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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,2170S×17955W,h600km,mb4.6/6,Error ellipse: s-maj=75.5km s-min=25.7km az=151.0*
*IDC **01** 18:45:46.3±2.6,2176S×17970W,h627km±37km,mb3.5/4, mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km s-min=20.6km az=159.0*
ISC 01 18:45:43.1±2.7,223S±02×1796W±03,h613km±42km,n22, σ1§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

ISCJB ***01*** *00:11:08.0±0.4, 4266N±002×709W±003, h9km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=91.1*
IGIL ***01*** *00:11:10.6, 4266N×716W, h2km, ML2.7*
CSEM ***01*** *00:11:11.5±0.1, 4270N×722W, h10km, ML3.1/32, Error ellipse: s-maj=1.3km s-min=0.9km az=126.0*
LDG ***01*** *00:11:11.4±0.1, 4270N×729W, h10km, Ml3.2/21, Error ellipse: s-maj=5.6km s-min=1.9km az=121.0*
NEIC ***01*** *00:11:11.6, 4268N×726W, h10km, ML3.2(LDG), MN2.6(MDD), After MDD.*
NEIC Felt [III] at Cruz de Incio, Samos, San Salvador, Santa Maria and Santalla; [II] at Alence, Fonfria, Louzarela, Noceda, Seceda and Triacastela.
MDD ***01*** *00:11:11.5±0.2, 4268N×725W, h10km, mbLg2.7/36, Error ellipse: s-maj=2.7km s-min=2.2km az=117.0, PRXIMO III SAN SALVADOR DO MAO SANTA MARA DO MAO III SANTALLA II ALENCE A LOUZARELA NOCEDA II SECEDA TRIACASTELA I FOLGOSO DO COUREL*
MDD EMS: III A CRUZ DO INCIO SAMOS.
INMG ***01*** *00:11:11.5±1.1, 4267N×725W, h10km±2km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.5km az=104.0*
ISC 01 00:11:10.1±0.4, 4264N±002×716W±002, h12km±2km, n139, σ1s25/245, 2D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPON	Pontenova	0.69	0	⇓Pg	Pg	00 11 23.5	+0.1
	SNR=18						
EPON				Lg		00 11 32.5	
	103nm,0.3s,SNR=42						
EPON	Pontenova	0.69	0	Pg	Pg	00 11 23.5	+0.2
	37nm,0.3s,SNR=18						
ECAL	Calabor	0.77	156	⇓Pg	Pg	00 11 26.7	+1.8
	272nm,0.2s,SNR=18						
ECAL				Lg		00 11 37.7	
	78nm,0.1s,SNR=23						
ECAL	Calabor	0.77	156	Pg	Pg	00 11 26.7	+1.8
	272nm,0.2s,SNR=18						
PBRG	Braganca	0.89	160	iP	Pg	00 11 28.8	+1.5
PBRG				eS	Sg	00 11 40.9	+2.0
PBRG							
	232nm,0.3s						
STS	Santiago	1.06	284	Pg	Pg	00 11 29.4	-1.0
	38nm,0.3s,SNR=79						
STS				Lg		00 11 42.5	
	32nm,0.2s,SNR=22						
PCAB	Cabril	1.13	215	eP	Pb	00 11 31.8	+0.2
PCAB				eS	Sb	00 11 47.2	+0.9
PCAB							
	426nm,0.2s						
EZAM	Zamans	1.24	247	Pn	Pn	00 11 32.0	-1.2
	6.5nm,0.2s,SNR=7.9						
EZAM				Pg	Pg	00 11 33.8	-0.1
	18nm,0.2s,SNR=7.9						
EZAM				Lg		00 11 49.0	
	84nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	1.37	284	Pn	Pn	00 11 34.3	-0.8
	20nm,0.3s,SNR=16						
EMAZ				Pg	Pg	00 11 35.8	-0.6
	25nm,0.3s,SNR=87						
EMAZ				Sn	Sn	00 11 51.3	-1.9
	19nm,0.3s,SNR=20						
EMAZ				Lg		00 11 53.1	
	22nm,0.1s,SNR=26						
EMAZ	Mazaricos	1.37	284	Pn	Pn	00 11 34.3	-0.8
	20nm,0.3s,SNR=16						
EMAZ	Mazaricos	1.37	284	Pg	Pg	00 11 35.8	-0.7
	25nm,0.3s,SNR=87						
EMAZ				Sn	Sn	00 11 51.3	-1.9
	19nm,0.3s,SNR=20						
PVRL	Vila Real	1.43	197	ePn	Pn	00 11 36.8	+1.0
PVRL	Vila Real	1.43	197	ePg	Pg	00 11 38.4	+0.9
PVRL				eSg	Sg	00 11 57.1	+1.1
PVRL							
	353nm,0.1s						
PVRL	Vila Real	1.43	197	Pn	Pn	00 11 36.8	+1.0
PVRL				Pg	Pg	00 11 38.4	+0.9
PVRL				Lg		00 11 57.1	
	176nm,0.1s						
PVRL	Vila Real	1.43	197	ePg	Pg	00 11 38.4	+0.9
PVRL				eSg	Sg	00 11 57.1	+1.1
	353nm,0.1s						
EARI	Arriondas	1.57	65	Pn	Pn	00 11 39.3	+1.5
EARI				Pg	Pg	00 11 40.9	+0.6
EARI				Sn	Sn	00 11 58.7	+0.6
EARI				Lg		00 12 02.2	
EARI	Arriondas	1.57	65	Pn	Pn	00 11 39.3	+1.5
	9.4nm,0.3s,SNR=6.6						
EARI				Pg	Pg	00 11 40.9	+0.6
	62nm,0.3s,SNR=350						
EARI				Sn	Sn	00 11 58.7	+0.6
	9.2nm,0.3s,SNR=4.7						
EARI				Lg		00 12 02.2	
	12nm,0.1s,SNR=12						
EARI	Arriondas	1.57	65	Pn	Pn	00 11 39.3	+1.5
	9.4nm,0.3s,SNR=6.6						
EARI	Arriondas	1.57	65	Pg	Pg	00 11 40.9	+0.6
	62nm,0.3s,SNR=350						
EARI				Sn	Sn	00 11 58.7	+0.6
	9.2nm,0.3s,SNR=4.7						
PTO	Porto	1.85	216	ePn	Pn	00 11 42.2	+0.6
PTO	Porto	1.85	216	ePg	Pg	00 11 46.4	+0.9
PTO				eSn	Sn	00 12 04.8	-0.1
PTO				eSg	Sg	00 12 09.6	+0.1
PTO							
	93nm,0.1s						
PTO	Porto	1.85	216	Pn	Pn	00 11 42.2	+0.6
PTO				Pg	Pg	00 11 46.4	+0.9
PTO				Sn	Sn	00 12 04.8	-0.1
PTO				Lg		00 12 09.6	
	46nm,0.1s						
PTO	Porto	1.85	216	ePg	Pg	00 11 46.4	+0.9
PTO				eSn	Sn	00 12 04.8	-0.1
PTO				eSg	Sg	00 12 09.6	+0.1
	93nm,0.1s						
PVIS	Viseu	2.00	196	ePn	Pn	00 11 44.1	+0.4
PVIS	Viseu	2.00	196	ePg	Pg	00 11 49.2	+0.7
PVIS				eSg	Sg	00 12 14.2	-0.2
PVIS							
	64nm,0.1s						
PVIS	Viseu	2.00	196	Pn	Pn	00 11 44.1	+0.4
PVIS				Pg	Pg	00 11 49.2	+0.7
PVIS				Lg		00 12 14.2	
	32nm,0.1s						
PVIS	Viseu	2.00	196	ePg	Pg	00 11 49.2	+0.7
PVIS				eSg	Sg	00 12 14.2	-0.2
	64nm,0.1s						
ELAN	Lanestosa	2.80	77	Pn	Pn	00 11 56.9	+2.2
	2.7nm,0.4s,SNR=20						
ELAN				Pg	Pg	00 12 03.0	-0.6
	26nm,0.5s,SNR=34						
ELAN				Sn	Sn	00 12 29.4	+1.1
	8.4nm,1.1s,SNR=5.0						
ELAN				Lg		00 12 42.5	
	4.3nm,0.1s,SNR=5.0						
ELAN	Lanestosa	2.80	77	Pn	Pn	00 11 56.9	+2.3
	2.7nm,0.4s,SNR=20						
ELAN	Lanestosa	2.80	77	Pg	Pg	00 12 03.0	-0.7
	26nm,0.5s,SNR=34						
ELAN				Sn	Sn	00 12 29.4	+1.1
	8.4nm,1.1s,SNR=5.0						
PCBR	Castelo Branco	2.81	185	ePn	Pn	00 11 55.3	+0.5
PCBR				eSn	Sn	00 12 28.1	-0.5
PCBR				eSg	Sg	00 12 39.6	-0.7
PCBR							
	36nm,0.7s						
PCBR	Castelo Branco	2.81	185	ePn	Pn	00 11 55.3	+0.5
PCBR				eSn	Sn	00 12 28.1	-0.5
PCBR				eSg	Sg	00 12 39.6	-0.7
	36nm,0.7s						
GUD	Guadarrama	3.01	131	Pn	Pn	00 11 58.5	+0.9
	1.2nm,0.5s,SNR=7.9						
GUD				Pg	Pg	00 12 07.1	-0.6
	11nm,0.2s,SNR=7.9						
GUD				Sn	Sn	00 12 34.4	+0.8
	6.6nm,0.2s,SNR=7.9						
GUD				Lg		00 12 43.9	
	75nm,0.6s,SNR=7.9						
GUD	Guadarrama	3.01	131	Pg	Pg	00 12 07.1	-0.6
	11nm,0.2s,SNR=7.9						
GUD				Sn	Sn	00 12 34.4	+0.9
	6.6nm,0.2s,SNR=7.9						
ECRI	Cripan	3.43	89	Pn	Pn	00 12 04.9	+1.5
	0.7nm,0.3s,SNR=7.9						
ECRI				Pg	Pg	00 12 15.5	-0.2
	5.5nm,0.3s,SNR=7.9						
ECRI				Sn	Sn	00 12 44.7	+0.8
	5.3nm,0.2s,SNR=7.9						
ECRI				Lg		00 12 58.8	
	5.1nm,0.2s,SNR=7.9						
ALMR	Almeirim	3.65	198	eP	Pn	00 12 06.5	+0.2
ALMR				eS	Sn	00 12 47.2	-2.1
ALMR				eS	Sn	00 12 47.2	-2.1
ALMR				AML	AML	00 12 51.2	
	comp=N,21nm,0.4s						
ALMR	Almeirim	3.65	198	eP	Pn	00 12 06.5	+0.2
ALMR				eS	Sn	00 12 47.2	-2.1
PESTR	Estremoz	3.79	185	ePn	Pn	00 12 09.1	+0.9
PESTR				eSg	Sg	00 13 08.7	-2.9
PESTR							
	comp=N,15nm,0.5s						
ESDC	Sonseca Array	3.82	140	Pn	Pn	00 12 09.9	+1.2
	comp=N,0.4nm,0.2s,baz=321,slow=12,SNR=16						
ESDC				Pg	Pg	00 12 22.5	-0.7
	comp=N,1.1nm,0.5s,baz=321,slow=13,SNR=7.8						
ESDC				Sn	Sn	00 12 53.4	-0.2
	comp=N,0.7nm,0.3s,baz=320,slow=18,SNR=4.2						
ESDC				Lg		00 13 10.8	
	comp=N,0.8nm,0.1s,baz=320,slow=31,SNR=18						
ESDC	Sonseca Array	3.82	140	Pn	Pn	00 12 09.9	+1.2
	comp=N,0.4nm,0.2s,SNR=16						
ESDC	Sonseca Array	3.82	140	Pg	Pg	00 12 22.5	-0.8
	comp=N,1.1nm,0.5s,SNR=7.8						
ESDC				Sn	Sn	00 12 53.4	-0.2
	comp=N,0.7nm,0.3s,SNR=4.2						
EBAD	Badajoz	3.88	178	Pn	Pn	00 12 10.6	+1.0
	comp=N,0.8nm,0.2s,SNR=9.5						
EBAD				Pg	Pg	00 12 23.8	-0.7
	comp=N,3.6nm,0.3s,SNR=10						
EBAD				Sn	Sn	00 12 55.2	0.0
	comp=N,11nm,0.4s,SNR=5.0						
EBAD				Lg		00 13 17.9	
	comp=N,1.8nm,0.2s,SNR=10						
EBAD	Badajoz	3.88	178	Pn	Pn	00 12 10.6	+1.0
	comp=N,0.8nm,0.2s,SNR=9.5						
EBAD	Badajoz	3.88	178	Pg	Pg	00 12 23.8	-0.7
	comp=N,3.6nm,0.3s,SNR=10						
EBAD				Sn	Sn	00 12 55.2	+0.1
	comp=N,11nm,0.4s,SNR=5.0						
PMAFR	Mafra	4.02	204	eSn	Sn	00 12 56.9	-1.6
PMAFR				eSg	Sg	00 13 18.4	-0.8
PMAFR							
	comp=N,34nm,0.6s						
PMAFR	Mafra	4.02	204	eSn	Sn	00 12 56.9	-1.6
PMAFR				eSg	Sg	00 13 18.4	-0.8
	comp=N,34nm,0.6s						
EARA	Aranguren	4.11	86	Pn	Pn	00 12 15.1	+2.4
	comp=N,0.5nm,0.1s,SNR=4.0						
EARA				Pg	Pg	00 12 27.7	-1.2
	comp=N,5.2nm,0.4s,SNR=7.9						
EARA				Sn	Sn	00 13 00.4	-0.4
	comp=N,6.6nm,0.6s,SNR=7.9						
EARA				Lg		00 13 24.4	
	comp=N,1.2nm,0.3s,SNR=7.9						
IUSE	Utxeti	4.14	84	Pn	Pn	00 12 15.2	+2.1
	comp=N,0.0nm,0.3s,SNR=7.9						
IUSE				Sn	Sn	00 13 01.1	-0.4
	comp=N,2.0nm,0.6s,SNR=4.0						
IUSE				Lg		00 13 25.9	
	comp=N,3.8nm,0.5s,SNR=4.0						
IUSE	Utxeti	4.14	84	Pn	Pn	00 12 15.2	+2.1
	SNR=7.9						
IUSE				Sn	Sn	00 13 01.0	-0.4
	comp=N,2.0nm,0.6s,SNR=4.0						
EVO	Evora	4.16	189	ePn	Pn	00 12 14.2	+0.9
EVO	Evora	4.16	189	ePg	Pg	00 12 30.1	+0.4
EVO				eSn	Sn	00 13 00.4	-1.5
EVO				eSg	Sg	00 13 22.0	-1.5
	comp=N,23nm,0.3s						
ELIZ	Elizondo	4.17	81	Pn	Pn	00 12 15.7	+2.2
	comp=N,1.1nm,0.3s,SNR=7.8						
EALK	Alkurruntz	4.19	80	Pn	Pn	00 12 15.1	+1.3
	comp=N,2.4nm,0.3s,SNR=7.9						
EALK				Pg	Pg	00 12 29.5	-0.8
	comp=N,1.4nm,0.5s,SNR=7.9						
EALK				Lg		00 13 27.6	
	comp=N,6.9nm,0.5s,SNR=7.9						
MOE	Montemor	4.21	193	eSg	Sg	00 13 24.0	-1.4
ETOR	Torete	4.23	114	Pn	Pn	00 12 15.7	+1.4
	comp=N,1.9nm,0.3s,SNR=12						
ETOR				Pg	Pg	00 12 30.9	-0.2
	comp=N,18nm,0.3s,SNR=19						
ETOR				Lg		00 13 24.2	
	comp=N,8.1nm,0.3s,SNR=7.1						
IPRE	Itoiz	4.28	86	Pn	Pn	00 12 18.3	+3.3
	comp=N,0.0nm,0.3s,SNR=7.9						
IPRE	Itoiz	4.28	86	Pn	Pn	00 12 18.3	+3.3
	SNR=7.9						
SJPF	Ste Jean	4.38	82	ePn	Pn	00 12 19.2	+2.7
SJPF				eSn	Sn	00 13 06.4	-1.1
	comp=N,4.9nm,0.4s						
SJPF	Ste Jean	4.38	82	ePn	Pn	00 12 19.2	+2.7
SJPF				eSn	Sn	00 13 06.4	-1.1
	comp=N,2.5nm,0.4s						
PBEJ	Beja	4.64	187	ePn	Pn	00 12 20.9	+0.9
PBEJ				eSg	Sg	00 13 35.1	-4.0
PBEJ							
	comp=N,5.7nm,0.3s						
ETSF	Etsaut	4.86	85	ePn	Pn	00 12 24.9	+1.8
ETSF				eSn	Sn	00 13 17.7	-1.6
	comp=N,4.9nm,0.3s						
ETSF	Etsaut	4.86	85	ePn	Pn	00 12 24.9	+1.8
ETSF				eSn	Sn	00 13 17.7	-1.6
	comp=N,2.5nm,0.3s						
EMIN	Mina Concepcio	4.88	175	Pn	Pn	00 12 24.2	+0.9
	comp=N,5.4nm,0.4s						
EMIN				Lg		00 13 45.7	
	comp=N,2.4nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.88	175	Pn	Pn	00 12 24.2	+0.9
	comp=N,5.4nm,0.4s						
EADA	Adamuz	4.88	155	Pn	Pn	00 12 24.1	+0.8
	comp=N,0.2nm,0.2s						
EADA				Pg	Pg	00 12 42.6	-1.0
	comp=N,1.0nm,0.4s,SNR=5.6						
EADA				Sn	Sn	00 13 18.7	-1.1
	comp=N,2.0nm,0.9s,SNR=4.0						
EADA				Lg		00 13 46.2	
	comp=N,1.2nm,0.2s,SNR=5.1						
EADA	Adamuz	4.88	155	Pn	Pn	00 12 24.1	+0.8
	comp=N,0.2nm,0.2s						
EADA	Adamuz	4.88	155	Pg	Pg	00 12 42.6	-1.0
	comp=N,1.0nm,0.4s,SNR=5.6						
EADA				Sn	Sn	00 13 18.7	-1.1
	comp=N,2.0nm,0.9s,SNR=4.0						
ESAC	San Caprasio	5.05	98	Pn	Pn	00 12 27.1	+1.5
	comp=N,24nm,0.3s,SNR=5.0						
ESAC				Pg	Pg	00 12 46.0	-0.8
	comp=N,11nm,0.3s,SNR=5.2						
ESAC				Sn	Sn	00 13 23.0	-1.0
	comp=N,19nm,0.8s,SNR=7.9						
ESAC				Lg		00 13 54.7	
	comp=N,0.2nm,0.1s,SNR=5.2						
ESAC	San Caprasio	5.05	98	Pn	Pn	00 12 27.1	+1.4
	comp=N,24nm,0.3s,SNR=5.0						
ESAC	San Caprasio	5.05	98	Pg	Pg	00 12 46.0	-0.8
	comp=N,11nm,0.3s,SNR=5.2						
ESAC				Sn	Sn	00 13 23.0	-1.0
	comp=N,19nm,0.8s,SNR=7.9						
EGRO	El Granado	5.11	183	Pn	Pn	00 12 28.1	+1.7
	comp=N,1.2nm,0.5s,SNR=7.9						
EGRO				Lg		00 13 53.9	
	comp=N,2.2nm,0.2s,SNR=7.9						
EGRO	El Granado	5.11	183	Pn	Pn	00 12 28.1	+1.7
	comp=N,1.2nm,0.5s,SNR=7.9						
EBAN	Banos Encina	5.16	149	Pg	Pg	00 12 47.0	-1.9
	comp=N,0.7nm,0.3s,SNR=4.0						
EBAN				Lg		00 13 50.6	
	comp=N,6.7nm,0.4s,SNR=5.0						
PTEO	Sao Teotonio	5.23	194	eSg	Sg	00 13 55.1	-2.8
EVIA	Vianos	5.34	137	Lg		00 14 02.9	
	comp=N,1.6nm,0.2s,SNR=8.2						
EBIE	Bielsa	5.38	87	Pn	Pn	00 12 32.0	+1.8
	comp=N,5.3nm,0.7s,SNR=9.6						
EBIE				Sn	Sn	00 13 30.7	-1.4
	comp=N,2.8nm,0.9s,SNR=7.9						
EBIE	Bielsa	5.38	87	Pn	Pn	00 12 32.0	+1.8
	comp=N,5.3nm,0.7s,SNR=9.6						
EBIE				Sn	Sn	00 13 30.7	-1.4
	comp=N,2.8nm,0.9s,SNR=7.9						
MORF	Marmelete	5.45	193	ePn	Pn	00 12 31.7	+0.6
MORF				eSg	Sg	00 14 04.4	-0.6
MORF							
	comp=N,4.2nm,0.5s						
MORF	Marmelete	5.45	193	ePn	Pn	00 12 31.7	+0.6
MORF				eSg	Sg	00 14 04.4	-0.6
	comp=N,4.2nm,0.5s						
EMOS	Mosqueruela	5.51	112	Pn	Pn	00 12 33.7	+1.8
	comp=N,1.8nm,0.5s,SNR=7.9						
EMOS				Sn	Sn	00 13 34.5	-0.7
	comp=N,3.3nm,0.3s,SNR=6.0						
EMOS				Lg		00 14 08.7	
	comp=N,3.0nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	5.51	112	Pn	Pn	00 12 33.7	+1.7
	comp=N,1.8nm,0.5s,SNR=7.9						
EMOS				Sn	Sn	00 13 34.5	-0.8
	comp=N,3.3nm,0.3s,SNR=6.0						
EPF	Esparros	5.53	83	ePn	Pn	00 12 34.8	+2.6
EPF				eSn	Sn	00 13 33.6	-2.0
	comp=N,3.2nm,0.3s						
EPF	Esparros	5.53	83	ePn	Pn	00 12 34.8	+2.6
EPF				eSn	Sn	00 13 33.6	-2.0
	comp=N,1.6nm,0.3s						
ELUQ	Luque	5.54	155	Lg		00 14 10.5	
	comp=N,3.1nm,0.3s,SNR=5.0						
EQES	Quesada	5.75	146	Pn	Pn	00 12 37.8	+2.4
	comp=N,0.5nm,0.4s,SNR=7.9						
EQES				Pg	Pg	00 12 58.3	-2.0
	comp=N,9.2nm,0.9s,SNR=4.5						
EQES				Lg		00 14 16.7	
	comp=N,3.6nm,0.5s,SNR=7.5						
EQES	Quesada	5.75	146	Pn	Pn	00 12 37.8	+2.5
	comp=N,0.5nm,0.4s,SNR=7.9						
EQES	Quesada	5.75	146	Pg	Pg	00 12 58.3	-2.0
	comp=N,9.2nm,0.9s,SNR=4.5						
ETOB	Tobarra	5.84	131	Pn	Pn	00 12 37.7	+1.2
	comp=N,1.2nm,0.4s,SNR=6.8						
ETOB				Lg		00 14 16.8	
	comp=N,2.0nm,0.2s,SNR=4.8						
ERTA	Horta de San J	5.85	104	Pn	Pn	00 12 38.1	+1.5
	comp=N,1.9nm,0.4s,SNR=7.9						
ERTA				Pg	Pg	00 12 59.1	-2.9
	comp=N,1.1nm,0.6s,SNR=7.9						
ERTA				Lg		00 14 20.5	
	comp=N,4.9nm,0.5s,SNR=7.9						
ERTA	Horta de San J	5.85	104	Pn	Pn	00 12 38.1	+1.5
	comp=N,1.9nm,0.4s,SNR=7.9						
ERTA	Horta de San J	5.85	104	Pg	Pg	00 12 59.1	-2.9
	comp=N,1.1nm,0.6s,SNR=7.9						
ESPR	Espera	5.85	170	Lg		00 14 20.0	
	comp=N,1.8nm,0.4s,SNR=7.9						
EHUE	Huescar	5.95	143	Lg		00 14 23.5	
	comp=N,3.3nm,0.6s,SNR=4.0						
ELOJ	Sierra Loja	5.95	156	Lg		00 14 23.3	
	comp=N,0.7nm,0.3s,SNR=4.0						
QUIF	Quistinic	5.98	27	ePn	Pn	00 12 37.9	-0.5
QUIF				eSn	Sn	00 13 39.8	-7.0
	comp=N,4.6nm,0.2s						
QUIF	Quistinic	5.98	27	ePn	Pn	00 12 37.9	-0.5
QUIF				eSn	Sn	00 13 39.8	-7.0
	comp=N,2.3nm,0.2s						
EQUE	Quentar	6.13	151	Sn	Sn	00 13 48.4	-2.3
	comp=N,0.9nm,1.2s,SNR=4.0						
EQUE				Lg		00 14 28.1	
	comp=N,0.7nm,0.3s,SNR=7.9						
LFF	La Frestale	6.16	65	ePn	Pn	00 12 40.9	0.0
LFF				eSn	Sn	00 13 49.0	-2.3
	comp=N,2.8nm,0.4s						
LFF	La Frestale	6.16	65	ePn	Pn	00 12 40.9	0.0
LFF				eSn	Sn	00 13 49.0	-2.3
	comp=N,1.4nm,0.4s						
EPOB	Poblet	6.27	99	Pn	Pn	00 12 43.6	+1.2
	comp=N,0.2nm,0.9s,SNR=4.0						
EPOB				Pg	Pg	00 13 08.1	-2.0
	comp=N,2.3nm,0.9s,SNR=4.0						
EPOB				Sn	Sn	00 13 52.7	-1.2
	comp=N,7.4nm,1.1s,SNR=7.9						
EPOB				Lg		00 14 26.4	
	comp=N,2.3nm,0.4s,SNR=7.9						
EPOB	Poblet	6.27	99	Pn	Pn	00 12 43.6	+1.2
	comp=N,0.2nm,0.9s,SNR=4.0						
EPOB	Poblet	6.27	99	Pg	Pg	00 13 08.1	-2.0
	comp=N,2.3nm,0.9s,SNR=4.0						
EPOB				Sn	Sn	00 13 52.7	-1.3
	comp=N,7.4nm,1.1s,SNR=7.9						
ROSF	Rostrenen	6.32	24	ePn	Pn	00 12 42.3	-0.7
ROSF				eSn	Sn	00 13 48.2	-6.9
	comp=N,3.1nm,0.2s						
ROSF	Rostrenen	6.32	24	ePn	Pn	00 12 42.3	-0.7
ROSF				eSn	Sn	00 13 48.2	-6.9
	comp=N,1.5nm,0.2s						
EMIJ	Mijas	6.34	162	Pn	Pn	00 12 45.6	+2.3
	comp=N,0.3nm,0.4s,SNR=7.9						
EMIJ				Lg		00 14 36.4	
	comp=N,1.3nm,0.4s,SNR=7.9						
MFF	Saint Martin d	6.38	49	ePn	Pn	00 12 44.0	+0.1
MFF				eSn	Sn	00 13 51.6	-5.1
	comp=N,3.3nm,0.3s						
MFF	Saint Martin d	6.38	49	ePn	Pn	00 12 44.0	+0.1
MFF				eSn	Sn	00 13 51.6	-5.1
	comp=N,1.6nm,0.3s						
SGMF	Saint Gilles	6.48	28	ePn	Pn	00 12 43.9	-1.3
SGMF				eSn	Sn	00 13 54.2	-4.9
	comp=N,1.9nm,0.2s						
SGMF	Saint Gilles	6.48	28	ePn	Pn	00 12 43.9	-1.3
SGMF				eSn	Sn	00 13 54.2	-4.9
	comp=N,0.9nm,0.2s						
EMIR	Miracle	6.48	94	Pn	Pn	00 12 46.5	+1.2
	comp=N,1.4nm,0.5s,SNR=7.9						
EMIR				Pg	Pg	00 13 10.7	-3.4
	comp=N,0.8nm,0.5s,SNR=7.9						
EMIR				Lg		00 14 39.2	
	comp=N,1.6nm,0.3s,SNR=4.0						
EMIR	Miracle	6.48	94	Pn	Pn	00 12 46.5	+1.2
EMIR	Miracle	6.48	94	Pg	Pg	00 13 10.7	-3.5
EBER	Berja	6.61	149	Lg		00 14 45.4	
	comp=N,1.5nm,0.6s,SNR=4.0						
RJF	Les Rejaudoux	6.80	64	ePn	Pn	00 12 49.2	-0.5
RJF				eSn	Sn	00 14 02.7	-4.3
	comp=N,3.7nm,0.4s						
RJF	Les Rejaudoux	6.80	64	ePn	Pn	00 12 49.2	-0.5
RJF				eSn	Sn	00 14 02.7	-4.3
	comp=N,1.9nm,0.4s						
MTLF	Montolieu	6.91	81	ePn	Pn	00 12 52.0	+0.8
MTLF				eSn	Sn	00 14 08.5	-1.2
	comp=N,0.8nm,0.3s						
MTLF	Montolieu	6.91	81	Pn	Pn	00 12 52.0	+0.8
MTLF				Sn	Sn	00 14 08.5	-1.2
	comp=N,0.4nm,0.3s						
CAF	Calviac	7.05	68	ePn	Pn	00 12 52.8	-0.3
CAF				eSn	Sn	00 14 09.0	-4.3
	comp=N,1.8nm,0.3s						
CAF	Calviac	7.05	68	ePn	Pn	00 12 52.8	-0.3
CAF				eSn	Sn	00 14 09.0	-4.3
	comp=N,0.9nm,0.3s						
GRR	Gorron	7.25	35	ePn	Pn	00 12 54.6	-1.2
GRR				eSn	Sn	00 14 11.2	-6.9
	comp=N,2.8nm,0.4s						
GRR	Gorron	7.25	35	ePn	Pn	00 12 54.6	-1.2
GRR				eSn	Sn	00 14 11.2	-6.9
	comp=N,1.4nm,0.4s						
TCF	Toulx Ste Croi	7.63	58	ePn	Pn	00 13 00.1	-0.9
TCF				eSn	Sn	00 14 19.3	-8.1
	comp=N,3.1nm,0.3s						
TCF	Toulx Ste Croi	7.63	58	Pn	Pn	00 13 00.1	-0.9
TCF				Sn	Sn	00 14 19.3	-8.1
	comp=N,1.6nm,0.3s						
FLN	La Foliniere	7.70	35	ePn	Pn	00 13 01.3	-0.7
LDF	La Druitiere	7.73	37	ePn	Pn	00 13 01.6	-0.8
LDF				eSn	Sn	00 14 21.9	-7.9
	comp=N,1.2nm,0.3s						
LDF	La Druitiere	7.73	37	ePn	Pn	00 13 01.6	-0.8
LDF				eSn	Sn	00 14 21.9	-7.9
	comp=N,0.6nm,0.3s						
BGF	Bois d'Agland	8.14	58	ePn	Pn	00 13 08.2	+0.1
BGF				eSn	Sn	00 14 33.6	-6.4
	comp=N,4.9nm,0.4s						
BGF	Bois d'Agland	8.14	58	ePn	Pn	00 13 08.2	+0.1
BGF				eSn	Sn	00 14 33.6	-6.4
	comp=N,2.5nm,0.4s						
LASF	Ste Croix	8.15	76	ePn	Pn	00 13 08.2	0.0
LASF				eSn	Sn	00 14 37.6	-2.7
	comp=N,1.4nm,0.3s						
LASF	Ste Croix	8.15	76	Pn	Pn	00 13 08.2	0.0
LASF				Sn	Sn	00 14 37.6	-2.7
	comp=N,0.7nm,0.3s						
HYF	Humbligny	8.34	53	eSn	Sn	00 14 39.6	-5.4
AVF	Avril sur Loir	8.55	57	ePn	Pn	00 13 13.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AVF				eSn	**Sn**	**00 14 43.6**	**-6.6**
	comp=N,1.1nm,0.2s						
AVF	**Avril sur Loir**	**8.55**	**57**	ePn	**Pn**	**00 13 13.0**	**-0.7**
AVF				eSn	**Sn**	**00 14 43.6**	**-6.6**
	comp=N,0.6nm,0.2s						
SSF	**Saint Saulge**	**8.77**	**56**	ePn	**Pn**	**00 13 16.9**	**+0.2**
SSF				eSn	**Sn**	**00 14 46.5**	**-8.9**
	comp=N,1.2nm,0.3s						
SSF	**Saint Saulge**	**8.77**	**56**	Pn	**Pn**	**00 13 16.9**	**+0.2**
SSF				Sn	**Sn**	**00 14 46.5**	**-8.9**
	comp=N,0.6nm,0.3s						
VIVF	**Saint-Julien-l**	**8.85**	**71**	ePn	**Pn**	**00 13 18.9**	**+1.2**
LOR	**Lormes**	**9.07**	**56**	ePn	**Pn**	**00 13 20.4**	**-0.5**
LOR				eSn	**Sn**	**00 14 57.4**	**-5.6**
	comp=N,2.2nm,0.4s						
LOR	**Lormes**	**9.07**	**56**	ePn	**Pn**	**00 13 20.4**	**-0.5**
LOR				eSn	**Sn**	**00 14 57.4**	**-5.6**
	comp=N,1.1nm,0.4s						
MEZF	**Maizieres J'vi**	**10.37**	**51**	ePn	**Pn**	**00 13 38.0**	**-0.6**
	baz=236						

*ISCJB **01** 00:12:12.0±1.8, 4083N±0.10×7.39E±0.1, h10^{km}, Error ellipse: s-maj=14.2km s-min=13.5km az=86.2*
*KNET **01** 00:12:14.4±0.5, 41.06N×74.25E, h2^{km}±2^{km}, ml1.7, Error ellipse: s-maj=3.6km s-min=2.5km az=66.0*
ISC 01 00:12:13.5±1.8**, 409N**±01×**740E**±01**, h10**^{km}**, n8,** σ1^{s}**27**/11**, 8C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.26**	**351**	⇑P	**Pn**	**00 12 36.4**	**-0.7**
	4.2nm,0.2s,SNR=7.4						
AML				⇑S	**Sb**	**00 12 54.1**	**+0.5**
	7.8nm,0.2s						
UCH	**Uchtor**	**1.40**	**17**	⇓P	**Pn**	**00 12 37.1**	**-2.0**
	1.8nm,0.2s,SNR=10						
UCH				⇓S	**Sn**	**00 12 55.4**	**-2.2**
	3.6nm,0.2s						
AAK	**Ala-Archa**	**1.79**	**13**	⇑P	**Pn**	**00 12 44.6**	**+0.2**
	4.0nm,0.3s,SNR=5.3						
AAK				⇑S	**Sn**	**00 13 07.9**	**+0.8**
	3.0nm,0.3s						
KBK	**Karagaybulak**	**1.91**	**22**	⇑P	**Pn**	**00 12 46.5**	**+0.4**
	1.5nm,0.1s,SNR=7.9						
ULHL	**Ulahol**	**2.18**	**51**	⇑P	**Pn**	**00 12 49.0**	**-0.8**
	2.7nm,0.2s,SNR=14						
TKM2	**Tokmak 2**	**2.37**	**30**	⇑Pn	**Pn**	**00 12 54.5**	**+2.1**
	0.2nm,0.8s						
TKM2				⇓Lg		00 13 25.5	
	0.7nm,0.7s						
USP	**Ospenovka**	**2.41**	**9**	⇓P	**Pn**	**00 12 55.0**	**+2.0**
	2.6nm,0.2s,SNR=6.8						
KK31	**Karatay Array**	**3.39**	**312**	⇑Pg	**Pg**	**00 13 18.1**	**-0.4**
	0.5nm,0.7s,baz=124,slow=17,SNR=6.1						
KK31				⇓Lg		00 14 03.5	
	1.3nm,0.3s,baz=124,slow=27						

*IDC **01** 00:13:25.2±5.9, 22.99S×175.96W, h0^{km}, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=252.0km s-min=55.7km az=151.0*
*ISCJB **01** 00:13:27.2±0.8, 22.9S±0.1×175.9W±0.2, h35^{km}, mb4.3/5, Error ellipse: s-maj=22.1km s-min=14.9km az=62.5*
*NEIC **01** 00:13:29.4±0.6, 22.94S×175.86W, h35^{km}, mb4.5/3, Error ellipse: s-maj=16.6km s-min=11.2km az=126.0*
ISC 01 00:13:29.3±0.8**, 230S**±01×**1758W**±02**, h35**^{km}**, n17,** σ**0**^{s}**66**/14**, mb4.3**/5**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.78**	**24**	Pn	**Pn**	**00 15 47.1**	**-0.3**
CTA	**Charters Tower**	**35.35**	**267**	P	**P**	**00 20 22.2**	**+1.0**
	4.6nm,0.6s,mb4.6,baz=87,slow=10,SNR=8.4						
CTAO	**Charters Tower**	**35.35**	**267**	eP	**P**	**00 20 21.6**	**+0.4**
	4.1nm,0.5s,mb4.6						
TAU	**Tasmania Unive**	**36.40**	**228**	eP	**P**	**00 20 30.1**	**-0.2**
ASAR	**Alice Springs**	**45.99**	**259**	P	**P**	**00 21 49.6**	**+0.6**
	1.0nm,0.8s,mb3.8,baz=94,slow=7.7,SNR=8.4						
WB2	**Warramunga Arr**	**46.32**	**264**	eP	**P**	**00 21 50.5**	**-1.1**
WRAB	**Tennant Creek**	**46.32**	**264**	eP	**P**	**00 21 50.7**	**-0.9**
	1.0nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**46.33**	**264**	P	**P**	**00 21 51.1**	**-0.5**
	1.0nm,0.2s,mb4.3,baz=102,slow=8.1,SNR=87						
GUMO	**Guam**	**52.94**	**309**	P	**P**	**00 22 43.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**54.75**	**264**	eP	**P**	**00 22 55.2**	**-0.1**
	3.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**54.75**	**264**	P	**P**	**00 22 55.8**	**+0.5**
	1.5nm,0.6s,mb4.2,baz=112,slow=2.8,SNR=11						
CASY	**Casey**	**62.63**	**206**	P	**P**	**00 23 50.8**	**+0.7**
QSPA	**South Pole Qui**	**67.12**	**180**	P	**P**	**00 24 18.9**	**-0.4**
SNAA	**Sanae**	**85.49**	**178**	P	**P**	**00 26 03.8**	**+0.3**
ZRNK	**Zerenda**	**123.11**	**319**	ePKPdf	PKPdf	00 32 21.8	-0.3
AKASG	**Malin Array Be**	**146.15**	**331**	PKPbc	PKPbc	00 33 06.3	+0.6
	0.2nm,0.4s,baz=40,slow=4.1,SNR=5.1						
AKASG	**Malin Array Be**	**146.15**	**331**	PKPbc	PKPbc	00 33 06.3	+0.6

*CSEM **01** 00:17:29.9, 67.85N×20.18E, h0^{km}, ML2.9, Mining explosion. After UPP*
*UPP **01** 00:17:29.9, 67.85N×20.18E, h0^{km}, ML2.9, Mining explosion.*
HEL 01 00:17:30.5±0.1**, 6785N**×**2019E, h0**^{km}**, ML2.9**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**29**	*i* P	Pg	00 17 32.6	-0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	00 17 38.3	-0.6
LANU	**Lannavaara**	**0.71**	**73**	*i* P	Pg	00 17 43.1	-1.0
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	00 17 43.1	-1.0
	baz=308						
DUNU	**Dundret**	**0.75**	**168**	*i* P	Pg	00 17 44.5	-0.3
DUNU	**Dundret**	**0.75**	**168**	P	Pg	00 17 44.5	-0.3
	baz=74						
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 17 44.5	-1.3
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	00 17 44.6	-1.2
KIF	**Kilpisjarvi**	**1.18**	**11**	eP	Pg	00 17 52.8	-0.3
KIF				eS	Sg	00 18 09.3	+0.8
PAJU	**Pajala**	**1.40**	**125**	eP	Pn	00 17 55.1	-2.2
ERTU	**Ertsjaerv**	**1.52**	**148**	eP	Pn	00 17 58.0	-0.9
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	00 17 58.0	-0.9
	baz=343						
HARU	**Harads**	**1.72**	**169**	eP	Pn	00 18 00.7	-1.0
SJUU	**Sjulsmark**	**2.42**	**166**	eP	Pn	00 18 11.4	+0.1
SGF	**Sodankyl**	**2.46**	**97**	eP	Pn	00 18 12.1	+0.3
SGF				eS	Sn	00 18 41.6	-0.9

*CSEM **01** 00:18:51.1±0.4, 67.92N×20.12E, h1^{km}, ML2.6, Error ellipse: s-maj=14.5km s-min=7.0km az=92.0, Mining explosion.*
*UPP **01** 00:18:52.2, 67.83N×20.19E, h0^{km}, ML2.6, Mining explosion.*
HEL 01 00:18:52.8±0.1**, 6784N**×**2017E, h0**^{km}**, ML2.1, ML2.6**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**28**	*i* P	Pg	00 18 55.0	-0.3
KUA				*i* S	Sg	00 18 57.1	0.0
NIKU	**Nikkaluokta**	**0.43**	**274**	*i* P	Pg	00 19 00.5	-0.5
LANU	**Lannavaara**	**0.72**	**72**	*i* P	Pg	00 19 05.9	-0.7
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	00 19 05.5	-1.4
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 19 07.0	-0.9
MASU	**Masugnsbyn**	**0.80**	**118**	*i* P	Pg	00 19 06.8	-1.2
MASU				*i* S	Sg	00 19 17.6	-0.8
MASU	**Masugnsbyn**	**0.80**	**118**	P	Pg	00 19 06.8	-1.3
KIF	**Kilpisjarvi**	**1.20**	**11**	eP	Pg	00 19 14.0	-1.7
KIF				eS	Sg	00 19 30.6	-0.6
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	00 19 13.9	-1.8
PAJU	**Pajala**	**1.40**	**124**	eP	Pn	00 19 17.3	-2.3
ERTU	**Ertsjaerv**	**1.51**	**148**	eP	Pn	00 19 20.4	-0.7
ERTU				eS	Sg	00 19 40.2	-1.1
HARU	**Harads**	**1.71**	**169**	eP	Pn	00 19 23.6	-0.3
SGF	**Sodankyl**	**2.46**	**96**	eP	Pn	00 19 34.0	-0.2
SGF				eS	Sn	00 20 04.2	-0.8
SGF				eSG	Sg	00 20 08.2	-3.7
SGF				MSG		00 20 11.5	
	comp=Z,8.1nm,0.2s						
SGF	**Sodankyl**	**2.46**	**96**	P	Pn	00 19 34.0	-0.2
SGF				Sg	Sg	00 20 08.2	-3.7
KEV	**Kevo**	**3.14**	**49**	eS	Sn	00 20 19.1	-2.7

*NEIC **01** 00:39:07.7±0.8, 11.21S×166.93E, h35^{km}, mb4.1/5, Error ellipse: s-maj=18.7km s-min=12.8km az=73.0*
*ISCJB **01** 00:39:10.9±5.5, 11.5S±0.2×166.8E±0.2, h74^{km}±45^{km}, mb4.1/12, Error ellipse: s-maj=38.1km s-min=22.1km az=63.4*
*IDC **01** 00:39:15.5±5.8, 11.50S×166.87E, h106^{km}±49^{km}, mb3.8/7, mb1 3.9/8, mb1mx3.7/16, mbtmp4.1/8, MS4.0/2, Ms1 4.0/2, ms1mx3.0/22, Error ellipse: s-maj=32.5km s-min=23.8km az=50.0*
ISC 01 00:39:12.1±3.8**, 114S**±02×**1669E**±02**, h71**^{km}±31^{km}**, n23,** σ**0**^{s}**90**/18**, mb4.1**/12**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.66**	**182**	P	**Pn**	**00 41 41.3**	**-0.5**
	0.3nm,0.3s,baz=98,slow=16,SNR=7.9						
CTA	**Charters Tower**	**21.70**	**244**	P	**P**	**00 44 00.1**	**+2.9**
	3.5nm,0.5s,mb3.9,baz=76,slow=10,SNR=6.4						
CTAO	**Charters Tower**	**21.70**	**244**	eP	**P**	**00 44 00.1**	**+3.0**
	3.6nm,0.5s,mb4.0						
URZ	**Urewera**	**28.29**	**163**	P	**P**	**00 44 59.7**	**+0.9**
	2.8nm,0.3s,mb4.3,baz=320,slow=3.8,SNR=4.2						
SNZO	**South Karori**	**30.60**	**168**	eP	**P**	**00 45 20.3**	**+1.1**
	46nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**31.03**	**225**	P	**P**	**00 45 22.9**	**-0.1**
	1.0nm,0.5s,mb3.8,baz=22,slow=3.9,SNR=3.9						
STKA				PcP	PcP	00 48 14.9	-2.4
	1.6nm,0.6s,baz=27,slow=2.3,SNR=4.0						
STKA	**Stephens Creek**	**31.03**	**225**	P	**P**	**00 45 22.9**	**-0.1**
STKA				PcP	PcP	00 48 14.9	-2.4
RPZ	**Rata Peaks**	**32.43**	**174**	LR	LR	00 55 44.8	
	comp=Z,744nm,18.8s,baz=274,slow=31						
WRAB	**Tennant Creek**	**32.47**	**251**	eP	**P**	**00 45 35.7**	**+0.1**
	1.2nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**32.47**	**251**	eP	**P**	**00 45 35.3**	**-0.3**
WRA	**Warramunga Arr**	**32.48**	**251**	P	**P**	**00 45 35.6**	**-0.1**
	1.2nm,0.6s,mb3.8,baz=85,slow=9.3,SNR=26						
ASAR	**Alice Springs**	**33.70**	**244**	P	**P**	**00 45 45.6**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=69,slow=10,SNR=18						
ASAR				PcP	PcP	00 48 22.1	-2.6
	0.3nm,0.3s,baz=76,slow=2.4,SNR=5.4						
TAU	**Tasmania Unive**	**35.76**	**205**	eP	**P**	**00 46 04.0**	**-0.1**
	1.1nm,0.4s,mb4.1						
MBWA	**Marble Bar**	**46.21**	**252**	eP	**P**	**00 47 30.4**	**+0.5**
	1.3nm,0.4s,mb4.0						
ASAJ	**Asahikawa**	**59.49**	**340**	LR	LR	01 11 29.9	
	comp=Z,47nm,20.3s,baz=179,slow=32						
VNDA	**Vanda**	**66.20**	**181**	P	**P**	**00 49 50.0**	**-2.3**
	1.2nm,0.9s,mb3.7,baz=334,slow=6.2,SNR=7.8						
VNDA	**Vanda**	**66.20**	**181**	eP	**P**	**00 49 50.3**	**-1.9**
	1.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**79.62**	**323**	P	**P**	**00 51 12.0**	**+0.4**
	0.6nm,0.7s,mb3.5,baz=142,slow=6.0,SNR=7.0						
MKAR	**Makanchi Array**	**94.56**	**317**	P	**P**	**00 52 24.3**	**-0.5**
	1.6nm,0.6s,mb4.6,baz=87,slow=6.6,SNR=16						
MKAR	**Makanchi Array**	**94.56**	**317**	P	**P**	**00 52 24.3**	**-0.5**
ARCES	**ARCESS Array B**	**116.93**	**346**	PKP	PKPdf	00 57 46.1	-2.5
	13nm,1.2s,baz=52,slow=3.1,SNR=6.2						
KEST	**Kesra**	**148.37**	**324**	PKPbc	PKPbc	00 58 50.0	-0.3
	1.1nm,0.7s,baz=261,slow=20,SNR=4.7						
ESDC	**Sonseca Array**	**150.67**	**346**	PKPab	PKPab	00 59 03.6	+0.6
	0.7nm,0.6s,baz=2.9,slow=3.6,SNR=6.7						

*CSEM **01** 01:01:27.5±1.3, 37.33N×24.60W, h15^{km}, ML3.6, Error ellipse: s-maj=10.0km s-min=3.3km az=42.0, After PDA*
*PDA **01** 01:01:27.5±1.3, 37.33N×24.60W, h15^{km}, MD3.1, ML3.6, Error ellipse: s-maj=10.0km s-min=3.3km az=42.0*
SVSA 01 01:01:27.5±1.3**, 3733N**×**2460W, h15**^{km}**, MD3.1, ML3.6, Error ellipse: s-maj=10.0km s-min=3.3km az=42.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**229**	*i* P	Pg	01 01 35.4	-1.9
MIRA	**Miradouro**	**0.71**	**310**	*i* P	Pg	01 01 38.1	-3.2
MIRA				eS	Sg	01 01 46.9	-3.8
MIRA	**Miradouro**	**0.71**	**310**	eS	Sg	01 01 46.9	-3.8
FRA1	**Furnas**	**0.73**	**305**	*i* P	Pg	01 01 38.4	-3.4
PFAD	**Fenais da Ajud**	**0.77**	**312**	eP	Pg	01 01 39.3	-3.2
PCNG	**Congro**	**0.77**	**305**	eP	Pg	01 01 39.7	-2.8
PCNG				eS	Sg	01 01 48.5	-4.2
PCNG							
	386nm,0.3s						
PCNG	**Congro**	**0.77**	**305**	eP	Pg	01 01 39.7	-2.8
PCNG				eS	Sg	01 01 48.5	-4.2
VIF	**Vila Franca**	**0.79**	**302**	eP	Pg	01 01 39.4	-3.4
VIF				eS	Sg	01 01 48.7	-4.5
VIF							
	532nm,0.2s						
VIF	**Vila Franca**	**0.79**	**302**	eP	Pg	01 01 39.4	-3.4
VIF				eS	Sg	01 01 48.7	-4.5
PRCH	**Ribeira Ch**	**0.81**	**300**	*i* P	Pg	01 01 39.9	-3.3
PRCH				eS	Sg	01 01 49.1	-4.7
PRCH							
	1µm,0.2s						
MESC	**Monte Escuro**	**0.82**	**305**	*i* P	Pg	01 01 39.7	-3.7
MESC				eS	Sg	01 01 49.5	-4.7
LFA	**Lagoa do Fogo**	**0.83**	**303**	*i* P	Pb	01 01 40.5	-3.1
PMAT	**Coroa da Mata**	**0.85**	**305**	eP	Pb	01 01 40.6	-3.3
PMAT				eS	Sb	01 01 50.7	-4.4
PMAT							
	318nm,0.2s						
PMAT	**Coroa da Mata**	**0.85**	**305**	eP	Pb	01 01 40.6	-3.3
PMAT				eS	Sb	01 01 50.7	-4.4
PVER	**Pico Vermelho**	**0.86**	**303**	eP	Pb	01 01 41.1	-3.1
PVER				eS	Sb	01 01 51.1	-4.5
PVER							
	704nm,0.4s						
PVER	**Pico Vermelho**	**0.86**	**303**	eP	Pb	01 01 41.1	-3.1
PVER				eS	Sb	01 01 51.1	-4.5
CML	**Cha da Macela**	**0.87**	**301**	*i* P	Pb	01 01 41.0	-3.3
CML				eS	Sb	01 01 51.0	-4.8
PDA	**Ponta Delgada**	**0.94**	**297**	eP	Pb	01 01 41.7	-3.9
PDA				*i* S	Sb	01 01 52.3	-5.6
FAC	**Faja de Cima**	**0.95**	**298**	*i* P	Pb	01 01 42.3	-3.3
FAC				eS	Sb	01 01 52.9	-5.1
PSAN	**Santo Antonio**	**1.04**	**301**	eP	Pb	01 01 43.5	-3.6
PFET	**Feteiras**	**1.06**	**298**	eP	Pb	01 01 43.8	-3.8
SET2	**Ginetes**	**1.09**	**299**	eP	Pb	01 01 44.3	-3.7
SET4	**Mosteiros**	**1.10**	**300**	eP	Pb	01 01 44.8	-3.4
PFAV	**Pico das Favas**	**2.40**	**306**	eP	Pn	01 02 03.2	-3.0
PFAV				eS	Sn	01 02 28.9	-6.5
PFAV							
	104nm,0.2s						
PFAV	**Pico das Favas**	**2.40**	**306**	eP	Pn	01 02 03.2	-3.0
PFAV				eS	Sn	01 02 28.9	-6.5
RIB2	**Ribeirinha**	**2.44**	**304**	eP	Pn	01 02 03.4	-3.3
RIB2				eS	Sn	01 02 29.9	-6.4
RIB2							
	98nm,0.2s						
RIB2	**Ribeirinha**	**2.44**	**304**	eP	Pn	01 02 03.4	-3.3
RIB2				eS	Sn	01 02 29.9	-6.4
ADH	**Angra Heroismo**	**2.47**	**303**	eP	Pn	01 02 02.7	-4.5
ADH				eS	Sn	01 02 29.6	-7.4
PVNV	**Vila Nova**	**2.48**	**306**	eP	Pn	01 02 04.0	-3.3
PVNV				eS	Sn	01 02 30.6	-6.6
PVNV							
	88nm,0.1s						
PVNV	**Vila Nova**	**2.48**	**306**	eP	Pn	01 02 04.0	-3.3
PVNV				eS	Sn	01 02 30.6	-6.6
PPAD	**Pico dos Padre**	**2.53**	**304**	eP	Pn	01 02 04.8	-3.2
PPAD				eS	Sn	01 02 32.2	-6.3
PPAD							
	77nm,0.2s						
PPAD	**Pico dos Padre**	**2.53**	**304**	eP	Pn	01 02 04.8	-3.2
PPAD				eS	Sn	01 02 32.2	-6.3
PBIS	**Biscoitos**	**2.54**	**305**	eS	Sn	01 02 33.3	-5.4
PBIS							
	30nm,0.1s						
ASBA	**Santa Barbara**	**2.56**	**304**	eP	Pn	01 02 05.5	-3.0
ASBA				eS	Sn	01 02 33.3	-6.1
ASBA							
	92nm,0.3s						
ASBA	**Santa Barbara**	**2.56**	**304**	eP	Pn	01 02 05.5	-3.0
ASBA				eS	Sn	01 02 33.3	-6.1
PSBA	**Serra de Santa**	**2.59**	**305**	eP	Pn	01 02 05.0	-3.8
PSBA				eS	Sn	01 02 32.8	-7.2
PSBA							
	277nm,0.3s						
PSBA	**Serra de Santa**	**2.59**	**305**	eP	Pn	01 02 05.0	-3.8
PSBA				eS	Sn	01 02 32.8	-7.2
PID	**Ribeirinha**	**3.00**	**293**	eP	Pn	01 02 11.1	-3.4
PID				eS	Sn	01 02 43.5	-6.6
PMAN	**Manadas**	**3.05**	**296**	eP	Pn	01 02 11.7	-3.5
PAMA	**Santo Amaro**	**3.13**	**297**	eP	Sn	01 02 47.7	-5.8
PBOI	**Pico dos Bois**	**3.19**	**291**	eP	Pn	01 02 14.7	-2.3
PBOI				eS	Sn	01 02 49.1	-5.7
PBOI							
	35nm,0.3s						
PTEI	**Pico do Teixo**	**3.19**	**293**	eS	Sn	01 02 49.1	-5.8
PTEI							
	15nm,0.1s						
ROSA	**Rosais**	**3.19**	**297**	eP	Pn	01 02 13.9	-3.3
ROSA				eS	Sn	01 02 48.2	-6.8
STGR	**Santa Cruz**	**3.20**	**304**	eP	Pn	01 02 14.0	-3.3
STGR				eS	Sn	01 02 49.2	-5.9
STGR							
	23nm,0.2s						
STGR	**Santa Cruz**	**3.20**	**304**	eP	Pn	01 02 14.0	-3.3
STGR				eS	Sn	01 02 49.2	-5.9
SRBC	**Serra Branca**	**3.20**	**303**	eS	Sn	01 02 48.8	-6.4
PVIA	**Vitoria**	**3.23**	**304**	eS	Sn	01 02 48.5	-7.3
PVIA							
	11nm,0.1s						
PICO	**Pico**	**3.25**	**292**	eP	Pn	01 02 15.1	-2.8
PICO				eS	Sn	01 02 49.6	-6.6
PCND	**Candelaria**	**3.26**	**292**	eP	Pn	01 02 15.3	-2.8
PCND				eS	Sn	01 02 50.1	-6.5
PCND							
	25nm,0.2s						
HOR	**Horta**	**3.41**	**292**	eP	Pn	01 02 16.5	-3.5
HOR				eS	Sn	01 02 52.9	-7.2
CALA	**Caldeira**	**3.48**	**292**	eP	Pn	01 02 17.8	-3.2
CALA				eS	Sn	01 02 55.0	-6.9
PCED	**Cedros**	**3.49**	**293**	eP	Pn	01 02 17.6	-3.6
PCED				eS	Sn	01 02 55.1	-7.2
PCED							
	47nm,0.2s						
PCED	**Cedros**	**3.49**	**293**	eP	Pn	01 02 17.6	-3.6
PCED				eS	Sn	01 02 55.1	-7.2
PLUZ	**Luz**	**3.84**	**297**	eS	Sn	01 02 47.3	-24
PLUZ							
	14nm,0.1s						

WEL 01 01:02:33.9±0.3**, 3831S**×**17626E, h141**^{km}±3^{km}**, ML3.6**/17**, 5C-1D, Error ellipse: s-maj=2.9km s-min=2.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.67**	**86**	PN	Pn	01 02 55.1	-0.1
URZ				SN	Sn	01 03 11.4	-0.1
BKZ	**Black Stump Fm**	**0.88**	**168**	PN	Pn	01 02 57.0	+0.3
BKZ				SN	Sn	01 03 14.3	+0.2
OTVZ	**Oturere**	**0.97**	**209**	PN	Pn	01 02 58.0	+0.4
MWZ	**Matawai**	**0.99**	**92**	ePN	Pn	01 02 58.1	+0.3
TWVZ	**Taurewa**	**1.00**	**220**	PN	Pn	01 02 57.8	0.0
NGZ	**Ngauruhoe**	**1.01**	**211**	PN	Pn	01 02 58.2	+0.3
WPVZ	**Whakapapa**	**1.06**	**212**	PN	Pn	01 02 58.5	+0.2
TUVZ	**Tukino**	**1.07**	**206**	⇑PN	Pn	01 02 58.7	+0.3
WNVZ	**Wahianoa**	**1.14**	**207**	⇑PN	Pn	01 02 59.3	+0.1
MOVZ	**Moawhango**	**1.17**	**200**	⇑PN	Pn	01 02 59.0	-0.3
TSZ	**Takapari Road**	**1.76**	**188**	ePN	Pn	01 03 05.0	-0.7
PXZ	**Pawanui**	**1.78**	**165**	PN	Pn	01 03 05.8	-0.1
BFZ	**Birch Farm**	**2.37**	**180**	PN	Pn	01 03 11.6	-1.3
MRZ	**Mangatainoka R**	**2.41**	**192**	⇑PN	Pn	01 03 11.7	-1.7
MTW	**Mount Morrison**	**2.91**	**191**	⇑PN	Pn	01 03 17.1	-2.6
CAW	**Cannon Point**	**2.94**	**198**	⇓PN	Pn	01 03 17.7	-2.5
TRWZ	**Traveller**	**3.12**	**188**	PN	Pn	01 03 19.8	-2.6
PAWZ	**Paruwai Farm**	**3.14**	**192**	PN	Pn	01 03 19.8	-2.8
MSWZ	**Moikau Station**	**3.20**	**194**	PN	Pn	01 03 20.6	-2.9

*NIED **01** 01:11:00, 41.60N×141.50E, h98^{km}, Mw3.8 Best double couple: $M_0$5.05000×10^{14} NP1:ϕ_s169.00000°, δ77.00000°, λ-113.00000°. NP2:ϕ_s50.00000°, δ26.00000°, λ-32.00000°.*
*ISCJB **01** 01:11:45.5±0.3, 41.62N±0.03×141.50E±0.05, h125^{km}±2^{km}, mb3.7/10, Error ellipse: s-maj=6.6km s-min=4.3km az=48.9*
*MOS **01** 01:11:45.6±1.1, 41.72N×141.33E, h117^{km}, mb4.0/4, Error ellipse: s-maj=18.0km s-min=12.7km az=92.9*
*NEIC **01** 01:11:46.9±0.6, 41.62N×141.53E, h128^{km}±6^{km}, mb4.1/5, Error ellipse: s-maj=9.6km s-min=8.2km az=134.0*
*JMA **01** 01:11:46.8±0.1, 41.63N×141.50E, h119^{km}±1^{km}, M3.7*
JMA Felt I J1.
*IDC **01** 01:11:46.7±1.9, 41.70N×141.48E, h122^{km}±14^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.4/23, mbtmp3.7/8, Error ellipse: s-maj=25.6km s-min=16.3km az=131.0*
ISC 01 01:11:46.5±0.3**, 4163N**±003×**14151E**±005**, h121**^{km}±2^{km}**, n40,** σ**0**^{s}**59**/55**, mb3.7**/10**, 2C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.42**	**234**	⇓P	**Pn**	**01 12 04.2**	**+0.1**
JOT				eS	**Sn**	**01 12 17.7**	**+0.3**
JKB	**Kayabe**	**0.44**	**306**	P	**Pn**	**01 12 04.4**	**+0.2**
JKB				eS	**Sn**	**01 12 17.5**	**-0.1**
JSR	**Shiriuchi**	**0.82**	**263**	⇓P	**Pn**	**01 12 07.3**	**+0.3**
JSR				eS	**Sn**	**01 12 22.1**	**-0.3**
JTM	**Tenmabayashi**	**0.90**	**202**	⇓P	**Pn**	**01 12 07.9**	**+0.2**
JTM				eS	**Sn**	**01 12 23.8**	**+0.1**
JNB	**Noboribetsu**	**0.91**	**338**	⇓P	**Pn**	**01 12 07.7**	**0.0**
JNB				eS	**Sn**	**01 12 23.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.14**	**55**	⇑P	**Pn**	**01 12 10.5**	**+0.5**
JNBK				eS	**Sn**	**01 12 27.8**	**0.0**
JEW	**Eniwo**	**1.21**	**358**	P	**Pn**	**01 12 11.4**	**+0.6**
JEW				eS	**Sn**	**01 12 29.3**	**+0.1**
JANG	**Nango**	**1.25**	**180**	⇓P	**Pn**	**01 12 11.0**	**-0.2**
JANG				eS	**Sn**	**01 12 28.7**	**-1.3**
ERM	**Erimo**	**1.29**	**72**	ePn	**Pn**	**01 12 12.4**	**+0.8**
ERM				eSn	**Sn**	**01 12 30.4**	**-0.4**
JOSM	**Okushiri--Mats**	**1.58**	**287**	P	**Pn**	**01 12 14.6**	**-0.3**
JOSM				eS	**Sn**	**01 12 35.7**	**-0.9**
JCH	**Churui**	**1.70**	**54**	⇑P	**Pn**	**01 12 16.8**	**+0.5**
JCH				eS	**Sn**	**01 12 38.3**	**-0.7**
JFR	**Furan**	**1.73**	**27**	P	**Pn**	**01 12 16.8**	**+0.1**
JHR	**Hokuryu**	**2.12**	**4**	P	**Pn**	**01 12 22.2**	**+0.7**
JOM	**Ohasama**	**2.16**	**184**	⇓P	**Pn**	**01 12 22.1**	**+0.1**
JOM				eS	**Sn**	**01 12 48.5**	**-0.7**
ASAJ	**Asahikawa**	**2.61**	**18**	P	**Pn**	**01 12 28.1**	**+0.3**
	2.2nm,0.3s,baz=180,slow=10,SNR=4.1						
ASAJ				S	**Sn**	**01 12 58.7**	**-0.8**
	8.6nm,0.3s,baz=301,slow=31,SNR=10.0						
ASAJ	**Asahikawa**	**2.61**	**18**	P	**Pn**	**01 12 28.1**	**+0.4**
ASAJ				S	**Sn**	**01 12 58.7**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
MAJO	**Matsushiro**	**5.69**	**208**	eP	**Pn**	**01 13 09.0**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**5.69**	**208**	ePn	**Pn**	**01 13 09.0**	**+0.3**
	comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**5.69**	**208**	P	**Pn**	**01 13 09.4**	**+0.7**
MAT				eS	**Sn**	**01 14 12.9**	**+0.1**
MJAR	**Matsushiro Arr**	**5.69**	**208**	P	**Pn**	**01 13 09.6**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=20,slow=15,SNR=11						
MJAR	**Matsushiro Arr**	**5.69**	**208**	P	**Pn**	**01 13 09.6**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.69**	**208**	P	**Pn**	**01 13 09.6**	**+0.9**
MDJ	**Mudanjiang**	**9.21**	**293**	ePn	**Pn**	**01 13 56.8**	**+0.5**
YAK	**Yakutsk**	**21.63**	**345**	P	**P**	**01 16 25.9**	**-1.0**
ULN	**Ulaanbaatar**	**25.10**	**296**	eP	**P**	**01 17 00.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ULN	**Ulaanbaatar**	**25.10**	**296**	eP	**P**	**01 17 00.3**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.5						
SONM	**Songino Array**	**25.55**	**296**	P	**P**	**01 17 03.2**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.0,baz=78,slow=8.1,SNR=5.1						
ZAL	**Zalesovo**	**39.01**	**308**	P	**P**	**01 19 00.5**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.0,baz=21,slow=4.2,SNR=5.3						
ZAL	**Zalesovo**	**39.01**	**308**	P	**P**	**01 19 00.5**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.88**	**298**	P	**P**	**01 19 24.2**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.5,baz=81,slow=11,SNR=6.2						
LSA	**Lhasa**	**42.06**	**270**	eP	**P**	**01 19 28.0**	**+1.9**
	comp=Z,4.8nm,0.4s,mb4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHKZ	Chkalovo	47.32	310	eP	P	01 20 07.2	-0.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
CHKZ	Chkalovo	47.32	310	eP	P	01 20 07.2	-0.6
	comp=Z,1.2nm,0.6s,mb3.8						
BRVK	Borovoye	47.68	309	P	P	01 20 10.6	0.0
ZRNK	Zerenda	48.45	310	eP	P	01 20 16.7	+0.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ZRNK	Zerenda	48.45	310	eP	P	01 20 16.7	+0.2
	comp=Z,2.4nm,0.6s,mb4.2						
WRAB	Tennant Creek	61.60	188	P	P	01 21 49.9	-1.1
NOA	NORSAR Array B	69.99	337	P	P	01 22 44.4	-0.4
	comp=Z,0.3nm,0.6s,mb3.3,baz=56,slow=8.0,SNR=2.3						
NVAR	Mina Array Bea	72.22	54	P	P	01 22 58.7	+0.5
	comp=Z,0.3nm,0.5s,mb3.4,baz=297,slow=6.0,SNR=4.3						
PDAR	Pinedale Array	74.42	46	P	P	01 23 11.0	-0.2
	comp=Z,0.6nm,0.6s,mb3.5,baz=245,slow=2.3,SNR=4.9						

*NEIC **01** 01:49:02.0, 19.23N×64.75W, h25km, MD3.6(RSPR), After RSPR.*

RSPR 01 01:49:02.0, 19.23N×64.75W, h25km±27km, MD3.6/14, MD3.6/14, 12C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.82	171⇑	eP	Pb	01 49 15.8	-1.7
TBVI				eS	Sb	01 49 26.1	-2.0
STVI	Saint Thomas	0.89	192⇓	eP	Pb	01 49 16.5	-2.2
STVI				eS	Sb	01 49 27.7	-2.5
MTP	Monte Pirata	1.36	214⇑	eP	Pn	01 49 23.4	-1.8
MTP				eS	Sn	01 49 40.3	-2.2
CBYP	Canovanas	1.41	228⇑	eP	Pn	01 49 23.8	-2.3
CBYP				eS	Sn	01 49 41.3	-2.6
HUMP	Col San Antoni	1.50	224⇓	eP	Pn	01 49 25.1	-2.1
HUMP				eS	Sn	01 49 43.7	-2.3
CPD	Cerro la Pandu	1.62	223⇑	eP	Pn	01 49 27.1	-1.8
CPD				eS	Sn	01 49 46.8	-2.1
SJG	San Juan	1.73	230⇑	eP	Pn	01 49 28.4	-2.1
SJG				eS	Sn	01 49 48.5	-3.1
CELP	Cerrillos	2.08	237⇑	eP	Pn	01 49 33.4	-1.8
CELP				eS	Sn	01 49 57.4	-2.9
AOPR	Arecibo Observ	2.09	246⇑	eP	Pn	01 49 33.9	-1.5
AOPR				eS	Sn	01 49 58.0	-2.5
OBIP	Obispado Ponce	2.12	236⇑	eP	Pn	01 49 33.5	-2.2
OBIP				eS	Sn	01 49 59.3	-2.0
ICM	Isla Caja Muer	2.14	232⇑	eP	Pn	01 49 34.1	-2.0
ICM				eS	Sn	01 49 59.7	-2.1
LRS	Lares	2.19	245⇑	eP	Pn	01 49 35.1	-1.6
LRS				eS	Sn	01 50 00.1	-3.0
LSP	Las Mesas	2.45	245⇑	eP	Pn	01 49 39.0	-1.3
LSP				eS	Sn	01 50 07.9	-1.5
CRPR	Cabo Rojo, PR	2.54	242⇑	eP	Pn	01 49 40.1	-1.5
CRPR				eS	Sn	01 50 09.3	-2.5

*ISCJB **01** 01:49:04.5±2.0, 7.06S±0.07×129.23E±0.09, h126km±21km, mb3.4/2, Error ellipse: s-maj=15.6km s-min=10.2km az=140.8*
*NEIC **01** 01:49:04.0±2.4, 6.97S×129.19E, h100km±26km, mb3.5/4, Error ellipse: s-maj=19.0km s-min=12.7km az=222.0*
*IDC **01** 01:49:04.2±11.0, 6.98S×129.18E, h98km±121km, mb3.2/1, mb1 3.8/4, mb1mx3.4/14, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=73.4km s-min=56.7km az=20.0*

ISC 01 01:49:04.0±2.2, 6.99S±0.09×129.20E±0.09, h101km±24km, n17, σ1.08/23, mb3.4/2, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	197	P	Pn	01 51 47.7	+1.7
	0.7nm,0.3s,baz=30,slow=12,SNR=28						
FITZ				S	Sn	01 53 52.1	-1.2
	0.8nm,0.3s,baz=93,slow=21,SNR=7.3						
WRAB	Tennant Creek	13.81	159	ePn	Pn	01 52 14.2	-1.1
	3.3nm,0.5s						
WRAB				eSn	Sn	01 54 38.3	-9.0
WRA	Warramunga Arr	13.81	159	P	Pn	01 52 14.2	-1.3
	0.7nm,0.3s,baz=338,slow=13,SNR=41						
WRA				S	Sn	01 54 42.6	-4.8
	0.8nm,0.3s,baz=325,slow=24,SNR=6.7						
WB2	Warramunga Arr	13.82	159	ePn	Pn	01 52 14.3	-1.1
WB2				eSn	Sn	01 54 39.7	-7.8
MBWA	Marble Bar	16.80	212	Pn	Pn	01 52 53.3	+0.3
	1.9nm,0.6s						
AS31	Alice Springs	17.19	165	ePn	Pn	01 52 59.9	+2.1
AS31				eSn	Sn	01 56 09.4	+0.5
ASAR	Alice Springs	17.19	165	P	Pn	01 52 59.8	+2.0
	0.7nm,0.3s,baz=343,slow=11,SNR=44						
ASAR				S	S	01 56 01.5	-8.2
	0.1nm,0.3s,baz=332,slow=15,SNR=3.0						
PMG	Port Moresby	17.94	99	eP	Pn	01 53 06.6	-0.3
	1.3nm,0.4s						
KKM	Kota Kinabalu	18.31	315	P	P	01 53 10.3	+0.2
CTAO	Charters Tower	21.05	130	eP	P	01 53 42.5	+2.6
STKA	Stephens Creek	27.33	157	eP	P	01 54 39.3	-0.1
NWAO	Narrogin (SRO)	28.10	202	P	P	01 54 46.2	0.0
TAU	Tasmania Unive	39.19	159	P	P	01 56 21.4	-0.7
MKAR	Makanchi Array	67.78	327	P	P	01 59 51.3	+0.4
	0.2nm,0.4s,mb3.3,baz=116,slow=8.2,SNR=5.7						
BRVK	Borovoye	77.70	328	eP	P	02 00 48.7	-1.0
	0.4nm,0.4s,mb3.5						
CHKZ	Chkalovo	77.83	329	P	P	02 00 50.1	-0.3
ZRNK	Zerenda	78.32	328	P	P	02 00 53.3	+0.2

*ISCJB **01** 02:13:22.3±2.1, 5.9N±0.2×126.3E±0.4, h125km±32km, mb3.6/4, Error ellipse: s-maj=64.0km s-min=26.2km az=159.6*
*MAN **01** 02:13:24.9, 5.89N×126.17E, h101km, mb3.5, ML4.7, MS5.2*
*IDC **01** 02:13:56.1±15.0, 1.23N×127.17E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=251.3km s-min=101.7km az=152.0*

ISC 01 02:13:23.8±2.1, 5.9N±0.2×126.2E±0.4, h124km±35km, n12, σ1.00/14, mb3.6/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	1.60	315⇓	eP	Pn	02 13 52.1	-0.5
KCP				i S	Sn	02 14 14.9	+0.3
BUKP	Musuan	2.31	330	eP	Pn	02 14 01.5	+0.2
BUKP				eS	Sn	02 14 27.7	-2.3
CGP	Cagayan de Oro	2.99	330⇑	iP	Pn	02 14 10.9	+0.9
CGP				i S	Sn	02 14 46.2	+0.5
PAGZ	Pagadian	3.44	305	eP	Pn	02 14 16.9	+0.9
FITZ	Fitzroy Crossi	23.82	181	eP	P	02 18 23.4	-1.8
	2.1nm,0.4s,mb3.8						
FITZ	Fitzroy Crossi	23.82	181	P	P	02 18 23.5	-1.7
	0.1nm,0.3s,mb2.6,baz=300,slow=20,SNR=6.5						
WRA	Warramunga Arr	26.86	163	P	P	02 18 53.2	+0.6
	0.6nm,1.0s,mb3.1,baz=338,slow=12,SNR=5.0						
WB2	Warramunga Arr	26.86	163	eP	P	02 18 53.2	+0.5
ASAR	Alice Springs	30.29	166	P	P	02 19 28.4	+5.3
	1.2nm,0.5s,mb3.8,baz=342,slow=7.6,SNR=24						
CTA	Charters Tower	32.45	143	LR	LR	02 30 14.2	
	comp=Z,48nm,18.3s,baz=231,slow=35						
STKA	Stephens Creek	40.29	160	eP	P	02 20 54.5	+5.8
	2.5nm,0.8s,mb4.1						
STKA	Stephens Creek	40.29	160	P	P	02 20 54.7	+6.0
	3.3nm,0.8s,mb4.2,baz=348,slow=7.8,SNR=7.2						

*ISCJB **01** 02:34:09.0±0.7, 28.18S±0.03×67.51W±0.07, h118km±8km, mb3.9/9, Error ellipse: s-maj=10.0km s-min=4.9km az=173.5*
*NEIC **01** 02:34:09.8±0.6, 28.21S×67.43W, h116km±7km, mb3.9/6, Error ellipse: s-maj=10.8km s-min=6.7km az=90.0*
*IDC **01** 02:34:09.9±1.3, 28.20S×67.51W, h116km±13km, mb3.5/5, mb1 3.6/9, mb1mx3.5/19, mbtmp3.8/9, Error ellipse: s-maj=28.6km s-min=9.6km az=87.0*
*GUC **01** 02:34:10.0±0.9, 28.18S×67.54W, h120km, ML4.5*

ISC 01 02:34:10.3±0.6, 28.17S±0.03×67.51W±0.07, h114km±7km, n36, σ0.88/48, mb3.9/9, 4C-6D, La Rioja Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	2.65	287⇑	iP	Pn	02 34 52.0	+0.3
CPCH				i S	Sn	02 35 23.1	-0.5
CPCH				AML	AML	02 35 27.8	
	comp=N,4μm,0.1s						
CPCH	Copiapo	2.65	287⇑	iP	Pn	02 34 52.0	+0.3
CPCH				i S	Sn	02 35 23.1	-0.5
VACH	Vallenar	2.89	261⇓	iP	Pn	02 34 55.6	+0.7
VACH				i S	Sn	02 35 29.4	+0.2
VACH				AML	AML	02 35 34.2	
	comp=N,3μm,0.1s						
VACH	Vallenar	2.89	261⇓	iP	Pn	02 34 55.6	+0.7
VACH				i S	Sn	02 35 29.4	+0.2
CDCH	Caldera	3.14	290⇓	iP	Pn	02 34 58.5	+0.3
CDCH				i S	Sn	02 35 33.0	-2.3
CDCH				AML	AML	02 35 34.3	
	comp=N,704nm,0.5s						
CDCH	Caldera	3.14	290⇓	iP	Pn	02 34 58.5	+0.3
CDCH				S	Sn	02 35 33.0	-2.3
CFAA	Coronel Fontan	3.48	190	P	Pn	02 35 03.4	+0.7
	comp=N,4.8nm,0.3s,baz=4.1,slow=13,SNR=567						
CFAA				S	Sn	02 35 42.8	-0.4
	comp=N,7.9nm,0.3s,baz=123,slow=20,SNR=22						
TLL	Tololo Astrono	3.50	235⇑	iP	Pn	02 35 04.0	+1.0
TLL				eS	Sn	02 35 44.8	+1.1
TLL				AML	AML	02 35 52.8	
	comp=E,426nm,1.6s						
TLL	Tololo Astrono	3.50	235⇑	iP	Pn	02 35 04.0	+1.0
TLL				eS	Sn	02 35 44.8	+1.1
ZON	Zonda	3.51	197⇓	iP	Pn	02 35 03.8	+0.7
ZON				i S	Sn	02 35 44.0	0.0
ZON				AML	AML	02 35 47.1	
	comp=N,198nm,0.9s						
OVCH	Ovalle	4.03	232⇓	iP	Pn	02 35 09.4	-0.7
OVCH				i S	Sn	02 35 55.1	-1.4
CMCH	Combarbala	4.26	225	eP	Pn	02 35 12.6	-0.6
CMCH				i S	Sn	02 36 01.3	-0.7
CPN1	Cerro Paranal	4.38	323	eP	Pn	02 35 16.3	+1.5
CEN1	Los Morros	5.34	332	eP	Pn	02 35 26.7	-1.0
FCH	Farellones	5.67	204	eP	Pn	02 35 33.1	+1.0
FCH				eS	Sn	02 36 36.6	+0.7
LVC	Limon Verde	5.68	347	P	Pn	02 35 33.9	+1.6
	comp=N,3.9nm,0.3s,baz=157,slow=11,SNR=48						
LVC				S	Sn	02 36 35.9	-0.3
	comp=N,6.5nm,0.3s,baz=271,slow=16,SNR=7.7						
LVC	Limon Verde	5.68	347	ePn	Pn	02 35 33.3	+1.1
LVC				eSn	Sn	02 36 35.9	-0.3
TRQA	Tornquist	10.89	156	ePn	Pn	02 36 41.4	-1.3
LPAZ	La Paz	11.84	357	P	Pn	02 36 56.0	+0.6
	comp=N,0.2nm,0.3s,baz=176,slow=9.8,SNR=7.3						
SIV	San Ignacio	13.51	28	P	Pn	02 37 15.3	-1.9
	comp=N,0.2nm,0.3s,baz=223,slow=12,SNR=4.5						
SAML	Samuel	19.55	13	eP	P	02 38 29.1	+0.1
	comp=N,2.3nm,0.4s						
SNAA	Sanae	55.60	160	P	P	02 43 32.9	-1.1
	comp=N,0.3nm,0.5s,mb3.6,baz=288,slow=3.2,SNR=5.6						
SNAA	Sanae	55.60	160	eP	P	02 43 32.6	-1.5
	comp=N,1.0nm,0.5s,mb4.1						
WVT	Waverly	66.76	342	eP	P	02 44 48.5	-0.9
	comp=N,5.6nm,0.6s,mb4.6						
TXAR	Lajitas Array	66.83	326	P	P	02 44 50.0	+0.3
	comp=N,0.2nm,0.6s,mb3.1,baz=157,slow=5.7,SNR=2.9						
TORD	Torodi Ar. Bea	78.51	68	P	P	02 45 59.0	+0.1
	comp=N,4.9nm,0.7s,mb4.4,baz=265,slow=5.5,SNR=47						
TORD	Torodi Ar. Bea	78.51	68	P	P	02 45 59.0	+0.1
BOSA	Boshof	79.26	117	P	P	02 46 03.0	0.0
	comp=N,2.8nm,1.0s,mb4.0,baz=233,slow=5.1,SNR=3.7						
BOSA	Boshof	79.26	117	P	P	02 46 03.0	0.0
HWUT	Hardware Ranch	80.50	328	eP	P	02 46 09.8	+0.2
	comp=N,2.0nm,0.8s,mb4.0						
BW06	Boulder Array	80.50	330	eP	P	02 46 10.5	+0.9
	comp=N,1.3nm,0.9s,mb3.8						
PDAR	Pinedale Array	80.50	330	P	P	02 46 09.9	+0.3
	comp=N,0.4nm,0.5s,mb3.5,baz=124,slow=9.5,SNR=5.4						
HLID	Hailey	83.34	328	eP	P	02 46 25.1	+0.6
	comp=N,0.5nm,0.5s,mb3.6						
ASAR	Alice Springs	124.48	204	PKP	PKPdf	02 52 55.2	-0.8
	comp=N,0.4nm,0.7s,baz=163,slow=2.8,SNR=5.6						
WRA	Warramunga Arr	127.71	206	PKP	PKPdf	02 52 59.5	-2.6
	comp=N,0.7nm,0.8s,baz=163,slow=2.0,SNR=4.6						
MKAR	Makanchi Array	149.94	44	PKPbc	PKPbc	02 53 46.9	-0.3
	comp=N,1.3nm,0.8s,baz=323,slow=1.8,SNR=7.4						

MEX 01 02:35:15.5±1.0, 17.54N×101.40W, h26km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.09	319	i P	Pb	02 35 18.6	-1.7
ZIIG				i S	Sb	02 35 22.5	-0.9
CAIG	El Cayaco	1.19	114	i P	Pn	02 35 33.5	-2.9
CAIG				i S	Sn	02 35 48.6	-3.1
ACX	Acapulco	1.57	115	eP	Pn	02 35 40.0	-1.6
MEIG	Mezcala	1.74	77	i P	Pn	02 35 43.0	-1.1
MEIG				i S	Sn	02 36 02.2	-3.2

*NEIC **01** 02:50:55.0, 16.51N×94.02W, h128km, MD3.9(MEX), After MEX.*

MEX 01 02:50:55.1±1.5, 16.50N×94.02W, h128km±22km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.01	305	i P	Pn	02 51 16.4	-1.5
CMIG				i S	Sn	02 51 33.2	-1.9
TUIG	Tuzandepetl	1.57	346	i P	Pn	02 51 20.6	-3.2
TUIG				i S	Sn	02 51 42.4	-3.3
CCIG	Comitan	1.82	97	i P	Pn	02 51 26.1	-0.6
CCIG				i S	Sn	02 51 49.8	-1.2
HUIG	Huatulco	2.14	250	i P	Pn	02 51 27.9	-2.7
HUIG				i S	Sn	02 51 56.8	-1.0
OXX	Oaxaca	2.65	283	eP	Pn	02 51 37.5	+0.4
OXX				eS	Sn	02 52 09.0	-0.5
VHO	Vista Hermosa	2.66	283	i P	Pn	02 51 36.9	-0.3
VHO				i S	Sn	02 52 09.4	-0.2

*IDC **01** 03:21:22.3±6.4, 8.05S×119.27E, h46km±59km, mb3.1/2, mb1 3.4/3, mb1mx3.1/15, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=252.0km s-min=18.3km az=53.0*
*ISCJB **01** 03:21:32.2±3.5, 8.2S±0.4×119.4E±0.4, h172km±31km, mb3.5/1, Error ellipse: s-maj=88.6km s-min=16.9km az=88.5*

ISC 01 03:21:38.9±2.9, 8.0S±0.4×119.8E±0.4, h215km±28km, n5, σ0.17/8, mb3.3/1, Flores region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.27	112	eP	Pn	03 24 39.2	+0.1
	2.0nm,0.4s						
WRA	Warramunga Arr	18.40	132	P	P	03 25 37.8	-0.2
	0.3nm,0.3s,baz=302,slow=12,SNR=15						
WRA				S	S	03 28 56.6	-0.1
	0.1nm,0.3s,baz=307,slow=24,SNR=4.4						
WB2	Warramunga Arr	18.41	132	eP	P	03 25 38.0	-0.1
WB2				eS	S	03 28 57.0	+0.1
ASAR	Alice Springs	20.61	141	P	P	03 26 01.8	+0.2
	0.4nm,0.4s,baz=318,slow=11,SNR=12						
ASAR				S	S	03 29 52.5	+13
	0.3nm,0.6s,baz=312,slow=21,SNR=4.4						
MKAR	Makanchi Array	63.96	332	P	P	03 31 49.1	0.0
	0.4nm,0.5s,mb3.3,baz=153,slow=8.2,SNR=3.9						

*LDG **01** 03:26:03.7±0.1, 42.24N×1.70E, h7km, Md2.0/2, Ml1.9/7, Error ellipse: s-maj=1.6km s-min=1.2km az=7.0*

MDD 01 03:26:03.9±0.2, 42.22N×1.71E, h10km±1km, mbLg1.2/14, Error ellipse: s-maj=2.4km s-min=1.7km az=141.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CORG	Organya	0.29	272	Pg	Pg	03 26 09.0	-0.8
CLLI	Llivia	0.32	37	Pg	Pg	03 26 09.5	-0.9
CLLI				Lg		03 26 15.0	
	2.7nm,0.2s						
EMIR	Miracle	0.34	204	Pg	Pg	03 26 10.2	-0.4
	6.1nm,0.4s,SNR=51						
EMIR				Lg		03 26 14.7	
	17nm,0.4s,SNR=5.0						
CBRU	Bruguera	0.36	79	Pg	Pg	03 26 10.3	-0.7
CBRU				Lg		03 26 15.9	
	4.4nm,0.4s						
CSOR	Sort	0.45	290	Pg	Pg	03 26 12.5	-0.3
CSOR				Lg		03 26 19.8	
	8.1nm,0.2s						
CFON	Fontmartina	0.71	130	Pg	Pg	03 26 17.3	-0.3
CFON				Lg		03 26 28.4	
	4.0nm,0.2s						
CAVN	Les Avellanes	0.79	245	Pg	Pg	03 26 18.5	-0.6
CAVN				Lg		03 26 31.1	
	2.7nm,0.2s						
EJON	La Jonquera	0.90	75	Pg	Pg	03 26 20.8	-0.5
	3.7nm,0.7s,SNR=4.8						
EJON				Lg		03 26 34.7	
	22nm,1.2s,SNR=5.0						
EPOB	Poblet	0.99	209	Pg	Pg	03 26 22.4	-0.5
	1.4nm,0.4s,SNR=8.5						
EPOB				Lg		03 26 34.5	
	4.6nm,0.8s,SNR=5.0						
MTLF	Montolieu	1.18	18	ePg	Pg	03 26 25.5	-1.1
MTLF	Montolieu	1.18	18	eP	Pb	03 26 26.7	+0.3
MTLF				eSg	Sg	03 26 40.3	-1.6
	1.3nm,0.2s						
MTLF	Montolieu	1.18	18	Pg	Pg	03 26 25.5	-1.1
MTLF				Pn	Pn	03 26 26.7	+0.3
MTLF				Lg		03 26 40.3	
	0.6nm,0.2s						
EBIE	Bielsa	1.25	292	Pg	Pg	03 26 26.9	-1.0
	1.9nm,0.4s,SNR=12						
EBIE				Lg		03 26 44.5	
	1.6nm,0.4s,SNR=5.0						
EPF	Esparros	1.29	309	ePn	Pn	03 26 26.4	-1.6
EPF	Esparros	1.29	309	ePg	Pg	03 26 27.7	-1.1
EPF				eSg	Sg	03 26 43.6	-2.0
	1.8nm,0.2s						
EPF	Esparros	1.29	309	Pn	Pn	03 26 26.4	-1.6
EPF				Pg	Pg	03 26 27.7	-1.1
EPF				Lg		03 26 43.6	
	0.9nm,0.2s						
ERTA	Horta de San J	1.63	220	Pg	Pg	03 26 33.1	-2.1
	2.9nm,0.4s,SNR=7.3						
ERTA				Lg		03 26 55.4	
	2.0nm,0.3s,SNR=5.0						
ESAC	San Caprasio	1.70	254	Pg	Pg	03 26 35.3	-1.2
	2.2nm,0.1s,SNR=4.0						
ESAC				Lg		03 26 58.9	
	4.4nm,0.3s,SNR=7.9						
ETSF	Etsaut	1.81	293	ePn	Pn	03 26 33.5	-1.6
ETSF	Etsaut	1.81	293	ePg	Pg	03 26 37.2	-1.4
ETSF				eSg	Sg	03 27 00.2	-1.8
	1.2nm,0.2s						
ETSF	Etsaut	1.81	293	Pn	Pn	03 26 33.5	-1.6
ETSF				Pg	Pg	03 26 37.2	-1.4
ETSF				Lg		03 27 00.2	
	0.6nm,0.2s						
SJPF	Ste Jean	2.34	293	eSg	Sg	03 27 17.2	-1.9
	0.6nm,0.2s						
SJPF	Ste Jean	2.34	293	Lg		03 27 17.2	
	0.3nm,0.2s						
LASF	Ste Croix	2.43	40	ePn	Pn	03 26 42.1	-1.5
LASF	Ste Croix	2.43	40	eP	Pn	03 26 44.4	+0.8
LASF	Ste Croix	2.43	40	ePg	Pg	03 26 48.7	-1.8
LASF				eSg	Sg	03 27 19.7	-2.3
	0.7nm,0.3s						
LASF	Ste Croix	2.43	40	Pn	Pn	03 26 42.1	-1.5
LASF				Pg	Pg	03 26 48.7	-1.8
LASF				Lg		03 27 19.7	
	0.3nm,0.3s						
CAF	Calviac	2.72	5	ePn	Pn	03 26 45.7	-1.9
CAF	Calviac	2.72	5	eP	Pn	03 26 48.5	+0.9
CAF	Calviac	2.72	5	ePg	Pg	03 26 53.8	-2.2
CAF				eSg	Sg	03 27 28.7	-2.5
	1.6nm,0.3s						
CAF	Calviac	2.72	5	Pn	Pn	03 26 45.7	-1.9
CAF				Pg	Pg	03 26 53.8	-2.2
CAF				Lg		03 27 28.7	
	0.8nm,0.3s						
RJF	Les Rejaudoux	3.08	357	ePn	Pn	03 26 51.0	-1.6
RJF	Les Rejaudoux	3.08	357	eP	Pn	03 26 53.8	+1.2
RJF	Les Rejaudoux	3.08	357	Pn	Pn	03 26 51.0	-1.6
RJF				Pn	Pn	03 26 53.8	+1.2

*IDC **01** 04:02:15.3±0.9, 8.64N×93.90E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/20, mbtmp4.0/14, MS3.7/13, Ms1 3.7/13, ms1mx3.5/33, Error ellipse: s-maj=39.9km s-min=18.6km az=51.0*
*ISCJB **01** 04:02:17.3±5.0, 8.6N±0.1×94.0E±0.1, h26km±35km, mb4.5/25, MS3.7/11, Error ellipse: s-maj=26.6km s-min=7.8km az=107.2*
*BJI **01** 04:02:17.8, 8.47N×93.61E, h30km, mb4.3*
*NEIC **01** 04:02:19.7±0.5, 8.60N×93.90E, h30km, mb4.6/5, Error ellipse: s-maj=14.3km s-min=8.3km az=49.0*

ISC 01 04:02:22.4±1.7, 8.68N±0.08×94.1E±0.1, h51km±17km, n46, σ0.79/39, mb4.5/25, MS3.7/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.23	337	eP	x	04 03 03.0	
PBA				eS	x	04 03 40.0	
PBA				ex	x	04 04 08.8	
	comp=E,845nm,1.1s						
PBA				ex	x	04 04 09.8	
	comp=N,273nm,0.7s						
KULM	Kulim	7.36	117	ePn	Pn	04 04 06.1	-1.2
PSI	Prapat	7.59	140	Pn	Pn	04 04 14.8	+4.5
	comp=N,0.9nm,0.3s,baz=325,slow=14,SNR=13						
PSI				Sn	Sn	04 05 34.9	0.0
	comp=N,0.7nm,0.3s,baz=112,slow=14,SNR=1.5						
PSI				LR	LR	04 07 33.9	
	comp=N,320nm,20.7s,baz=313,slow=41						
CHTO	Chiang Mai	11.14	25	ePn	Pn	04 04 59.8	+0.9
MDRS	Chennai	14.24	289	ex	x	04 17 51.5	
PKI	Pulchoki	20.49	338	eP	P	04 06 56.4	+0.3
GUN	Gumba	20.63	339	eP	P	04 06 57.8	+0.3
	comp=N,62nm,0.7s						
DMN	Daman	20.64	337	eP	P	04 06 58.1	+0.4
	comp=N,25nm,0.7s						
KKN	Kakani	20.74	338	eP	P	04 06 58.8	+0.1
	comp=N,42nm,0.8s						
LSA	Lhasa	21.09	353	P	P	04 07 02.8	+0.3
LSA	Lhasa	21.09	353	eP	P	04 07 02.7	+0.2
	comp=N,18nm,0.6s,mb4.6						
GKN	Gorkha	21.18	336	eP	P	04 07 03.6	+0.1
	comp=N,28nm,0.3s,mb5.0						
KOLN	Koldanda	21.41	334	eP	P	04 07 06.3	+0.4
	comp=N,33nm,0.6s,mb4.8						
WSAR	Wadi Sarin	36.88	297	LR	LR	04 25 27.6	
	comp=N,92nm,19.9s,MS3.6,baz=84,slow=38						
AAK	Ala-Archa	37.94	336	eP	P	04 09 34.6	-0.3
	comp=N,5.0nm,0.8s,mb4.3						
MK31	Makanchi Array	39.29	347	eP	P	04 09 45.5	-0.7
MKAR	Makanchi Array	39.29	347	P	P	04 09 45.5	-0.7
	comp=N,2.4nm,0.9s,mb3.9,baz=163,slow=8.9,SNR=8.8						
MKAR				LR	LR	04 28 04.9	
	comp=N,54nm,18.3s,MS3.4,baz=173,slow=39						
SONM	Songino Array	40.41	13	P	P	04 09 57.1	+1.6
	comp=N,0.2nm,0.4s,baz=183,slow=6.4,SNR=3.8						
SONM				LR	LR	04 29 30.5	
	comp=N,66nm,18.6s,baz=356,slow=40						
ZAL	Zalesovo	45.75	352	P	P	04 10 38.2	-0.5
	comp=N,2.9nm,0.3s,mb4.7,baz=293,slow=9.4,SNR=13						
NWAO	Narrogin (SRO)	46.90	153	LR	LR	04 29 29.6	
	comp=N,50nm,21.6s,MS3.4,baz=305,slow=35						
RDF	Al-Radifah	48.03	301	eP	P	04 10 56.9	+0.4
RDF				AMb	AMB	04 10 57.5	
	comp=Z,41nm,0.7s,mb5.5						
UMR	Umm Al-Rimmam	48.06	302	eP	P	04 10 56.8	+0.1
UMR				AMb	AMB	04 10 58.6	
	comp=Z,19nm,0.6s,mb5.3						
BVAR	Borovoye Array	48.21	341	P	P	04 10 57.2	-0.6
	comp=Z,0.6nm,0.3s,mb4.0,baz=140,slow=9.7,SNR=4.0						
NAY	Al-Naaiem	48.38	302	eP	P	04 10 59.3	+0.1
NAY				AMb	AMB	04 10 60.0	
	comp=Z,17nm,0.6s,mb5.2						
MIB	Mutribah	48.45	302	eP	P	04 10 59.8	+0.1
MIB				AMb	AMB	04 11 01.3	
	comp=Z,36nm,0.7s,mb5.5						
ZRNK	Zerenda	48.60	340	eP	P	04 10 59.7	-1.2
	comp=Z,3.2nm,0.8s,mb4.4						
CHKZ	Chkalovo	48.69	342	eP	P	04 11 01.0	-0.6
	comp=Z,6.1nm,0.4s,mb5.0						
MJAR	Matsushiro Arr	48.70	48	LR	LR	04 35 07.3	
	comp=Z,96nm,18.8s,MS3.8,baz=230,slow=40						
WRA	Warramunga Arr	48.80	126	P	P	04 11 03.1	+0.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=304,slow=8.8,SNR=9.0						
GUMO	Guam	50.03	80	LR	LR	04 31 26.9	
	comp=Z,44nm,19.6s,MS3.5,baz=80,slow=35						
ASAR	Alice Springs	50.50	130	P	P	04 11 15.8	+0.4
	comp=Z,0.5nm,0.7s,mb3.7,baz=303,slow=6.5,SNR=7.8						
ASAR				LR	LR	04 35 26.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,61nm,18.5s,MS3.6,baz=68,slow=39						
BRTR	Keskin Array B	61.84	310	P	P	04 12 35.2	-1.1
	comp=Z,1.2nm,0.8s,mb4.1,baz=128,slow=8.4,SNR=7.8						
AKASG	Malin Array Be	67.47	321	P	P	04 13 11.6	-1.3
	comp=Z,0.4nm,0.4s,mb3.8,baz=91,slow=4.6,SNR=4.1						
JOF	Joensuu	70.09	334	ep	P	04 13 28.5	-0.7
	comp=Z,1.8nm,0.5s,mb4.3						
FINES	FINESS Array B	71.97	332	P	P	04 13 39.8	-0.8
	comp=Z,7.5nm,1.0s,mb4.6,baz=119,slow=8.6,SNR=2.9						
FINES				LR	LR	04 47 02.9	
	comp=Z,67nm,19.5s,MS3.9,baz=186,slow=37						
FINES	FINESS Array B	71.97	332	P	P	04 13 39.8	-0.8
FINES				LR	LR	04 47 02.9	
KAF	Kangasniemi	72.04	333	ep	P	04 13 42.0	+1.0
	baz=103,slow=5.7						
ARCES	ARCESS Array B	74.49	340	P	P	04 13 55.6	+0.1
	comp=Z,2.0nm,0.8s,mb4.1,baz=103,slow=7.3,SNR=6.5						
ARCES				LR	LR	04 48 44.2	
	comp=Z,92nm,19.1s,MS4.1,baz=184,slow=37						
BOSA	Boshof	75.93	238	LR	LR	04 45 28.4	
	comp=Z,56nm,18.2s,MS3.9,baz=302,slow=34						
GERES	GERESS Array B	77.17	318	P	P	04 14 11.4	+0.6
	comp=Z,2.0nm,0.8s,mb4.1,baz=64,slow=6.2,SNR=6.8						
NOA	NORSAR Array B	78.99	331	P	P	04 14 20.0	-0.9
	comp=Z,0.6nm,0.6s,mb3.7,baz=96,slow=5.1,SNR=2.5						
NOA				LR	LR	04 54 14.9	
	comp=Z,70nm,20.3s,MS4.0,baz=15,slow=40						
LPG	La Plagne	81.99	315	eP	P	04 14 36.6	-0.3
	comp=Z,12nm,0.9s,mb4.5						
LPG	La Plagne	81.99	315	eP	P	04 14 36.6	-0.3
	comp=Z,6.0nm,0.9s,mb4.5						
TORD	Torodi Ar. Bea	90.33	283	P	P	04 15 19.9	+1.9
	comp=Z,1.0nm,0.8s,mb4.2,baz=98,slow=4.7,SNR=6.0						
ESDC	Sonseca Array	90.64	310	P	P	04 15 21.0	+1.6
	comp=Z,0.6nm,0.7s,mb4.0,baz=121,slow=3.0,SNR=5.3						
VNDA	Vanda	93.73	168	LR	LR	04 50 59.9	
	comp=Z,42nm,19.3s,MS3.9,baz=39,slow=31						

*NAO **01** 04:05:10.5±2.0, 6525N×1190E, ML1.9*
*BER **01** 04:05:12.0±3.2, 6523N×1187E, h0km±12km, MD2.5, ML1.9, ML1.9(NAO)*
HEL 01 04:05:11.8±0.3**, 6519N×1212E, h4**km±3km**, ML2.2, MD2.5**(BER)**, ML1.9**(BER)**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSS	Namsos	0.66	186	eP	Pg	04 05 23.2	-1.4
NSS				eS	Sg	04 05 32.1	-1.0
NSS				AML	AML	04 05 33.2	
	comp=Z,179nm,0.1s						
NSS	Namsos	0.66	186	i P	Pg	04 05 23.2	-1.4
NSS				i S	Sg	04 05 32.1	-1.0
NSS				AML	AML	04 05 33.2	
	comp=Z,179nm,0.1s						
MOR8	Moi Rana	1.38	43	eP	Pn	04 05 38.7	+1.0
MOR8				eS	Sb	04 06 00.3	+4.3
MOR8				AML	AML	04 06 01.7	
	comp=Z,30nm,0.1s						
STOK1	Konsvik	1.38	17	eP	Pn	04 05 35.7	-2.1
STOK1				eS	Sb	04 05 55.2	-0.9
STOK1				AML	AML	04 05 56.3	
	comp=Z,13nm,0.3s						
LOF	Lofoten	3.01	10	eP	Pn	04 05 60.0	-0.2
LOF				eS	Sn	04 06 35.6	-1.1
LOF				AML	AML	04 06 43.1	
	comp=Z,4.6nm,0.6s						
NB2	NORSAR Subarra	4.18	186	Pn	Pn	04 06 15.9	-0.4
	baz=6.8,slow=14						
NB2				Pg	Pg	04 06 26.9	-5.0
	baz=5.1,slow=18						
NB2				Lg		04 07 22.4	
	baz=6.7,slow=37						
NB2	NORSAR Subarra	4.18	186	eP	Pn	04 06 15.9	-0.4
NB2				ePG	Pg	04 06 26.9	-5.0
NB2				eSG	Sg	04 07 22.4	-3.7
VAF	Ylistaro	5.10	110	eP	Pn	04 06 31.0	+2.1
VAF				eS	Sn	04 07 25.1	-3.1
KIF	Kilpisjarvi	5.12	38	eP	Pn	04 06 31.0	+1.9
KIF				eSG	Sg	04 07 50.9	-5.2
KIF				MSG		04 07 53.5	
	comp=Z,2.3nm,0.3s						
HFS	Hagfors	5.12	171	Sn	Sn	04 07 27.3	-1.5
	baz=354,slow=22						
HFS				Lg		04 07 52.3	
	baz=352,slow=28						
HFS	Hagfors	5.12	171	eS	Sn	04 07 27.3	-1.5
HFS				eSG	Sg	04 07 52.3	-4.1
OUL	Oulu	5.81	85	eP	Pn	04 06 38.5	-0.3
OUL				eS	Sn	04 07 40.7	-5.1
SGF	Sodankyl	6.23	62	eP	Pn	04 06 44.9	+0.5
SGF				eS	Sn	04 07 52.0	-4.0
KEF	Keuruu	6.43	112	eP	Pn	04 06 46.7	-0.4
KEF				eS	Sn	04 07 57.7	-3.2
ARA0	ARCESS Array S	6.75	44	Pn	Pn	04 06 50.1	-1.6
	baz=232,slow=14						
ARA0				Sn	Sn	04 08 04.0	-4.9
	baz=235,slow=22						
ARA0				Lg		04 08 39.2	
	baz=226,slow=28						
ARA0	ARCESS Array S	6.75	44	eP	Pn	04 06 50.1	-1.6
ARA0				eS	Sn	04 08 04.0	-4.9
ARA0				eSG	Sg	04 08 39.2	-9.4
KAF	Kangasniemi	7.02	110	eP	Pn	04 06 56.7	+1.4
KAF				eS	Sn	04 08 10.8	-4.8
KAF				eSG	Sg	04 08 47.4	-10
KAF				MSG		04 08 59.4	
	comp=Z,1.7nm,0.4s						
MSF	Maaselka	7.06	76	eP	Pn	04 06 55.1	-0.7
MSF				eS	Sn	04 08 09.1	-7.4
MSF				eSG	Sg	04 08 47.3	-11
MSF				MSG		04 08 52.3	
	comp=Z,1.0nm,0.3s						
KU4	Liikasenvaara	7.28	73	eS	Sn	04 08 15.7	-6.1
FIA0	FINESS Array S	7.31	114	Pn	Pn	04 06 58.9	-0.5
	baz=307,slow=14						
FIA0				Sn	Sn	04 08 20.6	-2.2
	baz=306,slow=22						
FIA0				Lg		04 09 02.8	
FIA0	FINESS Array S	7.31	114	eP	Pn	04 06 58.9	-0.5
FIA0				eS	Sn	04 08 20.6	-2.2
FIA0				e		04 09 02.8	
JOF	Joensuu	8.71	96	eS	Sn	04 08 49.5	-7.6
JOF				eSG	Sn	04 09 35.4	+38
JOF				MSG		04 09 50.2	
	comp=Z,1.4nm,0.4s						

CASC 01 04:09:31.5±2.7**, 1058N×8305W, h51**km±30km**, MD3.5, ML3.8, 2C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIO	Limon	0.57	178⇓	eP	Pn	04 09 44.1	+0.5
LIO				eS	Sn	04 09 54.3	+1.8
LCR2	La Lucha 2	1.26	228⇓	eP	Pn	04 09 53.2	+0.6
CNI	Changuinola	1.27	156	eP	Pn	04 09 53.0	+0.1
LAJ	Bijagual	1.27	236⇑	eP	Pn	04 10 01.5	+8.6
PRS1	Puriscal	1.38	244⇑	eP	Pn	04 09 56.9	+2.6
PRS1				eS	Sn	04 10 13.5	+2.1
CGA2	Cerro Gallo 2	1.50	248⇓	eP	Pn	04 09 57.5	+1.5
CGA2				eS	Sn	04 10 15.3	+0.8
JCR	Jicaral	2.15	250	eP	Pn	04 10 06.0	+1.0
JCR				eS	Sn	04 10 30.5	0.0
DVD	David	2.21	164	eP	Pn	04 10 03.6	-2.2
ACH	Altos	3.62	122	eP	Pn	04 10 25.1	+0.1

*IGIL **01** 04:16:47.0, 36.19N×1168W, h10km, ML2.8*
*CSEM **01** 04:16:47.5±0.1, 3579N×1132W, h30km, ML3.1/4, Error ellipse: s-maj=6.0km s-min=2.7km az=147.0*
*NEIC **01** 04:16:50.1, 3647N×1145W, h0km, MG4.5(MDD), After MDD.*
*INMG **01** 04:16:50.3±1.1, 3620N×1166W, h31km±8km, MD2.9, ML2.4, Error ellipse: s-maj=5.5km s-min=2.7km az=131.0*
MDD 01 04:16:48.7±1.6**, 3630N×1174W, h24**km±16km**, mb4.5**/9**, Error ellipse: s-maj=10.5km s-min=9.7km az=77.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	2.67	67	i Pn	Pn	04 17 29.6	-0.7
MORF				eSn	Sn	04 17 58.2	-3.7
MORF							
	20nm,0.1s						
PTEO	Sao Teotonio	2.72	62	ePn	Pn	04 17 30.3	-0.6
PTEO				eSn	Sn	04 17 59.0	-4.0
PTEO							
	11nm,0.3s						
PTEO	Sao Teotonio	2.72	62	ePn	Pn	04 17 30.3	-0.6
PTEO				eSn	Sn	04 17 59.0	-4.0
	11nm,0.3s						
PMAFR	Mafra	3.29	36	ePn	Pn	04 17 38.7	-0.1
PMAFR				eSn	Sn	04 18 14.7	-2.5
PMAFR							
	22nm,0.3s						
PMAFR	Mafra	3.29	36	ePn	Pn	04 17 38.7	-0.1
PMAFR				eSn	Sn	04 18 14.7	-2.5
	22nm,0.3s						
PLOU	Loures	3.30	38	ePn	Pn	04 17 38.9	0.0
PLOU				eSn	Sn	04 18 14.8	-2.6
MOE	Montemor	3.49	49	ePn	Pn	04 17 41.3	-0.2
MOE				eSn	Sn	04 18 18.8	-3.3
PBEJ	Beja	3.54	60	ePn	Pn	04 17 41.4	-0.8
PBEJ				eSn	Sn	04 18 19.4	-3.9
PBEJ							
	3.8nm,0.1s						
PBEJ	Beja	3.54	60	ePn	Pn	04 17 41.4	-0.8
PBEJ				eSn	Sn	04 18 19.4	-3.9
	3.8nm,0.1s						
EGRO	El Granado	3.63	69	P	Pn	04 17 42.8	-0.5
	3.1nm,0.1s,SNR=27						
EGRO				S	Sn	04 18 21.0	-4.4
	6.8nm,0.3s						
EGRO	El Granado	3.63	69	P	Pn	04 17 42.8	-0.6
	3.1nm,0.1s,SNR=27						
EGRO				S	Sn	04 18 21.0	-4.4
	6.8nm,0.3s						
ALMR	Almeirim	3.80	40	eP	Pn	04 17 44.7	-1.0
ALMR				eS	Sn	04 18 26.6	-3.1
ALMR				eS	Sn	04 18 26.6	-3.1
ALMR				AML	AML	04 18 31.6	
	comp=E,22nm,0.4s						
ALMR	Almeirim	3.80	40	eP	Pn	04 17 44.7	-1.0
ALMR				eS	Sn	04 18 26.6	-3.0
PESTR	Estremoz	4.17	51	ePn	Pn	04 17 50.5	-0.4
PESTR				eSn	Sn	04 18 35.5	-3.4
PESTR							
	comp=E,2.1nm,0.2s						
PESTR	Estremoz	4.17	51	ePn	Pn	04 17 50.5	-0.4
PESTR				eSn	Sn	04 18 35.5	-3.4
	comp=E,2.1nm,0.2s						
EMIN	Mina Concepcio	4.31	69	P	Pn	04 17 51.7	-1.0
	comp=E,8.5nm,0.1s,SNR=78						
EMIN				S	Sn	04 18 37.0	-5.3
	comp=E,4.5nm,0.3s,SNR=12						
EMIN	Mina Concepcio	4.31	69	P	Pn	04 17 51.7	-1.1
	comp=E,8.5nm,0.1s,SNR=78						
EMIN				S	Sn	04 18 37.0	-5.3
	comp=E,4.5nm,0.3s,SNR=12						
EBAD	Badajoz	4.49	55	P	Pn	04 17 54.5	-0.7
	comp=E,4.0nm,0.1s,SNR=70						
EBAD				S	Sn	04 18 41.6	-5.0
	comp=E,2.8nm,0.5s,SNR=4.7						
EBAD	Badajoz	4.49	55	P	Pn	04 17 54.5	-0.7
	comp=E,4.0nm,0.1s,SNR=70						
EBAD				S	Sn	04 18 41.7	-4.9
	comp=E,2.8nm,0.5s,SNR=4.7						
ESPR	Espera	4.77	81	P	Pn	04 17 58.4	-0.6
	comp=E,4.8nm,0.1s,SNR=34						
ESPR				S	Sn	04 18 48.5	-5.1
	comp=E,4.3nm,0.3s,SNR=5.1						
ESPR	Espera	4.77	81	P	Pn	04 17 58.4	-0.6
	comp=E,4.8nm,0.1s,SNR=34						
ESPR				S	Sn	04 18 48.5	-5.0
	comp=E,4.3nm,0.3s,SNR=5.1						
PCBR	Castelo Branco	4.88	42	ePn	Pn	04 18 00.3	-0.3
PCBR				eSn	Sn	04 18 52.1	-4.2
PCBR							
	comp=E,1.1nm,0.2s						
PCBR	Castelo Branco	4.88	42	ePn	Pn	04 18 00.3	-0.3
PCBR				eSn	Sn	04 18 52.1	-4.2
	comp=E,1.1nm,0.2s						
PMPS	Porto Santo	4.98	231	ePn	Pn	04 18 00.0	-1.9
PMPS				eSn	Sn	04 18 53.2	-5.5
PMPS							
	comp=E,8.5nm,0.2s						
EJIF	Jimena Fronter	5.06	86	P	Pn	04 18 02.6	-0.4
	comp=E,0.6nm,0.2s,SNR=7.9						
EJIF				S	Sn	04 18 52.1	-8.6
	comp=E,0.4nm,0.1s,SNR=7.9						
EJIF	Jimena Fronter	5.06	86	P	Pn	04 18 02.6	-0.5
	comp=E,0.6nm,0.2s,SNR=7.9						
EJIF				S	Sn	04 18 52.1	-8.7
	comp=E,0.4nm,0.1s,SNR=7.9						
PVIS	Viseu	5.34	33	ePn	Pn	04 18 06.6	-0.3
PVIS				eSn	Sn	04 19 03.7	-4.0
PVIS							
	comp=E,4.2nm,0.1s						
EMIJ	Mijas	5.62	85	P	Pn	04 18 10.7	-0.1
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	04 19 06.9	-7.7
	comp=E,1.0nm,0.2s,SNR=7.9						
PVRL	Vila Real	5.88	31	eSn	Sn	04 19 16.4	-4.6
PVRL							
	comp=E,3.5nm,0.1s						
PVRL	Vila Real	5.88	31	S	Sn	04 19 16.4	-4.6
	comp=E,1.8nm,0.1s						
EADA	Adamuz	6.01	70	P	Pn	04 18 15.4	-0.8
	comp=E,2.9nm,0.2s,SNR=26						
EADA				S	Sn	04 19 17.7	-6.4
	comp=E,2.9nm,0.2s						
EADA	Adamuz	6.01	70	P	Pn	04 18 15.4	-0.7
	comp=E,2.9nm,0.2s,SNR=26						
EADA				S	Sn	04 19 17.7	-6.5
	comp=E,2.9nm,0.2s						
ELUQ	Luque	6.12	76	S	Sn	04 19 20.2	-6.6
	comp=E,1.7nm,0.2s,SNR=7.9						
PCAB	Cabril	6.13	27	eSn	Sn	04 19 22.8	-4.3
PCAB							
	comp=E,1.9nm,0.2s						
PCAB	Cabril	6.13	27	S	Sn	04 19 22.8	-4.3
	comp=E,0.9nm,0.2s						
EBAN	Banos Encina	6.61	71	P	Pn	04 18 23.1	-1.3
	comp=E,1.1nm,0.1s,SNR=7.9						
EBAN				S	Sn	04 19 32.4	-6.6
	comp=E,1.2nm,0.1s,SNR=7.9						
PBRG	Braganca	6.73	34	eSn	Sn	04 19 37.0	-5.0
PBRG							
	comp=E,1.3nm,0.1s						
PBRG	Braganca	6.73	34	S	Sn	04 19 37.0	-5.0
	comp=E,0.6nm,0.1s						
ECAL	Calabor	6.84	33	P	Pn	04 18 27.2	-0.4
	comp=E,1.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	04 19 38.6	-6.1
	comp=E,2.0nm,0.3s,SNR=7.9						
ECAL	Calabor	6.84	33	P	Pn	04 18 27.2	-0.4
	comp=E,1.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	04 19 38.6	-6.2
	comp=E,2.0nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	6.98	17	S	Sn	04 19 40.3	-7.7
	comp=E,2.5nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	7.00	59	P	Pn	04 18 28.7	-1.1
	comp=E,3.8nm,0.2s,baz=244,slow=13,SNR=38						
ESDC				S	Sn	04 19 42.1	-6.6
	comp=E,0.8nm,0.3s,baz=244,slow=23,SNR=8.6						
ESDC	Sonseca Array	7.00	59	P	Pn	04 18 28.7	-1.1
	comp=E,3.8nm,0.2s,SNR=38						
ESDC				S	Sn	04 19 42.1	-6.5
	comp=E,0.8nm,0.3s,SNR=8.6						
EQES	Quesada	7.09	75	P	Pn	04 18 29.6	-1.4
	comp=E,0.3nm,0.1s,SNR=8.4						
EQES	Quesada	7.09	75	P	Pn	04 18 29.6	-1.4
	comp=E,0.3nm,0.1s,SNR=8.4						
GUD	Guadarrama	7.36	52	P	Pn	04 18 33.9	-0.8
	comp=E,0.3nm,0.1s,SNR=7.9						
GUD				S	Sn	04 19 50.5	-7.0
	comp=E,0.7nm,0.3s,SNR=4.0						
EVIA	Vianos	7.71	70	P	Pn	04 18 37.6	-1.8
	comp=E,0.8nm,0.1s,SNR=7.9						
EPON	Pontenova	7.86	25	P	Pn	04 18 40.8	-0.7
	comp=E,1.3nm,0.3s,SNR=7.9						
EPON				S	Sn	04 20 02.1	-7.6
	SNR=7.9						
EPON	Pontenova	7.86	25	P	Pn	04 18 40.8	-0.7
	comp=E,1.3nm,0.3s,SNR=7.9						
ETOB	Tobarra	8.43	71	P	Pn	04 18 48.5	-0.8
	comp=E,0.4nm,0.1s,SNR=7.3						
ETOB	Tobarra	8.43	71	P	Pn	04 18 48.5	-0.9
	comp=E,0.4nm,0.1s,SNR=7.3						
EOSO	Osorio	8.81	203	P	Pn	04 19 04.0	+9.4
ETOR	Torete	8.82	56	P	Pn	04 18 54.3	-0.4
	comp=E,3.0nm,0.1s,SNR=9.4						
EMOS	Mosqueruela	9.74	62	P	Pn	04 19 07.8	+0.6
	comp=E,0.2nm,0.1s,SNR=4.0						

MAN 01 04:34:09.5, 1034N×12579E, h21km, mb4.2, ML5.1, MS1.9, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.63	208⇑	eP	Pb	04 34 21.7	-0.1
SCPH				i S	Sb	04 34 21.7	-8.4
MSLP	Maasin	0.94	258	eP	Pb	04 34 27.1	0.0
MSLP				eS	Sb	04 34 43.5	+4.4
PLP	Palo	1.15	316	eP	Pn	04 34 28.7	-1.6
PLP				eS	Sb	04 34 42.9	-2.2
BESP	Borongan	1.30	345	eP	Pn	04 34 31.8	-0.7
OCLP	Ormoc	1.36	302	eP	Pn	04 34 35.8	+2.5
LLP	Lapu-Lapu	1.80	270	eP	Pn	04 34 39.8	+0.5
LLP				eS	Sn	04 35 02.4	+0.9
TBP	Tagbilaran	2.00	252	eP	Pn	04 34 43.0	+0.9
BUKP	Musuan	2.54	196	eP	Pn	04 34 50.7	+1.1
SNPH	Sibulan	2.70	249	eP	Pn	04 34 53.0	+1.2
GUIM	Jordan	3.16	276	eP	Pn	04 34 58.5	+0.4
RCP	Roxas	3.23	292⇓	eP	Pn	04 34 59.5	+0.6
PAGZ	Pagadian	3.43	224	eP	Pn	04 35 03.5	+1.8
PVCP	Virac	3.61	334	eP	Pn	04 35 02.0	-2.3

MAN 01 04:35:60.0, 1029N×12592E, h1km, mb3.0, ML4.4, MS1.9, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.66	220⇓	eP	Pg	04 36 12.7	+0.2
SCPH				eS	Sg	04 36 25.1	+4.1
MSLP	Maasin	1.05	262	eP	Pg	04 36 16.0	-4.2
MSLP				eS	Sg	04 36 34.1	+0.4
PLP	Palo	1.27	314	eP	Pg	04 36 25.1	+0.8
PLP				eS	Sg	04 36 42.9	+2.2
TBP	Tagbilaran	2.11	254	eP	Pn	04 36 37.0	+0.6
TBP				eS	Sn	04 37 04.3	+1.1

IDC 01 05:37:09.4±6.7**, 669S×14813E, h103**km±57km**, mb3.4**/2**, mb1 3.4**/4**, mb1mx3.2**/14**, mbtmp3.6**/4**, Error ellipse: s-maj=94.3km s-min=54.2km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.87	200	P	Pn	05 37 53.1	-0.4
	4.6nm,0.3s,baz=320,slow=6.0,SNR=9.3						
PMG				S	Sn	05 38 28.4	+1.0
	4.4nm,0.3s,baz=6.1,slow=22,SNR=3.8						
WB2	Warramunga Arr	18.78	224	eP	P	05 41 20.2	-0.4
WRA	Warramunga Arr	18.79	224	P	P	05 41 20.0	-0.6
	0.2nm,0.3s,baz=51,slow=11,SNR=3.8						
ASAR	Alice Springs	21.73	218	P	P	05 41 53.3	+1.0
	1.2nm,0.4s,baz=52,slow=9.1,SNR=22						
FITZ	Fitzroy Crossi	24.69	241	eP	P	05 42 20.5	-0.3
	2.0nm,0.6s						
FITZ	Fitzroy Crossi	24.69	241	P	P	05 42 20.6	-0.2
	0.7nm,0.3s,baz=75,slow=10,SNR=7.6						
TORD	Torodi Ar. Bea	146.35	284	PKPbc	PKPbc	05 56 39.0	+0.7
	0.2nm,0.6s,baz=69,slow=3.8,SNR=5.2						

*ISCJB **01** 06:02:44.0±1.3, 2483S±008×17957E±008, h505km±16km, mb4.0/13, Error ellipse: s-maj=11.8km s-min=11.6km az=87.7*
*NEIC **01** 06:02:44.7±1.2, 2489S×17976E, h508km±15km, mb4.5/7, Error ellipse: s-maj=14.9km s-min=13.2km az=149.0*
*IDC **01** 06:02:44.6±1.6, 2482S×17964E, h499km±16km, mb3.6/9, mb1 3.8/11, mb1mx3.8/14, mbtmp4.6/11, Error ellipse: s-maj=17.1km s-min=14.4km az=153.0*
ISC 01 06:02:44.6±1.1**, 2495S**±008×**17967E**±008**, h501**km±14km**, n33, σ0.80**/33**, mb4.0**/13**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.47	281	P	P	06 05 31.9	+3.9
	0.8nm,0.3s,baz=76,slow=17,SNR=7.9						
URZ	Urewera	13.45	189	P	P	06 05 38.1	-0.3
	4.8nm,0.3s,baz=346,slow=3.2,SNR=36						
URZ				S	S	06 08 01.4	-0.4
	1.0nm,0.3s,baz=221,slow=22,SNR=6.3						
AFI	Afiamalu	13.62	38	P	P	06 05 38.7	-1.5
	2.6nm,0.3s,baz=42,slow=12,SNR=4.1						
SNZO	South Karori	16.83	193	eP	P	06 06 12.7	-1.0
	40nm,1.2s						
CTA	Charters Tower	31.20	272	eP	P	06 08 23.3	+1.3
	20nm,0.5s,mb4.8						
CTA	Charters Tower	31.20	272	P	P	06 08 23.4	+1.4
	26nm,0.5s,mb4.9,baz=97,slow=11,SNR=17						
CTAO	Charters Tower	31.20	272	eP	P	06 08 23.3	+1.3
	25nm,0.8s,mb4.7						
STKA	Stephens Creek	34.06	250	P	P	06 08 47.9	+1.4
	1.4nm,0.4s,mb3.8,baz=87,slow=10,SNR=4.2						
AS31	Alice Springs	41.58	262	eP	P	06 09 48.3	+0.5
AS31				eS	S	06 15 26.3	-0.8
ASAR	Alice Springs	41.58	262	P	P	06 09 48.4	+0.6
	4.5nm,0.8s,mb3.9,baz=96,slow=8.6,SNR=32						
ASAR				S	S	06 15 26.8	-0.4
	0.5nm,0.7s,baz=102,slow=17,SNR=4.2						
ASPA	Alice Springs	41.58	262	eP	P	06 09 48.3	+0.4
ASPA				eS	S	06 15 26.3	-0.9
WB2	Warramunga Arr	42.03	267⇓	iP	P	06 09 51.4	-0.1
WB2				eS	S	06 15 32.7	-1.1
WRAB	Tennant Creek	42.04	267	eP	P	06 09 50.9	-0.6
	8.4nm,0.8s,mb4.2						
WRA	Warramunga Arr	42.05	267	P	P	06 09 51.6	0.0
	12nm,1.1s,mb4.2,baz=99,slow=7.0,SNR=59						
WRA				ScP	ScP	06 14 40.1	+2.8
	1.8nm,0.7s,baz=103,slow=3.7,SNR=13						
WRA				S	S	06 15 32.7	-1.3
	2.7nm,0.9s,baz=101,slow=15,SNR=13						
KAKA	Kakadu	46.11	276	eP	P	06 10 22.6	-0.5
	7.4nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	50.46	267⇓	iP	P	06 10 55.9	+0.4
	7.8nm,0.6s,mb4.2						
VNDA	Vanda	53.31	185	P	P	06 11 17.2	+1.0
	1.2nm,0.7s,mb3.3,baz=355,slow=6.7,SNR=5.1						
VNDA	Vanda	53.31	185	P	P	06 11 17.2	+1.0
QSPA	South Pole Qui	65.14	180	eP	P	06 12 36.4	+0.9
	6.9nm,0.9s,mb4.3						
MJAR	Matsushiro Arr	72.59	326	P	P	06 13 19.9	-0.6
	6.7nm,0.8s,mb4.2,baz=156,slow=5.5,SNR=15						
MAW	Mawson	76.67	201	P	P	06 13 44.1	+0.7
	3.2nm,0.6s,mb4.0,baz=123,slow=8.2,SNR=9.3						
SNAA	Sanae	83.63	179	e	P	06 14 19.0	-0.9
SNAA				e		06 14 24.9	
VNA3	Neumayer Olymp	83.85	177	e	P	06 14 20.3	-0.7
VNA3				e		06 14 25.4	
VNA2	Neumayer--Watz	84.27	178	e	P	06 14 22.6	-0.4
	baz=184,slow=4.5						
VNA2				e		06 14 27.9	
VNA2				e		06 15 07.8	
VNA1	Neumayer--Stat	84.50	177	e	P	06 14 24.1	-0.1
NVAR	Mina Array Bea	85.71	44	P	P	06 14 30.5	+0.4
	0.6nm,0.7s,mb3.4,baz=219,slow=7.1,SNR=4.8						
TXAR	Lajitas Array	91.24	58	P	P	06 14 56.9	+1.0
	1.2nm,0.8s,mb3.9,baz=210,slow=6.1,SNR=12						
FINES	FINESS Array B	139.34	341	SKPbc	SKPbc	06 24 01.5	-0.7
	3.6nm,0.6s,baz=93,slow=3.8,SNR=13						
NOA	NORSAR Array B	143.06	351	PKP	PKPdf	06 21 17.9	-3.1
	1.6nm,0.9s,baz=15,slow=4.9,SNR=3.3						
NOA				SKPbc	SKPbc	06 24 10.7	-0.9
	2.2nm,0.9s,baz=14,slow=3.7,SNR=4.6						
AKASG	Malin Array Be	145.68	326	PKPbc	PKPbc	06 21 25.5	-1.4
	2.8nm,0.5s,baz=45,slow=4.6,SNR=14						
AKASG				SKPbc	SKPbc	06 24 17.3	-0.4
	2.6nm,0.7s,baz=47,slow=2.5,SNR=7.5						
AKASG	Malin Array Be	145.68	326	PKPbc	PKPbc	06 21 25.5	-1.4
AKASG				SKPbc	SKPbc	06 24 17.3	-0.4
BRTR	Keskin Array B	147.95	306	PKPbc	PKPbc	06 21 32.8	-0.2
	0.8nm,0.6s,baz=144,slow=3.2,SNR=3.9						
TORD	Torodi Ar. Bea	168.11	190	PKPab	PKPab	06 23 05.2	+0.5
	1.5nm,0.9s,baz=183,slow=3.9,SNR=6.4						

*ISCJB **01** 06:11:01.3±0.5, 6490S±006×1775E±02, h10km, mb4.5/14, MS4.5/15, Error ellipse: s-maj=12.7km s-min=8.2km*

az=166.2
*IDC **01** 06:11:02.1±1.0,6502S×17731E,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.4/12,mbtmp4.4/10,ML4.3/1,MS4.5/14, Ms1 4.5/14,ms1mx4.5/14,Error ellipse: s-maj=36.4km s-min=17.3km az=66.0*
*BJI **01** 06:11:03.4,6500S×17740E,h10km,mB5.2,Ms4.9, Msz4.5*
*NEIC **01** 06:11:03.4±0.6,6498S×17736E,h10km,mb4.7/9,Error ellipse: s-maj=18.1km s-min=7.6km az=77.0*
*GCMT **01** 06:11:03.4±0.2,6474S×17749E,h12km,MW5.1/78, Moment Tensor Solution. s34,c40; s78,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.13; $M_{\theta\theta}$4.49±.11; $M_{\phi\phi}$-3.91±.12; $M_{r\theta}$-4.66±.33; $M_{\theta\phi}$-1.74±.11; $M_{\phi r}$0.53±.33; Best double couple: $M_0$5.94800×10^{16} NP1:ϕ_s333.00000°,δ57.00000°,λ11.00000°. NP2: ϕ_s237.00000°,δ80.00000°,λ147.00000°. Principal axes: T 7.5310, Plg30.0000°, Azm190.0000°; N -3.1710, Plg56.0000°, Azm43.0000°; P -4.3650, Plg15.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 06:11:02.7±0.5**,6491S**±006×**1776E**±02**,h10km,n53,** σ**1s02**/33**,mb4.5**/14**,MS4.5**/15**,1C-1D,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	13.41	190	eP	Pn	06 14 12.8	-0.3
	159nm,1.5s						
VNDA	Vanda	13.55	195	Pn	Pn	06 14 14.7	-0.3
	1.4nm,0.3s,baz=43,slow=18,SNR=34						
VNDA				Sn	Sn	06 16 58.7	+13
	0.1nm,0.3s,baz=9.5,slow=4.6,SNR=1.7						
VNDA				LR	LR	06 18 19.5	
	comp=Z,2μm,18.6s,baz=22,slow=33						
VNDA	Vanda	13.55	195	ePn	Pn	06 14 14.6	-0.3
	121nm,1.7s						
RPZ	Rata Peaks	21.55	347	P	P	06 15 55.3	+3.1
	16nm,1.0s,mb4.4,baz=138,slow=6.1,SNR=5.9						
RPZ				LR	LR	06 22 20.5	
	comp=Z,2μm,19.6s,MS4.4,baz=173,slow=31						
QSPA	South Pole Qui	25.18	180	eP	P	06 16 29.5	+1.3
	43nm,1.4s,mb4.8						
CASY	Casey	26.57	236	eP	P	06 16 39.8	-1.0
	12nm,1.3s,mb4.3						
URZ	Urewera	26.69	359	LR	LR	06 26 00.6	
	comp=Z,1μm,18.0s,MS4.5,baz=165,slow=34						
STKA	Stephens Creek	39.75	309	eP	P	06 18 37.0	+1.5
	12nm,1.0s,mb4.6						
STKA	Stephens Creek	39.75	309	P	P	06 18 37.0	+1.5
	14nm,0.9s,mb4.7,baz=155,slow=7.0,SNR=14						
STKA				LR	LR	06 33 09.9	
	comp=Z,383nm,18.4s,MS4.3,baz=168,slow=33						
MAW	Mawson	39.90	213	P	P	06 18 35.3	-1.4
	1.0nm,0.6s,mb3.7,baz=291,slow=9.4,SNR=3.9						
MAW				LR	LR	06 35 04.0	
	comp=Z,2μm,18.3s,MS5.1,baz=132,slow=36						
SYO	Syowa Base	43.15	201	⇓eP	P	06 19 00.0	-3.4
DZM	Mont Dzumac	43.45	345	LR	LR	06 33 45.0	
	comp=Z,582nm,20.9s,MS4.5,baz=202,slow=31						
SNAA	Sanae	43.68	180	P	P	06 19 08.2	+0.5
	2.2nm,1.0s,mb3.8,baz=180,slow=7.8,SNR=10						
SNAA	Sanae	43.68	180	e	P	06 19 07.8	+0.1
SNAA				e		06 19 14.9	
SNAA				e		06 19 26.6	
SNAA	Sanae	43.68	180	eP	P	06 19 07.2	-0.5
	15nm,1.3s,mb4.5						
SNAA				epP	pP	06 19 14.6	+3.8
VNA3	Neumayer Olymp	44.02	177	e	P	06 19 10.5	+0.1
VNA3				e		06 19 17.6	
VNA3				e		06 19 24.6	
VNA3				e		06 19 28.5	
VNA2	Neumayer--Watz	44.39	178	e	P	06 19 13.7	+0.4
	baz=189,slow=7.6						
VNA2				e		06 19 20.8	
VNA2				e		06 19 28.9	
VNA2				e		06 19 31.6	
VNA2				e		06 19 35.7	
VNA2				e		06 19 39.1	
VNA2				e		06 19 44.5	
VNA1	Neumayer--Stat	44.65	177	e	P	06 19 16.4	+1.0
VNA1				e		06 19 23.0	
VNA1				e		06 19 31.9	
VNA1				e		06 19 34.1	
VNA1				e		06 19 46.4	
RAR	Rarotonga	46.16	30	LR	LR	06 33 16.3	
	comp=Z,710nm,19.1s,MS4.6,baz=212,slow=29						
TBI	Tubuai	46.73	43	eS	S	06 26 20.2	-1.5
	156nm,27.5s						
TBI				eLQ		06 30 16.0	
	932nm,29.0s						
TBI				eLR	LR	06 32 21.6	
	1μm,28.5s,baz=200						
TBI	Tubuai	46.73	43	eT		07 09 15.7	
	44nm,0.2s						
NWAO	Narrogin (SRO)	48.19	281	P	P	06 19 42.7	-0.6
	6.8nm,0.8s,mb4.7,baz=169,slow=7.2,SNR=4.8						
NWAO				LR	LR	06 35 36.7	
	comp=Z,571nm,18.9s,MS4.6,baz=106,slow=31						
NWAO	Narrogin (SRO)	48.19	281	eP	P	06 19 43.8	+0.5
	6.9nm,0.9s,mb4.7						
CTA	Charters Tower	49.38	320	eP	P	06 19 52.8	+0.5
	8.3nm,1.0s,mb4.7						
CTA	Charters Tower	49.38	320	P	P	06 19 53.7	+1.4
	baz=160,slow=7.8						
ASAR	Alice Springs	49.93	304	P	P	06 19 56.8	+0.2
	4.8nm,1.0s,mb4.5,baz=156,slow=7.6,SNR=25						
ASAR				LR	LR	06 39 39.4	
	comp=Z,221nm,18.0s,MS4.2,baz=158,slow=34						
AS31	Alice Springs	49.93	304	P	P	06 19 56.7	+0.2
RKT	Rikitea	51.77	60	eS	S	06 27 29.4	-3.0
	162nm,31.2s						
RKT				eLQ		06 32 15.9	
	414nm,27.0s						
RKT				eLR	LR	06 34 52.2	
	412nm,27.5s,baz=205						
RKT	Rikitea	51.77	60	eT		07 15 37.7	
	22nm,0.2s						
TVO	Taravao	52.07	41	eT		07 15 55.3	
	60nm,0.3s						
PAE	Paea	52.09	41	eT		07 15 56.6	
	22nm,0.2s						
PPT	Papeete	52.18	41	eS	S	06 27 36.5	-1.5
	125nm,25.5s						
PPT				eLQ		06 32 17.7	
	299nm,26.5s						
PPT				eLR	LR	06 34 49.3	
	882nm,25.5s,baz=199						
PPT	Papeete	52.18	41	eT		07 16 03.2	
	7.4nm,0.2s						
PPT	Papeete	52.18	41	LR	LR	06 35 43.7	
	comp=Z,472nm,21.0s,MS4.5,baz=201,slow=28						
WB2	Warramunga Arr	53.21	306	eP	P	06 20 20.5	-0.6
WRA	Warramunga Arr	53.22	306	P	P	06 20 20.3	-0.8
	7.2nm,0.9s,mb4.6,baz=162,slow=6.5,SNR=24						
WRA				LR	LR	06 40 51.9	
	comp=Z,478nm,18.8s,MS4.6,baz=170,slow=34						
WRAB	Tennant Creek	53.22	306	eP	P	06 20 20.7	-0.5
	5.9nm,0.8s,mb4.6						
VAH	Vaihoa	54.95	42	eT		07 19 30.9	
	172nm,0.2s						
PMOR	Pomariorio Ree	55.09	42	eT		07 19 41.3	
	7.9nm,0.3s						
HNR	Honiara	56.76	339	LR	LR	06 39 53.1	
	comp=Z,709nm,20.0s,MS4.8,baz=179,slow=30						
MBWA	Marble Bar	57.57	291	eP	P	06 20 52.0	-0.6
	46nm,1.8s,mb5.2						
MBWA				epP	pP	06 20 58.7	+3.0
FITZ	Fitzroy Crossi	58.05	298	eP	P	06 20 56.2	+0.3
	11nm,1.1s,mb4.8						
FITZ	Fitzroy Crossi	58.05	298	P	P	06 20 56.1	+0.2
	8.3nm,1.1s,mb4.7,baz=179,slow=11,SNR=10						
TAOE	Nuku Hiva Isla	63.24	48	eLR	LR	06 40 04.7	
	1μm,27.6s,baz=210						
BOSA	Boshof	84.33	204	LR	LR	06 58 00.6	
	comp=Z,525nm,19.4s,MS4.9,baz=169,slow=34						
LPAZ	La Paz	85.19	119	P	P	06 23 40.5	+1.3
	0.9nm,0.9s,mb3.9,baz=182,slow=4.5,SNR=5.1						
LPAZ				LR	LR	06 52 27.6	
	comp=Z,74nm,21.6s,MS4.0,baz=30,slow=29						
KMI	Kunming	106.32	294	PKP	PKiKP	06 29 27.5	0.0
KMI				pPKP		06 29 32.8	
KMI				PP	PP	06 29 45.4	+5.0
KMI				LR	LR		
	comp=Z,100nm,27.5s,MS4.2						
CD2	Chengdu	111.12	298	ePKP	PKiKP	06 29 32.8	-3.7
CD2				PP	PP	06 30 18.0	+2.6
CD2				SS	SS	06 45 48.6	+1.2
CD2				PP	PP		
	comp=Z,80nm,10.8s						
HHC	Hu-ho-hao-te	117.26	309	ePKP	PKPdf	06 29 47.2	-1.0
TORD	Torodi Ar. Bea	128.22	185	PKP	PKPdf	06 30 08.7	-0.5
	comp=Z,0.8nm,1.0s,baz=258,slow=2.2,SNR=4.4						
WMQ	Urumqi	128.58	292	⇑PKP	PKPdf	06 30 07.2	-2.7
WMQ				XPKP		06 30 17.7	
WMQ				PP	PP	06 32 18.2	+2.9
WMQ				PKS		06 33 42.2	
WMQ				PPP		06 35 04.2	
WMQ				PP	PP		
	comp=Z,23nm,6.7s						
WMQ				LR	LR		
	comp=N,72nm,17.3s,MS4.6						
WMQ				LR	LR		
	comp=E,78nm,18.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,101nm,24.5s						
MKAR	Makanchi Array	133.19	290	PKP	PKPdf	06 30 17.2	-1.4
	comp=Z,0.6nm,0.9s,baz=61,slow=5.7,SNR=4.5						
BRTR	Keskin Array B	147.32	237	PKPbc	PKPbc	06 30 45.5	-1.0
	comp=Z,1.6nm,0.8s,baz=151,slow=6.9,SNR=7.1						

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*ISCJB **01** 06:14:46.9±1.6,175S±06×1785W±03,h542km±28km, mb4.1/7,Error ellipse: s-maj=102.9km s-min=22.0km az=134.2*
*IDC **01** 06:14:48.5±2.1,17.17S×17851W,h547km±30km,mb3.4/5, mb1 3.6/6,mb1mx3.3/15,mbtmp4.4/6,Error ellipse: s-maj=103.3km s-min=19.6km az=157.0*
ISC 01 06:14:48.0±1.6**,176S**±06×**1784W**±03**,h539km**±26km**,n11,** σ**0s43**/11**,mb4.1**/7**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.33	61	P	P	06 16 38.7	0.0
	4.4nm,0.3s,baz=105,slow=17,SNR=6.5						
STKA	Stephens Creek	38.81	241	P	P	06 21 27.3	+0.7
	4.4nm,0.7s,mb4.1,baz=92,slow=9.6,SNR=7.5						
WB2	Warramunga Arr	44.70	259	eP	P	06 22 12.6	-0.5
WRA	Warramunga Arr	44.71	259	P	P	06 22 12.8	-0.4
	3.0nm,0.5s,mb4.1,baz=92,slow=7.3,SNR=84						
ASAR	Alice Springs	44.90	254	P	P	06 22 14.8	+0.2
	22nm,0.7s,mb4.8,baz=88,slow=8.4,SNR=260						
ASAR				PcP	PcP	06 23 43.5	-1.1
	0.8nm,0.6s,baz=99,slow=4.3,SNR=4.2						
ASPA	Alice Springs	44.91	254	eP	P	06 22 14.7	+0.1
KAKA	Kakadu	47.61	269	eP	P	06 22 35.4	+0.3
	5.3nm,0.4s,mb4.4						
FORT	Forrest	50.17	244	eP	P	06 22 53.2	-0.8
	14nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	53.10	260	eP	P	06 23 15.5	+0.3
	0.7nm,0.3s,mb3.5						
FITZ	Fitzroy Crossi	53.10	260	P	P	06 23 15.8	+0.6
	0.5nm,0.3s,mb3.3,baz=101,slow=6.1,SNR=6.1						
TXAR	Lajitas Array	85.80	58	P	P	06 26 30.5	0.0
	0.7nm,0.8s,mb3.4,baz=217,slow=6.0,SNR=6.4						

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*LDG **01** 06:32:48.2±0.1,4249N×025E,h2km,Md1.9/1,Ml1.8/2, Error ellipse: s-maj=2.9km s-min=1.6km az=35.0*
MDD 01 06:32:48.6±0.4**,4250N**×**026E,h9km**±6km**,mbLg1.2**/8**, 1C-1D,Error ellipse: s-maj=3.9km s-min=2.3km az=49.0, PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBIE	Bielsa	0.20	336	⇓Pg	Pg	06 32 52.6	-0.1
	SNR=18						
EBIE				Lg		06 32 56.2	
	2.5nm,0.0s,SNR=11						
RESF	Ens	0.31	11	Pg	Pg	06 32 54.4	-0.3
RESF				Lg		06 32 58.6	
VIEF	Viey	0.42	336	Pg	Pg	06 32 56.5	-0.3
VIEF				Lg		06 33 02.5	
EPF	Esparros	0.53	7	ePg	Pg	06 32 58.6	-0.3
EPF				eSg	Sg	06 33 06.2	+0.3
	7.9nm,0.2s						
EPF	Esparros	0.53	7	Pg	Pg	06 32 58.6	-0.3
EPF				Lg		06 33 06.2	
	4.0nm,0.2s						
CSOR	Sort	0.66	101	Pg	Pg	06 33 00.5	-0.9
ETSF	Etsaut	0.72	304	ePg	Pg	06 33 01.8	-0.6
ETSF				eSg	Sg	06 33 11.3	-0.5
ETSF				eSn	Sg	06 33 14.9	+3.1
	2.1nm,0.2s						
ETSF	Etsaut	0.72	304	Pg	Pg	06 33 01.8	-0.6
ETSF				Lg		06 33 11.3	
ETSF				Sn	Sg	06 33 14.9	+3.1
	1.1nm,0.2s						
CAVN	Les Avellanes	0.72	149	Pg	Pg	06 33 02.1	-0.4
CORG	Organya	0.83	109	Pg	Pg	06 33 04.1	-0.5
ESAC	San Caprasio	0.95	215	Lg		06 33 24.3	
	4.1nm,0.2s,SNR=7.9						
EMIR	Miracle	1.11	121	Pg	Pg	06 33 09.3	-0.6
	0.4nm,0.1s,SNR=5.5						
EMIR				Lg		06 33 24.2	
	1.9nm,0.1s,SNR=8.0						
SJPF	Ste Jean	1.25	300	eSg	Sg	06 33 27.8	-0.9
	2.0nm,0.3s						
SJPF	Ste Jean	1.25	300	Lg		06 33 27.8	
	1.0nm,0.3s						
CLLI	Llivia	1.27	90	Lg		06 33 30.8	
EPOB	Poblet	1.30	152	⇑Pg	Pg	06 33 12.7	-0.9
	0.4nm,0.1s,SNR=18						
EPOB				Lg		06 33 30.0	
	0.9nm,0.3s,SNR=7.9						
EALK	Alkurruntz	1.48	300	Lg		06 33 39.4	
	1.2nm,0.2s,SNR=7.9						
ERTA	Horta de San J	1.55	178	Pg	Pg	06 33 18.1	-0.1
	0.7nm,0.2s,SNR=4.0						
ERTA				Lg		06 33 38.7	
	0.8nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.67	59	ePg	Pg	06 33 19.6	-1.0
MTLF				eSg	Sg	06 33 41.2	-1.0
	1.3nm,0.3s						
MTLF	Montolieu	1.67	59	Pg	Pg	06 33 19.6	-1.0
MTLF				Lg		06 33 41.2	
	0.6nm,0.3s						
CFON	Fontmartina	1.78	114	Pg	Pg	06 33 21.2	-1.6
CFON				Lg		06 33 44.4	
	2.7nm,0.2s						

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*CSEM **01** 06:56:12.0,16.14N×4278E,h3km,ML3.8,After DHMR*
DHMR 01 06:56:12.0±1.5**,1614N**×**4278E,h3km**±9km**,ML3.8,2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAJJ	Hajjah	0.90	119	⇓iP	Pg	06 56 27.9	-1.4
HAJJ				i S	Sg	06 56 42.4	+1.4
HAJJ				AML	AML	06 56 46.6	
	comp=E,4μm,0.4s						
HAJJ	Hajjah	0.90	119	⇓iP	Pg	06 56 27.9	-1.4
HAJJ				i S	Sg	06 56 42.4	+1.4
	comp=E,2μm,0.4s						
DHBB	Dhamar BB	2.20	135	i P	Pn	06 56 51.2	+1.8
DHBB				i S	Sn	06 57 22.1	+4.9
TRBA	At Turbah	3.17	156	i S	Sn	06 57 47.2	+6.2
LBOS		3.28	133	i P	Pn	06 57 08.0	+3.6
LBOS				i S	Sn	06 57 50.6	+6.7
BDHA	Al Bayda'	3.45	128	i P	Pn	06 57 09.7	+3.1
BDHA				i S	Sn	06 57 53.5	+5.5
BDHA				AML	AML	06 58 01.1	
	comp=E,273nm,0.5s						
BDHA	Al Bayda'	3.45	128	i P	Pn	06 57 09.7	+3.1
BDHA				i S	Sn	06 57 53.5	+5.6
	comp=E,136nm,0.5s						

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*ISCJB **01** 07:18:23.9±0.2,4260N±001×1305E±002,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=135.2*
*ROM **01** 07:18:24.3±0.1,4260N×1307E,h6km,Md3.1/41,Ml3.0/22, Error ellipse: s-maj=2.1km s-min=1.6km az=122.0*
*NEIC **01** 07:18:24.3,4260N×1307E,h6km,ML3.0(ROM),After ROM.*
*CSEM **01** 07:18:26.4±0.1,4266N×1307E,h30km,ML4.0/6,Error ellipse: s-maj=1.7km s-min=1.2km az=53.0*
*LDG **01** 07:18:27.0±0.2,4253N×1298E,h10km,Ml3.1/3,Error ellipse: s-maj=6.6km s-min=3.8km az=59.0*
ISC 01 07:18:24.8±0.2**,4259N**±001×**1306E**±002**,h7km**±3km**,n69,** σ**1s05**/101**,7C-4D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNS	Montasola	0.34	234	Pg	Pg	07 18 31.4	0.0
MNS				Sg	Sg	07 18 37.4	+1.4
	2μm,0.6s						
AQU	L'Aquila	0.34	132	Pg	Pg	07 18 30.8	-0.7
AQU				Sg	Sg	07 18 36.8	+0.8
	2μm,1.0s						
FAGN	Fagnano	0.51	129	Pg	Pg	07 18 33.5	-1.0
FAGN				Sg	Sg	07 18 44.4	+3.3
	2μm,0.4s						
ASS	Assisi	0.56	328	Pg	Pg	07 18 34.7	-0.9
ASS				Sg	Sg	07 18 43.6	+0.7
	33nm,0.2s						
ASS	Assisi	0.56	328	Sg	Sg	07 18 43.6	+0.7
	33nm,0.2s						
OFFI	Offida	0.58	53	Pg	Pg	07 18 35.3	-0.7
OFFI				Sg	Sg	07 18 45.5	+2.0
	4μm,0.4s						
MTCE	Montecelio	0.61	203	Pg	Pg	07 18 35.6	-0.9
	365nm,0.5s						
VCEL	Villa Celiera	0.61	108	Pg	Pg	07 18 35.4	-1.1
VCEL				Sg	Sg	07 18 45.6	+1.1
MURB	Monte Urbino	0.78	330	Pg	Pg	07 18 38.6	-1.2
MURB				Sg	Sg	07 18 51.2	+1.3
	1μm,0.3s						
CING	Cingoli	0.80	7	Pg	Pg	07 18 38.4	-1.7
CING				Sg	Sg	07 18 50.8	+0.4
	387nm,0.4s						
GUAR	Guarcino	0.81	166	Pg	Pg	07 18 40.7	+0.3
	495nm,0.4s						
VVLD	Villa Vallelon	0.83	149	Pg	Pg	07 18 40.2	-0.5
	532nm,0.7s						
RDP	Rocca di Papa	0.86	197	Pg	Pg	07 18 40.9	-0.5
RDP				Sg	Sg	07 18 55.3	+2.7
	1μm,0.5s						
MA9	Marino	0.87	200	Pg	Pg	07 18 41.8	+0.4
	188nm,0.3s						
SACS	San Casciano d	0.89	288	Pg	Pg	07 18 41.1	-0.7
SACS				Sg	Sg	07 18 55.8	+2.5
	204nm,0.5s						
LATE	Laterza	0.93	272	Pg	Pg	07 18 42.1	-0.4
LATE				Sg	Sg	07 18 55.6	+1.1
LAV9	Lanuvio	0.94	196	Pg	Pg	07 18 43.7	+0.8
LAV9				Sg	Sg	07 18 57.7	+2.5
	345nm,0.2s						
GIUL	Giuliano Di Ro	1.04	172	Pg	Pg	07 18 43.1	-1.6
GIUL				Sg	Sg	07 19 01.6	+3.5
	189nm,0.6s						
SDI	San Donato	1.04	147	Pg	Pg	07 18 44.4	-0.3
	92nm,0.3s						
AOI	Ancona	1.04	22	Pg	Pg	07 18 43.2	-1.6
AOI				Sg	Sg	07 18 59.6	+1.3
	285nm,0.3s						
CDCA	Citt' di Caste	1.06	326	Pg	Pg	07 18 44.4	-0.7
	379nm,0.6s						
FSSB	Fossombrone	1.12	350	Pg	Pg	07 18 44.5	-1.9
FSSB				Sg	Sg	07 19 02.4	+1.5
	133nm,0.4s						
ARCI	Arcidosso	1.20	283	Pg	Pg	07 18 47.3	-0.4
	80nm,1.1s						
RNI2	Rionero Sannit	1.20	137	Pg	Pg	07 18 48.0	+0.2
	366nm,0.9s						
CERA	Filignano	1.22	144	Pg	Pg	07 18 48.3	+0.1
	278nm,0.7s						
MIDA	Miranda	1.30	136	Pg	Pg	07 18 48.0	-1.7
	120nm,0.5s						
CRE	Caprese Michel	1.31	322	Pg	Pg	07 18 49.4	-0.6
	33nm,0.4s						
PESA	Pesaro	1.36	353	Pg	Pg	07 18 50.9	0.0
	411nm,0.9s						
TRIV	Trivento	1.38	126	Pg	Pg	07 18 51.9	+0.7
	211nm,0.9s						
RSM	Repubblica di	1.42	342	Pg	Pg	07 18 51.8	-0.1
	70nm,0.6s						
RFI	Roccamonfina	1.46	151	Pg	Pg	07 18 52.8	+0.1
	29nm,1.1s						
VAGA	Valle Agricola	1.46	143	Pg	Pg	07 18 52.3	-0.5
BSSO	Busso	1.55	132	Pg	Pg	07 18 53.2	-1.2
SGG	Gregorio Mates	1.55	140	Pg	Pg	07 18 53.8	-0.7
	117nm,0.9s						
CSNT	Castellina Chi	1.57	305	Pg	Pg	07 18 53.5	-1.3
	21nm,0.4s						
SFI	Santa Sofia	1.59	327	Pg	Pg	07 18 54.5	-0.7
	28nm,0.4s						
VMG	Vicchio	1.76	322	Pg	Pn	07 18 56.1	+0.4
	54nm,0.6s						
RGNG	Rignano Grg	2.09	115	Pg	Pn	07 19 00.5	+0.3
SGRT	San Giovanni R	2.16	112	Pg	Pn	07 19 02.1	+0.9
MSAG	Monte S. Angel	2.29	111	Pg	Pn	07 19 03.5	+0.5
	111nm,0.5s						
FGMS	Monte Sant'Ang	2.33	111	Pg	Pn	07 19 05.1	+1.6
	34nm,0.5s						
NVLJ	Novalja	2.38	33	i Pn	Pn	07 19 03.6	-0.5
NVLJ				i Sn	Sn	07 19 33.0	-0.6
NVLJ	Novalja	2.38	33	i Pn	Pn	07 19 03.6	-0.6
NVLJ				i Sn	Sn	07 19 32.9	-0.6
PGF	Pioggiola	3.00	271	ePn	Pn	07 19 12.8	+0.1
KNDS	Knezji Dol	3.09	18	i Pn	Pn	07 19 13.6	-0.4
CEY	Cerknica	3.30	17	ePn	Pn	07 19 16.8	-0.1
BOJS	Bojanci	3.32	28	i Pn	Pn	07 19 17.1	0.0
VOY	Vojsko	3.50	10	ePn	Pn	07 19 19.2	-0.4
VOY				eSn	Sn	07 20 00.2	-1.0
CTI	Castel Tesino	3.61	344	Pg	Pn	07 19 21.8	+0.7
	5.0nm,0.2s						
CADS	Cadrg	3.67	7	i Pn	Pn	07 19 21.7	-0.3
CADS				eSn	Sn	07 20 05.8	+0.2
GORS	Gorjuse	3.79	10	ePn	Pn	07 19 23.3	-0.3
GORS				i Sn	Sn	07 20 09.3	+0.8
PTCC	Patocco-Chiusa	3.83	3	Pg	Pn	07 19 23.9	-0.2
	5.0nm,0.3s						
FVI	Forni Avoltri	4.01	357	Pg	Pn	07 19 27.1	+0.4
	3.0nm,0.2s						
OBKA	Obir	4.07	15	⇓iPn	Pn	07 19 27.0	-0.4
OBKA				⇓iSn	Sn	07 20 14.7	-0.6
OBKA				⇓iSg	Sg	07 20 37.6	+2.3
	21nm,0.6s						
OBKA	Obir	4.07	15	Pn	Pn	07 19 27.0	-0.4
OBKA				Sn	Sn	07 20 14.7	-0.5
OBKA				Sg	Sg	07 20 37.6	+2.3
	21nm,0.6s						
APPI	Appiano	4.11	342	Pg	Pn	07 19 28.8	+0.9
	69nm,1.5s						
SBF	Sospel	4.30	289	ePn	Pn	07 19 30.3	-0.3
WTTA	Wattenberg	4.79	348	⇑iPn	Pn	07 19 38.4	+1.1
WTTA				⇑iSn	Sn	07 20 35.1	+2.2
FRF	La Foret Royal	4.79	284	ePn	Pn	07 19 36.5	-0.9
SQTA	Sankt Quirin	4.82	345	⇑iPn	Pn	07 19 39.3	+1.6
SQTA				⇑iSn	Sn	07 20 36.8	+3.0
LMR	La Mourre	4.86	281	ePn	Pn	07 19 36.5	-1.8
LMR				eSn	Sn	07 20 30.4	-4.5
	4.3nm,0.6s						
LMR	La Mourre	4.86	281	ePn	Pn	07 19 36.5	-1.8
LMR				eSn	Sn	07 20 30.4	-4.5
	2.2nm,0.6s						
ARSA	Arzberg	4.98	20	⇑iPn	Pn	07 19 39.2	-0.8
ARSA				⇑iSn	Sn	07 20 36.4	-1.4
MBDF	Montbardon	5.04	297	ePn	Pn	07 19 39.9	-0.8
MOA	Molln	5.33	9	⇑iPn	Pn	07 19 45.6	+0.8
MOA				⇓iSn	Sn	07 20 47.9	+1.4
ORIF	Oris-en-Rattie	5.70	297	ePn	Pn	07 19 49.2	-0.6
ORIF				eP		07 19 54.1	
HINF	Hinteralfeld	6.82	322	ePn	Pn	07 20 04.6	-0.6
HINF				eSn	Sn	07 21 18.3	-4.9
	6.0nm,0.6s						
CDF	Champ du Feu	7.10	327	ePn	Pn	07 20 08.3	-0.8
CDF				eSn	Sn	07 21 25.1	-4.9
	3.9nm,0.5s						
HAU	Haudompre	7.19	321	ePn	Pn	07 20 09.7	-0.6

MAN 01 07:20:07.0,1035N×12583E,h23km,mb3.5,ML4.6,MS2.1, 1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.66	211	⇓eP	Pb	07 20 19.8	0.0
SCPH				eS	Sb	07 20 30.7	+2.3
MSLP	Maasin	0.98	258	eP	Pb	07 20 25.5	+0.2
MSLP				eS	Sb	07 20 41.1	+3.3
PLP	Palo	1.17	314	eP	Pn	07 20 27.1	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP				eS	Sn	07 20 44.1	+1.0
BESP	Borongan	1.30	343	eP	Pn	07 20 29.6	-0.2
LLP	Lapu-Lapu	1.83	269	eP	Pn	07 20 37.8	+0.7
LLP				eS	Sn	07 21 00.7	+1.1
CGP	Cagayan de Oro	2.19	211⇑	eP	Pn	07 20 41.8	-0.1
CGP				i S	Sn	07 21 10.2	+1.9
BUKP	Musuan	2.57	197	eP	Pn	07 20 49.0	+1.9
GUIM	Jordan	3.20	275	eP	Pn	07 20 56.5	+0.7
PVCP	Virac	3.62	333	eP	Pn	07 20 59.9	-1.7
OTRP	Odiongan	4.24	299	eP	Pn	07 21 11.0	+0.9
CUYO	Cuyo Island	4.76	276	eP	Pn	07 21 18.3	+1.1

*ISK **01** 08:00:56.7, 3849N×2580E, h20^{km}, MD3.3*
*ISCJB **01** 08:00:58.6±0.7, 3852N±002×2589E±004, h23^{km}±7^{km}, Error ellipse: s-maj=4.9km s-min=3.9km az=178.0*
*CSEM **01** 08:00:58.0±0.1, 3853N×2597E, h20^{km}, ML3.5, Error ellipse: s-maj=2.4km s-min=1.7km az=79.0*
*NEIC **01** 08:00:58.7, 3854N×2599E, h50^{km}, MG3.5(ATH), After ATH.*
*ATH **01** 08:00:58.7, 3854N×2599E, h50^{km}±31^{km}, MD3.4/10, ML3.5*
ISC 01 08:00:59.0±1.0**, 3851N**±002×**2591E**±003**, h20**^{km}±8^{km}**, n43, σ0^{s}89**/63**, 1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.56	105	i P	Pb	08 01 09.7	-0.5
URLA				i S	Sb	08 01 18.1	+0.3
URLA	Izmir	0.56	105	i P	Pb	08 01 09.7	-0.5
URLA				i S	Sb	08 01 18.1	+0.3
PRK	Paraskevi	0.79	21	eP	Pb	08 01 13.5	-0.6
AYVA	Ayvalik	1.00	37	i P	Pb	08 01 17.3	-0.4
AYVA				i S	Sb	08 01 33.9	+3.4
AYVA	Ayvalik	1.00	37	i P	Pb	08 01 17.3	-0.4
AYVA				i S	Sb	08 01 33.9	+3.4
IZM	Izmir	1.07	96	PN	Pn	08 01 18.6	-0.3
IZM				SN	Sn	08 01 33.9	+0.7
KDAG	Bornova	1.07	95	i P	Pb	08 01 20.4	+1.5
KDAG	Bornova	1.07	95	i P	Pb	08 01 20.4	+1.5
SMG	Samos	1.09	137⇓	iP	Pb	08 01 18.2	-1.0
SMG				eS	Sb	08 01 32.7	-0.2
BOZC	Bozcaada	1.33	5	i P	Pn	08 01 23.4	+0.8
BOZC				i S	Sn	08 01 39.8	+0.1
BOZC	Bozcaada	1.33	5	i P	Pn	08 01 23.4	+0.8
BOZC				i S	Sn	08 01 39.8	+0.1
EZN	Ezine	1.35	14	PN	Pn	08 01 21.9	-0.9
EZN				SN	Sn	08 01 39.5	-0.7
LIA	Limnos Island	1.50	338	eP	Pn	08 01 24.4	-0.4
PTL	Penteli	1.67	255	eP	Pn	08 01 29.0	+1.8
CANB	Canakkale	1.75	30	PN	Pn	08 01 27.7	-0.6
CANB				SN	Sn	08 01 50.5	+0.5
AYDN	Tasoluk	1.77	118	i P	Pn	08 01 31.9	+3.3
AYDN				i S	Sn	08 01 51.8	+1.2
AYDN	Tasoluk	1.77	118	i P	Pn	08 01 31.9	+3.3
AYDN				i S	Sn	08 01 51.8	+1.2
ATH	Athens Observa	1.81	253	eP	Pn	08 01 29.9	+0.9
KVR	Kavouri	1.82	249	eP	Pn	08 01 30.5	+1.3
BODT	Bodrum	1.82	142	PN	Pn	08 01 28.4	-0.9
BDRM	Kayabasi	1.89	139	i P	Pn	08 01 29.6	-0.6
BDRM				i S	Pb	08 01 32.2	-0.7
BDRM	Kayabasi	1.89	139	i P	Pn	08 01 29.6	-0.6
BDRM				i S	Pb	08 01 32.2	-0.7
MLSB	Milas	1.91	129	ePN	Pn	08 01 30.0	-0.5
NAIG	Nisos Aigina	2.05	249	eP	Pn	08 01 33.0	+0.6
BTOK	Tokmak	2.07	52	i P	Pn	08 01 37.0	+4.3
BTOK				i S	Pg	08 01 39.8	+0.9
BTOK	Tokmak	2.07	52	i P	Pn	08 01 37.0	+4.3
BTOK				i S	Pg	08 01 39.8	+0.9
SANT	Santorini	2.17	190	ePn	Pn	08 01 33.0	-1.0
SANT				eSn	Sn	08 01 59.1	-1.1
SANT	Santorini	2.17	190	ePn	Pn	08 01 33.0	-1.0
SANT				eSn	Sn	08 01 59.1	-1.1
DAT	Datca	2.22	143	ePN	Pn	08 01 34.1	-0.6
NEO	Neokhori	2.24	292	eP	Pn	08 01 34.3	-0.7
RKY	Sarkoy-Tekirda	2.39	24	ePN	Pn	08 01 36.8	-0.2
SART	Tekirdag	2.39	24	i P	Pn	08 01 37.0	0.0
SART				i S	Sn	08 02 05.8	+0.1
SART	Tekirdag	2.39	24	i P	Pn	08 01 37.0	0.0
SART				i S	Sn	08 02 05.8	+0.1
MRMT	Marmara Adasi	2.46	31	ePN	Pn	08 01 37.5	-0.6
MFT	Murefte	2.51	25	ePN	Pn	08 01 38.1	-0.6
RDO	Rodhopi	2.65	354	eP	Pn	08 01 40.5	-0.1
ARG	Arkhangelos	2.89	142	P	Pn	08 01 45.4	+1.4
VLI	Veliai	2.96	234	eP	Pn	08 01 44.5	-0.4
NVR	Nevrokopi	3.24	332	eP	Pn	08 01 48.7	-0.1
EDRB	Edirne	3.39	11	ePN	Pn	08 01 50.6	-0.3
ITM	Ithomi	3.42	248	P	Pn	08 01 53.4	+2.2
TIP	Timpagrande	7.17	278	ePn	Pn	08 02 41.9	-0.9
TIP	Timpagrande	7.17	278	ePn	Pn	08 02 41.9	-0.9

IDC 01 08:21:13.9±7.7**, 278N**×**12722E, h0**^{km}**, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.5**/16**, mbtmp3.5**/4**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.3**/30**, Error ellipse: s-maj=123.1km s-min=95.9km az=138.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.81	184	P	P	08 25 57.5	+0.7
	0.6nm,0.6s,baz=31,slow=12,SNR=3.7						
WRA	Warramunga Arr	23.64	163	P	P	08 26 26.3	-0.6
	0.8nm,0.4s,baz=343,slow=11,SNR=19						
JOW	Kunigami	23.94	2	LR	LR	08 34 38.5	
	comp=Z,62nm,21.5s,baz=330,slow=34						
ASAR	Alice Springs	27.08	166	P	P	08 26 57.9	-0.3
	0.2nm,0.6s,baz=354,slow=8.1,SNR=5.3						
STKA	Stephens Creek	37.07	159	P	P	08 28 26.9	+1.2
	1.1nm,0.7s,baz=340,slow=11,SNR=3.9						

IDC 01 08:24:40.3±1.8**, 1740S**×**17748W, h0**^{km}**, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.8**/14**, mbtmp3.8**/5**, Error ellipse: s-maj=145.3km s-min=29.5km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.65	241	P	P	08 32 14.3	+0.5
	1.1nm,0.9s,baz=95,slow=12,SNR=2.6						
WB2	Warramunga Arr	45.59	259	eP	P	08 33 02.8	+0.7
WRA	Warramunga Arr	45.60	259	P	P	08 33 02.9	+0.8
	0.6nm,0.3s,baz=96,slow=7.4,SNR=35						
ASAR	Alice Springs	45.78	254	P	P	08 33 04.1	+0.5
	1.3nm,0.4s,baz=93,slow=7.6,SNR=30						
ASPA	Alice Springs	45.78	254	eP	P	08 33 04.2	+0.6
FITZ	Fitzroy Crossi	53.99	260	P	P	08 34 05.6	-0.5
	0.3nm,0.3s,baz=95,slow=6.3,SNR=3.2						
TXAR	Lajitas Array	84.98	57	P	P	08 37 18.1	+0.6
	0.3nm,0.7s,baz=230,slow=5.9,SNR=5.6						

IDC 01 08:36:12.5±2.0**, 2270S**×**17492W, h0**^{km}**, mb3.9**/4**, mb1 4.2**/6**, mb1mx4.0**/16**, mbtmp4.2**/6**, ML3.2**/2**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/20**, Error ellipse: s-maj=66.3km s-min=29.4km az=149.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	9.24	19	Pn	Pn	08 38 28.0	+1.1
	1.3nm,0.3s,baz=114,slow=20,SNR=2.6						
RAR	Rarotonga	14.13	87	Pn	Pn	08 39 33.1	-0.7
	0.9nm,0.3s,baz=258,slow=10,SNR=7.7						
HNR	Honiara	27.46	295	LR	LR	08 50 20.4	
	comp=Z,68nm,20.2s,baz=179,slow=31						
STKA	Stephens Creek	39.50	247	P	P	08 43 45.4	+0.7
	1.2nm,0.7s,baz=97,slow=10,SNR=4.3						
ASAR	Alice Springs	46.85	258	P	P	08 44 44.8	+0.5
	1.2nm,0.7s,baz=102,slow=6.1,SNR=19						
WB2	Warramunga Arr	47.16	263	eP	P	08 44 46.8	+0.2
WRA	Warramunga Arr	47.17	263	P	P	08 44 46.1	-0.6
	1.6nm,1.0s,baz=90,slow=5.9,SNR=32						
FITZ	Fitzroy Crossi	55.60	263	eP	P	08 45 50.8	+0.9
	2.9nm,0.9s						
FITZ	Fitzroy Crossi	55.60	263	P	P	08 45 50.7	+0.8
	1.5nm,0.8s,baz=130,slow=8.7,SNR=5.9						

IDC 01 08:39:41.8±3.2**, 1933S**×**17925W, h0**^{km}**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/12**, mbtmp3.5**/3**, Error ellipse: s-maj=169.7km s-min=47.8km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.26	243	P	P	08 46 56.0	+0.9
	1.4nm,0.8s,baz=90,slow=9.8,SNR=3.6						
WRA	Warramunga Arr	43.60	261	P	P	08 47 47.6	-0.1
	0.3nm,0.4s,baz=99,slow=8.4,SNR=6.7						
ASAR	Alice Springs	43.65	256	P	P	08 47 48.3	+0.2
	0.3nm,0.8s,baz=91,slow=8.3,SNR=2.8						
ARCES	ARCESS Array B	127.56	349	PKP	PKPdf	08 58 48.0	-0.8
	2.5nm,0.9s,baz=66,slow=1.5,SNR=5.8						

IDC 01 08:52:36.4±62.0**, 1882S**×**16859W, h0**^{km}**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/13**, mbtmp3.6**/3**, Error ellipse: s-maj=1238.0km s-min=227.5km az=85.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.49	244	P	P	09 01 04.6	-0.7
	0.7nm,0.7s,baz=75,slow=16,SNR=3.2						
ASAR	Alice Springs	53.52	254	P	P	09 02 00.5	+1.7
	0.4nm,0.6s,baz=88,slow=9.4,SNR=5.7						
WRA	Warramunga Arr	53.62	259	P	P	09 01 59.3	-0.2
	0.2nm,0.3s,baz=97,slow=6.5,SNR=5.2						

*IDC **01** 08:57:38.5±0.6, 2876S×17698W, h0^{km}, mb4.6/9, mb1 4.8/9, mb1mx4.7/11, mbtmp4.5/9, MS4.6/16, Ms1 4.6/16, ms1mx4.4/24, Error ellipse: s-maj=25.2km s-min=20.0km az=135.0*
*ISCJB **01** 08:57:42.9±0.3, 2936S±004×177.10W±007, h42^{km}, mb5.0/36, MS4.6/22, Error ellipse: s-maj=9.8km s-min=4.0km az=50.0*
*BJI **01** 08:57:42.2, 2869S×17745W, h15^{km}, mB5.5, mb5.2, Ms5.0, Msz4.8*
*MOS **01** 08:57:43.1±1.1, 2886S×17720W, h33^{km}, mb5.1/15, Error ellipse: s-maj=16.5km s-min=13.1km az=142.4*
*NEIC **01** 08:57:43.7±0.3, 2934S×17695W, mb5.0/22, Error ellipse: s-maj=12.0km s-min=6.0km az=125.0*
*GCMT **01** 08:57:43.7±0.2, 2893S×17658W, h29^{km}, MW5.2/71, Moment Tensor Solution. s60,c92; s71,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.66±.20; $M_{\theta\theta}$0.22±.15; $M_{\phi\phi}$-5.87±.14; $M_{r\theta}$0.47±.27; $M_{\theta\phi}$-0.08±.14; $M_{\phi r}$4.55±.22; Best double couple: $M_0$7.36000×10^{16} NP1:ϕ_s177.00000°, δ26.00000°, λ84.00000°. NP2: ϕ_s4.00000°, δ64.00000°, λ93.00000°. Principal axes: T 7.2640, Plg71.0000°, Azm280.0000°; N 0.2010, Plg3.0000°, Azm183.0000°; P -7.4560, Plg19.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 08:57:44.9±0.3**, 2928S**±004×**17707W**±007**, h44**^{km}**, h44**^{km}±2.5^{km}**:pP-P, n173, σ1^{s}22**/122**, mb5.0**/36**, MS4.6**/22**, 2C-5D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	9.12	204	ePN	Pn	08 59 54.5	+0.6
MXZ				SN	Sn	09 01 34.8	-0.3
PUZ	Puketiti	9.59	203	eP	Pn	08 59 58.9	-1.5
PUZ				S	Sn	09 01 47.2	+0.4
PUZ	Puketiti	9.59	203	PN	Pn	08 59 58.4	-2.0
PUZ				SN	Sn	09 01 47.6	+0.8
OUZ	Omahuta	9.87	231	eP	Pn	09 00 13.0	+8.8
OUZ	Omahuta	9.87	231	ePN	Pn	09 00 11.1	+6.9
MWZ	Matawai	10.08	205	eP	Pn	09 00 04.9	-2.2
MWZ	Matawai	10.08	205	PN	Pn	09 00 06.4	-0.7
URZ	Urewera	10.18	207	Pn	Pn	09 00 05.4	-3.0
	1.7nm,0.3s,baz=63,slow=9.4,SNR=12						
URZ				Sn	Sn	09 02 02.0	+0.8
	9.2nm,0.3s,baz=226,slow=17,SNR=10						
URZ	Urewera	10.18	207	eP	Pn	09 00 06.6	-1.8
URZ	Urewera	10.18	207	PN	Pn	09 00 06.6	-1.8
BKZ	Black Stump Fm	11.20	207	eP	Pn	09 00 21.7	-0.7
BKZ	Black Stump Fm	11.20	207	SN	Sn	09 02 24.6	-1.6
BFZ	Birch Farm	12.62	204	eP	Pn	09 00 40.7	-1.0
MRZ	Mangatainoka R	12.85	206	eP	Pn	09 00 39.9	-5.0
MRZ	Mangatainoka R	12.85	206	PN	Pn	09 00 43.6	-1.3
MRZ				SN	Sn	09 02 59.9	-6.5
SNZO	South Karori	13.74	207	ePn	Pn	09 00 55.8	-1.3
	18nm,0.6s						
SNZO				eSn	Sn	09 03 22.7	-5.5
NNZ	Nelson	14.23	211	ePN	Pn	09 01 05.8	+2.1
NNZ				SN	Sn	09 03 33.3	-6.7
THZ	Tophouse	14.88	210	eP	Pn	09 01 13.5	+1.2
THZ	Tophouse	14.88	210	ePN	Pn	09 01 14.0	+1.7
THZ				SN	Sn	09 03 48.6	-7.2
KHZ	Kahutara	15.14	208	eP	Pn	09 01 12.0	-3.8
KHZ	Kahutara	15.14	208	ePN	Pn	09 01 14.1	-1.7
KHZ				SN	Sn	09 03 52.7	-10
LTZ	Lake Taylor	15.98	210	eP	Pn	09 01 22.0	-4.5
LTZ	Lake Taylor	15.98	210	ePN	Pn	09 01 26.5	0.0
AFI	Afiamalu	16.07	19	Pn	Pn	09 01 14.2	-13
	1.1nm,0.3s,baz=183,slow=19,SNR=1.8						
AFI				Sn	Sn	09 03 58.4	-26
	1.4nm,0.3s,baz=31,slow=22,SNR=4.1						
AFI	Afiamalu	16.07	19	ePn	Pn	09 01 15.6	-12
DZM	Mont Dzumac	16.50	292	eP	Pn	09 01 38.4	+5.3
DZM	Mont Dzumac	16.50	292	Pn	Pn	09 01 38.6	+5.4
	0.5nm,0.3s,baz=122,slow=16,SNR=11						
DZM				LR	LR	09 06 34.9	
	comp=Z,3μm,21.0s,baz=106,slow=33						
WVZ	Waitaha Valley	16.90	212	ePN	Pn	09 01 36.5	-1.6
RPZ	Rata Peaks	17.25	210	P	Pn	09 01 41.3	-1.3
	3.0nm,0.3s,baz=342,slow=1.2,SNR=24						
RPZ				S	S	09 04 42.4	-19
	2.5nm,0.3s,baz=22,slow=18,SNR=7.0						
RAR	Rarotonga	17.57	67	P	Pn	09 01 36.3	-10
	3.8nm,0.3s,baz=45,slow=8.3,SNR=8.7						
RAR				S	S	09 04 33.3	-34
	2.0nm,0.3s,baz=125,slow=17,SNR=5.4						
RAR				LR	LR	09 06 19.8	
	comp=Z,2μm,21.6s,baz=248,slow=30						
TBI	Tubuai	25.41	83	eS	S	09 07 37.9	+6.0
	609nm,29.0s						
TBI				eLR	LR	09 09 23.4	
	2μm,25.5s,baz=252						
ARMA	Armidale	27.13	260	eP	P	09 03 28.5	+4.7
PPT	Papeete	27.72	71	eLR	LR	09 10 33.3	
	2μm,24.5s,baz=241						
PPT	Papeete	27.72	71	LR	LR	09 11 13.5	
	comp=Z,986nm,21.4s,MS4.4,baz=245,slow=30						
CNB	Canberra Magne	28.92	249	eP	P	09 03 43.5	+3.8
	14nm,0.8s,mb4.8						
TOO	Toolangi	32.16	245	eP	P	09 04 09.6	+1.3
	7.2nm,0.9s,mb4.5						
TOO	Toolangi	32.16	245	eP	P	09 04 09.6	+1.3
TOO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
CTA	Charters Tower	34.44	277	eP	P	09 04 29.6	+1.3
	comp=Z,10nm,0.8s,mb4.8						
CTA	Charters Tower	34.44	277	eP	P	09 04 29.6	+1.3
CTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTAO	Charters Tower	34.44	277	eP	P	09 04 29.2	+0.9
CTAO				e*PP	pP	09 04 41.7	+1.6
CTAO				e		09 07 04.4	
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CTAO	Charters Tower	34.44	277	eP	P	09 04 29.2	+0.9
	comp=Z,14nm,0.8s,mb5.0						
CTAO				epP	pP	09 04 41.7	+1.7
CTAO				ePcP	PcP	09 07 04.4	+1.5
STKA	Stephens Creek	35.53	255	eP	P	09 04 39.9	+2.2
	comp=Z,5.8nm,0.4s,mb4.9						
STKA	Stephens Creek	35.53	255	P	P	09 04 39.5	+1.8
	comp=Z,8.5nm,0.5s,mb5.0,baz=97,slow=9.6,SNR=35						
STKA				LR	LR	09 18 10.6	
	comp=Z,2μm,18.0s,MS4.8,baz=72,slow=34						
RKT	Rikitea	38.11	91	eS	S	09 10 58.8	+9.3
	comp=Z,180nm,26.4s						
RKT				eLR	LR	09 15 16.0	
	comp=Z,1μm,28.5s,baz=258						
TAOE	Nuku Hiva Isla	40.12	67	eLR	LR	09 16 00.4	
	comp=Z,3μm,26.4s,baz=246						
AS31	Alice Springs	43.99	265	eP	P	09 05 48.5	+0.6
ASAR	Alice Springs	43.99	265	P	P	09 05 48.1	+0.2
	comp=Z,7.9nm,0.6s,mb4.6,baz=99,slow=7.2,SNR=145						
ASAR				LR	LR	09 24 02.7	
	comp=Z,2μm,18.1s,MS5.1,baz=112,slow=36						
ASPA	Alice Springs	43.99	265	eP	P	09 05 48.5	+0.6
WB2	Warramunga Arr	44.87	271	eP	P	09 05 55.0	+0.1
WRAB	Tennant Creek	44.88	271	P	P	09 05 55.0	0.0
	comp=Z,124nm,0.7s,mb5.8,SNR=7.9						
WRAB	Tennant Creek	44.88	271c	iP	P	09 05 55.2	+0.2
WRA	Warramunga Arr	44.88	271	P	P	09 05 54.7	-0.3
	comp=Z,12nm,0.7s,mb4.8,baz=110,slow=7.6,SNR=72						
WRA				LR	LR	09 23 55.8	
	comp=Z,709nm,18.1s,MS4.6,baz=50,slow=35						
FORT	Forrest	47.13	254	eP	P	09 06 12.9	+0.2
	comp=Z,18nm,0.7s,mb5.1						
SBA	Scott Base	49.21	184	eP	P	09 06 34.1	+5.3
VNDA	Vanda	49.29	186	P	P	09 06 33.6	+4.3
	comp=Z,8.9nm,1.2s,mb4.7,baz=13,slow=7.6,SNR=15						
VNDA				LR	LR	09 25 45.0	
	comp=Z,234nm,18.3s,MS4.2,baz=29,slow=34						
VNDA	Vanda	49.29	186	eP	P	09 06 27.7	-1.7
VNDA				e		09 07 51.7	
VNDA				pmax	pmax		
	comp=Z,16nm,1.4s						
VNDA	Vanda	49.29	186	eP	P	09 06 27.7	-1.7
	comp=Z,16nm,1.4s,mb4.8						
VNDA				ePcP	PcP	09 07 51.7	0.0
KAKA	Kakadu	49.55	278	eP	P	09 06 30.4	-1.0
	comp=Z,23nm,1.5s,mb5.0						
FITZ	Fitzroy Crossi	53.18	269	eP	P	09 06 58.5	-0.1
	comp=Z,15nm,0.9s,mb4.9						
KLBR	Kellerberrin	55.48	250	eP	P	09 07 14.7	-0.6
	comp=Z,11nm,0.8s,mb5.0						
CASY	Casey	56.50	208	eP	P	09 07 24.1	+1.5
MBWA	Marble Bar	57.16	263	eP	P	09 07 27.1	-0.2
	comp=Z,24nm,1.0s,mb5.2						
MBWA				epP	pP	09 07 38.3	-1.5
QSPA	South Pole Qui	60.83	180	eP	P	09 07 56.2	+3.6
	comp=Z,16nm,0.7s,mb5.2						
MIR	Mirnyy	63.48	207d	iP	P	09 08 14.0	+3.6
MIR				i	pP	09 08 26.0	+2.9
MIR				i		09 08 54.0	
MIR				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.1						
MAW	Mawson	73.64	200	eP	P	09 09 16.4	+2.6
	comp=Z,14nm,1.3s,mb4.7						
MAW	Mawson	73.64	200	P	P	09 09 16.6	+2.8
	comp=Z,21nm,1.2s,mb4.9,baz=118,slow=7.9,SNR=22						
MAW				LR	LR	09 41 14.1	
	comp=Z,491nm,19.2s,MS4.8,baz=96,slow=35						
MAW	Mawson	73.64	200	eP	P	09 09 16.4	+2.6
MAW				pmax	pmax		
	comp=Z,14nm,1.3s						
JOW	Kunigami	76.52	311	LR	LR	09 37 22.9	
	comp=Z,207nm,21.8s,MS4.4,baz=81,slow=31						
MJAR	Matsushiro Arr	77.80	325	P	P	09 09 36.0	-1.5
	comp=Z,6.2nm,0.8s,mb4.6,baz=162,slow=4.9,SNR=14						
MJAR				LR	LR	09 39 54.6	
	comp=Z,239nm,20.8s,MS4.5,baz=140,slow=33						
MAT	Matsushiro	77.80	325	P	P	09 09 35.9	-1.6
MAT				S	S	09 19 29.6	+2.7
SYO	Syowa Base	78.38	193⇓	iP	P	09 09 42.2	+1.4
SYO	Syowa Base	78.38	193⇓	ePcP	PcP	09 09 50.8	+0.9
SNAA	Sanae	79.25	178	eP	P	09 09 47.0	+1.5
SNAA				e	pP	09 10 00.2	+1.7
SNAA	Sanae	79.25	178	eP	P	09 09 47.2	+1.7
SNAA				pmax	pmax		
	comp=Z,32nm,1.6s						
SNAA	Sanae	79.25	178	eP	P	09 09 47.2	+1.7
	comp=Z,32nm,1.6s,mb5.0						
VNA3	Neumayer Olymp	79.36	176	eP	P	09 09 47.6	+1.4
VNA3				e		09 09 54.7	
VNA3				e	pP	09 09 58.6	-0.5
VNA3				e	pP	09 10 02.0	+2.9
VNA3				e		09 10 13.6	
VNA3				e		09 10 37.4	
VNA3				e		09 10 41.3	
VNA2	Neumayer--Watz	79.81	177	eP	P	09 09 50.7	+2.1
	baz=187,slow=4.4						
VNA2				e		09 09 57.8	
VNA2				e	pP	09 10 00.9	-0.7
VNA2				e	pP	09 10 04.1	+2.5
VNA2				e	pP	09 10 05.7	+4.1
VNA2				e		09 10 18.3	
VNA2				e		09 10 30.3	
VNA2				e		09 10 38.8	
VNA2				e		09 10 43.2	
MAIT	Maitri	80.03	183	eP	P	09 09 52.1	+2.3
VNA1	Neumayer--Stat	80.03	176	eP	P	09 09 52.0	+2.2
VNA1				e		09 10 00.4	
VNA1				e	pP	09 10 05.9	+3.1
VNA1				e		09 10 16.6	
VNA1				e		09 10 31.4	
ASAJ	Asahikawa	81.83	332	LR	LR	09 39 42.5	
	comp=Z,398nm,21.5s,MS4.7,baz=153,slow=31						
LPIG	La Paz	83.26	58	LR	LR	09 41 15.0	
	comp=Z,223nm,18.3s,MS4.6,baz=57,slow=32						
YSS	Yuzh-Sakhalins	84.10	334	eP	P	09 10 11.5	+0.4
YSS				e		09 10 18.0	
ISA	Isabella	84.94	44	eP	P	09 10 15.2	-0.1
QIZ	Qiongzhong	85.26	295	P	P	09 10 17.1	+0.1
QIZ				eS	S	09 20 46.4	+2.4
QIZ				SS	SS	09 26 19.8	+1.0
QIZ				LR	LR		
	comp=E,192nm,37.0s						
CMB	Columbia Colle	85.39	41	eP	P	09 10 17.3	-0.3
CMB				pmax	pmax		
	comp=Z,22nm,1.8s,mb5.0						
CMB	Columbia Colle	85.39	41	eP	P	09 10 17.3	-0.4
	comp=Z,22nm,1.8s,mb5.0						
GLA	Glamis	85.55	48	eP	P	09 10 18.9	+0.5
GSC	Goldstone	85.73	45	eP	P	09 10 19.4	+0.1
DAC	Darwin (Calif)	85.88	44	eP	P	09 10 20.1	+0.1
WDC	Whiskeytown Da	85.94	38	eP	P	09 10 20.1	-0.2
WDC				pmax	pmax		
	comp=Z,18nm,1.5s,mb5.1						
WDC	Whiskeytown Da	85.94	38	eP	P	09 10 20.1	-0.3
	comp=Z,18nm,1.5s,mb5.1						
NJ2	Nanjing	86.14	310	eP	P	09 10 20.7	-0.6
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.8						
WAKR	Walker	86.26	42	eP	P	09 10 21.5	-0.4
NVAR	Mina Array Bea	86.87	42	P	P	09 10 23.4	-1.5
	comp=Z,1.7nm,0.9s,mb4.3,baz=228,slow=7.8,SNR=10.0						
NVAR	Mina Array Bea	86.87	42	P	P	09 10 23.4	-1.5
TUC	Tucson	87.78	51	eP	P	09 10 29.6	+0.3
TUC				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.9						
TUC	Tucson	87.78	51	eP	P	09 10 29.6	+0.2
	comp=Z,12nm,1.6s,mb4.9						
MDJ	Mudanjiang	88.17	325	P	P	09 10 30.8	-0.4
MDJ				AP	pP	09 10 42.8	-1.5
MDJ				S	S	09 21 18.1	+5.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,179nm,5.9s						
MDJ				LR	LR		
	comp=N,78nm,28.0s,MS4.1						
MDJ				LR	LR		
	comp=E,72nm,30.1s,MS4.1						
MDJ				LR	LR		
	comp=Z,109nm,29.1s,MS4.1						
KDAK	Kodiak Island	89.14	13	LR	LR	09 45 32.4	
	comp=Z,358nm,20.0s,MS4.8,baz=130,slow=32						
WUAZ	Wupatki	89.32	48	eP	P	09 10 37.3	+0.7
	comp=Z,5.4nm,0.9s,mb4.9						
CN2	Changchun	89.75	322	⇓P	P	09 10 37.7	-0.9
CN2				eAP	pP	09 10 51.7	0.0
CN2				eS	S	09 21 23.1	-3.9
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,400nm,18.0s,MS4.9						
TXAR	Lajitas Array	91.10	57	P	P	09 10 44.3	-0.5
	comp=Z,0.6nm,0.8s,mb4.0,baz=216,slow=6.2,SNR=6.7						
TXAR				LR	LR	09 45 52.1	
	comp=Z,158nm,18.7s,MS4.5,baz=135,slow=32						
GYA	Guiyang	91.70	299	P	P	09 10 46.9	-0.8
GYA				PP	PP	09 14 30.2	+3.6
GYA				PPP		09 16 31.7	
GYA				SKS		09 21 16.3	
GYA				S	S	09 21 43.0	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,490nm,18.7s,MS5.1						
GYA				LR	LR		
	comp=E,510nm,18.9s,MS5.1						
GYA				LR	LR		
	comp=Z,540nm,19.0s,MS5.0						
SRU	San Rafael	92.02	46	eP	P	09 10 48.7	-0.4
ANMO	Albuquerque	92.25	51⇑	eP	P	09 10 49.8	-0.4
PV01	Paradox Valley	92.68	47	eP	P	09 10 51.7	-0.5
PV01				epP	pP	09 11 03.6	-1.7
BJI	Beijing	92.70	315	P	P	09 10 54.4	+2.1
BJI				PP	PP	09 14 35.7	+1.3
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=N,88nm,32.5s,MS4.2						
BJI				LR	LR		
	comp=E,109nm,27.8s,MS4.2						
BJI				LR	LR		
	comp=Z,134nm,25.6s,MS4.3						
BJI	Beijing	92.70	315	P	P	09 10 54.4	+2.1
	comp=Z,4.0nm,0.6s,mb5.0						
BJI				PP	PP	09 14 35.7	+1.3
BJI				S	S	09 21 39.6	-14
BJI				SS	SS	09 28 37.7	+31
BJI				LR	LR		
	comp=Z,130nm,25.6s,MS4.3						
KMI	Kunming	94.05	296	P	P	09 11 01.6	+3.1
KMI				*PP	pP	09 11 14.1	+2.4
KMI						09 21 30.9	
KMI				S	S	09 22 05.3	-0.4
KMI				SS	SS	09 28 27.5	+1.3
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
KMI				MLR	MLR		
	comp=Z,140nm,16.8s,MS4.5						
KMI	Kunming	94.05	296	P	P	09 11 01.6	+3.1
	comp=Z,7.0nm,1.3s,mb4.9						
KMI				pP	pP	09 11 14.1	+2.4
KMI				sP	sP	09 11 20.1	+3.6
KMI				SKS		09 21 30.9	
KMI				S	S	09 22 05.3	-0.4
KMI				sS	sS	09 22 26.2	-1.7
KMI				SS	SS	09 28 27.5	+1.3
KMI				LR	LR		
	comp=Z,140nm,16.8s,MS4.5						
RRI2	Red Ridge	94.07	42	eP	P	09 10 59.0	+0.4
SNOW	Snow King Moun	94.47	42	eP	P	09 10 60.0	-0.4
	comp=Z,3.4nm,0.8s,mb4.8						
PDAR	Pinedale Array	94.77	43	P	P	09 10 58.6	-3.1
	comp=Z,0.6nm,0.9s,mb4.0,baz=288,slow=1.4,SNR=3.7						
PDAR				LR	LR	09 49 50.3	
	comp=Z,329nm,18.1s,MS4.8,baz=256,slow=33						
HHC	Hu-ho-hao-te	96.05	314	eP	P	09 11 09.1	+1.5
HHC				PP	PP	09 15 04.6	+4.1
HHC				SKS		09 21 40.8	
HHC				S	S	09 22 20.7	-2.4
HHC				SS	SS	09 28 55.9	+1.3
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.4						
HHC				AMB	AMB		
	comp=Z,210nm,6.9s						
HHC				LR	LR		
	comp=N,343nm,20.6s,MS4.9						
HHC				LR	LR		
	comp=E,273nm,22.8s,MS4.9						
HHC				LR	LR		
	comp=Z,321nm,20.8s,MS4.8						
CD2	Chengdu	96.18	302	eP	P	09 11 08.0	-0.2
CD2				AP	pP	09 11 21.5	+0.1
CD2				PP	PP	09 15 03.2	+1.6
CD2				SKS		09 21 39.3	
CD2				S	S	09 22 19.8	-4.4
CD2				SS	SS	09 28 55.3	-1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=E,80nm,14.2s						
CD2				LR	LR		
	comp=Z,90nm,16.4s,MS4.3						
COLA	College	96.57	12	eP	P	09 11 07.0	-3.0
BILL	Bilibino	97.82	354	eP	P	09 11 12.4	-3.2
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.8						
LPAZ	La Paz	97.85	114	LR	LR	09 47 13.2	
	comp=Z,101nm,19.8s,MS4.3,baz=259,slow=30						
LZH	Lanzhou	98.71	306	eP	P	09 11 19.2	-0.4
LZH				AP	pP	09 11 28.7	-4.1
LZH				XP	sP	09 11 32.1	-5.6
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,51nm,4.0s						
LZH	Lanzhou	98.71	306	eP	P	09 11 19.2	-0.4
LZH				*PP	pP	09 11 28.7	-4.1
LZH				*SP	sP	09 11 32.1	-5.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.4						
LZH	Lanzhou	98.71	306	eP	P	09 11 19.2	-0.4
	comp=Z,13nm,1.0s,mb5.4						
LZH				pP	pP	09 11 28.7	-4.1
LZH				sP	sP	09 11 32.1	-5.6
WMQ	Urumqi	113.17	308	PKP	PKiKP	09 16 18.3	+0.8
WMQ				PP	PP	09 17 11.8	+4.2
WMQ				LR	LR		
	comp=N,116nm,23.5s,MS4.6						
WMQ				LR	LR		
	comp=E,149nm,24.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,51nm,18.0s						
MKAR	Makanchi Array	117.67	310	PKP	PKPdf	09 16 25.3	-0.9
	comp=Z,3.6nm,0.9s,baz=80,slow=2.3,SNR=19						
MKAR	Makanchi Array	117.67	310	i PKIKP	PKPdf	09 16 25.2	-1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	117.67	310	PKIKP	PKPdf	09 16 25.3	-0.9
AAK	Ala-Archa	122.16	304	i PKIKP	PKPdf	09 16 31.9	-2.9
CHKZ	Chkalovo	126.05	317	ePKIKP	PKPdf	09 16 41.3	-1.0
BVAR	Borovoye Array	126.17	316	PKP	PKPdf	09 16 41.0	-1.5
	comp=Z,6.2nm,0.7s,baz=105,slow=1.7,SNR=30						
BRVK	Borovoye	126.23	316	ePKIKP	PKPdf	09 16 41.5	-1.1
ZRNK	Zerenda	127.00	316	ePKIKP	PKPdf	09 16 43.4	-0.7
ARU	Arti	132.74	321	i PKIKP	PKPdf	09 16 52.3	-2.7
ARU				e		09 19 14.2	
ARU				eSS	SS	09 36 51.3	-6.1
AKTK	Aktyubinsk	133.94	313	PKP	PKPdf	09 16 56.5	-0.7
AKTO	Aktyubinsk	133.94	313	PKP	PKPdf	09 16 56.5	-0.7
	comp=Z,3.6nm,0.8s,baz=354,slow=0.8,SNR=14						
ARCES	ARCESS Array B	137.67	348	PKhKP		09 16 56.4	
	comp=Z,2.0nm,0.7s,baz=48,slow=1.8,SNR=4.2						
ARCES	ARCESS Array B	137.67	348	PKP		09 16 56.4	
JOF	Joensuu	141.67	339	epkp	PKPdf	09 17 08.6	-2.9
KAF	Kangasniemi	143.76	342	epkp	PKPdf	09 17 10.3	-4.8
	baz=30,slow=2.8						
FIA1	FINESS Array S	144.37	341	ePKPdf	PKPdf	09 17 13.4	-2.8
FINES	FINESS Array B	144.37	341	PKP	PKPdf	09 17 12.3	-3.9
	comp=Z,2.7nm,0.5s,baz=49,slow=5.0,SNR=17						
BHD	Baghdad	144.52	287	ex	x	09 17 10.7	
ZEI	Tsey	144.59	304	ePKIKP	PKPdf	09 17 15.7	-0.9
OBN	Obninsk	144.70	327⇓	iPKIKP	PKPdf	09 17 14.3	-2.5
OBN				e		09 17 21.9	
OBN				pmax	pmax		
	comp=Z,59nm,1.7s						
CLDR	Caldiran	144.96	297	eP	PKPdf	09 17 17.7	+0.5
VRSR	Storozhevoye	145.22	319	ePKIKP	PKPdf	09 17 16.1	-1.6
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
KIV	Kislovodsk	145.25	306	ePKIKP	PKPdf	09 17 17.9	+0.2
KIV	Kislovodsk	145.25	306	ePKPbc	PKPbc	09 17 17.9	+0.4
CUKT	Cukurca	145.28	294	eP	PKPbc	09 17 18.5	+0.9
VANB	Van	145.41	296	eP	PKPdf	09 17 18.1	+0.1
MSL	Mosul	145.71	292	i x	x	09 17 21.0	
SOC	Sochi	147.43	306	i PKP2	PKPab	09 17 24.3	-1.7
SOC				e		09 20 47.6	
SOC				ePPP		09 24 07.0	
SOC				eSS	SS	09 39 53.0	+3.5
SOC				pmax	pmax		
	comp=Z,17nm,1.0s						
NB2	NORSAR Subarra	147.76	352	PKP2	PKPbc	09 17 22.7	-2.2
NB2	NORSAR Subarra	147.76	352	PKP	PKPdf	09 17 22.7	+0.7
	comp=Z,17nm,0.9s,baz=8.7,slow=2.9						
NOA	NORSAR Array B	147.76	352	PKPbc	PKPbc	09 17 23.0	-1.8
	comp=Z,7.6nm,0.6s,baz=13,slow=4.4,SNR=19						
NOA	NORSAR Array B	147.76	352	PKPbc	PKPbc	09 17 23.0	-1.9
EZC	Erzincan	148.06	299	eP	PKPbc	09 17 27.5	+1.8
HFS	Hagfors	148.30	350	PKPbc	PKPbc	09 17 23.7	-2.6
	comp=Z,12nm,0.7s,baz=94,slow=2.2,SNR=16						
PTK	Pertek	148.50	297	eP	PKPbc	09 17 28.0	+1.2
ANN	Anapa	148.68	309	i PKP2	PKPbc	09 17 25.8	-1.5
ANN				pmax	pmax		
	comp=Z,97nm,2.2s						
URFA	Urfa	149.09	295	eP	PKPdf	09 17 25.2	+1.1
MYA	Malataya	149.31	297	eP	PKPbc	09 17 30.6	+1.7
GAZ	Gaziantep	150.39	294	eP	PKPbc	09 17 33.0	+1.5
KMRS	Kahramanmaras	150.60	295	eP	PKPbc	09 17 32.9	+0.9
ASF	Jabal al Asfar	150.73	284	PKPbc	PKPbc	09 17 33.5	+1.2
	comp=Z,6.1nm,0.7s,baz=344,slow=1.9,SNR=7.9						
SIM	Simferopol’	150.85	311	ePKIKP	PKPbc	09 17 33.3	+0.7
SIM				e		09 17 46.0	
SIM				pmax	pmax		
	comp=Z,18nm,1.1s						
AKASG	Malin Array Be	150.88	325	PKPbc	PKPbc	09 17 31.8	-0.9
	comp=Z,26nm,0.6s,baz=44,slow=2.9,SNR=85						
AKASG	Malin Array Be	150.88	325	PKPbc	PKPbc	09 17 31.8	-0.9
AKBB	Malin Array Si	150.88	325	ePKIKP	PKPbc	09 17 31.8	-0.9
AKBB				e		09 17 39.2	
SUW	Suwalki	151.23	335	ePKP	PKPbc	09 17 32.8	-0.7
SUW	Suwalki	151.23	335	ePKPdf	PKPdf	09 17 27.9	+0.4
SUW				ePKPbc	PKPbc	09 17 32.7	-0.8
SUW				ePKP	PKPdf	09 17 32.8	+5.3
SUW				epPKPdf	pPKPdf	09 17 39.6	-1.6
MMAI	Mount Meron Ar	152.02	286	PKPbc	PKPbc	09 17 36.8	+1.5
	comp=Z,10nm,0.6s,baz=75,slow=7.0,SNR=11						
EIL	Elat	152.17	279	ePKPbc	PKPbc	09 17 36.9	+1.3
EIL				ePKPab	PKPab	09 17 48.5	+3.2
BRTR	Keskin Array B	152.75	301	PKPbc	PKPbc	09 17 36.3	-0.6
	comp=Z,2.8nm,0.8s,baz=106,slow=3.2,SNR=9.4						
TORD	Torodi Ar. Bea	163.90	176	PKP	PKPdf	09 17 43.2	0.0
	comp=Z,1.6nm,1.0s,baz=324,slow=2.5,SNR=6.3						
TORD				PKPab	PKPab	09 18 36.6	+0.6
	comp=Z,2.3nm,0.7s,baz=177,slow=3.5,SNR=8.9						

*ISCJB **01** 08:58:52.8±0.7, 265N±006×7981W±007, h10km, mb3.6/6, MS3.4/1, Error ellipse: s-maj=10.7km s-min=8.5km az=20.9*

*IDC **01** 08:58:52.6±1.1, 255N×7983W, h0km, mb3.6/6, mb1 4.0/8, mb1mx3.9/20, mbtmp3.8/8, ML3.6/2, MS3.4/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=30.9km s-min=19.4km az=42.0*

*NEIC **01** 08:58:53.7±0.7, 249N×7986W, h10km, Error ellipse: s-maj=15.0km s-min=11.1km az=54.0*

ISC 01 08:58:54.5±0.8**, 252N**±008×**7983W**±008**, h10**km**, n12, σ0§79**/14**, mb3.6**/6**, MS3.4**/1**, South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	2.65	149	ePn	Pn	08 59 36.2	-1.1
ROSC	El Rosal	5.96	67	Pn	Pn	09 00 23.9	+1.1
	7.0nm,0.3s,baz=319,slow=3.3,SNR=17						
ROSC				Sn	Sn	09 01 31.1	-0.1
	1.8nm,0.3s,baz=100,slow=18,SNR=2.8						
ATAH	Atahualpa	9.56	171	Sn	Sn	09 03 07.2	+7.4
	0.4nm,0.3s,baz=190,slow=13,SNR=2.3						
ATAH				LR	LR	09 04 49.4	
	comp=Z,148nm,21.3s,baz=163,slow=37						
SDV	Santo Domingo	11.12	55	Pn	Pn	09 01 32.8	-0.9
	2.9nm,0.3s,baz=189,slow=2.3,SNR=14						
SDV				Sn	Sn	09 03 30.2	-7.9
	0.5nm,0.3s,baz=63,slow=18,SNR=3.6						
SDV	Santo Domingo	11.12	55	Pn	Pn	09 01 32.8	-0.9
SDV				Sn	Sn	09 03 30.2	-7.9
LPAZ	La Paz	21.97	149	P	P	09 03 49.3	+0.7
	3.6nm,1.0s,mb3.8,baz=349,slow=12,SNR=11						
LPAZ				LR	LR	09 13 33.3	
	comp=Z,140nm,18.8s,MS3.4,baz=284,slow=40						
SIV	San Ignacio	26.12	135	P	P	09 04 29.2	+0.6
	2.1nm,0.7s,mb3.8,baz=317,slow=8.7,SNR=6.6						
TXAR	Lajitas Array	34.99	322	P	P	09 05 48.1	+1.1
	0.2nm,0.9s,mb3.1,baz=184,slow=8.1,SNR=2.9						
PDAR	Pinedale Array	48.05	331	P	P	09 07 33.8	-0.3
	0.2nm,0.5s,mb3.4,baz=128,slow=9.6,SNR=4.2						
NVAR	Mina Array Bea	50.11	320	P	P	09 07 48.9	-0.9
	0.6nm,0.7s,mb3.7,baz=139,slow=5.7,SNR=4.2						
TORD	Torodi Ar. Bea	81.19	77	P	P	09 11 10.2	-0.2
	1.0nm,1.1s,mb3.6,baz=284,slow=5.7,SNR=4.6						
ASAR	Alice Springs	141.18	234	PKP	PKPdf	09 18 24.6	-0.7
	0.2nm,0.5s,baz=107,slow=1.9,SNR=4.1						

*IDC **01** 09:50:21.4±1.2, 1127N×12570E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, MS3.6/3, Ms1 3.6/3, ms1mx2.9/29, Error ellipse: s-maj=121.6km s-min=17.0km az=72.0*

*ISCJB **01** 09:50:23.3±1.4, 1141N±004×12587E±006, h22km±9km, mb3.8/7, MS3.7/2, Error ellipse: s-maj=9.6km s-min=7.2km az=144.5*

*MAN **01** 09:50:28.9, 1130N×12552E, h33km, mb4.2, ML5.1, MS2.2*

ISC 01 09:50:23.5±1.2**, 1140N**±004×**12583E**±005**, h11**km±6km**, n24, σ1§02**/28**, mb3.8**/7**, MS3.7**/2**, 2C, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.44	298	eP	Sg	09 50 38.5	+0.6
PLP	Palo	0.87	255	eP	Pg	09 50 40.9	+0.7
PLP				eS	Sg	09 50 50.1	-1.4
OCLP	Ormoc	1.25	254	eP	Pn	09 50 47.4	+0.6
MSLP	Maasin	1.57	217	eP	Pn	09 50 52.2	+0.9
MSLP				eS	Sn	09 51 11.6	-0.1
SCPH	Surigao	1.64	192⇑	eP	Pn	09 50 53.3	+1.0
SCPH				eS	Sn	09 51 12.2	-1.1
LLP	Lapu-Lapu	2.12	240	eP	Pn	09 50 58.6	-0.3
LLP				eS	Sn	09 51 26.2	+0.9
MMPH	Masbate	2.36	294	eP	Sn	09 51 31.3	+0.2
TBP	Tagbilaran	2.57	229	eP	Pn	09 51 05.6	+0.5
PVCP	Virac	2.73	323	eP	Pn	09 51 09.9	+2.6
PVCP				eS	Sg	09 51 49.2	-2.1
RCP	Roxas	3.03	273⇑	eP	Pn	09 51 10.6	-0.8
RCP				eS	Sn	09 51 46.6	-1.0
SNPH	Sibulan	3.27	232	eP	Pn	09 51 15.0	+0.4
GUIM	Jordan	3.27	257	eP	Pn	09 51 14.7	-0.1
BUKP	Musuan	3.58	192	eP	Pn	09 51 22.5	+3.6
OTRP	Odiongan	3.85	285	eP	Pn	09 51 23.8	+1.1
PAGZ	Pagadian	4.27	215	eP	Pn	09 51 28.7	+0.2
JOW	Kunigami	15.53	8	LR	LR	09 58 38.7	
	comp=Z,108nm,19.5s,baz=250,slow=32						
PSI	Prapat	28.01	254	LR	LR	10 08 37.7	
	comp=Z,99nm,18.0s,MS3.4,baz=31,slow=39						
FITZ	Fitzroy Crossi	29.31	180	P	P	09 56 24.7	-1.2
	1.2nm,0.8s,mb3.6,baz=4.5,slow=9.0,SNR=2.8						
WRA	Warramunga Arr	32.25	165	P	P	09 56 51.9	0.0
	0.3nm,0.6s,mb3.3,baz=343,slow=9.5,SNR=4.4						
ASAR	Alice Springs	35.73	167	P	P	09 57 20.1	-2.0
	0.6nm,0.7s,mb3.6,baz=344,slow=7.3,SNR=9.8						
SONM	Songino Array	39.82	340	P	P	09 57 57.5	+0.8
	1.2nm,0.6s,mb3.8,baz=146,slow=9.9,SNR=8.0						
STKA	Stephens Creek	45.60	161	P	P	09 58 43.6	-0.1
	1.0nm,0.4s,mb4.1,baz=336,slow=14,SNR=4.1						
STKA				LR	LR	10 15 43.9	
	comp=Z,140nm,21.0s,MS3.9,baz=203,slow=33						
MKAR	Makanchi Array	50.88	322	P	P	09 59 24.5	+0.1
	0.7nm,0.3s,mb4.1,baz=115,slow=7.0,SNR=9.7						
ARCES	ARCESS Array B	83.00	340	P	P	10 02 47.7	-1.0
	3.1nm,0.9s,mb4.3,baz=77,slow=5.4,SNR=5.3						

MAN 01 10:04:19.9, 1122N×12544E, h26km**, mb2.2, ML3.9, MS2.8, 1C, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.38	359	eP	Pb	10 04 28.8	+0.7
PLP	Palo	0.46	263	eP	Pb	10 04 30.9	+1.5
PLP				eS	Sb	10 04 39.2	+3.3
OCLP	Ormoc	0.84	258	eP	Pb	10 04 38.4	+2.6
MSLP	Maasin	1.22	208	eP	Pn	10 04 42.4	+1.1
MSLP				eS	Sn	10 05 02.0	+5.0
SCPH	Surigao	1.43	178⇑	eP	Pn	10 04 43.4	-0.8
SCPH				i S	Sn	10 05 02.9	+0.8
PVCP	Virac	2.68	332	eP	Pn	10 05 03.3	+2.0
GUIM	Jordan	2.87	258	eP	Pn	10 05 04.7	+0.8
OTRP	Odiongan	3.54	289	eP	Pn	10 05 13.8	+0.7

IDC 01 10:11:18.3±1.1**, 2916S**×**17794W, h0**km**, mb3.7**/4**, mb1 3.9**/6**, mb1mx3.8**/13**, mbtmp3.8**/6**, ML3.6**/2**, MS3.7**/3**, Ms1 3.7**/3**, ms1mx3.2**/17**, Error ellipse: s-maj=32.1km s-min=25.7km az=102.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.97	203	Pn	Pn	10 13 42.8	0.0
	0.3nm,0.3s,baz=150,slow=8.1,SNR=2.4						
URZ				Sn	Sn	10 15 35.2	-0.2
	1.3nm,0.3s,baz=142,slow=14,SNR=4.3						
RPZ	Rata Peaks	16.99	208	Pn	Pn	10 15 16.6	-0.7
	0.4nm,0.3s,baz=323,slow=5.1,SNR=3.4						
RPZ				Sn	Sn	10 18 15.3	-11
	0.3nm,0.3s,baz=350,slow=19,SNR=2.1						
CTA	Charters Tower	33.67	277	LR	LR	10 28 14.2	
	comp=Z,70nm,18.1s,baz=50,slow=30						
STKA	Stephens Creek	34.83	255	P	P	10 18 12.5	+1.7
	0.8nm,0.3s,baz=141,slow=23,SNR=1.3						
PMG	Port Moresby	38.14	294	LR	LR	10 31 16.3	
	comp=Z,86nm,19.3s,baz=34,slow=31						
ASAR	Alice Springs	43.24	266	P	P	10 19 21.4	+0.1
	0.4nm,0.4s,baz=104,slow=7.5,SNR=15						
WRA	Warramunga Arr	44.12	271	P	P	10 19 27.6	-0.7
	0.4nm,0.4s,baz=109,slow=7.9,SNR=10						
VNDA	Vanda	49.34	186	P	P	10 20 07.5	-1.7
	0.3nm,0.6s,baz=44,slow=5.5,SNR=2.9						
KDAK	Kodiak Island	89.19	13	LR	LR	10 55 32.9	
	comp=Z,93nm,20.6s,baz=89,slow=30						
MKAR	Makanchi Array	117.01	311	PKP	PKPdf	10 30 04.5	-0.5
	0.5nm,0.7s,baz=34,slow=3.1,SNR=4.4						
ARCES	ARCESS Array B	137.39	348	PKhKP		10 30 36.8	
	0.8nm,0.7s,baz=180,slow=33,SNR=2.5						
FINES	FINESS Array B	144.00	341	PKP	PKPdf	10 30 52.0	-3.7
	0.9nm,0.4s,baz=79,slow=9.9,SNR=5.2						
NB2	NORSAR Subarra	147.53	352	PKP	PKPdf	10 31 03.2	+1.4
	comp=Z,1.3nm,0.7s,baz=16,slow=3.2						
NOA	NORSAR Array B	147.53	352	PKPbc	PKPbc	10 31 02.5	-1.8
	comp=Z,1.2nm,0.5s,baz=14,slow=4.5,SNR=3.5						
AKASG	Malin Array Be	150.34	324	PKP	PKPdf	10 31 04.5	-1.8
	comp=Z,1.9nm,0.6s,baz=40,slow=2.6,SNR=8.3						
AKASG				PKPbc	PKPbc	10 31 11.6	+0.1
	comp=Z,5.1nm,0.5s,baz=44,slow=3.0,SNR=18						
TORD	Torodi Ar. Bea	164.07	179	PKPab	PKPab	10 32 19.0	+2.2
	comp=Z,0.5nm,0.7s,baz=186,slow=3.8,SNR=2.8						

*IDC **01** 10:21:40.8±0.9, 2876S×17690W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/13, mbtmp4.2/8, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/16, Error ellipse: s-maj=30.0km s-min=23.2km az=145.0*

*NEIC **01** 10:21:44.4±8.2, 2865S×17698W, h21km±54km, mb4.4/6, Error ellipse: s-maj=25.9km s-min=15.7km az=219.0*

*ISCJB **01** 10:22:00.0±3.7, 295S±0.1×1779W±02, h123km±26km, mb4.2/11, Error ellipse: s-maj=37.4km s-min=15.5km az=143.5*

ISC 01 10:21:51.8±3.1**, 293S**±01×**1770W**±02**, h88**km±25km**, n43, σ1§24**/23**, mb4.2**/11**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	10.23	207	Pn	Pn	10 24 16.5	+0.9
	1.2nm,0.3s,baz=71,slow=5.0,SNR=5.7						
URZ				Sn	Sn	10 26 03.5	-5.0
	1.6nm,0.3s,baz=111,slow=24,SNR=8.0						
DZM	Mont Dzumac	16.59	292	Pn	Pn	10 25 39.3	+0.4
	0.1nm,0.3s,baz=90,slow=19,SNR=3.3						
DZM				LR	LR	10 30 46.2	
	comp=Z,223nm,18.6s,baz=46,slow=33						
RPZ	Rata Peaks	17.31	210	P	Pn	10 25 46.4	-1.4
	1.3nm,0.3s,baz=190,slow=0.7,SNR=12						
RPZ				S	S	10 28 47.4	-16
	0.8nm,0.3s,baz=359,slow=16,SNR=4.7						
TBI	Tubuai	25.31	83	eLR	LR	10 33 23.8	
	142nm,27.8s						
TBI	Tubuai	25.31	83	eLR	LR	10 33 23.4	
	142nm,27.8s						
PPT	Papeete	27.62	71	eLR	LR	10 34 24.4	
	125nm,25.0s						
PPT	Papeete	27.62	71	eLR	LR	10 34 23.8	
	125nm,25.0s,baz=244						
PPT	Papeete	27.62	71	LR	LR	10 36 43.6	
	comp=Z,39nm,19.0s,baz=172,slow=33						
CTA	Charters Tower	34.54	277	eP	P	10 28 32.6	+0.8
	4.3nm,1.0s,mb4.2						
CTA	Charters Tower	34.54	277	P	P	10 28 32.1	+0.3
	4.5nm,0.8s,mb4.3,baz=100,slow=11,SNR=7.0						
STKA	Stephens Creek	35.63	255	eP	P	10 28 44.2	+3.1
	2.2nm,0.4s,mb4.4						
STKA	Stephens Creek	35.63	255	P	P	10 28 43.5	+2.3
	2.3nm,0.4s,mb4.5,baz=88,slow=11,SNR=7.2						
STKA				LR	LR	10 41 45.4	
	comp=Z,130nm,18.4s,baz=24,slow=34						
RKT	Rikitea	38.01	91	eLR	LR	10 39 18.3	
	114nm,30.8s						
RKT	Rikitea	38.01	91	eLR	LR	10 39 19.2	
	114nm,30.8s						
AS31	Alice Springs	44.09	265	eP	P	10 29 51.5	+0.3
ASAR	Alice Springs	44.09	265	P	P	10 29 50.7	-0.5
	2.4nm,0.4s,mb4.3,baz=104,slow=7.7,SNR=62						
ASAR				LR	LR	10 47 28.8	
	comp=Z,130nm,18.6s,baz=163,slow=35						
ASPA	Alice Springs	44.09	265	eP	P	10 29 51.6	+0.4
WB2	Warramunga Arr	44.97	270	eP	P	10 29 58.0	-0.2
WB2	Warramunga Arr	44.97	270	eP	P	10 29 57.8	-0.4
WRA	Warramunga Arr	44.98	270	P	P	10 29 57.2	-1.1
	1.7nm,0.4s,mb4.2,baz=110,slow=6.2,SNR=31						
WRA				LR	LR	10 48 06.1	
	comp=Z,48nm,18.2s,baz=105,slow=35						
SBA	Scott Base	49.22	185	eP	P	10 30 36.9	+5.7
	2.9nm,0.6s,mb4.4						
KAKA	Kakadu	49.65	278	eP	P	10 30 33.8	-0.7
	2.3nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	53.28	269	eP	P	10 31 02.0	+0.4
	5.1nm,0.9s,mb4.5						
QSPA	South Pole Qui	60.83	180	eP	P	10 31 59.6	+4.8
	3.2nm,0.5s,mb4.6						
MAW	Mawson	73.67	200	P	P	10 33 19.2	+3.2
	0.6nm,0.4s,mb3.7,baz=131,slow=14,SNR=3.6						
MAW				LR	LR	11 05 43.5	
	comp=Z,61nm,18.3s,baz=67,slow=36						
MJAR	Matsushiro Arr	77.85	324	P	P	10 33 38.6	-1.1
	2.2nm,0.7s,mb4.0,baz=173,slow=5.5,SNR=6.0						
NVAR	Mina Array Bea	86.80	42	P	P	10 34 25.9	-0.4
	0.2nm,0.3s,mb3.5,baz=237,slow=6.3,SNR=3.7						
NVAR	Mina Array Bea	86.80	42	P	P	10 34 25.9	-0.4
MKAR	Makanchi Array	117.75	310	PKP	PKPdf	10 40 27.6	-0.3
	1.1nm,0.8s,baz=174,slow=1.1,SNR=6.4						
ZRNK	Zerenda	127.07	316	ePKPdf	PKPdf	10 40 46.3	+0.6
KEV	Kevo	137.22	348	ep	PKPdf	10 41 11.7	+6.9
ARCES	ARCESS Array B	137.68	348	PKP	PKPdf	10 41 04.0	-1.7
	2.5nm,0.8s,baz=52,slow=2.0,SNR=6.3						
ARCES	ARCESS Array B	137.68	348	PKP	PKPdf	10 41 04.0	-1.7
JOF	Joensuu	141.70	340	ep	PKPdf	10 41 12.8	-0.2
KAF	Kangasniemi	143.78	342	ep	PKPdf	10 41 12.9	-3.8
	1.1nm,0.4s						
FINES	FINESS Array B	144.39	341	PKP	PKPdf	10 41 15.7	-2.0
	1.2nm,0.4s,baz=53,slow=4.7,SNR=13						
NB2	NORSAR Subarra	147.77	353	PKP	PKPdf	10 41 25.6	+2.1
	comp=Z,2.4nm,0.5s,baz=11,slow=2.9						
NOA	NORSAR Array B	147.77	353	PKPbc	PKPbc	10 41 25.2	-1.2
	comp=Z,3.5nm,0.6s,baz=14,slow=4.4,SNR=7.1						
AKASG	Malin Array Be	150.94	325	PKPbc	PKPbc	10 41 33.7	-0.6
	comp=Z,5.8nm,0.4s,baz=44,slow=3.4,SNR=30						
AKASG	Malin Array Be	150.94	325	PKPbc	PKPbc	10 41 33.7	-0.6
AKBB	Malin Array Si	150.94	325	ePKPbc	PKPbc	10 41 34.6	+0.3
BRTR	Keskin Array B	152.84	301	PKPbc	PKPbc	10 41 38.7	+0.1
	comp=Z,0.7nm,0.5s,baz=145,slow=6.2,SNR=3.8						
TORD	Torodi Ar. Bea	163.90	175	PKPab	PKPab	10 42 40.2	+2.4
	comp=Z,0.6nm,0.7s,baz=178,slow=2.8,SNR=3.7						

PRE 01 10:26:25.7±1.2**, 2100S**×**3330E, h5**km**, ML4.0, Mozambique**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POGA	Pongola	6.52	193	eP	Pn	10 28 03.4	+1.1
POGA				eS	Sn	10 29 13.1	-4.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PRYS	Parys	8.02	222	eP	Pn	10 28 24.2	+1.4
PRYS				eS	Sn	10 29 50.9	-3.0
LBTB	Lobatse	8.14	239	eP	Pn	10 28 25.3	+0.8
LBTB				eS	Sn	10 29 53.9	-3.0
LBTB				AML	AML	10 30 38.0	
	comp=Z,9.2nm,0.5s						
BOSA	Boshof	10.53	222	eP	Pn	10 28 58.1	+0.9
BOSA				eS	Sn	10 30 49.8	-5.7
BOSA				AML	AML	10 32 04.7	
	comp=Z,4.8nm,0.6s						

*LDG **01** 10:52:00.0±0.6, 15.17S×167.06E, h10^{km}, Mb3.9/1, Error ellipse: s-maj=69.0km s-min=40.5km az=34.0*
*ISCJB **01** 10:52:11.9±2.0, 15.49S±0.09×167.3E±0.1, h123^{km}±14^{km}, mb4.3/13, Error ellipse: s-maj=24.3km s-min=8.3km az=120.5*
*NEIC **01** 10:52:11.8±2.1, 15.34S×167.49E, h113^{km}±16^{km}, mb4.5/8, Error ellipse: s-maj=26.8km s-min=13.4km az=52.0*
*IDC **01** 10:52:12.3±2.8, 15.44S×167.37E, h112^{km}±19^{km}, mb4.0/8, mb1 4.1/10, mb1mx4.0/16, mbtmp4.1/10, MS2.7/2, Ms1 2.7/2, ms1mx2.5/17, Error ellipse: s-maj=31.5km s-min=14.2km az=59.0*
ISC 01 10:52:11.9±1.7, 15.41S±0.08×167.5E±0.1, h115^{km}±11^{km}, n53, $\sigma 0^{s}.83$/31, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.70	188	eP	Pn	10 53 47.7	0.0
DZM				eS	Sn	10 55 01.4	-1.2
DZM	Mont Dzumac	6.70	188	P	Pn	10 53 47.7	0.0
	51nm,0.3s,baz=48,slow=18,SNR=335						
DZM				S	Sn	10 55 03.1	+0.6
	13nm,0.3s,baz=129,slow=23,SNR=4.9						
DZM				LR	LR	10 56 10.0	
	comp=Z,82nm,18.7s,baz=168,slow=36						
HNR	Honiara	9.45	308	P	Pn	10 54 24.6	-0.3
	6.1nm,0.3s,baz=98,slow=2.5,SNR=4.4						
HNR				S	Sn	10 56 09.2	0.0
	4.4nm,0.3s,baz=263,slow=15,SNR=2.7						
HNR				LR	LR	10 57 02.4	
	comp=Z,34nm,18.2s,baz=181,slow=31						
CTA	Charters Tower	20.73	254	eP	P	10 56 46.8	+3.6
	1.2nm,0.4s						
CTA	Charters Tower	20.73	254	P	P	10 56 46.4	+3.2
	1.9nm,0.4s,baz=74,slow=8.2,SNR=5.6						
ARMA	Armidale	20.85	222	eP	P	10 56 48.3	+3.9
URZ	Urewera	24.30	161	P	P	10 57 19.3	+0.7
	3.5nm,0.3s,mb4.2,baz=278,slow=0.7,SNR=12						
RPZ	Rata Peaks	28.38	175	P	P	10 57 56.1	+0.9
	7.8nm,0.9s,mb4.2,baz=48,slow=17,SNR=3.5						
STKA	Stephens Creek	28.71	231	eP	P	10 57 59.1	+1.0
	2.4nm,0.4s,mb4.2						
STKA	Stephens Creek	28.71	231	P	P	10 57 59.1	+1.0
	2.7nm,0.4s,mb4.2,baz=36,slow=8.2,SNR=19						
WB2	Warramunga Arr	31.85	257	eP	P	10 58 24.9	-0.9
WRA	Warramunga Arr	31.86	257	P	P	10 58 25.4	-0.4
	1.0nm,0.4s,mb3.9,baz=80,slow=6.0,SNR=39						
AS31	Alice Springs	32.62	250	eP	P	10 58 32.3	-0.2
ASAR	Alice Springs	32.62	250	P	P	10 58 32.4	-0.1
	5.2nm,0.4s,mb4.7,baz=78,slow=9.1,SNR=132						
ASAR				PcP	PcP	11 01 16.1	+0.1
	0.2nm,0.7s,baz=106,slow=2.4,SNR=4.2						
ASAR				ScP	ScP	11 04 51.0	+1.7
	0.4nm,0.8s,baz=83,slow=3.2,SNR=5.2						
ASPA	Alice Springs	32.62	250	eP	P	10 58 32.3	-0.3
FORT	Forrest	39.13	240	eP	P	10 59 28.8	+0.8
	25nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	40.09	260	eP	P	10 59 35.9	-0.1
	7.0nm,0.4s,mb4.8						
KLBR	Kellerberrin	47.95	241	eP	P	11 00 38.5	-0.2
	4.6nm,0.6s,mb4.5						
VNDA	Vanda	62.19	181	P	P	11 02 20.8	-0.3
	1.9nm,0.6s,mb4.3,baz=2.8,slow=6.3,SNR=21						
VNDA	Vanda	62.19	181	eP	P	11 02 20.7	-0.4
	2.1nm,0.7s,mb4.3						
SBA	Scott Base	62.46	180	eP	P	11 02 23.9	+1.1
	3.4nm,0.8s,mb4.4						
QSPA	South Pole Qui	74.62	180	eP	P	11 03 38.4	0.0
	9.1nm,0.6s,mb4.7						
MAW	Mawson	81.33	202	P	P	11 04 16.0	+0.5
	0.9nm,0.6s,mb3.8,baz=93,slow=3.7,SNR=3.8						
SONM	Songino Array	83.16	324	P	P	11 04 26.6	+1.6
	0.3nm,0.4s,mb3.5,baz=141,slow=8.3,SNR=2.8						
SNAA	Sanae	92.89	183	e	P	11 05 10.5	-1.2
SNAA				e		11 05 12.4	
VNA3	Neumayer Olymp	93.55	181	e	P	11 05 13.5	-1.2
VNA3				e		11 05 16.1	
VNA2	Neumayer--Watz	93.81	182	e	P	11 05 15.1	-0.9
VNA2				e		11 05 18.0	
VNA1	Neumayer--Stat	94.11	181	e	P	11 05 16.4	-0.9
VNA1				e		11 05 19.2	
CABF	La Chapelle	145.22	337	ePKP1	PKPbc	11 11 36.3	+0.6
FLN	La Foliniere	145.30	346	ePKP1	PKPbc	11 11 35.7	-0.3
	16nm,0.5s						
LDF	La Druitiere	145.37	345	ePKP1	PKPbc	11 11 35.9	-0.3
	5.8nm,0.5s						
LOR	Lormes	145.44	340	ePKP1	PKPbc	11 11 36.6	+0.2
	5.2nm,0.6s						
GRR	Gorron	145.74	346	ePKP1	PKPbc	11 11 37.2	-0.1
SSF	Saint Saulge	145.74	340	ePKP1	PKPbc	11 11 37.6	+0.3
	9.3nm,0.6s						
LPL	La Plagne	145.89	336	ePKP1	PKPbc	11 11 38.7	+0.9
	6.4nm,0.6s						
LPG	La Plagne	145.90	336	ePKP1	PKPbc	11 11 38.6	+0.8
	7.8nm,0.7s						
SMF	Signal de Mont	145.99	340	ePKP1	PKPbc	11 11 38.2	+0.1
AVF	Avril sur Loir	146.02	340	ePKP1	PKPbc	11 11 38.9	+0.7
	8.2nm,0.6s						
SGMF	Saint Gilles	146.23	348	ePKP1	PKPbc	11 11 38.6	-0.2
	11nm,0.5s						
BGF	Bois d'Agland	146.39	341	ePKP1	PKPbc	11 11 39.4	+0.1
	7.5nm,0.5s						
ORIF	Oris-en-Rattie	146.72	336	ePKP1	PKPbc	11 11 41.4	+1.2
	4.5nm,0.6s						
TCF	Toulx Ste Croi	146.83	341	ePKP1	PKPbc	11 11 40.6	+0.1
	20nm,1.1s						
SBF	Sospel	146.94	333	ePKP1	PKPbc	11 11 42.3	+1.5
MFF	Saint Martin d	147.22	344	ePKP1	PKPbc	11 11 41.6	0.0
	14nm,0.7s						
VIVF	Saint-Julien-l	147.24	337	ePKP1	PKPbc	11 11 41.9	+0.2
FRF	La Foret Royal	147.52	334	ePKP1	PKPbc	11 11 43.1	+0.7
LMR	La Mourre	147.76	334	ePKP1	PKPbc	11 11 43.4	+0.3
RJF	Les Rejaudoux	147.93	341	ePKP1	PKPbc	11 11 43.7	+0.1
CAF	Calviac	148.09	340	ePKP1	PKPbc	11 11 44.3	+0.3
LASF	Ste Croix	148.21	337	ePKP1	PKPbc	11 11 44.7	+0.4
LFF	La Frestale	148.50	342	ePKP1	PKPbc	11 11 45.3	+0.3
	8.3nm,0.6s						
MTLF	Montolieu	149.44	339	ePKP1	PKPbc	11 11 47.6	+0.2
	5.5nm,0.8s						
ETSF	Etsaut	150.74	342	ePKP1	PKPbc	11 11 51.3	+0.8
	3.5nm,0.5s						

KRSC 01 11:10:57.1±0.3, 52.69N×159.67E, h46^{km}±36^{km}, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.46	27	eP	Pn	11 11 07.8	+0.2
SPN				i S	Sn	11 11 15.7	+0.6
SPN	Mys Shipunski	0.46	27	eP	Pn	11 11 07.8	+0.2
SPN				i S	Sn	11 11 15.7	+0.6
NLC	Nalytchevo	0.52	338	eP	Pn	11 11 09.2	+0.8
NLC	Nalytchevo	0.52	338	eP	Pn	11 11 09.2	+0.8
PET	Petropavlovsk	0.70	299	eP	Pn	11 11 10.7	0.0
PET				i S	Sn	11 11 20.6	+0.1
PET	Petropavlovsk	0.70	299	eP	Pn	11 11 10.7	0.0
PET				i S	Sn	11 11 20.6	+0.1
RUS	Russkaya	0.75	250	eP	Pn	11 11 10.6	-0.8
RUS				i S	Sn	11 11 20.7	-1.0
RUS	Russkaya	0.75	250	eP	Pn	11 11 10.6	-0.8
RUS				i S	Sn	11 11 20.7	-1.0
AVH	Avacha	0.81	316	eP	Pn	11 11 13.0	+0.9
AVH				i S	Sn	11 11 24.9	+1.9
AVH	Avacha	0.81	316	eP	Pn	11 11 13.0	+0.9
AVH				i S	Sn	11 11 24.9	+1.9
GRL	Gorelyy	0.98	263	eP	Pn	11 11 15.1	+0.6
GRL				i S	Sn	11 11 28.4	+1.1
GRL	Gorelyy	0.98	263	eP	Pn	11 11 15.1	+0.6
GRL				i S	Sn	11 11 28.4	+1.1
GNL	Ganaly	1.45	315	eP	Pn	11 11 22.4	+1.6
GNL				i S	Sn	11 11 41.2	+2.6
GNL	Ganaly	1.45	315	eP	Pn	11 11 22.4	+1.6
GNL				i S	Sn	11 11 41.2	+2.6
MKZ	Mys Kozlova	2.24	32	eP	Pn	11 11 31.8	+0.2
MKZ				i S	Sn	11 11 56.4	-1.6
MKZ	Mys Kozlova	2.24	32	eP	Pn	11 11 31.8	+0.2
MKZ				i S	Sn	11 11 56.4	-1.6
TUMR	Tumrok	2.61	6	eP	Pn	11 11 38.6	+1.8
TUMR				i S	Sn	11 12 09.1	+1.8
TUMR	Tumrok	2.61	6	eP	Pn	11 11 38.6	+1.8
TUMR				i S	Sn	11 12 09.1	+1.8
ZLN	Zelenaya	3.40	11	eP	Pn	11 11 50.2	+2.6
ZLN				i S	Sn	11 12 30.3	+3.7
ZLN	Zelenaya	3.40	11	eP	Pn	11 11 50.2	+2.6
ZLN				i S	Sn	11 12 30.3	+3.7
KBTR	Krutoberegovo	3.98	26	eP	Pn	11 11 57.0	+1.5
KBTR				i S	Sn	11 12 41.0	+0.2
KBTR	Krutoberegovo	3.98	26	eP	Pn	11 11 57.0	+1.5
KBTR				i S	Sn	11 12 41.0	+0.2
SRKR	Sorokina	4.07	12	eP	Pn	11 11 58.9	+2.1
SRKR				i S	Sn	11 12 43.8	+0.7
SRKR	Sorokina	4.07	12	eP	Pn	11 11 58.9	+2.1
SRKR				i S	Sn	11 12 43.8	+0.7

IDC 01 11:34:14.8±1.3, 27.51S×177.51W, h0^{km}, mb4.1/3, mb1 4.3/3, mb1mx4.0/10, mbtmp4.1/3, MS3.6/4, Ms1 3.6/4, ms1mx3.2/17, Error ellipse: s-maj=64.1km s-min=35.5km az=167.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	11.63	201	Pn	Pn	11 36 48.0	-14
	0.6nm,0.3s,baz=249,slow=14,SNR=4.3						
URZ				Sn	Sn	11 38 37.9	-35
	2.1nm,0.3s,baz=148,slow=22,SNR=9.6						
AFI	Afiamalu	14.55	23	Pn	Pn	11 37 31.0	-11
	2.7nm,0.3s,baz=249,slow=21,SNR=6.3						
RAR	Rarotonga	17.32	73	LR	LR	11 43 08.0	
	comp=Z,135nm,18.6s,baz=306,slow=31						
RPZ	Rata Peaks	18.63	207	P	Pn	11 38 17.9	-16
	0.6nm,0.3s,baz=58,slow=6.7,SNR=5.9						
TBI	Tubuai	25.64	87	eLR	LR	11 45 56.7	
	115nm,26.2s						
PPT	Papeete	27.57	75	eLR	LR	11 46 47.7	
	129nm,25.8s						
PPT	Papeete	27.57	75	LR	LR	11 47 46.0	
	comp=Z,65nm,20.7s,baz=354,slow=29						
STKA	Stephens Creek	35.64	253	P	P	11 41 13.5	-0.9
	2.4nm,0.8s,baz=96,slow=9.0,SNR=4.7						
STKA				LR	LR	11 54 15.0	
	comp=Z,123nm,19.7s,baz=25,slow=34						
RKT	Rikitea	38.56	93	eLR	LR	11 51 57.0	
	66nm,31.8s						
ASAR	Alice Springs	43.77	264	P	P	11 42 22.5	+0.5
	1.3nm,0.7s,baz=98,slow=7.4,SNR=24						
ASAR				LR	LR	12 00 27.7	
	comp=Z,124nm,19.1s,baz=180,slow=36						
WRA	Warramunga Arr	44.50	269	P	P	11 42 28.7	+0.9
	2.7nm,0.8s,baz=110,slow=7.7,SNR=14						
VNA3	Neumayer Olymp	81.15	176	e	P	11 46 21.1	-11
VNA3				e		11 46 31.2	
VNA3				e		11 46 35.6	
VNA3				e		11 46 44.0	
VNA2	Neumayer--Watz	81.59	177	e	P	11 46 23.6	-11
VNA2				e		11 46 30.1	
VNA2				e		11 46 36.9	
VNA2				e		11 46 44.8	
MKAR	Makanchi Array	116.22	311	PKP	PKPdf	11 52 58.8	-1.3
	0.6nm,0.9s,baz=94,slow=5.1,SNR=3.8						
BVAR	Borovoye Array	124.61	317	PKP	PKPdf	11 53 15.0	-1.2
	1.1nm,0.7s,baz=129,slow=4.0,SNR=6.0						
AKASG	Malin Array Be	149.21	326	PKPbc	PKPbc	11 54 05.2	0.0
	6.0nm,0.7s,baz=44,slow=2.8,SNR=22						
BRTR	Keskin Array B	151.49	303	PKPbc	PKPbc	11 54 10.5	-0.2
	0.3nm,0.3s,baz=48,slow=1.8,SNR=3.8						
TORD	Torodi Ar. Bea	165.69	177	PKPab	PKPab	11 55 21.1	+0.7
	1.6nm,1.0s,baz=166,slow=3.3,SNR=4.7						

*MOS **01** 11:43:29.6±0.4, 51.10N×157.39E, h129^{km}, mb4.3/1, Error ellipse: s-maj=99.9km s-min=15.0km az=69.3*
*ISCJB **01** 11:43:31.1±1.2, 51.2N±0.1×157.5E±0.3, h118^{km}±11^{km}, Error ellipse: s-maj=33.0km s-min=7.5km az=76.0*
*KRSC **01** 11:43:32.0±0.3, 51.20N×157.91E, h96^{km}±96^{km}, ML4.2*
ISC 01 11:43:32.0±1.3, 51.2N±0.1×157.5E±0.3, h111^{km}±14^{km}, n21, $\sigma 0^{s}.97$/40, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.00	242	⇑iPN	Pn	11 43 52.5	-0.7
SKR				i S	Sn	11 44 08.0	-1.3
SKR				pmax	pmax		
	comp=Z,260nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax			
	comp=N,960nm,0.2s						
SKR				smax			
	comp=E,630nm,0.2s						
RUS	Russkaya	1.42	26	eP	Pn	11 43 58.2	+0.3
RUS				eS	Sn	11 44 17.7	+0.2
RUS	Russkaya	1.42	26	eP	Pn	11 43 58.2	+0.3
RUS				eS	Sn	11 44 17.7	+0.2
GRL	Gorelyy	1.44	14	eP	Pn	11 43 59.0	+0.9
GRL				eS	Sn	11 44 19.0	+1.1
GRL	Gorelyy	1.44	14	eP	Pn	11 43 59.0	+0.9
GRL				eS	Sn	11 44 19.0	+1.1
PET	Petropavlovsk	2.00	20	eP	Pn	11 44 05.5	+0.6
PET				eS	Sn	11 44 30.4	+0.3
PET	Petropavlovsk	2.00	20	eP	Pn	11 44 05.5	+0.6
PET				eS	Sn	11 44 30.4	+0.3
AVH	Avacha	2.24	19	eP	Pn	11 44 09.3	+1.3
AVH				eS	Sn	11 44 35.6	-0.1
AVH	Avacha	2.24	19	eP	Pn	11 44 09.3	+1.3
AVH				eS	Sn	11 44 35.6	-0.1
NLC	Nalytchevo	2.31	29	eP	Pn	11 44 09.0	+0.1
NLC				eS	Sn	11 44 36.8	-0.5
NLC	Nalytchevo	2.31	29	eP	Pn	11 44 09.0	+0.1
NLC				eS	Sn	11 44 36.8	-0.5
SPN	Mys Shipunski	2.48	38	eP	Pn	11 44 12.1	+0.9
SPN				eS	Sn	11 44 41.2	-0.1
SPN	Mys Shipunski	2.48	38	eP	Pn	11 44 12.1	+0.9
SPN				eS	Sn	11 44 41.2	-0.1
GNL	Ganaly	2.55	6	eP	Pn	11 44 12.3	+0.2
GNL	Ganaly	2.55	6	eP	Pn	11 44 12.3	+0.2
MKZ	Mys Kozlova	4.26	35	eP	Pn	11 44 34.9	+0.2
MKZ				eS	Sn	11 45 21.1	-2.4
MKZ	Mys Kozlova	4.26	35	eP	Pn	11 44 34.9	+0.2
MKZ				eS	Sn	11 45 21.1	-2.4
ZLN	Zelenaya	5.25	21	eP	Pn	11 44 49.6	+1.5
ZLN				eS	Sn	11 45 45.9	-1.5
ZLN	Zelenaya	5.25	21	eP	Pn	11 44 49.6	+1.5
ZLN				eS	Sn	11 45 45.9	-1.5
KBTR	Krutoberegovo	5.96	30	eP	Pn	11 44 57.8	+0.1
KBTR				eS	Sn	11 46 02.6	-2.1
KBTR	Krutoberegovo	5.96	30	eP	Pn	11 44 57.8	+0.1
KBTR				eS	Sn	11 46 02.6	-2.1

*CSEM **01** 11:46:12.7, 25.34N×29.31E, h21^{km}, ML3.7, After HLW*
HLW 01 11:46:12.7, 25.34N×29.31E, h21^{km}, Mb3.7, 5C-7D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDK1	Dakhla	0.22	23	⇑eP	Pb	11 46 18.4	+0.2
HDK1				S	Sb	11 46 22.7	+0.7
AKRG	Al Kharijah	1.09	81	⇓iP	Pn	11 46 31.5	-1.2
AKRG				S	Sb	11 46 45.3	-1.3
GTR	Jabal at Tayr	1.14	81	⇓eP	Pn	11 46 32.2	-1.2
GTR	Jabal at Tayr	1.14	81	P	Pn	11 46 32.2	-1.2
APRS		1.60	127	⇓P	Pn	11 46 38.3	-1.4
HFRF	Wahat Farafira	2.01	334	⇑P	Pn	11 46 44.0	-1.4
ASHG	Umm Shaghir	2.98	133	⇓P	Pn	11 46 57.8	-0.9
AWBH		2.99	353	⇑eP	Pn	11 46 58.0	-0.8
HKFR	Khafra	3.29	146	⇑P	Pn	11 47 02.5	-0.5
ANMR	North Marawa	3.37	118	⇓P	Pn	11 47 03.4	-0.6
HMSM	Jabal Masmas	3.40	136	P	Pn	11 47 03.3	-1.1
AAHD	Abu Hadid	3.51	116	⇓eP	Pn	11 47 05.1	-0.9
AKRL	Khor El Raml	3.53	118	⇓P	Pn	11 47 05.3	-0.9
EMRS	Mersa Alam	5.02	93	⇑eP	Pn	11 47 26.1	-0.6
EMRS	Mersa Alam	5.02	93	P	Pn	11 47 26.1	-0.6

*IDC **01** 11:55:55.0±1.2, 28.48S×177.19W, h0^{km}, mb3.9/4, mb1 4.1/4, mb1mx3.9/10, mbtmp3.9/4, MS3.7/6, Ms1 3.6/6, ms1mx3.3/24, Error ellipse: s-maj=44.1km s-min=33.1km az=155.0*
*NEIC **01** 11:55:56.1±0.9, 29.15S×176.83W, h20^{km}, mb4.8/1, Error ellipse: s-maj=30.2km s-min=14.1km az=115.0*
*ISCJB **01** 11:56:02.5±1.5, 29.25S±0.09×177.7W±0.2, h35^{km}, mb4.0/5, MS3.7/5, Error ellipse: s-maj=28.3km s-min=12.5km az=19.3*
ISC 01 11:56:05.6±2.2, 29.4S±0.2×177.8W±0.3, h35^{km}, n19, $\sigma 0^{s}.75$/9, mb4.0/5, MS3.7/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.81	204	Pn	Pn	11 58 24.0	-0.1
	0.4nm,0.3s,baz=12,slow=1.1,SNR=3.3						
URZ				Sn	Sn	12 00 20.0	+7.0
	2.4nm,0.3s,baz=192,slow=18,SNR=9.3						
DZM	Mont Dzumac	15.92	294	LR	LR	12 04 16.3	
	comp=Z,100nm,19.5s,baz=197,slow=31						
RPZ	Rata Peaks	16.85	209	P	Pn	11 59 58.7	0.0
	0.6nm,0.3s,baz=201,slow=16,SNR=4.2						
RPZ				S	S	12 03 04.6	-10
	0.4nm,0.3s,baz=32,slow=21,SNR=3.3						
TBI	Tubuai	26.08	83	eLR	LR	12 07 36.9	
	149nm,31.0s						
PPT	Papeete	28.37	72	eLR	LR	12 08 28.0	
	138nm,26.5s						
PPT	Papeete	28.37	72	LR	LR	12 09 59.3	
	comp=Z,112nm,18.5s,MS3.5,baz=204,slow=31						
STKA	Stephens Creek	34.87	255	P	P	12 02 53.2	-0.2
	1.0nm,0.6s,mb3.9,baz=5.7,slow=10,SNR=3.0						
STKA				LR	LR	12 17 03.4	
	comp=Z,142nm,18.4s,MS3.8,baz=24,slow=36						
RKT	Rikitea	38.77	91	eLR	LR	12 13 37.3	
	68nm,26.2s						
ASAR	Alice Springs	43.33	266	P	P	12 04 04.2	0.0
	1.0nm,0.4s,mb3.9,baz=103,slow=7.4,SNR=16						
ASAR				LR	LR	12 22 38.1	
	comp=Z,123nm,18.1s,MS3.9,baz=176,slow=36						
WRA	Warramunga Arr	44.22	271	P	P	12 04 11.5	+0.2
	1.8nm,0.6s,mb4.0,baz=109,slow=8.1,SNR=15						
VNDA	Vanda	49.13	186	P	P	12 04 51.3	+1.5
	0.3nm,0.6s,mb3.5,baz=349,slow=3.5,SNR=3.7						
QSPA	South Pole Qui	60.73	180	eP	P	12 06 12.4	-1.3
	9.5nm,1.3s,mb4.8						
MAW	Mawson	73.32	200	LR	LR	12 40 57.4	
	comp=Z,55nm,18.7s,MS3.9,baz=65,slow=36						
JOW	Kunigami	76.09	312	LR	LR	12 35 07.1	
	comp=Z,39nm,20.2s,MS3.7,baz=275,slow=31						
MKAR	Makanchi Array	117.23	310	PKP	PKPdf	12 14 41.8	-5.3
	0.4nm,0.6s,baz=39,slow=0.8,SNR=4.2						
BVAR	Borovoye Array	125.77	316	PKP	PKPdf	12 14 57.9	-5.6
	0.7nm,0.5s,baz=151,slow=3.4,SNR=4.6						
FINES	FINESS Array B	144.23	341	PKP	PKPdf	12 15 28.7	-9.0
	3.5nm,0.9s,baz=97,slow=4.8,SNR=4.0						
HFS	Hagfors	148.27	349	PKPbc	PKPbc	12 15 39.2	-8.7
	1.7nm,0.7s,baz=282,slow=41,SNR=2.6						
AKASG	Malin Array Be	150.57	324	PKPbc	PKPbc	12 15 47.1	-6.5
	6.9nm,0.7s,baz=45,slow=3.0,SNR=16						

*NIED **01** 12:27:00, 45.10N×150.10E, h53^{km}, Mw4.2 Best double couple: $M_0$2.51000×10^{15} NP1:ϕ_s219.00000°, δ64.00000°, λ131.00000°. NP2:ϕ_s335.00000°, δ47.00000°, λ36.00000°.*
*IDC **01** 12:27:10.6±0.9, 44.85N×150.55E, h0^{km}, mb3.9/6, mb1 4.2/7, mb1mx3.8/23, mbtmp3.9/7, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/27, Error ellipse: s-maj=44.0km s-min=18.7km az=139.0*
*MOS **01** 12:27:13.3±2.0, 44.97N×150.21E, h31^{km}, mb4.2/4, Error ellipse: s-maj=26.2km s-min=17.5km az=17.8*
*ISCJB **01** 12:27:13.8±0.6, 44.70N±0.08×150.28E±0.06, h33^{km}, mb4.0/7, MS3.4/2, Error ellipse: s-maj=12.8km s-min=5.2km az=139.0*
*SKHL **01** 12:27:15.9±1.8, 45.17N×149.86E, h56^{km}±18^{km}*
*JMA **01** 12:27:16.2±0.5, 45.06N×150.11E, h30^{km}, M4.4*
ISC 01 12:27:18.4±1.2, 44.65N±0.10×150.1E±0.1, h69^{km}±15^{km}, n49, $\sigma 1^{s}.06$/60, mb3.9/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.71	291	eP	Pn	12 27 37.5	-8.5
KUR				AMB	AMB	12 27 39.0	
	170nm,0.5s						
KUR				AMB	AMB	12 27 39.0	
	80nm,0.5s						
KUR				AMB	AMB	12 27 39.0	
	270nm,0.5s						
KUR				i S	Sn	12 27 56.0	-11
KUR				A		12 27 59.0	
	8μm,2.0s						
KUR				A		12 27 59.0	
	3μm,2.0s						
KUR				A		12 28 01.5	
	1μm,0.6s						
KUR				A		12 28 01.5	
	840nm,0.6s						
YUK	Yuzh-Kuril'sk	3.12	260	eP	Pn	12 28 05.2	+0.1
YUK				AMB	AMB	12 28 05.6	
	180nm,0.5s						
YUK				i S	Sn	12 28 41.0	-0.2
YUK				A		12 28 46.0	
	1μm,0.5s						
YUK				A		12 28 46.0	
	1μm,0.5s						
YUK				A		12 28 53.9	
	5μm,1.0s						
YUK	Yuzh-Kuril'sk	3.12	260	ePN	Pn	12 28 05.2	+0.1
YUK				i S	Sn	12 28 41.0	-0.2
YUK				pmax	pmax		
	comp=Z,180nm,0.5s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,5μm,1.0s						
NEM2	Nemuro 2	3.41	249	P	Pn	12 28 08.3	-0.8
NEM2				eS	Sn	12 28 47.3	-1.1
JRA	Rausu	3.66	261	P	Pn	12 28 13.3	+0.8
JRA				eS	Sn	12 28 55.4	+0.9
JNK	Nakash	4.03	257	P	Pn	12 28 17.9	+0.3
JNK				eS	Sn	12 29 04.0	+0.4
JAK	Akkeshi	4.26	249	P	Pn	12 28 20.1	-0.6
JAK				eS	Sn	12 29 08.3	-0.9
JTKR	Abashiri--Toko	4.51	264	P	Pn	12 28 26.2	+2.0
JAR	Ashorobuto	4.78	256	P	Pn	12 28 28.3	+0.5
JOB	Onbets	4.88	251	P	Pn	12 28 29.4	+0.2
JOB				eS	Sn	12 29 24.0	-0.3
JMP	Maruseppu	4.89	265	P	Pn	12 28 29.6	+0.2
JCH	Churui	5.31	250	P	Pn	12 28 34.9	-0.2
JCH				eS	Sn	12 29 34.9	0.0
JKK2	Kamakawa 2	5.35	264	P	Pn	12 28 36.8	+1.1
ASAJ	Asahikawa	5.42	267	Pn	Pn	12 28 37.4	+0.8
	comp=N,1.3nm,0.3s,baz=104,slow=15,SNR=11						
ASAJ				Sn	Sn	12 29 44.5	+6.9
	comp=N,0.8nm,0.3s,baz=185,slow=19,SNR=2.2						
ASAJ	Asahikawa	5.42	267	P	Pn	12 28 38.4	+1.8
ASAJ	Asahikawa	5.42	267	PN	Pn	12 28 37.4	+0.8
ASAJ						12 29 44.5	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JFR	Furan	5.64	257	P	Pn	12 28 41.2	+1.6
YSS	Yuzh-Sakhalins	5.64	297	eP	Pn	12 28 35.8	-3.8
YSS				erx	rx	12 28 49.8	
JEM	Erimo	5.72	245	P	Pn	12 28 42.1	+1.4
JAB	Ashibetsu	5.80	261	P	Pn	12 28 45.4	+3.6
JNBK	Urakawa-nobuka	5.86	249	P	Pn	12 28 42.0	-0.6
JBT2	Biratori 2	5.93	254	P	Pn	12 28 43.6	+0.1
JEW	Eniwo	6.54	257	P	Pn	12 28 53.3	+1.4
JNB	Noboribetsu	6.95	255	P	Pn	12 28 58.2	+0.7
JNB				eS	Sn	12 30 14.5	-0.6
JKB	Kayabe	7.19	251	P	Pn	12 29 00.4	-0.3
JKB				eS	Sn	12 30 17.0	-3.9
JYM2	Yakumo 2	7.54	254	P	Pn	12 29 05.5	-0.1
JANG	Nango	7.66	239	P	Pn	12 29 06.0	-1.2
JANG				eS	Sn	12 30 27.1	-5.4
JTM	Tenmabayashi	7.70	243	P	Pn	12 29 07.5	-0.3
JTH	Tanohata	7.72	235	P	Pn	12 29 06.5	-1.6
JSR	Shiriuchi	7.76	250	P	Pn	12 29 08.3	-0.2
JOSM	Okushiri--Mats	8.17	255	P	Pn	12 29 14.4	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	8.41	231	P	Pn	12 29 16.6	-0.9
JRG	Rokugo	8.80	237	P	Pn	12 29 22.3	-0.4
JRG				eS	Sn	12 30 56.8	-3.5
JIO	Ouri	9.03	230	P	Pn	12 29 25.6	-0.3
JIO				eS	Sn	12 31 01.3	-4.7
KLR	Kul'dur	13.36	297	ePN	Pn	12 30 21.7	-3.2
YAK	Yakutsk	21.09	333	eP	P	12 31 56.5	-0.6
YAK				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.4						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
SONM	Songino Array	30.11	292	LR	LR	12 45 26.0	
	comp=E,46nm,18.1s,baz=3.5,slow=36						
KDAK	Kodiak Island	37.06	48	P	P	12 34 18.4	-3.3
	comp=E,6.2nm,0.9s,mb4.5,baz=135,slow=7.9,SNR=5.1						
MKAR	Makanchi Array	46.06	298	LR	LR	12 55 52.4	
	comp=E,77nm,18.6s,baz=256,slow=37						
NVAR	Mina Array Bea	65.28	60	P	P	12 37 53.1	+0.2
	comp=E,0.6nm,0.6s,mb3.6,baz=311,slow=8.2,SNR=6.0						
WRA	Warramunga Arr	65.88	196	P	P	12 37 59.5	+2.8
	comp=E,0.8nm,0.6s,mb3.7,baz=16,slow=6.7,SNR=7.9						
WRA	Warramunga Arr	65.88	196	P	P	12 37 59.5	+2.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	Pinedale Array	67.69	52	P	P	12 38 07.3	-0.9
	comp=Z,0.4nm,0.6s,mb3.4,baz=299,slow=1.9,SNR=4.5						
ASAR	Alice Springs	69.58	196	P	P	12 38 23.2	+3.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=13,slow=5.2,SNR=13						
ASAR	Alice Springs	69.58	196	P	P	12 38 23.2	+3.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	80.36	58	P	P	12 39 21.8	-0.4
	comp=Z,1.3nm,0.6s,mb4.0,baz=303,slow=4.2,SNR=21						
TXAR	Lajitas Array	80.36	58	P	P	12 39 21.8	-0.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNA2	Neumayer--Watz	151.44	195	e	PKPdf	12 47 04.1	+5.9
VNA2				e		12 47 07.1	
VNA2				e		12 47 18.5	
VNA2				e		12 47 22.7	
VNA3	Neumayer Olymp	151.57	194	e	PKPdf	12 47 04.2	+5.8
VNA3				e		12 47 07.3	
VNA3				e		12 47 19.2	

CASC 01 12:29:34.8±1.6, 9.13N×82.78W, h5km, MD3.7, 4C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	Cotoan	0.23	176⇑	iP	Pg	12 29 39.5	+0.1
CNI	Changuinola	0.38	42⇑	iP	Pg	12 29 43.0	+0.8
BRU	Baru	0.39	146⇑	iP	Pg	12 29 42.8	+0.5
ACR	Cerro Adams	0.61	219⇓	eP	Pg	12 29 46.6	+0.1
ACR				eS	Sg	12 29 57.0	+2.6
DVD	David	0.76	155⇑	iP	Pg	12 29 49.5	+0.1
DVD				eS	Sg	12 30 01.3	+2.0
SJS	Escuela Geolog	1.50	303	eP	Pn	12 30 01.8	-0.5
SJS				eS	Sn	12 30 22.7	+0.5
LAJ	Bijagual	1.51	299	eP	Pn	12 30 08.0	+5.5
LAJ				eS	Sn	12 30 32.5	+10
PRS1	Puriscal	1.73	299⇓	eP	Pn	12 30 05.5	-0.1
PRS1				eS	Sn	12 30 28.9	+0.8
CGA2	Cerro Gallo 2	1.88	298⇓	eP	Pn	12 30 08.4	+0.8
CGA2				eS	Sn	12 30 33.3	+1.6
JCR	Jicaral	2.41	287	eP	Pn	12 30 16.1	+1.2
JCR				eS	Sn	12 30 44.7	-0.1
PTP	Ponta Puerca	18.96	60	eS		12 30 05.7	

*ISCJB **01** 12:32:06.5±0.7, 51.40N±0.04×16.15E±0.03, h0km, Error ellipse: s-maj=5.3km s-min=2.9km az=26.0*
*VIE **01** 12:32:09.1±0.4, 51.30N×16.23E, h0km, mb2.3/2, ML2.6/4, Error ellipse: s-maj=2.5km s-min=2.3km az=172.0 58 km WNW of Breslau Suspected Mining induced.*
*WAR **01** 12:32:09, 51.40N×16.18E, ML2.7, Mining Induced*
*NEIC **01** 12:32:10.5, 51.27N×16.12E, h1km, ML2.5(SZGRF), After SZGRF.*
ISC 01 12:32:07.3±0.7, 51.45N±0.04×16.17E±0.04, h0km, n18, σ1.02/38, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	173⇓	iPg	Pg	12 32 19.2	+0.2
KSP				eSg	Sg	12 32 26.7	-0.2
UPC	Upice	0.94	186	ePG	Pg	12 32 25.4	0.0
DPC	Dobruska-Polom	1.10	175	ePG	Pg	12 32 27.9	-0.5
DPC				eSG	Sg	12 32 41.0	-1.7
	28nm,0.3s						
PVCC	Panska Ves	1.37	228	ePG	Pg	12 32 33.6	+0.1
PVCC				eSG	Sg	12 32 52.5	+1.3
BRG	Berggiesshubel	1.51	249	Pg	Pg	12 32 36.4	+0.1
BRG				Sg	Sg	12 32 57.2	+1.3
PRU	Pruhonice	1.79	216	ePN	Pn	12 32 37.8	-1.6
PRU				ePG	Pg	12 32 40.7	-0.9
PRU				eSG	Sg	12 33 04.0	-0.8
	17nm,0.5s						
MORC	Moravsky Berou	1.89	152	ePn	Pn	12 32 40.1	-0.7
MORC				eSn	Sn	12 33 06.0	+0.7
CLL	Collm	1.99	267	ePn	Pn	12 32 42.0	-0.2
CLL				i Pg	Pg	12 32 45.9	+0.5
CLL				i x	x	12 32 49.0	
CLL				i Sg	Sg	12 33 12.4	+1.2
	comp=Z,15nm,0.6s						
OKC	Ostrava-Krasne	2.04	141	ePG	Pg	12 32 45.6	-0.9
OKC				eSG	Sg	12 33 10.3	-2.7
	comp=Z,29nm,0.6s						
OJC	Ojcow	2.61	117	ePg	Pg	12 32 57.4	+0.1
OJC				eSg	Sg	12 33 32.2	+1.1
NKC	Novy Kostel	2.65	244	ePN	Pn	12 32 51.4	+0.1
NKC				ePG	Pg	12 32 56.7	-1.4
NKC				eSG	Sg	12 33 32.4	-0.1
	comp=Z,17nm,0.4s						
KHC	Kasperske Hory	2.85	217	ePN	Pn	12 32 54.1	+0.1
KHC				ePG	Pg	12 32 59.4	-2.6
KHC				eSG	Sg	12 33 38.4	-0.5
	comp=Z,9.4nm,0.6s						
SMOL	Smolenice	3.04	164	ePG	Pg	12 33 05.4	-0.3
SMOL				eSG	Sg	12 33 47.3	+2.1
WET	Wettzell	3.12	224	ePn	Pn	12 32 58.1	+0.3
VYHS	Vyhne	3.42	149	ePG	Pg	12 33 12.4	-0.5
VYHS				eSG	Sg	12 34 00.3	+3.1
CONA	Conrad Observa	3.53	183⇑	iPn	Pn	12 33 03.2	-0.1
CONA			⇓	iSg	Sg	12 34 01.4	+0.8
	comp=Z,5.1nm,0.4s						
MOA	Molln	3.81	200⇑	iPn	Pn	12 33 07.5	+0.3
MOA			⇓	iSg	Sg	12 34 10.6	+1.0
	comp=Z,6.3nm,0.4s						
STHS	Stebnicka Huta	3.83	120	ePG	Pg	12 33 22.2	+1.5
STHS				eSG	Sg	12 34 15.2	+4.9

IDC 01 12:54:31.1±0.7, 5.16N×73.93W, h132km±5km, mb3.2/2, mb1 3.4/3, mb1mx3.1/18, mbtmp3.8/3, Error ellipse: s-maj=30.0km s-min=12.7km az=128.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	0.50	233	P	Pn	12 54 53.1	+2.7
	166nm,0.3s,baz=99,slow=22,SNR=373						
ROSC				S	Sn	12 55 07.1	+2.2
	383nm,0.3s,baz=94,slow=19,SNR=45						
SDV	Santo Domingo	4.94	41	P	Pn	12 55 45.2	+1.8
	13nm,0.3s,baz=215,slow=9.1,SNR=46						
SDV				S	Sn	12 56 39.2	-0.4
	30nm,0.3s,baz=57,slow=18,SNR=15						
LPAZ	La Paz	22.07	165	P	P	12 59 15.4	+0.1
	0.7nm,0.5s,baz=348,slow=9.3,SNR=3.7						
SIV	San Ignacio	24.57	149	P	P	12 59 39.4	+0.8
	1.6nm,0.7s,baz=297,slow=11,SNR=8.4						
ASAR	Alice Springs	147.48	233	PKPbc	PKPbc	13 13 59.4	-0.1
	0.5nm,0.5s,baz=122,slow=3.4,SNR=14						
WRA	Warramunga Arr	148.82	239	PKPbc	PKPbc	13 14 03.3	+0.3
	0.6nm,0.3s,baz=107,slow=3.1,SNR=14						

IDC 01 13:17:09.9±1.7, 2.32N×126.99E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/15, mbtmp3.7/6, Error ellipse: s-maj=103.9km s-min=24.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.34	184	P	P	13 21 47.9	+0.2
	0.9nm,0.8s,baz=35,slow=16,SNR=1.9						
WRA	Warramunga Arr	23.27	162	P	P	13 22 19.0	-0.1
	2.0nm,0.6s,baz=341,slow=11,SNR=13						
ASAR	Alice Springs	26.70	166	P	P	13 22 51.0	+0.3
	0.3nm,0.6s,baz=353,slow=7.1,SNR=5.2						
STKA	Stephens Creek	36.73	159	P	P	13 24 18.9	+0.1
	2.2nm,0.7s,baz=336,slow=12,SNR=5.7						
MKAR	Makanchi Array	58.85	326	P	P	13 27 10.3	0.0
	0.3nm,0.5s,baz=119,slow=8.2,SNR=4.4						
VNDA	Vanda	82.01	173	P	P	13 29 31.9	0.0
	1.0nm,0.8s,baz=308,slow=6.5,SNR=8.4						

IDC 01 13:21:58.1±1.6, 2.42N×127.05E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/15, mbtmp3.7/6, Error ellipse: s-maj=95.0km s-min=22.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.44	184	P	P	13 26 37.0	0.0
	0.4nm,0.3s,baz=18,slow=13,SNR=4.4						
WRA	Warramunga Arr	23.35	162	P	P	13 27 07.9	-0.2
	1.5nm,0.4s,baz=343,slow=11,SNR=24						
ASAR	Alice Springs	26.78	166	P	P	13 27 39.4	-0.2
	0.3nm,0.5s,baz=346,slow=7.5,SNR=9.6						
STKA	Stephens Creek	36.80	159	P	P	13 29 08.8	+1.2
	1.8nm,0.6s,baz=349,slow=7.3,SNR=4.6						
MKAR	Makanchi Array	58.80	326	P	P	13 31 58.5	+0.3
	0.3nm,0.4s,baz=120,slow=8.0,SNR=8.7						
VNDA	Vanda	82.10	173	P	P	13 34 20.0	-0.5
	0.6nm,0.8s,baz=315,slow=6.9,SNR=4.7						

*ISCJB **01** 13:55:24.0±0.3, 66.13N±0.02×17.63W±0.04, h10km±2km, mb3.9/12, MS3.4/2, Error ellipse: s-maj=3.3km s-min=2.7km az=169.3*
*REY **01** 13:55:24.9, 66.12N×17.70W, h11km, ML4.2, ML4.2*
*IDC **01** 13:55:24.3±1.0, 66.08N×17.82W, h0km, mb3.8/7, mb1 3.9/13, mb1mx3.8/25, mbtmp3.8/13, ML3.4/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=23.1km s-min=15.6km az=145.0*
*CSEM **01** 13:55:24.9, 66.12N×17.70W, h11km, ML4.2, After REY*
*NEIC **01** 13:55:25.5±0.5, 66.08N×17.78W, h10km, mb4.2/5, Error ellipse: s-maj=8.0km s-min=6.5km az=113.0*
ISC 01 13:55:24.6±0.3, 66.11N±0.02×17.64W±0.04, h7km±2km, n64, σ1.12/95, mb3.9/12, MS3.4/2, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFLA	Flatey	0.10	300	P	Pg	13 55 27.4	+0.6
IFLA				S	Sg	13 55 29.5	+1.2
IBRE	Brettingsstaoi	0.11	276	P	Pg	13 55 27.4	+0.4
IBRE				S	Sg	13 55 29.3	+0.7
IHED	Heoinshofoi	0.14	103	P	Pg	13 55 28.4	+0.9
IHED				S	Sg	13 55 31.0	+1.6
IGRA	Granastaoir	0.20	173	P	Pg	13 55 29.2	+0.7
IGRA				S	Sg	13 55 32.2	+1.0
IHLA	Hella	0.35	241	P	Pg	13 55 31.2	-0.2
IHLA				S	Sg	13 55 35.9	-0.1
IGRI	Grimsey	0.46	341	P	Pg	13 55 33.0	-0.5
IGRI				S	Sg	13 55 38.9	-0.5
IKVO	Krokottuvotn	0.51	142	P	Pg	13 55 34.2	-0.2
IKVO				S	Sg	13 55 41.3	+0.3
ISIG	Siglufjorour	0.52	273	P	Pg	13 55 33.7	-0.9
ISIG				S	Sg	13 55 40.2	-1.2
IGIL	Gilhagi	0.53	93	P	Pg	13 55 34.7	-0.1
IGIL				S	Sg	13 55 42.3	+0.7
ILEI	Leirhofn	0.55	57	P	Pg	13 55 35.2	-0.1
ILEI				S	Sg	13 55 43.0	+0.5
IREN	Reynihlio	0.56	147	P	Pg	13 55 35.1	-0.2
IREN				S	Sg	13 55 42.9	+0.3
IGRS	Grimsstaoir	0.78	127	P	Pg	13 55 38.8	-0.9
IGRS				S	Sg	13 55 49.8	-0.1
ISVA	Svartarkot	0.79	168	P	Pg	13 55 39.0	-0.9
ISVA				S	Sg	13 55 49.8	-0.4
IHVA	Hvannstoosfjol	1.38	147	P	Pn	13 55 47.7	-2.6
IHVA				S	Sb	13 56 06.3	-2.2
IADA	Aoalbol	1.39	141	P	Pn	13 55 47.8	-2.7
IADA				S	Sb	13 56 07.2	-1.8
IBRU	Bruarjokull	1.44	153	P	Pn	13 55 49.4	-1.8
IGLU	Glumsstadir	1.56	136	P	Pn	13 55 50.5	-2.2
IGLU				S	Sn	13 56 12.6	-0.6
IGRF	Grimsfjall	1.72	175	P	Pn	13 55 53.6	-1.4
IASB	\`sbjarnarst	2.06	230	P	Pn	13 55 58.4	-1.3
IASB				S	Sn	13 56 24.5	-1.1
BORG	Borgarnes	2.06	230	Pn	Pn	13 55 58.8	-0.9
	180nm,0.3s,baz=28,slow=6.5,SNR=314						
BORG				Sn	Sn	13 56 24.2	-1.4
	217nm,0.3s,baz=27,slow=18,SNR=17						
BORG	Borgarnes	2.06	230	ePn	Pn	13 55 58.3	-1.4
BORG				eSn	Sn	13 56 24.2	-1.4
IGYG	Gygjarholskot	2.13	212	P	Pn	13 56 00.0	-0.7
IGYG				S	Sn	13 56 28.0	+0.5
IKAL	Kalfafell	2.17	181	P	Pn	13 56 00.2	-1.0
IKAL				S	Sn	13 56 29.8	+1.4
IFAG	Fagurholsmyri	2.29	169	P	Pn	13 56 01.9	-0.9
IFAG				S	Sn	13 56 33.4	+2.2
IHAU	Haukadalur	2.37	206	P	Pn	13 56 02.9	-1.0
IHAU				S	Sn	13 56 35.1	+1.9
ISNB	Snabyli	2.42	190	P	Pn	13 56 03.8	-0.9
ISNB				S	Sn	13 56 37.3	+2.7
ISAU	Saurbar	2.43	210	P	Pn	13 56 04.0	-0.8
ISAU				S	Sn	13 56 36.9	+2.0
IHEI	Heioarbar	2.45	220	P	Pn	13 56 03.7	-1.3
IHEI				S	Sn	13 56 37.4	+2.2
IKRO	Krokur	2.50	218	P	Pn	13 56 04.6	-1.1
IKRO				S	Sn	13 56 38.7	+2.2
ISOL	Solvholt	2.60	214	P	Pn	13 56 06.6	-0.5
ISOL				S	Sn	13 56 41.7	+2.7
IASM	Asmuli	2.61	210	P	Pn	13 56 06.8	-0.5
IASM				S	Sn	13 56 42.2	+2.9
IMID	Miomork	2.64	202	P	Pn	13 56 07.0	-0.7
IMID				S	Sn	13 56 43.7	+3.7
IESK	Eystri-Skogar	2.71	197	P	Pn	13 56 08.2	-0.4
IESK				S	Sn	13 56 45.3	+3.6
IKAS	Kald??rsel	2.75	222	P	Pn	13 56 08.6	-0.6
IKAS				S	Sn	13 56 46.4	+3.7
IVOS	Vogsosar	2.85	219	P	Pn	13 56 11.3	+0.8
JMIC	Jan Mayen	5.93	30	Pn	Pn	13 56 53.6	+0.7
	5.8nm,0.3s,baz=164,slow=1.7,SNR=9.6						
JMIC				Sn	Sn	13 57 56.4	-4.5
	4.5nm,0.3s,baz=204,slow=20,SNR=3.5						
EKA	Eskdalemuir Ar	12.88	140	Pn	Pn	13 58 29.9	+1.7
	0.1nm,0.3s,baz=320,slow=13,SNR=2.5						
NOA	NORSAR Array B	13.73	98	Pn	Pn	13 58 40.8	+1.2
	0.4nm,0.3s,baz=310,slow=12,SNR=3.2						
HFS	Hagfors	15.25	98	Pn	Pn	13 59 00.4	+0.1
	0.1nm,0.3s,baz=316,slow=8.1,SNR=2.7						
ARCES	ARCESS Array B	16.37	59	Pn	Pn	13 59 15.1	+0.2
	0.2nm,0.3s,baz=281,slow=12,SNR=4.7						
FINES	FINESS Array B	19.54	83	P	Pn	13 59 54.0	0.0
	0.2nm,0.3s,baz=316,slow=11,SNR=6.9						
FINES				LR	LR	14 06 36.8	
	comp=Z,86nm,20.1s,baz=353,slow=34						
GIVF	Givet	19.77	133	eP	Pn	13 59 55.4	-1.3
LOR	Lormes	22.05	138	eP	P	14 00 19.5	-0.5
SSF	Saint Saulge	22.15	139	eP	P	14 00 21.4	+0.4
	11nm,0.9s,mb4.0						
SSF	Saint Saulge	22.15	139	eP	P	14 00 21.4	+0.4
	5.4nm,0.9s,mb4.0						
AVF	Avril sur Loir	22.36	140	eP	P	14 00 23.1	-0.1
	12nm,1.0s,mb4.0						
AVF	Avril sur Loir	22.36	140	eP	P	14 00 23.1	-0.1
	5.8nm,1.0s,mb4.0						
BGF	Bois d'Agland	22.44	141	eP	P	14 00 24.6	+0.5
	32nm,1.2s,mb4.3						
BGF	Bois d'Agland	22.44	141	eP	P	14 00 24.6	+0.5
	16nm,1.2s,mb4.3						
TCF	Toulx Ste Croi	22.53	142	eP	P	14 00 25.3	+0.3
	34nm,1.3s,mb4.3						
TCF	Toulx Ste Croi	22.53	142	eP	P	14 00 25.3	+0.3
	17nm,1.3s,mb4.3						
SMF	Signal de Mont	22.62	139	eP	P	14 00 26.4	+0.4
	20nm,1.1s,mb4.2						
SMF	Signal de Mont	22.62	139	eP	P	14 00 26.4	+0.4
	9.8nm,1.1s,mb4.2						
VRAC	Vranov	24.37	117	LR	LR	14 09 36.8	
	comp=Z,55nm,18.7s,MS3.1,baz=103,slow=35						
ESDC	Sonseca Array	27.61	157	P	P	14 01 13.2	+0.6
	0.9nm,0.8s,mb3.5,baz=345,slow=9.9,SNR=3.6						
BRTR	Keskin Array B	38.94	107	P	P	14 02 52.6	+1.5
	1.5nm,0.7s,mb3.8,baz=334,slow=6.2,SNR=5.6						
AKTK	Aktyubinsk	39.95	75	P	P	14 03 00.1	+0.5
AKTO	Aktyubinsk	39.95	75	P	P	14 03 00.1	+0.5
	1.1nm,0.6s,mb3.8,baz=297,slow=6.5,SNR=4.7						
BVAR	Borovoye Array	42.58	63	P	P	14 03 22.0	+0.8
	baz=318,slow=7.6						
ZAL	Zalesovo	46.79	52	P	P	14 03 55.0	+0.2
	0.8nm,0.4s,mb4.0,baz=233,slow=3.2,SNR=3.1						
MKAR	Makanchi Array	52.02	59	P	P	14 04 35.0	+0.2
	1.2nm,1.0s,mb3.8,baz=344,slow=6.6,SNR=5.7						
PDAR	Pinedale Array	52.56	292	P	P	14 04 39.9	+1.1
	0.9nm,0.9s,mb3.7,baz=48,slow=6.6,SNR=5.0						
TORD	Torodi Ar. Bea	54.50	157	P	P	14 04 52.5	-0.4
	0.8nm,0.9s,mb3.7,baz=345,slow=5.6,SNR=4.4						
TXAR	Lajitas Array	61.98	279	LR	LR	14 32 57.9	
	comp=Z,44nm,19.0s,MS3.6,baz=185,slow=36						

IDC 01 13:55:28.1±4.0, 11.99S×165.92E, h45km±30km, mb3.9/4, mb1 4.1/6, mb1mx3.8/16, mbtmp4.2/6, ML4.4/2, MS3.3/4, Ms1 3.3/4, ms1mx3.1/22, Error ellipse: s-maj=42.1km s-min=23.3km az=58.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.40	293	P	Pn	13 57 01.3	+1.6
	38nm,0.3s,baz=103,slow=5.9,SNR=19						
HNR				S	Sn	13 58 11.3	-0.1
	baz=90,slow=20,SNR=2.8						
DZM	Mont Dzumac	10.04	177	P	Pn	13 57 49.0	-0.6
	0.9nm,0.3s,baz=4.2,slow=19,SNR=29						
DZM				S	Sn	13 59 36.9	-3.9
	baz=6.0,slow=19,SNR=2.3						
CTA	Charters Tower	20.53	244	LR	LR	14 06 01.4	
	comp=Z,64nm,19.6s,baz=235,slow=31						
AFI	Afiamalu	21.82	97	LR	LR	14 06 37.1	
	comp=Z,86nm,18.6s,baz=98,slow=31						
STKA	Stephens Creek	29.88	225	LR	LR	14 12 28.1	
	comp=Z,76nm,19.1s,baz=25,slow=34						
WRA	Warramunga Arr	31.33	251	P	P	14 01 45.1	+1.0
	0.4nm,0.6s,baz=82,slow=8.7,SNR=7.1						
WRA				PcP	PcP	14 04 37.7	+0.4
	0.9nm,0.8s,baz=83,slow=2.9,SNR=7.0						
ASAR	Alice Springs	32.53	245	P	P	14 01 54.6	0.0
	0.6nm,0.6s,baz=70,slow=9.8,SNR=9.4						
ASAR				PcP	PcP	14 04 40.8	+0.3
	1.3nm,0.7s,baz=71,slow=2.3,SNR=15						
ASAR				LR	LR	14 14 10.1	
	comp=Z,58nm,21.3s,baz=258,slow=34						
SONM	Songino Array	79.53	324	P	P	14 07 30.2	+0.2
	1.1nm,0.5s,baz=119,slow=5.1,SNR=11						
MKAR	Makanchi Array	94.33	317	P	P	14 08 42.5	-0.2
	3.9nm,0.7s,baz=93,slow=6.4,SNR=31						

*CSEM **01** 14:12:44.5, 16.19N×42.75E, h2km, ML3.6, After DHMR*
DHMR 01 14:12:44.5±1.1, 16.19N×42.75E, h2km±10km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	Hajjah	0.95	121	i P	Pg	14 13 00.9	-1.8
HAJJ				eS	Sg	14 13 16.4	+1.4
HAJJ				AML	AML	14 13 20.0	
	comp=Z,2µm,0.4s						
HAJJ	Hajjah	0.95	121	i P	Pg	14 13 00.9	-1.8
	comp=Z,845nm,0.4s						
HAJJ				eS	Sg	14 13 16.4	+1.3
TRBA	At Turbah	3.22	156	i S	Sn	14 14 21.5	+6.4
LBOS		3.34	133	i P	Pn	14 13 41.2	+3.5
LBOS				i S	Sn	14 14 24.1	+6.2

*ISCJB **01** 14:16:07.1±1.4, 31.00S±0.07×179.5W±0.1, h243km±14km, mb4.5/8, Error ellipse: s-maj=16.2km s-min=11.0km az=13.3*
*IDC **01** 14:16:10.2±1.8, 31.17S×179.37W, h269km±15km, mb4.1/3, mb1 4.1/7, mb1mx3.7/14, mbtmp4.7/7, Error ellipse: s-maj=22.4km s-min=16.3km az=126.0*
*NEIC **01** 14:16:14.9±2.5, 30.87S×179.52W, h308km±22km, mb4.4/5, Error ellipse: s-maj=20.3km s-min=11.7km az=148.0*
*BJI **01** 14:16:14.3, 30.95S×179.32W, h312km, mB4.6, mb4.5*
ISC 01 14:16:09.2±1.5, 31.12S±0.08×179.5W±0.1, h246km±14km, n34, σ0.83/26, mb4.5/8, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.65	201	P	Pn	14 17 58.8	+0.7
	1.3nm,0.3s,baz=298,slow=3.1,SNR=22						
URZ				S	S	14 19 25.5	0.0
	17nm,0.3s,baz=278,slow=23,SNR=20						
SNZO	South Karori	11.19	203	eP	Pn	14 18 42.6	-0.2
RPZ	Rata Peaks	14.63	208	P	Pn	14 19 23.1	-1.9
	1.1nm,0.3s,baz=36,slow=14,SNR=10						
RPZ				S	S	14 21 54.1	-13
	1.2nm,0.3s,baz=78,slow=20,SNR=9.2						
DZM	Mont Dzumac	15.46	302	eP	Pn	14 19 36.1	+1.1
DZM	Mont Dzumac	15.46	302	P	Pn	14 19 36.1	+1.1
	2.1nm,0.3s,baz=112,slow=15,SNR=28						
AFI	Afiamalu	18.54	24	P	P	14 20 07.1	-0.7
	3.7nm,0.3s,baz=132,slow=16,SNR=8.1						
AFI				S	S	14 23 17.8	-8.2
	2.0nm,0.3s,baz=120,slow=20,SNR=3.2						
CTA	Charters Tower	32.66	281	eP	P	14 22 18.9	+0.6
	7.4nm,0.6s,mb4.4						
CTAO	Charters Tower	32.66	281	eP	P	14 22 18.4	+0.2
	9.5nm,0.7s,mb4.4						
STKA	Stephens Creek	33.07	258	eP	P	14 22 23.2	+1.4
	11nm,0.5s,mb4.6						
STKA	Stephens Creek	33.07	258	P	P	14 22 23.2	+1.4
	23nm,0.8s,mb4.8,baz=98,slow=10,SNR=66						
AS31	Alice Springs	41.80	268	eP	P	14 23 34.2	-0.6
ASAR	Alice Springs	41.80	268	P	P	14 23 34.2	-0.5
	2.4nm,0.4s,mb4.0,baz=106,slow=7.1,SNR=63						
ASAR				ScP	ScP	14 28 47.6	-4.8
	0.8nm,1.0s,baz=116,slow=3.7,SNR=4.4						
ASPA	Alice Springs	41.80	268	eP	P	14 23 34.2	-0.6
WRA	Warramunga Arr	42.85	274	P	P	14 23 42.5	-0.7
	5.2nm,0.4s,mb4.3,baz=111,slow=8.0,SNR=118						
WRA				S	S	14 29 43.2	-5.5
	0.5nm,1.0s,baz=111,slow=14,SNR=3.0						
FITZ	Fitzroy Crossi	51.08	271	eP	P	14 24 46.2	-0.5
	5.3nm,2.0s,mb3.6						
QSPA	South Pole Qui	58.99	180	eP	P	14 25 44.8	+1.7
	8.5nm,0.2s,mb5.0						
SNAA	Sanae	77.47	179	e	P	14 27 36.8	-0.6
SNAA				e		14 27 38.6	
SNAA				e		14 27 40.0	
VNA3	Neumayer Olymp	77.67	177	e	P	14 27 38.3	-0.3
VNA3				e		14 27 40.3	
VNA3				e		14 27 42.6	
VNA3				e		14 28 17.8	
VNA3				e		14 28 24.5	
VNA3				e	pP	14 28 41.2	+4.7
VNA2	Neumayer--Watz	78.09	177	e	P	14 27 41.0	+0.1
VNA2				e		14 27 42.9	
VNA2				e		14 27 44.9	
VNA2				e		14 28 21.2	
VNA2				e		14 28 28.3	
VNA2				e	pP	14 28 43.2	+4.3
VNA1	Neumayer--Stat	78.33	177	e	P	14 27 42.8	+0.6
VNA1				e		14 27 44.7	
VNA1				e		14 27 46.1	
VNA1				e		14 28 22.5	
CD2	Chengdu	95.39	303	eP	P	14 29 05.3	-0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
HHC	Hu-ho-hao-te	95.82	315	eP	P	14 29 08.2	+0.7
HHC				PP	PP	14 33 05.2	+2.4
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,267nm,5.5s						
WMQ	Urumqi	112.66	308	⇑PKP	PKiKP	14 34 14.8	-1.5
WMQ				PP	PP	14 35 08.8	+1.5
WMQ				LR	LR		
	comp=N,493nm,19.5s						
WMQ				LR	LR		
	comp=E,150nm,20.5s						
WMQ				LR	LR		
	comp=Z,91nm,21.5s						
ARCES	ARCESS Array B	139.01	347	PKhKP		14 34 57.1	

comp=Z,5.3nm,1.0s,baz=60,slow=2.2,SNR=7.7
ARCES PKP PKPdf 14 35 03.5 -2.8
comp=Z,3.3nm,0.6s,baz=349,slow=1.2,SNR=7.7
ARCES SKPbc SKPbc 14 38 11.6 -6.3
comp=Z,2.6nm,0.9s,baz=48,slow=1.3,SNR=3.7
JOF Joensuu 142.60 337 *e*pkp PKPdf 14 35 05.8 -7.0
KAF Kangasniemi 144.78 339 *e*pkp PKPdf 14 35 13.1 -3.5
FINES FINESS Array B 145.36 339 PKPbc PKPbc 14 35 15.6 -2.4
comp=Z,14nm,0.4s,baz=57,slow=4.1,SNR=54
NB2 NORSAR Subarra149.25 350 PKP PKPdf 14 35 26.3 +2.2
comp=Z,9.2nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 149.25 350 PKPbc PKPbc 14 35 26.2 -2.4
comp=Z,7.6nm,0.6s,baz=15,slow=4.2,SNR=20
NAO01 NORSAR Array S 149.49 350 PKPbc PKPbc 14 35 27.1 -2.1
NAO01 *e*PKPab PKPab 14 35 32.6 -2.4
KONO Kongsberg 150.82 351 *e*PKPbc PKPbc 14 35 30.4 -1.9
AKASG Malin Array Be 151.07 321 PKPbc PKPbc 14 35 30.9 -2.1
comp=Z,2.1nm,0.4s,baz=45,slow=3.1,SNR=10.0
BRTR Keskin Array B 151.79 297 PKPbc PKPbc 14 35 32.9 -1.8
comp=Z,1.0nm,0.3s,baz=128,slow=3.4,SNR=6.2
BRTR PKPab PKPab 14 35 42.6 -1.9
comp=Z,0.7nm,0.5s,baz=90,slow=3.8,SNR=3.0
TORD Torodi Ar. Bea 162.08 184 PKP PKPdf 14 35 39.9 -1.1
comp=Z,0.8nm,0.9s,baz=177,slow=2.5,SNR=4.0
TORD PKPab PKPab 14 36 28.4 -0.5
comp=Z,0.6nm,0.6s,baz=161,slow=5.0,SNR=6.9

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*NIED **01** 14:20:00, 3420N×13920E, h17km, Mw4.2 Best double couple: M0 2.43000×10^15 NP1:φs197.00000°,δ87.00000°, λ7.00000°. NP2:φs107.00000°,δ83.00000°,λ177.00000°.*
*ISCJB **01** 14:20:41.9±0.5, 3421N±004×13924E±005, h10km, mb3.9/10, MS4.2/2, Error ellipse: s-maj=6.7km s-min=4.9km az=138.6*
*JMA **01** 14:20:42.1, 3422N×139.16E, h11km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs185.00000°,δ72.00000°,λ-12.00000°. NP2: φs278.00000°,δ78.00000°,λ-162.00000°. Principal axes: T Plg4.0000°, Azm51.0000°; N Plg69.0000°, Azm311.0000°; P Plg21.0000°, Azm142.0000°;*
JMA Felt III J1.
*NEIC **01** 14:20:42.5±0.6, 3404N×13925E, h10km, mb4.1/4 Error ellipse: s-maj=13.1km s-min=11.8km az=124.0*
NEIC Recorded [3 JMA] on Kozu-shima and Nii-jima; [1 JMA] on Miyake-jima.
*IDC **01** 14:20:46.9±0.9, 3401N×13921E, h41km±13km, mb3.6/6, mb1 3.9/9, mb1mx3.8/24, mbtmp3.8/9, ML3.9/3, MS4.1/2, Ms1 4.1/2, ms1mx3.2/18, Error ellipse: s-maj=25.4km s-min=6.3km az=65.0*
ISC 01 14:20:42.3±0.4, **3419N**±003×**13923E**±005, **h10**km, **n29**, σ**1**s**.31**/32, **mb3.9**/10, **MS4.2**/2, **3C-2D, Near south coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JKO Kozu shima 0.07 266 ⇑P **Pg 14 20 44.3 -0.3**
NJJJ Nii jima 2 0.22 13 ⇑P **Pg 14 20 46.5 -0.3**
JIM2 Oshima 3 0.55 18 ⇑P **Pg 14 20 52.5 -0.6**
JIZS Izushimoda 0.60 331 P **Pg 14 20 52.8 -1.1**
KTJJ Kamata 2 0.74 350 ⇓P **Pg 14 20 55.3 -1.4**
KTJJ S **Sg 14 21 04.9 -1.5**
OMA Omae zaki 0.93 296 P **Pg 14 20 59.6 -0.6**
JOD2 Odawara 2 1.07 354 ⇓P **Pb 14 21 01.2 -1.8**
TK04 Tokai 4 1.13 280 P **Pb 14 21 03.3 -0.7**
TK04 S **Sb 14 21 19.5 +0.7**
JHJ Hachijo jima 2 1.17 156 P **Pb 14 21 04.4 -0.2**
258nm,0.3s,baz=60,slow=16,SNR=33
JHJ S **Sb 14 21 18.3 -1.5**
300nm,0.3s,baz=79,slow=22,SNR=9.1
MJAR Matsushiro Arr 2.49 341 P **Pn 14 21 25.1 +2.2**
20nm,0.3s,baz=161,slow=14,SNR=154
MJAR S **Sn 14 21 58.1 +4.8**
5.2nm,0.3s,baz=155,slow=26,SNR=6.6
MAJO Matsushiro 2.49 341 *e*Pn **Pn 14 21 23.5 +0.6**
MAT Matsushiro 2.49 341 P **Pn 14 21 22.3 -0.6**
MAT *e*S **Sn 14 21 58.5 +5.2**
JNU Nakatsue 7.04 264 P **Pn 14 22 27.4 +1.9**
10nm,0.3s,baz=234,slow=19,SNR=49
JOW Kunigami 11.95 235 P **Pn 14 23 32.0 -0.7**
0.5nm,0.3s,baz=133,slow=19,SNR=2.8
SONM Songino Array 28.04 309 P **P 14 26 37.1 +3.4**
0.4nm,0.8s,mb3.1,baz=107,slow=8.4,SNR=3.7
ZAL Zalesovo 42.59 315 P **P 14 28 39.6 +1.1**
0.7nm,0.3s,mb3.9,baz=26,slow=5.6,SNR=3.7
MKAR Makanchi Array 44.18 304 P **P 14 28 52.2 +0.9**
1.3nm,0.8s,mb3.7,baz=90,slow=8.5,SNR=9.3
AAK Ala-Archa 50.31 300 *e*P **P 14 29 38.1 -1.1**
1.3nm,0.8s,mb4.0
ZRNK Zerenda 52.04 314 *e*P **P 14 29 52.3 +0.2**
1.2nm,0.8s,mb3.9
WRA Warramunga Arr 54.03 186 P **P 14 30 04.7 -2.1**
0.7nm,0.6s,mb3.8,baz=1.1,slow=7.6,SNR=10
ASAR Alice Springs 57.76 186 P **P 14 30 32.0 -1.5**
0.2nm,0.5s,mb3.4,baz=16,slow=8.7,SNR=3.9
HLID Hailey 77.62 46 *e*P **P 14 32 40.1 +1.3**
3.0nm,1.0s,mb4.2
RAR Rarotonga 80.00 124 LR LR 15 01 18.5
comp=Z,218nm,20.6s,MS4.5,baz=358,slow=30
BW06 Boulder Array 80.94 44 *e*P **P 14 32 59.6 +2.7**
4.3nm,0.8s,mb4.4
PDAR Pinedale Array 80.94 44 LR LR 15 03 23.4
comp=Z,65nm,19.9s,MS4.0,baz=112,slow=32
PV10 Paradox Valley 84.00 47 *e*P **P 14 33 14.6 +1.7**
PV01 Paradox Valley 84.44 47 *e*P **P 14 33 16.6 +1.5**
TXAR Lajitas Array 93.28 51 P **P 14 33 58.2 +1.0**
1.1nm,0.9s,mb4.3,baz=306,slow=4.2,SNR=7.8
TXAR Lajitas Array 93.28 51 P **P 14 33 58.2 +1.0**

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*NIED **01** 14:21:00, 4230N×143.10E, h56km, Mw5.1 Best double couple: M0 5.13000×10^16 NP1:φs32.00000°,δ65.00000°, λ86.00000°. NP2:φs221.00000°,δ25.00000°,λ98.00000°.*
*SZGRF **01** 14:21:31.4, 4250N×14450E, h33km, mb5.1, Hokkaido, Japan, region*
*BJI **01** 14:21:34.8, 4221N×14300E, h60km, mB5.2, mb5.1, Ms4.3, Msz4.1*
*ISCJB **01** 14:21:35.5±0.2, 4232N±002×14305E±002, h62km±1km, mb5.1/175, Error ellipse: s-maj=3.9km s-min=2.5km az=143.2*
*MOS **01** 14:21:35.9±0.8, 4258N×14299E, h54km, mb5.3/89, MS4.3/11, Error ellipse: s-maj=7.8km s-min=4.2km az=111.0*
*GCMT **01** 14:21:36.7±0.4, 4223N×143.10E, h63km±2km, MW4.9/58, Moment Tensor Solution. s26,c35; s58,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.16±.14; Mθθ-1.03±.12; Mφφ-1.12±.13; Mrθ0.31±.08; Mθφ-1.51±.09; Mφr1.07±.07; Best double couple: M0 2.63500×10^16 NP1:φs239.00000°,δ36.00000°,λ113.00000°. NP2: φs31.00000°,δ58.00000°,λ74.00000°. Principal axes: T 2.4840, Plg72.0000°, Azm262.0000°; N 0.3120, Plg13.0000°, Azm40.0000°; P -2.7860, Plg11.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 14:21:36.1±1.9, 4232N×14302E, h52km±17km, mb4.5/21, mb1 4.7/26, mb1mx4.7/27, mbtmp4.9/26, ML4.7/5, MS3.9/7, Ms1 3.9/7, ms1mx3.6/19 Error ellipse: s-maj=14.6km s-min=11.1km az=99.0*
*NEIC **01** 14:21:36.7±0.5, 4235N×14303E, h59km±4km, mb5.0/110, MW5.1(NIED), Error ellipse: s-maj=4.8km s-min=3.5km az=156.0*
NEIC Recorded [4 JMA] in south-central Hokkaido, [3 JMA] in the Ombetsu area and [2 JMA] throughout southern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
*JMA **01** 14:21:37.2±0.1, 4233N×143.12E, h49km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs248.00000°,δ36.00000°,λ123.00000°. NP2: φs30.00000°,δ61.00000°,λ68.00000°. Principal axes: T Plg67.0000°, Azm258.0000°; N Plg19.0000°, Azm41.0000°; P Plg13.0000°, Azm135.0000°;*
JMA Felt IV J1.
ISC 01 14:21:36.8±0.2, **4240N**±002×**14301E**±002, **h57**km±1km, **h68**km±4.3km**:pP-P, n671,** σ**0**s**.85**/676, **mb5.1**/175, **MS4.1**/23, **182C-92D, Hokkaido region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JNBK Urakawa-nobuka 0.22 239 ⇓P **Pn 14 21 45.8 -0.3**
JNBK *e*S **Sn 14 21 52.6 -0.2**
JCH Churui 0.34 50 ⇑P **Pn 14 21 46.5 -0.5**
JCH *e*S **Sn 14 21 53.2 -1.1**
JEM Erimo 0.39 164 ⇑P **Pn 14 21 46.4 -1.1**
ERM Erimo 0.40 164⇓*i*Pn **Pn 14 21 46.4 -1.1**
ERM *e*Sn **Sn 14 21 54.0 -1.2**
JBT2 Biratori 2 0.61 309 ⇓P **Pn 14 21 51.2 +1.3**
JBT2 *e*S **Sn 14 22 02.6 +3.2**
JOB Onbets 0.79 50 ⇑P **Pn 14 21 52.5 +0.4**
JOB *e*S **Sn 14 22 04.5 +1.3**
JFR Furan 0.83 338 ⇓P **Pn 14 21 52.7 +0.2**
JFR *e*S **Sn 14 22 04.5 +0.5**
JAR Ashorobuto 1.06 31 ⇓P **Pn 14 21 55.8 +0.3**
JAR *e*S **Sn 14 22 09.7 +0.3**
JEW Eniwo 1.24 292 ⇓P **Pn 14 21 59.9 +2.0**
JEW *e*S **Sn 14 22 16.6 +3.0**
JAB Ashibetsu 1.25 333 ⇓P **Pn 14 22 00.3 +2.2**
JAK Akkeshi 1.38 64 ⇑P **Pn 14 21 58.9 -0.9**
JAK *e*S **Sn 14 22 15.7 -1.3**
ASAJ Asahikawa 1.75 350 P **Pn 14 22 06.7 +1.9**
446nm,0.3s,baz=204,slow=13,SNR=772
ASAJ S **Sn 14 22 26.4 +0.5**
278nm,0.3s,baz=173,slow=19,SNR=8.0
ASAJ LR LR 14 22 48.0
comp=Z,2μm,21.1s,baz=53,slow=39
YUK Yuzh-Kuril'sk 2.65 51⇑*i*PN **Pn 14 22 17.5 +0.4**
YUK *i* S **Sn 14 22 48.5 +0.5**
YUK pmax pmax
comp=N,380nm,0.4s
YUK pmax pmax
comp=Z,2μm,0.4s
YUK pmax pmax
comp=E,4μm,0.5s
YUK pmax pmax
comp=Z,3μm,0.8s
YUK smax
comp=N,12μm,1.0s
YUK smax
comp=N,7μm,0.4s
YUK smax
comp=E,4μm,0.5s
KUR Kuril'sk 4.51 49 *e*PN **Pn 14 22 41.0 -1.6**
KUR *e*S **Sn 14 23 32.0 -1.8**
KUR pmax pmax
comp=N,170nm,0.7s
KUR pmax pmax
comp=E,130nm,0.7s
KUR pmax pmax
comp=Z,340nm,0.7s
KUR smax
comp=N,8μm,3.0s
KUR smax
comp=E,6μm,3.0s
KUR smax
comp=N,650nm,0.7s
KUR smax
comp=E,240nm,0.7s
YSS Yuzh-Sakhalins 4.56 358 *e*PN **Pn 14 22 46.1 +2.8**
YSS *e*S **Sn 14 23 32.0 -3.0**
YSS pmax pmax
comp=N,310nm,1.0s
YSS pmax pmax
comp=Z,320nm,1.0s
YSS smax
comp=N,160nm,0.9s
YSS smax
comp=E,200nm,0.8s
YSS MLR MLR
comp=Z,1μm,5.0s
YSS MLR MLR
comp=E,1μm,6.0s
YSS Yuzh-Sakhalins 4.56 358 *e*Pn **Pn 14 22 45.4 +2.1**
MAT Matsushiro 6.92 214 P **Pn 14 23 15.3 -0.4**
MAT S **Sn 14 24 34.4 +1.4**
MJAR Matsushiro Arr 6.92 214 P **Pn 14 23 15.1 -0.6**
comp=E,8.8nm,0.3s,baz=334,slow=5.5,SNR=7.1
MJAR S **Sn 14 24 33.6 +0.6**
baz=128,slow=24,SNR=1.9
MJAR Matsushiro Arr 6.92 214 PN **Pn 14 23 15.1 -0.6**
MJAR pmax pmax
comp=Z,9.0nm,0.3s
VLA Vladivostok 8.21 279 *e*PN **Pn 14 23 35.9 +2.6**
VLA pmax pmax
comp=Z,156nm,1.1s
VLA MLR MLR
comp=Z,1μm,15.5s
VLA Vladivostok 8.21 279 *e*P **Pn 14 23 35.0 +1.7**
JHJ Hachijo jima 2 9.61 196 P **Pn 14 23 49.0 -3.3**
comp=Z,40nm,0.3s,baz=258,slow=19,SNR=9.2
JHJ S **Sn 14 25 26.6 -12**
comp=Z,32nm,0.3s,baz=73,slow=19,SNR=5.6
MDJ Mudanjiang 10.00 287 *e*Pn **Pn 14 23 59.4 +1.7**
comp=Z,41nm,0.9s
KLR Kul'dur 10.41 315 *e*PN **Pn 14 24 03.2 -0.1**
KLR pmax pmax
comp=E,110nm,1.4s
KLR pmax pmax
comp=Z,130nm,1.4s
KLR MLR MLR
comp=Z,3μm,12.0s
SKR Severo-Kuril's 12.24 43 *e*PN **Pn 14 24 27.5 -0.8**
CN2 Changchun 12.92 282 ⇓P **Pn 14 24 38.7 +1.2**
CN2 AMB AMB
comp=Z,60nm,1.1s
JNU Nakatsue 13.32 230 P **Pn 14 24 41.6 -1.4**
comp=Z,1.8nm,0.3s,baz=266,slow=23,SNR=9.2
SNY Shenyang 14.44 274 ⇑P **Pn 14 24 58.5 +0.5**
SNY AMB AMB
comp=Z,32nm,0.9s
SNY LR LR
comp=E,677nm,20.4s
SNY LR LR
comp=Z,828nm,23.4s
PET Petropavlovsk 14.93 39 *e*P **Pn 14 25 05.4 +1.0**
CBIJ Chichi jima 15.28 183 P **Pn 14 25 05.4 -3.5**
comp=Z,13nm,0.3s,baz=312,slow=18,SNR=6.1
CBIJ S S 14 27 38.9 -32
comp=Z,11nm,0.3s,baz=270,slow=20,SNR=4.3
DL2 Dalian 16.59 265 P **Pn 14 25 25.4 -0.2**
DL2 AP pP 14 25 35.9 -3.7
DL2 XP sP 14 25 43.8 -3.1
DL2 *e*S **S 14 28 29.2 -8.4**
DL2 AMB AMB
comp=Z,50nm,0.7s
DL2 AMB AMB
comp=Z,120nm,5.2s
DL2 LR LR
comp=N,160nm,14.9s
DL2 LR LR
comp=E,380nm,16.7s
DL2 LR LR
comp=Z,340nm,19.0s
HIA Hailar 17.57 301 P **Pn 14 25 35.8 -1.9**
HIA pmax pmax
comp=Z,40nm,1.0s
HIA Hailar 17.57 301 P **Pn 14 25 35.8 -1.8**
comp=Z,40nm,1.0s
MA2 Magadan 17.86 13 *e*P **Pn 14 25 40.2 -1.0**
MA2 *e*S **S 14 28 53.3 -10**
MA2 pmax pmax
comp=Z,10.0nm,0.6s
MA2 MLR MLR
comp=Z,200nm,18.4s
MA2 Magadan 17.86 13 *e*P **Pn 14 25 39.3 -1.9**
CLNS Chul'man 18.53 327 *e*P **Pn 14 25 49.0 -0.3**
CLNS *e*S **S 14 29 13.8 -2.8**
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=Z,65nm,0.8s
CLNS pmax pmax
comp=N,29nm,0.7s
CLNS smax
comp=N,185nm,15.3s
CLNS smax
comp=Z,12nm,8.4s
CLNS smax
comp=E,224nm,11.3s
JOW Kunigami 19.66 223 P **Pn 14 25 58.5 -4.2**
comp=E,5.9nm,0.3s,baz=16,slow=11,SNR=15
BJI Beijing 20.30 272 P **P 14 26 06.2 -1.7**
BJI AMB AMB
comp=Z,49nm,0.9s
BJI AMB AMB
comp=Z,322nm,4.3s
BJI LR LR
comp=N,605nm,19.4s,MS4.1
BJI LR LR
comp=E,583nm,21.6s,MS4.1
BJI LR LR
comp=Z,769nm,25.0s,MS4.0
BJI Beijing 20.30 272 P **P 14 26 06.2 -1.7**
comp=Z,49nm,0.9s
BJI S S 14 29 28.6 -24
BJI LR LR
comp=Z,770nm,25.0s,MS4.0
BJT Baijiatuau 20.31 272 *e*P **P 14 26 06.4 -1.6**
BJT pmax pmax
comp=Z,24nm,0.6s
BJT Baijiatuau 20.31 272 *e*P **P 14 26 06.4 -1.5**
comp=Z,24nm,0.6s
SSE Sheshan 20.75 244 *e*P **P 14 26 13.0 +0.3**
SSE AP 14 26 30.0
SSE S **S 14 30 01.6 +0.4**
SSE AMB AMB
comp=Z,46nm,0.7s
SSE AMB AMB
comp=Z,190nm,4.2s
SSE LR LR
comp=N,169nm,25.1s,MS3.6
SSE LR LR
comp=E,274nm,25.2s,MS3.6
SSE LR LR
comp=Z,253nm,27.4s,MS3.5
SSE Sheshan 20.75 244 *e*P **P 14 26 13.0 +0.3**
comp=Z,46nm,0.7s
SSE pP 14 26 30.0
SSE S **S 14 30 01.6 +0.4**
SSE sS sS 14 30 32.3 +10
SSE LR LR
comp=Z,250nm,27.4s,MS3.5
TIA Tai'an 20.92 261 P **P 14 26 12.0 -2.6**
TIA AMB AMB
comp=Z,58nm,0.7s
YAK Yakutsk 21.21 343*d i*P **P 14 26 15.3 -2.4**
YAK *e*S **S 14 30 06.6 -3.7**
YAK *e* 14 37 34.3
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,94nm,0.9s,mb5.1
YAK pmax pmax
comp=N,26nm,1.0s
YAK smax
comp=N,815nm,5.0s
YAK smax
comp=Z,567nm,5.7s
YAK smax
comp=E,631nm,4.8s
YAK Yakutsk 21.21 343 *e*P **P 14 26 14.4 -3.3**
comp=E,108nm,0.8s,mb5.2
SEY Seymchan 21.30 12⇑*i*P **P 14 26 16.4 -2.2**
CIT Chita 22.07 306 *e*P **P 14 26 26.5 -0.4**
CIT *e* 14 26 44.5
CIT *e* 14 30 23.6
CIT *e* 14 31 11.0
CIT pmax pmax
comp=Z,73nm,2.6s,mb4.7
HHC Hu-ho-hao-te 23.50 277 *e*P **P 14 26 41.9 +0.4**
HHC AP 14 26 55.9
HHC XP sP 14 27 03.4 +1.4
HHC PP 14 27 15.4
HHC AMB AMB
comp=Z,31nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,235nm,5.8s
HHC LR LR
comp=N,487nm,11.4s,MS4.4
HHC LR LR
comp=E,528nm,12.0s,MS4.4
HHC LR LR
comp=Z,673nm,11.4s,MS4.3
BOD Bodaibo 23.91 320 *e*P **P 14 26 42.3 -3.0**
BOD pmax pmax
comp=Z,15nm,0.8s,mb4.5
WHN Wuhan 25.78 252 P **P 14 27 01.0 -1.3**
ULN Ulaanbaatar 25.79 295 P **P 14 27 02.8 +0.5**
SNR=14
ULN Ulaanbaatar 25.79 295⇑*i*P **P 14 27 02.9 +0.5**
ULN Ulaanbaatar 25.79 295 *e*P **P 14 27 02.7 +0.3**
comp=Z,34nm,0.9s,mb4.9
SONM Songino Array 26.23 295 P **P 14 27 06.8 +0.4**
comp=Z,39nm,0.7s,mb5.0,baz=75,slow=8.4,SNR=197
SONM PcP PcP 14 30 32.2 +0.4
comp=Z,1.8nm,0.7s,baz=128,slow=3.9,SNR=3.6
SONM Songino Array 26.23 295 P **P 14 27 06.8 +0.4**
SONM 14 30 32.2
SONM pmax pmax
comp=Z,39nm,0.7s
SONM Songino Array 26.23 295 P **P 14 27 06.8 +0.4**
SONM PcP PcP 14 30 32.2 +0.4
IRK Irkutsk 27.75 304 *e*P **P 14 27 18.3 -1.6**
IRK *e* pP 14 27 31.0 -3.2
IRK pmax pmax
comp=Z,55nm,1.6s,mb4.9
XAN Xi'an 27.91 264 P **P 14 27 19.7 -1.7**
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
TLY Talaya 28.09 303 P **P 14 27 23.7 +0.8**
SNR=14
TLY Talaya 28.09 303⇑*i*P **P 14 27 23.5 +0.5**
TLY *e*PPP 14 28 34.3
TLY *e*S **S 14 32 11.7 +7.9**
TLY pmax pmax
comp=Z,40nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,434nm,22.0s,MS4.0
TLY Talaya 28.09 303 *e*P **P 14 27 23.6 +0.6**
comp=Z,31nm,0.8s,mb5.0
ZAK Zakamensk 28.27 300⇓*i*P **P 14 27 24.8 +0.2**
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
BILL Bilibino 28.55 18 *e*P **P 14 27 26.9 -0.2**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BILL Bilibino 28.55 18 *e*P **P 14 27 26.9 -0.2**
comp=Z,3.5nm,0.6s,mb4.3
GUMO Guam 28.75 176 LR LR 14 39 05.0
comp=Z,98nm,18.3s,MS3.5,baz=12,slow=37
MOY Mondy 29.74 303 *e*P **P 14 27 38.2 +0.6**
MOY pmax pmax
comp=Z,82nm,1.8s,mb5.2
TIXI Tiksi 30.15 351 *e*P **P 14 27 41.2 -0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
LZH Lanzhou 30.78 271 *e*P **P 14 27 47.5 +0.7**
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,281nm,4.3s
LZH LR LR
comp=E,419nm,17.6s
LZH LR LR
comp=Z,685nm,18.0s,MS4.3
LZH Lanzhou 30.78 271 *e*P **P 14 27 47.5 +0.7**
comp=Z,63nm,1.0s,mb5.4
LZH pP pP 14 27 55.0 -6.2
LZH sP sP 14 27 58.1 -10
LZH LR LR
comp=Z,690nm,18.0s,MS4.3
GTA Gaotai 32.53 280 P **P 14 28 03.0 +0.8**
GTA AP pP 14 28 15.0 -1.6
GTA XP sP 14 28 20.5 -2.8
GTA AMB AMB
comp=Z,62nm,1.3s,mb5.4
GTA AMB AMB
comp=Z,166nm,8.0s
GTA LR LR
comp=N,373nm,11.4s,MS4.5
GTA LR LR
comp=E,411nm,13.3s,MS4.5
GTA LR LR
comp=Z,382nm,14.1s,MS4.2
CD2 Chengdu 33.24 263⇓*i*P **P 14 28 07.7 -0.7**
CD2 XP sP 14 28 29.8 +0.2
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.1

CD2 AMB AMB
comp=Z,60nm,5.8s
QIZ Qiongzhong 36.46 241 *e*P **P** **14 28 35.7 -0.4**
QIZ *e*S **S** **14 34 12.7 -1.1**
QIZ LR LR
comp=N,161nm,23.0s,MS3.9
QIZ LR LR
comp=E,110nm,18.6s,MS3.9
KMI Kunming 37.25 255 ⇑P **P** **14 28 43.6 +0.7**
KMI AP pP 14 29 00.2 +2.7
KMI XP sP 14 29 08.3 +4.1
KMI PP PP 14 30 12.8 +4.1
KMI S **S** **14 34 27.3 +1.3**
KMI SS SS 14 37 01.2 -10
KMI AMB AMB
comp=Z,65nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,343nm,3.9s
KMI LR LR
comp=Z,187nm,28.4s,MS3.7
KMI Kunming 37.25 255 ⇑P **P** **14 28 43.6 +0.7**
KMI *PP pP 14 29 00.2 +2.7
KMI *SP sP 14 29 08.3 +4.1
KMI 14 30 12.8
KMI S **S** **14 34 27.3 +1.3**
KMI *SS sS 14 34 55.7 +5.1
KMI SS SS 14 37 01.2 -10
KMI pmax pmax
comp=Z,65nm,0.9s,mb5.5
KMI MLR MLR
comp=Z,190nm,28.4s,MS3.7
KMI Kunming 37.25 255 ⇑P **P** **14 28 43.6 +0.7**
comp=Z,65nm,0.9s,mb5.5
KMI pP pP 14 29 00.2 +2.7
KMI sP sP 14 29 08.3 +4.1
KMI PP PP 14 30 12.8 +4.1
KMI S **S** **14 34 27.3 +1.3**
KMI sS sS 14 34 55.7 +5.1
KMI SS SS 14 37 01.2 -10
KMI LR LR
comp=Z,190nm,28.4s,MS3.7
ZAL Zalesovo 39.42 308 P **P** **14 29 01.6 +0.5**
comp=Z,42nm,0.7s,mb5.3,baz=25,slow=8.9,SNR=167
ZAL PcP PcP 14 31 08.8 +0.6
comp=Z,9.5nm,0.9s,baz=15,slow=2.1,SNR=5.8
ZAL Zalesovo 39.42 308 *i*P **P** **14 29 01.7 +0.6**
ZAL pmax pmax
comp=Z,42nm,0.7s
WMQ Urumqi 39.77 291 ⇑*i*P **P** **14 29 04.2 +0.2**
WMQ AP pP 14 29 19.5 +0.8
WMQ XP sP 14 29 27.2 +1.8
WMQ PP PP 14 30 40.6 +4.4
WMQ PPP 14 31 06.6
WMQ PCP PcP 14 31 09.2 -0.1
WMQ AMB AMB
comp=Z,57nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,34nm,6.9s
WMQ LR LR
comp=N,105nm,20.8s,MS4.2
WMQ LR LR
comp=E,304nm,19.8s,MS4.2
WMQ LR LR
comp=Z,414nm,19.0s,MS4.3
NVS Novosibirsk 40.21 309 *e*P **P** **14 29 07.4 -0.3**
NVS pmax pmax
comp=E,75nm,1.7s
NVS pmax pmax
comp=Z,89nm,1.7s,mb5.2
SVW2 Sparrevohn 40.59 41 *e*P **P** **14 29 11.9 +1.1**
KDAK Kodiak Island 42.38 46 P **P** **14 29 24.6 -0.9**
comp=Z,8.8nm,0.7s,mb4.5,baz=121,slow=17,SNR=15
KDAK PcP PcP 14 31 17.4 -0.4
comp=Z,7.1nm,0.8s,baz=350,slow=6.1,SNR=3.2
KDAK Kodiak Island 42.38 46 P **P** **14 29 24.6 -0.9**
KDAK PcP PcP 14 31 17.4 -0.4
MK31 Makanchi Array 42.52 298 *e*P **P** **14 29 26.6 0.0**
MKAR Makanchi Array 42.52 298 P **P** **14 29 26.6 0.0**
comp=Z,33nm,0.6s,mb5.2,baz=82,slow=9.8,SNR=156
MKAR PcP PcP 14 31 18.3 0.0
comp=Z,8.8nm,0.8s,baz=57,slow=4.5,SNR=3.5
MKAR Makanchi Array 42.52 298 *i*P **P** **14 29 26.8 +0.2**
MKAR pmax pmax
comp=Z,33nm,0.6s
LSA Lhasa 43.18 270 P **P** **14 29 33.8 +1.8**
LSA Lhasa 43.18 270 *e*P **P** **14 29 33.8 +1.8**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.0
LSA Lhasa 43.18 270 *e*P **P** **14 29 33.8 +1.9**
comp=Z,25nm,0.8s,mb5.0
SLKM Skilak Lake 43.25 42 P **P** **14 29 32.3 -0.2**
MCK McKinley 43.55 37 *e*P **P** **14 29 33.5 -1.4**
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MCK McKinley 43.55 37 *e*P **P** **14 29 33.5 -1.4**
comp=Z,5.6nm,0.9s,mb4.3
PMR Palmer 43.66 40 *e*P **P** **14 29 34.4 -1.4**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PMR Palmer 43.66 40 *e*P **P** **14 29 34.4 -1.3**
comp=Z,8.9nm,0.8s,mb4.5
COLA College 43.94 35 *e*P **P** **14 29 37.3 -0.7**
COLA College 43.94 35 *e*P **P** **14 29 37.9 -0.1**
comp=Z,22nm,0.8s,mb5.0
CHTO Chiang Mai 43.99 252 P **P** **14 29 39.5 +1.1**
SNR=8.8
CHTO Chiang Mai 43.99 252 *e*P **P** **14 29 38.9 +0.5**
CHTO pmax pmax
comp=Z,24nm,0.8s,mb5.0
CHTO Chiang Mai 43.99 252 *e*P **P** **14 29 38.9 +0.5**
comp=Z,24nm,0.8s,mb5.0
SHL Shillong 44.91 265 *i*P **P** **14 29 46.0 +0.2**
SHL *ex* x 14 31 50.5
EGAK Eagle 46.79 35 *e*P **P** **14 29 59.6 -1.0**
comp=Z,18nm,0.9s,mb5.0
DAWY Dawson 47.68 36 *e*P **P** **14 30 06.7 -0.8**
CHKZ Chkalovo 47.68 310 *e*P **P** **14 30 07.4 -0.1**
CHKZ pmax pmax
comp=Z,106nm,0.9s,mb5.9
CHKZ Chkalovo 47.68 310 *e*P **P** **14 30 07.3 -0.2**
comp=Z,106nm,0.9s,mb5.9
JIRN Jiri 47.95 271 *e*P **P** **14 30 10.6 +1.0**
comp=Z,59nm,0.6s,mb5.8
GUN Gumba 48.04 272 *e*P **P** **14 30 11.2 +0.9**
comp=Z,142nm,0.4s
BRVK Borovoye 48.06 309 P **P** **14 30 11.0 +0.6**
SNR=14
BRVK Borovoye 48.06 309 *e*P **P** **14 30 10.6 +0.1**
BRVK pmax pmax
comp=Z,93nm,1.3s,mb5.7
BRVK Borovoye 48.06 309 *e*P **P** **14 30 10.6 +0.2**
comp=Z,93nm,1.3s,mb5.7
ULHL Ulahol 48.17 294 P **P** **14 30 11.9 +0.6**
SNR=19
TKM2 Tokmak 2 48.34 295 P **P** **14 30 13.6 +1.1**
SNR=59
KKN Kakani 48.55 272 *e*P **P** **14 30 15.0 +0.8**
comp=Z,133nm,0.8s,mb6.0
PKI Pulchoki 48.58 272 *e*P **P** **14 30 15.0 +0.6**
comp=Z,54nm,0.6s,mb5.7
DMN Daman 48.78 272 *e*P **P** **14 30 16.8 +0.8**
comp=Z,106nm,0.8s,mb5.9
ZRNK Zerenda 48.83 309 *e*P **P** **14 30 16.7 +0.3**
ZRNK *e* 14 31 40.2
ZRNK pmax pmax
comp=Z,77nm,0.8s,mb5.8
ZRNK Zerenda 48.83 309 *e*P **P** **14 30 16.7 +0.4**
comp=Z,77nm,0.8s,mb5.8
ZRNK *e*PcP PcP 14 31 40.2 -0.1
CHMS Chumysh 48.87 295 P **P** **14 30 17.0 +0.3**
SNR=6.1
KBK Karagaybulak 48.88 295 P **P** **14 30 17.6 +0.9**
SNR=50
GKN Gorkha 48.91 273 *e*P **P** **14 30 17.5 +0.5**
comp=Z,59nm,0.5s,mb5.9
USP Ospenovka 48.93 296 P **P** **14 30 17.5 +0.3**
SNR=20
FRU Bishkek 49.03 295 *e*P **P** **14 30 17.0 -0.9**
FRU *e* 14 30 38.0
AAK Ala-Archa 49.19 295 P **P** **14 30 20.4 +1.3**
SNR=6.6
AAK Ala-Archa 49.19 295 P **P** **14 30 18.4 -0.7**
SNR=6.2
AAK Ala-Archa 49.19 295*c i*P **P** **14 30 18.4 -0.7**
AAK pmax pmax
comp=Z,25nm,1.5s,mb5.0
AAK Ala-Archa 49.19 295 *e*P **P** **14 30 18.4 -0.7**
comp=Z,8.7nm,0.4s,mb5.1
UCH Uchtor 49.35 294 P **P** **14 30 21.7 +1.4**
SNR=9.9
KSH Kashi 49.52 291 *e*P **P** **14 30 23.7 +2.1**
KSH *e*AP pP 14 30 32.7 -4.0
KSH AMB AMB
comp=Z,364nm,6.8s
EKS2 Erkin-Say 49.66 295 P **P** **14 30 24.1 +1.3**
SNR=10
KOLN Koldanda 49.81 273 *e*P **P** **14 30 24.6 +0.8**
comp=Z,123nm,0.9s,mb6.0
AML Almayashu 49.94 295 P **P** **14 30 26.1 +1.3**
SNR=15
KSM Kuching 50.19 225 *e*P **P** **14 30 27.3 +0.6**
BOK Bokaro 50.37 267 *e*P **P** **14 30 28.7 +0.6**
BOK AMb AMB 14 30 30.2
comp=Z,20nm,0.6s,mb5.3
SVE Sverdlovsk 52.04 316⇑*e*P **P** **14 30 42.0 +1.4**
SVE pmax pmax
comp=Z,190nm,1.0s,mb6.0
DLH Dalhousie 52.87 283 *ex* x 14 30 43.0
THN Thein Dam 53.11 283 *e*P **P** **14 30 47.8 -0.7**
ARU Arti 53.25 316⇑*i*P **P** **14 30 49.3 -0.2**
ARU *e* pP 14 31 08.5 +3.8
ARU *e* 14 31 55.9
ARU *e* 14 32 47.4
ARU *e*S **S** **14 38 13.6 -2.9**
ARU *e*SS SS 14 41 51.8 -4.9
ARU pmax pmax
comp=Z,89nm,0.8s,mb5.8
ARU Arti 53.25 316 *e*P **P** **14 30 49.2 -0.3**
comp=Z,78nm,0.8s,mb5.7
DLBC Dease Lake 53.70 41 *e*P **P** **14 30 54.0 +1.1**
HNR Honiara 53.85 159 LR LR 14 49 48.3
comp=Z,166nm,19.6s,MS4.1,baz=359,slow=32
NDI New Delhi 54.01 278 *e*P **P** **14 30 53.0 -2.1**
NDI *ex* x 14 33 22.2
ALE Alert 54.69 4 P **P** **14 30 59.0 -1.0**
comp=Z,98nm,1.1s,mb5.8,SNR=5.3
VIS Vishakhapatnam 55.97 263 *e*P **P** **14 31 09.7 +0.5**
VIS AMb AMB 14 31 11.3
comp=Z,46nm,0.6s,mb5.7
BHPL Bhopal 56.96 272 *e*P **P** **14 31 16.1 -0.2**
BHPL AMb AMB 14 31 17.8
comp=Z,56nm,1.0s,mb5.5
NGP Nagpur 57.01 269 *e*P **P** **14 31 15.7 -1.0**
NGP AMb AMB 14 31 16.8
comp=Z,37nm,1.0s,mb5.4
RES Resolute Bay 57.11 16 *e*P **P** **14 31 15.9 -1.5**
comp=Z,978nm,0.9s
AJM Ajmer 57.14 277 *i*P **P** **14 31 17.0 -0.5**
ORR Orenburg 57.37 312⇑*i*P **P** **14 31 18.7 -0.4**
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.3
LVZ Lovozero 57.76 335 *e*P **P** **14 31 19.2 -2.7**
LVZ pmax pmax
comp=N,10.0nm,0.6s
LVZ pmax pmax
comp=Z,23nm,0.6s,mb5.4
LVZ pmax pmax
comp=E,8.0nm,0.7s
YKA Yellowknife Ar 58.59 32 P **P** **14 31 27.0 -0.7**
comp=E,2.7nm,0.7s,mb4.4,baz=311,slow=6.9,SNR=8.1
YKA LR LR 15 01 01.9
comp=E,39nm,18.7s,MS3.5,baz=215,slow=40
YKA Yellowknife Ar 58.59 32 P **P** **14 31 27.0 -0.7**
YKA pmax pmax
comp=Z,30nm,0.7s
YKA MLR MLR
comp=Z,39nm,18.7s
KEV Kevo 58.89 339 *e*p **P** **14 31 28.5 -1.3**
ARCES ARCESS Array B 59.44 339 P **P** **14 31 32.6 -0.9**
comp=Z,4.6nm,0.8s,mb4.6,baz=42,slow=5.7,SNR=23
ARCES ARCESS Array B 59.44 339 P **P** **14 31 32.7 -0.9**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
HYB Hyderabad 59.68 266 *i*P **P** **14 31 34.5 -0.8**
HYB *e*PcP PcP 14 32 21.5 -0.3
HYB Hyderabad 59.68 266 *e*P **P** **14 31 34.5 -0.8**
DAG Danmarks Havn 60.54 355⇓*i*P **P** **14 31 40.2 -0.9**
comp=Z,8.9nm,0.7s,mb5.0
DAG Danmarks Havn 60.54 355⇓*e*P **P** **14 31 40.2 -0.9**
DAG pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
DAG Danmarks Havn 60.54 355⇓*e*P **P** **14 31 40.2 -0.9**
comp=Z,8.9nm,0.7s,mb5.0
MDRS Chennai 61.23 261 *ex* x 14 31 02.1
JOF Joensuu 61.84 331 *e*p **P** **14 31 47.9 -2.0**
comp=Z,10nm,0.4s,mb5.3
JOF Joensuu 61.84 331 *e*P **P** **14 31 47.9 -2.0**
JOF pmax pmax
comp=Z,10.0nm,0.4s,mb5.3
NLWA Neilton Lookou 62.26 50 ⇓P **P** **14 31 53.6 +0.9**
baz=62
FITZ Fitzroy Crossi 62.29 199 *e*P **P** **14 31 52.4 -0.5**
comp=Z,7.5nm,1.0s,mb4.8
A05A Maple Falls 62.37 48 ⇓P **P** **14 31 54.6 +1.2**
baz=62
POO Poona 62.47 270 *e*P **P** **14 31 52.5 -1.6**
WRA Warramunga Arr 62.54 189 P **P** **14 31 53.0 -1.6**
comp=Z,6.2nm,0.9s,mb4.7,baz=3.8,slow=6.9,SNR=26
WRA Warramunga Arr 62.54 189 P **P** **14 31 53.0 -1.6**
WRA pmax pmax
comp=Z,6.0nm,0.9s
MBW Mount Baker 62.59 48 P **P** **14 31 55.3 +0.4**
A06A Chilliwack 62.64 47 ⇓P **P** **14 31 55.0 -0.3**
baz=62
CMW Cultus Mountai 62.67 48 P **P** **14 31 56.5 +1.0**
B05A Bryant 62.77 48 ⇓P **P** **14 31 56.7 +0.6**
baz=63
E03A Lebam 62.90 51 ⇑P **P** **14 31 57.4 +0.4**
baz=63
B06A Marblemount 62.97 48 ⇑P **P** **14 31 56.9 -0.6**
baz=63
KAD Karad 62.99 269 *e*P **P** **14 31 57.1 -0.5**
A07A Ashnola River, 63.27 47 P **P** **14 32 00.1 +0.6**
baz=63,SNR=6.0
C05A Tolt Reservoir 63.31 49 ⇓P **P** **14 32 00.4 +0.6**
baz=63
MOS Moscow 63.72 323 *e*P **P** **14 32 00.7 -1.7**
B07A Winthrop 63.75 47 ⇓P **P** **14 32 03.1 +0.5**
baz=64
F04A Amboy 63.90 51 ⇓P **P** **14 32 04.2 +0.6**
baz=64
E05A Randle 63.92 50 ⇓P **P** **14 32 04.4 +0.7**
baz=64
D06A Cle Elum 64.07 49 ⇓P **P** **14 32 04.9 +0.2**
baz=64
KAF Kangasniemi 64.13 332 *e*p **P** **14 32 03.8 -1.3**
comp=Z,6.1nm,0.4s,mb5.0,baz=46,slow=6.2
KAF Kangasniemi 64.13 332 *e*P **P** **14 32 03.8 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
C07A Waterville 64.22 48 ⇑P **P** **14 32 05.4 -0.3**
baz=64
A09A Danville 64.28 46 P **P** **14 32 06.9 +0.8**
baz=64,SNR=6.3
E06A Yakima 64.37 50 ⇓P **P** **14 32 07.1 +0.5**
baz=64
EBG Ellensburg 64.39 49 P **P** **14 32 07.7 +0.9**
EDM Edmonton 64.42 40 *e*P **P** **14 32 06.6 -0.4**
D07A Quincy 64.56 49 ⇑P **P** **14 32 08.2 +0.3**
baz=64
OBN Obninsk 64.58 322⇑*i*P **P** **14 32 07.3 -0.7**
OBN *i* 14 32 30.6
OBN *e* 14 32 40.5
OBN pmax pmax
comp=Z,70nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
OBN Obninsk 64.58 322 *e*P **P** **14 32 07.3 -0.7**
FINES FINESS Array B 64.67 332 P **P** **14 32 07.7 -0.9**
comp=Z,18nm,0.5s,mb5.4,baz=55,slow=6.8,SNR=99
FINES FINESS Array B 64.67 332 P **P** **14 32 07.7 -0.9**
FINES pmax pmax
comp=Z,18nm,0.5s
J02A Umpqua 64.69 54 ⇓P **P** **14 32 09.6 +0.8**
baz=64
C08A Higginbotham F 64.72 48 ⇑P **P** **14 32 08.8 -0.2**
baz=64
H04A Detroit Lake 64.75 52 ⇓P **P** **14 32 09.5 +0.4**
baz=64
PALK Pallekele 64.79 256 P **P** **14 32 09.8 +0.4**
SNR=8.4
PALK Pallekele 64.79 256 *e*P **P** **14 32 09.4 0.0**
comp=Z,35nm,1.1s,mb5.3
A10A Northport 64.82 46 P **P** **14 32 10.1 +0.4**
baz=65,SNR=10
B09A Rice 64.84 47 ⇓P **P** **14 32 10.3 +0.5**
baz=65
G05A Wamic 64.93 51 ⇓P **P** **14 32 10.5 +0.2**
baz=65
F06A Goldendale 64.93 50 ⇑P **P** **14 32 10.3 -0.1**
baz=65
E07A Sunnyside 64.99 49 ⇑P **P** **14 32 11.1 +0.3**
baz=65
OD2 Odessa Site #2 65.14 48 P **P** **14 32 11.8 +0.1**
D08A Wollman Farm, 65.22 48 ⇓P **P** **14 32 12.1 -0.2**
baz=65,SNR=6.2
G06A Carlson Farm, 65.33 51 ⇓P **P** **14 32 13.2 +0.3**
baz=65
SUMG Summit 65.33 0 *e*P **P** **14 32 13.0 +0.1**
comp=Z,43nm,0.9s,mb5.5
A11A Hall Mountain, 65.47 45 P **P** **14 32 15.0 +1.1**
baz=65,SNR=10.0
NEW Newport 65.48 46 *e*P **P** **14 32 14.1 +0.2**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 65.48 46 *e*P **P** **14 32 14.1 +0.2**
comp=Z,8.2nm,0.9s,mb4.8
D09A Jones Farm, Ri 65.56 48 ⇓P **P** **14 32 14.3 -0.1**
baz=65
C10A Spilker Farm, 65.65 47 ⇑P **P** **14 32 14.7 -0.2**
baz=65
VRSR Storozhevoye 65.74 318*c i*P **P** **14 32 15.2 -0.3**
B11A Sandpoint 65.78 46 ⇓P **P** **14 32 16.3 +0.5**
baz=66
H06A Lindquist Farm 65.79 51 ⇑P **P** **14 32 16.6 +0.6**
baz=66
A12A Yaak River Ran 65.86 45 ⇓P **P** **14 32 16.6 +0.3**
baz=66
G07A Ruggs Ranch, H 65.86 50 ⇑P **P** **14 32 16.4 +0.1**
baz=66
E09A Wood Farm, Sta 65.97 48 P **P** **14 32 17.6 +0.6**
baz=66,SNR=8.6
F08A Pendleton 66.05 49 P **P** **14 32 18.4 +0.9**
baz=66,SNR=5.5
J05A Fort Rock 66.13 53 ⇓P **P** **14 32 18.0 0.0**
baz=66
YBH Yreka Blue Hor 66.16 55 ⇓P **P** **14 32 18.8 +0.5**
baz=66
G08A Pilot Rock 66.25 50 ⇑P **P** **14 32 19.3 +0.5**
baz=66
AS31 Alice Springs 66.26 189 *e*P **P** **14 32 18.2 -0.7**
ASAR Alice Springs 66.26 189 P **P** **14 32 18.4 -0.5**
comp=Z,3.4nm,0.8s,mb4.4,baz=12,slow=6.6,SNR=18
ASAR LR LR 15 02 44.1
comp=Z,140nm,18.6s,MS4.2,baz=13,slow=37
ASAR Alice Springs 66.26 189 P **P** **14 32 18.5 -0.4**
ASAR pmax pmax
comp=Z,30nm,0.8s
ASAR MLR MLR
comp=Z,140nm,18.7s
ASPA Alice Springs 66.27 189 *e*P **P** **14 32 18.2 -0.7**
M02C Callahan 66.28 55 ⇓P **P** **14 32 19.5 +0.5**
baz=66
I06A Prineville 66.33 52 ⇑P **P** **14 32 18.6 -0.8**
baz=66
N02C Big Bar 66.34 56 ⇑P **P** **14 32 19.6 +0.2**
baz=66
L04A Klamath Falls 66.39 54 ⇓P **P** **14 32 18.2 -1.6**
baz=66
VSU Vasula 66.48 329 *e*P **P** **14 32 19.0 -1.3**
A13A Flathead Natio 66.51 45 ⇑P **P** **14 32 20.2 -0.3**
baz=66
M04C Macdoel 66.66 54 ⇓P **P** **14 32 21.1 -0.3**
baz=66
I07A Izee 66.66 51 ⇓P **P** **14 32 21.7 +0.2**
baz=66
K05A Summer Lake 66.66 53 ⇑P **P** **14 32 21.8 +0.4**
baz=66
TRD Trivandrum 66.66 260 *e*P **P** **14 32 21.9 +0.4**
TRD AMb AMB 14 32 23.0
comp=Z,67nm,1.5s,mb5.5
C12A Trout Creek 66.70 46 ⇑P **P** **14 32 22.1 +0.3**
baz=66
M03C McCloud 66.79 55 ⇑P **P** **14 32 22.3 0.0**
baz=67
F10A Beach Ranch, E 66.81 48 ⇓P **P** **14 32 22.8 +0.4**
baz=67
B13A Whitefish 66.82 45 P **P** **14 32 23.6 +1.2**
baz=67,SNR=6.4
H08A Prairie City 66.88 50 ⇑P **P** **14 32 22.8 0.0**
baz=67
WDC Whiskeytown Da 66.95 56 *e*P **P** **14 32 20.8 -2.5**
WDC pmax pmax
comp=Z,30nm,0.8s,mb5.4
WDC Whiskeytown Da 66.95 56 *e*P **P** **14 32 20.8 -2.5**
comp=Z,3.4nm,0.8s,mb4.4
WDC Whiskeytown Da 66.95 56 ⇓P **P** **14 32 22.4 -0.9**
baz=67
K06A Valley Falls 67.00 53 ⇑P **P** **14 32 23.4 -0.1**
baz=67
O02C Red Bluff 67.04 56 P **P** **14 32 24.8 +1.0**
baz=67,SNR=7.6
L05A Lakeview 67.10 54 ⇓P **P** **14 32 24.1 -0.2**
baz=67
P01C Double 8 Ranch 67.12 57 ⇑P **P** **14 32 21.9 -2.5**
baz=67
C13A Hot Springs 67.20 46 ⇓P **P** **14 32 24.8 -0.1**
baz=67
J07A Hines 67.20 52 ⇓P **P** **14 32 24.8 0.0**
baz=67
I08A Drewsey 67.30 51 ⇑P **P** **14 32 25.9 +0.3**
baz=67
H09A Durkee 67.36 50 ⇓P **P** **14 32 25.1 -0.8**
baz=67
GASB Alder Springs 67.39 57 ⇑P **P** **14 32 26.2 +0.1**
baz=67
HATC Hat Creek Radi 67.47 55 ⇓P **P** **14 32 25.8 -0.8**
baz=67
MOD Modoc 67.51 53 ⇓P **P** **14 32 25.8 -1.0**
baz=67
C14A Swan Lake 67.58 45 ⇓P **P** **14 32 27.9 +0.6**
baz=67
D13A Huson 67.62 46 P **P** **14 32 27.8 +0.2**
baz=67,SNR=9.1
K07A Rock Creek Ran 67.65 52 ⇓P **P** **14 32 27.1 -0.6**
baz=67
J08A Circle Bar Ran 67.69 51 ⇓P **P** **14 32 27.8 -0.2**
baz=68
I09A Lost Marbles R 67.74 50 ⇑P **P** **14 32 28.1 -0.1**
baz=68
O04C Chester 67.99 55 ⇓P **P** **14 32 30.1 +0.2**
baz=68
L07A Adell 68.01 53 P **P** **14 32 28.9 -1.1**
baz=68,SNR=5.0
MNRC McLaughlin Nat 68.03 57 ⇑P **P** **14 32 29.4 -0.7**
baz=68
K08A Mann Creek Ran 68.07 52 ⇓P **P** **14 32 30.5 +0.1**
baz=68
J09A Fry Pan Ranch, 68.11 51 ⇓P **P** **14 32 30.2 -0.4**
baz=68
D14A Greenough 68.14 46 ⇑P **P** **14 32 30.9 +0.1**
baz=68
ORV Oroville 68.20 56 P **P** **14 32 31.2 0.0**
baz=68,SNR=6.5
H11A Donnelly 68.26 49 ⇓P **P** **14 32 31.6 +0.1**
baz=68
O05C Quincy 68.31 55 ⇑P **P** **14 32 32.2 +0.3**
baz=68
KIV Kislovodsk 68.36 310 P **P** **14 32 33.3 +1.1**
SNR=12
KIV Kislovodsk 68.36 310 *e*P **P** **14 32 33.3 +1.1**
KIV pmax pmax
comp=Z,78nm,0.8s,mb5.8
KIV Kislovodsk 68.36 310 *e*P **P** **14 32 33.3 +1.1**
comp=Z,78nm,0.8s,mb5.8
CHMT Chamberlain Mo 68.38 46 P **P** **14 32 31.7 -0.6**
ZEI Tsey 68.40 309 *e*P **P** **14 32 32.3 -0.1**
ZEI *e**PP pP 14 32 53.1 +4.9
ZEI *e* 14 35 01.5
ZEI pmax pmax
comp=Z,18nm,0.8s,mb5.2
L08A Fields 68.48 52 ⇑P **P** **14 32 31.9 -1.0**
baz=68
N06A Buffalo Meadow 68.49 54 ⇓P **P** **14 32 31.5 -1.4**
baz=68
M07A Soldier Meadow 68.49 53 ⇑P **P** **14 32 32.2 -0.8**
baz=68
K09A Rome 68.53 51 ⇓P **P** **14 32 32.3 -1.0**
baz=68

E14A	Clinton	68.57	46	⇑P	P	14 32 33.5	+0.1
	baz=68						
D15A	Lincoln	68.68	45	⇓P	P	14 32 35.0	+0.8
	baz=68						
BEKR	Beckwourth	68.71	55	P	P	14 32 35.0	+0.6
	baz=68,SNR=11						
P05C	Yuba Gap, Truc	68.91	56	⇓P	P	14 32 35.4	-0.2
	baz=69						
E15A	Deer Lodge	69.02	46	⇑P	P	14 32 36.2	-0.1
	baz=69						
LAVA	Lava Cap Winer	69.16	56	P	P	14 32 37.7	+0.6
	baz=69,SNR=5.1						
O07A	Toulon	69.42	54	⇓P	P	14 32 39.1	+0.3
	baz=69						
WCN	Washoe City	69.43	55	⇓P	P	14 32 39.6	+0.8
	baz=69						
EGMT	Eagleton	69.48	43	eP	P	14 32 38.6	-0.5
	comp=Z,18nm,0.9s,mb5.0						
EGMT	Eagleton	69.48	43	P	P	14 32 39.3	+0.2
	baz=69,SNR=8.2						
R05C	Kirkwood Meado	69.60	56	P	P	14 32 40.6	+0.8
	baz=69,SNR=5.7						
NB2	NORSAR Subarra	69.72	337	P	P	14 32 39.8	-0.8
	comp=Z,31nm,1.0s,mb5.2,baz=35,slow=6.5						
NOA	NORSAR Array B	69.72	337	P	P	14 32 39.9	-0.8
	comp=Z,16nm,0.8s,mb5.0,baz=36,slow=6.1,SNR=4.8						
NOA	NORSAR Array B	69.72	337	P	P	14 32 39.9	-0.7
NOA				pmax	pmax		
	comp=Z,16nm,0.9s						
N09A	Rock Creek Ran	69.80	53	⇓P	P	14 32 40.0	-1.1
	baz=70						
CMB	Columbia Colle	69.82	57	⇓P	P	14 32 41.5	+0.3
	baz=70						
HLID	Hailey	69.88	49	⇑P	P	14 32 40.7	-0.8
	baz=70						
PACP	Pacheco Peak	69.90	58	⇑P	P	14 32 41.3	-0.4
	baz=70						
MCMT	McKenzie Canyo	69.93	47	eP	P	14 32 41.5	-0.4
R06C	Coleville	70.10	56	P	P	14 32 44.4	+1.5
	baz=70,SNR=7.3						
HAST	UC Hastings Re	70.11	59	⇓P	P	14 32 43.6	+0.6
	baz=70						
S06C	San Francisco	70.25	57	P	P	14 32 44.4	+0.6
	baz=70,SNR=8.4						
SOC	Sochi	70.27	311	eP	P	14 32 43.3	-0.7
SOC				e*PP	pP	14 33 01.3	+1.5
SOC				e		14 35 20.7	
SOC				eS	S	14 41 49.4	-2.1
SOC				e		14 42 31.8	
SOC				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
SOC				MLR	MLR		
	comp=Z,293nm,21.0s,MS4.5						
O09A	Fish Creek Ran	70.43	53	⇓P	P	14 32 44.3	-0.7
	baz=70						
M11A	Holland Ranch,	70.45	52	⇓P	P	14 32 44.2	-0.9
	baz=70						
V03C	Hunter Liggett	70.54	59	⇓P	P	14 32 45.4	-0.2
	baz=70						
R07C	Lee Vining	70.61	56	⇑P	P	14 32 46.8	+0.8
	baz=70,SNR=6.6						
U04C	Hernandez Rese	70.61	58	⇑P	P	14 32 46.5	+0.4
	baz=70						
BANOM	Banah	70.71	288	P	P	14 32 47.5	+0.8
	SNR=14						
ANN	Anapa	70.73	313	eP	P	14 32 41.7	-5.1
ANN				e*PP	pP	14 33 05.0	+2.4
ANN				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.1						
Q08A	Gabbs	70.81	55	⇓P	P	14 32 47.5	+0.2
	baz=71						
AKASG	Malin Array Be	70.83	322	P	P	14 32 46.7	-0.7
	comp=Z,14nm,0.7s,mb5.0,baz=43,slow=6.3,SNR=53						
AKASG	Malin Array Be	70.83	322	P	P	14 32 46.7	-0.7
AKASG				pmax	pmax		
	comp=Z,14nm,0.7s						
AKASG	Malin Array Be	70.83	322	P	P	14 32 46.7	-0.7
NVAR	Mina Array Bea	70.86	55	P	P	14 32 48.8	+1.2
	comp=Z,5.4nm,0.7s,mb4.6,baz=274,slow=5.9,SNR=27						
WBK	Wadi Bani Khal	70.86	283	P	P	14 32 49.0	+1.4
	SNR=6.0						
T06C	Millerton Lake	70.89	57	⇓P	P	14 32 48.2	+0.5
	baz=71						
BIDO	Bidbid	70.90	285	P	P	14 32 49.5	+1.7
	SNR=9.2						
KCC	Kaiser Creek	70.93	57	⇑P	P	14 32 47.9	-0.1
	baz=71						
M12A	Wells	70.96	51	⇓P	P	14 32 46.8	-1.4
	baz=71						
PKD	Parkfield	71.03	58	⇑P	P	14 32 48.2	-0.4
	baz=71						
MLAC	Mammoth Lakes	71.03	56	⇓P	P	14 32 48.9	+0.2
	baz=71						
SUW	Suwalki	71.05	327	eP	P	14 32 48.2	-0.5
N12A	Clover Valley,	71.25	52	⇓P	P	14 32 48.0	-1.9
	baz=71						
M13A	Montello	71.43	51	⇑P	P	14 32 51.3	+0.3
	baz=71						
HOQ	Hoqain	71.45	285	P	P	14 32 51.7	+0.5
	SNR=12						
HATD	Hatta, Dubai	71.51	287	P	P	14 32 51.7	+0.2
	SNR=8.6						
HELL	Mitchell Peak,	71.52	57	P	P	14 32 51.8	+0.3
	baz=71,SNR=16						
S08C	White Mtn Res	71.53	56	⇑P	P	14 32 51.9	+0.3
	baz=71,SNR=8.3						
IMW	Indian Meadow	71.57	47	eP	P	14 32 53.1	+1.3
	comp=Z,5.1nm,0.8s,mb4.5						
JMDO	Jabal Madar	71.64	284	P	P	14 32 52.9	+0.7
	SNR=13						
ASHO	Ashiyiah	71.65	287	P	P	14 32 52.8	+0.4
	SNR=17						
P11A	Circle Ranch,	71.67	53	⇑P	P	14 32 53.0	+0.5
	baz=71						
R09A	Tonopah	71.72	55	⇓P	P	14 32 52.9	+0.1
	baz=72						
RRI2	Red Ridge	71.73	48	eP	P	14 32 53.8	+1.0
	comp=Z,11nm,0.9s,mb4.8						
S09A	Goldfield	71.96	55	⇓P	P	14 32 54.4	+0.2
	baz=72,SNR=5.2						
VES	Vestal, Richgr	72.01	58	⇑P	P	14 32 54.6	+0.1
	baz=72						
BSY	Bisya	72.05	285	P	P	14 32 55.6	+0.9
	SNR=10						
R10A	Warm Springs	72.16	54	⇓P	P	14 32 55.6	+0.2
	baz=72						
ARQ	Araqi	72.17	285	P	P	14 32 56.3	+0.8
	SNR=7.4						
P12A	McGill	72.22	53	⇑P	P	14 32 56.4	+0.6
	baz=72						
CWC	Cottonwood Cre	72.25	57	⇓P	P	14 32 56.5	+0.5
	baz=72						
GRAC	Grapevine Rang	72.33	56	⇓P	P	14 32 57.0	+0.6
	baz=72						
SIM	Simferopol’	72.39	315	⇓eP	P	14 32 56.9	+0.2
SIM				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
SIM				MLR	MLR		
	comp=Z,190nm,18.0s,MS4.4						
ISA	Isabella	72.51	58	P	P	14 32 56.9	-0.6
ISA	Isabella	72.51	58	P	P	14 32 57.5	+0.1
	baz=72,SNR=5.7						
Q12A	Willow Creek R	72.55	53	⇑P	P	14 32 58.1	+0.4
	baz=72						
DAC	Darwin (Calif)	72.66	57	eP	P	14 32 58.6	+0.2
DAC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
DAC	Darwin (Calif)	72.66	57	eP	P	14 32 58.6	+0.2
	comp=Z,4.7nm,0.9s,mb4.4						
HWUT	Hardware Ranch	72.74	49	eP	P	14 32 59.6	+0.7
	comp=Z,4.5nm,0.9s,mb4.4						
MPMC	Manual Prospec	72.86	57	P	P	14 33 00.7	+1.1
	baz=73,SNR=12						
DUG	Dugway	72.97	51	⇓P	P	14 33 00.5	+0.3
	baz=73						
FURC	Furnace Creek,	72.99	56	P	P	14 33 01.2	+0.9
	baz=73,SNR=21						
OSI	Osito Adit	73.02	59	⇓P	P	14 33 01.1	+0.6
	baz=73						
PDAR	Pinedale Array	73.08	47	P	P	14 33 01.2	+0.3
	comp=Z,3.2nm,0.6s,mb4.4,baz=274,slow=1.3,SNR=21						
LRMC	Laurel Mountai	73.12	57	⇓P	P	14 33 01.8	+0.7
	baz=73						
U10A	Ash Meadows, A	73.35	56	P	P	14 33 02.7	+0.3
	baz=73,SNR=5.1						
NLU	North Lily Min	73.55	51	eP	P	14 33 04.8	+1.1
GSC	Goldstone	73.78	57	eP	P	14 33 05.4	+0.4
GSC	Goldstone	73.78	57	P	P	14 33 05.9	+0.9
	baz=74,SNR=5.1						
LVV	L’vov	73.78	324	eP	P	14 33 04.7	-0.3
LVV				e	pP	14 33 24.9	+4.0
STKA	Stephens Creek	73.92	181	P	P	14 33 05.4	-0.4
	comp=Z,2.4nm,0.8s,mb4.2,baz=334,slow=10,SNR=4.7						
GKP	Gorka Klasztor	73.92	330	eP	P	14 33 05.7	-0.1
BFSC	Mount Baldy St	73.94	58	⇑P	P	14 33 06.4	+0.5
	baz=74						
TUQ	Turquoise Mtn.	74.24	56	P	P	14 33 08.5	+0.9
	baz=74,SNR=8.9						
UMR	Umm Al-Rimmam	74.33	296	eP	P	14 33 07.9	-0.3
UMR				AMb	AMB	14 33 08.5	
	comp=Z,58nm,0.6s,mb5.7						
ULM	Lac du Bonnet	74.38	35	P	P	14 33 07.7	-0.8
	comp=Z,7.7nm,0.8s,mb4.7,baz=318,slow=6.0,SNR=6.7						
ULM	Lac du Bonnet	74.38	35	eP	P	14 33 06.8	-1.7
	comp=Z,9.4nm,0.9s,mb4.7						
HEC	Hector,Ludlow	74.38	57	⇓P	P	14 33 09.1	+0.6
	baz=74						
U12A	Valley of Fire	74.43	55	⇓P	P	14 33 09.8	+1.0
	baz=74						
MSU	Marysvale	74.45	52	eP	P	14 33 03.4	-5.5
KWP	Kalwaria	74.50	324	eP	P	14 33 09.6	+0.4
KWP	Kalwaria	74.50	324	eP	P	14 33 09.5	+0.3
KBD	Kabd	74.59	295	eP	P	14 33 09.5	-0.2
KBD				AMb	AMB	14 33 11.1	
	comp=Z,143nm,0.8s,mb5.9						
V12A	Nelson	74.70	56	⇑P	P	14 33 11.1	+0.8
	baz=74						
NAY	Al-Naaiem	74.84	296	eP	P	14 33 10.7	-0.4
NAY				AMb	AMB	14 33 11.4	
	comp=Z,34nm,0.7s,mb5.4						
RDF	Al-Radifah	74.85	295	eP	P	14 33 11.0	-0.2
RDF				AMb	AMB	14 33 12.6	
	comp=Z,112nm,1.1s,mb5.7						
BURAR	Bucovina Array	74.88	322	⇑iP	P	14 33 11.4	+0.1
BURAR	Bucovina Array	74.88	322	⇑P	P	14 33 11.4	+0.1
W12A	Cal Nev Ari	74.97	56	⇓P	P	14 33 13.0	+1.1
	baz=75						
SRU	San Rafael	75.01	51	eP	P	14 33 12.9	+0.8
SRU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
SRU	San Rafael	75.01	51	eP	P	14 33 12.9	+0.8
	comp=Z,11nm,0.8s,mb4.8						
PFO	Pinyon Flat Ob	75.10	58	⇓P	P	14 33 13.7	+1.1
	baz=75						
KOLS	Kolonicke sedl	75.21	324	eP	P	14 33 13.6	+0.3
OJC	Ojcow	75.28	326	eP	P	14 33 13.9	+0.2
STHS	Stebnicka Huta	75.29	325	eP	P	14 33 14.2	+0.5
STHS				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
STHS	Stebnicka Huta	75.29	325	eP	P	14 33 14.2	+0.5
	comp=Z,11nm,0.6s,mb5.0						
IRM	Iron Mountain	75.56	57	P	P	14 33 15.8	+0.5
	baz=75,SNR=7.6						
CRVS	Cervenica-Dubn	75.58	325	eP	P	14 33 15.6	+0.2
MONP	Monument Peak	75.60	59	⇓P	P	14 33 16.1	+0.6
	baz=75						
NIE	Niedzica	75.68	325	eP	P	14 33 16.7	+0.8
W13A	Hualapai Mount	75.71	56	P	P	14 33 17.0	+0.9
	baz=76,SNR=6.2						
BSEG	Bad Segeberg	75.83	333	eP	P	14 33 16.7	-0.1
	comp=Z,25nm,0.8s,mb5.2						
BSEG	Bad Segeberg	75.83	333	eP	P	14 33 16.7	-0.1
BSEG				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
X13A	Yucca	76.08	56	⇓P	P	14 33 19.0	+0.8
	baz=76						
PDMCI	Parker Dam,Lak	76.09	56	P	P	14 33 19.1	+0.8
	baz=76,SNR=5.6						
MLR	Muntele Rosu	76.09	320	⇑iP	P	14 33 18.5	+0.2
MLR	Muntele Rosu	76.09	320	⇑P	P	14 33 18.5	+0.2
W14A	Seligman	76.12	55	P	P	14 33 19.6	+1.1
	baz=76,SNR=11						
SHAO	Shalim	76.19	282	P	P	14 33 19.4	+0.6
	SNR=6.5						
KSP	Ksiaz	76.19	328	eP	P	14 33 19.2	+0.3
KSP	Ksiaz	76.19	328	⇑eP	P	14 33 19.0	+0.1
Y12C	Blythe	76.22	57	⇑P	P	14 33 19.8	+0.8
	baz=76						
BRTR	Keskin Array B	76.23	311	P	P	14 33 19.6	+0.5
	comp=Z,9.3nm,0.7s,mb4.8,baz=79,slow=3.7,SNR=26						
BRTR				PP	PP	14 36 09.5	-1.3
	comp=Z,2.9nm,1.0s,baz=82,slow=7.7,SNR=4.5						
BRTR	Keskin Array B	76.23	311	P	P	14 33 19.6	+0.5
BRTR						14 36 09.5	
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OKC	Ostrava-Krasne	76.25	327	⇑eP	P	14 33 19.9	+0.7
KECS	Kecovo	76.32	325	eP	P	14 33 19.6	0.0
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KECS	Kecovo	76.32	325	eP	P	14 33 19.6	0.0
	comp=Z,4.0nm,1.0s,mb4.3						
GLA	Glamis	76.49	58	eP	P	14 33 21.7	+1.1
GLA	Glamis	76.49	58	⇑P	P	14 33 21.7	+1.1
	baz=76						
MORC	Moravsky Berou	76.54	327	⇑iP	P	14 33 21.0	+0.2
MORC	Moravsky Berou	76.54	327	eP	P	14 33 21.2	+0.4
MORC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
MORC	Moravsky Berou	76.54	327	eP	P	14 33 21.2	+0.3
	comp=Z,14nm,0.8s,mb5.0						
VOIR		76.56	320	⇑iP	P	14 33 21.8	+0.8
VOIR		76.56	320	⇑P	P	14 33 21.8	+0.8
UPC	Upice	76.57	328	⇑eP	P	14 33 21.5	+0.5
DPC	Dobruska-Polom	76.57	328	⇑iP	P	14 33 21.7	+0.7
ANTO	Ankara	76.59	312	P	P	14 33 22.4	+1.2
	SNR=7.6						
ANTO	Ankara	76.59	312	⇑iP	P	14 33 21.9	+0.8
ANTO	Ankara	76.59	312	eP	P	14 33 21.9	+0.7
	comp=Z,30nm,0.8s,mb5.3						
Y13A	Salome	76.60	56	⇓P	P	14 33 22.4	+1.2
	baz=76						
DRGR		76.63	322	⇓iP	P	14 33 21.3	-0.1
W15A	Williams	76.64	55	⇓P	P	14 33 22.3	+0.9
	baz=76						
X14A	Yava	76.74	55	P	P	14 33 23.1	+1.1
	baz=76,SNR=7.1						
WUAZ	Wupatki	76.95	54	⇑P	P	14 33 24.5	+1.3
	baz=77						
SMCO	Snowmass	76.96	49	eP	P	14 33 23.9	+0.6
	comp=Z,5.3nm,0.8s,mb4.5						
PSZ	Piszkesteto	77.01	325	⇑iP	P	14 33 24.1	+0.6
PSZ	Piszkesteto	77.01	325	⇑P	P	14 33 24.1	+0.6
VYHS	Vyhne	77.01	326	eP	P	14 33 24.0	+0.5
VYHS				e		14 33 31.5	
VYHS				e		14 33 46.1	
VYHS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
VYHS	Vyhne	77.01	326	eP	P	14 33 24.0	+0.5
	comp=Z,4.6nm,0.9s,mb4.4						
VYHS				e		14 33 31.5	
VYHS				e		14 33 46.1	
Y14A	Wickenburg	77.03	56	⇑P	P	14 33 24.6	+1.0
	baz=77						
CLL	Collm	77.06	330	eP	P	14 33 23.1	-0.7
	comp=Z,30nm,0.7s,mb5.3						
CLL	Collm	77.06	330	⇑iP	P	14 33 23.5	-0.3
CLL				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3						
CLL	Collm	77.06	330	⇑iP	P	14 33 23.5	-0.3
	comp=Z,30nm,0.7s,mb5.3						
BRG	Berggiesshubel	77.06	330	eP	P	14 33 23.5	-0.3
	comp=Z,9.0nm,0.9s,mb4.7						
BRG	Berggiesshubel	77.06	330	iP	P	14 33 23.5	-0.2
	comp=Z,5.4nm,0.9s,mb4.5						
BRG	Berggiesshubel	77.06	330	iP	P	14 33 23.5	-0.3
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
NRDL	Niedersach Rie	77.10	333	eP	P	14 33 23.1	-0.9
	comp=Z,12nm,0.8s,mb4.9						
PVCC	Panska Ves	77.10	329	⇑eP	P	14 33 24.6	+0.6
X15A	Humboldt	77.13	55	P	P	14 33 25.7	+1.5
	baz=77,SNR=5.3						
FBE	Freiberg	77.24	330	eP	P	14 33 24.7	-0.1
	comp=Z,19nm,0.7s,mb5.1						
VRAC	Vranov	77.29	327	⇑iP	P	14 33 25.2	+0.1
VRAC	Vranov	77.29	327	⇑P	P	14 33 25.2	+0.1
Z14A	Wintersburg	77.45	56	⇑P	P	14 33 26.7	+0.8
	baz=77						
MVCO	Mesa Verde	77.47	51	⇑P	P	14 33 26.7	+0.7
	baz=77						
PRU	Pruhonice	77.55	329	⇑iP	P	14 33 26.9	+0.4
CLZ	Clausthal	77.55	332	eP	P	14 33 26.5	0.0
	comp=Z,27nm,0.8s,mb5.2						
CLZ	Clausthal	77.55	332	eP	P	14 33 26.5	0.0
CLZ				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
SMOL	Smolenice	77.58	326	eP	P	14 33 27.6	+0.9
WHFO	Wadi Hawf	77.60	283	P	P	14 33 26.2	-0.6
	SNR=12						
GZR	Gura Zlata	77.65	321	⇓iP	P	14 33 27.2	+0.1
ZST	Bratislava	77.96	326	eP	P	14 33 29.8	+1.0
ZST				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
ZST	Bratislava	77.96	326	eP	P	14 33 29.8	+1.0
	comp=Z,11nm,1.2s,mb4.7						
TANN	Tannenbergstha	77.98	330	eP	P	14 33 28.4	-0.5
	comp=Z,8.0nm,1.0s,mb4.6						
WERD	Werda	78.02	330	eP	P	14 33 28.8	-0.3
	comp=Z,11nm,1.0s,mb4.7						
IBBN	Ibbenburen	78.04	334	eP	P	14 33 28.8	-0.5
	comp=Z,20nm,0.6s,mb5.2						
MOX	Moxa	78.11	331	eP	P	14 33 29.5	-0.1
	comp=Z,14nm,1.2s,mb4.8						
NKC	Novy Kostel	78.14	330	⇑eP	P	14 33 30.1	+0.3
ABTO	Aybut	78.31	283	P	P	14 33 30.6	-0.2
	SNR=9.7						
MANZ	Manzenberg	78.47	330	eP	P	14 33 31.5	-0.1
	comp=Z,9.0nm,0.7s,mb4.8						
UBBA	Unterbreizbach	78.53	332	eP	P	14 33 31.2	-0.8
	comp=Z,6.0nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	78.60	202	LR	LR	15 06 09.0	
	comp=Z,61nm,19.5s,MS3.9,baz=242,slow=34						
ROTZ	Rotzenmuhle	78.61	330	eP	P	14 33 32.6	+0.2
	comp=Z,10.0nm,0.9s,mb4.8						
KHC	Kasperske Hory	78.61	329	⇑iP	P	14 33 32.8	+0.4
SDCO	Great Sand Dun	78.79	49	eP	P	14 33 33.7	+0.4
	comp=Z,4.7nm,0.9s,mb4.4						
GEC2	GERESS Array S	78.80	329	eP	P	14 33 32.6	-0.8
	comp=Z,9.0nm,1.0s,mb4.7						
GEC2	GERESS Array S	78.80	329	eP	P	14 33 32.6	-0.8
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GERES	GERESS Array B	78.80	329	P	P	14 33 33.4	0.0
	comp=Z,6.1nm,0.7s,mb4.6,baz=34,slow=5.8,SNR=22						
GERES	GERESS Array B	78.80	329	P	P	14 33 33.4	0.0
GERES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WET	Wettzell	78.87	329	eP	P	14 33 34.2	+0.4
	comp=Z,15nm,0.9s,mb4.9						
WET	Wettzell	78.87	329	eP	P	14 33 34.2	+0.4
WET				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
PKSM	Moragy	78.87	324	⇓iP	P	14 33 33.3	-0.5
PKSM	Moragy	78.87	324	⇓P	P	14 33 33.3	-0.5
BUG	Bochum--Univer	78.94	334	eP	P	14 33 33.3	-0.9
GRA1	Grafenberg Arr	79.03	330	eP	P	14 33 34.9	+0.2
	comp=Z,37nm,0.9s,mb5.3						
GRF	Grafenberg Arr	79.03	330	eP	P	14 33 34.9	+0.2
	comp=Z,37nm,0.9s,mb5.3						
GRF	Grafenberg Arr	79.03	330	eP	P	14 33 34.9	+0.2
GRF				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
GRF	Grafenberg Arr	79.03	330	eP	P	14 33 34.9	+0.2
GRF				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
ARSA	Arzberg	79.36	327	⇑iP	P	14 33 36.9	+0.4
	comp=Z,4.9nm,0.8s,mb4.5						
VTS	Vitosha	79.57	319	⇑iP	P	14 33 38.2	+0.6
VTS	Vitosha	79.57	319	⇑P	P	14 33 38.1	+0.5
SCHQ	Schefferville	79.85	17	P	P	14 33 38.3	-0.9
	comp=Z,5.3nm,0.9s,mb4.5,baz=4.9,slow=7.8,SNR=5.0						
SCHQ				LR	LR	15 10 18.2	
	comp=Z,135nm,18.3s,MS4.3,baz=226,slow=37						
GROS	Grobnik	80.00	326	iP	P	14 33 40.1	+0.1
PERS	Pernice	80.02	326	iP	P	14 33 40.2	+0.1
MEM	Membach	80.07	334	P	P	14 33 40.1	-0.2
ANMO	Albuquerque	80.23	51	eP	P	14 33 40.9	-0.3
FUR	Furstenfeldbru	80.28	330	eP	P	14 33 41.5	0.0
	comp=Z,27nm,0.8s,mb5.2						
FUR	Furstenfeldbru	80.28	330	eP	P	14 33 41.5	0.0
FUR				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
GOLS	Golise	80.31	326	eP	P	14 33 41.6	0.0
OBKA	Obir	80.36	327	⇑iP	P	14 33 41.3	-0.6
	comp=Z,11nm,0.6s,mb5.0						
KBA	Koelnbreinsper	80.38	328	⇑iP	P	14 33 43.3	+1.3
	comp=Z,14nm,0.9s,mb4.9						
KBA	Koelnbreinsper	80.38	328	⇑iP	P	14 33 43.3	+1.3
KBA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
BCLA	Clavier	80.46	334	P	P	14 33 42.2	-0.2
LEGS	Legarje	80.49	326	iP	P	14 33 42.4	-0.2
CRES	Cresnjev	80.53	326	iP	P	14 33 42.6	-0.3
STU	Stuttgart	80.54	331	eP	P	14 33 43.0	+0.2
	comp=Z,25nm,0.9s,mb5.1						
STU	Stuttgart	80.54	331	eP	P	14 33 43.0	+0.2
STU				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
STU	Stuttgart	80.54	331	eP	P	14 33 43.0	+0.1
	comp=Z,10nm,0.6s,mb4.9						
LJU	Ljubljana	80.74	326	eP	P	14 33 43.3	-0.6
STIP	Stip	80.74	319	iP	P	14 33 43.2	-0.7
VISS	Visnje	80.81	326	iP	P	14 33 43.9	-0.4
VAY	Valandovo	80.84	319	iP	P	14 33 44.5	0.0
WATA	Walderalm	80.85	329	⇑iP	P	14 33 44.8	+0.3
	comp=Z,13nm,1.1s,mb4.8,SNR=8.8						
WATA	Walderalm	80.85	329	⇑iP	P	14 33 44.8	+0.3
WATA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BOJS	Bojanci	80.88	326	eP	P	14 33 44.5	-0.1
GIVF	Givet	80.89	334	eP	P	14 33 43.2	-1.5
WTTA	Wattenberg	80.89	329	⇑iP	P	14 33 45.1	+0.4
	comp=Z,18nm,0.6s,mb5.2						
WTTA	Wattenberg	80.89	329	⇑iP	P	14 33 45.1	+0.4
WTTA				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.2						
SKO	Skopje	80.89	320	iP	P	14 33 46.3	+1.6
MOTA	Moosalm	81.02	329	⇑iP	P	14 33 45.7	+0.3
	comp=Z,19nm,0.9s,mb5.0,SNR=20						
MOTA	Moosalm	81.02	329	⇑iP	P	14 33 45.7	+0.2
MOTA				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
CEY	Cerknica	81.03	326	iP	P	14 33 45.0	-0.5
JAVS	Javornik	81.05	327	iP	P	14 33 44.7	-0.9
SQTA	Sankt Quirin	81.09	329	iP	P	14 33 46.1	+0.3
	comp=Z,9.3nm,0.9s,mb4.7,SNR=10						
SQTA	Sankt Quirin	81.09	329	iP	P	14 33 46.1	+0.3
SQTA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BAIF	Baives	81.12	335	eP	P	14 33 45.2	-0.8
	comp=Z,30nm,1.1s,mb4.8						
BAIF	Baives	81.12	335	eP	P	14 33 45.2	-0.8
BAIF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
BAIF	Baives	81.12	335	eP	P	14 33 45.2	-0.8
	comp=Z,15nm,1.1s,mb4.8						
BFO	Black Forest	81.22	331	eP	P	14 33 45.6	-0.9
	comp=Z,16nm,1.4s,mb4.8						
BFO	Black Forest	81.22	331	eP	P	14 33 45.6	-0.9
BFO				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
KRUS	Krusevo	81.44	320	iP	P	14 33 48.7	+1.0
CDF	Champ du Feu	81.52	332	eP	P	14 33 47.8	-0.3
	comp=Z,28nm,0.9s,mb4.9						
CDF	Champ du Feu	81.52	332	eP	P	14 33 47.8	-0.3
CDF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CDF	Champ du Feu	81.52	332	eP	P	14 33 47.8	-0.3
	comp=Z,14nm,0.9s,mb4.9						
DAVA	Damuels	81.53	330	⇑iP	P	14 33 48.4	+0.2
	comp=Z,22nm,0.8s,mb5.1						
BIA	Bitola	81.68	319	iP	P	14 33 48.2	-0.7
OHR	Ohrid	81.86	320	iP	P	14 33 49.5	-0.4
HINF	Hinteralfeld	82.17	332	⇑iP	P	14 33 50.7	-0.8
	comp=Z,18nm,0.9s,mb4.7						
HINF	Hinteralfeld	82.17	332	⇑iP	P	14 33 50.7	-0.8
HINF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
HINF	Hinteralfeld	82.17	332	⇑iP	P	14 33 50.7	-0.8
	comp=Z,8.9nm,0.9s,mb4.7						
HAU	Haudompre	82.19	332	⇑iP	P	14 33 50.8	-0.8
	comp=Z,15nm,0.8s,mb4.7						
HAU				eR			
	comp=Z,160nm,20.0s						
HAU	Haudompre	82.19	332	⇑iP	P	14 33 50.8	-0.8
HAU				pmax	pmax		

comp=Z,8.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,160nm,20.0s,MS4.4
HAU Haudompre 82.19 332⇑ iP P 14 33 50.8 -0.8
comp=Z,7.5nm,0.8s,mb4.7
HAU LR LR
comp=Z,160nm,20.0s,MS4.4
MEZF Maizieres J'vi 82.20 333⇑ iP P 14 33 51.5 -0.1
comp=Z,21nm,0.8s,mb4.8
MEZF Maizieres J'vi 82.20 333⇑ iP P 14 33 51.5 -0.1
comp=Z,21nm,0.8s,mb5.1
CABF La Chapelle 83.48 332 eP P 14 33 58.0 -0.3
LOR Lormes 83.67 333⇑ iP P 14 33 58.7 -0.6
comp=Z,47nm,0.9s,mb5.3
LOR eR
comp=Z,220nm,20.0s
LOR Lormes 83.67 333⇑ iP P 14 33 58.7 -0.6
LOR pmax pmax
comp=Z,24nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,220nm,20.0s,MS4.5
LOR Lormes 83.67 333⇑ iP P 14 33 58.7 -0.6
comp=Z,24nm,0.9s,mb5.3
LOR LR LR
comp=Z,220nm,20.0s,MS4.5
FLN La Foliniere 83.70 337⇑ iP P 14 33 58.7 -0.7
comp=Z,17nm,0.7s,mb5.0
FLN eR
comp=Z,156nm,22.2s
FLN La Foliniere 83.70 337⇑ iP P 14 33 58.7 -0.7
FLN pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,160nm,22.3s,MS4.3
FLN La Foliniere 83.70 337⇑ iP P 14 33 58.7 -0.7
comp=Z,8.4nm,0.7s,mb5.0
FLN LR LR
comp=Z,160nm,22.3s,MS4.3
LDF La Druitiere 83.75 336⇑ iP P 14 33 59.0 -0.7
comp=Z,16nm,0.7s,mb4.9
LDF La Druitiere 83.75 336⇑ iP P 14 33 59.0 -0.7
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
LDF La Druitiere 83.75 336⇑ iP P 14 33 59.0 -0.7
comp=Z,7.8nm,0.7s,mb5.0
SSF Saint Saulge 83.97 333⇑ iP P 14 34 00.3 -0.5
comp=Z,30nm,0.9s,mb5.1
SSF Saint Saulge 83.97 333⇑ iP P 14 34 00.3 -0.5
SSF pmax pmax
comp=Z,15nm,0.9s,mb5.1
SSF Saint Saulge 83.97 333⇑ iP P 14 34 00.3 -0.5
comp=Z,15nm,0.9s,mb5.1
HYF Humbligny 84.07 334 eP P 14 34 01.0 -0.3
GRR Gorron 84.15 337 eP P 14 34 01.3 -0.4
comp=Z,64nm,1.0s,mb5.4
GRR Gorron 84.15 337 eP P 14 34 01.3 -0.4
GRR pmax pmax
comp=Z,32nm,1.0s,mb5.4
GRR Gorron 84.15 337 eP P 14 34 01.3 -0.4
comp=Z,32nm,1.0s,mb5.4
LPL La Plagne 84.19 331⇑ iP P 14 34 02.1 +0.2
comp=Z,28nm,1.0s,mb5.1
LPL La Plagne 84.19 331⇑ iP P 14 34 02.1 +0.2
LPL pmax pmax
comp=Z,14nm,1.0s,mb5.0
LPL La Plagne 84.19 331⇑ iP P 14 34 02.1 +0.2
comp=Z,14nm,1.0s,mb5.0
LPG La Plagne 84.20 331 eP P 14 34 02.2 +0.3
comp=Z,19nm,0.5s,mb5.2
LPG La Plagne 84.20 331 eP P 14 34 02.2 +0.3
LPG pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
LPG La Plagne 84.20 331 eP P 14 34 02.2 +0.3
comp=Z,9.4nm,0.5s,mb5.2
AQU L'Aquila 84.21 325 eP P 14 34 02.7 +0.7
AQU pmax pmax
comp=Z,18nm,1.0s,mb5.2
AQU L'Aquila 84.21 325 eP P 14 34 02.7 +0.7
comp=Z,18nm,1.0s,mb5.2
SMF Signal de Mont 84.22 333⇑ iP P 14 34 01.6 -0.5
comp=Z,44nm,0.8s,mb5.3
SMF Signal de Mont 84.22 333⇑ iP P 14 34 01.6 -0.5
SMF pmax pmax
comp=Z,22nm,0.8s,mb5.3
SMF Signal de Mont 84.22 333⇑ iP P 14 34 01.6 -0.5
comp=Z,22nm,0.8s,mb5.3
AVF Avril sur Loir 84.25 333⇑ iP P 14 34 02.0 -0.2
comp=Z,61nm,0.7s,mb5.5
AVF Avril sur Loir 84.25 333⇑ iP P 14 34 02.0 -0.2
AVF pmax pmax
comp=Z,31nm,0.7s,mb5.5
AVF Avril sur Loir 84.25 333⇑ iP P 14 34 02.0 -0.2
comp=Z,30nm,0.7s,mb5.5
BNI Bardonecchia 84.61 331 eP P 14 34 04.4 +0.4
BNI pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BNI Bardonecchia 84.61 331 eP P 14 34 04.4 +0.4
comp=Z,8.6nm,0.8s,mb4.9
BGF Bois d'Agland 84.63 334⇑ iP P 14 34 03.9 -0.2
comp=Z,14nm,0.7s,mb4.9
BGF Bois d'Agland 84.63 334⇑ iP P 14 34 03.9 -0.2
BGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
BGF Bois d'Agland 84.63 334⇑ iP P 14 34 03.9 -0.2
comp=Z,6.8nm,0.7s,mb4.9
SGMF Saint Gilles 84.76 338⇑ iP P 14 34 04.7 -0.1
comp=Z,24nm,0.7s,mb5.1
SGMF Saint Gilles 84.76 338⇑ iP P 14 34 04.7 -0.1
SGMF pmax pmax
comp=Z,12nm,0.7s,mb5.1
SGMF Saint Gilles 84.76 338⇑ iP P 14 34 04.7 -0.1
comp=Z,12nm,0.7s,mb5.1
MBDF Montbardon 84.85 330⇑ iP P 14 34 04.8 -0.4
comp=Z,15nm,0.6s,mb5.0
MBDF Montbardon 84.85 330⇑ iP P 14 34 04.8 -0.4
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
MBDF Montbardon 84.85 330⇑ iP P 14 34 04.8 -0.4
comp=Z,7.7nm,0.6s,mb5.0
ROSF Rostrenen 84.88 338 eP P 14 34 05.5 +0.1
ORIF Oris-en-Rattie 85.01 331⇑ iP P 14 34 06.2 +0.2
comp=Z,21nm,0.8s,mb5.0
ORIF eR
comp=Z,132nm,20.4s
ORIF Oris-en-Rattie 85.01 331⇑ iP P 14 34 06.2 +0.2
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 85.01 331⇑ iP P 14 34 06.2 +0.2
comp=Z,10nm,0.8s,mb5.0
TCF Toulx Ste Croi 85.07 334⇑ iP P 14 34 06.2 -0.2
comp=Z,24nm,0.8s,mb5.1
TCF Toulx Ste Croi 85.07 334⇑ iP P 14 34 06.2 -0.2
TCF pmax pmax
comp=Z,12nm,0.8s,mb5.1
TCF Toulx Ste Croi 85.07 334⇑ iP P 14 34 06.2 -0.2
comp=Z,12nm,0.8s,mb5.1
QUIF Quistinic 85.24 338⇑ iP P 14 34 06.9 -0.3
comp=Z,17nm,0.6s,mb5.0
QUIF Quistinic 85.24 338⇑ iP P 14 34 06.9 -0.3
QUIF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
QUIF Quistinic 85.24 338⇑ iP P 14 34 06.9 -0.3
comp=Z,8.6nm,0.6s,mb5.1
TIP Timpagrande 85.29 321 eP P 14 34 07.3 -0.1
SBF Sospel 85.34 329⇑ iP P 14 34 06.8 -0.9
comp=Z,27nm,0.6s,mb5.3
SBF Sospel 85.34 329⇑ iP P 14 34 06.8 -0.9
SBF pmax pmax
comp=Z,13nm,0.6s,mb5.2
SBF Sospel 85.34 329⇑ iP P 14 34 06.8 -0.9
comp=Z,13nm,0.6s,mb5.2
VIVF Saint-Julien-l 85.49 332⇑ iP P 14 34 08.5 0.0
comp=Z,30nm,0.8s,mb5.2
VIVF Saint-Julien-l 85.49 332⇑ iP P 14 34 08.5 0.0
VIVF pmax pmax
comp=Z,15nm,0.8s,mb5.2
VIVF Saint-Julien-l 85.49 332⇑ iP P 14 34 08.5 0.0
comp=Z,15nm,0.8s,mb5.2
MFF Saint Martin d 85.54 336⇑ iP P 14 34 08.9 +0.2
comp=Z,51nm,0.9s,mb5.5
MFF Saint Martin d 85.54 336⇑ iP P 14 34 08.9 +0.2
MFF pmax pmax
comp=Z,26nm,0.9s,mb5.5
MFF Saint Martin d 85.54 336⇑ iP P 14 34 08.9 +0.2
comp=Z,26nm,0.9s,mb5.5
FRF La Foret Royal 85.90 330⇑ iP P 14 34 09.8 -0.7
comp=Z,28nm,0.9s,mb5.2
FRF La Foret Royal 85.90 330⇑ iP P 14 34 09.8 -0.7
FRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
FRF La Foret Royal 85.90 330⇑ iP P 14 34 09.8 -0.7
comp=Z,14nm,0.9s,mb5.2
TXAR Lajitas Array 85.91 54 P P 14 34 11.2 +0.7
comp=Z,6.0nm,0.6s,mb5.0,baz=291,slow=3.5,SNR=53
TXAR Lajitas Array 85.91 54 P P 14 34 11.2 +0.7
TXAR pmax pmax
comp=Z,6.0nm,0.6s
SMRF Simiane la Rot 85.94 331 eP P 14 34 10.5 -0.1
CCM Cathedral Cave 85.94 40 eP P 14 34 08.5 -2.2
CCM pmax pmax
comp=Z,12nm,0.9s,mb5.1
CCM Cathedral Cave 85.94 40 eP P 14 34 08.5 -2.2
comp=Z,12nm,0.9s,mb5.1
PPT Papeete 85.99 118 eLR LR 15 00 18.6
comp=Z,288nm,26.2s
LMR La Mourre 86.14 330 eP P 14 34 11.2 -0.5
RJF Les Rejaudoux 86.17 334⇑ iP P 14 34 12.0 +0.2
comp=Z,32nm,1.0s,mb5.2
RJF eR
comp=Z,192nm,18.8s
RJF Les Rejaudoux 86.17 334⇑ iP P 14 34 12.0 +0.2
RJF pmax pmax
comp=Z,16nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,190nm,18.8s,MS4.5
RJF Les Rejaudoux 86.17 334⇑ iP P 14 34 12.0 +0.2
comp=Z,16nm,1.0s,mb5.2
RJF LR LR
comp=Z,190nm,18.8s,MS4.5
CAF Calviac 86.32 333⇑ iP P 14 34 13.2 +0.6
comp=Z,49nm,0.7s,mb5.5
CAF Calviac 86.32 333⇑ iP P 14 34 13.2 +0.6
CAF pmax pmax
comp=Z,24nm,0.7s,mb5.5
CAF Calviac 86.32 333⇑ iP P 14 34 13.2 +0.6
comp=Z,24nm,0.7s,mb5.5
TAOE Nuku Hiva Isla 86.33 105 eLR LR 15 00 31.2
comp=Z,590nm,23.3s
LASF Ste Croix 86.46 332⇑ iP P 14 34 13.6 +0.4
comp=Z,12nm,0.7s,mb4.9
LFF La Frestale 86.75 334⇑ iP P 14 34 15.2 +0.6
comp=Z,77nm,0.9s,mb5.6
LFF La Frestale 86.75 334⇑ iP P 14 34 15.2 +0.6
LFF pmax pmax
comp=Z,39nm,0.9s,mb5.6
LFF La Frestale 86.75 334⇑ iP P 14 34 15.2 +0.6
comp=Z,39nm,0.9s,mb5.6
SIUC Southern Illin 87.17 39 eP P 14 34 16.6 -0.1
comp=Z,41nm,0.8s,mb5.7
MTLF Montolieu 87.67 333⇑ iP P 14 34 19.5 +0.4
comp=Z,21nm,0.9s,mb5.1
MTLF Montolieu 87.67 333⇑ iP P 14 34 19.5 +0.4
MTLF pmax pmax
comp=Z,11nm,0.9s,mb5.1
MTLF Montolieu 87.67 333⇑ iP P 14 34 19.5 +0.4
comp=Z,11nm,0.9s,mb5.1
EPF Esparros 88.58 334⇑ iP P 14 34 23.3 -0.1
comp=Z,9.3nm,0.7s,mb4.9
EPF Esparros 88.58 334⇑ iP P 14 34 23.3 -0.1
EPF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
EPF Esparros 88.58 334⇑ iP P 14 34 23.3 -0.1
comp=Z,4.7nm,0.7s,mb4.9
EBIE Bielsa 88.95 334 P P 14 34 23.6 -1.5
comp=Z,14nm,1.0s,mb5.2
ETSF Etsaut 88.99 334⇑ iP P 14 34 26.1 +0.8
comp=Z,31nm,0.6s,mb5.5
ETSF Etsaut 88.99 334⇑ iP P 14 34 26.1 +0.8
ETSF pmax pmax
comp=Z,15nm,0.6s,mb5.5
ETSF Etsaut 88.99 334⇑ iP P 14 34 26.1 +0.8
comp=Z,15nm,0.6s,mb5.5
EALK Alkurruntz 89.00 335 P P 14 34 23.3 -2.1
comp=Z,39nm,1.5s,mb5.5
SJPF Ste Jean 89.01 335 eP P 14 34 25.5 +0.1
ELAN Lanestosa 89.58 336 P P 14 34 26.6 -1.5
comp=Z,100nm,1.4s,mb6.0
EPOB Poblet 89.83 332 P P 14 34 27.8 -1.4
comp=Z,7.0nm,0.7s,mb5.1
ECRI Cripan 89.87 335 P P 14 34 28.7 -0.7
ECRI pmax pmax
comp=Z,5.0nm,0.4s,mb5.2
ECRI Cripan 89.87 335 P P 14 34 28.7 -0.8
comp=Z,4.9nm,0.4s,mb5.2
TBI Tubuai 90.26 122 eLR LR 15 02 17.0
comp=Z,203nm,25.8s
EMOS Mosqueruela 91.23 333 P P 14 34 34.6 -1.2
comp=Z,22nm,1.2s,mb5.3
ETOR Torete 91.35 334 P P 14 34 36.0 -0.3
ETOR pmax pmax
comp=Z,12nm,0.7s,mb5.3
ETOR Torete 91.35 334 P P 14 34 36.0 -0.3
comp=Z,12nm,0.7s,mb5.3
KEST Kesra 91.47 324 P P 14 34 36.1 -0.8
comp=Z,1.1nm,0.7s,mb4.3,baz=336,slow=1.1,SNR=4.7
KEST LR LR 15 20 30.5
comp=Z,65nm,18.5s,MS4.1,baz=199,slow=39
PBRG Braganca 91.85 338 eP P 14 34 38.4 -0.3
comp=Z,23nm,2.1s,mb5.1
PCAB Cabril 92.29 339 eP P 14 34 40.2 -0.5
comp=Z,35nm,1.3s,mb5.5
PVRL Vila Real 92.61 338 eP P 14 34 41.8 -0.4
comp=Z,27nm,1.3s,mb5.5
ESDC Sonseca Array 92.99 335 P P 14 34 43.8 -0.1
comp=Z,3.7nm,0.8s,mb4.8,baz=19,slow=3.5,SNR=18
ESDC Sonseca Array 92.99 335 P P 14 34 43.5 -0.4
comp=Z,6.2nm,0.9s,mb5.0
ETOB Tobarra 93.14 333 P P 14 34 43.5 -1.1
comp=Z,8.2nm,1.0s,mb5.1
PVIS Viseu 93.18 338 eP P 14 34 44.3 -0.5
EVIA Vianos 93.47 334 P P 14 34 45.4 -0.7
EVIA pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
EVIA Vianos 93.47 334 P P 14 34 45.4 -0.7
comp=Z,8.1nm,0.6s,mb5.3
PCBR Castelo Branco 93.88 338 eP P 14 34 45.5 -2.5
EQES Quesada 94.41 334 P P 14 34 48.8 -1.6
comp=Z,10nm,1.4s,mb5.1
PESTR Estremoz 94.82 337 eP P 14 34 51.6 -0.7
ECOG Cogollos-Vega 95.05 334 P P 14 34 50.4 -3.0
ECOG pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
ECOG Cogollos-Vega 95.05 334 P P 14 34 50.4 -3.0
comp=Z,1.9nm,0.4s,mb4.9
ERON Agon 95.37 334 P P 14 34 53.1 -1.7
comp=Z,1.4nm,0.4s,mb4.7
EGUA Guajares 95.46 334 P P 14 34 52.7 -2.5
EGUA pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
EGUA Guajares 95.46 334 P P 14 34 52.7 -2.5
comp=Z,0.6nm,0.5s,mb4.3
PBEJ Beja 95.68 337 eP P 14 34 55.7 -0.5
comp=Z,7.8nm,1.6s,mb4.9
RKT Tikitea 99.64 112 eLR LR 15 06 39.2
comp=Z,166nm,33.2s
TORD Torodi Ar. Bea 114.30 318 PKiKP PKiKP 14 40 09.5 -0.4
comp=Z,0.6nm,0.4s,baz=8.5,slow=1.7,SNR=8.5
TORD PP PP 14 41 02.1 -3.9
comp=Z,7.5nm,1.1s,baz=25,slow=7.4,SNR=17
TORD Torodi Ar. Bea 114.30 318 PKPdf PKiKP 14 40 09.5 -0.4
TORD PP PP 14 41 02.1 -3.9
VNDA Vanda 120.21 175 PKP PKPdf 14 40 20.0 -1.3
comp=Z,1.1nm,0.8s,baz=321,slow=3.6,SNR=8.3
VNDA Vanda 120.21 175 PKIKP PKPdf 14 40 20.0 -1.3
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 120.21 175 PKP PKPdf 14 40 20.0 -1.3
SDV Santo Domingo 120.42 39 ePKPdf PKPdf 14 40 22.2 +0.5
MAW Mawson 124.88 207 PKP PKPdf 14 40 30.0 -0.2
comp=Z,6.5nm,0.8s,baz=332,slow=2.0,SNR=18
MAW Mawson 124.88 207 PKIKP PKPdf 14 40 30.0 -0.3
MAW pmax pmax
comp=Z,7.0nm,0.8s
QSPA South Pole Qui 132.13 180 eP PKPdf 14 40 43.4 -0.6
MAIT Maitri 142.72 204 ePKPdf PKPdf 14 40 58.6 -4.9
SNAA Sanae 146.22 199 ePKPdf PKPdf 14 41 08.2 -1.4
SNAA e 14 41 08.9
SNAA e 14 41 10.0
SNAA e 14 41 11.8
SNAA e 14 41 18.1
SNAA Sanae 146.22 199 ePKP PKPdf 14 41 08.6 -1.0
VNA2 Neumayer--Watz 147.80 198 ePKPdf PKPdf 14 41 10.9 -1.4
VNA2 e 14 41 13.8
VNA2 e 14 41 19.7
VNA2 e 14 41 45.6
VNA2 e 14 48 58.2
VNA2 e 14 49 07.2
VNA2 e 14 49 18.9
VNA3 Neumayer Olymp 148.05 196 ePKPdf PKPdf 14 41 11.3 -1.4
VNA3 e 14 41 14.2
VNA3 e 14 41 17.8
VNA3 e 14 41 23.4
VNA3 e 14 41 43.6
VNA3 e 14 48 55.6
VNA3 e 14 49 04.6
VNA3 e 14 49 17.1

*IDC **01** 14:36:46.8±1.1,2895S×17707W,h0km,mb3.8/5, mb1 4.1/7,mb1mx4.0/13,mbtmp3.9/7,ML3.8/2,MS3.5/2, Ms1 3.5/2,ms1mx2.9/18,Error ellipse: s-maj=36.5km s-min=24.2km az=135.0*
*ISCJB **01** 14:36:52.3±1.1,2921S±0.10×1774W±02,h35km,mb4.0/7, MS3.7/1,Error ellipse: s-maj=23.9km s-min=12.9km az=33.1*
*NEIC **01** 14:36:52.2±0.7,2878S×177.15W,h35km,mb4.6/2,Error ellipse: s-maj=21.8km s-min=20.2km az=104.0*

ISC 01 14:36:53.6±1.0,2913S±010×1773W±02,h35km,n20, σ1§25/10,mb4.0/7,MS3.7/1,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.24**	**206**	Pn		**Pn**		**14 39 19.4**	**+1.4**
	0.3nm,0.3s,baz=285,slow=20,SNR=2.9								
URZ				Sn		**Sn**		**14 41 10.3**	**-1.2**
	0.7nm,0.3s,baz=120,slow=17,SNR=3.1								
RPZ	**Rata Peaks**	**17.30**	**210**	P		**Pn**		**14 40 51.0**	**-1.4**
	0.9nm,0.3s,baz=80,slow=1.6,SNR=11								
RAR	**Rarotonga**	**17.68**	**67**	LR		LR		14 45 09.3	
	comp=Z,110nm,21.5s,baz=258,slow=29								
TBI	**Tubuai**	**25.56**	**83**	*e*LR		LR		14 48 25.1	
	141nm,30.0s								
TBI	**Tubuai**	**25.56**	**83**	*e*T				15 07 57.7	
	5.1nm,0.3s								
PAE	**Paea**	**27.79**	**72**	*e*T				15 10 42.9	
	12nm,0.4s								
PPT	**Papeete**	**27.83**	**72**	*e*LR		LR		14 49 30.5	
	106nm,23.8s								
STKA	**Stephens Creek**	**35.40**	**255**	P		**P**		**14 43 47.1**	**+1.0**
	1.9nm,0.8s,mb4.1,baz=104,slow=12,SNR=4.1								
RKT	**Rikitea**	**38.29**	**91**	*e*LR		LR		14 54 10.4	
	176nm,37.8s								
ASAR	**Alice Springs**	**43.83**	**265**	P		**P**		**14 44 56.5**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=104,slow=7.0,SNR=27								
WRA	**Warramunga Arr**	**44.71**	**270**	P		**P**		**14 45 02.7**	**-0.5**
	2.6nm,0.9s,mb4.1,baz=110,slow=7.5,SNR=15								
SBA	**Scott Base**	**49.35**	**184**	*e*P		**P**		**14 45 41.8**	**+2.4**
	4.1nm,0.9s,mb4.5								
VNDA	**Vanda**	**49.42**	**186**	P		**P**		**14 45 39.5**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=24,slow=2.9,SNR=3.0								
FITZ	**Fitzroy Crossi**	**53.01**	**269**	LR		LR		15 08 33.5	
	comp=Z,64nm,19.8s,MS3.7,baz=269,slow=36								
QSPA	**South Pole Qui**	**60.98**	**180**	P		**P**		**14 47 04.1**	**+0.8**
	4.5nm,0.7s,mb4.7								
NVAR	**Mina Array Bea**	**86.88**	**42**	P		**P**		**14 49 32.7**	**-1.9**
	0.2nm,0.4s,mb3.7,baz=243,slow=2.9,SNR=2.5								
FINES	**FINESS Array B**	**144.17**	**341**	PKP		PKPdf		14 56 21.7	-4.0
	5.0nm,1.0s,baz=14,slow=1.7,SNR=3.0								
NB2	**NORSAR Subarra**	**147.59**	**352**	PKP		PKPdf		14 56 31.5	0.0
	comp=Z,4.6nm,1.0s,baz=28,slow=3.5								
NOA	**NORSAR Array B**	**147.59**	**352**	PKPbc		PKPdf		14 56 31.3	-0.2
	comp=Z,1.1nm,0.6s,baz=12,slow=4.5,SNR=2.9								
AKASG	**Malin Array Be**	**150.66**	**325**	PKPbc		PKPbc		14 56 40.1	-1.8
	comp=Z,3.4nm,0.5s,baz=43,slow=2.8,SNR=18								

IDC 01 14:37:28.2±2.5,2927S×17678W,h0km,mb4.0/3, mb1 4.2/4,mb1mx3.9/12,mbtmp4.1/4,ML4.0/1,Error ellipse: s-maj=73.2km s-min=42.8km az=140.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.30**	**208**	Sn		Sn		14 41 54.9	+1.5
	1.0nm,0.3s,baz=168,slow=20,SNR=2.6								
RPZ	**Rata Peaks**	**17.39**	**211**	P		Pn		14 41 32.7	+0.5
	0.6nm,0.3s,baz=24,slow=19,SNR=2.4								
STKA	**Stephens Creek**	**35.77**	**255**	P		P		14 44 28.6	-0.3
	1.4nm,0.5s,baz=110,slow=12,SNR=2.0								
ASAR	**Alice Springs**	**44.24**	**265**	P		P		14 45 39.9	+0.6
	0.8nm,0.4s,baz=106,slow=7.1,SNR=7.4								
WRA	**Warramunga Arr**	**45.13**	**270**	P		P		14 45 46.5	+0.1
	1.0nm,0.7s,baz=109,slow=8.0,SNR=9.7								
FINES	**FINESS Array B**	**144.44**	**341**	PKP		PKPdf		14 57 03.0	-3.5
	2.8nm,0.8s,baz=17,slow=2.0,SNR=3.4								
AKASG	**Malin Array Be**	**151.02**	**325**	PKPbc		PKPbc		14 57 23.4	+0.3
	3.8nm,0.6s,baz=45,slow=3.2,SNR=6.7								

IDC 01 14:45:36.6±65.0,1676S×17860E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.8/3,Error ellipse: s-maj=1158.0km s-min=152.4km az=76.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.72**	**239**	P		P		14 52 45.5	+0.1
	1.0nm,0.5s,baz=84,slow=10,SNR=5.3								
WRA	**Warramunga Arr**	**42.04**	**259**	P		P		14 53 30.4	+0.6
	0.3nm,0.5s,baz=92,slow=7.7,SNR=5.4								
ASAR	**Alice Springs**	**42.37**	**253**	P		P		14 53 32.8	+0.3
	1.8nm,0.5s,baz=89,slow=7.9,SNR=62								

*IDC **01** 15:14:51.1±0.8,4327N×8266E,h0km,mb4.2/9, mb1 4.3/14,mb1mx4.1/23,mbtmp4.2/14,ML3.9/5,MS3.3/3, Ms1 3.3/3,ms1mx2.8/26,Error ellipse: s-maj=17.8km s-min=11.3km az=72.0*
*ISCJB **01** 15:14:52.0±0.3,4349N±003×8265E±004,h10km, mb4.3/17,MS3.6/2,Error ellipse: s-maj=4.5km s-min=4.2km az=136.9*
*NEIC **01** 15:14:53.1±0.4,4323N×8249E,h10km,mb4.5/8,Error ellipse: s-maj=8.6km s-min=5.7km az=216.0*
*BJI **01** 15:14:53.6,4327N×8262E,h15km,mB5.1,mb4.4,ML4.4, Ms4.4,Msz4.0*
*MOS **01** 15:14:55.1±1.2,4336N×8248E,h33km,mb4.4/13,Error ellipse: s-maj=11.7km s-min=6.7km az=119.5*
*NNC **01** 15:15:00.7±1.4,4360N×8210E,h19km±7km,mb4.2, mpv4.0,Error ellipse: s-maj=12.4km s-min=5.2km az=140.0*

ISC 01 15:14:53.5±0.3,4342N±003×8271E±004,h10km,n102, σ1§18/122,mb4.3/17,MS3.6/2,9C-13D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.39**	**355**	Pn		**Pn**		**15 15 50.1**	**+3.7**
	6.9nm,0.3s,baz=179,slow=16,SNR=1034								
MK31				⇓Pg		**Pg**		**15 15 59.7**	**+1.3**
	64nm,0.3s,baz=181,slow=15,SNR=7.0								
MK31				⇑Lg				15 16 42.5	
	604nm,0.6s,baz=183,slow=32,SNR=9.0								
MK31	**Makanchi Array**	**3.39**	**355**	*e*Pn		**Pn**		**15 15 50.0**	**+3.5**
MK31				*e*Pg		**Pg**		**15 15 59.6**	**+1.2**
MK31				*e*Sg		**Sg**		**15 16 43.0**	**+0.6**
MKAR	**Makanchi Array**	**3.39**	**355**	Pn		**Pn**		**15 15 50.1**	**+3.7**
	16nm,0.3s,baz=186,slow=14,SNR=149								
MKAR				Pg		**Pg**		**15 15 58.7**	**+0.3**
	112nm,0.3s,baz=178,slow=14,SNR=102								
MKAR				Sn		**Sn**		**15 16 32.8**	**+6.1**
	67nm,0.3s,baz=177,slow=25,SNR=7.9								
MKAR				Lg				15 16 42.3	
	80nm,0.3s,baz=196,slow=22,SNR=6.1								
MKAR	**Makanchi Array**	**3.39**	**355**	*i* PN		**Pn**		**15 15 50.2**	**+3.8**
MKAR				pmax	pmax				
	comp=Z,16nm,0.3s								
MKAR	**Makanchi Array**	**3.39**	**355**	Pn		**Pn**		**15 15 50.1**	**+3.7**
MKAR				Pg		**Pg**		**15 15 58.7**	**+0.3**
MKAR				Sn		**Sn**		**15 16 32.8**	**+6.1**
MKAR				Lg				15 16 42.3	
WMQ	**Urumqi**	**3.65**	**82**	*e*P		**Pn**		**15 15 54.1**	**+4.1**
WMQ				SG		**Sg**		**15 16 50.5**	**-0.1**
WMQ				Smax					
	comp=N,333nm,0.7s								
WMQ				Smax					
	comp=E,439nm,1.0s								
WMQ				LR	LR				
	comp=N,307nm,6.4s								

WMQ LR LR
comp=E,258nm,6.0s
KNDC Almaty 4.19 269 ⇑Pn **Pn 15 15 58.5 +1.0**
comp=E,38nm,0.3s
KNDC ⇑Pg **Pb 15 16 08.7 +1.4**
comp=E,369nm,0.7s
KNDC ⇓Lg 15 17 01.8
comp=E,1μm,0.4s
AAA Alma-Ata 4.20 270 *i* PN **Pb 15 16 09.7 +2.2**
AAA pmax pmax
comp=Z,1.0nm,0.4s
ULHL Ulahol 4.89 258 P **Pn 15 16 07.7 +0.6**
SNR=36
TKM2 Tokmak 2 5.22 267 P **Pn 15 16 12.6 +1.0**
SNR=39
TKM2 Tokmak 2 5.22 267 ⇓Pn **Pn 15 16 12.4 +0.8**
comp=Z,0.7nm,0.5s
TKM2 ⇑Pg **Pb 15 16 27.6 +2.7**
comp=Z,4.7nm,0.6s
TKM2 ⇓Lg 15 17 32.2
comp=Z,120nm,0.8s
KBK Karagaybulak 5.74 265 P **Pn 15 16 19.9 +1.2**
SNR=21
CHMS Chumysh 5.83 269 P **Pn 15 16 20.5 +0.5**
SNR=17
FRU Bishkek 5.95 267 *e*PN **Pn 15 16 22.0 +0.4**
FRU *e* 15 16 39.0
FRU *e* 15 17 37.0
FRU *i* S **Sb 15 17 54.0 +5.5**
FRU pmax pmax
comp=Z,100nm,1.6s
FRU smax
comp=N,1μm,1.6s
USP Ospenovka 5.99 271 P **Pn 15 16 22.4 +0.3**
SNR=79
AAK Ala-Archa 6.07 265 P **Pn 15 16 24.4 +1.1**
SNR=8.2
AAK Ala-Archa 6.07 265 *e*PN **Pn 15 16 22.9 -0.4**
AAK Ala-Archa 6.07 265 *e*Pn **Pn 15 16 21.1 -2.2**
comp=N,67nm,0.6s
AAK *e*Pg **Pb 15 16 39.9 +0.6**
AAK *e*Sg **Sg 15 17 59.9 -8.5**
UCH Uchtor 6.14 262 P **Pn 15 16 25.9 +1.6**
SNR=15
KSH Kashi 6.38 235 *e*PG **Pb 15 16 42.6 -2.1**
KSH Smax
comp=N,962nm,1.2s
KSH Smax
comp=E,694nm,0.7s
EKS2 Erkin-Say 6.59 266 P **Pn 15 16 30.8 +0.5**
SNR=18
KK31 Karatay Array 8.90 272 Pn **Pn 15 17 03.0 +0.8**
comp=E,2.0nm,0.5s,baz=78,slow=13,SNR=28
KK31 ⇑Pg Pn 15 17 34.9 +33
comp=E,7.1nm,0.5s,baz=79,slow=15,SNR=4.1
KK31 ⇓Lg 15 19 29.6
comp=E,50nm,0.6s,baz=84,slow=28,SNR=9.5
ZAL Zalesovo 10.62 7 Pn **Pn 15 17 27.5 +1.9**
comp=E,1.8nm,0.3s,baz=296,slow=9.0,SNR=11
ZAL Sn **Sn 15 19 23.3 -1.3**
comp=E,2.0nm,0.3s,baz=124,slow=23,SNR=6.6
ZAL Lg 15 20 31.7
comp=E,1.8nm,0.3s,baz=270,slow=12,SNR=4.4
ZAL Zalesovo 10.62 7 P **Pn 15 17 27.5 +1.8**
ZAL 15 19 23.3
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL smax
comp=N,2.0nm,0.3s
ZAL Zalesovo 10.62 7 Pn **Pn 15 17 27.5 +1.9**
ZAL Sn **Sn 15 19 23.3 -1.3**
ZAL Lg 15 20 31.7
DLH Dalhousie 12.08 208 *e*P **Pn 15 17 42.0 -3.7**
DLH *e*S **Sn 15 19 50.0 -10**
VOSK Vostochnaya 12.16 324 ⇓Pn **Pn 15 17 46.6 -0.1**
comp=N,5.9nm,0.5s
VOSK ⇓Lg 15 21 14.6
comp=N,32nm,0.8s
CHCP Chirah Chowk 12.22 220 ⇓P **Pn 15 17 45.9 -1.7**
BVA0 Borovoye Array 12.62 324 ⇑Pn **Pn 15 17 53.4 +0.3**
comp=N,0.5nm,0.3s,baz=136,slow=12,SNR=4.9
BVA0 ⇓Lg 15 21 31.0
comp=N,6.1nm,0.9s,baz=131,slow=24,SNR=3.8
BVAR Borovoye Array 12.62 324 Pn **Pn 15 17 52.8 -0.3**
comp=N,0.5nm,0.3s,baz=131,slow=12,SNR=11
BVAR Sn **Sn 15 20 09.9 -3.9**
comp=N,0.7nm,0.3s,baz=142,slow=25,SNR=4.3
BVAR Lg 15 21 32.0
comp=N,1.6nm,0.3s,baz=132,slow=26,SNR=6.2
BVAR LR LR 15 22 58.4
comp=N,206nm,19.1s,baz=138,slow=38
BVAR Borovoye Array 12.62 324 P **Pn 15 17 52.8 -0.3**
BVAR 15 20 09.9
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BVAR MLR MLR
comp=Z,206nm,19.1s
BRVK Borovoye 12.69 324 *e*P **Pn 15 17 53.8 -0.3**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 12.69 324 *e*Pn **Pn 15 17 53.8 -0.2**
comp=Z,16nm,1.0s
CEP Cherat 12.76 225 P **Pn 15 17 53.1 -1.8**
CHKZ Chkalovo 13.00 326 ⇓Pn **Pn 15 17 57.9 -0.3**
comp=Z,10nm,0.6s
CHKZ ⇑Lg 15 21 41.7
comp=Z,57nm,1.2s
CHKZ Chkalovo 13.00 326 *e*P **Pn 15 17 57.9 -0.3**
CHKZ *e* 15 20 15.9
CHKZ pmax pmax
comp=Z,13nm,0.6s
CHKZ Chkalovo 13.00 326 *e*Pn **Pn 15 17 57.9 -0.4**
comp=Z,13nm,0.6s
CHKZ *e*Sn **Sn 15 20 15.9 -7.0**
ZRNK Zerenda 13.19 321 ⇓Pn **Pn 15 17 59.4 -1.5**
comp=Z,6.0nm,0.7s
ZRNK ⇑Lg 15 21 47.3
comp=Z,98nm,1.6s
ZRNK Zerenda 13.19 321 *e*P **Pn 15 17 59.3 -1.5**
ZRNK pmax pmax
comp=Z,13nm,0.9s
ZRNK Zerenda 13.19 321 *e*Pn **Pn 15 17 59.3 -1.5**
comp=Z,13nm,0.9s
GTA Gaotai 13.45 101 *e*P **Pn 15 18 04.0 -0.4**
GTA AP 15 18 08.4
GTA AMB AMB
comp=Z,2.0nm,1.4s
THW Thamme Wali 13.66 223 P **Pn 15 18 02.2 -5.0**
GKN Gorkha 15.46 174 *e*P **Pn 15 18 38.3 +6.7**
comp=Z,31nm,0.4s
ZAK Zakamensk 15.66 56 *e*P **Pn 15 18 41.5 +7.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GUN Gumba 15.69 170 *e*P **Pn 15 18 38.2 +3.7**
comp=Z,21nm,0.4s
KKN Kakani 15.73 172 *e*P **Pn 15 18 39.3 +4.2**
comp=Z,42nm,0.7s
DMN Daman 15.89 172 *e*P **Pn 15 18 39.9 +2.7**
PKI Pulchoki 15.96 171 *e*P **Pn 15 18 40.0 +1.9**
comp=Z,62nm,0.9s
JIRN Jiri 15.97 169 *e*P **Pn 15 18 37.8 -0.5**
comp=Z,23nm,0.6s
TLY Talaya 16.33 52 *e*P **Pn 15 18 48.3 +5.4**
TLY MLR MLR
comp=Z,64nm,15.0s
AB31 Akbulak array 16.74 298 ⇑Pn **Pn 15 18 45.0 -3.0**
comp=Z,4.6nm,0.6s
SONM Songino Array 17.13 67 P **Pn 15 18 54.1 +1.2**
comp=Z,0.4nm,0.3s,baz=265,slow=11,SNR=15
LZH Lanzhou 17.80 107 *e*P **Pn 15 19 02.4 +1.1**
LZH AP pP 15 19 10.0 +5.1
LZH XP sP 15 19 15.4 +9.2
LZH AMB AMB
comp=Z,20nm,1.0s
LZH AMB AMB
comp=Z,99nm,4.2s
LZH Lanzhou 17.80 107 *e*P **Pn 15 19 02.4 +1.1**
comp=Z,20nm,1.0s
LZH pP pP 15 19 10.0 +5.1
LZH sP sP 15 19 15.4 +9.2
AKTK Aktyubinsk 18.21 301 P **Pn 15 19 05.3 -1.0**
AKTK LR LR 15 26 35.4
comp=Z,0.1nm,0.7s
AKTO Aktyubinsk 18.21 301 ⇓Pn **Pn 15 19 04.7 -1.6**
comp=Z,0.7nm,0.3s,baz=104,slow=12,SNR=19
AKTO Aktyubinsk 18.21 301 P **Pn 15 19 05.3 -1.0**
AKTO LR LR 15 26 35.4
comp=Z,87nm,19.2s,baz=125,slow=39
AKTO Aktyubinsk 18.21 301 P **Pn 15 19 05.3 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,87nm,19.2s
ARU Arti 20.14 319 ⇓*i*P **P 15 19 28.7 +1.0**
ARU *e* 15 19 48.7
ARU *e*SS 15 23 42.2
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 20.14 319 *e*P **P 15 19 28.9 +1.2**
comp=Z,18nm,0.6s
ORR Orenburg 20.48 303 *e*P **P 15 19 31.5 0.0**
ORR pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 20.84 120 *e*P **P 15 19 33.7 -1.7**
CD2 XP sP 15 19 46.9 +7.4
CD2 PP 15 19 56.7
CD2 S **S 15 23 20.2 -7.6**
CD2 SS 15 23 52.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=N,380nm,12.0s
CD2 LR LR
comp=Z,280nm,9.4s
HHC Hu-ho-hao-te 21.51 87 *e*P **P 15 19 44.3 +1.7**
HHC AP 15 19 48.5
HHC XP sP 15 19 51.2 +4.5
HHC PP 15 20 09.0
HHC S **S 15 23 38.3 -2.7**
HHC PCP PcP 15 23 45.9 +0.8
HHC SS 15 24 13.8
HHC SCP ScP 15 27 21.7 -0.4
HHC AMB AMB
comp=Z,17nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,330nm,5.2s
HHC LR LR
comp=N,345nm,10.7s,MS4.2
HHC LR LR
comp=E,365nm,10.9s,MS4.2
HHC LR LR
comp=Z,260nm,11.0s,MS3.9
BOD Bodaibo 24.25 43 *e*P **P 15 20 11.6 +1.0**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb3.9
KMI Kunming 24.53 132 P **P 15 20 14.8 +1.6**
KMI AMB AMB
comp=Z,3.0nm,0.7s,mb3.9
KMI Kunming 24.53 132 P **P 15 20 14.8 +1.6**
comp=Z,3.0nm,0.7s,mb3.9
JOF Joensuu 35.21 322 *e*p **P 15 21 47.4 -0.5**
AKASG Malin Array Be 36.46 301 P **P 15 21 57.4 -1.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=69,slow=8.2,SNR=7.1
AKASG Malin Array Be 36.46 301 *i* P **P 15 21 57.4 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 36.47 281 P **P 15 21 58.2 -0.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=80,slow=8.4,SNR=9.2
BRTR Keskin Array B 36.47 281 P **P 15 21 58.2 -0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 37.44 320 *e*p **P 15 22 06.2 -0.7**
FINES FINESS Array B 37.51 319 P **P 15 22 07.1 -0.4**
comp=Z,1.5nm,0.5s,mb4.0,baz=108,slow=12,SNR=8.7
FINES FINESS Array B 37.51 319 *i* P **P 15 22 06.6 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 38.74 332 P **P 15 22 18.1 +0.2**
comp=Z,4.8nm,0.6s,mb4.4,baz=88,slow=9.0,SNR=28
ARCES ARCESS Array B 38.74 332 P **P 15 22 18.1 +0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
OJC Ojcow 42.43 302 *e*P **P 15 22 47.8 -0.6**
NB2 NORSAR Subarra 44.70 319 P **P 15 23 05.9 -0.7**
comp=Z,3.9nm,0.5s,mb4.5,baz=79,slow=7.9
NOA NORSAR Array B 44.70 319 P **P 15 23 06.2 -0.4**
comp=Z,3.9nm,0.5s,mb4.5,baz=80,slow=8.0,SNR=12
NOA LR LR 15 40 45.3
comp=Z,24nm,18.1s,MS3.1,baz=80,slow=35
NAO01 NORSAR Array S 44.89 319 *e*P **P 15 23 07.3 -0.9**
comp=Z,3.1nm,0.4s,mb4.5
GERES GERESS Array B 46.64 302 P **P 15 23 22.1 +0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=60,slow=8.1,SNR=4.3
GERES GERESS Array B 46.64 302 P **P 15 23 22.1 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
LPG La Plagne 52.32 300 *e*P **P 15 24 05.4 0.0**
LPL La Plagne 52.33 300 *e*P **P 15 24 05.3 -0.1**
comp=Z,9.0nm,0.7s,mb4.5
LPL La Plagne 52.33 300 *e*P **P 15 24 05.3 -0.1**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPL La Plagne 52.33 300 *e*P **P 15 24 05.3 -0.1**
comp=Z,4.5nm,0.7s,mb4.5
SBF Sospel 52.63 298 *e*P **P 15 24 06.8 -0.9**
comp=Z,43nm,0.9s,mb5.1
SBF Sospel 52.63 298 *e*P **P 15 24 06.8 -0.9**
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.1
SBF Sospel 52.63 298 *e*P **P 15 24 06.8 -0.9**
comp=Z,22nm,0.9s,mb5.1
TCF Toulx Ste Croi 54.77 303 *e*P **P 15 24 22.4 -0.9**
comp=Z,2.9nm,0.4s,mb4.3
TCF Toulx Ste Croi 54.77 303 *e*P **P 15 24 22.4 -0.9**
TCF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
TCF Toulx Ste Croi 54.77 303 *e*P **P 15 24 22.4 -0.9**
comp=Z,1.5nm,0.4s,mb4.4
RJF Les Rejaudoux 55.67 302 *e*P **P 15 24 29.4 -0.4**
LFF La Frestale 56.33 302 *e*P **P 15 24 34.0 -0.5**
comp=Z,31nm,0.9s,mb5.0
LFF La Frestale 56.33 302 *e*P **P 15 24 34.0 -0.5**
LFF pmax pmax
comp=Z,15nm,0.9s,mb5.0
LFF La Frestale 56.33 302 *e*P **P 15 24 34.0 -0.5**
comp=Z,15nm,0.9s,mb5.0
TORD Torodi Ar. Bea 74.59 274 P **P 15 26 30.8 -1.9**
comp=Z,6.1nm,0.5s,mb4.8,baz=42,slow=5.2,SNR=100
WRA Warramunga Arr 78.86 131 P **P 15 26 55.8 -1.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=329,slow=5.3,SNR=15
WRA Warramunga Arr 78.86 131 P **P 15 26 55.8 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB2 Warramunga Arr 78.86 131 *e*P **P 15 26 55.8 -1.1**
ASAR Alice Springs 81.65 134 P **P 15 27 10.9 -0.9**
comp=Z,0.8nm,0.8s,mb3.7,baz=328,slow=5.0,SNR=15
ASAR Alice Springs 81.65 134 P **P 15 27 10.9 -0.9**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
MFF Saint Martin d 1.01 36 *e*Pn **Pn 15 53 26.9 +1.4**
SNR=1.0
MFF *e*Sg **Sg 15 53 40.0 +1.7**
MFF *e*Sn **Sn 15 53 41.1 +1.5**
543nm,0.3s,SNR=1.0
MFF Saint Martin d 1.01 36 *e*Pn **Pn 15 53 26.9 +1.4**
SNR=1.0
MFF *e*Sg **Sg 15 53 40.0 +1.7**
MFF *e*Sn **Sn 15 53 41.1 +1.5**
272nm,0.3s,SNR=1.0
LFF La Frestale 1.49 124 *e*P **Pn 15 53 34.7 +2.6**
LFF *e*Sg **Sg 15 53 55.2 +1.6**
225nm,0.3s,SNR=1.0
LFF La Frestale 1.49 124 *e*Pn **Pn 15 53 33.6 +1.5**
LFF *e*P 15 53 34.7
LFF *e*Sg **Sg 15 53 55.2 +1.6**
LFF La Frestale 1.49 124 *e*P **Pn 15 53 34.7 +2.6**
LFF *e*Sg **Sg 15 53 55.2 +1.6**
113nm,0.3s,SNR=1.0
RJF Les Rejaudoux 1.84 104 *e*P **Pn 15 53 40.3 +3.5**
RJF Les Rejaudoux 1.84 104 *e*Pg **Pg 15 53 41.9 +1.1**
RJF *e*Sn **Sn 15 54 01.0 +1.1**
RJF *e*Sg **Sg 15 54 06.2 +1.6**
168nm,0.3s
RJF Les Rejaudoux 1.84 104 *e*Pn **Pn 15 53 37.9 +1.1**
RJF *e*P 15 53 40.3
RJF *e*Pg **Pg 15 53 41.9 +1.1**
RJF *e*Sn **Sn 15 54 01.0 +1.1**
RJF *e*Sg **Sg 15 54 06.2 +1.6**
RJF Les Rejaudoux 1.84 104 *e*P **Pn 15 53 40.3 +3.5**
RJF Les Rejaudoux 1.84 104 *e*Pg **Pg 15 53 41.9 +1.1**
RJF *e*Sn **Sn 15 54 01.0 +1.1**
RJF *e*Sg **Sg 15 54 06.2 +1.6**
84nm,0.3s
TCF Toulx Ste Croi 2.30 76 *e*Pg **Pg 15 53 50.5 +1.0**
TCF *e*Sn **Sn 15 54 12.0 +0.7**
TCF *e*Sg **Sg 15 54 19.5 +0.2**
70nm,0.3s
TCF Toulx Ste Croi 2.30 76 *e*Pn **Pn 15 53 44.6 +1.5**
TCF *e*Pg **Pg 15 53 50.5 +1.0**
TCF *e*Sn **Sn 15 54 12.0 +0.7**
TCF *e*Sg **Sg 15 54 19.5 +0.2**
TCF Toulx Ste Croi 2.30 76 *e*Pg **Pg 15 53 50.5 +1.0**
TCF *e*Sn **Sn 15 54 12.0 +0.7**
TCF *e*Sg **Sg 15 54 19.5 +0.2**
35nm,0.3s
CAF Calviac 2.33 111 *e*Pg **Pg 15 53 50.8 +0.6**
SNR=1.0
CAF *e*Sn **Sn 15 54 12.4 +0.3**
SNR=1.0
CAF *e*Sg **Sg 15 54 21.5 +1.1**
120nm,0.4s,SNR=1.0
CAF Calviac 2.33 111 *e*Pn **Pn 15 53 45.2 +1.6**
CAF *e*Pg **Pg 15 53 50.8 +0.6**
CAF *e*Sn **Sn 15 54 12.4 +0.3**
CAF *e*Sg **Sg 15 54 21.5 +1.1**
CAF Calviac 2.33 111 *e*Pg **Pg 15 53 50.8 +0.6**
SNR=1.0
CAF *e*Sn **Sn 15 54 12.4 +0.3**
SNR=1.0
CAF *e*Sg **Sg 15 54 21.5 +1.1**
60nm,0.4s,SNR=1.0
OSSF Osses 2.53 184 Pg **Pg 15 53 54.8 +0.7**
OSSF Osses 2.53 184 Pn **Pn 15 53 46.7 +0.3**
OSSF Pg **Pg 15 53 54.8 +0.7**
OSSF Osses 2.53 184 Pg **Pg 15 53 54.8 +0.7**
ORDF Ordiarp 2.57 179 Pg **Pg 15 53 54.7 -0.1**
ORDF Ordiarp 2.57 179 Pn **Pn 15 53 46.9 0.0**
ORDF Pg **Pg 15 53 54.7 -0.1**
ORDF Ordiarp 2.57 179 Pg **Pg 15 53 54.7 -0.1**
EALK Alkurruntz 2.59 188 Pn **Pn 15 53 48.2 +1.1**
EALK Pg **Pg 15 53 53.8 -1.4**
EALK Sn **Sn 15 54 19.4 +0.9**
EALK Lg 15 54 28.7
EALK Alkurruntz 2.59 188 Pn **Pn 15 53 48.2 +1.0**
0.1nm,0.1s,SNR=12
EALK Alkurruntz 2.59 188 Pg **Pg 15 53 53.8 -1.4**
0.3nm,0.1s,SNR=12
EALK Sn **Sn 15 54 19.4 +0.9**
5.9nm,0.2s,SNR=7.9
QUIF Quistinic 2.60 326 *e*Pg **Pg 15 53 54.5 -0.8**
SNR=1.0
QUIF *e*Sg **Sg 15 54 27.4 -1.6**
63nm,0.3s,SNR=1.0
QUIF Quistinic 2.60 326 *e*Pn **Pn 15 53 47.9 +0.6**
QUIF *e*Pg **Pg 15 53 54.5 -0.8**
QUIF *e*Sg **Sg 15 54 27.4 -1.6**
QUIF Quistinic 2.60 326 *e*Pg **Pg 15 53 54.5 -0.8**
SNR=1.0
QUIF *e*Sg **Sg 15 54 27.4 -1.6**
32nm,0.3s,SNR=1.0
GRR Gorron 2.61 2 *e*P **Pn 15 53 50.6 +3.2**
GRR Gorron 2.61 2 *e*Pg **Pg 15 53 55.3 -0.2**
SNR=1.0
GRR *e*Sn **Sn 15 54 18.9 -0.1**
SNR=1.0
GRR *e*Sg **Sg 15 54 28.9 -0.4**
80nm,0.2s,SNR=1.0
GRR Gorron 2.61 2 *e*Pn **Pn 15 53 48.3 +0.9**
GRR *e*P 15 53 50.6
GRR *e*Pg **Pg 15 53 55.3 -0.2**
GRR *e*Sn **Sn 15 54 18.9 -0.1**
GRR *e*Sg **Sg 15 54 28.9 -0.4**
GRR Gorron 2.61 2 *e*P **Pn 15 53 50.6 +3.2**
GRR Gorron 2.61 2 *e*Pg **Pg 15 53 55.3 -0.2**
SNR=1.0
GRR *e*Sn **Sn 15 54 18.9 -0.1**
SNR=1.0
GRR *e*Sg **Sg 15 54 28.9 -0.4**
40nm,0.2s,SNR=1.0
ELIZ Elizondo 2.65 188 Pn **Pn 15 53 47.5 -0.4**
ELIZ Pg **Pg 15 53 54.9 -1.4**
ELIZ Sn **Sn 15 54 17.4 -2.6**
ELIZ Elizondo 2.65 188 Pn **Pn 15 53 47.5 -0.5**
0.8nm,0.1s,SNR=7.9
ELIZ Elizondo 2.65 188 Pg **Pg 15 53 54.9 -1.4**
2.5nm,0.2s,SNR=12
ELIZ Sn **Sn 15 54 17.4 -2.5**
3.4nm,0.2s,SNR=7.9
SJPF Ste Jean 2.67 183 *e*Pg **Pg 15 53 56.2 -0.6**
SNR=1.0
SJPF *e*Sg **Sg 15 54 30.7 -0.8**
47nm,0.3s,SNR=1.0
SJPF Ste Jean 2.67 183 *e*Pn **Pn 15 53 48.4 +0.1**
SJPF *e*Pg **Pg 15 53 56.2 -0.6**
SJPF *e*Sg **Sg 15 54 30.7 -0.8**
SJPF Ste Jean 2.67 183 *e*Pg **Pg 15 53 56.2 -0.6**
SNR=1.0
SJPF *e*Sg **Sg 15 54 30.7 -0.8**
23nm,0.3s,SNR=1.0
SGMF Saint Gilles 2.69 337 *e*Pg **Pg 15 53 56.8 -0.3**
SNR=1.0
SGMF *e*Sn **Sn 15 54 19.9 -1.1**
SNR=1.0
SGMF *e*Sg **Sg 15 54 29.9 -2.0**
66nm,0.3s,SNR=1.0
SGMF Saint Gilles 2.69 337 *e*Pn **Pn 15 53 49.2 +0.7**
SGMF *e*Pg **Pg 15 53 56.8 -0.3**
SGMF *e*Sn **Sn 15 54 19.9 -1.1**
SGMF *e*Sg **Sg 15 54 29.9 -2.0**
SGMF Saint Gilles 2.69 337 *e*Pg **Pg 15 53 56.8 -0.3**
SNR=1.0
SGMF *e*Sn **Sn 15 54 19.9 -1.1**
SNR=1.0
SGMF *e*Sg **Sg 15 54 29.9 -2.0**
33nm,0.3s,SNR=1.0
ATE Arette 2.71 175 Pg **Pg 15 53 56.6 -0.8**
LARR Larrau 2.75 180 Pn **Pn 15 53 49.0 +0.3**
REYF Montagne du Re 2.75 171 Pn **Pn 15 53 50.1 +0.7**
BGF Bois d'Agland 2.79 72 *e*Pn **Pn 15 53 50.8 +0.9**
SNR=1.0
BGF *e*Sn **Sn 15 54 23.0 -0.4**
SNR=1.0
BGF *e*Sg **Sg 15 54 35.4 +0.4**
131nm,0.3s,SNR=1.0
PYM Petit Puy Mans 2.81 89 Pg **Pg 15 54 01.3 +1.9**
PYM Sg **Sg 15 54 36.5 +0.7**
PYM Petit Puy Mans 2.81 89 Pn **Pn 15 53 52.3 +2.1**
PYM Pg **Pg 15 54 01.3 +1.9**
PYM Sg **Sg 15 54 36.5 +0.7**
PYM Petit Puy Mans 2.81 89 Pg **Pg 15 54 01.3 +1.9**
PYM Sg **Sg 15 54 36.5 +0.7**
LABF Labassere 2.84 164 Pg **Pg 15 53 58.9 -1.1**
LABF Labassere 2.84 164 Pn **Pn 15 53 51.1 +0.4**

*ISCJB **01** 15:53:03.4±0.3, 4577N×001×095W±002, h4km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=25.7*
*STR **01** 15:53:06.6±0.1, 4575N×109W, h5km±1km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 15:53:06.9±0.1, 4577N×108W, h5km, Md3.6/2, Ml3.6/40, Error ellipse: s-maj=1.0km s-min=0.8km az=76.0*
*NEIC **01** 15:53:06.9, 4577N×108W, h5km, ML3.4(STR), ML3.6(LDG), After LDG.*
*CSEM **01** 15:53:07.1±0.1, 4577N×108W, h10km, ML3.5/43, Error ellipse: s-maj=1.0km s-min=0.8km az=93.0*

ISC 01 15:53:05.5±0.2, **45784N**±0010×**101W**±002, **h12**km±1km, **n168**, σ1$**30**/393, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OLEF	**Ile d'Oleron**	**0.29**	**304**	Pg	**Pg**	**15 53 12.0**	**+0.5**
OLEF				Sg	**Sg**	**15 53 16.1**	**+0.7**
MATF	**Mathat**	**0.50**	**84**	Pg	**Pg**	**15 53 18.4**	**+3.0**
MATF				Sg	**Sg**	**15 53 25.3**	**+3.2**
CHIF	**Chize**	**0.54**	**50**	Pg	**Pg**	**15 53 18.6**	**+2.4**
CHIF				Sg	**Sg**	**15 53 26.5**	**+3.1**
LRYF	**La Roche-sur-Y**	**0.88**	**335**	Pg	**Pg**	**15 53 23.4**	**+0.9**
LRYF				Sg	**Sg**	**15 53 35.9**	**+1.9**
LCHF	**La Chataignera**	**0.90**	**12**	Pg	**Pg**	**15 53 25.0**	**+2.0**
LCHF				Sg	**Sg**	**15 53 37.2**	**+2.4**

LABF				Pg	Pg	15 53 58.9	-1.1
LABF	Labassere	2.84	164	Pg	Pg	15 53 58.9	-1.1
IUSE	Utxeti	2.86	188	Pg	Pg	15 53 59.1	-1.3
	0.7nm,0.1s,SNR=8.1						
LDF	La Druitiere	2.88	12	*e*Pn	Pn	15 53 50.8	-0.3
LDF				*e*Pg	Pg	15 54 00.0	-0.6
LDF				*e*Sn	Sn	15 54 25.2	-0.4
LDF				*e*Sg	Sg	15 54 37.0	-0.9
LDF	La Druitiere	2.88	12	*e*Pg	Pg	15 54 00.0	-0.6
	SNR=1.0						
LDF				*e*Sn	Sn	15 54 25.2	-0.4
LDF				*e*Sg	Sg	15 54 37.0	-0.9
	43nm,0.4s,SNR=1.0						
AGO	Saint Agoulin	2.90	83	Pn	Pn	15 53 52.7	+1.3
AGO				Pg	Pg	15 54 02.1	+1.0
AGO				Sg	Sg	15 54 40.3	+1.6
ETSF	Etsaut	2.90	174	*e*Pg	Pg	15 54 00.0	-1.2
ETSF				*e*Sn	Sn	15 54 25.3	-1.0
	SNR=1.0						
ETSF				*e*Sg	Sg	15 54 36.9	-1.9
	47nm,0.4s,SNR=1.0						
ETSF	Etsaut	2.90	174	*e*Pn	Pn	15 53 51.3	-0.2
ETSF				*e*Pg	Pg	15 54 00.0	-1.2
ETSF				*e*Sn	Sn	15 54 25.3	-1.0
ETSF				*e*Sg	Sg	15 54 36.9	-1.9
ETSF	Etsaut	2.90	174	*e*Pg	Pg	15 54 00.0	-1.2
ETSF				*e*Sn	Sn	15 54 25.3	-1.0
	SNR=1.0						
ETSF				*e*Sg	Sg	15 54 36.9	-1.9
	23nm,0.4s,SNR=1.0						
EPF	Esparros	2.92	160	*e*Pg	Pg	15 54 01.1	-0.3
EPF				*e*Sn	Sn	15 54 25.8	-0.8
EPF				*e*Sg	Sg	15 54 39.1	-0.1
	55nm,0.3s						
EPF	Esparros	2.92	160	*e*Pn	Pn	15 53 52.2	+0.5
EPF				*e*Pg	Pg	15 54 01.1	-0.3
EPF				*e*Sn	Sn	15 54 25.8	-0.8
EPF				*e*Sg	Sg	15 54 39.1	-0.1
EPF	Esparros	2.92	160	*e*Pg	Pg	15 54 01.1	-0.3
EPF				*e*Sn	Sn	15 54 25.8	-0.8
EPF				*e*Sg	Sg	15 54 39.1	-0.1
	27nm,0.3s						
HYF	Humbligny	2.92	58	*e*Pn	Pn	15 53 52.9	+1.2
HYF				*e*Pg	Pg	15 54 02.0	+0.5
HYF				*e*Sn	Sn	15 54 26.7	0.0
HYF				*e*Sg	Sg	15 54 40.2	+0.8
ROSF	Rostrenen	2.99	330	*e*Pg	Pg	15 54 01.8	-1.0
	SNR=1.0						
ROSF				*e*Sn	Sn	15 54 25.9	-2.4
	SNR=1.0						
ROSF				*e*Sg	Sg	15 54 38.9	-2.6
	80nm,0.4s,SNR=1.0						
ROSF	Rostrenen	2.99	330	*e*Pn	Pn	15 53 52.8	+0.2
ROSF				*e*Pg	Pg	15 54 01.8	-1.0
ROSF				*e*Sn	Sn	15 54 25.9	-2.4
ROSF				*e*Sg	Sg	15 54 38.9	-2.6
ROSF	Rostrenen	2.99	330	*e*Pg	Pg	15 54 01.8	-1.0
	SNR=1.0						
ROSF				*e*Sn	Sn	15 54 25.9	-2.4
	SNR=1.0						
ROSF				*e*Sg	Sg	15 54 38.9	-2.6
	40nm,0.4s,SNR=1.0						
IPRE	Itoiz	2.99	185	Pn	Pn	15 53 55.2	+2.5
	0.4nm,0.1s,SNR=4.9						
IPRE	Itoiz	2.99	185	Pg	Pg	15 54 01.6	-1.2
	0.5nm,0.1s,SNR=7.9						
IPRE				Sn	Sn	15 54 29.5	+1.1
	0.2nm,0.0s,SNR=7.9						
VIEF	Viey	2.99	165	Pg	Pg	15 54 01.9	-1.0
FLN	La Foliniere	3.00	7	*e*Pn	Pn	15 53 53.6	+0.8
	baz=185						
FLN				*e*Sn	Sn	15 54 28.4	-0.3
	SNR=1.0						
FLN				*e*Sg	Sg	15 54 41.3	-0.6
	94nm,0.4s,SNR=1.0						
FLN	La Foliniere	3.00	7	*e*Pn	Pn	15 53 53.6	+0.8
FLN				*e*Sn	Sn	15 54 28.4	-0.3
	SNR=1.0						
FLN				*e*Sg	Sg	15 54 41.3	-0.6
	47nm,0.4s,SNR=1.0						
ELAN	Lanestosa	3.09	215	Pn	Pn	15 53 54.4	+0.4
ELAN				Sn	Sn	15 54 27.9	-2.9
ELAN	Lanestosa	3.09	215	Pn	Pn	15 53 54.4	+0.4
	0.5nm,0.1s,SNR=12						
ELAN				Sn	Sn	15 54 27.9	-2.9
	1.6nm,0.2s,SNR=7.9						
MELF	Melles	3.17	156	Pg	Pg	15 54 04.8	-1.6
AVF	Avril sur Loir	3.19	70	*e*Pn	Pn	15 53 56.8	+1.4
	SNR=1.0						
AVF				*e*Sn	Sn	15 54 32.7	-0.5
	SNR=1.0						
AVF				*e*Sg	Sg	15 54 46.9	-0.9
	32nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.19	70	*e*Pn	Pn	15 53 56.8	+1.4
	SNR=1.0						
AVF				*e*Sn	Sn	15 54 32.7	-0.5
	SNR=1.0						
AVF				*e*Sg	Sg	15 54 46.9	-0.9
	16nm,0.3s,SNR=1.0						
EBIE	Bielsa	3.21	165	Pn	Pn	15 53 59.0	+3.3
EBIE				Pg	Pg	15 54 05.8	-1.1
EBIE				Sn	Sn	15 54 36.0	+2.3
EBIE				Lg		15 54 46.1	
EBIE	Bielsa	3.21	165	Pn	Pn	15 53 59.0	+3.4
	0.3nm,0.1s,SNR=17						
EBIE	Bielsa	3.21	165	Pg	Pg	15 54 05.8	-1.1
	2.4nm,0.1s,SNR=16						
EBIE				Sn	Sn	15 54 36.0	+2.3
	1.9nm,0.1s,SNR=5.0						
PLDF	La Plantade	3.24	85	Pn	Pn	15 53 57.4	+1.3
MTLF	Montolieu	3.36	136	*e*P	Pn	15 54 01.7	+4.0
MTLF	Montolieu	3.36	136	*e*Pg	Pg	15 54 09.5	-0.4
	SNR=1.0						
MTLF				*e*Sn	Sn	15 54 36.3	-1.2
MTLF				*e*Sg	Sg	15 54 53.9	+0.5
	23nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.36	136	*e*Pn	Pn	15 53 58.8	+1.1
MTLF				*e*P		15 54 01.7	
MTLF				*e*Pg	Pg	15 54 09.5	-0.4
MTLF				*e*Sn	Sn	15 54 36.3	-1.2
MTLF				*e*Sg	Sg	15 54 53.9	+0.5
MTLF	Montolieu	3.36	136	*e*P	Pn	15 54 01.7	+4.0
MTLF	Montolieu	3.36	136	*e*Pg	Pg	15 54 09.5	-0.4
	SNR=1.0						
MTLF				*e*Sn	Sn	15 54 36.3	-1.2
MTLF				*e*Sg	Sg	15 54 53.9	+0.5
	12nm,0.3s,SNR=1.0						
SSF	Saint Saulge	3.37	66	*e*P	Pn	15 54 02.2	+4.3
SSF	Saint Saulge	3.37	66	*e*Pg	Pg	15 54 10.1	0.0
	SNR=1.0						
SSF				*e*Sn	Sn	15 54 36.4	-1.4
SSF				*e*Sg	Sg	15 54 54.2	+0.4
	31nm,0.3s						
SSF	Saint Saulge	3.37	66	*e*Pn	Pn	15 53 59.4	+1.5
SSF				*e*P		15 54 02.2	
SSF				*e*Pg	Pg	15 54 10.1	0.0
SSF				*e*Sn	Sn	15 54 36.4	-1.4
SSF				*e*Sg	Sg	15 54 54.2	+0.4
SSF	Saint Saulge	3.37	66	*e*P	Pn	15 54 02.2	+4.3
SSF	Saint Saulge	3.37	66	*e*Pg	Pg	15 54 10.1	0.0
	SNR=1.0						
SSF				*e*Sn	Sn	15 54 36.4	-1.4
SSF				*e*Sg	Sg	15 54 54.2	+0.4
	16nm,0.3s						
SALF	Salau	3.41	152	Pn	Pn	15 53 59.3	+0.9
SMF	Signal de Mont	3.47	74	*e*P	Pn	15 54 03.7	+4.4
SMF	Signal de Mont	3.47	74	*e*Pg	Pg	15 54 12.2	+0.1
	SNR=1.0						
SMF				*e*Sn	Sn	15 54 38.4	-1.9
	SNR=1.0						
SMF				*e*Sg	Sg	15 54 56.8	-0.3
	50nm,0.5s,SNR=1.0						
SMF	Signal de Mont	3.47	74	*e*Pn	Pn	15 53 59.8	+0.5
SMF				*e*P		15 54 03.7	
SMF				*e*Pg	Pg	15 54 12.2	+0.1
SMF				*e*Sn	Sn	15 54 38.4	-1.9
SMF				*e*Sg	Sg	15 54 56.8	-0.3
SMF	Signal de Mont	3.47	74	*e*P	Pn	15 54 03.7	+4.4
SMF	Signal de Mont	3.47	74	*e*Pg	Pg	15 54 12.2	+0.1
	SNR=1.0						
SMF				*e*Sn	Sn	15 54 38.4	-1.9
	SNR=1.0						
SMF				*e*Sg	Sg	15 54 56.8	-0.3
	25nm,0.5s,SNR=1.0						
LOR	Lormes	3.67	64	*e*Pn	Pn	15 54 02.8	+0.8
	baz=245,SNR=1.0						
LOR	Lormes	3.67	64	*e*Pg	Pg	15 54 15.6	-0.3
	baz=250						
LOR				*e*Sn	Sn	15 54 43.4	-1.8
LOR				*e*Sg	Sg	15 55 01.8	-1.6
	25nm,0.2s,SNR=1.0						
LOR	Lormes	3.67	64	*e*Pn	Pn	15 54 02.8	+0.8
LOR				*e*Pg	Pg	15 54 15.6	-0.3
LOR				*e*Sn	Sn	15 54 43.4	-1.8
LOR				*e*Sg	Sg	15 55 01.8	-1.6
LOR	Lormes	3.67	64	*e*Pg	Pg	15 54 15.6	-0.3
LOR				*e*Sn	Sn	15 54 43.4	-1.8
LOR				*e*Sg	Sg	15 55 01.8	-1.6
	12nm,0.2s,SNR=1.0						
LASF	Ste Croix	3.85	115	*e*Pg	Pg	15 54 19.0	-0.3
	SNR=1.0						
LASF				*e*Sn	Sn	15 54 48.4	-1.3
	15nm,0.3s,SNR=1.0						
LASF				*e*Sg	Sg	15 55 09.2	0.0
	38nm,0.6s						
LASF	Ste Croix	3.85	115	*e*Pn	Pn	15 54 06.2	+1.7
LASF				*e*Pg	Pg	15 54 19.0	-0.3
LASF				*e*Sn	Sn	15 54 48.4	-1.3
LASF				*e*Sg	Sg	15 55 09.2	0.0
LASF	Ste Croix	3.85	115	*e*Pg	Pg	15 54 19.0	-0.3
	SNR=1.0						
LASF				*e*Sn	Sn	15 54 48.4	-1.3
	7.5nm,0.3s,SNR=1.0						
LASF				*e*Sg	Sg	15 55 09.2	0.0
	19nm,0.6s						
EARI	Arriondas	3.90	232	Pn	Pn	15 54 05.0	-0.1
EARI				Sn	Sn	15 54 46.9	-4.0
EARI	Arriondas	3.90	232	Pn	Pn	15 54 05.1	-0.1
EARI				Sn	Sn	15 54 46.9	-3.9
	1.0nm,0.2s,SNR=5.0						
ESAC	San Caprasio	4.08	174	Pn	Pn	15 54 10.0	+2.3
ESAC				Sn	Sn	15 54 55.2	-0.1
ESAC	San Caprasio	4.08	174	Pn	Pn	15 54 10.0	+2.3
	1.6nm,0.1s,SNR=7.9						
ESAC				Sn	Sn	15 54 55.2	-0.1
	11nm,0.2s,SNR=6.8						
VIVF	Saint-Julien-l	4.11	101	*e*Pg	Pg	15 54 24.0	-0.3
	SNR=1.0						
VIVF				*e*Sn	Sn	15 54 54.5	-1.6
	SNR=1.0						
VIVF				*e*Sg	Sg	15 55 16.2	-1.3
	18nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	4.11	101	*e*Pn	Pn	15 54 10.1	+2.0
VIVF				*e*Pg	Pg	15 54 24.0	-0.3
VIVF				*e*Sn	Sn	15 54 54.5	-1.6
VIVF				*e*Sg	Sg	15 55 16.2	-1.3
VIVF	Saint-Julien-l	4.11	101	*e*Pg	Pg	15 54 24.0	-0.3
	SNR=1.0						
VIVF				*e*Sn	Sn	15 54 54.5	-1.6
	SNR=1.0						
VIVF				*e*Sg	Sg	15 55 16.2	-1.3
	8.9nm,0.4s,SNR=1.0						
EMIR	Miracle	4.28	154	Pn	Pn	15 54 12.9	+2.5
EMIR				Sn	Sn	15 55 03.3	+3.1
EMIR	Miracle	4.28	154	Pn	Pn	15 54 12.9	+2.5
	0.7nm,0.1s,SNR=7.9						
EMIR				Sn	Sn	15 55 03.3	+3.1
	0.5nm,0.1s,SNR=7.9						
EJON	La Jonquera	4.36	139	Pn	Pn	15 54 12.1	+0.7
EJON				Sn	Sn	15 55 01.2	-0.9
EJON				Lg		15 55 24.9	
EJON	La Jonquera	4.36	139	Pn	Pn	15 54 12.1	+0.6
	0.1nm,0.0s,SNR=12						
EJON				Sn	Sn	15 55 01.2	-0.9
	2.1nm,0.1s,SNR=5.0						
EPOB	Poblet	4.68	160	Pn	Pn	15 54 17.6	+1.7
EPOB				Pg	Pg	15 54 31.8	-3.4
EPOB				Sn	Sn	15 55 09.6	-0.5
EPOB				Lg		15 55 32.4	
EPOB	Poblet	4.68	160	Pn	Pn	15 54 17.6	+1.7
	0.1nm,0.1s,SNR=7.9						
EPOB	Poblet	4.68	160	Pg	Pg	15 54 31.8	-3.4
	0.2nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	15 55 09.6	-0.5
	0.7nm,0.1s,SNR=7.9						
SFTF	Sexfontaines	4.79	57	*e*Pn	Pn	15 54 18.9	+1.5
	baz=243						
SFTF				*e*Sg	Sg	15 55 38.7	-0.7
	23nm,0.5s						
SFTF	Sexfontaines	4.79	57	*e*Pn	Pn	15 54 18.9	+1.5
SFTF				*e*Sg	Sg	15 55 38.7	-0.7
	11nm,0.5s						
ERTA	Horta de San J	4.92	168	Pn	Pn	15 54 21.4	+2.1
ERTA				Sn	Sn	15 55 16.1	0.0
ERTA	Horta de San J	4.92	168	Pn	Pn	15 54 21.4	+2.2
	0.3nm,0.1s,SNR=4.0						
ERTA				Sn	Sn	15 55 16.0	-0.1
ORIF	Oris-en-Rattie	4.93	98	*e*Pg	Pg	15 54 39.7	-0.3
ORIF				*e*Sn	Sn	15 55 14.3	-2.0
ORIF				*e*Sg	Sg	15 55 43.8	0.0
	18nm,0.7s						
ORIF	Oris-en-Rattie	4.93	98	*e*Pn	Pn	15 54 20.7	+1.4
ORIF				*e*Pg	Pg	15 54 39.7	-0.3
ORIF				*e*Sn	Sn	15 55 14.3	-2.0
ORIF				*e*Sg	Sg	15 55 43.8	0.0
ORIF	Oris-en-Rattie	4.93	98	*e*Pg	Pg	15 54 39.7	-0.3
ORIF				*e*Sg	Sg	15 55 43.8	0.0
	9.2nm,0.7s						
MEZF	Maizieres J'vi	4.95	54	*e*Pn	Pn	15 54 20.9	+1.3
	baz=234						
MEZF	Maizieres J'vi	4.95	54	*e*Pg	Pg	15 54 39.9	-0.4
	SNR=1.0						
MEZF				*e*Sg	Sg	15 55 42.3	-2.0
	32nm,0.6s,SNR=1.0						
MEZF	Maizieres J'vi	4.95	54	*e*Pn	Pn	15 54 20.9	+1.3
MEZF				*e*Pg	Pg	15 54 39.9	-0.4
MEZF				*e*Sg	Sg	15 55 42.3	-2.0
MEZF	Maizieres J'vi	4.95	54	*e*Pg	Pg	15 54 39.9	-0.4
	SNR=1.0						
MEZF				*e*Sg	Sg	15 55 42.3	-2.0
	16nm,0.6s,SNR=1.0						
CABF	La Chapelle	4.99	78	*e*Pn	Pn	15 54 22.1	+1.9
CABF				*e*Sn	Sn	15 55 15.0	-2.8
CABF				*e*Sg	Sg	15 55 45.2	-0.7
	37nm,0.7s						
CABF	La Chapelle	4.99	78	*e*Pn	Pn	15 54 22.1	+1.9
CABF				*e*Sn	Sn	15 55 15.0	-2.8
CABF				*e*Sg	Sg	15 55 45.2	-0.7
	18nm,0.7s						
SMRF	Simiane la Rot	5.01	109	*e*Pn	Pn	15 54 21.3	+0.8
SMRF				*e*Sn	Sn	15 55 16.9	-1.4
SMRF				*e*Sg	Sg	15 55 45.7	-0.8
	9.6nm,0.5s						
SMRF	Simiane la Rot	5.01	109	*e*Pn	Pn	15 54 21.3	+0.8
SMRF				*e*Sn	Sn	15 55 16.9	-1.4
SMRF				*e*Sg	Sg	15 55 45.7	-0.8
	4.8nm,0.5s						
ETOR	Torete	5.02	189	Pn	Pn	15 54 22.6	+2.0
ETOR				Sn	Sn	15 55 17.3	-1.2
ETOR	Torete	5.02	189	Pn	Pn	15 54 22.6	+2.0
	0.9nm,0.0s,SNR=7.9						
ETOR				Sn	Sn	15 55 17.3	-1.2
	5.5nm,0.3s,SNR=7.9						
EPON	Pontenova	5.03	243	Pn	Pn	15 54 20.6	-0.1
EPON				Sn	Sn	15 55 14.1	-4.7
EPON	Pontenova	5.03	243	Pn	Pn	15 54 20.6	-0.1
	1.1nm,0.1s,SNR=8.5						
EPON				Sn	Sn	15 55 14.1	-4.6
	1.0nm,0.1s,SNR=5.4						
RFYF	Reffroy	5.25	55	*e*Sg	Sg	15 55 52.8	-1.3
	9.8nm,0.3s						
RFYF	Reffroy	5.25	55	*e*Sg	Sg	15 55 52.8	-1.3
	4.9nm,0.3s						
EMOS	Mosqueruela	5.43	176	Pn	Pn	15 54 26.8	+0.6
EMOS				Sn	Sn	15 55 26.2	-2.4
EMOS	Mosqueruela	5.43	176	Pn	Pn	15 54 26.8	+0.6
EMOS				Sn	Sn	15 55 26.2	-2.4
LPL	La Plagne	5.43	90	*e*Pg	Pg	15 54 48.9	-0.7
LPL				*e*Sg	Sg	15 55 59.1	-0.8
	10nm,0.5s						
LPL	La Plagne	5.43	90	*e*Pg	Pg	15 54 48.9	-0.7
LPL				*e*Sg	Sg	15 55 59.1	-0.8
	5.2nm,0.5s						
LPG	La Plagne	5.45	90	*e*Sg	Sg	15 55 59.7	-0.7
	9.9nm,0.5s						
LPG	La Plagne	5.45	90	*e*Sg	Sg	15 55 59.7	-0.7
	4.9nm,0.5s						
HAU	Haudompre	5.51	64	*e*Pg	Pg	15 54 49.0	-2.0
	SNR=1.0						
HAU				*e*Sn	Sn	15 55 28.7	-1.8
HAU				*e*Sg	Sg	15 55 59.6	-2.7
	26nm,0.6s,SNR=1.0						
HAU	Haudompre	5.51	64	*e*Pn	Pn	15 54 27.9	+0.6
HAU				*e*Pg	Pg	15 54 49.0	-2.0
HAU				*e*Sn	Sn	15 55 28.7	-1.8
HAU				*e*Sg	Sg	15 55 59.6	-2.7
HAU	Haudompre	5.51	64	*e*Pg	Pg	15 54 49.0	-2.0
	SNR=1.0						
HAU				*e*Sn	Sn	15 55 28.7	-1.8
HAU				*e*Sg	Sg	15 55 59.6	-2.7
	13nm,0.6s,SNR=1.0						
BAIF	Baives	5.53	37	*e*Pn	Pn	15 54 27.9	+0.3
	SNR=1.0						
BAIF				*e*Sn	Sn	15 55 27.6	-3.4
ECAL	Calabor	5.65	229	Pn	Pn	15 54 29.1	-0.2
ECAL				Sn	Sn	15 55 29.4	-4.6
ECAL	Calabor	5.65	229	Pn	Pn	15 54 29.1	-0.1
ECAL				Sn	Sn	15 55 29.4	-4.6
HINF	Hinteralfeld	5.77	67	*e*Pg	Pg	15 54 54.4	-1.5
HINF				*e*Sn	Sn	15 55 34.1	-2.8
	SNR=1.0						
HINF				*e*Sg	Sg	15 56 07.9	-2.7
	8.7nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	5.77	67	*e*Pg	Pg	15 54 54.4	-1.5
HINF				*e*Sn	Sn	15 55 34.1	-2.8
	SNR=1.0						
HINF				*e*Sg	Sg	15 56 07.9	-2.7
	4.3nm,0.3s,SNR=1.0						
GIVF	Givet	5.83	40	*e*Pn	Pn	15 54 32.9	+1.2
	SNR=1.0						
GIVF				*e*Sg	Sg	15 56 10.6	-2.1
	6.0nm,0.3s						
GIVF	Givet	5.83	40	*e*Pn	Pn	15 54 32.9	+1.2
	SNR=1.0						
GIVF				*e*Sg	Sg	15 56 10.6	-2.1
	3.0nm,0.3s						
FRF	La Foret Royal	5.89	109	*e*Pn	Pn	15 54 34.0	+1.4
	SNR=1.0						
FRF				*e*Sn	Sn	15 55 36.1	-3.9
	7.6nm,0.4s,SNR=1.0						
LMR	La Mourre	5.90	112	*e*Sn	Sn	15 55 37.8	-2.4
CDF	Champ du Feu	6.24	62	*e*Pg	Pg	15 55 02.5	-2.4
CDF				*e*Sn	Sn	15 55 44.7	-3.7
	4.2nm,0.6s,SNR=1.0						
CDF				*e*Sg	Sg	15 56 24.4	-1.2
	13nm,0.6s						
CDF	Champ du Feu	6.24	62	*e*Pn	Pn	15 54 38.1	+0.8
CDF				*e*Pg	Pg	15 55 02.5	-2.4
CDF				*e*Sn	Sn	15 55 44.7	-3.7
CDF				*e*Sg	Sg	15 56 24.4	-1.2
CDF	Champ du Feu	6.24	62	*e*Pg	Pg	15 55 02.5	-2.4
CDF				*e*Sn	Sn	15 55 44.7	-3.7
	2.1nm,0.6s,SNR=1.0						
CDF				*e*Sg	Sg	15 56 24.4	-1.2
	6.3nm,0.6s						
SBF	Sospel	6.30	105	*e*Pn	Pn	15 54 38.9	+0.7
SBF				*e*Sn	Sn	15 55 47.7	-2.4
	2.4nm,0.3s						
SBF	Sospel	6.30	105	*e*Pn	Pn	15 54 38.9	+0.7
SBF				*e*Sn	Sn	15 55 47.7	-2.4
	1.2nm,0.3s						
EMAZ	Mazaricos	6.38	246	Pn	Pn	15 54 37.6	-1.6
EMAZ				Sn	Sn	15 55 45.3	-6.7
EMAZ	Mazaricos	6.38	246	Pn	Pn	15 54 37.6	-1.6

*CSEM **01** 16:11:20.1±0.3, 3639N×960W, h30km, ML3.6/5, Error ellipse: s-maj=6.8km s-min=4.4km az=47.0*
*NEIC **01** 16:11:22.4, 3682N×954W, h0km, MN2.6(MDD), After MDD.*
*INMG **01** 16:11:23.2±0.9, 3669N×968W, h18km±12km, MD2.6, ML2.4, Error ellipse: s-maj=12.1km s-min=2.4km az=52.0*
MDD 01 16:11:22.6±1.6**, 3664N×976W, h52km**±40km**, mb4.0**/12**, 1D, Error ellipse: s-maj=15.4km s-min=8.2km az=44.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	1.11	53	*e*P	Pn	16 11 41.2	-0.6
MORF				*e*S	Sn	16 11 55.0	-1.1
MORF							
	56nm,0.1s						
PTEO	Sao Teotonio	1.23	42	*e*P	Pn	16 11 42.8	-0.6
PTEO				*e*S	Sn	16 11 57.6	-1.3
PTEO							
	32nm,0.2s						
EGRO	El Granado	2.03	63	P	Pn	16 11 53.9	-0.4
	1.7nm,0.1s,SNR=5.6						
EGRO				S	Sn	16 12 16.7	-1.8
	9.8nm,0.1s						
EGRO	El Granado	2.03	63	P	Pn	16 11 53.9	-0.4
	1.7nm,0.1s,SNR=5.6						
PBEJ	Beja	2.05	47	*e*Pn	Pn	16 11 53.6	-1.0
PBEJ				*e*Sn	Sn	16 12 16.9	-2.1
PBEJ							
	12nm,0.1s						
PBEJ	Beja	2.05	47	*e*Pn	Pn	16 11 53.6	-1.0
PBEJ				*e*Sn	Sn	16 12 16.9	-2.1
	12nm,0.1s						
MOE	Montemor	2.19	30	*e*Pn	Pn	16 11 56.4	-0.1
MOE				*e*Sn	Sn	16 12 21.1	-1.3
PLOU	Loures	2.29	12	*e*Pn	Pn	16 11 57.5	-0.5
PLOU				*e*Sn	Sn	16 12 23.6	-1.4
PLOU							
	33nm,0.1s						
PLOU	Loures	2.29	12	*e*Pn	Pn	16 11 57.5	-0.5
PLOU				*e*Sn	Sn	16 12 23.6	-1.4
	33nm,0.1s						
PMAFR	Mafra	2.34	9	*e*Pn	Pn	16 11 58.0	-0.6
PMAFR				*e*Sn	Sn	16 12 24.8	-1.4
PMAFR							
	44nm,0.1s						
PMAFR	Mafra	2.34	9	*e*Pn	Pn	16 11 58.0	-0.6
PMAFR				*e*Sn	Sn	16 12 24.8	-1.4
	44nm,0.1s						
EMIN	Mina Concepcio	2.71	64	P	Pn	16 12 02.6	-1.0
	0.6nm,0.1s,SNR=16						
EMIN				S	Sn	16 12 32.8	-2.4
	4.6nm,0.1s,SNR=5.6						
EMIN	Mina Concepcio	2.71	64	P	Pn	16 12 02.6	-1.0
	0.6nm,0.1s,SNR=16						
PESTR	Estremoz	2.81	37	*e*Pn	Pn	16 12 04.6	-0.4
PESTR				*e*Sn	Sn	16 12 35.4	-2.3
PESTR							
	4.3nm,0.2s						
PESTR	Estremoz	2.81	37	*e*Pn	Pn	16 12 04.6	-0.4
PESTR				*e*Sn	Sn	16 12 35.4	-2.3
	4.3nm,0.2s						
EBAD	Badajoz	3.04	45	P	Pn	16 12 07.0	-1.1
	1.8nm,0.1s,SNR=8.1						
EBAD				S	Sn	16 12 40.5	-2.7
	8.9nm,0.1s,SNR=9.7						
EBAD	Badajoz	3.04	45	P	Pn	16 12 07.0	-1.1
	1.8nm,0.1s,SNR=8.1						
ESPR	Espera	3.14	85	P	Pn	16 12 08.9	-0.6
	4.4nm,0.1s,SNR=9.5						
ESPR				S	Sn	16 12 43.5	-2.3
	67nm,0.3s,SNR=9.0						
ESPR	Espera	3.14	85	P	Pn	16 12 08.9	-0.7
	4.4nm,0.1s,SNR=9.5						
EJIF	Jimena Fronter	3.46	92	S	Sn	16 12 49.0	-4.6
	2.8nm,0.4s,SNR=7.9						
PCBR	Castelo Branco	3.67	29	*e*Pn	Pn	16 12 16.4	-0.4
PCBR				*e*Sn	Sn	16 12 55.9	-2.8
PCBR							
	2.3nm,0.2s						
PCBR	Castelo Branco	3.67	29	*e*Pn	Pn	16 12 16.4	-0.4
PCBR				*e*Sn	Sn	16 12 55.9	-2.8
	2.3nm,0.2s						
EMIJ	Mijas	4.01	90	S	Sn	16 13 04.3	-2.9
	2.0nm,0.2s,SNR=7.9						
PVIS	Viseu	4.33	19	*e*Pn	Pn	16 12 25.0	-0.8
PVIS				*e*Sn	Sn	16 13 11.9	-3.0
PVIS							
	7.1nm,0.1s						
EADA	Adamuz	4.40	68	P	Pn	16 12 26.5	-0.3
	1.0nm,0.1s,SNR=12						
EADA				S	Sn	16 13 12.1	-4.6
	3.7nm,0.1s,SNR=6.7						
EADA	Adamuz	4.40	68	P	Pn	16 12 26.5	-0.3
	1.0nm,0.1s,SNR=12						
ELUQ	Luque	4.49	76	S	Sn	16 13 12.3	-6.5
	3.0nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	4.52	82	P	Pn	16 12 29.9	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.7nm,0.2s,SNR=7.9						
ELOJ				S	Sn	16 13 14.7	-5.1
	1.0nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.90**	**18**	*e*Pn	Pn	16 12 33.0	-0.6
PVRL				*e*Sn	Sn	16 13 25.1	-3.9
PVRL							
	8.7nm,0.1s						
EGUA	**Guajares**	**4.98**	**86**	S	Sn	16 13 27.8	-3.1
	0.6nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.99**	**70**	P	Pn	16 12 33.5	-1.4
	2.0nm,0.2s,SNR=7.9						
EBAN				S	Sn	16 13 25.1	-6.2
	1.8nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**5.09**	**82**	S	Sn	16 13 30.7	-3.1
	0.7nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.24**	**14**	*e*Pn	Pn	16 12 38.0	-0.4
PCAB				*e*Sn	Sn	16 13 32.8	-4.7
PCAB							
	4.1nm,0.1s						
EQES	**Quesada**	**5.46**	**76**	P	Pn	16 12 40.8	-0.6
	0.6nm,0.1s,SNR=8.4						
EQES				S	Sn	16 13 39.6	-3.3
	3.2nm,0.3s,SNR=5.0						
EQES	**Quesada**	**5.46**	**76**	P	Pn	16 12 40.8	-0.6
	0.6nm,0.1s,SNR=8.4						
ESDC	**Sonseca Array**	**5.48**	**55**	P	Pn	16 12 41.0	-0.6
	6.6nm,0.1s,baz=239,slow=13,SNR=12						
ESDC				S	Sn	16 13 39.0	-4.4
	5.5nm,0.2s,baz=241,slow=24,SNR=18						
ESDC	**Sonseca Array**	**5.48**	**55**	P	Pn	16 12 41.0	-0.6
	6.6nm,0.1s,SNR=12						
EBER	**Berja**	**5.52**	**85**	S	Sn	16 13 40.1	-4.2
	0.9nm,0.2s,SNR=4.8						
PBRG	**Braganca**	**5.67**	**23**	*e*Pn	Pn	16 12 44.1	-0.1
PBRG				*e*Sn	Sn	16 13 43.4	-4.5
PBRG							
	2.4nm,0.1s						
ECAL	**Calabor**	**5.79**	**23**	P	Pn	16 12 45.6	-0.3
	0.7nm,0.1s,SNR=6.1						
ECAL				S	Sn	16 13 46.5	-4.4
	2.6nm,0.2s						
ECAL	**Calabor**	**5.79**	**23**	P	Pn	16 12 45.6	-0.3
	0.7nm,0.1s,SNR=6.1						
GUD	**Guadarrama**	**5.94**	**46**	S	Sn	16 13 49.4	-5.2
	2.4nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**6.09**	**69**	⇓P	Pn	16 12 48.6	-1.4
	0.8nm,0.1s,SNR=18						
EVIA				S	Sn	16 13 53.3	-5.2
	0.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.33**	**5**	P	Pn	16 12 51.8	-1.5
	1.2nm,0.1s,SNR=6.7						
EMAZ				S	Sn	16 13 57.6	-6.7
	3.1nm,0.2s						
EMAZ	**Mazaricos**	**6.33**	**5**	P	Pn	16 12 51.8	-1.5
	1.2nm,0.1s,SNR=6.7						
ETOB	**Tobarra**	**6.82**	**70**	P	Pn	16 12 59.0	-0.9
	0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	16 14 10.6	-5.6
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.82**	**70**	P	Pn	16 12 59.0	-0.9
	0.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.97**	**16**	P	Pn	16 13 01.4	-0.7
	0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	16 14 14.5	-5.6
	0.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.97**	**16**	P	Pn	16 13 01.4	-0.7
	0.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.33**	**53**	P	Pn	16 13 06.4	-0.5
	1.0nm,0.3s,SNR=7.9						
ETOR				S	Sn	16 14 22.6	-6.1
	4.8nm,0.4s,SNR=7.9						

*IDC **01** 16:25:36.1±0.9, 33.13S×178.89W, h0^{km}, mb4.3/6, mb1 4.4/7, mb1mx4.3/12, mbtmp4.3/7, ML4.5/1, MS3.5/4, Ms1 3.4/4, ms1mx3.2/15, Error ellipse: s-maj=28.6km s-min=24.2km az=53.0*

*NEIC **01** 16:25:41.6±0.6, 33.06S×179.06W, h35^{km}, mb4.6/6, Error ellipse: s-maj=18.2km s-min=14.5km az=46.0*

*ISCJB **01** 16:25:42.1±2.2, 33.67S±0.05×179.7W±0.1, h21^{km}±15^{km}, mb4.3/11, MS3.4/3, Error ellipse: s-maj=16.2km s-min=6.8km az=29.8*

ISC 01 16:25:45.3±1.5**, 33.61S**±0.07×**179.5W**±0.1**, h38**^{km}±12^{km}**, n55, σ1^{s}16**/47**, mb4.3**/11**, MS3.4**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.38**	**209**	Pn	**Pn**	**16 27 05.7**	**+2.6**
	11nm,0.3s,baz=30,slow=2.2,SNR=51						
URZ				Sn	**Sn**	**16 28 10.9**	**+7.1**
	26nm,0.3s,baz=0.1,slow=23,SNR=8.6						
KRVZ	**Karewarewa**	**6.72**	**214**	*e*PN	**Pn**	**16 27 24.4**	**+2.9**
FWVZ	**Far West T-bar**	**6.89**	**214**	PN	**Pn**	**16 27 28.0**	**+4.3**
FWVZ				SN	**Sn**	**16 28 47.7**	**+6.9**
MOVZ	**Moawhango**	**6.92**	**212**	*e*PN	**Pn**	**16 27 26.6**	**+2.4**
WNVZ	**Wahianoa**	**6.93**	**213**	PN	**Pn**	**16 27 28.2**	**+3.9**
WPHZ	**Waipukurau**	**7.21**	**205**	*e*PN	**Pn**	**16 27 27.5**	**-0.7**
WPHZ				*e*SN	**Sn**	**16 28 50.3**	**+1.5**
TIWZ	**Tintock**	**8.04**	**206**	SN	**Sn**	**16 29 09.9**	**+0.9**
KIW	**Kapiti Island**	**8.49**	**210**	PN	**Pn**	**16 27 45.5**	**-0.2**
KIW				SN	**Sn**	**16 29 20.5**	**+0.3**
MTW	**Mount Morrison**	**8.51**	**206**	PN	**Pn**	**16 27 46.3**	**+0.3**
MTW				SN	**Sn**	**16 29 19.6**	**-1.1**
CAW	**Cannon Point**	**8.63**	**208**	PN	**Pn**	**16 27 46.9**	**-0.7**
CAW				SN	**Sn**	**16 29 23.4**	**-0.3**
PAWZ	**Paruwai Farm**	**8.73**	**206**	*e*PN	**Pn**	**16 27 47.6**	**-1.4**
MRW	**Makara Radio**	**8.88**	**209**	*e*PN	**Pn**	**16 27 50.9**	**-0.2**
MRW				SN	**Sn**	**16 29 30.1**	**+0.2**
SNZO	**South Karori**	**8.95**	**209**	*e*Pn	**Pn**	**16 27 51.1**	**-0.9**
SNZO	**South Karori**	**8.95**	**209**	PN	**Pn**	**16 27 50.3**	**-1.7**
SNZO				SN	**Sn**	**16 29 30.4**	**-1.0**
TCW	**Tory Channel**	**9.05**	**211**	PN	**Pn**	**16 27 52.0**	**-1.3**
TCW				SN	**Sn**	**16 29 33.7**	**-0.2**
RPZ	**Rata Peaks**	**12.48**	**213**	Pn	**Pn**	**16 28 37.3**	**-3.1**
	0.4nm,0.3s,baz=34,slow=23,SNR=3.7						
RPZ				Sn	**Sn**	**16 30 52.8**	**-5.2**
	0.8nm,0.3s,baz=179,slow=23,SNR=8.1						
DZM	**Mont Dzumac**	**16.88**	**309**	LR	LR	16 34 50.3	
	comp=Z,161nm,19.5s,baz=355,slow=33						
TBI	**Tubuai**	**28.25**	**77**	*e*LR	LR	16 38 28.3	
	95nm,31.2s						
PPT	**Papeete**	**31.24**	**67**	*e*LR	LR	16 39 49.1	
	122nm,28.2s						
STKA	**Stephens Creek**	**32.61**	**262**	P	**P**	**16 32 15.8**	**+2.6**
	0.7nm,0.5s,mb3.9,baz=117,slow=18,SNR=2.8						
STKA				LR	LR	16 44 43.1	
	comp=Z,74nm,19.1s,MS3.4,baz=25,slow=34						
CTA	**Charters Tower**	**33.19**	**285**	*e*P	**P**	**16 32 19.8**	**+1.4**
	3.5nm,0.4s,mb4.6						
CTA	**Charters Tower**	**33.19**	**285**	P	**P**	**16 32 19.6**	**+1.2**
	3.7nm,0.5s,mb4.6,baz=110,slow=10,SNR=14						
CTA				LR	LR	16 42 57.1	
	comp=Z,67nm,18.0s,MS3.4,baz=70,slow=31						
AS31	**Alice Springs**	**41.75**	**271**	*e*P	**P**	**16 33 30.6**	**-0.2**
ASAR	**Alice Springs**	**41.75**	**271**	P	**P**	**16 33 30.9**	**+0.2**
	4.5nm,0.5s,mb4.4,baz=109,slow=7.9,SNR=223						
ASAR				LR	LR	16 48 32.2	
	comp=Z,46nm,20.7s,MS3.3,baz=189,slow=32						
ASPA	**Alice Springs**	**41.75**	**271**	*e*P	**P**	**16 33 30.6**	**-0.2**
WB2	**Warramunga Arr**	**43.02**	**276**	*e*P	**P**	**16 33 40.4**	**-0.7**
WRA	**Warramunga Arr**	**43.03**	**276**	P	**P**	**16 33 41.0**	**-0.1**
	4.7nm,0.5s,mb4.5,baz=118,slow=7.4,SNR=62						
FORT	**Forrest**	**44.05**	**259**	*e*P	**P**	**16 33 49.3**	**-0.1**
	12nm,0.6s,mb4.8						
SBA	**Scott Base**	**44.76**	**184**	*e*P	**P**	**16 33 57.5**	**+2.5**
	1.6nm,0.8s,mb3.9						
VNDA	**Vanda**	**44.79**	**186**	P	**P**	**16 33 56.3**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=351,slow=7.3,SNR=6.4						
FITZ	**Fitzroy Crossi**	**51.14**	**273**	*e*P	**P**	**16 34 44.0**	**-0.4**
	6.3nm,0.6s,mb4.7						
CASY	**Casey**	**51.71**	**209**	*e*P	**P**	**16 34 47.6**	**-1.1**
KLBR	**Kellerberrin**	**52.14**	**254**	*e*P	**P**	**16 34 50.7**	**-1.2**
	8.4nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	**56.51**	**180**	*e*P	**P**	**16 35 25.4**	**+1.8**
MAW	**Mawson**	**68.86**	**201**	P	**P**	**16 36 45.5**	**-0.4**
	1.2nm,0.4s,mb4.2,baz=128,slow=6.7,SNR=5.0						
SNAA	**Sanae**	**74.99**	**179**	*e*	**P**	**16 37 21.9**	**-0.8**
SNAA				*e*		16 37 22.7	
SNAA				*e*		16 37 26.1	
SNAA	**Sanae**	**74.99**	**179**	*e*P	**P**	**16 37 21.9**	**-0.9**
	1.9nm,0.7s,mb4.1						
VNA3	**Neumayer Olymp**	**75.20**	**177**	*e*	**P**	**16 37 23.3**	**-0.6**
VNA3				*e*		16 37 23.7	
VNA3				*e*		16 37 24.2	
VNA3				*e*		16 37 27.8	
VNA3				*e*		16 37 44.9	
VNA2	**Neumayer--Watz**	**75.62**	**177**	*e*	**P**	**16 37 26.0**	**-0.3**
VNA2				*e*		16 37 30.5	
VNA2				*e*		16 37 44.6	
VNA1	**Neumayer--Stat**	**75.85**	**177**	*e*	**P**	**16 37 27.1**	**-0.6**
VNA1				*e*		16 37 32.9	
MATP	**Matopo**	**119.98**	**211**	PKP	PKPdf	16 44 30.4	-1.4
	1.1nm,0.7s,baz=162,slow=3.2,SNR=3.1						
LSZ	**Lusaka**	**124.66**	**213**	PKP	PKPdf	16 44 39.3	-1.4
	0.7nm,0.4s,baz=275,slow=3.2,SNR=2.4						
LSZ	**Lusaka**	**124.66**	**213**	PKP	PKPdf	16 44 39.3	-1.4
ARCES	**ARCESS Array B**	**141.41**	**346**	PKP	PKPdf	16 45 07.5	-4.6
	1.4nm,0.7s,baz=316,slow=3.3,SNR=3.7						
ARCES	**ARCESS Array B**	**141.41**	**346**	PKP	PKPdf	16 45 07.5	-4.6
JOF	**Joensuu**	**144.86**	**336**	*e*pkp	PKPdf	16 45 12.4	-5.8
KAF	**Kangasniemi**	**147.07**	**338**	*e*pkp	PKPdf	16 45 16.9	-5.0
FIA1	**FINESS Array S**	**147.64**	**337**	*e*PKPbc	PKPbc	16 45 20.3	-5.4
FINES	**FINESS Array B**	**147.64**	**337**	PKPbc	PKPbc	16 45 21.0	-4.7
	3.7nm,0.5s,baz=49,slow=4.2,SNR=19						
NB2	**NORSAR Subarra**	**151.68**	**349**	PKP	PKPdf	16 45 31.0	+1.7
	comp=Z,2.6nm,0.6s,baz=28,slow=3.2						
NOA	**NORSAR Array B**	**151.68**	**349**	PKPbc	PKPbc	16 45 31.2	-4.4
	comp=Z,3.8nm,0.6s,baz=14,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**152.80**	**293**	PKPbc	PKPbc	16 45 34.0	-4.1
	comp=Z,0.8nm,0.4s,baz=136,slow=4.0,SNR=5.4						
AKASG	**Malin Array Be**	**152.92**	**318**	PKPbc	PKPbc	16 45 34.2	-4.2
	comp=Z,0.2nm,0.3s,baz=60,slow=2.5,SNR=5.3						
AKASG	**Malin Array Be**	**152.92**	**318**	PKPbc	PKPbc	16 45 34.2	-4.2
TORD	**Torodi Ar. Bea**	**159.60**	**183**	PKPab	PKPab	16 46 17.8	-0.6
	comp=Z,3.7nm,0.8s,baz=173,slow=4.4,SNR=14						

MAN 01 16:40:02.0, 1237N×12374E, h23^{km}, mb2.0, ML3.7, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.12**	**262**	*e*P	Pb	16 40 02.6	-3.9
MMPH						16 40 16.4	
RCP	**Roxas**	**1.27**	**230**	⇑*e*P	Pn	16 40 22.9	-1.4
RCP				*e*S	Sn	16 40 40.4	-0.2
PVCP	**Virac**	**1.28**	**18**	*e*P	Pn	16 40 23.6	-0.8
PVCP				*e*S	Sn	16 40 41.6	+0.7
AUQP	**San Andres**	**1.40**	**312**	*e*P	Pn	16 40 26.2	0.0
OCLP	**Ormoc**	**1.57**	**147**	*e*P	Pn	16 40 28.9	+0.4
OTRP	**Odiongan**	**1.68**	**270**	*e*P	Pn	16 40 31.2	+1.2
PLP	**Palo**	**1.71**	**135**	*e*P	Pn	16 40 30.6	+0.2
PLP				*e*S	Sn	16 40 52.4	+0.9
BESP	**Borongan**	**1.83**	**115**	*e*P	Pn	16 40 29.5	-2.6
GUIM	**Jordan**	**2.07**	**213**	*e*P	Pn	16 40 35.0	-0.4
GUIM				*e*S	Sn	16 41 01.8	+1.4

*LDG **01** 16:51:46.6±0.1, 42.95N×0.28E, h5^{km}, Md2.2/2, Ml1.9/3, Error ellipse: s-maj=1.8km s-min=1.1km az=18.0*

*STR **01** 16:51:46.3±0.1, 42.96N×0.30E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 01 16:51:46.9±0.4**, 4295N×029E, h8**^{km}±4^{km}**, mbLg1.5**/14**, 1C, Error ellipse: s-maj=1.9km s-min=1.5km az=15.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**26**	*e*Pg	Pg	16 51 48.9	-0.2
EPF				*e*Sg	Sg	16 51 50.9	+0.3
	50nm,0.2s						
EPF	**Esparros**	**0.09**	**26**	Pg	Pg	16 51 48.9	-0.2
EPF				Lg		16 51 50.9	
	25nm,0.2s						
RESF	**Ens**	**0.15**	**165**	Pg	Pg	16 51 50.2	+0.2
RESF				Lg		16 51 52.9	
LABF	**Labassere**	**0.18**	**302**	Pg	Pg	16 51 50.4	-0.3
LABF				Sg	Sg	16 51 53.4	+0.2
LABF	**Labassere**	**0.18**	**302**	Pg	Pg	16 51 50.4	-0.2
LABF				Lg		16 51 53.4	
VIEF	**Viey**	**0.20**	**251**	Pg	Pg	16 51 50.8	-0.2
VIEF				Sg	Sg	16 51 54.3	+0.4
VIEF	**Viey**	**0.20**	**251**	Pg	Pg	16 51 50.8	-0.2
VIEF				Lg		16 51 54.1	
EBIE	**Bielsa**	**0.29**	**202**	⇑Pg	Pg	16 51 52.4	-0.1
	3.0nm,0.1s,SNR=18						
EBIE				Lg		16 51 56.3	
	33nm,0.1s,SNR=13						
MELF	**Melles**	**0.36**	**103**	Pg	Pg	16 51 53.5	-0.3
MELF				Sg	Sg	16 51 58.2	-0.3
MELF	**Melles**	**0.36**	**103**	Pg	Pg	16 51 53.2	-0.6
MELF				Lg		16 51 58.2	
REYF	**Montagne du Re**	**0.51**	**284**	Pg	Pg	16 51 56.0	-0.8
REYF				Sg	Sg	16 52 03.3	-0.2
REYF	**Montagne du Re**	**0.51**	**284**	Pg	Pg	16 51 56.0	-0.8
REYF				Lg		16 52 03.3	
ETSF	**Etsaut**	**0.62**	**265**	*e*Pg	Pg	16 51 58.1	-0.8
ETSF				*e*Sg	Sg	16 52 06.1	-0.9
	6.8nm,0.2s						
ETSF	**Etsaut**	**0.62**	**265**	Pg	Pg	16 51 58.1	-0.8
ETSF				Lg		16 52 06.1	
	3.4nm,0.2s						
SALF	**Salau**	**0.69**	**106**	Pg	Pg	16 51 59.6	-0.6
SALF				Sg	Sg	16 52 08.6	-0.6
SALF	**Salau**	**0.69**	**106**	Pg	Pg	16 51 59.5	-0.6
SALF				Lg		16 52 08.3	
CSOR	**Sort**	**0.85**	**132**	Pg	Pg	16 52 02.5	-0.7
CSOR				Lg		16 52 13.9	
	1.8nm,0.2s						
CORG	**Organya**	**1.05**	**133**	Lg		16 52 20.4	
SJPF	**Ste Jean**	**1.12**	**279**	*e*Pg	Pg	16 52 07.3	-1.1
SJPF				*e*Sg	Sg	16 52 22.7	-0.2
	2.5nm,0.2s						
SJPF	**Ste Jean**	**1.12**	**279**	Pg	Pg	16 52 07.3	-1.1
SJPF				Lg		16 52 22.7	
	1.2nm,0.2s						
CAVN	**Les Avellanes**	**1.12**	**162**	Pg	Pg	16 52 07.8	-0.6
CAVN				Lg		16 52 22.9	
	2.7nm,0.1s						
IPRE	**Itoiz**	**1.22**	**264**	Lg		16 52 27.1	
	1.7nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**1.33**	**110**	Pg	Pg	16 52 12.0	-0.4
CLLI				Lg		16 52 29.4	
EALK	**Alkurruntz**	**1.34**	**282**	Pg	Pg	16 52 12.3	-0.3
	1.0nm,0.1s,SNR=5.6						
EALK				Lg		16 52 30.1	
	9.0nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**1.35**	**270**	Lg		16 52 31.0	
	2.5nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.35**	**280**	Pg	Pg	16 52 11.4	-1.4
	1.1nm,0.3s,SNR=7.9						
ELIZ				Lg		16 52 28.6	
	1.7nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**205**	Lg		16 52 30.9	
	10nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.38**	**138**	Pg	Pg	16 52 13.0	-0.4
	0.9nm,0.1s,SNR=7.9						
EMIR				Lg		16 52 31.5	
	5.2nm,0.2s,SNR=5.8						
MTLF	**Montolieu**	**1.47**	**74**	*e*Pn	Pn	16 52 13.3	-0.2
MTLF				*e*Sg	Sg	16 52 32.5	-1.5
	1.1nm,0.2s						
MTLF	**Montolieu**	**1.47**	**74**	Pn	Pn	16 52 13.3	-0.2
MTLF				Lg		16 52 32.5	
	0.6nm,0.2s						
EPOB	**Poblet**	**1.70**	**160**	Pg	Pg	16 52 18.2	-1.3
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		16 52 40.4	
	0.8nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.98**	**104**	Pg	Pg	16 52 22.3	-2.5
	0.9nm,0.3s,SNR=7.9						
EJON				Lg		16 52 50.3	
	2.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.99**	**179**	Lg		16 52 49.6	
	0.6nm,0.1s,SNR=4.0						
CAF	**Calviac**	**2.35**	**32**	*e*Sg	Sg	16 53 00.8	-1.7
	1.2nm,0.3s						
CAF	**Calviac**	**2.35**	**32**	Lg		16 53 00.8	
	0.6nm,0.3s						
EMOS	**Mosqueruela**	**2.65**	**193**	Lg		16 53 10.4	
	0.2nm,0.1s,SNR=7.9						

*ISCJB **01** 17:38:31.8±0.3, 13.24N±0.05×89.46W±0.03, h66^{km}±4^{km}, mb4.6/42, Error ellipse: s-maj=8.5km s-min=2.9km az=59.4*

*CASC **01** 17:38:31.5±2.6, 13.14N×89.56W, h55^{km}±20^{km}, MD4.4, ML4.5, mb4.7(NEIC)*

*BJI **01** 17:38:32.7, 13.30N×89.50W, h62^{km}, mB5.0, Ms4.9, Msz4.5*

*IDC **01** 17:38:32.6±2.0, 13.56N×89.21W, h62^{km}±18^{km}, mb4.2/14, mb1 4.4/17, mb1mx4.3/21, mbtmp4.5/17, MS3.8/18, Ms1 3.8/18, ms1mx3.7/23, Error ellipse: s-maj=22.9km s-min=10.9km az=49.0*

*NEIC **01** 17:38:32.7±0.3, 13.26N×89.46W, mb4.7/34, MD4.7(CASC), MD5.1(SNET), Error ellipse: s-maj=9.3km s-min=4.2km az=223.0*

NEIC Felt [III] at San Salvador.

ISC 01 17:38:33.3±0.3**, 1339N**±0.05×**8939W**±0.03**, h56**^{km}±4^{km}**, n293, σ0^{s}92**/271**, mb4.7**/42**, MS3.8**/18**, 79C-68D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.33**	**27**	*i* P	x	17 38 45.3	
SNET				*i*		17 38 57.9	
	comp=Z,75μm,0.3s						
BOQS	**Boqueron**	**0.36**	**17**	⇑*i*P	x	17 38 43.9	
LFRS	**El Faro**	**0.39**	**54**	⇓*i*P	x	17 38 44.2	
LFU	**La Fuente**	**0.44**	**37**	⇓*i*P	x	17 38 45.5	
LCBS	**La Ceiba**	**0.47**	**56**	⇓*i*P	x	17 38 45.2	
LBRS	**Las Brisas**	**0.48**	**44**	⇓*i*P	x	17 38 45.8	
RTR	**El Retiro**	**0.56**	**333**	⇓*i*P	x	17 38 45.0	
SNVI	**San Vicente**	**0.57**	**68**	⇓*i*P	x	17 38 46.5	
SNVI				*e*S	x	17 38 59.4	
RBDL	**Robledal**	**0.77**	**338**	⇓*i*P	x	17 38 48.2	
MTO2	**Montecristo 2**	**1.00**	**1**	⇑*e*P	x	17 38 52.3	
MTO2				*e*S	x	17 39 09.7	
VSM	**San Miguel**	**1.08**	**88**	⇑*e*P	x	17 38 52.5	
BLLM	**Bellamira**	**1.12**	**87**	⇑*i*P	x	17 38 52.7	
BLLM				*e*S	x	17 39 12.4	
CNCH	**Conchagua**	**1.52**	**94**	⇑*i*P	x	17 38 57.7	
PCG	**Pacaya**	**1.55**	**310**	*e*P	**Pn**	**17 38 58.2**	**-0.4**
TER	**Terranova**	**1.55**	**306**	*e*P	**Pn**	**17 38 58.0**	**-0.6**
FUG	**Fuego 3**	**1.76**	**307**	⇓*e*P	**Pn**	**17 39 01.2**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.16**	**72**	⇑*i*Pn	**Pn**	**17 39 09.7**	**+2.8**
JAT	**Jato**	**2.37**	**293**	*e*P	**Pn**	**17 39 08.1**	**-1.7**
JAT				*e*S	**Sn**	**17 39 35.1**	**-2.6**
CRIN	**San Cristobal**	**2.38**	**107**	⇑*e*P	**Pn**	**17 39 11.1**	**+1.3**
CRIN				*e*S	**Sn**	**17 39 42.1**	**+4.3**
TELN	**Telica**	**2.61**	**107**	*e*P	**Pn**	**17 39 13.6**	**+0.6**
TELN				*e*S	**Sn**	**17 39 43.7**	**+0.2**
LEON	**Leon**	**2.62**	**111**	⇑*e*P	**Pn**	**17 39 12.7**	**-0.5**
CNGN	**Cerro Negro**	**2.77**	**108**	⇑*e*P	**Pn**	**17 39 15.0**	**-0.2**
CNGN				*e*S	**Sn**	**17 39 50.0**	**+2.6**
MIRN	**Miramar**	**2.77**	**110**	⇑*e*P	**Pn**	**17 39 15.4**	**+0.2**
MOMJ	**Momotombo**	**2.94**	**109**	⇓*e*P	**Pn**	**17 39 17.8**	**+0.2**
MOMJ				*e*S	**Sn**	**17 39 53.2**	**+1.6**
COPN	**Copaltepe**	**2.98**	**114**	*e*P	**Pn**	**17 39 17.8**	**-0.3**
COPN				*e*S	**Sn**	**17 39 51.7**	**-0.9**
XAVN	**Gruta Xavier**	**3.23**	**112**	*e*P	**Pn**	**17 39 21.4**	**-0.1**
XAVN				*e*S	**Sn**	**17 39 57.9**	**-0.8**
TISN	**Laguna Tiscapa**	**3.28**	**112**	*e*P	**Pn**	**17 39 22.5**	**+0.2**
TISN				*e*S	**Sn**	**17 40 01.3**	**+1.2**
MGAN	**Managua**	**3.30**	**112**	*e*P	**Pn**	**17 39 22.5**	**0.0**
MGAN				*e*S	**Sn**	**17 40 00.2**	**-0.3**
MGAN				*i*		17 40 05.8	
	comp=N,1μm,0.4s						
TICN	**Ticuantepe**	**3.36**	**113**	⇑*e*P	**Pn**	**17 39 23.5**	**+0.2**
TICN				*e*S	**Sn**	**17 40 01.3**	**-0.7**
MASN	**Masaya**	**3.45**	**113**	*e*P	**Pn**	**17 39 24.3**	**-0.2**
MASN				*i*		17 40 28.3	
	comp=E,3μm,0.5s						
APON	**Apoyo**	**3.56**	**114**	⇑*e*P	**Pn**	**17 39 26.4**	**+0.4**
APON				*e*S	**Sn**	**17 40 07.2**	**+0.4**
CCIG	**Comitan**	**3.92**	**318**	*i* P	**Pn**	**17 39 32.9**	**+1.9**
CCIG				*i* S	**Sn**	**17 40 12.8**	**-2.8**
SSNN	**San Juan del S**	**4.04**	**121**	*e*P	**Pn**	**17 39 32.7**	**+0.1**
CONN	**Concepcion**	**4.10**	**116**	*e*P	**Pn**	**17 39 33.5**	**+0.1**
MADN	**Villa Maderas**	**4.25**	**117**	*e*P	**Pn**	**17 39 35.4**	**0.0**
LIM1	**Limonal**	**4.85**	**123**	*i* P	**Pn**	**17 39 42.7**	**-1.0**
VCR	**Vista de Mar**	**4.90**	**131**	⇑*i*P	**Pn**	**17 39 43.7**	**-0.8**
JCR	**Jicaral**	**5.47**	**130**	*e*P	**Pn**	**17 39 51.8**	**-0.4**
CGA2	**Cerro Gallo 2**	**5.87**	**124**	*e*P	**Pn**	**17 39 58.4**	**+0.7**
CGA2				*e*S	**Sn**	**17 41 01.2**	**-2.5**
PRS1	**Puriscal**	**6.01**	**124**	*e*P	**Pn**	**17 40 00.3**	**+0.6**
PRS1				*e*S	**Sn**	**17 41 06.6**	**-0.5**
TRTC	**Tortuguero**	**6.21**	**116**	*e*P	**Pn**	**17 40 02.0**	**-0.4**
LAJ	**Bijagual**	**6.24**	**124**	*e*P	**Pn**	**17 39 59.3**	**-3.4**
SJS	**Escuela Geolog**	**6.25**	**123**	*e*P	**Pn**	**17 40 04.4**	**+1.5**
LCR2	**La Lucha 2**	**6.40**	**124**	*e*P	**Pn**	**17 40 05.2**	**+0.3**
LCR2				*e*S	**Sn**	**17 41 16.5**	**-0.1**
CMIG	**Matias Romero**	**6.46**	**305**	P	**Pn**	**17 40 05.7**	**0.0**
	comp=E,5.0nm,0.3s,baz=110,slow=9.9,SNR=55						
CMIG				S	**Sn**	**17 41 16.8**	**-1.2**
	comp=E,30nm,0.3s,baz=83,slow=20,SNR=9.3						
CMIG	**Matias Romero**	**6.46**	**305**	*e*P	**Pn**	**17 40 04.3**	**-1.4**
CMIG				*i* S	**Sn**	**17 41 11.1**	**-6.9**
CMIG				S	**Sn**	**17 41 16.8**	**-1.2**
TEIG	**Tepich**	**6.88**	**9**	*e*Pn	**Pn**	**17 40 16.3**	**+4.8**
	comp=E,108nm,0.6s						
HUIG	**Huatulco**	**6.92**	**291**	*i* S	**Sn**	**17 41 18.5**	**-11**
OXX	**Oaxaca**	**7.97**	**298**	*e*P	**Pn**	**17 40 26.0**	**-0.5**
OXX				*i* S	**Sn**	**17 41 50.0**	**-5.3**
VHO	**Vista Hermosa**	**7.98**	**298**	*i* P	**Pn**	**17 40 24.0**	**-2.6**
VHO				*i* S	**Sn**	**17 41 49.0**	**-6.5**
PPM	**Popocatepetl**	**10.52**	**304**	*i* P	**Pn**	**17 41 03.0**	**+1.7**
PPM				*i* S	**Sn**	**17 42 56.4**	**-1.2**
IIO	**Organos**	**10.87**	**306**	*i* P	**Pn**	**17 41 07.6**	**+1.5**
IIO				*i* S	**Sn**	**17 43 01.9**	**-4.3**
PLIG	**Platanillo**	**10.93**	**298**	*i* P	**Pn**	**17 41 07.3**	**+0.4**
SOR	**Soroa**	**11.14**	**32**	*e*P	**Pn**	**17 41 15.4**	**+5.6**
MGV	**Manicaragua**	**12.46**	**45**	*e*	**Pn**	**17 41 33.5**	**+5.7**
ZAIG	**Zacatecas**	**15.61**	**309**	*i* P	**Pn**	**17 42 14.8**	**+5.1**
OTAV	**Otavalo**	**16.98**	**139**	*e*P	**Pn**	**17 42 27.3**	**+0.4**
	comp=E,15nm,1.0s						
ROSC	**El Rosal**	**17.10**	**118**	P	**Pn**	**17 42 28.7**	**+0.2**
	comp=E,2.0nm,0.3s,baz=78,slow=7.4,SNR=11						
ROSC	**El Rosal**	**17.10**	**118**	*e*P	**Pn**	**17 42 31.1**	**+2.7**
HKT	**Hockley**	**17.52**	**341**	*e*P	**Pn**	**17 42 33.5**	**-0.2**
	comp=E,57nm,1.8s						
NATX	**Nacogdoches**	**18.91**	**346**	*e*P	**Pn**	**17 42 50.4**	**-0.1**
	comp=E,62nm,0.9s						
SDV	**Santo Domingo**	**18.93**	**102**	P	**Pn**	**17 42 48.6**	**-2.1**
	comp=E,4.8nm,0.3s,baz=290,slow=3.8,SNR=22						
SDV	**Santo Domingo**	**18.93**	**102**	*e*P	**Pn**	**17 42 48.9**	**-1.9**
	comp=E,50nm,0.8s						
JCT	**Junction City**	**19.54**	**332**	*e*P	**Pn**	**17 42 56.3**	**-1.7**
	comp=E,20nm,0.8s						
TXAR	**Lajitas Array**	**20.67**	**322**	P	**P**	**17 43 08.9**	**+0.5**
	comp=E,16nm,0.7s,baz=145,slow=11,SNR=125						
TXAR				PcP	PcP	17 47 16.1	-0.6
	comp=E,2.2nm,0.9s,baz=152,slow=3.7,SNR=6.8						
TXAR				LR	LR	17 51 21.3	
	comp=E,90nm,21.0s,MS3.1,baz=180,slow=37						
OXF	**Oxford**	**21.03**	**360**	*e*P	**P**	**17 43 13.8**	**+1.5**
	comp=E,147nm,0.9s,mb5.3						
COW	**Cow Castle Cre**	**21.42**	**20**	*e*P	**P**	**17 43 20.2**	**+3.7**
UALR	**University of**	**21.46**	**353**	*e*P	**P**	**17 43 18.2**	**+1.3**
	comp=E,85nm,0.9s,mb5.1						
PLAL	**Pickwick Lake**	**21.53**	**3**	*e*P	**P**	**17 43 18.9**	**+1.1**
	comp=E,12nm,0.7s,mb4.4						
SWET	**Sewanee**	**21.95**	**8**	*e*P	**P**	**17 43 23.3**	**+1.0**
HBAR	**Harrisburg**	**22.10**	**357**	*e*P	**P**	**17 43 26.7**	**+2.9**
CPCT	**Cooper Cave**	**22.40**	**10**	*e*P	**P**	**17 43 27.9**	**+0.9**
WVT	**Waverly**	**22.68**	**3**	*e*P	**P**	**17 43 30.1**	**+0.1**
	comp=E,40nm,1.3s,mb4.7						
TKL	**Tuckaleechee C**	**22.74**	**12**	P	**P**	**17 43 31.1**	**+0.5**
	comp=E,13nm,0.7s,mb4.5,baz=175,slow=12,SNR=10						
TKL				LR	LR	17 52 48.0	
	comp=E,572nm,21.3s,MS4.0,baz=230,slow=38						
UTMT	**University of**	**22.86**	**1**	*e*P	**P**	**17 43 33.0**	**+1.2**
WMOK	**Wichita Mounta**	**22.89**	**340**	*e*P	**P**	**17 43 30.3**	**-1.9**
	comp=E,57nm,1.2s,mb4.9						
ATAH	**Atahualpa**	**23.01**	**151**	P	**P**	**17 43 35.1**	**+1.6**
	comp=E,11nm,0.8s,mb4.3,baz=90,slow=9.1,SNR=6.7						
ATAH				LR	LR	17 52 01.9	
	comp=E,91nm,20.1s,MS3.2,baz=158,slow=35						
PARMO	**Parma**	**23.18**	**359**	*e*P	**P**	**17 43 36.0**	**+0.8**
MTP	**Monte Pirata**	**23.40**	**75**	*e*P	**P**	**17 43 35.9**	**-1.4**
MNTX	**Cornudas Mount**	**23.40**	**324**	*e*P	**P**	**17 43 35.3**	**-2.0**
	comp=E,20nm,1.2s,mb4.4						
AMTX	**Amarillo**	**24.12**	**335**	*e*P	**P**	**17 43 43.0**	**-0.8**
	comp=E,31nm,0.9s,mb4.7						
SIUC	**Southern Illin**	**24.22**	**0**	*e*P	**P**	**17 43 44.9**	**+0.1**
	comp=E,136nm,0.9s,mb5.4						
PCRV	**Puerto La Cruz**	**24.43**	**95**	P	**P**	**17 43 44.7**	**-2.0**
	comp=E,6.5nm,0.5s,mb4.3,baz=27,slow=9.0,SNR=2.4						
FVM	**French Village**	**24.51**	**358**	*e*P	**P**	**17 43 47.0**	**-0.4**
	comp=E,14nm,0.8s,mb4.5						
FVM				*e*		17 44 01.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
USIN	**University of**	**24.52**	**3**	*e*P	**P**	**17 43 47.5**	**0.0**
CCM	**Cathedral Cave**	**24.62**	**356**	*e*P	**P**	**17 43 46.9**	**-1.5**
	comp=E,66nm,0.9s,mb5.2						
CCM				*e*		17 44 02.1	
WCI	**Wyandotte Cave**	**24.89**	**6**	*e*P	**P**	**17 43 50.3**	**-0.5**
	comp=E,32nm,0.8s,mb4.9						
WCI				*e*		17 44 04.9	
ELN	**Prospectdale**	**24.96**	**16**	P	**P**	**17 43 50.8**	**-0.7**
BLA	**Blacksburg**	**25.04**	**17**	*e*P	**P**	**17 43 50.1**	**-2.1**
	comp=E,29nm,0.8s,mb4.9						
SLM	**Saint Louis**	**25.15**	**358**	*e*P	**P**	**17 43 54.9**	**+1.7**
	comp=E,88nm,1.0s,mb5.2						
KSU1	**Kansas State U**	**26.39**	**347**	*e*P	**P**	**17 44 03.6**	**-0.9**
	comp=E,28nm,0.8s,mb4.8						
ANMO	**Albuquerque**	**26.44**	**327**	PcP	PcP	17 47 28.2	-0.7
	comp=E,5.0nm,1.0s,baz=112,slow=2.9,SNR=4.5						
ANMO				LR	LR	17 56 59.9	
	comp=E,115nm,18.5s,MS3.5,baz=50,slow=42						
TUC	**Tucson**	**27.17**	**317**	*e*P	**P**	**17 44 12.4**	**+1.0**
	comp=E,1.7nm,0.5s,mb3.8						
116A	**Eloy**	**27.93**	**317**	⇑P	**P**	**17 44 18.4**	**+0.1**
	baz=28						
SDCO	**Great Sand Dun**	**28.19**	**332**	*e*P	**P**	**17 44 21.2**	**+0.6**
	comp=E,3.3nm,0.8s,mb4.0						
115A	**Sonoran Desert**	**28.37**	**316**	⇓P	**P**	**17 44 22.5**	**+0.4**
	baz=28						
MVCO	**Mesa Verde**	**29.23**	**328**	⇑P	**P**	**17 44 30.1**	**+0.3**
	baz=29						
Z14A	**Wintersburg**	**29.25**	**317**	⇓P	**P**	**17 44 30.3**	**+0.3**
	baz=29						
X15A	**Humboldt**	**29.49**	**319**	⇓P	**P**	**17 44 32.7**	**+0.6**
	baz=30						
WUAZ	**Wupatki**	**29.63**	**322**	*e*P	**P**	**17 44 34.1**	**+0.8**
	comp=E,5.9nm,0.9s,mb4.3						
WUAZ	**Wupatki**	**29.63**	**322**	⇑P	**P**	**17 44 34.1**	**+0.8**
	baz=30						
Y14A	**Wickenburg**	**29.64**	**318**	⇑P	**P**	**17 44 34.0**	**+0.6**
	baz=30						
X14A	**Yava**	**29.89**	**319**	⇓P	**P**	**17 44 36.1**	**+0.4**
	baz=30						
W15A	**Williams**	**29.95**	**320**	⇓P	**P**	**17 44 36.8**	**+0.7**
	baz=30						
Y13A	**Salome**	**30.11**	**317**	⇑P	**P**	**17 44 38.1**	**+0.5**
	baz=30						
GLA	**Glamis**	**30.35**	**314**	*e*P	**P**	**17 44 40.0**	**+0.3**
GLA				*e*	pP	17 44 54.9	+1.3
GLA	**Glamis**	**30.35**	**314**	⇑P	**P**	**17 44 40.2**	**+0.5**
	baz=30,SNR=7.7						
W14A	**Seligman**	**30.48**	**320**	⇑P	**P**	**17 44 41.8**	**+0.9**
	baz=31						
Y12C	**Blythe**	**30.54**	**316**	⇑P	**P**	**17 44 41.7**	**+0.4**
	baz=31						
X13A	**Yucca**	**30.58**	**318**	⇓P	**P**	**17 44 42.0**	**+0.3**
	baz=31						
PDMCI	**Parker Dam,Lak**	**30.61**	**317**	⇑P	**P**	**17 44 43.0**	**+1.0**
	baz=31						
W13A	**Hualapai Mount**	**30.92**	**319**	⇓P	**P**	**17 44 45.8**	**+1.0**
	baz=31						
SWSC	**Sam W. Stewart**	**30.97**	**313**	⇓P	**P**	**17 44 46.0**	**+0.8**
	baz=31						
DVTC	**Desert V Tower**	**31.03**	**313**	⇑P	**P**	**17 44 46.5**	**+0.7**
	baz=31,SNR=6.3						
PHWY	**Pilot Hill**	**31.14**	**336**	*e*P	**P**	**17 44 46.6**	**-0.1**
IRM	**Iron Mountain**	**31.20**	**316**	P	**P**	**17 44 47.9**	**+0.7**
	baz=31,SNR=8.2						
MONP	**Monument Peak**	**31.38**	**313**	P	**P**	**17 44 50.1**	**+1.3**
	baz=31,SNR=7.5						
W12A	**Cal Nev Ari**	**31.69**	**318**	⇑P	**P**	**17 44 52.0**	**+0.5**
	baz=32						
PFO	**Pinyon Flat Ob**	**31.79**	**314**	*e*P	**P**	**17 44 53.0**	**+0.6**
	comp=E,5.5nm,0.9s,mb4.4						
PFO	**Pinyon Flat Ob**	**31.79**	**314**	⇓P	**P**	**17 44 53.1**	**+0.7**
	baz=32						
GMRC	**Granite Mounta**	**31.90**	**316**	⇓P	**P**	**17 44 54.2**	**+0.8**
	baz=32						
V12A	**Nelson**	**31.93**	**319**	⇑P	**P**	**17 44 54.2**	**+0.5**
	baz=32,SNR=7.6						
MURC	**Murrieta**	**32.31**	**313**	⇑P	**P**	**17 44 57.3**	**+0.3**
	baz=32						
HEC	**Hector,Ludlow**	**32.38**	**316**	⇓P	**P**	**17 44 58.1**	**+0.6**
	baz=32						
TUQ	**Turquoise Mtn.**	**32.46**	**317**	⇓P	**P**	**17 44 58.6**	**+0.3**
	baz=32						
BFSC	**Mount Baldy St**	**32.97**	**314**	⇓P	**P**	**17 45 03.0**	**+0.2**
	baz=33						
DAU	**Daniels Canyon**	**33.05**	**329**	*e*P	**P**	**17 45 04.2**	**+0.8**
U10A	**Ash Meadows, A**	**33.30**	**318**	⇑P	**P**	**17 45 05.9**	**+0.3**
	baz=33						
EDW2	**Edwards Air Fo**	**33.55**	**315**	⇑P	**P**	**17 45 08.0**	**+0.3**
	baz=34						
TCUT	**Toone Canyon**	**33.66**	**329**	*e*P	**P**	**17 45 09.8**	**+1.1**
LRMC	**Laurel Mountai**	**33.66**	**316**	⇓P	**P**	**17 45 09.1**	**+0.3**
	baz=34						
FURC	**Furnace Creek,**	**33.68**	**318**	⇓P	**P**	**17 45 09.6**	**+0.7**
	baz=34						
MPMC	**Manual Prospec**	**33.86**	**317**	⇑P	**P**	**17 45 10.8**	**+0.4**
	baz=34						
BLG	**Laguna Peak**	**33.90**	**313**	⇑P	**P**	**17 45 11.2**	**+0.3**
	baz=34						
PDAR	**Pinedale Array**	**34.07**	**333**	P	**P**	**17 45 11.2**	**-1.0**
	comp=E,2.3nm,0.9s,mb4.1,baz=131,slow=10,SNR=12						
PDAR				PcP	PcP	17 47 47.2	-1.5
	comp=E,2.0nm,0.8s,baz=149,slow=3.5,SNR=8.0						
PDAR				ScP	ScP	17 51 28.1	-0.9
	comp=E,1.1nm,1.0s,baz=123,slow=5.5,SNR=5.5						
PDAR				LR	LR	18 02 21.6	
	comp=E,144nm,18.6s,MS3.7,baz=252,slow=42						
PDAR	**Pinedale Array**	**34.07**	**333**	P	**P**	**17 45 11.2**	**-1.0**
PDAR				PcP	PcP	17 47 47.2	-1.5
PDAR				ScP	ScP	17 51 28.1	-0.9
PDAR				LR	LR	18 02 21.6	
HWUT	**Hardware Ranch**	**34.10**	**330**	*e*P	**P**	**17 45 11.6**	**-0.9**
	comp=E,2.5nm,0.6s,mb4.3						
SAML	**Samuel**	**34.20**	**129**	*e*P	**P**	**17 45 10.4**	**-3.0**
	comp=E,43nm,1.0s,mb5.3						
ARVC	**Arvin**	**34.26**	**314**	⇑P	**P**	**17 45 14.3**	**+0.3**
	baz=34						
ISA	**Isabella**	**34.30**	**315**	*e*P	**P**	**17 45 15.1**	**+0.8**
ISA	**Isabella**	**34.30**	**315**	⇑P	**P**	**17 45 14.8**	**+0.5**
	baz=34,SNR=5.7						
GRAC	**Grapevine Rang**	**34.32**	**318**	⇓P	**P**	**17 45 15.4**	**+1.0**
	baz=34						
Q11A	**Duckwater**	**34.39**	**322**	⇑P	**P**	**17 45 15.7**	**+0.6**
	baz=34						
R10A	**Warm Springs**	**34.43**	**321**	⇓P	**P**	**17 45 15.7**	**+0.3**
	baz=34						
S09A	**Goldfield**	**34.66**	**319**	⇓P	**P**	**17 45 17.5**	**+0.1**
	baz=35						
O12A	**Currie**	**34.81**	**325**	⇓P	**P**	**17 45 19.3**	**+0.6**
	baz=35						
VES	**Vestal, Richgr**	**34.81**	**315**	⇑P	**P**	**17 45 19.0**	**+0.3**
	baz=35						
PKM	**Peak Mountain**	**34.84**	**313**	⇑P	**P**	**17 45 19.3**	**+0.3**
	baz=35,SNR=6.5						
R09A	**Tonopah**	**34.87**	**320**	⇑P	**P**	**17 45 19.5**	**+0.3**
	baz=35						
REDW	**Red Top Meadow**	**35.12**	**332**	*e*P	**P**	**17 45 21.6**	**+0.2**
	comp=E,40nm,0.8s,mb5.4						
S08C	**White Mtn Res**	**35.13**	**318**	⇓P	**P**	**17 45 22.1**	**+0.6**
	baz=35,SNR=7.9						
RCTC	**Rector, Farmer**	**35.17**	**316**	⇑P	**P**	**17 45 22.2**	**+0.4**
	baz=35						
LOHW	**Long Hollow**	**35.20**	**333**	P	**P**	**17 45 21.7**	**-0.4**
	comp=E,9.1nm,0.6s,mb4.9						
AGMN	**Agassiz Refuge**	**35.22**	**352**	*e*P	**P**	**17 45 20.4**	**-1.7**
	comp=E,35nm,0.7s,mb5.4						
HELL	**Mitchell Peak,**	**35.23**	**316**	⇓P	**P**	**17 45 23.0**	**+0.7**
	baz=35						
O11A	**Cowboy Ranch,**	**35.23**	**324**	⇓P	**P**	**17 45 22.2**	**-0.1**
	baz=35						
M13A	**Montello**	**35.25**	**327**	⇓P	**P**	**17 45 22.6**	**+0.1**
	baz=35						
TPAW	**Teton Pass**	**35.26**	**332**	*e*P	**P**	**17 45 22.9**	**+0.3**
	comp=E,14nm,0.9s,mb4.9						
RRI2	**Red Ridge**	**35.32**	**332**	*e*P	**P**	**17 45 23.1**	**0.0**
	comp=E,16nm,0.9s,mb5.0						
N12A	**Clover Valley,**	**35.37**	**325**	⇑P	**P**	**17 45 23.5**	**0.0**
	baz=36						
MOOW	**Moose Ponds**	**35.37**	**333**	*e*P	**P**	**17 45 23.6**	**0.0**
	comp=E,5.1nm,0.8s,mb4.5						
MLAC	**Mammoth Lakes**	**35.64**	**318**	⇑P	**P**	**17 45 26.1**	**+0.3**
	baz=36						
M12A	**Wells**	**35.69**	**326**	⇑P	**P**	**17 45 26.0**	**-0.3**
	baz=36						
KCC	**Kaiser Creek**	**35.78**	**317**	⇑P	**P**	**17 45 26.7**	**-0.3**
	baz=36						
RLMT	**Red Lodge**	**35.86**	**336**	*e*P	**P**	**17 45 27.6**	**-0.1**
	comp=E,14nm,0.9s,mb4.9						
PKD	**Parkfield**	**35.88**	**314**	⇓P	**P**	**17 45 28.2**	**+0.3**
	baz=36						
R07C	**Lee Vining**	**36.04**	**318**	⇓P	**P**	**17 45 30.0**	**+0.8**
	baz=36						
O09A	**Fish Creek Ran**	**36.15**	**323**	⇑P	**P**	**17 45 30.6**	**+0.4**
	baz=36						
M11A	**Holland Ranch,**	**36.18**	**325**	⇓P	**P**	**17 45 31.3**	**+0.9**
	baz=36						
LPAZ	**La Paz**	**36.21**	**144**	P	**P**	**17 45 29.4**	**-1.3**
	comp=E,0.5nm,0.6s,baz=244,slow=17,SNR=5.0						
LPAZ				PcP	PcP	17 47 56.3	+1.2
	comp=E,0.7nm,0.5s,baz=5.9,slow=8.7,SNR=3.6						
LPAZ				LR	LR	17 58 44.5	
	comp=E,112nm,21.9s,MS3.6,baz=326,slow=33						
U04C	**Hernandez Rese**	**36.26**	**315**	⇑P	**P**	**17 45 30.9**	**-0.2**
	baz=36						
V03C	**Hunter Liggett**	**36.40**	**314**	⇑P	**P**	**17 45 32.6**	**+0.2**
	baz=36						
S06C	**San Francisco**	**36.44**	**318**	⇑P	**P**	**17 45 33.2**	**+0.5**
	baz=36						
QLMT	**Earthquake Lak**	**36.53**	**333**	*e*P	**P**	**17 45 34.9**	**+1.4**
R06C	**Coleville**	**36.55**	**319**	⇑P	**P**	**17 45 34.2**	**+0.6**
	baz=37						
M10A	**I.L. Ranch, Tu**	**36.66**	**325**	⇓P	**P**	**17 45 35.6**	**+1.0**
	baz=37						
N09A	**Rock Creek Ran**	**36.78**	**323**	⇓P	**P**	**17 45 35.8**	**+0.2**
	baz=37						
HAST	**UC Hastings Re**	**36.81**	**314**	⇑P	**P**	**17 45 36.0**	**+0.2**
	baz=37						
CMB	**Columbia Colle**	**36.88**	**317**	⇓P	**P**	**17 45 36.5**	**+0.1**
	baz=37						
PACP	**Pacheco Peak**	**36.94**	**315**	⇑P	**P**	**17 45 37.1**	**+0.2**
	baz=37						
HLID	**Hailey**	**36.96**	**329**	⇑P	**P**	**17 45 37.7**	**+0.5**
	baz=37						
R05C	**Kirkwood Meado**	**37.05**	**318**	⇑P	**P**	**17 45 38.3**	**+0.4**
	baz=37						
DGMT	**Dagmar**	**37.07**	**344**	*e*P	**P**	**17 45 37.8**	**-0.3**
	comp=E,137nm,0.8s,mb5.8						
N08A	**GE Springer Mi**	**37.09**	**323**	⇑P	**P**	**17 45 38.2**	**0.0**
	baz=37						
ULM	**Lac du Bonnet**	**37.14**	**353**	P	**P**	**17 45 36.5**	**-2.1**
	comp=E,22nm,0.9s,mb5.0,baz=175,slow=8.2,SNR=15						
ULM				LR	LR	18 03 36.2	
	comp=E,202nm,18.6s,MS3.9,baz=251,slow=41						
ULM	**Lac du Bonnet**	**37.14**	**353**	*e*P	**P**	**17 45 36.5**	**-2.1**
	comp=E,34nm,1.0s,mb5.1						
O07A	**Toulon**	**37.16**	**321**	⇓P	**P**	**17 45 39.8**	**+1.0**
	baz=37						
MCMT	**McKenzie Canyo**	**37.16**	**332**	*e*P	**P**	**17 45 39.4**	**+0.6**
S04C	**Ingram Canyon,**	**37.23**	**316**	⇓P	**P**	**17 45 39.2**	**-0.1**
	baz=37						
LAVA	**Lava Cap Winer**	**37.51**	**318**	⇓P	**P**	**17 45 42.3**	**+0.6**
	baz=38						
WENL	**Wente Brothers**	**37.58**	**316**	⇑P	**P**	**17 45 43.0**	**+0.7**
	baz=38						
M08A	**Happy Creek Ra**	**37.66**	**323**	⇓P	**P**	**17 45 42.6**	**-0.4**
	baz=38						
P05C	**Yuba Gap, Truc**	**37.73**	**319**	⇑P	**P**	**17 45 44.1**	**+0.4**
	baz=38						
BEKR	**Beckwourth**	**37.90**	**320**	⇑P	**P**	**17 45 45.3**	**+0.3**
	baz=38,SNR=7.4						
M07A	**Soldier Meadow**	**38.09**	**323**	⇑P	**P**	**17 45 46.7**	**+0.1**
	baz=38						
N06A	**Buffalo Meadow**	**38.09**	**321**	⇑P	**P**	**17 45 46.9**	**+0.2**
	baz=38						
K09A	**Rome**	**38.10**	**325**	⇑P	**P**	**17 45 47.2**	**+0.5**
	baz=38,SNR=6.8						
L08A	**Fields**	**38.12**	**324**	⇑P	**P**	**17 45 46.7**	**-0.1**
	baz=38						
E15A	**Deer Lodge**	**38.31**	**334**	⇓P	**P**	**17 45 48.0**	**-0.5**
	baz=38,SNR=5.5						
OHCM	**Honcut**	**38.31**	**318**	*e*P	**P**	**17 45 49.5**	**+1.0**
CVS	**Carmenet Viney**	**38.43**	**316**	⇑P	**P**	**17 45 49.8**	**+0.3**
	baz=38						
WVOR	**Wild Horse Val**	**38.44**	**324**	*e*P	**P**	**17 45 49.4**	**-0.2**
	comp=E,4.7nm,0.9s,mb4.2						
ORV	**Oroville**	**38.45**	**319**	⇑P	**P**	**17 45 50.6**	**+0.9**
	baz=38						
SUTB	**Sutter Butte**	**38.45**	**318**	⇓P	**P**	**17 45 50.7**	**+1.1**
	baz=38						
EGMT	**Eagleton**	**38.46**	**338**	P	**P**	**17 45 49.6**	**-0.1**
	baz=39,SNR=7.2						
K08A	**Mann Creek Ran**	**38.55**	**325**	⇓P	**P**	**17 45 50.4**	**0.0**
	baz=39,SNR=5.9						
J09A	**Fry Pan Ranch,**	**38.55**	**326**	⇑P	**P**	**17 45 50.5**	**0.0**
	baz=39						
F13A	**Darby**	**38.57**	**332**	P	**P**	**17 45 50.1**	**-0.5**
	baz=39,SNR=10						
L07A	**Adell**	**38.58**	**323**	⇓P	**P**	**17 45 50.8**	**+0.1**
	baz=39						
H11A	**Donnelly**	**38.58**	**329**	⇓P	**P**	**17 45 50.6**	**-0.2**
	baz=39						
E14A	**Clinton**	**38.67**	**333**	⇑P	**P**	**17 45 51.5**	**-0.1**
	baz=39,SNR=5.8						
D15A	**Lincoln**	**38.74**	**335**	⇓P	**P**	**17 45 52.3**	**+0.2**
	baz=39,SNR=8.1						
J08A	**Circle Bar Ran**	**38.95**	**326**	⇑P	**P**	**17 45 53.8**	**-0.1**
	baz=39						
K07A	**Rock Creek Ran**	**38.95**	**324**	⇓P	**P**	**17 45 53.5**	**-0.4**
	baz=39,SNR=8.7						
I09A	**Lost Marbles R**	**38.96**	**327**	⇑P	**P**	**17 45 53.5**	**-0.4**
	baz=39						
E13A	**Victor**	**39.00**	**333**	⇑P	**P**	**17 45 54.1**	**-0.2**
	baz=39						
MOD	**Modoc**	**39.07**	**323**	⇑P	**P**	**17 45 55.4**	**+0.5**
	baz=39						
D14A	**Greenough**	**39.19**	**334**	⇑P	**P**	**17 45 55.0**	**-0.9**
	baz=39						
GASB	**Alder Springs**	**39.29**	**318**	⇓P	**P**	**17 45 57.8**	**+1.2**
	baz=39						
P01C	**Double 8 Ranch**	**39.60**	**317**	⇓P	**P**	**17 45 59.9**	**+0.6**
	baz=40						
D13A	**Huson**	**39.62**	**333**	P	**P**	**17 45 58.9**	**-0.5**
	baz=40,SNR=7.4						
H08A	**Prairie City**	**39.83**	**327**	⇓P	**P**	**17 46 00.9**	**-0.2**
	baz=40						
I07A	**Izee**	**39.99**	**326**	⇓P	**P**	**17 46 01.9**	**-0.6**
	baz=40						
F10A	**Beach Ranch, E**	**40.09**	**330**	P	**P**	**17 46 02.8**	**-0.5**
	baz=40,SNR=9.2						
C13A	**Hot Springs**	**40.12**	**333**	⇓P	**P**	**17 46 03.1**	**-0.5**
	baz=40						
F09A	**S2 Ranch, Elgi**	**40.24**	**329**	⇑P	**P**	**17 46 03.8**	**-0.8**
	baz=40						
I06A	**Prineville**	**40.29**	**325**	⇑P	**P**	**17 46 04.3**	**-0.7**
	baz=40						
H07A	**Lands Inn, Kim**	**40.35**	**326**	⇑P	**P**	**17 46 04.2**	**-1.3**
	baz=40						
YBH	**Yreka Blue Hor**	**40.43**	**321**	⇑P	**P**	**17 46 06.4**	**+0.3**
	baz=40						
SIV	**San Ignacio**	**40.45**	**135**	P	**P**	**17 46 05.9**	**-0.4**
	comp=E,10nm,0.8s,mb4.6,baz=315,slow=8.4,SNR=40						
SIV				PcP	PcP	17 48 09.2	+0.9
	comp=E,4.6nm,0.6s,baz=266,slow=3.3,SNR=7.6						
C12A	**Trout Creek**	**40.53**	**333**	⇑P	**P**	**17 46 06.4**	**-0.6**
	baz=41						
B13A	**Whitefish**	**40.61**	**334**	⇓P	**P**	**17 46 06.8**	**-0.9**
	baz=41						
F08A	**Pendleton**	**40.74**	**328**	⇑P	**P**	**17 46 08.1**	**-0.6**
	baz=41						
E09A	**Wood Farm, Sta**	**40.92**	**330**	⇓P	**P**	**17 46 09.1**	**-1.1**
	baz=41						
B12A	**Libby**	**41.16**	**333**	⇓P	**P**	**17 46 11.4**	**-0.7**
	baz=41						
D09A	**Jones Farm, Ri**	**41.38**	**330**	⇑P	**P**	**17 46 12.5**	**-1.6**
	baz=42						
B11A	**Sandpoint**	**41.48**	**333**	⇑P	**P**	**17 46 14.1**	**-0.6**
	baz=42						
K02A	**Glendale**	**41.49**	**321**	⇓P	**P**	**17 46 13.6**	**-1.3**
	baz=42						
A12A	**Yaak River Ran**	**41.54**	**334**	⇓P	**P**	**17 46 14.6**	**-0.6**
	baz=42						
D08A	**Wollman Farm,**	**41.68**	**330**	⇓P	**P**	**17 46 15.5**	**-1.0**
	baz=42						
F06A	**Goldendale**	**41.77**	**327**	⇑P	**P**	**17 46 16.4**	**-0.8**
	baz=42						
E07A	**Sunnyside**	**41.81**	**328**	⇓P	**P**	**17 46 17.1**	**-0.4**
	baz=42						
H04A	**Detroit Lake**	**41.86**	**325**	⇓P	**P**	**17 46 16.8**	**-1.1**
	baz=42						
A11A	**Hall Mountain,**	**41.87**	**333**	⇓P	**P**	**17 46 17.1**	**-0.8**
	baz=42,SNR=8.4						
C08A	**Higginbotham F**	**42.25**	**330**	⇑P	**P**	**17 46 21.2**	**+0.1**
	baz=42						
B09A	**Rice**	**42.28**	**332**	⇓P	**P**	**17 46 20.1**	**-1.2**
	baz=42						
A10A	**Northport**	**42.41**	**333**	⇓P	**P**	**17 46 21.5**	**-0.9**
	baz=42						
C07A	**Waterville**	**42.68**	**329**	⇓P	**P**	**17 46 25.6**	**+1.0**
	baz=43						
A09A	**Danville**	**42.87**	**332**	⇓P	**P**	**17 46 25.1**	**-1.0**
	baz=43						
A07A	**Ashnola River,**	**43.77**	**331**	⇑P	**P**	**17 46 33.3**	**0.0**
	baz=44						
B06A	**Marblemount**	**43.94**	**329**	⇓P	**P**	**17 46 33.5**	**-1.3**
	baz=44						
EDM	**Edmonton**	**44.06**	**339**	*e*P	**P**	**17 46 34.1**	**-1.5**
SCHQ	**Schefferville**	**44.95**	**18**	P	**P**	**17 46 40.9**	**-1.9**
	comp=E,14nm,0.5s,mb5.0,baz=212,slow=6.9,SNR=30						
SCHQ				PcP	PcP	17 48 20.4	-2.9
	comp=E,3.2nm,0.6s,baz=182,slow=3.0,SNR=5.1						
SCHQ				LR	LR	18 06 30.6	
	comp=E,123nm,18.3s,MS3.9,baz=257,slow=38						
YKA	**Yellowknife Ar**	**52.22**	**346**	P	**P**	**17 47 36.8**	**-1.8**
	comp=E,18nm,0.8s,mb5.0,baz=143,slow=7.8,SNR=27						
YKA				LR	LR	18 13 36.4	
	comp=E,85nm,19.5s,MS3.8,baz=160,slow=40						
YKA	**Yellowknife Ar**	**52.22**	**346**	P	**P**	**17 47 36.8**	**-1.8**
YKA				LR	LR	18 13 36.4	
TAOE	**Nuku Hiva Isla**	**55.03**	**249**	*e*LR	LR	18 03 39.4	
	comp=E,978nm,26.1s						
RKT	**Rikitea**	**57.51**	**231**	*e*LR	LR	18 04 50.7	
	comp=E,254nm,27.2s						
RES	**Resolute Bay**	**61.36**	**358**	*e*P	**P**	**17 48 40.6**	**-2.8**
	comp=E,401nm,0.7s						
PPT	**Papeete**	**66.89**	**244**	*e*LR	LR	18 09 13.2	
	comp=E,368nm,26.8s,baz=57						
PPT	**Papeete**	**66.89**	**244**	LR	LR	18 10 34.5	
	comp=E,192nm,22.0s,MS4.3,baz=325,slow=29						
TBI	**Tubuai**	**69.18**	**238**	*e*LR	LR	18 10 16.3	
	comp=E,252nm,28.2s,baz=69						
RAR	**Rarotonga**	**77.17**	**244**	LR	LR	18 15 19.5	
	comp=E,108nm,19.8s,MS4.2,baz=18,slow=28						
ESDC	**Sonseca Array**	**78.10**	**52**	P	**P**	**17 50 23.2**	**-3.1**
	comp=E,0.7nm,0.5s,mb3.8,baz=285,slow=5.1,SNR=8.1						
NOA	**NORSAR Array B**	**83.46**	**29**	P	**P**	**17 50 50.7**	**-4.2**
	comp=E,2.4nm,0.9s,mb4.2,baz=290,slow=4.8,SNR=3.8						
NOA				LR	LR	18 25 37.1	
	comp=E,48nm,19.5s,MS3.9,baz=280,slow=34						
ARCES	**ARCESS Array B**	**85.91**	**19**	P	**P**	**17 51 04.1**	**-3.1**
	comp=E,3.2nm,0.9s,mb4.5,baz=302,slow=5.0,SNR=6.5						
ARCES				LR	LR	18 28 25.8	
	comp=E,48nm,18.0s,MS3.9,baz=188,slow=35						
ARCES	**ARCESS Array B**	**85.91**	**19**	P	**P**	**17 51 04.1**	**-3.1**
ARCES				LR	LR	18 28 25.8	
TORD	**Torodi Ar. Bea**	**88.04**	**77**	P	**P**	**17 51 14.0**	**-3.5**
	comp=E,1.0nm,0.6s,mb4.2,baz=301,slow=5.2,SNR=5.4						
TORD				LR	LR	18 28 59.1	
	comp=E,45nm,19.2s,MS3.9,baz=265,slow=34						
TORD	**Torodi Ar. Bea**	**88.04**	**77**	P	**P**	**17 51 14.0**	**-3.6**
TORD				LR	LR	18 28 59.0	
GERES	**GERESS Array B**	**88.44**	**40**	P	**P**	**17 51 15.7**	**-3.8**
	comp=E,0.3nm,0.5s,mb3.8,baz=302,slow=10,SNR=3.4						
GERES				LR	LR	18 25 58.1	
	comp=E,77nm,19.4s,MS4.1,baz=297,slow=32						
KEST	**Kesra**	**89.22**	**54**	LR	LR	18 31 04.6	
	comp=E,27nm,18.0s,MS3.7,baz=239,slow=35						
FINES	**FINESS Array B**	**89.95**	**26**	LR	LR	18 28 44.8	
	comp=E,59nm,20.6s,MS4.0,baz=263,slow=34						
AKASG	**Malin Array Be**	**96.82**	**34**	LR	LR	18 33 45.9	
	comp=E,35nm,19.4s,MS3.9,baz=280,slow=34						
SONM	**Songino Array**	**117.44**	**348**	PKiKP	PKiKP	17 57 10.9	-1.8
	comp=E,0.4nm,0.5s,baz=329,slow=1.1,SNR=7.0						
BOSA	**Boshof**	**117.80**	**115**	PKiKP	PKiKP	17 57 11.7	-1.7
	comp=E,3.5nm,0.8s,baz=127,slow=4.0,SNR=4.4						
MKAR	**Makanchi Array**	**119.63**	**7**	PKP	PKPdf	17 57 13.8	-3.1
	comp=E,0.8nm,0.7s,baz=354,slow=3.3,SNR=6.4						
HHC	**Hu-ho-hao-te**	**122.65**	**341**	*e*PKP	PKPdf	17 57 21.0	-1.7
HHC				PP	PP	17 59 02.1	+1.6
HHC				PP	PP		
	comp=Z,116nm,5.1s						
WMQ	**Urumqi**	**123.00**	**3**	⇑PKP	PKPdf	17 57 21.4	-2.0
WMQ				XPKP		17 57 45.4	
WMQ				PP	PP	17 59 06.4	+3.5
WMQ				PP	PP		
	comp=Z,50nm,6.6s						
STKA	**Stephens Creek**	**129.96**	**240**	PKP	PKPdf	17 57 35.4	-1.2
	comp=Z,2.0nm,1.0s,baz=63,slow=4.5,SNR=2.6						
STKA	**Stephens Creek**	**129.96**	**240**	PKP	PKPdf	17 57 35.4	-1.2
CD2	**Chengdu**	**134.18**	**344**	*e*PKP	PKPdf	17 57 42.1	-2.5
WB2	**Warramunga Arr**	**137.69**	**255**	*e*PKPdf	PKPdf	17 57 50.5	-0.6
WRA	**Warramunga Arr**	**137.70**	**255**	PKP	PKPdf	17 57 50.5	-0.7
	comp=Z,3.1nm,0.9s,baz=89,slow=1.5,SNR=12						
ASAR	**Alice Springs**	**137.85**	**250**	PKhKP		17 57 43.5	
	comp=Z,0.6nm,1.0s,baz=107,slow=3.7,SNR=7.9						
ASAR				PKP	PKPdf	17 57 50.0	-1.4
	comp=Z,1.9nm,0.9s,baz=98,slow=1.9,SNR=8.1						
GKN	**Gorkha**	**138.45**	**8**	*e*P	PKPdf	17 57 51.2	-1.3
	comp=Z,9.4nm,0.6s						
KOLN	**Koldanda**	**138.52**	**9**	*e*P	PKPdf	17 57 51.5	-1.2
GUN	**Gumba**	**138.69**	**6**	*e*P	PKPdf	17 57 52.2	-0.8
	comp=Z,9.3nm,0.5s						
KKN	**Kakani**	**138.74**	**7**	*e*P	PKPdf	17 57 51.9	-1.2
	comp=Z,7.9nm,0.7s						
DMN	**Daman**	**138.90**	**7**	*e*P	PKPdf	17 57 52.1	-1.3
JIRN	**Jiri**	**138.97**	**6**	*e*P	PKPdf	17 57 51.9	-1.6
PKI	**Pulchoki**	**138.97**	**7**	*e*P	PKPdf	17 57 52.9	-0.6
CHTO	**Chiang Mai**	**146.96**	**345**	*e*PKPdf	PKPdf	17 58 06.9	-0.7
HYB	**Hyderabad**	**147.15**	**22**	*i* PKP	PKPdf	17 58 08.0	+0.1
HYB	**Hyderabad**	**147.15**	**22**	*e*P	PKPdf	17 58 08.0	+0.1

ISCJB ***01*** *17:43:08.6±0.3, 4423N±002×684E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=2.8km az=131.3*
STR ***01*** *17:43:09.4±0.1, 4424N×690E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***01*** *17:43:09.5±0.1, 4423N×688E, h2km, Md2.3/4, Ml2.2/5, Error ellipse: s-maj=1.7km s-min=1.1km az=57.0*
ISC 01 17:43:09.1±0.3**, 4423N**±002×**687E**±003**, h14**km±4km**, n20,** σ**0.69**/36**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.35**	**128**	Pg	**Pg**	**17 43 16.0**	**-0.2**
MVIF	**Mont Vial**	**0.39**	**148**	Pg	**Pg**	**17 43 16.9**	**-0.1**
AUTN	**L'Aution**	**0.47**	**120**	Pg	**Pg**	**17 43 18.2**	**-0.2**
AUTN				Sg	**Sg**	**17 43 24.5**	**-0.1**
LUCF	**Luceram**	**0.48**	**134**	Pg	**Pg**	**17 43 18.7**	**+0.1**
LUCF				Sg	**Sg**	**17 43 25.6**	**+0.5**
MBDF	**Montbardon**	**0.51**	**352**	*e*Pg	**Pg**	**17 43 19.0**	**-0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 43 25.6**	**-0.3**
	12nm,0.2s						
SBF	**Sospel**	**0.55**	**131**	*e*Pg	**Pg**	**17 43 20.0**	**+0.1**
SBF				*e*Sg	**Sg**	**17 43 27.4**	**+0.2**
	59nm,0.3s						
SAOF	**Saorge**	**0.55**	**116**	Pg	**Pg**	**17 43 19.7**	**-0.3**
OG25	**Le Caire**	**0.59**	**284**	Pg	**Pg**	**17 43 20.9**	**+0.2**
OG22	**Abries**	**0.60**	**5**	Pg	**Pg**	**17 43 20.7**	**-0.2**
OG22				Sg	**Sg**	**17 43 28.4**	**-0.4**
REVF	**Revere**	**0.61**	**143**	Pg	**Pg**	**17 43 22.5**	**+1.5**
FRF	**La Foret Royal**	**0.68**	**194**	*e*Pg	**Pg**	**17 43 22.1**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 43 30.7**	**-0.8**
	22nm,0.2s						
FRF				*e*Sn	**Sg**	**17 43 36.0**	**+4.5**
LMR	**La Mourre**	**0.93**	**196**	*e*Pn	**Pn**	**17 43 26.4**	**-1.3**
LMR	**La Mourre**	**0.93**	**196**	*e*Pg	**Pg**	**17 43 27.2**	**+0.1**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**17 43 39.1**	**-0.2**
	11nm,0.2s						
SMRF	**Simiane la Rot**	**0.96**	**255**	*e*Pn	**Pn**	**17 43 28.4**	**+0.2**
SMRF	**Simiane la Rot**	**0.96**	**255**	*e*Pg	**Pg**	**17 43 29.4**	**+1.6**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 43 39.8**	**-0.6**
SMRF				*e*Sn	**Sn**	**17 43 42.7**	**+1.0**
ORIF	**Oris-en-Rattie**	**0.99**	**315**	*e*Pn	**Pn**	**17 43 27.8**	**-0.7**
ORIF				*e*Sg	**Sg**	**17 43 39.7**	**-1.4**
	5.9nm,0.3s						
LPG	**La Plagne**	**1.27**	**356**	*e*Pn	**Pn**	**17 43 33.1**	**+0.6**
LPG				*e*Sg	**Sg**	**17 43 50.8**	**+0.6**
	3.3nm,0.4s						
LPL	**La Plagne**	**1.29**	**356**	*e*Pn	**Pn**	**17 43 33.6**	**+0.9**
LPL				*e*Sg	**Sg**	**17 43 50.9**	**0.0**
VIVF	**Saint-Julien-l**	**1.69**	**293**	*e*Pn	**Pn**	**17 43 38.8**	**+0.6**
VIVF				*e*Sn	**Sn**	**17 43 59.7**	**+0.1**
VIVF				*e*Sg	**Sg**	**17 44 03.4**	**-0.2**
	1.5nm,0.2s						
PGF	**Pioggiola**	**2.29**	**136**	*e*Pn	**Pn**	**17 43 46.7**	**+0.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**17 44 12.6**	**-1.7**
	1.4nm,0.2s						

MAN 01 18:02:42.2,1305N×12463E,h26^{km},mb3.1,ML4.4,MS6.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.71	319	eP	Pb	18 02 56.5	+0.5
PVCP				eS	Sb	18 03 07.4	+2.0
PLP	Palo	1.91	170	eP	Pn	18 03 12.5	-0.5
PLP				eS	Sn	18 03 34.1	-2.1
AUQP	San Andres	1.93	278	eP	Pn	18 03 16.6	+3.4
MSLP	Maasin	2.91	176	eP	Pn	18 03 29.5	+2.7
GUIM	Jordan	3.13	220	eP	Pn	18 03 30.9	+1.0

*IDC **01** 18:04:49.5±1.4,484N×125.14E,h0^{km},mb3.3/3,mb1 3.5/3, mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=158.1km s-min=9.7km az=65.0*
*ISCJB **01** 18:04:52.7±1.3,47N±0.1×1249E±05,h35^{km},mb3.2/3, Error ellipse: s-maj=74.2km s-min=17.6km az=160.3*
ISC 01 18:04:55.0±1.3,48N±02×1250E±06,h35^{km},n4,σ1^{s}48/4, mb3.2/3,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	3.09	1	eP	Pn	18 05 41.2	-0.1
WRA	Warramunga Arr	26.22	160	P	P	18 10 27.5	+1.0
	0.5nm,0.5s,mb3.3,baz=342,slow=10,SNR=8.0						
ASAR	Alice Springs	29.57	163	P	P	18 10 55.4	-1.1
	0.1nm,0.6s,mb2.8,baz=344,slow=7.4,SNR=3.0						
MKAR	Makanchi Array	55.72	326	P	P	18 14 28.1	+0.1
	0.3nm,0.5s,mb3.6,baz=120,slow=7.7,SNR=8.3						

IDC 01 18:12:31.8±60.0,1513S×17400W,h0^{km},mb3.8/3, mb1 4.0/3,mb1mx3.6/12,mbtmp3.8/3,1C,Error ellipse: s-maj=1150.0km s-min=176.7km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.67	240	P	P	18 20 38.1	-0.1
	0.4nm,0.3s,baz=59,slow=12,SNR=3.5						
WRA	Warramunga Arr	49.34	257	P	P	18 21 23.7	+1.0
	0.2nm,0.4s,baz=91,slow=7.1,SNR=7.9						
ASAR	Alice Springs	49.64	252	P	P	18 21 25.2	+0.2
	2.0nm,0.5s,baz=88,slow=8.1,SNR=81						
ASPA	Alice Springs	49.64	252	⇑iP	P	18 21 25.3	+0.2

*NEIC **01** 18:19:48.6,32.19S×71.46W,h45^{km},MD3.7(GUC),After GUC.*
GUC 01 18:19:48.6±0.8,3219S×7146W,h45^{km}±1^{km},MD3.7, ML3.0,6C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.31	354	⇑iP	Pn	18 19 57.7	+0.3
CHNG				i S	Sn	18 20 03.8	+0.3
CHNG				AML	AML	18 20 04.2	
	comp=N,1µm,0.2s						
PACH	Papudo	0.34	176	⇑iP	Pn	18 19 58.3	+0.6
PACH				i S	Sn	18 20 04.9	+0.7
PTCH	Petorca	0.46	99	⇑iP	Pn	18 19 59.6	+0.6
PTCH				i S	Sn	18 20 07.5	+1.1
PTCH				AML	AML	18 20 09.4	
	comp=E,3µm,0.2s						
PTCH	Petorca	0.46	99	⇑iP	Pn	18 19 59.6	+0.6
PTCH				i S	Sn	18 20 07.5	+1.1
IHA	Instituto Hidr	0.84	190	⇓iP	Pn	18 20 04.7	+0.6
IHA				i S	Sn	18 20 16.4	+1.0
ROCH	El Roble	0.87	154	⇑iP	Pn	18 20 05.3	+1.0
ROCH				i S	Sn	18 20 17.7	+1.8
JACH	Jahuel	0.88	124	⇓iP	Pn	18 20 05.6	+1.0
JACH				i S	Sn	18 20 18.0	+1.7
CMCH	Combarbala	1.09	21	eP	Pn	18 20 08.1	+0.7
CMCH				i S	Sn	18 20 22.9	+1.6
CMCH				AML	AML	18 20 23.9	
	comp=E,3µm,0.3s						
CMCH	Combarbala	1.09	21	eP	Pn	18 20 08.1	+0.7
CMCH				i S	Sn	18 20 22.9	+1.6
LCCH	Las Cruces	1.28	184	⇑iP	Pn	18 20 10.7	+0.6
LCCH				i S	Sn	18 20 27.4	+1.3
RCDM	Rinconada Maip	1.41	157	eP	Pn	18 20 12.8	+1.1
RCDM				i S	Sn	18 20 30.2	+1.1
RCDM				AML	AML	18 20 31.9	
	comp=E,396nm,0.1s						
RCDM	Rinconada Maip	1.41	157	eP	Pn	18 20 12.8	+1.1
RCDM				i S	Sn	18 20 30.2	+1.1
CLCH	Cerro Calan	1.43	147	eP	Pn	18 20 13.3	+1.2
CLCH				i S	Sn	18 20 31.7	+2.0
CLCH				AML	AML	18 20 32.9	
	comp=N,230nm,0.3s						
FCH	Farellones	1.50	139	eP	Pn	18 20 14.6	+1.5
FCH				i S	Sn	18 20 33.9	+2.5
FCH				AML	AML	18 20 36.3	
	comp=N,201nm,0.4s						
TACH	Talagante	1.52	163	eP	Pn	18 20 14.4	+1.0
TACH				i S	Sn	18 20 33.2	+1.3
ANTU	Antumapu	1.54	153	i S	Sn	18 20 33.9	+1.6
ANTU				AML	AML	18 20 35.6	
	comp=N,192nm,0.1s						
OVCH	Ovalle	1.59	8	eP	Pn	18 20 16.4	+2.1
OVCH				i S	Sn	18 20 36.6	+2.9
OVCH				AML	AML	18 20 39.6	
	comp=N,481nm,0.6s						
OVCH	Ovalle	1.59	8	eP	Pn	18 20 16.4	+2.1
OVCH				i S	Sn	18 20 36.6	+2.9
LNV	Longovilo	1.76	179	eP	Pn	18 20 16.7	+0.1
LNV				eS	Sn	18 20 39.4	+1.6
LMEL	Las Melosas	1.96	148	eP	Pn	18 20 21.4	+2.0
LMEL				i S	Sn	18 20 45.6	+2.9
LMEL				AML	AML	18 20 50.5	
	comp=N,233nm,0.1s						
LMEL	Las Melosas	1.96	148	eP	Pn	18 20 21.4	+2.0
LMEL				i S	Sn	18 20 45.6	+2.9
CACH	El Canelo	2.05	160	eP	Pn	18 20 22.7	+2.1
TLL	Tololo Astrono	2.10	16	eP	Pn	18 20 24.1	+2.9
TLL				i S	Sn	18 20 49.6	+3.6
TLL				AML	AML	18 20 57.5	
	comp=N,211nm,0.6s						
TLL	Tololo Astrono	2.10	16	eP	Pn	18 20 24.1	+2.9
TLL				i S	Sn	18 20 49.6	+3.6
SFDO	San Fernando	2.44	171	eP	Pn	18 20 27.6	+1.7

IDC 01 18:21:58.4±1.2,032S×12028E,h0^{km},mb3.2/3,mb1 3.4/3, mb1mx3.3/17,mbtmp3.2/3,Error ellipse: s-maj=126.1km s-min=14.2km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.87	146	P	P	18 27 12.9	-0.6
	0.4nm,0.5s,baz=325,slow=11,SNR=6.2						
ASAR	Alice Springs	26.71	151	P	P	18 27 41.6	+2.3
	0.1nm,0.5s,baz=338,slow=11,SNR=6.1						
ASAR				PcP	PcP	18 31 00.7	-2.2
	0.1nm,0.3s,baz=344,slow=2.1,SNR=4.8						
SONM	Songino Array	49.46	348	P	P	18 30 51.5	+1.3
	0.3nm,0.6s,baz=164,slow=9.1,SNR=4.1						

*ISCJB **01** 19:11:25.2±0.7,4084N±003×1973E±003,h6^{km}±4^{km}, Error ellipse: s-maj=4.7km s-min=3.6km az=104.6*
*CSEM **01** 19:11:27.8±0.1,4095N×1969E,h40^{km},ML3.7/3,Error ellipse: s-maj=2.6km s-min=2.0km az=166.0*
*NEIC **01** 19:11:28.0,4083N×1988E,h2^{km},MD3.3(ATH), ML2.7(ROM),ML3.2(THE),After THE.*
*THE **01** 19:11:28.0,4083N×1988E,h2^{km},ML2.7*
*ROM **01** 19:11:27.1±0.3,4082N×1972E,h10^{km},Md2.8/4,Ml2.7/4, Error ellipse: s-maj=6.2km s-min=3.1km az=65.0*
*ATH **01** 19:11:27.8,4075N×1968E,h33^{km}±11^{km},MD3.3/5*
ISC 01 19:11:25.9±0.7,4085N±003×1972E±003,h10^{km}±4^{km},n38, σ0^{s}97/62,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.51	13	Pn	Pg	19 11 37.4	+1.5
TIR				Sn	Sg	19 11 47.3	+4.7
	293nm,0.4s						
TIR	Tirane	0.51	13	ePg	Pg	19 11 37.5	+1.6
TIR				eSg	Sg	19 11 46.9	+4.3
TIR	Tirane	0.51	13	ePg	Pg	19 11 37.5	+1.6
TIR				eSg	Sg	19 11 46.9	+4.3
TIR				Sn	Sg	19 11 47.3	+4.7
	293nm,0.4s						
OHR	Ohrid	0.86	72	ePg	Pg	19 11 42.0	-0.5
OHR				eSg	Sg	19 11 52.6	-1.1
OHR	Ohrid	0.86	72	ePg	Pg	19 11 42.5	0.0
OHR				i Sg	Sg	19 11 54.9	+1.2
OHR	Ohrid	0.86	72	ePg	Pg	19 11 42.0	-0.5
OHR				i Sg	Sg	19 11 54.8	+1.1
KEK	Kerkira	1.14	177	Pn	Pn	19 11 47.8	-0.1
KEK				Sn	Sn	19 12 03.1	-0.5
	72nm,0.4s						
KEK	Kerkira	1.14	177	ePN	Pn	19 11 47.4	-0.5
KEK				eSN	Sn	19 12 01.7	-1.9
BIA	Bitola	1.23	81	ePg	Pg	19 11 47.7	-1.9
BIA				eSg	Sg	19 12 05.8	+0.3
BIA	Bitola	1.23	81	ePg	Pg	19 11 49.4	-0.2
BIA				i Sg	Sg	19 12 07.1	+1.6
BIA	Bitola	1.23	81	ePg	Pg	19 11 49.3	-0.2
BIA				i Sg	Sg	19 12 07.1	+1.6
SCTE	Santa Cesarea	1.23	231	Pn	Pn	19 11 49.3	+0.1
SCTE				Sn	Sn	19 12 06.3	+0.4
	177nm,0.3s						
FNA	Florina	1.26	92	ePg	Pg	19 11 48.7	-1.4
FNA				eSg	Sg	19 12 06.2	-0.3
LCI	Lecce	1.33	248	Pn	Pn	19 11 51.1	+0.6
LCI				Sn	Sn	19 12 09.2	+0.9
	41nm,0.2s						
IGT	Igoumenitsa	1.40	160	ePg	Pg	19 11 52.8	+0.1
IGT				eSg	Sg	19 12 10.6	-0.3
JAN	Janina	1.47	144	ePN	Pn	19 11 53.3	+0.7
MEV	Metsovon	1.57	132	ePg	Pg	19 11 56.2	+0.2
MEV				eSg	Sg	19 12 17.3	+0.9
KZN	Kozani	1.66	108	ePB	Pb	19 11 56.2	-0.3
SKO	Skopje	1.71	49	ePb	Pb	19 11 57.4	-0.2
SKO				eSb	Sb	19 12 20.4	+1.3
SKO	Skopje	1.71	49	ePn	Pn	19 11 56.8	+0.9
PE1	Pezze di Greco	1.74	269	ePn	Pn	19 11 55.3	-1.0
NOCI	Noci	2.01	269	Pn	Pn	19 11 58.8	-1.2
	85nm,0.3s						
GRG	Griva	2.04	86	ePb	Pb	19 12 00.6	-2.5
GRG				eSb	Sb	19 12 27.1	-1.4
STIP	Stip	2.04	65	ePb	Pb	19 12 01.0	-2.1
STIP				eSb	Sb	19 12 27.6	-1.1
STIP	Stip	2.04	65	ePn	Pn	19 12 01.3	+0.9
THL	Klokotos Trika	2.18	125	ePN	Pn	19 12 03.6	+1.4
VAY	Valandovo	2.21	77	ePn	Pn	19 12 02.3	-0.4
VAY	Valandovo	2.21	77	ePn	Pn	19 12 02.4	-0.3
LIT	Litokhoron	2.24	109	ePn	Pn	19 12 03.3	+0.2
LKD	Levkas	2.26	161	ePn	Pn	19 12 03.0	-0.4
LKD				eSn	Sn	19 12 35.6	+4.4
SG1	Sgolgore (BA)	2.31	271	ePn	Pn	19 12 02.8	-1.2
KNT	Kendrikon	2.43	82	ePn	Pn	19 12 06.0	+0.3
KNT				eSn	Sn	19 12 35.4	-0.1
EVR	Evrytania	2.51	139	ePN	Pn	19 12 07.7	+0.8
HORT	Hortiatis	2.58	94	ePn	Pn	19 12 07.9	+0.1
AGG	Agios Georgios	2.71	131	ePn	Pn	19 12 13.0	+3.4
AGG				eSn	Sn	19 12 43.0	+0.5
AGG	Agios Georgios	2.71	131	ePn	Pn	19 12 13.0	+3.4
AGG				eSn	Sn	19 12 43.0	+0.5
MMB	Musomiste	3.12	75	ePn	Pn	19 12 15.5	+0.4
PAIG	Paliouri	3.16	106	ePn	Pn	19 12 16.3	+0.5

*ISCJB **01** 19:13:56.8±0.4,747S±003×12283E±005,h569^{km}±6^{km}, mb4.7/70,Error ellipse: s-maj=7.4km s-min=4.4km az=129.8*
*BJI **01** 19:13:56.4,770S×123.10E,h600^{km},mB4.8,mb4.9*
*MOS **01** 19:13:57.7±0.8,743S×12286E,h581^{km},mb4.7/25,Error ellipse: s-maj=13.8km s-min=6.9km az=110.8*
*NEIC **01** 19:13:57.8±0.5,750S×12281E,h568^{km}±6^{km},mb4.7/29, Error ellipse: s-maj=7.1km s-min=3.9km az=66.0*
*IDC **01** 19:13:58.2±1.0,750S×12284E,h571^{km}±11^{km},mb4.1/23, mb1 4.1/26,mb1mx4.1/28,mbtmp4.1/26,Error ellipse: s-maj=12.1km s-min=7.1km az=70.0*
ISC 01 19:13:57.5±0.4,752S±003×12283E±005,h562^{km}±5^{km}, n169,σ0^{s}83/153,mb4.7/68,14C-9D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	3.29	229	P	P	19 15 13.5	-1.7
	3µm,0.6s						
AAI	Ambon	6.56	55	P	P	19 15 41.8	+0.1
	692nm,0.6s						
PCI	Palu	7.21	335	P	P	19 15 48.8	+0.9
	2µm,1.1s						
DNP	Denpasar	7.63	261	P	P	19 15 51.4	-0.5
	860nm,0.8s						
KRKI	Karangkates	10.30	266	P	P	19 16 19.4	+0.8
	146nm,0.8s						
SWI	Sorong	10.69	52	P	P	19 16 22.7	+0.1
	177nm,0.7s						
KAKA	Kakadu	10.78	119	⇑iP	P	19 16 23.4	0.0
	29nm,0.6s						
FITZ	Fitzroy Crossi	10.87	166	⇑iP	P	19 16 24.6	+0.2
	38nm,0.6s						
FITZ				eS	S	19 18 23.7	-1.5
FITZ	Fitzroy Crossi	10.87	166	P	P	19 16 24.7	+0.3
	5.4nm,0.3s,baz=356,slow=7.2,SNR=216						
FITZ				S	S	19 18 22.9	-2.3
	1.3nm,0.3s,baz=9.5,slow=12,SNR=3.3						
MBWA	Marble Bar	13.89	192	eP	P	19 16 55.1	-0.2
	146nm,0.6s						
KKM	Kota Kinabalu	15.00	334	P	P	19 17 06.4	-0.4
KKM	Kota Kinabalu	15.00	334	eP	P	19 17 06.2	-0.5
LEM	Lembang	15.11	272	P	P	19 17 06.1	-1.7
	81nm,0.8s						
KSM	Kuching	15.36	305	eP	P	19 17 10.7	+0.4
CBJI	Citeko	15.90	273	P	P	19 17 12.4	-3.1
	147nm,0.8s						
WRA	Warramunga Arr	16.64	139	P	P	19 17 22.7	+0.3
	15nm,0.3s,baz=315,slow=10.0,SNR=424						
WRA				S	S	19 20 06.3	-3.1
	baz=313,slow=17,SNR=8.8						
WRA				ScP	ScP	19 24 17.3	-1.2
	baz=326,slow=2.1,SNR=7.2						
WRA	Warramunga Arr	16.64	139	P	P	19 17 22.7	+0.4
WRA				S	S	19 20 06.3	-3.1
WRAB	Tennant Creek	16.65	139	eP	P	19 17 22.7	+0.4
WRAB				pmax	pmax		
	comp=Z,110nm,0.6s						
WRAB	Tennant Creek	16.65	139	eP	P	19 17 22.7	+0.3
	comp=Z,110nm,0.6s						
WB2	Warramunga Arr	16.65	139	⇑iP	P	19 17 22.5	+0.1
ASPA	Alice Springs	19.25	148	⇑iP	P	19 17 46.7	+0.5
AS31	Alice Springs	19.25	148	⇑iP	P	19 17 46.7	+0.5
ASAR	Alice Springs	19.25	148	P	P	19 17 46.8	+0.6
	comp=Z,5.5nm,0.3s,baz=316,slow=7.8,SNR=718						
ASAR				ScP	ScP	19 24 23.0	-1.2
	comp=Z,0.3nm,0.3s,baz=318,slow=2.0,SNR=10						
TGY	Tagaytay City	21.56	355	P	P	19 18 07.7	+0.7
	comp=Z,105nm,0.5s,baz=166,slow=6.0,SNR=3.9						
FORT	Forrest	23.65	169	⇑iP	P	19 18 25.7	+0.1
	comp=Z,74nm,0.5s,mb5.6						
PMG	Port Moresby	24.14	96	P	P	19 18 30.6	+0.7
	comp=Z,9.9nm,0.7s,mb4.5,baz=306,slow=9.5,SNR=4.0						
KLBR	Kellerberrin	24.41	191	⇑iP	P	19 18 32.1	-0.3
	comp=Z,64nm,0.5s,mb5.5						
MUN	Mundaring	25.11	193	eP	P	19 18 55.9	+17
NWAO	Narrogin (SRO)	25.81	191	P	P	19 18 44.7	0.0
	comp=Z,43nm,0.5s,mb5.4,baz=18,slow=7.9,SNR=113						
CTA	Charters Tower	25.91	121	P	P	19 18 46.6	+1.1
	comp=Z,3.8nm,0.7s,mb4.1,baz=307,slow=8.3,SNR=4.2						
CTA				ScP	ScP	19 24 41.1	-0.7
	comp=Z,5.5nm,0.9s,baz=297,slow=9.0,SNR=3.4						
PSI	Prapat	25.96	292	P	P	19 18 46.3	+0.3
	comp=Z,5.0nm,0.6s,mb4.3,baz=131,slow=9.3,SNR=5.6						
QIZ	Qiongzhong	29.32	334	eP	P	19 19 15.7	+0.3
STKA	Stephens Creek	29.89	147	⇑iP	P	19 19 21.1	+0.9
	comp=Z,51nm,0.6s,mb5.2						
STKA				eS	S	19 23 37.3	-1.1
STKA	Stephens Creek	29.89	147	P	P	19 19 21.2	+1.0
	comp=Z,75nm,0.6s,mb5.4,baz=316,slow=8.9,SNR=204						
STKA				S	S	19 23 37.5	-0.9
	comp=Z,7.2nm,0.8s,baz=104,slow=17,SNR=6.8						
JOW	Kunigami	34.55	9	P	P	19 19 59.0	-0.7
	comp=Z,26nm,0.7s,mb4.8,baz=303,slow=8.5,SNR=3.5						
CHTO	Chiang Mai	35.20	318	eP	P	19 20 05.6	+0.4
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
CHTO	Chiang Mai	35.20	318	eP	P	19 20 05.6	+0.4
	comp=Z,8.5nm,0.6s,mb4.5						
ARMA	Armidale	35.31	134	eP	P	19 20 08.5	+2.4
TOO	Toolangi	36.30	149	eP	P	19 20 15.7	+1.5
	comp=Z,7.9nm,0.4s,mb4.6						
HNR	Honiara	36.75	96	P	P	19 20 18.8	+0.9
	comp=Z,32nm,0.5s,mb5.1,baz=261,slow=3.6,SNR=5.8						
CNB	Canberra Magne	36.84	142	eP	P	19 20 19.0	+0.3
	comp=Z,12nm,0.6s,mb4.6						
KMI	Kunming	37.88	330	⇓P	P	19 20 28.9	+1.7
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.4						
KMI	Kunming	37.88	330	⇓P	P	19 20 28.9	+1.7
	comp=Z,14nm,1.2s,mb4.4						
WHN	Wuhan	38.71	348	⇑P	P	19 20 34.8	+0.9
WHN				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
CBIJ	Chichi jima	39.19	28	P	P	19 20 37.6	-0.1
	comp=Z,169nm,0.5s,baz=223,slow=4.4,SNR=16						
NJ2	Nanjing	39.53	355	eP	P	19 20 41.2	+0.7
NJ2				AP		19 22 23.5	
NJ2				PP	PP	19 22 28.8	+0.4
NJ2				XP	sP	19 23 32.1	+11
NJ2				S	S	19 26 03.0	0.0
NJ2				XS	sS	19 29 10.5	+8.9
NJ2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,120nm,4.8s						
JNU	Nakatsue	41.13	10	P	P	19 20 53.2	0.0
	comp=Z,15nm,0.6s,mb4.7,baz=236,slow=19,SNR=5.9						
XAN	Xi'an	43.38	343	P	P	19 21 10.1	-0.8
XAN				AMB	AMB		
	comp=Z,63nm,0.7s,mb5.2						
MAJO	Matsushiro	46.14	17	eP	P	19 21 30.9	-1.1
MAJO				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.0						
MAJO	Matsushiro	46.14	17	eP	P	19 21 30.9	-1.1
	comp=Z,46nm,0.9s,mb5.0						
MAT	Matsushiro	46.14	17	P	P	19 21 31.3	-0.7
MJAR	Matsushiro Arr	46.14	17	P	P	19 21 31.4	-0.6
	comp=Z,46nm,0.7s,mb5.1,baz=191,slow=8.0,SNR=119						
MJAR				ScP	ScP	19 25 55.0	-1.1
	comp=Z,1.1nm,0.5s,baz=182,slow=4.6,SNR=5.1						
DL2	Dalian	46.20	359	P	P	19 21 32.0	-0.4
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
LZH	Lanzhou	46.90	339	eP	P	19 21 38.7	+0.9
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,211nm,4.0s						
LZH	Lanzhou	46.90	339	eP	P	19 21 38.7	+0.9
	comp=Z,50nm,1.0s,mb5.0						
BJT	Baijiatuau	47.70	353	eP	P	19 21 42.3	-1.4
BJT				pmax	pmax		
	comp=Z,38nm,0.7s						
BJT	Baijiatuau	47.70	353	eP	P	19 21 42.3	-1.4
	comp=Z,38nm,0.7s,mb5.0						
LSA	Lhasa	47.93	322	P	P	19 21 47.0	+1.6
LSA	Lhasa	47.93	322	eP	P	19 21 46.8	+1.4
LSA				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.1						
LSA	Lhasa	47.93	322	eP	P	19 21 46.8	+1.4
	comp=Z,35nm,0.6s,mb5.1						
HHC	Hu-ho-hao-te	49.23	349	eP	P	19 21 54.9	-0.2
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,184nm,5.2s						
GUN	Gumba	50.15	316	eP	P	19 22 02.5	+0.7
	comp=Z,40nm,0.6s,mb5.1						
PKI	Pulchoki	50.27	315	eP	P	19 22 03.0	+0.3
	comp=Z,27nm,0.4s,mb5.1						
KKN	Kakani	50.49	316	eP	P	19 22 04.7	+0.4
	comp=Z,30nm,0.7s,mb4.8						
DMN	Daman	50.50	315	eP	P	19 22 04.8	+0.4
VLA	Vladivostok	51.07	9	c iP	P	19 22 08.6	+0.1
VLA				pmax	pmax		
	comp=Z,53nm,1.1s,mb4.8						
GKN	Gorkha	51.07	315	eP	P	19 22 08.8	+0.3
	comp=Z,25nm,0.3s,mb5.1						
CN2	Changchun	51.13	2	⇑P	P	19 22 08.0	-0.9
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
GTA	Gaotai	51.33	337	P	P	19 22 11.1	+0.7
GTA				AMB	AMB		
	comp=Z,33nm,0.8s,mb4.7						
KOLN	Koldanda	51.66	314	eP	P	19 22 13.2	+0.5
MDJ	Mudanjiang	52.25	6	P	P	19 22 17.3	+0.3
MDJ				AMB	AMB		
	comp=Z,104nm,0.9s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,79nm,4.5s						
MDJ	Mudanjiang	52.25	6	eP	P	19 22 17.1	+0.1
	comp=Z,73nm,0.7s,mb5.1						
HIA	Hailar	56.61	358	eP	P	19 22 47.1	-0.4
HIA				pmax	pmax		
	comp=Z,18nm,0.7s						
HIA	Hailar	56.61	358	eP	P	19 22 47.1	-0.4
	comp=Z,18nm,0.7s,mb4.4						
NDI	New Delhi	56.81	311	ex	x	19 22 45.0	
ULN	Ulaanbaatar	56.88	347	eP	P	19 22 49.3	-0.1
ULN				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.3						
ULN	Ulaanbaatar	56.88	347	eP	P	19 22 49.3	0.0
	comp=Z,19nm,1.0s,mb4.3						
SONM	Songino Array	56.99	347	P	P	19 22 50.3	+0.1
	comp=Z,24nm,0.7s,mb4.5,baz=164,slow=8.2,SNR=170						
SONM				ScP	ScP	19 26 42.2	-1.0
	comp=Z,1.4nm,0.8s,baz=162,slow=5.0,SNR=5.9						
KLR	Kul'dur	57.05	7	eP	P	19 22 46.7	-3.8
YSS	Yuzh-Sakhalins	57.05	16	d iP	P	19 22 50.1	-0.4
YSS				pmax	pmax		
	comp=Z,31nm,0.6s,mb4.7						
YSS	Yuzh-Sakhalins	57.05	16	eP	P	19 22 50.6	0.0
	comp=Z,16nm,0.5s,mb4.5						
CASY	Casey	59.28	186	⇑iP	P	19 23 05.0	-0.6
CIT	Chita	59.83	353	eP	P	19 23 09.0	-0.3
CIT				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.6						
THN	Thein Dam	59.92	314	eP	P	19 23 08.9	-0.9
ZAK	Zakamensk	60.11	346	⇓iP	P	19 23 10.8	-0.3
ZAK				e		19 23 48.0	
WMQ	Urumqi	60.18	331	P	P	19 23 12.0	+0.4
TLY	Talaya	61.23	347	eP	P	19 23 18.0	-0.4
TLY				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.5						
TLY	Talaya	61.23	347	eP	P	19 23 18.2	-0.2
	comp=Z,14nm,0.8s,mb4.3						
MOY	Mondy	61.87	345	eP	P	19 23 22.4	-0.2
MIR	Mirnyy	62.39	193	d iP	P	19 23 27.5	+1.5
MIR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
MK31	Makanchi Array	64.96	330	eP	P	19 23 42.2	-0.1
MKAR	Makanchi Array	64.96	330	P	P	19 23 42.5	+0.2
	comp=Z,25nm,0.5s,mb4.9,baz=135,slow=7.0,SNR=350						
MKAR				PcP	PcP	19 24 09.1	-0.7
	comp=Z,3.3nm,0.6s,baz=142,slow=4.6,SNR=3.6						
ULHL	Ulahol	65.23	324	P	P	19 23 44.7	+0.7
	SNR=5.1						
BOD	Bodaibo	65.51	355	eP	P	19 23 45.0	-0.8
BOD				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.8						
KZA	Kyzart	65.72	323	P	P	19 23 48.3	+1.1
	SNR=6.4						
TKM2	Tokmak 2	66.02	324	P	P	19 23 49.4	+0.4
	SNR=16						
KBK	Karagaybulak	66.25	323	P	P	19 23 51.1	+0.7
	SNR=9.8						
UCH	Uchtor	66.25	323	P	P	19 23 51.3	+0.9
	SNR=16						
AAK	Ala-Archa	66.50	323	P	P	19 23 52.7	+0.8
	SNR=28						
AAK	Ala-Archa	66.50	323	eP	P	19 23 51.5	-0.5
AAK				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.8						
AAK	Ala-Archa	66.50	323	eP	P	19 23 51.5	-0.5
	comp=Z,20nm,0.6s,mb4.8						
CHMS	Chumysh	66.57	323	P	P	19 23 51.9	-0.5
	SNR=5.5						
AML	Almayashu	66.69	322	P	P	19 23 54.0	+0.9
	SNR=19						
USP	Ospenovka	66.87	324	P	P	19 23 54.4	+0.2
	SNR=16						
EKS2	Erkin-Say	66.95	323	P	P	19 23 55.4	+0.7
	SNR=22						
YAK	Yakutsk	69.54	3	d iP	P	19 24 09.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
YAK	Yakutsk	69.54	3	*e*P	P	19 24 09.8	-0.7
	comp=Z,104nm,0.6s,mb5.5						
WSAR	Wadi Sarin	69.76	298	P	P	19 24 12.4	+0.7
	comp=Z,5.7nm,0.7s,mb4.2,baz=146,slow=8.8,SNR=7.1						
NVS	Novosibirsk	70.37	337	*e*P	P	19 24 12.4	-2.9
NVS				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=N,19nm,1.5s						
NVS				pmax	pmax		
	comp=E,34nm,2.1s						
MAW	Mawson	71.92	200	⇑ *i*P	P	19 24 24.4	0.0
	comp=E,11nm,0.9s,mb4.3						
MAW	Mawson	71.92	200	P	P	19 24 24.5	+0.1
	comp=E,9.9nm,0.7s,mb4.4,baz=70,slow=6.3,SNR=22						
MAW	Mawson	71.92	200	⇑ *i*P	P	19 24 24.4	0.0
MAW				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	Vanda	72.88	172	P	P	19 24 29.6	-0.3
	comp=Z,7.0nm,0.7s,mb4.2,baz=317,slow=6.3,SNR=72						
SEY	Seymchan	73.80	14	*d i*P	P	19 24 35.2	0.0
BVAR	Borovoye Array	74.84	330	P	P	19 24 40.5	-0.5
	comp=Z,5.7nm,0.7s,mb4.1,baz=132,slow=6.6,SNR=34						
BRVK	Borovoye	74.91	330	*e*P	P	19 24 41.1	-0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
BRVK	Borovoye	74.91	330	*e*P	P	19 24 41.1	-0.3
	comp=Z,6.2nm,0.6s,mb4.2						
CHKZ	Chkalovo	75.11	331	*e*P	P	19 24 41.8	-0.7
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
CHKZ	Chkalovo	75.11	331	*e*P	P	19 24 41.8	-0.8
	comp=Z,16nm,0.8s,mb4.5						
ZRNK	Zerenda	75.48	330	*e*P	P	19 24 43.9	-0.7
ZRNK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
ZRNK	Zerenda	75.48	330	*e*P	P	19 24 43.9	-0.7
	comp=Z,22nm,0.8s,mb4.6						
TIXI	Tiksi	79.10	2	*e*P	P	19 25 02.7	-1.5
TIXI				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
AKTK	Aktyubinsk	80.22	324	P	P	19 25 09.7	-0.3
AKTO	Aktyubinsk	80.22	324	P	P	19 25 09.7	-0.3
	comp=Z,26nm,0.7s,mb4.7,baz=108,slow=7.0,SNR=137						
QRN	Al-Qurain	80.53	301	*e*P	P	19 25 12.2	+0.5
QRN				AMb	AMB	19 25 12.9	
	comp=Z,49nm,0.5s,mb5.2						
SYO	Syowa Base	80.60	201	⇓ *e*P	P	19 25 11.0	-1.0
RDF	Al-Radifah	80.89	301	*e*P	P	19 25 13.9	+0.4
RDF				AMb	AMB	19 25 14.8	
	comp=Z,24nm,0.7s,mb4.8						
NAY	Al-Naaiem	81.23	301	*e*P	P	19 25 15.4	+0.2
NAY				AMb	AMB	19 25 16.4	
	comp=Z,17nm,0.6s,mb4.6						
MIB	Mutribah	81.28	302	*e*P	P	19 25 15.8	+0.3
MIB				AMb	AMB	19 25 17.9	
	comp=Z,27nm,0.8s,mb4.7						
RST	Umm Al-Ruwaisa	81.50	301	*e*P	P	19 25 16.5	-0.1
RST				AMb	AMB	19 25 17.6	
	comp=Z,34nm,0.6s,mb4.9						
QSPA	South Pole Qui	82.47	180	*e*P	P	19 25 21.1	-0.4
	comp=Z,6.0nm,0.6s,mb4.2						
ARU	Arti	82.47	330	⇓ *i*P	P	19 25 20.5	-1.1
ARU				*e*		19 28 40.9	
ARU				*e*PPP		19 30 36.8	
ARU				*e*S	S	19 34 43.7	-8.3
ARU				*e*SS	SS	19 40 30.2	+0.6
ARU				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.6						
ORR	Orenburg	82.58	324	*e*P	P	19 25 22.1	0.0
ORR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
UNV	Unalaska Valle	84.85	34	P	P	19 25 32.9	-0.4
KMBO	Kilima Mbogo	85.47	269	P	P	19 25 37.8	+1.5
	comp=Z,1.0nm,0.6s,baz=49,slow=19,SNR=3.0						
KIV	Kislovodsk	88.13	315	*e*P	P	19 25 52.3	+3.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
MMAI	Mount Meron Ar	91.89	303	P	P	19 26 07.0	+0.7
	comp=Z,3.9nm,1.0s,mb4.4,baz=128,slow=9.3,SNR=3.4						
BOSA	Boshof	93.04	241	P	P	19 26 11.8	+0.2
	comp=Z,3.6nm,1.0s,mb4.4,baz=103,slow=6.8,SNR=4.0						
SNAA	Sanae	93.42	195	*e*P	P	19 26 12.4	-0.9
SNAA				*e*		19 26 14.5	
SNAA	Sanae	93.42	195	*e*P	P	19 26 12.7	-0.6
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SNAA	Sanae	93.42	195	*e*P	P	19 26 12.7	-0.6
	comp=Z,1.7nm,0.6s,mb4.2						
OBN	Obninsk	93.97	325	*e*P	P	19 26 14.6	-1.2
OBN				pmax	pmax		
	comp=Z,38nm,1.8s,mb5.2						
BRTR	Keskin Array B	94.12	309	P	P	19 26 15.1	-1.4
	comp=Z,0.7nm,0.7s,mb3.9,baz=138,slow=8.0,SNR=4.1						
VNA2	Neumayer--Watz	95.03	195	*e*P	P	19 26 20.3	-0.3
VNA2				*e*		19 26 23.0	
VNA1	Neumayer--Stat	95.43	195	*e*P	P	19 26 22.3	-0.1
VNA1				*e*		19 26 24.2	
MCK	McKinley	95.90	27	*e*P	P	19 26 22.4	-2.1
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
MCK	McKinley	95.90	27	*e*P	P	19 26 22.4	-2.1
	comp=Z,2.0nm,0.9s,mb4.3						
AKASG	Malin Array Be	98.05	320	P	Pdif	19 26 32.2	-1.9
	comp=Z,0.9nm,0.4s,baz=77,slow=4.5,SNR=6.2						
AKASG	Malin Array Be	98.05	320	P	Pdif	19 26 32.2	-1.9
ARCES	ARCESS Array B	99.56	339	P	Pdif	19 26 39.0	-1.8
	comp=Z,3.3nm,1.0s,baz=81,slow=5.6,SNR=6.7						
YKA	Yellowknife Ar	111.28	25	PKiKP	PKiKP	19 31 26.8	-1.1
	comp=Z,1.5nm,0.5s,baz=296,slow=1.7,SNR=7.8						
YKA	Yellowknife Ar	111.28	25	PKPdf	PKiKP	19 31 26.8	-1.1
HLID	Hailey	118.64	44	*e*P	PKPdf	19 31 43.3	+1.3
MOOW	Moose Ponds	121.08	43	*e*P	PKPdf	19 31 47.5	+0.7
REDW	Red Top Meadow	121.15	43	*e*P	PKPdf	19 31 48.0	+1.2
TORD	Torodi Ar. Bea	121.92	281	PKP	PKPdf	19 31 49.0	+0.7
	comp=Z,1.6nm,0.7s,baz=43,slow=2.0,SNR=17						
PDAR	Pinedale Array	122.25	44	PKP	PKPdf	19 31 49.4	+0.4
	comp=Z,0.6nm,0.5s,baz=115,slow=0.8,SNR=7.2						
PDAR				PKKPbc	PKKPbc	19 41 48.7	+1.8
	comp=Z,0.7nm,0.6s,baz=115,slow=7.0,SNR=6.2						
ESDC	Sonseca Array	122.75	313	PKP	PKPdf	19 31 50.4	+0.5
	comp=Z,0.2nm,0.4s,baz=28,slow=2.8,SNR=4.7						
PV01	Paradox Valley	124.59	48	*e*P	PKPdf	19 31 54.8	+1.4
RSSD	Black Hills	125.34	40	*e*PKIKP	PKPdf	19 31 54.9	0.0
ULM	Lac du Bonnet	126.61	30	PKP	PKPdf	19 31 56.5	-0.8
	comp=Z,5.3nm,0.8s,baz=276,slow=5.5,SNR=5.3						
ULM	Lac du Bonnet	126.61	30	PKP	PKPdf	19 31 56.5	-0.9
TXAR	Lajitas Array	131.25	57	PKP	PKPdf	19 32 07.2	+1.0
	comp=Z,0.5nm,0.4s,baz=232,slow=1.4,SNR=6.9						
TXAR				PP	PP	19 34 38.2	+5.7
	comp=Z,0.7nm,0.3s,baz=187,slow=6.3,SNR=8.4						
TXAR	Lajitas Array	131.25	57	PKP	PKPdf	19 32 07.2	+1.0
TXAR				PP	PP	19 34 38.2	+5.7
SCHQ	Schefferville	132.19	8	PKP	PKPdf	19 32 08.3	+0.5
	comp=Z,2.0nm,0.4s,baz=167,slow=3.2,SNR=3.7						
SCHQ				PP	PP	19 34 41.1	+2.7
	comp=Z,5.9nm,0.8s,baz=4.8,slow=2.3,SNR=4.5						
FWV	Forest Hill	143.18	32	*e*P	PKPdf	19 32 26.1	-1.9
MVL	Millersville	143.38	25	*e*PKPdf	PKPdf	19 32 26.9	-1.5
PAL	Palisades	143.47	21	*e*PKIKP	PKPdf	19 32 27.3	-1.2
ELN	Prospectdale	143.48	32	*e*PKPdf	PKPdf	19 32 26.8	-1.7

*ISCJB **01** 19:14:48.0±0.8, 4084N±003×1976E±004, h8km±5km, Error ellipse: s-maj=6.2km s-min=4.5km az=105.1*
*ROM **01** 19:14:48.7±0.3, 4082N×1966E, h14km±1km, Md2.6/4, Ml2.2/2, Error ellipse: s-maj=4.7km s-min=2.4km az=89.0*
*SKO **01** 19:14:48.1, 4083N×1963E, h0km, M1.7, ML2.1*
*CSEM **01** 19:14:48.6±0.2, 4081N×1972E, h5km, MD2.6/4, Error ellipse: s-maj=4.3km s-min=3.3km az=139.0*
*NEIC **01** 19:14:50.0, 4079N×1985E, h3km, ML2.2(ROM), ML2.7(THE), After THE.*
*THE **01** 19:14:50.0, 4079N×1985E, h2km, ML2.2*
ISC 01 19:14:49.0±0.8, **4083N**±004×**1976E**±004, **h11**km±6km, **n15, σ1.s00**/30, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.53	9	Pn	Pg	19 14 59.5	+0.2
TIR				Sn	Sg	19 15 10.2	+3.9
	152nm,0.4s						
TIR	Tirane	0.53	9	*e*Pg	Pg	19 14 60.0	+0.6
TIR				*e*Sg	Sg	19 15 09.6	+3.3
TIR	Tirane	0.53	9	*e*Pg	Pg	19 15 00.0	+0.7
TIR				*e*Sg	Sg	19 15 09.6	+3.3
TIR				Sn	Sg	19 15 10.2	+3.9
	152nm,0.4s						
OHR	Ohrid	0.84	70	*e*Pg	Pg	19 15 04.7	-0.5
OHR				*i* Sg	Sg	19 15 17.3	+1.1
OHR				*e*Lg		19 15 18.0	
	comp=E,50nm,0.6s						
OHR				*e*Lg		19 15 18.1	
	comp=N,38nm,0.6s						
OHR	Ohrid	0.84	70	*e*Pg	Pg	19 15 05.0	-0.2
OHR				*e*Sg	Sg	19 15 17.4	+1.2
KEK	Kerkira	1.11	178	Pn	Pn	19 15 10.4	0.0
KEK				Sn	Sn	19 15 27.3	+1.6
	comp=N,42nm,0.7s						
BIA	Bitola	1.20	80	*e*Pg	Pg	19 15 10.4	-1.7
BIA				*e*Sg	Sg	19 15 27.8	0.0
BIA	Bitola	1.20	80	*e*Pg	Pg	19 15 12.0	-0.1
BIA				*i* Sg	Sg	19 15 29.5	+1.7
FNA	Florina	1.23	91	*e*Pg	Pg	19 15 11.3	-1.4
FNA				*e*Sg	Sg	19 15 28.7	+0.1
SCTE	Santa Cesarea	1.24	233	Pn	Pn	19 15 11.8	-0.4
SCTE				Sn	Sn	19 15 28.8	0.0
LCI	Lecce	1.34	249	Pn	Pn	19 15 13.7	+0.1
LCI				Sn	Sn	19 15 32.0	+0.6
	comp=N,21nm,0.2s						
IGT	Igoumenitsa	1.36	161	*e*Pg	Pg	19 15 14.8	-0.4
IGT				*e*Sg	Sg	19 15 33.4	+0.5
GRG	Griva	2.01	85	*e*Pb	Pb	19 15 22.7	-2.8
GRG				*e*Sb	Sb	19 15 49.6	-0.9
SG1	Sgolgore (BA)	2.33	271	*e*Pn	Pn	19 15 25.8	-1.4
KNT	Kendrikon	2.40	81	*e*Pn	Pn	19 15 28.6	+0.4
KNT				*e*Sn	Sn	19 15 58.0	+0.5

IDC 01 19:51:39.7±3.5, **2822S**×**17710W, h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.7**/10, **mbtmp3.6**/3, **Error ellipse: s-maj=182.1km s-min=44.2km az=156.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.79	254	P	P	19 58 40.9	+0.3
	0.9nm,0.7s,baz=90,slow=13,SNR=2.2						
ASAR	Alice Springs	44.06	264	P	P	19 59 49.3	0.0
	0.3nm,0.4s,baz=104,slow=7.7,SNR=11						
WRA	Warramunga Arr	44.85	269	P	P	19 59 56.1	+0.5
	0.6nm,0.7s,baz=110,slow=8.0,SNR=11						
AKASG	Malin Array Be	149.99	326	PKPbc	PKPbc	20 11 32.2	+0.1
	1.2nm,0.4s,baz=46,slow=2.8,SNR=6.9						
BRTR	Keskin Array B	152.17	302	PKPbc	PKPbc	20 11 36.6	-0.6
	0.3nm,0.4s,baz=70,slow=11,SNR=2.8						

MEX 01 20:13:25.2±0.5, **1626N**×**9966W, h15**km±38km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.66	338	*i* P	Pg	20 13 36.0	-2.1
ACX				*i* S	Sg	20 13 44.0	-2.8
CAIG	El Cayaco	0.98	323	*i* P	Pb	20 13 40.0	-3.9
CAIG				*i* S	Sb	20 13 53.6	-3.1
MEIG	Mezcala	1.66	1	*i* P	Pn	20 13 51.4	-2.3
MEIG				*i* S	Sn	20 14 10.4	-4.4
UTMO	Huajuapan	2.37	48	*i* P	Pn	20 13 60.0	-3.5
UTMO				*i* S	Sn	20 14 27.9	-4.3
OXX	Oaxaca	2.93	73	*e*S	Sn	20 14 38.0	-8.1

*NEIC **01** 20:16:03.6±1.4, 705S×12959E, h86km±14km, mb4.4/9, Error ellipse: s-maj=11.5km s-min=7.6km az=63.0*
*IDC **01** 20:16:03.9±2.9, 710S×12957E, h87km±27km, mb4.1/11, mb1 4.1/13, mb1mx4.1/17, mbtmp4.1/13, MS3.3/3, Ms1 3.2/3, ms1mx2.9/20, Error ellipse: s-maj=20.6km s-min=12.4km az=71.0*
*ISCJB **01** 20:16:05.1±0.8, 713S±004×12975E±009, h126km±9km, mb4.5/23, Error ellipse: s-maj=14.7km s-min=5.2km az=146.3*
ISC 01 20:16:06.0±0.8, **711S**±005×**12978E**±009, **h115**km±9km, **n50, σ1.s17**/57, **mb4.5**/23, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	3.28	64	P	Pn	20 16 48.1	-7.8
	1μm,1.1s						
AAI	Ambon	3.75	335	P	Pn	20 17 04.2	+2.2
	749nm,0.8s						
KAKA	Kakadu	6.16	155	*e*P	Pn	20 17 36.4	+1.9
	132nm,0.2s						
KAKA				*e*S	Sn	20 18 42.5	-1.0
SWI	Sorong	6.38	13	P	Pn	20 17 36.7	-0.8
	132nm,0.5s						
FITZ	Fitzroy Crossi	11.65	200	*e*P	Pn	20 18 46.6	-2.0
	62nm,0.2s						
FITZ				*e*S	Sn	20 20 48.2	-8.6
FITZ	Fitzroy Crossi	11.65	200	P	Pn	20 18 46.6	-1.9
	11nm,0.3s,baz=34,slow=12,SNR=158						
FITZ				S	Sn	20 20 49.3	-7.5
	14nm,0.3s,baz=142,slow=20,SNR=6.3						
FITZ				LR	LR	20 23 49.2	
	comp=Z,53nm,20.2s,baz=215,slow=40						
PCI	Palu	11.67	301	P	Pn	20 18 55.9	+7.0
	113nm,1.0s						
WRAB	Tennant Creek	13.50	161	*e*P	Pn	20 19 10.8	-2.1
	72nm,0.8s						
WRAB				*e*S	Sn	20 21 33.7	-7.8
WRA	Warramunga Arr	13.50	161	P	Pn	20 19 11.3	-1.6
	11nm,0.3s,baz=334,slow=14,SNR=255						
WRA				S	Sn	20 21 33.6	-8.0
	14nm,0.3s,baz=334,slow=23,SNR=9.5						
WB2	Warramunga Arr	13.51	161	*e*P	Pn	20 19 11.0	-1.9
WB2				*e*S	Sn	20 21 24.9	-17
AS31	Alice Springs	16.93	167	*e*P	Pn	20 19 56.2	+0.3
AS31				*e*S	S	20 22 56.6	-8.2
AS31				*e*S	S	20 22 57.2	-7.5
ASAR	Alice Springs	16.93	167	P	Pn	20 19 56.0	+0.1
	6.5nm,0.3s,baz=335,slow=9.6,SNR=355						
ASAR				S	S	20 22 57.4	-7.4
	2.7nm,0.3s,baz=352,slow=28,SNR=4.6						
ASAR				LR	LR	20 27 29.9	
	comp=Z,142nm,19.3s,baz=256,slow=40						
ASPA	Alice Springs	16.93	167	*e*P	Pn	20 19 56.2	+0.3
ASPA				*e*S	S	20 22 57.2	-7.6
MBWA	Marble Bar	17.02	214	*e*P	Pn	20 19 57.4	+0.4
	24nm,0.7s						
PMG	Port Moresby	17.35	99	P	Pn	20 20 02.9	+1.9
	0.7nm,0.3s,baz=276,slow=18,SNR=2.6						
CTA	Charters Tower	20.54	131	P	P	20 20 38.1	+2.8
	3.6nm,0.7s,baz=310,slow=14,SNR=3.3						
CTAO	Charters Tower	20.54	131	*e*P	P	20 20 38.2	+2.9
LEM	Lembang	22.00	269	P	P	20 20 52.9	+2.1
	51nm,1.0s,mb4.8						
CBJI	Citeko	22.78	270	P	P	20 21 03.4	+4.6
	72nm,1.0s,mb5.0						
TGY	Tagaytay City	22.82	337	P	P	20 20 59.1	-0.2
	52nm,0.3s,baz=172,slow=22,SNR=4.7						
FORT	Forrest	23.61	184	*e*P	P	20 21 07.7	+1.3
	30nm,0.6s,mb4.8						
KLBR	Kellerberrin	26.82	203	*e*P	P	20 21 37.3	+1.8
	12nm,1.0s,mb4.4						
STKA	Stephens Creek	27.00	157	*e*P	P	20 21 38.3	+1.2
	2.8nm,0.4s,mb4.2						
STKA	Stephens Creek	27.00	157	P	P	20 21 38.4	+1.4
	3.6nm,0.5s,mb4.2,baz=346,slow=8.9,SNR=11						
STKA				LR	LR	20 34 03.3	
	comp=Z,82nm,18.7s,baz=204,slow=40						
NWAO	Narrogin (SRO)	28.21	203	P	P	20 21 49.0	+1.1
	11nm,1.0s,mb4.3,baz=105,slow=19,SNR=6.7						
NWAO	Narrogin (SRO)	28.21	203	P	P	20 21 49.0	+1.1
PSI	Prapat	32.33	287	P	P	20 22 24.3	+0.1
	22nm,0.8s,mb5.0,baz=95,slow=2.9,SNR=19						
MJAR	Matsushiro Arr	44.13	10	P	P	20 24 05.1	+2.1
	1.1nm,0.6s,mb3.8,baz=194,slow=9.9,SNR=3.8						
LSA	Lhasa	52.12	317	*e*P	P	20 25 04.7	+0.3
	3.3nm,0.8s,mb4.4						
JIRN	Jiri	54.49	311	*e*P	P	20 25 21.4	-0.3
	6.9nm,0.4s,mb5.0						
GUN	Gumba	54.86	311	*e*P	P	20 25 24.0	-0.4
	10nm,0.4s,mb5.2						
PKI	Pulchoki	55.03	311	*e*P	P	20 25 25.4	-0.2
KKN	Kakani	55.24	311	*e*P	P	20 25 26.1	-1.1
DMN	Daman	55.28	311	*e*P	P	20 25 26.6	-0.8
GKN	Gorkha	55.84	311	*e*P	P	20 25 30.7	-0.7
	15nm,0.4s,mb5.4						
KOLN	Koldanda	56.50	310	*e*P	P	20 25 35.6	-0.5
	18nm,0.7s,mb5.2						
SONM	Songino Array	58.47	342	P	P	20 25 50.2	+0.3
	1.4nm,0.6s,mb4.2,baz=152,slow=7.4,SNR=14						
MK31	Makanchi Array	68.19	327	*e*P	P	20 26 53.6	-0.4
MKAR	Makanchi Array	68.19	327	P	P	20 26 53.6	-0.4
	5.5nm,0.4s,mb4.7,baz=115,slow=8.3,SNR=100						
AAK	Ala-Archa	70.48	320	*e*P	P	20 27 07.5	-0.6
	3.7nm,1.0s,mb4.2						
VNDA	Vanda	72.37	173	P	P	20 27 20.1	+0.6
	0.7nm,0.7s,mb3.6,baz=340,slow=1.3,SNR=7.5						
MAW	Mawson	74.77	201	P	P	20 27 34.6	+1.1
	1.6nm,0.7s,mb3.9,baz=81,slow=13,SNR=7.7						
WSAR	Wadi Sarin	75.72	296	P	P	20 27 39.6	+0.7
	1.9nm,0.4s,mb4.2,baz=185,slow=9.9,SNR=13						
BVAR	Borovoye Array	78.04	328	P	P	20 27 51.1	-0.8
	3.0nm,0.8s,mb4.0,baz=133,slow=6.3,SNR=18						
BRVK	Borovoye	78.11	328	*e*P	P	20 27 51.3	-1.0
	6.2nm,1.0s,mb4.3						
CHKZ	Chkalovo	78.24	329	*e*P	P	20 27 51.8	-1.2
	4.0nm,0.9s,mb4.2						
ZRNK	Zerenda	78.74	327	*e*P	P	20 27 54.6	-1.1
	10nm,1.1s,mb4.6						
TXAR	Lajitas Array	125.17	59	PKP	PKPdf	20 34 54.8	+1.8
	0.6nm,1.0s,baz=169,slow=1.3,SNR=3.9						
TORD	Torodi Ar. Bea	128.62	281	PKP	PKPdf	20 35 00.9	+1.3
	1.5nm,0.6s,baz=74,slow=2.3,SNR=31						
TORD				SKPbc		20 38 07.9	
	0.4nm,0.7s,baz=95,slow=3.0,SNR=5.0						
LPAZ	La Paz	150.77	143	PKPbc	PKPbc	20 35 48.0	+3.2
	2.3nm,0.4s,baz=42,slow=4.5,SNR=20						

*ISCJB **01** 20:29:15.3±0.3, 43.15N±0.02×0.18W±0.02, h12km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=119.7*
*STR **01** 20:29:17.0±0.1, 4305N×021W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **01** 20:29:17.3±0.1, 4306N×021W, h5km, ML2.4/13, Error ellipse: s-maj=1.4km s-min=0.9km az=157.0*
*LDG **01** 20:29:17.1±0.1, 4306N×023W, h10km, Md2.4/3, Ml2.4/12, Error ellipse: s-maj=1.3km s-min=1.2km az=24.0*
*MDD **01** 20:29:17.5±0.2, 4306N×021W, h0km, mbLg1.7/20, Error ellipse: s-maj=2.2km s-min=1.1km az=12.0, PRXIMO*
ISC 01 20:29:16.4±0.2, **4311N**±002×**019W**±002, **h13**km±3km, **n73, σ0.s73**/104, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.15	256	Pg	Pg	20 29 20.0	0.0
REYF				Sg	Sg	20 29 22.7	+0.2
REYF	Montagne du Re	0.15	256	Pg	Pg	20 29 19.9	-0.1
REYF				Lg		20 29 22.8	
LABF	Labassere	0.20	106	Pg	Pg	20 29 21.4	+0.5
LABF				Sg	Sg	20 29 24.9	+1.0
LABF	Labassere	0.20	106	Pg	Pg	20 29 21.1	+0.2
LABF				Lg		20 29 25.0	
VIEF	Viey	0.27	144	Pg	Pg	20 29 22.1	0.0
VIEF				Sg	Sg	20 29 25.8	-0.1
VIEF	Viey	0.27	144	Pg	Pg	20 29 21.8	-0.3
VIEF				Lg		20 29 25.7	
ETSF	Etsaut	0.34	232	*e*Pg	Pg	20 29 22.7	-0.5
ETSF				*e*Sg	Sg	20 29 27.2	-0.6
	81nm,0.2s						
ETSF	Etsaut	0.34	232	*e*Pg	Pg	20 29 22.7	-0.5
ETSF				*e*Sg	Sg	20 29 27.2	-0.6
	40nm,0.2s						
ATE	Arette	0.37	267	Pg	Pg	20 29 24.1	+0.3
ATE				Sg	Sg	20 29 29.4	+0.6
ATE	Arette	0.37	267	Pg	Pg	20 29 23.8	0.0
ATE				Lg		20 29 29.3	
FDAF	Les Forges d'A	0.40	224	Pg	Pg	20 29 23.6	-0.7
FDAF				Lg		20 29 29.2	
EPF	Esparros	0.40	101	*e*Pg	Pg	20 29 24.8	+0.5
EPF				*e*Sg	Sg	20 29 30.6	+0.9
	56nm,0.4s						
EPF	Esparros	0.40	101	*e*Pg	Pg	20 29 24.8	+0.5
EPF				*e*Sg	Sg	20 29 30.6	+0.9
	28nm,0.4s						
EBIE	Bielsa	0.49	149	Pg	Pg	20 29 25.5	-0.4
	0.6nm,0.0s,SNR=46						
EBIE				Lg		20 29 31.9	
	11nm,0.0s,SNR=49						
EBIE	Bielsa	0.49	149	Pg	Pg	20 29 25.5	-0.5
	0.6nm,0.0s,SNR=46						
RESF	Ens	0.49	127	Pg	Pg	20 29 26.0	-0.1
RESF				Lg		20 29 32.7	
LARF	Larrau	0.59	264	Pg	Pg	20 29 27.9	+0.1
LARF				Lg		20 29 36.1	
MELF	Melles	0.74	108	Pg	Pg	20 29 30.7	0.0
MELF				Lg		20 29 40.7	
SJPF	Ste Jean	0.76	271	*e*Pn	Pn	20 29 31.6	-1.2
SJPF				*e*Sg	Sg	20 29 40.9	0.0
	8.7nm,0.2s						
SJPF	Ste Jean	0.76	271	*e*Pn	Pn	20 29 31.6	-1.2
SJPF				*e*Sg	Sg	20 29 40.9	0.0
	4.3nm,0.2s						
IPRE	Itoiz	0.91	251	Pg	Pg	20 29 34.0	+0.2
	0.3nm,0.1s,SNR=9.0						
IPRE				Lg		20 29 46.3	
	3.1nm,0.2s,SNR=4.9						
IPRE	Itoiz	0.91	251	Pg	Pg	20 29 34.0	+0.1
	0.3nm,0.1s,SNR=9.0						
EALK	Alkurruntz	0.97	277	Pg	Pg	20 29 35.5	+0.5
	0.5nm,0.1s,SNR=6.0						
EALK				Lg		20 29 48.7	
	3.9nm,0.1s						
EALK	Alkurruntz	0.97	277	Pg	Pg	20 29 35.5	+0.4
	0.5nm,0.1s,SNR=6.0						
ELIZ	Elizondo	0.98	274	Pg	Pg	20 29 34.5	-0.8
	0.3nm,0.1s,SNR=9.2						
ELIZ				Lg		20 29 48.0	
	3.0nm,0.1s,SNR=6.5						
IUSE	Utxeti	1.01	261	Pg	Pg	20 29 35.8	0.0
	0.5nm,0.1s,SNR=7.9						
IUSE				Lg		20 29 49.4	
	4.6nm,0.1s,SNR=4.8						
IUSE	Utxeti	1.01	261	Pg	Pg	20 29 35.8	0.0
	0.5nm,0.1s,SNR=7.9						
EARA	Aranguren	1.07	252	Pg	Pg	20 29 37.6	+0.6
	0.1nm,0.1s,SNR=4.0						
EARA				Lg		20 29 53.4	
	2.1nm,0.1s,SNR=4.0						
SALF	Salau	1.07	108	P	Pb	20 29 37.1	+0.3
SALF				S	Sb	20 29 52.1	+1.3
CSOR	Sort	1.22	126	Pg	Pg	20 29 39.9	0.0
CSOR				Lg		20 29 55.6	
	4.0nm,0.2s						
ESAC	San Caprasio	1.40	188	Pg	Pg	20 29 43.0	-0.3
	5.9nm,0.2s,SNR=9.3						
ESAC				Lg		20 30 01.2	
	5.5nm,0.1s,SNR=16						
ESAC	San Caprasio	1.40	188	Pg	Pg	20 29 43.0	-0.3
	5.9nm,0.2s,SNR=9.3						
CAVN	Les Avellanes	1.41	150	Pg	Pg	20 29 43.4	0.0
CAVN				Lg		20 30 03.4	
	9.8nm,0.2s						
CORG	Organya	1.42	128	Pg	Pg	20 29 43.4	-0.2
CORG				Lg		20 30 02.6	
	2.2nm,0.2s						
CLLI	Llivia	1.71	111	Pg	Pg	20 29 49.6	+0.3
EMIR	Miracle	1.74	133	Pg	Pg	20 29 48.8	-1.0
	0.5nm,0.1s,SNR=4.0						
EMIR				Lg		20 30 12.3	
	3.9nm,0.1s,SNR=7.5						
ECRI	Cripan	1.77	255	Pn	Pn	20 29 48.6	+1.8
	0.4nm,0.2s,SNR=7.9						
ECRI				Lg		20 30 11.6	
	1.0nm,0.1s,SNR=7.9						
ECRI	Cripan	1.77	255	Pn	Pn	20 29 48.6	+1.8
	0.4nm,0.2s,SNR=7.9						
ECRI				Sn	Sn	20 30 11.6	+2.4
	1.0nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.78	82	*e*Pn	Pn	20 29 46.5	-0.3
MTLF	Montolieu	1.78	82	*e*Pg	Pg	20 29 51.3	+0.8
MTLF				*e*Sg	Sg	20 30 13.8	+0.2
	2.7nm,0.2s						
MTLF	Montolieu	1.78	82	Pn	Pn	20 29 46.5	-0.3
MTLF				Pg	Pg	20 29 51.3	+0.8
MTLF				Lg		20 30 13.8	
	1.4nm,0.2s						
MTLF	Montolieu	1.78	82	*e*Pg	Pg	20 29 51.3	+0.8
MTLF				*e*Sg	Sg	20 30 13.8	+0.2

	1.4nm,0.2s						
LFF	**La Frestale**	**1.95**	**20**	*e*Pg	**Pg**	**20 29 54.8**	**+0.9**
LFF				*e*Sg	**Sg**	**20 30 19.9**	**+0.7**
	11nm,0.3s						
LFF	**La Frestale**	**1.95**	**20**	Pn	**Pn**	**20 29 48.9**	**-0.4**
LFF				Pg	**Pg**	**20 29 54.8**	**+0.9**
LFF				Lg		20 30 19.9	
	5.6nm,0.3s						
LFF	**La Frestale**	**1.95**	**20**	*e*Pn	**Pn**	**20 29 48.9**	**-0.4**
LFF				*e*Sg	**Sg**	**20 30 19.9**	**+0.7**
	5.6nm,0.3s						
EPOB	**Poblet**	**1.99**	**151**	Pg	**Pg**	**20 29 53.0**	**-1.5**
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		20 30 18.6	
	2.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.18**	**169**	Pg	**Pg**	**20 29 57.6**	**-0.7**
	0.0nm,0.0s,SNR=7.9						
ERTA				Lg		20 30 25.1	
	1.2nm,0.1s,SNR=7.5						
EJON	**La Jonquera**	**2.36**	**105**	Lg		20 30 32.6	
	0.4nm,0.1s,SNR=4.0						
CAF	**Calviac**	**2.44**	**41**	*e*Pn	**Pn**	**20 29 55.8**	**-0.2**
CAF	**Calviac**	**2.44**	**41**	*e*Pg	**Pg**	**20 30 04.3**	**+1.1**
CAF				*e*Sg	**Sg**	**20 30 35.9**	**+1.0**
	2.3nm,0.2s						
CAF	**Calviac**	**2.44**	**41**	Pn	**Pn**	**20 29 55.8**	**-0.2**
CAF				Pg	**Pg**	**20 30 04.3**	**+1.1**
CAF				Lg		20 30 35.9	
	1.1nm,0.2s						
CAF	**Calviac**	**2.44**	**41**	*e*Pg	**Pg**	**20 30 04.3**	**+1.1**
CAF				*e*Sg	**Sg**	**20 30 35.9**	**+1.0**
	1.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**29**	*e*Pg	**Pg**	**20 30 05.0**	**+0.3**
RJF				*e*Sg	**Sg**	**20 30 37.9**	**+0.6**
	3.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**29**	*e*Pg	**Pg**	**20 30 05.0**	**+0.3**
RJF				*e*Sg	**Sg**	**20 30 37.9**	**+0.6**
	1.7nm,0.2s						
ETOR	**Torete**	**2.67**	**212**	Pn	**Pn**	**20 30 00.1**	**+1.0**
	1.9nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**20 30 31.1**	**-0.3**
	1.0nm,0.1s,SNR=7.9						
ETOR				Lg		20 30 40.3	
	5.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.67**	**212**	Pn	**Pn**	**20 30 00.1**	**+0.9**
	1.9nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**20 30 31.1**	**-0.3**
	1.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**184**	Pn	**Pn**	**20 30 00.3**	**+0.1**
	0.1nm,0.1s,SNR=4.0						
EMOS				Pg	**Pg**	**20 30 09.7**	**+0.6**
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**20 30 31.8**	**-1.4**
	0.2nm,0.2s,SNR=7.9						
EMOS				Lg		20 30 41.1	
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**184**	Pn	**Pn**	**20 30 00.3**	**+0.1**
	0.1nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**2.75**	**184**	Pg	**Pg**	**20 30 09.7**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.10**	**70**	*e*Pn	**Pn**	**20 30 04.7**	**-0.3**
LASF				*e*Sg	**Sg**	**20 30 55.0**	**-0.9**
	0.8nm,0.2s						
LASF	**Ste Croix**	**3.10**	**70**	*e*Pn	**Pn**	**20 30 04.7**	**-0.3**
LASF				*e*Sg	**Sg**	**20 30 55.0**	**-0.9**
	0.4nm,0.2s						
MFF	**Saint Martin d**	**3.50**	**1**	*e*Pg	**Pg**	**20 30 22.8**	**-0.6**
MFF				*e*Sg	**Sg**	**20 31 08.3**	**-0.4**
	1.5nm,0.2s						
MFF	**Saint Martin d**	**3.50**	**1**	*e*Pg	**Pg**	**20 30 22.8**	**-0.6**
MFF				*e*Sg	**Sg**	**20 31 08.3**	**-0.4**
	0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**3.61**	**27**	*e*Pg	**Pg**	**20 30 25.2**	**-0.4**
TCF				*e*Sg	**Sg**	**20 31 11.2**	**-1.3**
	3.4nm,0.3s						
TCF	**Toulx Ste Croi**	**3.61**	**27**	*e*Pg	**Pg**	**20 30 25.2**	**-0.4**
TCF				*e*Sg	**Sg**	**20 31 11.2**	**-1.3**
	1.7nm,0.3s						
BGF	**Bois d'Agland**	**4.07**	**31**	*e*Sg	**Sg**	**20 31 26.7**	**-0.5**
	8.4nm,0.4s						
BGF	**Bois d'Agland**	**4.07**	**31**	*e*Sg	**Sg**	**20 31 26.7**	**-0.5**
	4.2nm,0.4s						
AVF	**Avril sur Loir**	**4.46**	**33**	*e*Sg	**Sg**	**20 31 39.2**	**-0.5**
	0.9nm,0.4s						
AVF	**Avril sur Loir**	**4.46**	**33**	*e*Sg	**Sg**	**20 31 39.2**	**-0.5**
	0.4nm,0.4s						
SSF	**Saint Saulge**	**4.74**	**32**	*e*Sg	**Sg**	**20 31 47.4**	**-1.3**
	0.7nm,0.3s						
SSF	**Saint Saulge**	**4.74**	**32**	Lg		20 31 47.4	
	0.3nm,0.3s						
LOR	**Lormes**	**5.05**	**33**	*e*Sg	**Sg**	**20 31 58.0**	**-0.6**
	0.6nm,0.3s						
LOR	**Lormes**	**5.05**	**33**	*e*Sg	**Sg**	**20 31 58.0**	**-0.6**
	0.3nm,0.3s						

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*ISCJB **01** 20:33:29.6±3.3, 36N±0.1×123.1E±02, h528km±49km, mb3.9/12, Error ellipse: s-maj=31.8km s-min=13.7km az=118.8*
*IDC **01** 20:33:29.2±6.2, 3.59N×123.05E, h502km±84km, mb3.1/8, mb1 3.3/8, mb1mx3.1/19, mbtmp4.0/8, Error ellipse: s-maj=44.8km s-min=16.1km az=83.0*
*NEIC **01** 20:33:32.1±3.9, 3.60N×123.22E, h544km±57km, mb4.4/2, Error ellipse: s-maj=34.7km s-min=12.6km az=76.0*
ISC 01 20:33:30.6±3.6**, 3.6N**±0.1×**123.2E**±02**, h522**km±52km**, n21, σ0.65**/21**, mb3.9**/12**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**18.65**	**151**	*e*P	**P**	**20 37 15.9**	**+0.2**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.72**	**174**	*e*P	**P**	**20 37 40.0**	**-3.6**
	3.1nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.72**	**174**	P	**P**	**20 37 42.9**	**-0.6**
	1.8nm,0.5s,mb3.9,baz=352,slow=6.6,SNR=9.9						
WRAB	**Tennant Creek**	**25.85**	**155**	*e*P	**P**	**20 38 19.6**	**-0.7**
WRA	**Warramunga Arr**	**25.86**	**155**	P	**P**	**20 38 19.9**	**-0.4**
	1.6nm,0.3s,mb4.1,baz=336,slow=9.6,SNR=35						
ASAR	**Alice Springs**	**29.07**	**159**	P	**P**	**20 38 48.8**	**+0.3**
	0.8nm,0.4s,mb3.8,baz=338,slow=6.7,SNR=26						
MJAR	**Matsushiro Arr**	**35.57**	**21**	P	**P**	**20 39 44.1**	**+0.3**
	1.6nm,0.7s,mb3.7,baz=192,slow=9.9,SNR=5.0						
STKA	**Stephens Creek**	**39.41**	**155**	P	**P**	**20 40 16.4**	**+1.2**
	2.6nm,0.6s,mb3.9,baz=329,slow=11,SNR=5.6						
LSA	**Lhasa**	**39.91**	**314**	*e*P	**P**	**20 40 20.7**	**+1.5**
JIRN	**Jiri**	**42.60**	**308**	*e*P	**P**	**20 40 40.7**	**+0.2**
	4.3nm,0.4s,mb4.4						
GUN	**Gumba**	**42.96**	**308**	*e*P	**P**	**20 40 43.0**	**-0.4**
	5.7nm,0.3s,mb4.5						
KKN	**Kakani**	**43.38**	**308**	*e*P	**P**	**20 40 46.1**	**-0.5**
	3.1nm,0.4s,mb4.2						
DMN	**Daman**	**43.44**	**307**	*e*P	**P**	**20 40 47.6**	**+0.5**
GKN	**Gorkha**	**43.98**	**308**	*e*P	**P**	**20 40 50.9**	**-0.4**
KOLN	**Koldanda**	**44.71**	**307**	*e*P	**P**	**20 40 56.8**	**-0.1**
	7.7nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**55.67**	**327**	P	**P**	**20 42 17.4**	**+0.2**
	0.5nm,0.3s,mb3.2,baz=124,slow=7.9,SNR=19						
MKAR				PcP	PcP	20 43 08.7	-0.3
	0.5nm,0.6s,baz=134,slow=3.5,SNR=4.6						
CHKZ	**Chkalovo**	**65.71**	**329**	*e*P	**P**	**20 43 22.8**	**-0.6**
ZRNK	**Zerenda**	**66.21**	**328**	*e*P	**P**	**20 43 25.6**	**-0.8**
AKTK	**Aktyubinsk**	**71.56**	**322**	P	**P**	**20 43 58.5**	**-0.2**
AKTO	**Aktyubinsk**	**71.56**	**322**	P	**P**	**20 43 58.5**	**-0.2**
	0.6nm,0.3s,mb3.5,baz=96,slow=12,SNR=4.8						
KMBO	**Kilima Mbogo**	**86.00**	**269**	P	**P**	**20 45 16.4**	**+0.8**
	0.5nm,0.4s,mb3.5,baz=61,slow=15,SNR=3.7						

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*IDC **01** 20:40:34.1±2.0, 6.46N×126.64E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=94.5km s-min=24.2km az=71.0*
*ISCJB **01** 20:40:47.1±1.2, 6.5N±0.1×126.8E±02, h138km±11km, mb3.6/5, Error ellipse: s-maj=29.2km s-min=14.2km az=131.6*
*MAN **01** 20:40:47.0, 6.68N×126.96E, h125km, mb4.3, ML5.2, MS3.9*
*NEIC **01** 20:40:49.9±2.5, 6.32N×126.48E, h136km±17km, mb4.3/1, Error ellipse: s-maj=88.8km s-min=19.9km az=70.0*
ISC 01 20:40:48.2±1.2**, 6.5N**±0.1×**126.9E**±02**, h129**km±12km**, n14, σ0.86**/18**, mb3.6**/5**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.73**	**306**	*e*P	**Pn**	**20 41 07.8**	**-0.9**
DAV	**Davao City (W)**	**1.38**	**294**	*e*P	**Pn**	**20 41 14.9**	**+0.1**
DMPH	**Davao City--Mi**	**1.45**	**293⇓**	*e*P	**Pn**	**20 41 15.5**	**-0.1**
DMPH				*i* S	**Sn**	**20 41 37.2**	**+0.7**
KCP	**Kidapawan**	**1.82**	**286⇑**	*e*P	**Pn**	**20 41 21.0**	**+1.1**
KCP				*i* S	**Sn**	**20 41 45.0**	**+0.9**
BUKP	**Musuan**	**2.24**	**308**	*e*P	**Pn**	**20 41 24.8**	**-0.2**
BUKP				*e*S	**Sn**	**20 41 51.9**	**-1.3**
CGP	**Cagayan de Oro**	**2.88**	**312⇓**	*e*P	**Pn**	**20 41 33.0**	**-0.2**
CGP				*e*S	**Sn**	**20 42 07.2**	**-0.8**
PAGZ	**Pagadian**	**3.69**	**291**	*e*P	**Pn**	**20 41 43.4**	**-0.4**
MSLP	**Maasin**	**4.11**	**331**	*e*P	**Pn**	**20 41 50.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**24.48**	**183**	P	**P**	**20 45 54.3**	**-1.0**
	1.0nm,0.5s,mb3.6,baz=9.6,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**20 46 22.4**	**+1.8**
	0.4nm,0.5s,mb3.3,baz=346,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**30.77**	**167**	P	**P**	**20 46 50.5**	**-0.8**
	0.2nm,0.3s,mb3.3,baz=344,slow=7.5,SNR=5.7						
NWAO	**Narrogin (SRO)**	**40.27**	**193**	P	**P**	**20 48 11.9**	**-0.5**
	4.5nm,0.5s,mb4.4,baz=29,slow=8.5,SNR=12						
NWAO	**Narrogin (SRO)**	**40.27**	**193**	*e*P	**P**	**20 48 11.9**	**-0.6**
	3.6nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**20 50 09.4**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=116,slow=8.0,SNR=7.5						

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*IDC **01** 20:48:28.2±1.0, 70.24N×145.66W, h0km, mb3.8/11, mb1 4.1/12, mb1mx4.0/21, mbtmp3.9/12, ML4.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/41, Error ellipse: s-maj=37.2km s-min=15.9km az=52.0*
*ISCJB **01** 20:48:29.1±0.5, 69.98N±0.05×145.0W±02, h35km, mb3.9/12, MS3.6/3, Error ellipse: s-maj=12.5km s-min=6.4km az=152.6*
*NEIC **01** 20:48:31.6±0.5, 69.96N×146.10W, h35km, mb4.2/1, Error ellipse: s-maj=20.5km s-min=8.5km az=78.0*
*PGC **01** 20:48:31.5, 70.07N×144.69W, h5km, ML4.4/6, 139km southeast of Prudhoe Bay, Ak Northern Alaska.*
ISC 01 20:48:28.2±3.7**, 70.05N**±0.05×**145.1W**±03**, h14**km±24km**, n27, σ1.39**/31**, mb3.9**/12**, MS3.6**/3**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COLA	**College**	**5.31**	**193**	*e*P	**Pn**	**20 49 46.1**	**-0.9**
	42nm,0.6s						
EGAK	**Eagle**	**5.50**	**162**	*e*P	**Pn**	**20 49 50.6**	**+1.0**
	2μm,0.3s						
DAWY	**Dawson**	**6.40**	**157**	Pn	**Pn**	**20 50 03.5**	**+1.6**
DAWY				Sn	**Sn**	**20 51 13.8**	**-1.0**
DAWY				Trac		20 51 23.4	
	comp=Z,8.0nm,0.2s						
DAWY	**Dawson**	**6.40**	**157**	*e*P	**Pn**	**20 50 03.0**	**+1.0**
MCK	**McKinley**	**6.53**	**195**	*e*P	**Pn**	**20 50 02.4**	**-1.2**
	1μm,0.2s						
HYT	**Haines Junctio**	**9.77**	**158**	P	**Pn**	**20 50 51.3**	**+3.1**
HYT				Trac		20 53 50.3	
	comp=Z,92nm,1.6s						
WHY	**Whitehorse**	**10.32**	**151**	P	**Pn**	**20 50 59.6**	**+3.9**
WHY				Trac		20 54 15.7	
	comp=Z,7.0nm,0.8s						
YKW3	**Yellowknife Ar**	**14.19**	**107**	P	**Pn**	**20 51 46.9**	**-1.7**
YKW3				P		20 51 47.2	
YKW3				Sn	**Sn**	**20 54 15.5**	**-10**
YKW3				Sn	**Sn**	**20 54 16.9**	**-8.9**
YKW3				Trac		20 54 23.9	
	comp=Z,11nm,0.5s						
YKW3				Trac		20 54 24.1	
	comp=Z,12nm,0.6s						
YKA	**Yellowknife Ar**	**14.24**	**107**	Pn	**Pn**	**20 51 47.9**	**-1.4**
	1.0nm,0.3s,baz=312,slow=13,SNR=22						
YKA				Sn	**Sn**	**20 54 18.7**	**-8.4**
	1.4nm,0.3s,baz=316,slow=23,SNR=8.3						
YKA	**Yellowknife Ar**	**14.24**	**107**	Pn	**Pn**	**20 51 47.9**	**-1.4**
YKA				Sn	**Sn**	**20 54 18.7**	**-8.4**
RES	**Resolute Bay**	**15.44**	**50**	P	**Pn**	**20 52 05.4**	**0.0**
RES				Sn	**Sn**	**20 54 43.9**	**-12**
RES				Trac		20 54 53.0	
	comp=Z,12nm,0.4s						
RES	**Resolute Bay**	**15.44**	**50**	*e*P	**Pn**	**20 52 04.6**	**-0.8**
	155nm,0.6s						
NEW	**Newport**	**25.65**	**134**	LR	LR	21 04 36.1	
	comp=Z,88nm,18.1s,MS3.3,baz=358,slow=37						
PDAR	**Pinedale Array**	**32.73**	**128**	P	**P**	**20 55 04.1**	**+3.9**
	1.8nm,0.6s,mb4.2,baz=19,slow=5.0,SNR=11						
NVAR	**Mina Array Bea**	**34.70**	**142**	P	**P**	**20 55 21.4**	**+3.9**
	0.6nm,0.6s,mb3.7,baz=320,slow=9.6,SNR=4.5						
SCHQ	**Schefferville**	**36.23**	**73**	LR	LR	21 12 22.9	
	comp=Z,118nm,18.1s,MS3.7,baz=277,slow=39						
ARCES	**ARCESS Array B**	**40.52**	**5**	P	**P**	**20 56 06.8**	**+0.1**
	7.4nm,1.1s,mb4.2,baz=17,slow=8.9,SNR=4.7						
TXAR	**Lajitas Array**	**46.95**	**128**	P	**P**	**20 57 03.9**	**+5.6**
	0.2nm,0.4s,mb3.4,baz=335,slow=6.1,SNR=3.3						
TXAR	**Lajitas Array**	**46.95**	**128**	P	**P**	**20 57 03.9**	**+5.6**
FINES	**FINESS Array B**	**48.64**	**6**	P	**P**	**20 57 11.7**	**+0.2**
	2.2nm,0.9s,mb4.2,baz=45,slow=8.4,SNR=4.1						
SONM	**Songino Array**	**51.65**	**305**	P	**P**	**20 57 34.7**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=38,slow=7.5,SNR=6.9						
SONM				LR	LR	21 21 52.6	
	comp=Z,119nm,19.2s,MS3.9,baz=20,slow=39						
CHKZ	**Chkalovo**	**53.91**	**335**	*e*P	**P**	**20 57 48.2**	**-2.8**
	3.1nm,1.3s,mb4.1						
BVAR	**Borovoye Array**	**54.58**	**335**	P	**P**	**20 57 55.6**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=40,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**58.49**	**324**	P	**P**	**20 58 22.8**	**-0.9**
	1.0nm,0.6s,mb4.0,baz=44,slow=6.4,SNR=14						
AKASG	**Malin Array Be**	**59.49**	**4**	P	**P**	**20 58 30.6**	**-0.1**
	2.0nm,0.7s,mb4.2,baz=356,slow=6.8,SNR=7.3						
GERES	**GERESS Array B**	**60.41**	**16**	P	**P**	**20 58 38.6**	**+1.6**
	0.7nm,0.8s,mb3.8,baz=354,slow=6.7,SNR=3.9						
ESDC	**Sonseca Array**	**66.98**	**32**	P	**P**	**20 59 22.3**	**+2.0**
	0.3nm,0.5s,mb3.6,baz=349,slow=6.7,SNR=4.9						

IDC 01 21:13:39.1±1.9**, 68.11S**×**148.22E, h0**km**, mb4.1**/2**, mb1 4.4**/3**, mb1mx4.0**/9**, mbtmp4.2**/3**, ML4.2**/1**, MS2.7**/1**, Ms1 2.8**/1**, ms1mx2.6**/15**, Error ellipse: s-maj=294.6km s-min=32.8km az=73.0, Antarctica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**10.23**	**163**	Pn	Pn	21 16 07.0	-0.3
	2.0nm,0.3s,baz=325,slow=13,SNR=132						
VNDA				Sn	Sn	21 17 56.9	-5.8
	5.2nm,0.3s,baz=194,slow=7.1,SNR=9.9						
VNDA				Lg		21 19 12.4	
	3.8nm,0.3s,baz=286,slow=13,SNR=5.8						
VNDA				LR	LR	21 20 38.0	
	comp=Z,50nm,21.6s,baz=329,slow=41						
ASAR	**Alice Springs**	**45.31**	**341**	P	P	21 21 58.9	+0.1
	1.5nm,0.6s,baz=166,slow=9.2,SNR=20						
WRA	**Warramunga Arr**	**48.94**	**343**	P	P	21 22 26.3	-0.8
	2.1nm,0.7s,baz=173,slow=6.9,SNR=18						

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*ISCJB **01** 21:15:21.0±0.4, 38.64N±0.02×23.83E±0.03, h9km±3km, Error ellipse: s-maj=4.6km s-min=2.6km az=177.7*
*CSEM **01** 21:15:21.9±0.1, 38.62N×23.85E, h5km, ML2.8, Error ellipse: s-maj=1.8km s-min=0.9km az=84.0*
*ATH **01** 21:15:21.4, 38.62N×23.82E, h21km±1km, MD3.4/15, ML3.5*
*NEIC **01** 21:15:21.4, 38.62N×23.82E, h21km, ML3.5(ATH), After ATH.*
*THE **01** 21:15:25.2, 38.77N×23.81E, h12km, ML2.8*
ISC 01 21:15:21.7±0.4**, 38.62N**±0.02×**23.82E**±0.04**, h10**km±3km**, n43, σ1.17**/63**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.55**	**5**	*e*Pg	**Pg**	**21 15 33.2**	**+0.9**
AOS				*e*Sg	**Sg**	**21 15 40.6**	**+1.1**
PTL	**Penteli**	**0.58**	**176**	*e*PN	**Pg**	**21 15 32.8**	**-0.1**
PTL				*e*SN	**Sg**	**21 15 42.0**	**+1.6**
LKR	**Lokris**	**0.64**	**273**	*e*PB	**Pg**	**21 15 33.0**	**-1.1**
ATH	**Athens Observa**	**0.66**	**187**	*e*PB	**Pg**	**21 15 33.6**	**-0.8**
ATH				*e*SN	**Sg**	**21 15 43.5**	**+0.5**
KVR	**Kavouri**	**0.80**	**183**	*e*PN	**Pg**	**21 15 37.0**	**-0.1**
KVR				*e*SN	**Sg**	**21 15 47.5**	**+0.1**
NEO	**Neokhori**	**0.82**	**326⇑**	*i*PN	**Pg**	**21 15 37.6**	**0.0**
NEO				*e*SN	**Sg**	**21 15 49.0**	**+0.7**
XOR	**Xorichti**	**0.89**	**327**	*e*Pg	**Pg**	**21 15 38.7**	**-0.1**
XOR				*e*Sg	**Sg**	**21 15 51.0**	**+0.7**
NAIG	**Nisos Aigina**	**0.90**	**197**	*e*PN	**Pn**	**21 15 38.5**	**-2.0**
NAIG				*e*SN	**Sn**	**21 15 52.0**	**-1.5**
AGG	**Agios Georgios**	**1.23**	**289**	*e*Pg	**Pg**	**21 15 45.1**	**-0.1**
AGG				*e*Sg	**Sg**	**21 16 01.9**	**+0.7**
PAIG	**Paliouri**	**1.30**	**355**	*e*Pg	**Pg**	**21 15 46.1**	**-0.7**
PAIG				*e*Sg	**Sg**	**21 16 03.5**	**-0.3**
EVR	**Evrytania**	**1.59**	**281**	*e*PN	**Pn**	**21 15 50.5**	**+0.5**
LOS	**Limnos**	**1.64**	**37**	*e*Pg	**Pg**	**21 15 51.3**	**-1.8**
LOS				*e*Sg	**Sg**	**21 16 14.6**	**+0.3**
LIA	**Limnos Island**	**1.66**	**39**	*e*PN	**Pn**	**21 15 51.2**	**+0.4**
THL	**Klokotos Trika**	**1.69**	**304**	*e*PN	**Pn**	**21 15 51.3**	**+0.1**
OUR	**Ouranopolis**	**1.71**	**4**	*e*Pg	**Pn**	**21 15 52.1**	**+0.5**
PLG	**Polygyros**	**1.77**	**351**	*e*Pb	**Pb**	**21 15 52.7**	**-1.6**
PLG				*e*Sb	**Sb**	**21 16 13.2**	**-3.3**
LIT	**Litokhoron**	**1.80**	**326**	*e*Pb	**Pb**	**21 15 53.2**	**-1.5**
LIT				*e*Sb	**Sb**	**21 16 15.0**	**-2.2**
RLS	**Riolos of Patr**	**1.93**	**254**	*e*PN	**Pn**	**21 15 55.1**	**+0.5**
PRK	**Paraskevi**	**2.01**	**71**	*e*PN	**Pn**	**21 15 57.0**	**+1.2**
VLI	**Veliai**	**2.03**	**200**	*e*PB	**Pn**	**21 15 56.0**	**+0.1**
HORT	**Hortiatis**	**2.05**	**345**	*e*Pb	**Pb**	**21 15 56.9**	**-2.1**
HORT				*e*Sb	**Sb**	**21 16 21.6**	**-2.9**
ITM	**Ithomi**	**2.08**	**227**	*e*PN	**Pn**	**21 15 57.8**	**+1.2**
THE	**Thessaloniki**	**2.11**	**342**	*e*Pb	**Pn**	**21 15 57.4**	**+0.3**
THE				*e*Sb	**Sn**	**21 16 22.7**	**-0.6**
SOH	**Sokhos**	**2.22**	**351**	*e*Pn	**Pn**	**21 15 59.6**	**+0.9**
SOH				*e*Sn	**Sn**	**21 16 26.4**	**+0.2**
KZN	**Kozani**	**2.31**	**317**	*e*PB	**Pb**	**21 16 01.2**	**-2.2**
MEV	**Metsovon**	**2.32**	**301**	*e*Pn	**Pn**	**21 16 02.2**	**+2.2**
MEV				*e*Sn	**Sn**	**21 16 30.7**	**+2.1**
KYTH	**Kithira**	**2.42**	**195**	*e*PB	**Pb**	**21 16 03.5**	**-1.8**
LKD	**Levkas**	**2.48**	**273**	*e*Pn	**Pb**	**21 16 05.5**	**-0.8**
SRS	**Serrai**	**2.50**	**356**	*e*Pn	**Pn**	**21 16 03.0**	**+0.6**
SRS				*e*Sn	**Sn**	**21 16 31.9**	**-1.0**
SMG	**Samos**	**2.55**	**110**	*e*PN	**Pn**	**21 16 03.3**	**+0.2**
GRG	**Griva**	**2.57**	**335**	*e*Pn	**Pn**	**21 16 04.2**	**+0.7**
GRG				*e*Sn	**Sn**	**21 16 36.5**	**+1.7**
VLS	**Valsamata**	**2.57**	**261**	*e*PB	**Pb**	**21 16 05.3**	**-2.6**
KNT	**Kendrikon**	**2.63**	**345**	*e*Pn	**Pn**	**21 16 05.5**	**+1.2**
KNT	**Kendrikon**	**2.63**	**345**	*e*Pn	**Pn**	**21 16 05.4**	**+1.2**
NVR	**Nevrokopi**	**2.72**	**1**	*e*PN	**Pn**	**21 16 06.2**	**+0.7**
RDO	**Rodhopi**	**2.85**	**27**	*e*PN	**Pn**	**21 16 07.3**	**+0.1**
ALN	**Alexandroupoli**	**2.85**	**36**	*e*Pn	**Pn**	**21 16 07.6**	**+0.4**
IGT	**Igoumenitsa**	**2.86**	**290**	*e*Pn	**Pn**	**21 16 11.4**	**+4.1**
IGT				*e*Sn	**Sn**	**21 16 46.2**	**+4.4**
VAY	**Valandovo**	**2.86**	**341**	*e*Pn	**Pn**	**21 16 07.5**	**+0.2**
FNA	**Florina**	**2.86**	**320**	*e*Pn	**Pn**	**21 16 08.9**	**+1.5**
MMB	**Musomiste**	**2.96**	**359**	*e*Pn	**Pn**	**21 16 08.5**	**-0.3**
MMB				*e*Sn	**Sn**	**21 16 42.6**	**-1.8**
BIA	**Bitola**	**3.07**	**322**	*e*Pn	**Pn**	**21 16 11.8**	**+1.6**
KEK	**Kerkira**	**3.31**	**290**	*e*PN	**Pn**	**21 16 14.7**	**+1.2**

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*NAO **01** 21:19:13.7, 36.21N×43.90E, h33km, mb4.4*
*NEIC **01** 21:19:45.0, 39.43N×40.65E, h5km, mb4.8/77, ML4.8(ISK), After ISK.*
NEIC Felt at Bingol and in Erzurum.
*MOS **01** 21:19:45.9±1.1, 39.50N×40.67E, h9km, mb4.9/61, Error ellipse: s-maj=4.8km s-min=3.0km az=125.6*
*ISK **01** 21:19:45.3, 39.44N×40.65E, h5km, ML4.9*
*IDC **01** 21:19:46.5±0.5, 39.53N×40.75E, h0km, mb4.5/21, mb1 4.6/29, mb1mx4.5/33, mbtmp4.5/29, ML3.9/8, MS4.0/29, Ms1 4.0/29, ms1mx3.9/46, Error ellipse: s-maj=10.5km s-min=9.0km az=176.0*
*BJI **01** 21:19:46.2, 39.21N×40.18E, h38km, mB5.0, mb4.7, Ms4.8, Msz4.3*
*CSEM **01** 21:19:46.5±0.0, 39.46N×40.63E, h11km, mb4.8/23, Ms3.9, Error ellipse: s-maj=1.2km s-min=1.1km az=114.0*
*ISCJB **01** 21:19:47.7±0.4, 39.43N±0.01×40.69E±0.02, h22km±3km, mb4.7/117, MS4.1/40, Error ellipse: s-maj=2.5km s-min=2.2km az=40.5*
*GRAL **01** 21:19:48.6±5.1, 39.81N×40.21E, h0km±945km, MD4.7*
*SZGRF **01** 21:19:52.8, 39.58N×40.35E, h33km, mb4.7, MS3.6, Turkey*
*NSSC **01** 21:19:59, 38.89N×40.07E, h40km*
ISC 01 21:19:48.8±0.5**, 39.46N**±0.01×**40.71E**±0.02**, h17**km±3km**, h12**km±1.1km**: pP-P, n541, σ1.16**/572**, mb4.7**/117**, MS4.1**/40**, 44C-38D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.61**	**197**	*i* PG	**Pg**	**21 19 57.1**	**-3.7**
BNGL	**BINGOL**	**0.61**	**146**	*i* P	**Pg**	**21 19 57.8**	**-3.1**
BNGL				*i* S	**Sg**	**21 20 06.9**	**-2.0**
EZM	**Erzurum**	**0.67**	**48**	*i* PG	**Pg**	**21 19 59.9**	**-2.0**
ERZM	**Erzurum**	**0.67**	**48**	*i* P	**Pb**	**21 19 59.9**	**-2.2**
ERZM				*i* S	**Sb**	**21 20 14.3**	**+3.2**
ERZM	**Erzurum**	**0.67**	**48**	*i* P	**Pb**	**21 19 59.8**	**-2.2**
EZC	**Erzincan**	**0.75**	**293**	*i* PG	**Pg**	**21 20 06.1**	**+2.6**
PTK	**Pertek**	**1.17**	**242**	*i* PN	**Pn**	**21 20 07.1**	**-3.2**
PTK				*i* SN	**Sn**	**21 20 24.5**	**-1.4**
KELT	**Kelkit**	**1.32**	**302**	*i* P	**Pn**	**21 20 10.6**	**-1.7**
KELT				*i* S	**Sn**	**21 20 29.5**	**+0.1**
BTMT	**Batman**	**1.40**	**154**	*i* PN	**Pn**	**21 20 12.5**	**-1.0**
DIY	**Diyarbakir**	**1.61**	**194**	*i* PN	**Pn**	**21 20 15.7**	**-0.6**
DIY				*i* SN	**Sn**	**21 20 37.6**	**+1.0**
BEST	**Besiri**	**1.62**	**164**	*i* P	**Pn**	**21 20 16.7**	**+0.1**
BEST				*i* S	**Sn**	**21 20 38.9**	**+1.8**
MACK	**Trabzon**	**1.65**	**334**	*i* P	**Pn**	**21 20 17.0**	**+0.1**
MACK				*i* S	**Sn**	**21 20 41.6**	**+4.0**
ELZG	**Elazig**	**1.65**	**235**	*i* P	**Pn**	**21 20 14.7**	**-2.3**
ELZG				*i* S	**Sn**	**21 20 42.5**	**+4.8**
KTUT	**Trabzon**	**1.69**	**335**	*i* PN	**Pn**	**21 20 17.4**	**0.0**
KTUT				*i* SN	**Sn**	**21 20 40.5**	**+1.9**
AGRT	**Agri**	**1.77**	**84**	*i* PN	**Pn**	**21 20 18.4**	**-0.1**
BCA	**Borcka**	**2.10**	**19**	*i* PN	**Pn**	**21 20 23.3**	**+0.2**
MYA	**Malataya**	**2.11**	**238**	*i* PN	**Pn**	**21 20 22.6**	**-0.7**
MARD	**Mardin**	**2.14**	**179**	*i* P	**Pn**	**21 20 22.9**	**-0.8**
MARD				*i* S	**Sn**	**21 20 51.9**	**+2.0**
KARS	**Kars**	**2.16**	**57**	*i* PN	**Pn**	**21 20 24.5**	**+0.6**
VANB	**Van**	**2.26**	**112**	*i* PN	**Pn**	**21 20 26.0**	**+0.8**
VANT	**Van**	**2.32**	**115**	*i* PN	**Pn**	**21 20 25.9**	**-0.2**
URFA	**Urfa**	**2.50**	**217**	*i* PN	**Pn**	**21 20 28.1**	**-0.5**
CLDR	**Caldiran**	**2.51**	**96**	*i* PN	**Pn**	**21 20 29.8**	**+1.1**
DRBT	**Darb Altahta**	**2.70**	**196**	⇓P	**Pg**	**21 20 41.0**	**+0.5**
SVSK	**Karacayir**	**2.90**	**280**	PN	**Pn**	**21 20 34.0**	**-0.1**
HKR	**Hakkari**	**3.03**	**127**	PN	**Pn**	**21 20 36.8**	**+1.0**
CUKT	**Cukurca**	**3.17**	**133**	PN	**Pn**	**21 20 38.7**	**+0.9**
GNI	**Garni**	**3.18**	**76**	Pn	**Pn**	**21 20 38.5**	**+0.6**
	8.9nm,0.3s,baz=279,slow=2.5,SNR=55						
GNI				LR	LR	21 22 08.9	
	comp=Z,2μm,19.4s,baz=252,slow=45						
GNI	**Garni**	**3.18**	**76**	P	**Pn**	**21 20 38.5**	**+0.6**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,2μm,19.4s						
GNI	**Garni**	**3.18**	**76**	*e*P	**Pn**	**21 20 38.3**	**+0.4**
GNI	**Garni**	**3.18**	**76**	P	**Pn**	**21 20 38.8**	**+0.9**
	SNR=495						
TOKT	**Tokat**	**3.32**	**286**	PN	**Pn**	**21 20 39.5**	**-0.4**
KZR	**Kazreti**	**3.42**	**55**	P	**Pn**	**21 20 42.4**	**+1.3**
KMRS	**Kahramanmaras**	**3.57**	**238**	PN	**Pn**	**21 20 43.0**	**-0.3**
GAZ	**Gaziantep**	**3.58**	**231**	PN	**Pn**	**21 20 43.5**	**+0.1**
MSL	**Mosul**	**3.68**	**149**	*e*x	x	21 20 44.0	
MSL				*i* x	x	21 20 50.0	
MSL				*i* x	x	21 20 56.5	
MSL				*i* x	x	21 21 26.0	
MSL				*i* x	x	21 21 34.0	
MSL				*i* x	x	21 21 38.5	
MSL				*i* x	x	21 21 41.0	
TBLG	**Delisi**	**3.81**	**52**	*e*P	**Pb**	**21 20 56.9**	**+1.4**
BNN	**Bunyan**	**3.83**	**262**	PN	**Pn**	**21 20 47.1**	**+0.2**
SLMH	**Al Salmeh**	**3.92**	**215⇑**	*i*P	**Pn**	**21 20 47.3**	**-0.8**
SLMH	**Al Salmeh**	**3.92**	**215**	⇑P	**Pn**	**21 20 47.0**	**-1.1**
KVT	**Kavak**	**3.92**	**296**	PN	**Pn**	**21 20 48.7**	**+0.6**
DUS	**Dusheti**	**4.01**	**48**	P	**Pn**	**21 20 51.4**	**+2.1**
DUS				S	Sn	21 21 13.9	-22
ZEI	**Tsey**	**4.09**	**35**	*e*P	**Pn**	**21 20 52.4**	**+2.0**
ZEI				pmax	pmax		
	comp=Z,111nm,0.4s						
ZEI				pmax	pmax		
	comp=Z,661nm,0.8s						
ZEI	**Tsey**	**4.09**	**35**	*e*P	**Pn**	**21 20 52.4**	**+2.0**
	comp=Z,661nm,0.8s						
YOZ	**Yozgat**	**4.17**	**274**	PN	**Pn**	**21 20 51.9**	**+0.3**
SOC	**Sochi**	**4.19**	**350**	*i* P	**Pn**	**21 20 51.5**	**-0.3**
JHLN	**Al Jahlan**	**4.19**	**206⇑**	*i*P	**Pn**	**21 20 51.6**	**-0.2**
JHLN	**Al Jahlan**	**4.19**	**206**	⇑P	**Pn**	**21 20 51.0**	**-0.8**
JHLN				⇑S	**Sn**	**21 21 30.0**	**-10**
DRWC	**Darouich**	**4.27**	**230⇓**	*i*P	**Pn**	**21 20 52.3**	**-0.6**
DRWC	**Darouich**	**4.27**	**230**	⇓P	**Pn**	**21 20 52.0**	**-0.9**
DRWC				⇓S	**Sn**	**21 21 31.0**	**-11**
KOZT	**Kozan**	**4.31**	**244**	PN	**Pn**	**21 20 54.4**	**+0.9**
SHAR	**Shatzhatmas**	**4.52**	**18**	*i* P	**Pn**	**21 20 57.1**	**+0.7**
CEYT	**Ceyhan**	**4.61**	**240**	*e*PN	**Pn**	**21 20 58.1**	**+0.5**

DIKM Dikmen 4.70 300 *e*PN **Pn** **21 20 59.3 +0.5**
KIV Kislovodsk 4.73 18 P **Pn** **21 21 01.1 +1.9**
SNR=25
KIV Kislovodsk 4.73 18 *e*P **Pn** **21 21 00.2 +1.0**
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,1μm,8.0s
KIV Kislovodsk 4.73 18 *e*P **Pn** **21 21 00.3 +1.1**
KIV Kislovodsk 4.73 18 *e*P **Pn** **21 21 00.3 +1.1**
CORM Corum 4.74 281 *e*PN **Pn** **21 20 59.8 +0.4**
KUBR Kubataba 4.78 24 *e*P **Pn** **21 21 00.6 +0.6**
BTCH Batrach 4.80 226⇑ *i*P **Pn** **21 20 59.4 -0.8**
BTCH Batrach 4.80 226⇑⇑P **Pn** **21 20 59.0 -1.2**
HTY Hatay 4.92 229 PN **Pn** **21 21 02.4 +0.5**
KARA Karaisali 4.96 246 *e*PN **Pn** **21 21 02.7 +0.3**
BYBT Boyabat 4.96 296 *e*PN **Pn** **21 21 03.5 +1.1**
ARNB Al Arnab 5.20 228⇑ *i*P **Pn** **21 21 06.0 +0.3**
ARNB Al Arnab 5.20 228⇑⇑P **Pn** **21 21 06.0 +0.3**
ARNB ⇑S **Sn** **21 21 52.0 -13**
SLNF Slenfeh 5.25 224⇑ *i*P **Pn** **21 21 05.4 -1.0**
SLNF Slenfeh 5.25 224⇑⇑P **Pn** **21 21 05.0 -1.4**
SLNF ⇑S **Sn** **21 21 54.0 -13**
TOS Tosya 5.36 289 *e*PN **Pn** **21 21 09.0 +1.2**
KAMT Kaman 5.42 271 *e*PN **Pn** **21 21 09.9 +1.1**
BR131 Keskin Array S 5.47 275 *e*P **Pn** **21 21 09.2 -0.2**
comp=Z,63nm,0.7s
BR131 Keskin Array S 5.47 275 *e*P **Pn** **21 21 09.2 -0.2**
comp=Z,63nm,0.7s
BRTR Keskin Array B 5.47 275 Pn **Pn** **21 21 09.4 0.0**
comp=Z,1.1nm,0.3s,baz=100,slow=14,SNR=30
BRTR Lg 21 22 47.5
comp=Z,2.2nm,0.3s,baz=101,slow=26,SNR=3.9
BRTR LR LR 21 23 28.1
comp=Z,2μm,20.4s,baz=90,slow=40
CANT Cankiri 5.56 284 *e*PN **Pn** **21 21 11.7 +1.0**
ANN Anapa 5.87 337 *e*P **Pn** **21 21 14.9 0.0**
ANN *e*S **Sn** **21 22 22.0 +0.3**
ANN pmax pmax
comp=Z,37nm,0.9s
ANN MLR MLR
comp=N,1μm,12.0s
ANN MLR MLR
comp=E,737nm,12.0s
ANN MLR MLR
comp=Z,1μm,12.0s
ANN Anapa 5.87 337 *e*P **Pn** **21 21 14.9 0.0**
comp=Z,37nm,0.9s
ROOS tl_alroos 5.95 209⇑ *i*P **Pn** **21 21 16.2 +0.2**
ROOS tl_alroos 5.95 209⇑⇑P **Pn** **21 21 16.0 0.0**
ROOS ⇑S **Sn** **21 22 11.0 -13**
ANTO Ankara 6.12 276⇑⇑P **Pn** **21 21 26.4 +8.0**
SNR=20
ANTO Ankara 6.12 276⇓ *i*P **Pb** **21 21 31.5 -3.4**
ANTO Ankara 6.12 276⇓⇓P **Pb** **21 21 31.5 -3.4**
MAK Makhachkala 6.20 53 *e*P **Pn** **21 21 16.6 -2.9**
MAK *i* S **Sn** **21 22 25.1 -4.8**
MAK pmax pmax
comp=Z,94nm,0.9s
MAK MLR MLR
comp=Z,5μm,9.0s
SAFT Safranbolu 6.38 289 *e*PN **Pn** **21 21 23.5 +1.5**
HWQ Hawqa 6.43 218 *e*P **Pn** **21 21 23.4 +0.8**
HWQ *e*S **Sn** **21 22 36.7 +1.1**
KERU Kerch 6.64 333 *e*P **Pn** **21 21 34.1 +8.6**
KERU pmax pmax
comp=Z,310nm,0.9s
KONT Konya--Tatoy 6.71 260 *e*PN **Pn** **21 21 28.2 +1.8**
FEO Feodosiya 6.81 326 *e*P **Pn** **21 21 35.0 +7.1**
FEO *e*S **Sn** **21 22 55.8 +11**
FEO pmax pmax
comp=Z,30nm,0.6s
FEO smax
comp=N,90nm,0.9s
BHD Baghdad 6.85 153 *e*x x 21 21 25.0
BHD *e*x x 21 21 53.0
BHD *e*x x 21 22 34.5
BHD *i* x x 21 23 14.5
BHL Bhannes 6.87 218 *e*P **Pn** **21 21 28.8 +0.1**
BHL *e*S **Sn** **21 22 45.7 -0.8**
SUDU Sudak 6.89 324 *e*P **Pn** **21 21 32.1 +3.2**
SUDU *e*S **Sn** **21 22 52.1 +5.3**
SUDU pmax pmax
comp=Z,60nm,0.5s
SUDU smax
comp=E,260nm,0.9s
SUDU Sudak 6.89 324 *e*P **Pn** **21 21 32.1 +3.2**
comp=E,60nm,0.5s
QASN Qassioun 6.91 212⇑ *i*P **Pn** **21 21 29.7 +0.5**
QASN Qassioun 6.91 212⇑⇑P **Pn** **21 21 29.0 -0.2**
TOTH TOTAH 7.00 211⇓ *i*P **Pn** **21 21 30.9 +0.5**
TOTH TOTAH 7.00 211⇓⇓P **Pn** **21 21 30.0 -0.4**
YAL Yalta 7.01 318 *e*P **Pn** **21 21 38.8 +8.3**
YAL *e*S **Sn** **21 22 59.4 +10**
YAL pmax pmax
comp=Z,90nm,0.7s
YAL smax
comp=N,140nm,1.0s
YAL smax
comp=E,70nm,1.0s
ALU Alushta 7.02 320 *e*P **Pn** **21 21 35.0 +4.3**
ALU *e*S **Sn** **21 22 56.3 +6.3**
ALU pmax pmax
comp=Z,50nm,0.5s
ALU smax
comp=N,120nm,0.8s
ZALF Zalf 7.07 204⇓ *i*P **Pn** **21 21 31.3 -0.1**
ZALF Zalf 7.07 204⇓⇓P **Pn** **21 21 31.0 -0.4**
RCY Rachaya 7.15 215 *e*P **Pn** **21 21 33.0 +0.6**
RCY *e*S **Sn** **21 22 46.0 -7.2**
BRBR Barbar 7.15 214⇑ *i*P **Pn** **21 21 32.7 +0.2**
BRBR Barbar 7.15 214⇑⇑P **Pn** **21 21 32.0 -0.5**
SEV Sevastopol' 7.30 316 *e*P **Pn** **21 21 35.4 +0.8**
SEV *e*S **Sn** **21 22 59.4 +2.4**
SEV pmax pmax
comp=Z,3.0nm,0.4s
SEV smax
comp=E,30nm,1.0s
SEV smax
comp=N,4.0nm,1.0s
SEV Sevastopol' 7.30 316 *e*P **Pn** **21 21 35.4 +0.8**
comp=N,3.0nm,0.4s
SIM Simferopol' 7.35 320 *e*P **Pn** **21 21 43.5 +8.2**
SIM *e*S **Sn** **21 23 08.0 +10**
SIM pmax pmax
comp=Z,60nm,0.8s
SIM smax
comp=N,40nm,0.8s
SIM smax
comp=E,200nm,1.0s
CSS Prodhromos 7.40 235 *e*P **Pn** **21 21 36.7 +0.7**
comp=E,33nm,0.9s
CSS Prodhromos 7.40 235 *e*P **Pn** **21 21 36.7 +0.7**
comp=E,33nm,0.9s
SALA Sala 7.46 207⇑ *i*P **Pn** **21 21 37.0 +0.2**
SALA Sala 7.46 207⇑⇑P **Pn** **21 21 36.0 -0.8**
MMAI Mount Meron Ar 7.73 215 Pn **Pn** **21 21 41.7 +1.3**
comp=E,5.7nm,0.3s,baz=68,slow=15,SNR=32
MMAI Lg 21 24 00.8
comp=E,6.1nm,0.3s,baz=36,slow=29,SNR=4.9
MMAI LR LR 21 24 10.1
comp=E,262nm,20.9s,baz=10.0,slow=34
ASF Jabal al Asfar 7.90 204 Pn **Pn** **21 21 43.5 +0.7**
comp=E,1.8nm,0.3s,baz=347,slow=1.7,SNR=12
ASF Lg 21 24 01.1
comp=E,3.0nm,0.3s,baz=246,slow=21,SNR=3.3
ASF LR LR 21 24 54.8
comp=E,715nm,19.2s,baz=63,slow=39
ISP Isparta 8.15 262 *e*P **Pn** **21 21 46.1 -0.1**
TIRR Tirgusor 10.43 303⇓ *i*P **Pn** **21 22 17.6 +0.1**
TIRR Tirgusor 10.43 303 *e*P **Pn** **21 22 17.2 -0.3**
TIRR pmax pmax
comp=Z,33nm,0.8s
TIRR Tirgusor 10.43 303 *e*P **Pn** **21 22 17.2 -0.3**
comp=Z,33nm,0.8s
EIL Elat 10.86 208 P **Pn** **21 22 26.0 +2.7**
comp=Z,187nm,0.9s
CFR Carcaliu 10.92 306⇓ *i*P **Pn** **21 22 25.9 +1.7**
MIB Mutribah 11.07 149 *e*P **Pn** **21 22 25.3 -0.8**
RST Umm Al-Ruwaisa 11.20 151 *e*P **Pn** **21 22 26.5 -1.5**
KIS Kishinev 11.48 315 *e*P **Pn** **21 22 34.0 +2.1**
KIS Kishinev 11.48 315 *e*PP 21 22 44.0
KIS *e*S **Sn** **21 24 26.0 -14**
KIS *e*LQ 21 27 00.0
KIS LRM 21 29 54.0
comp=Z,700nm,15.0s
NAY Al-Naaiem 11.52 150 *e*P **Pn** **21 22 31.6 -0.8**
VRHR Novokhopersk 11.65 3 *e*P **Pn** **21 22 33.4 -0.8**
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR pmax pmax
comp=N,2.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=Z,880nm,12.0s
VRHR MLR MLR
comp=N,10.0nm,11.0s
VRHR MLR MLR
comp=E,590nm,13.0s
RDO Rodhopi 11.71 283 P **Pn** **21 22 39.7 +4.7**
RDF Al-Radifah 11.93 150 *e*P **Pn** **21 22 36.8 -1.2**
VRI Vrincioaia 12.12 306⇓ *i*P **Pn** **21 22 45.0 +4.5**
VRI Vrincioaia 12.12 306⇓⇓P **Pn** **21 22 45.0 +4.5**
VOR Voronezh 12.32 356 *e*P **Pn** **21 22 45.0 +1.7**
VOR pmax pmax
comp=Z,150nm,1.0s
VOR Voronezh 12.32 356 *e*P **Pn** **21 22 45.0 +1.7**
comp=Z,150nm,1.0s
MLR Muntele Rosu 12.45 304 Pn **Pn** **21 22 47.6 +2.5**
comp=Z,0.2nm,0.3s,baz=163,slow=20,SNR=5.9
MLR LR LR 21 28 18.2
comp=Z,556nm,20.1s,baz=131,slow=41
MLR Muntele Rosu 12.45 304⇑ *i*P **Pn** **21 22 48.6 +3.5**
VOIR 13.01 302⇑ *i*P **Pn** **21 22 54.2 +1.4**
VOIR 13.01 302⇑⇑P **Pn** **21 22 54.2 +1.5**
IDI Anoyia 13.25 257 Pn **Pn** **21 22 59.0 +2.9**
comp=Z,0.5nm,0.3s,baz=38,slow=13,SNR=4.4
IDI LR LR 21 28 45.8
comp=Z,789nm,18.9s,baz=74,slow=41
IDI Anoyia 13.25 257 Pn **Pn** **21 22 59.0 +2.9**
IDI LR LR 21 28 45.8
VTS Vitosha 13.58 289⇓ *i*P **Pn** **21 22 58.2 -2.4**
VTS Vitosha 13.58 289⇓⇓P **Pn** **21 22 58.2 -2.4**
AKASG Malin Array Be 13.84 328 Pn **Pn** **21 23 03.2 -0.9**
comp=Z,2.1nm,0.3s,baz=133,slow=14,SNR=84
AKASG Malin Array Be 13.84 328 P **Pn** **21 23 03.2 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 13.84 328 *e*P **Pn** **21 23 01.4 -2.7**
BURAR Bucovina Array 13.87 311⇑ *i*P **Pn** **21 23 06.1 +1.7**
BURAR Bucovina Array 13.87 311⇑⇑P **Pn** **21 23 06.1 +1.7**
GVD Gavdhos 14.04 256 *e*P **Pn** **21 23 07.9 +1.2**
GVD Gavdhos 14.04 256 *e*P **Pn** **21 23 07.9 +1.1**
STIP Stip 14.26 285 *i* P **Pn** **21 23 17.6 +7.9**
GZR Gura Zlata 14.50 300⇓ *i*P **Pn** **21 23 13.7 +0.6**
GZR Gura Zlata 14.50 300⇓⇓P **Pn** **21 23 13.7 +0.6**
SKO Skopje 14.83 286 *i* P **Pn** **21 23 22.7 +5.1**
BIA Bitola 14.89 282 *i* P pP 21 23 28.9 -0.1
DRGR 15.03 305⇓ *i*P **Pn** **21 23 26.5 +6.2**
DRGR 15.03 305⇓⇓P **Pn** **21 23 26.5 +6.2**
OHR Ohrid 15.29 283 *i* P **Pn** **21 23 29.8 +6.1**
BZS Buzias 15.35 300⇑ *i*P **Pn** **21 23 23.1 -1.3**
BZS Buzias 15.35 300⇑⇑P **Pn** **21 23 23.1 -1.4**
ORR Orenburg 15.60 34 *e*P **Pn** **21 23 27.1 -0.7**
ORR pmax pmax
comp=Z,30nm,1.0s
ORR MLR MLR
comp=Z,510nm,14.0s
ORR Orenburg 15.60 34 *e*P **Pn** **21 23 27.1 -0.7**
comp=Z,510nm,14.0s
LVV L'vov 15.72 317⇓ *i*P **Pn** **21 23 32.9 +3.6**
LVV *e*S **Sn** **21 26 26.7 +3.6**
LVV MLR MLR
comp=N,100nm,13.0s
LVV MLR MLR
comp=E,200nm,13.0s
LVV MLR MLR
comp=Z,200nm,13.0s
OBN Obninsk 15.91 351⇑ *i*P **Pn** **21 23 30.2 -1.5**
OBN pmax pmax
comp=Z,212nm,1.6s
OBN MLR MLR
comp=Z,400nm,16.0s
OBN Obninsk 15.91 351 *e*P **Pn** **21 23 29.0 -2.7**
comp=Z,109nm,0.9s
OBN Obninsk 15.91 351 *i* P **Pn** **21 23 30.2 -1.5**
comp=Z,400nm,16.0s
UZH Uzhgorod 16.07 311 *c i*P **Pn** **21 23 36.0 +2.1**
UZH *e*S **Sn** **21 26 36.2 +4.5**
UZH MLR MLR
comp=Z,540nm,16.0s
UZH Uzhgorod 16.07 311 *i* P **Pn** **21 23 36.0 +2.1**
DIVS Divcibare 16.13 293 *i* Pn **Pn** **21 23 38.7 +4.1**
KOLS Kolonicke sedl 16.23 312 *e*P **Pn** **21 23 40.4 +4.5**
KWP Kalwaria 16.34 314 *e*P **Pn** **21 23 37.7 +0.5**
KWP *e*pP pP 21 23 41.0 -3.9
KWP L 21 32 35.2
comp=Z,0.7nm,15.5s
KWP Kalwaria 16.34 314 *e*P **Pn** **21 23 37.7 +0.5**
comp=Z,700nm,15.5s
KWP *e*pP pP 21 23 41.0 -3.9
AKTK Aktyubinsk 16.40 42 Pn **Pn** **21 23 35.3 -2.7**
AKTK LR LR 21 32 06.7
AKTO Aktyubinsk 16.40 42 Pn **Pn** **21 23 35.3 -2.8**
comp=Z,0.5nm,0.3s,baz=244,slow=12,SNR=7.5
AKTO LR LR 21 32 06.7
comp=Z,181nm,18.9s,baz=235,slow=45
AKTO Aktyubinsk 16.40 42 P **Pn** **21 23 35.3 -2.8**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,181nm,18.9s
MOS Moscow 16.42 354 *e*P **Pn** **21 23 34.9 -3.4**
MOS *e*S **Sn** **21 26 39.0 -1.0**
MOS pmax pmax
comp=Z,185nm,1.2s
CRVS Cervenica-Dubn 16.69 311 *e*P **Pn** **21 23 40.6 -1.1**
CRVS Cervenica-Dubn 16.69 311 P **Pn** **21 23 44.2 +2.5**
PECR Pechory 17.02 6 *i* P **Pn** **21 23 43.4 -2.4**
PECR pmax pmax
comp=Z,360nm,2.4s
PECR pmax pmax
comp=Z,300nm,2.5s
PECR MLR MLR
comp=N,800nm,15.0s
PECR MLR MLR
comp=Z,1μm,15.0s
STHS Stebnicka Huta 17.05 312 *e*P **Pn** **21 23 49.3 +3.0**
STHS pmax pmax
comp=Z,11nm,1.4s
STHS Stebnicka Huta 17.05 312 *e*P **Pn** **21 23 49.3 +3.0**
comp=Z,11nm,1.4s
KECS Kecovo 17.09 308 *e*P **Pn** **21 23 48.9 +2.2**
PSZ Piszkesteto 17.23 306⇑ *i*P **Pn** **21 23 49.6 +1.1**
PSZ Piszkesteto 17.23 306⇓ *e*P **Pn** **21 23 49.3 +0.8**
MNK Minsk 17.38 334 *e*P **Pn** **21 23 42.0 -8.4**
PKSM Moragy 17.51 300⇑ *i*P **Pn** **21 23 53.0 +1.0**
PKSM Moragy 17.51 300⇑⇑P **Pn** **21 23 53.0 +1.0**
PKSM Moragy 17.51 300⇓ *e*P **Pn** **21 23 52.8 +0.8**
BUD Budapest 17.63 304⇓ *e*P **Pn** **21 23 54.7 +1.2**
VYHS Vyhne 18.10 307 *e*P **Pn** **21 24 00.0 +0.7**
VYHS pmax pmax
comp=Z,46nm,2.4s
VYHS Vyhne 18.10 307 *e*P **Pn** **21 24 00.0 +0.7**
comp=Z,46nm,2.4s
OJC Ojcow 18.26 313 *e*P **Pn** **21 23 59.0 -2.2**
TIP Timpagrande 18.53 277 *e*P **Pn** **21 24 04.1 -0.4**
TIP Timpagrande 18.53 277 *e*P **Pn** **21 24 04.1 -0.4**
WAR Warsaw 18.67 320 *e*P **Pn** **21 24 05.5 -0.7**
WAR *e*pP pP 21 24 08.2 -2.5
WAR L 21 32 58.3
comp=Z,0.6nm,17.3s
WAR Warsaw 18.67 320 *e*P **Pn** **21 24 05.5 -0.7**
comp=Z,600nm,17.3s
WAR *e*pP pP 21 24 08.2 -2.5
BANOM Banah 18.78 131⇑⇑P **Pn** **21 24 07.0 -0.6**
SNR=9.4
SUW Suwalki 18.80 327 *e*P **Pn** **21 24 06.0 -1.8**
SUW *e*pP pP 21 24 08.6 -3.5
SUW L 21 34 47.3
comp=Z,0.4nm,16.5s
SUW Suwalki 18.80 327 *e*P **Pn** **21 24 06.0 -1.8**
comp=Z,400nm,16.5s
SUW *e*pP pP 21 24 08.6 -3.5
JAVC Velka Javorina 18.95 307 P **Pn** **21 24 10.6 +0.9**
SMOL Smolenice 18.98 306 *e*P **Pn** **21 24 11.6 +1.6**
OKC Ostrava-Krasne 19.04 310 *e*P **Pn** **21 24 10.2 -0.6**
OKC AMS AMS 21 33 40.0
comp=Z,500nm,14.9s
OKC Ostrava-Krasne 19.04 310 *e*P **Pn** **21 24 10.2 -0.6**
comp=Z,500nm,14.9s
ZST Bratislava 19.08 305 *e*P **Pn** **21 24 12.9 +1.7**
ZST pmax pmax
comp=Z,24nm,1.1s
ZST Bratislava 19.08 305 *e*P **Pn** **21 24 12.9 +1.7**
comp=Z,24nm,1.1s
CUC Castrocucco 19.15 280 P **Pn** **21 24 12.7 +0.7**
SOP Sopron 19.28 303⇓ *e*pP pP 21 24 14.6 -2.8
SOP Sopron 19.28 303 P **Pn** **21 24 12.8 -0.8**
MRLC Muro Lucano 19.32 282 P **Pn** **21 24 14.3 +0.2**
MORC Moravsky Berou 19.38 310⇑ *i*P **Pn** **21 24 12.7 -2.1**
MORC Moravsky Berou 19.38 310⇑⇑P **Pn** **21 24 12.7 -2.1**
HATD Hatta, Dubai 19.54 134⇑⇑P **Pn** **21 24 16.8 +0.1**
SNR=31
ASHO Ashiyiah 19.61 134⇓⇓P **Pn** **21 24 16.8 -0.7**
SNR=56
VRAC Vranov 19.77 308 P **Pn** **21 24 19.5 0.0**
comp=Z,0.6nm,0.3s,baz=95,slow=10.0,SNR=8.7
VRAC LR LR 21 34 14.8
comp=Z,264nm,18.9s,baz=127,slow=44
VRAC Vranov 19.77 308 P **Pn** **21 24 19.5 0.0**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,264nm,18.9s
CONA Conrad Observa 19.80 303⇓ *i*Pn **Pn** **21 24 18.7 -1.1**
comp=Z,57nm,1.2s,SNR=21
PSB1 Pescosannita 19.80 283 P **Pn** **21 24 20.0 +0.2**
KRUC Moravsky 19.81 307 P **Pn** **21 24 18.2 -1.7**
SGG Gregorio Mates 20.12 284 P **P** **21 24 23.2 +1.5**
MIDA Miranda 20.20 285 P **P** **21 24 24.2 +1.6**
RNI2 Rionero Sannit 20.27 285 P **P** **21 24 28.3 +4.9**
DPC Dobruska-Polom 20.33 310 *e*P **P** **21 24 24.3 +0.3**
DPC AMS AMS 21 34 50.0
comp=Z,600nm,9.8s
DPC Dobruska-Polom 20.33 310 *e*P **P** **21 24 24.3 +0.3**
comp=Z,600nm,9.8s
KSP Ksiaz 20.54 312 *e*P **P** **21 24 26.0 -0.3**
KSP *e*pP 21 24 28.4
KSP L 21 34 57.2
comp=Z,0.8nm,15.8s
KSP Ksiaz 20.54 312 *e*P **P** **21 24 26.2 -0.1**
KSP *e*pP 21 24 28.6
UPC Upice 20.57 311 *e*P **P** **21 24 28.6 +2.0**
ARU Arti 20.66 29⇓ *i*P **P** **21 24 26.6 -1.0**
ARU *e*PPP 21 24 52.3
ARU *e*S **S** **21 28 17.7 0.0**
ARU *e*SS 21 28 36.8
ARU *e*SSS 21 28 47.3
ARU pmax pmax
comp=Z,21nm,0.8s
ARU Arti 20.66 29 *e*P **P** **21 24 26.4 -1.1**
comp=Z,27nm,0.7s
VAE Valguarnera 20.67 273 P **P** **21 24 29.9 +2.3**
comp=Z,34nm,0.9s,baz=20,slow=5.6,SNR=3.7
VAE LR LR 21 33 05.5
comp=Z,867nm,18.1s,MS4.2,baz=293,slow=38
VAE Valguarnera 20.67 273 P **P** **21 24 29.9 +2.3**
VAE LR LR 21 33 05.5
AQU L'Aquila 20.81 287⇑ *i*P **P** **21 24 29.2 0.0**
AQU L'Aquila 20.81 287⇑⇑P **P** **21 24 29.2 0.0**
MOA Molln 20.82 302 *i* P **P** **21 24 30.0 +0.8**
comp=Z,41nm,1.2s,SNR=15
ARQ Araqi 20.93 136⇓⇓P **P** **21 24 33.5 +2.9**
SNR=23
VSU Vasula 21.04 339 *e*P **P** **21 24 30.8 -0.8**
PTCC Patocco-Chiusa 21.13 298 P **P** **21 24 34.6 +1.9**
GKP Gorka Klasztor 21.16 318 *e*P **P** **21 24 31.9 -1.1**
GKP *e*pP 21 24 33.4
GKP L 21 35 39.0
comp=Z,0.7nm,15.7s
HOQ Hoqain 21.17 133⇓⇓P **P** **21 24 33.6 +0.4**
SNR=24
GMNA Gemona 21.19 298 P **P** **21 24 34.8 +1.5**
PRU Pruhonice 21.26 308 *e*P **P** **21 24 34.6 +0.5**
PRU AMS AMS 21 35 20.0
comp=Z,700nm,16.1s
FSSB Fossombrone 21.28 291 P **P** **21 24 35.7 +1.5**
PUL Pulkovo 21.36 345 *e*P **P** **21 24 34.8 -0.4**
PUL *e*S **S** **21 28 33.3 +1.7**
PUL pmax pmax
comp=Z,61nm,0.4s,mb5.3
PUL pmax pmax
comp=N,73nm,0.7s
PUL smax
comp=N,86nm,0.6s
PUL smax
comp=E,111nm,0.6s
PUL MLR MLR
comp=Z,519nm,15.0s,MS4.0
PUL MLR MLR
comp=N,641nm,19.0s,MS4.3
PUL MLR MLR
comp=E,855nm,18.0s,MS4.3
PVCC Panska Ves 21.43 310 *e*P **P** **21 24 35.8 -0.1**
PVCC AMS AMS 21 35 10.0
comp=E,400nm,12.9s
GEC2 GERESS Array S 21.43 305 *e*P **P** **21 24 35.8 -0.1**
comp=Z,23nm,1.1s,mb4.4
GEC2 GERESS Array S 21.43 305 *e*P **P** **21 24 35.8 -0.1**
GEC2 pmax pmax
comp=Z,23nm,1.1s,mb4.4
GERES GERESS Array B 21.43 305 P **P** **21 24 35.9 0.0**
comp=Z,5.7nm,0.7s,mb4.0,baz=106,slow=9.8,SNR=29
GERES LR LR 21 34 60.0
comp=Z,316nm,18.2s,MS3.8,baz=275,slow=43
GERES GERESS Array B 21.43 305 P **P** **21 24 35.9 0.0**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES MLR MLR
comp=Z,316nm,18.2s
FVI Forni Avoltri 21.55 298 P **P** **21 24 39.3 +2.1**
KHC Kasperske Hory 21.59 306 *e*P **P** **21 24 37.4 -0.2**
KHC AMS AMS 21 36 30.0
comp=Z,500nm,11.7s
KHC Kasperske Hory 21.59 306 *d i*P **P** **21 24 37.1 -0.5**
BIDO Bidbid 21.69 132⇑⇑P **P** **21 24 38.0 -0.6**
SNR=11
SVE Sverdlovsk 21.74 30⇓ *e*P **P** **21 24 38.0 -1.2**
SVE *e* 21 28 41.0
SVE *e*S **S** **21 28 42.0 +3.0**
SVE pmax pmax
comp=Z,25nm,2.5s,mb4.2
CRE Caprese Michel 21.88 290 P **P** **21 24 43.7 +3.1**
CRE pmax pmax
comp=Z,91nm,1.5s,mb5.0
CRE Caprese Michel 21.88 290 P **P** **21 24 43.7 +3.1**
comp=Z,91nm,1.5s,mb5.0
BRG Berggiesshubel 21.93 310 *e*P **P** **21 24 40.9 -0.3**
comp=Z,28nm,1.4s,mb4.5
BRG Berggiesshubel 21.93 310 *i* P **P** **21 24 41.4 +0.2**
comp=Z,17nm,1.4s,mb4.3
BRG *e* 21 24 49.6
comp=Z,19nm,1.5s
BRG
comp=Z,348nm,15.6s
BRG
comp=N,244nm,17.5s
BRG
comp=E,305nm,17.5s
BRG Berggiesshubel 21.93 310 *i* P **P** **21 24 41.4 +0.2**
BRG *e* 21 24 49.6
BRG pmax pmax
comp=Z,17nm,1.4s,mb4.3
BRG MLR MLR
comp=Z,348nm,15.6s,MS3.9
BRG MLR MLR
comp=N,244nm,17.5s,MS3.9
BRG MLR MLR
comp=E,305nm,17.5s,MS3.9
BRG Berggiesshubel 21.93 310 *i* P **P** **21 24 41.4 +0.2**
comp=E,17nm,1.4s,mb4.3
BRG *e* 21 24 49.6
BRG LR LR
comp=Z,350nm,15.6s,MS3.9
SFI Santa Sofia 21.96 291 P **P** **21 24 43.2 +1.7**
SMDO Samad 22.00 133⇑⇑P **P** **21 24 42.0 0.0**
SNR=38
WET Wettzell 22.04 305 *e*P **P** **21 24 41.0 -1.4**
comp=Z,24nm,1.2s,mb4.5
WET Wettzell 22.04 305 *e*P **P** **21 24 41.0 -1.4**
WET pmax pmax

comp=Z,24nm,1.2s,mb4.5
VMG Vicchio 22.18 291 P **P** **21 24 46.4 +2.5**
comp=Z,42nm,0.7s,mb5.0
WSAR Wadi Sarin 22.20 131 P **P** **21 24 44.7 +0.7**
comp=Z,15nm,1.0s,mb4.4,baz=317,slow=7.8,SNR=12
WSAR LR LR 21 35 44.1
comp=Z,529nm,19.8s,MS4.0,baz=344,slow=43
WSAR Wadi Sarin 22.20 131 P **P** **21 24 44.7 +0.6**
WSAR LR LR 21 35 44.1
CTI Castel Tesino 22.25 297 P **P** **21 24 46.6 +1.9**
CTI pmax pmax
comp=Z,15nm,0.7s,mb4.5
CTI Castel Tesino 22.25 297 P **P** **21 24 46.6 +1.9**
comp=Z,15nm,0.7s,mb4.5
FBE Freiberg 22.29 310 *e*P **P** **21 24 43.9 -1.2**
comp=Z,112nm,1.9s,mb5.0
SEI Scarperia 22.32 291 P **P** **21 24 47.9 +2.6**
comp=Z,65nm,0.8s,mb5.1
WTTA Wattenberg 22.44 300 P **P** **21 24 46.8 +0.1**
JMDO Jabal Madar 22.58 134 ⇑P **P** **21 24 50.2 +2.1**
SNR=16
NKC Novy Kostel 22.62 308 *e*P **P** **21 24 48.5 -0.1**
NKC AMS AMS 21 36 00.0
comp=Z,700nm,15.4s
ROTZ Rotzenmuhle 22.63 306 *e*P **P** **21 24 47.5 -1.2**
comp=Z,51nm,1.4s,mb4.8
CLL Collm 22.64 311 *e*P **P** **21 24 48.3 -0.5**
comp=Z,37nm,1.2s,mb4.7
CLL Collm 22.64 311 *i* P **P** **21 24 47.7 -1.1**
CLL *e* 21 24 53.0
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.3
CLL MLR MLR
comp=Z,600nm,18.0s,MS4.1
CLL Collm 22.64 311 *i* P **P** **21 24 47.7 -1.1**
comp=Z,14nm,1.1s,mb4.3
CLL *e* 21 24 53.0
CLL *e* 21 25 08.0
CLL LR LR
comp=Z,600nm,18.0s,MS4.1
CLL Collm 22.64 311 *i* P **P** **21 24 47.7 -1.1**
comp=Z,14nm,1.1s,mb4.3
CLL *e*PP 21 25 08.0
CLL Lm 21 35 00.0
comp=Z,600nm,18.0s
TANN Tannenbergstha 22.66 308 *e*P **P** **21 24 48.5 -0.6**
comp=Z,32nm,1.4s,mb4.6
SQTA Sankt Quirin 22.72 300 ⇑ *i*P **P** **21 24 49.4 -0.2**
comp=Z,27nm,1.2s,mb4.6
SQTA Sankt Quirin 22.72 300 ⇑ *i*P **P** **21 24 49.4 -0.2**
SQTA pmax pmax
comp=Z,27nm,1.2s,mb4.5
MANZ Manzenberg 22.75 307 *e*P **P** **21 24 50.2 +0.2**
comp=Z,47nm,1.8s,mb4.6
WERD Werda 22.77 308 *e*P **P** **21 24 50.0 -0.2**
MOTA Moosalm 22.81 300 ⇑ *i*P **P** **21 24 50.0 -0.6**
comp=Z,27nm,1.1s,mb4.6,SNR=17
MOTA Moosalm 22.81 300 ⇑ *i*P **P** **21 24 50.0 -0.6**
MOTA pmax pmax
comp=Z,27nm,1.1s,mb4.6
FUR Furstenfeldbru 22.84 302 *e*P **P** **21 24 50.6 -0.3**
comp=Z,63nm,1.2s,mb4.9
FUR Furstenfeldbru 22.84 302 *e*P **P** **21 24 50.6 -0.3**
FUR pmax pmax
comp=Z,63nm,1.2s,mb4.9
GSCL Gusciola 22.88 292 P **P** **21 24 53.2 +1.9**
comp=Z,42nm,1.1s,mb4.8
ERBM Eremo 23.00 292 P **P** **21 24 55.8 +3.1**
comp=Z,68nm,1.2s,mb5.0
MABI Malga Bissina 23.04 296 P **P** **21 24 54.4 +1.4**
BRMO Bormio 23.18 298 P **P** **21 24 55.4 +0.8**
GRA1 Grafenberg Arr 23.23 306 *e*P **P** **21 24 55.0 0.0**
comp=Z,102nm,1.2s,mb5.1
GRA1 LR LR
comp=Z,300nm,20.8s,MS3.7
GRF Grafenberg Arr 23.23 306 *e*P **P** **21 24 55.0 0.0**
comp=Z,102nm,1.2s,mb5.1
GRF *e*L 21 35 47.4
comp=Z,251nm,20.8s
GRF Grafenberg Arr 23.23 306 *e*P **P** **21 24 55.0 0.0**
GRF pmax pmax
comp=Z,102nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,300nm,20.8s,MS3.7
GRF Grafenberg Arr 23.23 306 *e*P **P** **21 24 55.0 0.0**
GRF pmax pmax
comp=Z,102nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,300nm,20.8s,MS3.7
MOX Moxa 23.25 308 *e*P **P** **21 24 54.8 -0.4**
comp=Z,14nm,1.2s,mb4.3
DAVOX Davos 23.56 298 P **P** **21 24 58.3 -0.1**
comp=Z,4.5nm,0.7s,mb4.0,baz=124,slow=7.1,SNR=8.3
DAVOX LR LR 21 35 13.6
comp=Z,366nm,20.1s,MS3.8,baz=85,slow=39
ZRNK Zerenda 23.59 46 *e*P **P** **21 24 57.7 -1.0**
ZRNK pmax pmax
comp=Z,16nm,0.9s,mb4.5
ZRNK Zerenda 23.59 46 *e*P **P** **21 24 57.7 -1.0**
comp=Z,16nm,0.9s,mb4.5
DAVA Damuels 23.62 299 ⇑ *i*P **P** **21 24 58.4 -0.6**
comp=Z,27nm,1.2s,mb4.5
FIA1 FINESS Array S 23.79 342 *e*P **P** **21 25 00.0 -0.5**
FINES FINESS Array B 23.79 342 P **P** **21 25 00.2 -0.3**
comp=Z,8.0nm,0.7s,mb4.3,baz=142,slow=9.9,SNR=35
FINES LR LR 21 35 28.0
comp=Z,332nm,21.6s,MS3.8,baz=164,slow=40
FINES FINESS Array B 23.79 342 P **P** **21 25 00.2 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,332nm,21.6s
VDL Val di Lei 23.81 297 ⇓P **P** **21 25 00.7 0.0**
PGF Pioggiola 24.06 288 *e*P **P** **21 25 02.4 -0.6**
VSL Villasalto 24.13 280 *e*P **P** **21 25 02.0 -1.6**
LLS Linth-Limmern 24.16 298 ⇑P **P** **21 25 03.6 -0.3**
JOF Joensuu 24.17 349 *e*p **P** **21 25 02.3 -1.7**
comp=Z,31nm,0.7s,mb4.8
JOF Joensuu 24.17 349 *e*P **P** **21 25 02.3 -1.7**
JOF pmax pmax
comp=Z,31nm,0.7s,mb4.8
WHFO Wadi Hawf 24.27 148 P **P** **21 25 06.9 +2.0**
SNR=16
WILA Wila 24.30 300 ⇓P **P** **21 25 04.5 -0.6**
STU Stuttgart 24.32 303 *e*P **P** **21 25 04.5 -0.9**
STU Stuttgart 24.32 303 *e*P **P** **21 25 04.2 -1.2**
STU pmax pmax
comp=Z,32nm,1.1s,mb4.7
STU Stuttgart 24.32 303 *e*P **P** **21 25 04.2 -1.2**
comp=Z,32nm,1.1s,mb4.7
KAF Kangasniemi 24.33 344 *e*p **P** **21 25 04.4 -1.0**
comp=Z,8.6nm,0.5s,mb4.4,baz=150,slow=9.7
KAF Kangasniemi 24.33 344 *e*P **P** **21 25 04.4 -1.0**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb4.5
BRVK Borovoye 24.34 46 *e*P **P** **21 25 06.7 +1.1**
BRVK pmax pmax
comp=Z,20nm,0.8s,mb4.6
BRVK Borovoye 24.34 46 *e*P **P** **21 25 06.7 +1.1**
comp=Z,20nm,0.8s,mb4.6
CLZ Clausthal 24.36 311 *e*P **P** **21 25 05.5 -0.3**
comp=Z,31nm,1.4s,mb4.5
CLZ Clausthal 24.36 311 *e*P **P** **21 25 05.5 -0.3**
CLZ pmax pmax
comp=Z,31nm,1.4s,mb4.5
BVAR Borovoye Array 24.39 46 P **P** **21 25 06.6 +0.6**
comp=Z,3.7nm,0.7s,mb3.9,baz=244,slow=6.8,SNR=20
BVAR LR LR 21 36 34.5
comp=Z,223nm,20.8s,MS3.6,baz=318,slow=41
BVAR Borovoye Array 24.39 46 P **P** **21 25 06.6 +0.6**
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR MLR MLR
comp=Z,223nm,20.8s
MUO Muotathal 24.43 298 ⇓P **P** **21 25 05.7 -0.6**
ZUR Zurich 24.51 299 ⇑P **P** **21 25 06.9 -0.2**
GTTG Gvttingen 24.51 310 *e*P **P** **21 25 07.7 +0.6**
SLE Schleitheim 24.62 300 ⇑P **P** **21 25 07.8 -0.3**
TOD Tromm 24.73 305 *e*P **P** **21 25 09.6 +0.5**
CHKZ Chkalovo 24.76 45 *e*P **P** **21 25 08.3 -1.1**
CHKZ pmax pmax
comp=Z,24nm,1.1s,mb4.6
CHKZ Chkalovo 24.76 45 *e*P **P** **21 25 08.3 -1.2**
comp=Z,24nm,1.1s,mb4.6
TMCR Tamitsa 24.79 357 P **P** **21 25 09.3 -0.4**
TMCR pmax pmax
comp=Z,22nm,0.7s,mb4.8
BFO Black Forest 24.81 302 *e*P **P** **21 25 09.6 -0.2**
comp=Z,44nm,2.0s,mb4.6
BFO Black Forest 24.81 302 *e*P **P** **21 25 09.6 -0.2**
BFO pmax pmax
comp=Z,44nm,2.0s,mb4.6
RBK Rabkut 24.82 148 P **P** **21 25 10.6 +0.6**
SNR=20
SULZ Sulz-Cheisache 24.84 300 ⇑P **P** **21 25 09.7 -0.4**
FELD Feldberg im Sc 24.96 300 *e*P **P** **21 25 11.8 +0.6**
EKS2 Erkin-Say 25.05 72 P **P** **21 25 13.0 +1.0**
SNR=25
KEST Kesra 25.06 271 P **P** **21 25 13.3 +1.2**
comp=Z,34nm,1.0s,mb4.8,baz=194,slow=0.2,SNR=23
LKBD Leukerbad 25.07 297 ⇑P **P** **21 25 12.0 -0.2**
TNS Taunus Mts 25.09 306 *e*P **P** **21 25 12.6 +0.2**
comp=Z,104nm,2.1s,mb5.0
TNS Taunus Mts 25.09 306 *e*P **P** **21 25 12.6 +0.2**
TNS pmax pmax
comp=Z,104nm,2.1s,mb5.0
SBF Sospel 25.15 291 *e*P **P** **21 25 12.1 -0.8**
comp=Z,132nm,1.1s,mb5.1
SBF Sospel 25.15 291 *e*P **P** **21 25 12.1 -0.8**
SBF pmax pmax
comp=Z,66nm,1.1s,mb5.1
SBF Sospel 25.15 291 *e*P **P** **21 25 12.1 -0.8**
comp=Z,66nm,1.1s,mb5.1
DIX Grande Dixence 25.20 296 ⇓P **P** **21 25 13.1 -0.3**
BBS Basel-Blauen 25.24 299 *e*P **P** **21 25 14.6 +0.8**
CDF Champ du Feu 25.52 302 *e*P **P** **21 25 15.1 -1.2**
comp=Z,18nm,1.0s,mb4.2
CDF Champ du Feu 25.52 302 *e*P **P** **21 25 15.1 -1.2**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
CDF Champ du Feu 25.52 302 *e*P **P** **21 25 15.1 -1.2**
comp=Z,8.9nm,1.0s,mb4.2
USP Ospenovka 25.54 70 P **P** **21 25 16.6 +0.2**
SNR=5.3
ECH Echery 25.57 301 *e*P **P** **21 25 15.9 -0.8**
AAK Ala-Archa 25.58 72 P **P** **21 25 18.1 +1.3**
SNR=8.5
AAK Ala-Archa 25.58 72 P **P** **21 25 17.1 +0.3**
SNR=13
AAK Ala-Archa 25.58 72 *e*P **P** **21 25 16.8 0.0**
AAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
AAK Ala-Archa 25.58 72 *e*P **P** **21 25 16.8 0.0**
comp=Z,13nm,0.8s,mb4.5
MBDF Montbardon 25.61 293 *e*P **P** **21 25 16.2 -0.9**
comp=Z,38nm,0.7s,mb4.7
MBDF Montbardon 25.61 293 *e*P **P** **21 25 16.2 -0.9**
MBDF pmax pmax
comp=Z,19nm,0.7s,mb4.7
MBDF Montbardon 25.61 293 *e*P **P** **21 25 16.2 -0.9**
comp=Z,19nm,0.7s,mb4.7
LPG La Plagne 25.63 295 *e*P **P** **21 25 16.7 -0.6**
comp=Z,33nm,0.8s,mb4.6
LPG La Plagne 25.63 295 *e*P **P** **21 25 16.7 -0.6**
LPG pmax pmax
comp=Z,16nm,0.8s,mb4.6
LPG La Plagne 25.63 295 *e*P **P** **21 25 16.7 -0.6**
comp=Z,16nm,0.8s,mb4.6
LPL La Plagne 25.65 295 *e*P **P** **21 25 16.0 -1.4**
comp=Z,24nm,0.8s,mb4.5
LPL La Plagne 25.65 295 *e*P **P** **21 25 16.0 -1.4**
LPL pmax pmax
comp=Z,12nm,0.8s,mb4.5
LPL La Plagne 25.65 295 *e*P **P** **21 25 16.0 -1.4**
comp=Z,12nm,0.8s,mb4.5
FRU Bishkek 25.65 71 *e*P **P** **21 25 17.0 -0.5**
BNI Bardonecchia 25.68 294 *e*P **P** **21 25 17.5 -0.2**
BNI pmax pmax
comp=Z,28nm,0.9s,mb4.8
BNI Bardonecchia 25.68 294 *e*P **P** **21 25 17.5 -0.2**
comp=Z,28nm,0.9s,mb4.8
LOMF Lomont 25.69 299 *e*P **P** **21 25 21.7 +3.8**
HINF Hinteralfeld 25.72 300 *e*P **P** **21 25 17.6 -0.5**
FRF La Foret Royal 25.73 290 *e*P **P** **21 25 17.4 -0.8**
comp=Z,101nm,1.3s,mb4.9
FRF La Foret Royal 25.73 290 *e*P **P** **21 25 17.4 -0.8**
FRF pmax pmax
comp=Z,51nm,1.3s,mb4.9
FRF La Foret Royal 25.73 290 *e*P **P** **21 25 17.4 -0.8**
comp=Z,51nm,1.3s,mb4.9
RSL Roselend 25.73 295 *e*P **P** **21 25 18.8 +0.6**
CHMS Chumysh 25.74 71 P **P** **21 25 19.3 +1.0**
SNR=8.6
KBK Karagaybulak 25.91 72 P **P** **21 25 21.2 +1.4**
SNR=7.1
HAU Haudompre 26.08 300 *e*P **P** **21 25 20.8 -0.6**
comp=Z,7.4nm,0.7s,mb4.0
HAU *e*R
comp=Z,402nm,19.5s
HAU Haudompre 26.08 300 *e*P **P** **21 25 20.8 -0.6**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
HAU MLR MLR
comp=Z,400nm,19.5s,MS4.0
HAU Haudompre 26.08 300 *e*P **P** **21 25 20.8 -0.6**
comp=Z,3.7nm,0.7s,mb4.0
HAU LR LR
comp=Z,400nm,19.5s,MS4.0
CABF La Chapelle 26.14 297 *e*P **P** **21 25 21.3 -0.6**
comp=Z,118nm,1.0s,mb5.1
CABF La Chapelle 26.14 297 *e*P **P** **21 25 21.3 -0.6**
CABF pmax pmax
comp=Z,59nm,1.0s,mb5.1
CABF La Chapelle 26.14 297 *e*P **P** **21 25 21.3 -0.6**
comp=Z,59nm,1.0s,mb5.1
ORIF Oris-en-Rattie 26.25 293 *e*P **P** **21 25 22.7 -0.1**
comp=Z,17nm,0.9s,mb4.3
ORIF *e*R
comp=Z,439nm,22.8s
ORIF Oris-en-Rattie 26.25 293 *e*P **P** **21 25 22.7 -0.1**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ORIF Oris-en-Rattie 26.25 293 *e*P **P** **21 25 22.7 -0.1**
comp=Z,8.5nm,0.9s,mb4.3
WLF Walferdange 26.44 304 *e*P **P** **21 25 24.3 -0.3**
comp=Z,23nm,1.2s,mb4.6
SMRF Simiane la Rot 26.49 291 *e*P **P** **21 25 24.6 -0.4**
comp=Z,38nm,1.1s,mb4.5
SMRF Simiane la Rot 26.49 291 *e*P **P** **21 25 24.6 -0.4**
comp=Z,19nm,1.1s,mb4.5
WTSB Winterswijk 26.52 309 *e*P **P** **21 25 25.5 +0.2**
comp=Z,35nm,1.8s,mb4.6
MEM Membach 26.70 306 P **P** **21 25 29.9 +2.9**
MEM Membach 26.70 306 P **P** **21 25 29.8 +2.8**
HFS Hagfors 26.73 330 P **P** **21 25 27.0 -0.1**
comp=Z,18nm,0.9s,mb4.6,baz=134,slow=11,SNR=16
HFS LR LR 21 37 19.4
comp=Z,288nm,18.8s,MS3.9,baz=71,slow=40
HFS Hagfors 26.73 330 P **P** **21 25 27.0 -0.2**
HFS pmax pmax
comp=Z,18nm,0.9s
HFS MLR MLR
comp=Z,288nm,18.8s
HFS Hagfors 26.73 330 P **P** **21 25 27.0 -0.2**
HFS LR LR 21 37 19.4
HGN Heimansgroeve 26.78 306 *e*P **P** **21 25 33.4 +5.7**
comp=Z,34nm,1.4s,mb4.7
MEZF Maizieres J'vi 27.00 301 *e*P **P** **21 25 29.2 -0.4**
VIVF Saint-Julien-l 27.10 293 *e*P **P** **21 25 30.0 -0.6**
comp=Z,33nm,1.1s,mb4.5
VIVF Saint-Julien-l 27.10 293 *e*P **P** **21 25 30.0 -0.6**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb4.5
VIVF Saint-Julien-l 27.10 293 *e*P **P** **21 25 30.0 -0.6**
comp=Z,17nm,1.1s,mb4.5
SMF Signal de Mont 27.69 297 *e*P **P** **21 25 35.3 -0.6**
comp=Z,31nm,1.1s,mb4.6
SMF Signal de Mont 27.69 297 *e*P **P** **21 25 35.3 -0.6**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.5
SMF Signal de Mont 27.69 297 *e*P **P** **21 25 35.3 -0.6**
comp=Z,15nm,1.1s,mb4.5
LOR Lormes 27.70 299 *e*P **P** **21 25 35.2 -0.8**
comp=Z,15nm,1.0s,mb4.2
LOR *e*R
comp=Z,376nm,19.0s
LOR Lormes 27.70 299 *e*P **P** **21 25 35.2 -0.8**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
LOR MLR MLR
comp=Z,380nm,19.0s,MS4.0
LOR Lormes 27.70 299 *e*P **P** **21 25 35.2 -0.8**
comp=Z,7.3nm,1.0s,mb4.3
LOR LR LR
comp=Z,380nm,19.0s,MS4.0
LASF Ste Croix 27.72 292 *e*P **P** **21 25 35.6 -0.5**
BAIF Baives 27.74 305 *e*P **P** **21 25 36.0 -0.3**
SSF Saint Saulge 27.93 298 *e*P **P** **21 25 36.6 -1.4**
comp=Z,44nm,1.5s,mb4.6
SSF Saint Saulge 27.93 298 *e*P **P** **21 25 36.6 -1.4**
SSF pmax pmax
comp=Z,22nm,1.5s,mb4.6
SSF Saint Saulge 27.93 298 *e*P **P** **21 25 36.6 -1.4**
comp=Z,22nm,1.5s,mb4.6
AVF Avril sur Loir 28.03 297 *e*P **P** **21 25 38.2 -0.7**
comp=Z,85nm,1.5s,mb4.8
AVF Avril sur Loir 28.03 297 *e*P **P** **21 25 38.2 -0.7**
AVF pmax pmax
comp=Z,43nm,1.5s,mb4.9
AVF Avril sur Loir 28.03 297 *e*P **P** **21 25 38.2 -0.7**
comp=Z,42nm,1.5s,mb4.8
NB2 NORSAR Subarra 28.25 330 P **P** **21 25 39.3 -1.5**
comp=Z,5.3nm,0.9s,mb4.2,baz=125,slow=9.3
NOA NORSAR Array B 28.25 330 P **P** **21 25 40.3 -0.6**
comp=Z,2.1nm,0.6s,mb3.9,baz=126,slow=8.8,SNR=5.9
NOA LR LR 21 38 15.2
comp=Z,225nm,18.4s,MS3.8,baz=125,slow=39
NOA NORSAR Array B 28.25 330 P **P** **21 25 40.3 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,225nm,18.4s
BGF Bois d'Agland 28.38 297 *e*P **P** **21 25 41.5 -0.5**
APA Apatity 28.45 354 ⇓ *e*P **P** **21 25 40.0 -2.7**
APA MLR MLR
comp=Z,800nm,14.0s,MS4.5
TCF Toulx Ste Croi 28.81 296 *e*P **P** **21 25 45.2 -0.7**
RJF Les Rejaudoux 29.32 294 *e*P **P** **21 25 50.0 -0.4**
RJF *e*R
comp=Z,460nm,18.8s
RJF Les Rejaudoux 29.32 294 *e*P **P** **21 25 50.0 -0.4**
RJF LR LR
comp=Z,460nm,18.8s,MS4.1
EPF Esparros 30.36 290 *e*P **P** **21 25 58.9 -0.7**
MFF Saint Martin d 30.44 297 *e*P **P** **21 25 59.2 -1.1**
comp=Z,18nm,1.0s,mb4.5
MFF Saint Martin d 30.44 297 *e*P **P** **21 25 59.2 -1.1**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MFF Saint Martin d 30.44 297 *e*P **P** **21 25 59.2 -1.1**
comp=Z,9.1nm,1.0s,mb4.5
MK31 Makanchi Array 30.93 63 *e*P **P** **21 26 04.9 +0.3**
MKAR Makanchi Array 30.93 63 P **P** **21 26 04.8 +0.2**
comp=Z,9.9nm,0.8s,mb4.7,baz=278,slow=7.7,SNR=28
MKAR LR LR 21 40 26.3
comp=Z,241nm,18.1s,MS3.9,baz=257,slow=40
MKAR Makanchi Array 30.93 63 P **P** **21 26 04.8 +0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR MLR MLR
comp=Z,241nm,18.1s
MKAR Makanchi Array 30.93 63 P **P** **21 26 04.8 +0.2**
MKAR LR LR 21 40 26.3
ETSF Etsaut 31.03 290 *e*P **P** **21 26 04.8 -0.7**
ARCES ARCESS Array B 31.21 350 P **P** **21 26 05.8 -1.3**
comp=Z,10nm,0.8s,mb4.7,baz=158,slow=7.8,SNR=28
ARCES LR LR 21 40 09.7
comp=Z,262nm,19.9s,MS3.9,baz=8.7,slow=39
ARCES ARCESS Array B 31.21 350 P **P** **21 26 05.8 -1.3**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES MLR MLR
comp=Z,262nm,19.9s
EMOS Mosqueruela 31.40 285 P **P** **21 26 09.2 +0.5**
comp=Z,56nm,1.4s,mb5.2
SJPF Ste Jean 31.49 290 *e*P **P** **21 26 08.3 -1.2**
SGMF Saint Gilles 32.05 300 *e*P **P** **21 26 13.1 -1.4**
comp=Z,53nm,1.1s,mb5.0
SGMF Saint Gilles 32.05 300 *e*P **P** **21 26 13.1 -1.4**
SGMF pmax pmax
comp=Z,26nm,1.1s,mb5.0
SGMF Saint Gilles 32.05 300 *e*P **P** **21 26 13.1 -1.4**
comp=Z,26nm,1.1s,mb5.0
NVS Novosibirsk 32.18 47 *e*P **P** **21 26 18.1 +2.5**
QUIF Quistinic 32.46 300 *e*P **P** **21 26 16.9 -1.2**
comp=Z,54nm,1.2s,mb4.9
QUIF Quistinic 32.46 300 *e*P **P** **21 26 16.9 -1.2**
QUIF pmax pmax
comp=Z,27nm,1.3s,mb4.9
QUIF Quistinic 32.46 300 *e*P **P** **21 26 16.9 -1.2**
comp=Z,27nm,1.2s,mb4.9
ETOB Tobarra 32.61 282 P **P** **21 26 19.3 -0.1**
comp=Z,14nm,1.1s,mb4.8
ZAL Zalesovo 32.94 49 LR LR 21 41 14.0
comp=Z,261nm,21.3s,MS3.9,baz=212,slow=39
ZAL Zalesovo 32.94 49 *i* P **P** **21 26 27.7 +5.5**
ZAL pmax pmax
comp=Z,2.0nm,0.8s
EVIA Vianos 33.34 283 P **P** **21 26 24.7 -1.0**
EVIA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
EVIA Vianos 33.34 283 P **P** **21 26 24.7 -1.0**
comp=Z,5.6nm,0.7s,mb4.6
ENIJ Nijar 33.58 280 P **P** **21 26 25.9 -2.0**
EHUE Huescar 33.63 281 P **P** **21 26 27.3 -1.0**
EHUE pmax pmax
comp=Z,18nm,1.2s,mb4.9
EHUE Huescar 33.63 281 P **P** **21 26 27.3 -1.0**
comp=Z,18nm,1.2s,mb4.9
EQES Quesada 34.00 281 P **P** **21 26 30.9 -0.5**
comp=Z,29nm,0.9s,mb5.2
GUD Guadarrama 34.09 287 ⇑P **P** **21 26 30.4 -1.8**
GUD pmax pmax
comp=Z,14nm,1.2s,mb4.8
GUD Guadarrama 34.09 287 ⇑P **P** **21 26 30.4 -1.9**
comp=Z,14nm,1.2s,mb4.8
ESDC Sonseca Array 34.17 285 P **P** **21 26 31.7 -1.3**
comp=Z,6.7nm,0.8s,mb4.6,baz=66,slow=8.6,SNR=40
ESDC PcP PcP 21 29 08.7 -1.1
comp=Z,1.2nm,0.8s,baz=56,slow=4.0,SNR=5.5
ESDC LR LR 21 41 12.8
comp=Z,187nm,19.1s,MS3.8,baz=85,slow=38
ESDC Sonseca Array 34.17 285 ⇑P **P** **21 26 31.7 -1.2**
comp=Z,11nm,0.7s,mb4.9
ESLA Sonseca Array 34.17 285 *e*P **P** **21 26 31.1 -1.9**
comp=Z,5.1nm,1.1s,mb4.4
EBAN Banos Encina 34.44 282 ⇑P **P** **21 26 33.8 -1.5**
EBAN pmax pmax
comp=Z,16nm,0.7s,mb5.1
EBAN Banos Encina 34.44 282 ⇑P **P** **21 26 33.8 -1.5**
comp=Z,16nm,0.7s,mb5.0
ECOG Cogollos-Vega 34.53 281 P **P** **21 26 34.6 -1.5**
EGUA Guajares 34.66 280 P **P** **21 26 35.7 -1.5**
EGUA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EGUA Guajares 34.66 280 P **P** **21 26 35.6 -1.6**
comp=Z,2.9nm,0.8s,mb4.3
WMQ Urumqi 35.01 67 ⇑P **P** **21 26 41.1 +0.9**
WMQ PP PP 21 27 59.1 -0.6
WMQ PPP 21 28 17.5
WMQ PCP PcP 21 29 13.5 +1.3
WMQ S **S** **21 32 11.8 +0.3**
WMQ PCS PcS 21 32 58.6 -0.3
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,235nm,4.5s
WMQ LR LR
comp=N,461nm,21.0s,MS4.3
WMQ LR LR
comp=E,281nm,21.0s,MS4.3
WMQ LR LR
comp=Z,266nm,19.6s,MS4.0
EADA Adamuz 35.03 283 P **P** **21 26 39.6 -0.9**
comp=Z,5.4nm,0.7s,mb4.6
EMIJ Mijas 35.67 280 P **P** **21 26 43.9 -2.0**
comp=Z,10nm,0.8s,mb4.8
EJIF Jimena Fronter 36.23 280 P **P** **21 26 49.1 -1.6**
PCBR Castelo Branco 36.75 286 *e*P **P** **21 26 54.1 -1.0**
MDT Midelt 36.90 274 P **P** **21 26 56.3 0.0**
comp=Z,2.8nm,0.8s,mb4.1,baz=86,slow=12,SNR=5.9
MDT LR LR 21 42 33.8
comp=Z,122nm,19.3s,MS3.7,baz=78,slow=37
PESTR Estremoz 37.10 285 *e*P **P** **21 26 56.4 -1.7**
comp=Z,15nm,1.0s,mb4.8
KOLN Koldanda 37.25 95 *e*P **P** **21 27 00.1 +0.7**
comp=Z,12nm,0.7s,mb4.8
PBEJ Beja 37.55 284 *e*P **P** **21 27 00.9 -1.1**
GKN Gorkha 37.94 94 *e*P **P** **21 27 05.8 +0.6**

comp=Z,17nm,0.6s,mb4.9
DMN Daman 38.49 94 *e*P **P 21 27 10.3 +0.4**
comp=Z,31nm,0.8s,mb5.1
KKN Kakani 38.54 94 *e*P **P 21 27 10.7 +0.4**
comp=Z,24nm,0.8s,mb5.0
PKI Pulchoki 38.74 94 *e*P **P 21 27 11.9 -0.1**
GUN Gumba 38.94 93 *e*P **P 21 27 14.3 +0.6**
comp=Z,49nm,0.9s,mb5.2
HYB Hyderabad 39.47 113 *i* P **P 21 27 18.0 0.0**
HYB Hyderabad 39.47 113 *e*P **P 21 27 18.0 0.0**
SPB4 Spitsbergen Ar 40.11 352 *e*P **P 21 27 22.9 -0.5**
KMBO Kilima Mbogo 40.51 185 P **P 21 27 28.0 +1.2**
comp=Z,1.9nm,0.7s,mb3.8,baz=65,slow=23,SNR=6.4
KMBO Kilima Mbogo 40.51 185 P **P 21 27 28.0 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KBS Kingsbay 41.22 352 *e*P **P 21 27 31.7 -0.8**
LSA Lhasa 42.18 87 P **P 21 27 41.4 +1.0**
LSA Lhasa 42.18 87 *e*P **P 21 27 41.8 +1.4**
LSA pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
LSA Lhasa 42.18 87 *e*P **P 21 27 41.8 +1.4**
comp=Z,8.8nm,0.9s,mb4.4
TOA0 Torodi Ar. Sit 43.20 244 *e*P **P 21 27 47.0 -1.7**
TORD Torodi Ar. Bea 43.20 244 P **P 21 27 47.7 -1.0**
comp=Z,12nm,1.0s,mb4.6,baz=52,slow=4.1,SNR=22
TORD Torodi Ar. Bea 43.20 244 P **P 21 27 47.7 -1.0**
TLY Talaya 44.38 52 *e*P pP 21 28 11.8 +8.1
TLY *e*S **S 21 34 41.8 +10**
TLY *e*SS SS 21 37 52.9 +2.1
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,152nm,17.0s,MS4.0
ZAK Zakamensk 44.39 54 ⇓ *i*P **P 21 27 58.6 +0.3**
GTA Gaotai 44.91 70 *e*P **P 21 28 05.6 +3.2**
GTA AP pP 21 28 09.9 +2.0
GTA XP sP 21 28 13.2 +3.2
GTA PP PP 21 29 50.6 +3.2
GTA S **S 21 34 44.5 +4.9**
GTA SS SS 21 37 58.4 -2.6
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,83nm,7.2s
GTA LR LR
comp=N,222nm,14.5s,MS4.4
GTA LR LR
comp=E,287nm,15.2s,MS4.4
GTA LR LR
comp=Z,274nm,16.0s,MS4.3
DAG Danmarks Havn 45.02 344 ⇑ *i*P **P 21 28 00.8 -2.5**
comp=Z,9.7nm,0.8s,mb4.7
DAG Danmarks Havn 45.02 344 ⇑ *e*P **P 21 28 00.8 -2.5**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
DAG Danmarks Havn 45.02 344 ⇑ *e*P **P 21 28 00.8 -2.5**
comp=Z,9.7nm,0.8s,mb4.7
SONM Songino Array 46.96 57 P **P 21 28 18.6 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=281,slow=8.4,SNR=12
SONM PcP PcP 21 29 50.7 -0.2
comp=Z,2.0nm,0.8s,baz=250,slow=3.3,SNR=8.4
SONM LR LR 21 50 14.8
comp=Z,987nm,20.3s,MS4.8,baz=292,slow=39
SONM Songino Array 46.96 57 P **P 21 28 18.6 0.0**
SONM PcP PcP 21 29 50.7 -0.2
SONM LR LR 21 50 14.8
ULN Ulaanbaatar 47.38 57 *e*P **P 21 28 22.2 +0.4**
comp=Z,8.2nm,0.8s,mb4.7
LZH Lanzhou 49.11 73 *e*P **P 21 28 36.2 +1.0**
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,50nm,4.0s
LZH LR LR
comp=N,632nm,15.0s
LZH LR LR
comp=Z,980nm,16.0s,MS4.9
LZH Lanzhou 49.11 73 *e*P **P 21 28 36.2 +1.0**
comp=Z,15nm,1.0s,mb5.0
LZH pP pP 21 28 39.7 -1.0
LZH sP sP 21 28 41.5 -1.3
LZH LR LR
comp=Z,980nm,16.0s,MS4.9
BOD Bodaibo 49.17 43 *e*P **P 21 28 34.4 -1.3**
BOD pmax pmax
comp=Z,12nm,0.8s,mb5.0
SUMG Summit 49.65 337 *e*P **P 21 28 39.0 -0.4**
comp=Z,20nm,1.1s,mb5.0
CD2 Chengdu 51.31 79 *e*P **P 21 28 52.5 +0.6**
CD2 PP PP 21 30 51.1 +2.2
CD2 S **S 21 36 09.6 -0.5**
CD2 SS SS 21 39 42.2 -3.5
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.2s
TIXI Tiksi 52.53 24 *e*P **P 21 29 00.7 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
LIC Lamto 52.75 243 ⇑ *i*P **P 21 29 01.6 -1.0**
comp=Z,83nm,0.8s,mb5.4
LIC *e*R
comp=Z,194nm,21.8s
LIC Lamto 52.75 243 ⇑ *i*P **P 21 29 01.6 -1.0**
comp=Z,41nm,0.8s,mb5.4
LIC LR LR
comp=Z,100nm,21.8s,MS3.8
LIC Lamto 52.75 243 ⇑ *i*P **P 21 29 01.6 -1.0**
comp=Z,41nm,0.8s,mb5.4
HHC Hu-ho-hao-te 52.77 64 *e*P **P 21 29 04.1 +1.4**
HHC PCP PcP 21 30 14.4 +2.2
HHC PP PP 21 31 04.2 +2.1
HHC PCS PcS 21 34 11.2 +0.4
HHC S **S 21 36 29.5 -0.7**
HHC SCS ScS 21 38 50.5 -1.2
HHC SS SS 21 40 06.3 -2.5
HHC AMB AMB
comp=Z,16nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,107nm,7.4s
HHC LR LR
comp=N,332nm,16.7s,MS4.7
HHC LR LR
comp=E,383nm,15.0s,MS4.7
HHC LR LR
comp=Z,267nm,18.8s,MS4.3
KMI Kunming 53.38 86 P **P 21 29 07.6 +0.3**
KMI PP PP 21 31 09.2 +1.5
KMI S **S 21 36 36.4 -2.2**
KMI SS SS 21 40 16.0 -2.6
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,155nm,4.1s
KMI LR LR
comp=Z,114nm,17.7s,MS4.0
KMI Kunming 53.38 86 P **P 21 29 07.6 +0.3**
KMI *PP pP 21 29 10.3 -2.5
KMI *SP sP 21 29 11.7 -3.2
KMI 21 31 09.2
KMI S **S 21 36 36.4 -2.2**
KMI *SS sS 21 36 41.4 -6.3
KMI SS SS 21 40 16.0 -2.6
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KMI MLR MLR
comp=Z,110nm,17.7s,MS4.0
KMI Kunming 53.38 86 P **P 21 29 07.6 +0.3**
comp=Z,7.0nm,1.0s,mb4.5
KMI pP pP 21 29 10.3 -2.5
KMI sP sP 21 29 11.7 -3.2
KMI PP PP 21 31 09.2 +1.5
KMI S **S 21 36 36.4 -2.2**
KMI sS sS 21 36 41.4 -6.3
KMI SS SS 21 40 16.0 -2.6
KMI LR LR
comp=Z,110nm,17.7s,MS4.0
CHTO Chiang Mai 53.91 95 *e*P **P 21 29 09.5 -1.7**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHTO Chiang Mai 53.91 95 *e*P **P 21 29 09.5 -1.7**
comp=Z,4.6nm,0.8s,mb4.5
YAK Yakutsk 55.61 35 *e*P **P 21 29 25.2 +1.7**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.1
YAK Yakutsk 55.61 35 *e*P **P 21 29 24.9 +1.4**
comp=Z,19nm,0.8s,mb5.2
LSZ Lusaka 55.69 195 P **P 21 29 27.0 +3.0**
comp=Z,4.4nm,0.7s,mb4.6,baz=44,slow=6.4,SNR=12
LSZ Lusaka 55.69 195 P **P 21 29 27.0 +2.9**
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
GYA Guiyang 55.71 82 P **P 21 29 23.6 -0.6**
GYA PCP PcP 21 30 23.2 -0.2
GYA PP PP 21 31 28.8 +0.2
GYA PPP 21 32 43.5
GYA S **S 21 37 07.9 -2.0**
GYA SCS ScS 21 39 09.7 -3.0
GYA SS SS 21 40 53.3 -2.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,340nm,19.4s,MS4.6
GYA LR LR
comp=E,370nm,19.0s,MS4.6
GYA LR LR
comp=Z,350nm,18.8s,MS4.5
BJI Beijing 56.30 63 P **P 21 29 24.8 -3.6**
BJI pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BJI MLR MLR
comp=Z,190nm,23.1s,MS4.1
BJI Beijing 56.30 63 P **P 21 29 24.8 -3.6**
comp=Z,4.0nm,1.0s,mb4.4
BJI S S 21 37 44.1 +26
BJI SS SS 21 41 34.4 +30
BJI LR LR
comp=Z,190nm,23.1s,MS4.1
OPO Ambohidratompo 58.04 173 P **P 21 29 43.8 +3.0**
comp=Z,5.3nm,0.8s,mb4.6,baz=316,slow=5.0,SNR=6.5
CN2 Changchun 60.79 56 *e*P **P 21 30 00.5 +0.8**
NJ2 Nanjing 62.01 70 *e*P **P 21 30 05.9 -2.0**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.6
MDJ Mudanjiang 63.01 53 P **P 21 30 15.1 +0.5**
MDJ PP PP 21 32 32.1 -1.1
MDJ S **S 21 38 46.7 +2.5**
MDJ SS SS 21 42 52.2 +2.4
MDJ AMB AMB
comp=Z,5.0nm,2.3s,mb4.2
MDJ AMB AMB
comp=Z,100nm,5.0s
MDJ LR LR
comp=N,155nm,27.5s,MS4.1
MDJ LR LR
comp=E,95nm,26.4s,MS4.1
MDJ LR LR
comp=Z,103nm,21.2s
SEY Seymchan 64.40 28 *e*P **P 21 30 24.0 +0.2**
BILL Bilibino 65.35 20 *e*P **P 21 30 29.3 -0.7**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.1
LBTB Lobatse 65.67 195 *e*P **P 21 30 34.2 +2.1**
LBTB pmax pmax
comp=Z,11nm,0.7s,mb5.0
LBTB Lobatse 65.67 195 *e*P **P 21 30 34.2 +2.1**
comp=Z,11nm,0.7s,mb5.0
BOSA Boshof 69.24 195 P **P 21 30 54.9 +0.3**
comp=Z,6.5nm,0.8s,mb4.6,baz=24,slow=6.3,SNR=9.1
BOSA LR LR 22 01 23.7
comp=Z,163nm,18.1s,MS4.3,baz=17,slow=36
BOSA Boshof 69.24 195 P **P 21 30 54.9 +0.3**
BOSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BOSA MLR MLR
comp=Z,163nm,18.1s,MS4.3
MJAR Matsushiro Arr 72.91 57 P **P 21 31 16.6 -0.3**
comp=Z,1.9nm,0.8s,mb4.1,baz=313,slow=8.1,SNR=6.1
MJAR LR LR 22 06 18.3
comp=Z,254nm,19.4s,MS4.5,baz=295,slow=38
MJAR Matsushiro Arr 72.91 57 P **P 21 31 16.6 -0.3**
MJAR pmax pmax
comp=Z,20nm,0.8s
MJAR MLR MLR
comp=Z,254nm,19.5s
MJAR Matsushiro Arr 72.91 57 P **P 21 31 16.6 -0.3**
MJAR LR LR 22 06 18.3
COLA College 75.79 4 *e*P **P 21 31 33.8 +0.1**
COLA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
COLA College 75.79 4 *e*P **P 21 31 33.8 +0.2**
comp=Z,10nm,0.9s,mb4.8
JHJ Hachijo jima 2 76.01 59 LR LR 22 05 49.3
comp=Z,109nm,21.9s,MS4.1,baz=355,slow=36
EGAK Eagle 76.09 1 *e*P **P 21 31 35.6 +0.2**
comp=Z,12nm,0.9s,mb4.8
YKA Yellowknife Ar 76.47 348 P **P 21 31 37.4 -0.1**
comp=Z,8.4nm,0.9s,mb4.7,baz=21,slow=5.8,SNR=7.9
YKA LR LR 22 06 27.9
comp=Z,73nm,21.8s,MS4.0,baz=225,slow=37
YKA Yellowknife Ar 76.47 348 P **P 21 31 37.4 -0.1**
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA MLR MLR
comp=Z,73nm,21.8s
DAWY Dawson 76.82 0 *e*P **P 21 31 38.8 -0.7**
DAWY *e* pP 21 31 42.4 -2.8
MCK McKinley 76.86 4 *e*P **P 21 31 39.6 -0.2**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MCK McKinley 76.86 4 *e*P **P 21 31 39.6 -0.1**
comp=Z,7.1nm,1.2s,mb4.5
SML Sawmill 78.82 4 *e*P **P 21 31 50.7 +0.1**
SLKM Skilak Lake 79.98 5 P **P 21 31 57.1 +0.1**
EDM Edmonton 85.00 345 *e*P **P 21 32 23.3 +0.1**
TKL Tuckaleechee C 89.41 318 LR LR 22 13 47.9
comp=Z,90nm,19.6s,MS4.2,baz=33,slow=36
NEW Newport 90.47 345 LR LR 22 12 31.2
comp=Z,85nm,20.1s,MS4.2,baz=237,slow=35
NEW Newport 90.47 345 *e*P **P 21 32 50.1 +0.7**
NEW *e* pP 21 32 53.4 -1.8
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 90.47 345 *e*P **P 21 32 50.1 +0.7**
comp=Z,18nm,1.0s,mb5.4
NEW *e* pP 21 32 53.4 -1.8
CHMT Chamberlain Mo 90.92 342 *e*P **P 21 32 51.8 +0.2**
PDAR Pinedale Array 93.83 339 LR LR 22 17 03.1
comp=Z,100nm,19.3s,MS4.3,baz=173,slow=37
QSPA South Pole Qui 129.29 180 *e*P PKPdf 21 38 54.1 -2.0

NAO ***01*** *21:25:15.6,3020N×4866E,h33km,mb4.2*
IDC ***01*** *21:25:32.5±1.0,3233N×4722E,h0km,mb4.0/13, mb1 4.1/20,mb1mx4.0/29,mbtmp4.0/20,ML3.2/7,MS3.7/2, Ms1 3.7/2,ms1mx3.1/38,Error ellipse: s-maj=19.7km s-min=14.6km az=165.0*
NEIC ***01*** *21:25:33.3±0.4,3223N×4718E,h10km,mb4.4/14, ML4.1(THR),Error ellipse: s-maj=7.8km s-min=4.1km az=181.0*
ISCJB ***01*** *21:25:35.8±0.6,3230N±004×47.19E±004,h42km±7km, mb4.3/30,MS3.5/1,Error ellipse: s-maj=6.8km s-min=6.1km az=144.0*
CSEM ***01*** *21:25:35.4±0.1,3220N×47.18E,h45km,mb4.3/23,Error ellipse: s-maj=3.7km s-min=1.6km az=170.0*
MOS ***01*** *21:25:35.5±0.8,3238N×47.13E,h33km,mb4.4/18,Error ellipse: s-maj=10.8km s-min=7.1km az=125.3*
THR ***01*** *21:25:39.3±0.5,3234N×4752E,h44km±3km,ML4.1*
ISC 01 21:25:34.6±1.2,3233N±003×4720E±004,h15km±8km, n117,₀0°78/118,mb4.3/30,MS3.5/1,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.38**	**99**	*e*Pg	**Pg**	**21 26 00.3**	**-0.8**
SHGR				AML	AML	21 26 23.1	
	comp=N,9μm,0.8s						
SHGR				AML	AML	21 26 26.2	
	comp=E,10μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.38**	**99**	*e*Pg	**Pg**	**21 26 00.0**	**-1.1**
MIB	**Mutribah**	**2.52**	**177**	*e*P	**Pn**	**21 26 15.6**	**+0.6**
MIB				AML	AML	21 26 47.5	
	comp=Z,400nm,0.4s						
BHD Baghdad 2.55 292 *i* x x 21 26 18.5
BHD *i* x x 21 26 27.0
BHD *i* x x 21 26 48.5
BHD *i* x x 21 27 01.5
SNGE Sanandaj 2.76 3 *e*Pn **Pn 21 26 22.4 +4.2**
SNGE *e*Sg **Sg 21 27 03.7 +0.5**
SNGE AML AML 21 27 15.7
comp=E,554nm,0.8s
SNGE AML AML 21 27 18.8
comp=N,761nm,0.7s
SNGE Sanandaj 2.76 3 *e*Pn **Pn 21 26 22.0 +3.8**
SNGE *e*Sg **Sg 21 27 03.0 -0.2**
SNGE Sanandaj 2.76 3 *e*Pn **Pn 21 26 22.4 +4.2**
SNR=54
SNGE *e*Sg **Sg 21 27 03.7 +0.5**
SNR=96
UMR Umm Al-Rimmam 2.80 171 *e*P **Pn 21 26 19.1 +0.2**
UMR AML AML 21 26 56.3
comp=Z,268nm,0.3s
RST Umm Al-Ruwaisa 2.83 184 *e*P **Pn 21 26 19.2 +0.1**
RST AML AML 21 26 57.4
comp=Z,218nm,0.5s
NAY Al-Naaiem 3.07 179 *e*P **Pn 21 26 22.5 0.0**
NAY AML AML 21 27 04.0
comp=Z,100nm,0.7s
KBD Kabd 3.17 172 *e*P **Pn 21 26 24.0 +0.1**
KBD AML AML 21 27 02.7
comp=Z,433nm,0.3s
ASAO Ashtian 3.24 46 *e*Pn **Pn 21 26 26.7 +1.9**
ASAO AML AML 21 27 37.1
comp=N,196nm,0.5s
ASAO AML AML 21 27 41.9
comp=E,156nm,0.4s
ASAO Ashtian 3.24 46 *e*Pn **Pn 21 26 26.0 +1.2**
RDF Al-Radifah 3.41 175 *e*P **Pn 21 26 27.4 +0.2**
RDF AML AML 21 27 08.8
comp=Z,127nm,0.4s
QRN Al-Qurain 3.63 170 *e*P **Pn 21 26 30.4 +0.2**
QRN AML AML 21 27 14.9
comp=Z,264nm,0.3s
NASN Na'in 4.76 83 *e*Pn **Pn 21 26 46.7 +1.0**
NASN Na'in 4.76 83 *e*Pn **Pn 21 26 46.0 +0.3**
CHTH Charan 4.83 41 *e*Pn **Pn 21 26 48.7 +2.0**
CHTH Charan 4.83 41 *e*Pn **Pn 21 26 48.0 +1.3**
DAMV Damavand 5.15 49 *e*Pn **Pn 21 26 52.0 +1.4**
DAMV Damavand 5.15 49 *e*Pn **Pn 21 26 52.0 +0.9**
MSL Mosul 5.21 320 *ex* x 21 26 55.0
MSL *ex* x 21 27 07.0
MSL *ex* x 21 28 07.0
MSL *ex* x 21 28 21.0
GNI Garni 8.05 346 Pn **Pn 21 27 34.7 +3.8**
comp=Z,0.0nm,0.3s,baz=36,slow=21,SNR=1.8
ASF Jabal al Asfar 8.73 272 Pn **Pn 21 27 39.6 -0.6**
comp=Z,0.7nm,0.3s,baz=200,slow=23,SNR=5.8
ASF Sn **Sn 21 29 26.7 +8.4**
comp=Z,0.8nm,0.3s,baz=312,slow=18,SNR=4.1
ASF Lg 21 30 16.2
comp=Z,2.8nm,0.3s,baz=160,slow=21,SNR=6.6
ASF Jabal al Asfar 8.73 272 P **Pn 21 27 39.6 -0.6**
ASF 21 29 26.7
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF smax
comp=N,1.0nm,0.3s
MMAI Mount Meron Ar 9.97 277 Pn **Pn 21 27 57.9 +0.7**
comp=N,0.4nm,0.3s,baz=95,slow=16,SNR=3.3
MMAI Lg 21 30 49.4
comp=N,1.6nm,0.3s,baz=110,slow=22,SNR=4.4
BRTR Keskin Array B 13.22 308 Pn **Pn 21 28 41.8 +0.2**
comp=N,0.0nm,0.3s,baz=123,slow=9.2,SNR=3.1
WSAR Wadi Sarin 13.57 129 Pn **Pn 21 28 44.3 -2.1**
comp=N,1.4nm,0.3s,baz=302,slow=13,SNR=13
IDI Anoyia 18.77 285 P **Pn 21 29 54.1 +0.5**
comp=N,1.1nm,0.3s,baz=216,slow=15,SNR=6.6
AKTK Aktyubinsk 19.79 21 P **Pn 21 30 04.5 -1.3**
AKTK LR LR 21 40 27.8
AKTK Aktyubinsk 19.79 21 P **Pn 21 30 04.5 -1.3**
comp=N,240nm,19.2s
AKTO Aktyubinsk 19.79 21 P **Pn 21 30 04.5 -1.3**
comp=N,0.4nm,0.3s,baz=217,slow=12,SNR=9.2
AKTO LR LR 21 40 27.8
comp=N,240nm,19.2s,baz=41,slow=45
MLR Muntele Rosu 21.05 315 P **P 21 30 18.9 +1.0**
comp=N,2.5nm,0.7s,mb3.7,baz=137,slow=19,SNR=2.7
MLR Muntele Rosu 21.05 315 P **P 21 30 18.9 +1.0**
MLR pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 22.66 329 P **P 21 30 33.6 -1.5**
comp=Z,3.8nm,0.6s,mb4.0,baz=136,slow=9.8,SNR=22
AKASG Malin Array Be 22.66 329 P **P 21 30 33.6 -1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
ZRNK Zerenda 25.93 31 *e*P **P 21 31 06.0 -0.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
ZRNK Zerenda 25.93 31 *e*P **P 21 31 06.0 -0.2**
comp=Z,2.1nm,0.9s,mb3.7
ZRNK Zerenda 25.93 31 *e*P **P 21 31 06.0 -0.1**
comp=Z,2.0nm,0.9s,mb3.6
BRVK Borovoye 26.57 32 P **P 21 31 09.9 -2.0**
BRVK pmax pmax
comp=Z,7.0nm,1.3s,mb4.0
BRVK Borovoye 26.57 32 P **P 21 31 09.9 -2.0**
comp=Z,7.0nm,1.3s,mb4.0
BRVK Borovoye 26.57 32 P **P 21 31 09.9 -2.0**
comp=Z,7.0nm,1.3s,mb4.0
BVAR Borovoye Array 26.59 32 P **P 21 31 12.2 +0.1**
comp=Z,1.6nm,0.4s,mb3.9,baz=224,slow=9.0,SNR=14
BVAR Borovoye Array 26.59 32 P **P 21 31 12.2 +0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
CHKZ Chkalovo 27.13 31 *e*P **P 21 31 17.4 +0.5**
comp=Z,1.1nm,0.7s,mb3.5
CHKZ Chkalovo 27.13 31 *e*P **P 21 31 17.4 +0.4**
comp=Z,1.1nm,0.7s,mb3.5
VRAC Vranov 28.44 316 LR LR 21 43 08.8
comp=Z,119nm,20.6s,MS3.5,baz=332,slow=37
MKAR Makanchi Array 30.38 51 P **P 21 31 46.4 +0.5**
comp=Z,1.0nm,0.7s,mb3.7,baz=246,slow=9.5,SNR=4.2
MKAR Makanchi Array 30.38 51 P **P 21 31 46.4 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KOLN Koldanda 31.73 89 *e*P **P 21 31 58.8 +1.0**
PGF Pioggiola 31.76 300 *e*P **P 21 31 58.1 0.0**
comp=Z,67nm,1.1s,mb5.1
PGF Pioggiola 31.76 300 *e*P **P 21 31 58.1 0.0**
comp=Z,34nm,1.1s,mb5.1
FINES FINESS Array B 32.20 341 P **P 21 32 01.8 -0.1**
comp=Z,2.8nm,0.8s,mb4.1,baz=148,slow=9.6,SNR=5.9
FINES FINESS Array B 32.20 341 P **P 21 32 01.8 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 32.23 346 *e*p **P 21 32 02.2 0.0**
GKN Gorkha 32.54 88 *e*P **P 21 32 04.5 -0.4**
comp=Z,7.2nm,0.6s,mb4.8
KAF Kangasniemi 32.69 342 *e*p **P 21 32 07.1 +0.9**
SBF Sospel 33.05 302 *e*P **P 21 32 09.3 -0.1**
comp=Z,41nm,1.0s,mb5.0
SBF Sospel 33.05 302 *e*P **P 21 32 09.3 -0.1**
SBF pmax pmax
comp=Z,21nm,1.0s,mb5.0
SBF Sospel 33.05 302 *e*P **P 21 32 09.3 -0.1**
comp=Z,20nm,1.0s,mb5.0
DMN Daman 33.06 88 *e*P **P 21 32 09.0 -0.4**
comp=Z,5.8nm,0.5s,mb4.8
KKN Kakani 33.15 88 *e*P **P 21 32 10.4 +0.1**
comp=Z,9.8nm,0.8s,mb4.8
GUN Gumba 33.62 87 *e*P **P 21 32 13.0 -1.4**
MBDF Montbardon 33.63 303 *e*P **P 21 32 14.8 +0.4**
comp=Z,34nm,1.4s,mb4.8
MBDF Montbardon 33.63 303 *e*P **P 21 32 14.8 +0.4**
MBDF pmax pmax
comp=Z,17nm,1.4s,mb4.8
MBDF Montbardon 33.63 303 *e*P **P 21 32 14.8 +0.4**
comp=Z,17nm,1.4s,mb4.8
LPG La Plagne 33.75 305 *e*P **P 21 32 15.4 -0.1**
comp=Z,10nm,0.8s,mb4.5
LPG La Plagne 33.75 305 *e*P **P 21 32 15.4 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 33.75 305 *e*P **P 21 32 15.4 -0.1**
comp=Z,5.1nm,0.8s,mb4.5
LPL La Plagne 33.77 305 *e*P **P 21 32 15.5 -0.1**
comp=Z,4.6nm,0.8s,mb4.3
LPL La Plagne 33.77 305 *e*P **P 21 32 15.5 -0.1**
LPL pmax pmax

comp=Z,2.0nm,0.6s,mb4.2
LPL La Plagne 33.77 305 eP P 21 32 15.5 -0.1
comp=Z,2.3nm,0.6s,mb4.3
CDF Champ du Feu 33.96 310 eP P 21 32 17.2 -0.1
HINF Hinteralfeld 34.10 309 eP P 21 32 18.4 -0.1
comp=Z,3.5nm,0.7s,mb4.1
HINF Hinteralfeld 34.10 309 eP P 21 32 18.4 -0.1
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
HINF Hinteralfeld 34.10 309 eP P 21 32 18.4 -0.1
comp=Z,1.8nm,0.7s,mb4.1
ZAL Zalesovo 34.33 40 P P 21 32 20.5 0.0
comp=Z,2.1nm,0.6s,mb4.3,baz=249,slow=4.2,SNR=4.6
ZAL Zalesovo 34.33 40 P P 21 32 20.5 0.0
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL Zalesovo 34.33 40 P P 21 32 20.5 0.0
CABF La Chapelle 34.38 307 eP P 21 32 21.0 0.0
comp=Z,18nm,0.8s,mb4.7
CABF La Chapelle 34.38 307 eP P 21 32 21.0 0.0
CABF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CABF La Chapelle 34.38 307 eP P 21 32 21.0 0.0
comp=Z,8.8nm,0.8s,mb4.7
HAU Haudompre 34.47 309 eP P 21 32 21.5 -0.2
VIVF Saint-Julien-l 35.13 303 eP P 21 32 26.3 -1.1
comp=Z,34nm,1.3s,mb4.8
VIVF Saint-Julien-l 35.13 303 eP P 21 32 26.3 -1.1
VIVF pmax pmax
comp=Z,17nm,1.3s,mb4.8
VIVF Saint-Julien-l 35.13 303 eP P 21 32 26.3 -1.1
comp=Z,17nm,1.3s,mb4.8
MEZF Maizieres J'vi 35.42 310 eP P 21 32 29.6 -0.3
HFS Hagfors 35.50 332 P P 21 32 30.6 0.0
comp=Z,13nm,0.7s,mb5.0,baz=125,slow=9.8,SNR=25
HFS Hagfors 35.50 332 P P 21 32 30.6 0.0
HFS pmax pmax
comp=Z,13nm,0.7s
HFS Hagfors 35.50 332 P P 21 32 30.6 0.0
SMF Signal de Mont 35.92 306 eP P 21 32 33.7 -0.5
comp=Z,7.4nm,0.7s,mb4.4
SMF Signal de Mont 35.92 306 eP P 21 32 33.7 -0.5
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 35.92 306 eP P 21 32 33.7 -0.5
comp=Z,3.7nm,0.7s,mb4.4
LOR Lormes 36.00 307 eP P 21 32 34.7 -0.2
SSF Saint Saulge 36.20 307 eP P 21 32 36.2 -0.5
comp=Z,8.0nm,0.8s,mb4.4
SSF Saint Saulge 36.20 307 eP P 21 32 36.2 -0.5
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 36.20 307 eP P 21 32 36.2 -0.5
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 36.27 306 eP P 21 32 36.9 -0.3
MTLF Montolieu 36.79 301 eP P 21 32 41.1 -0.5
NB2 NORSAR Subarra 37.03 332 P P 21 32 42.6 -1.1
comp=Z,4.3nm,1.0s,mb4.2,baz=124,slow=8.6
NOA NORSAR Array B 37.03 332 P P 21 32 42.9 -0.7
comp=Z,2.4nm,0.7s,mb4.1,baz=125,slow=8.6,SNR=8.4
NOA NORSAR Array B 37.03 332 P P 21 32 42.9 -0.8
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 37.03 332 P P 21 32 42.9 -0.7
RJF Les Rejaudoux 37.39 304 eP P 21 32 46.4 -0.4
LSA Lhasa 37.56 82 eP P 21 32 48.9 +0.7
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LSA Lhasa 37.56 82 eP P 21 32 48.9 +0.7
comp=Z,3.0nm,0.6s,mb4.2
LSA Lhasa 37.56 82 eP P 21 32 48.9 +0.7
comp=Z,3.0nm,0.6s,mb4.2
ETSF Etsaut 38.81 300 eP P 21 32 58.3 -0.4
ARCES ARCESS Array B 39.20 348 P P 21 33 03.3 +1.3
comp=Z,2.2nm,0.8s,mb4.0,baz=155,slow=4.0,SNR=6.9
ARCES ARCESS Array B 39.20 348 P P 21 33 03.3 +1.3
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 41.57 295 P P 21 33 22.3 +0.7
comp=Z,0.2nm,0.5s,baz=77,slow=9.4,SNR=2.3
EVO Evora 44.85 294 eP P 21 33 48.9 +0.8
comp=Z,11nm,1.1s,mb4.3
TORD Torodi Ar. Bea 45.71 256 P P 21 33 54.9 0.0
comp=Z,0.7nm,0.5s,mb3.9,baz=75,slow=7.7,SNR=12
TORD Torodi Ar. Bea 45.71 256 P P 21 33 54.9 0.0
SONM Songino Array 46.73 53 P P 21 34 02.6 -0.4
comp=Z,0.3nm,0.6s,mb3.4,baz=285,slow=6.6,SNR=4.0
BOSA Boshof 64.10 201 P P 21 36 09.6 +1.6
comp=Z,5.4nm,1.1s,mb4.5,baz=34,slow=7.3,SNR=3.5
BOSA Boshof 64.10 201 P P 21 36 09.6 +1.6
BOSA pmax pmax
comp=Z,5.0nm,1.1s,mb4.5

ISCJB 01 21:46:47.4±0.4, 9.12S±0.07×158.73E±0.06, h10km, mb4.7/22, MS3.8/10, Error ellipse: s-maj=9.6km s-min=8.9km az=169.7
IDC 01 21:46:47.3±0.7, 9.06S×158.70E, h0km, mb4.4/8, mb1 4.4/10, mb1mx4.4/14, mbtmp4.4/10, ML3.9/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/27, Error ellipse: s-maj=20.2km s-min=12.2km az=15.0
NEIC 01 21:46:48.7±0.4, 9.06S×158.73E, h10km, mb4.7/12, Error ellipse: s-maj=9.0km s-min=7.8km az=153.0
ISC 01 21:46:49.1±0.4, **9.09S**±0.07×**158.78E**±0.06, **h10**km, **n47**, σ**0.79**/36, **mb4.7**/22, **MS3.8**/10, **Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
HNR Honiara 1.20 107 Pg Pg 21 47 11.7 -0.5
3μm,0.3s,baz=262,slow=4.3,SNR=364
HNR Lg 21 47 28.8
5μm,0.3s,baz=269,slow=14,SNR=21
PMG Port Moresby 11.48 267 LR LR 21 52 56.1
comp=Z,111nm,20.4s,baz=86,slow=32
DZM Mont Dzumac 14.86 151 Pn Pn 21 50 19.8 +0.5
0.2nm,0.3s,baz=270,slow=18,SNR=3.6
DZM LR LR 21 55 19.8
comp=Z,525nm,18.3s,baz=43,slow=34
CTA Charters Tower 16.31 227 eP Pn 21 50 36.2 -2.0
11nm,0.8s
CTA Charters Tower 16.31 227 Pn Pn 21 50 36.5 -1.7
0.6nm,0.3s,baz=35,slow=11,SNR=6.7
CTA LR LR 21 54 40.1
comp=Z,98nm,20.1s,baz=46,slow=29
CTAO Charters Tower 16.31 227 eP Pn 21 50 36.8 -1.4
14nm,0.8s
ARMA Armidale 22.25 196 eP P 21 51 48.5 +2.5
WB2 Warramunga Arr 25.96 243 eP P 21 52 21.3 -0.4
WRA Warramunga Arr 25.97 243 P P 21 52 21.3 -0.4
4.3nm,0.7s,mb4.1,baz=70,slow=10.0,SNR=33
WRA PcP PcP 21 55 50.6 +0.5
1.0nm,0.7s,baz=74,slow=2.5,SNR=5.7
KAKA Kakadu 26.11 260 eP P 21 52 22.7 -0.4
15nm,0.6s,mb4.7
STKA Stephens Creek 27.73 213 eP P 21 52 38.7 +1.1
4.0nm,0.5s,mb4.3
STKA eS S 21 57 30.7 +11
STKA Stephens Creek 27.73 213 P P 21 52 37.8 +0.2
3.8nm,0.5s,mb4.3,baz=41,slow=11,SNR=12
STKA LR LR 22 03 58.8
comp=Z,190nm,18.3s,MS3.7,baz=202,slow=37
AS31 Alice Springs 27.85 236 eP P 21 52 38.9 +0.1
ASAR Alice Springs 27.85 236 P P 21 52 37.8 -1.0
0.9nm,0.7s,baz=61,slow=9.8,SNR=13
ASAR PcP PcP 21 55 54.5 0.0
0.8nm,0.7s,baz=72,slow=2.5,SNR=3.6
ASAR LR LR 22 03 19.7
comp=Z,131nm,18.4s,MS3.5,baz=242,slow=36
ASPA Alice Springs 27.86 236 eP P 21 52 38.9 +0.1
AFI Afiamalu 29.23 102 LR LR 22 02 26.0
comp=Z,232nm,18.3s,MS3.8,baz=330,slow=32
FITZ Fitzroy Crossi 33.39 251 eP P 21 53 26.5 -1.1
5.3nm,0.5s,mb4.7
URZ Urewera 33.41 153 P P 21 53 27.7 -0.1
6.1nm,0.6s,mb4.7,baz=304,slow=7.3,SNR=4.4
URZ LR LR 22 04 26.3
comp=Z,303nm,19.5s,MS4.0,baz=168,slow=32
FORT Forrest 35.85 229 eP P 21 53 48.6 -0.3
15nm,0.9s,mb4.9
RPZ Rata Peaks 36.12 165 LR LR 22 07 12.2
comp=Z,117nm,18.2s,MS3.7,baz=237,slow=34
RAR Rarotonga 41.65 112 LR LR 22 08 57.2
comp=Z,147nm,19.6s,MS3.9,baz=345,slow=32
PPT Papeete 50.82 105 LR LR 22 11 35.4
comp=Z,170nm,21.1s,MS4.0,baz=260,slow=29
VNDA Vanda 68.43 179 P P 21 57 51.3 +0.2
4.1nm,0.8s,mb4.5,baz=343,slow=6.5,SNR=29
SONM Songino Array 73.13 326 P P 21 58 20.5 +0.8
5.6nm,0.7s,mb4.6,baz=137,slow=5.9,SNR=55
SONM LR LR 22 31 27.2
comp=Z,43nm,18.6s,MS3.8,baz=3.7,slow=37
LSA Lhasa 75.54 304 P P 21 58 34.9 +1.2
11nm,1.4s,mb4.6
BILL Bilibino 77.12 3 eP P 21 58 42.4 -0.3
15nm,0.9s,mb4.9
SVW2 Sparrevohn 78.56 21 eP P 21 58 50.9 +0.1
JIRN Jiri 79.07 300 eP P 21 58 54.5 +1.0
10.0nm,0.8s,mb4.8
GUN Gumba 79.40 301 eP P 21 58 56.0 +0.6
17nm,0.8s,mb5.0
PKI Pulchoki 79.71 300 eP P 21 58 57.2 +0.2
KKN Kakani 79.88 300 eP P 21 58 58.4 +0.4
10nm,0.7s,mb4.8
DMN Daman 79.98 300 eP P 21 58 59.4 +0.9
21nm,0.8s,mb5.1
GKN Gorkha 80.48 300 eP P 21 59 01.6 +0.4
35nm,1.1s,mb5.2
QSPA South Pole Qui 80.90 180 eP P 21 59 03.5 0.0
6.1nm,0.9s,mb4.5
KOLN Koldanda 81.31 300 eP P 21 59 05.6 0.0
19nm,0.8s,mb5.1
MCK McKinley 82.63 21 P P 21 59 11.1 -1.5
6.9nm,0.9s,mb4.7
COLA College 83.70 20 eP P 21 59 16.7 -1.4
9.6nm,0.8s,mb5.0
MAW Mawson 83.92 203 P P 21 59 19.4 +0.2
1.3nm,0.8s,mb4.1,baz=74,slow=9.3,SNR=2.8
EGAK Eagle 86.02 22 eP P 21 59 30.1 +0.3
7.1nm,1.1s,mb4.8
MKAR Makanchi Array 87.45 318 P P 21 59 36.1 -0.6
1.7nm,0.5s,mb4.5,baz=98,slow=6.0,SNR=26
ZAL Zalesovo 88.02 325 LR LR 22 39 24.1
comp=Z,41nm,19.6s,MS3.9,baz=268,slow=36
BVAR Borovoye Array 96.22 323 LR LR 22 42 44.2
comp=Z,57nm,20.4s,MS4.0,baz=301,slow=35
AKASG Malin Array Be 121.40 325 PKP PKPdf 22 05 40.6 -2.0
0.6nm,0.4s,baz=49,slow=2.6,SNR=4.7
NB2 NORSAR Subarra 122.87 342 PKPdf PKPdf 22 05 43.9 -1.5
comp=Z,4.1nm,1.1s,baz=39,slow=1.7
LPAZ La Paz 127.17 118 PKhKP 22 05 50.1
comp=Z,0.9nm,0.6s,baz=342,slow=6.4,SNR=4.4
LPAZ PKP PKPdf 22 05 55.4 +1.7
comp=Z,1.4nm,0.8s,baz=315,slow=2.9,SNR=6.0
GERES GERESS Array B 130.75 330 PKP PKPdf 22 06 01.0 +0.6
comp=Z,1.0nm,0.6s,baz=70,slow=1.6,SNR=4.5
ESDC Sonseca Array 145.86 336 PKPbc PKPbc 22 06 27.3 -1.3
comp=Z,0.2nm,0.5s,baz=26,slow=3.1,SNR=3.7

NEIC 01 21:58:58.7, 28.87S×71.26W, h46km, MG3.7(GUC), After GUC.
GUC 01 21:58:58.7±0.7, **28.87S×71.26W**, **h46**km±3km, **ML3.7**, **7C-2D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
VACH Vallenar 0.53 56⇑ iP Pn 21 59 10.5 +0.5
VACH iS Sn 21 59 19.0 +0.9
VACH AML AML 21 59 20.4
comp=N,18μm,0.4s
VACH Vallenar 0.53 56⇑ iP Pn 21 59 10.5 +0.5
VACH iS Sn 21 59 19.0 +0.9
TLL Tololo Astrono 1.35 163⇓ iP Pn 21 59 22.9 +1.8
TLL iS Sn 21 59 40.5 +2.7
TLL AML AML 21 59 46.8
comp=E,858nm,0.4s
TLL Tololo Astrono 1.35 163⇓ iP Pn 21 59 22.9 +1.8
TLL iS Sn 21 59 40.5 +2.7
CPCH Copiapo 1.71 28 eP Pn 21 59 26.7 +0.8
CPCH iS Sn 21 59 47.9 +1.3
CPCH AML AML 21 59 53.7
comp=E,4μm,0.1s
CPCH Copiapo 1.71 28 eP Pn 21 59 26.7 +0.8
CPCH iS Sn 21 59 47.9 +1.3
OVCH Ovalle 1.73 178⇑ iP Pn 21 59 26.8 +0.5
OVCH iS Sn 21 59 48.3 +1.1
OVCH AML AML 22 00 02.1
comp=N,372nm,0.3s
OVCH Ovalle 1.73 178⇑ iP Pn 21 59 26.8 +0.5
OVCH iS Sn 21 59 48.3 +1.1
CDCH Caldera 1.83 12⇑ iP Pn 21 59 26.7 -1.0
CDCH iS Sn 21 59 47.0 -2.6
CMCH Combarbala 2.31 175⇑ iP Pn 21 59 34.7 +0.5
CMCH iS Sn 22 00 02.6 +1.3
CMCH AML AML 22 00 14.9
comp=E,990nm,2.4s
CMCH Combarbala 2.31 175⇑ iP Pn 21 59 34.7 +0.5
CMCH iS Sn 22 00 02.6 +1.3

IDC 01 22:02:20.2±1.4, **4.42N×96.02E**, **h0**km, **mb3.5**/4, **mb1 3.6**/5, **mb1mx3.4**/20, **mbtmp3.4**/5, **ML3.2**/1, **Error ellipse: s-maj=68.0km s-min=23.3km az=46.0, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PSI Prapat 3.32 119 Pn Pn 22 03 15.6 +2.3
2.3nm,0.3s,baz=302,slow=17,SNR=14
MKAR Makanchi Array 43.85 346 P P 22 10 28.1 0.0
0.2nm,0.4s,baz=172,slow=6.9,SNR=4.0
WRA Warramunga Arr 44.77 124 P P 22 10 34.8 -0.6
0.4nm,0.5s,baz=302,slow=9.2,SNR=8.0
ASAR Alice Springs 46.30 129 P P 22 10 48.3 +0.8
0.4nm,0.5s,baz=312,slow=8.0,SNR=5.2
TORD Torodi Ar. Bea 93.21 283 P P 22 15 37.4 +1.0
0.2nm,0.6s,baz=90,slow=5.6,SNR=4.3

ISCJB 01 22:31:19.7±0.3, 5.78N±0.05×36.99E±0.06, h10km, mb4.3/28, MS3.7/13, Error ellipse: s-maj=8.8km s-min=6.2km az=47.6
MOS 01 22:31:19.6±1.0, 5.76N×37.08E, h10km, mb4.7/11, Error ellipse: s-maj=19.7km s-min=7.8km az=81.2
IDC 01 22:31:19.8±0.7, 5.83N×36.99E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/25, mbtmp4.1/16, ML3.5/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/22, Error ellipse: s-maj=19.7km s-min=13.5km az=98.0
NEIC 01 22:31:21.4±0.3, 5.78N×36.98E, h10km, mb4.4/13, Error ellipse: s-maj=10.3km s-min=6.6km az=93.0
ISC 01 22:31:23.0±2.9, **5.78N**±0.05×**36.99E**±0.06, **h18**km±18km, **n68**, σ**1.03**/67, **mb4.3**/28, **MS3.7**/13, **1C-1D, Ethiopia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WNDE Wendo Genet 2.10 51 eP Pn 22 31 53.1 -4.1
WNDE S Sn 22 32 21.8 -1.0
FURI Furi 3.52 28 eP Pn 22 32 18.1 +1.3
FURI S Sn 22 33 07.4 +9.5
KMBO Kilima Mbogo 6.87 178 Pn Pn 22 33 00.8 -2.0
2.0nm,0.3s,baz=352,slow=14,SNR=47
KMBO Sn Sn 22 34 26.0 +5.6
6.3nm,0.3s,baz=84,slow=21,SNR=4.3
KMBO Lg 22 34 50.4
19nm,0.3s,baz=57,slow=22,SNR=10
KMBO LR LR 22 35 56.5
comp=Z,577nm,19.2s,baz=332,slow=40
KMBO Kilima Mbogo 6.87 178 P Pn 22 33 00.8 -2.0
KMBO 22 34 26.0
KMBO Kilima Mbogo 6.87 178 Pn Pn 22 33 00.8 -2.0
KMBO Sn Sn 22 34 26.0 +5.6
KMBO Lg 22 34 50.4
KMBO LR LR 22 35 56.5
ATD Arta Tunnel 8.13 45 Pn Pn 22 33 20.9 +0.8
0.3nm,0.3s,baz=255,slow=6.6,SNR=13
ATD Lg 22 35 33.8
2.2nm,0.3s,baz=230,slow=22,SNR=4.1
ATD LR LR 22 36 04.1
comp=Z,180nm,20.4s,baz=220,slow=35
ATD Arta Tunnel 8.13 45 Pn Pn 22 33 20.9 +0.7
ATD Lg 22 35 33.8
ATD LR LR 22 36 04.1
MSEY Mahe Island 21.19 119 eP P 22 36 07.5 +0.1
32nm,1.1s,mb4.6
LSZ Lusaka 22.66 203 P P 22 36 24.1 +0.9
5.1nm,1.0s,mb3.9,baz=39,slow=12,SNR=5.6
LSZ LR LR 22 45 51.1
comp=Z,172nm,20.1s,MS3.5,baz=359,slow=38
EIL Elat 23.84 356 eP P 22 36 35.9 +0.7
157nm,1.1s,mb5.4
OPO Ambohidratompo 26.20 158 P P 22 36 58.1 +1.5
7.3nm,1.1s,mb4.1,baz=312,slow=8.1,SNR=4.2
ASF Jabal al Asfar 26.26 360 LR LR 22 46 04.5
comp=Z,71nm,19.3s,MS3.2,baz=235,slow=34
WSAR Wadi Sarin 27.13 48 LR LR 22 47 09.7
comp=Z,135nm,19.0s,MS3.5,baz=243,slow=35
LBTB Lobatse 32.55 199 P P 22 37 53.3 +0.3
LBTB pmax pmax
comp=Z,45nm,1.9s,mb5.1
LBTB Lobatse 32.55 199 P P 22 37 53.2 +0.2
comp=Z,45nm,1.9s,mb5.1
BRTR Keskin Array B 33.93 355 P P 22 38 02.9 -2.2
comp=Z,1.5nm,1.0s,mb3.9,baz=173,slow=11,SNR=6.2
BRTR Keskin Array B 33.93 355⇑ eP P 22 38 06.6 +1.6
BR131 Keskin Array S 33.93 355 eP P 22 38 06.5 +1.5
comp=Z,0.5nm,0.5s,mb3.7
TORD Torodi Ar. Bea 35.54 284 P P 22 38 18.1 -0.9
comp=Z,1.8nm,0.9s,mb4.0,baz=101,slow=5.0,SNR=14
TORD LR LR 22 52 50.2
comp=Z,115nm,18.6s,MS3.7,baz=80,slow=36
BOSA Boshof 36.02 198 LR LR 22 52 47.0
comp=Z,78nm,19.0s,MS3.5,baz=26,slow=36
BOSA Boshof 36.02 198 P P 22 38 25.1 +2.1
KIV Kislovodsk 38.35 7 eP P 22 38 44.1 +1.3
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KIV Kislovodsk 38.35 7 eP P 22 38 44.1 +1.3
comp=Z,5.9nm,0.9s,mb4.3
KEST Kesra 39.17 323 LR LR 22 56 48.4
comp=Z,94nm,18.1s,MS3.7,baz=167,slow=39
PSZ Piszkesteto 44.46 344 eP P 22 39 32.6 -0.4
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
PSZ Piszkesteto 44.46 344 eP P 22 39 32.6 -0.3
comp=Z,3.7nm,0.8s,mb4.2
AKASG Malin Array Be 45.24 353 P P 22 39 38.1 -1.1
comp=Z,0.7nm,0.6s,mb3.7,baz=180,slow=7.0,SNR=4.9
AKASG Malin Array Be 45.24 353 iP P 22 39 38.0 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KWP Kalwaria 45.33 347 P P 22 39 40.1 +0.2
MDT Midelt 47.12 310 P P 22 39 55.3 +1.4
comp=Z,2.8nm,0.9s,mb4.2,baz=134,slow=10,SNR=6.9
GERES GERESS Array B 47.24 339 P P 22 39 55.3 +0.3
comp=Z,0.8nm,0.9s,mb3.7,baz=170,slow=9.2,SNR=5.6
GERES LR LR 23 00 58.9
comp=Z,70nm,19.1s,MS3.6,baz=304,slow=38
KHC Kasperske Hory 47.53 339 eP P 22 39 57.0 -0.2
AKTK Aktyubinsk 47.87 18 P P 22 40 00.4 +0.6
AKTO Aktyubinsk 47.87 18 P P 22 40 00.4 +0.6
comp=Z,5.4nm,0.9s,mb4.6,baz=214,slow=8.1,SNR=16
ORR Orenburg 48.01 15 eP P 22 40 01.3 +0.4
ORR pmax pmax
comp=Z,20nm,1.3s,mb5.0
OBN Obninsk 49.19 360 eP P 22 40 09.3 -0.7
OBN Obninsk 49.19 360 eP P 22 40 09.8 -0.2
comp=Z,3.0nm,0.4s,mb4.7
AAK Ala-Archa 49.46 36 eP P 22 40 13.3 +1.3
AAK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
AAK Ala-Archa 49.46 36 eP P 22 40 13.3 +1.2
comp=Z,0.9nm,0.5s,mb4.1
SFS San Fernando 49.91 314 eP P 22 40 15.8 +0.3
ESDC Sonseca Array 49.94 319 P P 22 40 14.0 -1.7
comp=Z,1.3nm,0.8s,mb4.0,baz=120,slow=7.8,SNR=8.3
ESDC LR LR 23 03 57.1
comp=Z,134nm,18.5s,MS4.0,baz=25,slow=39
ESLA Sonseca Array 49.94 319 eP P 22 40 15.5 -0.2
ARU Arti 53.33 15⇓ iP P 22 40 40.4 -0.6
ARU e 22 42 38.7
ARU ePPP 22 43 44.1
ARU eS S 22 48 13.3 +1.4
ARU eSS SS 22 51 52.4 +0.7
ARU eSSS 22 53 41.5
ARU pmax pmax
comp=Z,17nm,1.4s,mb4.8
ZRNK Zerenda 53.83 23 eP P 22 40 43.0 -1.7
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 53.83 23 eP P 22 40 43.0 -1.8
comp=Z,2.5nm,0.9s,mb4.1
BRVK Borovoye 54.43 24 eP P 22 40 48.1 -1.0
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BRVK Borovoye 54.43 24 eP P 22 40 48.1 -1.0
comp=Z,1.0nm,0.6s,mb3.9
BVAR Borovoye Array 54.44 24 P P 22 40 48.2 -1.0
comp=Z,2.1nm,1.0s,mb4.0,baz=205,slow=6.6,SNR=9.3
CHKZ Chkalovo 55.02 24 eP P 22 40 52.7 -0.7
CHKZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CHKZ Chkalovo 55.02 24 eP P 22 40 52.7 -0.6
comp=Z,3.8nm,1.1s,mb4.3
LSA Lhasa 56.21 58 P P 22 41 02.8 +0.9
MK31 Makanchi Array 56.39 36 eP P 22 41 02.5 -0.7
MKAR Makanchi Array 56.39 36 P P 22 41 01.7 -1.5
comp=Z,3.1nm,0.8s,mb4.4,baz=228,slow=5.0,SNR=25
MKAR LR LR 23 08 08.3
comp=Z,98nm,18.4s,MS3.9,baz=53,slow=39
NOA NORSAR Array B 58.43 346 P P 22 41 17.5 -0.1
comp=Z,6.7nm,1.1s,mb4.6,baz=149,slow=6.9,SNR=4.4
SONM Songino Array 71.96 42 P P 22 42 45.6 +0.3
comp=Z,1.8nm,1.0s,mb4.0,baz=257,slow=3.8,SNR=13
SONM LR LR 23 18 23.4
comp=Z,48nm,18.4s,MS3.8,baz=84,slow=39
ULN Ulaanbaatar 72.40 42 eP P 22 42 49.4 +1.4
ULN Ulaanbaatar 72.40 42 P P 22 42 47.6 -0.4
MAW Mawson 75.49 170 P P 22 43 05.3 -0.8
comp=Z,4.6nm,0.8s,mb4.5,baz=304,slow=8.4,SNR=12
MAW LR LR 23 12 10.2
comp=Z,54nm,19.0s,MS3.9,baz=63,slow=32
MAW Mawson 75.49 170 eP P 22 43 04.2 -1.9
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 75.49 170 eP P 22 43 04.2 -1.9
comp=Z,5.6nm,0.8s,mb4.5
HIA Hailar 80.92 41 eP P 22 43 37.2 +1.0
SNAA Sanae 81.56 192 eP P 22 43 38.5 -1.0
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA Sanae 81.56 192 eP P 22 43 38.5 -1.1
comp=Z,2.1nm,1.0s,mb4.0
NWAO Narrogin (SRO) 84.97 124 eP P 22 43 57.0 -0.2
NWAO pmax pmax
comp=Z,7.0nm,0.9s
NWAO Narrogin (SRO) 84.97 124 eP P 22 43 57.0 -0.2
comp=Z,7.5nm,0.9s,mb4.8
MAJO Matsushiro 95.54 53 P P 22 44 47.5 +0.5
ASAR Alice Springs 98.61 113 LR LR 23 23 59.3
comp=Z,62nm,19.8s,MS4.1,baz=94,slow=32
WRA Warramunga Arr 98.84 109 LR LR 23 23 56.8
comp=Z,57nm,19.3s,MS4.1,baz=260,slow=32

TRN 01 22:44:15.3, 18.02N×60.75W, h35km, **Ml3.6**(FDF), **Leeward Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DEG La Desirade 1.72 190 eP Pn 22 44 44.5 +1.7
LZG Guadaloupe-1 2.11 208 eP Pn 22 44 49.7 +1.6
SCG Saint Claude 2.17 204 eP Pn 22 44 51.0 +2.1
SCG eS Sn 22 45 16.8 +2.2
TBG Guadaloupe-3 2.32 202 eP Pn 22 44 52.7 +1.8

IDC 01 23:46:50.3±4.2, **2.01S×152.83E**, **h0**km, **mb3.8**/2, **mb1 4.0**/2, **mb1mx3.5**/11, **mbtmp3.8**/2, **MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.3**/16, **Error ellipse: s-maj=178.8km s-min=50.2km az=113.0, New Ireland region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WRA Warramunga Arr 25.38 224 P P 23 52 19.9 +0.8
1.0nm,0.5s,baz=48,slow=9.3,SNR=7.8
WRA LR LR 00 02 16.5
comp=Z,21nm,18.9s,baz=255,slow=36
ASAR Alice Springs 28.27 219 P P 23 52 45.0 -0.2
0.4nm,0.4s,baz=49,slow=8.7,SNR=5.5
TORD Torodi Ar. Bea 149.36 293 PKPbc PKPbc 00 06 41.9 +0.8
0.1nm,0.3s,baz=88,slow=2.2,SNR=6.5

MAN 02 00:05:57.8, 11.52N×125.41E, h33km, **mb2.0, ML3.7, MS0.6,**

Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.09**	**21**	*e*P	Pb	00 06 04.3	+0.9
MSLP	**Maasin**	**1.47**	**201**	*e*P	Pn	00 06 22.7	+0.7
SCPH	**Surigao**	**1.73**	**177**	*i* P	Pn	00 06 25.9	+0.5

IDC 02 00:11:34.8±5.2**, 390S**×**10070E, h0km, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.3**/18**, mbtmp3.4**/3**, Error ellipse: s-maj=192.3km s-min=31.6km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.46**	**119**	P	P	00 18 42.0	+0.7
	0.2nm,0.4s,baz=287,slow=7.4,SNR=4.6						
SONM	**Songino Array**	**51.76**	**5**	P	P	00 20 42.4	-1.7
	0.5nm,0.6s,baz=188,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**53.03**	**344**	P	P	00 20 55.1	+1.6
	0.2nm,0.4s,baz=155,slow=7.5,SNR=5.6						

*ISCJB **02** 00:14:36.6±2.3, 2357S±008×1799W±0.1, h461km±32km, mb3.7/8, Error ellipse: s-maj=19.7km s-min=13.0km az=9.4*
*NEIC **02** 00:14:38.0±1.1, 2359S×17990W, h464km±14km, mb3.7/4, Error ellipse: s-maj=13.5km s-min=10.9km az=132.0*
*IDC **02** 00:14:38.4±11.0, 2363S×17986W, h466km±96km, mb3.2/4, mb1 3.4/5, mb1mx3.2/12, mbtmp3.2/5, Error ellipse: s-maj=130.0km s-min=23.4km az=47.0*
ISC 02 00:14:38.1±1.6**, 2369S**±008×**1798W**±01**, h469**km±24km**, n16,** σ**0^{s}61**/15**, mb3.7**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.34**	**39**	P	**P**	**00 17 20.3**	**-0.2**
URZ	**Urewera**	**14.76**	**190**	P	**P**	**00 17 46.9**	**+0.6**
	1.0nm,0.3s,baz=208,slow=5.8,SNR=5.1						
URZ				S	**S**	**00 20 20.8**	**-0.9**
	0.6nm,0.3s,baz=177,slow=11,SNR=3.9						
CTA	**Charters Tower**	**31.64**	**270**	P	**P**	**00 20 22.6**	**+1.2**
	4.3nm,0.4s,mb4.2,baz=98,slow=11,SNR=11						
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**00 21 49.2**	**+0.3**
	0.8nm,0.4s,mb3.5,baz=97,slow=7.2,SNR=12						
WB2	**Warramunga Arr**	**42.58**	**266**	*e*P	**P**	**00 21 51.4**	**-0.2**
WRAB	**Tennant Creek**	**42.58**	**266**	*e*P	**P**	**00 21 51.5**	**-0.1**
	2.5nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**00 21 51.5**	**-0.1**
	1.9nm,0.3s,mb4.0,baz=96,slow=8.4,SNR=121						
KAKA	**Kakadu**	**46.46**	**275**	*e*P	**P**	**00 22 21.2**	**-0.5**
	1.5nm,0.8s,mb3.5						
GUMO	**Guam**	**50.65**	**313**	P	**P**	**00 22 52.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.01**	**265**	*e*P	**P**	**00 22 56.4**	**+0.8**
	3.2nm,1.0s,mb3.6						
VNDA	**Vanda**	**54.61**	**185**	P	**P**	**00 23 21.8**	**+0.4**
	0.4nm,1.0s,mb2.7,baz=357,slow=5.1,SNR=6.4						
MBWA	**Marble Bar**	**55.58**	**260**	*e*P	**P**	**00 23 27.1**	**-1.1**
SNAA	**Sanae**	**84.88**	**179**	P	**P**	**00 26 23.2**	**+0.6**
MCK	**McKinley**	**90.44**	**13**	*e*P	**P**	**00 26 48.6**	**-0.1**
	0.8nm,0.7s,mb3.7						
CHKZ	**Chkalovo**	**120.25**	**320**	*e*PKPdf	PKPdf	00 32 34.8	-0.4
BRVK	**Borovoye**	**120.45**	**319**	PKPdf	PKPdf	00 32 35.2	-0.3

MAN 02 00:20:57.4, 1387N×**12387E, h25km, mb3.0, ML4.3, MS3.1, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.39**	**135**	⇑*i*P	Pb	00 21 07.6	+1.9
PVCP				*i* S	Sb	00 21 14.9	+3.5
PVCP	**Virac**	**0.39**	**135**	*e*P	Pb	00 21 07.5	+1.7
PVCP				*e*S	Sb	00 21 15.4	+3.9
GQP	**Guinayangan**	**1.38**	**272**	⇓*i*P	Pn	00 21 19.4	-1.7
GQP				*i* S	Sn	00 21 36.2	-2.4
BOAC	**Boac**	**2.01**	**258**	*e*P	Pn	00 21 30.0	+0.3
POLP	**Polilio Island**	**2.06**	**295**	*e*P	Pn	00 21 31.1	+0.8
POLP				*e*S	Sn	00 21 56.5	+1.4
OTRP	**Odiongan**	**2.34**	**230**	*e*P	Pn	00 21 35.3	+1.0
BALP	**Baler**	**2.89**	**310**	*e*P	Pn	00 21 42.3	+0.5

*CSEM **02** 00:22:32.0, 6785N×2020E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **02** 00:22:32.0, 6785N×2020E, h0km, ML3.1, Mining explosion.*
HEL 02 00:22:32.8±0.1**, 6786N**×**2016E, h0km, ML2.0, ML3.1**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**35**	*i* P	Pg	00 22 34.6	-0.5
KUA				*i* S	Sg	00 22 36.2	-0.3
NIKU	**Nikkaluokta**	**0.42**	**272**	*i* P	Pg	00 22 40.5	-0.4
NIKU	**Nikkaluokta**	**0.42**	**272**	P	Pg	00 22 40.5	-0.5
LANU	**Lannavaara**	**0.72**	**74**	*i* P	Pg	00 22 45.4	-1.2
LANU	**Lannavaara**	**0.72**	**74**	P	Pg	00 22 45.4	-1.1
	baz=304						
DUNU	**Dundret**	**0.76**	**168**	*i* P	Pg	00 22 45.9	-1.4
DUNU	**Dundret**	**0.76**	**168**	P	Pg	00 22 45.9	-1.4
	baz=76						
SALU	**Saltoluokta**	**0.79**	**233**	*i* P	Pg	00 22 47.1	-0.9
MASU	**Masugnsbyn**	**0.81**	**119**	*i* P	Pg	00 22 47.0	-1.3
MASU	**Masugnsbyn**	**0.81**	**119**	P	Pg	00 22 47.0	-1.4
	baz=281						
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	00 22 54.5	-0.8
KIF				*e*S	Sg	00 23 10.3	-0.3
PAJU	**Pajala**	**1.42**	**125**	*e*P	Pn	00 22 57.6	-2.2
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	00 23 03.1	-1.1
HARU	**Harads**	**1.73**	**169**	P	Pn	00 23 03.1	-1.1
	baz=334						
SJUU	**Sjulsmark**	**2.43**	**166**	*e*P	Pn	00 23 13.8	0.0
SGF	**Sodankyl**	**2.47**	**97**	*e*P	Pn	00 23 15.1	+0.8
SGF				*e*S	Sn	00 23 45.6	+0.4
SGF				MSG		00 23 49.2	
	comp=Z,6.2nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	00 23 23.7	+0.3
KEV				*e*S	Sn	00 24 01.6	0.0
KEV				MSG		00 24 09.3	
	comp=Z,2.7nm,0.3s						
OUL	**Oulu**	**3.61**	**138**	*e*PG	Pg	00 23 38.4	-3.7
OUL				*e*SG	Sg	00 24 24.5	-4.4
OUL				MSG		00 24 28.9	
	comp=Z,3.3nm,0.3s						
KU6	**Riekki**	**4.25**	**111**	*e*SG	Sg	00 24 44.3	-5.0

*ISCJB **02** 00:37:42.1±1.4, 2229N±007×1440E±02, h135km±13km, mb3.9/13, Error ellipse: s-maj=31.8km s-min=9.3km az=154.7*
*NEIC **02** 00:37:43.7±1.4, 2226N×14394E, h133km±13km, mb4.3/7, Error ellipse: s-maj=21.6km s-min=7.0km az=77.0*
*IDC **02** 00:37:43.3±3.4, 2230N×14405E, h130km±29km, mb3.6/7, mb1 3.7/9, mb1mx3.6/20, mbtmp3.6/9, Error ellipse: s-maj=68.6km s-min=13.8km az=79.0*
ISC 02 00:37:42.4±1.2**, 2234N**±006×**1440E**±02**, h121**km±11km**, n25,** σ**0^{s}79**/26**, mb4.0**/13**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.02**	**341**	P	**Pn**	**00 38 57.8**	**+2.2**
	11nm,0.3s,baz=285,slow=13,SNR=5.6						
CBIJ				S	**Sn**	**00 39 50.9**	**-1.7**
	52nm,0.3s,baz=298,slow=24,SNR=16						
GUMO	**Guam**	**8.74**	**175**	*e*Pn	**Pn**	**00 39 45.6**	**-0.3**
MJAR	**Matsushiro Arr**	**15.03**	**342**	P	**Pn**	**00 41 08.1**	**-0.2**
	0.5nm,0.3s,baz=154,slow=11,SNR=3.4						
MAJO	**Matsushiro**	**15.03**	**342**	*e*P	**Pn**	**00 41 12.5**	**+4.1**
	6.7nm,0.3s						
NACB	**Ninganchiao**	**20.69**	**279**	P	**P**	**00 42 11.5**	**-1.2**
YHNB	**Yeheng**	**20.90**	**281**	*e*P	**P**	**00 42 15.7**	**+0.8**
ULN	**Ulaanbaatar**	**38.97**	**320**	*e*P	**P**	**00 44 57.5**	**+0.9**
	1.1nm,0.5s,mb3.9						
SONM	**Songino Array**	**39.35**	**320**	P	**P**	**00 45 00.3**	**+0.6**
	1.1nm,0.5s,mb3.9,baz=132,slow=6.9,SNR=16						
CTA	**Charters Tower**	**42.22**	**177**	P	**P**	**00 45 23.4**	**+0.1**
	1.1nm,0.4s,mb3.9,baz=351,slow=11,SNR=3.5						
WRAB	**Tennant Creek**	**43.06**	**193**	*e*P	**P**	**00 45 30.4**	**+0.3**
	1.2nm,0.2s,mb4.3						
WB2	**Warramunga Arr**	**43.07**	**193**	*e*P	**P**	**00 45 30.4**	**+0.2**
WB2	**Warramunga Arr**	**43.07**	**193**	*e*P	**P**	**00 45 29.9**	**-0.3**
WRA	**Warramunga Arr**	**43.08**	**193**	P	**P**	**00 45 29.7**	**-0.5**
	0.6nm,0.3s,mb3.9,baz=11,slow=8.7,SNR=18						
FITZ	**Fitzroy Crossi**	**44.03**	**206**	*e*P	**P**	**00 45 38.3**	**+0.4**
	1.7nm,0.9s,mb3.8						
ASAR	**Alice Springs**	**46.78**	**193**	P	**P**	**00 45 59.7**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=11,slow=7.8,SNR=9.2						
STKA	**Stephens Creek**	**53.96**	**183**	P	**P**	**00 46 52.7**	**-0.8**
MKAR	**Makanchi Array**	**54.84**	**312**	P	**P**	**00 47 00.3**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=86,slow=8.9,SNR=12						
CHKZ	**Chkalovo**	**62.55**	**320**	*e*P	**P**	**00 47 52.6**	**-0.6**
	2.2nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**62.70**	**319**	P	**P**	**00 47 54.6**	**+0.4**
	baz=90,slow=7.3						
BRVK	**Borovoye**	**62.76**	**319**	*e*P	**P**	**00 47 55.1**	**+0.5**
	2.8nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**63.53**	**319**	*e*P	**P**	**00 47 59.3**	**-0.4**
	1.4nm,0.3s,mb4.3						
ARCES	**ARCESS Array B**	**78.56**	**342**	P	**P**	**00 49 30.9**	**+0.5**
	3.4nm,0.9s,mb4.2,baz=64,slow=8.5,SNR=6.7						
ARCES	**ARCESS Array B**	**78.56**	**342**	P	**P**	**00 49 30.9**	**+0.5**
JOF	**Joensuu**	**80.07**	**335**	*e*p	**P**	**00 49 37.8**	**-0.8**
FINES	**FINESS Array B**	**82.94**	**335**	P	**P**	**00 49 53.0**	**-0.7**
	1.2nm,0.4s,mb4.1,baz=68,slow=5.0,SNR=13						

*CSEM **02** 00:46:17.9±0.9, 3860N×2858W, h12km±8km, ML1.5, Error ellipse: s-maj=3.9km s-min=2.8km az=60.0, After PDA*
*PDA **02** 00:46:17.9±0.9, 3860N×2858W, h12km±8km, MD2.7, ML1.5, Error ellipse: s-maj=3.9km s-min=2.8km az=60.0*
SVSA 02 00:46:17.9±0.9**, 3860N**×**2858W, h12**km±8km**, MD2.7, ML1.5, Error ellipse: s-maj=3.9km s-min=2.8km az=60.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.08**	**210**	*i* P	Pg	00 46 20.0	-0.5
HOR				*e*S	Sg	00 46 21.7	-0.7
HOR	**Horta**	**0.08**	**210**	*e*S	Sg	00 46 21.7	-0.7
CALA	**Caldeira**	**0.10**	**261**	*e*P	Pg	00 46 20.8	+0.1
CALA				*e*S	Sg	00 46 22.8	+0.1
PCED	**Cedros**	**0.10**	**289**	*i* P	Pg	00 46 20.0	-0.7
PCED				*e*S	Sg	00 46 22.5	-0.3
PCED							
	34nm,0.2s						
PCED	**Cedros**	**0.10**	**289**	*e*S	Sg	00 46 22.5	-0.3
PICO	**Pico**	**0.15**	**128**	*e*P	Pg	00 46 21.0	-0.5
PICO				*e*S	Sg	00 46 23.6	-0.4
PCND	**Candelaria**	**0.16**	**144**	*e*P	Pg	00 46 21.5	0.0
PCND				*e*S	Sg	00 46 24.1	0.0
PCND							
	50nm,0.2s						
PBOI	**Pico dos Bois**	**0.23**	**135**	*e*S	Sg	00 46 25.2	-0.8
PBOI							
	15nm,0.1s						
ROSA	**Rosais**	**0.29**	**65**	*e*P	Pg	00 46 23.1	-0.8
ROSA				*e*S	Sg	00 46 27.0	-0.9
PMAN	**Manadas**	**0.39**	**84**	*e*S	Sg	00 46 29.8	-1.0
PMAN							
	28nm,0.1s						
PID	**Ribeirinha**	**0.39**	**113**	*e*P	Pg	00 46 24.9	-0.8
PID				*e*S	Sg	00 46 29.8	-1.2

*CSEM **02** 00:57:59.5±0.1, 3694N×5426E, h5km, ML3.7, Error ellipse: s-maj=1.9km s-min=0.8km az=167.0*
*ISCJB **02** 00:58:00.4±0.3, 3698N±003×5433E±003, h10km, mb3.3/3, Error ellipse: s-maj=5.3km s-min=3.0km az=127.3*
*THR **02** 00:58:01.5±0.7, 3673N×5449E, h16km±5km, ML3.8*
*TEH **02** 00:58:01.5, 3696N×5427E, h2km, Mn3.7*
*NEIC **02** 00:58:01.6, 3681N×5443E, h14km, ML3.8(THR), MN3.7(TEH), After THR.*
*IDC **02** 00:58:01.9±2.8, 3698N×5430E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=40.6km s-min=22.4km az=159.0*
ISC 02 00:58:01.7±0.3**, 3698N**±003×**5429E**±003**, h10km, n59,** σ**1^{s}18**/83**, mb3.3**/3**, 2C, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.91**	**213**	Pg	**Pg**	**00 58 14.9**	**-4.3**
IKIA				Sg	**Sg**	**00 58 28.7**	**-2.4**
IKIA	**Kiasar**	**0.91**	**213**	*e*Pg	**Pg**	**00 58 15.0**	**-4.2**
IKIA				*e*Sg	**Sg**	**00 58 28.8**	**-2.3**
ISHM	**Shahmirzad**	**1.42**	**215**	Pn	**Pn**	**00 58 25.1**	**-2.4**
ISHM				Sn	**Sn**	**00 58 47.5**	**+1.2**
IANJ	**Anjiloo**	**1.54**	**192**	Pn	**Pn**	**00 58 26.0**	**-3.2**
MRVT	**Maraveh tapeh**	**1.59**	**64**	*e*Pg	**Pg**	**00 58 30.5**	**-1.7**
IPRN	**Paran-Amol**	**1.81**	**247**	Pn	**Pn**	**00 58 31.8**	**-1.1**
IPRN				Sn	**Sn**	**00 58 56.3**	**+0.5**
IFIR	**Firoozkooh**	**1.82**	**223**	Pn	**Pn**	**00 58 33.4**	**+0.3**
IFIR				Sn	**Sn**	**00 58 57.4**	**+1.2**
IFIR	**Firoozkooh**	**1.82**	**223**	*e*Pn	**Pn**	**00 58 33.1**	**0.0**
IFIR				*e*Sn	**Sn**	**00 58 57.5**	**+1.3**
ILAS	**Lasjerd**	**1.92**	**215**	*e*Pn	**Pn**	**00 58 34.2**	**-0.3**
ILAS				*e*Sn	**Sn**	**00 58 59.6**	**+0.9**
DAMV	**Damavand**	**2.31**	**235**	*e*Pn	**Pn**	**00 58 41.1**	**+1.4**
DAMV				*e*Sg	**Sg**	**00 59 14.3**	**-1.6**
DAMV				AML	AML	00 59 15.3	
	comp=N,644nm,0.8s						
DAMV				AML	AML	00 59 17.7	
	comp=E,502nm,0.5s						
DAMV	**Damavand**	**2.31**	**235**	*e*Pn	**Pn**	**00 58 41.0**	**+1.2**
DAMV				*e*Sg	**Sg**	**00 59 14.0**	**-1.8**
DAMV	**Damavand**	**2.31**	**235**	*e*Pn	**Pn**	**00 58 41.1**	**+1.3**
	SNR=52						
DAMV				*e*Sg	**Sg**	**00 59 14.3**	**-1.5**
	SNR=90						
IAFJ	**Afjeh**	**2.36**	**243**	Pn	**Pn**	**00 58 41.8**	**+1.3**
IAFJ				Sn	**Sn**	**00 59 08.5**	**-1.1**
IAFJ	**Afjeh**	**2.36**	**243**	*e*Pn	**Pn**	**00 58 40.6**	**+0.1**
IAFJ				*e*Sn	**Sn**	**00 59 09.6**	**0.0**
CHTH	**Charan**	**2.77**	**248**	*e*Pn	**Pn**	**00 58 48.7**	**+2.6**
CHTH	**Charan**	**2.77**	**248**	*e*Pn	**Pn**	**00 58 48.0**	**+1.9**
ISHV	**Shirvan**	**2.77**	**77**	*e*Pn	**Pn**	**00 58 46.8**	**+0.7**
IVRN	**Varamin**	**2.87**	**227**	Pn	**Pn**	**00 58 47.1**	**-0.4**
IVRN				Sn	**Sn**	**00 59 22.0**	**0.0**
IVRN	**Varamin**	**2.87**	**227**	*e*Pn	**Pn**	**00 58 47.2**	**-0.3**
IVRN				*e*Sn	**Sn**	**00 59 22.1**	**+0.1**
THKV	**Tehran--Karaj**	**2.95**	**250**	*e*Pn	**Pn**	**00 58 51.0**	**+2.4**
THKV				AML	AML	00 59 35.8	
	comp=N,332nm,0.4s						
THKV				AML	AML	00 59 40.9	
	comp=E,187nm,0.3s						
THKV	**Tehran--Karaj**	**2.95**	**250**	*e*Pn	**Pn**	**00 58 50.0**	**+1.4**
ISFR	**Esferayen**	**2.97**	**88**	Pn	**Pn**	**00 58 49.7**	**+0.9**
ISFR	**Esferayen**	**2.97**	**88**	*e*Pn	**Pn**	**00 58 49.8**	**+1.0**
ISFB	**Sefidab**	**3.11**	**213**	*e*Pn	**Pn**	**00 58 49.8**	**-0.9**
IMHD	**Mahdasht**	**3.20**	**247**	Sn	**Sn**	**00 59 29.6**	**-0.6**
IMHD	**Mahdasht**	**3.20**	**247**	*e*Sn	**Sn**	**00 59 30.0**	**-0.2**
IGZV	**Gazvin**	**3.33**	**261**	Pn	**Pn**	**00 58 53.8**	**0.0**
IGZV				Sn	**Sn**	**00 59 32.4**	**-1.0**
IGZV	**Gazvin**	**3.33**	**261**	*e*Pn	**Pn**	**00 58 53.9**	**+0.1**
IGZV				*e*Sn	**Sn**	**00 59 32.8**	**-0.6**
IKRD	**Kardeh**	**3.40**	**92**	Pn	**Pg**	**00 59 06.3**	**-0.5**
IPAY	**Payeh**	**3.81**	**97**	Pn	**Pn**	**00 59 01.0**	**+0.5**
IPAY	**Payeh**	**3.81**	**97**	*e*Pn	**Pn**	**00 59 01.1**	**+0.6**
IRAZ	**Razeghan**	**3.86**	**247**	Pn	**Pn**	**00 59 03.2**	**+2.1**
IRAZ				Sn	**Sn**	**00 59 45.2**	**-1.4**
IRAZ	**Razeghan**	**3.86**	**247**	*e*Pn	**Pn**	**00 59 02.8**	**+1.7**
IRAZ				*e*Sn	**Sn**	**00 59 45.3**	**-1.3**
IMOG	**Moghan**	**4.15**	**101**	*e*Pn	**Pn**	**00 59 05.8**	**+0.6**
ASAO	**Ashtian**	**4.23**	**236**	*e*Pn	**Pn**	**00 59 07.2**	**+1.0**
ASAO	**Ashtian**	**4.23**	**236**	*e*Pn	**Pn**	**00 59 07.2**	**+1.0**
	SNR=52						
NASN	**Na'in**	**4.34**	**197**	*e*Pn	**Pn**	**00 59 06.8**	**-0.9**
NASN	**Na'in**	**4.34**	**197**	*e*Sg	**Sb**	**01 00 12.0**	**+1.5**
NASN	**Na'in**	**4.34**	**197**	*e*Pn	**Pn**	**00 59 06.8**	**-0.9**
	SNR=52						
IMYA	**Miamay**	**4.71**	**96**	Pn	**Pn**	**00 59 13.8**	**+1.0**
IMYA	**Miamay**	**4.71**	**96**	*e*Pn	**Pn**	**00 59 13.9**	**+1.1**
ICHK	**Chekchek**	**4.72**	**179**	Pn	**Pn**	**00 59 12.9**	**-0.1**
ICHK	**Chekchek**	**4.72**	**179**	*e*Pn	**Pn**	**00 59 13.0**	**0.0**
ITEG		**5.47**	**137**	*e*Pn	**Pn**	**00 59 23.3**	**0.0**
IBAF	**Bafgh**	**5.47**	**169**	*e*Pn	**Pn**	**00 59 23.0**	**-0.3**
IBAF				*e*Sn	**Sn**	**01 00 23.8**	**-2.5**
IMEH	**Mehriz**	**5.58**	**177**	*e*Pn	**Pn**	**00 59 24.5**	**-0.2**
IMON		**5.80**	**129**	*e*Pn	**Pn**	**00 59 27.9**	**+0.1**
IKOO		**5.97**	**138**	*e*Pn	**Pn**	**00 59 30.2**	**+0.1**
IDAH		**6.23**	**131**	*e*Pn	**Pn**	**00 59 33.8**	**+0.1**
GNI	**Garni**	**8.13**	**296**	Pn	**Pn**	**01 00 04.2**	**+4.5**
	comp=E,0.8nm,0.3s,baz=1.1,slow=5.7,SNR=3.2						
GNI				Sn	**Sn**	**01 01 43.3**	**+12**
	comp=E,0.2nm,0.3s,baz=8.8,slow=19,SNR=2.4						
AB31	**Akbulak array**	**12.94**	**17**	⇑Pn	**Pn**	**01 01 03.7**	**-2.0**
	comp=E,0.2nm,0.3s,baz=206,slow=13						
AB31				⇑Sn	**Sn**	**01 03 21.4**	**-8.4**
	comp=E,0.9nm,0.4s,baz=196,slow=22,SNR=9.3						
AKTK	**Aktyubinsk**	**13.72**	**10**	Pn	**Pn**	**01 01 14.9**	**-1.3**
AKTK				Sn	**Sn**	**01 03 40.4**	**-8.3**
AKTO	**Aktyubinsk**	**13.72**	**10**	Pn	**Pn**	**01 01 13.9**	**-2.3**
AKTO				Sn	**Sn**	**01 03 38.2**	**-10**
AKTO	**Aktyubinsk**	**13.72**	**10**	Pn	**Pn**	**01 01 14.9**	**-1.3**
	comp=E,0.5nm,0.3s,baz=185,slow=11,SNR=8.9						
AKTO				Sn	**Sn**	**01 03 40.4**	**-8.3**
	comp=E,0.2nm,0.3s,baz=65,slow=21,SNR=3.9						
BVAR	**Borovoye Array**	**19.60**	**30**	P	**Pn**	**01 02 31.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=219,slow=9.6,SNR=14						
AKASG	**Malin Array Be**	**22.56**	**315**	P	**P**	**01 03 03.7**	**+1.8**
	comp=E,0.5nm,0.4s,mb3.3,baz=117,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**22.93**	**56**	P	**P**	**01 03 07.5**	**+1.6**
	comp=E,1.1nm,0.9s,mb3.3,baz=246,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**22.93**	**56**	P	**P**	**01 03 07.4**	**+1.5**
GERES	**GERESS Array B**	**31.64**	**305**	P	**P**	**01 04 25.9**	**+1.0**
	comp=E,0.4nm,0.7s,mb3.4,baz=20,slow=6.3,SNR=3.3						

*ISCJB **02** 01:11:10.3±4.0, 54S±02×1505E±02, h67km±31km, mb3.7/6, Error ellipse: s-maj=34.0km s-min=25.3km az=19.2*
*NEIC **02** 01:11:11.4±2.7, 535S×15053E, h65km±20km, mb3.9/4, Error ellipse: s-maj=25.6km s-min=16.6km az=87.0*
*IDC **02** 01:11:11.3±8.5, 532S×15054E, h66km±62km, mb3.3/3, mb1 3.6/4, mb1mx3.3/12, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=107.8km s-min=54.6km az=124.0*
ISC 02 01:11:10.7±3.7**, 53S**±02×**1506E**±02**, h59**km±29km**, n15,** σ**0^{s}54**/15**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.31**	**220**	P	**Pn**	**01 12 27.3**	**0.0**
	5.9nm,0.3s,baz=31,slow=5.9,SNR=11						
PMG				S	**Sn**	**01 13 27.7**	**+0.5**
	5.3nm,0.3s,baz=273,slow=20,SNR=5.1						
CTAO	**Charters Tower**	**15.28**	**196**	*e*Pn	**Pn**	**01 14 42.4**	**-0.3**
	0.9nm,0.5s						
WRAB	**Tennant Creek**	**21.48**	**226**	*e*P	**P**	**01 15 54.3**	**0.0**
	1.4nm,0.5s,mb3.5						
WB2	**Warramunga Arr**	**21.48**	**226**	*e*P	**P**	**01 15 53.9**	**-0.5**
WRA	**Warramunga Arr**	**21.49**	**226**	P	**P**	**01 15 53.9**	**-0.6**
	0.6nm,0.5s,mb3.2,baz=53,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**24.33**	**220**	P	**P**	**01 16 23.1**	**+0.2**
	0.6nm,0.4s,mb3.4,baz=58,slow=9.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.50**	**240**	P	**P**	**01 16 50.6**	**-0.9**
	1.6nm,0.9s,mb3.6,baz=60,slow=8.1,SNR=3.6						
STKA	**Stephens Creek**	**27.74**	**197**	P	**P**	**01 16 54.5**	**+0.9**
MBWA	**Marble Bar**	**33.83**	**239**	P	**P**	**01 17 47.6**	**+0.3**
TAU	**Tasmania Unive**	**37.55**	**184**	P	**P**	**01 18 18.8**	**-0.3**
CASY	**Casey**	**66.89**	**196**	*e*P	**P**	**01 21 49.3**	**-7.3**
	7.0nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**88.34**	**324**	P	**P**	**01 23 55.3**	**-0.7**
BRVK	**Borovoye**	**88.42**	**323**	*e*P	**P**	**01 23 56.8**	**+0.5**
	1.1nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**89.16**	**323**	P	**P**	**01 24 00.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**148.38**	**286**	PKPbc	PKPbc	01 30 50.8	+0.3
	0.6nm,0.6s,baz=60,slow=2.4,SNR=9.3						

*STR **02** 01:34:56.9±0.3, 4625N×278E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 02 01:34:55.8±0.1**, 4628N**×**273E, h14km, Md1.8**/4**, Ml1.5**/5**, Error ellipse: s-maj=1.7km s-min=1.0km az=132.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	**Bois d'Agland**	**0.29**	**16**	*e*Pg	Pg	01 35 02.0	+0.2
BGF				*e*Sg	Sg	01 35 05.9	+0.1
	10nm,0.2s						
AGO	**Saint Agoulin**	**0.36**	**130**	Pg	Pg	01 35 03.1	0.0
AGO				Sg	Sg	01 35 08.2	+0.1
TCF	**Toulx Ste Croi**	**0.36**	**271**	*e*Pg	Pg	01 35 03.4	+0.3
TCF				*e*Sg	Sg	01 35 08.4	+0.3
	9.4nm,0.2s						
AVF	**Avril sur Loir**	**0.67**	**40**	*e*Pg	Pg	01 35 08.6	-0.2
AVF				*e*Sg	Sg	01 35 17.5	-0.1
	2.3nm,0.2s						
PLDF	**La Plantade**	**0.69**	**117**	Pg	Pg	01 35 09.3	0.0
PLDF				Sg	Sg	01 35 18.3	-0.2
SMF	**Signal de Mont**	**0.85**	**64**	*e*Pn	Pn	01 35 12.2	-1.1
SMF	**Signal de Mont**	**0.85**	**64**	*e*Pg	Pg	01 35 12.8	+0.6
SMF				*e*Sg	Sg	01 35 23.0	-0.4
	2.5nm,0.2s						
SSF	**Saint Saulge**	**0.94**	**34**	*e*Pg	Pg	01 35 13.8	-0.3
SSF				*e*Sg	Sg	01 35 25.9	-0.5
	0.6nm,0.2s						
LBL	**Lubilhac**	**1.11**	**161**	Pg	Pg	01 35 17.3	+0.1
LBL				Sg	Sg	01 35 32.0	+0.3
LOR	**Lormes**	**1.25**	**38**	*e*Pn	Pn	01 35 17.0	-1.9
LOR				*e*Sg	Sg	01 35 35.5	-0.8
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**1.30**	**221**	*e*Sg	Sg	01 35 36.9	-0.7
	1.0nm,0.2s						
CAF	**Calviac**	**1.44**	**199**	*e*Sg	Sg	01 35 41.2	-0.9
	1.0nm,0.2s						
MFF	**Saint Martin d**	**2.02**	**280**	*e*Sg	Sg	01 35 59.0	-1.6
	0.7nm,0.2s						

*NEIC **02** 01:39:24.6, 1627N×6168W, h151km, MD3.5(TRN), MD3.7(FDF), After TRN.*
*TRN **02** 01:39:24.2, 1627N×6167W, h155km, MD3.5, M3.3(FDF), M3.7(FDF)*
*ISCJB **02** 01:39:25.7±1.3, 162N±0.1×618W±0.1, h148km±10km, Error ellipse: s-maj=30.8km s-min=6.2km az=98.3*
*RSPR **02** 01:39:28.6, 16.11N×6192W, h53km±89km, MD4.5/6, MD4.5/6*
ISC 02 01:39:26.0±1.3**, 162N**±01×**618W**±01**, h151**km±8km**, n21,** σ**0^{s}75**/33**, 11C-1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.07**	**187**	⇓*e*P	**Pn**	**01 39 46.3**	**+0.2**
SCG	**Saint Claude**	**0.20**	**155**	*e*P	**Pn**	**01 39 46.6**	**+0.3**
SCG				*e*S	**Sn**	**01 40 01.6**	**-0.1**
TBG	**Guadaloupe-3**	**0.37**	**162**	*e*P	**Pn**	**01 39 46.8**	**0.0**
TBG				*e*S	**Sn**	**01 40 03.1**	**+0.5**
MGG	**Marie-Galante**	**0.52**	**123**	⇑*e*P	**Pn**	**01 39 47.4**	**-0.1**
BBL	**Barber's Block**	**0.73**	**157**	⇑*e*P	**Pn**	**01 39 48.5**	**-0.2**
DWS	**Wesley**	**0.77**	**145**	*e*P	**Pn**	**01 39 48.6**	**-0.4**
DWS				*e*S	**Sn**	**01 40 05.5**	**-1.0**
MDN	**Morne-Daniel**	**0.95**	**158**	⇑*e*P	**Pn**	**01 39 51.4**	**+1.0**
DSHT	**Scott's Head**	**1.06**	**159**	*e*P	**Pn**	**01 39 52.1**	**+0.8**
FDF	**Fort de France**	**1.58**	**158**	⇑*i*P	**Pn**	**01 39 55.8**	**-0.6**
FDF				*e*S	**Sn**	**01 40 20.3**	**+0.6**
STAT	**Sint Eustatius**	**1.73**	**318**	*e*S	**Sn**	**01 40 23.4**	**+0.8**
BIM	**Bigot**	**1.81**	**158**	⇑*e*P	**Pn**	**01 39 58.6**	**-0.3**
BIM				*e*S	**Sn**	**01 40 24.4**	**+0.2**
BIM	**Bigot**	**1.81**	**158**	⇑*e*P	**Pn**	**01 39 58.6**	**-0.3**
BIM				S	**Sn**	**01 40 28.2**	**+4.0**
MVM	**Montagne Vaucl**	**1.85**	**153**	*e*P	**Pn**	**01 39 58.7**	**-0.6**
MVM				S	**Sn**	**01 40 24.4**	**-0.5**
TBVI	**Tortola**	**3.50**	**309**	⇑*e*P	**Pn**	**01 40 18.8**	**-0.9**
TBVI				*e*S	**Sn**	**01 40 57.8**	**-3.6**
STVI	**Saint Thomas**	**3.72**	**305**	⇑*e*P	**Pn**	**01 40 22.5**	**0.0**
STVI				*e*S	**Sn**	**01 41 05.0**	**-1.4**
MTP	**Monte Pirata**	**4.08**	**298**	⇑*e*P	**Pn**	**01 40 28.8**	**+1.6**
HUMP	**Col San Antoni**	**4.35**	**297**	⇑*e*P	**Pn**	**01 40 31.0**	**+0.2**
CBYP	**Canovanas**	**4.41**	**298**	*e*P	**Pn**	**01 40 32.2**	**+0.6**
CBYP				*e*S	**Sn**	**01 41 23.3**	**+0.6**
AOPR	**Arecibo Observ**	**5.22**	**295**	*e*P	**Pn**	**01 40 42.3**	**+0.1**
AOPR				*e*S	**Sn**	**01 41 39.8**	**-1.9**
AOPR	**Arecibo Observ**	**5.22**	**295**	*e*P	**Pn**	**01 40 42.3**	**+0.1**
AOPR				*e*S	**Sn**	**01 41 32.8**	**-8.9**
CRPR	**Cabo Rojo, PR**	**5.41**	**290**	⇑*e*P	**Pn**	**01 40 45.0**	**+0.2**

NEIC 02 01:43:05.4±1.2**, 1997S**×**7009W, h46**km±13km**, mb4.5**/3**, Error ellipse: s-maj=21.4km s-min=10.5km az=70.0, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.85**	**157**	Pn	Pn	01 43 48.7	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.11**	**27**	Pn	Pn	01 44 06.0	+0.4
NNA	**Nana**	**10.25**	**320**	*e*Pn	Pn	01 45 30.0	+0.2
TRQA	**Tornquist**	**19.35**	**160**	P	Pn	01 47 27.2	-1.1
RCBR	**Riachuelo**	**36.07**	**72**	*e*P	P	01 50 02.5	+0.1
	6.7nm,0.8s						
TEIG	**Tepich**	**43.74**	**335**	*e*P	P	01 51 07.4	+1.3
PMSA	**Palmer Station**	**44.96**	**176**	*e*P	P	01 51 15.5	-0.3
WVT	**Waverly**	**58.27**	**343**	P	P	01 52 58.1	+2.9
WMOK	**Wichita Mounta**	**60.86**	**333**	*e*P	P	01 53 11.4	-1.7
	1.0nm,0.8s						
KSU1	**Kansas State U**	**63.80**	**337**	*e*P	P	01 53 32.9	+0.2
	3.6nm,0.4s						
SDCO	**Great Sand Dun**	**66.38**	**330**	*e*P	P	01 53 49.7	+0.3
PV01	**Paradox Valley**	**68.17**	**328**	*e*P	P	01 54 00.8	+0.1
DAC	**Darwin (Calif)**	**71.73**	**321**	P	P	01 54 21.6	-1.0

*BJI **02** 01:44:48.5, 3847N×7284E, h33^{km}, ML3.8*
*ISCJB **02** 01:44:57.1±0.7, 3821N±004×7376E±009, h115^{km}±10^{km}, mb3.8/6, Error ellipse: s-maj=12.4km s-min=5.0km az=134.7*
*IDC **02** 01:44:59.8±4.0, 3841N×7376E, h112^{km}±40^{km}, mb3.4/5, mb1 3.5/9, mb1mx3.3/24, mbtmp3.5/9, Error ellipse: s-maj=30.5km s-min=21.9km az=131.0*
*NEIC **02** 01:45:00.3±1.3, 3849N×7375E, h115^{km}±13^{km}, mb4.0/4, Error ellipse: s-maj=13.3km s-min=9.9km az=148.0*
*NNC **02** 01:45:02.9±2.6, 3901N×7335E, h0^{km}, mb3.3, mpv2.9, Error ellipse: s-maj=21.4km s-min=13.8km az=5.0*
ISC 02 01:44:58.1±0.6**, 3822N**±004×**7378E**±008**, h109**^{km}±9^{km}**, n49,** σ1^{s}**19**/64**, mb3.8**/6**, 5C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.15**	**52**	PG	**Pn**	**01 45 34.8**	**+1.9**
KSH				S	**Sn**	**01 46 00.4**	**+0.8**
KSH				Smax			
	comp=N,5µm,0.5s						
KSH				Smax			
	comp=E,4µm,0.5s						
AML	**Almayashu**	**3.91**	**359**	P	**Pn**	**01 45 56.9**	**+0.7**
	SNR=49						
KZA	**Kyzart**	**4.02**	**16**	P	**Pn**	**01 45 58.1**	**+0.4**
	SNR=8.4						
UCH	**Uchtor**	**4.04**	**8**	P	**Pn**	**01 45 58.9**	**+0.9**
	SNR=32						
EKS2	**Erkin-Say**	**4.44**	**360**	P	**Pn**	**01 46 04.4**	**+1.1**
	SNR=9.1						
ULHL	**Ulahol**	**4.44**	**24**	P	**Pn**	**01 46 03.5**	**+0.1**
	SNR=9.8						
AAK	**Ala-Archa**	**4.45**	**7**	P	**Pn**	**01 46 01.6**	**-1.8**
	SNR=9.3						
AAK	**Ala-Archa**	**4.45**	**7**	*e*Pn	**Pn**	**01 46 02.8**	**-0.6**
AAK				*e*Sn	**Sn**	**01 46 49.9**	**-4.2**
KBK	**Karagaybulak**	**4.52**	**11**	P	**Pn**	**01 46 05.5**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**4.90**	**16**	P	**Pn**	**01 46 09.9**	**+0.5**
	SNR=13						
TKM2	**Tokmak 2**	**4.90**	**16**	⇓Pn	**Pn**	**01 46 09.6**	**+0.1**
	comp=E,0.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**01 47 01.6**	**-3.4**
	comp=E,2.4nm,0.5s						
USP	**Ospenovka**	**5.08**	**6**	P	**Pn**	**01 46 15.3**	**+3.4**
	SNR=5.9						
KK31	**Karatay Array**	**5.48**	**334**	Pn	**Pn**	**01 46 17.7**	**+0.4**
	comp=E,1.8nm,0.3s,baz=1.7,slow=0.7,SNR=64						
KK31				⇑Sn	**Sn**	**01 47 14.4**	**-4.6**
	comp=E,38nm,0.5s,baz=143,slow=25,SNR=6.2						
THN	**Thein Dam**	**5.98**	**164**	*e*P	**Pn**	**01 46 28.8**	**+4.6**
THN				*e*S	**Sn**	**01 47 36.9**	**+5.6**
SDNR	**Sundarnagar**	**7.20**	**158**	*e*x	x	01 47 45.1	
SDNR				*e*S	**Sn**	**01 47 57.0**	**-3.7**
SMLA	**Simla**	**7.60**	**157**	*e*S	**Sn**	**01 48 07.0**	**-3.6**
KLP	**Kalpa**	**7.61**	**150**	*e*P	**Pn**	**01 46 47.4**	**+1.1**
KLP				*e*S	**Sn**	**01 48 08.7**	**-2.2**
KLP				AML	AML	01 48 21.1	
	comp=E,142nm,0.7s						
KLP				AML	AML	01 48 23.9	
	comp=N,106nm,0.6s						
NDI	**New Delhi**	**9.93**	**162**	*e*S	**Sn**	**01 49 04.8**	**-2.4**
KHET	**Khetri**	**10.26**	**170**	*e*P	**Pn**	**01 47 21.5**	**-0.7**
KHET				*e*S	**Sn**	**01 49 09.9**	**-5.2**
KHET				AML	AML	01 49 12.4	
	comp=E,30nm,0.5s						
KHET				AML	AML	01 49 14.1	
	comp=N,21nm,0.3s						
SONA	**Sohna**	**10.32**	**163**	*e*P	**Pn**	**01 47 23.2**	**+0.2**
SONA				*e*S	**Sn**	**01 49 12.4**	**-4.2**
SONA				AML	AML	01 49 19.1	
	comp=E,46nm,0.5s						
SONA				AML	AML	01 49 20.2	
	comp=N,26nm,0.4s						
MK31	**Makanchi Array**	**10.62**	**33**	P	**Pn**	**01 47 26.1**	**-1.0**
	comp=N,1.7nm,0.6s,baz=212,slow=15,SNR=14						
MK31	**Makanchi Array**	**10.62**	**33**	*e*Pn	**Pn**	**01 47 26.2**	**-0.8**
MKAR	**Makanchi Array**	**10.62**	**33**	P	**Pn**	**01 47 26.2**	**-0.9**
	comp=N,0.3nm,0.3s,baz=203,slow=14,SNR=24						
KOLN	**Koldanda**	**13.27**	**139**	*e*P	**Pn**	**01 48 02.0**	**-0.2**
KOLN				*e*S	**Sn**	**01 50 21.4**	**-6.8**
GKN	**Gorkha**	**13.65**	**135**	*e*P	**Pn**	**01 48 07.1**	**+0.1**
GKN				*e*S	**Sn**	**01 50 28.0**	**-9.3**
DMN	**Daman**	**14.21**	**135**	*e*P	**Pn**	**01 48 14.9**	**+0.6**
GUN	**Gumba**	**14.43**	**132**	*e*P	**Pn**	**01 48 16.9**	**-0.1**
	comp=N,5.0nm,0.4s						
VOSK	**Vostochnaya**	**14.64**	**353**	P	**Pn**	**01 48 19.1**	**-0.6**
JIRN	**Jiri**	**14.80**	**132**	*e*P	**Pn**	**01 48 22.3**	**+0.6**
	comp=N,7.0nm,0.3s						
AB31	**Akbulak array**	**14.86**	**322**	Pn	**Pn**	**01 48 21.4**	**-1.1**
	comp=N,1.0nm,0.5s,baz=125,slow=13,SNR=20						
AB31				⇑Sn	**Sn**	**01 50 55.3**	**-11**
	comp=N,3.2nm,0.8s,baz=128,slow=24,SNR=5.7						
BVA0	**Borovoye Array**	**14.99**	**352**	P	**Pn**	**01 48 25.3**	**+1.1**
	comp=N,0.1nm,0.4s,baz=153,slow=13,SNR=34						
BVAR	**Borovoye Array**	**14.99**	**352**	P	**Pn**	**01 48 22.3**	**-1.9**
	comp=N,0.1nm,0.3s,baz=154,slow=14,SNR=3.9						
BRVK	**Borovoye**	**15.04**	**352**	*e*P	**Pn**	**01 48 27.7**	**+2.9**
	comp=N,5.5nm,0.5s						
ZRNK	**Zerenda**	**15.10**	**349**	P	**Pn**	**01 48 24.6**	**-1.0**
ZRNK	**Zerenda**	**15.10**	**349**	*e*Pn	**Pn**	**01 48 23.5**	**-2.1**
	comp=N,8.8nm,0.9s						
ZRNK				*e*Sn	**Sn**	**01 51 03.7**	**-8.8**
CHKZ	**Chkalovo**	**15.62**	**353**	P	**Pn**	**01 48 32.3**	**+0.3**
CHKZ	**Chkalovo**	**15.62**	**353**	*e*Pn	**Pn**	**01 48 29.4**	**-2.6**
	comp=N,1.4nm,0.5s						
AKTK	**Aktyubinsk**	**16.58**	**323**	P	**Pn**	**01 48 43.2**	**-0.8**
AKTK				S	**S**	**01 51 35.1**	**-17**
AKTO	**Aktyubinsk**	**16.58**	**323**	⇑Pn	**Pn**	**01 48 44.2**	**+0.2**
	comp=N,0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**01 51 41.3**	**-6.7**
	comp=N,0.2nm,1.2s						
AKTO	**Aktyubinsk**	**16.58**	**323**	P	**Pn**	**01 48 43.2**	**-0.8**
	comp=N,0.8nm,0.3s,baz=126,slow=13,SNR=11						
AKTO				S	**S**	**01 51 35.1**	**-17**
	comp=N,0.1nm,0.3s,baz=346,slow=19,SNR=5.6						
WSAR	**Wadi Sarin**	**19.77**	**225**	P	**P**	**01 49 23.4**	**+4.0**
	comp=N,0.2nm,0.3s,baz=38,slow=4.7,SNR=7.0						
WSAR	**Wadi Sarin**	**19.77**	**225**	P	**P**	**01 49 23.4**	**+4.0**
GNI	**Garni**	**22.55**	**284**	P	**P**	**01 49 50.3**	**+1.2**
SONM	**Songino Array**	**25.54**	**57**	P	**P**	**01 50 17.3**	**+0.8**
	comp=N,0.3nm,0.3s,mb3.2,baz=246,slow=11,SNR=4.4						
BR131	**Keskin Array S**	**31.07**	**286**	*e*P	**P**	**01 51 06.5**	**+0.9**
	comp=N,2.2nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**37.34**	**324**	P	**P**	**01 51 59.8**	**0.0**
	comp=N,3.4nm,1.0s,mb4.2,baz=111,slow=8.4,SNR=7.2						
ARCES	**ARCESS Array B**	**40.44**	**336**	P	**P**	**01 52 25.7**	**+0.1**
	comp=N,2.8nm,0.8s,mb4.1,baz=110,slow=8.1,SNR=20						
NOA	**NORSAR Array B**	**44.37**	**322**	P	**P**	**01 52 57.3**	**-0.2**
	comp=N,0.4nm,0.4s,mb3.5,baz=94,slow=7.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**67.96**	**270**	P	**P**	**01 55 46.2**	**+1.1**
	comp=N,0.2nm,0.5s,mb3.2,baz=46,slow=5.7,SNR=12						

*IDC **02** 01:46:18.0±1.0, 1979S×7008W, h39^{km}±5^{km}, mb4.0/3, mb1 4.3/5, mb1mx3.8/17, mbtmp4.3/5, ML5.0/2, MS2.9/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=36.5km s-min=21.0km az=83.0*
*NEIC **02** 01:46:18.8±0.3, 1978S×7005W, mb4.1/7, Error ellipse: s-maj=14.2km s-min=7.5km az=72.0*
*ISCJB **02** 01:46:19.9±0.9, 1978S±006×698W±0.1, h71^{km}±8^{km}, mb4.0/8, Error ellipse: s-maj=20.5km s-min=6.7km az=140.2*
ISC 02 01:46:21.4±0.8**, 1982S**±006×**699W**±01**, h69**^{km}±8^{km}**,**

h52^{km}±6.8^{km}**: pP-P, n28,** σ0^{s}**77**/26**, mb4.0**/8**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.93**	**162**	Pn	**Pn**	**01 47 04.8**	**-0.8**
	48nm,0.3s,baz=331,slow=9.3,SNR=615						
LVC				Sn	**Sn**	**01 47 40.2**	**+0.5**
	83nm,0.3s,baz=267,slow=17,SNR=10.0						
ARE	**Arequipa**	**3.66**	**335**	*e*P	**Pn**	**01 47 16.0**	**+0.5**
ARE				*e*S	**Sn**	**01 47 58.0**	**+0.5**
LPAZ	**La Paz**	**3.89**	**26**	Pn	**Pn**	**01 47 24.7**	**+6.0**
	3.2nm,0.3s,baz=215,slow=6.3,SNR=77						
LPAZ				LR	LR	01 49 06.2	
	comp=Z,140nm,20.1s,baz=228,slow=43						
SIV	**San Ignacio**	**9.23**	**67**	Pn	**Pn**	**01 48 32.0**	**+0.4**
	2.5nm,0.3s,baz=261,slow=10,SNR=65						
TRQA	**Tornquist**	**19.44**	**161**	*e*P	**Pn**	**01 50 41.1**	**-2.8**
	1.6nm,0.5s						
OTAV	**Otavalo**	**21.62**	**336**	P	**P**	**01 51 04.0**	**-1.7**
SDV	**Santo Domingo**	**28.53**	**358**	*e*P	**P**	**01 52 09.9**	**-0.5**
	1.9nm,0.5s,mb4.0						
SWET	**Sewanee**	**56.80**	**344**	P	**P**	**01 55 58.0**	**-0.4**
WVT	**Waverly**	**58.17**	**343**	*e*P	**P**	**01 56 07.2**	**-0.8**
	1.3nm,0.5s,mb4.2						
VNA3	**Neumayer Olymp**	**61.96**	**161**	*e*	**P**	**01 56 34.3**	**+0.3**
VNA1	**Neumayer--Stat**	**62.18**	**161**	*e*	**P**	**01 56 36.2**	**+0.8**
VNA1				*e*		01 56 40.3	
VNA1				*e*		01 56 45.7	
VNA1				*e*	pP	01 56 53.4	-0.1
VNA2	**Neumayer--Watz**	**62.54**	**161**	*e*	**P**	**01 56 38.0**	**+0.1**
VNA2				*e*		01 56 42.7	
VNA2				*e*		01 56 46.7	
SNAA	**Sanae**	**64.17**	**161**	P	**P**	**01 56 48.3**	**-0.4**
	0.7nm,0.8s,mb3.5,baz=269,slow=8.2,SNR=11						
SNAA				pP	pP	01 57 00.5	-6.3
	0.6nm,1.0s,baz=258,slow=12,SNR=3.1						
SNAA	**Sanae**	**64.17**	**161**	*e*P	**P**	**01 56 48.5**	**-0.2**
	2.0nm,0.7s,mb4.1						
SNAA				pP	pP	01 57 00.5	-6.3
SDCO	**Great Sand Dun**	**66.33**	**330**	*e*P	**P**	**01 57 03.9**	**+1.3**
	1.2nm,0.8s,mb3.8						
RSSD	**Black Hills**	**70.88**	**335**	P	**P**	**01 57 30.6**	**-0.3**
HWUT	**Hardware Ranch**	**72.27**	**328**	*e*P	**P**	**01 57 38.8**	**-0.5**
	0.6nm,0.4s,mb3.8						
SBA	**Scott Base**	**77.31**	**190**	*e*P	**P**	**01 58 08.7**	**+0.3**
	1.5nm,0.3s,mb4.2						
TORD	**Torodi Ar. Bea**	**77.68**	**71**	P	**P**	**01 58 10.8**	**+0.3**
	2.3nm,0.7s,mb4.0,baz=251,slow=5.4,SNR=49						
TORD				pP	pP	01 58 24.3	-4.8
	0.8nm,0.6s,baz=249,slow=5.2,SNR=3.7						
TORD				sP	sP	01 58 29.6	-7.0
	0.9nm,0.4s,baz=255,slow=4.9,SNR=3.9						
VNDA	**Vanda**	**78.34**	**190**	P	**P**	**01 58 15.1**	**+1.0**
NEW	**Newport**	**79.83**	**330**	P	**P**	**01 58 23.0**	**+0.7**
MAW	**Mawson**	**86.20**	**164**	*e*P	**P**	**01 58 55.3**	**+0.1**
YKA	**Yellowknife Ar**	**89.30**	**341**	P	**P**	**01 59 10.0**	**+0.1**
	2.9nm,0.7s,mb4.4,baz=135,slow=4.8,SNR=7.6						
DLBC	**Dease Lake**	**92.29**	**333**	*e*P	**P**	**01 59 23.3**	**-0.5**
BVAR	**Borovoye Array**	**134.92**	**33**	PKP	PKPdf	02 05 33.7	+1.3
	0.3nm,0.6s,baz=302,slow=2.7,SNR=3.0						
MK31	**Makanchi Array**	**144.79**	**34**	*e*PKPdf	PKPdf	02 05 50.7	+0.4
MKAR	**Makanchi Array**	**144.79**	**34**	PKP	PKPdf	02 05 50.5	+0.3
	3.2nm,0.7s,baz=319,slow=3.4,SNR=31						
SONM	**Songino Array**	**151.89**	**5**	PKPbc	PKPbc	02 06 09.4	+1.1
	1.4nm,0.6s,baz=307,slow=1.7,SNR=11						
SONM				pPKPbc	pPKPbc	02 06 19.3	-8.7
	0.6nm,0.6s,baz=337,slow=3.5,SNR=4.0						

*NEIC **02** 02:00:49.0, 3278S×7293W, h21^{km}, ML2.8(GUC), After GUC.*
GUC 02 02:00:49.0±0.7**, 3278S**×**7293W, h21**^{km}±4^{km}**, MD3.7, ML2.8, 1C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.33**	**122**	*e*P	Pn	02 01 12.2	-0.1
LCCH				*i* S	Sn	02 01 29.3	-0.1
ROCH	**El Roble**	**1.62**	**97**	*i* S	Sn	02 01 38.8	+2.2
TACH	**Talagante**	**1.88**	**118**	⇓*i*P	Pn	02 01 20.8	+0.9
TACH				*i* S	Sn	02 01 44.4	+1.5
RCDM	**Rinconada Maip**	**1.91**	**112**	*e*P	Pn	02 01 21.1	+0.7
RCDM				*i* S	Sn	02 01 45.6	+1.9
RCDM				AML	AML	02 01 50.2	
	comp=N,139nm,0.1s						
RCDM	**Rinconada Maip**	**1.91**	**112**	*e*P	Pn	02 01 21.1	+0.7
RCDM				*i* S	Sn	02 01 45.6	+1.9
JACH	**Jahuel**	**1.97**	**88**	*i* S	Sn	02 01 47.4	+2.3
PCH	**Pirque**	**2.19**	**113**	⇓*i*P	Pn	02 01 25.8	+1.7
PCH				*i* S	Sn	02 01 53.8	+3.2
CHCH	**Chadas Angostu**	**2.22**	**122**	⇓*i*P	Pn	02 01 25.5	+0.9
CHCH				*i* S	Sn	02 01 53.8	+2.4
CICH	**Cipreses**	**2.59**	**127**	⇑*i*P	Pn	02 01 31.0	+1.3

*CSEM **02** 02:01:00.0, 6784N×20.19E, h2^{km}, ML2.9, Mining explosion. After UPP*
*UPP **02** 02:01:00.0, 6784N×20.19E, h2^{km}, ML2.9, Mining explosion.*
HEL 02 02:01:00.4±0.0**, 6784N**×**2019E, h0**^{km}**, ML1.8, ML2.9**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	02 01 02.6	-0.3
KUA				*i* S	Sg	02 01 04.6	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	02 01 08.2	-0.6
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	02 01 08.2	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	02 01 13.2	-0.9
LANU				*i* S	Sg	02 01 22.5	-0.8
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	02 01 13.2	-0.9
	baz=306						
LANU				S	Sg	02 01 22.5	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	02 01 14.7	-0.9
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	02 01 14.7	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	02 01 22.7	-0.6
KIF				*e*S	Sg	02 01 38.6	-0.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	02 01 25.1	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	02 01 30.6	-0.8
HARU	**Harads**	**1.71**	**169**	P	Pn	02 01 30.6	-0.8
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	02 01 41.3	+0.3
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	02 01 40.8	-0.9
SGF				*e*S	Sn	02 02 11.5	-0.9
SGF				MSG		02 02 18.2	
	comp=Z,4.9nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	02 01 51.4	+0.3
KEV				*e*S	Sn	02 02 27.9	-1.4
KEV				MSG		02 02 35.9	
	comp=Z,2.7nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	*e*SG	Sg	02 02 49.0	-6.7
OUL				MSG		02 02 53.8	
	comp=Z,1.7nm,0.3s						
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	02 02 01.5	-1.3
MSF				*e*SG	Sg	02 03 02.0	-6.6

*CSEM **02** 02:32:06.8, 6783N×2020E, h0^{km}, ML2.8, Mining explosion. After UPP*
*UPP **02** 02:32:06.8, 6783N×2020E, h0^{km}, ML2.8, Mining explosion.*
HEL 02 02:32:07.3±0.0**, 6784N**×**2019E, h0**^{km}**, ML1.8, ML2.8**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	02 32 09.4	-0.4
KUA				*i* S	Sg	02 32 11.2	-0.3
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	02 32 15.1	-0.5
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	02 32 20.0	-0.9
LANU				*i* S	Sg	02 32 29.4	-0.8
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	02 32 20.0	-1.0
	baz=304						
LANU				S	Sg	02 32 29.4	-0.8
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	02 32 20.2	-1.2
DUNU	**Dundret**	**0.74**	**168**	P	Pg	02 32 20.2	-1.2
	baz=76						
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	02 32 21.5	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	02 32 21.5	-1.0
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	02 32 29.4	-0.8
KIF				*e*S	Sg	02 32 45.2	-0.4
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	02 32 32.0	-2.0
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	02 32 37.6	-0.8
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	02 32 48.2	+0.2
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	02 32 48.5	-0.1
SGF				*e*S	Sn	02 33 19.2	-0.2
SGF				MSG		02 33 24.4	
	comp=Z,4.3nm,0.1s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	02 32 58.2	+0.2
KEV				*e*S	Sn	02 33 35.0	-1.2
KEV				MSG		02 33 43.5	
	comp=Z,2.0nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	*e*SG	Sg	02 33 57.6	-5.0
OUL				MSG		02 34 04.5	
	comp=Z,1.3nm,0.2s						
MSF	**Maaselka**	**3.99**	**115**	*e*SG	Sg	02 34 09.4	-6.2

*ISCJB **02** 02:36:36.4±0.6, 5276S±007×1404E±02, h10^{km}, mb4.5/12, MS3.9/15, Error ellipse: s-maj=18.6km s-min=9.5km az=4.1*
*IDC **02** 02:36:37.1±0.8, 5276S×14051E, h0^{km}, mb4.3/6, mb1 4.4/6, mb1mx4.4/10, mbtmp4.3/6, MS4.0/15, Ms1 4.0/15, ms1mx3.9/21, Error ellipse: s-maj=32.3km s-min=19.0km az=91.0*
*NEIC **02** 02:36:39.5±0.6, 5276S×13978E, h10^{km}, mb4.6/10, Error ellipse: s-maj=23.5km s-min=9.0km az=102.0*
ISC 02 02:36:38.1±0.6**, 5278S**±007×**1405E**±02**, h10**^{km}**, n41,** σ0^{s}**55**/21**, mb4.5**/12**, MS3.9**/15**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**10.89**	**28**	Pn	**Pn**	**02 39 19.9**	**+6.0**
TOO	**Toolangi**	**15.61**	**15**	*e*P	**Pn**	**02 40 23.2**	**+5.1**
	18nm,1.2s						
CASY	**Casey**	**20.05**	**216**	*e*P	**P**	**02 41 11.8**	**+0.5**
	38nm,1.4s						
STKA	**Stephens Creek**	**20.91**	**3**	P	**P**	**02 41 22.1**	**+1.5**
	12nm,1.1s,baz=165,slow=12,SNR=7.5						
STKA				LR	LR	02 48 08.7	
	comp=Z,259nm,18.7s,MS3.6,baz=184,slow=33						
RPZ	**Rata Peaks**	**22.15**	**78**	P	**P**	**02 41 33.6**	**-0.3**
	8.2nm,0.9s,mb4.1,baz=231,slow=11,SNR=2.3						
RPZ				LR	LR	02 48 31.6	
	comp=Z,550nm,18.6s,MS4.0,baz=8.2,slow=32						
FORT	**Forrest**	**23.79**	**333**	*e*P	**P**	**02 41 51.0**	**+0.1**
	22nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**25.95**	**311**	LR	LR	02 50 09.2	
	comp=Z,359nm,19.8s,MS3.9,baz=345,slow=31						
VNDA	**Vanda**	**26.05**	**170**	P	**P**	**02 42 11.7**	**+0.1**
	2.2nm,0.6s,mb3.9,baz=336,slow=9.2,SNR=16						
VNDA				LR	LR	02 50 27.1	
	comp=Z,190nm,20.2s,MS3.6,baz=333,slow=32						
VNDA	**Vanda**	**26.05**	**170**	*e*P	**P**	**02 42 11.5**	**-0.1**
	10nm,1.3s,mb4.2						
ASAR	**Alice Springs**	**29.50**	**348**	P	**P**	**02 42 42.3**	**-0.1**
	5.3nm,1.0s,mb4.2,baz=169,slow=10,SNR=26						
ASAR				LR	LR	02 52 51.1	
	comp=Z,90nm,19.9s,MS3.4,baz=173,slow=33						
ASPA	**Alice Springs**	**29.50**	**348**	*e*P	**P**	**02 42 42.7**	**+0.3**
AS31	**Alice Springs**	**29.50**	**348**	*e*P	**P**	**02 42 42.5**	**+0.1**
CTA	**Charters Tower**	**32.94**	**10**	LR	LR	02 55 46.0	
	comp=Z,219nm,19.5s,MS3.9,baz=220,slow=35						
WB2	**Warramunga Arr**	**33.12**	**349**	*e*P	**P**	**02 43 14.1**	**-0.2**
WRA	**Warramunga Arr**	**33.12**	**349**	P	**P**	**02 43 13.7**	**-0.6**
	12nm,1.0s,mb4.8,baz=178,slow=7.4,SNR=31						
WRA				LR	LR	02 56 02.2	
	comp=Z,115nm,18.8s,MS3.6,baz=145,slow=35						
WRAB	**Tennant Creek**	**33.13**	**349**	*e*P	**P**	**02 43 13.5**	**-0.9**
	17nm,1.0s,mb4.9						
MBWA	**Marble Bar**	**35.38**	**325**	*e*P	**P**	**02 43 33.4**	**-0.5**
	22nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**36.50**	**336**	*e*P	**P**	**02 43 43.1**	**-0.4**
	9.2nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**36.50**	**336**	LR	LR	02 57 32.2	
	comp=Z,282nm,19.9s,MS4.0,baz=176,slow=34						
DZM	**Mont Dzumac**	**36.55**	**43**	LR	LR	02 56 18.5	
	comp=Z,524nm,18.4s,MS4.3,baz=191,slow=32						
MAW	**Mawson**	**38.40**	**217**	P	**P**	**02 43 58.8**	**-0.8**
	1.3nm,0.7s,mb3.8,baz=96,slow=9.2,SNR=4.1						
MAW				LR	LR	02 57 50.4	
	comp=Z,539nm,20.6s,MS4.3,baz=75,slow=33						
KAKA	**Kakadu**	**40.48**	**348**	*e*P	**P**	**02 44 16.7**	**-0.2**
	20nm,0.9s,mb4.8						
PMG	**Port Moresby**	**43.59**	**10**	LR	LR	03 02 45.2	
	comp=Z,268nm,18.8s,MS4.2,baz=205,slow=36						
PMG	**Port Moresby**	**43.59**	**10**	*e*P	**P**	**02 44 42.6**	**+0.3**
	9.9nm,0.9s,mb4.5						
HNR	**Honiara**	**46.02**	**27**	LR	LR	03 02 03.7	
	comp=Z,108nm,19.0s,MS3.8,baz=180,slow=33						
SNAA	**Sanae**	**53.17**	**194**	*e*P	**P**	**02 45 56.5**	**+0.3**
	5.4nm,1.2s,mb4.3						
PPT	**Papeete**	**64.09**	**85**	LR	LR	03 09 20.4	
	comp=Z,27nm,19.3s,MS3.4,baz=232,slow=31						
KULM	**Kulim**	**66.93**	**316**	*e*P	**P**	**02 47 31.3**	**+0.7**
BOSA	**Boshof**	**81.32**	**234**	LR	LR	03 17 28.6	
	comp=Z,142nm,19.0s,MS4.3,baz=168,slow=30						
KMBO	**Kilima Mbogo**	**97.08**	**259**	LR	LR	03 25 07.9	
	comp=Z,93nm,18.9s,MS4.3,baz=89,slow=30						
BVAR	**Borovoye Array**	**120.53**	**319**	PKP	PKPdf	02 55 28.6	-1.3
	0.4nm,0.5s,baz=148,slow=8.7,SNR=4.3						
FINES	**FINESS Array B**	**144.80**	**311**	PKP	PKPdf	02 56 13.3	-1.9
	4.7nm,1.0s,baz=103,slow=8.6,SNR=5.2						
FINES	**FINESS Array B**	**144.80**	**311**	PKP	PKPdf	02 56 13.3	-1.9
ARCES	**ARCESS Array B**	**146.49**	**325**	PKPbc	PKPbc	02 56 18.6	-0.9
	5.9nm,0.9s,baz=82,slow=3.1,SNR=11						
GEC2	**GERESS Array S**	**146.78**	**285**	*e*PKPbc	PKPbc	02 56 20.4	+0.1
GERES	**GERESS Array B**	**146.78**	**285**	PKPbc	PKPbc	02 56 19.5	-0.8
	3.6nm,0.9s,baz=108,slow=3.0,SNR=14						
GRA1	**Grafenberg Arr**	**148.61**	**285**	*e*PKP	PKPbc	02 56 25.8	+0.5
GRF	**Grafenberg Arr**	**148.61**	**285**	*e*PKP	PKPbc	02 56 25.8	+0.5
NOA	**NORSAR Array B**	**151.76**	**307**	PKPbc	PKPbc	02 56 32.9	0.0
	2.0nm,0.9s,baz=93,slow=3.9,SNR=3.1						
NOA	**NORSAR Array B**	**151.76**	**307**	PKPbc	PKPbc	02 56 32.9	0.0
ESDC	**Sonseca Array**	**152.43**	**256**	PKPbc	PKPbc	02 56 35.7	+1.3
	0.7nm,0.8s,baz=98,slow=1.3,SNR=5.2						

*CSEM **02** 02:37:05.0±0.9, 38.14N×26.63W, h0^{km}±5^{km}, ML2.1, Error ellipse: s-maj=17.6km s-min=1.1km az=44.0, After PDA*
*PDA **02** 02:37:05.0±0.9, 38.14N×26.63W, h0^{km}±5^{km}, MD2.6, ML2.1, Error ellipse: s-maj=17.6km s-min=1.1km az=44.0*
SVSA 02 02:37:05.0±0.9**, 3814N**×**2663W, h0**^{km}±5^{km}**, MD2.6, ML2.1, Error ellipse: s-maj=17.6km s-min=1.1km az=44.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.68**	**328**	*e*P	Pg	02 37 16.5	-1.4
PFAV				*e*S	Sg	02 37 25.7	-1.0
PFAV							
	29nm,0.1s						
PFAV	**Pico das Favas**	**0.68**	**328**	*e*P	Pg	02 37 16.5	-1.4
PFAV				*e*S	Sg	02 37 25.7	-1.0
RIB2	**Ribeirinha**	**0.68**	**321**	*e*P	Pg	02 37 16.9	-1.2
RIB2				*e*S	Sg	02 37 26.1	-0.9
RIB2							
	27nm,0.1s						
RIB2	**Ribeirinha**	**0.68**	**321**	*e*P	Pg	02 37 16.9	-1.2
RIB2				*e*S	Sg	02 37 26.1	-0.9
SET4	**Mosteiros**	**0.70**	**112**	*e*P	Pg	02 37 17.2	-1.3
SET4				*e*S	Sg	02 37 26.2	-1.4
SET2	**Ginetes**	**0.71**	**114**	*e*P	Pg	02 37 17.2	-1.4
SET2				*e*S	Sg	02 37 26.5	-1.4
PFET	**Feteiras**	**0.73**	**116**	*e*S	Sg	02 37 27.3	-1.3
PVNV	**Vila Nova**	**0.75**	**326**	*e*P	Pg	02 37 17.6	-1.7
PVNV				*e*S	Sg	02 37 27.2	-1.8
PVNV							
	34nm,0.2s						
PVNV	**Vila Nova**	**0.75**	**326**	*e*P	Pg	02 37 17.6	-1.7
PVNV				*e*S	Sg	02 37 27.2	-1.8
PPAD	**Pico dos Padre**	**0.76**	**317**	*e*P	Pg	02 37 18.0	-1.6
PPAD				*e*S	Sg	02 37 28.3	-1.3
PPAD							
	30nm,0.1s						
PPAD	**Pico dos Padre**	**0.76**	**317**	*e*P	Pg	02 37 18.0	-1.6
PPAD				*e*S	Sg	02 37 28.3	-1.3
PSAN	**Santo Antonio**	**0.77**	**112**	*e*S	Sg	02 37 27.9	-1.7
PBIS	**Biscoitos**	**0.79**	**322**	*e*P	Pg	02 37 17.9	-2.3
PBIS				*e*S	Sg	02 37 28.7	-1.8
PBIS							
	15nm,0.2s						
PBIS	**Biscoitos**	**0.79**	**322**	*e*P	Pg	02 37 17.9	-2.3
PBIS				*e*S	Sg	02 37 28.7	-1.8
ASBA	**Santa Barbara**	**0.80**	**317**	*e*P	Pg	02 37 18.7	-1.6
ASBA				*e*S	Sg	02 37 29.3	-1.4
ASBA							
	36nm,0.1s						

ASBA	Santa Barbara	0.80	317	eP	Pg	02 37 18.7	-1.6
ASBA				eS	Sg	02 37 29.3	-1.4
FAC	Faja de Cima	0.85	115	eS	Sg	02 37 30.3	-2.1
CML	Cha da Macela	0.93	113	eS	Sg	02 37 31.9	-3.0
PVER	Pico Vermelho	0.94	111	eS	Sg	02 37 32.0	-3.3
PMAT	Coroa da Mata	0.97	109	eS	Sg	02 37 32.6	-3.5
PMAT							
	27nm,0.2s						
LFA	Lagoa do Fogo	0.97	112	eS	Sg	02 37 33.2	-3.1
MESC	Monte Escuro	0.99	110	eS	Sg	02 37 33.8	-3.2

*ATH **02** 03:11:07.1, 4029N×2081E, h4^{km}, MD2.9/4*
*ISCJB **02** 03:11:10.0±0.9, 40.16N±004×2098E±008, h10^{km}, Error ellipse: s-maj=8.8km s-min=5.2km az=153.2*
*SKO **02** 03:11:13.2, 4021N×2104E, h5^{km}, M1.5, ML1.9*
ISC 02 03:11:10.4±0.9**, 4014N**±004×**2096E**±008**, h10**^{km}**, n7,** σ**1^{s}07**/11**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.49	190	ePG	Pg	03 11 18.6	-1.3
KZN	Kozani	0.64	74	ePB	Pg	03 11 21.5	-1.3
KZN				eSG	Sg	03 11 31.1	-0.2
OHR	Ohrid	0.98	353	ePg	Pg	03 11 30.2	+0.9
OHR				eSg	Sg	03 11 41.8	-0.2
OHR				eLg		03 11 41.9	
	comp=E,45nm,0.6s						
OHR				eLg		03 11 41.9	
	comp=N,15nm,0.6s						
THL	Klokotos Trika	0.99	125	ePB	Pb	03 11 29.1	-0.6
THL				eSB	Sb	03 11 45.4	+2.6
KRUS	Krusevo	1.25	10	i Pg	Pg	03 11 35.3	+0.9
KRUS				i Sg	Sg	03 11 51.0	+0.3
EVR	Evrytania	1.38	151	ePB	Pb	03 11 37.4	+1.1
VAY	Valandovo	1.70	45	ePg	Pg	03 11 41.8	-1.2

*ISCJB **02** 03:27:57.2±1.6, 4652N±007×15328E±008, h21^{km}±12^{km}, mb4.5/37, MS3.5/4, Error ellipse: s-maj=13.7km s-min=6.0km az=113.6*
*NEIC **02** 03:27:57.9±6.0, 4658N×15325E, h14^{km}±37^{km}, mb4.4/9, Error ellipse: s-maj=12.5km s-min=9.3km az=170.0*
*BJI **02** 03:27:58.5, 4640N×15286E, h9^{km}, mB4.9, mb4.1*
*MOS **02** 03:27:59.3±1.4, 4653N×15335E, h43^{km}, mb4.5/18, Error ellipse: s-maj=10.2km s-min=8.7km az=93.8*
*NIED **02** 03:28:00, 4680N×15300E, h5^{km}, Mw4.3 Best double couple: $M_0$3.47000×10^{15} NP1:ϕ_s184.00000°, δ64.00000°, λ68.00000°. NP2:ϕ_s46.00000°, δ33.00000°, λ127.00000°.*
*IDC **02** 03:28:03.2±4.0, 4652N×153.19E, h56^{km}±36^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.9/23, mbtmp4.1/17, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/32, Error ellipse: s-maj=18.2km s-min=17.5km az=139.0*
ISC 02 03:28:00.4±1.6**, 4658N**±007×**15328E**±008**, h30**^{km}±11^{km}**, n121,** σ**1^{s}19**/128**, mb4.5**/37**, MS3.5**/4**, 10C-8D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.01	252	⇓iPN	Pn	03 28 58.7	-1.0
KUR				iS	Sn	03 29 44.8	-0.9
KUR				pmax	pmax		
	comp=N,170nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,280nm,0.6s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,370nm,0.7s						
SKR	Severo-Kuril's	4.51	24	ePN	Pn	03 29 06.0	-0.7
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	Nemuro 2	6.24	242	P	Pn	03 29 28.5	-1.8
NEM2				eS	Sn	03 30 34.7	-5.9
JRA	Rausu	6.33	248	P	Pn	03 29 32.7	+1.0
JRA				eS	Sn	03 30 43.2	+0.2
JNK	Nakash	6.76	247	P	Pn	03 29 37.6	+0.1
JTKR	Abashiri--Toko	7.11	252	P	Pn	03 29 43.4	+1.1
YSS	Yuzh-Sakhalins	7.24	277	⇓ePN	Pn	03 29 50.0	+5.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
JMP	Maruseppu	7.45	253	P	Pn	03 29 49.0	+2.0
JAR	Ashorobuto	7.50	247	P	Pn	03 29 48.2	+0.5
JAR				eS	Sn	03 31 10.5	-1.2
JKK2	Kamakawa 2	7.91	254	P	Pn	03 29 54.9	+1.6
ASAJ	Asahikawa	7.92	256	P	Pn	03 29 55.8	+2.4
	comp=Z,2.9nm,0.3s,baz=215,slow=11,SNR=9.1						
ASAJ				LR	LR	03 32 39.6	
	comp=Z,96nm,21.3s,baz=42,slow=35						
JCH	Churui	8.11	244	P	Pn	03 29 55.4	-0.6
JCH				eS	Sn	03 31 21.8	-4.9
JFR	Furan	8.32	250	P	Pn	03 30 00.8	+1.9
JEM	Erimo	8.57	241	P	Pn	03 30 02.7	+0.3
ERM	Erimo	8.57	241	ePN	Pn	03 30 03.5	+1.1
ERM				pmax	pmax		
	comp=Z,50nm,0.6s						
ERM	Erimo	8.57	241	ePn	Pn	03 30 03.5	+1.1
	comp=Z,50nm,0.6s						
JBT2	Biratori 2	8.66	248	P	Pn	03 30 03.2	-0.3
JNBK	Urakawa-nobuka	8.67	244	P	Pn	03 30 03.6	-0.1
JNBK				eS	Sn	03 31 38.6	-1.9
JEW	Eniwo	9.21	250	P	Pn	03 30 09.4	-1.8
JNB	Noboribetsu	9.66	249	P	Pn	03 30 17.6	+0.3
JYM2	Yakumo 2	10.26	249	P	Pn	03 30 24.9	-0.7
JANG	Nango	10.56	238	P	Pn	03 30 25.2	-4.4
JANG				eS	Sn	03 32 16.7	-10
JTM	Tenmabayashi	10.57	241	P	Pn	03 30 26.5	-3.2
JTM				eS	Sn	03 32 19.2	-7.8
JTH	Tanohata	10.64	235	eS	Sn	03 32 17.3	-12
JOM	Ohasama	11.28	235	P	Pn	03 30 39.0	-0.5
JOM				eS	Sn	03 32 34.2	-10
OFUJ	Ofunato	11.34	233	eS	Sn	03 32 35.8	-10
JRG	Rokugo	11.71	237	eS	Sn	03 32 45.3	-10
JIO	Ouri	11.97	232	eS	Sn	03 32 51.2	-10
KLR	Kul'dur	14.67	288	eP	Pn	03 31 26.9	+1.1
MJAR	Matsushiro Arr	15.07	234	P	Pn	03 31 30.1	-1.0
	comp=Z,0.4nm,0.3s,baz=38,slow=14,SNR=5.7						
MAJO	Matsushiro	15.07	234	eP	Pn	03 31 29.8	-1.3
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAJO	Matsushiro	15.07	234	ePn	Pn	03 31 29.8	-1.3
	comp=Z,9.1nm,0.6s						
MAT	Matsushiro	15.07	234	P	Pn	03 31 29.7	-1.4
MAT	Matsushiro	15.07	234	P	Pn	03 31 36.0	+4.9
MDJ	Mudanjiang	16.68	272	P	Pn	03 31 52.9	+1.0
MDJ				AP	pP	03 31 57.1	-4.9
MDJ				XP	sP	03 31 59.4	-6.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,32nm,4.1s						
CN2	Changchun	19.77	272	eP	Pn	03 32 27.6	-2.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
JNU	Nakatsue	21.73	240	LR	LR	03 42 20.9	
	comp=Z,110nm,18.1s,MS3.3,baz=244,slow=40						
BILL	Bilibino	22.53	13	eP	P	03 32 57.9	+0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
BOD	Bodaibo	26.18	310	eP	P	03 33 30.1	-2.1
SONM	Songino Array	31.50	290	P	P	03 34 18.9	-0.5
	comp=Z,0.6nm,0.5s,mb3.7,baz=70,slow=8.9,SNR=3.6						
SONM				PcP	PcP	03 37 11.6	-0.3
	comp=Z,0.6nm,0.9s,baz=82,slow=3.1,SNR=3.2						
SONM				LR	LR	03 48 03.7	
	comp=Z,124nm,18.1s,MS3.6,baz=359,slow=38						
SONM	Songino Array	31.50	290	P	P	03 34 18.9	-0.6
SONM						03 37 11.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,124nm,18.1s						
LZH	Lanzhou	38.01	272	eP	P	03 35 17.0	+1.3
LZH				AP	pP	03 35 22.5	-2.1
LZH				XP	sP	03 35 26.0	-2.3
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH	Lanzhou	38.01	272	eP	P	03 35 17.0	+1.3
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	03 35 22.5	-2.1
LZH				sP	sP	03 35 26.0	-2.3
EGAK	Eagle	39.06	38	eP	P	03 35 23.6	-0.9
	comp=Z,2.0nm,0.7s,mb4.0						
GTA	Gaotai	39.11	279	eP	P	03 35 26.7	+1.8
GTA				AP	pP	03 35 31.1	-2.8
GTA				XP	sP	03 35 34.3	-3.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
MK31	Makanchi Array	47.12	298	eP	P	03 36 28.8	-0.9
MKAR	Makanchi Array	47.12	298	P	P	03 36 29.1	-0.6
	comp=Z,3.8nm,0.8s,mb4.4,baz=66,slow=7.2,SNR=34						
MKAR				PcP	PcP	03 38 01.2	+0.1
	comp=Z,0.8nm,0.8s,baz=67,slow=5.1,SNR=3.7						
MKAR				LR	LR	03 57 20.0	
	comp=Z,108nm,19.2s,MS3.8,baz=131,slow=37						
MKAR	Makanchi Array	47.12	298	P	P	03 36 29.1	-0.6
MKAR						03 38 01.2	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,108nm,19.2s						
CHKZ	Chkalovo	50.63	310	eP	P	03 36 55.0	-1.6
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CHKZ	Chkalovo	50.63	310	eP	P	03 36 55.0	-1.6
	comp=Z,7.9nm,0.8s,mb4.7						
YKA	Yellowknife Ar	50.99	37	P	P	03 36 59.2	-0.1
	comp=Z,3.3nm,0.8s,mb4.3,baz=295,slow=7.1,SNR=4.8						
YKA	Yellowknife Ar	50.99	37	P	P	03 36 59.2	-0.1
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	50.99	37	P	P	03 36 59.2	-0.1
BVAR	Borovoye Array	51.05	310	P	P	03 36 59.0	-0.8
	comp=Z,4.6nm,0.9s,mb4.4,baz=66,slow=8.8,SNR=13						
BVAR	Borovoye Array	51.05	310	P	P	03 36 59.0	-0.8
BVAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	Borovoye	51.09	310	eP	P	03 36 59.2	-0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	Borovoye	51.09	310	eP	P	03 36 59.2	-0.9
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK	Zerenda	51.82	310	eP	P	03 37 04.2	-1.3
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	Zerenda	51.82	310	eP	P	03 37 04.2	-1.3
	comp=Z,3.6nm,0.8s,mb4.3						
CHTO	Chiang Mai	52.19	257	eP	P	03 37 09.4	+1.1
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHTO	Chiang Mai	52.19	257	eP	P	03 37 09.4	+1.1
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	Ala-Archa	54.01	297	eP	P	03 37 20.5	-1.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	Ala-Archa	54.01	297	eP	P	03 37 20.5	-1.2
	comp=Z,3.9nm,0.9s,mb4.3						
JIRN	Jiri	55.07	275	eP	P	03 37 31.2	+1.8
	comp=Z,16nm,0.6s,mb5.2						
GUN	Gumba	55.13	275	eP	P	03 37 31.4	+1.6
	comp=Z,14nm,0.6s,mb5.2						
ARU	Arti	55.21	318	eP	P	03 37 29.1	-1.3
ARU	Arti	55.21	318	eP	P	03 37 29.1	-1.3
KKN	Kakani	55.62	276	eP	P	03 37 35.3	+2.0
	comp=Z,24nm,0.7s,mb5.3						
PKI	Pulchoki	55.67	275	eP	P	03 37 35.1	+1.4
	comp=Z,7.4nm,0.5s,mb5.0						
DMN	Daman	55.85	275	eP	P	03 37 36.8	+1.8
	comp=Z,26nm,0.8s,mb5.3						
GKN	Gorkha	55.92	276	eP	P	03 37 37.0	+1.5
	comp=Z,16nm,0.5s,mb5.3						
EDM	Edmonton	56.35	46	eP	P	03 37 37.8	-0.7
KOLN	Koldanda	56.78	277	eP	P	03 37 43.2	+1.6
	comp=Z,10nm,0.6s,mb5.0						
KHMM	Horse Mountain	57.60	63	eP	P	03 37 47.6	+0.3
ARCES	ARCESS Array B	58.05	341	P	P	03 37 50.0	-0.6
	comp=Z,3.1nm,0.9s,mb4.3,baz=43,slow=5.5,SNR=3.8						
ARCES	ARCESS Array B	58.05	341	P	P	03 37 50.0	-0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JOF	Joensuu	61.53	334	ep	P	03 38 12.7	-1.8
NVAR	Mina Array Bea	62.41	62	P	P	03 38 22.4	+2.0
	comp=Z,0.8nm,0.9s,mb3.9,baz=283,slow=8.2,SNR=3.2						
KAF	Kangasniemi	63.64	335	ep	P	03 38 26.0	-2.6
	comp=Z,3.3nm,0.6s,mb4.5						
KAF	Kangasniemi	63.64	335	eP	P	03 38 26.0	-2.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
FINES	FINESS Array B	64.24	335	P	P	03 38 31.8	-0.7
	comp=Z,2.9nm,0.5s,mb4.5,baz=43,slow=7.5,SNR=16						
FINES	FINESS Array B	64.24	335	P	P	03 38 31.8	-0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PDAR	Pinedale Array	64.75	54	P	P	03 38 35.8	0.0
	comp=Z,0.6nm,0.7s,mb3.7,baz=294,slow=1.5,SNR=5.5						
WRA	Warramunga Arr	68.39	199	P	P	03 38 57.7	-1.4
	comp=Z,1.1nm,1.0s,mb3.8,baz=20,slow=6.9,SNR=7.0						
WRA	Warramunga Arr	68.39	199	P	P	03 38 57.7	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NB2	NORSAR Subarra	68.42	341	P	P	03 38 58.9	-0.4
	comp=Z,3.5nm,0.6s,mb4.6,baz=28,slow=6.5						
NOA	NORSAR Array B	68.42	341	P	P	03 38 58.9	-0.4
	comp=Z,4.9nm,0.7s,mb4.7,baz=27,slow=6.4,SNR=14						
NOA				LR	LR	04 11 45.6	
	comp=Z,23nm,19.4s,MS3.4,baz=75,slow=38						
NOA	NORSAR Array B	68.42	341	P	P	03 38 58.9	-0.4
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,23nm,19.4s						
AKASG	Malin Array Be	71.75	326	P	P	03 39 18.7	-1.0
	comp=Z,6.0nm,0.6s,mb4.7,baz=34,slow=6.2,SNR=25						
AKASG	Malin Array Be	71.75	326	P	P	03 39 18.7	-1.0
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKBB	Malin Array Si	71.75	326	eP	P	03 39 19.0	-0.7
ASAR	Alice Springs	72.08	199	P	P	03 39 21.1	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=11,slow=5.7,SNR=12						
ASAR	Alice Springs	72.08	199	P	P	03 39 21.2	-0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BURAR	Bucovina Array	75.79	327	⇑iP	P	03 39 43.7	+0.3
BURAR	Bucovina Array	75.79	327	⇑P	P	03 39 43.7	+0.3
MORC	Moravsky Berou	76.64	332	⇑iP	P	03 39 48.6	+0.4
MORC	Moravsky Berou	76.64	332	⇑P	P	03 39 48.6	+0.4
CLL	Collm	76.67	336	i P	P	03 39 48.1	-0.2
	comp=Z,7.0nm,0.7s,mb4.7						
MLR	Muntele Rosu	77.27	325	⇓iP	P	03 39 53.7	+2.0
MLR	Muntele Rosu	77.27	325	⇓P	P	03 39 53.7	+2.0
DRGR		77.42	328	⇑iP	P	03 39 53.2	+0.6
DRGR		77.42	328	⇑P	P	03 39 53.2	+0.7
TXAR	Lajitas Array	77.48	61	P	P	03 39 52.4	-0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=297,slow=4.2,SNR=11						
TXAR	Lajitas Array	77.48	61	P	P	03 39 52.4	-0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GZR	Gura Zlata	78.57	327	⇑iP	P	03 39 59.1	+0.1
GZR	Gura Zlata	78.57	327	⇑P	P	03 39 59.1	+0.1
BRTR	Keskin Array B	78.59	317	P	P	03 39 59.8	+0.7
	comp=Z,1.2nm,0.9s,mb3.8,baz=52,slow=3.7,SNR=6.3						
BRTR	Keskin Array B	78.59	317	P	P	03 39 59.8	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	GERESS Array B	78.66	334	P	P	03 39 59.2	-0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=33,slow=5.1,SNR=6.1						
GERES	GERESS Array B	78.66	334	P	P	03 39 59.2	-0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BZS	Buzias	78.82	328	⇓iP	P	03 40 00.7	+0.4
BZS	Buzias	78.82	328	⇓P	P	03 40 00.7	+0.4
MIB	Mutribah	78.85	302	eP	P	03 40 01.7	+1.2
MIB				AMb	AMB	03 40 03.2	
	comp=Z,26nm,0.7s,mb5.2						
RST	Umm Al-Ruwaisa	79.27	302	eP	P	03 40 03.7	+0.9
RST				AMb	AMB	03 40 05.2	
	comp=Z,23nm,0.7s,mb5.2						
NAY	Al-Naaiem	79.31	301	eP	P	03 40 04.1	+1.1
NAY				AMb	AMB	03 40 05.8	
	comp=Z,8.9nm,0.9s,mb4.7						
RDF	Al-Radifah	79.37	301	eP	P	03 40 04.8	+1.4
RDF				AMb	AMB	03 40 07.5	
	comp=Z,25nm,0.9s,mb5.1						
PKSM	Moragy	79.37	330	⇓iP	P	03 40 02.0	-1.4
PKSM	Moragy	79.37	330	⇓P	P	03 40 02.0	-1.3
VTS	Vitosha	80.77	325	⇑iP	P	03 40 11.7	+0.8
VTS	Vitosha	80.77	325	⇑P	P	03 40 11.7	+0.7
TORD	Torodi Ar. Bea	115.30	329	PKP	PKPdf	03 46 38.0	-0.9
	comp=Z,0.2nm,0.6s,baz=350,slow=2.1,SNR=5.3						

*IDC **02** 03:40:06.5±1.4, 099S×12757E, h0^{km}, mb3.6/3, mb1 3.7/5, mb1mx3.6/15, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=101.7km s-min=20.8km az=72.0*
*ISCJB **02** 03:40:09.4±1.0, 10S±0.1×1276E±03, h35^{km}, mb4.2/6, Error ellipse: s-maj=45.5km s-min=10.2km az=131.1*
ISC 02 03:40:11.2±1.0**, 10S**±01×**1277E**±03**, h35**^{km}**, n13,** σ**0^{s}49**/13**, mb4.2**/6**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.09	187	eP	Pn	03 44 07.6	+0.3
	3.0nm,1.1s						
FITZ	Fitzroy Crossi	17.09	187	P	Pn	03 44 07.0	-0.3
	0.1nm,0.3s,baz=7.8,slow=12,SNR=3.3						
WRA	Warramunga Arr	19.88	161	P	Pn	03 44 40.4	-0.7
	0.2nm,0.3s,baz=340,slow=11,SNR=15						
WB2	Warramunga Arr	19.88	161	eP	Pn	03 44 40.9	-0.3
ASAR	Alice Springs	23.29	166	P	P	03 45 17.0	+1.1
	1.0nm,0.6s,mb3.4,baz=343,slow=10,SNR=12						
JIRN	Jiri	49.04	309	eP	P	03 48 54.7	+0.1
	3.5nm,0.5s,mb4.7						
GUN	Gumba	49.40	309	eP	P	03 48 57.1	-0.3
	8.6nm,0.5s,mb5.0						
PKI	Pulchoki	49.61	308	eP	P	03 48 59.6	+0.6
DMN	Daman	49.86	308	eP	P	03 49 01.2	+0.3
GKN	Gorkha	50.41	308	eP	P	03 49 04.6	-0.5
KOLN	Koldanda	51.13	308	eP	P	03 49 10.2	-0.3
	10nm,0.7s,mb4.9						
SONM	Songino Array	52.10	342	P	P	03 49 17.9	+0.2
	0.5nm,0.6s,mb3.6,baz=152,slow=6.6,SNR=4.2						
MKAR	Makanchi Array	62.03	326	P	P	03 50 27.8	-0.2
	0.4nm,0.5s,mb3.8,baz=117,slow=7.9,SNR=7.7						

*NEIC **02** 03:55:31.1±0.7, 3432N×13727E, h35^{km}, MG3.0(JMA), Error ellipse: s-maj=19.0km s-min=10.8km az=104.0*
*ISCJB **02** 03:55:35.5±0.5, 3524N±005×13923E±007, h162^{km}±3^{km}, mb3.5/4, Error ellipse: s-maj=10.5km s-min=6.0km az=114.5*
*JMA **02** 03:55:36.8±0.1, 3523N×13926E, h156^{km}±1^{km}, M3.0*
*IDC **02** 03:55:37.3±0.7, 3496N×13856E, h141^{km}±21^{km}, mb3.3/4, mb1 3.5/5, mb1mx3.3/22, mbtmp3.8/5, Error ellipse: s-maj=81.5km s-min=6.6km az=68.0*
ISC 02 03:55:36.6±0.5**, 3524N**±005×**13924E**±007**, h158**^{km}±3^{km}**, n22,** σ**0^{s}54**/35**, mb3.5**/4**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	Odawara 2	0.12	282	P	Pn	03 55 58.0	+0.3
JOD2				S	Sn	03 56 13.8	0.0
AJI	Ajiro2	0.23	212	P	Pn	03 55 57.7	-0.2
JIM2	Oshima 3	0.54	163	P	Pn	03 55 59.0	-0.1
JIM2				S	Sn	03 56 16.1	-0.1
JIZS	Izushimoda	0.59	210	P	Pn	03 55 59.4	0.0
JYN	Shimob	0.62	295	P	Pn	03 56 00.0	+0.5
JYN				S	Sn	03 56 18.3	+1.3
JRY	Ryogami san	0.82	341	P	Pn	03 56 01.6	+0.8
JRY				S	Sn	03 56 19.7	+0.4
SHZ3	Shizuoka 3	0.86	259	P	Pn	03 56 01.3	+0.3
SHZ3				eS	Sn	03 56 20.0	+0.3
JAG	Ashikaga	1.20	8	P	Pn	03 56 04.1	+0.2
JAG				S	Sn	03 56 24.2	-0.5
BSO1	Boso 1	1.54	112	P	Pn	03 56 07.5	+0.3
BSO1				S	Sn	03 56 31.0	+0.2
MJAR	Matsushiro Arr	1.55	328	P	Pn	03 56 07.1	-0.2
	16nm,0.3s,baz=167,slow=10,SNR=118						
MJAR				S	Sn	03 56 30.0	-0.8
	7.3nm,0.3s,baz=76,slow=31,SNR=17						
MAJO	Matsushiro	1.55	328	ePn	Pn	03 56 07.3	0.0
MAJO				eSn	Sn	03 56 30.2	-0.6
MAT	Matsushiro	1.55	328	P	Pn	03 56 07.3	0.0
MAT				S	Sn	03 56 29.7	-1.1
MAT	Matsushiro	1.55	328	P	Pn	03 56 07.4	+0.1
MAT				S	Sn	03 56 30.0	-0.8
JGM	Miyama	2.11	283	P	Pn	03 56 13.7	+0.3
JGM				S	Sn	03 56 41.7	-0.1
JHJ	Hachijo jima 2	2.16	168	P	Pn	03 56 14.0	-0.1
	94nm,0.3s,baz=59,slow=17,SNR=18						
JHJ				S	Sn	03 56 41.2	-1.7
	26nm,0.3s,baz=252,slow=23,SNR=4.8						
JHJ2	Mitsune	2.17	167	P	Pn	03 56 14.4	+0.2
JIE	Ise	2.25	249	P	Pn	03 56 14.9	-0.2
SONM	Songino Array	27.40	307	P	P	04 01 06.7	-0.5
	0.3nm,0.6s,mb3.1,baz=106,slow=9.4,SNR=2.9						
MK31	Makanchi Array	43.61	303	eP	P	04 03 25.0	-0.1
MKAR	Makanchi Array	43.61	303	P	P	04 03 25.4	+0.4
	0.7nm,0.6s,mb3.5,baz=84,slow=8.8,SNR=6.6						
WRA	Warramunga Arr	55.07	186	P	P	04 04 51.5	-0.5
	1.8nm,0.5s,mb4.1,baz=1.1,slow=7.6,SNR=57						
ASAR	Alice Springs	58.80	186	P	P	04 05 19.1	+0.8
	0.2nm,0.4s,mb3.3,baz=21,slow=11,SNR=5.6						

*IDC **02** 04:52:19.4±3.1, 567S×15080E, h0^{km}, mb3.6/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=108.5km s-min=37.4km az=123.0*
NEIC 02 04:52:19.4±1.8**, 576S**×**15117E, h10**^{km}**, mb3.9**/2**, Error ellipse: s-maj=54.0km s-min=24.4km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.37	227	Pn	Pn	04 53 39.7	+0.1
	0.8nm,0.3s,baz=8.9,slow=17,SNR=2.1						
PMG				Sn	Sn	04 54 37.9	-3.6
	4.6nm,0.3s,baz=216,slow=21,SNR=5.5						
KAKA	Kakadu	19.72	248	eP	Pn	04 56 49.2	-1.3
	1.7nm,0.3s						
WB2	Warramunga Arr	21.59	228	eP	P	04 57 09.2	0.0
WRA	Warramunga Arr	21.59	228	P	P	04 57 09.2	-0.1
	1.4nm,0.5s,baz=54,slow=10,SNR=24						
AS31	Alice Springs	24.35	221	eP	P	04 57 37.8	+0.5
ASAR	Alice Springs	24.35	221	P	P	04 57 37.9	+0.5
	1.7nm,0.7s,baz=54,slow=9.5,SNR=17						
FITZ	Fitzroy Crossi	27.77	242	eP	P	04 58 10.0	+1.7
	2.0nm,0.7s						
FITZ	Fitzroy Crossi	27.77	242	P	P	04 58 07.2	-1.1
	0.6nm,0.7s,baz=90,slow=14,SNR=2.0						
TORD	Torodi Ar. Bea	149.03	286	PKPbc	PKPbc	05 12 08.9	+1.3
	0.2nm,0.5s,baz=56,slow=3.0,SNR=6.3						

MEX 02 05:07:38.9±0.3**, 1723N**×**9639W, h83**^{km}±4^{km}**, MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.35	246	i P	Pn	05 07 50.5	-1.3
OXX				i S	Sn	05 07 59.5	-1.8
VHO	Vista Hermosa	0.36	245	i P	Pn	05 07 50.8	-1.1
VHO				i S	Sn	05 08 00.2	-1.2
CMIG	Matias Romero	1.45	95	i P	Pn	05 08 02.3	-1.3
CMIG				i S	Sn	05 08 20.6	-1.6
UTMO	Huajuapan	1.48	294	i P	Pn	05 08 03.0	-1.0
UTMO				i S	Sn	05 08 21.6	-1.3

*ISCJB **02** 05:07:45.3±0.3, 3780N±003×1986E±003, h10^{km}, mb3.8/8, Error ellipse: s-maj=4.5km s-min=2.7km az=135.9*
*IDC **02** 05:07:45.2±1.1, 3790N×2003E, h0^{km}, mb3.8/8, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, ML3.6/2, Error ellipse: s-maj=25.6km s-min=19.0km az=62.0*
*CSEM **02** 05:07:46.8±0.1, 3776N×1989E, h12^{km}, MD3.7, Error ellipse: s-maj=2.9km s-min=1.5km az=163.0*
*ATH **02** 05:07:48.8, 3787N×2008E, h21^{km}±1^{km}, MD3.7/8*
*NEIC **02** 05:07:48.8, 3787N×2008E, h21^{km}, MD3.7(ATH), ML3.9(THE), After ATH.*
*THE **02** 05:07:49.3, 3773N×2022E, h14^{km}, ML3.4*
ISC 02 05:07:46.6±0.3**, 3779N**±003×**1987E**±003**, h10**^{km}**, n66,** σ**1^{s}18**/87**, mb3.8**/8**, 1C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.69	55	PN	Pg	05 07 58.7	-1.2
VLS				SN	Sg	05 08 07.1	-1.8
LKD	Levkas	1.10	33	ePg	Pg	05 08 06.5	-1.4
LKD				eSg	Sg	05 08 24.8	+2.6
LKD	Levkas	1.10	33	ePg	Pg	05 08 06.4	-1.4
LKD				eSg	Sg	05 08 24.8	+2.6
RLS	Riolos of Patr	1.29	77	PN	Pn	05 08 10.0	-0.6
RLS				SN	Sn	05 08 25.8	-2.1
ITM	Ithomi	1.74	110	PN	Pn	05 08 18.1	+1.3
IGT	Igoumenitsa	1.78	11	ePb	Pb	05 08 19.0	-0.3
IGT				eSb	Sb	05 08 44.2	+2.6
IGT	Igoumenitsa	1.78	11	ePb	Pb	05 08 19.0	-0.3
IGT				eSb	Sb	05 08 44.2	+2.5
EVR	Evrytania	1.90	53	PN	Pn	05 08 19.9	+1.0
EVR				SN	Sn	05 08 41.6	-1.3
KEK	Kerkira	1.93	358	PN	Pn	05 08 21.3	+1.9
JAN	Janina	2.02	22	PN	Pn	05 08 22.5	+1.9
JAN				SN	Sn	05 08 45.8	-0.1
MEV	Metsovon	2.26	28	ePn	Pn	05 08 23.8	-0.2
AGG	Agios Georgios	2.29	57	ePn	Pn	05 08 25.5	+1.1
LKR	Lokris	2.61	70	PN	Pn	05 08 28.9	+0.1
VLI	Veliai	2.67	113	PB	Pb	05 08 31.9	-2.5
TIP	Timpagrande	2.81	301	ePn	Pn	05 08 32.0	+0.5
TIP	Timpagrande	2.81	301	ePn	Pn	05 08 32.0	+0.4
KZN	Kozani	2.92	30	PN	Pn	05 08 35.0	+2.0
KYTH	Kithira	2.94	120	ePN	Pn	05 08 35.7	+2.4
SOI	Samo	3.03	277	Pn	Pn	05 08 35.5	+0.9
SOI				Sn	Sn	05 09 10.8	-0.2
NEO	Neokhori	3.03	59	PN	Pn	05 08 35.1	+0.5
XOR	Xorichti	3.04	58	ePn	Pn	05 08 35.0	+0.3
LIT	Litokhoron	3.08	41	ePn	Pn	05 08 36.4	+1.1
LIT				eSn	Sn	05 09 10.5	-1.7
FNA	Florina	3.21	21	ePn	Pn	05 08 38.0	+1.0
FNA	Florina	3.21	21	ePn	Pn	05 08 38.0	+0.9
MTTG	Motta San Giov	3.31	275	Pn	Pn	05 08 39.5	+1.0
OHR	Ohrid	3.40	12	i Pn	Pn	05 08 40.5	+0.9
OHR	Ohrid	3.40	12	i Pn	Pn	05 08 40.5	+0.9
BIA	Bitola	3.42	19	ePn	Pn	05 08 41.4	+1.5
BIA	Bitola	3.42	19	i Pn	Pn	05 08 40.7	+0.8
AOS	Alonnisos	3.44	65	ePn	Pn	05 08 39.6	-0.5
PAIG	Paliouri	3.66	53	ePn	Pn	05 08 43.1	-0.1
PAIG				eSn	Sn	05 09 24.5	-1.9
GRG	Griva	3.72	31	ePn	Pn	05 08 45.0	+0.9
AGST	Augusta-Monte	3.73	263	Pn	Pn	05 08 43.1	-1.1
AGST				Sn	Sn	05 09 26.3	-1.9
KRUS	Krusevo	3.73	16	i Pn	Pn	05 08 44.6	+0.4
KRUS	Krusevo	3.73	16	i Pn	Pn	05 08 44.6	+0.4
HORT	Hortiatis	3.76	41	ePn	Pn	05 08 45.0	+0.4
HORT				eSn	Sn	05 09 29.2	+0.2
PLG	Polygyros	3.80	46	ePn	Pn	05 08 44.9	-0.1
PLG				eSn	Sn	05 09 27.6	-2.1
HAVL	Avola	3.87	259	Pn	Pn	05 08 45.8	-0.3
HAVL				Sn	Sn	05 09 29.0	-2.6
SSY	Sortino	3.87	262	Pn	Pn	05 08 46.3	+0.2
SSY				Sn	Sn	05 09 30.5	-1.2
PHP	Peshkopia	3.92	6	i Pn	Pn	05 08 48.3	+1.5
PHP				i Sn	Sn	05 09 31.6	-1.2
SOH	Sokhos	4.06	41	ePn	Pn	05 08 49.6	+0.9
SOH				eSn	Sn	05 09 35.1	-1.2
OUR	Ouranopolis	4.09	50	ePn	Pn	05 08 49.4	+0.3
VAY	Valandovo	4.10	30	ePn	Pn	05 08 49.0	-0.3
VAY	Valandovo	4.10	30	i Pn	Pn	05 08 48.9	-0.4
KNT	Kendrikon	4.10	34	ePn	Pn	05 08 49.6	+0.3
KNT				eSn	Sn	05 09 36.8	-0.6
HVZN	Vizzini	4.15	263	Pn	Pn	05 08 49.5	-0.4
VAM	Vamos	4.21	123	P	Pn	05 08 52.0	+1.2
STIP	Stip	4.29	24	i Pn	Pn	05 08 52.2	+0.3
IDI	Anoyia	4.75	120	Pn	Pn	05 08 59.3	+1.2
	2.7nm,0.3s,baz=295,slow=12,SNR=12						
IDI				Sn	Sn	05 09 52.6	-0.6
	2.4nm,0.3s,baz=8.5,slow=22,SNR=3.8						
IDI	Anoyia	4.75	120	Pn	Pn	05 08 59.3	+1.2
IDI				Sn	Sn	05 09 52.6	-0.6
MMB	Musomiste	4.82	37	ePn	Pn	05 08 59.2	0.0
VTS	Vitosha	5.44	27	ePn	Pn	05 09 08.5	+0.9
RDO	Rodhopi	5.52	51	P	Pn	05 09 10.3	+1.5
DIVS	Divcibare	6.31	1	i Pn	Pn	05 09 18.6	-1.0
MLR	Muntele Rosu	8.94	29	Pn	Pn	05 09 59.6	+3.9
	0.2nm,0.3s,baz=223,slow=19,SNR=2.9						
MOA	Molln	10.87	340	⇑iP	Pn	05 10 21.8	-0.3
	comp=Z,4.2nm,0.7s						
GERES	GERESS Array B	11.93	340	Pn	Pn	05 10 36.0	-0.7
	0.2nm,0.3s,baz=166,slow=14,SNR=4.6						
HFS	Hagfors	22.71	352	P	P	05 12 47.7	-0.7
	5.4nm,0.8s,mb4.0,baz=146,slow=11,SNR=8.5						
EKA	Eskdalemuir Ar	23.46	326	P	P	05 12 56.3	0.0
	4.6nm,1.1s,mb3.8,baz=127,slow=14,SNR=4.8						
NOA	NORSAR Array B	23.91	350	P	P	05 13 01.2	+0.7
	1.1nm,0.7s,mb3.4,baz=152,slow=12,SNR=3.2						
FINES	FINESS Array B	24.00	7	P	P	05 12 59.0	-2.4
	3.8nm,0.8s,mb3.9,baz=162,slow=13,SNR=5.9						
TORD	Torodi Ar. Bea	29.40	218	P	P	05 13 51.2	+1.2
	0.5nm,1.0s,mb3.2,baz=40,slow=8.7,SNR=5.6						
ARCES	ARCESS Array B	31.96	4	P	P	05 14 11.2	-1.3
	2.7nm,0.9s,mb4.1,baz=186,slow=11,SNR=8.2						
ARCES	ARCESS Array B	31.96	4	P	P	05 14 11.2	-1.4
MKAR	Makanchi Array	45.94	58	P	P	05 16 07.8	-1.7
	0.9nm,0.3s,mb4.1,baz=279,slow=6.9,SNR=11						
SCHQ	Schefferville	58.40	317	P	P	05 17 42.5	+0.3
	2.2nm,0.9s,mb4.2,baz=84,slow=9.2,SNR=2.7						

IDC 02 05:16:01.7±2.3,688S×12882E,h0km,mb3.5/1,mb1 4.0/4, mb1mx3.7/14,mbtmp3.8/4,ML3.9/3,Error ellipse: s-maj=105.2km s-min=28.5km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	195	Pn	Pn	05 18 48.6	+0.4
	1.1nm,0.3s,baz=25,slow=11,SNR=37						
FITZ				Sn	Sn	05 20 43.5	-15
	0.6nm,0.3s,baz=258,slow=19,SNR=3.3						
WRA	Warramunga Arr	14.05	158	Pn	Pn	05 19 21.5	-0.5
	0.4nm,0.3s,baz=334,slow=14,SNR=20						
WRA				Sn	Sn	05 21 42.4	-16
	1.1nm,0.3s,baz=331,slow=22,SNR=10.0						
ASAR	Alice Springs	17.39	164	P	Pn	05 20 06.3	+0.6
	0.4nm,0.3s,baz=337,slow=9.9,SNR=42						
MKAR	Makanchi Array	67.49	327	P	P	05 26 59.6	+0.2
	0.2nm,0.4s,baz=116,slow=7.9,SNR=4.5						

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*BJI **02** 05:17:00.9,496S×154.10E,h38km,mB5.5,mb5.7,Ms5.1, Msz4.7*

*MOS **02** 05:17:01.0±1.0,531S×15373E,h40km,mb5.7/31, MS4.6/24,Error ellipse: s-maj=8.4km s-min=6.0km az=95.4*

*ISCJB **02** 05:17:01.2±0.2,540S±003×15376E±004,h46km, mb5.5/103,MS4.8/150,Error ellipse: s-maj=5.1km s-min=4.1km az=10.3*

*IDC **02** 05:17:03.0±0.9,540S×15375E,h47km±7km,mb5.1/23, mb1 5.1/26,mb1mx5.1/27,mbtmp5.1/26,ML4.5/3,MS4.6/17, Ms1 4.6/17,ms1mx4.6/18,Error ellipse: s-maj=14.3km s-min=10.1km az=79.0*

*GCMT **02** 05:17:02.8±0.1,562S×15365E,h40km,MW5.3/91, Moment Tensor Solution. s91,c147; s85,c134; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.15±.02; $M_{\theta\theta}$-0.55±.01; $M_{\phi\phi}$-0.59±.02; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$0.65±.01; $M_{\phi r}$-0.18±.02; Best double couple: $M_0$1.20700×10^{17} NP1:ϕ_s313.00000°,δ40.00000°, λ86.00000°. NP2:ϕ_s138.00000°,δ50.00000°,λ93.00000°. Principal axes: T 1.1700, Plg84.0000°, Azm73.0000°; N 0.0750, Plg2.0000°, Azm316.0000°; P -1.2440, Plg5.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 05:17:02.8±0.1,538S×15378E,mb5.5/43,MS5.0/119, MW5.2 Error ellipse: s-maj=5.0km s-min=3.7km az=100.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{16}Nm; M_{rr}9.08; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$-7.81; $M_{r\theta}$0.02; $M_{\theta\phi}$1.76; $M_{\phi r}$-2.09; Best double couple: $M_0$8.90000×10^{16} NP1: ϕ_s169.00000°,δ52.00000°,λ93.00000°. NP2: ϕ_s343.00000°,δ38.00000°,λ86.00000°. Principal axes: T 9.3400, Plg83.0000°, Azm99.0000°; N -0.8500, Plg3.0000°, Azm347.0000°; P -8.4800, Plg7.0000°, Azm256.0000°;*

ISC 02 05:17:03.3±0.2,540S±003×15381E±004,h48km, h48km±1.3km:pP-P,n462,σ1^{s}04/279,mb5.5/103,MS4.8/150, 45C-15D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.28	124	P	Pn	05 18 48.8	+1.8
	45nm,0.3s,baz=250,slow=1.9,SNR=9.8						
HNR				S	Sn	05 20 15.0	+6.6
	17nm,0.3s,baz=94,slow=19,SNR=2.7						
PMG	Port Moresby	7.71	238	P	Pn	05 18 52.7	-0.2
	24nm,0.3s,baz=45,slow=7.5,SNR=63						
PMG				S	Sn	05 20 16.5	-2.3
	6.5nm,0.3s,baz=38,slow=18,SNR=3.3						
PMG				LR	LR	05 21 46.1	
	comp=Z,6µm,21.7s,baz=311,slow=37						
PMG	Port Moresby	7.71	238	ePn	Pn	05 18 52.7	-0.2
PMG				eSn	Sn	05 20 18.9	+0.1
CTA	Charters Tower	16.35	206	⇓iP	Pn	05 20 49.7	+0.3
	72nm,1.0s						
CTA	Charters Tower	16.35	206	P	Pn	05 20 50.0	+0.5
	0.7nm,0.3s,baz=30,slow=14,SNR=70						
CTA	Charters Tower	16.35	206	⇓iP	Pn	05 20 49.7	+0.3
CTA				pmax	pmax		
	comp=Z,72nm,1.0s						
CTAO	Charters Tower	16.35	206	eP	Pn	05 20 49.7	+0.3
DZM	Mont Dzumac	20.59	145	eP	P	05 21 39.0	+0.7
DZM	Mont Dzumac	20.59	145	P	P	05 21 39.0	+0.8
	comp=Z,383nm,0.9s,baz=339,slow=10,SNR=145						
GUMO	Guam	20.85	335	P	P	05 21 42.0	+1.0
	comp=Z,174nm,0.8s,baz=174,slow=8.0,SNR=9.6						
GUMO				LR	LR	05 29 32.9	
	comp=Z,460nm,18.4s,MS3.9,baz=148,slow=36						
GUMO	Guam	20.85	335	eP	P	05 21 41.7	+0.7
GUMO				pmax	pmax		
	comp=Z,365nm,1.0s						
GUMO				MLR	MLR		
	comp=Z,915nm,20.0s,MS4.2						
GUMO	Guam	20.85	335	eP	P	05 21 41.7	+0.7
	comp=Z,365nm,1.0s						
GUMO				LR	LR		
	comp=Z,915nm,20.0s,MS4.2						
KAKA	Kakadu	22.31	250	eP	P	05 21 55.7	-0.9
	comp=Z,222nm,0.6s,mb5.8						
KAKA				ePCP	PcP	05 25 51.5	+0.7
KAKA				eS	S	05 25 57.4	-1.9
WRAB	Tennant Creek	23.82	231	eP	P	05 22 11.4	-0.3
WRAB				pmax	pmax		
	comp=Z,123nm,0.9s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,583nm,20.0s,MS4.0						
WRAB	Tennant Creek	23.82	231	eP	P	05 22 11.4	-0.3
	comp=Z,123nm,0.9s,mb5.3						
WRAB				LR	LR		
	comp=Z,583nm,20.0s,MS4.0						
WB2	Warramunga Arr	23.82	231	eP	P	05 22 11.9	+0.1
WB2				ePCP	PcP	05 25 54.2	+0.2
WB2	Warramunga Arr	23.82	231	eP	P	05 22 11.6	-0.1
WB2				ePcP	PcP	05 25 54.2	+0.2
WB2				ePcP	PcP	05 25 54.4	+0.5
WRA	Warramunga Arr	23.83	231	P	P	05 22 11.9	0.0
	comp=Z,18nm,0.7s,mb4.6,baz=54,slow=9.6,SNR=35						
WRA				PcP	PcP	05 25 54.8	+0.8
	comp=Z,41nm,0.7s,baz=59,slow=2.3,SNR=17						
WRA				S	S	05 26 38.8	+14
	comp=Z,1.8nm,0.8s,baz=51,slow=21,SNR=4.2						
WRA				pScP		05 29 37.3	
	comp=Z,7.5nm,0.9s,baz=54,slow=2.8,SNR=6.0						
WRA				LR	LR	05 31 27.4	
	comp=Z,2µm,20.3s,MS4.6,baz=60,slow=36						
WRA	Warramunga Arr	23.83	231	P	P	05 22 11.9	0.0
WRA						05 25 54.8	
ARMA	Armidale	24.97	184	⇑iP	P	05 22 23.2	+0.9
AS31	Alice Springs	26.41	225	eP	P	05 22 35.0	-0.3
AS31				epP	pP	05 22 48.5	+0.8
AS31				ePcP	PcP	05 26 00.1	+0.4
AS31				ePcP	PcP	05 26 00.6	+0.8
AS31				eS	S	05 27 00.2	-5.2
ASAR	Alice Springs	26.41	225	P	P	05 22 35.0	-0.4
	comp=Z,16nm,0.8s,mb4.6,baz=59,slow=8.4,SNR=80						
ASAR				pP	pP	05 22 48.4	+0.7
	comp=Z,70nm,0.9s,baz=55,slow=9.0,SNR=20						
ASAR				PP		05 23 17.4	
	comp=Z,49nm,0.9s,baz=57,slow=10,SNR=5.0						
ASAR				PcP	PcP	05 26 00.6	+0.8
	comp=Z,41nm,0.7s,baz=61,slow=2.6,SNR=22						
ASAR				ScP	ScP	05 29 34.9	-0.7
	comp=Z,1.8nm,0.8s,baz=47,slow=3.2,SNR=3.7						
ASAR				pScP		05 29 45.4	
	comp=Z,5.0nm,0.8s,baz=42,slow=3.5,SNR=6.6						
ASAR				LR	LR	05 32 57.8	
	comp=Z,2µm,19.2s,MS4.8,baz=144,slow=36						
ASAR	Alice Springs	26.41	225	P	P	05 22 35.0	-0.3
ASAR				*PP	pP	05 22 48.4	+0.7
ASAR						05 23 17.5	
ASAR						05 26 00.6	
ASPA	Alice Springs	26.42	225	eP	P	05 22 35.6	+0.3
ASPA				ePCP	PcP	05 26 00.6	+0.8
ASPA				eS	S	05 27 00.2	-5.3
STKA	Stephens Creek	28.72	202	eP	P	05 22 55.0	-1.0
	comp=Z,20nm,0.9s,mb4.8						
STKA				ePCP	PcP	05 26 05.7	+0.4
STKA				eS	S	05 27 32.9	-8.9
STKA				eSCP	ScP	05 29 44.5	+1.8
STKA	Stephens Creek	28.72	202	P	P	05 22 55.0	-0.9
	comp=Z,30nm,0.9s,mb5.0,baz=6.3,slow=8.1,SNR=26						
STKA				PcP	PcP	05 26 05.6	+0.3
	comp=Z,23nm,0.8s,baz=18,slow=1.8,SNR=5.6						
STKA				LR	LR	05 34 48.7	
	comp=Z,2µm,18.2s,MS4.7,baz=17,slow=37						
STKA	Stephens Creek	28.72	202	eP	P	05 22 54.8	-1.2
STKA				ePcP	PcP	05 26 05.2	-0.1
STKA				ePcP	PcP	05 26 05.7	+0.4
STKA				eS	S	05 27 32.9	-8.9
STKA				eScP	ScP	05 29 44.5	+1.8
CNB	Canberra Magne	30.05	187	eP	P	05 23 08.3	+0.5
	comp=Z,77nm,1.5s,mb5.2						
FITZ	Fitzroy Crossi	30.28	243	eP	P	05 23 08.7	-1.0
	comp=Z,78nm,0.8s,mb5.5						
FITZ				eS	S	05 28 01.0	-5.2
FITZ	Fitzroy Crossi	30.28	243	P	P	05 23 09.0	-0.8
	comp=Z,81nm,1.1s,mb5.4,baz=88,slow=7.3,SNR=36						
FITZ				pP	pP	05 23 21.1	-1.1
	comp=Z,52nm,0.8s,baz=77,slow=8.8,SNR=9.8						
DAV	Davao City (W)	30.78	293	PFAKE		05 23 30.0	+16
DAV				LR	LR		
	comp=Z,907nm,22.0s,MS4.4						
TOO	Toolangi	32.91	192	eP	P	05 23 31.2	-1.7
	comp=Z,4.0nm,0.6s,mb4.5						
TOO				ePCP	PcP	05 26 16.6	+0.2
TOO	Toolangi	32.91	192	eP	P	05 23 31.2	-1.7
TOO				e		05 26 16.6	
TOO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KAPI	Kappang	33.92	269	P	P	05 23 40.0	-1.7
	comp=Z,523nm,1.0s,mb6.4,SNR=13						
FORT	Forrest	34.98	221	eP	P	05 23 50.0	-0.9
	comp=Z,81nm,0.6s,mb5.8						
FORT				epP	pP	05 24 02.9	-0.6
FORT				esP	sP	05 24 06.8	-2.4
FORT				ePCP	PcP	05 26 22.7	+0.4
MBWA	Marble Bar	36.56	241	P	P	05 24 04.2	-0.2
	SNR=7.6						
MBWA	Marble Bar	36.56	241	eP	P	05 24 03.7	-0.7
	comp=Z,41nm,0.9s,mb5.3						
MBWA				epP	pP	05 24 16.2	-0.9
MBWA				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
TSM	Tawau	37.16	284	P	P	05 24 10.0	+0.5
TAU	Tasmania Unive	37.80	188	eP	P	05 24 16.3	+1.4
	comp=Z,154nm,1.3s,mb5.6						
TAU				epP	pP	05 24 28.5	+0.9
TAU				ePcP	PcP	05 26 31.1	+0.3
TAU				LR	LR		
	comp=Z,265nm,21.0s,MS4.0						
TGY	Tagaytay City	37.94	301	P	P	05 24 16.8	+0.7
	comp=Z,117nm,0.3s,baz=78,slow=2.8,SNR=4.1						
TGY				PcP	PcP	05 26 32.4	+1.2
	comp=Z,178nm,0.4s,baz=89,slow=12,SNR=4.7						
TGY				LR	LR	05 38 22.0	
	comp=Z,5.5nm,19.7s,baz=315,slow=34						
TGY	Tagaytay City	37.94	301	P	P	05 24 16.8	+0.7
TGY						05 26 32.4	
URZ	Urewera	38.97	150	P	P	05 24 25.1	+0.4
	comp=Z,106nm,0.7s,mb5.7,baz=330,slow=3.3,SNR=50						
KKM	Kota Kinabalu	39.22	286	P	P	05 24 27.0	+0.2
KKM	Kota Kinabalu	39.22	286	P	P	05 24 26.8	0.0
KKM	Kota Kinabalu	39.22	286	eP	P	05 24 26.3	-0.5
KKM				ePcP	PcP	05 26 35.6	+0.4
SNZO	South Karori	40.34	155	eP	P	05 24 35.8	-0.4
	comp=Z,47nm,0.6s,mb5.4						
SNZO				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
JOW	Kunigami	40.47	324	LR	LR	05 38 20.3	
	comp=Z,465nm,21.5s,MS4.3,baz=191,slow=32						
RPZ	Rata Peaks	41.08	161	P	P	05 24 42.0	-0.2
	comp=Z,65nm,0.8s,mb5.3,baz=26,slow=1.0,SNR=27						
RPZ	Rata Peaks	41.08	161	P	P	05 24 42.0	-0.2
KLBR	Kellerberrin	42.65	228	eP	P	05 24 53.5	-1.5
	comp=Z,36nm,0.6s,mb5.3						
KLBR				epP	pP	05 25 06.6	-1.3
NACB	Ninganchiao	43.01	314	eP	P	05 24 58.4	+0.5
MIDW	Midway	43.46	38	PFAKE		05 25 10.0	+8.4
MIDW				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
YHNB	Yeheng	43.47	315	eP	P	05 25 02.2	+0.5
TATO	Taipei	43.59	315	PFAKE		05 25 10.0	+7.4
TATO				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
NWAO	Narrogin (SRO)	43.70	227	P	P	05 25 02.5	-1.1
	comp=Z,21nm,1.0s,mb4.8,baz=92,slow=4.2,SNR=4.4						
NWAO				pP	pP	05 25 14.8	-1.7
	comp=Z,17nm,0.9s,baz=61,slow=8.2,SNR=4.7						
NWAO				LR	LR	05 43 37.5	
	comp=Z,2µm,18.4s,MS5.2,baz=232,slow=36						
NWAO	Narrogin (SRO)	43.70	227	eP	P	05 25 01.9	-1.6
NWAO				e*PP	pP	05 25 15.2	-1.3
NWAO				pmax	pmax		
	comp=Z,79nm,1.5s						
NWAO				MLR	MLR		
	comp=Z,2µm,19.0s						
NWAO	Narrogin (SRO)	43.70	227	eP	P	05 25 01.9	-1.7
	comp=Z,79nm,1.5s,mb5.2						
NWAO				epP	pP	05 25 15.2	-1.3
NWAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
MUN	Mundaring	43.98	228	⇑iP	P	05 25 04.9	-0.9
MUN				epP	pP	05 25 17.5	-1.2
KSM	Kuching	43.98	278	eP	P	05 25 05.8	0.0
KSM				epP	pP	05 25 18.1	-0.6
KSM				ePcP	PcP	05 26 50.9	+0.1
JNU	Nakatsue	44.05	332	P	P	05 25 06.6	+0.2
	comp=Z,84nm,0.8s,mb5.5,baz=225,slow=11						
MJAR	Matsushiro Arr	44.20	342	P	P	05 25 06.7	-0.9
	comp=Z,8.8nm,0.8s,mb4.6,baz=169,slow=9.8,SNR=15						
MJAR				PcP	PcP	05 26 50.1	-1.5
	comp=Z,5.1nm,0.7s,baz=164,slow=4.7,SNR=4.4						
MAJO	Matsushiro	44.20	342	eP	P	05 25 05.7	-1.9
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,389nm,22.0s,MS4.3						
MAJO	Matsushiro	44.20	342	eP	P	05 25 05.7	-1.9
	comp=Z,16nm,0.7s,mb4.9						
MAJO				LR	LR		
	comp=Z,389nm,22.0s,MS4.3						
MAT	Matsushiro	44.20	342	P	P	05 25 04.5	-3.1
MAT				S	S	05 31 31.6	-5.9
QZH	Quanzhou	45.64	313	⇓iP	P	05 25 19.7	+0.8
QZH				AMB	AMB		
	comp=Z,250nm,0.8s,mb6.2						
RAR	Rarotonga	47.62	114	LR	LR	05 41 58.0	
	comp=Z,638nm,21.4s,MS4.6,baz=286,slow=31						
SSE	Sheshan	47.83	321	P	P	05 25 36.8	+0.7
SSE				AP	pP	05 25 50.1	+0.9
SSE				XP	sP	05 25 56.3	+1.5
SSE				PCP	PcP	05 27 06.2	+1.9
SSE				S	S	05 32 29.4	-0.2
SSE				XS	sS	05 32 52.0	+0.6
SSE				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,343nm,4.4s						
SSE				LR	LR		
	comp=N,152nm,18.1s,MS4.3						
SSE				LR	LR		
	comp=E,234nm,18.1s,MS4.3						
SSE				LR	LR		
	comp=Z,291nm,19.5s,MS4.3						
SSE	Sheshan	47.83	321	P	P	05 25 36.8	+0.7
	comp=Z,41nm,1.2s,mb5.3						
SSE				pP	pP	05 25 50.1	+0.9
SSE				sP	sP	05 25 56.3	+1.5
SSE				PcP	PcP	05 27 06.2	+1.9
SSE				S	S	05 32 29.4	-0.2
SSE				sS	sS	05 32 52.0	+0.6
SSE				SS	SS	05 35 58.4	-0.1
SSE				LR	LR		
	comp=Z,290nm,19.5s,MS4.3						
KS15	Wonju Array Si	48.99	333	eP	P	05 25 45.1	+0.1
KS15				epP	pP	05 25 58.7	+0.5
MCQ	Macquarie Isla	49.13	176	eP	P	05 25 46.7	+0.6
INCN	Inchon	49.61	332	P	P	05 25 50.4	+0.6
	SNR=8.9						
INCN	Inchon	49.61	332	eP	P	05 25 50.1	+0.3
	comp=Z,324nm,1.1s,mb6.3						
INCN				LR	LR		
	comp=Z,323nm,21.0s,MS4.3						
QIZ	Qiongzhong	49.64	300	⇓P	P	05 25 47.9	-2.1
QIZ				S	S	05 32 55.2	+0.2
QIZ				XS	sS	05 33 15.1	-1.9
QIZ				SCS	ScS	05 35 39.1	+1.7
QIZ				SS	SS	05 36 27.2	-0.4
QIZ				AMB	AMB		
	comp=Z,45nm,2.1s,mb5.1						
QIZ				LR	LR		
	comp=E,360nm,24.5s						
QIZ	Qiongzhong	49.64	300	PFAKE		05 26 00.0	+10
QIZ				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
NJ2	Nanjing	49.94	321	eP	P	05 25 53.3	+1.0
NJ2				AP	pP	05 26 04.6	-0.8
NJ2				XP	sP	05 26 08.3	-2.7
NJ2				PP	PP	05 27 51.8	+4.4
NJ2				S	S	05 32 58.0	-1.2
NJ2				XS	sS	05 33 19.0	-2.2
NJ2				AMB	AMB		
	comp=Z,150nm,1.1s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,110nm,4.3s						
NJ2				LR	LR		
	comp=N,940nm,19.5s						
NJ2				LR	LR		
	comp=E,920nm,14.4s						
NJ2				LR	LR		
	comp=Z,810nm,19.0s,MS4.8						
ASAJ	Asahikawa	50.31	350	P	P	05 25 55.5	+0.4
	comp=Z,27nm,0.7s,mb5.4,baz=220,slow=20,SNR=12						
KGM	Kluang	50.97	277	P	P	05 26 01.2	+1.2
YSS	Yuzh-Sakhalins	53.03	351	⇑eP	P	05 26 14.2	-1.2
YSS				e		05 26 33.8	
YSS				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.2						
YSS	Yuzh-Sakhalins	53.03	351	eP	P	05 26 14.9	-0.5
DL2	Dalian	53.20	329	P	P	05 26 16.7	+0.1
DL2				AP	pP	05 26 26.4	-3.5
DL2				eS	S	05 33 44.1	0.0
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
DL2				AMB	AMB		
	comp=Z,100nm,5.1s						
DL2				LR	LR		
	comp=N,180nm,20.9s,MS4.3						
DL2				LR	LR		
	comp=E,200nm,21.2s,MS4.3						
DL2				LR	LR		
	comp=Z,250nm,22.3s,MS4.2						
IPM	Ipoh	53.63	280	P	P	05 26 20.4	+0.6
TIA	Tai'an	53.79	323	⇑P	P	05 26 20.7	-0.2
TIA				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.7						
KULM	Kulim	54.14	280	eP	P	05 26 22.8	-0.7
MDJ	Mudanjiang	54.33	339	P	P	05 26 24.0	-0.9
MDJ				AP	pP	05 26 35.7	-2.5
MDJ				XP	sP	05 26 41.7	-2.0
MDJ				PP	PP	05 28 28.4	+1.3
MDJ				S	S	05 33 58.1	-1.3
MDJ				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,175nm,5.1s						
MDJ				LR	LR		

comp=N,183nm,25.1s,MS4.3
MDJ LR LR
comp=E,317nm,27.9s,MS4.3
MDJ LR LR
comp=Z,180nm,25.1s,MS4.0
MDJ Mudanjiang 54.33 339 *e*P **P** **05 26 23.9 -0.9**
comp=Z,13nm,0.8s,mb4.9
MDJ LR LR
comp=Z,226nm,22.0s,MS4.2
SNY Shenyang 54.49 332 ⇑P **P** **05 26 24.9 -1.1**
SNY AP pP 05 26 38.0 -1.3
SNY XP sP 05 26 45.2 +0.4
SNY AMB AMB
comp=Z,15nm,1.0s,mb4.9
SNY AMB AMB
comp=Z,189nm,12.0s
SNY LR LR
comp=N,274nm,22.1s
SNY LR LR
comp=Z,335nm,22.5s,MS4.4
SNG Songkhla 54.53 283 P **P** **05 26 26.0 -0.3**
comp=Z,158nm,0.9s,mb6.0
KKTK Khon Kaen 54.86 294 ⇑P **P** **05 26 30.0 +1.3**
comp=Z,2μm,0.6s
CN2 Changchun 55.26 335 ⇑P **P** **05 26 30.3 -1.3**
CN2 *e*XP sP 05 26 48.2 -2.2
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,5.0s
KHU Kahuku 55.47 62 *e*P **P** **05 26 34.0 +0.9**
GYA Guiyang 55.56 307 ⇑*i*P **P** **05 26 35.1 +1.4**
GYA AP pP 05 26 48.3 +1.3
GYA XP sP 05 26 54.5 +1.9
GYA PCP PcP 05 27 35.0 +1.9
GYA PP PP 05 28 41.5 +3.4
GYA PPP 05 29 56.1
GYA SCP ScP 05 31 28.3 +0.3
GYA PCS PcS 05 31 33.6 +0.3
GYA S **S** **05 34 15.5 -0.3**
GYA PS 05 34 31.7
GYA XS sS 05 34 38.1 +0.1
GYA SCS ScS 05 36 16.9 -1.9
GYA AMB AMB
comp=Z,40nm,0.6s,mb5.6
GYA AMB AMB
comp=Z,480nm,6.4s
GYA LR LR
comp=N,670nm,18.6s,MS4.9
GYA LR LR
comp=E,690nm,18.8s,MS4.9
GYA LR LR
comp=Z,710nm,19.0s,MS4.8
SKR Severo-Kuril's 55.89 2 *e*P pP 05 26 52.5 +3.1
SKR *e* 05 27 01.2
SKR pmax pmax
comp=N,200nm,1.0s
SKR pmax pmax
comp=Z,260nm,1.0s,mb6.2
PPT Papeete 56.58 107 *e*S **S** **05 34 35.3 +5.9**
comp=Z,340nm,24.8s
PPT *e*LQ 05 41 09.0
comp=Z,594nm,28.0s
PPT *e*LR LR 05 43 27.4
comp=Z,494nm,27.8s
PPT Papeete 56.58 107 LR LR 05 48 37.8
comp=Z,318nm,18.4s,MS4.5,baz=275,slow=34
COCO West Island 56.63 259 PFAKE 05 26 50.0 +8.6
COCO LR LR
comp=Z,164nm,19.0s,MS4.2
BJT Baijiatuau 56.94 326 *e*P **P** **05 26 43.0 -0.6**
BJT pmax pmax
comp=Z,31nm,0.6s
BJT MLR MLR
comp=Z,415nm,20.0s
BJT Baijiatuau 56.94 326 *e*P **P** **05 26 43.0 -0.5**
comp=Z,31nm,0.6s,mb5.5
BJT LR LR
comp=Z,415nm,20.0s,MS4.5
BJI Beijing 56.95 326 P **P** **05 26 43.1 -0.5**
BJI AP pP 05 26 56.8 -0.2
BJI XP sP 05 27 02.8 +0.3
BJI PP PP 05 28 53.1 +2.6
BJI S **S** **05 34 39.5 +5.3**
BJI AMB AMB
comp=Z,35nm,0.7s,mb5.5
BJI LR LR
comp=N,239nm,24.9s,MS4.4
BJI LR LR
comp=E,292nm,24.9s,MS4.4
BJI LR LR
comp=Z,425nm,25.7s,MS4.4
BJI Beijing 56.95 326 P **P** **05 26 43.1 -0.5**
BJI *PP pP 05 26 56.8 -0.2
BJI *SP sP 05 27 02.8 +0.3
BJI 05 28 53.1
BJI S **S** **05 34 39.5 +5.3**
BJI pmax pmax
comp=Z,35nm,0.7s,mb5.5
BJI MLR MLR
comp=Z,430nm,25.7s,MS4.4
BJI Beijing 56.95 326 P **P** **05 26 43.1 -0.5**
comp=Z,35nm,0.7s,mb5.5
BJI pP pP 05 26 56.8 -0.2
BJI sP sP 05 27 02.8 +0.3
BJI PP PP 05 28 53.1 +2.6
BJI S **S** **05 34 39.5 +5.3**
BJI SS SS 05 38 43.0 +20
BJI LR LR
comp=Z,430nm,25.7s,MS4.4
NST Nakhon Sawan 57.11 292 ⇓P **P** **05 26 46.1 +1.3**
comp=Z,135nm,1.0s,mb5.9
TBI Tubuai 57.39 114 *e*S **S** **05 34 46.5 +6.4**
comp=Z,240nm,28.0s
TBI *e*LQ 05 41 31.5
comp=Z,992nm,31.2s
TBI *e*LR LR 05 43 58.1
comp=Z,1μm,30.2s
NANT Nan 57.58 296 ⇑P **P** **05 26 47.0 -1.1**
comp=Z,1μm,1.0s
KLR Kul'dur 57.70 343 *e*P **P** **05 26 45.0 -4.0**
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.4
KMI Kunming 58.15 304 P **P** **05 26 54.0 +1.9**
KMI AP pP 05 27 07.1 +1.6
KMI XP sP 05 27 13.7 +2.7
KMI PCP PcP 05 27 44.4 +1.1
KMI PP PP 05 29 04.4 +3.2
KMI S **S** **05 34 51.1 +1.1**
KMI XS sS 05 35 10.5 -1.9
KMI SS SS 05 38 46.8 +4.8
KMI SSS 05 41 09.7
KMI AMB AMB
comp=Z,40nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,347nm,4.1s
KMI LR LR
comp=N,378nm,16.8s
KMI LR LR
comp=E,427nm,23.4s
KMI LR LR
comp=Z,657nm,27.4s
KMI Kunming 58.15 304 P **P** **05 26 54.0 +1.9**
KMI *PP pP 05 27 07.1 +1.6
KMI *SP sP 05 27 13.7 +2.7
KMI 05 27 44.4
KMI 05 29 04.4
KMI S **S** **05 34 51.1 +1.1**
KMI *SS sS 05 35 10.5 -1.9
KMI SS SS 05 38 46.8 +4.8
KMI pmax pmax
comp=Z,40nm,1.0s,mb5.4
KMI MLR MLR
comp=Z,660nm,27.4s,MS4.6
KMI Kunming 58.15 304 P **P** **05 26 54.0 +1.9**
comp=Z,40nm,1.0s,mb5.4
KMI pP pP 05 27 07.1 +1.6
KMI sP sP 05 27 13.7 +2.7
KMI PcP PcP 05 27 44.4 +1.1
KMI PP PP 05 29 04.4 +3.2
KMI S **S** **05 34 51.1 +1.1**
KMI sS sS 05 35 10.5 -1.9
KMI SS SS 05 38 46.8 +4.8
KMI SSS 05 41 09.7
KMI LR LR 05 41 09.7
comp=Z,660nm,27.4s,MS4.6
PET Petropavlovsk 58.34 3 *e*P **P** **05 26 54.3 +0.9**
PET *e**SP sP 05 27 13.9 +1.6
PET *e*S **S** **05 34 52.3 -0.2**
PET *e**SS sS 05 35 17.5 +2.6
PET pmax pmax
comp=Z,52nm,0.6s,mb5.7
PET MLR MLR
comp=Z,200nm,18.0s,MS4.3
BDT Bhumibol Dam 58.62 294 P **P** **05 26 56.5 +1.2**
comp=Z,24nm,0.8s,mb5.3
CM31 Chiang Mai Arr 59.04 295 *e*P **P** **05 26 59.7 +1.4**
comp=Z,193nm,0.8s,mb6.2
CHG Chiang Mai 59.15 296 ⇑P **P** **05 27 00.4 +1.3**
comp=Z,145nm,0.9s,mb6.0
CHTO Chiang Mai 59.15 296 P **P** **05 27 00.7 +1.6**
SNR=52
CHTO Chiang Mai 59.15 296 *e*P **P** **05 27 00.4 +1.3**
CHTO *e* 05 27 47.5
CHTO pmax pmax
comp=Z,159nm,1.1s,mb6.0
CHTO MLR MLR
comp=Z,398nm,22.0s,MS4.5
CHTO Chiang Mai 59.15 296 *e*P **P** **05 27 00.4 +1.3**
comp=Z,159nm,1.1s,mb6.0
CHTO *e*PcP PcP 05 27 47.5 +0.3
CHTO LR LR
comp=Z,398nm,22.0s,MS4.5
CD2 Chengdu 59.89 310 ⇑*i*P **P** **05 27 05.0 +0.9**
CD2 AP pP 05 27 17.7 +0.1
CD2 XP sP 05 27 23.2 +0.1
CD2 PP PP 05 29 19.3 +2.7
CD2 PCS PcS 05 31 51.9 -0.5
CD2 S **S** **05 35 11.5 -1.0**
CD2 XS sS 05 35 33.0 -2.0
CD2 SCS ScS 05 36 47.5 -3.0
CD2 SS SS 05 39 08.7 -0.6
CD2 AMB AMB
comp=Z,220nm,0.7s,mb6.3
CD2 AMB AMB
comp=Z,340nm,8.4s
CD2 LR LR
comp=N,660nm,20.4s,MS5.0
CD2 LR LR
comp=E,840nm,16.8s,MS5.0
CD2 LR LR
comp=Z,850nm,22.8s
HHC Hu-ho-hao-te 60.12 324 ⇑*i*P **P** **05 27 06.2 +0.5**
HHC AP pP 05 27 18.7 -0.5
HHC XP sP 05 27 24.2 -0.4
HHC PCP PcP 05 27 51.2 +0.1
HHC PP PP 05 29 21.1 +2.5
HHC SCP ScP 05 31 46.2 -1.9
HHC PCS PcS 05 31 51.5 -1.9
HHC S **S** **05 35 14.3 -1.1**
HHC XS sS 05 35 36.4 -1.5
HHC SCS ScS 05 36 49.1 -3.1
HHC SS SS 05 39 12.1 -0.8
HHC AMB AMB
comp=Z,48nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,381nm,5.0s
HHC LR LR
comp=N,386nm,17.8s,MS4.7
HHC LR LR
comp=E,311nm,18.4s,MS4.7
HHC LR LR
comp=Z,449nm,21.0s,MS4.6
SMY Shemya 60.41 14 PFAKE 05 27 20.0 +12
SMY LR LR
comp=Z,1μm,21.0s,MS5.0
BTO Baotou 60.88 323 *e*P **P** **05 27 10.6 -0.3**
HIA Hailar 61.99 335 *e*P **P** **05 27 17.7 -0.7**
HIA pmax pmax
comp=Z,54nm,1.0s
HIA MLR MLR
comp=Z,244nm,20.0s
HIA Hailar 61.99 335 *e*P **P** **05 27 17.7 -0.7**
comp=Z,54nm,1.0s,mb5.6
HIA LR LR
comp=Z,244nm,20.0s,MS4.4
LZH Lanzhou 62.36 316 ⇑P **P** **05 27 22.5 +1.6**
LZH AP pP 05 27 36.7 +2.3
LZH PP PP 05 29 43.0 +4.6
LZH *e*S **S** **05 35 45.0 +1.1**
LZH XS sS 05 36 08.0 +1.5
LZH *e*SS SS 05 39 52.0 +4.0
LZH AMB AMB
comp=Z,460nm,1.0s,mb6.6
LZH AMB AMB
comp=Z,2μm,5.4s
LZH LR LR
comp=E,3μm,16.3s
LZH LR LR
comp=Z,4μm,17.0s,MS5.7
LZH Lanzhou 62.36 316 ⇑P **P** **05 27 22.5 +1.6**
LZH *PP pP 05 27 36.7 +2.3
LZH 05 29 43.0
LZH *e*S **S** **05 35 45.0 +1.1**
LZH *SS sS 05 36 08.0 +1.5
LZH *e*SS SS 05 39 52.0 +4.0
LZH pmax pmax
comp=Z,46nm,1.0s,mb5.6
LZH MLR MLR
comp=Z,4μm,17.0s,MS5.7
LZH Lanzhou 62.36 316 ⇑P **P** **05 27 22.5 +1.6**
comp=Z,460nm,1.0s,mb6.6
LZH pP pP 05 27 36.7 +2.3
LZH sP sP 05 27 44.2 +4.3
LZH PP PP 05 29 43.0 +4.6
LZH *e*S **S** **05 35 45.0 +1.1**
LZH sS sS 05 36 08.0 +1.5
LZH *e*SS SS 05 39 52.0 +4.0
LZH LR LR
comp=Z,4μm,17.0s,MS5.7
MA2 Magadan 64.81 358 *e*P **P** **05 27 39.7 +2.7**
MA2 Magadan 64.81 358 *e*P **P** **05 27 36.4 -0.6**
comp=Z,44nm,0.6s,mb5.7
IMP Imphal 65.47 300 *e*P **P** **05 27 41.0 -0.3**
IMP *ex* x 05 27 59.0
TAOE Nuku Hiva Isla 65.55 97 *e*LR LR 05 47 45.7
comp=Z,1μm,24.1s
CLNS Chul'man 66.36 343 *e*P **P** **05 27 45.6 -1.5**
CLNS *e* 05 30 10.1
CLNS *e*S S 05 36 27.5 -5.9
CLNS *e**SS sS 05 37 00.8 +4.6
CLNS *e* 05 37 43.8
CLNS pmax pmax
comp=N,21nm,0.8s
CLNS pmax pmax
comp=Z,69nm,0.8s,mb5.7
CLNS pmax pmax
comp=E,14nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS smax
comp=N,32nm,11.0s
CLNS smax
comp=Z,36nm,10.7s
CLNS smax
comp=E,116nm,11.7s
CIT Chita 66.67 334 *e*P **P** **05 27 49.4 +0.4**
CIT *e* pP 05 27 59.6 -3.0
CIT *e* pP 05 28 03.4 +0.8
CIT *e* 05 28 17.5
CIT pmax pmax
comp=Z,91nm,2.0s,mb5.5
GTA Gaotai 66.78 317 ⇑P **P** **05 27 51.3 +1.6**
GTA AP pP 05 28 04.6 +1.3
GTA XP sP 05 28 09.7 +0.9
GTA PP PP 05 30 20.9 +3.8
GTA S S 05 36 41.9 +3.5
GTA XS sS 05 37 01.3 +0.1
GTA SS SS 05 41 01.2 +4.4
GTA AMB AMB
comp=Z,185nm,1.0s,mb6.1
GTA AMB AMB
comp=Z,640nm,8.0s
GTA LR LR
comp=N,143nm,12.2s,MS4.6
GTA LR LR
comp=E,209nm,14.1s,MS4.6
GTA LR LR
comp=Z,317nm,22.1s
ULN Ulaanbaatar 67.03 328 P **P** **05 27 52.4 +1.1**
SNR=15
ULN Ulaanbaatar 67.03 328 *e*P **P** **05 27 52.1 +0.8**
ULN Ulaanbaatar 67.03 328 *e*P **P** **05 27 51.8 +0.5**
comp=Z,60nm,1.0s,mb5.6
ULN LR LR
comp=Z,278nm,22.0s,MS4.4
SONM Songino Array 67.36 327 P **P** **05 27 54.0 +0.5**
comp=Z,19nm,0.6s,mb5.3,baz=145,slow=6.7,SNR=133
SONM LR LR 05 54 12.3
comp=Z,223nm,19.4s,MS4.4,baz=286,slow=33
SONM PKPPKP 05 56 18.3
comp=Z,0.9nm,0.8s,baz=238,slow=1.7,SNR=5.6
SHL Shillong 67.48 300 *i*P **P** **05 27 55.0 +0.9**
SHL *e*S S 05 36 48.0 +1.2
UNV Unalaska Valle 67.74 24 PFAKE 05 28 10.0 +14
UNV LR LR
comp=Z,4μm,21.0s,MS5.6
CASY Casey 67.75 197 *e*P **P** **05 27 55.1 -0.7**
CASY LR LR
comp=Z,740nm,20.0s,MS4.9
SEY Seymchan 68.14 359 *e*P **P** **05 27 57.6 -0.7**
TURI Tura 68.81 300 *e*P **P** **05 28 03.0 +0.5**
TURI *ex* x 05 28 23.0
LSA Lhasa 69.41 304 P **P** **05 28 08.2 +2.0**
LSA Lhasa 69.41 304 *e*P **P** **05 28 07.6 +1.4**
LSA pmax pmax
comp=Z,70nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,338nm,22.0s,MS4.5
LSA Lhasa 69.41 304 *e*P **P** **05 28 07.6 +1.4**
comp=Z,70nm,0.8s,mb5.6
LSA LR LR
comp=Z,338nm,22.0s,MS4.5
YAK Yakutsk 69.76 348 *e*P **P** **05 28 08.2 -0.1**
YAK pmax pmax
comp=Z,62nm,0.7s,mb5.7
ZAK Zakamensk 70.53 328 ⇓*i*P **P** **05 28 13.0 0.0**
ZAK pmax pmax
comp=Z,42nm,0.9s,mb5.4
RKT Rikitea 70.63 112 *e*S S 05 37 30.2 +6.2
comp=Z,104nm,25.2s
RKT *e*LR LR 05 50 06.5
comp=Z,680nm,24.2s
BOD Bodaibo 70.71 339 ⇓*i*P **P** **05 28 13.0 -1.2**
BOD pmax pmax
comp=Z,31nm,0.8s,mb5.3
TLY Talaya 71.10 330 P **P** **05 28 16.2 -0.3**
comp=Z,138nm,0.9s,mb5.9,SNR=12
TLY Talaya 71.10 330 ⇑*i*P **P** **05 28 16.5 0.0**
TLY *e* 05 32 44.2
TLY pmax pmax
comp=Z,30nm,1.1s,mb5.1
TLY MLR MLR
comp=Z,218nm,21.0s,MS4.4
IRK Irkutsk 71.12 330 *e*P **P** **05 28 15.9 -0.8**
IRK *e* pP 05 28 29.1 -1.3
IRK pmax pmax
comp=Z,55nm,0.9s,mb5.5
VNDA Vanda 72.20 178 P **P** **05 28 23.1 -0.1**
comp=Z,32nm,0.8s,mb5.3,baz=332,slow=6.6,SNR=127
VNDA Vanda 72.20 178 *e*P **P** **05 28 23.0 -0.2**
VNDA pmax pmax
comp=Z,32nm,0.9s
VNDA MLR MLR
comp=Z,284nm,20.0s
VNDA Vanda 72.20 178 *e*P **P** **05 28 23.0 -0.2**
comp=Z,32nm,0.9s,mb5.2
VNDA LR LR
comp=Z,284nm,20.0s,MS4.5
BOK Bokaro 72.23 297 *e*P **P** **05 28 23.2 -0.1**
BOK AMb AMB 05 28 26.5
comp=Z,89nm,1.2s,mb5.6
MOY Mondy 72.44 329 *e*P **P** **05 28 24.9 +0.3**
MOY pmax pmax
comp=Z,57nm,1.3s,mb5.3
SBA Scott Base 72.73 177 *e*P **P** **05 28 27.3 +1.0**
SBA pmax pmax
comp=Z,37nm,1.0s,mb5.3
SBA MLR MLR
comp=Z,294nm,19.0s,MS4.6
SBA Scott Base 72.73 177 *e*P **P** **05 28 27.2 +0.9**
comp=Z,37nm,1.0s,mb5.3
SBA LR LR
comp=Z,294nm,19.0s,MS4.6
JIRN Jiri 72.96 301 ⇑*i*P **P** **05 28 29.1 +1.4**
comp=Z,178nm,0.7s,mb6.1
VIS Vishakhapatnam 73.22 290 *e*P **P** **05 28 30.2 +1.0**
VIS AMb AMB 05 28 31.1
comp=Z,92nm,0.9s,mb5.7
GUN Gumba 73.29 301 ⇑*i*P **P** **05 28 31.0 +1.4**
comp=Z,399nm,0.7s,mb6.5
PKI Pulchoki 73.60 301 ⇑*i*P **P** **05 28 32.4 +0.9**
comp=Z,186nm,0.9s,mb6.0
MIR Mirnyy 73.74 201 *c*⇑*i*P **P** **05 28 34.0 +1.7**
MIR *i* pP 05 28 44.0 -2.1
MIR pmax pmax
comp=Z,90nm,1.0s,mb5.7
KKN Kakani 73.77 301 ⇑*i*P **P** **05 28 33.4 +1.0**
comp=Z,184nm,0.7s,mb6.1
BILL Bilibino 73.79 5 *c*⇑*i*P **P** **05 28 31.7 -0.9**
BILL pmax pmax
comp=Z,50nm,0.9s,mb5.4
DMN Daman 73.87 301 ⇑*i*P **P** **05 28 34.3 +1.3**
comp=Z,472nm,0.9s,mb6.4
PALK Pallekele 74.03 279 P **P** **05 28 34.8 +0.9**
comp=Z,362nm,0.7s,mb6.4,SNR=7.7
PALK Pallekele 74.03 279 P **P** **05 28 35.0 +1.1**
SNR=12
PALK Pallekele 74.03 279 *e*P **P** **05 28 34.8 +0.9**
comp=Z,46nm,0.8s,mb5.5
PALK LR LR
comp=Z,50nm,21.0s,MS3.8
GKN Gorkha 74.38 301 ⇑*i*P **P** **05 28 36.8 +0.8**
KOLN Koldanda 75.20 300 ⇑*i*P **P** **05 28 41.5 +0.7**
comp=Z,182nm,0.9s,mb6.0
TNA Tin City 76.10 15 PFAKE 05 29 00.0 +14
TNA LR LR
comp=Z,375nm,21.0s,MS4.7
ALBI Allahabad 76.19 298 *e*P **P** **05 28 44.0 -2.4**
KDAK Kodiak Island 76.25 26 P **P** **05 28 46.8 0.0**
comp=Z,6.6nm,0.6s,mb4.7,baz=225,slow=8.1,SNR=10.0
KDAK LR LR 05 56 41.2
comp=Z,477nm,21.3s,MS4.8,baz=238,slow=31
KDAK Kodiak Island 76.25 26 *e*P **P** **05 28 46.6 -0.2**
comp=Z,14nm,0.8s,mb4.9
KDAK *e*pP pP 05 29 00.5 -0.1
KDAK LR LR
comp=Z,261nm,22.0s,MS4.5
WMQ Urumqi 76.86 317 ⇑*i*P **P** **05 28 51.3 +1.1**
WMQ PCP PcP 05 29 02.8 +1.6
WMQ AP pP 05 29 04.3 +0.2
WMQ XP sP 05 29 09.8 +0.3
WMQ PP PP 05 31 46.3 +2.8
WMQ PPP 05 33 33.7
WMQ S S 05 38 33.3 -1.0
WMQ SKS 05 38 54.3
WMQ AMB AMB
comp=Z,68nm,0.5s,mb5.8
WMQ AMB AMB
comp=Z,57nm,8.1s
WMQ LR LR
comp=N,132nm,24.0s,MS4.3
WMQ LR LR
comp=E,151nm,24.0s,MS4.3
WMQ LR LR
comp=Z,213nm,25.0s,MS4.4
SVW2 Sparrevohn 76.98 23 *e*P **P** **05 28 50.5 -0.3**
SALM Salem 77.08 283 *e*P **P** **05 28 53.0 +1.6**
HYB Hyderabad 77.64 289 *i*P **P** **05 28 54.5 0.0**
HYB *e*PcP PcP 05 29 07.5 +2.9
HYB *e*pP pP 05 29 15.0 +6.5
HYB Hyderabad 77.64 289 *e*P **P** **05 28 54.5 0.0**
NGP Nagpur 77.83 293 *e*P **P** **05 28 55.1 -0.5**
NGP AMb AMB 05 28 56.5
comp=Z,61nm,2.1s,mb5.2
TRD Trivandrum 77.86 280 *e*P **P** **05 28 55.9 +0.1**
TRD AMb AMB 05 28 59.0
comp=Z,75nm,1.1s,mb5.5
LGTI Lohaghat 78.47 301 *e*P **P** **05 28 59.5 +0.4**

TIXI Tiksi 78.62 352 *e*P P 05 29 00.1 +0.1
TIXI pmax pmax
comp=Z,16nm,1.4s,mb4.8
SLKM Skilak Lake 78.78 25 *e*P P 05 28 59.8 -1.1
BHPL Bhopal 79.70 295 *e*P P 05 29 06.1 +0.2
BHPL AMb AMB 05 29 06.6
comp=Z,72nm,0.7s,mb5.7
PMR Palmer 79.81 24 *e*P P 05 29 05.2 -1.3
PMR pmax pmax
comp=Z,26nm,0.9s,mb5.2
PMR MLR MLR
comp=Z,600nm,23.0s,MS4.9
PMR Palmer 79.81 24 *e*P P 05 29 05.2 -1.3
comp=Z,26nm,0.9s,mb5.2
PMR LR LR
comp=Z,600nm,23.0s,MS4.9
SML Sawmill 80.25 24 *e*P P 05 29 08.3 -0.5
NDI New Delhi 80.90 300 *e*P P 05 29 11.7 -0.6
NDI *e*P 05 29 12.0
NDI AMb AMB 05 29 13.1
comp=Z,123nm,1.1s,mb5.8
MCK McKinley 81.03 22 *e*P P 05 29 11.4 -1.6
MCK pmax pmax
comp=Z,42nm,0.8s,mb5.4
MCK MLR MLR
comp=Z,462nm,20.0s,MS4.8
MCK McKinley 81.03 22 *e*P P 05 29 11.4 -1.6
comp=Z,42nm,0.8s,mb5.4
MCK LR LR
comp=Z,462nm,20.0s,MS4.8
SMLA Simla 81.42 302 *e*P P 05 29 14.0 -1.1
MK31 Makanchi Array 81.44 319 *e*P P 05 29 15.4 +0.2
MKAR Makanchi Array 81.44 319 P P 05 29 15.6 +0.4
comp=Z,69nm,0.7s,mb5.7,baz=103,slow=5.7,SNR=346
MKAR S S 05 39 24.2 +1.3
comp=Z,0.3nm,0.8s,baz=99,slow=8.9,SNR=2.5
MKAR PKKPbc PKKPbc 05 47 48.5 -0.2
comp=Z,0.5nm,0.8s,baz=323,slow=0.6,SNR=4.9
MKAR LR LR 06 04 42.3
comp=Z,133nm,18.9s,MS4.3,baz=105,slow=35
MKAR Makanchi Array 81.44 319 *i* P P 05 29 15.6 +0.4
MKAR pmax pmax
comp=Z,69nm,0.7s
KAD Karad 81.75 288 *e*P P 05 29 16.9 +0.1
KAD AMb AMB 05 29 17.6
comp=Z,116nm,0.8s,mb5.8
COLA College 82.03 22 *e*P P 05 29 16.1 -2.2
COLA pmax pmax
comp=Z,37nm,0.9s,mb5.3
COLA MLR MLR
comp=Z,416nm,20.0s,MS4.8
COLA College 82.03 22 *e*P P 05 29 16.1 -2.2
comp=Z,37nm,0.9s,mb5.3
COLA LR LR
comp=Z,416nm,20.0s,MS4.8
ZAL Zalesovo 82.21 326 P P 05 29 18.6 -0.6
comp=Z,24nm,0.5s,mb5.4,baz=359,slow=5.8,SNR=59
POO Poona 82.23 289 ⇑*i*P P 05 29 17.0 -2.4
comp=Z,100nm,1.0s,mb5.7
POO *ex* x 05 29 53.5
POO AMb AMB 05 29 54.1
comp=Z,72nm,0.9s,mb5.6
MENT Mentasta 82.68 24 *e*P P 05 29 20.7 -1.0
DLH Dalhousie 82.70 304 *e*P P 05 29 19.0 -2.8
DLH *ex* x 05 29 30.0
AJM Ajmer 82.75 297 *i* P P 05 29 22.0 0.0
THN Thein Dam 82.89 304 *e*P P 05 29 22.1 -0.7
NVS Novosibirsk 83.38 327 ⇑*i*P P 05 29 24.1 -1.2
NVS *e* 05 29 32.4
NVS pmax pmax
comp=N,43nm,1.4s
NVS pmax pmax
comp=E,78nm,1.4s
NVS pmax pmax
comp=Z,96nm,1.4s,mb5.6
KSH Kashi 84.09 311 ⇑P P 05 29 31.6 +2.7
KSH *e*AP pP 05 29 45.1 +2.1
KSH *e*XP sP 05 29 51.3 +3.0
KSH *e*PP PP 05 32 48.1 +4.7
KSH *e*SKS 05 39 46.6
KSH *e*S S 05 39 51.6 +1.8
KSH *e*XS sS 05 40 13.1 -0.3
KSH LR LR
comp=N,1μm,5.4s
KSH LR LR
comp=E,656nm,7.0s
KSH LR LR
comp=Z,441nm,10.2s,MS5.1
SIT Sitka 84.25 31 PFAKE 05 29 40.0 +10
SIT LR LR
comp=Z,423nm,20.0s,MS4.8
ULHL Ulahol 84.46 313 P P 05 29 32.4 +1.6
SNR=13
EGAK Eagle 84.51 23 *e*P P 05 29 29.8 -1.3
comp=Z,35nm,0.9s,mb5.5
EGAK LR LR
comp=Z,835nm,22.0s,MS5.1
QSPA South Pole Qui 84.57 180 ⇑*i*P P 05 29 31.4 0.0
comp=Z,231nm,0.8s,mb6.4
KURK Kurchatov 84.86 322 P P 05 29 32.7 -0.1
comp=Z,723nm,1.1s,SNR=89
DAWY Dawson 84.92 24 *e*P P 05 29 32.5 -0.7
TKM2 Tokmak 2 85.07 314 P P 05 29 34.8 +1.0
SNR=156
NIL Nilore 85.14 304 P P 05 29 35.5 +1.2
comp=Z,202nm,0.6s,mb6.4,SNR=9.9
KZA Kyzart 85.15 313 P P 05 29 36.5 +2.2
SNR=105
MAW Mawson 85.41 203 ⇑*i*P P 05 29 35.1 -0.5
comp=Z,42nm,0.9s,mb5.6
MAW Mawson 85.41 203 P P 05 29 35.2 -0.4
comp=Z,60nm,0.9s,mb5.7,baz=93,slow=6.3,SNR=107
MAW LR LR 06 03 34.5
comp=Z,230nm,21.5s,MS4.5,baz=69,slow=33
MAW Mawson 85.41 203 *e*P P 05 29 35.0 -0.6
MAW pmax pmax
comp=Z,64nm,0.8s
MAW Mawson 85.41 203 *e*P P 05 29 35.0 -0.6
comp=Z,64nm,0.8s,mb5.8
KBK Karagaybulak 85.48 313 P P 05 29 37.1 +1.1
SNR=31
WRAK Wrangell Islan 85.62 32 *e*P P 05 29 36.3 -0.3
comp=Z,15nm,1.0s,mb5.2
WRAK LR LR
comp=Z,511nm,20.0s,MS4.9
CHMS Chumysh 85.69 314 P P 05 29 37.5 +0.5
SNR=52
UCH Uchtor 85.71 313 P P 05 29 38.9 +1.8
SNR=123
AAK Ala-Archa 85.81 313 P P 05 29 37.1 -0.5
comp=Z,618nm,0.7s,SNR=60
AAK Ala-Archa 85.81 313 P P 05 29 38.6 +1.0
SNR=77
AAK Ala-Archa 85.81 313 P P 05 29 37.8 +0.2
SNR=38
AAK Ala-Archa 85.81 313 ⇑*i*P P 05 29 37.5 -0.1
AAK LR LR
comp=Z,37nm,19.0s,MS3.8
USP Ospenovka 85.92 314 P P 05 29 38.7 +0.6
SNR=85
AML Almayashu 86.29 313 P P 05 29 41.6 +1.7
SNR=61
EKS2 Erkin-Say 86.33 313 P P 05 29 41.1 +1.0
SNR=36
DLBC Dease Lake 87.37 31 *e*P P 05 29 45.3 +0.1
DLBC *e*pP pP 05 30 06.3 +7.0
HOPS Hopland 88.02 51 PFAKE 05 30 00.0 +12
HOPS LR LR
comp=Z,964nm,21.0s,MS5.2
HUMO Hull Mountain 88.64 47 PFAKE 05 30 00.0 +8.7
HUMO LR LR
comp=Z,1μm,22.0s,MS5.3
WDC Whiskeytown Da 88.66 49 PFAKE 05 30 00.0 +8.7
WDC LR LR
comp=Z,1μm,22.0s,MS5.2
COR Corvallis 88.69 45 PFAKE 05 30 00.0 +8.5
COR LR LR
comp=Z,716nm,19.0s,MS5.1
YBH Yreka Blue Hor 88.70 48 *e*pP pP 05 30 12.5 +6.8
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
NLWA Neilton Lookou 88.75 42 PFAKE 05 30 00.0 +8.3
NLWA LR LR
comp=Z,974nm,22.0s,MS5.2
SAO San Andreas Ge 88.99 53 PFAKE 05 30 00.0 +7.1
SAO LR LR
comp=Z,375nm,19.0s,MS4.8
CMB Columbia Colle 89.98 52 *e*pP pP 05 30 23.3 +12
CMB LR LR
comp=Z,666nm,22.0s,MS5.0
CHKZ Chkalovo 90.28 324 *e*P P 05 29 57.0 -1.9
CHKZ pmax pmax
comp=Z,54nm,1.1s,mb5.8
CHKZ Chkalovo 90.28 324 *e*P P 05 29 57.0 -2.0
comp=Z,54nm,1.1s,mb5.8
BVAR Borovoye Array 90.32 323 P P 05 29 57.7 -1.4
comp=Z,68nm,0.8s,mb6.0,baz=104,slow=6.3,SNR=225
BVAR LR LR 06 08 54.7
comp=Z,232nm,22.0s,MS4.6,baz=319,slow=34
BRVK Borovoye 90.39 323 P P 05 29 58.8 -0.6
comp=Z,396nm,0.9s,SNR=27
BRVK Borovoye 90.39 323 ⇑P P 05 29 58.3 -1.1
SNR=42
BRVK Borovoye 90.39 323 *e*P P 05 29 57.9 -1.5
BRVK pmax pmax
comp=Z,68nm,0.9s,mb6.0
BRVK MLR MLR
comp=Z,58nm,20.0s,MS4.0
BRVK Borovoye 90.39 323 *e*P P 05 29 57.9 -1.5
comp=Z,68nm,0.9s,mb6.0
BRVK LR LR
comp=Z,58nm,20.0s,MS4.0
MOD Modoc 90.50 48 PFAKE 05 30 10.0 +10
MOD LR LR
comp=Z,821nm,22.0s,MS5.1
ZRNK Zerenda 91.14 323 *e*P P 05 30 01.0 -1.9
ZRNK pmax pmax
comp=Z,35nm,0.9s,mb5.7
ZRNK Zerenda 91.14 323 *e*P P 05 30 01.0 -1.9
comp=Z,35nm,0.9s,mb5.7
ISA Isabella 91.25 54 *e*P P 05 30 03.0 -0.4
ISA MLR MLR
comp=Z,117nm,21.0s,MS4.3
MTUM Tungsten Hills 91.35 53 *e*P P 05 30 03.7 -0.2
MWC Mount Wilson 91.45 56 *e*P P 05 30 07.3 +2.9
MWC *e**PP pP 05 30 26.6 +8.1
HAWA Hanford 91.56 44 PFAKE 05 30 20.0 +15
HAWA LR LR
comp=Z,919nm,21.0s,MS5.2
WVOR Wild Horse Val 91.79 48 *e*P P 05 30 06.9 +1.0
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
WVOR MLR MLR
comp=Z,1μm,20.0s,MS5.3
WVOR Wild Horse Val 91.79 48 *e*P P 05 30 06.9 +1.0
comp=Z,3.4nm,0.8s,mb4.7
WVOR LR LR
comp=Z,1μm,20.0s,MS5.3
DAC Darwin (Calif) 92.02 54 *e*P P 05 30 07.0 0.0
DAC pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
DAC MLR MLR
comp=Z,539nm,21.0s,MS5.0
DAC Darwin (Calif) 92.02 54 *e*P P 05 30 07.0 0.0
comp=Z,4.1nm,0.8s,mb4.8
DAC LR LR
comp=Z,539nm,21.0s,MS5.0
TPH Tonopah 92.47 52 PFAKE 05 30 20.0 +11
TPH LR LR
comp=Z,405nm,21.0s,MS4.8
BMN Battle Mountai 92.67 50 PFAKE 05 30 20.0 +10
BMN LR LR
comp=Z,595nm,21.0s,MS5.0
PFO Pinyon Flat Ob 92.73 57 *e*pP pP 05 30 34.3 +10
PFO LR LR
comp=Z,134nm,20.0s,MS4.4
BMO Blue Mountains 92.97 45 *e*P P 05 30 12.5 +1.1
BMO pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
BMO MLR MLR
comp=Z,474nm,22.0s,MS4.9
BMO Blue Mountains 92.97 45 *e*P P 05 30 12.5 +1.2
comp=Z,4.8nm,1.1s,mb4.8
BMO LR LR
comp=Z,474nm,22.0s,MS4.9
NEW Newport 93.36 42 LR LR 06 04 55.7
comp=Z,510nm,21.4s,MS5.0,baz=298,slow=31
NEW Newport 93.36 42 *e*P P 05 30 13.5 +0.3
NEW *e**PP pP 05 30 33.1 +5.8
NEW MLR MLR
comp=Z,654nm,19.0s
SYO Syowa Base 93.44 199 ⇓*i*P P 05 30 12.0 -1.5
SYO Syowa Base 93.44 199 ⇑*e*pP pP 05 30 29.6 +1.9
SHPR Sheep Range 94.00 54 *e*P P 05 30 17.0 +0.9
SHPR *e*pP pP 05 30 39.9 +10
GLA Glamis 94.05 57 *e*P P 05 30 21.7 +5.4
GLA *e**PP pP 05 30 34.8 +4.3
ELK Elko 94.20 50 PFAKE 05 30 30.0 +13
ELK LR LR
comp=Z,759nm,21.0s,MS5.1
HLID Hailey 94.97 47 PFAKE 05 30 30.0 +9.5
HLID LR LR
comp=Z,936nm,20.0s,MS5.2
MSO Missoula 95.43 44 PFAKE 05 30 30.0 +7.3
MSO LR LR
comp=Z,474nm,21.0s,MS4.9
YKA Yellowknife Ar 95.48 28 P P 05 30 21.2 -1.6
comp=Z,6.3nm,0.9s,mb5.0,baz=270,slow=4.8,SNR=11
YKA PKKPbc PKKPbc 05 47 13.2 -1.0
comp=Z,2.6nm,0.6s,baz=82,slow=2.8,SNR=8.8
YKA LR LR 06 09 24.0
comp=Z,221nm,20.9s,MS4.6,baz=225,slow=33
YKA Yellowknife Ar 95.48 28 *i* P P 05 30 21.5 -1.4
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 95.48 28 P P 05 30 21.2 -1.6
YKA PKKPbc PKKPbc 05 47 13.2 -1.0
YKA LR LR 06 09 24.0
WALA Waterton Lakes 95.53 41 *e*P P 05 30 23.7 +0.6
comp=Z,9.6nm,0.9s,mb5.2
EDM Edmonton 95.98 37 *e*P P 05 30 24.4 -0.8
EDM *e**PP pP 05 30 45.7 +6.3
DUG Dugway 96.02 50 PFAKE 05 30 40.0 +15
DUG LR LR
comp=Z,629nm,22.0s,MS5.0
MVU Marysvale 96.43 52 PFAKE 05 30 40.0 +13
MVU LR LR
comp=Z,442nm,20.0s,MS4.9
WBK Wadi Bani Khal 96.51 292 P P 05 30 28.0 +0.4
SNR=6.0
MPU Maple Canyon 96.92 50 PFAKE 05 30 40.0 +11
MPU LR LR
comp=Z,1μm,21.0s,MS5.3
HWUT Hardware Ranch 97.00 49 PFAKE 05 30 40.0 +10
HWUT LR LR
comp=Z,394nm,19.0s,MS4.9
WUAZ Wupatki 97.02 55 PFAKE 05 30 40.0 +10
WUAZ LR LR
comp=Z,425nm,20.0s,MS4.9
BIDO Bidbid 97.33 293 P P 05 30 31.3 0.0
SNR=6.8
AHID Auburn Hatcher 97.37 48 PFAKE 05 30 40.0 +8.6
AHID LR LR
comp=Z,1μm,20.0s,MS5.3
ARU Arti 97.37 326 PFAKE 05 30 40.0 +8.5
ARU LR LR
comp=Z,58nm,21.0s,MS4.0
TUC Tucson 97.42 58 PFAKE 05 30 40.0 +8.3
TUC LR LR
comp=Z,390nm,19.0s,MS4.9
YMR Madison River 97.48 46 PFAKE 05 30 40.0 +8.1
YMR LR LR
comp=Z,946nm,22.0s,MS5.2
AKTK Aktyubinsk 97.82 320 P P 05 30 31.3 -2.2
AKTO Aktyubinsk 97.82 320 P P 05 30 31.3 -2.2
comp=Z,5.2nm,0.8s,mb5.1,baz=100,slow=6.4,SNR=25
MSEY Mahe Island 97.83 265 PFAKE 05 30 40.0 +6.5
MSEY LR LR
comp=Z,71nm,22.0s,MS4.1
LKWY Lake 97.88 46 PFAKE 05 30 50.0 +16
LKWY LR LR
comp=Z,526nm,20.0s,MS5.0
HOQ Hoqain 98.08 293 P P 05 30 34.7 +0.1
SNR=6.5
EGMT Eagleton 98.29 42 PFAKE 05 30 50.0 +14
EGMT LR LR
comp=Z,557nm,22.0s,MS5.0
BW06 Boulder Array 98.50 48 PFAKE 05 30 50.0 +13
BW06 LR LR
comp=Z,892nm,20.0s,MS5.3
PDAR Pinedale Array 98.50 48 P P 05 30 36.2 -0.3
comp=Z,0.8nm,0.7s,baz=262,slow=3.0,SNR=6.7
PDAR PP PP 05 34 38.0 +0.7
comp=Z,1.9nm,0.9s,baz=266,slow=4.5,SNR=6.0
PDAR PKKPbc PKKPbc 05 47 06.2 +0.2
comp=Z,0.6nm,0.6s,baz=107,slow=4.9,SNR=6.1
PDAR LR LR 06 10 06.6
comp=Z,696nm,19.4s,MS5.2,baz=258,slow=32
ASHO Ashiyiah 99.27 294 P P 05 30 39.4 -0.5
SNR=8.1
MVCO Mesa Verde 99.36 53 PFAKE 05 30 50.0 +10
MVCO LR LR
comp=Z,377nm,21.0s,MS4.9
LAO LASA Array 100.74 44 PFAKE 05 31 00.0 +13
LAO LR LR
comp=Z,684nm,20.0s,MS5.2
RBK Rabkut 100.75 287 P Pdif 05 30 45.9 -0.6
SNR=6.2
ANMO Albuquerque 101.04 56 PFAKE 05 31 00.0 +12
ANMO LR LR
comp=Z,430nm,19.0s,MS5.0
WHFO Wadi Hawf 101.18 287 P Pdif 05 30 47.6 -0.9
SNR=6.4
SNAA Sanae 101.57 187 *e*Pdiff Pdif 05 30 48.9 -1.3
SNAA *e* 05 30 55.2
SNAA Sanae 101.57 187 *e*Pdif Pdif 05 30 49.0 -1.2
SDCO Great Sand Dun 101.73 53 PFAKE 05 31 00.0 +9.1
SDCO LR LR
comp=Z,457nm,19.0s,MS5.0
DGMT Dagmar 101.97 42 PFAKE 05 31 00.0 +8.0
DGMT LR LR
comp=Z,536nm,20.0s,MS5.1
MNTX Cornudas Mount 102.00 59 PFAKE 05 31 00.0 +7.9
MNTX LR LR
comp=Z,592nm,20.0s,MS5.1
RSSD Black Hills 102.46 46 PFAKE 05 31 10.0 +16
RSSD LR LR
comp=Z,579nm,19.0s,MS5.1
FFC Flin Flon 102.58 35 PFAKE 05 31 10.0 +15
FFC LR LR
comp=Z,92nm,19.0s,MS4.3
VNA3 Neumayer Olymp 102.73 185 *e*Pdiff Pdif 05 30 54.6 -0.8
VNA3 *e* 05 31 07.8
VNA3 *e* 05 31 14.5
VNA2 Neumayer--Watz 102.81 186 *e*Pdiff Pdif 05 30 55.1 -0.6
VNA2 *e* 05 31 01.3
VNA2 *e* 05 31 08.2
VNA2 *e* 05 31 15.3
VNA1 Neumayer--Stat 103.16 186 *e*Pdiff Pdif 05 30 57.5 +0.2
VNA1 *e* 05 31 03.4
VNA1 *e* 05 31 15.3
TXAR Lajitas Array 103.53 61 PP PP 05 35 21.6 +6.3
comp=Z,1.5nm,1.0s,baz=268,slow=5.8,SNR=4.6
TXAR PKKPbc PKKPbc 05 46 49.8 -1.7
comp=Z,1.5nm,0.8s,baz=113,slow=3.3,SNR=6.9
TXAR PKKP PKKPab 05 47 12.0 +0.4
comp=Z,1.5nm,0.7s,baz=113,slow=5.6,SNR=8.2
TXAR PKPPKP 05 55 14.2
comp=Z,0.3nm,0.6s,baz=103,slow=5.5,SNR=4.4
AMTX Amarillo 104.96 55 PFAKE 05 31 20.0 +15
AMTX LR LR
comp=Z,451nm,22.0s,MS5.0
JCT Junction City 106.83 60 PFAKE 05 35 40.0 +17
JCT LR LR
comp=Z,936nm,20.0s,MS5.3
MIB Mutribah 106.95 299 *e*P Pdif 05 31 13.3 -0.8
MIB AMb AMB 05 31 14.7
comp=Z,24nm,0.9s
ULM Lac du Bonnet 107.07 39 PFAKE 05 35 40.0 +16
ULM LR LR
comp=Z,458nm,21.0s,MS5.0
NAY Al-Naaiem 107.07 299 *e*P Pdif 05 31 13.6 -1.1
NAY AMb AMB 05 31 15.2
comp=Z,19nm,0.9s
RST Umm Al-Ruwaisa 107.27 299 *e*P Pdif 05 31 14.0 -1.6
RST AMb AMB 05 31 15.8
comp=Z,22nm,0.9s
WMOK Wichita Mounta 107.35 55 PFAKE 05 35 40.0 +16
WMOK LR LR
comp=Z,351nm,21.0s,MS4.9
AGMN Agassiz Refuge 107.48 41 PFAKE 05 35 40.0 +15
AGMN LR LR
comp=Z,471nm,19.0s,MS5.1
GNI Garni 108.02 310 PFAKE 05 35 40.0 +14
GNI LR LR
comp=Z,97nm,20.0s,MS4.4
KSU1 Kansas State U 108.56 51 PFAKE 05 35 40.0 +13
KSU1 LR LR
comp=Z,811nm,21.0s,MS5.3
HKT Hockley 110.30 60 PFAKE 05 35 40.0 +10
HKT LR LR
comp=Z,1μm,20.0s,MS5.5
EYMN Ely 110.41 41 PFAKE 05 35 40.0 +10
EYMN LR LR
comp=Z,712nm,21.0s,MS5.2
SCIA State Center 110.62 47 PFAKE 05 35 40.0 +9.5
SCIA LR LR
comp=Z,840nm,20.0s,MS5.3
NATX Nacogdoches 111.11 58 PFAKE 05 35 40.0 +8.5
NATX LR LR
comp=Z,495nm,22.0s,MS5.0
FINES FINESS Array B 112.01 336 Pdiff Pdif 05 31 37.8 +1.1
comp=Z,4.0nm,1.0s,baz=98,slow=5.8,SNR=3.9
JFWS Jewell Farm 112.54 46 PFAKE 05 35 50.0 +16
JFWS LR LR
comp=Z,685nm,21.0s,MS5.2
CCM Cathedral Cave 112.88 51 PFAKE 05 35 50.0 +15
CCM LR LR
comp=Z,621nm,20.0s,MS5.2
OXF Oxford 115.03 54 PFAKE 05 35 50.0 +11
OXF LR LR
comp=Z,439nm,22.0s,MS5.0
AKASG Malin Array Be 115.56 325 PKP PKPdf 05 35 38.8 -1.2
comp=Z,5.9nm,0.8s,baz=62,slow=2.0,SNR=14
AKASG PP PP 05 36 38.1 -4.3
comp=Z,3.0nm,0.8s,baz=57,slow=6.2,SNR=4.2
AKASG PKKPbc PKKPbc 05 46 11.6 -1.2
comp=Z,1.9nm,0.7s,baz=266,slow=3.8,SNR=6.9
AKBB Malin Array Si 115.56 325 *e*PKIKP PKPdf 05 35 39.1 -0.9
WVT Waverly 115.95 52 PFAKE 05 35 50.0 +9.3
WVT LR LR
comp=Z,487nm,20.0s,MS5.1
PLAL Pickwick Lake 116.01 54 PFAKE 05 35 50.0 +9.2
PLAL LR LR
comp=Z,606nm,21.0s,MS5.2
KMBO Kilima Mbogo 116.31 266 PKP PKPdf 05 35 42.9 +1.4
comp=Z,3.7nm,0.9s,baz=36,slow=3.5,SNR=11
KMBO Kilima Mbogo 116.31 266 PKP PKPdf 05 35 42.9 +1.4
KMBO LR LR
comp=Z,180nm,20.0s,MS4.7
BRTR Keskin Array B 116.45 312 PKP PKPdf 05 35 41.2 -0.5
comp=Z,2.3nm,0.9s,baz=126,slow=1.8,SNR=7.4
BRTR PP PP 05 36 48.6 0.0
comp=Z,3.3nm,0.9s,baz=79,slow=6.4,SNR=6.2
WCI Wyandotte Cave 116.64 50 PFAKE 05 35 50.0 +8.0
WCI LR LR
comp=Z,651nm,22.0s,MS5.2
ANTO Ankara 117.03 312 PFAKE 05 35 50.0 +7.2
ANTO LR LR
comp=Z,63nm,20.0s,MS4.2
AAM Ann Arbor 117.38 45 PFAKE 05 36 00.0 +17
AAM LR LR
comp=Z,567nm,19.0s,MS5.2
EIL Elat 117.66 301 *e*PKPdf PKPdf 05 35 44.2 +0.2
NOA NORSAR Array B 117.81 340 PKP PKPdf 05 35 41.9 -2.4
comp=Z,1.7nm,0.9s,baz=44,slow=1.8,SNR=2.9
TEIG Tepich 118.02 70 PFAKE 05 36 00.0 +15
TEIG LR LR
comp=Z,324nm,19.0s,MS5.0
LVV L'vov 118.94 325 *e*PKIKP PKPdf 05 35 47.3 +0.8
BURAR Bucovina Array 119.28 323 ⇑*i*P PKPdf 05 35 48.2 +1.1
BURAR Bucovina Array 119.28 323 ⇑P PKPdf 05 35 48.2 +1.1
TGUH Tegucigalpa,Un 119.32 77 PFAKE 05 36 00.0 +13
TGUH LR LR
comp=Z,422nm,20.0s,MS5.1
KONO Kongsberg 119.38 340 PFAKE 05 36 00.0 +13
KONO LR LR
comp=Z,448nm,22.0s,MS5.1
BOSA Boshof 120.07 233 PKP PKPdf 05 35 49.5 +0.8
comp=Z,18nm,0.7s,baz=134,slow=1.4,SNR=35
BOSA Boshof 120.07 233 *e*PKPdf PKPdf 05 35 49.1 +0.5
BOSA PKP PKPdf 05 35 49.5 +0.8
KOLS Kolonicke sedl 120.37 325 *e*PKP PKPdf 05 35 50.1 +0.9
STHS Stebnicka Huta 120.70 326 *e*PKP PKPdf 05 35 50.3 +0.4
CRVS Cervenica-Dubn 120.85 325 *e*PKP PKPdf 05 35 50.5 +0.4
SCHQ Schefferville 120.88 26 PFAKE 05 36 00.0 +10
SCHQ LR LR

	comp=Z,395nm,19.0s,MS5.1						
MCWV	**Mont Chateau**	**120.99**	**46**	PFAKE		05 36 00.0	+10
MCWV				LR	LR		
	comp=Z,786nm,20.0s,MS5.3						
DRGR		**121.17**	**323**	⇑iP	PKPdf	05 35 50.8	0.0
DRGR		**121.17**	**323**	⇑P	PKPdf	05 35 50.8	0.0
LBTB	**Lobatse**	**121.30**	**237**	*e*PKIKP	PKPdf	05 35 51.2	+0.2
LBTB				MLR	MLR		
	comp=Z,256nm,19.0s,MS4.9						
BLA	**Blacksburg**	**121.39**	**49**	PFAKE		05 36 00.0	+8.8
BLA				LR	LR		
	comp=Z,567nm,20.0s,MS5.2						
KECS	**Kecovo**	**121.62**	**325**	*e*PKP	PKPdf	05 35 53.3	+1.7
GZR	**Gura Zlata**	**121.80**	**321**	⇓iP	PKPdf	05 35 51.9	-0.1
GZR	**Gura Zlata**	**121.80**	**321**	⇓P	PKPdf	05 35 51.9	-0.1
SSPA	**Standing Stone**	**122.02**	**45**	PFAKE		05 36 00.0	+7.6
SSPA				LR	LR		
	comp=Z,417nm,20.0s,MS5.1						
PSZ	**Piszkesteto**	**122.25**	**325**	*e*PKIKP	PKPdf	05 35 52.4	-0.4
LSZ	**Lusaka**	**122.36**	**248**	*e*PKIKP	PKPdf	05 35 54.0	+1.0
LSZ				MLR	MLR		
	comp=Z,259nm,19.0s,MS4.9						
BZS	**Buzias**	**122.41**	**322**	⇓iP	PKPdf	05 35 53.1	0.0
BZS	**Buzias**	**122.41**	**322**	⇓P	PKPdf	05 35 53.1	0.0
MORC	**Moravsky Berou**	**122.52**	**328**	⇓iP	PKPdf	05 35 53.6	+0.3
MORC	**Moravsky Berou**	**122.52**	**328**	⇓P	PKPdf	05 35 53.6	+0.3
VYHS	**Vyhne**	**122.54**	**326**	*e*PKP	PKPdf	05 35 53.3	-0.1
BINY	**Binghamton**	**122.69**	**42**	PFAKE		05 36 10.0	+16
BINY				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
VTS	**Vitosha**	**122.79**	**318**	⇑iP	PKPdf	05 35 54.1	+0.2
VTS	**Vitosha**	**122.79**	**318**	⇑P	PKPdf	05 35 54.1	+0.2
DPC	**Dobruska-Polom**	**122.81**	**329**	*e*PKPdf	PKPdf	05 35 54.4	+0.5
DWPF	**Disney**	**123.03**	**60**	PFAKE		05 36 10.0	+16
DWPF				LR	LR		
	comp=Z,270nm,21.0s,MS4.9						
NCB	**Newcomb**	**123.05**	**40**	PFAKE		05 36 10.0	+16
NCB				LR	LR		
	comp=Z,343nm,20.0s,MS5.0						
CBN	**Corbin**	**123.31**	**47**	PFAKE		05 36 10.0	+15
CBN				LR	LR		
	comp=Z,851nm,21.0s,MS5.4						
PVCC	**Panska Ves**	**123.59**	**330**	*e*PKPdf	PKPdf	05 35 54.8	-0.6
BRG	**Berggiesshubel**	**123.68**	**331**	*e*PKP	PKPdf	05 35 55.6	0.0
	comp=Z,3.8nm,0.8s						
BRG				*e*		05 36 05.0	
	comp=Z,3.3nm,0.9s						
BRG	**Berggiesshubel**	**123.68**	**331**	*e*PKIKP	PKPdf	05 35 55.6	0.0
BRG				*e*		05 36 04.9	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VAY	**Valandovo**	**123.77**	**317**	*i* P	PKPdf	05 35 54.5	-1.2
CLL	**Collm**	**123.86**	**331**	*i* PKIKP	PKPdf	05 35 54.9	-1.0
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	**123.86**	**331**	*i* PKPdf	PKPdf	05 35 54.9	-1.0
	comp=Z,9.0nm,0.8s						
CLL				*e*pPP		05 37 53.0	
CLL				*e*SKSP		05 47 30.0	
CLL				*e*PPS		05 49 08.0	
STIP	**Stip**	**123.86**	**318**	*i* P	PKPdf	05 35 55.3	-0.6
PKSM	**Moragy**	**123.89**	**324**	⇑iP	PKPdf	05 35 55.3	-0.7
PKSM	**Moragy**	**123.89**	**324**	⇑P	PKPdf	05 35 55.3	-0.7
PRU	**Pruhonice**	**123.94**	**329**	*e*PKPdf	PKPdf	05 35 56.0	-0.1
PRU				AMS	AMS	06 29 40.0	
	comp=Z,300nm,23.7s						
CNNC	**Cliffs of the**	**123.97**	**51**	PFAKE		05 36 10.0	+14
CNNC				LR	LR		
	comp=Z,557nm,20.0s,MS5.2						
LBNH	**Lisbon**	**124.36**	**39**	PFAKE		05 36 10.0	+13
LBNH				LR	LR		
	comp=Z,588nm,21.0s,MS5.2						
KRUS	**Krusevo**	**124.64**	**318**	*i* P	PKPdf	05 35 56.7	-0.7
BIA	**Bitola**	**124.75**	**317**	*i* P	PKPdf	05 35 56.9	-0.7
NKC	**Novy Kostel**	**124.83**	**331**	*e*PKPdf	PKPdf	05 35 55.5	-2.3
KHC	**Kasperske Hory**	**124.97**	**329**	*e*PKPdf	PKPdf	05 35 57.1	-0.9
GEC2	**GERESS Array S**	**125.09**	**329**	*e*PKIKP	PKPdf	05 35 58.0	-0.3
GERES	**GERESS Array B**	**125.09**	**329**	PKP	PKPdf	05 35 57.5	-0.8
	comp=Z,6.1nm,0.8s,baz=72,slow=1.7,SNR=23						
PKME	**Peaks-Kenny Pk**	**125.42**	**36**	PFAKE		05 36 10.0	+11
PKME				LR	LR		
	comp=Z,372nm,21.0s,MS5.0						
TRQA	**Tornquist**	**125.46**	**145**	*e*PKPdf	PKPdf	05 35 58.7	-0.3
PERS	**Pernice**	**125.67**	**326**	*i* PKPdf	PKPdf	05 35 59.3	0.0
WES	**Weston**	**125.67**	**40**	PFAKE		05 36 10.0	+11
WES				LR	LR		
	comp=Z,914nm,20.0s,MS5.4						
GRA1	**Grafenberg Arr**	**125.78**	**331**	*e*PKP	PKPdf	05 35 57.8	-1.8
GRF	**Grafenberg Arr**	**125.78**	**331**	*e*PKP	PKPdf	05 35 57.8	-1.8
BOJS	**Bojanci**	**126.25**	**325**	*i* PKPdf	PKPdf	05 36 01.5	+1.0
BOJS				*e*		05 36 10.1	
LJU	**Ljubljana**	**126.35**	**326**	*i* PKPdf	PKPdf	05 36 01.3	+0.6
ROBS	**Robic**	**126.79**	**326**	*i* PKPdf	PKPdf	05 36 01.4	-0.1
ROBS				*i*		05 36 12.2	
WATA	**Walderalm**	**127.14**	**328**	⇑iP	PKPdf	05 36 01.8	-0.4
	comp=Z,12nm,1.3s						
WTTA	**Wattenberg**	**127.16**	**328**	⇓iP	PKPdf	05 36 01.7	-0.5
	comp=Z,20nm,0.9s						
MOTA	**Moosalm**	**127.38**	**329**	⇑iP	PKPdf	05 36 02.2	-0.4
	comp=Z,11nm,1.1s						
SQTA	**Sankt Quirin**	**127.41**	**329**	*i* P	PKPdf	05 36 02.3	-0.4
	comp=Z,8.0nm,0.9s						
OTAV	**Otavalo**	**127.57**	**94**	*e*PKPdf	PKPdf	05 36 05.2	+2.2
OTAV				LR	LR		
	comp=Z,169nm,20.0s,MS4.7						
DAVA	**Damuels**	**128.05**	**329**	⇑iP	PKPdf	05 36 02.5	-1.5
	comp=Z,8.8nm,0.8s						
GIVF	**Givet**	**128.39**	**335**	*e*PKIKP	PKPdf	05 36 03.6	-1.0
CDF	**Champ du Feu**	**128.54**	**332**	*e*PKIKP	PKPdf	05 36 04.2	-0.7
	comp=Z,18nm,1.1s						
TIP	**Timpagrande**	**128.70**	**317**	*e*PKPdf	PKPdf	05 36 06.3	+1.1
HINF	**Hinteralfeld**	**129.16**	**332**	*e*PKIKP	PKPdf	05 36 04.6	-1.4
	comp=Z,35nm,1.2s						
HAU	**Haudompre**	**129.26**	**332**	*e*PKIKP	PKPdf	05 36 05.3	-0.9
	comp=Z,18nm,1.0s						
HAU				*e*R			
	comp=Z,372nm,22.2s						
HAU	**Haudompre**	**129.26**	**332**	*e*PKPdf	PKPdf	05 36 05.3	-0.9
HAU				LR	LR		
	comp=Z,370nm,22.3s,MS5.0						
TSUM	**Tsumeb**	**130.46**	**239**	*e*PKPdf	PKPdf	05 36 09.3	+0.8
TSUM				LR	LR		
	comp=Z,703nm,21.0s,MS5.3						
LPL	**La Plagne**	**130.85**	**330**	*e*PKIKP	PKPdf	05 36 08.6	-0.6
LPG	**La Plagne**	**130.85**	**330**	*e*PKIKP	PKPdf	05 36 08.4	-0.8
	comp=Z,16nm,0.9s						
LOR	**Lormes**	**130.95**	**333**	*e*PKIKP	PKPdf	05 36 08.3	-1.1
	comp=Z,18nm,1.0s						
LOR				*e*R			
	comp=Z,205nm,22.5s						
LOR	**Lormes**	**130.95**	**333**	*e*PKPdf	PKPdf	05 36 08.3	-1.1
LOR				LR	LR		
	comp=Z,210nm,22.5s,MS4.8						
SSF	**Saint Saulge**	**131.26**	**333**	*e*PKIKP	PKPdf	05 36 08.8	-1.2
	comp=Z,28nm,1.2s						
MBDF	**Montbardon**	**131.38**	**329**	*e*PKIKP	PKPdf	05 36 09.6	-0.6
PGF	**Pioggiola**	**131.62**	**325**	*e*PKIKP	PKPdf	05 36 09.9	-0.8
	comp=Z,88nm,1.1s						
ORIF	**Oris-en-Rattie**	**131.70**	**330**	*e*PKIKP	PKPdf	05 36 09.9	-0.9
	comp=Z,18nm,0.9s						
ORIF				*e*R			
	comp=Z,249nm,22.2s						
ROSC	**El Rosal**	**132.06**	**88**	PKP	PKPdf	05 36 11.9	+0.3
	comp=Z,5.1nm,0.5s,baz=112,slow=13,SNR=5.7						
TCF	**Toulx Ste Croi**	**132.43**	**333**	*e*PKIKP	PKPdf	05 36 11.4	-0.8
	comp=Z,28nm,1.1s						
MFF	**Saint Martin d**	**133.19**	**335**	*e*PKIKP	PKPdf	05 36 13.2	-0.5
	comp=Z,30nm,1.1s						
LPAZ	**La Paz**	**133.25**	**118**	PKhKP		05 36 04.7	
	comp=Z,0.6nm,0.5s,baz=270,slow=4.0,SNR=4.6						
LPAZ				PKP	PKPdf	05 36 15.8	+2.0
	comp=Z,1.7nm,0.6s,baz=257,slow=6.6,SNR=9.2						
LPAZ				SKPbc	SKPbc	05 39 39.5	+1.7
	comp=Z,0.7nm,0.6s,baz=244,slow=6.0,SNR=3.0						
LPAZ	**La Paz**	**133.25**	**118**	PKHKP		05 36 04.7	
LPAZ				*e*		05 36 15.0	
LPAZ	**La Paz**	**133.25**	**118**	PKP		05 36 04.7	
LPAZ				*e*PKPdf	PKPdf	05 36 15.0	+1.2
LPAZ				PKP	PKPdf	05 36 15.8	+2.0
LPAZ				SKPbc	SKPbc	05 39 39.5	+1.7
BBSR	**BB Station**	**135.16**	**48**	PFAKE		05 36 30.0	+13
BBSR				LR	LR		
	comp=Z,463nm,21.0s,MS5.2						
KEST	**Kesra**	**135.52**	**318**	PKP	PKPdf	05 36 18.2	+0.2
	comp=Z,5.3nm,1.1s,baz=266,slow=2.3,SNR=5.5						
SDV	**Santo Domingo**	**135.78**	**83**	*e*PKPdf	PKPdf	05 36 18.5	0.0
SDV				LR	LR		
	comp=Z,136nm,19.0s,MS4.7						
ETSF	**Etsaut**	**136.30**	**333**	*e*PKIKP	PKPdf	05 36 18.6	-0.9
ESDC	**Sonseca Array**	**140.42**	**333**	PKhKP		05 36 21.3	
	comp=Z,0.3nm,0.4s,baz=19,slow=2.5,SNR=6.2						
ESDC				PP	PP	05 39 24.8	-1.0
	comp=Z,2.8nm,0.7s,baz=26,slow=7.3,SNR=11						
ESDC	**Sonseca Array**	**140.42**	**333**	P	PKPdf	05 36 20.0	-7.0
SAML	**Samuel**	**140.46**	**111**	*e*PKPdf	PKPdf	05 36 26.7	-0.4
PVIS	**Viseu**	**141.19**	**338**	*e*PKP	PKPdf	05 36 26.3	-2.1
EQES	**Quesada**	**141.48**	**330**	P	PKPdf	05 36 22.0	-7.0
EBAN	**Banos Encina**	**141.54**	**331**	PKHKP	PKPdf	05 36 22.6	-6.5
PCBR	**Castelo Branco**	**141.78**	**336**	*e*PKP	PKPdf	05 36 25.4	-4.1
ECOG	**Cogollos-Vega**	**142.13**	**330**	PKHKP	PKPdf	05 36 22.9	-7.2
ELUQ	**Luque**	**142.25**	**331**	PKHKP	PKPdf	05 36 25.4	-4.9
ERON	**Agron**	**142.45**	**330**	P	PKPdf	05 36 24.3	-6.4
EGUA	**Guajares**	**142.48**	**330**	PKHKP	PKPdf	05 36 24.5	-6.2
ELOJ	**Sierra Loja**	**142.52**	**330**	PKHKP	PKPdf	05 36 25.3	-5.5
PESTR	**Estremoz**	**142.66**	**336**	*e*PKP	PKPdf	05 36 28.2	-2.9
EVO	**Evora**	**143.12**	**336**	*e*PKIKP	PKPdf	05 36 28.9	-3.0
	comp=Z,9.8nm,0.8s						
EVO				*e*R			
	comp=Z,195nm,22.8s						
EMIN	**Mina Concepcio**	**143.19**	**334**	P	PKPdf	05 36 28.9	-3.1
PMAFR	**Mafra**	**143.25**	**338**	*e*PKP	PKPdf	05 36 30.1	-2.0
EMIJ	**Mijas**	**143.29**	**331**	P	PKPdf	05 36 28.2	-4.0
PBEJ	**Beja**	**143.49**	**335**	*e*PKP	PKPdf	05 36 30.7	-1.8
ESPR	**Espera**	**143.56**	**332**	P	PKPdf	05 36 28.4	-4.2
EJIF	**Jimena Fronter**	**143.72**	**331**	PKIKP	PKPdf	05 36 29.6	-3.3
PTEO	**Sao Teotonio**	**144.25**	**336**	*e*PKP	PKPdf	05 36 33.5	-0.3
BBGH	**Gun Hill**	**146.21**	**74**	PFAKE		05 36 50.0	+13
BBGH				LR	LR		
	comp=Z,723nm,20.0s,MS5.5						
TOA0	**Torodi Ar. Sit**	**151.45**	**288**	*e*PKPdf	PKPdf	05 36 46.2	+0.6
TOA0				*e*PKPbc	PKPbc	05 36 52.1	+0.3
TOA0				*e*PKPab	PKPab	05 37 00.8	+0.6
TORD	**Torodi Ar. Bea**	**151.45**	**288**	PKP	PKPdf	05 36 45.8	+0.1
	comp=Z,3.5nm,0.8s,baz=40,slow=1.2,SNR=19						
TORD				PKPbc	PKPbc	05 36 52.2	+0.4
	comp=Z,59nm,0.7s,baz=66,slow=2.2,SNR=176						
TORD				PKPab	PKPab	05 37 00.9	+0.6
	comp=Z,31nm,0.9s,baz=21,slow=2.5,SNR=7.9						
TORD				PP	PP	05 40 29.0	-2.1
	comp=Z,5.5nm,1.0s,baz=48,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.45**	**288**	PKP	PKPdf	05 36 45.8	+0.1
TORD				PKPbc	PKPbc	05 36 52.2	+0.4
TORD				PKPab	PKPab	05 37 00.9	+0.6
TORD				PP	PP	05 40 29.0	-2.1
LIC	**Lamto**	**158.93**	**273**	*e*PKIKP	PKPdf	05 36 55.8	0.0
	comp=Z,18nm,1.0s						
LIC				*e*R			
	comp=Z,364nm,20.8s						
LIC	**Lamto**	**158.93**	**273**	*e*PKPdf	PKPdf	05 36 55.8	0.0
LIC				LR	LR		
	comp=Z,180nm,20.8s,MS4.9						
RCBR	**Riachuelo**	**165.22**	**139**	PFAKE		05 37 10.0	+7.8
RCBR				LR	LR		
	comp=Z,497nm,21.0s						

CSEM ***02*** *06:16:13.2±0.8, 3864N×2883W, h11km±4km, ML1.5, Error ellipse: s-maj=8.5km s-min=4.8km az=82.0, After PDA*
PDA ***02*** *06:16:13.2±0.8, 3864N×2883W, h11km±4km, MD2.9, ML1.5, Error ellipse: s-maj=8.5km s-min=4.8km az=82.0*
SVSA 02 06:16:13.2±0.8**, 3864N×2883W, h11**km±4km**, MD2.9, ML1.5, Error ellipse: s-maj=8.5km s-min=4.8km az=82.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**99**	*e*P	Pg	06 16 15.5	-0.4
PCED				*e*S	Sg	06 16 17.6	-0.3
PCED							
	20nm,0.2s						
PCED	**Cedros**	**0.10**	**99**	*e*P	Pg	06 16 15.5	-0.4
PCED				*e*S	Sg	06 16 17.6	-0.3
CALA	**Caldeira**	**0.12**	**121**	*e*S	Sg	06 16 17.9	-0.3
HOR	**Horta**	**0.20**	**126**	*e*S	Sg	06 16 19.9	-0.4
PICO	**Pico**	**0.35**	**114**	*e*P	Pg	06 16 19.4	-0.8
PICO				*e*S	Sg	06 16 24.3	-0.6
ROSA	**Rosais**	**0.47**	**81**	*e*P	Pg	06 16 21.4	-1.0
ROSA				*e*S	Sg	06 16 27.2	-1.4
PMAN	**Manadas**	**0.58**	**91**	*e*S	Sg	06 16 29.5	-2.7
PMAN							
	31nm,0.2s						
PID	**Ribeirinha**	**0.60**	**110**	*e*S	Sg	06 16 30.4	-2.2

NEIC ***02*** *06:17:57.5±1.2, 4397N×14861E, h10km, mb3.9/1, Error ellipse: s-maj=23.1km s-min=13.1km az=153.0*
ISCJB ***02*** *06:17:58.4±3.0, 440N±0.1×1486E±0.1, h32km±26km, mb3.7/1, Error ellipse: s-maj=23.0km s-min=7.6km az=125.8*
JMA ***02*** *06:17:58.3±0.5, 4386N×14836E, h0km, M3.7*
ISC 02 06:17:59.7±3.1**, 440N**±01**×1486E**±01**, h26**km±27km**, n10,** σ**0s92**/15**, mb3.7**/1**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.17**	**254**	*e*S	**Sn**	**06 18 59.0**	**-1.2**
JRA	**Rausu**	**2.52**	**270**	P	**Pn**	**06 18 38.6**	**-0.3**
JRA				*e*S	**Sn**	**06 19 08.7**	**-0.1**
JAR	**Ashorobuto**	**3.58**	**261**	P	**Pn**	**06 18 54.5**	**+1.0**
JAR				*e*S	**Sn**	**06 19 35.9**	**+0.9**
JCH	**Churui**	**4.07**	**252**	P	**Pn**	**06 19 01.4**	**+1.2**
JCH				*e*S	**Sn**	**06 19 47.9**	**+0.9**
ERM	**Erimo**	**4.46**	**246**	*e*Pn	**Pn**	**06 19 05.2**	**-0.4**
ERM				*e*Sn	**Sn**	**06 19 55.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**4.62**	**250**	P	**Pn**	**06 19 07.9**	**+0.2**
JNBK				*e*S	**Sn**	**06 20 00.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.08**	**308**	*e*Pn	**Pn**	**06 19 13.2**	**-0.9**
MA2	**Magadan**	**15.67**	**4**	*e*Pn	**Pn**	**06 21 39.1**	**+0.5**
	100nm,1.4s						
SMY	**Shemya**	**18.98**	**54**	*e*P	**Pn**	**06 22 18.2**	**-1.6**
	51nm,0.9s						
LOHW	**Long Hollow**	**67.81**	**50**	*e*P	**P**	**06 28 56.6**	**+1.2**
	0.5nm,0.6s,mb3.7						

NEIC ***02*** *08:10:11.8, 2979S×7127W, h73km, MD3.8(GUC), After GUC.*
GUC 02 08:10:11.8±0.8**, 2979S×7127W, h73**km±5km**, MD3.8, ML3.9, 5C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.56**	**133**	⇓iP	Pn	08 10 26.4	+0.9
TLL				*i* S	Sn	08 10 37.1	+1.7
TLL				AML	AML	08 10 37.9	
	comp=N,8μm,0.3s						
TLL	**Tololo Astrono**	**0.56**	**133**	⇓iP	Pn	08 10 26.4	+0.9
TLL				*i* S	Sn	08 10 37.1	+1.7
TLL				AML	AML	08 10 37.8	
	comp=N,8μm,0.3s						
OVCH	**Ovalle**	**0.82**	**176**	⇓iP	Pn	08 10 28.5	+0.2
OVCH				*i* S	Sn	08 10 41.2	+0.7
OVCH				AML	AML	08 10 42.0	
	comp=N,4μm,0.5s						
OVCH	**Ovalle**	**0.82**	**176**	⇓iP	Pn	08 10 28.5	+0.2
OVCH				*i* S	Sn	08 10 41.3	+0.7
OVCH				AML	AML	08 10 42.0	
	comp=N,4μm,0.5s						
VACH	**Vallenar**	**1.28**	**20**	*e*P	Pn	08 10 32.9	-1.2
VACH				*e*S	Sn	08 10 47.8	-3.0
VACH				AML	AML	08 10 52.2	
	comp=N,13μm,0.1s						
VACH	**Vallenar**	**1.28**	**20**	⇓eP	Pn	08 10 32.9	-1.2
VACH				*i* S	Sn	08 10 49.0	-1.8
VACH				AML	AML	08 10 52.2	
	comp=N,13μm,0.1s						
VACH	**Vallenar**	**1.28**	**20**	P	Pn	08 10 32.9	-1.2
VACH				S	Sn	08 10 47.8	-3.0
CMCH	**Combarbala**	**1.40**	**171**	⇑iP	Pn	08 10 35.8	+0.2
CMCH				*i* S	Sn	08 10 54.4	+1.0
CMCH				AML	AML	08 10 56.6	
	comp=N,4μm,0.9s						
CMCH	**Combarbala**	**1.40**	**171**	⇑iP	Pn	08 10 36.0	+0.4
CMCH				*i* S	Sn	08 10 54.8	+1.3
CMCH				AML	AML	08 10 56.6	
	comp=N,4μm,0.8s						
CMCH	**Combarbala**	**1.40**	**171**	⇑iP	Pn	08 10 35.8	+0.2
CMCH				*i* S	Sn	08 10 54.4	+1.0
CHNG	**Los Chungos**	**2.10**	**185**	*e*P	Pn	08 10 45.0	+0.2
CHNG				*i* S	Sn	08 11 10.5	+0.5
CHNG	**Los Chungos**	**2.10**	**185**	*e*P	Pn	08 10 45.3	+0.5
PTCH	**Petorca**	**2.49**	**173**	*e*P	Pn	08 10 50.6	+0.5
PTCH				*i* S	Sn	08 11 19.9	+0.5
PTCH				AML	AML	08 11 24.0	
	comp=E,847nm,0.2s						
PTCH	**Petorca**	**2.49**	**173**	⇓eP	Pn	08 10 50.9	+0.8
PTCH				*i* S	Sn	08 11 20.8	+1.4
PTCH	**Petorca**	**2.49**	**173**	*e*P	Pn	08 10 50.6	+0.5
PTCH				*i* S	Sn	08 11 19.9	+0.5
CPCH	**Copiapo**	**2.55**	**19**	*e*P	Pn	08 10 48.8	-2.0
CPCH	**Copiapo**	**2.55**	**19**	⇓iP	Pn	08 10 48.9	-2.0
CPCH				*i* S	Sn	08 11 17.8	-3.1
CDCH	**Caldera**	**2.73**	**8**	*e*P	Pn	08 10 48.4	-5.0
CDCH				*i* S	Sn	08 11 17.4	-7.9
CDCH				AML	AML	08 11 43.3	
	comp=N,104nm,0.4s						
CDCH	**Caldera**	**2.73**	**8**	*e*P	Pn	08 10 50.3	-3.1
CDCH	**Caldera**	**2.73**	**8**	P	Pn	08 10 48.4	-5.0
CDCH				S	Sn	08 11 17.4	-7.9
ZON	**Zonda**	**2.84**	**129**	*e*P	Pn	08 10 57.8	+3.0
JACH	**Jahuel**	**2.94**	**169**	*e*P	Pn	08 10 56.5	+0.2
JACH	**Jahuel**	**2.94**	**169**	*i* P	Pn	08 10 57.4	+1.1
PEL	**Peldehue**	**3.38**	**172**	*e*P	Pn	08 11 03.2	+1.0
PEL				*i* S	Sn	08 11 41.5	+0.2
PEL				AML	AML	08 12 02.3	
	comp=E,330nm,0.7s						
PEL	**Peldehue**	**3.38**	**172**	*e*P	Pn	08 11 03.3	+1.0
PEL				*i* S	Sn	08 11 43.0	+1.8
PEL				AML	AML	08 12 02.2	
	comp=E,326nm,0.9s						
PEL	**Peldehue**	**3.38**	**172**	*e*P	Pn	08 11 03.2	+1.0
PEL				*i* S	Sn	08 11 41.5	+0.2
FCH	**Farellones**	**3.63**	**167**	*e*P	Pn	08 11 08.3	+2.7
FCH	**Farellones**	**3.63**	**167**	*e*P	Pn	08 11 07.3	+1.8
FCH				*i* S	Sn	08 11 50.4	+3.2
CLCH	**Cerro Calan**	**3.65**	**170**	*e*P	Pn	08 11 06.5	+0.5
CLCH				*i* S	Sn	08 11 48.7	+0.9
CLCH				AML	AML	08 12 08.1	
	comp=E,138nm,0.7s						
CLCH	**Cerro Calan**	**3.65**	**170**	*e*P	Pn	08 11 07.2	+1.3
CLCH				*i* S	Sn	08 11 49.9	+2.1
RCDM	**Rinconada Maip**	**3.71**	**174**	*e*P	Pn	08 11 06.5	-0.2
TACH	**Talagante**	**3.87**	**176**	⇑eP	Pn	08 11 09.4	+0.5
PCH	**Pirque**	**3.88**	**171**	*e*P	Pn	08 11 10.0	+1.0
PCH	**Pirque**	**3.88**	**171**	⇑iP	Pn	08 11 09.9	+0.9

ISCJB ***02*** *08:16:49.9±3.3, 1074N±007×1417E±02, h60km±35km, mb4.3/10, Error ellipse: s-maj=31.7km s-min=11.2km az=0.4*
NEIC ***02*** *08:16:49.4±0.4, 1069N×14148E, h30km, mb4.4/2, Error ellipse: s-maj=13.3km s-min=7.6km az=88.0*
IDC ***02*** *08:16:49.8±7.1, 1069N×14147E, h33km±56km, mb4.2/9, mb1 4.4/10, mb1mx4.1/20, mbtmp4.3/10, ML4.4/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/36, Error ellipse: s-maj=33.8km s-min=15.3km az=78.0*
ISC 02 08:16:52.2±3.1**, 1076N**±007**×1418E**±02**, h62**km±35km**, n25,** σ**0s86**/17**, mb4.3**/10**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.14**	**47**	Pn	**Pn**	**08 17 53.9**	**+1.1**
	18nm,0.3s,baz=170,slow=5.3,SNR=5.4						
GUMO				Sn	**Sn**	**08 18 38.9**	**-1.2**
	58nm,0.3s,baz=152,slow=23,SNR=9.5						
PMG	**Port Moresby**	**20.74**	**165**	P	**P**	**08 21 28.3**	**+0.7**
	42nm,0.8s,baz=351,slow=8.9,SNR=9.0						
PMG				LR	LR	08 29 04.3	
	comp=Z,125nm,19.0s,baz=164,slow=35						
JHJ	**Hachijo jima 2**	**22.33**	**356**	LR	LR	08 29 36.8	
	comp=Z,81nm,20.1s,baz=82,slow=34						
JNU	**Nakatsue**	**24.40**	**337**	LR	LR	08 28 54.2	
	comp=Z,135nm,21.6s,baz=252,slow=30						
KAKA	**Kakadu**	**25.09**	**202**	*e*P	**P**	**08 22 10.6**	**-0.3**
	3.3nm,0.8s,mb3.9						
HNR	**Honiara**	**27.02**	**137**	LR	LR	08 31 55.6	
	comp=Z,52nm,18.2s,baz=360,slow=33						
WB2	**Warramunga Arr**	**31.37**	**193**	*e*P	**P**	**08 23 06.1**	**-0.8**
WRA	**Warramunga Arr**	**31.37**	**193**	P	**P**	**08 23 06.2**	**-0.7**
	4.4nm,0.8s,mb4.3,baz=13,slow=9.4,SNR=26						
WRA				LR	LR	08 35 03.5	
	comp=Z,88nm,20.8s,baz=60,slow=35						
AS31	**Alice Springs**	**35.06**	**193**	*e*P	**P**	**08 23 38.8**	**-0.3**
ASAR	**Alice Springs**	**35.06**	**193**	P	**P**	**08 23 39.5**	**+0.3**
	2.0nm,0.6s,mb4.2,baz=16,slow=13,SNR=42						
ASAR				LR	LR	08 37 42.4	
	comp=Z,110nm,18.2s,baz=358,slow=36						
DZM	**Mont Dzumac**	**40.63**	**143**	P	**P**	**08 24 28.4**	**+2.4**
	7.8nm,0.7s,mb4.5,baz=319,slow=13,SNR=6.9						
DZM				LR	LR	08 38 06.1	
	comp=Z,105nm,18.2s,baz=192,slow=31						
STKA	**Stephens Creek**	**42.39**	**180**	P	**P**	**08 24 39.4**	**-1.0**
	3.1nm,0.8s,mb4.0,baz=328,slow=5.0,SNR=4.8						
STKA				LR	LR	08 42 36.6	
	comp=Z,86nm,18.4s,baz=207,slow=36						
SONM	**Songino Array**	**47.39**	**328**	P	**P**	**08 25 21.0**	**+0.8**
	0.9nm,0.6s,mb3.9,baz=139,slow=6.3,SNR=9.8						
SONM				LR	LR	08 44 17.7	
	comp=Z,53nm,19.0s,baz=240,slow=35						
RPZ	**Rata Peaks**	**60.42**	**156**	LR	LR	08 48 09.4	
	comp=Z,96nm,18.5s,baz=9.9,slow=31						
MK31	**Makanchi Array**	**61.46**	**318**	*e*P	**P**	**08 27 02.2**	**0.0**
MKAR	**Makanchi Array**	**61.46**	**318**	P	**P**	**08 27 02.8**	**+0.6**
	2.1nm,0.8s,mb4.3,baz=98,slow=8.9,SNR=17						
MKAR				LR	LR	08 52 22.3	
	comp=Z,26nm,18.8s,baz=244,slow=35						
MKAR	**Makanchi Array**	**61.46**	**318**	P	**P**	**08 27 02.8**	**+0.6**
MKAR				LR	LR	08 52 22.3	
ZAL	**Zalesovo**	**62.20**	**326**	P	**P**	**08 27 06.5**	**-0.7**
	2.6nm,0.3s,mb4.8,baz=356,slow=4.0,SNR=5.6						
ZRNK	**Zerenda**	**71.10**	**322**	*e*P	**P**	**08 28 04.3**	**+0.5**
	8.7nm,1.1s,mb4.6						
AKTO	**Aktyubinsk**	**77.81**	**319**	LR	LR	09 06 12.0	
	comp=Z,25nm,18.2s,baz=249,slow=38						
GNI	**Garni**	**88.44**	**310**	LR	LR	09 10 54.3	
	comp=Z,26nm,19.6s,baz=158,slow=37						
FINES	**FINESS Array B**	**92.40**	**334**	P	**P**	**08 29 55.4**	**-0.6**
	5.6nm,1.1s,mb4.8,baz=63,slow=6.4,SNR=3.1						
FINES				LR	LR	09 09 38.4	
	comp=Z,26nm,20.2s,baz=172,slow=34						
AKASG	**Malin Array Be**	**95.53**	**324**	LR	LR	09 17 41.3	
	comp=Z,30nm,20.3s,baz=295,slow=38						
NOA	**NORSAR Array B**	**98.56**	**338**	LR	LR	09 12 50.2	
	comp=Z,12nm,21.0s,baz=30,slow=34						
LPAZ	**La Paz**	**150.45**	**104**	PKPbc	PKPbc	08 36 40.2	+3.6
	5.0nm,0.8s,baz=277,slow=2.6,SNR=23						

CSEM ***02*** *08:18:20.0±1.2, 3864N×2856W, h7km±7km, ML1.2, Error ellipse: s-maj=3.5km s-min=3.1km az=170.0, After PDA*
PDA ***02*** *08:18:20.0±1.2, 3864N×2856W, h7km±7km, MD2.8, ML1.2, Error ellipse: s-maj=3.5km s-min=3.1km az=170.0*
SVSA 02 08:18:20.0±1.2**, 3864N×2856W, h7**km±7km**, MD2.8, ML1.2, Error ellipse: s-maj=3.5km s-min=3.1km az=170.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**262**	*e*P	Pg	08 18 21.9	-0.6
PCED				*e*S	Sg	08 18 24.3	+0.1
PCED							
	34nm,0.2s						
PCED	**Cedros**	**0.12**	**262**	*e*P	Pg	08 18 21.9	-0.6
PCED				*e*S	Sg	08 18 24.3	+0.1
CALA	**Caldeira**	**0.13**	**241**	*e*P	Pg	08 18 22.6	-0.1
CALA				*e*S	Sg	08 18 25.1	+0.5
PICO	**Pico**	**0.18**	**144**	*e*P	Pg	08 18 23.2	-0.4
PICO				*e*S	Sg	08 18 25.9	-0.1
PCND	**Candelaria**	**0.19**	**157**	*e*S	Sg	08 18 26.4	0.0
PCND							
	14nm,0.1s						
PBOI	**Pico dos Bois**	**0.25**	**146**	*e*S	Sg	08 18 26.4	-1.9
PBOI							
	12nm,0.1s						
ROSA	**Rosais**	**0.26**	**73**	*e*S	Sg	08 18 28.4	-0.1
PMAN	**Manadas**	**0.37**	**92**	*e*S	Sg	08 18 31.4	-0.5

ISCJB ***02*** *08:30:40.0±0.9, 558S±0.1×254W±04, h10km, mb4.0/5,*

MS3.7/1, Error ellipse: s-maj=37.4km s-min=13.5km az=135.9

*IDC **02** 08:30:40.0±0.9, 5580S×2549W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/12, mbtmp4.1/5, MS3.7/1, Ms1 3.6/1, ms1mx3.1/12, Error ellipse: s-maj=38.5km s-min=24.4km az=73.0*

*NEIC **02** 08:30:46.8±0.8, 5584S×2548W, h50km, mb3.8/1, Error ellipse: s-maj=34.9km s-min=16.5km az=66.0*

ISC 02 08:30:41.6±0.9**, 558S**±01×**254W**±04**, h10km, n12,** σ**0.60**/10**, mb4.0**/5**, MS3.7**/1**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.63**	**160**	*e*	**Pn**	**08 34 35.8**	**+1.1**
VNA1				*e*		08 34 38.0	
VNA1				*e*		08 34 42.9	
VNA1				*e*		08 34 50.0	
VNA1				*e*		08 34 55.9	
VNA1				*e*		08 35 01.9	
VNA3	**Neumayer Olymp**	**16.87**	**162**	*e*	**Pn**	**08 34 36.9**	**-0.9**
VNA3				*e*		08 34 38.4	
VNA3				*e*		08 34 43.6	
VNA3				*e*		08 34 51.3	
VNA3				*e*		08 34 57.5	
VNA3				*e*		08 35 01.9	
VNA2	**Neumayer--Watz**	**17.02**	**160**	*e*	**Pn**	**08 34 39.8**	**+0.1**
VNA2				*e*		08 34 41.5	
VNA2				*e*		08 34 46.2	
VNA2				*e*		08 34 54.5	
VNA2				*e*		08 35 00.2	
VNA2				*e*		08 35 04.2	
SNAA	**Sanae**	**18.54**	**158**	*e*	**Pn**	**08 34 58.6**	**+0.2**
SNAA				*e*		08 35 00.5	
SNAA				*e*		08 35 06.9	
SNAA				*e*		08 35 17.1	
SNAA				*e*		08 35 20.5	
SNAA	**Sanae**	**18.54**	**158**	*e*P	**Pn**	**08 34 58.4**	**-0.1**
	5.2nm,0.8s						
MAW	**Mawson**	**39.72**	**143**	P	**P**	**08 38 13.7**	**-0.4**
	1.2nm,0.6s,mb3.8,baz=266,slow=8.8,SNR=4.1						
BOSA	**Boshof**	**44.95**	**74**	LR	LR	08 54 08.9	
	comp=Z,90nm,21.9s,MS3.7,baz=295,slow=31						
VNDA	**Vanda**	**46.82**	**182**	P	**P**	**08 39 10.8**	**-0.7**
	1.6nm,0.7s,mb4.1,baz=192,slow=5.0,SNR=14						
LPAZ	**La Paz**	**51.08**	**303**	P	**P**	**08 39 44.3**	**+0.1**
	3.9nm,0.7s,mb4.5,baz=172,slow=6.2,SNR=18						
TORD	**Torodi Ar. Bea**	**72.39**	**28**	P	**P**	**08 42 07.6**	**-0.2**
	1.2nm,0.5s,mb4.0,baz=200,slow=6.5,SNR=22						
ASAR	**Alice Springs**	**98.87**	**161**	P	**P**	**08 44 22.8**	**+0.8**
	0.2nm,0.6s,mb3.8,baz=187,slow=4.1,SNR=5.1						
SONM	**Songino Array**	**149.72**	**85**	PKPbc	PKPbc	08 50 30.3	-1.2
	1.2nm,0.6s,baz=206,slow=3.4,SNR=9.4						

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*NEIC **02** 08:42:16.0, 3733S×177.18E, h145km, MG3.8(WEL), After WEL.*

WEL 02 08:42:15.7±0.2**, 3732S**×**17720E, h149**km±2km**, ML3.8**/18**, 1C-1D, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**106**	P	Pn	08 42 39.6	0.0
MXZ				S	Sn	08 42 58.4	+0.5
MXZ	**Matakaoa Point**	**0.92**	**106**	PN	Pn	08 42 39.5	-0.1
MXZ				SN	Sn	08 42 58.3	+0.4
URZ	**Urewera**	**0.94**	**184**	P	Pn	08 42 39.8	0.0
URZ	**Urewera**	**0.94**	**184**	⇑PN	Pn	08 42 39.8	0.0
URZ				SN	Sn	08 42 57.9	-0.3
MWZ	**Matawai**	**1.05**	**166**	*e*P	Pn	08 42 40.8	+0.1
MWZ	**Matawai**	**1.05**	**166**	PN	Pn	08 42 40.8	+0.1
MWZ				SN	Sn	08 43 00.4	+0.6
PUZ	**Puketiti**	**1.13**	**132**	*e*P	Pn	08 42 41.5	+0.1
PUZ				S	Sn	08 43 00.3	-0.8
PUZ	**Puketiti**	**1.13**	**132**	PN	Pn	08 42 41.5	+0.1
PUZ				SN	Sn	08 43 00.3	-0.8
KUZ	**Kuaotunu**	**1.31**	**295**	⇓PN	Pn	08 42 43.2	0.0
KNZ	**Kokohu**	**1.74**	**168**	P	Pn	08 42 47.7	0.0
KNZ	**Kokohu**	**1.74**	**168**	PN	Pn	08 42 47.7	0.0
BKZ	**Black Stump Fm**	**1.93**	**197**	P	Pn	08 42 49.5	-0.3
BKZ	**Black Stump Fm**	**1.93**	**197**	PN	Pn	08 42 49.5	-0.3
KRVZ	**Karewarewa**	**2.16**	**214**	PN	Pn	08 42 53.3	+0.7
WTVZ	**West Tongariro**	**2.20**	**215**	P	Pn	08 42 53.7	+0.7
OTVZ	**Oturere**	**2.20**	**213**	PN	Pn	08 42 53.5	+0.4
TWVZ	**Taurewa**	**2.23**	**218**	P	Pn	08 42 53.6	+0.2
NGZ	**Ngauruhoe**	**2.24**	**214**	P	Pn	08 42 54.4	+0.9
NGZ	**Ngauruhoe**	**2.24**	**214**	PN	Pn	08 42 54.4	+0.9
WPVZ	**Whakapapa**	**2.29**	**214**	P	Pn	08 42 54.8	+0.7
WPVZ	**Whakapapa**	**2.29**	**214**	PN	Pn	08 42 54.8	+0.7
TUVZ	**Tukino**	**2.29**	**211**	P	Pn	08 42 54.4	+0.2
TUVZ	**Tukino**	**2.29**	**211**	PN	Pn	08 42 54.4	+0.2
FWVZ	**Far West T-bar**	**2.33**	**213**	P	Pn	08 42 54.9	+0.3
FWVZ	**Far West T-bar**	**2.33**	**213**	PN	Pn	08 42 54.9	+0.3
WNVZ	**Wahianoa**	**2.37**	**212**	P	Pn	08 42 55.1	0.0
WNVZ	**Wahianoa**	**2.37**	**212**	PN	Pn	08 42 55.1	0.0
MOVZ	**Moawhango**	**2.38**	**208**	P	Pn	08 42 54.5	-0.7
MOVZ	**Moawhango**	**2.38**	**208**	PN	Pn	08 42 54.5	-0.7
PKVZ	**Pokaka**	**2.45**	**216**	PN	Pn	08 42 56.4	+0.4
MTVZ	**Mangateitei**	**2.47**	**213**	PN	Pn	08 42 56.5	+0.2
PXZ	**Pawanui**	**2.72**	**185**	PN	Pn	08 42 58.2	-1.2
WPHZ	**Waipukurau**	**2.81**	**192**	PN	Pn	08 42 59.2	-1.3
TSZ	**Takapari Road**	**2.90**	**199**	P	Pn	08 43 00.2	-1.5
TSZ	**Takapari Road**	**2.90**	**199**	PN	Pn	08 43 00.2	-1.5
WAZ	**Wanganui**	**2.99**	**215**	P	Pn	08 43 02.6	-0.2
WAZ	**Wanganui**	**2.99**	**215**	PN	Pn	08 43 02.6	-0.2
BFZ	**Birch Farm**	**3.44**	**192**	P	Pn	08 43 06.4	-2.1
BFZ	**Birch Farm**	**3.44**	**192**	PN	Pn	08 43 06.4	-2.2
MRZ	**Mangatainoka R**	**3.57**	**200**	P	Pn	08 43 07.8	-2.4
MRZ	**Mangatainoka R**	**3.57**	**200**	PN	Pn	08 43 07.8	-2.5
TIWZ	**Tintock**	**3.60**	**196**	PN	Pn	08 43 08.4	-2.3
KIW	**Kapiti Island**	**3.96**	**206**	P	Pn	08 43 12.6	-2.7
KIW	**Kapiti Island**	**3.96**	**206**	PN	Pn	08 43 12.6	-2.8
MTW	**Mount Morrison**	**4.05**	**198**	P	Pn	08 43 13.4	-3.1
MTW	**Mount Morrison**	**4.05**	**198**	PN	Pn	08 43 13.4	-3.2
CAW	**Cannon Point**	**4.13**	**203**	P	Pn	08 43 14.4	-3.1
CAW	**Cannon Point**	**4.13**	**203**	PN	Pn	08 43 14.4	-3.2
TRWZ	**Traveller**	**4.24**	**196**	PN	Pn	08 43 16.0	-3.0
PAWZ	**Paruwai Farm**	**4.28**	**198**	P	Pn	08 43 16.1	-3.5
PAWZ	**Paruwai Farm**	**4.28**	**198**	PN	Pn	08 43 16.1	-3.4
DUWZ	**D'Urville Isla**	**4.31**	**215**	PN	Pn	08 43 17.6	-2.3
MRW	**Makara Radio**	**4.36**	**206**	P	Pn	08 43 17.1	-3.4
MRW	**Makara Radio**	**4.36**	**206**	PN	Pn	08 43 17.1	-3.4
MSWZ	**Moikau Station**	**4.36**	**200**	P	Pn	08 43 17.0	-3.6
MSWZ	**Moikau Station**	**4.36**	**200**	PN	Pn	08 43 17.0	-3.5
WEL	**Wellington**	**4.39**	**205**	P	Pn	08 43 17.5	-3.4
WEL	**Wellington**	**4.39**	**205**	PN	Pn	08 43 17.5	-3.4
SNZO	**South Karori**	**4.43**	**205**	P	Pn	08 43 17.9	-3.6
SNZO	**South Karori**	**4.43**	**205**	PN	Pn	08 43 17.9	-3.6
TCW	**Tory Channel**	**4.50**	**209**	P	Pn	08 43 19.0	-3.4
TCW	**Tory Channel**	**4.50**	**209**	PN	Pn	08 43 19.0	-3.4
NNZ	**Nelson**	**4.89**	**216**	*e*P	Pn	08 43 24.0	-3.6
NNZ	**Nelson**	**4.89**	**216**	PN	Pn	08 43 24.0	-3.6
QRZ	**Quartz Range**	**5.05**	**225**	*e*P	Pn	08 43 26.2	-3.4
QRZ	**Quartz Range**	**5.05**	**225**	PN	Pn	08 43 26.2	-3.4
BSWZ	**Blackbirch Sta**	**5.09**	**209**	P	Pn	08 43 27.1	-3.0
BSWZ	**Blackbirch Sta**	**5.09**	**209**	PN	Pn	08 43 27.1	-3.0
THZ	**Tophouse**	**5.54**	**215**	*e*P	Pn	08 43 32.3	-3.9
KHZ	**Kahutara**	**5.82**	**208**	*e*P	Pn	08 43 35.8	-4.1
KHZ	**Kahutara**	**5.82**	**208**	PN	Pn	08 43 35.8	-4.1
LTZ	**Lake Taylor**	**6.64**	**213**	*e*P	Pn	08 43 46.1	-4.7
LTZ	**Lake Taylor**	**6.64**	**213**	PN	Pn	08 43 46.1	-4.7
ODZ	**Otahua Downs**	**9.16**	**211**	*e*P	Pn	08 44 19.8	-4.7
ODZ	**Otahua Downs**	**9.16**	**211**	PN	Pn	08 44 19.8	-4.6

HLW 02 09:24:52.2, 2517N×3303E, h0km, Mb1.1, 4C-2D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEDF	**Idfu**	**0.16**	**119**	⇑*i*P	Pg	09 24 56.1	+0.9
HEDF				S	Sg	09 24 59.8	+2.6
HEDF	**Idfu**	**0.16**	**119**	⇓P	Pg	09 24 56.1	+0.9
HEDF				S	Sg	09 24 59.2	+1.9
EMRS	**Mersa Alam**	**1.65**	**95**	⇓P	Pn	09 25 21.4	-1.0
EMRS				S	Sn	09 25 43.2	-1.0
EMRS	**Mersa Alam**	**1.65**	**95**	⇑P	Pn	09 25 22.0	-0.4
EMRS				S	Sn	09 25 43.5	-0.7
HAGS	**Hagol**	**1.94**	**113**	⇑*e*P	Pn	09 25 25.1	-1.3
HAGS	**Hagol**	**1.94**	**113**	⇑P	Pn	09 25 26.0	-0.4

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*ISCJB **02** 09:25:09.4±0.3, 080N±004×9745E±004, h29km, mb4.8/66, MS4.3/31, Error ellipse: s-maj=6.2km s-min=4.8km az=117.4*

*BJI **02** 09:25:09.3, 061N×9753E, h39km, mB5.2, mb4.9, Ms4.7, Msz4.5*

*MOS **02** 09:25:09.8±0.7, 085N×9749E, h33km, mb5.0/19, MS4.2/4, Error ellipse: s-maj=12.9km s-min=7.1km az=97.1*

*NEIC **02** 09:25:11.3±0.3, 082N×9743E, h30km, mb4.9/22, Error ellipse: s-maj=7.8km s-min=5.9km az=61.0*

NEIC Felt [II] at Gunungsitoli.

*IDC **02** 09:25:13.0±3.5, 087N×9750E, h41km±31km, mb4.2/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, ML3.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/27, Error ellipse: s-maj=19.6km s-min=13.3km az=62.0*

ISC 02 09:25:11.8±0.3**, 082N**±004×**9746E**±004**, h30km, h30**km±1.5km**:pP-P, n140,** σ**1.11**/149**, mb4.8**/66**, MS4.3**/31**, 13C-9D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.46**	**37**	P	**Pn**	**09 25 49.0**	**-0.7**
	14nm,0.3s,baz=195,slow=8.2,SNR=53						
PSI				LR	LR	09 26 41.3	
	comp=Z,2µm,21.9s,baz=131,slow=38						
PPI	**Padang Panjang**	**3.20**	**113**	P	**Pn**	**09 26 00.3**	**+0.3**
	757nm,0.9s						
IPM	**Ipoh**	**5.09**	**44**	P	**Pn**	**09 26 28.1**	**+2.0**
KULM	**Kulim**	**5.47**	**36**	⇑*i*Pn	**Pn**	**09 26 31.3**	**+0.2**
KULM				*e*Sg	Sn	09 28 10.5	+38
KGM	**Kluang**	**5.98**	**78**	P	**Pn**	**09 26 40.1**	**+1.9**
KSM	**Kuching**	**12.86**	**87**	*e*Pn	**Pn**	**09 28 14.2**	**+1.7**
BDT	**Bhumibol Dam**	**16.39**	**5**	P	**Pn**	**09 29 00.0**	**+0.4**
	2.2nm,7.0s						
CHG	**Chiang Mai**	**17.95**	**5**	⇑P	**Pn**	**09 29 17.3**	**-1.7**
	37nm,0.9s						
CHTO	**Chiang Mai**	**17.95**	**5**	*e*P	**Pn**	**09 29 17.5**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,29nm,0.8s						
CHTO	**Chiang Mai**	**17.95**	**5**	*e*P	**Pn**	**09 29 17.5**	**-1.4**
	comp=Z,29nm,0.8s						
NANT	**Nan**	**18.15**	**10**	⇑P	**Pn**	**09 29 20.0**	**-1.5**
	comp=Z,112nm,1.0s						
KKM	**Kota Kinabalu**	**19.42**	**74**	P	**Pn**	**09 29 37.4**	**+0.5**
KKM	**Kota Kinabalu**	**19.42**	**74**	*e*P	**Pn**	**09 29 36.1**	**-0.7**
QIZ	**Qiongzhong**	**21.80**	**33**	P	**P**	**09 30 01.4**	**+0.1**
QIZ				S	**S**	**09 34 04.9**	**+4.3**
QIZ				XS	sS	09 34 17.7	+4.0
QIZ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5						
QIZ				LR	LR		
	comp=N,312nm,19.9s						
KMI	**Kunming**	**24.70**	**12**	P	**P**	**09 30 31.8**	**+1.7**
KMI				AP		09 30 37.9	
KMI				XP	sP	09 30 41.2	-1.4
KMI				PPP		09 31 20.2	
KMI				S	**S**	**09 34 51.7**	**+1.7**
KMI				XS	sS	09 35 05.3	+0.8
KMI				SS		09 35 50.1	
KMI				SSS		09 36 07.1	
KMI				AMB	AMB		
	comp=Z,54nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,472nm,4.5s						
KMI				LR	LR		
	comp=N,749nm,13.6s,MS4.6						
KMI				LR	LR		
	comp=E,941nm,13.0s,MS4.6						
KMI				LR	LR		
	comp=Z,1µm,15.2s,MS4.5						
KMI	**Kunming**	**24.70**	**12**	P	**P**	**09 30 31.8**	**+1.7**
KMI				*SP	sP	09 30 41.2	-1.4
KMI				PPP		09 31 20.2	
KMI				S	**S**	**09 34 51.7**	**+1.7**
KMI				*SS	sS	09 35 05.3	+0.8
KMI				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1µm,15.2s,MS4.5						
KMI	**Kunming**	**24.70**	**12**	P	**P**	**09 30 31.8**	**+1.7**
	comp=Z,54nm,1.1s,mb5.0						
KMI				pP		09 30 37.9	
KMI				sP	sP	09 30 41.2	-1.4
KMI				PPP		09 31 20.2	
KMI				S	**S**	**09 34 51.7**	**+1.7**
KMI				sS	sS	09 35 05.3	+0.8
KMI				SS		09 35 50.1	
KMI				SSS		09 36 07.1	
KMI				LR	LR		
	comp=Z,1µm,15.2s,MS4.5						
GYA	**Guiyang**	**26.99**	**18**	⇑*i*P	**P**	**09 30 50.4**	**-0.5**
GYA				AP	pP	09 30 58.9	-0.8
GYA				XP	sP	09 31 02.4	-1.0
GYA				PP		09 31 37.2	
GYA				PPP		09 31 49.5	
GYA				PCP	PcP	09 34 10.7	-1.2
GYA				S	**S**	**09 35 25.5**	**-0.8**
GYA				XS	sS	09 35 40.1	-0.8
GYA				SS		09 36 41.3	
GYA				SCP	ScP	09 37 47.4	-2.5
GYA				PCS	PcS	09 37 50.9	-2.5
GYA				SCS	ScS	09 41 37.3	-3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,430nm,16.9s,MS4.2						
GYA				LR	LR		
	comp=E,310nm,17.4s,MS4.2						
GYA				LR	LR		
	comp=Z,320nm,17.0s,MS4.0						
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**09 31 08.2**	**+1.2**
	comp=Z,60nm,0.9s,mb5.3						
PKI	**Pulchoki**	**29.00**	**338**	*e*P	**P**	**09 31 10.3**	**+1.4**
GUN	**Gumba**	**29.14**	**339**	*e*P	**P**	**09 31 11.0**	**+1.0**
	comp=Z,107nm,0.9s,mb5.6						
DMN	**Daman**	**29.16**	**337**	*e*P	**P**	**09 31 12.4**	**+2.2**
	comp=Z,30nm,0.7s,mb5.1						
KKN	**Kakani**	**29.25**	**338**	*e*P	**P**	**09 31 11.7**	**+0.7**
	comp=Z,78nm,0.9s,mb5.4						
LSA	**Lhasa**	**29.34**	**349**	P	**P**	**09 31 12.9**	**+1.0**
LSA	**Lhasa**	**29.34**	**349**	*e*P	**P**	**09 31 12.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
LSA	**Lhasa**	**29.34**	**349**	*e*P	**P**	**09 31 12.6**	**+0.8**
	comp=Z,18nm,0.8s,mb4.9						
GKN	**Gorkha**	**29.69**	**337**	*e*P	**P**	**09 31 15.8**	**+0.9**
	comp=Z,78nm,1.0s,mb5.4						
KOLN	**Koldanda**	**29.91**	**335**	*e*P	**P**	**09 31 18.0**	**+1.1**
	comp=Z,38nm,0.8s,mb5.2						
AAI	**Ambon**	**31.04**	**98**	P	**P**	**09 31 24.0**	**-2.9**
	comp=Z,214nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.49**	**126**	*e*P	**P**	**09 31 47.1**	**-1.3**
	comp=Z,19nm,0.9s,mb5.0						
FITZ				*e*pP	pP	09 31 53.8	-3.5
XAN	**Xi'an**	**34.75**	**17**	P	**P**	**09 31 57.3**	**-2.0**
XAN				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.4						
XAN				LR	LR		
	comp=N,355nm,13.0s,MS4.5						
XAN				LR	LR		
	comp=E,317nm,10.4s,MS4.5						
XAN				LR	LR		
	comp=Z,746nm,13.7s,MS4.6						
LZH	**Lanzhou**	**35.59**	**9**	⇑P	**P**	**09 32 05.8**	**-0.7**
LZH				AP	pP	09 32 15.7	+0.3
LZH				XP	sP	09 32 19.1	0.0
LZH				PP	PP	09 33 28.0	+0.4
LZH				*e*S	**S**	**09 37 39.4**	**-1.1**
LZH				XS	sS	09 37 55.0	-0.2
LZH				SS	SS	09 40 00.3	-16
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
LZH				LR	LR		
	comp=E,1µm,14.9s						
LZH				LR	LR		
	comp=Z,3µm,16.6s,MS5.1						
LZH	**Lanzhou**	**35.59**	**9**	⇑P	**P**	**09 32 05.8**	**-0.7**
LZH				*PP	pP	09 32 15.7	+0.3
LZH				*SP	sP	09 32 19.1	0.0
LZH						09 33 28.0	
LZH				*e*S	**S**	**09 37 39.4**	**-1.1**
LZH				*SS	sS	09 37 55.0	-0.2
LZH				SS	SS	09 40 00.3	-16
LZH				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
LZH				MLR	MLR		
	comp=Z,3µm,16.6s,MS5.1						
LZH	**Lanzhou**	**35.59**	**9**	⇑P	**P**	**09 32 05.8**	**-0.7**
	comp=Z,50nm,1.0s,mb5.4						
LZH				pP	pP	09 32 15.7	+0.3
LZH				sP	sP	09 32 19.1	0.0
LZH				PP	PP	09 33 28.0	+0.4
LZH				*e*S	**S**	**09 37 39.4**	**-1.1**
LZH				sS	sS	09 37 55.0	-0.2
LZH				SS	SS	09 40 00.3	-16
LZH				LR	LR		
	comp=Z,3µm,16.6s,MS5.1						
NJ2	**Nanjing**	**37.06**	**31**	*e*P	**P**	**09 32 20.9**	**+1.9**
NJ2				AP	pP	09 32 29.6	+1.6
NJ2				XP	sP	09 32 32.5	+0.9
NJ2				PP	PP	09 33 45.2	+1.5
NJ2				S	**S**	**09 38 03.5**	**+0.6**
NJ2				XS	sS	09 38 21.5	+3.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,520nm,4.0s						
NJ2				LR	LR		
	comp=N,1µm,17.0s						
NJ2				LR	LR		
	comp=E,770nm,22.1s						
NJ2				LR	LR		
	comp=Z,1µm,14.2s,MS4.8						
MUN	**Mundaring**	**37.13**	**153**	*e*P	**P**	**09 32 29.2**	**+10**
KAKA	**Kakadu**	**37.22**	**112**	*e*P	**P**	**09 32 18.0**	**-2.4**
	comp=Z,9.5nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**37.54**	**151**	*e*P	**P**	**09 32 31.5**	**+8.4**
	comp=Z,17nm,0.9s,mb4.8						
SSE	**Sheshan**	**37.58**	**34**	P	**P**	**09 32 24.1**	**+0.7**
SSE				XP	sP	09 32 37.6	+1.5
SSE				S	**S**	**09 38 12.5**	**+1.7**
SSE				XS	sS	09 38 27.6	+2.0
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,195nm,6.1s						
SSE				LR	LR		
	comp=N,225nm,15.8s,MS4.1						
SSE				LR	LR		
	comp=E,118nm,15.9s,MS4.1						
SSE				LR	LR		
	comp=Z,258nm,13.9s,MS4.2						
SSE	**Sheshan**	**37.58**	**34**	P	**P**	**09 32 24.1**	**+0.7**
	comp=Z,40nm,0.7s,mb5.3						
SSE				sP	sP	09 32 37.6	+1.5
SSE				S	**S**	**09 38 12.5**	**+1.7**
SSE				sS	sS	09 38 27.6	+2.0
SSE				LR	LR		
	comp=Z,260nm,13.9s,MS4.2						
NWAO	**Narrogin (SRO)**	**38.40**	**153**	P	**P**	**09 32 30.5**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.2,baz=319,slow=9.3,SNR=2.4						
GTA	**Gaotai**	**38.47**	**3**	P	**P**	**09 32 30.7**	**-0.3**
GTA				AP	pP	09 32 40.3	+0.4
GTA				XP	sP	09 32 44.1	+0.5
GTA				PP	PP	09 34 04.6	+5.3
GTA				PCP	PcP	09 34 44.4	+0.8
GTA				S	**S**	**09 38 23.2**	**-1.2**
GTA				XS	sS	09 38 39.5	+0.4
GTA				SS	SS	09 41 02.9	-11
GTA				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,73nm,5.3s						
GTA				LR	LR		
	comp=N,309nm,12.2s,MS4.4						
GTA				LR	LR		
	comp=E,265nm,13.3s,MS4.4						
GTA				LR	LR		
	comp=Z,365nm,14.8s,MS4.3						
WRA	**Warramunga Arr**	**41.61**	**122**	P	**P**	**09 32 56.2**	**-0.8**
	comp=Z,12nm,0.8s,mb4.6,baz=301,slow=9.1,SNR=32						
WRA				LR	LR	09 54 08.1	
	comp=Z,228nm,20.0s,MS4.0,baz=295,slow=42						
WRAB	**Tennant Creek**	**41.62**	**122**	⇓*e*P	**P**	**09 32 56.2**	**-0.9**
WB2	**Warramunga Arr**	**41.62**	**122**	*e*P	**P**	**09 32 56.4**	**-0.7**
WB2				*e*pP	pP	09 33 03.2	-3.0
HHC	**Hu-ho-hao-te**	**41.85**	**16**	*e*P	**P**	**09 33 00.0**	**+1.0**
HHC				AP	pP	09 33 10.0	+2.0
HHC				XP	sP	09 33 13.9	+2.2
HHC				PP	PP	09 34 40.5	+4.5
HHC				PCP	PcP	09 34 54.5	0.0
HHC				SCP	ScP	09 38 40.7	-1.9
HHC				PCS	PcS	09 38 45.4	-0.6
HHC				S	**S**	**09 39 17.3**	**+2.4**
HHC				XS	sS	09 39 34.4	+4.7
HHC				SS	SS	09 42 20.9	-0.8
HHC				SCS	ScS	09 42 57.9	-1.7
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,144nm,8.3s						
HHC				LR	LR		
	comp=N,433nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=E,518nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,423nm,17.1s,MS4.4						
BJT	**Baijiatuau**	**42.58**	**21**	*e*P	**P**	**09 33 05.8**	**+0.9**
BJT				pmax	pmax		
	comp=Z,52nm,0.8s						
BJT	**Baijiatuau**	**42.58**	**21**	*e*P	**P**	**09 33 05.8**	**+0.9**
	comp=Z,52nm,0.8s,mb5.3						
BJI	**Beijing**	**42.60**	**21**	P	**P**	**09 33 05.8**	**+0.7**
BJI				AMB	AMB		
	comp=Z,73nm,0.9s,mb5.4						
BJI				AMB	AMB		
	comp=Z,159nm,3.2s						
BJI				LR	LR		
	comp=N,278nm,15.4s						
BJI				LR	LR		
	comp=E,370nm,20.9s						
FORT	**Forrest**	**42.82**	**140**	*e*P	**P**	**09 33 08.6**	**+1.8**
	comp=E,37nm,0.7s,mb5.2						
ASPA	**Alice Springs**	**42.96**	**127**	*e*P	**P**	**09 33 07.7**	**-0.3**
AS31	**Alice Springs**	**42.96**	**127**	*e*P	**P**	**09 33 07.7**	**-0.3**
ASAR	**Alice Springs**	**42.96**	**127**	P	**P**	**09 33 07.8**	**-0.2**
	comp=E,9.8nm,0.9s,mb4.5,baz=298,slow=8.1,SNR=97						
ASAR				S	**S**	**09 39 27.0**	**-4.2**
	comp=E,1.5nm,1.0s,baz=296,slow=15,SNR=9.0						
ASAR				LR	LR	09 52 34.7	
	comp=E,204nm,19.8s,MS4.0,baz=303,slow=38						
ASAR	**Alice Springs**	**42.96**	**127**	P	**P**	**09 33 07.8**	**-0.2**
ASAR				S	**S**	**09 39 27.0**	**-4.2**
WMQ	**Urumqi**	**43.69**	**350**	P	**P**	**09 33 13.5**	**-0.4**
WMQ				AP	pP	09 33 23.1	+0.1
WMQ				XP	sP	09 33 27.5	+0.9
WMQ				PP	PP	09 34 57.1	+1.2
WMQ				PCP	PcP	09 35 01.5	+0.9
WMQ				PPP		09 35 33.5	
WMQ				SCP	ScP	09 38 49.0	-1.0
WMQ				PCS	PcS	09 38 52.5	-1.0
WMQ				S	**S**	**09 39 40.5**	**-1.4**
WMQ				XS	sS	09 39 56.5	-0.4
WMQ				SS	SS	09 42 50.0	-7.9
WMQ				SCS	ScS	09 43 07.5	-3.5
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,150nm,3.6s						
WMQ				LR	LR		
	comp=N,176nm,27.0s,MS4.0						
WMQ				LR	LR		
	comp=E,196nm,22.7s,MS4.0						
WMQ				LR	LR		
	comp=Z,155nm,27.0s,MS3.8						
DL2	**Dalian**	**43.89**	**27**	P	**P**	**09 33 16.1**	**+0.6**
DL2				*e*S	**S**	**09 39 46.7**	**+1.8**
DL2				XS	sS	09 39 59.1	-0.7
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
DL2				LR	LR		
	comp=N,210nm,15.2s,MS4.3						
DL2				LR	LR		
	comp=E,210nm,14.0s,MS4.3						
DL2				LR	LR		

comp=Z,300nm,14.4s,MS4.3
ULHL Ulahol 45.45 338 P **P** **09 33 28.0 +0.1**
SNR=5.7
UCH Uchtor 46.10 336 P **P** **09 33 34.0 +0.9**
SNR=21
TKM2 Tokmak 2 46.27 338 P **P** **09 33 35.2 +0.8**
SNR=11
KBK Karagaybulak 46.29 337 P **P** **09 33 36.0 +1.4**
SNR=6.7
AAK Ala-Archa 46.45 337⇓*iP* **P** **09 33 35.8 0.0**
AAK pmax pmax
comp=Z,60nm,1.7s,mb5.2
AAK MLR MLR
comp=Z,200nm,21.0s,MS4.0
AAK Ala-Archa 46.45 337 *e*P **P** **09 33 33.8 -2.0**
comp=Z,5.6nm,0.9s,mb4.5
FRU Bishkek 46.57 337 *e*P **P** **09 33 29.5 -7.3**
USP Ospenovka 46.98 337 P **P** **09 33 40.5 +0.5**
SNR=23
SNY Shenyang 47.12 27⇑P **P** **09 33 40.3 -0.8**
SNY AP pP 09 33 50.5 +0.3
SNY XP sP 09 33 55.0 +1.1
SNY S **S** **09 40 39.1 +7.6**
SNY XS sS 09 40 53.1 +6.6
SNY AMB AMB
comp=Z,25nm,1.0s,mb5.1
SNY AMB AMB
comp=Z,171nm,5.3s
SNY LR LR
comp=N,316nm,16.1s,MS4.6
SNY LR LR
comp=E,366nm,13.9s,MS4.6
SNY LR LR
comp=Z,441nm,12.9s,MS4.6
SONM Songino Array 47.47 8 P **P** **09 33 43.9 +0.1**
comp=Z,9.9nm,0.8s,mb4.8,baz=187,slow=8.9,SNR=70
SONM LR LR 09 56 06.5
comp=Z,559nm,19.3s,MS4.5,baz=195,slow=39
ULN Ulaanbaatar 47.60 9⇑*eP* **P** **09 33 44.8 0.0**
ULN Ulaanbaatar 47.60 9 *eP* **P** **09 33 44.9 +0.1**
comp=Z,7.9nm,0.9s,mb4.7
MK31 Makanchi Array 47.67 346 *eP* **P** **09 33 45.3 -0.1**
MK31 *e* 09 35 28.8
MKAR Makanchi Array 47.67 346 P **P** **09 33 45.3 -0.1**
comp=Z,17nm,0.7s,mb5.2,baz=159,slow=8.0,SNR=191
MKAR LR LR 09 57 32.6
comp=Z,117nm,18.8s,MS3.9,baz=164,slow=41
CN2 Changchun 49.53 27 *eP* **P** **09 34 00.1 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.6
CN2 LR LR
comp=E,300nm,15.0s,MS4.6
CN2 LR LR
comp=Z,500nm,15.0s,MS4.6
ZAK Zakamensk 49.63 5 *eP* **P** **09 34 00.4 0.0**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TLY Talaya 50.95 5 *eP* **P** **09 34 10.6 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,346nm,17.0s,MS4.4
MAJO Matsushiro 51.80 42 *eP* **P** **09 34 16.0 -0.8**
MAJO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAJO Matsushiro 51.80 42 *eP* **P** **09 34 16.0 -0.7**
comp=Z,9.2nm,0.9s,mb4.7
MAT Matsushiro 51.80 42 P **P** **09 34 15.6 -1.2**
MJAR Matsushiro Arr 51.80 42 P **P** **09 34 16.2 -0.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=228,slow=5.9,SNR=20
MJAR LR LR 09 58 05.6
comp=Z,193nm,19.6s,MS4.1,baz=240,slow=38
HIA Hailar 51.92 18⇓*iP* **P** **09 34 18.0 +0.3**
HIA Hailar 51.92 18 *eP* **P** **09 34 17.5 -0.2**
comp=Z,8.1nm,0.8s,mb4.7
MDJ Mudanjiang 52.08 29 P **P** **09 34 18.6 -0.2**
MDJ AP pP 09 34 28.4 +0.4
MDJ XP sP 09 34 32.8 +1.1
MDJ PP PP 09 36 19.1 +2.0
MDJ S **S** **09 41 43.3 +2.6**
MDJ XS sS 09 41 58.8 +2.9
MDJ AMB AMB
comp=Z,11nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,39nm,3.3s
MDJ LR LR
comp=N,212nm,16.4s,MS4.2
MDJ LR LR
comp=E,28nm,18.4s,MS4.2
MDJ LR LR
comp=Z,237nm,15.7s,MS4.3
CTA Charters Tower 52.10 116 *eP* **P** **09 34 19.1 +0.1**
comp=Z,4.8nm,0.9s,mb4.4
CTA Charters Tower 52.10 116 *eP* **P** **09 34 19.1 +0.1**
CTA pmax pmax
comp=Z,5.0nm,0.9s
VLA Vladivostok 52.16 32 *eP* **P** **09 34 23.5 +4.1**
VLA pmax pmax
comp=Z,44nm,0.7s,mb5.5
CIT Chita 52.79 12 *eP* **P** **09 34 24.6 +0.5**
STKA Stephens Creek 52.91 132 *eP* **P** **09 34 25.5 +0.5**
comp=Z,10nm,0.9s,mb4.8
STKA *e*pP pP 09 34 33.2 -1.0
STKA Stephens Creek 52.91 132 P **P** **09 34 25.4 +0.5**
comp=Z,12nm,0.8s,mb4.8,baz=290,slow=7.8,SNR=12
OPO Ambohidratompo 53.01 246 P **P** **09 34 27.0 +1.3**
comp=Z,2.9nm,0.8s,mb4.2,baz=98,slow=12,SNR=5.8
KLR Kul'dur 56.48 26 *eP* **P** **09 34 47.7 -3.2**
KLR pmax pmax
comp=E,38nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s,mb5.3
BRVK Borovoye 56.76 341 *eP* **P** **09 34 51.2 -1.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRVK Borovoye 56.76 341 *eP* **P** **09 34 51.2 -1.7**
comp=Z,7.1nm,0.8s,mb4.8
ZRNK Zerenda 57.10 340 *eP* **P** **09 34 54.1 -1.2**
ZRNK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ZRNK Zerenda 57.10 340 *eP* **P** **09 34 54.1 -1.1**
comp=Z,10nm,1.0s,mb4.8
CHKZ Chkalovo 57.17 341 *eP* **P** **09 34 55.0 -0.8**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CHKZ Chkalovo 57.17 341 *eP* **P** **09 34 55.0 -0.8**
comp=Z,5.6nm,1.0s,mb4.5
BOD Bodaibo 58.34 10⇓*iP* **P** **09 35 03.0 -1.0**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARMA Armidale 60.10 126 *eP* **P** **09 35 18.3 +2.1**
ARMA *e*pP pP 09 35 24.6 -0.9
KMBO Kilima Mbogo 60.23 268 P **P** **09 35 18.6 +1.5**
comp=Z,0.9nm,0.7s,mb3.9,baz=49,slow=9.3,SNR=4.3
KMBO LR LR 09 59 07.4
comp=Z,107nm,18.4s,MS4.0,baz=87,slow=34
KMBO Kilima Mbogo 60.23 268 P **P** **09 35 18.6 +1.5**
KMBO LR LR 09 59 07.4
YSS Yuzh-Sakhalins 60.52 34 *eP* **P** **09 35 19.0 0.0**
YSS *e* 09 35 25.3
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,300nm,15.0s,MS4.6
YSS Yuzh-Sakhalins 60.52 34 *eP* **P** **09 35 17.8 -1.2**
comp=Z,26nm,0.9s,mb5.4
ZEI Tsey 63.45 319 *eP* **P** **09 35 38.9 +0.2**
ZEI *e**PP pP 09 35 47.2 -1.0
ZEI *e* 09 37 53.7
ZEI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ARU Arti 63.63 337⇑*iP* **P** **09 35 38.6 -1.3**
ARU *e* 09 37 56.9
ARU *e*S **S** **09 44 11.2 -0.8**
ARU *e*SS SS 09 48 15.0 -4.7
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 64.77 319⇓*eP* **P** **09 35 47.6 +0.2**
KIV pmax pmax
comp=Z,16nm,1.1s,mb5.0
YAK Yakutsk 65.71 16 *eP* **P** **09 35 51.8 -1.7**
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=E,16nm,1.6s
YAK Yakutsk 65.71 16 *eP* **P** **09 35 52.7 -0.8**
comp=E,41nm,0.8s,mb5.5
BRTR Keskin Array B 69.56 312 P **P** **09 36 17.1 -0.7**
comp=E,1.2nm,0.7s,mb3.9,baz=111,slow=6.8,SNR=5.4
VRSR Storozhevoye 70.02 325 *eP* **P** **09 36 19.5 -1.1**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=E,10.0nm,0.8s
MAW Mawson 72.40 193 *eP* **P** **09 36 35.2 +0.2**
comp=E,2.3nm,0.9s,mb4.1
MAW Mawson 72.40 193 P **P** **09 36 35.3 +0.3**
comp=E,2.1nm,0.7s,mb4.2,baz=44,slow=4.6,SNR=6.7
MAW LR LR 10 05 18.2
comp=E,113nm,18.6s,MS4.2,baz=64,slow=33
PET Petropavlovsk 72.40 34 *eP* **P** **09 36 32.8 -2.2**
PET *e*S S 09 45 53.7 -3.0
PET pmax pmax
comp=Z,23nm,0.8s,mb5.2
OBN Obninsk 73.08 328*deP* **P** **09 36 38.2 -0.8**
OBN *e*S S 09 46 04.0 -0.4
OBN pmax pmax
comp=Z,20nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 73.52 10⇑*iP* **P** **09 36 39.9 -1.7**
TIXI pmax pmax
comp=Z,24nm,1.3s,mb5.0
SEY Seymchan 74.01 23⇓*iP* **P** **09 36 43.2 -1.3**
BOSA Boshof 74.81 240 P **P** **09 36 49.6 +0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=30,slow=4.5,SNR=4.9
BOSA LR LR 10 05 48.3
comp=Z,103nm,18.0s,MS4.2,baz=263,slow=32
KIS Kishinev 74.95 319 *eP* **P** **09 36 48.0 -2.0**
AKASG Malin Array Be 75.72 322 P **P** **09 36 53.3 -1.0**
comp=Z,4.3nm,0.8s,mb4.5,baz=89,slow=4.7,SNR=16
AKASG Malin Array Be 75.72 322 *iP* **P** **09 36 53.2 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 76.52 317⇑*iP* **P** **09 36 59.8 +0.9**
BURAR Bucovina Array 77.48 319⇓*iP* **P** **09 37 04.9 +0.6**
DRGR 78.99 318⇑*iP* **P** **09 37 13.6 +0.9**
SUR Sutherland 79.17 237 LR LR 10 04 05.5
comp=Z,96nm,21.5s,MS4.1,baz=195,slow=29
SYO Syowa Base 79.72 198⇓*eP* **P** **09 37 17.0 +0.3**
FINES FINESS Array B 80.46 332 P **P** **09 37 19.7 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=119,slow=6.7,SNR=4.0
FINES LR LR 10 19 52.2
comp=Z,80nm,18.3s,MS4.1,baz=174,slow=41
FINES FINESS Array B 80.46 332 P **P** **09 37 19.7 -1.0**
FINES LR LR 10 19 52.2
OJC Ojcow 81.48 321 *eP* **P** **09 37 25.9 -0.2**
ARCES ARCESS Array B 82.98 340 P **P** **09 37 33.2 -0.7**
comp=Z,6.5nm,0.9s,mb4.6,baz=90,slow=3.8,SNR=7.1
ARCES LR LR 10 18 19.5
comp=Z,92nm,19.9s,MS4.2,baz=7.5,slow=38
GERES GERESS Array B 85.27 319 P **P** **09 37 44.9 -0.7**
comp=Z,1.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=8.2
VNDA Vanda 85.40 169 LR LR 10 13 52.1
comp=Z,109nm,18.7s,MS4.3,baz=318,slow=34
NB2 NORSAR Subarra 87.47 331 P **P** **09 37 55.4 -1.0**
comp=Z,2.5nm,0.8s,mb4.5,baz=95,slow=5.1
NOA NORSAR Array B 87.47 331 P **P** **09 37 55.9 -0.5**
comp=Z,4.0nm,0.8s,mb4.7,baz=94,slow=5.0,SNR=8.7
NOA LR LR 10 22 07.3
comp=Z,45nm,18.9s,MS3.9,baz=95,slow=39
MAIT Maitri 89.35 199 *eP* **P** **09 38 07.5 +2.2**
TORD Torodi Ar. Bea 95.43 283 LR LR 10 20 46.8
comp=Z,76nm,18.2s,MS4.2,baz=85,slow=35
TBI Tubuai 111.46 115 *e*LR LR 10 16 50.1
comp=Z,102nm,24.5s
PPT Papeete 112.11 109 *e*LR LR 10 17 08.3
comp=Z,86nm,24.2s
RKT Rikitea 124.53 118 *e*LR LR 10 22 53.2
comp=Z,88nm,29.5s
NVAR Mina Array Bea 128.94 36 PKP PKPdf 09 44 18.7 +2.2
comp=Z,1.1nm,0.8s,baz=259,slow=0.8,SNR=6.8
PDAR Pinedale Array 130.27 26 PKP PKPdf 09 44 19.0 0.0
comp=Z,0.5nm,0.9s,baz=20,slow=4.9,SNR=3.6
TXAR Lajitas Array 143.85 32 PKP PKPdf 09 44 42.8 -1.2
comp=Z,1.5nm,0.9s,baz=202,slow=1.3,SNR=6.8
JCT Junction City 144.81 26 *e*PKIKP PKPdf 09 44 45.4 -0.2
CFAA Coronel Fontan 146.52 202 PKPbc PKPbc 09 44 51.0 +0.9
comp=Z,0.4nm,0.6s,baz=146,slow=4.7,SNR=5.6

*ISCJB **02** 09:37:40.7±0.7, 24.33S×004×692W±0.1, h90km±13km, mb3.9/3, Error ellipse: s-maj=17.3km s-min=6.2km az=12.1*
*NEIC **02** 09:37:42.5, 24.35S×69.33W, h90km, MD4.1(GUC), After GUC.*
*GUC **02** 09:37:42.5±0.7, 24.35S×69.33W, h90km, MD4.1, ML4.1*
*IDC **02** 09:37:43.0±0.8, 24.37S×68.89W, h89km±6km, mb3.7/3, mb1 3.7/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=30.6km s-min=7.4km az=86.0*

ISC 02 09:37:42.1±0.6, 2431S±004×6919W±009, h87km±11km, n16, σ0§98/25, mb3.9/3, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.15**	**254**	⇑*iP*		**Pn**	**09 38 03.2**	**-0.2**
CPN1				*i*	S	**Sn**	**09 38 19.1**	**-0.3**
CPN1					AML	AML	09 38 23.7	
comp=E,4μm,0.4s								
ANCH	**Antofagasta**	**1.28**	**299**	⇓*iP*		**Pn**	**09 38 04.7**	**-0.3**
ANCH				*i*	S	**Sn**	**09 38 21.8**	**-0.4**
ANCH					AML	AML	09 38 25.6	
comp=N,8μm,0.6s								
ANCH	**Antofagasta**	**1.28**	**299**	⇓*iP*		**Pn**	**09 38 04.7**	**-0.3**
ANCH				*i*	S	**Sn**	**09 38 21.8**	**-0.4**
CEN1	**Los Morros**	**1.30**	**315**	⇑*iP*		**Pn**	**09 38 04.6**	**-0.7**
CEN1				*i*	S	**Sn**	**09 38 22.0**	**-0.7**
CEN1					AML	AML	09 38 26.6	
comp=N,4μm,0.7s								
LVC	**Limon Verde**	**1.71**	**9**	P		**Pn**	**09 38 11.5**	**+1.0**
comp=N,50nm,0.3s,baz=181,slow=9.0,SNR=501								
LVC					S	**Sn**	**09 38 34.7**	**+2.7**
comp=N,256nm,0.3s,baz=52,slow=20,SNR=74								
CPCH	**Copiapo**	**3.21**	**199**	*eP*		**Pn**	**09 38 31.4**	**+1.1**
CPCH				*i*	S	**Sn**	**09 39 08.6**	**+1.1**
VACH	**Vallenar**	**4.47**	**198**	⇑*iP*		**Pn**	**09 38 48.6**	**+1.1**
VACH				*i*	S	**Sn**	**09 39 38.8**	**+0.6**
CFAA	**Coronel Fontan**	**7.31**	**174**	P		**Pn**	**09 39 25.4**	**-0.8**
comp=N,0.2nm,0.3s,baz=354,slow=12,SNR=14								
CFAA					S	**Sn**	**09 40 45.9**	**-1.7**
comp=N,0.3nm,0.3s,baz=207,slow=12,SNR=5.0								
CFAA	**Coronel Fontan**	**7.31**	**174**	P		**Pn**	**09 39 25.4**	**-0.8**
CFAA					S	**Sn**	**09 40 45.9**	**-1.7**
LPAZ	**La Paz**	**8.05**	**7**	P		**Pn**	**09 39 37.2**	**+1.0**
comp=N,0.4nm,0.3s,baz=192,slow=8.2,SNR=10								
LPAZ	**La Paz**	**8.05**	**7**	P		**Pn**	**09 39 37.2**	**+1.0**
SIV	**San Ignacio**	**11.25**	**44**	P		**Pn**	**09 40 18.2**	**-1.6**
comp=N,8.6nm,0.3s,baz=250,slow=8.8,SNR=94								
SIV					S	**Sn**	**09 42 17.9**	**-5.7**
comp=N,0.3nm,0.3s,baz=259,slow=20,SNR=2.3								
SNAA	**Sanae**	**59.72**	**160**	P		**P**	**09 47 36.4**	**-1.2**
comp=N,0.3nm,0.8s,mb3.4,baz=276,slow=10,SNR=5.5								
TORD	**Torodi Ar. Bea**	**78.55**	**70**	P		**P**	**09 49 34.5**	**+0.5**
comp=N,3.1nm,0.6s,mb4.3,baz=261,slow=5.5,SNR=31								
TORD					pP	pP	09 49 57.7	+0.8
comp=N,1.3nm,0.5s,baz=259,slow=5.2,SNR=5.5								
TORD					sP	sP	09 50 07.3	+1.0
comp=N,1.5nm,0.7s,baz=251,slow=4.8,SNR=4.1								
MAW	**Mawson**	**81.72**	**163**	P		**P**	**09 49 51.5**	**+0.5**
comp=N,1.9nm,0.5s,mb4.2,baz=207,slow=7.1,SNR=4.6								
MAW					pP	pP	09 50 15.4	+1.3
comp=N,2.1nm,1.0s,baz=239,slow=16,SNR=3.5								
ASAR	**Alice Springs**	**127.30**	**207**	PKP		PKPdf	09 56 37.4	+0.9
comp=N,0.4nm,0.6s,baz=133,slow=1.8,SNR=10								
ASAR					pPKP	pPKPdf	09 57 01.4	+0.5
comp=N,0.2nm,0.4s,baz=131,slow=1.6,SNR=2.5								

MAN 02 09:42:56.7, 1158N×12236E, h65km, mb2.7, ML4.1, MS6.1, 1C-1D, Panay

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

KALP	**Kalibo**	**0.10**	**350**⇑*eP*		**Pn**	09 43 02.2	-4.1
RCP	**Roxas**	**0.38**	**93**⇓*eP*		**Pn**	09 43 08.9	+0.9
RCP				*e*S	Sn	09 43 19.7	+3.6
OTRP	**Odiongan**	**0.84**	**337** *eP*		**Pn**	09 43 14.8	+1.8
OTRP				*e*S	Sn	09 43 27.2	+2.3
GUIM	**Jordan**	**0.97**	**166** *eP*		**Pn**	09 43 16.3	+1.6
GUIM				*e*S	Sn	09 43 33.1	+5.2
CUYO	**Cuyo Island**	**1.50**	**241** *eP*		**Pn**	09 43 22.8	+1.3
CUYO				*e*S	Sn	09 43 41.0	+0.8

CASC 02 09:56:02.2±2.7, 1332N×8760W, h14km±12km, MD3.7, ML3.2, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.23**	**259**	*eP*		x	09 56 10.8	
CNCH				*e*S		x	09 56 15.3	
BLLM	**Bellamira**	**0.63**	**281**	*eP*		x	09 56 18.4	
BLLM				*e*S		x	09 56 27.2	
VSM	**San Miguel**	**0.66**	**279**	*eP*		x	09 56 19.1	
VSM				*e*S		x	09 56 29.1	
CRIN	**San Cristobal**	**0.82**	**139**	*eP*		Pg	09 56 17.1	-1.0
CRIN				*e*S		Sg	09 56 30.0	+1.2
TELN	**Telica**	**1.03**	**134**⇓*eP*			Pb	09 56 20.6	-1.3
TELN				*e*S		Sb	09 56 36.0	+0.7
LEON	**Leon**	**1.14**	**142**	*eP*		Pb	09 56 21.1	-2.5
LEON				*e*S		Sb	09 56 37.1	-1.1
CNGN	**Cerro Negro**	**1.20**	**133**	*eP*		Pn	09 56 22.8	-1.7
CNGN				*e*S		Sb	09 56 41.0	+1.0
MIRN	**Miramar**	**1.23**	**135**	*eP*		Pn	09 56 23.1	-1.8
SNVI	**San Vicente**	**1.24**	**284**	*eP*		x	09 56 29.5	
SNVI				*e*S		x	09 56 46.9	
MOMJ	**Momotombo**	**1.38**	**131**	*eP*		Pn	09 56 26.2	-0.8
LCBS	**La Ceiba**	**1.38**	**284**	*eP*		x	09 56 31.1	
LCBS				*e*S		x	09 56 50.4	
LFRS	**El Faro**	**1.45**	**282**	*eP*		x	09 56 31.9	
LFRS				*e*S		x	09 56 52.0	
LBRS	**Las Brisas**	**1.46**	**287**	*eP*		x	09 56 32.5	
COPN	**Copaltepe**	**1.50**	**139**	*eP*		Pn	09 56 27.3	-1.4
COPN				*e*S		Sn	09 56 47.5	-0.6
SNET	**Serv Nac Est T**	**1.63**	**283**	*eP*		x	09 56 30.4	
SNET				*e*S		x	09 56 52.5	
SNET				*i*			09 56 59.2	
comp=Z,384nm,0.3s								
BOQS	**Boqueron**	**1.69**	**284**	*eP*		x	09 56 36.6	
XAVN	**Gruta Xavier**	**1.71**	**133**	*eP*		Pn	09 56 29.7	-1.8
MGAN	**Managua**	**1.76**	**131**⇑*eP*			Pn	09 56 34.2	+1.9
MGAN				*e*S		Sn	09 56 55.2	+0.7
MGAN				*i*			09 57 04.1	
comp=N,209nm,0.5s								
TICN	**Ticuantepe**	**1.85**	**134**	*eP*		Pn	09 56 34.8	+1.4
SSNN	**San Juan del S**	**2.65**	**140**	*eP*		Pn	09 56 43.2	-1.3

*IDC **02** 10:04:52.7±0.9, 4322N×8256E, h0km, mb4.1/5, mb1 4.1/10, mb1mx3.9/25, mbtmp3.9/10, ML3.6/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=23.6km s-min=13.8km az=70.0*
*ISCJB **02** 10:04:53.8±0.5, 4350N±004×8264E±007, h10km, mb4.2/6, Error ellipse: s-maj=7.1km s-min=5.2km az=4.3*
*NEIC **02** 10:04:54.7±0.7, 43.15N×8253E, h10km, mb4.6/2, Error ellipse: s-maj=12.3km s-min=10.7km az=207.0*
*MOS **02** 10:04:56.3±1.3, 4325N×8249E, h33km, mb4.2/5, Error ellipse: s-maj=19.3km s-min=9.4km az=109.2*
*BJI **02** 10:04:56.5, 4327N×8264E, h17km, ML3.9*
*NNC **02** 10:04:59.0±1.4, 4356N×8226E, h14km±7km, mb3.9, mpv3.7, Error ellipse: s-maj=9.5km s-min=4.6km az=129.0*

ISC 02 10:04:56.1±0.9, 4345N±003×8268E±005, h15km±7km, n54, σ1§44/67, mb4.2/6, 15C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.36**	**355**	⇑Pn		**Pn**	**10 05 51.8**	**+3.8**
1.1nm,0.2s,baz=203,slow=10,SNR=564								
MK31				⇑Pg		**Pg**	**10 05 59.7**	**-0.8**
26nm,0.5s,baz=175,slow=16,SNR=63								
MK31				⇑Lg			10 06 43.1	
197nm,0.6s,baz=176,slow=29,SNR=5.2								
MK31	**Makanchi Array**	**3.36**	**355**	*e*Pn		**Pn**	**10 05 51.9**	**+3.9**
MK31				*e*Sn		**Sg**	**10 06 44.1**	**+0.1**
MKAR	**Makanchi Array**	**3.36**	**355**	Pn		**Pn**	**10 05 52.1**	**+4.1**
3.0nm,0.3s,baz=181,slow=16,SNR=101								
MKAR				Lg			10 06 44.1	
48nm,0.3s,baz=179,slow=31,SNR=13								
MKAR				LR		LR	10 07 25.5	
comp=Z,185nm,19.5s,baz=211,slow=43								
WMQ	**Urumqi**	**3.66**	**82**	*e*PG		**Pg**	**10 06 02.4**	**-3.8**
WMQ				SG		**Sg**	**10 06 52.0**	**-1.6**
WMQ				Smax				
comp=N,189nm,0.8s								
WMQ				Smax				
comp=E,174nm,0.8s								
AAA	**Alma-Ata**	**4.19**	**270**	*e*PN		**Pb**	**10 06 11.4**	**+2.0**
AAA				pmax		pmax		
comp=Z,1.0nm,0.9s								
ULHL	**Ulahol**	**4.89**	**258**	P		**Pn**	**10 06 09.4**	**+0.4**
SNR=20								
TKM2	**Tokmak 2**	**5.21**	**267**	P		**Pn**	**10 06 14.4**	**+1.0**
SNR=15								
TKM2	**Tokmak 2**	**5.21**	**267**	⇓Pn		**Pn**	**10 06 14.3**	**+0.9**
comp=Z,4.9nm,0.2s								
TKM2				⇑Pg		**Pg**	**10 06 27.2**	**-8.7**
comp=Z,25nm,0.6s								
TKM2				⇓Lg			10 07 36.3	
comp=Z,243nm,0.6s								
CHMS	**Chumysh**	**5.81**	**268**	P		**Pn**	**10 06 22.6**	**+0.8**
SNR=5.1								
FRU	**Bishkek**	**5.93**	**267**	*e*PN		**Pb**	**10 06 41.5**	**+2.3**
FRU				*e*S		**Sg**	**10 07 56.0**	**-11**
FRU				pmax		pmax		
comp=Z,36nm,1.5s								
FRU				smax				
comp=E,200nm,1.5s								
USP	**Ospenovka**	**5.97**	**271**	P		**Pn**	**10 06 24.3**	**+0.4**
SNR=8.6								
AAK	**Ala-Archa**	**6.06**	**265**	*e*Pn		**Pn**	**10 06 24.1**	**-1.0**
AAK				*e*Sn		**Sg**	**10 08 00.8**	**-10**
UCH	**Uchtor**	**6.13**	**261**	P		**Pn**	**10 06 27.7**	**+1.6**
SNR=7.0								
KSH	**Kashi**	**6.39**	**234**	PG		**Pg**	**10 06 50.8**	**-7.6**
KSH				SG		**Sg**	**10 08 18.2**	**-2.9**
KSH				Smax				
comp=N,245nm,0.9s								
KSH				Smax				
comp=E,423nm,1.0s								
KK31	**Karatay Array**	**8.89**	**272**	⇑Pn		**Pn**	**10 07 05.4**	**+1.5**
comp=E,1.6nm,0.8s,baz=75,slow=16,SNR=9.8								
KK31				⇓Pg		Pn	10 07 37.0	+33
comp=E,2.0nm,0.5s,baz=80,slow=16,SNR=6.7								
KK31				⇑Lg			10 09 30.2	
comp=E,19nm,0.7s,baz=86,slow=30,SNR=4.1								
ZAL	**Zalesovo**	**10.59**	**7**	Pn		**Pn**	**10 07 29.9**	**+2.7**
comp=E,1.6nm,0.3s,baz=278,slow=7.7,SNR=3.9								
ZAL				Sn		**Sn**	**10 09 24.9**	**-0.7**
comp=E,2.2nm,0.3s,baz=151,slow=20,SNR=4.0								
ZAL	**Zalesovo**	**10.59**	**7**	P		**Pn**	**10 07 29.9**	**+2.6**
ZAL							10 09 24.9	
ZAL				pmax		pmax		
comp=Z,2.0nm,0.3s								
ZAL				smax				
comp=N,2.0nm,0.3s								
ZAL	**Zalesovo**	**10.59**	**7**	Pn		**Pn**	**10 07 29.9**	**+2.7**
ZAL				Sn		**Sn**	**10 09 24.9**	**-0.7**
VOSK	**Vostochnaya**	**12.12**	**324**	⇑Pn		**Pn**	**10 07 49.3**	**+1.1**
comp=N,2.2nm,0.8s								
VOSK				⇑Sn		**Sn**	**10 10 00.7**	**-2.5**
comp=N,3.5nm,0.7s								
VOSK				⇓Lg			10 11 15.0	
comp=N,43nm,2.0s								
BVA0	**Borovoye Array**	**12.59**	**324**	⇑Pn		**Pn**	**10 07 54.1**	**-0.5**
comp=N,0.4nm,0.7s,baz=289,slow=33,SNR=4.2								
BVA0				⇑Lg			10 11 29.9	
comp=N,2.9nm,1.3s,baz=134,slow=28,SNR=3.7								
BVAR	**Borovoye Array**	**12.59**	**324**	Pn		**Pn**	**10 07 55.0**	**+0.4**
comp=N,0.2nm,0.3s,baz=126,slow=17,SNR=2.9								
BVAR				Lg			10 11 35.7	
comp=N,0.5nm,0.3s,baz=131,slow=29,SNR=7.0								
BVAR				LR		LR	10 12 58.3	
comp=N,101nm,18.6s,baz=143,slow=38								
CHKZ	**Chkalovo**	**12.97**	**326**	⇑Pn		**Pn**	**10 07 59.6**	**-0.2**
comp=N,1.8nm,0.5s								
CHKZ				⇑Sn		**Sn**	**10 10 22.3**	**-1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,5.2nm,1.1s						
CHKZ				⇑Lg		10 11 39.2	
	comp=N,22nm,1.1s						
CHKZ	**Chkalovo**	**12.97**	**326**	*e*P	**Pn**	**10 07 59.8**	**+0.1**
CHKZ				*e*		10 10 17.1	
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	**Chkalovo**	**12.97**	**326**	*e*Pn	**Pn**	**10 07 59.8**	**0.0**
	comp=Z,3.1nm,0.6s						
CHKZ				*e*Sn	**Sn**	**10 10 17.1**	**-6.6**
ZRNK	**Zerenda**	**13.16**	**321**	⇓Pn	**Pn**	**10 08 02.0**	**-0.4**
	comp=Z,1.8nm,0.7s						
ZRNK				⇓Sn	**Sn**	**10 10 23.9**	**-4.5**
	comp=Z,5.8nm,1.2s						
ZRNK				⇑Lg		10 11 48.2	
	comp=Z,39nm,1.6s						
ZRNK	**Zerenda**	**13.16**	**321**	*e*P	**Pn**	**10 08 05.7**	**+3.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZRNK	**Zerenda**	**13.16**	**321**	*e*Pn	**Pn**	**10 08 05.7**	**+3.4**
	comp=Z,2.2nm,0.8s						
GKN	**Gorkha**	**15.49**	**174**	*e*P	**Pn**	**10 08 40.7**	**+6.8**
	comp=Z,12nm,0.4s						
KOLN	**Koldanda**	**15.66**	**177**	*e*P	**Pn**	**10 08 34.5**	**-1.6**
GUN	**Gumba**	**15.72**	**170**	*e*P	**Pn**	**10 08 45.6**	**+8.7**
	comp=Z,16nm,0.5s						
KKN	**Kakani**	**15.76**	**172**	*e*P	**Pn**	**10 08 41.8**	**+4.3**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**15.99**	**171**	*e*P	**Pn**	**10 08 41.9**	**+1.4**
	comp=Z,26nm,0.8s						
JIRN	**Jiri**	**16.01**	**169**	*e*P	**Pn**	**10 08 46.1**	**+5.5**
AB31	**Akbulak array**	**16.71**	**298**	⇓P	**Pn**	**10 08 46.9**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=103,slow=12,SNR=12						
AB31				⇓Lg		10 13 37.9	
SONM	**Songino Array**	**17.13**	**67**	P	**Pn**	**10 08 57.5**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=268,slow=11,SNR=11						
AKTK	**Aktyubinsk**	**18.18**	**301**	P	**Pn**	**10 09 07.3**	**-0.6**
AKTO	**Aktyubinsk**	**18.18**	**301**	⇑P	**Pn**	**10 09 06.7**	**-1.2**
	comp=Z,1.2nm,1.1s						
AKTO	**Aktyubinsk**	**18.18**	**301**	P	**Pn**	**10 09 07.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=98,slow=11,SNR=6.1						
ARU	**Arti**	**20.11**	**319**	*e*P	**P**	**10 09 30.5**	**+1.3**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARU	**Arti**	**20.11**	**319**	*e*P	**P**	**10 09 30.5**	**+1.3**
	comp=Z,7.8nm,0.7s						
NJ2	**Nanjing**	**30.55**	**100**	*e*P	**P**	**10 11 09.9**	**+1.0**
ARCES	**ARCESS Array B**	**38.71**	**332**	P	**P**	**10 12 19.1**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.0,baz=90,slow=5.1,SNR=6.3						
ARCES	**ARCESS Array B**	**38.71**	**332**	P	**P**	**10 12 19.1**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSZ	**Piszkesteto**	**43.02**	**299**	*e*P	**P**	**10 12 55.2**	**+0.3**
	comp=Z,17nm,0.5s,mb5.0						
NB2	**NORSAR Subarra**	**44.66**	**319**	P	**P**	**10 13 07.5**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=79,slow=7.9						
NOA	**NORSAR Array B**	**44.66**	**319**	P	**P**	**10 13 07.8**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=80,slow=8.1,SNR=4.7						
NOA	**NORSAR Array B**	**44.66**	**319**	P	**P**	**10 13 07.8**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.57**	**274**	P	**P**	**10 16 32.4**	**-1.9**
	comp=Z,3.2nm,0.5s,mb4.5,baz=41,slow=5.2,SNR=33						
TORD	**Torodi Ar. Bea**	**74.57**	**274**	P	**P**	**10 16 32.4**	**-1.9**
WRA	**Warramunga Arr**	**78.89**	**131**	P	**P**	**10 16 57.6**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=331,slow=5.3,SNR=2.8						
WRA	**Warramunga Arr**	**78.89**	**131**	P	**P**	**10 16 57.6**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**78.89**	**131**	P	**P**	**10 16 57.6**	**-1.1**
ASAR	**Alice Springs**	**81.68**	**134**	P	**P**	**10 17 12.4**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=333,slow=5.1,SNR=9.8						
ASAR	**Alice Springs**	**81.68**	**134**	P	**P**	**10 17 12.4**	**-1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MAN 02 10:32:52.4, 1085N×12535E, h1^{km}, mb1.7, ML3.5, MS3.3, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.48**	**310**	*e*P	Pg	10 33 01.5	0.0
PLP				*i* S	Sg	10 33 08.3	+0.6
BESP	**Borongan**	**0.75**	**7**	*e*P	Pg	10 33 05.3	-1.4
MSLP	**Maasin**	**0.86**	**214**	*e*P	Pg	10 33 10.2	+1.2
MSLP				*e*S	Sg	10 33 25.2	+5.1
PVCP	**Virac**	**2.96**	**337**	*e*P	Pn	10 33 42.1	+1.5

IDC 02 11:44:24.0±1.6**, 033N×12499E, h0^{km}, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.4**/16**, mbtmp3.4**/3**, Error ellipse: s-maj=197.2km s-min=26.0km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.14**	**156**	P	P	11 49 20.9	-0.3
	1.0nm,0.7s,baz=334,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**25.38**	**161**	P	P	11 49 53.6	+0.7
	0.2nm,0.4s,baz=349,slow=12,SNR=5.5						
ASAR				PcP	PcP	11 53 25.9	+0.5
	0.3nm,0.5s,baz=353,slow=2.1,SNR=7.8						
MKAR	**Makanchi Array**	**59.39**	**327**	P	P	11 54 28.2	0.0
	0.3nm,0.3s,baz=125,slow=8.2,SNR=6.6						

*KISR **02** 12:30:27.7±1.1, 3079N×5181E, h34^{km}, ML3.5*
*THR **02** 12:30:30.9±0.4, 3083N×5151E, h14^{km}±8^{km}, ML3.4*
*ISCJB **02** 12:30:31.2±0.7, 3085N±002×5149E±002, h6^{km}±4^{km}, Error ellipse: s-maj=3.6km s-min=3.0km az=83.6*
*CSEM **02** 12:30:32.5±0.1, 3076N×5133E, h40^{km}, ML3.4, Error ellipse: s-maj=1.7km s-min=0.8km az=71.0*
*TEH **02** 12:30:33.0, 3076N×5131E, h25^{km}, Mn3.6*
ISC 02 12:30:32.0±0.7**, 3087N**±002×**5151E**±002**, h4^{km}**±5^{km}**, n30, σ1^{s}11**/57**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroon**	**1.12**	**165**	*e*Pg	**Pg**	**12 30 53.0**	**-0.6**
IKAZ				*e*Sg	**Sg**	**12 31 07.6**	**-0.6**
IGAR	**Garneh**	**1.49**	**23**	*e*Pn	**Pn**	**12 30 59.9**	**+0.4**
IGAR				*e*Sn	**Sg**	**12 31 23.4**	**+3.5**
SHI	**Shiraz**	**1.50**	**144**	*e*Pg	**Pg**	**12 31 00.8**	**0.0**
SHI				*e*Sg	**Sg**	**12 31 21.1**	**+0.9**
IPAR	**Pars**	**1.68**	**127**	*e*Pn	**Pn**	**12 31 02.1**	**0.0**
IPAR				*e*Sn	**Sn**	**12 31 23.6**	**-0.4**
IPIR	**Pirpir**	**1.88**	**344**	*e*Pn	**Pn**	**12 31 04.6**	**-0.3**
IPIR				*e*Sn	**Sn**	**12 31 28.2**	**-0.9**
ISRV	**Sarvestan**	**2.03**	**137**	*e*Pn	**Pn**	**12 31 06.5**	**-0.5**
ISRV				*e*Sn	**Sn**	**12 31 31.4**	**-1.4**
IMOK	**Mook**	**2.10**	**150**	*e*Pn	**Pn**	**12 31 07.1**	**-0.8**
IMOK				*e*Sn	**Sn**	**12 31 31.9**	**-2.5**
ISAD	**Sadrabad**	**2.13**	**60**	*e*Pn	**Pn**	**12 31 10.0**	**+1.7**
ISAD				*e*Sn	**Sn**	**12 31 37.2**	**+2.0**
IZEF	**Zefreh**	**2.13**	**19**	*e*Pn	**Pn**	**12 31 09.3**	**+0.9**
IZEF				*e*Sn	**Sn**	**12 31 36.2**	**+0.9**
NASN	**Na'in**	**2.22**	**30**	*e*Pn	**Pn**	**12 31 10.1**	**+0.6**
NASN				*e*Sg	**Sg**	**12 31 41.9**	**-1.3**
NASN				AML	AML	12 31 44.8	
	comp=E,173nm,0.5s						
IKLH	**Kalahroud**	**2.44**	**1**	*e*Pn	**Pn**	**12 31 13.2**	**+0.6**
IKLH				*e*Sn	**Sn**	**12 31 42.3**	**-0.6**
SHGR	**Shooshtar-Gavs**	**2.62**	**299**	*e*Pn	**Pn**	**12 31 14.9**	**-0.2**
SHGR				AML	AML	12 32 09.7	
	comp=E,173nm,0.6s						
SHGR				AML	AML	12 32 19.4	
	comp=N,171nm,0.8s						
IMEH	**Mehriz**	**2.71**	**78**	*e*Pn	**Pn**	**12 31 17.8**	**+1.5**
IMEH				*e*Sn	**Sn**	**12 31 50.6**	**+1.1**
ICHK	**Chekchek**	**2.83**	**60**	*e*Pn	**Pn**	**12 31 19.5**	**+1.6**
ICHK				*e*Sn	**Sn**	**12 31 53.6**	**+1.2**
GHIR	**Ghir-Karzin**	**2.88**	**153**	*e*Pn	**Pn**	**12 31 17.8**	**-0.8**
GHIR				AML	AML	12 32 20.3	
	comp=E,216nm,0.6s						
ISFB	**Sefidab**	**3.53**	**10**	*e*Pn	**Pn**	**12 31 28.4**	**+0.9**
ISFB				*e*Sn	**Sn**	**12 32 08.3**	**-1.3**
UMR	**Umm Al-Rimmam**	**3.54**	**249**	*e*P	**Pn**	**12 31 26.9**	**-0.8**
UMR				*e*S	**Sn**	**12 32 10.8**	**+0.9**
UMR				AML	AML	12 32 13.1	
	comp=Z,71nm,0.4s						
IBAF	**Bafgh**	**3.55**	**77**	*e*Pn	**Pn**	**12 31 29.2**	**+1.4**
IBAF				*e*Sn	**Sn**	**12 32 10.4**	**+0.2**
KBD	**Kabd**	**3.72**	**244**	*e*P	**Pn**	**12 31 29.4**	**-0.7**
KBD				*e*S	**Sn**	**12 32 14.6**	**+0.3**
KBD				AML	AML	12 32 15.9	
	comp=Z,177nm,0.4s						
MIB	**Mutribah**	**3.76**	**255**	*e*P	**Pn**	**12 31 29.9**	**-0.9**
MIB				*e*S	**Sn**	**12 32 17.8**	**+2.4**
MIB				AML	AML	12 32 23.0	
	comp=Z,58nm,0.5s						
QRN	**Al-Qurain**	**3.77**	**237**	*e*P	**Pn**	**12 31 29.8**	**-1.1**
QRN				*e*S	**Sn**	**12 32 16.3**	**+0.6**
QRN				AML	AML	12 32 18.7	
	comp=Z,81nm,0.3s						
ASAO	**Ashtian**	**3.88**	**342**	*e*Pn	**Pn**	**12 31 33.0**	**+0.6**
ASAO				AML	AML	12 32 45.0	
	comp=N,38nm,0.6s						
ASAO				AML	AML	12 32 46.2	
	comp=E,33nm,0.7s						
RDF	**Al-Radifah**	**3.95**	**242**	*e*P	**Pn**	**12 31 32.5**	**-0.8**
RDF				*e*S	**Sn**	**12 32 20.3**	**+0.2**
RDF				AML	AML	12 32 23.1	
	comp=Z,65nm,0.4s						
NAY	**Al-Naaiem**	**4.04**	**247**	*e*P	**Pn**	**12 31 33.9**	**-0.7**
NAY				*e*S	**Sn**	**12 32 23.8**	**+1.5**
NAY				AML	AML	12 32 24.9	
	comp=Z,21nm,0.5s						
IVRN	**Varamin**	**4.12**	**2**	*e*Pn	**Pn**	**12 31 35.9**	**+0.2**
IVRN				*e*Sn	**Sn**	**12 32 22.2**	**-2.0**
RST	**Umm Al-Ruwaisa**	**4.14**	**252**	*e*P	**Pn**	**12 31 34.8**	**-1.1**
RST				*e*S	**Sn**	**12 32 26.0**	**+1.2**
RST				AML	AML	12 32 27.6	
	comp=Z,69nm,0.6s						
IRAZ	**Razeghan**	**4.71**	**344**	*e*Pn	**Pn**	**12 31 43.5**	**-0.3**
IRAZ				*e*Sn	**Sn**	**12 32 35.2**	**-3.7**
IANJ	**Anjiloo**	**5.01**	**23**	*e*Pn	**Pn**	**12 31 47.7**	**-0.2**
IANJ				*e*Sn	**Sn**	**12 32 44.7**	**-1.5**
ISHM	**Shahmirzad**	**5.14**	**16**	*e*Pn	**Pn**	**12 31 50.2**	**+0.5**
ISHM				*e*Sn	**Sn**	**12 32 47.5**	**-2.0**
ITEG		**6.48**	**70**	*e*Pn	**Pn**	**12 32 09.1**	**+1.0**
ITEG				*e*Sn	**Sn**	**12 33 19.9**	**-2.5**

*NEIC **02** 12:40:12.4, 3277S×7193W, h15^{km}, ML2.9(GUC), After GUC.*
GUC 02 12:40:12.4±0.7**, 3277S×7193W, h15^{km}**±4^{km}**, MD3.6, ML2.9, 7C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.47**	**61**	⇓*i*P	Pg	12 40 21.9	0.0
PACH				*i* S	Sg	12 40 28.9	+0.7
LCCH	**Las Cruces**	**0.77**	**157**	*e*P	Pg	12 40 26.1	-1.2
LCCH				*i* S	Sg	12 40 36.4	-1.1
ROCH	**El Roble**	**0.80**	**105**	⇓*i*P	Pg	12 40 27.3	-0.6
ROCH				*i* S	Sg	12 40 38.3	-0.1
CHNG	**Los Chungos**	**0.95**	**23**	*e*P	Pb	12 40 29.1	-1.5
CHNG				*i* S	Sb	12 40 42.3	-0.8
PEL	**Peldehue**	**1.11**	**110**	⇑*i*P	Pb	12 40 32.1	-1.2
PEL				*i* S	Sb	12 40 47.4	-0.2
JACH	**Jahuel**	**1.13**	**86**	*e*P	Pb	12 40 32.1	-1.5
JACH				*i* S	Sb	12 40 47.3	-0.8
RCDM	**Rinconada Maip**	**1.19**	**128**	*e*P	Pn	12 40 32.8	-1.6
RCDM				*i* S	Sb	12 40 48.6	-1.1
RCDM				AML	AML	12 40 51.0	
	comp=E,436nm,0.2s						
RCDM	**Rinconada Maip**	**1.19**	**128**	*e*P	Pn	12 40 32.8	-1.6
RCDM				*i* S	Sb	12 40 48.6	-1.1
TACH	**Talagante**	**1.21**	**137**	⇑*i*P	Pn	12 40 33.4	-1.4
TACH				*i* S	Sb	12 40 49.7	-0.8
LNV	**Longovilo**	**1.26**	**160**	⇑*i*P	Pn	12 40 34.1	-1.4
LNV				*i* S	Sb	12 40 50.6	-1.4
CLCH	**Cerro Calan**	**1.33**	**119**	*e*P	Pn	12 40 35.5	-0.9
CLCH				*i* S	Sn	12 40 53.0	-0.8
CLCH				AML	AML	12 40 56.0	
	comp=E,294nm,0.3s						
ANTU	**Antumapu**	**1.35**	**127**	*i* S	Sn	12 40 53.6	-0.8
ANTU				AML	AML	12 40 58.2	
	comp=E,357nm,0.4s						
PCH	**Pirque**	**1.46**	**126**	⇑*i*P	Pn	12 40 37.7	-0.6
PCH				*i* S	Sn	12 40 57.3	+0.2
FCH	**Farellones**	**1.49**	**113**	⇑*i*P	Pn	12 40 38.3	-0.3
FCH				*i* S	Sn	12 40 58.1	+0.4
FCH				AML	AML	12 41 01.5	
	comp=N,207nm,0.2s						
CHCH	**Chadas Angostu**	**1.58**	**138**	*e*P	Pn	12 40 39.7	-0.1
CHCH				*i* S	Sn	12 41 00.1	+0.1
CACH	**El Canelo**	**1.75**	**141**	*e*P	Pn	12 40 43.3	+1.1
LMEL	**Las Melosas**	**1.80**	**127**	⇑*i*P	Pn	12 40 43.7	+0.8
LMEL				*i* S	Sn	12 41 06.6	+1.0
LMEL				AML	AML	12 41 12.6	
	comp=N,276nm,0.4s						
LMEL	**Las Melosas**	**1.80**	**127**	⇑*i*P	Pn	12 40 43.7	+0.8
LMEL				*i* S	Sn	12 41 06.6	+1.0
SFDO	**San Fernando**	**2.00**	**158**	⇓*i*P	Pn	12 40 46.4	+0.8

*NEIC **02** 12:52:17.0, 3853S×17581E, h187^{km}, MG4.2(WEL), After WEL.*
WEL 02 12:52:17.9±0.2**, 3853S×17581E, h187^{km}**±1^{km}**, ML4.1**/23**, 9C-1D, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.19**	**198**	P	Pn	12 52 42.7	+0.1
WATZ				S	Sn	12 53 01.7	+0.1
WATZ	**Wairara**	**0.19**	**198**	PN	Pn	12 52 42.7	+0.1
WATZ				SN	Sn	12 53 01.7	+0.1
RATZ	**Rangitukua**	**0.34**	**185**	P	Pn	12 52 42.8	-0.1
RATZ				S	Sn	12 53 07.5	+5.3
RATZ	**Rangitukua**	**0.34**	**185**	PN	Pn	12 52 42.8	-0.1
HATZ	**Hinemaiaia**	**0.43**	**149**	P	Pn	12 52 43.0	-0.2
HATZ				S	Sn	12 53 01.0	-1.7
HATZ	**Hinemaiaia**	**0.43**	**149**	PN	Pn	12 52 43.0	-0.1
RITZ	**Rihia Road**	**0.46**	**175**	P	Pn	12 52 43.6	+0.3
KATZ	**Kakaramea**	**0.46**	**191**	P	Pn	12 52 43.5	+0.2
KATZ				S	Sn	12 53 04.2	+1.3
KATZ	**Kakaramea**	**0.46**	**191**	PN	Pn	12 52 43.3	0.0
KRVZ	**Karewarewa**	**0.58**	**193**	PN	Pn	12 52 43.8	+0.1
KRVZ				SN	Sn	12 53 03.1	-0.7
KARZ	**Kaharoa**	**0.61**	**34**	P	Pn	12 52 43.9	0.0
KARZ	**Kaharoa**	**0.61**	**34**	PN	Pn	12 52 43.8	-0.1
WTVZ	**West Tongariro**	**0.61**	**196**	P	Pn	12 52 43.9	0.0
WTVZ				S	Sn	12 53 03.2	-0.8
WTVZ	**West Tongariro**	**0.61**	**196**	PN	Pn	12 52 43.9	0.0
WTVZ				SN	Sn	12 53 03.2	-0.9
TWVZ	**Taurewa**	**0.62**	**208**	P	Pn	12 52 44.0	+0.1
TWVZ	**Taurewa**	**0.62**	**208**	⇑PN	Pn	12 52 44.0	+0.1
OTVZ	**Oturere**	**0.65**	**190**	PN	Pn	12 52 44.3	+0.2
NGZ	**Ngauruhoe**	**0.67**	**194**	P	Pn	12 52 44.3	+0.1
NGZ	**Ngauruhoe**	**0.67**	**194**	PN	Pn	12 52 44.3	+0.1
WPVZ	**Whakapapa**	**0.71**	**197**	P	Pn	12 52 44.4	0.0
WPVZ	**Whakapapa**	**0.71**	**197**	PN	Pn	12 52 44.4	0.0
HIZ	**Hauiti**	**0.75**	**271**	P	Pn	12 52 44.5	-0.1
HIZ	**Hauiti**	**0.75**	**271**	⇓PN	Pn	12 52 44.5	-0.2
TUVZ	**Tukino**	**0.75**	**189**	P	Pn	12 52 44.9	+0.2
TUVZ	**Tukino**	**0.75**	**189**	⇑PN	Pn	12 52 44.9	+0.3
FWVZ	**Far West T-bar**	**0.76**	**195**	P	Pn	12 52 44.8	+0.1
FWVZ	**Far West T-bar**	**0.76**	**195**	PN	Pn	12 52 44.8	+0.1
TRVZ	**Turoa**	**0.80**	**195**	PN	Pn	12 52 45.3	+0.4
WNVZ	**Wahianoa**	**0.82**	**191**	P	Pn	12 52 45.3	+0.3
WNVZ	**Wahianoa**	**0.82**	**191**	⇑PN	Pn	12 52 45.3	+0.2
BKZ	**Black Stump Fm**	**0.83**	**140**	P	Pn	12 52 45.3	+0.2
BKZ	**Black Stump Fm**	**0.83**	**140**	⇑PN	Pn	12 52 45.3	+0.1
PKVZ	**Pokaka**	**0.84**	**205**	⇑PN	Pn	12 52 45.2	0.0
TGRZ	**Tauranga**	**0.87**	**24**	P	Pn	12 52 45.3	-0.1
TGRZ	**Tauranga**	**0.87**	**24**	PN	Pn	12 52 45.3	0.0
MOVZ	**Moawhango**	**0.88**	**183**	P	Pn	12 52 45.3	-0.1
MOVZ	**Moawhango**	**0.88**	**183**	⇑PN	Pn	12 52 45.3	-0.2
MTVZ	**Mangateitei**	**0.90**	**197**	PN	Pn	12 52 45.6	0.0
VRZ	**Vera Road**	**1.02**	**233**	P	Pn	12 52 46.3	-0.1
VRZ	**Vera Road**	**1.02**	**233**	⇑PN	Pn	12 52 46.3	-0.1
URZ	**Urewera**	**1.06**	**76**	P	Pn	12 52 46.3	-0.4
URZ	**Urewera**	**1.06**	**76**	PN	Pn	12 52 46.3	-0.4
RAEZ	**Rainy Point**	**1.34**	**235**	P	Pn	12 52 49.1	+0.1
RAEZ	**Rainy Point**	**1.34**	**235**	PN	Pn	12 52 49.1	+0.2
MWZ	**Matawai**	**1.36**	**83**	P	Pn	12 52 49.2	0.0
MWZ	**Matawai**	**1.36**	**83**	PN	Pn	12 52 49.2	+0.1
WAZ	**Wanganui**	**1.39**	**207**	P	Pn	12 52 49.1	-0.3
WAZ	**Wanganui**	**1.39**	**207**	PN	Pn	12 52 49.1	-0.2
NEZ	**North Egmont**	**1.53**	**240**	P	Pn	12 52 51.0	+0.3
NEZ	**North Egmont**	**1.53**	**240**	PN	Pn	12 52 51.0	+0.3
TSZ	**Takapari Road**	**1.54**	**176**	⇑PN	Pn	12 52 50.6	-0.1
KNZ	**Kokohu**	**1.54**	**109**	P	Pn	12 52 51.2	+0.4
KNZ	**Kokohu**	**1.54**	**109**	PN	Pn	12 52 51.2	+0.4
WPHZ	**Waipukurau**	**1.61**	**163**	⇑PN	Pn	12 52 51.5	0.0
NRZ	**Ngariki Road**	**1.67**	**240**	P	Pn	12 52 51.7	-0.3
NRZ	**Ngariki Road**	**1.67**	**240**	PN	Pn	12 52 51.7	-0.3
NWEZ	**Newall Road**	**1.69**	**243**	P	Pn	12 52 52.1	-0.1
NWEZ	**Newall Road**	**1.69**	**243**	PN	Pn	12 52 52.1	-0.1
PXZ	**Pawanui**	**1.71**	**152**	PN	Pn	12 52 52.5	+0.1
KUZ	**Kuaotunu**	**1.78**	**358**	P	Pn	12 52 53.0	-0.1
KUZ	**Kuaotunu**	**1.78**	**358**	PN	Pn	12 52 53.0	0.0
PUZ	**Puketiti**	**1.98**	**78**	*e*P	Pn	12 52 54.9	-0.3
PUZ	**Puketiti**	**1.98**	**78**	PN	Pn	12 52 54.9	-0.3
MRZ	**Mangatainoka R**	**2.14**	**185**	P	Pn	12 52 55.9	-1.0
MRZ	**Mangatainoka R**	**2.14**	**185**	PN	Pn	12 52 55.9	-1.0
BFZ	**Birch Farm**	**2.18**	**171**	P	Pn	12 52 56.5	-0.8
BFZ	**Birch Farm**	**2.18**	**171**	PN	Pn	12 52 56.5	-0.8
MXZ	**Matakaoa Point**	**2.19**	**65**	PN	Pn	12 52 57.4	-0.1
TIWZ	**Tintock**	**2.25**	**179**	PN	Pn	12 52 57.1	-1.0
KIW	**Kapiti Island**	**2.44**	**196**	P	Pn	12 52 58.8	-1.4
KIW	**Kapiti Island**	**2.44**	**196**	PN	Pn	12 52 58.8	-1.4
MTW	**Mount Morrison**	**2.64**	**185**	P	Pn	12 53 00.9	-1.7
MTW	**Mount Morrison**	**2.64**	**185**	PN	Pn	12 53 00.9	-1.7
CAW	**Cannon Point**	**2.64**	**192**	P	Pn	12 53 01.1	-1.5
CAW	**Cannon Point**	**2.64**	**192**	PN	Pn	12 53 01.1	-1.4
DUWZ	**D'Urville Isla**	**2.70**	**212**	PN	Pn	12 53 01.5	-1.7
MRW	**Makara Radio**	**2.83**	**197**	P	Pn	12 53 03.2	-1.6
MRW	**Makara Radio**	**2.83**	**197**	PN	Pn	12 53 03.2	-1.6
PAWZ	**Paruwai Farm**	**2.87**	**186**	P	Pn	12 53 03.4	-1.8
PAWZ	**Paruwai Farm**	**2.87**	**186**	PN	Pn	12 53 03.4	-1.8
WEL	**Wellington**	**2.87**	**196**	P	Pn	12 53 03.6	-1.7
WEL	**Wellington**	**2.87**	**196**	PN	Pn	12 53 03.6	-1.7
TRWZ	**Traveller**	**2.87**	**182**	PN	Pn	12 53 03.7	-1.6
SNZO	**South Karori**	**2.91**	**197**	P	Pn	12 53 04.0	-1.7
SNZO	**South Karori**	**2.91**	**197**	PN	Pn	12 53 03.8	-1.9
MSWZ	**Moikau Station**	**2.92**	**188**	P	Pn	12 53 03.9	-1.9
MSWZ	**Moikau Station**	**2.92**	**188**	PN	Pn	12 53 03.9	-1.9
TCW	**Tory Channel**	**2.93**	**203**	P	Pn	12 53 04.3	-1.7
TCW	**Tory Channel**	**2.93**	**203**	PN	Pn	12 53 04.3	-1.7
BHW	**Baring Head**	**2.97**	**194**	P	Pn	12 53 04.5	-1.9
BHW	**Baring Head**	**2.97**	**194**	PN	Pn	12 53 04.5	-1.9
NNZ	**Nelson**	**3.28**	**214**	P	Pn	12 53 07.7	-2.4
NNZ	**Nelson**	**3.28**	**214**	PN	Pn	12 53 07.7	-2.4
QRZ	**Quartz Range**	**3.42**	**227**	P	Pn	12 53 08.8	-3.1
QRZ	**Quartz Range**	**3.42**	**227**	PN	Pn	12 53 08.8	-3.1
CMWZ	**Cape Campbell**	**3.44**	**200**	P	Pn	12 53 11.0	-1.2
CMWZ	**Cape Campbell**	**3.44**	**200**	PN	Pn	12 53 11.0	-1.2
BSWZ	**Blackbirch Sta**	**3.51**	**204**	P	Pn	12 53 11.1	-2.0
BSWZ	**Blackbirch Sta**	**3.51**	**204**	PN	Pn	12 53 11.1	-1.9
THZ	**Tophouse**	**3.93**	**214**	P	Pn	12 53 15.4	-2.8
THZ	**Tophouse**	**3.93**	**214**	PN	Pn	12 53 15.4	-2.8
KHZ	**Kahutara**	**4.26**	**203**	P	Pn	12 53 20.3	-2.1
KHZ	**Kahutara**	**4.26**	**203**	PN	Pn	12 53 20.3	-2.1
DSZ	**Denniston Nort**	**4.45**	**222**	*e*P	Pn	12 53 21.2	-3.6
DSZ	**Denniston Nort**	**4.45**	**222**	PN	Pn	12 53 21.2	-3.6
CRLZ	**Canterbury Las**	**5.59**	**204**	*e*P	Pn	12 53 35.8	-3.8
CRLZ	**Canterbury Las**	**5.59**	**204**	PN	Pn	12 53 35.8	-3.8
MQZ	**McQueen's Vall**	**5.70**	**204**	P	Pn	12 53 36.9	-4.1
MQZ	**McQueen's Vall**	**5.70**	**204**	PN	Pn	12 53 36.9	-4.0
WVZ	**Waitaha Valley**	**5.96**	**219**	PN	Pn	12 53 40.9	-3.4
RPZ	**Rata Peaks**	**6.31**	**213**	P	Pn	12 53 45.5	-3.4
RPZ	**Rata Peaks**	**6.31**	**213**	PN	Pn	12 53 45.5	-3.4
FOZ	**Fox Glacier**	**6.83**	**221**	P	Pn	12 53 50.4	-5.4
FOZ	**Fox Glacier**	**6.83**	**221**	PN	Pn	12 53 50.4	-5.4
LBZ	**Lake Benmore**	**7.22**	**214**	*e*P	Pn	12 53 56.4	-4.4
LBZ	**Lake Benmore**	**7.22**	**214**	PN	Pn	12 53 56.4	-4.4
ODZ	**Otahua Downs**	**7.57**	**209**	P	Pn	12 54 02.1	-3.3
ODZ	**Otahua Downs**	**7.57**	**209**	PN	Pn	12 54 02.1	-3.4
WKZ	**Wanaka**	**8.09**	**217**	*e*P	Pn	12 54 07.5	-4.7
WKZ	**Wanaka**	**8.09**	**217**	PN	Pn	12 54 07.5	-4.8
EAZ	**Earnscleugh**	**8.27**	**214**	*e*P	Pn	12 54 10.5	-4.1
EAZ	**Earnscleugh**	**8.27**	**214**	PN	Pn	12 54 10.5	-4.1
TUZ	**Tuapeka**	**8.72**	**210**	*e*P	Pn	12 54 17.7	-2.8
TUZ	**Tuapeka**	**8.72**	**210**	PN	Pn	12 54 17.7	-2.8
SYZ	**Scrubby Hill**	**9.40**	**209**	PN	Pn	12 54 26.4	-2.9

MAN 02 13:11:12.1, 669N×12440E, h79^{km}, mb3.2, ML4.4, MS4.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.55**	**344**	⇑*i*P	Pn	13 11 22.4	-3.8
CTBH				*i* S	Sn	13 11 29.2	-7.4
KCP	**Kidapawan**	**0.75**	**65**	⇓*e*P	Pn	13 11 28.9	+0.7
KCP				*i* S	Sn	13 11 43.7	+3.5
CGP	**Cagayan de Oro**	**1.77**	**9**	⇓*i*P	Pn	13 11 42.8	+1.8
CGP				*i* S	Sn	13 12 06.8	+3.9
IPIL	**Ipil**	**2.12**	**301**	⇑*i*P	Pn	13 11 47.4	+1.9
IPIL				*i* S	Sn	13 12 15.3	+4.3

IDC 02 13:37:14.3±11.0**, 2180S×17969W, h635^{km}**±106^{km}**, mb3.3**/5**, mb1 3.4**/6**, mb1mx3.0**/16**, mbtmp4.4**/6**, 1C-1D, Error ellipse: s-maj=108.0km s-min=79.3km az=98.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.87**	**266**	P	P	13 40 02.9	+1.5
	0.3nm,0.3s,baz=67,slow=22,SNR=4.9						
CTA	**Charters Tower**	**31.81**	**267**	P	P	13 42 50.2	+0.7
	5.2nm,0.5s,baz=84,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**35.81**	**245**	*e*P	P	13 43 22.3	-0.5
	1.5nm,0.4s						
STKA	**Stephens Creek**	**35.81**	**245**	P	P	13 43 22.4	-0.4
	2.6nm,0.5s,baz=87,slow=11,SNR=11						
ASAR	**Alice Springs**	**42.70**	**258**	P	P	13 44 17.8	+0.1
	5.0nm,0.8s,baz=101,slow=8.0,SNR=80						
ASPA	**Alice Springs**	**42.70**	**258**	*e*P	P	13 44 17.7	0.0
WB2	**Warramunga Arr**	**42.86**	**264**	⇓*i*P	P	13 44 18.5	-0.4
WRA	**Warramunga Arr**	**42.87**	**264**	P	P	13 44 18.9	-0.1
	2.4nm,0.3s,baz=96,slow=7.8,SNR=138						
KAKA	**Kakadu**	**46.44**	**273**	*e*P	P	13 44 46.7	+0.5
	2.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.30**	**264**	⇑*i*P	P	13 45 22.8	+0.9
	4.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.30**	**264**	P	P	13 45 22.9	+1.1
	1.0nm,0.3s,baz=96,slow=5.4,SNR=17						
AKASG	**Malin Array Be**	**143.34**	**329**	PKP	PKPdf	13 55 37.0	-0.8
	1.0nm,0.4s,baz=42,slow=4.2,SNR=4.9						

*IDC **02** 13:44:12.9±24.0, 4851N×149.11E, h0^{km}, mb3.5/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=441.3km s-min=63.7km az=93.0*
*ISCJB **02** 13:45:03.5±1.2, 4627N±0.10×1455E±02, h380^{km}±11^{km}, mb2.8/2, Error ellipse: s-maj=24.3km s-min=13.5km az=44.7*
*JMA **02** 13:45:03.3±0.5, 4628N×14565E, h383^{km}, M3.4*
ISC 02 13:45:05.9±1.2**, 4617N**±0.10×**1454E**±02**, h370^{km}**±11^{km}**, n20, σ1^{s}02**/28**, mb2.8**/2**, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**2.30**	**239**	P	**Pn**	**13 46 01.0**	**-0.2**
JTKR	**Abashiri--Toko**	**2.43**	**206**	P	**Pn**	**13 46 02.7**	**+0.6**
JWK2	**Keihoku**	**2.58**	**252**	P	**Pn**	**13 46 03.6**	**+0.3**
NEM2	**Nemuro 2**	**2.82**	**174**	P	**Pn**	**13 46 03.8**	**-1.4**
NEM2				*e*S	**S**	**13 46 51.9**	**-1.2**
JKK2	**Kamakawa 2**	**2.96**	**220**	P	**Pn**	**13 46 07.7**	**+1.3**
JAR	**Ashorobuto**	**3.09**	**202**	P	**Pn**	**13 46 08.4**	**+0.8**
JAK	**Akkeshi**	**3.21**	**189**	P	**Pn**	**13 46 08.1**	**-0.5**
JAK				*e*S	**S**	**13 46 59.7**	**+0.5**
JFR	**Furan**	**3.60**	**214**	P	**Pn**	**13 46 13.7**	**+1.5**
JCH	**Churui**	**3.84**	**203**	P	**Pn**	**13 46 14.0**	**-0.5**
JCH				*e*S	**S**	**13 47 09.3**	**-0.6**
JNBK	**Urakawa-nobuka**	**4.32**	**207**	P	**Pn**	**13 46 18.9**	**-0.4**
JNBK				*e*S	**S**	**13 47 18.6**	**-0.1**
JEW	**Eniwo**	**4.35**	**221**	P	**Pn**	**13 46 21.1**	**+1.4**
JKB	**Kayabe**	**5.30**	**218**	P	**Pn**	**13 46 29.4**	**-0.3**
JKB				*e*S	**S**	**13 47 37.3**	**-0.3**
JOT	**Ohata**	**5.72**	**215**	P	**Pn**	**13 46 33.7**	**-0.6**
JOT				*e*S	**S**	**13 47 45.0**	**-1.0**
JOSM	**Okushiri--Mats**	**5.89**	**228**	P	**Pn**	**13 46 36.0**	**-0.2**
JANG	**Nango**	**6.44**	**207**	P	**Pn**	**13 46 41.8**	**-0.6**
JANG				*e*S	**S**	**13 47 59.8**	**-1.0**
JOM	**Ohasama**	**7.33**	**206**	P	**Pn**	**13 46 53.4**	**+0.8**
JOM				*e*S	**S**	**13 48 20.3**	**+0.7**
JMK	**Ichinoseki**	**7.84**	**204**	P	**Pn**	**13 46 59.9**	**+1.5**
MJAR	**Matsushiro Arr**	**11.02**	**212**	Pn	**Pn**	**13 47 37.9**	**+2.0**
	0.9nm,0.3s,baz=13,slow=13,SNR=9.3						

SONM	**Songino Array**	**26.44**	**288**	P	**P**	**13 50 07.5**	**-2.9**
	0.3nm,0.3s,mb3.0,baz=86,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**42.38**	**295**	P	**P**	**13 52 19.6**	**-5.8**
	0.3nm,0.6s,mb2.6,baz=76,slow=8.3,SNR=4.4						

IDC 02 14:18:58.3±23.0**,015S**×**2462W,h0**^{km}**,mb3.7**/1**,**
mb1 3.7/1**,mb1mx3.4**/20**,mbtmp3.7**/1**,MS3.6**/11**,**
Ms1 3.5/11**,ms1mx3.3**/23**,Error ellipse:**
s-maj=1303.0km s-min=53.8km az=135.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**29.24**	**62**	P	P	14 25 02.2	+0.4
	1.2nm,1.0s,baz=244,slow=7.2,SNR=3.9						
LVC	**Limon Verde**	**48.52**	**239**	LR	LR	14 50 07.4	
	comp=Z,62nm,18.3s,baz=278,slow=38						
ROSC	**El Rosal**	**49.90**	**276**	LR	LR	14 48 56.5	
	comp=Z,61nm,20.1s,baz=295,slow=36						
ATAH	**Atahualpa**	**54.06**	**262**	LR	LR	14 52 13.1	
	comp=Z,95nm,21.4s,baz=350,slow=37						
BOSA	**Boshof**	**55.40**	**125**	LR	LR	14 46 59.9	
	comp=Z,54nm,18.4s,baz=120,slow=30						
GERES	**GERESS Array B**	**58.91**	**29**	LR	LR	14 53 03.5	
	comp=Z,23nm,18.5s,baz=25,slow=35						
KMBO	**Kilima Mbogo**	**61.88**	**91**	LR	LR	14 52 39.5	
	comp=Z,50nm,18.9s,baz=86,slow=33						
NOA	**NORSAR Array B**	**66.90**	**18**	LR	LR	14 59 13.2	
	comp=Z,12nm,18.4s,baz=230,slow=36						
ARCES	**ARCESS Array B**	**77.11**	**16**	LR	LR	15 04 49.8	
	comp=Z,31nm,20.8s,baz=244,slow=36						
ULM	**Lac du Bonnet**	**78.21**	**322**	LR	LR	14 59 13.5	
	comp=Z,42nm,18.4s,baz=35,slow=31						
PDAR	**Pinedale Array**	**86.37**	**313**	LR	LR	15 04 31.9	
	comp=Z,34nm,18.3s,baz=254,slow=32						
YKA	**Yellowknife Ar**	**90.12**	**332**	LR	LR	15 10 43.0	
	comp=Z,24nm,18.8s,baz=115,slow=34						
ASAR	**Alice Springs**	**148.45**	**140**	PKPbc	PKPbc	14 38 47.0	+0.2
	0.2nm,0.4s,baz=208,slow=2.1,SNR=10						
WRA	**Warramunga Arr**	**151.30**	**135**	PKPbc	PKPbc	14 38 54.9	+1.2
	0.3nm,0.7s,baz=243,slow=1.7,SNR=6.0						

IDC 02 14:21:19.0±5.3**,1003S**×**10777E,h0**^{km}**,mb3.4**/3**,**
mb1 3.5/3**,mb1mx3.3**/17**,mbtmp3.4**/3**,Error ellipse:**
s-maj=234.2km s-min=31.1km az=52.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.39**	**122**	P	P	14 27 15.3	+0.4
	0.3nm,0.6s,baz=296,slow=9.8,SNR=6.2						
SONM	**Songino Array**	**57.62**	**359**	P	P	14 31 10.9	+0.1
	0.2nm,0.5s,baz=174,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**60.98**	**340**	P	P	14 31 34.0	0.0
	0.2nm,0.7s,baz=165,slow=6.0,SNR=3.4						

*ISCJB **02** 14:41:36.1±0.9,2287S±008×638W±02,h538^{km}±24^{km}, mb3.2/2,Error ellipse: s-maj=35.7km s-min=10.8km az=20.9*
*NEIC **02** 14:41:36.1±0.9,2295S×6357W,h516^{km}±18^{km},mb4.5/1, Error ellipse: s-maj=36.0km s-min=15.3km az=99.0*
*IDC **02** 14:41:36.9±1.2,2283S×6394W,h532^{km}±23^{km},mb2.9/2, mb1 2.9/6,mb1mx2.8/21,mbtmp3.7/6,Error ellipse: s-maj=36.2km s-min=16.6km az=103.0*
ISC 02 14:41:37.1±0.8**,2287S**±008×**639W**±03**,h537**^{km}±23^{km}**,n13,**
σ**1.09**/15**,mb3.2**/2**,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.59**	**272**	P	**P**	**14 43 04.1**	**+1.4**
	6.6nm,0.3s,baz=102,slow=5.7,SNR=102						
LVC				S	**S**	**14 44 11.5**	**-1.1**
	2.4nm,0.3s,baz=127,slow=1.4,SNR=3.8						
LVC	**Limon Verde**	**4.59**	**272**	P	**P**	**14 43 04.1**	**+1.4**
LVC				*e*S	**S**	**14 43 59.7**	**-13**
SIV	**San Ignacio**	**7.36**	**22**	P	**P**	**14 43 27.7**	**-0.2**
	0.5nm,0.3s,baz=209,slow=8.3,SNR=10.0						
LPAZ	**La Paz**	**7.64**	**328**	P	**P**	**14 43 32.7**	**+1.9**
	1.0nm,0.3s,baz=103,slow=7.4,SNR=24						
LPAZ				S	**S**	**14 45 03.0**	**-1.1**
	0.3nm,0.3s,baz=48,slow=24,SNR=8.8						
LPAZ	**La Paz**	**7.64**	**328**	*e*P	**P**	**14 43 31.9**	**+1.1**
LPAZ				*e*S	**S**	**14 44 58.1**	**-6.0**
CFAA	**Coronel Fontan**	**9.50**	**203**	P	**P**	**14 43 50.8**	**+1.2**
	0.2nm,0.3s,baz=28,slow=9.8,SNR=17						
CFAA				S	**S**	**14 45 37.3**	**-1.3**
	0.1nm,0.3s,baz=316,slow=22,SNR=8.8						
SAML	**Samuel**	**13.86**	**3**	*e*P	**P**	**14 44 33.4**	**-1.4**
TRQA	**Tornquist**	**15.23**	**174**	P	**P**	**14 44 44.6**	**-4.5**
	20nm,1.4s						
SNAA	**Sanae**	**59.50**	**161**	P	**P**	**14 50 48.5**	**0.0**
	0.2nm,0.4s,mb2.8,baz=270,slow=8.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**73.54**	**68**	P	**P**	**14 52 15.6**	**+0.2**
	1.4nm,0.5s,mb3.6,baz=259,slow=5.8,SNR=14						
ASAR	**Alice Springs**	**130.60**	**202**	PKP	PKPdf	14 59 49.2	+2.3
	0.1nm,0.4s,baz=136,slow=1.5,SNR=6.9						
MKAR	**Makanchi Array**	**143.86**	**40**	PKP	PKPdf	15 00 11.3	+0.1
	0.7nm,0.6s,baz=322,slow=2.9,SNR=12						
MKAR	**Makanchi Array**	**143.86**	**40**	PKP	PKPdf	15 00 11.3	+0.1

*IDC **02** 15:13:25.5±3.2,3987S×17670E,h0^{km},mb4.2/4, mb1 4.3/5,mb1mx4.0/12,mbtmp4.1/5,ML2.9/1,MS3.7/5, Ms1 3.7/5,ms1mx3.1/26,Error ellipse: s-maj=68.6km s-min=21.2km az=125.0*
*ISCJB **02** 15:13:30.6±0.4,3980S±002×17662E±005,h45^{km}±4^{km}, mb4.1/5,MS4.0/6,Error ellipse: s-maj=6.8km s-min=3.6km az=36.7*
*NEIC **02** 15:13:31.0,3974S×17655E,h24^{km},mb4.2/1, ML4.4(WEL),After WEL.*
NEIC Felt at Twyford.
*WEL **02** 15:13:31.1±0.1,3970S×17651E,h26^{km},ML4.4/56,Error ellipse: s-maj=0.7km s-min=0.4km az=90.0*
WEL Felt from Hawke''s Bay to Manawatu, maximum reported intensity MM 5.
ISC 02 15:13:31.0±0.5**,3977S**±002×**17658E**±005**,h30**^{km}±3^{km}**,**
n120,σ**0.90**/122**,mb4.1**/5**,MS4.0**/6**,12C-13D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPHZ	**Waipukurau**	**0.32**	**200**	⇑P*	**Pb**	**15 13 39.4**	**+0.8**
WPHZ				S*	**Sb**	**15 13 45.7**	**+2.0**
PXZ	**Pawanui**	**0.34**	**140**	⇑P*	**Pb**	**15 13 40.2**	**+1.3**
TSZ	**Takapari Road**	**0.56**	**238**	⇓P	**Pb**	**15 13 42.2**	**-0.1**
TSZ				S	**Sb**	**15 13 49.9**	**-0.1**
TSZ	**Takapari Road**	**0.56**	**238**	⇓P*	**Pb**	**15 13 42.2**	**-0.1**
TSZ				S*	**Sb**	**15 13 49.9**	**-0.1**
BKZ	**Black Stump Fm**	**0.60**	**354**	⇓P	**Pb**	**15 13 41.8**	**-1.3**
BKZ				S	**Sb**	**15 13 49.6**	**-1.7**
BKZ	**Black Stump Fm**	**0.60**	**354**	⇑P*	**Pb**	**15 13 41.8**	**-1.3**
BKZ				S*	**Sb**	**15 13 49.6**	**-1.7**
MOVZ	**Moawhango**	**0.73**	**299**	P	**Pb**	**15 13 44.0**	**-1.2**
MOVZ	**Moawhango**	**0.73**	**299**	P*	**Pb**	**15 13 44.0**	**-1.2**
TUVZ	**Tukino**	**0.87**	**305**	P	**Pn**	**15 13 46.9**	**-0.3**
TUVZ	**Tukino**	**0.87**	**305**	⇓P*	**Pb**	**15 13 46.9**	**-0.7**
WNVZ	**Wahianoa**	**0.88**	**300**	⇓P	**Pn**	**15 13 46.9**	**-0.4**
WNVZ	**Wahianoa**	**0.88**	**300**	⇓P*	**Pb**	**15 13 46.9**	**-0.7**
TRVZ	**Turoa**	**0.92**	**300**	PN	**Pn**	**15 13 47.6**	**-0.3**
DRZ	**Dome Shelter**	**0.93**	**302**	P	**Pn**	**15 13 47.8**	**-0.2**
DRZ	**Dome Shelter**	**0.93**	**302**	PN	**Pn**	**15 13 47.8**	**-0.1**
OTVZ	**Oturere**	**0.93**	**310**	PN	**Pn**	**15 13 47.7**	**-0.3**
MTVZ	**Mangateitei**	**0.94**	**294**	PN	**Pn**	**15 13 48.0**	**-0.1**
FWVZ	**Far West T-bar**	**0.94**	**302**	⇑PN	**Pn**	**15 13 48.0**	**-0.2**
BFZ	**Birch Farm**	**0.95**	**195**	⇓P	**Pn**	**15 13 49.1**	**+0.9**
BFZ	**Birch Farm**	**0.95**	**195**	⇑PN	**Pn**	**15 13 49.1**	**+0.8**
HATZ	**Hinemaiaia**	**0.95**	**337**	P	**Pn**	**15 13 47.8**	**-0.5**
HATZ	**Hinemaiaia**	**0.95**	**337**	⇑PN	**Pn**	**15 13 47.8**	**-0.5**
NGZ	**Ngauruhoe**	**0.96**	**308**	⇓PN	**Pn**	**15 13 48.3**	**-0.1**
RITZ	**Rihia Road**	**0.97**	**325**	P	**Pn**	**15 13 48.4**	**-0.1**
RITZ	**Rihia Road**	**0.97**	**325**	⇑PN	**Pn**	**15 13 48.4**	**-0.1**
WPVZ	**Whakapapa**	**0.98**	**305**	P	**Pn**	**15 13 48.7**	**0.0**
WPVZ	**Whakapapa**	**0.98**	**305**	⇓PN	**Pn**	**15 13 48.6**	**0.0**
KRVZ	**Karewarewa**	**0.99**	**313**	⇓PN	**Pn**	**15 13 48.6**	**-0.2**
WTVZ	**West Tongariro**	**1.00**	**310**	⇓P	**Pn**	**15 13 49.7**	**+0.7**
WTVZ	**West Tongariro**	**1.00**	**310**	⇓PN	**Pn**	**15 13 49.7**	**+0.7**
KATZ	**Kakaramea**	**1.05**	**319**	⇑PN	**Pn**	**15 13 49.7**	**+0.1**
PKVZ	**Pokaka**	**1.06**	**296**	PN	**Pn**	**15 13 50.1**	**+0.2**
RATZ	**Rangitukua**	**1.09**	**325**	⇑P	**Pn**	**15 13 50.5**	**+0.2**
RATZ	**Rangitukua**	**1.09**	**325**	⇑PN	**Pn**	**15 13 50.5**	**+0.3**
TWVZ	**Taurewa**	**1.12**	**308**	⇑P	**Pn**	**15 13 50.9**	**+0.2**
TWVZ	**Taurewa**	**1.12**	**308**	⇑PN	**Pn**	**15 13 50.9**	**+0.2**
KNZ	**Kokohu**	**1.13**	**49**	*e*P	**Pn**	**15 13 50.6**	**-0.2**
KNZ	**Kokohu**	**1.13**	**49**	*e*PN	**Pn**	**15 13 50.6**	**-0.1**
TIWZ	**Tintock**	**1.14**	**207**	PN	**Pn**	**15 13 51.7**	**+0.8**
MRZ	**Mangatainoka R**	**1.18**	**220**	P	**Pn**	**15 13 52.1**	**+0.7**
MRZ	**Mangatainoka R**	**1.18**	**220**	PN	**Pn**	**15 13 52.1**	**+0.7**
WHTZ	**Whakaora**	**1.20**	**336**	P	**Pn**	**15 13 52.5**	**+0.8**
WHTZ	**Whakaora**	**1.20**	**336**	PN	**Pn**	**15 13 52.5**	**+0.7**
WAZ	**Wanganui**	**1.23**	**270**	*e*PN	**Pn**	**15 13 53.0**	**+0.9**
WATZ	**Wairara**	**1.24**	**328**	P	**Pn**	**15 13 52.5**	**+0.2**
WATZ	**Wairara**	**1.24**	**328**	PN	**Pn**	**15 13 52.5**	**+0.2**
PATZ	**Paeroa**	**1.41**	**350**	P	**Pn**	**15 13 55.5**	**+0.9**
PATZ	**Paeroa**	**1.41**	**350**	PN	**Pn**	**15 13 55.5**	**+0.9**
TAZ	**Tarawera**	**1.53**	**358**	P	**Pn**	**15 13 56.5**	**+0.2**
TAZ	**Tarawera**	**1.53**	**358**	PN	**Pn**	**15 13 56.5**	**+0.2**
VRZ	**Vera Road**	**1.55**	**294**	P	**Pn**	**15 13 57.2**	**+0.7**
VRZ	**Vera Road**	**1.55**	**294**	PN	**Pn**	**15 13 57.2**	**+0.7**
URZ	**Urewera**	**1.56**	**16**	Pn	**Pn**	**15 13 56.4**	**-0.3**
	22nm,0.3s,baz=240,slow=6.7,SNR=27						
URZ				Sn	**Sn**	**15 14 17.2**	**+1.2**
	55nm,0.3s,baz=111,slow=20,SNR=7.4						
URZ	**Urewera**	**1.56**	**16**	P	**Pn**	**15 13 56.3**	**-0.4**
URZ	**Urewera**	**1.56**	**16**	PN	**Pn**	**15 13 56.3**	**-0.5**
MWZ	**Matawai**	**1.61**	**28**	P	**Pn**	**15 13 57.0**	**-0.4**
MWZ	**Matawai**	**1.61**	**28**	PN	**Pn**	**15 13 57.0**	**-0.3**
MTW	**Mount Morrison**	**1.61**	**210**	P	**Pn**	**15 13 57.2**	**-0.2**
MTW	**Mount Morrison**	**1.61**	**210**	PN	**Pn**	**15 13 57.2**	**-0.2**
UTU	**Utuhina**	**1.62**	**349**	*e*P	**Pn**	**15 13 58.6**	**+1.1**
UTU	**Utuhina**	**1.62**	**349**	*e*PN	**Pn**	**15 13 58.6**	**+1.2**
MKRZ	**Makatiti**	**1.63**	**357**	*e*PN	**Pn**	**15 13 58.4**	**+0.8**
EDRZ	**Edgecumbe**	**1.66**	**4**	*e*PN	**Pn**	**15 13 58.0**	**-0.1**
KIW	**Kapiti Island**	**1.68**	**229**	P	**Pn**	**15 13 58.8**	**+0.5**
KIW	**Kapiti Island**	**1.68**	**229**	PN	**Pn**	**15 13 58.8**	**+0.4**
RAEZ	**Rainy Point**	**1.76**	**285**	P	**Pn**	**15 14 01.1**	**+1.7**
RAEZ	**Rainy Point**	**1.76**	**285**	PN	**Pn**	**15 14 01.1**	**+1.7**
KARZ	**Kaharoa**	**1.76**	**351**	*e*PN	**Pn**	**15 13 57.4**	**-2.1**
TRWZ	**Traveller**	**1.77**	**202**	PN	**Pn**	**15 13 59.2**	**-0.3**
CAW	**Cannon Point**	**1.77**	**220**	⇓PN	**Pn**	**15 13 59.4**	**-0.1**
MARZ	**Manawahe**	**1.78**	**2**	*e*PN	**Pn**	**15 14 01.1**	**+1.4**
HIZ	**Hauiti**	**1.83**	**313**	PN	**Pn**	**15 14 00.8**	**+0.4**
PAWZ	**Paruwai Farm**	**1.83**	**208**	P	**Pn**	**15 14 00.0**	**-0.5**
PAWZ	**Paruwai Farm**	**1.83**	**208**	PN	**Pn**	**15 13 60.0**	**-0.5**
MSWZ	**Moikau Station**	**1.93**	**211**	P	**Pn**	**15 14 01.0**	**-0.8**
MSWZ	**Moikau Station**	**1.93**	**211**	PN	**Pn**	**15 14 01.0**	**-0.8**
NEZ	**North Egmont**	**1.98**	**284**	PN	**Pn**	**15 14 04.5**	**+2.0**
MRW	**Makara Radio**	**2.04**	**224**	P	**Pn**	**15 14 02.8**	**-0.5**
MRW	**Makara Radio**	**2.04**	**224**	PN	**Pn**	**15 14 02.8**	**-0.6**
WEL	**Wellington**	**2.05**	**222**	P	**Pn**	**15 14 03.0**	**-0.4**
WEL	**Wellington**	**2.05**	**222**	PN	**Pn**	**15 14 03.0**	**-0.4**
TGRZ	**Tauranga**	**2.05**	**353**	PN	**Pn**	**15 14 03.4**	**0.0**
PKE	**Pukeiti**	**2.08**	**285**	PN	**Pn**	**15 14 05.6**	**+1.7**
NRZ	**Ngariki Road**	**2.09**	**281**	PN	**Pn**	**15 14 06.1**	**+2.1**
BHW	**Baring Head**	**2.09**	**218**	*e*PN	**Pn**	**15 14 03.1**	**-0.9**
SNZO	**South Karori**	**2.10**	**222**	P	**Pn**	**15 14 03.5**	**-0.6**
SNZO	**South Karori**	**2.10**	**222**	PN	**Pn**	**15 14 03.5**	**-0.6**
PUZ	**Puketiti**	**2.14**	**38**	P	**Pn**	**15 14 03.5**	**-1.2**
PUZ	**Puketiti**	**2.14**	**38**	PN	**Pn**	**15 14 03.5**	**-1.2**
NWEZ	**Newall Road**	**2.15**	**282**	P	**Pn**	**15 14 07.0**	**+2.2**
NWEZ	**Newall Road**	**2.15**	**282**	PN	**Pn**	**15 14 07.0**	**+2.1**
TCW	**Tory Channel**	**2.27**	**230**	P	**Pn**	**15 14 05.8**	**-0.7**
TCW	**Tory Channel**	**2.27**	**230**	PN	**Pn**	**15 14 05.8**	**-0.6**
DUWZ	**D'Urville Isla**	**2.28**	**242**	PN	**Pn**	**15 14 07.0**	**+0.4**
MXZ	**Matakaoa Point**	**2.58**	**32**	P	**Pn**	**15 14 10.3**	**-0.5**
MXZ	**Matakaoa Point**	**2.58**	**32**	PN	**Pn**	**15 14 10.3**	**-0.4**
NNZ	**Nelson**	**2.84**	**238**	*e*P	**Pn**	**15 14 14.0**	**-0.2**
NNZ	**Nelson**	**2.84**	**238**	*e*PN	**Pn**	**15 14 14.0**	**-0.3**
QRZ	**Quartz Range**	**3.27**	**250**	P	**Pn**	**15 14 19.5**	**-0.7**
QRZ	**Quartz Range**	**3.27**	**250**	PN	**Pn**	**15 14 19.5**	**-0.8**
THZ	**Tophouse**	**3.43**	**233**	*e*P	**Pn**	**15 14 21.2**	**-1.2**
THZ	**Tophouse**	**3.43**	**233**	*e*PN	**Pn**	**15 14 21.2**	**-1.2**
KHZ	**Kahutara**	**3.50**	**220**	PN	**Pn**	**15 14 21.6**	**-1.8**
DSZ	**Denniston Nort**	**4.13**	**240**	*e*P	**Pn**	**15 14 30.7**	**-1.3**
DSZ	**Denniston Nort**	**4.13**	**240**	*e*PN	**Pn**	**15 14 30.7**	**-1.3**
MQZ	**McQueen's Vall**	**4.91**	**215**	*e*PN	**Pn**	**15 14 39.4**	**-3.3**
RPZ	**Rata Peaks**	**5.71**	**225**	Pn	**Pn**	**15 14 51.6**	**-2.1**
	0.4nm,0.3s,baz=141,slow=23,SNR=5.5						
RPZ				Sn	**Sn**	**15 15 53.6**	**-4.7**
	3.4nm,0.3s,baz=335,slow=22,SNR=34						
STKA	**Stephens Creek**	**29.30**	**275**	P	**P**	**15 19 31.1**	**+0.4**
	1.4nm,0.6s,mb3.9,baz=114,slow=12,SNR=6.4						
STKA				LR	LR	15 29 26.5	
	comp=Z,77nm,18.3s,MS3.4,baz=193,slow=33						
AS31	**Alice Springs**	**39.30**	**281**	*e*P	**P**	**15 20 56.9**	**-0.2**
ASAR	**Alice Springs**	**39.30**	**281**	P	**P**	**15 20 56.9**	**-0.3**
	1.0nm,0.3s,mb4.0,baz=132,slow=8.7,SNR=59						
ASAR				LR	LR	15 38 39.7	
	comp=Z,61nm,18.3s,MS3.5,baz=106,slow=38						
ASPA	**Alice Springs**	**39.30**	**281**	*e*P	**P**	**15 20 56.9**	**-0.3**
WB2	**Warramunga Arr**	**41.15**	**286**	*e*P	**P**	**15 21 12.2**	**-0.3**
WRA	**Warramunga Arr**	**41.16**	**286**	P	**P**	**15 21 12.3**	**-0.3**
	3.7nm,0.7s,mb4.2,baz=128,slow=7.5,SNR=61						
CASY	**Casey**	**44.82**	**212**	*e*P	**P**	**15 21 43.6**	**+1.4**
	1.6nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**48.80**	**281**	P	**P**	**15 22 13.1**	**-0.2**
	4.5nm,1.2s,mb4.4,baz=125,slow=6.4,SNR=2.8						
JOW	**Kunigami**	**80.09**	**317**	LR	LR	15 55 26.1	
	comp=Z,113nm,18.8s,MS4.2,baz=111,slow=31						
NNA	**Nana**	**94.80**	**110**	LR	LR	15 59 18.6	
	comp=Z,702nm,19.9s,MS5.1,slow=29						
LPAZ	**La Paz**	**97.97**	**119**	LR	LR	16 02 14.5	
	comp=Z,16nm,18.3s,MS3.6,baz=145,slow=30						
CMIG	**Matias Romero**	**99.63**	**76**	LR	LR	15 59 48.4	
	comp=Z,76nm,20.1s,MS4.2,slow=28						
ARCES	**ARCESS Array B**	**146.48**	**342**	PKPbc	PKPbc	15 33 07.1	-2.1
	1.9nm,0.9s,baz=26,slow=4.5,SNR=3.9						

IDC 02 15:13:31.1±2.1**,175N**×**12775E,h0**^{km}**,mb3.3**/3**,mb1 3.5**/3**,**
mb1mx3.3/15**,mbtmp3.3**/3**,Error ellipse:**
s-maj=145.0km s-min=25.2km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.50**	**164**	P	P	15 18 30.8	-1.3
	0.4nm,0.5s,baz=343,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**25.96**	**167**	P	P	15 19 06.5	+1.4
	0.2nm,0.4s,baz=344,slow=12,SNR=16						
MKAR	**Makanchi Array**	**59.75**	**325**	P	P	15 23 37.8	+0.1
	0.5nm,0.6s,baz=117,slow=8.1,SNR=6.6						

*ISCJB **02** 15:50:04.5±0.6,660S±004×12744E±006,h416^{km}±7^{km}, mb4.3/51,Error ellipse: s-maj=9.4km s-min=4.6km az=127.6*
*BJI **02** 15:50:04.3,673S×12731E,h422^{km},mB4.4,mb4.4*
*NEIC **02** 15:50:05.8±0.6,660S×12746E,h418^{km}±7^{km},mb4.2/28, Error ellipse: s-maj=6.8km s-min=4.2km az=58.0*
*IDC **02** 15:50:05.6±1.3,665S×12739E,h412^{km}±14^{km},mb3.9/17, mb1 3.9/21,mb1mx3.8/26,mbtmp4.7/21,Error ellipse: s-maj=12.5km s-min=7.2km az=66.0*
ISC 02 15:50:06.1±0.6**,665S**±004×**12749E**±006**,h419**^{km}±7^{km}**,**
n94,σ**0.90**/98**,mb4.3**/51**,6C-1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.03**	**13**	P	**P**	**15 51 09.5**	**-1.5**
	899nm,0.8s						
SWI	**Sorong**	**6.87**	**33**	P	**P**	**15 51 47.9**	**-0.8**
	123nm,0.6s						
KAKA	**Kakadu**	**7.75**	**141**	*e*P	**P**	**15 51 58.6**	**+0.3**
	302nm,0.4s						
PCI	**Palu**	**9.53**	**306**	P	**P**	**15 52 21.0**	**+2.9**
	115nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.52**	**189**	*e*P	**P**	**15 52 40.3**	**+0.3**
	4.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.52**	**189**	P	**P**	**15 52 40.2**	**+0.2**
	0.9nm,0.3s,baz=17,slow=6.8,SNR=28						
KMMI	**Kalianget**	**13.43**	**268**	P	**P**	**15 53 05.4**	**+4.5**
	113nm,1.2s						
TSM	**Tawau**	**14.51**	**318**	P	**P**	**15 53 13.0**	**+0.4**
WRA	**Warramunga Arr**	**14.79**	**154**	P	**P**	**15 53 16.2**	**+0.6**
	7.7nm,0.3s,baz=334,slow=11,SNR=376						
WRA				S	**S**	**15 55 50.5**	**-1.8**
	3.2nm,0.3s,baz=325,slow=19,SNR=35						
WB2	**Warramunga Arr**	**14.79**	**154**	*e*P	**P**	**15 53 16.2**	**+0.5**
WB2				*e*S	**S**	**15 55 50.6**	**-1.8**
WB2	**Warramunga Arr**	**14.79**	**154**	*e*P	**P**	**15 53 15.7**	**0.0**
WB2				*e*S	**S**	**15 55 51.0**	**-1.4**
MBWA	**Marble Bar**	**16.26**	**207**	*e*P	**P**	**15 53 30.9**	**-0.4**
	10.0nm,0.9s						
KKM	**Kota Kinabalu**	**16.90**	**318**	P	**P**	**15 53 40.0**	**+1.9**
KKM	**Kota Kinabalu**	**16.90**	**318**	*e*P	**P**	**15 53 38.5**	**+0.3**
AS31	**Alice Springs**	**18.00**	**161**	*e*P	**P**	**15 53 50.4**	**+0.6**
AS31				*e*S	**S**	**15 56 54.7**	**0.0**
ASAR	**Alice Springs**	**18.00**	**161**	P	**P**	**15 53 50.3**	**+0.5**
	4.5nm,0.3s,baz=346,slow=12,SNR=486						
ASAR				S	**S**	**15 56 53.9**	**-0.8**
	1.6nm,0.3s,baz=339,slow=18,SNR=13						
ASAR				ScP	ScP	16 00 58.4	+1.5
	baz=351,slow=1.6,SNR=5.7						
ASAR	**Alice Springs**	**18.00**	**161**	P	**P**	**15 53 50.3**	**+0.5**
ASAR				S	**S**	**15 56 53.9**	**-0.8**
ASAR				ScP	ScP	16 00 58.4	+1.5
ASPA	**Alice Springs**	**18.00**	**161**	*e*P	**P**	**15 53 50.3**	**+0.5**
ASPA				*e*S	**S**	**15 56 54.4**	**-0.3**
KSM	**Kuching**	**18.95**	**295**	⇑*e*P	**P**	**15 53 58.7**	**-0.9**
PMG	**Port Moresby**	**19.67**	**99**	P	**P**	**15 54 07.7**	**+1.6**
	5.8nm,0.3s,baz=108,slow=2.0,SNR=33						
PMG	**Port Moresby**	**19.67**	**99**	⇑*i*P	**P**	**15 54 07.7**	**+1.5**
	39nm,0.6s						
CBJI	**Citeko**	**20.51**	**269**	P	**P**	**15 54 12.2**	**-1.6**
	109nm,0.9s						
CTA	**Charters Tower**	**22.58**	**128**	*e*P	**P**	**15 54 34.0**	**+1.3**
	7.8nm,0.8s,mb4.2						
CTA				*e*pP		15 55 37.3	
CTA	**Charters Tower**	**22.58**	**128**	P	**P**	**15 54 34.4**	**+1.8**
	9.4nm,0.7s,mb4.3,baz=306,slow=9.3,SNR=11						
CTAO	**Charters Tower**	**22.58**	**128**	⇑*e*P	**P**	**15 54 33.5**	**+0.9**
	18nm,1.1s,mb4.4						
CTAO				*e*		15 55 32.1	
FORT	**Forrest**	**24.01**	**179**	*e*P	**P**	**15 54 46.0**	**+0.5**
	11nm,0.5s,mb4.5						
FORT				*e*pP		15 55 56.1	
KGM	**Kluang**	**25.62**	**289**	P	**P**	**15 55 01.1**	**+1.3**
KLBR	**Kellerberrin**	**26.43**	**199**	*e*P	**P**	**15 55 07.4**	**+0.4**
	11nm,0.9s,mb4.3						
GUMO	**Guam**	**26.50**	**41**	P	**P**	**15 55 07.3**	**-0.3**
	17nm,0.4s,mb4.8,baz=4.3,slow=19,SNR=2.8						
PPI	**Padang Panjang**	**27.72**	**282**	P	**P**	**15 55 18.2**	**-0.2**
	47nm,1.2s,mb4.7						
NWAO	**Narrogin (SRO)**	**27.83**	**199**	P	**P**	**15 55 19.1**	**-0.2**
	5.1nm,1.0s,mb3.8,baz=89,slow=22,SNR=3.5						
STKA	**Stephens Creek**	**28.34**	**154**	*e*P	**P**	**15 55 24.9**	**+1.0**
	14nm,0.4s,mb4.7						
STKA				*e*pP		15 56 36.9	
STKA	**Stephens Creek**	**28.34**	**154**	P	**P**	**15 55 25.0**	**+1.1**
	20nm,0.5s,mb4.7,baz=328,slow=8.5,SNR=101						
STKA	**Stephens Creek**	**28.34**	**154**	⇑*e*P	**P**	**15 55 24.2**	**+0.3**
STKA				*e*pP		15 56 35.7	
IPM	**Ipoh**	**28.64**	**292**	P	**P**	**15 55 26.7**	**+0.2**
KULM	**Kulim**	**29.30**	**293**	*e*P	**P**	**15 55 32.5**	**+0.3**
PSI	**Prapat**	**30.02**	**287**	P	**P**	**15 55 37.6**	**-1.0**
	33nm,0.8s,mb4.7,baz=110,slow=6.5,SNR=32						
PSI				ScP	ScP	16 01 31.2	+1.2
	4.1nm,0.9s,baz=316,slow=3.6,SNR=4.9						
HNR	**Honiara**	**32.25**	**97**	P	**P**	**15 55 58.7**	**+0.9**
	54nm,0.6s,mb5.1,baz=282,slow=1.0,SNR=7.5						
HNR	**Honiara**	**32.25**	**97**	*e*P	**P**	**15 55 57.4**	**-0.4**
	53nm,0.7s,mb5.0						
BSI	**Banda Aceh**	**34.32**	**290**	P	**P**	**15 56 11.8**	**-3.7**
	28nm,1.2s,mb4.5						
NANT	**Nan**	**36.57**	**314**	⇑P	**P**	**15 56 32.0**	**-2.4**
	250nm,0.9s,mb5.5						
CM31	**Chiang Mai Arr**	**37.62**	**312**	*e*P	**P**	**15 56 45.4**	**+2.3**
	6.4nm,0.7s,mb4.1						
CHG	**Chiang Mai**	**37.85**	**312**	⇓P	**P**	**15 56 44.9**	**0.0**
	13nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**37.85**	**312**	*e*P	**P**	**15 56 44.0**	**-0.9**
	12nm,0.9s,mb4.2						
KMI	**Kunming**	**39.72**	**324**	P	**P**	**15 57 00.8**	**+0.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
KMI	**Kunming**	**39.72**	**324**	P	**P**	**15 57 00.8**	**+0.5**
	comp=Z,10.0nm,0.8s,mb4.2						
DZM	**Mont Dzumac**	**40.58**	**116**	P	**P**	**15 57 08.5**	**+1.4**
	comp=Z,6.2nm,0.8s,mb4.0,baz=258,slow=13,SNR=8.7						
KSRS	**Korea Array**	**43.88**	**0**	P	**P**	**15 57 33.9**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.5,baz=181,slow=10,SNR=8.4						
KSRS				ScP	ScP	16 02 24.3	+2.5
	comp=Z,1.1nm,0.7s,baz=188,slow=4.4,SNR=5.1						
MAJO	**Matsushiro**	**44.13**	**12**	*e*P	**P**	**15 57 33.1**	**-2.2**
	comp=Z,11nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**44.13**	**12**	P	**P**	**15 57 34.5**	**-0.8**
	comp=Z,2.4nm,0.5s,mb3.8,baz=191,slow=8.7,SNR=9.6						
LZH	**Lanzhou**	**47.97**	**334**	*e*P	**P**	**15 58 04.5**	**-0.3**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.5						
LZH	**Lanzhou**	**47.97**	**334**	*e*P	**P**	**15 58 04.5**	**-0.3**
	comp=Z,30nm,1.2s,mb4.5						
PALK	**Pallekele**	**48.68**	**286**	*e*P	**P**	**15 58 11.6**	**+1.5**
	comp=Z,13nm,0.9s,mb4.2						
HHC	**Hu-ho-hao-te**	**49.48**	**344**	*e*P	**P**	**15 58 18.3**	**+2.1**
HHC				AP	pP	15 59 35.5	-4.1
HHC				PP	PP	16 00 18.8	+3.5
HHC				PCS	PcS	16 03 30.4	+2.1
HHC				S	**S**	**16 04 56.3**	**+5.1**
HHC				SS	SS	16 08 34.0	+4.7
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,143nm,6.2s						
LSA	**Lhasa**	**50.25**	**318**	P	**P**	**15 58 22.6**	**+0.8**
LSA	**Lhasa**	**50.25**	**318**	*e*P	**P**	**15 58 22.4**	**+0.6**
	comp=Z,13nm,0.7s,mb4.4						
ASAJ	**Asahikawa**	**52.34**	**14**	P	**P**	**15 58 37.3**	**+0.2**
	comp=Z,5.1nm,0.7s,mb3.9,baz=249,slow=27,SNR=6.9						
JIRN	**Jiri**	**52.50**	**312**	*e*P	**P**	**15 58 38.2**	**-0.1**
	comp=Z,27nm,0.7s,mb4.6						
GTA	**Gaotai**	**52.50**	**333**	P	**P**	**15 58 38.5**	**+0.2**
GTA				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.3						
GUN	**Gumba**	**52.87**	**313**	*e*P	**P**	**15 58 40.9**	**0.0**
	comp=Z,44nm,0.6s,mb4.8						
PKI	**Pulchoki**	**53.02**	**312**	*e*P	**P**	**15 58 41.5**	**-0.5**
	comp=Z,23nm,0.7s,mb4.5						
KKN	**Kakani**	**53.24**	**312**	*e*P	**P**	**15 58 43.2**	**-0.4**
	comp=Z,21nm,0.7s,mb4.5						
DMN	**Daman**	**53.27**	**312**	*e*P	**P**	**15 58 43.5**	**-0.3**
	comp=Z,24nm,0.8s,mb4.5						
GKN	**Gorkha**	**53.83**	**312**	*e*P	**P**	**15 58 47.5**	**-0.3**
	comp=Z,23nm,0.3s,mb4.8						
KOLN	**Koldanda**	**54.48**	**311**	*e*P	**P**	**15 58 52.3**	**-0.1**
	comp=Z,35nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**55.07**	**13**	*e*P	**P**	**15 58 57.0**	**+0.4**
	comp=Z,4.6nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**57.20**	**344**	*e*P	**P**	**15 59 11.6**	**+0.1**
	comp=Z,8.0nm,1.1s,mb4.0						
SONM	**Songino Array**	**57.36**	**343**	P	**P**	**15 59 12.8**	**+0.2**
	comp=Z,2.7nm,0.8s,mb3.7,baz=172,slow=8.0,SNR=29						
CASY	**Casey**	**60.68**	**188**	*e*P	**P**	**15 59 35.4**	**+0.4**
	comp=Z,5.6nm,0.9s,mb4.0						
WMQ	**Urumqi**	**61.77**	**328**	⇑*i*P	**P**	**15 59 42.4**	**+0.2**
WMQ				PCP	PcP	16 00 19.4	+0.6
WMQ				AP	pP	16 01 10.4	+0.1
WMQ				XP	sP	16 01 54.0	-1.6
WMQ				PP	PP	16 02 06.4	+2.1
WMQ				S	**S**	**16 07 31.4**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,99nm,5.6s						
MK31	**Makanchi Array**	**66.59**	**328**	*e*P	**P**	**16 00 12.9**	**-0.2**
MKAR	**Makanchi Array**	**66.59**	**328**	P	**P**	**16 00 13.1**	**0.0**
	comp=Z,6.0nm,0.5s,mb4.5,baz=121,slow=7.8,SNR=99						
AAK	**Ala-Archa**	**68.68**	**321**	*e*P	**P**	**16 00 25.6**	**-0.4**
	comp=Z,4.7nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**70.19**	**335**	P	**P**	**16 00 34.8**	**-0.3**
	comp=Z,6.5nm,0.4s,mb4.5,baz=351,slow=5.1,SNR=21						
VNDA	**Vanda**	**73.10**	**173**	P	**P**	**16 00 52.2**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.6,baz=318,slow=6.6,SNR=10						
VNDA	**Vanda**	**73.10**	**173**	*e*P	**P**	**16 00 51.7**	**-0.5**
	comp=Z,4.2nm,1.4s,mb3.8						
WSAR	**Wadi Sarin**	**73.48**	**297**	P	**P**	**16 00 54.7**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.0,baz=160,slow=9.5,SNR=5.3						
WSAR	**Wadi Sarin**	**73.48**	**297**	P	**P**	**16 00 54.7**	**+0.3**
SBA	**Scott Base**	**74.02**	**172**	*e*P	**P**	**16 00 57.1**	**-0.4**
	comp=Z,2.7nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**76.46**	**329**	P	**P**	**16 01 11.1**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.0,baz=130,slow=9.5,SNR=16						
BRVK	**Borovoye**	**76.53**	**329**	*e*P	**P**	**16 01 11.0**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**76.68**	**329**	*e*P	**P**	**16 01 11.1**	**-1.3**
	comp=Z,3.9nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**77.14**	**328**	*e*P	**P**	**16 01 14.4**	**-0.5**
	comp=Z,6.8nm,1.0s,mb4.2						
AKTK	**Aktyubinsk**	**82.28**	**323**	P	**P**	**16 01 42.0**	**-0.2**
AKTO	**Aktyubinsk**	**82.28**	**323**	P	**P**	**16 01 42.0**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=114,slow=7.2,SNR=7.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	83.32	180	*e*P	P	16 01 47.6	+0.1
	comp=Z,5.7nm,0.2s,mb5.0						
ARU	Arti	84.10	329	*e*P	P	16 01 50.5	-0.8
	comp=Z,5.5nm,0.8s,mb4.3						
GNI	Garni	88.73	310	*e*P	P	16 02 16.9	+3.4
	comp=Z,18nm,1.1s,mb4.7						
SNAA	Sanae	95.41	194	*e*P	P	16 02 44.6	+0.4
	comp=Z,1.3nm,0.8s,mb4.0						
PDAR	Pinedale Array	118.41	45	PKP	PKPdf	16 08 04.9	+0.2
	comp=Z,0.3nm,0.3s,baz=256,slow=2.7,SNR=3.4						
ULM	Lac du Bonnet	123.50	32	PKP	PKPdf	16 08 13.8	-0.6
	comp=Z,2.2nm,0.7s,baz=360,slow=9.6,SNR=3.8						
ULM	Lac du Bonnet	123.50	32	PKP	PKPdf	16 08 13.8	-0.7
TORD	Torodi Ar. Bea	126.30	281	PKP	PKPdf	16 08 19.1	-0.7
	comp=Z,0.2nm,0.5s,baz=77,slow=2.1,SNR=4.1						
LPAZ	La Paz	152.46	146	PKPbc	PKPbc	16 09 16.6	+3.1
	comp=Z,1.9nm,0.4s,baz=40,slow=3.4,SNR=13						
LPAZ				PKPab	PKPab	16 09 29.0	+3.2
	comp=Z,3.5nm,0.6s,baz=224,slow=4.1,SNR=15						

IDC 02 16:09:18.5±3.8**, 19.41S**×**175.87W, h0**km**, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.6**/13**, mbtmp3.8**/2**, Error ellipse: s-maj=257.5km s-min=78.1km az=162.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.73	255	P	P	16 17 49.8	+0.6
	0.9nm,0.5s,baz=92,slow=8.0,SNR=38						
ASAR				PcP	PcP	16 19 22.1	-0.6
	0.2nm,0.6s,baz=101,slow=3.7,SNR=6.2						
WRA	Warramunga Arr	46.75	261	P	P	16 17 49.8	+0.4
	0.4nm,0.3s,baz=97,slow=7.3,SNR=11						
AKASG	Malin Array Be	142.99	333	PKP	PKPdf	16 28 56.0	+1.9
	0.6nm,0.4s,baz=38,slow=3.5,SNR=4.2						

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*ISCJB **02** 17:03:18.7±0.2, 9.56S±0.05×119.29E±0.05, h30km, mb4.5/45, MS3.6/6, Error ellipse: s-maj=9.0km s-min=4.4km az=103.4*
*MOS **02** 17:03:19.2±1.0, 9.38S×119.43E, h33km, mb4.8/19, Error ellipse: s-maj=17.3km s-min=9.0km az=124.1*
*NEIC **02** 17:03:20.4±0.3, 9.50S×119.30E, mb4.6/22, Error ellipse: s-maj=11.3km s-min=5.4km az=50.0*
*BJI **02** 17:03:20.4, 9.50S×119.30E, h29km, mB5.1, mb4.7, Ms4.4, Msz4.5*
*IDC **02** 17:03:21.2±0.6, 9.51S×119.27E, h32km±4km, mb4.1/15, mb1 4.3/18, mb1mx4.2/22, mbtmp4.4/18, ML4.5/3, MS3.5/7, Ms1 3.4/7, ms1mx3.1/27, Error ellipse: s-maj=20.6km s-min=10.9km az=67.0*
ISC 02 17:03:21.1±0.2**, 9.63S**±0.04×**119.22E**±0.05**, h32**km**, h32**km±.8km**: pP-P, n118, σ1.31**/136**, mb4.5**/45**, MS3.6**/6**, 3C-1D, Sumba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.07	92	P	Pn	17 03 40.8	+1.0
	16μm,0.8s						
NBBI	Negara	4.71	285	P	Pn	17 04 33.1	+3.2
	706nm,0.8s						
KMMI	Kalianget	5.79	296	P	Pb	17 04 58.8	-2.5
	138nm,1.0s						
KRKI	Karangkates	6.84	282	P	Pn	17 05 05.7	+6.5
	573nm,0.6s						
PCI	Palu	8.68	4	P	Pn	17 05 31.8	+7.3
	88nm,1.6s						
BJII	Banjamegara	9.68	283	P	Pn	17 05 44.5	+6.4
	34nm,1.2s						
FITZ	Fitzroy Crossi	10.48	144	*e*P	Pn	17 05 48.6	-0.5
	55nm,0.8s						
FITZ				*e*S	Sn	17 07 37.6	-7.7
FITZ	Fitzroy Crossi	10.48	144	Pn	Pn	17 05 48.7	-0.3
	2.9nm,0.3s,baz=337,slow=7.8,SNR=86						
FITZ				Sn	Sn	17 07 38.2	-7.1
	5.9nm,0.3s,baz=184,slow=16,SNR=8.1						
FITZ				LR	LR	17 10 30.3	
	comp=Z,280nm,19.2s,baz=325,slow=41						
MBWA	Marble Bar	11.48	178	*e*Pn	Pn	17 06 00.4	-2.3
	16nm,0.5s						
MBWA				*e*Sn	Sn	17 07 56.4	-13
CBJI	Citeko	12.65	284	P	Pn	17 06 28.8	+10
	109nm,0.9s						
KAKA	Kakadu	13.33	105	*e*P	Pn	17 06 28.2	+0.2
	23nm,0.5s						
TLE	Tual	13.97	75	P	Pn	17 06 38.7	+1.9
	2μm,1.1s						
KSM	Kuching	14.15	321	*e*Pn	Pn	17 06 44.6	+5.3
SWI	Sorong	14.81	55	P	Pn	17 06 54.5	+6.3
	44nm,0.9s						
KKM	Kota Kinabalu	15.85	349	*e*P	Pn	17 07 05.0	+3.2
WRA	Warramunga Arr	17.84	127	P	Pn	17 07 25.6	-1.3
	1.5nm,0.3s,baz=296,slow=13,SNR=111						
WRA				S	Sn	17 10 33.4	-11
	0.9nm,0.3s,baz=289,slow=22,SNR=6.8						
WRA				LR	LR	17 15 37.9	
	comp=Z,134nm,20.7s,baz=290,slow=41						
WRA	Warramunga Arr	17.84	127	P	Pn	17 07 25.6	-1.3
WRA				S	Sn	17 10 33.4	-11
WRAB	Tennant Creek	17.85	127	*e*P	Pn	17 07 25.6	-1.3
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s						
WRAB	Tennant Creek	17.85	127	*e*Pn	Pn	17 07 25.6	-1.3
	comp=Z,21nm,0.6s						
WRAB				*e*Sn	Sn	17 10 31.6	-13
WB2	Warramunga Arr	17.85	127	*e*P	Pn	17 07 25.5	-1.5
WB2				*e*S	Sn	17 10 31.2	-14
WB2	Warramunga Arr	17.85	127	*e*Pn	Pn	17 07 25.1	-1.8
WB2				*e*Sn	Sn	17 10 33.3	-12
ASPA	Alice Springs	19.79	137	*e*P	Pn	17 07 50.0	-0.4
ASPA				*e*S	Sn	17 11 20.3	-12
ASAR	Alice Springs	19.80	137	P	Pn	17 07 50.0	-0.4
	comp=Z,1.4nm,0.3s,baz=318,slow=11,SNR=206						
ASAR				S	Sn	17 11 21.2	-11
	comp=Z,0.6nm,0.3s,baz=315,slow=26,SNR=7.4						
ASAR				LR	LR	17 15 27.7	
	comp=Z,162nm,19.1s,baz=314,slow=37						
ASAR	Alice Springs	19.80	137	P	Pn	17 07 50.1	-0.3
ASAR				S	Sn	17 11 21.2	-11
AS31	Alice Springs	19.80	137⇑	*e*P	Pn	17 07 49.5	-0.9
AS31				*e*Sn	Sn	17 11 18.5	-13
KLBR	Kellerberrin	21.90	183	*e*P	P	17 08 20.7	+9.2
	comp=Z,60nm,1.5s,mb4.8						
KLBR				*e*S	S	17 12 00.6	-11
MUN	Mundaring	22.42	187	*e*P	P	17 08 26.9	+10
MUN				*e*S	S	17 12 13.5	-8.1
FORT	Forrest	22.60	160	*e*P	P	17 08 19.9	+1.0
	comp=Z,13nm,0.6s,mb4.5						
FORT				*e*S	S	17 12 27.1	+2.2
NWAO	Narrogin (SRO)	23.26	184	P	P	17 08 26.1	+0.2
	comp=Z,18nm,0.8s,mb4.6,baz=5.5,slow=8.9,SNR=9.9						
NWAO				pP		17 08 36.0	
	comp=Z,8.9nm,0.3s,baz=18,slow=11,SNR=4.6						
NWAO				S	S	17 12 32.2	-3.5
	comp=Z,28nm,0.7s,baz=286,slow=2.9,SNR=9.4						
NWAO				LR	LR	17 16 49.9	
	comp=Z,102nm,18.4s,MS3.3,baz=335,slow=35						
NWAO	Narrogin (SRO)	23.26	184	*e*P	P	17 08 26.3	+0.4
NWAO				*e*		17 12 31.8	
NWAO				pmax	pmax		
	comp=Z,14nm,0.7s						
NWAO	Narrogin (SRO)	23.26	184	*e*P	P	17 08 26.3	+0.4
	comp=Z,14nm,0.7s,mb4.5						
NWAO				*e*Sn	S	17 12 31.8	-3.9
PSI	Prapat	23.69	300	P	P	17 08 28.5	-1.5
	comp=Z,41nm,1.0s,mb4.8,baz=179,slow=8.6,SNR=14						
PSI	Prapat	23.69	300	P	P	17 08 28.5	-1.5
KULM	Kulim	23.70	308	*e*P	P	17 08 28.8	-1.4
CTA	Charters Tower	28.08	115	P	P	17 09 09.5	-0.2
	comp=Z,4.7nm,1.1s,mb4.0,baz=287,slow=11,SNR=3.0						
CTA	Charters Tower	28.08	115	P	P	17 09 09.5	-0.2
CTAO	Charters Tower	28.08	115	P	P	17 09 11.8	+2.1
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
CTAO	Charters Tower	28.08	115	P	P	17 09 11.8	+2.1
	comp=Z,6.6nm,0.9s,mb4.3						
STKA	Stephens Creek	30.34	140	*e*P	P	17 09 30.5	+0.8
	comp=Z,2.4nm,0.6s,mb4.1						
STKA	Stephens Creek	30.34	140	P	P	17 09 30.6	+0.8
	comp=Z,2.5nm,0.7s,mb4.1,baz=331,slow=8.8,SNR=7.8						
STKA				LR	LR	17 22 04.5	
	comp=Z,58nm,21.9s,MS3.2,baz=218,slow=37						
STKA	Stephens Creek	30.34	140	*e*P	P	17 09 30.1	+0.4
KMI	Kunming	38.09	335	P	P	17 10 39.3	+2.5
KMI				AP	pP	17 10 46.8	+0.5
KMI				XP	sP	17 10 50.9	+0.8
KMI				PP	PP	17 12 11.3	+7.1
KMI				S	S	17 16 33.4	+5.9
KMI				XS	sS	17 16 48.8	+5.8
KMI				SS	SS	17 19 10.2	-4.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=N,193nm,9.7s						
KMI				LR	LR		
	comp=E,115nm,10.9s						
KMI				LR	LR		
	comp=Z,142nm,9.7s						
KMI	Kunming	38.09	335	P	P	17 10 39.3	+2.5
KMI				*SP	sP	17 10 50.9	+0.8
KMI						17 12 11.3	
KMI				S	S	17 16 33.4	+5.9
KMI				*SS	sS	17 16 48.8	+5.8
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KMI	Kunming	38.09	335	P	P	17 10 39.3	+2.5
	comp=Z,6.0nm,1.0s,mb4.3						
KMI				pP	pP	17 10 46.8	+0.5
KMI				sP	sP	17 10 50.9	+0.8
KMI				PP	PP	17 12 11.3	+7.1
KMI				S	S	17 16 33.4	+5.9
KMI				sS	sS	17 16 48.8	+5.8
KMI				SS	SS	17 19 10.2	-4.3
PALK	Pallekele	41.88	292	P	P	17 11 07.2	-1.1
	comp=Z,14nm,1.1s,mb4.5						
CD2	Chengdu	42.95	340	*e*P	P	17 11 17.2	+0.2
CD2				XP	sP	17 11 31.0	+0.7
CD2				PP	PP	17 12 59.7	+2.8
CD2				S	S	17 17 40.0	+0.1
CD2				XS	sS	17 17 56.3	+0.7
CD2				SS	SS	17 20 46.1	-6.1
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
CD2				LR	LR		
	comp=N,80nm,9.8s						
CD2				LR	LR		
	comp=Z,90nm,11.8s,MS3.9						
LSA	Lhasa	47.53	326	P	P	17 11 53.9	+0.6
LSA	Lhasa	47.53	326	*e*P	P	17 11 54.0	+0.7
LSA				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
LSA	Lhasa	47.53	326	*e*P	P	17 11 54.0	+0.7
	comp=Z,16nm,1.0s,mb5.0						
KSRS	Korea Array	47.53	9	P	P	17 11 53.5	+0.1
	comp=Z,1.3nm,0.7s,mb4.1,baz=183,slow=8.4,SNR=8.0						
KSRS				pP	pP	17 12 02.9	-0.1
	comp=Z,1.3nm,0.6s,baz=191,slow=8.0,SNR=4.8						
LZH	Lanzhou	47.72	343	*e*P	P	17 11 58.0	+3.2
LZH				AP	pP	17 12 08.1	+3.7
LZH				XP	sP	17 12 11.9	+3.7
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
LZH	Lanzhou	47.72	343	*e*P	P	17 11 58.0	+3.2
LZH				*PP	pP	17 12 08.1	+3.7
LZH				*SP	sP	17 12 11.9	+3.7
LZH						17 13 19.2	
LZH				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
LZH	Lanzhou	47.72	343	*e*P	P	17 11 58.0	+3.2
	comp=Z,18nm,1.2s,mb5.0						
LZH				pP	pP	17 12 08.1	+3.7
LZH				sP	sP	17 12 11.9	+3.7
LZH				PP	PP	17 13 19.2	-27
JIRN	Jiri	48.96	320	*e*P	P	17 12 03.9	-0.4
MJAR	Matsushiro Arr	49.27	20	P	P	17 12 04.4	-2.3
	comp=Z,0.5nm,0.4s,mb3.9,baz=183,slow=9.8,SNR=2.7						
GUN	Gumba	49.33	320	*e*P	P	17 12 06.7	-0.5
	comp=Z,44nm,0.9s,mb5.5						
PKI	Pulchoki	49.39	319	*e*P	P	17 12 07.9	+0.2
DMN	Daman	49.61	319	*e*P	P	17 12 08.5	-0.8
	comp=Z,34nm,1.0s,mb5.3						
KKN	Kakani	49.62	320	*e*P	P	17 12 08.1	-1.3
	comp=Z,16nm,0.9s,mb5.0						
GKN	Gorkha	50.18	319	*e*P	P	17 12 12.2	-1.5
KOLN	Koldanda	50.70	318	*e*P	P	17 12 16.5	-1.1
	comp=Z,21nm,0.8s,mb5.1						
HHC	Hu-ho-hao-te	50.71	352	*e*P	P	17 12 20.1	+2.4
HHC				AP	pP	17 12 30.1	+2.7
HHC				XP	sP	17 12 33.9	+2.7
HHC				PCP	PcP	17 13 36.3	+1.7
HHC				PP	PP	17 14 17.5	+3.6
HHC				SCP	ScP	17 17 27.8	-0.5
HHC				PCS	PcS	17 17 31.9	-0.1
HHC				S	S	17 19 32.9	+2.1
HHC				XS	sS	17 19 50.7	+3.9
HHC				SCS	ScS	17 22 04.9	-1.2
HHC				SS	SS	17 23 06.1	+0.7
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,162nm,5.5s						
HHC				LR	LR		
	comp=N,148nm,18.4s,MS4.2						
HHC				LR	LR		
	comp=E,162nm,17.1s,MS4.2						
HHC				LR	LR		
	comp=Z,111nm,16.4s,MS4.0						
GTA	Gaotai	52.01	341	*e*P	P	17 12 28.7	+1.3
GTA				AP	pP	17 12 37.7	+0.6
GTA				XP	sP	17 12 41.7	+0.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
MDJ	Mudanjiang	54.80	9	P	P	17 12 46.8	-1.0
MDJ				AP	pP	17 12 56.2	-1.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,60nm,3.4s						
MDJ	Mudanjiang	54.80	9	P	P	17 12 47.0	-0.9
	comp=Z,7.8nm,0.7s,mb4.8						
RPZ	Rata Peaks	56.21	137	P	P	17 12 59.1	+1.2
	comp=Z,15nm,1.1s,mb4.9,baz=274,slow=3.0,SNR=4.2						
CASY	Casey	56.89	184	*e*P	P	17 13 01.7	-1.2
	comp=Z,2.0nm,0.7s,mb4.3						
ULN	Ulaanbaatar	58.24	350	*e*P	P	17 13 12.7	+0.3
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ULN	Ulaanbaatar	58.24	350	*e*P	P	17 13 12.7	+0.3
	comp=Z,7.2nm,1.0s,mb4.7						
SONM	Songino Array	58.33	350	P	P	17 13 13.1	+0.1
	comp=Z,2.2nm,0.5s,mb4.5,baz=169,slow=7.8,SNR=43						
SONM				pP	pP	17 13 22.5	-0.2
	comp=Z,5.3nm,0.8s,baz=167,slow=8.1,SNR=18						
WMQ	Urumqi	60.41	334	⇓P	P	17 13 27.0	-0.3
WMQ				AP	pP	17 13 37.0	-0.2
WMQ				XP	sP	17 13 41.0	0.0
WMQ				PCP	PcP	17 14 11.5	-0.5
WMQ				PP	PP	17 15 42.0	+1.4
WMQ				S	S	17 21 38.0	-2.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,83nm,4.8s						
WMQ				LR	LR		
	comp=N,25nm,21.2s						
WMQ				LR	LR		
	comp=E,34nm,27.6s						
ZAK	Zakamensk	61.35	348	*e*P	P	17 13 30.8	-2.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
MK31	Makanchi Array	65.11	333	*e*P	P	17 13 57.7	-0.9
MK31				*e**PP	pP	17 14 06.7	-1.9
MK31				*e*		17 16 16.6	
MKAR	Makanchi Array	65.11	333	P	P	17 13 58.0	-0.6
	comp=Z,5.6nm,0.8s,mb4.7,baz=144,slow=7.2,SNR=60						
MKAR				pP	pP	17 14 07.5	-1.1
	comp=Z,4.4nm,0.7s,baz=142,slow=6.9,SNR=14						
MKAR				PP	PP	17 16 17.1	-4.9
	comp=Z,1.0nm,0.5s,baz=120,slow=7.9,SNR=10.0						
MKAR	Makanchi Array	65.11	333	P	P	17 13 58.0	-0.6
MKAR				pP	pP	17 14 07.5	-1.1
MKAR				PP	PP	17 16 17.1	-4.9
KZA	Kyzart	65.32	325	P	P	17 14 00.1	0.0
	SNR=11						
UCH	Uchtor	65.84	325	P	P	17 14 03.5	+0.1
	SNR=5.5						
KBK	Karagaybulak	65.87	326	P	P	17 14 03.7	+0.1
	SNR=12						
AAK	Ala-Archa	66.11	325	P	P	17 14 05.1	0.0
	SNR=10						
AAK	Ala-Archa	66.11	325	*e*P	P	17 14 03.8	-1.3
AAK				*e**PP	pP	17 14 13.1	-2.0
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
AAK	Ala-Archa	66.11	325	*e*P	P	17 14 03.8	-1.3
	comp=Z,8.7nm,0.9s,mb4.8						
AAK				*e*pP	pP	17 14 13.1	-2.0
AML	Almayashu	66.24	325	P	P	17 14 06.1	+0.2
	SNR=19						
EKS2	Erkin-Say	66.53	325	P	P	17 14 07.8	0.0
	SNR=14						
BOD	Bodaibo	67.34	357	*e*P	P	17 14 12.1	-0.9
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
WSAR	Wadi Sarin	67.65	300	P	P	17 14 15.1	+0.2
	comp=Z,2.1nm,0.6s,mb4.4,baz=166,slow=6.1,SNR=4.6						
WSAR	Wadi Sarin	67.65	300	P	P	17 14 15.1	+0.2
MAW	Mawson	68.73	200	P	P	17 14 23.0	+1.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=52,slow=7.5,SNR=7.0						
MAW				LR	LR	17 40 35.3	
	comp=Z,39nm,18.3s,MS3.7,baz=69,slow=32						
MAW	Mawson	68.73	200	*e*P	P	17 14 22.7	+1.1
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	Mawson	68.73	200	*e*P	P	17 14 22.7	+1.0
	comp=Z,6.4nm,1.0s,mb4.5						
ZAL	Zalesovo	69.69	339	P	P	17 14 26.9	-0.7
	comp=Z,2.6nm,0.6s,mb4.3,baz=324,slow=5.2,SNR=16						
ZAL	Zalesovo	69.69	339	P	P	17 14 26.9	-0.7
OPO	Ambohidratompo	70.05	254	P	P	17 14 34.3	+4.4
	comp=Z,2.6nm,0.9s,mb4.2,baz=80,slow=12,SNR=3.4						
VNDA	Vanda	71.34	171	P	P	17 14 38.5	+0.8
	comp=Z,0.5nm,0.8s,mb3.5,baz=333,slow=7.9,SNR=4.6						
VNDA	Vanda	71.34	171	P	P	17 14 38.0	+0.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	Vanda	71.34	171	P	P	17 14 38.0	+0.3
	comp=Z,1.1nm,0.9s,mb3.8						
YAK	Yakutsk	71.90	5	P	P	17 14 37.9	-3.1
YAK				*e**PP	pP	17 14 47.3	-3.8
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
YAK	Yakutsk	71.90	5	P	P	17 14 37.9	-3.2
	comp=Z,13nm,0.8s,mb4.9						
YAK				*e*pP	pP	17 14 47.3	-3.8
SBA	Scott Base	72.34	171	*e*P	P	17 14 44.8	+1.1
SBA				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
SBA	Scott Base	72.34	171	*e*P	P	17 14 44.8	+1.1
	comp=Z,2.2nm,1.0s,mb4.0						
ZRNK	Zerenda	75.55	331	*e*P	P	17 15 01.0	-1.4
ZRNK				*e**PP	pP	17 15 10.4	-2.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	75.55	331	*e*P	P	17 15 01.0	-1.4
	comp=Z,2.9nm,0.8s,mb4.3						
ZRNK				*e*pP	pP	17 15 10.3	-2.2
SEY	Seymchan	76.71	15⇑	*e*P	pP	17 15 17.9	-1.2
TIXI	Tiksi	81.35	3⇑	*e*P	P	17 15 40.9	+6.4
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KMBO	Kilima Mbogo	81.89	270	LR	LR	17 48 46.0	
	comp=Z,20nm,20.8s,MS3.5,baz=92,slow=33						
KMBO	Kilima Mbogo	81.89	270	*e*P	P	17 15 39.3	+2.0
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KMBO	Kilima Mbogo	81.89	270	*e*P	P	17 15 39.3	+2.0
	comp=Z,4.0nm,1.2s,mb4.2						
BILL	Bilibino	84.33	16	*e*P	pP	17 15 58.9	-1.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
LSZ	Lusaka	88.49	255	*e*P	P	17 16 12.3	+2.0
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
LSZ	Lusaka	88.49	255	*e*P	P	17 16 12.3	+2.0
	comp=Z,9.9nm,1.1s,mb5.0						
BOSA	Boshof	88.90	241	P	P	17 16 14.3	+2.1
	comp=Z,3.2nm,1.1s,mb4.6,baz=126,slow=6.0,SNR=4.3						
BOSA	Boshof	88.90	241	P	P	17 16 14.4	+2.2
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
BOSA	Boshof	88.90	241	P	P	17 16 14.3	+2.1
	comp=Z,3.5nm,0.7s,mb4.8						
SNAA	Sanae	90.46	196	P	P	17 16 20.4	+0.9
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SNAA	Sanae	90.46	196	P	P	17 16 20.4	+0.9
	comp=Z,2.2nm,0.9s,mb4.5						
BRTR	Keskin Array B	92.70	310	P	P	17 16 30.2	+0.3
	comp=Z,0.6nm,0.8s,mb4.1,baz=98,slow=9.0,SNR=3.8						
OBN	Obninsk	93.64	325	*e*P	P	17 16 36.6	+2.4
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.7						
TORD	Torodi Ar. Bea	118.78	280	PKP	PKPdf	17 22 07.8	+1.8
	comp=Z,0.5nm,0.7s,baz=114,slow=0.6,SNR=4.4						
TORD				pPKP	pPKPdf	17 22 18.3	+1.7
	comp=Z,1.0nm,0.6s,baz=64,slow=1.8,SNR=6.4						
TORD	Torodi Ar. Bea	118.78	280	PKP	PKPdf	17 22 07.8	+1.8
TORD				pPKP	pPKPdf	17 22 18.3	+1.7

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*ISCJB **02** 17:22:36.3±1.6, 43.02N±0.07×0.02E±0.07, h8km±12km, Error ellipse: s-maj=12.3km s-min=7.3km az=139.2*
*STR **02** 17:22:36.7±0.1, 43.01N×0.00E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 17:22:36.6±0.0, 43.01N×0.03E, h5km, Md1.5/2, Error ellipse: s-maj=1.3km s-min=0.8km az=156.0*
ISC 02 17:22:36.7±1.5**, 43.02N**±0.07×**0.02E**±0.06**, h7**km±13km**, n4, σ0.13**/8**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.05	51	Pg	Pg	17 22 38.2	-0.1
LABF				Sg	Sg	17 22 39.4	0.0
VIEF	Viey	0.13	179	Pg	Pg	17 22 39.5	0.0
VIEF				Sg	Sg	17 22 41.4	0.0
EPF	Esparros	0.23	86	*e*Pg	Pg	17 22 41.2	-0.2
EPF				*e*Sg	Sg	17 22 44.7	+0.2
	1.4nm,0.2s						
ETSF	Etsaut	0.44	255	*e*Pg	Pg	17 22 45.3	0.0
ETSF				*e*Sg	Sg	17 22 51.1	0.0
	0.8nm,0.2s						

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*KRSC **02** 17:30:29.3±0.3, 52.47N×162.16E, h54km±56km, ML4.1*
*ISCJB **02** 17:30:30.5±0.9, 52.46N±0.04×162.20E±0.07, h37km±8km, mb3.8/15, Error ellipse: s-maj=7.8km s-min=5.1km az=76.3*
*MOS **02** 17:30:30.6±1.1, 52.46N×162.12E, h41km, mb4.1/9, Error ellipse: s-maj=15.5km s-min=9.1km az=103.4*
*NEIC **02** 17:30:30.6±5.6, 52.40N×162.13E, h24km±39km, mb4.1/3, Error ellipse: s-maj=17.1km s-min=11.3km az=165.0*
*IDC **02** 17:30:37.6±16.0, 52.39N×162.07E, h83km±149km, mb3.5/12, mb1 3.8/12, mb1mx3.6/24, mbtmp3.5/12, Error ellipse: s-maj=26.4km s-min=18.3km az=154.0*
ISC 02 17:30:31.4±1.5**, 52.43N**±0.03×**162.16E**±0.06**, h31**km±11km**, n63, σ0.90**/99**, mb3.8**/15**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.46	298	*e*P	Pn	17 30 54.2	-1.4
SPN				*i* S	Sn	17 31 12.7	-1.0
SPN	Mys Shipunski	1.46	298	*e*P	Pn	17 30 54.2	-1.4
SPN				*i* S	Sn	17 31 12.7	-1.0
NLC	Nalytchevo	1.86	295	*e*P	Pn	17 31 00.7	-0.5
NLC				*i* S	Sn	17 31 23.3	-0.3
NLC	Nalytchevo	1.86	295	*e*P	Pn	17 31 00.7	-0.5
NLC				*i* S	Sn	17 31 23.3	-0.3
MKZ	Mys Kozlova	2.15	353	*e*P	Pn	17 31 03.5	-1.5
MKZ				*i* S	Sn	17 31 28.0	-2.6
MKZ	Mys Kozlova	2.15	353	*e*P	Pn	17 31 03.5	-1.5
MKZ				*i* S	Sn	17 31 28.0	-2.6
PET	Petropavlovsk	2.21	287	*e*Pn	Pn	17 31 05.6	-0.4
PET				*e*Sn	Sn	17 31 32.5	+0.2
PET	Petropavlovsk	2.21	287	*e*P	Pn	17 31 05.7	-0.3
PET				*i* S	Sn	17 31 31.7	-0.6
PET	Petropavlovsk	2.21	287	*e*P	Pn	17 31 05.7	-0.3
PET				*i* S	Sn	17 31 31.7	-0.6
RUS	Russkaya	2.23	272	*e*P	Pn	17 31 05.9	-0.3
RUS				*i* S	Sn	17 31 31.7	-1.0

RUS	Russkaya	2.23	272	eP	Pn	17 31 05.9	-0.3
RUS				iS	Sn	17 31 31.7	-1.0
AVH	Avacha	2.24	293	eP	Pn	17 31 06.3	0.0
AVH				iS	Sn	17 31 33.3	+0.4
AVH	Avacha	2.24	293	eP	Pn	17 31 06.3	0.0
AVH				iS	Sn	17 31 33.3	+0.4
GRL	Gorelyy	2.50	274	eP	Pn	17 31 10.5	+0.6
GRL				iS	Sn	17 31 40.8	+1.4
GRL	Gorelyy	2.50	274	eP	Pn	17 31 10.5	+0.6
GRL				iS	Sn	17 31 40.8	+1.4
GNL	Ganaly	2.84	298	eP	Pn	17 31 15.9	+1.3
GNL				iS	Sn	17 31 49.7	+1.9
GNL	Ganaly	2.84	298	eP	Pn	17 31 15.9	+1.3
GNL				iS	Sn	17 31 49.7	+1.9
TUMR	Tumrok	3.10	338	eP	Pn	17 31 18.7	+0.6
TUMR				iS	Sn	17 31 54.0	-0.1
TUMR	Tumrok	3.10	338	eP	Pn	17 31 18.7	+0.6
TUMR				iS	Sn	17 31 54.0	-0.1
KMNR	Kamenistaya	3.52	342	eP	Pn	17 31 24.2	+0.3
KMNR				iS	Sn	17 32 04.3	-0.2
KMNR	Kamenistaya	3.52	342	eP	Pn	17 31 24.2	+0.3
KMNR				iS	Sn	17 32 04.3	-0.2
ZLN	Zelenaya	3.68	348	eP	Pn	17 31 27.1	+1.0
ZLN				iS	Sn	17 32 08.3	-0.2
ZLN	Zelenaya	3.68	348	eP	Pn	17 31 27.1	+1.0
ZLN				iS	Sn	17 32 08.3	-0.2
KBTR	Krutoberegovo	3.81	6	eP	Pn	17 31 26.2	-1.6
KBTR				iS	Sn	17 32 07.7	-3.8
KBTR	Krutoberegovo	3.81	6	eP	Pn	17 31 26.2	-1.6
KBTR				iS	Sn	17 32 07.7	-3.8
KOZ	Kozyrevsk	3.88	341	eP	Pn	17 31 29.9	+1.1
KOZ				iS	Sn	17 32 13.2	0.0
KOZ	Kozyrevsk	3.88	341	eP	Pn	17 31 29.9	+1.1
KOZ				iS	Sn	17 32 13.2	0.0
KOZR	Kozyr	3.88	341	PN	Pn	17 31 29.9	+1.1
KOZR				S	Sn	17 32 13.2	-0.1
KRSR	Krestovskiy	3.91	347	eP	Pn	17 31 29.7	+0.4
KRSR				iS	Sn	17 32 15.0	+0.9
KRSR	Krestovskiy	3.91	347	eP	Pn	17 31 29.7	+0.4
KRSR				iS	Sn	17 32 15.0	+0.9
KLY	Klyuchi	3.99	348	eP	Pn	17 31 30.4	0.0
KLY				iS	Sn	17 32 16.7	+0.6
KLY	Klyuchi	3.99	348	eP	Pn	17 31 30.4	0.0
KLY				iS	Sn	17 32 16.7	+0.6
SRDR	Sredinnyy	4.15	341	eP	Pn	17 31 32.8	+0.2
SRDR				iS	Sn	17 32 20.1	+0.1
SRDR	Sredinnyy	4.15	341	eP	Pn	17 31 32.8	+0.2
SRDR				iS	Sn	17 32 20.1	+0.1
SKR	Severo-Kuril's	4.16	247	ePN	Pn	17 31 31.5	-1.2
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SRKR	Sorokina	4.27	353	eP	Pn	17 31 34.4	+0.1
SRKR				iS	Sn	17 32 22.3	-0.7
SRKR	Sorokina	4.27	353	eP	Pn	17 31 34.4	+0.1
SRKR				iS	Sn	17 32 22.3	-0.7
SONM	Songino Array	35.28	285	P	P	17 37 24.5	+1.1
	comp=Z,0.2nm,0.5s,mb3.4,baz=63,slow=8.2,SNR=3.4						
YKA	Yellowknife Ar	42.80	43	P	P	17 38 26.6	+0.4
	comp=Z,0.8nm,0.6s,mb3.6,baz=296,slow=8.4,SNR=3.5						
YKA	Yellowknife Ar	42.80	43	P	P	17 38 26.6	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EDM	Edmonton	48.16	53	P	P	17 39 06.5	-2.1
MKAR	Makanchi Array	49.58	297	P	P	17 39 19.2	-0.3
	comp=Z,0.2nm,0.5s,mb3.4,baz=64,slow=8.9,SNR=4.1						
MKAR	Makanchi Array	49.58	297	P	P	17 39 19.2	-0.3
CHKZ	Chkalovo	51.27	310	eP	P	17 39 31.8	-0.5
CHKZ				e	pP	17 39 41.1	-0.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	Chkalovo	51.27	310	eP	P	17 39 31.8	-0.5
	comp=Z,1.3nm,0.5s,mb4.1						
CHKZ				e	pP	17 39 41.1	-0.6
ZRNK	Zerenda	52.48	310	eP	P	17 39 41.0	-0.3
ZRNK				e	pP	17 39 51.2	+0.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	Zerenda	52.48	310	eP	P	17 39 41.0	-0.3
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK				e	pP	17 39 51.2	+0.5
NVAR	Mina Array Bea	54.78	71	P	P	17 40 00.3	+2.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=304,slow=8.5,SNR=3.5						
AAK	Ala-Archa	56.50	298	eP	P	17 40 10.2	-0.3
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
AAK	Ala-Archa	56.50	298	eP	P	17 40 10.2	-0.3
	comp=Z,1.1nm,0.8s,mb3.9						
PDAR	Pinedale Array	56.74	62	P	P	17 40 13.2	+0.9
	comp=Z,0.4nm,0.4s,mb3.8,baz=291,slow=2.5,SNR=4.2						
FINES	FINESS Array B	61.22	338	P	P	17 40 43.7	+0.4
	comp=Z,2.0nm,0.9s,mb4.2,baz=32,slow=11,SNR=4.8						
FINES	FINESS Array B	61.22	338	P	P	17 40 43.7	+0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	64.52	345	P	P	17 41 04.6	-0.7
	comp=Z,1.0nm,0.8s,mb3.9,baz=22,slow=6.8,SNR=3.5						
NOA	NORSAR Array B	64.52	345	P	P	17 41 04.6	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	69.73	68	P	P	17 41 38.8	+0.4
	comp=Z,0.5nm,0.2s,mb4.0,baz=307,slow=5.3,SNR=4.5						
TXAR	Lajitas Array	69.73	68	P	P	17 41 38.8	+0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	GERESS Array B	75.59	339	P	P	17 42 13.8	+0.7
	comp=Z,0.1nm,0.4s,mb3.1,baz=27,slow=7.5,SNR=3.9						
WRA	Warramunga Arr	76.03	207	P	P	17 42 15.1	-0.5
	comp=Z,0.8nm,1.0s,mb3.6,baz=22,slow=6.1,SNR=6.7						
WRA	Warramunga Arr	76.03	207	P	P	17 42 15.1	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FITZ	Fitzroy Crossi	77.06	216	P	P	17 42 20.9	-0.6
	comp=Z,1.2nm,0.5s,mb4.0,baz=356,slow=6.0,SNR=7.3						
ASAR	Alice Springs	79.69	206	P	P	17 42 36.0	0.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=5.0,SNR=33						
ASAR	Alice Springs	79.69	206	P	P	17 42 36.0	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*BJI **02** 17:52:59.1, 3720N×8190W, h8km, mB5.0, mb4.7, Ms4.9, Msz4.5*
*ISCJB **02** 17:53:00.4±0.2, 3723N±002×8187W±002, h0km, mb4.3/18, Error ellipse: s-maj=3.6km s-min=2.4km az=151.6*
*IDC **02** 17:53:01.5±0.8, 37.13N×8177W, h0km, mb4.0/8, mb1 4.3/11, mb1mx4.0/25, mbtmp4.1/11, ML2.6/1, Error ellipse: s-maj=18.7km s-min=8.1km az=134.0*
*NEIC **02** 17:53:02.1, 3720N×8192W, h1km, mb4.3/15, After CERI.*
NEIC Probable collapse event. Felt at Richlands.
ISC 02 17:53:01.6±0.2**, 3723N**±002×**8186W**±002**, h0km, n77, σ1ˢ20**/102**, mb4.3**/18**, West Virginia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELN	Prospectdale	0.89	90	ePg	Pg	17 53 19.1	+0.5
ELN				eSg	Sg	17 53 30.5	+0.5
FWV	Forest Hill	0.91	67	ePg	Pg	17 53 19.7	+0.8
FWV				eSg	Sg	17 53 30.3	-0.4
BLA	Blacksburg	1.15	91	eP	Pg	17 53 23.7	+0.1
BLA				eSg	Sg	17 53 36.5	-2.0
TZTN	Tazewell	1.52	244	eP	Pn	17 53 28.5	-1.4
TZTN				eS	Sg	17 53 50.5	+0.2
TKL	Tuckaleechee C	2.20	225	Pn	Pn	17 53 40.1	+0.8
	13nm,0.3s,baz=66,slow=18,SNR=190						
TKL				Lg		17 54 09.4	
	43nm,0.3s,baz=5.1,slow=13,SNR=20						
CPCT	Cooper Cave	2.79	231	ePn	Pn	17 53 46.9	-0.6
CPCT				eSn	Sn	17 54 18.9	-2.8
LHS	Liberty Hill	2.88	162	ePn	Pn	17 53 48.8	+0.1
LHS				eSn	Sn	17 54 23.9	-0.1
MCWV	Mont Chateau	2.89	33	ePn	Pn	17 53 49.9	+1.0
MCWV				eSn	Sb	17 54 29.6	-0.4
MCWV				eLg		17 55 45.5	
JSC	Jenkinsville	2.98	170	ePn	Pn	17 53 49.8	-0.3
WCI	Wyandotte Cave	3.65	287	ePn	Pn	17 53 59.7	+0.4
WCI				eSn	Sb	17 54 51.4	-0.4
CBN	Corbin	3.69	73	ePn	Pn	17 54 01.5	+1.7
CBN				eP		17 54 07.8	
CBN				eSg	Sg	17 54 58.6	-1.5
CNNC	Cliffs of the	3.78	121	ePn	Pn	17 54 00.7	-0.4
CNNC				eSn	Sb	17 54 56.3	+0.9
SWET	Sewanee	3.86	240	ePn	Pn	17 54 02.0	-0.1
SWET				eP		17 54 09.2	
SWET				eSn	Sn	17 54 49.2	+1.1
COW	Cow Castle Cre	3.96	166	ePn	Pn	17 54 02.9	-0.6
COW				eP		17 54 12.5	
COW				eSn	Sn	17 54 44.3	-6.3
BLO	Bloomington	4.15	299	ePn	Pn	17 54 07.3	+1.2
BLO				eP		17 54 16.2	
BLO				eSg	Sg	17 55 13.1	-1.8
SSPA	Standing Stone	4.60	41	ePn	Pn	17 54 12.8	+0.5
SSPA				ePg	Pb	17 54 22.2	-0.9
SSPA				eSn	Sn	17 55 08.6	+2.2
ALLY	Alegheny Colle	4.61	16	ePn	Pn	17 54 13.5	+1.1
ALLY				eSn	Sn	17 55 08.3	+1.7
ALLY				eSg	Sg	17 55 27.8	-1.8
USIN	University of	4.67	281	ePn	Pn	17 54 13.8	+0.6
USIN				eP		17 54 23.2	
WVT	Waverly	4.92	259	ePn	Pn	17 54 17.1	+0.4
WVT				eP		17 54 25.4	
WVT				eSg	Sg	17 55 32.6	-7.0
MVL	Millersville	5.12	56	ePn	Pn	17 54 19.7	+0.2
MVL				eP		17 54 29.2	
MVL				eSg	Sg	17 55 37.4	-8.8
AAM	Ann Arbor	5.25	345	ePn	Pn	17 54 22.6	+1.4
AAM				eP		17 54 31.7	
AAM				eSn	Sn	17 55 23.4	+1.0
PLAL	Pickwick Lake	5.51	248	ePn	Pn	17 54 23.3	-1.5
PLAL				eSg	Sg	17 55 50.0	-8.5
PLAL				eLg		17 56 40.3	
SIUC	Southern Illin	5.87	277	ePn	Pn	17 54 29.3	-0.5
SIUC				eSn	Sn	17 55 38.0	+0.2
SIUC				eSg	Sg	17 56 02.6	-7.5
SIUC				eLg		17 57 16.2	
PARMO	Parma	6.34	267	Pn	Pn	17 54 34.7	-1.6
PARMO				eP	Pb	17 54 54.2	+1.4
PARMO				eS	Sb	17 56 11.5	+2.2
PARMO				eSg	Sg	17 56 23.4	-1.9
BINY	Binghamton	6.72	41	ePn	Pn	17 54 41.5	0.0
BINY				eP		17 55 01.0	
BINY				eS	Sn	17 56 25.1	+26
FVM	French Village	6.84	279	ePn	Pn	17 54 42.8	-0.3
FVM				eP		17 55 01.5	
FVM				eSg	Sg	17 56 35.9	-5.3
FVM				eLg		17 57 45.5	
NCB	Newcomb	8.89	38	ePn	Pn	17 55 11.0	-0.2
NCB				eSg	Sg	17 57 33.9	-13
QUA2	Belchertown	8.89	53	ePn	Pn	17 55 09.5	-1.7
QUA2				eSn	Sn	17 56 40.0	-12
QUA2				eSg	Sg	17 57 29.1	-18
LONY	Lake Ozonia	9.21	34	ePn	Pn	17 55 14.6	-0.9
LONY				eSn	Sn	17 56 52.4	-7.4
LONY				eSg	Sn	17 57 45.5	+46
MSNY	Massena	9.38	32	eSn	Sn	17 57 01.8	-2.3
MSNY				eSg	Sn	17 57 50.5	+46
HRV	Harvard--Oak R	9.51	53	eSg	Sx	17 57 54.4	
WES	Weston	9.60	54	eS	Sx	17 57 37.1	
HNH	Hanover	9.74	45	eSg	Sx	17 57 59.1	
FRNY	Flat Rock	9.83	37	eSn	Sn	17 57 13.0	-2.3
FRNY				eSg	Sn	17 58 06.2	+51
SCIA	State Center	9.93	302	Pn	Pn	17 55 23.4	-2.0
FFD	Franklin Falls	9.97	48	eSg	Sx	17 58 07.1	
KSU1	Kansas State U	11.76	284	ePn	Pn	17 55 49.1	-1.5
KSU1				eSg	Sn	17 59 07.2	+65
KSU1				eLg		18 01 05.8	
WMOK	Wichita Mounta	13.93	265	ePn	Pn	17 56 15.6	-4.5
WMOK				eS	Sn	17 59 21.4	+26
CBKS	Cedar Bluff	14.18	282	eP	Pn	17 56 20.4	-3.2
	17nm,0.8s						
AMTX	Amarillo	16.20	268	ePn	Pn	17 56 47.2	-3.3
	14nm,0.8s						
JCT	Junction City	16.34	251	ePn	Pn	17 56 54.7	+2.3
	8.9nm,0.9s						
ULM	Lac du Bonnet	16.45	327	P	Pn	17 56 56.5	+2.8
	0.4nm,0.3s,baz=146,slow=11,SNR=7.9						
ULM				S	Sn	18 00 00.4	+3.5
	2.7nm,0.3s,baz=225,slow=16,SNR=14						
ULM				Lg		18 01 28.3	
	baz=52,slow=19,SNR=2.3						
ULM	Lac du Bonnet	16.45	327	P	Pn	17 56 56.5	+2.8
ULM				S	Sn	18 00 00.4	+3.5
ULM				Lg		18 01 28.3	
SDCO	Great Sand Dun	18.76	279	ePn	Pn	17 57 21.6	-0.8
	7.6nm,0.9s						
SDCO				e		17 57 31.6	
DGMT	Dagmar	19.78	312	ePn	Pn	17 57 31.9	-2.8
	18nm,0.8s						
TXAR	Lajitas Array	19.83	253	P	Pn	17 57 34.2	-1.1
	0.1nm,0.3s,baz=68,slow=12,SNR=18						
ANMO	Albuquerque	20.00	271	P	Pn	17 57 38.4	+1.1
	3.6nm,0.8s,baz=75,slow=14,SNR=5.0						
ANMO				Lg		18 03 24.6	
	2.6nm,1.0s,baz=354,slow=8.3,SNR=3.7						
SCHQ	Schefferville	20.38	26	P	P	17 57 41.4	+1.5
	6.8nm,0.9s,baz=208,slow=13,SNR=3.8						
SCHQ				Lg		18 03 30.5	
	5.5nm,0.8s,baz=122,slow=16,SNR=3.7						
SCHQ	Schefferville	20.38	26	P	P	17 57 41.4	+1.5
SCHQ				Lg		18 03 30.5	
PDAR	Pinedale Array	21.87	293	P	P	17 57 56.5	+0.6
	3.4nm,1.0s,mb3.7,baz=128,slow=13,SNR=9.8						
PDAR				Lg		18 04 34.2	
	1.3nm,0.8s,baz=95,slow=28,SNR=4.1						
RLMT	Red Lodge	22.01	300	eP	P	17 57 58.2	+0.8
	19nm,0.8s,mb4.6						
FFC	Flin Flon	22.26	328	eP	P	17 57 59.8	-0.2
	10.0nm,1.0s,mb4.2						
GCMT	Greycliff	22.42	301	eP	P	17 58 01.6	-0.1
FLWY	Flagg Ranch	22.85	296	eP	P	17 58 07.6	+1.3
	21nm,1.4s,mb4.5						
FLWY				eScP	ScP	18 05 32.8	-3.6
DAU	Daniels Canyon	23.07	287	eP	P	17 58 05.5	-3.2
HWUT	Hardware Ranch	23.30	290	eP	P	17 58 10.0	-1.0
	6.2nm,0.9s,mb4.1						
QLMT	Earthquake Lak	23.47	298	eP	P	17 58 13.3	+0.4
WUAZ	Wupatki	23.78	275	eP	P	17 58 16.4	+0.5
	8.1nm,0.8s,mb4.3						
DLMT	Dillon	24.36	299	eP	P	17 58 21.9	+0.7
	14nm,1.0s,mb4.5						
CHMT	Chamberlain Mo	25.08	303	eP	P	17 58 28.5	+0.8
NEW	Newport	27.91	304	P	P	17 58 54.1	+0.8
	5.5nm,0.8s,mb4.4,baz=121,slow=5.9,SNR=6.4						
NVAR	Mina Array Bea	28.69	284	P	P	17 59 02.0	+1.8
	1.4nm,0.8s,mb3.9,baz=74,slow=5.7,SNR=9.5						
SUMG	Summit	41.48	18	eP	P	18 00 51.3	+1.1
	6.4nm,0.9s,mb4.3						
LPAZ	La Paz	54.78	164	P	P	18 02 33.3	+0.3
	3.6nm,0.9s,mb4.4,baz=356,slow=8.0,SNR=13						
TOA0	Torodi Ar. Sit	77.09	83	P	P	18 04 56.9	+0.2
TORD	Torodi Ar. Bea	77.09	83	P	P	18 04 57.2	+0.5
	1.0nm,0.8s,mb4.0,baz=300,slow=7.5,SNR=6.3						
TORD	Torodi Ar. Bea	77.09	83	P	P	18 04 57.2	+0.5
ARU	Arti	80.84	21	P	P	18 05 17.7	+0.4
	3.3nm,0.8s,mb4.4						
CHKZ	Chkalovo	86.38	16	eP	P	18 05 45.3	-0.4
	1.7nm,0.8s,mb4.2						
ZRNK	Zerenda	86.69	17	eP	P	18 05 46.7	-0.5
	0.7nm,0.6s,mb4.1						
BRVK	Borovoye	86.88	16	eP	P	18 05 47.4	-0.7
	3.8nm,1.0s,mb4.6						
ZAL	Zalesovo	88.47	8	P	P	18 05 55.4	-0.4
	0.6nm,0.4s,mb4.3,baz=72,slow=4.3,SNR=4.8						
WMQ	Urumqi	98.77	8	eP	P	18 06 45.0	+1.9
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb5.0						
HHC	Hu-ho-hao-te	101.33	350	eP	Pdif	18 06 54.9	+0.4
HHC				PP	PP	18 11 06.5	+2.9
HHC				SKS		18 17 33.9	
HHC				S	Sdif	18 18 30.4	-5.1
HHC				LR	LR		
	comp=N,114nm,20.3s						
HHC				LR	LR		
	comp=E,119nm,21.0s						
HHC				LR	LR		
	comp=Z,84nm,21.6s						
STKA	Stephens Creek	144.05	265	PKP	PKPdf	18 12 37.4	-1.7
	comp=Z,3.9nm,0.8s,baz=41,slow=4.8,SNR=7.5						
WRA	Warramunga Arr	144.11	289	PKP	PKPdf	18 12 37.6	-1.6
	comp=Z,1.8nm,0.8s,baz=48,slow=4.4,SNR=15						
ASAR	Alice Springs	146.54	284	PKPbc	PKPbc	18 12 44.4	-0.5
	comp=Z,1.0nm,0.7s,baz=56,slow=3.6,SNR=8.8						

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*ISCJB **02** 18:46:47.8±1.2, 153S±02×735W±02, h55km±17km, mb3.5/2, MS3.5/2, Error ellipse: s-maj=38.7km s-min=9.9km az=80.6*
*NEIC **02** 18:46:49.4±1.1, 1521S×7336W, h43km±15km, Error ellipse: s-maj=35.0km s-min=11.9km az=219.0*
*IDC **02** 18:46:54.7±4.4, 1450S×7279W, h63km±29km, mb3.3/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.4/2, MS3.5/4, Ms1 3.6/4, ms1mx3.3/15, Error ellipse: s-maj=132.7km s-min=26.4km az=34.0*
ISC 02 18:46:49.8±1.1**, 153S**±02×**734W**±02**, h49km**±16km**, n10, σ0ˢ86**/8**, mb3.5**/2**, MS3.5**/2**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	2.21	123	eP	Pn	18 47 23.0	-1.0
ARE				iS	Sn	18 47 50.6	+0.5
NNA	Nana	4.65	314	eP	Pn	18 47 57.0	-0.5
LPAZ	La Paz	5.20	102	P	Pn	18 48 05.4	+0.3
	0.5nm,0.3s,baz=298,slow=12,SNR=37						
LPAZ				LR	LR	18 50 15.0	
	comp=Z,546nm,20.0s,baz=111,slow=42						
LVC	Limon Verde	8.46	150	LR	LR	18 52 30.9	
	comp=Z,328nm,21.4s,baz=205,slow=38						
LVC	Limon Verde	8.46	150	eP	Pn	18 48 50.1	+0.3
	10nm,0.8s						
ATAH	Atahualpa	9.55	329	P	Pn	18 49 05.0	+0.4
	1.0nm,0.3s,baz=158,slow=11,SNR=2.9						
PCRV	Puerto La Cruz	26.73	20	LR	LR	19 03 16.0	
	comp=Z,262nm,19.1s,MS3.8,baz=190,slow=38						
TXAR	Lajitas Array	53.09	327	P	P	18 56 03.0	+0.7
	0.3nm,0.6s,mb3.4,baz=165,slow=7.9,SNR=2.7						
TXAR				LR	LR	19 16 24.2	
	comp=Z,26nm,21.0s,MS3.3,baz=180,slow=34						
TORD	Torodi Ar. Bea	79.50	73	P	P	18 58 50.5	-0.7
	0.8nm,0.9s,mb3.7,baz=258,slow=5.0,SNR=4.7						
SONM	Songino Array	147.52	0	PKPbc	PKPbc	19 06 30.1	+1.6
	0.6nm,0.9s,baz=354,slow=3.0,SNR=4.4						

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*SKO **02** 18:47:15.9, 4179N×2284E, h29km, M1.6, ML2.0*
*NEIC **02** 18:47:16.7, 4179N×2286E, h2km, ML2.5(THE), After THE.*
*CSEM **02** 18:47:16.3±0.1, 4183N×2288E, h15km, ML2.0, Error ellipse: s-maj=1.3km s-min=1.1km az=106.0*
THE 02 18:47:16.7, 4179N×2286E, h1km, ML2.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STIP	Stip	0.52	259	ePg	Pg	18 47 26.8	+0.2
STIP				eSg	Sg	18 47 33.6	+0.3
STIP	Stip	0.52	259	i Pg	Pg	18 47 26.8	+0.2
STIP				i Sg	Sg	18 47 33.5	+0.2
STIP				eLg		18 47 33.9	
	comp=N,51nm,0.2s						
STIP				eLg		18 47 34.1	
	comp=E,17nm,0.1s						
STIP	Stip	0.52	259	i Pg	Pg	18 47 26.8	+0.2
STIP				eSg	Sg	18 47 33.6	+0.3
VAY	Valandovo	0.52	205	ePg	Pg	18 47 27.1	+0.4
VAY				eSg	Sg	18 47 34.0	+0.6
VAY	Valandovo	0.52	205	i Pg	Pg	18 47 27.4	+0.7
VAY				i Sg	Sg	18 47 33.9	+0.5
VAY				eLg		18 47 34.7	
	comp=E,64nm,0.4s						
VAY				eLg		18 47 34.9	
	comp=N,52nm,0.3s						
VAY	Valandovo	0.52	205	i Pg	Pg	18 47 27.3	+0.6
VAY				eSg	Sg	18 47 34.0	+0.6
MMB	Musomiste	0.68	107	ePg	Pg	18 47 30.3	+0.6
MMB				eSg	Sg	18 47 39.5	+1.0
VTS	Vitosha	0.84	18	ePg	Pg	18 47 32.7	-0.1
VTS				eSg	Sg	18 47 43.7	+0.1
SRS	Serrai	0.87	141	ePg	Pg	18 47 33.2	-0.1
SRS				eSg	Sg	18 47 45.0	+0.4
GRG	Griva	0.90	203	ePg	Pg	18 47 33.8	-0.2
GRG				eSg	Sg	18 47 46.5	+0.8
SOH	Sokhos	1.04	159	ePg	Pg	18 47 36.5	-0.1
SOH				eSg	Sg	18 47 50.3	+0.3

MAN 02 19:07:50.8, 956N×12227E, h36km, mb2.4, ML4.0, MS5.1, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	1.10	16	eP	Pn	19 08 09.5	-0.2
GUIM				eS	Sn	19 08 24.8	+1.1
DCPH	Dipolog City	1.44	132⇑	eP	Pn	19 08 13.6	-0.8
IPIL	Ipil	1.79	170	eP	Pn	19 08 19.6	+0.5
PAGZ	Pagadian	2.02	147	eP	Pn	19 08 24.4	+2.0
MSLP	Maasin	2.61	77	eP	Pn	19 08 31.7	+1.2
OCLP	Ormoc	2.74	57	eP	Pn	19 08 33.0	+0.8
BUSP	Coron	3.17	320	eP	Pn	19 08 39.4	+1.3
BUSP				eS	Sn	19 09 15.7	+1.1

KRSC 02 19:15:59.5±0.1**, 5610N×16311E, h21km**±29km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.20	304	eP	Pb	19 16 05.3	+0.6
KBTR				iS	Sb	19 16 09.4	+1.2
KBTR	Krutoberegovo	0.20	304	eP	Pb	19 16 05.3	+0.6
KBTR				iS	Sb	19 16 09.4	+1.2
SRKR	Sorokina	1.22	298	eP	Pn	19 16 21.6	+0.4
SRKR				iS	Sb	19 16 36.9	-0.1
SRKR	Sorokina	1.22	298	eP	Pn	19 16 21.6	+0.4
SRKR				iS	Sb	19 16 36.9	-0.1
ZLN	Zelenaya	1.30	267	eP	Pn	19 16 24.0	+1.6
ZLN				iS	Sn	19 16 41.9	+2.8
ZLN	Zelenaya	1.30	267	eP	Pn	19 16 24.0	+1.6
ZLN				iS	Sn	19 16 41.9	+2.8
KLY	Klyuchi	1.39	280	eP	Pn	19 16 23.0	-0.6
KLY				iS	Sn	19 16 39.6	-1.8
KLY	Klyuchi	1.39	280	eP	Pn	19 16 23.0	-0.6
KLY				iS	Sn	19 16 39.6	-1.8
KRSR	Krestovskiy	1.43	276	eP	Pn	19 16 25.3	+1.1
KRSR				iS	Sn	19 16 44.4	+2.1
KRSR	Krestovskiy	1.43	276	eP	Pn	19 16 25.3	+1.1
KRSR				iS	Sn	19 16 44.4	+2.1
KPT	Kopyto	1.63	266	eP	Pn	19 16 29.4	+2.5
KPT				iS	Sn	19 16 50.3	+3.1
KPT	Kopyto	1.63	266	eP	Pn	19 16 29.4	+2.5
KPT				iS	Sn	19 16 50.3	+3.1
KMNR	Kamenistaya	1.65	259	eP	Pn	19 16 29.4	+2.1
KMNR				iS	Sn	19 16 51.4	+3.5
KMNR	Kamenistaya	1.65	259	eP	Pn	19 16 29.4	+2.1
KMNR				iS	Sn	19 16 51.4	+3.5
MKZ	Mys Kozlova	1.74	208	eP	Pn	19 16 28.6	+0.2
MKZ				iS	Sn	19 16 50.6	+0.7
MKZ	Mys Kozlova	1.74	208	eP	Pn	19 16 28.6	+0.2
MKZ				iS	Sn	19 16 50.6	+0.7
KOZ	Kozyrevsk	1.81	270	eP	Pn	19 16 31.3	+1.8
KOZ				iS	Sn	19 16 55.4	+3.5
KOZ	Kozyrevsk	1.81	270	eP	Pn	19 16 31.3	+1.8
KOZ				iS	Sn	19 16 55.4	+3.5
TUMR	Tumrok	1.87	245	eP	Pn	19 16 32.5	+2.3
TUMR				iS	Sn	19 16 56.9	+3.8
TUMR	Tumrok	1.87	245	eP	Pn	19 16 32.5	+2.3
TUMR				iS	Sn	19 16 56.9	+3.8
SRDR	Sredinnyy	1.91	278	eP	Pn	19 16 33.3	+2.5
SRDR				iS	Sn	19 16 58.5	+4.3
SRDR	Sredinnyy	1.91	278	eP	Pn	19 16 33.3	+2.5
SRDR				iS	Sn	19 16 58.5	+4.3
SPN	Mys Shipunski	3.50	212	eP	Pn	19 16 53.8	+1.1
SPN				iS	Sn	19 17 32.9	-0.6
SPN	Mys Shipunski	3.50	212	eP	Pn	19 16 53.8	+1.1
SPN				iS	Sn	19 17 32.9	-0.6
NLC	Nalytchevo	3.66	218	eP	Pn	19 16 56.6	+1.7
NLC				iS	Sn	19 17 38.0	+0.6
NLC	Nalytchevo	3.66	218	eP	Pn	19 16 56.6	+1.7
NLC				iS	Sn	19 17 38.0	+0.6
AVH	Avacha	3.81	224	eP	Pn	19 16 59.2	+2.3
AVH				iS	Sn	19 17 43.1	+2.0
AVH	Avacha	3.81	224	eP	Pn	19 16 59.2	+2.3
AVH				iS	Sn	19 17 43.1	+2.0
GNL	Ganaly	3.83	233	eP	Pn	19 16 59.3	+2.0
GNL	Ganaly	3.83	233	eP	Pn	19 16 59.3	+2.0
PET	Petropavlovsk	4.03	222	eP	Pn	19 17 01.6	+1.7
PET				iS	Sn	19 17 48.1	+1.6
PET	Petropavlovsk	4.03	222	eP	Pn	19 17 01.6	+1.7
PET				iS	Sn	19 17 48.1	+1.6

RUS	Russkaya	4.56	218	eP	Pn	19 17 09.2	+2.0
RUS	Russkaya	4.56	218	eP	Pn	19 17 09.2	+2.0

NEIC **02** *21:02:03.8, 1455N×9462W, h16^{km}, MD4.0(MEX), After MEX.*
MEX 02 21:02:03.8±1.4**, 1455N×9462W, h16**^{km}±27^{km}**, MD4.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.88	310	iP	Pn	21 02 31.7	-3.5
HUIG				iS	Sn	21 02 52.7	-5.9
CMIG	Matias Romero	2.54	354	iP	Pn	21 02 41.3	-3.0
CMIG				iS	Sn	21 03 11.0	-3.9
CCIG	Comitan	2.95	54	iP	Pn	21 02 47.2	-2.7
CCIG				iS	Sn	21 03 21.1	-3.9
VHO	Vista Hermosa	3.23	321	iP	Pn	21 02 53.1	-0.7
VHO				iS	Sn	21 03 30.1	-1.8
OXX	Oaxaca	3.23	321	eP	Pn	21 02 54.0	+0.2
OXX				iS	Sn	21 03 30.0	-1.9
UTMO	Huajuapan	4.47	317	iP	Pn	21 03 11.3	+0.4
UTMO				iS	Sn	21 03 59.4	-3.1
IIO	Organos	6.36	323	iP	Pn	21 03 38.2	+1.3
IIO				iS	Sn	21 04 46.4	-2.8

FUNV **02** *21:04:02.8, 653N×73.14W, h95^{km}, MW3.6*
ISCJB **02** *21:04:03.1±0.8, 675N±0.10×729W±0.1, h167^{km}±13^{km}, mb3.9/1, Error ellipse: s-maj=22.4km s-min=7.1km az=87.9*
IDC **02** *21:04:08.7±4.9, 678N×74.13W, h179^{km}±27^{km}, mb3.6/1, mb1 4.0/1, mb1mx3.1/16, mbtmp3.6/1, Error ellipse: s-maj=352.7km s-min=39.2km az=92.0*
ISC 02 21:04:04.2±0.8**, 674N**±0.10×**729W**±0.1**, h160**^{km}±12^{km}**, n10, σ0^{s}69**/14**, mb3.9**/1**, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.38	218	P	Pn	21 04 45.1	+0.8
	60nm,0.3s,baz=331,slow=1.6,SNR=84						
ROSC				S	Sn	21 05 14.3	-1.0
	28nm,0.3s,baz=91,slow=20,SNR=5.9						
QARV	Quebrada Arrib	4.15	34	eP	Pn	21 05 07.2	+0.6
QARV				eS	Sn	21 05 54.7	-0.5
SANV	Sanarito	4.29	50	eP	Pn	21 05 09.4	+1.0
SANV				eS	Sn	21 05 58.4	0.0
CURV	Curarigua	4.34	41	eP	Pn	21 05 09.9	+0.8
CURV				eS	Sn	21 05 59.5	-0.2
SIQV	Siquisique	4.92	38	⇓iP	Pn	21 05 17.4	+0.7
SIQV				eS	Sn	21 06 12.5	-0.8
BAUV	El Baul	5.25	65	eP	Pn	21 05 21.5	+0.4
BAUV				eS	Sn	21 06 20.4	-0.8
CAOV	Caicara del Or	6.52	85	⇓iP	Pn	21 05 37.7	-0.1
LPAZ	La Paz	23.36	168	pP	pP	21 09 32.5	+3.8
	0.8nm,0.8s,baz=359,slow=14,SNR=4.6						
YKA	Yellowknife Ar	63.42	340	P	P	21 14 15.9	-0.8
	1.2nm,0.6s,mb3.9,baz=133,slow=6.7,SNR=5.8						
WRA	Warramunga Arr	150.52	241	PKPbc	PKPbc	21 23 37.0	+0.1
	0.3nm,0.4s,baz=108,slow=2.6,SNR=11						

MAN 02 21:08:28.2, 1398N×12383E, h2^{km}, mb2.0, ML3.7, MS5.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	Virac	0.50	141	⇑iP	Pg	21 08 38.4	+0.7
PVCP				iS	Sg	21 08 43.4	-0.7
PVCP	Virac	0.50	141	eP	Pg	21 08 38.3	+0.6
PVCP				eS	Sg	21 08 46.1	+1.9
GQP	Guinayangan	1.35	267	⇑eP	Pn	21 08 49.8	-4.2
GQP				iS	Sg	21 09 07.0	-4.5

NEIC **02** *21:21:38.0±0.7, 472N×96.14E, h30^{km}, mb3.8/1, Error ellipse: s-maj=22.1km s-min=11.5km az=47.0*
ISCJB **02** *21:21:41.3±2.3, 48N±0.1×964E±02, h73^{km}±22^{km}, mb3.6/8, Error ellipse: s-maj=34.7km s-min=11.6km az=119.2*
IDC **02** *21:21:41.8±0.7, 472N×9623E, h61^{km}±5^{km}, mb3.4/7, mb1 3.5/8, mb1mx3.4/21, mbtmp3.4/8, Error ellipse: s-maj=39.5km s-min=12.7km az=47.0*
ISC 02 21:21:42.5±2.3**, 48N**±01×**964E**±02**, h65**^{km}±22^{km}**, h63**^{km}±2.5^{km}**:pP-P, n20, σ0^{s}95**/20**, mb3.6**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.21	128	P	Pn	21 22 31.0	+0.5
	3.9nm,0.3s,baz=319,slow=7.2,SNR=24						
PSI	Prapat	3.21	128	P	Pn	21 22 31.0	+0.5
KULM	Kulim	4.29	83	eP	Pn	21 22 44.5	-0.7
JIRN	Jiri	24.74	338	eP	P	21 26 58.4	+0.6
GUN	Gumba	25.09	338	eP	P	21 27 01.3	+0.3
DMN	Daman	25.12	336	eP	P	21 27 01.7	+0.4
KKN	Kakani	25.21	336	eP	P	21 27 02.5	+0.4
LSA	Lhasa	25.28	349	eP	P	21 27 02.1	-0.6
	1.4nm,0.5s,mb3.6						
GKN	Gorkha	25.66	335	eP	P	21 27 06.0	-0.2
KOLN	Koldanda	25.91	333	eP	P	21 27 08.1	-0.3
MKAR	Makanchi Array	43.60	346	P	P	21 29 39.8	-0.4
	0.4nm,0.7s,mb3.3,baz=157,slow=6.6,SNR=5.7						
MKAR				pP	pP	21 29 55.2	-1.4
	0.8nm,0.6s,baz=163,slow=7.6,SNR=8.0						
SONM	Songino Array	43.76	10	P	P	21 29 42.8	+1.3
	0.6nm,0.8s,mb3.4,baz=194,slow=6.1,SNR=3.8						
WRA	Warramunga Arr	44.67	125	P	P	21 29 49.9	+1.1
	0.7nm,0.7s,mb3.5,baz=302,slow=9.2,SNR=7.3						
WRA				pP	pP	21 30 04.9	-0.3
	2.1nm,0.7s,baz=303,slow=9.2,SNR=7.7						
ASAR	Alice Springs	46.24	129	P	P	21 30 01.8	+0.6
	0.9nm,0.8s,mb3.5,baz=314,slow=8.5,SNR=11						
ASAR				pP	pP	21 30 18.3	+0.6
	1.2nm,0.4s,baz=301,slow=7.3,SNR=11						
CHKZ	Chkalovo	53.10	341	eP	P	21 30 50.4	-2.9
CHKZ				epP	pP	21 31 07.1	-3.0
STKA	Stephens Creek	56.37	134	P	P	21 31 15.6	-1.3
	1.7nm,0.8s,mb4.2,baz=323,slow=10,SNR=2.8						
STKA				pP	pP	21 31 34.5	+0.6
	2.9nm,0.7s,baz=312,slow=3.5,SNR=4.4						
BRTR	Keskin Array B	66.13	311	P	P	21 32 22.1	-0.8
	0.4nm,0.5s,mb3.5,baz=125,slow=8.2,SNR=3.1						
BRTR				pP	pP	21 32 37.6	-2.7
	0.7nm,0.6s,baz=140,slow=7.4,SNR=4.6						
BRTR				sP	sP	21 32 47.1	-0.4
	0.9nm,0.7s,baz=126,slow=6.7,SNR=3.9						
BRTR	Keskin Array B	66.13	311	P	P	21 32 22.1	-0.8
BRTR				pP	pP	21 32 37.6	-2.7
BRTR				sP	sP	21 32 47.1	-0.4
CASY	Casey	71.62	174	eP	P	21 32 55.9	-1.1
TORD	Torodi Ar. Bea	93.47	283	P	P	21 34 52.5	+1.6
	0.2nm,0.5s,mb3.7,baz=82,slow=5.4,SNR=2.3						
TORD				pP	pP	21 35 08.4	-0.7
	0.5nm,0.7s,baz=94,slow=4.7,SNR=3.6						

NIED **02** *21:24:00, 3500N×13550E, h8^{km}, Mw3.9 Best double couple: M$_0$7.34000×10^{14} NP1:φ$_s$11.00000°, δ48.00000°, λ115.00000°. NP2:φ$_s$156.00000°, δ48.00000°, λ65.00000°.*
ISCJB **02** *21:24:29.7±0.6, 3494N±004×13546E±004, h8^{km}±5^{km}, mb3.7/4, Error ellipse: s-maj=6.8km s-min=5.6km az=74.3*
IDC **02** *21:24:29.3±1.1, 3482N×13555E, h0^{km}, mb3.6/3, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/39, Error ellipse: s-maj=23.2km s-min=14.6km az=143.0*
JMA **02** *21:24:30.0, 3496N×13547E, h8^{km}, M3.7 Broadband fault plane solution: P waves. NP1:φ$_s$355.00000°, δ43.00000°, λ77.00000°. NP2:φ$_s$192.00000°, δ49.00000°, λ101.00000°. Principal axes: T Plg81.0000°, Azm164.0000°; N Plg8.0000°, Azm4.0000°; P Plg3.0000°, Azm274.0000°;*
JMA Felt IV J1.
NEIC **02** *21:24:34.2±1.3, 3486N×13555E, h40^{km}±16^{km}, mb3.9/2 Error ellipse: s-maj=17.8km s-min=13.4km az=146.0*
ISC 02 21:24:30.2±0.7**, 3494N**±004×**13548E**±004**, h2**^{km}±6^{km}**, n14, σ1^{s}03**/19**, mb3.7**/4**, 3D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHE	Heguri	0.34	149	⇓P	Pg	21 24 36.9	+0.2
JHE				S	Sg	21 24 41.9	+0.9
JWT	Wachi	0.34	350	⇓P	Pg	21 24 36.7	-0.1
JWT				S	Sg	21 24 41.0	-0.3
JKS	Kasai	0.52	275	⇓P	Pg	21 24 40.0	-0.2
JKS				S	Sg	21 24 46.8	-0.2
MAJO	Matsushiro	2.73	54	eP	Pn	21 25 15.2	0.0
MAT	Matsushiro	2.73	54	P	Pn	21 25 15.3	+0.2
MAT				S	Sn	21 25 49.6	+0.8
MJAR	Matsushiro Arr	2.73	54	Pn	Pn	21 25 15.9	+0.8
	4.0nm,0.3s,baz=241,slow=14,SNR=36						
MJAR				Pg	Pg	21 25 21.5	-1.1
	19nm,0.3s,baz=242,slow=17,SNR=69						
MJAR				Lg		21 25 55.6	
	16nm,0.3s,baz=187,slow=32,SNR=8.3						
JHJ	Hachijo jima 2	4.01	116	Pn	Pn	21 25 31.9	-0.9
	6.6nm,0.3s,baz=57,slow=22,SNR=3.6						
JNU	Nakatsue	4.23	246	Pn	Pn	21 25 36.3	+0.6
	5.3nm,0.3s,baz=261,slow=22,SNR=14						
JNU				Lg		21 26 39.8	
JNU				LR	LR	21 27 07.9	
	comp=Z,240nm,19.5s,baz=307,slow=37						
KSRS	Korea Array	6.60	294	Pn	Pn	21 26 10.1	+1.8
	baz=109,slow=14,SNR=4.3						
HIA	Hailar	18.42	326	eP	Pn	21 28 48.4	+1.7
	6.9nm,0.8s						
SONM	Songino Array	25.17	310	P	P	21 29 57.0	0.0
	0.9nm,0.6s,mb3.5,baz=118,slow=11,SNR=6.8						
CHKZ	Chkalovo	48.25	314	eP	P	21 33 10.0	-2.6
	0.7nm,0.6s,mb3.9						
WRA	Warramunga Arr	54.59	181	P	P	21 33 57.3	-2.8
	0.9nm,0.7s,mb3.9,baz=357,slow=7.8,SNR=8.6						
ASAR	Alice Springs	58.31	182	P	P	21 34 25.9	-0.7
	0.3nm,0.6s,mb3.5,baz=11,slow=13,SNR=5.4						

MOS **02** *21:38:19.1±0.9, 3532N×2223E, h10^{km}, mb4.1/6, Error ellipse: s-maj=11.2km s-min=5.0km az=83.9*
CSEM **02** *21:38:23.4±0.1, 3540N×2234E, h63^{km}±1^{km}, mb3.9/5, Error ellipse: s-maj=3.1km s-min=1.6km az=58.0*
ISCJB **02** *21:38:23.2±0.6, 3539N±004×2231E±006, h60^{km}±5^{km}, mb4.0/15, Error ellipse: s-maj=9.2km s-min=4.0km az=115.3*
NEIC **02** *21:38:24.0, 3547N×2235E, h10^{km}, ML3.8(ATH), ML4.2(THE), After ATH.*
HLW **02** *21:38:24.9, 3559N×2291E, h24^{km}, Mb3.8*
ATH **02** *21:38:24.4, 3550N×2243E, h70^{km}±6^{km}, ML3.8*
THE **02** *21:38:26.0, 3558N×2234E, h32^{km}, ML3.7*
IDC **02** *21:38:28.1±2.8, 3561N×2260E, h68^{km}±30^{km}, mb3.5/9, mb1 3.5/10, mb1mx3.4/23, mbtmp3.5/10, ML4.4/1, Error ellipse: s-maj=23.4km s-min=21.5km az=145.0*
ISC 02 21:38:25.2±0.5**, 3543N**±003×**2238E**±006**, h52**^{km}±5^{km}**, n100, σ1^{s}04**/113**, mb4.0**/15**, 6C-5D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	1.00	32	eP	Pn	21 38 42.5	-0.5
KYTH				eS	Sn	21 38 56.0	-0.1
VLI	Veliai	1.36	19	P	Pn	21 38 47.4	-0.4
VAM	Vamos	1.49	90	P	Pn	21 38 50.2	+0.7
GVD	Gavdhos	1.52	112	eP	Pn	21 38 50.0	+0.1
GVD				eS	Sn	21 39 10.0	+1.5
GVD	Gavdhos	1.52	112	ePb	Pn	21 38 50.3	+0.4
ITM	Ithomi	1.79	348	P	Pn	21 38 53.8	+0.2
SIVA	Sivas	2.03	101	ePn	Pn	21 38 58.2	+1.2
SIVA	Sivas	2.03	101	P	Pn	21 39 01.9	+5.0
IDI	Anoyia	2.06	93	P	Pn	21 38 58.3	+1.0
	9.5nm,0.3s,baz=264,slow=14,SNR=80						
NAIG	Nisos Aigina	2.49	21	eP	Pn	21 39 03.5	+0.3
KVR	Kavouri	2.64	25	eP	Pn	21 39 04.7	-0.6
NPS	Neapolis	2.65	93	P	Pn	21 39 06.1	+0.7
MGER	Gerania Oros	2.65	15	eP	Pn	21 39 05.5	+0.1
SANT	Santorini	2.67	68	ePn	Pn	21 39 05.3	-0.4
SANT	Santorini	2.67	68	P	Pn	21 39 05.8	+0.1
SANT	Santorini	2.67	68	P	Pn	21 39 05.8	+0.1
RLS	Riolos of Patr	2.73	345	P	Pn	21 39 07.3	+0.9
ATH	Athens Observa	2.76	23	P	Pn	21 39 06.8	-0.1
APE	Apeiranthos	3.03	56	ePn	Pn	21 39 10.7	+0.1
APE	Apeiranthos	3.03	56	P	Pn	21 39 10.2	-0.4
APE	Apeiranthos	3.03	56	ePn	Pn	21 39 10.7	+0.1
VLS	Valsamata	3.10	333	P	Pn	21 39 11.7	+0.2
ZKR	Zakros	3.15	95	ePn	Pn	21 39 13.5	+1.2
LKR	Lokris	3.25	9	P	Pn	21 39 14.2	+0.5
EVR	Evrytania	3.51	353	P	Pn	21 39 17.9	+0.7
AGG	Agios Georgios	3.59	359	ePn	Pn	21 39 19.9	+1.6
AGG				eSn	Sn	21 39 57.2	-2.2
AGG	Agios Georgios	3.59	359	P	Pn	21 39 18.8	+0.5
AGG				S	Sn	21 39 57.2	-2.2
AGG	Agios Georgios	3.59	359	ePn	Pn	21 39 19.9	+1.6
AGG				eSn	Sn	21 39 57.2	-2.2
NEO	Neokhori	3.93	10	P	Pn	21 39 25.0	+2.0
XOR	Xorichti	3.98	9	ePn	Pn	21 39 24.1	+0.4
THL	Klokotos Trika	4.14	356	P	Pn	21 39 26.3	+0.5
SMG	Samos	4.25	56	P	Pn	21 39 28.0	+0.7
JAN	Janina	4.39	344	eP	Pn	21 39 30.0	+0.7
IGT	Igoumenitsa	4.41	339	ePn	Pn	21 39 29.1	-0.5
IGT				eSn	Sn	21 40 15.8	-3.8
IGT	Igoumenitsa	4.41	339	P	Pn	21 39 29.1	-0.5
IGT				S	Sn	21 40 15.3	-4.3
IGT	Igoumenitsa	4.41	339	ePn	Pn	21 39 29.0	-0.5
IGT				eSn	Sn	21 40 15.8	-3.8
MEV	Metsovon	4.45	348	ePn	Pn	21 39 31.3	+1.3
PAIG	Paliouri	4.61	13	ePn	Pn	21 39 32.5	+0.2
LIT	Litokhoron	4.67	1	ePn	Pn	21 39 33.6	+0.5
ARG	Arkhangelos	4.74	79	P	Pn	21 39 34.4	+0.4
KEK	Kerkira	4.74	335	P	Pn	21 39 34.6	+0.5
KZN	Kozani	4.89	355	P	Pn	21 39 37.7	+1.5
PLG	Polygyros	5.01	9	ePn	Pn	21 39 37.4	-0.3
OUR	Ouranopolis	5.06	14	ePn	Pn	21 39 38.5	+0.1
HORT	Hortiatis	5.19	6	ePn	Pn	21 39 39.9	-0.4
FNA	Florina	5.41	352	ePn	Pn	21 39 43.3	+0.1
FNA				eSn	Sn	21 40 42.0	-2.1
SOH	Sokhos	5.44	8	ePn	Pn	21 39 43.8	+0.2
SOH	Sokhos	5.44	8	P	Pn	21 39 43.8	+0.1
GRG	Griva	5.52	0	ePn	Pn	21 39 44.6	-0.2
GRG	Griva	5.52	0	P	Pn	21 39 44.6	-0.2
GRG				S	Sn	21 40 44.8	-2.1
BIA	Bitola	5.64	352	ePn	Pn	21 39 46.1	-0.4
SRS	Serrai	5.76	9	ePn	Pn	21 39 47.8	-0.2
TIP	Timpagrande	5.84	312	P	Pn	21 39 49.0	-0.1
HMAT	Matruh	5.85	136	⇑eP	Pn	21 39 47.5	-1.9
NVR	Nevrokopi	6.03	11	P	Pn	21 39 52.2	+0.5
ALN	Alexandroupoli	6.18	27	ePn	Pn	21 39 54.2	+0.5
ALN	Alexandroupoli	6.18	27	ePn	Pn	21 39 54.2	+0.4
TIR	Tirane	6.23	342	P	Pn	21 39 55.8	+1.3
MMB	Musomiste	6.24	9	ePn	Pn	21 39 53.9	-0.8
STIP	Stip	6.26	359	ePn	Pn	21 39 54.1	-0.8
SWA2		6.69	156	⇓P	Pn	21 40 01.0	+0.2
SWA2				S	Sn	21 41 11.2	-4.5
SWA1		6.76	154	⇓eP	Pn	21 40 02.2	+0.5
SWA1				S	Sn	21 41 13.3	-4.0
DIVS	Divcibare	8.85	349	iPn	Pn	21 40 28.0	-2.4
DIVS	Divcibare	8.85	349	ePn	Pn	21 40 27.8	-2.6
AWBH		8.99	140	⇑iP	Pn	21 40 31.3	-1.1
HFRF	Wahat Farafira	9.68	147	⇑P	Pn	21 40 41.5	-0.3
GLL	Jalalah	9.80	124	⇓eP	Pn	21 40 41.1	-2.2
BRTR	Keskin Array B	9.91	61	P	Pn	21 40 48.3	+3.4
	0.1nm,0.3s,baz=254,slow=10,SNR=3.6						
AMAG	Maghara	10.26	115	⇑iP	Pn	21 40 46.6	-3.1
SUZ		10.42	119	⇑eP	Pn	21 40 49.0	-2.9
MMAI	Mount Meron Ar	11.05	99	P	Pn	21 40 56.0	-4.4
	0.6nm,0.3s,baz=296,slow=12,SNR=6.7						
MMAI				S	Sn	21 42 54.6	-7.9
	0.8nm,0.3s,baz=247,slow=19,SNR=5.4						
ASUT		11.20	133	⇓iP	Pn	21 41 01.1	-1.4
HDK1	Dakhla	11.56	147	⇑eP	Pn	21 41 07.7	+0.2
TR2		11.92	123	⇓eP	Pn	21 41 10.2	-2.1
GERES	GERESS Array B	14.86	337	P	Pn	21 41 57.8	+5.8
	0.2nm,0.3s,baz=157,slow=12,SNR=6.8						
AKASG	Malin Array Be	16.05	16	P	Pn	21 42 07.1	-0.3
	1.4nm,0.3s,baz=209,slow=10,SNR=5.6						
AKASG	Malin Array Be	16.05	16	P	Pn	21 42 07.1	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	25.36	350	P	P	21 43 46.3	-0.9
	comp=Z,1.2nm,0.3s,mb3.9,baz=156,slow=10,SNR=16						
HFS	Hagfors	25.36	350	P	P	21 43 46.3	-1.0
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	26.14	4	P	P	21 43 54.4	0.0
	comp=Z,3.9nm,1.0s,mb3.9,baz=184,slow=7.0,SNR=4.6						
FINES	FINESS Array B	26.14	4	P	P	21 43 54.4	0.0
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EKA	Eskdalemuir Ar	26.54	327	P	P	21 44 00.1	+2.1
	comp=Z,0.9nm,0.6s,mb3.5,baz=129,slow=8.7,SNR=6.9						
EKA	Eskdalemuir Ar	26.54	327	P	P	21 44 00.1	+2.1
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	26.61	348	P	P	21 43 58.1	-0.5
	comp=Z,0.3nm,0.6s,mb3.0,baz=159,slow=11,SNR=2.7						
TORD	Torodi Ar. Bea	28.99	225	P	P	21 44 23.4	+3.6
	comp=Z,0.2nm,0.3s,mb3.3,baz=35,slow=11,SNR=6.6						
AKTK	Aktyubinsk	29.76	49	P	P	21 44 25.1	-1.6
	comp=Z,1.0nm,0.5s,mb3.8						
AKTO	Aktyubinsk	29.76	49	P	P	21 44 25.1	-1.6
	comp=Z,0.6nm,0.5s,mb3.6,baz=280,slow=12,SNR=3.6						
AKTO	Aktyubinsk	29.76	49	P	P	21 44 25.1	-1.6
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ARCES	ARCESS Array B	34.21	2	P	P	21 45 04.7	-1.0
	comp=Z,0.8nm,0.4s,mb4.0,baz=187,slow=9.3,SNR=16						
ARCES	ARCESS Array B	34.21	2	P	P	21 45 04.7	-1.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	45.52	56	P	P	21 46 38.9	-0.6
	comp=Z,1.0nm,0.4s,mb4.1,baz=269,slow=7.7,SNR=30						
MKAR	Makanchi Array	45.52	56	P	P	21 46 38.9	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KOLN	Koldanda	51.98	80	eP	P	21 47 29.7	+0.6
GKN	Gorkha	52.72	80	eP	P	21 47 35.3	+0.7
	comp=Z,5.2nm,0.4s,mb4.9						
DMN	Daman	53.26	80	eP	P	21 47 39.6	+1.0
	comp=Z,7.4nm,0.6s,mb4.8						
KKN	Kakani	53.33	80	eP	P	21 47 39.6	+0.6
	comp=Z,2.8nm,0.4s,mb4.5						
PKI	Pulchoki	53.52	80	eP	P	21 47 41.7	+1.2
GUN	Gumba	53.76	79	eP	P	21 47 42.8	+0.6
	comp=Z,5.4nm,0.3s,mb4.9						
JIRN	Jiri	54.11	79	eP	P	21 47 45.6	+0.8
	comp=Z,3.3nm,0.5s,mb4.6						
SONM	Songino Array	61.07	50	P	P	21 48 33.4	-0.2
	comp=Z,0.3nm,0.4s,mb3.8,baz=282,slow=5.8,SNR=4.4						

ISCJB **02** *22:11:40.8±1.4, 3527N±006×223E±02, h10^{km}, Error ellipse: s-maj=25.0km s-min=8.6km az=163.6*
CSEM **02** *22:11:43.0±0.3, 3532N×2251E, h25^{km}, ML2.8, Error ellipse: s-maj=16.6km s-min=3.9km az=78.0*
HLW **02** *22:11:44.3, 3553N×2266E, h25^{km}, Mb2.8*
ATH **02** *22:11:45.0, 3548N×2250E, h53^{km}, MD3.4/4*
ISC 02 22:11:42.6±1.3**, 3538N**±006×**224E**±02**, h10**^{km}**, n8, σ0^{s}39**/10**, 1C-1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	1.02	29	eP	Pg	22 12 02.5	+0.2
VLI	Veliai	1.40	17	eP	Pn	22 12 07.7	-0.5
VAM	Vamos	1.45	89	eP	Pn	22 12 09.3	+0.4
ITM	Ithomi	1.84	347	eP	Pn	22 12 14.4	+0.2
HMAT	Matruh	5.80	136	⇑eP	Pn	22 13 08.0	-0.7
HMAT				S	Sn	22 14 09.1	-6.2
SWA2		6.64	156	P	Pn	22 13 20.5	+0.3
SWA1		6.71	155	P	Pn	22 13 21.5	+0.4
SWA1				S	Sn	22 14 32.6	-5.0
HFRF	Wahat Farafira	9.63	147	⇓eP	Pn	22 14 01.0	-0.3

ISCJB **02** *22:37:24.5±0.9, 3389S±003×7257W±005, h23^{km}±7^{km}, Error ellipse: s-maj=7.3km s-min=4.7km az=55.0*
NEIC **02** *22:37:25.4, 3389S×7248W, h34^{km}, ML4.2(GUC), After GUC.*
GUC **02** *22:37:25.4±0.8, 3389S×7248W, h34^{km}±2^{km}, MD4.2, ML4.2*
ISC 02 22:37:24.5±0.9**, 3390S**±003×**7251W**±005**, h12**^{km}±5^{km}**, n38, σ0^{s}61**/62**, 9C-14D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.89	62	⇑iP	Pg	22 37 41.7	+0.1
LCCH				iS	Sg	22 37 53.5	+0.3
LNV	Longovilo	0.91	94	⇓iP	Pg	22 37 41.9	-0.2
IHA	Instituto Hidr	1.13	40	eP	Pb	22 37 45.5	-0.4
IHA				iS	Sb	22 38 00.3	-0.2
TACH	Talagante	1.33	80	⇓iP	Pn	22 37 48.0	-0.7
TACH				iS	Sb	22 38 05.1	-1.2
SFDO	San Fernando	1.43	121	⇓iP	Pn	22 37 49.6	-0.6
RCDM	Rinconada Maip	1.48	75	⇑iP	Pn	22 37 50.0	-0.8
RCDM				iS	Sn	22 38 08.5	-1.4
RCDM				AML	AML	22 38 12.6	
	comp=N,3μm,0.5s						
RCDM	Rinconada Maip	1.48	75	⇑iP	Pn	22 37 50.0	-0.8
RCDM				iS	Sn	22 38 08.5	-1.4
NICH	Los Niches	1.53	137	eP	Pn	22 37 51.6	+0.1
NICH				iS	Sn	22 38 11.2	0.0
CHCH	Chadas Angostu	1.54	92	⇓iP	Pn	22 37 51.7	0.0
ROCH	El Roble	1.55	54	⇓iP	Pn	22 37 52.0	+0.1
ANTU	Antumapu	1.59	79	eP	Pn	22 37 52.3	-0.1
ANTU				iS	Sn	22 38 12.4	-0.5
ANTU				AML	AML	22 38 17.5	
	comp=E,4μm,0.5s						
ANTU	Antumapu	1.59	79	eP	Pn	22 37 52.3	-0.1
ANTU				iS	Sn	22 38 12.4	-0.5
CACH	El Canelo	1.60	98	eP	Pn	22 37 53.2	+0.7
SAN	Santiago	1.60	75	eP	Pn	22 37 52.5	0.0
SAN				iS	Sn	22 38 13.3	+0.2
SAN				AML	AML	22 38 16.4	
	comp=N,2μm,0.3s						
SAN	Santiago	1.60	75	eP	Pn	22 37 52.5	0.0
SAN				iS	Sn	22 38 13.3	+0.2
STL	Santa Lucia	1.62	74	⇓iP	Pn	22 37 52.0	-0.8
STL				iS	Sn	22 38 13.2	-0.4
PACH	Papudo	1.62	34	⇑iP	Pn	22 37 52.8	0.0
TALC	Talca	1.66	155	⇑iP	Pn	22 37 53.6	+0.3
TALC				iS	Sn	22 38 15.0	+0.4
TALC				AML	AML	22 38 19.5	
	comp=E,4μm,0.5s						
TALC	Talca	1.66	155	⇑iP	Pn	22 37 53.6	+0.3
TALC				iS	Sn	22 38 15.0	+0.4
PCH	Pirque	1.68	81	⇓iP	Pn	22 37 53.5	-0.1
DSCH	Colegio Aleman	1.69	73	eP	Pn	22 37 53.8	+0.1
DSCH				iS	Sn	22 38 15.4	+0.2
PEL	Peldehue	1.70	64	⇓iP	Pn	22 37 54.3	+0.4
PEL				iS	Sn	22 38 16.9	+1.4
PEL				AML	AML	22 38 24.1	
	comp=N,6μm,0.4s						
PEL	Peldehue	1.70	64	⇓iP	Pn	22 37 54.3	+0.4
PEL				S	Sn	22 38 16.9	+1.4
FSR	Penalolen	1.70	76	eP	Pn	22 37 54.2	+0.3
FSR				iS	Sn	22 38 15.7	+0.2
FSR				AML	AML	22 38 24.6	
	comp=N,2μm,0.4s						
FSR	Penalolen	1.70	76	eP	Pn	22 37 54.2	+0.3
FSR				iS	Sn	22 38 15.7	+0.2
CLCH	Cerro Calan	1.72	74	⇑iP	Pn	22 37 54.4	+0.2
CLCH				iS	Sn	22 38 15.9	-0.1
CLCH				AML	AML	22 38 28.9	
	comp=N,2μm,0.5s						
CICH	Cipreses	1.78	104	⇓iP	Pn	22 37 55.5	+0.5
CICH				iS	Sn	22 38 18.2	+0.7
FCH	Farellones	1.94	74	⇓iP	Pn	22 37 57.3	+0.2
FCH				iS	Sn	22 38 22.4	+1.1
FCH				AML	AML	22 38 31.1	
	comp=N,2μm,0.7s						
JACH	Jahuel	2.01	53	⇓iP	Pn	22 37 58.3	+0.2
PTCH	Petorca	2.10	40	⇑iP	Pn	22 37 59.4	+0.1
PTCH				AML	AML	22 38 35.2	
	comp=E,2μm,0.5s						
CHNG	Los Chungos	2.18	23	⇑iP	Pn	22 38 00.1	-0.4
COCH	Cobquecura	2.24	186	⇓iP	Pn	22 38 01.3	0.0
COCH				iS	Sn	22 38 26.2	-2.7
CMCH	Combarbala	3.00	26	eP	Pn	22 38 11.9	+0.2
CMCH				iS	Sn	22 38 46.8	-0.8
CMCH				AML	AML	22 39 16.4	
	comp=E,3μm,0.8s						
CMCH	Combarbala	3.00	26	eP	Pn	22 38 11.9	+0.2
CMCH				iS	Sn	22 38 46.8	-0.8
TLL	Tololo Astrono	3.99	22	⇓iP	Pn	22 38 26.1	+0.8
TLL				AML	AML	22 39 41.8	
	comp=N,476nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA3	**Neumayer Olymp**	**49.60**	**158**	*e*	**P**	**22 46 15.5**	**0.0**
VNA3				*e*		22 46 23.5	
VNA2	**Neumayer--Watz**	**50.26**	**157**	*e*	**P**	**22 46 21.2**	**+0.7**
VNA2				*e*		22 46 28.4	
SNAA	**Sanae**	**51.83**	**158**	*e*	**P**	**22 46 32.9**	**+0.6**
SNAA				*e*		22 46 41.6	
SNAA				*e*		23 06 45.2	
SNAA				*e*		23 06 52.9	
SNAA				*e*		23 06 56.7	
SNAA				*e*		23 07 45.0	

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*CSEM **02** 22:37:26.5±2.0, 7201N×094E, h35km, ML1.8, Error ellipse: s-maj=67.5km s-min=24.9km az=64.0*
*NAO **02** 22:37:29.9±8.2, 7232N×270E, ML2.5*
BER 02 22:37:28.7±2.7**, 7238N×194E, h0**km±59km**, ML1.8, ML2.5**(NAO)**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.79**	**132**	*e*P	Pn	22 38 53.2	-2.7
LOF				*e*S	Sn	22 39 56.8	-6.2
LOF				AML	AML	22 39 59.8	
	comp=N,2.1nm,0.2s						
LOF	**Lofoten**	**5.79**	**132**	*e*P	Pn	22 38 53.2	-2.7
	SNR=49						
LOF				*e*S	Sn	22 39 56.8	-6.2
	comp=N,2.1nm,0.2s,SNR=49						
SPA0	**Spitsbergen Ar**	**6.86**	**25**	Pn	Pn	22 39 09.5	-1.0
	baz=214,slow=14						
ARA0	**ARCESS Array S**	**8.18**	**99**	Pn	Pn	22 39 25.2	-3.4
	baz=298,slow=12						
ARA0				Sn	Sn	22 40 54.9	-7.0
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**8.18**	**99**	Pn	Pn	22 39 25.2	-3.5
	SNR=50						
ARA0				Sn	Sn	22 40 54.8	-7.0
	SNR=50						

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*HLW **02** 22:46:18.5, 3454N×2382E, h30km, Mb3.5*
*ISCJB **02** 22:46:21.3±3.5, 34.11N±004×24.1E±02, h20km±33km, Error ellipse: s-maj=28.2km s-min=6.3km az=165.5*
*ATH **02** 22:46:21.7, 34.19N×2393E, h31km, MD3.6/3*
*CSEM **02** 22:46:22.1±0.2, 34.13N×2426E, h23km±2km, ML3.5, Error ellipse: s-maj=5.8km s-min=2.1km az=79.0*
ISC 02 22:46:22.4±3.6**, 3417N**±004×**240E**±02**, h20**km±31km**, n13,** σ**0.s55**/16**, 2C-6D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.67**	**7**	*e*PN	**Pn**	**22 46 35.2**	**-1.5**
VAM	**Vamos**	**1.24**	**8**	*e*PN	**Pn**	**22 46 44.7**	**+0.1**
VAM				*e*SN	**Sn**	**22 47 01.5**	**+0.7**
NPS	**Neapolis**	**1.73**	**51**	*e*PN	**Pn**	**22 46 51.5**	**+0.2**
HMAT	**Matruh**	**4.04**	**139**	⇓P	**Pn**	**22 47 22.6**	**-0.5**
SWA2		**5.07**	**165**	⇓*e*P	**Pn**	**22 47 37.8**	**+0.5**
SWA2				S	**Sn**	**22 48 35.0**	**-0.3**
SWA1		**5.11**	**163**	⇑*i*P	**Pn**	**22 47 37.9**	**+0.1**
SWA1				S	**Sn**	**22 48 35.8**	**-0.4**
AWBH		**7.20**	**143**	P	**Pn**	**22 48 06.6**	**+0.2**
HFRF	**Wahat Farafira**	**7.93**	**151**	⇓*e*P	**Pn**	**22 48 16.9**	**+0.4**
AMAG	**Maghara**	**8.56**	**112**	⇓*e*P	**Pn**	**22 48 24.6**	**-0.5**
AMAG	**Maghara**	**8.56**	**112**	P	**Pn**	**22 48 24.6**	**-0.5**
ASUT		**9.38**	**134**	⇓*e*P	**Pn**	**22 48 36.4**	**0.0**
HDK1	**Dakhla**	**9.80**	**150**	⇑*e*P	**Pn**	**22 48 42.6**	**+0.4**
AKRG	**Al Kharijah**	**10.32**	**145**	⇓*e*P	**Pn**	**22 48 49.9**	**+0.6**

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*IDC **02** 22:47:09.7±0.5, 72.17N×087E, h0km, mb4.3/19, mb1 4.5/23, mb1mx4.4/27, mbtmp4.3/23, ML4.1/4, MS4.0/1, Ms1 4.0/1, ms1mx3.8/8, Error ellipse: s-maj=14.7km s-min=11.0km az=32.0*
*NAO **02** 22:47:10.7±3.8, 7205N×140E, ML3.2*
*ISCJB **02** 22:47:10.2±0.2, 7225N±002×124E±008, h10km, mb4.6/120, MS4.5/22, Error ellipse: s-maj=3.7km s-min=2.6km az=144.7*
*MOS **02** 22:47:10.3±0.9, 7223N×099E, h10km, mb4.8/74, Error ellipse: s-maj=20.1km s-min=3.3km az=95.5*
*NEIC **02** 22:47:11.9±0.2, 7220N×118E, h10km, mb4.7/68, MS4.4/14, Error ellipse: s-maj=5.0km s-min=3.1km az=59.0*
*BJI **02** 22:47:11.8, 7220N×120E, h10km, mB5.2, mb4.9, Ms4.7, Msz4.4*
*BER **02** 22:47:12.9±2.9, 7232N×064E, h10km, ML3.2(NAO)*
*SZGRF **02** 22:47:31.0, 7070N×288E, h33km, mb4.7, MS4.5, Norwegian Sea*
ISC 02 22:47:11.6±0.1**, 7220N**±002×**128E**±008**, h10**km**, (h23**km±3.0km**:pP-P), n435,** σ**1.s14**/447**, mb4.6**/120**, MS4.5**/22**, 35C-9D, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**3.29**	**254**	*e*P	**Pn**	**22 47 59.0**	**-4.2**
JMIC	**Jan Mayen**	**3.34**	**253**	Pn	**Pn**	**22 48 00.2**	**-3.6**
	7.4nm,0.3s,baz=28,slow=5.2,SNR=7.3						
JMIC	**Jan Mayen**	**3.34**	**253**	*e*P	**Pn**	**22 48 00.5**	**-3.4**
JMIC	**Jan Mayen**	**3.34**	**253**	*e*P	**Pn**	**22 48 00.4**	**-3.4**
	SNR=50						
BJO	**Bjornoya**	**5.63**	**57**	*e*P	**Pn**	**22 48 34.9**	**-0.4**
LOF	**Lofoten**	**5.83**	**128**	*e*P	**Pn**	**22 48 39.8**	**+1.6**
LOF				*e*S	**Sn**	**22 49 42.2**	**-2.9**
LOF	**Lofoten**	**5.83**	**128**	*e*P	**Pn**	**22 48 39.8**	**+1.7**
	SNR=49						
TRO	**Tromso**	**6.32**	**105**	*e*P	**Pn**	**22 48 43.4**	**-1.4**
DAG	**Danmarks Havn**	**7.00**	**320**	⇑*i*P	**Pn**	**22 48 49.6**	**-4.6**
	46nm,1.3s						
DAG				*i*		22 54 18.1	
DAG							
	comp=Z,6μm,18.0s						
DAG	**Danmarks Havn**	**7.00**	**320**	⇑*i*P	**Pn**	**22 48 49.6**	**-4.6**
DAG				pmax	pmax		
	comp=Z,46nm,1.3s						
DAG				MLR	MLR		
	comp=Z,6μm,18.0s						
DAG	**Danmarks Havn**	**7.00**	**320**	⇑*i*P	**Pn**	**22 48 49.6**	**-4.6**
	comp=Z,46nm,1.3s						
DAG				*i*		22 54 18.1	
STOK1	**Konsvik**	**7.08**	**138**	*e*P	**Pn**	**22 48 53.4**	**-1.9**
SPB4	**Spitsbergen Ar**	**7.11**	**26**	*e*Pn	**Pn**	**22 48 57.1**	**+1.5**
SPB4				*e*Sb	**Sb**	**22 50 38.6**	**-1.3**
SPB4	**Spitsbergen Ar**	**7.11**	**26**	*e*Pn	**Pn**	**22 48 57.1**	**+1.5**
SPA0	**Spitsbergen Ar**	**7.11**	**26**	Pn	**Pn**	**22 48 56.7**	**+1.1**
	baz=217,slow=16						
KBS	**Kingsbay**	**7.25**	**16**	Pn	**Pn**	**22 48 57.8**	**+0.2**
KBS	**Kingsbay**	**7.25**	**16**	*e*P	**Pn**	**22 48 55.2**	**-2.3**
KBS	**Kingsbay**	**7.25**	**16**	*i* P	**Pn**	**22 48 58.5**	**+1.0**
KBS	**Kingsbay**	**7.25**	**16**	*e*Pn	**Pn**	**22 48 56.7**	**-0.9**
KBS	**Kingsbay**	**7.25**	**16**	*e*P	**Pn**	**22 48 55.2**	**-2.3**
	SNR=47						
KBS	**Kingsbay**	**7.25**	**16**	*e*Pn	**Pn**	**22 48 56.7**	**-0.8**
MOR8	**Moi Rana**	**7.64**	**136**	*e*P	**Pn**	**22 49 02.8**	**-0.1**
MOR8				*e*S	**Sn**	**22 50 23.2**	**-6.3**
MOR8	**Moi Rana**	**7.64**	**136**	*e*P	**Pn**	**22 49 02.8**	**-0.1**
	SNR=47						
MOR8				*e*S	**Sn**	**22 50 23.2**	**-6.3**
KTK1	**Kautokeino**	**7.95**	**103**	*e*P	**Pn**	**22 49 07.0**	**-0.1**
ARA0	**ARCESS Array S**	**8.36**	**97**	Pn	**Pn**	**22 49 12.0**	**-0.7**
	baz=298,slow=12						
ARCES	**ARCESS Array B**	**8.36**	**97**	Pn	**Pn**	**22 49 12.1**	**-0.7**
	comp=Z,3.7nm,0.3s,baz=301,slow=12,SNR=84						
ARCES	**ARCESS Array B**	**8.36**	**97**	P	**Pn**	**22 49 12.1**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ARCES	**ARCESS Array B**	**8.36**	**97**	Pn	**Pn**	**22 49 12.1**	**-0.7**
ARE0	**ARCESS Array S**	**8.36**	**97**	*e*Pn	**Pn**	**22 49 12.3**	**-0.5**
ARE0	**ARCESS Array S**	**8.36**	**97**	*e*Pn	**Pn**	**22 49 12.3**	**-0.5**
NSS	**Namsos**	**8.64**	**148**	*e*P	**Pn**	**22 49 14.7**	**-1.9**
MOL	**Molde**	**9.96**	**163**	*e*P	**Pn**	**22 49 33.4**	**-1.4**
MOL	**Molde**	**9.96**	**163**	*e*P	**Pn**	**22 49 32.3**	**-2.5**
MOL	**Molde**	**9.96**	**163**	*e*P	**Pn**	**22 49 33.3**	**-1.5**
	SNR=47						
DOMB	**Dombas**	**10.63**	**160**	*e*P	**Pn**	**22 49 42.6**	**-1.3**
FOO	**Floro**	**10.75**	**170**	*e*P	**Pn**	**22 49 43.0**	**-2.6**
BORG	**Borgarnes**	**11.09**	**239**	Pn	**Pn**	**22 49 53.1**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=28,slow=6.3,SNR=3.1						
HYA	**Hoyanger**	**11.25**	**168**	*e*P	**Pn**	**22 49 52.5**	**+0.2**
HYA	**Hoyanger**	**11.25**	**168**	*e*P	**Pn**	**22 49 52.5**	**+0.1**
	SNR=47						
SUE	**Sulen**	**11.28**	**171**	*e*P	**Pn**	**22 49 51.6**	**-1.1**
APA0	**Apatity Array**	**11.72**	**97**	Pn	**Pn**	**22 49 56.5**	**-2.4**
	baz=315,slow=12						
NB2	**NORSAR Subarra**	**11.86**	**156**	Pn	**Pn**	**22 49 60.0**	**-0.7**
NOA	**NORSAR Array B**	**11.86**	**156**	Pn	**Pn**	**22 49 58.3**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=336,slow=12,SNR=14						
NOA				Sn	**Sn**	**22 52 18.4**	**+5.3**
	comp=Z,1.2nm,0.3s,baz=31,slow=22,SNR=4.8						
NOA	**NORSAR Array B**	**11.86**	**156**	P	**Pn**	**22 49 58.3**	**-2.4**
NOA						22 52 18.4	
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				smax			
	comp=N,1.0nm,0.3s						
APA	**Apatity**	**11.87**	**97**	⇑*e*P	**Pn**	**22 50 10.4**	**+10**
APA				pmax	pmax		
	comp=Z,96nm,1.5s						
APA				MLR	MLR		
	comp=Z,1μm,14.0s						
ASK	**Askoy**	**11.87**	**171**	*e*P	**Pn**	**22 49 59.3**	**-1.6**
SUMG	**Summit**	**11.88**	**291**	*e*Pn	**Pn**	**22 49 58.6**	**-2.5**
SUMG	**Summit**	**11.88**	**291**	*e*Pn	**Pn**	**22 49 58.6**	**-2.4**
RUND	**Rundenannen**	**11.95**	**170**	*e*P	**Pn**	**22 50 00.7**	**-1.3**
BER	**Bergen**	**11.98**	**170**	*e*P	**Pn**	**22 50 00.9**	**-1.4**
NAO01	**NORSAR Array S**	**12.01**	**157**	*e*Pn	**Pn**	**22 50 02.1**	**-0.6**
NAO01				*e*Sn	**Sn**	**22 52 20.2**	**+3.5**
NAO01	**NORSAR Array S**	**12.01**	**157**	*e*Pn	**Pn**	**22 50 02.1**	**-0.6**
NAO01				*e*Sn	**Sn**	**22 52 20.2**	**+3.5**
EGD	**Espegrend**	**12.08**	**171**	*e*P	**Pn**	**22 50 02.4**	**-1.4**
BLS5	**Blasjo**	**13.00**	**168**	*e*Pn	**Pn**	**22 50 16.2**	**-0.2**
HFS	**Hagfors**	**13.07**	**152**	Pn	**Pn**	**22 50 15.6**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=354,slow=13,SNR=41						
HFS	**Hagfors**	**13.07**	**152**	P	**Pn**	**22 50 15.9**	**-1.3**
	baz=338,slow=18						
HFS	**Hagfors**	**13.07**	**152**	P	**Pn**	**22 50 15.6**	**-1.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KMY	**Karmoy**	**13.14**	**171**	*e*P	**Pn**	**22 50 16.9**	**-1.4**
KAF	**Kangasniemi**	**13.88**	**124**	*e*p	**Pn**	**22 50 25.7**	**-2.6**
	comp=Z,44nm,0.8s						
KAF	**Kangasniemi**	**13.88**	**124**	*e*P	**Pn**	**22 50 25.7**	**-2.6**
KAF				pmax	pmax		
	comp=Z,44nm,0.8s						
FIA0	**FINESS Array S**	**14.39**	**126**	Pn	**Pn**	**22 50 33.2**	**-2.1**
	baz=326,slow=9.3						
FIA1	**FINESS Array S**	**14.39**	**126**	*e*P	**Pn**	**22 50 33.6**	**-1.6**
FIA1	**FINESS Array S**	**14.39**	**126**	*e*P	**Pn**	**22 50 33.7**	**-1.6**
FINES	**FINESS Array B**	**14.39**	**126**	Pn	**Pn**	**22 50 32.8**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=342,slow=12,SNR=20						
FINES	**FINESS Array B**	**14.39**	**126**	P	**Pn**	**22 50 32.8**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**14.56**	**114**	*e*p	**Pn**	**22 50 33.6**	**-4.0**
	comp=Z,36nm,0.8s						
JOF	**Joensuu**	**14.56**	**114**	*e*P	**Pn**	**22 50 33.6**	**-4.0**
JOF				pmax	pmax		
	comp=Z,36nm,0.8s						
TMCR	**Tamitsa**	**15.57**	**102**	P	**Pn**	**22 50 56.7**	**+5.6**
TMCR				pmax	pmax		
	comp=Z,77nm,1.7s						
MUD	**Monsted U'grnd**	**16.15**	**164**	*i* P	**Pn**	**22 50 58.1**	**-0.5**
	comp=Z,34nm,1.1s						
MUD							
	comp=Z,3μm,19.0s						
MUD	**Monsted U'grnd**	**16.15**	**164**	*e*P	**Pn**	**22 50 58.1**	**-0.5**
MUD				pmax	pmax		
	comp=Z,34nm,1.1s						
MUD				MLR	MLR		
	comp=Z,3μm,19.0s						
MUD	**Monsted U'grnd**	**16.15**	**164**	*e*P	**Pn**	**22 50 58.1**	**-0.5**
	comp=Z,34nm,1.1s						
EKA	**Eskdalemuir Ar**	**17.04**	**189**	Pn	**Pn**	**22 51 08.8**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=3.3,slow=11,SNR=30						
EKA	**Eskdalemuir Ar**	**17.04**	**189**	P	**Pn**	**22 51 08.8**	**-1.1**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESK	**Eskdalemuir**	**17.06**	**189**	*e*Pn	**Pn**	**22 51 14.2**	**+4.0**
COP	**Copenhagen**	**17.23**	**158**	*i* P	**Pn**	**22 51 05.6**	**-6.7**
	comp=Z,39nm,1.0s						
COP				*i*		22 52 08.1	
COP				*e*		22 52 49.0	
COP							
	comp=Z,440nm,22.0s						
COP	**Copenhagen**	**17.23**	**158**	*e*P	**Pn**	**22 51 05.6**	**-6.7**
COP				pmax	pmax		
	comp=Z,39nm,1.0s						
COP				MLR	MLR		
	comp=Z,450nm,22.0s						
COP	**Copenhagen**	**17.23**	**158**	*e*P	**Pn**	**22 51 05.6**	**-6.7**
	comp=Z,39nm,1.0s						
COP				*i*		22 52 08.1	
COP				*e*		22 52 49.0	
BSD	**Bornholm Skovb**	**18.10**	**154**	*i* P	**Pn**	**22 51 20.0**	**-3.1**
BSD				*i*		22 52 18.9	
BSD				*e*		22 52 59.8	
BSD							
	comp=Z,2μm,17.0s						
BSD	**Bornholm Skovb**	**18.10**	**154**	*e*P	**Pn**	**22 51 20.0**	**-3.1**
BSD				MLR	MLR		
	comp=Z,2μm,17.0s						
BSD	**Bornholm Skovb**	**18.10**	**154**	*e*P	**Pn**	**22 51 20.0**	**-3.1**
BSD				*i*		22 52 18.9	
BSD				*e*		22 52 59.8	
SFJD	**Kangerlussuaq**	**18.28**	**280**	*i* P	**Pn**	**22 51 32.6**	**+7.3**
SFJD				*i*		22 52 28.7	
SFJD				*e*		22 53 11.9	
SFJD				*e*S	**Sn**	**22 55 03.5**	**+14**
DLF	**Lyons Farm**	**19.28**	**194**	*e*P	**Pn**	**22 51 39.0**	**+1.6**
DCN	**Croghan**	**19.29**	**196**	*e*P	**Pn**	**22 51 38.6**	**+1.1**
IZAR	**Zarasai**	**19.53**	**134**	*e*P	**Pn**	**22 51 38.3**	**-2.1**
	comp=Z,16nm,2.1s,SNR=40						
IIGN	**Ignalina**	**19.89**	**135**	*e*P	**Pn**	**22 51 42.6**	**-2.1**
	comp=Z,24nm,2.3s,SNR=40						
IDID	**Didziasalis**	**20.04**	**134**	*e*P	**P**	**22 51 44.2**	**-0.5**
	comp=Z,15nm,2.2s,SNR=40						
NRDL	**Niedersach Rie**	**20.16**	**164**	*e*P	**P**	**22 51 45.3**	**-0.7**
	comp=Z,198nm,2.1s						
IBBN	**Ibbenburen**	**20.17**	**168**	*e*P	**P**	**22 51 46.2**	**+0.1**
	comp=Z,47nm,1.4s						
GKP	**Gorka Klasztor**	**20.22**	**151**	*e*P	**P**	**22 51 46.8**	**+0.1**
GKP				L		23 00 28.7	
	comp=Z,2.8nm,19.4s						
WTSB	**Winterswijk**	**20.45**	**170**	*e*P	**P**	**22 51 49.7**	**+0.5**
	comp=Z,26nm,0.9s						
SUW	**Suwalki**	**20.52**	**141**	*e*P	**P**	**22 51 49.5**	**-0.4**
SUW	**Suwalki**	**20.52**	**141**	*e*P	**P**	**22 51 49.8**	**-0.2**
SUW	**Suwalki**	**20.52**	**141**	*e*P	**P**	**22 51 49.8**	**-0.1**
RUE	**Ruedersdorf**	**20.54**	**158**	*e*P	**P**	**22 51 49.9**	**-0.2**
	comp=Z,98nm,1.2s						
RUE				*e*		22 52 53.9	
CLZ	**Clausthal**	**20.82**	**164**	*e*P	**P**	**22 51 53.4**	**+0.2**
	comp=Z,145nm,1.6s						
CLZ	**Clausthal**	**20.82**	**164**	*e*P	**P**	**22 51 53.4**	**+0.2**
CLZ				pmax	pmax		
	comp=Z,145nm,1.6s						
BUG	**Bochum--Univer**	**21.00**	**170**	*e*P	**P**	**22 51 55.1**	**-0.1**
	comp=Z,85nm,1.5s,mb4.8						
MNK	**Minsk**	**21.04**	**133**	*e*P	**P**	**22 51 53.0**	**-2.5**
CLL	**Collm**	**21.61**	**160**	*e*P	**P**	**22 52 01.0**	**-0.6**
	comp=Z,49nm,1.4s,mb4.7						
CLL	**Collm**	**21.61**	**160**	⇑*i*P	**P**	**22 52 01.1**	**-0.5**
CLL				*e*S	**S**	**22 55 58.0**	**-2.9**
CLL				pmax	pmax		
	comp=Z,49nm,1.4s,mb4.7						
CLL				MLR	MLR		
	comp=Z,2μm,19.9s,MS4.5						
CLL	**Collm**	**21.61**	**160**	⇑*i*P	**P**	**22 52 01.1**	**-0.5**
	comp=Z,49nm,1.4s,mb4.7						
CLL				*i*		22 52 12.5	
CLL				*e*S	**S**	**22 55 58.0**	**-2.9**
CLL				LR	LR		
	comp=Z,2μm,19.9s,MS4.5						
CLL	**Collm**	**21.61**	**160**	⇑*i*P	**P**	**22 52 01.1**	**-0.5**
	comp=Z,49nm,1.4s,mb4.7						
CLL				*i* x	x	22 52 12.5	
CLL				*e*S	**S**	**22 55 58.0**	**-2.9**
HGN	**Heimansgroeve**	**21.61**	**172**	⇑*e*P	**P**	**22 52 01.2**	**-0.5**
	comp=Z,27nm,1.3s,mb4.5						
HGN				*e*x	x	22 52 05.8	
	comp=Z,62nm,2.2s						
HGN				*e*PP		22 53 07.9	
HGN				*i* S	**S**	**22 56 03.1**	**+2.1**
HGN				*e*SS		22 57 01.9	
MENF	**Mencas**	**21.72**	**178**	*e*P	**P**	**22 52 05.9**	**+3.0**
UBBA	**Unterbreizbach**	**21.81**	**165**	*e*P	**P**	**22 52 03.6**	**-0.2**
	comp=Z,87nm,1.7s,mb4.9						
UBBA				*e*		22 53 08.4	
WAR	**Warsaw**	**21.82**	**146**	*e*P	**P**	**22 52 05.1**	**+1.2**
WAR				*e*pP		22 52 10.7	
WAR				L		22 59 48.2	
	comp=Z,1.9nm,26.5s						
WAR	**Warsaw**	**21.82**	**146**	*e*P	**P**	**22 52 05.1**	**+1.2**
WAR				*e*pP		22 52 10.7	
FBE	**Freiberg**	**22.02**	**159**	*e*P	**P**	**22 52 05.4**	**-0.7**
	comp=Z,65nm,1.4s,mb4.9						
FBE				*e*		22 53 10.2	
MOX	**Moxa**	**22.12**	**162**	*e*P	**P**	**22 52 06.5**	**-0.7**
	comp=Z,76nm,1.7s,mb4.8						
MOX	**Moxa**	**22.12**	**162**	*e*P	**P**	**22 52 07.2**	**0.0**
	comp=Z,79nm,1.7s,mb4.9						
MOX				*e*		22 53 10.7	
MOX				*e*		22 57 35.1	
MOX							
	comp=Z,2μm,21.0s						
MOX	**Moxa**	**22.12**	**162**	*e*P	**P**	**22 52 07.2**	**0.0**
MOX				pmax	pmax		
	comp=Z,79nm,1.7s,mb4.9						
MOX				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.4						
BRG	**Berggiesshubel**	**22.14**	**158**	*e*P	**P**	**22 52 06.6**	**-0.7**
	comp=Z,44nm,1.6s,mb4.6						
BRG				*e*		22 53 11.2	
BRG	**Berggiesshubel**	**22.14**	**158**	*i* P	**P**	**22 52 06.5**	**-0.9**
	comp=Z,33nm,1.5s,mb4.5						
BRG				*e*		22 52 21.6	
	comp=Z,20nm,1.2s						
BRG				S	**S**	**22 56 11.0**	**-0.3**
BRG							
	comp=Z,782nm,19.1s						
BRG							
	comp=N,692nm,19.9s						
BRG							
	comp=E,282nm,19.9s						
BRG	**Berggiesshubel**	**22.14**	**158**	*i* P	**P**	**22 52 06.5**	**-0.8**
BRG				S	**S**	**22 56 11.0**	**-0.3**
BRG				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.5						
BRG				MLR	MLR		
	comp=Z,782nm,19.1s,MS4.2						
BRG				MLR	MLR		
	comp=N,692nm,19.9s,MS4.1						
BRG				MLR	MLR		
	comp=E,282nm,19.9s,MS4.1						
BRG	**Berggiesshubel**	**22.14**	**158**	*i* P	**P**	**22 52 06.5**	**-0.9**
	comp=E,33nm,1.5s,mb4.5						
BRG				*e*		22 52 21.6	
BRG				S	**S**	**22 56 11.0**	**-0.3**
BRG				LR	LR		
	comp=Z,780nm,19.1s,MS4.1						
GIVF	**Givet**	**22.23**	**174**	*e*P	**P**	**22 52 08.9**	**+0.5**
BAIF	**Baives**	**22.26**	**175**	*e*P	**P**	**22 52 08.8**	**+0.2**
	comp=Z,91nm,1.4s,mb4.7						
BAIF	**Baives**	**22.26**	**175**	*e*P	**P**	**22 52 08.8**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,45nm,1.4s,mb4.7						
BAIF	**Baives**	**22.26**	**175**	*e*P	**P**	**22 52 08.8**	**+0.2**
	comp=Z,45nm,1.4s,mb4.7						
TNS	**Taunus Mts**	**22.29**	**168**	*e*P	**P**	**22 52 08.5**	**-0.5**
	comp=Z,101nm,1.6s,mb5.0						
TNS	**Taunus Mts**	**22.29**	**168**	*e*P	**P**	**22 52 08.5**	**-0.5**
TNS				pmax	pmax		
	comp=Z,101nm,1.6s,mb5.0						
MOS	**Moscow**	**22.36**	**118**	*e*P	**P**	**22 52 09.1**	**-0.6**
MOS				*e*		22 52 32.1	
MOS				*e*S	**S**	**22 56 13.7**	**-1.8**
MOS				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.2						
MOS				pmax	pmax		
	comp=N,110nm,1.5s						
MOS				pmax	pmax		
	comp=Z,300nm,2.0s,mb5.4						
WERD	**Werda**	**22.38**	**161**	*e*P	**P**	**22 52 09.7**	**-0.3**
	comp=Z,32nm,1.3s,mb4.6						
TANN	**Tannenbergstha**	**22.43**	**161**	*e*P	**P**	**22 52 10.5**	**0.0**
	comp=Z,45nm,1.5s,mb4.7						
TANN				*e*		22 53 14.8	
KSP	**Ksiaz**	**22.45**	**155**	*e*P	**P**	**22 52 10.3**	**-0.4**
KSP				*e*pP		22 52 14.7	
KSP				L		23 01 22.3	
	comp=Z,2.8nm,18.6s						
KSP	**Ksiaz**	**22.45**	**155**	*e*P	**P**	**22 52 09.9**	**-0.8**
KSP				*e*pP		22 52 14.5	
KSP				*e*S	**S**	**22 56 16.0**	**-1.4**
KSP				LR	LR		
	comp=Z,3μm,18.6s,MS4.8						
KSP	**Ksiaz**	**22.45**	**155**	*e*P	**P**	**22 52 09.9**	**-0.8**
KSP				*e*pP		22 52 14.5	
GUNZ	**Gunzen**	**22.47**	**161**	*e*P	**P**	**22 52 11.3**	**+0.4**
	comp=Z,50nm,1.5s,mb4.7						
PVCC	**Panska Ves**	**22.55**	**158**	*e*P	**P**	**22 52 11.1**	**-0.6**
PVCC				*e*pP		22 52 15.9	
PVCC				AMS	AMS	23 02 00.0	
	comp=Z,1μm,16.3s						
WERN	**Wernitzgruen**	**22.55**	**161**	*e*P	**P**	**22 52 11.4**	**-0.3**
	comp=Z,58nm,1.4s,mb4.8						
ABH	**Alteburg**	**22.57**	**169**	*e*P	**P**	**22 52 12.9**	**+0.9**
NKC	**Novy Kostel**	**22.61**	**161**	*e*P	**P**	**22 52 12.3**	**-0.1**
OBN	**Obninsk**	**22.63**	**120***c*	*i*P	**P**	**22 52 13.1**	**+0.6**
OBN				pmax	pmax		
	comp=Z,133nm,1.6s,mb5.1						
OBN	**Obninsk**	**22.63**	**120**	*e*P	**P**	**22 52 12.7**	**+0.1**
OBN	**Obninsk**	**22.63**	**120**	*e*P	**P**	**22 52 12.7**	**+0.2**
UPC	**Upice**	**22.75**	**155**	*e*P	**P**	**22 52 13.7**	**-0.1**
TOD	**Tromm**	**22.93**	**167**	*e*P	**P**	**22 52 15.6**	**-0.1**
DPC	**Dobruska-Polom**	**22.94**	**155**	*e*P	**P**	**22 52 15.5**	**-0.4**
DPC				*e*pP		22 52 21.2	
DPC				AMS	AMS	23 01 30.0	
	comp=Z,1μm,15.9s						
DPC	**Dobruska-Polom**	**22.94**	**155**	*e*P	**P**	**22 52 15.5**	**-0.4**
DPC				*e*		22 52 21.2	
DPC				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
GRA1	**Grafenberg Arr**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
	comp=Z,90nm,1.9s,mb4.9						
GRA1				*e*		22 53 21.1	
GRA1				LR	LR		
	comp=Z,2μm,20.6s,MS4.6						
GRF	**Grafenberg Arr**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
	comp=Z,90nm,1.9s,mb4.9						
GRF				*e*		22 53 21.1	
GRF				*e*L		23 02 03.3	
	comp=Z,2μm,20.6s						
GRF	**Grafenberg Arr**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
GRF				pmax	pmax		
	comp=Z,90nm,1.9s,mb4.9						
GRF				MLR	MLR		
	comp=Z,2μm,20.6s,MS4.6						
GRF	**Grafenberg Arr**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
GRF				pmax	pmax		
	comp=Z,90nm,1.9s,mb4.9						
GRF				MLR	MLR		
	comp=Z,2μm,20.6s,MS4.6						
GRFO	**Grafenberg**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
	comp=Z,79nm,1.8s,mb4.8						
GRFO	**Grafenberg**	**23.03**	**163**	*e*P	**P**	**22 52 17.3**	**+0.5**
GRFO				pmax	pmax		
	comp=Z,79nm,1.8s,mb4.8						
ROTZ	**Rotzenmuhle**	**23.05**	**162**	*e*P	**P**	**22 52 18.5**	**+1.5**
	comp=Z,35nm,1.3s,mb4.6						
PRU	**Pruhonice**	**23.08**	**158**	*e*P	**P**	**22 52 17.3**	**0.0**
PRU				AMS	AMS	23 02 20.0	
	comp=Z,1μm,15.1s						
LANF	**Langenberg**	**23.49**	**169**	*e*P	**P**	**22 52 23.9**	**+2.3**
FLN	**La Foliniere**	**23.53**	**183**	*e*P	**P**	**22 52 20.6**	**-1.5**
	comp=Z,44nm,1.1s,mb4.5						
FLN				*e*R			
	comp=Z,631nm,21.0s						
FLN	**La Foliniere**	**23.53**	**183**	*e*P	**P**	**22 52 20.6**	**-1.5**
FLN				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.5						
FLN				MLR	MLR		
	comp=Z,630nm,21.0s,MS4.0						
FLN	**La Foliniere**	**23.53**	**183**	*e*P	**P**	**22 52 20.6**	**-1.5**
	comp=Z,22nm,1.1s,mb4.5						
FLN				LR	LR		
	comp=Z,630nm,21.0s,MS4.0						
OJC	**Ojcow**	**23.57**	**149**	*e*P	**P**	**22 52 21.6**	**-0.9**
OJC				*e*PP		22 52 40.7	
OJC				*e*SS		22 56 38.2	
OJC				L		23 02 38.3	
	comp=Z,12nm,19.8s						

MORC Moravsky Berou 23.67 153⇑ *iP* **P 22 52 22.8 -0.6**
MORC Moravsky Berou 23.67 153 *eP* **P 22 52 22.8 -0.6**
comp=Z,43nm,1.4s,mb4.7
PECR Pechory 23.67 109 *d iP* **P 22 52 23.4 0.0**
PECR *eS* **S 22 56 42.0 +4.1**
PECR pmax pmax
comp=Z,340nm,2.0s,mb5.4
PECR pmax pmax
comp=Z,500nm,2.6s,mb5.5
PECR smax
comp=N,400nm,10.0s
PECR smax
comp=E,400nm,8.0s
OKC Ostrava-Krasne 23.69 152 *eP* **P 22 52 22.8 -0.8**
OKC *epP* 22 52 28.8
OKC AMS AMS 23 02 00.0
comp=E,1μm,17.0s
OKC Ostrava-Krasne 23.69 152 *eP* **P 22 52 22.8 -0.8**
OKC *e* 22 52 28.8
LDF La Druitiere 23.70 182 *eP* **P 22 52 23.1 -0.5**
comp=E,47nm,0.9s,mb4.6
LDF La Druitiere 23.70 182 *eP* **P 22 52 23.1 -0.5**
LDF pmax pmax
comp=Z,23nm,0.9s,mb4.6
LDF La Druitiere 23.70 182 *eP* **P 22 52 23.1 -0.5**
comp=Z,24nm,0.9s,mb4.6
WET Wettzell 23.73 161 *eP* **P 22 52 24.2 +0.3**
comp=Z,94nm,2.0s,mb4.9
WET *e* 22 53 26.9
WET Wettzell 23.73 161 *eP* **P 22 52 24.2 +0.3**
WET pmax pmax
comp=Z,94nm,2.0s,mb4.9
KHC Kasperske Hory 23.82 160 *eP* **P 22 52 25.3 +0.6**
KHC LR LR
comp=Z,2μm,21.2s,MS4.5
MEZF Maizieres J'vi 23.84 174 *eP* **P 22 52 24.5 -0.4**
GRR Gorron 23.91 184 *eP* **P 22 52 24.8 -0.8**
comp=Z,42nm,1.0s,mb4.5
GRR Gorron 23.91 184 *eP* **P 22 52 24.8 -0.8**
GRR pmax pmax
comp=Z,21nm,1.0s,mb4.5
GRR Gorron 23.91 184 *eP* **P 22 52 24.8 -0.8**
comp=Z,21nm,1.0s,mb4.5
VRAC Vranov 24.00 155 P **P 22 52 26.7 +0.3**
comp=Z,15nm,0.9s,mb4.5,baz=352,slow=10,SNR=21
VRAC Vranov 24.00 155⇑ *iP* **P 22 52 26.7 +0.3**
VRAC Vranov 24.00 155 ⇑P **P 22 52 26.7 +0.3**
CDF Champ du Feu 24.03 170 *eP* **P 22 52 26.4 -0.2**
comp=Z,70nm,1.3s,mb4.6
CDF Champ du Feu 24.03 170 *eP* **P 22 52 26.4 -0.2**
CDF pmax pmax
comp=Z,35nm,1.3s,mb4.6
CDF Champ du Feu 24.03 170 *eP* **P 22 52 26.4 -0.2**
comp=Z,35nm,1.3s,mb4.6
WLS Welschbruch 24.03 170 *eP* **P 22 52 27.3 +0.6**
ROSF Rostrenen 24.04 187 *eP* **P 22 52 25.2 -1.5**
comp=Z,47nm,1.1s,mb4.5
ROSF Rostrenen 24.04 187 *eP* **P 22 52 25.2 -1.5**
ROSF pmax pmax
comp=Z,24nm,1.1s,mb4.5
ROSF Rostrenen 24.04 187 *eP* **P 22 52 25.2 -1.5**
comp=Z,24nm,1.1s,mb4.5
SGMF Saint Gilles 24.09 186 *eP* **P 22 52 25.9 -1.3**
comp=Z,117nm,1.5s,mb4.8
SGMF Saint Gilles 24.09 186 *eP* **P 22 52 25.9 -1.3**
SGMF pmax pmax
comp=Z,58nm,1.5s,mb4.8
SGMF Saint Gilles 24.09 186 *eP* **P 22 52 25.9 -1.3**
comp=Z,58nm,1.5s,mb4.8
GEC2 GERESS Array S 24.11 160 *eP* **P 22 52 27.9 +0.5**
comp=Z,18nm,1.0s,mb4.5
GEC2 *e* 22 53 30.5
GEC2 GERESS Array S 24.11 160 *eP* **P 22 52 27.9 +0.5**
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb4.5
GERES GERESS Array B 24.11 160 P **P 22 52 27.7 +0.3**
comp=Z,7.2nm,0.7s,mb4.2,baz=358,slow=9.3,SNR=45
GERES GERESS Array B 24.11 160 P **P 22 52 27.7 +0.3**
GERES pmax pmax
comp=Z,7.0nm,0.7s
THEF They Montfort 24.15 172 *eP* **P 22 52 32.7 +4.9**
BFO Black Forest 24.17 168 *eP* **P 22 52 28.0 +0.1**
comp=Z,26nm,1.1s,mb4.6
BFO Black Forest 24.17 168 *eP* **P 22 52 28.0 +0.1**
BFO pmax pmax
comp=Z,26nm,1.1s,mb4.6
ECH Echery 24.22 170 *eP* **P 22 52 29.2 +0.8**
HAU Haudompre 24.39 172 *eP* **P 22 52 29.8 -0.1**
comp=Z,48nm,1.2s,mb4.5
HAU *eR*
comp=Z,506nm,21.5s
HAU Haudompre 24.39 172 *eP* **P 22 52 29.8 -0.1**
HAU pmax pmax
comp=Z,24nm,1.2s,mb4.5
HAU MLR MLR
comp=Z,510nm,21.5s,MS4.0
HAU Haudompre 24.39 172 *eP* **P 22 52 29.8 -0.1**
comp=Z,24nm,1.2s,mb4.5
HAU LR LR
comp=Z,510nm,21.5s,MS4.0
NIE Niedzica 24.43 149 *eP* **P 22 52 31.4 +1.1**
FUR Furstenfeldbru 24.55 164 *eP* **P 22 52 33.8 +2.4**
comp=Z,44nm,1.1s,mb4.9
FUR Furstenfeldbru 24.55 164 *eP* **P 22 52 33.8 +2.4**
FUR pmax pmax
comp=Z,44nm,1.1s,mb4.9
MOF Molkenrain 24.58 170 *eP* **P 22 52 33.6 +1.9**
STHS Stebnicka Huta 24.58 148 *eP* **P 22 52 33.4 +1.7**
STHS pmax pmax
comp=Z,11nm,0.9s,mb4.4
STHS Stebnicka Huta 24.58 148 *eP* **P 22 52 33.4 +1.7**
comp=Z,11nm,0.9s,mb4.4
HINF Hinteralfeld 24.60 171 *eP* **P 22 52 32.1 +0.2**
comp=Z,36nm,1.3s,mb4.4
HINF Hinteralfeld 24.60 171 *eP* **P 22 52 32.1 +0.2**
comp=Z,18nm,1.3s,mb4.4
FELD Feldberg im Sc 24.60 169 *eP* **P 22 52 32.7 +0.8**
KWP Kalwaria 24.62 145 *eP* **P 22 52 34.1 +2.0**
KWP *epP* 22 52 41.5
KWP Kalwaria 24.62 145 *eP* **P 22 52 33.9 +1.8**
KWP *e**PP 22 52 41.5
KWP pmax pmax
comp=Z,14nm,0.6s,mb4.7
KWP Kalwaria 24.62 145 *eP* **P 22 52 33.9 +1.8**
comp=Z,14nm,0.6s,mb4.7
KWP *epP* 22 52 41.5
LVV L'vov 24.68 143 *eP* **P 22 52 33.5 +0.9**
LVV *e* 22 53 15.1
LVV *eS* **S 22 56 53.7 -0.5**
LVV *eSS* 22 57 47.0
AKASG Malin Array Be 24.89 135 P **P 22 52 33.5 -0.9**
comp=Z,4.7nm,0.5s,mb4.3,baz=336,slow=10,SNR=21
AKASG Malin Array Be 24.89 135 P **P 22 52 33.6 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 24.89 135 P **P 22 52 33.5 -1.0**
AKBB Malin Array Si 24.89 135 *eP* **P 22 52 33.9 -0.6**
LOR Lormes 25.04 176 *eP* **P 22 52 35.8 -0.1**
comp=Z,41nm,1.3s,mb4.5
LOR *eR*
comp=Z,813nm,20.8s
LOR Lormes 25.04 176 *eP* **P 22 52 35.8 -0.1**
LOR pmax pmax
comp=Z,21nm,1.3s,mb4.5
LOR MLR MLR
comp=Z,810nm,20.8s,MS4.2
LOR Lormes 25.04 176 *eP* **P 22 52 35.8 -0.1**
comp=Z,21nm,1.3s,mb4.5
LOR LR LR
comp=Z,810nm,20.8s,MS4.2
VYHS Vyhne 25.11 152 *eP* **P 22 52 38.2 +1.7**
VYHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.2
VYHS Vyhne 25.11 152 *eP* **P 22 52 38.2 +1.7**
comp=Z,9.8nm,1.3s,mb4.2
CRVS Cervenica-Dubn 25.12 148 *eP* **P 22 52 37.8 +1.2**
MOA Molln 25.16 159⇓ *iP* **P 22 52 39.1 +2.2**
comp=Z,40nm,1.7s,mb4.7
ZST Bratislava 25.16 155 *eP* **P 22 52 38.1 +1.2**
comp=Z,10nm,0.8s,mb4.4
ZST LR LR
comp=Z,1μm,18.1s,MS4.4
KOLS Kolonicke sedl 25.22 146 *eP* **P 22 52 38.8 +1.3**
SSF Saint Saulge 25.24 176 *eP* **P 22 52 37.9 +0.2**
comp=Z,25nm,1.1s,mb4.4
SSF Saint Saulge 25.24 176 *eP* **P 22 52 37.9 +0.2**
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.4
SSF Saint Saulge 25.24 176 *eP* **P 22 52 37.9 +0.2**
comp=Z,13nm,1.1s,mb4.4
CONA Conrad Observa 25.26 157⇑ *iP* **P 22 52 39.1 +1.3**
comp=Z,16nm,0.9s,mb4.5
DAVA Damuels 25.31 166⇓ *iP* **P 22 52 41.0 +2.7**
comp=Z,43nm,1.4s,mb4.8
MOTA Moosalm 25.35 164⇓ *iP* **P 22 52 39.8 +1.1**
comp=Z,37nm,1.5s,mb4.7
MOTA Moosalm 25.35 164⇓ *iP* **P 22 52 39.8 +1.1**
MOTA pmax pmax
comp=Z,37nm,1.5s,mb4.7
KECS Kecovo 25.37 149 *eP* **P 22 52 38.6 -0.2**
KECS pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
KECS Kecovo 25.37 149 *eP* **P 22 52 38.6 -0.2**
comp=Z,9.6nm,1.1s,mb4.2
WATA Walderalm 25.40 164⇑ *iP* **P 22 52 40.5 +1.4**
comp=Z,26nm,1.2s,mb4.6
WATA Walderalm 25.40 164⇑ *iP* **P 22 52 40.5 +1.4**
WATA pmax pmax
comp=Z,26nm,1.2s,mb4.6
WTTA Wattenberg 25.48 163⇑ *iP* **P 22 52 41.7 +1.8**
comp=Z,36nm,1.2s,mb4.8
WTTA Wattenberg 25.48 163⇑ *iP* **P 22 52 41.7 +1.9**
WTTA pmax pmax
comp=Z,36nm,1.2s,mb4.8
SQTA Sankt Quirin 25.48 164⇑ *iP* **P 22 52 41.3 +1.4**
comp=Z,28nm,1.4s,mb4.6
SQTA Sankt Quirin 25.48 164⇑ *iP* **P 22 52 41.3 +1.4**
SQTA pmax pmax
comp=Z,28nm,1.4s,mb4.6
AVF Avril sur Loir 25.51 177 *eP* **P 22 52 40.4 +0.3**
comp=Z,38nm,1.3s,mb4.5
AVF Avril sur Loir 25.51 177 *eP* **P 22 52 40.4 +0.3**
AVF pmax pmax
comp=Z,19nm,1.3s,mb4.5
AVF Avril sur Loir 25.51 177 *eP* **P 22 52 40.4 +0.3**
comp=Z,19nm,1.3s,mb4.5
UZH Uzhgorod 25.52 146 *eP* **P 22 52 39.0 -1.2**
UZH *eS* **S 22 57 01.0 -6.6**
SOP Sopron 25.59 156⇓ *eP* **P 22 52 43.3 +2.4**
SMF Signal de Mont 25.66 176 *eP* **P 22 52 42.0 +0.5**
comp=Z,69nm,1.5s,mb4.7
SMF Signal de Mont 25.66 176 *eP* **P 22 52 42.0 +0.5**
SMF pmax pmax
comp=Z,34nm,1.5s,mb4.7
SMF Signal de Mont 25.66 176 *eP* **P 22 52 42.0 +0.5**
comp=Z,34nm,1.5s,mb4.7
MFF Saint Martin d 25.69 182 *eP* **P 22 52 41.2 -0.6**
comp=Z,58nm,1.3s,mb4.6
MFF Saint Martin d 25.69 182 *eP* **P 22 52 41.2 -0.6**
MFF pmax pmax
comp=Z,29nm,1.3s,mb4.7
MFF Saint Martin d 25.69 182 *eP* **P 22 52 41.2 -0.6**
comp=Z,29nm,1.3s,mb4.6
BGF Bois d'Agland 25.73 178 *eP* **P 22 52 41.4 -0.8**
comp=Z,19nm,0.7s,mb4.4
BGF Bois d'Agland 25.73 178 *eP* **P 22 52 41.4 -0.8**
BGF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BGF Bois d'Agland 25.73 178 *eP* **P 22 52 41.4 -0.8**
comp=Z,9.6nm,0.7s,mb4.4
CABF La Chapelle 25.77 172 *eP* **P 22 52 43.5 +1.0**
comp=Z,39nm,1.0s,mb4.6
CABF La Chapelle 25.77 172 *eP* **P 22 52 43.5 +1.0**
CABF pmax pmax
comp=Z,20nm,1.0s,mb4.6
CABF La Chapelle 25.77 172 *eP* **P 22 52 43.5 +1.0**
comp=Z,20nm,1.0s,mb4.6
DAVOX Davos 25.82 166 P **P 22 52 45.8 +2.9**
comp=Z,1.6nm,0.5s,mb3.8,baz=352,slow=14,SNR=2.5
PSZ Piszkesteto 25.82 150 *eP* **P 22 52 45.5 +2.5**
PSZ pmax pmax
comp=Z,46nm,1.6s,mb4.8
PSZ Piszkesteto 25.82 150 *eP* **P 22 52 45.5 +2.5**
comp=Z,46nm,1.6s,mb4.8
PSZ Piszkesteto 25.82 150⇑ *eP* **P 22 52 45.2 +2.2**
PSZ Piszkesteto 25.82 150 *eP* **P 22 52 45.5 +2.5**
comp=Z,46nm,1.6s,mb4.8
ARSA Arzberg 25.89 157⇑ *iP* **P 22 52 45.1 +1.5**
comp=Z,22nm,1.6s,mb4.4
FRB Frobisher Bay 25.92 287 P **P 22 52 47.0 +3.1**
comp=Z,13nm,0.8s,mb4.5,baz=284,slow=7.3,SNR=3.2
FRB Frobisher Bay 25.92 287 P **P 22 52 47.0 +3.2**
FRB pmax pmax
comp=Z,13nm,0.8s
TCF Toulx Ste Croi 26.00 179 *eP* **P 22 52 44.8 +0.2**
comp=Z,37nm,1.1s,mb4.5
TCF Toulx Ste Croi 26.00 179 *eP* **P 22 52 44.8 +0.2**
TCF pmax pmax
comp=Z,19nm,1.1s,mb4.5
TCF Toulx Ste Croi 26.00 179 *eP* **P 22 52 44.8 +0.2**
comp=Z,19nm,1.1s,mb4.5
BUD Budapest 26.12 152⇑ *eP* **P 22 52 48.0 +2.3**
VOR Voronezh 26.36 121 *eP* **P 22 52 48.5 +0.7**
VOR pmax pmax
comp=N,80nm,2.0s
VOR pmax pmax
comp=E,100nm,2.0s
VOR pmax pmax
comp=Z,80nm,2.0s,mb4.9
VRSR Storozhevoye 26.83 121 *c iP* **P 22 52 51.7 -0.4**
VRSR *e**PP pP 22 52 57.4 +2.3
VRSR *eS* **S 22 57 24.7 -3.6**
VRSR pmax pmax
comp=N,100nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb4.9
VRSR smax
comp=N,90nm,2.7s
VRSR smax
comp=Z,70nm,4.0s
VRSR smax
comp=E,140nm,3.2s
VRSR MLR MLR
comp=Z,1μm,13.0s,MS4.6
VRSR MLR MLR
comp=N,1μm,17.0s,MS4.6
VRSR MLR MLR
comp=E,190nm,15.0s,MS4.6
LPL La Plagne 26.89 172 *eP* **P 22 52 53.3 +0.7**
comp=E,23nm,1.0s,mb4.3
LPL La Plagne 26.89 172 *eP* **P 22 52 53.3 +0.7**
LPL pmax pmax
comp=Z,12nm,1.0s,mb4.4
LPL La Plagne 26.89 172 *eP* **P 22 52 53.3 +0.7**
comp=Z,12nm,1.0s,mb4.3
LPG La Plagne 26.91 171 *eP* **P 22 52 53.3 +0.5**
comp=Z,58nm,1.4s,mb4.6
LPG La Plagne 26.91 171 *eP* **P 22 52 53.3 +0.5**
LPG pmax pmax
comp=Z,29nm,1.4s,mb4.6
LPG La Plagne 26.91 171 *eP* **P 22 52 53.3 +0.5**
comp=Z,29nm,1.4s,mb4.6
RJF Les Rejaudoux 26.98 180 *eP* **P 22 52 53.9 +0.5**
comp=Z,34nm,1.1s,mb4.5
RJF *eR*
comp=Z,808nm,21.0s
RJF Les Rejaudoux 26.98 180 *eP* **P 22 52 53.9 +0.5**
RJF pmax pmax
comp=Z,17nm,1.1s,mb4.5
RJF MLR MLR
comp=Z,810nm,21.0s,MS4.3
RJF Les Rejaudoux 26.98 180 *eP* **P 22 52 53.9 +0.5**
comp=Z,17nm,1.1s,mb4.5
RJF LR LR
comp=Z,810nm,21.0s,MS4.3
BURAR Bucovina Array 27.02 143⇑ *iP* **P 22 52 55.0 +1.2**
BURAR Bucovina Array 27.02 143 ⇑P **P 22 52 55.0 +1.2**
BNI Bardonecchia 27.35 172 *eP* **P 22 52 58.2 +1.4**
BNI pmax pmax
comp=Z,36nm,1.4s,mb4.7
BNI Bardonecchia 27.35 172 *eP* **P 22 52 58.2 +1.5**
comp=Z,36nm,1.4s,mb4.7
BNI Bardonecchia 27.35 172 *eP* **P 22 52 58.2 +1.4**
comp=Z,36nm,1.4s,mb4.7
DRGR 27.37 147⇓ *iP* **P 22 52 57.1 +0.2**
DRGR 27.37 147 ⇓P **P 22 52 57.1 +0.2**
ORIF Oris-en-Rattie 27.45 173 *eP* **P 22 52 58.6 +0.9**
comp=Z,131nm,1.7s,mb4.9
ORIF *eR*
comp=Z,927nm,19.8s
ORIF Oris-en-Rattie 27.45 173 *eP* **P 22 52 58.6 +0.9**
ORIF pmax pmax
comp=Z,65nm,1.7s,mb4.9
ORIF Oris-en-Rattie 27.45 173 *eP* **P 22 52 58.6 +0.9**
comp=Z,65nm,1.7s,mb4.9
MBDF Montbardon 27.68 172 *eP* **P 22 53 00.4 +0.7**
comp=Z,36nm,1.1s,mb4.6
MBDF Montbardon 27.68 172 *eP* **P 22 53 00.4 +0.7**
MBDF pmax pmax
comp=Z,18nm,1.1s,mb4.6
MBDF Montbardon 27.68 172 *eP* **P 22 53 00.4 +0.7**
comp=Z,18nm,1.1s,mb4.6
ARU Arti 27.93 94⇑ *iP* **P 22 53 03.0 +1.1**
ARU *e* 22 53 48.4
ARU *ePPP* 22 53 58.4
ARU *e* 22 56 16.7
ARU *eS* **S 22 57 45.7 +0.1**
ARU *eSSS* 22 59 21.4
ARU pmax pmax
comp=Z,21nm,1.1s,mb4.7
ARU Arti 27.93 94 *eP* **P 22 53 02.0 0.0**
comp=Z,19nm,1.0s,mb4.7
ARU Arti 27.93 94 *eP* **P 22 53 02.0 +0.1**
comp=Z,19nm,1.0s,mb4.7
SVE Sverdlovsk 28.23 91 *eP* **P 22 53 03.0 -1.7**
KIS Kishinev 28.31 138 *eS* **S 22 58 00.0 +8.3**
KIS *eSS* 22 59 40.0
KIS *eLQ* 23 03 10.0
KIS LRM 23 05 36.0
comp=Z,1μm,15.0s
BZS Buzias 28.33 149⇑ *iP* **P 22 53 06.5 +0.9**
BZS Buzias 28.33 149 ⇑P **P 22 53 06.5 +1.0**
SBF Sospel 28.57 171 *eP* **P 22 53 08.4 +0.7**
comp=Z,54nm,1.0s,mb4.9
SBF Sospel 28.57 171 *eP* **P 22 53 08.4 +0.7**
SBF pmax pmax
comp=Z,27nm,1.0s,mb4.9
SBF Sospel 28.57 171 *eP* **P 22 53 08.4 +0.7**
comp=Z,27nm,1.0s,mb4.9
MLR Muntele Rosu 29.20 143 P **P 22 53 16.3 +3.0**
comp=Z,3.6nm,1.0s,mb4.1,baz=133,slow=21,SNR=3.2
MLR Muntele Rosu 29.20 143 P **P 22 53 16.3 +3.0**
MLR pmax pmax
comp=Z,4.0nm,1.0s
EPF Esparros 29.25 181 *eP* **P 22 53 13.6 -0.1**
ORR Orenburg 30.90 103 *eP* **P 22 53 29.6 +1.3**
ORR pmax pmax
comp=Z,30nm,2.1s,mb4.8
SIM Simferopol' 31.41 132 P **P 22 53 38.0 +5.2**
SIM *eS* **S 22 58 48.0 +7.7**
SIM pmax pmax
comp=Z,40nm,18.4s
SIM MLR MLR
comp=Z,2μm,17.0s,MS4.8
ANN Anapa 32.33 128 *eP* **P 22 53 40.5 -0.4**
ANN *eS* **S 22 58 52.5 -2.1**
ANN pmax pmax
comp=Z,149nm,1.1s,mb5.7
ANN MLR MLR
comp=Z,3μm,17.0s,MS5.0
TIXI Tiksi 32.53 28⇑ *eP* **P 22 53 42.7 +0.1**
TIXI pmax pmax
comp=Z,15nm,1.4s,mb4.7
ESDC Sonseca Array 32.71 188 P **P 22 53 41.9 -2.3**
comp=Z,0.9nm,0.5s,mb3.9,baz=4.2,slow=8.0,SNR=7.4
AKTK Aktyubinsk 32.92 100 P **P 22 53 46.6 +0.6**
AKTK Aktyubinsk 32.92 100 P **P 22 53 46.6 +0.5**
AKTO Aktyubinsk 32.92 100 P **P 22 53 46.6 +0.6**
comp=Z,9.4nm,1.2s,mb4.6,baz=332,slow=9.2,SNR=10
AKTO Aktyubinsk 32.92 100 P **P 22 53 46.6 +0.5**
AKTO pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
CHKZ Chkalovo 33.96 85 *eP* **P 22 53 56.5 +1.4**
SOC Sochi 34.03 126 *eP* **P 22 53 54.2 -1.5**
SOC *e* 22 55 06.4
SOC *ePPP* 22 55 29.8
SOC *eS* **S 22 59 21.2 +0.1**
SOC *eSS* SS 23 01 33.4 -15
SOC *eSSS* 23 02 02.4
SOC pmax pmax
comp=Z,56nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,1μm,15.0s,MS4.7
ZRNK Zerenda 34.09 87 *eP* **P 22 53 56.8 +0.5**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 34.09 87 *eP* **P 22 53 56.8 +0.6**
comp=Z,1.7nm,0.7s,mb4.1
ZRNK *e* 22 54 06.9
ZRNK Zerenda 34.09 87 *eP* **P 22 53 56.8 +0.5**
KIV Kislovodsk 34.44 122⇑ *eP* **P 22 54 00.7 +1.4**
KIV pmax pmax
comp=Z,37nm,1.9s,mb5.0
KIV MLR MLR
comp=Z,2μm,20.0s,MS4.8
KIV Kislovodsk 34.44 122 *eP* **P 22 54 01.4 +2.2**
KIV Kislovodsk 34.44 122 *eP* **P 22 54 01.4 +2.1**
BVAR Borovoye Array 34.45 86 P **P 22 53 59.3 -0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=325,slow=7.2,SNR=9.3
BVAR Borovoye Array 34.45 86 P **P 22 53 59.3 -0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
ZEI Tsey 35.86 122 *eP* **P 22 54 13.3 +1.8**
ZEI *e**PP pP 22 54 22.2 +7.6
ZEI *e* 22 55 33.9
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BR131 Keskin Array S 36.29 136 *eP* **P 22 54 17.6 +2.4**
BR131 Keskin Array S 36.29 136 *eP* **P 22 54 17.6 +2.4**
BRTR Keskin Array B 36.29 136 P **P 22 54 16.1 +0.9**
comp=Z,2.7nm,1.0s,mb4.1,baz=326,slow=6.0,SNR=7.7
BRTR Keskin Array B 36.29 136 P **P 22 54 16.1 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 36.29 136 P **P 22 54 16.0 +0.8**
NVS Novosibirsk 36.77 73 *eP* **P 22 54 21.2 +1.9**
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=Z,20nm,1.9s,mb4.6
NVS pmax pmax
comp=E,7.0nm,1.5s
GNI Garni 38.53 122 P **P 22 54 36.5 +2.3**
comp=E,3.1nm,0.6s,mb4.2,baz=315,slow=1.4,SNR=3.6
GNI Garni 38.53 122 *i P* **P 22 54 36.3 +2.1**
GNI pmax pmax
comp=Z,18nm,1.3s
GNI MLR MLR
comp=Z,600nm,14.0s
YKW3 Yellowknife Ar 38.64 318 *eP* **P 22 54 35.0 -0.1**
YKW3 Yellowknife Ar 38.64 318 *eP* **P 22 54 35.0 -0.1**
YKA Yellowknife Ar 38.70 318 P **P 22 54 34.3 -1.3**
comp=Z,9.6nm,1.1s,mb4.5,baz=23,slow=9.1,SNR=6.6
YKA PcP PcP 22 56 46.2 -1.2
comp=Z,3.6nm,0.8s,baz=22,slow=3.1,SNR=7.1
YKA Yellowknife Ar 38.70 318 P **P 22 54 34.3 -1.3**
YKA 22 56 46.2
YKA pmax pmax
comp=Z,10.0nm,1.1s
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 38.70 318 P **P 22 54 34.3 -1.3**
YKA PcP PcP 22 56 46.2 -1.2
YKA Yellowknife Ar 38.70 318 PcP PcP 22 56 46.2 -1.2
BILL Bilibino 39.65 9⇓ *eP* **P 22 54 43.8 +0.2**
BILL pmax pmax
comp=Z,23nm,1.4s,mb4.7
BILL MLR MLR
comp=Z,700nm,19.0s,MS4.5
EGAK Eagle 40.95 337 *eP* **P 22 54 54.1 -0.3**
comp=Z,13nm,1.2s,mb4.4
EGAK Eagle 40.95 337 *eP* **P 22 54 54.1 -0.2**
comp=Z,13nm,1.2s,mb4.4
COLA College 41.61 341 *eP* **P 22 55 00.0 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
COLA College 41.61 341 *eP* **P 22 54 60.0 +0.3**
comp=Z,7.3nm,0.9s,mb4.3
COLA College 41.61 341 *eP* **P 22 55 00.0 +0.3**
comp=Z,7.3nm,0.9s,mb4.3
BOD Bodaibo 42.25 47 *eP* **P 22 55 01.4 -3.6**
BOD pmax pmax
comp=Z,8.0nm,2.2s,mb4.0
BOD pmax pmax
comp=Z,13nm,1.7s,mb4.3
MK31 Makanchi Array 43.58 80 *eP* **P 22 55 16.0 +0.2**

MKAR	Makanchi Array	43.58	80	P	P	22 55 16.9	+1.1
	comp=Z,0.9nm,0.8s,baz=353,slow=8.6,SNR=6.9						
MKAR				PcP	PcP	22 57 02.9	-0.4
	comp=Z,2.1nm,0.9s,baz=323,slow=4.5,SNR=4.6						
MKAR	Makanchi Array	43.58	80	P	P	22 55 16.9	+1.1
MKAR						22 57 02.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	Seymchan	43.70	19⇑	iP	P	22 55 17.0	+0.3
AAK	Ala-Archa	44.95	90⇑	iP	P	22 55 27.3	+0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
AAK				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.3						
AAK	Ala-Archa	44.95	90	eP	P	22 55 27.2	+0.4
AAK	Ala-Archa	44.95	90	eP	P	22 55 27.2	+0.4
ULM	Lac du Bonnet	45.17	296	P	P	22 55 27.2	-1.3
	comp=Z,3.1nm,0.9s,mb4.2,baz=355,slow=11,SNR=2.3						
ULM				PP	PP	22 57 13.4	-0.7
	comp=Z,6.3nm,0.9s,baz=41,slow=9.3,SNR=3.5						
ULM	Lac du Bonnet	45.17	296	P	P	22 55 27.2	-1.3
ULM				PP	PP	22 57 13.4	-0.7
ULM	Lac du Bonnet	45.17	296	PP	PP	22 57 13.4	-0.7
CLNS	Chul'man	45.46	40	eP	P	22 55 30.4	-0.4
CLNS				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
ZAK	Zakamensk	46.37	60	eP	P	22 55 37.9	0.0
ZAK				e		22 57 14.2	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s,mb3.9						
SONM	Songino Array	49.53	59	P	P	22 56 03.0	+0.6
	comp=Z,4.1nm,1.0s,mb4.4,baz=329,slow=6.3,SNR=18						
SONM	Songino Array	49.53	59	P	P	22 56 03.0	+0.6
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	Ulaanbaatar	49.67	58d	iP	P	22 56 04.6	+1.1
ULN	Ulaanbaatar	49.67	58	eP	P	22 56 05.2	+1.7
ULN	Ulaanbaatar	49.67	58	eP	P	22 56 05.2	+1.7
EGMT	Eagleton	50.87	306	eP	P	22 56 11.9	-0.7
EGMT	Eagleton	50.87	306	eP	P	22 56 11.9	-0.7
BSMT	Bassoo Peak	52.24	310	eP	P	22 56 21.3	-1.5
BSMT	Bassoo Peak	52.24	310	eP	P	22 56 21.3	-1.6
NEW	Newport	52.40	312	P	P	22 56 23.5	-0.5
	comp=Z,2.8nm,0.4s,mb4.6,baz=45,slow=5.7,SNR=4.2						
NEW	Newport	52.40	312	P	P	22 56 23.5	-0.5
NEW				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CHMT	Chamberlain Mo	52.76	308	eP	P	22 56 25.1	-1.6
CHMT	Chamberlain Mo	52.76	308	eP	P	22 56 25.1	-1.6
GCMT	Greycliff	52.92	305	P	P	22 56 27.1	-0.8
MSO	Missoula	53.00	309	eP	P	22 56 27.9	-0.6
	comp=Z,3.0nm,0.3s,mb4.7						
MSO	Missoula	53.00	309	eP	P	22 56 27.9	-0.6
	comp=Z,3.0nm,0.3s,mb4.7						
RSSD	Black Hills	53.02	300	eP	P	22 56 28.0	-0.6
FLWY	Flagg Ranch	54.78	305	eP	P	22 56 42.3	+0.8
	comp=Z,8.0nm,1.0s,mb4.7						
FLWY				ePcP	PcP	22 57 41.7	-2.2
FLWY	Flagg Ranch	54.78	305	eP	P	22 56 42.3	+0.8
	comp=Z,8.0nm,1.0s,mb4.7						
FLWY	Flagg Ranch	54.78	305	ePcP	PcP	22 57 41.7	-2.2
IMW	Indian Meadow	55.02	305	eP	P	22 56 44.1	+1.0
	comp=Z,12nm,1.1s,mb4.8						
IMW				ePcP	PcP	22 57 44.6	-0.2
IMW	Indian Meadow	55.02	305	eP	P	22 56 44.2	+1.0
	comp=Z,12nm,1.1s,mb4.8						
IMW	Indian Meadow	55.02	305	ePcP	PcP	22 57 44.6	-0.2
MOOW	Moose Ponds	55.10	305	eP	P	22 56 44.3	+0.5
MOOW				ePcP	PcP	22 57 44.9	-0.3
REDW	Red Top Meadow	55.49	305	eP	P	22 56 48.6	+2.0
REDW				ePcP	PcP	22 57 47.3	+0.6
REDW	Red Top Meadow	55.49	305	eP	P	22 56 48.6	+2.0
REDW	Red Top Meadow	55.49	305	ePcP	PcP	22 57 47.3	+0.7
GTA	Gaotai	55.51	68	eP	P	22 56 48.0	+1.3
GTA				AP	pP	22 56 52.6	+2.7
GTA				XP	sP	22 56 56.1	+5.0
GTA				AMB	AMB		
	comp=Z,6.0nm,2.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,145nm,4.6s						
GTA				LR	LR		
	comp=N,250nm,22.1s,MS4.4						
GTA				LR	LR		
	comp=E,262nm,19.0s,MS4.4						
GTA				LR	LR		
	comp=Z,359nm,20.5s,MS4.4						
RRI2	Red Ridge	55.63	305	eP	P	22 56 51.2	+3.7
BMO	Blue Mountains	55.66	311	eP	P	22 56 46.7	-1.1
	comp=Z,9.0nm,1.1s,mb4.7						
BW06	Boulder Array	55.72	304	eP	P	22 56 47.4	-0.9
	comp=Z,14nm,1.4s,mb4.8						
BW06				ePcP	PcP	22 57 47.8	+0.3
BW06	Boulder Array	55.72	304	eP	P	22 56 47.4	-0.9
	comp=Z,14nm,1.4s,mb4.8						
BW06	Boulder Array	55.72	304	ePcP	PcP	22 57 47.8	+0.3
PDAR	Pinedale Array	55.72	304	P	P	22 56 46.6	-1.6
	comp=Z,4.0nm,1.1s,mb4.4,baz=35,slow=5.4,SNR=14						
HLID	Hailey	56.19	308	eP	P	22 56 51.1	-0.6
HLID	Hailey	56.19	308	eP	P	22 56 51.1	-0.5
HWUT	Hardware Ranch	57.32	305	eP	P	22 56 58.6	-1.1
	comp=Z,5.6nm,1.1s,mb4.5						
CN2	Changchun	57.91	45	eP	P	22 57 03.9	+0.1
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				LR	LR		
	comp=N,300nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,23.0s,MS4.2						
MDJ	Mudanjiang	58.00	41	P	P	22 57 04.1	-0.4
MDJ				AP	pP	22 57 10.9	+3.2
MDJ				XP	sP	22 57 14.8	+5.9
MDJ				S	S	23 04 57.6	-7.3
MDJ				XS	sS	23 05 13.6	+3.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,29nm,3.2s						
MDJ				LR	LR		
	comp=N,142nm,18.7s,MS4.1						
MDJ				LR	LR		
	comp=E,99nm,23.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,153nm,19.4s,MS4.1						
DUG	Dugway	58.97	305	eP	P	22 57 11.3	+0.1
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
DUG	Dugway	58.97	305	eP	P	22 57 11.3	+0.1
	comp=Z,5.5nm,0.9s,mb4.6						
TOA0	Torodi Ar. Sit	59.03	180	eP	P	22 57 11.2	-0.4
TOA0				ePcP	PcP	22 57 52.8	-7.7
TORD	Torodi Ar. Bea	59.03	180	P	P	22 57 10.3	-1.3
	comp=Z,6.1nm,0.7s,mb4.7,baz=353,slow=6.5,SNR=42						
SRU	San Rafael	59.41	303	eP	P	22 57 14.2	0.0
WMOK	Wichita Mounta	60.30	291	eP	P	22 57 19.6	-0.8
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
WMOK	Wichita Mounta	60.30	291	eP	P	22 57 19.6	-0.8
	comp=Z,4.3nm,0.5s,mb4.7						
MSU	Marysvale	60.40	304	eP	P	22 57 21.7	+0.7
MVCO	Mesa Verde	60.67	300	eP	P	22 57 22.4	-0.5
	comp=Z,29nm,1.3s,mb5.2						
KOLN	Koldanda	61.48	88	eP	P	22 57 29.5	+1.1
GKN	Gorkha	61.58	87	eP	P	22 57 29.6	+0.5
CCUT	Cedar City	61.61	305	eP	P	22 57 28.7	-0.5
KKN	Kakani	61.98	86	eP	P	22 57 32.3	+0.5
NVAR	Mina Array Bea	61.98	309	P	P	22 57 31.1	-0.7
	comp=Z,1.2nm,0.7s,mb4.2,baz=360,slow=3.9,SNR=6.5						
GUN	Gumba	62.05	86	eP	P	22 57 32.9	+0.6
	comp=Z,26nm,0.9s,mb5.4						
DMN	Daman	62.10	87	eP	P	22 57 33.2	+0.6
ANMO	Albuquerque	62.25	298⇑	eP	P	22 57 33.3	-0.3
JIRN	Jiri	62.38	86	eP	P	22 57 35.5	+1.0
	comp=Z,15nm,0.9s,mb5.1						
SHPR	Sheep Range	63.05	306	eP	P	22 57 39.5	+0.6
MTUM	Tungsten Hills	63.07	309	eP	P	22 57 39.9	+0.8
XAN	Xi'an	63.08	63	P	P	22 57 39.2	+0.1
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
DAC	Darwin (Calif)	63.86	308	eP	P	22 57 44.2	-0.1
DAC				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
DAC	Darwin (Calif)	63.86	308	eP	P	22 57 44.2	-0.1
	comp=Z,11nm,1.4s,mb4.7						
KSRS	Korea Array	64.53	45	P	P	22 57 47.6	-1.1
	comp=Z,1.5nm,0.6s,mb4.2,baz=352,slow=6.7,SNR=6.2						
ISA	Isabella	64.66	309	eP	P	22 57 49.9	+0.4
GLA	Glamis	66.24	305	eP	P	22 57 59.9	+0.1
TXAR	Lajitas Array	66.77	293	P	P	22 58 01.4	-1.7
	comp=Z,0.5nm,0.6s,mb3.7,baz=51,slow=5.8,SNR=5.6						
TXAR	Lajitas Array	66.77	293	P	P	22 58 01.4	-1.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAT	Matsushiro	67.47	37	P	P	22 58 07.6	0.0
MJAR	Matsushiro Arr	67.47	37	P	P	22 58 07.3	-0.3
	comp=Z,7.5nm,1.0s,mb4.7,baz=344,slow=6.7,SNR=17						
MJAR	Matsushiro Arr	67.47	37	P	P	22 58 07.4	-0.2
MJAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	Chiang Mai	74.56	77	eP	P	22 58 50.8	+0.2
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	Chiang Mai	74.56	77	eP	P	22 58 50.8	+0.2
	comp=Z,4.7nm,0.8s,mb4.5						
NANT	Nan	75.10	75	⇑P	P	22 58 51.0	-2.8
	comp=Z,111nm,1.0s,mb5.8						
SDV	Santo Domingo	76.09	255	eP	P	22 58 59.0	-0.4
	comp=Z,7.5nm,0.8s,mb4.7						
ROSC	El Rosal	81.02	258	P	P	22 59 26.2	-0.3
	comp=Z,5.7nm,0.4s,mb4.9,baz=280,slow=18,SNR=6.5						
OTAV	Otavalo	86.63	260	eP	P	22 59 56.2	+0.9
	comp=Z,26nm,1.3s,mb5.3						
WRA	Warramunga Arr	121.34	54	PKP	PKPdf	23 06 03.3	-1.7
	comp=Z,1.8nm,0.9s,baz=333,slow=2.2,SNR=6.7						
WRA	Warramunga Arr	121.34	54	PKIKP	PKPdf	23 06 03.3	-1.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	Alice Springs	124.80	55	PKP	PKPdf	23 06 10.0	-1.6
	comp=Z,2.4nm,0.7s,baz=346,slow=1.9,SNR=29						
ASAR	Alice Springs	124.80	55	PKIKP	PKPdf	23 06 10.0	-1.6
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SNAA	Sanae	143.67	182	PKP	PKPdf	23 06 41.8	-5.0
	comp=Z,0.5nm,0.7s,baz=122,slow=3.2,SNR=5.8						
SNAA	Sanae	143.67	182	PKIKP	PKPdf	23 06 41.8	-4.9
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	Mawson	145.37	144	PKPbc	PKPbc	23 06 48.2	-1.4
	comp=Z,4.9nm,0.8s,baz=254,slow=6.1,SNR=11						
MAW	Mawson	145.37	144	PKIKP	PKPdf	23 06 48.2	-1.5
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						

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*IDC **02** 22:47:55.4±1.0, 429S×13021E, h0km, mb4.2/5, mb1 4.4/8, mb1mx4.1/15, mbtmp4.3/8, ML4.4/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/20, Error ellipse: s-maj=51.3km s-min=17.0km az=74.0*

*ISCJB **02** 22:47:59.1±1.6, 444S±005×13021E±010, h45km±15km, mb4.3/12, Error ellipse: s-maj=16.8km s-min=6.4km az=145.8*

*NEIC **02** 22:48:00.3±0.4, 433S×13020E, h35km, mb4.4/9, Error ellipse: s-maj=13.5km s-min=6.9km az=68.0*

ISC 02 22:48:04.6±1.4, **457S**±005×**13023E**±010, **h80**km±13km, **n29**, σ**1§39**/37, **mb4.2**/12, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	8.38	165	eP	Pn	22 50 03.1	-0.2
	22nm,0.6s						
KAKA				eS	Sn	22 51 35.5	-0.8
FITZ	Fitzroy Crossi	14.18	198	eP	Pn	22 51 23.8	+2.2
	8.6nm,0.8s						
FITZ				eS	Sn	22 53 54.4	-3.1
FITZ	Fitzroy Crossi	14.18	198	Pn	Pn	22 51 21.5	-0.1
	0.4nm,0.3s,baz=35,slow=11,SNR=13						
FITZ				Sn	Sn	22 53 53.1	-4.3
	0.2nm,0.3s,baz=280,slow=23,SNR=3.1						
FITZ				LR	LR	22 57 25.4	
	comp=Z,21nm,19.2s,baz=105,slow=40						
WRA	Warramunga Arr	15.80	166	Pn	Pn	22 51 41.2	-1.1
	1.6nm,0.3s,baz=344,slow=11,SNR=18						
WRA				Sn	Sn	22 54 28.5	-8.1
	0.8nm,0.3s,baz=349,slow=21,SNR=6.1						
WB2	Warramunga Arr	15.80	166	eP	Pn	22 51 40.8	-1.5
WB2				eS	S	22 54 27.5	-19
KKM	Kota Kinabalu	17.52	307	Pn	Pn	22 51 58.9	-4.6
AS31	Alice Springs	19.32	170	eP	Pn	22 52 26.2	+1.1
AS31				eS	S	22 55 55.8	-1.8
ASAR	Alice Springs	19.32	170	P	Pn	22 52 25.8	+0.7
	3.7nm,0.3s,baz=350,slow=10,SNR=307						
ASAR				S	S	22 55 53.6	-3.9
	0.2nm,0.3s,baz=347,slow=16,SNR=7.2						
ASPA	Alice Springs	19.32	170	eP	Pn	22 52 26.2	+1.1
ASPA				eS	S	22 55 55.8	-1.8
MBWA	Marble Bar	19.39	211	eP	Pn	22 52 25.8	-0.2
	1.3nm,0.3s						
CTA	Charters Tower	21.94	136	P	P	22 52 54.6	+3.1
	3.8nm,0.8s,mb3.8,baz=330,slow=10,SNR=3.6						
CTAO	Charters Tower	21.94	136	eP	P	22 52 53.3	+1.8
FORT	Forrest	26.15	184⇓	iP	P	22 53 32.9	+1.6
	7.7nm,0.6s,mb4.3						
STKA	Stephens Creek	29.19	160	eP	P	22 54 00.1	+1.7
	0.6nm,0.2s,mb3.9						
STKA	Stephens Creek	29.19	160	P	P	22 54 00.2	+1.8
	1.0nm,0.3s,mb4.0,baz=326,slow=13,SNR=8.3						
KLBR	Kellerberrin	29.33	202	eP	P	22 54 01.2	+1.6
	29nm,1.5s,mb4.7						
HNR	Honiara	29.88	101	P	P	22 54 05.1	+0.6
KULM	Kulim	31.12	288	P	P	22 54 14.7	-0.8
COCO	West Island	33.87	255	eP	P	22 54 39.3	-0.2
MJAR	Matsushiro Arr	41.57	10	P	P	22 55 41.9	-2.5
	2.7nm,0.7s,mb4.1,baz=186,slow=8.1,SNR=12						
MAT	Matsushiro	41.57	10	P	P	22 55 41.9	-2.5
BJT	Baijiatuau	46.21	345	eP	P	22 56 20.6	-0.9
	4.5nm,0.5s,mb4.5						
LSA	Lhasa	50.63	315	eP	P	22 56 57.2	+1.7
	2.3nm,0.6s,mb4.4						
SONM	Songino Array	56.23	341	P	P	22 57 36.5	0.0
	1.1nm,0.7s,mb4.0,baz=173,slow=8.3,SNR=4.9						
CASY	Casey	63.13	189	eP	P	22 58 25.9	+2.1
	7.8nm,0.8s,mb4.7						
MKAR	Makanchi Array	66.33	326	P	P	22 58 44.3	-0.4
	3.6nm,0.4s,mb4.6,baz=111,slow=7.7,SNR=64						
VNDA	Vanda	74.82	173	P	P	22 59 38.4	+2.1
BRVK	Borovoye	76.22	327	eP	P	22 59 43.8	-0.5
	2.5nm,0.5s,mb4.2						
CHKZ	Chkalovo	76.32	328	eP	P	22 59 44.5	-0.4
	1.5nm,0.6s,mb3.9						

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*CSEM **02** 22:48:08.6±0.1, 7228N×068E, h12km, mb4.8/30, Mw5.0, Error ellipse: s-maj=3.3km s-min=2.2km az=54.0*

*IDC **02** 22:48:08.7±0.5, 7221N×102E, h0km, mb4.3/18, mb1 4.4/23, mb1mx4.3/29, mbtmp4.3/23, ML4.0/5, Error ellipse: s-maj=17.7km s-min=11.7km az=42.0*

*MOS **02** 22:48:09.1±1.1, 72.19N×121E, h10km, mb4.9/17, Error ellipse: s-maj=31.5km s-min=8.7km az=95.3*

*ISCJB **02** 22:48:09.0±0.3, 72.19N±004×12E±0.1, h10km, mb4.6/42, MS4.9/3, Error ellipse: s-maj=6.9km s-min=5.1km az=87.8*

*NAO **02** 22:48:09.7±4.8, 72.11N×1.19E*

*GCMT **02** 22:48:10.6±0.4, 7231N×101E, h12km, MW5.0/40, Moment Tensor Solution. s40,c49; s40,c49; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.64±.18; $M_{\theta\theta}$1.24±.22; $M_{\phi\phi}$2.40±.18; $M_{r\theta}$1.42±.57; $M_{\theta\phi}$1.24±.17; $M_{\phi r}$-1.06±.47; Best double couple: $M_0$3.74600×10^{16} NP1:ϕ_s231.00000°,δ47.00000°,λ-62.00000°. NP2: ϕ_s13.00000°,δ50.00000°,λ-117.00000°. Principal axes: T 3.1920, Plg1.0000°, Azm122.0000°; N 1.1080, Plg20.0000°, Azm31.0000°; P -4.3000, Plg70.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 22:48:10.6±0.3, 72.13N×100E, h10km, mb4.8/16 Error ellipse: s-maj=7.5km s-min=5.4km az=224.0*

*BER **02** 22:48:13.4±3.5, 72.19N×101E, h10km, mb4.8(NEIC)*

ISC 02 22:48:10.5±0.3, **7216N**±004×**11E**±01, **h10**km, **n130**, σ**1§00**/124, **mb4.6**/42, **MS4.9**/3, **2C, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	3.27	254	Pn	Pn	22 48 58.4	-3.4
	16nm,0.3s,baz=135,slow=14,SNR=3.6						
BJO1	Bjornoya	5.65	57	eP	Pn	22 49 34.2	-0.2
BJO1	Bjornoya	5.65	57	eP	Pn	22 49 34.2	-0.3
BJO	Bjornoya	5.70	57	eP	Pn	22 49 34.3	-0.8
LOF	Lofoten	5.85	128	eP	Pn	22 49 40.8	+3.5
SPB4	Spitsbergen Ar	7.17	26	ePn	Pn	22 49 56.1	+0.8
SPA0	Spitsbergen Ar	7.17	26	Pn	Pn	22 49 55.8	+0.5
	baz=201,slow=16						
KBS	Kingsbay	7.30	17	eP	Pn	22 49 55.9	-1.2
KBS	Kingsbay	7.30	17	ePn	Pn	22 49 56.9	-0.3
	78nm,0.9s						
KBS	Kingsbay	7.30	17	Pn	Pn	22 49 55.8	-1.3
KBS	Kingsbay	7.30	17	iP	Pn	22 49 56.5	-0.6
ARA0	ARCESS Array S	8.41	96	Pn	Pn	22 50 12.0	-0.3
	baz=298,slow=12						
ARCES	ARCESS Array B	8.41	96	Pn	Pn	22 50 11.2	-1.1
	3.9nm,0.3s,baz=304,slow=12,SNR=5.5						
ARCES	ARCESS Array B	8.41	96	P	Pn	22 50 11.2	-1.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
APA0	Apatity Array	11.77	97	Pn	Pn	22 50 55.5	-2.9
	baz=309,slow=14						
NOA	NORSAR Array B	11.84	155	Pn	Pn	22 50 58.7	-0.7
	comp=Z,0.7nm,0.3s,baz=330,slow=12,SNR=3.3						
NOA	NORSAR Array B	11.84	155	P	Pn	22 50 58.7	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	NORSAR Array B	11.84	155	Pn	Pn	22 50 58.7	-0.7
HFS	Hagfors	13.06	151	Pn	Pn	22 51 15.4	-0.6
	comp=Z,0.9nm,0.3s,baz=347,slow=12,SNR=4.2						
HFS	Hagfors	13.06	151	Pn	Pn	22 51 15.9	-0.1
	baz=349,slow=11						
HFS	Hagfors	13.06	151	P	Pn	22 51 15.4	-0.6
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FIA0	FINESS Array S	14.41	125	Pn	Pn	22 51 34.1	-0.4
	baz=333,slow=14						
FINES	FINESS Array B	14.41	125	Pn	Pn	22 51 33.6	-0.8
	comp=Z,0.6nm,0.3s,baz=322,slow=14,SNR=4.8						
FINES	FINESS Array B	14.41	125	P	Pn	22 51 33.7	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA	Eskdalemuir Ar	16.99	188	Pn	Pn	22 52 08.4	+0.2
	comp=Z,0.6nm,0.3s,baz=1.8,slow=10,SNR=6.5						
EKA	Eskdalemuir Ar	16.99	188	P	Pn	22 52 08.4	+0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CLL	Collm	21.59	159	iP	P	22 53 01.9	+1.6
CLL				eS	S	22 57 06.0	+6.6
CLL				pmax	pmax		
	comp=Z,49nm,1.5s,mb4.7						
CLL	Collm	21.59	159	iP	P	22 53 01.9	+1.6
	comp=Z,49nm,1.5s,mb4.7						
CLL				eS	S	22 57 06.0	+6.6
MOS	Moscow	22.39	118	eP	P	22 53 13.1	+4.2
MOS				e		22 53 37.7	
MOS				e		22 53 50.2	
MOS				pmax	pmax		
	comp=Z,108nm,1.7s,mb5.0						
NKC	Novy Kostel	22.59	161	eP	P	22 53 14.9	+3.9
OBN	Obninsk	22.66	120⇑	eP	P	22 53 17.4	+5.7
OBN				pmax	pmax		
	comp=Z,155nm,1.9s,mb5.1						
OBN				MLR	MLR		
	comp=Z,3μm,17.0s,MS4.7						
OBN	Obninsk	22.66	120	eP	P	22 53 13.6	+1.9
	comp=Z,71nm,1.1s,mb5.0						
OBN	Obninsk	22.66	120	eP	P	22 53 13.6	+1.9
	comp=Z,71nm,1.1s,mb5.0						
UPC	Upice	22.73	155	eP	P	22 53 17.5	+5.0
DPC	Dobruska-Polom	22.93	154	eP	P	22 53 20.2	+5.6
PECR	Pechory	23.71	109	iP	P	22 53 28.0	+5.4
PECR				eS	S	22 57 42.0	+4.6
PECR				pmax	pmax		
	comp=Z,420nm,2.0s,mb5.5						
PECR				pmax	pmax		
	comp=Z,600nm,2.4s,mb5.6						
PECR				smax			
	comp=E,300nm,10.0s						
PECR				smax			
	comp=N,400nm,8.0s						
KHC	Kasperske Hory	23.80	159	eP	P	22 53 29.0	+5.6
KHC	Kasperske Hory	23.80	159	eP	P	22 53 28.6	+5.2
VRAC	Vranov	23.99	155	P	P	22 53 25.4	+0.3
	comp=N,9.3nm,0.8s,mb4.3,baz=349,slow=10,SNR=4.8						
VRAC	Vranov	23.99	155	P	P	22 53 25.4	+0.3
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GEC2	GERESS Array S	24.09	159	eP	P	22 53 29.2	+3.1
GERES	GERESS Array B	24.09	159	P	P	22 53 26.9	+0.8
	comp=Z,6.3nm,0.7s,mb4.2,baz=357,slow=9.6,SNR=7.0						
GERES	GERESS Array B	24.09	159	P	P	22 53 26.9	+0.8
GERES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG	Malin Array Be	24.90	135	P	P	22 53 33.2	-0.3
	comp=Z,5.1nm,0.5s,mb4.3,baz=341,slow=9.8,SNR=7.8						
AKASG	Malin Array Be	24.90	135	P	P	22 53 33.2	-0.3
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKASG	Malin Array Be	24.90	135	P	P	22 53 33.2	-0.3
VOR	Voronezh	26.39	120	eP	P	22 53 51.5	+4.5
VOR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.0						
VOR				pmax	pmax		
	comp=N,250nm,1.4s						
VOR				pmax	pmax		
	comp=E,100nm,1.7s						
SIM	Simferopol'	31.43	132	P	P	22 54 38.0	+6.2
SIM				pmax	pmax		
	comp=Z,300nm,14.1s						
SIM				MLR	MLR		
	comp=Z,2μm,17.6s,MS4.9						
ANN	Anapa	32.35	128	eP	P	22 54 39.9	0.0
ANN				eS	S	22 59 54.0	+0.2
ANN				pmax	pmax		
	comp=Z,109nm,1.0s,mb5.6						
ANN	Anapa	32.35	128	eP	P	22 54 39.9	0.0
	comp=Z,109nm,1.0s,mb5.6						
TIXI	Tiksi	32.59	28	iP	P	22 54 43.4	+1.4
TIXI				pmax	pmax		
	comp=Z,23nm,2.2s,mb4.7						
TIXI	Tiksi	32.59	28	iP	P	22 54 43.4	+1.4
	comp=Z,23nm,2.2s,mb4.7						
AKTK	Aktyubinsk	32.97	100	P	P	22 54 45.0	-0.4
AKTK	Aktyubinsk	32.97	100	P	P	22 54 45.0	-0.4
	comp=Z,4.0nm,0.9s,mb4.3						
AKTO	Aktyubinsk	32.97	100	P	P	22 54 45.0	-0.4
	comp=Z,3.9nm,0.8s,mb4.4,baz=342,slow=9.6,SNR=5.0						
AKTO	Aktyubinsk	32.97	100	P	P	22 54 45.0	-0.4
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BVAR	Borovoye Array	34.52	86	P	P	22 54 59.5	+0.7
	comp=Z,1.5nm,0.7s,mb4.1,baz=326,slow=7.5,SNR=2.3						
BVAR				PcP	PcP	22 57 33.4	-0.3
	comp=Z,2.6nm,0.8s,baz=336,slow=3.2,SNR=3.4						
BVAR	Borovoye Array	34.52	86	P	P	22 54 59.5	+0.7
BVAR						22 57 33.4	
BVAR				pmax	pmax		
	comp=Z,20nm,0.7s						
BRTR	Keskin Array B	36.30	136	P	P	22 55 14.3	+0.2
	comp=Z,2.2nm,0.8s,mb4.1,baz=343,slow=6.1,SNR=5.4						
BRTR	Keskin Array B	36.30	136	P	P	22 55 14.3	+0.2
BRTR				pmax	pmax		
	comp=Z,20nm,0.9s						
MAK	Makhachkala	36.68	117	eP	P	22 55 25.8	+8.4
MAK				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.1						
NVS	Novosibirsk	36.83	73	iP	P	22 55 19.3	+0.6
NVS				pmax	pmax		
	comp=N,42nm,2.0s						
NVS				pmax	pmax		
	comp=Z,46nm,2.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,9.0nm,1.8s						
YKA	Yellowknife Ar	38.69	318	P	P	22 55 33.4	-1.0
	comp=E,13nm,1.1s,mb4.6,baz=23,slow=8.9,SNR=6.9						
YKA				PcP	PcP	22 57 44.8	-1.4
	comp=E,1.8nm,0.8s,baz=20,slow=2.2,SNR=4.4						
YKA	Yellowknife Ar	38.69	318	P	P	22 55 33.4	-1.0
YKA						22 57 44.8	
YKA				pmax	pmax		
	comp=Z,13nm,1.1s						
YKA	Yellowknife Ar	38.69	318	PcP	PcP	22 57 44.8	-1.4
BILL	Bilibino	39.70	9	iP	P	22 55 43.4	+0.6
BILL				pmax	pmax		

	comp=Z,27nm,1.9s,mb4.7						
BILL	Bilibino	39.70	9	*i* P	P	22 55 43.4	+0.6
	comp=Z,27nm,1.9s,mb4.7						
EGAK	Eagle	40.96	336	*e*P	P	22 55 54.2	+0.9
	comp=Z,29nm,1.3s,mb4.8						
DAWY	Dawson	41.42	335	*e*P	P	22 55 58.5	+1.4
COLA	College	41.62	341	*e*P	P	22 56 00.2	+1.5
COLA	College	41.62	341	*e*P	P	22 55 59.3	+0.6
	comp=Z,20nm,1.1s,mb4.7						
COLA	College	41.62	341	*e*P	P	22 55 59.3	+0.6
	comp=Z,20nm,1.1s,mb4.7						
MKAR	Makanchi Array	43.65	80	P	P	22 56 14.6	-0.5
	comp=Z,0.9nm,0.7s,mb3.6,baz=344,slow=4.7,SNR=3.2						
MKAR				PcP	PcP	22 58 01.5	-0.9
	comp=Z,1.3nm,0.7s,baz=345,slow=4.4,SNR=4.2						
MKAR	Makanchi Array	43.65	80	P	P	22 56 14.6	-0.5
MKAR						22 58 01.5	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AAK	Ala-Archa	45.01	89	*i* P	P	22 56 29.6	+3.5
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
ULM	Lac du Bonnet	45.14	296	P	P	22 56 26.0	-1.1
	comp=Z,6.3nm,0.9s,mb4.5,baz=42,slow=8.3,SNR=3.0						
SONM	Songino Array	49.59	59	P	P	22 57 01.3	-0.5
	comp=Z,3.7nm,0.9s,mb4.4,baz=337,slow=7.0,SNR=10						
ULN	Ulaanbaatar	49.74	58	*e*P	P	22 57 03.9	+1.0
	comp=Z,12nm,1.3s,mb4.8						
EGMT	Eagleton	50.84	306	*e*P	P	22 57 11.3	0.0
	comp=Z,39nm,1.1s,mb5.2						
EGMT	Eagleton	50.84	306	*e*P	P	22 57 11.3	+0.1
	comp=Z,39nm,1.1s,mb5.2						
HIA	Hailar	51.54	47	*e*P	P	22 57 16.3	-0.2
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	Hailar	51.54	47	*e*P	P	22 57 16.3	-0.1
	comp=Z,3.2nm,0.4s,mb4.6						
HIA	Hailar	51.54	47	*e*P	P	22 57 16.3	-0.2
	comp=Z,3.2nm,0.4s,mb4.6						
NEW	Newport	52.38	312	P	P	22 57 21.9	-0.8
	comp=Z,2.9nm,0.6s,mb4.4,baz=49,slow=9.3,SNR=3.1						
NEW	Newport	52.38	312	*e*P	P	22 57 23.5	+0.7
NEW				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NEW	Newport	52.38	312	*e*P	P	22 57 23.5	+0.8
	comp=Z,9.4nm,0.9s,mb4.7						
NEW	Newport	52.38	312	*e*P	P	22 57 23.5	+0.7
	comp=Z,9.0nm,0.9s,mb4.7						
CHMT	Chamberlain Mo	52.74	308	*e*P	P	22 57 24.7	-0.7
CHMT	Chamberlain Mo	52.74	308	*e*P	P	22 57 24.7	-0.7
GCMT	Greycliff	52.90	305	P	P	22 57 25.6	-1.0
GCMT	Greycliff	52.90	305	P	P	22 57 25.5	-1.1
MSO	Missoula	52.98	309	P	P	22 57 28.5	+1.3
	comp=Z,14nm,1.2s,mb4.8						
MSO	Missoula	52.98	309	P	P	22 57 28.5	+1.3
	comp=Z,14nm,1.2s,mb4.8						
RSSD	Black Hills	52.98	299	*e*P	P	22 57 28.1	+0.9
RSSD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
RSSD	Black Hills	52.98	299	*e*P	P	22 57 28.1	+0.9
	comp=Z,9.0nm,1.2s,mb4.6						
HAWA	Hanford	54.70	313	*e*P	P	22 57 40.8	+1.1
	comp=Z,15nm,1.0s,mb5.0						
HAWA	Hanford	54.70	313	*e*P	P	22 57 40.8	+1.1
	comp=Z,15nm,1.0s,mb5.0						
BMO	Blue Mountains	55.64	311	*e*P	P	22 57 47.3	+0.7
	comp=Z,16nm,1.1s,mb5.0						
BMO	Blue Mountains	55.64	311	*e*P	P	22 57 47.3	+0.7
	comp=Z,16nm,1.1s,mb5.0						
PDAR	Pinedale Array	55.70	303	P	P	22 57 46.2	-0.8
	comp=Z,1.6nm,0.9s,mb4.1,baz=46,slow=4.3,SNR=4.3						
HWUT	Hardware Ranch	57.30	305	*e*P	P	22 57 59.6	+1.2
	comp=Z,30nm,1.6s,mb5.1						
TORD	Torodi Ar. Bea	58.99	179	P	P	22 58 09.8	-0.4
	comp=Z,2.4nm,0.8s,mb4.3,baz=358,slow=6.2,SNR=7.2						
TORD	Torodi Ar. Bea	58.99	179	P	P	22 58 09.8	-0.4
NVAR	Mina Array Bea	61.97	309	P	P	22 58 29.8	-0.8
	comp=Z,1.1nm,0.9s,mb4.0,baz=17,slow=9.5,SNR=3.2						
DAC	Darwin (Calif)	63.84	308	*e*P	P	22 58 42.2	-0.8
DAC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
DAC	Darwin (Calif)	63.84	308	*e*P	P	22 58 42.2	-0.8
	comp=Z,7.4nm,1.1s,mb4.6						
DAC	Darwin (Calif)	63.84	308	*e*P	P	22 58 42.2	-0.8
	comp=Z,7.0nm,1.1s,mb4.6						
KSRS	Korea Array	64.59	45	P	P	22 58 47.0	-0.9
	comp=Z,2.1nm,0.7s,mb4.3,baz=353,slow=6.8,SNR=7.3						
TUC	Tucson	65.87	301	*e*P	P	22 58 54.7	-1.6
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TUC	Tucson	65.87	301	*e*P	P	22 58 54.7	-1.5
	comp=Z,4.9nm,1.0s,mb4.5						
TUC	Tucson	65.87	301	*e*P	P	22 58 54.7	-1.6
	comp=Z,5.0nm,1.0s,mb4.5						
TXAR	Lajitas Array	66.73	293	P	P	22 59 00.7	-1.1
	comp=Z,0.7nm,0.7s,mb3.8,baz=7.8,slow=7.3,SNR=3.0						
TXAR	Lajitas Array	66.73	293	P	P	22 59 00.7	-1.0
TXAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	Matsushiro Arr	67.54	36	P	P	22 59 05.8	-1.0
	comp=Z,5.8nm,0.9s,mb4.6,baz=349,slow=6.4,SNR=10.0						
MJAR	Matsushiro Arr	67.54	36	P	P	22 59 05.8	-1.1
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHG	Chiang Mai	74.63	77	⇑P	P	22 59 50.5	+0.6
	comp=Z,10nm,1.0s,mb4.7						
CHTO	Chiang Mai	74.63	77	*e*P	P	22 59 50.3	+0.4
CHTO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
CHTO	Chiang Mai	74.63	77	*e*P	P	22 59 50.3	+0.4
	comp=Z,19nm,1.4s,mb4.8						
CHTO	Chiang Mai	74.63	77	*e*P	P	22 59 50.3	+0.4
	comp=Z,19nm,1.4s,mb4.8						
PSI	Prapat	89.76	82	P	P	23 01 08.1	-0.9
	comp=Z,3.1nm,0.4s,mb5.0,baz=38,slow=4.8,SNR=4.6						
PSI	Prapat	89.76	82	P	P	23 01 08.1	-0.9
PSI				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb5.0						
WRA	Warramunga Arr	121.41	53	PKP	PKPdf	23 07 02.1	-1.9
	comp=Z,0.3nm,0.3s,baz=330,slow=2.6,SNR=5.7						
PPT	Papeete	122.80	326	*e*LR	LR	23 45 06.2	
	comp=Z,262nm,22.8s						
ASAR	Alice Springs	124.87	55	PKP	PKPdf	23 07 08.8	-1.9
	comp=Z,2.3nm,0.7s,baz=346,slow=2.3,SNR=13						
ASAR	Alice Springs	124.87	55	PKIKP	PKPdf	23 07 08.8	-1.8
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RKT	Rikitea	125.15	309	*e*LR	LR	23 46 13.5	
	comp=Z,293nm,34.0s						
TBI	Tubuai	128.43	325	*e*LR	LR	23 47 43.0	
	comp=Z,203nm,23.8s						
SNAA	Sanae	143.62	182	PKP	PKPdf	23 07 42.6	-3.0
	comp=Z,0.8nm,0.8s,baz=179,slow=9.9,SNR=3.1						
MAW	Mawson	145.37	144	PKPbc	PKPbc	23 07 47.1	-1.4
	comp=Z,3.2nm,0.8s,baz=307,slow=7.5,SNR=4.6						
MAW	Mawson	145.37	144	PKIKP	PKPdf	23 07 47.1	-1.5
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						

*MOS **02** 22:48:50.6±1.2, 72.32N×15.2E, h10^{km}, mb4.6/13, Error ellipse: s-maj=34.0km s-min=8.1km az=97.2*
*IDC **02** 22:48:50.7±0.7, 72.26N×14.3E, h0^{km}, mb4.3/9, mb1 4.6/13, mb1mx4.3/24, mbtmp4.4/13, ML3.7/4, Error ellipse: s-maj=25.0km s-min=13.0km az=35.0*
*ISCJB **02** 22:48:50.3±0.3, 72.28N±0.04×13E±0.1, h10^{km}, mb4.6/26, Error ellipse: s-maj=7.2km s-min=4.9km az=85.9*
*NAO **02** 22:48:51.7±4.8, 72.09N×13.4E, ML3.0*
*NEIC **02** 22:48:52.1±0.2, 72.27N×13.3E, h10^{km}, mb4.7/18, Error ellipse: s-maj=6.1km s-min=4.2km az=223.0*
*CSEM **02** 22:48:53.5±0.1, 72.24N×11.5E, h35^{km}, mb4.7/23, Error ellipse: s-maj=2.4km s-min=1.8km az=45.0*
*BER **02** 22:49:00.2±2.4, 72.32N×26.4E, h10^{km}, MW3.2, mb4.6(NEIC)*

ISC 02 22:48:51.8±0.3**, 72.28N**±0.04×**13E**±0.1**, h10**^{km}**, n103,** σ0^{s}**90**/97**, mb4.6**/26**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	3.37	252	Pn	Pn	22 49 44.9	+0.4
	8.1nm,0.3s,baz=0.0,slow=10,SNR=2.3						
LOF	Lofoten	5.87	129	*e*P	Pn	22 50 20.6	+1.7
SPA0	Spitsbergen Ar	7.03	26	Pn	Pn	22 50 37.5	+2.7
	baz=205,slow=16						
KBS	Kingsbay	7.17	17	Pn	Pn	22 50 38.4	+1.8
KBS	Kingsbay	7.17	17	*e*P	Pn	22 50 39.5	+2.9
KBS	Kingsbay	7.17	17	*e*P	Pn	22 50 36.5	-0.1
KBS				pmax	pmax		
	comp=Z,84nm,1.0s						
KBS	Kingsbay	7.17	17	*e*Pn	Pn	22 50 36.5	-0.1
	comp=Z,84nm,1.0s						
ARA0	ARCESS Array S	8.36	97	Pn	Pn	22 50 52.5	-0.4
	baz=302,slow=14						
ARA0	ARCESS Array S	8.36	97	Pn	Pn	22 50 52.5	-0.4
ARCES	ARCESS Array B	8.36	97	Pn	Pn	22 50 52.1	-0.9
	comp=Z,2.9nm,0.3s,baz=301,slow=17,SNR=3.3						
ARCES				Sn	Sn	22 52 23.1	-4.2
	comp=Z,2.4nm,0.3s,baz=306,slow=20,SNR=2.9						
ARCES	ARCESS Array B	8.36	97	P	Pn	22 50 52.1	-0.8
ARCES						22 52 23.1	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ARCES				smax			
	comp=N,2.0nm,0.3s						
SUMG	Summit	11.87	290	*e*Pn	Pn	22 51 40.3	-0.7
	comp=N,19nm,0.7s						
SUMG	Summit	11.87	290	*e*Pn	Pn	22 51 40.3	-0.7
	comp=N,19nm,0.7s						
KONO	Kongsberg	13.11	161	*e*Pn	Pn	22 51 58.0	0.0
HFS	Hagfors	13.13	152	Pn	Pn	22 51 58.0	-0.3
	comp=N,1.1nm,0.3s,baz=2.5,slow=10,SNR=3.8						
HFS	Hagfors	13.13	152	P	Pn	22 51 57.5	-0.8
	baz=353,slow=12						
HFS	Hagfors	13.13	152	P	Pn	22 51 58.0	-0.3
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FIA0	FINESS Array S	14.42	126	Pn	Pn	22 52 15.5	-0.5
FINES	FINESS Array B	14.42	126	Pn	Pn	22 52 15.7	-0.3
	comp=Z,0.6nm,0.3s,baz=337,slow=11,SNR=3.3						
FINES	FINESS Array B	14.42	126	P	Pn	22 52 15.7	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESK	Eskdalemuir	17.14	189	*e*P	Pn	22 52 51.3	-0.1
ESK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ESK	Eskdalemuir	17.14	189	*e*P	Pn	22 52 51.3	-0.1
	comp=Z,5.0nm,0.7s						
ESK	Eskdalemuir	17.14	189	*e*P	Pn	22 52 51.3	-0.1
	comp=Z,5.0nm,0.7s						
RGN	Rugen	18.52	158	P	Pn	22 53 08.3	-0.1
CLL	Collm	21.68	160	*e*(P)	P	22 53 45.0	+2.4
CLL				*e*S	S	22 57 47.0	+4.5
OBN	Obninsk	22.66	121	P	P	22 53 52.3	-0.7
	comp=Z,68nm,1.1s,mb5.0						
OBN	Obninsk	22.66	121	P	P	22 53 52.3	-0.8
	comp=Z,68nm,1.1s,mb5.0						
PECR	Pechory	23.69	110	*i* P	P	22 54 04.4	+0.7
PECR				pmax	pmax		
	comp=Z,190nm,2.0s,mb5.2						
PECR				pmax	pmax		
	comp=Z,400nm,2.6s,mb5.4						
PECR	Pechory	23.69	110	*i* P	P	22 54 04.4	+0.7
	comp=Z,400nm,2.6s,mb5.4						
VRAC	Vranov	24.07	155	P	P	22 54 06.6	-0.6
	comp=Z,11nm,0.8s,mb4.4,baz=350,slow=11,SNR=4.4						
VRAC	Vranov	24.07	155	P	P	22 54 06.6	-0.6
VRAC				pmax	pmax		
	comp=Z,11nm,0.8s						
GERES	GERESS Array B	24.18	160	P	P	22 54 08.4	+0.2
	comp=Z,4.9nm,0.8s,mb4.0,baz=359,slow=7.8,SNR=2.8						
GERES	GERESS Array B	24.18	160	P	P	22 54 08.4	+0.1
GERES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	Malin Array Be	24.94	135	P	P	22 54 13.3	-1.8
	comp=Z,2.4nm,0.4s,mb4.0,baz=342,slow=9.8,SNR=3.4						
AKASG	Malin Array Be	24.94	135	P	P	22 54 13.4	-1.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PSZ	Piszkesteto	25.89	151	P	P	22 54 24.6	+0.8
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
PSZ	Piszkesteto	25.89	151	P	P	22 54 24.6	+0.9
	comp=Z,7.7nm,0.8s,mb4.3						
PSZ	Piszkesteto	25.89	151	P	P	22 54 24.6	+0.8
	comp=Z,8.0nm,0.8s,mb4.3						
CHKZ	Chkalovo	33.95	85	*e*P	P	22 55 36.2	+1.0
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
CHKZ	Chkalovo	33.95	85	*e*P	P	22 55 36.2	+1.0
	comp=Z,5.1nm,1.2s,mb4.3						
CHKZ	Chkalovo	33.95	85	*e*P	P	22 55 36.2	+1.0
	comp=Z,5.0nm,1.2s,mb4.3						
BRTR	Keskin Array B	36.34	136	P	P	22 55 56.6	+0.8
	comp=Z,1.8nm,0.8s,mb4.0,baz=334,slow=4.6,SNR=3.2						
BRTR	Keskin Array B	36.34	136	P	P	22 55 56.6	+0.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	38.65	318	P	P	22 56 15.2	-0.1
	comp=Z,11nm,1.0s,mb4.5,baz=23,slow=8.7,SNR=5.3						
YKA				PcP	PcP	22 58 26.9	-0.5
	comp=Z,1.6nm,0.9s,baz=21,slow=3.4,SNR=3.5						
YKA	Yellowknife Ar	38.65	318	P	P	22 56 15.2	-0.2
YKA						22 58 26.9	
YKA				pmax	pmax		
	comp=Z,11nm,1.0s						
YKA	Yellowknife Ar	38.65	318	P	P	22 56 15.2	-0.2
YKA				PcP	PcP	22 58 26.9	-0.5
YKA	Yellowknife Ar	38.65	318	PcP	PcP	22 58 26.9	-0.5
DAWY	Dawson	41.34	335	*e*P	P	22 56 35.4	-2.4
DAWY	Dawson	41.34	335	*e*P	P	22 56 35.4	-2.4
YAK	Yakutsk	41.41	34	*e*P	P	22 56 39.0	+0.7
YAK				pmax	pmax		
	comp=Z,12nm,0.3s,mb5.0						
YAK	Yakutsk	41.41	34	*e*P	P	22 56 39.0	+0.6
	comp=Z,12nm,0.3s,mb5.0						
YAK	Yakutsk	41.41	34	*e*P	P	22 56 39.0	+0.7
	comp=Z,12nm,0.3s,mb5.0						
COLA	College	41.53	341	*e*P	P	22 56 38.5	-0.8
COLA				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.5						
COLA	College	41.53	341	*e*P	P	22 56 38.5	-0.8
	comp=Z,14nm,1.2s,mb4.5						
COLA	College	41.53	341	*e*P	P	22 56 38.5	-0.8
	comp=Z,14nm,1.2s,mb4.5						
MCK	McKinley	42.76	341	*e*P	P	22 56 49.0	-0.3
MCK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
MCK	McKinley	42.76	341	*e*P	P	22 56 49.0	-0.3
	comp=Z,13nm,1.4s,mb4.5						
MCK	McKinley	42.76	341	*e*P	P	22 56 49.0	-0.3
	comp=Z,13nm,1.4s,mb4.5						
MKAR	Makanchi Array	43.55	80	P	P	22 56 55.0	-0.7
	comp=Z,0.4nm,0.5s,baz=340,slow=8.0,SNR=2.9						
AAK	Ala-Archa	44.94	90	*e*P	P	22 57 06.8	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
AAK	Ala-Archa	44.94	90	*e*P	P	22 57 06.8	-0.1
	comp=Z,1.6nm,0.6s,mb4.0						
AAK	Ala-Archa	44.94	90	*e*P	P	22 57 06.8	-0.1
	comp=Z,2.0nm,0.6s,mb4.1						
ULM	Lac du Bonnet	45.15	296	*e*P	P	22 57 09.1	+0.6
	comp=Z,8.2nm,0.9s,mb4.6						
ULM	Lac du Bonnet	45.15	296	*e*P	P	22 57 09.1	+0.6
	comp=Z,8.2nm,0.9s,mb4.6						
TLY	Talaya	45.23	59	P	P	22 57 07.2	-2.0
EYMN	Ely	46.01	291	*e*P	P	22 57 15.0	-0.3
	comp=Z,9.0nm,0.9s,mb4.7						
EYMN	Ely	46.01	291	*e*P	P	22 57 15.0	-0.3
	comp=Z,9.0nm,0.9s,mb4.7						
EDM	Edmonton	46.86	312	*e*P	P	22 57 22.0	0.0
BRNJ	Basking Ridge	47.55	272	P	P	22 57 27.0	-0.4
EGMT	Eagleton	50.83	306	*e*P	P	22 57 52.9	+0.4
	comp=Z,36nm,1.1s,mb5.2						
EGMT	Eagleton	50.83	306	*e*P	P	22 57 52.9	+0.4
	comp=Z,36nm,1.1s,mb5.2						
HIA	Hailar	51.40	47	P	P	22 57 57.3	+0.5
BBSR	BB Station	52.23	258	*e*P	P	22 58 03.0	0.0
BBSR	BB Station	52.23	258	*e*P	P	22 58 03.0	+0.1
NEW	Newport	52.35	312	P	P	22 58 03.3	-0.6
	comp=Z,3.0nm,0.4s,mb4.5,baz=40,slow=9.8,SNR=3.2						
NEW	Newport	52.35	312	*e*P	P	22 58 04.2	+0.3
NEW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NEW	Newport	52.35	312	*e*P	P	22 58 04.2	+0.3
	comp=Z,6.2nm,0.7s,mb4.7						
NEW	Newport	52.35	312	*e*P	P	22 58 04.2	+0.3
	comp=Z,6.0nm,0.7s,mb4.6						
RSSD	Black Hills	52.99	300	*e*P	P	22 58 09.0	+0.4
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
RSSD	Black Hills	52.99	300	*e*P	P	22 58 09.0	+0.5
	comp=Z,5.1nm,1.0s,mb4.4						
RSSD	Black Hills	52.99	300	*e*P	P	22 58 09.0	+0.4
	comp=Z,5.0nm,1.0s,mb4.4						
RLMT	Red Lodge	53.41	304	*e*P	P	22 58 12.1	+0.4
	comp=Z,6.3nm,0.9s,mb4.5						
RLMT	Red Lodge	53.41	304	*e*P	P	22 58 12.1	+0.4
	comp=Z,6.3nm,0.9s,mb4.5						
UNV	Unalaska Valle	53.88	351	*e*P	P	22 58 15.3	+0.2
	comp=Z,26nm,0.7s,mb5.3						
UNV	Unalaska Valle	53.88	351	*e*P	P	22 58 15.3	+0.2
	comp=Z,26nm,0.7s,mb5.3						
IMW	Indian Meadow	54.98	305	*e*P	P	22 58 23.9	+0.8
	comp=Z,16nm,1.1s,mb5.0						
IMW	Indian Meadow	54.98	305	*e*P	P	22 58 23.9	+0.8
	comp=Z,16nm,1.1s,mb5.0						
BMO	Blue Mountains	55.61	311	*e*P	P	22 58 26.4	-1.3
	comp=Z,13nm,1.1s,mb4.9						
BMO	Blue Mountains	55.61	311	*e*P	P	22 58 26.4	-1.3
	comp=Z,13nm,1.1s,mb4.9						
PDAR	Pinedale Array	55.69	304	P	P	22 58 28.7	+0.4
	comp=Z,5.8nm,1.1s,mb4.5,baz=20,slow=5.2,SNR=4.5						
HLID	Hailey	56.15	308	*e*P	P	22 58 31.7	+0.2
	comp=Z,16nm,1.2s,mb4.9						
YSS	Yuzh-Sakhalins	58.03	30	P	P	22 58 44.4	-0.4
TORD	Torodi Ar. Bea	59.11	180	P	P	22 58 51.5	-0.8
	comp=Z,2.3nm,0.7s,mb4.3,baz=356,slow=6.8,SNR=4.3						
WMOK	Wichita Mounta	60.28	291	*e*P	P	22 58 59.5	-1.0
MSU	Marysvale	60.36	304	P	P	22 59 01.6	+0.6
NVAR	Mina Array Bea	61.94	309	P	P	22 59 12.9	+1.2
	comp=Z,3.8nm,1.0s,mb4.5,baz=19,slow=5.8,SNR=2.2						
ASAR	Alice Springs	124.75	55	PKP	PKPdf	23 07 50.2	-1.5
	comp=Z,1.6nm,0.7s,baz=353,slow=1.8,SNR=7.6						
ASAR	Alice Springs	124.75	55	PKIKP	PKPdf	23 07 50.3	-1.4
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	124.75	55	PKIKP	PKPdf	23 07 50.2	-1.5
SNAA	Sanae	143.75	182	PKP	PKPdf	23 08 26.2	-0.9
	comp=Z,1.6nm,1.0s,baz=278,slow=7.1,SNR=4.0						
SNAA	Sanae	143.75	182	PKIKP	PKPdf	23 08 26.2	-0.9
SNAA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	Mawson	145.43	144	PKPbc	PKPbc	23 08 29.2	-0.7
	comp=Z,3.6nm,0.8s,baz=316,slow=8.2,SNR=3.4						
MAW	Mawson	145.43	144	PKIKP	PKPdf	23 08 29.2	-0.8
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						

*ISCJB **02** 22:52:37.8±0.2, 72.26N±0.03×13E±0.1, h10^{km}, mb4.5/60, MS4.1/1, Error ellipse: s-maj=5.3km s-min=3.5km az=127.0*
*IDC **02** 22:52:37.8±0.6, 72.15N×07.5E, h0^{km}, mb4.1/13, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, ML4.0/5, MS4.0/1, Ms1 4.0/1, ms1mx3.5/25, Error ellipse: s-maj=18.3km s-min=11.8km az=45.0*
*MOS **02** 22:52:38.3±1.2, 72.24N×14.5E, h10^{km}, mb4.7/28, Error ellipse: s-maj=24.4km s-min=4.3km az=97.2*
*NEIC **02** 22:52:39.7±0.2, 72.23N×12.4E, h10^{km}, mb4.6/38, Error ellipse: s-maj=5.5km s-min=3.5km az=62.0*
*GCMT **02** 22:52:39.7±0.3, 72.14N×07.5E, h12^{km}, MW4.9/76, Moment Tensor Solution. s11,c13; s76,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.77±.11; $M_{\theta\theta}$0.90±.12; $M_{\phi\phi}$1.87±.10; $M_{r\theta}$-1.52±.51; $M_{\theta\phi}$1.13±.09; $M_{\phi r}$-0.24±.43; Best double couple: $M_0$3.07300×10^{16} NP1:ϕ_s198.00000°,δ37.00000°,λ-119.00000°. NP2: ϕ_s52.00000°,δ58.00000°,λ-70.00000°. Principal axes: T 2.8230, Plg11.0000°, Azm128.0000°; N 0.4970, Plg17.0000°, Azm222.0000°; P -3.3230, Plg70.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **02** 22:52:39.9±0.1, 72.30N×08.7E, h30^{km}, mb4.5/37, Mw4.9 Error ellipse: s-maj=2.8km s-min=1.7km az=33.0*
*NAO **02** 22:52:39.0±3.1, 72.12N×16.3E, ML2.0*
*BER **02** 22:52:41.8±3.2, 72.28N×09.3E, h11^{km}, MD3.2, ML3.0, ML2.0(NAO)*
*SZGRF **02** 22:52:42.4, 72.16N×14.5E, h33^{km}, mb4.7, Norwegian Sea*

ISC 02 22:52:39.3±0.2**, 72.23N**±0.03×**13E**±0.1**, h10**^{km}**, n210,** σ1^{s}**04**/220**, mb4.5**/60**, MS4.1**/1**, 17C-3D, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	3.33	253	Pn	Pn	22 53 27.8	-3.7
	6.1nm,0.3s,baz=348,slow=7.3,SNR=3.4						
JMIC	Jan Mayen	3.33	253	*e*P	Pn	22 53 29.6	-1.9
	SNR=50						
BJO	Bjornoya	5.62	58	*e*P	Pn	22 54 03.2	+0.3
TRO	Tromso	6.34	106	*e*P	Pn	22 54 10.6	-2.2
TRO				*e*S	Sn	22 55 17.9	-7.3
SPB4	Spitsbergen Ar	7.09	26	*e*Pn	Pn	22 54 24.9	+1.9
SPA0	Spitsbergen Ar	7.09	26	Pn	Pn	22 54 23.6	+0.6
	baz=217,slow=16						
STOK1	Konsvik	7.10	138	*e*P	Pn	22 54 22.1	-1.1
STOK1	Konsvik	7.10	138	AML	AML	22 55 40.3	
	comp=Z,18nm,0.3s						
KBS	Kingsbay	7.22	17	*e*P	Pn	22 54 24.6	-0.2
KBS	Kingsbay	7.22	17	Pn	Pn	22 54 24.5	-0.4
KBS				*e*P		22 54 24.6	
KBS	Kingsbay	7.22	17	*e*P	Pn	22 54 24.6	-0.3
	SNR=47						
STOK2	Flostrand	7.29	138	*e*P	Pn	22 54 26.2	+0.4
MOR8	Moi Rana	7.66	136	*e*P	Pn	22 54 30.6	-0.3
MOR8				*e*S	Sn	22 55 52.0	-5.8
MOR8				AML	AML	22 55 55.5	
	comp=Z,19nm,0.4s						
MOR8	Moi Rana	7.66	136	*e*P	Pn	22 54 30.6	-0.3
MOR8				*e*S	Sn	22 55 52.0	-5.8
KTK1	Kautokeino	7.96	103	*e*P	Pn	22 54 34.8	-0.2
KTK1				*e*S	Sn	22 55 59.7	-5.4
ARA0	ARCESS Array S	8.37	97	Pn	Pn	22 54 39.7	-0.9
	baz=300,slow=12						
ARA0				Sn	Sn	22 56 09.1	-6.1
	baz=310,slow=22						
ARCES	ARCESS Array B	8.37	97	Pn	Pn	22 54 39.9	-0.8
	comp=Z,6.8nm,0.3s,baz=300,slow=12,SNR=28						
ARCES				Sn	Sn	22 56 08.0	-7.2
	baz=263,slow=15,SNR=2.4						
ARCES	ARCESS Array B	8.37	97	Pn	Pn	22 54 39.9	-0.8
ARCES				Sn	Sn	22 56 08.0	-7.2
ARCES	ARCESS Array B	8.37	97	Pn	Pn	22 54 39.8	-0.8
ARCES				Sn	Sn	22 56 08.0	-7.2
NSS	Namsos	8.67	148	*e*P	Pn	22 54 42.7	-2.0
NSS				*e*S	Sn	22 56 11.9	-10
NSS				AML	AML	22 56 22.1	
	comp=Z,18nm,0.5s						
NSS	Namsos	8.67	148	*e*P	Pn	22 54 42.7	-2.0
NSS				*e*S	Sn	22 56 11.9	-10
KEV	Kevo	8.72	94	*e*Pn	Pn	22 54 44.6	-0.8
DOMB	Dombas	10.66	160	*e*P	Pn	22 55 11.2	-0.7
FOO	Floro	10.78	170	*e*P	Pn	22 55 11.0	-2.6
BORG	Borgarnes	11.09	239	LR	LR	22 58 33.4	
	comp=Z,787nm,18.4s,baz=18,slow=33						
BORG	Borgarnes	11.09	239	*e*P	Pn	22 55 19.0	+1.1
BORG	Borgarnes	11.09	239	*e*P	Pn	22 55 19.0	+1.1
HYA	Hoyanger	11.28	168	*e*P	Pn	22 55 21.0	+0.6
HYA				*e*S	Sn	22 57 15.7	-11
APA0	Apatity Array	11.73	97	Pn	Pn	22 55 24.8	-1.9
	baz=316,slow=12						
SUMG	Summit	11.86	291	*e*P	Pn	22 55 27.9	-0.5
	comp=Z,34nm,1.0s						
SUMG	Summit	11.86	291	*e*P	Pn	22 55 27.9	-0.6
	comp=Z,34nm,1.0s						
NB2	NORSAR Subarra	11.88	156	Pn	Pn	22 55 27.8	-1.0
	baz=344,slow=14						
NOA	NORSAR Array B	11.88	156	Pn	Pn	22 55 28.9	+0.2
	comp=Z,0.5nm,0.3s,baz=349,slow=13,SNR=3.4						
NOA				Sn	Sn	22 57 38.6	-2.8
	comp=Z,0.5nm,0.3s,baz=327,slow=22,SNR=3.5						
NAO01	NORSAR Array S	12.03	157	P	Pn	22 55 32.9	+2.1
NAO01	NORSAR Array S	12.03	157	P	Pn	22 55 32.9	+2.1
KONO	Kongsberg	13.06	161	*e*P	Pn	22 55 45.2	+0.4
HFS	Hagfors	13.10	152	Pn	Pn	22 55 44.3	-1.0
	comp=Z,1.4nm,0.3s,baz=355,slow=15,SNR=11						
HFS				Sn	Sn	22 58 00.4	-11
	comp=Z,0.4nm,0.3s,baz=342,slow=27,SNR=4.2						
HFS	Hagfors	13.10	152	P	Pn	22 55 44.1	-1.2
	baz=356,slow=11						
HFS	Hagfors	13.10	152	Pn	Pn	22 55 44.1	-1.2
	SNR=8.4						
HFS				Sn	Sn	22 58 00.4	-11
FIA0	FINESS Array S	14.41	126	Pn	Pn	22 56 01.9	-1.4
	baz=318,slow=10						

EKA	**Eskdalemuir Ar**	**17.06**	**189**	Pn	**Pn**	**22 56 36.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=359,slow=11,SNR=6.3						
ESK	**Eskdalemuir**	**17.08**	**189**	*e*P	**Pn**	**22 56 39.6**	**+1.5**
RGN	**Rugen**	**18.48**	**157**	P	**Pn**	**22 56 56.5**	**+1.2**
RGN	**Rugen**	**18.48**	**157**	P	**Pn**	**22 56 56.5**	**+1.1**
BSEG	**Bad Segeberg**	**18.77**	**163**	*e*P	**Pn**	**22 56 58.7**	**-0.2**
	comp=Z,28nm,1.4s						
NRDL	**Niedersach Rie**	**20.18**	**164**	*e*P	**P**	**22 57 13.5**	**-0.4**
	comp=Z,116nm,1.9s						
SUW	**Suwalki**	**20.55**	**141**	*e*P	**P**	**22 57 17.9**	**0.0**
SUW				L		23 00 26.3	
	comp=Z,2.4nm,19.0s						
RUE	**Ruedersdorf**	**20.56**	**158**	*e*P	**P**	**22 57 18.4**	**+0.3**
	comp=Z,161nm,1.7s						
CLZ	**Clausthal**	**20.85**	**164**	*e*P	**P**	**22 57 21.2**	**0.0**
	comp=Z,97nm,1.5s						
CLZ	**Clausthal**	**20.85**	**164**	*e*P	**P**	**22 57 21.2**	**0.0**
CLZ				pmax	pmax		
	comp=Z,97nm,1.5s						
BUG	**Bochum--Univer**	**21.03**	**169**	*e*P	**P**	**22 57 22.7**	**-0.4**
	comp=Z,64nm,1.3s,mb4.8						
MNK	**Minsk**	**21.06**	**133**	*e*P	**P**	**22 57 20.0**	**-3.4**
CLL	**Collm**	**21.63**	**160**	*e*P	**P**	**22 57 29.0**	**-0.6**
	comp=Z,31nm,1.3s,mb4.6						
CLL	**Collm**	**21.63**	**160**	⇑*i*P	**P**	**22 57 27.8**	**-1.8**
CLL				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.6						
CLL	**Collm**	**21.63**	**160**	⇑*i*P	**P**	**22 57 27.8**	**-1.8**
	comp=Z,32nm,1.3s,mb4.6						
CLL				*i* x	x	22 57 40.6	
UBBA	**Unterbreizbach**	**21.84**	**165**	*e*P	**P**	**22 57 32.2**	**+0.4**
	comp=Z,54nm,1.8s,mb4.7						
FBE	**Freiberg**	**22.05**	**159**	*e*P	**P**	**22 57 34.0**	**-0.1**
	comp=Z,67nm,1.4s,mb4.9						
MOX	**Moxa**	**22.15**	**162**	*e*P	**P**	**22 57 34.8**	**-0.3**
	comp=Z,49nm,1.3s,mb4.8						
BRG	**Berggiesshubel**	**22.16**	**158**	*e*P	**P**	**22 57 34.8**	**-0.5**
	comp=Z,39nm,1.5s,mb4.6						
BRG	**Berggiesshubel**	**22.16**	**158**	*i* P	**P**	**22 57 34.9**	**-0.4**
	comp=Z,28nm,1.5s,mb4.5						
BRG				*e*		22 57 45.6	
	comp=Z,15nm,1.3s						
TNS	**Taunus Mts**	**22.32**	**168**	*e*P	**P**	**22 57 36.7**	**-0.2**
	comp=Z,38nm,1.3s,mb4.7						
TNS	**Taunus Mts**	**22.32**	**168**	*e*P	**P**	**22 57 36.7**	**-0.2**
TNS				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.7						
MOS	**Moscow**	**22.38**	**118**	*e*P	**P**	**22 57 35.5**	**-2.1**
MOS				pmax	pmax		
	comp=Z,150nm,1.7s,mb5.2						
MOS				pmax	pmax		
	comp=Z,400nm,2.3s,mb5.4						
TANN	**Tannenbergstha**	**22.46**	**161**	*e*P	**P**	**22 57 38.0**	**-0.4**
	comp=Z,45nm,1.4s,mb4.7						
KSP	**Ksiaz**	**22.48**	**155**	*e*P	**P**	**22 57 38.0**	**-0.7**
KSP				*e*		22 57 50.8	
GUNZ	**Gunzen**	**22.50**	**161**	*e*P	**P**	**22 57 38.3**	**-0.5**
	comp=Z,33nm,1.3s,mb4.6						
PVCC	**Panska Ves**	**22.58**	**157**	*e*P	**P**	**22 57 37.2**	**-2.5**
WERN	**Wernitzgruen**	**22.58**	**161**	*e*P	**P**	**22 57 39.2**	**-0.5**
	comp=Z,46nm,1.2s,mb4.8						
NKC	**Novy Kostel**	**22.64**	**161**	*e*P	**P**	**22 57 40.4**	**+0.1**
UPC	**Upice**	**22.77**	**155**	*e*P	**P**	**22 57 41.6**	**-0.2**
MANZ	**Manzenberg**	**22.85**	**162**	*e*P	**P**	**22 57 42.6**	**0.0**
	comp=Z,21nm,1.6s,mb4.3						
DPC	**Dobruska-Polom**	**22.97**	**155**	*e*P	**P**	**22 57 43.0**	**-0.8**
GRA1	**Grafenberg Arr**	**23.06**	**163**	*e*P	**P**	**22 57 45.5**	**+0.7**
	comp=Z,50nm,1.7s,mb4.7						
GRF	**Grafenberg Arr**	**23.06**	**163**	*e*P	**P**	**22 57 45.5**	**+0.7**
	comp=Z,50nm,1.7s,mb4.7						
GRF	**Grafenberg Arr**	**23.06**	**163**	*e*P	**P**	**22 57 45.5**	**+0.7**
GRF				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.7						
GRF	**Grafenberg Arr**	**23.06**	**163**	*e*P	**P**	**22 57 45.5**	**+0.7**
GRF				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.7						
ROTZ	**Rotzenmuhle**	**23.07**	**162**	*e*P	**P**	**22 57 45.3**	**+0.3**
	comp=Z,32nm,1.2s,mb4.6						
PRU	**Pruhonice**	**23.11**	**158**	*e*P	**P**	**22 57 45.3**	**0.0**
OJC	**Ojcow**	**23.60**	**149**	*e*P	**P**	**22 57 49.7**	**-0.7**
PECR	**Pechory**	**23.69**	**109**	*i* P	**P**	**22 57 50.4**	**-0.8**
PECR				pmax	pmax		
	comp=Z,300nm,2.0s,mb5.4						
PECR				pmax	pmax		
	comp=Z,500nm,2.1s,mb5.6						
PECR	**Pechory**	**23.69**	**109**	*i* P	**P**	**22 57 50.4**	**-0.8**
	comp=Z,500nm,2.1s,mb5.6						
MORC	**Moravsky Berou**	**23.70**	**153**	⇑*i*P	**P**	**22 57 51.0**	**-0.3**
OKC	**Ostrava-Krasne**	**23.72**	**152**	*e*P	**P**	**22 57 51.7**	**+0.2**
WET	**Wettzell**	**23.76**	**161**	*e*P	**P**	**22 57 51.1**	**-0.7**
	comp=Z,33nm,1.3s,mb4.6						
WET	**Wettzell**	**23.76**	**161**	*e*P	**P**	**22 57 51.1**	**-0.7**
WET				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.6						
STU	**Stuttgart**	**23.81**	**167**	*e*P	**P**	**22 57 54.1**	**+1.8**
KHC	**Kasperske Hory**	**23.84**	**160**	*e*P	**P**	**22 57 52.9**	**+0.3**
VRAC	**Vranov**	**24.03**	**155**	P	**P**	**22 57 54.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.4,baz=356,slow=10,SNR=12						
VRAC	**Vranov**	**24.03**	**155**	⇑*i*P	**P**	**22 57 55.5**	**+1.2**
VRAC	**Vranov**	**24.03**	**155**	P	**P**	**22 57 54.1**	**-0.2**
VRAC				pmax	pmax		
	comp=Z,14nm,0.9s						
VRAC	**Vranov**	**24.03**	**155**	⇑P	**P**	**22 57 55.5**	**+1.2**
GEC2	**GERESS Array S**	**24.14**	**160**	*e*P	**P**	**22 57 56.3**	**+1.0**
GEC2	**GERESS Array S**	**24.14**	**160**	*e*P	**P**	**22 57 56.2**	**+0.9**
GERES	**GERESS Array B**	**24.14**	**160**	P	**P**	**22 57 55.7**	**+0.4**
	comp=Z,6.3nm,0.8s,mb4.1,baz=357,slow=9.4,SNR=27						
BFO	**Black Forest**	**24.20**	**168**	*e*P	**P**	**22 57 57.0**	**+1.2**
BFO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BFO	**Black Forest**	**24.20**	**168**	*e*P	**P**	**22 57 57.0**	**+1.2**
	comp=Z,7.7nm,1.0s,mb4.1						
BFO	**Black Forest**	**24.20**	**168**	*e*P	**P**	**22 57 57.0**	**+1.2**
	comp=Z,7.7nm,1.0s,mb4.1						
STHS	**Stebnicka Huta**	**24.61**	**148**	*e*P	**P**	**22 58 01.1**	**+1.5**
STHS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
STHS	**Stebnicka Huta**	**24.61**	**148**	*e*P	**P**	**22 58 01.1**	**+1.5**
	comp=Z,9.5nm,1.1s,mb4.2						
KWP	**Kalwaria**	**24.65**	**145**	*e*P	**P**	**22 58 02.1**	**+2.1**
KWP				L		23 03 09.0	
	comp=Z,2.2nm,20.0s						
KWP	**Kalwaria**	**24.65**	**145**	*e*P	**P**	**22 58 01.1**	**+1.1**
KWP				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
KWP	**Kalwaria**	**24.65**	**145**	*e*P	**P**	**22 58 01.1**	**+1.1**
	comp=Z,14nm,0.7s,mb4.6						
KWP	**Kalwaria**	**24.65**	**145**	*e*P	**P**	**22 58 01.1**	**+1.1**
	comp=Z,14nm,0.7s,mb4.6						
LVV	**L'vov**	**24.71**	**143**	*e*P	**P**	**22 58 01.5**	**+1.0**
AKASG	**Malin Array Be**	**24.91**	**135**	P	**P**	**22 58 01.5**	**-0.9**
	comp=Z,6.1nm,0.8s,mb4.2,baz=336,slow=10,SNR=14						
AKBB	**Malin Array Si**	**24.91**	**135**	*e*P	**P**	**22 58 01.8**	**-0.6**
VYHS	**Vyhne**	**25.13**	**152**	*e*P	**P**	**22 58 05.0**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
VYHS	**Vyhne**	**25.13**	**152**	*e*P	**P**	**22 58 05.0**	**+0.6**
	comp=Z,8.4nm,1.4s,mb4.1						
CRVS	**Cervenica-Dubn**	**25.14**	**148**	*e*P	**P**	**22 58 05.6**	**+1.1**
MOA	**Molln**	**25.18**	**159**	⇑*i*P	**P**	**22 58 06.0**	**+1.1**
	comp=Z,36nm,1.5s,mb4.7						
ZST	**Bratislava**	**25.18**	**155**	*e*P	**P**	**22 58 05.8**	**+0.9**
ZST				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
ZST				MLR	MLR		
	comp=Z,500nm,16.3s,MS4.1						
ZST	**Bratislava**	**25.18**	**155**	*e*P	**P**	**22 58 05.8**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.2						
ZST				LR	LR		
	comp=Z,500nm,16.3s,MS4.1						
ZST	**Bratislava**	**25.18**	**155**	*e*P	**P**	**22 58 05.8**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.2						
KOLS	**Kolonicke sedl**	**25.25**	**146**	*e*P	**P**	**22 58 06.2**	**+0.8**
CONA	**Conrad Observa**	**25.29**	**157**	⇑*i*P	**P**	**22 58 04.8**	**-1.0**
	comp=Z,19nm,1.6s,mb4.4						
DAVA	**Damuels**	**25.34**	**166**	⇑*i*P	**P**	**22 58 07.9**	**+1.7**
	comp=Z,20nm,1.4s,mb4.4						
MOTA	**Moosalm**	**25.38**	**164**	⇑*i*P	**P**	**22 58 08.0**	**+1.4**
	comp=Z,20nm,1.4s,mb4.5						
MOTA	**Moosalm**	**25.38**	**164**	⇑*i*P	**P**	**22 58 08.0**	**+1.4**
MOTA				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.5						
KECS	**Kecovo**	**25.39**	**149**	*e*P	**P**	**22 58 06.9**	**+0.1**
KECS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
KECS	**Kecovo**	**25.39**	**149**	*e*P	**P**	**22 58 06.9**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.2						
WTTA	**Wattenberg**	**25.50**	**163**	⇓*i*P	**P**	**22 58 09.2**	**+1.5**
	comp=Z,34nm,1.3s,mb4.7						
SQTA	**Sankt Quirin**	**25.51**	**164**	⇑*i*P	**P**	**22 58 09.2**	**+1.4**
	comp=Z,18nm,1.2s,mb4.5						
UZH	**Uzhgorod**	**25.55**	**146**	*e*P	**P**	**22 58 07.0**	**-1.1**
UZH				*i*		22 58 41.0	
PSZ	**Piszkesteto**	**25.85**	**150**	*e*P	**P**	**22 58 11.9**	**+1.0**
PSZ				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
PSZ	**Piszkesteto**	**25.85**	**150**	*e*P	**P**	**22 58 11.9**	**+1.0**
	comp=Z,17nm,1.3s,mb4.4						
PSZ	**Piszkesteto**	**25.85**	**150**	*e*P	**P**	**22 58 11.9**	**+1.0**
	comp=Z,17nm,1.3s,mb4.4						
ARSA	**Arzberg**	**25.92**	**157**	⇑*i*P	**P**	**22 58 13.2**	**+1.7**
	comp=Z,12nm,1.1s,mb4.3						
VRSR	**Storozhevoye**	**26.85**	**121**	*e*P	**P**	**22 58 20.7**	**+0.8**
VRSR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.5						
VRSR				pmax	pmax		
	comp=N,60nm,1.0s						
VRSR				pmax	pmax		
	comp=E,20nm,1.0s						
VRSR	**Storozhevoye**	**26.85**	**121**	*e*P	**P**	**22 58 20.7**	**+0.8**
	comp=E,20nm,1.2s,mb4.5						
BURAR	**Bucovina Array**	**27.05**	**143**	⇓*i*P	**P**	**22 58 23.3**	**+1.6**
BURAR	**Bucovina Array**	**27.05**	**143**	⇓P	**P**	**22 58 23.3**	**+1.6**
DRGR		**27.40**	**147**	⇑*i*P	**P**	**22 58 26.2**	**+1.3**
DRGR		**27.40**	**147**	⇑P	**P**	**22 58 26.2**	**+1.4**
ARU	**Arti**	**27.94**	**94**	*e*P	**P**	**22 58 29.1**	**-0.6**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
ARU	**Arti**	**27.94**	**94**	*e*P	**P**	**22 58 29.1**	**-0.6**
	comp=Z,11nm,1.0s,mb4.4						
ARU	**Arti**	**27.94**	**94**	*e*P	**P**	**22 58 29.1**	**-0.6**
	comp=Z,11nm,1.0s,mb4.4						
BZS	**Buzias**	**28.36**	**149**	⇑*i*P	**P**	**22 58 35.0**	**+1.5**
BZS	**Buzias**	**28.36**	**149**	⇑P	**P**	**22 58 35.0**	**+1.5**
GZR	**Gura Zlata**	**28.77**	**147**	⇑*i*P	**P**	**22 58 43.4**	**+6.3**
GZR	**Gura Zlata**	**28.77**	**147**	P	**P**	**22 58 43.4**	**+6.3**
AQU	**L'Aquila**	**30.53**	**162**	P	**P**	**22 58 53.3**	**+0.6**
TIXI	**Tiksi**	**32.51**	**28**	P	**P**	**22 59 04.6**	**-5.5**
TIXI				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.9						
TIXI	**Tiksi**	**32.51**	**28**	P	**P**	**22 59 04.6**	**-5.5**
	comp=Z,24nm,1.6s,mb4.9						
CHKZ	**Chkalovo**	**33.97**	**85**	P	**P**	**22 59 23.2**	**+0.3**
ZRNK	**Zerenda**	**34.10**	**87**	*e*P	**P**	**22 59 23.3**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
ZRNK	**Zerenda**	**34.10**	**87**	*e*P	**P**	**22 59 23.3**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8						
ZRNK	**Zerenda**	**34.10**	**87**	*e*P	**P**	**22 59 23.3**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8						
KIV	**Kislovodsk**	**34.46**	**122**	P	**P**	**22 59 26.6**	**-0.5**
KIV	**Kislovodsk**	**34.46**	**122**	P	**P**	**22 59 26.6**	**-0.5**
BRTR	**Keskin Array B**	**36.31**	**136**	P	**P**	**22 59 44.2**	**+1.2**
	comp=Z,1.8nm,1.0s,mb4.0,baz=342,slow=7.8,SNR=5.2						
GNI	**Garni**	**38.56**	**122**	P	**P**	**23 00 03.7**	**+1.6**
GNI	**Garni**	**38.56**	**122**	P	**P**	**23 00 03.7**	**+1.6**
YKA	**Yellowknife Ar**	**38.68**	**318**	P	**P**	**23 00 01.5**	**-1.5**
	comp=Z,8.1nm,1.1s,mb4.4,baz=23,slow=8.4,SNR=8.3						
YKA	**Yellowknife Ar**	**38.68**	**318**	P	**P**	**23 00 01.5**	**-1.5**
YKA	**Yellowknife Ar**	**38.68**	**318**	P	**P**	**23 00 01.5**	**-1.6**
BILL	**Bilibino**	**39.63**	**9**	*e*P	**P**	**23 00 11.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**39.63**	**9**	*e*P	**P**	**23 00 12.7**	**+1.7**
	comp=Z,19nm,1.3s,mb4.7						
BILL	**Bilibino**	**39.63**	**9**	*e*P	**P**	**23 00 11.9**	**+0.8**
	comp=Z,9.0nm,0.9s,mb4.5						
DAWY	**Dawson**	**41.38**	**335**	*e*P	**P**	**23 00 25.8**	**+0.3**
DAWY	**Dawson**	**41.38**	**335**	*e*P	**P**	**23 00 25.8**	**+0.2**
COLA	**College**	**41.58**	**341**	*e*P	**P**	**23 00 27.8**	**+0.6**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
COLA	**College**	**41.58**	**341**	*e*P	**P**	**23 00 27.8**	**+0.6**
	comp=Z,6.2nm,0.9s,mb4.2						
COLA	**College**	**41.58**	**341**	*e*P	**P**	**23 00 27.8**	**+0.6**
	comp=Z,6.2nm,0.9s,mb4.2						
MCK	**McKinley**	**42.80**	**341**	*e*P	**P**	**23 00 37.7**	**+0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
MCK	**McKinley**	**42.80**	**341**	*e*P	**P**	**23 00 37.7**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.0						
MCK	**McKinley**	**42.80**	**341**	*e*P	**P**	**23 00 37.7**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**43.59**	**80**	P	**P**	**23 00 44.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=331,slow=5.6,SNR=2.8						
MKAR				PcP	PcP	23 02 32.3	+1.3
	comp=Z,1.1nm,1.0s,baz=352,slow=1.7,SNR=4.5						
PMR	**Palmer**	**44.92**	**340**	*e*P	**P**	**23 00 53.9**	**-0.3**
PMR				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
PMR	**Palmer**	**44.92**	**340**	*e*P	**P**	**23 00 53.9**	**-0.3**
	comp=Z,2.2nm,0.3s,mb4.5						
AAK	**Ala-Archa**	**44.97**	**90**	P	**P**	**23 00 54.7**	**+0.2**
ULM	**Lac du Bonnet**	**45.15**	**296**	*e*P	**P**	**23 00 54.8**	**-1.3**
	comp=Z,4.3nm,0.8s,mb4.3						
ULM	**Lac du Bonnet**	**45.15**	**296**	*e*P	**P**	**23 00 54.8**	**-1.2**
	comp=Z,4.3nm,0.8s,mb4.3						
EIL	**Elat**	**46.29**	**138**	*e*P	**P**	**23 01 05.3**	**+0.3**
	comp=Z,132nm,1.0s						
EIL	**Elat**	**46.29**	**138**	*e*P	**P**	**23 01 05.3**	**+0.3**
	comp=Z,132nm,1.0s						
SONM	**Songino Array**	**49.52**	**59**	P	**P**	**23 01 31.8**	**+1.8**
	comp=Z,1.5nm,1.0s,mb4.0,baz=286,slow=2.6,SNR=5.1						
SONM				PcP	PcP	23 02 52.1	+0.3
	comp=Z,0.7nm,1.0s,baz=214,slow=2.3,SNR=3.6						
ULN	**Ulaanbaatar**	**49.66**	**58**	P	**P**	**23 01 32.6**	**+1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**49.66**	**58**	P	**P**	**23 01 32.6**	**+1.4**
	comp=Z,1.7nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**49.66**	**58**	P	**P**	**23 01 32.6**	**+1.5**
	comp=Z,1.7nm,0.8s,mb4.1						
WALA	**Waterton Lakes**	**50.88**	**310**	*e*P	**P**	**23 01 39.0**	**-1.4**
	comp=Z,12nm,1.2s,mb4.7						
WALA	**Waterton Lakes**	**50.88**	**310**	*e*P	**P**	**23 01 39.0**	**-1.4**
	comp=Z,12nm,1.2s,mb4.7						
HIA	**Hailar**	**51.46**	**47**	P	**P**	**23 01 44.8**	**+0.1**
NEW	**Newport**	**52.37**	**312**	P	**P**	**23 01 50.9**	**-0.7**
	comp=Z,4.9nm,0.8s,mb4.5,baz=53,slow=11,SNR=3.9						
NEW	**Newport**	**52.37**	**312**	*e*P	**P**	**23 01 51.7**	**+0.2**
NEW				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	**Newport**	**52.37**	**312**	*e*P	**P**	**23 01 51.7**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7						
NEW	**Newport**	**52.37**	**312**	*e*P	**P**	**23 01 51.7**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7						
CHMT	**Chamberlain Mo**	**52.73**	**308**	*e*P	**P**	**23 01 53.1**	**-1.0**
CHMT	**Chamberlain Mo**	**52.73**	**308**	*e*P	**P**	**23 01 53.1**	**-1.1**
RSSD	**Black Hills**	**52.99**	**300**	*e*P	**P**	**23 01 55.7**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
RSSD	**Black Hills**	**52.99**	**300**	*e*P	**P**	**23 01 55.7**	**-0.4**
	comp=Z,10nm,1.4s,mb4.6						
IMW	**Indian Meadow**	**54.99**	**305**	*e*P	**P**	**23 02 11.1**	**+0.4**
	comp=Z,12nm,1.1s,mb4.8						
IMW	**Indian Meadow**	**54.99**	**305**	*e*P	**P**	**23 02 11.1**	**+0.4**
	comp=Z,12nm,1.1s,mb4.8						
BMO	**Blue Mountains**	**55.63**	**311**	*e*P	**P**	**23 02 14.6**	**-0.8**
	comp=Z,10nm,1.2s,mb4.7						
BMO	**Blue Mountains**	**55.63**	**311**	*e*P	**P**	**23 02 14.6**	**-0.7**
	comp=Z,10nm,1.2s,mb4.7						
PDAR	**Pinedale Array**	**55.70**	**304**	P	**P**	**23 02 15.1**	**-0.7**
	comp=Z,5.4nm,1.2s,mb4.4,baz=35,slow=5.4,SNR=8.3						
HLID	**Hailey**	**56.16**	**308**	*e*P	**P**	**23 02 18.3**	**-0.8**
	comp=Z,9.3nm,1.2s,mb4.7						
HLID	**Hailey**	**56.16**	**308**	*e*P	**P**	**23 02 18.3**	**-0.8**
	comp=Z,9.2nm,1.2s,mb4.7						
TORD	**Torodi Ar. Bea**	**59.05**	**179**	P	**P**	**23 02 38.5**	**-1.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=356,slow=7.4,SNR=12						
TORD	**Torodi Ar. Bea**	**59.05**	**179**	P	**P**	**23 02 38.5**	**-1.0**
WMOK	**Wichita Mounta**	**60.28**	**291**	*e*P	**P**	**23 02 47.3**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
WMOK	**Wichita Mounta**	**60.28**	**291**	*e*P	**P**	**23 02 47.3**	**-0.6**
	comp=Z,5.5nm,1.1s,mb4.5						
MSU	**Marysvale**	**60.37**	**304**	P	**P**	**23 02 48.7**	**+0.1**
NVAR	**Mina Array Bea**	**61.96**	**309**	P	**P**	**23 02 58.3**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.8,baz=359,slow=5.7,SNR=4.4						
TUC	**Tucson**	**65.88**	**301**	*e*P	**P**	**23 03 25.3**	**+0.2**
TUC				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
TUC	**Tucson**	**65.88**	**301**	*e*P	**P**	**23 03 25.3**	**+0.2**
	comp=Z,15nm,1.5s,mb4.8						
TUC	**Tucson**	**65.88**	**301**	*e*P	**P**	**23 03 25.3**	**+0.2**
	comp=Z,15nm,1.5s,mb4.8						
TXAR	**Lajitas Array**	**66.75**	**293**	P	**P**	**23 03 28.5**	**-2.2**
	comp=Z,1.2nm,1.0s,mb3.9,baz=103,slow=5.4,SNR=4.1						
TXAR				PcP	PcP	23 04 00.2	+0.6
	comp=Z,1.7nm,1.1s,baz=5.7,slow=2.5,SNR=5.5						
MJAR	**Matsushiro Arr**	**67.46**	**37**	P	**P**	**23 03 35.4**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.2,baz=337,slow=6.5,SNR=6.4						
OTAV	**Otavalo**	**86.63**	**260**	*e*P	**P**	**23 05 24.2**	**+1.2**
	comp=Z,16nm,1.3s,mb5.1						
ASAR	**Alice Springs**	**124.80**	**55**	PKP	PKPdf	23 11 37.6	-1.6
	comp=Z,1.1nm,0.7s,baz=350,slow=2.0,SNR=10.0						
MAW	**Mawson**	**145.40**	**144**	PKPbc	PKPbc	23 12 16.6	-0.8
	comp=Z,2.4nm,0.9s,baz=352,slow=8.3,SNR=5.4						

HLW ***02*** *23:28:22.4, 3443N×2365E, h26^{km}, Mb3.5*
ISCJB ***02*** *23:28:24.3±2.1, 3408N±006×238E±02, h24^{km}±21^{km}, Error ellipse: s-maj=24.4km s-min=8.3km az=149.6*
CSEM ***02*** *23:28:25.0±0.1, 3409N×2390E, h25^{km}, ML3.5, Error ellipse: s-maj=10.6km s-min=2.2km az=74.0*
ATH ***02*** *23:28:31.4, 3464N×2392E, h36^{km}±1^{km}, MD3.6/5*
ISC 02 23:28:25.2±2.2**, 3414N**±006×**238E**±02**, h17**^{km}±16^{km}**, n13,** σ**0^{s}73**/15**, 2C-3D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.74**	**19**	*e*PB	**Pg**	**23 28 39.0**	**-0.8**
VAM	**Vamos**	**1.31**	**14**	*e*PN	**Pn**	**23 28 47.3**	**-1.4**
NPS	**Neapolis**	**1.87**	**53**	*e*PN	**Pn**	**23 28 57.6**	**+1.2**
KYTH	**Kithira**	**2.23**	**344**	*e*PN	**Pn**	**23 29 01.5**	**+0.2**
VLI	**Veliai**	**2.67**	**345**	*e*PN	**Pn**	**23 29 07.8**	**+0.4**
HMAT	**Matruh**	**4.12**	**137**	⇓*e*P	**Pn**	**23 29 27.3**	**+0.1**
SWA2		**5.08**	**163**	⇓*e*P	**Pn**	**23 29 40.6**	**+0.2**
SWA2				S	**Sn**	**23 30 37.3**	**-1.3**
SWA1		**5.12**	**161**	P	**Pn**	**23 29 41.6**	**+0.5**
SWA1				S	**Sn**	**23 30 39.3**	**-0.5**
AWBH		**7.26**	**142**	P	**Pn**	**23 30 10.9**	**+0.5**
AWBH		**7.26**	**142**	P	**Pn**	**23 30 10.9**	**+0.5**
HFRF	**Wahat Farafira**	**7.97**	**150**	⇑*e*P	**Pn**	**23 30 20.8**	**+0.6**
AMAG	**Maghara**	**8.68**	**111**	⇓*e*P	**Pn**	**23 30 29.5**	**-0.5**
HDK1	**Dakhla**	**9.85**	**149**	⇑P	**Pn**	**23 30 46.5**	**+0.6**

HLW ***02*** *23:35:58.8, 3454N×2393E, h24^{km}, Mb3.5*
ISCJB ***02*** *23:36:01.2±2.0, 3412N±005×237E±03, h35^{km}, Error ellipse: s-maj=39.2km s-min=7.8km az=176.6*
CSEM ***02*** *23:36:01.5±0.4, 3427N×2406E, h66^{km}±8^{km}, ML3.5, Error ellipse: s-maj=16.0km s-min=11.1km az=107.0*
ATH ***02*** *23:36:11.8, 3484N×2430E, h10^{km}, MD3.3/3*
ISC 02 23:36:02.4±2.1**, 3421N**±006×**237E**±03**, h35**^{km}**, n8,** σ**0^{s}69**/9**, 1C-2D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.70**	**26**	*e*PG	**Pn**	**23 36 15.5**	**-0.3**
VAM	**Vamos**	**1.26**	**18**	*e*PB	**Pn**	**23 36 22.9**	**-0.6**
NPS	**Neapolis**	**1.88**	**55**	*e*PB	**Pn**	**23 36 33.3**	**+1.2**
HMAT	**Matruh**	**4.21**	**137**	⇑*e*P	**Pn**	**23 37 03.1**	**-1.1**
SWA2		**5.17**	**163**	⇓*e*P	**Pn**	**23 37 17.9**	**+0.6**
SWA1		**5.21**	**160**	P	**Pn**	**23 37 18.7**	**+0.8**
SWA1				S	**Sn**	**23 38 16.4**	**-0.4**
AWBH		**7.36**	**142**	P	**Pn**	**23 37 47.0**	**-0.2**
HFRF	**Wahat Farafira**	**8.07**	**149**	⇓*i*P	**Pn**	**23 37 57.0**	**-0.1**

MOS ***02*** *23:54:38.9±0.9, 1595N×9402W, h24^{km}, mb5.8/64, Error ellipse: s-maj=7.2km s-min=4.5km az=73.9*
BJI ***02*** *23:54:40.0, 1570N×9440W, h21^{km}, mB5.3, Ms4.9, Msz4.6*
CASC ***02*** *23:54:42.0±2.1, 1706N×9383W, h20^{km}±999^{km}, MD4.7, ML4.0, mb5.3(NEIC)*
BGS ***02*** *23:54:42.7, 1642N×9377W, h22^{km}, mb5.5*
SZGRF ***02*** *23:54:44.5, 1597N×9298W, h33^{km}, mb5.5, Mexico-Guatemala border region*
IDC ***02*** *23:54:44.9±0.8, 1600N×9410W, h66^{km}±5^{km}, mb4.6/22, mb1 4.8/24, mb1mx4.8/25, mbtmp4.6/24, MS3.9/21, Ms1 3.9/21, ms1mx3.8/26, Error ellipse: s-maj=16.9km s-min=7.3km az=50.0*
ISCJB ***02*** *23:54:45.0±0.2, 1611N±003×9409W±002, h66^{km}, mb5.2/185, Error ellipse: s-maj=5.0km s-min=1.9km az=52.3*
NEIC ***02*** *23:54:45.1±0.2, 1588N×9414W, mb5.3/130, MD4.9(MEX), Error ellipse: s-maj=5.7km s-min=3.0km az=25.0*
GCMT ***02*** *23:54:46.0±0.3, 1602N×9434W, h66^{km}±3^{km}, MW5.0/71, Moment Tensor Solution. s45,c59; s71,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68±.19; $M_{\theta\theta}$1.48±.17; $M_{\phi\phi}$0.19±.20; $M_{r\theta}$3.05±.10; $M_{\theta\phi}$-0.95±.18; $M_{\phi r}$-2.99±.12; Best double couple: $M_0$4.65400×10^{16} NP1:ϕ_s100.00000°, δ13.00000°, λ-123.00000°. NP2: ϕ_s313.00000°, δ79.00000°, λ-83.00000°. Principal axes: T 4.7290, Plg33.0000°, Azm37.0000°; N -0.1550, Plg7.0000°, Azm132.0000°; P -4.5790, Plg56.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MEX ***02*** *23:54:46.3±1.6, 1573N×9439W, h26^{km}±26^{km}, MD4.9*
ISC 02 23:54:47.1±0.2**, 1615N**±003×**9402W**±002**, h68**^{km}**, h68**^{km}±1.2^{km}**:pP-P, n868,** σ**0^{s}86**/816**, mb5.2**/185**, 237C-78D, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.25**	**319**	P	**Pn**	**23 55 07.9**	**-0.8**
	611nm,0.3s,baz=159,slow=8.2,SNR=3628						
CMIG				S	**Sn**	**23 55 24.1**	**-0.8**
	2μm,0.3s,baz=154,slow=11,SNR=90						
CMIG	**Matias Romero**	**1.25**	**319**	*i* P	**Pn**	**23 55 08.4**	**-0.3**
CMIG				*i* S	**Sn**	**23 55 25.2**	**+0.4**
CMIG	**Matias Romero**	**1.25**	**319**	P	**Pn**	**23 55 07.9**	**-0.8**
CMIG				*i* S	**Sn**	**23 55 25.2**	**+0.4**
CCIG	**Comitan**	**1.81**	**86**	*i* P	**Pn**	**23 55 20.7**	**+4.5**
CCIG				*i* S	**Sn**	**23 55 44.0**	**+5.8**
TUIG	**Tuzandepetl**	**1.91**	**348**	*i* P	**Pn**	**23 55 20.0**	**+2.5**
TUIG				*i* S	**Sn**	**23 55 45.5**	**+4.9**
HUIG	**Huatulco**	**2.04**	**260**	*i* P	**Pn**	**23 55 11.1**	**-8.2**
HUIG				*i* S	**Sn**	**23 55 29.6**	**-14**
OXX	**Oaxaca**	**2.75**	**290**	*i* P	**Pn**	**23 55 26.5**	**-2.4**
OXX				*i* S	**Sn**	**23 55 55.0**	**-6.0**
VHO	**Vista Hermosa**	**2.76**	**290**	*i* P	**Pn**	**23 55 26.4**	**-2.6**
VHO				*e*S	**Sn**	**23 55 54.9**	**-6.2**
JAT	**Jato**	**2.94**	**128**	⇑*e*P	**Pn**	**23 55 34.1**	**+2.7**
FUG	**Fuego 3**	**3.50**	**118**	*e*P	**Pn**	**23 55 42.1**	**+3.0**
TER	**Terranova**	**3.71**	**119**	*e*P	**Pn**	**23 55 44.9**	**+2.9**
SCIG	**Sabancuy**	**3.89**	**44**	*i* P	**Pn**	**23 55 48.9**	**+4.5**
SCIG				*i* S	**Sn**	**23 56 37.8**	**+8.9**
TPIG	**Tehuac#an**	**3.91**	**306**	*i* P	**Pn**	**23 55 42.2**	**-2.4**
TPIG				*i* S	**Sn**	**23 56 26.8**	**-2.4**
PNIG	**Pinotepa**	**3.95**	**274**	*e*P	**Pn**	**23 55 38.8**	**-6.4**
PNIG				*i* S	**Sn**	**23 56 20.4**	**-10**
PNIG	**Pinotepa**	**3.95**	**274**	*e*P	**Pn**	**23 55 38.8**	**-6.4**
PNIG				*i* S	**Sn**	**23 56 17.5**	**-13**
UTMO	**Huajuapan**	**3.99**	**295**	*e*P	**Pn**	**23 55 43.9**	**-1.8**
UTMO				*i* S	**Sn**	**23 56 25.3**	**-5.9**
LVIG	**Laguna Verde**	**4.22**	**328**	*i* P	**Pn**	**23 55 47.1**	**-1.9**
LVIG				*i* S	**Sn**	**23 56 32.0**	**-5.0**
BOQS	**Boqueron**	**5.17**	**117**	*e*P	x	23 56 11.0	
BOQS				*e*S	x	23 57 13.3	
PPM	**Popocatepetl**	**5.26**	**304**	*i* P	**Pn**	**23 55 58.8**	**-4.4**
PPM				*i* P		23 56 04.5	
PPM				*i* S	**Sn**	**23 57 01.5**	**-1.0**
LFRS	**El Faro**	**5.41**	**117**	⇓*e*P	x	23 56 15.1	
LFRS				*e*S	x	23 57 21.9	
LCBS	**La Ceiba**	**5.47**	**116**	*e*P	x	23 56 13.3	
LCBS				*e*S	x	23 57 19.3	
IIO	**Organos**	**5.63**	**308**	*i* P	**Pn**	**23 56 09.1**	**+0.9**
MEIG	**Mezcala**	**5.64**	**289**	*i* P	**Pn**	**23 56 05.9**	**-2.4**
MEIG				*i* S	**Sn**	**23 57 04.9**	**-6.8**
PLIG	**Platanillo**	**5.69**	**294**	*i* P	**Pn**	**23 56 04.9**	**-4.2**
PLIG				*i* S	**Sn**	**23 57 08.7**	**-4.3**
ACX	**Acapulco**	**5.70**	**278**	*i* P	**Pn**	**23 56 02.6**	**-6.5**
UNM	**Universidad Na**	**5.84**	**303**	*e*P	**Pn**	**23 56 05.0**	**-6.1**
CAIG	**El Cayaco**	**6.05**	**279**	*i* P	**Pn**	**23 56 08.4**	**-5.6**
CAIG				*i* S	**Sn**	**23 57 11.1**	**-11**
VSM	**San Miguel**	**6.18**	**115**	*e*P	x	23 56 25.0	
VSM				*e*S	x	23 57 40.1	
TEIG	**Tepich**	**6.80**	**53**	*i* P	**Pn**	**23 56 26.5**	**+2.3**
TEIG				*e*Pn	**Pn**	**23 56 27.4**	**+3.3**

TEIG *i* S **Sn** **23 57 45.9 +5.8**
TGUH **Tegucigalpa,Un** **6.84 107** *e*Pn **Pn** **23 56 28.2 +3.4**
1.2nm,0.4s
TGUH *e*Sn **Sn** **23 57 39.1 -2.0**
MOIG **Morelia** **7.67 298** *i* P **Pn** **23 56 36.2 +0.1**
MOIG *e*S **Sn** **23 57 58.3 -3.2**
TELN **Telica** **7.81 116** *e*P **Pn** **23 56 39.3 +1.4**
LEON **Leon** **7.84 117** *e*P **Pn** **23 56 41.0 +2.5**
LEON *i* 23 58 13.1
comp=Z,94nm,0.5s
CNGN **Cerro Negro** **7.97 116** *e*P **Pn** **23 56 42.8 +2.5**
MIRN **Miramar** **7.99 117** *e*P **Pn** **23 56 42.6 +2.2**
MOMJ **Momotombo** **8.15 116** *e*P **Pn** **23 56 44.8 +2.1**
COPN **Copaltepe** **8.21 118** *e*P **Pn** **23 56 45.9 +2.3**
TISN **Laguna Tiscapa** **8.51 117** *e*P **Pn** **23 56 48.4 +0.9**
TICN **Ticuantepe** **8.59 117** *e*P **Pn** **23 56 50.1 +1.3**
CONN **Concepcion** **9.34 118** *e*P **Pn** **23 57 00.2 +1.3**
SFJM **Santa Fe** **9.59 298** *e*P **Pn** **23 57 01.3 -1.0**
COLM **Colima** **9.70 290** *i* P **Pn** **23 57 02.9 -0.9**
COLM *i* S **Sn** **23 58 44.4 -6.7**
VCR **Vista de Mar** **10.13 125** *e*P **Pn** **23 57 11.5 +1.8**
ZAIG **Zacatecas** **10.40 311** *i* P **Pn** **23 57 14.3 +0.9**
ZAIG *i* S **Sn** **23 59 12.5 +4.2**
JCR **Jicaral** **10.70 125** *e*P **Pn** **23 57 19.5 +2.0**
CAO **Cobano** **10.80 125** *e*P **Pn** **23 57 19.9 +1.0**
EPA **Esparza** **11.04 123** *e*P **Pn** **23 57 23.7 +1.6**
CGA2 **Cerro Gallo 2** **11.12 122** *e*P **Pn** **23 57 26.1 +2.8**
PRS1 **Puriscal** **11.27 122** *e*P **Pn** **23 57 27.9 +2.7**
SOR **Soroa** **12.30 56** *e*P **Pn** **23 57 40.0 +0.6**
SOR *e*S **Sn** **23 59 55.8 +1.1**
comp=N,12nm,0.6s
SOR *e*
comp=E,3.5nm,0.5s
SOR **Soroa** **12.30 56** *e*P **Pn** **23 57 40.0 +0.6**
HKT **Hockley** **13.83 353** *e*P **Pn** **23 58 02.3 +2.4**
HKT pmax pmax
comp=Z,25nm,0.8s
HKT **Hockley** **13.83 353** *e*Pn **Pn** **23 58 02.3 +2.3**
comp=Z,25nm,0.8s
MGV **Manicaragua** **14.53 64** *i* P **Pn** **23 58 14.2 +5.2**
MGV *i* S **Sn** **00 00 49.8 +1.1**
comp=N,108nm,1.0s
MGV *e*
comp=E,115nm,0.7s
MGV **Manicaragua** **14.53 64** *i* P **Pn** **23 58 14.2 +5.2**
NATX **Nacogdoches** **15.55 358** *e*Pn **Pn** **23 58 23.8 +1.7**
MCJ **Malvern** **15.72 81** *e*P **Pn** **23 58 29.4 +5.1**
TXAR **Lajitas Array** **15.84 328** P **Pn** **23 58 26.5 +0.6**
comp=E,1.0nm,0.3s,baz=148,slow=13,SNR=88
TXAR LR LR 00 05 26.2
comp=E,150nm,18.1s,baz=0.0,slow=40
CVJ **Coleyville** **15.89 80**⇑ *e*P **Pn** **23 58 30.8 +4.3**
BBJ **Bamboo Saint A** **16.16 80** *e*P **Pn** **23 58 33.9 +4.0**
BBJ *e*S S 00 01 12.9 -25
STH **Stony Hill** **16.56 81**⇑ *e*P **Pn** **23 58 38.2 +3.3**
LMGC **Las Mercedes** **16.64 74** *e*P **Pn** **23 58 39.1 +3.3**
LMGC **Las Mercedes** **16.64 74** *e*P **Pn** **23 58 39.1 +3.3**
DWPF **Disney** **16.64 42** *e*Pn **Pn** **23 58 37.6 +1.7**
comp=E,164nm,0.9s
CMJ **Castle Mountai** **16.98 81**⇑ *e*P **Pn** **23 58 43.4 +3.2**
LPIG **La Paz** **17.21 300** P **Pn** **23 58 42.6 -0.3**
comp=E,2.2nm,0.3s,baz=231,slow=6.5,SNR=2.1
LPIG LR LR 00 05 07.5
comp=E,362nm,18.7s,baz=128,slow=36
LPIG **La Paz** **17.21 300** P **Pn** **23 58 42.6 -0.3**
LPIG LR LR 00 05 07.5
HLGC **Holguin** **17.67 72** *e*P **Pn** **23 58 49.0 +0.5**
HLGC **Holguin** **17.67 72** *e*P **Pn** **23 58 49.0 +0.5**
RCC **Rio Carpintero** **17.84 75** *e*P **Pn** **23 58 50.9 +0.3**
GDL2 **Guadalupe Moun** **18.54 331** *e*P **Pn** **23 58 59.2 +0.2**
UALR **University of** **18.61 4** *e*Pn **Pn** **23 59 00.1 +0.2**
MNTX **Cornudas Mount** **18.61 328** *e*P **Pn** **23 58 59.0 -1.0**
OXF **Oxford** **18.75 12** *e*P **Pn** **23 59 01.2 -0.4**
WMOK **Wichita Mounta** **19.00 348** *e*P **Pn** **23 59 03.3 -1.2**
WMOK pmax pmax
comp=Z,57nm,0.8s
WMOK **Wichita Mounta** **19.00 348** *e*P **Pn** **23 59 03.3 -1.2**
comp=Z,57nm,0.8s
MASC **Masc** **19.22 75** *e*P **Pn** **23 59 06.9 -0.3**
MASC **Masc** **19.22 75** *e*P **Pn** **23 59 06.9 -0.3**
PLAL **Pickwick Lake** **19.49 15** *e*P **Pn** **23 59 08.4 -2.1**
comp=Z,44nm,0.8s
AMTX **Amarillo** **19.88 341** *e*P **Pn** **23 59 13.5 -1.5**
AMTX LR LR
comp=Z,324nm,20.0s
SWET **Sewanee** **20.32 19** *e*P **P** **23 59 17.7 +0.2**
GLAT **Glass** **20.47 11** *e*P **P** **23 59 20.0 +0.8**
WVT **Waverly** **20.65 14** PFAKE 23 59 30.0 +8.9
WVT LR LR
comp=Z,408nm,22.0s
PARMO **Parma** **20.78 10** *e*P **P** **23 59 23.5 +1.0**
CPCT **Cooper Cave** **21.01 22** *e*P **P** **23 59 25.5 +0.5**
BNM **Barren Site** **21.21 330** *e*P **P** **23 59 28.6 +1.5**
Y22C **IRIS PASSCAL I** **21.29 329** ⇓P **P** **23 59 28.9 +0.9**
baz=21
LPM **Los Pinos Moun** **21.34 330** *e*P **P** **23 59 30.0 +1.4**
LENM **Lemitar** **21.39 329** *e*P **P** **23 59 30.5 +1.4**
TKL **Tuckaleechee C** **21.47 23** P **P** **23 59 30.1 +0.1**
comp=Z,33nm,0.8s,mb4.7,baz=195,slow=12,SNR=32
TKL S **S** **00 03 27.7 +3.5**
comp=Z,8.7nm,0.9s,baz=144,slow=23,SNR=2.0
TKL LR LR 00 11 03.0
comp=Z,372nm,18.6s,baz=251,slow=45
TKL **Tuckaleechee C** **21.47 23** P **P** **23 59 30.1 +0.1**
TKL S **S** **00 03 27.7 +3.5**
TKL **Tuckaleechee C** **21.47 23** P **P** **23 59 30.1 +0.1**
TKL S **S** **00 03 27.7 +3.5**
TKL LR LR 00 11 03.0
ANMO **Albuquerque** **21.79 332** P **P** **23 59 33.4 0.0**
comp=Z,10nm,0.5s,mb4.4,baz=146,slow=12,SNR=36
ANMO **Albuquerque** **21.79 332** *e*P **P** **23 59 34.2 +0.8**
ANMO LR LR
comp=Z,220nm,19.0s
SIUC **Southern Illin** **21.89 10** *e*P **P** **23 59 34.5 +0.1**
comp=Z,104nm,0.8s,mb5.2
CCM **Cathedral Cave** **21.96 6** PFAKE 23 59 50.0 +15
CCM LR LR
comp=Z,267nm,22.0s
FVM **French Village** **21.98 8** *e*P **P** **23 59 34.7 -0.6**
OTAV **Otavalo** **22.05 134** *e*P **P** **23 59 35.6 -0.4**
OTAV LR LR
comp=Z,203nm,21.0s
TUC **Tucson** **22.14 320** *e*P **P** **23 59 37.5 +0.4**
TUC MLR MLR
comp=Z,138nm,21.0s
TZTN **Tazewell** **22.34 23** *e*P **P** **23 59 38.9 -0.3**
ROSC **El Rosal** **22.35 118** P **P** **23 59 39.8 +0.5**
comp=Z,37nm,0.7s,mb4.8,baz=89,slow=3.6,SNR=35
ROSC LR LR 00 08 41.3
comp=Z,54nm,20.6s,baz=180,slow=37
ROSC **El Rosal** **22.35 118** P **P** **23 59 39.8 +0.5**
ROSC LR LR 00 08 41.3
USIN **University of** **22.44 13** *e*P **P** **23 59 39.5 -0.7**
comp=Z,157nm,1.0s,mb5.3
SLM **Saint Louis** **22.64 8** *e*P **P** **23 59 41.3 -1.1**
SLM pmax pmax
comp=Z,82nm,0.6s,mb5.2
SLM **Saint Louis** **22.64 8** *e*P **P** **23 59 41.3 -1.1**
comp=Z,82nm,0.6s,mb5.2
116A **Eloy** **22.89 319** ⇑P **P** **23 59 45.3 +0.4**
baz=23,SNR=5.1
KSU1 **Kansas State U** **22.98 355** *e*P **P** **23 59 44.7 -1.2**
comp=Z,98nm,0.6s,mb5.3
WCI **Wyandotte Cave** **23.02 16** PFAKE 00 00 00.0 +14
WCI LR LR
comp=Z,386nm,22.0s
CBKS **Cedar Bluff** **23.13 349** *e*P **P** **23 59 47.5 +0.1**
CBKS MLR MLR
comp=Z,397nm,19.0s
115A **Sonoran Desert** **23.31 318** ⇑P **P** **23 59 49.6 +0.5**
baz=24,SNR=12
SDCO **Great Sand Dun** **23.78 337** *e*P **P** **23 59 53.6 +0.3**
comp=Z,81nm,1.1s,mb5.0
SDCO LR LR
comp=Z,245nm,21.0s
BLO **Bloomington** **23.86 15** *e*P **P** **23 59 52.9 -1.2**
BLO pmax pmax
comp=Z,73nm,0.6s,mb5.2
BLO **Bloomington** **23.86 15** *e*P **P** **23 59 52.9 -1.2**
comp=Z,73nm,0.6s,mb5.2
CNNC **Cliffs of the** **23.86 34** PFAKE 00 00 10.0 +16
CNNC LR LR
comp=Z,637nm,20.0s
SDV **Santo Domingo** **23.93 105** P **P** **23 59 53.2 -1.5**
comp=Z,42nm,0.7s,mb4.9,baz=314,slow=7.1,SNR=39
SDV PcP PcP 00 03 38.3 +2.8
comp=Z,13nm,0.7s,baz=293,slow=3.7,SNR=4.9
SDV LR LR 00 10 14.1
comp=Z,238nm,21.6s,baz=157,slow=39
SDV **Santo Domingo** **23.93 105** P **P** **23 59 53.2 -1.5**
SDV PcP PcP 00 03 38.3 +2.8
SDV LR LR 00 10 14.1
BLA **Blacksburg** **24.19 27** PFAKE 00 00 10.0 +13
BLA LR LR
comp=Z,533nm,19.0s
Z14A **Wintersburg** **24.20 319** ⇓P **P** **23 59 58.1 +0.9**
baz=24,SNR=9.8
X15A **Humboldt** **24.51 322** ⇓P **P** **00 00 00.4 +0.3**
baz=25,SNR=26
MVCO **Mesa Verde** **24.58 331** ⇑P **P** **00 00 01.3 +0.6**
baz=25,SNR=21
Y14A **Wickenburg** **24.61 320** ⇑P **P** **00 00 01.7 +0.8**
baz=25,SNR=17
HDIL **Hopedale** **24.66 9** PFAKE 00 00 10.0 +8.6
HDIL LR LR
comp=Z,2µm,19.0s
WUAZ **Wupatki** **24.74 324** *e*P **P** **00 00 02.9 +0.7**
comp=Z,62nm,1.0s,mb5.0
WUAZ **Wupatki** **24.74 324** ⇑P **P** **00 00 02.6 +0.5**
baz=25,SNR=33
X14A **Yava** **24.89 321** ⇓P **P** **00 00 03.7 +0.2**
baz=25,SNR=9.6
W15A **Williams** **25.01 323** ⇓P **P** **00 00 05.1 +0.5**
baz=25,SNR=12
Y13A **Salome** **25.05 318** ⇓P **P** **00 00 05.2 +0.3**
baz=25
GLA **Glamis** **25.24 316** *e*P **P** **00 00 07.3 +0.7**
GLA **Glamis** **25.24 316** ⇑P **P** **00 00 07.2 +0.6**
baz=25,SNR=8.2
Y12C **Blythe** **25.46 317** ⇑P **P** **00 00 08.7 +0.1**
baz=26
W14A **Seligman** **25.52 322** ⇓P **P** **00 00 09.5 +0.4**
baz=26,SNR=15
X13A **Yucca** **25.56 320** P **P** **00 00 09.7 +0.2**
baz=26,SNR=12
PDMCI **Parker Dam,Lak** **25.56 319** ⇑P **P** **00 00 09.6 +0.1**
baz=26
SMCO **Snowmass** **25.59 336** *e*P **P** **00 00 10.7 +0.9**
comp=Z,77nm,1.2s,mb5.0
SCIA **State Center** **25.68 1** PFAKE 00 00 20.0 +9.4
SCIA LR LR
comp=Z,383nm,21.0s
W13A **Hualapai Mount** **25.92 320** ⇓P **P** **00 00 13.4 +0.6**
baz=26,SNR=13
BC3 **Big Chuckw Mtn** **26.02 316** P **P** **00 00 14.0 +0.3**
baz=26,SNR=7.1
IRM **Iron Mountain** **26.12 317** ⇓P **P** **00 00 15.2 +0.6**
baz=26
MONP **Monument Peak** **26.23 314** ⇓P **P** **00 00 15.9 +0.3**
baz=26
CBN **Corbin** **26.41 30** PFAKE 00 00 30.0 +13
CBN LR LR
comp=Z,566nm,22.0s
MCWV **Mont Chateau** **26.49 25** PFAKE 00 00 30.0 +12
MCWV LR LR
comp=Z,359nm,19.0s
BELC **Belle Mtn.** **26.59 316** ⇑P **P** **00 00 19.1 +0.3**
baz=27
W12A **Cal Nev Ari** **26.66 320** ⇓P **P** **00 00 19.8 +0.3**
baz=27
JFWS **Jewell Farm** **26.87 6** *e*P **P** **00 00 20.5 -0.8**
JFWS MLR MLR
comp=Z,360nm,19.0s
CPD **Cerro la Pandu** **26.92 82** *e*P **P** **00 00 18.7 -3.1**
V12A **Nelson** **26.93 320** ⇑P **P** **00 00 22.2 +0.3**
baz=27,SNR=21
PHWY **Pilot Hill** **26.94 341** *e*P **P** **00 00 23.1 +1.1**
CBYP **Canovanas** **26.98 81** *e*P **P** **00 00 19.7 -2.6**
U12A **Valley of Fire** **27.21 322** ⇑P **P** **00 00 24.9 +0.4**
baz=27,SNR=9.1
MTP **Monte Pirata** **27.26 82** *e*P **P** **00 00 22.5 -2.5**
HEC **Hector,Ludlow** **27.30 317** ⇓P **P** **00 00 25.5 +0.2**
baz=28
MSU **Marysvale** **27.40 328** *e*P **P** **00 00 26.3 +0.2**
MVU **Marysvale** **27.41 328** PFAKE 00 00 40.0 +14
MVU LR LR
comp=Z,159nm,19.0s
TUQ **Turquoise Mtn.** **27.41 319** ⇑P **P** **00 00 26.5 +0.3**
baz=28
TMUT **Trail Mountain** **27.52 330** *e*P **P** **00 00 28.5 +1.3**
SHPR **Sheep Range** **27.63 321** *e*P **P** **00 00 28.7 +0.5**
ATAH **Atahualpa** **27.72 145** P **P** **00 00 28.6 -0.4**
comp=Z,7.0nm,0.6s,mb4.3,baz=32,slow=22,SNR=4.1
RWWY **Rainis** **27.87 339** *e*P **P** **00 00 32.0 +1.6**
SHOC **Shoshone** **27.93 319** ⇑P **P** **00 00 30.8 -0.1**
baz=28
SSPA **Standing Stone** **28.13 27** PFAKE 00 00 40.0 +7.4
SSPA LR LR
comp=Z,567nm,19.0s
MPU **Maple Canyon** **28.29 331** *e*P **P** **00 00 35.1 +1.1**
MPU LR LR
comp=Z,728nm,21.0s
DECC **Green Verdugo** **28.31 314** ⇑P **P** **00 00 34.4 +0.1**
baz=28
DAU **Daniels Canyon** **28.43 332** *e*P **P** **00 00 36.5 +1.2**
EDW2 **Edwards Air Fo** **28.44 315** ⇓P **P** **00 00 35.4 +0.1**
baz=29
NLU **North Lily Min** **28.46 330** *e*P **P** **00 00 36.9 +1.4**
LRMC **Laurel Mountai** **28.58 317** ⇓P **P** **00 00 36.7 0.0**
baz=29
MPMC **Manual Prospec** **28.80 318** P **P** **00 00 39.2 +0.6**
baz=29,SNR=8.9
CTU **Camp Tracy** **28.88 331** *e*P **P** **00 00 40.4 +1.1**
DAC **Darwin (Calif)** **29.00 318** *e*P **P** **00 00 40.8 +0.4**
DAC MLR MLR
comp=Z,246nm,20.0s
DUG **Dugway** **29.00 329** *e*P **P** **00 00 41.2 +0.8**
DUG **Dugway** **29.00 329** ⇑P **P** **00 00 41.2 +0.8**
baz=29,SNR=8.2
TCUT **Toone Canyon** **29.07 332** *e*P **P** **00 00 42.6 +1.6**
TRCR **Troy Canyon** **29.13 324** *e*P **P** **00 00 42.2 +0.7**
RSSD **Black Hills** **29.14 345** *e*P **P** **00 00 42.7 +1.1**
Q12A **Willow Creek R** **29.19 325** ⇓P **P** **00 00 42.6 +0.5**
baz=29,SNR=7.7
PCRV **Puerto La Cruz** **29.20 98** P **P** **00 00 40.6 -1.6**
comp=Z,6.4nm,0.5s,mb4.5,baz=320,slow=5.2,SNR=5.4
ISA **Isabella** **29.21 316** PFAKE 00 00 50.0 +7.8
ISA LR LR
comp=Z,242nm,21.0s
R10A **Warm Springs** **29.50 323** ⇑P **P** **00 00 45.2 +0.5**
baz=30,SNR=10
Q11A **Duckwater** **29.51 324** ⇓P **P** **00 00 45.3 +0.4**
baz=30,SNR=16
HWUT **Hardware Ranch** **29.53 333** *e*P **P** **00 00 45.6 +0.6**
comp=Z,23nm,1.0s,mb4.8
HWUT LR LR
comp=Z,238nm,21.0s
P12A **McGill** **29.54 326** ⇑P **P** **00 00 45.8 +0.6**
baz=30,SNR=11
BW06 **Boulder Array** **29.67 337** *e*P **P** **00 00 46.7 +0.4**
BW06 LR LR
comp=Z,197nm,21.0s
PDAR **Pinedale Array** **29.67 337** P **P** **00 00 46.5 +0.2**
comp=Z,12nm,0.9s,mb4.5,baz=138,slow=9.6,SNR=54
PDAR sP sP 00 01 08.8 -1.9
comp=Z,3.0nm,0.8s,baz=119,slow=12,SNR=3.0
PDAR LR LR 00 16 30.0
comp=Z,184nm,18.2s,baz=160,slow=44
S09A **Goldfield** **29.68 321** ⇑P **P** **00 00 46.2 -0.1**
baz=30,SNR=11
SPUT **South Promonto** **29.70 331** *e*P **P** **00 00 45.1 -1.4**
PKM **Peak Mountain** **29.70 314** ⇑P **P** **00 00 45.9 -0.6**
baz=30
TPH **Tonopah** **29.90 321** PFAKE 00 01 00.0 +12
TPH LR LR
comp=Z,137nm,22.0s
R09A **Tonopah** **29.92 322** ⇓P **P** **00 00 49.1 +0.7**
baz=30
O12A **Currie** **30.03 327** ⇑P **P** **00 00 50.5 +1.0**
baz=30,SNR=8.1
P11A **Circle Ranch,** **30.06 325** ⇓P **P** **00 00 50.6 +0.9**
baz=30,SNR=5.1
S08C **White Mtn Res** **30.11 320** ⇓P **P** **00 00 51.2 +1.0**
baz=30,SNR=11
HELL **Mitchell Peak,** **30.16 317** P **P** **00 00 51.3 +0.6**
baz=30,SNR=8.2
N13A **Wendover, West** **30.19 329** ⇓P **P** **00 00 51.9 +1.0**
baz=30,SNR=11
HVU **Hansel Valley** **30.22 331** *e*P **P** **00 00 52.1 +1.0**
BINY **Binghamton** **30.23 27** *e*P **P** **00 00 50.1 -1.1**
comp=Z,15nm,0.8s,mb4.7
BINY LR LR
comp=Z,629nm,22.0s
AHID **Auburn Hatcher** **30.28 335** *e*P **P** **00 00 52.4 +0.7**
comp=Z,50nm,1.2s,mb5.0
AHID LR LR
comp=Z,228nm,19.0s
Q09A **Carvers** **30.37 323** ⇓P **P** **00 00 53.2 +0.6**
baz=30
O11A **Cowboy Ranch,** **30.41 326** P **P** **00 00 54.0 +1.2**
baz=30,SNR=41
P10A **Eureka** **30.50 324** ⇓P **P** **00 00 54.5 +0.9**
baz=31,SNR=5.6
M13A **Montello** **30.55 329** ⇑P **P** **00 00 54.6 +0.6**
baz=31
N12A **Clover Valley,** **30.61 328** P **P** **00 00 55.6 +1.0**
baz=31,SNR=19
ELK **Elko** **30.64 327** *e*P **P** **00 00 56.3 +1.5**
ELK pmax pmax
comp=Z,27nm,0.8s
ELK MLR MLR
comp=Z,235nm,19.0s
ELK **Elko** **30.64 327** *e*P **P** **00 00 56.3 +1.5**
comp=Z,27nm,0.8s,mb5.0
ELK LR LR
comp=Z,235nm,19.0s
REDW **Red Top Meadow** **30.68 336** *e*P **P** **00 00 56.0 +0.8**
SNOW **Snow King Moun** **30.73 336** *e*P **P** **00 00 56.7 +1.1**
KCC **Kaiser Creek** **30.73 318** ⇑P **P** **00 00 56.1 +0.5**
baz=31
NVAR **Mina Array Bea** **30.78 321** P **P** **00 00 56.3 +0.2**
comp=Z,17nm,0.9s,mb4.8,baz=288,slow=28,SNR=85
LOHW **Long Hollow** **30.79 336** *e*P **P** **00 00 57.1 +0.9**
TPAW **Teton Pass** **30.83 336** *e*P **P** **00 00 57.5 +0.9**
Q08A **Gabbs** **30.83 322** ⇑P **P** **00 00 57.1 +0.5**
baz=31,SNR=9.8
RRI2 **Red Ridge** **30.86 335** *e*P **P** **00 00 57.5 +0.7**
N11A **Elko Archery C** **30.95 327** ⇓P **P** **00 00 58.5 +1.0**
baz=31
MOOW **Moose Ponds** **30.96 336** *e*P **P** **00 00 58.3 +0.5**
comp=Z,35nm,0.9s,mb5.1
M12A **Wells** **30.96 329** ⇑P **P** **00 00 58.1 +0.3**
baz=31,SNR=48
O10A **Cortez Mining,** **30.98 325** ⇑P **P** **00 00 58.7 +0.8**
baz=31,SNR=5.5
BBSR **BB Station** **31.09 53** PFAKE 00 01 10.0 +11
BBSR LR LR
comp=Z,588nm,21.0s
IMW **Indian Meadow** **31.16 336** *e*P **P** **00 01 00.1 +0.6**
comp=Z,31nm,0.9s,mb5.0
FLWY **Flagg Ranch** **31.23 336** *e*P **P** **00 01 01.0 +0.9**
comp=Z,25nm,0.7s,mb5.0
V03C **Hunter Liggett** **31.27 314** ⇑P **P** **00 01 01.2 +0.8**
baz=31
O09A **Fish Creek Ran** **31.28 325** P **P** **00 01 01.3 +0.8**
baz=31,SNR=15
N10A **Dunphy** **31.29 326** ⇑P **P** **00 01 01.3 +0.8**
baz=31
S05C **Merced** **31.40 317** ⇑P **P** **00 01 01.7 +0.1**
baz=32
S06C **San Francisco** **31.40 319** ⇑P **P** **00 01 02.0 +0.4**
baz=32,SNR=5.1
M11A **Holland Ranch,** **31.42 328** ⇓P **P** **00 01 02.6 +0.8**
baz=32,SNR=10
P08A **Dixie Valley** **31.47 323** ⇓P **P** **00 01 02.5 +0.4**
baz=32
BMN **Battle Mountai** **31.48 325** *e*P **P** **00 01 03.4 +1.2**
BMN pmax pmax
comp=Z,23nm,0.8s,mb5.0
BMN MLR MLR
comp=Z,163nm,20.0s
BMN **Battle Mountai** **31.48 325** *e*P **P** **00 01 03.4 +1.1**
comp=Z,23nm,0.8s,mb5.0
BMN LR LR
comp=Z,163nm,20.0s
WAKR **Walker** **31.52 320** *e*P **P** **00 01 04.2 +1.6**
LKWY **Lake** **31.52 337** PFAKE 00 01 10.0 +7.3
LKWY LR LR
comp=Z,326nm,21.0s
R06C **Coleville** **31.54 320** ⇑P **P** **00 01 03.7 +0.9**
baz=32,SNR=6.4
YFT **Old Faithful** **31.59 337** *e*P **P** **00 01 05.6 +2.4**
YNR **Norris Junctio** **31.76 337** *e*P **P** **00 01 09.9 +5.2**
EYMN **Ely** **31.77 3** *e*P **P** **00 01 03.4 -1.4**
EYMN LR LR
comp=Z,218nm,20.0s
CMB **Columbia Colle** **31.84 318** PFAKE 00 01 10.0 +4.6
CMB LR LR
comp=Z,217nm,22.0s
M10A **I.L. Ranch, Tu** **31.88 327** ⇑P **P** **00 01 06.4 +0.6**
baz=32,SNR=15
N09A **Rock Creek Ran** **31.93 325** P **P** **00 01 07.2 +0.9**
baz=32,SNR=37
R05C **Kirkwood Meado** **32.04 320** ⇓P **P** **00 01 08.2 +1.1**
baz=32
LAO **LASA Array** **32.10 344** *e*P **P** **00 01 07.7 0.0**
comp=Z,27nm,0.9s,mb5.0
LAO LR LR
comp=Z,238nm,21.0s
QLMT **Earthquake Lak** **32.14 336** *e*P **P** **00 01 09.9 +1.9**
O07A **Toulon** **32.23 323** P **P** **00 01 09.4 +0.5**
baz=32,SNR=12
PAHR **Pah Rah Range** **32.24 322** *e*P **P** **00 01 10.2 +1.2**
M09A **Marrel Ranch,** **32.29 326** ⇑P **P** **00 01 10.1 +0.7**
baz=32,SNR=5.2
HLID **Hailey** **32.36 332** *e*P **P** **00 01 10.6 +0.6**
comp=Z,19nm,0.7s,mb4.9
HLID **Hailey** **32.36 332** ⇑P **P** **00 01 10.4 +0.3**
baz=32,SNR=41
NCB **Newcomb** **32.42 27** PFAKE 00 01 20.0 +10
NCB LR LR
comp=Z,621nm,21.0s
LAVA **Lava Cap Winer** **32.48 319** ⇑P **P** **00 01 11.3 +0.3**
baz=33
WES **Weston** **32.59 32** PFAKE 00 01 20.0 +8.0
WES LR LR
comp=Z,936nm,19.0s
N07B **Gerlach** **32.69 324** ⇓P **P** **00 01 13.5 +0.6**
baz=33
P05C **Yuba Gap, Truc** **32.73 320** ⇓P **P** **00 01 13.8 +0.5**
baz=33
LONY **Lake Ozonia** **32.78 26** *e*P **P** **00 01 12.7 -1.0**
LONY LR LR
comp=Z,526nm,21.0s
O06A **Flanigan** **32.79 322** P **P** **00 01 14.7 +0.9**
baz=33,SNR=20
M08A **Happy Creek Ra** **32.81 325** P **P** **00 01 14.6 +0.6**
baz=33,SNR=11
L09A **Wilkinson Ranc** **32.82 327** ⇓P **P** **00 01 14.4 +0.4**
baz=33,SNR=7.3
BEKR **Beckwourth** **32.92 321** P **P** **00 01 15.8 +0.9**
baz=33,SNR=11
DLMT **Dillon** **33.04 336** *e*P **P** **00 01 17.1 +1.2**
N06A **Buffalo Meadow** **33.17 323** P **P** **00 01 17.7 +0.7**
baz=33,SNR=32
M07A **Soldier Meadow** **33.21 324** ⇓P **P** **00 01 17.7 +0.3**
baz=33
DGMT **Dagmar** **33.29 348** *e*P **P** **00 01 18.5 +0.4**
L08A **Fields** **33.30 326** ⇑P **P** **00 01 18.2 -0.1**
baz=33,SNR=22
O05C **Quincy** **33.32 321** ⇑P **P** **00 01 19.2 +0.8**
baz=34
K09A **Rome** **33.33 327** P **P** **00 01 19.1 +0.6**
baz=34,SNR=50
LRM **Limekiln Ridge** **33.36 336** *e*P **P** **00 01 19.6 +0.8**
F15A **Butte** **33.40 336** ⇑P **P** **00 01 19.5 +0.5**
baz=34
SUTB **Sutter Butte** **33.42 319** ⇓P **P** **00 01 19.4 +0.1**
baz=34
ORV **Oroville** **33.44 320** ⇑P **P** **00 01 19.9 +0.5**
baz=34,SNR=5.6
WVOR **Wild Horse Val** **33.63 326** PFAKE 00 01 30.0 +9.0
WVOR LR LR
comp=Z,213nm,21.0s
MNRC **McLaughlin Nat** **33.64 318** ⇑P **P** **00 01 21.8 +0.6**
baz=34
O04C **Chester** **33.64 321** ⇓P **P** **00 01 21.4 +0.3**
baz=34
LBNH **Lisbon** **33.67 29** PFAKE 00 01 30.0 +8.6
LBNH LR LR
comp=Z,444nm,22.0s
L07A **Adell** **33.73 325** ⇑P **P** **00 01 22.2 +0.3**
baz=34,SNR=5.8
K08A **Mann Creek Ran** **33.75 327** ⇑P **P** **00 01 22.4 +0.3**
baz=34
J09A **Fry Pan Ranch,** **33.81 328** ⇓P **P** **00 01 22.9 +0.3**
baz=34,SNR=23
M06C **Likely Place G** **33.84 323** ⇑P **P** **00 01 23.4 +0.5**

baz=34,SNR=26
HRY Holter Researc 33.88 338 *e*P P **00 01 23.8 +0.5**
E15A Deer Lodge 33.94 337 ⇑P P **00 01 23.9 +0.2**
baz=34,SNR=14
H11A Donnelly 33.98 331 ⇑P P **00 01 24.3 +0.2**
baz=34
ULM Lac du Bonnet 34.04 358 P P **00 01 23.1 -1.5**
comp=Z,36nm,0.5s,mb5.5,baz=176,slow=10,SNR=90
ULM LR LR 00 18 23.3
comp=Z,138nm,20.7s,baz=106,slow=42
F13A Darby 34.09 334 P P **00 01 25.3 +0.3**
baz=34,SNR=25
HOPS Hopland 34.11 318 ⇓P P **00 01 25.5 +0.3**
baz=34
K07A Rock Creek Ran 34.13 326 P P **00 01 25.9 +0.5**
baz=34,SNR=60
HATC Hat Creek Radi 34.17 321 ⇓P P **00 01 26.0 +0.2**
baz=34
J08A Circle Bar Ran 34.19 327 ⇓P P **00 01 26.1 +0.2**
baz=34,SNR=51
MOD Modoc 34.19 324 P P **00 01 26.0 +0.1**
baz=34,SNR=9.7
GASB Alder Springs 34.26 319 ⇑P P **00 01 27.0 +0.6**
baz=34
I09A Lost Marbles R 34.26 329 P P **00 01 26.9 +0.4**
baz=34,SNR=43
E14A Clinton 34.26 336 P P **00 01 26.9 +0.3**
baz=34,SNR=23
EGMT Eagleton 34.32 341 *e*P P **00 01 27.5 +0.5**
EGMT Eagleton 34.32 341 ⇓P P **00 01 27.4 +0.4**
baz=34,SNR=16
M05C Lookout 34.32 323 ⇓P P **00 01 27.1 0.0**
baz=34,SNR=7.0
D15A Lincoln 34.41 337 P P **00 01 28.2 +0.4**
baz=34,SNR=22
P01C Double 8 Ranch 34.55 318 ⇑P P **00 01 29.3 +0.2**
baz=35
E13A Victor 34.56 335 ⇓P P **00 01 29.0 -0.1**
baz=35,SNR=28
CHMT Chamberlain Mo 34.58 337 *e*P P **00 01 29.4 +0.1**
L05A Lakeview 34.58 324 ⇑P P **00 01 29.5 +0.2**
baz=35,SNR=14
I08A Drewsey 34.63 328 ⇓P P **00 01 29.5 -0.1**
baz=35,SNR=6.0
J07A Hines 34.63 327 ⇓P P **00 01 29.2 -0.5**
baz=35,SNR=12
BMO Blue Mountains 34.69 330 *e*P P **00 01 29.5 -0.8**
comp=Z,24nm,1.3s,mb4.9
BMO LR LR
comp=Z,148nm,20.0s
H09A Durkee 34.73 330 ⇓P P **00 01 29.9 -0.7**
baz=35,SNR=7.5
K06A Valley Falls 34.75 325 ⇓P P **00 01 30.5 -0.2**
baz=35,SNR=5.9
D14A Greenough 34.82 336 ⇑P P **00 01 31.0 -0.4**
baz=35,SNR=22
M03C McCloud 34.85 322 ⇓P P **00 01 31.3 -0.3**
baz=35
M04C Macdoel 34.99 323 ⇓P P **00 01 32.9 +0.1**
baz=35,SNR=6.2
J06A Christmas Vall 35.00 326 ⇓P P **00 01 32.4 -0.5**
baz=35,SNR=8.9
H08A Prairie City 35.11 329 ⇑P P **00 01 33.3 -0.6**
baz=35,SNR=12
D13A Huson 35.20 336 P P **00 01 34.5 -0.1**
baz=35,SNR=25
I07A Izee 35.23 327 P P **00 01 34.6 -0.3**
baz=35,SNR=8.9
L04A Klamath Falls 35.27 323 ⇑P P **00 01 35.0 -0.2**
baz=35
C14A Swan Lake 35.48 337 P P **00 01 37.1 +0.1**
baz=36,SNR=10
F10A Beach Ranch, E 35.50 332 P P **00 01 37.0 -0.2**
baz=36,SNR=37
I06A Prineville 35.50 327 ⇑P P **00 01 37.0 -0.2**
baz=36
J05A Fort Rock 35.61 325 ⇑P P **00 01 38.0 -0.2**
baz=36
F09A S2 Ranch, Elgi 35.61 331 P P **00 01 38.2 0.0**
baz=36,SNR=5.4
H07A Lands Inn, Kim 35.61 328 P P **00 01 37.8 -0.4**
baz=36,SNR=30
C13A Hot Springs 35.72 336 P P **00 01 39.0 -0.1**
baz=36,SNR=13
G08A Pilot Rock 35.81 329 P P **00 01 39.6 -0.3**
baz=36,SNR=7.6
BSMT Bassoo Peak 35.95 336 *e*P P **00 01 40.1 -0.9**
F08A Pendleton 36.09 330 ⇓P P **00 01 41.5 -0.7**
baz=36
VIPM Ingram Point 36.10 327 P P **00 01 42.3 0.0**
C12A Trout Creek 36.10 335 P P **00 01 42.2 -0.2**
baz=36,SNR=12
H06A Lindquist Farm 36.11 328 ⇓P P **00 01 41.7 -0.7**
baz=36,SNR=5.9
G07A Ruggs Ranch, H 36.14 329 P P **00 01 42.0 -0.7**
baz=36,SNR=7.1
I05A Bend 36.21 326 ⇓P P **00 01 43.0 -0.3**
baz=36
B13A Whitefish 36.25 337 ⇓P P **00 01 43.5 -0.1**
baz=36,SNR=29
E09A Wood Farm, Sta 36.33 332 P P **00 01 43.6 -0.7**
baz=36,SNR=11
K02A Glendale 36.56 323 ⇓P P **00 01 45.8 -0.5**
baz=37
G06A Carlson Farm, 36.61 328 ⇑P P **00 01 46.1 -0.6**
baz=37
WALA Waterton Lakes 36.61 338 *e*P P **00 01 47.3 +0.6**
comp=Z,32nm,1.2s,mb5.1
J03A Ideyld Park 36.64 324 ⇑P P **00 01 46.4 -0.5**
baz=37
A13A Flathead Natio 36.69 337 ⇑P P **00 01 46.9 -0.5**
baz=37,SNR=16
F07A Phinny Hill Vi 36.72 329 ⇓P P **00 01 47.3 -0.3**
baz=37
B12A Libby 36.76 336 ⇑P P **00 01 48.4 +0.4**
baz=37,SNR=15
D09A Jones Farm, Ri 36.81 332 ⇓P P **00 01 47.8 -0.6**
baz=37,SNR=7.9
C10A Spilker Farm, 36.95 334 ⇓P P **00 01 49.2 -0.3**
baz=37
G05A Wamic 36.96 327 ⇓P P **00 01 49.4 -0.3**
baz=37
J02A Umpqua 36.98 323 ⇑P P **00 01 49.7 -0.1**
baz=37
B11A Sandpoint 37.04 335 P P **00 01 50.4 0.0**
baz=37,SNR=16
H04A Detroit Lake 37.05 326 ⇑P P **00 01 50.3 -0.1**
baz=37,SNR=12
F06A Goldendale 37.05 328 ⇑P P **00 01 50.8 +0.4**
baz=37,SNR=7.9
D08A Wollman Farm, 37.09 331 P P **00 01 50.3 -0.4**
baz=37,SNR=7.8
E07A Sunnyside 37.16 330 ⇓P P **00 01 50.9 -0.4**
baz=37
A12A Yaak River Ran 37.16 336 ⇑P P **00 01 51.3 -0.1**
baz=37
I03A Eugene 37.19 324 P P **00 01 51.6 0.0**
baz=37,SNR=8.6
HOOD Mount Hood Mea 37.19 327 *e*P P **00 01 52.2 +0.6**
NEW Newport 37.22 334 P P **00 01 51.1 -0.8**
comp=Z,12nm,0.7s,mb4.9,baz=142,slow=7.8,SNR=18
NEW Newport 37.22 334 *e*P P **00 01 51.4 -0.4**
NEW pmax pmax
comp=Z,15nm,0.8s
NEW MLR MLR
comp=Z,145nm,22.0s
NEW Newport 37.22 334 *e*P P **00 01 51.4 -0.4**
comp=Z,15nm,0.8s,mb5.0
NEW LR LR
comp=Z,145nm,22.0s
OD2 Odessa Site #2 37.24 332 P P **00 01 51.8 -0.2**
TDH Tom, Dick, Har 37.24 327 P P **00 01 52.8 +0.7**
B10A Chitwood Farm, 37.29 334 ⇓P P **00 01 52.2 -0.3**
baz=37
A11A Hall Mountain, 37.46 336 P P **00 01 54.2 +0.3**
baz=38,SNR=20
F05A White Salmon 37.48 328 ⇑P P **00 01 54.4 +0.4**
baz=38,SNR=7.0
I02A Mapleton 37.52 324 ⇑P P **00 01 54.6 +0.2**
baz=38
G04A Mulino 37.55 326 ⇓P P **00 01 54.8 +0.2**
baz=38
EPH Ephrata 37.62 331 P P **00 01 55.0 -0.2**
H03A Soap Creek Ran 37.65 325 P P **00 01 55.7 +0.3**
baz=38,SNR=6.1
D07A Quincy 37.67 331 ⇓P P **00 01 55.6 0.0**
baz=38
C08A Higginbotham F 37.68 332 P P **00 01 55.7 0.0**
baz=38,SNR=22
E06A Yakima 37.69 329 ⇓P P **00 01 56.1 +0.3**
baz=38,SNR=11
B09A Rice 37.77 334 ⇑P P **00 01 56.2 -0.3**
baz=38,SNR=16
TBM Table Mountain 37.95 330 P P **00 01 58.6 +0.6**
A10A Northport 37.96 335 ⇓P P **00 01 57.7 -0.4**
baz=38
G03A Yamhill 38.05 326 ⇑P P **00 01 58.7 -0.1**
baz=38
C07A Waterville 38.08 331 ⇑P P **00 01 59.0 -0.1**
baz=38,SNR=7.3
D06A Cle Elum 38.09 330 ⇓P P **00 01 58.9 -0.3**
baz=38
ETW Entiat 38.14 331 P P **00 02 00.0 +0.4**
LON Longmire 38.25 329 *e*P P **00 02 00.7 +0.2**
A09A Danville 38.38 334 ⇑P P **00 02 01.3 -0.3**
baz=38,SNR=6.8
D05A Enumclaw 38.64 329 ⇑P P **00 02 04.2 +0.4**
baz=39
B07A Winthrop 38.67 332 ⇑P P **00 02 03.9 -0.1**
baz=39
FFC Flin Flon 38.98 353 P P **00 02 06.0 -0.7**
comp=Z,1µm,0.5s,SNR=59
FFC Flin Flon 38.98 353 *e*P P **00 02 06.5 -0.2**
A07A Ashnola River, 39.22 332 ⇑P P **00 02 08.5 -0.2**
baz=39,SNR=10
GNW Green Mountain 39.31 329 *e*P P **00 02 09.0 -0.4**
B06A Marblemount 39.33 331 ⇓P P **00 02 09.3 -0.3**
baz=39
SAML Samuel 39.42 127 *e*P P **00 02 07.7 -2.6**
comp=Z,26nm,0.6s,mb5.2
A06A Chilliwack 39.75 332 ⇓P P **00 02 12.7 -0.4**
baz=40
A05A Maple Falls 39.95 331 ⇓P P **00 02 13.8 -1.0**
baz=40
EDM Edmonton 39.99 342 *e*P P **00 02 14.6 -0.4**
A04A Legoe Bay, Lum 40.05 330 ⇓P P **00 02 15.0 -0.6**
baz=40
LPAZ La Paz 41.13 140 P P **00 02 23.2 -1.2**
comp=Z,2.9nm,0.8s,mb4.2,baz=328,slow=8.9,SNR=13
LPAZ PcP PcP 00 04 25.9 +3.2
comp=Z,4.6nm,0.7s,baz=336,slow=6.1,SNR=4.4
LPAZ LR LR 00 19 19.2
comp=Z,60nm,20.4s,baz=295,slow=36
LPAZ La Paz 41.13 140 *e*P P **00 02 23.1 -1.3**
LPAZ 00 04 25.9
LPAZ pmax pmax
comp=Z,60nm,0.7s
LPAZ La Paz 41.13 140 *e*P P **00 02 23.1 -1.3**
comp=Z,5.6nm,0.7s,mb4.5
LPAZ PcP PcP 00 04 25.9 +3.2
LPAZ LR LR 00 19 19.2
SCHQ Schefferville 43.94 22 P P **00 02 45.6 -1.6**
comp=Z,25nm,0.9s,mb5.0,baz=215,slow=6.1,SNR=18
SCHQ PcP PcP 00 04 29.7 -2.4
comp=Z,8.8nm,0.7s,baz=229,slow=3.5,SNR=4.5
SCHQ LR LR 00 24 06.0
comp=Z,390nm,18.4s,baz=88,slow=40
YKA Yellowknife Ar 48.50 347 P P **00 03 22.1 -0.9**
comp=Z,28nm,0.6s,mb5.4,baz=154,slow=7.1,SNR=99
YKA pP pP 00 03 38.6 -1.7
comp=Z,5.3nm,0.7s,baz=151,slow=7.2,SNR=2.5
YKA PP PP 00 05 14.1 -2.1
comp=Z,5.2nm,0.8s,baz=146,slow=9.1,SNR=4.4
YKA LR LR 00 26 21.2
comp=Z,71nm,18.8s,baz=220,slow=39
YKA Yellowknife Ar 48.50 347 P P **00 03 22.2 -0.8**
YKA 00 05 14.2
YKW3 Yellowknife Ar 48.57 347 *e*P P **00 03 22.7 -0.8**
RKT Rikitea 55.92 227 *e*LR LR 00 20 30.7
comp=Z,480nm,29.8s
DAWY Dawson 56.96 338 *e*P P **00 04 24.2 -1.2**
DAWY *e*pP pP 00 04 42.8 -0.3
DIV Divide 57.96 333 PFAKE 00 04 40.0 +7.5
DIV LR LR
comp=Z,812nm,22.0s
EGAK Eagle 58.00 338 *e*P P **00 04 31.5 -1.2**
comp=Z,14nm,1.2s,mb4.9
EGAK *e*pP pP 00 04 49.4 -1.1
EGAK *e*PcP PcP 00 05 23.8 -0.3
EGAK *e*PP PP 00 06 43.1 +1.3
RES Resolute Bay 58.54 360 *e*P P **00 04 34.9 -1.6**
comp=Z,199nm,0.7s,mb6.2
RES *e*pP pP 00 04 52.7 -1.6
RES *e*sP sP 00 05 01.4 -0.5
KDAK Kodiak Island 59.87 328 P P **00 04 44.5 -1.1**
comp=Z,5.4nm,0.7s,mb4.7,baz=146,slow=16,SNR=4.2
MCK McKinley 60.44 335 *e*P P **00 04 48.4 -1.1**
MCK pmax pmax
comp=Z,11nm,1.1s,mb4.8
MCK McKinley 60.44 335 *e*P P **00 04 48.4 -1.2**
comp=Z,22nm,1.1s,mb5.1
COLA College 60.52 337 ⇑*i*P P **00 04 48.6 -1.5**
CAM4 Nova Friburgo 63.27 126 ⇓*i*P P **00 05 07.0 -1.5**
CAM4 *i* 00 05 09.7
CAM4 *i* 00 05 11.7
CAM4 *i* 00 05 15.2
CAM3 Guarapari 64.03 123 ⇓*i*P P **00 05 13.9 +0.3**
CAM3 *i* 00 05 16.3
CAM3 *i* 00 05 20.5
ALE Alert 67.57 4 P P **00 05 34.0 -2.3**
comp=Z,156nm,1.2s,mb5.7,SNR=5.6
TNA Tin City 68.76 335 PFAKE 00 05 50.0 +6.2
TNA LR LR
comp=Z,53nm,19.0s
DAG Danmarks Havn 71.04 14 ⇓*i*P P **00 05 56.2 -1.5**
comp=Z,29nm,1.1s,mb5.0
DAG Danmarks Havn 71.04 14 ⇓*i*P P **00 05 56.2 -1.5**
DAG pmax pmax
comp=Z,29nm,1.1s,mb5.0
RAR Rarotonga 74.41 242 LR LR 00 29 27.6
comp=Z,639nm,20.9s,baz=291,slow=28
DCN Croghan 75.29 38 ⇑*i*P P **00 06 22.2 -0.6**
EMAZ Mazaricos 75.60 49 P P **00 06 24.4 -0.2**
comp=Z,19nm,0.5s,mb5.1
KAR1 Arisaig 75.65 34 ⇑*e*P P **00 06 23.9 -1.0**
KPL Plockton 75.69 34 ⇑*e*P P **00 06 24.4 -0.7**
KPL AMb AMB 00 06 25.8
comp=Z,181nm,1.5s,mb5.6
GCL Cushendall 75.73 36 ⇑*e*P P **00 06 24.9 -0.5**
DLF Lyons Farm 75.74 38 ⇑*i*P P **00 06 24.8 -0.6**
KSB Sheil Bridge 75.83 34 ⇑*e*P P **00 06 25.1 -0.8**
KAC Achnashellach 75.86 34 ⇑*e*P P **00 06 25.2 -0.9**
STS Santiago 75.92 49 P P **00 06 25.3 -1.1**
STS pmax pmax
comp=Z,21nm,0.6s,mb5.0
STS Santiago 75.92 49 P P **00 06 25.3 -1.2**
comp=Z,20nm,0.6s,mb5.0
GMM Mts of Mourne 75.95 37 ⇑*i*P P **00 06 26.0 -0.5**
GMK Mull of Kintyr 76.00 36 ⇑*e*P P **00 06 26.2 -0.6**
PMSU Muirshiel 76.40 35 ⇑*e*P P **00 06 28.5 -0.6**
PCAB Cabril 76.50 50 *e*P P **00 06 29.7 0.0**
comp=Z,61nm,1.1s,mb5.2
PGBU Glenifferbraes 76.55 35 ⇑*e*P P **00 06 29.2 -0.8**
PGBU AMb AMB 00 06 33.1
comp=Z,41nm,1.6s,mb4.9
GAL1 Galloway 76.57 36 P P **00 06 29.5 -0.6**
GAL1 Galloway 76.57 36 P P **00 06 29.8 -0.3**
GAL1 AMb AMB 00 06 30.4
comp=Z,90nm,0.6s,mb5.7
GAL1 Galloway 76.57 36 ⇑*e*P P **00 06 29.5 -0.6**
GAL1 ⇑*e*P 00 06 29.5
GAL1 ⇑*i*P 00 06 29.8
GAL1 AMb AMB 00 06 30.4
comp=Z,90nm,0.6s,mb5.7
EAB Aberfoyle 76.57 35 ⇑*e*P P **00 06 29.4 -0.7**
WIM Isle of Man 76.70 37 ⇑*e*P P **00 06 30.7 -0.2**
PVIS Viseu 76.76 51 *e*P P **00 06 30.9 -0.3**
comp=Z,34nm,0.8s,mb5.1
MLA1 Latheron 76.76 33 ⇑*e*P P **00 06 30.5 -0.7**
MORF Marmelete 76.78 55 *e*P P **00 06 31.5 +0.2**
GIM North Isle of 76.80 37 ⇑*e*P P **00 06 31.2 -0.1**
PVRL Vila Real 76.80 51 *e*P P **00 06 31.3 -0.1**
EPON Pontenova 76.86 48 P P **00 06 31.7 -0.1**
comp=Z,29nm,0.7s,mb5.1
WCB1 Church Bay 76.90 38 ⇑*e*P P **00 06 31.1 -0.9**
YRC Rhoscolyn 76.91 38 ⇑*e*P P **00 06 31.1 -0.9**
MCD Coleburn Disti 76.94 34 ⇑*i*P P **00 06 31.8 -0.3**
WLF1 Llynfaes 77.00 38 ⇑*e*P P **00 06 31.4 -1.1**
GCD Castle Douglas 77.01 36 ⇑*i*P P **00 06 32.2 -0.4**
YRE Yr Eifl 77.04 38 ⇑*e*P P **00 06 32.2 -0.5**
EVO Evora 77.06 53 ⇑*i*P P **00 06 31.7 -1.1**
comp=Z,37nm,0.8s,mb4.8
EVO *e*R
comp=Z,184nm,22.0s
EAU Auchinoon 77.12 35 ⇑*e*P P **00 06 32.6 -0.6**
MME1 Meikle Cairn 77.14 34 ⇑*e*P P **00 06 32.4 -0.9**
PCBR Castelo Branco 77.23 52 *e*P P **00 06 33.7 -0.1**
comp=Z,39nm,1.1s,mb5.0
EDI Edinburgh 77.25 35 ⇑*e*P P **00 06 33.4 -0.6**
EDI AMb AMB 00 06 34.7
comp=Z,147nm,1.6s,mb5.5
PBEJ Beja 77.26 54 *e*P P **00 06 34.0 0.0**
comp=Z,35nm,1.4s,mb4.9
KBS Kingsbay 77.28 11 ⇑*e*P P **00 06 34.3 +0.2**
PESTR Estremoz 77.32 53 *e*P P **00 06 34.0 -0.3**
XDE Dent Fell 77.33 37 ⇑*e*P P **00 06 34.0 -0.3**
HTL Hartland 77.34 40 ⇑*e*P P **00 06 34.1 -0.3**
HTL AMb AMB 00 06 34.9
comp=Z,49nm,0.7s,mb5.3
ESK Eskdalemuir 77.35 36 P P **00 06 33.5 -1.0**
comp=Z,741nm,0.8s,SNR=23
ESK Eskdalemuir 77.35 36 ⇑*e*P P **00 06 33.6 -0.9**
ESK AMb AMB 00 06 34.4
comp=Z,95nm,0.7s,mb5.6
ESK Eskdalemuir 77.35 36 P P **00 06 33.9 -0.6**
ESK LR LR
comp=Z,63nm,22.0s
EBL Broad Law 77.36 35 ⇑*e*P P **00 06 33.9 -0.6**
ECAL Calabor 77.40 50 P P **00 06 34.7 0.0**
comp=Z,14nm,0.7s,mb4.8
ECK Cauldkaine Hil 77.42 36 ⇑*i*P P **00 06 34.1 -0.7**
PBRG Braganca 77.43 50 *e*P P **00 06 34.7 -0.2**
comp=Z,35nm,1.5s,mb4.9
CDU1 Dunnerdale 77.53 37 ⇑*e*P P **00 06 35.3 -0.2**
CKE Keswick 77.53 37 ⇑*e*P P **00 06 34.8 -0.7**
LRW Lerwick 77.56 31 *e*P P **00 06 35.0 -0.6**
LRW AMb AMB 00 06 35.2
comp=Z,64nm,1.6s,mb5.1
ESY Stoneypath 77.57 35 ⇑*e*P P **00 06 35.4 -0.3**
EGRO El Granado 77.65 54 P P **00 06 37.4 +1.3**
comp=Z,23nm,1.2s,mb4.8
SBD1 Bryn Du 77.75 38 ⇑*e*P P **00 06 35.7 -1.0**
HEX Exmoor 77.75 40 ⇑*e*P P **00 06 35.8 -0.9**
DYA Yadsworthy 77.78 41 ⇑*e*P P **00 06 36.2 -0.7**
XSO Sourhope Farm 77.85 36 ⇑*i*P P **00 06 36.8 -0.5**
HTR Trewern Hill 77.89 39 ⇑*e*P P **00 06 36.8 -0.7**
XAL Allendale 77.99 36 ⇑*i*P P **00 06 37.6 -0.4**
HLM1 Long Mynd 78.04 39 ⇑*e*P P **00 06 38.0 -0.4**
MCH1 Michaelchurch 78.07 39 ⇑*e*P P **00 06 37.9 -0.6**
MCH1 ⇑*i*P 00 06 37.9
MCH1 AMb AMB 00 06 39.8
comp=Z,32nm,1.7s,mb4.8
EMIN Mina Concepcio 78.24 54 P P **00 06 39.5 +0.1**
comp=Z,14nm,0.6s,mb4.8
HGH Gray Hill 78.26 40 ⇑*e*P P **00 06 39.0 -0.5**
EARI Arriondas 78.26 48 P P **00 06 39.3 -0.2**
comp=Z,23nm,0.6s,mb5.1
SMY Shemya 78.45 322 PFAKE 00 06 50.0 +9.4
SMY LR LR
comp=Z,1µm,19.0s
ROSF Rostrenen 78.61 43 ⇑*i*P P **00 06 40.8 -0.6**
comp=Z,68nm,0.9s,mb5.2
ROSF Rostrenen 78.61 43 ⇑*i*P P **00 06 40.8 -0.6**
ROSF pmax pmax
comp=Z,34nm,0.9s,mb5.2
ROSF Rostrenen 78.61 43 ⇑*i*P P **00 06 40.8 -0.6**
comp=Z,34nm,0.9s,mb5.2
BILL Bilibino 78.74 338 *e*P P **00 06 40.8 -1.4**
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
BILL MLR MLR
comp=Z,354nm,20.0s
BILL Bilibino 78.74 338 *e*P P **00 06 40.8 -1.4**
comp=Z,8.0nm,0.8s,mb4.6
BILL LR LR
comp=Z,350nm,20.0s
ESPR Espera 79.06 55 P P **00 06 44.2 +0.3**
comp=Z,42nm,1.1s,mb5.2
SGMF Saint Gilles 79.09 43 ⇑*i*P P **00 06 43.3 -0.8**
comp=Z,77nm,1.1s,mb5.2
SGMF Saint Gilles 79.09 43 ⇑*i*P P **00 06 43.3 -0.8**
SGMF pmax pmax
comp=Z,39nm,1.1s,mb5.2
SGMF Saint Gilles 79.09 43 ⇑*i*P P **00 06 43.3 -0.8**
comp=Z,38nm,1.1s,mb5.1
EJIF Jimena Fronter 79.45 55 P P **00 06 45.9 -0.1**
EJIF pmax pmax
comp=Z,14nm,0.9s,mb4.8
EJIF Jimena Fronter 79.45 55 P P **00 06 45.9 -0.1**
comp=Z,14nm,0.9s,mb4.8
ELAN Lanestosa 79.54 48 P P **00 06 46.6 0.0**
comp=Z,32nm,0.9s,mb5.2
GUD Guadarrama 79.57 51 P P **00 06 46.1 -0.6**
GUD pmax pmax
comp=Z,52nm,0.6s,mb5.5
GUD Guadarrama 79.57 51 P P **00 06 46.1 -0.5**
comp=Z,52nm,0.6s,mb5.5
EADA Adamuz 79.78 53 P P **00 06 49.0 +1.2**
comp=Z,3.6nm,0.6s,mb4.4
ESDC Sonseca Array 79.92 52 P P **00 06 47.8 -0.8**
comp=Z,16nm,0.8s,mb4.9,baz=292,slow=5.3,SNR=70
ESDC LR LR 00 36 57.3
comp=Z,86nm,20.8s,baz=300,slow=32
ESDC Sonseca Array 79.92 52 P P **00 06 48.6 0.0**
comp=Z,9.8nm,0.6s,mb4.8
ESLA Sonseca Array 79.92 52 *e*P P **00 06 48.7 +0.1**
comp=Z,5.2nm,0.8s,mb4.4
EMIJ Mijas 79.97 55 P P **00 06 48.7 -0.1**
comp=Z,20nm,0.9s,mb5.0
ELUQ Luque 80.15 54 P P **00 06 49.4 -0.4**
ELUQ pmax pmax
comp=Z,50nm,0.7s,mb5.5
ELUQ Luque 80.15 54 P P **00 06 49.4 -0.5**
comp=Z,4.6nm,0.7s,mb4.4
GRR Gorron 80.17 42 ⇑*i*P P **00 06 49.6 -0.3**
comp=Z,290nm,1.0s,mb5.7
GRR Gorron 80.17 42 ⇑*i*P P **00 06 49.6 -0.3**
GRR pmax pmax
comp=Z,145nm,1.0s,mb5.8
GRR Gorron 80.17 42 ⇑*i*P P **00 06 49.6 -0.3**
comp=Z,145nm,1.0s,mb5.8
FLN La Foliniere 80.33 42 ⇑*i*P P **00 06 50.6 -0.2**
comp=Z,150nm,0.8s,mb5.6
FLN *e*R
comp=Z,149nm,22.8s
FLN La Foliniere 80.33 42 ⇑*i*P P **00 06 50.6 -0.2**
FLN pmax pmax
comp=Z,75nm,0.8s,mb5.6
FLN MLR MLR
comp=Z,150nm,22.8s
FLN La Foliniere 80.33 42 ⇑*i*P P **00 06 50.6 -0.2**
comp=Z,75nm,0.8s,mb5.6
FLN LR LR
comp=Z,150nm,22.8s
ELOJ Sierra Loja 80.33 54 P P **00 06 50.0 -0.8**
ELOJ pmax pmax
comp=Z,11nm,0.8s,mb4.7
ELOJ Sierra Loja 80.33 54 P P **00 06 50.0 -0.8**
comp=Z,10nm,0.8s,mb4.7
ECRI Cripan 80.34 48 P P **00 06 50.3 -0.6**
ECRI pmax pmax
comp=Z,47nm,0.6s,mb5.5
ECRI Cripan 80.34 48 P P **00 06 50.3 -0.6**
comp=Z,47nm,0.6s,mb5.5
EBAN Banos Encina 80.39 53 P P **00 06 50.0 -1.1**
EBAN pmax pmax
comp=Z,19nm,0.8s,mb5.0
EBAN Banos Encina 80.39 53 P P **00 06 50.0 -1.1**
comp=Z,19nm,0.8s,mb5.0
LDF La Druitiere 80.60 42 ⇑*i*P P **00 06 51.9 -0.3**
comp=Z,204nm,1.1s,mb5.6
LDF La Druitiere 80.60 42 ⇑*i*P P **00 06 51.9 -0.3**
LDF pmax pmax
comp=Z,102nm,1.1s,mb5.6
LDF La Druitiere 80.60 42 ⇑*i*P P **00 06 51.9 -0.3**
comp=Z,102nm,1.1s,mb5.6
ERON Agron 80.63 54 P P **00 06 52.1 -0.3**
comp=Z,8.7nm,1.0s,mb4.5
LCHF La Chataignera 80.64 44 *e*P P **00 06 52.1 -0.4**
ECOG Cogollos-Vega 80.75 54 P P **00 06 52.6 -0.5**
ECOG pmax pmax
comp=Z,46nm,0.6s,mb5.5
ECOG Cogollos-Vega 80.75 54 P P **00 06 52.6 -0.5**
comp=Z,46nm,0.6s,mb5.5
EGUA Guajares 80.86 54 P P **00 06 52.5 -1.1**
EGUA pmax pmax
comp=Z,30nm,0.5s,mb5.4
EGUA Guajares 80.86 54 P P **00 06 52.5 -1.2**
comp=Z,2.6nm,0.5s,mb4.3

ELIZ Elizondo 80.92 48 P P 00 06 52.1 -1.8
ELIZ pmax pmax
comp=Z,28nm,0.9s,mb5.1
ELIZ Elizondo 80.92 48 P P 00 06 52.1 -1.8
comp=Z,28nm,0.9s,mb5.1
EALK Alkurruntz 80.92 48 P P 00 06 53.6 -0.4
comp=Z,55nm,1.1s,mb5.3
MDT Midelt 80.94 59 LR LR 00 36 02.8
comp=Z,75nm,20.1s,baz=321,slow=31
EQES Quesada 81.02 53 P P 00 06 55.0 +0.5
comp=Z,14nm,0.5s,mb5.0
MFF Saint Martin d 81.06 44⇑*iP* P 00 06 54.1 -0.6
comp=Z,116nm,1.1s,mb5.3
MFF Saint Martin d 81.06 44⇑*iP* P 00 06 54.1 -0.6
MFF pmax pmax
comp=Z,58nm,1.1s,mb5.3
MFF Saint Martin d 81.06 44⇑*iP* P 00 06 54.1 -0.6
comp=Z,58nm,1.1s,mb5.3
ETOR Torete 81.08 50 P P 00 06 55.2 +0.4
ETOR pmax pmax
comp=Z,35nm,0.6s,mb5.4
ETOR Torete 81.08 50 P P 00 06 55.2 +0.4
comp=Z,35nm,0.6s,mb5.4
SJPF Ste Jean 81.14 48 *eP* P 00 06 55.0 -0.1
comp=Z,174nm,1.4s,mb5.4
SJPF Ste Jean 81.14 48 *eP* P 00 06 55.0 -0.1
SJPF pmax pmax
comp=Z,87nm,1.4s,mb5.4
SJPF Ste Jean 81.14 48 *eP* P 00 06 55.0 -0.1
comp=Z,87nm,1.4s,mb5.4
EVIA Vianos 81.26 52 P P 00 06 55.1 -0.7
EVIA pmax pmax
comp=Z,27nm,0.6s,mb5.2
EVIA Vianos 81.26 52 P P 00 06 55.1 -0.6
comp=Z,26nm,0.6s,mb5.2
LARF Larrau 81.33 48 *eP* P 00 06 56.9 +0.8
LARF Larrau 81.33 48 *eP* P 00 06 56.9 +0.8
EBER Berja 81.37 54 P P 00 06 57.0 +0.6
comp=Z,49nm,0.4s,mb5.7
EHUE Huescar 81.38 53 P P 00 06 55.9 -0.5
EHUE pmax pmax
comp=Z,15nm,0.6s,mb5.0
EHUE Huescar 81.38 53 P P 00 06 55.9 -0.5
comp=Z,15nm,0.6s,mb5.0
BLS5 Blasjo 81.47 31 *eP* P 00 06 58.1 +1.2
BLS5 Blasjo 81.47 31 *eP* P 00 06 58.3 +1.4
LOF Lofoten 81.51 21 *eP* P 00 06 59.3 +2.3
LOF AMb AMB 00 07 00.8
comp=Z,125nm,1.4s,mb5.5
MENF Mencas 81.55 40 *eP* P 00 06 57.6 +0.3
MENF Mencas 81.55 40 *eP* P 00 06 57.6 +0.3
ETSF Etsaut 81.67 48⇑*iP* P 00 06 57.9 0.0
comp=Z,52nm,0.7s,mb5.2
ETSF Etsaut 81.67 48⇑*iP* P 00 06 57.9 0.0
ETSF pmax pmax
comp=Z,26nm,0.7s,mb5.2
ETSF Etsaut 81.67 48⇑*iP* P 00 06 57.9 0.0
comp=Z,26nm,0.7s,mb5.2
ENIJ Nijar 81.88 54 P P 00 06 57.3 -1.7
ENIJ pmax pmax
comp=Z,12nm,0.7s,mb4.8
ENIJ Nijar 81.88 54 P P 00 06 57.3 -1.7
comp=Z,12nm,0.7s,mb4.8
ETOB Tobarra 81.98 52 P P 00 07 00.2 +0.7
comp=Z,26nm,0.7s,mb5.2
ESAC San Caprasio 82.03 49 P P 00 07 00.4 +0.6
comp=Z,51nm,0.6s,mb5.5
LFF La Frestale 82.07 46⇑*iP* P 00 06 59.6 -0.4
comp=Z,266nm,1.2s,mb5.7
LFF La Frestale 82.07 46⇑*iP* P 00 06 59.6 -0.4
LFF pmax pmax
comp=Z,133nm,1.2s,mb5.6
LFF La Frestale 82.07 46⇑*iP* P 00 06 59.6 -0.4
comp=Z,133nm,1.2s,mb5.6
VIEF Viey 82.09 48 *eP* P 00 07 00.6 +0.5
VIEF Viey 82.09 48 *eP* P 00 07 00.6 +0.5
SNART Snartemo 82.17 31 *eP* P 00 07 01.1 +0.5
EBIE Bielsa 82.22 48 P P 00 07 00.4 -0.5
comp=Z,18nm,0.7s,mb5.0
NSS Namsos 82.25 25 *eP* P 00 06 59.8 -1.2
NSS AMb AMB 00 07 02.0
comp=Z,54nm,0.9s,mb5.4
EPF Esparros 82.28 48⇑*iP* P 00 07 00.8 -0.3
comp=Z,147nm,1.2s,mb5.4
EPF Esparros 82.28 48⇑*iP* P 00 07 00.8 -0.3
EPF pmax pmax
comp=Z,74nm,1.2s,mb5.4
EPF Esparros 82.28 48⇑*iP* P 00 07 00.8 -0.3
comp=Z,74nm,1.2s,mb5.4
RESF Ens 82.33 48 *eP* P 00 07 02.2 +0.8
RESF Ens 82.33 48 *eP* P 00 07 02.2 +0.8
EMOS Mosqueruela 82.36 50 P P 00 07 02.3 +0.7
comp=Z,51nm,0.6s,mb5.5
RJF Les Rejaudoux 82.51 45⇑*iP* P 00 07 01.7 -0.6
comp=Z,169nm,1.1s,mb5.5
RJF *eR*
comp=Z,198nm,23.0s
RJF Les Rejaudoux 82.51 45⇑*iP* P 00 07 01.7 -0.6
RJF pmax pmax
comp=Z,85nm,1.1s,mb5.5
RJF MLR MLR
comp=Z,200nm,23.0s
RJF Les Rejaudoux 82.51 45⇑*iP* P 00 07 01.7 -0.6
comp=Z,85nm,1.1s,mb5.5
RJF LR LR
comp=Z,200nm,23.0s
MOR8 Moi Rana 82.59 23⇑*iP* P 00 07 03.0 +0.2
MOR8 AMb AMB 00 07 07.0
comp=Z,37nm,1.5s,mb5.0
MOR8 Moi Rana 82.59 23 *eP* P 00 07 03.0 +0.3
comp=Z,37nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.71 44⇑*iP* P 00 07 02.7 -0.7
comp=Z,56nm,0.7s,mb5.2
TCF Toulx Ste Croi 82.71 44⇑*iP* P 00 07 02.7 -0.7
TCF pmax pmax
comp=Z,28nm,0.7s,mb5.2
TCF Toulx Ste Croi 82.71 44⇑*iP* P 00 07 02.7 -0.7
comp=Z,28nm,0.7s,mb5.2
HYF Humbligny 82.73 43 *eP* P 00 07 03.2 -0.3
ERTA Horta de San J 82.80 50 P P 00 07 04.0 +0.2
comp=Z,22nm,0.7s,mb5.1
MLS Moulis 82.83 47 *eP* P 00 07 04.0 0.0
MLS Moulis 82.83 47 *eP* P 00 07 04.0 0.0
UCC Uccle 82.83 39 P P 00 07 03.4 -0.6
SNF Seneffe 82.87 40 P P 00 07 03.9 -0.3
comp=Z,16nm,1.4s,mb4.7
KONO Kongsberg 82.92 30⇑*eP* P 00 07 04.6 +0.1
KONO Kongsberg 82.92 30 PFAKE 00 07 10.0 +5.5
KONO LR LR
comp=Z,238nm,21.0s
SALF Salau 82.95 48 *eP* P 00 07 05.3 +0.7
SALF Salau 82.95 48 *eP* P 00 07 05.3 +0.7
BAIF Baives 82.95 40⇑*iP* P 00 07 04.3 -0.3
comp=Z,156nm,1.1s,mb5.4
BAIF Baives 82.95 40⇑*iP* P 00 07 04.3 -0.3
BAIF pmax pmax
comp=Z,78nm,1.1s,mb5.5
BAIF Baives 82.95 40⇑*iP* P 00 07 04.3 -0.3
comp=Z,78nm,1.1s,mb5.5
CAF Calviac 82.98 45⇑*iP* P 00 07 04.2 -0.6
comp=Z,58nm,0.9s,mb5.1
CAF Calviac 82.98 45⇑*iP* P 00 07 04.2 -0.6
CAF pmax pmax
comp=Z,29nm,0.9s,mb5.1
CAF Calviac 82.98 45⇑*iP* P 00 07 04.2 -0.6
comp=Z,29nm,0.9s,mb5.1
BGF Bois d'Agland 83.06 44⇑*iP* P 00 07 04.6 -0.6
comp=Z,213nm,0.9s,mb5.7
BGF Bois d'Agland 83.06 44⇑*iP* P 00 07 04.6 -0.6
BGF pmax pmax
comp=Z,107nm,0.9s,mb5.7
BGF Bois d'Agland 83.06 44⇑*iP* P 00 07 04.6 -0.6
comp=Z,107nm,0.9s,mb5.7
DOU Dourbes 83.18 40 ⇑P P 00 07 04.9 -0.9
comp=Z,19nm,0.9s,mb4.9
NB2 NORSAR Subarra 83.19 28 P P 00 07 05.9 +0.1
comp=Z,1.2nm,0.6s,baz=295,slow=5.1
NOA NORSAR Array B 83.19 28 P P 00 07 05.3 -0.6
comp=Z,15nm,0.9s,mb4.8,baz=292,slow=5.1,SNR=40
NOA pP pP 00 07 23.9 -0.6
comp=Z,2.9nm,0.7s,baz=292,slow=5.1,SNR=3.2
NOA LR LR 00 43 00.2
comp=Z,57nm,20.0s,baz=295,slow=35
FRNF Fournols 83.19 45 *eP* P 00 07 05.5 -0.4
GIVF Givet 83.32 40⇑*iP* P 00 07 06.4 -0.1
AVF Avril sur Loir 83.33 43⇑*iP* P 00 07 05.6 -1.0
comp=Z,87nm,0.9s,mb5.3
AVF Avril sur Loir 83.33 43⇑*iP* P 00 07 05.6 -1.0
AVF pmax pmax
comp=Z,43nm,0.9s,mb5.3
AVF Avril sur Loir 83.33 43⇑*iP* P 00 07 05.6 -1.0
comp=Z,44nm,0.9s,mb5.3
SSF Saint Saulge 83.36 43⇑*iP* P 00 07 05.9 -0.8
comp=Z,128nm,1.0s,mb5.4
SSF Saint Saulge 83.36 43⇑*iP* P 00 07 05.9 -0.8
SSF pmax pmax
comp=Z,64nm,1.0s,mb5.4
SSF Saint Saulge 83.36 43⇑*iP* P 00 07 05.9 -0.8
comp=Z,64nm,1.0s,mb5.4
AGO Saint Agoulin 83.39 44 *eP* P 00 07 06.2 -0.7
AGO Saint Agoulin 83.39 44 *eP* P 00 07 06.2 -0.7
EMIR Miracle 83.42 48 P P 00 07 07.4 +0.4
comp=Z,28nm,0.6s,mb5.3
BCLA Clavier 83.52 39 ⇓P P 00 07 06.7 -0.9
comp=Z,26nm,0.9s,mb5.1
MTLF Montolieu 83.52 47⇑*iP* P 00 07 07.1 -0.4
comp=Z,112nm,1.1s,mb5.3
MTLF Montolieu 83.52 47⇑*iP* P 00 07 07.1 -0.4
MTLF pmax pmax
comp=Z,56nm,1.1s,mb5.3
MTLF Montolieu 83.52 47⇑*iP* P 00 07 07.1 -0.4
comp=Z,56nm,1.1s,mb5.3
LOR Lormes 83.53 43⇑*iP* P 00 07 07.1 -0.5
comp=Z,202nm,1.2s,mb5.5
LOR *eR*
comp=Z,62nm,22.5s
LOR Lormes 83.53 43⇑*iP* P 00 07 07.1 -0.5
LOR pmax pmax
comp=Z,101nm,1.2s,mb5.5
LOR MLR MLR
comp=Z,60nm,22.5s
LOR Lormes 83.53 43⇑*iP* P 00 07 07.1 -0.5
comp=Z,101nm,1.2s,mb5.5
LOR LR LR
comp=Z,60nm,22.5s
BEBN Eben Emael 83.63 39 P P 00 07 08.1 0.0
SMF Signal de Mont 83.69 43⇑*iP* P 00 07 07.5 -0.9
comp=Z,79nm,1.0s,mb5.2
SMF Signal de Mont 83.69 43⇑*iP* P 00 07 07.5 -0.9
SMF pmax pmax
comp=Z,39nm,1.0s,mb5.2
SMF Signal de Mont 83.69 43⇑*iP* P 00 07 07.5 -0.9
comp=Z,39nm,1.0s,mb5.2
LBL Lubilhac 83.70 45 *eP* P 00 07 08.5 0.0
LBL Lubilhac 83.70 45 *eP* P 00 07 08.5 0.0
HGN Heimansgroeve 83.80 39⇑*iP* P 00 07 08.8 -0.1
comp=Z,94nm,1.1s,mb5.5
MEM Membach 83.89 39 P P 00 07 08.9 -0.5
comp=Z,27nm,1.0s,mb5.0
MEZF Maizieres J'vi 83.94 41⇑*iP* P 00 07 09.4 -0.3
comp=Z,152nm,0.9s,mb5.5
MEZF Maizieres J'vi 83.94 41⇑*iP* P 00 07 09.4 -0.3
comp=Z,152nm,0.9s,mb5.8
WTSB Winterswijk 83.94 38⇑*eP* P 00 07 09.8 +0.1
comp=Z,121nm,1.4s,mb5.5
EJON La Jonquera 84.24 48 P P 00 07 11.7 +0.5
comp=Z,41nm,0.9s,mb5.3
WLF Walferdange 84.27 40 *eP* P 00 07 10.9 -0.5
comp=Z,210nm,1.6s,mb5.7
WLF Walferdange 84.27 40 P P 00 07 11.9 +0.5
BUG Bochum-Üniver 84.38 38 *eP* P 00 07 11.2 -0.7
comp=Z,153nm,1.5s,mb5.6
IBBN Ibbenburen 84.39 37 *eP* P 00 07 12.2 +0.2
comp=Z,178nm,1.4s,mb5.7
LASF Ste Croix 84.45 46⇑*iP* P 00 07 12.6 +0.3
comp=Z,197nm,1.3s,mb5.5
THEF They Montfort 84.61 41 *eP* P 00 07 13.7 +0.6
THEF They Montfort 84.61 41 *eP* P 00 07 13.7 +0.6
ARCES ARCESS Array B 84.71 18 P P 00 07 11.8 -1.8
comp=Z,28nm,0.7s,mb5.3,baz=288,slow=4.3,SNR=88
ARCES pP pP 00 07 30.6 -1.7
comp=Z,12nm,0.8s,baz=297,slow=3.7,SNR=4.0
ARCES LR LR 00 45 30.8
comp=Z,140nm,18.5s,baz=2.0,slow=36
ARE0 ARCESS Array S 84.71 18 *eP* P 00 07 12.6 -1.0
VIVF Saint-Julien-l 84.78 45⇑*iP* P 00 07 14.0 +0.1
comp=Z,344nm,1.6s,mb5.7
VIVF Saint-Julien-l 84.78 45⇑*iP* P 00 07 14.0 +0.1
VIVF pmax pmax
comp=Z,172nm,1.6s,mb5.7
VIVF Saint-Julien-l 84.78 45⇑*iP* P 00 07 14.0 +0.1
comp=Z,172nm,1.6s,mb5.7
RUP Ruppelstein 84.82 40 *eP* P 00 07 15.1 +1.0
HAU Haudompre 84.91 42⇑*iP* P 00 07 14.3 -0.3
comp=Z,125nm,0.8s,mb5.6
HAU *eR*
comp=Z,45nm,19.2s
HAU Haudompre 84.91 42⇑*iP* P 00 07 14.3 -0.3
HAU pmax pmax
comp=Z,63nm,0.8s,mb5.6
HAU MLR MLR
comp=Z,40nm,19.3s
HAU Haudompre 84.91 42⇑*iP* P 00 07 14.3 -0.3
comp=Z,62nm,0.8s,mb5.6
HAU LR LR
comp=Z,40nm,19.3s
ETOS Mallorca 84.95 50 P P 00 07 15.8 +1.0
comp=Z,49nm,0.9s,mb5.4
ABH Alteburg 85.06 40 *eP* P 00 07 16.1 +0.8
CABF La Chapelle 85.18 43⇑*iP* P 00 07 15.8 -0.1
comp=Z,104nm,1.2s,mb5.3
CABF La Chapelle 85.18 43⇑*iP* P 00 07 15.8 -0.1
CABF pmax pmax
comp=Z,52nm,1.2s,mb5.3
CABF La Chapelle 85.18 43⇑*iP* P 00 07 15.8 -0.1
comp=Z,52nm,1.2s,mb5.3
BSEG Bad Segeberg 85.28 35 *eP* P 00 07 15.9 -0.5
comp=Z,78nm,0.9s,mb5.6
BSEG Bad Segeberg 85.28 35 *eP* P 00 07 15.9 -0.5
BSEG pmax pmax
comp=Z,78nm,0.9s,mb5.6
HINF Hinteralfeld 85.29 42⇑*iP* P 00 07 16.0 -0.5
comp=Z,132nm,1.2s,mb5.5
HINF Hinteralfeld 85.29 42⇑*iP* P 00 07 16.0 -0.5
HINF pmax pmax
comp=Z,66nm,1.2s,mb5.4
HINF Hinteralfeld 85.29 42⇑*iP* P 00 07 16.0 -0.5
comp=Z,66nm,1.2s,mb5.4
ECH Echery 85.36 41 *eP* P 00 07 17.1 +0.3
ECH Echery 85.36 41 *eP* P 00 07 17.1 +0.3
CDF Champ du Feu 85.37 41⇑*iP* P 00 07 16.7 -0.2
comp=Z,187nm,1.3s,mb5.6
CDF Champ du Feu 85.37 41⇑*iP* P 00 07 16.7 -0.2
CDF pmax pmax
comp=Z,94nm,1.3s,mb5.6
CDF Champ du Feu 85.37 41⇑*iP* P 00 07 16.7 -0.2
comp=Z,94nm,1.3s,mb5.6
WLS Welschbruch 85.42 41 *eP* P 00 07 17.3 +0.2
WLS Welschbruch 85.42 41 *eP* P 00 07 17.3 +0.2
LOMF Lomont 85.43 42 *eP* P 00 07 17.6 +0.4
LOMF Lomont 85.43 42 *eP* P 00 07 17.6 +0.4
PRAF Pradon 85.44 46 *eP* P 00 07 18.3 +1.1
PRAF Pradon 85.44 46 *eP* P 00 07 18.3 +1.1
MOF Molkenrain 85.46 42 *eP* P 00 07 17.6 +0.3
MOF Molkenrain 85.46 42 *eP* P 00 07 17.6 +0.3
TNS Taunus Mts 85.49 39 *eP* P 00 07 16.7 -0.8
comp=Z,223nm,1.5s,mb5.9
TNS Taunus Mts 85.49 39 *eP* P 00 07 16.7 -0.8
TNS pmax pmax
comp=Z,223nm,1.5s,mb5.9
TNS Taunus Mts 85.49 39 *eP* P 00 07 16.7 -0.8
comp=Z,223nm,1.5s,mb5.9
LANF Langenberg 85.51 40 *eP* P 00 07 18.1 +0.5
LANF Langenberg 85.51 40 *eP* P 00 07 18.1 +0.5
KTD Kalmit 85.57 40 *eP* P 00 07 18.1 +0.2
ORIF Oris-en-Rattie 85.58 45⇑*iP* P 00 07 18.1 +0.2
comp=Z,187nm,1.4s,mb5.5
ORIF *eR*
comp=Z,55nm,20.5s
ORIF Oris-en-Rattie 85.58 45⇑*iP* P 00 07 18.1 +0.2
ORIF pmax pmax
comp=Z,93nm,1.4s,mb5.5
ORIF Oris-en-Rattie 85.58 45⇑*iP* P 00 07 18.1 +0.2
comp=Z,93nm,1.4s,mb5.5
STR Strasbourg 85.62 41 *eP* P 00 07 18.8 +0.7
STR Strasbourg 85.62 41 *eP* P 00 07 18.8 +0.7
TREF Trevaresse 85.64 46 *eP* P 00 07 18.6 +0.4
TREF Trevaresse 85.64 46 *eP* P 00 07 18.6 +0.4
LIBD Limburg 85.66 41 *eP* P 00 07 18.5 +0.2
OG01 Vacheresse 85.66 43 *eP* P 00 07 18.2 -0.1
SMRF Simiane la Rot 85.66 46⇑*iP* P 00 07 18.9 +0.6
comp=Z,123nm,1.0s,mb5.8
SMRF Simiane la Rot 85.66 46⇑*iP* P 00 07 18.9 +0.6
comp=Z,123nm,1.0s,mb5.8
NRDL Niedersach Rie 85.68 36 *eP* P 00 07 17.6 -0.8
comp=Z,75nm,1.3s,mb5.5
VILF Villemus 85.80 46 *eP* P 00 07 20.0 +1.0
VILF Villemus 85.80 46 *eP* P 00 07 20.0 +1.0
BBS Basel-Blauen 85.83 42 *eP* P 00 07 19.0 -0.2
RSL Roselend 85.83 44 *eP* P 00 07 19.0 -0.2
STOF St-Etienne Org 85.88 45 *eP* P 00 07 20.2 +0.8
STOF St-Etienne Org 85.88 45 *eP* P 00 07 20.2 +0.8
PUYF Puyloubier 85.89 46 *eP* P 00 07 20.1 +0.7
PUYF Puyloubier 85.89 46 *eP* P 00 07 20.1 +0.7
TOD Tromm 85.92 39 *eP* P 00 07 19.8 +0.2
LPL La Plagne 85.96 44⇑*iP* P 00 07 20.4 +0.6
comp=Z,134nm,1.3s,mb5.4
LPL La Plagne 85.96 44⇑*iP* P 00 07 20.4 +0.6
LPL pmax pmax
comp=Z,67nm,1.3s,mb5.4
LPL La Plagne 85.96 44⇑*iP* P 00 07 20.4 +0.6
comp=Z,67nm,1.3s,mb5.4
LPG La Plagne 85.97 44⇑*iP* P 00 07 20.6 +0.7
comp=Z,229nm,1.4s,mb5.6
LPG La Plagne 85.97 44⇑*iP* P 00 07 20.6 +0.7
LPG pmax pmax
comp=Z,114nm,1.4s,mb5.6
LPG La Plagne 85.97 44⇑*iP* P 00 07 20.6 +0.7
comp=Z,114nm,1.4s,mb5.6
SEY Seymchan 86.00 335⇓*iP* P 00 07 18.2 -1.8
FELD Feldberg im Sc 86.01 41⇑*eP* P 00 07 19.8 -0.2
BFO Black Forest 86.06 41 P P 00 07 19.6 -0.7
comp=Z,200nm,1.3s,mb5.9,SNR=9.1
BFO Black Forest 86.06 41 *eP* P 00 07 19.6 -0.7
comp=Z,63nm,1.3s,mb5.4
BFO Black Forest 86.06 41 *eP* P 00 07 19.6 -0.7
BFO pmax pmax
comp=Z,63nm,1.3s,mb5.4
BFO Black Forest 86.06 41 *eP* P 00 07 19.6 -0.7
comp=Z,63nm,1.3s,mb5.4
CLZ Clausthal 86.07 37 *eP* P 00 07 20.1 -0.2
comp=Z,88nm,1.3s,mb5.5
CLZ Clausthal 86.07 37 *eP* P 00 07 20.1 -0.2
CLZ pmax pmax
comp=Z,88nm,1.3s,mb5.5
CLZ Clausthal 86.07 37 *eP* P 00 07 20.1 -0.2
comp=Z,88nm,1.3s,mb5.5
BNI Bardonecchia 86.07 44 P P 00 07 15.5 -4.8
TAVF Tavernes 86.11 46 *eP* P 00 07 21.2 +0.7
TAVF Tavernes 86.11 46 *eP* P 00 07 21.2 +0.7
UBBA Unterbreizbach 86.22 38 *eP* P 00 07 21.0 -0.1
comp=Z,94nm,1.7s,mb5.4
MBDF Montbardon 86.24 45⇑*iP* P 00 07 21.4 +0.2
comp=Z,136nm,1.1s,mb5.5
MBDF Montbardon 86.24 45⇑*iP* P 00 07 21.4 +0.2
MBDF pmax pmax
comp=Z,68nm,1.1s,mb5.5
MBDF Montbardon 86.24 45⇑*iP* P 00 07 21.4 +0.2
comp=Z,68nm,1.1s,mb5.5
SPAK Spaichingen-Ko 86.42 41 *eP* P 00 07 22.4 +0.3
RSP Reno Superiore 86.42 44 P P 00 07 22.8 +0.7
STU Stuttgart 86.45 40 *eP* P 00 07 22.1 -0.1
comp=Z,78nm,1.0s,mb5.6
STU Stuttgart 86.45 40 *eP* P 00 07 21.8 -0.4
STU pmax pmax
comp=Z,30nm,0.9s,mb5.2
STU Stuttgart 86.45 40 *eP* P 00 07 21.8 -0.4
comp=Z,30nm,0.9s,mb5.2
STU *ep*P pP 00 07 39.3 -1.7
LMR La Mourre 86.51 46 *eP* P 00 07 22.3 -0.2
comp=Z,347nm,1.2s,mb5.8
LMR La Mourre 86.51 46 *eP* P 00 07 22.3 -0.2
LMR pmax pmax
comp=Z,173nm,1.2s,mb5.9
LMR La Mourre 86.51 46 *eP* P 00 07 22.3 -0.2
comp=Z,173nm,1.2s,mb5.9
FRF La Foret Royal 86.53 46 *eP* P 00 07 22.5 -0.1
comp=Z,208nm,1.1s,mb5.7
FRF La Foret Royal 86.53 46 *eP* P 00 07 22.5 -0.1
FRF pmax pmax
comp=Z,104nm,1.1s,mb5.7
FRF La Foret Royal 86.53 46 *eP* P 00 07 22.5 -0.1
comp=Z,104nm,1.1s,mb5.7
DOI San Damiano 86.63 45 P P 00 07 23.6 +0.5
DOI pmax pmax
comp=Z,106nm,1.2s,mb5.7
DOI San Damiano 86.63 45 P P 00 07 23.6 +0.5
comp=Z,106nm,1.2s,mb5.7
MVIF Mont Vial 86.77 45 *eP* P 00 07 24.5 +0.7
MVIF Mont Vial 86.77 45 *eP* P 00 07 24.5 +0.7
TOUF Mont Tournerai 86.79 45 *eP* P 00 07 24.3 +0.4
TOUF Mont Tournerai 86.79 45 *eP* P 00 07 24.3 +0.4
LUCF Luceram 86.90 45 *eP* P 00 07 24.6 +0.2
AUTN L'Aution 86.92 45 *eP* P 00 07 25.1 +0.6
AUTN L'Aution 86.92 45 *eP* P 00 07 25.1 +0.6
REVF Revere 86.97 45 *eP* P 00 07 25.0 +0.3
REVF Revere 86.97 45 *eP* P 00 07 25.0 +0.3
SBF Sospel 86.97 45 *eP* P 00 07 24.4 -0.4
comp=Z,146nm,1.2s,mb5.5
SBF Sospel 86.97 45 *eP* P 00 07 24.4 -0.4
SBF pmax pmax
comp=Z,73nm,1.2s,mb5.5
SBF Sospel 86.97 45 *eP* P 00 07 24.4 -0.4
comp=Z,73nm,1.2s,mb5.5
SAOF Saorge 87.01 45 *eP* P 00 07 25.3 +0.3
SAOF Saorge 87.01 45 *eP* P 00 07 25.3 +0.3
MOX Moxa 87.23 38 *eP* P 00 07 25.6 -0.4
comp=Z,31nm,1.2s,mb5.1
MOX Moxa 87.23 38 *eP* P 00 07 25.7 -0.3
comp=Z,55nm,1.6s,mb5.2
MOX Moxa 87.23 38 *eP* P 00 07 25.7 -0.3
MOX pmax pmax
comp=Z,55nm,1.6s,mb5.2
PET Petropavlovsk 87.28 325 PFAKE 00 07 40.0 +14
PET LR LR
comp=Z,251nm,22.0s
LIC Lamto 87.33 84⇑*iP* P 00 07 24.9 -1.6
comp=Z,76nm,1.1s,mb5.2
LIC *eR*
comp=Z,63nm,21.5s
LIC Lamto 87.33 84⇑*iP* P 00 07 24.9 -1.6
comp=Z,38nm,1.1s,mb5.2
LIC LR LR
comp=Z,30nm,21.5s
GRA1 Grafenberg Arr 87.36 39 *eP* P 00 07 26.8 +0.2
comp=Z,63nm,1.2s,mb5.4
GRF Grafenberg Arr 87.36 39 *eP* P 00 07 26.8 +0.2
comp=Z,63nm,1.2s,mb5.4
GRF Grafenberg Arr 87.36 39 *eP* P 00 07 26.8 +0.2
GRF pmax pmax
comp=Z,63nm,1.2s,mb5.4
GRF Grafenberg Arr 87.36 39 *eP* P 00 07 26.8 +0.2
GRF pmax pmax
comp=Z,63nm,1.2s,mb5.4
GRF Grafenberg Arr 87.36 39 *eP* P 00 07 26.8 +0.2
comp=Z,63nm,1.2s,mb5.4
DAVA Damuels 87.40 41⇑*iP* P 00 07 27.1 +0.2
comp=Z,92nm,1.5s,mb5.5
WERD Werda 87.72 38 *eP* P 00 07 27.9 -0.4
comp=Z,43nm,1.6s,mb5.2
TIXI Tiksi 87.75 348⇑*eP* P 00 07 25.4 -3.1
comp=Z,17nm,1.7s,mb4.8
TIXI LR LR
comp=Z,2µm,22.0s
GUNZ Gunzen 87.76 38 *eP* P 00 07 27.9 -0.7
comp=Z,28nm,1.3s,mb5.1
MANZ Manzenberg 87.78 38 *eP* P 00 07 28.5 -0.1
comp=Z,37nm,1.5s,mb5.2
CLL Collm 87.79 37 *eP* P 00 07 28.2 -0.5
comp=Z,22nm,1.4s,mb5.0
CLL Collm 87.79 37⇑*iP* P 00 07 30.0 +1.3
CLL pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLL Collm 87.79 37⇑*iP* P 00 07 30.0 +1.3
comp=Z,24nm,1.1s,mb5.1
WERN Wernitzgruen 87.82 38 *eP* P 00 07 28.6 -0.2
comp=Z,34nm,1.3s,mb5.2
TANN Tannenbergstha 87.82 38 *eP* P 00 07 28.6 -0.2
comp=Z,28nm,1.3s,mb5.1
NKC Novy Kostel 87.88 38 *eP* P 00 07 29.1 0.0
ROTZ Rotzenmuhle 87.92 39 *eP* P 00 07 29.3 0.0
comp=Z,22nm,1.4s,mb5.0
FUR Furstenfeldbru 87.96 40 *eP* P 00 07 29.2 -0.3
comp=Z,68nm,1.3s,mb5.5
FUR Furstenfeldbru 87.96 40 *eP* P 00 07 29.2 -0.3
FUR pmax pmax
comp=Z,68nm,1.3s,mb5.5
FUR Furstenfeldbru 87.96 40 *eP* P 00 07 29.2 -0.3

comp=Z,68nm,1.3s,mb5.5
FBE Freiberg 88.14 37 *e*P **P 00 07 30.1 -0.3**
comp=Z,30nm,1.3s,mb5.2
MOTA Moosalm 88.16 41 ⇓ *i*P **P 00 07 31.1 +0.7**
comp=Z,102nm,2.1s,mb5.5
MOTA Moosalm 88.16 41 ⇓ *i*P **P 00 07 31.1 +0.7**
MOTA pmax pmax
comp=Z,102nm,2.1s,mb5.5
MOTA Moosalm 88.16 41 ⇓ *i*P **P 00 07 31.1 +0.7**
comp=Z,102nm,2.1s,mb5.5
SQTA Sankt Quirin 88.27 41 ⇑ *i*P **P 00 07 31.4 +0.5**
comp=Z,48nm,1.7s,mb5.3
SQTA Sankt Quirin 88.27 41 ⇑ *i*P **P 00 07 31.4 +0.4**
SQTA pmax pmax
comp=Z,48nm,1.7s,mb5.2
PGF Pioggiola 88.50 46 *e*P **P 00 07 31.6 -0.4**
comp=Z,79nm,1.1s,mb5.4
PGF Pioggiola 88.50 46 *e*P **P 00 07 31.6 -0.4**
PGF pmax pmax
comp=Z,40nm,1.0s,mb5.4
PGF Pioggiola 88.50 46 *e*P **P 00 07 31.6 -0.4**
comp=Z,40nm,1.0s,mb5.4
BRG Berggiesshubel 88.50 37 *e*P **P 00 07 31.7 -0.4**
comp=Z,13nm,0.9s,mb5.0
BRG Berggiesshubel 88.50 37 *e*P **P 00 07 31.6 -0.5**
comp=Z,6.2nm,0.9s,mb4.6
BRG Berggiesshubel 88.50 37 *e*P **P 00 07 31.6 -0.5**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
WTTA Wattenberg 88.52 41 ⇑ *i*P **P 00 07 33.4 +1.2**
comp=Z,31nm,2.2s,mb5.0
WTTA Wattenberg 88.52 41 ⇑ *i*P **P 00 07 33.4 +1.2**
WTTA pmax pmax
comp=Z,31nm,2.2s,mb5.0
WET Wettzell 88.56 39 *e*P **P 00 07 32.2 -0.2**
comp=Z,34nm,1.5s,mb5.2
WET Wettzell 88.56 39 *e*P **P 00 07 32.2 -0.2**
WET pmax pmax
comp=Z,34nm,1.5s,mb5.2
WET Wettzell 88.56 39 *e*P **P 00 07 32.2 -0.2**
comp=Z,34nm,1.5s,mb5.2
KHC Kasperske Hory 88.99 39 *e*P **P 00 07 32.6 -1.8**
KHC Kasperske Hory 88.99 39 *d i*P **P 00 07 33.1 -1.3**
PVCC Panska Ves 89.01 37 *e*P **P 00 07 34.4 0.0**
KAF Kangasniemi 89.09 24 *e*p **P 00 07 32.6 -2.2**
comp=Z,4.8nm,0.6s,mb4.7
KAF Kangasniemi 89.09 24 *e*P **P 00 07 32.6 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
GEC2 GERESS Array S 89.18 39 *e*P **P 00 07 34.9 -0.4**
comp=Z,16nm,1.2s,mb4.9
GEC2 GERESS Array S 89.18 39 *e*P **P 00 07 34.9 -0.4**
GEC2 pmax pmax
comp=Z,16nm,1.2s,mb4.9
GEC2 GERESS Array S 89.18 39 *e*P **P 00 07 34.9 -0.4**
comp=Z,16nm,1.2s,mb4.9
GERES GERESS Array B 89.18 39 P **P 00 07 33.1 -2.2**
comp=Z,6.0nm,0.9s,mb4.6,baz=306,slow=3.3,SNR=25
GERES LR LR 00 45 02.2
comp=Z,76nm,20.7s,baz=284,slow=34
PRU Pruhonice 89.22 38 *e*P **P 00 07 34.8 -0.6**
GKP Gorka Klasztor 89.33 34 *e*P **P 00 07 35.7 -0.2**
FINES FINESS Array B 89.38 25 P **P 00 07 35.6 -0.6**
comp=Z,5.3nm,0.5s,mb4.8,baz=318,slow=2.6,SNR=21
FINES LR LR 00 49 59.4
comp=Z,64nm,18.2s,baz=350,slow=37
VSL Villasalto 89.84 49 *e*P **P 00 07 38.3 0.0**
comp=Z,47nm,0.7s,mb5.7
MOA Molln 89.93 40 ⇑ *i*P **P 00 07 38.1 -0.7**
comp=Z,19nm,1.1s,mb5.2
DPC Dobruska-Polom 90.10 37 *e*P **P 00 07 38.9 -0.6**
ROBS Robic 90.11 41 *i* P **P 00 07 40.0 +0.4**
JOF Joensuu 90.49 22 *e*p **P 00 07 39.2 -2.2**
comp=Z,12nm,0.8s,mb5.1
OBKA Obir 90.66 41 ⇑ *i*P **P 00 07 41.9 -0.2**
comp=Z,18nm,0.9s,mb5.2
VRAC Vranov 90.71 38 ⇑P **P 00 07 41.3 -1.1**
LJU Ljubljana 90.83 41 *i* P **P 00 07 43.6 +0.6**
CONA Conrad Observa 90.87 39 ⇑ *i*P **P 00 07 43.1 0.0**
comp=Z,8.3nm,0.9s,mb4.9
CEY Cerknica 90.90 42 *e*P **P 00 07 44.3 +1.1**
ARSA Arzberg 90.95 40 ⇑ *i*P **P 00 07 42.6 -0.9**
comp=Z,11nm,0.8s,mb5.0
MORC Moravsky Berou 91.06 37 P **P 00 07 44.3 +0.3**
KEST Kesra 91.15 52 P **P 00 07 44.2 -0.2**
comp=Z,8.8nm,1.0s,mb4.8,baz=176,slow=1.9,SNR=25
KEST LR LR 00 43 11.2
comp=Z,54nm,19.9s,baz=310,slow=32
OKC Ostrava-Krasne 91.38 37 *e*P **P 00 07 45.2 -0.3**
ZST Bratislava 91.50 39 *e*P **P 00 07 46.0 -0.1**
ZST pmax pmax
comp=Z,28nm,1.2s,mb5.4
TORD Torodi Ar. Bea 91.76 76 P **P 00 07 44.9 -2.3**
comp=Z,1.2nm,0.6s,mb4.3,baz=297,slow=4.6,SNR=24
TORD LR LR 00 44 01.0
comp=Z,118nm,21.9s,baz=240,slow=32
TORD Torodi Ar. Bea 91.76 76 P **P 00 07 44.9 -2.3**
TORD LR LR 00 44 01.0
SUW Suwalki 92.07 32 *e*P **P 00 07 47.4 -1.3**
OJC Ojcow 92.15 36 *e*P **P 00 07 48.6 -0.4**
NIE Niedzica 92.82 37 *e*P **P 00 07 52.6 +0.4**
PKSM Moragy 93.34 40 ⇓P **P 00 07 53.3 -1.2**
KWP Kalwaria 94.07 36 *e*P **P 00 07 57.8 -0.1**
KWP pmax pmax
comp=Z,15nm,1.0s,mb5.3
KWP Kalwaria 94.07 36 *e*P **P 00 07 57.8 -0.1**
comp=Z,14nm,1.0s,mb5.3
KWP *e*pP pP 00 08 15.8 -1.1
UZH Uzhgorod 94.34 37 *e* **P 00 07 58.0 -1.2**
DIVS Divcibare 95.17 41 *i* P **P 00 08 03.1 +0.2**
BZS Buzias 95.45 39 ⇑P **P 00 08 03.9 -0.3**
DRGR 95.52 38 ⇑P **P 00 08 04.0 -0.5**
GZR Gura Zlata 96.27 39 ⇑P **P 00 08 07.5 -0.4**
GZR Gura Zlata 96.27 39 P **P 00 08 07.9 0.0**
BURAR Bucovina Array 96.55 36 ⇑P **P 00 08 09.0 -0.2**
AKASG Malin Array Be 96.99 32 P **P 00 08 09.0 -2.2**
comp=Z,2.0nm,0.6s,mb4.7,baz=298,slow=3.3,SNR=8.1
AKASG LR LR 00 54 08.4
comp=Z,40nm,18.4s,baz=280,slow=37
OBN Obninsk 97.64 26 *e*P **P 00 08 13.2 -0.9**
comp=Z,22nm,1.3s,mb5.5
OBN *e* 00 08 25.0
OBN *e*SS SS 00 26 15.1 +0.2
OBN LR LR
comp=Z,50nm,19.0s
MLR Muntele Rosu 98.11 38 LR LR 00 50 52.8
comp=Z,68nm,21.3s,baz=336,slow=34
MLR Muntele Rosu 98.11 38 ⇑P **P 00 08 15.6 -0.7**
ERM Erimo 101.76 320 PFAKE 00 08 40.0 +7.5
ERM LR LR
comp=Z,59nm,22.0s
ARU Arti 104.13 15 PFAKE 00 08 50.0 +7.0
ARU LR LR
comp=Z,44nm,21.0s
ANTO Ankara 105.47 40 PFAKE 00 13 10.0 +7.7
ANTO LR LR
comp=Z,94nm,20.0s
BR131 Keskin Array S 106.07 39 PFAKE 00 13 10.0 +6.6
BR131 LR LR
comp=Z,242nm,20.0s
SBA Scott Base 107.63 193 PFAKE 00 13 10.0 +3.7
SBA LR LR
comp=Z,142nm,19.0s
MDJ Mudanjiang 107.66 329 PFAKE 00 13 20.0 +14
MDJ LR LR
comp=Z,196nm,19.0s
MAJO Matsushiro 108.07 318 PFAKE 00 13 20.0 +13
MAJO LR LR
comp=Z,139nm,20.0s
KIV Kislovodsk 108.30 31 PFAKE 00 13 20.0 +12
KIV LR LR
comp=Z,22nm,21.0s
HIA Hailar 108.33 337 PFAKE 00 13 20.0 +12
HIA LR LR
comp=Z,320nm,22.0s
VNDA Vanda 108.72 193 PFAKE 00 13 20.0 +12
VNDA LR LR
comp=Z,98nm,20.0s
BRVK Borovoye 109.76 10 PFAKE 00 13 20.0 +10
BRVK LR LR
comp=Z,26nm,21.0s
TLY Talaya 110.72 348 PFAKE 00 13 20.0 +7.9
TLY LR LR
comp=Z,42nm,19.0s
GNI Garni 112.11 33 PFAKE 00 13 20.0 +5.3
GNI LR LR
comp=Z,77nm,20.0s
ULN Ulaanbaatar 113.54 345 PFAKE 00 13 30.0 +13
ULN LR LR
comp=Z,158nm,21.0s
SONM Songino Array 113.74 345 PP PP 00 14 06.8 -4.4
comp=Z,1.5nm,1.1s,baz=22,slow=3.3,SNR=5.3
INCN Inchon 114.36 325 PFAKE 00 13 30.0 +11
INCN LR LR
comp=Z,122nm,20.0s
MKAR Makanchi Array 117.26 3 PKP PKPdf 00 13 21.5 -3.1
comp=Z,0.5nm,0.8s,baz=17,slow=1.3,SNR=6.0
MKAR PP PP 00 14 31.1 -4.9
comp=Z,2.1nm,1.0s,baz=7.6,slow=3.7,SNR=4.2
MKAR Makanchi Array 117.26 3 PKPdf PKPdf 00 13 21.5 -3.1
BJI Beijing 117.42 334 PKP PKPdf 00 13 18.8 -6.1
BJI LR LR
comp=N,80nm,23.7s
BJI LR LR
comp=E,93nm,28.6s
BJI LR LR
comp=Z,150nm,22.4s
BJT Baijiatuan 117.44 334 PFAKE 00 13 30.0 +5.1
BJT LR LR
comp=Z,232nm,22.0s
HHC Hu-ho-hao-te 118.52 338 *e*PKP PKPdf 00 13 23.0 -4.0
HHC PKS 00 16 58.5
HHC PP PP
comp=Z,87nm,9.3s
HHC LR LR
comp=N,128nm,22.2s
HHC LR LR
comp=E,127nm,20.8s
HHC LR LR
comp=Z,106nm,23.5s
WMQ Urumqi 120.30 359 PKP PKPdf 00 13 27.4 -3.0
WMQ PP PP 00 14 57.9 +0.9
WMQ PP PP
comp=Z,98nm,5.9s
WMQ LR LR
comp=N,107nm,24.7s
WMQ LR LR
comp=E,54nm,23.5s
WMQ LR LR
comp=Z,98nm,22.8s
AAK Ala-Archa 120.56 10 PFAKE 00 13 40.0 +9.1
AAK LR LR
comp=Z,32nm,22.0s
BOSA Boshof 123.02 114 PKP PKPdf 00 13 34.2 -1.4
comp=Z,20nm,0.7s,baz=117,slow=1.6,SNR=4.9
BOSA Boshof 123.02 114 PKP PKPdf 00 13 34.2 -1.4
TOO Toolangi 123.73 235 *e*P pPKPdf 00 13 58.8 +2.2
comp=Z,7.9nm,0.5s
LSZ Lusaka 124.52 98 *e*PKIKP PKPdf 00 13 40.8 +2.3
LZH Lanzhou 125.36 342 *e*P PKPdf 00 13 41.2 +1.1
LZH pP 00 13 46.1
LZH sP 00 13 49.0
MAW Mawson 126.45 169 PKP PKPdf 00 13 38.9 -3.3
comp=Z,1.5nm,0.6s,baz=144,slow=2.6,SNR=4.7
STKA Stephens Creek 127.38 242 *e*P PKPdf 00 13 41.1 -2.9
comp=Z,3.0nm,0.6s
STKA Stephens Creek 127.38 242 PKP PKPdf 00 13 41.1 -2.9
comp=Z,3.4nm,0.6s,baz=72,slow=3.1,SNR=11
KMBO Kilima Mbogo 129.73 78 PKP PKPdf 00 13 49.0 +0.5
comp=Z,2.1nm,0.8s,baz=23,slow=3.9,SNR=8.0
KMBO SKPbc 00 17 06.2
comp=Z,1.3nm,0.9s,baz=200,slow=2.2,SNR=3.7
CD2 Chengdu 130.18 340 *e*PKP PKPdf 00 13 44.7 -4.6
CD2 PKS 00 17 19.2
CD2 PP PP
comp=Z,80nm,8.4s
GYA Guiyang 133.12 334 PKP PKPdf 00 13 53.1 -1.8
GYA PP PP 00 16 24.0 +2.3
GYA PKS 00 17 28.2
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,140nm,20.8s
GYA LR LR
comp=E,160nm,21.0s
GYA LR LR
comp=Z,130nm,21.4s
WB2 Warramunga Arr 133.97 258 *e*P PKPdf 00 13 53.8 -2.7
WRAB Tennant Creek 133.97 258 PFAKE 00 14 10.0 +14
WRAB LR LR
comp=Z,69nm,19.0s
WRA Warramunga Arr 133.99 258 PKP PKPdf 00 13 54.3 -2.2
comp=Z,2.4nm,0.6s,baz=87,slow=2.6,SNR=15
LSA Lhasa 134.15 354 PFAKE 00 14 10.0 +13
LSA LR LR
comp=Z,97nm,20.0s
ASAR Alice Springs 134.49 253 PKP PKPdf 00 13 54.5 -3.0
comp=Z,1.0nm,0.5s,baz=81,slow=2.1,SNR=11
DAV Davao City (W) 134.52 297 PFAKE 00 14 10.0 +12
DAV LR LR
comp=Z,215nm,19.0s
KMI Kunming 135.84 338 PKP PKPdf 00 13 57.3 -2.7
KMI PP PP 00 16 40.9 +1.9
KMI PP PP
comp=Z,79nm,7.1s
KMI LR LR
comp=N,158nm,18.4s
KMI LR LR
comp=E,167nm,21.9s
KMI LR LR
comp=Z,168nm,16.5s
KMI Kunming 135.84 338 PKP PKPdf 00 13 57.3 -2.7
KMI pPKP pPKPdf 00 14 29.1 +9.5
KMI sPKP 00 14 43.9
KMI PP PP 00 16 40.9 +1.9
KMI SS SS 00 34 31.1 -1.1
KMI SSS 00 39 34.3
KMI LR LR
comp=Z,170nm,16.5s
FITZ Fitzroy Crossi 142.10 261 *e*P PKPdf 00 14 03.5 -7.9
comp=Z,8.2nm,1.0s
CHTO Chiang Mai 142.99 339 PFAKE 00 14 20.0 +7.0
CHTO LR LR
comp=Z,166nm,19.0s
HYB Hyderabad 145.85 13 *e*P PKPdf 00 14 16.5 -1.4
HYB *e* 00 14 37.5
KLBR Kellerberrin 147.28 236 *e*P PKPdf 00 14 19.2 -1.2
comp=Z,16nm,1.0s
MUN Mundaring 148.36 235 *e*P PKPdf 00 14 22.8 +0.7
PALK Pallekele 156.15 13 PFAKE 00 14 40.0 +6.3
PALK LR LR
comp=Z,28nm,20.0s

NIED ***03*** *00:06:00, 44.10N×141.70E, h8km, Mw3.9 Best double couple: M0 8.42000×10^14 NP1:φs5.00000°, δ64.00000°, λ89.00000°. NP2:φs187.00000°, δ26.00000°, λ92.00000°.*
JMA 03 00:06:27.9±0.1, 4406N×14171E, h8km±2km, M3.5, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.32**	**178**	⇑P		Pg		00 06 34.6	+0.5
JHR				*e*S		Sg		00 06 40.5	+2.1
JSS	**Shosan**	**0.35**	**17**	⇓P		Pg		00 06 35.4	+0.6
JSS				*e*S		Sg		00 06 41.5	+2.0
JYG	**Yagishiri**	**0.42**	**331**	P		Pg		00 06 35.9	-0.2
JYG				*e*S		Sg		00 06 41.8	+0.2
ASAJ	**Asahikawa**	**0.64**	**85**	⇓P		Pg		00 06 39.7	-0.6
JAB	**Ashibetsu**	**0.67**	**146**	⇓P		Pg		00 06 40.8	0.0
JKK2	**Kamakawa 2**	**0.77**	**104**	⇓P		Pg		00 06 42.0	-0.8

ISCJB ***03*** *00:07:43.3±0.5, 144.5S±0.1×176.8W±0.1, h150km, mb3.8/10, Error ellipse: s-maj=19.3km s-min=12.6km az=108.6*
IDC ***03*** *00:07:45.0±20.0, 144.3S×176.66W, h152km±189km, mb3.5/6, mb1 3.8/6, mb1mx3.6/14, mbtmp3.9/6, Error ellipse: s-maj=150.2km s-min=32.6km az=152.0*
NEIC ***03*** *00:07:45.6±5.0, 144.0S×176.76W, h158km±44km, mb4.2/4, Error ellipse: s-maj=14.1km s-min=11.5km az=121.0*
ISC 03 00:07:44.9±0.5, 145.5S±0.1×176.7W±0.1, h150km, n23, σ0.6 s63/19, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**27.79**	**194**	P		P		**00 13 20.1**	**+0.4**
PMG	**Port Moresby** 4.6nm,0.7s,mb4.2	**35.67**	**274**	*e*P		**P**		**00 14 27.8**	**-0.8**
RKT	**Rikitea**	**40.33**	**109**	*e*LR		LR		00 25 50.6	
	198nm,26.8s								
STKA	**Stephens Creek** 1.5nm,0.7s,mb3.7,baz=79,slow=5.2,SNR=3.2	**41.78**	**238**	P		**P**		**00 15 19.7**	**+0.3**
STKA	**Stephens Creek**	**41.78**	**238**	P		**P**		**00 15 19.8**	**+0.3**
WB2	**Warramunga Arr**	**46.94**	**256**	*e*P		**P**		**00 16 01.2**	**+0.8**
WRAB	**Tennant Creek** 3.9nm,0.8s,mb4.1	**46.94**	**256**	*e*P		**P**		**00 15 59.1**	**-1.3**
WRA	**Warramunga Arr** 1.6nm,0.9s,mb3.7,baz=89,slow=7.8,SNR=5.1	**46.95**	**256**	P		**P**		**00 16 01.2**	**+0.7**
GUMO	**Guam**	**47.14**	**304**	P		**P**		**00 16 01.6**	**-0.4**
ASAR	**Alice Springs** 2.7nm,0.6s,mb4.0,baz=82,slow=8.0,SNR=24	**47.38**	**251**	P		**P**		**00 16 04.7**	**+0.8**
MBWA	**Marble Bar**	**60.55**	**254**	P		**P**		**00 17 39.6**	**+0.3**
NWAO	**Narrogin (SRO)** 3.4nm,0.7s,mb4.3	**62.30**	**240**	*e*P		**P**		**00 17 51.6**	**+0.5**
VNDA	**Vanda**	**64.02**	**185**	P		**P**		**00 18 01.8**	**-0.6**
NVAR	**Mina Array Bea** 0.6nm,0.6s,mb3.4,baz=257,slow=8.1,SNR=3.5	**75.81**	**44**	P		**P**		**00 19 14.7**	**+0.3**
DIV	**Divide**	**79.25**	**15**	P		**P**		**00 19 33.6**	**+0.2**
AHID	**Auburn Hatcher**	**82.71**	**43**	P		**P**		**00 19 51.8**	**0.0**
TXAR	**Lajitas Array** 0.5nm,0.8s,mb3.3,baz=211,slow=6.8,SNR=4.8	**82.77**	**57**	P		**P**		**00 19 52.6**	**+0.5**
PDAR	**Pinedale Array** 0.4nm,0.4s,mb3.5,baz=204,slow=2.0,SNR=4.0	**83.73**	**43**	P		**P**		**00 19 56.6**	**-0.4**
MAW	**Mawson**	**87.65**	**199**	P		**P**		**00 20 15.2**	**-1.2**
SNAA	**Sanae** 0.8nm,0.8s,mb3.9	**93.99**	**178**	*e*P		**P**		**00 20 45.7**	**-0.1**
BR131	**Keskin Array S**	**143.38**	**319**	*e*PKPdf		PKPdf		00 27 01.9	+0.5
BRTR	**Keskin Array B** 2.8nm,0.9s,baz=108,slow=2.4,SNR=12	**143.38**	**319**	PKP		PKPdf		00 27 01.9	+0.5
GERES	**GERESS Array B** 0.8nm,0.9s,baz=129,slow=1.9,SNR=5.1	**144.64**	**348**	PKP		PKPdf		00 27 02.8	-0.8

NEIC ***03*** *00:10:38.8, 30.79S×71.26W, h50km, MD3.6(GUC), After GUC.*
GUC 03 00:10:38.8±0.6, 3079S×7126W, h50km±3km, MD3.6, ML3.1, 3C-3D, Near coast of Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.18**	**15**	⇑ *i*P		Pn		00 10 47.3	+0.3
OVCH				*i* S		Sn		00 10 53.5	+0.8
OVCH				AML		AML		00 10 53.9	
	comp=N,2μm,0.2s								
CMCH	**Combarbala**	**0.44**	**150**	⇓ *i*P		Pn		00 10 49.7	+0.3
CMCH				*i* S		Sn		00 10 58.0	+1.1
CMCH				AML		AML		00 10 58.5	
	comp=N,3μm,0.1s								
CMCH	**Combarbala**	**0.44**	**150**	⇓ *i*P		Pn		00 10 49.7	+0.3
CMCH				*i* S		Sn		00 10 58.0	+1.1
TLL	**Tololo Astrono**	**0.73**	**32**	*i* P		Pn		00 10 54.0	+1.0
TLL				*i* S		Sn		00 11 05.1	+1.9
TLL				AML		AML		00 11 07.7	
	comp=N,954nm,0.8s								
TLL	**Tololo Astrono**	**0.73**	**32**	*i* P		Pn		00 10 54.0	+1.0
TLL				*i* S		Sn		00 11 05.1	+1.9
CHNG	**Los Chungos**	**1.11**	**191**	⇓ *i*P		Pn		00 10 58.2	+0.3
CHNG				*i* S		Sn		00 11 13.0	+0.8
PTCH	**Petorca**	**1.50**	**169**	⇑ *i*P		Pn		00 11 03.8	+0.6
PTCH				*i* S		Sn		00 11 22.9	+1.3
PTCH				AML		AML		00 11 26.2	
	comp=E,659nm,0.4s								
PTCH	**Petorca**	**1.50**	**169**	⇑ *i*P		Pn		00 11 03.8	+0.6
PTCH				*i* S		Sn		00 11 22.9	+1.3

IDC 03 00:12:43.6±1.7, 1352S×17732W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/14, mbtmp3.9/6, MS4.2/4, Ms1 4.2/4, ms1mx3.5/29, Error ellipse: s-maj=172.7km s-min=21.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**15.67**	**182**	LR		LR	LR	00 21 21.4	
	comp=Z,1μm,19.1s,baz=151,slow=33								
DZM	**Mont Dzumac**	**17.64**	**239**	LR		LR		00 22 19.0	
	comp=Z,293nm,20.4s,baz=43,slow=33								
PPT	**Papeete**	**27.02**	**102**	*e*LQ				00 23 17.9	
	739nm,27.5s								
PPT				*e*LR		LR	LR	00 24 24.4	
	760nm,31.0s,baz=263								
PPT	**Papeete**	**27.02**	**102**	*e*LQ				00 18 07.5	
	328nm,26.0s								
PPT				*e*LR		LR	LR	00 19 14.7	
	309nm,27.5s								
TBI	**Tubuai**	**28.13**	**114**	*e*LQ				00 23 47.5	
	410nm,27.0s								
TBI				*e*LR		LR	LR	00 25 02.1	
	819nm,25.8s,baz=287								
RKT	**Rikitea**	**41.19**	**110**	*e*LR		LR	LR	00 31 03.3	
	425nm,26.8s,baz=290								
STKA	**Stephens Creek**	**41.78**	**237**	P		P		00 20 34.7	0.0
	1.6nm,0.8s,baz=80,slow=11,SNR=2.8								
WRA	**Warramunga Arr**	**46.61**	**255**	P		P		00 21 14.3	+0.9
	2.6nm,1.1s,baz=89,slow=8.3,SNR=5.2								
ASAR	**Alice Springs**	**47.13**	**250**	P		P		00 21 17.5	0.0
	3.4nm,0.8s,baz=84,slow=8.1,SNR=23								
JNU	**Nakatsue**	**67.76**	**315**	LR		LR		00 51 31.2	
	comp=Z,189nm,18.3s,baz=256,slow=34								
KDAK	**Kodiak Island**	**73.91**	**13**	LR		LR		00 51 17.1	
	comp=Z,352nm,19.4s,baz=222,slow=31								
NVAR	**Mina Array Bea**	**75.55**	**44**	P		P		00 24 29.6	-0.4
	1.2nm,1.0s,baz=235,slow=12,SNR=3.3								
TXAR	**Lajitas Array**	**82.77**	**58**	P		P		00 25 10.4	+1.0
	0.5nm,0.7s,baz=202,slow=1.0,SNR=4.5								
PDAR	**Pinedale Array**	**83.45**	**43**	P		P		00 25 14.2	+1.2
	1.0nm,1.0s,baz=186,slow=4.3,SNR=4.9								
BRTR	**Keskin Array B**	**142.29**	**320**	PKP		PKPdf		00 32 16.6	-1.4
	3.4nm,0.9s,baz=88,slow=1.0,SNR=7.4								
GERES	**GERESS Array B**	**143.62**	**348**	PKP		PKPdf		00 32 22.3	+1.9
	0.8nm,0.8s,baz=335,slow=4.3,SNR=5.5								

CSEM ***03*** *00:21:06.1, 67.85N×20.19E, h5km, ML2.9, Mining explosion. After UPP*
UPP ***03*** *00:21:06.1, 67.85N×20.19E, h5km, ML2.9, Mining explosion.*
HEL 03 00:21:05.3±0.7, 6809N×2009E, h0km, ML2.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**144**	*i* P		Pg		00 21 08.5	+0.1
KUA				*i* S		Sg		00 21 10.3	-0.3
NIKU	**Nikkaluokta**	**0.45**	**241**	*i* P		Pg		00 21 14.3	+0.3
SALU	**Saltoluokta**	**0.93**	**221**	*i* P		Pg		00 21 20.8	-2.3
KIF	**Kilpisjarvi**	**0.96**	**16**	*e*		Pg		00 21 18.0	-5.7
KIF				*e*S		Sg		00 21 35.6	-0.5

IDC ***03*** *00:24:24.0±1.5, 137.7N×91.57W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/20, mbtmp4.1/9, ML4.0/1, MS3.7/7, Ms1 3.6/7, ms1mx3.3/19, Error ellipse: s-maj=43.1km s-min=18.7km az=46.0*
ISCJB ***03*** *00:24:30.0±0.9, 136.9N±0.0×91.66W±0.0, h66km±7km, mb4.2/23, Error ellipse: s-maj=14.8km s-min=9.1km az=91.8*
NEIC ***03*** *00:24:29.3±0.4, 137.7N×91.63W, h35km, mb4.3/20, Error ellipse: s-maj=10.3km s-min=6.6km az=47.0*
CASC ***03*** *00:24:32.1±1.9, 138.3N×91.80W, h50km±31km, MD4.6, mb4.3(NEIC)*
ISC 03 00:24:31.2±0.9, 1373N±0.0×9164W±0.0, h57km±7km, n60, σ0.9 s97/59, mb4.2/23, MS3.7/6, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.59**	**1**	‖ *e*P		**Pn**		**00 24 44.4**	**+0.4**
JAT				*e*S		**Sn**		**00 24 51.8**	**-1.3**
FUG	**Fuego 3**	**1.06**	**47**	⇑ *e*P		**Pn**		**00 24 51.6**	**+1.7**
TER	**Terranova**	**1.09**	**58**	⇑ *e*P		**Pn**		**00 24 51.9**	**+1.6**
PCG	**Pacaya**	**1.20**	**57**	‖ *e*P		**Pn**		**00 24 55.5**	**+3.6**
TGUH	**Tegucigalpa,Un**	**4.26**	**85**	*e*Pn		**Pn**		**00 25 33.8**	**+0.3**
CMIG	**Matias Romero** 4.3nm,0.3s,baz=121,slow=8.7,SNR=16	**4.58**	**317**	Pn		**Pn**		**00 25 31.7**	**-6.2**
CMIG							**Sn**	**00 26 20.3**	**-9.5**
	4.0nm,0.3s,baz=105,slow=15,SNR=6.1								
CMIG	**Matias Romero**	**4.58**	**317**	Pn		**Pn**		**00 25 31.7**	**-6.2**
CMIG							**Sn**	**00 26 20.3**	**-9.5**
PAYG	**Puerto Ayora**	**14.37**	**175**	Pn		**Pn**		**00 27 49.7**	**-1.8**
NATX	**Nacogdoches** 10nm,0.3s	**18.16**	**352**	*e*Pn		**Pn**		**00 28 36.4**	**-2.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JCT	**Junction City**	**18.29**	**337**	ePn	**Pn**	**00 28 41.4**	**+0.6**
	5.1nm,0.6s						
TXAR	**Lajitas Array**	**19.11**	**326**	P	**Pn**	**00 28 49.7**	**-1.0**
	0.1nm,0.3s,baz=159,slow=12,SNR=16						
TXAR				LR	LR	00 38 17.6	
	comp=Z,65nm,18.8s,baz=180,slow=44						
TXAR	**Lajitas Array**	**19.11**	**326**	P	**Pn**	**00 28 49.7**	**-1.0**
TXAR				LR	LR	00 38 17.6	
LPIG	**La Paz**	**20.43**	**303**	LR	LR	00 38 27.7	
	comp=Z,116nm,18.9s,MS3.3,baz=116,slow=41						
SDV	**Santo Domingo**	**21.15**	**101**	P	**P**	**00 29 10.7**	**-0.8**
	3.0nm,0.6s,mb3.8,baz=307,slow=8.6,SNR=5.5						
SDV	**Santo Domingo**	**21.15**	**101**	eP	**P**	**00 29 10.8**	**-0.6**
	2.4nm,0.4s,mb3.9						
MNTX	**Cornudas Mount**	**21.88**	**327**	eP	**P**	**00 29 18.0**	**-1.3**
	6.7nm,0.7s,mb4.2						
WMOK	**Wichita Mounta**	**21.89**	**344**	eP	**P**	**00 29 18.1**	**-1.2**
	7.4nm,1.0s,mb4.1						
SWET	**Sewanee**	**22.01**	**13**	eP	**P**	**00 29 20.7**	**+0.1**
SWET				eS	**S**	**00 33 20.5**	**+0.3**
WVT	**Waverly**	**22.57**	**8**	eP	**P**	**00 29 25.4**	**-1.2**
	8.7nm,0.7s,mb4.3						
AMTX	**Amarillo**	**22.93**	**338**	eP	**P**	**00 29 29.2**	**-1.2**
	30nm,0.6s,mb4.9						
TKL	**Tuckaleechee C**	**22.96**	**17**	P	**P**	**00 29 31.2**	**+0.5**
	7.7nm,0.6s,mb4.3,baz=191,slow=11,SNR=11						
TKL				LR	LR	00 39 31.5	
	comp=Z,189nm,20.3s,MS3.5,baz=68,slow=40						
TKL	**Tuckaleechee C**	**22.96**	**17**	P	**P**	**00 29 31.2**	**+0.5**
TKL				LR	LR	00 39 31.5	
TZTN	**Tazewell**	**23.85**	**16**	eP	**P**	**00 29 38.9**	**-0.3**
	5.6nm,0.5s,mb4.2						
SIUC	**Southern Illin**	**23.99**	**5**	eP	**P**	**00 29 39.5**	**-0.8**
	18nm,0.7s,mb4.6						
BNM	**Barren Site**	**24.45**	**329**	eP	**P**	**00 29 46.0**	**+1.4**
LPM	**Los Pinos Moun**	**24.59**	**329**	eP	**P**	**00 29 46.5**	**+0.6**
LENM	**Lemitar**	**24.64**	**328**	P	**P**	**00 29 46.8**	**+0.4**
WCI	**Wyandotte Cave**	**24.86**	**10**	eP	**P**	**00 29 47.5**	**-0.8**
	20nm,0.7s,mb4.8						
LAZ	**Ladron**	**24.91**	**328**	eP	**P**	**00 29 50.0**	**+1.1**
ANMO	**Albuquerque**	**25.01**	**330**	P	**P**	**00 29 50.0**	**+0.3**
	4.0nm,0.6s,mb4.1,baz=154,slow=11,SNR=14						
ANMO	**Albuquerque**	**25.01**	**330**	eP	**P**	**00 29 49.7**	**0.0**
	3.8nm,0.6s,mb4.1						
TUC	**Tucson**	**25.46**	**320**	eP	**P**	**00 29 54.0**	**+0.2**
	0.7nm,0.3s,mb3.7						
GLA	**Glamis**	**28.57**	**316**	P	**P**	**00 30 21.9**	**+0.2**
BRNJ	**Basking Ridge**	**30.73**	**26**	eP	**P**	**00 30 40.4**	**-0.4**
ARUT	**Antelope Range**	**30.82**	**325**	eP	**P**	**00 30 42.2**	**+0.6**
GSC	**Goldstone**	**31.23**	**318**	P	**P**	**00 30 44.6**	**-0.5**
MPU	**Maple Canyon**	**31.53**	**330**	eP	**P**	**00 30 48.3**	**+0.4**
	3.7nm,0.7s,mb4.3						
RSSD	**Black Hills**	**32.09**	**343**	eP	**P**	**00 30 51.7**	**-1.1**
	1.2nm,0.4s,mb4.1						
DUG	**Dugway**	**32.25**	**329**	eP	**P**	**00 30 54.1**	**-0.1**
	0.7nm,0.6s,mb3.7						
HWUT	**Hardware Ranch**	**32.74**	**332**	eP	**P**	**00 30 58.9**	**+0.5**
	4.2nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**32.81**	**335**	P	**P**	**00 30 58.8**	**-0.3**
	0.7nm,0.8s,mb3.6,baz=152,slow=6.7,SNR=4.9						
BGU	**Big Grassy Mou**	**32.91**	**329**	eP	**P**	**00 31 00.7**	**+0.8**
REDW	**Red Top Meadow**	**33.84**	**334**	eP	**P**	**00 31 08.7**	**+0.7**
	15nm,1.1s,mb4.8						
SNOW	**Snow King Moun**	**33.88**	**335**	eP	**P**	**00 31 09.4**	**+1.0**
	7.7nm,0.6s,mb4.8						
NVAR	**Mina Array Bea**	**34.10**	**321**	P	**P**	**00 31 11.5**	**+1.2**
	1.2nm,0.6s,mb4.0,baz=126,slow=8.2,SNR=6.8						
HLID	**Hailey**	**35.58**	**331**	eP	**P**	**00 31 23.5**	**+0.5**
	2.2nm,0.8s,mb4.1						
HLID				ePP	PP	00 32 42.5	-2.1
HLID				ePcP	PcP	00 33 53.2	+2.3
MCMT	**McKenzie Canyo**	**35.87**	**334**	eP	**P**	**00 31 27.1**	**+1.6**
MCMT				ePcP	PcP	00 33 54.2	+2.5
ULM	**Lac du Bonnet**	**36.58**	**355**	LR	LR	00 50 14.4	
	comp=Z,46nm,18.6s,MS3.3,baz=320,slow=42						
WALA	**Waterton Lakes**	**39.72**	**337**	P	**P**	**00 31 58.5**	**+0.5**
SIV	**San Ignacio**	**42.25**	**133**	P	**P**	**00 32 19.3**	**+0.5**
	1.4nm,0.8s,mb3.6,baz=302,slow=11,SNR=9.5						
FCC	**Fort Churchill**	**44.99**	**358**	P	**P**	**00 32 40.0**	**-0.8**
SCHQ	**Schefferville**	**45.36**	**20**	P	**P**	**00 32 42.2**	**-1.5**
	15nm,0.9s,mb4.8,baz=196,slow=6.5,SNR=13						
SCHQ				LR	LR	00 52 38.1	
	comp=Z,153nm,20.7s,MS3.9,baz=260,slow=37						
SCHQ	**Schefferville**	**45.36**	**20**	eP	**P**	**00 32 42.3**	**-1.4**
	13nm,0.7s,mb4.9						
YKA	**Yellowknife Ar**	**51.37**	**347**	P	**P**	**00 33 29.2**	**-0.8**
	4.1nm,0.6s,mb4.5,baz=147,slow=7.5,SNR=30						
YKA	**Yellowknife Ar**	**51.37**	**347**	P	**P**	**00 33 29.2**	**-0.8**
DLBC	**Dease Lake**	**53.04**	**336**	P	**P**	**00 33 43.9**	**+1.5**
RES	**Resolute Bay**	**60.98**	**359**	P	**P**	**00 34 37.7**	**-0.8**
PMSA	**Palmer Station**	**81.02**	**168**	LR	LR	01 02 58.4	
	comp=Z,115nm,20.2s,MS4.2,baz=247,slow=29						
ARCES	**ARCESS Array B**	**86.29**	**18**	LR	LR	01 14 33.3	
	comp=Z,86nm,20.9s,MS4.1,baz=11,slow=35						
WB2	**Warramunga Arr**	**135.65**	**255**	eP	PKPdf	00 43 48.6	+3.5

*IDC **03** 00:29:16.4±1.2, 3083N×4972E, h0^{km}, mb3.9/12, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML4.0/3, Error ellipse: s-maj=27.4km s-min=16.1km az=177.0*

*CSEM **03** 00:29:18.7±0.1, 3065N×4969E, h35^{km}, mb4.2/9, Error ellipse: s-maj=1.8km s-min=1.5km az=75.0*

*NEIC **03** 00:29:19.3, 3071N×4969E, h36^{km}, mb4.0/15, ML3.9(THR), MN4.1(TEH), After THR.*

*THR **03** 00:29:19.3±0.5, 3071N×4969E, h37^{km}±7^{km}, ML3.9*

*MOS **03** 00:29:20.7±1.4, 3092N×4962E, h45^{km}, mb4.2/11, Error ellipse: s-maj=11.4km s-min=8.3km az=93.1*

*ISCJB **03** 00:29:21.1±0.3, 3077N±002×4979E±003, h60^{km}±4^{km}, mb4.0/27, Error ellipse: s-maj=4.0km s-min=3.3km az=132.6*

*TEH **03** 00:29:21.1, 3072N×4971E, h21^{km}, Mn4.1*

ISC 03 00:29:22.1±0.3**, 3075N**±002×**4975E**±003**, h50**^{km}±4^{km}**, n155, σ1^{s}26**/285**, mb4.0**/26**, 12C-6D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.57**	**329**	ePg	**Pn**	**00 29 48.0**	**+0.4**
SHGR				AML	AML	00 30 12.4	
	comp=N,3μm,0.3s						
SHGR				AML	AML	00 30 13.6	
	comp=E,2μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.57**	**329**	ePg	**Pn**	**00 29 47.0**	**-0.6**
UMR	**Umm Al-Rimmam**	**2.13**	**236**	eP	**Pn**	**00 29 57.1**	**+2.0**
UMR				AML	AML	00 30 29.4	
	comp=Z,545nm,0.4s						
IPIR	**Pirpir**	**2.16**	**27**	ePn	**Pn**	**00 29 56.5**	**+0.9**
IPIR				ePn	**Pn**	**00 29 56.8**	**+1.2**
IPIR				ePn	**Pn**	**00 29 56.8**	**+1.2**
IPIR				eSn	**Sn**	**00 30 22.9**	**+1.7**
IPIR				eSn	**Sn**	**00 30 23.0**	**+1.8**
IPIR	**Pirpir**	**2.16**	**27**	Pn	**Pn**	**00 29 56.4**	**+0.8**
IPIR				Pn	**Pn**	**00 29 56.8**	**+1.2**
IPIR				Sn	**Sn**	**00 30 22.8**	**+1.6**
IPIR				Sn	**Sn**	**00 30 23.0**	**+1.8**
IPIR	**Pirpir**	**2.16**	**27**	ePn	**Pn**	**00 29 56.5**	**+0.9**
IPIR				eSn	**Sn**	**00 30 22.9**	**+1.7**
MIB	**Mutribah**	**2.29**	**246**	eP	**Pn**	**00 29 58.9**	**+1.5**
MIB				AML	AML	00 30 28.6	
	comp=Z,354nm,0.3s						
KBD	**Kabd**	**2.37**	**229**	eP	**Pn**	**00 30 00.2**	**+1.7**
KBD				AML	AML	00 30 32.0	
	comp=Z,747nm,0.2s						
IGAR	**Garneh**	**2.57**	**54**	ePn	**Pn**	**00 30 02.3**	**+1.1**
IGAR				ePn	**Pn**	**00 30 02.4**	**+1.2**
IGAR				ePn	**Pn**	**00 30 02.8**	**+1.6**
IGAR				eSn	**Sn**	**00 30 32.4**	**+1.2**
IGAR				eSn	**Sn**	**00 30 32.5**	**+1.3**
IGAR	**Garneh**	**2.57**	**54**	ePn	**Pn**	**00 30 02.3**	**+1.1**
IGAR				eSn	**Sn**	**00 30 32.5**	**+1.3**
RDF	**Al-Radifah**	**2.64**	**227**	eP	**Pn**	**00 30 03.8**	**+1.7**
RDF				AML	AML	00 30 38.6	
	comp=Z,236nm,0.3s						
SHI	**Shiraz**	**2.64**	**114**	ePn	**Pn**	**00 30 02.7**	**+0.5**
SHI				ePn	**Pn**	**00 30 02.8**	**+0.6**
SHI				ePn	**Pn**	**00 30 03.3**	**+1.1**
SHI				eSn	**Sn**	**00 30 33.6**	**+0.7**
SHI				eSn	**Sn**	**00 30 33.6**	**+0.7**
SHI	**Shiraz**	**2.64**	**114**	Pn	**Pn**	**00 30 03.0**	**+0.8**
SHI				Pn	**Pn**	**00 30 03.2**	**+1.0**
SHI				Sn	**Sn**	**00 30 33.6**	**+0.7**
SHI				Sn	**Sn**	**00 30 33.8**	**+0.9**
SHI	**Shiraz**	**2.64**	**114**	ePn	**Pn**	**00 30 02.8**	**+0.6**
SHI				eSn	**Sn**	**00 30 33.6**	**+0.7**
IKLH	**Kalahroud**	**3.00**	**31**	ePn	**Pn**	**00 30 08.3**	**+1.3**
IKLH				ePn	**Pn**	**00 30 08.7**	**+1.7**
IKLH				ePn	**Pn**	**00 30 08.7**	**+1.7**
IKLH				eSn	**Sn**	**00 30 42.8**	**+1.1**
IKLH				eSn	**Sn**	**00 30 42.8**	**+1.1**
IKLH	**Kalahroud**	**3.00**	**31**	Pn	**Pn**	**00 30 08.2**	**+1.2**
IKLH				Pn	**Pn**	**00 30 08.6**	**+1.6**
IKLH				Sn	**Sn**	**00 30 42.7**	**+1.0**
IKLH	**Kalahroud**	**3.00**	**31**	Pn	**Pn**	**00 30 08.2**	**+1.2**
IKLH				eSn	**Sn**	**00 30 42.8**	**+1.1**
IPAR	**Pars**	**3.00**	**107**	ePn	**Pn**	**00 30 07.8**	**+0.7**
IPAR				ePn	**Pn**	**00 30 08.2**	**+1.1**
IPAR				ePn	**Pn**	**00 30 08.7**	**+1.6**
IPAR				eSn	**Sn**	**00 30 42.2**	**+0.5**
IPAR				eSn	**Sn**	**00 30 42.3**	**+0.6**
IPAR	**Pars**	**3.00**	**107**	Pn	**Pn**	**00 30 07.7**	**+0.6**
IPAR				Pn	**Pn**	**00 30 08.1**	**+1.0**
IPAR				Pn	**Pn**	**00 30 08.6**	**+1.5**
IPAR				Sn	**Sn**	**00 30 42.2**	**+0.5**
IZEF	**Zefreh**	**3.07**	**45**	ePn	**Pn**	**00 30 09.0**	**+1.0**
IZEF				ePn	**Pn**	**00 30 09.1**	**+1.1**
IZEF				ePn	**Pn**	**00 30 09.2**	**+1.2**
IZEF				eSn	**Sn**	**00 30 44.2**	**+0.8**
IZEF				eSn	**Sn**	**00 30 44.4**	**+0.9**
IZEF	**Zefreh**	**3.07**	**45**	Pn	**Pn**	**00 30 09.1**	**+1.1**
IZEF				Sn	**Sn**	**00 30 44.2**	**+0.8**
IMOK	**Mook**	**3.09**	**123**	ePn	**Pn**	**00 30 08.9**	**+0.6**
IMOK				ePn	**Pn**	**00 30 10.2**	**+1.9**
IMOK				ePn	**Pn**	**00 30 10.7**	**+2.4**
IMOK				eSn	**Sn**	**00 30 44.0**	**0.0**
IMOK				eSn	**Sn**	**00 30 44.2**	**+0.2**
IMOK	**Mook**	**3.09**	**123**	Pn	**Pn**	**00 30 08.9**	**+0.6**
IMOK				Pn	**Pn**	**00 30 10.1**	**+1.8**
IMOK				Pn	**Pn**	**00 30 10.6**	**+2.3**
IMOK				Sn	**Sn**	**00 30 44.0**	**0.0**
IMOK				Sn	**Sn**	**00 30 44.2**	**+0.2**
ISRV	**Sarvestan**	**3.22**	**114**	ePn	**Pn**	**00 30 10.7**	**+0.5**
ISRV				ePn	**Pn**	**00 30 11.2**	**+1.0**
ISRV				ePn	**Pn**	**00 30 11.3**	**+1.1**
ISRV				eSn	**Sn**	**00 30 47.6**	**+0.3**
ISRV				eSn	**Sn**	**00 30 47.7**	**+0.4**
ISRV	**Sarvestan**	**3.22**	**114**	Pn	**Pn**	**00 30 10.6**	**+0.4**
ISRV				Pn	**Pn**	**00 30 11.1**	**+0.9**
ISRV				Pn	**Pn**	**00 30 11.6**	**+1.4**
ISRV				Sn	**Sn**	**00 30 47.6**	**+0.3**
NASN	**Na'in**	**3.31**	**51**	ePn	**Pn**	**00 30 12.1**	**+0.8**
NASN	**Na'in**	**3.31**	**51**	ePn	**Pn**	**00 30 12.0**	**+0.6**
GHIR	**Ghir-Karzin**	**3.75**	**130**	ePn	**Pn**	**00 30 16.8**	**-0.5**
GHIR				AML	AML	00 31 46.7	
	comp=E,124nm,0.6s						
GHIR	**Ghir-Karzin**	**3.75**	**130**	ePn	**Pn**	**00 30 16.0**	**-1.3**
IKOM	**Komasi**	**3.90**	**332**	ePn	**Pn**	**00 30 19.6**	**+0.1**
IKOM				ePn	**Pn**	**00 30 20.1**	**+0.7**
IKOM				ePn	**Pn**	**00 30 20.1**	**+0.7**
IKOM				eSn	**Sn**	**00 31 03.5**	**-0.5**
IKOM				eSn	**Sn**	**00 31 03.5**	**-0.5**
IKOM	**Komasi**	**3.90**	**332**	Pn	**Pn**	**00 30 19.6**	**+0.1**
IKOM				Pn	**Pn**	**00 30 20.0**	**+0.6**
IKOM				Sn	**Sn**	**00 31 03.4**	**-0.6**
ISFB	**Sefidab**	**4.16**	**30**	ePn	**Pn**	**00 30 23.0**	**0.0**
ISFB				ePn	**Pn**	**00 30 23.0**	**0.0**
ISFB				ePn	**Pn**	**00 30 23.6**	**+0.6**
ISFB				eSn	**Sn**	**00 31 09.9**	**-0.5**
ISFB				eSn	**Sn**	**00 31 09.9**	**-0.5**
ISFB	**Sefidab**	**4.16**	**30**	Pn	**Pn**	**00 30 22.9**	**-0.1**
ISFB				Pn	**Pn**	**00 30 23.5**	**+0.5**
ISFB				Sn	**Sn**	**00 31 09.8**	**-0.6**
ISFB	**Sefidab**	**4.16**	**30**	ePn	**Pn**	**00 30 23.6**	**+0.6**
ISFB				eSn	**Sn**	**00 31 09.9**	**-0.5**
IMEH	**Mehriz**	**4.22**	**80**	ePn	**Pn**	**00 30 24.7**	**+0.8**
IMEH	**Mehriz**	**4.22**	**80**	Pn	**Pn**	**00 30 24.6**	**+0.7**
ICHK	**Chekchek**	**4.25**	**68**	ePn	**Pn**	**00 30 24.9**	**+0.6**
ICHK				ePn	**Pn**	**00 30 25.0**	**+0.7**
ICHK				ePn	**Pn**	**00 30 25.0**	**+0.7**
ICHK				eSn	**Sn**	**00 31 12.4**	**-0.2**
ICHK				eSn	**Sn**	**00 31 12.4**	**-0.2**
ICHK	**Chekchek**	**4.25**	**68**	Pn	**Pn**	**00 30 24.8**	**+0.5**
ICHK				Sn	**Sn**	**00 31 12.3**	**-0.3**
ICHK	**Chekchek**	**4.25**	**68**	ePn	**Pn**	**00 30 25.0**	**+0.7**
ICHK				Sn	**Sn**	**00 31 12.3**	**-0.3**
IVIS	**Veys**	**4.48**	**328**	ePn	**Pn**	**00 30 28.9**	**+1.4**
IVIS				eSn	**Sn**	**00 31 16.9**	**-1.4**
IRAZ	**Razeghan**	**4.64**	**2**	ePn	**Pn**	**00 30 30.4**	**+0.8**
IRAZ				ePn	**Pn**	**00 30 30.4**	**+0.8**
IRAZ				ePn	**Pn**	**00 30 30.4**	**+0.8**
IRAZ				eSn	**Sn**	**00 31 21.3**	**-0.9**
IRAZ				eSn	**Sn**	**00 31 21.3**	**-0.9**
IRAZ	**Razeghan**	**4.64**	**2**	Pn	**Pn**	**00 30 30.3**	**+0.7**
IRAZ				Sn	**Sn**	**00 31 21.2**	**-1.0**
SNGE	**Sanandaj**	**4.78**	**336**	ePn	**Pn**	**00 30 31.5**	**0.0**
SNGE				AML	AML	00 31 29.9	
	comp=N,71nm,0.3s						
SNGE	**Sanandaj**	**4.78**	**336**	ePn	**Pn**	**00 30 31.0**	**-0.4**
IMHD	**Mahdasht**	**4.98**	**9**	ePn	**Pn**	**00 30 34.6**	**+0.3**
IMHD				ePn	**Pn**	**00 30 34.9**	**+0.6**
IMHD				ePn	**Pn**	**00 30 36.3**	**+2.0**
IMHD				eSn	**Sn**	**00 31 29.5**	**-1.0**
IMHD				eSn	**Sn**	**00 31 29.7**	**-0.8**
IMHD	**Mahdasht**	**4.98**	**9**	Pn	**Pn**	**00 30 34.6**	**+0.3**
IMHD				Pn	**Pn**	**00 30 34.8**	**+0.5**
IMHD				Pn	**Pn**	**00 30 36.3**	**+2.0**
IMHD				Sn	**Sn**	**00 31 29.4**	**-1.1**
IMHD				Sn	**Sn**	**00 31 29.6**	**-0.9**
IMHD	**Mahdasht**	**4.98**	**9**	ePn	**Pn**	**00 30 34.9**	**+0.6**
IMHD				eSn	**Sn**	**00 31 29.5**	**-1.0**
IBAF	**Bafgh**	**5.06**	**79**	ePn	**Pn**	**00 30 35.6**	**+0.2**
IBAF				ePn	**Pn**	**00 30 35.9**	**+0.5**
IBAF				ePn	**Pn**	**00 30 35.9**	**+0.5**
IBAF				eSn	**Sn**	**00 31 31.2**	**-1.3**
IBAF				eSn	**Sn**	**00 31 31.3**	**-1.2**
IBAF	**Bafgh**	**5.06**	**79**	Pn	**Pn**	**00 30 35.6**	**+0.2**
IBAF				Pn	**Pn**	**00 30 35.8**	**+0.4**
IBAF				Sn	**Sn**	**00 31 31.1**	**-1.4**
IBAF				Sn	**Sn**	**00 31 31.3**	**-1.2**
IBAF	**Bafgh**	**5.06**	**79**	ePn	**Pn**	**00 30 35.9**	**+0.5**
IBAF				eSn	**Sn**	**00 31 31.2**	**-1.3**
BHD	**Baghdad**	**5.20**	**300**	ex	x	00 30 34.0	
BHD				ex	x	00 31 20.0	
BHD				ex	x	00 31 30.0	
BHD				ex	x	00 31 39.0	
DAMV	**Damavand**	**5.21**	**20**	ePn	**Pn**	**00 30 37.6**	**+0.2**
DAMV	**Damavand**	**5.21**	**20**	ePn	**Pn**	**00 30 37.0**	**-0.4**
THKV	**Tehran--Karaj**	**5.24**	**10**	ePn	**Pn**	**00 30 38.2**	**+0.4**
THKV	**Tehran--Karaj**	**5.24**	**10**	ePn	**Pn**	**00 30 38.0**	**+0.2**
CHTH	**Charan**	**5.27**	**12**	ePn	**Pn**	**00 30 38.4**	**+0.2**
CHTH	**Charan**	**5.27**	**12**	ePn	**Pn**	**00 30 38.0**	**-0.2**
ILAS	**Lasjerd**	**5.35**	**29**	ePn	**Pn**	**00 30 39.3**	**0.0**
ILAS				ePn	**Pn**	**00 30 39.4**	**+0.1**
ILAS				ePn	**Pn**	**00 30 39.8**	**+0.5**
ILAS				eSn	**Sn**	**00 31 38.1**	**-1.5**
ILAS				eSn	**Sn**	**00 31 38.3**	**-1.3**
ILAS	**Lasjerd**	**5.35**	**29**	Pn	**Pn**	**00 30 39.2**	**-0.1**
ILAS				Pn	**Pn**	**00 30 39.7**	**+0.4**
ILAS				Sn	**Sn**	**00 31 38.0**	**-1.6**
ILAS				Sn	**Sn**	**00 31 38.2**	**-1.4**
ILAS	**Lasjerd**	**5.35**	**29**	ePn	**Pn**	**00 30 39.8**	**+0.5**
ILAS				eSn	**Sn**	**00 31 38.1**	**-1.5**
IFIR	**Firoozkooh**	**5.49**	**27**	ePn	**Pn**	**00 30 41.9**	**+0.7**
IFIR				ePn	**Pn**	**00 30 42.3**	**+1.1**
IFIR				ePn	**Pn**	**00 30 42.3**	**+1.1**
IFIR				eSn	**Sn**	**00 31 41.5**	**-1.5**
IFIR				eSn	**Sn**	**00 31 41.8**	**-1.2**
IFIR	**Firoozkooh**	**5.49**	**27**	Pn	**Pn**	**00 30 41.8**	**+0.6**
IFIR				Pn	**Pn**	**00 30 42.2**	**+1.0**
IFIR				Sn	**Sn**	**00 31 41.5**	**-1.5**
IFIR				Sn	**Sn**	**00 31 41.7**	**-1.3**
IFIR	**Firoozkooh**	**5.49**	**27**	Pn	**Pn**	**00 30 42.2**	**+1.0**
IFIR				eSn	**Sn**	**00 31 41.5**	**-1.5**
ISHM	**Shahmirzad**	**5.85**	**30**	ePn	**Pn**	**00 30 46.7**	**+0.5**
ISHM				ePn	**Pn**	**00 30 46.7**	**+0.5**
ISHM				ePn	**Pn**	**00 30 46.8**	**+0.6**
ISHM				eSn	**Sn**	**00 31 50.3**	**-1.6**
ISHM				eSn	**Sn**	**00 31 50.4**	**-1.5**
ISHM	**Shahmirzad**	**5.85**	**30**	Pn	**Pn**	**00 30 46.7**	**+0.5**
ISHM				Sn	**Sn**	**00 31 50.2**	**-1.7**
ISHM				Sn	**Sn**	**00 31 50.4**	**-1.5**
ISHM	**Shahmirzad**	**5.85**	**30**	ePn	**Pn**	**00 30 46.8**	**+0.6**
ISHM				eSn	**Sn**	**00 31 50.3**	**-1.6**
IPRN	**Paran-Amol**	**5.86**	**20**	ePn	**Pn**	**00 30 48.0**	**+1.7**
IPRN				ePn	**Pn**	**00 30 48.2**	**+1.9**
IPRN				ePn	**Pn**	**00 30 48.2**	**+1.9**
IPRN				eSn	**Sn**	**00 31 50.2**	**-1.9**
IPRN				eSn	**Sn**	**00 31 50.4**	**-1.7**
IANJ	**Anjiloo**	**5.86**	**36**	ePn	**Pn**	**00 30 46.2**	**-0.1**
IANJ				ePn	**Pn**	**00 30 46.2**	**-0.1**
IANJ				eSn	**Sn**	**00 31 50.5**	**-1.7**
KRBR	**Kerman**	**6.11**	**95**	ePn	**Pn**	**00 30 50.2**	**+0.5**
KRBR	**Kerman**	**6.11**	**95**	eP	**Pn**	**00 30 50.0**	**+0.2**
KRBR	**Kerman**	**6.11**	**95**	ePn	**Pn**	**00 30 50.2**	**+0.4**
	SNR=54						
BANOM	**Banah**	**7.52**	**128**	⇑P	**Pn**	**00 31 07.7**	**-1.3**
BANOM				⇑S	**Sn**	**00 32 28.8**	**-4.0**
MSL	**Mosul**	**7.83**	**317**	ex	x	00 31 21.0	
MSL				ex	x	00 32 40.0	
HATD	**Hatta, Dubai**	**8.17**	**135**	P	**Pn**	**00 31 17.6**	**-0.4**
	SNR=12						
ASHO	**Ashiyiah**	**8.23**	**136**	P	**Pn**	**00 31 18.3**	**-0.6**
	SNR=11						
ASHO				⇓S	**Sn**	**00 32 45.9**	**-4.6**
GNI	**Garni**	**10.22**	**338**	P	**Pn**	**00 31 43.5**	**-2.6**
BSY	**Bisya**	**10.39**	**138**	⇑P	**Pn**	**00 31 48.1**	**-0.3**
	SNR=14						
BSYO	**Bisya**	**10.42**	**138**	P	**Pn**	**00 31 48.1**	**-0.7**
	SNR=14						
SMDO	**Samad**	**10.65**	**134**	⇓P	**Pn**	**00 31 51.1**	**-0.9**
	SNR=5.5						
WSAR	**Wadi Sarin**	**10.89**	**131**	Pn	**Pn**	**00 31 52.5**	**-2.8**
	comp=N,4.2nm,0.3s,baz=351,slow=10,SNR=31						
WSAR				Sn	**Sn**	**00 33 46.2**	**-9.4**
	comp=N,0.7nm,0.3s,baz=318,slow=19,SNR=2.6						
ASF	**Jabal al Asfar**	**11.06**	**281**	Pn	**Pn**	**00 31 54.4**	**-3.2**
	comp=N,0.6nm,0.3s,baz=305,slow=7.1,SNR=9.0						
ASF				Sn	**Sn**	**00 33 47.7**	**-12**
	comp=N,0.3nm,0.3s,baz=279,slow=4.9,SNR=1.8						
ASF				Lg		00 35 16.0	
	comp=N,0.4nm,0.3s,baz=178,slow=14,SNR=3.1						
ASF	**Jabal al Asfar**	**11.06**	**281**	Pn	**Pn**	**00 31 54.4**	**-3.2**
ASF				Sn	**Sn**	**00 33 47.7**	**-12**
JMDO	**Jabal Madar**	**11.21**	**136**	⇑P	**Pn**	**00 31 58.9**	**-0.6**
	SNR=6.3						
WBK	**Wadi Bani Khal**	**11.56**	**132**	⇑P	**Pn**	**00 32 01.6**	**-2.8**
MMAI	**Mount Meron Ar**	**12.40**	**284**	Pn	**Pn**	**00 32 14.0**	**-1.8**
	comp=N,0.4nm,0.3s,baz=94,slow=15,SNR=4.8						
MMAI				Sn	**Sn**	**00 34 23.7**	**-8.7**
	comp=N,0.5nm,0.3s,baz=87,slow=17,SNR=3.3						
EIL	**Elat**	**12.84**	**269**	ePn	**Pn**	**00 32 19.7**	**-2.1**
WHFO	**Wadi Hawf**	**13.29**	**163**	⇓P	**Pn**	**00 32 25.7**	**-2.3**
	SNR=8.2						
ABTO	**Aybut**	**13.72**	**166**	⇑P	**Pn**	**00 32 31.8**	**-2.1**
SHAO	**Shalim**	**13.75**	**156**	P	**Pn**	**00 32 32.0**	**-2.3**
	SNR=16						
KIV	**Kislovodsk**	**14.32**	**339**	eP	**Pn**	**00 32 48.2**	**+6.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV	**Kislovodsk**	**14.32**	**339**	eP	**Pn**	**00 32 48.2**	**+6.4**
	comp=Z,7.5nm,0.6s						
BR131	**Keskin Array S**	**15.90**	**309**	eP	**Pn**	**00 33 05.2**	**+2.8**
	comp=Z,0.5nm,0.2s						
BRTR	**Keskin Array B**	**15.90**	**309**	Pn	**Pn**	**00 33 06.8**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=7.8						
AKTK	**Aktyubinsk**	**20.62**	**15**	P	**P**	**00 33 56.3**	**-0.8**
AKTK	**Aktyubinsk**	**20.62**	**15**	P	**P**	**00 33 56.3**	**-0.8**
AKTO	**Aktyubinsk**	**20.62**	**15**	P	**P**	**00 33 56.3**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=186,slow=11,SNR=10.0						
SANT	**Santorini**	**20.98**	**292**	eP	**P**	**00 33 58.1**	**-2.9**
	comp=Z,14nm,0.3s						
SANT	**Santorini**	**20.98**	**292**	eP	**P**	**00 33 58.1**	**-2.9**
	comp=Z,14nm,0.3s						
IDI	**Anoyia**	**21.31**	**289**	P	**P**	**00 34 04.7**	**+0.2**
	comp=Z,3.0nm,0.3s,mb4.1,baz=249,slow=18,SNR=13						
AAK	**Ala-Archa**	**23.03**	**52**	eP	**P**	**00 34 22.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
AAK	**Ala-Archa**	**23.03**	**52**	eP	**P**	**00 34 22.9**	**+0.1**
	comp=Z,0.9nm,0.3s,mb3.7						
AAK	**Ala-Archa**	**23.03**	**52**	eP	**P**	**00 34 22.9**	**+0.1**
	comp=Z,0.9nm,0.3s,mb3.7						
AKASG	**Malin Array Be**	**25.13**	**328**	P	**P**	**00 34 41.4**	**-0.9**
	comp=Z,0.5nm,0.3s,mb3.6,baz=128,slow=7.2,SNR=5.2						
BURAR	**Bucovina Array**	**25.24**	**319**	⇓iP	**P**	**00 34 44.6**	**+1.3**
GZR	**Gura Zlata**	**25.62**	**312**	⇑iP	**P**	**00 34 50.2**	**+3.4**
OBN	**Obninsk**	**26.10**	**343**	eP	**P**	**00 34 50.5**	**-0.6**
	comp=Z,10nm,0.3s,mb4.8						
OBN	**Obninsk**	**26.10**	**343**	eP	**P**	**00 34 50.5**	**-0.6**
	comp=Z,10nm,0.3s,mb4.8						
ZRNK	**Zerenda**	**26.25**	**27**	eP	**P**	**00 34 53.0**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**26.25**	**27**	eP	**P**	**00 34 53.0**	**+0.6**
	comp=Z,2.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**26.25**	**27**	eP	**P**	**00 34 53.0**	**+0.5**
	comp=Z,2.0nm,0.6s,mb3.8						
DRGR		**26.29**	**315**	⇓iP	**P**	**00 34 54.6**	**+1.8**
ARU	**Arti**	**26.41**	**11**	eP	**P**	**00 34 52.5**	**-1.4**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ARU	**Arti**	**26.41**	**11**	eP	**P**	**00 34 52.5**	**-1.4**
	comp=Z,1.3nm,0.4s,mb3.8						
BRVK	**Borovoye**	**26.84**	**28**	eP	**P**	**00 34 56.1**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
BRVK	**Borovoye**	**26.84**	**28**	eP	**P**	**00 34 56.1**	**-1.7**
	comp=Z,1.5nm,0.5s,mb3.8						
BRVK	**Borovoye**	**26.84**	**28**	eP	**P**	**00 34 56.1**	**-1.7**
	comp=Z,1.5nm,0.5s,mb3.8						
BVAR	**Borovoye Array**	**26.86**	**28**	P	**P**	**00 34 58.1**	**+0.2**
	comp=Z,1.9nm,0.4s,mb4.0,baz=218,slow=10,SNR=17						
CHKZ	**Chkalovo**	**27.44**	**27**	eP	**P**	**00 35 04.5**	**+1.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
CHKZ	**Chkalovo**	**27.44**	**27**	eP	**P**	**00 35 04.5**	**+1.4**
	comp=Z,0.8nm,0.4s,mb3.6						
CHKZ	**Chkalovo**	**27.44**	**27**	eP	**P**	**00 35 04.5**	**+1.4**
	comp=Z,0.8nm,0.4s,mb3.6						
MK31	**Makanchi Array**	**29.74**	**48**	eP	**P**	**00 35 24.8**	**+1.2**
MKAR	**Makanchi Array**	**29.74**	**48**	P	**P**	**00 35 25.1**	**+1.6**
	comp=Z,1.2nm,0.4s,mb4.0,baz=249,slow=7.8,SNR=35						
MKAR	**Makanchi Array**	**29.74**	**48**	P	**P**	**00 35 25.1**	**+1.5**
MORC	**Moravsky Berou**	**30.72**	**317**	P	**P**	**00 35 29.3**	**-3.0**
GERES	**GERESS Array B**	**32.67**	**314**	P	**P**	**00 35 50.7**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=113,slow=7.7,SNR=3.6						
SQTA	**Sankt Quirin**	**33.77**	**310**	⇑iP	**P**	**00 35 59.4**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.3						
SQTA	**Sankt Quirin**	**33.77**	**310**	⇑iP	**P**	**00 35 59.4**	**+0.4**
SQTA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SQTA	**Sankt Quirin**	**33.77**	**310**	⇑iP	**P**	**00 35 59.3**	**+0.3**
	comp=Z,2.1nm,0.5s,mb4.3						
MOTA	**Moosalm**	**33.87**	**310**	⇑iP	**P**	**00 36 00.4**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.1						
MOTA	**Moosalm**	**33.87**	**310**	⇑iP	**P**	**00 36 00.4**	**+0.6**
MOTA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
JOF	**Joensuu**	**34.29**	**345**	ep	**P**	**00 36 02.9**	**-0.6**
	comp=Z,0.8nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**34.40**	**340**	P	**P**	**00 36 04.1**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=142,slow=8.1,SNR=14						
DAVA	**Damuels**	**34.66**	**310**	⇓iP	**P**	**00 36 07.2**	**+0.5**
	comp=Z,3.5nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**34.87**	**341**	ep	**P**	**00 36 13.3**	**+4.8**
BNI	**Bardonecchia**	**36.42**	**305**	eP	**P**	**00 36 22.5**	**+0.7**
BNI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BNI	**Bardonecchia**	**36.42**	**305**	eP	**P**	**00 36 22.5**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
BNI	**Bardonecchia**	**36.42**	**305**	eP	**P**	**00 36 22.5**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.1						
NB2	**NORSAR Subarra**	**39.45**	**331**	P	**P**	**00 36 46.1**	**-1.2**
	comp=Z,1.5nm,1.0s,mb3.7,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**39.45**	**331**	P	**P**	**00 36 46.6**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.4,baz=109,slow=8.0,SNR=3.0						
ARCES	**ARCESS Array B**	**41.20**	**347**	P	**P**	**00 37 01.1**	**-0.7**
	comp=Z,2.4nm,1.0s,mb3.8,baz=155,slow=11,SNR=4.4						
CART	**Cartagena**	**42.12**	**293**	P	**P**	**00 37 10.3**	**+1.0**
TLY	**Talaya**	**44.44**	**46**	eP	**P**	**00 37 27.6**	**-0.4**
SONM	**Songino Array**	**45.99**	**51**	P	**P**	**00 37 41.8**	**+1.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=274,slow=9.2,SNR=7.0						
ULN	**Ulaanbaatar**	**46.43**	**51**	eP	**P**	**00 37 44.8**	**+1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**46.43**	**51**	eP	**P**	**00 37 44.8**	**+1.1**
	comp=Z,1.6nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**46.43**	**51**	eP	**P**	**00 37 44.8**	**+1.1**
	comp=Z,1.5nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**47.50**	**259**	P	**P**	**00 37 54.0**	**+1.9**

	comp=Z,1.1nm,0.7s,mb3.9,baz=67,slow=7.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**47.50**	**259**	P	**P**	**00 37 54.0**	**+1.9**
ENH	**Enshi**	**50.91**	**74**	*e*P	**P**	**00 38 17.1**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7						
ENH	**Enshi**	**50.91**	**74**	*e*P	**P**	**00 38 17.1**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7						
BOD	**Bodaibo**	**50.96**	**38**	*e*P	**P**	**00 38 15.4**	**-3.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
LBTB	**Lobatse**	**60.08**	**205**	*e*P	**P**	**00 39 27.0**	**+3.0**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
LBTB	**Lobatse**	**60.08**	**205**	*e*P	**P**	**00 39 27.0**	**+3.0**
	comp=Z,2.2nm,0.9s,mb4.2						
KSRS	**Korea Array**	**63.36**	**61**	P	**P**	**00 39 46.8**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.2,baz=291,slow=6.6,SNR=5.0						
YSS	**Yuzh-Sakhalins**	**70.14**	**47**	P	**P**	**00 40 27.3**	**-2.0**

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*ISCJB **03** 00:29:25.0±0.7, 04S±0.1×2952E±007, h10km, mb4.1/7, MS2.9/1, Error ellipse: s-maj=15.0km s-min=9.2km az=36.8*

*IDC **03** 00:29:25.5±1.7, 037S×2948E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/23, Error ellipse: s-maj=37.6km s-min=25.2km az=16.0*

*NEIC **03** 00:29:27.0±0.5, 038S×2944E, h10km, mb3.7/1, Error ellipse: s-maj=11.5km s-min=9.9km az=64.0*

ISC 03 00:29:30.6±6.9**, 04S**±01×**2947E**±007**, h34**km±56km**, n12,** σ**0s25**/13**, mb4.1**/7**, MS2.9**/1**, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**7.81**	**95**	Pn	**Pn**	**00 31 21.7**	**0.0**
	0.7nm,0.3s,baz=261,slow=15,SNR=8.6						
KMBO				Sn	**Sn**	**00 32 49.0**	**+0.1**
	1.4nm,0.3s,baz=247,slow=17,SNR=2.7						
KMBO				Lg		00 33 24.0	
	1.9nm,0.3s,baz=288,slow=21,SNR=5.7						
LSZ	**Lusaka**	**14.82**	**185**	Pn	**Pn**	**00 32 57.3**	**-0.2**
	0.1nm,0.3s,baz=345,slow=12,SNR=2.4						
LSZ				Lg		00 37 07.8	
	0.3nm,0.3s,baz=98,slow=19,SNR=4.4						
LSZ				LR	LR	00 39 16.3	
	comp=Z,55nm,19.8s,baz=9.9,slow=40						
LSZ	**Lusaka**	**14.82**	**185**	Pn	**Pn**	**00 32 57.3**	**-0.3**
LSZ				*e*Pn	**Pn**	**00 32 57.8**	**+0.3**
LSZ				Lg		00 37 07.8	
LSZ				LR	LR	00 39 16.3	
TSUM	**Tsumeb**	**22.01**	**211**	*e*P	**P**	**00 34 27.4**	**+5.6**
	1.2nm,0.4s,mb3.7						
LBTB	**Lobatse**	**24.74**	**188**	LR	LR	00 43 57.3	
	comp=Z,35nm,19.6s,MS2.9,baz=293,slow=35						
EIL	**Elat**	**30.37**	**9**	*e*P	**P**	**00 35 39.4**	**+0.2**
	106nm,0.7s,mb5.7						
TOA0	**Torodi Ar. Sit**	**30.66**	**297**	*e*P	**P**	**00 35 42.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**30.66**	**297**	P	**P**	**00 35 41.9**	**+0.1**
	3.1nm,0.6s,mb4.3,baz=106,slow=7.3,SNR=84						
BRTR	**Keskin Array B**	**40.13**	**5**	P	**P**	**00 37 03.1**	**+0.1**
	0.9nm,0.8s,mb3.5,baz=182,slow=10,SNR=4.4						
MLR	**Muntele Rosu**	**45.82**	**357**	P	**P**	**00 37 49.1**	**0.0**
	2.6nm,0.8s,mb4.2,baz=266,slow=19,SNR=3.3						
GERES	**GERESS Array B**	**50.93**	**347**	P	**P**	**00 38 27.8**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=169,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**65.80**	**37**	P	**P**	**00 40 12.1**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=248,slow=7.6,SNR=3.9						

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*JMA **03** 00:36:39.1±0.3, 4531N×14949E, h162km, M3.7*

*ISCJB **03** 00:36:40.6±1.5, 45.1N±0.1×1493E±02, h200km±9km, mb4.5/4, Error ellipse: s-maj=27.9km s-min=12.3km az=86.0*

ISC 03 00:36:42.0±1.6**, 450N**±01×**1493E**±02**, h196**km±10km**, n22,** σ**0s93**/30**, mb4.5**/4**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.05**	**238**	P	**Pn**	**00 37 31.4**	**-0.7**
NEM2				*e*S	**Sn**	**00 38 11.5**	**+0.3**
JAK	**Akkeshi**	**3.89**	**240**	P	**Pn**	**00 37 42.1**	**-0.2**
JAK				*e*S	**Sn**	**00 38 31.0**	**+1.4**
JOB	**Onbets**	**4.48**	**244**	P	**Pn**	**00 37 50.0**	**+0.3**
JOB				*e*S	**Sn**	**00 38 44.5**	**+1.6**
JKK2	**Kamakawa 2**	**4.83**	**258**	P	**Pn**	**00 37 53.7**	**-0.4**
JCH	**Churui**	**4.93**	**243**	P	**Pn**	**00 37 55.6**	**+0.2**
JCH				*e*S	**Sn**	**00 38 53.3**	**+0.1**
JEM	**Erimo**	**5.39**	**238**	P	**Pn**	**00 38 02.6**	**+1.3**
JNBK	**Urakawa-nobuka**	**5.49**	**242**	P	**Pn**	**00 38 01.6**	**-1.0**
JNBK				*e*S	**Sn**	**00 39 05.5**	**-0.6**
JBT2	**Biratori 2**	**5.49**	**248**	P	**Pn**	**00 38 02.6**	**0.0**
JBT2				*e*S	**Sn**	**00 39 08.2**	**+2.0**
JNB	**Noboribetsu**	**6.51**	**250**	P	**Pn**	**00 38 14.8**	**-1.0**
JNB				*e*S	**Sn**	**00 39 30.0**	**0.0**
JKB	**Kayabe**	**6.79**	**245**	P	**Pn**	**00 38 18.3**	**-1.1**
JKB				*e*S	**Sn**	**00 39 34.8**	**-1.8**
JTM	**Tenmabayashi**	**7.38**	**238**	*e*S	**Sn**	**00 39 48.2**	**-2.4**
JANG	**Nango**	**7.38**	**234**	*e*S	**Sn**	**00 39 49.6**	**-1.1**
JTH	**Tanohata**	**7.49**	**230**	*e*S	**Sn**	**00 39 52.6**	**-0.6**
OFUJ	**Ofunato**	**8.22**	**226**	*e*S	**Sn**	**00 40 11.6**	**+1.1**
JIO	**Ouri**	**8.86**	**225**	*e*S	**Sn**	**00 40 26.3**	**+0.6**
JIRN	**Jiri**	**52.40**	**273**	*e*P	**P**	**00 45 34.7**	**+0.5**
	15nm,0.6s,mb4.6						
GUN	**Gumba**	**52.47**	**274**	*e*P	**P**	**00 45 35.4**	**+0.7**
	6.1nm,0.4s,mb4.4						
KKN	**Kakani**	**52.97**	**274**	*e*P	**P**	**00 45 38.8**	**+0.5**
PKI	**Pulchoki**	**53.01**	**274**	*e*P	**P**	**00 45 39.0**	**+0.4**
DMN	**Daman**	**53.20**	**274**	*e*P	**P**	**00 45 39.5**	**-0.5**
GKN	**Gorkha**	**53.30**	**275**	*e*P	**P**	**00 45 40.6**	**-0.1**
	9.8nm,0.4s,mb4.6						
KOLN	**Koldanda**	**54.17**	**275**	*e*P	**P**	**00 45 46.8**	**-0.2**
	8.6nm,0.8s,mb4.3						

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*MOS **03** 00:39:32.1±0.9, 5121N×17930W, h33km, mb5.0/41, Error ellipse: s-maj=13.2km s-min=6.4km az=102.3*

*IDC **03** 00:39:33.9±7.0, 5126N×17929W, h33km±52km, mb4.2/22, mb1 4.4/23, mb1mx4.4/27, mbtmp4.4/23, ML4.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/24, Error ellipse: s-maj=18.6km s-min=13.2km az=169.0*

*SZGRF **03** 00:39:34.0, 5098N×17957W, h33km, mb4.8, Andreanof Islands, Aleutian Islands, United States*

*BJI **03** 00:39:35.8, 5120N×17940W, h53km, mB4.8, mb4.8, Ms4.5, Msz4.1*

*NEIC **03** 00:39:35.9±0.5, 51.18N×17937W, h54km±4km, mb4.7/61, MS4.2/1, ML4.4(AEIC), Error ellipse: s-maj=6.9km s-min=3.1km az=183.0*

*ISCJB **03** 00:39:35.2±0.6, 5136N±006×17945W±003, h52km±5km, mb4.6/96, MS4.0/7, Error ellipse: s-maj=10.0km s-min=3.4km az=8.8*

ISC 03 00:39:38.1±0.8**, 5142N**±006×**17945W**±004**, h65**km±6km**, n326,** σ**1s05**/322**, mb4.5**/96**, 71C-47D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.79**	**267**	⇓*i*P	**Pn**	**00 39 48.9**	**-4.8**
AMKA				*e*S	**Sn**	**00 40 01.0**	**-4.1**
ATKA	**Atka Island**	**3.35**	**74**	P	**Pn**	**00 40 25.3**	**-2.7**
SMY	**Shemya**	**4.19**	**291**	P	**Pn**	**00 40 40.4**	**+0.9**
FX1	**Attu Island--F**	**4.78**	**291**	P	**Pn**	**00 40 47.2**	**-0.3**
SPIA	**Saint Paul Isl**	**7.88**	**39**	P	**Pn**	**00 41 31.7**	**+1.7**
UNV	**Unalaska Valle**	**8.24**	**68**	P	**Pn**	**00 41 34.1**	**-0.8**
UNV				*e*Sn	**Sn**	**00 43 08.5**	**+2.1**
SVW2	**Sparrevohn**	**16.32**	**44**	*e*Pn	**Pn**	**00 43 24.6**	**+1.6**
KDAK	**Kodiak Island**	**16.74**	**57**	Pn	**Pn**	**00 43 23.5**	**-4.8**
	2.5nm,0.3s,baz=259,slow=7.6,SNR=22						
BILL	**Bilibino**	**18.07**	**343**	*c i*P	**Pn**	**00 43 46.8**	**+2.2**
BILL				pmax	pmax		
	comp=Z,19nm,1.6s						
COLA	**College**	**21.13**	**38**	⇑*i*P	**P**	**00 44 17.4**	**-0.1**
ASAJ	**Asahikawa**	**26.30**	**269**	LR	LR	00 55 03.8	
	comp=Z,153nm,21.9s,baz=50,slow=35						
KLR	**Kul'dur**	**30.78**	**285**	*e*P	**P**	**00 45 44.2**	**-3.2**
KLR				pmax	pmax		
	comp=E,32nm,1.2s						
KLR				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.0						
MJAR	**Matsushiro Arr**	**33.39**	**260**	P	**P**	**00 46 10.1**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.0,baz=48,slow=6.9,SNR=4.8						
MDJ	**Mudanjiang**	**34.17**	**279**	P	**P**	**00 46 15.4**	**-1.6**
MDJ				S	**S**	**00 51 38.4**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,19nm,4.2s						
MDJ				LR	LR		
	comp=N,72nm,27.0s						
MDJ				LR	LR		
	comp=E,118nm,31.6s						
MDJ				LR	LR		
	comp=Z,158nm,33.0s						
YKA	**Yellowknife Ar**	**35.50**	**46**	P	**P**	**00 46 27.3**	**-1.2**
	comp=Z,6.2nm,0.5s,mb4.7,baz=281,slow=7.4,SNR=39						
YKA	**Yellowknife Ar**	**35.50**	**46**	*i* P	**P**	**00 46 27.2**	**-1.2**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
B05A	**Bryant**	**36.31**	**72**	⇓P	**P**	**00 46 34.8**	**-0.6**
	baz=36						
A07A	**Ashnola River,**	**36.97**	**70**	P	**P**	**00 46 41.1**	**+0.1**
	baz=37,SNR=5.6						
F04A	**Amboy**	**37.23**	**75**	⇓P	**P**	**00 46 42.7**	**-0.5**
	baz=37						
B07A	**Winthrop**	**37.39**	**71**	P	**P**	**00 46 44.8**	**+0.2**
	baz=37,SNR=5.0						
BOD	**Bodaibo**	**37.63**	**306**	⇑*i*P	**P**	**00 46 45.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
C07A	**Waterville**	**37.79**	**72**	⇓P	**P**	**00 46 46.8**	**-1.1**
	baz=38						
H04A	**Detroit Lake**	**38.00**	**77**	⇓P	**P**	**00 46 48.9**	**-0.9**
	baz=38						
A09A	**Danville**	**38.06**	**69**	⇑P	**P**	**00 46 48.3**	**-1.9**
	baz=38						
D07A	**Quincy**	**38.08**	**72**	⇑P	**P**	**00 46 49.0**	**-1.4**
	baz=38						
K02A	**Glendale**	**38.22**	**80**	⇑P	**P**	**00 46 50.1**	**-1.4**
	baz=38						
C08A	**Higginbotham F**	**38.35**	**71**	⇑P	**P**	**00 46 51.4**	**-1.2**
	baz=38						
B09A	**Rice**	**38.57**	**70**	⇓P	**P**	**00 46 53.6**	**-0.9**
	baz=38						
HAWA	**Hanford**	**38.74**	**73**	*e*P	**P**	**00 46 55.6**	**-0.3**
	comp=Z,8.7nm,0.8s,mb4.6						
F07A	**Phinny Hill Vi**	**38.75**	**74**	⇓P	**P**	**00 46 56.3**	**+0.3**
	baz=39						
D08A	**Wollman Farm,**	**38.77**	**72**	⇑P	**P**	**00 46 55.4**	**-0.9**
	baz=39						
KSRS	**Korea Array**	**39.23**	**270**	P	**P**	**00 47 00.7**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.3,baz=56,slow=8.6,SNR=15						
YBH	**Yreka Blue Hor**	**39.27**	**81**	⇑P	**P**	**00 47 01.3**	**+0.9**
	baz=39						
A11A	**Hall Mountain,**	**39.36**	**68**	⇓P	**P**	**00 47 00.3**	**-0.8**
	baz=39						
E09A	**Wood Farm, Sta**	**39.51**	**72**	⇑P	**P**	**00 47 02.1**	**-0.2**
	baz=39						
L04A	**Klamath Falls**	**39.53**	**80**	⇑P	**P**	**00 47 04.0**	**+1.5**
	baz=39						
B11A	**Sandpoint**	**39.61**	**69**	⇑P	**P**	**00 47 02.1**	**-1.1**
	baz=40						
A12A	**Yaak River Ran**	**39.78**	**68**	⇓P	**P**	**00 47 03.8**	**-0.8**
	baz=40						
M04C	**Macdoel**	**39.78**	**81**	⇑P	**P**	**00 47 06.4**	**+1.8**
	baz=40						
K05A	**Summer Lake**	**39.84**	**79**	⇓P	**P**	**00 47 05.5**	**+0.4**
	baz=40						
M03C	**McCloud**	**39.90**	**82**	⇑P	**P**	**00 47 07.1**	**+1.5**
	baz=40						
I07A	**Izee**	**39.95**	**76**	⇑P	**P**	**00 47 05.9**	**-0.1**
	baz=40						
J06A	**Christmas Vall**	**40.01**	**78**	⇑P	**P**	**00 47 07.1**	**+0.6**
	baz=40						
B12A	**Libby**	**40.04**	**68**	⇓P	**P**	**00 47 06.3**	**-0.5**
	baz=40						
F09A	**S2 Ranch, Elgi**	**40.06**	**73**	⇓P	**P**	**00 47 07.0**	**+0.1**
	baz=40						
CIT	**Chita**	**40.17**	**298**	*e*P	**P**	**00 47 08.7**	**+0.9**
K06A	**Valley Falls**	**40.20**	**78**	⇓P	**P**	**00 47 10.1**	**+2.0**
	baz=40						
F10A	**Beach Ranch, E**	**40.33**	**72**	⇑P	**P**	**00 47 09.2**	**0.0**
	baz=40						
M05C	**Lookout**	**40.45**	**81**	⇓P	**P**	**00 47 09.9**	**-0.3**
	baz=40						
C12A	**Trout Creek**	**40.48**	**69**	P	**P**	**00 47 10.0**	**-0.4**
	baz=40,SNR=6.0						
A13A	**Flathead Natio**	**40.50**	**67**	⇓P	**P**	**00 47 10.0**	**-0.6**
	baz=40						
HATC	**Hat Creek Radi**	**40.57**	**82**	⇓P	**P**	**00 47 12.9**	**+1.8**
	baz=40						
I08A	**Drewsey**	**40.61**	**76**	⇓P	**P**	**00 47 11.3**	**-0.2**
	baz=40						
MOD	**Modoc**	**40.66**	**80**	⇓P	**P**	**00 47 12.6**	**+0.7**
	baz=40						
WALA	**Waterton Lakes**	**40.73**	**67**	*e*P	**P**	**00 47 10.8**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.3						
B13A	**Whitefish**	**40.74**	**68**	⇓P	**P**	**00 47 10.9**	**-1.6**
	baz=41						
K07A	**Rock Creek Ran**	**40.87**	**78**	P	**P**	**00 47 15.9**	**+2.3**
	baz=41,SNR=7.4						
J08A	**Circle Bar Ran**	**40.97**	**77**	⇓P	**P**	**00 47 13.9**	**-0.5**
	baz=41						
C13A	**Hot Springs**	**41.03**	**69**	⇑P	**P**	**00 47 14.0**	**-0.9**
	baz=41						
I09A	**Lost Marbles R**	**41.08**	**75**	⇓P	**P**	**00 47 14.8**	**-0.6**
	baz=41						
MCCM	**Marconi Confer**	**41.27**	**86**	⇓P	**P**	**00 47 16.7**	**-0.2**
	baz=41						
D13A	**Huson**	**41.39**	**69**	⇓P	**P**	**00 47 16.6**	**-1.2**
	baz=41						
J09A	**Fry Pan Ranch,**	**41.42**	**76**	⇓P	**P**	**00 47 18.2**	**+0.1**
	baz=41						
C14A	**Swan Lake**	**41.46**	**68**	⇑P	**P**	**00 47 17.2**	**-1.3**
	baz=41						
N06A	**Buffalo Meadow**	**41.62**	**81**	⇓P	**P**	**00 47 22.0**	**+2.3**
	baz=42						
M07A	**Soldier Meadow**	**41.66**	**79**	⇓P	**P**	**00 47 21.6**	**+1.6**
	baz=42						
L08A	**Fields**	**41.70**	**78**	⇓P	**P**	**00 47 20.9**	**+0.5**
	baz=42						
H11A	**Donnelly**	**41.73**	**73**	⇓P	**P**	**00 47 20.2**	**-0.4**
	baz=42						
K09A	**Rome**	**41.80**	**77**	⇓P	**P**	**00 47 22.0**	**+0.8**
	baz=42						
BEKR	**Beckwourth**	**41.81**	**82**	⇓P	**P**	**00 47 22.6**	**+1.3**
	baz=42						
MSO	**Missoula**	**41.83**	**70**	*e*P	**P**	**00 47 20.6**	**-0.9**
	comp=Z,2.6nm,0.5s,mb4.2						
E13A	**Victor**	**41.89**	**70**	⇑P	**P**	**00 47 20.7**	**-1.3**
	baz=42						
D14A	**Greenough**	**41.95**	**69**	P	**P**	**00 47 21.4**	**-1.1**
	baz=42,SNR=13						
O06A	**Flanigan**	**41.96**	**81**	⇑P	**P**	**00 47 24.2**	**+1.6**
	baz=42						
M08A	**Happy Creek Ra**	**42.11**	**79**	⇑P	**P**	**00 47 24.9**	**+1.2**
	baz=42						
JRSC	**Jasper Ridge**	**42.13**	**86**	⇓P	**P**	**00 47 26.7**	**+2.8**
	baz=42						
N07B	**Gerlach**	**42.13**	**80**	⇑P	**P**	**00 47 25.8**	**+1.9**
	baz=42						
F13A	**Darby**	**42.15**	**71**	⇑P	**P**	**00 47 23.5**	**-0.6**
	baz=42						
CHMT	**Chamberlain Mo**	**42.19**	**69**	*e*P	**P**	**00 47 23.4**	**-1.0**
L09A	**Wilkinson Ranc**	**42.22**	**78**	⇑P	**P**	**00 47 23.7**	**-0.9**
	baz=42						
E14A	**Clinton**	**42.31**	**70**	P	**P**	**00 47 25.1**	**-0.3**
	baz=42,SNR=6.0						
D15A	**Lincoln**	**42.55**	**69**	P	**P**	**00 47 26.7**	**-0.6**
	baz=42,SNR=5.3						
O07A	**Toulon**	**42.55**	**81**	⇑P	**P**	**00 47 28.2**	**+0.9**
	baz=42						
E15A	**Deer Lodge**	**42.81**	**69**	⇑P	**P**	**00 47 28.0**	**-1.4**
	baz=43						
N09A	**Rock Creek Ran**	**42.98**	**79**	P	**P**	**00 47 33.0**	**+2.2**
	baz=43,SNR=6.1						
R06C	**Coleville**	**43.18**	**83**	⇓P	**P**	**00 47 34.0**	**+1.6**
	baz=43						
M10A	**I.L. Ranch, Tu**	**43.19**	**78**	⇑P	**P**	**00 47 32.8**	**+0.3**
	baz=43						
F15A	**Butte**	**43.21**	**70**	⇓P	**P**	**00 47 31.9**	**-0.7**
	baz=43						
HLID	**Hailey**	**43.32**	**74**	*e*P	**P**	**00 47 32.8**	**-0.7**
	comp=Z,6.7nm,0.8s,mb4.4						
HLID	**Hailey**	**43.32**	**74**	P	**P**	**00 47 33.0**	**-0.5**
	baz=43,SNR=15						
S06C	**San Francisco**	**43.32**	**84**	⇑P	**P**	**00 47 35.5**	**+2.0**
	baz=43						
MCMT	**McKenzie Canyo**	**43.55**	**71**	*e*P	**P**	**00 47 34.6**	**-0.8**
O09A	**Fish Creek Ran**	**43.59**	**80**	⇑P	**P**	**00 47 36.4**	**+0.7**
	baz=43						
EGMT	**Eagleton**	**43.63**	**66**	*e*P	**P**	**00 47 34.8**	**-1.3**
	comp=Z,9.7nm,0.8s,mb4.6						
EGMT	**Eagleton**	**43.63**	**66**	⇓P	**P**	**00 47 34.1**	**-2.0**
	baz=44						
M11A	**Holland Ranch,**	**43.70**	**77**	⇑P	**P**	**00 47 37.2**	**+0.6**
	baz=44						
Q08A	**Gabbs**	**43.92**	**82**	⇑P	**P**	**00 47 39.4**	**+1.1**
	baz=44						
O10A	**Cortez Mining,**	**43.94**	**79**	⇑P	**P**	**00 47 38.2**	**-0.4**
	baz=44						
NVAR	**Mina Array Bea**	**43.95**	**82**	P	**P**	**00 47 38.3**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.9,baz=302,slow=8.4,SNR=7.0						
N11A	**Elko Archery C**	**44.10**	**78**	⇑P	**P**	**00 47 40.4**	**+0.6**
	baz=44						
Q09A	**Carvers**	**44.40**	**81**	⇓P	**P**	**00 47 41.9**	**-0.3**
	baz=44						
N12A	**Clover Valley,**	**44.50**	**77**	⇑P	**P**	**00 47 43.9**	**+0.9**
	baz=44						
O11A	**Cowboy Ranch,**	**44.55**	**79**	⇓P	**P**	**00 47 43.7**	**+0.2**
	baz=44						
HELL	**Mitchell Peak,**	**44.59**	**85**	⇑P	**P**	**00 47 45.6**	**+1.9**
	baz=44						
S08C	**White Mtn Res**	**44.60**	**83**	⇑P	**P**	**00 47 46.7**	**+2.8**
	baz=44						
M13A	**Montello**	**44.73**	**76**	P	**P**	**00 47 44.9**	**0.0**
	baz=45,SNR=7.1						
R09A	**Tonopah**	**44.83**	**82**	⇓P	**P**	**00 47 46.3**	**+0.7**
	baz=45						
P11A	**Circle Ranch,**	**44.84**	**79**	⇓P	**P**	**00 47 46.3**	**+0.6**
	baz=45						
GCMT	**Greycliff**	**44.89**	**68**	*e*P	**P**	**00 47 45.5**	**-0.6**
YFT	**Old Faithful**	**44.95**	**71**	*e*P	**P**	**00 47 45.2**	**-1.4**
BJI	**Beijing**	**44.97**	**282**	P	**P**	**00 47 46.1**	**-0.6**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
BJI	**Beijing**	**44.97**	**282**	P	**P**	**00 47 46.1**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.4						
BJI				P		00 47 48.0	
O12A	**Currie**	**45.03**	**78**	P	**P**	**00 47 47.1**	**-0.1**
	baz=45,SNR=7.6						
S09A	**Goldfield**	**45.05**	**82**	⇓P	**P**	**00 47 48.1**	**+0.7**
	baz=45						
FLWY	**Flagg Ranch**	**45.24**	**71**	*e*P	**P**	**00 47 49.5**	**+0.6**
	comp=Z,9.9nm,0.7s,mb4.7						
R10A	**Warm Springs**	**45.27**	**81**	⇑P	**P**	**00 47 49.4**	**+0.3**
	baz=45						
RRI2	**Red Ridge**	**45.29**	**72**	*e*P	**P**	**00 47 49.3**	**0.0**
	comp=Z,9.2nm,0.7s,mb4.6						
Q11A	**Duckwater**	**45.33**	**80**	⇑P	**P**	**00 47 49.9**	**+0.2**
	baz=45						
P12A	**McGill**	**45.41**	**79**	⇑P	**P**	**00 47 50.7**	**+0.5**
	baz=45						
TPAW	**Teton Pass**	**45.43**	**72**	*e*P	**P**	**00 47 49.5**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.4						
RLMT	**Red Lodge**	**45.50**	**69**	*e*P	**P**	**00 47 50.3**	**-0.6**
	comp=Z,21nm,1.0s,mb4.8						
LOHW	**Long Hollow**	**45.57**	**72**	*e*P	**P**	**00 47 51.2**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.3						
BGU	**Big Grassy Mou**	**45.68**	**76**	*e*P	**P**	**00 47 51.9**	**-0.5**
SPUT	**South Promonto**	**45.81**	**75**	*e*P	**P**	**00 47 50.8**	**-2.6**
ULN	**Ulaanbaatar**	**45.88**	**296**	*e*P	**P**	**00 47 54.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**45.88**	**296**	*e*P	**P**	**00 47 54.3**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.1						
HWUT	**Hardware Ranch**	**46.16**	**74**	*e*P	**P**	**00 47 55.2**	**-1.0**
	comp=Z,3.0nm,0.6s,mb4.2						
DUG	**Dugway**	**46.25**	**77**	*e*P	**P**	**00 47 56.7**	**-0.2**
DUG				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
DUG	**Dugway**	**46.25**	**77**	*e*P	**P**	**00 47 56.7**	**-0.2**
	comp=Z,14nm,1.0s,mb4.7						
DUG	**Dugway**	**46.25**	**77**	P	**P**	**00 47 56.9**	**0.0**
	baz=46,SNR=15						
SONM	**Songino Array**	**46.27**	**296**	P	**P**	**00 47 58.2**	**+1.3**
	comp=Z,2.8nm,0.6s,mb4.2,baz=62,slow=7.9,SNR=28						
ZAK	**Zakamensk**	**46.59**	**301**	*e*P	**P**	**00 47 58.5**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
PDAR	**Pinedale Array**	**46.68**	**72**	P	**P**	**00 47 59.6**	**-0.6**
	comp=Z,13nm,0.7s,mb4.8,baz=298,slow=3.8,SNR=112						
GSC	**Goldstone**	**46.85**	**85**	*e*P	**P**	**00 48 00.4**	**-1.1**
GSC	**Goldstone**	**46.85**	**85**	⇑P	**P**	**00 48 02.9**	**+1.3**
	baz=47						
MPU	**Maple Canyon**	**47.08**	**76**	*e*P	**P**	**00 48 01.7**	**-1.7**
	comp=Z,3.1nm,0.4s,mb4.4						
TUQ	**Turquoise Mtn.**	**47.31**	**84**	⇑P	**P**	**00 48 07.1**	**+1.9**
	baz=47						
MSU	**Marysvale**	**47.68**	**78**	*e*P	**P**	**00 48 08.2**	**+0.2**
TMUT	**Trail Mountain**	**47.78**	**77**	*e*P	**P**	**00 48 08.5**	**-0.3**
V12A	**Nelson**	**47.79**	**83**	⇑P	**P**	**00 48 10.4**	**+1.5**
	baz=48						
BELC	**Belle Mtn.**	**48.20**	**85**	⇑P	**P**	**00 48 14.3**	**+2.3**
	baz=48						
SRU	**San Rafael**	**48.31**	**76**	*e*P	**P**	**00 48 13.0**	**+0.1**
SRU				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
SRU	**San Rafael**	**48.31**	**76**	*e*P	**P**	**00 48 13.0**	**+0.1**
	comp=Z,12nm,0.6s,mb4.9						
W13A	**Hualapai Mount**	**48.80**	**83**	⇑P	**P**	**00 48 18.4**	**+1.8**
	baz=49						
W14A	**Seligman**	**49.22**	**82**	⇓P	**P**	**00 48 22.2**	**+2.4**
	baz=49						
Y12C	**Blythe**	**49.28**	**85**	⇑P	**P**	**00 48 22.1**	**+1.8**
	baz=49						
Y13A	**Salome**	**49.68**	**84**	⇑P	**P**	**00 48 26.1**	**+2.8**
	baz=50						
WUAZ	**Wupatki**	**50.08**	**81**	*e*P	**P**	**00 48 25.4**	**-0.9**
	comp=Z,8.2nm,0.9s,mb4.7						
WUAZ	**Wupatki**	**50.08**	**81**	⇑P	**P**	**00 48 28.3**	**+1.9**
	baz=50						
Y14A	**Wickenburg**	**50.11**	**83**	⇓P	**P**	**00 48 28.3**	**+1.7**
	baz=50						
X15A	**Humboldt**	**50.22**	**82**	⇓P	**P**	**00 48 29.4**	**+2.0**
	baz=50						
SMCO	**Snowmass**	**50.42**	**74**	*e*P	**P**	**00 48 27.7**	**-1.2**
	comp=Z,4.0nm,0.6s,mb4.5						
MVCO	**Mesa Verde**	**50.75**	**77**	⇑P	**P**	**00 48 32.1**	**+0.7**
	baz=51						
SDCO	**Great Sand Dun**	**52.23**	**75**	*e*P	**P**	**00 48 41.6**	**-0.8**
	comp=Z,10nm,1.1s,mb4.8						
LAZ	**Ladron**	**53.43**	**79**	*e*P	**P**	**00 48 51.3**	**0.0**
ANMO	**Albuquerque**	**53.48**	**78**	⇑*e*P	**P**	**00 48 47.1**	**-4.6**
BNM	**Barren Site**	**53.91**	**79**	*e*P	**P**	**00 48 52.6**	**-2.2**
LZH	**Lanzhou**	**54.98**	**286**	*e*P	**P**	**00 49 03.5**	**+0.9**
LZH				*SP	sP	00 49 11.5	-15
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
LZH	**Lanzhou**	**54.98**	**286**	*e*P	**P**	**00 49 03.5**	**+0.9**
	comp=Z,19nm,1.2s,mb5.0						
LZH				pP	pP	00 49 09.1	-10
LZH				sP	sP	00 49 11.5	-15
GTA	**Gaotai**	**55.18**	**291**	*e*P	**P**	**00 49 04.7**	**+0.7**
GTA				PP	PP	00 51 10.4	+2.5
GTA				S	**S**	**00 56 50.4**	**+8.1**
GTA				SS	SS	01 00 31.3	+4.2
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,61nm,4.2s						
GTA				LR	LR		
	comp=N,80nm,10.3s						
GTA				LR	LR		
	comp=E,142nm,14.8s						
GTA				LR	LR		
	comp=Z,160nm,17.5s						
MNTX	**Cornudas Mount**	**56.34**	**80**	*e*P	**P**	**00 49 10.4**	**-1.9**
	comp=Z,5.0nm,0.8s,mb4.6						
KSU1	**Kansas State U**	**56.60**	**68**	*e*P	**P**	**00 49 12.7**	**-1.5**
	comp=Z,12nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**57.98**	**350**	P	**P**	**00 49 24.0**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.4,baz=28,slow=8.2,SNR=7.9						
WMQ	**Urumqi**	**58.98**	**302**	P	**P**	**00 49 32.0**	**+1.1**
TXAR	**Lajitas Array**	**59.05**	**81**	P	**P**	**00 49 30.0**	**-1.3**
	comp=Z,3.5nm,0.7s,mb4.5,baz=299,slow=4.3,SNR=30						
MK31	**Makanchi Array**	**59.69**	**308**	*e*P	**P**	**00 49 35.4**	**-0.4**
MKAR	**Makanchi Array**	**59.69**	**308**	P	**P**	**00 49 35.3**	**-0.4**
	comp=Z,3.4nm,0.6s,mb4.6,baz=52,slow=6.4,SNR=43						
MKAR	**Makanchi Array**	**59.69**	**308**	⇑*e*P	**P**	**00 49 36.0**	**+0.2**
GYA	**Guiyang**	**59.92**	**276**	P	**P**	**00 49 39.3**	**+2.0**
GYA				PCP	PcP	00 50 25.0	+2.0
GYA				PP	PP	00 51 53.7	+3.7
GYA				PCS	PcS	00 54 26.0	+0.7
GYA				S	**S**	**00 57 50.1**	**+5.7**
GYA				SS	SS	01 01 47.8	+6.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						

GYA LR LR
comp=N,240nm,18.9s
GYA LR LR
comp=E,170nm,19.0s
GYA LR LR
comp=Z,180nm,19.4s
CHKZ Chkalovo 60.02 320 *e*P **P 00 49 37.5 -0.5**
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CHKZ Chkalovo 60.02 320 *e*P **P 00 49 37.5 -0.5**
comp=Z,2.8nm,1.0s,mb4.2
SCHQ Schefferville 60.22 38 P **P 00 49 38.0 -1.4**
comp=Z,9.6nm,0.9s,mb4.8,baz=328,slow=4.6,SNR=15
SCHQ Schefferville 60.22 38 P **P 00 49 38.0 -1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=54,slow=7.5,SNR=19
BVAR PcP PcP 00 50 25.9 +0.1
comp=Z,1.7nm,0.5s,baz=65,slow=2.7,SNR=5.9
ZRNK Zerenda 61.21 320 *e*P **P 00 49 45.5 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 61.21 320 *e*P **P 00 49 45.5 -0.6**
comp=Z,4.0nm,0.8s,mb4.5
USIN University of 62.47 63 *e*P **P 00 49 53.5 -1.1**
comp=Z,23nm,0.7s,mb5.3
WCI Wyandotte Cave 63.04 62 *e*P **P 00 49 57.1 -1.3**
WCI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WCI Wyandotte Cave 63.04 62 *e*P **P 00 49 57.1 -1.2**
comp=Z,9.3nm,0.8s,mb4.8
KMI Kunming 63.32 277 P **P 00 50 04.1 +3.9**
KMI AMB AMB
comp=Z,40nm,1.0s,mb5.3
KMI Kunming 63.32 277 P **P 00 50 04.1 +3.9**
comp=Z,40nm,1.0s,mb5.3
WVT Waverly 63.68 65 *e*P **P 00 50 01.7 -0.9**
WVT pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
WVT Waverly 63.68 65 *e*P **P 00 50 01.7 -0.9**
comp=Z,8.4nm,0.8s,mb4.6
PLAL Pickwick Lake 64.36 66 *e*P **P 00 50 05.8 -1.2**
comp=Z,9.8nm,0.5s,mb4.9
SWET Sewanee 65.41 64 *e*P **P 00 50 12.3 -1.5**
FINES FINESS Array B 65.65 347 P **P 00 50 14.8 -0.6**
comp=Z,4.6nm,0.8s,mb4.4,baz=28,slow=8.6,SNR=8.1
FINES FINESS Array B 65.65 347 *i*P **P 00 50 15.3 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 66.53 309 *d*iP **P 00 50 21.1 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
AAK Ala-Archa 66.53 309 *e*P **P 00 50 20.3 -0.7**
comp=Z,5.6nm,0.9s,mb4.4
LSA Lhasa 67.05 289 *e*P **P 00 50 25.1 +0.8**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LSA Lhasa 67.05 289 *e*P **P 00 50 25.1 +0.8**
comp=Z,5.4nm,0.6s,mb4.5
AKTK Aktyubinsk 67.42 324 P **P 00 50 26.2 -0.5**
AKTO Aktyubinsk 67.42 324 P **P 00 50 26.2 -0.5**
comp=Z,1.5nm,0.6s,mb4.0,baz=53,slow=8.9,SNR=4.7
NB2 NORSAR Subarra 67.57 354 P **P 00 50 27.0 -0.6**
comp=Z,1.8nm,0.6s,mb4.1,baz=6.3,slow=6.5
NOA NORSAR Array B 67.57 354 P **P 00 50 27.4 -0.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=338,slow=4.7,SNR=11
NOA NORSAR Array B 67.57 354 P **P 00 50 27.4 -0.2**
OBN Obninsk 69.69 339‖ *e*P **P 00 50 40.3 -0.5**
OBN *e* 00 53 11.0
OBN pmax pmax
comp=Z,11nm,0.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s
GUN Gumba 71.47 292 *e*P **P 00 50 53.0 +1.3**
JIRN Jiri 71.47 291 *e*P **P 00 50 53.3 +1.6**
comp=Z,41nm,0.8s,mb5.3
KKN Kakani 71.91 292 *e*P **P 00 50 55.5 +1.2**
comp=Z,22nm,0.7s,mb5.1
PKI Pulchoki 72.00 292 *e*P **P 00 50 55.9 +1.1**
comp=Z,11nm,0.6s,mb4.9
GKN Gorkha 72.12 292 *e*P **P 00 50 56.4 +0.8**
comp=Z,20nm,0.6s,mb5.1
DMN Daman 72.14 292 *e*P **P 00 50 56.0 +0.3**
comp=Z,9.7nm,0.3s,mb5.1
KOLN Koldanda 72.89 293 *e*P **P 00 51 01.0 +0.8**
comp=Z,13nm,0.8s,mb4.8
AKASG Malin Array Be 75.38 342 P **P 00 51 14.2 -0.5**
comp=Z,7.3nm,0.6s,mb4.6,baz=19,slow=5.7,SNR=12
AKASG Malin Array Be 75.38 342 *i*P **P 00 51 14.1 -0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
KAKA Kakadu 76.26 228 *e*P **P 00 51 17.8 -1.9**
comp=Z,5.5nm,0.8s,mb4.3
CLL Collm 77.11 352 *e*P **P 00 51 24.0 -0.4**
LVV L'vov 77.17 345 *e*P **P 00 51 25.0 +0.2**
OJC Ojcow 77.42 347 *e*P **P 00 51 25.9 -0.3**
BRG Berggiesshubel 77.45 351 *e*P **P 00 51 26.1 -0.3**
comp=Z,9.1nm,1.7s,mb4.2
BRG Berggiesshubel 77.45 351 *e*P **P 00 51 26.1 -0.3**
BRG pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
KWP Kalwaria 77.57 345 *e*P **P 00 51 27.7 +0.7**
DPC Dobruska-Polom 77.72 350 *e*P **P 00 51 28.4 +0.5**
STHS Stebnicka Huta 78.00 346 *e*P **P 00 51 30.2 +0.8**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
STHS Stebnicka Huta 78.00 346 *e*P **P 00 51 30.2 +0.8**
comp=Z,6.6nm,0.9s,mb4.4
NKC Novy Kostel 78.22 352 *e*P **P 00 51 30.7 +0.1**
KIV Kislovodsk 78.23 330‖ *e*P **P 00 51 28.9 -1.8**
KIV *e* 00 54 25.5
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,100nm,23.0s
PRU Pruhonice 78.27 351 *e*P **P 00 51 30.8 -0.1**
KOLS Kolonicke sedl 78.32 346 *e*P **P 00 51 31.5 +0.3**
KOLS Kolonicke sedl 78.32 346 *e*P **P 00 51 31.6 +0.4**
CRVS Cervenica-Dubn 78.47 346 *e*P **P 00 51 32.4 +0.4**
VRAC Vranov 78.72 349⇑ *i*P **P 00 51 33.5 +0.1**
VRAC Vranov 78.72 349 ⇑P **P 00 51 33.5 +0.1**
BAIF Baives 78.85 358 *e*P **P 00 51 33.5 -0.6**
comp=Z,16nm,0.8s,mb4.6
BAIF Baives 78.85 358 *e*P **P 00 51 33.5 -0.6**
BAIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
BAIF Baives 78.85 358 *e*P **P 00 51 33.5 -0.6**
comp=Z,8.1nm,0.8s,mb4.6
GRA1 Grafenberg Arr 78.86 353 *e*P **P 00 51 34.6 +0.5**
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 78.86 353 *e*P **P 00 51 34.6 +0.5**
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 78.86 353 *e*P **P 00 51 34.6 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 78.86 353 *e*P **P 00 51 34.6 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KECS Kecovo 79.03 347 *e*P **P 00 51 35.3 +0.2**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
KECS Kecovo 79.03 347 *e*P **P 00 51 35.3 +0.2**
comp=Z,4.6nm,0.9s,mb4.3
BURAR Bucovina Array 79.10 343⇑ *i*P **P 00 51 36.1 +0.6**
KHC Kasperske Hory 79.21 351 *e*P **P 00 51 36.3 +0.2**
KHC Kasperske Hory 79.21 351⇑ *e*P **P 00 51 35.9 -0.2**
VYHS Vyhne 79.24 348 *e*P **P 00 51 36.4 +0.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
VYHS Vyhne 79.24 348 *e*P **P 00 51 36.4 +0.1**
comp=Z,2.5nm,0.9s,mb4.0
GERES GERESS Array B 79.48 351 P **P 00 51 37.7 +0.2**
comp=Z,1.7nm,0.6s,mb4.1,baz=22,slow=5.5,SNR=17
ZST Bratislava 79.76 349 *e*P **P 00 51 39.9 +0.9**
ZST pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ZST MLR MLR
comp=Z,100nm,19.5s
ZST Bratislava 79.76 349 *e*P **P 00 51 39.9 +0.9**
comp=Z,5.5nm,0.7s,mb4.5
ZST LR LR
comp=Z,100nm,19.5s
CONA Conrad Observa 80.17 350⇓ *i*P **P 00 51 41.7 +0.5**
comp=Z,2.5nm,0.8s,mb4.1
FLN La Foliniere 80.19 1 *e*P **P 00 51 41.0 -0.4**
comp=Z,17nm,0.9s,mb4.6
FLN La Foliniere 80.19 1 *e*P **P 00 51 41.0 -0.4**
FLN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FLN La Foliniere 80.19 1 *e*P **P 00 51 41.0 -0.4**
comp=Z,8.4nm,0.9s,mb4.6
DRGR 80.33 345⇑ *i*P **P 00 51 42.2 +0.1**
DRGR 80.33 345 ⇑P **P 00 51 42.2 +0.1**
LDF La Druitiere 80.36 0 *e*P **P 00 51 41.7 -0.6**
comp=Z,23nm,0.8s,mb4.7
LDF La Druitiere 80.36 0 *e*P **P 00 51 41.7 -0.6**
LDF pmax pmax
comp=Z,11nm,0.8s,mb4.7
LDF La Druitiere 80.36 0 *e*P **P 00 51 41.7 -0.6**
comp=Z,11nm,0.8s,mb4.8
CDF Champ du Feu 80.38 355 *e*P **P 00 51 42.1 -0.3**
comp=Z,9.1nm,0.9s,mb4.3
CDF Champ du Feu 80.38 355 *e*P **P 00 51 42.1 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
CDF Champ du Feu 80.38 355 *e*P **P 00 51 42.1 -0.3**
comp=Z,4.6nm,0.9s,mb4.3
MEZF Maizieres J'vi 80.38 357 *e*P **P 00 51 42.0 -0.4**
PLOR Plostina 80.53 342⇑ *i*P **P 00 51 43.6 +0.4**
GRR Gorron 80.56 1 *e*P **P 00 51 43.0 -0.4**
comp=Z,33nm,1.0s,mb4.8
GRR Gorron 80.56 1 *e*P **P 00 51 43.0 -0.4**
GRR pmax pmax
comp=Z,17nm,1.0s,mb4.8
GRR Gorron 80.56 1 *e*P **P 00 51 43.0 -0.4**
comp=Z,16nm,1.0s,mb4.8
SGMF Saint Gilles 80.67 2 *e*P **P 00 51 43.8 -0.2**
comp=Z,35nm,0.9s,mb4.9
SGMF Saint Gilles 80.67 2 *e*P **P 00 51 43.8 -0.2**
SGMF pmax pmax
comp=Z,18nm,0.9s,mb4.9
SGMF Saint Gilles 80.67 2 *e*P **P 00 51 43.8 -0.2**
comp=Z,18nm,0.9s,mb4.9
HAU Haudompre 80.83 356 *e*P **P 00 51 44.6 -0.2**
comp=Z,8.0nm,0.7s,mb4.3
HAU Haudompre 80.83 356 *e*P **P 00 51 44.6 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
HAU Haudompre 80.83 356 *e*P **P 00 51 44.6 -0.2**
comp=Z,4.0nm,0.7s,mb4.4
ARSA Arzberg 80.87 350⇓ *i*P **P 00 51 45.9 +0.9**
comp=Z,2.4nm,0.7s,mb4.2
HINF Hinteralfeld 81.00 356 *e*P **P 00 51 45.2 -0.5**
MLR Muntele Rosu 81.01 342 P **P 00 51 47.3 +1.5**
comp=Z,7.9nm,0.7s,mb4.7,baz=157,slow=6.3,SNR=8.7
MLR Muntele Rosu 81.01 342⇑ *i*P **P 00 51 47.6 +1.8**
MLR Muntele Rosu 81.01 342 ⇑P **P 00 51 47.6 +1.8**
VOIR 81.23 343⇑ *i*P **P 00 51 48.6 +1.7**
VOIR 81.23 343 ⇑P **P 00 51 48.6 +1.7**
WTTA Wattenberg 81.24 352⇑ *i*P **P 00 51 47.7 +0.7**
comp=Z,4.9nm,0.5s,mb4.6
WTTA Wattenberg 81.24 352⇑ *i*P **P 00 51 47.7 +0.7**
WTTA pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
PKSM Moragy 81.51 347⇓ *i*P **P 00 51 48.4 0.0**
PKSM Moragy 81.51 347 ⇓P **P 00 51 48.4 0.0**
BZS Buzias 81.65 345⇑ *i*P **P 00 51 49.2 +0.1**
BZS Buzias 81.65 345 ⇑P **P 00 51 49.2 +0.1**
LOR Lormes 81.65 358 *e*P **P 00 51 48.3 -0.9**
comp=Z,4.2nm,0.6s,mb4.2
LOR Lormes 81.65 358 *e*P **P 00 51 48.3 -0.9**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LOR Lormes 81.65 358 *e*P **P 00 51 48.3 -0.9**
comp=Z,2.1nm,0.6s,mb4.1
GZR Gura Zlata 81.67 344⇑ *i*P **P 00 51 49.8 +0.5**
GZR Gura Zlata 81.67 344 ⇑P **P 00 51 49.8 +0.5**
OBKA Obir 81.71 350⇑ *i*P **P 00 51 50.4 +1.0**
comp=Z,6.0nm,0.8s,mb4.5
WRA Warramunga Arr 81.76 223 P **P 00 51 47.2 -2.6**
comp=Z,1.3nm,0.7s,mb3.9,baz=34,slow=6.0,SNR=6.7
SSF Saint Saulge 81.87 358 *e*P **P 00 51 49.3 -1.0**
comp=Z,7.6nm,0.8s,mb4.3
SSF Saint Saulge 81.87 358 *e*P **P 00 51 49.3 -1.0**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SSF Saint Saulge 81.87 358 *e*P **P 00 51 49.3 -1.0**
comp=Z,3.8nm,0.8s,mb4.3
AVF Avril sur Loir 82.14 358 *e*P **P 00 51 51.5 -0.2**
comp=Z,12nm,0.9s,mb4.4
AVF Avril sur Loir 82.14 358 *e*P **P 00 51 51.5 -0.2**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
AVF Avril sur Loir 82.14 358 *e*P **P 00 51 51.5 -0.2**
comp=Z,5.8nm,0.9s,mb4.4
SMF Signal de Mont 82.28 358 *e*P **P 00 51 52.3 -0.1**
comp=Z,8.9nm,0.7s,mb4.4
SMF Signal de Mont 82.28 358 *e*P **P 00 51 52.3 -0.1**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
SMF Signal de Mont 82.28 358 *e*P **P 00 51 52.3 -0.1**
comp=Z,4.4nm,0.7s,mb4.4
TCF Toulx Ste Croi 82.66 359 *e*P **P 00 51 54.2 -0.3**
comp=Z,14nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.66 359 *e*P **P 00 51 54.2 -0.3**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.66 359 *e*P **P 00 51 54.2 -0.3**
comp=Z,7.2nm,0.9s,mb4.5
DIVS Divcibare 83.38 346 *i*P **P 00 51 58.6 +0.4**
LFF La Frestale 84.02 360 *e*P **P 00 52 01.5 +0.1**
comp=Z,16nm,0.7s,mb4.6
LFF La Frestale 84.02 360 *e*P **P 00 52 01.5 +0.1**
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
LFF La Frestale 84.02 360 *e*P **P 00 52 01.5 +0.1**
comp=Z,8.1nm,0.7s,mb4.7
CAF Calviac 84.03 359 *e*P **P 00 52 01.5 0.0**
comp=Z,13nm,0.9s,mb4.4
CAF Calviac 84.03 359 *e*P **P 00 52 01.5 0.0**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
CAF Calviac 84.03 359 *e*P **P 00 52 01.5 0.0**
comp=Z,6.3nm,0.9s,mb4.5
FITZ Fitzroy Crossi 84.17 231 *e*P **P 00 52 01.1 -1.1**
comp=Z,7.3nm,0.6s,mb4.7
BR131 Keskin Array S 84.74 335 *e*P **P 00 52 05.3 +0.2**
comp=Z,2.7nm,0.8s,mb4.2
BRTR Keskin Array B 84.74 335 P **P 00 52 05.4 +0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=59,slow=3.4,SNR=18
ASAR Alice Springs 85.24 222 P **P 00 52 06.4 -1.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=29,slow=5.4,SNR=13
SJPF Ste Jean 85.83 1 *e*P **P 00 52 10.2 -0.3**
comp=Z,21nm,0.8s,mb4.8
SJPF Ste Jean 85.83 1 *e*P **P 00 52 10.2 -0.3**
SJPF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SJPF Ste Jean 85.83 1 *e*P **P 00 52 10.2 -0.3**
comp=Z,10nm,0.8s,mb4.8
ETSF Etsaut 86.06 1 *e*P **P 00 52 12.1 +0.5**
comp=Z,12nm,0.8s,mb4.6
ETSF Etsaut 86.06 1 *e*P **P 00 52 12.1 +0.5**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ETSF Etsaut 86.06 1 *e*P **P 00 52 12.1 +0.5**
comp=Z,6.2nm,0.8s,mb4.6
PGF Pioggiola 86.12 354 *e*P **P 00 52 12.0 0.0**
comp=Z,15nm,0.7s,mb4.7
PGF Pioggiola 86.12 354 *e*P **P 00 52 12.0 0.0**
PGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
PGF Pioggiola 86.12 354 *e*P **P 00 52 12.0 0.0**
comp=Z,7.3nm,0.7s,mb4.7
ESDC Sonseca Array 89.20 3 P **P 00 52 25.8 -0.9**
comp=Z,0.2nm,0.3s,mb3.6,baz=351,slow=4.0,SNR=6.4
STKA Stephens Creek 89.74 212 P **P 00 52 28.2 -1.0**
comp=Z,2.5nm,0.7s,mb4.5,baz=359,slow=5.6,SNR=4.7
TORD Torodi Ar. Bea 115.70 359 PKP PKPdf 00 58 11.8 -1.2
comp=Z,0.2nm,0.6s,baz=344,slow=3.1,SNR=4.7
TORD Torodi Ar. Bea 115.70 359 PKP PKPdf 00 58 11.8 -1.2
TSUM Tsumeb 145.16 331 PKPbc PKPbc 00 59 08.2 +0.3
comp=Z,6.9nm,0.9s,baz=210,slow=2.8,SNR=6.0
MAW Mawson 146.27 218 PKPbc PKPbc 00 59 08.2 -3.0
comp=Z,2.4nm,0.8s,baz=45,slow=7.3,SNR=6.5
LBTB Lobatse 147.41 315 PKPbc PKPbc 00 59 14.5 0.0
comp=Z,6.2nm,0.6s,baz=39,slow=4.9,SNR=18
LBTB Lobatse 147.41 315 PKPbc PKPbc 00 59 14.5 0.0
BOSA Boshof 150.65 311 PKPbc PKPbc 00 59 22.3 -0.4
comp=Z,2.9nm,0.6s,baz=42,slow=5.4,SNR=6.3
BOSA Boshof 150.65 311 PKPbc PKPbc 00 59 22.3 -0.4

IDC 03 00:41:42.4±0.6, 2804N×14081E, h519km±9km, mb3.1/4, mb1 3.2/5, mb1mx2.8/20, mbtmp3.9/5, Error ellipse: s-maj=44.6km s-min=16.1km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.54**	**127**	P	P	00 42 48.8	+1.5
	33nm,0.3s,baz=94,slow=22,SNR=19						
CBIJ				S	S	00 43 40.0	0.0
	50nm,0.3s,baz=280,slow=23,SNR=11						
MJAR	**Matsushiro Arr**	**8.76**	**346**	P	P	00 43 47.4	+0.4
	0.8nm,0.3s,baz=168,slow=9.9,SNR=3.8						
WRA	**Warramunga Arr**	**48.11**	**188**	P	P	00 49 34.8	+0.1
	1.0nm,0.3s,baz=6.5,slow=7.6,SNR=7.0						
ASAR	**Alice Springs**	**51.83**	**188**	P	P	00 50 02.3	+0.2
	0.2nm,0.4s,baz=11,slow=7.8,SNR=7.8						
BVAR	**Borovoye Array**	**56.53**	**317**	P	P	00 50 34.4	-0.8
	0.8nm,0.5s,baz=84,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**76.56**	**333**	P	P	00 52 39.2	+0.1
	2.4nm,0.9s,baz=74,slow=6.2,SNR=7.2						
LPAZ	**La Paz**	**150.84**	**72**	PKPbc	PKPbc	01 00 37.1	+1.0
	1.4nm,0.6s,baz=235,slow=8.3,SNR=7.1						

BJI 03 00:48:02.7, 2476N×10184E, h16km, ML3.8, Ms3.8, Msz3.6, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**0.89**	**66**	PG	Pg	00 48 20.2	+0.1
KMI				SG	Sg	00 48 33.9	+2.1
KMI				Smax			
	comp=N,916nm,0.9s						
KMI				Smax			
	comp=E,668nm,0.6s						
GYA	**Guiyang**	**4.67**	**68**	P	Pn	00 49 14.8	+2.3
GYA				PG	Pg	00 49 24.6	-7.6
GYA				Smax			
	comp=N,30nm,0.7s						
GYA				Smax			
	comp=E,30nm,0.7s						
CD2	**Chengdu**	**6.36**	**15**	*e*P	Pn	00 49 37.4	+1.7
CD2				S	Sn	00 50 49.6	+1.6
CD2				SG	Sg	00 51 24.5	-2.2
CD2				Smax			
	comp=N,50nm,1.4s						
CD2				Smax			
	comp=E,100nm,1.4s						
CD2				LR	LR		
	comp=E,990nm,12.0s						
CD2				LR	LR		
	comp=Z,420nm,8.4s						

*ISCJB **03** 01:34:25.1±1.6, 6.13S±007×14709E±008, h71km±15km, mb4.0/11, Error ellipse: s-maj=14.4km s-min=10.0km az=51.8*
*IDC **03** 01:34:25.7±2.8, 6.12S×14706E, h62km±26km, mb3.8/8, mb1 4.0/12, mb1mx4.0/16, mbtmp4.2/12, ML3.6/3, MS3.3/8, Ms1 3.3/8, ms1mx3.2/20, Error ellipse: s-maj=30.4km s-min=17.1km az=94.0*
*NEIC **03** 01:34:26.6±1.0, 6.14S×14709E, h70km±10km, mb4.3/7, Error ellipse: s-maj=8.5km s-min=7.9km az=104.0*
ISC 03 01:34:26.4±1.3, 6.11S±006×14714E±009, h66km±13km, n40, σ1°11/38, mb4.0/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.28**	**180**	P	Pn	01 35 14.2	-1.1
	12nm,0.3s,baz=18,slow=7.8,SNR=26						
PMG				S	Sn	01 35 53.0	-0.2
	48nm,0.3s,baz=359,slow=14,SNR=5.6						
PMG				LR	LR	01 36 42.6	
	comp=Z,516nm,21.6s,baz=31,slow=42						
HNR	**Honiara**	**13.11**	**105**	P	Pn	01 37 31.0	+1.4
	6.8nm,0.3s,baz=234,slow=2.0,SNR=4.1						
HNR				LR	LR	01 41 23.3	
	comp=Z,71nm,21.1s,baz=179,slow=32						
HNR	**Honiara**	**13.11**	**105**	*e*Pn	Pn	01 37 31.0	+1.5
CTA	**Charters Tower**	**13.93**	**183**	P	Pn	01 37 38.4	-2.1
	0.1nm,0.3s,baz=5.4,slow=16,SNR=2.5						
CTAO	**Charters Tower**	**13.93**	**183**	*e*Pn	Pn	01 37 40.5	+0.1
KAKA	**Kakadu**	**15.92**	**245**	*e*P	Pn	01 38 06.0	-0.1
	12nm,0.5s						
WRAB	**Tennant Creek**	**18.54**	**221**	*e*P	Pn	01 38 40.1	+1.7
	7.1nm,0.7s						
WB2	**Warramunga Arr**	**18.54**	**221**	*e*P	Pn	01 38 37.1	-1.3
WB2	**Warramunga Arr**	**18.54**	**221**	*e*P	Pn	01 38 37.5	-1.0
WB2				S	S	01 42 06.3	+0.8
WRA	**Warramunga Arr**	**18.55**	**221**	P	Pn	01 38 37.0	-1.6
	0.8nm,0.3s,baz=42,slow=12,SNR=16						
WRA				S	S	01 41 57.8	-7.9
	0.1nm,0.3s,baz=39,slow=22,SNR=4.1						
WRA				LR	LR	01 46 13.3	
	comp=Z,69nm,22.0s,baz=30,slow=38						
GUMO	**Guam**	**19.70**	**353**	LR	LR	01 45 02.4	
	comp=Z,42nm,18.1s,baz=113,slow=32						
AS31	**Alice Springs**	**21.61**	**215**	*e*P	P	01 39 13.1	+2.3
ASAR	**Alice Springs**	**21.61**	**215**	P	P	01 39 10.7	-0.2
	5.3nm,0.7s,mb4.0,baz=52,slow=8.1,SNR=38						
ASAR				S	S	01 43 10.7	+4.3
	1.1nm,0.9s,baz=45,slow=24,SNR=6.0						
ASAR				LR	LR	01 48 28.6	
	comp=Z,131nm,20.1s,baz=343,slow=39						
ASPA	**Alice Springs**	**21.62**	**215**	*e*P	P	01 39 13.1	+2.2
FITZ	**Fitzroy Crossi**	**24.14**	**239**	*e*P	P	01 39 35.5	-0.5
	12nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.14**	**239**	P	P	01 39 35.7	-0.3
	15nm,0.8s,mb4.4,baz=74,slow=8.0,SNR=38						
FITZ				LR	LR	01 50 58.2	
	comp=Z,108nm,18.1s,baz=84,slow=41						
STKA	**Stephens Creek**	**26.16**	**191**	*e*P	P	01 39 56.0	+1.6
	2.4nm,0.9s,mb3.6						
STKA	**Stephens Creek**	**26.16**	**191**	P	P	01 39 53.9	-0.5
	2.0nm,0.6s,mb3.8,baz=353,slow=9.4,SNR=7.4						
STKA				LR	LR	01 49 47.3	
	comp=Z,144nm,19.0s,baz=19,slow=35						
STKA	**Stephens Creek**	**26.16**	**191**	*e*P	P	01 39 56.7	+2.3
MBWA	**Marble Bar**	**30.47**	**238**	*e*P	P	01 40 33.1	+0.3
	6.2nm,0.8s,mb4.3						
KKM	**Kota Kinabalu**	**33.15**	**291**	P	P	01 40 55.7	-0.5
NACB	**Ninganchiao**	**39.07**	**321**	P	P	01 41 47.8	+0.9
YHNB	**Yeheng**	**39.57**	**322**	*e*P	P	01 41 52.5	+1.5
MJAR	**Matsushiro Arr**	**43.24**	**349**	P	P	01 42 21.0	0.0
	1.0nm,0.8s,mb3.9,baz=178,slow=8.0,SNR=4.9						
KSRS	**Korea Array**	**46.90**	**339**	LR	LR	01 59 51.5	
	comp=Z,42nm,19.0s,baz=12,slow=32						
SONM	**Songino Array**	**64.56**	**331**	P	P	01 44 56.3	-0.2
	0.8nm,0.7s,mb3.7,baz=157,slow=7.6,SNR=7.1						
CASY	**Casey**	**65.19**	**195**	*e*P	P	01 45 00.3	-0.2
	2.6nm,0.5s,mb4.3						
VNDA	**Vanda**	**71.80**	**177**	P	P	01 45 41.2	-0.5
	1.9nm,0.8s,mb4.0,baz=326,slow=6.6,SNR=18						
SBA	**Scott Base**	**72.44**	**176**	P	P	01 45 45.3	-0.3
MKAR	**Makanchi Array**	**77.67**	**320**	P	P	01 46 14.9	-0.8
	0.2nm,0.4s,mb3.2,baz=94,slow=9.8,SNR=5.1						
AAK	**Ala-Archa**	**81.52**	**315**	P	P	01 46 35.5	-1.0
MAW	**Mawson**	**82.21**	**203**	P	P	01 46 39.3	-0.9
	0.7nm,0.4s,mb3.9,baz=90,slow=4.0,SNR=3.7						
MAW	**Mawson**	**82.21**	**203**	*e*P	P	01 46 38.8	-1.4
	1.4nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**86.97**	**325**	P	P	01 47 04.7	+0.5
ZRNK	**Zerenda**	**87.73**	**324**	*e*P	P	01 47 04.9	-3.0
	0.5nm,0.4s,mb3.9						
ARU	**Arti**	**94.25**	**326**	P	P	01 47 38.3	+0.1
LPAZ	**La Paz**	**138.61**	**123**	PKP	PKPdf	01 53 45.8	+1.3
	0.8nm,0.6s,baz=199,slow=2.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**145.26**	**284**	PKPbc	PKPbc	01 53 56.7	+0.5
	2.2nm,0.5s,baz=74,slow=4.3,SNR=48						
TORD	**Torodi Ar. Bea**	**145.26**	**284**	PKPbc	PKPbc	01 53 56.7	+0.5
SAML	**Samuel**	**146.27**	**116**	*e*PKPdf	PKPdf	01 53 59.2	+1.1

ISC 03 01:49:16.1±1.3, 3651N±004×704E±02, h193km±14km, n24, σ0°83/28, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.95**	**155**	⇓P	Pn	01 50 05.7	+0.9
CEP				S	Sn	01 50 41.0	-1.8
CHCP	**Chirah Chowk**	**3.69**	**140**	⇓P	Pn	01 50 14.9	+1.2
THW	**Thamme Wali**	**3.87**	**163**	P	Pn	01 50 16.4	+0.4
DRP	**Derazinda**	**4.76**	**182**	P	Pn	01 50 27.5	+0.3
DLH	**Dalhousie**	**6.07**	**129**	*e*P	Pn	01 50 48.0	+3.9
DLH				*e*S	Sn	01 52 02.0	+8.4
AML	**Almayashu**	**6.17**	**23**	P	Pn	01 50 45.5	+0.2

	SNR=61						
UCH	**Uchtor**	**6.54**	**28**	P	**Pn**	**01 50 50.6**	**+0.4**
	SNR=92						
KK31	**Karatay Array**	**6.58**	**1**	⇓Pn	**Pn**	**01 50 50.0**	**-0.8**
	2.3nm,0.2s,baz=177,slow=12,SNR=172						
KK31				⇑Sn	**Sn**	**01 52 03.0**	**-2.7**
	4.8nm,0.5s,baz=185,slow=25						
EKS2	**Erkin-Say**	**6.67**	**22**	P	**Pn**	**01 50 52.2**	**+0.3**
	SNR=14						
KZA	**Kyzart**	**6.71**	**33**	P	**Pn**	**01 50 54.0**	**+1.5**
	SNR=5.7						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**01 50 55.1**	**+0.4**
	SNR=18						
KBK	**Karagaybulak**	**7.07**	**28**	P	**Pn**	**01 50 57.5**	**+0.4**
	SNR=10						
CHMS	**Chumysh**	**7.29**	**26**	P	**Pn**	**01 50 60.0**	**-0.1**
	SNR=6.9						
SDNR	**Sundarnagar**	**7.40**	**131**	*e*S	**Sn**	**01 52 14.9**	**-10**
USP	**Ospenovka**	**7.45**	**24**	P	**Pn**	**01 51 01.7**	**-0.3**
	SNR=10						
TKM2	**Tokmak 2**	**7.55**	**30**	P	**Pn**	**01 51 03.5**	**+0.1**
	SNR=35						
KHET	**Khetri**	**9.57**	**150**	*e*P	**Pn**	**01 51 22.9**	**-7.0**
KHET				*e*x	x	01 53 06.6	
KHET				AML	AML	01 53 09.5	
	comp=E,18nm,0.2s						
KHET				AML	AML	01 53 10.4	
	comp=N,19nm,0.4s						
SONA	**Sohna**	**9.99**	**144**	*e*P	**Pn**	**01 51 27.5**	**-7.7**
SONA				*e*S	**Sn**	**01 53 17.7**	**-8.9**
SONA				AML	AML	01 53 19.6	
	comp=N,15nm,0.6s						
SONA				AML	AML	01 53 21.8	
	comp=E,18nm,0.7s						
KOLN	**Koldanda**	**14.17**	**124**	*e*P	**Pn**	**01 52 27.8**	**-0.5**
	comp=E,4.9nm,0.3s						
GKN	**Gorkha**	**14.72**	**121**	*e*P	**Pn**	**01 52 34.8**	**-0.3**
	comp=E,11nm,0.3s						
KKN	**Kakani**	**15.30**	**120**	*e*P	**Pn**	**01 52 41.7**	**-0.5**
	comp=E,11nm,0.3s						
PKI	**Pulchoki**	**15.52**	**121**	*e*P	**Pn**	**01 52 45.3**	**+0.4**
	comp=E,24nm,0.6s						
GUN	**Gumba**	**15.64**	**119**	*e*P	**Pn**	**01 52 46.3**	**-0.1**
	comp=E,15nm,0.5s						
JIRN	**Jiri**	**16.02**	**119**	*e*P	**Pn**	**01 52 50.0**	**-0.9**
	comp=E,25nm,0.6s						

*IDC **03** 01:49:37.7±3.9, 30.24S×177.96W, h45km±37km, mb3.9/3, mb1 4.1/3, mb1mx3.6/12, mbtmp4.1/3, Error ellipse: s-maj=43.9km s-min=30.7km az=133.0*

*ISCJB **03** 01:49:38.4±2.2, 30.1S±0.2×178.0W±0.2, h68km±20km, mb4.1/7, Error ellipse: s-maj=32.0km s-min=25.6km az=116.9*

*NEIC **03** 01:49:38.5±1.9, 30.20S×177.96W, h54km±16km, mb4.2/4, Error ellipse: s-maj=22.2km s-min=13.5km az=154.0*

ISC 03 01:49:38.2±3.0**, 30.2S**±0.2×**177.9W**±0.2**, h52**km±29km**, n18, σ0.64**/17**, mb4.2**/7**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**360**	P	**Pn**	**01 49 55.7**	**+0.1**
	223nm,0.3s,baz=94,slow=19,SNR=11						
RAO				S	**Sn**	**01 50 08.4**	**0.0**
	938nm,0.3s,baz=10,slow=22,SNR=12						
RAO	**Raoul Island**	**0.97**	**360**	P	**Pn**	**01 49 55.7**	**+0.1**
RAO				*e*Sn	**Sn**	**01 50 07.9**	**-0.5**
RAO				S	**Sn**	**01 50 08.4**	**0.0**
AFI	**Afiamalu**	**17.20**	**21**	Pn	**Pn**	**01 53 34.9**	**+0.2**
HNR	**Honiara**	**29.25**	**310**	*e*P	**P**	**01 55 35.0**	**-0.2**
	18nm,0.4s,mb5.2						
CTAO	**Charters Tower**	**33.84**	**279**	*e*P	**P**	**01 56 14.3**	**-1.3**
	2.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**34.59**	**257**	*e*P	**P**	**01 56 23.2**	**+1.2**
	2.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**34.59**	**257**	P	**P**	**01 56 22.8**	**+0.8**
	3.8nm,0.7s,mb4.5,baz=85,slow=7.9,SNR=8.6						
STKA	**Stephens Creek**	**34.59**	**257**	*e*P	**P**	**01 56 22.5**	**+0.5**
PMG	**Port Moresby**	**38.60**	**295**	P	**P**	**01 56 57.0**	**+0.9**
ASAR	**Alice Springs**	**43.19**	**267**	P	**P**	**01 57 34.1**	**+0.2**
	0.6nm,0.6s,mb3.5,baz=102,slow=7.2,SNR=9.3						
WB2	**Warramunga Arr**	**44.16**	**272**	*e*P	**P**	**01 57 41.9**	**+0.2**
WRAB	**Tennant Creek**	**44.16**	**272**	*e*P	**P**	**01 57 42.3**	**+0.6**
	1.5nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**01 57 40.7**	**-1.1**
	1.4nm,0.3s,mb4.1,baz=110,slow=8.1,SNR=7.3						
SNAA	**Sanae**	**78.33**	**178**	*e*P	**P**	**02 01 32.5**	**-0.3**
	0.3nm,0.5s,mb3.5						
BRVK	**Borovoye**	**126.40**	**316**	*e*PKPdf	PKPdf	02 08 35.3	+0.1
ZRNK	**Zerenda**	**127.17**	**316**	PKPdf	PKPdf	02 08 35.9	-0.8
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc	PKPbc	02 09 07.9	-1.1
	2.4nm,0.8s,baz=56,slow=4.1,SNR=11						
TORD	**Torodi Ar. Bea**	**163.00**	**179**	PKPab	PKPab	02 10 24.4	0.0
	0.2nm,0.5s,baz=185,slow=2.4,SNR=4.9						

*BJI **03** 02:30:23.4, 18.21N×146.05E, h258km, mB4.6, mb4.5*

*ISCJB **03** 02:30:23.9±0.1, 18.05N±0.03×145.53E±0.02, h238km, mb4.7/107, Error ellipse: s-maj=3.9km s-min=3.2km az=152.1*

*NEIC **03** 02:30:24.9±0.1, 18.04N×145.57E, mb4.8/68, Error ellipse: s-maj=5.4km s-min=4.2km az=124.0*

*GCMT **03** 02:30:24.9±0.3, 18.09N×145.75E, h230km±2km, MW5.1/71, Moment Tensor Solution. s36,c42; s71,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.69±.19; $M_{\theta\theta}$1.77±.18; $M_{\phi\phi}$-4.46±.19; $M_{r\theta}$-3.46±.16; $M_{\theta\phi}$-0.40±.18; $M_{\phi r}$2.96±.20; Best double couple: $M_0$5.97200×10^{16} NP1:ϕ_s215.00000°,δ36.00000°,λ152.00000°. NP2: ϕ_s328.00000°,δ74.00000°,λ57.00000°. Principal axes: T 6.3140, Plg50.0000°, Azm201.0000°; N -0.6840, Plg31.0000°, Azm337.0000°; P -5.6300, Plg22.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **03** 02:30:24.2±0.4, 18.05N×145.63E, h241km±4km, mb4.3/25, mb1 4.4/30, mb1mx4.4/32, mbtmp4.4/30 Error ellipse: s-maj=11.2km s-min=5.8km az=84.0*

*MOS **03** 02:30:24.6±1.1, 18.08N×145.44E, h252km, mb4.8/31, Error ellipse: s-maj=10.7km s-min=7.0km az=95.2*

ISC 03 02:30:25.7±0.1**, 18.07N**±0.03×**145.57E**±0.02**, h240**km**, h240**km±.8km**:pP-P, n446, σ0.80**/446**, mb4.7**/107**, 113C-74D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.50**	**189**	P	**Pn**	**02 31 34.5**	**-0.4**
	51nm,0.3s,baz=101,slow=4.3,SNR=26						
GUMO				S	**S**	**02 32 25.6**	**-4.4**
	354nm,0.3s,baz=161,slow=21,SNR=15						
GUMO	**Guam**	**4.50**	**189**	*e*Pn	**Pn**	**02 31 34.6**	**-0.4**
GUMO				*e*Sn	**S**	**02 32 28.4**	**-1.7**
CBIJ	**Chichi jima**	**9.51**	**341**	P	**Pn**	**02 32 35.7**	**-2.4**
	37nm,0.3s,baz=126,slow=18,SNR=18						
CBIJ				S	**S**	**02 34 17.0**	**-8.3**
	30nm,0.3s,baz=123,slow=22,SNR=4.9						
JHJ	**Hachijo jima 2**	**15.87**	**342**	P	**Pn**	**02 33 55.1**	**-1.4**
	17nm,0.3s,baz=97,slow=19,SNR=8.8						
JHJ				S	**S**	**02 36 46.1**	**-3.8**
	14nm,0.3s,baz=340,slow=15,SNR=3.8						
JOW	**Kunigami**	**18.19**	**302**	P	**P**	**02 34 21.4**	**+0.5**
	8.3nm,0.3s,baz=125,slow=10,SNR=20						
MJAR	**Matsushiro Arr**	**19.52**	**342**	P	**P**	**02 34 34.8**	**-0.3**
	1.5nm,0.3s,baz=167,slow=9.1,SNR=20						
MJAR				ScP	ScP	02 41 53.3	-4.2
	0.2nm,0.3s,baz=207,slow=3.1,SNR=4.8						
MAJO	**Matsushiro**	**19.52**	**342**	*e*P	**P**	**02 34 34.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,26nm,0.7s						
MAJO	**Matsushiro**	**19.52**	**342**	*e*P	**P**	**02 34 34.8**	**-0.3**
	comp=Z,26nm,0.7s						
MAT	**Matsushiro**	**19.52**	**342**	P	**P**	**02 34 34.9**	**-0.2**
MAT				S	**S**	**02 38 07.0**	**+4.7**
JNU	**Nakatsue**	**19.97**	**321**	P	**P**	**02 34 40.5**	**+0.6**
	comp=Z,14nm,0.9s,baz=211,slow=12,SNR=2.0						
DAV	**Davao City (W)**	**22.33**	**243**	*e*P	**P**	**02 35 04.3**	**+0.8**
BUKP	**Musuan**	**22.37**	**246**	*e*P	**P**	**02 35 04.6**	**+0.8**
NACB	**Ninganchiao**	**23.16**	**289**	*e*P	**P**	**02 35 10.5**	**-0.4**
YHNB	**Yeheng**	**23.45**	**290**	*e*P	**P**	**02 35 14.1**	**+0.5**
TGY	**Tagaytay City**	**23.98**	**264**	P	**P**	**02 35 18.2**	**-0.3**
	comp=Z,218nm,0.3s,baz=230,slow=21,SNR=6.3						
KSRS	**Korea Array**	**24.76**	**325**	P	**P**	**02 35 23.7**	**-1.7**
	comp=Z,5.7nm,0.6s,mb4.4,baz=141,slow=8.9,SNR=17						
KSRS				pP		02 36 09.5	
	comp=Z,9.5nm,0.7s,baz=146,slow=9.3,SNR=3.0						
KSRS				ScP	ScP	02 42 07.0	-3.9
	comp=Z,2.1nm,0.7s,baz=145,slow=4.5,SNR=7.3						
KS15	**Wonju Array Si**	**24.77**	**325**	*e*pP	pP	02 36 13.7	+3.0
ASAJ	**Asahikawa**	**26.09**	**355**	P	**P**	**02 35 37.5**	**+0.1**
	comp=Z,13nm,0.6s,mb4.7,baz=238,slow=13,SNR=7.0						
PMG	**Port Moresby**	**27.34**	**177**	P	**P**	**02 35 46.9**	**-1.6**
	comp=Z,57nm,0.7s,mb5.3,baz=34,slow=5.6,SNR=20						
PMG	**Port Moresby**	**27.34**	**177***c*	*i*P	**P**	**02 35 47.2**	**-1.3**
PMG	**Port Moresby**	**27.34**	**177**	*e*P	**P**	**02 35 47.6**	**-1.0**
	comp=Z,157nm,0.9s,mb5.6						
NJ2	**Nanjing**	**27.82**	**305**	*e*P	**P**	**02 35 53.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
MDJ	**Mudanjiang**	**29.67**	**337**	P	**P**	**02 36 07.5**	**-1.6**
MDJ				AP	pP	02 36 55.3	-1.4
MDJ				S	**S**	**02 40 44.9**	**-1.8**
MDJ				SCP	ScP	02 42 24.3	-1.5
MDJ				PCS	PcS	02 42 49.3	-1.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,55nm,4.6s						
MDJ				LR	LR		
	comp=N,39nm,33.2s						
MDJ				LR	LR		
	comp=E,83nm,28.1s						
MDJ				LR	LR		
	comp=Z,45nm,27.8s						
TSM	**Tawau**	**30.35**	**247**	P	**P**	**02 36 15.9**	**+0.8**
KKM	**Kota Kinabalu**	**31.03**	**251**	P	**P**	**02 36 21.8**	**+0.8**
KKM	**Kota Kinabalu**	**31.03**	**251**	*e*P	**P**	**02 36 22.1**	**+1.0**
KLR	**Kul'dur**	**33.03**	**343**	*e*P	**P**	**02 36 33.4**	**-5.1**
KLR				*e*	pP	02 37 22.2	-4.4
KAKA	**Kakadu**	**33.21**	**204**	⇑*i*P	**P**	**02 36 39.1**	**-0.9**
	comp=Z,42nm,0.6s,mb5.1						
BJI	**Beijing**	**33.50**	**317**	P	**P**	**02 36 45.0**	**+2.5**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.2						
BJI	**Beijing**	**33.50**	**317**	P	**P**	**02 36 45.0**	**+2.5**
	comp=Z,6.0nm,0.7s,mb4.2						
QIZ	**Qiongzhong**	**33.85**	**277**	⇓P	**P**	**02 36 47.2**	**+1.7**
QIZ				S	**S**	**02 41 50.2**	**-1.3**
QIZ				SCP	ScP	02 42 35.8	-4.2
QIZ				AMB	AMB		
	comp=Z,44nm,1.2s,mb4.9						
XAN	**Xi'an**	**36.34**	**303**	P	**P**	**02 37 07.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.1						
GYA	**Guiyang**	**36.84**	**290**	⇑*i*P	**P**	**02 37 12.5**	**+1.5**
GYA				AP	pP	02 38 02.4	+2.5
GYA				XP	sP	02 38 29.7	+2.4
GYA				PP	PP	02 38 45.6	+5.3
GYA				PCP	PcP	02 39 27.6	+0.3
GYA				S	**S**	**02 42 36.8**	**-0.4**
GYA				SCP	ScP	02 42 51.1	+0.1
GYA				PCS	PcS	02 43 15.7	0.0
GYA				SS	SS	02 45 22.0	-7.3
GYA				SCS	ScS	02 46 57.2	-1.6
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,330nm,6.6s						
GYA				LR	LR		
	comp=N,490nm,17.9s						
GYA				LR	LR		
	comp=E,470nm,18.0s						
GYA				LR	LR		
	comp=Z,480nm,17.6s						
HHC	**Hu-ho-hao-te**	**36.95**	**315**	*e*P	**P**	**02 37 12.0**	**+0.1**
HHC				AP	pP	02 38 04.2	+3.4
HHC				PP	PP	02 38 46.4	+4.9
HHC				PCP	PcP	02 39 27.3	-0.3
HHC				S	**S**	**02 42 38.2**	**-0.6**
HHC				SCP	ScP	02 42 49.1	-2.3
HHC				PCS	PcS	02 43 15.1	-1.0
HHC				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.3						
HHC				AMB	AMB		
	comp=Z,70nm,6.3s						
HHC				LR	LR		
	comp=N,165nm,13.6s						
HHC				LR	LR		
	comp=E,144nm,15.5s						
HHC				LR	LR		
	comp=Z,157nm,15.3s						
CTA	**Charters Tower**	**37.92**	**179**	⇑*i*P	**P**	**02 37 19.0**	**-1.0**
	comp=Z,16nm,0.8s,mb4.6						
CTA	**Charters Tower**	**37.92**	**179**	P	**P**	**02 37 18.1**	**-1.9**
	comp=Z,14nm,0.7s,mb4.6,baz=3.4,slow=8.1,SNR=25						
CTA	**Charters Tower**	**37.92**	**179**	⇑*i*P	**P**	**02 37 19.0**	**-1.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**37.92**	**179**	*e*P	**P**	**02 37 18.8**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**37.92**	**179**	*e*P	**P**	**02 37 18.8**	**-1.2**
	comp=Z,13nm,0.7s,mb4.6						
KSM	**Kuching**	**38.33**	**249**	*e*P	**P**	**02 37 23.6**	**+0.2**
WRAB	**Tennant Creek**	**39.33**	**197***c*	*i*P	**P**	**02 37 31.8**	**+0.1**
WRAB	**Tennant Creek**	**39.33**	**197**	*e*P	**P**	**02 37 31.6**	**-0.1**
WB2	**Warramunga Arr**	**39.34**	**197**	⇑*i*P	**P**	**02 37 31.6**	**-0.2**
WRA	**Warramunga Arr**	**39.34**	**197**	P	**P**	**02 37 31.3**	**-0.5**
	comp=Z,96nm,0.8s,mb5.4,baz=17,slow=9.0,SNR=118						
WRA				ScP	ScP	02 42 57.9	-2.6
	comp=Z,3.3nm,0.9s,baz=17,slow=4.7,SNR=5.0						
CD2	**Chengdu**	**39.91**	**297**	⇑*i*P	**P**	**02 37 35.8**	**-0.7**
CD2				AP	pP	02 38 25.3	-0.8
CD2				PP	PP	02 39 15.6	+2.0
CD2				S	**S**	**02 43 21.6**	**-1.5**
CD2				SS	SS	02 46 22.1	-8.1
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
KMI	**Kunming**	**40.30**	**288**	P	**P**	**02 37 40.4**	**+0.7**
KMI				AP	pP	02 38 32.0	+2.6
KMI				S	**S**	**02 43 29.1**	**+0.2**
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,92nm,5.7s						
KMI				LR	LR		
	comp=N,186nm,19.2s						
KMI				LR	LR		
	comp=E,157nm,14.2s						
KMI				LR	LR		
	comp=Z,187nm,13.2s						
KMI	**Kunming**	**40.30**	**288**	P	**P**	**02 37 40.4**	**+0.7**
KMI				*PP	pP	02 38 32.0	+2.6
KMI				*SP	sP	02 38 56.6	0.0
KMI				S	**S**	**02 43 29.1**	**+0.2**
KMI				*SS	sS	02 44 57.0	-0.2
KMI				SS	SS	02 46 28.1	-10
KMI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
KMI				MLR	MLR		
	comp=Z,190nm,13.2s						
KMI	**Kunming**	**40.30**	**288**	P	**P**	**02 37 40.4**	**+0.7**
	comp=Z,14nm,0.9s,mb4.4						
KMI				pP	pP	02 38 32.0	+2.6
KMI				sP	sP	02 38 56.6	0.0
KMI				S	**S**	**02 43 29.1**	**+0.2**
KMI				sS	sS	02 44 57.0	-0.2
KMI				SS	SS	02 46 28.1	-10
KMI				LR	LR		
	comp=Z,190nm,13.2s						
LZH	**Lanzhou**	**40.90**	**305**	P	**P**	**02 37 46.7**	**+2.2**
LZH				AP	pP	02 38 35.5	+1.2
LZH				PP	PP	02 39 28.0	+3.8
LZH				S	**S**	**02 43 39.0**	**+1.4**
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,280nm,4.9s						
LZH				LR	LR		
	comp=N,850nm,15.3s						
LZH				LR	LR		
	comp=Z,1μm,16.2s						
LZH	**Lanzhou**	**40.90**	**305**	P	**P**	**02 37 46.7**	**+2.2**
LZH				*PP	pP	02 38 35.5	+1.2
LZH						02 39 28.0	
LZH				S	**S**	**02 43 39.0**	**+1.4**
LZH				SS	SS	02 46 46.0	-3.5
LZH				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,16.2s						
LZH	**Lanzhou**	**40.90**	**305**	P	**P**	**02 37 46.7**	**+2.2**
	comp=Z,39nm,1.2s,mb4.7						
LZH				pP	pP	02 38 35.5	+1.2
LZH				PP	PP	02 39 28.0	+3.8
LZH				S	**S**	**02 43 39.0**	**+1.4**
LZH				sS	sS	02 45 00.3	-5.8
LZH				SS	SS	02 46 46.0	-3.5
LZH				LR	LR		
	comp=Z,1μm,16.2s						
FITZ	**Fitzroy Crossi**	**40.94**	**210**	⇑*i*P	**P**	**02 37 45.3**	**+0.5**
	comp=Z,148nm,0.8s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.94**	**210**	P	**P**	**02 37 44.8**	**0.0**
	comp=Z,69nm,0.6s,mb5.2,baz=33,slow=9.4,SNR=199						
NANT	**Nan**	**42.48**	**278**	⇑P	**P**	**02 37 56.0**	**-1.3**
	comp=Z,200nm,0.7s,mb5.7						
AS31	**Alice Springs**	**43.01**	**196**	*e*P	**P**	**02 38 00.9**	**-0.6**
ASAR	**Alice Springs**	**43.01**	**196**	P	**P**	**02 38 01.1**	**-0.4**
	comp=Z,7.0nm,0.4s,mb4.5,baz=13,slow=5.6,SNR=74						
ASAR				PP	PP	02 39 40.2	-6.5
	comp=Z,2.7nm,0.7s,baz=24,slow=9.2,SNR=2.8						
ASPA	**Alice Springs**	**43.01**	**196**	⇑*i*P	**P**	**02 38 01.2**	**-0.4**
ULN	**Ulaanbaatar**	**43.19**	**322**	*i* P	**P**	**02 38 01.8**	**-1.2**
ULN	**Ulaanbaatar**	**43.19**	**322**	*e*P	**P**	**02 38 01.9**	**-1.1**
	comp=Z,3.5nm,0.6s,mb4.0						
NST	**Nakhon Sawan**	**43.46**	**274**	⇓P	**P**	**02 38 07.0**	**+1.8**
	comp=Z,92nm,0.6s,mb5.4						
SONM	**Songino Array**	**43.56**	**322**	P	**P**	**02 38 05.2**	**-0.8**
	comp=Z,4.5nm,0.8s,mb3.9,baz=134,slow=7.3,SNR=20						
SONM				pP	pP	02 38 54.1	-2.2
	comp=Z,4.6nm,0.9s,baz=125,slow=9.3,SNR=2.1						
SONM				ScP	ScP	02 43 13.4	-3.9
	comp=Z,4.6nm,1.3s,baz=61,slow=3.8,SNR=4.9						
SONM	**Songino Array**	**43.56**	**322**	P	**P**	**02 38 05.2**	**-0.7**
SONM				*PP	pP	02 38 54.1	-2.2
CHG	**Chiang Mai**	**44.14**	**279**	⇑P	**P**	**02 38 11.4**	**+0.9**
	comp=Z,26nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**44.14**	**279**	*e*P	**P**	**02 38 11.2**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.5						
CHTO	**Chiang Mai**	**44.14**	**279**	*e*P	**P**	**02 38 11.2**	**+0.7**
	comp=Z,14nm,0.5s,mb4.5						
CM31	**Chiang Mai Arr**	**44.18**	**278**	*e*P	**P**	**02 38 12.1**	**+1.2**
	comp=Z,22nm,0.6s,mb4.7						
KGM	**Kluang**	**44.39**	**254**	P	**P**	**02 38 14.9**	**+2.4**
DZM	**Mont Dzumac**	**44.82**	**152**	*e*P	**P**	**02 38 16.0**	**+0.1**
DZM	**Mont Dzumac**	**44.82**	**152**	P	**P**	**02 38 16.0**	**+0.1**
	comp=Z,111nm,0.9s,mb5.2,baz=350,slow=7.2,SNR=60						
GTA	**Gaotai**	**44.83**	**308**	*e*P	**P**	**02 38 16.9**	**+0.9**
GTA				AP	pP	02 39 09.5	+2.8
GTA				XP	sP	02 39 38.8	+5.1
GTA				PP	PP	02 40 07.6	+1.7
GTA				SCP	ScP	02 43 20.1	-2.4
GTA				S	**S**	**02 44 36.1**	**+1.2**
GTA				SS	SS	02 47 58.8	-1.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.6						
GTA				AMB	AMB		
	comp=Z,48nm,4.6s						
GTA				LR	LR		
	comp=N,321nm,19.4s						
GTA				LR	LR		
	comp=E,131nm,19.0s						
GTA				LR	LR		
	comp=Z,186nm,18.3s						
YAK	**Yakutsk**	**45.32**	**350**	*e*P	**P**	**02 38 17.1**	**-2.7**
YAK				*e*	pP	02 39 07.7	-2.9
YAK				pmax	pmax		
	comp=Z,56nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,1.5s						
YAK	**Yakutsk**	**45.32**	**350**	*e*P	**P**	**02 38 17.6**	**-2.2**
	comp=E,30nm,0.6s,mb4.8						
IPM	**Ipoh**	**45.58**	**258**	P	**P**	**02 38 23.7**	**+1.9**
KULM	**Kulim**	**45.65**	**260**	*e*P	**P**	**02 38 24.5**	**+2.1**
BOD	**Bodaibo**	**46.04**	**337**	*e*P	**P**	**02 38 21.4**	**-4.0**
MBWA	**Marble Bar**	**46.48**	**214**	*e*P	**P**	**02 38 28.2**	**-0.6**
	comp=E,55nm,0.6s,mb5.1						
ZAK	**Zakamensk**	**46.58**	**324**	*e*P	**P**	**02 38 28.0**	**-1.6**
ZAK				*e*	pP	02 39 17.2	-3.5
ARMA	**Armidale**	**48.55**	**173**	*e*P	**P**	**02 38 43.5**	**-1.3**
STKA	**Stephens Creek**	**49.80**	**184**	⇑*i*P	**P**	**02 38 53.0**	**-1.2**
	comp=E,23nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**49.80**	**184**	P	**P**	**02 38 53.1**	**-1.1**
	comp=E,30nm,0.5s,mb4.9,baz=356,slow=7.8,SNR=118						
STKA	**Stephens Creek**	**49.80**	**184**	*e*P	**P**	**02 38 52.9**	**-1.3**
LSA	**Lhasa**	**50.69**	**294**	P	**P**	**02 39 02.2**	**+1.4**
LSA	**Lhasa**	**50.69**	**294**	*e*P	**P**	**02 39 02.2**	**+1.4**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.7						
LSA	**Lhasa**	**50.69**	**294**	*e*P	**P**	**02 39 02.2**	**+1.4**
	comp=Z,20nm,0.6s,mb4.7						
FORT	**Forrest**	**51.40**	**199**	*e*P	**P**	**02 39 05.7**	**-0.4**
	comp=Z,81nm,0.6s,mb5.3						
BILL	**Bilibino**	**51.66**	**10**	⇑*e*P	**P**	**02 39 07.1**	**-0.9**
BILL				*e*		02 41 04.3	
BILL				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
BILL	**Bilibino**	**51.66**	**10**	*e*P	**P**	**02 39 06.9**	**-1.1**
	comp=Z,9.6nm,0.6s,mb4.4						
WMQ	**Urumqi**	**54.63**	**311**	⇓*i*P	**P**	**02 39 29.0**	**-0.6**
WMQ				AP	pP	02 40 25.0	+2.6
WMQ				PCP	PcP	02 40 29.0	-0.3
WMQ				XP	sP	02 40 49.8	+1.0
WMQ				PP	PP	02 41 36.0	+1.3
WMQ				SCP	ScP	02 44 02.0	-2.4
WMQ				S	**S**	**02 46 48.3**	**-2.0**
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,19nm,8.2s						
WMQ				LR	LR		
	comp=N,26nm,20.6s						
WMQ				LR	LR		
	comp=E,32nm,22.0s						
WMQ				LR	LR		
	comp=Z,44nm,19.1s						
JIRN	**Jiri**	**55.10**	**291**	*e*P	**P**	**02 39 33.6**	**+0.6**
	comp=Z,36nm,0.6s,mb5.0						
TOO	**Toolangi**	**55.34**	**180**	*e*P	**P**	**02 39 34.3**	**-0.4**
	comp=Z,17nm,0.7s,mb4.7						
TOO	**Toolangi**	**55.34**	**180**	*e*P	**P**	**02 39 34.3**	**-0.4**
TOO				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.7						
GUN	**Gumba**	**55.36**	**292**	*e*P	**P**	**02 39 35.4**	**+0.6**
PKI	**Pulchoki**	**55.80**	**291**	*e*P	**P**	**02 39 40.0**	**+2.1**
	comp=Z,19nm,0.5s,mb4.8						
KKN	**Kakani**	**55.90**	**292**	*e*P	**P**	**02 39 40.8**	**+2.2**
	comp=Z,12nm,0.4s,mb4.8						
DMN	**Daman**	**56.06**	**291**	*e*P	**P**	**02 39 41.2**	**+1.4**
KLBR	**Kellerberrin**	**56.12**	**209**	⇑*i*P	**P**	**02 39 39.6**	**-0.6**
	comp=Z,116nm,0.8s,mb5.5						
GKN	**Gorkha**	**56.45**	**292**	*e*P	**P**	**02 39 42.5**	**0.0**
	comp=Z,45nm,0.9s,mb5.0						
MUN	**Mundaring**	**57.17**	**210**	⇑*i*P	**P**	**02 39 47.3**	**-0.2**
KOLN	**Koldanda**	**57.38**	**292**	*e*P	**P**	**02 39 48.9**	**-0.1**
	comp=Z,22nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**57.49**	**208**	P	**P**	**02 39 49.6**	**-0.1**
	comp=Z,115nm,0.7s,mb5.6,baz=43,slow=7.2,SNR=74						
NWAO	**Narrogin (SRO)**	**57.49**	**208**	*e*P	**P**	**02 39 48.9**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,88nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.49**	**208**	*e*P	**P**	**02 39 48.9**	**-0.9**
	comp=Z,88nm,0.7s,mb5.5						
MK31	**Makanchi Array**	**58.81**	**314**	*e*P	**P**	**02 39 58.3**	**-0.6**
MK31				*e**PP	pP	02 40 50.4	-2.1
MKAR	**Makanchi Array**	**58.81**	**314**	P	**P**	**02 39 57.9**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.1,baz=89,slow=8.9,SNR=32						
MKAR				pP	pP	02 40 50.3	-2.2
	comp=Z,4.0nm,0.9s,baz=89,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**58.81**	**314**	P	**P**	**02 39 57.9**	**-1.0**
MKAR				pP	pP	02 40 50.3	-2.2
SVW2	**Sparrevohn**	**59.44**	**29**	*e*P	**P**	**02 40 02.7**	**-0.6**
NVS	**Novosibirsk**	**59.54**	**324**	*e*P	**P**	**02 40 00.5**	**-3.4**
NVS				*i*	pP	02 40 52.3	-5.3
NVS				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.4						
NVS				pmax	pmax		
	comp=N,6.0nm,1.5s						
NVS				pmax	pmax		

comp=E,14nm,1.5s
KDAK Kodiak Island 59.95 33 P **P 02 40 06.0 -0.7**
comp=E,6.4nm,0.8s,mb4.3,baz=292,slow=9.3,SNR=9.3
KDAK pP pP 02 40 59.6 -0.9
comp=E,39nm,1.0s,baz=284,slow=2.7,SNR=7.6
KDAK Kodiak Island 59.95 33 *e*P **P 02 40 06.4 -0.3**
KDAK pP pP 02 40 59.6 -0.9
KDAK *e*pP pP 02 41 01.3 +0.8
SLKM Skilak Lake 61.80 30 *e*P **P 02 40 17.5 -1.6**
PMR Palmer 62.56 29 *e*P **P 02 40 22.3 -1.9**
PMR *e**PP pP 02 41 17.7 -0.7
PMR pmax pmax
comp=Z,21nm,1.0s,mb4.7
PMR Palmer 62.56 29 *e*P **P 02 40 22.3 -1.9**
comp=Z,21nm,1.0s,mb4.7
PMR *e*pP pP 02 41 17.7 -0.7
ULHL Ulahol 62.88 309 P **P 02 40 27.1 +0.8**
SNR=8.2
KSH Kashi 63.13 306 *e*P **P 02 40 29.5 +1.6**
KSH *e*PP PP 02 42 49.2 -0.7
KSH *e*S **S 02 48 30.4 -9.1**
KSH *e*SCS ScS 02 49 55.0 -1.9
KSH LR LR
comp=N,384nm,4.2s
KSH LR LR
comp=E,364nm,3.9s
KSH LR LR
comp=Z,441nm,10.2s
TKM2 Tokmak 2 63.35 309 P **P 02 40 30.2 +0.8**
SNR=17
URZ Urewera 63.37 153 P **P 02 40 27.1 -2.4**
comp=Z,15nm,0.6s,mb4.8,baz=325,slow=3.6,SNR=15
KZA Kyzart 63.62 309 P **P 02 40 32.6 +1.5**
SNR=15
KBK Karagaybulak 63.83 309 P **P 02 40 33.1 +0.6**
SNR=8.6
COLA College 63.89 26 *i*P **P 02 40 31.8 -1.1**
COLA College 63.89 26 *e*P **P 02 40 31.9 -0.9**
comp=Z,5.8nm,0.6s,mb4.4
COLA *e*pP pP 02 41 25.7 -1.7
USP Ospenovka 64.15 310 P **P 02 40 34.7 +0.1**
SNR=16
UCH Uchtor 64.16 309 P **P 02 40 35.9 +1.2**
SNR=31
AAK Ala-Archa 64.17 309 P **P 02 40 34.7 +0.1**
SNR=7.5
AAK Ala-Archa 64.17 309*c i*P **P 02 40 33.6 -1.1**
AAK pmax pmax
comp=Z,12nm,1.3s,mb4.4
AAK Ala-Archa 64.17 309 *e*P **P 02 40 33.6 -1.0**
comp=Z,8.9nm,0.9s,mb4.4
AAK *e*pP pP 02 41 28.8 -0.4
EKS2 Erkin-Say 64.70 309 P **P 02 40 38.6 +0.5**
SNR=8.0
AML Almayashu 64.78 309 P **P 02 40 39.5 +0.9**
SNR=21
RPZ Rata Peaks 65.77 160 P **P 02 40 42.3 -2.7**
comp=Z,32nm,0.8s,mb5.0,baz=28,slow=0.7,SNR=12
EGAK Eagle 66.69 27 *e*P **P 02 40 49.3 -1.4**
comp=Z,4.2nm,0.5s,mb4.3
CHKZ Chkalovo 66.75 321 *e*P **P 02 40 49.4 -1.8**
CHKZ *e**PP pP 02 41 42.8 -3.4
CHKZ pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
CHKZ Chkalovo 66.75 321 *e*P **P 02 40 49.4 -1.8**
comp=Z,9.2nm,0.7s,mb4.5
CHKZ *e*pP pP 02 41 42.8 -3.4
BRVK Borovoye 66.94 321 *e*P **P 02 40 51.0 -1.4**
BRVK *e**PP pP 02 41 44.8 -2.6
BRVK pmax pmax
comp=Z,32nm,0.8s,mb5.0
BRVK Borovoye 66.94 321 *e*P **P 02 40 51.0 -1.4**
comp=Z,32nm,0.8s,mb5.0
BRVK *e*pP pP 02 41 44.8 -2.6
DAWY Dawson 67.37 27 *e*P **P 02 40 54.5 -0.6**
POO Poona 67.63 283 *e*P **P 02 40 51.0 -5.7**
ZRNK Zerenda 67.72 321 *e*P **P 02 40 55.3 -1.9**
ZRNK *e**PP pP 02 41 49.0 -3.4
ZRNK pmax pmax
comp=Z,27nm,1.0s,mb4.8
ZRNK Zerenda 67.72 321 *e*P **P 02 40 55.3 -1.9**
comp=Z,27nm,1.0s,mb4.8
ZRNK *e*pP pP 02 41 49.0 -3.4
DLBC Dease Lake 71.89 33 *e*P **P 02 41 22.0 -0.6**
DLBC *e*pP pP 02 42 15.4 -2.9
SVE Sverdlovsk 72.32 325 *e*P **P 02 41 24.0 -1.2**
ARU Arti 73.51 325⇓*i*P **P 02 41 29.8 -2.3**
ARU *e* 02 41 41.4
ARU *e* pP 02 42 27.8 -0.3
ARU *e* 02 44 15.8
ARU *e*PPP 02 45 59.0
ARU *e*S S 02 50 38.6 -3.1
ARU *e*SS SS 02 55 25.5 -4.2
ARU *e*SSS 02 58 48.8
ARU pmax pmax
comp=Z,34nm,0.7s,mb5.1
ARU Arti 73.51 325 *e*P **P 02 41 30.1 -2.1**
comp=Z,38nm,0.7s,mb5.1
ORR Orenburg 76.55 320 *e*P **P 02 41 48.6 -0.9**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GNW Green Mountain 77.95 44 *e*P **P 02 41 58.8 +1.5**
GNW *e*pP pP 02 42 55.5 +1.6
D04A Dobbs Creek Ra 78.08 44⇑P **P 02 41 58.0 +0.1**
baz=78
A05A Maple Falls 78.10 42⇑P **P 02 41 58.3 +0.3**
baz=78
B05A Bryant 78.27 43⇓P **P 02 41 59.0 +0.1**
baz=78
YKW3 Yellowknife Ar 78.58 28 *e*P **P 02 41 59.3 -1.3**
YKW3 *e*pP pP 02 42 56.8 -0.7
D05A Enumclaw 78.60 44⇑P **P 02 42 00.9 +0.2**
baz=78
B06A Marblemount 78.60 43⇑P **P 02 42 00.7 -0.1**
baz=78
YKA Yellowknife Ar 78.61 28 P **P 02 41 59.5 -1.3**
comp=Z,16nm,0.7s,mb4.7,baz=290,slow=5.6,SNR=44
YKA pP pP 02 42 54.7 -2.9
comp=Z,12nm,0.8s,baz=290,slow=5.6,SNR=8.3
YKA Yellowknife Ar 78.61 28 P **P 02 41 59.5 -1.3**
YKA pP pP 02 42 54.7 -2.9
F04A Amboy 78.61 45⇑P **P 02 42 00.9 +0.1**
baz=78
C05A Tolt Reservoir 78.67 43⇓P **P 02 42 01.0 -0.2**
baz=79
LON Longmire 78.82 44 *e*P **P 02 42 01.9 -0.1**
LON *e**PP pP 02 42 59.6 +0.8
KHMM Horse Mountain 78.93 51 *e*P **P 02 42 02.9 +0.4**
KHMM *e*pP pP 02 43 01.6 +2.2
HUMO Hull Mountain 79.06 49⇑P **P 02 42 03.9 +0.7**
baz=79
H04A Detroit Lake 79.08 47⇑P **P 02 42 03.2 -0.2**
baz=79
A07A Ashnola River, 79.17 42⇑P **P 02 42 04.1 +0.3**
baz=79,SNR=5.8
N02C Big Bar 79.25 51⇑P **P 02 42 04.7 +0.4**
baz=79
F05A White Salmon 79.28 45⇓P **P 02 42 04.8 +0.4**
baz=79
HOOD Mount Hood Mea 79.29 46 *e*P **P 02 42 06.0 +1.5**
HOOD *e*pP pP 02 43 03.1 +1.7
D06A Cle Elum 79.35 44⇓P **P 02 42 04.9 +0.1**
baz=79
E06A Yakima 79.43 44⇑P **P 02 42 05.5 +0.3**
baz=79
M02C Callahan 79.44 50⇑P **P 02 42 05.7 +0.4**
baz=79
YBH Yreka Blue Hor 79.46 50 *e*P **P 02 42 06.2 +0.8**
YBH *e**PP pP 02 43 03.4 +1.1
YBH pmax pmax
comp=Z,26nm,1.1s
YBH Yreka Blue Hor 79.46 50 *e*P **P 02 42 06.2 +0.8**
comp=Z,26nm,1.1s,mb4.8
YBH *e*pP pP 02 43 03.4 +1.1
YBH Yreka Blue Hor 79.46 50⇓P **P 02 42 06.0 +0.6**
baz=79,SNR=6.4
B07A Winthrop 79.49 42⇓P **P 02 42 05.6 0.0**
baz=79
G05A Wamic 79.54 46⇑P **P 02 42 06.1 +0.3**
baz=79
C07A Waterville 79.73 43 P **P 02 42 06.6 -0.3**
baz=80,SNR=6.0
H05A Madras 79.75 46⇓P **P 02 42 06.8 -0.3**
baz=80
F06A Goldendale 79.77 45⇑P **P 02 42 07.0 0.0**
baz=80
O02C Red Bluff 79.80 51⇓P **P 02 42 07.4 +0.1**
baz=80
I05A Bend 79.85 47⇑P **P 02 42 07.7 +0.2**
baz=80
WDC Whiskeytown Da 79.88 51 *e*P **P 02 42 08.0 +0.3**
WDC *e**PP pP 02 43 05.2 +0.6
WDC Whiskeytown Da 79.88 51⇓P **P 02 42 08.0 +0.4**
baz=80
D07A Quincy 79.92 44⇑P **P 02 42 08.0 0.0**
baz=80
L04A Klamath Falls 79.93 49⇓P **P 02 42 08.0 0.0**
baz=80
GASB Alder Springs 79.98 52⇓P **P 02 42 08.7 +0.5**
baz=80
M03C McCloud 80.00 50⇑P **P 02 42 08.7 +0.3**
baz=80
G06A Carlson Farm, 80.00 46⇑P **P 02 42 09.2 +0.9**
baz=80
RES Resolute Bay 80.07 14 *e*P **P 02 42 07.0 -1.6**
comp=Z,341nm,0.7s
RES *e*pP pP 02 43 05.1 -0.6
M04C Macdoel 80.07 49⇓P **P 02 42 09.3 +0.6**
baz=80
J05A Fort Rock 80.11 48⇓P **P 02 42 09.0 +0.1**
baz=80,SNR=7.8
E07A Sunnyside 80.17 44⇓P **P 02 42 09.3 0.0**
baz=80
F07A Phinny Hill Vi 80.31 45⇑P **P 02 42 10.0 +0.1**
baz=80
A09A Danville 80.33 42⇓P **P 02 42 10.1 0.0**
baz=80
H06A Lindquist Farm 80.34 46⇓P **P 02 42 10.2 +0.1**
baz=80
C08A Higginbotham F 80.37 43⇓P **P 02 42 09.9 -0.4**
baz=80,SNR=8.0
MNRC McLaughlin Nat 80.39 52⇑P **P 02 42 11.1 +0.7**
baz=80
O03C Acorn Hollow, 80.41 51⇓P **P 02 42 10.9 +0.4**
baz=80
HAWA Hanford 80.43 44 *e*P **P 02 42 10.0 -0.6**
comp=Z,22nm,1.5s,mb4.6
K05A Summer Lake 80.50 48⇑P **P 02 42 11.5 +0.5**
baz=80,SNR=5.9
CVS Carmenet Viney 80.52 53⇓P **P 02 42 11.2 +0.1**
baz=80
HATC Hat Creek Radi 80.61 50⇑P **P 02 42 11.7 +0.2**
baz=80
I06A Prineville 80.65 47⇑P **P 02 42 11.9 +0.2**
baz=80,SNR=8.5
D08A Wollman Farm, 80.65 44⇓P **P 02 42 11.7 -0.1**
baz=80,SNR=9.4
G07A Ruggs Ranch, H 80.65 45⇓P **P 02 42 11.9 +0.1**
baz=81
M05C Lookout 80.69 50⇓P **P 02 42 12.1 +0.1**
baz=81
L05A Lakeview 80.73 49⇓P **P 02 42 12.3 +0.1**
baz=81
B09A Rice 80.76 42 P **P 02 42 12.5 +0.1**
baz=81,SNR=5.3
C09A Chrisman Ranch 80.86 43⇑P **P 02 42 12.6 -0.3**
baz=81
J06A Christmas Vall 80.88 48⇓P **P 02 42 13.0 0.0**
baz=81
ORV Oroville 80.92 51 P **P 02 42 13.2 0.0**
baz=81,SNR=8.3
K06A Valley Falls 80.93 48⇓P **P 02 42 13.3 0.0**
baz=81
OHCM Honcut 80.99 52 *e*P **P 02 42 13.1 -0.5**
OHCM *e*pP pP 02 43 11.0 +0.3
O04C Chester 81.02 51⇓P **P 02 42 13.5 -0.2**
baz=81
D09A Jones Farm, Ri 81.05 43⇑P **P 02 42 13.7 -0.2**
baz=81
I07A Izee 81.10 47⇑P **P 02 42 14.0 -0.1**
baz=81
F08A Pendleton 81.11 45⇓P **P 02 42 14.1 -0.1**
baz=81,SNR=6.6
G08A Pilot Rock 81.13 45⇓P **P 02 42 14.1 -0.2**
baz=81
MOD Modoc 81.15 49 *e*P **P 02 42 14.1 -0.3**
comp=Z,9.1nm,1.1s,mb4.3
MOD *e*pP pP 02 43 12.7 +1.1
M06C Likely Place G 81.22 50⇑P **P 02 42 14.9 +0.2**
baz=81,SNR=6.7
E09A Wood Farm, Sta 81.32 44 P **P 02 42 15.4 +0.1**
baz=81,SNR=5.7
J07A Hines 81.43 47⇑P **P 02 42 16.1 +0.2**
baz=81
NEW Newport 81.47 42 *e*P **P 02 42 15.7 -0.4**
NEW *e**PP pP 02 43 11.3 -1.9
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 81.47 42 *e*P **P 02 42 15.7 -0.3**
comp=Z,11nm,1.0s,mb4.5
NEW *e*pP pP 02 43 11.3 -2.0
C10A Spilker Farm, 81.48 43⇑P **P 02 42 15.9 -0.2**
baz=81
H08A Prairie City 81.55 46⇑P **P 02 42 16.5 0.0**
baz=81
S04C Ingram Canyon, 81.61 53⇑P **P 02 42 17.2 +0.3**
baz=82
P05C Yuba Gap, Truc 81.65 51 P **P 02 42 17.5 +0.5**
baz=82,SNR=5.6
K07A Rock Creek Ran 81.67 48 P **P 02 42 17.6 +0.4**
baz=82,SNR=12
BEKR Beckwourth 81.68 51⇑P **P 02 42 17.1 -0.1**
baz=82,SNR=10
LAVA Lava Cap Winer 81.71 52 P **P 02 42 17.6 +0.2**
baz=82,SNR=8.1
F09A S2 Ranch, Elgi 81.71 45⇓P **P 02 42 17.4 0.0**
baz=82
SAO San Andreas Ge 81.73 54 *e*pP pP 02 43 16.2 +1.5
A11A Hall Mountain, 81.73 41⇑P **P 02 42 17.9 +0.4**
baz=82,SNR=5.5
HAST UC Hastings Re 81.75 55⇓P **P 02 42 17.9 +0.3**
baz=82
PACP Pacheco Peak 81.78 54⇑P **P 02 42 18.2 +0.5**
baz=82
I08A Drewsey 81.79 47⇑P **P 02 42 17.7 -0.1**
baz=82
L07A Adell 81.80 49⇑P **P 02 42 18.3 +0.5**
baz=82,SNR=11
N06A Buffalo Meadow 81.81 50 P **P 02 42 18.2 +0.4**
baz=82,SNR=7.1
B11A Sandpoint 81.89 42⇑P **P 02 42 18.4 +0.1**
baz=82
O06A Flanigan 81.98 50 P **P 02 42 19.2 +0.4**
baz=82,SNR=7.5
J08A Circle Bar Ran 82.02 47 P **P 02 42 19.2 +0.2**
baz=82,SNR=7.5
P06A Stead Airport, 82.07 51⇓P **P 02 42 19.5 +0.3**
baz=82
F10A Beach Ranch, E 82.09 44⇓P **P 02 42 19.4 +0.1**
baz=82
M07A Soldier Meadow 82.11 49⇑P **P 02 42 19.7 +0.3**
baz=82,SNR=7.6
CMB Columbia Colle 82.18 53 *e*P **P 02 42 19.9 +0.1**
CMB *e**PP pP 02 43 17.5 +0.4
CMB pmax pmax
comp=Z,18nm,0.9s,mb4.7
CMB Columbia Colle 82.18 53 *e*P **P 02 42 19.9 +0.2**
comp=Z,18nm,0.9s,mb4.7
CMB *e*pP pP 02 43 17.5 +0.5
CMB Columbia Colle 82.18 53 P **P 02 42 20.0 +0.3**
baz=82,SNR=12
WVOR Wild Horse Val 82.18 48 *e*P **P 02 42 19.5 -0.3**
WVOR *e**PP pP 02 43 17.4 +0.3
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
WVOR Wild Horse Val 82.18 48 *e*P **P 02 42 19.5 -0.3**
comp=Z,5.2nm,0.8s,mb4.2
WVOR *e*pP pP 02 43 17.4 +0.3
A12A Yaak River Ran 82.19 41⇓P **P 02 42 20.0 +0.2**
baz=82,SNR=6.9
H09A Durkee 82.19 46⇓P **P 02 42 19.9 +0.1**
baz=82
K08A Mann Creek Ran 82.20 48⇑P **P 02 42 19.9 0.0**
baz=82,SNR=5.5
R05C Kirkwood Meado 82.22 52⇑P **P 02 42 20.2 +0.2**
baz=82
WCN Washoe City 82.28 51⇓P **P 02 42 20.9 +0.5**
baz=82
I09A Lost Marbles R 82.35 46⇑P **P 02 42 20.7 +0.1**
baz=82
B12A Libby 82.38 42⇑P **P 02 42 21.0 +0.2**
baz=82
BMO Blue Mountains 82.38 45 *e*P **P 02 42 20.9 +0.1**
BMO *e**PP pP 02 43 17.8 -0.3
BMO pmax pmax
comp=Z,33nm,1.2s,mb4.8
BMO Blue Mountains 82.38 45 *e*P **P 02 42 20.9 +0.1**
comp=Z,33nm,1.2s,mb4.8
BMO *e*pP pP 02 43 17.8 -0.4
S05C Merced 82.42 53⇓P **P 02 42 20.9 -0.1**
baz=82
N07B Gerlach 82.43 50⇑P **P 02 42 21.4 +0.4**
baz=82,SNR=8.6
PAHR Pah Rah Range 82.44 51 *e*P **P 02 42 21.4 +0.2**
comp=Z,28nm,1.1s,mb4.8
PAHR *e*pP pP 02 43 18.4 -0.1
L08A Fields 82.46 48⇓P **P 02 42 21.3 +0.1**
baz=82,SNR=8.3
J09A Fry Pan Ranch, 82.53 47⇓P **P 02 42 21.7 +0.2**
baz=82,SNR=7.3
S06C San Francisco 82.63 53⇑P **P 02 42 22.3 +0.2**
baz=82
M08A Happy Creek Ra 82.66 49⇑P **P 02 42 22.4 +0.2**
baz=83,SNR=5.9
PKD Parkfield 82.66 55⇑P **P 02 42 22.6 +0.3**
baz=83,SNR=5.8
O07A Toulon 82.68 50⇓P **P 02 42 22.5 +0.1**
baz=83,SNR=6.3
C12A Trout Creek 82.69 42⇓P **P 02 42 22.6 +0.2**
baz=83
R06C Coleville 82.74 52⇑P **P 02 42 22.8 +0.1**
baz=83
K09A Rome 82.74 48⇑P **P 02 42 22.5 -0.2**
baz=83,SNR=5.7
WAKR Walker 82.76 52 *e*P **P 02 42 23.5 +0.7**
WAKR *e*pP pP 02 43 21.4 +1.2
A13A Flathead Natio 82.96 41⇑P **P 02 42 23.7 -0.1**
baz=83,SNR=8.9
L09A Wilkinson Ranc 82.99 48⇑P **P 02 42 24.1 +0.1**
baz=83,SNR=7.3
T06C Millerton Lake 82.99 53 P **P 02 42 24.0 +0.1**
baz=83,SNR=11
N08A GE Springer Mi 83.03 50⇑P **P 02 42 24.0 -0.2**
baz=83
ARCES ARCESS Array B 83.05 342 P **P 02 42 21.3 -3.0**
comp=Z,10nm,0.7s,mb4.7,baz=54,slow=6.3,SNR=20
ARCES ARCESS Array B 83.05 342 P **P 02 42 21.3 -3.0**
BSMT Bassoo Peak 83.08 42 *e*P **P 02 42 23.7 -0.7**
BSMT *e*pP pP 02 43 18.3 -3.5
B13A Whitefish 83.11 41⇑P **P 02 42 24.4 -0.1**
baz=83,SNR=7.6
KCC Kaiser Creek 83.20 53⇑P **P 02 42 25.5 +0.5**
baz=83
WALA Waterton Lakes 83.23 41 *e*P **P 02 42 25.5 +0.3**
comp=Z,37nm,1.1s,mb5.0
WALA *e*pP pP 02 43 24.0 +1.4
C13A Hot Springs 83.28 42⇑P **P 02 42 25.1 -0.3**
baz=83,SNR=5.5
H11A Donnelly 83.30 45⇓P **P 02 42 25.4 -0.1**
baz=83
M09A Marrel Ranch, 83.33 49⇑P **P 02 42 25.9 +0.2**
baz=83
N09A Rock Creek Ran 83.45 49⇓P **P 02 42 26.5 +0.2**
baz=83,SNR=8.0
PKM Peak Mountain 83.53 56⇑P **P 02 42 27.0 +0.2**
baz=84
D13A Huson 83.54 43⇑P **P 02 42 26.3 -0.5**
baz=83
HELL Mitchell Peak, 83.62 54⇑P **P 02 42 27.0 -0.1**
baz=84,SNR=6.2
NVAR Mina Array Bea 83.63 52 P **P 02 42 27.0 -0.2**
comp=Z,8.5nm,0.6s,mb4.6,baz=275,slow=7.8,SNR=55
NVAR pP pP 02 43 24.2 -0.4
comp=Z,19nm,0.7s,baz=272,slow=6.0,SNR=16
MTUM Tungsten Hills 83.76 53 *e*pP pP 02 43 26.7 +1.3
C14A Swan Lake 83.77 42 P **P 02 42 27.5 -0.4**
baz=84,SNR=16
Q08A Gabbs 83.77 51⇑P **P 02 42 28.0 +0.1**
baz=84
R08A Mina 83.80 52⇑P **P 02 42 28.2 +0.1**
baz=84
BMN Battle Mountai 83.80 50 *e*P **P 02 42 28.7 +0.6**
BMN *e**PP pP 02 43 26.7 +1.1
BMN pmax pmax
comp=Z,15nm,1.0s,mb4.7
BMN Battle Mountai 83.80 50 *e*P **P 02 42 28.7 +0.6**
comp=Z,16nm,1.0s,mb4.7
BMN *e*pP pP 02 43 26.7 +1.1
VES Vestal, Richgr 83.83 54⇑P **P 02 42 28.5 +0.3**
baz=84
O09A Fish Creek Ran 83.91 50⇓P **P 02 42 28.9 +0.3**
baz=84,SNR=6.7
E13A Victor 83.94 43⇑P **P 02 42 28.5 -0.3**
baz=84
M10A I.L. Ranch, Tu 83.95 48⇑P **P 02 42 29.0 +0.2**
baz=84
S08C White Mtn Res 84.01 53⇑P **P 02 42 29.7 +0.5**
baz=84,SNR=9.3
F13A Darby 84.06 44 P **P 02 42 28.7 -0.7**
baz=84,SNR=18
D14A Greenough 84.16 42⇓P **P 02 42 29.4 -0.5**
baz=84
ISA Isabella 84.35 54 *e*pP pP 02 43 28.7 +0.3
O10A Cortez Mining, 84.37 50⇓P **P 02 42 31.5 +0.5**
baz=84
CHMT Chamberlain Mo 84.38 43 *e*P **P 02 42 30.4 -0.5**
E14A Clinton 84.40 43⇑P **P 02 42 31.2 +0.1**
baz=84
M11A Holland Ranch, 84.51 48⇑P **P 02 42 31.9 +0.2**
baz=84
JOF Joensuu 84.54 335 *ep* **P 02 42 28.3 -3.5**
comp=Z,16nm,0.6s,mb4.9
TPH Tonopah 84.55 52 *e*P **P 02 42 32.0 +0.2**
TPH *e**PP pP 02 43 30.7 +1.3
TPH pmax pmax
comp=Z,18nm,1.0s,mb4.8
TPH Tonopah 84.55 52 *e*P **P 02 42 32.0 +0.2**
comp=Z,18nm,1.0s,mb4.8
TPH *e*pP pP 02 43 30.7 +1.2
R09A Tonopah 84.61 52⇑P **P 02 42 32.1 0.0**
baz=84,SNR=13
P10A Eureka 84.61 50⇓P **P 02 42 32.2 0.0**
baz=84
S09A Goldfield 84.66 52⇓P **P 02 42 32.5 +0.1**
baz=85,SNR=9.1
F14A Wisdom 84.69 44⇑P **P 02 42 32.2 -0.3**
baz=85
N11A Elko Archery C 84.75 49⇑P **P 02 42 32.8 0.0**
baz=85
HLID Hailey 84.76 46 *e*P **P 02 42 33.1 +0.2**
comp=Z,13nm,1.0s,mb4.6
HLID *e*pP pP 02 43 31.1 +0.6
HLID Hailey 84.76 46⇑P **P 02 42 33.0 +0.1**
baz=85,SNR=17
GRAC Grapevine Rang 84.78 53⇓P **P 02 42 32.6 -0.4**
baz=85
D15A Lincoln 84.81 42⇑P **P 02 42 32.4 -0.7**
baz=85,SNR=7.9
DAC Darwin (Calif) 84.84 54 *e*P **P 02 42 33.6 +0.3**
DAC *e**PP pP 02 43 31.9 +1.0
DAC pmax pmax
comp=Z,40nm,0.8s,mb5.2
DAC Darwin (Calif) 84.84 54 *e*P **P 02 42 33.6 +0.4**
comp=Z,3.7nm,0.8s,mb4.2
DAC *e*pP pP 02 43 31.9 +1.0
E15A Deer Lodge 84.95 43⇑P **P 02 42 33.6 -0.2**
baz=85,SNR=36
EDW2 Edwards Air Fo 84.97 55⇑P **P 02 42 33.9 0.0**
baz=85
MPMC Manual Prospec 84.98 54 P **P 02 42 34.4 +0.4**
baz=85,SNR=10
O11A Cowboy Ranch, 85.03 50⇑P **P 02 42 34.5 +0.3**
baz=85,SNR=8.7
ELK Elko 85.13 49 *e*P **P 02 42 35.6 +0.9**
ELK *e**PP pP 02 43 33.7 +1.3
ELK pmax pmax
comp=Z,26nm,0.9s
ELK Elko 85.13 49 *e*P **P 02 42 35.5 +0.8**
comp=Z,26nm,0.9s,mb5.0
ELK *e*pP pP 02 43 33.6 +1.2
M12A Wells 85.14 48⇑P **P 02 42 35.1 +0.4**
baz=85,SNR=14
P11A Circle Ranch, 85.15 50⇑P **P 02 42 35.2 +0.3**
baz=85
R10A Warm Springs 85.17 51⇓P **P 02 42 35.1 +0.2**
baz=85
N12A Clover Valley, 85.24 49⇓P **P 02 42 35.5 +0.2**
baz=85,SNR=9.2
F15A Butte 85.25 43⇑P **P 02 42 35.1 -0.2**
baz=85

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LRM	**Limekiln Ridge**	**85.28**	**43**	eP	**P**	**02 42 35.3**	**-0.1**
FURC	**Furnace Creek,**	**85.33**	**53**	⇓P	**P**	**02 42 35.9**	**+0.1**
	baz=85,SNR=5.4						
DLMT	**Dillon**	**85.35**	**44**	eP	**P**	**02 42 35.2**	**-0.6**
	comp=Z,7.6nm,0.6s,mb4.6						
DLMT				epP	pP	02 43 33.4	-0.2
HRY	**Holter Researc**	**85.36**	**42**	eP	**P**	**02 42 35.8**	**-0.1**
HRY				epP	pP	02 43 33.9	+0.2
MCMT	**McKenzie Canyo**	**85.38**	**44**	eP	**P**	**02 42 35.7**	**-0.3**
MCMT				epP	pP	02 43 34.0	+0.3
BFSC	**Mount Baldy St**	**85.43**	**56**	⇑P	**P**	**02 42 36.2**	**0.0**
	baz=85						
Q11A	**Duckwater**	**85.46**	**51**	⇑P	**P**	**02 42 36.1**	**-0.3**
	baz=85						
O12A	**Currie**	**85.64**	**49**	⇑P	**P**	**02 42 37.3**	**+0.1**
	baz=86,SNR=12						
TRCR	**Troy Canyon**	**85.68**	**51**	eP	**P**	**02 42 38.0**	**+0.6**
TRCR				epP	pP	02 43 36.1	+1.0
M13A	**Montello**	**85.69**	**48**	⇑P	**P**	**02 42 37.7**	**+0.2**
	baz=86,SNR=17						
OBN	**Obninsk**	**85.74**	**327**	⇑eP	**P**	**02 42 35.2**	**-2.5**
OBN				e*PP	pP	02 43 34.6	-0.9
OBN				eS	S	02 52 45.2	-4.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
GSC	**Goldstone**	**85.75**	**54**	eP	**P**	**02 42 38.4**	**+0.6**
GSC				e*PP	pP	02 43 36.3	+0.7
GSC	**Goldstone**	**85.75**	**54**	⇑P	**P**	**02 42 37.9**	**+0.1**
	baz=86						
P12A	**McGill**	**85.80**	**50**	⇑P	**P**	**02 42 38.3**	**+0.3**
	baz=86						
N13A	**Wendover, West**	**85.83**	**48**	⇓P	**P**	**02 42 38.2**	**+0.1**
	baz=86,SNR=6.0						
SHOC	**Shoshone**	**85.96**	**54**	⇓P	**P**	**02 42 38.6**	**-0.3**
	baz=86						
MURC	**Murrieta**	**86.00**	**56**	⇓P	**P**	**02 42 38.7**	**-0.3**
	baz=86						
Q12A	**Willow Creek R**	**86.00**	**50**	⇓P	**P**	**02 42 39.3**	**+0.3**
	baz=86,SNR=9.0						
ZEI	**Tsey**	**86.17**	**314**	eP	**P**	**02 42 36.7**	**-3.1**
ZEI				e*PP	pP	02 43 37.5	-0.1
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
EGMT	**Eagleton**	**86.18**	**41**	⇓P	**P**	**02 42 39.0**	**-0.9**
	baz=86						
HEC	**Hector,Ludlow**	**86.28**	**55**	⇑P	**P**	**02 42 40.1**	**-0.3**
	baz=86						
QLMT	**Earthquake Lak**	**86.32**	**44**	eP	**P**	**02 42 41.1**	**+0.6**
QLMT				epP	pP	02 43 39.9	+1.5
TUQ	**Turquoise Mtn.**	**86.39**	**54**	⇑P	**P**	**02 42 40.8**	**-0.1**
	baz=86						
GNI	**Garni**	**86.50**	**311**	eP	**P**	**02 42 41.9**	**+0.5**
GNI				pmax	pmax		
	comp=Z,27nm,1.3s						
GNI	**Garni**	**86.50**	**311**	eP	**P**	**02 42 41.9**	**+0.4**
	comp=Z,27nm,1.3s,mb4.8						
HVU	**Hansel Valley**	**86.52**	**47**	eP	**P**	**02 42 42.0**	**+0.5**
HVU				e*PP	pP	02 43 40.0	+0.6
HVU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
HVU	**Hansel Valley**	**86.52**	**47**	eP	**P**	**02 42 42.0**	**+0.5**
	comp=Z,12nm,0.9s,mb4.6						
HVU				epP	pP	02 43 40.0	+0.7
KIV	**Kislovodsk**	**86.56**	**315**	⇓iP	**P**	**02 42 40.0**	**-1.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**86.56**	**315**	eP	**P**	**02 42 39.3**	**-2.5**
	comp=Z,11nm,1.1s,mb4.5						
PFO	**Pinyon Flat Ob**	**86.58**	**56**	eP	**P**	**02 42 41.9**	**+0.1**
PFO				e*PP	pP	02 43 40.1	+0.4
PFO	**Pinyon Flat Ob**	**86.58**	**56**	⇓P	**P**	**02 42 41.6**	**-0.2**
	baz=86						
SHPR	**Sheep Range**	**86.62**	**53**	eP	**P**	**02 42 42.7**	**+0.7**
SHPR				epP	pP	02 43 41.3	+1.4
BGU	**Big Grassy Mou**	**86.64**	**48**	eP	**P**	**02 42 41.9**	**-0.2**
BGU				epP	pP	02 43 40.3	+0.3
YMR	**Madison River**	**86.69**	**44**	eP	**P**	**02 42 43.5**	**+1.2**
	comp=Z,18nm,0.9s,mb4.8						
YMR				epP	pP	02 43 42.0	+1.8
MONP	**Monument Peak**	**86.85**	**57**	⇓P	**P**	**02 42 43.3**	**+0.2**
	baz=87						
YFT	**Old Faithful**	**86.85**	**44**	eP	**P**	**02 42 44.5**	**+1.4**
YFT				epP	pP	02 43 43.6	+2.6
YNR	**Norris Junctio**	**86.86**	**44**	eP	**P**	**02 42 45.0**	**+1.8**
YNR				epP	pP	02 43 43.1	+2.1
SPUT	**South Promonto**	**86.91**	**48**	eP	**P**	**02 42 41.2**	**-2.2**
SPUT				epP	pP	02 43 39.4	-1.9
KAF	**Kangasniemi**	**86.94**	**336**	ep	**P**	**02 42 38.4**	**-5.1**
	comp=Z,6.6nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**86.94**	**336**	eP	**P**	**02 42 38.4**	**-5.1**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
DCID1	**Drake Creek**	**86.94**	**45**	eP	**P**	**02 42 44.9**	**+1.3**
DCID1				epP	pP	02 43 42.7	+1.3
RRI2	**Red Ridge**	**86.94**	**45**	eP	**P**	**02 42 44.1**	**+0.5**
	comp=Z,8.7nm,0.7s,mb4.6						
RRI2				epP	pP	02 43 42.2	+0.7
IMW	**Indian Meadow**	**86.99**	**45**	epP	pP	02 43 39.0	-2.7
DUG	**Dugway**	**87.06**	**49**	eP	**P**	**02 42 44.4**	**+0.3**
	comp=Z,20nm,1.0s,mb4.8						
DUG				epP	pP	02 43 42.2	+0.1
DUG	**Dugway**	**87.06**	**49**	⇓P	**P**	**02 42 44.1**	**0.0**
	baz=87,SNR=20						
FLWY	**Flagg Ranch**	**87.08**	**45**	eP	**P**	**02 42 44.4**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7						
FLWY				epP	pP	02 43 43.6	+1.4
V12A	**Nelson**	**87.12**	**53**	⇑P	**P**	**02 42 44.7**	**+0.3**
	baz=87,SNR=17						
TPAW	**Teton Pass**	**87.14**	**45**	eP	**P**	**02 42 45.3**	**+0.8**
	comp=Z,13nm,0.9s,mb4.7						
TPAW				epP	pP	02 43 40.9	-1.6
MOOW	**Moose Ponds**	**87.18**	**45**	eP	**P**	**02 42 44.6**	**-0.1**
	comp=Z,12nm,1.0s,mb4.6						
MOOW				epP	pP	02 43 43.2	+0.5
REDW	**Red Top Meadow**	**87.25**	**45**	eP	**P**	**02 42 45.5**	**+0.5**
	comp=Z,47nm,1.9s,mb4.9						
REDW				epP	pP	02 43 40.9	-2.1
SNOW	**Snow King Moun**	**87.28**	**45**	eP	**P**	**02 42 45.8**	**+0.6**
SNOW				epP	pP	02 43 44.8	+1.6
AHID	**Auburn Hatcher**	**87.31**	**46**	eP	**P**	**02 42 45.3**	**0.0**
	comp=Z,25nm,1.1s,mb4.8						
AHID				epP	pP	02 43 43.6	+0.3
LOHW	**Long Hollow**	**87.33**	**45**	eP	**P**	**02 42 45.9**	**+0.5**
	comp=Z,18nm,1.3s,mb4.6						
LOHW				epP	pP	02 43 43.4	+0.1
BC3	**Big Chuckw Mtn**	**87.36**	**56**	⇑P	**P**	**02 42 45.6**	**+0.1**
	baz=87						
FINES	**FINESS Array B**	**87.40**	**335**	P	**P**	**02 42 42.3**	**-3.5**
	comp=Z,6.2nm,0.6s,mb4.5,baz=54,slow=5.3,SNR=18						
FINES				pP	pP	02 43 42.2	-1.6
	comp=Z,2.0nm,0.5s,baz=55,slow=5.2,SNR=1.7						
HWUT	**Hardware Ranch**	**87.42**	**47**	eP	**P**	**02 42 45.9**	**0.0**
	comp=Z,10nm,0.8s,mb4.6						
HWUT				epP	pP	02 43 39.2	-4.6
IRM	**Iron Mountain**	**87.42**	**55**	⇓P	**P**	**02 42 45.8**	**0.0**
	baz=87,SNR=5.7						
ARUT	**Antelope Range**	**87.46**	**51**	eP	**P**	**02 42 46.3**	**+0.3**
CCUT	**Cedar City**	**87.60**	**51**	eP	**P**	**02 42 47.3**	**+0.6**
CCUT				epP	pP	02 43 45.2	+0.5
RLMT	**Red Lodge**	**87.62**	**43**	eP	**P**	**02 42 47.1**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.5						
RLMT				epP	pP	02 43 40.9	-4.0
CTU	**Camp Tracy**	**87.63**	**48**	eP	**P**	**02 42 46.6**	**-0.2**
NLU	**North Lily Min**	**87.67**	**49**	eP	**P**	**02 42 47.6**	**+0.6**
NLU				epP	pP	02 43 45.5	+0.4
FFC	**Flin Flon**	**87.69**	**32**	eP	**P**	**02 42 46.0**	**-1.1**
	comp=Z,27nm,0.8s,mb5.1						
FFC				epP	pP	02 43 40.8	-4.4
TCUT	**Toone Canyon**	**87.71**	**47**	eP	**P**	**02 42 46.8**	**-0.4**
MPU	**Maple Canyon**	**87.96**	**49**	eP	**P**	**02 42 48.9**	**+0.5**
	comp=Z,13nm,1.0s,mb4.7						
MPU				epP	pP	02 43 44.6	-1.9
Y12C	**Blythe**	**88.05**	**55**	⇓P	**P**	**02 42 48.8**	**0.0**
	baz=88						
GLA	**Glamis**	**88.05**	**56**	eP	**P**	**02 42 49.1**	**+0.3**
GLA				epP	pP	02 43 47.4	+0.5
GLA	**Glamis**	**88.05**	**56**	⇑P	**P**	**02 42 49.1**	**+0.2**
	baz=88						
W13A	**Hualapai Mount**	**88.07**	**54**	⇑P	**P**	**02 42 49.3**	**+0.3**
	baz=88,SNR=5.6						
DAU	**Daniels Canyon**	**88.08**	**48**	eP	**P**	**02 42 49.1**	**+0.1**
DAU				epP	pP	02 43 47.9	+0.9
MSU	**Marysvale**	**88.13**	**50**	eP	**P**	**02 42 49.7**	**+0.6**
PDMCI	**Parker Dam,Lak**	**88.16**	**55**	⇓P	**P**	**02 42 49.4**	**+0.1**
	baz=88						
X13A	**Yucca**	**88.29**	**54**	⇑P	**P**	**02 42 50.2**	**+0.3**
	baz=88,SNR=7.3						
BW06	**Boulder Array**	**88.36**	**45**	eP	**P**	**02 42 49.7**	**-0.6**
BW06				epP	pP	02 43 44.8	-3.6
PDAR	**Pinedale Array**	**88.36**	**45**	P	**P**	**02 42 49.3**	**-1.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=229,slow=1.6,SNR=13						
PDAR				pP	pP	02 43 47.3	-1.1
	comp=Z,2.2nm,0.7s,baz=291,slow=2.8,SNR=6.4						
PDAR	**Pinedale Array**	**88.36**	**45**	P	**P**	**02 42 49.3**	**-1.0**
PDAR				pP	pP	02 43 47.3	-1.1
Y13A	**Salome**	**88.57**	**55**	⇓P	**P**	**02 42 51.5**	**+0.3**
	baz=88						
W14A	**Seligman**	**88.65**	**53**	⇓P	**P**	**02 42 52.1**	**+0.5**
	baz=89,SNR=12						
LAO	**LASA Array**	**88.92**	**41**	eP	**P**	**02 42 52.0**	**-0.9**
	comp=Z,15nm,0.7s,mb4.9						
LAO				epP	pP	02 43 52.2	+1.2
X14A	**Yava**	**89.06**	**54**	⇓P	**P**	**02 42 54.2**	**+0.7**
	baz=89,SNR=12						
SRU	**San Rafael**	**89.10**	**49**	eP	**P**	**02 42 54.0**	**+0.3**
	comp=Z,20nm,0.8s,mb5.0						
Y14A	**Wickenburg**	**89.17**	**55**	⇓P	**P**	**02 42 54.4**	**+0.3**
	baz=89,SNR=14						
W15A	**Williams**	**89.28**	**53**	⇓P	**P**	**02 42 55.4**	**+0.8**
	baz=89,SNR=7.3						
DGMT	**Dagmar**	**89.37**	**39**	eP	**P**	**02 42 54.1**	**-0.9**
	comp=Z,13nm,1.0s,mb4.7						
Z14A	**Wintersburg**	**89.42**	**55**	⇓P	**P**	**02 42 55.7**	**+0.5**
	baz=89						
X15A	**Humboldt**	**89.56**	**54**	⇑P	**P**	**02 42 56.7**	**+0.8**
	baz=90,SNR=16						
WUAZ	**Wupatki**	**89.83**	**53**	eP	**P**	**02 42 57.6**	**+0.5**
	comp=Z,16nm,1.0s,mb4.8						
WUAZ				epP	pP	02 43 50.6	-4.8
WUAZ	**Wupatki**	**89.83**	**53**	⇑P	**P**	**02 42 57.9**	**+0.7**
	baz=90,SNR=7.5						
115A	**Sonoran Desert**	**90.22**	**55**	⇓P	**P**	**02 42 59.4**	**+0.4**
	baz=90						
116A	**Eloy**	**90.68**	**55**	⇑P	**P**	**02 43 01.2**	**+0.1**
	baz=91						
MVCO	**Mesa Verde**	**91.31**	**50**	⇑P	**P**	**02 43 04.0**	**0.0**
	baz=91,SNR=6.4						
RSSD	**Black Hills**	**91.43**	**42**	eP	**P**	**02 43 03.4**	**-1.2**
	comp=Z,4.3nm,0.5s,mb4.6						
TUC	**Tucson**	**91.50**	**55**	eP	**P**	**02 43 05.7**	**+0.8**
	comp=Z,16nm,1.5s,mb4.7						
TUC				epP	pP	02 44 00.2	-3.0
SMCO	**Snowmass**	**91.60**	**48**	eP	**P**	**02 43 05.7**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
NB2	**NORSAR Subarra**	**93.12**	**340**	P	**P**	**02 43 08.9**	**-3.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=47,slow=4.6						
NOA	**NORSAR Array B**	**93.12**	**340**	P	**P**	**02 43 09.0**	**-3.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=4.8,SNR=4.5						
ULM	**Lac du Bonnet**	**93.19**	**34**	P	**P**	**02 43 10.9**	**-1.8**
	comp=Z,4.7nm,0.8s,mb4.5,baz=268,slow=5.4,SNR=4.4						
ULM				pP	pP	02 44 10.5	-0.5
	comp=Z,6.6nm,1.0s,baz=309,slow=6.6,SNR=4.0						
ANMO	**Albuquerque**	**93.75**	**52**	⇑eP	**P**	**02 43 15.0**	**-0.2**
ANMO	**Albuquerque**	**93.75**	**52**	eP	**P**	**02 43 15.8**	**+0.5**
ANMO				epP	pP	02 44 10.1	-3.5
BRTR	**Keskin Array B**	**94.46**	**314**	P	**P**	**02 43 16.3**	**-2.2**
	comp=Z,2.6nm,0.9s,mb4.2,baz=69,slow=4.1,SNR=10						
BRTR	**Keskin Array B**	**94.46**	**314**	⇑eP	**P**	**02 43 16.1**	**-2.4**
VNDA	**Vanda**	**95.86**	**176**	P	**P**	**02 43 22.7**	**-2.2**
	comp=Z,0.9nm,0.9s,mb4.0,baz=314,slow=4.6,SNR=6.3						
VNDA	**Vanda**	**95.86**	**176**	eP	**P**	**02 43 22.6**	**-2.3**
	comp=Z,1.1nm,0.9s,mb4.1						
MNTX	**Cornudas Mount**	**95.94**	**54**	eP	**P**	**02 43 25.7**	**+0.5**
TXAR	**Lajitas Array**	**98.30**	**56**	P	**P**	**02 43 35.4**	**-0.4**
	comp=Z,0.6nm,0.7s,mb4.0,baz=237,slow=4.2,SNR=5.2						
TXAR	**Lajitas Array**	**98.30**	**56**	P	**P**	**02 43 35.4**	**-0.4**
MAW	**Mawson**	**103.79**	**203**	PP	PP	02 48 18.9	-1.2
	comp=Z,9.0nm,1.0s,baz=75,slow=6.1,SNR=10.0						
LSZ	**Lusaka**	**120.19**	**263**	ePKPdf	PKPdf	02 48 48.3	+0.3
SNAA	**Sanae**	**123.28**	**191**	ePKPdf	PKPdf	02 48 50.9	-3.0
LBTB	**Lobatse**	**124.11**	**252**	ePKPdf	PKPdf	02 48 55.0	-0.4
TOA0	**Torodi Ar. Sit**	**132.75**	**309**	ePKPdf	PKPdf	02 49 11.6	-0.3
TORD	**Torodi Ar. Bea**	**132.75**	**309**	PKP	PKPdf	02 49 11.2	-0.7
	comp=Z,0.9nm,0.5s,baz=24,slow=2.2,SNR=21						
TORD				SKPbc	SKPbc	02 52 13.3	-3.1
	comp=Z,4.9nm,1.1s,baz=33,slow=2.3,SNR=11						
OTAV	**Otavalo**	**133.07**	**72**	ePKPdf	PKPdf	02 49 11.7	-0.8
SDV	**Santo Domingo**	**135.34**	**56**	ePKPdf	PKPdf	02 49 16.8	0.0
SDV				eSKPbc	SKPbc	02 52 24.8	0.0
ARE	**Arequipa**	**144.61**	**93**	eP	PKPdf	02 49 34.0	+0.5
LVC	**Limon Verde**	**147.40**	**104**	ePKPbc	PKPbc	02 49 41.8	+0.8
LVC				ePKPab	PKPab	02 49 46.4	+2.7
LPAZ	**La Paz**	**147.78**	**92**	PKPbc	PKPbc	02 49 39.8	-2.3
	comp=Z,27nm,0.8s,baz=300,slow=1.9,SNR=28						
LPAZ	**La Paz**	**147.78**	**92**	ePKPdf	PKPdf	02 49 39.7	+0.9
LPAZ				ePKPbc	PKPbc	02 49 43.1	+1.1
LPAZ				ePKPab	PKPab	02 49 46.6	+1.5
TRQA	**Tornquist**	**148.77**	**135**	ePKPbc	PKPbc	02 49 42.9	-1.7
TRQA				ePKPab	PKPab	02 49 49.1	0.0
SAML	**Samuel**	**150.65**	**76**	ePKPdf	PKPdf	02 49 43.2	-0.2
SAML				ePKPbc	PKPbc	02 49 48.5	-0.7
SAML				ePKPab	PKPab	02 49 56.5	-0.5

ISCJB ***03*** *02:36:23.7±3.8, 238S±08×173.1W±04, h35km, mb4.5/6, Error ellipse: s-maj=123.7km s-min=22.2km az=53.4*
IDC ***03*** *02:36:30.5±17.0, 2368S×17453W, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.1/15, mbtmp4.5/5, Error ellipse: s-maj=323.9km s-min=142.7km az=81.0*
ISC 03 02:36:25.7±3.9**, 241S**±08×**1730W**±05**, h35**km**, n13, σ0.99**/13**, mb4.5**/6**, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTA	**Charters Tower**	**37.86**	**268**	eP	**P**	**02 43 38.3**	**-0.9**
	5.5nm,0.5s,mb4.5						
CTA	**Charters Tower**	**37.86**	**268**	P	**P**	**02 43 38.3**	**-0.8**
	9.3nm,0.6s,mb4.7,baz=98,slow=10,SNR=14						
STKA	**Stephens Creek**	**40.61**	**249**	eP	**P**	**02 44 02.5**	**+0.4**
	1.5nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**40.61**	**249**	P	**P**	**02 44 02.8**	**+0.7**
	2.5nm,0.6s,mb4.0,baz=85,slow=8.4,SNR=4.1						
ASAR	**Alice Springs**	**48.30**	**259**	P	**P**	**02 45 03.4**	**-0.1**
	2.9nm,0.9s,mb4.3,baz=89,slow=8.5,SNR=12						
WB2	**Warramunga Arr**	**48.75**	**264**	eP	**P**	**02 45 06.4**	**-0.6**
WRA	**Warramunga Arr**	**48.76**	**264**	P	**P**	**02 45 06.1**	**-1.0**
	5.0nm,0.5s,mb4.8,baz=104,slow=8.0,SNR=19						
KAKA	**Kakadu**	**52.70**	**272**	eP	**P**	**02 45 37.3**	**+0.6**
	3.7nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**57.18**	**263**	eP	**P**	**02 46 10.9**	**+1.8**
	6.3nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**57.18**	**263**	P	**P**	**02 46 10.8**	**+1.7**
	3.8nm,0.8s,mb4.5,baz=109,slow=8.9,SNR=6.2						
VNA3	**Neumayer Olymp**	**84.26**	**175**	e	**P**	**02 48 55.4**	**+1.7**
VNA2	**Neumayer--Watz**	**84.75**	**175**	e	**P**	**02 48 55.4**	**-0.8**
VNA1	**Neumayer--Stat**	**84.95**	**175**	e	**P**	**02 48 56.3**	**-0.9**

NEIC ***03*** *02:58:36.4, 3501S×7074W, h108km, MD3.4(GUC), After GUC.*
GUC 03 02:58:36.4±0.7**, 3501S**×**7074W, h108**km±3km**, MD3.4, ML3.6, 11C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NICH	**Los Niches**	**0.40**	**270**	⇑iP	Pn	02 58 52.6	+0.2
NICH				i S	Sn	02 59 04.2	-0.1
SFDO	**San Fernando**	**0.45**	**330**	⇓iP	Pn	02 58 52.9	+0.2
SFDO				i S	Sn	02 59 05.3	+0.4
CICH	**Cipreses**	**0.73**	**21**	⇓iP	Pn	02 58 55.2	+0.4
CICH				i S	Sn	02 59 09.6	+0.9
TALC	**Talca**	**0.83**	**242**	eP	Pn	02 58 56.0	+0.3
CACH	**El Canelo**	**0.90**	**8**	⇑iP	Pn	02 58 56.8	+0.5
CACH				i S	Sn	02 59 12.4	+1.1
CHCH	**Chadas Angostu**	**1.07**	**4**	⇓iP	Pn	02 58 58.7	+0.5
CHCH				i S	Sn	02 59 15.3	+0.7
LNV	**Longovilo**	**1.18**	**332**	⇑iP	Pn	02 58 59.4	0.0
LNV				i S	Sn	02 59 17.0	+0.2
TACH	**Talagante**	**1.36**	**353**	⇓iP	Pn	02 59 01.7	+0.3
TACH				i S	Sn	02 59 21.0	+0.7
PCH	**Pirque**	**1.40**	**8**	⇓iP	Pn	02 59 02.5	+0.7
PCH				i S	Sn	02 59 22.3	+1.2
ANTU	**Antumapu**	**1.44**	**4**	eP	Pn	02 59 03.1	+0.8
ANTU				i S	Sn	02 59 23.1	+1.2
ANTU				AML	AML	02 59 24.7	
	comp=E,507nm,0.3s						
ANTU	**Antumapu**	**1.44**	**4**	eP	Pn	02 59 03.1	+0.8
ANTU				i S	Sn	02 59 23.1	+1.2
RCDM	**Rinconada Maip**	**1.51**	**358**	⇓iP	Pn	02 59 03.7	+0.5
RCDM				i S	Sn	02 59 24.4	+0.7
RCDM				AML	AML	02 59 25.9	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.51**	**358**	⇓iP	Pn	02 59 03.7	+0.5
RCDM				i S	Sn	02 59 24.4	+0.7
SAN	**Santiago**	**1.55**	**3**	⇑iP	Pn	02 59 04.2	+0.5
SAN				i S	Sn	02 59 25.3	+0.9
SAN				AML	AML	02 59 26.4	
	comp=N,582nm,0.5s						
SAN	**Santiago**	**1.55**	**3**	⇑iP	Pn	02 59 04.2	+0.5
SAN				i S	Sn	02 59 25.3	+0.9
STL	**Santa Lucia**	**1.57**	**3**	eP	Pn	02 59 03.5	-0.3
STL				i S	Sn	02 59 25.0	+0.2
DSCH	**Colegio Aleman**	**1.61**	**5**	⇑iP	Pn	02 59 04.4	0.0
DSCH				i S	Sn	02 59 26.6	+0.9
CLCH	**Cerro Calan**	**1.61**	**6**	⇑iP	Pn	02 59 05.1	+0.7
CLCH				i S	Sn	02 59 26.7	+0.9
CLCH				AML	AML	02 59 29.3	
	comp=N,696nm,0.8s						
LCCH	**Las Cruces**	**1.67**	**336**	⇓iP	Pn	02 59 05.5	+0.3
FCH	**Farellones**	**1.72**	**13**	⇑iP	Pn	02 59 06.6	+0.9
FCH				i S	Sn	02 59 29.9	+1.9
FCH				AML	AML	02 59 32.1	
	comp=E,496nm,0.2s						
PEL	**Peldehue**	**1.86**	**2**	⇑iP	Pn	02 59 08.0	+0.5
PEL				i S	Sn	02 59 31.7	+0.5
PEL				AML	AML	02 59 32.8	
	comp=N,663nm,0.3s						
PEL	**Peldehue**	**1.86**	**2**	⇑iP	Pn	02 59 08.0	+0.5
PEL				i S	Sn	02 59 31.7	+0.5
COCH	**Cobquecura**	**2.01**	**235**	eP	Pn	02 59 10.1	+0.7
JACH	**Jahuel**	**2.32**	**3**	⇓iP	Pn	02 59 14.0	+0.6
JACH				i S	Sn	02 59 42.5	+0.8
PTCH	**Petorca**	**2.74**	**357**	⇑iP	Pn	02 59 18.9	0.0
PTCH				AML	AML	02 59 55.3	
	comp=N,411nm,0.3s						
CMCH	**Combarbala**	**3.83**	**357**	eP	Pn	02 59 32.4	-1.0

NEIC 03 02:58:46.7, 5907N×15223W, h67km, ML3.1(AEIC)**, ML3.3**(PMR)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AUL	**Augustine Lava**	**0.70**	**297**	P	Pn	02 59 01.1	-0.3
AUL				S	Sn	02 59 12.7	+0.6
KDAK	**Kodiak Island**	**1.31**	**188**	ePn	Pn	02 59 08.3	-0.7
KDAK				eSn	Sn	02 59 24.8	-0.9
SEW	**Seward**	**1.75**	**53**	P	Pn	02 59 13.4	-1.5
SLKM	**Skilak Lake**	**1.76**	**34**	ePn	Pn	02 59 13.7	-1.4
SLKM				eSn	Sn	02 59 33.9	-2.7
FIB	**Fire Island**	**2.34**	**25**	P	Pn	02 59 22.6	-0.3
RC01	**Rabbit Creek A**	**2.38**	**31**	P	Pn	02 59 22.4	-1.0
RC01				S	Sn	02 59 48.9	-2.6
SVW2	**Sparrevohn**	**2.64**	**322**	P	Pn	02 59 25.5	-1.4
SVW2				S	Sn	02 59 54.9	-2.9
PMR	**Palmer**	**2.96**	**30**	eP	Pn	02 59 30.1	-1.2
MID	**Middleton Isla**	**3.04**	**81**	P	Pn	02 59 31.3	-1.2
GHO	**Glory Hole Cre**	**3.17**	**30**	P	Pn	02 59 32.9	-1.3
EYAK	**Cordova Ski Ar**	**3.59**	**63**	P	Pn	02 59 38.3	-1.6
DIV	**Divide**	**3.83**	**55**	P	Pn	02 59 42.8	-0.5
RAGM	**Ragged Mountai**	**4.04**	**68**	P	Pn	02 59 44.8	-1.3
TT01	**Tatalina**	**4.27**	**336**	P	Pn	02 59 47.8	-1.4
BMRM	**Bremner River**	**4.27**	**60**	P	Pn	02 59 47.7	-1.5
TRF	**Thorofare Moun**	**4.49**	**11**	P	Pn	02 59 50.5	-1.8
MCK	**McKinley**	**4.94**	**17**	P	Pn	02 59 56.8	-1.5
COLA	**College**	**6.18**	**18**	P	Pn	03 00 13.4	-1.9
SKAG	**Skagway**	**8.66**	**80**	eP	Pn	03 00 48.8	-0.5
SIT	**Sitka**	**9.18**	**95**	eP	Pn	03 00 54.3	-2.0
DLBC	**Dease Lake**	**11.54**	**84**	ePn	Pn	03 01 29.1	+0.7

IDC 03 03:03:01.2±2.2**, 686S**×**12939E, h0**km**, mb3.5**/1**, mb1 3.9**/3**, mb1mx3.6**/13**, mbtmp3.7**/3**, ML3.9**/2**, Error ellipse: s-maj=147.7km s-min=31.4km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**13.87**	**160**	Pn	Pn	03 06 18.6	-0.3
	0.7nm,0.3s,baz=342,slow=13,SNR=13						
WRA				Sn	Sn	03 08 42.0	-12
	1.6nm,0.3s,baz=331,slow=23,SNR=15						
ASAR	**Alice Springs**	**17.27**	**166**	P	Pn	03 07 04.4	+0.7
	0.3nm,0.3s,baz=343,slow=10,SNR=37						
ASAR				S	Sn	03 10 04.1	-12
	0.2nm,0.3s,baz=348,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	03 14 00.9	+0.2
	0.3nm,0.5s,baz=112,slow=8.0,SNR=6.7						

BJI ***03*** *03:11:32.6, 750S×12830E, h160km, mb4.5*
ISCJB ***03*** *03:11:36.9±1.5, 758S±006×128.19E±009, h172km±16km, mb4.3/21, Error ellipse: s-maj=15.5km s-min=8.0km az=128.6*
NEIC ***03*** *03:11:37.7±1.8, 748S×12825E, h161km±20km, mb4.3/11, Error ellipse: s-maj=18.2km s-min=10.7km az=47.0*
IDC ***03*** *03:11:38.2±2.5, 759S×12805E, h168km±24km, mb3.9/6, mb1 4.0/9, mb1mx3.7/17, mbtmp4.5/9, Error ellipse: s-maj=26.1km s-min=14.7km az=60.0*
ISC 03 03:11:40.6±1.1**, 782S**±005×**12821E**±009**, h201**km±11km**, n39, σ0.93**/47**, mb4.2**/21**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KAKA	**Kakadu**	**6.40**	**140**	eP	**Pn**	**03 13 11.7**	**-1.3**
	61nm,0.6s						
KAKA				eS	**Sn**	**03 14 17.1**	**-9.2**
FITZ	**Fitzroy Crossi**	**10.52**	**193**	eP	**Pn**	**03 14 08.7**	**+2.2**
	7.6nm,0.5s						
FITZ				eS	**Sn**	**03 16 04.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.52**	**193**	P	**Pn**	**03 14 07.1**	**+0.6**
	1.0nm,0.3s,baz=22,slow=11,SNR=14						
FITZ				S	**Sn**	**03 16 03.3**	**-0.7**
	1.7nm,0.3s,baz=115,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**13.44**	**154**	P	**Pn**	**03 14 42.2**	**-1.3**
	1.3nm,0.3s,baz=326,slow=13,SNR=23						
WRA				S	**S**	**03 17 05.3**	**-7.8**
	3.3nm,0.3s,baz=326,slow=23,SNR=12						
WRA				ScP	ScP	03 23 14.0	+5.1
	0.1nm,0.3s,baz=336,slow=1.2,SNR=5.9						
WB2	**Warramunga Arr**	**13.44**	**154**	eP	**Pn**	**03 14 43.0**	**-0.5**
WB2				e		03 14 49.8	
WB2				eS	**S**	**03 17 05.3**	**-7.9**
AS31	**Alice Springs**	**16.68**	**162**	eP	**P**	**03 15 26.5**	**+4.7**
AS31				eS	**S**	**03 18 25.5**	**-0.2**
ASAR	**Alice Springs**	**16.68**	**162**	P	**P**	**03 15 26.6**	**+4.8**
	4.0nm,0.3s,baz=339,slow=10,SNR=298						
ASAR				S	**S**	**03 18 25.3**	**-0.4**
	0.9nm,0.3s,baz=346,slow=26,SNR=7.5						
ASAR				ScP	ScP	03 23 19.5	+4.7
	0.3nm,0.3s,baz=343,slow=1.6,SNR=8.6						
ASAR	**Alice Springs**	**16.68**	**162**	P	**P**	**03 15 26.6**	**+4.8**
ASAR				S	**S**	**03 18 25.3**	**-0.4**
ASAR				ScP	ScP	03 23 19.5	+4.7
ASPA	**Alice Springs**	**16.68**	**162**	eP	**P**	**03 15 26.1**	**+4.3**
ASPA				eS	**S**	**03 18 25.6**	**0.0**
PMG	**Port Moresby**	**18.80**	**96**	P	**P**	**03 15 47.3**	**+2.3**
	1.2nm,0.3s,baz=278,slow=7.4,SNR=8.8						
PMG	**Port Moresby**	**18.80**	**96**	eP	**P**	**03 15 47.5**	**+2.5**
	33nm,0.9s						
KSM	**Kuching**	**20.10**	**297**	eP	**P**	**03 15 59.7**	**+0.8**
CTA	**Charters Tower**	**21.31**	**127**	P	**P**	**03 16 13.7**	**+2.0**
	7.4nm,0.6s,mb4.4,baz=311,slow=12,SNR=11						
CTAO	**Charters Tower**	**21.31**	**127**	eP	**P**	**03 16 13.2**	**+1.5**
	7.8nm,0.6s,mb4.4						
FORT	**Forrest**	**22.84**	**180**	eP	**P**	**03 16 31.3**	**+5.0**
	7.8nm,0.5s,mb4.5						
FORT				eS	S	03 20 50.1	+30
STKA	**Stephens Creek**	**26.99**	**154**	eP	**P**	**03 17 07.1**	**+3.4**
	3.1nm,0.6s,mb4.1						
STKA				e		03 17 11.6	
STKA	**Stephens Creek**	**26.99**	**154**	P	**P**	**03 17 07.3**	**+3.6**
	3.9nm,0.6s,mb4.2,baz=336,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**26.99**	**154**	eP	**P**	**03 17 07.0**	**+3.3**
CHTO	**Chiang Mai**	**39.16**	**313**	eP	**P**	**03 18 49.2**	**+0.5**
	2.2nm,0.4s,mb4.0						
XAN	**Xi'an**	**45.47**	**337**	P	**P**	**03 19 36.1**	**-3.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb3.8						
LZH	**Lanzhou**	**49.32**	**334**	eP	**P**	**03 20 08.5**	**-0.8**
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.4						
JIRN	**Jiri**	**53.81**	**313**	eP	**P**	**03 20 43.0**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,4.7nm,0.5s,mb4.3						
GTA	**Gaotai**	**53.86**	**333**	*e*P	**P**	**03 20 42.5**	**-0.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
GUN	**Gumba**	**54.17**	**313**	*e*P	**P**	**03 20 45.5**	**+0.4**
	comp=Z,13nm,0.5s,mb4.7						
PKI	**Pulchoki**	**54.33**	**312**	*e*P	**P**	**03 20 47.8**	**+1.5**
	comp=Z,5.8nm,0.4s,mb4.5						
KKN	**Kakani**	**54.55**	**312**	*e*P	**P**	**03 20 47.9**	**+0.1**
	comp=Z,5.6nm,0.5s,mb4.4						
GKN	**Gorkha**	**55.13**	**312**	*e*P	**P**	**03 20 52.3**	**+0.3**
	comp=Z,12nm,0.3s,mb4.8						
KOLN	**Koldanda**	**55.78**	**311**	*e*P	**P**	**03 20 56.7**	**+0.1**
	comp=Z,13nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**58.51**	**343**	*e*P	**P**	**03 21 15.5**	**-0.3**
	comp=Z,2.3nm,0.9s,mb3.8						
SONM	**Songino Array**	**58.67**	**343**	P	**P**	**03 21 15.8**	**-1.1**
	comp=Z,2.2nm,0.7s,mb3.9,baz=163,slow=7.8,SNR=15						
MK31	**Makanchi Array**	**67.95**	**328**	*e*P	**P**	**03 22 17.2**	**-0.5**
MKAR	**Makanchi Array**	**67.95**	**328**	P	**P**	**03 22 17.6**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.0,baz=117,slow=7.9,SNR=11						
AAK	**Ala-Archa**	**70.03**	**321**	*e*P	**P**	**03 22 30.6**	**+0.1**
	comp=Z,2.2nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**77.82**	**328**	P	**P**	**03 23 14.8**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=102,slow=6.8,SNR=5.8						
CHKZ	**Chkalovo**	**78.04**	**329**	*e*P	**P**	**03 23 16.2**	**-0.6**
	comp=Z,2.1nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**78.50**	**328**	*e*P	**P**	**03 23 18.5**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**83.64**	**323**	P	**P**	**03 23 46.6**	**+0.1**
AKTO	**Aktyubinsk**	**83.64**	**323**	P	**P**	**03 23 46.6**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.1,baz=100,slow=7.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**127.22**	**281**	PKP	PKPdf	03 30 23.3	+2.3
	comp=Z,0.8nm,0.7s,baz=82,slow=1.7,SNR=13						

*ISCJB **03** 03:15:03.4±1.3, 50.10N±0.08×87.9E±0.2, h10km, mb3.6/3, Error ellipse: s-maj=17.4km s-min=9.9km az=50.7*

*IDC **03** 03:15:03.1±1.5, 49.93N×88.02E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.6/24, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=17.8km s-min=17.3km az=144.0*

*NEIC **03** 03:15:04.2±1.4, 50.08N×88.12E, h10km, Error ellipse: s-maj=21.7km s-min=16.1km az=49.0*

ISC 03 03:15:07.3±1.9**, 50.15N**±0.07×**87.8E**±0.1**, h26**km±12km**, n11, σ1§19**/20**, mb3.6**/3**, 3C, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.97**	**230**	⇑Pn	**Pn**	**03 16 20.4**	**0.0**
	8.3nm,0.5s,baz=82,slow=14,SNR=266						
MK31				Pg	**Pb**	**03 16 33.0**	**-0.6**
	11nm,0.5s,baz=55,slow=15,SNR=7.2						
MK31				⇑Sn	**Sn**	**03 17 17.5**	**+0.5**
	6.8nm,0.4s,baz=60,slow=26,SNR=5.4						
MK31				⇑Lg		03 17 37.2	
	26nm,0.6s,baz=48,slow=28,SNR=7.8						
MK31	**Makanchi Array**	**4.97**	**230**	*e*Pn	**Pn**	**03 16 20.2**	**-0.1**
MK31				*e*Sg	**Sb**	**03 17 36.6**	**+3.6**
MKAR	**Makanchi Array**	**4.97**	**230**	Pn	**Pn**	**03 16 20.4**	**+0.1**
	5.1nm,0.3s,baz=52,slow=13,SNR=187						
MKAR				Pg	**Pb**	**03 16 32.5**	**-1.2**
	8.9nm,0.3s,baz=53,slow=18,SNR=23						
MKAR				Sn	**Sn**	**03 17 17.0**	**0.0**
	6.4nm,0.3s,baz=45,slow=21,SNR=7.1						
MKAR				Lg		03 17 36.6	
	10nm,0.3s,baz=55,slow=28,SNR=12						
MKAR	**Makanchi Array**	**4.97**	**230**	Pn	**Pn**	**03 16 20.4**	**+0.1**
MKAR				Pg	**Pb**	**03 16 32.5**	**-1.2**
MKAR				Sn	**Sn**	**03 17 17.0**	**0.0**
MKAR				Lg		03 17 36.6	
BVAR	**Borovoye Array**	**11.22**	**292**	Pn	**Pn**	**03 17 46.3**	**+0.4**
	0.8nm,0.3s,baz=98,slow=15,SNR=7.6						
BVAR				Sn	**Sn**	**03 19 48.1**	**-2.3**
	0.6nm,0.3s,baz=110,slow=24,SNR=6.3						
BVAR				Lg		03 21 08.7	
	0.2nm,0.3s,baz=228,slow=44,SNR=2.4						
ZRNK	**Zerenda**	**12.04**	**291**	*e*Pn	**Pn**	**03 17 58.2**	**+1.0**
	2.2nm,0.6s						
ZRNK				*e*Sn	**Sn**	**03 20 09.4**	**-1.1**
AKTK	**Aktyubinsk**	**18.99**	**282**	P	**Pn**	**03 19 29.4**	**+1.7**
AKTO	**Aktyubinsk**	**18.99**	**282**	P	**Pn**	**03 19 29.4**	**+1.7**
	0.2nm,0.3s,baz=84,slow=11,SNR=15						
BRTR	**Keskin Array B**	**38.95**	**276**	P	**P**	**03 22 32.3**	**+1.2**
	0.7nm,0.5s,mb3.6,baz=82,slow=6.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**77.56**	**276**	P	**P**	**03 27 00.7**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=32,slow=4.8,SNR=5.3						
ASAR	**Alice Springs**	**84.06**	**138**	P	**P**	**03 27 33.7**	**-2.0**
	0.3nm,0.6s,mb3.6,baz=340,slow=5.3,SNR=4.6						

KRSC 03 03:32:31.2±0.7**, 50.76N**×**158.15E, h5**km±5km**, ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.69**	**8**	*e*P	Pn	03 33 02.5	+1.1
RUS				*e*S	Sn	03 33 25.3	+1.9
RUS	**Russkaya**	**1.69**	**8**	*e*P	Pn	03 33 02.5	+1.1
RUS				*e*S	Sn	03 33 25.3	+1.9
GRL	**Gorelyy**	**1.79**	**359**	*e*P	Pn	03 33 04.1	+1.3
GRL				*e*S	Sn	03 33 27.6	+1.6
GRL	**Gorelyy**	**1.79**	**359**	*e*P	Pn	03 33 04.1	+1.3
GRL				*e*S	Sn	03 33 27.6	+1.6
NLC	**Nalytchevo**	**2.53**	**17**	*e*P	Pn	03 33 13.7	+0.8
NLC				*e*S	Sn	03 33 45.4	+1.4
NLC	**Nalytchevo**	**2.53**	**17**	*e*P	Pn	03 33 13.7	+0.8
NLC				*e*S	Sn	03 33 45.4	+1.4
SDLR	**Sedlovina**	**2.56**	**10**	*e*S	Sn	03 33 47.6	+2.7
SDLR	**Sedlovina**	**2.56**	**10**	*e*S	Sn	03 33 47.6	+2.7
SPN	**Mys Shipunski**	**2.61**	**26**	*e*P	Pn	03 33 15.1	+1.0
SPN				*e*S	Sn	03 33 47.1	+0.9
SPN	**Mys Shipunski**	**2.61**	**26**	*e*P	Pn	03 33 15.1	+1.0
SPN				*e*S	Sn	03 33 47.1	+0.9
GNL	**Ganaly**	**2.94**	**358**	*e*P	Pn	03 33 19.0	+0.4
GNL	**Ganaly**	**2.94**	**358**	*e*P	Pn	03 33 19.0	+0.4
MKZ	**Mys Kozlova**	**4.38**	**28**	*e*P	Pn	03 33 40.8	+2.4
MKZ				*e*S	Sn	03 34 32.1	+2.3
MKZ	**Mys Kozlova**	**4.38**	**28**	*e*P	Pn	03 33 40.8	+2.4
MKZ				*e*S	Sn	03 34 32.1	+2.3

*STR **03** 03:33:53.5±0.0, 43.11N×0.49W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **03** 03:33:53.9±0.1, 43.09N×0.50W, h2km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.1km az=178.0*

LDG 03 03:33:53.8±0.1**, 43.08N**×**0.50W, h2**km**, Md1.7**/3**, Error ellipse: s-maj=2.4km s-min=1.1km az=1.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.08**	**98**	Pg	Pg	03 33 55.4	0.0
REYF				Sg	Sg	03 33 56.8	+0.4
ATE	**Arette**	**0.15**	**272**	Pg	Pg	03 33 56.7	+0.1
ATE				Sg	Sg	03 33 59.0	+0.4
ETSF	**Etsaut**	**0.19**	**194**	*e*Pg	Pg	03 33 57.6	+0.2
ETSF				*e*Sg	Sg	03 34 00.4	+0.6
	6.6nm,0.2s						
ETSF	**Etsaut**	**0.19**	**194**	*e*Pg	Pg	03 33 57.6	+0.2
ETSF				*e*Sg	Sg	03 34 00.4	+0.6
	3.3nm,0.2s						
SJPF	**Ste Jean**	**0.53**	**274**	*e*Pn	Pg	03 34 06.6	+2.6
SJPF				*e*Sg	Sg	03 34 11.0	+0.1
	0.8nm,0.2s						
SJPF	**Ste Jean**	**0.53**	**274**	*e*Sg	Sg	03 34 11.0	+0.1
	0.4nm,0.2s						
EPF	**Esparros**	**0.62**	**94**	*e*Pg	Pg	03 34 05.8	+0.2
EPF				*e*Sg	Sg	03 34 14.0	+0.4
	1.1nm,0.2s						
EPF	**Esparros**	**0.62**	**94**	*e*Pg	Pg	03 34 05.8	+0.2
EPF				*e*Sg	Sg	03 34 14.0	+0.4
	0.6nm,0.2s						

*NIED **03** 03:34:00, 45.30N×148.80E, h101km, Mw4.5 Best double couple: M0 7.00000×10^15 NP1:φs110.00000°, δ69.00000°, λ129.00000°. NP2:φs224.00000°, δ44.00000°, λ31.00000°.*

*SKHL **03** 03:34:45.3±0.5, 45.46N×149.05E, h140km±19km, mb6.1/1, mbh5.6/1, msh5.8/1*

*MOS **03** 03:34:46.6±1.1, 45.84N×148.41E, h145km, mb4.2/16, Error ellipse: s-maj=9.9km s-min=7.8km az=82.6*

*ISCJB **03** 03:34:47.4±0.4, 45.68N±0.04×148.52E±0.05, h153km±4km, mb4.4/67, Error ellipse: s-maj=7.6km s-min=4.2km az=110.3*

*IDC **03** 03:34:48.3±0.7, 45.86N×148.41E, h145km±5km, mb4.0/16, mb1 4.1/18, mb1mx4.0/23, mbtmp4.0/18, MS3.3/3, Ms1 3.3/3, ms1mx2.7/27, Error ellipse: s-maj=13.7km s-min=11.0km az=155.0*

*JMA **03** 03:34:49.7±0.6, 45.27N×148.75E, h152km, M4.5*

*BJI **03** 03:34:49.3, 45.82N×148.47E, h171km, mB4.9, mb4.8*

*NEIC **03** 03:34:50.6±0.9, 45.82N×148.42E, h164km±8km, mb4.3/40, Error ellipse: s-maj=7.5km s-min=5.3km az=156.0*

ISC 03 03:34:48.1±0.4**, 45.74N**±0.04×**148.50E**±0.05**, h142**km±3km**, h145**km±4.5km**:pP-P, n189,** σ**1§35**/205**, mb4.4**/67**, 5C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.67**	**222**	⇑*i*P	**Pn**	**03 35 07.2**	**-2.4**
KUR				AMB	AMB	03 35 08.0	
	230nm,0.6s						
KUR				AMB	AMB	03 35 08.0	
	180nm,0.6s						
KUR				AMB	AMB	03 35 08.0	
	2μm,0.6s						
KUR				AMB	AMB	03 35 08.0	
	5μm,2.0s						
KUR				*i* S	**Sn**	**03 35 24.0**	**-1.9**
KUR				A		03 35 24.5	
	30μm,2.0s						
KUR				A		03 35 24.5	
	42μm,2.0s						
KUR				A		03 35 25.0	
	4μm,0.8s						
KUR				A		03 35 25.0	
	8μm,0.8s						
KUR	**Kuril'sk**	**0.67**	**222**	⇓*i*PN	**Pn**	**03 35 07.2**	**-2.4**
KUR				*i* S	**Sn**	**03 35 24.0**	**-1.9**
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,340nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				smax			
	comp=E,35μm,2.0s						
KUR				smax			
	comp=N,30nm,2.0s						
KUR				smax			
	comp=N,8μm,0.8s						
KUR				smax			
	comp=E,4μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**229**	⇑*i*P	**Pn**	**03 35 30.8**	**+1.6**
YUK				AMB	AMB	03 35 31.3	
	comp=E,2μm,0.5s						
YUK				AMB	AMB	03 35 31.5	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	03 35 31.5	
	comp=E,4μm,1.0s						
YUK				AMB	AMB	03 35 31.5	
	comp=E,3μm,2.0s						
YUK				*i* S	**Sn**	**03 36 04.5**	**+3.6**
YUK				A		03 36 13.0	
	comp=E,7μm,2.5s						
YUK				A		03 36 13.0	
	comp=E,5μm,1.5s						
YUK				A		03 36 13.5	
	comp=E,3μm,0.5s						
YUK				A		03 36 13.5	
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**229**	⇑*i*PN	**Pn**	**03 35 30.8**	**+1.6**
YUK				*i* S	**Sn**	**03 36 04.5**	**+3.6**
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				pmax	pmax		
	comp=E,3μm,2.0s						
YUK				smax			
	comp=E,7μm,2.5s						
YUK				smax			
	comp=N,5μm,1.5s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,3μm,0.5s						
JRA	**Rausu**	**3.00**	**234**	P	**Pn**	**03 35 37.0**	**+1.9**
NEM2	**Nemuro 2**	**3.08**	**221**	P	**Pn**	**03 35 35.8**	**-0.4**
NEM2				*e*S	**Sn**	**03 36 12.2**	**-1.2**
JNK	**Nakash**	**3.45**	**233**	P	**Pn**	**03 35 42.6**	**+1.7**
JTKR	**Abashiri--Toko**	**3.71**	**243**	P	**Pn**	**03 35 46.3**	**+2.0**
JTKR				*e*S	**Sn**	**03 36 30.6**	**+2.7**
JAK	**Akkeshi**	**3.87**	**226**	P	**Pn**	**03 35 46.4**	**0.0**
JAK				*e*S	**Sn**	**03 36 30.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.16**	**289**	*e*P	**Pn**	**03 35 53.5**	**+3.3**
YSS				AMB	AMB	03 35 54.0	
	comp=E,70nm,0.8s						
YSS				*e*S	**Sn**	**03 36 46.5**	**+8.0**
YSS				A		03 36 48.0	
	comp=E,140nm,1.1s						
YSS				A		03 36 48.0	
	comp=E,600nm,1.4s						
YSS	**Yuzh-Sakhalins**	**4.16**	**289**	*e*Pn	**Pn**	**03 35 53.6**	**+3.4**
JAR	**Ashorobuto**	**4.17**	**236**	P	**Pn**	**03 35 52.4**	**+2.0**
JSE	**Soyaes**	**4.24**	**262**	P	**Pn**	**03 35 54.3**	**+3.0**
JSE				*e*S	**Sn**	**03 36 46.3**	**+5.9**
JOB	**Onbets**	**4.38**	**231**	P	**Pn**	**03 35 54.3**	**+1.1**
JOB				*e*S	**Sn**	**03 36 42.5**	**-1.3**
ASAJ	**Asahikawa**	**4.49**	**251**	P	**Pn**	**03 35 58.1**	**+3.5**
	comp=E,13nm,0.3s,baz=70,slow=15,SNR=67						
ASAJ	**Asahikawa**	**4.49**	**251**	P	**Pn**	**03 35 57.9**	**+3.3**
ASAJ	**Asahikawa**	**4.49**	**251**	PN	**Pn**	**03 35 58.2**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
JKK2	**Kamakawa 2**	**4.50**	**248**	P	**Pn**	**03 35 57.5**	**+2.8**
JWK2	**Keihoku**	**4.66**	**267**	P	**Pn**	**03 36 01.3**	**+4.5**
JCH	**Churui**	**4.84**	**232**	P	**Pn**	**03 35 59.3**	**+0.1**
JCH				*e*S	**Sn**	**03 36 52.0**	**-2.5**
JFR	**Furan**	**4.95**	**241**	P	**Pn**	**03 36 03.3**	**+2.6**
JAB	**Ashibetsu**	**5.00**	**246**	P	**Pn**	**03 36 05.0**	**+3.6**
JBT2	**Biratori 2**	**5.31**	**238**	P	**Pn**	**03 36 06.6**	**+1.2**
JBT2				*e*S	**Sn**	**03 37 06.1**	**+0.4**
ERM	**Erimo**	**5.36**	**228**	*e*PN	**Pn**	**03 36 06.9**	**+0.7**
ERM				*e*		03 37 03.3	
ERM				pmax	pmax		
	comp=Z,105nm,0.4s						
ERM	**Erimo**	**5.36**	**228**	*e*Pn	**Pn**	**03 36 06.9**	**+0.7**
	comp=Z,105nm,0.4s						
ERM				*e*Sn	**Sn**	**03 37 03.3**	**-3.8**
JEM	**Erimo**	**5.36**	**228**	P	**Pn**	**03 36 06.8**	**+0.6**
JEM				*e*S	**Sn**	**03 37 05.1**	**-1.9**
JNBK	**Urakawa-nobuka**	**5.39**	**232**	P	**Pn**	**03 36 06.1**	**-0.5**
JNBK				*e*S	**Sn**	**03 37 03.2**	**-4.7**
UGL	**Uglegorsk**	**5.50**	**310**	*e*rx	rx	03 36 29.0	
UGL				*e*rx	rx	03 36 34.5	
JEW	**Eniwo**	**5.83**	**243**	P	**Pn**	**03 36 15.0**	**+2.6**
JNB	**Noboribetsu**	**6.29**	**241**	P	**Pn**	**03 36 18.9**	**+0.4**
JNB				*e*S	**Sn**	**03 37 29.3**	**+0.1**
TYV	**Tymovskoe**	**6.44**	**325**	*e*rx	rx	03 36 32.5	
TYV				*e*rx	rx	03 37 42.0	
JKB	**Kayabe**	**6.63**	**237**	P	**Pn**	**03 36 22.5**	**-0.6**
JKB				*e*S	**Sn**	**03 37 33.7**	**-3.8**
JSH	**Shimam**	**6.82**	**246**	P	**Pn**	**03 36 27.6**	**+1.9**
JYM2	**Yakumo 2**	**6.89**	**241**	P	**Pn**	**03 36 27.3**	**+0.6**
JYM2				*e*S	**Sn**	**03 37 44.3**	**+0.5**
SKR	**Severo-Kuril's**	**7.10**	**43**	*e*PN	**Pn**	**03 36 28.7**	**-0.7**
SKR				S	**Sn**	**03 37 50.5**	**+1.8**
SKR				pmax	pmax		
	comp=Z,200nm,0.9s						
SKR				smax			
	comp=N,220nm,1.0s						
SKR				smax			
	comp=E,220nm,1.0s						
JSR	**Shiriuchi**	**7.21**	**237**	P	**Pn**	**03 36 30.3**	**-0.7**
JSR				*e*S	**Sn**	**03 37 47.8**	**-3.7**
JTM	**Tenmabayashi**	**7.34**	**230**	P	**Pn**	**03 36 30.4**	**-2.2**
JTM				*e*S	**Sn**	**03 37 46.5**	**-8.1**
JANG	**Nango**	**7.41**	**226**	P	**Pn**	**03 36 30.3**	**-3.2**
JANG				*e*S	**Sn**	**03 37 45.9**	**-10**
JTH	**Tanohata**	**7.57**	**222**	*e*S	**Sn**	**03 37 49.8**	**-10**
OFUJ	**Ofunato**	**8.35**	**220**	*e*S	**Sn**	**03 38 10.9**	**-8.0**
JRG	**Rokugo**	**8.59**	**225**	P	**Pn**	**03 36 47.1**	**-2.3**
JRG				*e*S	**Sn**	**03 38 19.2**	**-5.5**
JIO	**Ouri**	**9.01**	**219**	P	**Pn**	**03 36 51.6**	**-3.4**
JIO				*e*S	**Sn**	**03 38 26.0**	**-8.8**
JYA	**Atsumi**	**9.66**	**225**	P	**Pn**	**03 36 58.6**	**-5.1**
JYA				*e*S	**Sn**	**03 38 42.3**	**-8.3**
JFK	**Kawauchi**	**10.12**	**217**	*e*S	**Sn**	**03 38 51.9**	**-10**
JFY	**Yanaizu**	**10.61**	**221**	P	**Pn**	**03 37 14.1**	**-2.1**
KLR	**Kul'dur**	**11.86**	**293**	*e*PN	**Pn**	**03 37 32.7**	**+0.1**
KLR				pmax	pmax		
	comp=E,80nm,1.4s						
KLR				pmax	pmax		
	comp=Z,76nm,1.4s						
MAJO	**Matsushiro**	**12.01**	**224**	*e*PN	**Pn**	**03 37 43.2**	**+8.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAJO	**Matsushiro**	**12.01**	**224**	*e*Pn	**Pn**	**03 37 43.1**	**+8.5**
	comp=Z,7.7nm,0.5s						
MAT	**Matsushiro**	**12.01**	**224**	P	**Pn**	**03 37 33.2**	**-1.5**
MAT				*e*S	**Sn**	**03 39 42.1**	**-5.2**
MJAR	**Matsushiro Arr**	**12.01**	**224**	P	**Pn**	**03 37 32.3**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=4.2						
MDJ	**Mudanjiang**	**13.39**	**272**	*e*Pn	**Pn**	**03 37 53.7**	**+1.2**
	comp=Z,11nm,0.8s						
ZEA	**Zeya**	**15.85**	**308**	*e*P	**Pn**	**03 38 21.9**	**-1.4**
ZEA				AMB	AMB	03 38 22.8	
	comp=Z,20nm,0.7s						
ZEA				AMB	AMB	03 38 22.8	
	comp=Z,47nm,1.0s						
ZEA				AMB	AMB	03 38 22.8	
	comp=Z,52nm,1.0s						
CN2	**Changchun**	**16.48**	**272**	*e*P	**Pn**	**03 38 29.7**	**-1.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**17.44**	**249**	P	**Pn**	**03 38 42.5**	**-0.1**
	baz=59,slow=11,SNR=35						
INCN	**Inchon**	**18.27**	**251**	*e*P	**P**	**03 38 52.3**	**+1.5**
	comp=Z,51nm,0.8s						
CLNS	**Chul'man**	**18.37**	**316**	*e*P	**P**	**03 38 54.9**	**+3.0**
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,34nm,0.8s						
CLNS				pmax	pmax		
	comp=N,11nm,0.7s						
JNU	**Nakatsue**	**18.50**	**233**	P	**P**	**03 38 55.0**	**+1.8**
	comp=N,0.9nm,0.3s,baz=247,slow=20,SNR=5.5						
YAK	**Yakutsk**	**19.60**	**333**	⇓*i*P	**P**	**03 39 05.6**	**+0.3**
YAK				pmax	pmax		
	comp=Z,40nm,0.9s						
YAK	**Yakutsk**	**19.60**	**333**	*e*P	**P**	**03 39 05.1**	**-0.1**
	comp=Z,92nm,0.7s						
HIA	**Hailar**	**19.69**	**291**	*e*P	**P**	**03 39 06.5**	**+0.3**
HIA				pmax	pmax		
	comp=Z,16nm,0.9s						
HIA	**Hailar**	**19.69**	**291**	*e*P	**P**	**03 39 06.5**	**+0.3**
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**24.18**	**16**	*i* P	**P**	**03 39 49.1**	**-2.1**
BOD	**Bodaibo**	**24.23**	**312**	*e*P	**P**	**03 39 49.6**	**-2.1**
BOD				*e*		03 40 25.0	
BOD				pmax	pmax		
	comp=Z,50nm,1.4s,mb4.8						
BOD				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
BJT	**Baijiatuau**	**24.27**	**268**	*e*P	**P**	**03 39 52.3**	**+0.3**
BJT				pmax	pmax		
	comp=Z,11nm,0.5s						
BJT	**Baijiatuau**	**24.27**	**268**	*e*P	**P**	**03 39 52.3**	**+0.3**
	comp=Z,11nm,0.5s,mb4.6						
NJ2	**Nanjing**	**26.64**	**250**	*e*P	**P**	**03 40 10.3**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
TIXI	**Tiksi**	**27.63**	**347**	*i* P	**P**	**03 40 21.1**	**-1.1**
ULN	**Ulaanbaatar**	**28.21**	**289**	*i* P	**P**	**03 40 26.0**	**-1.4**
SONM	**Songino Array**	**28.65**	**290**	P	**P**	**03 40 29.8**	**-1.5**
	comp=Z,1.1nm,0.3s,mb4.0,baz=82,slow=8.8,SNR=14						
SONM				pP	pP	03 41 02.3	+0.8
	comp=Z,3.3nm,0.9s,baz=81,slow=8.7,SNR=2.6						
SONM				PcP	PcP	03 43 38.7	+0.2
	comp=Z,0.3nm,0.6s,baz=77,slow=3.1,SNR=3.6						
SONM				ScP	ScP	03 47 06.0	-0.4
	comp=Z,0.3nm,0.5s,baz=127,slow=2.6,SNR=5.1						
SONM	**Songino Array**	**28.65**	**290**	P	**P**	**03 40 29.8**	**-1.5**
SONM				*PP	pP	03 41 02.3	+0.8
SONM						03 43 38.7	
TLY	**Talaya**	**29.81**	**298**	*i* P	**P**	**03 40 40.3**	**-1.2**
XAN	**Xi'an**	**32.22**	**263**	P	**P**	**03 41 03.9**	**+1.1**
XAN				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
LZH	**Lanzhou**	**34.70**	**270**	P	**P**	**03 41 25.0**	**+0.8**
LZH				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,253nm,4.2s						
LZH	**Lanzhou**	**34.70**	**270**	P	**P**	**03 41 25.0**	**+0.8**
	comp=Z,63nm,1.0s,mb5.2						
LZH				pP	pP	03 41 53.0	-1.9
LZH				sP	sP	03 42 02.0	-9.2
GTA	**Gaotai**	**35.95**	**278**	*e*P	**P**	**03 41 36.2**	**+1.3**
GTA				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.6						
KDAK	**Kodiak Island**	**37.21**	**49**	P	**P**	**03 41 44.4**	**-1.2**
	comp=Z,11nm,0.7s,mb4.6,baz=301,slow=2.9,SNR=12						
KDAK	**Kodiak Island**	**37.21**	**49**	*e*P	**P**	**03 41 44.5**	**-1.1**
	comp=Z,13nm,0.8s,mb4.6						
GYA	**Guiyang**	**38.36**	**254**	⇓*i*P	**P**	**03 41 55.8**	**+0.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
COLA	**College**	**38.91**	**38**	*e*P	**P**	**03 41 58.6**	**-1.2**
COLA	**College**	**38.91**	**38**	*e*P	**P**	**03 41 59.9**	**+0.1**
	comp=Z,4.1nm,0.8s,mb4.1						
EGAK	**Eagle**	**41.76**	**37**	*e*P	**P**	**03 42 22.7**	**-0.6**
	comp=Z,12nm,1.4s,mb4.3						
DAWY	**Dawson**	**42.63**	**38**	*e*P	**P**	**03 42 30.1**	**-0.2**
MK31	**Makanchi Array**	**44.54**	**296**	*e*P	**P**	**03 42 44.6**	**-1.0**
MK31				*e*		03 44 26.3	
MKAR	**Makanchi Array**	**44.54**	**296**	P	**P**	**03 42 43.6**	**-2.0**
	comp=Z,2.5nm,0.6s,mb4.0,baz=70,slow=7.9,SNR=17						
MKAR				pP	pP	03 43 17.5	0.0
	comp=Z,1.6nm,0.8s,baz=68,slow=12,SNR=2.8						
MKAR				PcP	PcP	03 44 26.4	+0.2
	comp=Z,3.0nm,0.6s,baz=67,slow=4.2,SNR=10						
MKAR				ScP	ScP	03 48 04.2	-0.8
	comp=Z,0.9nm,0.7s,baz=56,slow=3.9,SNR=7.5						
MKAR				LR	LR	04 01 13.1	
	comp=Z,32nm,20.9s,baz=175,slow=36						
MKAR	**Makanchi Array**	**44.54**	**296**	P	**P**	**03 42 43.6**	**-2.0**
MKAR				*PP	pP	03 43 17.5	0.0
MKAR						03 44 26.4	
LSA	**Lhasa**	**47.11**	**271**	*e*P	**P**	**03 43 08.2**	**+2.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8						
LSA	**Lhasa**	**47.11**	**271**	*e*P	**P**	**03 43 08.2**	**+2.5**
	comp=Z,15nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**48.61**	**309**	*e*P	**P**	**03 43 14.7**	**-2.6**
CHKZ				*e*		03 44 40.0	
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**48.61**	**309**	*e*P	**P**	**03 43 14.7**	**-2.6**
	comp=Z,3.4nm,0.8s,mb4.0						
CHKZ				*e*PcP	PcP	03 44 40.0	-0.7
CHTO	**Chiang Mai**	**48.76**	**253**	*e*P	**P**	**03 43 19.7**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
CHTO	**Chiang Mai**	**48.76**	**253**	*e*P	**P**	**03 43 19.7**	**+1.2**
	comp=Z,9.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**49.79**	**309**	*e*P	**P**	**03 43 24.4**	**-1.8**
ZRNK				*e*		03 44 44.7	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**49.79**	**309**	*e*P	**P**	**03 43 24.4**	**-1.8**
	comp=Z,1.8nm,0.3s,mb4.2						
ZRNK				*e*PcP	PcP	03 44 44.7	-0.2
AAK	**Ala-Archa**	**51.38**	**295**	*i* P	**P**	**03 43 37.6**	**-0.6**
AAK				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**51.38**	**295**	*e*P	**P**	**03 43 38.5**	**+0.3**
	comp=Z,1.2nm,0.4s,mb3.9						
JIRN	**Jiri**	**51.81**	**272**	*e*P	**P**	**03 43 43.0**	**+1.7**
GUN	**Gumba**	**51.87**	**273**	*e*P	**P**	**03 43 43.1**	**+1.3**
	comp=Z,51nm,0.6s,mb5.3						
KKN	**Kakani**	**52.37**	**273**	*e*P	**P**	**03 43 47.0**	**+1.6**
	comp=Z,53nm,0.6s,mb5.3						
PKI	**Pulchoki**	**52.41**	**273**	*e*P	**P**	**03 43 46.9**	**+1.1**
	comp=Z,37nm,0.7s,mb5.1						
DMN	**Daman**	**52.60**	**273**	*e*P	**P**	**03 43 48.6**	**+1.4**
	comp=Z,75nm,0.8s,mb5.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GKN	Gorkha	52.68	274	eP	P	03 43 49.1	+1.3
	comp=Z,34nm,0.3s,mb5.5						
KOLN	Koldanda	53.55	274	eP	P	03 43 55.6	+1.5
	comp=Z,94nm,0.9s,mb5.5						
ARU	Arti	53.56	316	⇑iP	P	03 43 52.2	-2.0
ARU				e		03 45 51.2	
ARU				eS	S	03 51 13.5	-2.8
ARU				eSS	SS	03 54 54.2	-4.4
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	Arti	53.56	316	eP	P	03 43 52.0	-2.2
	comp=Z,4.6nm,0.3s,mb4.7						
YKA	Yellowknife Ar	53.62	35	P	P	03 43 53.8	-0.8
	comp=Z,4.9nm,0.9s,mb4.2,baz=305,slow=7.8,SNR=9.8						
ARCES	ARCESS Array B	57.72	340	P	P	03 44 22.6	-1.3
	comp=Z,2.7nm,0.8s,mb4.1,baz=42,slow=7.2,SNR=7.9						
ARCES				PcP	PcP	03 45 12.9	-2.3
	comp=Z,2.0nm,0.8s,baz=86,slow=4.7,SNR=3.9						
EDM	Edmonton	59.30	44	eP	P	03 44 34.5	-0.3
KAKA	Kakadu	59.95	198	eP	P	03 44 39.2	-0.1
	comp=Z,3.7nm,0.6s,mb4.4						
NEW	Newport	60.31	50	eP	P	03 44 41.4	-0.3
NEW				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NEW	Newport	60.31	50	eP	P	03 44 41.4	-0.3
	comp=Z,1.5nm,0.6s,mb4.0						
JOF	Joensuu	60.78	332	ep	P	03 44 42.0	-2.9
	comp=Z,6.6nm,0.3s,mb4.9						
WDC	Whiskeytown Da	61.82	60	eP	P	03 44 52.4	+0.5
WDC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
WDC	Whiskeytown Da	61.82	60	eP	P	03 44 52.4	+0.5
	comp=Z,2.2nm,0.7s,mb4.1						
MOD	Modoc	62.35	57	eP	P	03 44 55.6	+0.1
	comp=Z,1.8nm,0.7s,mb4.0						
KAF	Kangasniemi	62.97	333	ep	P	03 44 52.8	-6.7
	comp=Z,7.1nm,0.7s,mb4.6,baz=40,slow=6.2						
KAF	Kangasniemi	62.97	333	eP	P	03 44 52.8	-6.7
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
WVOR	Wild Horse Val	63.00	56	eP	P	03 45 00.1	+0.3
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WVOR	Wild Horse Val	63.00	56	eP	P	03 45 00.1	+0.4
	comp=Z,1.8nm,0.9s,mb3.9						
CHMT	Chamberlain Mo	63.21	49	eP	P	03 45 01.1	0.0
FIA1	FINESS Array S	63.54	333	eP	P	03 45 00.8	-2.5
FINES	FINESS Array B	63.54	333	P	P	03 45 01.1	-2.2
	comp=Z,11nm,0.6s,mb4.9,baz=47,slow=8.0,SNR=49						
FINES				PcP	PcP	03 45 37.6	-1.0
	comp=Z,1.1nm,0.3s,baz=58,slow=4.6,SNR=6.5						
HYB	Hyderabad	63.79	268	iP	P	03 45 06.0	+1.1
HYB	Hyderabad	63.79	268	eP	P	03 45 06.0	+1.1
OBN	Obninsk	64.28	324	⇓iP	P	03 45 06.0	-2.1
OBN				e		03 47 32.0	
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
CMB	Columbia Colle	64.71	61	eP	P	03 45 11.2	+0.3
CMB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
CMB	Columbia Colle	64.71	61	eP	P	03 45 11.2	+0.3
	comp=Z,1.5nm,0.6s,mb4.0						
BMN	Battle Mountai	65.09	57	eP	P	03 45 14.1	+0.7
BMN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
BMN	Battle Mountai	65.09	57	eP	P	03 45 14.1	+0.7
	comp=Z,3.9nm,0.8s,mb4.3						
NVAR	Mina Array Bea	65.72	59	P	P	03 45 17.9	+0.4
	comp=Z,2.3nm,0.6s,mb4.2,baz=297,slow=7.9,SNR=20						
NVAR				pP	pP	03 45 52.0	+0.3
	comp=Z,1.3nm,0.9s,baz=277,slow=7.1,SNR=2.6						
NVAR	Mina Array Bea	65.72	59	P	P	03 45 17.9	+0.4
NVAR				pP	pP	03 45 52.0	+0.3
IMW	Indian Meadow	66.40	51	eP	P	03 45 23.7	+1.9
	comp=Z,1.2nm,0.4s,mb4.1						
MOOW	Moose Ponds	66.60	51	eP	P	03 45 24.1	+1.1
	comp=Z,1.0nm,0.6s,mb3.8						
WB2	Warramunga Arr	66.62	195	eP	P	03 45 22.5	-0.7
WB2	Warramunga Arr	66.62	195	eP	P	03 45 22.6	-0.6
WRA	Warramunga Arr	66.62	195	P	P	03 45 22.6	-0.6
	comp=Z,1.5nm,0.5s,mb4.1,baz=11,slow=6.8,SNR=14						
TPAW	Teton Pass	66.66	51	eP	P	03 45 24.9	+1.5
	comp=Z,11nm,1.4s,mb4.5						
LOHW	Long Hollow	66.77	51	eP	P	03 45 24.5	+0.3
	comp=Z,1.1nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	66.84	204	eP	P	03 45 25.0	+0.5
	comp=Z,3.9nm,0.8s,mb4.3						
DAC	Darwin (Calif)	67.55	61	eP	P	03 45 29.1	+0.1
DAC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
DAC	Darwin (Calif)	67.55	61	eP	P	03 45 29.1	+0.1
	comp=Z,1.6nm,0.5s,mb4.0						
DUG	Dugway	67.80	55	eP	P	03 45 31.0	+0.4
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
DUG	Dugway	67.80	55	eP	P	03 45 31.0	+0.4
	comp=Z,2.9nm,0.9s,mb4.0						
BW06	Boulder Array	67.90	51	eP	P	03 45 31.2	-0.1
	comp=Z,1.2nm,0.5s,mb3.9						
PDAR	Pinedale Array	67.90	51	P	P	03 45 31.4	+0.1
	comp=Z,1.0nm,0.5s,mb3.8,baz=300,slow=2.2,SNR=9.2						
PDAR				pP	pP	03 46 06.1	+0.5
	comp=Z,1.3nm,0.7s,baz=304,slow=3.6,SNR=5.2						
NB2	NORSAR Subarra	68.09	339	P	P	03 45 30.1	-2.3
	comp=Z,3.7nm,0.5s,mb4.4,baz=29,slow=6.5						
NOA	NORSAR Array B	68.09	339	P	P	03 45 30.5	-2.0
	comp=Z,5.2nm,0.6s,mb4.4,baz=30,slow=6.4,SNR=18						
NOA				LR	LR	04 20 24.4	
	comp=Z,14nm,21.1s,baz=295,slow=40						
NAO01	NORSAR Array S	68.34	339	eP	P	03 45 32.4	-1.6
	comp=Z,7.1nm,0.8s,mb4.5						
ARUT	Antelope Range	69.04	57	eP	P	03 45 38.4	+0.1
KIV	Kislovodsk	69.15	312	iP	P	03 45 39.1	+0.1
KIV				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
KIV	Kislovodsk	69.15	312	eP	P	03 45 39.4	+0.3
	comp=Z,9.0nm,0.6s,mb4.7						
SRU	San Rafael	69.84	54	eP	P	03 45 43.5	+0.3
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
SRU	San Rafael	69.84	54	eP	P	03 45 43.5	+0.3
	comp=Z,4.2nm,0.8s,mb4.2						
RSSD	Black Hills	69.89	47	eP	P	03 45 43.5	0.0
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
RSSD	Black Hills	69.89	47	eP	P	03 45 43.5	-0.1
	comp=Z,1.3nm,0.6s,mb3.8						
AS31	Alice Springs	70.33	194	eP	P	03 45 46.6	+0.4
ASAR	Alice Springs	70.33	194	P	P	03 45 46.8	+0.5
	comp=Z,1.6nm,0.5s,mb4.0,baz=11,slow=6.1,SNR=29						
AKASG	Malin Array Be	70.54	324	P	P	03 45 45.7	-1.8
	comp=Z,3.6nm,0.6s,mb4.3,baz=34,slow=6.1,SNR=18						
AKASG	Malin Array Be	70.54	324	P	P	03 45 45.7	-1.8
SOC	Sochi	70.94	313	eP	P	03 45 57.3	+7.4
SOC				eS	SKSac	03 55 38.0	-1.0
SMCO	Snowmass	71.79	52	eP	P	03 45 55.5	+0.5
	comp=Z,16nm,0.7s,mb4.8						
BURAR	Bucovina Array	74.60	324	⇓iP	P	03 46 11.2	-0.3
ANMO	Albuquerque	75.06	55	eP	P	03 46 14.4	+0.2
ANMO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ANMO	Albuquerque	75.06	55	eP	P	03 46 14.3	+0.2
	comp=Z,1.0nm,0.6s,mb3.6						
SCHQ	Schefferville	75.43	20	P	P	03 46 15.6	-0.6
	comp=Z,1.4nm,0.5s,mb3.8,baz=358,slow=4.3,SNR=5.9						
MLR	Muntele Rosu	75.98	322	⇓iP	P	03 46 21.3	+1.9
CLL	Collm	75.99	333	eP	P	03 46 19.0	-0.4
	comp=Z,6.0nm,0.7s,mb4.3						
UMR	Umm Al-Rimmam	76.34	298	eP	P	03 46 21.9	+0.4
MIB	Mutribah	76.40	299	eP	P	03 46 21.9	+0.1
MIB				AMb	AMB	03 46 23.4	
	comp=Z,46nm,0.8s,mb5.2						
QRN	Al-Qurain	76.79	298	eP	P	03 46 24.2	+0.3
QRN				AMb	AMB	03 46 25.2	
	comp=Z,59nm,0.3s						
NAY	Al-Naaiem	76.85	298	eP	P	03 46 24.2	0.0
NAY				AMb	AMB	03 46 25.5	
	comp=Z,13nm,0.6s,mb4.8						
BR131	Keskin Array S	76.86	314	eP	P	03 46 24.6	+0.2
	comp=Z,1.1nm,0.6s,mb3.7						
BRTR	Keskin Array B	76.86	314	P	P	03 46 24.8	+0.4
	comp=Z,3.2nm,0.8s,mb4.0,baz=88,slow=4.2,SNR=15						
BRTR	Keskin Array B	76.86	314	⇑eP	P	03 46 24.7	+0.3
RDF	Al-Radifah	76.89	298	eP	P	03 46 25.0	+0.5
RDF				AMb	AMB	03 46 27.7	
	comp=Z,94nm,1.1s,mb5.3						
ANTO	Ankara	77.17	315	eP	P	03 46 26.9	+0.8
ANTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ANTO	Ankara	77.17	315	eP	P	03 46 26.9	+0.8
	comp=Z,8.2nm,0.9s,mb4.4						
GERES	GERESS Array B	77.88	331	P	P	03 46 28.8	-1.2
	comp=Z,0.6nm,0.4s,mb3.6,baz=42,slow=5.1,SNR=9.9						
GERES				LR	LR	04 22 18.9	
	comp=Z,23nm,18.5s,baz=333,slow=37						
MNTX	Cornudas Mount	78.03	57	eP	P	03 46 31.1	+0.3
	comp=Z,0.7nm,0.7s,mb3.4						
TXAR	Lajitas Array	80.76	57	P	P	03 46 45.8	+0.2
	comp=Z,1.8nm,0.6s,mb3.9,baz=297,slow=4.1,SNR=21						
TXAR				pP	pP	03 47 20.9	-0.3
	comp=Z,1.0nm,0.7s,baz=299,slow=4.0,SNR=2.9						
EIL	Elat	83.80	307	eP	P	03 47 02.7	+1.3
	comp=Z,802nm,1.4s						
TORD	Torodi Ar. Bea	114.18	324	PKP	PKiKP	03 53 10.1	-0.5
	comp=Z,0.2nm,0.5s,baz=11,slow=1.8,SNR=5.8						
TORD	Torodi Ar. Bea	114.18	324	PKP	PKiKP	03 53 10.1	-0.5
LVC	Limon Verde	141.90	65	ePKPdf	PKPdf	03 54 03.7	+0.8
SNAA	Sanae	150.64	198	PKPbc	PKPbc	03 54 21.8	-1.4
	comp=Z,0.9nm,0.8s,baz=143,slow=4.4,SNR=11						
SNAA	Sanae	150.64	198	ePKPdf	PKPdf	03 54 22.1	+4.5
SNAA				e		03 55 01.0	
SNAA	Sanae	150.64	198	ePKPbc	PKPbc	03 54 21.8	-1.5
VNA2	Neumayer--Watz	152.16	197	ePKPdf	PKPbc	03 54 25.8	-0.9
VNA2				e		03 54 33.8	
VNA2				e		03 55 04.4	
VNA2				e		03 55 11.9	
VNA3	Neumayer Olymp	152.34	195	ePKPdf	PKPbc	03 54 26.0	-1.1
VNA3				e		03 54 33.6	
VNA3				e		03 55 04.8	
VNA3				e		03 55 13.8	
VNA1	Neumayer--Stat	152.56	197	ePKPdf	PKPbc	03 54 27.8	+0.2
VNA1				e		03 54 36.2	
VNA1				e		03 55 06.3	
VNA1				e		03 55 15.4	

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*IDC **03** 04:16:49.0±3.1, 58.20S×25.90W, h0^{km}, mb4.0/1, mb1 4.0/1, mb1mx3.6/12, mbtmp4.0/1, Error ellipse: s-maj=197.7km s-min=72.1km az=100.0*
*ISCJB **03** 04:16:50.6±0.7, 57.83S±0.09×25.6W±0.3, h10^{km}, mb4.0/5, Error ellipse: s-maj=25.5km s-min=10.6km az=141.8*
*NEIC **03** 04:16:59.0±5.0, 57.94S×25.57W, h67^{km}±48^{km}, mb4.1/5, Error ellipse: s-maj=27.4km s-min=23.4km az=50.0*
ISC 03 04:16:52.4±0.7**, 57.87S**±0.09×**25.6W**±0.3**, h10**^{km}**, n15, σ0.40**/12**, mb4.0**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.78	157	e	Pn	04 20 21.9	+0.5
VNA1				e		04 20 25.5	
VNA1				e		04 20 34.4	
VNA3	Neumayer Olymp	14.98	160	e	Pn	04 20 23.5	-0.7
VNA3				e		04 20 26.6	
VNA3				e		04 20 36.2	
VNA2	Neumayer--Watz	15.18	157	e	Pn	04 20 26.6	-0.1
VNA2				e		04 20 30.4	
VNA2				e		04 20 39.9	
SNAA	Sanae	16.72	155	e	Pn	04 20 47.2	+0.5
SNAA				e		04 20 50.6	
SNAA				e		04 20 58.8	
SNAA	Sanae	16.72	155	eP	Pn	04 20 47.1	+0.3
	4.2nm,0.6s						
VNDA	Vanda	44.78	182	eP	P	04 25 06.1	-0.1
	0.9nm,0.8s,mb3.6						
LPAZ	La Paz	52.13	305	eP	P	04 26 03.4	+0.6
	1.1nm,0.3s,mb4.3						
SAML	Samuel	56.69	314	eP	P	04 26 35.5	-0.6
	1.1nm,0.6s,mb4.1						
LSZ	Lusaka	58.28	66	eP	P	04 26 47.0	-0.1
	1.8nm,0.7s,mb4.2						
TOA0	Torodi Ar. Sit	74.25	28	eP	P	04 28 29.6	0.0
TORD	Torodi Ar. Bea	74.25	28	P	P	04 28 29.8	+0.2
	0.9nm,0.6s,mb3.9,baz=198,slow=6.3,SNR=25						
TORD	Torodi Ar. Bea	74.25	28	P	P	04 28 29.8	+0.1
YKA	Yellowknife Ar	138.09	316	PKP	PKPdf	04 36 15.0	-2.5
	0.4nm,0.6s,baz=132,slow=2.2,SNR=5.0						
YKA	Yellowknife Ar	138.09	316	PKP	PKPdf	04 36 15.0	-2.5
SONM	Songino Array	149.95	88	PKP	PKPdf	04 36 33.4	-4.6
	0.2nm,0.6s,baz=217,slow=3.0,SNR=3.5						
SONM				PKPbc	PKPbc	04 36 41.0	-1.9
	1.1nm,0.5s,baz=220,slow=2.6,SNR=7.0						

JMA 03 04:17:27.2±0.2**, 25.09N**×**123.47E, h136**^{km}±3^{km}**, M3.5, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.75	214	P	Pn	04 17 48.8	+0.2
YOJ				S	Sn	04 18 05.0	+0.2
IRIF	Iriomote-Funau	0.79	162	P	Pn	04 17 48.7	-0.1
IRIF				eS	Sn	04 18 05.9	+0.6
JIJ	Ishigaki jima	0.95	140	P	Pn	04 17 50.1	-0.1
JIJ				eS	Sn	04 18 07.4	-0.2
JKRS	Kuro-shima	0.98	150	P	Pn	04 17 50.8	+0.4
JKRS				eS	Sn	04 18 08.6	+0.5
HATJ	Hateruma jima	1.07	163	P	Pn	04 17 51.6	+0.3
HATJ				eS	Sn	04 18 10.4	+0.8
JTJ	Tarama	1.21	112	P	Pn	04 17 52.8	+0.2
JTJ				eS	Sn	04 18 12.4	+0.5
JMJ	Miyako jima 2	1.68	99	P	Pn	04 17 58.1	+0.4
JMJ				eS	Sn	04 18 21.5	+0.5
JKE	Kume jima 2	3.23	67	P	Pn	04 18 16.4	-0.6
JKE				eS	Sn	04 18 54.3	-1.3
JOW	Kunigami	4.66	67	P	Pn	04 18 33.8	-2.0
JOW				eS	Sn	04 19 24.7	-4.5
JTK	Tokunoshima	5.60	60	P	Pn	04 18 45.5	-2.9

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*IDC **03** 04:24:57.6±1.4, 15.44S×174.36W, h0^{km}, mb4.3/5, mb1 4.6/5, mb1mx4.1/15, mbtmp4.3/5, Error ellipse: s-maj=50.1km s-min=27.8km az=139.0*
*ISCJB **03** 04:25:01.5±1.3, 15.4S±0.2×174.5W±0.2, h35^{km}, mb4.5/6, Error ellipse: s-maj=38.0km s-min=24.2km az=99.0*
ISC 03 04:25:03.4±1.3**, 15.5S**±0.2×**174.4W**±0.2**, h35**^{km}**, n9, σ0.92**/9**, mb4.5**/6**, 1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.91	197	P	P	04 30 14.4	+0.5
	4.7nm,0.3s,mb4.4,baz=325,slow=17,SNR=17						
STKA	Stephens Creek	43.21	240	⇓iP	P	04 32 58.6	-2.4
	2.6nm,0.5s,mb4.2						
STKA	Stephens Creek	43.21	240	P	P	04 32 58.8	-2.2
	2.3nm,0.3s,mb4.3,baz=77,slow=9.7,SNR=11						
WB2	Warramunga Arr	48.93	257	eP	P	04 33 46.7	+0.7
WRA	Warramunga Arr	48.94	257	P	P	04 33 46.9	+0.8
	2.7nm,0.5s,mb4.6,baz=97,slow=6.7,SNR=18						
ASAR	Alice Springs	49.22	252	P	P	04 33 48.1	-0.1
	10nm,0.6s,mb5.1,baz=88,slow=8.9,SNR=55						
ASPA	Alice Springs	49.22	252	eP	P	04 33 48.1	-0.1
KAKA	Kakadu	51.58	266	eP	P	04 34 10.5	+4.4
	4.7nm,0.4s,mb4.8						
NVAR	Mina Array Bea	75.00	42	P	P	04 36 41.0	-0.1
	0.3nm,0.3s,mb3.7,baz=245,slow=5.0,SNR=4.7						

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*ISCJB **03** 04:26:05.1±3.6, 5.4S±0.1×152.2E±0.2, h83^{km}±30^{km}, mb4.0/11, Error ellipse: s-maj=31.7km s-min=20.7km az=35.4*
*NEIC **03** 04:26:07.0±2.7, 5.43S×152.25E, h93^{km}±21^{km}, mb4.5/7, Error ellipse: s-maj=27.9km s-min=14.9km az=101.0*
*IDC **03** 04:26:07.3±6.4, 5.57S×152.28E, h94^{km}±47^{km}, mb3.7/6, mb1 3.8/8, mb1mx3.7/17, mbtmp3.7/8, MS3.4/6, Ms1 3.4/6, ms1mx3.0/24, Error ellipse: s-maj=54.4km s-min=25.9km az=93.0*
ISC 03 04:26:06.2±3.2**, 5.4S**±0.1×**152.2E**±0.2**, h81**^{km}±26^{km}**, n29, σ1.04**/23**, mb4.0**/11**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.42	231	P	Pn	04 27 39.3	+1.2
	4.3nm,0.3s,baz=36,slow=7.1,SNR=9.1						
PMG				S	Sn	04 28 48.7	-1.3
	8.9nm,0.3s,baz=336,slow=23,SNR=8.4						
HNR	Honiara	8.64	118	LR	LR	04 30 51.3	
	comp=Z,119nm,19.0s,baz=358,slow=33						
CTA	Charters Tower	15.73	201	P	Pn	04 29 42.0	-0.9
	0.2nm,0.3s,baz=18,slow=3.2,SNR=3.3						
CTA				LR	LR	04 35 08.3	
	comp=Z,148nm,19.3s,baz=110,slow=35						
CTA	Charters Tower	15.73	201	P	Pn	04 29 42.0	-0.9
CTA				LR	LR	04 35 08.3	
GUMO	Guam	20.22	339	LR	LR	04 36 38.5	
	comp=Z,41nm,18.8s,baz=159,slow=31						
KAKA	Kakadu	20.85	248	eP	P	04 30 40.2	-1.1
	14nm,0.6s						
WB2	Warramunga Arr	22.63	229	eP	P	04 31 01.0	+0.8
WB2	Warramunga Arr	22.63	229	eP	P	04 31 01.0	+0.8
WRA	Warramunga Arr	22.64	229	P	P	04 31 00.9	+0.6
	5.0nm,0.6s,mb4.0,baz=54,slow=10,SNR=17						
WRA				LR	LR	04 40 22.8	
	comp=Z,71nm,19.4s,baz=55,slow=38						
AS31	Alice Springs	25.34	222	eP	P	04 31 27.2	+1.9
ASAR	Alice Springs	25.34	222	P	P	04 31 25.1	-0.2
	2.2nm,0.5s,mb3.8,baz=54,slow=9.2,SNR=19						
ASPA	Alice Springs	25.34	222	eP	P	04 31 27.2	+1.8
STKA	Stephens Creek	28.17	199	P	P	04 31 48.8	-2.0
	1.0nm,0.7s,mb3.5,baz=45,slow=11,SNR=2.5						
STKA	Stephens Creek	28.17	199	eP	P	04 31 50.4	-0.4
FITZ	Fitzroy Crossi	28.89	242	eP	P	04 31 56.7	-0.4
	5.9nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	28.89	242	P	P	04 31 56.9	-0.3
	3.5nm,0.5s,mb4.2,baz=55,slow=9.0,SNR=7.5						
SONM	Songino Array	66.52	328	P	P	04 36 48.0	+0.7
	1.0nm,0.6s,mb3.8,baz=144,slow=3.9,SNR=5.8						
MK31	Makanchi Array	80.40	319	eP	P	04 38 09.2	+0.5
MKAR	Makanchi Array	80.40	319	P	P	04 38 09.6	+0.9
	0.6nm,0.6s,mb3.6,baz=102,slow=6.3,SNR=7.3						
COLA	College	82.60	22	eP	P	04 38 19.8	-0.5
	4.8nm,0.7s,mb4.4						
AAK	Ala-Archa	84.66	314	eP	P	04 38 31.3	+0.4
	1.1nm,0.6s,mb4.0						
CHKZ	Chkalovo	89.35	324	eP	P	04 38 51.9	-1.7
	6.6nm,1.5s,mb4.4						
BRVK	Borovoye	89.44	323	eP	P	04 38 53.4	-0.6
	1.1nm,0.4s,mb4.2						
ZRNK	Zerenda	90.19	323	eP	P	04 38 56.5	-1.0
	3.5nm,1.2s,mb4.4						
YKA	Yellowknife Ar	96.21	28	LR	LR	05 19 00.8	
	comp=Z,40nm,19.1s,baz=225,slow=33						
PDAR	Pinedale Array	99.66	48	LR	LR	05 16 47.2	
	comp=Z,41nm,21.6s,baz=74,slow=30						
TOA0	Torodi Ar. Sit	149.95	287	ePKPbc	PKPbc	04 45 48.3	+1.2
TOA0				ePKPab	PKPab	04 45 53.6	+0.6
TORD	Torodi Ar. Bea	149.95	287	PKPbc	PKPbc	04 45 47.4	+0.3
	0.7nm,0.6s,baz=91,slow=2.2,SNR=16						
TORD				PKPab	PKPab	04 45 53.7	+0.7
	1.2nm,0.7s,baz=78,slow=2.5,SNR=7.4						
TORD	Torodi Ar. Bea	149.95	287	PKPbc	PKPbc	04 45 47.4	+0.3
TORD				PKPab	PKPab	04 45 53.7	+0.7

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*IDC **03** 05:01:46.8±3.6, 4.44S×150.42E, h0^{km}, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=123.4km s-min=28.7km az=110.0*
*ISCJB **03** 05:01:50.5±5.1, 4.8S±0.3×151.3E±0.5, h75^{km}±38^{km}, mb3.6/6, Error ellipse: s-maj=84.3km s-min=30.9km az=55.8*
*NEIC **03** 05:01:51.1±4.4, 4.88S×151.56E, h78^{km}±27^{km}, mb4.1/3, Error ellipse: s-maj=73.5km s-min=26.3km az=110.0*
ISC 03 05:01:51.0±4.6**, 4.9S**±0.3×**151.6E**±0.4**, h76**^{km}±33^{km}**, n12, σ0.68**/12**, mb3.6**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.28	224	Pn	Pn	05 03 20.9	-0.1
	0.6nm,0.3s,baz=50,slow=4.0,SNR=2.9						
PMG				Sn	Sn	05 04 31.0	-0.2
	3.0nm,0.3s,baz=151,slow=22,SNR=6.6						
KAKA	Kakadu	20.43	246	eP	P	05 06 22.7	+0.6
	5.3nm,0.5s						
WRAB	Tennant Creek	22.47	227	eP	P	05 06 45.4	+1.5
	2.0nm,0.7s,mb3.6						
WB2	Warramunga Arr	22.48	227	eP	P	05 06 38.4	-5.5
WRA	Warramunga Arr	22.49	227	P	P	05 06 43.3	-0.7
	1.5nm,0.5s,mb3.5,baz=50,slow=10,SNR=15						
WRA	Warramunga Arr	22.49	227	P	P	05 06 43.3	-0.7
ASAR	Alice Springs	25.28	221	P	P	05 07 10.2	0.0
	1.0nm,0.7s,mb3.4,baz=54,slow=9.4,SNR=12						
ASAR				LR	LR	05 17 00.1	
	comp=Z,96nm,18.4s,baz=171,slow=37						
FITZ	Fitzroy Crossi	28.55	240	eP	P	05 07 39.0	-0.6
	3.5nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	28.55	240	P	P	05 07 38.2	-1.4
	2.0nm,0.6s,mb3.9,baz=49,slow=9.4,SNR=5.2						
MKAR	Makanchi Array	79.59	319	P	P	05 13 49.8	0.0
	0.3nm,0.5s,mb3.4,baz=101,slow=6.3,SNR=3.6						
BVAR	Borovoye Array	88.58	323	P	P	05 14 35.3	-0.1
	0.6nm,0.6s,mb3.8,baz=108,slow=4.8,SNR=4.4						
TORD	Torodi Ar. Bea	149.17	287	PKPbc	PKPbc	05 21 36.3	+5.7
	0.9nm,0.7s,baz=80,slow=3.9,SNR=9.1						

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*NIED **03** 05:09:00, 24.80N×125.40E, h5^{km}, Mw3.9 Best double couple: $M_0$8.40000×10^{14} NP1: ϕ_s83.00000°, δ78.00000°, λ108.00000°. NP2: ϕ_s204.00000°, δ22.00000°, λ33.00000°.*
*IDC **03** 05:09:51.4±0.8, 24.79N×125.17E, h0^{km}, mb4.0/8, mb1 4.1/11, mb1mx4.0/22, mbtmp4.0/11, ML3.5/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=26.3km s-min=16.8km az=72.0*
*NEIC **03** 05:09:53.0±0.5, 24.76N×125.14E, h10^{km}, mb4.2/1, Error ellipse: s-maj=11.5km s-min=9.9km az=74.0*
*ISCJB **03** 05:09:56.7±0.5, 24.83N±0.07×125.40E±0.05, h55^{km}±3^{km}, mb4.0/9, MS3.5/5, Error ellipse: s-maj=13.4km s-min=5.3km az=124.6*
*JMA **03** 05:09:57.4, 24.84N×125.41E, h49^{km}±1^{km}, M4.1*
JMA Felt I J1.
ISC 03 05:09:57.8±0.4**, 24.87N**±0.07×**125.37E**±0.05**, h48**^{km}±4^{km}**, n28, σ0.81**/33**, mb4.0**/9**, MS3.5**/5**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.09	235	P	Pn	05 10 05.0	-0.3
JMJ				S	Sn	05 10 10.4	-0.1
JOGS	Gusukube	0.11	164	P	Pn	05 10 04.9	-0.4
JOGS				S	Sn	05 10 10.5	-0.2
JTJ	Tarama	0.65	250	P	Pn	05 10 10.8	+0.1
JTJ				S	Sn	05 10 20.4	+0.3
JIJ	Ishigaki jima	1.23	246	P	Pn	05 10 18.6	+0.1
JIJ				eS	Sn	05 10 34.5	+0.6
JKRS	Kuro-shima	1.39	244	P	Pn	05 10 21.5	+0.8
IRIF	Iriomote-Funau	1.59	251	P	Pn	05 10 23.9	+0.5
IRIF				eS	Sn	05 10 42.8	+0.1
JKE	Kume jima 2	1.94	41	P	Pn	05 10 28.6	+0.4
YOJ	Yonaguni jima	2.19	260	P	Pn	05 10 31.8	+0.2
YOJ				eS	Sn	05 10 56.7	-0.8
JAGN	Aguni-jima	2.41	44	eS	Sn	05 11 04.1	+1.2
JOW	Kunigami	3.27	53	Pn	Pn	05 10 46.8	+0.4
	6.8nm,0.3s,baz=210,slow=28,SNR=10.0						
JOW				Sn	Sn	05 11 30.7	+6.6
	8.2nm,0.3s,baz=102,slow=29,SNR=3.4						
JTK	Tokunoshima	4.33	47	P	Pn	05 11 00.4	-0.7
JMZ	Minamidaito 2	5.38	79	P	Pn	05 11 12.3	-3.1
JMZ				eS	Sn	05 12 09.1	-6.9
KSRS	Korea Array	12.74	9	Pn	Pn	05 12 53.0	-3.2
	baz=118,slow=39,SNR=6.6						
KSRS				LR	LR	05 18 31.1	
	comp=Z,39nm,18.2s,baz=205,slow=40						
MJAR	Matsushiro Arr	16.02	40	Pn	Pn	05 13 42.3	+2.5
	0.4nm,0.3s,baz=126,slow=13,SNR=4.3						
SONM	Songino Array	27.41	332	P	P	05 15 38.0	-0.8
	0.6nm,0.5s,mb3.4,baz=152,slow=6.5,SNR=4.1						
SONM				LR	LR	05 28 06.6	
	comp=Z,60nm,20.0s,MS3.2,baz=226,slow=40						
MK31	Makanchi Array	40.56	314	eP	P	05 17 32.2	-0.3
MKAR	Makanchi Array	40.56	314	P	P	05 17 32.4	-0.1
	1.4nm,0.5s,mb3.9,baz=100,slow=9.8,SNR=20						
MKAR				LR	LR	05 36 05.3	
	comp=Z,36nm,18.2s,MS3.3,baz=353,slow=39						
ZAL	Zalesovo	41.83	325	P	P	05 17 42.0	-0.8
	2.3nm,0.3s,mb4.3,baz=22,slow=2.6,SNR=4.5						
ZAL	Zalesovo	41.83	325	P	P	05 17 42.0	-0.9
WRA	Warramunga Arr	45.38	168	P	P	05 18 11.0	-0.4
	1.5nm,0.8s,mb3.9,baz=349,slow=8.3,SNR=7.5						
HNR	Honiara	47.94	131	LR	LR	05 34 13.5	
	comp=Z,46nm,20.9s,MS3.4,baz=180,slow=30						
ASAR	Alice Springs	48.95	170	P	P	05 18 39.9	+0.7
	0.4nm,0.5s,mb3.7,baz=352,slow=7.1,SNR=7.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	49.09	154	LR	LR	05 39 10.8	
	comp=Z,109nm,18.5s,MS3.9,baz=115,slow=36						
ZRNK	Zerenda	50.41	319	eP	P	05 18 50.0	-0.3
	1.1nm,0.4s,mb4.2						
STKA	Stephens Creek	58.51	164	P	P	05 19 48.8	-0.4
	2.0nm,1.0s,mb4.1,baz=354,slow=9.2,SNR=2.8						
FINES	FINESS Array B	72.77	330	P	P	05 21 21.1	0.0
	1.8nm,0.8s,mb4.0,baz=35,slow=7.0,SNR=4.8						
BRTR	Keskin Array B	75.82	307	P	P	05 21 39.7	+0.9
	1.6nm,0.8s,mb4.0,baz=102,slow=4.6,SNR=7.6						
KMBO	Kilima Mbogo	88.76	268	LR	LR	06 01 44.9	
	comp=Z,43nm,19.3s,MS3.9,baz=91,slow=35						

*ISCJB **03** 05:18:38.0±0.5, 41.92N±0.08×133.43E±0.10, h480km±6km, mb3.5/14, Error ellipse: s-maj=13.7km s-min=9.6km az=70.7*
*MOS **03** 05:18:37.7±0.9, 41.89N×133.45E, h486km, mb3.9/2, Error ellipse: s-maj=22.5km s-min=12.4km az=127.7*
*BJI **03** 05:18:37.7, 42.02N×133.48E, h494km, mB4.8, mb4.7*
*NEIC **03** 05:18:38.7±0.5, 41.90N×133.38E, h477km±7km, mb3.7/4, Error ellipse: s-maj=13.1km s-min=7.7km az=46.0*
*IDC **03** 05:18:39.2±1.3, 41.93N×133.40E, h478km±16km, mb3.1/12, mb1 3.3/16, mb1mx3.2/27, mbtmp3.1/16, Error ellipse: s-maj=15.9km s-min=11.2km az=73.0*
ISC 03 05:18:38.9±0.5**, 41.95N**±0.08×**133.40E**±0.10**, h478**km±6km**, n39,** σ**0.64**/34**, mb3.5**/14**, 1D, Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLA	Vladivostok	1.61	317	d iP	P	05 19 40.3	+0.1
VLA				eS	S	05 20 38.7	+8.8
VLA				pmax	pmax		
	comp=Z,104μm,0.6s						
VLA				smax			
	comp=N,100nm,0.3s						
MDJ	Mudanjiang	3.85	315	P	P	05 19 54.8	+0.2
MDJ				AMB	AMB		
	comp=Z,16nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,45nm,3.4s						
MDJ	Mudanjiang	3.85	315	ePn	P	05 19 54.7	+0.1
CN2	Changchun	6.13	290	eP	P	05 20 15.6	0.0
CN2				AMB	AMB		
	comp=Z,50nm,0.6s						
KSRS	Korea Array	6.17	225	P	P	05 20 16.9	+0.9
	baz=41,slow=9.9,SNR=35						
MAJO	Matsushiro	6.56	144	eP	P	05 20 18.3	-1.6
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	Matsushiro	6.56	144	ePn	P	05 20 18.3	-1.6
	comp=Z,3.6nm,0.6s						
MJAR	Matsushiro Arr	6.57	144	P	P	05 20 20.0	+0.1
	comp=Z,0.4nm,0.3s,baz=324,slow=11,SNR=6.4						
ASAJ	Asahikawa	7.08	69	P	P	05 20 25.4	+0.3
	comp=Z,4.2nm,0.3s,baz=221,slow=19,SNR=11						
ASAJ	Asahikawa	7.08	69	P	P	05 20 25.5	+0.3
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ERM	Erimo	7.27	86	eP	P	05 20 27.1	-0.1
ERM				pmax	pmax		
	comp=Z,38nm,0.4s						
ERM	Erimo	7.27	86	ePn	P	05 20 27.1	-0.1
	comp=Z,38nm,0.4s						
ULN	Ulaanbaatar	19.52	297	eP	P	05 22 34.1	-0.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ULN	Ulaanbaatar	19.52	297	eP	P	05 22 34.1	-0.2
	comp=Z,2.6nm,0.4s						
SONM	Songino Array	19.96	296	P	P	05 22 39.0	+0.7
	comp=Z,0.6nm,0.3s,baz=103,slow=9.0,SNR=13						
MK31	Makanchi Array	36.32	295	eP	P	05 25 00.1	-1.0
MKAR	Makanchi Array	36.32	295	P	P	05 25 00.6	-0.6
	comp=Z,0.6nm,0.8s,mb3.1,baz=88,slow=9.2,SNR=4.0						
CHKZ	Chkalovo	42.41	308	eP	P	05 25 50.0	-0.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
CHKZ	Chkalovo	42.41	308	eP	P	05 25 50.0	-0.4
	comp=Z,1.0nm,0.6s,mb3.4						
BVAR	Borovoye Array	42.67	307	P	P	05 25 53.3	+0.9
	comp=Z,0.5nm,0.5s,mb3.2,baz=72,slow=9.3,SNR=3.5						
ZRNK	Zerenda	43.51	308	eP	P	05 25 59.3	+0.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
ZRNK	Zerenda	43.51	308	eP	P	05 25 59.3	+0.3
	comp=Z,1.5nm,0.5s,mb3.7						
MDRS	Chennai	54.16	254	ex	x	05 26 08.0	
MDRS				ex	x	05 30 46.0	
ARCES	ARCESS Array B	57.12	337	P	P	05 27 38.6	-0.3
	comp=Z,1.5nm,0.8s,mb3.4,baz=54,slow=8.4,SNR=6.0						
FITZ	Fitzroy Crossi	60.18	189	P	P	05 27 59.9	+0.2
	comp=Z,1.1nm,0.5s,mb3.5,baz=1.2,slow=10,SNR=4.8						
FINES	FINESS Array B	61.49	329	P	P	05 28 07.8	-0.5
	comp=Z,2.1nm,0.8s,mb3.6,baz=46,slow=4.0,SNR=4.4						
WRA	Warramunga Arr	61.59	179	P	P	05 28 08.4	-0.5
	comp=Z,0.9nm,0.4s,mb3.5,baz=356,slow=7.2,SNR=10						
YKA	Yellowknife Ar	62.60	29	P	P	05 28 15.2	-0.3
	comp=Z,0.9nm,0.7s,mb3.4,baz=311,slow=6.0,SNR=3.8						
YKA	Yellowknife Ar	62.60	29	P	P	05 28 15.2	-0.3
ASAR	Alice Springs	65.29	179	P	P	05 28 32.6	-0.1
	comp=Z,0.8nm,0.5s,mb3.6,baz=357,slow=7.5,SNR=14						
NOA	NORSAR Array B	67.14	333	P	P	05 28 43.5	-0.8
	comp=Z,0.7nm,0.6s,mb3.5,baz=42,slow=6.0,SNR=3.2						
STKA	Stephens Creek	73.85	173	P	P	05 29 25.0	+0.9
	comp=Z,3.0nm,0.5s,mb4.1,baz=346,slow=5.9,SNR=9.8						
NVAR	Mina Array Bea	76.80	50	P	P	05 29 41.2	+0.7
	comp=Z,0.6nm,0.6s,mb3.3,baz=311,slow=4.7,SNR=5.5						
PDAR	Pinedale Array	78.41	42	P	P	05 29 50.4	+1.0
	comp=Z,0.8nm,0.6s,mb3.3,baz=335,slow=2.4,SNR=7.2						
SNAA	Sanae	143.35	202	e	PKPdf	05 37 14.9	-3.3
SNAA				e		05 37 16.5	
SNAA				e		05 37 18.3	
SNAA	Sanae	143.35	202	ePKPdf	PKPdf	05 37 14.7	-3.5
VNA2	Neumayer--Watz	144.99	201	e	PKPdf	05 37 20.2	-0.8
VNA2				e		05 37 22.1	
VNA2				e		05 37 23.9	
VNA1	Neumayer--Stat	145.38	201	e	PKPdf	05 37 21.4	-0.3
VNA1				e		05 37 23.2	
VNA1				e		05 37 25.4	
VNA3	Neumayer Olymp	145.40	200	e	PKPdf	05 37 21.2	-0.5
VNA3				e		05 37 22.7	
VNA3				e		05 37 24.6	

*NEIC **03** 05:25:03.1, 32.72S×72.29W, h32km, ML3.0(GUC), After GUC.*
GUC 03 05:25:03.1±0.8**, 32.72S**×**72.29W, h32**km±3km**, MD3.7, ML3.0, 6C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.63	119	⇑iP	Pb	05 25 14.9	-0.8
IHA				i S	Sb	05 25 24.4	+0.2
PACH	Papudo	0.74	76	⇑iP	Pn	05 25 17.2	-0.2
PACH				i S	Sb	05 25 27.7	+0.2
LCCH	Las Cruces	0.97	141	⇓iP	Pn	05 25 20.1	-0.4
LCCH				i S	Sn	05 25 33.6	+0.6
CHNG	Los Chungos	1.07	39	⇓iP	Pn	05 25 22.2	+0.4
CHNG				i S	Sn	05 25 36.5	+0.8
CHNG				AML	AML	05 25 42.0	
	comp=E,300nm,0.5s						
ROCH	El Roble	1.11	104	⇓iP	Pn	05 25 23.0	+0.7
ROCH				i S	Sn	05 25 38.2	+1.6
PTCH	Petorca	1.24	69	⇑iP	Pn	05 25 25.3	+1.1
PTCH				i S	Sn	05 25 41.4	+1.7
PTCH				AML	AML	05 25 56.7	
	comp=N,913nm,0.6s						
PTCH	Petorca	1.24	69	⇑iP	Pn	05 25 25.3	+1.1
PTCH				i S	Sn	05 25 41.4	+1.7
PEL	Peldehue	1.42	108	eP	Pn	05 25 27.5	+0.9
PEL				i S	Sn	05 25 46.4	+2.2
PEL				AML	AML	05 25 47.4	
	comp=E,970nm,0.4s						
PEL	Peldehue	1.42	108	eP	Pn	05 25 27.5	+0.9
PEL				i S	Sn	05 25 46.4	+2.2
LNV	Longovilo	1.44	149	i P	Pn	05 25 28.0	+1.1
LNV				i S	Sn	05 25 46.9	+2.3
RCDM	Rinconada Maip	1.46	122	i P	Pn	05 25 28.8	+1.6
RCDM				eS	Sn	05 25 47.0	+1.6
RCDM				AML	AML	05 25 54.0	
	comp=N,220nm,0.3s						
RCDM	Rinconada Maip	1.46	122	i P	Pn	05 25 28.8	+1.6
RCDM				eS	Sn	05 25 47.0	+1.6
TACH	Talagante	1.47	130	⇑iP	Pn	05 25 28.1	+0.8
TACH				i S	Sn	05 25 47.5	+2.0
SAN	Santiago	1.55	119	eP	Pn	05 25 29.7	+1.3
SAN				i S	Sn	05 25 49.9	+2.4
SAN				AML	AML	05 25 52.2	
	comp=E,389nm,0.8s						
SAN	Santiago	1.55	119	eP	Pn	05 25 29.7	+1.3
SAN				i S	Sn	05 25 49.9	+2.4
CLCH	Cerro Calan	1.62	115	⇓iP	Pn	05 25 31.3	+1.9
CLCH				i S	Sn	05 25 52.4	+3.2
CLCH				AML	AML	05 26 00.6	
	comp=N,537nm,0.7s						
ANTU	Antumapu	1.63	122	eP	Pn	05 25 30.8	+1.3
ANTU				i S	Sn	05 25 51.9	+2.5
ANTU				AML	AML	05 26 00.9	
	comp=E,333nm,0.6s						
ANTU	Antumapu	1.63	122	eP	Pn	05 25 30.8	+1.3
ANTU				i S	Sn	05 25 51.9	+2.5
FCH	Farellones	1.79	110	⇑iP	Pn	05 25 33.3	+1.6
FCH				i S	Sn	05 25 56.3	+3.0
FCH				AML	AML	05 26 00.4	
	comp=N,138nm,0.6s						
CHCH	Chadas Angostu	1.83	132	eP	Pn	05 25 34.4	+2.0
CHCH				i S	Sn	05 25 57.4	+3.0
CMCH	Combarbala	1.89	36	eP	Pn	05 25 34.2	+1.1
CMCH				i S	Sn	05 25 58.7	+2.8

*ISCJB **03** 05:27:31.0±0.7, 18.0S±0.2×178.1W±0.1, h600km, mb3.8/9, Error ellipse: s-maj=28.2km s-min=13.7km az=145.9*
*NEIC **03** 05:27:32.4±3.7, 17.38S×178.37W, h588km±43km, mb3.9/4, Error ellipse: s-maj=68.2km s-min=19.8km az=157.0*
*IDC **03** 05:27:33.1±5.3, 17.77S×178.17W, h604km±65km, mb3.2/7, mb1 3.5/7, mb1mx3.2/15, mbtmp3.2/7, Error ellipse: s-maj=91.4km s-min=24.1km az=154.0*
ISC 03 05:27:32.2±0.7**, 18.1S**±0.2×**178.0W**±0.1**, h600**km**, n21,** σ**0.74**/17**, mb3.8**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.77	261	P	P	05 33 26.3	+0.6
	3.4nm,0.7s,mb4.1,baz=79,slow=8.6,SNR=5.9						
CTAO	Charters Tower	33.77	261	eP	P	05 33 25.9	+0.2
	3.6nm,0.8s,mb4.0						
STKA	Stephens Creek	38.85	241	eP	P	05 34 08.4	+1.1
	1.7nm,0.6s,mb3.8						
STKA	Stephens Creek	38.85	241	P	P	05 34 08.6	+1.2
	1.5nm,0.7s,mb3.6,baz=78,slow=12,SNR=4.4						
WB2	Warramunga Arr	44.94	260	eP	P	05 34 54.8	-0.2
WRAB	Tennant Creek	44.95	260	eP	P	05 34 54.9	-0.2
	2.3nm,0.7s,mb3.8						
WRA	Warramunga Arr	44.95	260	P	P	05 34 55.2	+0.1
	1.9nm,0.7s,mb3.8,baz=95,slow=7.5,SNR=25						
AS31	Alice Springs	45.09	254	eP	P	05 34 56.5	+0.4
ASAR	Alice Springs	45.09	254	P	P	05 34 56.6	+0.5
	5.6nm,0.9s,mb4.1,baz=84,slow=8.7,SNR=48						
ASAR				PcP	PcP	05 36 23.8	+0.2
	0.4nm,0.5s,baz=112,slow=4.2,SNR=5.4						
KAKA	Kakadu	47.95	269	eP	P	05 35 15.3	-2.3
	2.1nm,0.4s,mb4.0						
NVAR	Mina Array Bea	79.32	44	P	P	05 38 37.0	+0.2
	1.3nm,0.7s,mb3.4,baz=229,slow=8.2,SNR=11						
TXAR	Lajitas Array	85.80	57	P	P	05 39 10.1	+0.9
	1.6nm,0.8s,mb3.7,baz=225,slow=6.1,SNR=14						
TXAR	Lajitas Array	85.80	57	P	P	05 39 10.1	+0.9
PDAR	Pinedale Array	87.25	43	P	P	05 39 15.6	-0.4
	1.0nm,0.7s,mb3.6,baz=244,slow=2.0,SNR=8.7						
VNA3	Neumayer Olymp	90.50	176	e	P	05 39 30.7	-0.4
VNA3				e		05 39 38.7	
VNA2	Neumayer--Watz	90.95	177	e	P	05 39 32.7	-0.5
VNA2				e		05 39 39.4	
VNA1	Neumayer--Stat	91.17	177	e	P	05 39 34.1	-0.1
BR131	Keskin Array S	145.19	315	ePKPdf	PKPdf	05 46 02.8	+0.4
BRTR	Keskin Array B	145.19	315	PKP	PKPdf	05 46 03.0	+0.7
	1.0nm,0.6s,baz=124,slow=4.7,SNR=5.4						
CLL	Collm	145.75	348	ePKPbc	PKPbc	05 46 04.0	-1.1
GERES	GERESS Array B	147.91	345	PKPbc	PKPbc	05 46 10.0	-0.8
	2.0nm,0.8s,baz=30,slow=3.2,SNR=6.9						

IDC 03 05:30:10.7±4.1**, 18.62S**×**71.33W, h74**km±32km**, mb4.0**/2**, mb1 4.0**/5**, mb1mx3.6**/17**, mbtmp3.9**/5**, MS3.1**/2**, Ms1 3.2**/2**, ms1mx2.8**/20**, Error ellipse: s-maj=42.4km s-min=14.1km az=102.0, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.84	53	P	Pn	05 31 06.4	-1.0
	0.9nm,0.3s,baz=231,slow=7.7,SNR=34						
LPAZ				S	Sn	05 31 53.9	+2.7
	0.9nm,0.3s,baz=242,slow=24,SNR=1.5						
LPAZ				LR	LR	05 32 51.8	
	comp=Z,261nm,21.4s,baz=237,slow=42						
LVC	Limon Verde	4.57	151	P	Pn	05 31 18.0	+0.6
	5.7nm,0.3s,baz=339,slow=9.3,SNR=49						
LVC				S	Sn	05 32 10.7	+1.6
	4.5nm,0.3s,baz=79,slow=17,SNR=4.0						
LVC				LR	LR	05 33 22.3	
	comp=Z,262nm,21.7s,baz=184,slow=42						
NNA	Nana	8.47	320	S	Sn	05 33 44.2	-0.5
	2.6nm,0.3s,baz=231,slow=11,SNR=4.1						
SIV	San Ignacio	10.14	77	P	Pn	05 32 31.7	-1.8
	1.4nm,0.3s,baz=267,slow=12,SNR=39						
TORD	Torodi Ar. Bea	78.58	72	P	P	05 42 04.2	-0.1
	1.7nm,0.8s,baz=248,slow=5.5,SNR=13						
YKA	Yellowknife Ar	87.74	341	P	P	05 42 50.7	-0.7
	2.0nm,0.7s,baz=131,slow=4.9,SNR=9.8						
MKAR	Makanchi Array	144.52	32	PKP	PKPdf	05 49 38.4	-0.2
	0.6nm,0.6s,baz=329,slow=4.6,SNR=5.4						
SONM	Songino Array	150.81	3	PKPbc	PKPbc	05 49 56.0	+1.4
	1.1nm,0.8s,baz=337,slow=3.3,SNR=5.3						

CASC 03 05:45:42.6±2.6**, 8.97N**×**83.96W, h7**km±10km**, MD3.6, 3C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.77	357	⇓eP	Pg	05 45 56.9	-0.5
LCR2				⇑eS	Sg	05 46 08.4	+0.9
ACR	Cerro Adams	0.84	112	eS	Sg	05 46 12.0	+2.2
LAJ	Bijagual	0.90	350	⇓eP	Pg	05 46 00.2	+0.2
OCM	Ochomogo	0.92	360	eP	Pg	05 45 58.9	-1.4
OCM				⇓eP		05 45 59.3	
OCM				eS	Sg	05 46 11.6	-0.6
OCM				eS	Sg	05 46 11.7	-0.5
IRZ2	Volcan Irazu 2	1.00	4	⇓iP	Pg	05 46 01.0	-0.7
IRZ2				eS	Sg	05 46 18.5	+3.8
VTU	Volcan Turrial	1.06	11	⇑iP	Pg	05 46 02.6	-0.4
VTU				eS	Sg	05 46 16.5	-0.4
PRS1	Puriscal	1.07	341	⇑eP	Pg	05 46 00.7	-2.4
PRS1				eS	Sg	05 46 15.4	-1.6
CGA2	Cerro Gallo 2	1.16	334	⇓eP	Pg	05 46 03.5	-1.2
CGA2				eS	Sg	05 46 20.2	+0.4
CTCR	Cotoan	1.19	93	eP	Pg	05 46 03.6	-1.8
CTCR				eS	Sg	05 46 22.0	+1.2
EPA	Esparza	1.19	328	i P	Pg	05 46 03.9	-1.6
EPA				eS	Sg	05 46 21.0	+0.1
POA2	Poas 2	1.23	347	eP	Pb	05 46 05.4	-0.8
POA2				eS	Sg	05 46 23.8	+1.4
CAO	Cobano	1.34	303	eP	Pn	05 46 07.7	0.0
LIO	Limon	1.38	41	eP	Pn	05 46 07.5	-0.6
LIO				eS	Sb	05 46 26.0	-0.4
JCR	Jicaral	1.44	308	eP	Pn	05 46 08.3	-0.7
CNI	Changuinola	1.49	73	eP	Pn	05 46 09.7	-0.1
DVD	David	1.58	109	eS	Sn	05 46 30.4	-1.4

*IDC **03** 05:46:04.0±1.1, 72.16N×1.43E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/25, mbtmp3.9/12, ML3.4/4, MS3.5/12, Ms1 3.5/12, ms1mx3.3/32, Error ellipse: s-maj=21.9km s-min=16.9km az=80.0*
*MOS **03** 05:46:04.8±0.9, 72.24N×2.01E, h10km, mb4.4/11, Error ellipse: s-maj=31.6km s-min=5.9km az=97.0*
*NAO **03** 05:46:05.2±3.0, 72.18N×1.79E, ML2.8*
*NEIC **03** 05:46:05.5±0.5, 72.24N×1.55E, h10km, mb4.3/9, Error ellipse: s-maj=8.5km s-min=5.1km az=99.0*
*ISCJB **03** 05:46:06.8±0.6, 72.09N±0.05×2.6E±0.1, h10km, mb4.2/24, MS3.5/10, Error ellipse: s-maj=7.7km s-min=6.1km az=132.3*
*BER **03** 05:46:07.0±3.1, 72.31N×1.35E, h10km, MD2.9, ML2.9, ML2.8(NAO)*
*CSEM **03** 05:46:07.5±0.2, 72.21N×1.67E, h35km, mb4.2/10, Error ellipse: s-maj=6.1km s-min=3.2km az=96.0*
*SZGRF **03** 05:46:09.2, 72.00N×0.74E, h33km, mb4.4, MS3.3, Norwegian Sea*
ISC 03 05:46:07.0±0.5**, 72.12N**±0.04×**2.1E**±0.1**, h10**km**, n104,** σ**1.09**/104**, mb4.2**/24**, MS3.5**/10**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOF	Lofoten	5.58	130	eP	Pn	05 47 32.8	+2.9
LOF				eS	Sn	05 48 35.3	+1.2
LOF				AML	AML	05 48 38.8	
	comp=Z,21nm,0.6s						
LOF	Lofoten	5.58	130	eP	Pn	05 47 32.8	+2.9
LOF				eS	Sn	05 48 37.4	+3.3
TRO	Tromso	6.05	106	eP	Pn	05 47 36.6	+0.1
TRO				eS	Sn	05 48 43.3	-2.4
TRO				AML	AML	05 48 45.9	
	comp=Z,12nm,0.5s						
TRO	Tromso	6.05	106	eP	Pn	05 47 36.6	+0.1
TRO				eS	Sn	05 48 43.3	-2.4
STOK1	Konsvik	6.84	140	eP	Pn	05 47 48.0	+0.7
STOK1	Konsvik	6.84	140	eS	Sn	05 49 02.1	-3.2
STOK1				AML	AML	05 49 07.1	
	comp=Z,23nm,0.8s						
STOK	Stokkvaagen	6.97	141	eP	Pn	05 47 50.5	+1.5
STOK	Stokkvaagen	6.97	141	eP	Pn	05 47 50.5	+1.4
STOK2	Flostrand	7.03	140	eP	Pn	05 47 50.5	+0.6
SPA0	Spitsbergen Ar	7.08	24	Pn	Pn	05 47 48.8	-1.8
	baz=213,slow=14						
KBS	Kingsbay	7.26	15	Pn	Pn	05 47 49.2	-3.9
MOR8	Moi Rana	7.39	138	eP	Pn	05 47 56.0	+1.0
MOR8				eS	Sn	05 49 17.7	-1.2
MOR8				AML	AML	05 49 21.3	
	comp=Z,37nm,0.9s						
MOR8	Moi Rana	7.39	138	eP	Pn	05 47 56.0	+1.0
MOR8				eS	Sn	05 49 17.7	-1.2
KTK1	Kautokeino	7.67	104	eP	Pn	05 48 00.7	+1.9
ARA0	ARCESS Array S	8.09	97	Pn	Pn	05 48 05.2	+0.7
	baz=296,slow=12						
ARA0				Sn	Sn	05 49 35.9	0.0
	baz=294,slow=22						
ARCES	ARCESS Array B	8.09	97	Pn	Pn	05 48 05.2	+0.8
	comp=Z,0.9nm,0.3s,baz=299,slow=12,SNR=42						
ARCES				Sn	Sn	05 49 35.7	-0.3
	comp=Z,0.3nm,0.3s,baz=305,slow=24,SNR=2.6						
ARCES				LR	LR	05 51 19.8	
	comp=Z,162nm,18.4s,baz=6.4,slow=38						
ARCES	ARCESS Array B	8.09	97	P	Pn	05 48 05.3	+0.8
ARCES						05 49 35.7	
ARCES	ARCESS Array B	8.09	97	Pn	Pn	05 48 05.2	+0.7
ARE0	ARCESS Array S	8.09	97	Pn	Pn	05 48 04.4	-0.1
ARE0	ARCESS Array S	8.09	97	Pn	Pn	05 48 04.4	-0.1
NSS	Namsos	8.43	150	eP	Pn	05 48 09.5	+0.3
NB2	NORSAR Subarra	11.67	158	Pn	Pn	05 48 55.5	+1.9
	baz=346,slow=14						
NOA	NORSAR Array B	11.67	158	Pn	Pn	05 48 54.6	+1.0
	comp=Z,0.3nm,0.3s,baz=348,slow=12,SNR=4.2						
NOA				Sn	Sn	05 51 01.8	-2.1
	comp=Z,0.2nm,0.3s,baz=44,slow=20,SNR=3.6						
NOA				LR	LR	05 53 24.7	
	comp=Z,182nm,19.4s,baz=340,slow=37						
HFS	Hagfors	12.87	153	Pn	Pn	05 49 10.7	+0.7
	comp=Z,0.4nm,0.3s,baz=355,slow=15,SNR=11						
HFS				Sn	Sn	05 51 30.1	-3.2
	comp=Z,0.3nm,0.3s,baz=352,slow=20,SNR=5.7						
HFS				LR	LR	05 53 52.7	
	comp=Z,216nm,21.7s,baz=73,slow=36						
HFS	Hagfors	12.87	153	Pn	Pn	05 49 11.1	+1.1
	baz=1.3,slow=11						
HFS	Hagfors	12.87	153	P	Pn	05 49 10.7	+0.7
HFS						05 51 30.1	
KAF	Kangasniemi	13.61	125	ep	Pn	05 49 13.7	-6.4
	comp=Z,7.8nm,0.9s						
KAF	Kangasniemi	13.61	125	eP	Pn	05 49 13.7	-6.4
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FIA0	FINESS Array S	14.12	127	Pn	Pn	05 49 27.8	+0.7
	baz=346,slow=16						
FIA0				Sn	Sn	05 51 59.8	-4.1
	baz=335,slow=28						
FINES	FINESS Array B	14.12	127	Pn	Pn	05 49 27.2	+0.2
	comp=Z,0.2nm,0.3s,baz=345,slow=14,SNR=6.7						
FINES				Sn	Sn	05 52 00.2	-3.7
	comp=Z,0.2nm,0.3s,baz=338,slow=26,SNR=4.1						
FINES	FINESS Array B	14.12	127	Pn	Pn	05 49 27.2	+0.1
EKA	Eskdalemuir Ar	17.00	190	Pn	Pn	05 50 00.2	-4.5
	comp=Z,0.1nm,0.3s,baz=353,slow=11,SNR=3.2						
NRDL	Niedersach Rie	20.00	166	eP	Pn	05 50 39.1	-2.3
IBBN	Ibbenburen	20.04	170	eP	P	05 50 39.7	-0.4
CLZ	Clausthal	20.67	165	eP	P	05 50 47.2	+0.2
NEUB	Neuenburg	21.42	163	eP	P	05 50 55.3	+0.3
	comp=Z,24nm,0.5s,mb4.8						
CLL	Collm	21.44	161	eP	P	05 50 59.0	+3.8
CLL	Collm	21.44	161	e(P)	P	05 50 55.0	-0.2
CLL				i x	x	05 50 58.3	
CLL				ex	x	05 51 10.0	
FBE	Freiberg	21.85	161	eP	P	05 50 59.3	-0.4
	comp=Z,27nm,1.3s,mb4.5						
BRG	Berggiesshubel	21.96	160	eP	P	05 51 01.3	+0.4
	comp=Z,24nm,1.5s,mb4.4						
BRG	Berggiesshubel	21.96	160	eP	P	05 51 01.2	+0.3
	comp=Z,8.5nm,1.3s,mb4.0						
BRG				e		05 51 05.9	
	comp=Z,14nm,1.5s						
BRG	Berggiesshubel	21.96	160	eP	P	05 51 01.2	+0.3
BRG				e		05 51 05.9	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
MOX	Moxa	21.96	164	eP	P	05 51 00.6	-0.3
	comp=Z,26nm,1.3s,mb4.5						
MOX	Moxa	21.96	164	eP	P	05 51 01.2	+0.3
MOX				pmax	pmax		
	comp=Z,38nm,1.6s,mb4.6						
MOX	Moxa	21.96	164	eP	P	05 51 01.2	+0.3
	comp=Z,38nm,1.6s,mb4.6						
MOS	Moscow	22.09	119	eP	P	05 50 58.4	-3.8
TNS	Taunus Mts	22.15	169	eP	P	05 51 02.5	-0.4
WERD	Werda	22.22	163	eP	P	05 51 03.4	-0.2
	comp=Z,15nm,1.2s,mb4.3						
TANN	Tannenbergstha	22.27	162	eP	P	05 51 05.6	+1.5
	comp=Z,20nm,1.3s,mb4.4						
GUNZ	Gunzen	22.31	163	eP	P	05 51 05.5	+1.0
	comp=Z,11nm,1.0s,mb4.2						
WERN	Wernitzgruen	22.39	163	eP	P	05 51 06.8	+1.4
	comp=Z,20nm,1.0s,mb4.5						
NKC	Novy Kostel	22.45	162	eP	P	05 51 05.8	-0.2
UPC	Upice	22.56	156	eP	P	05 51 06.3	-1.0
DPC	Dobruska-Polom	22.75	156	eP	P	05 51 09.4	+0.1
DPC				AMS	AMS	06 00 30.0	
	comp=Z,200nm,14.6s						
GRA1	Grafenberg Arr	22.88	165	eP	P	05 51 10.7	+0.1
	comp=Z,7.0nm,0.8s,mb4.1						
GRA1				LR	LR		
	comp=Z,100nm,19.9s,MS3.3						
GRF	Grafenberg Arr	22.88	165	eP	P	05 51 10.7	+0.1
	comp=Z,7.0nm,0.8s,mb4.1						
GRF				eL		06 00 19.3	
	comp=Z,122nm,19.9s						
GRF	Grafenberg Arr	22.88	165	eP	P	05 51 10.7	+0.1
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
GRF				MLR	MLR		
	comp=Z,100nm,19.9s,MS3.3						
GRF	Grafenberg Arr	22.88	165	eP	P	05 51 10.7	+0.1
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
GRF				MLR	MLR		
	comp=Z,100nm,19.9s,MS3.3						
ROTZ	Rotzenmuhle	22.89	163	eP	P	05 51 10.2	-0.5
	comp=Z,12nm,1.0s,mb4.3						
PRU	Pruhonice	22.90	159	eP	P	05 51 10.4	-0.5
MORC	Moravsky Berou	23.48	154	eP	P	05 51 16.5	-0.4
MORC				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.2						
MORC	Moravsky Berou	23.48	154	eP	P	05 51 16.5	-0.4
	comp=Z,13nm,1.4s,mb4.2						
MORC	Moravsky Berou	23.48	154	eP	P	05 51 16.5	-0.4
	comp=Z,13nm,1.4s,mb4.2						
OKC	Ostrava-Krasne	23.50	153	eP	P	05 51 17.7	+0.6
WET	Wettzell	23.57	162	eP	P	05 51 18.1	+0.3
	comp=Z,7.0nm,0.9s,mb4.1						
WET	Wettzell	23.57	162	eP	P	05 51 18.1	+0.3
WET				pmax	pmax		

comp=Z,7.0nm,0.9s,mb4.1
KHC Kasperske Hory 23.65 161 eP P 05 51 18.7 +0.1
VRAC Vranov 23.81 156 P P 05 51 20.5 +0.4
comp=Z,7.2nm,0.7s,mb4.2,baz=355,slow=9.1,SNR=7.2
GEC2 GERESS Array S 23.94 161 eP P 05 51 21.9 +0.6
comp=Z,8.0nm,0.9s,mb4.2
GEC2 GERESS Array S 23.94 161 eP P 05 51 21.9 +0.6
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
GERES GERESS Array B 23.94 161 P P 05 51 22.1 +0.8
comp=Z,4.2nm,0.7s,mb4.0,baz=1.6,slow=9.3,SNR=22
BFO Black Forest 24.03 170 eP P 05 51 21.1 -1.0
AKASG Malin Array Be 24.64 136 P P 05 51 27.3 -0.3
comp=Z,3.7nm,0.6s,mb4.1,baz=341,slow=9.9,SNR=10
AKBB Malin Array Si 24.64 136 eP P 05 51 27.3 -0.4
UZH Uzhgorod 25.30 148 eP P 05 51 33.8 +0.1
PSZ Piszkesteto 25.62 152 eP P 05 51 35.6 -1.0
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
PSZ Piszkesteto 25.62 152 eP P 05 51 35.6 -0.9
comp=Z,6.6nm,0.9s,mb4.2
PSZ Piszkesteto 25.62 152 eP P 05 51 35.6 -1.0
comp=Z,6.6nm,0.9s,mb4.2
FRB Frobisher Bay 26.19 288 LR LR 06 01 44.6
comp=Z,139nm,18.1s,MS3.5,baz=134,slow=36
VRSR Storozhevoye 26.56 122 eP P 05 51 46.1 +1.1
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.3s
MLR Muntele Rosu 28.98 144 LR LR 06 04 07.3
comp=E,221nm,18.4s,MS3.8,baz=3.9,slow=37
TIXI Tiksi 32.48 28 eP P 05 52 35.8 -1.8
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
TIXI Tiksi 32.48 28 eP P 05 52 35.8 -1.8
comp=Z,5.0nm,1.0s,mb4.3
SCHQ Schefferville 32.87 276 LR LR 06 04 34.2
comp=Z,81nm,18.9s,MS3.5,baz=240,slow=34
CHKZ Chkalovo 33.71 86 eP P 05 52 48.3 0.0
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
CHKZ Chkalovo 33.71 86 eP P 05 52 48.3 -0.1
comp=Z,1.0nm,0.6s,mb3.9
CHKZ Chkalovo 33.71 86 eP P 05 52 48.3 0.0
comp=Z,1.0nm,0.6s,mb3.9
BRTR Keskin Array B 36.04 137 P P 05 53 09.2 +0.8
comp=Z,1.1nm,0.9s,mb3.8,baz=316,slow=5.2,SNR=3.6
BRTR Keskin Array B 36.04 137 P P 05 53 09.2 +0.7
NVS Novosibirsk 36.54 74 eP P 05 53 14.2 +1.5
ZAL Zalesovo 37.78 73 LR LR 06 13 03.7
comp=Z,40nm,18.2s,MS3.3,baz=130,slow=43
YKA Yellowknife Ar 38.94 319 LR LR 06 08 57.8
comp=Z,75nm,19.5s,MS3.5,baz=70,slow=35
MKAR Makanchi Array 43.34 81 P P 05 54 08.9 -0.3
comp=Z,0.3nm,0.8s,mb3.1,baz=325,slow=12,SNR=3.0
MKAR PcP PcP 05 55 54.8 -3.1
comp=Z,0.8nm,0.8s,baz=350,slow=4.9,SNR=6.0
MKAR LR LR 06 16 22.7
comp=Z,45nm,20.5s,MS3.4,baz=357,slow=42
MKAR Makanchi Array 43.34 81 P P 05 54 08.9 -0.3
MKAR 05 55 54.8
ULM Lac du Bonnet 45.45 297 LR LR 06 12 38.0
comp=Z,88nm,18.9s,MS3.7,baz=243,slow=35
SONM Songino Array 49.34 59 P P 05 54 57.2 +0.8
comp=Z,0.5nm,0.6s,mb3.7,baz=352,slow=6.0,SNR=4.7
PDAR Pinedale Array 55.99 304 LR LR 06 18 25.3
comp=Z,35nm,19.4s,MS3.5,baz=178,slow=35
TORD Torodi Ar. Bea 58.94 180 P P 05 56 04.0 -2.4
comp=Z,1.2nm,0.7s,mb4.0,baz=355,slow=7.0,SNR=8.0
TXAR Lajitas Array 67.04 294 LR LR 06 26 37.4
comp=Z,69nm,18.8s,MS3.9,baz=5.0,slow=36
MJAR Matsushiro Arr 67.38 37 P P 05 57 01.1 -1.3
comp=Z,1.1nm,0.6s,mb4.1,baz=349,slow=6.6,SNR=5.6
ASAR Alice Springs 124.64 56 PKP PKPdf 06 05 03.2 -3.5
comp=Z,0.7nm,0.7s,baz=349,slow=2.1,SNR=9.9
VNA2 Neumayer--Watz 142.94 185 e PKPdf 06 05 34.8 -6.1
VNA2 e 06 05 39.8
VNA3 Neumayer Olymp 143.33 186 e PKPdf 06 05 33.8 -7.8
VNA3 e 06 05 38.3
MAW Mawson 145.14 144 PKPbc PKPbc 06 05 41.9 -2.3
comp=Z,1.4nm,0.7s,baz=356,slow=11,SNR=4.1

IDC 03 06:19:52.5±5.3, 1925S×17552W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=377.9km s-min=29.0km az=153.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TBI Tubuai 24.60 104 eLR LR 06 29 57.1
62nm,29.5s
PPT Papeete 24.67 90 eLR LR 06 30 09.0
84nm,26.2s
ASAR Alice Springs 47.09 255 P P 06 28 26.8 +0.7
4.0nm,0.9s,baz=88,slow=8.0,SNR=30
WRA Warramunga Arr 47.10 260 P P 06 28 26.1 -0.1
2.4nm,1.0s,baz=99,slow=6.8,SNR=10
NVAR Mina Array Bea 78.53 42 P P 06 31 56.2 +0.5
0.7nm,0.7s,baz=215,slow=6.7,SNR=8.4

ISCJB 03 06:21:37.6±0.3, 4348N±004×11960E±005, h10km, mb4.3/13, MS3.5/7, Error ellipse: s-maj=5.7km s-min=4.4km az=69.4
BJI 03 06:21:37.2, 4365N×11982E, h11km, mB4.7, mb4.3, ML4.8, Ms4.5, Msz4.1
IDC 03 06:21:37.5±0.6, 4337N×11960E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, ML3.6/3, MS3.4/12, Ms1 3.4/12, ms1mx3.3/30, Error ellipse: s-maj=24.9km s-min=12.0km az=48.0
NEIC 03 06:21:39.3±0.4, 4347N×11956E, h10km, mb4.7/3, Error ellipse: s-maj=10.3km s-min=8.1km az=221.0
NEIC At least 5,586 homes damaged in Bairin.
MOS 03 06:21:40.3±1.2, 4344N×11950E, h33km, mb4.7/2, Error ellipse: s-maj=15.4km s-min=9.9km az=100.2
ISC 03 06:21:39.3±0.3, 4344N±003×11952E±004, h10km, n52, σ1§19/62, mb4.3/13, MS3.5/7, 2C, Northeastern China

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNY Shenyang 3.40 117 ⇑P Pn 06 22 31.6 -0.7
SNY SG Sb 06 23 20.1 -0.8
SNY Smax
comp=N,1µm,1.3s
SNY Smax
comp=E,1µm,1.2s
BJI Beijing 4.22 218 P Pn 06 22 44.1 +0.5
BJI SG Sg 06 23 54.2 -0.6
BJI Smax
comp=N,2µm,0.9s
BJI Smax
comp=E,2µm,1.0s
BJT Baijiatuau 4.24 217 ePn Pn 06 22 43.8 -0.1
BJT eSg Sg 06 23 54.5 -0.9
CN2 Changchun 4.32 83 eP Pn 06 22 41.8 -3.1
DL2 Dalian 4.80 160 P Pn 06 22 51.2 -0.4
DL2 PG Pb 06 23 06.1 +2.7
DL2 S Sn 06 23 47.2 0.0
DL2 Smax
comp=N,260nm,0.8s
DL2 Smax
comp=E,370nm,0.8s
HIA Hailar 5.83 1 eP Pn 06 23 04.6 -1.1
HIA pmax pmax
comp=Z,132nm,0.8s
HIA Hailar 5.83 1 ePn Pn 06 23 04.6 -1.1
comp=Z,132nm,0.8s
HIA eSg Sb 06 24 39.8 +8.9
HHC Hu-ho-hao-te 6.46 249 eP Pn 06 23 20.5 +6.2
HHC PG Pg 06 23 39.4 -3.5
HHC SG Sg 06 25 05.3 -1.2
HHC Smax
comp=N,652nm,0.8s
HHC Smax
comp=E,710nm,0.7s
MDJ Mudanjiang 7.35 77 ePn Pn 06 23 26.1 -0.6
comp=E,6.2nm,0.6s
MDJ eSg Sb 06 25 21.5 +6.8
KSRS Korea Array 8.76 130 Pn Pn 06 23 43.9 -2.0
baz=313,slow=14,SNR=8.9
KSRS Pg Pn 06 24 15.2 +29
baz=306,slow=17,SNR=7.5
KSRS Sn Sn 06 25 26.1 +1.5
baz=322,slow=32,SNR=5.7
KSRS Lg 06 26 08.9
baz=313,slow=30,SNR=12
KSRS LR LR 06 26 56.3
comp=E,160nm,18.3s,baz=290,slow=37
ULN Ulaanbaatar 9.79 301 eP Pn 06 24 10.3 +10
SONM Songino Array 10.19 300 Pn Pn 06 24 06.0 +0.5
comp=E,0.2nm,0.3s,baz=113,slow=11,SNR=5.3
SONM Pg Pn 06 24 51.1 +46
comp=E,0.6nm,0.3s,baz=112,slow=16,SNR=3.7
SONM Sn Sn 06 25 59.5 -0.3
comp=E,1.1nm,0.3s,baz=110,slow=13,SNR=3.6
SONM Lg 06 27 01.8
comp=E,2.6nm,0.3s,baz=101,slow=24,SNR=4.1
SONM LR LR 06 27 35.4
comp=E,94nm,20.6s,baz=46,slow=35
SONM Songino Array 10.19 300 P Pn 06 24 06.0 +0.5
SONM 06 25 59.5
NJ2 Nanjing 11.38 183 eP Pn 06 24 29.5 +7.6
NJ2 S Sn 06 26 40.0 +11
NJ2 AMB AMB
comp=Z,60nm,1.2s
NJ2 AMB AMB
comp=Z,320nm,4.0s
NJ2 LR LR
comp=N,770nm,16.0s
NJ2 LR LR
comp=E,2µm,13.6s
NJ2 LR LR
comp=Z,980nm,14.4s
XAN Xi'an 12.50 225 P Pn 06 24 40.9 +3.7
XAN AMB AMB
comp=Z,4.0nm,0.8s
XAN LR LR
comp=N,610nm,8.9s
XAN LR LR
comp=E,846nm,10.1s
XAN LR LR
comp=E,774nm,10.5s
TLY Talaya 13.50 313 eP Pn 06 25 00.2 +9.3
TLY pmax pmax
comp=Z,6.0nm,1.7s
JNU Nakatsue 13.61 135 Lg 06 28 47.0
comp=Z,0.7nm,0.3s,baz=232,slow=19,SNR=3.9
LZH Lanzhou 14.11 244 eP Pn 06 25 05.2 +6.1
LZH AP 06 25 10.7
LZH XP 06 25 12.9
LZH PP 06 25 17.0
LZH eS Sn 06 27 52.0 +16
LZH XS 06 27 57.0
LZH AMB AMB
comp=Z,20nm,1.0s
LZH AMB AMB
comp=Z,140nm,4.1s
LZH LR LR
comp=N,1µm,11.7s
LZH LR LR
comp=Z,1µm,12.7s
LZH Lanzhou 14.11 244 eP Pn 06 25 05.2 +6.1
comp=Z,20nm,1.0s
LZH pP 06 25 10.7
LZH sP 06 25 12.9
LZH PP 06 25 17.0
LZH eS Sn 06 27 52.0 +16
LZH sS 06 27 57.0
LZH eSS 06 28 10.0
BOD Bodaibo 14.81 348 eP Pn 06 25 09.8 +1.1
BOD pmax pmax
comp=Z,6.0nm,1.5s
MAJO Matsushiro 15.87 109 eP Pn 06 25 23.6 +0.9
MAJO pmax pmax
comp=Z,6.0nm,0.7s
MAJO Matsushiro 15.87 109 ePn Pn 06 25 23.6 +0.9
comp=Z,5.6nm,0.7s
MAT Matsushiro 15.87 109 P Pn 06 25 22.5 -0.2
MAT S Sn 06 28 33.0 +14
MJAR Matsushiro Arr 15.88 109 Pn Pn 06 25 23.2 +0.4
comp=Z,0.3nm,0.3s,baz=302,slow=12,SNR=11
MJAR LR LR 06 30 20.6
comp=Z,83nm,21.6s,baz=310,slow=33
ASAJ Asahikawa 16.67 80 LR LR 06 32 03.4
comp=Z,338nm,18.9s,baz=357,slow=38
CD2 Chengdu 17.69 230 eP Pn 06 25 45.3 -0.4
CD2 PP 06 26 00.2
CD2 S Sn 06 29 02.8 +0.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=E,990nm,10.8s
CD2 LR LR
comp=Z,580nm,10.8s
JOW Kunigami 18.03 154 P Pn 06 25 51.6 +1.7
comp=Z,2.7nm,0.3s,baz=302,slow=13,SNR=7.2
JOW LR LR 06 32 53.2
comp=Z,106nm,21.0s,baz=298,slow=38
GYA Guiyang 19.91 216 ⇑iP Pn 06 26 14.9 +2.3
GYA AMB AMB
comp=Z,30nm,0.9s
WMQ Urumqi 22.97 282 P P 06 26 46.0 +2.1
ZAL Zalesovo 24.97 307 P P 06 27 03.7 +0.8
comp=Z,1.1nm,0.3s,mb3.9,baz=354,slow=6.3,SNR=5.3
ZAL LR LR 06 38 04.4
comp=Z,93nm,18.7s,MS3.3,baz=194,slow=39
ZAL Zalesovo 24.97 307 P P 06 27 03.7 +0.8
ZAL LR LR 06 38 04.4
MKAR Makanchi Array 26.33 290 P P 06 27 15.4 +0.2
comp=Z,0.5nm,0.7s,baz=96,slow=6.8,SNR=7.0
BVAR Borovoye Array 33.50 304 P P 06 28 19.9 +1.1
comp=Z,0.6nm,0.5s,mb3.8,baz=106,slow=11,SNR=3.1
POO Poona 45.63 252 ex x 06 29 51.5
ARCES ARCESS Array B 51.43 333 P P 06 30 44.4 -0.1
comp=Z,3.5nm,1.0s,mb4.2,baz=82,slow=9.1,SNR=4.7
ARCES LR LR 06 57 54.7
comp=Z,60nm,18.3s,MS3.7,baz=13,slow=42
COLA College 52.75 32 eP P 06 30 53.4 -0.9
COLA pmax pmax
comp=Z,13nm,1.0s,mb4.8
COLA College 52.75 32 eP P 06 30 53.4 -0.9
comp=Z,13nm,1.0s,mb4.8
PMR Palmer 53.59 36 eP P 06 30 58.5 -2.0
PMR pmax pmax
comp=Z,15nm,1.0s,mb4.9
PMR Palmer 53.59 36 eP P 06 30 58.5 -2.0
comp=Z,15nm,1.0s,mb4.9
KDAK Kodiak Island 53.64 42 P P 06 30 58.9 -2.0
comp=Z,9.7nm,0.8s,mb4.8,baz=332,slow=6.5,SNR=8.6
FINES FINESS Array B 54.56 324 P P 06 31 06.3 -1.2
comp=Z,4.4nm,1.0s,mb4.4,baz=60,slow=6.0,SNR=6.6
FINES LR LR 06 56 42.9
comp=Z,122nm,18.1s,MS4.0,baz=26,slow=38
FINES FINESS Array B 54.56 324 P P 06 31 06.3 -1.3
FINES LR LR 06 56 42.9
NOA NORSAR Array B 60.85 328 P P 06 31 52.5 +0.7
comp=Z,2.4nm,1.0s,mb4.3,baz=55,slow=7.1,SNR=3.5
NOA LR LR 06 59 16.3
comp=Z,33nm,20.1s,MS3.5,baz=275,slow=37
FITZ Fitzroy Crossi 61.49 173 P P 06 31 56.2 +0.1
comp=Z,1.9nm,0.8s,mb4.3,baz=313,slow=11,SNR=3.8
BRTR Keskin Array B 61.55 299 LR LR 07 02 22.5
comp=Z,26nm,19.7s,MS3.4,baz=297,slow=40
WRA Warramunga Arr 64.52 165 P P 06 32 15.0 -1.3
comp=Z,2.7nm,0.8s,mb4.3,baz=351,slow=6.9,SNR=15
YKA Yellowknife Ar 65.88 24 LR LR 07 00 31.5
comp=Z,16nm,21.7s,MS3.2,baz=180,slow=35
GERES GERESS Array B 67.47 317 LR LR 07 02 38.9
comp=Z,54nm,19.3s,MS3.8,baz=63,slow=36
ASAR Alice Springs 68.07 166 P P 06 32 37.8 -1.3
comp=Z,2.3nm,0.9s,mb4.2,baz=353,slow=5.5,SNR=15
STKA Stephens Creek 77.63 161 P P 06 33 36.0 +0.2
comp=Z,2.9nm,0.7s,mb4.3,baz=356,slow=3.5,SNR=5.9
NVAR Mina Array Bea 83.14 42 P P 06 34 07.3 +2.0
comp=Z,1.5nm,0.8s,mb4.0,baz=298,slow=6.2,SNR=9.3
MSU Marysvale 85.95 38 eP P 06 34 20.6 +1.0

ISCJB 03 06:23:19.1±0.9, 35N±02×1244E±04, h300km, mb3.8/7, Error ellipse: s-maj=57.4km s-min=12.5km az=129.9
NEIC 03 06:23:24.2±5.2, 342N×12434E, h338km±57km, mb4.3/3, Error ellipse: s-maj=55.0km s-min=20.2km az=68.0
IDC 03 06:23:26.0±8.0, 339N×12430E, h354km±87km, mb3.4/6, mb1 3.4/6, mb1mx3.2/20, mbtmp3.4/6, Error ellipse: s-maj=85.2km s-min=20.0km az=65.0
ISC 03 06:23:20.9±0.9, 35N±02×1243E±04, h300km, n15, σ0§69/13, mb3.8/7, Celebes Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 18.00 153 eP P 06 27 10.4 -0.1
3.2nm,0.2s
FITZ Fitzroy Crossi 21.48 177 eP P 06 27 45.7 -0.4
13nm,0.6s,mb4.4
FITZ Fitzroy Crossi 21.48 177 P P 06 27 46.3 +0.2
4.6nm,0.4s,mb4.2,baz=4.6,slow=6.7,SNR=37
WRA Warramunga Arr 25.27 157 P P 06 28 19.9 -0.5
1.5nm,0.4s,mb3.8,baz=336,slow=10,SNR=17
WRA Warramunga Arr 25.27 157 P P 06 28 19.9 -0.5
WB2 Warramunga Arr 25.28 157 eP P 06 28 19.7 -0.8
ASAR Alice Springs 28.55 161 P P 06 28 51.3 +1.7
0.3nm,0.6s,mb2.9,baz=333,slow=6.7,SNR=5.2
KLBR Kellerberrin 35.43 190 eP P 06 29 49.0 -0.1
7.0nm,0.6s,mb4.4
STKA Stephens Creek 38.81 156 P P 06 30 17.5 +0.1
0.6nm,0.3s,mb3.5,baz=331,slow=9.9,SNR=4.8
STKA Stephens Creek 38.81 156 P P 06 30 17.5 +0.1
MKAR Makanchi Array 56.40 326 P P 06 32 32.5 +0.8
2.3nm,0.4s,mb4.0,baz=123,slow=7.7,SNR=48
AKTK Aktyubinsk 72.36 322 P P 06 34 14.0 -0.4
AKTO Aktyubinsk 72.36 322 P P 06 34 14.0 -0.4
1.1nm,0.4s,mb3.8,baz=104,slow=8.9,SNR=5.7
TORD Torodi Ar. Bea 120.69 287 PKP PKPdf 06 41 37.2 0.0
0.4nm,0.6s,baz=99,slow=1.6,SNR=5.8
TORD Torodi Ar. Bea 120.69 287 PKP PKPdf 06 41 37.2 0.0

JMA 03 06:27:23.4±0.4, 4404N×14797E, h0km, M3.8, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NEM2 Nemuro 2 1.75 248 P Pn 06 27 55.1 +0.1
NEM2 eS Sn 06 28 18.4 +0.4
JRA Rausu 2.06 268 P Pn 06 27 59.7 +0.5
JAR Ashorobuto 3.14 258 P Pn 06 28 15.8 +1.7
JAR eS Sn 06 28 54.6 +2.4
JCH Churui 3.65 249 P Pn 06 28 23.3 +2.2
JCH eS Sn 06 29 07.3 +2.4
JNBK Urakawa-nobuka 4.20 247 P Pn 06 28 29.9 +1.2
JKB Kayabe 5.53 249 P Pn 06 28 48.3 +1.4
JKB eS Sn 06 29 52.4 +1.3

IDC 03 06:32:04.3±2.3, 696S×12799E, h0km, mb3.3/1, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=108.3km s-min=28.8km az=73.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 11.31 191 Pn Pn 06 34 47.1 0.0
0.2nm,0.3s,baz=32,slow=13,SNR=9.8
FITZ Sn Sn 06 36 38.9 -15
0.8nm,0.3s,baz=251,slow=20,SNR=5.0
WRA Warramunga Arr 14.30 155 Pn Pn 06 35 27.4 -0.7
0.3nm,0.3s,baz=334,slow=13,SNR=13
WRA Sn Sn 06 37 54.3 -13
1.3nm,0.3s,baz=329,slow=24,SNR=12
ASAR Alice Springs 17.56 162 P Pn 06 36 11.3 +0.9
1.1nm,0.3s,baz=338,slow=11,SNR=52
ASAR S Sn 06 39 13.4 -13
0.4nm,0.3s,baz=339,slow=23,SNR=6.9
MKAR Makanchi Array 67.11 328 P P 06 42 59.9 +0.2
0.2nm,0.5s,baz=122,slow=5.9,SNR=3.6

WEL 03 06:58:23.0±0.3, 3853S×17596E, h156km±1km, ML3.5/7, 3C, Error ellipse: s-maj=2.2km s-min=1.7km az=0.0, North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TWVZ Taurewa 0.68 217 ⇑PN Pn 06 58 45.9 0.0
WPVZ Whakapapa 0.75 205 PN Pn 06 58 46.5 +0.1
BKZ Black Stump Fm 0.76 147 ⇑PN Pn 06 58 46.5 +0.1
BKZ SN Sn 06 59 04.5 +0.1
TUVZ Tukino 0.77 198 PN Pn 06 58 46.8 +0.3
FWVZ Far West T-bar 0.79 204 PN Pn 06 58 46.9 +0.3
WNVZ Wahianoa 0.84 199 PN Pn 06 58 47.2 +0.2
MOVZ Moawhango 0.89 190 ⇑PN Pn 06 58 47.3 -0.1
MOVZ SN Sn 06 59 06.3 +0.3
KNZ Kokohu 1.43 111 SN Sn 06 59 13.9 -0.7
WAZ Wanganui 1.44 211 PN Pn 06 58 52.1 -0.2
TSZ Takapari Road 1.53 180 PN Pn 06 58 53.2 0.0
WPHZ Waipukurau 1.58 166 PN Pn 06 58 53.8 +0.1
MXZ Matakaoa Point 2.09 63 PN Pn 06 58 57.4 -2.0
MRZ Mangatainoka R 2.15 188 PN Pn 06 58 59.2 -1.0
MRZ SN Sn 06 59 26.8 -1.9
BFZ Birch Farm 2.16 174 PN Pn 06 58 59.6 -0.7
KIW Kapiti Island 2.46 199 PN Pn 06 59 02.3 -1.6
MTW Mount Morrison 2.65 187 PN Pn 06 59 04.4 -1.7
CAW Cannon Point 2.66 195 PN Pn 06 59 04.7 -1.7
MRW Makara Radio 2.86 199 PN Pn 06 59 06.7 -2.1
TCW Tory Channel 2.98 205 PN Pn 06 59 08.0 -2.2
TCW SN Sn 06 59 43.9 -2.8
NNZ Nelson 3.34 216 PN Pn 06 59 12.0 -2.8
NNZ SN Sn 06 59 52.2 -2.8
QRZ Quartz Range 3.50 228 PN Pn 06 59 13.3 -3.5
KHZ Kahutara 4.30 205 PN Pn 06 59 24.3 -2.9

CSEM 03 06:58:56.6±0.1, 3349N×565W, h20km, MD3.2, Error ellipse: s-maj=3.8km s-min=2.1km az=91.0
CNRM 03 06:58:59.4, 3350N×563W, h17km, MD3.2
MDD 03 06:58:57.1±0.8, 3354N×575W, h13km±9km, mb3.7/3, Error ellipse: s-maj=8.0km s-min=4.4km az=101.0, PRXIMO, Morocco

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CZD Col de Zad 0.77 130 P Pg 06 59 11.0 -1.2
CZD S Sg 06 59 21.0 -1.3
CZD Col de Zad 0.77 130 i P Pg 06 59 11.0 -1.2
TGT Taghat 0.78 47 P Pg 06 59 12.0 -0.3
TGT S Sg 06 59 22.5 -0.1
TGT Taghat 0.78 47 eP Pg 06 59 12.0 -0.3
KIB El Ksiba 0.99 195 P Pb 06 59 15.0 -1.1
KIB S Sb 06 59 28.0 -1.1
KIB El Ksiba 0.99 195 i P Pb 06 59 15.0 -1.1
RSA Sarsar 1.34 357 P Pn 06 59 21.5 0.0
RSA S Sb 06 59 41.5 +2.4
RSA Sarsar 1.34 357 i P Pn 06 59 21.5 0.0
TZC Tazercounte 1.52 205 P Pn 06 59 23.5 -0.5
TZC S Sn 06 59 43.0 -0.6
TZC Tazercounte 1.52 205 i P Pn 06 59 23.5 -0.5
ZFT Errachidia 1.90 142 P Pn 06 59 29.0 -0.3
ZFT S Sn 06 59 52.0 -1.1
ZFT Errachidia 1.90 142 i P Pn 06 59 29.0 -0.3
EBER Berja 4.09 34 S Sn 07 00 43.5 -3.4
1.0nm,0.2s,SNR=7.9
EGRO El Granado 4.23 341 P Pn 06 59 59.0 -2.2
1.6nm,0.1s,SNR=19
EGRO S Sn 07 00 43.4 -7.1
2.2nm,0.1s,SNR=5.8
EGRO El Granado 4.23 341 P Pn 06 59 59.0 -2.3
1.6nm,0.1s,SNR=19
EMIN Mina Concepcio 4.29 350 P Pn 07 00 00.0 -2.0
1.3nm,0.2s,SNR=7.9
EMIN S Sn 07 00 45.1 -6.8
1.1nm,0.1s,SNR=7.9
EMIN Mina Concepcio 4.29 350 P Pn 07 00 00.0 -2.0
1.3nm,0.2s,SNR=7.9
PTEO Sao Teotonio 4.68 330 ePn Pn 07 00 06.0 -1.4
PTEO eSn Sn 07 00 56.2 -5.3
PTEO
4.0nm,0.9s
PTEO Sao Teotonio 4.68 330 ePn Pn 07 00 06.0 -1.4
PTEO eSn Sn 07 00 56.2 -5.3
EADA Adamuz 4.72 11 P Pn 07 00 07.0 -1.0
0.4nm,0.2s,SNR=7.9
EADA S Sn 07 00 55.1 -7.4
3.9nm,0.1s,SNR=8.5
EADA Adamuz 4.72 11 P Pn 07 00 07.0 -0.9
0.4nm,0.2s,SNR=7.9
EQES Quesada 4.78 26 P Pn 07 00 05.9 -2.9
0.8nm,0.4s,SNR=4.0
EQES S Sn 07 00 59.1 -4.9
1.5nm,0.4s,SNR=7.9
EBAD Badajoz 5.31 349 P Pn 07 00 13.8 -2.3
0.7nm,0.1s,SNR=6.1
EBAD S Sn 07 01 10.2 -6.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.31**	**349**	P	Pn	07 00 13.8	-2.2
	0.7nm,0.1s,SNR=6.1						
PESTR	**Estremoz**	**5.52**	**345**	*e*Pn	Pn	07 00 18.0	-1.0
PESTR				*e*Sn	Sn	07 01 16.2	-6.2
ESDC	**Sonseca Array**	**6.29**	**13**	S	Sn	07 01 32.7	-8.5
	baz=198,slow=23,SNR=23						

*NEIC **03** 07:12:56.6, 1821N×10103W, h80km, MD3.8(MEX), After MEX.*

MEX 03 07:12:56.3±1.1**, 1823N×10104W, h84**km±15km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.74**	**213**	*i* P	Pn	07 13 11.6	-1.2
ZIIG				*i* S	Sn	07 13 23.3	-1.7
MEIG	**Mezcala**	**1.39**	**102**	*i* P	Pn	07 13 19.4	-0.9
MEIG				*i* S	Sn	07 13 35.7	-2.8
CAIG	**El Cayaco**	**1.39**	**148**	*i* P	Pn	07 13 19.2	-1.2
CAIG				*i* S	Sn	07 13 36.8	-1.8
CAIG	**El Cayaco**	**1.39**	**148**	*i* P	Pn	07 13 19.4	-1.0
CAIG				*i* S	Sn	07 13 33.9	-4.7
MOIG	**Morelia**	**1.45**	**355**	*i* P	Pn	07 13 19.8	-1.3
MOIG				*i* S	Sn	07 13 38.4	-1.4
PLIG	**Platanillo**	**1.47**	**84**	*i* P	Pn	07 13 20.6	-0.9
PLIG				*i* S	Sn	07 13 40.3	-0.1
ACX	**Acapulco**	**1.73**	**141**	*e*P	Pn	07 13 23.0	-1.8
IIO	**Organos**	**2.58**	**58**	*i* P	Pn	07 13 34.5	-1.6
IIO				*i* S	Sn	07 14 04.8	-1.8
UTMO	**Huajuapan**	**3.11**	**97**	*i* P	Pn	07 13 42.3	-0.8
UTMO				*i* S	Sn	07 14 16.4	-2.9

*NEIC **03** 07:13:47.4, 3048S×72.11W, h21km, ML3.7(GUC), After GUC.*

GUC 03 07:13:47.4±0.9**, 3048S×7211W, h21**km±6km**, MD4.2, ML3.7, 4C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.80**	**100**	⇓*i*P	Pb	07 14 01.7	-0.8
OVCH				AML	AML	07 14 15.4	
	comp=N,3μm,0.3s						
LSCH	**La Serena**	**0.94**	**53**	*e*P	Pb	07 14 03.8	-1.2
LSCH				*i* S	Sb	07 14 16.5	-0.5
LSCH				AML	AML	07 14 19.3	
	comp=E,454nm,0.4s						
LSCH	**La Serena**	**0.94**	**53**	*e*P	Pb	07 14 03.8	-1.2
LSCH				*i* S	Sb	07 14 16.5	-0.5
TLL	**Tololo Astrono**	**1.17**	**75**	⇓*i*P	Pn	07 14 08.1	-0.4
TLL				*i* S	Sb	07 14 24.6	+0.9
TLL				AML	AML	07 14 31.3	
	comp=N,3μm,0.7s						
TLL	**Tololo Astrono**	**1.17**	**75**	⇓*i*P	Pn	07 14 08.1	-0.4
TLL				*i* S	Sb	07 14 24.6	+0.9
CMCH	**Combarbala**	**1.18**	**126**	⇑*i*P	Pn	07 14 08.3	-0.4
CMCH				*i* S	Sb	07 14 24.1	+0.2
CMCH				AML	AML	07 14 37.6	
	comp=E,6μm,0.7s						
CMCH	**Combarbala**	**1.18**	**126**	⇑*i*P	Pn	07 14 08.3	-0.4
CMCH				*i* S	Sb	07 14 24.1	+0.2
CHNG	**Los Chungos**	**1.50**	**160**	*e*P	Pn	07 14 12.8	-0.2
CHNG				*i* S	Sn	07 14 31.6	-0.4
PTCH	**Petorca**	**2.05**	**151**	*e*P	Pn	07 14 21.9	+1.3
PTCH				*i* S	Sn	07 14 47.3	+1.7
PTCH				AML	AML	07 14 54.9	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**2.05**	**151**	*e*P	Pn	07 14 21.9	+1.3
PTCH				*i* S	Sn	07 14 47.3	+1.7
VACH	**Vallenar**	**2.23**	**32**	*e*P	Pn	07 14 22.9	-0.2
VACH				*i* S	Sn	07 14 49.2	-0.8
JACH	**Jahuel**	**2.55**	**150**	*e*P	Pn	07 14 29.6	+2.0
ROCH	**El Roble**	**2.66**	**160**	*e*P	Pn	07 14 30.8	+1.7
PEL	**Peldehue**	**2.92**	**156**	*e*P	Pn	07 14 34.0	+1.3
PEL				*i* S	Sn	07 15 07.7	+0.6
PEL				AML	AML	07 15 27.7	
	comp=E,535nm,0.6s						
PEL	**Peldehue**	**2.92**	**156**	*e*P	Pn	07 14 34.0	+1.3
PEL				S	Sn	07 15 07.7	+0.6
ZON	**Zonda**	**3.13**	**111**	*e*P	Pn	07 14 38.3	+2.8
RCDM	**Rinconada Maip**	**3.20**	**160**	⇑*e*P	Pn	07 14 37.8	+1.3
RCDM				*i* S	Sn	07 15 15.4	+1.4
RCDM				AML	AML	07 15 18.6	
	comp=E,144nm,0.5s						
RCDM	**Rinconada Maip**	**3.20**	**160**	⇑*e*P	Pn	07 14 37.8	+1.3
RCDM				*i* S	Sn	07 15 15.4	+1.4
CLCH	**Cerro Calan**	**3.21**	**156**	*e*P	Pn	07 14 37.8	+1.3
CLCH				*i* S	Sn	07 15 15.3	+1.2
CLCH				AML	AML	07 15 32.4	
	comp=N,389nm,0.3s						
FCH	**Farellones**	**3.24**	**152**	*e*P	Pn	07 14 39.0	+2.1
FCH				*i* S	Sn	07 15 17.0	+2.1
FCH				AML	AML	07 15 34.9	
	comp=E,141nm,0.5s						
TACH	**Talagante**	**3.32**	**163**	*e*P	Pn	07 14 39.4	+1.3
PCH	**Pirque**	**3.42**	**157**	*e*P	Pn	07 14 40.7	+1.3

*STR **03** 07:17:18.8±0.2, 43.16N×049W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **03** 07:17:18.9±0.1, 43.10N×047W, h10km, ML2.1, Error ellipse: s-maj=4.9km s-min=2.1km az=2.0*

LDG 03 07:17:18.7±0.1**, 4310N×047W, h10**km**, Md1.7**/3**, Error ellipse: s-maj=4.0km s-min=1.7km az=2.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.07**	**117**	Pg	Pg	07 17 21.3	+0.4
REYF				Sg	Sg	07 17 23.0	+0.6
ATE	**Arette**	**0.17**	**265**	Pg	Pg	07 17 22.3	0.0
ATE				Sg	Sg	07 17 25.0	+0.2
ETSF	**Etsaut**	**0.21**	**198**	*e*Pg	Pg	07 17 23.4	+0.3
ETSF				*e*Sg	Sg	07 17 26.3	+0.2
	11nm,0.2s						
ETSF	**Etsaut**	**0.21**	**198**	*e*Pg	Pg	07 17 23.4	+0.3
ETSF				*e*Sg	Sg	07 17 26.3	+0.2
	5.6nm,0.2s						
SJPF	**Ste Jean**	**0.55**	**272**	*e*Pg	Pg	07 17 29.6	+0.2
SJPF				*e*Sg	Sg	07 17 36.2	-0.5
	0.8nm,0.2s						
SJPF	**Ste Jean**	**0.55**	**272**	*e*Pg	Pg	07 17 29.6	+0.2
SJPF				*e*Sg	Sg	07 17 36.2	-0.5
	0.4nm,0.2s						
EPF	**Esparros**	**0.60**	**96**	*e*Pg	Pg	07 17 30.3	0.0
EPF				*e*Sg	Sg	07 17 37.4	-0.8
	4.8nm,0.3s						
EPF	**Esparros**	**0.60**	**96**	*e*Pg	Pg	07 17 30.3	0.0
EPF				*e*Sg	Sg	07 17 37.4	-0.8
	2.4nm,0.3s						

*MOS **03** 07:37:07.2±0.7, 5161N×16.13E, h6km, mb4.1/1, Error ellipse: s-maj=8.5km s-min=4.5km az=77.5*
*ISCJB **03** 07:37:08.4±0.4, 5141N±002×1606E±002, h0km, mb3.7/2, Error ellipse: s-maj=3.0km s-min=1.8km az=23.5*
*IPEC **03** 07:37:08.8±0.2, 5155N×1622E, h0km, ML2.9/4, Error ellipse: s-maj=1.5km s-min=1.3km az=12.0*
*BGR **03** 07:37:09.2±0.5, 5152N×16.14E, h1km, ML3.4, Error ellipse: s-maj=6.7km s-min=3.3km az=15.0*
*NEIC **03** 07:37:09.4±0.3, 5153N×16.12E, h5km, ML3.3(CSEM), ML3.4(SZGRF), Error ellipse: s-maj=4.2km s-min=3.2km az=8.0*
*PRU **03** 07:37:10.8, 5147N×1605E, h0km*
*LDG **03** 07:37:10.9±0.3, 5151N×1607E, h1km, Ml3.8/3, Error ellipse: s-maj=6.8km s-min=6.1km az=176.0, Suspected Mining induced.*
*IDC **03** 07:37:10.5±0.5, 5146N×1594E, h0km, mb3.7/2, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, ML3.6/9, Error ellipse: s-maj=9.6km s-min=5.3km az=100.0*
*CSEM **03** 07:37:11.0±0.1, 5145N×16.10E, h1km, ML3.8/19, Ms3.3, Error ellipse: s-maj=2.8km s-min=1.7km az=5.0*
*WAR **03** 07:37:11.0, 5146N×1608E, ML3.1, Mining Induced*
*VIE **03** 07:37:12.0±0.5, 5127N×1607E, h0km, mb2.9/9, ML3.1/11, Ms3.3/1, Error ellipse: s-maj=2.9km s-min=2.2km az=3.0 68 km WNW of Breslau Suspected Mining induced.*
*STR **03** 07:37:18.8±0.7, 5165N×1483E, h5km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 03 07:37:08.8±0.3**, 5152N**±002×**1611E**±002**, h0**km**, n98, σ1s00**/178**, mb3.7**/2**, 18C-10D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**07 37 22.6**	**+0.6**
KSP	**Ksiaz**	**0.69**	**170**	⇓*i*Pg	**Pg**	**07 37 22.5**	**+0.5**
KSP				*e*Sg	**Sg**	**07 37 30.2**	**-0.7**
KSP				*e*		07 37 34.5	
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	**Pg**	**07 37 22.5**	**+0.5**
KSP				*e*Sg	**Sg**	**07 37 30.2**	**-0.7**
UPC	**Upice**	**1.02**	**184**	*e*PG	**Pg**	**07 37 28.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*Pg	**Pg**	**07 37 31.4**	**+0.1**
DPC				*e*Sg	**Sg**	**07 37 46.0**	**-0.7**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**07 37 31.3**	**-0.1**
DPC				*e*SG	**Sg**	**07 37 45.7**	**-1.0**
	166nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	**Pg**	**07 37 31.4**	**0.0**
DPC				Sg	**Sg**	**07 37 46.0**	**-0.7**
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**07 37 35.6**	**+0.2**
PVCC				*e*SG	**Sg**	**07 37 54.5**	**+1.1**
	602nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pg	**Pg**	**07 37 36.8**	**-0.9**
BRG				*e*Sg	**Sg**	**07 37 58.3**	**+1.1**
BRG	**Berggiesshubel**	**1.51**	**245**	PN	**Pn**	**07 37 36.7**	**-0.3**
BRG				PG	**Pg**	**07 37 38.0**	**+0.3**
BRG				SG	**Sg**	**07 37 58.0**	**+0.8**
	178nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**245**	P	**Pn**	**07 37 36.7**	**-0.3**
BRG						07 37 58.0	
BRG				smax			
	comp=N,178nm,0.4s						
PRA	**Prague**	**1.80**	**217**	PG	**Pg**	**07 37 41.0**	**-2.3**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**07 37 41.2**	**-0.2**
PRU				*e*PG	**Pg**	**07 37 42.6**	**-1.2**
PRU				*e*SG	**Sg**	**07 38 07.0**	**-0.5**
	comp=N,113nm,0.4s						
FBE	**Freiberg**	**1.83**	**252**	*e*Pg	**Pg**	**07 37 43.1**	**-0.8**
FBE				*e*Sg	**Sg**	**07 38 07.7**	**+0.1**
GKP	**Gorka Klasztor**	**1.88**	**21**	*e*Pn	**Pg**	**07 37 52.6**	**+7.7**
RAC	**Raciborz**	**1.95**	**137**	*e*Pg	**Pg**	**07 37 46.8**	**+0.6**
RAC				*e*Sg	**Sg**	**07 38 10.3**	**-1.3**
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**07 37 43.3**	**+0.1**
CLL				*i* Pg	**Pg**	**07 37 46.4**	**+0.1**
CLL				*e*Sg	**Sg**	**07 38 10.7**	**-1.0**
CLL	**Collm**	**1.96**	**265**	*i* P	**Pn**	**07 37 43.2**	**0.0**
CLL				*e*		07 38 12.0	
CLL				pmax	pmax		
	comp=Z,21nm,0.6s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	**Pn**	**07 37 43.2**	**0.0**
CLL				*i* Pg	**Pg**	**07 37 46.4**	**+0.1**
CLL				*e*Sg	**Sg**	**07 38 12.0**	**+0.3**
CLL	**Collm**	**1.96**	**265**	*i* Pn	**Pn**	**07 37 43.2**	**0.0**
	comp=Z,21nm,0.6s						
CLL				*i* Pg	**Pg**	**07 37 46.4**	**+0.1**
CLL				*e*x	x	07 37 51.0	
CLL				*e*(Sn)	**Sn**	**07 38 01.0**	**-7.5**
CLL				*e*Sg	**Sg**	**07 38 12.0**	**+0.3**
	comp=Z,105nm,0.7s						
CLL	**Collm**	**1.96**	**265**	Pg	**Pg**	**07 37 46.4**	**+0.1**
CLL				Sg	**Sg**	**07 38 10.7**	**-1.0**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**07 37 43.5**	**+0.1**
MORC	**Moravsky Berou**	**1.97**	**152**	⇓*i*P	**Pn**	**07 37 43.2**	**-0.2**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**07 37 43.0**	**-0.3**
MORC				*e*Sg	**Sg**	**07 38 15.1**	**+3.0**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*P	**Pn**	**07 37 43.0**	**-0.4**
MORC				*e*Sg	**Sg**	**07 38 10.2**	**-1.8**
	comp=Z,61nm,0.3s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN	**Pn**	**07 37 45.5**	**0.0**
OKC				*e*PG	**Pg**	**07 37 49.1**	**-0.4**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pg	**Pg**	**07 37 49.1**	**-0.4**
OKC				Sg	**Sg**	**07 38 15.6**	**-1.5**
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**07 37 47.3**	**+0.3**
	comp=Z,8.1nm,0.3s,baz=335,slow=14,SNR=18						
VRAC				Sn	**Sn**	**07 38 15.3**	**0.0**
	comp=Z,7.3nm,0.3s,baz=351,slow=15,SNR=7.1						
VRAC				Lg		07 38 18.5	
	comp=Z,17nm,0.3s,baz=255,slow=22,SNR=8.5						
VRAC	**Vranov**	**2.24**	**172**	⇑*i*P	**Pn**	**07 37 48.6**	**+1.6**
VRAC	**Vranov**	**2.24**	**172**	P	**Pn**	**07 37 47.3**	**+0.3**
VRAC						07 38 15.3	
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**07 37 47.3**	**+0.3**
VRAC				Sn	**Sn**	**07 38 15.3**	**0.0**
VRAC				*e*Sg	**Sg**	**07 38 18.7**	**-1.9**
	comp=Z,48nm,0.3s						
KRUC	**Moravsky**	**2.47**	**176**	*e*Pn	**Pn**	**07 37 50.6**	**+0.4**
KRUC				*e*Sg	**Sg**	**07 38 27.3**	**-0.8**
	comp=Z,47nm,0.3s						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**07 37 52.0**	**+0.6**
TANN				*e*Sg	**Sg**	**07 38 30.1**	**-0.8**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn	**Pn**	**07 37 52.0**	**+0.5**
TANN				Sg	**Sg**	**07 38 30.1**	**-0.9**
WERD	**Werda**	**2.63**	**247**	*e*Pn	**Pn**	**07 37 53.1**	**+0.6**
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**07 37 53.4**	**+0.6**
NKC				*e*PG	**Pg**	**07 37 59.2**	**-0.4**
NKC				*e*SG	**Sg**	**07 38 34.7**	**+0.7**
	comp=Z,199nm,0.3s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**07 37 52.0**	**-1.1**
OJC				*e*Pg	**Pg**	**07 38 00.6**	**+0.5**
OJC				*e*Sg	**Sg**	**07 38 35.4**	**+0.7**
JAVC	**Velka Javorina**	**2.85**	**159**	*e*Sg	**Sg**	**07 38 41.2**	**+1.0**
	comp=Z,99nm,1.0s						
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**07 37 56.1**	**+0.1**
KHC				*e*PG	**Pg**	**07 38 02.5**	**-1.7**
KHC				*e*SN	**Sn**	**07 38 31.4**	**-0.1**
KHC				*e*SG	**Sg**	**07 38 40.6**	**-1.0**
	comp=Z,50nm,0.5s						
KHC	**Kasperske Hory**	**2.89**	**215**	*e*P	**Pn**	**07 37 56.1**	**+0.1**
KHC				*e*		07 38 31.4	
MOX	**Moxa**	**2.97**	**255**	*e*Pn	**Pn**	**07 37 57.6**	**+0.5**
MOX				*e*Pg	**Pg**	**07 38 05.3**	**-0.3**
MOX				*e*Sg	**Sg**	**07 38 43.8**	**-0.3**
MOX	**Moxa**	**2.97**	**255**	*e*PN	**Pn**	**07 37 57.4**	**+0.3**
MOX				*e*PG	**Pg**	**07 38 05.3**	**-0.3**
MOX				*e*SG	**Sg**	**07 38 45.0**	**+0.9**
MANZ	**Manzenberg**	**2.97**	**240**	*e*Pn	**Pn**	**07 37 58.0**	**+0.9**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn	**Pn**	**07 37 59.0**	**+0.9**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**07 37 59.8**	**+0.9**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**07 37 59.8**	**+1.0**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**07 37 59.7**	**+0.8**
	comp=Z,4.1nm,0.3s,baz=31,slow=12,SNR=57						
GERES				Pg	**Pg**	**07 38 06.0**	**-2.1**
	comp=Z,19nm,0.3s,baz=30,slow=17,SNR=78						
GERES				Sn	**Sn**	**07 38 34.2**	**-2.3**
	comp=Z,8.2nm,0.3s,baz=22,slow=32,SNR=5.9						
GERES				Lg		07 38 44.7	
	comp=Z,17nm,0.3s,baz=27,slow=30,SNR=8.6						
GERES	**GERESS Array B**	**3.09**	**211**	P	**Pn**	**07 37 59.7**	**+0.9**
GERES						07 38 34.2	
GERES	**GERESS Array B**	**3.09**	**211**	Pg	**Pg**	**07 38 06.0**	**-2.1**
SMOL	**Smolenice**	**3.13**	**164**	*e*PG	**Pg**	**07 38 08.2**	**-0.5**
SMOL				*e*SG	**Sg**	**07 38 51.1**	**+1.8**
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	**07 37 60.0**	**+0.3**
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	**07 38 00.0**	**+0.3**
ZST	**Bratislava**	**3.39**	**169**	*e*PG	**Pg**	**07 38 11.2**	**-2.5**
ZST				*e*SG	**Sg**	**07 38 58.0**	**+0.3**
ZST	**Bratislava**	**3.39**	**169**	*e*P	**Pg**	**07 38 11.2**	**-2.5**
ZST				pmax	pmax		
	comp=N,33nm,0.8s						
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**07 38 13.6**	**-0.6**
NIE				*e*S	**Sg**	**07 38 58.5**	**+0.1**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**07 38 04.4**	**-0.1**
VYHS				*e*PG	**Pg**	**07 38 15.6**	**-0.3**
VYHS				*e*SG	**Sg**	**07 39 04.9**	**+3.6**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn	**Pn**	**07 38 06.0**	**+0.2**
	SNR=8.4						
CONA				⇓*i*Sg	**Sg**	**07 39 03.2**	**-1.2**
	comp=N,38nm,0.3s						
GRA1	**Grafenberg Arr**	**3.61**	**241**	*e*Pn	**Pn**	**07 38 06.8**	**+0.8**
GRA1				*e*Sg	**Sg**	**07 39 04.7**	**-0.1**
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*Pn	**Pn**	**07 38 06.8**	**+0.8**
GRF				*e*Sg	**Sg**	**07 39 04.7**	**-0.2**
MOA	**Molln**	**3.86**	**199**	⇑*i*Pn	**Pn**	**07 38 09.8**	**+0.4**
MOA				⇑*i*Sg	**Sg**	**07 39 12.0**	**-0.9**
	comp=N,61nm,0.6s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**07 38 11.1**	**+1.2**
STHS				*e*PG	**Pg**	**07 38 23.2**	**-0.3**
STHS				*e*SG	**Sg**	**07 39 18.4**	**+4.4**
KECS	**Kecovo**	**4.15**	**135**	*e*PG	**Pg**	**07 38 29.1**	**+0.8**
KECS				*e*SG	**Sg**	**07 39 25.0**	**+3.0**
KECS	**Kecovo**	**4.15**	**135**	*e*P	**Pg**	**07 38 29.1**	**+0.8**
KECS				pmax	pmax		
	comp=N,12nm,0.9s						
ARSA	**Arzberg**	**4.29**	**185**	⇓*i*Pn	**Pn**	**07 38 16.2**	**+0.9**
ARSA				⇑*i*Sg	**Sg**	**07 39 26.4**	**-0.2**
	comp=N,52nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN	**Pn**	**07 38 17.9**	**+2.2**
CRVS				*e*PG	**Pg**	**07 38 33.3**	**+1.7**
CRVS				*e*SG	**Sg**	**07 39 31.2**	**+3.6**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**07 38 21.9**	**+0.6**
KOLS				*e*		07 38 42.9	
KOLS				*e*		07 39 47.4	
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*Pn	**Pn**	**07 38 22.8**	**+0.5**
KBA				⇓*i*Sg	**Sg**	**07 39 41.4**	**-1.6**
	comp=N,45nm,0.6s						
TOD	**Tromm**	**5.04**	**250**	P	**Pn**	**07 38 25.5**	**0.0**
TOD				S	**Sn**	**07 39 20.2**	**-4.2**
OBKA	**Obir**	**5.12**	**192**	⇑*i*Pn	**Pn**	**07 38 26.4**	**-0.2**
OBKA				⇑*i*Pg	**Pg**	**07 38 45.7**	**-1.2**
OBKA				⇑*i*Sg	**Sg**	**07 39 53.3**	**0.0**
	comp=N,58nm,0.9s						
OBKA	**Obir**	**5.12**	**192**	⇑*i*Pn	**Pn**	**07 38 26.4**	**-0.2**
OBKA				⇑*i*Pg	**Pg**	**07 38 45.7**	**-1.2**
OBKA				*i* Sg	**Sg**	**07 39 53.3**	**0.0**
WATA	**Walderalm**	**5.13**	**217**	⇑*i*Pn	**Pn**	**07 38 26.7**	**-0.1**
WATA				⇓*i*Sg	**Sg**	**07 39 54.3**	**+0.9**
	comp=N,14nm,0.4s						
WATA	**Walderalm**	**5.13**	**217**	Pn	**Pn**	**07 38 26.7**	**-0.1**
WATA				Sg	**Sg**	**07 39 54.3**	**+0.8**
	comp=N,14nm,0.4s						
WTTA	**Wattenberg**	**5.16**	**216**	⇑*i*Pn	**Pn**	**07 38 27.9**	**+0.5**
WTTA				⇓*i*Sg	**Sg**	**07 39 54.8**	**+0.1**
	comp=N,14nm,0.3s						
WTTA	**Wattenberg**	**5.16**	**216**	⇑*i*Pn	**Pn**	**07 38 27.9**	**+0.5**
WTTA				*i* Sg	**Sg**	**07 39 54.8**	**+0.1**
MOTA	**Moosalm**	**5.30**	**220**	⇓*i*Pn	**Pn**	**07 38 29.7**	**+0.5**
MOTA				⇑*i*Sg	**Sg**	**07 39 59.8**	**+0.6**
	comp=N,21nm,0.6s						
SQTA	**Sankt Quirin**	**5.36**	**219**	⇓*i*Pn	**Pn**	**07 38 30.0**	**0.0**
SQTA				⇑*i*Sg	**Sg**	**07 40 02.6**	**+1.5**
	comp=N,13nm,0.5s						
DAVA	**Damuels**	**5.87**	**226**	⇑*i*Pn	**Pn**	**07 38 37.0**	**0.0**
DAVA				⇓*i*Sg	**Sg**	**07 40 19.7**	**+2.3**
	comp=N,13nm,0.5s						
DAVOX	**Davos**	**6.26**	**223**	Pn	**Pn**	**07 38 43.0**	**+0.6**
	baz=356,slow=19,SNR=3.8						
DAVOX				Lg		07 40 25.7	
	baz=349,slow=23,SNR=3.2						
FELD	**Feldberg im Sc**	**6.40**	**238**	P	**Pn**	**07 38 45.6**	**+1.4**
WLS	**Welschbruch**	**6.45**	**245**	P	**Pn**	**07 38 44.9**	**0.0**
CDF	**Champ du Feu**	**6.49**	**245**	*e*Pn	**Pn**	**07 38 46.1**	**+0.6**
CDF				*e*Sg	**Sg**	**07 40 31.1**	**-6.2**
	comp=N,25nm,0.7s						
ECH	**Echery**	**6.66**	**244**	P	**Pn**	**07 38 48.4**	**+0.5**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P	**Pn**	**07 38 54.7**	**+0.9**
HAU	**Haudompre**	**7.23**	**245**	*e*Sg	**Sg**	**07 40 55.1**	**-6.0**
	comp=N,37nm,0.9s						
HAU	**Haudompre**	**7.23**	**245**	*e*Sg	**Sg**	**07 40 55.1**	**-6.0**
	comp=N,18nm,0.9s						
SFTF	**Sexfontaines**	**7.88**	**249**	*e*Pn	**Pn**	**07 39 03.9**	**-0.8**
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**07 39 09.6**	**-0.7**
	comp=N,2.1nm,0.3s,baz=277,slow=12,SNR=11						
AKASG				Pg	**Pg**	**07 39 38.0**	**-10**
	comp=N,1.1nm,0.3s,baz=273,slow=15,SNR=5.2						
AKASG				Sn	**Sn**	**07 40 41.8**	**-3.0**
	comp=N,1.3nm,0.3s,baz=268,slow=25,SNR=3.6						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**07 39 09.6**	**-0.7**
AKASG				Pg	**Pg**	**07 39 38.0**	**-10**
AKASG				Sn	**Sn**	**07 40 41.8**	**-2.9**
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**07 39 16.2**	**-0.2**
	comp=N,0.6nm,0.3s,baz=165,slow=14,SNR=14						
HFS				Sn	**Sn**	**07 40 53.1**	**-2.5**
	comp=N,0.5nm,0.3s,baz=167,slow=33,SNR=3.6						
NOA	**NORSAR Array B**	**9.92**	**346**	Pn	**Pn**	**07 39 31.6**	**-1.0**
	comp=N,0.4nm,0.3s,baz=168,slow=12,SNR=2.8						
NOA				Sn	**Sn**	**07 41 19.1**	**-5.5**
	comp=N,0.3nm,0.3s,baz=244,slow=8.0,SNR=2.5						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**07 39 51.4**	**-0.8**
	comp=N,0.7nm,0.3s,baz=205,slow=11,SNR=17						
FINES				Sn	**Sn**	**07 41 53.5**	**-6.3**
	comp=N,0.5nm,0.3s,baz=218,slow=19,SNR=6.3						
FINES	**FINESS Array B**	**11.35**	**25**	P	**Pn**	**07 39 51.4**	**-0.8**
FINES						07 41 53.5	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				smax			
	comp=N,1.0nm,0.3s						
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**07 40 02.0**	**-0.4**
	comp=N,0.3nm,0.3s,baz=100,slow=14,SNR=5.5						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**Pn**	**07 41 24.6**	**-3.2**
	comp=N,0.8nm,0.3s,baz=191,slow=14,SNR=20						
ARCES	**ARCESS Array B**	**18.61**	**10**	P	**Pn**	**07 41 24.6**	**-3.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**40.01**	**202**	P	**P**	**07 44 46.0**	**+0.7**
	comp=Z,1.2nm,0.9s,mb3.5,baz=12,slow=8.5,SNR=5.9						
YKA	**Yellowknife Ar**	**59.85**	**336**	P	**P**	**07 47 17.7**	**+1.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=17,slow=8.3,SNR=6.8						
YKA	**Yellowknife Ar**	**59.85**	**336**	P	**P**	**07 47 17.7**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*ISCJB **03** 07:54:05.6±0.7, 2797N±005×51.12E±005, h10km, mb3.8/8, MS2.9/2, Error ellipse: s-maj=8.8km s-min=4.9km az=65.8*
*IDC **03** 07:54:07.4±1.6, 2821N×5137E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML3.5/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/38, Error ellipse: s-maj=30.7km s-min=23.8km az=177.0*
*THR **03** 07:54:08.3±0.4, 2796N×51.15E, h39km±4km, ML4.3*
*NEIC **03** 07:54:08.3, 28.14N×51.14E, h18km, ML4.1(THR), MN4.1(TEH), After THR.*
*CSEM **03** 07:54:08.5±0.1, 2796N×51.14E, h35km, ML4.3, Error ellipse: s-maj=2.8km s-min=1.5km az=48.0*
*TEH **03** 07:54:13.3, 2828N×5126E, h18km, Mn4.1*

ISC 03 07:54:10.9±0.9**, 2801N**±006×**5113E**±007**, h40**km±9km**, n75, σ0s86**/73**, mb3.8**/8**, MS2.9**/2**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.67**	**80**	*e*Pg	**Pn**	**07 54 38.4**	**+0.8**
GHIR				*e*Sg	**Sn**	**07 55 00.2**	**+2.5**
GHIR				AML	AML	07 55 11.7	
	comp=N,15μm,0.5s						
GHIR	**Ghir-Karzin**	**1.67**	**80**	*e*Pg	**Pn**	**07 54 38.0**	**+0.4**
GHIR				*e*Sg	**Sn**	**07 55 00.0**	**+2.3**
GHIR	**Ghir-Karzin**	**1.67**	**80**	*e*Pg	**Pn**	**07 54 38.3**	**+0.7**
	SNR=98						
GHIR				*e*Sg	**Sn**	**07 55 00.2**	**+2.5**
	SNR=98						
IMOK	**Mook**	**1.74**	**53**	*e*Pn	**Pn**	**07 54 38.1**	**-0.5**
IKAZ	**Kazeroon**	**1.88**	**19**	*e*Pn	**Pn**	**07 54 41.5**	**+1.0**
IKAZ	**Kazeroon**	**1.88**	**19**	Pn	**Pn**	**07 54 41.4**	**+0.9**
SHI	**Shiraz**	**2.03**	**36**	*e*Pn	**Pn**	**07 54 43.2**	**+0.5**
SHI				*e*Lg		07 55 07.8	
ISRV	**Sarvestan**	**2.22**	**51**	*e*Pn	**Pn**	**07 54 45.5**	**+0.3**
ISRV	**Sarvestan**	**2.22**	**51**	Pn	**Pn**	**07 54 45.4**	**+0.2**
IPAR	**Pars**	**2.49**	**42**	*e*Pn	**Pn**	**07 54 48.9**	**0.0**
RDF	**Al-Radifah**	**3.28**	**287**	*e*P		07 55 12.7	
RDF				AML	AML	07 55 43.6	
	comp=Z,153nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.37**	**298**	*e*P		07 55 14.1	
UMR				AML	AML	07 55 45.7	
	comp=Z,147nm,0.3s						
NAY	**Al-Naaiem**	**3.63**	**291**	*e*P		07 55 18.6	
NAY				AML	AML	07 55 53.8	
	comp=Z,64nm,0.6s						
MIB	**Mutribah**	**3.77**	**299**	*e*P		07 55 20.4	
MIB				AML	AML	07 55 55.5	
	comp=Z,94nm,0.5s						
RST	**Umm Al-Ruwaisa**	**3.92**	**293**	*e*P		07 55 21.9	
RST				AML	AML	07 55 59.7	
	comp=Z,102nm,0.5s						
IGAR	**Garneh**	**4.33**	**12**	*e*Pn	**Pn**	**07 55 16.9**	**+2.7**
ISAD	**Sadrabad**	**4.48**	**29**	*e*Pn	**Pn**	**07 55 17.0**	**+0.7**
BNDS	**Bandar-Abbas**	**4.51**	**97**	*e*Pn	**Pn**	**07 55 15.9**	**-0.8**
BNDS				AML	AML	07 56 43.9	
	comp=N,79nm,1.5s						
IMEH	**Mehriz**	**4.54**	**41**	*e*Pn	**Pn**	**07 55 18.2**	**+1.1**
IPIR	**Pirpir**	**4.67**	**358**	*e*Pn	**Pn**	**07 55 19.4**	**+0.5**
IPIR	**Pirpir**	**4.67**	**358**	Pn	**Pn**	**07 55 19.3**	**+0.4**
IZEF	**Zefreh**	**4.98**	**12**	*e*Pn	**Pn**	**07 55 23.4**	**+0.2**
NASN	**Na'in**	**4.99**	**16**	*e*Pn	**Pn**	**07 55 23.0**	**-0.3**
ICHK	**Chekchek**	**5.09**	**33**	*e*Pn	**Pn**	**07 55 24.8**	**+0.1**
ICHK	**Chekchek**	**5.09**	**33**	Pn	**Pn**	**07 55 24.7**	**0.0**
IBAF	**Bafgh**	**5.26**	**46**	*e*Pn	**Pn**	**07 55 26.9**	**-0.1**

IBAF	Bafgh	5.26	46	Pn	Pn	07 55 26.8	-0.2
IKLH	Kalahroud	5.31	4	ePn	Pn	07 55 28.0	+0.3
KRBR	Kerman	5.31	67	ePn	Pn	07 55 27.3	-0.4
KRBR				AML	AML	07 56 32.3	
	comp=N,110nm,0.7s						
KRBR	Kerman	5.31	67	ePn	Pn	07 55 28.0	+0.3
ASHO	Ashiyiah	5.52	126	P	Pn	07 55 30.2	-0.4
	SNR=29						
ISFB	Sefidab	6.40	8	ePn	Pn	07 55 42.5	-0.1
ASAO	Ashtian	6.59	352	ePn	Pn	07 55 45.9	+0.6
ASAO				Sn	Sn	07 56 56.8	-2.4
ASAO	Ashtian	6.59	352	ePn	Pn	07 55 45.0	-0.3
ASAO	Ashtian	6.59	352	ePn	Pn	07 55 45.8	+0.5
	SNR=54						
ASAO				Sn	Sn	07 56 56.8	-2.3
	SNR=54						
IKOM	Komasi	6.89	334	ePn	Pn	07 55 50.7	+1.4
IVRN	Varamin	6.99	4	ePn	Pn	07 55 50.3	-0.4
IVRN	Varamin	6.99	4	Pn	Pn	07 55 50.2	-0.5
IRAZ	Razeghan	7.45	352	ePn	Pn	07 55 57.3	+0.3
IRAZ	Razeghan	7.45	352	Pn	Pn	07 55 57.2	+0.2
IDMV	Damavand	7.59	6	ePn	Pn	07 55 58.3	-0.7
IDMV	Damavand	7.59	6	Pn	Pn	07 55 58.2	-0.8
BSYO	Bisya	7.62	132	P	Pn	07 55 59.1	-0.3
DAMV	Damavand	7.64	5	ePn	Pn	07 55 59.0	-0.6
IMHD	Mahdasht	7.67	357	ePn	Pn	07 55 59.3	-0.7
IMHD	Mahdasht	7.67	357	Pn	Pn	07 55 59.2	-0.8
IFIR	Firoozkooh	7.74	10	ePn	Pn	07 55 59.8	-1.2
IFIR	Firoozkooh	7.74	10	Pn	Pn	07 55 59.7	-1.3
SNGE	Sanandaj	7.77	336	ePn	Pn	07 56 01.5	+0.1
IDHR	Dehrash	7.81	330	ePn	Pn	07 56 02.1	+0.1
IANJ	Anjiloo	7.81	17	ePn	Pn	07 56 01.1	-0.9
BHD	Baghdad	7.83	314	ex	x	07 55 59.0	
BHD				ex	x	00 57 16.0	
IAFJ	Afjeh	7.84	3	ePn	Pn	07 56 01.8	-0.7
IAFJ	Afjeh	7.84	3	Pn	Pn	07 56 01.7	-0.8
IPRN	Paran-Amol	8.27	6	ePn	Pn	07 56 07.1	-1.2
IPRN	Paran-Amol	8.27	6	Pn	Pn	07 56 07.0	-1.3
WSAR	Wadi Sarin	8.27	123	Pn	Pn	07 56 07.5	-0.8
	comp=N,0.6nm,0.3s,baz=293,slow=3.0,SNR=12						
WSAR				Sn	Sn	07 57 34.8	-5.6
	comp=N,1.6nm,0.3s,baz=179,slow=23,SNR=5.7						
WSAR				LR	LR	07 59 43.6	
	comp=N,161nm,18.1s,baz=77,slow=41						
WSAR	Wadi Sarin	8.27	123	Pn	Pn	07 56 07.4	-0.9
WSAR				Sn	Sn	07 57 34.8	-5.5
ZHSF	Zahedan	8.61	77	ePn	Pn	07 56 12.8	-0.3
GNI	Garni	13.21	338	LR	LR	08 03 17.6	
	comp=N,63nm,18.9s,baz=156,slow=42						
ATD	Arta Tunnel	18.14	207	LR	LR	08 06 11.6	
	comp=N,44nm,19.9s,baz=82,slow=39						
BRTR	Keskin Array B	18.61	313	P	Pn	07 58 27.1	+1.7
	comp=N,0.1nm,0.3s,baz=330,slow=25,SNR=2.7						
AKTK	Aktyubinsk	23.01	11	P	P	07 59 13.1	+0.8
AKTK	Aktyubinsk	23.01	11	P	P	07 59 13.1	+0.8
AKTO	Aktyubinsk	23.01	11	P	P	07 59 13.1	+0.8
	comp=N,2.5nm,0.7s,mb3.8,baz=202,slow=10,SNR=8.9						
BVAR	Borovoye Array	28.78	24	P	P	08 00 05.3	+0.3
	comp=N,1.4nm,0.5s,mb4.0,baz=221,slow=8.3,SNR=9.0						
MKAR	Makanchi Array	30.77	44	P	P	08 00 21.7	-0.9
	comp=N,0.7nm,0.6s,mb3.7,baz=231,slow=7.8,SNR=7.7						
MKAR				LR	LR	08 12 56.3	
	comp=N,22nm,18.5s,MS2.9,baz=356,slow=37						
MKAR	Makanchi Array	30.77	44	P	P	08 00 21.7	-0.9
MKAR				LR	LR	08 12 56.3	
VRAC	Vranov	33.91	318	LR	LR	08 16 08.5	
	comp=N,30nm,20.0s,MS3.0,baz=248,slow=39						
ZAL	Zalesovo	35.73	34	P	P	08 01 04.4	-1.3
	comp=N,1.1nm,0.3s,mb4.3,baz=218,slow=6.1,SNR=3.9						
FINES	FINESS Array B	37.39	340	P	P	08 01 19.8	-0.1
	comp=N,1.7nm,0.7s,mb4.0,baz=140,slow=8.8,SNR=7.0						
FINES	FINESS Array B	37.39	340	P	P	08 01 19.8	-0.1
NOA	NORSAR Array B	42.43	332	P	P	08 02 01.9	+0.1
	comp=N,1.1nm,0.9s,mb3.5,baz=195,slow=12,SNR=2.7						
ARCES	ARCESS Array B	44.14	347	P	P	08 02 15.8	+0.3
	comp=N,1.5nm,0.8s,mb3.8,baz=164,slow=8.4,SNR=6.3						
TORD	Torodi Ar. Bea	48.26	263	P	P	08 02 53.0	+5.1
	comp=N,0.8nm,0.9s,mb3.8,baz=38,slow=7.1,SNR=5.0						

*NEIC **03** 08:13:16.9±3.9, 7245N×058E, h10^{km}, Error ellipse: s-maj=47.3km s-min=20.5km az=135.0*
*IDC **03** 08:13:17.7±2.2, 7229N×101E, h0^{km}, mb3.5/3, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.1/3, MS3.2/11, Ms1 3.1/11, ms1mx3.0/27, Error ellipse: s-maj=40.1km s-min=25.3km az=172.0*
*CSEM **03** 08:13:18.9±1.6, 72.19N×0.19E, h25^{km}, ML2.5, Error ellipse: s-maj=49.8km s-min=16.9km az=155.0*
*ISCJB **03** 08:13:20.3±1.6, 722N±0.1×20E±03, h10^{km}, mb3.4/3, MS3.1/8, Error ellipse: s-maj=19.4km s-min=11.2km az=155.3*
*BER **03** 08:13:21.6±2.6, 7241N×082E, h10^{km}, ML2.5*
ISC 03 08:13:22.4±1.5**, 722N**±01×**18E**±03**, h10**^{km}**, n32,** σ**1**^{s}**38**/32**, mb3.4**/3**, MS3.1**/8**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	5.69	130	eP	Pn	08 14 49.9	+2.8
LOF				eS	Sn	08 15 53.0	+0.6
LOF				AML	AML	08 15 55.2	
	comp=Z,9.5nm,0.5s						
LOF	Lofoten	5.69	130	eP	Pn	08 14 49.9	+2.8
LOF				eS	Sn	08 15 53.0	+0.6
LOF	Lofoten	5.69	130	eP	Pn	08 14 49.8	+2.8
	SNR=49						
TRO	Tromso	6.16	106	eP	Pn	08 14 53.2	-0.3
NIKU	Nikkaluokta	7.29	118	P	Pn	08 15 09.8	+0.8
SALU	Saltoluokta	7.50	122	P	Pn	08 15 13.2	+1.3
MOR8	Moi Rana	7.51	137	eP	Pn	08 15 11.4	-0.5
MOR8				eS	Sn	08 16 33.7	-3.4
MOR8				AML	AML	08 16 37.2	
	comp=Z,12nm,0.7s						
MOR8	Moi Rana	7.51	137	eP	Pn	08 15 11.4	-0.5
MOR8				eS	Sn	08 16 33.7	-3.4
KTK1	Kautokeino	7.78	104	eP	Pn	08 15 15.8	+0.1
KTK1				eS	Sn	08 16 41.7	-2.2
KTK1				AML	AML	08 16 43.8	
	comp=Z,2.6nm,0.3s						
KTK1	Kautokeino	7.78	104	eP	Pn	08 15 15.8	+0.1
KTK1				eS	Sn	08 16 41.7	-2.2
LANU	Lannavaara	8.00	111	P	Pn	08 15 19.5	+0.8
ARCES	ARCESS Array B	8.19	97	Pn	Pn	08 15 21.5	+0.1
	comp=Z,1.0nm,0.3s,baz=303,slow=12,SNR=34						
ARCES				Sn	Sn	08 16 52.6	-1.3
	comp=Z,0.3nm,0.3s,baz=296,slow=21,SNR=2.7						
ARCES				LR	LR	08 18 26.2	
	comp=Z,60nm,22.0s,baz=357,slow=36						
ARCES	ARCESS Array B	8.19	97	Pn	Pn	08 15 21.5	+0.1
ARCES				Sn	Sn	08 16 52.7	-1.3
MASU	Masugnsbyn	8.40	114	P	Pn	08 15 25.6	+1.4
NSS	Namsos	8.53	149	eP	Pn	08 15 27.1	+1.1
NSS				AML	AML	08 16 59.9	
	comp=Z,3.5nm,0.5s						
LILU	Lilltraesk	9.48	128	P	Pn	08 15 41.0	+2.0
SJUU	Sjulsmark	9.74	123	P	Pn	08 15 44.2	+1.6
HFS	Hagfors	12.97	153	Pn	Pn	08 16 26.0	-0.8
	comp=Z,0.3nm,0.3s,baz=347,slow=10,SNR=8.3						
HFS				LR	LR	08 21 17.8	
	comp=Z,75nm,18.6s,baz=249,slow=36						
HFS	Hagfors	12.97	153	Pn	Pn	08 16 26.0	-0.8
HFS				LR	LR	08 21 17.8	
FINES	FINESS Array B	14.24	127	Pn	Pn	08 16 43.5	-0.6
	comp=Z,0.1nm,0.3s,baz=333,slow=12,SNR=4.8						
FINES				LR	LR	08 21 40.1	
	comp=Z,84nm,18.9s,baz=171,slow=35						
FINES	FINESS Array B	14.24	127	Pn	Pn	08 16 43.5	-0.6
VRAC	Vranov	23.91	156	LR	LR	08 28 04.6	
	comp=Z,62nm,18.5s,MS3.1,baz=59,slow=37						
GERES	GERESS Array B	24.03	160	P	P	08 18 35.0	-2.6
	comp=Z,0.2nm,0.3s,mb3.0,baz=355,slow=7.9,SNR=2.7						
GERES				LR	LR	08 27 35.3	
	comp=Z,51nm,19.1s,MS3.0,baz=339,slow=35						
AKASG	Malin Array Be	24.76	136	P	P	08 18 42.9	-1.3
	comp=Z,0.5nm,0.3s,mb3.5,baz=339,slow=9.6,SNR=2.4						
DAVOX	Davos	25.75	167	LR	LR	08 28 29.5	
	comp=Z,49nm,18.9s,MS3.1,baz=80,slow=35						
MLR	Muntele Rosu	29.08	144	LR	LR	08 31 13.8	
	comp=Z,68nm,19.5s,MS3.3,baz=60,slow=37						
ZAL	Zalesovo	37.86	73	LR	LR	08 38 36.8	
	comp=Z,32nm,18.7s,MS3.1,baz=153,slow=40						
YKA	Yellowknife Ar	38.83	318	LR	LR	08 37 53.0	
	comp=Z,8.8nm,19.3s,MS2.6,baz=140,slow=38						
ULM	Lac du Bonnet	45.33	297	LR	LR	08 38 32.7	
	comp=Z,63nm,18.2s,MS3.6,baz=314,slow=34						
SONM	Songino Array	49.40	59	LR	LR	08 45 38.0	
	comp=Z,29nm,18.5s,MS3.3,baz=26,slow=39						
TORD	Torodi Ar. Bea	59.00	180	P	P	08 23 20.4	-1.9
	comp=Z,0.6nm,0.9s,mb3.6,baz=0.5,slow=5.1,SNR=3.3						
ASAR	Alice Springs	124.68	56	PKP	PKPdf	08 32 17.8	-4.4
	comp=Z,0.2nm,0.7s,baz=336,slow=2.0,SNR=4.3						

IDC 03 08:14:20.6±1.3**, 1249N**×**14111E, h0**^{km}**, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/20**, mbtmp3.9**/5**, ML3.8**/1**, MS2.9**/3**, Ms1 2.9**/3**, ms1mx2.5**/35**, Error ellipse: s-maj=45.8km s-min=27.6km az=103.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.82	73	Pn	Pn	08 15 20.9	+0.1
	7.6nm,0.3s,baz=355,slow=21,SNR=5.4						
JHJ	Hachijo jima 2	20.57	357	LR	LR	08 25 39.0	
	comp=Z,8.5nm,20.0s,baz=92,slow=33						
KSRS	Korea Array	27.52	337	LR	LR	08 30 43.4	
	comp=Z,18nm,19.2s,baz=160,slow=36						
WRA	Warramunga Arr	32.91	192	P	P	08 20 56.8	+0.3
	0.9nm,0.7s,baz=14,slow=9.5,SNR=4.5						
ASAR	Alice Springs	36.62	191	P	P	08 21 28.9	+0.3
	0.2nm,0.6s,baz=17,slow=13,SNR=4.9						
KDAK	Kodiak Island	66.94	32	LR	LR	08 48 58.8	
	comp=Z,34nm,20.9s,baz=103,slow=31						
ARCES	ARCESS Array B	86.98	341	P	P	08 27 07.5	-0.2
	3.0nm,0.9s,baz=44,slow=4.0,SNR=3.8						
FINES	FINESS Array B	90.58	334	P	P	08 27 24.5	-0.2
	1.1nm,0.7s,baz=44,slow=4.2,SNR=5.3						

*NEIC **03** 08:18:14.8±0.8, 5021N×1867E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=13.7km s-min=7.0km az=179.0*
*PRU **03** 08:18:15.2, 5024N×1859E, h0^{km}*
*VIE **03** 08:18:17.1±0.8, 4988N×1870E, h0^{km}, mb1.9/2, ML2.4/4, Error ellipse: s-maj=5.0km s-min=4.7km az=160.0 32 km E of Ostrava Suspected Mining induced.*
WAR 03 08:18:14.6, 5021N×1872E, ML2.5, 4C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.53	225	ePG	Pg	08 18 24.7	0.0
OKC				eSG	Sg	08 18 32.5	+0.9
	59nm,0.4s						
OJC	Ojcow	0.69	89	ePg	Pg	08 18 27.7	-0.2
OJC				eSg	Sg	08 18 37.7	+0.9
MORC	Moravsky Berou	0.88	241	ePg	Pg	08 18 30.3	-1.1
MORC				eSg	Sg	08 18 42.5	-0.4
NIE	Niedzica	1.30	127	ePg	Pg	08 18 39.8	+0.2
NIE				eSg	Sg	08 18 57.2	+0.8
DPC	Dobruska-Polom	1.55	276	ePG	Pg	08 18 41.9	-2.3
DPC				eSG	Sg	08 19 02.6	-1.7
	27nm,0.3s						
KSP	Ksiaz	1.67	293	ePg	Pg	08 18 45.4	-1.3
KSP				eSg	Sg	08 19 06.2	-2.2
VYHS	Vyhne	1.72	177	ePN	Pn	08 18 45.4	-0.4
VYHS				eSN	Sn	08 19 08.5	0.0
STHS	Stebnicka Huta	1.82	115	ePN	Pn	08 18 48.5	+1.4
STHS				eSN	Sn	08 19 12.9	+2.1
STHS	Stebnicka Huta	1.82	115	ePn	Pn	08 18 48.6	+1.5
STHS				eSn	Sn	08 19 12.9	+2.1
KECS	Kecovo	2.08	146	e	Sn	08 19 15.1	-2.2
CRVS	Cervenica-Dubn	2.21	125	eSN	Sn	08 19 25.6	+5.0
PRU	Pruhonice	2.70	267	eSG	Sg	08 19 38.0	-3.4
	7.0nm,0.5s						
CONA	Conrad Observa	2.96	221	⇑iPg	Pg	08 19 08.9	-2.5
CONA				⇑iSg	Sg	08 19 46.2	-3.5
	3.7nm,0.5s						
BRG	Berggiesshubel	3.12	284	SG	Sg	08 19 52.0	-2.9
	3.4nm,0.6s						
KHC	Kasperske Hory	3.51	254	eSG	Sg	08 20 04.4	-3.1
	6.8nm,0.5s						
MOA	Molln	3.77	233	⇑iPg	Pg	08 19 25.7	-1.1
MOA				⇑iSg	Sg	08 20 15.1	-0.5
	comp=Z,3.2nm,0.5s						
CLL	Collm	3.79	289	eSg	Sg	08 20 17.0	+0.5

*NEIC **03** 08:38:41.9, 3174S×6740W, h12^{km}, ML3.7(GUC), After GUC.*
GUC 03 08:38:41.9±1.5**, 3174S**×**6740W, h12**^{km}±61^{km}**, ML3.7, 2D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	1.11	280	eP	Pb	08 38 59.6	-3.4
ZON				i S	Sb	08 39 13.6	-3.8
ZON				AML	AML	08 39 15.6	
	comp=N,352nm,0.4s						
FCH	Farellones	2.91	236	eP	Pn	08 39 29.8	+1.9
FCH				i S	Sn	08 40 05.7	+2.9
FCH				AML	AML	08 40 07.2	
	comp=E,202nm,0.3s						
PTCH	Petorca	3.05	259	i S	Sn	08 40 07.9	+1.7
PEL	Peldehue	3.11	242	eP	Pn	08 39 31.4	+0.7
PEL				i S	Sn	08 40 09.8	+2.0
PEL				AML	AML	08 40 13.9	
	comp=E,220nm,0.5s						
PEL	Peldehue	3.11	242	eP	Pn	08 39 31.4	+0.7
PEL				i S	Sn	08 40 09.8	+2.0
CLCH	Cerro Calan	3.12	237	eP	Pn	08 39 32.0	+1.1
CLCH				AML	AML	08 40 15.1	
	comp=E,221nm,0.4s						
CMCH	Combarbala	3.13	279	⇓eP	Pn	08 39 32.0	+1.0
CMCH				i S	Sn	08 40 10.6	+2.4
CMCH				AML	AML	08 40 21.4	
	comp=E,782nm,0.7s						
CMCH	Combarbala	3.13	279	⇓eP	Pn	08 39 32.0	+1.0
CMCH				i S	Sn	08 40 10.6	+2.4
LMEL	Las Melosas	3.16	228	eP	Pn	08 39 33.1	+1.7
LMEL				AML	AML	08 40 14.6	
	comp=N,190nm,0.4s						
TLL	Tololo Astrono	3.32	297	eP	Pn	08 39 37.5	+3.9

*IDC **03** 08:41:08.7±7.2, 18.13S×17851W, h568^{km}±91^{km}, mb3.2/6, mb1 3.5/7, mb1mx3.2/16, mbtmp4.2/7, Error ellipse: s-maj=48.5km s-min=25.7km az=6.0*
*NEIC **03** 08:41:09.5±2.6, 18.16S×17853W, h583^{km}±35^{km}, mb4.4/1, Error ellipse: s-maj=32.7km s-min=18.3km az=148.0*
*ISCJB **03** 08:41:10.1±2.7, 182S±02×1785W±02, h616^{km}±41^{km}, mb3.9/6, Error ellipse: s-maj=36.6km s-min=20.3km az=119.0*
ISC 03 08:41:09.7±2.7**, 182S**±02×**1785W**±02**, h583**^{km}±36^{km}**, n13,** σ**0**^{s}**91**/13**, mb3.9**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.66	252	P	P	08 44 15.6	+0.4
	0.9nm,0.3s,baz=86,slow=17,SNR=9.8						
URZ	Urewera	20.35	190	P	P	08 45 06.5	-0.7
	4.2nm,0.8s,baz=277,slow=5.2,SNR=5.7						
STKA	Stephens Creek	38.42	241	P	P	08 47 43.8	+1.3
	2.1nm,0.4s,mb4.0,baz=88,slow=8.4,SNR=15						
POHA	Pohakuloa	43.94	32	eP	P	08 48 25.7	-0.3
WB2	Warramunga Arr	44.49	260	eP	P	08 48 29.2	-1.0
WRA	Warramunga Arr	44.50	260	P	P	08 48 29.4	-0.9
	1.1nm,0.5s,mb3.6,baz=93,slow=7.0,SNR=40						
AS31	Alice Springs	44.63	255	eP	P	08 48 31.5	+0.2
ASAR	Alice Springs	44.63	255	P	P	08 48 31.5	+0.2
	15nm,0.6s,mb4.7,baz=89,slow=8.2,SNR=224						
ASPA	Alice Springs	44.64	255	eP	P	08 48 31.4	+0.1
FORT	Forrest	49.81	245	eP	P	08 49 10.2	+0.2
	7.6nm,0.6s,mb4.3						
TXAR	Lajitas Array	86.22	58	P	P	08 52 52.5	+2.3
	0.4nm,0.7s,mb3.2,baz=220,slow=5.7,SNR=4.7						
TXAR	Lajitas Array	86.22	58	P	P	08 52 52.5	+2.3
PDAR	Pinedale Array	87.62	43	P	P	08 52 55.6	-1.2
	0.5nm,0.6s,mb3.4,baz=208,slow=2.9,SNR=3.9						

*ISCJB **03** 08:44:34.0±1.3, 494N±02×1549E±02, h79^{km}±12^{km}, mb3.6/5, Error ellipse: s-maj=36.9km s-min=10.0km az=91.9*
*MOS **03** 08:44:34.4±0.6, 4950N×15476E, h86^{km}, mb4.3/1, Error ellipse: s-maj=51.0km s-min=19.4km az=60.5*
*IDC **03** 08:44:37.0±6.1, 4935N×15485E, h97^{km}±63^{km}, mb3.4/5, mb1 3.6/7, mb1mx3.4/24, mbtmp3.8/7, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=48.8km s-min=26.4km az=174.0*
ISC 03 08:44:35.2±1.2**, 494N**±02×**1549E**±02**, h77**^{km}±11^{km}**, n11,** σ**0**^{s}**82**/13**, mb3.6**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.48	33	ePN	Pn	08 44 59.5	-0.7
SKR				eS	Sn	08 45 17.5	-1.5
SKR				pmax	pmax		
	comp=Z,360nm,1.0s						
SKR				smax			
	comp=N,920nm,0.3s						
SKR				smax			
	comp=E,750nm,0.5s						
PET	Petropavlovsk	4.31	32	ePN	Pn	08 45 39.4	+1.1
PET				eS	Sn	08 46 28.6	+1.4
PET				smax			
	comp=E,79nm,0.5s						
PET				smax			
	comp=N,162nm,0.7s						
ASAJ	Asahikawa	9.95	242	P	Pn	08 46 56.2	+1.0
	comp=N,1.3nm,0.3s,baz=41,slow=16,SNR=7.8						
ASAJ				LR	LR	08 51 02.3	
	comp=N,45nm,19.2s,baz=115,slow=39						
ASAJ	Asahikawa	9.95	242	PN	Pn	08 46 56.3	+1.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,45nm,19.2s						
MJAR	Matsushiro Arr	17.68	229	P	Pn	08 48 35.8	-0.6
	comp=Z,0.2nm,0.3s,baz=21,slow=13,SNR=8.1						
KSRS	Korea Array	22.80	248	P	P	08 49 31.3	-0.2
	comp=Z,1.8nm,0.8s,mb3.5,baz=51,slow=9.9,SNR=5.5						
MKAR	Makanchi Array	46.78	296	P	P	08 52 56.9	-0.1
	comp=Z,0.4nm,0.6s,mb3.3,baz=70,slow=6.4,SNR=4.6						
MKAR				LR	LR	09 14 06.4	
	comp=Z,29nm,19.2s,baz=358,slow=38						
FINES	FINESS Array B	62.10	335	P	P	08 54 47.4	-0.6
	comp=Z,4.6nm,1.1s,mb4.4,baz=29,slow=3.2,SNR=3.2						
FINES	FINESS Array B	62.10	335	P	P	08 54 47.4	-0.6
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PDAR	Pinedale Array	62.24	56	P	P	08 54 49.1	+0.2
	comp=Z,0.9nm,0.9s,mb3.8,baz=325,slow=1.8,SNR=5.3						
TXAR	Lajitas Array	75.18	62	P	P	08 56 09.2	-0.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=306,slow=5.4,SNR=5.9						

IDC 03 09:06:34.4±9.2**, 569S**×**15106E, h55**^{km}±67^{km}**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.3**/14**, mbtmp3.7**/3**, ML3.0**/1**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.4**/15**, Error ellipse: s-maj=107.7km s-min=55.2km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.35	226	P	Pn	09 07 51.9	+0.2
	3.2nm,0.3s,baz=45,slow=15,SNR=7.5						
PMG				S	Sn	09 08 53.2	+1.3
	2.2nm,0.3s,baz=192,slow=20,SNR=2.6						
PMG				LR	LR	09 09 56.0	
	comp=Z,79nm,21.4s,baz=219,slow=38						
WB2	Warramunga Arr	21.56	227	eP	P	09 11 17.9	-1.3
WRA	Warramunga Arr	21.57	227	P	P	09 11 18.9	-0.4
	1.4nm,0.5s,baz=53,slow=10,SNR=41						
ASAR	Alice Springs	24.34	221	P	P	09 11 47.4	+0.4
	0.9nm,0.6s,baz=56,slow=9.1,SNR=22						
TORD	Torodi Ar. Bea	148.91	286	PKPbc	PKPbc	09 26 16.9	+0.9
	1.3nm,0.9s,baz=96,slow=2.2,SNR=8.6						

MOS 03 09:13:53.2±0.2**, 4362N**×**4536E, h154**^{km}**, mb3.6**/1**, 3C-3D, Error ellipse: s-maj=99.9km s-min=26.8km az=135.4, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	Batakoyurt	0.64	248	⇓iP	Pn	09 14 16.6	+0.9
BTKR				i S	Sn	09 14 34.7	+1.8
VLKR	Vladikavkaz	0.76	221	⇑iP	Pn	09 14 17.2	+0.7
VLKR				i S	Sn	09 14 35.7	+1.5
PRTR	Priterechnaya	0.79	280	⇑iP	Pn	09 14 17.7	+1.0
PRTR				i S	Sn	09 14 36.5	+1.8
ARNR	Ardon	0.90	242	⇑iP	Pn	09 14 18.2	+0.7
ARNR				i S	Sn	09 14 37.4	+1.4
LACR	Lac	1.11	225	⇓iP	Pn	09 14 19.9	+0.6
LACR				i S	Sn	09 14 40.2	+1.0
ZEI	Tsey	1.36	232	eP	Pn	09 14 22.0	+0.4
ZEI				i S	Sn	09 14 44.0	+0.6
DIGR	Digorskoe uzhe	1.48	242	⇓iP	Pn	09 14 23.4	+0.5
DIGR				i S	Sn	09 14 46.4	+0.8

*NIED **03** 09:21:00, 3150N×14190E, h5^{km}, Mw4.6 Best double couple: $M_0$8.07000×10^{15} NP1:ϕ_s342.00000°, δ68.00000°, λ87.00000°. NP2:ϕ_s170.00000°, δ22.00000°, λ97.00000°.*
*JMA **03** 09:21:47.0±0.3, 3151N×14185E, h23^{km}, M4.2*
*ISCJB **03** 09:21:49.6±0.3, 3145N±002×14163E±005, h44^{km}, mb4.5/43, MS3.9/15, Error ellipse: s-maj=5.9km s-min=3.1km az=141.5*
*BJI **03** 09:21:49.9, 3145N×14165E, h52^{km}, mB4.6, mb4.5, Ms4.4, Msz4.0*
*MOS **03** 09:21:50.5±1.3, 3140N×14142E, h43^{km}, mb4.7/17, Error ellipse: s-maj=15.2km s-min=6.9km az=116.6*
*IDC **03** 09:21:51.2±0.8, 3140N×14166E, h40^{km}±7^{km}, mb4.1/14, mb1 4.2/17, mb1mx4.1/25, mbtmp4.3/17, ML4.0/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/35, Error ellipse: s-maj=20.5km s-min=12.5km az=72.0*
*NEIC **03** 09:21:52.0±0.3, 3143N×14149E, mb4.6/21, MW4.5(NIED), Error ellipse: s-maj=7.9km s-min=6.2km az=65.0*
ISC 03 09:21:51.9±0.3**, 3148N**±002×**14160E**±005**, h46**^{km}**, h46**^{km}±1.1^{km}**:pP-P, n129,** σ**1**^{s}**32**/159**, mb4.5**/43**, MS3.9**/15**, 4C-3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.22	318	P	Pn	09 22 25.2	-1.0
JHJ2				S	Sn	09 22 54.3	+1.8
JHJ	Hachijo jima 2	2.25	317	Pn	Pn	09 22 25.2	-1.4
	24nm,0.3s,baz=158,slow=12,SNR=16						
JHJ				Sn	Sn	09 22 54.0	+0.9
	92nm,0.3s,baz=237,slow=21,SNR=7.3						
JHJ				LR	LR	09 23 36.4	
	comp=Z,1μm,18.5s,baz=146,slow=46						
BSO1	Boso 1	3.21	351	P	Pn	09 22 38.4	-1.4
BSO2	Boso 2	3.34	348	eS	Sn	09 23 22.1	+2.1
JKO	Kozu shima	3.41	323	P	Pn	09 22 42.2	-0.3
BSO3	Boso 3	3.44	345	P	Pn	09 22 41.5	-1.4
BSO3				S	Sn	09 23 22.8	+0.4
JIM2	Oshima 3	3.71	331	P	Pn	09 22 46.4	-0.2
JIM2				eS	Sn	09 23 29.1	0.0
JYO	Yokosk	4.07	337	P	Pn	09 22 52.2	+0.6
JYO				eS	Sn	09 23 38.9	+0.9
JOD2	Odawara 2	4.32	332	P	Pn	09 22 55.5	+0.5
JOD2				S	Sn	09 23 46.4	+2.3
CBIJ	Chichi jima	4.40	173	Pn	Pn	09 22 53.5	-2.6
	28nm,0.3s,baz=200,slow=20,SNR=28						
CBIJ				Sn	Sn	09 23 39.8	-6.2
	31nm,0.3s,baz=273,slow=22,SNR=4.2						
CBIJ				LR	LR	09 24 43.3	
	comp=Z,656nm,18.5s,baz=268,slow=40						
CBIJ	Chichi jima	4.40	173	P	Pn	09 22 54.2	-1.9
JYN	Shimob	4.75	328	P	Pn	09 23 02.9	+1.9
JHU	Hanno	4.77	337	P	Pn	09 23 01.6	+0.4
JHU				eS	Sn	09 23 53.1	-2.1
JRY	Ryogami san	5.05	334	P	Pn	09 23 05.3	+0.2
JRY				S	Sn	09 24 04.7	+2.5
JHO	Hitachi	5.19	351	P	Pn	09 23 04.7	-2.3
JHO				eS	Sn	09 24 01.6	-3.9
JAG	Ashikaga	5.25	341	P	Pn	09 23 06.5	-1.2
JAG				S	Sn	09 24 05.5	-1.4
JNT	Takato	5.25	328	P	Pn	09 23 10.7	+2.9
JNT				eS	Sn	09 24 10.3	+3.3
JNG	Nsakai	5.71	330	P	Pn	09 23 15.3	+1.2
JNG				eS	Sn	09 24 21.1	+2.7
MJAR	Matsushiro Arr	5.78	332	Pn	Pn	09 23 14.7	-0.4
	2.7nm,0.3s,baz=151,slow=10.0,SNR=47						
MJAR				Sn	Sn	09 24 16.9	-3.2
	baz=140,slow=11,SNR=2.2						
MAJO	Matsushiro	5.79	332	ePn	Pn	09 23 16.2	+1.1
MAJO				eSn	Sn	09 24 10.2	-10
MAT	Matsushiro	5.79	332	P	Pn	09 23 14.8	-0.3

MAT S Sn 09 24 19.2 -1.0
JFK Kawauchi 5.90 354 P Pn 09 23 13.9 -2.9
JFK eS Sn 09 24 17.2 -5.9
JFT Otama 6.12 351 P Pn 09 23 17.6 -2.0
JFT eS Sn 09 24 24.6 -3.7
JMM Marumori 6.41 354 P Pn 09 23 21.0 -2.7
JMM eS Sn 09 24 29.4 -6.1
JYS Shirataka 6.84 350 P Pn 09 23 27.8 -1.9
JMK Ichinoseki 7.46 358 P Pn 09 23 34.9 -3.2
JMK S Sn 09 24 53.7 -7.7
JNU Nakatsue 9.22 283 Pn Pn 09 24 06.7 +4.4
0.7nm,0.3s,baz=232,slow=19,SNR=3.7
JOW Kunigami 12.53 252 LR LR 09 29 50.7
comp=Z,316nm,18.9s,baz=126,slow=38
ASAJ Asahikawa 12.64 3 Pn Pn 09 24 45.2 -3.7
1.0nm,0.3s,baz=274,slow=14,SNR=6.2
ASAJ LR LR 09 30 37.1
comp=Z,237nm,18.4s,baz=187,slow=41
ASAJ Asahikawa 12.64 3 P Pn 09 24 45.3 -3.7
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,237nm,18.4s
KSRS Korea Array 12.76 302 Pn Pn 09 24 54.0 +3.4
baz=111,slow=13,SNR=10.0
KSRS LR LR 09 29 36.1
comp=Z,225nm,19.9s,baz=137,slow=36
INCN Inchon 13.72 300 ePn Pn 09 25 02.5 -1.2
YSS Yuzh-Sakhalins 15.48 3 eP Pn 09 25 29.5 +2.5
YSS Yuzh-Sakhalins 15.48 3 ePn Pn 09 25 27.0 0.0
comp=Z,284nm,1.8s
MDJ Mudanjiang 16.15 328 P Pn 09 25 34.4 -1.2
MDJ AP pP 09 25 46.4 -2.5
MDJ XP sP 09 25 52.6 -2.1
MDJ S **S** **09 28 31.8 -13**
MDJ PCP PcP 09 30 29.1 +0.3
MDJ PCS PcS 09 34 04.7 +0.2
MDJ AMB AMB
comp=Z,5.0nm,1.5s
MDJ AMB AMB
comp=Z,60nm,4.0s
MDJ LR LR
comp=N,221nm,20.5s
MDJ LR LR
comp=E,246nm,18.3s
MDJ LR LR
comp=Z,170nm,17.4s
MDJ Mudanjiang 16.15 328 ePn Pn 09 25 35.1 -0.5
comp=Z,2.9nm,0.4s
SSE Sheshan 17.46 274 P Pn 09 25 49.5 -2.5
SSE AP pP 09 26 01.7 -1.7
SSE S **S** **09 28 59.0 -13**
SSE AMB AMB
comp=Z,34nm,0.8s
SSE AMB AMB
comp=Z,67nm,5.8s
SSE LR LR
comp=N,123nm,15.3s
SSE LR LR
comp=E,139nm,15.2s
SSE LR LR
comp=Z,178nm,15.3s
SSE Sheshan 17.46 274 P Pn 09 25 49.5 -2.5
comp=Z,34nm,0.8s
SSE pP pP 09 26 01.7 -1.7
SSE S **S** **09 28 59.0 -13**
SSE sS sS 09 29 25.3 -3.6
CN2 Changchun 17.71 319 eP Pn 09 25 55.0 -0.1
CN2 eAP pP 09 26 04.8 -1.4
CN2 eS **S** **09 29 07.8 -9.0**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,13.0s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=Z,400nm,15.0s
SNY Shenyang 17.74 311 ⇓P Pn 09 25 55.8 +0.4
SNY S **S** **09 29 03.4 -14**
SNY AMB AMB
comp=Z,28nm,0.8s
SNY AMB AMB
comp=Z,126nm,4.1s
SNY LR LR
comp=N,379nm,14.7s
SNY LR LR
comp=E,351nm,14.7s
SNY LR LR
comp=Z,325nm,15.0s
GUMO Guam 18.06 170 eP Pn 09 26 00.7 +1.4
GUMO pmax pmax
comp=Z,150nm,1.3s
GUMO Guam 18.06 170 eP Pn 09 26 00.7 +1.4
comp=Z,150nm,1.3s
NACB Ninganchiao 19.12 253 P Pn 09 26 10.6 -1.6
KLR Kul'dur 19.23 340 eP Pn 09 26 20.8 +7.4
NJ2 Nanjing 19.35 278 eP Pn 09 26 15.5 +0.6
NJ2 AP pP 09 26 25.4 +1.1
NJ2 XP sP 09 26 31.2 +1.1
NJ2 PP 09 26 33.8
NJ2 S **S** **09 29 46.5 -3.5**
NJ2 XS sS 09 30 02.0 -5.3
NJ2 AMB AMB
comp=Z,20nm,0.6s
NJ2 AMB AMB
comp=Z,400nm,4.5s
NJ2 LR LR
comp=N,940nm,20.0s
NJ2 LR LR
comp=E,610nm,15.8s
NJ2 LR LR
comp=Z,620nm,16.7s
BJT Baijiatuau 22.28 300 eP P 09 26 44.2 -0.8
BJT pmax pmax
comp=Z,5.0nm,0.4s
BJT Baijiatuau 22.28 300 eP P 09 26 44.2 -0.8
comp=Z,4.7nm,0.4s,mb4.3
BJI Beijing 22.28 300 P P 09 26 43.5 -1.6
BJI S **S** **09 30 41.1 -6.5**
BJI AMB AMB
comp=Z,13nm,1.2s,mb4.2
BJI LR LR
comp=N,238nm,12.7s,MS4.0
BJI LR LR
comp=E,333nm,14.9s,MS4.0
BJI LR LR
comp=Z,247nm,18.4s,MS3.7
BJI Beijing 22.28 300 P P 09 26 43.5 -1.6
comp=Z,13nm,1.2s,mb4.2
BJI S **S** **09 30 41.1 -6.5**
BJI LR LR
comp=Z,250nm,18.4s,MS3.7
HIA Hailar 24.21 324 eP P 09 27 03.8 -0.3
HIA Hailar 24.21 324 eP P 09 27 03.6 -0.6
comp=Z,18nm,0.9s,mb4.5
XAN Xi'an 27.54 284 P P 09 27 33.4 -0.9
XAN AMB AMB
comp=Z,13nm,0.9s,mb4.6
GYA Guiyang 30.89 270 eP P 09 28 05.3 +1.3
GYA AP pP 09 28 16.9 +0.8
GYA XP sP 09 28 21.7 +0.2
GYA PP PP 09 29 07.2 -7.1
GYA PCP PcP 09 31 02.3 +2.5
GYA S **S** **09 33 04.0 -0.8**
GYA XS sS 09 33 24.0 -1.2
GYA SCP ScP 09 34 40.5 +1.7
GYA SCS ScS 09 38 35.2 -0.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,70nm,4.6s
GYA LR LR
comp=N,240nm,17.5s,MS4.1
GYA LR LR
comp=E,270nm,18.0s,MS4.1
GYA LR LR
comp=Z,230nm,17.9s,MS3.9
ULN Ulaanbaatar 30.91 312⇑ eP P 09 28 06.1 +2.0
ULN Ulaanbaatar 30.91 312 eP P 09 28 05.8 +1.6
comp=Z,15nm,1.1s,mb4.8
SONM Songino Array 31.32 312 P P 09 28 09.6 +1.9
comp=Z,8.6nm,0.9s,mb4.6,baz=117,slow=8.5,SNR=42
SONM LR LR 09 40 51.6
comp=Z,127nm,18.4s,MS3.6,baz=50,slow=36
LZH Lanzhou 31.59 289 eP P 09 28 09.0 -1.1
LZH AP pP 09 28 21.0 -1.2
LZH XP sP 09 28 27.0 -0.7
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,89nm,4.2s
LZH LR LR
comp=E,830nm,17.0s
LZH LR LR
comp=Z,1μm,18.0s,MS4.7
LZH Lanzhou 31.59 289 eP P 09 28 09.0 -1.1
comp=Z,20nm,1.2s,mb4.8
LZH pP pP 09 28 21.0 -1.2
LZH sP sP 09 28 27.0 -0.7
LZH LR LR
comp=Z,1μm,18.0s,MS4.7
CD2 Chengdu 32.27 279 eP P 09 28 16.0 -0.2
CD2 AP pP 09 28 27.9 -0.4
CD2 XP sP 09 28 33.3 -0.4
CD2 PP PP 09 29 23.2 -6.4
CD2 S **S** **09 33 24.0 -2.5**
CD2 XS sS 09 33 44.0 -2.8
CD2 SS SS 09 35 17.7 -29
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,410nm,15.5s,MS4.3
CD2 LR LR
comp=E,320nm,16.6s,MS4.3
CD2 LR LR
comp=Z,490nm,13.1s,MS4.4
ZAK Zakamensk 34.08 315 eP P 09 28 34.0 +2.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
TLY Talaya 34.31 317 eP P 09 28 33.9 +0.1
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,158nm,15.0s,MS3.9
TLY Talaya 34.31 317 eP P 09 28 33.6 -0.3
comp=Z,5.7nm,0.7s,mb4.6
KMI Kunming 34.67 269 P P 09 28 37.4 +0.4
KMI AP pP 09 28 49.4 +0.2
KMI XP sP 09 28 54.8 +0.2
KMI S **S** **09 34 03.2 -0.3**
KMI XS sS 09 34 24.9 +0.9
KMI SS SS 09 36 14.6 -21
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,145nm,4.2s
KMI LR LR
comp=N,240nm,15.2s,MS4.3
KMI LR LR
comp=E,286nm,13.7s,MS4.3
KMI LR LR
comp=Z,232nm,16.3s,MS4.0
KMI Kunming 34.67 269 P P 09 28 37.4 +0.4
KMI *PP pP 09 28 49.4 +0.2
KMI *SP sP 09 28 54.8 +0.2
KMI S **S** **09 34 03.2 -0.3**
KMI *SS sS 09 34 24.9 +0.9
KMI SS SS 09 36 14.6 -21
KMI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,230nm,16.3s,MS4.0
KMI Kunming 34.67 269 P P 09 28 37.4 +0.4
comp=Z,10.0nm,1.0s,mb4.7
KMI pP pP 09 28 49.4 +0.2
KMI sP sP 09 28 54.8 +0.2
KMI S **S** **09 34 03.2 -0.3**
KMI sS sS 09 34 24.9 +0.9
KMI SS SS 09 36 14.6 -21
KMI LR LR
comp=Z,230nm,16.3s,MS4.0
GTA Gaotai 34.71 295 eP P 09 28 36.6 -0.7
GTA AP pP 09 28 48.7 -0.8
GTA XP sP 09 28 54.3 -0.6
GTA PP PP 09 29 49.8 -6.7
GTA S **S** **09 34 01.3 -2.8**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,68nm,3.4s
GTA LR LR
comp=N,201nm,13.3s,MS4.2
GTA LR LR
comp=E,330nm,17.9s,MS4.2
GTA LR LR
comp=Z,250nm,19.0s,MS4.0
BILL Bilibino 39.33 14⇓ eP P 09 29 15.7 -0.9
BILL *e* 09 30 56.0
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.7
TIXI Tiksi 40.81 354 eP P 09 29 24.1 -4.8
TIXI e*PP pP 09 29 35.4 -5.8
ZAL Zalesovo 45.92 316 P P 09 30 10.6 +0.6
comp=Z,3.5nm,0.6s,mb4.4,baz=7.7,slow=6.0,SNR=16
ZAL LR LR 09 50 33.2
comp=Z,81nm,18.1s,MS3.7,baz=187,slow=37
MK31 Makanchi Array 47.38 307 eP P 09 30 22.2 +0.8
MKAR Makanchi Array 47.38 307 P P 09 30 22.5 +1.1
comp=Z,2.9nm,0.6s,mb4.4,baz=90,slow=9.8,SNR=34
MKAR LR LR 09 49 35.6
comp=Z,63nm,20.1s,MS3.6,baz=223,slow=35
JIRN Jiri 47.92 280 eP P 09 30 26.7 +1.1
comp=Z,19nm,0.6s,mb5.3
GUN Gumba 48.10 281 eP P 09 30 28.0 +1.0
comp=Z,23nm,0.7s,mb5.3
PKI Pulchoki 48.61 281 eP P 09 30 31.6 +0.7
KKN Kakani 48.65 281 eP P 09 30 32.3 +1.1
DMN Daman 48.85 281 eP P 09 30 32.9 +0.1
GKN Gorkha 49.12 281 eP P 09 30 35.4 +0.6
KOLN Koldanda 50.06 281 eP P 09 30 42.6 +0.6
comp=Z,9.9nm,0.7s,mb5.0
KDAK Kodiak Island 51.22 39 P P 09 30 49.4 -1.3
comp=Z,11nm,1.0s,mb4.7,baz=321,slow=6.2,SNR=5.5
KDAK Kodiak Island 51.22 39 P P 09 30 49.4 -1.3
KDAK e pP pP 09 31 03.9 +0.4
CTAO Charters Tower 51.47 174 eP P 09 30 53.6 +1.0
CTAO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CTAO Charters Tower 51.47 174 eP P 09 30 53.6 +1.0
comp=Z,5.3nm,1.0s,mb4.4
WRAB Tennant Creek 51.59 189 eP P 09 30 52.1 -1.4
WB2 Warramunga Arr 51.60 189 eP P 09 30 52.5 -1.1
WB2 e pP 09 31 04.3 -2.0
WRA Warramunga Arr 51.60 189 P P 09 30 52.7 -0.9
comp=Z,5.5nm,0.8s,mb4.6,baz=7.1,slow=7.7,SNR=66
WRA pP pP 09 31 04.7 -1.6
comp=Z,7.9nm,0.6s,baz=5.6,slow=7.6,SNR=18
FITZ Fitzroy Crossi 51.62 199 P P 09 30 52.4 -1.4
comp=Z,1.3nm,0.7s,mb4.0,baz=10,slow=11,SNR=3.6
PMR Palmer 53.06 34 eP P 09 31 03.7 -0.7
PMR pmax pmax
comp=Z,11nm,1.1s,mb4.7
PMR Palmer 53.06 34 eP P 09 31 03.7 -0.7
comp=Z,11nm,1.1s,mb4.7
AAK Ala-Archa 53.42 302 eP P 09 31 08.1 +1.0
CHKZ Chkalovo 54.32 316 eP P 09 31 13.4 -0.2
CHKZ e*PP pP 09 31 25.0 -1.4
BRVK Borovoye 54.59 315 eP P 09 31 15.9 +0.3
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRVK Borovoye 54.59 315 eP P 09 31 15.9 +0.3
comp=Z,5.3nm,1.0s,mb4.5
AS31 Alice Springs 55.32 189 eP P 09 31 20.5 -0.4
AS31 e pP 09 31 33.1 -0.6
ASAR Alice Springs 55.33 189 P P 09 31 20.4 -0.5
comp=Z,1.7nm,0.5s,mb4.3,baz=354,slow=5.1,SNR=50
ASAR pP pP 09 31 32.8 -1.0
comp=Z,3.2nm,0.6s,baz=0.4,slow=4.9,SNR=11
ASPA Alice Springs 55.33 189 eP P 09 31 20.5 -0.4
ASPA e pP 09 31 33.1 -0.6
ZRNK Zerenda 55.37 315 eP P 09 31 21.7 +0.5
ZRNK e*PP pP 09 31 32.5 -1.5
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZRNK Zerenda 55.37 315 eP P 09 31 21.7 +0.5
comp=Z,5.1nm,0.9s,mb4.5
ZRNK epP pP 09 31 32.5 -1.6
MBWA Marble Bar 56.38 205 eP P 09 31 29.0 +0.6
comp=Z,3.4nm,0.7s,mb4.5
DAWY Dawson 57.43 31 eP P 09 31 36.0 +0.1
DAWY ePcP PcP 09 32 30.0 +0.7
ARU Arti 60.69 321⇑ P P 09 31 58.8 +0.4
ARU e pP 09 32 11.8 +0.4
ARU e 09 32 39.1
ARU e 09 34 09.5
ARU eS **S** **09 40 13.1 +1.3**
ARU eSS SS 09 44 07.7 -3.1
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.2
ARU Arti 60.69 321 eP P 09 31 59.0 +0.6
comp=Z,21nm,1.0s,mb5.2
ARU epP pP 09 32 13.2 +1.8
JOF Joensuu 70.95 333 ep P 09 33 00.7 -3.8
comp=Z,5.8nm,0.8s,mb4.6
OBN Obninsk 72.67 324⇓ eP P 09 33 14.4 -0.4
OBN e 09 35 52.7
OBN eS S 09 42 30.8 -5.7
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
VRSR Storozhevoye 73.23 320 eP P 09 33 18.9 +0.8
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=E,8.0nm,1.0s
KAF Kangasniemi 73.33 334 ep P 09 33 13.2 -5.5
baz=51,slow=5.6
FINES FINESS Array B 73.81 333 P P 09 33 21.3 -0.2
comp=E,3.0nm,0.8s,mb4.3,baz=56,slow=7.1,SNR=6.4
FINES FINESS Array B 73.81 333 *i* P P 09 33 20.6 -0.9
FINES pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 78.23 52 P P 09 33 48.1 +1.4
comp=Z,1.0nm,0.7s,mb3.8,baz=297,slow=7.5,SNR=7.9
AKASG Malin Array Be 78.81 323 P P 09 33 50.2 +0.3
comp=Z,0.9nm,0.4s,mb4.0,baz=46,slow=6.0,SNR=8.4
AKASG Malin Array Be 78.81 323 *i* P P 09 33 49.7 -0.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 78.81 323 P P 09 33 50.2 +0.3
NB2 NORSAR Subarra 79.37 338 P P 09 33 52.7 -0.2
comp=Z,3.8nm,1.0s,mb4.3,baz=40,slow=5.6
NOA NORSAR Array B 79.37 338 P P 09 33 52.0 -0.9
comp=Z,2.0nm,0.8s,mb4.1,baz=42,slow=5.4,SNR=7.7
NOA LR LR 10 12 09.1
comp=Z,39nm,20.7s,MS3.7,baz=30,slow=38
IMW Indian Meadow 80.00 44 eP P 09 33 58.1 +1.7
comp=Z,3.7nm,0.9s,mb4.3
IMW epP pP 09 34 11.7 +1.9
DUG Dugway 80.90 48 eP P 09 34 04.8 +3.6
PDAR Pinedale Array 81.47 45 P P 09 34 04.2 0.0
comp=Z,0.5nm,0.7s,mb3.6,baz=182,slow=4.5,SNR=5.9
PDAR LR LR 10 09 45.5
comp=Z,26nm,19.7s,MS3.6,baz=85,slow=35
BRTR Keskin Array B 82.67 312 P P 09 34 11.8 +1.2
comp=Z,1.4nm,0.8s,mb4.0,baz=132,slow=5.2,SNR=4.6
BRTR Keskin Array B 82.67 312 *i* P P 09 34 12.6 +2.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
SRU San Rafael 82.97 48 eP P 09 34 14.4 +2.4
WUAZ Wupatki 84.46 52 eP P 09 34 22.8 +3.1
comp=Z,10nm,1.3s,mb4.8
WUAZ epP pP 09 34 35.1 +1.9
SMCO Snowmass 85.16 47 eP P 09 34 25.0 +1.8
comp=Z,5.0nm,1.2s,mb4.5
CLL Collm 85.99 331⇑ iP P 09 34 28.4 +1.1
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CLL Collm 85.99 331⇑ *i*P P 09 34 28.4 +1.1
comp=Z,9.0nm,1.0s,mb5.0
TXAR Lajitas Array 93.37 53 P P 09 35 03.0 +0.9
comp=Z,2.8nm,0.8s,mb4.7,baz=298,slow=3.1,SNR=20
TXAR Lajitas Array 93.37 53 P P 09 35 03.0 +0.9
KEST Kesra 99.52 322 LR LR 10 26 20.4
comp=Z,23nm,18.5s,MS3.7,baz=207,slow=39
TORD Torodi Ar. Bea 121.28 313 PKP PKPdf 09 40 41.0 +1.1
comp=Z,0.2nm,0.5s,baz=25,slow=2.1,SNR=3.3
TORD pPKP pPKPdf 09 40 53.0 -1.0
comp=Z,0.3nm,0.5s,baz=18,slow=1.4,SNR=2.2
LPAZ La Paz 149.02 68 PKPbc PKPbc 09 41 36.9 +2.0
comp=Z,0.6nm,0.5s,baz=18,slow=6.4,SNR=4.8
LPAZ La Paz 149.02 68 ePKPdf PKPdf 09 41 33.4 +2.7
LPAZ ePKPab PKPab 09 41 40.9 +1.8

*ISCJB **03** 09:40:56.6±4.5, 54S±02×151.1E±04, h117km±30km, mb4.3/5, Error ellipse: s-maj=67.4km s-min=28.4km az=42.9*
*NEIC **03** 09:40:56.7±3.3, 551S×151 28E, h113km±20km, mb4.7/3, Error ellipse: s-maj=50.0km s-min=20.4km az=107.0*
*IDC **03** 09:40:56.8±6.8, 552S×151 25E, h110km±46km, mb4.1/4, mb1 4.3/5, mb1mx3.8/15, mbtmp4.5/5, Error ellipse: s-maj=81.4km s-min=32.3km az=107.0*
ISC 03 09:40:56.9±4.4, 55S±02×1513E±04, h109km±28km, n12, σ0§21/14, mb4.3/5, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.62**	**226**	P		P	Pn	**09 42 17.9**	**-0.1**
	17nm,0.3s,baz=50,slow=7.1,SNR=49								
PMG				S			Sn	**09 43 21.4**	**+0.1**
	36nm,0.3s,baz=133,slow=24,SNR=15								
KAKA	**Kakadu**	**19.91**	**248**	eP		P		**09 45 19.8**	**0.0**
	40nm,0.4s								
WB2	**Warramunga Arr**	**21.83**	**227**⇑	iP		P		**09 45 40.0**	**-0.3**
WRA	**Warramunga Arr**	**21.84**	**227**	P		P		**09 45 40.0**	**-0.4**
	13nm,0.6s,mb4.5,baz=52,slow=10.0,SNR=86								
WRA				S		S		**09 49 45.4**	**+10**
	1.0nm,0.9s,baz=45,slow=16,SNR=4.6								
AS31	**Alice Springs**	**24.60**	**221**	eP		P		**09 46 06.9**	**+0.1**
ASAR	**Alice Springs**	**24.60**	**221**	P		P		**09 46 07.2**	**+0.4**
	12nm,0.7s,mb4.5,baz=56,slow=8.7,SNR=122								
ASAR				S		S		**09 50 34.4**	**+14**
	0.4nm,1.0s,baz=43,slow=20,SNR=4.7								
ASPA	**Alice Springs**	**24.61**	**221**	eP		P		**09 46 06.9**	**0.0**
FITZ	**Fitzroy Crossi**	**27.98**	**241**⇑	iP		P		**09 46 36.8**	**-0.4**
	11nm,0.6s,mb4.6								
FITZ	**Fitzroy Crossi**	**27.98**	**241**	P		P		**09 46 37.2**	**0.0**
	7.3nm,0.5s,mb4.4,baz=74,slow=8.0,SNR=28								
MBWA	**Marble Bar**	**34.30**	**240**	P		P		**09 47 32.7**	**+0.1**
	4.3nm,0.7s,mb4.4								
SONM	**Songino Array**	**66.13**	**329**	P		P		**09 51 32.5**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=124,slow=2.1,SNR=4.7								
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc		PKPbc		10 00 32.2	0.0
	1.2nm,0.5s,baz=75,slow=3.2,SNR=18								

*ISCJB **03** 09:46:45.8±1.3, 239S±01×1798W±0.1, h558km±17km, mb3.6/11, Error ellipse: s-maj=22.4km s-min=16.2km az=23.4*
*NEIC **03** 09:46:45.9±1.1, 2382S×179 74W, h550km±12km, mb4.1/1, Error ellipse: s-maj=17.7km s-min=12.5km az=192.0*
*IDC **03** 09:46:49.2±2.4, 2388S×179 89W, h582km±27km, mb3.2/11, mb1 3.3/13, mb1mx3.3/16, mbtmp3.2/13, Error ellipse: s-maj=18.9km s-min=15.7km az=3.0*
ISC 03 09:46:46.6±1.3, 239S±01×1798W±01, h553km±15km, n28, σ0§90/20, mb3.6/11, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.58**	**163**	ePn		P		**09 48 20.8**	**-0.7**
DZM	**Mont Dzumac**	**12.83**	**275**	P		P		**09 49 33.7**	**+0.1**
	1.1nm,0.3s,baz=49,slow=18,SNR=11								
URZ	**Urewera**	**14.56**	**190**	P		P		**09 49 51.5**	**+0.2**
	0.7nm,0.3s,baz=329,slow=19,SNR=5.7								
CTA	**Charters Tower**	**31.69**	**270**	P		P		**09 52 25.8**	**+0.6**
	2.0nm,0.3s,mb4.1,baz=95,slow=9.4,SNR=5.7								
STKA	**Stephens Creek**	**34.92**	**248**	P		P		**09 52 52.9**	**+0.6**
	1.1nm,0.4s,mb3.7,baz=100,slow=11,SNR=3.2								
AS31	**Alice Springs**	**42.24**	**261**⇓	iP		P		**09 53 51.8**	**+0.2**
ASAR	**Alice Springs**	**42.25**	**261**	P		P		**09 53 51.9**	**+0.2**
	2.0nm,0.5s,mb3.9,baz=96,slow=7.4,SNR=35								
ASPA	**Alice Springs**	**42.25**	**261**⇓	iP		P		**09 53 51.8**	**+0.2**
WB2	**Warramunga Arr**	**42.61**	**266**⇓	iP		P		**09 53 53.9**	**-0.5**

WRA	Warramunga Arr	42.62	266	P	P	09 53 54.1	-0.4
	3.0nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=154						
WRA				PcP	PcP	09 55 34.7	+0.9
	0.5nm,0.9s,baz=99,slow=3.6,SNR=4.6						
WRA				S	S	09 59 35.3	-2.4
	1.6nm,0.9s,baz=101,slow=14,SNR=7.4						
FITZ	Fitzroy Crossi	51.04	266	eP	P	09 54 58.9	+0.9
	5.1nm,0.7s,mb4.0						
FITZ	Fitzroy Crossi	51.04	266	P	P	09 54 59.0	+1.0
	2.1nm,0.4s,mb3.8,baz=116,slow=6.8,SNR=14						
VNDA	Vanda	54.39	185	P	P	09 55 23.0	+1.2
	0.3nm,0.6s,mb2.8,baz=316,slow=7.7,SNR=5.4						
VNDA	Vanda	54.39	185	P	P	09 55 23.0	+1.2
MJAR	Matsushiro Arr	72.02	325	P	P	09 57 13.9	-0.9
	1.5nm,0.8s,mb3.5,baz=155,slow=4.9,SNR=4.4						
MAW	Mawson	77.82	200	P	P	09 57 45.2	-1.9
	1.5nm,0.4s,mb3.7,baz=355,slow=4.3,SNR=7.4						
KSRS	Korea Array	78.39	320	P	P	09 57 50.6	+0.5
	1.4nm,0.7s,mb3.4,baz=127,slow=5.8,SNR=7.1						
NVAR	Mina Array Bea	84.61	44	P	P	09 58 20.8	-1.2
	0.3nm,0.6s,mb3.0,baz=242,slow=5.8,SNR=2.8						
TXAR	Lajitas Array	90.25	58	P	P	09 58 50.0	+1.5
	0.3nm,0.7s,mb3.2,baz=213,slow=4.3,SNR=4.0						
ARCES	ARCESS Array B	131.94	348	PKP	PKPdf	10 04 55.9	-1.5
	3.9nm,1.0s,baz=11,slow=1.2,SNR=5.9						
NB2	NORSAR Subarra	142.12	351	PKP	PKPdf	10 05 11.3	-4.7
	comp=Z,0.3nm,0.5s,baz=16,slow=3.2						
NOA	NORSAR Array B	142.12	351	PKhKP		10 05 11.1	
	comp=Z,1.0nm,0.7s,baz=47,slow=5.4,SNR=3.2						
AKASG	Malin Array Be	145.09	327	PKPbc	PKPbc	10 05 20.8	-1.2
	comp=Z,2.3nm,0.4s,baz=44,slow=3.8,SNR=11						
BR131	Keskin Array S	147.75	307	ePKPab	PKPab	10 05 34.7	+0.9
BRTR	Keskin Array B	147.75	307	PKPbc	PKPbc	10 05 28.4	-1.0
	comp=Z,0.9nm,0.5s,baz=146,slow=4.2,SNR=3.7						
CLL	Collm	150.92	343	i PKPbc	PKPbc	10 05 36.7	-0.3
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	152.94	340	PKPbc	PKPbc	10 05 40.7	-0.7
	comp=Z,0.2nm,0.2s,baz=26,slow=4.8,SNR=4.1						
TORD	Torodi Ar. Bea	169.21	188	PKPab	PKPab	10 07 07.6	+0.9
	comp=Z,0.1nm,0.4s,baz=162,slow=3.6,SNR=3.5						

*ISCJB **03** 09:57:33.3±2.9, 126S±02×167.1E±02, h296km±27km, mb3.8/9, Error ellipse: s-maj=27.8km s-min=24.2km az=101.7*
*NEIC **03** 09:57:33.8±2.6, 1258S×167.13E, h285km±25km, mb4.0/3, Error ellipse: s-maj=22.0km s-min=19.5km az=142.0*
*IDC **03** 09:57:35.4±5.6, 1267S×16705E, h298km±47km, mb3.3/6, mb1 3.4/7, mb1mx3.2/17, mbtmp4.0/7, Error ellipse: s-maj=42.5km s-min=23.0km az=36.0*
ISC 03 09:57:34.9±2.9**, 127S**±02×**1672E**±02**, h296**km±28km**, n12, σ0s76**/11**, mb3.8**/9**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.39	184	P	Pn	09 59 45.8	+0.2
	0.4nm,0.3s,baz=71,slow=21,SNR=9.3						
STKA	Stephens Creek	30.29	227	P	P	10 03 19.2	0.0
	1.1nm,0.6s,mb3.6,baz=63,slow=11,SNR=4.6						
STKA	Stephens Creek	30.29	227	P	P	10 03 19.2	0.0
RPZ	Rata Peaks	31.14	175	P	P	10 03 25.9	-0.7
	7.9nm,0.8s,mb4.3,baz=235,slow=3.2,SNR=5.4						
WRA	Warramunga Arr	32.27	253	P	P	10 03 37.2	+0.8
	0.3nm,0.5s,mb3.1,baz=84,slow=8.6,SNR=3.7						
ASAR	Alice Springs	33.35	246	P	P	10 03 44.5	-1.3
	0.4nm,0.6s,mb3.1,baz=74,slow=9.6,SNR=8.7						
ASAR				PcP	PcP	10 06 18.3	-1.6
	0.2nm,0.5s,baz=70,slow=3.7,SNR=4.0						
POHA	Pohakuloa	48.85	49	eP	P	10 05 50.9	-0.2
	15nm,0.9s,mb4.3						
VNDA	Vanda	64.92	181	P	P	10 07 43.8	+0.6
	1.0nm,0.7s,mb3.6,baz=344,slow=6.1,SNR=11						
SBA	Scott Base	65.20	180	eP	P	10 07 46.2	+1.3
	1.8nm,0.9s,mb3.7						
QSPA	South Pole Qui	77.36	180	eP	P	10 08 56.4	-1.0
	2.7nm,0.9s,mb4.0						
MKAR	Makanchi Array	95.63	317	P	P	10 10 27.3	+0.4
	0.9nm,0.6s,mb4.1,baz=99,slow=7.8,SNR=7.2						
ARCES	ARCESS Array B	118.22	346	PKP	PKPdf	10 15 46.6	-0.4
	1.9nm,0.8s,baz=93,slow=1.8,SNR=5.9						

*NIED **03** 10:15:00, 3150N×14180E, h5km, Mw4.1 Best double couple: $M_0$1.84000×10^{15} NP1:ϕ_s164.00000°, δ49.00000°, λ74.00000°. NP2:ϕ_s7.00000°, δ44.00000°, λ107.00000°.*
*IDC **03** 10:15:00.9±1.3, 3121N×14127E, h0km, mb3.9/5, mb1 3.9/8, mb1mx3.8/23, mbtmp3.8/8, ML3.7/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/51, Error ellipse: s-maj=50.4km s-min=16.1km az=69.0*
*ISCJB **03** 10:15:01.3±0.6, 3149N±004×1420E±01, h35km, mb3.9/5, Error ellipse: s-maj=14.7km s-min=4.8km az=144.0*
*JMA **03** 10:15:02.3±0.4, 3147N×14184E, h65km, M3.5*
*NEIC **03** 10:15:06.6±0.9, 3128N×14122E, h45km, MG3.5(JMA), Error ellipse: s-maj=36.8km s-min=11.2km az=75.0*
ISC 03 10:15:03.7±0.6**, 3147N**±004×**1419E**±01**, h35**km**, n33, σ1s03**/38**, mb3.9**/5**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.38	314	P	Pn	10 15 39.3	-1.0
JHJ	Hachijo jima 2	2.41	313	Pn	Pn	10 15 39.1	-1.5
	11nm,0.3s,baz=266,slow=22,SNR=9.6						
JHJ				Sn	Sn	10 16 08.9	0.0
	23nm,0.3s,baz=81,slow=21,SNR=5.3						
BSO3	Boso 3	3.51	341	P	Pn	10 15 56.8	+1.0
JKO	Kozu shima	3.55	320	P	Pn	10 15 56.0	-0.3
JKO				eS	Sn	10 16 36.9	-0.1
JYO	Yokosk	4.17	334	eS	Sn	10 16 53.5	+1.2
CHOJ	Chosi	4.30	349	P	Pn	10 16 06.7	+0.1
CBIJ	Chichi jima	4.37	176	Pn	Pn	10 16 07.2	-0.5
	21nm,0.3s,baz=303,slow=20,SNR=19						
CBIJ				Sn	Sn	10 16 50.7	-6.6
	5.7nm,0.3s,baz=300,slow=20,SNR=2.8						
CBIJ				LR	LR	10 17 39.9	
	comp=Z,114nm,18.3s,baz=76,slow=38						
CBIJ	Chichi jima	4.37	176	P	Pn	10 16 07.1	-0.5
JOD2	Odawara 2	4.44	329	P	Pn	10 16 10.8	+2.3
JHU	Hanno	4.87	334	P	Pn	10 16 14.9	+0.4
JHU				eS	Sn	10 17 09.5	-0.1
JYN	Shimob	4.88	326	P	Pn	10 16 18.3	+3.7
JRY	Ryogami san	5.16	332	P	Pn	10 16 20.1	+1.6
JHO	Hitachi	5.24	348	P	Pn	10 16 18.9	-0.6
JHO				eS	Sn	10 17 17.3	-1.3
JAG	Ashikaga	5.33	339	P	Pn	10 16 21.6	+0.8
MJAR	Matsushiro Arr	5.90	330	Pn	Pn	10 16 29.7	+1.1
	1.3nm,0.3s,baz=145,slow=9.9,SNR=12						
MJAR				LR	LR	10 18 43.2	
	comp=Z,112nm,18.9s,baz=190,slow=38						
MAJO	Matsushiro	5.90	330	eP	Pn	10 16 28.8	+0.2
	8.9nm,0.6s						
MAT	Matsushiro	5.90	330	P	Pn	10 16 29.1	+0.5
MAT				eS	Sn	10 17 32.7	-2.2
JFT	Otama	6.16	349	eS	Sn	10 17 36.9	-4.5
JMM	Marumori	6.44	352	P	Pn	10 16 34.6	-1.4
JMM				eS	Sn	10 17 43.5	-4.7
JYS	Shirataka	6.89	348	eS	Sn	10 17 57.7	-1.7
JMK	Ichinoseki	7.48	356	P	Pn	10 16 51.7	+1.4
JMK				S	Sn	10 18 07.8	-6.1
JNU	Nakatsue	9.45	283	LR	LR	10 20 01.0	
	comp=Z,69nm,20.4s,baz=253,slow=33						
JOW	Kunigami	12.75	252	LR	LR	10 22 17.8	
	comp=Z,48nm,18.9s,baz=207,slow=36						
KSRS	Korea Array	12.96	301	LR	LR	10 23 00.3	
	comp=Z,62nm,18.3s,baz=338,slow=38						
SONM	Songino Array	31.49	312	P	P	10 21 23.2	+1.1
	1.4nm,0.9s,mb3.8,baz=121,slow=9.4,SNR=7.2						
MKAR	Makanchi Array	47.56	307	P	P	10 23 36.2	+0.4
	0.7nm,0.5s,mb4.0,baz=88,slow=9.7,SNR=9.4						
MKAR	Makanchi Array	47.56	307	P	P	10 23 36.2	+0.4
WB2	Warramunga Arr	51.63	189	eP	P	10 24 06.2	-0.6
WRA	Warramunga Arr	51.63	189	P	P	10 24 06.2	-0.6
	1.4nm,0.7s,mb4.0,baz=6.5,slow=7.7,SNR=28						
AS31	Alice Springs	55.35	189	eP	P	10 24 33.8	-0.3
ASAR	Alice Springs	55.35	189	P	P	10 24 34.3	+0.2
	0.6nm,0.6s,mb3.8,baz=355,slow=4.8,SNR=21						
ASPA	Alice Springs	55.36	189	eP	P	10 24 33.8	-0.3
TXAR	Lajitas Array	93.20	53	P	P	10 28 20.1	+5.7
	0.5nm,0.7s,mb4.0,baz=284,slow=3.6,SNR=4.6						

*TRN **03** 10:15:48.3, 1933N×6323W, h35km, MD3.5*
*ISCJB **03** 10:15:49.3±1.1, 1935N±008×6329W±004, h35km, Error ellipse: s-maj=11.6km s-min=5.3km az=20.7*
*NEIC **03** 10:15:51.2, 1945N×6332W, h25km, MD4.0(RSPR), After RSPR.*
*RSPR **03** 10:15:51.2, 1945N×6332W, h25km±22km, MD4.0/10, MD4.0/10*
ISC 03 10:15:50.5±1.1**, 1931N**±008×**6325W**±004**, h35**km**, n20, σ0s49**/36**, 6C-5D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	St. Maarten, A	1.27	174	eP	Pn	10 16 11.7	0.0
STMA				eS	Sn	10 16 27.6	+0.1
STVI	Saint Thomas	1.88	240⇑	eP	Pn	10 16 19.8	-0.3
STVI				eS	Sn	10 16 42.0	-0.5
CDVI	St. Croix	2.12	223⇓	eP	Pn	10 16 24.1	+0.7
CDVI				eS	Sn	10 16 49.4	+1.0
MTP	Monte Pirata	2.49	241⇓	eP	Pn	10 16 28.7	+0.1
MTP				eS	Sn	10 16 57.8	0.0
CBYP	Canovanas	2.68	248⇑	eP	Pn	10 16 31.2	+0.1
CBYP				eS	Sn	10 17 02.2	0.0
HUMP	Col San Antoni	2.72	245	eS	Sn	10 17 03.1	-0.3
HUMP	Col San Antoni	2.72	245	eS	Sn	10 17 03.1	-0.3
CPD	Cerro la Pandu	2.83	244	eP	Pn	10 16 33.1	0.0
SJG	San Juan	3.00	247⇑	eP	Pn	10 16 35.3	-0.1
SJG				eS	Sn	10 17 09.4	-0.7
CELP	Cerrillos	3.39	249⇑	iP	Pn	10 16 40.9	+0.1
CELP				eS	Sn	10 17 19.3	-0.4
ICM	Isla Caja Muer	3.41	246⇑	eP	Pn	10 16 41.6	+0.5
ICM				eS	Sn	10 17 20.6	+0.4
OBIP	Obispado Ponce	3.42	249⇓	eP	Pn	10 16 41.6	+0.3
OBIP				eS	Sn	10 17 21.1	+0.4
LZG	Guadaloupe-1	3.45	156	eP	Pn	10 16 42.2	+0.4
AOPR	Arecibo Observ	3.45	254⇓	eP	Pn	10 16 41.4	-0.3
AOPR				eS	Sn	10 17 20.7	-0.7
LRS	Lares	3.55	254⇓	eP	Pn	10 16 42.6	-0.5
LRS				eS	Sn	10 17 23.4	-0.5
DEG	La Desirade	3.64	145	eP	Pn	10 16 44.1	-0.2
DEG				eS	Sn	10 17 21.0	-5.0
DEG	La Desirade	3.64	145	eP	Pn	10 16 44.1	-0.2
DEG				S	Sn	10 17 24.1	-1.9
GBPR	Guanica, Bosqu	3.69	249	eP	Pn	10 16 46.0	+1.0
GBPR				eS	Sn	10 17 27.7	+0.5
LSP	Las Mesas	3.81	253⇑	eP	Pn	10 16 46.8	+0.2
LSP				eS	Sn	10 17 30.2	+0.1
CRPR	Cabo Rojo, PR	3.88	251⇑	eP	Pn	10 16 47.6	0.0
CRPR				eS	Sn	10 17 31.8	-0.2

IDC 03 10:21:18.6±1.8**, 422S**×**15295E, h0**km**, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.7**/15**, mbtmp3.9**/4**, MS4.2**/1**, Ms1 4.2**/1**, ms1mx2.8**/26**, Error ellipse: s-maj=56.9km s-min=38.8km az=135.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.72	228	Sn	Sn	10 24 44.3	+4.0
	1.8nm,0.3s,baz=132,slow=13,SNR=3.6						
WB2	Warramunga Arr	23.93	228	eP	P	10 26 34.2	-0.1
WRA	Warramunga Arr	23.94	228	P	P	10 26 34.8	+0.4
	3.0nm,0.6s,baz=53,slow=9.8,SNR=32						
WRA				PcP	PcP	10 30 17.3	+0.5
	0.7nm,0.9s,baz=48,slow=2.5,SNR=5.4						
ASAR	Alice Springs	26.68	222	P	P	10 26 59.3	+0.1
	0.5nm,0.5s,baz=55,slow=9.2,SNR=9.3						
FITZ	Fitzroy Crossi	30.07	241	P	P	10 27 30.1	+0.6
	0.6nm,0.3s,baz=56,slow=16,SNR=3.5						
PPT	Papeete	57.76	108	LR	LR	10 50 17.6	
	comp=Z,217nm,18.7s,baz=182,slow=30						
VNDA	Vanda	73.40	178	P	P	10 32 52.3	-0.2
	0.4nm,0.7s,baz=333,slow=9.0,SNR=4.7						
TORD	Torodi Ar. Bea	150.27	289	PKPbc	PKPbc	10 41 12.2	+0.6
	1.2nm,0.4s,baz=74,slow=2.1,SNR=18						

*ISCJB **03** 10:38:25.0±0.7, 898S±005×7466W±009, h164km±12km, mb3.7/6, Error ellipse: s-maj=15.7km s-min=7.2km az=148.4*
*NEIC **03** 10:38:24.3±0.9, 884S×7448W, h137km±10km, mb4.0/1, Error ellipse: s-maj=13.8km s-min=8.3km az=71.0*
*IDC **03** 10:38:24.6±1.7, 888S×7446W, h142km±20km, mb3.8/5, mb1 3.9/11, mb1mx3.7/22, mbtmp3.8/11, Error ellipse: s-maj=23.2km s-min=15.4km az=57.0*
ISC 03 10:38:25.8±0.7**, 897S**±005×**7463W**±009**, h155**km±12km**, n25, σ1s14**/26**, mb3.7**/6**, 2C, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.70	216	P	Pn	10 39 22.7	+0.4
	24nm,0.3s,baz=18,slow=6.8,SNR=38						
NNA				S	Sn	10 40 05.9	-0.3
	206nm,0.3s,baz=182,slow=17,SNR=24						
NNA	Nana	3.70	216	P	Pn	10 39 22.7	+0.4
NNA				S	Sn	10 40 05.9	-0.3
ATAH	Atahualpa	4.21	297	P	Pn	10 39 27.9	-1.0
	36nm,0.3s,baz=95,slow=6.0,SNR=75						
ATAH				S	Sn	10 40 15.6	-2.4
	34nm,0.3s,baz=105,slow=19,SNR=15						
TAMB	Tambo	9.03	335	P	Pn	10 40 34.3	+1.6
VC1	Cotopaxi 1	9.09	335	P	Pn	10 40 34.6	+1.0
ANTI	Antisana	9.17	337	⇑P	Pn	10 40 35.8	+1.1
LAV3	Lava3-Reventad	9.31	341	P	Pn	10 40 37.1	+0.5
CONE	Cono NE Rev Vo	9.34	341	⇑P	Pn	10 40 37.6	+0.7
CAYA	Cayambe	9.59	339	P	Pn	10 40 41.6	+1.3
LPAZ	La Paz	9.65	140	P	Pn	10 40 41.5	+0.5
	0.3nm,0.3s,baz=342,slow=13,SNR=6.7						
LPAZ	La Paz	9.65	140	P	Pn	10 40 41.5	+0.5
OTAV	Otavalo	9.91	337	eP	Pn	10 40 42.3	-2.1
	1.4nm,0.4s						
LVC	Limon Verde	14.63	159	P	Pn	10 41 46.6	+1.3
	0.5nm,0.3s,baz=312,slow=12,SNR=6.3						
SIV	San Ignacio	14.96	119	P	Pn	10 41 47.5	-1.9
	1.4nm,0.3s,baz=292,slow=11,SNR=34						
SDV	Santo Domingo	18.18	13	P	P	10 42 25.4	-1.2
	2.8nm,0.3s,baz=281,slow=9.1,SNR=14						
PCRV	Puerto La Cruz	21.47	28	P	P	10 43 00.6	-1.3
	13nm,0.8s,mb4.3,baz=184,slow=15,SNR=3.6						
CFAA	Coronel Fontan	23.29	166	P	P	10 43 20.0	+0.3
	0.1nm,0.3s,mb2.7,baz=355,slow=13,SNR=3.7						
TXAR	Lajitas Array	47.26	325	P	P	10 46 44.6	+1.3
	1.1nm,0.5s,mb3.7,baz=150,slow=9.0,SNR=16						
YKA	Yellowknife Ar	77.63	342	P	P	10 50 04.2	-0.6
	0.4nm,0.3s,mb3.5,baz=138,slow=5.9,SNR=6.7						
YKA	Yellowknife Ar	77.63	342	P	P	10 50 04.2	-0.6
TORD	Torodi Ar. Bea	78.90	75	P	P	10 50 11.6	-0.3
	4.2nm,0.7s,mb4.2,baz=260,slow=4.4,SNR=28						
TORD	Torodi Ar. Bea	78.90	75	P	P	10 50 11.6	-0.3
ESDC	Sonseca Array	81.15	47	P	P	10 50 23.9	-0.1
	2.0nm,0.8s,mb3.8,baz=255,slow=5.4,SNR=5.6						
ASAR	Alice Springs	137.22	220	PKP	PKPdf	10 57 31.9	+1.3
	0.2nm,0.6s,baz=134,slow=3.0,SNR=4.1						
WRA	Warramunga Arr	139.52	225	PKP	PKPdf	10 57 38.6	+3.8
	0.4nm,0.3s,baz=122,slow=2.0,SNR=14						

IDC 03 10:39:05.3±1.7**, 1730S**×**17377W, h0**km**, mb4.1**/4**, mb1 4.3**/5**, mb1mx3.9**/17**, mbtmp4.1**/5**, ML1.8**/1**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.8**/21**, Error ellipse: s-maj=41.8km s-min=30.1km az=112.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.88	30	Pn	Pn	10 40 05.7	-0.4
	4.1nm,0.3s,baz=90,slow=16,SNR=10						
DZM	Mont Dzumac	19.22	253	LR	LR	10 48 01.9	
	comp=Z,30nm,20.2s,baz=179,slow=28						
URZ	Urewera	22.36	199	P	P	10 44 04.2	-0.7
	10nm,0.4s,baz=23,slow=2.7,SNR=24						
PAE	Paea	23.08	95	eT		11 07 33.8	
	7.9nm,0.3s						
PPT	Papeete	23.08	94	eLR	LR	10 49 24.0	
	108nm,28.8s						
TBI	Tubuai	23.56	109	eLR	LR	10 49 29.1	
	112nm,30.8s						
TBI	Tubuai	23.56	109	eT		11 08 00.6	
	3.2nm,0.3s						
RPZ	Rata Peaks	29.30	203	P	P	10 45 14.1	+4.7
	7.3nm,0.5s,baz=5.6,slow=2.8,SNR=10						
RKT	Rikitea	36.79	106	eLR	LR	10 55 33.7	
	97nm,36.8s						
RKT	Rikitea	36.79	106	eT		11 24 36.9	
	1.6nm,0.3s						
CTA	Charters Tower	37.91	259	LR	LR	10 59 47.7	
	comp=Z,93nm,18.2s,baz=53,slow=33						
WRA	Warramunga Arr	49.09	258	P	P	10 47 54.8	+0.4
	0.4nm,0.4s,baz=97,slow=7.3,SNR=12						
ASAR	Alice Springs	49.21	253	P	P	10 47 55.8	+0.5
	3.6nm,0.7s,baz=89,slow=8.1,SNR=51						
ASPA	Alice Springs	49.21	253	eP	P	10 47 55.6	+0.3
VNDA	Vanda	61.46	186	P	P	10 49 23.9	+0.2
	0.5nm,0.8s,baz=12,slow=8.3,SNR=6.2						

*IDC **03** 10:40:37.5±1.6, 838N×13785E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, MS3.2/4, Ms1 3.2/4, ms1mx2.8/30, Error ellipse: s-maj=83.6km s-min=20.6km az=77.0*
NEIC 03 10:40:39.1±0.9**, 838N**×**13776E, h10**km**, mb4.6**/2**, Error ellipse: s-maj=51.2km s-min=12.3km az=76.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	19.99	152	LR	LR	10 52 06.6	
	comp=Z,41nm,21.9s,baz=33,slow=34						
JHJ	Hachijo jima 2	24.69	4	LR	LR	10 53 35.8	
	comp=Z,61nm,19.1s,baz=122,slow=32						
JNU	Nakatsue	25.43	346	LR	LR	10 54 22.4	
	comp=Z,77nm,18.8s,baz=145,slow=32						
WRA	Warramunga Arr	28.34	187	P	P	10 46 33.7	+0.6
	0.4nm,0.8s,baz=6.3,slow=9.7,SNR=3.2						
WRA	Warramunga Arr	28.34	187	P	P	10 46 33.7	+0.6
KSRS	Korea Array	30.29	344	LR	LR	10 57 49.6	
	comp=Z,30nm,18.8s,baz=7.5,slow=34						
ASAR	Alice Springs	32.07	187	P	P	10 47 06.3	+0.2
	0.5nm,0.4s,baz=18,slow=11,SNR=16						
SONM	Songino Array	47.45	332	P	P	10 49 15.3	+1.3
	0.9nm,1.0s,baz=141,slow=7.1,SNR=3.7						
MKAR	Makanchi Array	60.63	319	P	P	10 50 50.6	+0.4
	2.3nm,0.8s,baz=105,slow=8.3,SNR=11						
BVAR	Borovoye Array	69.80	324	P	P	10 51 49.7	0.0
	2.5nm,0.5s,baz=109,slow=7.7,SNR=15						
CHKZ	Chkalovo	69.82	324	eP	P	10 51 49.0	-0.8
BRVK	Borovoye	69.87	324	eP	P	10 51 50.2	0.0
	3.4nm,0.6s						
ZRNK	Zerenda	70.60	323	eP	P	10 51 54.3	-0.3
	2.7nm,0.6s						
LPAZ	La Paz	153.53	110	PKPbc	PKPbc	11 00 39.9	+1.9
	1.0nm,0.8s,baz=267,slow=6.9,SNR=3.8						

*SZGRF **03** 10:50:42.7, 36.18N×20.19E, h33km, Central Mediterranean Sea*
*PDG **03** 10:50:52.5±0.5, 3625N×1960E, h36km±7km*
*LDG **03** 10:50:52.7±0.4, 3649N×1932E, h10km, Mb4.6/25, Ms2.9/7, Error ellipse: s-maj=20.2km s-min=7.9km az=28.0*
*IDC **03** 10:50:53.5±0.8, 3648N×1926E, h0km, mb4.3/12, mb1 4.3/22, mb1mx4.2/32, mbtmp4.3/22, ML4.4/9, MS3.5/8, Ms1 3.5/8, ms1mx3.1/33, Error ellipse: s-maj=17.3km s-min=13.2km az=158.0*
*MOS **03** 10:50:53.4±1.1, 3653N×1924E, h10km, mb4.5/7, Error ellipse: s-maj=4.6km s-min=2.4km az=96.5*
*ROM **03** 10:50:55.6±0.1, 3637N×1939E, h44km, Ml4.8/29, Error ellipse: s-maj=2.8km s-min=1.1km az=87.0*
*NEIC **03** 10:50:55.0, 3638N×1923E, h10km, mb4.2/16, ML4.4(ATH), After ATH.*
*CSEM **03** 10:50:56.7±0.1, 3639N×1926E, h48km, mb3.9/3, Ms2.9, Error ellipse: s-maj=1.9km s-min=1.1km az=171.0*
*ISCJB **03** 10:50:57.5±0.3, 3660N±002×1924E±002, h49km±3km, mb4.4/19, MS3.5/7, Error ellipse: s-maj=3.5km s-min=2.3km az=147.3*
*THE **03** 10:50:59.5, 3649N×1962E, h21km, ML5.1*
*NAO **03** 10:51:00.2, 3682N×2048E, h33km, mb4.0*
ISC 03 10:50:58.6±0.3**, 3653N**±002×**1924E**±002**, h39**km±4km**, n437, σ1s11**/516**, mb4.4**/19**, MS3.5**/7**, 49C-23D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	1.97	33	eP	Pn	10 51 30.0	+0.6
VLS	Valsamata	1.97	33	P	Pn	10 51 29.3	-0.1
ITM	Ithomi	2.25	72	eP	Pn	10 51 32.5	-0.8
RLS	Riolos of Patr	2.34	49	eP	Pn	10 51 34.0	-0.5
RLS	Riolos of Patr	2.34	49	P	Pn	10 51 35.1	+0.6
LKD	Levkas	2.45	27	ePn	Pn	10 51 37.0	+1.0
LKD				eSn	Sn	10 52 05.2	+0.5
LKD	Levkas	2.45	27	P	Pn	10 51 37.0	+1.0
LKD				S	Sn	10 52 05.9	+1.3
LKD	Levkas	2.45	27	ePn	Pn	10 51 37.0	+1.0
LKD				eSn	Sn	10 52 05.2	+0.5
LKD				S	Sn	10 52 05.9	+1.2
PLAC	Placanica	2.94	312	Pn	Pn	10 51 43.2	+0.4
SOI	Samo	2.97	302	Pn	Pn	10 51 43.6	+0.4
VLI	Veliai	2.98	85	eP	Pn	10 51 42.5	-0.8
VLI	Veliai	2.98	85	P	Pn	10 51 42.8	-0.5
IGT	Igoumenitsa	3.12	16	ePn	Pn	10 51 45.6	+0.3
IGT				eSn	Sn	10 52 21.4	+0.1
IGT	Igoumenitsa	3.12	16	P	Pn	10 51 46.7	+1.5
IGT	Igoumenitsa	3.12	16	P	Pn	10 51 46.7	+1.4
IGT				eSn	Sn	10 52 21.4	+0.1
EVR	Evrytania	3.13	40	eP	Pn	10 51 47.5	+2.0
EVR	Evrytania	3.13	40	P	Pn	10 51 47.8	+2.3
MTTG	Motta San Giov	3.19	299	Pn	Pn	10 51 46.5	+0.3
	3μm,1.2s						
GRI	Girifalco	3.20	316	Pn	Pn	10 51 46.8	+0.4
	433nm,0.6s						
KEK	Kerkira	3.21	8	Pn	Pn	10 51 46.5	0.0
	1μm,0.5s						
KEK	Kerkira	3.21	8	eP	Pn	10 51 46.5	0.0
KEK	Kerkira	3.21	8	P	Pn	10 51 47.0	+0.5
SERS	Sersale	3.22	322	Pn	Pn	10 51 46.4	-0.2
	198nm,0.6s						
SCLL	Scilla	3.30	303	Pn	Pn	10 51 48.1	+0.4
	403nm,0.6s						
SCLL	Scilla	3.30	303	Pn	Pn	10 51 48.1	+0.4
SCLL				P		10 51 48.3	
SCLL	Scilla	3.30	303	P	Pn	10 51 48.3	+0.6
TIP	Timpagrande	3.30	324	Pn	Pn	10 51 47.6	-0.1
	175nm,0.7s						
AGST	Augusta-Monte	3.30	284	Pg	Pn	10 51 46.7	-1.0
AGST				Sn	Sn	10 52 21.5	-4.2
	984nm,0.6s						
HAGA	Augusta	3.36	284	Pn	Pn	10 51 47.3	-1.3
	1μm,0.8s						
JAN	Janina	3.37	22	eP	Pn	10 51 50.0	+1.3
JAN	Janina	3.37	22	P	Pn	10 51 50.4	+1.7
MSI	Messina ING	3.38	301	Pn	Pn	10 51 49.8	+0.9
	1μm,0.2s						
SRN	Sarande	3.40	10	i Pn	Pn	10 51 46.5	-2.6
SRN				i Sn	Sn	10 52 28.8	+0.6
SSY	Sortino	3.40	282	Pn	Pn	10 51 47.8	-1.4
	2μm,0.2s						
SSY	Sortino	3.40	282	Pn	Pn	10 51 47.8	-1.4
SSY				P		10 51 48.1	
SSY	Sortino	3.40	282	P	Pn	10 51 48.1	-1.1
MSRU	Castanea	3.44	301	Pn	Pn	10 51 50.4	+0.7
	2μm,0.6s						
MMME	Mongiuffi-Meli	3.48	295	Pn	Pn	10 51 50.1	-0.1
	1μm,0.5s						
PZI	Palazzolo	3.49	280	Pn	Pn	10 51 49.8	-0.5
	145nm,0.3s						
PZI	Palazzolo	3.49	280	P	Pn	10 51 49.7	-0.6
AGG	Agios Georgios	3.49	44	ePn	Pn	10 51 51.5	+1.1
AGG	Agios Georgios	3.49	44	P	Pn	10 51 51.1	+0.8
MGER	Gerania Oros	3.52	64	eP	Pn	10 51 51.5	+0.7
SCTE	Santa Cesarea	3.59	350	Pn	Pn	10 51 51.8	+0.1
	1μm,0.2s						
HMDC	Modica	3.61	278	Pn	Pn	10 51 51.3	-0.7
HMDC				Sn	Sn	10 52 29.8	-3.5
	3μm,0.3s						
HMDC	Modica	3.61	278	Pn	Pn	10 51 51.3	-0.7
HMDC				P		10 51 51.4	
HMDC				Sn	Sn	10 52 29.8	-3.5
MEV	Metsovon	3.61	25	ePn	Pn	10 51 53.7	+1.7
LKR	Lokris	3.66	53	eP	Pn	10 51 52.0	-0.7
LKR	Lokris	3.66	53	P	Pn	10 51 53.3	+0.6
HVZN	Vizzini	3.69	281	Pn	Pn	10 51 52.6	-0.5
	5μm,0.4s						
HVZN	Vizzini	3.69	281	P	Pn	10 51 52.5	-0.6
KVR	Kavouri	3.84	69	eP	Pn	10 51 53.5	-1.7
ATH	Athens Observa	3.85	67	eP	Pn	10 51 50.5	-4.8
VPL	Vulcano Piano	3.86	300	Pn	Pn	10 51 55.6	+0.2
	2μm,0.4s						
WDD	Wield Dalam	3.87	262	Pn	Pn	10 51 54.4	-1.2
WDD				Sn	Sn	10 52 36.0	-3.9
	4μm,0.6s						
WDD	Wield Dalam	3.87	262	P	Pn	10 51 55.2	-0.4

WDD Sn Sn 10 52 36.0 -3.9
4µm,0.6s
LCI Lecce 3.90 347 Pn Pn 10 51 56.2 +0.2
496nm,0.2s
LLI Lipari 3.92 301 Pn Pn 10 51 56.7 +0.5
5µm,0.7s
GALF Gagliano Caste 3.92 289 Pn Pn 10 51 56.8 +0.5
GALF Sn Sn 10 52 40.0 -1.0
3µm,0.9s
RAFF Raffo Rosso 3.98 282 Pn Pn 10 51 57.1 +0.1
VAE Valguarnera 3.98 285 Pn Pn 10 51 58.5 +1.4
30nm,0.3s,baz=283,slow=5.6,SNR=24
VAE Sn Sn 10 52 42.8 +0.3
56nm,0.3s,baz=266,slow=3.9,SNR=7.1
VAE Valguarnera 3.98 285 Pn Pn 10 51 58.5 +1.4
VAE Sn Sn 10 52 42.8 +0.3
PTL Penteli 3.99 66 *e*P Pn 10 52 00.0 +2.8
SLNA Salina 4.05 301 Pn Pn 10 51 58.6 +0.5
678nm,0.3s
SLNA Salina 4.05 301 Pn Pn 10 51 58.6 +0.5
SLNA P 10 51 58.7
SLNA Salina 4.05 301 P Pn 10 51 58.7 +0.6
ORI Oriolo Calabro 4.16 329 Pn Pn 10 52 00.1 +0.6
NEO Neokhori 4.20 47 P Pn 10 52 02.2 +2.2
XOR Xorichti 4.21 47 *e*Pn Pn 10 51 60.0 -0.4
IFIL Filicudi I Eol 4.24 300 Pn Pn 10 52 00.3 -0.3
5µm,0.5s
KZN Kozani 4.26 27 *e*P Pn 10 52 02.5 +1.5
KZN Kozani 4.26 27 P Pn 10 52 03.4 +2.4
KBN Korca 4.26 16 *i* Pn Pn 10 52 02.8 +1.8
KBN *i* Sn Sn 10 52 52.0 +2.5
CSLB Castelbuono 4.37 290 Pn Pn 10 52 03.2 +0.7
420nm,0.8s
LIT Litokhoron 4.39 35 *e*Pn Pn 10 52 03.9 +1.2
LIT *e*Sn Sn 10 52 52.0 -0.5
LIT Litokhoron 4.39 35 P Pn 10 52 02.8 +0.2
LIT Litokhoron 4.39 35 P Pn 10 52 02.8 +0.1
LIT Litokhoron 4.39 35 *e*Pn Pn 10 52 03.9 +1.2
LIT *e*Sn Sn 10 52 52.0 -0.5
CUC Castrocucco 4.39 323 Pn Pn 10 52 02.9 +0.2
CUC P 10 52 03.4
CUC Castrocucco 4.39 323 P Pn 10 52 03.4 +0.7
GIB Gibilmanna 4.41 291 Pn Pn 10 52 04.1 +1.1
GIB Sn Sn 10 52 54.3 +1.2
1µm,0.6s
CRAC Craco 4.42 331 Pn Pn 10 52 04.1 +1.0
606nm,0.2s
SCHR S. Chirico Rap 4.43 327 Pn Pn 10 52 04.6 +1.3
155nm,0.8s
PE1 Pezze di Greco 4.50 342 ⇓*i*Pn Pn 10 52 03.9 -0.4
AOS Alonnisos 4.52 53 *e*Pn Pn 10 52 03.6 -0.9
AOS Alonnisos 4.52 53 P Pn 10 52 03.6 -0.9
FAVR Favara 4.53 281 Pn Pn 10 52 05.9 +1.3
126nm,0.3s
FNA Florina 4.57 21 *e*Pn Pn 10 52 06.0 +0.9
FNA *e*Sn Sn 10 52 57.8 +0.8
FNA Florina 4.57 21 P Pn 10 52 05.8 +0.7
NOCI Noci 4.58 339 Pn Pn 10 52 05.0 -0.4
NOCI Sn Sn 10 52 54.3 -3.1
868nm,0.3s
MIGL Miglionico 4.63 333 Pn Pn 10 52 06.6 +0.7
720nm,0.3s
OHR Ohrid 4.74 14 *e*Pn Pn 10 52 08.4 +1.0
OHR Ohrid 4.74 14 *i* Pn Pn 10 52 08.4 +1.0
OHR *i* Sn Sn 10 53 02.0 +0.9
OHR Ohrid 4.74 14 *i* Pn Pn 10 52 08.4 +0.9
OHR *i* Sn Sn 10 53 01.9 +0.8
IDI Anoyia 4.75 103 Pn Pn 10 52 05.8 -1.8
4.3nm,0.3s,baz=275,slow=15,SNR=22
IDI Sn Sn 10 52 55.1 -6.3
98nm,0.3s,baz=296,slow=23,SNR=18
SG1 Sgolgore (BA) 4.75 336 ⇓*i*Pn Pn 10 52 07.3 -0.4
BIA Bitola 4.77 19 *i* Pn Pn 10 52 09.4 +1.5
BIA *i* Sn Sn 10 53 02.8 +0.8
BIA Bitola 4.77 19 *i* Pn Pn 10 52 09.4 +1.5
BIA Bitola 4.77 19 P Pn 10 52 10.3 +2.4
BIA *i* Sn Sn 10 53 02.8 +0.8
SLCN Sala Consilina 4.79 325 Pn Pn 10 52 10.0 +1.9
302nm,0.5s
AMUR Altamura 4.84 336 Pn Pn 10 52 08.5 -0.3
433nm,0.4s
TIR Tirane 4.84 6 Pn Pn 10 52 09.9 +1.0
1µm,0.4s
TIR Tirane 4.84 6 *e*Pn Pn 10 52 09.9 +1.0
TIR *e*Sn Sn 10 53 05.3 +1.7
PAIG Paliouri 4.87 44 *e*Pn Pn 10 52 08.3 -1.0
PAIG *e*Sn Sn 10 53 02.3 -2.1
CMPR Campora 4.89 322 Pn Pn 10 52 09.6 0.0
109nm,0.4s
BAI Bari 4.93 339 ⇓*i*Pn Pn 10 52 09.8 -0.4
CORL Corleone 4.93 288 Pn Pn 10 52 11.8 +1.6
CLTB Caltabellotta 4.94 284 Pn Pn 10 52 11.4 +1.2
115nm,0.3s
SANT Santorini 5.01 90 *e*Pn Pn 10 52 07.4 -3.9
SANT *e*Sn Sn 10 53 02.7 -5.3
CDRU Civita di Ruta 5.02 323 Pn Pn 10 52 11.3 -0.1
120nm,0.2s
THE Thessaloniki 5.03 34 *e*Pn Pn 10 52 11.7 +0.2
PLG Polygyros 5.06 39 *e*Pn Pn 10 52 12.1 +0.2
PLG *e*Sn Sn 10 53 07.3 -1.8
GRG Griva 5.07 28 *e*Pn Pn 10 52 12.0 0.0
GRG *e*Sn Sn 10 53 09.0 -0.2
APE Apeiranthos 5.07 82 *e*Pn Pn 10 52 09.5 -2.6
APE Apeiranthos 5.07 82 *e*P Pn 10 52 10.0 -2.1
APE Apeiranthos 5.07 82 P Pn 10 52 08.6 -3.5
APE Apeiranthos 5.07 82 P Pn 10 52 08.6 -3.5
APE Apeiranthos 5.07 82 *e*Pn Pn 10 52 09.5 -2.6
KRUS Krusevo 5.08 17 *i* Pn Pn 10 52 11.9 -0.3
PALZ Palazzo San Ge 5.10 331 Pn Pn 10 52 12.1 -0.4
5µm,3.2s
CDT Castel del Mon 5.11 334 ⇓*i*Pn Pn 10 52 12.1 -0.4
MRLC Muro Lucano 5.14 326 Pn Pn 10 52 13.6 +0.5
161nm,0.5s
MRLC Muro Lucano 5.14 326 Pn Pn 10 52 13.6 +0.5
MRLC P 10 52 15.1
MRLC Muro Lucano 5.14 326 P Pn 10 52 15.1 +2.0
PHP Peshkopia 5.23 10 *i* Pn Pn 10 52 14.6 +0.3
PHP *i* Sn Sn 10 53 14.4 +1.0
VULT Monte Vulture 5.25 328 Pn Pn 10 52 15.8 +1.3
238nm,0.2s
MCRV Calabrutti - M 5.31 324 Pn Pn 10 52 15.8 +0.4
181nm,0.2s
OUR Ouranopolis 5.32 43 *e*Pn Pn 10 52 15.1 -0.3
NPS Neapolis 5.32 102 *e*P Pn 10 52 16.0 +0.5
SOH Sokhos 5.36 36 *e*Pn Pn 10 52 16.9 +0.8
SNAL S. Angelo Dei 5.41 326 Pn Pn 10 52 18.0 +1.3
315nm,0.9s
ULC Ulcinj 5.43 0 ⇑*i*Pn Pn 10 52 16.4 -0.6
ULC *e*Sn Sn 10 53 18.5 +0.3
KNT Kendrikon 5.44 31 *e*Pn Pn 10 52 17.3 +0.2
KNT Kendrikon 5.44 31 P Pn 10 52 17.1 +0.1
KNT Kendrikon 5.44 31 P Pn 10 52 17.2 +0.1
FG4 Candela 5.44 329 P Pn 10 52 17.6 +0.5
FG4 pmax pmax
comp=Z,104nm,0.3s
FG4 Candela 5.44 329 Pn Pn 10 52 17.6 +0.5
comp=Z,104nm,0.3s
FG4 P 10 52 18.2
FG4 Candela 5.44 329 P Pn 10 52 18.2 +1.1
VAY Valandovo 5.44 27 *e*Pn Pn 10 52 16.8 -0.4
VAY Valandovo 5.44 27 *i* Pn Pn 10 52 16.9 -0.2
VAY *i* Sn Sn 10 53 17.1 -1.4
CAFE Carife 5.48 326 Pn Pn 10 52 17.7 +0.1
comp=Z,147nm,0.3s
PUK Puka 5.53 5 *i* Pn Pn 10 52 18.3 -0.1
PUK *i* Sn Sn 10 53 21.4 +0.7
STIP Stip 5.64 23 *e*Pn Pn 10 52 20.8 +0.9
STIP *e*Sn Sn 10 53 22.8 -0.7
STIP Stip 5.64 23 *e*Pn Pn 10 52 20.7 +0.8
STIP *e*Sn Sn 10 53 22.8 -0.7
FG5 Orsara di Pugl 5.67 328 P Pn 10 52 20.9 +0.6
SKO Skopje 5.70 17 *e*Pn Pn 10 52 21.8 +1.1
SKO Skopje 5.70 17 *i* Pn Pn 10 52 21.8 +1.2
SKO *i* Sn Sn 10 53 23.9 -0.9
SKO Skopje 5.70 17 P Pn 10 52 21.6 +0.9
SKO Skopje 5.70 17 *i* Pn Pn 10 52 21.8 +1.1
SKO *i* Sn Sn 10 53 23.8 -1.0
LOS Limnos 5.72 52 *e*Pn Pn 10 52 20.6 -0.3
FGMS Monte Sant'Ang 5.77 335 Pn Pn 10 52 21.3 -0.4
comp=Z,150nm,0.2s
BUM Brajici-Budva 5.77 357 ⇑*i*Pn Pn 10 52 20.9 -0.8
BUM *e*Sn Sn 10 53 27.1 +0.5
MSAG Monte S. Angel 5.79 334 Pn Pn 10 52 21.6 -0.3
comp=Z,509nm,0.2s
MSAG Monte S. Angel 5.79 334 P Pn 10 52 21.8 -0.1
PSB1 Pescosannita 5.83 325 Pn Pn 10 52 23.8 +1.4
comp=Z,145nm,1.2s
PSB1 P 10 52 24.5
PSB1 Pescosannita 5.83 325 P Pn 10 52 24.5 +2.1
BCI Bajram Curri 5.87 6 *i* Pn Pn 10 52 23.1 +0.1
BCI *i* Sn Sn 10 53 30.5 +1.5
RGNG Rignano Grg 5.87 332 Pn Pn 10 52 22.6 -0.5
RGNG Rignano Grg 5.87 332 P Pn 10 52 22.7 -0.4
SGRT San Giovanni R 5.89 334 Pn Pn 10 52 22.7 -0.6
comp=Z,207nm,0.3s
TTG Podgorica 5.89 0 ⇑*i*Pn Pn 10 52 22.6 -0.8
TTG *e*Sn Sn 10 53 29.6 -0.1
HCY Herceg Novi 5.94 355 ⇑*i*Pn Pn 10 52 22.8 -1.2
HCY *e*Sn Sn 10 53 29.7 -1.1
PVY Plav 6.09 5 ⇓*i*Pn Pn 10 52 25.9 -0.1
PVY *e*Sn Sn 10 53 34.6 +0.3
CIGN Sant'Elia a Pi 6.13 328 Pn Pn 10 52 28.0 +1.4
comp=Z,123nm,0.9s
CIGN Sant'Elia a Pi 6.13 328 P Pn 10 52 28.1 +1.5
MMB Musomiste 6.14 33 *e*Pn Pn 10 52 26.5 -0.2
MMB Musomiste 6.14 33 P Pn 10 52 26.4 -0.4
MMB Musomiste 6.14 33 P Pn 10 52 26.4 -0.4
FG2 Serracapriola 6.15 330 P Pn 10 52 27.4 +0.5
SGG Gregorio Mates 6.16 323 Pn Pn 10 52 28.9 +1.9
comp=Z,88nm,0.5s
SGG Gregorio Mates 6.16 323 P Pn 10 52 28.7 +1.7
SGG Pn Pn 10 52 28.9 +1.9
TREB Trebinje 6.22 354 P Pn 10 52 26.8 -1.0
TREB S Sn 10 53 35.1 -2.6
NKY Niksic 6.28 358 ⇑*i*Pn Pn 10 52 27.9 -0.8
NKY *e*Sn Sn 10 53 39.5 +0.3
RFI Roccamonfina 6.29 321 Pn Pn 10 52 30.0 +1.2
comp=Z,4.0nm,0.6s
IVA Berane 6.36 4 ⇑*i*Pn Pn 10 52 29.2 -0.5
IVA *e*Sn Sn 10 53 41.6 +0.6
BRY Bratogost 6.39 355 ⇑*i*Pn Pn 10 52 29.1 -1.1
BRY *e*Sn Sn 10 53 41.3 -0.4
MIDA Miranda 6.41 324 P Pn 10 52 32.8 +2.3
STON Ston 6.45 350 *i* Pn Pn 10 52 29.2 -1.8
STON *i* Sn Sn 10 53 39.9 -3.4
BARS Barje 6.59 17 *i* Pn Pn 10 52 31.6 -1.3
UPM Unac-Piva 6.67 358 ⇑*i*Pn Pn 10 52 33.6 -0.4
UPM *e*Sn Sn 10 53 48.7 -0.1
SDI San Donato 6.68 322 P Pn 10 52 34.9 +0.8
RDO Rodhopi 6.74 45 P Pn 10 52 35.6 +0.7
VTS Vitosha 6.79 26 *e*Pn Pn 10 52 36.5 +0.9
VTS Vitosha 6.79 26 P Pn 10 52 36.2 +0.6
VTS Vitosha 6.79 26 P Pn 10 52 36.2 +0.6
PLE Pljevlja 6.80 1 ⇓*i*Pn Pn 10 52 35.5 -0.3
PLE *e*Sn Sn 10 53 52.3 +0.5
ALN Alexandroupoli 6.88 49 *e*Pn Pn 10 52 37.0 +0.1
ALN Alexandroupoli 6.88 49 P Pn 10 52 36.6 -0.3
ALN Alexandroupoli 6.88 49 P Pn 10 52 36.6 -0.3
VVLD Villa Vallelon 6.89 322 P Pn 10 52 38.3 +1.2
GUAR Guarcino 6.99 321 P Pn 10 52 40.1 +1.7
ARG Arkhangelos 7.17 90 *e*P Pn 10 52 40.0 -0.9
AQU L'Aquila 7.37 324 ⇑*i*P Pn 10 52 45.6 +2.0
GRUS Gruza 7.44 8 *i* Pn Pn 10 52 42.4 -2.1
DIVS Divcibare 7.58 4 *i* Pn Pn 10 52 45.1 -1.5
KEST Kesra 8.05 267 Pn Pn 10 52 53.0 0.0
comp=Z,1.3nm,0.3s,baz=68,slow=7.4,SNR=46
KEST Sn Sn 10 54 19.6 -3.0
comp=Z,0.7nm,0.3s,baz=46,slow=22,SNR=8.6
JMB Yambol 8.21 41 P Pn 10 52 53.4 -1.7
AOI Ancona 8.24 330 P Pn 10 52 57.1 +1.6
CING Cingoli 8.27 328 P Pn 10 52 56.7 +0.8
BLY Banja Luka 8.36 350 P Pn 10 52 57.5 +0.3
BLY S Sn 10 54 29.2 -1.1
NVLJ Novalja 8.69 339 *i* Pn Pn 10 53 01.0 -0.7
NVLJ *i* Sn Sn 10 54 32.8 -5.6
FSSB Fossombrone 8.70 327 P Pn 10 53 02.6 +0.7
ISP Isparta 9.09 78 *e*P Pn 10 53 07.3 +0.1
ISP pmax pmax
comp=Z,42nm,0.9s
ISP Isparta 9.09 78 *e*P Pn 10 53 07.3 +0.1
comp=Z,42nm,0.9s
SISC Sisak 9.19 347 *i* Sn Sn 10 54 45.6 -5.1
GZR Gura Zlata 9.25 16 ⇓*i*P Pn 10 53 09.9 +0.5
GZR Gura Zlata 9.25 16 P Pn 10 53 09.9 +0.5
BZS Buzias 9.26 10 ⇑*i*P Pn 10 53 08.2 -1.3
BZS Buzias 9.26 10 P Pn 10 53 08.2 -1.3
PKSM Moragy 9.69 358 ⇑*i*P Pn 10 53 13.2 -2.2
CRES Cresnjev 9.72 344 *i* Pn Pn 10 53 15.3 -0.5
CRES *e*Sn Sn 10 54 58.1 -5.5
CRES
comp=Z,39nm,0.4s
CRES Cresnjev 9.72 344 *i* Pn Pn 10 53 15.3 -0.5
CRES *e*Sn Sn 10 54 58.1 -5.5
CRES Cresnjev 9.72 344 *i* Pn Pn 10 53 15.3 -0.5
CRES *e*Sn Sn 10 54 58.2 -5.4
VISS Visnje 9.84 342 *e*Pn Pn 10 53 17.2 -0.3
VISS *i* Sn Sn 10 55 01.0 -5.7
VISS
comp=Z,145nm,0.9s
VISS Visnje 9.84 342 *e*Pn Pn 10 53 17.2 -0.3
VISS *i* Sn Sn 10 55 01.0 -5.7
comp=Z,145nm,0.9s
CEY Cerknica 9.89 340 *i* Pn Pn 10 53 17.9 -0.3
CEY *e*Sn Sn 10 55 02.1 -5.8
CEY
comp=Z,55nm,0.8s
CEY Cerknica 9.89 340 *i* Pn Pn 10 53 17.9 -0.3
CEY *e*Sn Sn 10 55 02.1 -5.8
CEY Cerknica 9.89 340 *i* Pn Pn 10 53 17.9 -0.3
CEY *e*Sn Sn 10 55 02.1 -5.8
comp=Z,55nm,0.8s
VOIR 9.92 24 ⇑*i*P Pn 10 53 18.5 -0.1
VOIR 9.92 24 P Pn 10 53 18.5 -0.1
PGF Pioggiola 9.93 310 *e*P Pn 10 53 20.2 +1.4
comp=Z,136nm,1.0s
PGF Pioggiola 9.93 310 *e*P Pn 10 53 20.2 +1.4
comp=Z,68nm,1.0s
TRI Trieste 10.06 337 P Pn 10 53 19.6 -0.9
LJU Ljubljana 10.15 341 *i* Pn Pn 10 53 21.2 -0.4
LJU *e*Sn Sn 10 55 09.0 -5.1
LJU Ljubljana 10.15 341 *i* Pn Pn 10 53 21.2 -0.5
LJU *e*Sn Sn 10 55 09.0 -5.1
KOGS Kog 10.16 348 P Pn 10 53 20.8 -1.1
MLR Muntele Rosu 10.28 27 Pn Pn 10 53 23.2 -0.3
comp=Z,0.9nm,0.3s,baz=266,slow=14,SNR=7.4
MLR Sn Sn 10 55 18.9 +1.4
comp=Z,0.9nm,0.3s,baz=258,slow=20,SNR=3.6
MLR Muntele Rosu 10.28 27 ⇑*i*P Pn 10 53 25.1 +1.6
MLR Muntele Rosu 10.28 27 P Pn 10 53 25.1 +1.6
VOY Vojsko 10.31 339 ⇓*e*Pn Pn 10 53 22.7 -1.2
VOY *e*Sn Sn 10 55 10.6 -7.6
DRE Drenchia 10.51 338 ⇑*i*P Pn 10 53 25.0 -1.7
COLI Coloredo 10.56 337 ⇑*i*P Pn 10 53 26.0 -1.3
OBKA Obir 10.57 342 ⇓*i*Pn Pn 10 53 26.8 -0.7
SNR=42
OBKA ⇓*i*Sn Sn 10 55 19.7 -4.9
OBKA Obir 10.57 342 Pn Pn 10 53 26.8 -0.7
SNR=42
OBKA Obir 10.57 342 P Pn 10 53 28.7 +1.2
DRGR 10.58 13 ⇑*i*P Pn 10 53 28.3 +0.7
DRGR 10.58 13 P Pn 10 53 28.3 +0.8
GMNA Gemona 10.73 337 P Pn 10 53 28.9 -0.7
PTCC Patocco-Chiusa 10.81 338 P Pn 10 53 29.7 -1.0
LSR Lussari 10.82 338 ⇑*i*P Pn 10 53 30.0 -0.9
PLOR Plostina 10.85 29 ⇓*i*P Pn 10 53 32.3 +1.0
VRI Vrincioaia 10.89 29 P Pn 10 53 34.6 +2.7
PLRO Paularo 11.00 337 ⇑*i*P Pn 10 53 33.0 -0.4
ARSA Arzberg 11.07 347 ⇑*i*Pn Pn 10 53 33.1 -1.2
ARSA *i* Sn Sn 10 55 27.8 -8.8
ARSA Arzberg 11.07 347 Pn Pn 10 53 33.1 -1.2
SNR=14
ARSA *i* Sn Sn 10 55 27.8 -8.9
BOB Bobbio (Coli) 11.09 321 P Pn 10 53 39.6 +5.0
CTI Castel Tesino 11.09 331 P Pn 10 53 34.1 -0.5
CTI pmax pmax
comp=Z,177nm,0.8s
CTI Castel Tesino 11.09 331 P Pn 10 53 34.1 -0.5
comp=Z,177nm,0.8s
CSMI Casera Mimoias 11.13 336 ⇓*e*P Pn 10 53 34.0 -1.1
FVI Forni Avoltri 11.16 336 P Pn 10 53 34.7 -0.8
PSZ Piszkesteto 11.39 2 *e*P Pn 10 53 36.7 -2.0
PSZ *e*S Sn 10 55 37.0 -7.7
KBA Koelnbreinsper 11.42 339 ⇑*i*Pn Pn 10 53 38.7 -0.4
SNR=7.4
KBA ⇑*i*Sn Sn 10 55 37.0 -8.3
SEST Monte Rota 11.48 335 P Pn 10 53 39.9 0.0
MABI Malga Bissina 11.55 328 P Pn 10 53 40.1 -0.8
comp=Z,8.2nm,0.5s
APPI Appiano 11.61 331 P Pn 10 53 41.4 -0.3
SBF Sospel 11.62 313 *e*P Pn 10 53 42.4 +0.6
comp=Z,75nm,1.1s
SBF Sospel 11.62 313 *e*P Pn 10 53 42.4 +0.6
SBF pmax pmax
comp=Z,37nm,1.1s
SBF Sospel 11.62 313 *e*P Pn 10 53 42.4 +0.6
comp=Z,37nm,1.1s
CONA Conrad Observa 11.66 349 ⇑*i*Pn Pn 10 53 41.7 -0.8
SNR=8.7
CONA ⇓*i*Sn Sn 10 55 46.4 -4.9
ZST Bratislava 11.77 353 *e*SN Sn 10 55 45.8 -8.0
BR131 Keskin Array S 11.78 70 *e*P Pn 10 53 45.7 +1.7
comp=Z,4.2nm,0.7s
BR131 Keskin Array S 11.78 70 *e*P Pn 10 53 45.7 +1.7
comp=Z,4.2nm,0.7s
BRTR Keskin Array B 11.78 70 Pn Pn 10 53 45.0 +1.0
comp=Z,0.4nm,0.3s,baz=250,slow=13,SNR=12
BRTR LR LR 10 58 58.9
comp=Z,152nm,19.6s,baz=299,slow=41
MOA Molln 11.90 344 ⇑*i*Pn Pn 10 53 45.1 -0.5
SNR=73
MOA ⇑*i*Sn Sn 10 55 50.8 -6.2
LMR La Mourre 11.90 309 *e*P Pn 10 53 46.1 +0.4
FRF La Foret Royal 11.93 310 *e*P Pn 10 53 46.6 +0.5
BRMO Bormio 11.95 329 P Pn 10 53 47.6 +1.3
comp=Z,17nm,0.6s
VYHS Vyhne 11.96 359 *e*Pn Pn 10 53 45.6 -0.9
VYHS *e*Sn Sn 10 55 51.0 -7.6
KECS Kecovo 11.98 4 *e*SN Sn 10 55 52.4 -6.7
WTTA Wattenberg 12.12 335 *i* Pn Pn 10 53 48.7 0.0
SNR=11
WTTA ⇑*i*Sn Sn 10 55 58.2 -4.4
WATA Walderalm 12.21 335 ⇑*i*Pn Pn 10 53 49.8 0.0
SNR=17
WATA ⇑*i*Sn Sn 10 56 00.3 -4.3
WATA Walderalm 12.21 335 Pn Pn 10 53 49.8 -0.1
SNR=17
WATA *i* Sn Sn 10 56 00.3 -4.3
SQTA Sankt Quirin 12.24 333 ⇓*i*Pn Pn 10 53 49.9 -0.4
SNR=19
SQTA ⇓*i*Sn Sn 10 56 01.1 -4.2
SQTA Sankt Quirin 12.24 333 ⇓*i*Pn Pn 10 53 49.9 -0.4
SQTA *i* Sn Sn 10 56 01.1 -4.2
MOTA Moosalm 12.38 333 ⇓*i*Pn Pn 10 53 51.9 -0.4
SNR=14
MOTA ⇓*i*Sn Sn 10 56 04.9 -3.9
MOTA Moosalm 12.38 333 Pn Pn 10 53 51.9 -0.4
SNR=14
MOTA *i* Sn Sn 10 56 04.9 -4.0
TUE Stuetta 12.39 326 P Pn 10 53 55.4 +3.1
comp=Z,48nm,1.8s
DAVOX Davos 12.40 329 Pn Pn 10 53 52.4 -0.1
baz=137,slow=14,SNR=17
MBDF Montbardon 12.51 315 *e*P Pn 10 53 56.5 +2.5
comp=Z,41nm,0.8s
MBDF Montbardon 12.51 315 *e*P Pn 10 53 56.5 +2.5
MBDF pmax pmax
comp=Z,21nm,0.8s
MBDF Montbardon 12.51 315 *e*P Pn 10 53 56.5 +2.5
comp=Z,21nm,0.8s
KOLS Kolonicke sedl 12.60 9 *e*SN Sn 10 56 09.3 -4.8
DAVA Damuels 12.80 330 ⇓*i*Pn Pn 10 53 58.2 +0.2
SNR=9.7
DAVA ⇓*i*Sn Sn 10 56 15.3 -3.9
GEC2 GERESS Array S 12.96 343 *e*P Pn 10 53 58.8 -1.4
GEC2 *e*pP 10 54 36.4
GERES GERESS Array B 12.96 343 Pn Pn 10 53 59.6 -0.6
comp=Z,1.8nm,0.3s,baz=160,slow=14,SNR=21
GERES Sn Sn 10 56 14.6 -8.5
comp=Z,1.5nm,0.3s,baz=161,slow=25,SNR=7.3
STHS Stebnicka Huta 12.96 6 *e*SN Sn 10 56 18.4 -4.7
LPG La Plagne 13.00 317 *e*P Pn 10 54 03.6 +2.9
comp=Z,18nm,0.8s
LPG La Plagne 13.00 317 *e*P Pn 10 54 03.6 +2.9
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 13.00 317 *e*P Pn 10 54 03.6 +2.9
comp=Z,9.2nm,0.8s
LPL La Plagne 13.02 317 *e*P Pn 10 54 04.5 +3.5
comp=Z,20nm,0.7s
LPL La Plagne 13.02 317 *e*P Pn 10 54 04.5 +3.5
LPL pmax pmax
comp=Z,10.0nm,0.7s
LPL La Plagne 13.02 317 *e*P Pn 10 54 04.5 +3.5
comp=Z,9.9nm,0.7s
ORIF Oris-en-Rattie 13.14 314 ⇑*i*P Pn 10 54 04.4 +1.8
comp=Z,59nm,1.2s
ORIF *e*R
comp=Z,141nm,22.2s
ORIF Oris-en-Rattie 13.14 314 ⇑*i*P Pn 10 54 04.4 +1.8
ORIF pmax pmax
comp=Z,30nm,1.2s
ORIF Oris-en-Rattie 13.14 314 ⇑*i*P Pn 10 54 04.4 +1.8
comp=Z,30nm,1.2s
KHC Kasperske Hory 13.26 344 *e*P Pn 10 54 03.2 -1.0
KHC Kasperske Hory 13.26 344 *e*P Pn 10 54 03.5 -0.7
WET Wettzell 13.44 342 *e*P Pn 10 54 05.4 -1.3
MMAI Mount Meron Ar 13.74 100 Pn Pn 10 54 05.9 -4.9
comp=Z,4.0nm,0.3s,baz=313,slow=12,SNR=9.0
MMAI Sn Sn 10 56 26.1 -16
comp=Z,13nm,0.3s,baz=305,slow=28,SNR=9.0
PRU Pruhonice 13.88 347 *e*P Pn 10 54 11.5 -1.2
PRU *ex* x 10 54 21.1
BBS Basel-Blauen 13.97 325 *e*P Pn 10 54 15.6 +1.7
DPC Dobruska-Polom 13.98 352 *e*P Pn 10 54 12.5 -1.5
DPC *ex* x 10 54 25.2
FELD Feldberg im Sc 14.05 327 *e*P Pn 10 54 14.9 -0.1
CABF La Chapelle 14.07 320 ⇑*i*P Pn 10 54 13.5 -1.8
comp=Z,24nm,0.8s
CABF La Chapelle 14.07 320 ⇑*i*P Pn 10 54 13.5 -1.8
CABF pmax pmax
comp=Z,12nm,0.8s
CABF La Chapelle 14.07 320 ⇑*i*P Pn 10 54 13.5 -1.8
comp=Z,12nm,0.8s
UPC Upice 14.17 352 *e*P Pn 10 54 14.8 -1.8
ROTZ Rotzenmuhle 14.19 341 *e*P Pn 10 54 16.0 -0.8
BFO Black Forest 14.27 329 *e*P Pn 10 54 16.6 -1.4
BFO *e*pP 10 54 26.6
STU Stuttgart 14.28 332 P Pn 10 54 16.3 -1.8
GRA1 Grafenberg Arr 14.39 339 *e*P Pn 10 54 17.9 -1.7
GRA1 *e*pP pP 10 54 28.7 -6.9
GRF Grafenberg Arr 14.39 339 *e*P Pn 10 54 17.9 -1.7
GRF *e*pP pP 10 54 28.7 -6.9
MANZ Manzenberg 14.41 341 *e*P Pn 10 54 19.1 -0.8
MOF Molkenrain 14.42 325 *e*P Pn 10 54 21.6 +1.5
KSP Ksiaz 14.47 352 *e*P Pn 10 54 30.1 +9.4
KSP Ksiaz 14.47 352 *e*P Pn 10 54 29.6 +8.9
ECH Echery 14.68 326 *e*P Pn 10 54 24.5 +0.9
WLS Welschbruch 14.74 327 *e*P Pn 10 54 23.4 -1.0
WERD Werda 14.79 342 *e*P Pn 10 54 24.5 -0.5
WERD *e*pP pP 10 54 33.0 -7.0
EIL Elat 14.83 113 *e*P Pn 10 54 18.6 -6.9
comp=Z,232nm,0.5s
EIL *e*S Sn 10 56 45.6 -23
EIL Elat 14.83 113 *e*P Pn 10 54 18.6 -6.9
comp=Z,232nm,0.5s
EIL *e*S Sn 10 56 45.6 -23
BRG Berggiesshubel 14.84 347 *e*P Pn 10 54 21.9 -3.8
comp=Z,1.6nm,0.8s
BRG *e* 10 57 13.2
comp=Z,3.7nm,0.9s
BRG Berggiesshubel 14.84 347 *e*P Pn 10 54 21.9 -3.7
BRG *e* 10 57 13.2
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.9s
LANF Langenberg 14.99 330 *e*P Pn 10 54 27.7 0.0
FBE Freiberg 15.00 345 *e*pP pP 10 54 35.7 -6.7
TOD Tromm 15.11 333 *e*P Pn 10 54 28.2 -1.1
MOX Moxa 15.14 341 *e*P Pn 10 54 27.5 -2.1
MOX *e*pP pP 10 54 36.4 -7.6
MOX Moxa 15.14 341 *e*P Pn 10 54 28.2 -1.4
ASF Jabal al Asfar 15.21 101 Pn Pn 10 54 25.7 -4.8
comp=Z,0.4nm,0.3s,baz=208,slow=3.1,SNR=3.6
ASF Sn Sn 10 57 04.2 -14
comp=Z,0.7nm,0.3s,baz=262,slow=18,SNR=3.7
SMF Signal de Mont 15.30 316 *e*P Pn 10 54 29.0 -2.7
comp=Z,12nm,0.6s
SMF Signal de Mont 15.30 316 *e*P Pn 10 54 29.0 -2.7
SMF pmax pmax

	comp=Z,6.0nm,0.6s						
SMF	**Signal de Mont**	**15.30**	**316**	*e*P	**Pn**	**10 54 29.0**	**-2.7**
	comp=Z,6.2nm,0.6s						
CLL	**Collm**	**15.44**	**345**	*i* P		10 54 41.4	
CLL				pmax	pmax		
	comp=Z,20nm,0.9s						
CLL	**Collm**	**15.44**	**345**	*e*pP	**Pn**	**10 54 36.0**	**+2.6**
CLL				*i* PP		10 54 41.4	
	comp=Z,20nm,0.9s						
CLL				*e*x	x	10 54 46.0	
CLL	**Collm**	**15.44**	**345**	*i* P		10 54 41.4	
	comp=Z,20nm,0.9s						
AVF	**Avril sur Loir**	**15.66**	**316**	*e*P	**Pn**	**10 54 34.0**	**-2.4**
	comp=Z,15nm,0.6s						
AVF	**Avril sur Loir**	**15.66**	**316**	*e*P	**Pn**	**10 54 34.0**	**-2.4**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AVF	**Avril sur Loir**	**15.66**	**316**	*e*P	**Pn**	**10 54 34.0**	**-2.4**
	comp=Z,7.6nm,0.6s						
LOR	**Lormes**	**15.67**	**318**	*e*P	**Pn**	**10 54 34.4**	**-2.0**
	comp=Z,9.7nm,0.7s						
LOR				*e*R			
	comp=Z,83nm,21.0s						
LOR	**Lormes**	**15.67**	**318**	*e*P	**Pn**	**10 54 34.4**	**-2.0**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LOR	**Lormes**	**15.67**	**318**	*e*P	**Pn**	**10 54 34.4**	**-2.0**
	comp=Z,4.8nm,0.7s						
SSF	**Saint Saulge**	**15.73**	**317**	*e*P	**Pn**	**10 54 35.2**	**-2.1**
	comp=Z,14nm,0.8s						
SSF	**Saint Saulge**	**15.73**	**317**	*e*P	**Pn**	**10 54 35.2**	**-2.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SSF	**Saint Saulge**	**15.73**	**317**	*e*P	**Pn**	**10 54 35.2**	**-2.1**
	comp=Z,6.8nm,0.8s						
UBBA	**Unterbreizbach**	**15.75**	**338**	*e*P	**Pn**	**10 54 37.6**	**0.0**
TNS	**Taunus Mts**	**15.76**	**334**	*e*P	**Pn**	**10 54 38.0**	**+0.4**
ABH	**Alteburg**	**15.81**	**331**	*e*P	**Pn**	**10 54 40.2**	**+1.9**
RUP	**Ruppelstein**	**15.86**	**330**	*e*P	**Pn**	**10 54 39.9**	**+0.9**
MEZF	**Maizieres J'vi**	**15.86**	**323**	*e*P	**Pn**	**10 54 39.0**	**0.0**
AKASG	**Malin Array Be**	**15.88**	**24**	Pn	**Pn**	**10 54 37.2**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=213,slow=12,SNR=6.2						
AKASG				Sn	**Sn**	**10 57 42.6**	**+8.5**
	comp=Z,0.4nm,0.3s,baz=208,slow=22,SNR=11						
AKBB	**Malin Array Si**	**15.88**	**24**	*e*P	**Pn**	**10 54 36.6**	**-2.6**
RJF	**Les Rejaudoux**	**15.99**	**309**	*e*P	**Pn**	**10 54 39.3**	**-1.3**
RJF				*e*R			
	comp=Z,87nm,19.5s						
CLZ	**Clausthal**	**16.56**	**340**	*e*P	**Pn**	**10 54 50.0**	**+2.2**
GIVF	**Givet**	**17.11**	**327**	⇑*i*P	**Pn**	**10 54 58.5**	**+3.8**
	comp=Z,12nm,0.5s						
GIVF	**Givet**	**17.11**	**327**	⇑*i*P	**Pn**	**10 54 58.5**	**+3.8**
GIVF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GIVF	**Givet**	**17.11**	**327**	⇑*i*P	**Pn**	**10 54 58.5**	**+3.8**
	comp=Z,6.1nm,0.5s						
HGN	**Heimansgroeve**	**17.14**	**330**	⇓*e*P	**Pn**	**10 54 59.0**	**+3.9**
	comp=Z,77nm,1.3s						
NRDL	**Niedersach Rie**	**17.22**	**341**	*e*P	**Pn**	**10 54 57.1**	**+1.0**
BAIF	**Baives**	**17.35**	**326**	*e*P	**Pn**	**10 55 01.3**	**+3.6**
MFF	**Saint Martin d**	**17.62**	**311**	*e*P	**Pn**	**10 55 01.2**	**+0.2**
	comp=Z,92nm,1.4s						
MFF	**Saint Martin d**	**17.62**	**311**	*e*P	**Pn**	**10 55 01.2**	**+0.2**
MFF				pmax	pmax		
	comp=Z,46nm,1.4s						
MFF	**Saint Martin d**	**17.62**	**311**	*e*P	**Pn**	**10 55 01.2**	**+0.2**
	comp=Z,46nm,1.4s						
WTSB	**Winterswijk**	**17.78**	**334**	⇓*e*P	**Pn**	**10 54 57.1**	**-5.9**
	comp=Z,43nm,2.2s						
BSEG	**Bad Segeberg**	**18.48**	**343**	*e*P	**Pn**	**10 55 14.1**	**+2.5**
ESDC	**Sonseca Array**	**18.52**	**287**	P	**Pn**	**10 55 12.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=88,slow=12,SNR=18						
LDF	**La Druitiere**	**18.62**	**316**	*e*P	**Pn**	**10 55 12.0**	**-1.2**
	comp=Z,15nm,0.6s						
LDF	**La Druitiere**	**18.62**	**316**	*e*P	**Pn**	**10 55 12.0**	**-1.2**
LDF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LDF	**La Druitiere**	**18.62**	**316**	*e*P	**Pn**	**10 55 12.0**	**-1.2**
	comp=Z,7.3nm,0.6s						
FLN	**La Foliniere**	**18.91**	**316**	*e*P	**Pn**	**10 55 15.7**	**-1.0**
	comp=Z,33nm,0.9s						
FLN				*e*R			
	comp=Z,82nm,21.5s						
FLN	**La Foliniere**	**18.91**	**316**	*e*P	**Pn**	**10 55 15.7**	**-1.0**
FLN				pmax	pmax		
	comp=Z,16nm,0.9s						
FLN	**La Foliniere**	**18.91**	**316**	*e*P	**Pn**	**10 55 15.7**	**-1.0**
	comp=Z,16nm,0.9s						
GRR	**Gorron**	**18.92**	**315**	⇑*i*P	**Pn**	**10 55 16.5**	**-0.4**
	comp=Z,22nm,0.8s						
GRR	**Gorron**	**18.92**	**315**	⇑*i*P	**Pn**	**10 55 16.5**	**-0.4**
GRR				pmax	pmax		
	comp=Z,11nm,0.8s						
GRR	**Gorron**	**18.92**	**315**	⇑*i*P	**Pn**	**10 55 16.5**	**-0.4**
	comp=Z,11nm,0.8s						
KIV	**Kislovodsk**	**19.33**	**60**	⇓*e*P	**Pn**	**10 55 22.3**	**+0.5**
KIV				pmax	pmax		
	comp=Z,38nm,1.0s						
KIV	**Kislovodsk**	**19.33**	**60**	*e*P	**Pn**	**10 55 20.0**	**-1.8**
	comp=Z,29nm,0.8s						
KIV	**Kislovodsk**	**19.33**	**60**	*e*P	**Pn**	**10 55 20.0**	**-1.8**
	comp=Z,29nm,0.8s						
SGMF	**Saint Gilles**	**19.84**	**313**	⇑*i*P	**Pn**	**10 55 25.7**	**-2.1**
	comp=Z,46nm,0.8s						
SGMF	**Saint Gilles**	**19.84**	**313**	⇑*i*P	**Pn**	**10 55 25.7**	**-2.1**
SGMF				pmax	pmax		
	comp=Z,23nm,0.8s						
SGMF	**Saint Gilles**	**19.84**	**313**	⇑*i*P	**Pn**	**10 55 25.7**	**-2.1**
	comp=Z,23nm,0.8s						
ZEI	**Tsey**	**19.95**	**64**	*e*P	**Pn**	**10 55 28.3**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,21nm,1.1s						
ZEI	**Tsey**	**19.95**	**64**	*e*P	**Pn**	**10 55 28.3**	**-0.8**
	comp=Z,21nm,1.1s						
MDT	**Midelt**	**19.96**	**266**	P	**Pn**	**10 55 27.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=90,slow=7.8,SNR=5.5						
MDT				LR	LR	11 02 59.5	
	comp=Z,70nm,21.5s,baz=96,slow=36						
QUIF	**Quistinic**	**20.05**	**312**	⇑*i*P	**P**	**10 55 28.3**	**0.0**
	comp=Z,39nm,0.9s						
QUIF	**Quistinic**	**20.05**	**312**	⇑*i*P	**P**	**10 55 28.3**	**0.0**
QUIF				pmax	pmax		
	comp=Z,20nm,0.9s						
QUIF	**Quistinic**	**20.05**	**312**	⇑*i*P	**P**	**10 55 28.3**	**0.0**
	comp=Z,20nm,0.9s						
ROSF	**Rostrenen**	**20.30**	**313**	⇑*i*P	**P**	**10 55 30.1**	**-0.9**
	comp=Z,97nm,1.2s						
ROSF	**Rostrenen**	**20.30**	**313**	⇑*i*P	**P**	**10 55 30.1**	**-0.9**
ROSF				pmax	pmax		
	comp=Z,48nm,1.2s						
ROSF	**Rostrenen**	**20.30**	**313**	⇑*i*P	**P**	**10 55 30.1**	**-0.9**
	comp=Z,48nm,1.2s						
GNI	**Garni**	**20.30**	**72**	P	**P**	**10 55 31.4**	**+0.4**
	comp=Z,10nm,0.5s,baz=36,slow=19,SNR=4.8						
GNI				LR	LR	11 04 38.2	
	comp=Z,105nm,18.2s,MS3.2,baz=288,slow=41						
VORD	**Divnogorie**	**20.35**	**39**	*e*P	**P**	**10 55 30.8**	**-0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VORD	**Divnogorie**	**20.35**	**39**	*e*P	**P**	**10 55 30.8**	**-0.8**
	comp=E,10.0nm,0.9s						
VRSR	**Storozhevoye**	**20.45**	**38**	*e*P	**P**	**10 55 32.6**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,20nm,0.9s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
VRSR	**Storozhevoye**	**20.45**	**38**	*e*P	**P**	**10 55 32.6**	**-0.1**
	comp=E,10.0nm,0.7s						
OBN	**Obninsk**	**22.05**	**27**	⇑*i*P	**P**	**10 55 51.1**	**+1.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
OBN	**Obninsk**	**22.05**	**27**	*i* P	**P**	**10 55 51.1**	**+1.2**
	comp=Z,100nm,18.0s						
HFS	**Hagfors**	**23.89**	**353**	P	**P**	**10 56 08.5**	**0.0**
	comp=Z,2.8nm,0.4s,mb4.1,baz=169,slow=12,SNR=19						
HFS				LR	LR	11 06 00.3	
	comp=Z,77nm,18.9s,MS3.2,baz=251,slow=38						
EKA	**Eskdalemuir Ar**	**24.24**	**328**	P	**P**	**10 56 12.7**	**+1.0**
	comp=Z,12nm,0.8s,mb4.4,baz=146,slow=10,SNR=23						
EKA	**Eskdalemuir Ar**	**24.24**	**328**	P	**P**	**10 56 12.6**	**+0.9**
NAO01	**NORSAR Array S**	**24.91**	**350**	*e*P	**P**	**10 56 18.8**	**+0.9**
NAO01	**NORSAR Array S**	**24.91**	**350**	*e*P	**P**	**10 56 18.8**	**+0.9**
NB2	**NORSAR Subarra**	**25.06**	**351**	P	**P**	**10 56 19.7**	**+0.5**
	comp=Z,2.6nm,0.6s,mb3.9,baz=162,slow=10						
NOA	**NORSAR Array B**	**25.06**	**351**	P	**P**	**10 56 20.4**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.0,baz=161,slow=9.4,SNR=8.1						
FINES	**FINESS Array B**	**25.31**	**8**	P	**P**	**10 56 22.4**	**+1.0**
	comp=Z,2.4nm,0.8s,mb3.8,baz=181,slow=9.4,SNR=8.5						
KAF	**Kangasniemi**	**25.99**	**8**	*e*p	**P**	**10 56 27.7**	**+0.1**
TOA0	**Torodi Ar. Sit**	**28.11**	**219**	*e*P	**P**	**10 56 45.2**	**-1.4**
TOA0	**Torodi Ar. Sit**	**28.11**	**219**	*e*P	**P**	**10 56 45.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**28.11**	**219**	P	**P**	**10 56 45.7**	**-0.9**
	comp=Z,4.8nm,0.6s,mb4.3,baz=32,slow=9.3,SNR=38						
TORD	**Torodi Ar. Bea**	**28.11**	**219**	P	**P**	**10 56 45.7**	**-0.9**
ARU	**Arti**	**32.97**	**40**	*e*P	**P**	**10 57 28.4**	**-1.2**
ARCES	**ARCESS Array B**	**33.24**	**4**	P	**P**	**10 57 31.1**	**-0.9**
	comp=Z,2.0nm,0.8s,mb4.1,baz=195,slow=8.8,SNR=9.2						
ARCES	**ARCESS Array B**	**33.24**	**4**	P	**P**	**10 57 31.0**	**-0.9**
ZRNK	**Zerenda**	**38.13**	**48**	*e*P	**P**	**10 58 13.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**38.13**	**48**	*e*P	**P**	**10 58 13.3**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**38.13**	**48**	*e*P	**P**	**10 58 13.3**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**39.15**	**47**	*e*P	**P**	**10 58 22.6**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**39.15**	**47**	*e*P	**P**	**10 58 22.6**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**39.15**	**47**	*e*P	**P**	**10 58 22.6**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.1						
MK31	**Makanchi Array**	**47.04**	**57**	*e*P	**P**	**10 59 26.2**	**0.0**
MKAR	**Makanchi Array**	**47.04**	**57**	P	**P**	**10 59 26.4**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=275,slow=7.2,SNR=18						
ZAL	**Zalesovo**	**47.55**	**47**	P	**P**	**10 59 30.9**	**+0.8**
	comp=Z,2.9nm,0.4s,mb4.7,baz=231,slow=9.9,SNR=6.6						
KOLN	**Koldanda**	**54.30**	**80**	*e*P	**P**	**11 00 21.2**	**+0.3**
	comp=Z,11nm,0.9s,mb4.8						
GKN	**Gorkha**	**55.02**	**79**	*e*P	**P**	**11 00 26.1**	**0.0**
	comp=Z,17nm,0.6s,mb5.2						
DMN	**Daman**	**55.56**	**79**	*e*P	**P**	**11 00 30.7**	**+0.7**
	comp=Z,28nm,0.9s,mb5.3						
KKN	**Kakani**	**55.62**	**79**	*e*P	**P**	**11 00 31.0**	**+0.6**
	comp=Z,11nm,0.6s,mb5.1						
PKI	**Pulchoki**	**55.82**	**79**	*e*P	**P**	**11 00 32.3**	**+0.5**
GUN	**Gumba**	**56.04**	**78**	*e*P	**P**	**11 00 34.1**	**+0.7**
JIRN	**Jiri**	**56.40**	**78**	*e*P	**P**	**11 00 36.9**	**+0.9**
	comp=Z,5.1nm,0.4s,mb4.9						
SCHQ	**Schefferville**	**58.99**	**318**	P	**P**	**11 00 55.0**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=74,slow=11,SNR=4.4						
SCHQ	**Schefferville**	**58.99**	**318**	P	**P**	**11 00 55.0**	**+0.8**
SONM	**Songino Array**	**62.30**	**49**	P	**P**	**11 01 17.9**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.3,baz=282,slow=9.4,SNR=10						
BOSA	**Boshof**	**65.04**	**174**	LR	LR	11 34 56.0	
	comp=Z,116nm,19.2s,MS4.1,baz=333,slow=41						
YKA	**Yellowknife Ar**	**74.59**	**340**	LR	LR	11 36 16.8	
	comp=Z,25nm,19.0s,MS3.5,baz=25,slow=36						
ULM	**Lac du Bonnet**	**76.42**	**323**	P	**P**	**11 02 45.6**	**+1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=100,slow=6.1,SNR=3.0						
KSRS	**Korea Array**	**81.17**	**50**	LR	LR	11 43 54.5	
	comp=Z,24nm,18.8s,MS3.6,baz=130,slow=39						
PDAR	**Pinedale Array**	**88.33**	**325**	LR	LR	11 40 54.2	
	comp=Z,25nm,20.7s,MS3.6,baz=254,slow=34						
ASAR	**Alice Springs**	**123.00**	**96**	PKP	PKPdf	11 09 52.2	+1.6
	comp=Z,0.1nm,0.7s,baz=309,slow=1.5,SNR=3.2						

IDC 03 11:19:34.8±1.6**,1419N**×**14695E,h0**^{km}**,mb3.9**/5**,**
mb1 4.0/6**,mb1mx3.8**/21**,mbtmp3.9**/6**,Error ellipse:**
s-maj=36.3km s-min=23.6km az=94.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.11**	**254**	Pn	Pn	11 20 11.6	+0.3
	27nm,0.3s,baz=135,slow=8.3,SNR=28						
GUMO				Sn	Sn	11 20 38.0	-0.2
	38nm,0.3s,baz=8.3,slow=22,SNR=10						
WRA	**Warramunga Arr**	**36.11**	**200**	P	P	11 26 38.7	+0.3
	2.4nm,1.0s,baz=22,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**39.73**	**199**	P	P	11 27 09.2	+0.3
	0.3nm,0.6s,baz=24,slow=12,SNR=7.9						
SONM	**Songino Array**	**47.43**	**324**	P	P	11 28 11.6	+0.5
	0.9nm,0.9s,baz=135,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**62.47**	**316**	P	P	11 30 00.8	+0.9
	0.6nm,0.6s,baz=98,slow=7.5,SNR=4.1						
FINES	**FINESS Array B**	**91.47**	**336**	P	P	11 32 41.5	-1.5
	2.2nm,0.8s,baz=48,slow=2.8,SNR=4.5						

WEL 03 11:24:26.9±0.4**,3924S**×**17475E,h220**^{km}±3^{km}**,ML3.6**/6**,**
7D,Error ellipse: s-maj=4.8km s-min=3.1km az=90.0,
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.12**	**3**	*e*PN	Pn	11 24 54.9	-0.6
VRZ				SN	S	11 25 16.4	-1.2
PKVZ	**Pokaka**	**0.47**	**96**	⇓PN	Pn	11 24 56.0	-0.1
PKVZ				SN	S	11 25 18.1	-0.8
WAZ	**Wanganui**	**0.55**	**161**	PN	Pn	11 24 57.0	+0.6
WAZ				SN	S	11 25 19.3	-0.1
TWVZ	**Taurewa**	**0.56**	**73**	⇓PN	Pn	11 24 56.2	-0.3
MTVZ	**Mangateitei**	**0.58**	**105**	PN	Pn	11 24 56.4	-0.1
WPVZ	**Whakapapa**	**0.62**	**87**	⇓PN	Pn	11 24 56.7	0.0
FWVZ	**Far West T-bar**	**0.62**	**92**	PN	Pn	11 24 56.5	-0.2
WNVZ	**Wahianoa**	**0.66**	**98**	PN	Pn	11 24 57.0	+0.2
NGZ	**Ngauruhoe**	**0.67**	**85**	⇓PN	Pn	11 24 56.9	0.0
WTVZ	**West Tongariro**	**0.67**	**79**	PN	Pn	11 24 56.7	-0.2
TUVZ	**Tukino**	**0.70**	**93**	⇓PN	Pn	11 24 57.2	+0.1
MOVZ	**Moawhango**	**0.80**	**102**	⇓PN	Pn	11 24 57.2	-0.3
TSZ	**Takapari Road**	**1.24**	**132**	PN	Pn	11 25 00.5	+0.2
BKZ	**Black Stump Fm**	**1.36**	**87**	⇓PN	Pn	11 25 00.6	-0.6
WPHZ	**Waipukurau**	**1.54**	**123**	PN	Pn	11 25 02.7	0.0
KIW	**Kapiti Island**	**1.62**	**176**	PN	Pn	11 25 03.1	-0.3
DUWZ	**D'Urville Isla**	**1.69**	**202**	PN	Pn	11 25 03.8	-0.1
PXZ	**Pawanui**	**1.81**	**117**	PN	Pn	11 25 04.9	-0.2
CAW	**Cannon Point**	**1.88**	**173**	PN	Pn	11 25 05.3	-0.4
MRW	**Makara Radio**	**1.99**	**181**	PN	Pn	11 25 06.2	-0.5
MTW	**Mount Morrison**	**2.00**	**163**	PN	Pn	11 25 06.2	-0.6
TCW	**Tory Channel**	**2.00**	**190**	PN	Pn	11 25 06.7	-0.2
SNZO	**South Karori**	**2.07**	**181**	PN	Pn	11 25 07.0	-0.5
URZ	**Urewera**	**2.09**	**63**	PN	Pn	11 25 05.8	-1.9
MSWZ	**Moikau Station**	**2.21**	**170**	PN	Pn	11 25 08.2	-0.7
NNZ	**Nelson**	**2.24**	**208**	PN	Pn	11 25 08.7	-0.5
KNZ	**Kokohu**	**2.29**	**85**	PN	Pn	11 25 08.9	-0.8
QRZ	**Quartz Range**	**2.33**	**226**	PN	Pn	11 25 08.9	-1.3
MWZ	**Matawai**	**2.35**	**68**	PN	Pn	11 25 09.0	-1.4
BSWZ	**Blackbirch Sta**	**2.56**	**195**	PN	Pn	11 25 12.3	-0.3
THZ	**Tophouse**	**2.89**	**209**	PN	Pn	11 25 15.4	-0.8
KHZ	**Kahutara**	**3.30**	**196**	PN	Pn	11 25 20.1	-1.0
DSZ	**Denniston Nort**	**3.36**	**221**	PN	Pn	11 25 20.2	-1.5
LTZ	**Lake Taylor**	**4.00**	**207**	PN	Pn	11 25 27.9	-1.5
MQZ	**McQueen's Vall**	**4.73**	**199**	PN	Pn	11 25 35.8	-2.6
WVZ	**Waitaha Valley**	**4.88**	**217**	PN	Pn	11 25 37.8	-2.5
RPZ	**Rata Peaks**	**5.26**	**211**	PN	Pn	11 25 42.8	-2.2
FOZ	**Fox Glacier**	**5.75**	**220**	PN	Pn	11 25 47.2	-4.1
ODZ	**Otahua Downs**	**6.55**	**206**	PN	Pn	11 25 60.0	-1.5

*CSEM **03** 12:14:24.0±0.7,2968N×3658E,h1^{km},ML2.0,Error ellipse: s-maj=20.4km s-min=3.7km az=103.0,Mining explosion.*
*ISCJB **03** 12:14:26.5±1.3,2983N±006×3632E±010,h0^{km},Error ellipse: s-maj=11.9km s-min=9.2km az=175.9*
*HLW **03** 12:14:27.2,2957N×3673E,h22^{km},Mb3.1*
*GII **03** 12:14:28.8±1.1,2994N×3619E,h0^{km}±3^{km},ML2.0/1*
ISC 03 12:14:26.4±1.3**,2983N**±007×**3639E**±010**,h0**^{km}**,n15,**
σ**0ˢ88**/17**,3C-3D,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.17**	**265**	Pg	**Pg**	**12 14 48.9**	**+0.2**
EIL	**Elat**	**1.26**	**263**	Pg	**Pg**	**12 14 50.7**	**+0.2**
ZFRI	**Zfri**	**1.27**	**305**	Pg	**Pg**	**12 14 49.7**	**-1.0**
PRNI	**Paran**	**1.30**	**294**	Pg	**Pg**	**12 14 50.3**	**-1.1**
PRNI				Sg	**Sg**	**12 15 07.6**	**-0.7**
HBST	**Basata**	**1.57**	**247**	⇓*e*P	**Pn**	**12 14 55.7**	**+0.2**
MZDA	**Masada**	**1.72**	**329**	Pn	**Pn**	**12 14 57.8**	**+0.3**
MASH	**Mash'abbe Sade**	**1.80**	**310**	Pn	**Pn**	**12 14 59.2**	**+0.5**
SVTA	**Shivta**	**1.88**	**306**	Pn	**Pn**	**12 14 59.8**	**+0.1**
HDHB	**Dhahab**	**1.90**	**235**	⇑*e*P	**Pn**	**12 14 59.0**	**-1.0**
DRGI	**Dragot**	**1.95**	**334**	Pn	**Pn**	**12 15 00.5**	**-0.2**
HKAT	**Jabal Katrina**	**2.47**	**239**	⇑*e*P	**Pn**	**12 15 07.4**	**-0.5**
TR2		**2.74**	**239**	⇓*i*P	**Pn**	**12 15 10.8**	**-0.8**
AMAG	**Maghara**	**2.87**	**287**	⇓*e*P	**Pn**	**12 15 16.1**	**+2.7**
AMAG	**Maghara**	**2.87**	**287**	P	**Pn**	**12 15 16.0**	**+2.7**
SUZ		**3.09**	**271**	⇑*e*P	**Pn**	**12 15 17.4**	**+1.0**
SUZ				S	**Sn**	**12 15 55.2**	**+1.3**

*JMA **03** 12:28:45.5±0.6,3169N×14197E,h0^{km},M3.3*
*ISCJB **03** 12:28:46.3±1.1,313N±01×1413E±03,h10^{km},mb3.6/5, Error ellipse: s-maj=45.2km s-min=5.8km az=139.6*
*IDC **03** 12:28:46.5±2.0,31.19N×141.22E,h0^{km},mb3.5/5, mb1 3.6/8,mb1mx3.5/23,mbtmp3.5/8,ML3.2/3,Error ellipse: s-maj=90.4km s-min=16.0km az=72.0*
ISC 03 12:28:48.0±1.1**,313N**±01×**1413E**±03**,h10**^{km}**,n12,**
σ**0ˢ92**/15**,mb3.6**/5**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.24**	**325**	P	**Pn**	**12 29 25.6**	**+0.5**
JHJ2				*e*S	**Sn**	**12 29 55.5**	**+2.7**
JHJ	**Hachijo jima 2**	**2.26**	**325**	Pn	**Pn**	**12 29 24.3**	**-1.1**
	6.6nm,0.3s,baz=264,slow=20,SNR=9.4						
JHJ				Sn	**Sn**	**12 29 52.0**	**-1.3**
	6.7nm,0.3s,baz=52,slow=19,SNR=4.3						
CBIJ	**Chichi jima**	**4.23**	**170**	Pn	**Pn**	**12 29 52.5**	**0.0**
	4.8nm,0.3s,baz=282,slow=18,SNR=7.6						
CBIJ				Sn	**Sn**	**12 30 42.8**	**+0.9**
	2.5nm,0.3s,baz=285,slow=20,SNR=2.1						
JOD2	**Odawara 2**	**4.40**	**335**	P	**Pn**	**12 29 55.5**	**+0.7**
JNY	**Yasuok**	**5.01**	**325**	P	**Pn**	**12 30 07.6**	**+4.5**
JRY	**Ryogami san**	**5.15**	**337**	P	**Pn**	**12 30 05.1**	**0.0**
MJAR	**Matsushiro Arr**	**5.86**	**335**	Pn	**Pn**	**12 30 14.4**	**-0.5**
	0.4nm,0.3s,baz=155,slow=12,SNR=4.8						
SONM	**Songino Array**	**31.28**	**312**	P	**P**	**12 35 08.3**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=84,slow=5.9,SNR=3.3						
MKAR	**Makanchi Array**	**47.32**	**307**	P	**P**	**12 37 22.1**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=83,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**51.36**	**188**	P	**P**	**12 37 51.6**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=5.9,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**55.09**	**188**	P	**P**	**12 38 19.2**	**-0.9**
	0.3nm,0.6s,mb3.5,baz=16,slow=14,SNR=11						
NOA	**NORSAR Array B**	**79.47**	**338**	P	**P**	**12 40 55.0**	**+0.4**
	1.1nm,0.9s,mb3.8,baz=54,slow=14,SNR=2.3						

*NIED **03** 12:40:00,4330N×14590E,h92^{km},Mw4.1 Best double couple: $M_0$1.47000×10^{15} NP1:ϕ_s268.00000°,δ90.00000°, λ-120.00000°. NP2:ϕ_s178.00000°,δ30.00000°,λ0.00000°.*
*ISCJB **03** 12:40:28.9±0.5,4327N±004×14597E±007,h101^{km}±3^{km}, mb4.0/17,Error ellipse: s-maj=9.0km s-min=5.9km az=70.6*
*MOS **03** 12:40:29.4±1.4,4334N×14588E,h107^{km},mb4.3/3,Error ellipse: s-maj=15.8km s-min=11.3km az=87.4*
*NEIC **03** 12:40:30.0±1.5,4340N×14586E,h92^{km}±16^{km},mb4.2/2, Error ellipse: s-maj=15.4km s-min=14.2km az=156.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **03** 12:40:31.3±2.2,4335N×14590E,h102^{km}±19^{km},mb3.6/13, mb1 3.8/15,mb1mx3.7/25,mbtmp4.0/15,Error ellipse: s-maj=19.4km s-min=16.7km az=67.0*
*JMA **03** 12:40:31.1±0.1,4331N×14592E,h89^{km}±1^{km},M3.9*
JMA Felt I J1.
ISC 03 12:40:30.0±0.5**,4330N**±004×**14597E**±006**,h95**^{km}±3^{km}**,**
n43,σ**0ˢ87**/58**,mb4.0**/17**,1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.18**	**290**	P	**Pn**	**12 40 43.9**	**+0.4**
NEM2				*e*S	**Sn**	**12 40 53.4**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.74**	**354**	⇓*i*PN	**Pn**	**12 40 47.1**	**-0.2**
YUK				*i* S	**Sn**	**12 40 59.0**	**-1.2**
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				smax			
	comp=N,5μm,0.4s						
YUK				smax			
	comp=N,4μm,0.7s						
YUK				smax			
	comp=N,10μm,1.5s						
YUK				smax			
	comp=E,8μm,1.0s						
JRA	**Rausu**	**0.89**	**316**	P	**Pn**	**12 40 49.3**	**+0.5**
JRA				*e*S	**Sn**	**12 41 03.0**	**+0.1**
JNK	**Nakash**	**0.95**	**288**	P	**Pn**	**12 40 49.6**	**+0.1**
JNK				*e*S	**Sn**	**12 41 03.0**	**-1.2**
JAK	**Akkeshi**	**0.98**	**252**	P	**Pn**	**12 40 50.2**	**+0.4**
JAK				*e*S	**Sn**	**12 41 04.6**	**-0.1**
JAR	**Ashorobuto**	**1.61**	**271**	P	**Pn**	**12 40 58.1**	**+0.8**
JAR				*e*S	**Sn**	**12 41 18.3**	**+0.2**
JOB	**Onbets**	**1.62**	**256**	P	**Pn**	**12 40 58.2**	**+0.8**
JOB				*e*S	**Sn**	**12 41 18.2**	**0.0**
JTKR	**Abashiri--Toko**	**1.64**	**295**	P	**Pn**	**12 40 58.4**	**+0.7**
JTKR				*e*S	**Sn**	**12 41 18.7**	**-0.1**
JMP	**Maruseppu**	**2.02**	**291**	P	**Pn**	**12 41 03.5**	**+0.8**
JMP				*e*S	**Sn**	**12 41 27.8**	**+0.2**
JCH	**Churui**	**2.04**	**251**	P	**Pn**	**12 41 03.2**	**+0.4**
JCH				*e*S	**Sn**	**12 41 27.0**	**-0.9**
ERM	**Erimo**	**2.44**	**239**	*e*PN	**Pn**	**12 41 09.0**	**+0.8**
ERM				*e*S	**Sn**	**12 41 34.4**	**-3.1**
ASAJ	**Asahikawa**	**2.58**	**290**	P	**Pn**	**12 41 11.5**	**+1.5**
	comp=E,105nm,0.3s,baz=108,slow=11,SNR=1165						
ASAJ				S	**Sn**	**12 41 41.1**	**+0.5**
	comp=E,20nm,0.3s,baz=327,slow=30,SNR=7.9						
ASAJ	**Asahikawa**	**2.58**	**290**	PN	**Pn**	**12 41 11.5**	**+1.5**
ASAJ				S	**Sn**	**12 41 41.2**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,105nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.30**	**329**	*e*PN	**Pn**	**12 41 34.0**	**+0.8**
MJAR	**Matsushiro Arr**	**9.01**	**224**	P	**Pn**	**12 42 37.0**	**-0.1**
	comp=N,0.6nm,0.3s,baz=27,slow=13,SNR=6.4						
MAJO	**Matsushiro**	**9.01**	**224**	*e*PN	**Pn**	**12 42 36.1**	**-1.0**
MAT	**Matsushiro**	**9.01**	**224**	P	**Pn**	**12 42 36.7**	**-0.4**
MAT				S	**Sn**	**12 44 17.6**	**+0.9**
JHJ	**Hachijo jima 2**	**11.27**	**208**	P	**Pn**	**12 43 05.3**	**-2.6**
	comp=N,4.2nm,0.3s,baz=60,slow=20,SNR=3.6						
JHJ				S	**Sn**	**12 45 03.8**	**-8.0**
	comp=N,6.1nm,0.3s,baz=231,slow=24,SNR=5.8						
KSRS	**Korea Array**	**14.94**	**253**	P	**Pn**	**12 44 00.8**	**+4.8**
	baz=17,slow=8.0,SNR=3.3						
SONM	**Songino Array**	**27.86**	**293**	P	**P**	**12 46 11.2**	**+0.7**
	comp=N,1.1nm,0.7s,mb3.5,baz=81,slow=9.2,SNR=5.9						
KDAK	**Kodiak Island**	**40.18**	**47**	P	**P**	**12 47 56.9**	**0.0**
	comp=N,15nm,1.1s,mb4.7,baz=310,slow=3.4,SNR=4.0						
COLA	**College**	**41.94**	**36**	*e*P	**P**	**12 48 10.3**	**-1.0**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
COLA	**College**	**41.94**	**36**	*e*P	**P**	**12 48 10.3**	**-1.0**
	comp=Z,6.9nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**44.03**	**298**	P	**P**	**12 48 28.5**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=80,slow=9.3,SNR=8.4						
ZRNK	**Zerenda**	**49.93**	**310**	*e*P	**P**	**12 49 11.6**	**-2.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**49.93**	**310**	*e*P	**P**	**12 49 11.6**	**-2.5**
	comp=Z,0.7nm,0.6s,mb3.8						
RES	**Resolute Bay**	**55.64**	**16**	*e*P	**P**	**12 49 55.3**	**-0.8**
RES				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
RES	**Resolute Bay**	**55.64**	**16**	*e*P	**P**	**12 49 55.3**	**-0.8**
	comp=Z,423nm,0.5s						
AKTK	**Aktyubinsk**	**57.18**	**310**	P	**P**	**12 50 06.7**	**-0.3**
AKTO	**Aktyubinsk**	**57.18**	**310**	P	**P**	**12 50 06.7**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.2,baz=62,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**59.37**	**339**	P	**P**	**12 50 21.5**	**-0.7**
	comp=Z,3.8nm,1.1s,mb4.4,baz=46,slow=6.9,SNR=6.5						
JOF	**Joensuu**	**62.08**	**332**	*e*p	**P**	**12 50 33.0**	**-7.6**
	comp=Z,2.4nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**63.83**	**192**	P	**P**	**12 50 53.1**	**+0.9**
	comp=Z,0.4nm,0.9s,mb3.2,baz=7.4,slow=6.7,SNR=4.9						
KAF	**Kangasniemi**	**64.33**	**333**	*e*p	**P**	**12 50 51.8**	**-3.7**
	baz=44,slow=6.2						
FINES	**FINESS Array B**	**64.88**	**333**	P	**P**	**12 50 58.5**	**-0.6**
	comp=Z,2.4nm,0.4s,mb4.4,baz=48,slow=7.5,SNR=39						

ASAR Alice Springs 67.56 192 P P 12 51 17.0 +0.8
comp=Z,0.3nm,0.8s,mb3.2,baz=11,slow=6.1,SNR=6.3
NVAR Mina Array Bea 68.54 57 P P 12 51 23.5 +1.1
comp=Z,0.5nm,0.5s,mb3.6,baz=303,slow=9.9,SNR=5.4
NB2 NORSAR Subarra 69.71 338 P P 12 51 28.6 -0.9
comp=Z,1.7nm,0.4s,mb4.2,baz=42,slow=5.9
NOA NORSAR Array B 69.71 338 P P 12 51 29.2 -0.3
comp=Z,1.9nm,0.4s,mb4.3,baz=33,slow=6.4,SNR=11
PDAR Pinedale Array 70.85 49 P P 12 51 37.3 +0.8
comp=Z,0.4nm,0.7s,mb3.4,baz=29,slow=1.4,SNR=3.5
AKASG Malin Array Be 71.43 323 P P 12 51 39.4 -0.6
comp=Z,0.9nm,0.3s,mb4.0,baz=41,slow=6.1,SNR=5.7
CLL Collm 77.31 332 eP P 12 52 14.0 -0.1
TXAR Lajitas Array 83.61 55 P P 12 52 49.1 +1.4
comp=Z,0.5nm,0.7s,mb3.4,baz=297,slow=2.5,SNR=5.4

*CSEM **03** 12:48:20.9, 3709N×2169E, h27km, MD3.6/4, After ATH*
ATH 03 12:48:20.9, 3709N×2169E, h27km, MD3.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.21**	**65**	*e*PB	Pb	12 48 27.1	+0.2
RLS	**Riolos of Patr**	**0.98**	**350**	*e*PN	Pn	12 48 40.0	+1.1
VLI	**Veliai**	**1.07**	**110**	*e*PN	Pn	12 48 41.5	+1.4
VLS	**Valsamata**	**1.39**	**322**	*e*PN	Pn	12 48 46.7	+2.2

GUC 03 13:05:39.7±0.5, 2646S×7107W, h44km±2km, ML3.7, 3C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.64**	**161**	↑*i*P	Pn	13 05 52.6	+0.2
CDCH				*i* S	Sn	13 06 02.4	+0.8
CDCH				AML	AML	13 06 03.2	
	comp=E,1μm,0.1s						
CPCH	**Copiapo**	**1.09**	**145**	↑*e*P	Pn	13 05 59.5	+0.9
CPCH				*i* S	Sn	13 06 14.2	+1.6
CPCH				AML	AML	13 06 18.0	
	comp=N,12μm,0.1s						
CPN1	**Cerro Paranal**	**1.93**	**18**	↑*i*P	Pn	13 06 06.9	-3.0
CPN1				*i* S	Sn	13 06 27.9	-5.0
VACH	**Vallenar**	**2.12**	**173**	*e*P	Pn	13 06 13.5	+0.9
VACH				*i* S	Sn	13 06 39.3	+1.5
VACH				AML	AML	13 06 42.4	
	comp=N,919nm,0.1s						
CEN1	**Los Morros**	**3.16**	**15**	*e*P	Pn	13 06 20.1	-6.8
TLL	**Tololo Astrono**	**3.70**	**176**	*e*P	Pn	13 06 35.5	+1.2
TLL				*e*S	Sn	13 07 18.2	+1.6

*IDC **03** 13:09:05.5±0.9, 13.19N×121.18E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=93.3km s-min=9.3km az=73.0*
*ISCJB **03** 13:09:06.1±0.7, 1334N±003×12145E±003, h12km±5km, mb3.9/6, Error ellipse: s-maj=5.5km s-min=4.5km az=56.4*
*MAN **03** 13:09:06.2, 1337N×12149E, h9km, mb2.5, ML4.0, MS1.0*
ISC 03 13:09:06.4±0.6, 1336N±003×12146E±003, h7km±5km, n29, σ0.9s94/35, mb3.9/6, 5C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.39**	**75**	*e*P	**Pg**	**13 09 13.8**	**-0.2**
BOAC				*e*S	**Sg**	**13 09 19.8**	**+0.7**
PGP	**Puerto Galera**	**0.51**	**287**	↓*e*P	**Pg**	**13 09 16.6**	**+0.4**
PGP				*e*S	**Sg**	**13 09 23.9**	**+1.1**
TGY	**Tagaytay City**	**0.90**	**326**	↑*i*P	**Pg**	**13 09 23.9**	**+0.3**
TGY				*i* S	**Sg**	**13 09 34.4**	**-0.9**
TGY	**Tagaytay City**	**0.90**	**326**	Pg	**Pg**	**13 09 22.9**	**-0.7**
	500nm,0.3s,baz=191,slow=2.1,SNR=41						
TGY				Lg		13 09 36.6	
	934nm,0.3s,baz=310,slow=23,SNR=17						
GQP	**Guinayangan**	**1.11**	**60**	↑*e*P	**Pg**	**13 09 26.2**	**-1.4**
GQP				*i* S	**Sg**	**13 09 42.6**	**+0.6**
OTRP	**Odiongan**	**1.13**	**151**	*e*P	**Pg**	**13 09 26.7**	**-1.4**
AUQP	**San Andres**	**1.19**	**91**	*e*P	**Pg**	**13 09 30.0**	**+0.8**
AUQP				*e*S	**Sg**	**13 09 48.8**	**+4.2**
LUBP	**Lubang**	**1.23**	**288**	*e*P	**Pb**	**13 09 28.7**	**-1.4**
POLP	**Polilio Island**	**1.44**	**19**	*e*P	**Pn**	**13 09 31.1**	**-1.9**
BUSP	**Coron**	**1.82**	**223**	*e*P	**Pn**	**13 09 38.8**	**+0.7**
KALP	**Kalibo**	**1.88**	**153**	*e*P	**Pn**	**13 09 46.0**	**+7.0**
RCP	**Roxas**	**2.18**	**145**	↑*e*P	**Pn**	**13 09 44.1**	**+1.0**
PCPH	**Palayan**	**2.22**	**351**	↑*e*P	**Pn**	**13 09 43.3**	**-0.4**
PCPH				*e*S	**Sn**	**13 10 11.2**	**-0.1**
BALP	**Baler**	**2.37**	**3**	*e*P	**Pn**	**13 09 45.9**	**+0.1**
CUYO	**Cuyo Island**	**2.53**	**190**	*e*P	**Pn**	**13 09 47.4**	**-0.4**
PVCP	**Virac**	**2.64**	**84**	↑*i*P	**Pn**	**13 09 49.9**	**+0.5**
PVCP	**Virac**	**2.64**	**84**	*e*P	**Pn**	**13 09 49.2**	**-0.1**
ENPP	**El Nido**	**2.92**	**223**	*e*P	**Pn**	**13 09 54.0**	**+0.8**
GUIM	**Jordan**	**2.93**	**158**	*e*P	**Pn**	**13 09 53.6**	**+0.2**
BOLP	**Bolinao**	**3.36**	**334**	*e*P	**Pn**	**13 09 60.0**	**+0.7**
CAUP	**Cauayan**	**3.58**	**6**	*e*P	**Pn**	**13 10 05.6**	**+3.2**
WRA	**Warramunga Arr**	**35.43**	**159**	P	**P**	**13 16 02.6**	**-0.6**
	4.7nm,0.6s,mb4.6,baz=333,slow=9.9,SNR=59						
WB2	**Warramunga Arr**	**35.44**	**159**	*e*P	**P**	**13 16 01.7**	**-1.5**
SONM	**Songino Array**	**36.60**	**343**	P	**P**	**13 16 16.1**	**+3.0**
	0.3nm,0.6s,mb3.3,baz=162,slow=9.4,SNR=2.7						
ASPA	**Alice Springs**	**38.76**	**162**	*e*P	**P**	**13 16 31.6**	**+0.2**
ASAR	**Alice Springs**	**38.76**	**162**	P	**P**	**13 16 31.4**	**0.0**
	5.7nm,0.7s,mb4.4,baz=340,slow=7.2,SNR=186						
MKAR	**Makanchi Array**	**46.74**	**323**	P	**P**	**13 17 36.0**	**-0.2**
	0.1nm,0.3s,mb3.2,baz=120,slow=8.9,SNR=3.7						
STKA	**Stephens Creek**	**48.94**	**157**	P	**P**	**13 17 53.0**	**-0.3**
	5.0nm,0.6s,mb4.7,baz=342,slow=9.1,SNR=21						
BVAR	**Borovoye Array**	**56.47**	**326**	P	**P**	**13 18 49.2**	**+0.3**
	0.1nm,0.4s,mb3.2,baz=114,slow=6.6,SNR=2.3						

MAN 03 13:37:14.3, 1336N×12147E, h5km, mb2.0, ML3.7, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.38**	**75**	*e*P	**Pg**	13 37 22.1	+0.5
BOAC				*e*S	Sg	13 37 27.8	+1.2
PGP	**Puerto Galera**	**0.52**	**286**	*e*P	Pg	13 37 24.9	+0.6
OTRP	**Odiongan**	**1.13**	**151**	*e*P	Pg	13 37 35.0	-0.9
AUQP	**San Andres**	**1.18**	**92**	*e*P	Pg	13 37 38.1	+1.3
LUBP	**Lubang**	**1.25**	**288**	*e*P	Pg	13 37 37.0	-1.1
POLP	**Polilio Island**	**1.44**	**18**	*e*P	Pn	13 37 39.9	-1.1
BUSP	**Coron**	**1.83**	**223**	*e*P	Pn	13 37 47.1	+0.8
CUYO	**Cuyo Island**	**2.53**	**190**	*e*P	Pn	13 37 55.9	-0.1

*NEIC **03** 13:43:09.8, 3153S×7166W, h24km, ML3.1(GUC), After GUC.*
GUC 03 13:43:09.8±0.7, 3153S×7166W, h24km±2km, MD3.8, ML3.1, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.38**	**159**	↓*i*P	Pb	13 43 18.2	+0.1
CHNG				*i* S	Sb	13 43 23.7	+0.1
CHNG				AML	AML	13 43 24.7	
	comp=E,1μm,0.2s						
CMCH	**Combarbala**	**0.66**	**58**	↑*i*P	Pb	13 43 22.2	-0.5
CMCH				*i* S	Sb	13 43 31.8	+0.2
CMCH				AML	AML	13 43 37.9	
	comp=E,2μm,1.9s						
CMCH	**Combarbala**	**0.66**	**58**	↑*i*P	Pb	13 43 22.2	-0.5
CMCH				*i* S	Sb	13 43 31.8	+0.2
PTCH	**Petorca**	**0.96**	**140**	*e*P	Pn	13 43 27.1	-0.7
PTCH				*i* S	Sb	13 43 39.8	-0.3
PTCH				AML	AML	13 43 42.6	
	comp=E,2μm,0.2s						
PTCH	**Petorca**	**0.96**	**140**	*e*P	Pn	13 43 27.1	-0.7
PTCH				*i* S	Sb	13 43 39.8	-0.3
OVCH	**Ovalle**	**1.00**	**23**	*i* P	Pn	13 43 28.0	-0.3
OVCH				*i* S	Sb	13 43 41.1	+0.1
PACH	**Papudo**	**1.03**	**169**	↑*i*P	Pn	13 43 28.0	-0.7
PACH				*i* S	Sb	13 43 42.2	+0.3
JACH	**Jahuel**	**1.47**	**142**	*e*P	Pn	13 43 35.7	+0.9
JACH				*i* S	Sn	13 43 54.8	+1.6
TLL	**Tololo Astrono**	**1.54**	**29**	↓*i*P	Pn	13 43 36.7	+1.0
TLL				*i* S	Sn	13 43 57.1	+2.2
TLL				AML	AML	13 44 14.4	
	comp=N,370nm,0.5s						
TLL	**Tololo Astrono**	**1.54**	**29**	↓*i*P	Pn	13 43 36.7	+1.0
TLL				*i* S	Sn	13 43 57.1	+2.2
ROCH	**El Roble**	**1.54**	**159**	↑*i*P	Pn	13 43 36.5	+0.8
PEL	**Peldehue**	**1.81**	**153**	↑*i*P	Pn	13 43 40.2	+0.7
PEL				*i* S	Sn	13 44 03.9	+2.2
PEL				AML	AML	13 44 07.1	
	comp=E,372nm,0.3s						
PEL	**Peldehue**	**1.81**	**153**	↑*i*P	Pn	13 43 40.2	+0.7
PEL				*i* S	Sn	13 44 03.9	+2.2
RCDM	**Rinconada Maip**	**2.09**	**160**	*e*P	Pn	13 43 44.5	+1.3
RCDM				*e*S	Sn	13 44 10.6	+2.2
RCDM				AML	AML	13 44 20.2	
	comp=E,190nm,0.4s						
RCDM	**Rinconada Maip**	**2.09**	**160**	*e*P	Pn	13 43 44.5	+1.3
RCDM				*e*S	Sn	13 44 10.6	+2.2
CLCH	**Cerro Calan**	**2.09**	**153**	↑*i*P	Pn	13 43 44.6	+1.2
CLCH				*i* S	Sn	13 44 11.4	+2.8
CLCH				AML	AML	13 44 22.5	
	comp=N,195nm,0.6s						
FCH	**Farellones**	**2.14**	**148**	↑*i*P	Pn	13 43 46.0	+2.0
FCH				*i* S	Sn	13 44 13.9	+4.2
FCH				AML	AML	13 44 21.6	
	comp=E,115nm,0.6s						
TACH	**Talagante**	**2.21**	**164**	*e*P	Pn	13 43 46.0	+1.1
PCH	**Pirque**	**2.30**	**155**	*e*P	Pn	13 43 47.5	+1.3
CHCH	**Chadas Angostu**	**2.55**	**161**	↑*i*P	Pn	13 43 50.9	+1.3
LMEL	**Las Melosas**	**2.62**	**152**	↑*i*P	Pn	13 43 52.0	+1.4
LMEL				*i* S	Sn	13 44 24.8	+3.1
LMEL				AML	AML	13 44 33.6	
	comp=N,133nm,0.3s						
LMEL	**Las Melosas**	**2.62**	**152**	↑*i*P	Pn	13 43 52.0	+1.4
LMEL				*i* S	Sn	13 44 24.8	+3.1
CICH	**Cipreses**	**2.98**	**160**	↓*i*P	Pn	13 43 57.1	+1.6
SFDO	**San Fernando**	**3.13**	**170**	*e*P	Pn	13 43 59.3	+1.8

IDC 03 13:57:20.4±40.0, 3014S×17680W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, Error ellipse: s-maj=732.0km s-min=184.2km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.55**	**256**	P	P	14 04 19.6	+0.4
	0.9nm,0.5s,baz=76,slow=8.3,SNR=4.2						
ASAR	**Alice Springs**	**44.16**	**266**	P	P	14 05 30.4	-0.4
	0.1nm,0.8s,baz=107,slow=7.5,SNR=4.4						
WRA	**Warramunga Arr**	**45.13**	**271**	P	P	14 05 38.9	+0.4
	0.3nm,0.3s,baz=111,slow=8.1,SNR=12						

IDC 03 14:35:56.5±7.2, 2021S×17815W, h594km±87km, mb3.0/7, mb1 3.3/7, mb1mx3.1/14, mbtmp3.9/7, Error ellipse: s-maj=30.2km s-min=26.0km az=94.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.45**	**256**	P	P	14 43 16.2	+0.4
	1.2nm,0.8s,baz=96,slow=7.4,SNR=14						
ASAR				PcP	PcP	14 44 46.8	+0.6
	0.4nm,0.6s,baz=102,slow=3.9,SNR=5.8						
WB2	**Warramunga Arr**	**44.49**	**262**	*e*P	P	14 43 16.2	0.0
WRA	**Warramunga Arr**	**44.50**	**262**	P	P	14 43 16.1	-0.1
	0.6nm,0.5s,baz=97,slow=8.4,SNR=14						
VNDA	**Vanda**	**58.19**	**185**	P	P	14 44 54.5	-0.2
	0.4nm,0.9s,baz=359,slow=6.1,SNR=3.6						
MJAR	**Matsushiro Arr**	**69.89**	**324**	P	P	14 46 08.1	-0.7
	1.0nm,0.5s,baz=134,slow=6.9,SNR=4.9						
ASAJ	**Asahikawa**	**73.40**	**332**	P	P	14 46 30.1	+1.0
	9.0nm,0.9s,baz=238,slow=9.5,SNR=3.9						
NVAR	**Mina Array Bea**	**80.91**	**43**	P	P	14 47 10.1	+0.3
	0.9nm,0.9s,baz=242,slow=9.1,SNR=5.5						
PDAR	**Pinedale Array**	**88.85**	**43**	P	P	14 47 48.2	-0.1
	0.6nm,0.7s,baz=188,slow=1.8,SNR=3.7						
ATD	**Arta Tunnel**	**139.72**	**264**	PKP	PKPdf	14 54 15.7	-1.9
	5.5nm,0.6s,baz=283,slow=14,SNR=3.2						
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP		14 54 18.0	
	2.3nm,0.6s,baz=39,slow=4.6,SNR=4.4						
EKA	**Eskdalemuir Ar**	**144.73**	**5**	PKP	PKPdf	14 54 25.0	-1.4
	1.5nm,0.7s,baz=291,slow=2.2,SNR=5.0						

*LDG **03** 14:43:04.8±0.3, 22.11N×9298E, h10km, Mb4.8/10, Ms3.7/9, Error ellipse: s-maj=11.9km s-min=11.6km az=72.0*
*MOS **03** 14:43:07.9±1.0, 22.14N×9353E, h45km, mb5.0/21, MS4.0/5, Error ellipse: s-maj=15.1km s-min=8.9km az=102.9*
*ISCJB **03** 14:43:08.0±0.2, 22.07N±002×9328E±002, h47km, mb4.8/86, MS4.0/37, Error ellipse: s-maj=3.4km s-min=2.5km az=40.3*
*BJI **03** 14:43:09.0, 22.01N×9332E, h66km, mB4.8, mb4.9, ML4.8, Ms4.5, Ms4.2*
*NEIC **03** 14:43:10.3±0.2, 22.10N×9335E, mb4.9/38, Error ellipse: s-maj=5.2km s-min=3.5km az=47.0*
*GCMT **03** 14:43:10.3±0.3, 2199N×9326E, h34km±1km, MW5.0/59, Moment Tensor Solution. s23,c26; s59,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.35±.18; $M_{\theta\theta}$-3.10±.13; $M_{\phi\phi}$3.46±.13; $M_{r\theta}$0.81±.17; $M_{\theta\phi}$-1.09±.12; $M_{\phi r}$-1.00±.16; Best double couple: $M_0$3.67600×10^{16} NP1:ϕ_s216.00000°, δ70.00000°, λ2.00000°. NP2: ϕ_s126.00000°, δ88.00000°, λ160.00000°. Principal axes: T 3.9320, Plg15.0000°, Azm79.0000°; N -0.5030, Plg70.0000°, Azm302.0000°; P -3.4200, Plg13.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 14:43:10.4±0.4, 22.15N×9338E, h49km±4km, mb4.2/29, mb1 4.3/29, mb1mx4.2/31, mbtmp4.2/29, MS3.9/22, Ms1 3.9/22, ms1mx3.7/40 Error ellipse: s-maj=13.7km s-min=8.9km az=40.0*
*SZGRF **03** 14:43:29.9, 22.11N×9295E, h33km, mb4.8, India-Bangladesh border region*
ISC 03 14:43:10.3±0.2, 2210N±002×9330E±002, h49km, h49km±1.5km: pP-P, n245, σ1.918/275, mb4.8/86, MS4.0/37, 15C-12D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.74**	**12**	*e*P	**Pn**	**14 43 54.0**	**+2.2**
IMP				*ex*	x	14 44 07.0	
SHL	**Shillong**	**3.69**	**340**	*i* S	**Sn**	**14 44 46.0**	**-1.1**
SHL				*i* P		14 44 05.0	
CAL	**Calcutta**	**4.62**	**276**	*e*P	**Pn**	**14 44 16.1**	**-1.5**
CAL				*e*S	**Sn**	**14 45 06.7**	**-3.3**
CAL				*i* x	x	14 45 08.0	
	comp=N,4μm,0.4s						
CHG	**Chiang Mai**	**6.22**	**121**	PG	**Pn**	**14 44 39.8**	**+0.3**
CHG				SG	**Sn**	**14 45 55.2**	**+6.0**
CHTO	**Chiang Mai**	**6.22**	**121**	*e*Pn	**Pn**	**14 44 39.2**	**-0.3**
	comp=N,162nm,0.8s						
CHTO				*e*Sn	**Sn**	**14 45 55.1**	**+5.9**
SLGI	**Shiliguri**	**6.39**	**317**	*e*P	**Pn**	**14 44 41.0**	**-0.8**
SLGI				*e*S	**Sn**	**14 45 52.0**	**-1.4**
CM31	**Chiang Mai Arr**	**6.42**	**123**	*e*Pn	**Pn**	**14 44 43.1**	**+0.9**
GTK	**Gangtok**	**6.73**	**322**	*ex*	x	14 44 40.0	
GTK				*ex*	x	14 45 26.0	
BOK	**Bokaro**	**7.04**	**285**	*e*P	**Pn**	**14 44 48.8**	**-2.0**
BOK				*e*S	**Sn**	**14 46 03.2**	**-6.2**
BOK				AML	AML	14 46 10.5	
	comp=N,2μm,0.5s						
BOK				AML	AML	14 46 10.6	
	comp=E,809nm,0.7s						
BWNR	**Bhubaneshwar**	**7.22**	**257**	*e*P	**Pn**	**14 44 46.0**	**-7.2**
BWNR				*e*S	**Sn**	**14 46 02.0**	**-12**
BDT	**Bhumibol Dam**	**7.22**	**131**	PN	**Pn**	**14 44 55.0**	**+1.7**
BDT				SG	Sn	14 46 41.0	+27
NANT	**Nan**	**7.67**	**114**	P	**Pn**	**14 44 58.0**	**-1.5**
	comp=E,1μm,1.0s						
LSA	**Lhasa**	**7.82**	**346**	P	**Pn**	**14 45 02.6**	**+1.2**
LSA				S	**Sn**	**14 46 28.4**	**-0.1**
LSA				Smax			
	comp=N,210nm,0.7s						
LSA				Smax			
	comp=E,580nm,0.7s						
LSA	**Lhasa**	**7.82**	**346**	*e*Pn	**Pn**	**14 45 02.5**	**+1.1**
	comp=E,181nm,0.4s						
LSA				*e*Sn	**Sn**	**14 46 27.8**	**-0.7**
JIRN	**Jiri**	**8.51**	**312**	*e*Pn	**Pn**	**14 45 10.8**	**0.0**
JIRN				*e*Sn	**Sn**	**14 46 39.7**	**-5.7**
	comp=E,910nm,0.5s						

GUN Gumba 8.88 312 ePn Pn 14 45 15.9 0.0
GUN *e*Sn **Sn 14 46 48.1 -6.4**
comp=E,1μm,0.5s
PKI Pulchoki 9.00 309 ePn Pn 14 45 17.7 0.0
PKI *e*Sn **Sn 14 46 51.4 -6.2**
comp=E,1μm,0.8s
NST Nakhon Sawan 9.09 133 P Pn 14 45 19.0 +0.2
comp=E,83nm,0.7s
KMI Kunming 9.17 69 ↑P Pn 14 45 24.1 +4.2
KMI PP 14 45 32.9
KMI S **Sn 14 47 07.4 +5.8**
KMI SS 14 47 21.2
KMI SSS 14 47 32.7
KMI AMB AMB
comp=Z,91nm,1.1s
KMI AMB AMB
comp=Z,364nm,3.1s
KMI LR LR
comp=N,1μm,9.3s
KMI LR LR
comp=E,2μm,10.9s
KMI LR LR
comp=Z,2μm,12.0s
KMI Kunming 9.17 69 ↑P Pn 14 45 24.1 +4.2
comp=Z,91nm,1.1s
KMI PP 14 45 32.9
KMI S **Sn 14 47 07.4 +5.8**
KMI SS 14 47 21.2
KMI SSS 14 47 32.7
KKN Kakani 9.22 310 ePn Pn 14 45 20.2 -0.5
KKN *e*Sn **Sn 14 46 56.5 -6.5**
comp=Z,685nm,0.5s
DMN Daman 9.24 308 ePn Pn 14 45 21.1 +0.1
DMN *e*Sn **Sn 14 46 57.6 -5.9**
comp=Z,1μm,0.7s
GKN Gorkha 9.81 309 ePn Pn 14 45 27.5 -1.2
GKN *e*Sn **Sn 14 47 10.4 -7.0**
comp=Z,754nm,0.4s
GKN Gorkha 9.81 309 ePn Pn 14 45 27.6 -1.1
GKN *e*Sn **Sn 14 47 10.3 -7.1**
comp=Z,719nm,0.4s
VIS Vishakhapatnam 10.34 247 eP Pn 14 45 31.9 -4.0
VIS *e*S **Sn 14 47 17.5 -13**
KOLN Koldanda 10.46 305 ePn Pn 14 45 36.1 -1.4
KOLN *e*Sn **Sn 14 47 26.0 -7.2**
comp=Z,931nm,0.5s
KKTK Khon Kaen 10.66 121 P Pn 14 45 46.0 +5.6
ALBI Allahabad 11.00 289 eP Pn 14 45 43.0 -2.0
ALBI *e*P 14 45 43.0
ALBI *ex* x 14 47 34.5
NNT Nongplab 11.27 146 P Pn 14 45 48.9 +0.2
JBP Jabalpur 12.35 277 ↓ex x 14 46 03.8
JBP *i* x x 14 48 11.5
CD2 Chengdu 12.83 45 eP Pn 14 46 10.8 +0.9
CD2 AP 14 46 19.0
CD2 PP 14 46 21.9
CD2 S **Sn 14 48 32.7 +1.5**
CD2 SS 14 48 48.4
CD2 AMB AMB
comp=Z,30nm,1.0s
CD2 AMB AMB
comp=Z,60nm,4.2s
CD2 LR LR
comp=N,1μm,14.3s
CD2 LR LR
comp=E,1μm,15.4s
CD2 LR LR
comp=Z,880nm,7.1s
GYA Guiyang 12.94 68 ↓iP Pn 14 46 12.4 +1.0
GYA AP 14 46 21.0
GYA PP 14 46 23.0
GYA S **Sn 14 48 36.5 +2.6**
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,140nm,4.0s
GYA LR LR
comp=N,570nm,10.8s
GYA LR LR
comp=E,1μm,10.8s
GYA LR LR
comp=Z,2μm,11.6s
NGP Nagpur 13.29 269 ↑eP Pn 14 46 12.2 -4.0
NGP *e*S **Sn 14 48 29.8 -13**
LGTI Lohaghat 13.85 305 eP Pn 14 46 23.3 -0.5
LGTI *ex* x 14 48 46.5
PTH Pithoragarh 13.92 305 eP Pn 14 46 25.4 +0.6
PTH *ex* x 14 48 49.2
HYB Hyderabad 14.64 254 ↓iP Pn 14 46 30.5 -3.9
HYB *e*S **Sn 14 49 14.0 -1.3**
HYB Hyderabad 14.64 254 ↓eP Pn 14 46 30.5 -3.9
HYB *e* 14 46 41.0
HYB *e*S **Sn 14 49 33.0 +18**
BHPL Bhopal 14.70 277 eP Pn 14 46 31.5 -3.7
BHPL AMb AMB 14 46 34.6
MDRS Chennai 15.34 236 ex x 14 46 54.0
QIZ Qiongzhong 15.79 98 P Pn 14 46 52.4 +3.1
QIZ S **S 14 49 43.6 -12**
QIZ XS sS 14 49 59.2 -14
QIZ AMB AMB
comp=Z,59nm,1.5s
QIZ Qiongzhong 15.79 98 ePn Pn 14 46 50.3 +1.0
comp=Z,152nm,1.5s
DDI Dehra Dun 15.93 304 eP Pn 14 46 52.0 +0.8
DDI *ex* x 14 49 35.6
NDI New Delhi 15.94 298 eP Pn 14 46 49.5 -1.7
comp=Z,6.0nm,0.6s
NDI *e*S S 14 49 31.0 -28
NDI New Delhi 15.94 298 eP Pn 14 46 49.2 -2.0
NDI AMb AMB 14 46 52.0
comp=Z,64nm,1.1s
NDI *ex* x 14 49 30.7
LATR Latur 16.13 260 ex x 14 49 31.7
LZH Lanzhou 16.69 31 P Pn 14 47 02.0 +1.2
LZH S **S 14 50 03.2 -11**
LZH *e*SS 14 50 30.0
LZH AMB AMB
comp=Z,30nm,1.0s
LZH AMB AMB
comp=Z,210nm,5.0s
LZH LR LR
comp=N,1μm,13.6s
LZH LR LR
comp=Z,1μm,14.2s
LZH Lanzhou 16.69 31 P Pn 14 47 02.0 +1.2
comp=Z,30nm,1.0s
LZH pP pP 14 47 10.3 -3.3
LZH sP sP 14 47 16.5 -3.3
LZH S **S 14 50 03.2 -11**
LZH sS sS 14 50 17.0 -15
LZH *e*SS 14 50 30.0
SDNR Sundarnagar 17.31 306 eP Pn 14 47 08.5 +0.1
SDNR *ex* x 14 50 09.0
AJM Ajmer 17.56 288 eP Pn 14 47 08.3 -3.2
AJM AMb AMB 14 47 12.8
comp=Z,51nm,1.1s
AJM *i* x x 14 50 09.0
BHK Bhakra 17.69 305 eP Pn 14 47 13.4 +0.3
GTA Gaotai 18.14 16 eP Pn 14 47 18.8 +0.3
GTA S **S 14 50 36.1 -7.4**
GTA SS 14 51 01.2
GTA AMB AMB
comp=Z,58nm,4.2s
GTA LR LR
comp=N,430nm,24.0s
GTA LR LR
comp=E,667nm,22.4s
GTA LR LR
comp=Z,588nm,25.8s
KULM Kulim 18.16 156 eP Pn 14 47 17.6 -1.2
XAN Xi'an 18.18 46 P Pn 14 47 16.4 -2.7
XAN S **S 14 50 30.7 -14**
XAN AMB AMB
comp=Z,23nm,0.7s
XAN LR LR
comp=N,607nm,12.5s
XAN LR LR
comp=E,341nm,12.0s
XAN LR LR
comp=Z,543nm,14.0s
GZH Guangzhou 18.54 83 P Pn 14 47 23.5 +0.1
GZH S **S 14 50 49.1 -1.8**
GZH LR LR
comp=N,617nm,8.4s

GZH LR LR
comp=E,857nm,10.9s
GZH LR LR
comp=Z,1µm,10.8s
DLH Dalhousie 18.56 308 *e*P **Pn 14 47 21.0 -2.7**
POO Poona 18.58 262⇓*i*x x 14 47 19.0
comp=Z,130nm,1.0s
POO *i*PP 14 47 33.0
POO AMb AMB 14 47 58.3
comp=Z,129nm,1.1s
POO *i*x x 14 50 30.0
POO *i*x x 14 50 51.0
KAD Karad 18.61 259 *e*P **Pn 14 47 22.1 -2.3**
KAD AMb AMB 14 47 28.5
comp=Z,74nm,1.5s
THN Thein Dam 18.69 307 *e*P **Pn 14 47 24.5 -0.8**
THN *e*x x 14 50 41.8
IPM Ipoh 19.05 156 P **Pn 14 47 21.6 -7.9**
PALK Pallekele 19.10 221 *e*P **Pn 14 47 30.5 +0.3**
PALK *e*S S 14 50 42.7 -20
BOM Bombay 19.45 264 *i*P **Pn 14 47 31.1 -3.3**
BOM *e*x x 14 51 34.3
PSI Prapat 19.94 163 P **Pn 14 47 39.4 -0.8**
comp=Z,125nm,1.0s,baz=331,slow=10,SNR=45
PSI LR LR 14 56 06.8
comp=Z,438nm,21.0s,baz=338,slow=39
WHN Wuhan 20.64 62 *e*P **P 14 47 45.3 -0.4**
WHN S **S 14 51 36.0 +2.4**
WHN LR LR
comp=Z,2µm,13.6s,MS4.5
TRD Trivandrum 20.73 232⇓*e*x x 14 47 24.1
TRD *e*x x 14 51 28.1
CHCP Chirah Chowk 21.09 307 P **P 14 47 51.5 +1.0**
THW Thamme Wali 21.86 304⇑P **P 14 47 59.1 +0.3**
WMQ Urumqi 22.16 349⇓*i*P **P 14 48 02.5 +0.5**
WMQ AP 14 48 15.0
WMQ PP 14 48 29.7
WMQ PPP 14 48 39.9
WMQ S **S 14 51 58.0 -5.4**
WMQ PCP PcP 14 52 00.0 +2.5
WMQ SS 14 52 39.0
WMQ PCS PcS 14 55 37.3 +1.2
WMQ AMB AMB
comp=Z,72nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,71nm,8.0s
WMQ LR LR
comp=N,301nm,25.0s,MS4.0
WMQ LR LR
comp=E,587nm,24.0s,MS4.0
WMQ LR LR
comp=Z,107nm,15.6s
CEP Cherat 22.17 306⇑P **P 14 48 02.2 +0.1**
CEP S **S 14 52 00.0 -3.5**
KGM Kluang 22.21 153 P **P 14 48 04.5 +2.0**
DRP Derazinda 22.69 300 P **P 14 48 10.8 +3.2**
KSH Kashi 22.80 324 P **P 14 48 09.8 +1.0**
KSH *e*AP 14 48 21.3
KSH *e*PP 14 48 39.4
KSH *e*S **S 14 52 10.3 -4.1**
KSH *e*PCS PcS 14 55 34.2 -3.5
KSH LR LR
comp=N,3µm,12.1s
KSH LR LR
comp=E,4µm,9.9s
KSH LR LR
comp=Z,441nm,10.2s,MS4.2
BTO Baotou 23.26 34 *e*P **P 14 48 11.2 -2.4**
HHC Hu-ho-hao-te 24.25 35 *e*P **P 14 48 21.9 -0.7**
HHC PP 14 48 58.0
HHC PCP PcP 14 52 03.4 +1.6
HHC S **S 14 52 34.8 -3.1**
HHC SS 14 53 28.6
HHC PCS PcS 14 55 40.2 -1.4
HHC AMB AMB
comp=Z,20nm,1.4s,mb4.3
HHC AMB AMB
comp=Z,142nm,4.2s
HHC LR LR
comp=N,532nm,11.2s,MS4.4
HHC LR LR
comp=E,616nm,12.7s,MS4.4
HHC LR LR
comp=Z,589nm,17.7s,MS4.1
ULHL Ulahol 24.65 329 P **P 14 48 28.5 +2.2**
SNR=37
NJ2 Nanjing 24.77 61 *e*P **P 14 48 27.1 -0.3**
NJ2 AP 14 48 39.0
NJ2 PP 14 49 04.8
NJ2 S **S 14 52 44.5 -1.8**
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,320nm,4.6s
NJ2 LR LR
comp=N,2µm,26.3s
NJ2 LR LR
comp=E,1µm,16.4s
NJ2 LR LR
comp=Z,2µm,27.9s,MS4.4
KZA Kyzart 25.02 327 P **P 14 48 32.0 +2.3**
SNR=8.7
TIA Tai'an 25.03 51 P **P 14 48 28.5 -1.2**
TKM2 Tokmak 2 25.48 329 P **P 14 48 35.2 +1.4**
SNR=29
UCH Uchtor 25.50 326 P **P 14 48 36.1 +2.1**
SNR=41
KBK Karagaybulak 25.60 327 P **P 14 48 37.1 +2.2**
SNR=28
AAK Ala-Archa 25.81 327 P **P 14 48 37.8 +1.0**
comp=Z,187nm,0.8s,mb5.7,SNR=40
AAK Ala-Archa 25.81 327 P **P 14 48 39.0 +2.2**
SNR=40
AAK Ala-Archa 25.81 327⇑*e*P **P 14 48 37.9 +1.1**
AAK pmax pmax
comp=Z,37nm,1.1s,mb4.8
AAK Ala-Archa 25.81 327 *e*P **P 14 48 37.7 +0.9**
comp=Z,32nm,0.8s,mb4.9
AML Almayashu 25.86 325 P **P 14 48 39.1 +1.8**
SNR=17
FRU Bishkek 25.89 327⇓*e*P **P 14 48 39.4 +1.8**
FRU *e* pP 14 48 51.0 +0.8
FRU pmax pmax
comp=Z,40nm,1.8s,mb4.7
CHMS Chumysh 25.95 328 P **P 14 48 39.4 +1.3**
SNR=9.6
EKS2 Erkin-Say 26.20 326 P **P 14 48 42.3 +2.0**
SNR=18
MK31 Makanchi Array 26.20 343 *e*P **P 14 48 40.6 +0.2**
MK31 *e*pP pP 14 48 55.8 +2.8
MKAR Makanchi Array 26.20 343 P **P 14 48 41.2 +0.8**
comp=Z,27nm,0.7s,mb4.9,baz=154,slow=10,SNR=233
MKAR LR LR 15 01 33.2
comp=Z,329nm,18.4s,MS3.9,baz=155,slow=42
MKAR Makanchi Array 26.20 343 *i*P **P 14 48 41.2 +0.8**
MKAR pmax pmax
comp=Z,27nm,0.7s
MKAR Makanchi Array 26.20 343 P **P 14 48 41.2 +0.8**
USP Ospenovka 26.27 328 P **P 14 48 42.3 +1.3**
SNR=19
KSM Kuching 26.35 139 *e*P **P 14 48 39.4 -2.3**
KSM *e* pP 14 48 48.2 -6.1
BJT Baijiatuau 26.39 42 *e*P **P 14 48 41.1 -1.0**
comp=Z,15nm,0.6s,mb4.7
BJI Beijing 26.41 42 P **P 14 48 41.9 -0.3**
BJI S **S 14 53 09.0 -3.2**
BJI AMB AMB
comp=Z,27nm,0.9s,mb4.8
BJI AMB AMB
comp=Z,110nm,3.5s
BJI LR LR
comp=N,388nm,19.8s,MS4.0
BJI LR LR
comp=E,303nm,21.7s,MS4.0
BJI LR LR
comp=Z,198nm,31.4s
BJI Beijing 26.41 42 P **P 14 48 41.9 -0.3**
comp=Z,27nm,0.9s,mb4.8
BJI S **S 14 53 09.0 -3.2**
SSE Sheshan 26.44 64 P **P 14 48 43.3 +0.8**
SSE S **S 14 53 11.3 -1.5**
SSE XS sS 14 53 34.2 +0.1
SSE AMB AMB
comp=Z,49nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,76nm,7.5s
SSE LR LR
comp=N,129nm,16.5s,MS3.8
SSE LR LR
comp=E,198nm,16.4s,MS3.8
SSE LR LR
comp=Z,266nm,17.2s,MS3.9
SSE Sheshan 26.44 64 P **P 14 48 43.3 +0.8**
comp=Z,49nm,0.8s,mb5.1
SSE S **S 14 53 11.3 -1.5**
SSE sS sS 14 53 34.2 +0.1
KKM Kota Kinabalu 27.29 122 P **P 14 48 51.1 +0.9**
KKM Kota Kinabalu 27.29 122 *e*P **P 14 48 51.0 +0.8**
SONM Songino Array 27.75 19 P **P 14 48 55.3 +1.0**
comp=Z,4.3nm,0.6s,mb4.3,baz=201,slow=8.5,SNR=9.5
SONM LR LR 15 02 10.6
comp=Z,358nm,19.8s,MS4.0,baz=46,slow=41
ULN Ulaanbaatar 27.98 20⇑*e*P **P 14 48 54.8 -1.6**
ULN Ulaanbaatar 27.98 20 *e*P **P 14 48 56.1 -0.2**
comp=Z,8.1nm,0.6s,mb4.5
ZAK Zakamensk 29.30 13 *e*P **P 14 49 09.7 +1.6**
ZAK *e* pP 14 49 21.3 +0.5
TSM Tawau 29.67 123 P **P 14 49 11.6 +0.3**
TLY Talaya 30.61 13 *e*P pP 14 49 33.3 +1.0
TLY *e* 14 50 42.2
TLY *e*S **S 14 54 16.7 -1.6**
TLY *e* 14 55 57.0
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,360nm,20.0s,MS4.0
TLY Talaya 30.61 13 P **P 14 49 20.2 +0.6**
comp=Z,9.6nm,1.0s,mb4.6
WSAR Wadi Sarin 31.97 279 P **P 14 49 34.5 +2.8**
comp=Z,3.1nm,1.0s,mb4.1,baz=153,slow=5.8,SNR=2.0
WSAR LR LR 15 01 54.1
comp=Z,130nm,20.5s,MS3.6,baz=350,slow=35
SNY Shenyang 32.11 45⇓P **P 14 49 31.9 -0.9**
SNY S **S 14 54 33.9 -7.8**
SNY AMB AMB
comp=Z,17nm,1.0s,mb4.8
SNY AMB AMB
comp=Z,54nm,4.1s
SNY LR LR
comp=N,194nm,10.8s
SNY LR LR
comp=Z,119nm,12.0s,MS3.8
JOW Kunigami 32.12 74 P **P 14 49 31.9 -1.1**
comp=Z,21nm,0.3s,mb5.4,baz=224,slow=5.9,SNR=41
JOW LR LR 15 02 38.6
comp=Z,218nm,22.0s,MS3.8,baz=192,slow=36
ZAL Zalesovo 32.44 351 P **P 14 49 36.8 +1.1**
comp=Z,7.0nm,0.6s,mb4.7,baz=304,slow=8.9,SNR=41
ZAL LR LR 15 05 10.0
comp=Z,226nm,19.6s,MS3.9,baz=304,slow=41
KSRS Korea Array 33.51 55 P **P 14 49 42.5 -2.5**
comp=Z,1.7nm,0.4s,mb4.3,baz=260,slow=9.7,SNR=15
KSRS LR LR 15 04 21.4
comp=Z,195nm,19.2s,MS3.8,baz=257,slow=38
NVS Novosibirsk 33.56 349 *e*P **P 14 49 45.0 -0.5**
NVS *e*S **S 14 55 03.5 -0.8**
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=Z,21nm,0.9s,mb5.1
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax
comp=N,26nm,2.0s
NVS smax
comp=E,15nm,1.6s
HIA Hailar 34.26 31 *e*P **P 14 49 51.1 -0.5**
comp=E,30nm,1.1s,mb5.1
CN2 Changchun 34.26 43 *e*P **P 14 49 50.2 -1.4**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,20.0s,MS4.2
CN2 LR LR
comp=E,300nm,20.0s,MS4.2
CN2 LR LR
comp=Z,200nm,19.0s,MS3.9
JNU Nakatsue 34.90 63 P **P 14 49 57.0 0.0**
comp=Z,8.2nm,0.9s,mb4.7,baz=220,slow=12,SNR=2.1
JNU LR LR 15 04 59.2
comp=Z,635nm,18.4s,MS4.4,baz=203,slow=38
BVAR Borovoye Array 35.51 336 P **P 14 50 02.7 +0.3**
comp=Z,2.4nm,0.4s,mb4.5,baz=141,slow=9.6,SNR=21
BVAR LR LR 15 07 06.3
comp=Z,267nm,20.2s,MS4.0,baz=319,slow=40
BRVK Borovoye 35.57 336 *e*P **P 14 50 02.3 -0.5**
comp=Z,7.4nm,0.7s,mb4.7
BRVK *e*pP pP 14 50 15.4 -0.3
CHKZ Chkalovo 35.94 337 *e*P **P 14 50 06.2 +0.1**
comp=Z,21nm,0.8s,mb5.1
CHKZ *e*pP pP 14 50 19.9 +1.0
ZRNK Zerenda 35.98 335⇓*i*P **P 14 50 06.5 +0.1**
comp=Z,11nm,0.8s,mb4.8
MDJ Mudanjiang 37.28 44 P **P 14 50 16.1 -1.4**
MDJ PP PP 14 51 41.1 -2.1
MDJ PCP PcP 14 52 35.9 -0.2
MDJ S **S 14 55 58.8 -2.6**
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,43nm,3.8s
MDJ LR LR
comp=N,151nm,29.7s,MS3.7
MDJ LR LR
comp=E,113nm,31.6s,MS3.7
MDJ LR LR
comp=Z,91nm,19.2s
VLA Vladivostok 38.24 48 *e*P **P 14 50 24.4 -1.1**
VLA pmax pmax
comp=Z,60nm,1.1s,mb5.2
VLA MLR MLR
comp=Z,200nm,16.0s,MS4.0
BOD Bodaibo 38.72 18 *e*P **P 14 50 29.3 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
AKTK Aktyubinsk 39.50 324 P **P 14 50 36.5 +0.5**
AKTO Aktyubinsk 39.50 324 P **P 14 50 36.5 +0.5**
comp=Z,7.2nm,0.8s,mb4.5,baz=122,slow=8.0,SNR=26
KLR Kul'dur 40.66 39 *e*P **P 14 50 41.8 -3.9**
KLR pmax pmax
comp=E,36nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s,mb4.9
MAJO Matsushiro 41.35 59⇑*i*P **P 14 50 49.6 -1.8**
comp=Z,35nm,1.3s,mb4.8
MAT Matsushiro 41.35 59 P **P 14 50 49.6 -1.8**
MAT *e*S **S 14 57 08.4 +5.9**
MJAR Matsushiro Arr 41.35 59 P **P 14 50 50.6 -0.8**
comp=Z,8.6nm,0.8s,mb4.4,baz=274,slow=10.0,SNR=24
MJAR LR LR 15 10 00.7
comp=Z,206nm,19.6s,MS4.0,baz=225,slow=39
RDF Al-Radifah 41.65 289 *e*P **P 14 50 54.7 +0.9**
RDF AMb AMB 14 50 57.1
comp=Z,31nm,0.8s,mb5.0
MIB Mutribah 41.81 290 *e*P **P 14 50 56.0 +0.8**
MIB AMb AMB 14 50 58.7
comp=Z,23nm,0.9s,mb4.8
ORR Orenburg 41.87 324 *e*P **P 14 50 56.0 +0.3**
ORR *e* pP 14 51 09.0 +0.3
ORR pmax pmax
comp=Z,20nm,0.9s,mb4.8
ORR MLR MLR
comp=Z,170nm,15.0s,MS4.0
NAY Al-Naaiem 41.91 290 *e*P **P 14 50 56.4 +0.4**
NAY AMb AMB 14 51 03.0
comp=Z,22nm,1.4s,mb4.6
RST Umm Al-Ruwaisa 42.12 290 *e*P **P 14 50 58.0 +0.4**
RST AMb AMB 14 51 00.8
comp=Z,39nm,0.7s,mb5.1
JHJ Hachijo jima 2 42.33 65 LR LR 15 10 45.7
comp=Z,96nm,18.5s,MS3.7,baz=278,slow=39
ARU Arti 42.75 332⇑*i*P **P 14 51 02.5 -0.3**
ARU *e* 14 52 40.1
ARU *e* 14 52 50.4
ARU *e*S **S 14 57 24.9 +1.8**
ARU *e*SS SS 15 00 34.5 -0.6
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ARU Arti 42.75 332 *e*P **P 14 51 03.0 +0.2**
comp=Z,11nm,0.6s,mb4.8
ZEI Tsey 45.78 309 *e*P **P 14 51 28.8 +1.8**
ZEI *e**PP pP 14 51 39.8 -0.4
ZEI pmax pmax
comp=Z,12nm,1.1s,mb4.7
ASAJ Asahikawa 45.97 49 P **P 14 51 27.6 -0.9**
comp=Z,17nm,0.8s,mb5.1,baz=252,slow=7.6,SNR=20
ERM Erimo 45.98 52 P **P 14 51 28.3 -0.3**
comp=Z,248nm,0.7s,SNR=5.8
YSS Yuzh-Sakhalins 46.73 46⇑*e*P **P 14 51 34.0 -0.5**
YSS pmax pmax
comp=Z,68nm,1.6s,mb5.3
YSS Yuzh-Sakhalins 46.73 46 *e*P **P 14 51 33.2 -1.3**
comp=Z,26nm,0.8s,mb5.2
KIV Kislovodsk 46.87 310 *e*P **P 14 51 36.1 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
YAK Yakutsk 47.01 22⇑*e*P **P 14 51 35.9 -0.8**
YAK pmax pmax
comp=Z,14nm,0.7s,mb5.0
YAK Yakutsk 47.01 22 P **P 14 51 33.6 -3.1**
comp=Z,14nm,0.7s,mb5.0
GUMO Guam 49.62 91 LR LR 15 12 00.7
comp=Z,77nm,18.5s,MS3.7,baz=115,slow=35
MBWA Marble Bar 50.13 147 *e*P **P 14 52 00.6 -0.1**
comp=Z,29nm,1.0s,mb5.3
ASF Jabal al Asfar 50.70 294 P **P 14 52 06.3 +1.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=282,slow=9.3,SNR=3.1
FITZ Fitzroy Crossi 50.97 139 *e*P **P 14 52 08.1 +1.1**
comp=Z,16nm,0.8s,mb5.0
FITZ Fitzroy Crossi 50.97 139 P **P 14 52 08.1 +1.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=343,slow=9.2,SNR=14
KAKA Kakadu 51.67 128 *e*P **P 14 52 11.4 -0.8**
comp=Z,9.2nm,0.8s,mb4.8
EIL Elat 52.57 291 *e*P **P 14 52 19.0 +0.1**
comp=Z,254nm,0.9s
EIL *e*pP pP 14 52 29.8 -2.5
BRTR Keskin Array B 53.18 304 P **P 14 52 23.4 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=142,slow=7.2,SNR=3.5
BRTR pP pP 14 52 36.4 -0.5
comp=Z,3.4nm,1.0s,baz=100,slow=5.1,SNR=5.0
OBN Obninsk 53.24 323⇑*e*P **P 14 52 24.0 +0.1**
OBN *e*S **S 14 59 53.6 +2.1**
OBN *e*SS SS 15 03 28.4 -3.2
OBN pmax pmax
comp=Z,21nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.2
OBN Obninsk 53.24 323 P **P 14 52 22.7 -1.2**
TIXI Tiksi 53.58 13 *e*P **P 14 52 23.9 -2.5**
TIXI *e* pP 14 52 40.1 +0.3
TIXI pmax pmax
comp=Z,20nm,1.5s,mb4.8
MA2 Magadan 54.85 32 *e*P **P 14 52 34.4 -1.2**
MA2 *e* pP 14 52 45.2 -3.9
MA2 pmax pmax
comp=Z,7.0nm,0.3s,mb5.2
MA2 Magadan 54.85 32 P **P 14 52 34.1 -1.4**
AKASG Malin Array Be 56.88 317 P **P 14 52 49.3 -0.8**
comp=Z,2.0nm,0.4s,mb4.5,baz=81,slow=6.7,SNR=9.3
AKASG Malin Array Be 56.88 317 *i*P **P 14 52 49.7 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 56.88 317 *e*P **P 14 52 49.5 -0.6**
JOF Joensuu 57.87 331 *e*p **P 14 52 56.7 -0.4**
comp=Z,5.5nm,0.4s,mb4.9
JOF Joensuu 57.87 331 *e*P **P 14 52 56.7 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
PET Petropavlovsk 57.88 40 *e*P **P 14 52 57.2 0.0**
PET pmax pmax
comp=Z,52nm,1.2s,mb5.4
PET MLR MLR
comp=Z,100nm,19.0s,MS4.0
WRA Warramunga Arr 57.91 133 P **P 14 52 57.6 +0.3**
comp=Z,8.3nm,0.5s,mb5.0,baz=321,slow=7.4,SNR=136
WRA pP pP 14 53 11.0 0.0
comp=Z,13nm,0.7s,baz=322,slow=7.3,SNR=12
WRA Warramunga Arr 57.91 133 *i*P **P 14 52 57.5 +0.2**
WRA pmax pmax
comp=Z,8.0nm,0.5s
WRAB Tennant Creek 57.91 133 P **P 14 52 57.0 -0.4**
comp=Z,112nm,0.6s,SNR=14
WB2 Warramunga Arr 57.91 133⇑*i*P **P 14 52 57.6 +0.2**
WB2 Warramunga Arr 57.91 133 *e*P **P 14 52 57.3 -0.1**
WB2 *e*pP pP 14 53 12.5 +1.5
MUN Mundaring 58.07 157 *e*P **P 14 52 58.4 -0.1**
APA Apatity 58.41 337⇓*e*P **P 14 53 05.2 +4.4**
APA pmax pmax
comp=Z,43nm,1.4s,mb5.3
NWAO Narrogin (SRO) 59.30 157 *e*P **P 14 53 05.7 -1.4**
KMBO Kilima Mbogo 59.30 255 P **P 14 53 07.2 +0.2**
comp=Z,0.5nm,0.2s,mb4.1,baz=224,slow=24,SNR=2.8
KMBO pP pP 14 53 20.8 +0.1
comp=Z,5.8nm,1.0s,baz=45,slow=12,SNR=5.1
KMBO LR LR 15 17 41.8
comp=Z,153nm,20.7s,MS4.1,baz=91,slow=35
KMBO Kilima Mbogo 59.30 255 P **P 14 53 07.8 +0.8**
comp=Z,5.8nm,1.0s,mb4.6
KMBO *e*pP pP 14 53 20.1 -0.6
FINES FINESS Array B 59.97 329 P **P 14 53 10.9 -0.7**
comp=Z,2.4nm,0.6s,mb4.4,baz=86,slow=6.1,SNR=12
FINES LR LR 15 23 15.0
comp=Z,77nm,19.4s,MS3.9,baz=107,slow=40
FINES FINESS Array B 59.97 329 *i*P **P 14 53 10.8 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ASPA Alice Springs 60.24 137 *e*P **P 14 53 14.2 +0.7**
AS31 Alice Springs 60.24 137⇑*e*P **P 14 53 13.8 +0.3**
ASAR Alice Springs 60.24 137 P **P 14 53 14.2 +0.7**
comp=Z,5.2nm,0.5s,mb4.8,baz=317,slow=6.8,SNR=235
ASAR pP pP 14 53 28.0 +0.8
comp=Z,9.1nm,0.6s,baz=319,slow=6.9,SNR=11
ASAR LR LR 15 23 55.7
comp=Z,80nm,18.8s,MS3.9,baz=321,slow=41
ASAR Alice Springs 60.24 137 P **P 14 53 14.2 +0.7**
ASAR pP pP 14 53 28.0 +0.8
KWP Kalwaria 61.02 315 *e*P **P 14 53 19.7 +0.9**
KWP Kalwaria 61.02 315 *e*P **P 14 53 19.3 +0.5**
comp=Z,37nm,0.5s,mb5.8
KWP *e*pP pP 14 53 31.7 -0.8
PMG Port Moresby 61.38 115⇑*e*P **P 14 53 21.2 0.0**
PMG Port Moresby 61.38 115 *e*P **P 14 53 21.6 +0.4**
comp=Z,21nm,0.7s,mb5.4
ARCES ARCESS Array B 61.75 338 P **P 14 53 22.3 -1.4**
comp=Z,2.3nm,0.8s,mb4.3,baz=95,slow=8.2,SNR=7.4
ARCES LR LR 15 21 52.3
comp=Z,141nm,22.0s,MS4.1,baz=161,slow=38
CRVS Cervenica-Dubn 61.85 315 *e*pP pP 14 53 37.8 -0.3
STHS Stebnicka Huta 61.98 315 *e*sP sP 14 53 50.1 +5.6
KECS Kecovo 62.52 314 *e*pP pP 14 53 41.2 -1.4
BILL Bilibino 63.34 24⇓*i*P **P 14 53 33.6 -0.7**
BILL *e*S **S 15 01 56.8 -6.3**
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.0
BILL Bilibino 63.34 24 *e*P **P 14 53 33.5 -0.8**
comp=Z,9.5nm,0.7s,mb5.0
VYHS Vyhne 63.61 314 *e*sP sP 14 53 55.6 +0.2
HFS Hagfors 65.95 327 P **P 14 53 51.1 -0.3**
comp=Z,5.5nm,0.4s,mb4.9,baz=101,slow=6.2,SNR=42
BRG Berggiesshubel 66.56 317 *e* **P 14 53 55.9 +0.6**
comp=Z,2.8nm,0.8s,mb4.4
BRG *e* pP 14 54 07.9 -1.2
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 66.56 317 *e*P **P 14 53 55.8 +0.6**
CTA Charters Tower 66.58 125 *e*P **P 14 53 56.6 +1.2**
comp=Z,10nm,1.0s,mb4.8
CTA *e* pP 14 54 10.1 +0.9
CTAO Charters Tower 66.58 125 *e*P **P 14 53 56.0 +0.6**
comp=Z,27nm,1.2s,mb5.2
CTAO *e*pP pP 14 54 10.2 +1.0
GEC2 GERESS Array S 66.96 315 *e*P **P 14 53 58.0 +0.2**
GERES GERESS Array B 66.96 315 P **P 14 53 58.4 +0.6**
comp=Z,4.0nm,0.7s,mb4.5,baz=77,slow=5.8,SNR=21
GERES LR LR 15 26 13.3
comp=Z,71nm,21.4s,MS3.9,baz=259,slow=39
CLL Collm 67.09 318 *e*(P) **P 14 54 01.0 +2.4**
comp=Z,6.0nm,0.8s,mb4.7
CLL LmV 14 26 00.0
comp=Z,100nm,21.8s
NB2 NORSAR Subarra 67.12 328 P **P 14 53 57.8 -1.0**
comp=Z,2.1nm,0.5s,mb4.4,baz=85,slow=6.5
NOA NORSAR Array B 67.12 328 P **P 14 53 58.1 -0.7**
comp=Z,2.4nm,0.5s,mb4.5,baz=86,slow=6.5,SNR=13

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA				LR	LR	15 25 22.9	
	comp=Z,50nm,19.4s,MS3.8,baz=65,slow=38						
STKA	Stephens Creek	70.83	138	eP	P	14 54 21.9	+0.1
	comp=Z,5.2nm,0.9s,mb4.5						
STKA	Stephens Creek	70.83	138	P	P	14 54 22.1	+0.3
	comp=Z,4.7nm,0.7s,mb4.5,baz=326,slow=6.3,SNR=14						
STKA				LR	LR	15 28 59.2	
	comp=Z,195nm,20.3s,MS4.3,baz=297,slow=39						
STKA	Stephens Creek	70.83	138	eP	P	14 54 21.7	-0.1
CDF	Champ du Feu	71.23	315	eP	P	14 54 24.7	+0.4
PGF	Pioggiola	71.33	309	eP	P	14 54 25.6	+0.7
	comp=Z,17nm,0.7s,mb4.8						
PGF	Pioggiola	71.33	309	eP	P	14 54 25.6	+0.7
	comp=Z,8.3nm,0.7s,mb4.8						
HAU	Haudompre	71.93	315	eP	P	14 54 28.9	+0.4
HAU				eR			
	comp=Z,73nm,19.5s						
SBF	Sospel	72.14	311	eP	P	14 54 30.4	+0.6
LPG	La Plagne	72.23	313	eP	P	14 54 31.2	+0.9
	comp=Z,10.0nm,0.7s,mb4.6						
LPG	La Plagne	72.23	313	eP	P	14 54 31.2	+0.9
	comp=Z,5.0nm,0.7s,mb4.5						
LPL	La Plagne	72.24	313	eP	P	14 54 31.3	+0.9
	comp=Z,15nm,0.7s,mb4.7						
LPL	La Plagne	72.24	313	eP	P	14 54 31.3	+0.9
	comp=Z,7.4nm,0.7s,mb4.7						
MBDF	Montbardon	72.40	312	eP	P	14 54 32.9	+1.6
	comp=Z,7.9nm,0.7s,mb4.5						
MBDF	Montbardon	72.40	312	eP	P	14 54 32.9	+1.6
	comp=Z,4.0nm,0.7s,mb4.5						
KEST	Kesra	72.73	302	P	P	14 54 32.6	-0.7
	comp=Z,1.1nm,0.8s,mb3.8,baz=232,slow=17,SNR=2.4						
FRF	La Foret Royal	72.77	311	eP	P	14 54 33.4	-0.1
LMR	La Mourre	72.93	310	eP	P	14 54 34.2	-0.2
LSZ	Lusaka	73.81	246	eP	P	14 54 39.5	-0.1
	comp=Z,17nm,0.8s,mb5.0						
LSZ				epP	pP	14 54 53.0	-0.6
LSZ				esP	sP	14 54 59.0	-0.1
VIVF	Saint-Julien-l	73.82	312	eP	P	14 54 40.3	+0.6
SMF	Signal de Mont	73.91	314	eP	P	14 54 40.5	+0.3
	comp=Z,11nm,0.7s,mb4.6						
SMF	Signal de Mont	73.91	314	eP	P	14 54 40.5	+0.3
	comp=Z,5.7nm,0.7s,mb4.6						
SSF	Saint Saulge	74.03	315	eP	P	14 54 41.3	+0.4
	comp=Z,21nm,1.0s,mb4.7						
SSF	Saint Saulge	74.03	315	eP	P	14 54 41.3	+0.4
	comp=Z,11nm,1.0s,mb4.7						
AVF	Avril sur Loir	74.20	314	eP	P	14 54 42.2	+0.3
TCF	Toulx Ste Croi	75.09	314	eP	P	14 54 48.1	+1.0
EKA	Eskdalemuir Ar	75.68	324	P	P	14 54 50.2	-0.2
	comp=Z,1.4nm,0.8s,mb4.0,baz=82,slow=6.0,SNR=4.1						
EKA				pP	pP	14 55 04.3	-0.2
	comp=Z,2.2nm,0.6s,baz=74,slow=5.3,SNR=4.4						
SVW2	Sparrevohn	80.53	27	eP	P	14 55 17.1	-0.2
LBTB	Lobatse	80.68	238	eP	P	14 55 20.5	+2.5
	comp=Z,27nm,1.2s,mb5.1						
LBTB				epP	pP	14 55 31.1	-1.2
ESDC	Sonseca Array	81.53	309	P	P	14 55 23.6	+1.0
	comp=Z,0.2nm,0.3s,baz=330,slow=34,SNR=2.8						
ESDC				pP	pP	14 55 37.8	+1.0
	comp=Z,1.3nm,0.6s,baz=58,slow=5.5,SNR=3.0						
COLA	College	81.54	22	eP	P	14 55 20.4	-2.3
	comp=Z,11nm,0.9s,mb4.8						
BOSA	Boshof	82.72	235	P	P	14 55 30.2	+1.4
	comp=Z,3.6nm,0.7s,mb4.5,baz=79,slow=5.8,SNR=6.6						
BOSA				LR	LR	15 30 15.5	
	comp=Z,57nm,18.0s,MS4.0,baz=212,slow=34						
BOSA	Boshof	82.72	235	eP	P	14 55 29.1	+0.3
	comp=Z,7.8nm,0.7s,mb4.8						
PMR	Palmer	82.92	25	eP	P	14 55 28.9	-1.1
	comp=Z,28nm,1.1s,mb5.2						
PMR				epP	pP	14 55 44.2	0.0
EGAK	Eagle	83.86	21	eP	P	14 55 33.5	-1.3
	comp=Z,16nm,1.2s,mb5.0						
EVO	Evora	84.88	309	eP	P	14 55 40.2	+0.3
	comp=Z,25nm,1.2s,mb4.9						
EVO				eR			
	comp=Z,62nm,17.5s						
TOA0	Torodi Ar. Sit	86.61	283	P	P	14 55 48.5	+0.1
TOA0				epP	pP	14 56 02.2	-0.5
TORD	Torodi Ar. Bea	86.61	283	P	P	14 55 49.0	+0.6
	comp=Z,0.6nm,0.8s,mb3.9,baz=44,slow=2.4,SNR=4.0						
TORD				pP	pP	14 56 05.0	+2.2
	comp=Z,3.6nm,0.9s,baz=52,slow=4.0,SNR=9.2						
TORD				LR	LR	15 38 13.9	
	comp=Z,76nm,19.6s,MS4.1,baz=95,slow=38						
TORD	Torodi Ar. Bea	86.61	283	P	P	14 55 49.0	+0.6
TORD				pP	pP	14 56 05.0	+2.2
MAW	Mawson	92.23	191	LR	LR	15 33 04.2	
	comp=Z,48nm,18.1s,MS4.0,baz=245,slow=32						
TXAR	Lajitas Array	126.32	18	PKP	PKPdf	15 02 08.7	+1.1
	comp=Z,0.7nm,0.6s,baz=181,slow=0.7,SNR=7.7						
TXAR				pPKP	pPKPdf	15 02 23.1	+0.6
	comp=Z,0.8nm,0.6s,baz=331,slow=0.3,SNR=6.1						
SDV	Santo Domingo	145.41	331	ePKPdf	PKPdf	15 02 43.5	+0.7
ROSC	El Rosal	150.60	334	PKPbc	PKPbc	15 02 59.5	+2.7
	comp=Z,7.9nm,0.5s,baz=102,slow=20,SNR=5.5						
ROSC				PKPab	PKPab	15 03 05.1	+1.4
	comp=Z,8.8nm,0.6s,baz=96,slow=18,SNR=3.8						
ROSC				pPKPbc	pPKPbc	15 03 13.7	+2.1
	comp=Z,24nm,0.9s,baz=78,slow=15,SNR=4.4						
ROSC	El Rosal	150.60	334	ePKPbc	PKPbc	15 02 59.3	+2.5

*IDC **03** 14:55:17.5±1.4, 899N×12659E, h0^{km}, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=124.0km s-min=17.0km az=69.0*

*ISCJB **03** 14:55:24.4±1.2, 886N±005×1266E±0.1, h64^{km}±12^{km}, mb3.7/8, Error ellipse: s-maj=17.9km s-min=7.4km az=154.3*

*MAN **03** 14:55:25.9, 882N×12639E, h52^{km}, mb3.2, ML4.5, MS7.9*

ISC 03 14:55:25.7±1.2**, 885N**±005×**1265E**±01**, h58**^{km}±12^{km}**, n19, σ1^{s}00**/25**, mb3.7**/8**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.38	312	⇓eP	Pn	14 55 46.9	-1.9
SCPH				eS	Sn	14 56 05.3	-0.8
BUKP	Musuan	1.75	236	eP	Pn	14 55 53.4	-0.4
BUKP				eS	Sn	14 56 15.5	+0.5
CGP	Cagayan de Oro	1.86	258	⇑eP	Pn	14 55 51.9	-3.4
CGP				i S	Sn	14 56 12.6	-5.1
MATI	Mati	1.92	188	eP	Pn	14 55 56.6	+0.6
MSLP	Maasin	2.09	308	eP	Pn	14 55 57.8	-0.5
MSLP				eS	Sn	14 56 24.4	+1.2
PLP	Palo	2.76	326	eP	Pn	14 56 07.9	+0.3
PLP				eS	Sn	14 56 41.5	+1.8
OCLP	Ormoc	2.89	319	eP	Pn	14 56 10.0	+0.6
LLP	Lapu-Lapu	2.92	300	⇑eP	Pn	14 56 09.6	-0.1
LLP				i S	Sn	14 56 44.8	+1.2
DCPH	Dipolog City	3.16	265	⇓eP	Pn	14 56 11.8	-1.2
PAGZ	Pagadian	3.28	252	eP	Pn	14 56 14.9	+0.4
GUIM	Jordan	4.27	295	eP	Pn	14 56 27.3	-0.9
FITZ	Fitzroy Crossi	26.80	182	P	P	15 01 00.6	+0.4
	0.8nm,0.3s,mb3.8,baz=28,slow=23,SNR=10						
WRA	Warramunga Arr	29.63	165	P	P	15 01 27.2	+1.7
	0.2nm,0.6s,mb3.0,baz=348,slow=9.4,SNR=3.9						
ASAR	Alice Springs	33.11	168	P	P	15 01 56.5	+0.3
	0.2nm,0.3s,mb3.5,baz=348,slow=7.4,SNR=12						
ASAR				PcP	PcP	15 04 38.0	-0.1
	0.3nm,0.6s,baz=356,slow=2.5,SNR=5.4						
STKA	Stephens Creek	42.98	161	P	P	15 03 18.9	-0.2
	0.9nm,0.8s,mb3.6,baz=322,slow=12,SNR=3.4						
MKAR	Makanchi Array	53.31	323	P	P	15 04 37.6	-1.2
	1.6nm,0.8s,mb4.0,baz=120,slow=7.9,SNR=11						
BVAR	Borovoye Array	62.97	326	P	P	15 05 45.4	-0.9
	0.3nm,0.5s,mb3.7,baz=95,slow=7.7,SNR=3.2						
FINES	FINESS Array B	87.25	332	P	P	15 08 06.2	+0.2
	0.8nm,0.6s,mb4.2,baz=80,slow=2.1,SNR=4.7						
VNDA	Vanda	88.50	173	P	P	15 08 11.7	-0.2
	0.4nm,0.6s,mb4.0,baz=316,slow=9.0,SNR=5.9						

*NEIC **03** 15:02:15.0, 4364S×16969E, h8^{km}, ML3.9(WEL), After WEL.*

WEL 03 15:02:15.2±0.1**, 4366S**×**16970E, h5**^{km}**, ML3.9**/19**, 6C-2D, Error ellipse: s-maj=1.5km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOZ	Fox Glacier	0.09	357	⇑P	Pg	15 02 18.5	+1.4
FOZ				S	Sg	15 02 20.4	+2.0
FOZ	Fox Glacier	0.09	357	⇑PG	Pg	15 02 18.5	+1.4
FOZ				SG	Sg	15 02 20.4	+2.0
JCZ	Jackson Bay	0.80	238	⇑P	Pg	15 02 29.8	-0.7
JCZ	Jackson Bay	0.80	238	⇑P*	Pb	15 02 29.8	-1.7
LBZ	Lake Benmore	0.81	154	P	Pg	15 02 31.0	+0.2
LBZ	Lake Benmore	0.81	154	P*	Pb	15 02 31.0	-0.8
WVZ	Waitaha Valley	0.95	53	P*	Pb	15 02 32.9	-1.2
RPZ	Rata Peaks	0.99	94	⇓P	Pg	15 02 34.4	+0.3
RPZ	Rata Peaks	0.99	94	⇓P*	Pb	15 02 34.4	-0.4
WKZ	Wanaka	1.27	202	⇑P	Pg	15 02 38.4	-1.1
WKZ	Wanaka	1.27	202	⇑P*	Pb	15 02 38.4	-1.2
ODZ	Otahua Downs	1.55	154	P	Pn	15 02 43.3	-0.1
ODZ	Otahua Downs	1.55	154	PN	Pn	15 02 43.3	-0.1
EAZ	Earnscleugh	1.60	190	ePN	Pn	15 02 43.4	-0.7
MSZ	Milford Sound	1.63	231	ePN	Pn	15 02 43.0	-1.5
MLZ	Mavora Lakes	2.01	212	eP	Pn	15 02 50.5	+0.7
LTZ	Lake Taylor	2.07	66	eP	Pn	15 02 50.7	+0.1
LTZ	Lake Taylor	2.07	66	ePN	Pn	15 02 50.7	+0.1
CRLZ	Canterbury Las	2.13	89	P	Pn	15 02 51.6	+0.3
MQZ	McQueen's Vall	2.15	92	ePN	Pn	15 02 51.0	-0.6
TUZ	Tuapeka	2.30	181	eP	Pn	15 02 52.8	-1.0
TUZ	Tuapeka	2.30	181	ePN	Pn	15 02 52.8	-1.0
HHSZ	Highcliff Hill	2.32	164	ePN	Pn	15 02 54.3	+0.3
DSZ	Denniston Nort	2.46	40	ePN	Pn	15 02 54.0	-1.9
WHZ	Wether Hill Ro	2.56	208	eP	Pn	15 02 56.6	-0.7
WHZ	Wether Hill Ro	2.56	208	ePN	Pn	15 02 56.6	-0.8
DCZ	Deep Cove	2.57	224	ePN	Pn	15 02 57.6	+0.1
SYZ	Scrubby Hill	2.91	188	ePN	Pn	15 03 02.1	0.0
THZ	Tophouse	3.03	52	eP	Pn	15 03 02.2	-1.5
THZ	Tophouse	3.03	52	ePN	Pn	15 03 02.2	-1.5
KHZ	Kahutara	3.08	68	eP	Pn	15 03 04.9	+0.5
KHZ	Kahutara	3.08	68	ePN	Pn	15 03 04.9	+0.4
APZ	The Paps	3.40	200	ePN	Pn	15 03 08.2	-0.6
QRZ	Quartz Range	3.52	38	ePN	Pn	15 03 08.9	-1.6
NNZ	Nelson	3.66	49	ePN	Pn	15 03 12.1	-0.3
TCW	Tory Channel	4.18	56	ePN	Pn	15 03 19.6	+0.1
HIZ	Hauiti	6.45	39	ePN	Pn	15 03 46.2	-4.5

MAN 03 15:25:42.3, 988N×12590E, h18^{km}**, mb3.0, ML4.4, MS3.4, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.42	257	⇓eP	Pg	15 25 51.7	+0.7
SCPH				eS	Sg	15 26 02.4	+5.7
MSLP	Maasin	1.06	284	eP	Pb	15 26 01.0	-1.1
MSLP				eS	Sb	15 26 19.3	+3.7
BUKP	Musuan	2.15	203	eP	Pn	15 26 17.9	+0.5
GUIM	Jordan	3.34	283	eP	Pn	15 26 33.7	0.0
PVCP	Virac	4.07	335	eP	Pn	15 26 45.6	+1.9

*IDC **03** 15:38:10.6±0.8, 6125N×15160W, h59^{km}±7^{km}, mb3.6/15, mb1 3.8/17, mb1mx3.7/26, mbtmp3.9/17, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=14.3km s-min=10.7km az=97.0*

*ISCJB **03** 15:38:11.3±0.3, 61.15N±003×15131W±006, h91^{km}±4^{km}, mb4.1/20, Error ellipse: s-maj=5.7km s-min=4.5km az=109.3*

*BJI **03** 15:38:12.4, 6069N×15225W, h66^{km}, mB5.0, mb4.5, Ms4.3, Msz4.0*

*NEIC **03** 15:38:13.8, 6120N×15131W, h72^{km}, ML3.8(AEIC), ML3.9(PMR), After AEIC.*

NEIC Felt [III] at Kenai and [II] at Sterling. Also felt at Anchorage.

ISC 03 15:38:12.4±0.3**, 6116N**±003×**15131W**±006**, h84**^{km}±4^{km}**, n56, σ0^{s}98**/65**, mb4.1**/20**, 1D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIB	Fire Island	0.55	89	P	Pn	15 38 28.0	+1.0
RC01	Rabbit Creek A	0.77	95	P	Pn	15 38 29.4	+0.3
RC01				S	Sn	15 38 42.2	+0.7
SLKM	Skilak Lake	0.85	140	P	Pn	15 38 30.4	+0.4
PMR	Palmer	1.13	67	P	Pn	15 38 33.3	0.0
PMR				S	Sn	15 38 49.0	+0.1
GHO	Glory Hole Cre	1.30	61	P	Pn	15 38 35.5	+0.2
GHO				S	Sn	15 38 53.2	+0.6
KNK	Knik Glacier	1.40	78	P	Pn	15 38 37.0	+0.3
SEW	Seward	1.41	138	P	Pn	15 38 36.6	0.0
SEW				S	Sn	15 38 54.7	-0.3
SML	Sawmill	1.57	64	P	Pn	15 38 38.7	-0.1
SML				S	Sn	15 38 58.8	+0.1
SVW2	Sparrevohn	2.07	270	P	Pn	15 38 45.2	-0.2
AUL	Augustine Lava	2.08	212	P	Pn	15 38 46.7	+1.3
TRF	Thorofare Moun	2.35	11	P	Pn	15 38 48.9	-0.1
KTH	Kantishna Hill	2.41	4	P	Pn	15 38 49.6	-0.2
DIV	Divide	2.69	88	P	Pn	15 38 53.6	+0.1
DIV				S	Sn	15 39 25.1	-0.1
EYAK	Cordova Ski Ar	2.79	100	ePn	Pn	15 38 53.8	-1.2
EYAK				eSn	Sn	15 39 26.8	-0.9
MCK	McKinley	2.81	22	P	Pn	15 38 55.4	+0.2
TT01	Tatalina	2.83	310	P	Pn	15 38 55.2	-0.2
MID	Middleton Isla	3.03	123	eP	Pn	15 38 57.8	-0.3
KDAK	Kodiak Island	3.45	191	Pn	Pn	15 39 03.0	-0.9
	1µm,0.6s,SNR=28						
KDAK	Kodiak Island	3.45	191	P	Pn	15 39 03.5	-0.4
	3.1nm,0.3s,baz=37,slow=9.7,SNR=65						
KDAK				S	Sn	15 39 42.0	-1.7
	40nm,0.3s,baz=142,slow=23,SNR=17						
KDAK	Kodiak Island	3.45	191	ePn	Pn	15 39 03.5	-0.4
MENT	Mentasta	3.99	60	eP	Pn	15 39 12.4	+1.2
COLA	College	4.04	21	P	Pn	15 39 11.4	-0.5
DOT	Dot Lake	4.19	50	P	Pn	15 39 14.1	+0.1
GCSA	Galena City Sc	4.40	327	P	Pn	15 39 16.7	-0.1
EGAK	Eagle	5.88	48	P	Pn	15 39 36.7	-0.2
CHGN	Chignik	6.12	220	eP	Pn	15 39 41.5	+1.3
DAWY	Dawson	6.22	57	ePn	Pn	15 39 41.2	-0.4
SDPT	Sand Point	7.57	224	ePn	Pn	15 39 60.0	0.0
SDPT				eSn	Sn	15 41 24.1	0.0
SKAG	Skagway	8.12	95	ePn	Pn	15 40 06.6	-0.8
SKAG				e		15 40 19.4	
SIT	Sitka	9.19	110	ePn	Pn	15 40 19.5	-2.5
SIT				eSn	Sn	15 42 03.0	-0.6
CRAG	Craig	11.12	113	Pn	Pn	15 40 47.0	-1.3
YKA	Yellowknife Ar	17.24	69	P	Pn	15 42 08.5	+0.9
	0.6nm,0.3s,baz=281,slow=10,SNR=10						
YKA				LR	LR	15 48 56.1	
	comp=Z,32nm,18.2s,baz=50,slow=37						
YKA	Yellowknife Ar	17.24	69	P	Pn	15 42 08.5	+0.8
YKA				LR	LR	15 48 56.0	
AMKA	Amchitka	18.87	252	eP	Pn	15 42 26.4	-0.9
EDM	Edmonton	21.77	94	eP	P	15 42 59.0	+1.8
NEW	Newport	23.27	108	P	P	15 43 14.8	+2.4
	2.1nm,0.7s,mb3.6,baz=284,slow=10,SNR=3.8						
NEW				sP	sP	15 43 34.8	-5.7
	3.7nm,0.7s,baz=357,slow=2.0,SNR=3.7						
RES	Resolute Bay	23.87	33	eP	P	15 43 18.2	+0.2
	185nm,0.7s,mb5.5						
NVAR	Mina Array Bea	30.61	123	P	P	15 44 22.1	+3.8
	1.0nm,0.6s,mb3.7,baz=319,slow=11,SNR=6.3						
NVAR				sP	sP	15 44 41.8	-5.8
	1.0nm,0.7s,baz=316,slow=11,SNR=4.1						
PDAR	Pinedale Array	30.90	107	P	P	15 44 23.2	+2.3
	0.6nm,0.4s,mb3.7,baz=324,slow=5.5,SNR=4.7						
PDAR				pP	pP	15 44 39.2	-1.1
	0.4nm,0.4s,baz=339,slow=2.2,SNR=1.9						
SCHQ	Schefferville	42.24	59	P	P	15 45 56.5	-0.6
	1.9nm,0.7s,mb4.0,baz=299,slow=13,SNR=2.9						
TXAR	Lajitas Array	44.64	113	P	P	15 46 18.7	+2.1
	0.6nm,0.8s,mb3.4,baz=339,slow=4.8,SNR=5.1						
TXAR				LR	LR	16 04 03.0	
	comp=Z,189nm,19.4s,baz=180,slow=35						
MDJ	Mudanjiang	47.34	288	P	P	15 46 38.4	+0.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,84nm,4.5s						
ARCES	ARCESS Array B	49.57	1	P	P	15 46 53.6	-1.3
	comp=Z,0.6nm,0.5s,mb3.8,baz=13,slow=8.5,SNR=5.5						
KSRS	Korea Array	53.73	283	P	P	15 47 26.8	+1.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=34,slow=6.5,SNR=9.3						
SONM	Songino Array	54.78	306	P	P	15 47 34.4	+1.0
	comp=Z,2.9nm,1.1s,mb4.2,baz=53,slow=6.6,SNR=8.2						
ZAL	Zalesovo	56.94	324	P	P	15 47 48.3	-0.5
	comp=Z,0.6nm,0.6s,mb3.8,baz=104,slow=12,SNR=2.8						
NOA	NORSAR Array B	57.39	10	P	P	15 47 51.0	-1.0
	comp=Z,0.9nm,0.7s,mb3.9,baz=350,slow=7.1,SNR=4.1						
FINES	FINESS Array B	57.70	1	P	P	15 47 53.1	-1.1
	comp=Z,2.5nm,1.0s,mb4.2,baz=351,slow=9.7,SNR=3.6						
HHC	Hu-ho-hao-te	58.38	298	eP	P	15 48 02.5	+3.5
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,85nm,4.8s						
EKA	Eskdalemuir Ar	61.15	20	P	P	15 48 17.4	-0.5
	comp=Z,0.7nm,0.4s,mb4.1,baz=327,slow=5.3,SNR=6.9						
BVAR	Borovoye Array	61.42	333	P	P	15 48 17.8	-1.9
	comp=Z,0.5nm,0.5s,mb3.8,baz=215,slow=41,SNR=4.0						
MKAR	Makanchi Array	64.03	322	P	P	15 48 36.3	-0.8
	comp=Z,0.4nm,0.5s,mb3.5,baz=20,slow=6.3,SNR=5.2						
WMQ	Urumqi	64.99	317	⇓P	P	15 48 48.9	+5.5
WMQ				AP	pP	15 49 06.9	+2.0
WMQ				XP	sP	15 49 14.4	+0.2
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.4						
AKASG	Malin Array Be	68.49	360	P	P	15 49 04.9	-0.7
	comp=Z,1.6nm,0.5s,mb4.1,baz=1.7,slow=6.0,SNR=7.2						
GYA	Guiyang	72.72	293	eP	P	15 49 34.6	+3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
BOSA	Boshof	147.37	6	PKPbc	PKPbc	15 57 46.5	+0.1
	comp=Z,2.6nm,0.8s,baz=297,slow=9.8,SNR=3.3						

*IDC **03** 15:52:56.4±1.5, 5153N×17385W, h0^{km}, mb4.0/10, mb1 4.0/11, mb1mx3.9/26, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=40.2km s-min=23.3km az=165.0*

*ISCJB **03** 15:53:01.0±2.0, 516N±02×174.1W±02, h34^{km}±15^{km}, mb4.4/19, Error ellipse: s-maj=37.7km s-min=11.2km az=136.9*

*NEIC **03** 15:53:02.6±1.8, 5152N×17406W, h42^{km}±13^{km}, ML3.7(AEIC), Error ellipse: s-maj=33.7km s-min=11.0km az=159.0*

ISC 03 15:53:02.7±1.7**, 516N**±02×**1740W**±02**, h38**^{km}±13^{km}**, n26, σ1^{s}08**/26**, mb4.4**/19**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	4.19	270	P	Pn	15 54 03.2	-0.8
KDAK	Kodiak Island	13.84	55	Pn	Pn	15 56 14.2	-1.9
	0.4nm,0.3s,baz=339,slow=16,SNR=7.8						
SVW2	Sparrevohn	13.93	40	ePn	Pn	15 56 19.1	+1.5
SLKM	Skilak Lake	15.94	47	ePn	Pn	15 56 45.8	+1.7
EGAK	Eagle	21.47	39	eP	P	15 57 47.5	-0.3
	8.9nm,0.7s,mb4.2						
DAWY	Dawson	21.94	42	eP	P	15 57 53.5	+0.6
ULM	Lac du Bonnet	47.05	59	P	P	16 01 30.1	-0.4
	1.0nm,0.5s,mb4.0,baz=309,slow=13,SNR=3.5						
SONM	Songino Array	49.21	299	P	P	16 01 47.7	+0.6
	1.1nm,0.5s,mb4.1,baz=53,slow=7.4,SNR=8.9						
ARCES	ARCESS Array B	58.37	352	P	P	16 02 52.9	-1.2
	1.9nm,0.8s,mb4.2,baz=30,slow=7.4,SNR=4.1						
ARCES				PcP	PcP	16 03 43.6	-1.0
	1.1nm,0.5s,baz=20,slow=3.9,SNR=6.5						
MKAR	Makanchi Array	62.22	311	P	P	16 03 19.7	-0.7
	0.7nm,0.3s,mb4.3,baz=43,slow=6.7,SNR=11						
MKAR	Makanchi Array	62.22	311	P	P	16 03 19.7	-0.7
BVAR	Borovoye Array	62.63	322	P	P	16 03 22.9	-0.3
	1.8nm,0.4s,mb4.5,baz=57,slow=7.2,SNR=19						
BVAR				PcP	PcP	16 04 02.1	+0.3
	1.2nm,0.6s,baz=42,slow=3.3,SNR=5.7						
JOF	Joensuu	64.12	347	ep	P	16 03 30.7	-2.3
	2.3nm,0.4s,mb4.6						
KAF	Kangasniemi	65.53	350	ep	P	16 03 38.3	-3.8
	1.8nm,0.4s,mb4.5						
FINES	FINESS Array B	66.20	350	P	P	16 03 45.2	-1.3
	1.9nm,0.9s,mb4.1,baz=13,slow=9.7,SNR=7.5						
FINES				PcP	PcP	16 04 13.6	-2.9
	1.0nm,0.5s,baz=28,slow=4.5,SNR=5.1						
FINES	FINESS Array B	66.20	350	P	P	16 03 45.2	-1.3
FINES				PcP	PcP	16 04 13.6	-2.8
NOA	NORSAR Array B	67.67	357	P	P	16 03 55.6	-0.2
	1.0nm,0.8s,mb3.9,baz=13,slow=7.8,SNR=2.8						
GUN	Gumba	74.53	295	eP	P	16 04 38.7	+1.4
	17nm,0.4s,mb5.3						
JIRN	Jiri	74.54	295	eP	P	16 04 38.8	+1.4
	16nm,0.4s,mb5.2						
KKN	Kakani	74.96	296	eP	P	16 04 41.1	+1.3
	7.0nm,0.6s,mb4.8						
GKN	Gorkha	75.15	296	eP	P	16 04 41.6	+0.6
	12nm,0.5s,mb5.1						
DMN	Daman	75.19	296	eP	P	16 04 41.8	+0.6
	4.6nm,0.5s,mb4.7						
KOLN	Koldanda	75.91	297	eP	P	16 04 46.0	+0.7
	4.5nm,0.6s,mb4.5						
AKASG	Malin Array Be	76.22	345	P	P	16 04 46.4	-0.7
	1.0nm,0.4s,mb4.1,baz=17,slow=6.0,SNR=4.3						
GERES	GERESS Array B	79.75	355	P	P	16 05 07.0	+0.3
	0.2nm,0.2s,mb3.7,baz=17,slow=4.9,SNR=4.8						
ASAR	Alice Springs	87.72	226	P	P	16 05 46.5	-0.9
	0.1nm,0.5s,mb3.4,baz=16,slow=4.7,SNR=5.4						

*ISCJB **03** 15:56:42.2±0.3, 3273N±002×11603W±002, h13^{km}±2^{km}, mb4.8/3, MS4.5/1, Error ellipse: s-maj=2.7km s-min=2.3km az=179.8*

*BJI **03** 15:56:43.0, 3270N×11600W, h13^{km}, mB4.9, mb4.5, Ms5.2, Msz4.7*

*ECX **03** 15:56:43.5±0.7, 3271N×11606W, h2^{km}±1^{km}, MD4.4, ML4.6*

*NEIC **03** 15:56:43.0, 3268N×11605W, h14^{km}, mb4.3/2, ML4.6(ECX), MW4.1(PAS), After PAS.*

NEIC Felt [IV] at Jacumba and Pine Valley; [III] at Alpine, Calexico, Campo, Carlsbad, Descanso, El Cajon, El Centro, Encinitas, Fallbrook, Imperial, Laguna Hills, La Jolla, Lakeside, Ramona, Rancho Santa Fe, Redlands, San Diego and Santee; [II] at Aguanga, Aliso Viejo, Bonita, Boulevard, Escondido, Fountain Valley, Hemet, Irvine, Laguna Niguel, Poway, San Marcos and Vista.

ISC 03 15:56:42.7±0.2**, 3271N**±002×**11605W**±002**, h9**^{km}±2^{km}**, n108, σ0^{s}90**/133**, mb4.8**/3**, MS4.5**/1**, 38C-36D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVTC	Desert V Tower	0.07	224	⇓P	Pg	15 56 45.3	+0.5
	baz=0.1,SNR=1000						
DVTC				⇓S	Sg	15 56 46.7	+0.4
	baz=0.1						
RMX	La Rumorosa	0.11	195	⇑iP	Pg	15 56 45.9	+0.5
RMX				eS	Sg	15 56 47.5	+0.3
YUH	Yuha Desert	0.12	120	⇓iP	Pg	15 56 45.7	+0.1
CRR	Carrizo Plain	0.19	20	⇓iP	Pg	15 56 47.0	+0.3
SGL	Mount Signal	0.28	102	⇑iP	Pg	15 56 48.8	+0.5
COK	Cook Ranch	0.30	62	⇑iP	Pg	15 56 49.6	+0.8
SWSC	Sam W. Stewart	0.31	42	⇑P	Pg	15 56 49.4	+0.5
	baz=0.3						
SWSC				⇑S	Sg	15 56 53.9	+0.8
	baz=0.3						
MONP	Monument Peak	0.36	300	⇓P	Pg	15 56 50.3	+0.3
	baz=0.3,SNR=1000						
MONP				⇑S	Sg	15 56 55.1	+0.3
	baz=0.3						
BAR	Barrett	0.53	267	⇓iP	Pg	15 56 53.1	+0.1
CBX	Cerro Bola	0.65	233	⇑iP	Pg	15 56 55.5	+0.2
CBX				eS	Sg	15 57 04.4	+0.4
CPBX	Cerro Prieto	0.69	115	⇑eP	Pg	15 56 56.4	+0.4
CPBX				eS	Sg	15 57 05.6	+0.6
RDX	Rancho Dowling	0.78	174	⇓eP	Pg	15 56 57.6	-0.1
RDX				eS	Sg	15 57 08.3	+0.4
RDX				⇓e		15 57 12.9	
	comp=N,11µm,0.3s						
COA	Coachella	0.79	78	⇑iP	Pg	15 56 57.9	-0.1
109C	Camp Elliot, M	0.91	282	⇑P	Pg	15 56 59.6	-0.7
	baz=0.8,SNR=503						
109C				⇑S	Sg	15 57 11.2	-0.9
	baz=0.8						
PFO	Pinyon Flat Ob	0.96	339	ePg	Pg	15 57 00.7	-0.6
PFO				eSg	Sg	15 57 13.1	-0.7
PFO	Pinyon Flat Ob	0.96	339	P	Pg	15 57 00.8	-0.5
	baz=0.9,SNR=1000						
PFO				⇓S	Sg	15 57 13.8	+0.1
	baz=0.9						
ENX	Ensenada	0.98	213	⇑eP	Pg	15 57 01.1	-0.4
ENX				eS	Sg	15 57 14.0	-0.2
ENX				⇑e		15 57 18.0	
	comp=N,13µm,0.9s						
EMX	El Mayor	0.99	136	⇑eP	Pg	15 57 01.3	-0.5
EMX				eS	Sg	15 57 14.8	+0.3
EMX				⇓e		15 57 18.4	
	comp=N,20µm,0.8s						
GLA	Glamis	1.08	71	ePg	Pg	15 57 02.0	-1.5
GLA	Glamis	1.08	71	⇑P	Pg	15 57 02.2	-1.3
	baz=1.1,SNR=1000						
GLA				⇑S	Sg	15 57 16.3	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=1.1						
PBX	**Punta Banda**	**1.12**	**211**	*e*P	**Pb**	**15 57 03.8**	**-0.5**
PBX				*e*S	**Sg**	**15 57 18.6**	**-0.3**
ECNX	**Esteban Cantu**	**1.15**	**204**	*e*P	**Pb**	**15 57 04.0**	**-0.7**
ECNX				*e*P		15 57 01.3	
ECNX				*e*S	**Sg**	**15 57 14.1**	**-5.6**
ECNX				*e*S	**Sg**	**15 57 19.3**	**-0.4**
MURC	**Murrieta**	**1.32**	**313**	⇑P	**Pn**	**15 57 06.3**	**-1.0**
	baz=1.2,SNR=208						
MURC				⇓S	**Sb**	**15 57 24.0**	**-0.5**
	baz=1.2						
IRM	**Iron Mountain**	**1.63**	**27**	⇓P	**Pn**	**15 57 10.3**	**-1.3**
	baz=1.6,SNR=185						
Y12C	**Blythe**	**1.65**	**50**	P	**Pn**	**15 57 10.4**	**-1.4**
	baz=1.7,SNR=91						
BBRC	**Big Bear Sol-O**	**1.71**	**335**	⇓P	**Pn**	**15 57 12.4**	**-0.3**
	baz=1.7,SNR=248						
BFSC	**Mount Baldy St**	**2.04**	**319**	⇑P	**Pn**	**15 57 16.1**	**-1.1**
	baz=2.0,SNR=141						
CIS	**Catalina Islan**	**2.10**	**290**	⇓P	**Pn**	**15 57 17.9**	**-0.2**
	baz=2.0,SNR=157						
CIS				⇑S	**Sn**	**15 57 44.2**	**0.0**
	baz=2.0						
SCI	**San Clemente I**	**2.12**	**278**	⇑P	**Pn**	**15 57 18.1**	**-0.3**
	baz=2.1,SNR=18						
SCI				⇓S	**Sn**	**15 57 44.8**	**0.0**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.13**	**354**	⇓P	**Pn**	**15 57 17.5**	**-1.0**
	baz=2.1,SNR=22						
FMP	**Fort Macarthur**	**2.13**	**299**	⇓S	**Sn**	**15 57 45.6**	**+0.6**
	baz=2.1						
Y13A	**Salome**	**2.16**	**59**	⇑P	**Pn**	**15 57 17.7**	**-1.2**
	baz=2.2,SNR=17						
PDMCI	**Parker Dam,Lak**	**2.25**	**45**	⇓P	**Pn**	**15 57 19.3**	**-0.8**
	baz=2.3						
RRX	**Edison Barstow**	**2.31**	**340**	⇓P	**Pn**	**15 57 20.2**	**-0.7**
	baz=2.3						
DECC	**Green Verdugo**	**2.45**	**309**	⇓P	**Pn**	**15 57 22.4**	**-0.4**
	baz=2.4,SNR=14						
X13A	**Yucca**	**2.64**	**44**	P	**Pn**	**15 57 25.0**	**-0.4**
	baz=2.7,SNR=92						
GSC	**Goldstone**	**2.66**	**346**	*e*Pn	**Pn**	**15 57 25.0**	**-0.8**
GSC				*e*Pg	**Pg**	**15 57 32.0**	**-1.8**
GSC	**Goldstone**	**2.66**	**346**	⇑P	**Pn**	**15 57 25.2**	**-0.6**
	baz=2.6,SNR=9.1						
Z14A	**Wintersburg**	**2.68**	**75**	⇑P	**Pn**	**15 57 24.8**	**-1.3**
	baz=2.7,SNR=21						
EDW2	**Edwards Air Fo**	**2.71**	**324**	⇑P	**Pn**	**15 57 26.1**	**-0.2**
	baz=2.6,SNR=14						
TUQ	**Turquoise Mtn.**	**2.72**	**2**	P	**Pn**	**15 57 25.9**	**-0.7**
	baz=2.7,SNR=27						
W12A	**Cal Nev Ari**	**2.77**	**20**	⇓P	**Pn**	**15 57 26.5**	**-0.7**
	baz=2.8						
Y14A	**Wickenburg**	**2.83**	**63**	⇑P	**Pn**	**15 57 27.1**	**-0.9**
	baz=2.9,SNR=30						
BLG	**Laguna Peak**	**2.89**	**300**	⇓S	**Sn**	**15 58 03.4**	**-0.3**
	baz=2.8						
SNCC	**San Nicolas Is**	**2.97**	**281**	*e*Pn	**Pn**	**15 57 29.9**	**-0.1**
SNCC	**San Nicolas Is**	**2.97**	**281**	⇓P	**Pn**	**15 57 29.5**	**-0.5**
	baz=2.9						
SNCC				⇑S	**Sn**	**15 58 05.7**	**-0.1**
	baz=2.9						
W13A	**Hualapai Mount**	**2.98**	**36**	⇑P	**Pn**	**15 57 30.2**	**0.0**
	baz=3.0,SNR=28						
LRMC	**Laurel Mountai**	**3.08**	**334**	⇑P	**Pn**	**15 57 31.0**	**-0.5**
	baz=3.0,SNR=31						
X14A	**Yava**	**3.17**	**55**	⇑P	**Pn**	**15 57 32.2**	**-0.5**
	baz=3.2,SNR=150						
V12A	**Nelson**	**3.17**	**18**	⇑P	**Pn**	**15 57 32.3**	**-0.4**
	baz=3.2,SNR=24						
SHOC	**Shoshone**	**3.19**	**357**	⇑P	**Pn**	**15 57 32.3**	**-0.7**
	baz=3.2						
115A	**Sonoran Desert**	**3.22**	**89**	P	**Pn**	**15 57 32.9**	**-0.5**
	baz=3.3,SNR=59						
W14A	**Seligman**	**3.51**	**44**	⇑P	**Pn**	**15 57 37.4**	**0.0**
	baz=3.5,SNR=62						
W14A				⇓S	**Sn**	**15 58 18.4**	**-0.5**
	baz=3.5						
MPMC	**Manual Prospec**	**3.55**	**341**	P	**Pn**	**15 57 37.6**	**-0.4**
	baz=3.5,SNR=23						
ISA	**Isabella**	**3.57**	**326**	*e*Pn	**Pn**	**15 57 37.6**	**-0.7**
ISA	**Isabella**	**3.57**	**326**	⇑P	**Pn**	**15 57 37.9**	**-0.3**
	baz=3.5,SNR=8.5						
X15A	**Humboldt**	**3.64**	**60**	⇓P	**Pn**	**15 57 38.8**	**-0.4**
	baz=3.7,SNR=143						
116A	**Eloy**	**3.67**	**91**	⇑P	**Pn**	**15 57 38.4**	**-1.2**
	baz=3.7,SNR=30						
DAC	**Darwin (Calif)**	**3.78**	**341**	*e*Pn	**Pn**	**15 57 40.8**	**-0.3**
DAC				*e*Pg	**Pg**	**15 57 52.2**	**-3.0**
GVA	**Apache Junctio**	**3.82**	**78**	P	**Pn**	**15 57 40.4**	**-1.3**
PKM	**Peak Mountain**	**3.83**	**306**	⇓P	**Pn**	**15 57 42.0**	**+0.2**
	baz=3.7						
U12A	**Valley of Fire**	**3.92**	**18**	⇓P	**Pn**	**15 57 43.8**	**+0.7**
	baz=3.9,SNR=5.5						
W15A	**Williams**	**3.99**	**51**	⇓P	**Pn**	**15 57 44.9**	**+0.8**
	baz=4.0						
GRAC	**Grapevine Rang**	**4.42**	**346**	⇓P	**Pn**	**15 57 50.4**	**+0.5**
	baz=4.4,SNR=16						
TUC	**Tucson**	**4.46**	**94**	*e*Pn	**Pn**	**15 57 48.5**	**-2.0**
PTRM	**Twissleman Ran**	**4.54**	**312**	*e*Pn	**Pn**	**15 57 51.2**	**-0.3**
HELL	**Mitchell Peak,**	**4.66**	**329**	⇓P	**Pn**	**15 57 53.6**	**+0.3**
	baz=4.6,SNR=7.7						
WUAZ	**Wupatki**	**4.78**	**53**	*e*Pn	**Pn**	**15 57 55.5**	**+0.6**
WUAZ	**Wupatki**	**4.78**	**53**	⇓P	**Pn**	**15 57 55.8**	**+0.9**
	baz=4.8						
PKD	**Parkfield**	**4.93**	**312**	⇓P	**Pn**	**15 57 57.4**	**+0.5**
	baz=4.9						
MTUM	**Tungsten Hills**	**5.08**	**337**	*e*Pn	**Pn**	**15 57 59.7**	**+0.7**
S08C	**White Mtn Res**	**5.09**	**341**	⇓P	**Pn**	**15 58 00.1**	**+1.0**
	baz=5.0,SNR=25						
S09A	**Goldfield**	**5.10**	**349**	⇓P	**Pn**	**15 58 00.0**	**+0.8**
	baz=5.1						
T06C	**Millerton Lake**	**5.24**	**326**	⇓P	**Pn**	**15 58 02.1**	**+0.9**
	baz=5.2						
CCUT	**Cedar City**	**5.31**	**24**	*e*P	**Pn**	**15 58 03.0**	**+0.9**
KCC	**Kaiser Creek**	**5.33**	**331**	⇑P	**Pn**	**15 58 03.6**	**+1.2**
	baz=5.3,SNR=5.5						
V03C	**Hunter Liggett**	**5.42**	**309**	⇑P	**Pn**	**15 58 04.4**	**+0.8**
	baz=5.3,SNR=15						
TPH	**Tonopah**	**5.44**	**350**	*e*Pn	**Pn**	**15 58 04.0**	**0.0**
	comp=N,56nm,0.8s						
TPH				*e*Pg	**Pg**	**15 58 23.2**	**-3.7**
ARUT	**Antelope Range**	**5.50**	**22**	*e*Pn	**Pn**	**15 58 05.6**	**+0.9**
ARUT				*e*Pg	**Pg**	**15 58 26.1**	**-2.0**
LRV	**Little Rabbit**	**5.53**	**313**	*e*Pn	**Pn**	**15 58 06.3**	**+1.1**
R10A	**Warm Springs**	**5.57**	**358**	⇓P	**Pn**	**15 58 07.4**	**+1.6**
	baz=5.5						
R09A	**Tonopah**	**5.58**	**352**	⇑P	**Pn**	**15 58 07.5**	**+1.6**
	baz=5.5						
TRCR	**Troy Canyon**	**5.64**	**4**	*e*Pn	**Pn**	**15 58 10.2**	**+3.5**
HAST	**UC Hastings Re**	**5.84**	**310**	⇑P	**Pn**	**15 58 09.2**	**-0.2**
	baz=5.8						
SAO	**San Andreas Ge**	**6.01**	**314**	Pn	**Pn**	**15 58 13.1**	**+1.2**
	comp=N,26nm,0.7s						
CMB	**Columbia Colle**	**6.39**	**328**	*e*Pn	**Pn**	**15 58 17.3**	**+0.3**
	comp=N,21nm,0.8s						
MSU	**Marysvale**	**6.59**	**27**	*e*Pn	**Pn**	**15 58 23.6**	**+3.8**
LAZ	**Ladron**	**7.62**	**75**	*e*Pn	**Pn**	**15 58 35.1**	**+1.2**
MVCO	**Mesa Verde**	**7.65**	**52**	*e*Pn	**Pn**	**15 58 36.8**	**+2.5**
	comp=N,38nm,0.6s						
TMUT	**Trail Mountain**	**7.65**	**29**	*e*Pn	**Pn**	**15 58 29.1**	**-5.3**
LENM	**Lemitar**	**7.72**	**77**	*e*Pn	**Pn**	**15 58 35.7**	**+0.5**
SRU	**San Rafael**	**7.80**	**33**	*e*Pn	**Pn**	**15 58 39.1**	**+2.7**
	comp=N,25nm,0.7s						
OHCM	**Honcut**	**7.95**	**328**	*e*Pn	**Pn**	**15 58 40.0**	**+1.6**
BNM	**Barren Site**	**8.00**	**77**	*e*Pn	**Pn**	**15 58 40.0**	**+0.9**
LPM	**Los Pinos Moun**	**8.02**	**76**	*e*Pn	**Pn**	**15 58 40.1**	**+0.7**
ANMO	**Albuquerque**	**8.28**	**72**	*e*Pn	**Pn**	**15 58 43.8**	**+0.8**
	comp=N,7.6nm,0.7s						
MNTX	**Cornudas Mount**	**9.09**	**94**	*e*Pn	**Pn**	**15 58 54.1**	**+0.1**
	comp=N,14nm,0.9s						
MNTX				*e*Sn	**Sn**	**16 00 35.6**	**-0.9**
HWUT	**Hardware Ranch**	**9.57**	**21**	*e*Pn	**Pn**	**15 59 02.8**	**+2.1**
	comp=N,5.0nm,1.0s						
SMCO	**Snowmass**	**9.78**	**46**	*e*Pn	**Pn**	**15 59 07.0**	**+3.5**
	comp=N,11nm,0.8s						
SDCO	**Great Sand Dun**	**9.98**	**57**	*e*Pn	**Pn**	**15 59 07.8**	**+1.6**
	comp=N,6.7nm,0.7s						
MCMT	**McKenzie Canyo**	**12.36**	**11**	*e*Pn	**Pn**	**15 59 44.4**	**+5.6**
CHMT	**Chamberlain Mo**	**14.35**	**8**	Pn	**Pn**	**16 00 10.3**	**+4.3**
NEW	**Newport**	**15.56**	**357**	*e*Pn	**Pn**	**16 00 22.7**	**+0.4**
	comp=N,4.9nm,0.8s						
JFWS	**Jewell Farm**	**22.70**	**56**	*e*Pn	**P**	**16 01 45.5**	**+0.8**
	comp=N,35nm,1.1s,mb4.7						
MDJ	**Mudanjiang**	**82.64**	**319**	P	**P**	**16 09 04.6**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,34nm,5.1s						
BJI	**Beijing**	**92.98**	**323**	P	**P**	**16 09 56.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**94.64**	**326**	*e*P	**P**	**16 10 05.1**	**+1.1**
HHC				AP	pP	16 10 10.0	+2.9
HHC				XP	sP	16 10 12.1	+3.9
HHC				PP	PP	16 13 55.9	+3.9
HHC				S	S	16 21 14.1	-3.1
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,95nm,5.0s						
HHC				LR	LR		
	comp=N,187nm,21.6s,MS4.6						
HHC				LR	LR		
	comp=E,125nm,21.0s,MS4.6						
HHC				LR	LR		
	comp=Z,112nm,21.4s,MS4.3						
WMQ	**Urumqi**	**100.81**	**343**	*e*P	Pdif	16 10 33.5	+1.7
WMQ				AP		16 10 37.5	

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*ISCJB **03** 16:12:12.2±0.3,3274N±002×11602W±002,h13^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=2.6km az=85.2*
*ECX **03** 16:12:13.5±0.6,3272N×11605W,h2^{km}±1^{km},MD3.6, ML3.6*
*NEIC **03** 16:12:13.3,3270N×11606W,h9^{km},ML3.6(ECX), ML3.6(PAS),After PAS.*
NEIC 3.6 [ECX].
ISC 03 16:12:12.4±0.3**,3273N**±002×**11604W**±002**,h13**^{km}±2^{km}**, n44,**σ**0^{s}81**/72**,21C-22D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.09**	**220**	⇑P	**Pg**	**16 12 15.3**	**+0.1**
	baz=0.1,SNR=1000						
DVTC				⇑S	**Sg**	**16 12 17.0**	**-0.2**
	baz=0.1						
RMX	**La Rumorosa**	**0.13**	**197**	⇑*e*P	**Pg**	**16 12 16.0**	**+0.2**
RMX				*e*S	**Sg**	**16 12 17.7**	**-0.4**
CRR	**Carrizo Plain**	**0.17**	**19**	⇓*e*P	**Pg**	**16 12 16.9**	**+0.6**
SGL	**Mount Signal**	**0.27**	**106**	⇑*e*P	**Pg**	**16 12 18.8**	**+0.7**
COK	**Cook Ranch**	**0.29**	**64**	⇑*e*P	**Pg**	**16 12 19.5**	**+1.1**
SWSC	**Sam W. Stewart**	**0.29**	**43**	⇑P	**Pg**	**16 12 19.3**	**+0.8**
	baz=0.3,SNR=1000						
SWSC				⇑S	**Sg**	**16 12 23.7**	**+1.1**
	baz=0.3						
MONP	**Monument Peak**	**0.36**	**297**	P	**Pg**	**16 12 20.2**	**+0.4**
	baz=0.3,SNR=1000						
MONP				⇓S	**Sg**	**16 12 25.2**	**+0.6**
	baz=0.3						
CBX	**Cerro Bola**	**0.67**	**232**	⇑*e*P	**Pg**	**16 12 25.5**	**0.0**
CBX				*e*S	**Sg**	**16 12 34.6**	**+0.3**
CPBX	**Cerro Prieto**	**0.69**	**116**	⇓*e*P	**Pg**	**16 12 25.6**	**-0.2**
CPBX				*e*S	**Sg**	**16 12 35.8**	**+0.9**
RDX	**Rancho Dowling**	**0.79**	**175**	⇓*e*P	**Pg**	**16 12 27.6**	**-0.2**
RDX				*e*S	**Sg**	**16 12 38.2**	**0.0**
RDX				⇑*e*		16 12 43.1	
	comp=N,2μm,0.3s						
109C	**Camp Elliot, M**	**0.92**	**281**	⇓P	**Pg**	**16 12 29.7**	**-0.4**
	baz=0.9,SNR=58						
109C				⇓S	**Sg**	**16 12 41.5**	**-0.6**
	baz=0.9						
PFO	**Pinyon Flat Ob**	**0.95**	**338**	*e*Pg	**Pg**	**16 12 30.2**	**-0.6**
PFO				*e*Sg	**Sg**	**16 12 43.5**	**+0.4**
PFO	**Pinyon Flat Ob**	**0.95**	**338**	P	**Pb**	**16 12 30.7**	**-0.1**
	baz=0.9,SNR=388						
PFO				⇑S	**Sg**	**16 12 43.7**	**+0.5**
	baz=0.9						
EMX	**El Mayor**	**0.99**	**137**	⇓*e*P	**Pb**	**16 12 31.4**	**-0.2**
EMX				*e*S	**Sb**	**16 12 44.8**	**+0.2**
ENX	**Ensenada**	**0.99**	**213**	*e*P	**Pb**	**16 12 30.9**	**-0.7**
ENX				*e*S	**Sb**	**16 12 44.4**	**-0.2**
ENX				⇓*e*		16 12 49.4	
	comp=N,2μm,1.0s						
GLA	**Glamis**	**1.07**	**72**	*e*Pg	**Pg**	**16 12 31.8**	**-1.2**
GLA				*e*Sg	**Sg**	**16 12 45.0**	**-1.9**
GLA	**Glamis**	**1.07**	**72**	P	**Pb**	**16 12 32.0**	**-0.7**
	baz=1.1,SNR=306						
GLA				⇓S	**Sb**	**16 12 45.4**	**-1.2**
	baz=1.1						
PBX	**Punta Banda**	**1.14**	**211**	*e*P	**Pb**	**16 12 33.9**	**-0.2**
PBX				*e*S	**Sb**	**16 12 49.0**	**+0.2**
ECNX	**Esteban Cantu**	**1.17**	**204**	*e*P	**Pb**	**16 12 34.1**	**-0.4**
ECNX				*e*P		16 12 31.3	
ECNX				*e*S	**Sb**	**16 12 44.8**	**-4.8**
ECNX				*e*S	**Sb**	**16 12 49.5**	**0.0**
MURC	**Murrieta**	**1.31**	**312**	⇓P	**Pn**	**16 12 36.7**	**+0.2**
	baz=1.3						
MURC				⇑S	**Sb**	**16 12 54.0**	**+0.3**
	baz=1.3						
IRM	**Iron Mountain**	**1.61**	**27**	⇓P	**Pn**	**16 12 40.1**	**-0.5**
	baz=1.6,SNR=51						
IRM				⇓S	**Sn**	**16 13 01.5**	**+0.3**
	baz=1.6						
Y12C	**Blythe**	**1.63**	**51**	⇑P	**Pn**	**16 12 40.3**	**-0.5**
	baz=1.7,SNR=12						
Y12C				⇑S	**Sn**	**16 13 01.6**	**-0.1**
	baz=1.7						
BBRC	**Big Bear Sol-O**	**1.70**	**334**	⇓P	**Pn**	**16 12 42.2**	**+0.3**
	baz=1.7,SNR=13						
HEC	**Hector,Ludlow**	**2.11**	**353**	⇑P	**Pn**	**16 12 47.4**	**-0.1**
	baz=2.1						
Y13A	**Salome**	**2.14**	**59**	⇓P	**Pn**	**16 12 47.8**	**-0.1**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.23**	**45**	⇓S	**Sn**	**16 13 15.4**	**-1.1**
	baz=2.3						
X13A	**Yucca**	**2.62**	**44**	⇓P	**Pn**	**16 12 54.6**	**+0.2**
	baz=2.7						
X13A				⇑S	**Sn**	**16 13 26.4**	**+0.3**
	baz=2.7						
GSC	**Goldstone**	**2.65**	**346**	*e*Pn	**Pn**	**16 12 55.0**	**+0.1**
GSC				*e*Pg	**Pg**	**16 13 01.9**	**-1.3**
Z14A	**Wintersburg**	**2.67**	**75**	⇓P	**Pn**	**16 12 55.0**	**-0.2**
	baz=2.7						
EDW2	**Edwards Air Fo**	**2.70**	**323**	⇑P	**Pn**	**16 12 55.6**	**+0.1**
	baz=2.7						
TUQ	**Turquoise Mtn.**	**2.71**	**2**	⇑P	**Pn**	**16 12 55.7**	**+0.1**
	baz=2.7,SNR=7.8						
TUQ				⇓S	**Sn**	**16 13 27.4**	**-0.8**
	baz=2.7						
Y14A	**Wickenburg**	**2.81**	**64**	⇓S	**Sn**	**16 13 31.4**	**+0.5**
	baz=2.9						
W13A	**Hualapai Mount**	**2.97**	**36**	⇑P	**Pn**	**16 12 59.5**	**+0.3**
	baz=3.0						
LRMC	**Laurel Mountai**	**3.07**	**334**	⇑P	**Pn**	**16 13 01.0**	**+0.3**
	baz=3.0						
X14A	**Yava**	**3.15**	**56**	⇓P	**Pn**	**16 13 02.3**	**+0.6**
	baz=3.2						
115A	**Sonoran Desert**	**3.21**	**89**	⇓P	**Pn**	**16 13 03.1**	**+0.5**
	baz=3.3						
W14A	**Seligman**	**3.49**	**44**	⇑S	**Sn**	**16 13 47.9**	**+0.3**
	baz=3.5						
ISA	**Isabella**	**3.56**	**326**	*e*Pn	**Pn**	**16 13 07.9**	**+0.5**
X15A	**Humboldt**	**3.62**	**60**	⇓P	**Pn**	**16 13 09.3**	**+1.0**
	baz=3.7						
X15A				⇑S	**Sn**	**16 13 50.3**	**-0.6**
	baz=3.7						
DAC	**Darwin (Calif)**	**3.77**	**340**	*e*Pn	**Pn**	**16 13 10.9**	**+0.6**
DAC				*e*Pg	**Pg**	**16 13 21.5**	**-3.2**
TUC	**Tucson**	**4.46**	**94**	*e*Pn	**Pn**	**16 13 19.1**	**-0.6**
WUAZ	**Wupatki**	**4.76**	**53**	*e*Pn	**Pn**	**16 13 25.8**	**+1.9**
WUAZ				*e*Pg	**Pg**	**16 13 46.6**	**+2.9**
MTUM	**Tungsten Hills**	**5.06**	**337**	*e*Pn	**Pn**	**16 13 30.6**	**+2.5**
MTUM				*e*Pg	**Pg**	**16 13 46.4**	**-3.0**
ARUT	**Antelope Range**	**5.48**	**22**	*e*Pn	**Pn**	**16 13 40.6**	**+6.9**
ARUT				*e*Pg	**Pg**	**16 13 55.6**	**-1.8**

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*IDC **03** 16:17:25.2±1.7,5205N×17622E,h0^{km},mb3.7/5, mb1 3.9/6,mb1mx3.7/25,mbtmp3.8/6,ML4.2/1,Error ellipse: s-maj=43.8km s-min=32.5km az=149.0*
*NEIC **03** 16:17:27.2±5.2,5196N×17625E,h14^{km}±34^{km}, ML3.6(AEIC),Error ellipse: s-maj=20.7km s-min=10.7km az=189.0*
*ISCJB **03** 16:17:28.5±3.6,520N±0.1×17636E±0.10,h32^{km}±26^{km}, mb4.1/8,Error ellipse: s-maj=22.6km s-min=7.7km az=36.1*
ISC 03 16:17:27.9±4.6**,520N**±01×**17636E**±010**,h17**^{km}±28^{km}**,n18,** σ**0^{s}96**/20**,mb4.1**/8**,Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.56**	**298**	P	**Pn**	**16 17 54.1**	**-0.6**
SMY				S	**Sn**	**16 18 14.5**	**0.0**
AMKA	**Amchitka**	**1.94**	**108**	P	**Pn**	**16 17 59.9**	**-0.1**
AMKA				*e*Sn	**Sn**	**16 18 23.5**	**-0.5**
KDAK	**Kodiak Island**	**18.66**	**60**	P	**Pn**	**16 21 45.5**	**+0.3**
	0.7nm,0.3s,baz=306,slow=17,SNR=6.9						
EGAK	**Eagle**	**25.09**	**43**	*e*P	**P**	**16 22 51.7**	**+0.2**
	10nm,1.1s,mb4.3						
DAWY	**Dawson**	**25.75**	**45**	*e*P	**P**	**16 22 58.6**	**+1.1**
SONM	**Songino Array**	**43.65**	**294**	P	**P**	**16 25 31.9**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=68,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**57.24**	**305**	P	**P**	**16 27 12.1**	**-2.1**
	0.5nm,0.5s,mb3.9,baz=42,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**57.24**	**305**	P	**P**	**16 27 12.1**	**-2.1**
FINES	**FINESS Array B**	**64.44**	**345**	P	**P**	**16 28 02.0**	**-1.1**
	1.3nm,0.8s,mb4.0,baz=31,slow=4.4,SNR=4.2						
NB2	**NORSAR Subarra**	**66.67**	**352**	P	**P**	**16 28 17.0**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.4,baz=10,slow=6.5						
NOA	**NORSAR Array B**	**66.67**	**352**	P	**P**	**16 28 16.9**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=11,slow=6.4,SNR=4.8						
NOA	**NORSAR Array B**	**66.67**	**352**	P	**P**	**16 28 16.9**	**-0.7**
GUN	**Gumba**	**68.81**	**288**	*e*P	**P**	**16 28 32.4**	**+1.3**
	comp=Z,20nm,0.9s,mb5.0						
JIRN	**Jiri**	**68.81**	**288**	*e*P	**P**	**16 28 31.9**	**+0.8**
	comp=Z,6.9nm,0.6s,mb4.8						
KKN	**Kakani**	**69.25**	**289**	*e*P	**P**	**16 28 33.9**	**+0.1**
GKN	**Gorkha**	**69.47**	**289**	*e*P	**P**	**16 28 37.6**	**+2.4**
DMN	**Daman**	**69.49**	**289**	*e*P	**P**	**16 28 34.4**	**-0.9**
ASAR	**Alice Springs**	**84.01**	**218**	P	**P**	**16 29 57.0**	**-0.3**
	comp=Z,0.4nm,0.9s,mb3.6,baz=20,slow=5.0,SNR=5.1						

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*CSEM **03** 16:25:49.4±0.4,3883N×2781W,h2^{km}±4^{km},ML2.0,Error ellipse: s-maj=7.5km s-min=1.4km az=95.0,After PDA*
*PDA **03** 16:25:49.4±0.4,3883N×2781W,h2^{km}±4^{km},MD3.1,ML2.0, Error ellipse: s-maj=7.5km s-min=1.4km az=95.0*
SVSA 03 16:25:49.4±0.4**,3883N**×**2781W,h2**^{km}±4^{km}**,MD3.1,ML2.0, Error ellipse: s-maj=7.5km s-min=1.4km az=95.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.24**	**327**	*e*P	Pg	16 25 53.6	-0.4
PGRA				*e*S	Sg	16 25 57.0	-0.1
PGRA							
	50nm,0.4s						
PGRA	**Graciosa**	**0.24**	**327**	*e*P	Pg	16 25 53.6	-0.4
PGRA				*e*S	Sg	16 25 57.0	-0.1
PMAN	**Manadas**	**0.29**	**228**	*e*P	Pg	16 25 54.7	-0.3
PMAN				*e*S	Sg	16 25 58.4	-0.4
PMAN							
	390nm,0.3s						
PMAN	**Manadas**	**0.29**	**228**	*e*P	Pg	16 25 54.7	-0.3
PMAN				*e*S	Sg	16 25 58.4	-0.4
ROSA	**Rosais**	**0.35**	**252**	*e*P	Pg	16 25 55.8	-0.4
PID	**Ribeirinha**	**0.45**	**212**	*e*P	Pg	16 25 57.5	-0.6
PICO	**Pico**	**0.58**	**236**	*e*S	Sg	16 26 06.9	-1.2
CALA	**Caldeira**	**0.74**	**251**	*e*P	Pg	16 25 56.2	-7.3

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*BER **03** 16:27:34.0±3.5,7204N×109E,h3^{km}±284^{km},ML2.5(NAO)*
NAO 03 16:27:38.5±8.3**,7223N**×**245E,ML2.5,Norwegian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**6.93**	**24**	Pn	Pn	16 29 19.4	-1.8
	baz=205,slow=16						
ARA0	**ARCESS Array S**	**8.01**	**98**	Pn	Pn	16 29 35.0	-1.0
	baz=294,slow=12						
ARA0				Sn	Sn	16 31 04.6	-2.7
	baz=305,slow=22						

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*ISCJB **03** 16:30:37.8±0.4,5883N±003×1520E±007,h0^{km},Error ellipse: s-maj=5.2km s-min=4.3km az=60.1*
*CSEM **03** 16:30:38.1±0.1,5879N×1501E,h2^{km},ML3.0,Error ellipse: s-maj=5.0km s-min=2.8km az=91.0,Mining explosion.*
*UPP **03** 16:30:38.2,5882N×1509E,h0^{km},ML3.0,Mining explosion.*
*HEL **03** 16:30:39.0±0.1,5881N×1508E,h0^{km},ML1.7,ML3.0(UPP), Explosion*
ISC 03 16:30:38.4±0.4**,5883N**±003×**1516E**±006**,h0**^{km}**,n28,** σ**0^{s}99**/36**,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.18**	**290**	*i* P	**Pg**	**16 30 41.5**	**-0.4**
LNKU	**Linkoeping**	**0.64**	**163**	*i* P	**Pg**	**16 30 50.2**	**-0.5**
NRAU	**Nora**	**0.74**	**355**	*i* P	**Pg**	**16 30 52.5**	**-0.1**
ESKU	**Eskilstuna**	**0.75**	**58**	*i* P	**Pg**	**16 30 53.0**	**+0.1**
VIKU	**Vikbolandet**	**0.87**	**112**	*i* P	**Pg**	**16 30 54.9**	**-0.2**
NASU	**Vaermlandsnaes**	**1.03**	**276**	P	**Pg**	**16 30 56.8**	**-1.3**
VSTU	**Vaestervik**	**1.39**	**148**	*e*P	**Pg**	**16 31 03.7**	**-1.2**
BACU	**Backbrunna**	**1.43**	**44**	*e*P	**Pn**	**16 31 05.3**	**-0.3**
UDD	**Uddeholm**	**1.49**	**329**	*e*P	**Pn**	**16 31 05.5**	**-0.9**
NYNU	**Nynaeshamn**	**1.49**	**82**	*e*P	**Pn**	**16 31 06.3**	**-0.1**
ASPU	**Aespoe**	**1.61**	**151**	*e*P	**Pn**	**16 31 07.8**	**-0.3**
FALU	**Falun**	**1.70**	**11**	*e*P	**Pn**	**16 31 09.7**	**+0.4**
OSKU	**Oskarshamn**	**1.72**	**163**	*e*P	**Pn**	**16 31 09.4**	**-0.1**
OSTU	**Oestervaala**	**1.73**	**35**	*e*P	**Pn**	**16 31 10.2**	**+0.6**
BYXU	**Byxelkrok**	**1.83**	**147**	*e*P	**Pn**	**16 31 11.8**	**+0.6**
FLYU	**Flymyra**	**1.90**	**46**	*e*P	**Pn**	**16 31 13.5**	**+1.4**
NRTU	**Norrtaelje**	**1.98**	**63**	*e*P	**Pn**	**16 31 14.7**	**+1.6**
NRTU	**Norrtaelje**	**1.98**	**63**	P	**Pn**	**16 31 14.6**	**+1.5**
STRU	**Stroemstad**	**2.07**	**277**	*e*P	**Pn**	**16 31 15.0**	**+0.6**
GOTU	**Gotland**	**2.14**	**121**	*e*P	**Pn**	**16 31 17.1**	**+1.8**
IGGU	**Iggoen**	**2.32**	**27**	*e*P	**Pn**	**16 31 18.9**	**+1.1**
BSD	**Bornholm Skovb**	**3.73**	**182**	*i* P	**Pn**	**16 31 37.2**	**0.0**
BSD				*i*		16 31 44.6	
BSD				*i* S	**Sn**	**16 32 21.1**	**-0.8**
BSD				*i* LG		16 32 34.6	
RAF	**Rauma**	**3.98**	**54**	*e*P	**Pn**	**16 31 41.9**	**+1.2**
RAF				*e*S	**Sn**	**16 32 27.1**	**-1.0**
RAF				*e*SG	**Sg**	**16 32 42.8**	**-3.7**
RAF				MSG		16 32 44.5	
	comp=Z,1.2nm,0.3s						
MEF	**Metsahovi**	**4.91**	**70**	*e*P	**Pn**	**16 31 55.7**	**+2.3**
MEF				*e*S	**Sn**	**16 32 50.7**	**-0.1**
PVF	**Pernaja**	**5.69**	**68**	*e*P	**Pn**	**16 32 04.8**	**+0.7**
PVF				*e*S	**Sn**	**16 33 09.8**	**-0.3**
KEF	**Keuruu**	**5.85**	**51**	*e*P	**Pn**	**16 32 06.8**	**+0.5**
KEF				*e*S	**Sn**	**16 33 12.3**	**-1.8**
KAF	**Kangasniemi**	**6.42**	**54**	*e*P	**Pn**	**16 32 13.9**	**-0.2**
KAF				*e*S	**Sn**	**16 33 26.6**	**-1.4**
SUF	**Sumiainen**	**6.64**	**49**	*e*P	**Pn**	**16 32 18.1**	**+0.9**
SUF				*e*S	**Sn**	**16 33 31.4**	**-2.2**

CASC 03 16:38:26.3±2.0**,841N**×**8291W,h20**^{km}±7^{km}**,MD3.6,1C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.36**	**313**	*e*P	Pg	16 38 33.8	-0.1
ACR				*e*S	Sg	16 38 40.3	+1.2
DVD	**David**	**0.45**	**86**	⇓*i*P	Pb	16 38 34.9	-0.6
CTCR	**Cotoan**	**0.51**	**17**	⇑*e*P	Pb	16 38 36.4	-0.1
CTCR				*e*S	Sb	16 38 45.7	+2.3
BRU	**Baru**	**0.52**	**41**	*e*P	Pb	16 38 37.1	+0.3
CNI	**Changuinola**	**1.07**	**21**	*e*P	Pb	16 38 45.3	-0.9
BUS	**Buena Vista**	**1.42**	**324**	*e*P	Pn	16 38 49.8	-1.1
BUS				*e*S	Sn	16 39 11.9	+2.9
LCR2	**La Lucha 2**	**1.71**	**321**	*e*P	Pn	16 38 55.5	+0.5
LCR2				*e*S	Sn	16 39 18.5	+2.2
PRS1	**Puriscal**	**2.09**	**319**	*e*P	Pn	16 38 59.4	-0.9
PRS1				*e*S	Sn	16 39 26.7	+1.0
PTP	**Ponta Puerca**	**19.43**	**58**	*e*P		16 38 32.1	

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*ISCJB **03** 16:44:48.5±1.0,259N±02×966E±0.1,h10^{km},mb3.6/3, MS2.8/1,Error ellipse: s-maj=33.7km s-min=11.9km az=47.1*
*IDC **03** 16:44:49.2±4.4,2629N×97.15E,h0^{km},mb3.4/3,mb1 3.6/3, mb1mx3.2/22,mbtmp3.4/3,MS2.9/1,Ms1 2.9/1, ms1mx2.2/22,Error ellipse: s-maj=590.1km s-min=27.1km az=58.0*
ISC 03 16:44:50.5±1.1**,261N**±02×**968E**±01**,h10**^{km}**,n11,**σ**0^{s}90**/10,

mb3.6/3, MS2.8/1, Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIRN	Jiri	9.58	282	eP	Pn	16 47 09.5	+1.1
	10.0nm,0.3s						
GUN	Gumba	9.88	283	eP	Pn	16 47 13.7	+1.1
	6.9nm,0.2s						
PKI	Pulchoki	10.26	281	eP	Pn	16 47 18.4	+0.7
	3.0nm,0.2s						
KKN	Kakani	10.39	282	eP	Pn	16 47 20.0	+0.4
	7.2nm,0.4s						
DMN	Daman	10.53	281	eP	Pn	16 47 20.8	-0.7
GKN	Gorkha	10.98	283	eP	Pn	16 47 27.0	-0.7
KOLN	Koldanda	11.87	281	eP	Pn	16 47 37.5	-2.4
	1.9nm,0.3s						
MKAR	Makanchi Array	23.62	335	P	P	16 50 01.9	0.0
	1.9nm,0.7s,mb3.6,baz=142,slow=11,SNR=12						
KSRS	Korea Array	28.66	59	LR	LR	17 02 38.0	
	comp=Z,22nm,18.0s,MS2.8,baz=190,slow=38						
WRA	Warramunga Arr	58.53	138	P	P	16 54 47.2	+0.1
	0.3nm,0.6s,mb3.5,baz=328,slow=7.5,SNR=4.7						
ASAR	Alice Springs	61.15	141	P	P	16 55 05.1	0.0
	0.4nm,0.9s,mb3.5,baz=313,slow=7.3,SNR=4.3						

GUC 03 16:59:27.7±0.6, 33.13S×70.25W, h6km±6km, MD3.7, ML2.2, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.20	191⇑	iP	Pg	16 59 32.1	+0.5
FCH				AML	AML	16 59 35.2	
	comp=E,840nm,0.2s						
CLCH	Cerro Calan	0.36	223	eP	Pg	16 59 34.9	+0.2
CLCH				iS	Sg	16 59 40.4	+1.0
CLCH				AML	AML	16 59 42.1	
	comp=N,700nm,0.5s						
PEL	Peldehue	0.37	268⇓	eP	Pg	16 59 35.0	+0.1
PEL				iS	Sg	16 59 40.3	+0.6
PEL				AML	AML	16 59 51.8	
	comp=E,304nm,0.6s						
CHCH	Chadas Angostu	0.87	203	iP	Pg	16 59 44.2	-0.2
CHCH				iS	Sg	16 59 55.9	+0.3
CACH	El Canelo	1.02	197	eP	Pg	16 59 47.3	0.0
CACH				iS	Sg	17 00 01.4	+0.7
CICH	Cipreses	1.19	187	eP	Pg	16 59 50.0	-0.6
CICH				iS	Sg	17 00 06.5	+0.4
LNV	Longovilo	1.27	230⇓	iP	Pn	16 59 50.8	-1.2

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*IDC **03** 17:22:42.0±9.6, 30.55S×179.66W, h317km±95km, mb2.6/2, mb1 3.1/3, mb1mx2.9/13, mbtmp2.9/3, Error ellipse: s-maj=95.0km s-min=52.3km az=13.0*
*ISCJB **03** 17:22:45.4±1.2, 31.2S±0.1×178.9W±0.3, h442km±19km, mb2.7/2, Error ellipse: s-maj=49.0km s-min=13.1km az=38.3*
*NEIC **03** 17:22:49.9±4.1, 31.21S×179.62W, h422km±44km, Error ellipse: s-maj=54.9km s-min=34.9km az=190.0*
ISC 03 17:22:49.5±1.2, 31.2S±0.2×179.5W±0.5, h415km±44km, n44, σ1^{s}00/53, mb2.7/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.58	195	eP	P	17 24 29.5	+0.6
MXZ				S	S	17 25 49.9	-0.2
MXZ	Matakaoa Point	6.58	195	ePN	P	17 24 29.5	+0.6
MXZ				SN	S	17 25 49.9	-0.2
PUZ	Puketiti	7.08	195	eP	P	17 24 35.4	+1.1
PUZ				S	S	17 25 58.9	-1.2
PUZ	Puketiti	7.08	195	ePN	P	17 24 35.4	+1.1
PUZ				SN	S	17 25 58.9	-1.2
MWZ	Matawai	7.51	198	P	P	17 24 40.6	+1.5
MWZ	Matawai	7.51	198	PN	P	17 24 40.6	+1.5
URZ	Urewera	7.56	201	P	P	17 24 38.1	-1.5
	3.1nm,0.3s,baz=107,slow=14,SNR=30						
URZ				S	S	17 26 10.1	+0.3
	10nm,0.3s,baz=106,slow=21,SNR=22						
URZ	Urewera	7.56	201	eP	P	17 24 38.0	-1.6
URZ	Urewera	7.56	201	ePN	P	17 24 38.0	-1.6
URZ				SN	S	17 26 09.2	-0.6
KNZ	Kokohu	8.12	196	eP	P	17 24 46.1	+0.3
KNZ	Kokohu	8.12	196	ePN	P	17 24 46.1	+0.3
BKZ	Black Stump Fm	8.58	201	eP	P	17 24 49.8	-1.1
BKZ	Black Stump Fm	8.58	201	ePN	P	17 24 49.8	-1.1
TUVZ	Tukino	8.95	205	eP	P	17 24 55.9	+0.8
TUVZ	Tukino	8.95	205	ePN	P	17 24 55.9	+0.8
FWVZ	Far West T-bar	8.98	205	eP	P	17 24 53.1	-2.3
FWVZ	Far West T-bar	8.98	205	ePN	P	17 24 53.1	-2.2
WNVZ	Wahianoa	9.03	205	eP	P	17 24 54.9	-1.0
WNVZ	Wahianoa	9.03	205	ePN	P	17 24 54.9	-1.0
MOVZ	Moawhango	9.04	204	eP	P	17 24 56.6	+0.5
MOVZ	Moawhango	9.04	204	ePN	P	17 24 56.6	+0.6
PXZ	Pawanui	9.28	198	ePN	P	17 24 56.2	-2.5
PXZ				SN	S	17 26 43.3	-1.6
WPHZ	Waipukurau	9.42	199	ePN	P	17 25 02.2	+1.9
WPHZ				SN	S	17 26 48.9	+1.0
TSZ	Takapari Road	9.56	202	ePN	P	17 25 02.6	+0.7
KIW	Kapiti Island	10.63	204	ePN	P	17 25 13.6	0.0
MTW	Mount Morrison	10.71	201	eP	P	17 25 15.4	+0.9
MTW	Mount Morrison	10.71	201	ePN	P	17 25 15.4	+0.9
CAW	Cannon Point	10.80	202	eP	P	17 25 14.7	-0.8
CAW	Cannon Point	10.80	202	ePN	P	17 25 14.7	-0.8
MRW	Makara Radio	11.03	204	eP	P	17 25 18.5	+0.5
MRW	Makara Radio	11.03	204	ePN	P	17 25 18.5	+0.5
TCW	Tory Channel	11.16	205	eP	P	17 25 20.0	+0.5
TCW	Tory Channel	11.16	205	ePN	P	17 25 20.0	+0.4
TCW				SN	S	17 27 23.1	-0.2
NNZ	Nelson	11.51	208	eP	P	17 25 23.3	-0.1
NNZ	Nelson	11.51	208	ePN	P	17 25 23.3	0.0
NNZ				SN	S	17 27 30.8	+0.5
THZ	Tophouse	12.16	208	eP	P	17 25 30.5	0.0
THZ	Tophouse	12.16	208	ePN	P	17 25 30.5	0.0
KHZ	Kahutara	12.48	205	eP	P	17 25 33.7	-0.3
KHZ	Kahutara	12.48	205	ePN	P	17 25 33.7	-0.3
DSZ	Denniston Nort	12.62	211	ePN	P	17 25 36.3	+0.8
DSZ				SN	S	17 27 53.6	+1.0
ASAR	Alice Springs	41.80	269	P	P	17 30 00.4	-0.3
	0.5nm,1.1s,mb2.8,baz=107,slow=7.5,SNR=3.3						
WRA	Warramunga Arr	42.86	274	P	P	17 30 08.6	-0.6
	0.2nm,0.5s,mb2.7,baz=111,slow=7.9,SNR=4.8						
KAF	Kangasniemi	144.88	339	ep	PKPdf	17 41 34.7	-3.3
FINES	FINESS Array B	145.46	339	PKP	PKPdf	17 41 39.5	+0.6
	1.8nm,0.8s,baz=66,slow=3.8,SNR=6.2						

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*ISCJB **03** 17:49:31.2±0.8, 15.88N±0.08×94.35W±0.04, h77km±8km, mb3.9/4, Error ellipse: s-maj=13.1km s-min=6.0km az=12.4*
*IDC **03** 17:49:32.4±5.1, 16.60N×93.60W, h47km±65km, mb3.8/4, mb1 4.0/5, mb1mx3.7/17, mbtmp4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx2.7/22, Error ellipse: s-maj=66.9km s-min=26.1km az=60.0*
*MEX **03** 17:49:34.0±0.9, 15.84N×94.34W, h35km±287km, MD4.3*
*NEIC **03** 17:49:34.0, 15.84N×94.33W, h35km, MD4.3(MEX), After MEX.*
ISC 03 17:49:31.9±0.8, 15.85N±0.08×94.33W±0.04, h71km±8km, n25, σ1^{s}21/37, mb3.9/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.34	337	P	Pn	17 49 54.4	-0.5
	102nm,0.3s,baz=154,slow=8.7,SNR=1086						
CMIG				S	Sn	17 50 10.9	-1.1
	735nm,0.3s,baz=314,slow=15,SNR=102						
CMIG	Matias Romero	1.34	337	iP	Pn	17 49 54.5	-0.3
CMIG				iS	Sn	17 50 10.6	-1.4
CMIG	Matias Romero	1.34	337	P	Pn	17 49 54.4	-0.5
CMIG				iP		17 49 54.5	
CMIG				iS	Sn	17 50 10.6	-1.4
CMIG				S	Sn	17 50 10.9	-1.1
HUIG	Huatulco	1.72	267	iP	Pn	17 49 59.4	-0.3
HUIG				iS	Sn	17 50 19.2	-1.7
CCIG	Comitan	2.15	78	iP	Pn	17 50 06.1	+0.5
CCIG				iS	Sn	17 50 30.9	-0.4
OXX	Oaxaca	2.60	298	iP	Pn	17 50 13.8	+2.1
OXX				iS	Sn	17 50 42.7	+0.4
VHO	Vista Hermosa	2.61	298	iP	Pn	17 50 13.3	+1.5
VHO				iS	Sn	17 50 42.3	-0.1
PNIG	Pinotepa	3.69	279	iP	Pn	17 50 26.8	+0.3
PNIG				iS	Sn	17 51 07.7	-1.1
PNIG	Pinotepa	3.69	279	iP	Pn	17 50 26.4	-0.1
PNIG				iS	Sn	17 51 06.4	-2.4
UTMO	Huajuapan	3.87	301	eP	Pn	17 50 30.7	+1.8
UTMO				iS	Sn	17 51 12.7	-0.4
LVIG	Laguna Verde	4.33	333	eP	Pn	17 50 32.9	-2.4
YAIG	Yautepec	5.43	304	iP	Pn	17 50 52.6	+2.4
YAIG				iS	Sn	17 51 50.9	-0.3
YAIG	Yautepec	5.43	304	iP	Pn	17 50 52.6	+2.4
YAIG				iS	Sn	17 51 47.8	-3.5
ACX	Acapulco	5.46	281	iP	Pn	17 50 50.7	0.0
IIO	Organos	5.60	312	iP	Pn	17 50 55.9	+3.3
IIO				iS	Sn	17 51 56.1	+0.5
TXAR	Lajitas Array	15.94	329	P	Pn	17 53 12.1	+0.3
	baz=152,slow=14,SNR=7.2						
LPIG	La Paz	17.11	301	LR	LR	18 00 47.5	
	comp=Z,60nm,18.3s,baz=144,slow=39						
BNM	Barren Site	21.32	331	eP	P	17 54 13.3	+0.3
MCMT	McKenzie Canyo	32.85	335	eP	P	17 55 59.6	+0.8
ULM	Lac du Bonnet	34.33	358	P	P	17 56 07.2	-4.5
	2.2nm,0.5s,mb4.2,baz=179,slow=9.6,SNR=4.7						
LPAZ	La Paz	41.09	140	P	P	17 57 13.2	+4.6
	1.1nm,0.5s,mb3.9,baz=331,slow=5.8,SNR=4.9						
PPT	Papeete	63.77	241	LR	LR	18 20 03.2	
	comp=Z,99nm,19.1s,baz=250,slow=28						
NB2	NORSAR Subarra	83.59	28	P	P	18 01 51.1	-1.3
	comp=Z,1.0nm,0.6s,mb3.8,baz=294,slow=5.3						
NOA	NORSAR Array B	83.59	28	P	P	18 01 51.1	-1.3
	comp=Z,1.2nm,0.8s,mb3.8,baz=293,slow=5.1,SNR=3.9						
GERES	GERESS Array B	89.60	39	P	P	18 02 20.5	-1.1
	comp=Z,0.7nm,0.8s,mb3.8,baz=336,slow=6.0,SNR=5.2						

MAN 03 17:53:50.1, 6.91N×125.15E, h12km, mb4.1, ML5.1, MS2.1, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.11	330⇓	iP	Pg	17 53 53.3	+0.2
KCP				iS	Sg	17 53 55.9	+0.7
DMPH	Davao City--Mi	0.40	65⇓	eP	Pg	17 53 59.1	+1.2
DMPH				iS	Sg	17 54 07.2	+3.9
BUKP	Musuan	0.96	355	eP	Pg	17 54 08.4	-0.3
BUKP				eS	Sg	17 54 22.8	+1.5
MATI	Mati	1.10	88	eP	Pb	17 54 10.8	-0.3
MATI				eS	Sb	17 54 25.9	+0.4
CGP	Cagayan de Oro	1.60	344⇑	eP	Pn	17 54 17.8	-0.4
CGP				eS	Sn	17 54 39.9	+1.2

IDC 03 17:59:50.0±7.6, 7.79N×94.41E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=401.9km s-min=28.8km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIRN	Jiri	21.24	340	eP	P	18 04 53.2	+16
PKI	Pulchoki	21.44	338	eP	P	18 04 56.8	+17
GUN	Gumba	21.58	339	eP	P	18 04 56.6	+15
DMN	Daman	21.59	337	eP	P	18 04 58.3	+17
KKN	Kakani	21.69	338	eP	P	18 04 57.8	+15
GKN	Gorkha	22.13	337	eP	P	18 05 02.4	+15
KOLN	Koldanda	22.35	334	eP	P	18 05 05.3	+16
MKAR	Makanchi Array	40.23	347	P	P	18 07 28.3	0.0
	0.3nm,0.4s,baz=168,slow=8.3,SNR=5.1						
WRA	Warramunga Arr	47.99	126	P	P	18 08 31.0	+0.4
	0.2nm,0.4s,baz=305,slow=8.6,SNR=4.4						
ASAR	Alice Springs	49.66	130	P	P	18 08 43.7	+0.3
	0.2nm,0.4s,baz=301,slow=7.8,SNR=7.1						

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*NEIC **03** 18:01:30.0, 59.00N×137.12W, h5km, ML3.6(AEIC), ML3.9(PGC), ML4.3(PMR), After PGC.*
PGC 03 18:01:30.0±0.8, 59.00N×137.12W, h5km, ML3.9/5, 108km southwest of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLBC	Pleasant Camp	0.60	40	Trac			
PLBC	Pleasant Camp	0.60	40	P	Pg	18 01 40.6	-1.0
PLBC				S	Sg	18 01 48.9	-0.5
SKAG	Skagway	1.03	62	P	Pg	18 01 48.2	-1.5
SKAG				S	Sg	18 02 02.3	-0.8
PNL	Peninsula	1.35	301	P	Pn	18 01 51.5	-4.0
PNL				S	Sb	18 02 09.3	-4.0
YKU2	Yakutat	1.41	293	eP	Pn	18 01 54.2	-2.1
HYT	Haines Junctio	1.84	354	Trac			
HYT	Haines Junctio	1.84	354	Pn	Pn	18 02 01.3	-1.0
HYT				Sg	Sg	18 02 26.4	-2.8
WHY	Whitehorse	2.01	33	Trac			
WHY	Whitehorse	2.01	33	Pn	Pn	18 02 04.0	-0.7
WHY				Pg	Pg	18 02 06.3	-2.3
WHY				Sn	Sn	18 02 29.7	-0.5
WHY				Sg	Sg	18 02 33.1	-1.6
WHY	Whitehorse	2.01	33	Pn	Pn	18 02 04.0	-0.7
WHY				Sn	Sn	18 02 29.7	-0.5
SIT	Sitka	2.17	153	P	Pn	18 02 04.2	-2.6
WRAK	Wrangell Islan	3.64	133	P	Pn	18 02 24.9	-2.1
DLBC	Dease Lake	3.74	96	Trac			
DLBC	Dease Lake	3.74	96	Pn	Pn	18 02 27.3	-1.1
DLBC				Pg	Pg	18 02 36.9	-4.8
DLBC				Sn	Sn	18 03 12.0	-0.8
DLBC				Sg	Sg	18 03 26.3	-3.8
DLBC	Dease Lake	3.74	96	Pn	Pn	18 02 27.3	-1.1
DLBC				Sn	Sn	18 03 12.0	-0.8
DAWY	Dawson	5.20	349	Trac			
DAWY	Dawson	5.20	349	Pn	Pn	18 02 48.1	-0.4
DAWY				Sn	Sn	18 03 46.2	-2.6
DAWY				Sg	Sg	18 04 12.0	-5.0
DAWY	Dawson	5.20	349	Pn	Pn	18 02 48.1	-0.4
DAWY				Sn	Sn	18 03 46.2	-2.6
FNBB	Fort Nelson	7.30	85	Pn	Pn	18 03 16.2	-1.1
FNBB				Sn	Sn	18 04 35.5	-5.0
FNBB				Sg	Sg	18 05 13.8	-11
FNBB	Fort Nelson	7.30	85	Pn	Pn	18 03 16.2	-1.1
FNBB				Sn	Sn	18 04 35.5	-5.0

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*ISCJB **03** 18:36:11.2±0.5, 3.1S±0.1×126.6E±0.2, h35km, mb4.3/12, MS3.6/2, Error ellipse: s-maj=30.8km s-min=7.2km az=122.2*
*NEIC **03** 18:36:14.6±0.7, 2.90S×126.95E, h50km, mb4.3/4, Error ellipse: s-maj=39.9km s-min=10.3km az=67.0*
*IDC **03** 18:36:18.6±6.4, 3.20S×126.39E, h93km±64km, mb3.6/6, mb1 3.8/8, mb1mx3.6/19, mbtmp4.0/8, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/26, Error ellipse: s-maj=58.4km s-min=18.7km az=67.0*
ISC 03 18:36:13.5±0.5, 3.0S±0.1×126.7E±0.2, h35km, n25, σ0^{s}76/23, mb4.3/12, MS3.6/2, Buru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.18	150	eP	Pn	18 39 00.2	+9.4
	4.7nm,0.6s						
FITZ	Fitzroy Crossi	15.00	184	eP	Pn	18 39 47.4	+4.6
	10.0nm,0.6s						
FITZ	Fitzroy Crossi	15.00	184	P	Pn	18 39 45.0	+2.2
	0.8nm,0.3s,baz=15,slow=8.7,SNR=22						
FITZ				LR	LR	18 46 08.3	
	comp=Z,78nm,21.6s,baz=296,slow=40						
WRAB	Tennant Creek	18.39	156	eP	Pn	18 40 25.4	-0.2
	9.2nm,1.1s						
WRA	Warramunga Arr	18.40	157	P	Pn	18 40 25.6	-0.1
	0.6nm,0.3s,baz=336,slow=12,SNR=25						
WB2	Warramunga Arr	18.40	156	eP	Pn	18 40 25.8	+0.1
AS31	Alice Springs	21.67	162	eP	P	18 41 00.8	-0.2
ASAR	Alice Springs	21.67	162	P	P	18 41 00.8	-0.2
	4.0nm,0.6s,mb4.0,baz=340,slow=11,SNR=122						
ASAR				PcP	PcP	18 44 59.6	-1.7
	0.2nm,0.5s,baz=6.4,slow=1.8,SNR=6.3						
ASPA	Alice Springs	21.67	162	eP	P	18 41 00.8	-0.2
CTA	Charters Tower	25.55	133	P	P	18 41 40.5	+1.6
	2.0nm,0.7s,mb3.8,baz=308,slow=13,SNR=4.8						
STKA	Stephens Creek	31.94	156	P	P	18 42 34.2	-1.6
	1.0nm,0.6s,mb3.9,baz=278,slow=18,SNR=3.6						
STKA	Stephens Creek	31.94	156	P	P	18 42 34.2	-1.6
KSRS	Korea Array	40.31	2	P	P	18 43 47.7	+0.4
	1.1nm,0.8s,mb3.6,baz=169,slow=7.3,SNR=4.9						
MJAR	Matsushiro Arr	40.83	14	LR	LR	18 57 33.9	
	comp=Z,45nm,21.6s,MS3.3,baz=95,slow=31						
LZH	Lanzhou	44.38	333	eP	P	18 44 20.5	0.0
	30nm,1.2s,mb4.9						
LZH				pP	pP	18 44 31.0	+0.2
LZH				sP	sP	18 44 35.0	0.0
LSA	Lhasa	47.05	316	eP	P	18 44 43.3	+1.8
	3.9nm,0.7s,mb4.5						
JIRN	Jiri	49.49	311	eP	P	18 45 00.4	0.0
	4.6nm,0.6s,mb4.7						
GUN	Gumba	49.86	311	eP	P	18 45 03.2	0.0
	6.7nm,0.6s,mb4.9						
KKN	Kakani	50.25	310	eP	P	18 45 06.0	-0.1
DMN	Daman	50.29	310	eP	P	18 45 06.3	-0.1
GKN	Gorkha	50.85	310	eP	P	18 45 10.4	-0.3
	6.2nm,0.7s,mb4.6						
KOLN	Koldanda	51.53	309	eP	P	18 45 15.6	-0.2
	7.7nm,0.8s,mb4.7						
SONM	Songino Array	53.68	343	P	P	18 45 31.2	-0.5
	1.4nm,0.9s,mb3.9,baz=153,slow=7.3,SNR=7.8						
MKAR	Makanchi Array	63.11	327	P	P	18 46 36.6	-0.9
	0.5nm,0.6s,mb3.8,baz=121,slow=8.9,SNR=4.8						
VNDA	Vanda	76.76	173	LR	LR	19 21 01.0	
	comp=Z,51nm,20.6s,MS3.8,baz=320,slow=35						

IDC 03 18:43:12.2±1.8, 0.12S×123.44E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=219.8km s-min=26.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.40	152	P	P	18 48 13.2	+1.1
	2.0nm,0.7s,baz=329,slow=10.0,SNR=13						
WB2	Warramunga Arr	22.41	152	eP	P	18 48 14.3	+2.1
ASPA	Alice Springs	25.51	157	eP	P	18 48 42.4	+0.2
ASAR	Alice Springs	25.51	157	P	P	18 48 41.9	-0.4
	0.8nm,0.6s,baz=339,slow=9.6,SNR=20						
MKAR	Makanchi Array	58.95	328	P	P	18 53 13.6	+0.3
	0.2nm,0.4s,baz=127,slow=8.8,SNR=3.9						

MEX 03 18:54:28.0±0.9, 16.73N×95.11W, h107km±16km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.42	31	iP	Pn	18 54 43.3	-0.7
CMIG				iS	Sn	18 54 53.9	-2.1
HUIG	Huatulco	1.35	225	iP	Pn	18 54 51.0	-1.8
HUIG				iS	Sn	18 55 10.4	-1.2
VHO	Vista Hermosa	1.59	283	iP	Pn	18 54 53.6	-2.1
VHO				iS	Sn	18 55 15.6	-1.0

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*IDC **03** 19:00:43.0±1.4, 2.78N×95.39E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, ML2.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/38, Error ellipse: s-maj=47.2km s-min=17.9km az=46.0*
*BJI **03** 19:00:45.5, 2.70N×95.40E, h30km, mb4.4*
*NEIC **03** 19:00:47.6±0.6, 2.74N×95.40E, h30km, mb4.4/2, Error ellipse: s-maj=16.4km s-min=7.7km az=219.0*
*ISCJB **03** 19:00:50.5±3.2, 2.9N±0.1×95.6E±0.2, h67km±26km, mb4.1/15, Error ellipse: s-maj=33.9km s-min=12.4km az=98.5*
ISC 03 19:00:52.5±3.2, 2.9N±0.1×95.6E±0.2, h65km±26km, n29, σ0^{s}84/24, mb4.1/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.30	91	Pn	Pn	19 01 40.0	-1.7
	1.1nm,0.3s,baz=322,slow=18,SNR=6.3						
PSI				Sn	Sn	19 02 21.0	+1.3
	2.6nm,0.3s,baz=253,slow=8.8,SNR=5.5						
PSI				LR	LR	19 03 13.9	
	comp=Z,246nm,18.7s,baz=271,slow=43						
KULM	Kulim	5.56	64	eP	Pn	19 02 12.3	-0.3
MDRS	Chennai	18.27	304	ex	x	19 05 23.0	
MDRS				ex	x	19 07 29.0	
GYA	Guiyang	25.73	23	P	P	19 06 16.1	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
JIRN	Jiri	26.24	341	eP	P	19 06 22.0	+0.7
	comp=Z,18nm,0.8s,mb4.5						
GUN	Gumba	26.57	340	eP	P	19 06 25.2	+0.8
KKN	Kakani	26.67	339	eP	P	19 06 26.3	+1.1
LSA	Lhasa	27.01	351	eP	P	19 06 29.3	+1.0
	comp=Z,7.9nm,0.9s,mb4.2						
GKN	Gorkha	27.09	338	eP	P	19 06 29.8	+0.7
	comp=Z,16nm,0.9s,mb4.5						
KOLN	Koldanda	27.29	336	eP	P	19 06 32.3	+1.5
	comp=Z,8.8nm,0.7s,mb4.4						
XAN	Xi'an	33.39	20	P	P	19 07 23.9	-0.8
XAN				AP	pP	19 07 31.0	-10
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA	Gaotai	36.56	5	eP	P	19 07 51.9	0.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
WRA	Warramunga Arr	44.26	123	P	P	19 08 56.0	+0.6
	comp=Z,1.2nm,0.7s,mb3.7,baz=301,slow=8.8,SNR=7.5						
WRAB	Tennant Creek	44.27	123	eP	P	19 08 56.0	+0.5
MKAR	Makanchi Array	45.25	347	P	P	19 09 02.6	-0.8
	comp=Z,2.3nm,0.6s,mb4.1,baz=166,slow=7.1,SNR=12						
KSRS	Korea Array	45.41	37	LR	LR	19 29 57.7	
	comp=Z,44nm,18.4s,baz=226,slow=38						
ASAR	Alice Springs	45.66	127	P	P	19 09 06.5	-0.2
	comp=Z,0.7nm,0.8s,mb3.4,baz=298,slow=7.8,SNR=8.7						
SONM	Songino Array	45.74	10	P	P	19 09 07.0	-0.2
	comp=Z,2.2nm,0.7s,mb4.0,baz=189,slow=9.0,SNR=20						
SONM				PcP	PcP	19 10 43.9	-0.2
	comp=Z,0.4nm,0.5s,baz=192,slow=4.1,SNR=4.8						
MJAR	Matsushiro Arr	51.55	44	LR	LR	19 32 49.5	
	comp=Z,62nm,18.3s,baz=200,slow=37						
ZAL	Zalesovo	51.66	352	P	P	19 09 52.8	+0.2
	comp=Z,2.8nm,0.5s,mb4.5,baz=291,slow=6.1,SNR=14						
BVAR	Borovoye Array	54.16	341	P	P	19 10 09.5	-1.5
	comp=Z,0.8nm,0.6s,mb4.0,baz=149,slow=10,SNR=8.1						
BRVK	Borovoye	54.22	341	eP	P	19 10 10.8	-0.7
ZRNK	Zerenda	54.55	341	eP	P	19 10 13.2	-0.7
CHKZ	Chkalovo	54.65	342	eP	P	19 10 14.4	-0.2
	comp=Z,4.2nm,0.9s,mb4.5						
CHKZ				e		19 10 22.7	
CTA	Charters Tower	54.66	117	LR	LR	19 36 48.2	
	comp=Z,65nm,20.9s,baz=46,slow=40						
MMAI	Mount Meron Ar	63.65	306	LR	LR	19 41 34.8	
	comp=Z,41nm,18.3s,baz=165,slow=39						
FINES	FINESS Array B	77.79	333	P	P	19 12 41.9	-0.7
	comp=Z,0.9nm,0.8s,mb3.5,baz=76,slow=5.9,SNR=2.2						
FINES	FINESS Array B	77.79	333	P	P	19 12 41.9	-0.7
ARCES	ARCESS Array B	80.43	340	LR	LR	19 53 56.9	
	comp=Z,37nm,18.3s,baz=195,slow=40						

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*ISCJB **03** 19:14:37.8±1.1, 32.64N±0.06×3.41W±0.07, h10km, Error ellipse: s-maj=11.2km s-min=4.6km az=80.9*
*MDD **03** 19:14:38.7±1.4, 32.64N×3.43W, h0km, mb3.8/3, Error ellipse: s-maj=15.5km s-min=6.4km az=124.0, PRXIMO*
*CNRM **03** 19:14:39.3, 32.60N×3.36W, h10km, MD3.9*
*CSEM **03** 19:14:40.2±0.5, 32.62N×3.42W, h30km, ML3.2/2, Error ellipse: s-maj=9.8km s-min=4.4km az=125.0*
ISC 03 19:14:38.4±1.4, 32.64N±0.10×3.44W±0.10, h6km±14km, n16, σ1^{s}08/31, Morocco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZFT	Errachidia	0.98	232	iP	Pg	19 14 56.0	-1.1
ZFT				iS	Sg	19 15 10.0	+0.2
CZD	Col de Zad	1.41	287	iP	Pn	19 15 05.5	+1.0
CZD				iS	Sb	19 15 23.0	-0.2
MIF	Mishlifen	1.69	298	iP	Pn	19 15 09.0	+0.6
MIF				iS	Sn	19 15 30.0	-0.3
KIB	El Ksiba	2.19	269	iP	Pn	19 15 17.0	+1.7
KIB				iS	Sn	19 15 43.0	+0.2
TOU	Touzarine	2.33	354	iP	Pn	19 15 18.0	+0.7
TOU				iS	Sn	19 15 46.0	-0.2
ZAI	Zaio	2.40	14	iP	Pn	19 15 17.0	-1.1
ZAI				eS	Sn	19 15 46.0	-1.8
TZC	Tazercounte	2.62	260	iP	Pn	19 15 22.0	+0.7
TZC				iS	Sn	19 15 52.0	-1.5
EQUE	Quentar	4.56	0	P	Pn	19 15 51.3	+3.4
	0.0nm,0.1s,SNR=4.0						
EQES	Quesada	5.16	3	P	Pn	19 15 60.0	+3.8
	SNR=7.9						
EQES				S	Sn	19 16 57.9	+1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.2s,SNR=7.9						
EQES	Quesada	5.16	3	Pn	Pn	19 16 00.0	+3.9
	SNR=7.9						
EQES				Sn	Sn	19 16 57.9	+1.9
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.76	334	P	Pn	19 16 04.4	0.0
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	19 17 06.2	-4.6
	SNR=7.9						
EMIN	Mina Concepcio	5.76	334	Pn	Pn	19 16 04.4	0.0
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	19 17 06.2	-4.6
	SNR=7.9						
EGRO	El Granado	5.90	327	P	Pn	19 16 05.3	-1.0
	0.6nm,0.1s,SNR=7.1						
EGRO				S	Sn	19 17 08.8	-5.5
	0.5nm,0.1s,SNR=7.9						
EGRO	El Granado	5.90	327	Pn	Pn	19 16 05.3	-1.0
	0.6nm,0.1s,SNR=7.1						
EGRO				Sn	Sn	19 17 08.8	-5.5
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	6.76	336	P	Pn	19 16 17.6	-0.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 17 30.4	-5.0
	SNR=7.9						
EBAD	Badajoz	6.76	336	Pn	Pn	19 16 17.6	-0.5
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	19 17 30.4	-5.0
	0.9nm,0.2s,SNR=7.9						

IDC 03 19:22:36.1±2.1**,131S×12712E,h0km,mb3.6**/2**,mb1 3.6**/3**, mb1mx3.4**/17**,mbtmp3.4**/3**,ML3.4**/1**,Error ellipse: s-maj=197.7km s-min=24.0km az=66.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.82	160	P	Pn	19 27 08.3	-1.4
	0.1nm,0.3s,baz=342,slow=12,SNR=7.9						
ASAR	Alice Springs	23.18	164	P	P	19 27 44.8	+0.5
	0.4nm,0.4s,baz=344,slow=11,SNR=15						
MKAR	Makanchi Array	61.92	327	P	P	19 32 57.6	+0.1
	0.6nm,0.3s,baz=116,slow=8.0,SNR=22						

GUC 03 19:26:49.6±0.9**,2719S×7115W,h46km**±4km**,ML3.8, 2C-2D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDCH	Caldera	0.31	67	⇓iP	Pn	19 26 58.1	-0.3
CDCH				iS	Sn	19 27 05.0	+0.4
CPCH	Copiapo	0.72	103	⇓iP	Pn	19 27 04.2	+0.7
CPCH				iS	Sn	19 27 14.9	+1.3
CPCH				AML	AML	19 27 18.5	
	comp=E,13µm,0.1s						
VACH	Vallenar	1.42	166	⇑iP	Pn	19 27 13.9	+1.0
VACH				iS	Sn	19 27 31.6	+1.2
VACH				AML	AML	19 27 33.3	
	comp=E,2µm,0.3s						
CPN1	Cerro Paranal	2.64	15	⇑iP	Pn	19 27 31.2	+1.6
CPN1				iS	Sn	19 28 02.4	+1.9
CPN1				AML	AML	19 28 20.3	
	comp=N,170nm,0.6s						
TLL	Tololo Astrono	2.98	174	eP	Pn	19 27 36.1	+1.8
TLL				iS	Sn	19 28 10.2	+1.4
TLL				AML	AML	19 28 35.0	
	comp=N,338nm,0.7s						

*IDC **03** 19:31:20.6±1.0,3407N×2501E,h0km,mb4.1/10, mb1 4.1/16,mb1mx4.0/26,mbtmp4.0/16,ML4.1/6,Error ellipse: s-maj=18.0km s-min=14.5km az=68.0*
*MOS **03** 19:31:22.8±1.6,3387N×2507E,h17km,mb4.2/2,Error ellipse: s-maj=13.1km s-min=6.2km az=99.5*
*ISCJB **03** 19:31:23.5±0.3,3401N±003×2520E±005,h35km, mb4.0/11,Error ellipse: s-maj=6.2km s-min=3.1km az=111.1*
*CSEM **03** 19:31:23.7±0.1,3402N×2530E,h30km,mb4.1/1,Error ellipse: s-maj=3.2km s-min=1.3km az=51.0*
*HLW **03** 19:31:24.2,34.17N×2521E,h26km,Mb3.8*
*ATH **03** 19:31:25.1,34.16N×2489E,h38km,MD3.8/4*
*NEIC **03** 19:31:25.1,34.16N×2489E,h38km,mb4.1/1,MD3.8(ATH), After ATH.*
*SZGRF **03** 19:32:05.0,38.10N×2453E,h10km,mb4.0,Aegean Sea*
*NAO **03** 19:32:27.4,4030N×22.18E,h33km,mb3.5*
ISC 03 19:31:25.6±0.3**,3404N**±003×**2515E**±004**,h35km,n76, σ1s10**/82**,mb4.0**/11**,12C-7D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDI	Anoyia	1.26	350	Pn	Pn	19 31 46.8	+0.1
	17nm,0.3s,baz=167,slow=22,SNR=47						
IDI				Lg		19 32 01.1	
	48nm,0.3s,baz=4.8,slow=19,SNR=14						
APE	Apeiranthos	3.04	6	ePN	Pn	19 32 12.0	+0.9
VLI	Veliai	3.22	327	ePN	Pn	19 32 12.5	-1.2
ARG	Arkhangelos	3.27	48	ePN	Pn	19 32 17.5	+3.2
HMAT	Matruh	3.37	150	⇑eP	Pn	19 32 15.5	-0.2
SMG	Samos	3.91	20	ePN	Pn	19 32 24.5	+1.4
SWA1		4.79	174	⇑eP	Pn	19 32 36.1	+0.9
SWA1				S	Sn	19 33 27.6	-1.8
SWA2		4.79	177	⇑eP	Pn	19 32 35.7	+0.4
HMYD	Mayadein	6.40	130	⇑iP	Pn	19 32 57.0	-0.4
AWBH		6.55	150	P	Pn	19 32 59.7	+0.3
KOT	Kottamia	7.00	124	⇑iP	Pn	19 33 05.6	0.0
HSAF	As Saff	7.01	127	⇑iP	Pn	19 33 05.5	-0.3
HSAF	As Saff	7.01	127	P	Pn	19 33 05.4	-0.3
GLL	Jalalah	7.14	127	P	Pn	19 33 07.5	0.0
HFRF	Wahat Farafira	7.39	158	⇑eP	Pn	19 33 11.2	+0.2
AMAG	Maghara	7.62	114	⇑iP	Pn	19 33 12.9	-1.1
SUZ		7.76	121	⇓P	Pn	19 33 15.5	-0.5
ZAF		7.89	125	P	Pn	19 33 17.8	0.0
ZNM		8.06	123	⇓P	Pn	19 33 19.7	-0.4
HNKL	Nakhl	8.55	116	⇓iP	Pn	19 33 26.3	-0.5
HNKL				S	Sn	19 34 56.1	-6.0
MMAI	Mount Meron Ar	8.62	94	Pn	Pn	19 33 27.2	-0.7
	1.1nm,0.3s,baz=279,slow=11,SNR=24						
MMAI				Sn	Sn	19 35 01.9	-1.9
	4.2nm,0.3s,baz=266,slow=12,SNR=7.9						
GRB	Gharib	8.71	129	⇓iP	Pn	19 33 28.8	-0.2
BRTR	Keskin Array B	8.86	48	Pn	Pn	19 33 31.6	+0.6
	baz=122,slow=31,SNR=2.7						
BRTR				Sn	Sn	19 35 07.9	-1.7
	0.2nm,0.3s,baz=136,slow=21,SNR=4.2						
HDK1	Dakhla	9.24	155	⇑eP	Pn	19 33 36.9	+0.6
TR2		9.26	125	⇑eP	Pn	19 33 35.9	-0.7
HKAT	Jabal Katrina	9.36	124	⇓iP	Pn	19 33 37.8	-0.1
VAE	Valguarnera	9.37	295	Pn	Pn	19 33 37.6	-0.5
	1.2nm,0.3s,baz=24,slow=12,SNR=3.6						
VAE				Sn	Sn	19 35 17.8	-4.5
	1.9nm,0.3s,baz=191,slow=22,SNR=2.7						
EIL	Elat	9.41	115	ePn	Pn	19 33 37.6	-1.0
	77nm,0.6s						
HBST	Basata	9.48	118	⇑eP	Pn	19 33 39.7	+0.1
AKRG	Al Kharijah	9.69	150	⇓eP	Pn	19 33 43.4	+0.8
GTR	Jabal at Tayr	9.71	150	⇑eP	Pn	19 33 43.7	+0.9
HHRG	Al Ghardaqah	9.94	131	⇓eP	Pn	19 33 45.7	-0.2
ASF	Jabal al Asfar	10.03	97	Pn	Pn	19 33 47.1	-0.1
	0.2nm,0.3s,baz=140,slow=8.7,SNR=2.4						
ASF				Sn	Sn	19 35 39.7	+1.3
	0.3nm,0.3s,baz=306,slow=23,SNR=3.0						
VRAC	Vranov	16.52	340	Pn	Pn	19 35 14.3	-0.2
	0.5nm,0.3s,baz=158,slow=10,SNR=7.0						
AKASG	Malin Array Be	16.91	9	Pn	Pn	19 35 19.6	+0.2
	1.6nm,0.3s,baz=205,slow=11,SNR=9.6						
AKASG	Malin Array Be	16.91	9	Pn	Pn	19 35 19.6	+0.1
GEC2	GERESS Array S	17.07	333	eP	Pn	19 35 23.0	+1.6
GERES	GERESS Array B	17.07	333	Pn	Pn	19 35 22.3	+0.9
	0.3nm,0.3s,baz=146,slow=12,SNR=50						
KHC	Kasperske Hory	17.35	334	eP	Pn	19 35 26.8	+1.9
DPC	Dobruska-Polom	17.54	341	eP	Pn	19 35 27.8	+0.6
WET	Wettzell	17.62	333	eP	Pn	19 35 29.9	+1.6
PRU	Pruhonice	17.75	337	eP	Pn	19 35 29.6	-0.2
MANZ	Manzenberg	18.60	333	eP	Pn	19 35 39.4	-0.9
GRA1	Grafenberg Arr	18.71	331	eP	Pn	19 35 42.8	+1.2
GRF	Grafenberg Arr	18.71	331	eP	Pn	19 35 42.8	+1.2
TANN	Tannenbergstha	18.82	334	eP	Pn	19 35 43.0	+0.1
FBE	Freiberg	18.94	337	eP	Pn	19 35 42.7	-1.6
MOX	Moxa	19.32	333	eP	Pn	19 35 47.1	-1.8
CLL	Collm	19.38	337	eP	Pn	19 35 48.4	-1.3
CLL	Collm	19.38	337	eP	Pn	19 35 49.0	-0.7
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL	Collm	19.38	337	i (P)	Pn	19 35 48.8	-0.9
	comp=Z,8.0nm,0.7s						
CLL	Collm	19.38	337	eP	Pn	19 35 49.0	-0.7
	comp=Z,8.0nm,0.7s						
TNS	Taunus Mts	20.29	328	eP	P	19 36 00.7	+2.4
WLF	Walferdange	20.98	324	eP	P	19 36 09.6	+3.9
BSEG	Bad Segeberg	22.48	337	eP	P	19 36 20.4	-1.4
	comp=Z,10.0nm,0.9s,mb4.2						
BSEG	Bad Segeberg	22.48	337	eP	P	19 36 20.4	-1.4
BSEG				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
HFS	Hagfors	27.16	347	P	P	19 37 03.3	-2.3
	comp=Z,2.8nm,0.8s,mb3.9,baz=152,slow=6.7,SNR=5.2						
FINES	FINESS Array B	27.43	1	P	P	19 37 05.7	-2.2
	comp=Z,1.6nm,0.7s,mb3.7,baz=164,slow=16,SNR=3.8						
FINES	FINESS Array B	27.43	1	P	P	19 37 05.7	-2.2
NB2	NORSAR Subarra	28.48	346	P	P	19 37 16.5	-0.8
	comp=Z,1.6nm,0.7s,mb3.8,baz=157,slow=11						
NOA	NORSAR Array B	28.48	346	P	P	19 37 15.6	-1.7
	comp=Z,1.7nm,0.7s,mb3.8,baz=159,slow=9.9,SNR=7.5						
EKA	Eskdalemuir Ar	28.95	326	P	P	19 37 19.9	-1.6
	comp=Z,1.9nm,0.7s,mb4.0,baz=150,slow=11,SNR=6.8						
AKTK	Aktyubinsk	29.03	46	P	P	19 37 22.7	+0.4
AKTK	Aktyubinsk	29.03	46	P	P	19 37 22.7	+0.5
AKTO	Aktyubinsk	29.03	46	P	P	19 37 22.7	+0.4
	comp=Z,0.8nm,0.5s,mb3.7,baz=260,slow=6.1,SNR=4.1						
TORD	Torodi Ar. Bea	29.77	231	P	P	19 37 29.6	+0.7
	comp=Z,1.0nm,0.7s,mb3.7,baz=34,slow=8.6,SNR=9.8						
ARCES	ARCESS Array B	35.55	0	P	P	19 38 17.1	-2.1
	comp=Z,3.6nm,0.9s,mb4.3,baz=185,slow=5.4,SNR=6.8						
MKAR	Makanchi Array	44.41	56	P	P	19 39 34.1	+1.3
	comp=Z,3.0nm,0.6s,mb4.2,baz=273,slow=6.8,SNR=45						
ZAL	Zalesovo	45.78	45	P	P	19 39 44.3	+0.6
	comp=Z,1.9nm,0.5s,mb4.2,baz=216,slow=7.1,SNR=8.1						
GKN	Gorkha	50.73	80	eP	P	19 40 23.3	+1.4
DMN	Daman	51.26	80	eP	P	19 40 25.5	-0.4
KKN	Kakani	51.34	80	eP	P	19 40 27.8	+1.4
GUN	Gumba	51.78	79	eP	P	19 40 31.2	+1.5
JIRN	Jiri	52.13	79	eP	P	19 40 33.8	+1.4
SONM	Songino Array	60.21	50	P	P	19 41 31.6	+1.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=281,slow=7.8,SNR=7.3						
SONM	Songino Array	60.21	50	P	P	19 41 31.6	+1.6
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						

MAN 03 19:41:41.8,1384N×12057E,h97km,MS3.8,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.33	252	eP	Pn	19 41 57.9	+1.7
PGP	Puerto Galera	0.50	131	⇑iP	Pn	19 41 59.0	+1.7
BOAC	Boac	1.30	107	eP	Pn	19 42 05.4	+0.1
POLP	Polilio Island	1.60	56	eP	Pn	19 42 10.0	+0.9
BUSP	Coron	1.86	191	eP	Pn	19 42 12.9	+0.6
OTRP	Odiongan	2.04	136	eP	Pn	19 42 16.5	+1.8
BALP	Baler	2.13	27	eP	Pn	19 42 16.4	+0.5
ENPP	El Nido	2.84	203	eP	Pn	19 42 26.4	+1.0
CUYO	Cuyo Island	3.00	172	eP	Pn	19 42 28.0	+0.6

*ISCJB **03** 20:11:37.7±0.9,79S±02×1104E±02,h10km,mb4.1/7, Error ellipse: s-maj=40.3km s-min=11.3km az=97.7*
*NEIC **03** 20:11:39.6±0.8,793S×11034E,h10km,mb4.3/3,Error ellipse: s-maj=36.8km s-min=10.7km az=48.0*
*IDC **03** 20:11:41.4±5.0,792S×11046E,h16km±29km,mb4.0/6, mb1 4.2/7,mb1mx3.9/18,mbtmp4.1/7,ML3.8/1,Error ellipse: s-maj=58.6km s-min=18.4km az=57.0*
ISC 03 20:11:39.7±0.9**,79S**±02×**1103E**±02**,h10km,n18,σ0s79**/18**, mb4.1**/7**,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.01	126	eP	Pn	20 15 52.4	+2.3
	5.6nm,0.6s						
FITZ	Fitzroy Crossi	18.01	126	P	Pn	20 15 51.8	+1.8
	0.3nm,0.3s,baz=275,slow=11,SNR=8.4						
KAKA	Kakadu	22.28	104	eP	P	20 16 36.9	0.0
	15nm,1.2s,mb4.3						
WRA	Warramunga Arr	26.15	120	P	P	20 17 13.5	-0.6
	3.7nm,0.5s,mb4.2,baz=293,slow=11,SNR=45						
WRAB	Tennant Creek	26.16	120	eP	P	20 17 13.0	-1.1
WB2	Warramunga Arr	26.16	120	eP	P	20 17 13.6	-0.5
ASPA	Alice Springs	27.49	127	eP	P	20 17 25.9	-0.2
AS31	Alice Springs	27.49	127	eP	P	20 17 25.9	-0.2
ASAR	Alice Springs	27.49	127	P	P	20 17 26.0	-0.1
	3.6nm,0.5s,mb4.1,baz=301,slow=8.3,SNR=100						
ASAR				ScP	ScP	20 24 25.1	+0.3
	0.3nm,0.6s,baz=307,slow=3.4,SNR=4.9						
STKA	Stephens Creek	37.60	134	eP	P	20 18 54.7	+0.3
	6.1nm,0.4s,mb4.7						
STKA	Stephens Creek	37.60	134	P	P	20 18 54.9	+0.5
	7.1nm,0.4s,mb4.7,baz=309,slow=8.5,SNR=42						
SONM	Songino Array	55.64	357	P	P	20 21 16.4	+0.6
	0.5nm,0.7s,mb3.7,baz=165,slow=7.5,SNR=4.4						
MKAR	Makanchi Array	59.93	338	P	P	20 21 47.0	+1.1
	0.4nm,0.4s,mb3.8,baz=152,slow=7.5,SNR=12						
MKAR	Makanchi Array	59.93	338	P	P	20 21 47.0	+1.1
CHKZ	Chkalovo	69.93	336	eP	P	20 22 50.9	-0.1
ZRNK	Zerenda	70.06	335	eP	P	20 22 50.6	-1.3
VNDA	Vanda	74.45	170	P	P	20 23 18.3	+0.2
	0.4nm,0.3s,mb3.8,baz=315,slow=6.8,SNR=7.5						
VNDA	Vanda	74.45	170	P	P	20 23 18.3	+0.2

IDC 03 20:12:09.9±21.0**,2407S×6773E,h0km,mb3.7**/3**, mb1 3.9**/3**,mb1mx3.5**/21**,mbtmp3.7**/3**,MS3.5**/7**,Ms1 3.5**/7**, ms1mx3.1**/26**,Error ellipse: s-maj=692.7km s-min=39.7km az=53.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATP	Matopo	36.41	268	LR	LR	20 31 54.0	
	comp=Z,51nm,18.7s,baz=104,slow=32						
KMBO	Kilima Mbogo	37.30	303	LR	LR	20 33 07.3	
	comp=Z,17nm,21.0s,baz=90,slow=34						
BOSA	Boshof	38.19	254	LR	LR	20 32 40.9	
	comp=Z,51nm,18.1s,baz=295,slow=32						
NWAO	Narrogin (SRO)	44.05	113	LR	LR	20 35 20.7	
	comp=Z,81nm,20.0s,baz=270,slow=32						
ASAR	Alice Springs	59.97	104	P	P	20 22 18.8	+0.8
	0.8nm,0.9s,baz=238,slow=5.5,SNR=6.3						
ASAR				LR	LR	20 47 16.8	
	comp=Z,70nm,18.3s,baz=86,slow=35						
WRA	Warramunga Arr	61.38	100	P	P	20 22 27.9	+0.2
	1.2nm,0.9s,baz=254,slow=7.0,SNR=7.2						
STKA	Stephens Creek	64.58	115	LR	LR	20 46 43.8	
	comp=Z,158nm,18.7s,baz=206,slow=32						
MKAR	Makanchi Array	71.75	10	P	P	20 23 33.9	-0.1
	0.4nm,0.7s,baz=185,slow=6.9,SNR=2.7						
TORD	Torodi Ar. Bea	74.34	292	LR	LR	20 57 47.6	
	comp=Z,24nm,19.2s,baz=190,slow=37						

CASC 03 20:36:34.8±2.5**,770N×8146W,h0km**±18km**,MD4.0, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AZU	Azuero	1.18	85	eP	Pg	20 36 56.2	-1.1
DVD	David	1.23	307	eP	Pg	20 36 58.6	+0.3
BRU	Baru	1.55	315	eP	Pn	20 37 02.0	-1.6
ACH	Altos	1.79	58	eP	Pn	20 37 07.7	+0.7
ACH				eS	Sn	20 37 34.1	+3.7
LCR2	La Lucha 2	3.23	309	eP	Pn	20 37 27.3	+0.5
PRS1	Puriscal	3.62	309	eP	Pn	20 37 32.0	-0.1
JCR	Jicaral	4.20	301	eP	Pn	20 37 42.4	+2.4
PTP	Ponta Puerca	18.63	54	eP		20 37 02.6	

*ISCJB **03** 21:08:08.7±1.3,541S±007×1473E±0.1,h182km±13km, mb4.1/12,Error ellipse: s-maj=18.0km s-min=11.2km az=29.9*
*NEIC **03** 21:08:11.6±1.4,544S×14723E,h199km±13km,mb4.8/6, Error ellipse: s-maj=13.9km s-min=11.0km az=93.0*
*IDC **03** 21:08:11.1±1.3,555S×14725E,h190km±12km,mb3.6/9, mb1 3.8/12,mb1mx3.8/16,mbtmp3.7/12,MS2.7/1, Ms1 2.7/1,ms1mx2.4/19,Error ellipse: s-maj=19.7km s-min=9.3km az=102.0*
ISC 03 21:08:11.1±1.2**,549S**±007×**1472E**±01**,h187km**±11km**,n27, σ0s94**/28**,mb4.1**/12**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.89	181	P	Pn	21 09 11.7	+0.7
	34nm,0.3s,baz=347,slow=5.3,SNR=118						
PMG				S	Sn	21 09 56.0	-2.0
	55nm,0.3s,baz=206,slow=21,SNR=19						
PMG				LR	LR	21 10 06.2	
	comp=Z,121nm,21.5s,baz=342,slow=30						
CTA	Charters Tower	14.54	184	eP	Pn	21 11 30.3	+2.1
	6.2nm,0.5s						
CTA	Charters Tower	14.54	184	P	Pn	21 11 29.3	+1.1
	1.2nm,0.3s,baz=4.3,slow=13,SNR=15						
KAKA	Kakadu	16.24	243	eP	Pn	21 11 48.7	-0.2
	60nm,0.6s						
WB2	Warramunga Arr	19.05	220	eP	P	21 12 19.7	+0.6
WRA	Warramunga Arr	19.05	220	P	P	21 12 20.0	+0.8
	8.0nm,0.3s,baz=47,slow=11,SNR=84						
WRA				S	S	21 15 44.0	-1.3
	baz=40,slow=20,SNR=5.1						
AS31	Alice Springs	22.15	214	eP	P	21 12 52.4	+0.7
ASAR	Alice Springs	22.15	214	P	P	21 12 52.5	+0.8
	14nm,0.7s,mb4.5,baz=46,slow=9.0,SNR=177						
ASAR				S	S	21 16 42.5	+0.6
	3.9nm,0.9s,baz=35,slow=21,SNR=11						
ASPA	Alice Springs	22.16	214	eP	P	21 12 52.4	+0.6
FITZ	Fitzroy Crossi	24.51	237	eP	P	21 13 14.1	+0.9
	50nm,0.5s,mb5.3						
FITZ	Fitzroy Crossi	24.51	237	P	P	21 13 13.7	+0.5
	26nm,0.5s,mb5.0,baz=53,slow=9.6,SNR=84						
DZM	Mont Dzumac	24.86	133	P	P	21 13 15.9	-0.5
	3.8nm,0.7s,mb4.0,baz=141,slow=17,SNR=5.6						
ARMA	Armidale	25.15	171	eP	P	21 13 20.5	+1.5
STKA	Stephens Creek	26.77	191	eP	P	21 13 32.7	-0.9
	2.3nm,0.6s,mb4.0						
STKA	Stephens Creek	26.77	191	P	P	21 13 33.0	-0.6
	0.9nm,0.4s,mb3.8,baz=336,slow=7.9,SNR=6.6						
MBWA	Marble Bar	30.85	237	eP	P	21 14 09.3	-0.4
FORT	Forrest	30.94	213	eP	P	21 14 10.3	-0.1
	11nm,0.6s,mb4.8						
KLBR	Kellerberrin	37.88	223	eP	P	21 15 09.3	-0.7
	71nm,1.8s,mb5.0						
MJAR	Matsushiro Arr	42.65	349	P	P	21 15 49.0	-0.1
	0.4nm,0.5s,mb3.4,baz=181,slow=7.5,SNR=4.7						
KSRS	Korea Array	46.35	339	P	P	21 16 18.8	+0.4
	1.4nm,0.8s,mb3.7,baz=153,slow=9.8,SNR=5.1						
SONM	Songino Array	64.06	331	P	P	21 18 25.7	+0.8
	0.9nm,0.6s,mb3.8,baz=145,slow=5.1,SNR=7.7						
VNDA	Vanda	72.41	177	P	P	21 19 15.9	-0.8
	0.6nm,0.5s,mb3.6,baz=336,slow=7.9,SNR=8.8						
MKAR	Makanchi Array	77.23	320	P	P	21 19 44.6	+0.1
	0.5nm,0.3s,mb3.5,baz=96,slow=8.6,SNR=13						
ZAL	Zalesovo	78.69	328	P	P	21 19 51.4	-1.1
	0.9nm,0.5s,mb3.7,baz=13,slow=8.4,SNR=4.9						
BRVK	Borovoye	86.55	324	P	P	21 20 30.9	-2.1
GERES	GERESS Array B	121.60	326	PKP	PKPdf	21 26 41.1	-1.3
	0.6nm,0.5s,baz=71,slow=1.4,SNR=8.0						
TORD	Torodi Ar. Bea	145.16	285	PKPbc	PKPbc	21 27 25.6	-0.6
	3.2nm,0.6s,baz=77,slow=3.1,SNR=59						

*ISCJB **03** 22:31:19.3±0.7,5152N±004×1606E±004,h0km,Error ellipse: s-maj=5.3km s-min=3.2km az=31.9*
*PRU **03** 22:31:22.3,5148N×1606E,h0km*
*VIE **03** 22:31:23.5±0.5,5131N×16.15E,h0km,ML2.6/3,Error ellipse: s-maj=3.2km s-min=2.6km az=178.0 64 km WNW of Breslau Suspected Mining induced.*
*CSEM **03** 22:31:23.4±0.2,5145N×1608E,h2km,ML3.1/4,Error ellipse: s-maj=4.0km s-min=2.5km az=2.0,Suspected Mining induced.*
ISC 03 22:31:20.0±0.6**,5156N**±003×**1609E**±004**,h0km,n16, σ0s95**/31**,2C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	170	ePg	Pg	22 31 34.8	+0.7
KSP				eSg	Sg	22 31 44.2	+0.7
UPC	Upice	1.06	183	ePG	Pg	22 31 40.8	+0.5
DPC	Dobruska-Polom	1.22	173	ePG	Pg	22 31 43.6	+0.1
DPC				eSG	Sg	22 31 58.9	-0.4
	24nm,0.3s						
PVCC	Panska Ves	1.41	223	ePG	Pg	22 31 47.8	+0.7
PVCC				eSG	Sg	22 32 06.1	+0.7
	107nm,0.2s						
BRG	Berggiesshubel	1.52	244	PN	Pn	22 31 49.0	+0.6
BRG				PG	Pg	22 31 49.5	+0.4
BRG				SG	Sg	22 32 09.1	+0.4
	15nm,0.3s						
PRU	Pruhonice	1.86	213	ePN	Pn	22 31 53.2	+0.1
PRU				ePG	Pg	22 31 54.8	-0.8
PRU				eSG	Sg	22 32 18.8	-0.9
	22nm,0.3s						
CLL	Collm	1.95	264	ePg	Pg	22 31 57.0	-0.4
CLL				ex	x	22 31 58.0	
CLL				eSg	Sg	22 32 22.0	-0.7
	comp=Z,11nm,0.5s						
MORC	Moravsky Berou	2.01	152	ePn	Pn	22 31 55.6	+0.4
MORC				eSg	Sg	22 32 23.6	-1.1
OKC	Ostrava-Krasne	2.17	142	eSG	Sg	22 32 28.6	-1.0
NKC	Novy Kostel	2.66	241	ePN	Pn	22 32 04.9	+0.7
NKC				eSG	Sg	22 32 46.6	+1.0
	comp=Z,17nm,0.3s						
OJC	Ojcow	2.71	118	ePg	Pg	22 32 13.6	+1.7
OJC				eSg	Sg	22 32 48.4	+1.4
KHC	Kasperske Hory	2.92	214	ePG	Pg	22 32 13.2	-2.8
KHC				eSG	Sg	22 32 52.3	-1.5
	comp=Z,4.9nm,0.4s						
MOX	Moxa	2.97	254	ePG	Pg	22 32 16.9	0.0
MOX				eSG	Sg	22 32 56.4	+1.0
VYHS	Vyhne	3.54	149	eSG	Sg	22 33 12.6	-1.3
BSD	Bornholm Skovb	3.63	349	i P	Pn	22 32 17.1	-0.4
BSD				i S	Sn	22 32 59.0	-2.0
MOA	Molln	3.90	198	⇑iPn	Pn	22 32 22.2	+1.0
MOA				⇑iSg	Sg	22 33 25.1	-0.2
	comp=Z,1.8nm,0.2s						

*ISCJB **03** 23:13:25.5±2.0,216N±0.1×143.1E±02,h326km±16km, mb3.7/9,Error ellipse: s-maj=34.4km s-min=23.0km az=161.7*
*IDC **03** 23:13:26.0±2.1,2158N×143.15E,h315km±18km,mb3.4/9, mb1 3.6/11,mb1mx3.4/23,mbtmp4.1/11,Error ellipse: s-maj=24.8km s-min=17.3km az=74.0*
ISC 03 23:13:26.4±2.0**,216N**±01×**1431E**±02**,h321km**±16km**,n13, σ0s71**/13**,mb3.7**/9**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.54	351	P	Pn	23 14 50.6	-0.3
	18nm,0.3s,baz=11,slow=21,SNR=18						
CBIJ				S	S	23 15 59.0	0.0
	14nm,0.3s,baz=303,slow=23,SNR=10						
MJAR	Matsushiro Arr	15.49	345	P	P	23 16 47.9	+0.2
	1.0nm,0.3s,baz=162,slow=8.9,SNR=7.4						
KSRS	Korea Array	20.56	324	P	P	23 17 41.9	+0.3
	2.3nm,0.6s,baz=147,slow=8.8,SNR=8.6						
SONM	Songino Array	39.38	321	P	P	23 20 26.8	+1.1
	0.4nm,0.4s,mb3.0,baz=125,slow=7.2,SNR=9.5						
WRA	Warramunga Arr	42.17	192	P	P	23 20 48.3	0.0
	0.6nm,0.4s,mb3.1,baz=17,slow=9.5,SNR=3.9						
ZAL	Zalesovo	54.27	322	P	P	23 22 20.0	0.0
	0.9nm,0.3s,mb3.6,baz=8.1,slow=10,SNR=3.6						
MKAR	Makanchi Array	54.73	313	P	P	23 22 23.6	+0.3
	1.0nm,0.5s,mb3.4,baz=91,slow=8.3,SNR=14						
YKA	Yellowknife Ar	76.56	28	P	P	23 24 41.4	-0.4
	2.0nm,0.6s,mb4.0,baz=292,slow=6.0,SNR=5.9						
ARCES	ARCESS Array B	79.00	341	P	P	23 24 55.4	+0.2
	5.6nm,0.9s,mb4.3,baz=76,slow=8.9,SNR=17						
JOF	Joensuu	80.38	334	ep	P	23 25 01.1	-1.4
	2.5nm,0.4s,mb4.3						
NVAR	Mina Array Bea	83.24	51	P	P	23 25 18.6	+1.2
	0.5nm,0.6s,mb3.5,baz=278,slow=6.2,SNR=5.8						
FINES	FINESS Array B	83.25	334	P	P	23 25 16.1	-1.2
	1.3nm,0.4s,mb4.2,baz=75,slow=5.9,SNR=14						
LPAZ	La Paz	150.00	85	PKPbc	PKPbc	23 32 41.1	+2.1
	0.9nm,0.5s,baz=256,slow=2.3,SNR=6.5						

*IDC **03** 23:20:49.5±1.1,252N×12693E,h0km,mb3.7/7,mb1 3.9/7, mb1mx3.8/18,mbtmp3.8/7,Error ellipse: s-maj=110.0km s-min=17.6km az=71.0*
NEIC 03 23:20:51.0±0.8**,250N×12690E,h10km,Error ellipse: s-maj=61.7km s-min=10.8km az=71.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.50**	**183**	P	P	23 25 29.0	-0.2
	2.5nm,0.7s,baz=346,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**23.46**	**162**	P	P	23 26 01.0	+0.2
	1.3nm,0.5s,baz=342,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**26.88**	**166**	P	P	23 26 33.2	+1.2
	0.3nm,0.4s,baz=347,slow=7.5,SNR=7.7						
ASAR				PcP	PcP	23 29 54.9	+0.7
	0.2nm,0.6s,baz=356,slow=2.3,SNR=4.3						
STKA	**Stephens Creek**	**36.92**	**159**	P	P	23 27 60.0	-0.1
	1.7nm,0.6s,baz=344,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**48.51**	**342**	P	P	23 29 33.8	-0.3
	0.4nm,0.5s,baz=147,slow=8.9,SNR=4.0						
MK31	**Makanchi Array**	**58.66**	**326**	*e*P	P	23 30 48.8	+0.3
MKAR	**Makanchi Array**	**58.66**	**326**	P	P	23 30 49.0	+0.6
	0.6nm,0.4s,baz=117,slow=7.9,SNR=20						
VNDA	**Vanda**	**82.19**	**173**	P	P	23 33 11.4	-0.8
	0.5nm,0.6s,baz=326,slow=7.3,SNR=4.5						

*ISCJB **03** 23:26:30.4±3.7, 18.0N±0.1×146.2E±0.5, h162km±25km, mb3.7/9, Error ellipse: s-maj=80.9km s-min=19.7km az=170.1*

*NEIC **03** 23:26:30.5±3.4, 18.05N×146.32E, h152km±22km, Error ellipse: s-maj=73.1km s-min=15.5km az=83.0*

*IDC **03** 23:26:30.2±4.3, 18.05N×146.26E, h146km±30km, mb3.3/8, mb1 3.5/9, mb1mx3.4/21, mbtmp3.3/9, Error ellipse: s-maj=71.8km s-min=15.9km az=83.0*

ISC 03 23:26:30.1±3.7, **18.1N**±0.1×**146.3E**±0.5, **h147**km±25km, **n11**, σ0.**84**/12, **mb3.7**/9, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.66**	**198**	P	**Pn**	**23 27 39.3**	**+0.4**
	5.4nm,0.3s,baz=0.0,slow=19,SNR=1.9						
GUMO				S	**Sn**	**23 28 32.0**	**-0.5**
	30nm,0.3s,baz=169,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**39.55**	**198**	P	**P**	**23 33 46.6**	**0.0**
	0.6nm,0.4s,mb3.6,baz=18,slow=8.6,SNR=3.0						
FITZ	**Fitzroy Crossi**	**41.29**	**211**	P	**P**	**23 34 01.7**	**+0.7**
	0.8nm,0.3s,mb3.9,baz=44,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**43.21**	**197**	P	**P**	**23 34 17.1**	**+0.7**
	0.3nm,0.4s,mb3.3,baz=9.4,slow=7.6,SNR=6.8						
SONM	**Songino Array**	**44.01**	**322**	P	**P**	**23 34 24.4**	**+1.5**
	0.1nm,0.3s,mb2.9,baz=116,slow=6.6,SNR=3.7						
STKA	**Stephens Creek**	**49.86**	**185**	P	**P**	**23 35 07.6**	**-0.6**
	0.8nm,0.4s,mb3.7,baz=358,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**59.33**	**314**	P	**P**	**23 36 14.6**	**-1.9**
	0.2nm,0.4s,mb3.3,baz=89,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**59.33**	**314**	P	**P**	**23 36 14.6**	**-1.9**
BVAR	**Borovoye Array**	**67.34**	**321**	P	**P**	**23 37 09.1**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=96,slow=11,SNR=6.2						
ARCES	**ARCESS Array B**	**83.28**	**342**	P	**P**	**23 38 40.5**	**+0.2**
	18nm,1.3s,mb4.6,baz=77,slow=6.8,SNR=7.8						
FINES	**FINESS Array B**	**87.71**	**335**	P	**P**	**23 39 01.6**	**-0.6**
	1.6nm,0.9s,mb3.9,baz=49,slow=4.8,SNR=7.6						

MEX 03 23:43:04.6±0.5, **16.83N**×**99.72W**, **h5**km±19km, **MD3.5**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**281**	*i* P	Pg	23 43 08.1	-0.2
ACX				*i* S	Sg	23 43 10.8	-0.1
CAIG	**El Cayaco**	**0.56**	**293**	*i* P	Pg	23 43 15.2	-0.2
CAIG				*i* S	Sg	23 43 23.4	+0.7
MEIG	**Mezcala**	**1.09**	**5**	*i* P	Pg	23 43 22.3	-3.3
MEIG				*i* S	Sg	23 43 37.1	-2.7
UTMO	**Huajuapan**	**2.09**	**61**	*i* P	Pn	23 43 37.4	-2.8
UTMO				*i* S	Sn	23 44 02.8	-3.8

CASC 04 00:22:31.5±2.7, **9.65N**×**82.69W**, **h0**km±9km, **MD3.6**, **1C**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.29**	**144**	⇑*i*P	Pg	00 22 37.5	+0.5
CTCR	**Cotoan**	**0.75**	**185**	*e*S	Sg	00 22 58.7	+3.0
OCM	**Ochomogo**	**1.28**	**281**	*e*S	Sg	00 23 14.3	+1.7
LCR2	**La Lucha 2**	**1.30**	**274**	*e*P	Pg	00 22 55.9	-0.5
LCR2				*e*S	Sg	00 23 14.9	+1.6
PRS1	**Puriscal**	**1.63**	**282**	*e*P	Pn	00 23 01.7	+0.2
PRS1				*e*S	Sn	00 23 25.7	+2.5

*ISCJB **04** 01:01:43.9±1.2, 23.28S±0.09×68.0W±0.2, h79km±18km, mb3.9/3, Error ellipse: s-maj=26.6km s-min=14.5km az=31.9*

*IDC **04** 01:01:45.8±1.0, 23.17S×68.27W, h95km±14km, mb3.7/3, mb1 3.7/6, mb1mx3.5/18, mbtmp4.0/6, Error ellipse: s-maj=32.9km s-min=19.4km az=104.0*

ISC 04 01:01:45.6±0.9, **23.27S**±0.09×**68.1W**±0.2, **h81**km±15km, **n12**, σ0.**53**/11, **mb3.9**/3, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.02**	**310**	P	**Pn**	**01 02 04.8**	**0.0**
	164nm,0.3s,baz=141,slow=8.3,SNR=2223						
LVC				S	**Sn**	**01 02 18.8**	**-0.5**
	476nm,0.3s,baz=25,slow=21,SNR=82						
LPAZ	**La Paz**	**6.95**	**359**	P	**Pn**	**01 03 25.9**	**+1.3**
	1.9nm,0.3s,baz=261,slow=6.3,SNR=39						
CFAA	**Coronel Fontan**	**8.30**	**181**	P	**Pn**	**01 03 43.5**	**+0.4**
	0.2nm,0.3s,baz=352,slow=13,SNR=5.9						
SIV	**San Ignacio**	**9.79**	**44**	P	**Pn**	**01 04 02.7**	**-0.7**
	4.9nm,0.3s,baz=236,slow=11,SNR=64						
VNA3	**Neumayer Olymp**	**58.16**	**161**	*e*	**P**	**01 11 31.4**	**+0.4**
VNA3				*e*		01 11 45.6	
VNA2	**Neumayer--Watz**	**58.73**	**160**	*e*	**P**	**01 11 34.9**	**-0.1**
VNA2				*e*		01 11 49.4	
SNAA	**Sanae**	**60.36**	**161**	P	**P**	**01 11 45.9**	**-0.2**
	0.5nm,0.7s,mb3.7,baz=281,slow=8.4,SNR=14						
SNAA	**Sanae**	**60.36**	**161**	*e*	**P**	**01 11 45.9**	**-0.3**
SNAA				*e*		01 11 59.6	
SNAA				*e*		06 37 31.1	
SNAA				*e*		06 37 40.2	
SNAA				*e*		06 37 48.3	
SNAA				*e*		06 48 35.6	
SNAA				*e*		06 48 50.9	
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**01 13 30.7**	**-0.1**
	1.4nm,0.5s,mb4.0,baz=255,slow=5.4,SNR=46						
MAW	**Mawson**	**82.42**	**163**	P	**P**	**01 13 58.5**	**-0.4**
	1.6nm,0.6s,mb4.1,baz=223,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**128.69**	**206**	PKP	PKPdf	01 20 41.6	-1.8
	0.5nm,0.6s,baz=162,slow=1.8,SNR=9.7						
MKAR	**Makanchi Array**	**146.57**	**38**	PKPbc	PKPbc	01 21 14.9	-2.8
	1.9nm,0.9s,baz=311,slow=2.9,SNR=9.5						

*ISCJB **04** 01:02:54.3±0.7, 2.35N±0.07×99.24E±0.08, h153km±6km, mb3.8/12, Error ellipse: s-maj=13.7km s-min=11.7km az=159.5*

*IDC **04** 01:02:55.1±0.4, 2.34N×99.19E, h145km±3km, mb3.6/11, mb1 3.7/11, mb1mx3.5/22, mbtmp4.1/11, Error ellipse: s-maj=24.8km s-min=12.0km az=56.0*

*NEIC **04** 01:02:56.0±0.7, 2.33N×99.25E, h154km±6km, mb4.2/3, Error ellipse: s-maj=11.5km s-min=7.9km az=53.0*

ISC 04 01:02:55.8±0.7, **2.35N**±0.07×**99.25E**±0.08, **h148**km±5km, **n22**, σ0.**67**/25, **mb3.8**/12, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.55**	**324**	P	**Pn**	**01 03 17.3**	**+0.1**
	365nm,0.3s,baz=344,slow=14,SNR=1044						
PSI				S	**Sn**	**01 03 32.8**	**-0.6**
	34nm,0.3s,baz=316,slow=19,SNR=15						
PSI	**Prapat**	**0.55**	**324**	P	**Pn**	**01 03 17.3**	**+0.1**
PSI				S	**Sn**	**01 03 32.8**	**-0.6**
KULM	**Kulim**	**3.24**	**26**	*e*Pn	**Pn**	**01 03 47.6**	**+1.5**
KULM				*e*Sn	**Sn**	**01 04 24.5**	**-0.5**
PALK	**Pallekele**	**19.11**	**285**	*e*P	**P**	**01 07 08.6**	**+1.4**
	4.1nm,0.6s						
QIZ	**Qiongzhong**	**19.55**	**31**	*e*P	**P**	**01 07 12.3**	**+0.4**
	72nm,1.4s						
FITZ	**Fitzroy Crossi**	**33.00**	**129**	P	**P**	**01 09 16.7**	**0.0**
	2.5nm,0.7s,mb4.1,baz=319,slow=5.9,SNR=8.9						
WRA	**Warramunga Arr**	**40.95**	**124**	P	**P**	**01 10 24.3**	**+0.6**
	1.3nm,0.3s,mb4.1,baz=320,slow=11,SNR=12						
WRA				PcP	PcP	01 12 21.1	-0.1
	0.5nm,0.4s,baz=312,slow=2.5,SNR=3.9						
WRA	**Warramunga Arr**	**40.95**	**124**	P	**P**	**01 10 24.3**	**+0.6**
WRA				PcP	PcP	01 12 21.1	-0.1
WRAB	**Tennant Creek**	**40.95**	**124**	*e*P	**P**	**01 10 23.8**	**0.0**
	3.3nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**40.96**	**124**	*e*P	**P**	**01 10 24.0**	**+0.1**
ASAR	**Alice Springs**	**42.50**	**129**	P	**P**	**01 10 36.1**	**-0.3**
	0.9nm,0.6s,mb3.6,baz=301,slow=7.2,SNR=12						
SONM	**Songino Array**	**45.73**	**7**	P	**P**	**01 11 02.4**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=187,slow=10,SNR=4.2						
MK31	**Makanchi Array**	**46.66**	**344**	*e*P	**P**	**01 11 09.1**	**-0.2**
MKAR	**Makanchi Array**	**46.66**	**344**	P	**P**	**01 11 09.3**	**0.0**
	0.8nm,0.4s,mb3.7,baz=156,slow=8.4,SNR=20						
STKA	**Stephens Creek**	**52.64**	**134**	P	**P**	**01 11 54.1**	**-0.5**
	1.4nm,0.6s,mb3.9,baz=296,slow=9.1,SNR=4.9						
STKA	**Stephens Creek**	**52.64**	**134**	*e*P	**P**	**01 11 53.5**	**-1.1**
ZAL	**Zalesovo**	**52.77**	**349**	P	**P**	**01 11 55.6**	**+0.1**
	2.2nm,0.3s,mb4.3,baz=325,slow=3.9,SNR=8.9						
BRTR	**Keskin Array B**	**69.87**	**312**	P	**P**	**01 13 49.2**	**-1.3**
	0.8nm,0.7s,mb3.6,baz=135,slow=7.5,SNR=3.4						
MAW	**Mawson**	**74.30**	**194**	P	**P**	**01 14 17.0**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=20,slow=13,SNR=2.9						
BOSA	**Boshof**	**77.12**	**240**	P	**P**	**01 14 33.1**	**+0.2**
	0.9nm,0.6s,mb3.5,baz=40,slow=7.9,SNR=6.3						
FINES	**FINESS Array B**	**79.93**	**332**	P	**P**	**01 14 47.2**	**-1.0**
	0.8nm,0.4s,mb3.7,baz=105,slow=2.2,SNR=5.7						
FINES	**FINESS Array B**	**79.93**	**332**	P	**P**	**01 14 47.2**	**-1.0**

HLW 04 01:33:38.2, **34.58N**×**25.46E**, **h22**km, **Mb2.9**, **5C-2D**, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**3.74**	**158**	⇓*i*P	Pn	01 34 33.6	-0.9
SWA1		**5.30**	**178**	⇑*e*P	Pn	01 34 55.2	-0.8
SWA1				S	Sn	01 35 51.9	-4.6
SWA2		**5.32**	**180**	⇓*i*P	Pn	01 34 55.6	-0.7
SWA2				S	Sn	01 35 52.0	-4.9
AWBH		**6.90**	**154**	⇑*e*P	Pn	01 35 17.4	-0.5
AMAG	**Maghara**	**7.62**	**119**	⇑*e*P	Pn	01 35 27.7	-0.2
HFRF	**Wahat Farafira**	**7.80**	**161**	⇑*e*P	Pn	01 35 29.6	-0.7
AKRG	**Al Kharijah**	**10.04**	**153**	⇑*e*P	Pn	01 36 00.7	-0.4

*IDC **04** 01:38:03.3±1.1, 13.22N×121.27E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, MS3.2/3, Ms1 3.2/3, ms1mx2.9/30, Error ellipse: s-maj=397.9km s-min=13.3km az=70.0*

*ISCJB **04** 01:38:05.6±0.6, 13.49N±0.04×121.49E±0.03, h10km±5km, mb3.8/4, MS3.1/3, Error ellipse: s-maj=6.8km s-min=4.6km az=44.5*

*MAN **04** 01:38:05.3, 13.49N×121.53E, h10km, mb2.3, ML3.9, MS1.2*

ISC 04 01:38:06.2±0.6, **13.47N**±0.04×**121.49E**±0.03, **h14**km±5km, **n22**, σ1.**37**/25, **mb3.8**/4, **MS3.1**/3, **3C-2D**, **Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.34**	**92**	*e*P	**Pg**	**01 38 11.9**	**-1.2**
BOAC				*e*S	**Sg**	**01 38 17.8**	**-0.1**
PGP	**Puerto Galera**	**0.52**	**274**	⇓*e*P	**Pg**	**01 38 16.4**	**-0.1**
PGP				*e*S	**Sg**	**01 38 23.8**	**+0.3**
TGY	**Tagaytay City**	**0.83**	**320**	⇑*i*P	**Pg**	**01 38 21.9**	**-0.3**
TGY				*i* S	**Sg**	**01 38 33.8**	**+0.7**
TGY	**Tagaytay City**	**0.83**	**320**	Pg	**Pg**	**01 38 21.0**	**-1.2**
	251nm,0.3s,baz=190,slow=1.4,SNR=51						
GQP	**Guinayangan**	**1.02**	**65**	⇑*e*P	**Pb**	**01 38 24.4**	**-1.3**
GQP				*i* S	**Sb**	**01 38 41.4**	**+2.4**
AUQP	**San Andres**	**1.16**	**97**	*e*P	**Pn**	**01 38 28.9**	**+0.9**
OTRP	**Odiongan**	**1.22**	**155**	*e*P	**Pn**	**01 38 27.1**	**-1.6**
OTRP				*e*S	**Sb**	**01 38 45.6**	**+1.1**
LUBP	**Lubang**	**1.24**	**282**	*e*P	**Pn**	**01 38 27.8**	**-1.2**
POLP	**Polilio Island**	**1.32**	**19**	*e*P	**Pn**	**01 38 28.1**	**-2.1**
BUSP	**Coron**	**1.93**	**221**	*e*P	**Pn**	**01 38 39.1**	**+0.6**
PCPH	**Palayan**	**2.12**	**350**	⇓*e*P	**Pn**	**01 38 41.1**	**+0.1**
BALP	**Baler**	**2.26**	**2**	*e*P	**Pn**	**01 38 40.5**	**-2.6**
PVCP	**Virac**	**2.59**	**87**	*e*P	**Pn**	**01 38 50.2**	**+2.5**
ENPP	**El Nido**	**3.02**	**222**	*e*P	**Pn**	**01 38 55.1**	**+1.6**
BCPH	**Baguio City Da**	**3.03**	**343**	⇑*e*P	**Pg**	**01 39 06.4**	**+2.3**
CAUP	**Cauayan**	**3.47**	**5**	*e*P	**Pn**	**01 39 08.3**	**+8.6**
KSRS	**Korea Array**	**24.57**	**12**	LR	LR	01 55 01.0	
	comp=Z,26nm,18.4s,MS2.8,baz=195,slow=41						
PSI	**Prapat**	**24.70**	**247**	LR	LR	01 53 25.7	
	comp=Z,134nm,19.0s,MS3.5,baz=350,slow=38						
WRA	**Warramunga Arr**	**35.53**	**159**	P	**P**	**01 44 59.0**	**-3.6**
	2.0nm,1.0s,mb4.0,baz=336,slow=9.7,SNR=8.8						
SONM	**Songino Array**	**36.50**	**343**	P	**P**	**01 45 12.0**	**+1.0**
	0.2nm,0.6s,mb3.2,baz=164,slow=10,SNR=2.7						
SONM				LR	LR	01 59 37.8	
	comp=Z,33nm,21.7s,MS3.1,baz=166,slow=35						
ASAR	**Alice Springs**	**38.85**	**162**	P	**P**	**01 45 30.6**	**-0.2**
	1.4nm,1.0s,mb3.6,baz=337,slow=5.7,SNR=9.8						
STKA	**Stephens Creek**	**49.03**	**157**	P	**P**	**01 46 51.1**	**-1.5**
	1.8nm,0.9s,mb4.1,baz=320,slow=14,SNR=2.8						

*ISCJB **04** 01:54:12.6±0.6, 32.37S±0.09×13.7W±0.1, h10km, mb4.1/10, MS3.9/13, Error ellipse: s-maj=17.8km s-min=13.3km az=151.0*

*IDC **04** 01:54:13.4±0.9, 32.28S×13.88W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, MS3.8/13, Ms1 3.8/13, ms1mx3.8/16, Error ellipse: s-maj=27.8km s-min=24.2km az=126.0*

*NEIC **04** 01:54:14.4±0.8, 32.34S×13.75W, h10km, mb4.6/4, Error ellipse: s-maj=22.6km s-min=16.2km az=67.0*

ISC 04 01:54:14.5±0.6, **32.46S**±0.08×**13.7W**±0.1, **h10**km, **n23**, σ1.**20**/15, **mb4.1**/10, **MS3.9**/13, **1C**, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**4.74**	**167**	⇑*i*Pn	**Pn**	**01 55 26.2**	**+0.3**
TRIS				*e*Sn	**Sn**	**01 56 18.4**	**-2.6**
BOSA	**Boshof**	**33.64**	**94**	LR	LR	02 11 46.4	
	comp=Z,308nm,19.6s,MS4.0,baz=254,slow=31						
SNAA	**Sanae**	**39.70**	**175**	LR	LR	02 13 40.9	
	comp=Z,33nm,18.6s,MS3.2,baz=22,slow=29						
USHA	**Ushuaia**	**44.11**	**223**	LR	LR	02 16 47.1	
	comp=Z,147nm,21.2s,MS3.9,baz=66,slow=31						
PMSA	**Palmer Station**	**44.46**	**208**	LR	LR	02 15 38.6	
	comp=Z,127nm,18.1s,MS3.9,baz=20,slow=29						
CFAA	**Coronel Fontan**	**45.82**	**256**	P	**P**	**02 02 35.6**	**-0.9**
	0.1nm,0.5s,mb3.0,baz=90,slow=5.1,SNR=3.2						
SIV	**San Ignacio**	**45.83**	**279**	P	**P**	**02 02 37.0**	**+0.4**
	3.2nm,0.9s,mb4.2,baz=128,slow=11,SNR=15						
TOA0	**Torodi Ar. Sit**	**47.67**	**20**	*e*P	**P**	**02 02 49.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**47.67**	**20**	P	**P**	**02 02 50.4**	**-0.7**
	2.8nm,0.7s,mb4.4,baz=206,slow=5.8,SNR=39						
TORD				LR	LR	02 18 49.6	
	comp=Z,136nm,19.1s,MS3.9,baz=210,slow=31						
TORD	**Torodi Ar. Bea**	**47.67**	**20**	P	**P**	**02 02 50.4**	**-0.7**
TORD				LR	LR	02 18 49.6	
SAML	**Samuel**	**51.31**	**286**	*e*P	**P**	**02 03 18.6**	**-0.2**
	11nm,0.6s,mb5.0						
LPAZ	**La Paz**	**51.61**	**275**	P	**P**	**02 03 19.8**	**-1.3**
	1.4nm,0.9s,mb3.9,baz=90,slow=4.0,SNR=3.6						
LPAZ				LR	LR	02 23 57.0	
	comp=Z,116nm,19.9s,MS3.9,baz=87,slow=35						
LPAZ	**La Paz**	**51.61**	**275**	*e*P	**P**	**02 03 19.6**	**-1.5**
	1.0nm,0.7s,mb3.9						
LPAZ				LR	LR	02 23 57.0	
MAW	**Mawson**	**55.34**	**153**	P	**P**	**02 03 49.9**	**+1.4**
	2.4nm,0.8s,mb4.3,baz=249,slow=8.1,SNR=5.3						
MAW				LR	LR	02 22 17.8	
	comp=Z,120nm,19.5s,MS4.0,baz=245,slow=30						
KMBO	**Kilima Mbogo**	**57.11**	**68**	LR	LR	02 25 56.9	
	comp=Z,78nm,18.9s,MS3.8,baz=90,slow=33						
SDV	**Santo Domingo**	**68.06**	**297**	*e*P	**P**	**02 05 16.2**	**+2.0**
	7.3nm,0.9s,mb4.7						
ROSC	**El Rosal**	**68.40**	**291**	LR	LR	02 34 16.6	
	comp=Z,193nm,18.9s,MS4.3,baz=280,slow=35						
OTAV	**Otavalo**	**69.01**	**284**	P	**P**	**02 05 28.2**	**+8.0**
	2.6nm,0.9s,mb4.2						
VNDA	**Vanda**	**70.25**	**179**	P	**P**	**02 05 29.5**	**+1.7**
	0.3nm,0.8s,mb3.3,baz=181,slow=4.2,SNR=2.6						
KEST	**Kesra**	**71.19**	**20**	P	**P**	**02 05 33.8**	**+0.3**
	1.5nm,1.0s,mb3.9,baz=230,slow=7.9,SNR=4.2						
KEST				LR	LR	02 32 54.3	
	comp=Z,46nm,20.1s,MS3.7,baz=305,slow=33						
GERES	**GERESS Array B**	**84.55**	**18**	LR	LR	02 42 32.6	
	comp=Z,43nm,20.3s,MS3.8,baz=141,slow=34						
NOA	**NORSAR Array B**	**95.36**	**12**	LR	LR	02 50 15.5	
	comp=Z,22nm,18.2s,MS3.7,baz=195,slow=35						
SCHQ	**Schefferville**	**98.18**	**332**	LR	LR	02 43 35.8	
	comp=Z,46nm,19.0s,MS4.0,baz=97,slow=30						

*NIED **04** 01:58:00, 21.80N×122.10E, h32km, Mw3.7 Best double couple: M0 3.84000×10^14 NP1:φs 39.00000°, δ66.00000°, λ123.00000°. NP2:φs 161.00000°, δ40.00000°, λ39.00000°.*

JMA 04 01:58:46.9±0.4, **21.76N**×**122.07E**, **h0**km, **M3.8**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.79**	**35**	P	Pn	01 59 34.1	+1.3
HATJ				S	Sn	02 00 08.4	+1.3
YOJ	**Yonaguni jima**	**2.83**	**18**	P	Pn	01 59 34.4	+1.1
YOJ				S	Sn	02 00 10.4	+2.4
IRIF	**Iriomote-Funau**	**2.98**	**31**	P	Pn	01 59 36.5	+1.0
IRIF				S	Sn	02 00 13.5	+1.6
JKRS	**Kuro-shima**	**3.04**	**36**	P	Pn	01 59 38.0	+1.7
JKRS				S	Sn	02 00 14.9	+1.5
JIJ	**Ishigaki jima**	**3.22**	**36**	P	Pn	01 59 39.9	+1.2
JIJ				S	Sn	02 00 18.2	+0.5
JTJ	**Tarama**	**3.75**	**40**	P	Pn	01 59 47.8	+1.8
JTJ				S	Sn	02 00 32.0	+1.1

*ISCJB **04** 02:04:21.4±0.6, 24.28S±0.04×67.00W±0.06, h167km±5km, mb4.1/33, Error ellipse: s-maj=9.0km s-min=6.3km az=23.8*

*NEIC **04** 02:04:22.6±0.5, 24.27S×66.91W, h166km±4km, mb4.2/28, Error ellipse: s-maj=8.3km s-min=5.3km az=78.0*

*IDC **04** 02:04:22.4±1.1, 24.29S×66.91W, h163km±9km, mb3.8/9, mb1 4.0/12, mb1mx3.8/18, mbtmp3.8/12, Error ellipse: s-maj=17.0km s-min=10.3km az=75.0*

*GUC **04** 02:04:25.3±1.0, 24.37S×67.47W, h190km, ML4.6*

ISC 04 02:04:22.3±0.6, **24.29S**±0.04×**66.99W**±0.06, **h159**km±5km, **n67**, σ1.**06**/67, **mb4.1**/33, **5C-1D**, **Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**313**	P	**Pn**	**02 05 05.8**	**+2.8**
	182nm,0.3s,baz=140,slow=5.4,SNR=1616						
LVC				S	**Sn**	**02 05 37.0**	**+2.6**
	87nm,0.3s,baz=299,slow=23,SNR=16						
CEN1	**Los Morros**	**3.08**	**286**	⇓*i*P	**Pn**	**02 05 13.1**	**+2.1**
CEN1				*i* S	**Sn**	**02 05 48.9**	**+0.2**
CEN1				AML	AML	02 05 50.5	
	comp=N,1μm,0.7s						
CPN1	**Cerro Paranal**	**3.13**	**263**	⇑*i*P	**Pn**	**02 05 12.5**	**+0.8**
CPN1				*i* S	**Sn**	**02 05 48.8**	**-1.1**
CPN1				AML	AML	02 05 54.9	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**3.19**	**280**	⇑*i*P	**Pn**	**02 05 13.4**	**+1.1**
ANCH				*i* S	**Sn**	**02 05 49.5**	**-1.7**
ANCH				AML	AML	02 05 51.3	
	comp=N,2μm,0.4s						
ANCH	**Antofagasta**	**3.19**	**280**	⇑*i*P	**Pn**	**02 05 13.4**	**+1.1**
ANCH				*i* S	**Sn**	**02 05 49.5**	**-1.7**
CPCH	**Copiapo**	**4.31**	**224**	⇑*i*P	**Pn**	**02 05 26.8**	**+0.1**
CPCH				*i* S	**Sn**	**02 06 15.3**	**-1.6**
CDCH	**Caldera**	**4.44**	**231**	⇑*i*P	**Pn**	**02 05 27.1**	**-1.3**
CDCH				*i* S	**Sn**	**02 06 15.3**	**-4.7**
CFAA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**	**02 06 08.8**	**+1.6**
	comp=N,0.2nm,0.3s,baz=8.7,slow=13,SNR=18						
CFAA				S	**Sn**	**02 07 25.6**	**-4.2**
	comp=N,0.7nm,0.3s,baz=276,slow=18,SNR=14						
LPAZ	**La Paz**	**8.03**	**352**	P	**Pn**	**02 06 18.1**	**+2.1**
	comp=N,1.7nm,0.3s,baz=138,slow=5.3,SNR=36						
LPAZ				S	**Sn**	**02 07 45.2**	**-0.4**
	comp=N,1.1nm,0.3s,baz=333,slow=20,SNR=9.3						
LPAZ	**La Paz**	**8.03**	**352**	*e*Pn	**Pn**	**02 06 17.5**	**+1.5**
LPAZ				*e*Sn	**Sn**	**02 07 45.4**	**-0.2**
ARE	**Arequipa**	**8.86**	**331**	*e*P	**Pn**	**02 06 25.0**	**-2.0**
ARE				*e*S	**Sn**	**02 08 00.0**	**-5.5**
SIV	**San Ignacio**	**9.95**	**35**	P	**Pn**	**02 06 41.7**	**+0.3**
	comp=N,0.9nm,0.3s,baz=212,slow=14,SNR=27						
SIV				S	**Sn**	**02 08 28.4**	**-3.2**
	comp=N,0.1nm,0.3s,baz=227,slow=13,SNR=4.1						
TRQA	**Tornquist**	**14.37**	**164**	*e*Pn	**Pn**	**02 07 38.5**	**+0.1**
	comp=N,28nm,0.6s						
TRQA				*e*P		02 07 41.6	
NNA	**Nana**	**15.40**	**321**	*e*Pn	**Pn**	**02 07 49.9**	**-1.2**
SAML	**Samuel**	**15.68**	**14**	*e*Pn	**Pn**	**02 07 53.5**	**-1.1**
	comp=N,7.7nm,0.9s						
OTAV	**Otavalo**	**26.80**	**334**	*e*P	**P**	**02 09 49.1**	**+1.7**
	comp=N,1.3nm,0.6s,mb3.7						
SDV	**Santo Domingo**	**33.16**	**353**	*e*P	**P**	**02 10 42.0**	**-1.5**
	comp=N,3.2nm,0.7s,mb4.2						
TEIG	**Tepich**	**48.86**	**333**	*e*P	**P**	**02 12 50.7**	**-0.9**
	comp=N,7.8nm,0.5s,mb4.6						
SNAA	**Sanae**	**59.08**	**161**	P	**P**	**02 14 05.5**	**-0.2**
	comp=N,0.4nm,0.6s,mb3.5,baz=278,slow=9.0,SNR=16						
SNAA	**Sanae**	**59.08**	**161**	*e*P	**P**	**02 14 05.6**	**-0.1**
	comp=N,1.3nm,0.6s,mb3.9						
HKT	**Hockley**	**60.62**	**331**	*e*P	**P**	**02 14 15.9**	**-0.3**
	comp=N,9.9nm,1.3s,mb4.5						
NATX	**Nacogdoches**	**61.70**	**333**	*e*P	**P**	**02 14 23.1**	**-0.4**
	comp=N,15nm,0.8s,mb4.9						
JCT	**Junction City**	**62.90**	**328**	*e*P	**P**	**02 14 31.3**	**-0.1**
	comp=N,4.1nm,0.6s,mb4.4						
WVT	**Waverly**	**63.24**	**341**	*e*P	**P**	**02 14 32.0**	**-1.7**
	comp=N,10nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**63.92**	**324**	P	**P**	**02 14 38.2**	**+0.1**
	comp=N,1.0nm,0.8s,mb3.7,baz=154,slow=8.1,SNR=8.2						
WCI	**Wyandotte Cave**	**64.77**	**343**	*e*P	**P**	**02 14 41.9**	**-1.8**
	comp=N,10nm,0.6s,mb4.8						
MNTX	**Cornudas Mount**	**66.69**	**325**	*e*P	**P**	**02 14 54.8**	**-1.2**
	comp=N,2.2nm,0.8s,mb4.0						
AMTX	**Amarillo**	**67.42**	**330**	*e*P	**P**	**02 15 00.7**	**+0.2**
	comp=N,4.1nm,0.5s,mb4.5						
ANMO	**Albuquerque**	**69.80**	**326**	*e*P	**P**	**02 15 15.8**	**+0.5**
	comp=N,4.0nm,1.0s,mb4.1						
TUC	**Tucson**	**70.11**	**321**	*e*P	**P**	**02 15 17.9**	**+0.7**
	comp=N,1.1nm,0.9s,mb3.6						
SDCO	**Great Sand Dun**	**71.54**	**329**	*e*P	**P**	**02 15 26.8**	**+1.0**
	comp=N,2.7nm,0.7s,mb4.1						
SMCO	**Snowmass**	**73.38**	**329**	*e*P	**P**	**02 15 37.8**	**+1.1**
	comp=N,1.9nm,0.6s,mb4.0						
CCUT	**Cedar City**	**75.40**	**324**	*e*P	**P**	**02 15 49.9**	**+1.5**
RSSD	**Black Hills**	**76.07**	**333**	*e*P	**P**	**02 15 52.5**	**+0.3**
	comp=N,1.6nm,0.6s,mb3.8						
DAU	**Daniels Canyon**	**76.42**	**327**	*e*P	**P**	**02 15 54.4**	**+0.2**
TOA0	**Torodi Ar. Sit**	**76.66**	**69**	*e*P	**P**	**02 15 55.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**02 15 55.9**	**+0.4**
	comp=N,2.3nm,0.5s,mb4.0,baz=258,slow=5.6,SNR=50						
DUG	**Dugway**	**77.05**	**326**	*e*P	**P**	**02 15 58.1**	**+0.4**
	comp=N,3.9nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**77.40**	**329**	P	**P**	**02 15 59.7**	**0.0**
	comp=N,0.8nm,0.6s,mb3.5,baz=136,slow=7.3,SNR=9.9						
BW06	**Boulder Array**	**77.40**	**329**	*e*P	**P**	**02 15 59.4**	**-0.2**
	comp=N,0.9nm,0.5s,mb3.7						
HWUT	**Hardware Ranch**	**77.48**	**327**	*e*P	**P**	**02 16 00.1**	**0.0**
	comp=N,3.2nm,0.7s,mb4.1						
SNOW	**Snow King Moun**	**78.50**	**329**	*e*P	**P**	**02 16 06.3**	**+0.6**
	comp=N,4.3nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**78.50**	**342**	P	**P**	**02 16 04.7**	**-1.0**
	comp=N,1.0nm,0.4s,mb3.8,baz=151,slow=6.8,SNR=8.2						
ULM	**Lac du Bonnet**	**78.50**	**342**	*e*P	**P**	**02 16 04.5**	**-1.3**
	comp=N,4.9nm,0.7s,mb4.2						
LOHW	**Long Hollow**	**78.54**	**329**	*e*P	**P**	**02 16 06.2**	**+0.3**
	comp=N,3.6nm,0.7s,mb4.1						
TPAW	**Teton Pass**	**78.61**	**329**	*e*P	**P**	**02 16 06.6**	**+0.3**
	comp=N,8.2nm,1.4s,mb4.2						
MOOW	**Moose Ponds**	**78.71**	**329**	*e*P	**P**	**02 16 06.8**	**0.0**
	comp=N,1.6nm,0.7s,mb3.8						
ELK	**Elko**	**78.71**	**325**	*e*P	**P**	**02 16 07.2**	**+0.3**
	comp=N,4.8nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**78.77**	**321**	P	**P**	**02 16 08.2**	**+1.0**
	comp=N,0.7nm,0.7s,mb3.4,baz=155,slow=7.6,SNR=4.4						
SCHQ	**Schefferville**	**78.79**	**0**	P	**P**	**02 16 06.3**	**-1.0**
	comp=N,3.6nm,0.9s,mb4.0,baz=351,slow=7.3,SNR=3.7						
HLID	**Hailey**	**80.33**	**327**	*e*P	**P**	**02 16 16.5**	**+0.8**
	comp=N,9.4nm,1.0s,mb4.4						
MCMT	**McKenzie Canyo**	**80.51**	**329**	*e*P	**P**	**02 16 17.4**	**+0.8**
BOSA	**Boshof**	**80.59**	**117**	P	**P**	**02 16 17.2**	**+0.2**
	comp=N,1.0nm,0.4s,mb3.8,baz=94,slow=22,SNR=5.0						
CHMT	**Chamberlain Mo**	**82.26**	**330**	*e*P	**P**	**02 16 26.1**	**+0.3**
YKA	**Yellowknife Ar**	**94.40**	**340**	P	**P**	**02 17 23.0**	**-1.0**
	comp=N,2.0nm,0.6s,mb4.4,baz=134,slow=4.9,SNR=6.7						
ASAR	**Alice Springs**	**128.20**	**205**	PKP	PKPdf	02 23 09.6	0.0
	comp=N,0.5nm,0.5s,baz=136,slow=2.1,SNR=6.1						
WRA	**Warramunga Arr**	**131.38**	**207**	PKP	PKPdf	02 23 16.0	+0.4
	comp=N,0.5nm,0.5s,baz=161,slow=1.5,SNR=5.8						
WRAB	**Tennant Creek**	**131.38**	**207**	*e*PKPdf	PKPdf	02 23 16.1	+0.5
ZRNK	**Zerenda**	**136.28**	**37**	*e*PKPdf	PKPdf	02 23 24.6	-0.2
CHKZ	**Chkalovo**	**136.86**	**36**	*e*PKPdf	PKPdf	02 23 24.3	-1.5
AAK	**Ala-Archa**	**143.41**	**50**	*e*PKPdf	PKPdf	02 23 36.6	-1.1
ZAL	**Zalesovo**	**143.64**	**28**	PKP	PKPdf	02 23 36.3	-1.8

	comp=N,2.2nm,0.6s,baz=177,slow=7.5,SNR=9.3						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc	02 23 43.7	-1.7
	comp=N,4.3nm,0.6s,baz=325,slow=1.5,SNR=33						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc	02 23 43.7	-1.7
MJAR	**Matsushiro Arr**	**155.16**	**305**	PKPab	PKPab	02 24 21.9	+0.1
	comp=N,0.6nm,0.3s,baz=70,slow=3.7,SNR=5.4						
MJAR	**Matsushiro Arr**	**155.16**	**305**	PKPab	PKPab	02 24 21.9	+0.1
SONM	**Songino Array**	**155.92**	**11**	PKPab	PKPab	02 24 24.5	-0.6
	comp=N,0.3nm,0.3s,baz=324,slow=4.3,SNR=4.1						

*ISCJB **04** 02:11:11.4±1.2, 22.63S±0.06×178.66W±0.07, h292km±12km, mb4.2/38, Error ellipse: s-maj=12.1km s-min=7.2km az=65.8*
*NEIC **04** 02:11:19.4±1.4, 22.78S×178.67W, h367km±15km, mb4.4/31, Error ellipse: s-maj=12.2km s-min=7.8km az=156.0*
*IDC **04** 02:11:19.7±2.5, 22.44S×178.74W, h358km±23km, mb3.7/11, mb1 4.0/11, mb1mx3.9/15, mbtmp3.7/11, Error ellipse: s-maj=18.1km s-min=14.0km az=151.0*
ISC 04 02:11:12.7±1.1**, 22.71S**±0.06×**178.56W**±0.07**, h292**km±11km**, n100, σ0.90**/73**, mb4.2**/38**, 4C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.54**	**175**	P	**Pn**	**02 12 55.6**	**+7.3**
	128nm,0.3s,baz=152,slow=20,SNR=4.1						
RAO				S	**S**	**02 14 05.0**	**-0.4**
	62nm,0.3s,baz=82,slow=22,SNR=2.8						
AFI	**Afiamalu**	**10.86**	**37**	P	**Pn**	**02 13 42.5**	**+1.1**
	21nm,0.3s,baz=167,slow=6.5,SNR=15						
AFI				S	**S**	**02 15 35.4**	**-7.8**
	11nm,0.3s,baz=73,slow=21,SNR=5.7						
DZM	**Mont Dzumac**	**13.89**	**270**	*e*P	**Pn**	**02 14 26.3**	**+8.2**
DZM	**Mont Dzumac**	**13.89**	**270**	P	**Pn**	**02 14 26.9**	**+8.8**
	2.5nm,0.3s,baz=79,slow=18,SNR=30						
MXZ	**Matakaoa Point**	**15.05**	**190**	*e*PN	**Pn**	**02 14 31.4**	**-0.5**
PUZ	**Puketiti**	**15.55**	**189**	*e*P	**Pn**	**02 14 37.1**	**-0.7**
PUZ	**Puketiti**	**15.55**	**189**	*e*PN	**Pn**	**02 14 37.1**	**-0.8**
URZ	**Urewera**	**15.94**	**193**	P	**Pn**	**02 14 41.1**	**-1.3**
	9.3nm,0.3s,baz=346,slow=4.2,SNR=48						
URZ				S	**S**	**02 17 31.5**	**-1.4**
	3.0nm,0.3s,baz=274,slow=17,SNR=19						
URZ	**Urewera**	**15.94**	**193**	*e*P	**Pn**	**02 14 40.7**	**-1.6**
URZ	**Urewera**	**15.94**	**193**	*e*PN	**Pn**	**02 14 40.7**	**-1.6**
PXZ	**Pawanui**	**17.70**	**192**	*e*PN	**P**	**02 14 59.0**	**-0.5**
SNZO	**South Karori**	**19.39**	**195**	*e*P	**P**	**02 15 19.2**	**+1.7**
	68nm,0.8s						
THZ	**Tophouse**	**20.30**	**199**	*e*P	**P**	**02 15 28.4**	**+1.2**
THZ	**Tophouse**	**20.30**	**199**	*e*PN	**P**	**02 15 28.4**	**+1.3**
KHZ	**Kahutara**	**20.73**	**197**	*e*P	**P**	**02 15 30.9**	**-0.7**
KHZ	**Kahutara**	**20.73**	**197**	*e*PN	**P**	**02 15 30.9**	**-0.8**
RPZ	**Rata Peaks**	**22.64**	**200**	P	**P**	**02 15 49.2**	**+0.1**
	24nm,0.6s,mb4.7,baz=60,slow=1.2,SNR=16						
CTA	**Charters Tower**	**32.82**	**268**⇑	*i*P	**P**	**02 17 20.8**	**+1.6**
	7.3nm,0.5s,mb4.5						
CTA	**Charters Tower**	**32.82**	**268**	P	**P**	**02 17 21.1**	**+1.8**
	8.5nm,0.5s,mb4.5,baz=97,slow=10,SNR=27						
CTAO	**Charters Tower**	**32.82**	**268**	*e*P	**P**	**02 17 20.8**	**+1.5**
	7.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**36.40**	**247**	*e*P	**P**	**02 17 51.1**	**+1.4**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**36.40**	**247**	P	**P**	**02 17 50.8**	**+1.1**
	3.6nm,0.6s,mb4.1,baz=88,slow=9.9,SNR=12						
AS31	**Alice Springs**	**43.55**	**259**	*e*P	**P**	**02 18 47.3**	**-0.8**
ASAR	**Alice Springs**	**43.55**	**259**	P	**P**	**02 18 48.5**	**+0.4**
	4.8nm,0.7s,mb3.9,baz=94,slow=8.2,SNR=54						
ASAR				ScP	ScP	02 23 46.9	-6.3
	0.5nm,0.7s,baz=100,slow=4.0,SNR=4.1						
ASPA	**Alice Springs**	**43.55**	**259**	*e*P	**P**	**02 18 48.4**	**+0.2**
WB2	**Warramunga Arr**	**43.81**	**264**	*e*P	**P**	**02 18 49.9**	**-0.3**
WRAB	**Tennant Creek**	**43.82**	**264**	*e*P	**P**	**02 18 49.8**	**-0.5**
	3.8nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**43.83**	**264**	P	**P**	**02 18 50.1**	**-0.3**
	1.5nm,0.3s,mb3.7,baz=100,slow=8.1,SNR=18						
WRA				ScP	ScP	02 23 48.4	-5.8
	0.6nm,0.7s,baz=98,slow=3.3,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.25**	**264**	P	**P**	**02 19 54.8**	**+0.4**
	0.7nm,0.4s,mb3.4,baz=148,slow=14,SNR=6.6						
VNDA	**Vanda**	**55.67**	**185**	P	**P**	**02 20 20.6**	**+1.6**
	1.5nm,0.9s,mb3.4,baz=357,slow=8.5,SNR=9.7						
VNDA	**Vanda**	**55.67**	**185**	*e*P	**P**	**02 20 20.1**	**+1.1**
	1.2nm,0.8s,mb3.4						
CASY	**Casey**	**61.75**	**206**	*e*P	**P**	**02 20 59.4**	**-1.3**
CASY	**Casey**	**61.75**	**206**	*e*P	**P**	**02 20 59.9**	**-0.8**
	3.5nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**67.37**	**180**	*e*P	**P**	**02 21 38.2**	**+1.4**
MJAR	**Matsushiro Arr**	**71.69**	**324**	P	**P**	**02 22 02.8**	**-0.2**
	3.9nm,0.7s,mb4.1,baz=160,slow=6.0,SNR=10						
MAJO	**Matsushiro**	**71.69**	**324**	*e*P	**P**	**02 22 02.4**	**-0.7**
	8.3nm,0.9s,mb4.4						
MAW	**Mawson**	**79.32**	**200**	P	**P**	**02 22 48.1**	**+1.9**
	3.5nm,0.8s,mb4.1,baz=142,slow=5.8,SNR=5.2						
NVAR	**Mina Array Bea**	**82.98**	**43**	P	**P**	**02 23 05.9**	**+0.6**
	4.2nm,0.7s,mb4.3,baz=229,slow=8.6,SNR=19						
PAHR	**Pah Rah Range**	**83.06**	**42**	*e*P	**P**	**02 23 05.9**	**+0.1**
	9.2nm,0.9s,mb4.6						
TUC	**Tucson**	**84.75**	**52**	*e*P	**P**	**02 23 15.3**	**+1.1**
	6.4nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**85.15**	**40**	*e*P	**P**	**02 23 16.0**	**-0.2**
	4.4nm,1.0s,mb4.2						
SNAA	**Sanae**	**85.83**	**179**	P	**P**	**02 23 21.4**	**+1.9**
	0.2nm,0.6s,mb3.1,baz=207,slow=9.0,SNR=6.4						
SNAA	**Sanae**	**85.83**	**179**	*e*P	**P**	**02 23 21.4**	**+1.9**
	0.4nm,0.7s,mb3.4						
MSU	**Marysvale**	**87.01**	**46**	*e*P	**P**	**02 23 25.9**	**+0.6**
DUG	**Dugway**	**87.49**	**44**	*e*P	**P**	**02 23 27.8**	**+0.3**
TMUT	**Trail Mountain**	**88.06**	**46**	*e*P	**P**	**02 23 31.0**	**+0.8**
HLID	**Hailey**	**88.33**	**41**	*e*P	**P**	**02 23 31.0**	**-0.4**
	6.8nm,1.1s,mb4.4						
SRU	**San Rafael**	**88.42**	**46**	*e*P	**P**	**02 23 31.9**	**0.0**
	4.2nm,0.7s,mb4.4						
MNTX	**Cornudas Mount**	**88.45**	**55**	*e*P	**P**	**02 23 32.3**	**+0.3**
	6.5nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**88.68**	**57**	P	**P**	**02 23 34.1**	**+1.0**
	1.7nm,0.8s,mb3.9,baz=218,slow=6.9,SNR=16						
ANMO	**Albuquerque**	**89.18**	**51**	*e*P	**P**	**02 23 35.6**	**+0.1**
	5.2nm,1.1s,mb4.3						
MCK	**McKinley**	**89.23**	**13**	*e*P	**P**	**02 23 32.9**	**-2.8**
	3.1nm,0.8s,mb4.2						
NEW	**Newport**	**89.46**	**36**	*e*P	**P**	**02 23 36.0**	**-0.7**
MCMT	**McKenzie Canyo**	**89.97**	**40**	*e*P	**P**	**02 23 39.0**	**-0.1**
RRI2	**Red Ridge**	**90.11**	**42**	*e*P	**P**	**02 23 39.9**	**+0.1**
	10nm,0.9s,mb4.7						
REDW	**Red Top Meadow**	**90.41**	**42**	*e*P	**P**	**02 23 40.7**	**-0.5**
	11nm,1.0s,mb4.7						
TPAW	**Teton Pass**	**90.41**	**42**	*e*P	**P**	**02 23 41.2**	**0.0**
	6.3nm,0.9s,mb4.5						
COLA	**College**	**90.47**	**13**	*e*P	**P**	**02 23 38.7**	**-2.7**
	3.4nm,0.7s,mb4.3						
SNOW	**Snow King Moun**	**90.52**	**42**	*e*P	**P**	**02 23 41.5**	**-0.1**
	13nm,1.0s,mb4.7						
IMW	**Indian Meadow**	**90.63**	**42**	*e*P	**P**	**02 23 42.4**	**+0.2**
	12nm,1.0s,mb4.7						
MOOW	**Moose Ponds**	**90.68**	**42**	*e*P	**P**	**02 23 42.0**	**-0.4**
	1.7nm,0.7s,mb4.0						
LOHW	**Long Hollow**	**90.69**	**42**	*e*P	**P**	**02 23 42.2**	**-0.2**
	4.6nm,0.7s,mb4.4						
SMCO	**Snowmass**	**90.85**	**48**	*e*P	**P**	**02 23 43.2**	**0.0**
	1.4nm,0.6s,mb4.0						
BW06	**Boulder Array**	**90.92**	**43**	*e*P	**P**	**02 23 43.0**	**-0.5**
	3.6nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**90.92**	**43**	P	**P**	**02 23 43.1**	**-0.4**
	3.8nm,0.7s,mb4.3,baz=208,slow=3.0,SNR=36						
SDCO	**Great Sand Dun**	**91.19**	**49**	*e*P	**P**	**02 23 44.8**	**0.0**
	4.7nm,1.1s,mb4.2						
DAWY	**Dawson**	**91.72**	**16**	*e*P	**P**	**02 23 45.4**	**-1.8**
RLMT	**Red Lodge**	**92.29**	**42**	*e*P	**P**	**02 23 49.7**	**-0.1**
	7.8nm,1.1s,mb4.5						
WMOK	**Wichita Mounta**	**94.75**	**54**	*e*P	**P**	**02 23 54.2**	**-7.0**
	2.9nm,0.8s,mb4.5						
RSSD	**Black Hills**	**95.10**	**44**	*e*P	**P**	**02 24 01.7**	**-1.0**
	1.0nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**112.32**	**313**	PKiKP	PKiKP	02 29 11.0	-2.8
	0.4nm,0.6s,baz=248,slow=3.5,SNR=4.3						
CHKZ	**Chkalovo**	**120.25**	**320**	*e*PKPdf	PKPdf	02 29 24.4	-4.6
ZRNK	**Zerenda**	**121.26**	**319**	*e*PKPdf	PKPdf	02 29 27.1	-3.9
ARU	**Arti**	**126.70**	**324**	*e*PKPdf	PKPdf	02 29 38.6	-2.8
ARCES	**ARCESS Array B**	**130.99**	**349**	PKP	PKPdf	02 29 46.3	-3.2
	4.3nm,0.9s,baz=29,slow=2.8,SNR=11						
FINES	**FINESS Array B**	**137.73**	**343**	PKP	PKPdf	02 29 58.6	-3.5
	1.2nm,0.6s,baz=35,slow=5.1,SNR=3.4						
NB2	**NORSAR Subarra**	**141.10**	**352**	PKP	PKPdf	02 29 59.6	-8.7
	comp=Z,0.5nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.10**	**352**	PKhKP		02 29 59.1	
	comp=Z,1.3nm,0.8s,baz=12,slow=5.9,SNR=3.5						
NOA				PKP	PKPdf	02 30 05.3	-3.0
	comp=Z,1.1nm,0.7s,baz=37,slow=2.1,SNR=3.6						
AKASG	**Malin Array Be**	**144.66**	**329**	PKP	PKPdf	02 30 11.2	-3.3
	comp=Z,5.3nm,0.7s,baz=42,slow=4.3,SNR=18						
AKBB	**Malin Array Si**	**144.66**	**329**	*e*PKPdf	PKPdf	02 30 11.0	-3.5
BR131	**Keskin Array S**	**147.88**	**309**	*e*PKPbc	PKPbc	02 30 21.1	-2.2
BRTR	**Keskin Array B**	**147.88**	**309**	PKPbc	PKPbc	02 30 21.1	-2.2
	comp=Z,1.3nm,0.6s,baz=146,slow=5.5,SNR=8.6						
BURAR	**Bucovina Array**	**148.69**	**328**⇑	*i*P	PKPdf	02 30 24.5	+3.2
OKC	**Ostrava-Krasne**	**149.90**	**338**	*e*PKPbc	PKPbc	02 30 26.3	-2.1
UPC	**Upice**	**150.00**	**341**	*e*PKPbc	PKPbc	02 30 26.9	-1.7
DPC	**Dobruska-Polom**	**150.05**	**341**	*e*PKPbc	PKPbc	02 30 27.1	-1.6
CLL	**Collm**	**150.07**	**345**	*i* PKPbc	PKPbc	02 30 26.8	-2.0
	comp=Z,13nm,0.9s						
CLL				*i* PKiKP	PKiKP	02 30 28.8	-0.7
MORC	**Moravsky Berou**	**150.16**	**339**⇓	*i*P	PKPdf	02 30 27.4	+3.8
MORC	**Moravsky Berou**	**150.16**	**339**	*e*PKPbc	PKPbc	02 30 27.0	-2.0
BRG	**Berggiesshubel**	**150.25**	**344**	*i* PKP	PKPdf	02 30 27.1	+3.4
	comp=Z,4.9nm,0.8s						
BRG				*i*		02 30 29.5	
	comp=Z,7.8nm,1.1s						
PVCC	**Panska Ves**	**150.40**	**343**	*e*PKPbc	PKPbc	02 30 28.0	-1.6
DRGR		**150.47**	**330**⇑	*i*P	PKPdf	02 30 27.4	+3.3
PRU	**Pruhonice**	**150.89**	**342**	*e*PKPbc	PKPbc	02 30 28.7	-2.0
GZR	**Gura Zlata**	**151.45**	**328**⇑	*i*P	PKPbc	02 30 30.0	-2.0
BZS	**Buzias**	**151.85**	**329**⇓	*i*P	PKPbc	02 30 30.7	-2.2
KHC	**Kasperske Hory**	**151.94**	**343**	*e*PKPbc	PKPbc	02 30 31.3	-1.8
KHC				*e*PKPab	PKPab	02 30 42.4	-1.2
GRA1	**Grafenberg Arr**	**151.99**	**346**	*e*PKP	PKPdf	02 30 29.8	+3.4
GRF	**Grafenberg Arr**	**151.99**	**346**	*e*PKP	PKPdf	02 30 29.8	+3.4
GERES	**GERESS Array B**	**152.16**	**343**	PKPbc	PKPbc	02 30 31.6	-2.0
	comp=Z,3.5nm,1.1s,baz=39,slow=2.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**170.49**	**181**	PKP	PKPdf	02 30 43.8	-1.8
	comp=Z,1.0nm,0.9s,baz=345,slow=0.2,SNR=5.5						
TORD				PKPab	PKPab	02 32 07.2	+2.8
	comp=Z,0.7nm,0.7s,baz=170,slow=4.3,SNR=6.9						

CASC 04 02:21:17.0±1.6**, 7.78N**×**82.93W, h15**km±20km**, MD3.8, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.81**	**36**	*e*P	Pg	02 21 31.5	-1.1
BRU	**Baru**	**1.08**	**20**	*e*P	Pb	02 21 35.9	-1.6
CNI	**Changuinola**	**1.68**	**14**	*e*P	Pn	02 21 46.0	+0.2
LCR2	**La Lucha 2**	**2.22**	**332**	*e*P	Pn	02 21 53.5	+0.2
LCR2				*e*S	Sn	02 22 21.7	+1.2
PRS1	**Puriscal**	**2.58**	**328**	*e*P	Pn	02 21 57.3	-1.0

SKHL 04 02:24:28.1±0.4**, 53.76N**×**141.95E, h10**km**, mb3.9**/1**, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.62**	**109**	*e*Pg	Pg	02 24 40.0	-0.1
OKH				*e*Sg	Sg	02 24 48.0	-0.3
OKH				A		02 24 51.0	
	316nm,0.3s						
OKH				A		02 24 51.0	
	550nm,0.3s						
NKL	**Nikolayevsk**	**0.97**	**232**	*e*Pg	Pg	02 24 47.0	+0.1
NKL				AMB	AMB	02 24 47.6	
	38nm,0.2s						
NKL				AMB	AMB	02 24 47.6	
	54nm,0.2s						
NKL				*e*Sg	Sg	02 25 00.5	+1.0
NKL				AMS	AMS	02 25 03.0	
	520nm,0.4s						
NKL				AMS	AMS	02 25 03.0	
	750nm,0.4s						
TYV	**Tymovskoe**	**2.93**	**171**	*e*Sg	Sg	02 26 08.2	+5.8
EKMR	**Ekimchan**	**5.43**	**266**	*e*S	Sn	02 26 54.8	+3.2
EKMR				*e*Sg	Sg	02 27 28.0	+5.6

*NEIC **04** 02:39:47.1, 16.09N×93.96W, h90km, MD3.9(MEX), After MEX.*
MEX 04 02:39:47.1±0.8**, 16.11N**×**93.97W, h92**km±24km**, MD3.9, 2C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.32**	**318**⇑	*i*P	Pn	02 40 09.3	-1.3
CMIG				*i* S	Sn	02 40 27.1	-1.3
CCIG	**Comitan**	**1.77**	**84**	*e*P	Pn	02 40 15.7	-0.6
CCIG				*i* S	Sn	02 40 37.8	-0.7
HUIG	**Huatulco**	**2.09**	**261**⇑	*i*P	Pn	02 40 19.0	-1.5
HUIG				*i* S	Sn	02 40 45.1	-0.9
OXX	**Oaxaca**	**2.82**	**291**	*i* P	Pn	02 40 31.0	+0.8
VHO	**Vista Hermosa**	**2.82**	**290**	*i* P	Pn	02 40 30.6	+0.3
VHO				*i* S	Sn	02 41 03.0	-0.5
TPIG	**Tehuac#an**	**3.98**	**306**	*i* S	Sn	02 41 29.5	-1.9
UTMO	**Huajuapan**	**4.05**	**296**	*i* P	Pn	02 40 46.9	+0.1

IDC 04 02:48:22.7±1.8**, 9.01S**×**161.14E, h0**km**, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.8**/15**, mbtmp3.9**/4**, Error ellipse: s-maj=46.7km s-min=19.3km az=151.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.25**	**250**	Pg	Pg	02 48 44.7	-2.0
	351nm,0.3s,baz=117,slow=3.2,SNR=62						
HNR				Lg		02 49 04.1	
	526nm,0.3s,baz=76,slow=4.0,SNR=14						
WRA	**Warramunga Arr**	**28.09**	**244**	P	P	02 54 18.0	+2.0
	1.5nm,0.6s,baz=75,slow=9.5,SNR=8.1						
STKA	**Stephens Creek**	**29.10**	**216**	P	P	02 54 26.2	+1.2
	1.5nm,0.8s,baz=37,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**29.84**	**237**	P	P	02 54 30.5	-1.1
	0.4nm,0.8s,baz=66,slow=11,SNR=6.1						
SONM	**Songino Array**	**74.38**	**325**	P	P	03 00 02.7	+0.3
	0.5nm,0.4s,baz=145,slow=5.1,SNR=4.9						

CASC 04 02:54:22.3±2.6**, 10.59N**×**83.01W, h37**km±123km**, MD3.9, ML4.3, 3C-7D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIO	**Limon**	**0.58**	**183**⇓	*e*P	Pn	02 54 34.7	+0.7
LIO				*e*S	Sn	02 54 44.6	+2.2
IRZ2	**Volcan Irazu 2**	**1.07**	**235**⇓	*e*P	Pn	02 54 40.4	-0.4
IRZ2				*e*S	Sn	02 54 56.3	+1.9
OCM	**Ochomogo**	**1.16**	**234**	*e*P	Pn	02 54 41.9	-0.2
OCM				*e*S	Sn	02 54 58.5	+1.8
SJS	**Escuela Geolog**	**1.22**	**238**	*e*P	Pn	02 54 43.1	+0.3
CNI	**Changuinola**	**1.26**	**157**	*e*P	Pn	02 54 43.5	+0.1
POA2	**Poas 2**	**1.29**	**252**⇑	*e*P	Pn	02 54 44.0	+0.2
POA2				*e*S	Sn	02 54 59.4	-0.4
LCR2	**La Lucha 2**	**1.29**	**229**⇓	*e*P	Pn	02 54 43.8	-0.1
LAJ	**Bijagual**	**1.31**	**237**⇑	*e*P	Pn	02 54 52.0	+7.9
LAJ				*e*S	Sn	02 55 13.1	+13
PRS1	**Puriscal**	**1.42**	**245**⇓	*e*P	Pn	02 54 47.4	+1.9
CGA2	**Cerro Gallo 2**	**1.54**	**249**⇑	*e*P	Pn	02 54 48.0	+0.7
CGA2				*e*S	Sn	02 55 06.8	+0.7
VACR	**Volcan Arenal**	**1.65**	**266**	*e*P	Pn	02 54 48.8	+0.1
VACR				*e*S	Sn	02 55 10.6	+2.0
EPA	**Esparza**	**1.67**	**249**⇓	*e*P	Pn	02 54 50.0	+0.9
EPA				*e*S	Sn	02 55 10.3	+1.0
CTCR	**Cotoan**	**1.70**	**172**⇓	*e*P	Pn	02 54 51.8	+2.4
JCR	**Jicaral**	**2.20**	**251**	*e*P	Pn	02 54 57.8	+1.5
JCR				*e*S	Sn	02 55 22.8	+0.6
CAO	**Cobano**	**2.24**	**247**	*e*P	Pn	02 54 58.8	+1.9
MADN	**Villa Maderas**	**2.61**	**288**	*e*P	Pn	02 55 04.1	+2.1
CONN	**Concepcion**	**2.75**	**291**	*e*P	Pn	02 55 05.8	+2.0
ACH	**Altos**	**3.59**	**122**	*e*P	Pn	02 55 16.0	+0.6
COPN	**Copaltepe**	**3.85**	**295**	*e*P	Pn	02 55 19.2	+0.2
MIRN	**Miramar**	**4.07**	**297**⇓	*e*P	Pn	02 55 23.7	+1.7

*ISK **04** 02:56:35.7, 40.27N×28.03E, h12km, MD3.0*
*NEIC **04** 02:56:35.0, 40.28N×28.04E, h12km, ML2.9(ISK), After ISK.*
*CSEM **04** 02:56:35.4±0.1, 40.26N×28.04E, h10km, MD3.0, Error ellipse: s-maj=2.0km s-min=1.2km az=7.0*
*ISCJB **04** 02:56:36.1±0.4, 40.26N±0.02×28.06E±0.02, h6km±3km, Error ellipse: s-maj=3.6km s-min=2.8km az=21.3*
*THE **04** 02:56:39.6, 40.33N×27.91E, h10km*
ISC 04 02:56:36.9±0.4**, 40.26N**±0.02×**28.05E**±0.02**, h8**km±3km**, n32, σ1.11**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.17**	**300**	*i* PG	**Pg**	**02 56 39.5**	**-0.8**
KCT	**Karacabey**	**0.23**	**89**	*i* PG	**Pg**	**02 56 41.6**	**0.0**
KCT				*i* SG	**Sg**	**02 56 45.5**	**+0.7**
BTOK	**Tokmak**	**0.50**	**182**	*i* P	**Pg**	**02 56 46.0**	**-0.6**
BTOK				*i* S	**Sg**	**02 56 52.9**	**-0.3**
SART	**Tekirdag**	**0.79**	**303**	*i* P	**Pg**	**02 56 51.3**	**-0.8**
SART				*i* S	**Sg**	**02 57 04.5**	**+2.1**
RKY	**Sarkoy-Tekirda**	**0.79**	**303**	PG	**Pg**	**02 56 50.7**	**-1.4**
RKY				SG	**Sg**	**02 57 02.4**	**+0.1**
CANB	**Canakkale**	**0.80**	**252**	PG	**Pg**	**02 56 50.9**	**-1.3**
GEMT	**Gemlik**	**0.89**	**78**	PG	**Pg**	**02 56 53.6**	**-0.3**
CTT	**Catalca**	**0.93**	**18**	PG	**Pg**	**02 56 54.4**	**-0.3**
CTT				SG	**Sg**	**02 57 07.3**	**+0.5**
ELBA	**Catalca**	**0.93**	**18**	*i* P	**Pg**	**02 56 54.0**	**-0.7**
ELBA				*i* S	**Sg**	**02 57 07.5**	**+0.7**
BADT	**Buyukada**	**1.00**	**54**	PG	**Pg**	**02 56 55.7**	**-0.5**
YLV	**Yalova**	**1.05**	**73**	PG	**Pg**	**02 56 55.8**	**-1.3**
YLV				SG	**Sg**	**02 57 11.1**	**+0.3**
IZI	**Iznik**	**1.09**	**86**	PN	**Pn**	**02 56 57.3**	**-1.1**
IZI				SN	**Sn**	**02 57 12.6**	**-1.1**
KLYT	**Kilyos**	**1.24**	**37**	*e*PN	**Pn**	**02 56 59.3**	**-1.2**
KLYT				*e*SN	**Sn**	**02 57 16.3**	**-1.1**
DERT	**Derbent**	**1.25**	**85**	*e*PN	**Pn**	**02 57 00.1**	**-0.5**
ADVT	**Abdulvahap**	**1.30**	**82**	*e*PN	**Pn**	**02 57 00.5**	**-0.8**
HRT	**Hereke**	**1.35**	**65**	*e*PN	**Pn**	**02 57 01.2**	**-0.8**
EZN	**Ezine**	**1.39**	**252**	*e*PN	**Pn**	**02 57 01.6**	**-1.0**
AYVA	**Ayvalik**	**1.42**	**228**	*i* P	**Pn**	**02 57 02.6**	**-0.3**
AYVA				*i* S	**Sn**	**02 57 22.1**	**+0.3**
GDZ	**Gediz**	**1.61**	**136**	*i* P	**Pg**	**02 57 07.9**	**+0.1**
GDZ				*i* S	**Sg**	**02 57 30.0**	**+1.3**
ALN	**Alexandroupoli**	**1.65**	**293**	*e*Pg	**Pn**	**02 57 05.2**	**-0.9**
ALN				*e*Sg	**Sg**	**02 57 28.4**	**-1.6**
ALN	**Alexandroupoli**	**1.65**	**293**	*e*Pg	**Pn**	**02 57 05.2**	**-0.9**
ALN				*e*Sg	**Sg**	**02 57 28.4**	**-1.6**
GPA	**Golpazari**	**1.73**	**88**	*e*PN	**Pn**	**02 57 06.5**	**-0.7**
EDRB	**Edirne**	**1.86**	**328**	*e*PN	**Pn**	**02 57 08.4**	**-0.7**
BORA	**Eskisehir**	**1.88**	**101**	*i* P	**Pg**	**02 57 13.6**	**+0.6**
BORA				*i* S	**Sg**	**02 57 39.6**	**+2.2**
KDAG	**Bornova**	**1.96**	**198**	*i* P	**Pn**	**02 57 09.2**	**-1.1**
KDAG				*i* S	**Sn**	**02 57 34.0**	**-0.9**
ESKT	**Eskisehir**	**2.28**	**108**	*i* P	**Pg**	**02 57 21.9**	**+1.3**
ESKT				*i* S	**Sg**	**02 57 52.1**	**+2.1**
ESKT	**Eskisehir**	**2.28**	**108**	*e*Pn	**Pn**	**02 57 14.4**	**-0.4**
LOS	**Limnos**	**2.30**	**263**	*e*Pn	**Pn**	**02 57 17.6**	**+2.5**
LOS				*e*Sn	**Sn**	**02 57 46.0**	**+2.5**
JMB	**Yambol**	**2.46**	**334**	*e*Pn	**Pn**	**02 57 18.8**	**+1.5**
JMB				*e*Sn	**Sn**	**02 57 50.4**	**+2.9**
OUR	**Ouranopolis**	**3.11**	**273**	*e*Pn	**Pn**	**02 57 27.9**	**+1.7**
PLD	**Plovdiv**	**3.12**	**307**	*e*Pn	**Pn**	**02 57 26.7**	**+0.3**
PLD				*e*Sn	**Sn**	**02 58 04.4**	**+0.6**
MMB	**Musomiste**	**3.53**	**293**	*e*Pn	**Pn**	**02 57 33.1**	**+1.1**
MMB				*e*Sn	**Sn**	**02 58 15.0**	**+1.1**

*IDC **04** 02:59:57.7±2.4, 3.49S×146.04E, h0km, mb4.0/4, mb1 4.2/7, mb1mx3.9/16, mbtmp4.0/7, ML3.5/3, MS3.6/14, Ms1 3.6/14, ms1mx3.5/18, Error ellipse: s-maj=60.2km s-min=27.0km az=84.0*
*ISCJB **04** 03:00:00.2±8.1, 3.5S±0.2×146.1E±0.2, h31km±59km, mb3.9/4, MS3.7/10, Error ellipse: s-maj=32.7km s-min=28.5km az=100.5*
*NEIC **04** 03:00:03.3±2.8, 3.55S×146.04E, h39km±26km, mb4.1/3, Error ellipse: s-maj=23.6km s-min=21.0km az=78.0*
ISC 04 03:00:04.1±3.3**, 3.6S**±0.2×**146.0E**±0.2**, h44**km±31km**, n23, σ0.51**/14**, mb3.9**/4**, MS3.7**/10**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**169**	Pn	**Pn**	**03 01 28.5**	**-0.1**
	1.0nm,0.3s,baz=62,slow=1.2,SNR=6.3						
PMG				LR	LR	03 03 38.0	
	comp=Z,181nm,20.7s,baz=350,slow=37						
HNR	**Honiara**	**15.00**	**113**	LR	LR	03 08 10.4	
	comp=Z,199nm,19.0s,baz=358,slow=33						
KAKA	**Kakadu**	**16.19**	**235**	*e*P	**Pn**	**03 03 48.3**	**0.0**
	7.9nm,0.5s						
CTA	**Charters Tower**	**16.39**	**179**	Pn	**Pn**	**03 03 51.4**	**+0.6**
	0.1nm,0.3s,baz=337,slow=13,SNR=1.6						
CTA				LR	LR	03 10 01.2	
	comp=Z,141nm,19.8s,baz=17,slow=37						
CTAO	**Charters Tower**	**16.39**	**179**	*e*P	**Pn**	**03 03 56.6**	**+5.7**
	4.9nm,0.9s						
WB2	**Warramunga Arr**	**19.83**	**214**	*e*P	**Pn**	**03 04 32.1**	**-0.7**
WB2	**Warramunga Arr**	**19.83**	**214**	*e*P	**Pn**	**03 04 32.5**	**-0.4**
WRA	**Warramunga Arr**	**19.84**	**214**	P	**Pn**	**03 04 32.6**	**-0.3**
	0.7nm,0.3s,baz=37,slow=12,SNR=72						
WRA				LR	LR	03 12 55.1	
	comp=Z,122nm,18.4s,baz=60,slow=39						
AS31	**Alice Springs**	**23.12**	**209**	*e*P	**P**	**03 05 06.5**	**+0.3**
ASAR	**Alice Springs**	**23.12**	**209**	P	**P**	**03 05 07.4**	**+1.1**
	5.7nm,0.9s,mb4.0,baz=40,slow=10,SNR=48						
ASAR				LR	LR	03 15 36.2	
	comp=Z,119nm,18.8s,MS3.4,baz=33,slow=40						
ASAR	**Alice Springs**	**23.12**	**209**	P	**P**	**03 05 07.4**	**+1.1**
ASAR				LR	LR	03 15 36.2	
FITZ	**Fitzroy Crossi**	**24.61**	**233**	*e*P	**P**	**03 05 19.9**	**-0.2**
	16nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.61**	**233**	P	**P**	**03 05 20.0**	**-0.1**
	8.0nm,0.7s,mb4.4,baz=57,slow=10,SNR=26						
FITZ				LR	LR	03 15 44.8	
	comp=Z,150nm,18.9s,MS3.5,baz=54,slow=38						
DZM	**Mont Dzumac**	**27.02**	**135**	LR	LR	03 13 58.0	
	comp=Z,178nm,19.5s,MS3.6,baz=248,slow=31						
STKA	**Stephens Creek**	**28.43**	**188**	P	**P**	**03 05 53.8**	**-0.7**
	0.6nm,0.4s,mb3.6,baz=338,slow=11,SNR=1.8						
KSRS	**Korea Array**	**44.18**	**339**	LR	LR	03 22 39.1	
	comp=Z,60nm,20.5s,MS3.5,baz=349,slow=31						
SONM	**Songino Array**	**61.84**	**331**	P	**P**	**03 10 18.6**	**+0.1**
	0.3nm,0.7s,mb3.5,baz=167,slow=7.1,SNR=3.0						
SONM				LR	LR	03 37 06.0	
	comp=Z,61nm,19.8s,MS3.8,baz=76,slow=36						
MDRS	**Chennai**	**67.35**	**286**	*e*x	x	03 10 58.2	
VNDA	**Vanda**	**74.35**	**176**	LR	LR	03 42 16.5	
	comp=Z,50nm,18.8s,MS3.8,baz=241,slow=34						
MKAR	**Makanchi Array**	**75.03**	**320**	LR	LR	03 46 59.0	
	comp=Z,27nm,18.1s,MS3.6,baz=178,slow=38						
ZAL	**Zalesovo**	**76.48**	**328**	LR	LR	03 44 24.2	
	comp=Z,63nm,19.2s,MS3.9,baz=167,slow=35						
MAW	**Mawson**	**84.07**	**202**	LR	LR	03 46 51.5	
	comp=Z,40nm,19.1s,MS3.8,baz=65,slow=33						
YKA	**Yellowknife Ar**	**97.52**	**28**	LR	LR	03 52 55.4	
	comp=Z,22nm,19.4s,MS3.6,baz=205,slow=33						

*ISCJB **04** 03:28:01.6±0.6, 35.14N±0.03×4.06W±0.05, h20km±6km, Error ellipse: s-maj=6.6km s-min=5.5km az=142.1*
*CSEM **04** 03:28:01.3±0.2, 35.08N×3.99W, h20km, MD2.9, Error ellipse: s-maj=6.7km s-min=5.7km az=62.0*
*CNRM **04** 03:28:02.9, 35.10N×4.04W, h8km, MD2.9*
*MDD **04** 03:28:03.2±0.8, 35.10N×3.99W, h15km±10km, mbLg2.1/4, Error ellipse: s-maj=9.3km s-min=7.2km az=123.0, PRXIMO*
ISC 04 03:28:02.3±0.6**, 35.13N**±0.03×**4.01W**±0.04**, h18**km±3km**, n22, σ1.17**/43**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.11**	**31**	*i* P	**Pg**	**03 28 06.0**	**0.0**
MPAL				*i* S	**Sg**	**03 28 08.0**	**-0.5**
TOU	**Touzarine**	**0.27**	**129**	*i* P	**Pg**	**03 28 08.0**	**-0.3**
TOU				*i* S	**Sg**	**03 28 12.0**	**-0.5**
EMEL	**Melilla**	**0.88**	**79**	P	**Pb**	**03 28 18.7**	**-0.2**
	21nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**03 28 30.1**	**-0.2**
	91nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.88**	**79**	P	**Pb**	**03 28 18.7**	**-0.3**
	21nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**03 28 30.1**	**-0.4**
	91nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**1.05**	**99**	*e*P	**Pb**	**03 28 23.0**	**+1.1**
ZAI				*e*S	**Sb**	**03 28 36.0**	**+0.7**
EMIJ	**Mijas**	**1.56**	**337**	P	**Pn**	**03 28 30.8**	**+1.8**
	0.5nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**03 28 47.6**	**-1.1**
	1.8nm,0.1s,SNR=6.3						
EGUA	**Guajares**	**1.73**	**12**	P	**Pn**	**03 28 30.1**	**-1.4**
	0.7nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**03 28 50.4**	**-2.7**
	0.7nm,0.2s,SNR=7.9						

EJIF	Jimena Fronter	1.77	318	P	Pg	03 28 36.0	-0.4
	1.5nm,0.3s,SNR=4.0						
EBER	Berja	1.98	27	P	Pn	03 28 35.3	+0.5
	1.1nm,0.3s,SNR=4.0						
EBER				S	Sn	03 28 55.7	-3.5
	2.1nm,0.3s,SNR=7.9						
EBER	Berja	1.98	27	P	Pn	03 28 35.3	+0.4
	1.1nm,0.3s,SNR=4.0						
EBER				S	Sn	03 28 55.7	-3.5
	2.1nm,0.3s,SNR=7.9						
EQUE	Quentar	2.12	12	P	Pn	03 28 37.9	+1.1
	0.3nm,0.2s,SNR=7.9						
EQUE				S	Sn	03 28 58.8	-3.7
	0.3nm,0.1s,SNR=7.9						
EQUE	Quentar	2.12	12	P	Pn	03 28 37.9	+1.2
	0.3nm,0.2s,SNR=7.9						
EQUE				S	Sn	03 28 58.8	-3.8
	0.3nm,0.1s,SNR=7.9						
CZD	Col de Zad	2.27	203	eP	Pn	03 28 38.0	-0.8
CZD				iS	Sn	03 29 05.0	-1.2
EQES	Quesada	2.77	16	P	Pn	03 28 48.8	+3.1
	0.2nm,0.1s,SNR=6.1						
EQES				S	Sn	03 29 20.2	+1.6
	1.3nm,0.2s,SNR=7.9						
EQES	Quesada	2.77	16	P	Pn	03 28 48.8	+3.1
	0.2nm,0.1s,SNR=6.1						
EQES				S	Sn	03 29 20.2	+1.6
	1.3nm,0.2s,SNR=7.9						
EADA	Adamuz	3.06	352	P	Pn	03 28 50.8	+1.1
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	03 29 24.3	-1.6
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	3.06	352	P	Pn	03 28 50.8	+1.1
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	03 29 24.3	-1.6
	0.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.39	322	P	Pn	03 28 56.0	+1.7
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	03 29 33.4	-0.6
	0.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.39	322	P	Pn	03 28 56.0	+1.7
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	03 29 33.4	-0.7
	0.1nm,0.2s,SNR=7.9						
EGRO	El Granado	3.69	312	P	Pn	03 28 60.0	+1.6
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	03 29 41.4	0.0
	0.5nm,0.1s,SNR=7.9						
EGRO	El Granado	3.69	312	P	Pn	03 29 00.0	+1.7
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	03 29 41.4	+0.1
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	4.34	327	P	Pn	03 29 08.7	+1.4
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	03 29 56.5	-1.0
	1.1nm,0.2s,SNR=7.9						

*NAO **04** 03:39:30.4±1.3, 6765N×3373E, ML2.1*

HEL 04 03:39:30.6±0.4**, 6772N×3373E, h0km, ML2.4, ML2.5**(BER)**, ML2.1**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.30	249	Pg	Pg	03 39 35.7	-0.7
	baz=79,slow=16						
APA0				Lg		03 39 40.1	
	baz=80,slow=37						
APA0				Rg		03 39 41.3	
	baz=81,slow=28						
APA0	Apatity Array	0.30	249	iP	Pg	03 39 35.7	-0.7
APA0				iS	Sg	03 39 40.1	-0.3
APA0				eRG		03 39 41.3	
KU4	Liikasenvaara	2.12	232	eP	Pn	03 40 07.3	0.0
KU4				eS	Sn	03 40 35.2	+0.8
KU4				MSG		03 40 38.2	
	comp=Z,24nm,0.1s						
KU6	Riekki	2.28	224	eP	Pn	03 40 09.1	-0.4
KU6				eS	Sn	03 40 38.3	0.0
MSF	Maaselka	2.60	228	eP	Pn	03 40 14.2	+0.4
MSF				eSB	Sb	03 40 48.0	-2.4
MSF				MSG		03 40 51.9	
	comp=Z,11nm,0.2s						
SGF	Sodankyl	2.78	268	eP	Pn	03 40 15.7	-0.6
SGF				eS	Sn	03 40 49.8	-0.7
SGF				MSG		03 40 55.1	
	comp=Z,24nm,0.2s						
KEV	Kevo	3.19	313	eP	Pn	03 40 22.5	+0.5
KEV				eS	Sn	03 41 00.2	-0.6
ARA0	ARCESS Array S	3.52	305	Pn	Pn	03 40 26.4	-0.1
	baz=122,slow=16						
ARA0				Pg	Pg	03 40 35.0	-3.1
	baz=120,slow=16						
ARA0				Sn	Sn	03 41 07.4	-1.5
	baz=116,slow=28						
ARA0				Lg		03 41 18.2	
	baz=110,slow=37						
ARA0	ARCESS Array S	3.52	305	eP	Pn	03 40 26.4	-0.1
ARA0				ePG	Pg	03 40 35.0	-3.1
ARA0				eS	Sn	03 41 07.4	-1.5
ARA0				eSG		03 41 18.2	
KTK1	Kautokeino	4.10	293	eP	Pn	03 40 35.0	+0.5
KTK1				AML	AML	03 41 45.9	
	comp=Z,21nm,0.6s						
OUL	Oulu	4.11	234	eP	Pn	03 40 35.1	+0.4
OUL				eSG	Sg	03 41 38.3	-4.4
KJN	Kajaani	4.40	217	eP	Pn	03 40 38.0	-0.7
KJN				eS	Sn	03 41 28.0	-2.6
KJN				eSB	Sb	03 41 41.7	-0.7
KIF	Kilpisjarvi	4.96	291	eP	Pn	03 40 45.6	-0.7
KIF				eS	Sn	03 41 41.3	-3.0
FIA0	FINESS Array S	7.10	211	Lg		03 43 09.2	
	baz=28,slow=28						
FIA0	FINESS Array S	7.10	211	Lg		03 43 09.2	
	baz=28,slow=28						
FIA0	FINESS Array S	7.10	211	eSG		03 43 09.2	
SPA0	Spitsbergen Ar	11.59	342	Pn	Pn	03 42 15.2	-2.1
	baz=137,slow=16						
SPA0	Spitsbergen Ar	11.59	342	eP	Pn	03 42 15.2	-2.1

*NEIC **04** 03:46:25.0, 3929S×17488E, h32km, ML4.0(WEL), After WEL.*

NEIC Felt at New Plymouth.

WEL 04 03:46:25.1±0.1**, 3929S×17488E, h32km**±1km**, ML4.0**/47**, 13C-20D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, MM 4., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.19	329	⇑P	Pb	03 46 31.5	0.0
VRZ				S	Sb	03 46 37.0	+1.2
VRZ	Vera Road	0.19	329	⇑P*	Pb	03 46 31.5	0.0
VRZ				S*	Sb	03 46 37.0	+1.2
PKVZ	Pokaka	0.36	90	⇓P*	Pb	03 46 33.4	-0.1
RAEZ	Rainy Point	0.38	270	⇑P	Pb	03 46 33.9	+0.1
RAEZ	Rainy Point	0.38	270	⇑P*	Pb	03 46 33.9	0.0
MTVZ	Mangateitei	0.47	102	⇓P*	Pb	03 46 34.9	-0.2
WAZ	Wanganui	0.47	170	⇑P	Pb	03 46 34.8	-0.4
WAZ	Wanganui	0.47	170	⇑P*	Pb	03 46 34.8	-0.4
TWVZ	Taurewa	0.48	63	⇓P	Pb	03 46 34.9	-0.5
TWVZ	Taurewa	0.48	63	⇓P*	Pb	03 46 34.9	-0.4
TRVZ	Turoa	0.52	91	⇓P*	Pb	03 46 35.8	-0.1
FWVZ	Far West T-bar	0.52	86	⇑P	Pb	03 46 35.8	-0.2
FWVZ	Far West T-bar	0.52	86	⇑P*	Pb	03 46 35.8	-0.2
WPVZ	Whakapapa	0.52	81	⇓P	Pb	03 46 35.7	-0.3
WPVZ	Whakapapa	0.52	81	⇓P*	Pb	03 46 35.7	-0.2
DRZ	Dome Shelter	0.53	89	⇑P	Pb	03 46 36.0	-0.1
DRZ	Dome Shelter	0.53	89	⇑PN	Pn	03 46 36.0	-0.5
WNVZ	Wahianoa	0.56	94	⇓P	Pb	03 46 36.3	-0.2
WNVZ	Wahianoa	0.56	94	⇓PN	Pn	03 46 36.3	-0.5
NGZ	Ngauruhoe	0.57	79	⇓P	Pb	03 46 36.4	-0.3
NGZ	Ngauruhoe	0.57	79	⇓PN	Pn	03 46 36.4	-0.6
WTVZ	West Tongariro	0.57	73	⇓P	Pb	03 46 36.5	-0.4
WTVZ	West Tongariro	0.57	73	⇓PN	Pn	03 46 36.5	-0.6
TUVZ	Tukino	0.60	88	P	Pb	03 46 37.0	-0.2
TUVZ	Tukino	0.60	88	PN	Pn	03 46 37.0	-0.4
NEZ	North Egmont	0.61	272	P	Pb	03 46 36.8	-0.7
NEZ	North Egmont	0.61	272	PN	Pn	03 46 36.8	-0.8
KRVZ	Karewarewa	0.62	72	⇓PN	Pn	03 46 37.1	-0.6
OTVZ	Oturere	0.62	79	⇓PN	Pn	03 46 37.3	-0.4
MOVZ	Moawhango	0.68	100	⇑P	Pn	03 46 37.8	-0.8
MOVZ	Moawhango	0.68	100	⇑PN	Pn	03 46 37.8	-0.8
KATZ	Kakaramea	0.70	64	⇓P	Pn	03 46 38.4	-0.5
KATZ	Kakaramea	0.70	64	⇓PN	Pn	03 46 38.4	-0.4
NRZ	Ngariki Road	0.74	266	P	Pn	03 46 38.7	-0.6
NRZ	Ngariki Road	0.74	266	PN	Pn	03 46 38.7	-0.6
HIZ	Hauiti	0.78	358	⇓P	Pn	03 46 39.3	-0.5
HIZ	Hauiti	0.78	358	⇑PN	Pn	03 46 39.3	-0.6
NWEZ	Newall Road	0.79	271	P	Pn	03 46 39.4	-0.6
NWEZ	Newall Road	0.79	271	PN	Pn	03 46 39.4	-0.6
RATZ	Rangitukua	0.81	59	⇓P	Pn	03 46 40.0	-0.3
RATZ	Rangitukua	0.81	59	⇓PN	Pn	03 46 40.0	-0.3
RITZ	Rihia Road	0.82	68	PN	Pn	03 46 40.2	-0.2
WATZ	Wairara	0.88	49	P	Pn	03 46 40.9	-0.4
WATZ	Wairara	0.88	49	PN	Pn	03 46 40.9	-0.4
TSZ	Takapari Road	1.13	133	P	Pn	03 46 44.3	-0.5
TSZ	Takapari Road	1.13	133	PN	Pn	03 46 44.3	-0.4
BKZ	Black Stump Fm	1.25	85	PN	Pn	03 46 46.1	-0.3
PATZ	Paeroa	1.41	50	PN	Pn	03 46 48.4	-0.1
WPHZ	Waipukurau	1.43	123	PN	Pn	03 46 50.0	+1.2
MRZ	Mangatainoka R	1.47	159	P	Pn	03 46 49.6	+0.2
MRZ	Mangatainoka R	1.47	159	PN	Pn	03 46 49.6	+0.2
KIW	Kapiti Island	1.57	179	P	Pn	03 46 50.3	-0.5
KIW	Kapiti Island	1.57	179	PN	Pn	03 46 50.3	-0.5
TOZ	Tahuroa Road	1.63	17	P	Pn	03 46 50.9	-0.7
TOZ	Tahuroa Road	1.63	17	PN	Pn	03 46 50.9	-0.7
TIWZ	Tintock	1.67	153	PN	Pn	03 46 53.1	+1.0
DUWZ	D'Urville Isla	1.68	206	PN	Pn	03 46 52.0	-0.3
SNZO	South Karori	2.02	184	ePn	Pn	03 46 58.1	+1.1
SNZO				eSn	Sn	03 47 23.8	+2.6
MSWZ	Moikau Station	2.14	173	PN	Pn	03 46 59.3	+0.7
MKAZ	Moumakai	2.19	6	PN	Pn	03 46 58.9	-0.4
NNZ	Nelson	2.24	210	PN	Pn	03 47 00.1	0.0
QRZ	Quartz Range	2.37	229	PN	Pn	03 47 00.6	-1.2
BSWZ	Blackbirch Sta	2.54	197	P	Pn	03 47 05.4	+1.3
KHZ	Kahutara	3.29	198	eP	Pn	03 47 14.5	+0.1
WCZ	Waipu Caves	3.37	353	P	Pn	03 47 15.0	-0.5
WCZ	Waipu Caves	3.37	353	PN	Pn	03 47 15.0	-0.5
OUZ	Omahuta	4.19	345	eP	Pn	03 47 26.0	-0.8
FOZ	Fox Glacier	5.79	221	eP	Pn	03 47 46.5	-2.2
FOZ	Fox Glacier	5.79	221	PN	Pn	03 47 46.4	-2.3
ODZ	Otahua Downs	6.55	207	eP	Pn	03 47 57.8	-1.5
JCZ	Jackson Bay	6.62	222	PN	Pn	03 47 58.3	-1.9

*NEIC **04** 03:49:12.8, 3269S×7167W, h30km, ML2.7(GUC), After GUC.*

GUC 04 03:49:12.8±0.9**, 3269S×7167W, h30km**±5km**, MD3.6, ML2.7, 7C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.25	54	⇑iP	Pb	03 49 19.9	+0.3
PACH				iS	Sb	03 49 24.8	+0.6
IHA	Instituto Hidr	0.34	175	⇓iP	Pb	03 49 20.9	0.0
IHA				iS	Sb	03 49 26.3	0.0
ROCH	El Roble	0.63	117	eP	Pb	03 49 25.2	-0.1
ROCH				iS	Sb	03 49 34.1	+0.3
PTCH	Petorca	0.76	56	⇑iP	Pn	03 49 27.3	-0.1
PTCH				iS	Sb	03 49 37.8	+0.4
PTCH				AML	AML	03 49 40.2	
	comp=E,719nm,0.3s						
PTCH	Petorca	0.76	56	⇑iP	Pn	03 49 27.3	-0.1
PTCH				iS	Sb	03 49 37.8	+0.4
LCCH	Las Cruces	0.79	174	iP	Pn	03 49 27.6	-0.3
LCCH				iS	Sb	03 49 39.3	+0.8
CHNG	Los Chungos	0.81	10	⇑iP	Pn	03 49 27.7	-0.5
CHNG				iS	Sb	03 49 38.5	-0.5
CHNG				AML	AML	03 49 40.0	
	comp=E,165nm,0.3s						
JACH	Jahuel	0.91	90	eP	Pn	03 49 29.4	-0.1
JACH				iS	Sn	03 49 42.0	+0.5
PEL	Peldehue	0.95	119	⇑iP	Pn	03 49 30.4	+0.4
PEL				iS	Sn	03 49 43.2	+0.7
PEL				AML	AML	03 49 44.8	
	comp=E,1μm,0.2s						
PEL	Peldehue	0.95	119	⇑iP	Pn	03 49 30.4	+0.4
PEL				iS	Sn	03 49 43.2	+0.7
RCDM	Rinconada Maip	1.08	138	eP	Pn	03 49 32.3	+0.4
RCDM				iS	Sn	03 49 46.5	+0.7
RCDM				AML	AML	03 49 49.6	
	comp=E,311nm,0.1s						
RCDM	Rinconada Maip	1.08	138	eP	Pn	03 49 32.3	+0.4
RCDM				iS	Sn	03 49 46.5	+0.7
SAN	Santiago	1.14	132	eP	Pn	03 49 32.6	-0.1
SAN				iS	Sn	03 49 48.8	+1.4
TACH	Talagante	1.15	148	eP	Pn	03 49 33.2	+0.5
TACH				iS	Sn	03 49 47.9	+0.5
CLCH	Cerro Calan	1.19	127	⇑iP	Pn	03 49 34.0	+0.6
CLCH				iS	Sn	03 49 49.9	+1.5
CLCH				AML	AML	03 49 50.8	
	comp=N,504nm,0.4s						
ANTU	Antumapu	1.24	136	eP	Pn	03 49 35.1	+1.0
ANTU				iS	Sn	03 49 51.1	+1.4
ANTU				AML	AML	03 49 55.8	
	comp=E,274nm,0.2s						
ANTU	Antumapu	1.24	136	eP	Pn	03 49 35.1	+1.0
ANTU				iS	Sn	03 49 51.1	+1.4
LNV	Longovilo	1.29	170	⇓iP	Pn	03 49 34.7	0.0
LNV				iS	Sn	03 49 51.6	+0.7
FCH	Farellones	1.33	119	⇓iP	Pn	03 49 36.1	+0.9
FCH				iS	Sn	03 49 53.9	+2.0
FCH				AML	AML	03 49 54.5	
	comp=E,247nm,0.2s						
PCH	Pirque	1.35	134	⇓iP	Pn	03 49 36.7	+1.1
SFDO	San Fernando	2.00	164	eP	Pn	03 49 45.9	+1.4

WEL 04 04:10:19.8±0.2**, 4639S×16919E, h16km**±3km**, ML3.5**/8**, 3C, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYZ	Scrubby Hill	0.15	195	⇑P*	Pg	04 10 24.4	+0.6
SYZ				S*	Sg	04 10 27.1	+0.6
TUZ	Tuapeka	0.53	35	⇑P*	Pb	04 10 30.0	-0.8
TUZ				S*	Sb	04 10 37.0	-1.2
APZ	The Paps	0.94	242	eP*	Pb	04 10 36.6	-1.1
WHZ	Wether Hill Ro	1.00	299	P*	Pb	04 10 37.8	-1.0
WHZ				S*	Sb	04 10 52.0	+0.3
HHSZ	Highcliff Hill	1.10	63	P*	Pb	04 10 39.9	-0.6
EAZ	Earnscleugh	1.16	4	⇑PN	Pn	04 10 40.5	-0.9
MLZ	Mavora Lakes	1.27	325	PN	Pn	04 10 42.0	-0.8
WKZ	Wanaka	1.57	355	ePN	Pn	04 10 47.2	+0.2
ODZ	Otahua Downs	1.69	38	PN	Pn	04 10 47.6	-1.1
DCZ	Deep Cove	1.69	302	PN	Pn	04 10 49.0	+0.4
MSZ	Milford Sound	1.94	332	PN	Pn	04 10 52.5	+0.5
LBZ	Lake Benmore	2.12	20	ePN	Pn	04 10 53.4	-1.2
JCZ	Jackson Bay	2.34	352	ePN	Pn	04 10 57.6	0.0
FOZ	Fox Glacier	2.85	7	ePN	Pn	04 11 05.1	+0.5
MQZ	McQueen's Vall	3.63	44	ePN	Pn	04 11 14.4	-1.0
DSZ	Denniston Nort	5.01	23	ePN	Pn	04 11 32.6	-1.7

NDI 04 04:13:47.0±5.6**, 2884N×8662E, h15km**±33km**, ML3.8, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Gangtok	2.31	130	eP	Pn	04 14 21.0	-3.5
GTK				eS	Sn	04 14 49.0	-3.7
SLGI	Shiliguri	2.66	143	eP	Pn	04 14 30.9	+1.6
TURI	Tura	4.65	134	eP	Pn	04 14 55.0	-1.7
TURI				ex	x	04 16 06.0	
BOK	Bokaro	5.07	188	iP	Pn	04 15 01.2	-1.2
BOK				ix	x	04 15 48.2	
ALBI	Allahabad	5.55	232	eP	Pn	04 15 09.5	+0.5
ALBI				eS	Sn	04 16 09.5	-2.9
LGTI	Lohaghat	5.61	278	eP	Pn	04 15 13.7	+3.8
LGTI				ex	x	04 16 42.0	
SHL	Shillong	5.71	124	iP	Pn	04 15 11.0	-0.2
SHL				eS	Sn	04 16 12.0	-4.4
IMP	Imphal	7.68	120	iP	Pn	04 15 42.0	+3.7
IMP				iS	Sn	04 17 05.0	0.0
JBP	Jabalpur	8.22	228	ex	x	04 15 39.8	
JBP				ix	x	04 16 57.9	
JBP				AML	AML	04 17 45.1	
	comp=E,32nm,0.5s						
JBP				AML	AML	04 17 48.1	
	comp=N,56nm,0.3s						
NDI	New Delhi	8.26	271	ex	x	04 15 22.0	
NDI				eS	Sn	04 17 11.0	-8.2
BWNR	Bhubaneshwar	8.54	185	ex	x	04 17 25.0	
NGP	Nagpur	10.28	224	eP	Pn	04 16 12.4	-1.5
NGP				ex	x	04 17 44.0	
NGP				AML	AML	04 18 51.2	
	comp=E,34nm,0.0s						
NGP				AML	AML	04 18 52.5	
	comp=N,30nm,0.9s						
POO	Poona	15.55	231	ex	x	04 17 08.5	

*ISCJB **04** 04:15:23.0±1.3, 175S±02×1789W±0.1, h515km±19km, mb4.1/15, Error ellipse: s-maj=30.5km s-min=13.7km az=137.6*

*NEIC **04** 04:15:23.9±0.8, 1750S×17888W, h513km±11km, mb4.3/10, Error ellipse: s-maj=19.1km s-min=8.5km az=156.0*

*IDC **04** 04:15:23.6±2.0, 1752S×17891W, h503km±24km, mb3.3/5, mb1 3.6/7, mb1mx3.4/14, mbtmp3.3/7, Error ellipse: s-maj=30.2km s-min=15.2km az=152.0*

ISC 04 04:15:24.1±1.2**, 176S**±02×**1788W**±01**, h511km**±17km**, n26,** σ0^{s}67/24**, mb4.1**/15**, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.73	63	P	P	04 17 17.3	-0.6
	6.3nm,0.3s,baz=350,slow=6.1,SNR=7.3						
DZM	Mont Dzumac	14.54	250	P	P	04 18 29.8	+0.6
	0.3nm,0.3s,baz=100,slow=18,SNR=3.4						
ARMA	Armidale	29.74	239	eP	P	04 20 49.6	+1.2
CTA	Charters Tower	33.09	260	eP	P	04 21 17.3	+0.2
	5.6nm,0.8s,mb4.2						
CTAO	Charters Tower	33.09	260	eP	P	04 21 16.7	-0.3
	5.9nm,0.8s,mb4.2						
CNB	Canberra Magne	33.29	232	eP	P	04 21 19.5	+0.7
	13nm,0.6s,mb4.7						
TOO	Toolangi	37.05	230	eP	P	04 21 50.7	+0.6
	6.5nm,0.8s,mb4.2						
STKA	Stephens Creek	38.42	241	P	P	04 22 01.9	+0.7
	7.4nm,0.5s,mb4.5,baz=92,slow=10,SNR=29						
STKA	Stephens Creek	38.42	241	eP	P	04 22 01.7	+0.4
WB2	Warramunga Arr	44.27	259	⇑iP	P	04 22 46.9	-0.8
WRA	Warramunga Arr	44.28	259	P	P	04 22 47.0	-0.8
	2.7nm,0.6s,mb4.0,baz=94,slow=7.1,SNR=27						
AS31	Alice Springs	44.48	254	eP	P	04 22 49.1	-0.2
ASAR	Alice Springs	44.48	254	P	P	04 22 49.3	0.0
	29nm,0.5s,mb5.1,baz=88,slow=8.2,SNR=460						
ASAR				PcP	PcP	04 24 21.7	-0.1
	0.8nm,0.4s,baz=102,slow=3.1,SNR=4.6						
ASPA	Alice Springs	44.48	254	⇑iP	P	04 22 49.2	-0.1
KAKA	Kakadu	47.18	269	⇓iP	P	04 23 10.1	+0.2
	14nm,0.3s,mb5.0						
FORT	Forrest	49.77	244	eP	P	04 23 28.6	-0.6
	21nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	52.67	260	eP	P	04 23 50.6	+0.3
	4.7nm,0.8s,mb3.9						
MBWA	Marble Bar	57.75	256	eP	P	04 24 25.4	-0.4
	4.6nm,0.6s,mb3.9						
KLBR	Kellerberrin	58.60	243	eP	P	04 24 30.2	-1.3
	11nm,0.7s,mb4.2						
VNDA	Vanda	60.72	185	P	P	04 24 45.5	-0.1
	0.4nm,0.5s,mb3.0,baz=340,slow=8.6,SNR=8.7						
VNDA	Vanda	60.72	185	eP	P	04 24 45.3	-0.3
	0.7nm,0.7s,mb3.1						
QSPA	South Pole Qui	72.45	180	eP	P	04 25 57.6	-0.7
	3.8nm,0.9s,mb3.8						
TXAR	Lajitas Array	86.18	58	P	P	04 27 12.1	+1.2
	0.3nm,0.6s,mb3.1,baz=210,slow=7.0,SNR=6.0						
PDAR	Pinedale Array	87.41	44	P	P	04 27 17.1	+0.4
	0.6nm,0.5s,mb3.5,baz=203,slow=3.1,SNR=6.9						
MMAI	Mount Meron Ar	145.63	303	PKPbc	PKPbc	04 34 06.2	+0.9
	1.1nm,0.5s,baz=64,slow=6.6,SNR=3.4						
GERES	GERESS Array B	147.21	345	PKPbc	PKPbc	04 34 08.7	-1.0
	0.4nm,0.5s,baz=35,slow=3.3,SNR=4.3						

*CSEM **04** 04:35:24.8±0.2, 3490N×396W, h10km, MD3.4, Error ellipse: s-maj=4.3km s-min=1.8km az=21.0*

*ISCJB **04** 04:35:25.9±0.6, 3495N±002×397W±004, h17km±6km, Error ellipse: s-maj=5.6km s-min=3.4km az=31.0*

*NEIC **04** 04:35:27.1, 3499N×389W, h0km, MG3.6(MDD), After MDD.*

*INMG **04** 04:35:27.7±1.2, 3497N×386W, h10km, ML2.1, Error ellipse: s-maj=6.2km s-min=3.6km az=180.0*

*SFS **04** 04:35:27.0, 3499N×389W, h0km, ML3.6*

*CNRM **04** 04:35:27.1, 3495N×393W, h7km, MD3.4*

*MDD **04** 04:35:27.3±0.5, 3491N×388W, h10km±4km, mb3.8/9, Error ellipse: s-maj=5.6km s-min=4.5km az=125.0, PRXIMO*

ISC 04 04:35:26.8±0.6**, 3494N**±002×**391W**±003**, h17km**±3km**, n52,** σ1^{s}28/84**, 2C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.13	81	P	Pg	04 35 30.0	-0.7
TOU				S	Sg	04 35 32.0	-1.3
TOU	Touzarine	0.13	81	iP	Pg	04 35 30.0	-0.7
MPAL	Palemas	0.28	355	iP	Pg	04 35 32.5	-0.5
EMEL	Melilla	0.86	65	⇑P	Pb	04 35 42.0	-1.3
	201nm,0.1s,SNR=18						
EMEL				S	Sb	04 35 53.5	-1.0
	672nm,0.2s,SNR=9.6						
EMLI	Melilla	0.86	65	P	Pb	04 35 42.0	-1.3
	201nm,0.1s,SNR=18						
ZAI	Zaio	0.96	88	P	Pb	04 35 45.0	+0.1
ZAI				S	Sb	04 35 58.0	+0.7
ZAI	Zaio	0.96	88	iP	Pb	04 35 45.0	+0.1
EMIJ	Mijas	1.76	337	P	Pn	04 35 55.5	-1.0
	10nm,0.4s,SNR=8.4						
EMIJ				S	Sn	04 36 16.2	-2.3
	18nm,0.3s,SNR=4.9						
EGUA	Guajares	1.91	8	P	Pn	04 35 55.6	-2.9
	1.5nm,0.2s,SNR=7.9						
EGUA				S	Sn	04 36 19.2	-2.9
	3.2nm,0.3s,SNR=7.9						
EJIF	Jimena Fronter	1.97	320	P	Pn	04 36 00.8	+1.5
	5.8nm,0.3s,SNR=7.3						
EJIF				S	Sn	04 36 24.1	+0.5
	13nm,0.6s						
ERON	Agron	2.07	2	P	Pn	04 36 01.1	+0.3
	3.4nm,0.3s,SNR=4.0						
ERON				S	Sn	04 36 25.3	-0.9
	3.1nm,0.2s,SNR=4.0						
EBER	Berja	2.12	23	P	Pn	04 36 02.2	+0.8
	6.7nm,0.4s,SNR=9.2						
EBER				S	Sn	04 36 27.1	-0.2
	15nm,0.4s,SNR=5.5						
EBER	Berja	2.12	23	P	Pn	04 36 02.2	+0.8
	6.7nm,0.4s,SNR=9.2						
CZD	Col de Zad	2.12	207	P	Pn	04 36 03.0	+1.5
CZD				S	Sn	04 36 26.5	-1.0
CZD	Col de Zad	2.12	207	eP	Pn	04 36 03.0	+1.5
ELOJ	Sierra Loja	2.21	355	P	Pn	04 36 03.9	+1.2
	1.3nm,0.2s,SNR=7.9						
ELOJ				S	Sn	04 36 31.4	+1.8
	2.1nm,0.2s,SNR=7.9						
EQUE	Quentar	2.29	9	P	Pn	04 36 03.3	-0.4
	1.9nm,0.2s,SNR=8.1						
EQUE				S	Sn	04 36 31.1	-0.4
	5.2nm,0.3s,SNR=4.9						
LIJA	Lijar	2.30	329	P	Pn	04 36 06.2	+2.3
LIJA				S	Sn	04 36 36.2	+4.4
LIJA	Lijar	2.30	329	eP	Pn	04 36 06.2	+2.2
ECOG	Cogollos-Vega	2.35	7	P	Pn	04 36 05.1	+0.6
	2.5nm,0.3s,SNR=7.9						
ECOG				S	Sn	04 36 33.9	+1.0
	4.2nm,0.4s,SNR=7.9						
ESPR	Espera	2.49	321	P	Pn	04 36 08.4	+1.9
	3.0nm,0.2s,SNR=7.5						
ESPR				S	Sn	04 36 37.2	+0.8
	7.7nm,0.3s,SNR=4.0						
ESPR	Espera	2.49	321	P	Pn	04 36 08.4	+1.9
	3.0nm,0.2s,SNR=7.5						
ELUQ	Luque	2.63	354	P	Pn	04 36 08.9	+0.5
	1.8nm,0.2s,SNR=7.9						
ELUQ				S	Sn	04 36 42.1	+2.2
	3.5nm,0.3s,SNR=7.9						
ZFT	Errachidia	2.92	187	P	Pn	04 36 13.0	+0.5
ZFT				S	Sn	04 36 49.0	+1.8
ZFT	Errachidia	2.92	187	eP	Pn	04 36 13.0	+0.5
EQES	Quesada	2.93	13	P	Pn	04 36 14.2	+1.6
	2.5nm,0.3s,SNR=16						
EQES				S	Sn	04 36 46.6	-0.8
	5.2nm,0.4s						
EQES	Quesada	2.93	13	P	Pn	04 36 14.2	+1.6
	2.5nm,0.3s,SNR=16						

KIB	El Ksiba	2.95	218	P	Pn	04 36 12.0	-0.9
KIB				S	Sn	04 36 46.0	-1.9
KIB	El Ksiba	2.95	218	eP	Pn	04 36 12.0	-0.9
EHUE	Huescar	3.06	20	P	Pn	04 36 15.4	+1.0
	0.3nm,0.1s,SNR=7.9						
EHUE				S	Sn	04 36 51.4	+0.9
	1.2nm,0.3s,SNR=7.9						
EADA	Adamuz	3.26	351	P	Pn	04 36 18.0	+0.9
	1.2nm,0.2s,SNR=11						
EADA				S	Sn	04 36 55.3	-0.3
	2.9nm,0.3s						
EADA	Adamuz	3.26	351	P	Pn	04 36 18.0	+0.9
	1.2nm,0.2s,SNR=11						
TZC	Tazercounte	3.52	218	P	Pn	04 36 20.0	-0.7
TZC				S	Sn	04 37 00.0	-2.0
TZC	Tazercounte	3.52	218	eP	Pn	04 36 20.0	-0.7
EMIN	Mina Concepcio	3.59	322	P	Pn	04 36 22.0	+0.3
	2.1nm,0.2s,SNR=12						
EMIN				S	Sn	04 37 01.4	-2.3
	1.4nm,0.2s						
EMIN	Mina Concepcio	3.59	322	P	Pn	04 36 22.0	+0.3
	2.1nm,0.2s,SNR=12						
EGRO	El Granado	3.88	313	⇑P	Pn	04 36 26.1	+0.5
	6.9nm,0.3s,SNR=18						
EGRO				S	Sn	04 37 09.1	-1.6
	3.8nm,0.2s						
EGRO	El Granado	3.88	313	P	Pn	04 36 26.1	+0.5
	6.9nm,0.3s,SNR=18						
ETOB	Tobarra	4.15	26	P	Pn	04 36 30.5	+1.1
	2.0nm,0.2s,SNR=11						
ETOB				S	Sn	04 37 15.3	-2.3
	0.8nm,0.3s						
PBEJ	Beja	4.43	315	ePn	Pn	04 36 34.7	+1.5
PBEJ				eSn	Sn	04 37 23.4	-0.9
PBEJ							
	2.1nm,0.6s						
PBEJ	Beja	4.43	315	ePn	Pn	04 36 34.7	+1.5
PBEJ				eSn	Sn	04 37 23.4	-0.9
	2.1nm,0.6s						
EBAD	Badajoz	4.55	328	P	Pn	04 36 35.1	+0.3
	1.4nm,0.2s,SNR=9.6						
EBAD				S	Sn	04 37 24.8	-2.5
	2.9nm,0.2s						
EBAD	Badajoz	4.55	328	P	Pn	04 36 35.1	+0.3
PTEO	Sao Teotonio	4.68	305	ePn	Pn	04 36 38.3	+1.7
PTEO				eSn	Sn	04 37 30.5	+0.1
PTEO							
	1.5nm,0.2s						
PTEO	Sao Teotonio	4.68	305	ePn	Pn	04 36 38.3	+1.7
PTEO				eSn	Sn	04 37 30.5	+0.1
	1.5nm,0.2s						
ESDC	Sonseca Array	4.72	360	P	Pn	04 36 38.1	+0.8
	0.4nm,0.2s,baz=174,slow=13,SNR=5.9						
ESDC	Sonseca Array	4.72	360	P	Pn	04 36 38.1	+0.9
PESTR	Estremoz	4.90	324	ePn	Pn	04 36 41.0	+1.3
PESTR				eSn	Sn	04 37 34.8	-1.2
PESTR							
	1.8nm,0.5s						
PESTR	Estremoz	4.90	324	ePn	Pn	04 36 41.0	+1.3
PESTR				eSn	Sn	04 37 34.8	-1.2
	1.8nm,0.5s						
PCBR	Castelo Branco	5.65	331	ePn	Pn	04 36 50.7	+0.7
PCBR				eSn	Sn	04 37 52.6	-1.9
PVRL	Vila Real	7.00	336	eSn	Sn	04 38 23.8	-3.8
PVRL							
	1.1nm,0.1s						
PVRL	Vila Real	7.00	336	S	Sn	04 38 23.8	-3.8
	0.6nm,0.1s						

STR ***04*** *05:02:26.7±0.2, 35.12N×5.49W, h10km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***04*** *05:02:53.0±0.1, 3666N×442W, h87km±1km, ML3.8/16, Error ellipse: s-maj=1.4km s-min=1.1km az=149.0*
ISCJB ***04*** *05:02:53.9±0.3, 3683N±002×442W±002, h85km±3km, Error ellipse: s-maj=3.4km s-min=2.3km az=160.8*
NEIC ***04*** *05:02:55.3, 3668N×438W, h74km, MG4.0(MDD), After MDD.*
MDD ***04*** *05:02:55.7±0.4, 3671N×438W, h71km±3km, mb4.2/24, Error ellipse: s-maj=4.1km s-min=2.4km az=163.0, PRXIMO*
SFS ***04*** *05:02:55.0, 3668N×438W, h73km, ML4.1*
LDG ***04*** *05:02:56.1, 3672N×442W, h40km*
IGIL ***04*** *05:02:57.2, 3680N×450W, h31km, ML4.0*
INMG ***04*** *05:02:57.1±1.8, 3683N×451W, h59km±5km, ML3.1, Error ellipse: s-maj=4.7km s-min=2.7km az=173.0*
CNRM ***04*** *05:02:58.8, 3637N×453W, h30km, MD3.6*

ISC 04 05:02:55.1±0.3**, 3681N**±002×**441W**±002**, h76**km±3km**, n163, σ1§44**/263**, 13C-12D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	Malaga-Limoner	0.05	204	P	Pn	05 03 06.2	+0.3
EMAL				S	Sn	05 03 12.9	-1.0
EMAL	Malaga-Limoner	0.05	204	eP	Pn	05 03 06.2	+0.3
EMIJ	Mijas	0.38	231	⇑P	Pn	05 03 06.9	-0.5
	174nm,0.1s,SNR=18						
EMIJ				S	Sn	05 03 15.1	-1.4
	1μm,0.3s,SNR=29						
ELOJ	Sierra Loja	0.40	31	⇑P	Pn	05 03 08.3	+0.7
	90nm,0.2s,SNR=18						
ELOJ				S	Sn	05 03 16.3	-0.4
	198nm,0.3s,SNR=7.9						
ERON	Agron	0.53	66	⇑P	Pn	05 03 08.8	+0.2
	293nm,0.2s,SNR=18						
ERON				S	Sn	05 03 18.7	+0.1
	158nm,0.1s,SNR=14						
EGUA	Guajares	0.67	87	⇑P	Pn	05 03 08.6	-1.6
	120nm,0.3s,SNR=18						
EGUA				S	Sn	05 03 20.0	-1.2
	128nm,0.2s,SNR=7.9						
REAL	Reales	0.72	244	⇑P	Pn	05 03 12.3	+1.7
REAL				S	Sn	05 03 22.7	+0.6
REAL	Reales	0.72	244	iP	Pn	05 03 12.3	+1.7
ELUQ	Luque	0.76	8	⇓P	Pn	05 03 11.8	+0.7
	188nm,0.2s,SNR=18						
ELUQ				S	Sn	05 03 24.6	+1.6
	244nm,0.2s,SNR=34						
LIJA	Lijar	0.81	277	⇑P	Pn	05 03 12.7	+1.1
LIJA				S	Sn	05 03 22.9	-1.0
LIJA	Lijar	0.81	277	iP	Pn	05 03 12.7	+1.1
ECOG	Cogollos-Vega	0.82	55	⇓P	Pn	05 03 12.2	+0.5
	84nm,0.3s,SNR=18						
ECOG				S	Sn	05 03 24.4	+0.3
	247nm,0.2s,SNR=7.9						
EQUE	Quentar	0.87	62	⇑P	Pn	05 03 13.9	+1.6
	22nm,0.1s,SNR=18						
EQUE				S	Sn	05 03 27.7	+2.6
	371nm,0.2s,SNR=23						
EJIF	Jimena Fronter	0.93	248	P	Pn	05 03 11.9	-1.1
	8.2nm,0.1s,SNR=24						
EJIF				S	Sn	05 03 25.9	-0.4
	74nm,0.4s,SNR=13						
MOMI	Momias	1.16	246	⇑P	Pn	05 03 16.8	+0.9
MOMI	Momias	1.16	246	iP	Pn	05 03 16.8	+0.9
ESPR	Espera	1.17	274	⇑P	Pn	05 03 16.2	+0.3
	12nm,0.1s,SNR=18						
ESPR				S	Sn	05 03 32.5	+1.0
	287nm,0.2s						
ESPR	Espera	1.17	274	P	Pn	05 03 16.2	+0.3
	12nm,0.1s,SNR=18						
EBER	Berja	1.22	85	⇑P	Pn	05 03 16.9	+0.3
	48nm,0.2s,SNR=18						
EBER				S	Sn	05 03 33.2	+0.5
	160nm,0.2s,SNR=11						
EBER	Berja	1.22	85	P	Pn	05 03 16.9	+0.3
	48nm,0.2s,SNR=18						
GIBL	Gibalbin	1.25	272	P	Pn	05 03 17.5	+0.4
GIBL				S	Sn	05 03 29.2	-4.3
GIBL	Gibalbin	1.25	272	eP	Pn	05 03 17.5	+0.4
EADA	Adamuz	1.37	354	⇓P	Pn	05 03 20.2	+1.7
	318nm,0.1s,SNR=18						
EADA				S	Sn	05 03 37.8	+1.7
	88nm,0.1s						
EADA	Adamuz	1.37	354	P	Pn	05 03 20.2	+1.7
	318nm,0.1s,SNR=18						
CNIL	Conil	1.40	252	P	Pn	05 03 20.9	+2.0
EALB	Alboran	1.40	128	P	Pn	05 03 16.5	-2.5
	28nm,0.1s,SNR=4.0						
EALB				S	Sn	05 03 33.3	-3.7
	158nm,0.2s,SNR=4.7						
EBAN	Banos Encina	1.44	20	⇓P	Pn	05 03 19.8	+0.3
	82nm,0.1s,SNR=18						
EBAN				S	Sn	05 03 38.0	+0.1
	110nm,0.1s						
EQES	Quesada	1.46	46	⇓P	Pn	05 03 21.3	+1.6
	37nm,0.1s,SNR=18						
EQES				S	Sn	05 03 39.6	+1.4
	385nm,0.1s,SNR=45						
EQES	Quesada	1.46	46	P	Pn	05 03 21.3	+1.6
	37nm,0.1s,SNR=18						
SFS	San Fernando	1.49	257	P	Pn	05 03 21.0	+0.9
SFS				S	Sn	05 03 41.1	+2.2
SFS	San Fernando	1.49	257	eP	Pn	05 03 21.0	+0.9
EHUE	Huescar	1.76	55	⇓P	Pn	05 03 24.0	+0.3
	17nm,0.1s,SNR=18						
EHUE				S	Sn	05 03 45.6	+0.3
	168nm,0.2s,SNR=7.9						
ENIJ	Nijar	1.77	84	⇑P	Pn	05 03 22.4	-1.4
	25nm,0.1s,SNR=18						
ENIJ				S	Sn	05 03 43.6	-1.9
	31nm,0.2s						
EMEL	Melilla	1.91	142	P	Pn	05 03 23.6	-2.0
	283nm,0.1s,SNR=13						
EMEL				S	Sn	05 03 43.7	-5.1
	451nm,0.2s						
EMLI	Melilla	1.91	141	P	Pn	05 03 23.6	-2.0
	283nm,0.1s,SNR=13						
TOU	Touzarine	1.91	164	iP	Pn	05 03 24.0	-1.7
EMIN	Mina Concepcio	2.05	299	⇓P	Pn	05 03 27.5	0.0
	9.4nm,0.0s,SNR=18						
EMIN				S	Sn	05 03 50.8	-1.4
	75nm,0.1s,SNR=25						
EMIN	Mina Concepcio	2.05	299	P	Pn	05 03 27.5	0.0
	9.4nm,0.0s,SNR=18						
ZAI	Zaio	2.27	143	iP	Pn	05 03 29.0	-1.5
EVIA	Vianos	2.37	39	⇓P	Pn	05 03 31.6	-0.3
	15nm,0.1s,SNR=18						
EVIA				S	Sn	05 03 58.5	-1.5
	106nm,0.1s						
EGRO	El Granado	2.56	287	⇑P	Pn	05 03 33.9	-0.5
	11nm,0.1s,SNR=18						
EGRO				S	Sn	05 04 02.6	-2.0
	84nm,0.1s,SNR=18						
EGRO	El Granado	2.56	287	P	Pn	05 03 33.9	-0.6
	11nm,0.1s,SNR=18						
CART	Cartagena	2.83	73	P	Pn	05 03 39.8	+1.8
CART				S	Sn	05 04 10.0	-1.0
CART	Cartagena	2.83	73	eP	Pn	05 03 39.8	+1.8
EBAD	Badajoz	2.84	314	⇓P	Pn	05 03 38.9	+0.7
	54nm,0.1s,SNR=18						
EBAD				S	Sn	05 04 10.7	-0.6
	426nm,0.2s,SNR=22						
EBAD	Badajoz	2.84	314	P	Pn	05 03 38.9	+0.7
	54nm,0.1s,SNR=18						
ESDC	Sonseca Array	2.89	7	⇓P	Pn	05 03 40.2	+1.4
	42nm,0.1s,baz=193,slow=13,SNR=18						
ESDC				S	Sn	05 04 12.6	+0.2
	78nm,0.1s,baz=189,slow=23,SNR=10						
ESDC	Sonseca Array	2.89	7	P	Pn	05 03 40.2	+1.4
	42nm,0.1s,SNR=18						
ESLA	Sonseca Array	2.89	7	ePn	Pn	05 03 39.7	+0.9
ESLA				eSn	Sn	05 04 14.7	+2.2
ESLA	Sonseca Array	2.89	7	ePn	Pn	05 03 39.7	+0.9
ESLA				eSn	Sn	05 04 14.7	+2.3
ETOB	Tobarra	2.92	50	⇑P	Pn	05 03 40.0	+0.8
	21nm,0.1s,SNR=18						
ETOB				S	Sn	05 04 11.8	-1.4
	155nm,0.1s,SNR=26						
ETOB	Tobarra	2.92	50	P	Pn	05 03 40.0	+0.8
	21nm,0.1s,SNR=18						
PBEJ	Beja	3.01	295	eP	Pn	05 03 40.5	0.0
PBEJ				eS	Sn	05 04 13.4	-2.1
PBEJ							
	53nm,0.1s						
PESTR	Estremoz	3.25	310	eP	Pn	05 03 44.3	+0.5
PESTR				eS	Sn	05 04 20.2	-1.2
PESTR							
	54nm,0.3s						
EVO	Evora	3.34	302	ePn	Pn	05 03 46.3	+1.3
EVO				eSn	Sn	05 04 24.0	+0.5
	155nm,0.4s						
PTEO	Sao Teotonio	3.53	283	eP	Pn	05 03 47.3	-0.2
PTEO				eS	Sn	05 04 26.1	-2.0
PTEO							
	54nm,0.5s						
MOE	Montemor	3.57	300	eP	Pn	05 03 48.8	+0.7
MOE				eS	Sn	05 04 27.2	-1.9
CZD	Col de Zad	3.80	188	iP	Pn	05 03 49.0	-2.2
EBEN	Beniarda	3.82	59	P	Pn	05 03 52.5	+1.0
	3.6nm,0.1s,SNR=18						
EBEN				S	Sn	05 04 32.8	-2.3
	19nm,0.2s						
EBEN	Beniarda	3.82	59	P	Pn	05 03 52.5	+1.0
	3.6nm,0.1s,SNR=18						
GUD	Guadarrama	3.84	3	⇓P	Pn	05 03 52.0	+0.2
	23nm,0.4s,SNR=18						
GUD				S	Sn	05 04 36.6	+1.0
	7.1nm,0.2s,SNR=4.0						
PCBR	Castelo Branco	3.88	322	eP	Pn	05 03 53.2	+0.9
PCBR				eS	Sn	05 04 35.2	-1.4
PCBR							
	18nm,0.2s						
ALMR	Almeirim	4.05	307	eP	Pn	05 03 55.0	+0.4
ALMR				eS	Sn	05 04 37.0	-3.7
ALMR				eS	Sn	05 04 37.1	-3.6
ALMR				AML	AML	05 04 53.1	
	comp=N,196nm,0.8s						
ALMR	Almeirim	4.05	307	eP	Pn	05 03 55.0	+0.4
ALMR				eS	Sn	05 04 37.0	-3.7
LIS	Lisbon	4.22	298	eS	Sn	05 04 40.4	-4.5
LIS				eS	Sn	05 04 40.4	-4.5
LIS				AML	AML	05 04 58.3	
	comp=Z,621nm,0.1s						
LIS	Lisbon	4.22	298	S	Sn	05 04 40.4	-4.5
	comp=Z,621nm,0.1s						
PLOU	Loures	4.29	300	eP	Pn	05 03 58.6	+0.6
PLOU				eS	Sn	05 04 44.7	-2.1
PLOU							
	comp=Z,36nm,0.2s						
ETOR	Torete	4.41	24	⇓P	Pn	05 04 01.1	+1.6
	comp=Z,204nm,0.2s,SNR=18						
ETOR				S	Sn	05 04 47.8	-1.8
	comp=Z,294nm,0.2s,SNR=9.5						
PMAFR	Mafra	4.42	301	eP	Pn	05 04 00.4	+0.8
PMAFR				eS	Sn	05 04 47.6	-2.2
PMAFR							
	comp=Z,69nm,0.5s						
KIB	El Ksiba	4.43	198	iP	Pn	05 03 57.0	-2.8
EMOS	Mosqueruela	4.70	40	P	Pn	05 04 05.3	+1.8
	comp=Z,3.6nm,0.1s,SNR=27						
EMOS				S	Sn	05 04 55.0	-1.8
	comp=Z,34nm,0.2s,SNR=24						
EMOS	Mosqueruela	4.70	40	P	Pn	05 04 05.3	+1.8
	comp=Z,3.6nm,0.1s,SNR=27						
ZFT	Errachidia	4.76	179	iP	Pn	05 04 02.0	-2.3
PVIS	Viseu	4.76	326	eP	Pn	05 04 05.8	+1.4
PVIS				eS	Sn	05 04 56.5	-1.7
PVIS							
	comp=Z,10nm,0.2s						
TZC	Tazercounte	4.95	201	iP	Pn	05 04 03.5	-3.5
EIBI	Ibiza	5.06	62	P	Pn	05 04 08.9	+0.5
	comp=Z,2.2nm,0.1s,SNR=7.9						
EIBI				S	Sn	05 05 01.9	-3.5
	comp=Z,8.7nm,0.2s,SNR=7.9						
EIBI	Ibiza	5.06	62	P	Pn	05 04 08.9	+0.5
	comp=Z,2.2nm,0.1s,SNR=7.9						
PVRL	Vila Real	5.15	331	eP	Pn	05 04 11.1	+1.4
PVRL				eS	Sn	05 05 05.7	-2.1
PVRL							
	comp=Z,72nm,0.1s						
PBRG	Braganca	5.31	341	eP	Pn	05 04 13.5	+1.7
PBRG				eS	Sn	05 05 09.8	-1.9
PBRG							
	comp=Z,7.4nm,0.3s						
PTO	Porto	5.42	324	eP	Pn	05 04 14.6	+1.2
PTO				eS	Sn	05 05 12.3	-2.1
PTO							
	comp=Z,40nm,0.1s						
ECAL	Calabor	5.44	341	P	Pn	05 04 15.1	+1.5
	comp=Z,38nm,0.3s,SNR=58						
ECAL				S	Sn	05 05 14.1	-0.7
	comp=Z,21nm,0.4s						
ECAL	Calabor	5.44	341	P	Pn	05 04 15.1	+1.5
	comp=Z,38nm,0.3s,SNR=58						
ERTA	Horta de San J	5.55	40	P	Pn	05 04 16.8	+1.6
	comp=Z,1.8nm,0.1s,SNR=10						
ERTA				S	Sn	05 05 16.2	-1.4
	comp=Z,25nm,0.2s,SNR=12						
ERTA	Horta de San J	5.55	40	P	Pn	05 04 16.8	+1.6
	comp=Z,1.8nm,0.1s,SNR=10						
PCAB	Cabril	5.65	331	eP	Pn	05 04 17.8	+1.4
PCAB				eS	Sn	05 05 17.9	-2.0
PCAB							
	comp=Z,9.0nm,0.1s						
ESAC	San Caprasio	5.78	31	P	Pn	05 04 20.1	+1.8
	comp=Z,13nm,0.2s,SNR=6.9						
ESAC				S	Sn	05 05 22.1	-1.1
	comp=Z,98nm,0.3s,SNR=9.5						
ESAC	San Caprasio	5.78	31	P	Pn	05 04 20.1	+1.8
	comp=Z,13nm,0.2s,SNR=6.9						
ERUA	La Rua	5.97	340	P	Pn	05 04 21.4	+0.6
	comp=Z,18nm,0.2s,SNR=4.0						
ECRI	Cripan	5.98	14	P	Pn	05 04 22.0	+1.1
	comp=Z,5.6nm,0.2s,SNR=7.9						
ECRI				S	Sn	05 05 26.7	-1.3
	comp=Z,9.2nm,0.2s,SNR=7.9						
EPOB	Poblet	6.23	42	P	Pn	05 04 25.3	+0.9
	comp=Z,0.8nm,0.1s,SNR=6.9						
EPOB				S	Sn	05 05 31.2	-3.0
	comp=Z,4.3nm,0.1s,SNR=17						
EPOB	Poblet	6.23	42	P	Pn	05 04 25.3	+0.9
	comp=Z,0.8nm,0.1s,SNR=6.9						
EZAM	Zamans	6.28	329	P	Pn	05 04 25.1	0.0
	comp=Z,9.4nm,0.3s,SNR=7.9						
EZAM				S	Sn	05 05 30.5	-4.9
	comp=Z,11nm,0.4s,SNR=7.9						
EARA	Aranguren	6.34	19	P	Pn	05 04 27.5	+1.6
	comp=Z,6.3nm,0.1s,SNR=7.7						
EARA				S	Sn	05 05 35.3	-1.7
	comp=Z,16nm,0.2s,SNR=6.7						
CIA	Chichaoua	6.35	216	eP	Pn	05 04 24.0	-2.0
ETOS	Mallorca	6.40	60	P	Pn	05 04 27.9	+1.2
	comp=Z,0.8nm,0.1s,SNR=4.0						
ETOS				S	Sn	05 05 33.4	-5.0
	comp=Z,1.7nm,0.2s						
ETOS	Mallorca	6.40	60	P	Pn	05 04 27.9	+1.2
	comp=Z,0.8nm,0.1s,SNR=4.0						
IPRE	Itoiz	6.44	20	P	Pn	05 04 29.9	+2.7
	comp=Z,2.8nm,0.1s,SNR=8.1						
IPRE				S	Sn	05 05 38.3	-0.8
	comp=Z,4.6nm,0.3s,SNR=5.5						
IPRE	Itoiz	6.44	20	P	Pn	05 04 29.9	+2.7
	comp=Z,2.8nm,0.1s,SNR=8.1						
ELAN	Lanestosa	6.46	6	P	Pn	05 04 29.0	+1.4
	comp=Z,16nm,0.2s,SNR=75						
ELAN				S	Sn	05 05 38.5	-1.3
	comp=Z,2.8nm,0.2s						
ELAN	Lanestosa	6.46	6	P	Pn	05 04 29.0	+1.4
	comp=Z,16nm,0.2s,SNR=75						
IUSE	Utxeti	6.51	19	P	Pn	05 04 30.2	+1.9
	comp=Z,4.0nm,0.2s,SNR=6.1						
IUSE				S	Sn	05 05 39.7	-1.4
	comp=Z,3.5nm,0.2s,SNR=7.9						
EARI	Arriondas	6.52	355	P	Pn	05 04 30.4	+2.1
	comp=Z,7.9nm,0.3s,SNR=39						
EARI				S	Sn	05 05 39.5	-1.7
	comp=Z,4.4nm,0.3s						
EARI	Arriondas	6.52	355	P	Pn	05 04 30.4	+2.1
	comp=Z,7.9nm,0.3s,SNR=39						
ELIZ	Elizondo	6.72	18	P	Pn	05 04 31.9	+0.8
	comp=Z,11nm,0.2s,SNR=49						
ELIZ				S	Sn	05 05 41.0	-5.2
	comp=Z,5.9nm,0.2s						
LARF	Larrau	6.76	22	P	Pn	05 04 33.5	+1.9
SJPF	Ste Jean	6.76	20	ePn	Pn	05 04 33.4	+1.8
SJPF				eSn	Sn	05 05 45.6	-1.4
	comp=Z,12nm,0.3s						
SJPF	Ste Jean	6.76	20	ePn	Pn	05 04 33.4	+1.8
SJPF				eSn	Sn	05 05 45.6	-1.4
	comp=Z,5.9nm,0.3s						
ETSF	Etsaut	6.77	25	ePn	Pn	05 04 33.5	+1.8
ETSF				eSn	Sn	05 05 44.2	-3.1
	comp=Z,11nm,0.3s						
ETSF	Etsaut	6.77	25	ePn	Pn	05 04 33.5	+1.8
ETSF				eSn	Sn	05 05 44.2	-3.1
	comp=Z,5.4nm,0.3s						
EALK	Alkurruntz	6.78	18	P	Pn	05 04 34.1	+2.2
	comp=Z,22nm,0.2s,SNR=36						
EALK				S	Sn	05 05 45.6	-2.1
	comp=Z,61nm,0.3s,SNR=6.0						
EBIE	Bielsa	6.84	29	P	Pn	05 04 34.1	+1.4
	comp=Z,3.3nm,0.1s,SNR=23						
EBIE				S	Sn	05 05 46.4	-2.7
	comp=Z,16nm,0.4s						
EBIE	Bielsa	6.84	29	P	Pn	05 04 34.1	+1.4
	comp=Z,3.3nm,0.1s,SNR=23						
EPON	Pontenova	6.84	343	P	Pn	05 04 34.3	+1.6
	comp=Z,12nm,0.3s,SNR=26						
EPON				S	Sn	05 05 46.9	-2.3
	comp=Z,2.8nm,0.2s						
EPON	Pontenova	6.84	343	P	Pn	05 04 34.3	+1.5
	comp=Z,12nm,0.3s,SNR=26						
STS	Santiago	6.86	334	P	Pn	05 04 32.7	-0.3
	comp=Z,5.1nm,0.2s,SNR=7.5						
STS				S	Sn	05 05 44.6	-5.0
	comp=Z,2.7nm,0.3s						
EMIR	Miracle	6.87	40	P	Pn	05 04 34.4	+1.4
	comp=Z,3.8nm,0.1s,SNR=13						
EMIR				S	Sn	05 05 47.1	-2.6
	comp=Z,29nm,0.5s						
EMIR	Miracle	6.87	40	P	Pn	05 04 34.4	+1.3
	comp=Z,3.8nm,0.1s,SNR=13						
OSSF	Osses	6.88	20	P	Pn	05 04 34.7	+1.4
VIEF	Viey	6.96	28	P	Pn	05 04 35.6	+1.2
REYF	Montagne du Re	6.97	25	P	Pn	05 04 36.2	+1.6
EMAZ	Mazaricos	7.07	332	P	Pn	05 04 37.4	+1.6
	comp=Z,3.4nm,0.3s,SNR=7.9						
EMAZ				S	Sn	05 05 50.9	-3.9
	comp=Z,4.4nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	7.07	332	P	Pn	05 04 37.4	+1.5
EPF	Esparros	7.21	29	ePn	Pn	05 04 39.2	+1.5
EPF				eSn	Sn	05 05 55.7	-2.4
	comp=Z,14nm,0.2s						
EPF	Esparros	7.21	29	ePn	Pn	05 04 39.2	+1.5
EPF				eSn	Sn	05 05 55.7	-2.4
	comp=Z,7.0nm,0.2s						
EJON	La Jonquera	7.96	43	S	Sn	05 06 13.9	-2.6
	comp=Z,1.3nm,0.2s,SNR=7.9						
MTLF	Montolieu	8.27	36	ePn	Pn	05 04 53.1	+0.9
MTLF				eSn	Sn	05 06 21.5	-2.5
	comp=Z,3.8nm,0.3s						
MTLF	Montolieu	8.27	36	ePn	Pn	05 04 53.1	+0.9
MTLF				eSn	Sn	05 06 21.5	-2.5
	comp=Z,1.9nm,0.3s						
LFF	La Frestale	9.01	24	ePn	Pn	05 05 04.0	+1.6
LFF				eSn	Sn	05 06 40.0	-2.1
	comp=Z,7.0nm,0.3s						
LFF	La Frestale	9.01	24	P	Pn	05 05 04.0	+1.6
LFF				S	Sn	05 06 40.0	-2.1
	comp=Z,3.5nm,0.3s						
CAF	Calviac	9.47	29	ePn	Pn	05 05 09.5	+0.8
CAF				eSn	Sn	05 06 48.4	-5.1
	comp=Z,4.3nm,0.3s						
CAF	Calviac	9.47	29	ePn	Pn	05 05 09.5	+0.8
CAF				eSn	Sn	05 06 48.4	-5.1
	comp=Z,2.2nm,0.3s						
RJF	Les Rejaudoux	9.59	26	ePn	Pn	05 05 10.6	+0.3
RJF				eSn	Sn	05 06 50.4	-6.0
	comp=Z,3.2nm,0.3s						
RJF	Les Rejaudoux	9.59	26	ePn	Pn	05 05 10.6	+0.3
RJF				eSn	Sn	05 06 50.4	-6.0
	comp=Z,1.6nm,0.3s						
LASF	Ste Croix	9.61	38	ePn	Pn	05 05 11.3	+0.8
MFF	Saint Martin d	10.29	17	ePn	Pn	05 05 20.6	+0.8
MFF				eSn	Sn	05 07 06.9	-6.5
	comp=Z,105nm,1.7s						
MFF	Saint Martin d	10.29	17	ePn	Pn	05 05 20.6	+0.8
MFF				eSn	Sn	05 07 06.9	-6.5
	comp=Z,53nm,1.7s						
LMR	La Mourre	10.60	49	eSn	Sn	05 07 15.9	-5.1
	comp=Z,1.2nm,0.2s						
LMR	La Mourre	10.60	49	eSn	Sn	05 07 15.9	-5.1
	comp=Z,0.6nm,0.2s						
TCF	Toulx Ste Croi	10.69	26	eSn	Sn	05 07 17.8	-5.3
	comp=Z,2.1nm,0.3s						
TCF	Toulx Ste Croi	10.69	26	eSn	Sn	05 07 17.8	-5.3
	comp=Z,1.0nm,0.3s						
FRF	La Foret Royal	10.81	48	eSn	Sn	05 07 20.6	-5.5
	comp=Z,1.6nm,0.3s						
FRF	La Foret Royal	10.81	48	eSn	Sn	05 07 20.6	-5.5
	comp=Z,0.8nm,0.3s						
QUIF	Quistinic	11.14	4	ePn	Pn	05 05 32.9	+1.5
QUIF				eSn	Sn	05 07 30.0	-4.2
	comp=Z,0.8nm,0.2s						
QUIF	Quistinic	11.14	4	P	Pn	05 05 32.9	+1.5
QUIF				S	Sn	05 07 30.0	-4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.4nm,0.2s						
BGF	**Bois d'Agland**	**11.14**	**27**	*e*Pn	**Pn**	**05 05 31.4**	**-0.1**
BGF				*e*Sn	**Sn**	**05 07 30.9**	**-3.4**
	comp=Z,8.4nm,0.5s						
BGF	**Bois d'Agland**	**11.14**	**27**	*e*Pn	**Pn**	**05 05 31.4**	**-0.1**
BGF				*e*Sn	**Sn**	**05 07 30.9**	**-3.4**
	comp=Z,4.2nm,0.5s						
CFUE	**Fuerteventura**	**11.42**	**227**	S	**Sn**	**05 07 28.6**	**-12**
	comp=Z,2.1nm,0.2s,SNR=7.9						
SGMF	**Saint Gilles**	**11.52**	**6**	*e*Pn	**Pn**	**05 05 37.9**	**+1.3**
SGMF				*e*Sn	**Sn**	**05 07 37.7**	**-5.8**
	comp=Z,3.1nm,0.5s						
SGMF	**Saint Gilles**	**11.52**	**6**	*e*Pn	**Pn**	**05 05 37.9**	**+1.3**
SGMF				*e*Sn	**Sn**	**05 07 37.7**	**-5.8**
	comp=Z,1.5nm,0.5s						
AVF	**Avril sur Loir**	**11.53**	**28**	*e*Pn	**Pn**	**05 05 36.2**	**-0.5**
ROSF	**Rostrenen**	**11.55**	**4**	*e*Pn	**Pn**	**05 05 38.2**	**+1.2**
ROSF				*e*Sn	**Sn**	**05 07 38.7**	**-5.5**
	comp=Z,1.4nm,0.3s						
ROSF	**Rostrenen**	**11.55**	**4**	*e*Pn	**Pn**	**05 05 38.2**	**+1.2**
ROSF				*e*Sn	**Sn**	**05 07 38.7**	**-5.5**
	comp=Z,0.7nm,0.3s						
SMF	**Signal de Mont**	**11.59**	**29**	*e*Pn	**Pn**	**05 05 37.6**	**0.0**
PGF	**Pioggiola**	**11.81**	**57**	*e*Sn	**Sn**	**05 07 44.5**	**-5.9**
	comp=Z,0.2nm,0.2s						
PGF	**Pioggiola**	**11.81**	**57**	*e*Sn	**Sn**	**05 07 44.5**	**-5.9**
	comp=Z,0.1nm,0.2s						
SSF	**Saint Saulge**	**11.81**	**27**	*e*Pn	**Pn**	**05 05 40.4**	**-0.2**
SSF				*e*Sn	**Sn**	**05 07 45.9**	**-4.6**
	comp=Z,0.6nm,0.3s						
SSF	**Saint Saulge**	**11.81**	**27**	*e*Pn	**Pn**	**05 05 40.4**	**-0.2**
SSF				*e*Sn	**Sn**	**05 07 45.9**	**-4.6**
	comp=Z,0.3nm,0.3s						
GRR	**Gorron**	**11.87**	**12**	*e*Pn	**Pn**	**05 05 43.0**	**+1.7**
GRR				*e*Sn	**Sn**	**05 07 44.6**	**-7.2**
	comp=Z,2.4nm,0.4s						
GRR	**Gorron**	**11.87**	**12**	P	**Pn**	**05 05 43.0**	**+1.7**
GRR				S	**Sn**	**05 07 44.6**	**-7.2**
	comp=Z,1.2nm,0.4s						
LDF	**La Druitiere**	**12.19**	**14**	*e*Pn	**Pn**	**05 05 46.6**	**+0.9**
FLN	**La Foliniere**	**12.29**	**12**	*e*Pn	**Pn**	**05 05 47.4**	**+0.3**
	baz=194						
CABF	**La Chapelle**	**12.54**	**35**	*e*Sn	**Sn**	**05 08 02.7**	**-5.4**
	comp=Z,2.5nm,0.4s						
CABF	**La Chapelle**	**12.54**	**35**	*e*Sn	**Sn**	**05 08 02.7**	**-5.4**
	comp=Z,1.2nm,0.4s						

*NEIC **04** 05:04:28.7, 3030S×7150W, h40km, MD3.9(GUC), After GUC.*

GUC 04 05:04:28.7±0.7**, 3030S×7150W, h40**km±2km**, MD3.9, ML3.2, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.40**	**140**	*e*P	Pn	05 04 38.1	0.0
OVCH				*i* S	Sn	05 04 45.2	+0.5
OVCH				AML	AML	05 04 45.6	
	comp=N,2µm,0.2s						
LSCH	**La Serena**	**0.45**	**30**⇓	*i*P	Pn	05 04 38.8	0.0
LSCH				*i* S	Sn	05 04 46.4	+0.6
TLL	**Tololo Astrono**	**0.62**	**78**⇓	*i*P	Pn	05 04 41.9	+0.9
TLL				*i* S	Sn	05 04 51.5	+1.8
TLL				AML	AML	05 04 55.1	
	comp=E,2µm,0.5s						
TLL	**Tololo Astrono**	**0.62**	**78**⇓	*i*P	Pn	05 04 41.9	+0.9
TLL				*i* S	Sn	05 04 51.5	+1.8
CMCH	**Combarbala**	**0.97**	**154**⇑	*i*P	Pn	05 04 46.3	+0.4
CMCH				*i* S	Sn	05 05 00.2	+1.8
CMCH				AML	AML	05 05 01.9	
	comp=E,2µm,0.7s						
CMCH	**Combarbala**	**0.97**	**154**⇑	*i*P	Pn	05 04 46.3	+0.4
CMCH				*i* S	Sn	05 05 00.2	+1.8
VACH	**Vallenar**	**1.84**	**21**	*e*P	Pn	05 04 58.4	+0.6
VACH				*i* S	Sn	05 05 22.0	+2.2
VACH				AML	AML	05 05 26.8	
	comp=N,466nm,0.4s						
VACH	**Vallenar**	**1.84**	**21**	*e*P	Pn	05 04 58.4	+0.6
VACH				*i* S	Sn	05 05 22.0	+2.2
PTCH	**Petorca**	**2.02**	**166**	*e*P	Pn	05 05 01.8	+1.6
PTCH				*i* S	Sn	05 05 25.8	+1.7
PTCH				AML	AML	05 05 33.7	
	comp=E,428nm,0.4s						
PTCH	**Petorca**	**2.02**	**166**	*e*P	Pn	05 05 01.8	+1.6
PTCH				*i* S	Sn	05 05 25.8	+1.7

*PDA **04** 05:49:23.5±1.4, 3843N×2692W, h1km±3km, MD3.3, ML3.3, Error ellipse: s-maj=3.3km s-min=2.1km az=40.0*
*CSEM **04** 05:49:23.5±1.4, 3843N×2692W, h1km±3km, ML3.3, Error ellipse: s-maj=3.3km s-min=2.1km az=40.0, After PDA*

SVSA 04 05:49:23.5±1.4**, 3843N×2692W, h1**km±3km**, MD3.3, ML3.3, Error ellipse: s-maj=3.3km s-min=2.1km az=40.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.31**	**336**	*i* P	Pg	05 49 29.0	-0.4
PFAV				*i* S	Sg	05 49 33.6	+0.3
PFAV							
	1µm,0.2s						
PFAV	**Pico das Favas**	**0.31**	**336**	*i* S	Sg	05 49 33.6	+0.3
RIB2	**Ribeirinha**	**0.31**	**321**	*i* P	Pg	05 49 29.3	-0.1
RIB2				*i* S	Sg	05 49 34.0	+0.6
RIB2							
	2µm,0.2s						
RIB2	**Ribeirinha**	**0.31**	**321**	*i* S	Sg	05 49 34.0	+0.6
ADH	**Angra Heroismo**	**0.33**	**312**	*i* P	Pg	05 49 28.9	-0.9
ADH				*e*S	Sg	05 49 33.9	-0.2
ADH	**Angra Heroismo**	**0.33**	**312**	*e*S	Sg	05 49 33.9	-0.2
PVNV	**Vila Nova**	**0.38**	**331**	*i* P	Pg	05 49 30.2	-0.5
PVNV				*e*S	Sg	05 49 35.6	0.0
PVNV							
	825nm,0.2s						
PVNV	**Vila Nova**	**0.38**	**331**	*e*S	Sg	05 49 35.6	0.0
PPAD	**Pico dos Padre**	**0.39**	**313**	*i* P	Pg	05 49 30.8	-0.2
PPAD				*e*S	Sg	05 49 36.6	+0.5
PPAD							
	4µm,0.3s						
PPAD	**Pico dos Padre**	**0.39**	**313**	*e*S	Sg	05 49 36.6	+0.5
PBIS	**Biscoitos**	**0.42**	**322**	*e*P	Pg	05 49 30.9	-0.6
PBIS				*i* S	Sg	05 49 37.2	+0.3
PBIS							
	1µm,0.2s						
PBIS	**Biscoitos**	**0.42**	**322**	*e*P	Pg	05 49 30.9	-0.6
PBIS				*i* S	Sg	05 49 37.2	+0.3
PIED	**Piedade**	**0.89**	**270**	*e*P	Pg	05 49 40.5	0.0
PMAN	**Manadas**	**0.94**	**283**	*e*P	Pg	05 49 38.6	-2.8
PMAN				*e*S	Sg	05 49 49.8	-3.8
PMAN							
	733nm,0.3s						
PMAN	**Manadas**	**0.94**	**283**	*e*P	Pg	05 49 38.6	-2.8
PMAN				*e*S	Sg	05 49 49.8	-3.8
PID	**Ribeirinha**	**0.94**	**271**	*e*P	Pg	05 49 38.3	-3.2
PID				*e*S	Sg	05 49 50.3	-3.4
PAMA	**Santo Amaro**	**1.02**	**284**	*e*P	Pg	05 49 40.4	-2.6
PAMA				*e*S	Sg	05 49 52.2	-3.9
PAMA							
	84nm,0.2s						
PAMA	**Santo Amaro**	**1.02**	**284**	*e*P	Pg	05 49 40.4	-2.6
PAMA				*e*S	Sg	05 49 52.2	-3.9
PGRA	**Graciosa**	**1.02**	**306**	*e*P	Pg	05 49 38.9	-4.2
PGRA				*i* S	Sg	05 49 51.4	-4.9
PGRA							
	2µm,0.3s						
PGRA	**Graciosa**	**1.02**	**306**	*e*P	Pg	05 49 38.9	-4.2
PGRA				*i* S	Sg	05 49 51.4	-4.9
SET4	**Mosteiros**	**1.05**	**122**	*e*P	Pg	05 49 40.6	-3.0
SET2	**Ginetes**	**1.06**	**123**	*e*P	Pg	05 49 40.9	-2.9
SRBC	**Serra Branca**	**1.06**	**305**	*e*P	Pg	05 49 40.3	-3.6
SRBC				*e*S	Sg	05 49 52.9	-4.7
STGR	**Santa Cruz**	**1.06**	**308**	*e*P	Pg	05 49 40.7	-3.2
STGR				*e*S	Sg	05 49 53.1	-4.6
STGR							
	288nm,0.2s						
STGR	**Santa Cruz**	**1.06**	**308**	*e*P	Pg	05 49 40.7	-3.2
STGR				*e*S	Sg	05 49 53.1	-4.6
ROSA	**Rosais**	**1.07**	**286**	*i* P	Pg	05 49 40.4	-3.7
ROSA				*e*S	Sg	05 49 53.6	-4.4
PFET	**Feteiras**	**1.08**	**124**	*e*P	Pg	05 49 41.1	-3.2
PVIA	**Vitoria**	**1.09**	**306**	*i* S	Sg	05 49 53.8	-4.6
PVIA							
	117nm,0.3s						
PSAN	**Santo Antonio**	**1.11**	**121**	*e*P	Pg	05 49 41.5	-3.2
PTEI	**Pico do Teixo**	**1.13**	**274**	*e*S	Sg	05 49 56.5	-3.2
PTEI							
	74nm,0.3s						
PBOI	**Pico dos Bois**	**1.14**	**271**	*e*P	Pg	05 49 41.5	-3.9
PBOI				*e*S	Sg	05 49 55.4	-4.8
PBOI							
	70nm,0.2s						
PICO	**Pico**	**1.18**	**274**	*e*P	Pg	05 49 42.4	-3.8
PICO				*e*S	Sg	05 49 56.6	-4.9
FAC	**Faja de Cima**	**1.20**	**123**	*e*P	Pg	05 49 43.0	-3.5
FAC				*e*S	Sg	05 49 56.9	-5.2
PDA	**Ponta Delgada**	**1.21**	**124**	*e*P	Pg	05 49 42.5	-4.1
PDA				*e*S	Sg	05 49 56.6	-5.7
PCND	**Candelaria**	**1.21**	**272**	*e*P	Pg	05 49 43.0	-3.7
PCND				*e*S	Sg	05 49 57.8	-4.6
PCND							
	122nm,0.3s						
CML	**Cha da Macela**	**1.27**	**121**	*e*P	Pg	05 49 43.8	-4.1
CML				*e*S	Sg	05 49 58.0	-6.4
PVER	**Pico Vermelho**	**1.28**	**119**	*e*P	Pg	05 49 43.9	-4.1
PVER				*e*S	Sg	05 49 58.8	-5.8
PVER							
	1µm,0.4s						
PVER	**Pico Vermelho**	**1.28**	**119**	*e*P	Pg	05 49 43.9	-4.1
PVER				*e*S	Sg	05 49 58.8	-5.8
PMAT	**Coroa da Mata**	**1.30**	**118**	*e*P	Pg	05 49 44.0	-4.4
PMAT				*e*S	Sg	05 49 59.1	-6.2
PMAT							
	503nm,0.2s						
PMAT	**Coroa da Mata**	**1.30**	**118**	*e*P	Pg	05 49 44.0	-4.4
PMAT				*e*S	Sg	05 49 59.1	-6.2
LFA	**Lagoa do Fogo**	**1.31**	**120**	*e*P	Pg	05 49 44.3	-4.4
MESC	**Monte Escuro**	**1.33**	**118**	*e*P	Pg	05 49 44.0	-5.0
MESC				*i* S	Sg	05 49 59.6	-6.6
PRCH	**Ribeira Ch**	**1.34**	**121**	*e*P	Pg	05 49 44.7	-4.5
PRCH				*e*S	Sg	05 50 00.3	-6.2
PRCH							
	926nm,0.3s						
PRCH	**Ribeira Ch**	**1.34**	**121**	*e*P	Pg	05 49 44.7	-4.5
PRCH				*e*S	Sg	05 50 00.3	-6.2
HOR	**Horta**	**1.34**	**275**	*e*P	Pg	05 49 44.0	-5.2
HOR				*e*S	Sg	05 50 00.3	-6.4
VIF	**Vila Franca**	**1.36**	**120**	*e*P	Pg	05 49 44.9	-4.6
VIF				*e*S	Sg	05 50 00.9	-6.2
VIF							
	378nm,0.3s						
VIF	**Vila Franca**	**1.36**	**120**	*e*P	Pg	05 49 44.9	-4.6
VIF				*e*S	Sg	05 50 00.9	-6.2
PCNG	**Congro**	**1.38**	**118**	*e*S	Sg	05 50 00.7	-7.0
PCNG							
	180nm,0.3s						
PFAD	**Fenais da Ajud**	**1.39**	**115**	*e*P	Pn	05 49 44.7	-5.3
CALA	**Caldeira**	**1.40**	**277**	*e*P	Pn	05 49 45.1	-5.1
CALA				*e*S	Sg	05 50 01.8	-6.8
PCED	**Cedros**	**1.41**	**279**	*e*P	Pn	05 49 44.3	-5.9
PCED				*e*S	Sg	05 50 00.4	-8.4
PCED							
	218nm,0.3s						
PCED	**Cedros**	**1.41**	**279**	*e*P	Pn	05 49 44.3	-5.9
PCED				*e*S	Sg	05 50 00.4	-8.4
FRA1	**Furnas**	**1.41**	**119**	*e*P	Pn	05 49 45.7	-4.6
MIRA	**Miradouro**	**1.45**	**116**	*e*P	Pn	05 49 45.6	-5.2
PLUZ	**Luz**	**1.71**	**291**	*i* S	Pn	05 49 52.2	-2.2
PSMN	**Pico do Norte,**	**2.05**	**134**	*e*P	Pn	05 49 54.5	-4.6
PSMN				*e*S	Sn	05 50 16.5	-8.8

*CSEM **04** 05:54:29.7±1.3, 3845N×2691W, h0km±3km, ML3.1, Error ellipse: s-maj=3.3km s-min=1.5km az=40.0, After PDA*
*PDA **04** 05:54:29.7±1.3, 3845N×2691W, h0km±3km, MD3.2, ML3.1, Error ellipse: s-maj=3.3km s-min=1.5km az=40.0*

SVSA 04 05:54:29.7±1.3**, 3845N×2691W, h0**km±3km**, MD3.2, ML3.1, Error ellipse: s-maj=3.3km s-min=1.5km az=40.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.29**	**332**	*e*P	Pg	05 54 35.2	-0.1
PFAV				*e*S	Sg	05 54 39.5	+0.4
PFAV							
	1µm,0.3s						
PFAV	**Pico das Favas**	**0.29**	**332**	*e*P	Pg	05 54 35.2	-0.1
PFAV				*e*S	Sg	05 54 39.5	+0.4
RIB2	**Ribeirinha**	**0.30**	**316**	*e*P	Pg	05 54 35.5	0.0
RIB2				*e*S	Sg	05 54 39.9	+0.5
RIB2							
	1µm,0.1s						
RIB2	**Ribeirinha**	**0.30**	**316**	*e*P	Pg	05 54 35.5	0.0
RIB2				*e*S	Sg	05 54 39.9	+0.5
ADH	**Angra Heroismo**	**0.33**	**308**	*i* P	Pg	05 54 35.1	-0.8
ADH				*e*S	Sg	05 54 40.0	-0.2
ADH	**Angra Heroismo**	**0.33**	**308**	*e*S	Sg	05 54 40.0	-0.2
PVNV	**Vila Nova**	**0.36**	**328**	*e*P	Pg	05 54 36.4	-0.3
PVNV				*e*S	Sg	05 54 41.7	+0.3
PVNV							
	725nm,0.3s						
PVNV	**Vila Nova**	**0.36**	**328**	*e*P	Pg	05 54 36.4	-0.3
PVNV				*e*S	Sg	05 54 41.7	+0.3
PPAD	**Pico dos Padre**	**0.39**	**310**	*i* P	Pg	05 54 37.1	0.0
PPAD				*e*S	Sg	05 54 42.6	+0.5
PPAD							
	1µm,0.3s						
PPAD	**Pico dos Padre**	**0.39**	**310**	*e*S	Sg	05 54 42.6	+0.5
PBIS	**Biscoitos**	**0.41**	**319**	*e*P	Pg	05 54 37.4	-0.1
PBIS				*e*S	Sg	05 54 42.9	+0.1
PBIS							
	476nm,0.2s						
PBIS	**Biscoitos**	**0.41**	**319**	*e*P	Pg	05 54 37.4	-0.1
PBIS				*e*S	Sg	05 54 42.9	+0.1
PIED	**Piedade**	**0.90**	**268**	*e*P	Pg	05 54 44.9	-2.1
PMAN	**Manadas**	**0.94**	**281**	*e*P	Pg	05 54 44.3	-3.5
PMAN				*e*S	Sg	05 54 56.1	-3.9
PMAN							
	564nm,0.2s						
PMAN	**Manadas**	**0.94**	**281**	*e*P	Pg	05 54 44.3	-3.5
PMAN				*e*S	Sg	05 54 56.1	-3.9
PID	**Ribeirinha**	**0.95**	**270**	*e*P	Pg	05 54 45.1	-2.8
PID				*e*S	Sg	05 54 57.2	-3.1
PGRA	**Graciosa**	**1.02**	**305**	*e*P	Pg	05 54 45.1	-4.1
PGRA				*e*S	Sg	05 54 57.6	-4.8
PGRA							
	761nm,0.4s						
PGRA	**Graciosa**	**1.02**	**305**	*e*P	Pg	05 54 45.1	-4.1
PGRA				*e*S	Sg	05 54 57.6	-4.8
PAMA	**Santo Amaro**	**1.02**	**283**	*e*S	Sg	05 54 59.0	-3.5
PAMA							
	53nm,0.2s						
SET4	**Mosteiros**	**1.05**	**123**	*e*P	Pg	05 54 46.9	-2.9
SRBC	**Serra Branca**	**1.06**	**304**	*e*P	Pg	05 54 46.8	-3.2
SRBC				*e*S	Sg	05 54 59.8	-4.0
STGR	**Santa Cruz**	**1.06**	**306**	*e*P	Pg	05 54 47.1	-2.9
STGR				*e*S	Sg	05 54 59.9	-3.9
STGR							
	154nm,0.2s						
STGR	**Santa Cruz**	**1.06**	**306**	*e*P	Pg	05 54 47.1	-2.9
STGR				*e*S	Sg	05 54 59.9	-3.9
SET2	**Ginetes**	**1.06**	**125**	*e*P	Pg	05 54 47.3	-2.7
ROSA	**Rosais**	**1.08**	**285**	*e*P	Pg	05 54 46.6	-3.8
ROSA				*e*S	Sg	05 54 59.8	-4.5
PVIA	**Vitoria**	**1.08**	**305**	*e*P	Pg	05 54 47.3	-3.2
PVIA				*e*S	Sg	05 55 00.3	-4.2
PVIA							
	62nm,0.3s						
PFET	**Feteiras**	**1.09**	**125**	*e*P	Pg	05 54 47.5	-3.1
PSAN	**Santo Antonio**	**1.11**	**122**	*e*P	Pg	05 54 47.8	-3.2
PTEI	**Pico do Teixo**	**1.14**	**273**	*e*S	Sg	05 55 02.2	-4.1
PTEI							
	40nm,0.3s						
PBOI	**Pico dos Bois**	**1.15**	**270**	*e*S	Sg	05 55 04.2	-2.5
PBOI							
	47nm,0.1s						
PICO	**Pico**	**1.19**	**273**	*e*P	Pg	05 54 48.8	-3.8
PICO				*e*S	Sg	05 55 03.2	-4.8
FAC	**Faja de Cima**	**1.20**	**124**	*e*S	Sg	05 55 03.5	-4.8
PDA	**Ponta Delgada**	**1.21**	**125**	*e*P	Pg	05 54 48.7	-4.2
PDA				*e*S	Sg	05 55 03.1	-5.5
PCND	**Candelaria**	**1.22**	**271**	*e*P	Pg	05 54 49.5	-3.6
PCND				*e*S	Sg	05 55 03.9	-5.0
PCND							
	33nm,0.3s						
CML	**Cha da Macela**	**1.27**	**122**	*e*P	Pg	05 54 50.2	-3.9
CML				*e*S	Sg	05 55 05.0	-5.6
PVER	**Pico Vermelho**	**1.28**	**120**	*e*P	Pg	05 54 50.2	-4.0
PVER				*e*S	Sg	05 55 05.1	-5.7
PVER							
	836nm,0.3s						
PVER	**Pico Vermelho**	**1.28**	**120**	*e*P	Pg	05 54 50.2	-4.0
PVER				*e*S	Sg	05 55 05.1	-5.7
PMAT	**Coroa da Mata**	**1.30**	**119**	*e*P	Pg	05 54 50.9	-3.7
PMAT				*e*S	Sg	05 55 05.7	-5.8
PMAT							
	489nm,0.2s						
PMAT	**Coroa da Mata**	**1.30**	**119**	*e*P	Pg	05 54 50.9	-3.7
PMAT				*e*S	Sg	05 55 05.7	-5.8
LFA	**Lagoa do Fogo**	**1.31**	**121**	*e*P	Pg	05 54 50.7	-4.2
MESC	**Monte Escuro**	**1.33**	**119**	*e*P	Pg	05 54 50.3	-4.9
MESC				*i* S	Sg	05 55 06.4	-6.0
PRCH	**Ribeira Ch**	**1.34**	**122**	*e*P	Pg	05 54 51.1	-4.3
PRCH				*e*S	Sg	05 55 06.8	-6.0
PRCH							
	1µm,0.3s						
PRCH	**Ribeira Ch**	**1.34**	**122**	*e*P	Pg	05 54 51.1	-4.3
PRCH				*e*S	Sg	05 55 06.8	-6.0
HOR	**Horta**	**1.35**	**274**	*e*S	Sg	05 55 06.8	-6.4
VIF	**Vila Franca**	**1.36**	**121**	*e*P	Pg	05 54 51.3	-4.4
VIF				*e*S	Sg	05 55 07.4	-5.9
VIF							
	468nm,0.3s						
VIF	**Vila Franca**	**1.36**	**121**	*e*P	Pg	05 54 51.3	-4.4
VIF				*e*S	Sg	05 55 07.4	-5.9
PCNG	**Congro**	**1.38**	**119**	*e*S	Sg	05 55 07.5	-6.4
PCNG							
	152nm,0.2s						
PFAD	**Fenais da Ajud**	**1.39**	**116**	*e*P	Pn	05 54 51.0	-5.4
CALA	**Caldeira**	**1.41**	**276**	*e*P	Pn	05 54 51.6	-5.1
CALA				*e*S	Sg	05 55 08.8	-6.3
FRA1	**Furnas**	**1.42**	**120**	*e*P	Pn	05 54 51.9	-4.8
PCED	**Cedros**	**1.42**	**278**	*e*P	Pn	05 54 50.8	-5.9
PCED				*e*S	Sg	05 55 07.3	-7.9
MIRA	**Miradouro**	**1.45**	**117**	*e*P	Pn	05 54 52.0	-5.1
PLUZ	**Luz**	**1.71**	**290**	*e*S	Pn	05 54 58.5	-2.3
PLUZ							
	295nm,0.3s						
PSMN	**Pico do Norte,**	**2.06**	**134**	*e*P	Pn	05 55 00.3	-5.2
PSMN				*e*S	Sn	05 55 23.4	-8.5

*BJI **04** 06:18:54.6, 533N×12646E, h72km, mB5.2, mb5.3, Ms4.5, Msz4.3*
*MAN **04** 06:18:56.4, 573N×12626E, h32km, mb5.1, ML5.6, MS5.0*
MAN F GENERAL SANTOS CITY - INTENSITY II.
*IDC **04** 06:18:57.8±1.6, 591N×12601E, h42km±13km, mb4.9/25, mb1 5.0/25, mb1mx5.0/26, mbtmp5.1/25, MS4.0/22, Ms1 4.0/22, ms1mx3.9/30, Error ellipse: s-maj=19.8km s-min=8.9km az=72.0*
*ISCJB **04** 06:18:59.9±0.5, 592N±003×126.16E±004, h75km±4km, mb5.2/103, Error ellipse: s-maj=6.6km s-min=3.9km az=149.1*
*MOS **04** 06:19:00.7±1.2, 594N×12600E, h80km, mb5.5/35, Error ellipse: s-maj=10.4km s-min=5.6km az=107.6*
*GCMT **04** 06:19:01.3±0.3, 594N×12639E, h44km±1km, MW5.1/69, Moment Tensor Solution. s53,c64; s69,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.28±.20; $M_{\theta\theta}$0.95±.14; $M_{\phi\phi}$-5.23±.15; $M_{r\theta}$1.53±.12; $M_{\theta\phi}$-1.79±.14; $M_{\phi r}$1.23±.19; Best double couple: $M_0$5.43200×10^{16} NP1:ϕ_s176.00000°, δ39.00000°, λ61.00000°. NP2: ϕ_s32.00000°, δ56.00000°, λ112.00000°. Principal axes: T 4.9030, Plg70.0000°, Azm351.0000°; N 1.0550, Plg18.0000°, Azm199.0000°; P -5.9610, Plg9.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 06:19:01.3±0.1, 594N×12607E, mb5.4/53 Error ellipse: s-maj=6.5km s-min=4.2km az=74.0*

ISC 04 06:19:01.6±0.5**, 593N**±002×**12619E**±004**, h74**km±4km**, h67**km±4.8km**:pP-P, n297, σ1**s**20**/271**, mb5.2**/103**, 18C-10D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.28**	**332**⇓	*i*P	**Pn**	**06 19 21.5**	**-2.3**
DAV	**Davao City (W)**	**1.28**	**332**	*e*Pn	**Pn**	**06 19 21.9**	**-2.0**
DAV				*e*Sn	**Sn**	**06 19 38.5**	**-2.0**
KCP	**Kidapawan**	**1.53**	**315**⇑	*i*P	**Pn**	**06 19 24.8**	**-2.2**
KCP				*i* S	**Sn**	**06 19 44.8**	**-1.4**
BUKP	**Musuan**	**2.23**	**330**	*e*P	**Pn**	**06 19 35.0**	**-1.4**
BUKP				*e*S	**Sn**	**06 20 04.2**	**+1.1**
CGP	**Cagayan de Oro**	**2.91**	**330**⇑	*i*P	**Pn**	**06 19 43.7**	**-1.9**
CGP				*i* S	**Sn**	**06 20 21.8**	**+2.3**
DCPH	**Dipolog City**	**3.85**	**313**	*e*P	**Pn**	**06 20 00.0**	**+1.6**
IPIL	**Ipil**	**4.03**	**297**⇓	*i*P	**Pn**	**06 20 01.2**	**+0.3**
IPIL				*i* S	**Sn**	**06 20 51.9**	**+5.0**
IPIL	**Ipil**	**4.03**	**297**	*e*P	**Pn**	**06 20 00.3**	**-0.6**
PLP	**Palo**	**5.33**	**347**	*e*P	**Pn**	**06 20 19.5**	**+0.9**
GUIM	**Jordan**	**5.87**	**323**	*e*P	**Pn**	**06 20 25.3**	**-0.6**
PVCP	**Virac**	**7.87**	**345**⇑	*e*P	**Pn**	**06 20 57.3**	**+4.0**
AUQP	**San Andres**	**8.12**	**335**	*e*P	**Pn**	**06 21 02.9**	**+6.2**
TSM	**Tawau**	**8.44**	**259**	P	**Pn**	**06 21 00.2**	**-0.8**
BATP	**Bataraza**	**8.79**	**289**	*e*P	**Pn**	**06 21 03.7**	**-2.2**
TGY	**Tagaytay City**	**9.62**	**328**	P	**Pn**	**06 21 20.6**	**+3.4**
	20nm,0.3s,baz=119,slow=12,SNR=3.2						
LUBP	**Lubang**	**9.71**	**323**	*e*P	**Pn**	**06 21 19.8**	**+1.4**
KKM	**Kota Kinabalu**	**9.92**	**271**	P	**Pn**	**06 21 25.0**	**+3.8**
KKM	**Kota Kinabalu**	**9.92**	**271**	P	**Pn**	**06 21 22.2**	**+1.0**
KKM	**Kota Kinabalu**	**9.92**	**271**	*e*Pn	**Pn**	**06 21 22.4**	**+1.2**
BALP	**Baler**	**10.74**	**335**	*e*P	**Pn**	**06 21 35.0**	**+2.5**
BCPH	**Baguio City Da**	**11.75**	**333**⇓	*i*P	**Pn**	**06 21 53.1**	**+7.0**
CAUP	**Cauayan**	**11.75**	**339**	*e*P	**Pn**	**06 21 46.6**	**+0.4**
CVP	**Callao Caves**	**12.45**	**340**	*e*P	**Pn**	**06 22 08.0**	**+12**
KAPI	**Kappang**	**12.63**	**211**	Pn	**Pn**	**06 21 59.2**	**+1.0**
	669nm,0.7s,SNR=10						
KSM	**Kuching**	**16.45**	**255**	*e*P	**Pn**	**06 22 49.0**	**+1.4**
YHNB	**Yeheng**	**19.19**	**347**	*e*P	**Pn**	**06 23 20.6**	**-0.4**
KAKA	**Kakadu**	**19.54**	**161**	*e*P	**Pn**	**06 23 22.5**	**-2.5**
	135nm,0.6s						
GUMO	**Guam**	**19.91**	**66**	P	**Pn**	**06 23 30.4**	**+1.0**
	97nm,0.7s,baz=172,slow=14,SNR=4.7						
GUMO				LR	LR	06 31 11.6	
	comp=Z,230nm,19.7s,baz=116,slow=36						
QZH	**Quanzhou**	**20.26**	**340**	P	**P**	**06 23 31.5**	**+0.6**
QZH				S	**S**	**06 27 19.8**	**+5.8**
QZH				AMB	AMB		
	comp=Z,270nm,1.1s						
QZH				LR	LR		
	comp=N,2µm,16.2s						
QZH				LR	LR		
	comp=E,990nm,13.4s						
QZH				LR	LR		
	comp=Z,2µm,24.4s						
QIZ	**Qiongzhong**	**20.56**	**311**	P	**P**	**06 23 36.0**	**+1.8**
QIZ				AP		06 23 52.4	
QIZ				PP		06 24 04.3	
QIZ				S	**S**	**06 27 26.4**	**+6.3**
QIZ				PCP	PcP	06 27 40.9	-1.6
QIZ				XS	sS	06 27 47.1	+2.1
QIZ				AMB	AMB		
	comp=Z,79nm,1.0s						
QIZ				LR	LR		
	comp=E,575nm,15.1s						
QIZ				LR	LR		
	comp=Z,866nm,23.5s						
JOW	**Kunigami**	**20.88**	**5**	P	**P**	**06 23 37.2**	**-0.4**
	comp=Z,45nm,0.8s,baz=177,slow=13,SNR=8.6						
JOW				LR	LR	06 31 20.3	
	comp=Z,408nm,21.1s,baz=162,slow=36						
GZH	**Guangzhou**	**21.07**	**325**	P	**P**	**06 23 43.1**	**+3.4**
GZH				S	**S**	**06 27 34.9**	**+4.8**
GZH				AMB	AMB		
	comp=Z,146nm,0.8s,mb5.4						
GZH				LR	LR		
	comp=N,609nm,19.3s						
GZH				LR	LR		
	comp=E,235nm,19.3s						
GZH				LR	LR		
	comp=Z,705nm,16.5s						
KGM	**Kluang**	**23.14**	**261**	P	**P**	**06 24 03.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.89**	**181**	*e*P	**P**	**06 24 07.6**	**-0.7**
	comp=Z,93nm,0.6s,mb5.3						
FITZ				*e*		06 24 20.9	
FITZ				*e*S	**S**	**06 28 21.9**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.89**	**181**	P	**P**	**06 24 08.1**	**-0.2**
	comp=Z,51nm,0.6s,mb5.0,baz=7.0,slow=9.7,SNR=83						

FITZ ScP ScP 06 31 24.4 +3.4
comp=Z,3.3nm,0.8s,baz=349,slow=5.2,SNR=4.3
IPM Ipoh 25.10 268 P **P** **06 24 20.8 +1.5**
KKTK Khon Kaen 25.11 296 P **P** **06 24 20.0 +0.6**
comp=Z,617nm,0.7s,mb6.2
KULM Kulim 25.42 270 *e*P **P** **06 24 23.5 +1.3**
KULM *e*PcP PcP 06 27 53.8 +1.3
SNG Songkhla 25.43 274 P **P** **06 24 24.0 +1.7**
comp=Z,160nm,0.9s,mb5.5
SSE Sheshan 25.47 350 P **P** **06 24 24.2 +1.6**
SSE S **S** **06 28 47.5 +3.1**
SSE AMB AMB
comp=Z,86nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,224nm,5.9s
SSE LR LR
comp=N,145nm,20.3s
SSE LR LR
comp=E,200nm,20.2s
SSE LR LR
comp=Z,287nm,17.0s
SSE Sheshan 25.47 350 P **P** **06 24 24.2 +1.6**
comp=Z,86nm,0.9s,mb5.2
SSE pP pP 06 24 40.3 +0.4
SSE S **S** **06 28 47.5 +3.1**
SSE sS sS 06 29 16.6 +2.4
SSE LR LR
comp=Z,290nm,17.0s
PMG Port Moresby 25.87 126 P **P** **06 24 26.1 -0.1**
comp=Z,10nm,0.5s,mb4.5,baz=284,slow=8.5,SNR=6.5
PMG LR LR 06 35 07.7
comp=Z,294nm,20.5s,baz=284,slow=37
PMG Port Moresby 25.87 126⇑ *e*P **P** **06 24 26.2 0.0**
PMG Port Moresby 25.87 126 *e*P **P** **06 24 26.0 -0.2**
comp=Z,12nm,0.6s,mb4.5
CBIJ Chichi jima 25.98 34 P **P** **06 24 24.4 -2.8**
comp=Z,236nm,0.9s,mb5.6,baz=233,slow=5.2,SNR=18
CBIJ LR LR 06 33 04.1
comp=Z,250nm,19.4s,baz=170,slow=32
NJ2 Nanjing 26.87 346 *e*P **P** **06 24 37.5 +2.2**
NJ2 PP 06 25 24.5
NJ2 S **S** **06 29 08.0 +1.4**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,520nm,4.8s
NJ2 LR LR
comp=N,500nm,24.0s
NJ2 LR LR
comp=E,760nm,22.9s
NJ2 LR LR
comp=Z,530nm,23.0s
WHN Wuhan 26.89 337 P **P** **06 24 36.7 +1.2**
WHN LR LR
comp=Z,2μm,24.7s
WRAB Tennant Creek 26.93 163 P **P** **06 24 35.9 +0.1**
comp=Z,241nm,1.0s,mb5.7,SNR=19
WRAB Tennant Creek 26.93 163*c i*P **P** **06 24 34.9 -0.9**
WRAB Tennant Creek 26.93 163 *e*P **P** **06 24 35.2 -0.7**
comp=Z,48nm,0.6s,mb5.2
WRA Warramunga Arr 26.93 163 P **P** **06 24 35.1 -0.8**
comp=Z,18nm,0.7s,mb4.7,baz=340,slow=9.8,SNR=56
WRA S **S** **06 29 06.5 -1.0**
comp=Z,6.4nm,1.1s,baz=337,slow=15,SNR=5.3
WRA ScP ScP 06 31 33.3 +3.6
comp=Z,2.1nm,0.7s,baz=341,slow=3.3,SNR=4.7
WRA Warramunga Arr 26.93 163 P **P** **06 24 35.1 -0.8**
WRA S **S** **06 29 06.5 -1.0**
WB2 Warramunga Arr 26.94 163⇑ *i*P **P** **06 24 35.1 -0.8**
WB2 *e* 06 24 46.0
WB2 *e*S **S** **06 29 05.8 -1.8**
WB2 *e*SCS ScS 06 35 23.4 +2.7
NST Nakhon Sawan 27.33 293 P **P** **06 24 40.0 +0.6**
comp=Z,90nm,0.8s,mb5.3
PSI Prapat 27.36 265 P **P** **06 24 39.7 0.0**
comp=Z,67nm,0.9s,mb5.2,baz=90,slow=3.6,SNR=59
PSI PcP PcP 06 27 56.7 -0.4
comp=Z,12nm,0.8s,baz=162,slow=1.3,SNR=5.6
PSI LR LR 06 36 48.6
comp=Z,407nm,18.3s,baz=248,slow=39
PSI Prapat 27.36 265 P **P** **06 24 39.7 0.0**
PSI 06 27 56.7
PSI Prapat 27.36 265 P **P** **06 24 39.7 0.0**
PSI PcP PcP 06 27 56.7 -0.4
PSI LR LR 06 36 48.6
JNU Nakatsue 27.40 9 P **P** **06 24 38.9 -1.2**
comp=Z,54nm,0.9s,mb5.1,baz=212,slow=19,SNR=10
GYA Guiyang 27.63 320⇓ *i*P **P** **06 24 43.2 +1.1**
GYA PP PP 06 25 34.0 -12
GYA PCP PcP 06 27 59.1 +1.3
GYA S **S** **06 29 18.8 +0.3**
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,160nm,5.4s
GYA LR LR
comp=N,870nm,16.8s
GYA LR LR
comp=E,940nm,16.4s
GYA LR LR
comp=Z,830nm,17.0s
MBWA Marble Bar 27.66 193 *e*P **P** **06 24 41.9 -0.5**
comp=Z,96nm,1.0s,mb5.3
MBWA *e*PcP PcP 06 27 58.0 +0.2
NANT Nan 27.93 300⇑ P **P** **06 24 43.0 -1.8**
comp=Z,262nm,0.9s,mb5.8
CHG Chiang Mai 29.47 298⇓ P **P** **06 24 59.1 +0.7**
comp=Z,21nm,0.8s,mb4.8
CHTO Chiang Mai 29.47 298 *e*P **P** **06 24 58.9 +0.5**
CHTO pmax pmax
comp=Z,17nm,0.8s,mb4.7
CHTO Chiang Mai 29.47 298 *e*P **P** **06 24 58.9 +0.5**
comp=Z,17nm,0.8s,mb4.7
KMI Kunming 29.47 313 P **P** **06 25 00.6 +2.2**
KMI PP PP 06 26 00.7 -5.4
KMI S **S** **06 29 49.1 +1.7**
KMI AMB AMB
comp=Z,25nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,83nm,3.3s
KMI LR LR
comp=N,274nm,23.4s
KMI LR LR
comp=E,326nm,19.9s
KMI LR LR
comp=Z,624nm,22.1s
KMI Kunming 29.47 313 P **P** **06 25 00.6 +2.2**
KMI *PP pP 06 25 17.6 +1.7
KMI *SP sP 06 25 24.1 -0.4
KMI 06 26 00.7
KMI PPP 06 26 11.6
KMI S **S** **06 29 49.1 +1.7**
KMI *SS sS 06 30 18.4 +1.0
KMI SS SS 06 31 25.9 -29
KMI SSS 06 31 48.8
KMI pmax pmax
comp=Z,25nm,1.1s,mb4.8
KMI MLR MLR
comp=Z,620nm,22.1s
KMI Kunming 29.47 313 P **P** **06 25 00.6 +2.2**
comp=Z,25nm,1.1s,mb4.8
KMI pP pP 06 25 17.6 +1.7
KMI sP sP 06 25 24.1 -0.4
KMI PP PP 06 26 00.7 -5.4
KMI PPP 06 26 11.6
KMI S **S** **06 29 49.1 +1.7**
KMI sS sS 06 30 18.4 +1.0
KMI SS SS 06 31 25.9 -29
KMI SSS 06 31 48.8
KMI LR LR
comp=Z,620nm,22.1s
AS31 Alice Springs 30.37 166 *e*P **P** **06 25 06.1 -0.3**
AS31 *e*S **S** **06 30 01.4 -0.1**
AS31 *e*ScS ScS 06 35 42.4 +5.9
ASAR Alice Springs 30.37 166 P **P** **06 25 06.2 -0.1**
comp=Z,26nm,0.6s,mb5.1,baz=345,slow=7.1,SNR=324
ASAR PcP PcP 06 28 05.3 +0.7
comp=Z,3.3nm,0.4s,baz=356,slow=2.6,SNR=4.6
ASAR S **S** **06 30 02.5 +1.0**
comp=Z,9.6nm,1.2s,baz=348,slow=20,SNR=6.7
ASAR ScP ScP 06 31 44.6 +4.1
comp=Z,5.6nm,0.8s,baz=354,slow=2.2,SNR=11
ASPA Alice Springs 30.37 166 *e*P **P** **06 25 06.1 -0.3**
ASPA *e*S **S** **06 30 01.4 -0.1**
ASPA *e*SCS ScS 06 35 42.4 +5.8

TIA Tai'an 31.26 346 *e*P **P** **06 25 14.2 0.0**
TIA AMB AMB
comp=Z,63nm,1.0s,mb5.3
KS15 Wonju Array Si 31.40 3 *e*P **P** **06 25 15.8 +0.4**
KSRS Korea Array 31.41 3 P **P** **06 25 14.7 -0.9**
comp=Z,9.2nm,0.5s,mb4.7,baz=184,slow=10,SNR=31
KSRS PcP PcP 06 28 08.4 +1.0
comp=Z,17nm,0.8s,baz=187,slow=2.5,SNR=29
KSRS ScP ScP 06 31 48.5 +4.5
comp=Z,6.0nm,1.1s,baz=197,slow=3.3,SNR=6.0
KSRS LR LR 06 37 20.0
comp=Z,189nm,20.3s,baz=193,slow=35
XAN Xi'an 32.22 332 P **P** **06 25 21.7 -1.0**
XAN AMB AMB
comp=Z,21nm,0.8s,mb4.9
XAN LR LR
comp=N,264nm,23.7s
XAN LR LR
comp=E,267nm,24.1s
XAN LR LR
comp=Z,554nm,26.8s
MJAR Matsushiro Arr 32.39 18 P **P** **06 25 21.2 -3.0**
comp=Z,3.5nm,0.7s,mb4.2,baz=193,slow=8.7,SNR=10
MJAR PcP PcP 06 28 11.6 +1.5
comp=Z,7.5nm,0.7s,baz=175,slow=2.7,SNR=13
MJAR ScP ScP 06 31 52.1 +4.8
comp=Z,8.8nm,1.0s,baz=207,slow=3.9,SNR=18
MJAR LR LR 06 36 34.4
comp=Z,222nm,22.0s,baz=190,slow=32
MJAR Matsushiro Arr 32.39 18 P **P** **06 25 21.2 -3.0**
MJAR 06 28 11.6
MJAR Matsushiro Arr 32.39 18 P **P** **06 25 21.2 -3.0**
MJAR PcP PcP 06 28 11.6 +1.5
MJAR ScP ScP 06 31 52.1 +4.8
MJAR LR LR 06 36 34.4
MAJO Matsushiro 32.40 18 *e*P **P** **06 25 21.3 -2.9**
MAJO pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
MAJO Matsushiro 32.40 18 *e*P **P** **06 25 21.3 -2.9**
comp=Z,4.0nm,0.5s,mb4.4
MAT Matsushiro 32.40 18 P **P** **06 25 20.7 -3.5**
MAT *e*S **S** **06 30 41.0 +7.9**
CTA Charters Tower 32.53 143⇑ *i*P **P** **06 25 26.3 +0.9**
comp=Z,12nm,0.8s,mb4.8
CTA Charters Tower 32.53 143⇑ *i*P **P** **06 25 26.3 +0.9**
CTA pmax pmax
comp=Z,12nm,0.8s
CTAO Charters Tower 32.53 143 *e*P **P** **06 25 26.3 +0.9**
CTAO *e* 06 28 12.8
CTAO pmax pmax
comp=Z,14nm,0.7s,mb4.9
CTAO Charters Tower 32.53 143 *e*P **P** **06 25 26.3 +0.9**
comp=Z,14nm,0.7s,mb4.9
CTAO *e*PcP PcP 06 28 12.8 +2.3
CD2 Chengdu 32.57 322⇓ *i*P **P** **06 25 25.6 -0.1**
CD2 PP PP 06 26 36.6 -3.9
CD2 PCP PcP 06 28 10.6 0.0
CD2 S **S** **06 30 35.1 -0.7**
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
CD2 AMB AMB
comp=Z,160nm,5.2s
CD2 LR LR
comp=N,550nm,24.0s
CD2 LR LR
comp=E,440nm,18.0s
CD2 LR LR
comp=Z,440nm,22.8s
DL2 Dalian 33.08 353 P **P** **06 25 31.8 +1.6**
DL2 AMB AMB
comp=Z,60nm,0.7s,mb5.5
SNY Shenyang 35.82 357⇓ P **P** **06 25 54.2 +0.4**
SNY S **S** **06 31 30.8 +4.9**
SNY AMB AMB
comp=Z,113nm,1.0s,mb5.8
SNY LR LR
comp=E,336nm,15.7s
SNY LR LR
comp=Z,286nm,19.1s
LZH Lanzhou 36.34 329 P **P** **06 25 59.2 +0.9**
LZH PP PP 06 27 28.0 +5.8
LZH *eS **S** **06 31 40.0 +6.0**
LZH *eSS SS 06 34 12.0 -3.3
LZH AMB AMB
comp=Z,140nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,350nm,4.0s
LZH LR LR
comp=N,2μm,15.3s
LZH LR LR
comp=Z,2μm,16.3s
LZH Lanzhou 36.34 329 P **P** **06 25 59.2 +0.9**
LZH *PP pP 06 26 17.7 +1.6
LZH *SP sP 06 26 25.2 +0.6
LZH 06 27 28.0
LZH *eS **S** **06 31 40.0 +6.0**
LZH *SS sS 06 32 11.0 +6.6
LZH pmax pmax
comp=Z,140nm,1.5s,mb5.7
LZH MLR MLR
comp=Z,2μm,16.3s
LZH Lanzhou 36.34 329 P **P** **06 25 59.2 +0.9**
comp=Z,140nm,1.5s,mb5.7
LZH pP pP 06 26 17.7 +1.6
LZH sP sP 06 26 25.2 +0.6
LZH PP PP 06 27 28.0 +5.8
LZH *eS **S** **06 31 40.0 +6.0**
LZH sS sS 06 32 11.0 +6.6
LZH *eSS SS 06 34 12.0 -3.3
LZH LR LR
comp=Z,2μm,16.3s
FORT Forrest 36.55 177 *e*P **P** **06 26 00.0 0.0**
comp=Z,52nm,0.5s,mb5.7
HHC Hu-ho-hao-te 37.15 342⇑ *i*P **P** **06 26 07.6 +2.4**
HHC PP PP 06 27 36.9 +5.8
HHC PCP PcP 06 28 25.7 +1.8
HHC S **S** **06 31 51.4 +5.2**
HHC PCS PcS 06 32 13.2 +0.9
HHC SS SS 06 34 26.0 -3.9
HHC AMB AMB
comp=Z,149nm,1.1s,mb5.8
HHC AMB AMB
comp=Z,272nm,4.2s
HHC LR LR
comp=N,252nm,12.7s
HHC LR LR
comp=E,356nm,11.8s
HHC LR LR
comp=Z,289nm,11.8s
VLA Vladivostok 37.38 7 *e*P **P** **06 26 09.3 +2.2**
CN2 Changchun 37.72 359 *e*P **P** **06 26 10.0 0.0**
CN2 PCP PcP 06 28 25.1 -0.6
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
KLBR Kellerberrin 38.17 192 *e*P **P** **06 26 13.3 -0.5**
comp=Z,20nm,0.5s,mb5.2
MUN Mundaring 38.88 194 *e*P **P** **06 26 19.6 -0.1**
NWAO Narrogin (SRO) 39.57 192 *e*P **P** **06 26 25.6 +0.1**
NWAO pmax pmax
comp=Z,78nm,1.1s
NWAO Narrogin (SRO) 39.57 192 *e*P **P** **06 26 25.6 +0.1**
comp=Z,78nm,1.1s,mb5.5
STKA Stephens Creek 40.37 160⇑ *i*P **P** **06 26 32.5 +0.4**
comp=Z,63nm,0.9s,mb5.5
STKA *eS **S** **06 32 35.7 +1.0**
STKA Stephens Creek 40.37 160 P **P** **06 26 32.4 +0.3**
comp=Z,101nm,1.0s,mb5.6,baz=336,slow=7.8,SNR=102
STKA PcP PcP 06 28 34.8 +0.8
comp=Z,22nm,0.8s,baz=340,slow=7.2,SNR=3.3
STKA LR LR 06 46 20.8
comp=Z,128nm,18.5s,baz=241,slow=41
LSA Lhasa 40.60 310 P **P** **06 26 33.0 -1.0**
LSA Lhasa 40.60 310 *e*P **P** **06 26 38.8 +4.8**
LSA pmax pmax
comp=Z,14nm,0.7s,mb4.9
LSA Lhasa 40.60 310 *e*P **P** **06 26 38.8 +4.8**
comp=Z,14nm,0.7s,mb4.9
GTA Gaotai 40.94 328 *e*P **P** **06 26 36.8 0.0**
GTA PP PP 06 28 15.7 +3.2
GTA PCP PcP 06 28 37.3 +1.4
GTA S **S** **06 32 42.7 -0.5**
GTA SCS ScS 06 36 32.4 -1.9
GTA AMB AMB
comp=Z,14nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,138nm,4.6s
GTA LR LR
comp=N,185nm,18.6s
GTA LR LR
comp=E,227nm,17.1s
GTA LR LR
comp=Z,352nm,18.6s
YSS Yuzh-Sakhalins 43.29 17 *e*P **P** **06 26 56.3 +0.4**
YSS *e* 06 28 44.0
KLR Kul'dur 43.40 5 *e*P **P** **06 26 53.2 -3.6**
KLR *e* 06 28 43.0
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.1
HIA Hailar 43.53 354*c i*P **P** **06 26 58.4 +0.6**
ARMA Armidale 43.60 147 *e*P **P** **06 26 59.5 +1.1**
JIRN Jiri 43.67 304 *e*P **P** **06 27 00.0 +1.1**
GUN Gumba 44.02 305 *e*P **P** **06 27 02.7 +1.0**
comp=Z,92nm,0.7s,mb5.7
PKI Pulchoki 44.28 304 *e*P **P** **06 27 04.4 +0.6**
KKN Kakani 44.47 304 *e*P **P** **06 27 05.6 +0.3**
comp=Z,43nm,0.8s,mb5.2
DMN Daman 44.54 304 *e*P **P** **06 27 06.4 +0.5**
comp=Z,41nm,0.8s,mb5.2
ULN Ulaanbaatar 44.87 342 *e*P **P** **06 27 08.6 +0.1**
ULN *e* 06 28 50.1
ULN pmax pmax
comp=Z,71nm,0.9s,mb5.4
ULN Ulaanbaatar 44.87 342 *e*P **P** **06 27 08.6 0.0**
comp=Z,71nm,0.9s,mb5.4
ULN *e*PcP PcP 06 28 50.0 +1.0
SONM Songino Array 45.05 341 P **P** **06 27 09.6 -0.3**
comp=Z,18nm,0.8s,mb4.8,baz=162,slow=7.9,SNR=33
SONM PcP PcP 06 28 50.2 +0.6
comp=Z,8.8nm,0.7s,baz=166,slow=3.3,SNR=7.5
SONM ScP ScP 06 32 40.5 +5.0
comp=Z,3.0nm,0.9s,baz=150,slow=6.0,SNR=4.8
SONM LR LR 06 48 04.4
comp=Z,253nm,20.4s,baz=23,slow=39
SONM Songino Array 45.05 341 P **P** **06 27 09.6 -0.4**
SONM 06 28 50.2
GKN Gorkha 45.07 304 *e*P **P** **06 27 10.2 +0.1**
CNB Canberra Magne 46.47 154 *e*P **P** **06 27 22.3 +1.2**
comp=Z,45nm,0.9s,mb5.2
TOO Toolangi 46.88 159 *e*P **P** **06 27 26.1 +1.8**
comp=Z,20nm,0.8s,mb4.9
TOO Toolangi 46.88 159 *e*P **P** **06 27 26.1 +1.8**
TOO pmax pmax
comp=Z,20nm,0.8s,mb4.9
CIT Chita 47.12 349 *e*P **P** **06 27 27.4 +1.2**
CIT pmax pmax
comp=Z,183nm,1.1s,mb5.7
DZM Mont Dzumac 48.26 127 *e*P **P** **06 27 35.7 +0.7**
ZAK Zakamensk 48.28 340 *e*P **P** **06 27 34.5 -0.7**
ZAK *e* 06 29 01.7
ZAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
TLY Talaya 49.28 342 *e*P **P** **06 27 44.8 +1.9**
TLY *e* 06 38 12.3
TLY pmax pmax
comp=Z,56nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,141nm,18.0s
TLY Talaya 49.28 342 *e*P **P** **06 27 42.8 -0.1**
comp=Z,48nm,0.8s,mb5.5
IRK Irkutsk 49.58 342 *e*P **P** **06 27 45.7 +0.6**
IRK pmax pmax
comp=Z,79nm,1.8s,mb5.3
WMQ Urumqi 50.62 324⇑ *i*P **P** **06 27 53.9 +0.9**
WMQ PCP PcP 06 29 10.1 +0.5
WMQ PP PP 06 29 52.1 +2.6
WMQ PPP 06 30 51.9
WMQ SCP ScP 06 32 57.9 -1.2
WMQ S **S** **06 35 02.4 +0.2**
WMQ AMB AMB
comp=Z,17nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,157nm,4.2s
WMQ LR LR
comp=N,248nm,26.0s
WMQ LR LR
comp=E,286nm,26.3s
WMQ LR LR
comp=Z,184nm,19.0s
CLNS Chul'man 50.78 359 *e*P **P** **06 27 53.5 -0.7**
CLNS *e* 06 29 08.1
CLNS *eS **S** **06 34 56.3 -8.0**
CLNS pmax pmax
comp=E,30nm,0.8s
CLNS pmax pmax
comp=Z,101nm,0.8s,mb5.9
CLNS pmax pmax
comp=N,58nm,0.7s
CLNS smax
comp=E,33nm,12.4s
CLNS smax
comp=N,75nm,14.4s
BOD Bodaibo 52.62 352 *e*P **P** **06 28 07.0 -0.9**
BOD pmax pmax
comp=Z,19nm,1.3s,mb5.0
PET Petropavlovsk 53.93 24 *e*P **P** **06 28 18.3 +0.8**
PET *eS **S** **06 36 00.2 +13**
PET pmax pmax
comp=Z,73nm,1.2s,mb5.6
PET Petropavlovsk 53.93 24 *e*P **P** **06 28 18.2 +0.7**
comp=Z,72nm,1.1s,mb5.6
MK31 Makanchi Array 55.45 325 *e*P **P** **06 28 27.8 -0.7**
MK31 *e* 06 29 26.2
MKAR Makanchi Array 55.45 325 P **P** **06 28 27.9 -0.7**
comp=Z,36nm,0.7s,mb5.5,baz=119,slow=7.0,SNR=28
MKAR PcP PcP 06 29 27.6 -0.3
comp=Z,8.6nm,0.5s,baz=134,slow=3.4,SNR=4.9
MKAR LR LR 06 54 58.6
comp=Z,192nm,18.4s,baz=276,slow=39
MKAR Makanchi Array 55.45 325 P **P** **06 28 27.9 -0.6**
MKAR 06 29 27.6
YAK Yakutsk 56.04 2 *e*P **P** **06 28 32.8 +0.1**
YAK *e* 06 29 30.6
YAK pmax pmax
comp=Z,116nm,0.8s,mb6.0
YAK Yakutsk 56.04 2 *e*P **P** **06 28 32.8 +0.1**
comp=Z,116nm,0.8s,mb6.0
YAK *e*PcP PcP 06 29 30.6 +0.4
MA2 Magadan 56.72 15 *e*P **P** **06 28 37.7 +0.2**
MA2 pmax pmax
comp=Z,27nm,1.3s,mb5.1
AAK Ala-Archa 58.38 317 *e*P **P** **06 28 49.0 -0.2**
AAK pmax pmax
comp=Z,34nm,1.7s,mb5.1
ZAL Zalesovo 58.39 333 P **P** **06 28 49.9 +0.6**
comp=Z,20nm,0.9s,mb5.2,baz=0.1,slow=8.4,SNR=13
ZAL LR LR 06 56 07.6
comp=Z,212nm,20.5s,baz=336,slow=38
NVS Novosibirsk 59.67 333 *e*P **P** **06 28 59.6 +1.4**
SEY Seymchan 60.02 13⇑ *e*P **P** **06 29 01.5 +0.9**
SMY Shemya 60.86 31 *e*P **P** **06 29 07.2 +1.0**
SMY pmax pmax
comp=Z,195nm,0.9s,mb6.1
SMY Shemya 60.86 31 *e*P **P** **06 29 07.2 +1.0**
comp=Z,195nm,0.9s,mb6.1
BVAR Borovoye Array 65.19 327 P **P** **06 29 34.0 -0.9**
comp=Z,21nm,0.7s,mb5.1,baz=131,slow=8.1,SNR=23
BVAR PKPPKP 06 58 17.7
comp=Z,0.9nm,0.8s,baz=278,slow=5.5,SNR=4.6
BVAR LR LR 07 00 34.1
comp=Z,157nm,21.5s,baz=139,slow=38
BRVK Borovoye 65.26 327 P **P** **06 29 35.8 +0.4**
comp=Z,291nm,1.0s,mb6.1,SNR=6.0
BRVK Borovoye 65.26 327 *e*P **P** **06 29 34.9 -0.5**
BRVK pmax pmax
comp=Z,48nm,0.8s,mb5.4
BRVK Borovoye 65.26 327 *e*P **P** **06 29 34.9 -0.6**
comp=Z,48nm,0.8s,mb5.4
CHKZ Chkalovo 65.35 327 *e*P **P** **06 29 35.5 -0.5**
CHKZ pmax pmax
comp=Z,24nm,1.0s,mb5.0
CHKZ Chkalovo 65.35 327 *e*P **P** **06 29 35.5 -0.5**
comp=Z,24nm,1.0s,mb5.0
TIXI Tiksi 65.66 1 *e*P **P** **06 29 37.9 -0.1**
ZRNK Zerenda 65.92 326 *e*P **P** **06 29 38.1 -1.6**
ZRNK pmax pmax
comp=Z,34nm,0.6s,mb5.3
ZRNK Zerenda 65.92 326 *e*P **P** **06 29 38.1 -1.6**
comp=Z,34nm,0.6s,mb5.3
WSAR Wadi Sarin 67.07 293 P **P** **06 29 45.5 -1.5**

comp=Z,4.8nm,0.5s,mb4.6,baz=125,slow=7.0,SNR=8.0
WSAR Wadi Sarin 67.07 293 P **P** **06 29 45.5 -1.5**
BILL Bilibino 67.58 15 *e*P **P** **06 29 50.0 -0.2**
BILL pmax pmax
comp=Z,28nm,0.9s,mb5.1
BILL Bilibino 67.58 15 *e*P **P** **06 29 50.0 -0.2**
comp=Z,28nm,0.9s,mb5.1
AKTK Aktyubinsk 71.61 321 P **P** **06 30 13.4 -1.6**
AKTO Aktyubinsk 71.61 321 P **P** **06 30 13.4 -1.6**
comp=Z,5.7nm,0.5s,mb4.7,baz=93,slow=7.8,SNR=8.2
UNV Unalaska Valle 71.94 35 *e*P **P** **06 30 16.8 -0.2**
comp=Z,162nm,0.8s,mb5.9
ARU Arti 72.80 327 P **P** **06 30 20.5 -1.6**
comp=Z,218nm,0.5s,mb6.2,SNR=5.9
ARU Arti 72.80 327⇑ *i*P **P** **06 30 20.9 -1.2**
ARU *e* pP 06 30 36.5 -5.2
ARU *e* 06 33 02.1
ARU *e*PPP 06 34 46.9
ARU *e*S S 06 39 42.1 0.0
ARU *e*SS SS 06 44 15.9 -7.3
ARU pmax pmax
comp=Z,19nm,0.8s,mb5.0
ARU Arti 72.80 327 *e*P **P** **06 30 20.9 -1.1**
comp=Z,28nm,0.6s,mb5.3
CASY Casey 72.93 187 *e*P **P** **06 30 22.9 0.0**
DRV Dumont d'Urvil 73.11 174 S S 06 39 49.0 +3.4
KIP Kipapa 74.66 69 *e*P **P** **06 30 35.2 +2.2**
KIP pmax pmax
comp=Z,65nm,1.1s,mb5.3
KIP Kipapa 74.66 69 *e*P **P** **06 30 35.2 +2.2**
comp=Z,65nm,1.1s,mb5.3
SDPT Sand Point 75.69 34 *e*P **P** **06 30 38.8 -0.1**
comp=Z,97nm,0.7s,mb5.6
MIR Mirnyy 76.17 193 *d i*P **P** **06 30 43.5 +1.9**
MIR *i* pP 06 31 08.0 +6.6
MIR *i* 06 31 17.5
MIR pmax pmax
comp=Z,260nm,1.3s,mb5.8
CHGN Chignik 77.00 34 *e*P **P** **06 30 46.1 -0.2**
SVW2 Sparrevohn 79.15 29 *e*P **P** **06 30 59.0 +0.8**
GNI Garni 79.67 310 *e*P **P** **06 31 01.3 +0.3**
GNI pmax pmax
comp=Z,15nm,1.3s
KDAK Kodiak Island 80.33 32 LR LR 07 00 54.9
comp=Z,206nm,21.5s,baz=259,slow=31
KDAK Kodiak Island 80.33 32 *e*P **P** **06 31 05.1 +0.5**
comp=Z,72nm,0.7s,mb5.6
ZEI Tsey 80.34 312 *e*P **P** **06 31 03.5 -1.2**
ZEI *e* 06 34 09.6
ZEI pmax pmax
comp=Z,15nm,0.8s,mb4.9
KIV Kislovodsk 81.24 313⇑ *e*P **P** **06 31 09.9 +0.5**
KIV pmax pmax
comp=Z,23nm,1.4s,mb4.8
SLKM Skilak Lake 81.71 30 *e*P **P** **06 31 11.5 -0.4**
PMR Palmer 82.28 29 *e*P **P** **06 31 14.8 -0.1**
PMR pmax pmax
comp=Z,83nm,0.9s,mb5.6
PMR Palmer 82.28 29 *e*P **P** **06 31 14.8 -0.1**
comp=Z,83nm,0.9s,mb5.6
MCK McKinley 82.45 27 *e*P **P** **06 31 15.9 +0.1**
MCK pmax pmax
comp=Z,92nm,1.0s,mb5.6
MCK McKinley 82.45 27 *e*P **P** **06 31 15.9 +0.1**
comp=Z,92nm,1.0s,mb5.6
SML Sawmill 82.67 29 *e*P **P** **06 31 17.3 +0.4**
COLA College 82.95 25 *e*P **P** **06 31 18.0 -0.4**
COLA pmax pmax
comp=Z,50nm,0.9s,mb5.3
COLA College 82.95 25 *e*P **P** **06 31 18.0 -0.4**
comp=Z,50nm,0.9s,mb5.3
VORD Divnogorie 83.47 321 *e*P **P** **06 31 19.1 -2.0**
VORD pmax pmax
comp=E,5.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
VORD pmax pmax
comp=N,10.0nm,0.9s
VRSR Storozhevoye 83.53 321 *e*P **P** **06 31 20.0 -1.4**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.8s
EYAK Cordova Ski Ar 83.92 30 *e*P **P** **06 31 23.4 0.0**
MOS Moscow 84.33 325 *e*P **P** **06 31 22.5 -3.0**
MOS pmax pmax
comp=Z,67nm,1.3s,mb5.3
MENT Mentasta 84.80 27 *e*P **P** **06 31 29.0 +1.2**
OBN Obninsk 84.96 325 *e*P **P** **06 31 27.7 -0.9**
OBN *i* S S 06 41 44.8 -6.7
OBN pmax pmax
comp=Z,77nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 84.96 325 *e*P **P** **06 31 27.8 -0.9**
comp=Z,120nm,1.5s,mb5.6
ANN Anapa 84.98 314 *e*P **P** **06 31 21.3 -7.4**
ANN *e* pP 06 31 39.5 -9.3
ANN pmax pmax
comp=Z,69nm,0.8s,mb5.6
MAW Mawson 85.62 200 *e*P **P** **06 31 31.6 -0.3**
comp=Z,3.8nm,0.7s,mb4.4
MAW Mawson 85.62 200 P **P** **06 31 31.1 -0.8**
comp=Z,7.0nm,1.0s,mb4.6,baz=40,slow=6.5,SNR=15
MAW PKKPbc PKKPbc 06 49 34.1 +0.1
comp=Z,3.1nm,0.9s,baz=253,slow=4.5,SNR=7.4
MAW Mawson 85.62 200 *e*P **P** **06 31 31.6 -0.3**
MAW pmax pmax
comp=Z,4.0nm,0.7s
VNDA Vanda 85.67 173 P **P** **06 31 31.9 -0.3**
comp=Z,9.1nm,0.7s,mb4.8,baz=317,slow=5.8,SNR=42
VNDA PKKPbc PKKPbc 06 49 34.7 +0.7
comp=Z,1.1nm,0.9s,baz=222,slow=4.4,SNR=6.7
VNDA LR LR 07 09 16.3
comp=Z,106nm,21.2s,baz=28,slow=35
VNDA Vanda 85.67 173 *e*P **P** **06 31 31.7 -0.4**
VNDA pmax pmax
comp=Z,8.0nm,0.7s
VNDA Vanda 85.67 173 *e*P **P** **06 31 31.7 -0.4**
comp=Z,7.8nm,0.7s,mb4.8
EGAK Eagle 85.81 25 *e*P **P** **06 31 33.3 +0.5**
comp=Z,21nm,0.6s,mb5.2
PPT Papeete 86.30 108 *e*S S 06 42 06.4 +1.7
comp=Z,222nm,23.8s
PPT *e*SS SS 06 47 51.0 +5.6
comp=Z,85nm,29.5s
PPT *e*LR LR 06 59 05.3
comp=Z,255nm,26.8s
PPT Papeete 86.30 108 LR LR 07 04 48.7
comp=Z,81nm,21.1s,baz=278,slow=32
SBA Scott Base 86.58 172 *e*P **P** **06 31 37.4 +0.8**
SBA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SBA Scott Base 86.58 172 *e*P **P** **06 31 37.4 +0.8**
comp=Z,4.0nm,0.7s,mb4.5
DAWY Dawson 86.65 26 *e*P **P** **06 31 37.5 +0.5**
JOF Joensuu 86.98 333 *e*p **P** **06 31 37.1 -1.5**
comp=Z,26nm,0.6s,mb5.3
TBI Tubuai 87.16 114 *e*SS SS 06 47 56.5 -1.5
comp=Z,176nm,37.5s
TBI *e*LR LR 06 59 27.2
comp=Z,263nm,26.5s
PMOR Pomariorio Ree 87.59 105 *e*P **P** **06 31 44.9 +3.4**
comp=Z,42nm,1.0s,mb5.4
VAH Vaihoa 87.88 105 *e*P **P** **06 31 46.1 +3.2**
comp=Z,36nm,1.0s,mb5.4
ARCES ARCESS Array B 88.21 340 P **P** **06 31 43.5 -0.9**
comp=Z,13nm,0.5s,mb5.3,baz=88,slow=6.3,SNR=103
ARCES LR LR 07 15 01.8
comp=Z,114nm,20.3s,baz=184,slow=38
BR131 Keskin Array S 88.21 310 *e*P **P** **06 31 43.2 -1.3**
comp=Z,6.1nm,0.8s,mb4.7
BRTR Keskin Array B 88.21 310 P **P** **06 31 43.0 -1.4**
comp=Z,9.8nm,1.0s,mb4.8,baz=114,slow=4.9,SNR=16
SPB4 Spitsbergen Ar 88.23 349 *e*P **P** **06 31 44.3 -0.3**
KMBO Kilima Mbogo 89.05 269 P **P** **06 31 48.0 -0.4**
comp=Z,7.0nm,1.1s,mb4.6,baz=40,slow=7.3,SNR=10
KMBO LR LR 07 10 54.7
comp=Z,56nm,19.6s,baz=87,slow=35
KMBO Kilima Mbogo 89.05 269 *i* P **P** **06 31 49.0 +0.6**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 89.05 269 *e*P **P** **06 31 48.7 +0.2**
comp=Z,7.8nm,1.1s,mb4.7
KTK1 Kautokeino 89.11 339 *e*P **P** **06 31 49.1 +0.4**
KTK1 AMb AMB 06 31 52.0
comp=Z,58nm,1.3s,mb5.5
KTK1 Kautokeino 89.11 339 *e*P **P** **06 31 49.1 +0.4**
comp=Z,58nm,1.3s,mb5.5
KAF Kangasniemi 89.41 332 *e*p **P** **06 31 48.1 -2.0**
baz=73,slow=4.2
FIA1 FINESS Array S 89.65 332 *e*P **P** **06 31 49.8 -1.5**
FIA1 *e*pP pP 06 32 04.5 -6.9
FINES FINESS Array B 89.65 332 P **P** **06 31 49.8 -1.4**
comp=Z,7.5nm,0.5s,mb5.1,baz=78,slow=4.1,SNR=35
FINES LR LR 07 14 08.7
comp=Z,124nm,20.3s,baz=334,slow=37
FINES FINESS Array B 89.65 332 P **P** **06 31 49.8 -1.4**
FINES LR LR 07 14 08.7
AKASG Malin Array Be 89.85 321 P **P** **06 31 50.2 -1.9**
comp=Z,2.6nm,0.6s,mb4.6,baz=72,slow=3.9,SNR=15
AKASG LR LR 07 15 58.2
comp=Z,51nm,20.9s,baz=40,slow=38
AKBB Malin Array Si 89.85 321 *e*P **P** **06 31 49.9 -2.3**
TRO Tromso 90.41 340 *e*P **P** **06 31 52.5 -2.3**
TRO AMb AMB 06 31 57.6
comp=Z,66nm,2.0s,mb5.4
TRO Tromso 90.41 340 *e*P **P** **06 31 52.5 -2.3**
comp=Z,66nm,2.0s,mb5.4
DLBC Dease Lake 92.14 31 *e*P **P** **06 32 03.6 +0.8**
SUW Suwalki 92.82 325 *e*P **P** **06 32 04.7 -1.2**
SUW pmax pmax
comp=Z,37nm,0.4s,mb6.1
SUW Suwalki 92.82 325 *e*P **P** **06 32 04.7 -1.3**
comp=Z,37nm,0.4s,mb6.1
MOR8 Moi Rana 93.20 338 *e*P **P** **06 32 05.2 -2.5**
MOR8 AMb AMB 06 32 08.0
comp=Z,49nm,1.5s,mb5.6
MOR8 Moi Rana 93.20 338 *e*P **P** **06 32 05.2 -2.5**
comp=Z,49nm,1.5s,mb5.6
SYO Syowa Base 94.27 201⇑ *e*P **P** **06 32 12.0 -0.6**
TAOE Nuku Hiva Isla 94.51 98 *e*P **P** **06 32 16.6 +2.9**
comp=Z,498nm,1.4s
TAOE Nuku Hiva Isla 94.51 98 *e*LR LR 07 02 40.3
comp=Z,1µm,33.8s
UZH Uzhgorod 94.68 320 *e*P **P** **06 32 12.4 -2.1**
NSS Namsos 94.81 337 *e*P **P** **06 32 11.4 -3.7**
BBB Bella Bella 94.87 37 LR LR 07 12 17.2
comp=Z,52nm,19.5s,baz=289,slow=34
DAG Danmarks Havn 95.01 352⇓ *i*P **P** **06 32 15.2 -0.8**
comp=Z,33nm,0.7s,mb5.9
DAG Danmarks Havn 95.01 352⇓ *i*P **P** **06 32 15.2 -0.8**
DAG pmax pmax
comp=Z,33nm,0.7s,mb5.9
QSPA South Pole Qui 95.83 180 *e*P **P** **06 32 20.1 +0.4**
comp=Z,8.1nm,0.9s,mb5.2
NB2 NORSAR Subarra 96.58 334 P **P** **06 32 21.2 -2.0**
comp=Z,11nm,0.9s,mb5.3,baz=66,slow=4.6
NOA NORSAR Array B 96.58 334 P **P** **06 32 21.4 -1.7**
comp=Z,5.4nm,0.7s,mb5.1,baz=66,slow=4.6,SNR=12
NOA PKKP PKKPbc 06 49 07.4 +1.0
comp=Z,1.2nm,0.8s,baz=311,slow=3.0,SNR=3.4
NOA LR LR 07 20 22.7
comp=Z,118nm,21.3s,baz=50,slow=38
NOA NORSAR Array B 96.58 334 P **P** **06 32 21.4 -1.7**
NOA PKKP PKKPbc 06 49 07.4 +1.0
NOA LR LR 07 20 22.7
YKA Yellowknife Ar 97.73 24 P **P** **06 32 27.3 -1.0**
comp=Z,4.2nm,0.7s,mb5.0,baz=308,slow=4.6,SNR=11
YKA PKiKP PKiKP 06 37 02.4 +0.4
comp=Z,1.1nm,0.5s,baz=304,slow=1.8,SNR=4.8
YKA PKKPbc PKKPbc 06 49 01.8 -1.4
comp=Z,0.9nm,0.5s,baz=121,slow=3.1,SNR=6.6
YKA Yellowknife Ar 97.73 24 *i* P **P** **06 32 28.1 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 99.55 324 *e*P Pdif 06 32 36.0 -0.5
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb5.3
CLL Collm 99.55 324 *e*Pdif Pdif 06 32 36.0 -0.5
comp=Z,8.0nm,0.9s
CLL Collm 99.55 324 *e*Pdif Pdif 06 32 36.0 -0.5
comp=Z,8.0nm,0.9s
CLL LmV 07 25 00.0
comp=Z,100nm,21.5s
KHC Kasperske Hory 100.01 322⇑ *e*P Pdif 06 32 39.2 +0.7
GEC2 GERESS Array S 100.03 322 *e*P Pdif 06 32 36.0 -2.6
GERES GERESS Array B 100.03 322 P Pdif 06 32 38.1 -0.5
comp=Z,1.9nm,0.8s,baz=84,slow=4.2,SNR=8.9
GERES PKiKP PKiKP 06 37 07.1 +1.0
comp=Z,0.4nm,0.4s,baz=111,slow=3.0,SNR=3.9
GERES LR LR 07 24 09.1
comp=Z,67nm,20.8s,baz=299,slow=39
BOJS Bojanci 100.19 318 *i* P Pdif 06 32 41.7 +2.4
RKT Rikitea 100.42 112 *e*LR LR 07 05 36.2
comp=Z,153nm,24.8s
MOX Moxa 100.61 324 *e*(P) Pdif 06 32 40.7 -0.5
comp=Z,15nm,1.5s
MOX Moxa 100.61 324 *e*P Pdif 06 32 40.7 -0.5
MOX pmax pmax
comp=Z,15nm,1.5s
ROBS Robic 101.08 319 *i* P Pdif 06 32 40.8 -2.5
GRA1 Grafenberg Arr 101.22 323 *e*Pdif Pdif 06 32 43.4 -0.5
GRF Grafenberg Arr 101.22 323 *e*Pdiff Pdif 06 32 43.4 -0.5
SNAA Sanae 107.19 195 PKKPbc PKKPbc 06 48 34.7 -0.8
comp=Z,1.2nm,0.9s,baz=262,slow=1.9,SNR=16
REDW Red Top Meadow 108.93 40 *e*PKPdf PKiKP 06 37 23.9 +1.4
SNOW Snow King Moun 108.95 40 *e*PKPdf PKiKP 06 37 24.6 +2.2
PDAR Pinedale Array 110.05 40 PKiKP PKiKP 06 37 25.6 +1.1
comp=Z,0.7nm,0.8s,baz=0.0,slow=1.8,SNR=5.1
PDAR PKKPbc PKKPbc 06 48 25.6 -0.8
comp=Z,1.0nm,0.9s,baz=102,slow=3.6,SNR=7.3
MSU Marysvale 110.22 45 *e*PKIKP PKiKP 06 37 27.6 +2.7
RSSD Black Hills 112.78 37 *e*PKIKP PKiKP 06 37 30.3 +0.6
ANMO Albuquerque 115.93 47 *e*PKIKP PKPdf 06 37 38.1 +2.3
MNTX Cornudas Mount 118.25 49 *e*PKPdf PKPdf 06 37 41.5 +1.2
MNTX *e*PP PP 06 38 56.1 -0.6
SCHQ Schefferville 118.49 9 PKP PKPdf 06 37 41.1 +0.4
comp=Z,18nm,0.8s,baz=9.8,slow=2.6,SNR=22
SCHQ Schefferville 118.49 9 *e*PKPdf PKPdf 06 37 41.2 +0.5
KSU1 Kansas State U 120.23 38 *e*PKPdf PKPdf 06 37 44.9 +0.8
SCIA State Center 120.36 33 *e*PKPdf PKPdf 06 37 45.0 +0.7
TXAR Lajitas Array 120.66 51 PKP PKPdf 06 37 46.8 +1.9
comp=Z,3.2nm,0.7s,baz=213,slow=1.0,SNR=48
TXAR PKKPbc PKKPbc 06 47 50.8 +1.1
comp=Z,0.5nm,0.6s,baz=124,slow=6.1,SNR=5.9
JFWS Jewell Farm 121.22 31 *e*PKIKP PKPdf 06 37 46.0 +0.1
WMOK Wichita Mounta 121.42 43 *e*PKIKP PKPdf 06 37 47.6 +1.3
TOA0 Torodi Ar. Sit 121.70 289 *e*PKPdf PKPdf 06 37 47.4 +0.5
TOA0 *e*SKPdf SKPdf 06 41 20.4 +4.6
TORD Torodi Ar. Bea 121.70 289 PKP PKPdf 06 37 47.5 +0.6
comp=Z,24nm,0.7s,baz=51,slow=1.9,SNR=126
TORD SKP 06 41 22.0
comp=Z,3.2nm,1.0s,baz=45,slow=1.1,SNR=6.7
TORD PKKPbc PKKPbc 06 47 47.4 +1.6
comp=Z,2.8nm,0.8s,baz=264,slow=3.8,SNR=15
TORD Torodi Ar. Bea 121.70 289 PKP PKPdf 06 37 47.5 +0.6
TORD SKP 06 41 22.0
TORD PKKPbc PKKPbc 06 47 47.4 +1.6
JCT Junction City 123.01 48 *e*PKIKP PKPdf 06 37 50.8 +1.4
FVM French Village 124.61 35 *e*PKIKP PKPdf 06 37 53.1 +0.7
BLO Bloomington 125.88 31 *e*PKIKP PKPdf 06 37 56.0 +1.1
LONY Lake Ozonia 126.32 18 *e*PKPdf PKPdf 06 37 56.2 +0.5
WCI Wyandotte Cave 126.70 32 *e*PKIKP PKPdf 06 37 57.5 +1.1
LBNH Lisbon 127.46 16 *e*PKIKP PKPdf 06 37 58.7 +0.8
BINY Binghamton 128.01 21 *e*PKPdf PKPdf 06 37 59.9 +1.0
PLAL Pickwick Lake 128.06 36 *e*PKPdf PKPdf 06 37 59.5 +0.4
SSPA Standing Stone 128.65 23 *e*PKPdf PKPdf 06 38 00.8 +0.7
MVL Millersville 129.79 23 *e*PKPdf PKPdf 06 38 03.4 +1.0
MVL *ep*PKPdf pPKPdf 06 38 22.7 -0.7
ELN Prospectdale 130.24 28 *e*PKPdf PKPdf 06 38 04.2 +1.0
CBN Corbin 130.93 25 *e*PKPdf PKPdf 06 38 06.0 +1.5
HLGC Holguin 145.54 39 *e*P PKPdf 06 38 33.1 +1.9
TRQA Tornquist 147.17 168 *e*PKPdf PKPdf 06 38 35.0 +1.1
TRQA *e*PKPbc PKPbc 06 38 37.4 +1.2
CPD Cerro la Pandu 153.36 26 *e*PKPdf PKPdf 06 38 44.9 +1.4
CPD *e*PKPbc PKPbc 06 38 52.4 +1.2
CPD *e*PKPab PKPab 06 39 04.8 +1.3
MTP Monte Pirata 153.46 26 *e*PKPdf PKPdf 06 38 44.6 +0.8
MTP *e*PKPbc PKPbc 06 38 53.0 +1.5
MTP *e*PKPab PKPab 06 39 05.0 +1.1
OTAV Otavalo 154.65 77 *e*PKPdf PKPdf 06 38 47.2 +1.8
OTAV *e*PKPbc PKPbc 06 38 56.3 +2.4
ROSC El Rosal 156.88 63 PKP PKPdf 06 38 51.1 +2.7
comp=Z,21nm,0.8s,baz=122,slow=4.5,SNR=16
ROSC El Rosal 156.88 63 *e*PKPdf PKPdf 06 38 51.0 +2.6
SDV Santo Domingo 157.69 49 *e*PKPdf PKPdf 06 38 51.2 +1.8
LPAZ La Paz 162.60 127 PKP PKPdf 06 38 58.2 +3.4
comp=Z,6.8nm,0.9s,baz=22,slow=3.5,SNR=23
LPAZ PKPab PKPab 06 39 46.7 +3.3
comp=Z,7.0nm,0.8s,baz=335,slow=0.6,SNR=8.4
LPAZ La Paz 162.60 127 *e*PKPdf PKPdf 06 38 56.6 +1.7
LPAZ *e*PKPab PKPab 06 39 47.5 +4.1

IDC ***04*** *06:24:15.6±0.8, 3734N×7456E, h0km, mb4.1/10, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, ML3.8/4, MS3.5/4, Ms1 3.5/4, ms1mx2.9/35, Error ellipse: s-maj=21.4km s-min=17.2km az=3.0*
ISCJB ***04*** *06:24:22.3±0.4, 3741N±002×7459E±006, h68km±6km, mb4.0/15, Error ellipse: s-maj=8.1km s-min=3.4km az=166.7*
NNC ***04*** *06:24:22.2±2.1, 3768N×7394E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.7km s-min=15.8km az=35.0*
MOS ***04*** *06:24:23.1±1.4, 3748N×7460E, h69km, mb4.4/11, Error ellipse: s-maj=15.8km s-min=7.0km az=99.8*
BJI ***04*** *06:24:23.0, 3740N×7460E, h25km, mB5.4, mb4.6, ML4.4*
NEIC ***04*** *06:24:24.4±1.6, 3745N×7454E, h72km±15km, mb4.1/6, Error ellipse: s-maj=14.3km s-min=11.3km az=207.0*
ISC 04 06:24:24.1±0.3, 3742N±002×7457E±006, h67km±5km, n89, σ1§19/95, mb4.0/15, 9C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.37**	**27**⇑	*i*P	**Pn**	**06 25 00.7**	**0.0**
KSH				S	**Sn**	**06 25 33.2**	**+4.5**
KSH				Smax			
	comp=N,9µm,0.8s						
KSH				Smax			
	comp=E,13µm,0.7s						
CHCP	**Chirah Chowk**	**3.90**	**196**	P	**Pn**	**06 25 23.7**	**+2.2**
CEP	**Cherat**	**4.19**	**212**	P	**Pn**	**06 25 26.6**	**+1.1**
CEP				S	**Sn**	**06 26 15.0**	**+1.9**
AML	**Almayashu**	**4.76**	**352**	P	**Pn**	**06 25 32.9**	**-0.4**
	SNR=19						
ULHL	**Ulahol**	**4.99**	**14**	P	**Pn**	**06 25 37.1**	**+0.7**
	SNR=13						
DLH	**Dalhousie**	**5.00**	**166**	*e*P	**Pn**	**06 25 35.0**	**-1.5**
DLH				*e*S	**Sn**	**06 26 33.0**	**+0.1**
THN	**Thein Dam**	**5.06**	**169**	*e*P	**Pn**	**06 25 38.1**	**+0.7**
THN				*e*S	**Sn**	**06 26 37.0**	**+2.6**
THW	**Thamme Wali**	**5.16**	**208**	P	**Pn**	**06 25 40.0**	**+1.3**
AAK	**Ala-Archa**	**5.21**	**359**	P	**Pn**	**06 25 40.7**	**+1.3**
	SNR=8.9						
AAK	**Ala-Archa**	**5.21**	**359**	*e*PN	**Pn**	**06 25 39.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,74nm,0.8s						
AAK	**Ala-Archa**	**5.21**	**359**	*e*Pn	**Pn**	**06 25 39.3**	**-0.2**
	comp=Z,74nm,0.8s						
KBK	**Karagaybulak**	**5.24**	**3**	P	**Pn**	**06 25 40.4**	**+0.5**
	SNR=9.1						
EKS2	**Erkin-Say**	**5.28**	**354**	P	**Pn**	**06 25 40.8**	**+0.5**
	SNR=21						
FRU	**Bishkek**	**5.41**	**0**	*e*PN	**Pn**	**06 25 43.5**	**+1.3**
FRU				pmax	pmax		
	comp=Z,170nm,1.4s						
FRU	**Bishkek**	**5.41**	**0**	*e*Pn	**Pn**	**06 25 43.5**	**+1.3**
	comp=Z,170nm,1.4s						
TKM2	**Tokmak 2**	**5.55**	**8**	P	**Pn**	**06 25 44.4**	**+0.2**
	SNR=18						
TKM2	**Tokmak 2**	**5.55**	**8**	⇑Pn	**Pn**	**06 25 44.2**	**0.0**
	comp=Z,1.3nm,0.4s						
TKM2				⇓Sn	**Sn**	**06 26 47.9**	**+1.3**
	comp=Z,11nm,0.8s						
CHMS	**Chumysh**	**5.58**	**1**	P	**Pn**	**06 25 44.4**	**-0.1**
	SNR=8.7						
SBDP	**Sheikh Budin**	**5.97**	**212**	P	**Pn**	**06 25 49.6**	**-0.2**
BHK	**Bhakra**	**6.17**	**165**	*ex*	x	06 27 19.4	
SDNR	**Sundarnagar**	**6.22**	**161**	*ex*	x	06 25 59.5	
SDNR				*ex*	x	06 27 13.1	
KK31	**Karatay Array**	**6.47**	**333**	⇓Pn	**Pn**	**06 25 55.1**	**-1.6**
	comp=Z,3.6nm,0.3s,baz=135,slow=12,SNR=103						
KK31				Sn	**Sn**	**06 27 08.7**	**-0.5**
	comp=Z,16nm,0.4s,baz=146,slow=20,SNR=9.2						
DRP	**Derazinda**	**6.71**	**214**	P	**Pn**	**06 26 05.5**	**+5.6**
DDI	**Dehra Dun**	**7.64**	**157**	*e*P	**Pn**	**06 26 13.0**	**+0.3**
NDI	**New Delhi**	**8.99**	**165**	*e*P	**Pn**	**06 26 31.9**	**+0.8**
NDI				*e*S	**Sn**	**06 28 05.5**	**-5.2**
NDI				AML	AML	06 28 16.4	
	comp=N,30nm,0.4s						
NDI				AML	AML	06 28 16.6	
	comp=E,44nm,0.5s						
AYAN	**Aya Nagar**	**9.16**	**166**	*e*P	**Pn**	**06 26 32.2**	**-1.3**
AYAN				*e*S	**Sn**	**06 28 13.1**	**-1.9**
AYAN				AML	AML	06 28 20.8	
	comp=Z,40nm,0.4s						
LGTI	**Lohaghat**	**9.25**	**148**	*e*P	**Pn**	**06 26 34.5**	**-0.2**
LGTI				*e*S	**Sn**	**06 28 17.0**	**-0.1**
KHET	**Khetri**	**9.37**	**173**	*ex*	x	06 26 30.5	
KHET				*e*S	**Sn**	**06 28 15.1**	**-5.1**
KHET				AML	AML	06 28 19.3	
	comp=N,34nm,0.1s						
KHET				AML	AML	06 28 21.2	
	comp=E,24nm,0.4s						
SONA	**Sohna**	**9.38**	**166**	*e*P	**Pn**	**06 26 35.3**	**-1.1**
SONA				*e*S	**Sn**	**06 28 16.9**	**-3.4**
SONA				AML	AML	06 28 24.2	
	comp=N,24nm,0.4s						
SONA				AML	AML	06 28 24.4	
	comp=E,34nm,0.4s						
AJM	**Ajmer**	**10.90**	**180**	*i* P	**Pn**	**06 26 55.0**	**-2.2**
AJM				*i* S	**Sn**	**06 28 52.0**	**-5.5**
JASL	**Jaisalmer**	**10.91**	**198**	*e*P	**Pn**	**06 26 51.7**	**-5.6**
JASL				*ex*	x	06 28 32.9	
MKAR	**Makanchi Array**	**10.98**	**29**	Pn	**Pn**	**06 26 56.6**	**-1.7**
	comp=E,0.3nm,0.3s,baz=200,slow=14,SNR=11						
MKAR				LR	LR	06 31 40.4	
	comp=E,311nm,18.2s,baz=197,slow=40						
ALBI	**Allahabad**	**13.55**	**151**	*ex*	x	06 27 21.0	
BHPL	**Bhopal**	**14.34**	**169**	*e*P	**Pn**	**06 27 44.3**	**+0.7**
BHPL				*ex*	x	06 30 12.5	
VOSK	**Vostochnaya**	**15.51**	**352**	⇑Pn	**Pn**	**06 27 59.2**	**+0.4**
	comp=E,4.9nm,1.6s						
AB31	**Akbulak array**	**15.88**	**323**	⇑Pn	**Pn**	**06 27 58.5**	**-4.9**
	comp=E,5.9nm,0.8s,baz=124,slow=13,SNR=24						
BVA0	**Borovoye Array**	**15.88**	**351**	⇓Pn	**Pn**	**06 28 04.0**	**+0.6**
	comp=E,1.8nm,1.0s,baz=196,slow=28,SNR=18						
BVAR	**Borovoye Array**	**15.88**	**351**	Pn	**Pn**	**06 28 03.8**	**+0.3**
	comp=E,1.1nm,0.3s,baz=171,slow=12,SNR=16						
BVAR				LR	LR	06 34 13.2	
	comp=E,52nm,18.8s,baz=317,slow=38						
BVAR	**Borovoye Array**	**15.88**	**351**	P	**Pn**	**06 28 03.8**	**+0.4**
	comp=E,1.0nm,0.3s						
BRVK	**Borovoye**	**15.93**	**351**	*e*P	**Pn**	**06 28 05.2**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,16nm,1.1s						
BRVK	**Borovoye**	**15.93**	**351**	*e*P	**Pn**	**06 28 05.2**	**+1.2**
	comp=Z,16nm,1.1s						
ZRNK	**Zerenda**	**16.02**	**348**	⇑Pn	**Pn**	**06 28 05.1**	**0.0**
	comp=Z,6.4nm,1.1s						
ZRNK	**Zerenda**	**16.02**	**348**	*e*P	**Pn**	**06 28 02.6**	**-2.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHKZ	**Chkalovo**	**16.49**	**352**	⇑Pn	**Pn**	**06 28 10.9**	**-0.1**
	comp=Z,5.1nm,1.4s						
CHKZ	**Chkalovo**	**16.49**	**352**	*e*P	**Pn**	**06 28 12.4**	**+1.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTK	**Aktyubinsk**	**17.60**	**323**	P	**Pn**	**06 28 23.2**	**-1.6**
AKTO	**Aktyubinsk**	**17.60**	**323**	⇑Pn	**Pn**	**06 28 21.7**	**-3.1**
	comp=Z,0.2nm,0.8s						
AKTO	**Aktyubinsk**	**17.60**	**323**	P	**Pn**	**06 28 23.2**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=128,slow=15,SNR=13						
AKTO	**Aktyubinsk**	**17.60**	**323**	P	**Pn**	**06 28 23.2**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**17.97**	**20**	P	**Pn**	**06 28 26.9**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=258,slow=12,SNR=14						
ZAL	**Zalesovo**	**17.97**	**20**	P	**Pn**	**06 28 26.9**	**-2.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**18.41**	**16**	*e*P	**Pn**	**06 28 34.0**	**-0.6**
NVS				pmax	pmax		
	comp=N,20nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,17nm,1.3s						
NVS	**Novosibirsk**	**18.41**	**16**	*e*P	**Pn**	**06 28 34.0**	**-0.6**
	comp=Z,17nm,1.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POO	**Poona**	**18.83**	**182**	ex	x	06 28 05.0	
SHL	**Shillong**	**18.87**	**124**	ex	x	06 31 58.2	
WSAR	**Wadi Sarin**	**19.68**	**229**	P	**Pn**	**06 28 47.5**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=80,slow=11,SNR=7.5						
WSAR				LR	LR	06 38 05.7	
	comp=Z,103nm,19.9s,baz=301,slow=42						
ORR	**Orenburg**	**19.94**	**322**	eP	**Pn**	**06 28 49.0**	**-3.8**
ARU	**Arti**	**21.84**	**336**	eP	**P**	**06 29 10.1**	**-0.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
ARU	**Arti**	**21.84**	**336**	eP	**P**	**06 29 10.1**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**25.46**	**56**	P	**P**	**06 29 47.2**	**+1.5**
	comp=Z,1.6nm,0.8s,mb3.5,baz=241,slow=11,SNR=1.9						
SONM	**Songino Array**	**25.46**	**56**	P	**P**	**06 29 47.2**	**+1.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**25.90**	**56**	eP	**P**	**06 29 54.9**	**+5.2**
BRTR	**Keskin Array B**	**31.89**	**287**	P	**P**	**06 30 43.5**	**+0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=114,slow=7.2,SNR=5.7						
BRTR	**Keskin Array B**	**31.89**	**287**	P	**P**	**06 30 43.5**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
APA	**Apatity**	**37.94**	**336**	⇑iP	**P**	**06 31 31.2**	**-3.8**
APA				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
APA	**Apatity**	**37.94**	**336**	⇑iP	**P**	**06 31 31.2**	**-3.8**
	comp=Z,47nm,1.3s,mb5.2						
APA				i		06 32 02.8	
FINES	**FINESS Array B**	**38.36**	**325**	P	**P**	**06 31 38.5**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.0,baz=127,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**38.36**	**325**	P	**P**	**06 31 38.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KULM	**Kulim**	**39.87**	**137**	eP	**P**	**06 31 51.5**	**+0.4**
BRG	**Berggiesshubel**	**44.31**	**308**	eP	**P**	**06 32 29.6**	**+2.3**
	comp=Z,4.4nm,1.4s,mb4.0						
BRG				e		06 32 34.3	
	comp=Z,8.1nm,1.2s						
BRG				e	pP	06 32 48.1	+3.9
	comp=Z,4.5nm,1.0s						
BRG	**Berggiesshubel**	**44.31**	**308**	eP	**P**	**06 32 29.6**	**+2.3**
BRG				e	pP	06 32 48.1	+4.0
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
GERES	**GERESS Array B**	**44.74**	**305**	P	**P**	**06 32 31.3**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.4,baz=30,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**44.74**	**305**	P	**P**	**06 32 31.3**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**44.74**	**305**	P	**P**	**06 32 31.3**	**+0.6**
CLL	**Collm**	**44.85**	**308**	eP	**P**	**06 32 31.0**	**-0.6**
NOA	**NORSAR Array B**	**45.39**	**322**	P	**P**	**06 32 34.6**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=86,slow=5.8,SNR=5.4						
NOA	**NORSAR Array B**	**45.39**	**322**	P	**P**	**06 32 34.6**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**49.96**	**70**	P	**P**	**06 33 10.8**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=291,slow=9.9,SNR=5.1						
MJAR	**Matsushiro Arr**	**49.96**	**70**	P	**P**	**06 33 10.9**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ESDC	**Sonseca Array**	**59.54**	**299**	P	**P**	**06 34 16.2**	**-4.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=63,slow=7.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**68.58**	**270**	P	**P**	**06 35 19.5**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=45,slow=5.8,SNR=24						
TORD	**Torodi Ar. Bea**	**68.58**	**270**	P	**P**	**06 35 19.5**	**-0.3**
WRA	**Warramunga Arr**	**80.09**	**124**	P	**P**	**06 36 26.9**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.0,baz=325,slow=5.1,SNR=7.3						
WRA	**Warramunga Arr**	**80.09**	**124**	P	**P**	**06 36 26.9**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRAB	**Tennant Creek**	**80.10**	**124**	eP	**P**	**06 36 26.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**80.10**	**124**	eP	**P**	**06 36 26.9**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**82.48**	**127**	P	**P**	**06 36 40.1**	**+0.9**
	comp=Z,1.5nm,0.8s,mb3.9,baz=322,slow=4.1,SNR=7.3						
ASAR	**Alice Springs**	**82.48**	**127**	P	**P**	**06 36 40.2**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	**Lac du Bonnet**	**92.31**	**354**	P	**P**	**06 37 28.9**	**+2.0**
	comp=Z,5.3nm,0.7s,mb4.9,baz=19,slow=2.9,SNR=9.9						
ULM				LR	LR	07 18 10.2	
	comp=Z,80nm,21.9s,baz=63,slow=35						

MAN 04 06:28:39.8, 1352N×12146E, h19km, mb2.3, ML3.9, MS3.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.37**	**99**	eP	Pg	06 28 45.1	-2.5
BOAC				eS	Sg	06 28 51.0	-2.0
PGP	**Puerto Galera**	**0.50**	**269**	eP	Pg	06 28 49.8	-0.1
PGP				eS	Sg	06 28 57.7	+1.0
TGY	**Tagaytay City**	**0.78**	**319**	⇑iP	Pb	06 28 58.4	+3.7
TGY				i S	Sb	06 29 08.2	+3.4
GQP	**Guinayangan**	**1.03**	**68**	eP	Pb	06 28 58.0	-1.0
GQP				eS	Sb	06 29 12.6	+0.4
AUQP	**San Andres**	**1.19**	**99**	eP	Pn	06 29 01.6	+0.2
LUBP	**Lubang**	**1.20**	**281**	eP	Pn	06 29 00.6	-1.1
POLP	**Polilio Island**	**1.29**	**21**	eP	Pn	06 29 02.2	-0.6
POLP				eS	Sn	06 29 20.2	+0.7
BUSP	**Coron**	**1.94**	**220**	eP	Pn	06 29 12.2	+0.4
BALP	**Baler**	**2.22**	**3**	eP	Pn	06 29 17.4	+1.8

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*NEIC **04** 07:04:15.5, 3143S×7176W, h28km, ML3.1(GUC), After GUC.*

GUC 04 07:04:15.5±0.7, 3143S×7176W, h28km±2km, MD3.9, ML3.1, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.50**	**154**	⇑iP	Pb	07 04 25.7	-0.1
CHNG				i S	Sb	07 04 33.0	+0.2
CMCH	**Combarbala**	**0.70**	**68**	⇑iP	Pb	07 04 28.4	-0.6
CMCH				i S	Sb	07 04 38.7	+0.4
CMCH				AML	AML	07 04 39.5	
	comp=N,3µm,0.5s						
CMCH	**Combarbala**	**0.70**	**68**	⇑iP	Pb	07 04 28.4	-0.6
CMCH				i S	Sb	07 04 38.7	+0.4
OVCH	**Ovalle**	**0.95**	**30**	⇓iP	Pn	07 04 32.7	-0.2
OVCH				i S	Sb	07 04 45.5	-0.1
OVCH				AML	AML	07 04 48.2	
	comp=E,630nm,0.5s						
OVCH	**Ovalle**	**0.95**	**30**	⇓iP	Pn	07 04 32.7	-0.2
OVCH				i S	Sb	07 04 45.5	-0.1
PTCH	**Petorca**	**1.09**	**140**	⇑iP	Pn	07 04 35.0	+0.2
PTCH				i S	Sn	07 04 49.0	0.0
PTCH				AML	AML	07 04 52.0	
	comp=N,1µm,0.4s						
PTCH	**Petorca**	**1.09**	**140**	⇑iP	Pn	07 04 35.0	+0.2
PTCH				i S	Sn	07 04 49.0	0.0
TLL	**Tololo Astrono**	**1.50**	**33**	⇑iP	Pn	07 04 42.1	+1.6
TLL				i S	Sn	07 05 01.9	+2.6
TLL				AML	AML	07 05 04.4	
	comp=N,296nm,0.3s						
TLL	**Tololo Astrono**	**1.50**	**33**	⇑iP	Pn	07 04 42.1	+1.6
TLL				i S	Sn	07 05 01.9	+2.6
JACH	**Jahuel**	**1.59**	**142**	eP	Pn	07 04 43.7	+1.9
JACH				i S	Sn	07 05 04.4	+3.0
ROCH	**El Roble**	**1.66**	**158**	eP	Pn	07 04 44.1	+1.4
PEL	**Peldehue**	**1.93**	**152**	eP	Pn	07 04 47.8	+1.3
PEL				i S	Sn	07 05 12.5	+2.7
PEL				AML	AML	07 05 18.1	
	comp=E,401nm,0.4s						
PEL	**Peldehue**	**1.93**	**152**	eP	Pn	07 04 47.8	+1.3
PEL				i S	Sn	07 05 12.5	+2.7
RCDM	**Rinconada Maip**	**2.20**	**159**	eP	Pn	07 04 51.2	+1.1
RCDM				i S	Sn	07 05 19.4	+2.9
RCDM				AML	AML	07 05 28.5	
	comp=E,160nm,0.7s						
RCDM	**Rinconada Maip**	**2.20**	**159**	eP	Pn	07 04 51.2	+1.1
RCDM				i S	Sn	07 05 19.4	+2.9
CLCH	**Cerro Calan**	**2.21**	**153**	eP	Pn	07 04 51.6	+1.3
CLCH				i S	Sn	07 05 19.5	+2.8
CLCH				AML	AML	07 05 30.4	
	comp=E,130nm,0.5s						
FCH	**Farellones**	**2.26**	**147**	eP	Pn	07 04 52.8	+1.8
FCH				i S	Sn	07 05 21.9	+4.0
FCH				AML	AML	07 05 26.6	
	comp=E,78nm,0.3s						
ANTU	**Antumapu**	**2.33**	**156**	i S	Sn	07 05 22.3	+2.6
ANTU				AML	AML	07 05 31.0	
	comp=E,124nm,0.7s						

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*BJI **04** 07:04:43.1, 493S×12191E, h10km, mB5.3, mb4.9, Ms4.6, Msz4.4*

*IDC **04** 07:04:49.9±0.5, 403S×12151E, h0km, mb4.5/18, mb1 4.5/19, mb1mx4.5/23, mbtmp4.4/19, ML3.5/1, MS4.2/18, Ms1 4.2/18, ms1mx4.0/31, Error ellipse: s-maj=20.1km s-min=12.3km az=58.0*

*NEIC **04** 07:04:51.6±0.3, 403S×12157E, h10km, mb4.9/23, Error ellipse: s-maj=9.8km s-min=4.9km az=62.0*

NEIC Felt [III] at Kolaka.

*ISCJB **04** 07:04:51.0±0.2, 399S±003×12172E±004, h17km, mb4.8/62, MS4.3/35, Error ellipse: s-maj=6.4km s-min=4.5km az=137.5*

*GCMT **04** 07:04:51.6±0.1, 406S×12165E, h12km, MW5.2/92, Moment Tensor Solution. s68,c104; s92,c164; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-7.09±.12; Mθθ4.76±.10; Mφφ2.33±.14; Mrθ-0.51±.30; Mθφ-4.21±.10; Mφr-1.63±.38; Best double couple: Mo7.72500×10^16 NP1:φs114.00000°, δ44.00000°, λ-110.00000°. NP2:φs320.00000°, δ49.00000°, λ-72.00000°. Principal axes: T 7.9490, Plg2.0000°, Azm37.0000°; N -0.4480, Plg14.0000°, Azm128.0000°; P -7.5010, Plg76.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **04** 07:04:52.9±1.6, 393S×12173E, h33km, mb5.0/26, MS4.2/4 Error ellipse: s-maj=14.5km s-min=7.2km az=117.2*

ISC 04 07:04:53.4±0.2, 399S±003×12171E±004, h18km±1.7km:pP-P, n147, σ1s22/155, mb4.8/62, MS4.3/35, 5C-7D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.59**	**329**	P	**Pn**	**07 05 53.4**	**+5.3**
	2µm,1.8s						
DNP	**Denpasar**	**7.96**	**234**	P	**Pn**	**07 06 50.9**	**+2.8**
	441nm,1.1s						
NBBI	**Negara**	**8.28**	**238**	P	**Pn**	**07 06 53.9**	**+1.4**
	572nm,0.9s						
KMMI	**Kalianget**	**8.28**	**248**	P	**Pn**	**07 06 54.4**	**+1.8**
	361nm,1.1s						
SWI	**Sorong**	**10.03**	**72**	P	**Pn**	**07 07 25.7**	**+9.1**
	94nm,1.2s						
KKM	**Kota Kinabalu**	**11.38**	**331**	ePn	**Pn**	**07 07 34.1**	**-0.9**
KKM				eSn	**Sn**	**07 09 39.8**	**-1.8**
DAV	**Davao City (W)**	**11.65**	**19**	ePn	**Pn**	**07 07 40.4**	**+1.7**
	156nm,0.5s						
BJII	**Banjamegara**	**12.39**	**254**	P	**Pn**	**07 07 51.5**	**+2.7**
	112nm,2.0s						
KSM	**Kuching**	**12.62**	**295**	ePn	**Pn**	**07 07 49.7**	**-2.3**
KAKA	**Kakadu**	**13.70**	**130**	eP	**Pn**	**07 08 07.2**	**+0.6**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.54**	**165**	eP	**Pn**	**07 08 16.2**	**-1.9**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.54**	**165**	Pn	**Pn**	**07 08 16.2**	**-1.9**
	0.2nm,0.3s,baz=2.4,slow=4.9,SNR=6.9						
FITZ				LR	LR	07 13 50.3	
	comp=Z,821nm,21.4s,baz=348,slow=37						
CBJI	**Citeko**	**14.99**	**260**	P	**Pn**	**07 08 28.1**	**+3.8**
	187nm,1.1s						
MBWA	**Marble Bar**	**17.17**	**186**	⇑P	**Pn**	**07 08 48.2**	**-4.1**
	SNR=7.2						
MBWA	**Marble Bar**	**17.17**	**186**	eP	**Pn**	**07 08 53.2**	**+0.9**
	222nm,1.9s						
WRAB	**Tennant Creek**	**20.07**	**143**	eP	**P**	**07 09 24.7**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**20.07**	**143**	eP	**P**	**07 09 24.7**	**-1.0**
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**20.07**	**143**	P	**P**	**07 09 24.9**	**-0.8**
	comp=Z,13nm,0.7s,baz=316,slow=12,SNR=65						
WRA				LR	LR	07 18 26.9	
	comp=Z,740nm,19.2s,MS4.0,baz=330,slow=40						
WB2	**Warramunga Arr**	**20.08**	**143**	eP	**P**	**07 09 24.9**	**-0.9**
PPI	**Padang Panjang**	**21.58**	**279**	P	**P**	**07 09 42.2**	**+0.2**
	comp=Z,71nm,1.4s,mb4.9						
ASPA	**Alice Springs**	**22.83**	**150**	eP	**P**	**07 09 55.6**	**+0.3**
AS31	**Alice Springs**	**22.83**	**150**	eP	**P**	**07 09 55.6**	**+0.3**
ASAR	**Alice Springs**	**22.83**	**150**	P	**P**	**07 09 55.6**	**+0.3**
	comp=Z,11nm,0.6s,mb4.5,baz=332,slow=9.6,SNR=81						
ASAR				LR	LR	07 19 17.1	
	comp=Z,678nm,21.4s,MS4.1,baz=329,slow=38						
KULM	**Kulim**	**22.97**	**294**	eP	**P**	**07 09 55.5**	**-1.3**
PSI	**Prapat**	**23.75**	**286**	P	**P**	**07 10 04.0**	**-0.7**
	comp=Z,62nm,1.0s,mb5.0,baz=111,slow=5.7,SNR=54						
SNG	**Songkhla**	**23.80**	**298**	P	**P**	**07 10 07.0**	**+1.9**
	comp=Z,98nm,0.8s,mb5.3						
QIZ	**Qiongzhong**	**25.69**	**333**	P	**P**	**07 10 23.0**	**+0.7**
QIZ				AP	pP	07 10 26.5	-1.3
QIZ				XP	sP	07 10 30.2	+0.1
QIZ				S	**S**	**07 14 53.1**	**+3.1**
QIZ				AMB	AMB		
	comp=Z,34nm,1.9s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,405nm,6.4s						
QIZ				LR	LR		
	comp=E,575nm,14.7s						
QIZ				LR	LR		
	comp=Z,719nm,13.7s,MS4.4						
PMG	**Port Moresby**	**25.83**	**103**	P	**P**	**07 10 26.8**	**+3.2**
	comp=Z,15nm,0.7s,mb4.6,baz=252,slow=9.7,SNR=5.3						
PMG	**Port Moresby**	**25.83**	**103**	eP	**P**	**07 10 25.4**	**+1.8**
PMG				pmax	pmax		
	comp=Z,60nm,1.4s						
PMG	**Port Moresby**	**25.83**	**103**	eP	**P**	**07 10 25.4**	**+1.8**
	comp=Z,60nm,1.4s,mb4.9						
FORT	**Forrest**	**27.31**	**168**	eP	**P**	**07 10 39.3**	**+2.4**
	comp=Z,11nm,0.7s,mb4.5						
GZH	**Guangzhou**	**28.13**	**343**	P	**P**	**07 10 50.0**	**+5.8**
GZH				LR	LR		
	comp=N,256nm,16.5s,MS4.2						
GZH				LR	LR		
	comp=E,456nm,16.5s,MS4.2						
CTA	**Charters Tower**	**28.77**	**126**	P	**P**	**07 10 50.9**	**+0.9**
	comp=E,5.4nm,0.8s,mb4.3,baz=302,slow=10.0,SNR=7.9						
NWAO	**Narrogin (SRO)**	**29.09**	**188**	LR	LR	07 22 03.5	
	comp=E,515nm,21.6s,MS4.1,baz=122,slow=36						
NANT	**Nan**	**30.68**	**318**	⇑P	**P**	**07 11 06.5**	**-0.4**
	comp=E,156nm,1.0s,mb5.8						
JOW	**Kunigami**	**31.29**	**11**	LR	LR	07 24 39.1	
	comp=E,480nm,19.9s,MS4.2,baz=150,slow=38						
CHG	**Chiang Mai**	**31.88**	**316**	⇓P	**P**	**07 11 18.4**	**+1.0**
	comp=E,20nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**31.88**	**316**	P	**P**	**07 11 18.8**	**+1.4**
	SNR=9.5						
CHTO	**Chiang Mai**	**31.88**	**316**	eP	**P**	**07 11 18.2**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**31.88**	**316**	eP	**P**	**07 11 18.2**	**+0.7**
	comp=Z,11nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**33.44**	**148**	P	**P**	**07 11 30.9**	**-0.2**
	comp=Z,15nm,0.6s,mb5.1,baz=313,slow=8.8,SNR=28						
STKA				LR	LR	07 25 59.9	
	comp=Z,688nm,20.0s,MS4.4,baz=317,slow=38						
STKA	**Stephens Creek**	**33.44**	**148**	eP	**P**	**07 11 30.8**	**-0.3**
GYA	**Guiyang**	**33.59**	**335**	P	**P**	**07 11 33.0**	**+0.6**
GYA				AP	pP	07 11 37.8	-0.2
GYA				XP	sP	07 11 40.2	-0.1
GYA				PP	PP	07 12 48.9	+0.4
GYA				S	**S**	**07 16 58.3**	**+4.3**
GYA				SCS	ScS	07 21 58.9	+1.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,17.3s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=Z,450nm,17.5s,MS4.2						
KMI	**Kunming**	**34.31**	**328**	P	**P**	**07 11 41.6**	**+2.9**
KMI				AP	pP	07 11 48.8	+4.6
KMI				XP	sP	07 11 52.3	+5.8
KMI				PP	PP	07 12 58.5	+2.0
KMI				PPP		07 13 10.8	
KMI				S	**S**	**07 17 09.8**	**+4.7**
KMI				XS	sS	07 17 21.9	+7.6
KMI				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8						
KMI				AMB	AMB		
	comp=Z,230nm,6.9s						
KMI				LR	LR		
	comp=N,331nm,21.5s,MS4.3						
KMI				LR	LR		
	comp=E,492nm,21.5s,MS4.3						
KMI				LR	LR		
	comp=Z,541nm,17.4s,MS4.3						
KMI	**Kunming**	**34.31**	**328**	P	**P**	**07 11 41.6**	**+2.9**
KMI				*SP	sP	07 11 52.3	+5.8
KMI						07 12 58.5	
KMI				PPP		07 13 10.8	
KMI				S	**S**	**07 17 09.8**	**+4.7**
KMI				*SS	sS	07 17 21.9	+7.6
KMI				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
KMI				MLR	MLR		
	comp=Z,540nm,17.4s,MS4.3						
KMI	**Kunming**	**34.31**	**328**	P	**P**	**07 11 41.6**	**+2.9**
	comp=Z,20nm,1.7s,mb4.8						
KMI				pP	pP	07 11 48.8	+4.6
KMI				sP	sP	07 11 52.3	+5.8
KMI				PP	PP	07 12 58.5	+2.0
KMI				PPP		07 13 10.8	
KMI				S	**S**	**07 17 09.8**	**+4.7**
KMI				sS	sS	07 17 21.9	+7.6
KMI				SS	SS	07 19 22.6	-11
KMI				SSS		07 19 50.6	
KMI				LR	LR		
	comp=Z,540nm,17.4s,MS4.3						
SSE	**Sheshan**	**34.89**	**359**	P	**P**	**07 11 45.4**	**+1.7**
SSE				AP	pP	07 11 48.5	-0.8
SSE				PP	PP	07 13 05.0	+2.1
SSE				S	**S**	**07 17 18.2**	**+4.1**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,117nm,12.0s						
SSE				LR	LR		
	comp=N,137nm,25.0s,MS4.2						
SSE				LR	LR		
	comp=E,473nm,25.0s,MS4.2						
SSE				LR	LR		
	comp=Z,340nm,26.4s,MS4.0						
SSE	**Sheshan**	**34.89**	**359**	P	**P**	**07 11 45.4**	**+1.7**
	comp=Z,31nm,0.7s,mb5.3						
SSE				pP	pP	07 11 48.5	-0.8
SSE				PP	PP	07 13 05.0	+2.1
SSE				S	**S**	**07 17 18.2**	**+4.1**
SSE				sS	sS	07 17 23.6	+0.3
SSE				SS	SS	07 19 53.0	+7.3
SSE				LR	LR		
	comp=Z,340nm,26.4s,MS4.0						
NJ2	**Nanjing**	**35.95**	**356**	eP	**P**	**07 11 54.8**	**+2.0**
NJ2				AP	pP	07 11 58.0	-0.4
NJ2				XP	sP	07 12 00.6	0.0
NJ2				PP	PP	07 13 15.2	+0.7
NJ2				S	**S**	**07 17 32.5**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,300nm,6.2s						
NJ2				LR	LR		
	comp=N,1µm,20.0s						
NJ2				LR	LR		
	comp=E,2µm,29.6s						
NJ2				LR	LR		
	comp=Z,1µm,17.9s,MS4.6						
CBIJ	**Chichi jima**	**36.69**	**31**	LR	LR	07 26 50.7	
	comp=Z,166nm,18.2s,MS3.9,baz=186,slow=36						
CD2	**Chengdu**	**38.71**	**335**	⇓iP	**P**	**07 12 16.5**	**+0.3**
CD2				AP	pP	07 12 21.0	-0.8
CD2				XP	sP	07 12 23.6	-0.5
CD2				PP	PP	07 13 49.7	+4.8
CD2				S	**S**	**07 18 13.3**	**+1.0**
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
CD2				LR	LR		
	comp=N,540nm,19.2s,MS4.5						
CD2				LR	LR		
	comp=E,440nm,20.4s,MS4.5						
CD2				LR	LR		
	comp=Z,530nm,16.8s,MS4.4						
XAN	**Xi'an**	**39.71**	**343**	P	**P**	**07 12 24.1**	**-0.4**
XAN				AP	pP	07 12 30.8	+0.6
XAN				AMB	AMB		
	comp=Z,11nm,1.8s,mb4.3						
KSRS	**Korea Array**	**41.64**	**7**	P	**P**	**07 12 41.9**	**+1.4**
	comp=Z,1.1nm,0.5s,mb3.7,baz=177,slow=13,SNR=8.3						
KSRS				LR	LR	07 29 19.1	
	comp=Z,296nm,19.5s,MS4.2,baz=94,slow=35						
MAJO	**Matsushiro**	**43.17**	**20**	eP	**P**	**07 12 54.6**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
MAJO	**Matsushiro**	**43.17**	**20**	eP	**P**	**07 12 54.5**	**+1.6**
	comp=Z,25nm,1.1s,mb4.9						
MAT	**Matsushiro**	**43.17**	**20**	P	**P**	**07 12 52.3**	**-0.7**
MAT				S	**S**	**07 19 19.0**	**+0.4**
MJAR	**Matsushiro Arr**	**43.17**	**20**	P	**P**	**07 12 52.8**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.4,baz=188,slow=8.6,SNR=13						
MJAR				LR	LR	07 30 16.9	
	comp=Z,284nm,21.7s,MS4.1,baz=195,slow=35						
LZH	**Lanzhou**	**43.23**	**339**	eP	**P**	**07 12 54.3**	**+0.8**
LZH				AP	pP	07 13 00.2	+1.0
LZH				XP	sP	07 13 03.3	+1.9
LZH				S	**S**	**07 19 21.4**	**+1.8**
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,90nm,4.6s						
LZH				LR	LR		
	comp=N,870nm,15.0s						
LZH				LR	LR		
	comp=Z,2µm,16.6s,MS5.0						
LZH	**Lanzhou**	**43.23**	**339**	eP	**P**	**07 12 54.3**	**+0.8**
LZH				*SP	sP	07 13 03.3	+1.9
LZH						07 14 43.0	
LZH				PPP		07 15 14.0	
LZH				S	**S**	**07 19 21.4**	**+1.8**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
LZH				MLR	MLR		
	comp=Z,2µm,16.6s,MS5.0						
LZH	**Lanzhou**	**43.23**	**339**	eP	**P**	**07 12 54.3**	**+0.8**
	comp=Z,20nm,1.1s,mb4.8						
LZH				pP	pP	07 13 00.2	+1.0
LZH				sP	sP	07 13 03.3	+1.9
LZH				PP	PP	07 14 43.0	+9.0
LZH				PPP		07 15 14.0	
LZH				S	**S**	**07 19 21.4**	**+1.8**
LZH				sS	sS	07 19 31.0	+2.1
LZH				SS	SS	07 22 36.2	+3.3
LZH				LR	LR		
	comp=Z,2µm,16.6s,MS5.0						
LSA	**Lhasa**	**44.49**	**321**	P	**P**	**07 13 04.6**	**+1.0**
LSA	**Lhasa**	**44.49**	**321**	eP	**P**	**07 13 04.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
LSA	**Lhasa**	**44.49**	**321**	eP	**P**	**07 13 04.8**	**+1.2**
	comp=Z,30nm,1.0s,mb5.0						
HHC	**Hu-ho-hao-te**	**45.58**	**349**	eP	**P**	**07 13 14.8**	**+2.5**
HHC				AP	pP	07 13 19.4	+1.5
HHC				XP	sP	07 13 21.9	+1.7
HHC				PCP	PcP	07 14 52.8	+2.2
HHC				PP	PP	07 15 01.8	+2.8
HHC				SCP	ScP	07 18 44.6	+2.1
HHC				S	**S**	**07 19 57.6**	**+3.9**
HHC				SCS	ScS	07 23 08.0	+0.2
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,136nm,5.3s						
HHC				LR	LR		
	comp=N,338nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=E,537nm,17.8s,MS4.6						
HHC				LR	LR		
	comp=Z,338nm,21.4s,MS4.2						
SNY	**Shenyang**	**45.63**	**2**	P	**P**	**07 13 12.2**	**-0.5**
SNY				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNY				AMB	AMB		
	comp=Z,290nm,5.7s						
SNY				LR	LR		
	comp=N,360nm,18.8s						
SNY				LR	LR		
	comp=Z,305nm,20.4s,MS4.2						
JIRN	**Jiri**	**46.51**	**315**	*e*P	**P**	**07 13 19.9**	**+0.4**
GUN	**Gumba**	**46.88**	**315**	*e*P	**P**	**07 13 22.7**	**+0.3**
	comp=Z,112nm,1.1s,mb5.7						
PKI	**Pulchoki**	**47.01**	**314**	*e*P	**P**	**07 13 23.5**	**0.0**
KKN	**Kakani**	**47.23**	**314**	*e*P	**P**	**07 13 25.3**	**+0.1**
DMN	**Daman**	**47.25**	**314**	*e*P	**P**	**07 13 25.4**	**0.0**
	comp=Z,58nm,1.0s,mb5.5						
GTA	**Gaotai**	**47.67**	**337**	*e*P	**P**	**07 13 29.3**	**+0.7**
GTA				AP	pP	07 13 33.8	-0.5
GTA				XP	sP	07 13 36.4	-0.2
GTA				PCP	PcP	07 14 59.3	+1.4
GTA				PP	PP	07 15 21.1	+0.8
GTA				S	**S**	**07 20 24.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,266nm,6.8s						
GTA				LR	LR		
	comp=N,162nm,16.0s						
GTA				LR	LR		
	comp=E,329nm,22.4s						
GTA				LR	LR		
	comp=Z,193nm,15.6s,MS4.2						
CN2	**Changchun**	**47.69**	**4**	*e*P	**P**	**07 13 32.4**	**+3.6**
GKN	**Gorkha**	**47.82**	**314**	*e*P	**P**	**07 13 29.7**	**-0.1**
	comp=Z,71nm,1.1s,mb5.6						
KOLN	**Koldanda**	**48.43**	**313**	*e*P	**P**	**07 13 34.6**	**+0.1**
	comp=Z,219nm,1.8s,mb5.9						
MDJ	**Mudanjiang**	**48.90**	**7**	P	**P**	**07 13 39.1**	**+1.0**
MDJ				AP	pP	07 13 45.0	+1.1
MDJ				XP	sP	07 13 46.8	+0.7
MDJ				PP	PP	07 15 31.3	-0.2
MDJ				S	**S**	**07 20 38.2**	**-2.8**
MDJ				SCS	ScS	07 23 29.0	-0.6
MDJ				SS	SS	07 24 11.1	-0.6
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,173nm,6.1s						
MDJ				LR	LR		
	comp=N,265nm,28.8s,MS4.2						
MDJ				LR	LR		
	comp=E,271nm,28.0s,MS4.2						
MDJ				LR	LR		
	comp=Z,232nm,20.8s						
MDJ	**Mudanjiang**	**48.90**	**7**	*e*P	**P**	**07 13 38.0**	**-0.2**
	comp=Z,27nm,1.0s,mb5.2						
ASAJ	**Asahikawa**	**51.44**	**19**	P	**P**	**07 13 57.7**	**+0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=224,slow=15,SNR=3.7						
HIA	**Hailar**	**53.07**	**358**	⇑*e*P	**P**	**07 14 04.5**	**-5.0**
ULN	**Ulaanbaatar**	**53.22**	**348**	*e*P	**P**	**07 14 10.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**53.22**	**348**	*e*P	**P**	**07 14 10.5**	**-0.1**
	comp=Z,22nm,1.0s,mb5.0						
SONM	**Songino Array**	**53.33**	**347**	P	**P**	**07 14 08.4**	**-3.0**
	comp=Z,4.7nm,0.8s,mb4.5,baz=181,slow=9.0,SNR=7.5						
KLR	**Kul'dur**	**53.72**	**8**	*e*P	**P**	**07 14 11.0**	**-3.3**
KLR				pmax	pmax		
	comp=Z,85nm,1.8s,mb5.4						
KLR				MLR	MLR		
	comp=Z,900nm,13.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**54.02**	**18**	P	**P**	**07 14 20.0**	**+3.5**
YSS				*e*		07 25 33.0	
ZAK	**Zakamensk**	**56.44**	**346**	*e*P	**P**	**07 14 32.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
WMQ	**Urumqi**	**56.58**	**331**	⇓*i*P	**P**	**07 14 35.2**	**+0.3**
WMQ				AP	pP	07 14 39.7	-1.0
WMQ				XP	sP	07 14 42.2	-0.7
WMQ				PCP	PcP	07 15 31.2	-0.1
WMQ				PP	PP	07 16 42.5	+1.7
WMQ				PPP		07 18 00.4	
WMQ				SCP	ScP	07 19 28.4	-1.4
WMQ				PCS	PcS	07 19 30.4	-1.5
WMQ				S	**S**	**07 22 24.7**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,234nm,5.1s						
WMQ				LR	LR		
	comp=N,292nm,27.0s,MS4.5						
WMQ				LR	LR		
	comp=E,347nm,24.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,233nm,21.3s,MS4.2						
TLY	**Talaya**	**57.56**	**347**	⇓*e*P	**P**	**07 14 38.0**	**-3.9**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
KSH	**Kashi**	**60.34**	**320**	*e*P	**P**	**07 15 01.8**	**+0.6**
KSH				*e*AP	pP	07 15 07.4	+0.4
KSH				*e*XP	sP	07 15 09.6	+0.4
KSH				*e*PCP	PcP	07 15 47.6	+1.4
KSH				*e*PP	PP	07 17 17.5	+3.3
KSH				*e*PPP		07 17 43.8	
KSH				*e*SCP	ScP	07 19 47.9	+1.4
KSH				*e*S	**S**	**07 23 13.7**	**-1.2**
KSH				*e*PS		07 23 31.5	
KSH				*e*SCS	ScS	07 24 48.5	-2.5
KSH				LR	LR		
	comp=Z,728nm,17.0s,MS4.9						
CLNS	**Chul'man**	**60.68**	**2**	*e*P	**P**	**07 15 03.4**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
MK31	**Makanchi Array**	**61.36**	**330**	*e*P	**P**	**07 15 07.4**	**-0.7**
MKAR	**Makanchi Array**	**61.36**	**330**	P	**P**	**07 15 06.8**	**-1.3**
	comp=N,5.2nm,0.9s,mb4.7,baz=132,slow=7.2,SNR=18						
BOD	**Bodaibo**	**61.92**	**355**	*e*P	**P**	**07 15 10.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.6						
AAK	**Ala-Archa**	**63.04**	**323**	P	**P**	**07 15 19.2**	**-0.1**
	SNR=9.1						
AAK	**Ala-Archa**	**63.04**	**323**	*e*P	**P**	**07 15 18.5**	**-0.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**63.04**	**323**	*e*P	**P**	**07 15 18.5**	**-0.8**
	comp=Z,7.1nm,1.1s,mb4.7						
PET	**Petropavlovsk**	**64.75**	**24**	*e*P	**P**	**07 15 31.0**	**+0.4**
PET				*e*S	**S**	**07 24 26.2**	**+16**
PET				*e*SS	SS	07 28 23.2	+1.8
PET				pmax	pmax		
	comp=Z,100nm,12.6s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ZAL	**Zalesovo**	**65.43**	**337**	P	**P**	**07 15 32.9**	**-2.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=325,slow=4.1,SNR=14						
YAK	**Yakutsk**	**66.12**	**4**	⇓*e*P	**P**	**07 15 36.4**	**-3.1**
YAK				pmax	pmax		
	comp=Z,94nm,2.5s,mb5.4						
YAK	**Yakutsk**	**66.12**	**4**	*e*P	**P**	**07 15 39.2**	**-0.3**
	comp=Z,20nm,0.5s,mb5.4						
WSAR	**Wadi Sarin**	**67.15**	**297**	P	**P**	**07 15 45.3**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.6,baz=137,slow=6.0,SNR=6.7						
JMDO	**Jabal Madar**	**67.40**	**296**	P	**P**	**07 15 47.8**	**+0.2**
	SNR=6.6						
BSY	**Bisya**	**68.30**	**296**	P	**P**	**07 15 53.4**	**+0.1**
	SNR=6.4						
HOQ	**Hoqain**	**68.41**	**297**	P	**P**	**07 15 54.0**	**+0.1**
	SNR=5.5						
HATD	**Hatta, Dubai**	**69.76**	**298**	P	**P**	**07 16 02.7**	**+0.3**
	SNR=8.2						
ASHO	**Ashiyiah**	**69.79**	**298**	P	**P**	**07 16 02.4**	**-0.1**
	SNR=7.7						
BRVK	**Borovoye**	**71.32**	**330**	P	**P**	**07 16 11.2**	**-0.7**
	SNR=6.8						
BRVK	**Borovoye**	**71.32**	**330**	*e*P	**P**	**07 16 10.9**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**71.32**	**330**	*e*P	**P**	**07 16 10.9**	**-1.0**
	comp=Z,5.1nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**71.51**	**331**	*e*P	**P**	**07 16 11.9**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**71.51**	**331**	*e*P	**P**	**07 16 11.9**	**-1.1**
	comp=Z,6.3nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**71.90**	**330**	*e*P	**P**	**07 16 14.4**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**71.90**	**330**	*e*P	**P**	**07 16 14.3**	**-1.0**
	comp=Z,8.0nm,0.8s,mb4.7						
OPO	**Ambohidratompo**	**74.07**	**252**	P	**P**	**07 16 27.9**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=284,slow=5.9,SNR=3.7						
MAW	**Mawson**	**74.83**	**200**	*e*P	**P**	**07 16 31.1**	**-1.5**
	comp=Z,5.0nm,1.2s,mb4.3						
MAW	**Mawson**	**74.83**	**200**	P	**P**	**07 16 31.0**	**-1.7**
	comp=Z,2.0nm,1.1s,mb4.0,baz=58,slow=11,SNR=4.4						
MAW				LR	LR	07 42 45.1	
	comp=Z,203nm,21.8s,MS4.4,baz=60,slow=30						
MAW	**Mawson**	**74.83**	**200**	*e*P	**P**	**07 16 31.1**	**-1.5**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**75.64**	**2**	⇑*e*P	**P**	**07 16 35.2**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TIXI	**Tiksi**	**75.64**	**2**	*e*P	**P**	**07 16 35.9**	**-1.5**
VNDA	**Vanda**	**76.50**	**172**	P	**P**	**07 16 41.5**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=317,slow=6.0,SNR=15						
VNDA				LR	LR	07 47 24.3	
	comp=Z,306nm,20.5s,MS4.6,baz=327,slow=33						
VNDA	**Vanda**	**76.50**	**172**	*e*P	**P**	**07 16 41.3**	**-0.9**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**76.50**	**172**	*e*P	**P**	**07 16 41.3**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.3						
SBA	**Scott Base**	**77.47**	**171**	*e*P	**P**	**07 16 47.6**	**-0.1**
BILL	**Bilibino**	**78.27**	**16**	⇑*e*P	**P**	**07 16 48.2**	**-3.9**
BILL				pmax	pmax		
	comp=Z,24nm,2.7s,mb4.7						
ARU	**Arti**	**78.88**	**330**	⇓*i*P	**P**	**07 16 53.8**	**-1.7**
ARU				*e*		07 17 01.9	
ARU				*e*		07 19 51.9	
ARU				*e*S	S	07 26 49.4	-3.5
ARU				*e*SS	SS	07 31 52.2	-5.6
ARU				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ARU	**Arti**	**78.88**	**330**	*e*P	**P**	**07 16 54.2**	**-1.3**
	comp=Z,12nm,0.9s,mb4.8						
ORR	**Orenburg**	**79.08**	**324**	*e*P	**P**	**07 16 56.3**	**-0.3**
ORR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
ORR				MLR	MLR		
	comp=Z,250nm,28.0s,MS4.4						
GNI	**Garni**	**82.64**	**311**	LR	LR	08 02 33.3	
	comp=Z,123nm,20.4s,MS4.3,baz=267,slow=42						
ZEI	**Tsey**	**83.78**	**314**	*e*P	**P**	**07 17 19.3**	**-2.2**
ZEI				*e**PP	pP	07 17 28.8	+1.3
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
KMBO	**Kilima Mbogo**	**84.39**	**269**	P	**P**	**07 17 25.8**	**+1.2**
	comp=Z,1.5nm,0.8s,mb4.2,baz=237,slow=21,SNR=5.4						
KMBO				LR	LR	07 51 40.3	
	comp=Z,170nm,19.1s,MS4.5,baz=94,slow=33						
KMBO	**Kilima Mbogo**	**84.39**	**269**	*e*P	**P**	**07 17 25.2**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KMBO	**Kilima Mbogo**	**84.39**	**269**	*e*P	**P**	**07 17 25.2**	**+0.6**
	comp=Z,7.0nm,1.2s,mb4.7						
KIV	**Kislovodsk**	**84.87**	**315**	⇓*e*P	**P**	**07 17 21.8**	**-5.2**
KIV				pmax	pmax		
	comp=Z,30nm,2.5s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.2						
QSPA	**South Pole Qui**	**85.97**	**180**	*e*P	**P**	**07 17 31.9**	**-0.6**
	comp=Z,12nm,1.0s,mb5.1						
PPT	**Papeete**	**87.59**	**107**	LR	LR	07 55 08.1	
	comp=Z,30nm,18.9s,MS3.7,baz=253,slow=34						
ASF	**Jabal al Asfar**	**87.72**	**302**	LR	LR	07 59 39.7	
	comp=Z,132nm,21.4s,MS4.3,baz=151,slow=38						
MMAI	**Mount Meron Ar**	**89.06**	**303**	LR	LR	08 01 56.4	
	comp=Z,99nm,18.4s,MS4.3,baz=95,slow=38						
OBN	**Obninsk**	**90.46**	**325**	*e*P	**P**	**07 17 50.2**	**-3.7**
OBN				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.3						
BRTR	**Keskin Array B**	**91.04**	**310**	P	**P**	**07 17 55.6**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.4,baz=117,slow=4.3,SNR=5.1						
MCK	**McKinley**	**93.26**	**26**	*e*P	**P**	**07 18 07.3**	**+0.4**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb5.0						
MCK	**McKinley**	**93.26**	**26**	*e*P	**P**	**07 18 07.3**	**+0.4**
	comp=Z,8.1nm,1.4s,mb5.0						
BOSA	**Boshof**	**93.76**	**241**	LR	LR	07 52 45.0	
	comp=Z,260nm,19.8s,MS4.7,baz=80,slow=31						
AKASG	**Malin Array Be**	**94.64**	**320**	P	**P**	**07 18 11.0**	**-2.2**
	comp=Z,2.0nm,0.7s,mb4.7,baz=74,slow=4.7,SNR=7.6						
AKASG				LR	LR	08 06 58.1	
	comp=Z,68nm,20.6s,MS4.1,baz=80,slow=39						
AKASG	**Malin Array Be**	**94.64**	**320**	*i* P	**P**	**07 18 11.3**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**94.64**	**320**	P	**P**	**07 18 11.0**	**-2.2**
AKASG				LR	LR	08 06 58.1	
TORD	**Torodi Ar. Bea**	**120.12**	**283**	PKP	PKPdf	07 23 42.2	-0.8
	comp=Z,1.3nm,0.7s,baz=62,slow=1.9,SNR=9.7						
TORD	**Torodi Ar. Bea**	**120.12**	**283**	PKP	PKPdf	07 23 42.2	-0.9
TXAR	**Lajitas Array**	**130.21**	**54**	PKP	PKPdf	07 24 03.1	+0.8
	comp=Z,0.1nm,0.3s,baz=262,slow=19,SNR=2.2						
LPAZ	**La Paz**	**157.62**	**154**	PKPab	PKPab	07 25 22.5	+1.8
	comp=Z,0.5nm,0.6s,baz=162,slow=2.3,SNR=4.4						

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*ISCJB **04** 08:23:20.8±0.8,3462N±0.10×73.1E±02,h10^{km},Error ellipse: s-maj=24.5km s-min=5.0km az=112.9*
*NDI **04** 08:23:27.5±2.2,3435N×7288E,h20^{km},ML2.7*
*NNC **04** 08:23:31.0±6.1,3520N×7271E,h0^{km},mb3.1,mpv3.7, Error ellipse: s-maj=99.2km s-min=46.8km az=81.0*
ISC 04 08:23:23.5±0.9**,3458N**±010×**731E**±02**,h10**^{km}**,n8,** σ**1**^{s}**34**/14**,4C,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.07**	**134**	*e*P	**Pn**	**08 24 14.9**	**+2.8**
THN				*e*S	**Sn**	**08 24 50.4**	**+1.6**
DLH	**Dalhousie**	**3.15**	**129**	*e*P	**Pn**	**08 24 17.0**	**+3.8**
DLH				*e*S	**Sn**	**08 24 50.0**	**-0.8**
SDNR	**Sundarnagar**	**4.48**	**132**	*e*x	x	08 24 31.0	
SDNR				*e*S	**Sn**	**08 25 21.9**	**-1.7**
KHET	**Khetri**	**6.89**	**160**	*e*P	**Pn**	**08 25 04.4**	**-0.2**
KHET				*e*S	**Sn**	**08 26 16.5**	**-6.6**
KHET				AML	AML	08 27 06.3	
	comp=N,5.2nm,0.1s						
KHET				AML	AML	08 27 07.2	
	comp=E,3.5nm,0.2s						
SONA	**Sohna**	**7.18**	**151**	*e*P	**Pn**	**08 25 08.2**	**-0.3**
SONA				*e*S	**Sn**	**08 26 23.3**	**-6.8**
SONA				AML	AML	08 27 26.3	
	comp=E,8.0nm,0.2s						
SONA				AML	AML	08 27 27.5	
	comp=N,9.7nm,0.3s						
KK31	**Karatay Array**	**8.74**	**347**	Pn	**Pn**	**08 25 32.3**	**+2.3**
	comp=N,1.1nm,0.2s,baz=157,slow=11,SNR=59						
KK31				⇑Sn	**Sn**	**08 27 07.9**	**-0.7**
	comp=N,1.4nm,0.5s,baz=169,slow=23,SNR=7.7						
AB31	**Akbulak array**	**17.59**	**330**	⇑Pn	**Pn**	**08 27 27.5**	**-1.2**
	comp=N,0.2nm,0.3s,baz=129,slow=13,SNR=5.0						
AB31				⇑Sn	**Sn**	**08 30 38.5**	**-6.0**
	comp=N,0.7nm,0.7s						
AKTO	**Aktyubinsk**	**19.29**	**330**	⇑Pn	**Pn**	**08 27 49.5**	**0.0**
	comp=N,0.1nm,1.1s						

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*NEIC **04** 08:50:36.0,3823S×17604E,h157^{km},MG3.8(WEL),After WEL.*
WEL 04 08:50:36.5±0.3**,3822S**×**17604E,h154**^{km}±2^{km}**,ML3.7**/15**, 2C,Error ellipse: s-maj=2.2km s-min=1.7km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.85**	**93**	P	Pn	08 51 00.3	-0.1
URZ	**Urewera**	**0.85**	**93**	PN	Pn	08 51 00.2	-0.2
URZ				SN	Sn	08 51 18.8	+0.2
WTVZ	**West Tongariro**	**0.96**	**201**	P	Pn	08 51 01.8	+0.5
WTVZ	**West Tongariro**	**0.96**	**201**	PN	Pn	08 51 01.8	+0.5
TWVZ	**Taurewa**	**0.97**	**209**	P	Pn	08 51 01.7	+0.3
TWVZ	**Taurewa**	**0.97**	**209**	PN	Pn	08 51 01.7	+0.3
HIZ	**Hauiti**	**0.97**	**252**	P	Pn	08 51 01.2	-0.2
HIZ	**Hauiti**	**0.97**	**252**	PN	Pn	08 51 01.1	-0.3
OTVZ	**Oturere**	**0.99**	**197**	PN	Pn	08 51 02.3	+0.8
OTVZ				SN	Sn	08 51 21.7	+1.1
BKZ	**Black Stump Fm**	**1.01**	**159**	P	Pn	08 51 02.0	+0.3
BKZ	**Black Stump Fm**	**1.01**	**159**	⇑PN	Pn	08 51 02.0	+0.3
BKZ				SN	Sn	08 51 20.5	-0.5
NGZ	**Ngauruhoe**	**1.01**	**200**	P	Pn	08 51 02.3	+0.6
NGZ	**Ngauruhoe**	**1.01**	**200**	PN	Pn	08 51 02.2	+0.5
WPVZ	**Whakapapa**	**1.06**	**201**	P	Pn	08 51 02.6	+0.5
WPVZ	**Whakapapa**	**1.06**	**201**	PN	Pn	08 51 02.4	+0.3
TUVZ	**Tukino**	**1.09**	**196**	PN	Pn	08 51 02.8	+0.4
FWVZ	**Far West T-bar**	**1.10**	**200**	P	Pn	08 51 02.2	-0.3
FWVZ	**Far West T-bar**	**1.10**	**200**	PN	Pn	08 51 02.1	-0.4
DRZ	**Dome Shelter**	**1.12**	**199**	P	Pn	08 51 02.1	-0.5
WNVZ	**Wahianoa**	**1.16**	**197**	P	Pn	08 51 03.3	+0.3
WNVZ	**Wahianoa**	**1.16**	**197**	PN	Pn	08 51 03.2	+0.2
MWZ	**Matawai**	**1.18**	**96**	P	Pn	08 51 03.4	+0.2
MWZ	**Matawai**	**1.18**	**96**	⇑PN	Pn	08 51 03.3	+0.1
PKVZ	**Pokaka**	**1.20**	**207**	PN	Pn	08 51 04.1	+0.8
MOVZ	**Moawhango**	**1.21**	**191**	P	Pn	08 51 03.3	-0.1
MOVZ				S	Sn	08 51 24.3	+0.3
MOVZ	**Moawhango**	**1.21**	**191**	PN	Pn	08 51 03.2	-0.2
MOVZ				SN	Sn	08 51 23.3	-0.7
VRZ	**Vera Road**	**1.35**	**227**	PN	Pn	08 51 04.9	+0.1
KNZ	**Kokohu**	**1.51**	**122**	P	Pn	08 51 06.8	+0.3
KNZ	**Kokohu**	**1.51**	**122**	PN	Pn	08 51 06.7	+0.3
WAZ	**Wanganui**	**1.74**	**208**	P	Pn	08 51 08.8	-0.1
WAZ	**Wanganui**	**1.74**	**208**	PN	Pn	08 51 08.8	-0.1
PUZ	**Puketiti**	**1.76**	**86**	P	Pn	08 51 08.9	-0.2
PUZ	**Puketiti**	**1.76**	**86**	PN	Pn	08 51 08.9	-0.2
PUZ				SN	Sn	08 51 33.9	-0.2
TSZ	**Takapari Road**	**1.84**	**182**	P	Pn	08 51 09.0	-1.0
TSZ	**Takapari Road**	**1.84**	**182**	PN	Pn	08 51 09.0	-1.0
WPHZ	**Waipukurau**	**1.87**	**170**	PN	Pn	08 51 10.0	-0.4
MXZ	**Matakaoa Point**	**1.91**	**71**	P	Pn	08 51 11.0	+0.2
MXZ	**Matakaoa Point**	**1.91**	**71**	PN	Pn	08 51 11.0	+0.2
PXZ	**Pawanui**	**1.92**	**161**	PN	Pn	08 51 10.7	-0.2
BFZ	**Birch Farm**	**2.46**	**176**	P	Pn	08 51 16.0	-1.4
BFZ	**Birch Farm**	**2.46**	**176**	PN	Pn	08 51 16.0	-1.4
MRZ	**Mangatainoka R**	**2.46**	**188**	PN	Pn	08 51 15.8	-1.6
TIWZ	**Tintock**	**2.56**	**183**	PN	Pn	08 51 17.2	-1.3
KIW	**Kapiti Island**	**2.78**	**198**	P	Pn	08 51 18.9	-2.3
KIW	**Kapiti Island**	**2.78**	**198**	PN	Pn	08 51 18.9	-2.3
MTW	**Mount Morrison**	**2.96**	**188**	P	Pn	08 51 21.1	-2.5
MTW	**Mount Morrison**	**2.96**	**188**	PN	Pn	08 51 21.1	-2.4
CAW	**Cannon Point**	**2.98**	**194**	P	Pn	08 51 21.3	-2.5
CAW	**Cannon Point**	**2.98**	**194**	PN	Pn	08 51 21.3	-2.4
DUWZ	**D'Urville Isla**	**3.06**	**212**	PN	Pn	08 51 22.1	-2.6
MRW	**Makara Radio**	**3.18**	**199**	P	Pn	08 51 23.4	-2.9
MRW	**Makara Radio**	**3.18**	**199**	PN	Pn	08 51 23.4	-2.8
TRWZ	**Traveller**	**3.19**	**185**	PN	Pn	08 51 23.9	-2.4
WEL	**Wellington**	**3.21**	**197**	P	Pn	08 51 23.8	-2.9
WEL	**Wellington**	**3.21**	**197**	PN	Pn	08 51 23.8	-2.9
MSWZ	**Moikau Station**	**3.25**	**191**	P	Pn	08 51 24.4	-2.8
MSWZ	**Moikau Station**	**3.25**	**191**	PN	Pn	08 51 24.4	-2.8
SNZO	**South Karori**	**3.25**	**198**	P	Pn	08 51 24.2	-3.0
SNZO	**South Karori**	**3.25**	**198**	PN	Pn	08 51 24.2	-3.0
TCW	**Tory Channel**	**3.28**	**204**	P	Pn	08 51 24.6	-3.0
TCW	**Tory Channel**	**3.28**	**204**	PN	Pn	08 51 24.6	-3.0
NNZ	**Nelson**	**3.63**	**214**	*e*P	Pn	08 51 28.5	-3.5
NNZ	**Nelson**	**3.63**	**214**	PN	Pn	08 51 28.5	-3.5
QRZ	**Quartz Range**	**3.76**	**225**	*e*P	Pn	08 51 29.8	-3.9
QRZ	**Quartz Range**	**3.76**	**225**	PN	Pn	08 51 29.8	-4.0
BSWZ	**Blackbirch Sta**	**3.87**	**205**	P	Pn	08 51 31.8	-3.3
BSWZ	**Blackbirch Sta**	**3.87**	**205**	PN	Pn	08 51 31.6	-3.5
THZ	**Tophouse**	**4.28**	**213**	*e*P	Pn	08 51 36.7	-3.8
THZ	**Tophouse**	**4.28**	**213**	PN	Pn	08 51 36.7	-3.8
KHZ	**Kahutara**	**4.61**	**204**	*e*P	Pn	08 51 40.8	-4.0
KHZ	**Kahutara**	**4.61**	**204**	PN	Pn	08 51 40.8	-4.0
DSZ	**Denniston Nort**	**4.79**	**221**	*e*PN	Pn	08 51 42.2	-5.1
LTZ	**Lake Taylor**	**5.39**	**211**	*e*P	Pn	08 51 50.6	-4.5
LTZ	**Lake Taylor**	**5.39**	**211**	*e*PN	Pn	08 51 50.5	-4.6
LTZ				SN	Sn	08 52 48.2	-8.3
MQZ	**McQueen's Vall**	**6.05**	**204**	*e*P	Pn	08 51 57.9	-6.0
MQZ	**McQueen's Vall**	**6.05**	**204**	PN	Pn	08 51 57.8	-6.1
WVZ	**Waitaha Valley**	**6.31**	**218**	SN	Sn	08 53 08.0	-10
ODZ	**Otahua Downs**	**7.92**	**209**	*e*P	Pn	08 52 22.6	-6.2
ODZ	**Otahua Downs**	**7.92**	**209**	*e*PN	Pn	08 52 22.5	-6.3

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*ISCJB **04** 08:57:47.7±3.0,3349S±008×1788W±02,h21^{km}±25^{km}, mb4.0/5,MS3.7/1,Error ellipse: s-maj=28.7km s-min=8.8km az=40.3*
*NEIC **04** 08:57:51.2±1.2,3350S×17889W,h35^{km}±11^{km},mb4.1/3, Error ellipse: s-maj=24.1km s-min=10.7km az=104.0*
*IDC **04** 08:57:51.7±8.9,3352S×17869W,h48^{km}±88^{km},mb3.9/2, mb1 4.1/3,mb1mx3.6/13,mbtmp4.1/3,ML3.6/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/22,Error ellipse: s-maj=83.3km s-min=58.9km az=159.0*
ISC 04 08:57:51.2±1.3**,3348S**±008×**1788W**±02**,h38**^{km}±12^{km}**,n21,** σ**0**^{s}**95**/21**,mb4.0**/5**,MS3.7**/1**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.28**	**10**	*e*Pn	**Pn**	**08 58 54.5**	**+0.8**
MXZ	**Matakaoa Point**	**4.73**	**210**	*e*P	**Pn**	**08 58 59.2**	**-0.8**
MXZ				S	**Sn**	**08 59 53.8**	**+0.2**
MXZ	**Matakaoa Point**	**4.73**	**210**	*e*PN	**Pn**	**08 58 59.2**	**-0.8**
MXZ				SN	**Sn**	**08 59 53.8**	**+0.3**
MWZ	**Matawai**	**5.71**	**211**	*e*P	**Pn**	**08 59 11.2**	**-2.2**
MWZ	**Matawai**	**5.71**	**211**	*e*PN	**Pn**	**08 59 11.2**	**-2.2**
MWZ				SN	**Sn**	**09 00 19.0**	**+1.3**
URZ	**Urewera**	**5.84**	**214**	P	**Pn**	**08 59 15.7**	**+0.6**
	1.6nm,0.3s,baz=23,slow=6.2,SNR=18						
URZ				S	**Sn**	**09 00 21.5**	**+0.7**
	3.9nm,0.3s,baz=147,slow=21,SNR=9.1						
URZ	**Urewera**	**5.84**	**214**	*e*P	**Pn**	**08 59 14.6**	**-0.6**
URZ	**Urewera**	**5.84**	**214**	*e*PN	**Pn**	**08 59 14.6**	**-0.6**
URZ				SN	**Sn**	**09 00 21.2**	**+0.4**
THZ	**Tophouse**	**10.59**	**216**	SN	**Sn**	**09 02 11.6**	**-6.0**
KHZ	**Kahutara**	**10.80**	**212**	SN	**Sn**	**09 02 14.5**	**-8.2**
DZM	**Mont Dzumac**	**17.32**	**307**	LR	LR	09 07 08.2	
	comp=Z,69nm,18.5s,baz=224,slow=32						
ASAR	**Alice Springs**	**42.41**	**271**	P	**P**	**09 05 42.2**	**+0.3**
	2.1nm,0.7s,mb3.9,baz=113,slow=7.5,SNR=32						
WB2	**Warramunga Arr**	**43.67**	**276**	*e*P	**P**	**09 05 51.9**	**-0.2**
WRA	**Warramunga Arr**	**43.68**	**276**	P	**P**	**09 05 52.1**	**-0.1**
	2.3nm,0.7s,mb4.0,baz=117,slow=7.6,SNR=21						
VNDA	**Vanda**	**44.98**	**186**	*e*P	**P**	**09 06 02.5**	**-0.1**
	2.3nm,1.5s,mb3.8						
FITZ	**Fitzroy Crossi**	**51.79**	**273**	LR	LR	09 30 49.6	
	comp=Z,72nm,18.0s,MS3.7,baz=92,slow=38						
CASY	**Casey**	**52.14**	**209**	*e*P	**P**	**09 06 56.3**	**-1.4**
	1.5nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**56.64**	**180**	*e*P	**P**	**09 07 31.8**	**+1.4**
	1.5nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**147.78**	**338**	PKPbc	PKPbc	09 17 29.7	-2.2
	2.0nm,0.9s,baz=72,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**147.78**	**338**	PKPbc	PKPbc	09 17 29.7	-2.2
CLL	**Collm**	**160.23**	**338**	*e*PKPab	PKPab	09 18 31.0	+4.1

WEL 04 09:02:08.2±0.1**,4171S**×**17249E,h11**^{km}±1^{km}**,ML3.6**/25**, 3D,Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.31**	**100**	P*	Pg	09 02 13.9	-0.6
THZ				SG	Sg	09 02 18.6	-0.1
DSZ	**Denniston Nort**	**0.52**	**266**	P*	Pb	09 02 17.9	-1.4
DSZ				S*	Sg	09 02 24.6	-0.6
DSZ				S*	Sg	09 02 25.0	-0.2
NNZ	**Nelson**	**0.83**	**54**	⇓P*	Pb	09 02 23.1	-1.5
NNZ				S*	Sb	09 02 34.8	-0.9
QRZ	**Quartz Range**	**0.88**	**2**	P*	Pb	09 02 24.9	-0.6
QRZ				S*	Sb	09 02 37.1	-0.2
BSWZ	**Blackbirch Sta**	**1.03**	**91**	⇓P*	Pb	09 02 27.3	-0.8
KHZ	**Kahutara**	**1.05**	**133**	P*	Pb	09 02 27.9	-0.6
LTZ	**Lake Taylor**	**1.09**	**189**	P*	Pb	09 02 28.1	-1.0
LTZ				S*	Sb	09 02 42.8	-0.4
DUWZ	**D'Urville Isla**	**1.41**	**50**	PN	Pn	09 02 32.9	-0.9
TCW	**Tory Channel**	**1.43**	**70**	⇓PN	Pn	09 02 33.4	-0.7
SNZO	**South Karori**	**1.71**	**77**	PN	Pn	09 02 37.5	-0.4
MRW	**Makara Radio**	**1.73**	**75**	PN	Pn	09 02 37.8	-0.4
BHW	**Baring Head**	**1.81**	**81**	PN	Pn	09 02 39.0	-0.3
CRLZ	**Canterbury Las**	**1.87**	**177**	PN	Pn	09 02 37.7	-2.5
WVZ	**Waitaha Valley**	**1.89**	**223**	PN	Pn	09 02 39.0	-1.4
MQZ	**McQueen's Vall**	**2.00**	**177**	PN	Pn	09 02 39.9	-2.1
KIW	**Kapiti Island**	**2.01**	**66**	PN	Pn	09 02 42.6	+0.6
CAW	**Cannon Point**	**2.03**	**74**	PN	Pn	09 02 42.4	+0.1
MSWZ	**Moikau Station**	**2.09**	**83**	PN	Pn	09 02 42.3	-0.9
MTW	**Mount Morrison**	**2.33**	**77**	PN	Pn	09 02 45.3	-1.2
MRZ	**Mangatainoka R**	**2.55**	**67**	PN	Pn	09 02 49.4	-0.2
FOZ	**Fox Glacier**	**2.78**	**227**	*e*PN	Pn	09 02 49.8	-2.8
VRZ	**Vera Road**	**3.10**	**35**	*e*PN	Pn	09 02 57.2	0.0

ODZ	**Otahua Downs**	**3.60**	**201**	ePN	Pn	09 03 02.0	-1.9
JCZ	**Jackson Bay**	**3.62**	**228**	PN	Pn	09 03 02.3	-2.0
WCZ	**Waipu Caves**	**5.94**	**15**	ePN	Pn	09 03 35.4	-0.7

IDC 04 09:04:27.9±2.5**, 100S×12769E, h0^{km}, mb3.3**/2**, mb1 3.3**/3**, mb1mx3.2**/16**, mbtmp3.2**/3**, ML3.1**/1**, Error ellipse: s-maj=226.8km s-min=26.3km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.92**	**161**	P	Pn	09 09 01.2	-1.4
	0.1nm,0.3s,baz=343,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**23.32**	**165**	P	P	09 09 37.9	+0.3
	0.4nm,0.6s,baz=346,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**61.98**	**326**	P	P	09 14 49.8	+0.2
	0.3nm,0.4s,baz=108,slow=7.1,SNR=5.8						

*ATH **04** 09:11:58.8, 3895N×2435E, h10^{km}, MD2.9/3*
*ISCJB **04** 09:12:10.1±0.5, 3992N±004×2454E±004, h26^{km}±5^{km}, Error ellipse: s-maj=6.1km s-min=4.7km az=173.3*
*NEIC **04** 09:12:10.4, 3989N×2452E, h22^{km}, MD2.9(ATH), ML3.2(THE), After THE.*
*THE **04** 09:12:10.4, 3989N×2452E, h22^{km}, ML2.7*
*CSEM **04** 09:12:10.0±0.2, 3990N×2453E, h30^{km}, ML2.7, Error ellipse: s-maj=4.6km s-min=2.5km az=6.0*
ISC 04 09:12:10.1±0.6**, 3992N**±004×**2453E**±004**, h23^{km}**±6^{km}**, n14, σ0^{s}81**/25**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.42**	**88**	ePg	**Pb**	**09 12 18.9**	**0.0**
LOS				eSg	**Sb**	**09 12 25.2**	**+0.2**
LIA	**Limnos Island**	**0.50**	**92**	ePB	**Pb**	**09 12 20.4**	**+0.1**
OUR	**Ouranopolis**	**0.59**	**315**	ePg	**Pb**	**09 12 22.2**	**+0.4**
OUR				eSg	**Sb**	**09 12 30.4**	**+0.7**
PAIG	**Paliouri**	**0.66**	**271**	ePg	**Pb**	**09 12 22.4**	**-0.4**
PAIG				eSg	**Sb**	**09 12 31.9**	**+0.3**
AOS	**Alonnisos**	**0.90**	**214**	ePg	**Pb**	**09 12 27.3**	**+0.2**
AOS				eSg	**Sb**	**09 12 38.5**	**-0.1**
PLG	**Polygyros**	**0.95**	**299**	ePg	**Pb**	**09 12 28.3**	**+0.5**
PLG				eSg	**Sb**	**09 12 40.3**	**+0.3**
PLG	**Polygyros**	**0.95**	**299**	ePB	**Pb**	**09 12 28.1**	**+0.2**
XOR	**Xorichti**	**1.17**	**242**	ePg	**Pn**	**09 12 30.4**	**-0.7**
XOR				eSg	**Sn**	**09 12 45.3**	**-1.0**
SOH	**Sokhos**	**1.27**	**315**	ePg	**Pn**	**09 12 33.4**	**+0.9**
SOH				eSg	**Sn**	**09 12 48.8**	**0.0**
HORT	**Hortiatis**	**1.29**	**302**	ePg	**Pn**	**09 12 33.9**	**+1.3**
HORT				eSg	**Sn**	**09 12 49.5**	**+0.3**
ALN	**Alexandroupoli**	**1.51**	**49**	ePg	**Pn**	**09 12 36.9**	**+1.1**
ALN				eSg	**Sn**	**09 12 54.2**	**-0.5**
ALN	**Alexandroupoli**	**1.51**	**49**	ePg	**Pn**	**09 12 36.8**	**+1.0**
ALN				eSg	**Sn**	**09 12 54.2**	**-0.5**
MMB	**Musomiste**	**1.78**	**340**	ePb	**Pb**	**09 12 39.7**	**-2.3**
MMB				eSb	**Sb**	**09 13 02.5**	**-1.3**
KZN	**Kozani**	**2.15**	**281**	ePN	**Pn**	**09 12 40.8**	**-3.7**

WEL 04 09:41:31.2±1.2**, 3485S×17820E, h33^{km}, ML3.6**/2**, Error ellipse: s-maj=19.2km s-min=8.4km az=90.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.71**	**178**	PN	Pn	09 42 12.4	0.0
MXZ				SN	Sn	09 42 42.1	-1.9
URZ	**Urewera**	**3.52**	**194**	ePN	Pn	09 42 22.8	-0.7
URZ				SN	Sn	09 43 03.6	-0.3
MWZ	**Matawai**	**3.52**	**189**	ePN	Pn	09 42 22.8	-0.8
MWZ				SN	Sn	09 43 01.9	-2.1

*ISCJB **04** 09:57:09.4±2.6, 414N±02×7266E±009, h10^{km}, Error ellipse: s-maj=29.9km s-min=8.4km az=20.8*
*KNET **04** 09:57:11.8±0.5, 4178N×7282E, h10^{km}±2^{km}, ml3.1, Error ellipse: s-maj=3.1km s-min=2.5km az=123.0*
*NNC **04** 09:57:11.1±10.0, 4165N×7238E, h0^{km}, mb3.7, mpv3.3, Error ellipse: s-maj=113.1km s-min=28.2km az=4.0*
ISC 04 09:57:07.8±2.4**, 412N**±02×**7258E**±009**, h10^{km}, n12, σ1^{s}16**/15**, 3C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.25**	**42**	P	**Pn**	**09 57 26.4**	**-4.8**
	SNR=532						
EKS2	**Erkin-Say**	**1.71**	**31**	P	**Pn**	**09 57 33.4**	**-4.1**
	SNR=37						
AAK	**Ala-Archa**	**2.02**	**45**	P	**Pn**	**09 57 40.2**	**-1.6**
	SNR=113						
KZA	**Kyzart**	**2.18**	**66**	P	**Pn**	**09 57 45.8**	**+1.8**
	SNR=31						
KBK	**Karagaybulak**	**2.29**	**50**	P	**Pn**	**09 57 45.8**	**+0.3**
	SNR=57						
CHMS	**Chumysh**	**2.41**	**41**	P	**Pn**	**09 57 46.7**	**-0.5**
	SNR=43						
KK31	**Karatay Array**	**2.44**	**322**	⇓Pn	**Pn**	**09 57 48.4**	**+0.8**
	16nm,0.4s,baz=124,slow=13,SNR=353						
KK31				⇑Sn	**Sn**	**09 58 18.4**	**+1.0**
	44nm,0.3s,baz=132,slow=30,SNR=13						
USP	**Ospenovka**	**2.50**	**34**	P	**Pn**	**09 57 47.3**	**-1.2**
	SNR=154						
TKM2	**Tokmak 2**	**2.83**	**52**	P	**Pn**	**09 57 54.1**	**+1.2**
	SNR=52						
TKM2	**Tokmak 2**	**2.83**	**52**	⇑Pn	**Pn**	**09 57 53.8**	**+0.9**
	1.6nm,0.4s						
TKM2				⇓Sn	**Sn**	**09 58 27.1**	**+0.1**
	3.2nm,0.5s						
MK31	**Makanchi Array**	**8.95**	**48**	⇓Pn	**Pn**	**09 59 26.5**	**+9.4**
	1.8nm,0.6s,baz=234,slow=14,SNR=5.5						
MK31				⇑Sn	**Sn**	**10 01 08.3**	**+10**
	4.4nm,1.1s,baz=244,slow=28,SNR=2.6						
AB31	**Akbulak array**	**11.99**	**316**	⇓Pn	**Pn**	**09 59 56.9**	**-1.7**
	0.8nm,0.6s,baz=124,slow=15,SNR=6.6						

CASC 04 11:02:09.3±8.5**, 1314N×8744W, h13^{km}**±32^{km}**, MD3.6, ML2.5, 2C, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.58**	**139**	⇑eP	Pg	11 02 23.1	+2.5
TELN	**Telica**	**0.79**	**132**	eP	Pg	11 02 22.9	-1.7
LEON	**Leon**	**0.89**	**144**	⇑iP	Pg	11 02 24.0	-2.6
LEON				eS	Sg	11 02 38.6	+0.3
CNGN	**Cerro Negro**	**0.96**	**131**	eP	Pb	11 02 24.4	-3.3
CNGN				eS	Sg	11 02 43.2	+2.8
CNGN				i		11 02 48.9	
	comp=N,166nm,0.7s						
COPN	**Copaltepe**	**1.26**	**139**	eP	Pn	11 02 27.6	-5.0
COPN				eS	Sb	11 02 44.9	-4.1
LCBS	**La Ceiba**	**1.59**	**289**	eP	x	11 02 53.0	
LCBS				eS	x	11 03 18.4	
LFRS	**El Faro**	**1.65**	**287**	eP	x	11 02 53.6	
LFRS				eS	x	11 03 19.0	

NNC 04 11:44:18.5±15.0**, 3745N×6961E, h0^{km}, mb3.3, mpv2.9, 4C-1D, Error ellipse: s-maj=163.4km s-min=84.7km az=5.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**7**	⇑Pn	Pn	11 45 47.2	+3.0
	2.3nm,0.7s,baz=197,slow=15,SNR=4.1						
KK31				⇑Lg		11 47 16.5	
	12nm,0.8s,baz=187,slow=28,SNR=6.5						
TKM2	**Tokmak 2**	**7.13**	**38**	⇓Pn	Pn	11 46 02.0	-2.0
	0.2nm,0.6s						
AB31	**Akbulak array**	**13.72**	**332**	⇑Pn	Pn	11 47 33.2	-1.0
	0.2nm,0.3s,baz=155,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**15.40**	**331**	⇑Pn	Pn	11 48 01.2	+4.2

*ISCJB **04** 12:09:12.5±0.9, 24.13S±004×67.1W±0.1, h186^{km}±10^{km}, mb4.0/5, Error ellipse: s-maj=16.7km s-min=6.5km az=11.2*
*NEIC **04** 12:09:12.5±1.1, 2409S×6684W, h170^{km}±12^{km}, mb4.0/9, Error ellipse: s-maj=22.1km s-min=9.5km az=87.0*
*GUC **04** 12:09:15.0±0.9, 2432S×6742W, h200^{km}, ML4.5*
ISC 04 12:09:13.5±0.9**, 2416S**±004×**671W**±01**, h176^{km}**±10^{km}**, n20, σ1^{s}26**/28**, mb4.0**/5**, 3C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**312**	ePn	**Pn**	**12 09 54.9**	**+1.3**
LVC				eSn	**Sn**	**12 10 25.1**	**+0.4**
CEN1	**Los Morros**	**2.99**	**284**	⇓iP	**Pn**	**12 10 03.7**	**+1.9**
CEN1				i S	**Sn**	**12 10 40.1**	**+0.8**
CEN1				AML	AML	12 10 41.7	
	comp=N,540nm,0.4s						
CPN1	**Cerro Paranal**	**3.10**	**261**	eP	**Pn**	**12 10 04.2**	**+1.1**
CPN1				i S	**Sn**	**12 10 41.2**	**-0.5**
CPN1				AML	AML	12 10 43.4	
	comp=E,813nm,0.5s						
ANCH	**Antofagasta**	**3.12**	**278**	⇑iP	**Pn**	**12 10 04.3**	**+1.0**
ANCH				i S	**Sn**	**12 10 41.0**	**-1.1**
ANCH				AML	AML	12 10 43.4	
	comp=N,1μm,0.1s						
ANCH	**Antofagasta**	**3.12**	**278**	⇑iP	**Pn**	**12 10 04.3**	**+1.0**
ANCH				i S	**Sn**	**12 10 41.0**	**-1.1**
CDCH	**Caldera**	**4.48**	**229**	⇑iP	**Pn**	**12 10 20.1**	**-0.5**
CDCH				i S	**Sn**	**12 11 10.2**	**-2.8**
VACH	**Vallenar**	**5.51**	**216**	i S	**Sn**	**12 11 35.9**	**-1.4**
TLL	**Tololo Astrono**	**6.86**	**208**	eP	**Pn**	**12 10 52.6**	**+1.0**
TLL				i S	**Sn**	**12 12 08.4**	**-0.6**
LPAZ	**La Paz**	**7.90**	**352**	ePn	**Pn**	**12 11 04.0**	**-1.3**
	comp=N,2.7nm,0.4s						
LPAZ				eSn	**Sn**	**12 12 30.5**	**-3.3**
TRQA	**Tornquist**	**14.51**	**164**	ePn	**Pn**	**12 12 31.1**	**+0.5**
	comp=N,4.9nm,0.6s						
NNA	**Nana**	**15.27**	**321**	P	**Pn**	**12 12 42.2**	**+2.3**
	comp=N,49nm,1.4s						
SAML	**Samuel**	**15.57**	**14**	eP	**Pn**	**12 12 40.9**	**-2.7**
	comp=N,2.2nm,0.6s						
VNA3	**Neumayer Olymp**	**57.01**	**161**	e	**P**	**12 18 41.5**	**+0.7**
VNA3				e		12 18 43.9	
VNA3				e		12 18 48.0	
VNA2	**Neumayer--Watz**	**57.58**	**160**	e	**P**	**12 18 45.4**	**+0.6**
VNA2				e		12 18 47.5	
VNA2				e		12 18 51.8	
SNAA	**Sanae**	**59.21**	**161**	e	**P**	**12 18 56.1**	**0.0**
SNAA				e		12 18 58.9	
SNAA	**Sanae**	**59.21**	**161**	eP	**P**	**12 18 55.5**	**-0.6**
	comp=N,2.6nm,1.1s,mb4.0						
WVT	**Waverly**	**63.10**	**341**	eP	**P**	**12 19 20.3**	**-1.9**
	comp=N,3.3nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	**66.04**	**180**	eP	**P**	**12 19 42.1**	**+0.8**
	comp=N,2.1nm,0.4s,mb4.3						
ANMO	**Albuquerque**	**69.66**	**326**	eP	**P**	**12 20 03.2**	**-0.7**
	comp=N,1.8nm,0.9s,mb3.8						
HLID	**Hailey**	**80.20**	**327**	eP	**P**	**12 21 05.0**	**+0.7**
	comp=N,1.4nm,0.8s,mb3.6						

*NIED **04** 12:22:00, 2680N×14120E, h35^{km}, Mw4.1 Best double couple: $M_0$1.47000×10^{15} NP1:ϕ_s221.00000°, δ74.00000°, λ65.00000°. NP2:ϕ_s101.00000°, δ30.00000°, λ146.00000°.*
IDC 04 12:22:38.3±1.8**, 2704N×14163E, h86^{km}**±47^{km}**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.4**/21**, mbtmp3.6**/4**, ML3.7**/1**, MS2.9**/3**, Ms1 2.9**/3**, ms1mx2.5**/38**, Error ellipse: s-maj=126.6km s-min=24.8km az=69.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.50**	**83**	P	Pn	12 22 53.4	+0.9
	386nm,0.3s,baz=222,slow=0.8,SNR=453						
CBIJ				S	Sn	12 23 09.0	+5.9
	237nm,0.3s,baz=269,slow=22,SNR=15						
MJAR	**Matsushiro Arr**	**9.91**	**344**	LR	LR	12 28 36.9	
	comp=Z,80nm,20.1s,baz=110,slow=36						
KSRS	**Korea Array**	**15.55**	**315**	P	Pn	12 26 14.2	+1.7
	baz=126,slow=12,SNR=23						
KSRS				LR	LR	12 31 46.8	
	comp=Z,32nm,18.8s,baz=130,slow=35						
ASAJ	**Asahikawa**	**17.06**	**2**	LR	LR	12 33 43.1	
	comp=Z,40nm,19.2s,baz=147,slow=39						
WRA	**Warramunga Arr**	**47.23**	**189**	P	P	12 31 02.8	+0.2
	1.8nm,0.7s,baz=8.7,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**50.13**	**310**	P	P	12 31 24.1	-0.7
	1.1nm,0.8s,baz=96,slow=8.9,SNR=6.3						
BVAR	**Borovoye Array**	**57.75**	**317**	P	P	12 32 20.6	+0.3
	0.4nm,0.4s,baz=87,slow=5.2,SNR=4.2						

*IDC **04** 12:55:35.9±9.4, 2335S×17968W, h476^{km}±47^{km}, mb3.3/5, mb1 3.5/6, mb1mx3.2/15, mbtmp4.3/6, Error ellipse: s-maj=136.2km s-min=22.4km az=45.0*
*ISCJB **04** 12:55:36.5±6.8, 235S±04×1798W±05, h483^{km}±52^{km}, mb3.9/13, Error ellipse: s-maj=89.5km s-min=15.8km az=94.3*
*NEIC **04** 12:55:36.5±5.5, 2347S×17976W, h474^{km}±40^{km}, mb4.0/8, Error ellipse: s-maj=73.9km s-min=12.8km az=47.0*
ISC 04 12:55:36.2±6.4**, 235S**±04×**1797W**±05**, h475^{km}**±47^{km}**, n18, σ0^{s}82**/18**, mb3.9**/13**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.00**	**190**	P	**P**	**12 58 46.5**	**-0.3**
	2.3nm,0.3s,baz=306,slow=1.5,SNR=15						
RPZ	**Rata Peaks**	**21.60**	**199**	P	**P**	**12 59 50.5**	**-0.2**
	5.9nm,0.6s,mb4.3,baz=241,slow=0.7,SNR=6.6						
CTA	**Charters Tower**	**31.80**	**269**	⇓iP	**P**	**13 01 21.9**	**+1.4**
	8.1nm,0.4s,mb4.5						
PMG	**Port Moresby**	**34.67**	**288**	eP	**P**	**13 01 44.1**	**-0.7**
	13nm,0.8s,mb4.4						
AS31	**Alice Springs**	**42.43**	**260**	eP	**P**	**13 02 48.3**	**+0.3**
ASAR	**Alice Springs**	**42.43**	**260**	P	**P**	**13 02 48.2**	**+0.2**
	1.8nm,0.4s,mb3.9,baz=98,slow=7.4,SNR=45						
ASAR				ScP	ScP	13 07 33.9	-1.5
	0.6nm,0.7s,baz=117,slow=4.7,SNR=7.6						
ASPA	**Alice Springs**	**42.43**	**260**	eP	**P**	**13 02 48.3**	**+0.2**
WB2	**Warramunga Arr**	**42.75**	**266**	⇓iP	**P**	**13 02 50.3**	**-0.3**
WRAB	**Tennant Creek**	**42.75**	**266**	eP	**P**	**13 02 50.0**	**-0.6**
	3.6nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**13 02 50.1**	**-0.6**
	3.1nm,0.3s,mb4.2,baz=96,slow=8.4,SNR=126						
KAKA	**Kakadu**	**46.60**	**275**	eP	**P**	**13 03 20.3**	**0.0**
	2.6nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.19**	**265**	eP	**P**	**13 03 55.4**	**+0.9**
	2.8nm,0.5s,mb3.9						
SBA	**Scott Base**	**54.82**	**183**	eP	**P**	**13 04 22.1**	**+1.6**
	2.2nm,0.8s,mb3.5						
VNDA	**Vanda**	**54.83**	**185**	P	**P**	**13 04 20.9**	**+0.4**
	0.6nm,0.7s,mb3.0,baz=6.3,slow=5.1,SNR=5.2						
CASY	**Casey**	**60.64**	**206**	P	**P**	**13 04 58.1**	**-2.1**
	1.1nm,0.5s,mb3.5						
QSPA	**South Pole Qui**	**66.61**	**180**	eP	**P**	**13 05 39.4**	**+0.9**
	2.6nm,0.7s,mb4.0						
MAW	**Mawson**	**78.26**	**200**	P	**P**	**13 06 45.9**	**-0.2**
	0.8nm,0.6s,mb3.4,baz=124,slow=6.4,SNR=7.4						
SNAA	**Sanae**	**85.09**	**179**	eP	**P**	**13 07 20.1**	**-1.0**

*ISCJB **04** 12:58:02.9±0.4, 5148N±002×1608E±002, h0^{km}, Error ellipse: s-maj=3.4km s-min=2.0km az=35.4*
*NEIC **04** 12:58:03.9±0.3, 5159N×16.13E, h5^{km}, ML3.1(SZGRF), Error ellipse: s-maj=3.8km s-min=3.2km az=201.0*
*WAR **04** 12:58:05.5, 5153N×1607E, ML2.9, Mining Induced*
*IPEC **04** 12:58:05.3±0.3, 5152N×16.11E, h9^{km}±1^{km}, ML2.6/3, Error ellipse: s-maj=2.0km s-min=0.7km az=30.0*
*BGR **04** 12:58:05.6±0.5, 5147N×1607E, h1^{km}, ML3.1, Error ellipse: s-maj=6.7km s-min=3.3km az=18.0*
*IDC **04** 12:58:05.3±0.8, 5149N×1598E, h0^{km}, mb1 3.4/6, mb1mx3.3/22, mbtmp3.4/6, ML2.8/5, Error ellipse: s-maj=13.3km s-min=7.9km az=111.0*
*CSEM **04** 12:58:05.9±0.2, 5147N×1601E, h0^{km}, ML3.5/8, Error ellipse: s-maj=2.7km s-min=1.6km az=22.0*
*PRU **04** 12:58:06.3, 5146N×1603E, h0^{km}*
*VIE **04** 12:58:07.5±0.7, 5129N×16.14E, h0^{km}, mb2.7/5, ML3.0/5, Error ellipse: s-maj=4.4km s-min=4.2km az=116.0 64 km WNW of Breslau Suspected Mining induced.*
ISC 04 12:58:03.9±0.4**, 5153N**±002×**1608E**±002**, h0^{km}, n64, σ0^{s}91**/116**, 5C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**169**	ePg	**Pg**	**12 58 18.4**	**+0.9**
KSP				eSg	**Sg**	**12 58 28.0**	**+1.4**
KSP	**Ksiaz**	**0.70**	**169**	⇓iPg	**Pg**	**12 58 18.3**	**+0.9**
KSP				e		12 58 20.8	
KSP				eSg	**Sg**	**12 58 27.5**	**+0.9**
KSP				e		12 58 32.0	
KSP	**Ksiaz**	**0.70**	**169**	ePg	**Pg**	**12 58 18.2**	**+0.8**
KSP				eSg	**Sg**	**12 58 27.3**	**+0.7**
UPC	**Upice**	**1.03**	**182**	ePG	**Pg**	**12 58 24.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.20**	**173**	ePg	**Pg**	**12 58 27.2**	**+0.3**
DPC				eSg	**Sg**	**12 58 42.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**173**	ePG	**Pg**	**12 58 27.1**	**+0.3**
DPC				eSG	**Sg**	**12 58 42.0**	**-0.3**
	93nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg	**Pg**	**12 58 27.2**	**+0.4**
DPC				eSg	**Sg**	**12 58 42.0**	**-0.3**
PVCC	**Panska Ves**	**1.39**	**224**	ePG	**Pg**	**12 58 30.6**	**+0.1**
PVCC				eSG	**Sg**	**12 58 49.6**	**+1.1**
	237nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**224**	ePg	**Pg**	**12 58 30.6**	**+0.1**
PVCC				eSg	**Sg**	**12 58 49.0**	**+0.5**
BRG	**Berggiesshubel**	**1.50**	**245**	ePg	**Pg**	**12 58 32.9**	**+0.2**
BRG				eSg	**Sg**	**12 58 53.4**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**245**	PN	**Pn**	**12 58 31.5**	**-0.6**
BRG				PG	**Pg**	**12 58 32.7**	**+0.1**
BRG				SG	**Sg**	**12 58 53.0**	**+0.9**
	102nm,0.4s						
FBE	**Freiberg**	**1.82**	**251**	ePg	**Pg**	**12 58 38.6**	**-0.2**
FBE				eSg	**Sg**	**12 59 03.1**	**+0.7**
PRU	**Pruhonice**	**1.83**	**213**	ePN	**Pn**	**12 58 36.4**	**-0.2**
PRU				ePG	**Pg**	**12 58 38.4**	**-0.6**
PRU				eSG	**Sg**	**12 59 01.7**	**-1.0**
	70nm,0.4s						
PRU	**Pruhonice**	**1.83**	**213**	ePn	**Pn**	**12 58 36.3**	**-0.3**
CLL	**Collm**	**1.94**	**264**	ePn	**Pn**	**12 58 37.6**	**-0.6**
CLL				ePg	**Pg**	**12 58 41.0**	**-0.1**
CLL				eSg	**Sg**	**12 59 07.2**	**+1.0**
CLL	**Collm**	**1.94**	**264**	i Pn	**Pn**	**12 58 37.6**	**-0.5**
CLL				ePg	**Pg**	**12 58 41.0**	**-0.1**
CLL				eSg	**Sg**	**12 59 07.0**	**+0.7**
CLL	**Collm**	**1.94**	**264**	i Pn	**Pn**	**12 58 37.6**	**-0.5**
	comp=Z,17nm,0.5s						
CLL				ePg	**Pg**	**12 58 41.0**	**-0.1**
CLL				ex	x	12 58 44.0	
CLL				eSg	**Sg**	**12 59 07.0**	**+0.7**
	comp=Z,85nm,0.6s						
CLL	**Collm**	**1.94**	**264**	Pg	**Pg**	**12 58 41.0**	**-0.1**
CLL				eSg	**Sg**	**12 59 06.5**	**+0.2**
RAC	**Raciborz**	**1.98**	**136**	ePg	**Pg**	**12 58 42.3**	**+0.5**
RAC				eSg	**Sg**	**12 59 07.6**	**+0.1**
MORC	**Moravsky Berou**	**1.99**	**152**	ePn	**Pn**	**12 58 38.3**	**-0.5**
MORC				eSn	**Sn**	**12 59 04.1**	**-0.4**
MORC	**Moravsky Berou**	**1.99**	**152**	ePn	**Pn**	**12 58 38.3**	**-0.5**
MORC				eSn	**Sn**	**12 59 04.1**	**-0.4**
MORC				eSg	**Sg**	**12 59 06.0**	**-1.9**
	comp=Z,35nm,0.5s						
OKC	**Ostrava-Krasne**	**2.15**	**141**	eSg	**Sg**	**12 59 11.8**	**-1.2**
OKC	**Ostrava-Krasne**	**2.15**	**141**	ePG	**Pg**	**12 58 44.8**	**-0.3**
OKC				eSG	**Sg**	**12 59 13.6**	**+0.6**
	comp=Z,119nm,0.7s						
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	**12 58 43.5**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=352,slow=16,SNR=9.4						
VRAC				Lg		12 59 13.8	
	comp=Z,7.0nm,0.3s,baz=72,slow=18,SNR=8.0						
VRAC	**Vranov**	**2.25**	**171**	ePn	**Pn**	**12 58 43.0**	**+0.6**
VRAC				eSg	**Sg**	**12 59 15.2**	**-1.1**
	comp=Z,39nm,0.6s						
KRUC	**Moravsky**	**2.48**	**175**	ePn	**Pn**	**12 58 46.7**	**+1.1**
KRUC	**Moravsky**	**2.48**	**175**	ePg	**Pg**	**12 58 50.2**	**-1.3**
KRUC				eSg	**Sg**	**12 59 23.3**	**-0.4**
	comp=Z,21nm,0.4s						
TANN	**Tannenbergstha**	**2.55**	**245**	ePn	**Pn**	**12 58 46.9**	**+0.4**
TANN				eSg	**Sg**	**12 59 25.2**	**-0.6**
WERD	**Werda**	**2.62**	**247**	ePn	**Pn**	**12 58 47.7**	**+0.2**
WERD				eSg	**Sg**	**12 59 27.1**	**-1.0**
NKC	**Novy Kostel**	**2.64**	**242**	ePN	**Pn**	**12 58 48.5**	**+0.7**
NKC				ePG	**Pg**	**12 58 54.8**	**+0.2**
NKC				eSG	**Sg**	**12 59 29.7**	**+0.8**
	comp=Z,105nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**242**	ePn	**Pn**	**12 58 48.4**	**+0.6**
OJC	**Ojcow**	**2.70**	**118**	ePg	**Pg**	**12 58 55.9**	**+0.2**
OJC				eSg	**Sg**	**12 59 31.1**	**+0.4**
OJC	**Ojcow**	**2.70**	**118**	eSg	**Sg**	**12 59 30.9**	**+0.3**
OJC	**Ojcow**	**2.70**	**118**	ePg	**Pg**	**12 58 55.9**	**+0.2**
OJC				Sg	**Sg**	**12 59 30.9**	**+0.2**
KHC	**Kasperske Hory**	**2.89**	**215**	ePN	**Pn**	**12 58 51.4**	**+0.2**
KHC				ePG	**Pg**	**12 58 57.4**	**-1.9**
KHC				eSG	**Sg**	**12 59 35.4**	**-1.4**
	comp=Z,26nm,0.4s						
MGBB	**Grossbuechelbe**	**2.91**	**239**	⇑iPn	**Pn**	**12 58 52.1**	**+0.6**
MOX	**Moxa**	**2.95**	**254**	ePn	**Pn**	**12 58 52.2**	**+0.2**
MOX				ePg	**Pg**	**12 59 00.7**	**+0.2**
MOX				eSg	**Sg**	**12 59 40.3**	**+1.5**
MOX	**Moxa**	**2.95**	**254**	ePN	**Pn**	**12 58 52.1**	**+0.1**
MOX				ePG	**Pg**	**12 59 00.7**	**+0.2**
MOX				eSG	**Sg**	**12 59 39.8**	**+1.0**
MOX	**Moxa**	**2.95**	**254**	ePg	**Pg**	**12 59 00.5**	**0.0**
MOX				eSg	**Sg**	**12 59 37.7**	**-1.1**
MANZ	**Manzenberg**	**2.96**	**240**	ePn	**Pn**	**12 58 53.1**	**+0.9**
MANZ				eSg	**Sg**	**12 59 37.4**	**-1.6**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	ePn	**Pn**	**12 58 53.9**	**+0.7**
GEC2	**GERESS Array S**	**3.10**	**210**	ePn	**Pn**	**12 58 55.3**	**+1.2**
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**12 58 54.5**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=32,slow=13,SNR=47						
GERES				Pg	**Pg**	**12 59 00.8**	**-2.4**
	comp=Z,3.7nm,0.3s,baz=26,slow=17,SNR=30						
GERES				Lg		12 59 39.7	
	comp=Z,4.8nm,0.3s,baz=28,slow=26,SNR=14						
GERES	**GERESS Array B**	**3.10**	**210**	Pg	**Pg**	**12 59 00.8**	**-2.5**
SMOL	**Smolenice**	**3.15**	**163**	eSG	**Sg**	**12 59 44.5**	**-0.5**
WET	**Wettzell**	**3.15**	**222**	ePn	**Pn**	**12 58 55.3**	**+0.6**
WET	**Wettzell**	**3.15**	**222**	ePn	**Pn**	**12 58 55.3**	**+0.5**
ZST	**Bratislava**	**3.41**	**168**	eSG	**Sg**	**12 59 55.0**	**+1.6**
NIE	**Niedzica**	**3.44**	**126**	eP	**Pg**	**12 59 09.5**	**-0.3**
NIE				eS	**Sg**	**12 59 53.9**	**-0.4**
VYHS	**Vyhne**	**3.52**	**149**	ePG	**Pg**	**12 59 12.0**	**+0.5**
VYHS				eSG	**Sg**	**12 59 57.4**	**+0.2**
GRF	**Grafenberg Arr**	**3.60**	**241**	eSg	**Sg**	**12 59 59.8**	**+0.2**
CONA	**Conrad Observa**	**3.61**	**182**	⇓iPn	**Pn**	**12 59 02.3**	**+1.1**
CONA				⇓iSg	**Sg**	**13 00 00.1**	**+0.1**
	comp=Z,24nm,0.6s						
BSD	**Bornholm Skovb**	**3.65**	**349**	i P	**Pn**	**12 59 00.9**	**-0.8**
BSD				i S	**Sn**	**12 59 46.2**	**+0.7**
MOA	**Molln**	**3.87**	**198**	⇑iPn	**Pn**	**12 59 05.4**	**+0.7**
MOA				⇓iSg	**Sg**	**13 00 08.2**	**-0.1**
	comp=Z,30nm,0.7s						
MOA	**Molln**	**3.87**	**198**	⇑iPn	**Pn**	**12 59 05.4**	**+0.7**
MOA				i Sg	**Sg**	**13 00 08.2**	**-0.1**
STHS	**Stebnicka Huta**	**3.92**	**121**	ePG	**Pg**	**12 59 19.4**	**+0.3**
STHS				eSG	**Sg**	**13 00 13.6**	**+3.7**
KECS	**Kecovo**	**4.17**	**135**	ePG	**Pg**	**12 59 23.3**	**-0.6**
KECS				eSG	**Sg**	**13 00 20.3**	**+2.3**
ARSA	**Arzberg**	**4.30**	**185**	⇑iPn	**Pn**	**12 59 11.4**	**+0.8**
ARSA				⇑iSg	**Sg**	**13 00 20.9**	**-1.2**
	comp=Z,24nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.34**	**125**	ePG	**Pg**	**12 59 28.1**	**+0.9**
KWP	**Kalwaria**	**4.63**	**112**	ePn	**Pg**	**12 59 28.9**	**-3.8**
DAVOX	**Davos**	**6.26**	**223**	Pn	**Pn**	**12 59 37.9**	**+0.4**
	baz=45,slow=17,SNR=2.8						
DAVOX				Lg		13 01 21.0	
	baz=184,slow=16,SNR=2.9						
AKASG	**Malin Array Be**	**8.32**	**91**	Pn	**Pn**	**13 00 04.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=5.4						
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**13 00 09.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=3.3						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**13 00 44.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=4.6						

*NNC **04** 13:22:09.0±6.4, 4371N×8244E, h15^{km}±27^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=67.6km s-min=19.0km az=123.0*
BJI 04 13:21:59.0, 4303N×8229E, h14^{km}, ML3.2, 5C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.76**	**0**	⇑Pn	Pn	13 22 58.4	+1.8
	0.3nm,0.2s,baz=198,slow=13,SNR=169						
MK31				⇓Pg	Pg	13 23 06.4	-4.7
	3.3nm,0.3s,baz=165,slow=15,SNR=9.0						
MK31				⇓Sn	Sn	13 23 40.3	-0.4
	6.1nm,0.3s,baz=178,slow=27,SNR=3.8						
MK31				⇑Lg		13 23 50.3	
	9.6nm,0.2s,baz=179,slow=30,SNR=8.8						
KNDC	**Almaty**	**3.90**	**275**	⇑Pn	Pn	13 23 15.9	+17
	34nm,0.6s						
KNDC				⇓Lg		13 24 13.3	
	61nm,0.4s						
WMQ	**Urumqi**	**4.02**	**77**	ePG	Pg	13 23 11.5	-4.4

WMQ				SG	Sg	13 23 58.0	-10
WMQ				Smax			
	comp=N,32nm,0.6s						
WMQ				Smax			
	comp=E,30nm,0.5s						
TKM2	**Tokmak 2**	**4.91**	**271**	⇑Pn	Pn	13 23 21.1	+8.8
	comp=E,0.5nm,0.6s						
TKM2				⇑Lg		13 24 42.0	
	comp=E,3.2nm,0.5s						
KK31	**Karatay Array**	**8.62**	**274**	⇓Pn	Pn	13 24 16.7	+13
	comp=E,0.6nm,0.5s,baz=77,slow=15,SNR=4.1						
KK31				⇓Lg		13 26 41.8	
	comp=E,3.6nm,0.6s,baz=83,slow=27,SNR=9.1						

*ISCJB **04** 13:29:56.5±1.2, 20.12S±0.09×178.2W±0.1, h514km±14km, mb3.8/19, Error ellipse: s-maj=17.4km s-min=10.1km az=81.0*

*NEIC **04** 13:29:58.6±1.1, 20.12S×178.16W, h527km±13km, mb4.0/11, Error ellipse: s-maj=14.7km s-min=8.9km az=133.0*

*IDC **04** 13:29:58.9±2.2, 20.12S×178.13W, h524km±26km, mb3.2/9, mb1 3.5/11, mb1mx3.4/16, mbtmp3.2/11, Error ellipse: s-maj=19.3km s-min=14.1km az=141.0*

ISC 04 13:29:58.9±1.4**, 20.20S**±0.09×**178.1W**±0.1**, h532**km±16km**, n36, σ0^{s}95**/35**, mb3.8**/19**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.70**	**45**	P	**P**	**13 32 03.0**	**-0.2**
	2.6nm,0.3s,baz=231,slow=13,SNR=3.7						
AFI	**Afiamalu**	**8.70**	**45**	*e*Pn	**P**	**13 32 02.6**	**-0.6**
AFI				*e*Sn	**S**	**13 33 39.3**	**-5.9**
URZ	**Urewera**	**18.47**	**192**	P	**P**	**13 33 41.2**	**-0.7**
	1.9nm,0.3s,baz=328,slow=3.6,SNR=14						
AS31	**Alice Springs**	**44.49**	**256**	*e*P	**P**	**13 37 21.8**	**-1.0**
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**13 37 24.0**	**+1.1**
	2.2nm,0.5s,mb3.9,baz=89,slow=8.0,SNR=49						
ASAR				PcP	PcP	13 38 55.5	+0.8
	0.6nm,0.5s,baz=105,slow=3.8,SNR=7.0						
WRAB	**Tennant Creek**	**44.53**	**262**	*e*P	**P**	**13 37 23.4**	**+0.2**
	1.1nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**13 37 24.0**	**+0.8**
	0.9nm,0.4s,mb3.7,baz=97,slow=7.8,SNR=44						
FITZ	**Fitzroy Crossi**	**52.97**	**262**	P	**P**	**13 38 26.6**	**+0.9**
	1.7nm,0.9s,mb3.4,baz=117,slow=6.8,SNR=2.7						
SBA	**Scott Base**	**58.16**	**184**	*e*P	**P**	**13 39 03.8**	**+2.0**
	6.6nm,0.9s,mb3.9						
VNDA	**Vanda**	**58.20**	**185**	P	**P**	**13 39 03.4**	**+1.3**
	1.4nm,0.6s,mb3.4,baz=353,slow=7.1,SNR=15						
VNDA	**Vanda**	**58.20**	**185**	*e*P	**P**	**13 39 02.9**	**+0.8**
	1.2nm,0.8s,mb3.2						
CASY	**Casey**	**64.19**	**205**	*e*P	**P**	**13 39 37.5**	**-3.9**
	4.7nm,0.9s,mb3.9						
KKM	**Kota Kinabalu**	**69.58**	**285**	P	**P**	**13 40 21.6**	**+7.1**
QSPA	**South Pole Qui**	**69.87**	**180**	*e*P	**P**	**13 40 17.1**	**+0.8**
	7.5nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**69.91**	**324**	P	**P**	**13 40 16.2**	**-0.3**
	0.5nm,0.4s,mb3.4,baz=151,slow=6.0,SNR=5.0						
ISA	**Isabella**	**79.20**	**46**	P	**P**	**13 41 09.1**	**+0.4**
CMB	**Columbia Colle**	**79.31**	**43**	*e*P	**P**	**13 41 09.3**	**-0.1**
	1.3nm,0.7s,mb3.4						
NVAR	**Mina Array Bea**	**80.88**	**43**	P	**P**	**13 41 18.5**	**+1.0**
	1.2nm,0.8s,mb3.4,baz=234,slow=7.7,SNR=8.5						
MAW	**Mawson**	**81.81**	**200**	P	**P**	**13 41 22.2**	**-0.1**
	0.9nm,0.5s,mb3.4,baz=120,slow=4.7,SNR=6.7						
MAW	**Mawson**	**81.81**	**200**	*e*P	**P**	**13 41 21.0**	**-1.3**
	7.6nm,1.3s,mb4.0						
PMR	**Palmer**	**84.75**	**13**	*e*P	**P**	**13 41 35.8**	**-1.2**
	1.4nm,0.6s,mb3.7						
TXAR	**Lajitas Array**	**86.98**	**57**	P	**P**	**13 41 49.1**	**+1.4**
	0.4nm,0.5s,mb3.3,baz=219,slow=7.3,SNR=7.9						
SYO	**Syowa Base**	**87.00**	**193**	⇓*e*P	**P**	**13 41 46.0**	**-1.7**
SYO	**Syowa Base**	**87.00**	**193**	⇓*e*PP	PP	13 45 19.8	-0.8
NEW	**Newport**	**87.19**	**36**	P	**P**	**13 41 47.9**	**-0.7**
	11nm,1.6s,mb4.2						
MCMT	**McKenzie Canyo**	**87.79**	**40**	*e*P	**P**	**13 41 52.6**	**+1.2**
COLA	**College**	**87.94**	**12**	*e*P	**P**	**13 41 50.9**	**-1.2**
	4.5nm,0.7s,mb4.3						
SNAA	**Sanae**	**88.31**	**179**	*e*	**P**	**13 41 52.8**	**-1.1**
SNAA	**Sanae**	**88.31**	**179**	*e*P	**P**	**13 41 52.8**	**-1.1**
	1.2nm,0.8s,mb3.7						
VNA3	**Neumayer Olymp**	**88.45**	**176**	*e*	**P**	**13 41 54.0**	**-0.5**
VNA3				*e*		13 41 55.7	
PDAR	**Pinedale Array**	**88.81**	**43**	P	**P**	**13 41 56.8**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=200,slow=3.2,SNR=7.3						
VNA2	**Neumayer--Watz**	**88.89**	**177**	*e*	**P**	**13 41 56.3**	**-0.3**
VNA1	**Neumayer--Stat**	**89.12**	**177**	*e*	**P**	**13 41 56.9**	**-0.7**
VNA1				*e*		13 41 59.1	
SDCO	**Great Sand Dun**	**89.24**	**49**	*e*P	**P**	**13 41 58.4**	**+0.2**
LZH	**Lanzhou**	**92.50**	**308**	*e*P	**P**	**13 42 12.7**	**-0.5**
	18nm,1.2s,mb5.0						
LZH				pP	pP	13 44 12.0	+1.4
LZH				sP	sP	13 45 05.7	+1.6
TORD	**Torodi Ar. Bea**	**172.99**	**178**	PKP	PKPdf	13 49 07.2	+0.3
	0.9nm,1.0s,baz=272,slow=3.8,SNR=4.0						

*ISCJB **04** 13:35:07.1±1.5, 36.40N±0.07×71.4E±0.2, h158km±30km, Error ellipse: s-maj=24.6km s-min=8.8km az=137.5*

*NNC **04** 13:35:13.6±1.3, 37.34N×70.57E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=10.9km s-min=9.6km az=78.0*

ISC 04 13:35:07.6±1.6**, 36.40N**±0.08×**71.3E**±0.2**, h148**km±27km**, n7, σ1^{s}16**/12**, 3C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.37**	**136**	*e*P	**Pn**	**13 36 27.5**	**+1.7**
THN				*e*S	**Sn**	**13 37 26.2**	**-0.7**
KK31	**Karatay Array**	**6.73**	**355**	⇓Pn	**Pn**	**13 36 42.9**	**-1.0**
	1.6nm,0.4s,baz=179,slow=13,SNR=34						
KK31				⇓Sn	**Sn**	**13 37 53.7**	**-5.7**
	1.4nm,0.3s,baz=184,slow=25,SNR=7.2						
TKM2	**Tokmak 2**	**7.30**	**26**	⇑Pn	**Pn**	**13 36 54.9**	**+3.2**
	0.2nm,0.5s						
TKM2				⇑Sn	**Sn**	**13 38 13.2**	**0.0**
	0.2nm,0.7s						
KOLN	**Koldanda**	**13.49**	**126**	*e*P	**Pn**	**13 38 11.2**	**-1.8**
KOLN				*e*S	**Sn**	**13 40 35.2**	**-7.1**
GKN	**Gorkha**	**14.03**	**123**	*e*P	**Pn**	**13 38 19.7**	**-0.1**
AB31	**Akbulak array**	**15.30**	**331**	⇑Pn	**Pn**	**13 38 35.9**	**+0.2**
	0.2nm,0.3s,baz=160,slow=11,SNR=8.8						
AB31				⇓Sn	**Sn**	**13 41 14.3**	**-12**
	0.3nm,0.5s						
JIRN	**Jiri**	**15.31**	**120**	*e*P	**Pn**	**13 38 37.0**	**+1.2**
	10.0nm,0.4s						

WEL 04 13:35:54.2±0.5**, 38.78S**×**175.41E, h203**km±3km**, ML3.6**/13**, 1C-4D, Error ellipse: s-maj=4.5km s-min=3.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.30**	**176**	⇓PN	Pn	13 36 20.7	-0.2
WTVZ	**West Tongariro**	**0.37**	**158**	PN	Pn	13 36 21.2	0.0
WTVZ				SN	Sn	13 36 42.3	+0.2
WPVZ	**Whakapapa**	**0.44**	**166**	PN	Pn	13 36 21.4	0.0
FWVZ	**Far West T-bar**	**0.49**	**167**	⇑PN	Pn	13 36 21.6	+0.1
TUVZ	**Tukino**	**0.53**	**159**	PN	Pn	13 36 21.9	+0.2
WNVZ	**Wahianoa**	**0.57**	**165**	PN	Pn	13 36 21.9	+0.1
MOVZ	**Moawhango**	**0.69**	**157**	PN	Pn	13 36 22.1	-0.3
MOVZ				SN	Sn	13 36 43.0	-1.3
BKZ	**Black Stump Fm**	**0.93**	**115**	⇓PN	Pn	13 36 24.0	+0.3
WAZ	**Wanganui**	**1.03**	**198**	PN	Pn	13 36 23.8	-0.6
TSZ	**Takapari Road**	**1.35**	**162**	PN	Pn	13 36 26.6	-0.2
URZ	**Urewera**	**1.43**	**69**	⇓PN	Pn	13 36 27.1	-0.4
WPHZ	**Waipukurau**	**1.52**	**149**	PN	Pn	13 36 28.3	+0.1
PXZ	**Pawanui**	**1.69**	**139**	PN	Pn	13 36 29.9	+0.1
MWZ	**Matawai**	**1.72**	**76**	⇓PN	Pn	13 36 30.1	0.0
KNZ	**Kokohu**	**1.78**	**99**	PN	Pn	13 36 31.2	+0.5
MRZ	**Mangatainoka R**	**1.89**	**176**	SN	Sn	13 36 57.8	-3.2
KIW	**Kapiti Island**	**2.12**	**190**	PN	Pn	13 36 32.0	-2.1
CAW	**Cannon Point**	**2.34**	**186**	PN	Pn	13 36 34.4	-2.1
MTW	**Mount Morrison**	**2.38**	**178**	PN	Pn	13 36 34.8	-2.1
MRW	**Makara Radio**	**2.51**	**192**	PN	Pn	13 36 35.9	-2.4
MXZ	**Matakaoa Point**	**2.58**	**63**	PN	Pn	13 36 38.9	-0.3
TCW	**Tory Channel**	**2.58**	**199**	PN	Pn	13 36 36.6	-2.6
NNZ	**Nelson**	**2.90**	**212**	PN	Pn	13 36 38.6	-4.1
NNZ				SN	Sn	13 37 14.5	-6.2
QRZ	**Quartz Range**	**3.02**	**226**	PN	Pn	13 36 39.2	-5.0
THZ	**Tophouse**	**3.55**	**212**	PN	Pn	13 36 45.8	-4.6
KHZ	**Kahutara**	**3.91**	**201**	PN	Pn	13 36 51.1	-3.8
DSZ	**Denniston Nort**	**4.05**	**222**	PN	Pn	13 36 51.1	-5.6
MQZ	**McQueen's Vall**	**5.35**	**202**	SN	Sn	13 38 05.2	-10
WVZ	**Waitaha Valley**	**5.56**	**218**	PN	Pn	13 37 13.6	-2.3

IDC 04 13:43:02.9±2.4**, 9.03S**×**73.88W, h0**km**, mb4.0**/2**, mb1 4.1**/3**, mb1mx3.7**/16**, mbtmp3.9**/3**, ML3.5**/1**, Error ellipse: s-maj=89.9km s-min=32.6km az=44.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.14**	**143**	Pn	Pn	13 45 16.8	+0.7
	0.2nm,0.3s,baz=316,slow=13,SNR=13						
TXAR	**Lajitas Array**	**47.73**	**324**	P	P	13 51 41.8	+0.3
	0.2nm,0.3s,baz=147,slow=7.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**78.20**	**75**	P	P	13 55 05.1	+0.8
	3.4nm,0.7s,baz=269,slow=5.5,SNR=19						
TORD				pP		13 55 34.8	
	0.9nm,0.9s,baz=266,slow=5.9,SNR=3.5						

NNC 04 13:51:52.4±4.0**, 37.55N**×**70.49E, h0**km**, mb3.4, mpv3.0, 2C-4D, Error ellipse: s-maj=51.8km s-min=31.2km az=83.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.54**	**0**	⇑Pn	Pn	13 53 19.3	+3.2
	2.1nm,0.5s,baz=175,slow=12,SNR=47						
KK31				⇓Sn	Sn	13 54 27.3	+6.7
	0.9nm,0.2s,baz=188,slow=25,SNR=5.2						
TKM2	**Tokmak 2**	**6.63**	**34**	⇓Pn	Pn	13 53 29.7	-1.5
	0.3nm,0.5s						
AB31	**Akbulak array**	**13.97**	**330**	⇓Pn	Pn	13 55 11.5	-0.1
	0.2nm,0.3s,baz=139,slow=14,SNR=14						
AB31				⇑Sn	Sn	13 57 43.9	-3.5
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**15.67**	**329**	⇓Pn	Pn	13 55 35.5	+1.0

*ISCJB **04** 13:58:20.7±0.6, 40.76N±0.03×23.16E±0.05, h11km±6km, Error ellipse: s-maj=5.8km s-min=4.6km az=151.9*

*THE **04** 13:58:21.1, 40.76N×23.15E, h10km, ML1.6*

*ATH **04** 13:58:21.3, 40.72N×23.15E, h10km, MD2.5/3*

*CSEM **04** 13:58:21.0±0.1, 40.76N×23.17E, h8km, ML1.6, Error ellipse: s-maj=1.4km s-min=1.2km az=114.0*

*NEIC **04** 13:58:21.1, 40.76N×23.15E, h0km, MD2.5(ATH), ML2.1(THE), After THE.*

ISC 04 13:58:21.1±0.6**, 40.76N**±0.03×**23.16E**±0.05**, h10**km±8km**, n12, σ0^{s}57**/19**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.16**	**67**	*e*Pg	**Pg**	**13 58 24.2**	**-0.5**
SOH				*e*Sg	**Sg**	**13 58 26.7**	**-0.3**
HORT	**Hortiatis**	**0.17**	**196**	*e*Pg	**Pg**	**13 58 24.5**	**-0.3**
HORT				*e*Sg	**Sg**	**13 58 27.2**	**0.0**
THE	**Thessaloniki**	**0.19**	**230**	*e*Pg	**Pg**	**13 58 24.9**	**-0.4**
THE				*e*Sg	**Sg**	**13 58 28.0**	**0.0**
PLG	**Polygyros**	**0.44**	**150**	*e*Pg	**Pg**	**13 58 29.3**	**-0.5**
PLG				*e*Sg	**Sg**	**13 58 37.1**	**+1.5**
PLG	**Polygyros**	**0.44**	**150**	*e*Pb	**Pg**	**13 58 28.9**	**-0.8**
PLG	**Polygyros**	**0.44**	**150**	*e*Pg	**Pg**	**13 58 29.3**	**-0.4**
PLG				*e*Sg	**Sg**	**13 58 37.1**	**+1.5**
KNT	**Kendrikon**	**0.45**	**334**	*e*Pg	**Pg**	**13 58 29.7**	**-0.2**
KNT				*e*Sg	**Sg**	**13 58 36.9**	**+1.1**
VAY	**Valandovo**	**0.72**	**322**	*e*Pg	**Pg**	**13 58 34.4**	**-0.6**
VAY				*e*Sg	**Sg**	**13 58 44.9**	**+0.5**
OUR	**Ouranopolis**	**0.76**	**124**	*e*Pg	**Pg**	**13 58 36.0**	**+0.2**
NVR	**Nevrokopi**	**0.80**	**42**	*e*PB	**Pb**	**13 58 37.1**	**+0.1**
MMB	**Musomiste**	**0.93**	**27**	*e*Pg	**Pg**	**13 58 38.9**	**-0.2**
KZN	**Kozani**	**1.15**	**247**	*e*PB	**Pb**	**13 58 42.7**	**-0.4**

*ISCJB **04** 14:18:28.5±0.7, 17.97S±0.07×178.59W±0.05, h583km±9km, mb4.5/60, Error ellipse: s-maj=11.9km s-min=4.7km az=119.0*

*MOS **04** 14:18:28.2±0.8, 17.89S×178.58W, h581km, mb4.4/16, Error ellipse: s-maj=15.0km s-min=9.5km az=147.5*

*NEIC **04** 14:18:29.1±0.7, 17.95S×178.51W, h581km±8km, mb4.6/47, Error ellipse: s-maj=9.0km s-min=4.3km az=147.0*

*BJI **04** 14:18:29.1, 17.90S×178.50W, h580km, mB4.8, mb4.5*

*IDC **04** 14:18:29.4±1.1, 18.17S×178.47W, h590km±13km, mb3.9/14, mb1 4.1/16, mb1mx4.0/19, mbtmp3.9/16, Error ellipse: s-maj=13.0km s-min=8.2km az=139.0*

ISC 04 14:18:29.3±0.7**, 17.97S**±0.07×**178.52W**±0.05**, h578**km±8km**, h596**km±6.7km**:pP-P, n375, σ0^{s}60**/359**, mb4.5**/60**, 119C-113D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**59**	P	**P**	**14 20 23.8**	**-0.6**
	2.6nm,0.3s,baz=246,slow=10.0,SNR=5.2						
AFI				S	**S**	**14 21 57.3**	**-1.5**
	1.7nm,0.3s,baz=4.0,slow=21,SNR=2.6						
AFI	**Afiamalu**	**7.64**	**59**	*e*P	**P**	**14 20 23.8**	**-0.6**
AFI				pmax	pmax		
	comp=Z,99nm,1.3s						
AFI	**Afiamalu**	**7.64**	**59**	*e*P	**P**	**14 20 23.8**	**-0.6**
	comp=Z,99nm,1.3s						
AFI				*e*		14 20 39.9	
FUNA	**Funafuti**	**9.65**	**346**	*e*P	**P**	**14 20 35.5**	**-8.6**
	comp=Z,128nm,1.0s						
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**14 21 36.4**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=66,slow=16,SNR=9.7						
URZ	**Urewera**	**20.57**	**190**	P	**P**	**14 22 26.2**	**-2.9**
	comp=Z,4.9nm,0.5s,baz=352,slow=4.1,SNR=5.4						
URZ				S	**S**	**14 25 34.2**	**-8.6**
	comp=Z,10.0nm,0.8s,baz=240,slow=16,SNR=3.3						
HNR	**Honiara**	**22.55**	**289**	P	**P**	**14 22 48.7**	**+1.8**
	comp=Z,54nm,0.6s,mb5.3,baz=256,slow=3.7,SNR=7.1						
HNR	**Honiara**	**22.55**	**289**	P	**P**	**14 22 45.4**	**-1.4**
HNR				pmax	pmax		
	comp=Z,52nm,0.7s,mb5.3						
HNR	**Honiara**	**22.55**	**289**	P	**P**	**14 22 45.4**	**-1.4**
	comp=Z,52nm,0.7s,mb5.3						
ARMA	**Armidale**	**29.81**	**240**	*e*P	**P**	**14 23 51.5**	**+1.0**
CNB	**Canberra Magne**	**33.30**	**232**	*e*P	**P**	**14 24 21.4**	**+1.3**
	comp=Z,39nm,0.6s,mb5.2						
CTA	**Charters Tower**	**33.33**	**261**	⇓*i*P	**P**	**14 24 21.2**	**+0.8**
	comp=Z,29nm,0.6s,mb5.1						
CTA				*e*PCP	PcP	14 26 44.6	-0.2
CTA	**Charters Tower**	**33.33**	**261**	⇓*i*P	**P**	**14 24 21.2**	**+0.8**
CTA				*e*		14 26 44.6	
CTA				pmax	pmax		
	comp=Z,29nm,0.6s						
CTAO	**Charters Tower**	**33.33**	**261**	⇓*i*P	**P**	**14 24 21.0**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.2						
CTAO	**Charters Tower**	**33.33**	**261**	⇓*i*P	**P**	**14 24 21.0**	**+0.7**
	comp=Z,48nm,0.7s,mb5.2						
PMG	**Port Moresby**	**34.36**	**280**	*d i*P	**P**	**14 24 29.6**	**+0.6**
PMG	**Port Moresby**	**34.36**	**280**	⇓*i*P	**P**	**14 24 30.8**	**+1.8**
	comp=Z,164nm,0.9s						
TOO	**Toolangi**	**37.05**	**231**	⇓*i*P	**P**	**14 24 52.1**	**+1.0**
	comp=Z,26nm,0.8s,mb4.8						
TOO	**Toolangi**	**37.05**	**231**	⇓*i*P	**P**	**14 24 52.1**	**+1.0**
TOO				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.50**	**241**	⇓*i*P	**P**	**14 25 03.7**	**+0.7**
	comp=Z,36nm,0.9s,mb4.9						
STKA				*e*PCP	PcP	14 27 00.4	-0.2
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**14 25 03.8**	**+0.8**
	comp=Z,46nm,0.8s,mb5.0,baz=86,slow=8.9,SNR=72						
WB2	**Warramunga Arr**	**44.50**	**260**	⇓*i*P	**P**	**14 25 50.1**	**-0.1**
WB2				*e*PCP	PcP	14 27 20.7	0.0
WRAB	**Tennant Creek**	**44.50**	**260**	⇓*i*P	**P**	**14 25 50.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**44.50**	**260**	⇓*i*P	**P**	**14 25 50.0**	**-0.2**
	comp=Z,38nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	**14 25 50.1**	**-0.2**
	comp=Z,34nm,0.7s,mb5.0,baz=96,slow=7.2,SNR=734						
WRA				ScP	ScP	14 30 17.6	-0.6
	comp=Z,1.4nm,0.8s,baz=89,slow=4.3,SNR=5.6						
WRA				S	**S**	**14 31 40.1**	**-4.2**
	comp=Z,0.9nm,0.8s,baz=93,slow=12,SNR=4.7						
AS31	**Alice Springs**	**44.67**	**254**	*e*P	**P**	**14 25 52.0**	**+0.5**
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**14 25 51.9**	**+0.4**
	comp=Z,153nm,0.6s,baz=87,slow=8.5,SNR=2554						
ASAR				PcP	PcP	14 27 21.1	-0.2
	comp=Z,6.3nm,0.8s,baz=101,slow=3.8,SNR=4.6						
ASAR				ScP	ScP	14 30 19.0	+0.2
	comp=Z,1.6nm,0.6s,baz=92,slow=4.7,SNR=4.7						
ASAR				S	**S**	**14 31 45.2**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=90,slow=16,SNR=8.7						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**14 25 51.9**	**+0.4**
ASAR						14 27 21.1	
ASAR				S	**S**	**14 31 45.2**	**-1.2**
ASPA	**Alice Springs**	**44.67**	**254**	*e*P	**P**	**14 25 52.0**	**+0.5**
KAKA	**Kakadu**	**47.47**	**269**	*e*P	**P**	**14 26 12.7**	**0.0**
	comp=Z,53nm,0.5s,mb5.3						
FORT	**Forrest**	**49.88**	**245**	⇓*i*P	**P**	**14 26 30.1**	**-0.4**
	comp=Z,63nm,0.6s,mb5.2						
FORT				*e*S	PcP	14 27 44.0	+3.8
FITZ	**Fitzroy Crossi**	**52.91**	**261**	*e*P	**P**	**14 26 52.4**	**+0.1**
	comp=Z,12nm,0.5s,mb4.5						
MBWA	**Marble Bar**	**57.95**	**256**	⇓*e*P	**P**	**14 27 27.0**	**-0.2**
	comp=Z,12nm,0.5s,mb4.3						
KLBR	**Kellerberrin**	**58.70**	**244**	*e*P	**P**	**14 27 31.6**	**-0.7**
	comp=Z,26nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	*e*P	**P**	**14 27 34.3**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,13nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	*e*P	**P**	**14 27 34.3**	**-0.5**
	comp=Z,13nm,0.7s,mb4.2						
MUN	**Mundaring**	**60.00**	**243**	*e*P	**P**	**14 27 41.3**	**+0.4**
SBA	**Scott Base**	**60.35**	**184**	*e*P	**P**	**14 27 44.1**	**+0.9**
	comp=Z,3.0nm,0.8s,mb3.6						
VNDA	**Vanda**	**60.37**	**185**	P	**P**	**14 27 42.0**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=359,slow=6.5,SNR=10						
VNDA	**Vanda**	**60.37**	**185**	*e*P	**P**	**14 27 42.6**	**-0.7**
	comp=Z,1.3nm,0.9s						
CASY	**Casey**	**66.03**	**205**	*e*P	**P**	**14 28 18.5**	**-1.0**
MJAR	**Matsushiro Arr**	**67.89**	**323**	P	**P**	**14 28 29.4**	**-1.6**
	comp=Z,4.0nm,0.8s,mb3.9,baz=171,slow=9.0,SNR=9.1						
MAJO	**Matsushiro**	**67.89**	**323**	⇓*e*P	**P**	**14 28 30.1**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
MAJO	**Matsushiro**	**67.89**	**323**	⇓*e*P	**P**	**14 28 30.1**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.2						
MAT	**Matsushiro**	**67.89**	**323**	P	**P**	**14 28 30.2**	**-0.7**
QSPA	**South Pole Qui**	**72.08**	**180**	*e*P	**P**	**14 28 55.5**	**-0.2**
	comp=Z,5.9nm,0.9s,mb4.1						
KSM	**Kuching**	**72.58**	**277**	⇓*i*P	**P**	**14 28 59.6**	**+0.9**
YSS	**Yuzh-Sakhalins**	**73.42**	**333**	⇑*e*P	**P**	**14 28 58.1**	**-5.3**
YSS				pmax	pmax		
	comp=Z,22nm,2.0s,mb4.3						
KSRS	**Korea Array**	**74.68**	**318**	P	**P**	**14 29 10.2**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.6,baz=127,slow=5.8,SNR=6.6						
VLA	**Vladivostok**	**75.94**	**325**	⇑*e*P	**P**	**14 29 16.2**	**-1.3**
VLA				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.0						
HAST	**UC Hastings Re**	**76.26**	**44**	⇑P	**P**	**14 29 19.7**	**+0.4**
	baz=76,SNR=10						
BNLO	**Ben Lomond (Sa**	**76.28**	**43**	⇑P	**P**	**14 29 19.5**	**+0.1**
	baz=76						
V04C	**Ramage Ranch,**	**76.29**	**45**	⇓P	**P**	**14 29 20.0**	**+0.6**
	baz=76						
SAO	**San Andreas Ge**	**76.55**	**44**	⇑*e*P	**P**	**14 29 20.8**	**0.0**
SAO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
SAO	**San Andreas Ge**	**76.55**	**44**	⇑*e*P	**P**	**14 29 20.8**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.2						
PKM	**Peak Mountain**	**76.60**	**46**	⇑P	**P**	**14 29 21.7**	**+0.6**
	baz=77						
PKD	**Parkfield**	**76.69**	**45**	⇑P	**P**	**14 29 21.9**	**+0.3**
	baz=77						
U04C	**Hernandez Rese**	**76.76**	**45**	⇓P	**P**	**14 29 22.7**	**+0.7**
	baz=77,SNR=8.0						
PACP	**Pacheco Peak**	**76.79**	**44**	⇓P	**P**	**14 29 22.9**	**+0.7**
	baz=77,SNR=7.7						
HOPS	**Hopland**	**76.79**	**41**	⇓P	**P**	**14 29 22.2**	**+0.1**
	baz=77						
CVS	**Carmenet Viney**	**76.80**	**42**	⇑P	**P**	**14 29 22.2**	**0.0**
	baz=77						
WENL	**Wente Brothers**	**76.83**	**43**	⇑P	**P**	**14 29 22.9**	**+0.5**
	baz=77						
P01C	**Double 8 Ranch**	**76.91**	**41**	⇑P	**P**	**14 29 23.1**	**+0.3**
	baz=77						
O01C	**Eel River Cons**	**77.02**	**40**	⇑P	**P**	**14 29 23.8**	**+0.4**
	baz=77						
S04C	**Ingram Canyon,**	**77.05**	**43**	⇓P	**P**	**14 29 24.0**	**+0.4**
	baz=77,SNR=8.2						
MNRC	**McLaughlin Nat**	**77.12**	**42**	⇑P	**P**	**14 29 24.6**	**+0.6**
	baz=77,SNR=5.6						
OSI	**Osito Adit**	**77.20**	**47**	⇑P	**P**	**14 29 24.6**	**+0.2**
	baz=77						
Q03C	**Winters**	**77.25**	**42**	⇑P	**P**	**14 29 25.5**	**+0.8**
	baz=77						
GASB	**Alder Springs**	**77.40**	**41**	⇓P	**P**	**14 29 26.3**	**+0.9**
	baz=78,SNR=5.7						
ARVC	**Arvin**	**77.41**	**46**	⇑P	**P**	**14 29 25.6**	**+0.1**
	baz=78						
109C	**Camp Elliot, M**	**77.44**	**49**	⇑P	**P**	**14 29 25.6**	**-0.1**
	baz=78						
S05C	**Merced**	**77.61**	**44**	⇓P	**P**	**14 29 26.6**	**0.0**
	baz=78						
VES	**Vestal, Richgr**	**77.62**	**46**	⇓P	**P**	**14 29 26.6**	**0.0**
	baz=78						
O02C	**Red Bluff**	**77.67**	**40**	⇑P	**P**	**14 29 27.5**	**+0.5**
	baz=78,SNR=7.2						
N02C	**Big Bar**	**77.74**	**40**	⇓P	**P**	**14 29 26.7**	**-0.6**
	baz=78						
SUTB	**Sutter Butte**	**77.74**	**42**	⇑P	**P**	**14 29 26.8**	**-0.5**
	baz=78						
MURC	**Murrieta**	**77.74**	**49**	⇓P	**P**	**14 29 27.3**	**0.0**
	baz=78						
BFSC	**Mount Baldy St**	**77.75**	**48**	⇓P	**P**	**14 29 26.7**	**-0.6**
	baz=78,SNR=5.5						
RCTC	**Rector, Farmer**	**77.77**	**45**	⇓P	**P**	**14 29 27.1**	**-0.3**
	baz=78						
Q04C	**Lincoln**	**77.78**	**42**	⇑P	**P**	**14 29 27.2**	**-0.3**
	baz=78						
T06C	**Millerton Lake**	**77.83**	**44**	⇑P	**P**	**14 29 27.7**	**-0.1**
	baz=78,SNR=10						
EDW2	**Edwards Air Fo**	**77.86**	**47**	⇑P	**P**	**14 29 28.1**	**+0.2**
	baz=78,SNR=16						
ISA	**Isabella**	**77.94**	**46**	⇑*i*P	**P**	**14 29 27.7**	**-0.7**
ISA	**Isabella**	**77.94**	**46**	P	**P**	**14 29 28.5**	**+0.1**
	baz=78,SNR=22						
MONP	**Monument Peak**	**77.94**	**49**	P	**P**	**14 29 29.0**	**+0.6**
	baz=78,SNR=14						
CMB	**Columbia Colle**	**77.96**	**43**	⇑*i*P	**P**	**14 29 28.1**	**-0.4**
CMB				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
CMB	**Columbia Colle**	**77.96**	**43**	⇑*i*P	**P**	**14 29 28.1**	**-0.4**
	comp=Z,13nm,1.0s,mb4.3						
CMB	**Columbia Colle**	**77.96**	**43**	P	**P**	**14 29 28.6**	**+0.2**
	baz=78,SNR=15						
OHCM	**Honcut**	**78.00**	**42**	*e*P	**P**	**14 29 28.0**	**-0.6**
O03C	**Acorn Hollow,**	**78.03**	**41**	⇑P	**P**	**14 29 28.9**	**0.0**
	baz=78						
DVTC	**Desert V Tower**	**78.05**	**50**	⇓P	**P**	**14 29 29.4**	**+0.4**
	baz=78,SNR=6.2						
WDC	**Whiskeytown Da**	**78.06**	**40**	⇓P	**P**	**14 29 29.0**	**0.0**
	baz=78						
ORV	**Oroville**	**78.11**	**42**	P	**P**	**14 29 29.2**	**-0.1**
	baz=78,SNR=10						
HELL	**Mitchell Peak,**	**78.11**	**45**	⇑P	**P**	**14 29 29.1**	**-0.2**
	baz=78,SNR=11						
LAVA	**Lava Cap Winer**	**78.14**	**43**	⇑P	**P**	**14 29 29.2**	**-0.2**
	baz=78,SNR=5.6						
S06C	**San Francisco**	**78.23**	**44**	⇓P	**P**	**14 29 30.0**	**+0.1**
	baz=78,SNR=7.1						
KCC	**Kaiser Creek**	**78.27**	**44**	P	**P**	**14 29 30.8**	**+0.6**
	baz=78,SNR=7.9						
PFO	**Pinyon Flat Ob**	**78.28**	**49**	⇑P	**P**	**14 29 30.5**	**+0.3**
	baz=78						
M02C	**Callahan**	**78.35**	**39**	⇑P	**P**	**14 29 31.3**	**+0.7**
	baz=78,SNR=5.8						
L02A	**Cave Junction**	**78.36**	**38**	⇓P	**P**	**14 29 31.1**	**+0.5**
	baz=78						
LRMC	**Laurel Mountai**	**78.38**	**47**	⇓P	**P**	**14 29 31.0**	**+0.3**
	baz=78						
SWSC	**Sam W. Stewart**	**78.42**	**50**	⇑P	**P**	**14 29 31.2**	**+0.3**
	baz=78						
KDAK	**Kodiak Island**	**78.49**	**14**	P	**P**	**14 29 29.7**	**-1.6**
	comp=Z,7.0nm,0.8s,mb4.1,baz=203,slow=9.3,SNR=5.6						
P05C	**Yuba Gap, Truc**	**78.53**	**42**	⇓P	**P**	**14 29 31.8**	**+0.2**
	baz=79,SNR=10.0						
R05C	**Kirkwood Meado**	**78.54**	**43**	⇑P	**P**	**14 29 31.8**	**+0.3**
	baz=79,SNR=12						
CWC	**Cottonwood Cre**	**78.62**	**46**	⇑P	**P**	**14 29 32.2**	**+0.1**
	baz=79						
YBH	**Yreka Blue Hor**	**78.64**	**39**	*e*P	**P**	**14 29 32.4**	**+0.3**
YBH				pmax	pmax		
	comp=Z,19nm,1.3s						
YBH	**Yreka Blue Hor**	**78.64**	**39**	*e*P	**P**	**14 29 32.4**	**+0.3**
	comp=Z,19nm,1.3s,mb4.3						
YBH	**Yreka Blue Hor**	**78.64**	**39**	⇓P	**P**	**14 29 32.6**	**+0.5**

baz=79,SNR=7.2
O05C Quincy 78.71 41 ⇑P P 14 29 32.8 +0.3
baz=79,SNR=5.7
M03C McCloud 78.73 40 ⇑P P 14 29 32.7 +0.1
baz=79,SNR=7.9
MLAC Mammoth Lakes 78.76 44 ⇓P P 14 29 33.3 +0.5
baz=79
MTUM Tungsten Hills 78.79 45 eP P 14 29 33.4 +0.5
K02A Glendale 78.80 38 ⇓P P 14 29 33.1 +0.2
baz=79
BELC Belle Mtn. 78.81 49 ⇑P P 14 29 33.3 +0.3
baz=79
O04C Chester 78.81 41 ⇓P P 14 29 33.2 +0.2
baz=79,SNR=11
MPMC Manual Prospec 78.83 46 ⇑P P 14 29 33.4 +0.3
baz=79,SNR=9.8
R06C Coleville 78.84 43 ⇑P P 14 29 33.7 +0.5
baz=79,SNR=15
TIN Tinemaha 78.85 45 ⇓P P 14 29 33.4 +0.2
baz=79
HATC Hat Creek Radi 78.86 40 ⇑P P 14 29 33.6 +0.3
baz=79
R07C Lee Vining 78.87 44 P P 14 29 34.0 +0.7
baz=79,SNR=9.8
GSC Goldstone 78.90 47 ⇓P P 14 29 33.4 -0.1
baz=79
HEC Hector,Ludlow 78.99 48 ⇓P P 14 29 34.0 0.0
baz=79
BEKR Beckwourth 79.01 42 ⇑P P 14 29 34.3 +0.2
baz=79,SNR=19
HUMO Hull Mountain 79.02 38 eP P 14 29 34.2 +0.1
comp=Z,14nm,1.0s,mb4.3
HUMO Hull Mountain 79.02 38 ⇓P P 14 29 34.3 +0.2
baz=79,SNR=6.2
BC3 Big Chuckw Mtn 79.02 49 ⇑P P 14 29 34.5 +0.4
baz=79
WCN Washoe City 79.08 43 P P 14 29 35.0 +0.6
baz=79,SNR=12
J02A Umpqua 79.11 37 ⇑P P 14 29 34.8 +0.1
baz=79
S08C White Mtn Res 79.13 45 ⇓P P 14 29 35.3 +0.6
baz=79,SNR=20
GLA Glamis 79.18 50 ⇑P P 14 29 35.7 +0.7
baz=79
M04C Macdoel 79.20 40 ⇓P P 14 29 35.3 +0.2
baz=79,SNR=5.6
P06A Stead Airport, 79.20 42 ⇑P P 14 29 35.4 +0.3
baz=79
ELFS Eagle Lake Fie 79.21 41 ⇑P P 14 29 35.6 +0.5
baz=79
I02A Mapleton 79.36 37 ⇑P P 14 29 36.5 +0.6
baz=80
M05C Lookout 79.37 40 P P 14 29 36.3 +0.3
baz=80,SNR=8.1
L04A Klamath Falls 79.40 39 ⇓P P 14 29 36.4 +0.3
baz=80,SNR=6.1
GRAC Grapevine Rang 79.40 46 P P 14 29 36.7 +0.6
baz=80,SNR=5.6
J03A Ideyld Park 79.47 38 ⇑P P 14 29 36.8 +0.2
baz=80
FURC Furnace Creek, 79.47 46 ⇓P P 14 29 36.7 +0.2
baz=80
IRM Iron Mountain 79.50 49 ⇑P P 14 29 37.0 +0.3
baz=80,SNR=6.5
O06A Flanigan 79.52 42 ⇑P P 14 29 37.0 +0.3
baz=80,SNR=16
NVAR Mina Array Bea 79.55 44 P P 14 29 37.2 +0.3
comp=Z,8.0nm,0.7s,mb4.1,baz=233,slow=9.1,SNR=51
NVAR Mina Array Bea 79.55 44 P P 14 29 37.2 +0.3
SHOC Shoshone 79.58 47 ⇓P P 14 29 37.1 0.0
baz=80
TUQ Turquoise Mtn. 79.59 47 ⇑P P 14 29 37.4 +0.2
baz=80,SNR=6.8
R08A Mina 79.63 44 ⇑P P 14 29 37.4 +0.1
baz=80
I03A Eugene 79.66 37 ⇓P P 14 29 37.5 +0.1
baz=80
M06C Likely Place G 79.70 41 P P 14 29 38.3 +0.6
baz=80,SNR=9.9
Y12C Blythe 79.74 50 ⇓P P 14 29 38.4 +0.5
baz=80,SNR=7.1
K04A Chilquin 79.75 39 ⇑P P 14 29 38.0 +0.1
baz=80
U10A Ash Meadows, A 79.81 46 ⇓P P 14 29 38.9 +0.6
baz=80
N06A Buffalo Meadow 79.84 41 ⇓P P 14 29 38.5 +0.1
baz=80,SNR=12
S09A Goldfield 79.89 45 P P 14 29 38.7 0.0
baz=80,SNR=5.8
L05A Lakeview 79.96 40 ⇓P P 14 29 39.7 +0.6
baz=80,SNR=5.8
Q08A Gabbs 80.02 44 ⇓P P 14 29 39.4 +0.1
baz=80,SNR=8.9
H03A Soap Creek Ran 80.08 37 ⇓P P 14 29 39.9 +0.2
baz=80
O07A Toulon 80.12 42 ⇓P P 14 29 40.1 +0.2
baz=80,SNR=17
MOD Modoc 80.20 40 eP P 14 29 40.1 -0.2
comp=Z,8.0nm,0.7s,mb4.2
MOD Modoc 80.20 40 P P 14 29 40.7 +0.4
baz=80,SNR=15
R09A Tonopah 80.26 45 P P 14 29 40.8 +0.2
baz=80,SNR=8.2
W12A Cal Nev Ari 80.27 48 ⇓P P 14 29 41.2 +0.5
baz=80
Y13A Salome 80.28 50 ⇓P P 14 29 41.2 +0.5
baz=80,SNR=6.2
PDMCI Parker Dam,Lak 80.29 49 ⇑P P 14 29 40.9 +0.2
baz=80,SNR=5.3
K05A Summer Lake 80.32 39 ⇓P P 14 29 41.4 +0.4
baz=80,SNR=11
P08A Dixie Valley 80.38 43 ⇓P P 14 29 41.6 +0.4
baz=80
N07B Gerlach 80.40 42 ⇓P P 14 29 41.5 +0.2
baz=81
J05A Fort Rock 80.44 39 ⇓P P 14 29 42.2 +0.6
baz=81
V12A Nelson 80.49 48 ⇓P P 14 29 42.1 +0.3
baz=81
Q09A Carvers 80.50 44 ⇑P P 14 29 42.0 +0.2
baz=81
M07A Soldier Meadow 80.61 41 ⇑P P 14 29 42.8 +0.3
baz=81,SNR=12
X13A Yucca 80.66 49 ⇓P P 14 29 43.0 +0.3
baz=81
Z14A Wintersburg 80.71 51 ⇑P P 14 29 43.5 +0.6
baz=81,SNR=5.0
H04A Detroit Lake 80.71 37 ⇓P P 14 29 42.6 -0.4
baz=81,SNR=7.3
K06A Valley Falls 80.75 39 P P 14 29 43.6 +0.4
baz=81,SNR=16
R10A Warm Springs 80.80 45 P P 14 29 44.2 +0.8
baz=81,SNR=14
G04A Mulino 80.86 36 ⇓P P 14 29 44.2 +0.5
baz=81
L07A Adell 80.86 40 ⇑P P 14 29 44.3 +0.6
baz=81,SNR=16
W13A Hualapai Mount 80.86 49 ⇑P P 14 29 44.3 +0.6
baz=81
P09A Austin 80.91 43 ⇑P P 14 29 43.9 -0.1
baz=81
115A Sonoran Desert 80.92 51 ⇓P P 14 29 44.6 +0.6
baz=81,SNR=5.1
I05A Bend 80.93 38 ⇑P P 14 29 44.3 +0.2
baz=81
N08A GE Springer Mi 80.93 42 ⇓P P 14 29 44.1 0.0
baz=81,SNR=14
Y14A Wickenburg 80.94 50 ⇓P P 14 29 44.1 0.0
baz=81,SNR=5.8
U12A Valley of Fire 81.06 47 ⇑P P 14 29 45.2 +0.4
baz=81,SNR=6.2
J06A Christmas Vall 81.06 39 ⇑P P 14 29 44.6 -0.1
baz=81,SNR=11
E03A Lebam 81.07 35 ⇓P P 14 29 45.0 +0.2
baz=81
M08A Happy Creek Ra 81.14 41 ⇑P P 14 29 45.5 +0.3
baz=81,SNR=9.8
O09A Fish Creek Ran 81.21 43 P P 14 29 45.7 +0.2
baz=81,SNR=10
H05A Madras 81.24 37 ⇑P P 14 29 45.6 0.0
baz=81
116A Eloy 81.25 52 ⇓P P 14 29 46.4 +0.7
baz=81,SNR=5.9
X14A Yava 81.28 50 ⇓P P 14 29 46.4 +0.6
baz=81,SNR=16
K07A Rock Creek Ran 81.30 40 P P 14 29 46.4 +0.4
baz=82,SNR=17
F04A Amboy 81.33 36 ⇑P P 14 29 45.8 -0.3
baz=82
N09A Rock Creek Ran 81.36 42 ⇑P P 14 29 46.6 +0.3
baz=82,SNR=5.4
P10A Eureka 81.39 44 ⇑P P 14 29 46.6 +0.2
baz=82,SNR=5.7
I06A Prineville 81.43 38 ⇑P P 14 29 47.0 +0.4
baz=82,SNR=20
W14A Seligman 81.49 49 ⇑P P 14 29 47.8 +0.8
baz=82,SNR=16
VIPM Ingram Point 81.51 38 P P 14 29 47.2 +0.1
Q11A Duckwater 81.53 45 ⇑P P 14 29 47.3 +0.2
baz=82,SNR=17
WVOR Wild Horse Val 81.53 40⇑ eP P
WVOR pmax pmax 14 29 46.9 -0.2
comp=Z,19nm,0.9s,mb4.6
WVOR Wild Horse Val 81.53 40⇑ eP P 14 29 46.9 -0.3
comp=Z,20nm,0.9s,mb4.6
G05A Wamic 81.54 37 ⇓P P 14 29 47.0 -0.2
baz=82
L08A Fields 81.57 41 ⇓P P 14 29 47.7 +0.3
baz=82,SNR=26
J07A Hines 81.64 39 ⇑P P 14 29 47.9 +0.2
baz=82,SNR=9.8
M09A Marrel Ranch, 81.72 42 ⇓P P 14 29 48.6 +0.5
baz=82
O10A Cortez Mining, 81.72 43 ⇓P P 14 29 48.4 +0.3
baz=82
X15A Humboldt 81.76 50 P P 14 29 49.2 +0.9
baz=82,SNR=13
K08A Mann Creek Ran 81.78 40 ⇓P P 14 29 48.8 +0.4
baz=82,SNR=22
H06A Lindquist Farm 81.81 38 P P 14 29 48.6 0.0
baz=82,SNR=22
P11A Circle Ranch, 81.82 44 ⇑P P 14 29 48.8 +0.1
baz=82,SNR=5.7
TUC Tucson 81.83 52⇑ eP P
TUC pmax pmax 14 29 49.2 +0.5
comp=Z,12nm,1.1s,mb4.3
TUC Tucson 81.83 52⇑ eP P 14 29 49.2 +0.5
comp=Z,12nm,1.1s,mb4.3
F05A White Salmon 81.83 36 ⇑P P 14 29 48.8 +0.1
baz=82
L09A Wilkinson Ranc 81.90 41 ⇓P P 14 29 49.3 +0.2
baz=82
G06A Carlson Farm, 81.92 37 ⇓P P 14 29 48.9 -0.3
baz=82
I07A Izee 81.92 39 ⇓P P 14 29 49.1 0.0
baz=82,SNR=14
N10A Dunphy 81.94 43 ⇑P P 14 29 49.3 +0.1
baz=82
B04A Port Angeles 82.03 34 ⇑P P 14 29 49.8 +0.1
baz=82
W15A Williams 82.06 49 ⇓P P 14 29 50.4 +0.6
baz=82
E05A Randle 82.07 36 ⇓P P 14 29 49.6 -0.3
baz=82
C04A Brinnon 82.10 34 ⇓P P 14 29 49.9 -0.1
baz=82
J08A Circle Bar Ran 82.14 40 ⇑P P 14 29 50.2 0.0
baz=82,SNR=15
F06A Goldendale 82.15 37 ⇓P P 14 29 50.0 -0.3
baz=82
Q12A Willow Creek R 82.18 45 ⇑P P 14 29 50.6 +0.2
baz=82,SNR=8.9
H07A Lands Inn, Kim 82.18 38 ⇑P P 14 29 50.2 -0.2
baz=82,SNR=17
O11A Cowboy Ranch, 82.19 44 ⇑P P 14 29 50.8 +0.3
baz=82,SNR=19
K09A Rome 82.23 40 ⇓P P 14 29 50.9 +0.2
baz=82,SNR=28
D05A Enumclaw 82.32 35 ⇑P P 14 29 51.4 +0.3
baz=82
P12A McGill 82.34 44 ⇓P P 14 29 51.3 +0.1
baz=82,SNR=12
M10A I.L. Ranch, Tu 82.35 42 ⇓P P 14 29 51.8 +0.6
baz=82,SNR=17
I08A Drewsey 82.39 39 ⇓P P 14 29 51.4 -0.1
baz=82,SNR=5.7
CCUT Cedar City 82.43 47⇑ eP P 14 29 52.1 +0.4
E06A Yakima 82.49 36 ⇑P P 14 29 51.8 -0.3
baz=83,SNR=5.2
ARUT Antelope Range 82.50 46 eP P 14 29 52.2 +0.2
G07A Ruggs Ranch, H 82.50 38 P P 14 29 52.0 -0.1
baz=83,SNR=9.3
J09A Fry Pan Ranch, 82.57 40 ⇓P P 14 29 52.5 0.0
baz=83,SNR=23
H08A Prairie City 82.67 39 ⇑P P 14 29 52.6 -0.3
baz=83,SNR=5.6
F07A Phinny Hill Vi 82.71 37 ⇓P P 14 29 52.9 -0.2
baz=83
M11A Holland Ranch, 82.78 42 ⇓P P 14 29 53.8 +0.4
baz=83,SNR=8.1
C05A Tot Reservoir 82.78 35 ⇓P P 14 29 52.8 -0.6
baz=83
O12A Currie 82.86 44 ⇓P P 14 29 53.8 -0.1
baz=83,SNR=11
WUAZ Wupatki 82.87 49 eP P 14 29 54.2 +0.3
comp=Z,17nm,1.1s,mb4.5
WUAZ Wupatki 82.87 49 ⇑P P 14 29 54.4 +0.5
baz=83,SNR=12
B05A Bryant 82.90 34 ⇑P P 14 29 53.8 -0.2
baz=83
I09A Lost Marbles R 82.92 39 ⇑P P 14 29 53.9 -0.3
baz=83
G08A Pilot Rock 82.93 38 ⇓P P 14 29 54.2 0.0
baz=83,SNR=14
EBG Ellensburg 82.94 36 P P 14 29 54.4 +0.1
D06A Cle Elum 82.95 36 ⇓P P 14 29 54.1 -0.2
baz=83,SNR=5.2
N12A Clover Valley, 82.96 43 ⇓P P 14 29 54.5 +0.1
baz=83,SNR=10
E07A Sunnyside 83.13 36 ⇑P P 14 29 55.1 -0.1
baz=83
F08A Pendleton 83.32 37 ⇑P P 14 29 55.6 -0.6
baz=84,SNR=5.8
M12A Wells 83.33 43 ⇑P P 14 29 56.3 +0.1
baz=84,SNR=12
H09A Durkee 83.34 39 ⇑P P 14 29 56.0 -0.3
baz=84
GBL Gable Mountain 83.38 37 P P 14 29 56.4 -0.1
D07A Quincy 83.43 36 P P 14 29 56.5 -0.2
baz=84,SNR=5.6
N13A Wendover, West 83.51 43 ⇑P P 14 29 57.2 +0.1
baz=84,SNR=6.6
BMO Blue Mountains 83.66 39 eP P 14 29 56.8 -1.0
comp=Z,2.1nm,0.8s,mb3.7
C07A Waterville 83.67 35 ⇓P P 14 29 57.3 -0.6
baz=84,SNR=8.2
MSU Marysvale 83.72 46 eP P 14 29 58.9 +0.8
A06A Chilliwack 83.73 34 ⇑P P 14 29 57.5 -0.7
baz=84
EPH Ephrata 83.73 36 P P 14 29 57.9 -0.3
WTV Waterville 83.73 35 P P 14 29 57.6 -0.6
MAW Mawson 83.76 200 eP P 14 29 57.2 -1.2
comp=Z,2.1nm,0.5s,mb3.9
MAW Mawson 83.76 200 P P 14 29 57.5 -0.9
comp=Z,3.5nm,0.7s,mb4.0,baz=153,slow=4.8,SNR=20
MAW Mawson 83.76 200 eP P
MAW pmax pmax 14 29 57.2 -1.2
comp=Z,2.0nm,0.5s
F09A S2 Ranch, Elgi 83.77 38 ⇑P P 14 29 58.0 -0.4
baz=84
M13A Montello 83.79 43 ⇓P P 14 29 58.5 0.0
baz=84
PMSA Palmer Station 83.79 157 eP P 14 30 02.1 +3.6
comp=Z,92nm,0.6s,mb5.5
SEY Seymchan 83.81 347⇑ eP P 14 29 57.3 -1.3
D08A Wollman Farm, 83.94 36 ⇑P P 14 29 59.1 -0.1
baz=84,SNR=9.4
E09A Wood Farm, Sta 84.08 37 ⇓P P 14 29 59.3 -0.6
baz=84
B07A Winthrop 84.08 35 ⇓P P 14 29 59.3 -0.6
baz=84,SNR=9.1
DUG Dugway 84.10 45 ⇓P P 14 29 59.6 -0.4
baz=84
OD2 Odessa Site #2 84.25 36 P P 14 30 00.5 -0.2
A07A Ashnola River, 84.28 34 ⇑P P 14 30 00.4 -0.5
baz=84
C08A Higginbotham F 84.29 36 ⇓P P 14 30 00.3 -0.6
baz=84,SNR=8.9
D09A Jones Farm, Ri 84.29 37 ⇓P P 14 30 00.6 -0.4
baz=84,SNR=7.2
F10A Beach Ranch, E 84.32 38 ⇑P P 14 30 00.5 -0.6
baz=84,SNR=15
H11A Donnelly 84.36 39 ⇑P P 14 30 01.0 -0.2
baz=84
C09A Chrisman Ranch 84.72 36 ⇑P P 14 30 02.8 -0.2
baz=85
HLID Hailey 84.75 41 eP P 14 30 03.4 +0.2
comp=Z,6.5nm,0.7s,mb4.4
HLID Hailey 84.75 41 ⇓P P 14 30 03.6 +0.5
baz=85,SNR=16
TMUT Trail Mountain 84.76 46 eP P 14 30 03.8 +0.6
GYA Guiyang 84.97 300 eP P 14 30 05.3 +1.0
GYA AP pP 14 32 10.3 +2.1
GYA XP sP 14 33 07.4 +1.0
GYA PP PP 14 33 35.4 +3.5
GYA SKS 14 39 33.3
GYA S S 14 39 46.4 +0.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,60nm,4.2s
SRU San Rafael 85.14 46 eP P 14 30 04.9 -0.2
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
SRU San Rafael 85.14 46 eP P 14 30 04.9 -0.2
comp=Z,6.1nm,0.7s,mb4.3
B09A Rice 85.14 36 ⇓P P 14 30 04.3 -0.8
baz=85,SNR=8.8
A09A Danville 85.21 35 P P 14 30 05.0 -0.5
baz=85,SNR=11
C10A Spilker Farm, 85.28 36 ⇑P P 14 30 05.0 -0.7
baz=85
TCUT Toone Canyon 85.48 44 eP P 14 30 06.8 0.0
B10A Chitwood Farm, 85.59 36 ⇑P P 14 30 06.4 -0.8
baz=86
NEW Newport 85.63 36 P P 14 30 06.7 -0.8
comp=Z,4.1nm,0.7s,mb4.2,baz=234,slow=5.1,SNR=11
MNTX Cornudas Mount 85.70 55 eP P 14 30 07.5 -0.2
comp=Z,20nm,1.6s,mb4.5
MVCO Mesa Verde 85.70 49 ⇓P P 14 30 07.2 -0.6
baz=86
BNM Barren Site 85.76 52 eP P 14 30 08.0 0.0
LPM Los Pinos Moun 85.83 52 eP P 14 30 07.5 -0.8
COLA College 85.86 13⇑ eP P 14 30 06.2 -2.3
COLA College 85.86 13 eP P 14 30 06.1 -2.4
comp=Z,16nm,1.1s,mb4.6
F13A Darby 85.94 39 ⇑P P 14 30 08.2 -0.7
baz=86,SNR=9.9
TXAR Lajitas Array 86.12 58 P P 14 30 10.6 +0.9
comp=Z,12nm,0.8s,mb4.6,baz=220,slow=6.1,SNR=123
B11A Sandpoint 86.14 36 ⇓P P 14 30 09.3 -0.6
baz=86
XAN Xi'an 86.21 307 P P 14 30 10.2 0.0
XAN AMB AMB
comp=Z,12nm,0.9s,mb4.5
ANMO Albuquerque 86.22 52 P P 14 30 10.9 +0.7
comp=Z,4.9nm,0.9s,mb4.1,baz=237,slow=5.3,SNR=10
ANMO Albuquerque 86.22 52 eP P 14 30 09.9 -0.3
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 86.22 52 eP P 14 30 09.9 -0.3
comp=Z,7.1nm,1.0s,mb4.2
C12A Trout Creek 86.26 37 ⇓P P 14 30 09.9 -0.4
baz=86
E13A Victor 86.36 39 ⇑P P 14 30 09.7 -1.2
baz=86
MCMT McKenzie Canyo 86.36 41 eP P 14 30 11.0 +0.1
A11A Hall Mountain, 86.42 36 ⇓P P 14 30 11.1 0.0
baz=87,SNR=5.7
F14A Wisdom 86.53 39 ⇓P P 14 30 11.4 -0.3
baz=87
B12A Libby 86.60 36 ⇑P P 14 30 11.6 -0.4
baz=87
RRI2 Red Ridge 86.60 42⇑ iP P 14 30 12.2 +0.2
comp=Z,32nm,0.9s,mb5.1
BSMT Bassoo Peak 86.73 37 P P 14 30 10.4 -2.2
E14A Clinton 86.76 39 ⇓P P 14 30 12.2 -0.6
baz=87,SNR=9.1
C13A Hot Springs 86.77 37 ⇓P P 14 30 12.0 -0.8
baz=87
A12A Yaak River Ran 86.81 36 ⇑P P 14 30 12.4 -0.6
baz=87
REDW Red Top Meadow 86.91 43⇑ eP P 14 30 12.8 -0.6
comp=Z,22nm,1.1s,mb4.8
SNOW Snow King Moun 87.02 42 eP P 14 30 14.1 +0.1
comp=Z,19nm,1.0s,mb4.8
F15A Butte 87.08 40 ⇓P P 14 30 13.7 -0.6
baz=87
D14A Greenough 87.08 38 ⇑P P 14 30 13.3 -1.0
baz=87
IMW Indian Meadow 87.11 42 eP P 14 30 14.7 +0.3
comp=Z,21nm,1.0s,mb4.8
CHMT Chamberlain Mo 87.15 39 eP P 14 30 13.8 -0.8
MOOW Moose Ponds 87.16 42 eP P 14 30 14.1 -0.6
comp=Z,11nm,1.4s,mb4.4
DAWY Dawson 87.18 16 eP P 14 30 13.5 -1.3
B13A Whitefish 87.19 37 ⇑P P 14 30 13.8 -1.0
baz=87
LOHW Long Hollow 87.19 42 eP P 14 30 14.5 -0.2
comp=Z,2.6nm,0.5s,mb4.2
HHC Hu-ho-hao-te 87.24 314 eP P 14 30 16.1 +1.1
HHC AP pP 14 32 25.9 +6.1
HHC XP sP 14 33 22.8 +4.9
HHC PP PP 14 33 54.4 +4.6
HHC SKS 14 39 46.1
HHC S S 14 40 03.4 -3.6
HHC SS SS 14 46 13.5 +4.8
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,137nm,4.5s
QLMT Earthquake Lak 87.24 41 eP P 14 30 15.2 +0.2
E15A Deer Lodge 87.27 39 ⇑P P 14 30 14.4 -0.8
baz=87
FLWY Flagg Ranch 87.35 42 eP P 14 30 15.7 +0.2
comp=Z,27nm,1.1s,mb4.9
PDAR Pinedale Array 87.47 43 P P 14 30 15.7 -0.4
comp=Z,6.1nm,0.6s,mb4.5,baz=219,slow=3.2,SNR=49
D15A Lincoln 87.65 39 ⇑P P 14 30 16.5 -0.4
baz=88,SNR=5.6
KMI Kunming 87.76 297 P P 14 30 16.5 -1.0
KMI AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
KMI Kunming 87.76 297 P P 14 30 16.5 -1.0
comp=Z,5.0nm,1.2s,mb4.1
RLMT Red Lodge 88.73 41 eP P 14 30 21.3 -0.7
comp=Z,4.3nm,1.0s,mb4.2
CD2 Chengdu 89.01 303 eP P 14 30 23.9 +0.6
JCT Junction City 89.66 58 eP P 14 30 26.3 0.0
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
JCT Junction City 89.66 58 eP P 14 30 26.2 0.0
comp=Z,5.5nm,0.7s,mb4.5
SNAA Sanae 90.54 179 eP P 14 30 28.2 -2.1
SNAA Sanae 90.54 179 eP P 14 30 28.5 -1.8
SNAA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 90.54 179 eP P 14 30 28.5 -1.8
comp=Z,1.8nm,0.7s,mb4.1
VNA3 Neumayer Olymp 90.68 176 eP P 14 30 29.9 -1.1
LZH Lanzhou 90.84 308 eP P 14 30 33.0 +1.3
LZH AP pP 14 32 43.0 +5.6
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,124nm,4.1s
LZH Lanzhou 90.84 308 eP P 14 30 33.0 +1.3
comp=Z,30nm,1.5s,mb5.0
LZH pP pP 14 32 43.0 +5.6
LZH sP sP 14 33 42.0 +6.9
VNA2 Neumayer--Watz 91.12 177 eP P 14 30 31.8 -1.2
VNA2 e 14 30 32.5
RSSD Black Hills 91.69 44 eP P 14 30 34.8 -0.8
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RSSD Black Hills 91.69 44 eP P 14 30 34.8 -0.8
comp=Z,2.5nm,0.7s,mb4.3
CBKS Cedar Bluff 92.68 50 eP P 14 30 38.5 -1.7
CBKS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CBKS Cedar Bluff 92.68 50 eP P 14 30 38.5 -1.7
comp=Z,12nm,0.9s,mb4.9
ULN Ulaanbaatar 93.13 319⇑ eP P 14 30 38.6 -3.6
YKA Yellowknife Ar 94.44 25 P P 14 30 46.5 -1.7
comp=Z,1.4nm,0.5s,mb4.3,baz=235,slow=4.6,SNR=4.9
YKA Yellowknife Ar 94.44 25 P P 14 30 46.5 -1.7
GTA Gaotai 94.99 310 eP P 14 30 55.4 +4.7
GTA AP pP 14 32 55.8 -1.0
GTA XS sS 14 44 58.1 -4.6
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.5
GTA AMB AMB

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,82nm,4.9s						
BVAR	Borovoye Array	116.83	321	PKiKP	PKiKP	14 36 07.0	-1.7
	comp=Z,1.1nm,0.4s,baz=94,slow=1.7,SNR=8.9						
HFS	Hagfors	136.98	351	PKhKP		14 36 36.3	
	comp=Z,3.9nm,1.0s,baz=45,slow=2.3,SNR=5.7						
BRTR	Keskin Array B	144.75	315	PKP	PKPdf	14 37 01.2	+0.4
	comp=Z,2.5nm,0.5s,baz=88,slow=2.2,SNR=12						
CLL	Collm	145.50	347	⇑iPKP2	PKPab	14 37 02.6	-2.5
CLL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CLL	Collm	145.50	347	⇑iPKPbc	PKPbc	14 37 02.6	-1.0
	comp=Z,10.0nm,1.3s						
GERES	GERESS Array B	147.65	345	PKPbc	PKPbc	14 37 08.5	-0.9
	comp=Z,1.1nm,0.6s,baz=26,slow=2.7,SNR=7.4						
GIVF	Givet	147.84	356	ePKP1	PKPbc	14 37 09.4	-0.5
BAIF	Baives	147.92	357	ePKP1	PKPbc	14 37 09.7	-0.4
FLN	La Foliniere	149.25	3	ePKP1	PKPbc	14 37 12.5	-0.8
CDF	Champ du Feu	149.27	352	ePKP1	PKPbc	14 37 13.1	-0.3
	comp=Z,6.0nm,0.7s						
LDF	La Druitiere	149.43	2	ePKP1	PKPbc	14 37 12.8	-1.0
	comp=Z,1.6nm,0.4s						
HINF	Hinteralfeld	149.91	353	ePKP1	PKPbc	14 37 14.4	-0.5
VISS	Visnje	150.11	341	i PKPbc	PKPbc	14 37 17.3	+1.9
BOJS	Bojanci	150.25	340	ePKPbc	PKPbc	14 37 15.8	+0.1
DAVOS	Davos	150.41	348	PKIKP	PKPbc	14 37 15.2	-0.9
DAVOX	Davos	150.45	348	PKPbc	PKPbc	14 37 15.2	-0.9
	comp=Z,4.3nm,0.8s,baz=1.6,slow=8.4,SNR=5.5						
LOR	Lormes	150.72	357	ePKP1	PKPbc	14 37 15.6	-1.2
	comp=Z,2.2nm,0.4s						
SSF	Saint Saulge	150.94	357	ePKP1	PKPbc	14 37 16.4	-0.9
CABF	La Chapelle	151.19	353	ePKP1	PKPbc	14 37 18.3	+0.5
ESDC	Sonseca Array	157.87	11	PKPab	PKPab	14 37 55.8	-1.4
	comp=Z,0.3nm,0.6s,baz=330,slow=4.9,SNR=4.7						
MDT	Midelt	164.23	19	PKPab	PKPab	14 38 25.1	-0.1
	comp=Z,2.0nm,0.7s,baz=337,slow=5.7,SNR=6.8						

*ISCJB **04** 15:06:33.9±0.5, 67.19N±0.03×14.90E±0.07, h0^{km}, Error ellipse: s-maj=5.0km s-min=2.7km az=92.5*
*IDC **04** 15:06:34.6±1.6, 67.42N×14.10E, h0^{km}, mb1 3.1/4, mb1mx3.0/22, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=20.2km s-min=9.6km az=121.0*
*BER **04** 15:06:35.9±4.1, 67.36N×14.27E, h0^{km}±11^{km}, MD2.7, ML2.1, ML2.5(NAO)*
*HEL **04** 15:06:35.9±0.2, 67.32N×14.44E, h9^{km}±1^{km}, ML2.4, ML2.1(BER), ML2.5(UPP)*
*NAO **04** 15:06:36.3±1.7, 67.32N×14.59E, ML2.5*
*CSEM **04** 15:06:36.4±0.2, 67.24N×14.85E, h1^{km}, ML2.1, Error ellipse: s-maj=5.0km s-min=2.1km az=119.0, Suspected Mining explosion.*
*UPP **04** 15:06:38.8, 67.19N×15.13E, h0^{km}, ML2.5, Suspected Mining explosion.*
ISC 04 15:06:35.0±0.5**, 67.24N**±0.03×**14.73E**±0.07**, h0^{km}, n56, σ1^{s}41**/84**, Northern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STOK1	Konsvik	0.98	221	eP	Pg	15 06 52.5	-1.3
STOK1	Konsvik	0.98	221	eS	Sg	15 07 05.2	-1.3
STOK2	Flostrand	1.06	211	eP	Pg	15 06 54.8	-0.5
MOR8	Moi Rana	1.08	186	eP	Pg	15 06 54.1	-1.7
MOR8				eS	Sg	15 07 07.7	-2.2
MOR8	Moi Rana	1.08	186	eP	Pg	15 06 54.0	-1.8
MOR8				eS	Sg	15 07 06.8	-3.1
STOK	Stokkvaagen	1.14	217	eP	Pg	15 06 55.7	-1.2
STOK	Stokkvaagen	1.14	217	eS	Sg	15 07 10.4	-1.2
STOK				AML	AML	15 07 12.6	
	comp=Z,50nm,0.2s						
STOK	Stokkvaagen	1.14	217	eP	Pg	15 06 55.8	-1.0
STOK				eS	Sg	15 07 09.9	-1.7
NIKU	Nikkaluokta	1.77	67	eP	Pn	15 07 08.5	+1.6
KUA	Kurravaara	2.27	69	eP	Pn	15 07 17.4	+3.7
DUNU	Dundret	2.28	90	eP	Pn	15 07 15.2	+1.3
HARU	Harads	2.71	111	eP	Pn	15 07 21.2	+1.4
MASU	Masugnsbyn	2.82	82	eP	Pn	15 07 22.9	+1.5
LILU	Lilltraesk	2.86	131	eP	Pn	15 07 24.5	+2.6
TRO	Tromso	2.86	31	eSg	Sg	15 08 04.3	-2.6
TRO	Tromso	2.86	31	eS	Sn	15 07 55.1	-1.8
KIF	Kilpisjarvi	2.88	49	eP	Pn	15 07 23.3	+1.1
KIF				eSG	Sg	15 08 06.1	-1.5
KIF				MSG		15 08 10.8	
	comp=Z,18nm,0.2s						
LANU	Lannavaara	2.89	70	eP	Pn	15 07 25.2	+2.9
NSS	Namsos	2.95	204	eP	Pn	15 07 23.6	+0.5
NSS				AML	AML	15 08 07.6	
	comp=Z,13nm,0.5s						
NSS	Namsos	2.95	204	eP	Pn	15 07 23.3	+0.1
NSS				eS	Sn	15 07 58.1	-1.1
SJUU	Sjulsmark	3.27	119	eP	Pn	15 07 29.2	+1.6
PAJU	Pajala	3.28	90	eP	Pn	15 07 28.9	+1.2
SVAU	Svanoeiden	3.41	142	eP	Pn	15 07 31.2	+1.8
KTK1	Kautokeino	3.65	57	eP	Pn	15 07 34.7	+2.0
KTK1				AML	AML	15 08 37.8	
	comp=Z,18nm,0.6s						
KTK1	Kautokeino	3.65	57	eP	Pn	15 07 33.4	+0.7
KTK1				eSG	Sg	15 08 29.9	-2.3
BREU	Bredtraesk	3.73	153	eP	Pn	15 07 35.7	+1.9
BURU	Burvik	3.82	131	eP	Pn	15 07 37.4	+2.4
NOD	Norderasen	3.82	179	eP	Pn	15 07 36.3	+1.2
UMAU	Umeaa	4.18	141	eP	Pn	15 07 41.9	+1.8
SGF	Sodankyl	4.57	82	eP	Pn	15 07 46.0	+0.6
SGF				eS	Sn	15 08 39.1	-0.1
SGF				MSG		15 09 08.8	
	comp=Z,8.1nm,0.3s						
ARA0	ARCESS Array S	4.60	55	Pn	Pn	15 07 45.9	+0.1
	baz=235,slow=14						
ARA0				Sn	Sn	15 08 38.5	-1.4
	baz=237,slow=22						
ARA0				Lg		15 08 59.4	
	baz=240,slow=28						
ARA0				Lg		15 08 59.8	
	baz=242,slow=28						
ARA0	ARCESS Array S	4.60	55	eP	Pn	15 07 45.8	0.0
ARA0				eS	Sn	15 08 38.7	-1.3
ARA0				eSG	Sg	15 08 58.9	-3.9
ARA0	ARCESS Array S	4.60	55	Pn	Pn	15 07 45.9	+0.1
	SNR=50						
ARA0				Sn	Sn	15 08 38.5	-1.4
	SNR=50						
ARCES	ARCESS Array B	4.60	55	Pn	Pn	15 07 45.9	+0.1
	comp=Z,0.2nm,0.3s,baz=243,slow=12,SNR=14						
ARCES				Pg	Pg	15 07 58.3	-4.9
	comp=Z,0.5nm,0.3s,baz=234,slow=16,SNR=11						
ARCES				Sn	Sn	15 08 39.6	-0.3
	comp=Z,0.8nm,0.3s,baz=240,slow=22,SNR=5.9						
ARCES				Lg		15 09 00.2	
	comp=Z,4.0nm,0.3s,baz=242,slow=26,SNR=19						
OUL	Oulu	5.02	110	eP	Pn	15 07 52.6	+1.0
OUL				eS	Sn	15 08 49.9	-0.4
OUL				MSG		15 09 18.2	
	comp=Z,4.3nm,0.3s						
KEV	Kevo	5.17	55	eP	Pn	15 07 53.4	-0.3
KEV				eS	Sn	15 08 51.8	-2.2
KEV				MSG		15 09 19.8	
	comp=Z,2.7nm,0.3s						
VAF	Ylistaro	5.38	138	eP	Pn	15 07 58.2	+1.6
VAF				eS	Sn	15 08 59.3	0.0
VAF				MSG		15 09 30.0	
	comp=Z,5.4nm,0.4s						
KU4	Liikasenvaara	5.94	92	eP	Pn	15 08 04.5	+0.3
KU4				eS	Sn	15 09 11.6	-1.3
KU4				MSG		15 09 47.7	
	comp=Z,1.9nm,0.3s						
KU6	Riekki	6.16	94	eP	Pn	15 08 07.5	+0.3
KU6				eS	Sn	15 09 16.5	-1.8
KJN	Kajaani	6.23	114	eS	Sn	15 09 18.4	-1.7
KJN				MSG		15 09 54.5	
	comp=Z,2.6nm,0.3s						
NB2	NORSAR Subarra	6.42	195	Pn	Pn	15 08 11.6	+0.9
	baz=12,slow=14						
NB2				Sn	Sn	15 09 25.3	+0.6
NB2				Lg		15 09 55.0	
NB2	NORSAR Subarra	6.42	195	eP	Pn	15 08 11.6	+0.9
NB2				eS	Sn	15 09 25.3	+0.6
NB2				eSG		15 09 55.0	
NOA	NORSAR Array B	6.42	195	Pn	Pn	15 08 10.9	+0.1
	comp=Z,0.2nm,0.3s,baz=4.2,slow=13,SNR=2.9						
SUF	Sumiainen	6.63	128	eP	Pn	15 08 14.9	+1.1
SUF				eS	Sn	15 09 28.9	-1.2
KEF	Keuruu	6.69	135	eP	Pn	15 08 15.8	+1.3
KEF				eS	Sn	15 09 30.1	-1.4
RAF	Rauma	6.96	150	eP	Pn	15 08 19.2	+1.0
RAF				eS	Sn	15 09 35.5	-2.6
APA0	Apatity Array	7.04	79	Lg		15 10 16.8	
APA0	Apatity Array	7.04	79	eSG		15 10 16.8	
KAF	Kangasniemi	7.14	131	eP	Pn	15 08 21.6	+0.8
KAF				eS	Sn	15 09 41.3	-1.3
HFS	Hagfors	7.15	184	Pn	Pn	15 08 20.9	0.0
	comp=Z,0.2nm,0.3s,baz=9.0,slow=11,SNR=9.5						
HFS				Sn	Sn	15 09 41.1	-1.8
	comp=Z,0.3nm,0.3s,baz=23,slow=24,SNR=5.7						
HFS				Lg		15 10 20.2	
	comp=Z,0.2nm,0.3s,baz=0.3,slow=25,SNR=5.2						
HFS	Hagfors	7.15	184	Pn	Pn	15 08 21.2	+0.3
	baz=2.6,slow=11						
HFS				Sn	Sn	15 09 40.8	-2.1
	baz=1.6,slow=28						
HFS				Lg		15 10 20.1	
	baz=13,slow=37						
HFS	Hagfors	7.15	184	eP	Pn	15 08 21.2	+0.3
HFS				eS	Sn	15 09 40.8	-2.1
HFS				eSG		15 10 20.1	
HFS	Hagfors	7.15	184	Pn	Pn	15 08 21.2	+0.3
	SNR=50						
FIA0	FINESS Array S	7.62	134	Pn	Pn	15 08 28.8	+1.5
	baz=323,slow=12						
FIA0				Sn	Sn	15 09 52.9	-1.4
	baz=331,slow=28						
FIA0				Lg		15 10 39.4	
	baz=335,slow=28						
FIA0	FINESS Array S	7.62	134	eP	Pn	15 08 28.8	+1.5
FIA0				eS	Sn	15 09 52.9	-1.4
FIA0				e		15 10 39.4	
FINES	FINESS Array B	7.62	134	Pn	Pn	15 08 27.9	+0.6
	comp=Z,0.1nm,0.3s,baz=335,slow=9.6,SNR=5.1						
FINES				Sn	Sn	15 09 56.8	+2.6
	comp=Z,0.2nm,0.3s,baz=325,slow=22,SNR=3.9						
FINES				Lg		15 10 40.5	
	comp=Z,0.5nm,0.3s,baz=334,slow=26,SNR=7.7						

*NEIC **04** 15:30:07.9, 33.17S×68.96W, h7^{km}, ML3.2(GUC), After GUC.*
GUC 04 15:30:07.9±0.7**, 33.17S×68.96W, h7^{km}**±6^{km}**, MD3.9, ML3.2, 16C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YECH	El Yeso	1.07	242	eP	Pg	15 30 27.9	-0.5
YECH				i S	Sg	15 30 43.1	+1.0
YECH				AML	AML	15 30 44.4	
	comp=N,2μm,0.4s						
FCH	Farellones	1.13	262	⇓iP	Pg	15 30 29.2	-0.4
FCH				i S	Sg	15 30 45.5	+1.2
FCH				AML	AML	15 30 46.6	
	comp=N,622nm,0.2s						
LMEL	Las Melosas	1.24	237	⇑iP	Pn	15 30 31.1	-0.6
LMEL				i S	Sg	15 30 48.4	+0.5
LMEL				AML	AML	15 30 50.4	
	comp=N,2μm,0.2s						
LMEL	Las Melosas	1.24	237	⇑iP	Pn	15 30 31.1	-0.6
LMEL				i S	Sg	15 30 48.4	+0.5
CLCH	Cerro Calan	1.34	260	⇑iP	Pn	15 30 32.9	-0.1
CLCH				i S	Sb	15 30 51.7	+0.9
CLCH				AML	AML	15 30 53.0	
	comp=N,632nm,0.6s						
PEL	Peldehue	1.45	271	⇑iP	Pn	15 30 34.6	+0.1
PEL				i S	Sn	15 30 54.6	+0.8
PEL				AML	AML	15 30 59.4	
	comp=N,404nm,0.6s						
PEL	Peldehue	1.45	271	⇑iP	Pn	15 30 34.6	+0.1
PEL				i S	Sn	15 30 54.6	+0.8
ANTU	Antumapu	1.46	254	⇓iP	Pn	15 30 34.7	0.0
ANTU				i S	Sn	15 30 55.0	+1.0
ANTU				AML	AML	15 30 57.5	
	comp=N,612nm,0.4s						
ANTU	Antumapu	1.46	254	⇓iP	Pn	15 30 34.7	0.0
ANTU				i S	Sn	15 30 55.0	+1.0
JACH	Jahuel	1.46	289	⇑iP	Pn	15 30 34.8	+0.1
JACH				i S	Sn	15 30 55.2	+1.2
RCDM	Rinconada Maip	1.58	258	⇑iP	Pn	15 30 37.3	+0.9
RCDM				i S	Sn	15 30 59.4	+2.4
RCDM				AML	AML	15 31 02.0	
	comp=N,218nm,0.2s						
RCDM	Rinconada Maip	1.58	258	⇑iP	Pn	15 30 37.3	+0.9
RCDM				i S	Sn	15 30 59.4	+2.4
CHCH	Chadas Angostu	1.61	241	⇑iP	Pn	15 30 37.7	+1.0
CHCH				i S	Sn	15 30 60.0	+2.3
ZON	Zonda	1.64	8	⇑iP	Pn	15 30 35.9	-1.1
CACH	El Canelo	1.67	235	⇑iP	Pn	15 30 38.6	+1.1
CACH				i S	Sn	15 31 02.1	+3.0
CICH	Cipreses	1.68	226	⇑iP	Pn	15 30 38.6	+1.0
CICH				i S	Sn	15 31 02.1	+2.7
TACH	Talagante	1.73	253	⇑iP	Pn	15 30 39.3	+1.0
ROCH	El Roble	1.74	276	eP	Pn	15 30 39.9	+1.4
PTCH	Petorca	1.89	298	⇑iP	Pn	15 30 42.3	+1.7
PTCH				i S	Sn	15 31 08.6	+3.8
PTCH				AML	AML	15 31 09.5	
	comp=N,922nm,0.8s						
PTCH	Petorca	1.89	298	⇑iP	Pn	15 30 42.3	+1.7
PTCH				i S	Sn	15 31 08.6	+3.8
LNV	Longovilo	2.20	248	⇓iP	Pn	15 30 46.9	+2.1
LNV				i S	Sn	15 31 17.1	+5.0
CHNG	Los Chungos	2.50	300	i P	Pn	15 30 52.3	+3.3
CHNG				i S	Sn	15 31 26.0	+6.3
CHNG				AML	AML	15 31 30.2	
	comp=N,126nm,0.4s						
CMCH	Combarbala	2.64	318	⇑iP	Pn	15 30 52.2	+1.4
CMCH				i S	Sn	15 31 27.0	+3.9

*BJI **04** 15:45:20.3, 6.01S×131.10E, h137^{km}, mB5.1, mb4.7*
*NEIC **04** 15:45:21.9±1.2, 5.70S×130.76E, h107^{km}±12^{km}, mb4.9/32, Error ellipse: s-maj=9.7km s-min=6.7km az=69.0*
*ISCJB **04** 15:45:22.8±0.6, 5.72S±0.03×130.86E±0.04, h135^{km}±6^{km}, mb4.8/51, Error ellipse: s-maj=6.9km s-min=4.6km az=146.8*
*MOS **04** 15:45:22.5±1.0, 5.67S×130.80E, h124^{km}, mb4.7/23, Error ellipse: s-maj=12.5km s-min=7.1km az=110.7*
*IDC **04** 15:45:22.6±3.5, 5.68S×130.82E, h108^{km}±32^{km}, mb4.5/14, mb1 4.5/16, mb1mx4.4/20, mbtmp4.9/16, MS3.6/8, Ms1 3.6/8, ms1mx3.4/24, Error ellipse: s-maj=17.7km s-min=11.1km az=69.0*
ISC 04 15:45:24.0±0.6**, 5.74S**±0.03×**130.86E**±0.04**, h128^{km}**±6^{km}**, h111^{km}**±9.4^{km}**:pP-P, n147, σ1^{s}20**/149**, mb4.8**/51**, 14C-8D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLE	Tual	1.87	87	P	Pn	15 45 57.6	+1.4
	0.0nm,0.0s						
AAI	Ambon	3.35	307	P	Pn	15 46 14.8	-0.3
	0.0nm,0.0s						
SWI	Sorong	4.86	5	P	Pn	15 46 33.4	-1.7
	0.0nm,0.0s						
BAKI	Biak	6.91	49	P	Pn	15 47 03.2	+0.5
	0.0nm,0.0s						
KAKA	Kakadu	7.10	167	eP	Pn	15 47 04.5	-0.8
	100nm,0.2s						
KAKA				eS	Sn	15 48 20.3	-4.3
MMPI	Merauke	9.83	107	P	Pn	15 47 40.9	-1.1
	0.0nm,0.0s						
JAY	Jayapura	10.32	72	P	Pn	15 47 49.4	+0.8
	0.0nm,0.0s						
PCI	Palu	12.01	293	P	Pn	15 48 12.1	+1.2
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	13.31	202	⇓iP	Pn	15 48 24.2	-3.6
	26nm,0.3s						
FITZ				eS	Sn	15 50 42.2	-12
FITZ	Fitzroy Crossi	13.31	202	P	Pn	15 48 24.4	-3.4
	5.1nm,0.3s,baz=34,slow=11,SNR=100						
FITZ				S	Sn	15 50 44.0	-11
	15nm,0.3s,baz=186,slow=22,SNR=6.2						
FITZ				LR	LR	15 54 20.6	
	comp=Z,154nm,20.2s,baz=160,slow=40						
WRAB	Tennant Creek	14.51	167	⇑eP	Pn	15 48 42.7	-0.5
WRA	Warramunga Arr	14.52	167	P	Pn	15 48 40.4	-2.9
	2.6nm,0.3s,baz=351,slow=13,SNR=72						
WRA				S	Sn	15 51 12.3	-12
	2.9nm,0.3s,baz=347,slow=22,SNR=8.3						
WB2	Warramunga Arr	14.52	167	eP	Pn	15 48 39.8	-3.5
WB2				eS	Sn	15 51 13.9	-10
WB2	Warramunga Arr	14.52	167	ePn	Pn	15 48 40.1	-3.2
WB2				eSn	Sn	15 51 05.1	-19
TSM	Tawau	16.36	307	P	Pn	15 49 05.9	-0.2
PMG	Port Moresby	16.56	104	P	Pn	15 49 10.2	+1.6
	1.4nm,0.3s,baz=302,slow=6.6,SNR=19						
PMG				S	S	15 52 03.8	-9.3
	1.3nm,0.3s,baz=195,slow=21,SNR=4.7						
PMG	Port Moresby	16.56	104	eP	Pn	15 49 10.1	+1.6
PMG				e		15 52 02.8	
PMG				pmax	pmax		
	comp=Z,60nm,0.9s						
PMG	Port Moresby	16.56	104	ePn	Pn	15 49 10.1	+1.6
	comp=Z,60nm,0.9s						
PMG				eSn	Sn	15 52 02.8	-10
AS31	Alice Springs	18.07	171	ePn	Pn	15 49 27.1	+0.4
AS31				eSn	Sn	15 52 37.2	-12
ASAR	Alice Springs	18.07	171	P	P	15 49 27.1	+1.7
	comp=Z,8.8nm,0.3s,baz=352,slow=9.8,SNR=1108						
ASAR				S	S	15 52 42.4	-3.3
	comp=Z,2.2nm,0.3s,baz=355,slow=27,SNR=5.5						
ASPA	Alice Springs	18.07	171	eP	P	15 49 27.2	+1.8
ASPA				eS	S	15 52 39.3	-6.5
KRKI	Karangkates	18.43	261	P	P	15 49 32.7	+3.3
	comp=Z,189nm,0.9s						
KKM	Kota Kinabalu	18.73	308	P	P	15 49 33.9	+1.3
KKM	Kota Kinabalu	18.73	308	eP	P	15 49 32.9	+0.3
MBWA	Marble Bar	18.75	214	eP	P	15 49 33.4	+0.5
	comp=Z,32nm,0.8s						
MBWA				eSn	Sn	15 52 47.3	-18
CTA	Charters Tower	20.67	135	⇓iP	P	15 49 56.0	+2.4
	comp=Z,30nm,0.8s						
CTA				eS	S	15 53 43.3	+5.9
CTA	Charters Tower	20.67	135	P	P	15 49 55.9	+2.3
	comp=Z,34nm,0.8s,baz=314,slow=12,SNR=62						
CTA	Charters Tower	20.67	135	⇓iP	P	15 49 56.0	+2.4
CTA				eS	S	15 53 43.3	+5.9
CTA				pmax	pmax		
	comp=Z,30nm,0.8s						
CTAO	Charters Tower	20.67	135	⇓iP	P	15 49 56.0	+2.4
CTAO				eS	S	15 53 42.8	+5.4
CTAO				pmax	pmax		
	comp=Z,54nm,0.9s						
CTAO	Charters Tower	20.67	135	⇓iP	P	15 49 56.0	+2.4
	comp=Z,54nm,0.9s						
CTAO				eS	S	15 53 42.8	+5.5
BJII	Banjamegara	21.08	265	P	P	15 49 57.7	-0.2
	comp=Z,75nm,1.8s,mb4.7						
KSM	Kuching	21.74	289	eP	P	15 50 03.9	-1.1
TGY	Tagaytay City	22.03	334	P	P	15 50 08.3	+0.2
	comp=Z,81nm,0.4s,baz=133,slow=16,SNR=3.3						
JCJI	Jatiwangi	22.48	267	P	P	15 50 16.4	+3.7
	comp=Z,199nm,0.5s,mb5.8						
LEM	Lembang	23.13	266	P	P	15 50 18.9	+0.1
	comp=Z,94nm,1.7s,mb4.9						
GUMO	Guam	23.71	36	P	P	15 50 24.7	+0.7
	comp=Z,81nm,1.0s,mb5.2,baz=184,slow=8.3,SNR=6.1						
GUMO	Guam	23.71	36	eP	P	15 50 24.8	+0.8
GUMO				pmax	pmax		
	comp=Z,148nm,0.9s,mb5.5						
GUMO	Guam	23.71	36	eP	P	15 50 24.8	+0.8
	comp=Z,148nm,0.9s,mb5.5						
CBJI	Citeko	23.89	267	P	P	15 50 25.4	-0.3
	comp=Z,262nm,0.9s,mb5.8						
FORT	Forrest	25.05	186	eP	P	15 50 37.7	+1.5
	comp=Z,26nm,0.6s,mb4.9						
STKA	Stephens Creek	27.88	160	eP	P	15 51 02.9	+1.3
	comp=Z,12nm,0.9s,mb4.6						
STKA				eS	sS	15 56 26.4	+2.4
STKA	Stephens Creek	27.88	160	P	P	15 51 02.8	+1.2
	comp=Z,9.3nm,0.7s,mb4.6,baz=334,slow=9.0,SNR=18						
STKA				LR	LR	16 03 22.3	
	comp=Z,279nm,19.6s,baz=119,slow=39						
STKA	Stephens Creek	27.88	160	eP	P	15 51 02.8	+1.2
KLBR	Kellerberrin	28.50	204	eP	P	15 51 08.2	+1.1
	comp=Z,25nm,0.6s,mb5.1						
HNR	Honiara	29.05	99	P	P	15 51 12.4	+0.4
	comp=Z,50nm,0.7s,mb5.4,baz=262,slow=4.4,SNR=6.0						
HNR	Honiara	29.05	99	eP	P	15 51 12.5	+0.5
HNR				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.4						
HNR	Honiara	29.05	99	eP	P	15 51 12.5	+0.5
	comp=Z,70nm,0.9s,mb5.4						
MUN	Mundaring	29.49	206	eP	P	15 51 16.7	+0.8
NWAO	Narrogin (SRO)	29.89	203	P	P	15 51 19.8	+0.4
	comp=Z,11nm,0.6s,mb4.7,baz=46,slow=7.4,SNR=8.5						
NWAO				LR	LR	16 04 27.6	
	comp=Z,84nm,21.4s,baz=196,slow=38						
NWAO	Narrogin (SRO)	29.89	203	eP	P	15 51 19.1	-0.3
NWAO				pmax	pmax		
	comp=Z,30nm,1.1s						
NWAO	Narrogin (SRO)	29.89	203	eP	P	15 51 19.1	-0.3
	comp=Z,30nm,1.1s,mb4.9						
KULM	Kulim	32.09	289	eP	P	15 51 35.9	-2.9
QIZ	Qiongzhong	32.16	320	P	P	15 51 39.9	+0.5
QIZ				PP	PP	15 52 53.5	-1.0
QIZ				S	S	15 56 40.8	-1.8
QIZ				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,131nm,4.6s						
PSI	Prapat	33.01	284	P	P	15 51 46.9	+0.2
	comp=Z,8.0nm,0.8s,mb4.5,baz=136,slow=6.7,SNR=8.3						
NANT	Nan	38.45	310	⇑P	P	15 52 31.0	-2.1
	comp=Z,488nm,1.0s						
NJ2	Nanjing	39.28	344	eP	P	15 52 40.1	0.0
NJ2				PP	PP	15 54 14.2	+1.5
NJ2				S	S	15 58 29.0	-2.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,170nm,4.9s						
NJ2				LR	LR		
	comp=N,260nm,17.0s						
NJ2				LR	LR		
	comp=E,200nm,22.5s						
NJ2				LR	LR		
	comp=Z,110nm,16.7s						
GYA	Guiyang	39.68	325	⇓iP	P	15 52 44.3	+0.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CHG	Chiang Mai	39.81	309	⇑P	P	15 52 44.9	+0.4
	comp=Z,32nm,1.1s,mb4.9						
CHTO	Chiang Mai	39.81	309	eP	P	15 52 44.6	+0.1
CHTO				e	pP	15 53 12.9	-0.2
CHTO				pmax	pmax		
	comp=Z,36nm,1.1s,mb4.9						
CHTO	Chiang Mai	39.81	309	eP	P	15 52 44.6	+0.1
	comp=Z,36nm,1.1s,mb4.9						
CHTO				e	pP	15 53 12.9	-0.2
CHTO				eScP	ScP	15 58 25.8	+0.9
KMI	Kunming	41.10	319	P	P	15 52 56.8	+1.7
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.6						
KMI	Kunming	41.10	319	P	P	15 52 56.8	+1.7
	comp=Z,19nm,1.2s,mb4.6						
MJAR	Matsushiro Arr	42.61	9	P	P	15 53 06.7	-0.7
	comp=Z,6.5nm,0.8s,mb4.3,baz=184,slow=9.0,SNR=30						
MAJO	Matsushiro	42.62	9	eP	P	15 53 06.2	-1.2
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	Matsushiro	42.62	9	eP	P	15 53 06.2	-1.2
	comp=Z,8.9nm,0.8s,mb4.5						
MAJO				e	pP	15 53 40.0	+3.6
MAT	Matsushiro	42.62	9	P	P	15 53 06.2	-1.2
KSRS	Korea Array	43.05	357	LR	LR	16 09 17.5	
	comp=Z,40nm,19.1s,baz=356,slow=33						
XAN	Xi'an	44.67	334	P	P	15 53 23.3	-0.6
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.5						
BJT	Baijiatuau	47.50	345	eP	P	15 53 45.8	-0.2
BJT				pmax	pmax		
	comp=Z,52nm,1.1s						
BJT	Baijiatuau	47.50	345	eP	P	15 53 45.8	-0.2
	comp=Z,52nm,1.1s,mb5.1						
BJT				e		15 53 57.6	
LZH	Lanzhou	48.71	331	eP	P	15 53 53.5	-1.8
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.7						
LZH	Lanzhou	48.71	331	eP	P	15 53 53.5	-1.8
	comp=Z,30nm,1.5s,mb4.7						
LZH				pP	pP	15 54 07.5	-17
LZH				sP	sP	15 54 12.5	-27
CN2	Changchun	49.55	355	eP	P	15 54 02.0	+0.3
MDJ	Mudanjiang	50.13	359	eP	P	15 54 06.0	0.0
	comp=Z,15nm,1.0s,mb4.6						
PALK	Pallekele	51.69	284	eP	P	15 54 15.7	-2.1
	comp=Z,6.2nm,0.9s,mb4.2						
LSA	Lhasa	51.90	315	P	P	15 54 20.6	+1.3
LSA	Lhasa	51.90	315	eP	P	15 54 20.5	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6						
LSA	Lhasa	51.90	315	eP	P	15 54 20.5	+1.2
	comp=Z,19nm,1.1s,mb4.6						
GTA	Gaotai	53.30	330	eP	P	15 54 30.4	+0.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
YSS	Yuzh-Sakhalins	53.51	10	deP	P	15 54 31.1	0.0
YSS				pmax	pmax		
	comp=Z,30nm,2.4s,mb4.6						
YSS	Yuzh-Sakhalins	53.51	10	eP	P	15 54 30.6	-0.5
	comp=Z,8.1nm,0.6s,mb4.6						
JIRN	Jiri	54.42	310	eP	P	15 54 38.3	+0.5
KLR	Kul'dur	54.74	1	eP	P	15 54 33.9	-6.2
GUN	Gumba	54.79	310	eP	P	15 54 40.9	+0.5
	comp=Z,107nm,1.0s,mb5.5						
PKI	Pulchoki	54.98	309	eP	P	15 54 42.0	+0.3
KKN	Kakani	55.18	310	eP	P	15 54 43.6	+0.4
	comp=Z,68nm,1.0s,mb5.3						
DMN	Daman	55.23	309	eP	P	15 54 43.9	+0.3
	comp=Z,129nm,1.1s,mb5.5						
GKN	Gorkha	55.78	309	eP	P	15 54 47.9	+0.4
KOLN	Koldanda	56.47	309	eP	P	15 54 53.0	+0.6
	comp=Z,92nm,1.0s,mb5.6						
HYB	Hyderabad	56.55	295	i P	P	15 54 52.5	-0.4
ULN	Ulaanbaatar	57.34	341	⇑eP	P	15 55 00.2	+1.6
ULN	Ulaanbaatar	57.34	341	eP	P	15 54 57.0	-1.5
	comp=Z,13nm,0.8s,mb4.8						
ULN				e		15 55 11.3	
SONM	Songino Array	57.53	341	P	P	15 55 00.5	+0.6
	comp=Z,1.9nm,0.6s,mb4.1,baz=167,slow=6.6,SNR=9.0						
TLY	Talaya	61.76	341	⇑eP	P	15 55 28.8	0.0
WMQ	Urumqi	62.82	326	⇑iP	P	15 55 36.6	+0.7
WMQ				PCP	PcP	15 56 13.9	+0.8
WMQ				PP	PP	15 57 57.6	+2.1
WMQ				S	S	16 03 54.6	-0.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
WMQ				LR	LR		
	comp=N,40nm,22.5s						
WMQ				LR	LR		
	comp=E,23nm,26.3s						
WMQ				LR	LR		
	comp=Z,23nm,24.4s						
PET	Petropavlovsk	63.09	18	⇑eP	P	15 55 39.0	+1.3
PET				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.0						
PET	Petropavlovsk	63.09	18	eP	P	15 55 36.7	-0.9
	comp=Z,40nm,1.3s,mb5.1						
MA2	Magadan	67.00	11	P	P	15 55 59.8	-3.2
MA2				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
MA2	Magadan	67.00	11	P	P	15 55 59.8	-3.2
	comp=Z,34nm,1.2s,mb5.0						
YAK	Yakutsk	67.57	359	eP	P	15 56 06.4	-0.2
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.1						
YAK	Yakutsk	67.57	359	eP	P	15 56 06.4	-0.2
	comp=Z,32nm,0.8s,mb5.1						
YAK				e		15 56 20.4	
YAK				e		15 56 42.6	
MK31	Makanchi Array	67.65	326	eP	P	15 56 07.6	+0.6
MK31				e		15 56 19.1	
MKAR	Makanchi Array	67.65	326	P	P	15 56 07.9	+0.8
	comp=Z,6.5nm,0.6s,mb4.5,baz=114,slow=7.5,SNR=67						
AAK	Ala-Archa	70.14	319	⇑eP	P	15 56 23.1	+0.6
AAK				i *PP	pP	15 56 47.4	-6.6
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
AAK	Ala-Archa	70.14	319	eP	P	15 56 22.8	+0.4
	comp=Z,9.9nm,1.1s,mb4.5						
AAK				e		15 56 34.3	
SEY	Seymchan	70.42	10	⇓eP	P	15 56 23.3	-0.8
ZAL	Zalesovo	70.84	333	P	P	15 56 27.1	+0.4
	comp=Z,2.2nm,0.3s,mb4.4,baz=312,slow=3.9,SNR=7.0						
ZAL	Zalesovo	70.84	333	i P	P	15 56 27.7	+1.0
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	Novosibirsk	72.13	333	eP	P	15 56 43.5	+9.1
NVS				eS	S	16 05 40.3	-5.9
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
NVS				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
NVS				smax			
	comp=N,33nm,2.0s						
NVS				smax			
	comp=E,37nm,1.9s						
VNDA	Vanda	73.59	173	P	P	15 56 43.9	+0.9
	comp=E,5.7nm,0.9s,mb4.3,baz=302,slow=6.4,SNR=39						
VNDA				LR	LR	16 29 46.2	
	comp=E,64nm,20.6s,baz=341,slow=36						
VNDA	Vanda	73.59	173	eP	P	15 56 44.0	+0.9
VNDA				e		15 56 57.1	
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNDA	Vanda	73.59	173	eP	P	15 56 44.0	+0.9
	comp=Z,5.3nm,0.9s,mb4.3						
VNDA				e		15 56 57.1	
SBA	Scott Base	74.47	173	eP	P	15 56 50.1	+2.0
SBA				pmax	pmax		
	comp=Z,83nm,2.3s,mb5.1						
SBA	Scott Base	74.47	173	eP	P	15 56 50.1	+2.0
	comp=Z,82nm,2.3s,mb5.0						
WSAR	Wadi Sarin	76.09	296	P	P	15 56 59.1	+1.7
	comp=Z,15nm,1.1s,mb4.5,baz=140,slow=7.0,SNR=7.3						
WSAR				LR	LR	16 32 28.8	
	comp=Z,41nm,19.5s,baz=192,slow=37						
WSAR	Wadi Sarin	76.09	296	P	P	15 56 59.1	+1.7
WSAR				LR	LR	16 32 28.8	
MAW	Mawson	76.43	201	P	P	15 56 59.6	+0.2
	comp=Z,2.7nm,0.8s,mb3.9,baz=38,slow=3.6,SNR=6.3						
MAW				LR	LR	16 29 26.5	
	comp=Z,56nm,20.7s,baz=72,slow=35						
TIXI	Tiksi	77.24	359	⇑eP	P	15 57 02.9	-1.0
TIXI				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
BRVK	Borovoye	77.53	327	eP	P	15 57 06.0	+0.5
BRVK				e		15 57 17.0	
BRVK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.5						
BRVK	Borovoye	77.53	327	eP	P	15 57 06.0	+0.5
	comp=Z,17nm,1.3s,mb4.5						
BRVK				e		15 57 17.0	
CHKZ	Chkalovo	77.64	328	eP	P	15 57 06.1	0.0
CHKZ				e		15 57 17.9	
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
CHKZ	Chkalovo	77.64	328	eP	P	15 57 06.0	-0.1
	comp=Z,9.1nm,1.2s,mb4.3						
CHKZ				e		15 57 17.9	
CHKZ				e		15 57 32.0	
ZRNK	Zerenda	78.17	327	eP	P	15 57 08.8	-0.3
ZRNK				e		15 57 19.9	
ZRNK				e	pP	15 57 36.9	-4.4
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ZRNK	Zerenda	78.17	327	eP	P	15 57 08.8	-0.3
	comp=Z,6.2nm,0.8s,mb4.3						
ZRNK				e		15 57 19.9	
ZRNK				e	pP	15 57 36.9	-4.4
PPT	Papeete	78.36	107	LR	LR	16 29 13.2	
	comp=Z,17nm,19.1s,baz=312,slow=34						
QSPA	South Pole Qui	84.23	180	eP	P	15 57 40.2	-0.9
	comp=Z,9.2nm,0.8s,mb4.6						
ARU	Arti	85.09	328	⇑iP	P	15 57 43.6	-1.8
ARU				e		16 01 01.2	
ARU				eS	S	16 07 57.8	-6.4
ARU				eSS	SS	16 13 38.8	-1.6
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
ARU	Arti	85.09	328	eP	P	15 57 43.7	-1.7
	comp=Z,6.8nm,1.0s,mb4.3						
ARU				e		15 57 57.1	
SYO	Syowa Base	85.14	201	⇑eP	P	15 57 45.8	+0.2
SYO	Syowa Base	85.14	201	⇑ePcP	PcP	15 57 49.4	+0.8
MCK	McKinley	90.78	26	eP	P	15 58 10.5	-2.0
MCK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
MCK	McKinley	90.78	26	eP	P	15 58 10.5	-2.0
	comp=Z,2.1nm,1.0s,mb4.1						
COLA	College	91.45	25	⇑eP	P	15 58 14.2	-1.5
PDAR	Pinedale Array	115.40	45	PKP	PKPdf	16 03 52.0	+1.6
	comp=Z,0.6nm,0.8s,baz=174,slow=2.7,SNR=4.0						
LPG	La Plagne	117.58	319	ePKIKP	PKPdf	16 03 54.8	+0.2
	comp=Z,4.9nm,0.7s						
LPL	La Plagne	117.59	319	ePKIKP	PKPdf	16 03 54.7	0.0
	comp=Z,5.2nm,0.7s						
CABF	La Chapelle	117.59	320	ePKIKP	PKPdf	16 03 54.7	0.0
	comp=Z,14nm,0.9s						
MBDF	Montbardon	117.85	318	ePKIKP	PKPdf	16 03 55.6	+0.4
	comp=Z,11nm,0.9s						
ORIF	Oris-en-Rattie	118.37	319	ePKIKP	PKPdf	16 03 56.7	+0.5
	comp=Z,6.9nm,0.9s						
LOR	Lormes	118.72	322	ePKIKP	PKPdf	16 03 56.6	-0.2
SSF	Saint Saulge	119.03	322	ePKIKP	PKPdf	16 03 57.3	-0.1
	comp=Z,8.0nm,0.8s						
VIVF	Saint-Julien-l	119.19	319	ePKIKP	PKPdf	16 03 57.6	-0.1
	comp=Z,6.6nm,0.6s						
ANMO	Albuquerque	119.86	53	⇑iPKIKP	PKPdf	16 03 59.7	+0.7
CAF	Calviac	120.85	320	ePKIKP	PKPdf	16 04 01.2	+0.3
	comp=Z,11nm,1.0s						
TXAR	Lajitas Array	123.54	59	PKP	PKPdf	16 04 07.7	+1.6
	comp=Z,1.5nm,0.9s,baz=282,slow=1.2,SNR=10.0						
TORD	Torodi Ar. Bea	129.40	282	PKP	PKPdf	16 04 18.3	+1.1
	comp=Z,2.1nm,0.9s,baz=51,slow=2.1,SNR=11						
TORD				SKPbc		16 07 27.2	
	comp=Z,4.4nm,0.9s,baz=74,slow=2.7,SNR=15						
LPAZ	La Paz	151.15	140	PKP	PKPdf	16 05 00.1	+4.1
	comp=Z,1.9nm,1.1s,baz=335,slow=5.2,SNR=4.8						
LPAZ				PKPbc	PKPbc	16 05 05.7	+3.7
	comp=Z,11nm,0.9s,baz=220,slow=1.6,SNR=38						
LPAZ				PKPab	PKPab	16 05 12.8	+2.6
	comp=Z,6.4nm,0.9s,baz=302,slow=7.7,SNR=7.8						

*NDI **04** 15:57:05.9±2.8, 3457N×7248E, h33km, ML2.9, mb3.4(NEIC)*
*ISCJB **04** 15:57:09.0±1.3, 3473N±006×731E±02, h50km±14km, mb3.8/4, Error ellipse: s-maj=22.0km s-min=7.4km az=141.6*
*NEIC **04** 15:57:11.9±3.5, 3466N×7310E, h62km±30km, mb3.4/1, Error ellipse: s-maj=28.3km s-min=16.7km az=218.0*
*IDC **04** 15:57:11.0±10.0, 3461N×7315E, h53km±99km, mb3.6/5, mb1 3.7/8, mb1mx3.4/24, mbtmp3.5/8, ML3.5/3, Error ellipse: s-maj=56.7km s-min=24.6km az=22.0*
*NNC **04** 15:57:15.7±4.4, 3546N×7280E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=51.8km s-min=34.3km az=80.0*

ISC 04 15:57:10.6±1.1**, 3467N**±006×**730E**±01**, h51**km±13km**, n23, σ0s97**/27**, mb3.8**/4**, 4C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.17	134	eP	Pn	15 57 58.3	+0.3
THN				ex	x	15 58 42.4	
DLH	Dalhousie	3.25	130	eP	Pn	15 57 57.0	-2.1
DLH				ex	x	15 58 41.0	
SDNR	Sundarnagar	4.58	133	eP	Pn	15 58 17.5	+0.1
SDNR				ex	x	15 59 25.0	
KHET	Khetri	7.00	159	eS	Sn	16 00 00.0	-8.6
KHET				AML	AML	16 00 53.2	
	comp=N,6.0nm,0.1s						
KHET				AML	AML	16 00 53.3	
	comp=E,7.4nm,0.5s						
SONA	Sohna	7.28	150	eS	Sn	16 00 08.7	-7.0
SONA				AML	AML	16 01 11.1	
	comp=E,12nm,0.2s						
SONA				AML	AML	16 01 11.7	
	comp=N,10nm,0.2s						
AAK	Ala-Archa	8.03	8	ePn	Pn	15 59 05.6	+0.9
AAK				eSn	Sn	16 00 33.6	-0.5
TKM2	Tokmak 2	8.48	13	⇓Pn	Pn	15 59 12.1	+1.4
	comp=N,0.2nm,0.8s						
TKM2				⇑Sn	Sn	16 00 37.6	-7.4
	comp=N,0.3nm,0.7s						
KK31	Karatay Array	8.64	348	Pn	Pn	15 59 14.0	+1.0
	comp=N,3.6nm,0.5s,baz=152,slow=11,SNR=32						
KK31				⇑Sn	Sn	16 00 47.5	-1.5
	comp=N,0.9nm,0.3s,baz=134,slow=22,SNR=5.5						
MKAR	Makanchi Array	13.99	27	P	Pn	16 00 28.1	+2.1
	comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=3.9						
AB31	Akbulak array	17.48	330	Pn	Pn	16 01 09.9	-0.7
	comp=N,0.6nm,0.6s,baz=141,slow=13,SNR=8.0						
AB31				⇑Sn	Sn	16 04 14.5	-10
	comp=N,0.5nm,0.7s						
BVA0	Borovoye Array	18.44	355	⇑Pn	Pn	16 01 21.9	-0.5
	comp=N,0.1nm,0.3s,baz=156,slow=9.5,SNR=6.6						
BVAR	Borovoye Array	18.44	355	P	Pn	16 01 22.7	+0.2
	comp=N,0.4nm,0.3s,baz=170,slow=10.0,SNR=7.8						
BRVK	Borovoye	18.48	355	eP	Pn	16 01 22.2	-0.8
	comp=N,1.6nm,0.6s						
ZRNK	Zerenda	18.50	352	Pn	Pn	16 01 22.9	-0.2
	comp=N,1.0nm,0.5s						
ZRNK	Zerenda	18.50	352	eP	Pn	16 01 22.7	-0.4
AKTK	Aktyubinsk	19.18	330	P	Pn	16 01 30.8	-0.5
AKTO	Aktyubinsk	19.18	330	⇓Pn	Pn	16 01 31.0	-0.3
	comp=N,0.1nm,0.9s						
AKTO	Aktyubinsk	19.18	330	P	Pn	16 01 30.8	-0.5
	comp=N,0.3nm,0.3s,baz=131,slow=13,SNR=8.2						
ZAL	Zalesovo	20.97	20	P	P	16 01 48.5	-0.9
	comp=N,2.0nm,0.4s,baz=260,slow=8.5,SNR=6.4						
ARCES	ARCESS Array B	43.46	338	P	P	16 05 10.0	+1.4
	comp=N,2.8nm,0.8s,mb4.0,baz=119,slow=9.4,SNR=3.8						
TORD	Torodi Ar. Bea	67.35	271	P	P	16 08 01.5	+1.2
	comp=N,0.6nm,0.5s,mb3.9,baz=46,slow=5.8,SNR=10.0						
WRA	Warramunga Arr	79.62	123	P	P	16 09 12.3	-0.2
	comp=N,0.4nm,0.4s,mb3.7,baz=323,slow=5.2,SNR=15						
ASAR	Alice Springs	81.86	126	P	P	16 09 24.2	-0.2
	comp=N,0.3nm,0.5s,mb3.5,baz=314,slow=5.5,SNR=7.1						

IDC 04 16:12:13.3±60.0**, 1922S**×**17796W, h0**km**, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.8**/14**, mbtmp4.3**/3**, Error ellipse: s-maj=1108.0km s-min=152.5km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.67	262	eP	P	16 19 00.5	+4.7
	1.0nm,0.3s						
STKA	Stephens Creek	38.39	243	eP	P	16 19 35.5	-0.7
	2.8nm,1.0s						
STKA	Stephens Creek	38.39	243	P	P	16 19 36.4	+0.1
	1.6nm,0.5s,baz=77,slow=9.6,SNR=6.8						
WB2	Warramunga Arr	44.81	261	eP	P	16 20 28.9	0.0
WRA	Warramunga Arr	44.82	261	P	P	16 20 29.6	+0.6
	1.2nm,0.3s,baz=97,slow=7.4,SNR=84						
ASAR	Alice Springs	44.86	255	P	P	16 20 29.4	+0.1
	4.0nm,0.5s,baz=91,slow=7.5,SNR=134						
ASPA	Alice Springs	44.86	255	eP	P	16 20 29.3	0.0
FORT	Forrest	49.84	246	eP	P	16 21 05.0	-3.1
	8.0nm,0.6s						
FITZ	Fitzroy Crossi	53.24	261	eP	P	16 21 31.7	-1.9
	4.9nm,1.5s						

WEL 04 16:38:38.6±0.4**, 3888S**×**17513E, h217**km±2km**, ML3.7**/15**, 6C-1D, Error ellipse: s-maj=5.0km s-min=3.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.31	129	⇑PN	Pn	16 39 06.9	-0.2
VRZ	Vera Road	0.38	229	PN	Pn	16 39 06.9	-0.4
HIZ	Hauiti	0.42	329	PN	Pn	16 39 07.0	-0.4
HIZ				SN	S	16 39 28.9	-0.9
WTVZ	West Tongariro	0.43	124	PN	Pn	16 39 07.3	-0.1
PKVZ	Pokaka	0.45	158	⇑PN	Pn	16 39 07.4	-0.1
WPVZ	Whakapapa	0.47	135	⇑PN	Pn	16 39 07.6	+0.1
FWVZ	Far West T-bar	0.51	139	⇓PN	Pn	16 39 07.8	+0.1
FWVZ				SN	S	16 39 29.4	-0.9
TUVZ	Tukino	0.57	134	PN	Pn	16 39 08.0	+0.1
WNVZ	Wahianoa	0.58	141	PN	Pn	16 39 08.0	0.0
MOVZ	Moawhango	0.72	138	PN	Pn	16 39 08.2	-0.4
WAZ	Wanganui	0.89	187	PN	Pn	16 39 09.7	+0.3
BKZ	Black Stump Fm	1.10	106	PN	Pn	16 39 10.1	-0.7
TSZ	Takapari Road	1.35	152	PN	Pn	16 39 12.5	0.0
WPHZ	Waipukurau	1.56	140	PN	Pn	16 39 14.3	-0.1
URZ	Urewera	1.67	69	PN	Pn	16 39 13.6	-1.7
PXZ	Pawanui	1.77	131	PN	Pn	16 39 15.9	-0.3
MRZ	Mangatainoka R	1.82	169	⇑PN	Pn	16 39 16.1	-0.5
MWZ	Matawai	1.96	75	PN	Pn	16 39 16.7	-1.3
KIW	Kapiti Island	1.99	185	PN	Pn	16 39 17.7	-0.6
KNZ	Kokohu	1.99	95	PN	Pn	16 39 17.5	-0.8
DUWZ	D'Urville Isla	2.14	205	PN	Pn	16 39 19.1	-0.7
CAW	Cannon Point	2.23	181	PN	Pn	16 39 20.0	-0.7
MTW	Mount Morrison	2.30	173	PN	Pn	16 39 20.4	-1.1
MRW	Makara Radio	2.38	188	PN	Pn	16 39 21.3	-0.9
WEL	Wellington	2.42	186	PN	Pn	16 39 21.7	-1.0
TCW	Tory Channel	2.42	195	PN	Pn	16 39 22.1	-0.7
BHW	Baring Head	2.54	184	PN	Pn	16 39 22.8	-1.2
MSWZ	Moikau Station	2.54	178	PN	Pn	16 39 23.0	-1.0
NNZ	Nelson	2.70	209	⇑PN	Pn	16 39 24.3	-1.4
QRZ	Quartz Range	2.79	225	⇑PN	Pn	16 39 24.7	-2.0
BSWZ	Blackbirch Sta	2.99	198	PN	Pn	16 39 28.2	-0.8
THZ	Tophouse	3.35	210	PN	Pn	16 39 31.4	-1.8
KHZ	Kahutara	3.74	198	PN	Pn	16 39 36.4	-1.4
DSZ	Denniston Nort	3.83	220	PN	Pn	16 39 36.4	-2.6
LTZ	Lake Taylor	4.46	208	PN	Pn	16 39 44.7	-2.0
CRLZ	Canterbury Las	5.06	201	PN	Pn	16 39 51.4	-2.8
MQZ	McQueen's Vall	5.17	200	PN	Pn	16 39 52.4	-3.2
ODZ	Otahua Downs	7.01	207	PN	Pn	16 40 16.5	-2.5

*ISCJB **04** 16:44:55.5±0.2, 4324N±001×034W±002, h8km±2km, Error ellipse: s-maj=2.2km s-min=1.7km az=91.2*
*MDD **04** 16:44:58.4±0.2, 4309N×034W, h0km, mbLg3.2/29, Error ellipse: s-maj=2.1km s-min=1.2km az=5.0, PRXIMO*
*STR **04** 16:44:58.5±0.2, 4315N×031W, h5km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 16:44:58.5, 4315N×031W, h5km, ML3.8(LDG), ML3.8(STR), MN3.1(MDD), After STR.*
*LDG **04** 16:44:59.4±0.1, 4314N×034W, h5km, Md3.5/2, Ml3.8/41, Error ellipse: s-maj=1.9km s-min=1.2km az=136.0*
*INMG **04** 16:44:59.7±1.0, 4303N×032W, h14km±4km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.3km az=34.0*
*CSEM **04** 16:44:59.0±0.0, 4311N×032W, h10km, ML3.8/53, Error ellipse: s-maj=1.0km s-min=0.7km az=129.0*

ISC 04 16:44:57.3±0.2**, 4317N**±001×**034W**±001**, h7**km±1km**, n256, σ1s19**/497**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.11	202	Pg	Pg	16 44 59.2	-0.5
REYF				Sg	Sg	16 45 04.6	+3.2
REYF	Montagne du Re	0.11	202	Pg	Pg	16 44 59.3	-0.4
ATE	Arette	0.28	252	Pg	Pg	16 45 03.0	+0.2
ATE				Sg	Sg	16 45 09.0	+2.5
LABF	Labassere	0.32	113	Pg	Pg	16 45 03.7	+0.1
LABF				Sg	Sg	16 45 08.7	+0.8
LABF	Labassere	0.32	113	Pg	Pg	16 45 03.7	+0.1
LABF				Lg		16 45 08.7	
VIEF	Viey	0.39	138	Pg	Pg	16 45 04.5	-0.4
VIEF				Sg	Sg	16 45 12.1	+2.1
VIEF	Viey	0.39	138	Pg	Pg	16 45 04.5	-0.3
VIEF				Lg		16 45 08.8	
FDAF	Les Forges d'A	0.39	206	Pg	Pg	16 45 04.0	-0.9
FDAF				Lg		16 45 08.6	
ORDF	Ordiarp	0.44	276	Pg	Pg	16 45 06.6	+0.8
ORDF				Sg	Sg	16 45 14.5	+2.9
ORDF	Ordiarp	0.44	276	Pg	Pg	16 45 06.8	+1.0
ORDF				Lg		16 45 13.7	
LARF	Larrau	0.50	255	Pg	Pg	16 45 07.0	+0.1
LARF				Sg	Sg	16 45 15.2	+1.8
LARF	Larrau	0.50	255	Pg	Pg	16 45 07.1	+0.2
LARF				Lg		16 45 13.3	
EPF	Esparros	0.51	106	ePg	Pg	16 45 07.7	+0.5
	SNR=1.0						
EPF				eSg	Sg	16 45 14.8	+0.9
	1μm,0.2s						
EPF	Esparros	0.51	106	ePg	Pg	16 45 07.7	+0.5
	SNR=1.0						
EPF				eSg	Sg	16 45 14.8	+0.9
	535nm,0.2s						
EBIE	Bielsa	0.60	144	⇑Pg	Pg	16 45 08.1	-0.7
	82nm,0.1s,SNR=18						
EBIE				Lg		16 45 14.7	
	785nm,0.2s,SNR=10						
EBIE	Bielsa	0.60	144	Pg	Pg	16 45 08.1	-0.7
	82nm,0.1s,SNR=18						
EBIE				Lg		16 45 14.7	
	785nm,0.2s,SNR=10						
SJPF	Ste Jean	0.65	265	ePg	Pg	16 45 09.9	0.0
	SNR=1.0						
SJPF				eSg	Sg	16 45 17.9	-0.5
	278nm,0.2s						
SJPF	Ste Jean	0.65	265	ePg	Pg	16 45 09.9	0.0
	SNR=1.0						
SJPF				eSg	Sg	16 45 17.9	-0.5
	139nm,0.2s						
OSSF	Osses	0.68	277	Pg	Pg	16 45 11.5	+1.1
OSSF	Osses	0.68	277	Pg	Pg	16 45 10.3	-0.1
IPRE	Itoiz	0.83	244	Pg	Pg	16 45 13.0	-0.3
	21nm,0.2s,SNR=52						
IPRE				Lg		16 45 24.7	
	143nm,0.3s,SNR=26						
IPRE	Itoiz	0.83	244	Pg	Pg	16 45 13.0	-0.3
	21nm,0.2s,SNR=52						
MELF	Melles	0.86	110	Pg	Pg	16 45 13.2	-0.5
MELF	Melles	0.86	110	Pg	Pg	16 45 13.2	-0.5
MELF				Lg		16 45 24.9	
ELIZ	Elizondo	0.87	270	Pg	Pg	16 45 13.0	-1.1
	7.1nm,0.2s,SNR=60						
ELIZ				Lg		16 45 26.1	
	72nm,0.2s,SNR=6.9						
IUSE	Utxeti	0.92	256	Pg	Pg	16 45 15.1	+0.2
	7.2nm,0.1s,SNR=33						
IUSE				Lg		16 45 28.3	
	113nm,0.2s,SNR=15						
IUSE	Utxeti	0.92	256	Pg	Pg	16 45 15.1	+0.2
	7.2nm,0.1s,SNR=33						
EARA	Aranguren	1.00	247	Pg	Pg	16 45 16.7	+0.3
	21nm,0.2s,SNR=18						
EARA				Lg		16 45 31.8	
	122nm,0.3s,SNR=16						
MLS	Moulis	1.07	101	Pg	Pg	16 45 18.0	+0.2
MLS				Sg	Sg	16 45 32.6	+0.9
MLS	Moulis	1.07	101	Pg	Pg	16 45 17.8	0.0
MLS				Lg		16 45 31.9	
SALF	Salau	1.19	110	Pg	Pg	16 45 19.8	-0.3
SALF				Sg	Sg	16 45 35.9	+0.3
SALF	Salau	1.19	110	Pg	Pg	16 45 19.7	-0.4
SALF				Lg		16 45 35.2	
GRBF	Gourbit	1.41	103	Pg	Pg	16 45 23.4	-0.9
ESAC	San Caprasio	1.45	184	Pg	Pg	16 45 24.2	-0.9
	252nm,0.2s,SNR=77						
ESAC				Lg		16 45 41.9	
	2μm,0.3s,SNR=15						
ESAC	San Caprasio	1.45	184	Pg	Pg	16 45 24.2	-0.9
	252nm,0.2s,SNR=77						
PAND	Andorre	1.53	115	Pg	Pg	16 45 26.7	+0.1
PAND				Lg		16 45 46.4	
LPEF	Le Peyrat	1.66	97	Pg	Pg	16 45 30.4	+1.3
LPEF				Lg		16 45 53.0	
ECRI	Cripan	1.69	251	Pn	Pn	16 45 28.1	+0.8
	38nm,0.2s,SNR=7.9						
ECRI				Lg		16 45 51.0	
	45nm,0.1s,SNR=7.9						
ECRI	Cripan	1.69	251	Pn	Pn	16 45 28.0	+0.8
CARF	Carcanieres	1.85	103	Pg	Pg	16 45 34.5	+1.8
CARF				Sg	Sg	16 45 57.1	+0.4
CARF	Carcanieres	1.85	103	Pg	Pg	16 45 32.2	-0.5
CARF				Lg		16 45 56.6	
EMIR	Miracle	1.86	132	Pg	Pg	16 45 31.3	-1.7
EMIR				Lg		16 45 56.7	
EMIR	Miracle	1.86	132	Pg	Pg	16 45 31.3	-1.7
	14nm,0.1s,SNR=9.7						
EMIR				Lg		16 45 56.7	
	489nm,0.2s,SNR=5.1						
EMIR	Miracle	1.86	132	Pg	Pg	16 45 31.3	-1.7
	14nm,0.1s,SNR=9.7						
MTLF	Montolieu	1.87	84	ePg	Pg	16 45 33.8	+0.6
MTLF				eSg	Sg	16 45 58.7	+1.3
	239nm,0.3s						
MTLF	Montolieu	1.87	84	ePn	Pn	16 45 29.6	-0.1
MTLF				ePg	Pg	16 45 33.8	+0.6
MTLF				eSg	Sg	16 45 58.7	+1.3
MTLF	Montolieu	1.87	84	Pn	Pn	16 45 29.6	-0.1
MTLF				Pg	Pg	16 45 33.8	+0.6
MTLF				Lg		16 45 58.7	
	120nm,0.3s						
MTLF	Montolieu	1.87	84	ePg	Pg	16 45 33.8	+0.6
MTLF				eSg	Sg	16 45 58.7	+1.3
	120nm,0.3s						
VALF	Valcebollere	1.90	113	Pg	Pg	16 45 34.8	+1.2
VALF	Valcebollere	1.90	113	Pg	Pg	16 45 34.0	+0.4
VALF				Lg		16 45 56.5	
LFF	La Frestale	1.93	23	ePg	Pg	16 45 36.0	+1.8
LFF				eSn	Sn	16 45 56.4	+1.5

SNR=1.0
LFF eSg Sg 16 46 02.7 +3.4
559nm,0.4s,SNR=1.0
LFF La Frestale 1.93 23 ePn Pn 16 45 31.5 +1.0
LFF ePg Pg 16 45 36.0 +1.8
LFF eSn Sn 16 45 56.4 +1.5
LFF eSg Sg 16 46 02.7 +3.4
LFF La Frestale 1.93 23 Pn Pn 16 45 31.5 +1.0
LFF Pg Pg 16 45 36.0 +1.8
LFF Sn Sn 16 45 56.4 +1.5
LFF Lg 16 46 02.7
280nm,0.4s
LFF La Frestale 1.93 23 ePn Pn 16 45 31.5 +1.0
SNR=1.0
LFF La Frestale 1.93 23 ePg Pg 16 45 36.0 +1.8
LFF eSn Sn 16 45 56.4 +1.5
SNR=1.0
LFF eSg Sg 16 46 02.7 +3.4
280nm,0.4s,SNR=1.0
EPOB Poblet 2.10 150 Pn Pn 16 45 33.2 +0.4
1.6nm,0.1s,SNR=78
EPOB Pg Pg 16 45 35.6 -1.9
17nm,0.2s,SNR=12
EPOB Lg 16 46 01.7
111nm,0.2s,SNR=28
EPOB Poblet 2.10 150 Pn Pn 16 45 33.2 +0.4
1.6nm,0.1s,SNR=78
EPOB Poblet 2.10 150 Pg Pg 16 45 35.6 -1.9
17nm,0.2s,SNR=12
LRDF Laroque-de-Fa 2.12 95 Pg Pg 16 45 37.6 -0.3
LRDF Laroque-de-Fa 2.12 95 Pn Pn 16 45 33.8 +0.7
LRDF Lg 16 46 04.9
FILF Fillols 2.21 105 Pg Pg 16 45 39.8 +0.1
FILF Sg Sg 16 46 06.8 -1.6
FILF Fillols 2.21 105 Pg Pg 16 45 36.9 -2.9
FILF Lg 16 46 05.8
ELAN Lanestosa 2.27 273 Pn Pn 16 45 38.0 +2.9
1.4nm,0.2s,SNR=21
ELAN Sn Sn 16 46 05.9 +2.6
21nm,0.2s,SNR=5.0
ELAN Lg 16 46 13.9
25nm,0.3s,SNR=6.6
ELAN Lanestosa 2.27 273 Pn Pn 16 45 38.0 +2.9
1.4nm,0.2s,SNR=21
ELAN Sn Sn 16 46 05.9 +2.6
21nm,0.2s,SNR=5.0
ERTA Horta de San J 2.27 167 Pn Pn 16 45 35.0 -0.2
ERTA Pn Pn 16 45 38.1 +2.9
ERTA Pg Pg 16 45 38.7 -2.1
ERTA Sn Sn 16 46 02.1 -1.3
ERTA Lg 16 46 07.0
ERTA Horta de San J 2.27 167 Pn Pn 16 45 35.0 -0.2
1.4nm,0.2s,SNR=67
ERTA Pg Pg 16 45 38.7 -2.0
27nm,0.2s,SNR=71
ERTA Sn Sn 16 46 02.1 -1.3
33nm,0.2s,SNR=7.9
ERTA Lg 16 46 07.0
139nm,0.3s,SNR=5.0
ERTA Horta de San J 2.27 167 Pn Pn 16 45 35.0 -0.1
1.4nm,0.2s,SNR=67
ERTA Horta de San J 2.27 167 Pg Pg 16 45 38.7 -2.1
27nm,0.2s,SNR=71
ERTA Sn Sn 16 46 02.1 -1.3
33nm,0.2s,SNR=7.9
CAF Calviac 2.46 44 ePg Pg 16 45 45.5 +1.0
CAF eSg Sg 16 46 16.9 +0.5
156nm,0.2s,SNR=1.0
CAF Calviac 2.46 44 ePn Pn 16 45 37.8 0.0
CAF ePg Pg 16 45 45.5 +1.0
CAF eSg Sg 16 46 16.9 +0.5
CAF Calviac 2.46 44 Pn Pn 16 45 37.8 0.0
CAF Pg Pg 16 45 45.5 +1.0
CAF Lg 16 46 16.9
78nm,0.2s
CAF Calviac 2.46 44 ePg Pg 16 45 45.5 +1.0
CAF eSg Sg 16 46 16.9 +0.5
78nm,0.2s,SNR=1.0
SJAF Saint Jean de 2.46 105 Pg Pg 16 45 43.3 -1.2
SJAF Saint Jean de 2.46 105 Pg Pg 16 45 41.5 -3.0
SJAF Lg 16 46 15.5
EJON La Jonquera 2.48 106 Pn Pn 16 45 41.0 +2.9
3.1nm,0.2s,SNR=23
EJON Pg Pg 16 45 44.4 -0.4
1.3nm,0.1s,SNR=7.4
EJON Lg 16 46 17.0
156nm,0.3s,SNR=15
EJON La Jonquera 2.48 106 Pn Pn 16 45 41.0 +3.0
3.1nm,0.2s,SNR=23
EJON La Jonquera 2.48 106 Pg Pg 16 45 44.4 -0.4
1.3nm,0.1s,SNR=7.4
RJF Les Rejaudoux 2.51 31 ePg Pg 16 45 46.0 +0.6
SNR=1.0
RJF eSn Sn 16 46 07.4 -1.9
SNR=1.0
RJF eSg Sg 16 46 19.8 +1.8
224nm,0.3s,SNR=1.0
RJF Les Rejaudoux 2.51 31 ePn Pn 16 45 39.0 +0.5
RJF ePg Pg 16 45 46.0 +0.6
RJF eSn Sn 16 46 07.4 -1.9
RJF eSg Sg 16 46 19.8 +1.8
RJF Les Rejaudoux 2.51 31 Pn Pn 16 45 39.0 +0.5
RJF Pg Pg 16 45 46.0 +0.6
RJF Sn Sn 16 46 07.4 -1.9
RJF Lg 16 46 19.8
112nm,0.3s
RJF Les Rejaudoux 2.51 31 ePn Pn 16 45 39.0 +0.5
SNR=1.0
RJF Les Rejaudoux 2.51 31 ePg Pg 16 45 46.0 +0.6
SNR=1.0
RJF eSn Sn 16 46 07.4 -1.9
SNR=1.0
RJF eSg Sg 16 46 19.8 +1.8
112nm,0.3s,SNR=1.0
MATF Mathat 2.66 1 Pn Pn 16 45 42.7 +2.2
ETOR Torete 2.68 209 Pn Pn 16 45 41.6 +0.8
69nm,0.1s,SNR=80
ETOR Sn Sn 16 46 12.9 -0.6
144nm,0.3s,SNR=6.1
ETOR Lg 16 46 20.3
193nm,0.2s,SNR=5.9
ETOR Torete 2.68 209 Pn Pn 16 45 41.6 +0.8
69nm,0.1s,SNR=80
ETOR Sn Sn 16 46 12.9 -0.5
144nm,0.3s,SNR=6.1
EMOS Mosqueruela 2.81 182 Pn Pn 16 45 44.2 +1.6
1.0nm,0.1s,SNR=22
EMOS Pg Pg 16 45 48.9 -2.2
5.9nm,0.2s,SNR=27
EMOS Sn Sn 16 46 15.5 -1.2
8.4nm,0.2s,SNR=7.9
EMOS Lg 16 46 24.6
18nm,0.1s,SNR=5.0
EMOS Mosqueruela 2.81 182 Pn Pn 16 45 44.2 +1.6
1.0nm,0.1s,SNR=22
EMOS Mosqueruela 2.81 182 Pg Pg 16 45 48.9 -2.2
5.9nm,0.2s,SNR=27
EMOS Sn Sn 16 46 15.5 -1.1
8.4nm,0.2s,SNR=7.9
LASF Ste Croix 3.17 72 ePg Pg 16 45 58.3 +0.2
LASF eSg Sg 16 46 39.5 +0.3
133nm,0.3s,SNR=1.0
LASF Ste Croix 3.17 72 ePn Pn 16 45 48.2 +0.6
LASF ePg Pg 16 45 58.3 +0.2
LASF eSg Sg 16 46 39.5 +0.3
LASF Ste Croix 3.17 72 Pn Pn 16 45 48.2 +0.6
LASF Pg Pg 16 45 58.3 +0.2
LASF Lg 16 46 39.5
66nm,0.3s
LASF Ste Croix 3.17 72 ePg Pg 16 45 58.3 +0.2
LASF eSg Sg 16 46 39.5 +0.3
66nm,0.3s,SNR=1.0
VERF Verneugheol 3.27 37 Pn Pn 16 45 48.8 -0.1
LBL Lubilhac 3.30 50 Pn Pn 16 45 49.2 -0.1
MFF Saint Martin d 3.43 2 ePg Pg 16 46 03.4 +0.4
MFF eSn Sn 16 46 28.0 -4.0
SNR=1.0
MFF eSg Sg 16 46 47.5 0.0
76nm,0.3s,SNR=1.0
MFF Saint Martin d 3.43 2 ePn Pn 16 45 51.8 +0.7
MFF ePg Pg 16 46 03.4 +0.4
MFF eSn Sn 16 46 28.0 -4.0
MFF eSg Sg 16 46 47.5 0.0
MFF Saint Martin d 3.43 2 Pn Pn 16 45 51.8 +0.7
MFF Pg Pg 16 46 03.4 +0.4
MFF Sn Sn 16 46 28.0 -4.0
MFF Lg 16 46 47.5
38nm,0.3s
MFF Saint Martin d 3.43 2 ePn Pn 16 45 51.8 +0.7
SNR=1.0
MFF Saint Martin d 3.43 2 ePg Pg 16 46 03.4 +0.4
MFF eSg Sg 16 46 47.5 0.0
38nm,0.3s,SNR=1.0
PYM Petit Puy Mans 3.52 42 Pn Pn 16 45 53.3 +1.0
PYM Sg Sg 16 46 51.9 +1.7
EARI Arriondas 3.56 274 Pn Pn 16 45 54.2 +1.2
1.9nm,0.2s,SNR=16
EARI Sn Sn 16 46 35.9 +0.6
6.4nm,0.3s,SNR=256
EARI Arriondas 3.56 274 Pn Pn 16 45 54.2 +1.2
1.9nm,0.2s,SNR=16
EARI Sn Sn 16 46 35.9 +0.6
6.4nm,0.3s,SNR=256
TCF Toulx Ste Croi 3.60 29 ePg Pg 16 46 06.4 +0.1
SNR=1.0
TCF eSn Sn 16 46 34.0 -2.3
SNR=1.0
TCF eSg Sg 16 46 53.2 +0.2
174nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 3.60 29 ePn Pn 16 45 53.6 +0.1
TCF ePg Pg 16 46 06.4 +0.1
TCF eSn Sn 16 46 34.0 -2.3
TCF eSg Sg 16 46 53.2 +0.2
TCF Toulx Ste Croi 3.60 29 Pn Pn 16 45 53.6 +0.1
TCF Pg Pg 16 46 06.4 +0.1
TCF Sn Sn 16 46 34.0 -2.3
TCF Lg 16 46 53.2
87nm,0.5s
TCF Toulx Ste Croi 3.60 29 ePn Pn 16 45 53.6 +0.1
SNR=1.0
TCF Toulx Ste Croi 3.60 29 ePg Pg 16 46 06.4 +0.1
SNR=1.0
TCF eSn Sn 16 46 34.0 -2.3
SNR=1.0
TCF eSg Sg 16 46 53.2 +0.2
87nm,0.5s,SNR=1.0
AGO Saint Agoulin 3.80 39 Pn Pn 16 45 56.3 +0.2
AGO Sg Sg 16 47 01.3 +2.1
GUD Guadarrama 3.81 230 Pn Pn 16 45 55.8 -0.5
1.5nm,0.2s,SNR=7.9
GUD Sn Sn 16 46 39.4 -2.0
8.4nm,0.2s,SNR=7.9
GUD Lg 16 46 53.3
SNR=7.9
GUD Guadarrama 3.81 230 Pn Pn 16 45 55.8 -0.5
1.5nm,0.2s,SNR=7.9
GUD Sn Sn 16 46 39.4 -1.9
8.4nm,0.2s,SNR=7.9
PLDF La Plantade 3.98 44 Pn Pn 16 45 59.1 +0.5
PLDF Sg Sg 16 47 08.0 +3.0
VIVF Saint-Julien-l 3.98 63 ePg Pg 16 46 13.6 0.0
SNR=1.0
VIVF eSg Sg 16 47 04.6 -0.6
50nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.98 63 ePn Pn 16 46 00.0 +1.3
VIVF ePg Pg 16 46 13.6 0.0
VIVF eSg Sg 16 47 04.6 -0.6
VIVF Saint-Julien-l 3.98 63 Pn Pn 16 46 00.0 +1.3
VIVF Pg Pg 16 46 13.6 0.0
VIVF Lg 16 47 04.6
25nm,0.3s
VIVF Saint-Julien-l 3.98 63 ePg Pg 16 46 13.6 0.0
SNR=1.0
VIVF eSg Sg 16 47 04.6 -0.6
25nm,0.3s,SNR=1.0
PRAF Pradon 4.05 79 Pn Pn 16 46 01.7 +2.0
BGF Bois d'Agland 4.07 33 ePg Pg 16 46 15.4 +0.1
BGF eSg Sg 16 47 09.1 +1.1
306nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.07 33 ePn Pn 16 46 01.0 +1.1
BGF ePg Pg 16 46 15.4 +0.1
BGF eSg Sg 16 47 09.1 +1.1
BGF Bois d'Agland 4.07 33 Pn Pn 16 46 01.0 +1.1
BGF Pg Pg 16 46 15.4 +0.1
BGF Lg 16 47 09.1
153nm,0.4s
BGF Bois d'Agland 4.07 33 ePg Pg 16 46 15.4 +0.1
BGF eSg Sg 16 47 09.1 +1.1
153nm,0.4s,SNR=1.0
ETOS Mallorca 4.14 144 Pn Pn 16 46 00.9 0.0
2.1nm,0.2s,SNR=9.2
ETOS Sn Sn 16 46 45.0 -4.6
30nm,0.5s,SNR=7.9
ETOS Mallorca 4.14 144 Pn Pn 16 46 00.9 0.0
2.1nm,0.2s,SNR=9.2
ETOS Sn Sn 16 46 45.0 -4.6
30nm,0.5s,SNR=7.9
EIBI Ibiza 4.33 162 Pn Pn 16 46 03.3 -0.2
2.5nm,0.2s,SNR=7.9
EIBI Sn Sn 16 46 48.5 -5.7
12nm,0.3s,SNR=7.9
EIBI Ibiza 4.33 162 Pn Pn 16 46 03.3 -0.2
2.5nm,0.2s,SNR=7.9
SMRF Simiane la Rot 4.37 77 ePg Pg 16 46 21.0 0.0
SNR=1.0
SMRF eSg Sg 16 47 16.7 -0.9
57nm,0.7s
SMRF Simiane la Rot 4.37 77 eP Pn 16 46 08.3 +4.3
SMRF ePg Pg 16 46 21.0 0.0
SMRF eSg Sg 16 47 16.7 -0.9
SMRF Simiane la Rot 4.37 77 Pn Pn 16 46 08.3 +4.3
SMRF Pg Pg 16 46 21.0 0.0
SMRF Lg 16 47 16.7
57nm,0.7s
SMRF Simiane la Rot 4.37 77 ePg Pg 16 46 21.0 0.0
SNR=1.0
SMRF eSg Sg 16 47 16.7 -0.9
29nm,0.7s
ESDC Sonseca Array 4.43 219 Pn Pn 16 46 04.6 -0.3
2.9nm,0.2s,baz=41,slow=14,SNR=42
ESDC Sn Sn 16 46 53.5 -3.3
21nm,0.3s,baz=41,slow=24,SNR=46
ESDC Lg 16 47 14.1
4.6nm,0.3s,baz=39,slow=29,SNR=5.7
ESDC Sonseca Array 4.43 219 Pn Pn 16 46 04.6 -0.3
2.9nm,0.2s,SNR=42
ESDC Sn Sn 16 46 53.5 -3.2
21nm,0.3s,SNR=46
AVF Avril sur Loir 4.46 35 ePg Pg 16 46 22.8 0.0
AVF eSg Sg 16 47 20.4 -0.2
62nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.46 35 ePn Pn 16 46 06.2 +0.9
AVF ePg Pg 16 46 22.8 0.0
AVF eSg Sg 16 47 20.4 -0.2
AVF Avril sur Loir 4.46 35 Pn Pn 16 46 06.2 +0.9
AVF Pg Pg 16 46 22.8 0.0
AVF Lg 16 47 20.4
31nm,0.4s
AVF Avril sur Loir 4.46 35 ePg Pg 16 46 22.8 0.0
AVF eSg Sg 16 47 20.4 -0.2
31nm,0.4s,SNR=1.0
EBEN Beniarda 4.46 179 Pn Pn 16 46 05.9 +0.6
1.0nm,0.2s,SNR=9.0
EBEN Beniarda 4.46 179 Pn Pn 16 46 05.9 +0.6
1.0nm,0.2s,SNR=9.0
SMF Signal de Mont 4.57 39 ePg Pg 16 46 24.0 -0.7
SNR=1.0
SMF eSg Sg 16 47 26.2 +2.3
41nm,0.3s
SMF Signal de Mont 4.57 39 ePn Pn 16 46 06.2 -0.5
SMF ePg Pg 16 46 24.0 -0.7
SMF eSg Sg 16 47 26.2 +2.3
SMF Signal de Mont 4.57 39 Pn Pn 16 46 06.2 -0.5
SMF Pg Pg 16 46 24.0 -0.7
SMF Lg 16 47 26.2
21nm,0.3s
SMF Signal de Mont 4.57 39 ePg Pg 16 46 24.0 -0.7
SNR=1.0
SMF eSg Sg 16 47 26.2 +2.3
21nm,0.3s
HYF Humbligny 4.60 26 ePn Pn 16 46 07.9 +0.7
HYF ePg Pg 16 46 24.7 -0.7
HYF eSg Sg 16 47 25.1 0.0
STOF St-Etienne Org 4.61 78 Pn Pn 16 46 11.5 +4.2
ETOB Tobarra 4.62 192 Pn Pn 16 46 08.7 +1.3
2.7nm,0.2s,SNR=15
ETOB Sn Sn 16 46 57.3 -3.9
9.8nm,0.4s,SNR=7.9
ETOB Lg 16 47 21.5
1.4nm,0.2s,SNR=7.9
ETOB Tobarra 4.62 192 Pn Pn 16 46 08.7 +1.3
2.7nm,0.2s,SNR=15
ETOB Sn Sn 16 46 57.3 -3.9
9.8nm,0.4s,SNR=7.9
TAVF Tavernes 4.68 82 Pn Pn 16 46 11.2 +2.9
SSF Saint Saulge 4.74 34 ePg Pg 16 46 28.8 +0.7
SSF eSg Sg 16 47 29.2 -0.4
53nm,0.5s,SNR=1.0
SSF Saint Saulge 4.74 34 ePn Pn 16 46 08.4 -0.8
SSF ePg Pg 16 46 28.8 +0.7
SSF eSg Sg 16 47 29.2 -0.4
SSF Saint Saulge 4.74 34 Pn Pn 16 46 08.4 -0.8
SSF Pg Pg 16 46 28.8 +0.7
SSF Lg 16 47 29.2
26nm,0.5s
SSF Saint Saulge 4.74 34 ePg Pg 16 46 28.8 +0.7
SSF eSg Sg 16 47 29.2 -0.4
26nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 4.81 67 ePg Pg 16 46 28.7 -0.7
SNR=1.0
ORIF eSn Sn 16 47 07.4 +1.4
18nm,0.8s,SNR=1.0
ORIF eSg Sg 16 47 31.3 -0.4
32nm,0.7s
ORIF Oris-en-Rattie 4.81 67 ePn Pn 16 46 12.1 +2.1
ORIF ePg Pg 16 46 28.7 -0.7
ORIF eSn Sn 16 47 07.4 +1.4
ORIF eSg Sg 16 47 31.3 -0.4
ORIF Oris-en-Rattie 4.81 67 Pn Pn 16 46 12.1 +2.1
ORIF Pg Pg 16 46 28.7 -0.7
ORIF Sn Sn 16 47 07.4 +1.4
9.1nm,0.8s
ORIF Lg 16 47 31.3
16nm,0.7s
ORIF Oris-en-Rattie 4.81 67 ePn Pn 16 46 12.1 +2.1
SNR=1.0
ORIF Oris-en-Rattie 4.81 67 ePg Pg 16 46 28.7 -0.7
SNR=1.0
ORIF eSn Sn 16 47 07.4 +1.4
9.1nm,0.8s,SNR=1.0
ORIF eSg Sg 16 47 31.3 -0.4
16nm,0.7s
EVIA Vianos 4.82 201 Pn Pn 16 46 09.6 -0.5
0.8nm,0.1s,SNR=7.9
EVIA Lg 16 47 30.2
7.7nm,0.3s,SNR=7.9
ECAL Calabor 4.89 258 Pn Pn 16 46 12.2 +1.1
1.3nm,0.2s,SNR=18
ECAL Sn Sn 16 47 06.0 -1.9
32nm,0.4s,SNR=4.7
ECAL Calabor 4.89 258 Pn Pn 16 46 12.2 +1.1
1.3nm,0.2s,SNR=18
ECAL Sn Sn 16 47 06.0 -1.9
32nm,0.4s,SNR=4.7
PBRG Braganca 4.93 256 ePn Pn 16 46 13.3 +1.6
PBRG eSn Sn 16 47 06.2 -2.8
PBRG
12nm,0.3s
PBRG Braganca 4.93 256 ePn Pn 16 46 13.3 +1.6
PBRG eSn Sn 16 47 06.2 -2.8
12nm,0.3s
EPON Pontenova 4.98 274 Pn Pn 16 46 13.6 +1.2
0.5nm,0.1s,SNR=7.8
EPON Sn Sn 16 47 11.0 +0.8
9.6nm,0.4s,SNR=7.9
EPON Pontenova 4.98 274 Pn Pn 16 46 13.6 +1.2
0.5nm,0.1s,SNR=7.8
EPON Sn Sn 16 47 11.0 +0.8
9.6nm,0.4s,SNR=7.9
LMR La Mourre 5.00 86 ePn Pn 16 46 13.1 +0.4
LMR eSg Sg 16 47 37.9 0.0
9.0nm,0.3s,SNR=1.0
LMR La Mourre 5.00 86 ePn Pn 16 46 13.1 +0.4
LMR eSg Sg 16 47 37.9 0.0
4.5nm,0.3s,SNR=1.0
LOR Lormes 5.05 34 ePn Pn 16 46 13.9 +0.5
baz=211,SNR=1.0
LOR Lormes 5.05 34 ePg Pg 16 46 33.8 -0.3
baz=218
LOR eSg Sg 16 47 39.2 -0.4
40nm,0.3s,baz=216,SNR=1.0
LOR Lormes 5.05 34 ePn Pn 16 46 13.9 +0.5
LOR ePg Pg 16 46 33.8 -0.3
LOR eSg Sg 16 47 39.2 -0.4
LOR Lormes 5.05 34 Pn Pn 16 46 13.9 +0.5
LOR Pg Pg 16 46 33.8 -0.3
LOR Lg 16 47 39.2
20nm,0.3s
LOR Lormes 5.05 34 ePg Pg 16 46 33.8 -0.3
LOR eSg Sg 16 47 39.2 -0.4
20nm,0.3s,SNR=1.0
ERUA La Rua 5.07 263 Sn Sn 16 47 12.3 -0.2
10.0nm,0.2s,SNR=6.5
FRF La Foret Royal 5.11 83 ePg Pg 16 46 34.2 -0.9
SNR=1.0
FRF eSn Sn 16 47 11.1 -2.2
SNR=1.0
FRF eSg Sg 16 47 39.6 -1.6
12nm,0.4s
FRF La Foret Royal 5.11 83 ePn Pn 16 46 14.2 +0.1
FRF ePg Pg 16 46 34.2 -0.9
FRF eSn Sn 16 47 11.1 -2.2
FRF eSg Sg 16 47 39.6 -1.6
FRF La Foret Royal 5.11 83 Pn Pn 16 46 14.2 +0.1
FRF Pg Pg 16 46 34.2 -0.9
FRF Sn Sn 16 47 11.1 -2.2
FRF Lg 16 47 39.6
6.1nm,0.4s
FRF La Foret Royal 5.11 83 ePn Pn 16 46 14.2 +0.1
SNR=1.0
FRF La Foret Royal 5.11 83 ePg Pg 16 46 34.2 -0.9
SNR=1.0
FRF eSn Sn 16 47 11.1 -2.2
SNR=1.0
FRF eSg Sg 16 47 39.6 -1.6
6.1nm,0.4s
QUIF Quistinic 5.14 338 ePg Pg 16 46 35.4 -0.4
SNR=1.0
QUIF eSn Sn 16 47 11.1 -3.2
12nm,0.2s,SNR=1.0
QUIF eSg Sg 16 47 40.9 -1.5
21nm,0.3s
QUIF Quistinic 5.14 338 ePn Pn 16 46 15.5 +0.8
QUIF ePg Pg 16 46 35.4 -0.4
QUIF eSn Sn 16 47 11.1 -3.2
QUIF eSg Sg 16 47 40.9 -1.5
QUIF Quistinic 5.14 338 Pn Pn 16 46 15.5 +0.8
QUIF Pg Pg 16 46 35.4 -0.4
QUIF Sn Sn 16 47 11.1 -3.2
5.9nm,0.2s
QUIF Lg 16 47 40.9
11nm,0.3s
QUIF Quistinic 5.14 338 ePn Pn 16 46 15.5 +0.8
SNR=1.0
QUIF Quistinic 5.14 338 ePg Pg 16 46 35.4 -0.4
SNR=1.0
QUIF eSn Sn 16 47 11.1 -3.2
5.9nm,0.2s,SNR=1.0
QUIF eSg Sg 16 47 40.9 -1.5
11nm,0.3s
GRR Gorron 5.23 356 ePg Pg 16 46 36.3 -1.1
SNR=1.0
GRR eSn Sn 16 47 14.1 -2.3
SNR=1.0
GRR eSg Sg 16 47 44.6 -0.6
28nm,0.3s,SNR=1.0
GRR Gorron 5.23 356 ePn Pn 16 46 16.0 +0.2
GRR ePg Pg 16 46 36.3 -1.1
GRR eSn Sn 16 47 14.1 -2.3
GRR eSg Sg 16 47 44.6 -0.6
GRR Gorron 5.23 356 Pn Pn 16 46 16.0 +0.2
GRR Pg Pg 16 46 36.3 -1.1
GRR Sn Sn 16 47 14.1 -2.3
GRR Lg 16 47 44.6
14nm,0.3s
GRR Gorron 5.23 356 ePn Pn 16 46 16.0 +0.2
SNR=1.0
GRR Gorron 5.23 356 ePg Pg 16 46 36.3 -1.1
SNR=1.0
GRR eSn Sn 16 47 14.1 -2.3
SNR=1.0
GRR eSg Sg 16 47 44.6 -0.6
14nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.32 344 ePg Pg 16 46 37.9 -1.2
SGMF eSg Sg 16 47 47.2 -0.7
35nm,0.5s
SGMF Saint Gilles 5.32 344 ePn Pn 16 46 17.0 0.0

SGMF					*e*Pg		**Pg**	**16 46 37.9**	**-1.2**
SGMF					*e*Sg		**Sg**	**16 47 47.2**	**-0.7**
SGMF	**Saint Gilles**	**5.32**	**344**		Pn		**Pn**	**16 46 17.0**	**0.0**
SGMF					Pg		**Pg**	**16 46 37.9**	**-1.2**
SGMF					Lg			16 47 47.2	
	18nm,0.5s								
SGMF	**Saint Gilles**	**5.32**	**344**		*e*Pg		**Pg**	**16 46 37.9**	**-1.2**
SGMF					*e*Sg		**Sg**	**16 47 47.2**	**-0.7**
	18nm,0.5s								
MBDF	**Montbardon**	**5.36**	**71**		*e*Pg		**Pg**	**16 46 39.2**	**-0.8**
MBDF					*e*Sg		**Sg**	**16 47 48.3**	**-1.1**
	7.3nm,0.5s								
MBDF	**Montbardon**	**5.36**	**71**		*e*Pn		**Pn**	**16 46 18.6**	**+1.0**
MBDF					*e*Pg		**Pg**	**16 46 39.2**	**-0.8**
MBDF					*e*Sg		**Sg**	**16 47 48.3**	**-1.1**
MBDF	**Montbardon**	**5.36**	**71**		Pn		**Pn**	**16 46 18.6**	**+1.0**
MBDF					Pg		**Pg**	**16 46 39.2**	**-0.8**
MBDF					Lg			16 47 48.3	
	3.7nm,0.5s								
MBDF	**Montbardon**	**5.36**	**71**		*e*Pg		**Pg**	**16 46 39.2**	**-0.8**
MBDF					*e*Sg		**Sg**	**16 47 48.3**	**-1.1**
	3.7nm,0.5s								
LDF	**La Druitiere**	**5.42**	**1**		*e*Pg		**Pg**	**16 46 40.4**	**-0.8**
LDF					*e*Sn		**Sn**	**16 47 16.6**	**-4.6**
	SNR=1.0								
LDF					*e*Sg		**Sg**	**16 47 49.6**	**-1.8**
	29nm,0.4s,SNR=1.0								
LDF	**La Druitiere**	**5.42**	**1**		*e*Pn		**Pn**	**16 46 18.4**	**-0.1**
LDF					*e*Pg		**Pg**	**16 46 40.4**	**-0.8**
LDF					*e*Sn		**Sn**	**16 47 16.6**	**-4.6**
LDF					*e*Sg		**Sg**	**16 47 49.6**	**-1.8**
LDF	**La Druitiere**	**5.42**	**1**		*e*Pg		**Pg**	**16 46 40.4**	**-0.8**
LDF					*e*Sn		**Sn**	**16 47 16.6**	**-4.6**
	SNR=1.0								
LDF					*e*Sg		**Sg**	**16 47 49.6**	**-1.8**
	14nm,0.4s,SNR=1.0								
ROSF	**Rostrenen**	**5.56**	**339**		*e*Pn		**Pn**	**16 46 20.4**	**0.0**
	SNR=1.0								
ROSF					*e*Sg		**Sg**	**16 47 55.0**	**-0.7**
	17nm,0.4s								
ROSF	**Rostrenen**	**5.56**	**339**		*e*Pn		**Pn**	**16 46 20.4**	**0.0**
	SNR=1.0								
ROSF					*e*Sg		**Sg**	**16 47 55.0**	**-0.7**
	8.6nm,0.4s								
LPL	**La Plagne**	**5.58**	**63**		*e*Pg		**Pg**	**16 46 43.5**	**-0.7**
	SNR=1.0								
LPL					*e*Sg		**Sg**	**16 47 56.4**	**-0.1**
	12nm,0.6s								
LPL	**La Plagne**	**5.58**	**63**		*e*Pn		**Pn**	**16 46 23.5**	**+2.8**
LPL					*e*Pg		**Pg**	**16 46 43.5**	**-0.7**
LPL					*e*Sg		**Sg**	**16 47 56.4**	**-0.1**
LPL	**La Plagne**	**5.58**	**63**		Pn		**Pn**	**16 46 23.5**	**+2.8**
LPL					Pg		**Pg**	**16 46 43.5**	**-0.7**
LPL					Lg			16 47 56.4	
	6.1nm,0.6s								
LPL	**La Plagne**	**5.58**	**63**		*e*Pg		**Pg**	**16 46 43.5**	**-0.7**
	SNR=1.0								
LPL					*e*Sg		**Sg**	**16 47 56.4**	**-0.1**
	6.1nm,0.6s								
LPG	**La Plagne**	**5.59**	**63**		*e*Pn		**Pn**	**16 46 23.2**	**+2.4**
	SNR=1.0								
LPG					*e*Sg		**Sg**	**16 47 56.4**	**-0.3**
	33nm,0.9s								
LPG	**La Plagne**	**5.59**	**63**		*e*Pn		**Pn**	**16 46 23.2**	**+2.4**
	SNR=1.0								
LPG					*e*Sg		**Sg**	**16 47 56.4**	**-0.3**
	16nm,0.9s								
FLN	**La Foliniere**	**5.59**	**359**		*e*Pn		**Pn**	**16 46 20.9**	**+0.1**
	baz=179,SNR=1.0								
FLN	**La Foliniere**	**5.59**	**359**		*e*Pg		**Pg**	**16 46 44.5**	**+0.1**
	baz=179								
FLN					*e*Sn		**Sn**	**16 47 20.1**	**-5.2**
	SNR=1.0								
FLN					*e*Sg		**Sg**	**16 47 55.5**	**-1.3**
	37nm,0.5s,baz=176,SNR=1.0								
FLN	**La Foliniere**	**5.59**	**359**		*e*Pn		**Pn**	**16 46 20.9**	**+0.1**
FLN					*e*Pg		**Pg**	**16 46 44.5**	**+0.1**
FLN					*e*Sn		**Sn**	**16 47 20.1**	**-5.2**
FLN					*e*Sg		**Sg**	**16 47 55.5**	**-1.3**
FLN	**La Foliniere**	**5.59**	**359**		Pn		**Pn**	**16 46 20.9**	**+0.1**
FLN					Pg		**Pg**	**16 46 44.5**	**+0.1**
FLN					Sn		**Sn**	**16 47 20.1**	**-5.2**
FLN					Lg			16 47 55.5	
	18nm,0.5s								
FLN	**La Foliniere**	**5.59**	**359**		*e*Pg		**Pg**	**16 46 44.5**	**+0.1**
FLN					*e*Sn		**Sn**	**16 47 20.1**	**-5.2**
	SNR=1.0								
FLN					*e*Sg		**Sg**	**16 47 55.5**	**-1.3**
	18nm,0.5s,SNR=1.0								
EBAN	**Banos Encina**	**5.65**	**209**		Pn		**Pn**	**16 46 20.7**	**-0.9**
	1.0nm,0.1s,SNR=7.9								
EBAN					Sn		**Sn**	**16 47 21.9**	**-4.8**
	4.6nm,0.3s,SNR=7.9								
EBAN					Lg			16 47 51.7	
	4.1nm,0.3s,SNR=7.9								
EBAN	**Banos Encina**	**5.65**	**209**		Pn		**Pn**	**16 46 20.7**	**-0.9**
	1.0nm,0.1s,SNR=7.9								
EBAN					Sn		**Sn**	**16 47 21.9**	**-4.8**
	4.6nm,0.3s,SNR=7.9								
SBF	**Sospel**	**5.69**	**80**		*e*Sg		**Sg**	**16 47 57.0**	**-3.0**
	15nm,0.5s								
SBF	**Sospel**	**5.69**	**80**		*e*Sg		**Sg**	**16 47 57.0**	**-3.0**
	7.4nm,0.5s								
CABF	**La Chapelle**	**5.71**	**51**		*e*Pg		**Pg**	**16 46 45.9**	**-0.8**
CABF					*e*Sg		**Sg**	**16 47 59.5**	**-1.2**
	77nm,0.8s								
CABF	**La Chapelle**	**5.71**	**51**		*e*Pn		**Pn**	**16 46 23.8**	**+1.3**
CABF					*e*Pg		**Pg**	**16 46 45.9**	**-0.8**
CABF					*e*Sg		**Sg**	**16 47 59.5**	**-1.2**
CABF	**La Chapelle**	**5.71**	**51**		Pn		**Pn**	**16 46 23.8**	**+1.3**
CABF					Pg		**Pg**	**16 46 45.9**	**-0.8**
CABF					Lg			16 47 59.5	
	39nm,0.8s								
CABF	**La Chapelle**	**5.71**	**51**		*e*Pg		**Pg**	**16 46 45.9**	**-0.8**
CABF					*e*Sg		**Sg**	**16 47 59.5**	**-1.2**
	39nm,0.8s								
EQES	**Quesada**	**5.75**	**202**		Pn		**Pn**	**16 46 23.2**	**+0.1**
EQES					Sn		**Sn**	**16 47 26.3**	**-3.1**
EQES					Lg			16 47 58.9	
EQES	**Quesada**	**5.75**	**202**		Pn		**Pn**	**16 46 23.2**	**+0.1**
	0.8nm,0.2s,SNR=8.1								
EQES					Sn		**Sn**	**16 47 26.3**	**-3.0**
	5.3nm,0.5s,SNR=7.6								
EQES					Lg			16 47 58.9	
	3.9nm,0.4s,SNR=5.0								
EQES	**Quesada**	**5.75**	**202**		Pn		**Pn**	**16 46 23.2**	**+0.1**
	0.8nm,0.2s,SNR=8.1								
EQES					Sn		**Sn**	**16 47 26.3**	**-3.0**
	5.3nm,0.5s,SNR=7.6								
PVRL	**Vila Real**	**5.80**	**253**		*e*Pn		**Pn**	**16 46 24.2**	**+0.5**
PVRL					*e*Sn		**Sn**	**16 47 26.3**	**-4.1**
PVRL									
	7.8nm,0.2s								
PVRL	**Vila Real**	**5.80**	**253**		*e*Pn		**Pn**	**16 46 24.2**	**+0.5**
PVRL					*e*Sn		**Sn**	**16 47 26.3**	**-4.1**
	7.8nm,0.2s								
PCAB	**Cabril**	**5.88**	**258**		*e*Pn		**Pn**	**16 46 25.4**	**+0.7**
PCAB					*e*Sn		**Sn**	**16 47 30.6**	**-1.7**
PCAB									
	5.6nm,0.5s								
EADA	**Adamuz**	**5.95**	**214**		Pn		**Pn**	**16 46 26.2**	**+0.5**
	0.9nm,0.2s,SNR=13								
EADA					Sn		**Sn**	**16 47 29.1**	**-5.0**
	5.6nm,0.5s,SNR=5.7								
EADA					Lg			16 48 01.9	
	4.1nm,0.3s,SNR=5.0								
EADA	**Adamuz**	**5.95**	**214**		Pn		**Pn**	**16 46 26.2**	**+0.5**
	0.9nm,0.2s,SNR=13								
EADA					Sn		**Sn**	**16 47 29.1**	**-5.0**
	5.6nm,0.5s,SNR=5.7								
PVIS	**Viseu**	**6.15**	**249**		*e*Pn		**Pn**	**16 46 29.1**	**+0.6**
PVIS					*e*Sn		**Sn**	**16 47 35.9**	**-3.1**
PVIS									
	4.1nm,0.2s								
SFTF	**Sexfontaines**	**6.28**	**35**		*e*Sg		**Sg**	**16 48 17.5**	**-1.5**
	38nm,0.6s								
SFTF	**Sexfontaines**	**6.28**	**35**		*e*Sg		**Sg**	**16 48 17.5**	**-1.5**
	19nm,0.6s								
PCBR	**Castelo Branco**	**6.31**	**241**		*e*Pn		**Pn**	**16 46 30.6**	**-0.1**
PCBR					*e*Sn		**Sn**	**16 47 38.1**	**-4.9**
PCBR									
	3.1nm,0.2s								
EMAZ	**Mazaricos**	**6.33**	**271**		Pn		**Pn**	**16 46 32.6**	**+1.6**
	1.4nm,0.2s,SNR=4.7								
EMAZ					Sn		**Sn**	**16 47 42.0**	**-1.6**
	3.0nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**6.33**	**271**		Pn		**Pn**	**16 46 32.6**	**+1.6**
	1.4nm,0.2s,SNR=4.7								
EMAZ					Sn		**Sn**	**16 47 42.0**	**-1.6**
EQUE	**Quentar**	**6.42**	**203**		Pn		**Pn**	**16 46 33.3**	**+1.2**
	1.7nm,0.3s,SNR=12								
EQUE					Sn		**Sn**	**16 47 42.1**	**-3.5**
	3.2nm,0.4s,SNR=5.6								
EQUE					Lg			16 48 17.3	
	2.4nm,0.5s,SNR=5.0								
EQUE	**Quentar**	**6.42**	**203**		Pn		**Pn**	**16 46 33.3**	**+1.2**
	1.7nm,0.3s,SNR=12								
EQUE					Sn		**Sn**	**16 47 42.2**	**-3.4**
	3.2nm,0.4s,SNR=5.6								
MEZF	**Maizieres J'vi**	**6.52**	**33**		*e*Sg		**Sg**	**16 48 25.2**	**-1.5**
	65nm,0.7s								
MEZF	**Maizieres J'vi**	**6.52**	**33**		*e*Sg		**Sg**	**16 48 25.2**	**-1.5**
	32nm,0.7s								
EBAD	**Badajoz**	**6.71**	**231**		Pn		**Pn**	**16 46 36.6**	**+0.4**
	1.4nm,0.3s,SNR=9.4								
EBAD					Sn		**Sn**	**16 47 46.3**	**-6.5**
	3.4nm,0.2s								
EBAD	**Badajoz**	**6.71**	**231**		Pn		**Pn**	**16 46 36.6**	**+0.5**
HAU	**Haudompre**	**6.73**	**42**		*e*Sg		**Sg**	**16 48 31.8**	**-1.6**
	21nm,0.5s								
HAU	**Haudompre**	**6.73**	**42**		*e*Sg		**Sg**	**16 48 31.8**	**-1.6**
	10nm,0.5s								
RFYF	**Reffroy**	**6.80**	**35**		*e*Sg		**Sg**	**16 48 33.3**	**-2.1**
	26nm,0.5s,baz=216								
RFYF	**Reffroy**	**6.80**	**35**		*e*Sg		**Sg**	**16 48 33.3**	**-2.1**
	13nm,0.5s								
EGUA	**Guajares**	**6.80**	**202**		Pn		**Pn**	**16 46 37.4**	**0.0**
	0.5nm,0.3s,SNR=7.9								
HINF	**Hinteralfeld**	**6.86**	**45**		*e*Sg		**Sg**	**16 48 36.7**	**-0.8**
	22nm,0.8s								
HINF	**Hinteralfeld**	**6.86**	**45**		*e*Sg		**Sg**	**16 48 36.7**	**-0.8**
	11nm,0.8s								
PGF	**Pioggiola**	**6.89**	**92**		*e*Pn		**Pn**	**16 46 39.4**	**+0.8**
	SNR=1.0								
PGF					*e*Sn		**Sn**	**16 47 53.7**	**-3.5**
	4.6nm,0.3s,SNR=1.0								
PGF	**Pioggiola**	**6.89**	**92**		*e*Pn		**Pn**	**16 46 39.4**	**+0.8**
	SNR=1.0								
PGF					*e*Sn		**Sn**	**16 47 53.7**	**-3.5**
	2.3nm,0.3s,SNR=1.0								
PESTR	**Estremoz**	**6.97**	**234**		*e*Pn		**Pn**	**16 46 40.0**	**+0.3**
PESTR					*e*Sn		**Sn**	**16 47 53.4**	**-5.8**
PESTR									
	3.4nm,1.2s								
EMIN	**Mina Concepcio**	**7.24**	**224**		Pn		**Pn**	**16 46 44.0**	**+0.5**
	0.2nm,0.2s,SNR=7.9								
EMIN					Sn		**Sn**	**16 47 58.4**	**-7.6**
	0.7nm,0.2s,SNR=7.9								
EMIN					Lg			16 48 43.6	
	6.1nm,0.7s,SNR=7.9								
EMIN	**Mina Concepcio**	**7.24**	**224**		Pn		**Pn**	**16 46 44.0**	**+0.5**
EVO	**Evora**	**7.44**	**234**		*e*Pn		**Pn**	**16 46 46.3**	**+0.1**
EVO					*e*Sn		**Sn**	**16 48 06.1**	**-4.7**
EVO					*e*Sg		**Sg**	**16 48 53.0**	**-3.0**
	5.8nm,0.4s								
CDF	**Champ du Feu**	**7.46**	**43**		*e*Sg		**Sg**	**16 48 54.9**	**-2.0**
	16nm,0.6s								
CDF	**Champ du Feu**	**7.46**	**43**		*e*Sg		**Sg**	**16 48 54.9**	**-2.0**
	7.9nm,0.6s								
BAIF	**Baives**	**7.56**	**23**		*e*Pn		**Pn**	**16 46 48.0**	**+0.1**
	SNR=1.0								
BAIF					*e*Sn		**Sn**	**16 48 09.4**	**-4.5**
BAIF					*e*Sg		**Sg**	**16 48 57.0**	**-3.0**
	9.4nm,0.6s								
BAIF	**Baives**	**7.56**	**23**		*e*Pn		**Pn**	**16 46 48.0**	**+0.1**
	SNR=1.0								
BAIF					*e*Sn		**Sn**	**16 48 09.4**	**-4.5**
BAIF					*e*Sg		**Sg**	**16 48 57.0**	**-3.0**
	4.7nm,0.6s								
DOU	**Dourbes**	**7.71**	**24**		P		**Pn**	**16 46 50.0**	**+0.1**
GIVF	**Givet**	**7.79**	**25**		*e*Pn		**Pn**	**16 46 49.5**	**-1.4**
	SNR=1.0								
BCLA	**Clavier**	**8.21**	**26**		P		**Pn**	**16 46 59.2**	**+2.3**

IDC 04 16:55:46.7±4.3, 496S×10386E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=241.0km s-min=27.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.19**	**119**	P	P	17 02 26.1	+1.0
	0.4nm,0.7s,baz=311,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**34.41**	**126**	P	P	17 02 36.1	+0.4
	0.3nm,0.6s,baz=298,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**44.32**	**132**	P	P	17 03 58.1	-0.3
	2.0nm,0.5s,baz=315,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**54.95**	**342**	P	P	17 05 19.5	+0.1
	0.4nm,0.6s,baz=138,slow=6.7,SNR=4.1						

IDC 04 17:05:56.1±2.1, 153N×12607E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=188.2km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.83**	**160**	P	P	17 11 00.1	-0.6
	0.6nm,0.7s,baz=338,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**26.18**	**164**	P	P	17 11 33.3	+1.1
	0.3nm,0.7s,baz=346,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**58.99**	**326**	P	P	17 15 57.6	+0.1
	0.2nm,0.4s,baz=109,slow=8.6,SNR=5.3						

MAN 04 17:07:07.2, 1342N×12154E, h7km, mb1.9, ML3.6, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.30**	**83**	*e*P	Pg	17 07 13.7	+0.7
BOAC				*e*S	Sg	17 07 19.6	+2.7
PGP	**Puerto Galera**	**0.58**	**278**	⇑*e*P	Pg	17 07 18.9	+0.5
AUQP	**San Andres**	**1.11**	**95**	*e*P	Pg	17 07 30.4	+1.9
OTRP	**Odiongan**	**1.15**	**156**	*e*P	Pg	17 07 28.7	-0.6
LUBP	**Lubang**	**1.30**	**284**	*e*P	Pn	17 07 29.7	-2.0
POLP	**Polillo Island**	**1.35**	**16**	*e*P	Pn	17 07 30.9	-1.5
BUSP	**Coron**	**1.93**	**223**	*e*P	Pn	17 07 41.4	+1.0
BALP	**Baler**	**2.31**	**1**	*e*P	Pn	17 07 47.1	+1.5
CUYO	**Cuyo Island**	**2.61**	**191**	*e*P	Pn	17 07 49.6	-0.1

*ISCJB **04** 17:09:28.8±0.5, 5145N±003×16.10E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.5km az=42.6*
*IPEC **04** 17:09:29.0±0.3, 5154N×1621E, h0km±1km, ML2.5/2, Error ellipse: s-maj=2.0km s-min=1.1km az=29.0*
*NEIC **04** 17:09:29.3±0.3, 5158N×1616E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=4.9km s-min=4.2km az=92.0*
*BGR **04** 17:09:31.0±0.6, 5146N×1609E, h1km, ML3.0, Error ellipse: s-maj=6.7km s-min=2.2km az=16.0*
*IDC **04** 17:09:30.9±0.7, 5153N×1596E, h0km, mb1 3.4/8, mb1mx3.3/24, mbtmp3.3/8, ML3.2/7, Error ellipse: s-maj=14.0km s-min=7.4km az=99.0*
*WAR **04** 17:09:31, 5147N×1609E, ML2.8, Mining Induced*
*VIE **04** 17:09:32.7±0.6, 5129N×1617E, h0km, mb2.6/4, ML2.9/5, Error ellipse: s-maj=3.7km s-min=3.5km az=154.0 62 km WNW of Breslau Suspected Mining induced.*
*PRU **04** 17:09:32.0, 5138N×1607E, h0km*
*CSEM **04** 17:09:32.2±0.1, 5140N×1604E, h2km, ML3.5/5, Error ellipse: s-maj=2.8km s-min=1.5km az=23.0*

ISC 04 17:09:29.2±0.3, 5152N±002×1613E±003, h0km, n60, σ0s99/106, 5C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg	**Pg**	**17 09 43.0**	**+0.8**
KSP	**Ksiaz**	**0.68**	**171**	i*e*Pg	**Pg**	**17 09 43.0**	**+0.7**
KSP				*e*Sg	**Sg**	**17 09 51.9**	**+0.7**
KSP	**Ksiaz**	**0.68**	**171**	Pg	**Pg**	**17 09 43.0**	**+0.7**
KSP				*e*Sg	**Sg**	**17 09 51.9**	**+0.7**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**17 09 49.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*Pg	**Pg**	**17 09 51.8**	**+0.1**
DPC				*e*Sg	**Sg**	**17 10 08.7**	**+1.8**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG	**Pg**	**17 09 51.9**	**+0.2**
DPC				*e*SG	**Sg**	**17 10 05.2**	**-1.8**
	40nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*Pg	**Pg**	**17 09 51.9**	**+0.2**
DPC				*e*Sg	**Sg**	**17 10 06.0**	**-1.0**
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pg**	**17 09 56.1**	**+0.2**
PVCC				*e*SG	**Sg**	**17 10 14.0**	**-0.1**
	139nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*Pn	**Pn**	**17 09 56.5**	**+0.6**
PVCC				*e*Sg	**Sg**	**17 10 14.0**	**-0.1**
	139nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pg	**Pg**	**17 09 58.4**	**+0.1**
BRG				*e*Sg	**Sg**	**17 10 18.5**	**+0.5**
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**17 09 57.0**	**-0.5**
BRG				PG	**Pg**	**17 09 58.5**	**+0.2**
BRG				SG	**Sg**	**17 10 18.4**	**+0.4**
	56nm,0.3s						
RUE	**Ruedersdorf**	**1.74**	**304**	*e*Pn	**Pn**	**17 10 00.7**	**+0.1**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**17 10 01.7**	**-0.2**
PRU				*e*PG	**Pg**	**17 10 03.4**	**-0.9**
PRU				*e*SG	**Sg**	**17 10 25.6**	**-2.5**
	25nm,0.4s						
FBE	**Freiberg**	**1.84**	**252**	*e*Pg	**Pg**	**17 10 04.4**	**-0.1**
FBE				*e*Sg	**Sg**	**17 10 28.3**	**-0.1**
RAC	**Raciborz**	**1.94**	**137**	*e*Pg	**Pg**	**17 10 06.9**	**+0.5**
RAC				*e*Sg	**Sg**	**17 10 31.3**	**-0.4**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pg	**Pg**	**17 10 06.2**	**-0.5**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**17 10 03.8**	**+1.1**
MORC				*e*Sg	**Sg**	**17 10 33.3**	**+1.1**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**17 10 03.7**	**0.0**
MORC	**Moravsky Berou**	**1.96**	**152**	Pg	**Pg**	**17 10 06.2**	**-0.6**
MORC				*e*Sg	**Sg**	**17 10 33.3**	**+1.1**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**17 10 04.0**	**+0.2**
CLL				*e*Pg	**Pg**	**17 10 06.0**	**-0.9**
CLL				*e*Sg	**Sg**	**17 10 33.2**	**+0.8**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**17 10 04.0**	**+0.2**
CLL				*e*Pg	**Pg**	**17 10 06.0**	**-0.9**
CLL				*e*Sg	**Sg**	**17 10 33.0**	**+0.6**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**17 10 04.0**	**+0.2**
	comp=Z,7.0nm,0.4s						
CLL				*e*Pg	**Pg**	**17 10 06.0**	**-0.9**
CLL				*e*x	x	17 10 09.0	
CLL				*e*Sg	**Sg**	**17 10 33.0**	**+0.6**
	comp=Z,32nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pn	**Pn**	**17 10 05.7**	**-0.1**
OKC				*e*Sg	**Sg**	**17 10 37.6**	**+0.4**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN	**Pn**	**17 10 05.7**	**-0.1**
OKC				*e*PG	**Pg**	**17 10 09.6**	**-0.1**
OKC				*e*SG	**Sg**	**17 10 35.9**	**-1.3**
	comp=Z,45nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pg	**Pg**	**17 10 09.6**	**-0.1**
OKC				Sg	**Sg**	**17 10 37.6**	**+0.4**
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**	**17 10 08.5**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=333,slow=14,SNR=17						
VRAC				Sn	**Sn**	**17 10 39.5**	**+3.8**
	comp=Z,8.5nm,0.3s,baz=264,slow=21,SNR=10						
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**17 10 08.0**	**+0.6**
VRAC				*e*Sg	**Sg**	**17 10 38.9**	**-2.0**
	comp=Z,25nm,0.4s						
KRUC	**Moravsky**	**2.46**	**176**	*e*Pg	**Pg**	**17 10 14.5**	**-1.9**
KRUC				*e*Sg	**Sg**	**17 10 46.6**	**-1.8**
	comp=Z,19nm,0.4s						
TANN	**Tannenbergstha**	**2.57**	**246**	*e*Pn	**Pn**	**17 10 12.5**	**+0.5**
TANN				*e*Sg	**Sg**	**17 10 50.7**	**-1.0**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**17 10 13.5**	**+0.5**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**17 10 13.8**	**+0.5**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**17 10 13.7**	**+0.3**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**17 10 17.1**	**+0.6**
KHC				*e*PG	**Pg**	**17 10 22.7**	**-2.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*Pn	**Pn**	**17 10 17.2**	**+0.7**
MGBB	**Grossbuechelbe**	**2.93**	**240**	⇑i*e*Pn	**Pn**	**17 10 17.8**	**+0.8**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pn**	**17 10 18.1**	**+0.4**
MOX				*e*Pg	**Pg**	**17 10 26.4**	**+0.2**
MOX				*e*Sg	**Sg**	**17 11 06.5**	**+1.7**
MOX	**Moxa**	**2.98**	**255**	*e*PN	**Pn**	**17 10 18.5**	**+0.9**
MOX				*e*PG	**Pg**	**17 10 26.4**	**+0.2**
MOX				*e*SG	**Sg**	**17 11 06.5**	**+1.7**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pn**	**17 10 18.5**	**+0.9**
MOX				*e*Pg	**Pg**	**17 10 26.4**	**+0.2**
MOX				*e*Sg	**Sg**	**17 11 06.5**	**+1.7**
MANZ	**Manzenberg**	**2.98**	**241**	*e*Pn	**Pn**	**17 10 18.3**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**17 10 19.4**	**+0.7**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**17 10 19.8**	**+0.5**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**P

comp=Z,47nm,0.5s
OKC Ostrava-Krasne 2.13 142 *e*SG **Sg 17 11 08.3 -0.6**
comp=Z,39nm,0.5s
VRAC Vranov 2.25 172 Pn **Pn 17 10 43.2 +4.4**
VRAC Sn **Sn 17 11 12.5 +5.3**
comp=Z,8.4nm,0.3s,baz=13,slow=18,SNR=8.0
comp=Z,8.7nm,0.3s,baz=84,slow=19,SNR=4.0
VRAC Vranov 2.25 172 *e*Sg **Sg 17 11 11.7 -0.9**
comp=Z,23nm,0.3s
KRUC Moravsky 2.48 176 *e*Sg **Sg 17 11 20.2 +0.2**
comp=Z,14nm,0.2s
OJC Ojcow 2.68 118 *e*Pg **Pg 17 10 52.4 +0.7**
OJC *e*Sg **Sg 17 11 27.8 +1.4**
KHC Kasperske Hory 2.90 215 *e*SG **Sg 17 11 31.8 -1.8**
comp=Z,23nm,0.5s
MOX Moxa 2.97 254 *e*Pg **Pg 17 10 58.0 +0.6**
MOX *e*Sg **Sg 17 11 37.0 +1.1**
MOX *e*SG **Sg 17 11 37.0 +1.1**
MOX Moxa 2.97 254 *e*PG **Pg 17 10 58.0 +0.6**
GERES GERESS Array B 3.10 211 Pn **Pg 17 10 57.9 -2.0**
comp=Z,3.9nm,0.3s,baz=38,slow=18,SNR=6.6
GERES Sn **Sg 17 11 38.9 -1.2**
comp=Z,6.5nm,0.3s,baz=33,slow=27,SNR=5.3
ZST Bratislava 3.40 169 *e*SG **Sg 17 11 51.3 +1.7**
DAVOX Davos 6.27 223 Pn **Pn 17 11 38.4 +4.3**
baz=34,slow=15
AKASG Malin Array Be 8.29 91 Pn **Pn 17 12 01.4 -0.5**
comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=5.6
HFS Hagfors 8.73 352 Pn **Pn 17 12 07.7 -0.2**
comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=2.6
NOA NORSAR Array B 9.91 346 Pn **Pn 17 12 23.8 -0.3**
comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=3.1
FINES FINESS Array B 11.34 25 Pn **Pn 17 12 43.3 -0.4**
comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=2.5
ARCES ARCESS Array B 18.60 10 Pn **Pn 17 14 16.3 -3.1**
comp=Z,0.1nm,0.3s,baz=197,slow=14,SNR=2.4

*ISCJB **04** 17:12:37.3±1.1, 173S±02×1788W±0.1, h581km±22km, mb4.2/17, Error ellipse: s-maj=32.0km s-min=15.5km az=15.6*
*NEIC **04** 17:12:37.3±0.7, 1739S×17880W, h560km±13km, mb4.2/14, Error ellipse: s-maj=19.0km s-min=9.6km az=187.0*
*IDC **04** 17:12:37.4±1.9, 1752S×17890W, h536km±27km, mb3.7/6, mb1 3.8/8, mb1mx3.4/19, mbtmp3.7/8, Error ellipse: s-maj=54.6km s-min=23.3km az=155.0*
ISC 04 17:12:37.9±1.1, 175S±02×1788W±01, h565km±19km, n30, σ0≧64/30, mb4.2/17, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**7.60**	**63**	P		**P**	**17 14 32.2**	**0.0**
	7.4nm,0.3s,baz=63,slow=5.1,SNR=10							
AFI	**Afiamalu**	**7.60**	**63**	*e*Pn		**P**	**17 14 31.6**	**-0.5**
AFI				P			17 14 32.2	
DZM	**Mont Dzumac**	**14.65**	**249**	P		**P**	**17 15 42.5**	**-1.1**
	1.1nm,0.3s,baz=76,slow=17,SNR=5.8							
ARMA	**Armidale**	**29.87**	**239**	*e*P		**P**	**17 18 00.5**	**+0.2**
CTA	**Charters Tower**	**33.19**	**260**	*e*P		**P**	**17 18 28.8**	**+0.2**
	3.4nm,0.9s,mb3.9							
CTA	**Charters Tower**	**33.19**	**260**	P		**P**	**17 18 28.9**	**+0.4**
	3.9nm,0.6s,mb4.1,baz=90,slow=12,SNR=8.3							
CTAO	**Charters Tower**	**33.19**	**260**	*e*P		**P**	**17 18 28.4**	**-0.2**
	4.7nm,0.8s,mb4.1							
CNB	**Canberra Magne**	**33.43**	**232**	*e*P		**P**	**17 18 30.9**	**+0.3**
	7.6nm,0.5s,mb4.5							
PMG	**Port Moresby**	**34.06**	**279**	P		**P**	**17 18 36.5**	**+0.6**
	13nm,0.9s,mb4.5,baz=83,slow=6.4,SNR=5.8							
TOO	**Toolangi**	**37.18**	**230**	*e*P		**P**	**17 19 02.2**	**+0.5**
	11nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**38.55**	**241**	⇓*i*P		**P**	**17 19 13.3**	**+0.5**
	6.1nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**17 19 13.5**	**+0.8**
	7.2nm,0.5s,mb4.5,baz=85,slow=9.6,SNR=44							
WB2	**Warramunga Arr**	**44.37**	**259**	⇓*i*P		**P**	**17 19 58.3**	**-0.4**
WRAB	**Tennant Creek**	**44.37**	**259**	*e*P		**P**	**17 19 58.3**	**-0.4**
	3.1nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**44.38**	**259**	P		**P**	**17 19 58.4**	**-0.3**
	3.1nm,0.5s,mb4.1,baz=96,slow=7.1,SNR=75							
AS31	**Alice Springs**	**44.58**	**254**	*e*P		**P**	**17 20 00.6**	**+0.2**
ASAR	**Alice Springs**	**44.59**	**254**	P		**P**	**17 20 00.8**	**+0.4**
	32nm,0.6s,mb5.0,baz=89,slow=7.9,SNR=1098							
ASAR				PcP		PcP	17 21 32.1	+1.3
	1.0nm,0.5s,baz=104,slow=4.0,SNR=4.9							
ASAR				S		**S**	**17 25 53.3**	**-2.2**
	0.4nm,0.8s,baz=85,slow=17,SNR=3.8							
ASPA	**Alice Springs**	**44.59**	**254**	*e*P		**P**	**17 20 00.7**	**+0.3**
KAKA	**Kakadu**	**47.26**	**269**	*e*P		**P**	**17 20 20.9**	**+0.3**
	5.4nm,0.4s,mb4.4							
FORT	**Forrest**	**49.89**	**244**	*e*P		**P**	**17 20 39.7**	**-0.4**
	16nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**52.77**	**260**	*e*P		**P**	**17 21 01.7**	**+0.8**
	8.7nm,1.8s,mb3.8							
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P		**P**	**17 21 02.0**	**+1.1**
	1.7nm,0.6s,mb3.6,baz=132,slow=8.7,SNR=13							
MBWA	**Marble Bar**	**57.85**	**256**	*e*P		**P**	**17 21 36.1**	**-0.1**
	8.5nm,0.8s,mb4.0							
KLBR	**Kellerberrin**	**58.72**	**243**	*e*P		**P**	**17 21 41.6**	**-0.4**
	45nm,1.5s,mb4.5							
SBA	**Scott Base**	**60.83**	**183**	*e*P		**P**	**17 21 57.2**	**+1.2**
VNDA	**Vanda**	**60.84**	**185**	*e*P		**P**	**17 21 56.0**	**-0.1**
	0.5nm,0.7s,mb3.0							
QSPA	**South Pole Qui**	**72.58**	**180**	*e*P		**P**	**17 23 08.3**	**0.0**
	5.3nm,1.1s,mb3.9							
MAW	**Mawson**	**84.15**	**200**	*e*P		**P**	**17 24 10.0**	**-0.1**
	2.2nm,0.5s,mb3.9							
MAW				*e*			17 24 26.2	
SNAA	**Sanae**	**91.04**	**179**	*e*P		**P**	**17 24 41.0**	**-1.4**
	0.5nm,0.5s,mb3.7							
MMAI	**Mount Meron Ar**	**145.63**	**303**	PKPbc		PKPbc	17 31 16.4	+2.5
	0.8nm,0.5s,baz=64,slow=6.6,SNR=4.2							

*IDC **04** 17:36:27.1±3.7, 1339N×12030E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/20, mbtmp3.3/3, MS3.8/1, Ms1 3.7/1, ms1mx2.7/16, Error ellipse: s-maj=477.3km s-min=26.1km az=61.0*
*ISCJB **04** 17:36:38.1±0.6, 1365N±005×12056E±009, h112km±5km, mb3.2/3, Error ellipse: s-maj=14.1km s-min=7.9km az=11.3*
*MAN **04** 17:36:39.2, 1367N×12060E, h85km, mb2.4, ML3.9, MS2.4*
ISC 04 17:36:39.2±0.6, 1365N±005×12056E±009, h106km±5km, n17, σ0≧94/20, mb3.2/3, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
LUBP	**Lubang**	**0.32**	**286**	*e*P		**Pn**	**17 36 54.4**	**-0.2**
LUBP				*e*S		**Sn**	**17 37 05.1**	**-1.0**
PGP	**Puerto Galera**	**0.41**	**110**	⇑*i*P		**Pn**	**17 36 54.3**	**-0.8**
PGP				*i*S		**Sn**	**17 36 56.8**	**-10**
TGY	**Tagaytay City**	**0.58**	**39**	⇓*i*P		**Pn**	**17 36 59.0**	**+2.7**
TGY				*i*S		**Sn**	**17 37 09.4**	**+0.4**
BOAC	**Boac**	**1.26**	**98**	*e*P		**Pn**	**17 37 01.5**	**-1.5**
BUSP	**Coron**	**1.67**	**192**	*e*P		**Pn**	**17 37 08.1**	**+0.3**
BUSP				*e*S		**Sn**	**17 37 29.6**	**-0.1**
OTRP	**Odiongan**	**1.91**	**132**	*e*P		**Pn**	**17 37 10.9**	**0.0**
SCZP	**Santa Cruz**	**2.21**	**344**	*e*P		**Pn**	**17 37 14.1**	**-0.6**
BALP	**Baler**	**2.30**	**25**	*e*P		**Pn**	**17 37 16.1**	**+0.1**
ENPP	**El Nido**	**2.67**	**205**	*e*P		**Pn**	**17 37 21.7**	**+1.0**
CUYO	**Cuyo Island**	**2.81**	**171**	*e*P		**Pn**	**17 37 22.7**	**+0.1**
CAUP	**Cauayan**	**3.50**	**20**	*e*P		**Pn**	**17 37 32.0**	**+0.3**
GUIM	**Jordan**	**3.60**	**146**	*e*P		**Pn**	**17 37 34.9**	**+1.8**
PALP	**Palanan**	**3.84**	**28**	*e*P		**Pn**	**17 37 41.3**	**+4.9**
WRA	**Warramunga Arr**	**36.03**	**158**	P		**P**	**17 43 29.2**	**-0.9**
	0.1nm,0.5s,mb3.0,baz=337,slow=9.5,SNR=3.7							
ASAR	**Alice Springs**	**39.31**	**160**	P		**P**	**17 43 56.6**	**-1.2**
	0.2nm,0.6s,mb3.1,baz=337,slow=7.6,SNR=6.1							
MKAR	**Makanchi Array**	**45.99**	**324**	P		**P**	**17 44 52.5**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=125,slow=8.2,SNR=6.7							
STKA	**Stephens Creek**	**49.55**	**156**	LR		LR	18 06 06.7	
	comp=Z,112nm,21.0s,baz=204,slow=36							

IDC 04 17:41:45.8±8.4, 561S×15103E, h48km±61km, mb3.6/3, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=110.6km s-min=57.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**5.38**	**225**	P		Pn	17 43 03.3	-0.2
	3.9nm,0.3s,baz=60,slow=8.7,SNR=9.5							
PMG				S		Sn	17 44 05.3	+1.2
	4.8nm,0.3s,baz=118,slow=17,SNR=3.8							
CTA	**Charters Tower**	**15.12**	**197**	LR		LR	17 49 24.2	
	comp=Z,54nm,18.4s,baz=261,slow=30							
WRA	**Warramunga Arr**	**21.59**	**227**	P		P	17 46 32.4	+0.9
	1.0nm,0.7s,baz=49,slow=9.8,SNR=6.6							
ASAR	**Alice Springs**	**24.37**	**221**	P		P	17 46 58.9	-0.5
	3.7nm,0.7s,baz=54,slow=8.9,SNR=21							
FITZ	**Fitzroy Crossi**	**27.72**	**241**	P		P	17 47 30.2	+0.6
	1.0nm,0.4s,baz=65,slow=6.1,SNR=7.2							
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc		PKPbc	18 01 28.9	+0.8
	1.2nm,0.7s,baz=74,slow=2.3,SNR=10							

IDC 04 17:41:54.0±5.3, 291S×13057E, h75km±46km, mb3.4/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=121.5km s-min=17.3km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**15.85**	**197**	*e*P		Pn	17 45 32.0	-0.6
	1.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.85**	**197**	P		Pn	17 45 32.0	-0.5
	0.2nm,0.3s,baz=29,slow=13,SNR=7.5							
WRA	**Warramunga Arr**	**17.32**	**168**	P		Pn	17 45 49.5	-1.3
	0.2nm,0.3s,baz=349,slow=11,SNR=11							
WB2	**Warramunga Arr**	**17.32**	**168**	*e*P		Pn	17 45 52.3	+1.4
ASAR	**Alice Springs**	**20.88**	**171**	P		P	17 46 31.1	+1.1
	3.5nm,0.6s,baz=347,slow=10,SNR=63							
ASAR				S		S	17 50 19.8	+1.1
	0.5nm,0.7s,baz=353,slow=24,SNR=3.6							
ASPA	**Alice Springs**	**20.88**	**171**	*e*P		P	17 46 31.4	+1.4
MKAR	**Makanchi Array**	**65.16**	**326**	P		P	17 52 27.4	+0.3
	0.4nm,0.7s,baz=118,slow=8.2,SNR=4.1							

*IDC **04** 17:57:46.9±1.0, 603S×15146E, h41km±7km, mb4.0/10, mb1 4.2/11, mb1mx4.1/16, mbtmp4.1/11, ML3.6/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/22, Error ellipse: s-maj=31.3km s-min=14.2km az=122.0*
*ISCJB **04** 17:57:47.6±3.1, 6.14S±009×1514E±0.1, h64km±25km, mb4.4/26, Error ellipse: s-maj=22.6km s-min=14.3km az=22.6*
*NEIC **04** 17:57:47.8±0.3, 6.14S×15144E, mb4.4/15, Error ellipse: s-maj=12.8km s-min=5.6km az=120.0*
ISC 04 17:57:48.3±2.8, 617S±009×1515E±01, h57km±23km, n51, σ0≧80/44, mb4.4/26, MS3.2/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**5.38**	**233**	P		**Pn**	**17 59 05.7**	**-0.2**
	14nm,0.3s,baz=54,slow=7.2,SNR=81							
PMG				S		**Sn**	**18 00 08.2**	**+1.6**
	15nm,0.3s,baz=128,slow=20,SNR=6.4							
PMG				LR	LR		18 01 09.2	
	comp=Z,98nm,18.1s,baz=26,slow=37							
PMG	**Port Moresby**	**5.38**	**233**	*e*Pn		**Pn**	**17 59 05.6**	**-0.4**
	129nm,0.8s							
PMG				*e*Sn		**Sn**	**18 00 07.4**	**+0.8**
HNR	**Honiara**	**8.96**	**112**	LR	LR		18 02 35.7	
	comp=Z,126nm,20.9s,baz=178,slow=32							
CTA	**Charters Tower**	**14.75**	**200**	LR	LR		18 05 55.1	
	comp=Z,79nm,20.4s,baz=221,slow=33							
KAKA	**Kakadu**	**19.90**	**250**	*e*P		**Pn**	**18 02 15.0**	**-2.0**
	24nm,1.1s							
DZM	**Mont Dzumac**	**21.41**	**139**	LR	LR		18 09 22.8	
	comp=Z,148nm,19.4s,MS3.4,baz=295,slow=32							
WRAB	**Tennant Creek**	**21.57**	**229**	*e*P		**P**	**18 02 32.4**	**-0.6**
	10nm,0.8s,mb4.3							
WRAB				*e*			18 02 45.4	
WB2	**Warramunga Arr**	**21.58**	**229**	*e*P		**P**	**18 02 32.5**	**-0.6**
WRA	**Warramunga Arr**	**21.59**	**229**	P		**P**	**18 02 32.7**	**-0.4**
	4.4nm,0.9s,mb3.9,baz=54,slow=10,SNR=32							
WRA				pP			18 02 45.1	
	4.0nm,0.6s,baz=55,slow=9.8,SNR=8.6							
WRA				PcP	PcP		18 06 34.6	+1.4
	0.6nm,0.6s,baz=48,slow=1.9,SNR=5.3							
AS31	**Alice Springs**	**24.28**	**222**	*e*P		**P**	**18 03 00.3**	**+0.2**
ASAR	**Alice Springs**	**24.29**	**222**	P		**P**	**18 03 00.2**	**+0.1**
	17nm,0.8s,mb4.5,baz=56,slow=8.9,SNR=186							
ASAR				pP			18 03 12.6	
	5.0nm,0.6s,baz=55,slow=8.9,SNR=7.0							
ASPA	**Alice Springs**	**24.29**	**222**	*e*P		**P**	**18 03 00.3**	**+0.2**
STKA	**Stephens Creek**	**27.21**	**199**	*e*P		**P**	**18 03 28.1**	**+1.5**
	3.8nm,0.9s,mb3.9							
STKA	**Stephens Creek**	**27.21**	**199**	P		**P**	**18 03 28.2**	**+1.7**
	5.5nm,1.0s,mb4.1,baz=26,slow=11,SNR=6.2							
STKA				pP		pP	18 03 39.6	-1.2
	2.1nm,0.6s,baz=10.0,slow=13,SNR=3.2							
FITZ	**Fitzroy Crossi**	**27.89**	**243**	*e*P		**P**	**18 03 32.3**	**-0.4**
	14nm,0.3s,mb5.1							
FITZ	**Fitzroy Crossi**	**27.89**	**243**	P		**P**	**18 03 33.1**	**+0.4**
	4.1nm,0.5s,mb4.3,baz=85,slow=8.0,SNR=36							
FORT	**Forrest**	**32.93**	**219**	*e*P		**P**	**18 04 16.5**	**-0.6**
	9.9nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**34.19**	**241**	*e*P		**P**	**18 04 34.1**	**+6.0**
	16nm,0.6s,mb5.1							
MAJO	**Matsushiro**	**44.28**	**345**	*e*P		**P**	**18 05 43.8**	**-8.4**
KSRS	**Korea Array**	**48.66**	**335**	LR	LR		18 24 21.6	
	comp=Z,16nm,19.0s,MS3.0,baz=195,slow=33							
KULM	**Kulim**	**52.04**	**282**	*e*P		**P**	**18 06 52.7**	**+0.7**
LZH	**Lanzhou**	**61.33**	**317**	*e*P		**P**	**18 08 01.5**	**+3.6**
	18nm,1.2s,mb5.1							
LZH				pP	pP		18 08 17.6	+4.2
LZH				sP	sP		18 08 24.6	+4.7
LZH				PP	PP		18 10 19.6	+6.2
SONM	**Songino Array**	**66.80**	**329**	P		**P**	**18 08 34.2**	**+0.4**
	1.7nm,0.7s,mb4.2,baz=136,slow=7.2,SNR=6.8							
LSA	**Lhasa**	**67.97**	**305**	*e*P		**P**	**18 08 41.8**	**+0.7**
	1.4nm,0.6s,mb4.2							
YAK	**Yakutsk**	**70.06**	**349**	P		**P**	**18 08 53.8**	**-0.3**
	5.0nm,0.8s,mb4.5							
JIRN	**Jiri**	**71.40**	**302**	*e*P		**P**	**18 09 03.0**	**+0.7**
	3.1nm,0.6s,mb4.4							
VNDA	**Vanda**	**71.52**	**178**	*e*P		**P**	**18 08 58.7**	**-4.3**
	2.4nm,1.1s,mb4.0							
GUN	**Gumba**	**71.74**	**302**	*e*P		**P**	**18 09 05.1**	**+0.8**
	8.1nm,0.4s,mb5.0							
KKN	**Kakani**	**72.21**	**302**	*e*P		**P**	**18 09 07.2**	**+0.1**
	3.1nm,0.5s,mb4.5							
DMN	**Daman**	**72.31**	**301**	*e*P		**P**	**18 09 08.4**	**+0.7**
GKN	**Gorkha**	**72.82**	**302**	*e*P		**P**	**18 09 10.7**	**0.0**
	3.8nm,0.5s,mb4.6							
KOLN	**Koldanda**	**73.63**	**301**	*e*P		**P**	**18 09 15.5**	**0.0**
	6.0nm,0.7s,mb4.7							
BILL	**Bilibino**	**74.76**	**6**	*e*P		**P**	**18 09 21.6**	**-0.5**
	4.3nm,0.8s,mb4.4							
SLKM	**Skilak Lake**	**80.44**	**25**	*e*P		**P**	**18 09 53.4**	**-0.3**
MKAR	**Makanchi Array**	**80.51**	**319**	P		**P**	**18 09 54.3**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=99,slow=7.3,SNR=8.2							
ZAL	**Zalesovo**	**81.58**	**327**	P		**P**	**18 09 58.8**	**-1.0**
	1.2nm,0.4s,mb4.1,baz=14,slow=3.4,SNR=4.4							
QSPA	**South Pole Qui**	**83.80**	**180**	*e*P		**P**	**18 10 10.8**	**-0.6**
	4.6nm,1.0s,mb4.6							
MAW	**Mawson**	**83.83**	**203**	P		**P**	**18 10 11.6**	**+0.2**
	2.9nm,1.1s,mb4.3,baz=84,slow=5.3,SNR=3.7							
MAW	**Mawson**	**83.83**	**203**	*e*P		**P**	**18 10 10.4**	**-1.0**
	2.5nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**84.67**	**314**	*e*P		**P**	**18 10 15.7**	**-0.1**
	2.3nm,0.7s,mb4.4							
DAWY	**Dawson**	**86.55**	**24**	*e*P		**P**	**18 10 25.6**	**+0.5**
BVAR	**Borovoye Array**	**89.56**	**323**	P		**P**	**18 10 39.2**	**-0.2**
	1.1nm,0.7s,mb4.3,baz=108,slow=4.8,SNR=8.2							
BRVK	**Borovoye**	**89.63**	**323**	*e*P		**P**	**18 10 38.5**	**-1.3**
	1.7nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**90.37**	**323**	*e*P		**P**	**18 10 42.2**	**-1.0**
NVAR	**Mina Array Bea**	**93.93**	**52**	P		**P**	**18 11 01.3**	**+1.6**
	0.8nm,0.8s,mb4.2,baz=267,slow=4.2,SNR=5.4							
NVAR	**Mina Array Bea**	**93.93**	**52**	P		**P**	**18 11 01.3**	**+1.6**
WCI	**Wyandotte Cave**	**118.88**	**50**	P		Pdif	18 12 59.2	+8.2
JSC	**Jenkinsville**	**123.91**	**53**	P		Pdif	18 13 09.8	-3.6
GERES	**GERESS Array B**	**124.53**	**327**	PKP		PKPdf	18 16 42.0	+1.0
	0.7nm,0.6s,baz=48,slow=1.5,SNR=5.9							
TOA0	**Torodi Ar. Sit**	**149.47**	**285**	*e*PKPbc		PKPbc	18 17 31.9	+1.0
TORD	**Torodi Ar. Bea**	**149.47**	**285**	PKPbc		PKPbc	18 17 32.0	+1.1
	7.0nm,0.8s,baz=39,slow=2.7,SNR=38							
TORD				pPKPbc		pPKPbc	18 17 44.3	-3.5
	3.1nm,0.6s,baz=90,slow=2.8,SNR=6.9							

IDC 04 18:05:00.2±2.0, 120N×12634E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/22, Error ellipse: s-maj=173.6km s-min=24.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**22.43**	**160**	P		P	18 09 59.5	-1.0
	1.0nm,0.3s,baz=338,slow=11,SNR=34							
ASAR	**Alice Springs**	**25.79**	**164**	P		P	18 10 34.2	+1.4
	0.3nm,0.3s,baz=346,slow=10,SNR=11							
SONM	**Songino Array**	**49.57**	**342**	LR		LR	18 38 54.1	
	comp=Z,36nm,18.2s,baz=24,slow=41							
MKAR	**Makanchi Array**	**59.41**	**326**	P		P	18 15 04.6	+0.1
	0.2nm,0.3s,baz=120,slow=6.7,SNR=7.8							

KRSC 04 18:17:54.0±0.7, 5368N×15996E, h63km±63km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SPN	**Mys Shipunski**	**0.58**	**176**	*e*P		Pn	18 18 07.9	+0.8
SPN				*i*S		Sn	18 18 18.4	+1.7
SPN	**Mys Shipunski**	**0.58**	**176**	*e*P		Pn	18 18 07.9	+0.8
SPN				*i*S		Sn	18 18 18.4	+1.7
NLC	**Nalytchevo**	**0.63**	**216**	*e*P		Pn	18 18 08.8	+1.2
NLC				*i*S		Sn	18 18 20.0	+2.5
NLC	**Nalytchevo**	**0.63**	**216**	*e*P		Pn	18 18 08.8	+1.2
NLC				*i*S		Sn	18 18 20.0	+2.5
AVH	**Avacha**	**0.84**	**241**	*e*P		Pn	18 18 11.8	+1.7
AVH				*i*S		Sn	18 18 25.2	+3.2
AVH	**Avacha**	**0.84**	**241**	*e*P		Pn	18 18 11.8	+1.7
AVH				*i*S		Sn	18 18 25.2	+3.2
PET	**Petropavlovsk**	**1.02**	**231**	*e*P		Pn	18 18 13.6	+1.2
PET				*i*S		Sn	18 18 28.3	+2.2
PET	**Petropavlovsk**	**1.02**	**231**	*e*P		Pn	18 18 13.6	+1.2
PET				*i*S		Sn	18 18 28.3	+2.2
GNL	**Ganaly**	**1.20**	**272**	*e*P		Pn	18 18 15.8	+1.0
GNL				*i*S		Sn	18 18 31.8	+1.6
GNL	**Ganaly**	**1.20**	**272**	*e*P		Pn	18 18 15.8	+1.0
GNL				*i*S		Sn	18 18 31.8	+1.6
MKZ	**Mys Kozlova**	**1.36**	**49**	*e*P		Pn	18 18 17.4	+0.5
MKZ				*i*S		Sn	18 18 35.0	+0.9
MKZ	**Mys Kozlova**	**1.36**	**49**	*e*P		Pn	18 18 17.4	+0.5
MKZ				*i*S		Sn	18 18 35.0	+0.9
RUS	**Russkaya**	**1.52**	**216**	*e*P		Pn	18 18 19.2	+0.1
RUS				*i*S		Sn	18 18 37.4	-0.5
RUS	**Russkaya**	**1.52**	**216**	*e*P		Pn	18 18 19.2	+0.1
RUS				*i*S		Sn	18 18 37.4	-0.5
GRL	**Gorelyy**	**1.60**	**226**	*e*P		Pn	18 18 21.7	+1.6
GRL				*i*S		Sn	18 18 42.1	+2.3
GRL	**Gorelyy**	**1.60**	**226**	*e*P		Pn	18 18 21.7	+1.6
GRL				*i*S		Sn	18 18 42.1	+2.3
KMNR	**Kamenistaya**	**2.09**	**4**	*e*P		Pn	18 18 29.0	+2.3
KMNR				*i*S		Sn	18 18 54.0	+2.4
KMNR	**Kamenistaya**	**2.09**	**4**	*e*P		Pn	18 18 29.0	+2.3
KMNR				*i*S		Sn	18 18 54.0	+2.4
KOZ	**Kozyrevsk**	**2.38**	**359**	*e*P		Pn	18 18 32.7	+2.0
KOZ	**Kozyrevsk**	**2.38**	**359**	*e*P		Pn	18 18 32.7	+2.0
ZLN	**Zelenaya**	**2.39**	**11**	*e*P		Pn	18 18 32.9	+2.1
ZLN				*i*S		Sn	18 19 01.8	+2.8
ZLN	**Zelenaya**	**2.39**	**11**	*e*P		Pn	18 18 32.9	+2.1
ZLN				*i*S		Sn	18 19 01.8	+2.8
KRSR	**Krestovskiy**	**2.57**	**8**	*e*P		Pn	18 18 35.5	+2.3
KRSR				*i*S		Sn	18 19 06.3	+3.0
KRSR	**Krestovskiy**	**2.57**	**8**	*e*P		Pn	18 18 35.5	+2.3
KRSR				*i*S		Sn	18 19 06.3	+3.0
SRDR	**Sredinnyy**	**2.65**	**357**	*e*P		Pn	18 18 35.5	+1.2
SRDR	**Sredinnyy**	**2.65**	**357**	*e*P		Pn	18 18 35.5	+1.2
KLY	**Klyuchi**	**2.67**	**8**	*i*P		Pn	18 18 37.3	+2.7
KLY				*i*S		Sn	19 19 08.8	+3.0
KLY	**Klyuchi**	**2.67**	**8**	*i*P		Pn	18 18 37.3	+2.7
KLY				*i*S		Sn	18 19 08.8	+3.0
KBTR	**Krutoberegovo**	**3.02**	**32**	*e*P		Pn	18 18 41.6	+2.2
KBTR				*i*S		Sn	18 19 17.3	+2.9
KBTR	**Krutobereg

FCH				*i* S		Sn	18 28 40.5	+1.7	
FCH				AML		AML	18 28 42.2		
	comp=E,636nm,0.3s								
LNV	**Longovilo**	**1.61**	**168**	*i* P		Pn	18 28 18.3	-0.7	
PCH	**Pirque**	**1.66**	**139**	*e*P		Pn	18 28 20.4	+0.8	
PCH				*i* S		Sn	18 28 42.2	+2.0	
CHCH	**Chadas Angostu**	**1.84**	**148**	⇑*i*P		Pn	18 28 23.4	+1.3	
OVCH	**Ovalle**	**1.84**	**17**	*e*P		Pn	18 28 22.8	+0.7	
OVCH				AML		AML	18 28 53.5		
	comp=E,1μm,0.9s								
LMEL	**Las Melosas**	**2.00**	**138**	*e*P		Pn	18 28 26.0	+1.7	
LMEL				*i* S		Sn	18 28 51.7	+3.1	
LMEL				AML		AML	18 28 57.2		
	comp=N,647nm,0.2s								
LMEL	**Las Melosas**	**2.00**	**138**	*e*P		Pn	18 28 26.0	+1.7	
LMEL				*i* S		Sn	18 28 51.7	+3.1	
CACH	**El Canelo**	**2.02**	**150**	⇓*i*P		Pn	18 28 26.2	+1.7	
CICH	**Cipreses**	**2.27**	**149**	*i* P		Pn	18 28 29.4	+1.5	

ISCJB ***04*** *18:42:08.2±0.6, 1078N±003×6233W±003, h100km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=134.5*
FUNV ***04*** *18:42:09.1, 1085N×6221W, h96km, MW3.7*
NEIC ***04*** *18:42:10.4, 1080N×6226W, h86km, MD3.5(TRN), After TRN.*
TRN ***04*** *18:42:10.4, 1080N×6226W, h86km, MD3.5*
ISC 04 18:42:09.2±0.6, 1080N±003×6232W±003, h95km±7km, n24, σ0s97/44, 7C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
GUIV	**Guiria**	**0.18**	**146**	⇑*i*P			**Pn**	**18 42 23.1**	**+0.4**
GUIV				*e*S			**Sn**	**18 42 32.1**	**-0.6**
TCE	**Chacachacare**	**0.57**	**100**	*e*P			**Pn**	**18 42 25.6**	**+0.7**
TCE				*e*S			**Sn**	**18 42 35.0**	**-1.7**
ALNG	**Atlantic LNG**	**0.87**	**134**	*e*P			**Pn**	**18 42 23.2**	**-4.6**
ALNG				*e*P				18 42 24.2	
ALNG				*e*S			**Sn**	**18 42 44.6**	**+2.7**
GUNV	**Guanoco**	**0.88**	**224**	⇓*i*P			**Pn**	**18 42 29.5**	**+1.7**
CRUV	**Carupano**	**0.91**	**262**	⇓*i*P			**Pn**	**18 42 28.9**	**+0.8**
CRUV				*e*S			**Sn**	**18 42 43.0**	**+0.5**
TRN	**Trinidad (W)**	**0.92**	**99**	⇑*i*P			**Pn**	**18 42 28.5**	**+0.2**
TRN				*e*S			**Sn**	**18 42 41.6**	**-1.0**
BUAY	**Buenos Aires**	**0.93**	**137**	*e*P			**Pn**	**18 42 30.8**	**+2.3**
BUAY				*e*S			**Sn**	**18 42 49.5**	**+6.7**
ITEV	**Isla Los Testi**	**0.97**	**305**	⇓*i*P			**Pn**	**18 42 28.3**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.98**	**119**	*e*P			**Pn**	**18 42 29.1**	**+0.1**
TPP				*e*S			**Sn**	**18 42 44.5**	**+0.7**
TBH	**Brigand Hill**	**1.27**	**104**	*e*P			**Pn**	**18 42 32.8**	**+0.4**
TBH				*e*S			**Sn**	**18 42 48.8**	**-1.1**
GRW	**Mount Saint Ca**	**1.50**	**26**	*e*P			**Pn**	**18 42 34.9**	**-0.3**
GRW				*e*S			**Sn**	**18 42 54.1**	**-0.7**
TPR	**Prospect**	**1.57**	**76**	*e*P			**Pn**	**18 42 35.4**	**-0.6**
TPR				*e*S			**Sn**	**18 42 55.3**	**-1.0**
GRIC	**Isle de Caille**	**1.65**	**26**	*i* P			**Pn**	**18 42 38.3**	**+1.3**
GRIC				*e*S			**Sn**	**18 42 58.1**	**0.0**
GRSS	**Sisters**	**1.65**	**25**	⇑*i*P			**Pn**	**18 42 38.0**	**+1.0**
GRSS				*e*S			**Sn**	**18 42 58.0**	**-0.2**
GRCU	**Cariacou**	**1.87**	**27**	*e*P			**Pn**	**18 42 40.2**	**+0.4**
GRCU				*e*S			**Sn**	**18 43 02.6**	**-0.6**
PCRV	**Puerto La Cruz**	**2.36**	**255**	⇑*i*P			**Pn**	**18 42 47.3**	**+1.1**
PCRV				*e*S			**Sn**	**18 43 14.7**	**+0.1**
IBAV	**Isla La Blanqu**	**2.44**	**295**	⇓*i*P			**Pn**	**18 42 47.8**	**+0.5**
IBAV				*e*S			**Sn**	**18 43 16.6**	**+0.2**
GURV	**El Guri**	**3.11**	**194**	⇑*i*P			**Pn**	**18 42 56.8**	**+0.6**
GURV				*e*S			**Sn**	**18 43 31.3**	**-1.2**
CUPV	**Cœpira**	**3.49**	**258**	⇑*i*P			**Pn**	**18 43 02.4**	**+1.0**
CUPV				*e*S			**Sn**	**18 43 41.6**	**0.0**
BIRV	**Birongo**	**3.89**	**266**	*e*S			**Sn**	**18 43 49.6**	**-1.8**
MERV	**Las Mercedes**	**4.20**	**249**	*e*P			**Pn**	**18 43 11.1**	**+0.1**
MERV				*e*S			**Sn**	**18 43 58.1**	**-0.9**
LUEV	**Luepa**	**5.00**	**170**	⇑*i*P			**Pn**	**18 43 21.1**	**-0.6**
CAOV	**Caicara del Or**	**5.24**	**229**	*e*P			**Pn**	**18 43 24.5**	**-0.6**
CAOV				*e*S			**Sn**	**18 44 20.8**	**-3.5**
BAUV	**El Baul**	**5.93**	**252**	*e*P			**Pn**	**18 43 33.5**	**-0.9**
BAUV				*e*S			**Sn**	**18 44 37.1**	**-3.8**

MOS ***04*** *18:43:08.5±1.2, 1238S×7564W, h69km, mb5.1/13, Error ellipse: s-maj=28.8km s-min=8.9km az=119.1*
ISCJB ***04*** *18:43:10.2±0.8, 1225S±005×7525W±006, h83km±6km, mb4.7/44, Error ellipse: s-maj=11.2km s-min=6.1km az=92.4*
BJI ***04*** *18:43:11.1, 1240S×7530W, h84km, mB5.1, Ms5.1, Msz4.7*
NEIC ***04*** *18:43:11.2±0.7, 1238S×7527W, h84km±6km, mb4.9/38, Error ellipse: s-maj=8.9km s-min=5.4km az=57.0*
IDC ***04*** *18:43:13.0±1.1, 1240S×7544W, h98km±10km, mb4.2/11, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, MS3.2/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=17.6km s-min=10.6km az=59.0*
ISC 04 18:43:11.2±0.7, 1229S±005×7522W±005, h73km±6km, h76km±8.0km:pP-P, n300, σ0s62/271, mb4.7/44, 73C-81D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
NNA	**Nana**	**1.61**	**281**	P			**Pn**	**18 43 37.7**	**0.0**
	4μm,0.3s,baz=123,slow=11,SNR=2197								
NNA				S			**Sn**	**18 43 57.8**	**+0.1**
	2μm,0.3s,baz=308,slow=5.5,SNR=20								
NNA	**Nana**	**1.61**	**281**	⇑*i*Pn			**Pn**	**18 43 37.6**	**0.0**
NNA				*e*Sn			**Sn**	**18 43 56.9**	**-0.9**
ATAH	**Atahualpa**	**6.11**	**329**	P			**Pn**	**18 44 39.8**	**+0.9**
	32nm,0.3s,baz=123,slow=3.2,SNR=32								
ATAH				S			**Sn**	**18 45 46.5**	**-0.8**
	15nm,0.3s,baz=33,slow=7.1,SNR=6.0								
LPAZ	**La Paz**	**7.94**	**121**	P			**Pn**	**18 45 08.3**	**+4.5**
	6.3nm,0.3s,baz=303,slow=12,SNR=154								
LPAZ				LR			LR	18 48 58.3	
	comp=Z,140nm,20.2s,baz=320,slow=43								
LPAZ	**La Paz**	**7.94**	**121**	⇑*i*P			**Pn**	**18 45 08.2**	**+4.4**
LPAZ				pmax			pmax		
	comp=Z,33nm,0.6s								
LPAZ	**La Paz**	**7.94**	**121**	⇑*i*Pn			**Pn**	**18 45 08.2**	**+4.3**
	comp=Z,33nm,0.6s								
LVC	**Limon Verde**	**11.90**	**150**	P			**Pn**	**18 45 58.2**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=336,slow=12,SNR=10.0								
LVC				S			**Sn**	**18 48 02.5**	**-6.2**
	comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=3.0								
LVC	**Limon Verde**	**11.90**	**150**	*e*Pn			**Pn**	**18 45 56.9**	**-0.9**
	comp=Z,9.0nm,0.6s								
LVC				*e*Sn			**Sn**	**18 48 05.2**	**-3.6**
SAML	**Samuel**	**12.29**	**76**	*e*Pn			**Pn**	**18 46 02.7**	**-0.4**
SIV	**San Ignacio**	**14.21**	**107**	P			**Pn**	**18 46 29.4**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=280,slow=15,SNR=21								
ROSC	**El Rosal**	**17.05**	**3**	P			**Pn**	**18 47 10.0**	**+5.2**
	comp=Z,2.1nm,0.3s,baz=82,slow=20,SNR=3.9								
ROSC				LR			LR	18 54 23.4	
	comp=Z,56nm,22.0s,baz=28,slow=39								
ROSC	**El Rosal**	**17.05**	**3**	*e*Pn			**Pn**	**18 47 06.2**	**+1.4**
ROSC				LR			LR	18 54 23.4	
CFAA	**Coronel Fontan**	**20.27**	**163**	P			**P**	**18 47 41.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=342,slow=10,SNR=23								
SDV	**Santo Domingo**	**21.52**	**12**	P			**P**	**18 47 56.5**	**+2.4**
	comp=Z,58nm,0.9s,mb4.9,baz=235,slow=5.3,SNR=13								
SDV	**Santo Domingo**	**21.52**	**12**	*e*P			**P**	**18 47 56.4**	**+2.2**
	comp=Z,56nm,0.9s,mb4.9								
PCRV	**Puerto La Cruz**	**24.67**	**26**	LR			LR	18 59 11.5	
	comp=Z,58nm,21.0s,baz=274,slow=38								
TEIG	**Tepich**	**34.77**	**338**	*e*P			**P**	**18 49 53.5**	**-1.0**
	comp=Z,59nm,1.2s,mb5.3								
EFI	**East Falkland**	**41.67**	**164**	P			**P**	**18 50 54.2**	**+1.7**
EFI				pmax			pmax		
	comp=Z,40nm,1.0s,mb5.1								
EFI	**East Falkland**	**41.67**	**164**	P			**P**	**18 50 54.2**	**+1.7**
	comp=Z,40nm,1.0s,mb5.1								
CPCT	**Cooper Cave**	**48.28**	**350**	*e*P			**P**	**18 51 44.1**	**-0.9**
SWET	**Sewanee**	**48.32**	**348**	*e*P			**P**	**18 51 43.8**	**-1.4**
PLAL	**Pickwick Lake**	**48.56**	**346**	*e*P			**P**	**18 51 45.6**	**-1.5**
	comp=Z,5.0nm,0.8s,mb4.5								
PLAL				*e*PcP			PcP	18 53 09.7	-2.1
TXAR	**Lajitas Array**	**49.66**	**327**	P			**P**	**18 51 55.4**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.5,baz=148,slow=8.9,SNR=36								
TXAR				PcP			PcP	18 53 15.4	-0.4
	comp=Z,0.4nm,0.5s,baz=150,slow=4.2,SNR=2.9								
WCI	**Wyandotte Cave**	**51.31**	**349**	*e*P			**P**	**18 52 06.7**	**-1.2**
WCI				pmax			pmax		
	comp=Z,27nm,0.9s,mb5.3								
WCI	**Wyandotte Cave**	**51.31**	**349**	*e*P			**P**	**18 52 06.7**	**-1.2**
	comp=Z,27nm,0.9s,mb5.3								
SIUC	**Southern Illin**	**51.44**	**346**	*e*P			**P**	**18 52 06.1**	**-2.8**
	comp=Z,70nm,1.2s,mb5.6								
WMOK	**Wichita Mounta**	**51.84**	**335**	*e*P			**P**	**18 52 10.6**	**-1.2**
WMOK				*e*				18 53 23.0	
WMOK				pmax			pmax		
	comp=Z,20nm,0.9s,mb5.2								
WMOK	**Wichita Mounta**	**51.84**	**335**	*e*P			**P**	**18 52 10.6**	**-1.2**
	comp=Z,2.4nm,0.9s,mb4.2								
WMOK				*e*PcP			PcP	18 53 23.0	-0.8
FVM	**French Village**	**52.00**	**345**	*e*P			**P**	**18 52 11.7**	**-1.3**
FVM				pmax			pmax		
	comp=Z,20nm,0.6s,mb5.3								
FVM	**French Village**	**52.00**	**345**	*e*P			**P**	**18 52 11.7**	**-1.3**
	comp=Z,20nm,0.6s,mb5.3								
CCM	**Cathedral Cave**	**52.28**	**344**	*e*P			**P**	**18 52 11.4**	**-3.7**
CCM				pmax			pmax		
	comp=Z,9.0nm,0.7s,mb4.9								
CCM	**Cathedral Cave**	**52.28**	**344**	*e*P			**P**	**18 52 11.4**	**-3.7**
	comp=Z,9.5nm,0.7s,mb4.9								
KSU1	**Kansas State U**	**54.88**	**340**	P			**P**	**18 52 33.3**	**-0.7**
	comp=Z,10nm,0.8s,mb4.9								
BNM	**Barren Site**	**54.99**	**328**	*e*P			**P**	**18 52 34.7**	**-0.2**
BNM				*e*PcP			PcP	18 53 35.0	-0.8
LPM	**Los Pinos Moun**	**55.12**	**328**	*e*P			**P**	**18 52 35.2**	**-0.6**
LAZ	**Ladron**	**55.45**	**328**	*e*P			**P**	**18 52 38.5**	**+0.3**
ANMO	**Albuquerque**	**55.53**	**329**	*e*P			**P**	**18 52 38.6**	**-0.2**
ANMO				pmax			pmax		
	comp=Z,14nm,1.2s								
ANMO	**Albuquerque**	**55.53**	**329**	*e*P			**P**	**18 52 38.6**	**-0.2**
	comp=Z,14nm,1.2s,mb4.9								
CBKS	**Cedar Bluff**	**55.75**	**337**	*e*P			**P**	**18 52 40.0**	**-0.4**
CBKS				pmax			pmax		
	comp=Z,8.0nm,0.7s,mb4.9								
CBKS	**Cedar Bluff**	**55.75**	**337**	*e*P			**P**	**18 52 40.0**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.9								
TUC	**Tucson**	**55.89**	**324**	*e*P			**P**	**18 52 41.3**	**0.0**
TUC				pmax			pmax		
	comp=Z,5.0nm,0.9s,mb4.5								
TUC	**Tucson**	**55.89**	**324**	*e*P			**P**	**18 52 41.3**	**-0.1**
	comp=Z,4.8nm,0.9s,mb4.5								
NCB	**Newcomb**	**55.99**	**1**	*e*P			**P**	**18 52 42.4**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.9								
116A	**Eloy**	**56.61**	**323**	⇓P			**P**	**18 52 46.4**	**-0.1**
	baz=57,SNR=5.5								
115A	**Sonoran Desert**	**57.02**	**323**	⇑P			**P**	**18 52 49.4**	**+0.1**
	baz=57								
SDCO	**Great Sand Dun**	**57.30**	**332**	*e*P			**P**	**18 52 51.4**	**0.0**
SDCO				*e*				18 53 30.6	
Z14A	**Wintersburg**	**57.91**	**323**	⇓P			**P**	**18 52 55.8**	**+0.1**
	baz=58								
X15A	**Humboldt**	**58.30**	**324**	P			**P**	**18 52 58.8**	**+0.4**
	baz=58,SNR=6.0								
MVCO	**Mesa Verde**	**58.33**	**329**	*e*P			**P**	**18 52 58.2**	**-0.4**
	comp=Z,7.7nm,0.8s,mb4.8								
MVCO	**Mesa Verde**	**58.33**	**329**	⇓P			**P**	**18 52 58.4**	**-0.2**
	baz=59,SNR=6.2								
Y14A	**Wickenburg**	**58.35**	**323**	⇑P			**P**	**18 52 58.7**	**0.0**
	baz=59								
WUAZ	**Wupatki**	**58.56**	**326**	*e*P			**P**	**18 53 00.8**	**+0.5**
	comp=Z,23nm,1.0s,mb5.2								
WUAZ	**Wupatki**	**58.56**	**326**	⇑P			**P**	**18 53 00.6**	**+0.4**
	baz=59,SNR=17								
X14A	**Yava**	**58.66**	**324**	P			**P**	**18 53 01.4**	**+0.5**
	baz=59,SNR=10								
Y13A	**Salome**	**58.75**	**323**	⇑P			**P**	**18 53 01.6**	**+0.1**
	baz=59								
W15A	**Williams**	**58.82**	**325**	⇑P			**P**	**18 53 02.7**	**+0.8**
	baz=59								
Y12C	**Blythe**	**59.12**	**322**	⇑P			**P**	**18 53 04.4**	**+0.4**
	baz=59								
SMCO	**Snowmass**	**59.14**	**332**	*e*P			**P**	**18 53 04.2**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0								
PDMCI	**Parker Dam,Lak**	**59.27**	**323**	⇓P			**P**	**18 53 05.4**	**+0.3**
	baz=60								
X13A	**Yucca**	**59.30**	**323**	⇑P			**P**	**18 53 05.1**	**-0.1**
	baz=60								
W14A	**Seligman**	**59.30**	**324**	⇑P			**P**	**18 53 05.6**	**+0.3**
	baz=60								
DVTC	**Desert V Tower**	**59.35**	**320**	⇑P			**P**	**18 53 05.7**	**+0.1**
	baz=60								
BC3	**Big Chuckw Mtn**	**59.62**	**321**	⇑P			**P**	**18 53 07.9**	**+0.5**
	baz=60								
W13A	**Hualapai Mount**	**59.69**	**324**	⇓P			**P**	**18 53 08.6**	**+0.6**
	baz=60								
IRM	**Iron Mountain**	**59.78**	**322**	P			**P**	**18 53 09.3**	**+0.7**
	baz=60,SNR=8.0								
109C	**Camp Elliot, M**	**60.13**	**320**	⇑P			**P**	**18 53 11.0**	**0.0**
	baz=60								
BELC	**Belle Mtn.**	**60.19**	**321**	⇑P			**P**	**18 53 11.8**	**+0.4**
	baz=60								
PFO	**Pinyon Flat Ob**	**60.20**	**321**	⇑P			**P**	**18 53 11.8**	**+0.3**
	baz=60								
MURC	**Murrieta**	**60.66**	**320**	⇓P			**P**	**18 53 14.5**	**-0.2**
	baz=61								
V12A	**Nelson**	**60.69**	**323**	⇓P			**P**	**18 53 14.8**	**0.0**
	baz=61								
SRU	**San Rafael**	**60.81**	**329**	*e*P			**P**	**18 53 15.0**	**-0.6**
SRU				pmax			pmax		
	comp=Z,18nm,1.1s,mb5.0								
SRU	**San Rafael**	**60.81**	**329**	*e*P			**P**	**18 53 15.0**	**-0.6**
	comp=Z,18nm,1.1s,mb5.0								
BBRC	**Big Bear Sol-O**	**60.93**	**321**	⇑P			**P**	**18 53 16.2**	**-0.2**
	baz=61								
HEC	**Hector,Ludlow**	**60.95**	**322**	⇑P			**P**	**18 53 17.2**	**+0.6**
	baz=61								
U12A	**Valley of Fire**	**61.00**	**324**	⇓P			**P**	**18 53 17.4**	**+0.4**
	baz=61								
TUQ	**Turquoise Mtn.**	**61.12**	**323**	⇓P			**P**	**18 53 17.8**	**+0.1**
	baz=61								
CCUT	**Cedar City**	**61.14**	**326**	*e*P			**P**	**18 53 18.3**	**+0.4**
CCUT				*e*PcP			PcP	18 53 59.4	-0.7
MSU	**Marysvale**	**61.21**	**327**	*e*P			**P**	**18 53 18.4**	**+0.1**
TMUT	**Trail Mountain**	**61.29**	**329**	*e*P			**P**	**18 53 18.9**	**0.0**
ARUT	**Antelope Range**	**61.35**	**326**	*e*P			**P**	**18 53 20.0**	**+0.7**
BFSC	**Mount Baldy St**	**61.37**	**320**	⇓P			**P**	**18 53 19.0**	**-0.4**
	baz=62								
GSC	**Goldstone**	**61.55**	**322**	⇑P			**P**	**18 53 20.8**	**+0.2**
	baz=62								
SHOC	**Shoshone**	**61.64**	**323**	⇓P			**P**	**18 53 21.7**	**+0.5**
	baz=62								
EYMN	**Ely**	**61.69**	**348**	P			**P**	**18 53 19.5**	**-2.1**
	comp=Z,5.5nm,0.7s,mb4.7								
RSSD	**Black Hills**	**61.96**	**337**	*e*P			**P**	**18 53 23.2**	**-0.2**
RSSD				pmax			pmax		
	comp=Z,10.0nm,1.1s,mb4.8								
RSSD	**Black Hills**	**61.96**	**337**	*e*P			**P**	**18 53 23.2**	**-0.2**
	comp=Z,10nm,1.1s,mb4.8								
EDW2	**Edwards Air Fo**	**62.00**	**321**	⇓P			**P**	**18 53 24.2**	**+0.6**
	baz=62								
U10A	**Ash Meadows, A**	**62.03**	**323**	⇓P			**P**	**18 53 24.4**	**+0.5**
	baz=62								
DAU	**Daniels Canyon**	**62.16**	**329**	*e*P			**P**	**18 53 25.0**	**+0.3**
LRMC	**Laurel Mountai**	**62.21**	**321**	⇓P			**P**	**18 53 25.0**	**0.0**
	baz=62								
FURC	**Furnace Creek,**	**62.38**	**323**	⇓P			**P**	**18 53 26.7**	**+0.5**
	baz=63								
BSC	**Santa Cruz Isl**	**62.46**	**319**	⇓P			**P**	**18 53 26.5**	**-0.2**
	baz=63								
MPMC	**Manual Prospec**	**62.47**	**322**	⇓P			**P**	**18 53 26.9**	**0.0**
	baz=63								
TCUT	**Toone Canyon**	**62.77**	**330**	*e*P			**P**	**18 53 29.0**	**+0.2**
DUG	**Dugway**	**62.79**	**328**	⇓*i*P			**P**	**18 53 29.0**	**+0.1**
DUG				*e*				18 54 10.4	
DUG				pmax			pmax		
	comp=Z,20nm,0.8s,mb5.1								
DUG	**Dugway**	**62.79**	**328**	⇓*i*P			**P**	**18 53 29.0**	**+0.1**
	comp=Z,20nm,0.8s,mb5.1								
DUG				*e*PcP			PcP	18 54 10.4	+3.6
DUG	**Dugway**	**62.79**	**328**	P			**P**	**18 53 29.4**	**+0.5**
	baz=63,SNR=25								
ISA	**Isabella**	**62.81**	**321**	*e*P			**P**	**18 53 28.9**	**-0.1**
ISA	**Isabella**	**62.81**	**321**	P			**P**	**18 53 29.5**	**+0.4**
	baz=63,SNR=7.7								
GRAC	**Grapevine Rang**	**63.03**	**323**	⇑P			**P**	**18 53 31.1**	**+0.6**
	baz=63								
CWC	**Cottonwood Cre**	**63.08**	**322**	⇑P			**P**	**18 53 30.8**	**-0.1**
	baz=63								
PDAR	**Pinedale Array**	**63.17**	**332**	P			**P**	**18 53 30.8**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.3,baz=148,slow=7.0,SNR=22								
HWUT	**Hardware Ranch**	**63.22**	**330**	⇓*i*P			**P**	**18 53 31.2**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0								
HWUT				*e*				18 54 01.1	
HWUT				*e*PcP			PcP	18 54 11.7	+3.2
VES	**Vestal, Richgr**	**63.30**	**321**	⇓P			**P**	**18 53 32.7**	**+0.4**
	baz=64								
R10A	**Warm Springs**	**63.30**	**325**	P			**P**	**18 53 33.3**	**+1.0**
	baz=64,SNR=6.6								
Q11A	**Duckwater**	**63.33**	**325**	P			**P**	**18 53 33.0**	**+0.6**
	baz=64,SNR=15								
P12A	**McGill**	**63.37**	**326**	⇓P			**P**	**18 53 33.0**	**+0.3**
	baz=64,SNR=20								
SPUT	**South Promonto**	**63.43**	**329**	*e*P			**P**	**18 53 29.8**	**-3.3**
BGU	**Big Grassy Mou**	**63.44**	**329**	⇑*e*P			**P**	**18 53 32.3**	**-1.0**
S09A	**Goldfield**	**63.44**	**324**	P			**P**	**18 53 33.4**	**+0.1**
	baz=64,SNR=8.2								
R09A	**Tonopah**	**63.71**	**324**	P			**P**	**18 53 35.2**	**+0.2**
	baz=64,SNR=6.3								
S08C	**White Mtn Res**	**63.84**	**323**	⇓P			**P**	**18 53 36.2**	**+0.4**
	baz=64,SNR=9.5								
O12A	**Currie**	**63.85**	**327**	⇑P			**P**	**18 53 36.0**	**+0.1**
	baz=64,SNR=16								
P11A	**Circle Ranch,**	**63.88**	**326**	⇓P			**P**	**18 53 36.3**	**+0.2**
	baz=64								
HVU	**Hansel Valley**	**63.95**	**330**	*e*P			**P**	**18 53 35.9**	**-0.7**
HVU				pmax			pmax		
	comp=Z,14nm,0.9s,mb4.8								
HVU	**Hansel Valley**	**63.95**	**330**	*e*P			**P**	**18 53 35.9**	**-0.6**
	comp=Z,14nm,0.9s,mb4.8								
MTUM	**Tungsten Hills**	**63.98**	**323**	*e*P			**P**	**18 53 36.9**	**+0.1**
N13A	**Wendover, West**	**63.99**	**328**	⇓P			**P**	**18 53 36.6**	**-0.3**
	baz=64								
Q09A	**Carvers**	**64.18**	**325**	⇑P			**P**	**18 53 38.3**	**+0.3**
	baz=64								
O11A	**Cowboy Ranch,**	**64.24**	**326**	⇓P			**P**	**18 53 38.7**	**+0.2**
	baz=64,SNR=8.5								
LOHW	**Long Hollow**	**64.31**	**332**	*e*P			**P**	**18 53 38.2**	**-0.8**
	comp=Z,5.0nm,0.9s,mb4.3								
P10A	**Eureka**	**64.32**	**326**	⇑P			**P**	**18 53 39.4**	**+0.4**
	baz=64								
M13A	**Montello**	**64.34**	**328**	⇑P			**P**	**18 53 39.0**	**-0.1**
	baz=65								
KCC	**Kaiser Creek**	**64.41**	**322**	⇓P			**P**	**18 53 39.5**	**-0.1**
	baz=65								
N12A	**Clover Valley,**	**64.42**	**327**	⇑P			**P**	**18 53 39.6**	**0.0**
	baz=65								
RRI2	**Red Ridge**	**64.44**	**332**	⇓*e*P			**P**	**18 53 39.2**	**-0.6**
	comp=Z,27nm,0.9s,mb5.1								
RRI2				*e*PcP			PcP	18 54 19.6	+6.1
T06C	**Millerton Lake**	**64.44**	**322**	⇓P			**P**	**18 53 39.8**	**0.0**
	baz=65								
NVAR	**Mina Array Bea**	**64.55**	**324**	P			**P**	**18 53 41.0**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.1,baz=165,slow=5.9,SNR=13								
Q08A	**Gabbs**	**64.62**	**324**	⇑P			**P**	**18 53 41.5**	**+0.5**
	baz=65								
P09A	**Austin**	**64.65**	**325**	⇑P			**P**	**18 53 41.4**	**+0.3**
	baz=65								
IMW	**Indian Meadow**	**64.69**	**332**	*e*P			**P**	**18 53 40.7**	**-0.7**
	comp=Z,15nm,1.3s,mb4.7								
U04C	**Hernandez Rese**	**64.69**	**320**	⇓P			**P**	**18 53 41.3**	**-0.1**
	baz=65								
FLWY	**Flagg Ranch**	**64.72**	**332**	*e*P			**P**	**18 53 41.9**	**+0.3**
	comp=Z,22nm,0.9s,mb5.0								
R07C	**Lee Vining**	**64.75**	**323**	⇓P			**P**	**18 53 41.9**	**+0.1**
	baz=65,SNR=8.5								
V03C	**Hunter Liggett**	**64.76**	**320**	⇓P			**P**	**18 53 41.4**	**-0.5**
	baz=65								
M12A	**Wells**	**64.77**	**328**	P			**P**	**18 53 41.9**	**0.0**
	baz=65,SNR=5.3								
O10A	**Cortez Mining,**	**64.81**	**326**	⇑P			**

	baz=68								
GASB	**Alder Springs**	**67.95**	**322**	⇓P		**P**	**18 54 01.9**	**-0.3**	
	baz=68								
K07A	**Rock Creek Ran**	**67.96**	**326**	⇑P		**P**	**18 54 02.3**	**0.0**	
	baz=68								
J08A	**Circle Bar Ran**	**68.00**	**327**	⇓P		**P**	**18 54 02.5**	**-0.1**	
	baz=68								
MOD	**Modoc**	**68.01**	**325**	*e*P		**P**	**18 54 02.5**	**-0.1**	
	comp=Z,4.2nm,0.6s,mb4.5								
MOD	**Modoc**	**68.01**	**325**	⇑P		**P**	**18 54 02.5**	**-0.1**	
	baz=68,SNR=5.3								
I09A	**Lost Marbles R**	**68.05**	**328**	⇑P		**P**	**18 54 02.9**	**+0.1**	
	baz=68								
E13A	**Victor**	**68.11**	**332**	⇑P		**P**	**18 54 03.5**	**+0.2**	
	baz=68								
P01C	**Double 8 Ranch**	**68.21**	**322**	⇓P		**P**	**18 54 04.1**	**+0.2**	
	baz=68								
D14A	**Greenough**	**68.29**	**333**	⇓P		**P**	**18 54 04.0**	**-0.3**	
	baz=68								
O02C	**Red Bluff**	**68.32**	**323**	⇑P		**P**	**18 54 03.9**	**-0.7**	
	baz=68								
L05A	**Lakeview**	**68.40**	**325**	⇓P		**P**	**18 54 05.0**	**-0.1**	
	baz=69								
WDC	**Whiskeytown Da**	**68.43**	**323**	⇓P		**P**	**18 54 03.7**	**-1.5**	
	baz=69								
I08A	**Drewsey**	**68.43**	**328**	⇓P		**P**	**18 54 06.4**	**+1.1**	
	baz=69								
K06A	**Valley Falls**	**68.58**	**326**	P		**P**	**18 54 06.5**	**+0.4**	
	baz=69,SNR=7.7								
M03C	**McCloud**	**68.63**	**324**	⇑P		**P**	**18 54 06.5**	**0.0**	
	baz=69								
D13A	**Huson**	**68.72**	**332**	⇓P		**P**	**18 54 07.4**	**+0.3**	
	baz=69								
M04C	**Macdoel**	**68.79**	**324**	⇑P		**P**	**18 54 07.3**	**-0.2**	
	baz=69								
J06A	**Christmas Vall**	**68.83**	**326**	P		**P**	**18 54 08.1**	**+0.4**	
	baz=69,SNR=8.8								
K05A	**Summer Lake**	**68.88**	**326**	⇓P		**P**	**18 54 08.4**	**+0.3**	
	baz=69								
H08A	**Prairie City**	**68.91**	**328**	⇑P		**P**	**18 54 08.5**	**+0.3**	
	baz=69,SNR=14								
O01C	**Eel River Cons**	**68.91**	**322**	⇓P		**P**	**18 54 08.5**	**+0.2**	
	baz=69								
N02C	**Big Bar**	**69.03**	**323**	P		**P**	**18 54 09.1**	**+0.1**	
	baz=69,SNR=6.9								
I07A	**Izee**	**69.04**	**327**	⇓P		**P**	**18 54 09.3**	**+0.3**	
	baz=69,SNR=7.9								
L04A	**Klamath Falls**	**69.08**	**325**	⇑P		**P**	**18 54 09.4**	**+0.2**	
	baz=69								
F10A	**Beach Ranch, E**	**69.21**	**330**	⇓P		**P**	**18 54 10.6**	**+0.5**	
	baz=69								
C13A	**Hot Springs**	**69.22**	**333**	⇑P		**P**	**18 54 10.3**	**+0.2**	
	baz=70								
YBH	**Yreka Blue Hor**	**69.26**	**324**	⇓P		**P**	**18 54 09.7**	**-0.7**	
	baz=70								
K04A	**Chilquin**	**69.27**	**325**	⇓P		**P**	**18 54 10.5**	**0.0**	
	baz=70								
I06A	**Prineville**	**69.32**	**327**	⇓P		**P**	**18 54 11.2**	**+0.5**	
	baz=70								
F09A	**S2 Ranch, Elgi**	**69.36**	**329**	⇑P		**P**	**18 54 11.3**	**+0.3**	
	baz=70								
J05A	**Fort Rock**	**69.44**	**326**	⇓P		**P**	**18 54 11.4**	**-0.1**	
	baz=70								
G08A	**Pilot Rock**	**69.59**	**329**	⇓P		**P**	**18 54 12.2**	**-0.3**	
	baz=70								
C12A	**Trout Creek**	**69.64**	**332**	⇑P		**P**	**18 54 12.8**	**0.0**	
	baz=70								
B13A	**Whitefish**	**69.69**	**333**	⇓P		**P**	**18 54 13.1**	**0.0**	
	baz=70								
H06A	**Lindquist Farm**	**69.92**	**327**	⇓P		**P**	**18 54 14.6**	**+0.1**	
	baz=70,SNR=5.6								
G07A	**Ruggs Ranch, H**	**69.94**	**328**	⇓P		**P**	**18 54 14.7**	**+0.1**	
	baz=70								
WALA	**Waterton Lakes**	**69.97**	**334**	*e*P		**P**	**18 54 14.4**	**-0.3**	
	comp=Z,7.7nm,0.8s,mb4.6								
E09A	**Wood Farm, Sta**	**70.04**	**330**	⇑P		**P**	**18 54 15.4**	**+0.2**	
	baz=70								
L02A	**Cave Junction**	**70.04**	**324**	⇑P		**P**	**18 54 14.8**	**-0.4**	
	baz=70								
B12A	**Libby**	**70.26**	**333**	⇓P		**P**	**18 54 16.7**	**+0.1**	
	baz=70								
K02A	**Glendale**	**70.36**	**324**	⇓P		**P**	**18 54 17.0**	**-0.2**	
	baz=71								
F07A	**Phinny Hill Vi**	**70.50**	**329**	⇑P		**P**	**18 54 18.2**	**+0.2**	
	baz=71								
D09A	**Jones Farm, Ri**	**70.51**	**330**	⇑P		**P**	**18 54 17.6**	**-0.5**	
	baz=71								
B11A	**Sandpoint**	**70.58**	**332**	⇑P		**P**	**18 54 18.6**	**+0.1**	
	baz=71								
A12A	**Yaak River Ran**	**70.63**	**333**	⇑P		**P**	**18 54 18.9**	**+0.1**	
	baz=71								
VNA3	**Neumayer Olymp**	**70.67**	**162**	*e*P		**P**	**18 54 18.5**	**-0.6**	
VNA3				*e*		pP	18 54 37.4	-0.9	
VNA3				*e*		pP	18 54 41.9	+3.6	
VNA3				*e*			18 54 50.1		
NEW	**Newport**	**70.81**	**332**	LR		LR	19 26 51.0		
	comp=Z,38nm,18.1s,baz=165,slow=37								
E07A	**Sunnyside**	**70.92**	**329**	⇓P		**P**	**18 54 20.8**	**+0.3**	
	baz=71								
K01A	**Sixes**	**70.95**	**324**	⇓P		**P**	**18 54 20.8**	**+0.1**	
	baz=71								
A11A	**Hall Mountain,**	**70.97**	**333**	⇓P		**P**	**18 54 20.7**	**-0.1**	
	baz=71								
VNA2	**Neumayer--Watz**	**71.28**	**161**	*e*P		**P**	**18 54 21.6**	**-1.1**	
VNA2				*e*		pP	18 54 41.1	-0.9	
VNA2				*e*		pP	18 54 44.7	+2.7	
VNA2				*e*			18 54 54.1		
F05A	**White Salmon**	**71.28**	**328**	⇓P		**P**	**18 54 23.0**	**+0.2**	
	baz=72								
B09A	**Rice**	**71.40**	**331**	⇑P		**P**	**18 54 23.5**	**+0.1**	
	baz=72								
D07A	**Quincy**	**71.41**	**330**	⇑P		**P**	**18 54 24.1**	**+0.5**	
	baz=72								
H03A	**Soap Creek Ran**	**71.47**	**326**	⇓P		**P**	**18 54 24.3**	**+0.4**	
	baz=72								
C07A	**Waterville**	**71.80**	**330**	⇑P		**P**	**18 54 25.9**	**0.0**	
	baz=72								
F04A	**Amboy**	**71.82**	**327**	⇑P		**P**	**18 54 25.7**	**-0.2**	
	baz=72								
D06A	**Cle Elum**	**71.85**	**329**	⇑P		**P**	**18 54 26.1**	**0.0**	
	baz=72								
A07A	**Ashnola River,**	**72.89**	**331**	⇑P		**P**	**18 54 32.0**	**-0.4**	
	baz=73								
SNAA	**Sanae**	**72.89**	**162**	P		**P**	**18 54 31.5**	**-0.8**	
	comp=Z,1.1nm,0.8s,mb3.8,baz=271,slow=5.1,SNR=34								
SNAA	**Sanae**	**72.89**	**162**	*e*P		**P**	**18 54 30.9**	**-1.5**	
SNAA				*e*		pP	18 54 48.8	-2.9	
SNAA				*e*			18 54 55.1		
SNAA				*e*			18 55 03.7		
SNAA	**Sanae**	**72.89**	**162**	*e*P		**P**	**18 54 31.0**	**-1.4**	
SNAA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SNAA	**Sanae**	**72.89**	**162**	*e*P		**P**	**18 54 31.0**	**-1.3**	
	comp=Z,4.3nm,0.9s,mb4.3								
EDM	**Edmonton**	**72.94**	**337**	*e*P		**P**	**18 54 31.5**	**-1.1**	
QSPA	**South Pole Qui**	**77.85**	**180**	*e*P		**P**	**18 54 59.1**	**-1.7**	
	comp=Z,2.4nm,0.7s,mb4.0								
TOA0	**Torodi Ar. Sit**	**80.34**	**74**	*e*P		**P**	**18 55 14.7**	**+0.3**	
TORD	**Torodi Ar. Bea**	**80.34**	**74**	P		**P**	**18 55 15.1**	**+0.7**	
	comp=Z,7.0nm,0.6s,mb4.7,baz=270,slow=4.6,SNR=33								
YKA	**Yellowknife Ar**	**80.59**	**343**	P		**P**	**18 55 14.5**	**-1.2**	
	comp=Z,6.5nm,0.6s,mb4.6,baz=144,slow=5.9,SNR=14								
DLBC	**Dease Lake**	**83.31**	**334**	*e*P		**P**	**18 55 29.1**	**-0.8**	
ESDC	**Sonseca Array**	**83.81**	**47**	P		**P**	**18 55 33.8**	**+1.3**	
	comp=Z,0.8nm,0.5s,mb3.8,baz=250,slow=5.3,SNR=9.6								
VNDA	**Vanda**	**84.79**	**191**	P		**P**	**18 55 33.6**	**-3.9**	
	comp=Z,1.1nm,0.8s,mb3.9,baz=126,slow=5.8,SNR=9.0								
VNDA	**Vanda**	**84.79**	**191**	*e*P		**P**	**18 55 33.4**	**-4.1**	
VNDA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
VNDA	**Vanda**	**84.79**	**191**	*e*P		**P**	**18 55 33.4**	**-4.1**	
	comp=Z,1.7nm,1.0s,mb3.9								
DAWY	**Dawson**	**90.15**	**337**	*e*P		**P**	**18 56 01.7**	**-1.6**	
EGAK	**Eagle**	**91.16**	**337**	*e*P		**P**	**18 56 06.4**	**-1.6**	
	comp=Z,5.5nm,1.0s,mb4.6								
COLA	**College**	**93.82**	**336**	⇑*e*P		**P**	**18 56 16.5**	**-3.8**	
CLL	**Collm**	**98.37**	**39**	*e*Pdif		**P**	**18 56 43.0**	**+2.1**	
CLL				*e*			18 56 55.0		
STKA	**Stephens Creek**	**123.68**	**218**	*e*PKP		PKPdf	19 01 58.9	-1.5	
	comp=Z,1.7nm,0.7s								
STKA	**Stephens Creek**	**123.68**	**218**	PKP		PKPdf	19 01 59.5	-0.9	
	comp=Z,1.2nm,0.6s,baz=129,slow=6.5,SNR=4.3								
YAK	**Yakutsk**	**127.19**	**346**	⇑*i*PKIKP		PKPdf	19 02 03.1	-4.0	
CTA	**Charters Tower**	**128.03**	**232**	*e*PKP		PKPdf	19 02 08.3	-0.4	
	comp=Z,2.7nm,0.9s								
CTA	**Charters Tower**	**128.03**	**232**	PKP		PKPdf	19 02 08.3	-0.4	
	comp=Z,2.8nm,0.7s,baz=90,slow=1.0,SNR=5.6								
ASAR	**Alice Springs**	**134.30**	**219**	PKP		PKPdf	19 02 19.8	-0.8	
	comp=Z,1.3nm,0.7s,baz=130,slow=2.2,SNR=22								
AS31	**Alice Springs**	**134.30**	**219**	*e*PKP		PKPdf	19 02 19.8	-0.8	
ASPA	**Alice Springs**	**134.30**	**219**	*e*PKP		PKPdf	19 02 19.8	-0.8	
ZAL	**Zalesovo**	**135.53**	**17**	PKP		PKPdf	19 02 22.4	-0.4	
	comp=Z,2.4nm,0.8s,baz=114,slow=3.7,SNR=7.0								
WB2	**Warramunga Arr**	**136.72**	**223**	*e*PKP		PKPdf	19 02 24.6	-0.5	
WRAB	**Tennant Creek**	**136.73**	**223**	⇑*i*PKIKP		PKPdf	19 02 21.2	-3.9	
WRA	**Warramunga Arr**	**136.73**	**223**	PKP		PKPdf	19 02 24.4	-0.7	
	comp=Z,3.7nm,0.8s,baz=133,slow=2.0,SNR=23								
AAK	**Ala-Archa**	**139.96**	**35**	⇑*i*PKIKP		PKPdf	19 02 29.8	-1.2	
MKAR	**Makanchi Array**	**140.72**	**25**	PKhKP			19 02 25.2		
	comp=Z,0.7nm,0.6s,baz=318,slow=3.3,SNR=6.2								
MKAR				PKP		PKPdf	19 02 31.9	-0.5	
	comp=Z,1.1nm,0.8s,baz=7.8,slow=2.7,SNR=5.9								
HIA	**Hailar**	**141.11**	**344**	*i* PKIKP		PKPdf	19 02 29.4	-3.7	
MAJO	**Matsushiro**	**141.47**	**315**	*e*PKHKP			19 02 26.5		
MAT	**Matsushiro**	**141.47**	**315**	PKP		PKPdf	19 02 26.4	-7.3	
MJAR	**Matsushiro Arr**	**141.47**	**315**	PKhKP			19 02 26.6		
	comp=Z,3.2nm,0.8s,baz=58,slow=1.8,SNR=14								
FITZ	**Fitzroy Crossi**	**143.45**	**215**	*e*PKP		PKPdf	19 02 34.1	-3.2	
	comp=Z,4.7nm,0.7s								
FITZ	**Fitzroy Crossi**	**143.45**	**215**	PKP		PKPdf	19 02 34.4	-2.9	
	comp=Z,2.0nm,0.6s,baz=107,slow=2.2,SNR=6.6								
ULN	**Ulaanbaatar**	**144.48**	**357**	*d i* PKIKP		PKPdf	19 02 37.7	-1.4	
ULN	**Ulaanbaatar**	**144.48**	**357**	*e*PKPdf		PKPdf	19 02 38.0	-1.1	
SONM	**Songino Array**	**144.54**	**358**	PKP		PKPdf	19 02 38.1	-1.1	
	comp=Z,16nm,0.8s,baz=358,slow=4.7,SNR=56								
WMQ	**Urumqi**	**145.30**	**22**	PKP		PKPdf	19 02 39.7	-0.8	
WMQ				PKP2		PKPab	19 02 42.4	+1.8	
WMQ				APKP			19 03 06.2		
WMQ				XPKP			19 03 17.2		
WMQ				PP		PP	19 06 02.2	+1.8	
WMQ				PP		PP			
	comp=Z,123nm,6.5s								
WMQ				LR		LR			
	comp=N,40nm,17.1s								
WMQ				LR		LR			
	comp=E,10.0nm,15.5s								
WMQ				LR		LR			
	comp=Z,45nm,18.6s								
KSRS	**Korea Array**	**147.49**	**324**	PKPbc		PKPbc	19 02 43.8	-3.1	
	comp=Z,3.7nm,1.0s,baz=81,slow=1.6,SNR=9.3								
HHC	**Hu-ho-hao-te**	**150.93**	**349**	*e*PKP		PKPdf	19 02 46.4	-3.3	
HHC				APKP			19 03 13.2		
HHC				XPKP			19 03 24.0		
HHC				PKS			19 06 19.8		
HHC				PP		PP	19 06 34.2	+1.0	
HHC				SKS		SKSdf	19 09 42.5	-8.4	
HHC				SKKS		SKKSac	19 13 11.9	-5.6	
HHC				PP		PP			
	comp=Z,119nm,5.7s								
HHC				LR		LR			
	comp=N,215nm,21.4s								
HHC				LR		LR			
	comp=E,374nm,23.8s								
HHC				LR		LR			
	comp=Z,111nm,22.0s								
GTA	**Gaotai**	**152.63**	**8**	PKP		PKPdf	19 02 53.1	+0.9	
GTA				APKP			19 03 19.8		
GTA				PKS			19 06 27.0		
GTA				PP		PP	19 06 45.6	+2.7	
GTA				SKS		SKSdf	19 09 47.7	-5.3	
GTA				SKKS		SKKSac	19 13 23.7	-3.1	
GTA				PP		PP			
	comp=Z,99nm,5.7s								
GTA				LR		LR			
	comp=N,77nm,5.3s								
GTA				LR		LR			
	comp=E,92nm,5.7s								
GTA				LR		LR			
	comp=Z,68nm,7.2s								
NJ2	**Nanjing**	**156.45**	**329**	*e*PKP		PKPdf	19 02 55.5	-2.0	
CD2	**Chengdu**	**161.44**	**3**	*e*PKP		PKPdf	19 02 58.8	-4.6	
GYA	**Guiyang**	**165.79**	**353**	*e*PKP		PKPdf	19 03 05.7	-1.8	
GYA				APKP			19 03 31.3		
GYA				XPKP			19 03 40.9		
GYA				PKP2		PKPab	19 04 07.7	+0.5	
GYA				PKS			19 06 37.1		
GYA				PP		PP	19 07 55.9	+1.5	
GYA				SKS		SKSdf	19 09 58.8	-6.3	
GYA				PP		PP			
	comp=Z,110nm,8.6s								
GYA				LR		LR			
	comp=N,120nm,20.9s								
GYA				LR		LR			
	comp=E,170nm,21.4s								
GYA				LR		LR			
	comp=Z,150nm,21.8s								
KMI	**Kunming**	**167.09**	**8**	PKIKP		PKPdf	19 03 03.5	-5.0	
KMI				PKP			19 03 28.8		
KMI				MLR		MLR			
	comp=Z,70nm,39.8s								
KMI	**Kunming**	**167.09**	**8**	PKP		PKPdf	19 03 03.5	-5.0	
KMI				pPKP		pPKPdf	19 03 28.8	-0.6	
KMI				sPKP			19 03 39.3		
KMI				LR		LR			
	comp=Z,70nm,39.8s								

*ISCJB **04** 18:47:01.6±0.8, 42.1S±02◦×845E±0.2, h10km, mb4.3/8, MS3.9/1, Error ellipse: s-maj=26.7km s-min=19.8km az=11.7*

*IDC **04** 18:47:02.3±3.7, 41.83S×84.56E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, MS3.9/1, Ms1 3.9/1, ms1mx2.8/21, Error ellipse: s-maj=131.6km s-min=43.3km az=25.0*

*NEIC **04** 18:47:03.3±0.6, 42.08S×84.54E, h10km, mb4.6/3, Error ellipse: s-maj=20.2km s-min=15.1km az=186.0*

ISC 04 18:47:03.4±0.8, 421S±02◦×845E±02, h10km, n9, c0°63/9, mb4.3/8, MS3.9/1, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.69**	**82**	P		**P**		**18 55 16.4**	**0.0**
	1.6nm,0.8s,mb3.9,baz=226,slow=6.7,SNR=21								
ASAR				PcP		PcP		18 56 59.3	+0.4
	1.5nm,0.7s,baz=233,slow=2.9,SNR=12								
ASAR				LR		LR		19 11 28.1	
	comp=Z,128nm,18.5s,MS3.9,baz=199,slow=33								
STKA	**Stephens Creek**	**45.95**	**97**	P		**P**		**18 55 26.2**	**-0.2**
	4.6nm,1.1s,mb4.3,baz=272,slow=14,SNR=3.8								
WRA	**Warramunga Arr**	**47.29**	**78**	P		**P**		**18 55 37.2**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=232,slow=7.7,SNR=13								
QSPA	**South Pole Qui**	**48.06**	**180**	*e*P		**P**		**18 55 42.5**	**-0.4**
	13nm,1.2s,mb4.8								
LSZ	**Lusaka**	**55.04**	**281**	*e*P		**P**		**18 56 36.0**	**+0.8**
	2.7nm,0.6s,mb4.5								
CTA	**Charters Tower**	**55.98**	**87**	P		**P**		**18 56 42.7**	**+0.8**
	3.5nm,0.8s,mb4.4,baz=245,slow=11,SNR=5.1								
CTA	**Charters Tower**	**55.98**	**87**	P		**P**		**18 56 42.7**	**+0.8**
LSA	**Lhasa**	**71.70**	**6**	*e*P		**P**		**18 58 25.7**	**+0.2**
	3.5nm,0.8s,mb4.3								
MKAR	**Makanchi Array**	**88.53**	**358**	P		**P**		**18 59 54.9**	**-1.4**
	0.9nm,0.9s,mb4.1,baz=164,slow=5.7,SNR=5.0								

IDC 04 18:50:56.0±10.0, 283S×14417E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=157.3km s-min=62.1km az=21.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**19.52**	**209**	*e*P		Pn		18 55 24.1	-2.0
WRA	**Warramunga Arr**	**19.53**	**209**	P		Pn		18 55 24.5	-1.7
	0.3nm,0.3s,baz=32,slow=11,SNR=14								
ASAR	**Alice Springs**	**22.97**	**205**	P		P		18 56 02.7	+0.7
	0.5nm,0.5s,baz=38,slow=7.7,SNR=13								
ASPA	**Alice Springs**	**22.97**	**205**	*e*P		P		18 56 04.4	+2.4
FITZ	**Fitzroy Crossi**	**23.67**	**229**	*e*P		P		18 56 08.3	-1.0
	8.2nm,0.9s								
FITZ	**Fitzroy Crossi**	**23.67**	**229**	P		P		18 56 08.8	-0.5
	4.9nm,0.7s,baz=64,slow=10,SNR=15								
STKA	**Stephens Creek**	**28.99**	**185**	P		P		18 56 58.3	+0.9
	2.5nm,0.9s,baz=333,slow=4.5,SNR=2.4								

*MOS **04** 18:54:32.1±1.4, 19.14S×68.96W, h107km, mb5.1/16, Error ellipse: s-maj=19.0km s-min=8.1km az=111.6*

*ISCJB **04** 18:54:32.3±0.2, 19.24S±003◦×69.00W±006, h119km, mb4.8/74, Error ellipse: s-maj=7.7km s-min=4.1km az=155.8*

*IDC **04** 18:54:34.5±0.5, 19.19S×68.87W, h118km±4km, mb4.5/18, mb1 4.6/21, mb1mx4.5/24, mbtmp4.5/21, MS3.8/11, Ms1 3.8/11, ms1mx3.6/25, Error ellipse: s-maj=17.2km s-min=9.3km az=73.0*

*NEIC **04** 18:54:34.2±0.2, 19.20S×68.90W, mb4.9/62, Error ellipse: s-maj=7.6km s-min=4.7km az=66.0*

NEIC Felt [III] at Arica.

*GCMT **04** 18:54:34.2±0.2, 19.46S×69.04W, h139km±2km, MW5.1/70, Moment Tensor Solution. s40,c51; s70,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.79±.18; Mθθ-0.97±.20; Mφφ3.76±.23; Mrθ3.90±.12; Mrφ-0.98±.22; Mθφ-1.66±.17; Best double couple: M0 5.44200×10^16 NP1: φs196.00000°, δ34.00000°, λ-31.00000°. NP2: φs313.00000°, δ73.00000°, λ-120.00000°. Principal axes: T 4.9480, Plg22.0000°, Azm65.0000°; N 0.9900, Plg29.0000°, Azm322.0000°; P -5.9350, Plg52.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **04** 18:54:34.2, 19.20S×68.90W, h119km, mB5.2*

ISC 04 18:54:34.3±0.2, 1930S±003◦×6903W±006, h121km, h121km±.9km: pP-P, n214, σ1°14/173, mb4.8/74, 15C-14D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.12**	**16**	P		**Pn**		**18 55 24.8**	**+2.7**
	101nm,0.3s,baz=192,slow=8.1,SNR=1662								
LPAZ				S		**Sn**		**18 56 03.6**	**+4.6**
	18nm,0.3s,baz=76,slow=16,SNR=4.2								
LPAZ	**La Paz**	**3.12**	**16**	⇑*i*Pn		**Pn**		**18 55 24.6**	**+2.5**
LVC	**Limon Verde**	**3.30**	**178**	P		**Pn**		**18 55 24.6**	**+0.1**
	78nm,0.3s,baz=5.8,slow=11,SNR=337								
LVC				S		**Sn**		**18 56 02.5**	**-0.8**
	887nm,0.3s,baz=147,slow=22,SNR=41								
LVC	**Limon Verde**	**3.30**	**178**	*e*Pn		**Pn**		**18 55 23.6**	**-0.9**
LVC				*e*Sn		**Sn**		**18 55 55.3**	**-8.0**
ARE	**Arequipa**	**3.67**	**320**	⇑*i*P		**Pn**		**18 55 27.6**	**-1.8**
ARE				*i* S		**Sn**		**18 56 06.2**	**-5.8**
CEN1	**Los Morros**	**4.21**	**195**	⇑*i*P		**Pn**		**18 55 36.5**	**-0.2**
CEN1				*i* S		**Sn**		**18 56 21.8**	**-3.3**
ANCH	**Antofagasta**	**4.54**	**196**	⇑*i*P		**Pn**		**18 55 38.0**	**-3.1**
ANCH				*i* S		**Sn**		**18 56 23.7**	**-9.3**
ANCH	**Antofagasta**	**4.54**	**196**	⇑*i*P		**Pn**		**18 55 38.0**	**-3.1**
ANCH				*i* S		**Sn**		**18 56 23.8**	**-9.2**
CPN1	**Cerro Paranal**	**5.45**	**193**	*e*P		**Pn**		**18 55 50.6**	**-2.7**
CPN1				*i* S		**Sn**		**18 56 45.1**	**-10**
CDCH	**Caldera**	**7.91**	**192**	*e*P		**Pn**		**18 56 20.7**	**-5.8**
CDCH				*i* S		**Sn**		**18 57 39.9**	**-14**
SIV	**San Ignacio**	**8.27**	**68**	P		**Pn**		**18 56 29.9**	**-1.6**
	80nm,0.3s,baz=258,slow=13,SNR=785								
NNA	**Nana**	**10.46**	**313**	P		**Pn**		**18 56 57.2**	**-3.6**
	9.2nm,0.3s,baz=148,slow=14,SNR=7.1								
NNA				S		**Sn**		**18 58 45.6**	**-10**
	3.3nm,0.3s,baz=216,slow=19,SNR=2.8								
NNA	**Nana**	**10.46**	**313**	*e*Pn		**Pn**		**18 56 56.4**	**-4.4**
	22nm,0.4s								
NNA				*e*Sn		**Sn**		**18 58 47.2**	**-8.9**
CFAA	**Coronel Fontan**	**12.27**	**177**	P		**Pn**		**18 57 20.2**	**-4.7**
	0.2nm,0.3s,baz=0.3,slow=13,SNR=14								
CFAA				S		**Sn**		**18 59 27.1**	**-13**
	0.8nm,0.3s,baz=238,slow=16,SNR=7.8								
CFAA	**Coronel Fontan**	**12.27**	**177**	P		**Pn**		**18 57 20.2**	**-4.7**
CFAA				S		**Sn**		**18 59 27.1**	**-13**
FCH	**Farellones**	**14.02**	**184**	⇓*i*P		**Pn**		**18 57 47.6**	**+0.1**
ATAH	**Atahualpa**	**15.24**	**322**	P		**Pn**		**18 58 00.8**	**-2.1**
	0.9nm,0.3s,baz=350,slow=10,SNR=4.6								
TRQA	**Tornquist**	**19.67**	**163**	⇓*i*P		**P**		**18 58 53.5**	**-0.3**
	440nm,1.1s								
OTAV	**Otavalo**	**21.50**	**333**	*e*P		**P**		**18 59 14.5**	**+1.2**
	96nm,1.3s,mb5.0								
ROSC	**El Rosal**	**24.56**	**347**	P		**P**		**18 59 41.8**	**-1.0**
	8.0nm,0.4s,mb4.5,baz=287,slow=0.4,SNR=6.0								
ROSC				LR		LR		19 09 05.6	
	comp=Z,269nm,21.6s,baz=27,slow=36								
ROSC	**El Rosal**	**24.56**	**347**	⇑*e*P		**P**		**18 59 43.1**	**+0.3**
SDV	**Santo Domingo**	**28.05**	**357**	P		**P**		**19 00 13.1**	**-1.1**
	10nm,0.3s,mb4.8,baz=212,slow=9.8,SNR=15								
SDV				LR		LR		19 12 12.7	
	comp=Z,162nm,19.0s,baz=24,slow=38								
SDV	**Santo Domingo**	**28.05**	**357**	⇑*e*P		**P**		**19 00 12.7**	**-1.4**
	20nm,0.7s,mb4.8							

VNA3 e 19 05 20.8
VNA3 e 19 05 25.4
VNA1 Neumayer--Stat 62.39 161 ⇓*i*P **P** **19 04 45.2 +1.1**
VNA1 e pP 19 05 14.6 +1.1
VNA1 e 19 05 22.1
VNA1 e 19 05 26.6
VNA2 Neumayer--Watz 62.76 161 ⇓*i*P **P** **19 04 47.3 +0.7**
baz=285,slow=6.1
VNA2 e pP 19 05 16.7 +0.7
VNA2 e 19 05 24.4
VNA2 e 19 05 29.6
NCB Newcomb 63.14 356 *e*P **P** **19 04 48.1 -1.0**
comp=Z,21nm,1.1s,mb5.0
KSU1 Kansas State U 63.57 336 P **P** **19 04 51.4 -0.6**
comp=Z,6.5nm,0.4s,mb4.8
LONY Lake Ozonia 63.81 356 *e*P **P** **19 04 52.9 -0.6**
comp=Z,29nm,1.3s,mb5.0
PKME Peaks-Kenny Pk 64.25 360 *e*P **P** **19 04 56.0 -0.4**
comp=Z,15nm,0.7s,mb4.9
PKME *e*pP pP 19 05 25.3 -0.6
SNAA Sanae 64.39 161 P **P** **19 04 57.7 +0.4**
comp=Z,11nm,0.7s,mb4.8,baz=288,slow=6.0,SNR=197
SNAA pP pP 19 05 27.2 +0.4
comp=Z,5.5nm,0.9s,baz=304,slow=6.4,SNR=4.0
SNAA Sanae 64.39 161 ⇓*i*P **P** **19 04 57.4 +0.1**
SNAA e pP 19 05 26.7 -0.1
SNAA e pP 19 05 31.5 +4.7
SNAA e 19 05 39.4
SNAA Sanae 64.39 161 ⇓*i*P **P** **19 04 57.5 +0.2**
SNAA *e**PP pP 19 05 24.0 -2.8
SNAA pmax pmax
comp=Z,56nm,1.0s
SNAA Sanae 64.39 161 ⇓*i*P **P** **19 04 57.5 +0.2**
comp=Z,56nm,1.0s,mb5.3
SNAA *e*pP pP 19 05 24.0 -2.9
ANMO Albuquerque 64.61 326 P **P** **19 04 59.9 +1.1**
comp=Z,3.4nm,1.0s,mb4.1
JFWS Jewell Farm 64.92 343 *e*P **P** **19 04 59.7 -1.0**
JFWS *e**PP pP 19 05 30.4 +0.1
JFWS pmax pmax
comp=Z,15nm,0.6s,mb5.0
JFWS Jewell Farm 64.92 343 *e*P **P** **19 04 59.7 -1.0**
comp=Z,15nm,0.6s,mb5.0
JFWS *e*pP pP 19 05 30.4 +0.1
SDCO Great Sand Dun 66.31 329 *e*P **P** **19 05 10.3 +0.6**
comp=Z,4.2nm,0.7s,mb4.4
SDCO *e*pP pP 19 05 39.5 +0.1
MVCO Mesa Verde 67.40 327 *e*P **P** **19 05 17.6 +1.0**
comp=Z,3.7nm,0.8s,mb4.3
WUAZ Wupatki 67.70 324 *e*P **P** **19 05 19.6 +1.2**
comp=Z,11nm,1.2s,mb4.6
LIC Lamto 67.90 75⇑*i*P **P** **19 05 19.6 -0.2**
comp=Z,30nm,0.5s,mb5.1
LIC Lamto 67.90 75⇑*i*P **P** **19 05 19.6 -0.2**
comp=Z,15nm,0.5s,mb5.1
CHIE El Hierro 68.03 48 P **P** **19 05 20.0 -0.6**
EHIG Higuera 68.65 47 P **P** **19 05 24.1 -0.3**
EGOM La Gomera 68.83 48 P **P** **19 05 26.2 +0.7**
comp=Z,55nm,0.7s,mb5.5
MAIT Maitri 68.89 159 *e*P **P** **19 05 27.3 +1.4**
NVL N'lazarevskaya 68.92 159*d*iP **P** **19 05 25.0 -1.1**
NVL pmax pmax
comp=E,27nm,1.1s
NVL pmax pmax
comp=Z,78nm,1.1s,mb5.5
NVL pmax pmax
comp=N,17nm,1.3s
CCAN Las Canadas 69.29 48 P **P** **19 05 29.0 +0.6**
comp=N,18nm,0.8s,mb5.0
EBAJ Bajamar 69.66 48 P **P** **19 05 30.4 -0.2**
comp=N,22nm,1.0s,mb5.0
EYMN Ely 69.90 344 *e*P **P** **19 05 30.9 -1.2**
comp=N,12nm,0.7s,mb4.8
EYMN pP pP 19 06 01.3 -0.7
MSU Marysvale 70.31 325 *e*P **P** **19 05 36.2 +1.6**
ARUT Antelope Range 70.48 324 P **P** **19 05 35.5 -0.1**
RSSD Black Hills 70.78 334 *e*P **P** **19 05 38.0 +0.6**
RSSD *e**PP pP 19 06 07.2 -0.2
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
RSSD Black Hills 70.78 334 *e*P **P** **19 05 38.0 +0.6**
comp=Z,2.7nm,0.6s,mb4.2
RSSD *e*pP pP 19 06 07.2 -0.2
QSPA South Pole Qui 70.88 180 ⇓*i*P **P** **19 05 39.3 +1.2**
comp=Z,39nm,1.0s,mb5.2
CFTV Fuerteventura 71.20 50 P **P** **19 05 39.0 -1.0**
comp=Z,11nm,0.7s,mb4.8
DAU Daniels Canyon 71.22 327 *e*P **P** **19 05 41.6 +1.5**
DUG Dugway 71.87 326 *e*P **P** **19 05 44.5 +0.5**
DUG *e**PP pP 19 06 15.1 +1.0
DUG pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
DUG Dugway 71.87 326 *e*P **P** **19 05 44.5 +0.5**
comp=Z,9.1nm,1.2s,mb4.5
DUG *e*pP pP 19 06 15.1 +1.0
ISA Isabella 71.98 319 *e*P **P** **19 05 45.9 +1.3**
ISA *e**PP pP 19 06 16.1 +1.4
PDAR Pinedale Array 72.16 330 P **P** **19 05 46.2 +0.5**
comp=Z,1.0nm,0.4s,mb4.0,baz=119,slow=8.4,SNR=12
PDAR pP pP 19 06 17.1 +1.3
comp=Z,1.7nm,0.8s,baz=115,slow=8.8,SNR=3.4
HWUT Hardware Ranch 72.26 328 *e*P **P** **19 05 46.0 -0.4**
comp=Z,3.6nm,0.6s,mb4.4
BGU Big Grassy Mou 72.52 327 *e*P **P** **19 05 48.5 +0.7**
BGU *e*pP pP 19 06 18.6 +0.6
ULM Lac du Bonnet 73.19 342 P **P** **19 05 50.8 -1.1**
comp=Z,5.4nm,0.6s,mb4.5,baz=156,slow=6.6,SNR=6.8
ULM pP pP 19 06 21.6 -0.5
comp=Z,4.7nm,0.6s,baz=182,slow=7.2,SNR=2.1
ULM LR LR 19 39 51.0
comp=Z,43nm,18.4s,baz=348,slow=37
RRI2 Red Ridge 73.44 329 *e*P **P** **19 05 54.7 +1.4**
comp=Z,9.8nm,0.8s,mb4.7
RRI2 *e*pP pP 19 06 24.5 +1.0
RRI2 *e*sP sP 19 06 36.2 -0.3
MOOW Moose Ponds 73.47 330 *e*P **P** **19 05 53.8 +0.3**
comp=Z,13nm,1.6s,mb4.5
MOOW *e*pP pP 19 06 23.7 +0.1
MOOW *e*sP sP 19 06 34.5 -2.2
IMW Indian Meadow 73.67 330 *e*P **P** **19 05 55.1 +0.5**
comp=Z,7.7nm,0.9s,mb4.4
FLWY Flagg Ranch 73.70 330 *e*P **P** **19 05 56.0 +1.2**
comp=Z,18nm,1.1s,mb4.7
FLWY *e*pP pP 19 06 25.0 0.0
NVAR Mina Array Bea 73.70 322 P **P** **19 05 56.8 +1.9**
comp=Z,1.2nm,0.8s,mb3.7,baz=147,slow=4.3,SNR=7.6
NVAR pP pP 19 06 26.2 +1.2
comp=Z,1.2nm,0.9s,baz=126,slow=7.5,SNR=2.9
RLMT Red Lodge 73.83 332 *e*P **P** **19 05 56.5 +0.9**
comp=Z,3.0nm,0.4s,mb4.4
RLMT *e*pP pP 19 06 25.5 -0.3
RLMT *e*sP sP 19 06 39.2 +0.4
SCHQ Schefferville 73.85 1 P **P** **19 05 55.2 -0.5**
comp=Z,7.9nm,0.9s,mb4.5,baz=154,slow=6.3,SNR=6.4
SCHQ Schefferville 73.85 1 *e*P **P** **19 05 54.9 -0.9**
comp=Z,14nm,0.9s,mb4.7
SCHQ *e*pP pP 19 06 24.6 -1.3
YMR Madison River 74.26 330 *e*P **P** **19 05 57.8 -0.3**
comp=Z,7.0nm,0.8s,mb4.4
YMR *e*pP pP 19 06 29.8 +1.4
YMR *e*sP sP 19 06 42.0 +0.7
QLMT Earthquake Lak 74.60 330 *e*P **P** **19 06 01.8 +1.8**
CMB Columbia Colle 74.68 320 P **P** **19 06 01.4 +0.9**
CMB pmax pmax
comp=Z,11nm,1.6s,mb4.3
CMB Columbia Colle 74.68 320 P **P** **19 06 01.4 +0.9**
comp=Z,11nm,1.6s,mb4.3
HLID Hailey 75.13 328 *e*P **P** **19 06 04.7 +1.6**
comp=Z,13nm,1.3s,mb4.5
HLID *e*pP pP 19 06 32.8 -0.6
PAHR Pah Rah Range 75.17 322 *e*P **P** **19 06 04.4 +1.1**
comp=Z,7.3nm,0.9s,mb4.4
PAHR *e*PcP PcP 19 06 15.4 -0.9
PAHR *e*pP pP 19 06 35.3 +1.6
MCMT McKenzie Canyo 75.28 329 *e*P **P** **19 06 05.5 +1.6**
MCMT *e*pP pP 19 06 35.8 +1.5
MCMT *e*sP sP 19 06 48.2 +1.0
TOA0 Torodi Ar. Sit 76.74 71 *e*P **P** **19 06 11.6 -0.6**
TORD Torodi Ar. Bea 76.74 71 P **P** **19 06 11.9 -0.3**
comp=Z,47nm,0.8s,mb5.3,baz=252,slow=4.8,SNR=237
TORD LR LR 19 38 33.0
comp=Z,94nm,19.9s,baz=230,slow=34
BMO Blue Mountains 77.51 327 *e*P **P** **19 06 17.4 +0.8**
comp=Z,3.9nm,0.8s,mb4.2
BMO *e*pP pP 19 06 47.8 +0.8

SBA Scott Base 77.96 190 *e*P **P** **19 06 20.2 +1.2**
SBA *e**PP pP 19 06 49.6 +0.1
SBA pmax pmax
comp=Z,23nm,1.2s,mb4.8
SBA Scott Base 77.96 190 *e*P **P** **19 06 20.2 +1.1**
comp=Z,23nm,1.2s,mb4.8
SBA *e*pP pP 19 06 49.6 0.0
SYO Syowa Base 78.59 160⇑*i*P **P** **19 06 22.6 +0.1**
SYO Syowa Base 78.59 160 ⇓*i*PcP PcP 19 06 28.0 -3.1
SYO Syowa Base 78.59 160⇑*e*pP pP 19 06 50.4 -2.7
WALA Waterton Lakes 78.88 332 *e*P **P** **19 06 24.1 0.0**
comp=Z,6.5nm,0.9s,mb4.5
WALA pP pP 19 06 53.7 -0.9
WALA *es*P sP 19 07 06.3 -1.3
VNDA Vanda 78.99 190 P **P** **19 06 26.1 +1.5**
comp=Z,8.0nm,0.9s,mb4.6,baz=129,slow=4.9,SNR=50
VNDA Vanda 78.99 190 *e*P **P** **19 06 25.8 +1.1**
VNDA pmax pmax
comp=Z,13nm,1.0s
VNDA Vanda 78.99 190 *e*P **P** **19 06 25.8 +1.1**
comp=Z,13nm,1.0s,mb4.7
SUR Sutherland 79.79 121 P **P** **19 06 29.1 0.0**
comp=Z,21nm,1.0s,mb4.9,baz=307,slow=2.9,SNR=5.0
SUR Sutherland 79.79 121 *e*P **P** **19 06 28.7 -0.3**
comp=Z,73nm,1.4s,mb5.3
TSUM Tsumeb 80.79 107 *e*P **P** **19 06 34.5 +0.1**
comp=Z,13nm,1.1s,mb4.7
EVO Evora 81.08 44 *e*P **P** **19 06 34.9 -1.0**
comp=Z,20nm,0.8s,mb4.7
EMIN Mina Concepcio 81.55 45 P **P** **19 06 42.7 +4.2**
EDM Edmonton 81.73 335 *e*P **P** **19 06 38.7 -0.6**
EDM *e**PP pP 19 07 09.0 -1.1
EDM *e**SP sP 19 07 22.1 -0.9
ELOJ Sierra Loja 82.94 47 P **P** **19 06 47.5 +1.8**
ELUQ Luque 83.08 46 P **P** **19 06 49.8 +3.5**
ELUQ pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ELUQ Luque 83.08 46 P **P** **19 06 49.8 +3.5**
comp=Z,9.2nm,0.7s,mb4.7
ESDC Sonseca Array 84.36 45 P **P** **19 06 53.8 +0.9**
comp=Z,8.2nm,0.8s,mb4.6,baz=251,slow=5.8,SNR=25
ESDC pP pP 19 07 25.7 +2.0
comp=Z,4.0nm,0.8s,baz=254,slow=4.9,SNR=4.3
ESDC LR LR 19 39 58.6
comp=Z,64nm,19.2s,baz=350,slow=32
ESLA Sonseca Array 84.36 45 *e*P **P** **19 06 56.3 +3.5**
comp=Z,2.7nm,0.9s,mb4.1
BOSA Boshof 84.58 118 P **P** **19 06 53.9 -0.1**
comp=Z,11nm,1.0s,mb4.8,baz=284,slow=6.0,SNR=7.4
BOSA LR LR 19 40 47.5
comp=Z,96nm,19.3s,baz=40,slow=33
BOSA Boshof 84.58 118 P **P** **19 06 53.9 -0.1**
BOSA LR LR 19 40 47.5
LBTB Lobatse 86.05 115 P **P** **19 07 02.2 +0.9**
comp=Z,5.6nm,0.8s,mb4.5,baz=216,slow=3.3,SNR=7.8
LBTB Lobatse 86.05 115 *e*P **P** **19 07 01.7 +0.4**
LBTB *e**PP pP 19 07 32.1 -0.2
LBTB pmax pmax
comp=Z,26nm,1.4s,mb5.0
LBTB Lobatse 86.05 115 *e*P **P** **19 07 01.7 +0.4**
comp=Z,26nm,1.4s,mb5.0
LBTB *e*pP pP 19 07 32.1 -0.2
MAW Mawson 86.46 163 *e*P **P** **19 07 03.7 +0.4**
comp=Z,14nm,1.2s,mb4.8
MAW Mawson 86.46 163 P **P** **19 07 03.9 +0.6**
comp=Z,12nm,0.9s,mb4.8,baz=227,slow=5.7,SNR=31
MAW Mawson 86.46 163 *e*P **P** **19 07 03.7 +0.4**
MAW pmax pmax
comp=Z,14nm,1.2s
SJPF Ste Jean 87.85 43 *e*P **P** **19 07 09.4 -0.6**
EPF Esparros 88.82 43 *e*P **P** **19 07 14.9 +0.3**
YKA Yellowknife Ar 89.08 341 P **P** **19 07 15.7 -0.1**
comp=Z,8.9nm,0.6s,mb4.9,baz=131,slow=4.8,SNR=39
YKA pP pP 19 07 45.7 -1.3
comp=Z,17nm,1.0s,baz=136,slow=4.9,SNR=5.1
YKA LR LR 19 50 27.4
comp=Z,35nm,19.1s,baz=125,slow=38
YKA Yellowknife Ar 89.08 341 P **P** **19 07 15.7 -0.1**
YKA *PP pP 19 07 45.7 -1.3
YKA Yellowknife Ar 89.08 341 P **P** **19 07 15.7 -0.1**
YKA pP pP 19 07 45.7 -1.3
YKA LR LR 19 50 27.4
LFF La Frestale 89.96 42 *e*P **P** **19 07 19.5 -0.4**
comp=Z,36nm,0.9s,mb5.2
LFF La Frestale 89.96 42 *e*P **P** **19 07 19.5 -0.4**
LFF pmax pmax
comp=Z,18nm,0.9s,mb5.2
LFF La Frestale 89.96 42 *e*P **P** **19 07 19.5 -0.4**
comp=Z,18nm,0.9s,mb5.2
MTLF Montolieu 90.18 44 *e*P **P** **19 07 20.7 -0.2**
CAF Calviac 90.79 42 *e*P **P** **19 07 23.2 -0.6**
comp=Z,5.1nm,0.6s,mb4.6
CAF Calviac 90.79 42 *e*P **P** **19 07 23.2 -0.6**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
CAF Calviac 90.79 42 *e*P **P** **19 07 23.2 -0.6**
comp=Z,2.5nm,0.6s,mb4.5
BGF Bois d'Agland 92.01 41 *e*P **P** **19 07 28.9 -0.5**
comp=Z,20nm,0.9s,mb5.0
BGF Bois d'Agland 92.01 41 *e*P **P** **19 07 28.9 -0.5**
BGF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BGF Bois d'Agland 92.01 41 *e*P **P** **19 07 28.9 -0.5**
comp=Z,9.8nm,0.9s,mb5.0
DLBC Dease Lake 92.21 333 P **P** **19 07 28.2 -2.1**
ORIF Oris-en-Rattie 93.24 43 *e*P **P** **19 07 35.1 0.0**
comp=Z,8.2nm,0.7s,mb4.8
ORIF Oris-en-Rattie 93.24 43 *e*P **P** **19 07 35.1 0.0**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 93.24 43 *e*P **P** **19 07 35.1 0.0**
comp=Z,4.1nm,0.7s,mb4.9
CASY Casey 94.68 180 *e*P **P** **19 07 42.5 +0.8**
AFI Afiamalu 97.11 253 LR LR 19 39 57.1
comp=Z,93nm,21.1s,baz=88,slow=28
GERES GERESS Array B 99.66 42 LR LR 19 49 33.6
comp=Z,32nm,18.3s,baz=315,slow=33
CLL Collm 100.00 39 *e*P Pdif 19 08 04.0 -1.6
AKASG Malin Array Be 109.86 42 PP PP 19 13 20.9 -4.2
comp=Z,0.8nm,0.8s,baz=263,slow=7.5,SNR=4.9
STKA Stephens Creek 121.25 210 *e*PKP PKPdf 19 13 13.5 +0.6
comp=Z,1.7nm,0.4s
STKA Stephens Creek 121.25 210 PKP PKPdf 19 13 13.7 +0.8
comp=Z,1.6nm,0.5s,baz=110,slow=5.7,SNR=7.6
ARU Arti 126.39 33 *i* PKIKP PKPdf 19 13 22.9 +0.1
ARU *e* 19 20 17.8
ARU eSS SS 19 32 09.9 -3.9
TIXI Tiksi 126.61 353⇑*i*PKIKP PKPdf 19 13 22.5 -0.7
NWAO Narrogin (SRO) 127.72 187 PKP PKPdf 19 13 26.1 +0.8
comp=Z,8.0nm,0.8s,baz=207,slow=2.3,SNR=2.9
CTA Charters Tower 127.77 223 *e*PKP PKPdf 19 13 26.5 +1.1
comp=Z,4.1nm,0.8s
CTA Charters Tower 127.77 223 PKP PKPdf 19 13 27.1 +1.7
comp=Z,4.9nm,0.8s,baz=210,slow=1.4,SNR=8.1
SEY Seymchan 128.04 337⇑*i*PKIKP PKPdf 19 13 26.7 +0.8
ASAR Alice Springs 131.79 209 PKHKP 19 13 24.4
comp=Z,0.5nm,0.5s,baz=120,slow=1.8,SNR=13
ASAR PKP PKPdf 19 13 33.7 +0.7
comp=Z,3.7nm,0.6s,baz=128,slow=1.8,SNR=36
ASAR pPKP pPKPdf 19 14 06.3 +0.7
comp=Z,3.8nm,1.1s,baz=140,slow=2.2,SNR=3.9
ASAR PP PP 19 15 51.5 -3.1
comp=Z,1.6nm,1.1s,baz=143,slow=5.0,SNR=4.9
ASAR SKPbc SKPbc 19 16 49.5 +1.8
comp=Z,1.8nm,0.8s,baz=146,slow=4.6,SNR=9.3
ASAR Alice Springs 131.79 209 PKHKP 19 13 24.5
ASAR 19 13 33.7
ASAR 19 14 06.4
AS31 Alice Springs 131.79 209 *e*PKP PKPdf 19 13 33.7 +0.7
ASPA Alice Springs 131.79 209 *e*PKP PKPdf 19 13 33.7 +0.7
ZRNK Zerenda 133.35 34 *e*PKIKP PKPdf 19 13 37.0 +1.0
WB2 Warramunga Arr 134.76 212 *e*PKP PKPdf 19 13 39.6 +1.0
WB2 Warramunga Arr 134.76 212 *e*PKPpre 19 13 34.5
WB2 *e*PKPdf PKPdf 19 13 39.6 +1.0
WRA Warramunga Arr 134.77 212 PKHKP 19 13 23.7
comp=Z,0.6nm,0.6s,baz=134,slow=3.3,SNR=5.6
WRA PKP PKPdf 19 13 39.7 +1.1
comp=Z,5.3nm,0.5s,baz=148,slow=1.7,SNR=45
WRA SKPbc SKPbc 19 16 58.5 +0.7
comp=Z,2.0nm,0.9s,baz=159,slow=2.7,SNR=6.7
WRA Warramunga Arr 134.77 212 PKHKP 19 13 23.7
WRA 19 13 39.7
WRAB Tennant Creek 134.77 212*d*iPKIKP PKPdf 19 13 39.6 +1.0
YAK Yakutsk 135.35 348⇑*i*PKIKP PKPdf 19 13 39.6 -0.1
NVS Novosibirsk 138.73 24 *e*PKIKP PKPdf 19 13 45.6 -0.4

ZAL Zalesovo 140.01 24 PKP PKPdf 19 13 49.1 +0.9
comp=Z,3.4nm,1.0s,baz=198,slow=1.5,SNR=17
ZAL SKPbc SKPbc 19 17 14.7 +1.6
comp=Z,1.3nm,0.3s,baz=206,slow=3.3,SNR=5.5
FITZ Fitzroy Crossi 140.14 202 *e*PKP PKPdf 19 13 40.9 -7.6
comp=Z,7.2nm,0.6s
FITZ Fitzroy Crossi 140.14 202 PKhKP 19 13 41.2
comp=Z,3.5nm,0.5s,baz=185,slow=9.5,SNR=17
AAK Ala-Archa 141.46 45*d*iPKIKP PKPdf 19 13 51.4 +0.5
AAK Ala-Archa 141.46 45 *e*PKPdf PKPdf 19 13 50.8 -0.1
MK31 Makanchi Array 143.91 34 *e*PKIKP PKPdf 19 13 53.2 -2.0
MKAR Makanchi Array 143.91 34 PKP PKPdf 19 13 53.5 -1.7
comp=Z,2.3nm,0.8s,baz=343,slow=4.9,SNR=12
KLR Kul'dur 145.79 336 *e*PKHKP 19 13 55.2
KLR pmax pmax
comp=Z,50nm,1.6s
GUMO Guam 147.03 265 PKPbc PKPbc 19 14 04.1 +1.3
comp=Z,233nm,1.2s,baz=163,slow=5.0,SNR=4.5
TLY Talaya 147.18 8 *e*PKP2 PKPab 19 14 04.7 -0.5
TLY pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 148.39 9 *e*PKIKP PKPdf 19 14 03.5 +0.7
ZAK *e* 19 14 40.4
ZAK pmax pmax
comp=Z,5.0nm,1.7s
HYB Hyderabad 149.20 88 *i* PKP PKPdf 19 14 06.0 +1.9
HYB Hyderabad 149.20 88 *e*P PKPdf 19 14 06.0 +1.9
HIA Hailar 149.28 349*d*iPKP2 PKPab 19 14 09.0 -4.6
MJAR Matsushiro Arr 150.58 311 PKPbc PKPbc 19 14 12.7 +0.9
comp=Z,15nm,0.7s,baz=78,slow=1.7,SNR=83
MAJO Matsushiro 150.58 311 *e*PKPdf PKPdf 19 14 08.2 +1.9
MAJO *e*PKPbc PKPbc 19 14 12.5 +0.7
MAJO *e*PKPab PKPab 19 14 19.1 +0.2
MAT Matsushiro 150.58 311 PKP PKPdf 19 14 12.6 +6.3
SONM Songino Array 151.29 6 PKP PKPdf 19 14 09.0 +1.6
comp=Z,3.4nm,0.8s,baz=281,slow=1.4,SNR=11
SONM PKPbc PKPbc 19 14 14.5 +1.0
comp=Z,13nm,0.7s,baz=309,slow=1.3,SNR=36
KSRS Korea Array 156.62 324 PKP PKPdf 19 14 16.3 +1.4
comp=Z,0.8nm,0.7s,baz=64,slow=2.9,SNR=4.5
KSRS PKPab PKPab 19 14 45.5 +0.9
comp=Z,3.7nm,1.0s,baz=249,slow=33,SNR=4.7
GTA Gaotai 157.76 23 PKP PKPdf 19 14 18.2 +1.8
GTA SKS SKSdf 19 21 07.4 -3.6
GTA SKKS SKKSac 19 25 03.2 -3.7
GTA SS SS 19 38 12.5 -4.3
GTA PP PP
comp=Z,62nm,6.1s
GTA LR LR
comp=N,102nm,6.5s
GTA LR LR
comp=E,86nm,6.1s
GTA LR LR
comp=Z,72nm,7.6s
HHC Hu-ho-hao-te 158.51 359 *e*PKP PKPdf 19 14 17.0 -0.3
HHC APKP 19 14 44.2
HHC PKS 19 17 49.4
HHC PP PP 19 18 35.6 +2.3
HHC SKS SKSdf 19 21 10.4 -1.3
HHC SKKS SKKSac 19 25 12.5 +1.7
HHC SS SS 19 38 26.8 +2.0
HHC PP PP
comp=Z,61nm,9.5s
HHC LR LR
comp=N,137nm,25.3s
HHC LR LR
comp=E,154nm,19.4s
HHC LR LR
comp=Z,118nm,20.9s
PSI Prapat 159.81 143 PKPab PKPab 19 15 00.2 +1.8
comp=Z,6.0nm,0.3s,baz=238,slow=4.3,SNR=9.8
LZH Lanzhou 162.14 19 *e*PKP PKPdf 19 14 23.5 +2.2
LZH PP PP
comp=Z,129nm,4.3s
LZH Lanzhou 162.14 19 *e*P PKPdf 19 14 23.5 +2.2
LZH pP 19 14 33.0
LZH sP 19 14 36.0
CD2 Chengdu 166.73 28 *e*PKP PKPdf 19 14 24.5 -0.8
KMI Kunming 170.43 51 PKP PKPdf 19 14 23.4 -4.3
GYA Guiyang 171.85 28 *e*PKP PKPdf 19 14 27.8 -0.7
GYA APKP 19 15 00.6
GYA XPKP 19 15 13.0
GYA PKP2 PKPab 19 15 51.6 +0.1
GYA PKS 19 17 58.8
GYA PP PP 19 19 43.3 +0.7
GYA SKS SKSdf 19 21 17.4 -3.2
GYA SKKS SKKSac 19 26 16.4 -1.4
GYA SS SS 19 40 36.8 -3.9
GYA PP PP
comp=Z,110nm,8.4s
GYA LR LR
comp=N,130nm,21.8s
GYA LR LR
comp=E,120nm,22.0s
GYA LR LR
comp=Z,150nm,22.4s

CSEM ***04*** *19:02:30.4±0.8, 3774N×2533W, h1km±1km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=24.0, After PDA*
PDA ***04*** *19:02:30.4±0.8, 3774N×2533W, h1km±1km, MD2.4, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=24.0*
SVSA 04 19:02:30.4±0.8, 3774N×2533W, h1km±1km, MD2.4, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRA1	**Furnas**	**0.02**	**267**	*i* P		Pg	19 02 31.1	+0.3
PCNG	**Congro**	**0.06**	**295**	*i* P		Pg	19 02 31.2	-0.3
PCNG				*e*S		Sg	19 02 32.6	+0.4
PCNG				7μm,0.3s				
PCNG	**Congro**	**0.06**	**295**	*e*S		Sg	19 02 32.6	+0.4
MIRA	**Miradouro**	**0.06**	**46**	*i* P		Pg	19 02 32.1	+0.5
VIF	**Vila Franca**	**0.09**	**271**	*i* P		Pg	19 02 31.9	-0.1
VIF				*e*S		Sg	19 02 33.5	+0.4
VIF				14μm,0.3s				
VIF	**Vila Franca**	**0.09**	**271**	*e*S		Sg	19 02 33.5	+0.4
PFAD	**Fenais da Ajud**	**0.10**	**5**	*i* P		Pg	19 02 32.3	+0.1
MESC	**Monte Escuro**	**0.10**	**299**	*i* P		Pg	19 02 32.1	-0.3
MESC				*e*S		Sg	19 02 34.1	+0.4
MESC	**Monte Escuro**	**0.10**	**299**	*e*S		Sg	19 02 34.1	+0.4
PRCH	**Ribeira Ch**	**0.12**	**262**	*i* P		Pg	19 02 32.9	+0.2
PRCH				*e*S		Sg	19 02 34.7	+0.5
PRCH				9μm,0.3s				
PRCH	**Ribeira Ch**	**0.12**	**262**	*e*S		Sg	19 02 34.7	+0.5
LFA	**Lagoa do Fogo**	**0.12**	**284**	*i* P		Pg	19 02 33.1	+0.3
PMAT	**Coroa da Mata**	**0.13**	**303**	*i* P		Pg	19 02 33.0	+0.1
PMAT				*e*S		Sg	19 02 35.0	+0.4
PMAT				4μm,0.3s				
PMAT	**Coroa da Mata**	**0.13**	**303**	*e*S		Sg	19 02 35.0	+0.4
PVER	**Pico Vermelho**	**0.15**	**290**	*i* P		Pg	19 02 33.4	+0.1
PVER				*e*S		Sg	19 02 35.7	+0.4
PVER				2μm,0.3s				
PVER	**Pico Vermelho**	**0.15**	**290**	*e*S		Sg	19 02 35.7	+0.4
CML	**Cha da Macela**	**0.17**	**279**	*i* P		Pg	19 02 34.0	+0.3
FAC	**Faja de Cima**	**0.25**	**277**	*e*P		Pg	19 02 35.8	+0.5
PDA	**Ponta Delgada**	**0.26**	**271**	*e*P		Pg	19 02 35.2	-0.2
PDA				*e*S		Sg	19 02 39.2	+0.4
PSET	**Sete Cidades**	**0.32**	**285**	*i* P		Pg	19 02 36.0	-0.5
PSET				*e*S		Sg	19 02 41.0	+0.4
PSET				1μm,0.3s				
PSET	**Sete Cidades**	**0.32**	**285**	*e*S		Sg	19 02 41.0	+0.4
PSAN	**Santo Antonio**	**0.33**	**289**	*e*P		Pg	19 02 36.5	-0.2
PFET	**Feteiras**	**0.37**	**282**	*e*P		Pg	19 02 37.1	-0.4
SET2	**Ginetes**	**0.39**	**285**	*e*P		Pg	19 02 37.6	-0.2
SET4	**Mosteiros**	**0.39**	**290**	*e*P		Pg	19 02 37.6	-0.3
PSMN	**Pico do Norte,**	**0.77**	**164**	*e*P		Pg	19 02 43.3	-1.9
PSMN				*e*S		Sg	19 02 53.2	-1.9

IDC ***04*** *19:10:27.0±1.1, 852S×11095E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, MS3.4/3, Ms1 3.4/3, ms1mx3.0/28, Error ellipse: s-maj=46.6km s-min=18.7km az=61.0*
NEIC ***04*** *19:10:28.6±0.8, 831S×11124E, h10km, mb4.1/3, Error*

ellipse: s-maj=42.4km s-min=12.0km az=53.0
*ISCJB **04** 19:10:30.3±1.0,83S±02.2°×1112E±03.3,h35km,mb4.0/11, MS3.4/3,Error ellipse: s-maj=49.6km s-min=14.2km az=105.3*

ISC 04 19:10:32.1±1.0,84S±02.2°×1111E±03.3,h35km,n13,σ0.8s86/11, mb4.0/11,MS3.4/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.24**	**119**	P	**P**	**19 15 54.5**	**-0.2**
	3.0nm,0.8s,mb3.9,baz=290,slow=11,SNR=15						
WRAB	**Tennant Creek**	**25.25**	**119**	*e*P	**P**	**19 15 53.7**	**-1.1**
	3.0nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**26.59**	**127**	P	**P**	**19 16 07.8**	**+0.9**
	1.2nm,0.7s,mb3.5,baz=298,slow=8.9,SNR=13						
ASAR				LR	LR	19 25 49.6	
	comp=Z,65nm,22.0s,MS3.1,baz=96,slow=35						
CTAO	**Charters Tower**	**35.91**	**113**	*e*P	**P**	**19 17 24.1**	**-4.9**
	4.5nm,1.0s,mb4.3						
GUMO	**Guam**	**40.04**	**57**	LR	LR	19 34 38.3	
	comp=Z,38nm,18.3s,MS3.3,baz=18,slow=36						
MJAR	**Matsushiro Arr**	**51.47**	**28**	P	**P**	**19 19 37.1**	**+3.1**
	1.3nm,0.7s,mb4.0,baz=206,slow=7.7,SNR=8.0						
SONM	**Songino Array**	**56.16**	**356**	P	**P**	**19 20 07.8**	**-0.5**
	0.9nm,0.7s,mb3.9,baz=178,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**60.66**	**338**	P	**P**	**19 20 40.4**	**+0.7**
	0.5nm,0.3s,mb4.1,baz=151,slow=7.5,SNR=13						
ZAL	**Zalesovo**	**65.98**	**343**	P	**P**	**19 21 14.7**	**-0.2**
	0.8nm,0.3s,mb4.2,baz=320,slow=4.8,SNR=4.7						
MAW	**Mawson**	**67.23**	**198**	LR	LR	19 45 26.0	
	comp=Z,54nm,18.8s,MS3.8,baz=63,slow=31						
ZRNK	**Zerenda**	**70.83**	**335**	*e*P	**P**	**19 21 44.4**	**-0.8**
	1.0nm,0.7s,mb3.9						
VNDA	**Vanda**	**73.85**	**170**	P	**P**	**19 22 03.5**	**+0.3**
	0.5nm,0.9s,mb3.4,baz=320,slow=4.9,SNR=4.7						
FINES	**FINESS Array B**	**94.95**	**331**	P	**P**	**19 23 56.6**	**+5.8**
	0.8nm,0.7s,mb4.3,baz=140,slow=10.0,SNR=3.9						

IGQ 04 19:15:33.6,268S×7832W,h37km±3km,Mb4.2,Ms4.0, 2C-6D,Error ellipse: s-maj=10.2km s-min=4.3km az=173.9,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	**Arrayan**	**1.17**	**353**	⇓P	Pn	19 15 56.3	+2.8
ARRY				S	Sn	19 16 10.3	+2.0
PATA	**Patacocha**	**1.17**	**354**	⇓P	Pn	19 15 56.7	+3.1
PATA				S	Sn	19 16 12.5	+4.1
IGUA	**Igualata**	**1.22**	**345**	P	Pn	19 15 57.2	+2.9
ULBA	**Ulba**	**1.23**	**356**	⇑P	Pn	19 15 57.5	+3.3
ULBA				S	Sn	19 16 12.7	+3.1
RETU	**Refugio**	**1.23**	**354**	P	Pn	19 15 56.8	+2.5
JUIV	**Juive**	**1.26**	**353**	P	Pn	19 15 57.0	+2.4
RUN5	**Runtun**	**1.26**	**355**	⇓P	Pn	19 15 57.7	+2.9
PISA	**Pisayambo**	**1.61**	**358**	P	Pn	19 16 02.9	+3.3
TAMB	**Tambo**	**1.97**	**359**	⇓P	Pn	19 16 07.9	+3.4
TAMB				S	Sn	19 16 33.7	+5.7
CAMI	**Rancho Maria**	**2.00**	**355**	P	Pn	19 16 08.2	+3.4
VC1	**Cotopaxi 1**	**2.03**	**358**	P	Pn	19 16 08.5	+3.2
NAS1	**Nasa**	**2.04**	**356**	P	Pn	19 16 09.1	+3.7
ANTI	**Antisana**	**2.22**	**4**	⇑P	Pn	19 16 10.8	+2.9
JUA2	**San Juan 2**	**2.47**	**353**	P	Pn	19 16 14.1	+2.8
GGP	**Refugio Guagua**	**2.50**	**354**	P	Pn	19 16 13.1	+1.3
PINO	**Pino**	**2.52**	**353**	P	Pn	19 16 14.7	+2.6
LAV3	**Lava3-Reventad**	**2.66**	**15**	⇓P	Pn	19 16 16.4	+2.4
CONE	**Cono NE Rev Vo**	**2.68**	**15**	⇓P	Pn	19 16 16.6	+2.4
CAYA	**Cayambe**	**2.75**	**7**	P	Pn	19 16 18.6	+3.3
COTA	**Cotacachi**	**3.00**	**360**	P	Pn	19 16 22.3	+3.7

*CSEM **04** 19:18:32.9±1.9,3776N×2533W,h10km,ML3.0,Error ellipse: s-maj=7.0km s-min=5.3km az=31.0,After PDA*
*PDA **04** 19:18:32.9±1.9,3776N×2533W,h10km,MD2.6,ML3.0, Error ellipse: s-maj=7.0km s-min=5.3km az=31.0*

SVSA 04 19:18:32.9±1.9,3776N×2533W,h10km,MD2.6,ML3.0, Error ellipse: s-maj=7.0km s-min=5.3km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRA1	**Furnas**	**0.03**	**221**	*e*P	Pg	19 18 34.4	-0.3
MIRA	**Miradouro**	**0.05**	**64**	*i* P	Pg	19 18 35.3	+0.4
MIRA	**Miradouro**	**0.05**	**64**	*i* P	Pg	19 18 35.3	+0.4
PCNG	**Congro**	**0.05**	**274**	*i* P	Pg	19 18 34.5	-0.4
PCNG				*e*S	Sg	19 18 36.3	0.0
PCNG							
	5µm,0.1s						
PCNG	**Congro**	**0.05**	**274**	*i* P	Pg	19 18 34.5	-0.4
PCNG				*e*S	Sg	19 18 36.3	0.0
PCNG							
	5µm,0.1s						
PCNG	**Congro**	**0.05**	**274**	*e*S	Sg	19 18 36.3	0.0
PFAD	**Fenais da Ajud**	**0.07**	**7**	*i* P	Pg	19 18 35.6	+0.4
PFAD	**Fenais da Ajud**	**0.07**	**7**	*i* P	Pg	19 18 35.6	+0.4
VIF	**Vila Franca**	**0.09**	**257**	*e*P	Pg	19 18 35.3	0.0
VIF				*e*S	Sg	19 18 37.1	+0.1
VIF							
	4µm,0.3s						
VIF	**Vila Franca**	**0.09**	**257**	*e*P	Pg	19 18 35.3	0.0
VIF				*e*S	Sg	19 18 37.1	+0.1
VIF							
	4µm,0.3s						
VIF	**Vila Franca**	**0.09**	**257**	*e*P	Pg	19 18 35.3	0.0
VIF				*e*S	Sg	19 18 37.1	+0.1
MESC	**Monte Escuro**	**0.09**	**288**	*i* P	Pg	19 18 35.4	0.0
MESC				*i* S	Sg	19 18 37.4	+0.2
MESC	**Monte Escuro**	**0.09**	**288**	*i* P	Pg	19 18 35.4	0.0
MESC				*i* S	Sg	19 18 37.4	+0.2
MESC	**Monte Escuro**	**0.09**	**288**	*i* S	Sg	19 18 37.4	+0.2
LFA	**Lagoa do Fogo**	**0.12**	**274**	*e*P	Pg	19 18 36.5	+0.8
PMAT	**Coroa da Mata**	**0.12**	**296**	*e*P	Pg	19 18 36.3	+0.5
PMAT				*e*S	Sg	19 18 38.4	+0.6
PMAT							
	1µm,0.2s						
PMAT	**Coroa da Mata**	**0.12**	**296**	*e*P	Pg	19 18 36.3	+0.5
PMAT				*e*S	Sg	19 18 38.4	+0.6
PMAT							
	1µm,0.2s						
PMAT	**Coroa da Mata**	**0.12**	**296**	*e*P	Pg	19 18 36.3	+0.5
PMAT				*e*S	Sg	19 18 38.4	+0.6
PRCH	**Ribeira Ch**	**0.12**	**253**	*e*S	Sg	19 18 38.0	+0.2
PVER	**Pico Vermelho**	**0.15**	**283**	*e*P	Pg	19 18 36.8	+0.6
PVER				*e*S	Sg	19 18 39.1	+0.6
PVER							
	943nm,0.4s						
PVER	**Pico Vermelho**	**0.15**	**283**	*e*P	Pg	19 18 36.8	+0.6
PVER				*e*S	Sg	19 18 39.1	+0.6
PVER							
	943nm,0.4s						
PVER	**Pico Vermelho**	**0.15**	**283**	*e*P	Pg	19 18 36.8	+0.6
PVER				*e*S	Sg	19 18 39.1	+0.6
CML	**Cha da Macela**	**0.17**	**272**	*e*S	Sg	19 18 39.8	+0.8
FAC	**Faja de Cima**	**0.25**	**272**	*e*S	Sg	19 18 42.1	+0.7
PDA	**Ponta Delgada**	**0.26**	**266**	*e*P	Pg	19 18 38.2	0.0
PDA				*e*S	Sg	19 18 42.7	+0.9
PSET	**Sete Cidades**	**0.31**	**281**	*e*P	Pg	19 18 40.0	+0.9
PSET				*e*S	Sg	19 18 44.5	+1.2
PSET							
	962nm,0.7s						
PSET	**Sete Cidades**	**0.31**	**281**	*e*P	Pg	19 18 40.0	+0.9
PSET				*e*S	Sg	19 18 44.5	+1.2
PSET							
	962nm,0.7s						
PSET	**Sete Cidades**	**0.31**	**281**	*e*P	Pg	19 18 40.0	+0.9
PSET				*e*S	Sg	19 18 44.5	+1.2
PSAN	**Santo Antonio**	**0.32**	**286**	*e*P	Pg	19 18 45.9	+6.6
PSAN	**Santo Antonio**	**0.32**	**286**	*e*P	Pg	19 18 45.9	+6.6
PFET	**Feteiras**	**0.36**	**279**	*e*P	Pg	19 18 46.7	+6.6
PFET	**Feteiras**	**0.36**	**279**	*e*P	Pg	19 18 46.7	+6.6
SET2	**Ginetes**	**0.38**	**282**	*e*P	Pg	19 18 47.8	+7.4
SET2	**Ginetes**	**0.38**	**282**	*e*P	Pg	19 18 47.8	+7.4
SET4	**Mosteiros**	**0.38**	**287**	*e*P	Pg	19 18 48.0	+7.5
SET4	**Mosteiros**	**0.38**	**287**	*e*P	Pg	19 18 48.0	+7.5
PSMN	**Pico do Norte,**	**0.79**	**164**	*e*S	Sg	19 18 56.3	-2.1

IDC 04 19:19:40.2±2.1,882S×11073E,h0km,mb3.7/4,mb1 3.9/5, mb1mx3.6/18,mbtmp3.7/5,ML3.1/1,Error ellipse: s-maj=74.6km s-min=22.3km az=53.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.18**	**124**	P	Pn	19 23 40.7	-0.8
	0.1nm,0.3s,baz=286,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**25.36**	**118**	P	P	19 25 08.2	-0.8
	1.6nm,0.7s,baz=292,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.64**	**126**	P	P	19 25 22.1	+1.6
	0.7nm,0.7s,baz=300,slow=8.8,SNR=16						
MJAR	**Matsushiro Arr**	**51.99**	**28**	P	P	19 28 52.0	+0.8
	1.3nm,0.9s,baz=212,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**60.89**	**338**	P	P	19 29 54.4	-0.2
	0.4nm,0.4s,baz=154,slow=7.1,SNR=10						

*CSEM **04** 19:25:16.4±0.9,3776N×2536W,h2km±1km,ML2.6,Error ellipse: s-maj=3.5km s-min=2.2km az=56.0,After PDA*
*PDA **04** 19:25:16.4±0.9,3776N×2536W,h2km±1km,MD2.1,ML2.6, Error ellipse: s-maj=3.5km s-min=2.2km az=56.0*

SVSA 04 19:25:16.4±0.9,3776N×2536W,h2km±1km,MD2.1,ML2.6, Error ellipse: s-maj=3.5km s-min=2.2km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRA1	**Furnas**	**0.01**	**155**	*i* P	Pg	19 25 17.2	+0.4
PCNG	**Congro**	**0.03**	**295**	*i* P	Pg	19 25 17.3	+0.3
PCNG				*e*S	Sg	19 25 18.7	+1.2
PCNG							
	3µm,0.2s						
PCNG	**Congro**	**0.03**	**295**	*e*S	Sg	19 25 18.7	+1.2
VIF	**Vila Franca**	**0.06**	**260**	*i* P	Pg	19 25 18.0	+0.4
VIF				*e*S	Sg	19 25 19.7	+1.3
VIF							
	5µm,0.2s						
VIF	**Vila Franca**	**0.06**	**260**	*e*S	Sg	19 25 19.7	+1.3
MIRA	**Miradouro**	**0.07**	**66**	*i* P	Pg	19 25 18.2	+0.3
MESC	**Monte Escuro**	**0.07**	**300**	*i* P	Pg	19 25 18.3	+0.4
MESC				*e*S	Sg	19 25 20.2	+1.3
MESC	**Monte Escuro**	**0.07**	**300**	*e*S	Sg	19 25 20.2	+1.3
LFA	**Lagoa do Fogo**	**0.10**	**281**	*i* P	Pg	19 25 19.3	+1.0
PRCH	**Ribeira Ch**	**0.10**	**254**	*e*P	Pg	19 25 19.0	+0.7
PRCH				*e*S	Sg	19 25 20.9	+1.4
PRCH							
	3µm,0.4s						
PRCH	**Ribeira Ch**	**0.10**	**254**	*e*P	Pg	19 25 19.0	+0.7
PRCH				*e*S	Sg	19 25 20.9	+1.4
PMAT	**Coroa da Mata**	**0.10**	**306**	*i* P	Pg	19 25 19.2	+0.8
PMAT				*e*S	Sg	19 25 21.2	+1.4
PMAT							
	1µm,0.2s						
PMAT	**Coroa da Mata**	**0.10**	**306**	*e*S	Sg	19 25 21.2	+1.4
PVER	**Pico Vermelho**	**0.13**	**289**	*e*P	Pg	19 25 19.5	+0.7
PVER				*e*S	Sg	19 25 21.6	+1.1
PVER							
	623nm,0.2s						
PVER	**Pico Vermelho**	**0.13**	**289**	*e*P	Pg	19 25 19.5	+0.7
PVER				*e*S	Sg	19 25 21.6	+1.1
CML	**Cha da Macela**	**0.14**	**276**	*e*P	Pg	19 25 20.1	+0.9
CML				*e*S	Sg	19 25 22.6	+1.5
FAC	**Faja de Cima**	**0.23**	**275**	*e*P	Pg	19 25 21.7	+0.9
FAC				*e*S	Sg	19 25 25.4	+1.7
PDA	**Ponta Delgada**	**0.24**	**268**	*e*P	Pg	19 25 21.0	0.0
PDA				*e*S	Sg	19 25 25.6	+1.6
PSET	**Sete Cidades**	**0.29**	**284**	*e*P	Pg	19 25 22.1	+0.1
PSET				*e*S	Sg	19 25 27.4	+1.6
PSET							
	562nm,0.3s						
PSET							
	633nm,0.5s						
PSET	**Sete Cidades**	**0.29**	**284**	*e*P	Pg	19 25 22.1	+0.1
PSET				*e*S	Sg	19 25 27.4	+1.6
PSAN	**Santo Antonio**	**0.30**	**289**	*e*P	Pg	19 25 23.3	+1.1
PFET	**Feteiras**	**0.34**	**281**	*e*P	Pg	19 25 23.6	+0.6
SET2	**Ginetes**	**0.36**	**284**	*e*P	Pg	19 25 23.9	+0.6
SET4	**Mosteiros**	**0.36**	**289**	*e*P	Pg	19 25 23.9	+0.5

*ISCJB **04** 19:33:29.8±0.5,4409N±003×805E±003,h11km±3km, Error ellipse: s-maj=4.8km s-min=3.0km az=106.3*
*ROM **04** 19:33:29.4±0.2,4411N×806E,h12km±8km,Md2.2/5, Ml1.3/2,Error ellipse: s-maj=3.7km s-min=1.5km az=136.0*
*STR **04** 19:33:30.8±0.4,4415N×802E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 19:33:30.7±0.2,4400N×8.11E,h2km,Md2.3/2,Ml2.3/8, Error ellipse: s-maj=4.1km s-min=3.5km az=63.0*

ISC 04 19:33:29.9±0.5,4405N±002×810E±003,h11km±3km,n26, σ0.8s88/47,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIN	**Finale Ligure**	**0.18**	**27**	Pg	**Pg**	**19 33 33.7**	**-0.1**
FIN				Sg	**Sg**	**19 33 35.8**	**-0.7**
	97nm,0.4s						
IMI	**Imperia**	**0.21**	**227**	Pg	**Pg**	**19 33 34.9**	**+0.6**
IMI				Sg	**Sg**	**19 33 38.3**	**+1.0**
	39nm,0.1s						
QLNO	**Quiliano**	**0.33**	**33**	Pg	**Pg**	**19 33 36.4**	**0.0**
QLNO				Sg	**Sg**	**19 33 40.6**	**-0.2**
	25nm,0.2s						
SAOF	**Saorge**	**0.40**	**261**	Pg	**Pg**	**19 33 37.8**	**+0.1**
SAOF				Sg	**Sg**	**19 33 42.9**	**-0.1**
AUTN	**L'Aution**	**0.49**	**264**	Pg	**Pg**	**19 33 39.5**	**+0.1**
SBF	**Sospel**	**0.51**	**249**	*e*Pg	**Pg**	**19 33 40.3**	**+0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 33 47.4**	**+0.7**
	66nm,0.2s,SNR=1.0						
LUCF	**Luceram**	**0.56**	**254**	Pg	**Pg**	**19 33 41.0**	**+0.1**
LUCF				Sg	**Sg**	**19 33 48.9**	**+0.5**
PCP	**Pian Castagno**	**0.59**	**33**	Pg	**Pg**	**19 33 41.1**	**-0.2**
PCP				Sg	**Sg**	**19 33 49.6**	**+0.6**
	17nm,0.4s						
STV	**Sta Anna Valdi**	**0.59**	**289**	Pg	**Pg**	**19 33 41.1**	**-0.2**
STV				Sg	**Sg**	**19 33 48.6**	**-0.5**
REVF	**Revere**	**0.61**	**240**	Pg	**Pg**	**19 33 42.9**	**+1.1**
TOUF	**Mont Tournerai**	**0.61**	**267**	Pg	**Pg**	**19 33 41.8**	**0.0**
MVIF	**Mont Vial**	**0.70**	**257**	Pg	**Pg**	**19 33 43.5**	**+0.1**
MVIF				Sg	**Sg**	**19 33 53.3**	**+0.7**
DOI	**San Damiano**	**0.76**	**307**	Pg	**Pg**	**19 33 43.6**	**-1.0**
DOI				Sg	**Sg**	**19 33 54.1**	**-0.4**
	18nm,0.2s						
FRF	**La Foret Royal**	**1.16**	**245**	*e*Pg	**Pg**	**19 33 51.8**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 34 07.1**	**-0.2**
	21nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.17**	**306**	*e*Pn	**Pn**	**19 33 50.7**	**-1.4**
MBDF				*e*Sg	**Sg**	**19 34 05.3**	**-2.2**
	5.6nm,0.2s						
LMR	**La Mourre**	**1.36**	**239**	*e*Pn	**Pn**	**19 33 54.3**	**-0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**19 34 12.4**	**-1.2**
	10.0nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.64**	**156**	*e*Pn	**Pn**	**19 33 58.2**	**-0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**19 34 17.3**	**-2.4**
	SNR=1.0						
LPG	**La Plagne**	**1.73**	**327**	*e*Pn	**Pn**	**19 34 00.8**	**+0.9**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 34 25.0**	**-0.7**
	1.6nm,0.3s						
LPL	**La Plagne**	**1.76**	**327**	*e*Pn	**Pn**	**19 34 01.4**	**+1.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**19 34 24.2**	**+1.7**
ORIF	**Oris-en-Rattie**	**1.81**	**299**	*e*Pn	**Pn**	**19 34 02.5**	**+1.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**19 34 28.5**	**+0.5**
	3.0nm,0.3s						
SMRF	**Simiane la Rot**	**1.82**	**268**	*e*Pn	**Pn**	**19 34 01.5**	**+0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**19 34 28.8**	**+0.3**
	14nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.58**	**289**	*e*Pn	**Pn**	**19 34 12.6**	**+1.1**
VIVF				*e*Sn	**Sn**	**19 34 43.6**	**+0.7**
	2.0nm,0.5s,SNR=1.0						
VIVF				*e*Sg	**Sg**	**19 34 52.2**	**-0.6**
	1.2nm,0.4s						
LASF	**Ste Croix**	**3.06**	**272**	*e*Sn	**Sn**	**19 34 53.0**	**-1.6**
SMF	**Signal de Mont**	**3.97**	**312**	*e*Pn	**Pn**	**19 34 31.3**	**+0.7**
MTLF	**Montolieu**	**4.32**	**263**	*e*Pn	**Pn**	**19 34 36.2**	**+0.7**
MTLF				*e*Sn	**Sn**	**19 35 23.5**	**-2.3**
CAF	**Calviac**	**4.40**	**284**	*e*Pn	**Pn**	**19 34 36.6**	**0.0**
	SNR=1.0						

IDC 04 19:35:38.8±2.8,878S×11071E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/17,mbtmp3.4/3,Error ellipse: s-maj=146.6km s-min=26.4km az=48.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.40**	**118**	P	P	19 41 07.3	-0.6
	0.8nm,0.7s,baz=291,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**26.68**	**126**	P	P	19 41 20.7	+1.2
	0.4nm,0.7s,baz=302,slow=9.2,SNR=8.8						
MKAR	**Makanchi Array**	**60.84**	**338**	P	P	19 45 53.0	+0.1
	0.2nm,0.4s,baz=147,slow=7.1,SNR=7.2						

*ISCJB **04** 19:43:43.1±0.4,3419N±002×11756W±002,h6km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=54.2*
*NEIC **04** 19:43:44.6,3421N×11758W,h5km,ML3.5(PAS),After PAS.*
NEIC Felt [IV] at Lytle Creek; [III] at Bloomington, Colton, Corona, Fontana, Grand Terrace, Mira Loma, Mt Baldy, Ontario, Pamona, Rancho Cucamonga, Rialto, Riverside, San Bernardino, San Dimas, Upland, Victorville, West Covina and Wrightwood; [II] at Brea, Cerritos, Chino Hills, Claremont, Covina, Crestline, Diamond, Hesperia, Huntington Beach, La Verne, Loma Linda, Moreno Valley, Norco, Phelan, San Dimas.

ISC 04 19:43:43.5±0.3,3419N±002×11756W±002,h4km±2km,n62, σ0.8s84/96,33C-28D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFSC	**Mount Baldy St**	**0.09**	**303**	⇑P	**Pg**	**19 43 45.8**	**+0.4**
	baz=0.1						
BFSC				⇓S	**Sg**	**19 43 47.2**	**+0.6**
	baz=0.1						
BBRC	**Big Bear Sol-O**	**0.54**	**82**	P	**Pg**	**19 43 55.0**	**+1.2**
	baz=0.5,SNR=206						
BBRC				⇑S	**Sg**	**19 44 02.7**	**+2.0**
	baz=0.5						
DECC	**Green Verdugo**	**0.64**	**276**	⇑P	**Pg**	**19 43 56.3**	**+0.6**
	baz=0.6,SNR=154						
DECC				⇑S	**Sg**	**19 44 04.8**	**+0.8**
	baz=0.6						
MURC	**Murrieta**	**0.66**	**153**	P	**Pg**	**19 43 56.9**	**+0.7**
	baz=0.7,SNR=195						
MURC				⇓S	**Sg**	**19 44 05.8**	**+1.2**
	baz=0.7						
FMP	**Fort Macarthur**	**0.77**	**232**	⇓P	**Pg**	**19 43 59.1**	**+0.9**
	baz=0.8,SNR=22						
FMP				⇑S	**Sg**	**19 44 08.4**	**+0.2**
	baz=0.8						
EDW2	**Edwards Air Fo**	**0.78**	**333**	P	**Pg**	**19 43 58.5**	**+0.2**
	baz=0.8,SNR=1000						
EDW2				⇑S	**Sg**	**19 44 08.4**	**0.0**
	baz=0.8						
RRX	**Edison Barstow**	**0.83**	**34**	⇓P	**Pg**	**19 43 59.8**	**+0.4**
	baz=0.8,SNR=51						
RRX				⇑S	**Sg**	**19 44 11.2**	**+1.0**
	baz=0.8						
CIS	**Catalina Islan**	**1.05**	**222**	⇓P	**Pg**	**19 44 03.8**	**+0.3**
	baz=1.1,SNR=183						
CIS				⇓S	**Sg**	**19 44 18.2**	**+1.0**
	baz=1.1						
OSI	**Osito Adit**	**1.05**	**294**	⇓P	**Pg**	**19 44 02.8**	**-0.8**
	baz=1.0,SNR=72						
OSI				⇑S	**Sg**	**19 44 17.6**	**+0.4**
	baz=1.0						
PFO	**Pinyon Flat Ob**	**1.09**	**122**	*e*Pg	**Pg**	**19 44 04.1**	**-0.2**
PFO				*e*Sg	**Sg**	**19 44 17.1**	**-1.3**
PFO	**Pinyon Flat Ob**	**1.09**	**122**	P	**Pg**	**19 44 04.2**	**-0.1**
	baz=1.1,SNR=397						
PFO				⇓S	**Sg**	**19 44 18.8**	**+0.4**
	baz=1.1						
HEC	**Hector.Ludlow**	**1.20**	**57**	⇓P	**Pg**	**19 44 06.6**	**+0.1**
	baz=1.2,SNR=187						
HEC				⇑S	**Sg**	**19 44 22.6**	**+0.5**
	baz=1.2						
BLG	**Laguna Peak**	**1.25**	**267**	⇓P	**Pg**	**19 44 06.2**	**-1.1**
	baz=1.2,SNR=250						
BLG				⇑S	**Sg**	**19 44 23.0**	**-0.5**
	baz=1.2						
GSC	**Goldstone**	**1.27**	**29**	*e*Pg	**Pg**	**19 44 07.6**	**-0.3**
GSC				*e*Sg	**Sg**	**19 44 22.5**	**-1.9**
GSC	**Goldstone**	**1.27**	**29**	P	**Pg**	**19 44 07.8**	**-0.1**
	baz=1.3,SNR=82						
GSC				⇓S	**Sg**	**19 44 24.6**	**+0.2**
	baz=1.3						
LRMC	**Laurel Mountai**	**1.29**	**355**	P	**Pg**	**19 44 07.8**	**-0.4**
	baz=1.3,SNR=326						
LRMC				⇑S	**Sg**	**19 44 25.0**	**+0.1**
	baz=1.3						
BELC	**Belle Mtn.**	**1.31**	**98**	P	**Pn**	**19 44 08.9**	**+0.3**
	baz=1.3,SNR=251						
BELC				⇓S	**Sg**	**19 44 26.5**	**+0.8**
	baz=1.3						
109C	**Camp Elliot, M**	**1.35**	**163**	⇓P	**Pn**	**19 44 08.3**	**-0.8**
	baz=1.4,SNR=64						
109C				⇑S	**Sg**	**19 44 26.0**	**-0.9**
	baz=1.4						
ARVC	**Arvin**	**1.40**	**312**	P	**Pn**	**19 44 09.7**	**-0.2**
	baz=1.4,SNR=185						
ARVC				⇓S	**Sb**	**19 44 27.9**	**-0.6**
	baz=1.4						
SCI	**San Clemente I**	**1.46**	**215**	⇑P	**Pn**	**19 44 10.7**	**+0.1**
	baz=1.5,SNR=14						
SCI				⇑S	**Sb**	**19 44 29.5**	**-0.6**
	baz=1.5						
MONP	**Monument Peak**	**1.61**	**143**	P	**Pn**	**19 44 13.2**	**+0.5**
	baz=1.6,SNR=249						
MONP				⇓S	**Sn**	**19 44 34.0**	**+0.1**
	baz=1.6						
ISA	**Isabella**	**1.65**	**333**	*e*Pn	**Pn**	**19 44 12.5**	**-0.7**
ISA				*e*Sn	**Sn**	**19 44 33.5**	**-1.4**
ISA	**Isabella**	**1.65**	**333**	⇑P	**Pn**	**19 44 12.9**	**-0.4**
	baz=1.6,SNR=61						
ISA				⇑S	**Sn**	**19 44 34.4**	**-0.

baz=3.4,SNR=5.5
V03C Hunter Liggett 3.52 302 P Pn 19 44 38.1 -0.9
baz=3.5,SNR=37
LRV Little Rabbit 3.60 309 Pn Pn 19 44 40.4 +0.3
Y14A Wickenburg 3.79 92 ⇓P Pn 19 44 42.8 +0.1
baz=3.8,SNR=17
X14A Yava 3.88 85 ⇑P Pn 19 44 44.2 +0.3
baz=3.9,SNR=15
HAST UC Hastings Re 3.93 305 ⇑P Pn 19 44 43.8 -0.8
baz=3.9
HAST ⇓S Sn 19 45 31.0 -0.3
baz=3.9
Z14A Wintersburg 3.93 101 ⇑P Pn 19 44 44.5 -0.2
baz=3.9
S06C San Francisco 4.12 334 ⇑P Pn 19 44 47.6 +0.3
baz=4.1,SNR=17
PACP Pacheco Peak 4.14 314 ⇑S Sn 19 45 36.7 +0.4
baz=4.1
X15A Humboldt 4.42 85 ⇓P Pn 19 44 51.8 +0.5
X15A ⇑S Sn 19 45 43.0 -0.2
baz=4.4
TRCR Troy Canyon 4.45 20 *e*Pn **Pn 19 44 53.7 +1.9**
TRCR *e*Pg **Pg 19 45 06.5 -2.2**
CMB Columbia Colle 4.47 330 *e*Pn **Pn 19 44 53.0 +1.0**
CMB *e*Sn **Sn 19 45 45.3 +0.8**
CMB *e*Sg **Sg 19 46 01.4 -5.6**
115A Sonoran Desert 4.70 107 ⇓P Pn 19 44 55.6 +0.4
baz=4.7
WUAZ Wupatki 5.26 74 *e*Pn **Pn 19 45 04.0 +1.1**
6.0nm,0.7s
WUAZ *e*Sg **Sg 19 46 29.7 -2.7**
TUC Tucson 5.98 106 Pn **Pn 19 45 18.3 +5.5**
2.5nm,0.8s
TUC *e*Sg **Sg 19 46 54.6 -1.0**

IDC 04 19:50:47.7±2.2,5853S×2597W,h0km,mb4.0/2, mb1 4.1/2,mb1mx3.7/12,mbtmp4.0/2,Error ellipse: s-maj=234.9km s-min=30.2km az=102.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.43**	**159**	*e*	Pn	19 54 07.9	-5.3
VNA3				*e*		19 54 09.0	
VNA3				*e*		19 54 11.2	
VNA3				*e*		19 54 12.5	
VNA3				*e*		19 54 15.1	
VNA3				*e*		19 54 17.2	
VNA3				*e*		19 54 18.8	
VNA3				*e*		19 56 30.0	
VNA3				*e*		19 56 35.4	
VNA3				*e*		19 56 38.5	
VNA2	**Neumayer--Watz**	**14.64**	**156**	*e*	Pn	19 54 10.6	-5.5
VNA2				*e*		19 54 11.8	
VNA2				*e*		19 54 18.0	
VNA2				*e*		19 54 20.1	
VNA2				*e*		19 56 35.2	
VNA2				*e*		19 56 38.7	
VNA2				*e*		19 56 42.7	
SNAA	**Sanae**	**16.21**	**154**	*e*	Pn	19 54 31.9	-4.9
SNAA				*e*		19 54 32.6	
SNAA				*e*		19 54 35.7	
SNAA				*e*		19 54 39.7	
SNAA				*e*		19 54 42.9	
VNDA	**Vanda**	**44.12**	**182**	P	P	19 58 57.0	-0.8
	1.4nm,0.6s,baz=183,slow=7.2,SNR=18						
TORD	**Torodi Ar. Bea**	**74.92**	**28**	P	P	20 02 30.5	0.0
	0.8nm,0.6s,baz=201,slow=6.6,SNR=14						
FINES	**FINESS Array B**	**126.27**	**28**	PKP	PKPdf	20 09 49.4	-2.9
	1.5nm,0.9s,baz=150,slow=6.4,SNR=3.4						
YKA	**Yellowknife Ar**	**138.44**	**316**	PKP	PKPdf	20 10 14.1	-1.1
	1.2nm,0.6s,baz=127,slow=2.4,SNR=4.0						

*ISCJB **04** 20:07:26.8±0.5, 3025N±005×6962E±005, h10km, mb4.0/13, Error ellipse: s-maj=8.2km s-min=5.4km az=45.6*
*IDC **04** 20:07:27.4±1.0, 3032N×6962E, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=26.4km s-min=18.7km az=55.0*
*NEIC **04** 20:07:28.5±0.7, 3031N×6968E, h10km, mb4.0/6, Error ellipse: s-maj=14.2km s-min=12.6km az=116.0*
*MOS **04** 20:07:31.4±1.3, 3046N×6983E, h33km, mb4.2/12, Error ellipse: s-maj=21.0km s-min=10.7km az=89.8*

ISC 04 20:07:28.7±0.5,3033N±005×6961E±005,h10km,n47, σ1§31/51,mb4.0/13,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.63**	**67**	*e*P	**Pn**	**20 08 54.9**	**+2.5**
THN				*e*S	**Sn**	**20 10 01.6**	**+4.5**
AJM	**Ajmer**	**5.86**	**130**	*i* P	**Pn**	**20 08 57.0**	**+1.4**
AJM				*i* S	**Sn**	**20 10 03.0**	**+0.2**
DLH	**Dalhousie**	**5.86**	**66**	*e*S	**Sn**	**20 10 03.0**	**+0.1**
SDNR	**Sundarnagar**	**6.43**	**78**	*e*P	**Pn**	**20 09 06.5**	**+3.0**
SDNR				*e*S	**Sn**	**20 10 20.0**	**+3.1**
NDI	**New Delhi**	**6.83**	**102**	*ex*	x	20 09 41.0	
NDI				*ex*	x	20 11 14.0	
WSAR	**Wadi Sarin**	**12.08**	**237**	Pn	**Pn**	**20 10 19.9**	**-1.0**
	0.3nm,0.3s,baz=73,slow=7.2,SNR=7.2						
WSAR				Sn	**Sn**	**20 12 21.0**	**-15**
	0.2nm,0.3s,baz=284,slow=8.1,SNR=3.2						
WSAR	**Wadi Sarin**	**12.08**	**237**	Pn	**Pn**	**20 10 19.9**	**-1.0**
WSAR				Sn	**Sn**	**20 12 21.0**	**-15**
KOLN	**Koldanda**	**12.50**	**98**	*e*P	**Pn**	**20 10 27.2**	**+0.6**
	8.5nm,0.3s						
AAK	**Ala-Archa**	**12.89**	**16**	*e*P	**Pn**	**20 10 29.9**	**-2.1**
AAK				*e*		20 12 55.3	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**12.89**	**16**	*e*Pn	**Pn**	**20 10 29.9**	**-2.2**
	comp=Z,2.5nm,0.4s						
AAK				*e*Sn	**Sn**	**20 12 55.3**	**-0.2**
GKN	**Gorkha**	**13.33**	**96**	*e*P	**Pn**	**20 10 36.5**	**-1.5**
	comp=Z,11nm,0.3s						
DMN	**Daman**	**13.83**	**97**	*e*P	**Pn**	**20 10 44.8**	**0.0**
KKN	**Kakani**	**13.94**	**97**	*e*P	**Pn**	**20 10 45.1**	**-1.1**
GUN	**Gumba**	**14.42**	**96**	*e*P	**Pn**	**20 10 51.0**	**-1.9**
	comp=Z,29nm,0.4s						
JIRN	**Jiri**	**14.75**	**96**	*e*P	**Pn**	**20 10 55.9**	**-1.4**
	comp=Z,14nm,0.3s						
LSA	**Lhasa**	**18.66**	**86**	*e*P	**Pn**	**20 11 46.1**	**-1.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**18.66**	**86**	*e*P	**Pn**	**20 11 46.1**	**-1.0**
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**19.16**	**27**	P	**Pn**	**20 11 51.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=12						
MKAR	**Makanchi Array**	**19.16**	**27**	P	**Pn**	**20 11 51.5**	**-1.6**
AKTK	**Aktyubinsk**	**21.89**	**340**	P	**P**	**20 12 23.2**	**+1.4**
AKTO	**Aktyubinsk**	**21.89**	**340**	P	**P**	**20 12 23.2**	**+1.3**
	comp=Z,4.3nm,0.5s,mb4.1,baz=152,slow=13,SNR=17						
AKTO	**Aktyubinsk**	**21.89**	**340**	P	**P**	**20 12 23.2**	**+1.3**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
GNI	**Garni**	**22.49**	**303**	P	**P**	**20 12 29.2**	**+0.9**
	comp=Z,3.1nm,0.4s,mb4.0,baz=211,slow=4.0,SNR=5.6						
GNI	**Garni**	**22.49**	**303**	*e*P	**P**	**20 12 28.9**	**+0.6**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GNI	**Garni**	**22.49**	**303**	*e*P	**P**	**20 12 28.9**	**+0.6**
	comp=Z,8.7nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**22.61**	**359**	*e*P	**P**	**20 12 31.1**	**+1.6**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**22.61**	**359**	*e*P	**P**	**20 12 31.1**	**+1.5**
	comp=Z,5.9nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**22.69**	**1**	P	**P**	**20 12 29.7**	**-0.7**
	comp=Z,2.7nm,0.8s,mb3.7,baz=141,slow=9.6,SNR=14						
BVAR	**Borovoye Array**	**22.69**	**1**	P	**P**	**20 12 29.7**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**22.72**	**1**	*e*P	**P**	**20 12 29.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**22.72**	**1**	*e*P	**P**	**20 12 29.4**	**-1.3**
	comp=Z,3.6nm,0.9s,mb3.8						
MSL	**Mosul**	**22.91**	**292**	*ex*	x	20 11 53.0	
MSL				*ex*	x	20 12 16.0	
CHKZ	**Chkalovo**	**23.35**	**2**	*e*P	**P**	**20 12 37.5**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**23.35**	**2**	*e*P	**P**	**20 12 37.5**	**+0.2**
	comp=Z,1.9nm,0.6s,mb3.7						
ZAL	**Zalesovo**	**26.03**	**21**	P	**P**	**20 13 02.6**	**+0.5**
	comp=Z,2.1nm,0.4s,mb4.0,baz=255,slow=8.8,SNR=9.3						
ZAL	**Zalesovo**	**26.03**	**21**	P	**P**	**20 13 02.6**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**42.12**	**330**	P	**P**	**20 15 22.7**	**+1.6**
	comp=Z,2.7nm,0.9s,mb3.9,baz=130,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**42.12**	**330**	P	**P**	**20 15 22.7**	**+1.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**46.48**	**340**	P	**P**	**20 15 54.3**	**-1.6**
	comp=Z,5.6nm,1.0s,mb4.5,baz=347,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**46.48**	**340**	P	**P**	**20 15 54.3**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**48.27**	**65**	P	**P**	**20 16 10.6**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=276,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**79.81**	**120**	P	**P**	**20 19 37.8**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=321,slow=5.2,SNR=11						
WRA	**Warramunga Arr**	**79.81**	**120**	P	**P**	**20 19 37.8**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MCK	**McKinley**	**81.43**	**16**	*e*P	**P**	**20 19 44.5**	**-1.4**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
MCK	**McKinley**	**81.43**	**16**	*e*P	**P**	**20 19 44.5**	**-1.4**
	comp=Z,0.5nm,0.3s,mb3.9						
ASAR	**Alice Springs**	**81.76**	**123**	P	**P**	**20 19 48.5**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=305,slow=5.7,SNR=14						
ASAR	**Alice Springs**	**81.76**	**123**	P	**P**	**20 19 48.5**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NEIC **04** 20:23:43.4, 3238S×7180W, h15km, ML3.1(GUC), After GUC.*

GUC 04 20:23:43.4±0.7,3238S×7180W,h15km±3km,MD3.7, ML3.1,6C-10D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.35**	**118**	⇓*i*P	Pg	20 23 50.9	+0.4
PACH				*i* S	Sg	20 23 56.3	+0.9
CHNG	**Los Chungos**	**0.55**	**28**	⇑*i*P	Pg	20 23 53.9	-0.4
CHNG				*i* S	Sg	20 24 02.2	+0.5
PTCH	**Petorca**	**0.75**	**82**	⇓*i*P	Pg	20 23 57.5	-0.5
PTCH				*i* S	Sg	20 24 07.8	-0.1
PTCH				AML	AML	20 24 08.2	
	comp=E,3μm,0.1s						
PTCH	**Petorca**	**0.75**	**82**	⇓*i*P	Pg	20 23 57.5	-0.5
PTCH				*i* S	Sg	20 24 07.8	-0.1
ROCH	**El Roble**	**0.90**	**132**	⇑*i*P	Pb	20 23 59.5	-1.1
ROCH				*i* S	Sb	20 24 11.5	-0.8
JACH	**Jahuel**	**1.07**	**107**	⇓*i*P	Pb	20 24 02.2	-1.3
JACH				*i* S	Sb	20 24 16.6	-0.7
LCCH	**Las Cruces**	**1.11**	**170**	⇑*i*P	Pb	20 24 02.8	-1.6
LCCH				*i* S	Sb	20 24 17.4	-1.2
PEL	**Peldehue**	**1.21**	**129**	⇑*i*P	Pn	20 24 04.5	-1.4
PEL				*i* S	Sb	20 24 20.7	-0.8
PEL				AML	AML	20 24 21.5	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.21**	**129**	⇑*i*P	Pn	20 24 04.5	-1.4
PEL				*i* S	Sb	20 24 20.7	-0.8
CMCH	**Combarbala**	**1.38**	**30**	⇓*i*P	Pn	20 24 06.8	-1.3
CMCH				*i* S	Sn	20 24 25.2	-0.9
CMCH				AML	AML	20 24 28.0	
	comp=E,1μm,0.5s						
CMCH	**Combarbala**	**1.38**	**30**	⇓*i*P	Pn	20 24 06.8	-1.3
CMCH				*i* S	Sn	20 24 25.2	-0.9
RCDM	**Rinconada Maip**	**1.39**	**143**	⇓*i*P	Pn	20 24 07.3	-1.0
RCDM				*i* S	Sn	20 24 25.4	-0.9
RCDM				AML	AML	20 24 27.4	
	comp=N,684nm,0.4s						
RCDM	**Rinconada Maip**	**1.39**	**143**	⇓*i*P	Pn	20 24 07.3	-1.0
RCDM				*i* S	Sn	20 24 25.4	-0.9
SAN	**Santiago**	**1.44**	**139**	*i* S	Sn	20 24 26.7	-0.8
SAN				AML	AML	20 24 38.4	
	comp=E,332nm,0.6s						
TACH	**Talagante**	**1.47**	**151**	⇓*i*P	Pn	20 24 08.8	-0.6
TACH				*i* S	Sn	20 24 27.1	-1.2
CLCH	**Cerro Calan**	**1.47**	**134**	⇓*i*P	Pn	20 24 08.9	-0.5
CLCH				*i* S	Sn	20 24 27.9	-0.4
CLCH				AML	AML	20 24 36.2	
	comp=E,348nm,0.7s						
ANTU	**Antumapu**	**1.54**	**141**	*e*P	Pn	20 24 09.7	-0.6
ANTU				*i* S	Sn	20 24 29.8	-0.3
ANTU				AML	AML	20 24 35.1	
	comp=E,327nm,0.3s						
ANTU	**Antumapu**	**1.54**	**141**	*e*P	Pn	20 24 09.7	-0.6
ANTU				*i* S	Sn	20 24 29.8	-0.3
FCH	**Farellones**	**1.59**	**127**	*e*P	Pn	20 24 10.2	-0.8
FCH				*i* S	Sn	20 24 31.3	+0.1
FCH				AML	AML	20 24 33.5	
	comp=E,302nm,0.3s						
LNV	**Longovilo**	**1.61**	**168**	*i* P	Pn	20 24 10.9	-0.4
LNV				*i* S	Sn	20 24 31.6	-0.2
PCH	**Pirque**	**1.65**	**139**	*e*P	Pn	20 24 11.6	-0.2
PCH				*i* S	Sn	20 24 33.2	+0.5
CHCH	**Chadas Angostu**	**1.83**	**148**	⇑*i*P	Pn	20 24 14.3	0.0
CHCH				*i* S	Sn	20 24 38.4	+1.2
CACH	**El Canelo**	**2.01**	**150**	*i* P	Pn	20 24 18.6	+1.9
CACH				*i* S	Sn	20 24 45.3	+3.7
CICH	**Cipreses**	**2.26**	**150**	*e*P	Pn	20 24 21.5	+1.3
CICH				*i* S	Sn	20 24 50.5	+2.8

*NEIC **04** 21:11:49.0, 3238S×7180W, h13km, ML2.8(GUC), After GUC.*

GUC 04 21:11:49.0±0.7,3238S×7180W,h13km±2km,MD3.6, ML2.8,8C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.34**	**117**	⇓*i*P	Pg	21 11 56.7	+0.7
PACH				*i* S	Sg	21 12 02.3	+1.7
CHNG	**Los Chungos**	**0.56**	**27**	⇓*i*P	Pg	21 11 59.7	-0.2
CHNG				*i* S	Sg	21 12 08.0	+0.6
IHA	**Instituto Hidr**	**0.66**	**168**	⇑*i*P	Pg	21 12 01.9	+0.2
IHA				*i* S	Sg	21 12 10.9	+0.4
PTCH	**Petorca**	**0.74**	**81**	*e*P	Pg	21 12 02.8	-0.6
PTCH				*i* S	Sg	21 12 13.7	+0.5
PTCH				AML	AML	21 12 13.9	
	comp=E,832nm,0.1s						
ROCH	**El Roble**	**0.89**	**132**	⇑*i*P	Pg	21 12 05.2	-1.0
JACH	**Jahuel**	**1.06**	**107**	⇓*i*P	Pb	21 12 08.0	-1.2
JACH				*i* S	Sb	21 12 22.7	-0.2
LCCH	**Las Cruces**	**1.11**	**170**	⇑*i*P	Pb	21 12 08.5	-1.5
LCCH				*i* S	Sb	21 12 23.1	-1.1
PEL	**Peldehue**	**1.21**	**129**	⇑*i*P	Pn	21 12 10.4	-1.1
PEL				*i* S	Sb	21 12 26.4	-0.7
PEL				AML	AML	21 12 29.0	
	comp=E,524nm,0.4s						
PEL	**Peldehue**	**1.21**	**129**	⇑*i*P	Pn	21 12 10.4	-1.1
PEL				*i* S	Sb	21 12 26.4	-0.7
CMCH	**Combarbala**	**1.38**	**30**	*e*P	Pn	21 12 12.5	-1.4
CMCH				*i* S	Sn	21 12 31.7	-0.3
CMCH				AML	AML	21 12 36.5	
	comp=N,453nm,0.6s						
CMCH	**Combarbala**	**1.38**	**30**	*e*P	Pn	21 12 12.5	-1.4
CMCH				*i* S	Sn	21 12 31.7	-0.3
RCDM	**Rinconada Maip**	**1.38**	**143**	*e*P	Pn	21 12 13.0	-1.0
RCDM				*i* S	Sn	21 12 30.9	-1.2
RCDM				AML	AML	21 12 33.9	
	comp=N,267nm,0.1s						
RCDM	**Rinconada Maip**	**1.38**	**143**	*e*P	Pn	21 12 13.0	-1.0
RCDM				*i* S	Sn	21 12 30.9	-1.2
TACH	**Talagante**	**1.46**	**151**	⇑*i*P	Pn	21 12 14.2	-0.8
TACH				*i* S	Sn	21 12 33.3	-0.7
FCH	**Farellones**	**1.58**	**127**	⇑*i*P	Pn	21 12 16.1	-0.6
FCH				*i* S	Sn	21 12 37.1	+0.1
FCH				AML	AML	21 12 39.1	
	comp=E,143nm,0.4s						
LNV	**Longovilo**	**1.60**	**168**	*e*P	Pn	21 12 16.5	-0.5
LNV				*i* S	Sn	21 12 37.4	-0.1
PCH	**Pirque**	**1.64**	**139**	*i* P	Pn	21 12 17.1	-0.4
PCH				*i* S	Sn	21 12 38.7	+0.3
CACH	**El Canelo**	**2.00**	**150**	⇑*i*P	Pn	21 12 24.0	+1.6

IDC 04 21:26:01.8±2.2,1939N×14544E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.7/21,mbtmp3.8/6,Error ellipse: s-maj=98.8km s-min=21.4km az=89.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.57**	**196**	P	P	21 33 42.5	-0.4
	0.5nm,0.4s,baz=16,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**42.02**	**209**	P	P	21 33 54.9	0.0
	1.9nm,1.0s,baz=42,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**44.25**	**195**	P	P	21 34 13.9	+1.1
	0.2nm,0.4s,baz=19,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**57.81**	**314**	P	P	21 35 55.7	+0.8
	0.3nm,0.7s,baz=126,slow=15,SNR=3.7						
ARCES	**ARCESS Array B**	**81.77**	**342**	P	P	21 38 22.8	+0.3
	1.9nm,0.7s,baz=73,slow=8.2,SNR=7.0						
FINES	**FINESS Array B**	**86.16**	**335**	P	P	21 38 43.5	-1.3
	0.7nm,0.4s,baz=101,slow=5.9,SNR=9.4						

ECX 04 21:32:32.8±0.4,3168N×11642W,h4km±2km,MD1.3, ML1.5,7C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.15**	**263**	⇑*e*P	Pg	21 32 35.8	0.0
ECNX				*e*S	Sg	21 32 38.3	+0.6
PBX	**Punta Banda**	**0.27**	**284**	⇑*e*P	Pg	21 32 37.8	-0.1
PBX				*e*S	Sg	21 32 41.8	+0.4
PBX				*e*		21 32 43.0	
	comp=E,74nm,0.1s						
PBX	**Punta Banda**	**0.27**	**284**	⇑*e*	Sg	21 32 42.1	+0.7
	comp=N,180nm,0.2s						
ENX	**Ensenada**	**0.29**	**315**	⇑*e*P	Pg	21 32 38.5	0.0
ENX				*e*S	Sg	21 32 42.9	+0.7
ENX				⇑*e*		21 32 43.9	
	comp=E,115nm,0.3s						
ENX	**Ensenada**	**0.29**	**315**	⇑*e*	Sg	21 32 43.2	+1.0
	comp=N,174nm,0.2s						
RDX	**Rancho Dowling**	**0.48**	**58**	⇓*e*P	Pg	21 32 41.7	-0.2
RDX				*e*S	Sg	21 32 48.7	+0.5
RDX	**Rancho Dowling**	**0.48**	**58**	⇓*e*P	Pg	21 32 41.7	-0.2
RDX				*e*S	Sg	21 32 48.7	+0.5
CBX	**Cerro Bola**	**0.67**	**342**	*e*P	Pg	21 32 44.9	-0.7
CBX				*e*S	Sg	21 32 53.9	-0.4
RMX	**La Rumorosa**	**0.97**	**17**	*e*P	Pg	21 32 49.9	-1.5
RMX				*e*S	Sg	21 33 03.0	-0.9
RMX	**La Rumorosa**	**0.97**	**17**	*e*P	Pg	21 32 50.1	-1.3
RMX				*e*S	Sg	21 33 03.0	-0.9
EMX	**El Mayor**	**1.05**	**72**	*e*P	Pg	21 32 51.2	-1.8
EMX				*e*S	Sg	21 33 05.5	-1.1
EMX	**El Mayor**	**1.05**	**72**	*e*P	Pg	21 32 51.2	-1.7
EMX				*e*S	Sg	21 33 05.5	-1.1
EMX				⇑*e*		21 33 07.0	
	comp=E,34nm,0.2s						

*IDC **04** 21:46:01.9±1.9, 4525S×12937E, h0km, mb3.9/1, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=107.1km s-min=28.0km az=69.0*
*ISCJB **04** 21:46:04.1±1.4, 4735S±0.1×1297E±0.2, h35km, mb3.9/1, Error ellipse: s-maj=29.6km s-min=15.1km az=146.7*
*NEIC **04** 21:46:06.2±1.3, 4405S×12980E, h35km, mb3.7/1, Error ellipse: s-maj=29.8km s-min=19.5km az=68.0*

ISC 04 21:46:06.3±1.4,47S±01×1297E±02,h35km,n6,σ1§00/7, mb3.9/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.82**	**164**	Pn	**Pn**	**21 49 51.4**	**+5.2**
	0.1nm,0.3s,baz=343,slow=12,SNR=6.2						
WRA				Sn	**Sn**	**21 52 39.0**	**-1.4**
	0.1nm,0.3s,baz=343,slow=22,SNR=3.1						
PMG	**Port Moresby**	**17.94**	**106**	Pn	**Pn**	**21 50 12.9**	**0.0**
	4.2nm,0.6s						
AS31	**Alice Springs**	**19.29**	**168**	*e*P	**Pn**	**21 50 30.2**	**+0.9**
ASAR	**Alice Springs**	**19.29**	**168**	P	**Pn**	**21 50 30.5**	**+1.2**
	0.2nm,0.3s,baz=350,slow=11,SNR=19						
MKAR	**Makanchi Array**	**66.15**	**326**	P	**P**	**21 56 49.2**	**-0.9**
	0.5nm,0.4s,mb3.9,baz=113,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**66.15**	**326**	P	**P**	**21 56 49.2**	**-0.9**

*STR **04** 21:59:26.8±0.7, 4439N×729E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 21:59:27.7±0.2, 4433N×732E, h4km, Md2.0/2, Ml1.6/6, Error ellipse: s-maj=5.9km s-min=2.0km az=94.0*
*ISCJB **04** 21:59:28.1±0.7, 4432N±003×732E±007, h18km±11km, Error ellipse: s-maj=8.6km s-min=4.0km az=154.6*

ISC 04 21:59:27.8±0.6,4433N±002×725E±006,h15km±7km,n12, σ0§55/22,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.32**	**181**	Pg	**Pg**	**21 59 34.5**	**+0.1**
SAOF	**Saorge**	**0.41**	**147**	Pg	**Pg**	**21 59 34.8**	**-1.2**
SAOF				Sg	**Sg**	**21 59 41.9**	**+0.4**
MVIF	**Mont Vial**	**0.44**	**190**	Pg	**Pg**	**21 59 36.0**	**-0.6**
MVIF				Sg	**Sg**	**21 59 43.3**	**+0.8**
LUCF	**Luceram**	**0.44**	**171**	Pg	**Pg**	**21 59 37.0**	**+0.4**
LUCF				Sg	**Sg**	**21 59 43.2**	**+0.6**
MBDF	**Montbardon**	**0.53**	**319**	*e*Pg	**Pg**	**21 59 38.1**	**-0.1**
MBDF				*e*Sg	**Sg**	**21 59 45.7**	**+0.4**
	2.9nm,0.2s						
FRF	**La Foret Royal**	**0.88**	**210**	*e*Pg	**Pg**	**21 59 44.7**	**-0.2**
FRF	**La Foret Royal**	**0.88**	**210**	*e*Pn	**Pn**	**21 59 46.0**	**+0.4**
FRF				*e*Sg	**Sg**	**21 59 55.8**	**-0.7**
	1.5nm,0.2s						
LMR	**La Mourre**	**1.13**	**209**	*e*Pg	**Pg**	**21 59 49.6**	**0.0**
LMR				*e*Sg	**Sg**	**22 00 03.5**	**-0.9**
	2.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.14**	**301**	*e*Pn	**Pn**	**21 59 49.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**22 00 03.9**	**-0.9**
	2.3nm,0.5s						
LPG	**La Plagne**	**1.22**	**343**	*e*Pg	**Pg**	**21 59 51.3**	**0.0**
LPG				*e*Sg	**Sg**	**22 00 07.6**	**+0.3**
	0.9nm,0.3s						
LPL	**La Plagne**	**1.24**	**343**	*e*Pn	**Pn**	**21 59 50.3**	**-0.3**
LPL				*e*Sg	**Sg**	**22 00 07.9**	**-0.1**
	1.0nm,0.3s						
SMRF	**Simiane la Rot**	**1.26**	**254**	*

CTA Charters Tower 16.19 209 P **Pn** **22 12 41.3 +2.4**
comp=Z,0.3nm,0.3s,baz=23,slow=12,SNR=12
CTA Charters Tower 16.19 209 *e*P **Pn** **22 12 39.0 +0.1**
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 16.19 209 *e*P **Pn** **22 12 38.6 -0.3**
CTAO pmax pmax
comp=Z,14nm,1.0s
CTAO Charters Tower 16.19 209 *e*Pn **Pn** **22 12 38.6 -0.3**
comp=Z,14nm,1.0s
DZM Mont Dzumac 19.78 145 P **Pn** **22 13 22.2 -0.5**
comp=Z,0.9nm,0.3s,baz=15,slow=8.2,SNR=25
DZM LR LR 22 19 51.9
comp=Z,185nm,20.5s,baz=9.4,slow=33
KAKA Kakadu 22.77 251 *e*P **P** **22 13 51.1 -1.7**
comp=Z,22nm,0.6s,mb4.8
WB2 Warramunga Arr 24.02 233 *e*P **P** **22 14 04.8 -0.2**
WB2 *e*S PcS 22 21 23.4 -2.0
WB2 Warramunga Arr 24.02 233 *e*P **P** **22 14 04.7 -0.3**
WRA Warramunga Arr 24.04 233 P **P** **22 14 05.3 +0.2**
comp=Z,8.1nm,1.0s,mb4.1,baz=58,slow=9.6,SNR=19
WRA pP 22 14 19.0
comp=Z,19nm,0.9s,baz=57,slow=10,SNR=17
WRA PcP PcP 22 17 45.7 -0.1
comp=Z,2.2nm,0.8s,baz=47,slow=2.1,SNR=4.7
WRA pPcP 22 17 58.4
comp=Z,1.3nm,0.6s,baz=56,slow=2.3,SNR=5.5
WRA Warramunga Arr 24.04 233 P **P** **22 14 05.3 +0.2**
WRA *PP 22 14 19.0
WRA 22 17 45.7
AS31 Alice Springs 26.52 226 *e*P **P** **22 14 28.0 +0.3**
ASAR Alice Springs 26.52 226 P **P** **22 14 27.7 0.0**
comp=Z,2.9nm,0.7s,mb3.9,baz=58,slow=9.4,SNR=22
ASAR pP pP 22 14 41.4 +1.2
comp=Z,8.3nm,0.7s,baz=57,slow=9.0,SNR=18
ASAR PcP PcP 22 17 51.9 +0.5
comp=Z,4.2nm,0.7s,baz=63,slow=2.7,SNR=15
ASPA Alice Springs 26.53 226 *e*P **P** **22 14 26.9 -0.8**
ASPA *e* 22 17 51.7
STKA Stephens Creek 28.50 203 *e*P **P** **22 14 44.5 -0.9**
comp=Z,4.2nm,0.9s,mb4.1
STKA *e* 22 17 55.6
STKA Stephens Creek 28.50 203 P **P** **22 14 45.3 0.0**
comp=Z,4.2nm,0.8s,mb4.1,baz=325,slow=6.7,SNR=8.6
STKA PcP PcP 22 17 55.7 -0.4
comp=Z,3.8nm,0.8s,baz=11,slow=4.7,SNR=4.8
STKA LR LR 22 25 54.7
comp=Z,226nm,20.1s,MS3.8,baz=22,slow=36
FITZ Fitzroy Crossi 30.64 244 *e*P **P** **22 15 02.3 -2.1**
comp=Z,24nm,0.8s,mb5.1
DAV Davao City (W) 31.60 294 *e*P **P** **22 15 10.5 -2.3**
comp=Z,132nm,0.5s
URZ Urewera 38.18 151 P **P** **22 16 10.1 +0.6**
comp=Z,12nm,0.8s,mb4.7,baz=53,slow=6.6,SNR=6.8
KKM Kota Kinabalu 40.01 287 P **P** **22 16 25.1 +0.3**
RPZ Rata Peaks 40.37 161 P **P** **22 16 28.1 +0.4**
comp=Z,19nm,0.9s,mb4.8,baz=44,slow=6.3,SNR=7.1
NWAO Narrogin (SRO) 43.83 227 LR LR 22 34 53.1
comp=Z,232nm,20.5s,MS4.1,baz=302,slow=36
NACB Ninganchiao 43.85 314 *e*P **P** **22 16 56.8 +0.6**
KSM Kuching 44.72 278 *e*P **P** **22 17 03.9 +0.8**
MJAR Matsushiro Arr 44.91 341 P **P** **22 17 03.0 -1.6**
comp=Z,0.2nm,0.3s,baz=244,slow=34,SNR=3.0
MJAR LR LR 22 33 20.0
comp=Z,199nm,18.6s,MS4.1,baz=135,slow=33
KSRS Korea Array 49.76 332 P **P** **22 17 41.0 -1.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=142,slow=8.5,SNR=2.9
KSRS LR LR 22 36 06.7
comp=Z,97nm,18.1s,MS3.9,baz=110,slow=33
QIZ Qiongzhong 50.48 300 *e*P **P** **22 17 49.3 +1.5**
comp=Z,66nm,1.5s,mb5.4
ASAJ Asahikawa 50.95 349 P **P** **22 17 50.9 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=313,slow=18,SNR=2.5
ASAJ LR LR 22 36 52.0
comp=Z,113nm,19.2s,MS3.9,baz=180,slow=33
WHN Wuhan 52.83 316 P **P** **22 18 07.5 +2.3**
WHN AP pP 22 18 19.0 +0.4
KULM Kulim 54.89 281 *e*P **P** **22 18 20.0 -0.3**
KULM *e* pP 22 18 34.0 +0.2
PPT Papeete 55.79 107 *e*LR LR 22 35 07.0
comp=Z,86nm,27.5s
PPT Papeete 55.79 107 LR LR 22 36 02.7
comp=Z,128nm,21.1s,MS4.0,baz=34,slow=29
PSI Prapat 56.16 277 P **P** **22 18 28.1 -1.4**
comp=Z,3.8nm,0.9s,mb4.4,baz=156,slow=20,SNR=2.4
PSI pP pP 22 18 42.1 -0.8
comp=Z,3.7nm,0.6s,baz=87,slow=6.6,SNR=3.4
GYA Guiyang 56.41 307 P **P** **22 18 32.6 +1.4**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
TBI Tubuai 56.57 114 *e*LR LR 22 35 19.9
comp=Z,234nm,29.8s
XAN Xi'an 58.59 316 P **P** **22 18 46.0 -0.5**
XAN AP pP 22 18 58.3 -1.8
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
KMI Kunming 59.00 304 P **P** **22 18 51.4 +2.0**
KMI AP pP 22 19 03.1 +0.1
KMI XP sP 22 19 08.5 0.0
KMI AMB AMB
comp=Z,18nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,75nm,4.3s
KMI LR LR
comp=N,86nm,15.7s,MS4.2
KMI LR LR
comp=E,104nm,17.1s,MS4.2
KMI LR LR
comp=Z,87nm,20.5s,MS3.9
KMI Kunming 59.00 304 P **P** **22 18 51.4 +2.0**
comp=Z,18nm,0.9s,mb5.1
KMI pP pP 22 19 03.1 +0.1
KMI sP sP 22 19 08.5 0.0
KMI S **S** **22 26 40.4 -12**
KMI LR LR
comp=Z,90nm,20.5s,MS3.9
CHTO Chiang Mai 59.98 296 *e*P **P** **22 18 56.8 +0.6**
CHTO *e* pP 22 19 09.4 -0.4
CHTO pmax pmax
comp=Z,12nm,1.3s,mb4.8
CHTO Chiang Mai 59.98 296 *e*P **P** **22 18 56.8 +0.6**
comp=Z,12nm,1.3s,mb4.8
CHTO *e* pP 22 19 09.4 -0.3
HIA Hailar 62.74 335 *e*P **P** **22 19 14.9 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.9s
HIA Hailar 62.74 335 *e*P **P** **22 19 14.9 +0.1**
comp=Z,7.0nm,0.9s,mb4.8
LZH Lanzhou 63.20 315 *e*P **P** **22 19 19.0 +1.1**
LZH AP pP 22 19 31.5 0.0
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.1
LZH Lanzhou 63.20 315 *e*P **P** **22 19 19.0 +1.1**
LZH *PP pP 22 19 31.5 0.0
LZH *SP sP 22 19 36.0 -1.1
LZH pmax pmax
comp=Z,15nm,1.0s,mb5.1
LZH Lanzhou 63.20 315 *e*P **P** **22 19 19.0 +1.1**
comp=Z,15nm,1.0s,mb5.1
LZH pP pP 22 19 31.5 0.0
LZH sP sP 22 19 36.0 -1.1
GTA Gaotai 67.62 317 *e*P **P** **22 19 47.4 +1.0**
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
ULN Ulaanbaatar 67.83 328 *e*P **P** **22 19 48.5 +0.7**
ULN *e* pP 22 20 01.8 +0.2
ULN pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ULN Ulaanbaatar 67.83 328 *e*P **P** **22 19 48.5 +0.8**
comp=Z,6.3nm,1.0s,mb4.6
ULN *e* pP 22 20 01.8 +0.2
SONM Songino Array 68.17 327 P **P** **22 19 50.3 +0.4**
comp=Z,2.0nm,0.6s,mb4.3,baz=142,slow=5.7,SNR=13
SONM pP pP 22 20 02.3 -1.4
comp=Z,2.8nm,0.5s,baz=142,slow=5.9,SNR=11
SHL Shillong 68.32 300 *e*P **P** **22 19 49.9 -0.9**
RKT Rikitea 69.81 112 *e*LR LR 22 41 38.0
comp=Z,85nm,30.0s
LSA Lhasa 70.25 304 P **P** **22 20 04.0 +1.2**
LSA Lhasa 70.25 304 *e*P **P** **22 20 04.3 +1.5**
LSA *e* pP 22 20 17.9 +1.3
LSA pmax pmax
comp=Z,14nm,0.9s,mb4.9
LSA Lhasa 70.25 304 *e*P **P** **22 20 04.2 +1.5**
comp=Z,14nm,0.9s,mb4.9
LSA *e* pP 22 20 17.9 +1.2

ZAK Zakamensk 71.32 328 *e*P **P** **22 20 08.7 -0.6**
ZAK *e* pP 22 20 21.5 -1.7
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VNDA Vanda 71.66 178 P **P** **22 20 10.8 -0.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=322,slow=6.4,SNR=14
VNDA pP pP 22 20 25.2 0.0
comp=Z,1.5nm,0.8s,baz=339,slow=10,SNR=3.3
VNDA Vanda 71.66 178 P **P** **22 20 10.8 -0.5**
VNDA pP pP 22 20 25.2 0.0
JIRN Jiri 73.80 301 *e*P **P** **22 20 25.0 +1.0**
comp=Z,33nm,0.9s,mb5.2
GUN Gumba 74.14 301 *e*P **P** **22 20 27.1 +1.1**
comp=Z,62nm,0.9s,mb5.5
PKI Pulchoki 74.45 301 *e*P **P** **22 20 28.6 +0.8**
comp=Z,45nm,1.1s,mb5.3
KKN Kakani 74.62 301 *e*P **P** **22 20 29.4 +0.7**
comp=Z,36nm,0.9s,mb5.3
DMN Daman 74.72 301 *e*P **P** **22 20 30.3 +1.0**
comp=Z,103nm,1.0s,mb5.7
GKN Gorkha 75.22 301 *e*P **P** **22 20 32.6 +0.4**
comp=Z,77nm,1.0s,mb5.6
KOLN Koldanda 76.05 300 *e*P **P** **22 20 37.3 +0.3**
comp=Z,53nm,0.8s,mb5.5
NGP Nagpur 78.66 293 *e*P **P** **22 20 50.9 -0.6**
NGP AMb AMB 22 20 52.5
comp=Z,19nm,1.4s,mb4.8
BHPL Bhopal 80.53 295 *e*P **P** **22 21 01.5 -0.2**
BHPL AMb AMB 22 21 02.1
comp=Z,22nm,0.7s,mb5.2
MCK McKinley 81.26 22 *e*P **P** **22 21 04.4 -1.2**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MCK McKinley 81.26 22 *e*P **P** **22 21 04.4 -1.2**
comp=Z,3.5nm,0.8s,mb4.3
MNGI Mangalore 81.31 284 *e*P **P** **22 21 03.5 -2.4**
MNGI AMb AMB 22 21 04.8
comp=Z,15nm,0.8s,mb5.0
NDI New Delhi 81.74 300 *e*P **P** **22 21 08.4 +0.3**
NDI AMb AMB 22 21 10.1
comp=Z,13nm,0.4s,mb5.3
SONA Sohna 81.77 300 *e*P **P** **22 21 07.2 -1.1**
SONA AMb AMB 22 21 08.7
comp=Z,9.8nm,0.7s,mb4.9
BHGR Bahadurgarh 81.98 300 *e*P **P** **22 21 09.6 +0.2**
COLA College 82.27 21 *e*P **P** **22 21 09.6 -1.3**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
COLA College 82.27 21 *e*P **P** **22 21 09.6 -1.3**
comp=Z,3.4nm,0.8s,mb4.3
MKAR Makanchi Array 82.27 319 P **P** **22 21 10.7 -0.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=76,slow=5.1,SNR=7.2
MKAR pP pP 22 21 24.6 -0.5
comp=Z,2.1nm,0.8s,baz=118,slow=4.1,SNR=7.5
MKAR LR LR 22 53 43.0
comp=Z,25nm,21.0s,MS3.5,baz=176,slow=33
MKAR Makanchi Array 82.27 319 P **P** **22 21 10.7 -0.2**
MKAR *PP pP 22 21 24.6 -0.5
KHET Khetri 82.85 299 *e*P **P** **22 21 10.1 -3.8**
KHET AMb AMB 22 21 11.5
comp=Z,17nm,1.4s,mb4.9
ZAL Zalesovo 83.02 326 P **P** **22 21 13.1 -1.7**
comp=Z,0.8nm,0.4s,mb4.1,baz=351,slow=6.6,SNR=3.6
ZAL pP pP 22 21 27.9 -1.2
comp=Z,1.1nm,0.4s,baz=130,slow=1.0,SNR=3.1
AJM Ajmer 83.58 297 *e*P **P** **22 21 17.9 +0.2**
AJM AMb AMB 22 21 19.0
comp=Z,23nm,0.9s,mb5.3
QSPA South Pole Qui 84.04 180 *e*P **P** **22 21 19.7 -0.4**
comp=Z,55nm,1.0s,mb5.6
EGAK Eagle 84.73 23 *e*P **P** **22 21 23.5 0.0**
comp=Z,8.1nm,1.0s,mb4.8
DAWY Dawson 85.12 24 *e*P **P** **22 21 25.4 -0.1**
MAW Mawson 85.19 203 P **P** **22 21 24.9 -0.9**
comp=Z,6.6nm,0.7s,mb4.9,baz=86,slow=5.8,SNR=24
MAW pP pP 22 21 39.6 -0.5
comp=Z,3.2nm,0.6s,baz=101,slow=7.9,SNR=4.1
MAW LR LR 22 54 23.3
comp=Z,66nm,19.7s,MS4.0,baz=243,slow=32
MAW Mawson 85.19 203 P **P** **22 21 24.9 -0.9**
MAW *PP pP 22 21 39.6 -0.4
BVAR Borovoye Array 91.14 323 P **P** **22 21 52.6 -1.7**
comp=Z,0.8nm,0.8s,mb4.1,baz=95,slow=7.4,SNR=3.8
BVAR pP pP 22 22 07.0 -1.6
comp=Z,0.6nm,0.5s,baz=112,slow=5.5,SNR=3.6
NVAR Mina Array Bea 91.46 52 P **P** **22 21 57.1 +1.3**
comp=Z,1.8nm,0.9s,mb4.4,baz=256,slow=4.2,SNR=11
YKA Yellowknife Ar 95.63 28 LR LR 23 00 26.8
comp=Z,38nm,18.9s,MS3.9,baz=250,slow=32
PDAR Pinedale Array 98.36 48 LR LR 22 58 18.3
comp=Z,93nm,21.5s,MS4.2,baz=254,slow=30
LAO LASA Array 100.66 44 *e*P Pdif 22 22 36.1 -1.5
LPAZ La Paz 132.41 118 PKP PKPdf 22 28 04.4 +0.9
comp=Z,0.9nm,0.7s,baz=310,slow=6.6,SNR=4.2
TOA0 Torodi Ar. Sit 152.25 287 *e*PKPbc PKPbc 22 28 44.3 -0.7
TORD Torodi Ar. Bea 152.25 287 PKPbc PKPbc 22 28 44.7 -0.3
comp=Z,1.7nm,0.7s,baz=80,slow=2.1,SNR=18
TORD PKPab PKPab 22 28 55.4 +0.4
comp=Z,4.3nm,0.9s,baz=70,slow=4.3,SNR=14
TORD Torodi Ar. Bea 152.25 287 PKPbc PKPbc 22 28 44.7 -0.3
TORD PKPab PKPab 22 28 55.4 +0.4

NIED **04** *22:28:00, 3380N×141.70E, h5km, Mw4.1 Best double couple: M0 1.68000×10^15 NP1:φs 329.00000°, δ 82.00000°, λ 73.00000°. NP2:φs 213.00000°, δ 19.00000°, λ 153.00000°.*
IDC **04** *22:28:20.4± 0.7, 3381N×141.67E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.0/26, mbtmp4.1/15, ML3.9/3, MS3.5/3, Ms1 3.6/3, ms1mx2.9/33, Error ellipse: s-maj=21.0km s-min=13.2km az=83.0*
MOS **04** *22:28:22.4± 1.1, 3393N×141.92E, h33km, mb4.3/9, Error ellipse: s-maj=30.0km s-min=11.5km az=115.8*
NEIC **04** *22:28:23.4, 3383N×141.66E, h38km, MG3.9(JMA), After JMA.*
ISCJB **04** *22:28:23.5± 0.9, 3381N±004×141.66E±007, h37km±7km, mb4.3/16, MS3.7/2, Error ellipse: s-maj=10.4km s-min=6.6km az=140.7*
JMA **04** *22:28:23.4± 0.2, 3383N×141.66E, h38km, M3.9*
ISC 04 22:28:23.0± 1.6, 3382N±004×14166E±006, h19km±10km, n50, σ0°81/62, mb4.3/16, MS3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.01**	**326**	P		**Pb**	**22 28 41.3**	**-0.6**
BSO1				*e*S		**Sb**	**22 28 54.6**	**-0.1**
BSO3	**Boso 3**	**1.37**	**316**	P		**Pn**	**22 28 46.6**	**-0.5**
BSO4	**Boso 4**	**1.60**	**317**	P		**Pn**	**22 28 50.7**	**+0.4**
JHJ2	**Mitsune**	**1.69**	**246**	P		**Pn**	**22 28 51.8**	**+0.3**
JHJ	**Hachijo jima 2**	**1.71**	**247**	Pn		**Pn**	**22 28 52.1**	**+0.3**
	142nm,0.3s,baz=116,slow=4.2,SNR=66							
JHJ					Sn	**Sn**	**22 29 13.1**	**-0.1**
	243nm,0.3s,baz=72,slow=22,SNR=10							
JIM2	**Oshima 3**	**2.05**	**297**	P		**Pn**	**22 28 55.7**	**-0.8**
JIM2					S	**Sn**	**22 29 20.9**	**-0.6**
JIZS	**Izushimoda**	**2.47**	**292**	P		**Pn**	**22 29 02.3**	**0.0**
JIZS				*e*S		**Sn**	**22 29 31.1**	**-0.8**
JOD2	**Odawara 2**	**2.56**	**305**	P		**Pn**	**22 29 02.8**	**-0.8**
JOD2				*e*S		**Sn**	**22 29 32.5**	**-1.7**
JYN	**Shimob**	**3.06**	**304**	P		**Pn**	**22 29 10.5**	**+0.1**
JYN				S		**Sn**	**22 29 47.3**	**+0.7**
SHZ3	**Shizuoka 3**	**3.11**	**295**	P		**Pn**	**22 29 12.3**	**+1.3**
JRY	**Ryogami san**	**3.15**	**315**	P		**Pn**	**22 29 11.6**	**-0.1**
JRY				*e*S		**Sn**	**22 29 50.7**	**+1.9**
JAG	**Ashikaga**	**3.17**	**326**	P		**Pn**	**22 29 12.0**	**+0.1**
TK04	**Tokai 4**	**3.19**	**281**	P		**Pn**	**22 29 13.3**	**+1.2**
MJAR	**Matsushiro Arr**	**3.92**	**315**	Pn		**Pn**	**22 29 22.9**	**+0.7**
	7.6nm,0.3s,baz=140,slow=13,SNR=71							
MJAR					Sn	**Sn**	**22 30 08.6**	**+0.9**
	7.5nm,0.3s,baz=149,slow=17,SNR=10							
MJAR	**Matsushiro Arr**	**3.92**	**315**	P		**Pn**	**22 29 22.9**	**+0.7**
MJAR							22 30 08.6	
MJAR					pmax	pmax		
	comp=Z,8.0nm,0.3s							
MJAR					smax			
	comp=N,8.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.92**	**315**	Pn		**Pn**	**22 29 22.9**	**+0.7**
MJAR					Sn	**Sn**	**22 30 08.6**	**+0.9**
MAJO	**Matsushiro**	**3.92**	**315**	*e*Pn		**Pn**	**22 29 22.7**	**+0.5**
MAJO				*e*Sn		**Sn**	**22 30 05.9**	**-1.8**
MAT	**Matsushiro**	**3.92**	**315**	P		**Pn**	**22 29 23.1**	**+0.9**
MAT				S		**Sn**	**22 30 08.5**	**+0.8**
CBIJ	**Chichi jima**	**6.71**	**176**	Pn		**Pn**	**22 29 59.3**	**-1.3**
	comp=N,8.5nm,0.3s,baz=280,slow=22,SNR=9.8							
CBIJ					Sn	**Sn**	**22 31 12.2**	**-4.4**
	comp=N,13nm,0.3s,baz=80,slow=23,SNR=5.7							
ASAJ	**Asahikawa 10.31 4**			Pn		**Pn**	**22 30 47.6**	**-2.3**
	comp=N,0.9nm,0.3s,baz=216,slow=9.6,SNR=7.1							
ASAJ					Sn	**Sn**	**22 32 38.6**	**-6.4**
	comp=N,0.5nm,0.3s,baz=306,slow=30,SNR=2.5							
ASAJ	**Asahikawa 10.31 4**			P		**Pn**	**22 30 47.7**	**-2.2**
ASAJ							22 32 38.6	
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ASAJ					smax			
	comp=N,1.0nm,0.3s							
JOW	**Kunigami 13.48 242**			LR		LR	22 36 35.2	
	comp=N,141nm,18.8s,baz=296,slow=37							
SONM	**Songino Array 29.85 309**			P		**P**	**22 34 30.2**	**+1.2**
	comp=N,1.3nm,0.8s,mb3.7,baz=112,slow=8.4,SNR=6.4							
SONM	**Songino Array 29.85 309**			P		**P**	**22 34 30.2**	**+1.1**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.8s							
PMG	**Port Moresby 43.30 172**			P		**P**	**22 36 24.5**	**+0.9**
	comp=Z,2.6nm,0.4s,mb4.3,baz=243,slow=14,SNR=2.8							
PMG	**Port Moresby 43.30 172**			P		**P**	**22 36 24.5**	**+1.0**
PMG					pmax	pmax		
	comp=Z,3.0nm,0.4s							
ZAL	**Zalesovo 44.29 315**			P		**P**	**22 36 31.6**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=337,slow=2.6,SNR=4.4							
ZAL	**Zalesovo 44.29 315**			P		**P**	**22 36 31.6**	**+0.1**
ZAL					pmax	pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array 46.06 305**			P		**P**	**22 36 45.7**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=82,slow=9.3,SNR=14							
MKAR	**Makanchi Array 46.06 305**			P		**P**	**22 36 45.7**	**+0.2**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
JIRN	**Jiri 47.59 278**			*e*P		**P**	**22 36 57.7**	**+0.2**
	comp=Z,10.0nm,0.4s,mb5.2							
GUN	**Gumba 47.75 279**			*e*P		**P**	**22 36 58.8**	**0.0**
KKN	**Kakani 48.29 279**			*e*P		**P**	**22 37 02.7**	**-0.3**
	comp=Z,14nm,0.9s,mb5.0							
DMN	**Daman 48.50 279**			*e*P		**P**	**22 37 03.8**	**-0.8**
GKN	**Gorkha 48.74 279**			*e*P		**P**	**22 37 05.9**	**-0.5**
	comp=Z,15nm,1.1s,mb4.9							
KDAK	**Kodiak Island 49.39 40**			P		**P**	**22 37 12.2**	**+0.8**
	comp=Z,3.6nm,0.5s,mb4.7,baz=301,slow=8.0,SNR=7.5							
KOLN	**Koldanda 49.68 280**			*e*P		**P**	**22 37 13.1**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi 53.84 199**			P		**P**	**22 37 45.3**	**+0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=17,slow=13,SNR=9.6							
WRA	**Warramunga Arr 53.91 189**			P		**P**	**22 37 44.9**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=4.9,slow=7.7,SNR=6.3							
WRA	**Warramunga Arr 53.91 189**			P		**P**	**22 37 44.9**	**-0.3**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs 57.64 188**			P		**P**	**22 38 12.1**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=4.6,slow=7.0,SNR=13							
ASAR	**Alice Springs 57.64 188**			P		**P**	**22 38 12.1**	**+0.2**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ARU	**Arti 58.92 320**			*e*P		**P**	**22 38 19.9**	**-1.0**
ARCES	**ARCESS Array B 67.08 340**			P		**P**	**22 39 15.6**	**+0.4**
	comp=Z,7.0nm,1.1s,mb4.6,baz=46,slow=7.7,SNR=2.7							
ARCES	**ARCESS Array B 67.08 340**			P		**P**	**22 39 15.6**	**+0.5**
ARCES					pmax	pmax		
	comp=Z,7.0nm,1.1s							
FINES	**FINESS Array B 71.76 333**			P		**P**	**22 39 43.8**	**-0.3**
	comp=Z,4.4nm,1.1s,mb4.3,baz=35,slow=7.0,SNR=5.6							
FINES	**FINESS Array B 71.76 333**			P		**P**	**22 39 43.8**	**-0.2**
FINES					pmax	pmax		
	comp=Z,4.0nm,1.1s							
AKASG	**Malin Array Be 76.97 323**			P		**P**	**22 40 14.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=46,slow=5.9,SNR=8.1							
AKASG					LR	LR	23 14 40.2	
	comp=Z,34nm,18.2s,MS3.7,baz=35,slow=36							
AKASG	**Malin Array Be 76.97 323**			P		**P**	**22 40 14.3**	**-0.1**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG					MLR	MLR		
	comp=Z,34nm,18.2s							
NOA	**NORSAR Array B 77.23 338**			P		**P**	**22 40 15.8**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=4.4,SNR=2.2							
NOA					LR	LR	23 18 25.8	
	comp=Z,34nm,18.7s,MS3.7,baz=55,slow=39							

CSEM **04** *23:10:44.9, 67.19N×2071E, h0km, ML3.0, Mining explosion. After UPP*
UPP **04** *23:10:44.9, 67.19N×2071E, h0km, ML3.0, Mining explosion.*
HEL 04 23:10:45.5± 0.0, 6718N×2068E, h0km, ML3.0(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**216**	*i*P		Pg	23 10 46.8	-0.1
DUNU	**Dundret**	**0.08**	**216**	P		Pg	23 10 46.8	-0.2
	baz=109							
KUA	**Kurravaara**	**0.79**	**350**	*i*P		Pg	23 10 59.5	-1.1
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P		Pg	23 11 02.4	-1.1
NIKU	**Nikkaluokta**	**0.94**	**318**	P		Pg	23 11 02.3	-1.1
PAJU	**Pajala**	**0.96**	**98**	*e*P		Pg	23 11 02.7	-1.2
LANU	**Lannavaara**	**1.00**	**29**	*e*P		Pg	23 11 03.5	-1.3
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	23 11 03.9	-1.4
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P		Pn	23 11 16.1	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P		Pn	23 11 18.4	+0.2
KIF				*e*S		Sn	23 11 43.3	+1.2
SGF	**Sodankyl**	**2.28**	**81**	*e*PB		Pb	23 11 25.1	-2.4
SGF				*e*SG		Sg	23 11 55.5	-3.3

IDC **04** *23:18:14.7± 6.3, 2.210S×138.09E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.8/15, mbtmp4.1/5, ML4.2/2, Error ellipse: s-maj=90.9km s-min=58.4km az=177.0*
ISCJB **04** *23:18:21.0± 5.0, 2.25S± 05×138.0E± 02, h33km, mb4.0/2, Error ellipse: s-maj=68.4km s-min=29.5km az=169.0*
NEIC **04** *23:18:25.9± 4.7, 2.277S×138.06E, h35km, mb3.9/1, Error ellipse: s-maj=65.3km s-min=25.8km az=174.0*
ISC 04 23:18:29.4± 12.0, 2.29S± 09×138.0E± 02, h66km± 49km, n12, σ0°69/12, mb4.0/2, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.19**	**209**	*i*P		**Pn**	**23 21 07.3**	**+0.9**
	26nm,0.6s							
WRAB	**Tennant Creek**	**17.31**	**191**	*e*Pn		**Pn**	**23 22 25.8**	**-0.7**
	5.1nm,0.6s							
WB2	**Warramunga Arr**	**17.32**	**191**	*e*P		**Pn**	**23 22 26.0**	**-0.6**
WB2				*e*			23 23 10.5	
WB2	**Warramunga Arr**	**17.32**	**191**	*e*Pn		**Pn**	**23 22 25.7**	**-0.9**
WRA	**Warramunga Arr**	**17.32**	**192**	P		**Pn**	**23 22 27.0**	**+0.4**
	1.6nm,0.3s,baz=16,slow=12,SNR=16							
CTA	**Charters Tower**	**18.92**	**155**	P		**Pn**	**23 22 45.4**	**-0.6**
	0.2nm,0.3s,baz=285,slow=12,SNR=2.0							
CTA	**Charters Tower**	**18.92**	**155**	P		**Pn**	**23 22 45.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.36**	**218**	P		**Pn**	**23 22 50.0**	**-1.2**
	0.8nm,0.3s,baz=30,slow=8.1,SNR=5.2							
AS31	**Alice Springs**	**21.03**	**190**	*e*P		**P**	**23 23 08.2**	**+0.6**
ASAR	**Alice Springs**	**21.03**	**190**	P		**P**	**23 23 08.0**	**+0.4**
	5.8nm,0.4s,mb4.3,baz=12,slow=10,SNR=120							
ASPA	**Alice Springs**	**21.03**	**190**	*e*P		**P**	**23 23 08.1**	**+0.5**
ASPA				*e*			23 23 53.1	
STKA	**Stephens Creek**	**29.04**	**174**	P		**P**	**23 24 23.7**	**+0.5**
	0.9nm,0.5s,mb3.6,baz=336,slow=10.0,SNR=3.1							

CSEM **04** *23:36:21.6, 67.17N×2066E, h0km, ML2.8, Mining explosion. After UPP*
UPP **04** *23:36:21.6, 67.17N×2066E, h0km, ML2.8, Mining explosion.*
HEL 04 23:36:22.3± 0.0, 6716N×2062E, h0km, ML2.8(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.05**	**205**	*i*P		Pg	23 36 23.1	-0.1
DUNU	**Dundret**	**0.05**	**205**	P		Pg	23 36 23.1

SJUU	**Sjulsmark**	**1.71**	**166**	*e*P	Pn	23 36 52.8	-0.6
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*P	Pn	23 36 55.6	+0.4
KIF				*e*S	Sn	23 37 19.8	+0.5
SGF	**Sodankyl**	**2.31**	**80**	*e*PB	Pb	23 37 02.3	-2.5
SGF				*e*SG	Sg	23 37 33.4	-3.1

NEIC ***04*** *23:57:02.0, 3845S×17597E, h128km, MG3.8(WEL), After WEL.*

WEL 04 23:57:00.2±0.4, 3838S×17592E, h150km±3km, ML3.6/10, Error ellipse: s-maj=2.9km s-min=2.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.79**	**199**	P	Pn	23 57 23.3	0.0
WTVZ	**West Tongariro**	**0.79**	**199**	PN	Pn	23 57 23.3	0.0
TWVZ	**Taurewa**	**0.79**	**208**	P	Pn	23 57 23.3	-0.1
TWVZ	**Taurewa**	**0.79**	**208**	PN	Pn	23 57 23.3	-0.1
NGZ	**Ngauruhoe**	**0.84**	**197**	PN	Pn	23 57 24.0	+0.3
WPVZ	**Whakapapa**	**0.88**	**199**	P	Pn	23 57 24.3	+0.3
WPVZ	**Whakapapa**	**0.88**	**199**	PN	Pn	23 57 24.3	+0.3
BKZ	**Black Stump Fm**	**0.91**	**151**	PN	Pn	23 57 24.4	+0.2
BKZ				SN	Sn	23 57 42.1	-0.5
TUVZ	**Tukino**	**0.92**	**193**	P	Pn	23 57 24.6	+0.3
TUVZ				S	Sn	23 57 38.5	-4.2
TUVZ	**Tukino**	**0.92**	**193**	PN	Pn	23 57 24.6	+0.3
TUVZ				SN	Sn	23 57 43.5	+0.8
FWVZ	**Far West T-bar**	**0.93**	**198**	P	Pn	23 57 24.7	+0.3
FWVZ	**Far West T-bar**	**0.93**	**198**	PN	Pn	23 57 24.7	+0.3
URZ	**Urewera**	**0.94**	**83**	P	Pn	23 57 24.4	-0.1
URZ	**Urewera**	**0.94**	**83**	PN	Pn	23 57 24.3	-0.1
URZ				SN	Sn	23 57 42.9	-0.1
WNVZ	**Wahianoa**	**0.99**	**195**	P	Pn	23 57 25.1	+0.2
WNVZ	**Wahianoa**	**0.99**	**195**	PN	Pn	23 57 25.1	+0.2
PKVZ	**Pokaka**	**1.02**	**206**	PN	Pn	23 57 25.2	0.0
MOVZ	**Moawhango**	**1.04**	**187**	PN	Pn	23 57 25.1	-0.2
MWZ	**Matawai**	**1.26**	**89**	P	Pn	23 57 27.8	+0.4
MWZ	**Matawai**	**1.26**	**89**	PN	Pn	23 57 27.8	+0.5
KNZ	**Kokohu**	**1.51**	**116**	*e*P	Pn	23 57 30.6	+0.7
KNZ	**Kokohu**	**1.51**	**116**	PN	Pn	23 57 30.6	+0.6
WAZ	**Wanganui**	**1.56**	**208**	P	Pn	23 57 30.4	0.0
TSZ	**Takapari Road**	**1.68**	**179**	P	Pn	23 57 31.4	-0.3
TSZ	**Takapari Road**	**1.68**	**179**	PN	Pn	23 57 31.3	-0.4
WPHZ	**Waipukurau**	**1.74**	**167**	PN	Pn	23 57 32.0	-0.3
PXZ	**Pawanui**	**1.81**	**157**	*e*PN	Pn	23 57 33.1	0.0
MXZ	**Matakaoa Point**	**2.05**	**67**	*e*PN	Pn	23 57 35.9	0.0
KIW	**Kapiti Island**	**2.60**	**197**	P	Pn	23 57 40.6	-2.0
KIW	**Kapiti Island**	**2.60**	**197**	PN	Pn	23 57 40.6	-2.0
MTW	**Mount Morrison**	**2.80**	**187**	P	Pn	23 57 42.9	-2.1
MTW	**Mount Morrison**	**2.80**	**187**	PN	Pn	23 57 42.9	-2.2
CAW	**Cannon Point**	**2.81**	**193**	P	Pn	23 57 43.1	-2.0
CAW	**Cannon Point**	**2.81**	**193**	PN	Pn	23 57 43.1	-2.0
MRW	**Makara Radio**	**3.00**	**198**	P	Pn	23 57 45.3	-2.3
MRW	**Makara Radio**	**3.00**	**198**	PN	Pn	23 57 45.3	-2.3
TRWZ	**Traveller**	**3.03**	**183**	PN	Pn	23 57 45.9	-2.0
MSWZ	**Moikau Station**	**3.08**	**189**	P	Pn	23 57 46.1	-2.5
MSWZ	**Moikau Station**	**3.08**	**189**	PN	Pn	23 57 46.1	-2.4
TCW	**Tory Channel**	**3.11**	**204**	P	Pn	23 57 46.4	-2.5
TCW	**Tory Channel**	**3.11**	**204**	PN	Pn	23 57 46.4	-2.5
NNZ	**Nelson**	**3.45**	**214**	*e*P	Pn	23 57 50.4	-2.9
QRZ	**Quartz Range**	**3.59**	**226**	*e*P	Pn	23 57 51.7	-3.4
QRZ	**Quartz Range**	**3.59**	**226**	PN	Pn	23 57 51.7	-3.4
BSWZ	**Blackbirch Sta**	**3.69**	**205**	P	Pn	23 57 53.6	-2.8
BSWZ	**Blackbirch Sta**	**3.69**	**205**	PN	Pn	23 57 53.6	-2.8
THZ	**Tophouse**	**4.10**	**213**	*e*P	Pn	23 57 59.7	-2.1
THZ	**Tophouse**	**4.10**	**213**	PN	Pn	23 57 59.7	-2.1
KHZ	**Kahutara**	**4.43**	**203**	*e*P	Pn	23 58 02.7	-3.4
KHZ	**Kahutara**	**4.43**	**203**	PN	Pn	23 58 02.7	-3.4
MQZ	**McQueen's Vall**	**5.87**	**204**	SN	Sn	23 59 20.8	-11

GII ***05*** *00:00:34.5±0.0, 2952N×3278E, h0km, ML2.8/2*
ISCJB ***05*** *00:00:36.5±0.7, 2935N±003×3280E±003, h29km±7km, Error ellipse: s-maj=5.4km s-min=4.6km az=171.7*
CSEM ***05*** *00:00:37.3, 2940N×3282E, h21km, ML2.6, After HLW*
HLW ***05*** *00:00:37.2, 2939N×3283E, h22km, Mb2.6*

ISC 05 00:00:36.8±0.4, 2937N±003×3279E±003, h25km±4km, n34, σ0§56/39, 7C-4D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNM		**0.07**	**83**	⇓*i*P	**Pb**	**00 00 41.3**	**0.0**
ZNM				S	**Sb**	**00 00 44.2**	**-0.1**
ZNM		**0.07**	**83**	P	**Pb**	**00 00 41.7**	**+0.4**
ZAF		**0.23**	**248**	⇑*i*P	**Pb**	**00 00 43.5**	**+0.7**
SUZ		**0.47**	**4**	⇓*i*P	**Pb**	**00 00 46.3**	**-0.3**
HRDS	**Abu Rudays**	**0.79**	**146**	⇓*e*P	**Pb**	**00 00 51.9**	**0.0**
GLL	**Jalalah**	**0.97**	**283**	⇑P	**Pn**	**00 00 54.9**	**+0.1**
KOT	**Kottamia**	**1.01**	**304**	P	**Pn**	**00 00 55.1**	**-0.2**
KOT				S	**Sb**	**00 01 08.1**	**-0.3**
GRB	**Gharib**	**1.09**	**180**	P	**Pn**	**00 00 56.4**	**-0.1**
HSAF	**As Saff**	**1.11**	**283**	P	**Pn**	**00 00 56.8**	**+0.1**
HNKL	**Nakhl**	**1.18**	**61**	⇑*e*P	**Pn**	**00 00 56.6**	**-1.0**
HNKL	**Nakhl**	**1.18**	**61**	P	**Pn**	**00 00 57.0**	**-0.6**
TR2		**1.27**	**140**	⇑P	**Pn**	**00 00 58.3**	**-0.6**
AMAG	**Maghara**	**1.32**	**16**	P	**Pn**	**00 00 59.2**	**-0.5**
HBNS	**Bani Suwayf**	**1.44**	**254**	P	**Pn**	**00 01 01.6**	**+0.3**
AYT	**Al 'Ayyat**	**1.47**	**284**	P	**Pn**	**00 01 01.8**	**0.0**
SQR		**1.48**	**291**	P	**Pn**	**00 01 02.0**	**+0.2**
FYM	**Al Fayyum**	**1.56**	**282**	⇑P	**Pn**	**00 01 03.0**	**+0.1**
TR1		**1.69**	**143**	P	**Pn**	**00 01 04.9**	**+0.1**
HBST	**Basata**	**1.70**	**95**	P	**Pn**	**00 01 04.4**	**-0.4**
HDHB	**Dhahab**	**1.72**	**111**	⇑P	**Pn**	**00 01 04.7**	**-0.5**
SHRM		**1.88**	**141**	P	**Pn**	**00 01 07.3**	**-0.1**
EIL	**Elat**	**1.91**	**80**	Pn	**Pn**	**00 01 08.2**	**+0.6**
AQBJ	**Aqaba**	**2.00**	**79**	Pn	**Pn**	**00 01 09.3**	**+0.3**
HRFI	**Mount Harif**	**2.06**	**71**	Pn	**Pn**	**00 01 09.3**	**-0.5**
HRFI				Sn	**Sn**	**00 01 37.6**	**+2.9**
KZIT	**Kziot**	**2.07**	**42**	Pn	**Pn**	**00 01 09.3**	**-0.6**
PRNI	**Paran**	**2.16**	**62**	Pn	**Pn**	**00 01 11.2**	**+0.1**
PRNI				Sn	**Sn**	**00 01 38.2**	**+1.1**
ASUT		**2.24**	**209**	P	**Pn**	**00 01 12.6**	**+0.3**
HHRG	**Al Ghardaqah**	**2.25**	**162**	P	**Pn**	**00 01 12.5**	**+0.1**
HHRG				S	**Sn**	**00 01 38.2**	**-1.1**
MASH	**Mash'abbe Sade**	**2.37**	**46**	Pn	**Pn**	**00 01 13.4**	**-0.6**
ZFRI	**Zfri**	**2.38**	**60**	Pn	**Pn**	**00 01 14.0**	**-0.2**
AWBH		**3.57**	**254**	P	**Pn**	**00 01 31.1**	**+0.6**
HADB		**4.32**	**157**	⇓P	**Pn**	**00 01 41.0**	**+0.1**
EMRS	**Mersa Alam**	**4.70**	**157**	⇑P	**Pn**	**00 01 46.3**	**+0.1**
HAGS	**Hagol**	**5.34**	**158**	⇑P	**Pn**	**00 01 55.6**	**+0.7**

CSEM ***05*** *00:17:30.9, 6783N×2020E, h4km, ML3.5, Mining explosion. After UPP*

UPP 05 00:17:30.9, 6783N×2020E, h4km, ML3.5, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 17 39.2	-0.2
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 17 44.2	-0.4
DUNU	**Dundret** baz=66	**0.72**	**168**	P	Pg	00 17 44.3	-0.5
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 17 45.6	-0.4
PAJU	**Pajala**	**1.39**	**124**	P	Pn	00 17 56.1	-0.9
HARU	**Harads**	**1.70**	**169**	P	Pn	00 18 01.6	+0.3

HEL 05 00:18:10.5±0.6, 6782N×2021E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	Pg	00 18 33.2	-0.6
KIF				*e*S	Sg	00 18 48.7	-0.8
SGF	**Sodankyl**	**2.44**	**96**	*e*SB	Sb	00 19 23.7	-2.3
SGF				MSG		00 19 27.1	
	comp=Z,8.8nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	*e*S	Sn	00 19 38.8	-0.7
OUL	**Oulu**	**3.57**	**138**	*e*SG	Sg	00 19 59.8	-5.3
OUL				MSG		00 20 01.7	
	comp=Z,1.8nm,0.2s						
KU4	**Liikasenvaara**	**3.94**	**107**	*e*SG	Sg	00 20 12.5	-4.6

IDC 05 00:35:43.7±1.9, 2877N×14025E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/19, Error ellipse: s-maj=49.4km s-min=27.6km az=59.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.39**	**134**	Pn	Pn	00 36 24.4	+0.3
	80nm,0.3s,baz=288,slow=22,SNR=45						
CBIJ				Sn	Sn	00 36 53.8	-0.3
	62nm,0.3s,baz=274,slow=22,SNR=12						
MJAR	**Matsushiro Arr**	**7.94**	**348**	Pn	Pn	00 37 40.0	-0.3
	0.1nm,0.3s,baz=161,slow=14,SNR=3.4						
JOW	**Kunigami**	**10.78**	**263**	LR	LR	00 41 36.2	
	comp=Z,24nm,20.6s,baz=130,slow=33						
ZAL	**Zalesovo**	**47.12**	**318**	LR	LR	01 05 31.4	
	comp=Z,37nm,20.6s,baz=179,slow=38						
WRA	**Warramunga Arr**	**48.76**	**187**	P	P	00 44 29.9	-0.3
	0.6nm,0.4s,baz=3.1,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**52.49**	**187**	P	P	00 44 58.9	+0.5
	0.4nm,1.0s,baz=17,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**60.33**	**179**	LR	LR	01 09 21.7	
	comp=Z,145nm,19.6s,baz=204,slow=34						

PRU ***05*** *00:37:31.6, 4584N×039E, h0km*
ISCJB ***05*** *00:37:36.5±0.2, 4724N±001×022E±002, h5km±1km, mb3.6/1, Error ellipse: s-maj=1.9km s-min=1.6km az=103.1*
SZGRF ***05*** *00:37:37.3, 4714N×007W, h10km, mb4.0, France*
IDC ***05*** *00:37:37.2±2.0, 4733N×012W, h0km, mb3.8/2, mb1 3.8/6, mb1mx3.5/23, mbtmp3.6/6, ML3.9/4, Error ellipse: s-maj=29.3km s-min=22.1km az=179.0*
MOS ***05*** *00:37:37.5±1.0, 4727N×011E, h10km, mb3.9/2, Error ellipse: s-maj=5.5km s-min=4.4km az=113.5*
STR ***05*** *00:37:39.5±0.3, 4729N×000E, h5km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***05*** *00:37:40.8±0.1, 4725N×015E, h10km, ML4.1/39, Error ellipse: s-maj=1.4km s-min=1.1km az=130.0*
NEIC ***05*** *00:37:40.4, 4728N×011E, h6km, ML4.0(STR), ML4.1(LDG), After LDG.*
LDG ***05*** *00:37:40.4±0.1, 4728N×011E, h6km, Md3.9/2, Ml4.1/44, Error ellipse: s-maj=1.8km s-min=1.5km az=162.0*
INMG ***05*** *00:37:43.1±2.3, 4721N×012W, h7km±11km, ML2.6, Error ellipse: s-maj=14.2km s-min=7.8km az=76.0*

ISC 05 00:37:38.7±0.2, 47254N±0010×016E±001, h7km±1km, n261, σ1§32/530, mb3.6/1, 7C-8D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d** SNR=1.0	**0.69**	**198**	*e*Pg	**Pg**	**00 37 52.7**	**+0.8**
MFF				*e*Sg	**Sg**	**00 38 01.6**	**+0.8**
	574nm,0.3s,SNR=1.0						
MFF	**Saint Martin d** SNR=1.0	**0.69**	**198**	*e*Pg	**Pg**	**00 37 52.7**	**+0.8**
MFF				*e*Sg	**Sg**	**00 38 01.6**	**+0.8**
	287nm,0.3s,SNR=1.0						
LCHF	**La Chataignera**	**0.85**	**227**	Pg	**Pg**	**00 37 55.5**	**+0.4**
CHIF	**Chize**	**1.19**	**200**	Pg	**Pg**	**00 38 02.5**	**+1.0**
CHIF				Sg	**Sg**	**00 38 17.2**	**+0.3**
GRR	**Gorron**	**1.33**	**329**	*e*Pg	**Pg**	**00 38 04.6**	**+0.4**
GRR				*e*Sg	**Sg**	**00 38 22.0**	**+0.6**
	1µm,0.3s,SNR=1.0						
GRR	**Gorron**	**1.33**	**329**	*e*Pn	**Pn**	**00 38 04.0**	**+0.3**
GRR				*e*Pg	**Pg**	**00 38 04.6**	**+0.4**
GRR				*e*Sg	**Sg**	**00 38 22.0**	**+0.6**
GRR	**Gorron**	**1.33**	**329**	*e*Pg	**Pg**	**00 38 04.6**	**+0.4**
GRR				*e*Sg	**Sg**	**00 38 22.0**	**+0.6**
	685nm,0.3s,SNR=1.0						
LDF	**La Druitiere** SNR=1.0	**1.35**	**352**	*e*Pg	**Pg**	**00 38 06.0**	**+1.3**
LDF				*e*Sg	**Sg**	**00 38 22.6**	**+0.3**
	1µm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**1.35**	**352**	*e*Pn	**Pn**	**00 38 04.6**	**+0.6**
LDF				*e*Pg	**Pg**	**00 38 06.0**	**+1.3**
LDF				*e*Sg	**Sg**	**00 38 22.6**	**+0.3**
LDF	**La Druitiere** SNR=1.0	**1.35**	**352**	*e*Pg	**Pg**	**00 38 06.0**	**+1.3**
LDF				*e*Sg	**Sg**	**00 38 22.6**	**+0.3**
	622nm,0.2s,SNR=1.0						
LRYF	**La Roche-sur-Y**	**1.35**	**241**	Pg	**Pg**	**00 38 05.1**	**+0.4**
LRYF				Sg	**Sg**	**00 38 21.4**	**-0.8**
MATF	**Mathat**	**1.46**	**193**	Pg	**Pg**	**00 38 08.3**	**+1.6**
MATF				Sg	**Sg**	**00 38 27.5**	**+1.9**
RENF	**Rennes**	**1.49**	**306**	Pg	**Pg**	**00 38 05.6**	**-1.7**
RENF				Sg	**Sg**	**00 38 23.6**	**-3.1**
FLN	**La Foliniere** baz=166,SNR=1.0	**1.57**	**344**	*e*Pn	**Pn**	**00 38 07.2**	**+0.2**
FLN	**La Foliniere** baz=167	**1.57**	**344**	*e*Pg	**Pg**	**00 38 09.0**	**+0.2**
FLN				*e*Sg	**Sg**	**00 38 28.6**	**-0.6**
	917nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**1.57**	**344**	*e*Pn	**Pn**	**00 38 07.2**	**+0.2**
FLN				*e*Pg	**Pg**	**00 38 09.0**	**+0.2**
FLN				*e*Sg	**Sg**	**00 38 28.6**	**-0.6**
FLN	**La Foliniere**	**1.57**	**344**	*e*Pg	**Pg**	**00 38 09.0**	**+0.2**
FLN				*e*Sg	**Sg**	**00 38 28.6**	**-0.6**
	458nm,0.3s,SNR=1.0						
OLEF	**Ile d'Oleron**	**1.67**	**219**	Pg	**Pg**	**00 38 10.6**	**-0.2**
OLEF				Sg	**Sg**	**00 38 32.4**	**-0.1**
HYF	**Humbligny**	**1.69**	**89**	*e*P	**Pn**	**00 38 11.6**	**+3.0**
HYF				*e*Sg	**Sg**	**00 38 33.7**	**+0.8**
HYF	**Humbligny**	**1.69**	**89**	*e*Pn	**Pn**	**00 38 10.0**	**+1.4**
HYF				*e*Sg	**Sg**	**00 38 33.7**	**+0.8**
HYF	**Humbligny**	**1.69**	**89**	*e*P	**Pn**	**00 38 11.6**	**+3.0**
HYF				*e*Sg	**Sg**	**00 38 33.7**	**+0.8**
TCF	**Toulx Ste Croi**	**1.71**	**124**	*e*Pg	**Pg**	**00 38 12.3**	**+0.9**
TCF				*e*Sn	**Sn**	**00 38 29.8**	**-1.1**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**00 38 34.0**	**+0.4**
	1µm,0.3s						
TCF	**Toulx Ste Croi**	**1.71**	**124**	*e*P	**Pn**	**00 38 09.7**	**+0.8**
TCF				*e*		00 38 29.8	
TCF	**Toulx Ste Croi**	**1.71**	**124**	*e*Pn	**Pn**	**00 38 09.7**	**+0.8**
TCF				*e*Pg	**Pg**	**00 38 12.3**	**+0.9**
TCF				*e*Sn	**Sn**	**00 38 29.8**	**-1.1**
TCF				*e*Sg	**Sg**	**00 38 34.0**	**+0.4**
TCF	**Toulx Ste Croi**	**1.71**	**124**	*e*Pg	**Pg**	**00 38 12.3**	**+0.9**
TCF				*e*Sn	**Sn**	**00 38 29.8**	**-1.1**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**00 38 34.0**	**+0.4**
	602nm,0.3s						
BGF	**Bois d'Agland**	**1.97**	**110**	*e*Pg	**Pg**	**00 38 17.3**	**+0.9**
BGF				*e*Sn	**Sn**	**00 38 38.4**	**+1.1**
BGF				*e*Sg	**Sg**	**00 38 43.7**	**+1.8**
	1µm,0.3s						
BGF	**Bois d'Agland**	**1.97**	**110**	*e*P	**Pn**	**00 38 13.5**	**+1.1**
BGF				*e*		00 38 38.4	
BGF	**Bois d'Agland**	**1.97**	**110**	*e*Pn	**Pn**	**00 38 13.5**	**+1.1**
BGF				*e*Pg	**Pg**	**00 38 17.3**	**+0.9**
BGF				*e*Sn	**Sn**	**00 38 38.4**	**+1.1**
BGF				*e*Sg	**Sg**	**00 38 43.7**	**+1.8**
BGF	**Bois d'Agland**	**1.97**	**110**	*e*Pg	**Pg**	**00 38 17.3**	**+0.9**
BGF				*e*Sn	**Sn**	**00 38 38.4**	**+1.1**
BGF				*e*Sg	**Sg**	**00 38 43.7**	**+1.8**
	548nm,0.3s						
SGMF	**Saint Gilles**	**2.09**	**300**	*e*Pg	**Pg**	**00 38 16.9**	**-1.9**
SGMF				*e*Sn	**Sn**	**00 38 37.0**	**-3.4**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**00 38 43.2**	**-2.7**
	176nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.09**	**300**	*e*Pn	**Pn**	**00 38 14.2**	**0.0**
SGMF				*e*Pg	**Pg**	**00 38 16.9**	**-1.9**
SGMF				*e*Sn	**Sn**	**00 38 37.0**	**-3.4**
SGMF				*e*Sg	**Sg**	**00 38 43.2**	**-2.7**
SGMF	**Saint Gilles** SNR=1.0	**2.09**	**300**	*e*Pn	**Pn**	**00 38 14.2**	**0.0**
SGMF				*e*Sn	**Sn**	**00 38 37.0**	**-3.4**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.16**	**154**	*e*P	**Pn**	**00 38 18.9**	**+3.7**
RJF	**Les Rejaudoux**	**2.16**	**154**	*e*Pg	**Pg**	**00 38 20.4**	**+0.2**
RJF				*e*Sg	**Sg**	**00 38 46.6**	**-1.7**
	642nm,0.4s						
RJF	**Les Rejaudoux**	**2.16**	**154**	*e*Pn	**Pn**	**00 38 15.8**	**+0.6**
RJF				*e*P		00 38 18.9	
RJF				*e*Pg	**Pg**	**00 38 20.4**	**+0.2**
RJF				*e*Sg	**Sg**	**00 38 46.6**	**-1.7**
RJF	**Les Rejaudoux**	**2.16**	**154**	*e*P	**Pn**	**00 38 18.9**	**+3.7**
RJF	**Les Rejaudoux**	**2.16**	**154**	*e*Pg	**Pg**	**00 38 20.4**	**+0.2**
RJF				*e*Sg	**Sg**	**00 38 46.6**	**-1.7**
	321nm,0.4s						
VERF	**Verneugheol**	**2.20**	**132**	Pn	**Pn**	**00 38 16.2**	**+0.6**
AVF	**Avril sur Loir** SNR=1.0	**2.23**	**101**	*e*Pg	**Pg**	**00 38 23.3**	**+1.8**
AVF				*e*Sn	**Sn**	**00 38 44.2**	**+0.4**
AVF				*e*Sg	**Sg**	**00 38 51.9**	**+1.5**
	183nm,0.3s						
AVF	**Avril sur Loir**	**2.23**	**101**	*e*P	**Pn**	**00 38 17.0**	**+0.9**
AVF				*e*		00 38 44.2	
AVF	**Avril sur Loir**	**2.23**	**101**	*e*Pn	**Pn**	**00 38 17.0**	**+0.9**
AVF				*e*Pg	**Pg**	**00 38 23.3**	**+1.8**
AVF				*e*Sn	**Sn**	**00 38 44.2**	**+0.4**
AVF				*e*Sg	**Sg**	**00 38 51.9**	**+1.5**
AVF	**Avril sur Loir** SNR=1.0	**2.23**	**101**	*e*Pg	**Pg**	**00 38 23.3**	**+1.8**
AVF				*e*Sn	**Sn**	**00 38 44.2**	**+0.4**
AVF				*e*Sg	**Sg**	**00 38 51.9**	**+1.5**
	91nm,0.3s						
SSF	**Saint Saulge**	**2.29**	**94**	*e*Pg	**Pg**	**00 38 24.0**	**+1.4**
SSF				*e*Sg	**Sg**	**00 38 51.2**	**-1.1**
	306nm,0.5s						
SSF	**Saint Saulge**	**2.29**	**94**	*e*Pn	**Pn**	**00 38 17.7**	**+0.8**
SSF				*e*Pg	**Pg**	**00 38 24.0**	**+1.4**
SSF				*e*Sg	**Sg**	**00 38 51.2**	**-1.1**
SSF	**Saint Saulge**	**2.29**	**94**	*e*Pg	**Pg**	**00 38 24.0**	**+1.4**
SSF				*e*Sg	**Sg**	**00 38 51.2**	**-1.1**
	153nm,0.5s						
LFF	**La Frestale**	**2.35**	**170**	*e*Pg	**Pg**	**00 38 23.7**	**-0.1**
LFF				*e*Sn	**Sn**	**00 38 46.9**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**00 38 53.2**	**-1.0**
	1µm,0.6s						
LFF	**La Frestale**	**2.35**	**170**	*e*P	**Pn**	**00 38 17.9**	**+0.2**
LFF				*e*		00 38 46.9	
LFF	**La Frestale**	**2.35**	**170**	*e*Pn	**Pn**	**00 38 17.9**	**+0.2**
LFF				*e*Pg	**Pg**	**00 38 23.7**	**-0.1**
LFF				*e*Sn	**Sn**	**00 38 46.9**	**+0.1**
LFF				*e*Sg	**Sg**	**00 38 53.2**	**-1.0**
LFF	**La Frestale**	**2.35**	**170**	*e*Pg	**Pg**	**00 38 23.7**	**-0.1**
LFF				*e*Sn	**Sn**	**00 38 46.9**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**00 38 53.2**	**-1.0**
	520nm,0.6s						
QUIF	**Quistinic**	**2.35**	**288**	*e*Pg	**Pg**	**00 38 22.0**	**-1.7**
QUIF				*e*Sn	**Sn**	**00 38 42.4**	**-4.4**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**00 38 52.1**	**-2.1**
	332nm,0.3s						
QUIF	**Quistinic**	**2.35**	**288**	*e*P	**Pn**	**00 38 17.7**	**0.0**
QUIF				*e*		00 38 42.4	
QUIF	**Quistinic**	**2.35**	**288**	*e*Pn	**Pn**	**00 38 17.7**	**0.0**
QUIF				*e*Pg	**Pg**	**00 38 22.0**	**-1.7**
QUIF				*e*Sn	**Sn**	**00 38 42.4**	**-4.4**
QUIF				*e*Sg	**Sg**	**00 38 52.1**	**-2.1**
	166nm,0.3s						
AGO	**Saint Agoulin**	**2.37**	**119**	Pg	**Pg**	**00 38 24.4**	**+0.2**
AGO	**Saint Agoulin**	**2.37**	**119**	Pn	**Pn**	**00 38 18.9**	**+0.9**
AGO				Pg	**Pg**	**00 38 24.4**	**+0.2**
AGO	**Saint Agoulin**	**2.37**	**119**	Pg	**Pg**	**00 38 24.4**	**+0.2**
LOR	**Lormes** baz=270,SNR=1.0	**2.52**	**88**	*e*Pn	**Pn**	**00 38 20.7**	**+0.7**
LOR				*e*Sn	**Sn**	**00 38 50.4**	**-0.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**00 38 57.9**	**-1.7**
	195nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.52**	**88**	*e*P	**Pn**	**00 38 20.7**	**+0.7**
LOR				*e*		00 38 50.4	
LOR	**Lormes** SNR=1.0	**2.52**	**88**	*e*Pn	**Pn**	**00 38 20.7**	**+0.7**
LOR				*e*Sn	**Sn**	**00 38 50.4**	**-0.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**00 38 57.9**	**-1.7**
	98nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.56**	**296**	*e*Pg	**Pg**	**00 38 25.3**	**-2.4**
ROSF				*e*Sn	**Sn**	**00 38 47.9**	**-4.0**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**00 38 57.5**	**-3.4**
	182nm,0.3s						
ROSF	**Rostrenen**	**2.56**	**296**	*e*Pn	**Pn**	**00 38 20.4**	**-0.2**
ROSF				*e*Pg	**Pg**	**00 38 25.3**	**-2.4**
ROSF				*e*Sn	**Sn**	**00 38 47.9**	**-4.0**
ROSF				*e*Sg	**Sg**	**00 38 57.5**	**-3.4**
ROSF	**Rostrenen** SNR=1.0	**2.56**	**296**	*e*Pn	**Pn**	**00 38 20.4**	**-0.2**
ROSF				*e*Sn	**Sn**	**00 38 47.9**	**-4.0**
	SNR=1.0						
SMF	**Signal de Mont** SNR=1.0	**2.59**	**102**	*e*Pg	**Pg**	**00 38 28.7**	**+0.3**
SMF				*e*Sn	**Sn**	**00 38 50.9**	**-1.9**
	SNR=1.0						
SMF			

45nm,0.3s
BAIF Baives 3.88 42 *e*P **Pn 00 38 44.0 +5.2**
BAIF Baives 3.88 42 *e*Pg **Pg 00 38 53.2 +0.1**
BAIF *e*Sn **Sn 00 39 21.0 -3.6**
SNR=1.0
BAIF *e*Sg **Sg 00 39 41.6 -1.8**
103nm,0.7s
BAIF Baives 3.88 42 *e*Pn **Pn 00 38 39.3 +0.5**
BAIF *e*P 00 38 44.0
BAIF *e*Pg **Pg 00 38 53.2 +0.1**
BAIF *e*Sg **Sg 00 39 41.6 -1.8**
BAIF Baives 3.88 42 *e*P **Pn 00 38 44.0 +5.2**
BAIF Baives 3.88 42 *e*Pg **Pg 00 38 53.2 +0.1**
BAIF *e*Sn **Sn 00 39 21.0 -3.6**
SNR=1.0
BAIF *e*Sg **Sg 00 39 41.6 -1.8**
52nm,0.7s
VIVF Saint-Julien-I 3.95 126 *e*Pg **Pg 00 38 54.2 -0.2**
VIVF *e*Sn **Sn 00 39 23.5 -2.8**
SNR=1.0
VIVF *e*Sg **Sg 00 39 44.6 -1.0**
197nm,0.5s,SNR=1.0
VIVF Saint-Julien-I 3.95 126 *e*P **Pn 00 38 40.6 +0.9**
VIVF *e* 00 39 23.5
VIVF Saint-Julien-I 3.95 126 *e*Pn **Pn 00 38 40.6 +0.9**
VIVF *e*Pg **Pg 00 38 54.2 -0.2**
VIVF *e*Sn **Sn 00 39 23.5 -2.8**
VIVF *e*Sg **Sg 00 39 44.6 -1.0**
VIVF Saint-Julien-I 3.95 126 *e*Pg **Pg 00 38 54.2 -0.2**
VIVF *e*Sn **Sn 00 39 23.5 -2.8**
SNR=1.0
VIVF *e*Sg **Sg 00 39 44.6 -1.0**
98nm,0.5s,SNR=1.0
DOU Dourbes 4.09 44 ⇑PN **Pn 00 38 42.3 +0.7**
DOU E 00 38 42.9
DOU E 00 38 47.2
DOU PNPN 00 38 49.5
DOU PB **Pb 00 38 51.7 +0.7**
DOU E 00 38 56.2
DOU XPG 00 39 00.1
DOU SN **Sn 00 39 29.5 -0.1**
LASF Ste Croix 4.10 139 *e*Pg **Pg 00 38 56.9 -0.4**
LASF *e*Sg **Sg 00 39 48.7 -1.7**
263nm,0.6s
LASF Ste Croix 4.10 139 *e*Pn **Pn 00 38 42.9 +1.1**
LASF *e*Pg **Pg 00 38 56.9 -0.4**
LASF *e*Sg **Sg 00 39 48.7 -1.7**
LASF Ste Croix 4.10 139 *e*Pg **Pg 00 38 56.9 -0.4**
LASF *e*Sg **Sg 00 39 48.7 -1.7**
131nm,0.6s
CABF La Chapelle 4.11 97 *e*Pg **Pg 00 38 55.4 -2.0**
SNR=1.0
CABF *e*Sn **Sn 00 39 27.7 -2.5**
CABF *e*Sg **Sg 00 39 51.3 +0.6**
137nm,0.7s,SNR=1.0
CABF La Chapelle 4.11 97 *e*P **Pn 00 38 42.9 +1.0**
CABF *e* 00 39 27.7
CABF La Chapelle 4.11 97 *e*Pn **Pn 00 38 42.9 +1.0**
CABF *e*Pg **Pg 00 38 55.4 -2.0**
CABF *e*Sn **Sn 00 39 27.7 -2.5**
CABF *e*Sg **Sg 00 39 51.3 +0.6**
CABF La Chapelle 4.11 97 *e*Pg **Pg 00 38 55.4 -2.0**
SNR=1.0
CABF *e*Sn **Sn 00 39 27.7 -2.5**
CABF *e*Sg **Sg 00 39 51.3 +0.6**
69nm,0.7s,SNR=1.0
OSSF Osses 4.12 195 Pn **Pn 00 38 41.1 -1.0**
MTLF Montolieu 4.17 159 *e*Pn **Pn 00 38 43.1 +0.3**
SNR=1.0
MTLF *e*Sn **Sn 00 39 29.2 -2.6**
MTLF *e*Sg **Sg 00 39 53.1 +0.4**
121nm,0.4s,SNR=1.0
MTLF Montolieu 4.17 159 *e*P **Pn 00 38 43.1 +0.3**
MTLF *e* 00 39 29.2
MTLF Montolieu 4.17 159 *e*Pn **Pn 00 38 43.1 +0.3**
SNR=1.0
MTLF *e*Sn **Sn 00 39 29.2 -2.6**
MTLF *e*Sg **Sg 00 39 53.1 +0.4**
60nm,0.4s,SNR=1.0
GIVF Givet 4.20 46 *e*Pg **Pg 00 38 58.7 -0.5**
GIVF *e*Sn **Sn 00 39 30.1 -2.4**
GIVF *e*Sg **Sg 00 39 53.1 -0.6**
72nm,0.4s,SNR=1.0
GIVF Givet 4.20 46 *e*P **Pn 00 38 43.9 +0.7**
GIVF *e* 00 39 30.1
GIVF Givet 4.20 46 *e*Pn **Pn 00 38 43.9 +0.7**
GIVF *e*Pg **Pg 00 38 58.7 -0.5**
GIVF *e*Sn **Sn 00 39 30.1 -2.4**
GIVF *e*Sg **Sg 00 39 53.1 -0.6**
GIVF Givet 4.20 46 *e*Pg **Pg 00 38 58.7 -0.5**
GIVF *e*Sn **Sn 00 39 30.1 -2.4**
GIVF *e*Sg **Sg 00 39 53.1 -0.6**
36nm,0.4s,SNR=1.0
LABF Labassere 4.21 181 Pn **Pn 00 38 42.8 -0.4**
EPF Esparros 4.22 178 *e*Pg **Pg 00 39 00.2 +0.5**
EPF *e*Sn **Sn 00 39 27.9 -5.2**
EPF *e*Sg **Sg 00 39 53.6 -0.8**
109nm,0.5s,SNR=1.0
EPF Esparros 4.22 178 *e*P **Pn 00 38 42.6 -0.9**
EPF *e* 00 39 27.9
EPF Esparros 4.22 178 *e*Pn **Pn 00 38 42.6 -0.9**
EPF *e*Pg **Pg 00 39 00.2 +0.5**
EPF *e*Sn **Sn 00 39 27.9 -5.2**
EPF *e*Sg **Sg 00 39 53.6 -0.8**
EPF Esparros 4.22 178 *e*Pg **Pg 00 39 00.2 +0.5**
EPF *e*Sg **Sg 00 39 53.6 -0.8**
54nm,0.5s,SNR=1.0
SNF Seneffe 4.24 38 PN **Pn 00 38 44.9 +1.2**
SNF PG **Pg 00 38 59.5 -0.5**
SNF XPG 00 39 03.0
HAU Haudompre 4.25 78 *e*Pg **Pg 00 38 59.5 -0.6**
HAU *e*Sn **Sn 00 39 30.0 -3.7**
82nm,0.4s,SNR=1.0
HAU *e*Sg **Sg 00 39 52.5 -2.7**
174nm,0.5s
HAU Haudompre 4.25 78 *e*P **Pn 00 38 43.4 -0.4**
HAU *e* 00 39 30.0
HAU Haudompre 4.25 78 *e*Pn **Pn 00 38 43.4 -0.4**
HAU *e*Pg **Pg 00 38 59.5 -0.6**
HAU *e*Sn **Sn 00 39 30.0 -3.7**
HAU *e*Sg **Sg 00 39 52.5 -2.7**
HAU Haudompre 4.25 78 *e*Pg **Pg 00 38 59.5 -0.6**
HAU *e*Sn **Sn 00 39 30.0 -3.7**
41nm,0.4s,SNR=1.0
HAU *e*Sg **Sg 00 39 52.5 -2.7**
87nm,0.5s
SJPF Ste Jean 4.25 194 *e*Pg **Pg 00 39 00.2 -0.1**
SJPF *e*Sn **Sn 00 39 28.0 -5.8**
24nm,0.3s,SNR=1.0
SJPF *e*Sg **Sg 00 39 54.4 -1.0**
56nm,0.5s
SJPF Ste Jean 4.25 194 *e*P **Pn 00 38 43.4 -0.5**
SJPF *e* 00 39 28.0
SJPF Ste Jean 4.25 194 *e*Pn **Pn 00 38 43.4 -0.5**
SJPF *e*Pg **Pg 00 39 00.2 -0.1**
SJPF *e*Sn **Sn 00 39 28.0 -5.8**
SJPF *e*Sg **Sg 00 39 54.4 -1.0**
SJPF Ste Jean 4.25 194 *e*Pg **Pg 00 39 00.2 -0.1**
SJPF *e*Sg **Sg 00 39 54.4 -1.0**
28nm,0.5s
ELIZ Elizondo 4.26 197 P **Pn 00 38 42.1 -1.9**
ELIZ 00 39 30.0
ELIZ Elizondo 4.26 197 Pn **Pn 00 38 42.1 -1.9**
ELIZ Sn **Sn 00 39 30.0 -3.9**
ELIZ Lg 00 39 53.8
RESF Ens 4.45 178 Pn **Pn 00 38 48.2 +1.6**
UCC Uccle 4.49 36 PN **Pn 00 38 47.4 +0.2**
UCC PNPN 00 38 55.7
UCC PB **Pb 00 38 59.5 +1.5**
UCC PG **Pg 00 39 06.3 +1.4**
SALF Salau 4.55 170 Pn **Pn 00 38 47.4 -0.6**
HINF Hinteralfeld 4.57 80 *e*Pg **Pg 00 39 05.5 -0.7**
HINF *e*Sn **Sn 00 39 37.1 -4.4**
SNR=1.0
HINF *e*Sg **Sg 00 40 02.6 -2.8**
49nm,0.3s,SNR=1.0
HINF Hinteralfeld 4.57 80 *e*P **Pn 00 38 47.5 -0.7**
HINF *e* 00 39 37.1
HINF Hinteralfeld 4.57 80 *e*Pn **Pn 00 38 47.5 -0.7**
HINF *e*Pg **Pg 00 39 05.5 -0.7**
HINF *e*Sn **Sn 00 39 37.1 -4.4**
HINF *e*Sg **Sg 00 40 02.6 -2.8**
HINF Hinteralfeld 4.57 80 *e*Pg **Pg 00 39 05.5 -0.7**
HINF *e*Sn **Sn 00 39 37.1 -4.4**
SNR=1.0
HINF *e*Sg **Sg 00 40 02.6 -2.8**
25nm,0.3s,SNR=1.0
EBIE Bielsa 4.57 180 Pn **Pn 00 38 48.3 +0.1**
EBIE Sn **Sn 00 39 42.6 +1.1**
EBIE Lg 00 40 07.1
EBIE Bielsa 4.57 180 Pn **Pn 00 38 48.3 +0.1**
EBIE Sn **Sn 00 39 42.6 +1.1**
OG01 Vacheresse 4.57 99 Pn **Pn 00 38 49.8 +1.5**
ORIF Oris-en-Rattie 4.61 118 *e*Pg **Pg 00 39 06.4 -0.7**
SNR=1.0
ORIF *e*Sn **Sn 00 39 39.6 -3.0**
SNR=1.0
ORIF *e*Sg **Sg 00 40 04.1 -2.7**
81nm,0.7s,SNR=1.0
ORIF Oris-en-Rattie 4.61 118 *e*P **Pn 00 38 50.6 +1.8**
ORIF *e* 00 39 39.6
ORIF Oris-en-Rattie 4.61 118 *e*Pn **Pn 00 38 50.6 +1.8**
ORIF *e*Pg **Pg 00 39 06.4 -0.7**
ORIF *e*Sn **Sn 00 39 39.6 -3.0**
ORIF *e*Sg **Sg 00 40 04.1 -2.7**
ORIF Oris-en-Rattie 4.61 118 *e*Pg **Pg 00 39 06.4 -0.7**
SNR=1.0
ORIF *e*Sg **Sg 00 40 04.1 -2.7**
40nm,0.7s,SNR=1.0
BCLA Clavier 4.64 45 PN **Pn 00 38 50.0 +0.8**
BCLA E 00 38 56.0
BCLA E 00 38 58.5
BCLA PG **Pg 00 39 08.3 +0.6**
BCLA Clavier 4.64 45 Pn **Pn 00 38 49.9 +0.7**
WLF Walferdange 4.66 57 *e*Pn **Pn 00 38 49.7 +0.3**
WLF *e*Sg **Sg 00 40 09.9 +1.6**
WLF Walferdange 4.66 57 PN **Pn 00 38 49.8 +0.4**
WLF PNPN 00 38 58.6
WLF PBPB 00 39 06.7
WLF PG **Pg 00 39 09.6 +1.7**
WLF XPG 00 39 10.7
WLF Walferdange 4.66 57 *e*Pn **Pn 00 38 49.6 +0.2**
WLF Walferdange 4.66 57 *e*Pn **Pn 00 38 49.6 +0.2**
WLF Walferdange 4.66 57 Pg **Pg 00 39 09.6 +1.7**
RSL Roselend 4.73 107 Pn **Pn 00 38 52.6 +2.1**
ELAN Lanestosa 4.76 214 Pn **Pn 00 38 50.4 -0.4**
ELAN Sn **Sn 00 39 41.7 -4.5**
ELAN Lanestosa 4.76 214 Pn **Pn 00 38 50.4 -0.4**
LPL La Plagne 4.87 109 *e*Pg **Pg 00 39 13.0 +1.1**
SNR=1.0
LPL *e*Sn **Sn 00 39 47.6 -1.3**
SNR=1.0
LPL *e*Sg **Sg 00 40 14.2 -0.8**
25nm,0.4s,SNR=1.0
LPL La Plagne 4.87 109 *e*P **Pn 00 38 54.5 +2.2**
LPL *e* 00 39 47.6
LPL La Plagne 4.87 109 *e*Pn **Pn 00 38 54.5 +2.2**
LPL *e*Pg **Pg 00 39 13.0 +1.1**
LPL *e*Sn **Sn 00 39 47.6 -1.3**
LPL *e*Sg **Sg 00 40 14.2 -0.8**
LPL La Plagne 4.87 109 *e*Pn **Pn 00 38 54.5 +2.2**
SNR=1.0
LPL *e*Sn **Sn 00 39 47.6 -1.3**
SNR=1.0
LPL *e*Sg **Sg 00 40 14.2 -0.8**
13nm,0.4s,SNR=1.0
LPG La Plagne 4.89 109 *e*Pn **Pn 00 38 55.0 +2.4**
SNR=1.0
LPG *e*Sn **Sn 00 39 46.1 -3.3**
SNR=1.0
LPG *e*Sg **Sg 00 40 16.7 +1.1**
47nm,0.5s,SNR=1.0
LPG La Plagne 4.89 109 *e*P **Pn 00 38 55.0 +2.4**
LPG *e* 00 39 46.1
LPG La Plagne 4.89 109 *e*Pn **Pn 00 38 55.0 +2.4**
SNR=1.0
LPG *e*Sg **Sg 00 40 16.7 +1.1**
24nm,0.5s,SNR=1.0
CDF Champ du Feu 4.93 74 *e*Pg **Pg 00 39 12.0 -1.1**
SNR=1.0
CDF *e*Sg **Sg 00 40 15.2 -1.8**
50nm,0.4s,SNR=1.0
CDF Champ du Feu 4.93 74 *e*Pn **Pn 00 38 52.0 -1.2**
CDF *e*Pg **Pg 00 39 12.0 -1.1**
CDF *e*Sg **Sg 00 40 15.2 -1.8**
CDF Champ du Feu 4.93 74 *e*Pg **Pg 00 39 12.0 -1.1**
SNR=1.0
CDF *e*Sg **Sg 00 40 15.2 -1.8**
25nm,0.4s,SNR=1.0
SMRF Simiane la Rot 5.01 129 *e*Pg **Pg 00 39 14.7 -0.1**
SMRF *e*Sg **Sg 00 40 17.7 -2.1**
65nm,0.6s,SNR=1.0
SMRF Simiane la Rot 5.01 129 *e*Pn **Pn 00 38 56.2 +1.8**
SMRF *e*Pg **Pg 00 39 14.7 -0.1**
SMRF Sg **Sg 00 40 17.7 -2.1**
SMRF Simiane la Rot 5.01 129 *e*Pg **Pg 00 39 14.7 -0.1**
SMRF *e*Sg **Sg 00 40 17.7 -2.1**
32nm,0.6s,SNR=1.0
ECRI Cripan 5.02 203 Pn **Pn 00 38 55.5 +1.2**
ECRI Sn **Sn 00 39 51.1 -1.5**
ECRI Cripan 5.02 203 Pn **Pn 00 38 55.5 +1.1**
ECRI Sn **Sn 00 39 51.1 -1.5**
BEBN Eben Emael 5.07 44 PN **Pn 00 38 56.1 +1.0**
BEBN APN 00 38 58.2
BEBN E 00 39 01.3
BEBN PG **Pg 00 39 16.5 +0.6**
MEM Membach 5.11 47 PN **Pn 00 38 56.0 +0.4**
MEM APN 00 38 57.9
MEM E 00 39 14.0
MEM PG **Pg 00 39 16.3 -0.3**
MEM E 00 39 22.7
LSD Ceresole Reale 5.16 108 P **Pn 00 38 58.6 +2.2**
RRL Cesana Torines 5.16 114 P **Pn 00 38 58.9 +2.5**
EJON La Jonquera 5.18 157 Pn **Pn 00 38 57.4 +0.7**
EJON Lg 00 40 27.8
EJON La Jonquera 5.18 157 Pn **Pn 00 38 57.4 +0.8**
MBDF Montbardon 5.25 116 *e*Pg **Pg 00 39 19.0 -0.3**
SNR=1.0
MBDF *e*Sn **Sn 00 39 55.6 -2.8**
11nm,0.4s,SNR=1.0
MBDF *e*Sg **Sg 00 40 26.4 -1.0**
33nm,0.6s
MBDF Montbardon 5.25 116 *e*P **Pn 00 38 59.9 +2.3**
MBDF *e* 00 39 55.6
MBDF Montbardon 5.25 116 *e*Pn **Pn 00 38 59.9 +2.3**
MBDF *e*Pg **Pg 00 39 19.0 -0.3**
MBDF *e*Sn **Sn 00 39 55.6 -2.8**
MBDF *e*Sg **Sg 00 40 26.4 -1.0**
MBDF Montbardon 5.25 116 *e*Pg **Pg 00 39 19.0 -0.3**
SNR=1.0
MBDF *e*Sn **Sn 00 39 55.6 -2.8**
5.4nm,0.4s,SNR=1.0
MBDF *e*Sg **Sg 00 40 26.4 -1.0**
16nm,0.6s
RSP Reno Superiore 5.35 111 P **Pn 00 39 02.0 +3.0**
RSP pmax pmax
comp=Z,27nm,0.4s
RSP Reno Superiore 5.35 111 Pn **Pn 00 39 02.0 +3.0**
comp=Z,27nm,0.4s
EMIR Miracle 5.43 169 Pn **Pn 00 39 01.6 +1.6**
EMIR Sn **Sn 00 40 02.8 +0.1**
EMIR Lg 00 40 35.9
EMIR Miracle 5.43 169 Pn **Pn 00 39 01.6 +1.6**
EMIR Sn **Sn 00 40 02.8 +0.1**
EARI Arriondas 5.48 226 Pn **Pn 00 39 02.2 +1.5**
EARI Sn **Sn 00 39 57.9 -6.0**
EARI Arriondas 5.48 226 Pn **Pn 00 39 02.2 +1.5**
ESAC San Caprasio 5.55 185 Pn **Pn 00 39 04.2 +2.5**
ESAC Sn **Sn 00 40 04.7 -1.0**
ESAC San Caprasio 5.55 185 Pn **Pn 00 39 04.2 +2.5**
ESAC Sn **Sn 00 40 04.7 -1.0**
PZZ Prazzo 5.57 117 P **Pn 00 39 05.1 +3.1**
BFO Black Forest 5.61 76 *e*Pn **Pn 00 39 01.4 -1.1**
BFO *e*Sg **Sg 00 40 38.6 -0.2**
BFO Black Forest 5.61 76 *e*Pn **Pn 00 39 01.4 -1.1**
comp=Z,7.8nm,0.6s
BFO *e*Sn **Sn 00 40 08.4 +1.2**
BFO *e*Sg **Sg 00 40 43.3 +4.5**
BFO Black Forest 5.61 76 *e*Pn **Pn 00 39 01.4 -1.1**
comp=Z,7.8nm,0.6s
ORX Oropa 5.64 104 P **Pn 00 39 05.4 +2.4**
ORO Oropa 5.64 104 P **Pn 00 39 06.0 +3.0**
ORO pmax pmax
comp=Z,30nm,0.4s
ORO Oropa 5.64 104 Pn **Pn 00 39 06.0 +3.0**
comp=Z,30nm,0.4s
DOI San Damiano 5.66 116 P **Pn 00 39 06.5 +3.3**
DOI pmax pmax
comp=Z,6.0nm,0.2s
DOI San Damiano 5.66 116 Pn **Pn 00 39 06.5 +3.3**
comp=Z,5.5nm,0.2s
FRF La Foret Royal 5.87 127 *e*Pg **Pg 00 39 30.5 -0.7**
SNR=1.0
FRF *e*Sn **Sn 00 40 11.7 -1.9**
SNR=1.0
FRF *e*Sg **Sg 00 40 47.8 +0.6**
comp=Z,14nm,0.4s,SNR=1.0
ENR Entracque 5.91 118 P **Pn 00 39 09.0 +2.3**
EPOB Poblet 5.94 173 Pn **Pn 00 39 07.3 +0.3**
EPOB Sn **Sn 00 40 14.4 -0.8**
EPOB Poblet 5.94 173 Pn **Pn 00 39 07.3 +0.3**
EPOB Sn **Sn 00 40 14.4 -0.9**
LMR La Mourre 5.95 129 *e*Pg **Pg 00 39 30.3 -2.4**
LMR *e*Sg **Sg 00 40 48.5 -1.2**
comp=Z,33nm,0.9s
LMR La Mourre 5.95 129 *e*Pn **Pn 00 39 08.0 +0.8**
LMR *e*Pg **Pg 00 39 30.3 -2.4**
LMR *e*Sg **Sg 00 40 48.5 -1.2**
LMR La Mourre 5.95 129 *e*Pg **Pg 00 39 30.3 -2.4**
LMR *e*Sg **Sg 00 40 48.5 -1.2**
comp=Z,16nm,0.9s
SBF Sospel 6.13 121 *e*Sg **Sg 00 40 54.2 -1.3**
comp=Z,53nm,0.7s
SBF Sospel 6.13 121 *e*Sg **Sg 00 40 54.2 -1.3**
comp=Z,26nm,0.7s
ROB Roburent 6.15 116 P **Pn 00 39 12.8 +2.9**
TNS Taunus Mts 6.23 58 *e*Pn **Pn 00 39 10.8 -0.3**
STU Stuttgart 6.25 73 *e*P **Pn 00 39 13.7 +2.4**
STU pmax pmax
comp=Z,12nm,0.6s
STU Stuttgart 6.25 73 *e*Pn **Pn 00 39 13.7 +2.4**
comp=Z,12nm,0.6s
STU *e*Pg **Pg 00 39 38.5 +0.1**
STU *e*Sg **Sg 00 41 03.5 +4.2**
STU Stuttgart 6.25 73 *e*Pn **Pn 00 39 13.7 +2.4**
comp=Z,12nm,0.6s
STU Stuttgart 6.25 73 *e*Pg **Pg 00 39 38.5 +0.1**
ERTA Horta de San J 6.30 179 Pn **Pn 00 39 14.7 +2.7**
ERTA Sn **Sn 00 40 21.0 -3.2**
ERTA Horta de San J 6.30 179 Pn **Pn 00 39 14.7 +2.7**
ERTA Sn **Sn 00 40 21.0 -3.1**
EPON Pontenova 6.48 235 Pn **Pn 00 39 15.2 +0.7**
EPON Sn **Sn 00 40 21.9 -6.8**
EPON Pontenova 6.48 235 Pn **Pn 00 39 15.2 +0.7**
DAVA Damuels 6.61 86 ⇓*i*Pn **Pn 00 39 17.6 +1.3**
DAVA ⇓*i*Sn **Sn 00 40 30.3 -1.6**
DAVA ⇑*i*Sg **Sg 00 41 12.5 +1.4**
comp=Z,14nm,0.6s
DAVA Damuels 6.61 86 ⇓*i*Pn **Pn 00 39 17.6 +1.2**
DAVA *i* Sn **Sn 00 40 30.3 -1.6**
DAVA *i* Sg **Sg 00 41 12.5 +1.4**
ETOR Torete 6.63 195 Pn **Pn 00 39 18.2 +1.6**
ETOR Sn **Sn 00 40 30.3 -2.0**
ETOR Torete 6.63 195 Pn **Pn 00 39 18.2 +1.7**
ETOR Sn **Sn 00 40 30.3 -2.0**
DAVOX Davos 6.66 91 Pn **Pn 00 39 19.4 +2.5**
baz=290,slow=16,SNR=10
DAVOX Sn **Sn 00 40 33.9 +0.8**
baz=341,slow=20,SNR=3.0
DAVOX Lg 00 41 15.0
baz=183,slow=23,SNR=3.0
DAVOX Davos 6.66 91 Pn **Pn 00 39 19.4 +2.4**
DAVOX Sn **Sn 00 40 33.9 +0.8**
EMOS Mosqueruela 6.90 184 Pn **Pn 00 39 21.9 +1.6**
EMOS Sn **Sn 00 40 37.9 -1.2**
EMOS Mosqueruela 6.90 184 Pn **Pn 00 39 21.9 +1.6**
EMOS Sn **Sn 00 40 37.9 -1.2**
ECAL Calabor 7.24 225 Pn **Pn 00 39 24.8 -0.1**
ECAL Sn **Sn 00 40 40.9 -6.5**
ECAL Calabor 7.24 225 Pn **Pn 00 39 24.8 -0.1**
PBRG Braganca 7.35 225 *e*Pn **Pn 00 39 26.9 +0.5**
PBRG *e*Sn **Sn 00 40 43.2 -6.8**
PBRG
comp=Z,2.1nm,0.1s
PBRG Braganca 7.35 225 *e*Pn **Pn 00 39 26.9 +0.5**
PBRG *e*Sn **Sn 00 40 43.2 -6.8**
comp=Z,2.1nm,0.1s
MOTA Moosalm 7.44 85 ⇓*i*Pn **Pn 00 39 29.5 +1.8**
MOTA ⇓*i*Sn **Sn 00 40 51.0 -1.3**
SQTA Sankt Quirin 7.52 86 ⇓*i*Pn **Pn 00 39 30.7 +1.9**
SQTA ⇑*i*Sn **Sn 00 40 51.4 -2.8**
FUR Furstenfeldbru 7.55 79 *e*Sg **Sg 00 41 40.5 -0.7**
STS Santiago 7.56 238 Pn **Pn 00 39 28.3 -1.0**
STS Sn **Sn 00 40 46.8 -8.3**
STS Santiago 7.56 238 Pn **Pn 00 39 28.3 -1.0**
APPI Appiano 7.62 92 Pn **Pn 00 39 34.1 +3.9**
comp=Z,97nm,2.6s
ETOS Mallorca 7.73 165 Pn **Pn 00 39 32.9 +1.3**
ETOS Mallorca 7.73 165 Pn **Pn 00 39 32.9 +1.3**
WATA Walderalm 7.76 85 ⇑*i*Pn **Pn 00 39 34.1 +2.0**
WATA ⇑*i*Sn **Sn 00 40 58.4 -1.8**
EMAZ Mazaricos 7.77 240 Pn **Pn 00 39 31.4 -0.7**
EMAZ Sn **Sn 00 40 51.8 -8.5**
WTTA Wattenberg 7.81 86 ⇓*i*Pn **Pn 00 39 35.0 +2.3**
WTTA ⇑*i*Sn **Sn 00 40 59.4 -1.9**
WTTA ⇑*i*Sg **Sg 00 41 51.0 +1.7**
comp=Z,7.8nm,0.7s
WTTA Wattenberg 7.81 86 ⇓*i*P **Pn 00 39 35.0 +2.3**
WTTA *i* 00 40 59.4
PGF Pioggiola 7.84 124 *e*Pn **Pn 00 39 33.7 +0.6**
PCAB Cabril 8.06 230 *e*Pn **Pn 00 39 35.9 -0.3**
PCAB *e*Sn **Sn 00 40 59.9 -7.7**
PCAB
comp=Z,3.6nm,0.1s
PCAB Cabril 8.06 230 *e*Pn **Pn 00 39 35.9 -0.3**
PCAB *e*Sn **Sn 00 40 59.9 -7.7**
comp=Z,3.6nm,0.1s
ESDC Sonseca Array 8.15 203 Pn **Pn 00 39 36.3 -1.1**
comp=Z,0.9nm,0.3s,baz=26,slow=13,SNR=9.7
ESDC Sn **Sn 00 41 03.3 -6.4**
comp=Z,0.6nm,0.3s,baz=353,slow=33,SNR=4.1
ESDC Sonseca Array 8.15 203 Pn **Pn 00 39 36.5 -0.9**
ESDC Sonseca Array 8.15 203 Pn **Pn 00 39 36.5 -0.9**
ESLA Sonseca Array 8.15 203 *e*Pn **Pn 00 39 37.5 +0.1**
comp=Z,0.1nm,0.5s
ESLA Sonseca Array 8.15 203 *e*Pn **Pn 00 39 37.5 +0.2**
comp=Z,0.1nm,0.5s
PVRL Vila Real 8.22 226 *e*Pn **Pn 00 39 37.3 -1.1**
PVRL *e*Sn **Sn 00 41 04.4 -7.2**
MOX Moxa 8.27 62 *e*SG Sx 00 42 15.4
ESK Eskdalemuir 8.34 347 *e*P **Pn 00 39 39.6 -0.5**
ESK pmax pmax
comp=Z,4.0nm,0.6s
ESK Eskdalemuir 8.34 347 *e*Pn **Pn 00 39 39.6 -0.5**
comp=Z,3.9nm,0.6s
ESK Eskdalemuir 8.34 347 *e*Pn **Pn 00 39 39.6 -0.5**
comp=Z,3.9nm,0.6s
EKA Eskdalemuir Ar 8.35 347 Pn **Pn 00 39 39.3 -0.9**
comp=Z,1.1nm,0.3s,baz=160,slow=14,SNR=15
EKA Sn **Sn 00 41 06.0 -8.8**
comp=Z,0.3nm,0.3s,baz=170,slow=27,SNR=3.8
PVIS Viseu 8.74 225 *e*Pn **Pn 00 39 44.3 -1.2**
PVIS *e*Sn **Sn 00 41 15.8 -8.5**
KHC Kasperske Hory 9.16 73 *e*PN **Pn 00 39 50.9 -0.3**
KHC *e*SG Sn 00 42 36.7 +62
GERES GERESS Array B 9.21 75 Pn **Pn 00 39 52.2 +0.3**
comp=Z,0.5nm,0.3s,baz=271,slow=13,SNR=15
GERES Sn **Sn 00 41 30.1 -5.7**
comp=Z,0.4nm,0.3s,baz=272,slow=26,SNR=3.1
GERES Lg 00 42 35.5
comp=Z,0.3nm,0.3s,baz=264,slow=27,SNR=3.4
PCBR Castelo Branco 9.25 220 *e*Sn **Sn 00 41 29.3 -7.6**
EADA Adamuz 9.73 203 Pn **Pn 00 40 00.6 +1.6**
EADA Adamuz 9.73 203 Pn **Pn 00 40 00.6 +1.6**
PRU Pruhonice 9.91 69 *e*SG Sx 00 43 02.8
PESTR Estremoz 10.12 217 *e*Pn **Pn 00 40 06.1 +1.7**
EVO Evora 10.57 217 *e*Pn **Pn 00 40 10.5 -0.1**
EVO *e*Sn **Sn 00 42 00.4 -8.9**
comp=Z,1.9nm,0.6s
FINES FINESS Array B 20.54 37 P **P 00 42 17.5 -0.1**
comp=Z,2.7nm,0.8s,baz=238,slow=9.4,SNR=5.0
FINES FINESS Array B 20.54 37 P **P 00 42 17.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 25.60 20 P **P 00 43 06.8 -1.7**
comp=Z,1.7nm,0.9s,mb3.6,baz=217,slow=9.9,SNR=5.2
ARCES ARCESS Array B 25.60 20 P **P 00 43 06.8 -1.7**
ARCES pmax pmax
comp=Z,2.0nm,0.9s

*ISCJB **05** 00:48:14.4±1.5, 3591N±008×2843E±007, h26km±8km, Error ellipse: s-maj=13.7km s-min=8.6km az=155.2*
*ISK **05** 00:48:14.0, 3598N×2848E, h20km, MD3.1*
*CSEM **05** 00:48:14.9±0.2, 3600N×2853E, h40km, MD3.1, Error ellipse: s-maj=6.0km s-min=3.8km az=152.0*
*ATH **05** 00:48:17.4, 3617N×2779E, h10km, MD3.4/3*
ISC 05 00:48:14.6±1.5, 3593N±008×2843E±007, h22km±9km, n12, σ0§70/16, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.38**	**319**	*e*PG	**Pb**	**00 48 23.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.86**	**11**	PG	**Pb**	**00 48 30.6**	**-0.2**
DALT				SG	**Sb**	**00 48 41.6**	**-0.2**
FETY	**Fethiye**	**0.88**	**36**	PG	**Pb**	**00 48 30.2**	**-1.0**
DAT	**Datca**	**1.06**	**319**	PG	**Pn**	**00 48 34.0**	**-0.1**
DAT				SG	**Sb**	**00 48 48.6**	**+1.0**
YER	**Yerkesik**	**1.21**	**354**	*e*PN	**Pn**	**00 48 36.2**	**0.0**
BDRM	**Kayabasi**	**1.39**	**325**	*i* P	**Pn**	**00 48 38.7**	**+0.1**
BDRM				*i* S	**Sn**	**00 48 54.8**	**-1.5**
ELL	**Elmali**	**1.45**	**55**	*e*PN	**Pn**	**00 48 38.8**	**-0.6**
MLSB	**Milas**	**1.46**	**339**	*e*PN	**Pn**	**00 48 39.9**	**+0.2**
GOLH	**Golhisar**	**1.59**	**34**	*i* P	**Pn**	**00 48 42.1**	**+0.7**
GOLH				*i* S	**Sn**	**00 49 02.9**	**+1.6**
DENT	**Denizli**	**1.89**	**15**	*e*PN	**Pn**	**00 48 45.2**	**-0.3**
SMG	**Samos**	**2.19**	**325**	*e*PN	**Pn**	**00 48 49.3**	**-0.4**
NPS	**Neapolis**	**2.39**	**255**	*e*PN	**Pn**	**00 48 52.9**	**+0.4**

*ISCJB **05** 01:34:08.5±1.2, 800S±009×7445W±008, h145km±13km, mb3.3/4, Error ellipse: s-maj=17.0km s-min=8.9km az=82.7*
*IDC **05** 01:34:08.6±2.2, 801S×7440W, h136km±25km, mb3.2/4, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=25.8km s-min=12.3km az=52.0*
*NEIC **05** 01:34:09.9±2.2, 801S×7439W, h143km±25km, mb3.8/1, Error ellipse: s-maj=28.0km s-min=15.3km az=209.0*
ISC 05 01:34:09.9±1.3, 802S±009×7447W±010, h143km±13km, n17, σ0§60/19, mb3.3/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.02**	**284**	P	**Pn**	**01 35 10.8**	**+0.6**
	14nm,0.3s,baz=61,slow=4.7,SNR=70						
ATAH				S	**Sn**	**01 35 56.4**	**-0.7**
	49nm,0.3s,baz=55,slow=24,SNR=9.9						
NNA	**Nana**	**4.58**	**210**	P	**Pn**	**01 35 18.3**	**+0.7**
	5.0nm,0.3s,baz=352,slow=7.2,SNR=14						
NNA				S	**Sn**	**01 36 09.7**	**-0.7**
	48nm,0.3s,baz=135,slow=23,SNR=26						
NNA	**Nana**	**4.58**	**210**	P	**Pn**	**01 35 18.3**	**+0.7**
NNA				S	**Sn**	**01 36 09.7**	**-0.7**
LPAZ	**La Paz**	**10.29**	**144**	P	**Pn**	**01 36 33.6**	**-0.1**
	0.5nm,0.3s,baz=326,slow=9.3,SNR=17						
SIV	**San Ignacio**	**15.30**	**122**	P	**Pn**	**01 37 37.9**	**-0.4**
	0.7nm,0.3s,baz=294,slow=11,SNR=18						
SIV				S	**S**	**01 40 22.7**	**-11**
	0.4nm,0.3s,baz=9.0,slow=8.8,SNR=5.0						
LVC	**Limon Verde**	**15.46**	**160**	P	**Pn**	**01 37 41.5**	**+1.3**
	0.2nm,0.3s,baz=11,slow=10,SNR=2.2						
LVC	**Limon Verde**	**15.46**	**160**	*e*Pn	**Pn**	**01 37 41.2**	**+1.0**
	3.6nm,0.8s						
CFAA	**Coronel Fontan**	**24.17**	**167**	P	**P**	**01 39 12.6**	**-0.3**
	0.2nm,0.4s,mb3.0,baz=346,slow=6.1,SNR=5.2						
TXAR	**Lajitas Array**	**46.58**	**324**	P	**P**	**01 42 24.2**	**+0.9**
	0.1nm,0.3s,mb2.9,baz=137,slow=8.5,SNR=2.8						
VNA3	**Neumayer Olymp**	**74.48**	**162**	*e*	**P**	**01 45 32.6**	**+0.1**
VNA3				*e*		01 45 46.2	
VNA1	**Neumayer--Stat**	**74.70**	**162**	*e*	**P**	**01 45 34.2**	**+0.4**
VNA1				*e*		01 45 48.0	
VNA2	**Neumayer--Watz**	**75.06**	**162**	*e*	**P**	**01 45 35.8**	**-0.1**
	baz=278,slow=4.9						
VNA2				*e*		01 45 49.7	
SNAA	**Sanae**	**76.69**	**162**	*e*	**P**	**01 45 44.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**78.50**	**75**	P	**P**	**01 45 54.1**	**-1.0**
	2.6nm,0.7s,mb4.0,baz=273,slow=5.7,SNR=29						
ESDC	**Sonseca Array**	**80.39**	**48**	P	**P**	**01 46 05.2**	**-0.1**
	0.4nm,0.6s,mb3.2,baz=255,slow=5.1,SNR=4.2						
ASAR	**Alice Springs**	**138.04**	**221**	PKP	PKPdf	01 53 17.9	+0.2
	0.3nm,0.5s,baz=122,slow=2.5,SNR=6.1						
WRA	**Warramunga Arr**	**140.30**	**225**	PKP	PKPdf	01 53 22.1	+0.4
	0.3nm,0.4s,baz=128,slow=1.8,SNR=6.2						

*BJI **05** 01:58:12.3, 320S×13928E, h61km, mB5.1, mb4.9, Ms4.6, Msz4.4*
*MOS **05** 01:58:13.2±1.3, 278S×13876E, h33km, mb5.1/16, MS4.5/4, Error ellipse: s-maj=14.0km s-min=6.7km az=109.0*
*ISCJB **05** 01:58:13.0±1.0, 285S±004×13893E±005, h37km±9km, mb4.9/55, MS4.6/20, Error ellipse: s-maj=8.4km s-min=6.8km az=153.2*
*NEIC **05** 01:58:14.7±0.2, 284S×13886E, h35km, mb5.0/27, MS4.5/2, Error ellipse: s-maj=7.9km s-min=5.2km az=83.0*
*GCMT **05** 01:58:14.7±0.2, 266S×13894E, h36km, MW5.1/74, Moment Tensor Solution. s64,c84; s74,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.14±.17; Mθθ -3.81±.12; Mφφ -1.33±.15; Mrθ -2.00±.13; Mθφ 3.16±.09; Mφr 1.20±. 18; Best double couple: Mo 6.02300×10^16 NP1: ϕs 126.00000°, δ 34.00000°, λ 93.00000°. NP2: ϕs 303.00000°, δ 56.00000°, λ 88.00000°. Principal axes: T 5.6120, Plg 79.0000°, Azm 206.0000°; N 0.8210, Plg 2.0000°, Azm 304.0000°; P -6.4330, Plg 11.0000°, Azm 34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **05** 01:58:14.8±0.6, 282S×13895E, h34km±3km, mb4.5/14, mb1 4.5/16, mb1mx4.5/17, mbtmp4.5/16, ML3.9/2, MS4.7/11, Ms1 4.7/11, ms1mx4.4/20 Error ellipse: s-maj=18.0km s-min=9.9km az=84.0*
ISC 05 01:58:16.2±0.9, 288S±004×13897E±006, h49km±8km, h48km±4.2km; pP-P, n124, σ1§09/128, mb4.9/55, MS4.6/20, 6C-6D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.77**	**78**	P	**Pn**	**01 58 41.0**	**-3.4**
	2µm,0.8s						
BAKI	**Biak**	**3.31**	**300**	P	**Pn**	**01 59 06.9**	**+1.4**
	2µm,0.7s						
MMPI	**Merauke**	**5.72**	**166**	P	**Pn**	**01 59 42.0**	**+3.4**
	2µm,1.4s						
SWI	**Sorong**	**7.96**	**284**	P	**Pn**	**02 00 09.7**	**+0.5**
	215nm,0.6s						
PMG	**Port Moresby**	**10.41**	**129**	Pn	**Pn**	**02 00 43.0**	**+0.3**
	1.0nm,0.3s,baz=289,slow=14,SNR=3.4						
PMG				Lg		02 03 52.9	
	baz=333,slow=14,SNR=1.6						
PMG	**Port Moresby**	**10.41**	**129**	‖ *i*P	**Pn**	**02 00 47.0**	**+4.3**
AAI	**Ambon**	**10.79**	**265**	P	**Pn**	**02 00 47.9**	**0.0**
	215nm,1.1s						
KAKA	**Kakadu**	**11.71**	**213**	*e*P	**Pn**	**02 00 59.3**	**-1.3**
	318nm,0.8s						
GUMO	**Guam**	**17.38**	**20**	LR	LR	02 08 27.9	
	comp=Z,2µm,19.9s,baz=259,slow=35						
WRAB	**Tennant Creek**	**17.54**	**195**	‖ *i*P	**Pn**	**02 02 15.7**	**-1.4**
WRAB	**Tennant Creek**	**17.54**	**195**	*e*Sn	**Sn**	**02 05 22.8**	**-8.6**
WB2	**Warramunga Arr**	**17.55**	**195**	*e*P	**Pn**	**02 02 14.9**	**-2.3**
WRA	**Warramunga Arr**	**17.55**	**195**	P	**Pn**	**02 02 15.0**	**-2.2**
	1.1nm,0.3s,baz=11,slow=13,SNR=40						
WRA				S	**S**	**02 05 23.9**	**-14**
	0.9nm,0.3s,baz=13,slow=22,SNR=4.4						
WRA				Lg		02 07 29.3	
	baz=14,slow=26,SNR=3.1						
WRA	**Warramunga Arr**	**17.55**	**195**	P	**Pn**	**02 02 15.0**	**-2.2**
WRA				S	**S**	**02 05 23.9**	**-14**
CTA	**Charters Tower**	**18.52**	**158**	*e*P	**Pn**	**02 02 30.9**	**+1.8**
	42nm,1.0s						
CTA	**Charters Tower**	**18.52**	**158**	P	**Pn**	**02 02 29.4**	**+0.4**
	1.0nm,0.3s,baz=332,slow=13,SNR=30						
CTA				Lg		02 08 11.5	
	0.4nm,0.3s,baz=260,slow=21,SNR=3.2						
CTA	**Charters Tower**	**18.52**	**158**	*e*P	**Pn**	**02 02 30.9**	**+1.8**
CTA				pmax	pmax		
	comp=Z,42nm,1.0s						
CTAO	**Charters Tower**	**18.52**	**158**	*e*P	**Pn**	**02 02 33.8**	**+4.7**
CTAO				pmax	pmax		
	comp=Z,107nm,1.2s						
CTAO	**Charters Tower**	**18.52**	**158**	*e*P	**Pn**	**02 02 33.8**	**+4.7**
	comp=Z,107nm,1.2s						
PCI	**Palu**	**19.22**	**275**	P	**Pn**	**02 02 39.4**	**+2.0**
	comp=Z,134nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.99**	**220**	*e*P	**Pn**	**02 02 44.8**	**-1.7**
	comp=Z,126nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.99**	**220**	P	**Pn**	**02 02 43.9**	**-2.7**
	comp=Z,67nm,0.9s,baz=45,slow=11,SNR=39						
FITZ				S	**S**	**02 06 15.0**	**-12**
	comp=Z,17nm,0.8s,baz=146,slow=8.8,SNR=3.6						
FITZ				LR	LR	02 11 25.2	
	comp=Z,4µm,18.9s,baz=43,slow=40						
ASAR	**Alice Springs**	**21.24**	**193**	P	**P**	**02 02 58.2**	**+0.2**
	comp=Z,30nm,0.9s,mb4.6,baz=24,slow=9.4,SNR=97						
ASAR				S	**S**	**02 06 54.1**	**+2.9**
	comp=Z,6.7nm,0.8s,baz=8.4,slow=22,SNR=3.8						
ASAR				Lg		02 09 30.3	
	comp=Z,6.5nm,1.0s,baz=95,slow=32,SNR=2.5						
ASAR				LR	LR	02 12 02.5	
	comp=Z,5µm,18.1s,MS4.9,baz=20,slow=39						
ASAR	**Alice Springs**	**21.24**	**193**	P	**P**	**02 02 58.2**	**+0.2**
ASAR				S	**S**	**02 06 54.1**	**+2.9**
ASAR	**Alice Springs**	**21.24**	**193**	P	**P**	**02 02 58.2**	**+0.2**
ASAR				S	**S**	**02 06 54.1**	**+2.9**
ASAR				Lg		02 09 30.3	
ASAR				LR	LR	02 12 02.5	
HNR	**Honiara**	**21.84**	**108**	P	**P**	**02 03 05.1**	**+0.7**
	comp=Z,63nm,0.6s,mb5.2,baz=264,slow=4.7,SNR=2.9						
HNR	**Honiara**	**21.84**	**108**	*e*P	**P**	**02 03 05.7**	**+1.3**
HNR				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.2						
HNR	**Honiara**	**21.84**	**108**	*e*P	**P**	**02 03 05.7**	**+1.3**
	comp=Z,73nm,0.8s,mb5.2						
KKM	**Kota Kinabalu**	**24.39**	**291**	*e*P	**P**	**02 03 29.0**	**-0.7**
TGY	**Tagaytay City**	**24.58**	**314**	P	**P**	**02 03 31.5**	**0.0**
	comp=Z,86nm,0.3s,baz=291,slow=22,SNR=8.8						
KMMI	**Kalianget**	**25.24**	**260**	P	**P**	**02 03 40.6**	**+3.1**
	comp=Z,250nm,1.1s,mb5.7						
MBWA	**Marble Bar**	**26.09**	**224**	*e*P	**P**	**02 03 45.8**	**+0.6**
	comp=Z,33nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**28.95**	**175**	*e*P	**P**	**02 04 11.4**	**+0.6**
	comp=Z,4.9nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**28.95**	**175**	P	**P**	**02 04 11.5**	**+0.8**
	comp=Z,2.4nm,0.4s,mb4.3,baz=305,slow=7.7,SNR=7.3						
STKA				Lg		02 13 59.4	
	comp=Z,4.1nm,1.0s,baz=84,slow=24,SNR=1.7						
STKA				LR	LR	02 17 10.4	
	comp=Z,4µm,19.1s,MS5.1,baz=351,slow=39						
KSM	**Kuching**	**28.98**	**278**	*e*P	**P**	**02 04 11.8**	**+0.8**
KLBR	**Kellerberrin**	**34.86**	**213**	*e*P	**P**	**02 05 02.3**	**-0.3**
	comp=Z,13nm,1.0s,mb4.8						
QIZ	**Qiongzhong**	**35.98**	**308**	*e*P	**P**	**02 05 12.9**	**+0.7**
QIZ				*e*S	**S**	**02 10 47.5**	**+0.1**
QIZ				LR	LR		
	comp=N,347nm,17.1s,MS4.3						
QIZ				LR	LR		
	comp=E,372nm,20.1s,MS4.3						
QIZ				LR	LR		
	comp=Z,462nm,20.2s,MS4.2						
NWAO	**Narrogin (SRO)**	**36.17**	**212**	*e*P	**P**	**02 05 12.9**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,13nm,1.0s						
NWAO	**Narrogin (SRO)**	**36.17**	**212**	*e*P	**P**	**02 05 12.9**	**-0.9**
	comp=Z,13nm,1.0s,mb4.8						
SSE	**Sheshan**	**37.80**	**335**	P	**P**	**02 05 24.8**	**-2.8**
SSE				S	**S**	**02 11 14.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,69nm,4.5s						
SSE				LR	LR		
	comp=N,448nm,23.4s,MS4.2						
SSE				LR	LR		
	comp=E,227nm,23.4s,MS4.2						
SSE				LR	LR		
	comp=Z,682nm,20.8s,MS4.4						
SSE	**Sheshan**	**37.80**	**335**	P	**P**	**02 05 24.8**	**-2.8**
	comp=Z,19nm,0.7s,mb4.9						
SSE				S	**S**	**02 11 14.3**	**-0.7**
SSE				sS	sS	02 11 29.5	-7.4
SSE				LR	LR		
	comp=Z,680nm,20.8s,MS4.4						
PPI	**Padang Panjang**	**38.63**	**273**	P	**P**	**02 05 34.8**	**+0.2**
	comp=Z,91nm,1.0s,mb5.5						
KULM	**Kulim**	**39.13**	**282**	*e*P	**P**	**02 05 38.2**	**-0.6**
MJAR	**Matsushiro Arr**	**39.23**	**359**	P	**P**	**02 05 38.7**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=177,slow=8.4,SNR=7.9						
MJAR				LR	LR	02 19 51.7	
	comp=Z,532nm,21.2s,MS4.3,baz=165,slow=33						
MJAR	**Matsushiro Arr**	**39.23**	**359**	P	**P**	**02 05 38.7**	**-1.0**
MJAR				LR	LR	02 19 51.7	
NJ2	**Nanjing**	**39.64**	**333**	*e*P	**P**	**02 05 46.6**	**+3.5**
NJ2				PP	PP	02 07 22.4	+7.6
NJ2				S	**S**	**02 11 49.0**	**+6.2**
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,280nm,5.0s						
NJ2				LR	LR		
	comp=N,3µm,23.5s,MS5.0						
NJ2				LR	LR		
	comp=E,940nm,23.1s,MS5.0						
NJ2				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
PSI	**Prapat**	**40.42**	**278**	P	**P**	**02 05 49.8**	**+0.2**
	comp=Z,25nm,1.1s,mb4.9,baz=168,slow=2.4,SNR=18						
WHN	**Wuhan**	**40.70**	**327**	*e*P	**P**	**02 05 55.0**	**+3.1**
KSRS	**Korea Array**	**41.42**	**347**	P	**P**	**02 05 58.6**	**+0.8**
	comp=Z,1.0nm,0.5s,mb3.7,baz=159,slow=8.1,SNR=4.3						
KSRS				LR	LR	02 20 49.0	
	comp=Z,484nm,21.9s,MS4.3,baz=153,slow=33						
GYA	**Guiyang**	**42.72**	**315**	P	**P**	**02 06 11.8**	**+3.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
XAN	**Xi'an**	**46.36**	**325**	P	**P**	**02 06 37.4**	**0.0**
XAN				S	**S**	**02 13 12.9**	**-8.4**
XAN				SS	SS	02 16 43.2	-4.1
XAN				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.7						
XAN				LR	LR		
	comp=N,228nm,21.5s,MS4.2						
XAN				LR	LR		
	comp=E,196nm,21.0s,MS4.2						
XAN				LR	LR		
	comp=Z,450nm,24.6s,MS4.3						
CD2	**Chengdu**	**47.48**	**318**	P	**P**	**02 06 46.2**	**+0.1**
CD2				LR	LR		
	comp=Z,390nm,21.6s,MS4.3						
BJT	**Baijiatuan**	**47.54**	**336**	*e*P	**P**	**02 06 46.4**	**-0.2**
BJT				*e*	pP	02 07 01.7	+1.7
BJT				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	**Baijiatuan**	**47.54**	**336**	*e*P	**P**	**02 06 46.4**	**-0.2**
	comp=Z,17nm,0.8s,mb5.1						
BJT				*e*	pP	02 07 01.7	+1.7
BJI	**Beijing**	**47.55**	**336**	P	**P**	**02 06 47.1**	**+0.4**
BJI				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.1						
BJI				LR	LR		
	comp=N,243nm,20.1s,MS4.7						
BJI				LR	LR		
	comp=E,693nm,20.1s,MS4.7						
BJI				LR	LR		
	comp=Z,796nm,21.3s,MS4.7						
BJI	**Beijing**	**47.55**	**336**	P	**P**	**02 06 47.1**	**+0.4**
	comp=Z,28nm,1.3s,mb5.1						
BJI				S	**S**	**02 13 51.5**	**+13**
BJI				SS	SS	02 17 35.0	+28
BJI				LR	LR		
	comp=Z,800nm,21.3s,MS4.7						
CN2	**Changchun**	**48.03**	**347**	*e*P	**P**	**02 06 50.3**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**49.73**	**3**	‖ *e*P	**P**	**02 07 02.8**	**-0.7**
YSS				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**50.20**	**333**	*e*P	**P**	**02 07 06.1**	**-0.9**
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,143nm,5.6s						
LZH	**Lanzhou**	**50.77**	**323**	*e*P	**P**	**02 07 12.5**	**+1.2**
LZH				AP	pP	02 07 22.5	-2.3
LZH				XP	sP	02 07 29.0	-1.5
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,154nm,5.2s						
LZH				LR	LR		
	comp=E,339nm,14.6s						
LZH				LR	LR		
	comp=Z,701nm,17.9s,MS4.7						
LZH	**Lanzhou**	**50.77**	**323**	*e*P	**P**	**02 07 12.5**	**+1.2**
	comp=Z,31nm,1.5s,mb5.0						
LZH				pP	pP	02 07 22.5	-2.3
LZH				sP	sP	02 07 29.0	-1.5
LZH				LR	LR		
	comp=Z,700nm,17.9s,MS4.7						
KLR	**Kul'dur**	**52.28**	**354**	*e*P	**P**	**02 07 20.3**	**-2.3**
HIA	**Hailar**	**54.55**	**345**	*e*P	**P**	**02 07 39.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HIA	**Hailar**	**54.55**	**345**	*e*P	**P**	**02 07 39.0**	**-0.2**
	comp=Z,4.1nm,0.4s,mb4.8						
GTA	**Gaotai**	**55.36**	**324**	*e*P	**P**	**02 07 46.1**	**+1.0**
GTA				S	**S**	**02 15 22.0**	**-3.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,119nm,5.3s						
GTA				LR	LR		
	comp=N,133nm,14.5s						
GTA				LR	LR		
	comp=E,205nm,22.0s						
GTA				LR	LR		
	comp=Z,331nm,19.4s,MS4.4						
LSA	**Lhasa**	**56.02**	**309**	P	**P**	**02 07 50.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
LSA	**Lhasa**	**56.02**	**309**	P	**P**	**02 07 50.3**	**+0.5**
	comp=Z,5.2nm,0.4s,mb4.9						
SONM	**Songino Array**	**57.98**	**335**	P	**P**	**02 08 02.8**	**-0.9**
	comp=Z,2.2nm,0.5s,mb4.4,baz=156,slow=7.4,SNR=7.3						
SONM				LR	LR	02 31 50.6	
	comp=Z,790nm,21.3s,MS4.8,baz=191,slow=35						
PALK	**Pallekele**	**59.01**	**280**	P	**P**	**02 08 08.6**	**-2.3**
	comp=Z,7.8nm,1.1s,mb4.7						
JIRN	**Jiri**	**59.15**	**305**	*e*P	**P**	**02 08 12.8**	**+1.0**
	comp=Z,15nm,0.9s,mb5.0						
GUN	**Gumba**	**59.50**	**305**	*e*P	**P**	**02 08 14.5**	**+0.3**
	comp=Z,15nm,0.6s,mb5.2						
PKI	**Pulchoki**	**59.76**	**304**	*e*P	**P**	**02 08 17.1**	**+1.1**
KKN	**Kakani**	**59.94**	**304**	*e*P	**P**	**02 08 17.4**	**+0.1**
	comp=Z,19nm,0.7s,mb5.2						
DMN	**Daman**	**60.02**	**304**	*e*P	**P**	**02 08 18.0**	**+0.2**
	comp=Z,23nm,0.9s,mb5.2						
GKN	**Gorkha**	**60.55**	**304**	*e*P	**P**	**02 08 21.5**	**+0.1**
	comp=Z,17nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**61.25**	**335**	⇑ *i*P	**P**	**02 08 26.2**	**0.0**
ZAK				*e*	pP	02 08 37.2	-2.8
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
KOLN	**Koldanda**	**61.33**	**304**	*e*P	**P**	**02 08 26.1**	**-0.6**
	comp=Z,41nm,1.4s,mb5.4						
TLY	**Talaya**	**62.08**	**336**	*e*P	**P**	**02 08 33.8**	**+2.1**
TLY				*e*S	**S**	**02 17 02.8**	**+10**
TLY				*e*PS		02 17 18.1	
TLY				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.9						
TLY	**Talaya**	**62.08**	**336**	*e*P	**P**	**02 08 32.4**	**+0.7**
	comp=Z,3.6nm,0.5s,mb4.8						
BOD	**Bodaibo**	**63.74**	**345**	*e*P	**P**	**02 08 42.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.5						
YAK	**Yakutsk**	**65.12**	**355**	*c i*P	**P**	**02 08 51.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.4						
YAK	**Yakutsk**	**65.12**	**355**	*e*P	**P**	**02 08 51.5**	**-0.3**
	comp=Z,23nm,0.6s,mb5.4						
WMQ	**Urumqi**	**65.30**	**322**	P	**P**	**02 08 53.5**	**+0.5**
CASY	**Casey**	**66.36**	**192**	*e*P	**P**	**02 08 59.9**	**+0.1**
	comp=Z,58nm,1.7s,mb5.3						
MKAR	**Makanchi Array**	**70.08**	**322**	P	**P**	**02 09 23.1**	**0.0**
	comp=Z,9.1nm,0.6s,mb4.9,baz=110,slow=8.0,SNR=87						
MKAR				pP	pP	02 09 34.9	-2.2
	comp=Z,8.8nm,0.4s,baz=107,slow=8.2,SNR=7.4						
MKAR				sP	sP	02 09 39.5	-3.3
	comp=Z,9.0nm,0.4s,baz=97,slow=9.0,SNR=16						
MKAR				LR	LR	02 39 51.5	
	comp=Z,142nm,21.8s,MS4.2,baz=272,slow=36						
MKAR	**Makanchi Array**	**70.08**	**322**	P	**P**	**02 09 23.1**	**0.0**
MKAR				*PP	pP	02 09 34.9	-2.2
MKAR				*SP	sP	02 09 39.5	-3.2
MIR	**Mirnyy**	**71.12**	**198**	*d i*P	**P**	**02 09 32.0**	**+2.6**
MIR				*i*	pP	02 09 48.0	+4.5
MIR				MLR	MLR		
	comp=N,500nm,18.0s,MS5.0						
MIR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.3						
MIR				MLR	MLR		
	comp=E,500nm,17.0s,MS5.0						
ZAL	**Zalesovo**	**72.22**	**330**	P	**P**	**02 09 35.4**	**-0.7**
	comp=E,1.7nm,0.4s,mb4.3,baz=3.6,slow=4.9,SNR=4.7						
ZAL				LR	LR	02 41 26.9	
	comp=E,347nm,21.7s,MS4.6,baz=356,slow=36						
NVS	**Novosibirsk**	**73.47**	**330**	*e*P	**P**	**02 09 41.7**	**-1.7**
NVS				pmax	pmax		
	comp=Z,35nm,2.2s,mb4.9						
NVS				pmax	pmax		
	comp=N,9.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,16nm,1.8s						
AAK	**Ala-Archa**	**73.50**	**316**	‖ *i*P	**P**	**02 09 43.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
AAK	**Ala-Archa**	**73.50**	**316**	*e*P	**P**	**02 09 43.4**	**-0.2**
	comp=Z,24nm,1.6s,mb4.9						
TIXI	**Tiksi**	**74.69**	**357**	‖ *i*P	**P**	**02 09 50.1**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
VNDA	**Vanda**	**75.59**	**175**	P	**P**	**02 09 56.3**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8,baz=325,slow=5.8,SNR=60						
VNDA				LR	LR	02 43 36.3	
	comp=Z,1µm,18.8s,MS5.2,baz=354,slow=36						
SBA	**Scott Base**	**76.35**	**174**	*e*P	**P**	**02 10 01.7**	**+1.6**
SBA				pm

ARU				*e*SS	SS		02 27 12.9	-2.9
ARU				MLR	MLR				
	comp=N,80nm,20.0s,MS4.3								
ARU				MLR	MLR				
	comp=Z,200nm,20.0s,MS4.5								
ARU				MLR	MLR				
	comp=E,100nm,18.0s,MS4.3								
ARU	**Arti**	**87.08**	**327**	*e*P	**P**		**02 10 55.2**	**-1.3**	
EGAK	**Eagle**	**88.27**	**25**	*e*P	**P**		**02 11 02.2**	**0.0**	
	comp=E,3.9nm,0.5s,mb4.9								
DAWY	**Dawson**	**88.91**	**26**	*e*P	**P**		**02 11 06.1**	**+0.9**	
DAWY				*e*	pP		02 11 21.2	+1.5	
SYO	**Syowa Base**	**90.69**	**201⇑**	*e*P	**P**		**02 11 14.0**	**+0.4**	
SYO	**Syowa Base**	**90.69**	**201⇓**	*e*P	pP		02 11 31.0	+2.9	
OBN	**Obninsk**	**99.44**	**325⇓**	*e*P	**P**		**02 11 51.5**	**-2.0**	
OBN				pmax	pmax				
	comp=Z,18nm,1.6s,mb5.3								
OBN				MLR	MLR				
	comp=Z,300nm,22.0s,MS4.8								
ARCES	**ARCESS Array B**	**100.75**	**341**	P	Pdif		02 11 57.6	-1.7	
	comp=Z,2.6nm,0.8s,baz=82,slow=6.5,SNR=5.3								
ARCES				sP			02 12 13.4		
	comp=Z,0.9nm,0.4s,baz=78,slow=6.2,SNR=1.2								
GERES	**GERESS Array B**	**114.73**	**324**	PKP	PKiKP		02 16 51.6	+0.5	
	comp=Z,0.3nm,0.6s,baz=98,slow=3.0,SNR=2.6								
SCHQ	**Schefferville**	**124.12**	**18**	PKP	PKPdf		02 17 08.3	-0.8	
	comp=Z,2.2nm,0.6s,baz=144,slow=10,SNR=3.9								
TKL	**Tuckaleechee C**	**128.78**	**45**	PKP	PKPdf		02 17 19.1	+1.1	
	comp=Z,2.4nm,0.6s,baz=28,slow=22,SNR=5.2								
TORD	**Torodi Ar. Bea**	**136.55**	**286**	PKhKP			02 17 20.4		
	comp=Z,0.3nm,0.7s,baz=79,slow=2.9,SNR=4.4								
TORD				PKP	PKPdf		02 17 33.9	+1.2	
	comp=Z,1.3nm,0.7s,baz=47,slow=2.1,SNR=11								
TORD	**Torodi Ar. Bea**	**136.55**	**286**	PKP			02 17 20.4		
TORD				PKP	PKPdf		02 17 33.9	+1.2	
ROSC	**El Rosal**	**146.72**	**86**	PKPbc	PKPbc		02 17 54.4	+1.8	
	comp=Z,4.0nm,0.5s,baz=100,slow=18,SNR=5.0								
LPAZ	**La Paz**	**147.14**	**126**	PKPbc	PKPbc		02 17 55.5	+1.8	
	comp=Z,3.5nm,0.6s,baz=227,slow=2.5,SNR=15								

*NEIC **05** 02:21:25.5±1.0, 3.12N×12680E, h10km, mb4.2/2, Error ellipse: s-maj=53.4km s-min=14.1km az=69.0*
*ISCJB **05** 02:21:27.2±1.5, 3.1N±02×1265E±0.5, h33km, mb4.1/7, Error ellipse: s-maj=79.8km s-min=18.8km az=134.5*
*IDC **05** 02:21:30.1±4.0, 309N×12678E, h43km±36km, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=100.0km s-min=17.8km az=68.0*
ISC 05 02:21:28.4±5.1, 31N±02×1268E±0.5, h27km±36km, n10, σ0°21/11, mb4.1/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.10**	**183**	*e*P	**P**	**02 26 10.5**	**-0.2**
	5.5nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**21.10**	**183**	P	**P**	**02 26 10.6**	**-0.1**
	3.9nm,0.8s,mb3.8,baz=25,slow=11,SNR=8.4						
WRAB	**Tennant Creek**	**24.07**	**162**	*e*P	**P**	**02 26 41.1**	**-0.2**
	3.6nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**24.08**	**162**	P	**P**	**02 26 41.3**	**-0.1**
	2.0nm,0.4s,mb3.9,baz=343,slow=9.8,SNR=33						
WRA				S	**S**	**02 30 57.1**	**-0.1**
	0.9nm,1.0s,baz=341,slow=18,SNR=3.5						
WB2	**Warramunga Arr**	**24.08**	**162**	*e*P	**P**	**02 26 41.2**	**-0.2**
ASAR	**Alice Springs**	**27.50**	**166**	P	**P**	**02 27 12.6**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=345,slow=9.5,SNR=15						
FORT	**Forrest**	**33.71**	**178**	*e*P	**P**	**02 28 07.5**	**+0.3**
	9.3nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**37.53**	**159**	P	**P**	**02 28 40.3**	**+0.3**
	2.6nm,0.8s,mb4.0,baz=338,slow=10.0,SNR=8.3						
MKAR	**Makanchi Array**	**58.09**	**325**	P	**P**	**02 31 19.2**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=120,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**58.09**	**325**	P	**P**	**02 31 19.2**	**-0.1**

*ISCJB **05** 02:40:38.7±1.1, 156S±0.1×175.11W±0.10, h299km±12km, mb4.1/20, Error ellipse: s-maj=20.8km s-min=11.6km az=107.8*
*NEIC **05** 02:40:39.8±0.8, 1555S×17507W, h298km±7km, mb4.2/13, Error ellipse: s-maj=12.5km s-min=6.4km az=142.0*
*IDC **05** 02:40:39.6±1.5, 1553S×175.14W, h294km±15km, mb3.6/10, mb1 3.8/12, mb1mx3.7/19, mbtmp3.6/12, Error ellipse: s-maj=20.6km s-min=11.2km az=140.0*
ISC 05 02:40:40.1±1.1, 156S±01×17503W±010, h298km±12km, n66, σ0°73/33, mb4.1/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.57**	**62**	P	**Pn**	**02 41 41.6**	**+0.1**
	122nm,0.3s,baz=53,slow=1.3,SNR=132						
DZM	**Mont Dzumac**	**18.67**	**247**	P	**P**	**02 44 37.6**	**+0.7**
	0.7nm,0.3s,baz=73,slow=21,SNR=7.6						
URZ	**Urewera**	**23.62**	**196**	P	**P**	**02 45 23.8**	**-1.0**
	5.9nm,0.4s,mb4.3,baz=334,slow=5.8,SNR=9.9						
RPZ	**Rata Peaks**	**30.44**	**200**	P	**P**	**02 46 23.6**	**-1.7**
	2.4nm,0.4s,mb4.1,baz=187,slow=19,SNR=3.0						
CTA	**Charters Tower**	**37.06**	**257**	*e*P	**P**	**02 47 22.8**	**+0.7**
	1.7nm,0.4s,mb3.8						
CTA	**Charters Tower**	**37.06**	**257**	P	**P**	**02 47 20.0**	**-2.1**
	2.6nm,0.5s,mb3.9,baz=94,slow=8.6,SNR=5.6						
CTAO	**Charters Tower**	**37.06**	**257**	*e*P	**P**	**02 47 22.2**	**+0.1**
	4.8nm,0.9s,mb3.9						
CNB	**Canberra Magne**	**37.39**	**232**	*e*P	**P**	**02 47 25.1**	**+0.2**
	110nm,2.0s,mb4.9						
STKA	**Stephens Creek**	**42.58**	**240**	*e*P	**P**	**02 48 07.5**	**+0.3**
	4.5nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**42.58**	**240**	P	**P**	**02 48 07.3**	**+0.1**
	4.3nm,0.6s,mb3.8,baz=30,slow=8.2,SNR=9.3						
STKA	**Stephens Creek**	**42.58**	**240**	*e*P	**P**	**02 48 07.6**	**+0.4**
WB2	**Warramunga Arr**	**48.26**	**257**	*e*P	**P**	**02 48 51.2**	**-0.2**
WRAB	**Tennant Creek**	**48.26**	**257**	*e*P	**P**	**02 48 50.9**	**-0.5**
	4.4nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**48.27**	**257**	P	**P**	**02 48 51.2**	**-0.3**
	2.9nm,0.4s,mb4.0,baz=90,slow=6.6,SNR=52						
WRA				PcP	PcP	02 50 13.8	+0.5
	1.1nm,0.5s,baz=88,slow=3.8,SNR=6.2						
AS31	**Alice Springs**	**48.55**	**252**	*e*P	**P**	**02 48 53.8**	**+0.1**
ASAR	**Alice Springs**	**48.55**	**252**	P	**P**	**02 48 53.9**	**+0.2**
	25nm,0.7s,mb4.7,baz=85,slow=8.6,SNR=211						
ASAR				PcP	PcP	02 50 14.8	+0.4
	2.0nm,0.6s,baz=94,slow=4.7,SNR=6.8						
ASAR				S	**S**	**02 55 31.6**	**-0.2**
	0.5nm,0.9s,baz=87,slow=16,SNR=2.9						
ASPA	**Alice Springs**	**48.56**	**252**	*e*P	**P**	**02 48 53.8**	**+0.1**
KAKA	**Kakadu**	**50.91**	**266**	*e*P	**P**	**02 49 11.3**	**0.0**
	7.5nm,0.4s,mb4.4						
FORT	**Forrest**	**53.92**	**243**	*e*P	**P**	**02 49 32.8**	**-0.5**
	15nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**56.63**	**258**	*e*P	**P**	**02 49 53.0**	**+0.5**
	3.3nm,0.3s,mb4.2						
MBWA	**Marble Bar**	**61.79**	**254**	*e*P	**P**	**02 50 27.6**	**-0.1**
	10nm,0.7s,mb4.6						
VNDA	**Vanda**	**63.03**	**185**	P	**P**	**02 50 37.2**	**+1.4**
	3.0nm,0.9s,mb3.9,baz=4.3,slow=5.1,SNR=18						
VNDA	**Vanda**	**63.03**	**185**	*e*P	**P**	**02 50 37.2**	**+1.4**
	4.0nm,1.0s,mb4.0						
CASY	**Casey**	**69.58**	**205**	*e*P	**P**	**02 51 16.9**	**-0.2**
	2.0nm,0.5s,mb4.1						
KKM	**Kota Kinabalu**	**71.37**	**282**	*e*P	**P**	**02 51 28.3**	**+0.4**
QSPA	**South Pole Qui**	**74.45**	**180**	*e*P	**P**	**02 51 46.9**	**+1.1**
	4.8nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**75.53**	**43**	P	**P**	**02 51 52.1**	**+0.1**
	0.3nm,0.5s,mb3.1,baz=226,slow=8.5,SNR=5.1						
MCK	**McKinley**	**81.61**	**11**	*e*P	**P**	**02 52 23.9**	**-1.1**
	1.4nm,0.8s,mb3.7						
TXAR	**Lajitas Array**	**82.03**	**57**	P	**P**	**02 52 28.0**	**+0.8**
	0.4nm,0.9s,mb3.2,baz=251,slow=3.8,SNR=4.1						
COLA	**College**	**82.85**	**11**	*e*P	**P**	**02 52 30.5**	**-0.9**
	2.8nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**83.46**	**42**	P	**P**	**02 52 34.0**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=165,slow=2.6,SNR=4.2						
CHTO	**Chiang Mai**	**91.28**	**289**	*e*P	**P**	**02 53 13.2**	**+1.3**
ZRNK	**Zerenda**	**117.90**	**322**	*e*PKPdf	PKPdf	02 58 49.9	-1.3
ARCES	**ARCESS Array B**	**124.57**	**351**	PKP	PKPdf	02 59 02.5	-1.5
	1.5nm,0.6s,baz=0.1,slow=1.9,SNR=16						
ARCES	**ARCESS Array B**	**124.57**	**351**	PKP	PKPdf	02 59 02.5	-1.5
FINES	**FINESS Array B**	**131.77**	**347**	PKP	PKPdf	02 59 17.1	-0.6
	1.1nm,0.9s,baz=20,slow=6.1,SNR=5.0						
KMBO	**Kilima Mbogo**	**144.03**	**245**	PKP	PKPdf	02 59 40.5	+0.4
	4.8nm,0.8s,baz=61,slow=6.3,SNR=19						
KMBO	**Kilima Mbogo**	**144.03**	**245**	PKP	PKPdf	02 59 40.5	+0.4
KMBO				*e*PKPdf	PKPdf	02 59 40.9	+0.8
KECS	**Kecovo**	**144.80**	**342**	*i* PKP	PKPdf	02 59 40.9	-0.5
KECS				*e*		02 59 50.2	
KECS	**Kecovo**	**144.80**	**342**	*i* PKP	PKPdf	02 59 40.9	-0.5
KECS				*e*		02 59 50.2	
VYHS	**Vyhne**	**145.26**	**344**	*e*PKP	PKPdf	02 59 42.7	+0.5
BR131	**Keskin Array S**	**145.29**	**319**	*e*PKPbc	PKPbc	02 59 42.9	+0.2
BRTR	**Keskin Array B**	**145.29**	**319**	PKPbc	PKPbc	02 59 42.9	+0.1
	3.8nm,0.6s,baz=82,slow=2.0,SNR=22						
GIVF	**Givet**	**145.58**	**0**	*e*PKP1	PKPbc	02 59 43.2	-0.4
GRA1	**Grafenberg Arr**	**145.61**	**353**	*e*PKP	PKPdf	02 59 43.6	+0.8
GRF	**Grafenberg Arr**	**145.61**	**353**	*e*PKP	PKPdf	02 59 43.6	+0.8
BAIF	**Baives**	**145.62**	**1**	*e*PKP1	PKPbc	02 59 43.0	-0.7
	4.0nm,0.5s						
GERES	**GERESS Array B**	**146.07**	**350**	PKPbc	PKPbc	02 59 44.1	-0.9
	1.7nm,0.6s,baz=35,slow=4.9,SNR=14						
FLN	**La Foliniere**	**146.62**	**7**	*e*PKP1	PKPbc	02 59 45.4	-1.2
	9.1nm,0.8s						
ROSF	**Rostrenen**	**146.65**	**10**	*e*PKP1	PKPbc	02 59 46.0	-0.7
LDF	**La Druitiere**	**146.82**	**6**	*e*PKP1	PKPbc	02 59 46.0	-1.2
SGMF	**Saint Gilles**	**146.84**	**9**	*e*PKP1	PKPbc	02 59 46.0	-1.2
GRR	**Gorron**	**146.94**	**7**	*e*PKP1	PKPbc	02 59 46.5	-1.0
	5.9nm,0.5s						
CDF	**Champ du Feu**	**147.22**	**357**	*e*PKP1	PKPbc	02 59 47.6	-0.6
	8.7nm,0.8s						
HAU	**Haudompre**	**147.66**	**358**	*e*PKP1	PKPbc	02 59 48.6	-0.8
	4.4nm,0.7s						
LOR	**Lormes**	**148.40**	**1**	*e*PKP1	PKPbc	02 59 50.7	-0.6
	5.0nm,0.7s						
SSF	**Saint Saulge**	**148.60**	**2**	*e*PKP1	PKPbc	02 59 51.3	-0.5
	9.0nm,0.9s						
AVF	**Avril sur Loir**	**148.86**	**2**	*e*PKP1	PKPbc	02 59 51.5	-1.0
CABF	**La Chapelle**	**149.06**	**358**	*e*PKP1	PKPbc	02 59 53.0	0.0
	22nm,1.0s						
LPL	**La Plagne**	**150.13**	**358**	*e*PKP1	PKPbc	02 59 56.6	+1.0
LPG	**La Plagne**	**150.15**	**357**	*e*PKP1	PKPbc	02 59 56.2	+0.6
LFF	**La Frestale**	**150.53**	**6**	*e*PKP1	PKPbc	02 59 56.6	+0.1
CAF	**Calviac**	**150.66**	**4**	*e*PKP1	PKPbc	02 59 56.3	-0.5
ORIF	**Oris-en-Rattie**	**150.75**	**359**	*e*PKP1	PKPbc	02 59 57.6	+0.6
	8.7nm,1.0s						
MBDF	**Montbardon**	**150.92**	**357**	*e*PKP1	PKPbc	02 59 57.3	-0.1
	4.9nm,0.7s						
SJPF	**Ste Jean**	**152.06**	**10**	*e*PKP1	PKPbc	02 59 59.5	-0.5

MAN 05 02:43:11.0, 1362N×12179E, h32km, mb1.7, ML3.5, MS2.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.17**	**161**	*e*P	Pb	02 43 18.3	+1.1
BOAC				*e*S	Sb	02 43 23.7	+2.4
PGP	**Puerto Galera**	**0.82**	**262⇓**	*e*P	Pn	02 43 26.7	+0.3
POLP	**Polilio Island**	**1.11**	**8**	*e*P	Pn	02 43 36.8	+6.4
OTRP	**Odiongan**	**1.27**	**170**	*e*P	Pn	02 43 34.0	+1.5
LUBP	**Lubang**	**1.50**	**275**	*e*P	Pn	02 43 35.7	-0.1

*ISCJB **05** 03:08:48.2±0.9, 202S±02×1782W±0.1, h600km, mb3.8/9, Error ellipse: s-maj=28.2km s-min=18.1km az=1.9*
*IDC **05** 03:08:48.4±13.0, 2015S×178.14W, h585km±167km, mb3.2/6, mb1 3.5/6, mb1mx3.1/15, mbtmp3.2/6, Error ellipse: s-maj=59.3km s-min=54.4km az=174.0*
*NEIC **05** 03:08:49.4±0.9, 2019S×178.18W, h600km, mb4.1/4, Error ellipse: s-maj=36.1km s-min=14.6km az=156.0*
ISC 05 03:08:49.4±0.9, 203S±02×1781W±01, h600km, n16, σ0°31/16, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.41**	**264**	*e*P	**P**	**03 14 39.8**	**0.0**
	2.7nm,0.6s,mb4.0						
CTA	**Charters Tower**	**33.41**	**264**	P	**P**	**03 14 40.0**	**+0.2**
	4.5nm,0.6s,mb4.3,baz=107,slow=9.9,SNR=9.0						
CTAO	**Charters Tower**	**33.41**	**264**	*e*P	**P**	**03 14 39.8**	**-0.1**
	4.7nm,0.8s,mb4.2						
PMG	**Port Moresby**	**35.19**	**283**	*e*P	**P**	**03 14 54.1**	**-0.5**
	4.6nm,0.8s,mb4.2						
AS31	**Alice Springs**	**44.47**	**257**	*e*P	**P**	**03 16 08.5**	**0.0**
ASAR	**Alice Springs**	**44.47**	**257**	P	**P**	**03 16 08.8**	**+0.3**
	3.7nm,0.6s,mb4.1,baz=93,slow=7.7,SNR=35						
ASPA	**Alice Springs**	**44.47**	**257**	*e*P	**P**	**03 16 08.9**	**+0.3**
WB2	**Warramunga Arr**	**44.52**	**262**	*e*P	**P**	**03 16 08.7**	**-0.2**
WRA	**Warramunga Arr**	**44.53**	**262**	P	**P**	**03 16 08.8**	**-0.2**
	2.3nm,0.3s,mb4.2,baz=96,slow=7.6,SNR=45						
KAKA	**Kakadu**	**47.86**	**271**	*e*P	**P**	**03 16 34.3**	**+0.1**
	2.7nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.95**	**262**	P	**P**	**03 17 11.6**	**+0.5**
	1.1nm,0.6s,mb3.4,baz=104,slow=8.3,SNR=4.1						
MBWA	**Marble Bar**	**57.80**	**257**	*e*P	**P**	**03 17 44.8**	**+0.2**
	1.7nm,0.5s,mb3.4						
MJAR	**Matsushiro Arr**	**69.97**	**324**	P	**P**	**03 19 01.3**	**-0.3**
	1.1nm,0.5s,mb3.5,baz=152,slow=5.8,SNR=6.7						
TXAR	**Lajitas Array**	**87.02**	**57**	P	**P**	**03 20 32.5**	**+0.4**
	0.4nm,0.6s,mb3.3,baz=218,slow=7.9,SNR=4.8						
VNA3	**Neumayer Olymp**	**88.37**	**176**	*e*	**P**	**03 20 37.9**	**-0.5**
VNA2	**Neumayer--Watz**	**88.81**	**177**	*e*	**P**	**03 20 40.4**	**-0.1**
	baz=211,slow=3.0						

*IDC **05** 03:09:38.1±3.6, 272S×13963E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=114.7km s-min=27.9km az=92.0*
*ISCJB **05** 03:09:43.3±2.4, 285S±01×1391E±0.5, h35km, mb3.4/2, Error ellipse: s-maj=65.3km s-min=21.3km az=3.3*
ISC 05 03:09:44.7±2.4, 285S±01×1394E±04, h35km, n6, σ0°24/6, mb3.4/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.99**	**214**	*e*P	**Pn**	**03 12 33.0**	**-0.1**
	2.8nm,0.4s						
WB2	**Warramunga Arr**	**17.73**	**196**	*e*P	**Pn**	**03 13 49.0**	**+0.3**
WRA	**Warramunga Arr**	**17.73**	**196**	P	**Pn**	**03 13 48.6**	**-0.1**
	0.4nm,0.3s,baz=18,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**20.30**	**221**	P	**P**	**03 14 17.5**	**+0.1**
	1.0nm,0.7s,baz=18,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**21.41**	**194**	P	**P**	**03 14 29.2**	**-0.2**
	0.7nm,0.7s,mb3.1,baz=11,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**70.25**	**322**	P	**P**	**03 20 54.2**	**0.0**
	0.4nm,0.4s,mb3.8,baz=100,slow=8.7,SNR=5.7						

*ISCJB **05** 03:14:42.1±1.0, 1804S±009×17852W±007, h596km±13km, mb3.9/33, Error ellipse: s-maj=15.9km s-min=7.8km az=118.3*
*NEIC **05** 03:14:42.8±0.9, 1804S×17844W, h594km±10km, mb4.0/25, Error ellipse: s-maj=14.6km s-min=6.6km az=151.0*
*IDC **05** 03:14:42.1±1.7, 1812S×17841W, h580km±20km, mb3.4/14, mb1 3.5/16, mb1mx3.5/22, mbtmp3.4/16, Error ellipse: s-maj=15.4km s-min=12.6km az=154.0*
ISC 05 03:14:42.7±1.0, 1806S±009×17844W±007, h587km±13km, n105, σ0°94/56, mb3.9/33, 14C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**58**	P	**P**	**03 16 37.1**	**-0.7**
	2.5nm,0.3s,baz=171,slow=9.9,SNR=4.0						
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**03 17 49.4**	**+0.4**
	0.3nm,0.3s,baz=95,slow=20,SNR=3.8						
URZ	**Urewera**	**20.50**	**190**	P	**P**	**03 18 38.6**	**-2.8**
	8.9nm,0.5s,baz=353,slow=6.7,SNR=9.6						
URZ	**Urewera**	**20.50**	**190**	P	**Pg**	**03 18 38.6**	**-2.8**
URZ				S	**S**	**03 21 55.8**	**+1.5**
URZ	**Urewera**	**20.50**	**190**	S	**S**	**03 21 55.8**	**+1.5**
	14nm,0.9s,baz=230,slow=16,SNR=4.0						
RPZ	**Rata Peaks**	**27.07**	**197**	P	**P**	**03 19 37.9**	**-1.8**
	2.9nm,0.3s,mb4.3,baz=330,slow=18,SNR=4.1						
CNB	**Canberra Magne**	**33.31**	**233**	*e*P	**P**	**03 20 34.7**	**+1.6**
	36nm,1.8s,mb4.7						
CTA	**Charters Tower**	**33.39**	**261**	*e*P	**P**	**03 20 34.2**	**+0.4**
	4.2nm,0.9s,mb4.1						
CTA	**Charters Tower**	**33.39**	**261**	P	**P**	**03 20 34.2**	**+0.4**
	3.5nm,0.5s,mb4.3,baz=88,slow=9.6,SNR=11						
CTAO	**Charters Tower**	**33.39**	**261**	*e*P	**P**	**03 20 33.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**33.39**	**261**	*e*P	**P**	**03 20 33.9**	**0.0**
	comp=Z,4.4nm,0.6s,mb4.3						
PMG	**Port Moresby**	**34.45**	**280**	P	**P**	**03 20 44.1**	**+1.4**
	comp=Z,26nm,0.9s,mb4.9,baz=69,slow=5.6,SNR=11						
PMG	**Port Moresby**	**34.45**	**280**	*e*P	**P**	**03 20 43.7**	**+1.0**
	comp=Z,26nm,0.9s,mb4.9						
TOO	**Toolangi**	**37.05**	**231**	*e*P	**P**	**03 21 05.5**	**+1.4**
	comp=Z,11nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**38.53**	**241**	*e*P	**P**	**03 21 16.8**	**+0.7**
	comp=Z,1.7nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**03 21 17.3**	**+1.2**
	comp=Z,3.2nm,0.9s,mb3.9,baz=11,slow=4.7,SNR=4.8						
WB2	**Warramunga Arr**	**44.56**	**260**	*e*P	**P**	**03 22 03.3**	**-0.2**
WB2	**Warramunga Arr**	**44.56**	**260**	**⇑***i*P	**P**	**03 22 03.5**	**0.0**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**03 22 03.4**	**-0.2**
	comp=Z,2.9nm,0.4s,mb4.2,baz=96,slow=7.4,SNR=143						
WRA				S	**S**	**03 27 55.3**	**-2.2**
	comp=Z,0.9nm,1.1s,baz=178,slow=12,SNR=2.7						
AS31	**Alice Springs**	**44.72**	**254**	*e*P	**P**	**03 22 04.8**	**+0.1**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**03 22 05.0**	**+0.3**
	comp=Z,8.1nm,0.5s,mb4.5,baz=86,slow=8.8,SNR=151						
ASAR				S	**S**	**03 27 58.1**	**-1.4**
	comp=Z,1.7nm,1.0s,baz=84,slow=15,SNR=8.0						
ASPA	**Alice Springs**	**44.73**	**254**	*e*P	**P**	**03 22 04.9**	**+0.2**
KAKA	**Kakadu**	**47.55**	**269⇑**	*i*P	**P**	**03 22 26.1**	**0.0**
	comp=Z,7.3nm,0.3s,mb4.7						
FORT	**Forrest**	**49.92**	**245**	*e*P	**P**	**03 22 43.5**	**0.0**
	comp=Z,9.7nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.98**	**261**	*e*P	**P**	**03 23 06.0**	**+0.5**
	comp=Z,6.2nm,1.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**52.98**	**261**	P	**P**	**03 23 05.9**	**+0.4**
	comp=Z,0.5nm,0.3s,mb3.4,baz=103,slow=8.3,SNR=8.9						
MBWA	**Marble Bar**	**58.01**	**256**	*e*P	**P**	**03 23 39.7**	**-0.6**
	comp=Z,2.9nm,0.4s,mb3.8						
KLBR	**Kellerberrin**	**58.74**	**244**	*e*P	**P**	**03 23 45.8**	**+0.6**
	comp=Z,76nm,1.8s,mb4.5						
VNDA	**Vanda**	**60.30**	**185**	P	**P**	**03 23 56.1**	**+0.6**
	comp=Z,0.6nm,0.9s,mb2.8,baz=359,slow=5.3,SNR=6.3						
VNDA	**Vanda**	**60.30**	**185**	*e*P	**P**	**03 23 54.0**	**-1.5**
	comp=Z,0.3nm,0.6s,mb2.7						
MJAR	**Matsushiro Arr**	**68.01**	**323**	P	**P**	**03 24 43.7**	**-0.6**
	comp=Z,1.1nm,0.4s,mb3.6,baz=160,slow=5.6,SNR=6.7						
MAJO	**Matsushiro**	**68.01**	**323**	*e*P	**P**	**03 24 42.6**	**-1.7**
	comp=Z,2.5nm,0.3s,mb4.1						
KKM	**Kota Kinabalu**	**68.75**	**284**	*e*P	**P**	**03 24 48.5**	**-0.3**
KSM	**Kuching**	**72.67**	**277**	*e*P	**P**	**03 25 12.8**	**+1.0**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**03 25 50.7**	**+1.1**
	comp=Z,0.3nm,0.6s,mb2.8,baz=22,slow=20,SNR=1.5						
WVOR	**Wild Horse Val**	**81.54**	**40**	*e*P	**P**	**03 25 59.9**	**+0.1**
	comp=Z,2.0nm,0.8s,mb3.7						
TUC	**Tucson**	**81.81**	**52**	*e*P	**P**	**03 26 00.9**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.4						
PSI	**Prapat**	**83.87**	**275**	P	**P**	**03 26 10.5**	**-1.0**
	comp=Z,1.8nm,0.3s,mb4.0,baz=164,slow=16,SNR=2.3						
MCK	**McKinley**	**84.69**	**13**	*e*P	**P**	**03 26 14.9**	**-0.7**
	comp=Z,1.5nm,1.0s,mb3.6						
HLID	**Hailey**	**84.76**	**41**	*e*P	**P**	**03 26 16.6**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.6						
COLA	**College**	**85.92**	**13**	*e*P	**P**	**03 26 19.6**	**-1.8**
	comp=Z,0.9nm,0.5s,mb3.7						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**03 26 24.0**	**+1.8**
	comp=Z,1.5nm,0.7s,mb3.7,baz=219,slow=6.2,SNR=18						
ANMO	**Albuquerque**	**86.21**	**52**	*e*P	**P**	**03 26 22.8**	**0.0**
RRI2	**Red Ridge**	**86.61**	**42**	*e*P	**P**	**03 26 25.4**	**+0.7**
	comp=Z

6.9nm,0.3s,baz=187,slow=8.0,SNR=4.8
AFI S **S** **03 18 18.3 -1.6**
7.7nm,0.3s,baz=7.9,slow=23,SNR=3.3
AFI Afiamalu 7.60 58 P **P** **03 16 45.7 0.0**
AFI S **S** **03 18 18.3 -1.6**
DZM Mont Dzumac 14.76 252 P **P** **03 17 58.1 +0.8**
1.2nm,0.3s,baz=89,slow=17,SNR=13
DZM Mont Dzumac 14.76 252 P **P** **03 17 58.1 +0.8**
URZ Urewera 20.54 190 P **P** **03 18 47.5 -2.5**
33nm,0.7s,baz=8.1,slow=4.0,SNR=14
URZ Urewera 20.54 190 P **P** **03 18 47.5 -2.5**
ARMA Armidale 29.86 240 *e*P **P** **03 20 13.8 +1.7**
CNB Canberra Magne 33.34 232 ⇓*i*P **P** **03 20 42.6 +1.0**
26nm,0.6s,mb5.0
CNB Canberra Magne 33.34 232 ⇓*i*P **P** **03 20 42.6 +1.0**
26nm,0.6s,mb5.0
CTA Charters Tower 33.40 261 ⇓*i*P **P** **03 20 42.5 +0.4**
33nm,0.8s,mb5.0
CTA Charters Tower 33.40 261 P **P** **03 20 42.6 +0.5**
48nm,0.7s,mb5.2,baz=89,slow=10.0,SNR=64
CTA Charters Tower 33.40 261 ⇓*i*P **P** **03 20 42.5 +0.4**
CTA pmax pmax
comp=Z,33nm,0.8s
CTA Charters Tower 33.40 261 ⇓*i*P **P** **03 20 42.5 +0.4**
comp=Z,33nm,0.8s,mb5.0
PMG Port Moresby 34.45 280 P **P** **03 20 52.4 +1.5**
comp=Z,172nm,0.8s,mb5.7,baz=100,slow=5.9,SNR=59
PMG Port Moresby 34.45 280 *e*P **P** **03 20 52.0 +1.1**
TOO Toolangi 37.08 231 *e*P **P** **03 21 13.5 +0.9**
comp=Z,18nm,0.9s,mb4.6
TOO Toolangi 37.08 231 *e*P **P** **03 21 13.5 +0.9**
TOO pmax pmax
comp=Z,18nm,0.9s,mb4.6
TOO Toolangi 37.08 231 *e*P **P** **03 21 13.5 +0.9**
comp=Z,18nm,0.9s,mb4.6
STKA Stephens Creek 38.55 241 ⇓*i*P **P** **03 21 25.5 +1.0**
comp=Z,39nm,0.9s,mb4.9
STKA Stephens Creek 38.55 241 P **P** **03 21 25.6 +1.1**
comp=Z,51nm,0.9s,mb5.0,baz=86,slow=8.6,SNR=56
STKA Stephens Creek 38.55 241 *e*P **P** **03 21 25.2 +0.6**
WB2 Warramunga Arr 44.57 260 *e*pP **P** **03 22 11.5 -0.4**
WB2 *e*S **S** **03 28 01.9 -4.0**
WB2 Warramunga Arr 44.57 260 *e*P **P** **03 22 11.4 -0.5**
WB2 *e*pP 03 22 11.5
WB2 *e*S **S** **03 28 01.9 -4.0**
WRAB Tennant Creek 44.57 260*d* *i*P **P** **03 22 11.4 -0.5**
WRA Warramunga Arr 44.58 260 P **P** **03 22 11.5 -0.4**
comp=Z,36nm,0.8s,mb5.0,baz=96,slow=7.4,SNR=140
WRA PcP PcP 03 23 42.0 0.0
comp=Z,2.2nm,0.4s,baz=88,slow=4.0,SNR=4.8
WRA S **S** **03 28 02.4 -3.7**
comp=Z,1.7nm,0.8s,baz=98,slow=13,SNR=4.8
WRA Warramunga Arr 44.58 260 P **P** **03 22 11.5 -0.4**
WRA PcP PcP 03 23 42.0 0.0
WRA S **S** **03 28 02.4 -3.7**
AS31 Alice Springs 44.73 254 *e*P **P** **03 22 13.2 +0.1**
AS31 *e*S **S** **03 28 05.8 -2.3**
ASAR Alice Springs 44.73 254 P **P** **03 22 13.6 +0.4**
comp=Z,178nm,0.7s,mb5.7,baz=87,slow=8.9,SNR=311
ASAR PcP PcP 03 23 42.4 -0.1
comp=Z,5.1nm,0.5s,baz=105,slow=3.9,SNR=5.5
ASAR S **S** **03 28 06.5 -1.7**
comp=Z,4.6nm,0.9s,baz=90,slow=16,SNR=17
ASAR Alice Springs 44.73 254 P **P** **03 22 13.6 +0.4**
ASAR PcP PcP 03 23 42.4 -0.1
ASAR S **S** **03 28 06.5 -1.7**
ASPA Alice Springs 44.73 254 ⇓*i*P **P** **03 22 13.4 +0.3**
ASPA *e*S **S** **03 28 05.8 -2.4**
KAKA Kakadu 47.55 269 ⇓*i*P **P** **03 22 34.3 -0.1**
comp=Z,47nm,0.4s,mb5.4
KAKA Kakadu 47.55 269 ⇓*i*P **P** **03 22 34.3 -0.1**
comp=Z,47nm,0.4s,mb5.4
GUMO Guam 47.92 308 P **P** **03 22 38.2 +1.1**
comp=Z,81nm,0.7s,mb5.4,baz=141,slow=6.5,SNR=7.3
FORT Forrest 49.93 245 ⇓*i*P **P** **03 22 51.5 -0.5**
comp=Z,53nm,0.6s,mb5.1
FORT Forrest 49.93 245 ⇓*i*P **P** **03 22 51.5 -0.5**
comp=Z,53nm,0.6s,mb5.1
FITZ Fitzroy Crossi 52.98 261 ⇓*i*P **P** **03 23 14.1 +0.2**
comp=Z,10nm,0.4s,mb4.5
FITZ Fitzroy Crossi 52.98 261 P **P** **03 23 14.2 +0.3**
comp=Z,4.1nm,0.3s,mb4.2,baz=95,slow=4.8,SNR=29
FITZ Fitzroy Crossi 52.98 261 ⇓*i*P **P** **03 23 14.1 +0.2**
comp=Z,10nm,0.4s,mb4.5
MBWA Marble Bar 58.02 256 *e*P **P** **03 23 48.3 -0.4**
comp=Z,28nm,0.9s,mb4.4
KLBR Kellerberrin 58.75 244 *e*P **P** **03 23 53.2 -0.5**
comp=Z,46nm,0.8s,mb4.7
KLBR Kellerberrin 58.75 244 *e*P **P** **03 23 53.2 -0.5**
comp=Z,46nm,0.8s,mb4.7
NWAO Narrogin (SRO) 59.13 242 P **P** **03 23 56.0 -0.2**
comp=Z,4.6nm,0.5s,mb3.9,baz=79,slow=5.2,SNR=8.5
NWAO Narrogin (SRO) 59.13 242 P **P** **03 23 56.0 -0.2**
MUN Mundaring 60.05 243 *e*P **P** **03 24 02.4 +0.1**
VNDA Vanda 60.33 185 P **P** **03 24 04.5 +0.3**
comp=Z,1.6nm,0.6s,mb3.5,baz=33,slow=6.5,SNR=25
VNDA Vanda 60.33 185 *e*P **P** **03 24 04.0 -0.2**
comp=Z,2.0nm,0.5s,mb3.6
CASY Casey 66.03 205 *e*P **P** **03 24 39.6 -0.9**
comp=Z,18nm,1.1s,mb4.4
MJAR Matsushiro Arr 67.97 323 P **P** **03 24 52.0 -0.5**
comp=Z,7.0nm,0.7s,mb4.2,baz=156,slow=5.4,SNR=23
MJAR Matsushiro Arr 67.97 323 P **P** **03 24 52.0 -0.5**
MAJO Matsushiro 67.98 323 *e*P **P** **03 24 51.6 -0.9**
MAJO pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
MAJO Matsushiro 67.98 323 *e*P **P** **03 24 51.6 -0.9**
comp=Z,7.1nm,0.7s,mb4.2
MAT Matsushiro 67.98 323 P **P** **03 24 51.6 -0.9**
KKM Kota Kinabalu 68.74 284 *e*P **P** **03 24 57.3 +0.2**
QSPA South Pole Qui 72.04 180 *e*P **P** **03 25 16.6 +0.1**
comp=Z,18nm,0.9s,mb4.6
KSM Kuching 72.67 277 *e*P **P** **03 25 21.0 +0.9**
YSS Yuzh-Sakhalins 73.50 333 ⇑*i*P **P** **03 25 22.6 -2.3**
YSS pmax pmax
comp=Z,15nm,1.3s,mb4.4
KSRS Korea Array 74.76 318 P **P** **03 25 32.6 +0.6**
comp=Z,1.6nm,0.7s,mb3.7,baz=132,slow=6.4,SNR=5.8
SAO San Andreas Ge 76.52 44 *e*P **P** **03 25 42.3 +0.6**
SAO pmax pmax
comp=Z,11nm,0.9s,mb4.3
SAO San Andreas Ge 76.52 44 *e*P **P** **03 25 42.3 +0.6**
comp=Z,11nm,0.9s,mb4.3
KIPM Iron Peak 77.01 40 *e*P **P** **03 25 44.7 +0.3**
ISA Isabella 77.91 46 *e*P **P** **03 25 49.6 +0.3**
CMB Columbia Colle 77.94 43 *e*P **P** **03 25 49.5 +0.1**
CMB pmax pmax
comp=Z,17nm,1.0s,mb4.4
CMB Columbia Colle 77.94 43 *e*P **P** **03 25 49.5 +0.1**
comp=Z,17nm,1.0s,mb4.4
OHCM Honcut 77.98 42 *e*P **P** **03 25 49.5 -0.1**
NJ2 Nanjing 77.98 310 *e*P **P** **03 25 50.8 +1.2**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,240nm,5.2s
KDAK Kodiak Island 78.51 14 P **P** **03 25 51.3 -1.2**
comp=Z,15nm,0.9s,mb4.3,baz=180,slow=7.1,SNR=6.8
YBH Yreka Blue Hor 78.63 39 *e*P **P** **03 25 53.6 +0.5**
YBH pmax pmax
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 78.63 39 *e*P **P** **03 25 53.6 +0.5**
comp=Z,20nm,1.2s,mb4.3
MTUM Tungsten Hills 78.77 45 *e*P **P** **03 25 54.2 +0.4**
HUMO Hull Mountain 79.00 38 *e*P **P** **03 25 55.4 +0.3**
comp=Z,14nm,0.9s,mb4.3
GLA Glamis 79.15 50 *e*P **P** **03 25 57.1 +1.3**
NVAR Mina Array Bea 79.52 44 P **P** **03 25 58.4 +0.6**
comp=Z,5.0nm,0.7s,mb3.9,baz=233,slow=8.9,SNR=14
NVAR Mina Array Bea 79.52 44 P **P** **03 25 58.4 +0.6**
PAHR Pah Rah Range 79.52 42 *e*P **P** **03 25 58.2 +0.4**
comp=Z,26nm,1.3s,mb4.4
MOD Modoc 80.19 40 *e*P **P** **03 26 01.2 -0.1**
comp=Z,15nm,1.0s,mb4.3
WHN Wuhan 80.64 306 *e*P **P** **03 26 00.5 -3.1**
SLKM Skilak Lake 81.50 14 *e*P **P** **03 26 06.3 -1.7**
WVOR Wild Horse Val 81.51 40 *e*P **P** **03 26 08.2 +0.1**
WVOR pmax pmax
comp=Z,22nm,0.9s,mb4.7
WVOR Wild Horse Val 81.51 40 *e*P **P** **03 26 08.2 +0.1**
comp=Z,22nm,0.9s,mb4.7
TUC Tucson 81.79 52 *e*P **P** **03 26 10.7 +1.2**
TUC pmax pmax
comp=Z,17nm,1.2s,mb4.5
TUC Tucson 81.79 52 *e*P **P** **03 26 10.7 +1.1**
comp=Z,17nm,1.2s,mb4.5

CCUT Cedar City 82.41 47 *e*P **P** **03 26 13.5 +0.8**
ARUT Antelope Range 82.47 46 *e*P **P** **03 26 13.6 +0.7**
PMR Palmer 82.71 14 *e*P **P** **03 26 12.3 -1.9**
PMR pmax pmax
comp=Z,22nm,1.4s,mb4.5
PMR Palmer 82.71 14 *e*P **P** **03 26 12.3 -1.9**
comp=Z,22nm,1.4s,mb4.5
WUAZ Wupatki 82.84 49 *e*P **P** **03 26 15.6 +0.9**
comp=Z,18nm,1.1s,mb4.5
KULM Kulim 83.02 278 *e*P **P** **03 26 16.6 +0.9**
MSU Marysvale 83.69 46 *e*P **P** **03 26 19.9 +0.9**
MAW Mawson 83.75 200 P **P** **03 26 18.8 -0.5**
comp=Z,4.7nm,0.4s,mb4.4,baz=150,slow=3.9,SNR=25
PSI Prapat 83.86 275 P **P** **03 26 20.1 +0.2**
comp=Z,25nm,0.9s,mb4.8,baz=167,slow=2.6,SNR=20
SEY Seymchan 83.87 347 ⇓*i*P **P** **03 26 18.8 -1.1**
DUG Dugway 84.08 45 *e*P **P** **03 26 20.7 -0.2**
comp=Z,2.2nm,0.9s,mb3.7
MCK McKinley 84.65 13 *e*P **P** **03 26 21.6 -2.1**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.4
MCK McKinley 84.65 13 *e*P **P** **03 26 21.6 -2.1**
comp=Z,12nm,1.0s,mb4.5
HLID Hailey 84.73 41 *e*P **P** **03 26 24.4 +0.2**
comp=Z,8.0nm,0.8s,mb4.4
TMUT Trail Mountain 84.73 46 *e*P **P** **03 26 24.9 +0.8**
GYA Guiyang 85.06 300 P **P** **03 26 26.7 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
SRU San Rafael 85.11 46 *e*P **P** **03 26 26.0 0.0**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
SRU San Rafael 85.11 46 *e*P **P** **03 26 26.0 +0.1**
comp=Z,5.5nm,0.8s,mb4.2
HWUT Hardware Ranch 85.59 44 *e*P **P** **03 26 27.9 -0.4**
comp=Z,11nm,1.4s,mb4.3
NEW Newport 85.61 36 P **P** **03 26 27.8 -0.6**
comp=Z,4.3nm,0.8s,mb4.2,baz=244,slow=4.7,SNR=8.7
NEW Newport 85.61 36 *e*P **P** **03 26 27.3 -1.1**
NEW pmax pmax
comp=Z,11nm,1.4s
NEW Newport 85.61 36 *e*P **P** **03 26 27.3 -1.0**
comp=Z,11nm,1.4s,mb4.3
MNTX Cornudas Mount 85.66 55 *e*P **P** **03 26 28.9 +0.3**
comp=Z,14nm,1.5s,mb4.4
BNM Barren Site 85.72 52 *e*P **P** **03 26 29.4 +0.5**
LPM Los Pinos Moun 85.79 52 *e*P **P** **03 26 29.7 +0.5**
COLA College 85.89 13*c* *i*P **P** **03 26 27.4 -2.2**
COLA College 85.89 13 *e*P **P** **03 26 27.3 -2.4**
comp=Z,14nm,1.1s,mb4.5
DLBC Dease Lake 85.94 23 *e*P **P** **03 26 29.8 -0.1**
TXAR Lajitas Array 86.08 58 P **P** **03 26 32.2 +1.6**
comp=Z,9.2nm,0.8s,mb4.5,baz=221,slow=6.1,SNR=67
TXAR Lajitas Array 86.08 58 P **P** **03 26 32.2 +1.6**
ANMO Albuquerque 86.19 52 *e*P **P** **03 26 31.4 +0.3**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 86.19 52 *e*P **P** **03 26 31.4 +0.3**
comp=Z,5.9nm,1.0s,mb4.2
XAN Xi'an 86.30 307 P **P** **03 26 32.2 +0.6**
XAN AMB AMB
comp=Z,18nm,1.2s,mb4.6
MCMT McKenzie Canyo 86.34 40 *e*P **P** **03 26 32.1 +0.3**
BILL Bilibino 86.53 354⇑ *e*P **P** **03 26 32.2 -0.5**
BILL pmax pmax
comp=Z,21nm,2.5s,mb4.4
RRI2 Red Ridge 86.58 42 *e*P **P** **03 26 33.3 +0.4**
comp=Z,22nm,0.8s,mb4.9
TPAW Teton Pass 86.89 42 *e*P **P** **03 26 34.6 +0.3**
comp=Z,12nm,1.0s,mb4.6
REDW Red Top Meadow 86.89 42 *e*P **P** **03 26 34.6 +0.2**
comp=Z,22nm,1.1s,mb4.8
SNOW Snow King Moun 87.00 42 *e*P **P** **03 26 35.4 +0.5**
comp=Z,17nm,0.9s,mb4.8
IMW Indian Meadow 87.09 42 *e*P **P** **03 26 35.7 +0.4**
comp=Z,18nm,0.9s,mb4.8
CHMT Chamberlain Mo 87.14 39 *e*P **P** **03 26 34.9 -0.6**
MOOW Moose Ponds 87.14 42 *e*P **P** **03 26 35.5 0.0**
comp=Z,5.5nm,1.0s,mb4.2
LOHW Long Hollow 87.17 42 *e*P **P** **03 26 35.7 0.0**
comp=Z,12nm,1.3s,mb4.5
QLMT Earthquake Lak 87.22 41 *e*P **P** **03 26 36.6 +0.6**
EGAK Eagle 87.33 15 *e*P **P** **03 26 34.9 -1.6**
comp=Z,9.6nm,1.1s,mb4.4
FLWY Flagg Ranch 87.33 42 *e*P **P** **03 26 37.1 +0.7**
comp=Z,23nm,1.1s,mb4.8
BW06 Boulder Array 87.45 43 *e*P **P** **03 26 36.7 -0.3**
comp=Z,8.5nm,0.9s,mb4.5
PDAR Pinedale Array 87.45 43 P **P** **03 26 36.9 -0.1**
comp=Z,9.2nm,1.0s,mb4.5,baz=223,slow=2.8,SNR=43
PDAR Pinedale Array 87.45 43 P **P** **03 26 36.9 -0.1**
SMCO Snowmass 87.61 48 *e*P **P** **03 26 38.0 +0.3**
comp=Z,3.4nm,1.0s,mb4.7
KMI Kunming 87.85 297 P **P** **03 26 40.5 +1.6**
KMI AMB AMB
comp=Z,15nm,1.1s,mb4.6
SDCO Great Sand Dun 88.06 49 *e*P **P** **03 26 40.0 +0.2**
comp=Z,3.5nm,1.0s,mb4.0
RLMT Red Lodge 88.72 41 *e*P **P** **03 26 42.9 0.0**
comp=Z,9.9nm,1.1s,mb4.5
CHTO Chiang Mai 89.01 290 *e*P **P** **03 26 45.4 +1.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CHTO Chiang Mai 89.01 290 *e*P **P** **03 26 45.4 +1.1**
comp=Z,5.9nm,0.8s,mb4.5
JCT Junction City 89.62 58 *e*P **P** **03 26 47.1 0.0**
JCT pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
JCT Junction City 89.62 58 *e*P **P** **03 26 47.1 0.0**
comp=Z,5.3nm,0.8s,mb4.4
YAK Yakutsk 89.67 338⇑ *e*P **P** **03 26 48.2 +0.9**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.0
AMTX Amarillo 89.76 53 *e*P **P** **03 26 47.5 -0.2**
comp=Z,5.3nm,0.8s,mb4.4
EDM Edmonton 90.27 33 *e*P **P** **03 26 48.5 -1.6**
SNAA Sanae 90.49 179⇑ *i*P **P** **03 26 50.1 -1.0**
SNAA *e* 03 26 50.8
SNAA *e* 03 27 19.4
SNAA Sanae 90.49 179 *e*P **P** **03 26 49.2 -1.9**
SNAA pmax pmax
comp=Z,4.0nm,0.5s
SNAA Sanae 90.49 179 *e*P **P** **03 26 49.2 -1.9**
comp=Z,3.6nm,0.5s,mb4.5
VNA3 Neumayer Olymp 90.63 176⇑ *i*P **P** **03 26 51.0 -0.8**
VNA3 *e* 03 26 51.8
VNA3 *e* 03 27 15.7
VNA3 *e* 03 27 21.0
LZH Lanzhou 90.93 308 *e*P **P** **03 26 54.5 +1.3**
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
VNA2 Neumayer--Watz 91.07 177⇑ *i*P **P** **03 26 53.4 -0.4**
baz=196,slow=5.0
VNA2 *e* 03 26 54.1
VNA2 *e* 03 27 05.2
VNA2 *e* 03 27 17.8
VNA2 *e* 03 27 24.6
VNA1 Neumayer--Stat 91.30 177⇑ *i*P **P** **03 26 54.6 -0.3**
VNA1 *e* 03 26 55.2
VNA1 *e* 03 27 06.4
VNA1 *e* 03 27 19.3
VNA1 *e* 03 27 24.4
RSSD Black Hills 91.66 44 *e*P **P** **03 26 56.3 -0.2**
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RSSD Black Hills 91.66 44 *e*P **P** **03 26 56.3 -0.2**
comp=Z,6.0nm,0.9s,mb4.6
ULN Ulaanbaatar 93.22 319 *e*P **P** **03 27 03.0 -0.6**
KSU1 Kansas State U 95.04 51 *e*P **P** **03 27 12.2 +0.3**
comp=Z,7.2nm,0.6s,mb5.0
TIXI Tiksi 96.25 345⇑ *e*P **P** **03 27 15.6 -1.8**
TIXI pmax pmax
comp=Z,7.0nm,2.5s,mb4.5
TLY Talaya 96.69 322 *e*P **P** **03 27 15.7 -3.6**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
MK31 Makanchi Array 109.19 314 *e*PKP PKiKP 03 32 13.2 -1.9
MKAR Makanchi Array 109.19 314 PKiKP PKiKP 03 32 13.8 -1.2
comp=Z,0.9nm,0.4s,baz=172,slow=0.9,SNR=11
MKAR Makanchi Array 109.19 314 PKPdf PKiKP 03 32 13.8 -1.2
CHKZ Chkalovo 116.71 322 *e*PKiKP PKPdf 03 32 27.1 -2.3
CHKZ Chkalovo 116.71 322 *e*PKPdf PKPdf 03 32 27.1 -2.3
ZRNK Zerenda 117.75 321 *e*PKiKP PKPdf 03 32 29.4 -2.0
ZRNK Zerenda 117.75 321 *e*PKPdf PKPdf 03 32 29.4 -2.0
ARU Arti 122.92 326 ⇓*i*PKiKP PKPdf 03 32 40.7 -0.7

ARU Arti 122.92 326 *e*PKPdf PKPdf 03 32 40.5 -0.9
ARCES ARCESS Array B 126.42 350 PKP PKPdf 03 32 46.3 -1.7
comp=Z,5.0nm,0.8s,baz=0.0,slow=2.4,SNR=19
ARCES ARCESS Array B 126.42 350 PKP PKPdf 03 32 46.3 -1.7
FINES FINESS Array B 133.28 344 PKP PKPdf 03 32 59.7 -1.4
comp=Z,1.4nm,0.5s,baz=50,slow=2.2,SNR=9.2
FINES FINESS Array B 133.28 344 PKP PKPdf 03 32 59.7 -1.4
GNI Garni 136.83 310 *e*PKHKP 03 33 00.5
AKASG Malin Array Be 140.64 332 PKP PKPdf 03 33 15.1 +0.4
comp=Z,1.2nm,0.4s,baz=40,slow=2.8,SNR=7.1
AKASG Malin Array Be 140.64 332 PKIKP PKPdf 03 33 15.1 +0.5
AKASG Malin Array Be 140.64 332 PKP PKPdf 03 33 15.1 +0.4
KWP Kalwaria 144.16 336 *e*PKP PKPdf 03 33 20.3 -0.5
OJC Ojcow 144.70 340 *e*PKP PKPdf 03 33 21.4 -0.3
BR131 Keskin Array S 144.84 315 *e*PKPbc PKPdf 03 33 22.3 +0.3
BRTR Keskin Array B 144.84 315 PKP PKPdf 03 33 22.8 +0.8
comp=Z,6.5nm,0.9s,baz=105,slow=2.6,SNR=20
BRTR Keskin Array B 144.84 315 PKP PKPdf 03 33 22.8 +0.8
STHS Stebnicka Huta 144.88 338 *e*PKP PKPdf 03 33 22.9 +0.9
STHS Stebnicka Huta 144.88 338 *e*P PKPdf 03 33 22.9 +0.9
KOLS Kolonicke sedl 144.89 336 *e*PKP PKPdf 03 33 22.5 +0.4
KOLS Kolonicke sedl 144.89 336 *e* PKPdf 03 33 22.5 +0.4
KSP Ksiaz 145.21 344 *e*PKP PKPdf 03 33 23.8 +1.2
KSP Ksiaz 145.21 344 *e*PKP PKPdf 03 33 23.5 +0.9
NIE Niedzica 145.21 338 *e*PKP PKPdf 03 33 23.9 +1.3
CRVS Cervenica-Dubn 145.22 337 *e*PKP PKPdf 03 33 22.7 +0.1
ANTO Ankara 145.34 315⇑ *i*P PKPdf 03 33 24.2 +1.4
ANTO Ankara 145.34 315 *e*PKPbc PKPbc 03 33 24.3 +0.2
IBBN Ibbenburen 145.44 353 *e*PKPbc PKPbc 03 33 22.9 -1.5
CLZ Clausthal 145.54 350 *e*PKPbc PKPbc 03 33 24.5 -0.2
CLL Collm 145.56 347 *e*PKPbc PKPbc 03 33 24.0 -0.7
CLL Collm 145.56 347 *i* PKPbc 03 33 23.9 -0.8
CLL Collm 145.56 347 *i* PKPbc 03 33 23.9 -0.8
OKC Ostrava-Krasne 145.56 341 *e*PKP PKPdf 03 33 24.4 +1.2
UPC Upice 145.59 344 *e*PKP PKPdf 03 33 24.7 +1.5
UPC Upice 145.59 344 *e* PKPbc 03 33 24.7 -0.1
DPC Dobruska-Polom 145.64 343 *e*PKP PKPdf 03 33 24.9 +1.6
DPC Dobruska-Polom 145.64 343 *e* PKPbc 03 33 24.9 -0.1
BRG Berggiesshubel 145.76 346 *e*PKPbc PKPbc 03 33 23.9 -1.4
BRG Berggiesshubel 145.76 346 *i* PKP PKPdf 03 33 24.5 +1.0
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 145.76 346 *i* PKP2 PKPbc 03 33 24.5 -0.8
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 145.76 346 *i* PKP PKPdf 03 33 24.5 +1.0
MORC Moravsky Berou 145.80 341 *e*PKP2 PKPbc 03 33 24.7 -0.7
FBE Freiberg 145.85 347 *e*PKPbc PKPbc 03 33 25.2 -0.4
KECS Kecovo 145.93 337 *e*PKP PKPdf 03 33 25.3 +1.5
KECS Kecovo 145.93 337 *e* PKPbc 03 33 25.3 -0.5
PVCC Panska Ves 145.94 345 *e*PKP PKPdf 03 33 25.6 +1.8
PVCC Panska Ves 145.94 345 *e* PKPbc 03 33 25.6 -0.2
PRU Pruhonice 146.44 345 *e*PKP PKPdf 03 33 26.6 +1.9
PRU Pruhonice 146.44 345 *e* PKPbc 03 33 26.6 -0.6
MOX Moxa 146.47 348 *e*PKPbc PKPbc 03 33 26.6 -0.7
MOX Moxa 146.47 348 *e*PKP PKPbc 03 33 26.7 -0.6
VYHS Vyhne 146.51 339 *e*PKP PKPbc 03 33 27.0 -0.4
VYHS Vyhne 146.51 339 *e* PKPbc 03 33 27.0 -0.4
TANN Tannenbergstha 146.52 347 *e*PKPbc PKPbc 03 33 26.2 -1.2
WERD Werda 146.52 348 *e*PKPbc PKPbc 03 33 26.2 -1.2
GUNZ Gunzen 146.59 347 *e*PKPbc PKPbc 03 33 26.9 -0.7
WERN Wernitzgruen 146.66 347 *e*PKPbc PKPbc 03 33 26.1 -1.7
NKC Novy Kostel 146.69 347 *e*PKP PKPbc 03 33 27.4 -0.5
MANZ Manzenberg 147.00 347 *e*PKPbc PKPbc 03 33 28.4 -0.3
ROTZ Rotzenmuhle 147.19 347 *e*PKPbc PKPbc 03 33 27.8 -1.4
TNS Taunus Mts 147.40 352 *e*PKPbc PKPbc 03 33 29.2 -0.5
EIL Elat 147.44 297 *e*PKPbc PKPbc 03 33 29.8 0.0
GRA1 Grafenberg Arr 147.46 348 *e*PKPbc PKPbc 03 33 30.0 +0.1
GRF Grafenberg Arr 147.46 348 *e*PKPbc PKPbc 03 33 30.0 +0.1
KHC Kasperske Hory 147.47 345 *e*PKP PKPbc 03 33 29.5 -0.4
GEC2 GERESS Array S 147.71 345 *e*PKPbc PKPbc 03 33 30.1 -0.4
GERES GERESS Array B 147.71 345 PKPbc PKPbc 03 33 30.1 -0.4
comp=Z,6.8nm,0.6s,baz=24,slow=3.0,SNR=38
GERES GERESS Array B 147.71 345 PKPbc PKPbc 03 33 30.1 -0.4
WLF Walferdange 148.21 354 *e*PKPbc PKPbc 03 33 30.5 -1.3
WLF Walferdange 148.21 354 *e*PKPbc PKPbc 03 33 31.4 -0.4
STU Stuttgart 148.70 350 *e*PKHKP 03 33 32.4
FUR Furstenfeldbru 148.90 347 *e*PKPbc PKPbc 03 33 32.9 -0.6
BFO Black Forest 149.26 351 *e*PKPbc PKPbc 03 33 33.8 -0.5
WATA Walderalm 149.62 346 ⇓*i* PKPbc 03 33 34.7 -0.5
comp=Z,6.2nm,1.1s
WATA Walderalm 149.62 346 PKPbc 03 33 34.7 -0.5
comp=Z,6.2nm,1.1s
WATA Walderalm 149.62 346 *i* PKPbc 03 33 34.7 -0.5
WTTA Wattenberg 149.68 346 ⇓*i* PKPbc 03 33 35.3 0.0
comp=Z,12nm,0.5s
MOTA Moosalm 149.72 347 ⇓*i* PKPbc 03 33 34.9 -0.5
comp=Z,6.5nm,0.9s
SQTA Sankt Quirin 149.81 347 ⇓*i* PKPbc 03 33 35.3 -0.4
comp=Z,5.9nm,0.8s
LJU Ljubljana 150.05 342 *e*PKPbc PKPbc 03 33 35.8 -0.4
VISS Visnje 150.17 341 *e*PKPbc PKPbc 03 33 35.5 -1.0
VISS *e*PKPab PKPab 03 33 43.6 -1.7
VOY Vojsko 150.25 343 *e*PKPbc PKPbc 03 33 35.7 -1.0
BOJS Bojanci 150.31 340 *e*PKPbc PKPbc 03 33 36.9 +0.1
KRUS Krusevo 151.25 328 *e*Sg PKPbc 03 33 38.5 -0.5
ESDC Sonseca Array 157.89 11 PKPab PKPab 03 34 17.6 -0.7
comp=Z,0.7nm,0.6s,baz=325,slow=3.3,SNR=5.5
TORD Torodi Ar. Bea 175.16 182 PKP PKPdf 03 33 53.9 -0.4
comp=Z,1.7nm,1.1s,baz=1.9,slow=1.4,SNR=7.6
TORD PKPab PKPab 03 35 34.2 -0.3
comp=Z,0.4nm,0.5s,baz=192,slow=3.7,SNR=14
TORD Torodi Ar. Bea 175.16 182 PKP PKPdf 03 33 53.9 -0.4
TORD PKPab PKPab 03 35 34.2 -0.3

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*ISCJB **05** 03:39:21.8±0.8,2340S±004×6677W±0.10,h204km±8km, mb3.9/14, Error ellipse: s-maj=14.6km s-min=7.3km az=2.5*
*NEIC **05** 03:39:22.8±0.9,2325S×6658W,h195km±9km, mb4.1/13, Error ellipse: s-maj=18.4km s-min=9.5km az=59.0*
*IDC **05** 03:39:23.9±10.0,2314S×6646W,h199km±71km, mb3.5/2, mb1 3.7/3, mb1mx3.3/15, mbtmp3.5/3, Error ellipse: s-maj=106.0km s-min=30.8km az=20.0*
*GUC **05** 03:39:24.2±0.8,2367S×6700W,h200km, ML4.9*

ISC 05 03:39:22.7±0.8,2335S±005×6671W±010,h193km±8km, n31,σ1s27/37,mb3.9/14,3C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16**	**289**	*e*Pn			**Pn**	**03 40 03.8**	**+1.5**
LVC				*e*Sn			**Sn**	**03 40 34.4**	**+1.3**
CEN1	**Los Morros**	**3.21**	**269**	⇓*i*P			**Pn**	**03 40 16.4**	**+2.1**
CEN1				*i* S			**Sn**	**03 40 55.7**	**+0.9**
CEN1				AML		AML		03 40 58.2	
comp=N,1μm,0.3s									
ANCH	**Antofagasta**	**3.41**	**264**	⇑*i*P			**Pn**	**03 40 14.0**	**-2.9**
ANCH				*i* S			**Sn**	**03 40 53.7**	**-5.6**
ANCH				AML		AML		03 40 55.8	
comp=N,2μm,0.2s									
ANCH	**Antofagasta**	**3.41**	**264**	⇑*i*P			**Pn**	**03 40 14.0**	**-2.9**
ANCH				*i* S			**Sn**	**03 40 53.7**	**-5.6**
CPN1	**Cerro Paranal**	**3.61**	**249**	⇑*i*P			**Pn**	**03 40 19.6**	**+0.4**
CPN1				*i* S			**Sn**	**03 41 01.8**	**-1.8**
CPCH	**Copiapo**	**5.17**	**219**	*i* S			**Sn**	**03 41 34.6**	**-4.7**
CDCH	**Caldera**	**5.26**	**224**	⇓*i*P			**Pn**	**03 40 37.7**	**-2.4**
CDCH				*i* S			**Sn**	**03 41 35.4**	**-5.9**
VACH	**Vallenar**	**6.35**	**214**	*i* S			**Sn**	**03 42 02.7**	**-4.1**
LPAZ	**La Paz**	**7.15**	**349**	P			**Pn**	**03 41 06.2**	**+1.4**
comp=N,4.3nm,0.3s,baz=166,slow=7.2,SNR=90									
LPAZ				S			**Sn**	**03 42 24.2**	**-1.5**
comp=N,0.3nm,0.3s,baz=37,slow=22,SNR=4.6									
ARE	**Arequipa**	**8.20**	**326**	*e*P			**Pn**	**03 41 17.0**	**-1.4**
ARE				*e*S			**Sn**	**03 42 45.0**	**-5.5**
TRQA	**Tornquist**	**15.21**	**166**	*e*Pn			**Pn**	**03 42 48.9**	**+1.3**
comp=N,4.7nm,0.6s									
RCBR	**Riachuelo**	**34.40**	**64**	*e*P			**P**	**03 45 50.3**	**-1.2**
comp=N,5.4nm,0.6s,mb4.2									
TEIG	**Tepich**	**48.15**	**332**	*e*P			**P**	**03 47 42.7**	**-

JCT	**Junction City**	**62.24**	**328**	*e*P		**P**	**03 49 23.8**	**-0.1**
	comp=N,2.2nm,0.7s,mb3.9								
TXAR	**Lajitas Array**	**63.31**	**324**	P		**P**	**03 49 31.1**	**+0.2**
	comp=N,0.2nm,0.5s,mb3.0,baz=132,slow=5.2,SNR=3.0								
ANMO	**Albuquerque**	**69.16**	**326**	*e*P		**P**	**03 50 09.1**	**+0.9**
	comp=N,0.9nm,0.7s,mb3.5								
SDCO	**Great Sand Dun**	**70.87**	**328**	*e*P		**P**	**03 50 19.4**	**+0.8**
	comp=N,1.1nm,0.8s,mb3.5								
SMCO	**Snowmass**	**72.71**	**328**	*e*P		**P**	**03 50 30.8**	**+1.3**
	comp=N,0.8nm,0.6s,mb3.5								
TOA0	**Torodi Ar. Sit**	**76.09**	**69**	*e*P		**P**	**03 50 47.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.09**	**69**	P		**P**	**03 50 48.0**	**-0.9**
	comp=N,2.3nm,0.4s,mb4.1,baz=258,slow=5.6,SNR=143								
LOHW	**Long Hollow**	**77.87**	**329**	*e*P		**P**	**03 50 59.5**	**+0.6**
	comp=N,1.3nm,0.7s,mb3.7								
BOSA	**Boshof**	**80.79**	**117**	*e*P		**P**	**03 51 14.6**	**-0.1**
	comp=N,3.4nm,0.7s,mb4.1								
BMO	**Blue Mountains**	**82.07**	**326**	*e*P		**P**	**03 51 19.1**	**-2.2**
	comp=N,4.7nm,0.9s,mb4.1								
LBTB	**Lobatse**	**82.41**	**114**	*e*P		**P**	**03 51 23.2**	**0.0**
	comp=N,3.4nm,0.5s,mb4.2								
LSZ	**Lusaka**	**88.43**	**106**	*e*P		**P**	**03 51 54.3**	**+1.5**
	comp=N,3.9nm,0.9s,mb4.2								
MK31	**Makanchi Array**	**145.86**	**39**	*e*PKPbc		PKPbc	03 58 39.2	0.0
MKAR	**Makanchi Array**	**145.86**	**39**	PKPbc		PKPbc	03 58 39.3	+0.1
	comp=N,4.2nm,0.8s,baz=297,slow=4.1,SNR=25								

IDC ***05*** *03:44:32.6±5.8, 1796S×17858W, h604km±74km, mb3.3/7, mb1 3.6/8, mb1mx3.4/15, mbtmp3.3/8, Error ellipse: s-maj=33.5km s-min=24.9km az=135.0*

ISCJB ***05*** *03:44:35.9±3.2, 180S±02×1788W±02, h666km±42km, mb4.0/16, Error ellipse: s-maj=30.8km s-min=22.8km az=103.4*

NEIC ***05*** *03:44:36.3±3.0, 1798S×17870W, h654km±37km, mb4.3/10, Error ellipse: s-maj=19.3km s-min=14.9km az=126.0*

ISC 05 03:44:36.1±5.0, 181S±02×1786W±02, h648km±62km, n25, σ0§52/25, mb4.0/16, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.56**	**252**	P		**P**	**03 47 37.5**	**-0.8**
	0.3nm,0.3s,baz=87,slow=20,SNR=3.0							
CNB	**Canberra Magne**	**33.15**	**232**	*e*P		**P**	**03 50 22.7**	**+0.9**
	11nm,0.6s,mb4.6							
CTA	**Charters Tower**	**33.20**	**261**	*i*P		**P**	**03 50 22.2**	**0.0**
	5.3nm,0.7s,mb4.2							
CTAO	**Charters Tower**	**33.20**	**261**	*e*P		**P**	**03 50 22.0**	**-0.3**
	6.4nm,0.7s,mb4.3							
PMG	**Port Moresby**	**34.27**	**280**	*e*P		**P**	**03 50 30.8**	**-0.4**
	18nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**38.36**	**241**	*e*P		**P**	**03 51 05.1**	**+0.7**
	4.1nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**38.36**	**241**	P		**P**	**03 51 04.4**	**0.0**
	7.6nm,0.8s,mb4.2,baz=85,slow=9.4,SNR=11							
STKA	**Stephens Creek**	**38.36**	**241**	*e*P		**P**	**03 51 04.7**	**+0.3**
WB2	**Warramunga Arr**	**44.38**	**260**	*i*P		**P**	**03 51 51.1**	**-0.4**
WRA	**Warramunga Arr**	**44.39**	**260**	P		**P**	**03 51 51.3**	**-0.3**
	4.7nm,0.5s,mb4.1,baz=95,slow=7.3,SNR=134							
AS31	**Alice Springs**	**44.53**	**254**	*e*P		**P**	**03 51 52.9**	**+0.2**
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**	**03 51 53.5**	**+0.8**
	27nm,0.6s,mb4.8,baz=87,slow=8.6,SNR=485							
ASAR				PcP		PcP	03 53 22.1	+1.1
	0.9nm,0.5s,baz=107,slow=3.8,SNR=4.6							
ASPA	**Alice Springs**	**44.54**	**254**	*i*P		**P**	**03 51 53.0**	**+0.3**
KAKA	**Kakadu**	**47.36**	**269**	*e*P		**P**	**03 52 13.8**	**-0.1**
	8.2nm,0.4s,mb4.4							
FORT	**Forrest**	**49.74**	**245**	*e*P		**P**	**03 52 31.3**	**-0.1**
	13nm,0.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.78**	**261**	*e*P		**P**	**03 52 53.7**	**+0.5**
	2.4nm,0.4s,mb3.8							
MBWA	**Marble Bar**	**57.82**	**256**	*e*P		**P**	**03 53 27.6**	**-0.3**
	2.3nm,0.5s,mb3.6							
KLBR	**Kellerberrin**	**58.56**	**244**	*e*P		**P**	**03 53 32.9**	**+0.1**
	9.1nm,0.7s,mb4.0							
VNDA	**Vanda**	**60.26**	**185**	P		**P**	**03 53 44.0**	**0.0**
	0.4nm,0.7s,mb2.7,baz=12,slow=8.0,SNR=4.4							
VNDA	**Vanda**	**60.26**	**185**	*e*P		**P**	**03 53 44.0**	**-0.1**
	0.6nm,0.7s,mb2.8							
NVAR	**Mina Array Bea**	**79.70**	**44**	P		**P**	**03 55 38.4**	**-0.1**
	0.7nm,0.7s,mb3.2,baz=229,slow=9.3,SNR=7.7							
TXAR	**Lajitas Array**	**86.27**	**58**	P		**P**	**03 56 12.1**	**+1.0**
	1.4nm,0.8s,mb3.6,baz=214,slow=6.6,SNR=12							
TXAR	**Lajitas Array**	**86.27**	**58**	P		**P**	**03 56 12.1**	**+1.0**
PDAR	**Pinedale Array**	**87.62**	**44**	P		**P**	**03 56 16.9**	**-0.4**
	0.5nm,0.6s,mb3.3,baz=207,slow=3.7,SNR=5.1							
SNAA	**Sanae**	**90.43**	**179**	*e*P		**P**	**03 56 29.4**	**-1.0**
	0.8nm,0.6s,mb3.7							

IDC 05 03:51:56.8±1.9, 214N×12702E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/14, Error ellipse: s-maj=165.6km s-min=23.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.16**	**184**	LR		LR	04 03 19.9	
	comp=Z,30nm,20.9s,baz=302,slow=34							
WRA	**Warramunga Arr**	**23.09**	**162**	P		P	03 57 04.9	+0.8
	1.0nm,0.5s,baz=340,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.51**	**166**	P		P	03 57 37.5	+1.6
	0.1nm,0.5s,baz=355,slow=7.2,SNR=4.4							
STKA	**Stephens Creek**	**36.55**	**159**	P		P	03 59 02.5	-1.6
	1.5nm,0.6s,baz=313,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**59.02**	**326**	P		P	04 01 58.5	+0.1
	0.2nm,0.4s,baz=119,slow=8.6,SNR=3.0							

JMA ***05*** *04:00:36.9±0.2, 3729N×13505E, h397km±2km, M3.4*

ISCJB ***05*** *04:00:37.4±0.3, 3735N±005×13504E±006, h388km±4km, mb3.7/20, Error ellipse: s-maj=9.1km s-min=6.1km az=115.5*

IDC ***05*** *04:00:37.8±0.7, 3735N×13504E, h380km±8km, mb3.3/11, mb1 3.5/15, mb1mx3.4/26, mbtmp3.3/15, Error ellipse: s-maj=14.2km s-min=12.0km az=75.0*

NEIC ***05*** *04:00:38.2±0.5, 3734N×13492E, h384km±6km, mb3.5/5, Error ellipse: s-maj=12.4km s-min=11.2km az=195.0*

ISC 05 04:00:38.1±0.3, 3734N±005×13506E±006, h382km±4km, n50, σ0§85/62, mb3.7/20, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKG	**Kaga**	**1.48**	**136**	P		**Pn**	**04 01 29.6**	**+0.3**
JWT	**Wachi**	**2.08**	**172**	P		**Pn**	**04 01 33.1**	**+0.2**
JWT				S		**S**	**04 02 16.5**	**-0.5**
JGM	**Miyama**	**2.12**	**140**	P		**Pn**	**04 01 33.2**	**+0.1**
JGM				S		**S**	**04 02 17.5**	**0.0**
JSD	**Sado**	**2.63**	**74**	P		**Pn**	**04 01 37.2**	**+0.3**
MAJO	**Matsushiro**	**2.65**	**107**	*e*Pn		**Pn**	**04 01 37.5**	**+0.6**
MAJO				*e*S		**S**	**04 02 23.8**	**-0.8**
MAT	**Matsushiro**	**2.65**	**107**	P		**Pn**	**04 01 37.5**	**+0.5**
MAT				S		**S**	**04 02 25.1**	**+0.6**
MAT	**Matsushiro**	**2.65**	**107**	P		**Pn**	**04 01 37.6**	**+0.6**
MAT				S		**S**	**04 02 25.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.65**	**107**	P		**Pn**	**04 01 38.0**	**+1.0**
	4.0nm,0.3s,baz=285,slow=9.0,SNR=111							
MJAR				S		**S**	**04 02 25.0**	**+0.5**
	0.8nm,0.3s,baz=281,slow=15,SNR=4.1							
JHS	**Saijyo**	**2.82**	**214**	P		**Pn**	**04 01 38.2**	**-0.2**
JGT	**Gotsu**	**3.19**	**224**	P		**Pn**	**04 01 41.5**	**0.0**
JGT				S		**S**	**04 02 32.3**	**-0.5**
JIE	**Ise**	**3.23**	**155**	P		**Pn**	**04 01 42.4**	**+0.5**
JIE				*e*S		**S**	**04 02 32.4**	**-1.1**
JWZ	**Kozaga**	**3.84**	**172**	P		**Pn**	**04 01 47.2**	**-0.3**
JOD2	**Odawara 2**	**3.86**	**121**	P		**Pn**	**04 01 48.0**	**+0.3**
JOD2				S		**S**	**04 02 43.9**	**0.0**
JTO	**Tosashimizu**	**4.84**	**203**	P		**Pn**	**04 01 57.4**	**-0.1**
JMK	**Ichinoseki**	**5.11**	**70**	P		**Pn**	**04 02 00.2**	**-0.2**
JNU	**Nakatsue**	**5.43**	**220**	P		**Pn**	**04 02 04.2**	**+0.4**
	1.3nm,0.3s,baz=240,slow=19,SNR=5.2							
BSO1	**Boso 1**	**5.50**	**117**	P		**Pn**	**04 02 03.2**	**-1.3**
BSO1				*e*S		**S**	**04 03 11.4**	**-3.3**
KSRS	**Korea Array**	**5.68**	**273**	P		**Pn**	**04 02 06.9**	**+0.4**
	baz=89,slow=11,SNR=41							
JHJ	**Hachijo jima 2**	**5.72**	**136**	S		**S**	**04 03 19.1**	**0.0**
	13nm,0.3s,baz=234,slow=23,SNR=7.1							
JOT	**Ohata**	**6.15**	**47**	P		**Pn**	**04 02 11.9**	**+0.3**
JKB	**Kayabe**	**6.47**	**44**	P		**Pn**	**04 02 16.2**	**+1.0**
JKB				S		**S**	**04 03 34.1**	**-0.2**
ASAJ	**Asahikawa**	**8.86**	**38**	P		**Pn**	**04 02 42.0**	**-0.7**
	7.5nm,0.3s,baz=211,slow=12,SNR=32							
ASAJ				S		**S**	**04 04 19.0**	**-5.8**
	1.5nm,0.3s,baz=324,slow=27,SNR=13							
BJI	**Beijing**	**14.99**	**286**	P		**P**	**04 03 43.0**	**-8.2**
	6.0nm,0.9s							
MKAR	**Makanchi Array**	**39.63**	**301**	P		**P**	**04 07 34.8**	**+0.3**
	0.5nm,0.5s,mb3.1,baz=85,slow=11,SNR=7.8							
JIRN	**Jiri**	**41.94**	**271**	*e*P		**P**	**04 07 54.1**	**+1.1**
	8.1nm,0.3s,mb4.6							
GUN	**Gumba**	**42.07**	**272**	*e*P		**P**	**04 07 55.1**	**+1.0**
	12nm,0.3s,mb4.7							
PKI	**Pulchoki**	**42.60**	**272**	*e*P		**P**	**04 07 58.8**	**+0.5**
KKN	**Kakani**	**42.60**	**272**	*e*P		**P**	**04 07 59.4**	**+1.1**
	4.6nm,0.3s,mb4.3							
DMN	**Daman**	**42.82**	**272**	*e*P		**P**	**04 08 00.4**	**+0.3**
	5.6nm,0.4s,mb4.3							
GKN	**Gorkha**	**43.02**	**273**	*e*P		**P**	**04 08 02.8**	**+1.1**
KOLN	**Koldanda**	**43.95**	**273**	*e*P		**P**	**04 08 10.2**	**+1.2**
	5.0nm,0.3s,mb4.3							
CHKZ	**Chkalovo**	**46.37**	**312**	*e*P		**P**	**04 08 26.5**	**-1.2**
	0.5nm,0.4s,mb3.2							
BRVK	**Borovoye**	**46.64**	**311**	*e*P		**P**	**04 08 29.0**	**-0.8**
	1.6nm,0.7s,mb3.5							
ZRNK	**Zerenda**	**47.42**	**311**	*e*P		**P**	**04 08 34.4**	**-1.4**
	1.0nm,0.5s,mb3.4							
ARU	**Arti**	**52.73**	**317**	*e*P		**P**	**04 09 13.8**	**-1.3**
	2.5nm,0.5s,mb3.7							
WRA	**Warramunga Arr**	**56.98**	**181**	P		**P**	**04 09 44.5**	**-0.7**
	0.8nm,0.4s,mb3.5,baz=358,slow=7.6,SNR=24							
ASAR	**Alice Springs**	**60.69**	**181**	P		**P**	**04 10 10.1**	**-0.4**
	0.4nm,0.9s,mb2.8,baz=4.8,slow=6.2,SNR=5.5							
ARCES	**ARCESS Array B**	**61.86**	**338**	P		**P**	**04 10 17.4**	**-0.8**
	5.3nm,0.9s,mb4.1,baz=64,slow=7.2,SNR=5.8							
JOF	**Joensuu**	**63.23**	**330**	*e*p		**P**	**04 10 25.4**	**-1.8**
FINES	**FINESS Array B**	**66.10**	**330**	P		**P**	**04 10 44.5**	**-1.0**
	1.4nm,0.5s,mb3.9,baz=72,slow=4.7,SNR=14							
AKASG	**Malin Array Be**	**70.86**	**320**	P		**P**	**04 11 13.7**	**-1.0**
	1.2nm,0.4s,mb3.8,baz=50,slow=6.2,SNR=21							
NB2	**NORSAR Subarra**	**71.84**	**335**	P		**P**	**04 11 19.3**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.5,baz=44,slow=5.9							
NOA	**NORSAR Array B**	**71.84**	**335**	P		**P**	**04 11 19.5**	**-0.9**
	comp=Z,1.2nm,0.6s,mb3.6,baz=44,slow=5.9,SNR=4.1							
NOA	**NORSAR Array B**	**71.84**	**335**	P		**P**	**04 11 19.5**	**-0.9**
NVAR	**Mina Array Bea**	**78.78**	**50**	P		**P**	**04 12 01.4**	**+2.0**
	comp=Z,0.4nm,0.6s,mb3.2,baz=290,slow=5.7,SNR=5.3							
NVAR	**Mina Array Bea**	**78.78**	**50**	P		**P**	**04 12 01.4**	**+1.9**
PDAR	**Pinedale Array**	**80.96**	**42**	P		**P**	**04 12 11.7**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=300,slow=1.2,SNR=3.7							
ULM	**Lac du Bonnet**	**81.91**	**30**	P		**P**	**04 12 16.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=5.5,slow=5.5,SNR=4.1							
TXAR	**Lajitas Array**	**93.83**	**48**	P		**P**	**04 13 14.8**	**+1.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=318,slow=1.7,SNR=4.7							
TXAR	**Lajitas Array**	**93.83**	**48**	P		**P**	**04 13 14.8**	**+1.9**

IDC 05 04:04:42.0±1.2, 5599S×2526W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=45.8km s-min=27.1km az=78.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**18.37**	**157**	P		Pn	04 08 58.8	+0.6
	0.0nm,0.3s,baz=316,slow=14,SNR=6.2							
VNDA	**Vanda**	**46.68**	**182**	P		P	04 13 11.1	-1.3
	0.5nm,0.7s,baz=184,slow=6.6,SNR=6.0							
LPAZ	**La Paz**	**51.24**	**303**	P		P	04 13 48.1	+0.7
	1.3nm,0.6s,baz=145,slow=7.7,SNR=8.7							
TORD	**Torodi Ar. Bea**	**72.48**	**28**	P		P	04 16 10.2	-0.2
	1.3nm,0.8s,baz=207,slow=5.5,SNR=8.7							

CSEM ***05*** *04:12:59.1±0.8, 4059N×2962W, h0km, ML3.1, Error ellipse: s-maj=24.5km s-min=6.1km az=69.0, After PDA*

PDA ***05*** *04:12:59.1±0.8, 4059N×2962W, h0km, MD3.8, ML3.1, Error ellipse: s-maj=24.5km s-min=6.1km az=69.0*

SVSA 05 04:12:59.1±0.8, 4059N×2962W, h0km, MD3.8, ML3.1, Error ellipse: s-maj=24.5km s-min=6.1km az=69.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CALA	**Caldeira**	**2.13**	**160**	*e*P		Pn	04 13 31.3	-4.6
CALA				*e*S		Sn	04 13 55.1	-7.9
ROSA	**Rosais**	**2.15**	**150**	*e*P		Pn	04 13 31.3	-4.9
ROSA				*e*S		Sn	04 13 56.1	-7.4
PICO	**Pico**	**2.28**	**156**	*e*P		Pn	04 13 33.5	-4.5
PICO				*e*S		Sn	04 13 59.2	-7.6
PMAN	**Manadas**	**2.28**	**148**	*e*S		Sn	04 13 58.6	-8.3
PMAN								
	20nm,0.2s							
PID	**Ribeirinha**	**2.44**	**151**	*e*P		Pn	04 13 35.4	-4.8
FRA1	**Furnas**	**4.36**	**129**	*e*S		Sn	04 14 50.1	-8.1
MIRA	**Miradouro**	**4.38**	**128**	*e*P		Sn	04 14 49.8	-8.8

IDC 05 04:42:24.1±7.4, 2007S×17896W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/13, mbtmp4.0/2, Error ellipse: s-maj=315.8km s-min=114.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.75**	**256**	P		P	04 50 30.6	-0.6
	1.0nm,0.4s,baz=98,slow=7.8,SNR=13							
WB2	**Warramunga Arr**	**43.76**	**262**	*e*P		P	04 50 32.5	+1.2
WRA	**Warramunga Arr**	**43.77**	**262**	P		P	04 50 32.6	+1.2
	1.0nm,0.4s,baz=95,slow=8.4,SNR=36							
FITZ	**Fitzroy Crossi**	**52.20**	**262**	*e*P		P	04 51 36.8	+0.2
	11nm,1.9s							
AKASG	**Malin Array Be**	**142.20**	**331**	PKP		PKPdf	05 01 57.7	-0.6
	1.3nm,0.5s,baz=41,slow=4.0,SNR=8.5							

INMG ***05*** *04:49:39.9±1.1, 4283N×7.19W, h12km±8km, ML1.3, Error ellipse: s-maj=4.6km s-min=2.3km az=104.0*

MDD 05 04:49:39.2±0.4, 4281N×723W, h0km, mbLg1.6/8, Error ellipse: s-maj=5.0km s-min=2.5km az=98.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EPON	**Pontenova**	**0.52**	**6**	Pg		Pg	04 49 48.6	-0.6
	18nm,1.0s,SNR=10							
EPON				Lg			04 49 55.9	
	2.4nm,0.1s,SNR=15							
ECAL	**Calabor**	**0.94**	**157**	Pg		Pg	04 49 56.8	-0.5
	9.3nm,1.1s,SNR=9.5							
ECAL				Lg			04 50 09.1	
	4.3nm,0.1s,SNR=7.7							
STS	**Santiago**	**0.97**	**275**	Pg		Pg	04 49 56.5	-1.4
	1.7nm,0.1s,SNR=4.0							
STS				Lg			04 50 09.3	
	3.5nm,0.2s,SNR=7.6							
PBRG	**Braganca**	**1.07**	**160**	*e*P		Pg	04 49 59.4	-0.3
PBRG				*e*S		Sg	04 50 12.6	-1.0
PBRG								
	2.0nm,0.1s							
PCAB	**Cabril**	**1.25**	**209**	*e*P		Pg	04 50 02.5	-0.7
PCAB				*e*S		Sg	04 50 18.9	-0.5
PCAB								
	4.9nm,0.1s							
EZAM	**Zamans**	**1.27**	**239**	Pg		Pg	04 50 01.6	-2.0
	1.7nm,0.2s,SNR=4.0							
EMAZ	**Mazaricos**	**1.29**	**277**	Pg		Pg	04 50 03.4	-0.6
	0.9nm,0.1s,SNR=7.9							
EMAZ				Lg			04 50 21.1	
	2.9nm,0.1s,SNR=6.1							
EARI	**Arriondas**	**1.56**	**71**	Pg		Pg	04 50 07.3	-1.9
	8.5nm,0.9s,SNR=5.8							
EARI				Lg			04 50 28.1	
	1.7nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**1.58**	**193**	*e*Pg		Pg	04 50 08.6	-0.8
PVRL				*e*Sg		Sg	04 50 28.8	-1.1
PVRL								
	3.3nm,0.1s							
PVIS	**Viseu**	**2.15**	**194**	*e*Sg		Sg	04 50 46.4	-2.0

MAN 05 05:19:22.9, 1347N×12158E, h9km, mb2.7, ML4.2, MS1.3, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOAC	**Boac**	**0.26**	**92**	*e*P		Pg	05 19 28.6	+0.6
PGP	**Puerto Galera**	**0.61**	**273**	*i*P		Pg	05 19 35.1	+0.5
TGY	**Tagaytay City**	**0.89**	**315**	*e*P		Pg	05 19 41.3	+1.4
TGY				*e*S		Sg	05 19 51.4	0.0
AUQP	**San Andres**	**1.08**	**98**	*e*P		Pg	05 19 46.0	+2.5
OTRP	**Odiongan**	**1.18**	**158**	*e*P		Pb	05 19 44.5	-0.9
OTRP				*e*S		Sb	05 20 02.3	+1.4
POLP	**Polilio Island**	**1.30**	**16**	*e*P		Pn	05 19 46.1	-1.0
LUBP	**Lubang**	**1.32**	**282**	*e*P		Pn	05 19 45.7	-1.8
KALP	**Kalibo**	**1.93**	**157**	*i*eP		Sn	05 20 17.4	-2.8
BUSP	**Coron**	**1.98**	**223**	*e*P		Pn	05 19 57.1	+0.5
PCPH	**Palayan**	**2.13**	**347**	*e*P		Pn	05 19 58.4	-0.2
RCP	**Roxas**	**2.21**	**149**	*i*eP		Pn	05 20 05.4	+5.6
RCP				*e*S		Sn	05 20 34.0	+6.8
BALP	**Baler**	**2.26**	**360**	*e*P		Pn	05 20 01.4	+1.0
PVCP	**Virac**	**2.51**	**87**	*e*P		Pn	05 20 07.6	+3.8
CUYO	**Cuyo Island**	**2.66**	**192**	*e*P		Pn	05 20 06.2	+0.3
BOLP	**Bolinao**	**3.31**	**331**	*e*P		Pn	05 20 05.1	-10

CASC ***05*** *05:20:49.3±2.6, 1297N×8868W, h54km±31km, MD4.3, ML4.9, mb4.6(NEIC)*

IDC ***05*** *05:20:50.3±2.6, 1319N×8839W, h72km±23km, mb4.1/15, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, MS3.6/11, Ms1 3.6/11, ms1mx3.3/25, Error ellipse: s-maj=21.3km s-min=12.2km az=41.0*

ISCJB ***05*** *05:20:50.2±0.5, 1308N±005×8852W±005, h84km±5km, mb4.5/47, Error ellipse: s-maj=10.2km s-min=5.0km az=75.3*

NEIC ***05*** *05:20:51.3±0.8, 1304N×8851W, h86km±6km, mb4.6/35, MD5.2(SNET), Error ellipse: s-maj=10.2km s-min=5.2km az=214.0*

NEIC Felt [III] at San Salvador.

BJI ***05*** *05:20:51.3, 1300N×8850W, h86km, mB5.2, Ms5.2, Msz4.5*

MOS ***05*** *05:20:55.0±1.4, 1328N×8849W, h123km, mb4.5/10, Error ellipse: s-maj=27.1km s-min=8.0km az=109.2*

ISC 05 05:20:52.3±0.4, 1313N±005×8841W±005, h88km±6km, n267, σ0§91/248, mb4.5/47, 57C-59D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNCH	**Conchagua**	**0.58**	**75**	*e*P		x	05 21 32.6	
CNCH				*e*S		x	05 21 44.9	
SNVI	**San Vicente**	**0.64**	**319**	*i*P		x	05 21 29.6	
SNVI				*e*S		x	05 21 39.5	
LCBS	**La Ceiba**	**0.76**	**314**	*e*P		x	05 21 30.3	
LCBS				*e*S		x	05 21 43.2	
LFU	**La Fuente**	**0.92**	**312**	*i*P		x	05 21 32.3	
LFU				*e*S		x	05 21 45.5	
SNET	**Serv Nac Est T**	**0.97**	**305**	*i*eP		x	05 21 05.4	
SNET				*e*S		x	05 21 17.7	
SNET				*i*			05 21 18.9	
	comp=Z,72μm,0.4s							
PICS	**Picacho**	**1.02**	**307**	*e*P		x	05 21 29.8	
PICS				*e*S		x	05 21 44.9	
BOQS	**Boqueron**	**1.04**	**306**	*i*P		x	05 21 33.3	
BOQS				*e*S		x	05 21 45.8	
CRIN	**San Cristobal**	**1.39**	**108**	*i*eP		**Pn**	**05 21 16.0**	**-0.5**
CRIN				*e*S		**Sn**	**05 21 36.1**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.44**	**50**	*e*Pn		**Pn**	**05 21 18.0**	**+0.9**
MTO2	**Montecristo 2**	**1.57**	**324**	*e*P		x	05 21 41.4	
MTO2				*e*S		x	05 22 02.6	
RBDL	**Robledal**	**1.58**	**308**	*i*eP		x	05 21 40.5	
RBDL				*e*S		x	05 22 00.6	
TELN	**Telica**	**1.63**	**108**	*e*P		**Pn**	**05 21 18.3**	**-1.2**
TELN				*e*S		**Sn**	**05 21 40.1**	**0.0**
LEON	**Leon**	**1.64**	**115**	*e*P		**Pn**	**05 21 17.4**	**-2.3**
CNGN	**Cerro Negro**	**1.78**	**110**	*e*P		**Pn**	**05 21 20.3**	**-1.2**
CNGN				*e*S		**Sn**	**05 21 44.9**	**+1.2**
MIRN	**Miramar**	**1.79**	**112**	*i*eP		**Pn**	**05 21 20.1**	**-1.6**
MOMJ	**Momotombo**	**1.96**	**111**	*i*eP		**Pn**	**05 21 22.6**	**-1.2**
COPN	**Copaltepe**	**2.01**	**118**	*i*eP		**Pn**	**05 21 22.5**	**-2.0**
APYN	**Apoyeque**	**2.20**	**114**	*e*P		**Pn**	**05 21 25.9**	**-1.1**
APYN				*e*S		**Sn**	**05 21 54.8**	**+1.3**
XAVN	**Gruta Xavier**	**2.25**	**115**	*e*P		**Pn**	**05 21 26.5**	**-1.2**
XAVN				*e*S		**Sn**	**05 21 55.5**	**+0.6**
MGAN	**Managua**	**2.33**	**115**	*e*P		**Pn**	**05 21 27.3**	**-1.3**
MGAN				*e*S		**Sn**	**05 21 56.7**	**+0.1**
MGAN				*i*			05 21 59.9	
	comp=N,6μm,0.3s							
TICN	**Ticuantepe**	**2.39**	**117

comp=Z,17nm,0.4s,mb4.8
CCM Cathedral Cave 24.95 355 *e*P P 05 26 05.1 -2.3
CCM pmax pmax
comp=Z,15nm,0.7s,mb4.5
CCM Cathedral Cave 24.95 355 *e*P P 05 26 05.0 -2.3
comp=Z,15nm,0.7s,mb4.5
CCM *e*pP 05 26 20.6
WCI Wyandotte Cave 25.07 4 *e*P P 05 26 08.5 +0.1
WCI pmax pmax
comp=Z,15nm,0.9s,mb4.4
WCI Wyandotte Cave 25.07 4 *e*P P 05 26 08.5 +0.1
comp=Z,15nm,0.9s,mb4.4
FWV Forest Hill 25.28 14 *e*P P 05 26 11.8 +1.4
BNM Barren Site 26.68 325 *e*P P 05 26 22.3 -0.7
LPM Los Pinos Moun 26.80 325 *e*P P 05 26 24.8 +0.8
KSU1 Kansas State U 26.87 346 *e*P P 05 26 24.7 0.0
comp=Z,10nm,0.6s,mb4.5
LAZ Ladron 27.15 324 *e*P P 05 26 27.2 0.0
ANMO Albuquerque 27.18 326 P P 05 26 27.4 -0.1
comp=Z,1.2nm,0.5s,mb3.7,baz=157,slow=8.2,SNR=8.8
ANMO PcP PcP 05 29 45.6 -0.1
comp=Z,0.4nm,0.3s,baz=128,slow=3.4,SNR=4.0
CBKS Cedar Bluff 27.48 341 *e*P P 05 26 29.5 -0.7
CBKS pmax pmax
comp=Z,12nm,0.6s,mb4.6
CBKS Cedar Bluff 27.48 341 *e*P P 05 26 29.5 -0.7
comp=Z,12nm,0.6s,mb4.6
116A Eloy 28.78 316 ⇑P P 05 26 42.1 +0.4
baz=29
SDCO Great Sand Dun 28.87 331 *e*P P 05 26 43.2 +0.8
comp=Z,3.3nm,0.6s,mb4.1
115A Sonoran Desert 29.21 316 ⇓P P 05 26 46.1 +0.6
baz=29
MVCO Mesa Verde 29.96 327 ⇓P P 05 26 52.8 +0.7
baz=30
X15A Humboldt 30.31 319 ⇑P P 05 26 55.6 +0.4
baz=30
WUAZ Wupatki 30.43 321 ⇑P P 05 26 57.1 +0.8
baz=30
Y14A Wickenburg 30.47 317 ⇓P P 05 26 57.4 +0.8
baz=30
SMCO Snowmass 30.70 331 *e*P P 05 26 59.1 +0.4
comp=Z,6.2nm,0.6s,mb4.5
X14A Yava 30.72 318 ⇓P P 05 26 59.5 +0.7
baz=31
Y13A Salome 30.95 316 ⇑P P 05 27 02.0 +1.1
baz=31
Y12C Blythe 31.39 315 ⇓P P 05 27 05.6 +0.8
baz=31
X13A Yucca 31.41 317 ⇓P P 05 27 05.2 +0.3
baz=31
PDMCI Parker Dam,Lak 31.45 316 ⇓P P 05 27 05.3 +0.1
baz=31
W13A Hualapai Mount 31.75 318 ⇓P P 05 27 08.3 +0.4
baz=32
PHWY Pilot Hill 31.77 335 *e*P P 05 27 08.6 +0.5
BC3 Big Chuckw Mtn 31.98 314 ⇑P P 05 27 10.0 +0.1
baz=32
SRU San Rafael 32.44 327 *e*P P 05 27 14.1 +0.2
SRU pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SRU San Rafael 32.44 327 *e*P P 05 27 14.1 +0.2
comp=Z,4.8nm,0.6s,mb4.4
V12A Nelson 32.76 318 ⇓P P 05 27 17.7 +0.9
baz=33
RWWY Rawlins 32.83 334 *e*P P 05 27 17.8 +0.4
comp=Z,14nm,0.6s,mb5.0
MSU Marysvale 32.92 324 *e*P P 05 27 18.5 +0.4
ARUT Antelope Range 33.17 322 *e*P P 05 27 20.5 +0.2
RSSD Black Hills 33.67 340 *e*P P 05 27 25.4 +0.8
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
RSSD Black Hills 33.67 340 *e*P P 05 27 25.4 +0.7
comp=Z,6.3nm,0.8s,mb4.5
TCUT Toone Canyon 34.37 328 *e*P P 05 27 31.2 +0.5
DUG Dugway 34.45 326 ⇓P P 05 27 31.8 +0.4
baz=34
FURC Furnace Creek, 34.51 317 ⇑P P 05 27 32.7 +0.7
baz=34
LRMC Laurel Mountai 34.52 315 ⇑P P 05 27 32.7 +0.7
baz=34
MPMC Manual Prospec 34.70 316 ⇓P P 05 27 33.7 +0.1
baz=35
PDAR Pinedale Array 34.74 332 P P 05 27 33.5 -0.4
comp=Z,3.0nm,0.5s,mb4.3,baz=126,slow=11,SNR=22
PDAR PcP PcP 05 30 04.8 -0.9
comp=Z,0.9nm,0.6s,baz=143,slow=6.7,SNR=4.6
OSI Osito Adit 34.79 313 ⇓P P 05 27 35.0 +0.7
baz=35
HWUT Hardware Ranch 34.81 329 *e*P P 05 27 34.5 -0.1
comp=Z,3.1nm,0.5s,mb4.4
HWUT *e*PcP PcP 05 30 05.9 0.0
Q12A Willow Creek R 34.81 323 ⇑P P 05 27 35.1 +0.6
baz=35
SPUT South Promonto 35.05 328 *e*P P 05 27 34.6 -2.0
BGU Big Grassy Mou 35.08 327 *e*P P 05 27 35.8 -1.0
ARVC Arvin 35.12 314 ⇑P P 05 27 38.3 +1.1
baz=35
P12A McGill 35.14 323 ⇑P P 05 27 38.3 +1.0
baz=35
GRAC Grapevine Rang 35.15 318 ⇑P P 05 27 38.3 +0.9
baz=35
Q11A Duckwater 35.18 322 ⇓P P 05 27 38.6 +1.0
baz=35
R10A Warm Springs 35.23 320 ⇓P P 05 27 39.3 +1.1
baz=35
LPAZ La Paz 35.44 145 P P 05 27 40.8 +0.9
comp=Z,1.6nm,0.6s,mb4.0,baz=332,slow=8.5,SNR=14
LPAZ LR LR 05 41 23.2
comp=Z,92nm,21.8s,baz=97,slow=35
LPAZ La Paz 35.44 145 *e*P P 05 27 40.5 +0.6
comp=Z,1.4nm,0.5s,mb4.0
S09A Goldfield 35.48 319 ⇓P P 05 27 40.3 +0.1
baz=35
O12A Currie 35.57 324 ⇓P P 05 27 41.4 +0.4
baz=36
AGMN Agassiz Refuge 35.61 351 *e*P P 05 27 40.0 -1.3
comp=Z,15nm,0.6s,mb5.1
N13A Wendover, West 35.67 326 ⇓P P 05 27 42.5 +0.6
baz=36
VES Vestal, Richgr 35.67 315 ⇓P P 05 27 43.2 +1.3
baz=36
R09A Tonopah 35.68 320 ⇑P P 05 27 42.1 +0.1
baz=36
PKM Peak Mountain 35.71 313 ⇓P P 05 27 43.2 +1.0
baz=36
REDW Red Top Meadow 35.80 332 *e*P P 05 27 43.0 +0.1
SNOW Snow King Moun 35.83 332 *e*P P 05 27 43.5 +0.3
comp=Z,21nm,0.6s,mb5.2
LOHW Long Hollow 35.88 332 *e*P P 05 27 43.5 -0.2
comp=Z,5.8nm,0.6s,mb4.7
TPAW Teton Pass 35.94 332 *e*P P 05 27 44.6 +0.5
comp=Z,11nm,0.7s,mb4.9
S08C White Mtn Res 35.96 318 ⇓P P 05 27 45.0 +0.7
baz=36
M13A Montello 35.99 326 P P 05 27 44.6 -0.1
baz=36,SNR=8.3
RRI2 Red Ridge 36.00 331 *e*P P 05 27 44.4 -0.3
comp=Z,8.7nm,0.7s,mb4.8
O11A Cowboy Ranch, 36.01 323 ⇑P P 05 27 44.9 +0.1
baz=36
MOOW Moose Ponds 36.05 332 *e*P P 05 27 45.1 0.0
comp=Z,5.6nm,0.6s,mb4.7
MOOW *e*PcP PcP 05 30 08.8 -0.7
HELL Mitchell Peak, 36.08 316 ⇑P P 05 27 45.8 +0.5
baz=36
N12A Clover Valley, 36.13 325 ⇑P P 05 27 46.6 +0.8
baz=36
P10A Eureka 36.16 322 ⇑P P 05 27 46.2 +0.1
baz=36
IMW Indian Meadow 36.25 332 *e*P P 05 27 47.0 +0.2
comp=Z,6.7nm,0.6s,mb4.8
FLWY Flagg Ranch 36.28 332 *e*P P 05 27 47.4 +0.2
comp=Z,7.3nm,0.6s,mb4.8
R08A Mina 36.41 319 ⇓P P 05 27 49.4 +1.3
baz=36
N11A Elko Archery C 36.50 324 ⇑P P 05 27 49.7 +0.7
baz=36
NVAR Mina Array Bea 36.58 319 P P 05 27 50.5 +0.8
comp=Z,2.4nm,0.7s,mb4.3,baz=123,slow=7.9,SNR=22
NVAR PcP PcP 05 30 12.2 +1.0
comp=Z,2.6nm,0.6s,baz=71,slow=32,SNR=21
Q08A Gabbs 36.59 320 ⇑P P 05 27 50.5 +0.7
baz=36
O10A Cortez Mining, 36.60 323 ⇑P P 05 27 50.6 +0.7
baz=36
YFT Old Faithful 36.63 333 *e*P P 05 27 51.3 +1.2

LAO LASA Array 36.66 339 *e*P P 05 27 50.4 +0.1
comp=Z,6.4nm,0.5s,mb4.8
YMR Madison River 36.86 333 *e*P P 05 27 52.5 +0.5
comp=Z,7.8nm,0.7s,mb4.8
O09A Fish Creek Ran 36.94 322 P P 05 27 52.8 +0.1
baz=37,SNR=5.9
M11A Holland Ranch, 36.94 325 ⇓P P 05 27 52.4 -0.3
baz=37
QLMT Earthquake Lak 37.20 333 *e*P P 05 27 55.3 +0.5
GCMT Greycliff 37.20 335 *e*P P 05 27 54.5 -0.4
S05C Merced 37.31 316 ⇓P P 05 27 56.3 +0.4
baz=37
R06C Coleville 37.37 318 ⇑P P 05 27 56.8 +0.5
baz=37
ULM Lac du Bonnet 37.52 352 P P 05 27 56.0 -1.6
comp=Z,9.3nm,0.6s,mb4.8,baz=172,slow=8.8,SNR=20
ULM LR LR 05 44 45.4
comp=Z,92nm,18.1s,baz=255,slow=38
N09A Rock Creek Ran 37.56 323 P P 05 27 58.1 +0.1
baz=38,SNR=5.4
DGMT Dagmar 37.60 343 *e*P P 05 27 57.9 -0.4
comp=Z,34nm,0.6s,mb5.3
DGMT *e*pP pP 05 28 15.2 -3.6
HLID Hailey 37.68 329 *e*P P 05 27 58.7 -0.3
comp=Z,2.1nm,0.6s,mb4.1
HLID *e*PcP PcP 05 30 14.4 -0.1
HLID Hailey 37.68 329 ⇓P P 05 27 59.3 +0.4
baz=38
CMB Columbia Colle 37.72 317 ⇓P P 05 27 58.9 -0.4
baz=38
PACP Pacheco Peak 37.80 315 ⇓P P 05 28 00.5 +0.6
baz=38
MCMT McKenzie Canyo 37.84 331 *e*P P 05 28 01.0 +0.7
R05C Kirkwood Meado 37.88 318 ⇑P P 05 28 01.5 +0.8
baz=38
N08A GE Springer Mi 37.88 322 ⇑P P 05 28 01.1 +0.5
baz=38
O07A Toulon 37.96 321 ⇓P P 05 28 01.3 +0.1
baz=38
LAVA Lava Cap Winer 38.34 318 ⇑P P 05 28 04.9 +0.4
baz=38
F15A Butte 38.45 333 ⇓P P 05 28 05.8 +0.4
baz=38
O06A Flanigan 38.55 320 ⇑P P 05 28 06.7 +0.4
baz=38
BEKR Beckwourth 38.71 319 ⇓P P 05 28 07.4 -0.2
baz=39
K09A Rome 38.86 325 ⇑P P 05 28 09.3 +0.5
baz=39
M07A Soldier Meadow 38.87 322 ⇓P P 05 28 08.0 -0.9
baz=39
L08A Fields 38.88 324 ⇑P P 05 28 08.5 -0.5
baz=39
N06A Buffalo Meadow 38.89 321 ⇓P P 05 28 09.2 0.0
baz=39
E15A Deer Lodge 38.97 333 P P 05 28 09.8 +0.1
baz=39,SNR=12
EGMT Eagleton 39.07 337 *e*P P 05 28 10.2 -0.4
comp=Z,34nm,0.6s,mb5.3
EGMT Eagleton 39.07 337 P P 05 28 10.8 +0.2
baz=39,SNR=17
O05C Quincy 39.12 319 ⇑P P 05 28 11.8 +0.8
baz=39
WVOR Wild Horse Val 39.21 324 *e*P P 05 28 11.0 -0.7
WVOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
WVOR Wild Horse Val 39.21 324 *e*P P 05 28 11.0 -0.7
comp=Z,3.4nm,0.7s,mb4.3
F13A Darby 39.26 331 P P 05 28 11.6 -0.5
baz=39,SNR=6.8
ORV Oroville 39.27 318 ⇑P P 05 28 12.5 +0.2
baz=39
SUTB Sutter Butte 39.28 318 ⇓P P 05 28 13.0 +0.6
baz=39
H11A Donnelly 39.30 329 ⇑P P 05 28 12.0 -0.5
baz=39
J09A Fry Pan Ranch, 39.30 326 P P 05 28 12.2 -0.2
baz=39,SNR=5.4
K08A Mann Creek Ran 39.31 324 P P 05 28 12.6 0.0
baz=39,SNR=12
E14A Clinton 39.34 332 ⇓P P 05 28 13.0 +0.2
baz=39
L07A Adell 39.36 323 ⇑P P 05 28 12.4 -0.6
baz=39
ELFS Eagle Lake Fie 39.37 320 ⇑P P 05 28 13.5 +0.4
baz=39
D15A Lincoln 39.39 334 P P 05 28 13.5 +0.2
baz=39,SNR=9.8
M06C Likely Place G 39.55 321 ⇓P P 05 28 14.0 -0.6
baz=40
CHMT Chamberlain Mo 39.61 333 *e*P P 05 28 14.1 -1.0
E13A Victor 39.68 332 ⇓P P 05 28 14.6 -1.1
baz=40
J08A Cle Elum Bar Ran 39.70 325 ⇑P P 05 28 16.1 +0.3
baz=40
I09A Lost Marbles R 39.70 326 ⇑P P 05 28 14.7 -1.1
baz=40
K07A Rock Creek Ran 39.72 324 P P 05 28 15.7 -0.3
baz=40,SNR=5.3
D14A Greenough 39.85 333 P P 05 28 16.7 -0.4
baz=40,SNR=5.8
M05C Lookout 40.05 321 ⇑P P 05 28 18.6 -0.2
baz=40
GASB Alder Springs 40.12 318 ⇓P P 05 28 20.1 +0.8
baz=40
D13A Huson 40.29 332 ⇑P P 05 28 20.6 -0.1
baz=40
H08A Prairie City 40.57 326 ⇓P P 05 28 22.2 -0.7
baz=40
J06A Christmas Vall 40.59 324 ⇑P P 05 28 22.0 -1.2
baz=40
M03C McCloud 40.61 320 ⇓P P 05 28 21.9 -1.4
baz=40
M04C Macdoel 40.72 321 ⇓P P 05 28 22.7 -1.6
baz=41
I07A Izee 40.74 325 ⇓P P 05 28 23.7 -0.8
baz=41
C13A Hot Springs 40.78 333 ⇓P P 05 28 23.3 -1.5
baz=41
F10A Beach Ranch, E 40.80 329 ⇑P P 05 28 23.8 -1.1
baz=41
O01C Eel River Cons 41.10 317 ⇑P P 05 28 26.7 -0.7
baz=41
H07A Lands Inn, Kim 41.10 326 ⇓P P 05 28 26.4 -1.0
baz=41
K04A Chilquin 41.13 322 ⇑P P 05 28 27.8 +0.2
baz=41
B13A Whitefish 41.26 334 ⇓P P 05 28 28.2 -0.5
baz=41
JCC Jacoby Creek 41.58 318 ⇑P P 05 28 32.7 +1.3
baz=42
G07A Ruggs Ranch, H 41.59 326 ⇑P P 05 28 32.0 +0.6
baz=42
B12A Libby 41.82 333 ⇑P P 05 28 33.2 -0.1
baz=42
D09A Jones Farm, Ri 42.09 329 P P 05 28 34.7 -0.8
baz=42,SNR=6.4
B11A Sandpoint 42.15 332 ⇑P P 05 28 36.2 +0.3
baz=42
A12A Yaak River Ran 42.20 333 ⇑P P 05 28 36.6 +0.3
baz=42
K02A Glendale 42.29 321 ⇑P P 05 28 37.2 +0.1
baz=42
J03A Ideyld Park 42.31 322 ⇑P P 05 28 37.8 +0.6
baz=42
NEW Newport 42.37 332 P P 05 28 36.5 -1.2
comp=Z,2.1nm,0.4s,mb4.3,baz=110,slow=10,SNR=7.1
D08A Wollman Farm, 42.39 329 ⇓P P 05 28 36.5 -1.4
baz=42
A11A Hall Mountain, 42.53 333 ⇑P P 05 28 38.7 -0.3
baz=42
E07A Sunnyside 42.53 328 ⇑P P 05 28 38.7 -0.4
baz=42
C09A Chrisman Ranch 42.59 330 ⇓P P 05 28 38.9 -0.6
baz=42
B09A Rice 42.96 331 ⇑P P 05 28 41.4 -1.2
baz=43
A10A Northport 43.09 332 ⇓P P 05 28 42.6 -1.0
baz=43
C07A Waterville 43.39 329 ⇓P P 05 28 46.6 +0.6
baz=43
A09A Danville 43.56 331 P P 05 28 46.6 -0.7
baz=44,SNR=6.1
A07A Ashnola River, 44.46 330 ⇓P P 05 28 54.2 -0.4
baz=44
EDM Edmonton 44.64 339 *e*P P 05 28 54.7 -1.3
B06A Marblemount 44.66 329 ⇓P P 05 28 55.7 -0.4
baz=45

B05A Bryant 44.80 328 ⇑P P 05 28 55.6 -1.6
baz=45
SCHQ Schefferville 44.91 18 P P 05 28 57.5 -0.6
comp=Z,5.2nm,0.7s,mb4.4,baz=204,slow=7.7,SNR=11
SCHQ PcP PcP 05 30 36.0 -2.1
comp=Z,2.5nm,0.6s,baz=258,slow=6.4,SNR=5.0
SCHQ Schefferville 44.91 18 P P 05 28 57.5 -0.6
SCHQ PcP PcP 05 30 36.0 -2.1
FRB Frobisher Bay 52.44 11 P P 05 29 54.1 -1.7
comp=Z,16nm,0.5s,mb5.3,baz=232,slow=6.7,SNR=14
YKA Yellowknife Ar 52.72 345 P P 05 29 56.5 -1.3
comp=Z,4.1nm,0.3s,mb5.0,baz=152,slow=7.4,SNR=75
YKA LR LR 05 54 16.5
comp=Z,68nm,18.9s,baz=220,slow=38
YKA Yellowknife Ar 52.72 345 P P 05 29 56.5 -1.3
YKA LR LR 05 54 16.5
DLBC Dease Lake 54.90 335 *e*P P 05 30 13.4 -0.3
RES Resolute Bay 61.65 358 *e*P P 05 30 58.5 -2.3
comp=Z,207nm,0.8s
DAWY Dawson 61.81 337 *e*P P 05 30 59.8 -2.0
EGAK Eagle 62.83 337 *e*P P 05 31 06.9 -1.8
comp=Z,2.2nm,0.6s,mb4.3
COLA College 65.45 336 ⇑*e*P P 05 31 23.1 -2.7
COLA *i* *PP pP 05 31 54.5 +6.4
PPT Papeete 67.64 245 LR LR 05 52 46.7
comp=Z,154nm,19.6s,baz=26,slow=28
ESDC Sonseca Array 77.51 52 P P 05 32 38.0 -0.2
comp=Z,0.2nm,0.4s,baz=280,slow=5.3,SNR=6.0
NOA NORSAR Array B 83.23 29 LR LR 06 10 21.4
comp=Z,30nm,18.6s,baz=290,slow=36
BILL Bilibino 83.55 339 ⇑*e*P P 05 33 09.6 -1.0
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.4
ARCES ARCESS Array B 85.85 19 P P 05 33 21.1 -1.0
comp=Z,5.3nm,0.9s,mb4.5,baz=280,slow=5.0,SNR=7.9
TORD Torodi Ar. Bea 87.18 77 P P 05 33 27.2 -1.4
comp=Z,0.4nm,0.7s,mb3.5,baz=291,slow=4.5,SNR=6.3
TORD LR LR 06 06 36.8
comp=Z,35nm,20.7s,baz=180,slow=32
TORD Torodi Ar. Bea 87.18 77 P P 05 33 27.2 -1.4
TORD LR LR 06 06 36.8
AKASG Malin Array Be 96.50 35 LR LR 06 18 19.8
comp=Z,28nm,18.1s,baz=345,slow=36
BOSA Boshof 116.83 116 PKP PKPdf 05 39 27.2 +0.8
comp=Z,3.7nm,0.8s,baz=149,slow=8.0,SNR=6.6
KSRS Korea Array 119.20 327 PKP PKPdf 05 39 31.1 0.0
comp=Z,1.7nm,0.5s,baz=354,slow=1.6,SNR=6.9
AAK Ala-Archa 122.34 15 ⇑*i*PKIKP PKPdf 05 39 38.0 +1.0
HHC Hu-ho-hao-te 123.20 342 *e*PKP PKPdf 05 39 40.0 +1.3
HHC PP PP 05 41 24.0 +4.3
HHC PKS 05 43 15.5
HHC SKS SKSdf 05 46 40.1 -2.6
HHC SKKS SKKSac 05 48 05.9 -4.4
HHC SS SS 05 57 59.6 +1.6
HHC PP PP
comp=Z,106nm,6.6s
HHC LR LR
comp=N,178nm,19.4s
HHC LR LR
comp=E,308nm,19.6s
HHC LR LR
comp=Z,109nm,18.8s
WMQ Urumqi 123.22 3 ⇓PKP PKPdf 05 39 37.8 -0.9
WMQ PP PP 05 41 23.8 +4.0
WMQ PP PP
comp=Z,125nm,5.7s
WMQ LR LR
comp=Z,15nm,21.6s
NJ2 Nanjing 128.04 330 *e*PKP PKPdf 05 39 52.2 +4.2
LZH Lanzhou 129.70 347 *e*PKP PKPdf 05 39 52.5 +1.4
LZH XPKP 05 40 29.0
LZH LR LR
comp=N,236nm,19.6s
LZH LR LR
comp=Z,312nm,20.3s
WB2 Warramunga Arr 138.54 255 *e*P 05 39 59.3
WB2 *e*PKPdf PKPdf 05 40 08.2 +0.6
WRAB Tennant Creek 138.54 255 ⇑*i*PKIKP PKPdf 05 40 06.2 -1.5
WRA Warramunga Arr 138.54 255 PKP PKPdf 05 40 08.4 +0.7
comp=Z,2.3nm,0.7s,baz=88,slow=2.2,SNR=24
WRA Warramunga Arr 138.54 255 *i* PKIKP PKPdf 05 40 08.3 +0.6
WRA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 138.64 249 PKhKP 05 39 60.0
comp=Z,0.3nm,0.5s,baz=114,slow=4.0,SNR=5.5
ASAR PKP PKPdf 05 40 08.5 +0.6
comp=Z,1.1nm,0.7s,baz=91,slow=1.5,SNR=7.7
KMI Kunming 140.46 344 PKIKP PKPdf 05 40 11.1 -0.1
KMI 05 40 54.0
KMI MLR MLR
comp=Z,30nm,26.1s
FITZ Fitzroy Crossi 146.87 257 *e*P PKPdf 05 40 24.8 +2.4
comp=Z,5.8nm,0.4s
FITZ Fitzroy Crossi 146.87 257 PKPbc PKPbc 05 40 24.8 +0.4
comp=Z,3.5nm,0.5s,baz=119,slow=2.0,SNR=23

IDC ***05*** *05:24:32.5±0.8, 875S×11137E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.1/21, mbtmp4.3/11, ML3.6/1, MS3.6/9, Ms1 3.6/9, ms1mx3.2/26, Error ellipse: s-maj=42.6km s-min=14.9km az=46.0*

BJI ***05*** *05:24:33.7, 958S×11161E, h62km, mB5.1, mb4.7, Ms4.5, Msz4.2*

MOS ***05*** *05:24:35.5±0.8, 875S×11144E, h33km, mb4.8/15, Error ellipse: s-maj=18.5km s-min=10.1km az=112.8*

ISCJB ***05*** *05:24:39.2±0.8, 879S±006×11148E±006, h65km±7km, mb4.6/8, Error ellipse: s-maj=12.6km s-min=7.2km az=81.8*

NEIC ***05*** *05:24:40.3±0.3, 877S×11146E, mb4.5/18, Error ellipse: s-maj=12.1km s-min=5.9km az=53.0*

ISC 05 05:24:40.4±0.8, 881S±006×11148E±006, h58km±7km, h63km±.8km; pP-P, n83, σ1s13/76, mb4.6/38, MS3.6/10, 2C-7D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates** 19μm,0.5s	**1.16**	**56**	P	**Pn**	**05 24 59.4**	**-1.0**
BJII	**Banjamegara** 612nm,0.9s	**2.29**	**310**	P	**Pn**	**05 25 16.6**	**+0.9**
NBBI	**Negara** 471nm,0.7s	**3.13**	**82**	P	**Pn**	**05 25 31.8**	**+4.5**
LEM	**Lembang** 160nm,0.8s	**4.30**	**297**	P	**Pn**	**05 25 44.2**	**+0.9**
CBJI	**Citeko** 245nm,0.8s	**5.17**	**297**	P	**Pn**	**05 25 54.2**	**-0.9**
KLI	**Kotabumi** 290nm,0.5s	**7.66**	**300**	P	**Pn**	**05 26 31.4**	**+2.2**
KSM	**Kuching**	**10.28**	**353**	Pn	**Pn**	**05 27 04.1**	**-1.1**
MBWA	**Marble Bar**	**14.63**	**148**	*e*Pn	**Pn**	**05 27 58.2**	**-5.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=304,slow=12,SNR=6.6	**16.57**	**125**	Pn	**Pn**	**05 28 27.2**	**-1.6**
FITZ	0.2nm,0.3s,baz=178,slow=18,SNR=4.1			Sn	**Sn**	**05 31 16.0**	**-16**
FITZ	comp=Z,118nm,20.4s,baz=290,slow=37			LR	LR	05 34 43.3	
PSI	**Prapat** comp=Z,206nm,19.7s,baz=297,slow=39	**17.02**	**312**	LR	LR	05 35 33.3	
KULM	**Kulim**	**17.68**	**322**	*e*Pn	**Pn**	**05 28 41.5**	**-1.0**
NWAO	**Narrogin (SRO)** comp=Z,188nm,21.8s,MS3.5,baz=192,slow=33	**24.58**	**168**	LR	LR	05 38 09.3	
WRA	**Warramunga Arr** 3.7nm,0.6s,mb4.1,baz=294,slow=11,SNR=39	**24.72**	**119**	P	**P**	**05 29 56.6**	**+0.5**
WRA	0.8nm,0.6s,baz=302,slow=2.0,SNR=6.8			PcP	PcP	05 33 33.0	+1.2
WRA	comp=Z,41nm,20.3s,MS2.9,baz=295,slow=38			LR	LR	05 40 27.6	
WRA	**Warramunga Arr**	**24.72**	**119**	P	**P**	**05 29 56.6**	**+0.5**
WRA						05 33 33.0	
WRAB	**Tennant Creek**	**24.72**	**119**	⇓*e*P	**P**	**05 29 58.8**	**+2.6**
ASAR	**Alice Springs** 1.1nm,0.5s,mb3.7,baz=300,slow=9.4,SNR=20	**26.05**	**127**	P	**P**	**05 30 09.0**	**+0.8**
ASAR	1.1nm,0.6s,baz=310,slow=1.7,SNR=12			PcP	PcP	05 33 36.2	+1.4
ASAR	comp=Z,106nm,18.8s,MS3.4,baz=343,slow=38			LR	LR	05 41 12.9	
ASAR	**Alice Springs**	**26.05**	**127**	P	**P**	**05 30 09.0**	**+0.8**
ASAR						05 33 36.2	
AS31	**Alice Springs**	**26.05**	**127**	*e*P	**P**	**05 30 09.4**	**+1.2**
AS31				*e*pP	pP	05 30 24.1	+1.7
QIZ	**Qiongzhong** 65nm,1.6s,mb5.0	**27.71**	**357**	*e*P	**P**	**05 30 24.3**	**+1.1**
JAY	**Jayapura** 100nm,0.4s	**29.73**	**80**	P	**P**	**05 30 36.8**	**-4.3**

PALK Pallekele 34.59 297 *e*P P 05 31 21.7 -1.9
7.3nm,0.9s,mb4.6
KMI Kunming 34.79 346 P P 05 31 26.8 +1.5
KMI AP pP 05 31 42.2 +2.3
KMI XP sP 05 31 50.2 +3.6
KMI S S 05 36 54.5 +2.8
KMI XS sS 05 37 20.9 +4.5
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,114nm,3.9s
KMI LR LR
comp=N,113nm,17.9s,MS3.7
KMI LR LR
comp=E,90nm,20.0s,MS3.7
KMI LR LR
comp=Z,97nm,19.4s,MS3.6
KMI Kunming 34.79 346 P P 05 31 26.8 +1.5
comp=Z,6.0nm,1.1s,mb4.4
KMI pP pP 05 31 42.2 +2.3
KMI sP sP 05 31 50.2 +3.6
KMI S S 05 36 54.5 +2.8
KMI sS sS 05 37 20.9 +4.5
KMI SS SS 05 39 11.0 -13
KMI LR LR
comp=Z,100nm,19.4s,MS3.6
GYA Guiyang 35.37 353 P P 05 31 32.6 +2.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CTAO Charters Tower 35.41 112 P P 05 31 30.7 0.0
comp=Z,2.1nm,1.0s,mb4.0
CTAO *e*pP pP 05 31 46.8 +1.5
STKA Stephens Creek 36.16 134 P P 05 31 38.3 +1.1
comp=Z,1.1nm,0.4s,mb4.1,baz=292,slow=12,SNR=4.6
STKA LR LR 05 45 16.9
comp=Z,134nm,19.0s,MS3.7,baz=266,slow=34
STKA Stephens Creek 36.16 134 *e*P P 05 31 37.6 +0.5
STKA *e*pP pP 05 31 52.8 +1.1
CD2 Chengdu 40.18 350 *e*P P 05 32 12.0 +1.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 Nanjing 41.24 10 *e*P P 05 32 19.9 +0.3
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.2
LSA Lhasa 43.00 334 *e*P P 05 32 33.7 -0.3
LSA pmax pmax
comp=Z,6.0nm,0.3s,mb4.8
LSA Lhasa 43.00 334 *e*P P 05 32 33.7 -0.3
comp=Z,5.8nm,0.3s,mb4.8
LZH Lanzhou 45.23 351 *e*P P 05 32 57.0 +5.2
LZH AP pP 05 33 13.0 +6.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.7
LZH Lanzhou 45.23 351 *e*P P 05 32 57.0 +5.2
comp=Z,13nm,1.0s,mb4.7
LZH pP pP 05 33 13.0 +6.2
LZH sP sP 05 33 21.0 +7.5
KSRS Korea Array 48.53 17 LR LR 05 56 05.6
comp=Z,30nm,18.6s,MS3.3,baz=230,slow=39
GTA Gaotai 49.18 348 *e*P P 05 33 25.2 +2.6
GTA AP pP 05 33 40.2 +2.5
GTA XP sP 05 33 48.0 +3.6
GTA PP PP 05 35 23.6 +6.9
GTA S S 05 40 36.5 +13
GTA AMB AMB
comp=Z,3.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,106nm,6.8s
GTA LR LR
comp=N,65nm,8.7s
GTA LR LR
comp=E,86nm,7.2s
GTA LR LR
comp=Z,96nm,7.2s
HHC Hu-ho-hao-te 49.41 0 *e*P P 05 33 26.1 +1.8
HHC AP pP 05 33 41.6 +2.1
HHC XP sP 05 33 48.5 +2.4
HHC PCP PcP 05 34 47.1 +1.2
HHC PP PP 05 35 22.0 +3.2
HHC SCP ScP 05 38 36.9 +0.7
HHC PCS PcS 05 38 42.6 +0.1
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,122nm,5.5s
HHC LR LR
comp=N,335nm,15.2s,MS4.7
HHC LR LR
comp=E,405nm,15.2s,MS4.7
HHC LR LR
comp=Z,192nm,14.3s,MS4.2
MAJO Matsushiro 51.63 28 *e*P P 05 33 39.3 -1.8
MAJO pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MAJO Matsushiro 51.63 28 *e*P P 05 33 39.3 -1.8
comp=Z,2.8nm,0.5s,mb4.5
MJAR Matsushiro Arr 51.63 28 P P 05 33 41.0 0.0
comp=Z,2.7nm,0.6s,mb4.4,baz=208,slow=7.5,SNR=11
WMQ Urumqi 56.66 340 ⇑P P 05 34 19.5 +1.9
WMQ AP pP 05 34 35.5 +2.4
WMQ XP sP 05 34 42.5 +2.9
WMQ PCP PcP 05 35 15.0 +1.7
WMQ PP PP 05 36 27.5 +3.4
WMQ AMB AMB
comp=Z,3.0nm,0.6s,mb4.5
WMQ AMB AMB
comp=Z,65nm,5.2s
WMQ LR LR
comp=N,32nm,18.3s
WMQ LR LR
comp=Z,32nm,18.3s,MS3.5
WSAR Wadi Sarin 60.70 303 P P 05 34 45.5 -0.3
comp=Z,3.3nm,0.7s,mb4.6,baz=195,slow=4.1,SNR=5.4
WSAR Wadi Sarin 60.70 303 P P 05 34 45.5 -0.3
MKAR Makanchi Array 61.16 338 P P 05 34 48.4 -0.5
comp=Z,2.8nm,0.4s,mb4.8,baz=147,slow=7.4,SNR=30
AAK Ala-Archa 61.32 330 *e*P P 05 34 48.9 -1.0
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
AAK Ala-Archa 61.32 330 *e*P P 05 34 48.9 -1.0
comp=Z,2.7nm,1.0s,mb4.3
YSS Yuzh-Sakhalins 62.11 24 ⇓*i*P P 05 34 56.0 +0.8
YSS pmax pmax
comp=Z,25nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 62.11 24 *e*P P 05 34 53.9 -1.3
comp=Z,9.6nm,0.6s,mb5.1
KRAR Krasnoyarsk 66.41 349 ⇓*e*P P 05 35 22.3 -1.1
KRAR pmax pmax
comp=Z,22nm,0.4s,mb5.5
BOD Bodaibo 66.43 1 *e*P P 05 35 23.5 0.0
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ZAL Zalesovo 66.46 343 P P 05 35 22.3 -1.3
comp=Z,1.8nm,0.3s,mb4.5,baz=318,slow=3.9,SNR=7.2
MAW Mawson 66.99 198 P P 05 35 25.9 -1.1
MAW *e* pP 05 35 42.9 0.0
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW Mawson 66.99 198 P P 05 35 25.9 -1.2
comp=Z,2.4nm,0.9s,mb4.2
MAW *e* pP 05 35 42.9 0.0
RAO Raoul Island 68.85 118 P P 05 35 39.0 +0.3
RAO *e*PP pP 05 35 56.2 +1.6
BVAR Borovoye Array 70.81 335 P P 05 35 50.2 -0.5
comp=Z,3.7nm,0.7s,mb4.4,baz=142,slow=8.1,SNR=24
BRVK Borovoye 70.88 335 *e*P P 05 35 50.0 -1.2
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 70.88 335 *e*P P 05 35 50.0 -1.2
comp=Z,2.9nm,0.8s,mb4.3
CHKZ Chkalovo 71.19 336 *e*P P 05 35 52.5 -0.6
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHKZ Chkalovo 71.19 336 *e*P P 05 35 52.5 -0.6
comp=Z,6.3nm,0.9s,mb4.5
ZRNK Zerenda 71.34 334 *e*P P 05 35 53.2 -0.8
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ZRNK Zerenda 71.34 334 *e*P P 05 35 53.2 -0.7
comp=Z,4.7nm,0.7s,mb4.5
YAK Yakutsk 72.03 9 ⇓*i*P P 05 35 58.0 -0.1
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.2
YAK Yakutsk 72.03 9 *e*P P 05 35 55.4 -2.7
comp=Z,22nm,0.6s,mb5.3
VNDA Vanda 73.40 170 LR LR 06 05 25.8
comp=Z,79nm,19.2s,MS4.0,baz=348,slow=33
VNDA Vanda 73.40 170 P P 05 36 06.4 +0.1
VNDA *e* pP 05 36 22.3 0.0
VNDA pmax pmax
comp=Z,3.0nm,1.5s
VNDA Vanda 73.40 170 P P 05 36 06.4 +0.1
comp=Z,3.1nm,1.5s,mb4.0
VNDA *e* pP 05 36 22.3 0.0
KMBO Kilima Mbogo 74.24 271 *e*P P 05 36 11.7 +0.5
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 74.24 271 *e*P P 05 36 11.7 +0.5
comp=Z,1.8nm,1.0s,mb4.0
AKTK Aktyubinsk 74.97 328 P P 05 36 15.1 -0.3
AKTO Aktyubinsk 74.97 328 P P 05 36 15.1 -0.3
comp=Z,3.2nm,0.5s,mb4.5,baz=126,slow=4.6,SNR=20
SYO Syowa Base 75.37 201 ⇑*e*pP pP 05 36 34.2 +0.4
ARU Arti 78.20 333 ⇓*i*P P 05 36 33.1 -0.5
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ARU Arti 78.20 333 *e*P P 05 36 33.0 -0.6
comp=Z,4.0nm,0.8s,mb4.4
TIXI Tiksi 81.11 5 ⇓*i*P P 05 36 48.4 -1.0
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
QSPA South Pole Qui 81.19 180 *e*P pP 05 37 05.6 -0.5
BOSA Boshof 82.55 242 LR LR 06 09 52.0
comp=Z,49nm,18.7s,MS3.9,baz=166,slow=33
BRTR Keskin Array B 86.35 311 P P 05 37 16.4 +0.2
comp=Z,2.2nm,0.8s,mb4.4,baz=122,slow=6.5,SNR=7.6
OBN Obninsk 88.67 326 ⇓*e*P P 05 37 27.2 -0.1
OBN pmax pmax
comp=Z,18nm,1.4s,mb5.2
SNAA Sanae 89.11 197 P P 05 37 29.2 -0.2
SNAA *e* pP 05 37 46.4 +0.6
SNAA pmax pmax
comp=Z,11nm,1.7s
SNAA Sanae 89.11 197 P P 05 37 29.2 -0.2
comp=Z,11nm,1.7s,mb4.9
SNAA *e* pP 05 37 46.4 +0.6
TORD Torodi Ar. Bea 111.12 281 PKiKP PKiKP 05 43 07.6 +0.2
comp=Z,0.7nm,1.1s,baz=15,slow=2.4,SNR=4.8
NCB Newcomb 144.62 7 *e*PKPdf PKPdf 05 44 10.2 -0.1
TKL Tuckaleechee C 149.86 25 PKPbc PKPbc 05 44 25.5 +1.5
comp=Z,3.0nm,0.6s,baz=127,slow=8.0,SNR=6.8
SDV Santo Domingo 177.91 88 *e*PKPdf PKPdf 05 44 38.7 -5.5

ISCJB ***05*** *06:37:00.0±0.8, 688N±008×7303W±008, h166km±9km, mb3.8/1, Error ellipse: s-maj=17.4km s-min=8.3km az=88.6*

FUNV ***05*** *06:37:01.3, 690N×73.17W, h167km, MW3.5*

IDC ***05*** *06:37:05.0±5.6, 676N×7405W, h182km±24km, mb3.5/1, mb1 3.5/1, mb1mx2.8/17, mbtmp3.5/1, Error ellipse: s-maj=308.8km s-min=37.0km az=91.0*

ISC 05 06:37:01.1±0.8, 688N±008×7304W±008, h161km±9km, n10, σ1§03/15, mb3.8/1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.21**	**36**	*e*P	**Pn**	**06 37 29.6**	**+1.0**
CAPV				*e*S	**Sn**	**06 37 50.4**	**+0.7**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**06 37 41.9**	**+0.6**
ROSC	62nm,0.3s,baz=13,slow=1.6,SNR=334			S	**Sn**	**06 38 10.6**	**-1.9**
SOCV	**Socops**	**2.57**	**57**	*e*P	**Pn**	**06 37 44.6**	**+1.1**
SOCV	52nm,0.3s,baz=96,slow=18,SNR=9.7			*e*S	**Sn**	**06 38 16.6**	**+0.2**
ELOV	**Elorza**	**3.53**	**88**	*e*P	**Pn**	**06 37 56.0**	**+0.5**
ELOV				*e*S	**Sn**	**06 38 37.3**	**-0.5**
QARV	**Quebrada Arrib**	**4.13**	**37**	*e*P	**Pn**	**06 38 03.4**	**+0.1**
QARV				*e*S	**Sn**	**06 38 49.4**	**-2.3**
SANV	**Sanarito**	**4.33**	**53**	*e*P	**Pn**	**06 38 06.3**	**+0.4**
CURV	**Curarigua**	**4.35**	**44**	*e*P	**Pn**	**06 38 06.4**	**+0.3**
CURV				*e*S	**Sn**	**06 38 53.5**	**-3.3**
TEPV	**Terepaima**	**4.88**	**51**	*e*P	**Pn**	**06 38 13.1**	**0.0**
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**06 45 17.9**	**0.0**
	0.9nm,0.4s,mb3.8,baz=145,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	06 56 33.3	-0.2
	0.2nm,0.5s,baz=109,slow=2.4,SNR=6.4						

ISCJB ***05*** *06:37:45.8±0.3, 5020S±005×1145E±0.1, h10km, mb4.7/27, MS4.4/19, Error ellipse: s-maj=14.3km s-min=6.7km az=33.3*

IDC ***05*** *06:37:45.4±0.6, 5019S×11435E, h0km, mb4.6/11, mb1 4.7/12, mb1mx4.6/15, mbtmp4.6/12, ML2.3/1, MS4.3/12, Ms1 4.3/12, ms1mx4.3/12, Error ellipse: s-maj=26.9km s-min=15.0km az=112.0*

NEIC ***05*** *06:37:47.3±0.2, 5017S×11429E, h10km, mb4.7/16, Error ellipse: s-maj=11.3km s-min=5.7km az=104.0*

BJI ***05*** *06:37:47.3, 5020S×11430E, h10km, mB5.2, mb4.9, Ms4.8, Msz4.5*

GCMT ***05*** *06:37:47.3±0.2, 5016S×11415E, h16km±1km, MW5.2/90, Moment Tensor Solution. s50,c75; s90,c154; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr=0.11±.02; Mθθ=0.67±.02; Mϕϕ=-0.56±.02; Mre=-0.21±.05; Mϕθ=0.56±.01; Mθr=0.14±.06; Best double couple: M0=0.86200×10^17 NP1:ϕs=295.00000°, δ77.00000°, λ.6.00000°. NP2: ϕs=203.00000°, δ84.00000°, λ167.00000°. Principal axes: T 0.9420, Plg13.0000°, Azm158.0000°; N -0.1600, Plg76.0000°, Azm358.0000°; P -0.7830, Plg5.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 06:37:47.3±0.3, 5020S±005×1145E±01, h10km, (h19km±1.1km:pP-P), n99, σ1§11/48, mb4.7/27, MS4.4/19, 1C-4D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**16.25**	**186**	*e*P	**Pn**	**06 41 34.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**17.39**	**8**	P	**Pn**	**06 41 49.5**	**-0.5**
NWAO	0.5nm,0.3s,baz=194,slow=11,SNR=3.6			LR	LR	06 46 47.4	
	comp=Z,iμm,20.7s,baz=186,slow=31						
NWAO	**Narrogin (SRO)**	**17.39**	**8**	*e*P	**Pn**	**06 41 50.1**	**+0.1**
	24nm,0.9s						
MUN	**Mundaring**	**18.26**	**5**	*e*P	**Pn**	**06 41 59.2**	**-1.5**
KLBR	**Kellerberrin**	**18.76**	**9**	*e*P	**Pn**	**06 42 05.4**	**-1.5**
	44nm,1.1s						
FORT	**Forrest**	**21.93**	**33**	*e*P	**P**	**06 42 41.9**	**+1.1**
FORT	30nm,0.7s,mb4.8			*e*		06 42 50.8	
TOO	**Toolangi**	**25.49**	**72**	*e*P	**P**	**06 43 19.6**	**+3.9**
TOO	11nm,0.8s,mb4.4			*es*P	sP	06 43 25.7	+5.7
STKA	**Stephens Creek**	**27.23**	**58**	*e*P	**P**	**06 43 31.8**	**+0.3**
	9.1nm,1.5s,mb4.1						
STKA				*es*P	sP	06 43 39.5	+3.7
STKA	**Stephens Creek**	**27.23**	**58**	P	**P**	**06 43 31.8**	**+0.3**
	9.4nm,1.0s,mb4.3,baz=194,slow=9.2,SNR=8.9						
STKA				LR	LR	06 52 19.8	
	comp=Z,832nm,21.2s,MS4.3,baz=214,slow=32						
ASPA	**Alice Springs**	**30.53**	**37**	⇓*i*P	**P**	**06 44 00.1**	**-0.7**
ASPA				*es*P	sP	06 44 06.5	+1.4
ASAR	**Alice Springs**	**30.53**	**37**	P	**P**	**06 44 00.2**	**-0.6**
	9.5nm,0.7s,mb4.7,baz=207,slow=7.7,SNR=100						
ASAR				LR	LR	06 54 26.8	
	comp=Z,707nm,20.8s,MS4.3,baz=208,slow=33						
AS31	**Alice Springs**	**30.53**	**37**	⇓*i*P	**P**	**06 44 00.1**	**-0.7**
AS31				*es*P	sP	06 44 06.5	+1.4
MAW	**Mawson**	**30.60**	**216**	*e*P	**P**	**06 44 00.2**	**-1.2**
	5.7nm,0.9s,mb4.4						
MAW	**Mawson**	**30.60**	**216**	P	**P**	**06 44 00.7**	**-0.7**
	9.6nm,1.1s,mb4.5,baz=79,slow=11,SNR=14						
MAW				LR	LR	06 54 16.2	
	comp=Z,243nm,18.4s,MS3.9,baz=249,slow=32						
VNDA	**Vanda**	**32.60**	**163**	P	**P**	**06 44 18.8**	**-0.2**
	1.0nm,0.9s,mb3.8,baz=309,slow=9.1,SNR=4.9						
VNDA				LR	LR	06 56 51.4	
	comp=Z,1μm,18.9s,MS4.6,baz=329,slow=35						
VNDA	**Vanda**	**32.60**	**163**	*e*P	**P**	**06 44 19.3**	**+0.3**
	9.1nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.26**	**20**	*e*P	**P**	**06 44 25.1**	**+0.3**
	25nm,0.7s,mb5.2						
FITZ				*es*P	sP	06 44 31.9	+2.8
FITZ				*e*		06 44 36.4	
FITZ	**Fitzroy Crossi**	**33.26**	**20**	P	**P**	**06 44 25.2**	**+0.4**
	13nm,0.7s,mb5.0,baz=191,slow=9.5,SNR=35						
SBA	**Scott Base**	**33.69**	**162**	*e*P	**P**	**06 44 29.8**	**+1.3**
	33nm,1.8s,mb5.0						
WRA	**Warramunga Arr**	**34.08**	**35**	P	**P**	**06 44 31.2**	**-0.7**
	20nm,0.7s,mb5.1,baz=203,slow=8.8,SNR=116						
WRA				PcP	PcP	06 47 08.2	-1.1
	0.9nm,0.9s,baz=212,slow=2.4,SNR=3.8						
WRA				LR	LR	06 57 29.1	
	comp=Z,258nm,19.1s,MS4.0,baz=225,slow=35						
WB2	**Warramunga Arr**	**34.09**	**35**	⇓*i*P	**P**	**06 44 31.3**	**-0.6**
WB2				*es*P	sP	06 44 37.3	+1.0
SYO	**Syowa Base**	**39.17**	**213**	⇓*e*P	**P**	**06 45 14.6**	**-0.7**
CTA	**Charters Tower**	**39.20**	**52**	*e*P	**P**	**06 45 15.8**	**+0.2**
	4.3nm,0.7s,mb4.3						
CTA				*es*P	sP	06 45 22.5	+2.6
CTAO	**Charters Tower**	**39.20**	**52**	*e*P	**P**	**06 45 15.9**	**+0.4**
	14nm,1.0s,mb4.7						
CTAO				*e*pP	pP	06 45 22.8	+4.1
URZ	**Urewera**	**45.19**	**100**	P	**P**	**06 46 04.0**	**-0.4**
	12nm,0.8s,mb4.8,baz=300,slow=9.0,SNR=7.3						
PMG	**Port Moresby**	**48.86**	**45**	*e*P	**P**	**06 46 34.3**	**+1.2**
	9.6nm,0.9s,mb4.8						
PMG				*e*pP	pP	06 46 40.8	+4.6
SNAA	**Sanae**	**50.68**	**201**	P	**P**	**06 46 45.8**	**-1.1**
	4.8nm,1.1s,mb4.4,baz=132,slow=8.4,SNR=15						
SNAA	**Sanae**	**50.68**	**201**	*e*P	**P**	**06 46 46.6**	**-0.3**
SNAA				*e*		06 46 52.6	
SNAA				*e*		06 47 02.5	
SNAA				*e*		06 47 27.4	
SNAA	**Sanae**	**50.68**	**201**	*e*P	**P**	**06 46 46.0**	**-0.9**
	28nm,1.0s,mb5.1						
SNAA				*e*pP	pP	06 46 52.8	+2.7
VNA2	**Neumayer--Watz**	**52.26**	**201**	*e*P	**P**	**06 46 59.8**	**+1.1**
	baz=127,slow=7.5						
VNA2				*e*		06 47 04.9	
VNA2				*e*		06 47 15.6	
VNA2				*e*		06 47 27.7	
VNA2				*e*		06 47 39.6	
VNA2				*e*		06 48 10.5	
VNA2				*e*		06 48 16.4	
VNA3	**Neumayer Olymp**	**52.53**	**200**	*e*P	**P**	**06 47 01.3**	**+0.6**
VNA3				*e*		06 47 06.4	
VNA3				*e*		06 47 17.3	
VNA3				*e*		06 47 41.1	
VNA3				*e*		06 48 12.5	
VNA3				*e*		06 48 16.8	
PSI	**Prapat**	**54.46**	**341**	P	**P**	**06 47 15.0**	**0.0**
	1.8nm,0.4s,mb4.3,baz=155,slow=14,SNR=2.8						
KULM	**Kulim**	**56.55**	**343**	*e*P	**P**	**06 47 34.7**	**+4.8**
KULM				*e*pP	pP	06 47 41.6	+8.4
QIZ	**Qiongzhong**	**69.05**	**355**	*e*P	**P**	**06 48 55.9**	**+2.7**
QIZ				S	S	06 58 02.5	+4.2
QIZ				XS	sS	06 58 09.8	+6.1
QIZ				PS		06 58 33.4	
QIZ				LR	LR		
	comp=N,268nm,20.1s						
QIZ				LR	LR		
	comp=Z,378nm,38.2s						
CM31	**Chiang Mai Arr**	**69.72**	**344**	*e*P	**P**	**06 48 59.4**	**+2.0**
	comp=Z,8.9nm,0.8s,mb4.8						
KMI	**Kunming**	**75.71**	**349**	P	**P**	**06 49 40.5**	**+7.5**
KMI				AP	pP	06 49 46.7	+10
KMI				XP	sP	06 49 49.0	+12
KMI				PP	PP	06 52 27.7	+5.0
KMI				S	S	06 59 16.3	+1.8
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,75nm,3.1s						
KMI				LR	LR		
	comp=N,326nm,24.2s,MS4.7						
KMI				LR	LR		
	comp=E,189nm,20.3s,MS4.7						
KMI				LR	LR		
	comp=Z,538nm,20.3s,MS4.8						
LSZ	**Lusaka**	**76.05**	**263**	*e*P	**P**	**06 49 34.4**	**-0.6**
	comp=Z,14nm,1.8s,mb4.6						
LSZ				*e*pP	pP	06 49 41.1	+2.9
TBI	**Tubuai**	**76.16**	**110**	*e*LQ		07 10 00.2	
TBI	comp=Z,262nm,26.2s			*e*LR	LR	07 13 12.9	
	comp=Z,444nm,25.0s						
GYA	**Guiyang**	**76.63**	**353**	P	**P**	**06 49 39.2**	**+1.0**
GYA				AP	pP	06 49 43.6	+2.1
GYA				XP	sP	06 49 46.8	+4.1
GYA				PCP	PcP	06 49 53.9	+4.2
GYA				PP	PP	06 52 37.2	+6.7
GYA				S	S	06 59 29.4	+4.7
GYA				SKS		06 59 49.7	
GYA				SCS	ScS	06 59 56.2	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,340nm,18.7s,MS4.9						
GYA				LR	LR		
	comp=E,380nm,18.9s,MS4.9						
GYA				LR	LR		
	comp=Z,320nm,18.6s,MS4.7						
PPT	**Papeete**	**80.44**	**106**	*e*S	S	07 00 03.4	-2.1
	comp=Z,171nm,26.8s						
PPT				*e*LQ		07 11 39.8	
	comp=Z,985nm,35.5s						
PPT				*e*LR	LR	07 14 24.8	
	comp=Z,286nm,26.2s						
PPT	**Papeete**	**80.44**	**106**	LR	LR	07 16 48.0	
	comp=Z,258nm,19.0s,MS4.6,baz=240,slow=29						
KMBO	**Kilima Mbogo**	**80.95**	**279**	LR	LR	07 17 24.4	
	comp=Z,97nm,21.6s,MS4.1,baz=96,slow=29						
CD2	**Chengdu**	**81.31**	**351**	*e*P	**P**	**06 50 05.5**	**+1.6**
CD2				AP	pP	06 50 10.2	+3.0
CD2				XP	sP	06 50 12.5	+4.1
CD2				PP	PP	06 53 14.2	+4.7
CD2				S	S	07 00 15.8	+1.2
CD2				XS	sS	07 00 23.8	+3.7
CD2				SS	SS	07 05 36.1	+5.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=E,100nm,16.4s						
CD2				LR	LR		
	comp=Z,80nm,18.6s,MS4.1						
NJ2	**Nanjing**	**81.99**	**4**	*e*P	**P**	**06 50 08.1**	**+0.6**
NJ2				AP	pP	06 50 12.9	+2.1
NJ2				XP	sP	06 50 15.2	+3.2
NJ2				PP	PP	06 53 17.0	+1.9
NJ2				S	S	07 00 19.5	-2.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,120nm,5.0s						
NJ2				LR	LR		
	comp=N,430nm,22.6s,MS4.9						
NJ2				LR	LR		
	comp=E,450nm,25.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,500nm,23.9s,MS4.8						
XAN	**Xi'an**	**84.02**	**355**	P	**P**	**06 50 17.5**	**-0.5**
XAN				AP	pP	06 50 23.6	+2.3
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.6						
RKT	**Rikitea**	**84.77**	**120**	*e*LR	LR	07 17 12.2	
	comp=Z,146nm,38.0s						
LZH	**Lanzhou**	**86.43**	**351**	*e*P	**P**	**06 50 30.0**	**0.0**
LZH				PP	PP	06 53 52.3	+1.0
LZH				SS	SS	07 06 47.0	+1.1
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,107nm,5.5s						
LZH				LR	LR		
	comp=N,275nm,17.2s						
LZH				LR	LR		
	comp=Z,564nm,19.0s,MS5.0						
ATD	**Arta Tunnel**	**87.33**	**291**	LR	LR	07 22 31.8	
	comp=Z,128nm,18.1s,MS4.4,baz=93,slow=31						
KSRS	**Korea Array**	**88.09**	**11**	P	**P**	**06 50 36.2**	**-1.9**
	comp=Z,1.0nm,0.7s,mb4.2,baz=169,slow=7.4,SNR=3.5						
KSRS				LR	LR	07 36 05.5	
	comp=Z,67nm,18.1s,MS4.1,baz=181,slow=40						
MAT	**Matsushiro**	**88.89**	**19**	P	**P**	**06 50 40.8**	**-1.1**
MJAR	**Matsushiro Arr**	**88.89**	**19**	P	**P**	**06 50 40.8**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.7,baz=186,slow=5.3,SNR=11						
MJAR				LR	LR	07 30 48.7	

comp=Z,105nm,19.6s,MS4.3,baz=220,slow=36
GTA Gaotai 90.16 349 *e*P P 06 50 51.0 **+3.2**
GTA AP pP 06 50 55.0 +3.8
GTA XP sP 06 50 58.2 +5.9
GTA PP PP 06 54 28.5 +7.2
GTA SKS 07 01 20.6
GTA S S 07 01 43.8 +2.3
GTA XS sS 07 01 51.8 +4.8
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,70nm,4.9s
GTA LR LR
comp=N,157nm,16.0s,MS4.6
GTA LR LR
comp=E,138nm,17.9s,MS4.6
GTA LR LR
comp=Z,267nm,23.2s
HHC Hu-ho-hao-te 90.71 358 *e*P P 06 50 53.1 **+2.7**
HHC AP pP 06 50 57.9 +4.2
HHC XP sP 06 51 00.1 +5.2
HHC PP PP 06 54 32.4 +6.8
HHC SKS 07 01 22.1
HHC S S 07 01 48.5 +2.0
HHC XS sS 07 01 57.0 +4.9
HHC AMB AMB
comp=Z,11nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,82nm,5.1s
HHC LR LR
comp=N,304nm,20.0s,MS5.0
HHC LR LR
comp=E,433nm,20.4s,MS5.0
HHC LR LR
comp=Z,197nm,21.0s,MS4.5
WMQ Urumqi 96.51 341 ⇑P P 06 51 16.4 **-0.6**
WMQ AP pP 06 51 21.4 +1.0
WMQ XP sP 06 51 23.4 +1.8
WMQ PP PP 06 55 12.4 +1.4
WMQ AMB AMB
comp=Z,6.0nm,0.5s,mb5.3
WMQ AMB AMB
comp=Z,91nm,5.0s
WMQ LR LR
comp=N,127nm,23.6s,MS4.5
WMQ LR LR
comp=E,131nm,25.1s,MS4.5
WMQ LR LR
comp=Z,113nm,25.1s,MS4.2
SONM Songino Array 97.90 355 LR LR 07 33 37.4
comp=Z,177nm,20.9s,MS4.5,baz=29,slow=34
AKASG Malin Array Be 123.87 310 PKP PKPdf 06 56 43.0 -2.6
comp=Z,0.4nm,0.5s,baz=122,slow=1.2,SNR=3.2
AKASG Malin Array Be 123.87 310 PKP PKPdf 06 56 43.0 -2.6
OTAV Otavalo 129.02 163 *e*PKPdf PKPdf 06 56 56.7 +1.3
GERES GERESS Array B 130.87 301 PKP PKPdf 06 56 55.7 -3.2
comp=Z,0.5nm,0.9s,baz=336,slow=2.2,SNR=2.4
NVAR Mina Array Bea 141.24 87 PKP PKPdf 06 57 18.2 0.0
comp=Z,0.6nm,0.7s,baz=244,slow=4.5,SNR=5.0
CCUT Cedar City 143.90 92 *e*PKPdf PKPdf 06 57 21.8 -1.1
WUAZ Wupatki 143.95 96 *e*PKPdf PKPdf 06 57 21.4 -1.6
ARUT Antelope Range 143.99 91 *e*PKPdf PKPdf 06 57 21.9 -1.1
HAWA Hanford 144.54 75 *e*PKPdf PKPdf 06 57 22.8 -1.3
HAWA *ep*PKPdf pPKPdf 06 57 30.5 +3.0
TXAR Lajitas Array 144.58 112 PKP PKPdf 06 57 23.6 -0.5
comp=Z,4.2nm,0.9s,baz=203,slow=5.0,SNR=23
MNTX Cornudas Mount 145.21 107 *e*PKPdf PKPdf 06 57 24.7 -0.5
MSU Marysvale 145.22 91 *e*PKPdf PKPdf 06 57 26.4 +1.2
BMO Blue Mountains 145.24 78 *e*PKPdf PKPdf 06 57 24.3 -0.9
BMO *ep*PKPdf pPKPdf 06 57 32.3 +3.7
DUG Dugway 145.75 88 *e*PKPdf PKPdf 06 57 27.1 +1.0
LENM Lemitar 145.88 102 *e*PKPdf PKPdf 06 57 27.0 +0.7
LAZ Ladron 145.93 102 *e*PKPbc PKPbc 06 57 27.5 +0.5
BGU Big Grassy Mou 146.00 87 *e*PKPab PKPab 06 57 27.9 0.0
BNM Barren Site 146.09 102 *e*PKPbc PKPbc 06 57 28.0 +0.5
LPM Los Pinos Moun 146.19 102 *e*PKPdf PKPdf 06 57 27.4 +0.5
TMUT Trail Mountain 146.29 91 *e*PKPbc PKPbc 06 57 28.4 +0.3
HLID Hailey 146.46 82 *e*PKPbc PKPbc 06 57 29.1 +0.4
SPUT South Promonto 146.58 87 *e*PKPdf PKPdf 06 57 26.8 -0.7
HVU Hansel Valley 146.62 86 *e*PKPab PKPab 06 57 31.1 +0.9
ANMO Albuquerque 146.71 101 *e*PKPbc PKPbc 06 57 29.6 +0.2
MVCO Mesa Verde 146.82 96 *e*PKPbc PKPbc 06 57 30.3 +0.6
DAU Daniels Canyon 146.87 89 *e*PKPbc PKPbc 06 57 30.5 +0.7
HWUT Hardware Ranch 147.30 87 *e*PKPbc PKPbc 06 57 30.8 -0.3
JCT Junction City 147.70 115 *e*PKPbc PKPbc 06 57 31.5 -0.7
MCMT McKenzie Canyo 148.04 81 *e*PKPab PKPab 06 57 35.2 -0.6
AHID Auburn Hatcher 148.19 86 *e*PKPbc PKPbc 06 57 34.9 +1.4
RRI2 Red Ridge 148.33 85 *e*PKPbc PKPbc 06 57 33.8 0.0
TPAW Teton Pass 148.63 85 *e*PKPbc PKPbc 06 57 35.0 +0.3
REDW Red Top Meadow 148.63 85 *e*PKPbc PKPbc 06 57 34.8 +0.2
CHMT Chamberlain Mo 148.68 77 *e*PKPbc PKPbc 06 57 34.5 -0.3
SNOW Snow King Moun 148.75 85 *e*PKPbc PKPbc 06 57 34.9 0.0
IMW Indian Meadow 148.83 84 *e*PKPbc PKPbc 06 57 35.6 +0.5
MOOW Moose Ponds 148.89 84 *e*PKPbc PKPbc 06 57 35.9 +0.6
LOHW Long Hollow 148.91 85 *e*PKPbc PKPbc 06 57 35.3 0.0
SMCO Snowmass 148.94 95 *e*PKPbc PKPbc 06 57 36.1 +0.7
SDCO Great Sand Dun 149.05 98 *e*PKPbc PKPbc 06 57 36.1 +0.4
PDAR Pinedale Array 149.18 87 PKPbc PKPbc 06 57 35.8 -0.2
comp=Z,1.4nm,0.8s,baz=133,slow=0.5,SNR=10
EDM Edmonton 150.66 65 *e*PKPbc PKPbc 06 57 38.3 -1.3
EDM *e*PKPab PKPab 06 57 44.6 -1.8
YKA Yellowknife Ar 150.94 46 PKPbc PKPbc 06 57 38.9 -1.3
comp=Z,3.8nm,0.8s,baz=295,slow=2.2,SNR=7.4
WMOK Wichita Mounta 151.32 110 *e*PKPbc PKPbc 06 57 40.7 -0.5

NEIC ***05*** *06:47:10.8,3238S×7182W,h21km,ML3.0(GUC),After GUC.*

GUC 05 06:47:10.8±0.9,3238S×7182W,h21km±10km,MD3.7, ML3.0,14C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.36**	**115**	⇑*i*P	Pb	06 47 18.6	0.0
PACH				*i* S	Sb	06 47 24.3	+0.6
CHNG	**Los Chungos**	**0.57**	**29**	⇓*i*P	Pb	06 47 21.7	-0.3
CHNG				*i* S	Sb	06 47 30.1	+0.4
PTCH	**Petorca**	**0.76**	**81**	⇓*i*P	Pb	06 47 25.1	-0.3
PTCH				*i* S	Sb	06 47 35.7	+0.4
PTCH				AML	AML	06 47 39.8	
	comp=N,1μm,0.2s						
PTCH	**Petorca**	**0.76**	**81**	⇓*i*P	Pb	06 47 25.1	-0.3
PTCH				*i* S	Sb	06 47 35.7	+0.4
ROCH	**El Roble**	**0.90**	**131**	⇑*i*P	Pb	06 47 27.1	-0.6
ROCH				*i* S	Sb	06 47 39.4	+0.2
JACH	**Jahuel**	**1.08**	**106**	⇑*i*P	Pn	06 47 29.9	-0.8
JACH				*i* S	Sb	06 47 44.5	+0.1
LCCH	**Las Cruces**	**1.11**	**169**	⇑*i*P	Pn	06 47 30.4	-0.6
LCCH				*i* S	Sb	06 47 44.2	-1.1
PEL	**Peldehue**	**1.22**	**129**	⇑*i*P	Pn	06 47 32.4	-0.2
PEL				*i* S	Sn	06 47 48.5	0.0
PEL				AML	AML	06 47 53.0	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.22**	**129**	⇑*i*P	Pn	06 47 32.4	-0.2
PEL				*i* S	Sn	06 47 48.5	0.0
CMCH	**Combarbala**	**1.39**	**30**	⇑*i*P	Pn	06 47 34.5	-0.5
CMCH				*i* S	Sn	06 47 53.0	+0.3
CMCH				AML	AML	06 48 00.3	
	comp=E,926nm,0.7s						
CMCH	**Combarbala**	**1.39**	**30**	⇑*i*P	Pn	06 47 34.5	-0.5
CMCH				*i* S	Sn	06 47 53.0	+0.3
RCDM	**Rinconada Maip**	**1.39**	**143**	⇑*i*P	Pn	06 47 35.0	+0.1
RCDM				*i* S	Sn	06 47 53.4	+0.6
RCDM				AML	AML	06 47 58.5	
	comp=N,485nm,0.1s						
RCDM	**Rinconada Maip**	**1.39**	**143**	⇑*i*P	Pn	06 47 35.0	+0.1
RCDM				*i* S	Sn	06 47 53.4	+0.6
TACH	**Talagante**	**1.47**	**150**	*e*P	Pn	06 47 36.2	+0.2
TACH				*i* S	Sn	06 47 54.6	+0.1
CLCH	**Cerro Calan**	**1.48**	**133**	⇓*i*P	Pn	06 47 36.4	+0.3
CLCH				*i* S	Sn	06 47 55.7	+0.9
CLCH				AML	AML	06 48 07.2	
	comp=N,376nm,0.4s						
FSR	**Penalolen**	**1.54**	**135**	⇑*i*P	Pn	06 47 37.2	+0.2
FSR				*i* S	Sn	06 47 57.4	+1.1
FSR				AML	AML	06 48 08.5	
	comp=N,256nm,0.5s						
FSR	**Penalolen**	**1.54**	**135**	⇑*i*P	Pn	06 47 37.2	+0.2
FSR				*i* S	Sn	06 47 57.4	+1.1
ANTU	**Antumapu**	**1.55**	**140**	*e*P	Pn	06 47 37.3	+0.2
ANTU				*i* S	Sn	06 47 57.4	+0.9
ANTU				AML	AML	06 48 04.7	
	comp=N,273nm,0.3s						
ANTU	**Antumapu**	**1.55**	**140**	*e*P	Pn	06 47 37.3	+0.2
ANTU				*i* S	Sn	06 47 57.4	+0.9
FCH	**Farellones**	**1.59**	**127**	⇓*i*P	Pn	06 47 38.2	+0.4
FCH				*i* S	Sn	06 47 59.4	+1.7
FCH				AML	AML	06 48 05.5	
	comp=E,173nm,0.8s						
PCH	**Pirque**	**1.65**	**139**	*e*P	Pn	06 47 39.4	+0.9
CHCH	**Chadas Angostu**	**1.83**	**148**	*e*P	Pn	06 47 42.3	+1.3
CHCH				*i* S	Sn	06 48 05.8	+2.3
LMEL	**Las Melosas**	**1.99**	**138**	⇑*i*P	Pn	06 47 44.4	+1.2
LMEL				*i* S	Sn	06 48 10.7	+3.2
LMEL				AML	AML	06 48 19.5	
	comp=N,285nm,0.1s						
LMEL	**Las Melosas**	**1.99**	**138**	⇑*i*P	Pn	06 47 44.4	+1.2
LMEL				*i* S	Sn	06 48 10.7	+3.2
CICH	**Cipreses**	**2.26**	**149**	*e*P	Pn	06 47 48.3	+1.5

KRSC 05 07:17:59.1±0.6,5244N×15972E,h11km±11km,ML3.7,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**15**	*e*P	Pg	07 18 13.6	+1.2
SPN				*e*S	Sg	07 18 23.5	+2.2
SPN	**Mys Shipunski**	**0.68**	**15**	*e*P	Pg	07 18 13.6	+1.2
SPN				*e*S	Sg	07 18 23.5	+2.2
RUS	**Russkaya**	**0.74**	**270**	*i*P	Pg	07 18 13.8	+0.4
RUS				*e*S	Sg	07 18 23.8	+0.7
RUS	**Russkaya**	**0.74**	**270**	*i*P	Pg	07 18 13.8	+0.4
RUS				*e*S	Sg	07 18 23.8	+0.7
NLC	**Nalytchevo**	**0.77**	**343**	*e*P	Pg	07 18 14.5	+0.6
NLC				*e*S	Sg	07 18 25.1	+1.1
NLC	**Nalytchevo**	**0.77**	**343**	*e*P	Pg	07 18 14.5	+0.6
NLC				*e*S	Sg	07 18 25.1	+1.1
PET	**Petropavlovsk**	**0.87**	**312**	*e*P	Pg	07 18 16.0	+0.1
PET				*e*S	Sg	07 18 27.7	+0.4
PET	**Petropavlovsk**	**0.87**	**312**	*e*P	Pg	07 18 16.0	+0.1
PET				*e*S	Sg	07 18 27.7	+0.4
GRL	**Gorelyy**	**1.01**	**277**	*e*P	Pg	07 18 19.1	+0.5
GRL				*e*S	Sg	07 18 32.8	+1.0
GRL	**Gorelyy**	**1.01**	**277**	*e*P	Pg	07 18 19.1	+0.5
GRL				*e*S	Sg	07 18 32.8	+1.0
AVH	**Avacha**	**1.02**	**325**	*e*P	Pg	07 18 18.9	+0.2
AVH				*e*S	Sg	07 18 32.8	+0.8
AVH	**Avacha**	**1.02**	**325**	*e*P	Pg	07 18 18.9	+0.2
AVH				*e*S	Sg	07 18 32.8	+0.8
GNL	**Ganaly**	**1.65**	**320**	*e*P	Pn	07 18 28.2	+0.2
GNL				*e*S	Sn	07 18 49.9	+0.7
GNL	**Ganaly**	**1.65**	**320**	*e*P	Pn	07 18 28.2	+0.2
GNL				*e*S	Sn	07 18 49.9	+0.7
TUMR	**Tumrok**	**2.86**	**5**	S	Sn	07 19 20.6	+1.6
TUMR	**Tumrok**	**2.86**	**5**	S	Sn	07 19 20.6	+1.6
ZLN	**Zelenaya**	**3.64**	**10**	P	Pn	07 18 57.5	+2.1
ZLN				*e*S	Sn	07 19 40.2	+1.9
ZLN	**Zelenaya**	**3.64**	**10**	P	Pn	07 18 57.5	+2.1
ZLN				*e*S	Sn	07 19 40.2	+1.9
KBTR	**Krutoberegovo**	**4.19**	**24**	*e*P	Pn	07 19 03.3	+0.4
KBTR				S	Sn	07 19 50.5	-1.3
KBTR	**Krutoberegovo**	**4.19**	**24**	*e*P	Pn	07 19 03.3	+0.4
KBTR				S	Sn	07 19 50.5	-1.3
SRKR	**Sorokina**	**4.31**	**11**	P	Pn	07 19 07.1	+2.6
SRKR				S	Sn	07 19 56.6	+1.9
SRKR	**Sorokina**	**4.31**	**11**	P	Pn	07 19 07.1	+2.6
SRKR				S	Sn	07 19 56.6	+1.9

MOS 05 07:18:21.2±0.6,4297N×4627E,h29km,mb3.7/1,Error ellipse: s-maj=25.2km s-min=19.2km az=36.2,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.28**	**68**	*e*PG	Pb	07 18 30.0	+1.7
BTLR	**Botlikh**	**0.30**	**187**	*i* PG	Pb	07 18 30.0	+1.4
BTLR				*i* S	Sb	07 18 38.5	+4.9
BTLR				pmax	pmax		
	comp=Z,75nm,0.1s						
DBC	**Dubki**	**0.41**	**82**	*i* PG	Pb	07 18 30.8	+0.6
DBC				*i* S	Sb	07 18 40.8	+4.4
UNCR	**Uncukul**	**0.46**	**123**	*e*PG	Pb	07 18 32.0	+1.1
UNCR				*i* S	Sb	07 18 42.8	+5.2
UNCR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**0.49**	**106**	*e*PG	Pb	07 18 32.2	+0.8
KRNR				*i* S	Sb	07 18 42.8	+4.5
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
XNZR	**Khunzakh**	**0.53**	**143**	*e*PG	Pb	07 18 33.0	+0.9
XNZR				*i* S	Sb	07 18 44.0	+4.6
BUJR	**Buynaksk**	**0.63**	**103**	*i* PG	Pb	07 18 35.0	+1.3
BUJR				*i* S	Sb	07 18 48.5	+6.3

IDC 05 07:31:59.9±1.5,5010S×11566E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/12,mbtmp3.8/4,MS3.7/6,Ms1 3.7/6, ms1mx3.3/22,Error ellipse: s-maj=119.7km s-min=24.6km az=115.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.20**	**4**	LR	LR	07 40 56.5	
	comp=Z,387nm,20.0s,baz=183,slow=31						
STKA	**Stephens Creek**	**26.52**	**56**	LR	LR	07 46 49.3	
	comp=Z,144nm,18.3s,baz=208,slow=34						
ASAR	**Alice Springs**	**29.99**	**35**	P	P	07 38 10.2	+0.2
	0.5nm,0.8s,baz=195,slow=6.7,SNR=4.6						
MAW	**Mawson**	**31.14**	**216**	LR	LR	07 48 55.1	
	comp=Z,107nm,18.2s,baz=248,slow=33						
VNDA	**Vanda**	**32.47**	**163**	LR	LR	07 51 36.7	
	comp=Z,146nm,19.9s,baz=321,slow=36						
FITZ	**Fitzroy Crossi**	**32.91**	**18**	P	P	07 38 36.0	+0.1
	2.5nm,1.0s,baz=234,slow=14,SNR=2.9						
FITZ				LR	LR	07 51 50.1	
	comp=Z,120nm,19.1s,baz=182,slow=36						
WRA	**Warramunga Arr**	**33.56**	**33**	P	P	07 38 41.5	0.0
	1.4nm,0.8s,baz=203,slow=9.9,SNR=10.0						
PMG	**Port Moresby**	**48.24**	**44**	LR	LR	07 58 37.3	
	comp=Z,106nm,19.3s,baz=56,slow=33						
SNAA	**Sanae**	**51.06**	**201**	P	P	07 41 03.5	-0.4
	0.7nm,0.9s,baz=146,slow=8.4,SNR=6.0						
TXAR	**Lajitas Array**	**143.88**	**110**	PKP	PKPdf	07 51 34.5	-2.7
	0.3nm,0.7s,baz=190,slow=4.6,SNR=3.6						

IDC ***05*** *07:51:04.4±0.9,897S×15721E,h0km,mb4.1/8, mb1 4.2/10,mb1mx4.2/16,mbtmp4.1/10,ML4.1/2,MS3.5/10, Ms1 3.5/10,ms1mx3.3/23,Error ellipse: s-maj=25.9km s-min=19.8km az=110.0*

ISCJB ***05*** *07:51:06.7±5.5,905S±01×1572E±01,h25km±42km, mb4.0/8,MS3.5/8,Error ellipse: s-maj=26.7km s-min=14.8km az=114.1*

ISC 05 07:51:08.0±5.8,905S±01×1572E±01,h22km±44km,n18, σ0§80/12,mb4.0/8,MS3.5/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72**	**100**	Pn	**Pn**	**07 51 50.6**	**+0.1**
	32nm,0.3s,baz=268,slow=5.6,SNR=7.2						
CTA	**Charters Tower**	**15.32**	**223**	*e*P	**Pn**	**07 54 42.9**	**+0.1**
	3.6nm,0.6s						
CTA	**Charters Tower**	**15.32**	**223**	Pn	**Pn**	**07 54 42.4**	**-0.5**
	0.4nm,0.3s,baz=49,slow=13,SNR=9.3						
CTA				LR	LR	07 58 33.9	
	comp=Z,93nm,20.6s,baz=46,slow=29						
DZM	**Mont Dzumac**	**15.75**	**147**	LR	LR	07 59 08.5	
	comp=Z,194nm,21.3s,baz=281,slow=31						
WB2	**Warramunga Arr**	**24.66**	**241**	*e*P	**P**	**07 56 28.0**	**+0.9**
WRA	**Warramunga Arr**	**24.67**	**241**	P	**P**	**07 56 27.8**	**+0.6**
	8.4nm,1.0s,mb4.2,baz=68,slow=9.4,SNR=18						
WRA				LR	LR	08 05 38.0	
	comp=Z,133nm,19.2s,MS3.5,baz=165,slow=35						
GUMO	**Guam**	**25.55**	**331**	LR	LR	08 04 51.1	
	comp=Z,77nm,20.7s,MS3.2,baz=268,slow=32						
ASAR	**Alice Springs**	**26.67**	**234**	P	**P**	**07 56 45.0**	**-0.3**
	2.4nm,0.7s,mb3.8,baz=63,slow=9.8,SNR=16						
ASAR				LR	LR	08 06 18.1	
	comp=Z,143nm,21.0s,MS3.5,baz=353,slow=34						
STKA	**Stephens Creek**	**27.02**	**210**	P	**P**	**07 56 48.6**	**+0.1**
	11nm,0.8s,mb4.4,baz=31,slow=13,SNR=18						
STKA				LR	LR	08 06 11.3	

comp=Z,97nm,21.3s,MS3.3,baz=25,slow=34
FITZ Fitzroy Crossi 31.98 250 LR LR 08 09 45.5
comp=Z,84nm,20.2s,MS3.4,baz=78,slow=35
URZ Urewera 34.22 152 LR LR 08 10 18.9
comp=Z,127nm,18.6s,MS3.7,baz=235,slow=34
CBIJ Chichi jima 38.71 338 LR LR 08 12 43.5
comp=Z,52nm,20.3s,MS3.4,baz=115,slow=34
NWAO Narrogin (SRO) 43.92 231 LR LR 08 17 09.7
comp=Z,142nm,19.2s,MS3.9,baz=20,slow=36
MJAR Matsushiro Arr 48.68 340 P P **07 59 49.5 -1.1**
2.0nm,0.8s,mb4.2,baz=168,slow=8.7,SNR=8.5
KSRS Korea Array 53.72 331 P P **08 00 27.9 -0.4**
1.4nm,0.7s,mb4.0,baz=149,slow=7.2,SNR=5.0
VNDA Vanda 68.56 179 P P **08 02 07.4 -1.6**
0.6nm,1.0s,mb3.5,baz=309,slow=6.5,SNR=2.0
MKAR Makanchi Array 86.34 318 P P **08 03 48.9 +0.5**
0.5nm,0.6s,mb3.9,baz=99,slow=8.9,SNR=4.6
PDAR Pinedale Array 98.37 48 P P **08 04 45.5 +1.3**
0.2nm,0.6s,mb3.9,baz=246,slow=6.6,SNR=2.8

NEIC ***05*** *08:09:46.5±2.4,3352N×7400E,h10km,mb3.7/3,Error ellipse: s-maj=38.8km s-min=13.1km az=145.0*

IDC ***05*** *08:09:49.0±0.9,3393N×7369E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.8/24,mbtmp3.9/12,ML3.9/2,MS2.9/1, Ms1 2.9/1,ms1mx2.2/36,Error ellipse: s-maj=29.7km s-min=18.7km az=53.0*

NDI ***05*** *08:09:51.9±3.7,3398N×7365E,h10km,ML3.6, mb3.7(NEIC)*

ISCJB ***05*** *08:09:52.6±0.5,3394N±003×7389E±005,h45km±8km, mb3.9/9,Error ellipse: s-maj=7.6km s-min=4.1km az=103.8*

MOS ***05*** *08:09:52.4±0.6,3401N×7367E,h33km,mb4.2/7,Error ellipse: s-maj=30.3km s-min=10.6km az=99.6*

NNC ***05*** *08:09:58.7±4.0,3416N×7334E,h47km±30km,mb3.3, mpv3.2,Error ellipse: s-maj=34.8km s-min=29.4km az=123.0*

ISC 05 08:09:53.4±1.0,3399N±003×7383E±005,h28km±9km,n64, σ1§12/72,mb3.9/9,8C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.58**	**235**	⇑P	**Pb**	**08 10 03.2**	**-1.7**
CHCP				S	**Sb**	**08 10 12.0**	**-0.8**
JMU	**Jammu**	**1.56**	**145**	*e*P	**Pn**	**08 10 22.0**	**+2.8**
CEP	**Cherat**	**1.61**	**264**	⇑P	**Pn**	**08 10 21.0**	**+1.1**
THW	**Thamme Wali**	**2.12**	**236**	P	**Pn**	**08 10 28.3**	**+1.4**
THN	**Thein Dam**	**2.22**	**134**	*e*P	**Pn**	**08 10 31.3**	**+3.0**
THN				*e*x	x	08 11 03.3	
DLH	**Dalhousie**	**2.30**	**128**	*e*P	**Pn**	**08 10 30.0**	**+0.5**
DLH				*e*x	x	08 11 05.0	
BHK	**Bhakra**	**3.37**	**139**	*e*x	x	08 10 52.8	
BHK				*e*x	x	08 11 41.1	
SDNR	**Sundarnagar**	**3.63**	**132**	*e*P	**Pn**	**08 10 50.2**	**+2.5**
SDNR				*e*S	**Sn**	**08 11 30.6**	**+0.9**
DRP	**Derazinda**	**3.79**	**235**	P	**Pn**	**08 10 51.4**	**+1.5**
NDI	**New Delhi**	**6.03**	**150**	*e*P	**Pn**	**08 11 22.0**	**+1.2**
NDI				*e*S	**Sn**	**08 12 28.0**	**-0.9**
KHET	**Khetri**	**6.14**	**163**	*e*x	x	08 11 18.2	
KHET				*e*x	x	08 11 27.8	
KHET				*e*S	**Sn**	**08 12 26.4**	**-5.0**
KHET				AML	AML	08 13 12.9	
	comp=E,71nm,0.5s						
KHET				AML	AML	08 13 13.6	
	comp=N,68nm,0.5s						
AYAN	**Aya Nagar**	**6.18**	**152**	*e*P	**Pn**	**08 11 24.1**	**+1.4**
AYAN				*e*S	**Sn**	**08 12 32.0**	**-0.4**
SONA	**Sohna**	**6.37**	**153**	*e*P	**Pn**	**08 11 26.1**	**+0.7**
SONA				*e*S	**Sn**	**08 12 36.2**	**-1.0**
SONA				AML	AML	08 13 22.0	
	comp=E,68nm,0.3s						
SONA				AML	AML	08 13 23.1	
	comp=N,37nm,0.3s						
LGTI	**Lohaghat**	**7.10**	**128**	*e*x	x	08 11 44.5	
LGTI				*e*x	x	08 13 35.5	
AJM	**Ajmer**	**7.52**	**174**	*e*P	**Pn**	**08 11 40.9**	**-0.2**
AJM				*e*S	**Sn**	**08 13 01.4**	**-4.1**
AJM				AML	AML	08 13 06.7	
	comp=E,51nm,0.1s						
AJM				AML	AML	08 13 07.6	
	comp=N,49nm,0.1s						
AAK	**Ala-Archa**	**8.64**	**3**	*e*Pn	**Pn**	**08 11 58.4**	**+1.8**
	comp=N,3.4nm,0.4s						
TKM2	**Tokmak 2**	**9.02**	**8**	⇑P	**Pn**	**08 12 04.7**	**+3.0**
	comp=N,0.6nm,0.6s						
TKM2				⇑S	**Sn**	**08 13 47.0**	**+4.6**
	comp=N,0.8nm,0.7s						
KK31	**Karatay Array**	**9.46**	**345**	P	**Pn**	**08 12 08.9**	**+1.2**
	comp=N,1.8nm,0.3s,baz=164,slow=12,SNR=98						
KK31				⇓S	**Sn**	**08 13 50.1**	**-3.0**
	comp=N,2.3nm,0.3s,baz=168,slow=23						
KOLN	**Koldanda**	**10.43**	**124**	*e*P	**Pn**	**08 12 21.4**	**+0.3**
	comp=N,11nm,0.3s						
KOLN				*e*S	**Sn**	**08 14 15.3**	**-1.7**
GKN	**Gorkha**	**11.03**	**120**	*e*P	**Pn**	**08 12 28.0**	**-1.2**
	comp=N,13nm,0.3s						
GKN				*e*S	**Sn**	**08 14 26.9**	**-4.7**
BHPL	**Bhopal**	**11.17**	**163**	*e*P	**Pn**	**08 12 30.5**	**-0.6**
BHPL				*e*x	x	08 14 33.1	
BHPL				AML	AML	08 15 53.2	
	comp=E,21nm,0.4s						
BHPL				AML	AML	08 15 53.4	
	comp=N,10nm,0.7s						
DMN	**Daman**	**11.59**	**120**	*e*P	**Pn**	**08 12 36.8**	**-0.1**
	comp=N,13nm,0.4s						
DMN				*e*S	**Sn**	**08 14 40.8**	**-4.6**
KKN	**Kakani**	**11.61**	**119**	*e*P	**Pn**	**08 12 36.4**	**-0.8**
	comp=N,11nm,0.2s						
PKI	**Pulchoki**	**11.83**	**120**	*e*P	**Pn**	**08 12 39.4**	**-0.8**
	comp=N,16nm,0.3s						
GUN	**Gumba**	**11.98**	**117**	*e*P	**Pn**	**08 12 41.8**	**-0.5**
	comp=N,14nm,0.3s						
JIRN	**Jiri**	**12.35**	**117**	*e*P	**Pn**	**08 12 46.4**	**-0.9**
MKAR	**Makanchi Array**	**14.31**	**24**	Pn	**Pn**	**08 13 13.8**	**-0.2**
	comp=N,0.3nm,0.3s,baz=207,slow=12,SNR=8.8						
WSAR	**Wadi Sarin**	**17.09**	**235**	LR	LR	08 19 44.6	
	comp=N,48nm,21.3s,baz=27,slow=35						
AB31	**Akbulak array**	**18.40**	**330**	⇑P	**Pn**	**08 14 06.2**	**-0.2**
	comp=N,1.5nm,0.5s,baz=89,slow=8.3,SNR=31						
VOSK	**Vostochnaya**	**18.83**	**355**	⇓P	**Pn**	**08 14 12.2**	**+0.5**
	comp=N,1.9nm,0.7s						
BVA0	**Borovoye Array**	**19.18**	**354**	P	**Pn**	**08 14 15.8**	**-0.1**
	comp=N,0.6nm,0.8s,baz=167,slow=11,SNR=29						
BVAR	**Borovoye Array**	**19.18**	**354**	P	**Pn**	**08 14 15.3**	**-0.6**
	comp=N,0.8nm,0.3s,baz=168,slow=10,SNR=27						
BVAR	**Borovoye Array**	**19.18**	**354**	P	**Pn**	**08 14 15.3**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**19.23**	**353**	*e*P	**Pn**	**08 14 15.8**	**-0.6**
B

AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**36.33**	**311**	P	**P**	**08 16 53.2**	**-1.6**	
FINES	**FINESS Array B**	**40.85**	**327**	P	**P**	**08 17 31.8**	**-0.9**	
	comp=Z,1.9nm,0.9s,mb3.7,baz=126,slow=9.7,SNR=6.1							
FINES	**FINESS Array B**	**40.85**	**327**	P	**P**	**08 17 31.8**	**-0.9**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**40.85**	**327**	P	**P**	**08 17 31.8**	**-0.9**	
ARCES	**ARCESS Array B**	**44.34**	**338**	P	**P**	**08 18 00.5**	**-0.5**	
	comp=Z,2.6nm,0.7s,mb4.1,baz=115,slow=8.5,SNR=15							
ARCES	**ARCESS Array B**	**44.34**	**338**	P	**P**	**08 18 00.5**	**-0.5**	
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**46.46**	**323**	P	**P**	**08 18 17.7**	**-0.2**	
	comp=Z,2.6nm,0.5s,mb4.4,baz=93,slow=12,SNR=4.6							
HFS	**Hagfors**	**46.46**	**323**	P	**P**	**08 18 17.7**	**-0.1**	
HFS				pmax	pmax			
	comp=Z,3.0nm,0.5s							
NB2	**NORSAR Subarra**	**47.77**	**324**	P	**P**	**08 18 26.7**	**-1.3**	
	comp=Z,1.7nm,0.7s,mb4.2,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**47.77**	**324**	P	**P**	**08 18 27.3**	**-0.8**	
	comp=Z,1.1nm,0.7s,mb4.0,baz=97,slow=7.2,SNR=4.7							
NOA	**NORSAR Array B**	**47.77**	**324**	P	**P**	**08 18 27.3**	**-0.7**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**47.77**	**324**	P	**P**	**08 18 27.3**	**-0.8**	
TORD	**Torodi Ar. Bea**	**68.03**	**271**	P	**P**	**08 20 49.5**	**-0.7**	
	comp=Z,0.4nm,0.5s,mb3.7,baz=44,slow=5.5,SNR=6.4							
WRA	**Warramunga Arr**	**78.69**	**123**	P	**P**	**08 21 53.7**	**+0.7**	
	comp=Z,0.3nm,0.5s,mb3.5,baz=316,slow=5.5,SNR=8.1							
ASAR	**Alice Springs**	**80.91**	**126**	P	**P**	**08 22 06.0**	**+1.0**	
	comp=Z,0.4nm,0.6s,mb3.5,baz=310,slow=5.5,SNR=7.0							

NEIC ***05*** *08:20:22.0, 4703S×16621E, h33km, ML3.7(WEL), After WEL.*

WEL 05 08:20:22.1±0.5, 4703S×16621E, h33km, ML3.5/4, Error ellipse: s-maj=4.9km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.23**	**81**	PN	Pn	08 20 42.7	-0.3
APZ				SN	Sn	08 20 58.2	-0.3
WHZ	**Wether Hill Ro**	**1.66**	**47**	P	Pn	08 20 48.4	-0.4
WHZ				S	Sn	08 21 07.9	-1.0
WHZ	**Wether Hill Ro**	**1.66**	**47**	PN	Pn	08 20 48.4	-0.4
WHZ				SN	Sn	08 21 07.9	-1.0
DCZ	**Deep Cove**	**1.69**	**23**	*e*P	Pn	08 20 49.2	0.0
DCZ	**Deep Cove**	**1.69**	**23**	*e*PN	Pn	08 20 49.2	0.0
SYZ	**Scrubby Hill**	**2.07**	**77**	*e*PN	Pn	08 20 53.9	-0.6
SYZ				SN	Sn	08 21 17.5	-1.7
MLZ	**Mavora Lakes**	**2.17**	**40**	P	Pn	08 20 55.0	-0.8
MLZ	**Mavora Lakes**	**2.17**	**40**	PN	Pn	08 20 55.0	-0.8
TUZ	**Tuapeka**	**2.60**	**67**	*e*PN	Pn	08 21 00.4	-1.3
MSZ	**Milford Sound**	**2.65**	**28**	*e*P	Pn	08 21 01.8	-0.6
MSZ	**Milford Sound**	**2.65**	**28**	*e*PN	Pn	08 21 01.8	-0.7
EAZ	**Earnscleugh**	**2.81**	**51**	*e*P	Pn	08 21 02.6	-2.0
EAZ	**Earnscleugh**	**2.81**	**51**	*e*PN	Pn	08 21 02.6	-2.0
WKZ	**Wanaka**	**2.95**	**43**	*e*P	Pn	08 21 05.5	-1.1
WKZ				S	Sn	08 21 38.5	-2.3
WKZ	**Wanaka**	**2.95**	**43**	*e*PN	Pn	08 21 05.5	-1.0
WKZ				SN	Sn	08 21 38.5	-2.3
JCZ	**Jackson Bay**	**3.46**	**32**	*e*P	Pn	08 21 12.1	-1.5
JCZ				S	Sn	08 21 54.0	+0.6
JCZ	**Jackson Bay**	**3.46**	**32**	*e*PN	Pn	08 21 12.1	-1.4
JCZ				SN	Sn	08 21 54.0	+0.6
ODZ	**Otahua Downs**	**3.67**	**59**	*e*P	Pn	08 21 13.5	-3.0
ODZ	**Otahua Downs**	**3.67**	**59**	*e*PN	Pn	08 21 13.5	-3.0
FOZ	**Fox Glacier**	**4.25**	**37**	*e*P	Pn	08 21 21.9	-2.5
FOZ	**Fox Glacier**	**4.25**	**37**	*e*PN	Pn	08 21 21.9	-2.5

NEIC ***05*** *08:54:58.5, 2795S×7030W, h75km, MG4.6(GUC), After GUC.*

GUC 05 08:54:58.5±0.9, 2795S×7030W, h75km±7km, ML4.6, 8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.59**	**356**	⇓*i*P	Pn	08 55 12.9	+0.4
CPCH				*i* S	Sn	08 55 23.6	+0.7
CPCH				AML	AML	08 55 26.2	
	comp=N,51μm,0.1s						
CPCH	**Copiapo**	**0.59**	**356**	⇓*i*P	Pn	08 55 12.9	+0.4
CPCH				*i* S	Sn	08 55 23.6	+0.7
VACH	**Vallenar**	**0.74**	**213**	⇓*i*P	Pn	08 55 14.9	+0.6
VACH				*i* S	Sn	08 55 26.4	+0.5
VACH				AML	AML	08 55 28.1	
	comp=E,26μm,0.1s						
VACH	**Vallenar**	**0.74**	**213**	⇓*i*P	Pn	08 55 14.9	+0.6
VACH				*i* S	Sn	08 55 26.4	+0.5
CDCH	**Caldera**	**0.99**	**332**	⇓*i*P	Pn	08 55 17.5	+0.5
CDCH				*i* S	Sn	08 55 31.0	+0.1
LSCH	**La Serena**	**2.12**	**203**	⇓*i*P	Pn	08 55 32.4	+0.5
LSCH				*i* S	Sn	08 55 58.5	+1.2
OVCH	**Ovalle**	**2.77**	**196**	⇓*i*P	Pn	08 55 40.8	+0.2
OVCH				*i* S	Sn	08 56 13.0	+0.1
OVCH				AML	AML	08 56 22.6	
	comp=E,1μm,0.3s						
OVCH	**Ovalle**	**2.77**	**196**	⇓*i*P	Pn	08 55 40.8	+0.2
OVCH				*i* S	Sn	08 56 13.0	+0.1
CMCH	**Combarbala**	**3.27**	**191**	*e*P	Pn	08 55 47.8	+0.4
CMCH				*i* S	Sn	08 56 25.6	+0.3
CMCH				AML	AML	08 56 43.1	
	comp=E,2μm,0.5s						
CMCH	**Combarbala**	**3.27**	**191**	*e*P	Pn	08 55 47.8	+0.4
CMCH				*i* S	Sn	08 56 25.6	+0.3
CHNG	**Los Chungos**	**4.06**	**195**	*e*P	Pn	08 55 59.0	+0.8
CHNG				*i* S	Sn	08 56 44.3	-0.1
PTCH	**Petorca**	**4.34**	**187**	*e*P	Pn	08 56 02.4	+0.4
PTCH				*i* S	Sn	08 56 51.0	-0.3
LVC	**Limon Verde**	**5.46**	**14**	*e*Pn	Pn	08 56 17.3	+0.1
	comp=E,21nm,0.3s						

IDC 05 09:11:34.8±63.0, 1642S×17733W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=1162.0km s-min=156.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.26**	**240**	P	P	09 19 14.0	+0.6
	0.7nm,0.5s,baz=80,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**45.94**	**258**	P	P	09 19 59.9	+0.5
	0.3nm,0.3s,baz=94,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**46.20**	**253**	P	P	09 20 01.4	-0.1
	0.8nm,0.3s,baz=87,slow=8.8,SNR=28						

ISCJB ***05*** *09:49:55.3±0.6, 4007N±005×2952W±009, h10km, mb3.9/8, MS3.5/2, Error ellipse: s-maj=10.6km s-min=4.7km az=119.4*
IDC ***05*** *09:49:55.3±0.9, 4016N×2961W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML4.4/1, MS3.5/3, Ms1 3.6/3, ms1mx3.1/30, Error ellipse: s-maj=30.2km s-min=16.3km az=177.0*
SVSA ***05*** *09:49:58.4±1.2, 4019N×2955W, h0km, ML3.2, Error ellipse: s-maj=11.1km s-min=5.1km az=77.0*
CSEM ***05*** *09:49:58.4±1.2, 4019N×2955W, h0km, ML3.2, Error ellipse: s-maj=11.1km s-min=5.1km az=77.0, After PDA*
PDA ***05*** *09:49:58.4±1.2, 4019N×2955W, h0km, ML3.2, Error ellipse: s-maj=11.1km s-min=5.1km az=77.0*

ISC 05 09:49:56.7±0.6, 4003N±005×2947W±009, h10km, n35, σ0§69/45, mb3.9/8, MS3.5/2, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**1.08**	**159**	*e*P	**Pb**	**09 50 24.2**	**+6.7**
PVIA	**Vitoria**	**1.46**	**131**	*e*P	**Pn**	**09 50 23.3**	**+0.2**
PVIA				*e*S	**Sn**	**09 50 41.8**	**-0.4**
STGR	**Santa Cruz**	**1.48**	**130**	*e*P	**Pn**	**09 50 23.5**	**+0.2**
SRBC	**Serra Branca**	**1.49**	**132**	*e*P	**Pn**	**09 50 23.3**	**-0.1**
SRBC				*e*S	**Sn**	**09 50 42.1**	**-0.8**
PCED	**Cedros**	**1.52**	**157**	*e*P	**Pn**	**09 50 22.9**	**-1.1**
PCED				*e*S	**Sn**	**09 50 43.4**	**-0.4**
PCED							
	72nm,0.4s						
PCED	**Cedros**	**1.52**	**157**	*e*P	**Pn**	**09 50 22.9**	**-1.1**
PCED				*e*S	**Sn**	**09 50 43.4**	**-0.4**
PGRA	**Graciosa**	**1.53**	**131**	*e*P	**Pn**	**09 50 23.1**	**-0.9**
PGRA				*e*S	**Sn**	**09 50 42.5**	**-1.4**
PGRA							
	55nm,0.3s						
PGRA	**Graciosa**	**1.53**	**131**	*e*P	**Pn**	**09 50 23.1**	**-0.9**
PGRA				*e*S	**Sn**	**09 50 42.5**	**-1.4**
CALA	**Caldeira**	**1.57**	**157**	*e*P	**Pn**	**09 50 25.1**	**+0.6**
CALA				*e*S	**Sn**	**09 50 45.4**	**+0.5**
ROSA	**Rosais**	**1.62**	**144**	*e*P	**Pn**	**09 50 25.3**	**0.0**
HOR	**Horta**	**1.64**	**156**	*e*P	**Pn**	**09 50 25.8**	**+0.3**
HOR				*e*S	**Sn**	**09 50 46.6**	**-0.1**
PAMA	**Santo Amaro**	**1.68**	**143**	*e*P	**Pn**	**09 50 26.1**	**0.0**
PICO	**Pico**	**1.73**	**152**	*e*P	**Pn**	**09 50 27.3**	**+0.5**
PICO				*e*S	**Sn**	**09 50 48.6**	**-0.3**
PCND	**Candelaria**	**1.75**	**153**	*e*P	**Pn**	**09 50 28.0**	**+1.0**
PCND				*e*S	**Sn**	**09 50 49.3**	**0.0**
PCND							
	54nm,0.3s						
PMAN	**Manadas**	**1.76**	**142**	*e*P	**Pn**	**09 50 26.9**	**-0.3**
PMAN				*e*S	**Sn**	**09 50 48.9**	**-0.8**
PMAN							
	56nm,0.1s						
PMAN	**Manadas**	**1.76**	**142**	*e*P	**Pn**	**09 50 26.9**	**-0.3**
PMAN				*e*S	**Sn**	**09 50 48.9**	**-0.8**
PTEI	**Pico do Teixo**	**1.76**	**150**	*e*P	**Pn**	**09 50 27.5**	**+0.3**
PBOI	**Pico dos Bois**	**1.81**	**152**	*e*P	**Pn**	**09 50 28.8**	**+1.0**
PID	**Ribeirinha**	**1.90**	**146**	*e*P	**Pn**	**09 50 29.6**	**+0.4**
PBIS	**Biscoitos**	**2.14**	**126**	*e*P	**Pn**	**09 50 33.0**	**+0.6**
PPAD	**Pico dos Padre**	**2.15**	**128**	*e*P	**Pn**	**09 50 33.2**	**+0.6**
PVNV	**Vila Nova**	**2.20**	**125**	*e*P	**Pn**	**09 50 33.7**	**+0.5**
RIB2	**Ribeirinha**	**2.24**	**127**	*e*P	**Pn**	**09 50 34.5**	**+0.7**
PFAV	**Pico das Favas**	**2.27**	**125**	*e*P	**Pn**	**09 50 34.5**	**+0.3**
ESDC	**Sonseca Array**	**19.57**	**83**	P	**Pn**	**09 54 25.7**	**-0.3**
	0.2nm,0.3s,baz=263,slow=18,SNR=3.0						
ESDC				LR	LR	10 00 53.4	
	comp=Z,179nm,19.4s,baz=295,slow=34						
MDT	**Midelt**	**21.22**	**102**	P	**P**	**09 54 45.8**	**+3.2**
	1.8nm,0.9s,mb3.4,baz=311,slow=9.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**38.30**	**126**	P	**P**	**09 57 18.1**	**+0.8**
	0.8nm,0.9s,mb3.4,baz=322,slow=8.7,SNR=4.9						
AKASG	**Malin Array Be**	**41.57**	**55**	P	**P**	**09 57 43.8**	**-0.7**
	4.2nm,0.9s,mb4.1,baz=278,slow=8.3,SNR=4.2						
TKL	**Tuckaleechee C**	**42.55**	**282**	LR	LR	10 12 27.1	
	comp=Z,50nm,21.9s,MS3.4,baz=55,slow=32						
SDV	**Santo Domingo**	**47.97**	**241**	LR	LR	10 14 05.5	
	comp=Z,74nm,21.2s,MS3.6,baz=190,slow=30						
PDAR	**Pinedale Array**	**57.94**	**301**	P	**P**	**09 59 48.2**	**-0.9**
	1.8nm,0.9s,mb4.1,baz=64,slow=6.8,SNR=6.6						
AKTO	**Aktyubinsk**	**59.06**	**48**	P	**P**	**09 59 57.8**	**+0.8**
	1.6nm,0.8s,mb4.1,baz=296,slow=2.1,SNR=7.6						
NEW	**Newport**	**60.15**	**310**	P	**P**	**10 00 03.0**	**-1.5**
	3.8nm,0.9s,mb4.4,baz=75,slow=9.0,SNR=4.4						
TXAR	**Lajitas Array**	**60.34**	**285**	P	**P**	**10 00 05.7**	**0.0**
	2.3nm,0.8s,mb4.3,baz=72,slow=7.1,SNR=25						
MKAR	**Makanchi Array**	**74.34**	**42**	P	**P**	**10 01 34.2**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=327,slow=2.4,SNR=2.8						

CSEM ***05*** *09:51:03.9±1.1, 4029N×2962W, h5km, ML2.7, Error ellipse: s-maj=22.1km s-min=5.6km az=89.0, After PDA*
PDA ***05*** *09:51:03.9±1.1, 4029N×2962W, h5km, MD3.2, ML2.7, Error ellipse: s-maj=22.1km s-min=5.6km az=89.0*

SVSA 05 09:51:03.9±1.1, 4029N×2962W, h5km, MD3.2, ML2.7, Error ellipse: s-maj=22.1km s-min=5.6km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**1.36**	**158**	*e*P	Pn	09 51 30.2	+0.6
PVIA	**Vitoria**	**1.72**	**135**	*e*P	Pn	09 51 29.4	-5.1
STGR	**Santa Cruz**	**1.74**	**133**	*e*P	Pn	09 51 30.0	-4.7
SRBC	**Serra Branca**	**1.75**	**135**	*i* P	Pn	09 51 30.1	-4.8
PGRA	**Graciosa**	**1.79**	**134**	*e*P	Pn	09 51 29.8	-5.6
PCED	**Cedros**	**1.80**	**156**	*e*P	Sn	09 51 49.6	-9.3
CALA	**Caldeira**	**1.85**	**157**	*e*P	Pn	09 51 31.9	-4.3
CALA				*e*S	Sn	09 51 52.2	-7.7
ROSA	**Rosais**	**1.90**	**145**	*e*P	Pn	09 51 32.1	-4.8
HOR	**Horta**	**1.92**	**156**	*e*S	Sn	09 51 54.1	-7.6
PAMA	**Santo Amaro**	**1.96**	**145**	*e*P	Pn	09 51 32.9	-4.8
PICO	**Pico**	**2.01**	**152**	*e*P	Pn	09 51 33.9	-4.6
PICO				*e*S	Sn	09 51 56.0	-8.0
PCND	**Candelaria**	**2.03**	**153**	*e*S	Sn	09 51 56.5	-7.9
PCND							
	11nm,0.1s						
PMAN	**Manadas**	**2.04**	**144**	*e*P	Pn	09 51 33.5	-5.3
PTEI	**Pico do Teixo**	**2.04**	**151**	*e*P	Pn	09 51 35.8	-3.1
PBOI	**Pico dos Bois**	**2.09**	**152**	*e*P	Pn	09 51 36.0	-3.5
PID	**Ribeirinha**	**2.18**	**147**	*e*P	Pn	09 51 36.0	-4.8
PBIS	**Biscoitos**	**2.38**	**129**	*e*P	Pn	09 51 39.3	-4.3
PPAD	**Pico dos Padre**	**2.40**	**130**	*e*P	Pn	09 51 39.6	-4.3
PVNV	**Vila Nova**	**2.44**	**128**	*e*P	Pn	09 51 40.1	-4.3
RIB2	**Ribeirinha**	**2.49**	**130**	*e*P	Pn	09 51 40.7	-4.4
PFAV	**Pico das Favas**	**2.52**	**128**	*e*P	Pn	09 51 40.8	-4.6

NIED ***05*** *09:52:00, 4370N×14780E, h65km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φ=63.00000°, δ71.00000°, λ148.00000°. NP2:φ=165.00000°, δ60.00000°, λ22.00000°.*
NEIC ***05*** *09:52:28.5±2.0, 4434N×14797E, h10km, mb4.4/5, Error ellipse: s-maj=43.7km s-min=17.8km az=156.0*
ISCJB ***05*** *09:52:32.2±1.2, 4397N±008×1480E±01, h70km±7km, mb4.2/14, Error ellipse: s-maj=17.4km s-min=7.0km az=90.9*
JMA ***05*** *09:52:33.7±0.2, 4369N×14777E, h13km, M4.2*
IDC ***05*** *09:52:34.4±1.5, 4550N×14743E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, ML3.1/1, Error ellipse: s-maj=39.0km s-min=25.9km az=101.0*
MOS ***05*** *09:52:36.9±0.6, 4460N×14774E, h79km, mb4.5/10, Error ellipse: s-maj=19.3km s-min=12.0km az=118.2*

ISC 05 09:52:33.4±1.2, 4401N±008×1480E±01, h65km±7km, n48, σ1§14/59, mb4.2/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.23**	**356**	*e*PN	**Pn**	**09 52 53.3**	**-1.3**
KUR				*e*S	**Sn**	**09 53 09.5**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.54**	**272**	PN	**Pn**	**09 53 02.9**	**+4.1**
YUK				*e*S	**Sn**	**09 53 17.0**	**-0.9**
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,4μm,1.0s						
NEM2	**Nemuro 2**	**1.76**	**249**	P	**Pn**	**09 53 00.9**	**-0.8**
NEM2				*e*S	**Sn**	**09 53 19.9**	**-3.1**
JRA	**Rausu**	**2.08**	**269**	P	**Pn**	**09 53 06.9**	**+0.9**
JRA				*e*S	**Sn**	**09 53 31.4**	**+0.6**
JNK	**Nakash**	**2.41**	**261**	P	**Pn**	**09 53 10.7**	**+0.2**
JNK				*e*S	**Sn**	**09 53 38.1**	**-0.8**
JAK	**Akkeshi**	**2.60**	**248**	P	**Pn**	**09 53 12.5**	**-0.7**
JAK				*e*S	**Sn**	**09 53 41.0**	**-2.7**
JTKR	**Abashiri--Toko**	**2.95**	**271**	P	**Pn**	**09 53 19.2**	**+1.3**
JTKR				*e*S	**Sn**	**09 53 53.3**	**+1.2**
JAR	**Ashorobuto**	**3.15**	**258**	P	**Pn**	**09 53 21.3**	**+0.7**
JAR				*e*S	**Sn**	**09 53 56.4**	**-0.6**
JOB	**Onbets**	**3.23**	**251**	P	**Pn**	**09 53 21.7**	**+0.1**
JOB				*e*S	**Sn**	**09 53 57.4**	**-1.4**
JMP	**Maruseppu**	**3.35**	**272**	P	**Pn**	**09 53 25.1**	**+1.8**
JCH	**Churui**	**3.66**	**249**	P	**Pn**	**09 53 27.4**	**-0.1**
JCH				*e*S	**Sn**	**09 54 07.0**	**-2.4**
JKK2	**Kamakawa 2**	**3.79**	**270**	P	**Pn**	**09 53 31.5**	**+2.1**
ASAJ	**Asahikawa**	**3.89**	**273**	Pn	**Pn**	**09 53 33.0**	**+2.2**
	comp=E,1.1nm,0.3s,baz=6.7,slow=11,SNR=8.0						
ASAJ				Sn	**Sn**	**09 54 26.1**	**+11**
	comp=E,1.3nm,0.3s,baz=224,slow=25,SNR=5.4						
JSE	**Soyaes**	**3.99**	**286**	P	**Pn**	**09 53 33.9**	**+1.8**
JFR	**Furan**	**4.01**	**260**	P	**Pn**	**09 53 34.1**	**+1.7**
JNBK	**Urakawa-nobuka**	**4.21**	**248**	P	**Pn**	**09 53 34.9**	**-0.1**
JWK2	**Keihoku**	**4.54**	**289**	P	**Pn**	**09 53 43.4**	**+3.8**
YAK	**Yakutsk**	**21.01**	**336**	*e*P	**P**	**09 57 09.9**	**-1.6**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
YAK	**Yakutsk**	**21.01**	**336**	*e*P	**P**	**09 57 08.8**	**-2.7**
	comp=E,24nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P	**P**	**09 58 23.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**28.50**	**292**	*e*P	**P**	**09 58 23.1**	**+0.7**
	comp=Z,2.4nm,0.5s,mb4.0						
SONM	**Songino Array**	**28.94**	**292**	P	**P**	**09 58 26.5**	**+0.1**
	comp=Z,1.5nm,0.5s,mb3.9,baz=81,slow=9.2,SNR=3.2						
SONM	**Songino Array**	**28.94**	**292**	P	**P**	**09 58 26.5**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**45.01**	**298**	P	**P**	**10 00 42.8**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.1,baz=79,slow=8.5,SNR=19						
MKAR	**Makanchi Array**	**45.01**	**298**	*i* P	**P**	**10 00 43.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**49.44**	**310**	*e*P	**P**	**10 01 16.9**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**49.44**	**310**	*e*P	**P**	**10 01 16.9**	**+0.1**
	comp=Z,4.4nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**49.81**	**309**	P	**P**	**10 01 20.4**	**+0.7**
	comp=Z,1.2nm,0.6s,mb4.0,baz=81,slow=9.2,SNR=6.9						
BVAR	**Borovoye Array**	**49.81**	**309**	P	**P**	**10 01 20.4**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**50.61**	**310**	*e*P	**P**	**10 01 25.7**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**50.61**	**310**	*e*P	**P**	**10 01 25.7**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.3						
RES	**Resolute Bay**	**54.55**	**17**	*e*P	**P**	**10 01 55.0**	**+0.2**
	comp=Z,76nm,0.4s						
ARU	**Arti**	**54.58**	**317**	*e*P	**P**	**10 01 54.6**	**-0.4**
ARCES	**ARCESS Array B**	**59.22**	**340**	P	**P**	**10 02 26.6**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.4,baz=49,slow=7.4,SNR=15						
ARCES	**ARCESS Array B**	**59.22**	**340**	P	**P**	**10 02 26.6**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**62.15**	**332**	*e*p	**P**	**10 02 46.6**	**-1.1**
KAF	**Kangasniemi**	**64.36**	**334**	*e*p	**P**	**10 03 01.2**	**-1.1**
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**10 03 05.4**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.2,baz=43,slow=8.6,SNR=11						
FINES	**FINESS Array B**	**64.92**	**333**	*i* P	**P**	**10 03 05.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**69.58**	**339**	P	**P**	**10 03 35.7**	**+0.2**
	comp=Z,8.0nm,1.1s,mb4.5,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.58**	**339**	P	**P**	**10 03 35.3**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=31,slow=6.3,SNR=8.3						
NOA	**NORSAR Array B**	**69.58**	**339**	P	**P**	**10 03 35.3**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**69.69**	**338**	P	**P**	**10 03 36.0**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.5,baz=30,slow=4.4,SNR=19						
HFS	**Hagfors**	**69.69**	**338**	P	**P**	**10 03 36.0**	**-0.2**
HFS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**10 03 48.6**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.6,baz=37,slow=5.6,SNR=4.9						
CLL	**Collm**	**77.37**	**333**	⇑*i*P	**P**	**10 04 22.3**	**+1.1**
	comp=Z,12nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**79.23**	**331**	P	**P**	**10 04 32.0**	**+0.4**
	comp=Z,0.6nm,0.3s,mb3.8,baz=37,slow=5.9,SNR=10						
GERES	**GERESS Array B**	**79.23**	**331**	P	**P**	**10 04 32.0**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***05*** *09:52:51.5±0.2, 4775N±001×885E±002, h12km, Error ellipse: s-maj=2.0km s-min=1.6km az=38.6*
STR ***05*** *09:52:51.9±1.1, 4764N×891E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *09:52:52.5±0.0, 4769N×888E, h22km, Ml2.3/12, Error ellipse: s-maj=0.8km s-min=0.6km az=149.0*
BGR ***05*** *09:52:52.6±0.2, 4776N×891E, h10km, ML2.0/3, Error ellipse: s-maj=2.2km s-min=2.2km az=135.0*
ZUR ***05*** *09:52:52.5, 4768N×890E, h22km, ML2.1/15*
LEDBW ***05*** *09:52:52.7±0.1, 4768N±001×891E±001, h21km±1km, ML2.2, Error ellipse: s-maj=4.2km s-min=3.2km az=128.0*
VIE ***05*** *09:52:55.4±0.5, 4755N×900E, h12km±1km, ML2.4/3, Error ellipse: s-maj=3.2km s-min=2.8km az=21.0 18 km SW of Konstanz*

ISC 05 09:52:52.1±0.2, 4774N±001×888E±002, h12km, n77, σ1§33/126, 17C-13D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISB	**Singen-Schiene**	**0.08**	**131**	⇓*i*P*	**Pg**	**09 52 56.5**	**+1.8**
SISB				S*	**Sg**	**09 52 59.4**	**+2.8**
TRULL	**Truellikon**	**0.16**	**236**	*e*Sg	**Pg

BUCH	**Bad Urach**	**0.78**	**24**	⇑	*i*Pn		**Pg**	**09 53 07.4**	**+0.2**
BUCH					Sn		**Sg**	**09 53 18.4**	**+1.0**
BUCH	**Bad Urach**	**0.78**	**24**		Px		Px	09 53 08.2	
BUCH	**Bad Urach**	**0.78**	**24**	*i*	PmP			09 53 08.5	
BUCH					SmS			09 53 20.0	
MUO	**Muotathal**	**0.79**	**192**	⇓	*i*P		**Pg**	**09 53 07.4**	**+0.1**
	468nm,0.4s								
DAVA	**Damuels**	**0.81**	**123**	⇑	*i*Pg		**Pg**	**09 53 07.9**	**+0.1**
DAVA				⇓	*i*Sg		**Sg**	**09 53 17.7**	**-0.8**
	comp=Z,12nm,0.2s								
UBR	**Ueberruh**	**0.83**	**93**		P*		**Pb**	**09 53 07.8**	**-0.7**
UBR					*i* PmP			09 53 08.8	
UBR					Sg		**Sg**	**09 53 19.9**	**+0.8**
LLS	**Linth-Limmern**	**0.89**	**174**	⇑	*i*P		**Pg**	**09 53 07.9**	**-1.5**
	71nm,0.3s								
BALST	**Balsthal**	**0.90**	**244**		*e*Pg		**Pg**	**09 53 09.5**	**+0.1**
	SNR=8.6								
BALST					*e*Sg		**Sg**	**09 53 21.2**	**0.0**
	SNR=13								
BALST	**Balsthal**	**0.90**	**244**	⇑	*i*Pn		**Pn**	**09 53 08.8**	**-1.6**
	178nm,0.2s								
BNALP	**Bannalp**	**0.92**	**200**	⇑	*i*Pn		**Pn**	**09 53 08.5**	**-2.3**
	125nm,0.5s								
LBG	**Lerchenberg**	**0.93**	**357**		P		**Pg**	**09 53 09.7**	**-0.3**
LBG					Pg		**Pg**	**09 53 10.7**	**+0.6**
LBG					S		**Sg**	**09 53 21.5**	**-0.7**
LBG					Sg		**Sg**	**09 53 23.7**	**+1.6**
LBG	**Lerchenberg**	**0.93**	**357**		P		**Pg**	**09 53 10.7**	**+0.6**
LBG					Sn		**Sg**	**09 53 21.5**	**-0.7**
LBG					S		**Sg**	**09 53 23.7**	**+1.6**
LIBD	**Limburg**	**0.95**	**296**		Sg		**Sg**	**09 53 24.7**	**+1.8**
BBS	**Basel-Blauen**	**0.97**	**254**		P		**Pb**	**09 53 10.1**	**-0.7**
BBS					Sg		**Sg**	**09 53 23.6**	**+0.3**
BBS	**Basel-Blauen**	**0.97**	**254**		S		**Sg**	**09 53 23.6**	**+0.3**
BBS	**Basel-Blauen**	**0.97**	**254**		Px		Px	09 53 10.1	
OBER	**Oberstdorf**	**1.01**	**108**	⇑	*i*Pg		**Pg**	**09 53 11.6**	**0.0**
OBER					*i* Sg		**Sg**	**09 53 25.0**	**+0.1**
STU	**Stuttgart**	**1.06**	**11**		*e*Sg		**Sg**	**09 53 24.9**	**-1.3**
	SNR=3.6								
DAVOX	**Davos**	**1.18**	**144**		*e*P		**Pn**	**09 53 08.8**	**-5.5**
	93nm,0.4s								
WLS	**Welschbruch**	**1.23**	**304**		Pg		**Pg**	**09 53 19.4**	**+3.7**
WLS					Sg		**Sg**	**09 53 33.1**	**+1.4**
WLS	**Welschbruch**	**1.23**	**304**		Px		Px	09 53 19.4	
WLS					Sx		Sx	09 53 33.1	
HDH	**Heidenheim-Cha**	**1.23**	**46**	⇑	P		**Pn**	**09 53 12.9**	**-2.1**
HDH					S		**Sb**	**09 53 28.6**	**-2.4**
HDH					Sg		**Sg**	**09 53 32.2**	**+0.5**
HDH	**Heidenheim-Cha**	**1.23**	**46**	⇑	Pn		**Pn**	**09 53 12.9**	**-2.1**
HDH					Sx		Sx	09 53 28.6	
HDH					S		**Sg**	**09 53 32.2**	**+0.5**
ECH	**Echery**	**1.25**	**293**		Pg		**Pg**	**09 53 15.9**	**-0.3**
CDF	**Champ du Feu**	**1.27**	**303**		*e*Pn		**Pn**	**09 53 14.5**	**-1.1**
CDF	**Champ du Feu**	**1.27**	**303**		*e*Pg		**Pg**	**09 53 17.2**	**+0.7**
CDF					*e*Sn		**Sn**	**09 53 29.5**	**-3.0**
CDF					*e*Sg		**Sg**	**09 53 34.0**	**+1.0**
	20nm,0.5s								
HINF	**Hinteralfeld**	**1.37**	**274**		*e*Pn		**Pn**	**09 53 15.1**	**-1.8**
HINF	**Hinteralfeld**	**1.37**	**274**		*e*Pg		**Pg**	**09 53 18.5**	**+0.1**
HINF					*e*Sn		**Sn**	**09 53 30.4**	**-4.5**
HINF					*e*Sg		**Sg**	**09 53 35.4**	**-0.8**
	23nm,0.4s								
MOTA	**Moosalm**	**1.56**	**104**	⇓	*i*Pn		**Pn**	**09 53 21.4**	**+1.9**
MOTA				⇓	*i*Sn		**Sn**	**09 53 41.0**	**+1.3**
SQTA	**Sankt Quirin**	**1.66**	**107**	⇓	*i*Pn		**Pn**	**09 53 22.9**	**+1.9**
SQTA				⇓	*i*Sn		**Sn**	**09 53 43.6**	**+1.4**
FUR	**Furstenfeldbru**	**1.67**	**74**		*e*Sg		**Sg**	**09 53 44.4**	**-1.4**
	SNR=1.4								
SIND	**Sindeldorf**	**1.68**	**16**		Pg		**Pg**	**09 53 25.0**	**+0.6**
SIND					S		**Sn**	**09 53 39.0**	**-3.7**
SIND					Sg		**Sg**	**09 53 46.7**	**+0.4**
HAU	**Haudompre**	**1.72**	**280**		*e*Pn		**Pn**	**09 53 19.9**	**-1.9**
HAU	**Haudompre**	**1.72**	**280**		*e*Pg		**Pg**	**09 53 25.3**	**+0.1**
HAU					*e*Sn		**Sn**	**09 53 40.0**	**-3.7**
HAU					*e*Sg		**Sg**	**09 53 47.3**	**-0.3**
	19nm,0.3s								
THEF	**They Montfort**	**2.00**	**285**		Sg		**Sg**	**09 53 56.6**	**+0.1**
CABF	**La Chapelle**	**2.21**	**240**		*e*P		**Pn**	**09 53 28.6**	**+0.1**
CABF	**La Chapelle**	**2.21**	**240**		*e*Pg		**Pg**	**09 53 33.3**	**-1.2**
CABF					*e*Sn		**Sn**	**09 53 50.7**	**-5.1**
CABF					*e*Sg		**Sg**	**09 54 01.6**	**-1.6**
	1.2nm,0.2s								
RFYF	**Reffroy**	**2.45**	**293**		*e*Pn		**Pn**	**09 53 29.7**	**-2.1**
RFYF					*e*Sn		**Sn**	**09 53 57.4**	**-4.2**
RFYF					*e*Sg		**Sg**	**09 54 10.4**	**-0.3**
	5.0nm,0.3s								
SFTF	**Sexfontaines**	**2.62**	**282**		*e*Pn		**Pn**	**09 53 32.1**	**-2.1**
SFTF					*e*Sg		**Sg**	**09 54 15.2**	**-1.2**
	1.8nm,0.2s								
LPL	**La Plagne**	**2.67**	**214**		*e*Pg		**Pg**	**09 53 41.7**	**-1.5**
MEZF	**Maizieres J'vi**	**2.67**	**288**		*e*Sg		**Sg**	**09 54 17.4**	**-0.7**
	2.8nm,0.3s								
LPG	**La Plagne**	**2.68**	**214**		*e*Pg		**Pg**	**09 53 41.6**	**-1.8**
LPG					*e*Sg		**Sg**	**09 54 16.3**	**-1.8**
	0.4nm,0.2s								
WET	**Wettzell**	**3.01**	**61**		*e*Pg		**Pg**	**09 53 49.0**	**-0.8**
	SNR=1.3								
WET					*e*Sg		**Sg**	**09 54 27.5**	**-1.4**
	SNR=2.2								
MOX	**Moxa**	**3.42**	**31**		*e*Sg		**Sg**	**09 54 40.3**	**-1.6**
	SNR=1.7								
LOR	**Lormes**	**3.44**	**264**		*e*Sg		**Sg**	**09 54 40.0**	**-2.4**
	1.3nm,0.2s								
GUNZ	**Gunzen**	**3.47**	**40**		*e*Sg		**Sg**	**09 54 42.0**	**-1.6**
	SNR=1.7								
WERD	**Werda**	**3.53**	**38**		*e*Sg		**Sg**	**09 54 43.0**	**-2.4**
	SNR=2.7								
SMF	**Signal de Mont**	**3.60**	**254**		*e*Pn		**Pn**	**09 53 44.9**	**-2.8**
SMF	**Signal de Mont**	**3.60**	**254**		*e*P		**Pn**	**09 53 48.0**	**+0.3**
SMF					*e*Sn		**Sn**	**09 54 22.5**	**-7.6**
	0.5nm,0.2s								

CSEM ***05*** *09:59:25.2±0.1, 3995N×2970W, h15km, mb4.8/69, Ms3.8, Mw4.8, Error ellipse: s-maj=2.6km s-min=1.7km az=44.0*
IDC ***05*** *09:59:25.8±0.5, 4021N×2974W, h0km, mb4.2/19, mb1 4.4/20, mb1mx4.3/28, mbtmp4.2/20, ML4.8/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/27, Error ellipse: s-maj=18.9km s-min=11.5km az=158.0*
BJI ***05*** *09:59:26.2, 4010N×3025W, h28km, mB5.2, mb5.2, Ms4.7, Msz4.5*
NEIC ***05*** *09:59:27.7±0.3, 4020N×2969W, h10km, mb4.8/82, Error ellipse: s-maj=9.1km s-min=2.8km az=177.0*
GCMT ***05*** *09:59:27.7±0.4, 4027N×2956W, h12km, MW4.8/64, Moment Tensor Solution. s20,c21; s64,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.17±.08; Mθθ 0.27±.09; Mφφ 1.91±.06; Mrθ 0.15±.37; Mrφ 0.15±.06; Mθφ -0.30±.24; Best double couple: Mo2.07300×10^16 NP1: φs 189.00000°, δ41.00000°, λ-84.00000°. NP2: φs 1.00000°, δ49.00000°, λ-96.00000°. Principal axes: T 1.9430, Plg4.0000°, Azm95.0000°; N 0.2680, Plg4.0000°, Azm4.0000°; P -2.2030, Plg84.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s.*
ISCJB ***05*** *09:59:28.6±1.0, 3995N±002×2961W±003, h33km±7km, mb4.6/111, MS4.1/26 Error ellipse: s-maj=4.3km s-min=2.6km az=82.2*
PDA ***05*** *09:59:28.1±1.1, 4025N×2961W, h5km, ML3.8, Error ellipse: s-maj=4.8km s-min=3.0km az=58.0*
MOS ***05*** *09:59:28.8±0.9, 4010N×2969W, h33km, mb4.9/57, Error ellipse: s-maj=10.8km s-min=4.5km az=144.0*
SVSA ***05*** *09:59:28.1±1.1, 4025N×2961W, h5km, ML3.8, Error ellipse: s-maj=4.8km s-min=3.0km az=58.0*
SZGRF ***05*** *09:59:31.5, 4050N×2980W, h33km, mb4.7, MS4.1, Azores Islands region*

ISC 05 09:59:29.7±1.0, 3993N±002×2959W±003, h30km±7km, h15km±.6km: pP-P, n400, σ1°04/409, mb4.6/111, MS4.1/26, 8C-1D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLUZ	**Luz**	**1.02**	**152**	*e*P		**Pn**	**09 59 54.3**	**+6.3**
PLUZ				*e*S		**Sn**	**10 00 14.4**	**+13**
PLUZ								
	137nm,0.2s							
PVIA	**Vitoria**	**1.47**	**125**	*e*P		**Pn**	**09 59 53.3**	**-0.8**
PVIA				*e*S		**Sn**	**10 00 12.3**	**0.0**
PVIA								
	148nm,0.3s							

PCED	**Cedros**	**1.47**	**152**	*e*P		**Pn**	**09 59 53.1**	**-1.0**
PCED				*e*S		**Sn**	**10 00 13.0**	**+0.7**
PCED								
	387nm,0.3s							
STGR	**Santa Cruz**	**1.49**	**124**	*e*P		**Pn**	**09 59 53.7**	**-0.7**
STGR				*e*S		**Sn**	**10 00 12.9**	**+0.1**
STGR								
	259nm,0.2s							
SRBC	**Serra Branca**	**1.49**	**126**	*e*P		**Pn**	**09 59 53.4**	**-1.0**
SRBC				*e*S		**Sn**	**10 00 13.0**	**+0.1**
CALA	**Caldeira**	**1.51**	**153**	*e*P		**Pn**	**09 59 55.5**	**+0.8**
CALA				*e*S		**Sn**	**10 00 15.0**	**+1.7**
PGRA	**Graciosa**	**1.53**	**125**	*e*P		**Pn**	**09 59 53.2**	**-1.8**
PGRA				*e*S		**Sn**	**10 00 12.9**	**-1.0**
PGRA								
	116nm,0.3s							
HOR	**Horta**	**1.58**	**152**	*e*P		**Pn**	**09 59 56.2**	**+0.5**
HOR				*e*S		**Sn**	**10 00 16.9**	**+1.7**
ROSA	**Rosais**	**1.59**	**139**	*e*P		**Pn**	**09 59 55.5**	**-0.4**
PAMA	**Santo Amaro**	**1.66**	**138**	*e*P		**Pn**	**09 59 56.6**	**-0.1**
PAMA				*e*S		**Sn**	**10 00 18.0**	**+1.0**
PAMA								
	90nm,0.3s							
PICO	**Pico**	**1.69**	**147**	*e*P		**Pn**	**09 59 57.4**	**+0.3**
PICO				*e*S		**Sn**	**10 00 19.6**	**+1.9**
PCND	**Candelaria**	**1.70**	**149**	*e*P		**Pn**	**09 59 58.3**	**+1.0**
PCND				*e*S		**Sn**	**10 00 19.9**	**+1.9**
PCND								
	301nm,0.2s							
PTEI	**Pico do Teixo**	**1.72**	**146**	*e*P		**Pn**	**09 59 58.3**	**+0.7**
PTEI				*e*S		**Sn**	**10 00 21.0**	**+2.5**
PTEI								
	157nm,0.3s							
PMAN	**Manadas**	**1.74**	**138**	*e*P		**Pn**	**09 59 57.2**	**-0.6**
PMAN				*e*S		**Sn**	**10 00 18.8**	**-0.2**
PBOI	**Pico dos Bois**	**1.76**	**147**	*e*P		**Pn**	**09 59 58.9**	**+0.7**
PBOI				*e*S		**Sn**	**10 00 21.4**	**+1.9**
PBOI								
	67nm,0.3s							
PID	**Ribeirinha**	**1.87**	**142**	*e*P		**Pn**	**09 59 59.5**	**-0.2**
PBIS	**Biscoitos**	**2.15**	**122**	*e*P		**Pn**	**10 00 02.8**	**-0.7**
PBIS				*e*S		**Sn**	**10 00 29.0**	**-0.2**
PBIS								
	123nm,0.3s							
PPAD	**Pico dos Padre**	**2.16**	**124**	*e*P		**Pn**	**10 00 03.0**	**-0.7**
PPAD				*e*S		**Sn**	**10 00 29.1**	**-0.4**
PPAD								
	104nm,0.4s							
PVNV	**Vila Nova**	**2.21**	**121**	*e*P		**Pn**	**10 00 03.5**	**-0.9**
PVNV				*e*S		**Sn**	**10 00 29.8**	**-1.0**
PVNV								
	74nm,0.2s							
ADH	**Angra Heroismo**	**2.22**	**124**	*i* P		**Pn**	**10 00 03.4**	**-1.1**
ADH				*e*S		**Sn**	**10 00 30.2**	**-0.8**
RIB2	**Ribeirinha**	**2.25**	**123**	*e*P		**Pn**	**10 00 04.2**	**-0.7**
RIB2				*e*S		**Sn**	**10 00 31.4**	**-0.3**
RIB2								
	80nm,0.4s							
PFAV	**Pico das Favas**	**2.29**	**121**	*e*P		**Pn**	**10 00 04.7**	**-0.7**
PFAV				*e*S		**Sn**	**10 00 32.0**	**-0.6**
PFAV								
	171nm,0.3s							
SET4	**Mosteiros**	**3.60**	**124**	*e*P		**Pn**	**10 00 22.4**	**-1.0**
SET2	**Ginetes**	**3.61**	**124**	*e*P		**Pn**	**10 00 23.0**	**-0.6**
SET2				*e*S		**Sn**	**10 01 04.8**	**-0.4**
PFET	**Feteiras**	**3.64**	**124**	*e*P		**Pn**	**10 00 23.8**	**-0.1**
PSAN	**Santo Antonio**	**3.66**	**123**	*e*P		**Pn**	**10 00 24.3**	**+0.1**
PSAN				*e*S		**Sn**	**10 01 05.2**	**-1.1**
PSET	**Sete Cidades**	**3.68**	**124**	*e*P		**Pn**	**10 00 24.1**	**-0.4**
PSET				*e*S		**Sn**	**10 01 06.1**	**-0.7**
PSET								
	94nm,0.4s							
FAC	**Faja de Cima**	**3.75**	**124**	*e*P		**Pn**	**10 00 26.3**	**+0.8**
PDA	**Ponta Delgada**	**3.76**	**124**	*e*P		**Pn**	**10 00 25.2**	**-0.4**
PDA				*e*S		**Sn**	**10 01 08.7**	**-0.1**
PDA				*i* LQ			10 01 30.0	
PDA				*i* LR		LR	10 01 33.0	
CML	**Cha da Macela**	**3.82**	**123**	*e*P		**Pn**	**10 00 26.3**	**-0.2**
PVER	**Pico Vermelho**	**3.83**	**122**	*e*P		**Pn**	**10 00 25.8**	**-0.7**
PVER				*e*S		**Sn**	**10 01 09.2**	**-1.3**
PVER								
	22nm,0.2s							
PMAT	**Coroa da Mata**	**3.84**	**122**	*e*P		**Pn**	**10 00 26.4**	**-0.4**
PMAT				*e*S		**Sn**	**10 01 09.8**	**-1.1**
PMAT								
	36nm,0.3s							
LFA	**Lagoa do Fogo**	**3.86**	**123**	*e*P		**Pn**	**10 00 26.4**	**-0.6**
MESC	**Monte Escuro**	**3.87**	**122**	*e*P		**Pn**	**10 00 26.6**	**-0.6**
MESC				*e*S		**Sn**	**10 01 10.3**	**-1.3**
PRCH	**Ribeira Ch**	**3.89**	**123**	*e*S		**Sn**	**10 01 10.6**	**-1.4**
PRCH				*e*P			10 01 14.3	
PRCH								
	44nm,0.2s							
VIF	**Vila Franca**	**3.90**	**123**	*e*P		**Pn**	**10 00 27.2**	**-0.4**
VIF				*e*S		**Sn**	**10 01 11.4**	**-1.0**
VIF								
	22nm,0.2s							
PCNG	**Congro**	**3.92**	**122**	*e*S		**Sn**	**10 01 11.6**	**-1.2**
PCNG								
	48nm,0.2s							
PFAD	**Fenais da Ajud**	**3.93**	**121**	*e*P		**Pn**	**10 00 26.9**	**-1.0**
PFAD				*e*S		**Sn**	**10 01 11.9**	**-1.1**
MIRA	**Miradouro**	**3.98**	**121**	*e*P		**Pn**	**10 00 27.7**	**-1.0**
MIRA				*e*S		**Sn**	**10 01 12.9**	**-1.5**
PSMN	**Pico do Norte,**	**4.59**	**128**	*e*P		**Pn**	**10 00 36.5**	**-0.6**
PSMN				*e*S		**Sn**	**10 01 28.5**	**-1.0**
PMAR	**Madeira**	**12.49**	**121**	*e*P		**Pn**	**10 02 26.3**	**+1.0**
	38nm,1.0s							
PMAFR	**Mafra**	**15.72**	**87**	*e*P		**Pn**	**10 03 08.9**	**0.0**
	60nm,1.0s							
PMAFR				*e*LR		LR	10 06 41.4	
	737nm,22.0s							
PLOU	**Loures**	**15.83**	**87**	*e*P		**Pn**	**10 03 12.6**	**+2.2**
	71nm,1.1s							
PTEO	**Sao Teotonio**	**16.45**	**92**	*e*P		**Pn**	**10 03 17.1**	**-1.2**
	76nm,1.0s							
PVRL	**Vila Real**	**16.66**	**78**	*e*P		**Pn**	**10 03 27.2**	**+6.2**
EVO	**Evora**	**16.77**	**88**	*e*P		**Pn**	**10 03 21.5**	**-0.9**
	15nm,0.7s							
EVO				*e*R				
	1μm,19.5s							
PBEJ	**Beja**	**17.00**	**89**	*e*P		**Pn**	**10 03 24.8**	**-0.3**
	24nm,1.8s							
PESTR	**Estremoz**	**17.04**	**87**	*e*P		**Pn**	**10 03 26.5**	**+0.9**
	34nm,1.4s							
PESTR				*e*LR		LR	10 07 21.0	
	1μm,20.0s							
EPON	**Pontenova**	**17.11**	**71**	P		**Pn**	**10 03 29.4**	**+2.9**
EPON	**Pontenova**	**17.11**	**71**	P		**Pn**	**10 03 29.4**	**+2.9**
	423nm,2.9s,SNR=7.9							
ECAL	**Calabor**	**17.38**	**76**	P		**Pn**	**10 03 29.9**	**-0.1**
ECAL	**Calabor**	**17.38**	**76**	P		**Pn**	**10 03 23.4**	**-6.6**
ECAL	**Calabor**	**17.38**	**76**	P		**Pn**	**10 03 29.9**	**0.0**
	SNR=7.9							
ECAL	**Calabor**	**17.38**	**76**	P		**Pn**	**10 03 29.9**	**0.0**
	SNR=7.9							
PBRG	**Braganca**	**17.38**	**76**	*e*P		**Pn**	**10 03 32.9**	**+3.0**
EGRO	**El Granado**	**17.41**	**91**	P		**Pn**	**10 03 31.6**	**+1.3**
	43nm,1.2s,SNR=7.9							
EGRO	**El Granado**	**17.41**	**91**	P		**Pn**	**10 03 31.6**	**+1.3**
	43nm,1.2s,SNR=7.9							
EBAD	**Badajoz**	**17.50**	**87**	P		**Pn**	**10 03 33.2**	**+1.8**
EBAD	**Badajoz**	**17.50**	**87**	P		**Pn**	**10 03 25.6**	**-5.8**
EBAD	**Badajoz**	**17.50**	**87**	P		**Pn**	**10 03 33.2**	**+1.8**
	SNR=7.9							
EMIN	**Mina Concepcio**	**17.97**	**90**	P		**Pn**	**10 03 39.2**	**+2.0**
	9.0nm,0.7s,SNR=7.7							
EMIN	**Mina Concepcio**	**17.97**	**90**	P		**Pn**	**10 03 39.2**	**+1.9**
	9.0nm,0.7s,SNR=7.7							
EARI	**Arriondas**	**18.52**	**72**	P		**Pn**	**10 03 46.7**	**+2.8**
	0.6nm,0.5s,SNR=7.9							
EARI	**Arriondas**	**18.52**	**72**	P		**Pn**	**10 03 46.7**	**+2.8**
	0.6nm,0.5s,SNR=7.9							
ESPR	**Espera**	**18.84**	**92**	P		**Pn**	**10 03 50.2**	**+2.4**
	17nm,0.7s,SNR=8.0							
ESPR	**Espera**	**18.84**	**92**	P		**Pn**	**10 03 50.2**	**+2.4**
	17nm,0.7s,SNR=8.0							
EJIF	**Jimena Fronter**	**19.26**	**93**	P		**Pn**	**10 03 58.4**	**+5.5**
GUD	**Guadarrama**	**19.40**	**80**	P		**Pn**	**10 03 47.9**	**-6.7**
GUD	**Guadarrama**	**19.40**	**80**	P		**Pn**	**10 03 58.4**	**+3.9**
	0.2nm,0.7s,SNR=7.9							
GUD	**Guadarrama**	**19.40**	**80**	P		**Pn**	**10 03 58.4**	**+3.8**
	0.2nm,0.7s,SNR=7.9							
EADA	**Adamuz**	**19.49**	**87**	P		**Pn**	**10 03 55.4**	**-0.2**
	9.7nm,1.1s,SNR=5.4							
EADA	**Adamuz**	**19.49**	**87**	P		**Pn**	**10 03 55.4**	**-0.2**
	9.7nm,1.1s,SNR=5.4							
ESDC	**Sonseca Array**	**19.68**	**82**	P		**Pn**	**10 03 56.6**	**-1.2**
	0.6nm,0.3s,baz=283,slow=11,SNR=10							
ESDC					LR	LR	10 10 32.2	
	comp=Z,830nm,18.1s,baz=285,slow=34							
ESDC	**Sonseca Array**	**19.68**	**82**	P		**Pn**	**10 03 52.3**	**-5.5**
ESDC	**Sonseca Array**	**19.68**	**82**	P		**Pn**	**10 03 56.4**	**-1.5**
	2.3nm,0.8s,baz=160,slow=44,SNR=9.9							
ESDC	**Sonseca Array**	**19.68**	**82**	P		**Pn**	**10 03 56.4**	**-1.4**
	2.3nm,0.8s,SNR=9.9							
ESLA	**Sonseca Array**	**19.68**	**82**	*e*P		**Pn**	**10 03 58.7**	**+0.9**
	4.4nm,1.0s							
ESLA	**Sonseca Array**	**19.68**	**82**	*e*P		**Pn**	**10 03 58.7**	**+0.9**
	4.4nm,1.0s							
EMIJ	**Mijas**	**19.76**	**92**	P		**Pn**	**10 04 02.1**	**+3.3**
	22nm,1.0s,SNR=4.0							
ELAN	**Lanestosa**	**19.82**	**72**	P		**Pn**	**10 03 59.1**	**-0.4**
	49nm,1.8s							
ELAN	**Lanestosa**	**19.82**	**72**	P		**Pn**	**10 03 59.1**	**-0.4**
	49nm,1.8s,SNR=7.9							
ELUQ	**Luque**	**19.88**	**89**	P		**Pn**	**10 04 01.3**	**+1.1**
ELUQ					pmax	pmax		
	comp=Z,7.0nm,0.6s							
ELUQ	**Luque**	**19.88**	**89**	P		**Pn**	**10 04 01.3**	**+1.1**
	comp=Z,6.6nm,0.6s,SNR=6.1							
ELOJ	**Sierra Loja**	**20.07**	**90**	P		**P**	**10 04 01.5**	**+0.9**
ELOJ					pmax	pmax		
	comp=Z,17nm,1.1s							
ELOJ	**Sierra Loja**	**20.07**	**90**	P		**P**	**10 04 01.5**	**+0.9**
	comp=Z,17nm,1.1s,SNR=7.9							
EBAN	**Banos Encina**	**20.10**	**87**	P		**P**	**10 04 01.1**	**+0.2**
EBAN	**Banos Encina**	**20.10**	**87**	P		**P**	**10 04 04.4**	**+3.5**
	comp=Z,29nm,2.8s,SNR=7.9							
DCN	**Croghan**	**20.25**	**41**	*e*P		**P**	**10 03 59.0**	**-3.6**
ERON	**Agron**	**20.37**	**90**	P		**P**	**10 04 09.0**	**+5.2**
	comp=Z,19nm,1.0s,SNR=5.5							
ECOG	**Cogollos-Vega**	**20.49**	**89**	P		**P**	**10 04 05.2**	**+0.1**
	SNR=7.9							
ECRI	**Cripan**	**20.50**	**74**	P		**P**	**10 04 06.8**	**+1.6**
ECRI					pmax	pmax		
	comp=Z,11nm,0.9s							
ECRI	**Cripan**	**20.50**	**74**	P		**P**	**10 04 06.8**	**+1.6**
	comp=Z,11nm,0.9s,SNR=7.9							
ROSF	**Rostrenen**	**20.60**	**57**	*e*P		**P**	**10 04 07.3**	**+1.0**
	comp=Z,137nm,1.6s							
ROSF	**Rostrenen**	**20.60**	**57**	*e*P		**P**	**10 04 07.3**	**+1.0**
ROSF					pmax	pmax		
	comp=Z,69nm,1.6s							
ROSF	**Rostrenen**	**20.60**	**57**	*e*P		**P**	**10 04 07.3**	**+1.0**
	comp=Z,69nm,1.6s							
EQUE	**Quentar**	**20.60**	**89**	P		**P**	**10 04 06.8**	**+0.4**
	SNR=7.9							
DLF	**Lyons Farm**	**20.61**	**42**	*e*P		**P**	**10 03 57.0**	**-9.4**
EQES	**Quesada**	**20.73**	**87**	P		**P**	**10 04 08.9**	**+1.1**
ETOR	**Torete**	**20.97**	**79**	P		**P**	**10 04 09.1**	**-1.2**
	SNR=7.9							
EVIA	**Vianos**	**20.98**	**85**	P		**P**	**10 04 09.5**	**-0.9**
EVIA					pmax	pmax		
	comp=Z,14nm,0.9s							
EVIA	**Vianos**	**20.98**	**85**	P		**P**	**10 04 09.5**	**-0.9**
	comp=Z,14nm,0.9s,SNR=6.3							
SGMF	**Saint Gilles**	**21.04**	**58**	*e*P		**P**	**10 04 11.3**	**+0.2**
	comp=Z,45nm,1.0s,mb4.5							
SGMF	**Saint Gilles**	**21.04**	**58**	*e*P		**P**	**10 04 11.3**	**+0.2**
SGMF					pmax	pmax		
	comp=Z,23nm,1.0s,mb4.5							
SGMF	**Saint Gilles**	**21.04**	**58**	*e*P		**P**	**10 04 11.3**	**+0.2**
	comp=Z,22nm,1.0s,mb4.5							
MDT	**Midelt**	**21.28**	**102**	P		**P**	**10 04 15.8**	**+2.1**
	comp=Z,9.0nm,1.0s,mb4.0,baz=303,slow=10,SNR=14							
MDT					LR	LR	10 10 34.2	
	comp=Z,605nm,22.0s,MS3.9,baz=329,slow=31							
SJPF	**Ste Jean**	**21.43**	**72**	*e*P		**P**	**10 04 16.5**	**+1.2**
	comp=Z,108nm,1.6s,mb4.6							
SJPF	**Ste Jean**	**21.43**	**72**	*e*P		**P**	**10 04 16.5**	**+1.2**
SJPF					pmax	pmax		
	comp=Z,54nm,1.6s,mb4.6							
SJPF	**Ste Jean**	**21.43**	**72**	*e*P		**P**	**10 04 16.5**	**+1.2**

BGF Bois d'Agland 24.42 64 *e*P **P 10 04 44.9 -0.6**
comp=Z,73nm,1.0s,mb4.8
BGF Bois d'Agland 24.42 64 *e*P **P 10 04 44.9 -0.6**
BGF pmax pmax
comp=Z,36nm,1.0s,mb4.8
BGF Bois d'Agland 24.42 64 *e*P **P 10 04 44.9 -0.6**
comp=Z,36nm,1.0s,mb4.8
AVF Avril sur Loir 24.79 63 *e*P **P 10 04 48.2 -0.7**
comp=Z,63nm,1.4s,mb4.6
AVF Avril sur Loir 24.79 63 *e*P **P 10 04 48.2 -0.7**
AVF pmax pmax
comp=Z,32nm,1.4s,mb4.7
AVF Avril sur Loir 24.79 63 *e*P **P 10 04 48.2 -0.7**
comp=Z,32nm,1.4s,mb4.6
SSF Saint Saulge 24.91 62 *e*P **P 10 04 48.2 -1.8**
comp=Z,31nm,1.1s,mb4.5
SSF Saint Saulge 24.91 62 *e*P **P 10 04 48.2 -1.8**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.5
SSF Saint Saulge 24.91 62 *e*P **P 10 04 48.2 -1.8**
comp=Z,16nm,1.1s,mb4.5
LASF Ste Croix 25.09 69 *e*P **P 10 04 52.2 +0.5**
SMF Signal de Mont 25.11 63 *e*P **P 10 04 51.4 -0.4**
comp=Z,57nm,1.3s,mb4.7
SMF Signal de Mont 25.11 63 *e*P **P 10 04 51.4 -0.4**
SMF pmax pmax
comp=Z,29nm,1.3s,mb4.7
SMF Signal de Mont 25.11 63 *e*P **P 10 04 51.4 -0.4**
comp=Z,29nm,1.3s,mb4.6
LOR Lormes 25.17 62 *e*P **P 10 04 51.3 -1.0**
comp=Z,17nm,0.9s,mb4.3
LOR *e*R
comp=Z,562nm,19.2s
LOR Lormes 25.17 62 *e*P **P 10 04 51.3 -1.0**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
LOR MLR MLR
comp=Z,560nm,19.3s,MS4.1
LOR Lormes 25.17 62 *e*P **P 10 04 51.3 -1.0**
comp=Z,8.5nm,0.9s,mb4.3
LOR LR LR
comp=Z,560nm,19.3s,MS4.1
VIVF Saint-Julien-l 25.66 68 *e*P **P 10 04 57.5 +0.7**
comp=Z,42nm,1.1s,mb4.6
VIVF Saint-Julien-l 25.66 68 *e*P **P 10 04 57.5 +0.7**
VIVF pmax pmax
comp=Z,21nm,1.1s,mb4.6
VIVF Saint-Julien-l 25.66 68 *e*P **P 10 04 57.5 +0.7**
comp=Z,21nm,1.1s,mb4.6
BAIF Baives 25.76 56 *e*P **P 10 04 57.7 0.0**
comp=Z,122nm,1.6s,mb4.9
BAIF Baives 25.76 56 *e*P **P 10 04 57.7 0.0**
BAIF pmax pmax
comp=Z,61nm,1.6s,mb4.9
BAIF Baives 25.76 56 *e*P **P 10 04 57.7 0.0**
comp=Z,61nm,1.6s,mb4.9
SNF Seneffe 25.89 55 P **P 10 04 59.2 +0.3**
SNF AP pP 10 05 02.6 -5.0
SNF Seneffe 25.89 55 P **P 10 04 59.1 +0.2**
UCC Uccle 25.99 54 P **P 10 05 00.5 +0.7**
DOU Dourbes 26.01 56 P **P 10 04 59.1 -0.9**
DOU Dourbes 26.01 56 P **P 10 04 59.0 -1.0**
MEZF Maizieres J'vi 26.08 59 *e*P **P 10 05 00.2 -0.4**
comp=Z,140nm,1.4s,mb5.0
MEZF Maizieres J'vi 26.08 59 *e*P **P 10 05 00.2 -0.4**
comp=Z,70nm,1.4s,mb5.0
GIVF Givet 26.16 56 *e*P **P 10 05 01.4 +0.1**
comp=Z,101nm,1.2s,mb4.9
GIVF Givet 26.16 56 *e*P **P 10 05 01.4 +0.1**
GIVF pmax pmax
comp=Z,50nm,1.2s,mb4.9
GIVF Givet 26.16 56 *e*P **P 10 05 01.4 +0.1**
comp=Z,50nm,1.2s,mb4.9
SMRF Simiane la Rot 26.34 70 *e*P **P 10 05 03.8 +0.9**
comp=Z,30nm,1.1s,mb4.5
SMRF Simiane la Rot 26.34 70 *e*P **P 10 05 03.8 +0.9**
comp=Z,15nm,1.1s,mb4.5
BCLA Clavier 26.51 55 P **P 10 05 05.8 +1.3**
BCLA Clavier 26.51 55 P **P 10 05 05.7 +1.2**
ORIF Oris-en-Rattie 26.51 67 *e*P **P 10 05 05.4 +0.9**
comp=Z,44nm,1.3s,mb4.5
ORIF *e*R
comp=Z,498nm,22.2s
ORIF Oris-en-Rattie 26.51 67 *e*P **P 10 05 05.4 +0.9**
ORIF pmax pmax
comp=Z,22nm,1.3s,mb4.5
ORIF Oris-en-Rattie 26.51 67 *e*P **P 10 05 05.4 +0.9**
comp=Z,22nm,1.3s,mb4.5
CABF La Chapelle 26.66 64 *e*P **P 10 05 06.0 +0.2**
comp=Z,64nm,1.3s,mb4.7
CABF La Chapelle 26.66 64 *e*P **P 10 05 06.0 +0.2**
CABF pmax pmax
comp=Z,32nm,1.3s,mb4.7
CABF La Chapelle 26.66 64 *e*P **P 10 05 06.0 +0.2**
comp=Z,32nm,1.3s,mb4.7
HAU Haudompre 26.90 61 *e*P **P 10 05 08.5 +0.5**
HAU *e*R
comp=Z,540nm,19.0s
HAU Haudompre 26.90 61 *e*P **P 10 05 08.5 +0.5**
HAU LR LR
comp=Z,540nm,19.0s,MS4.1
WLF Walferdange 26.94 57 P **P 10 05 07.7 -0.7**
WLF Walferdange 26.94 57 *e*P **P 10 05 09.3 +0.9**
WLF pmax pmax
comp=Z,47nm,1.7s,mb4.7
WLF Walferdange 26.94 57 *e*P **P 10 05 09.3 +0.9**
comp=Z,47nm,1.7s,mb4.7
WLF Walferdange 26.94 57 *e*P **P 10 05 09.3 +0.9**
comp=Z,47nm,1.7s,mb4.7
MEM Membach 26.99 55 P **P 10 05 08.8 0.0**
LMR La Mourre 27.06 71 *e*P **P 10 05 10.5 +1.0**
comp=Z,42nm,1.4s,mb4.5
LMR La Mourre 27.06 71 *e*P **P 10 05 10.5 +1.0**
LMR pmax pmax
comp=Z,21nm,1.4s,mb4.5
LMR La Mourre 27.06 71 *e*P **P 10 05 10.5 +1.0**
comp=Z,21nm,1.4s,mb4.5
LPL La Plagne 27.10 66 *e*P **P 10 05 11.0 +1.2**
comp=Z,32nm,1.4s,mb4.4
LPL La Plagne 27.10 66 *e*P **P 10 05 11.0 +1.2**
LPL pmax pmax
comp=Z,16nm,1.4s,mb4.4
LPL La Plagne 27.10 66 *e*P **P 10 05 11.0 +1.2**
comp=Z,16nm,1.4s,mb4.4
LPG La Plagne 27.11 66 *e*P **P 10 05 11.1 +1.2**
comp=Z,30nm,1.2s,mb4.4
LPG La Plagne 27.11 66 *e*P **P 10 05 11.1 +1.2**
LPG pmax pmax
comp=Z,15nm,1.2s,mb4.4
LPG La Plagne 27.11 66 *e*P **P 10 05 11.1 +1.2**
comp=Z,15nm,1.2s,mb4.4
FRF La Foret Royal 27.14 70 *e*P **P 10 05 11.5 +1.3**
comp=Z,75nm,1.4s,mb4.7
FRF La Foret Royal 27.14 70 *e*P **P 10 05 11.5 +1.3**
FRF pmax pmax
comp=Z,37nm,1.4s,mb4.7
FRF La Foret Royal 27.14 70 *e*P **P 10 05 11.5 +1.3**
comp=Z,37nm,1.4s,mb4.7
HINF Hinteralfeld 27.23 61 *e*P **P 10 05 11.6 +0.6**
comp=Z,25nm,1.2s,mb4.3
HINF Hinteralfeld 27.23 61 *e*P **P 10 05 11.6 +0.6**
HINF pmax pmax
comp=Z,13nm,1.2s,mb4.3
HINF Hinteralfeld 27.23 61 *e*P **P 10 05 11.6 +0.6**
comp=Z,13nm,1.2s,mb4.3
CDF Champ du Feu 27.55 60 *e*P **P 10 05 12.2 -1.6**
comp=Z,37nm,1.1s,mb4.6
CDF Champ du Feu 27.55 60 *e*P **P 10 05 12.2 -1.6**
CDF pmax pmax
comp=Z,18nm,1.1s,mb4.6
CDF Champ du Feu 27.55 60 *e*P **P 10 05 12.2 -1.6**
comp=Z,18nm,1.1s,mb4.6
SBF Sospel 27.69 70 *e*P **P 10 05 15.2 +0.1**
SCHQ Schefferville 28.89 314 LR LR 10 15 33.3
comp=Z,254nm,18.7s,MS3.9,baz=334,slow=34
PGF Pioggiola 28.97 72 *e*P **P 10 05 27.5 +1.0**
DAVOX Davos 29.27 63 LR LR 10 15 08.1
comp=Z,293nm,19.9s,MS3.9,baz=267,slow=32
MOTA Moosalm 30.09 62⇑ *i*P **P 10 05 38.6 +2.1**
comp=Z,10nm,1.2s,mb4.5
MOTA Moosalm 30.09 62⇑ *i*P **P 10 05 38.6 +2.1**
MOTA pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
SQTA Sankt Quirin 30.17 62⇑ *i*P **P 10 05 37.5 +0.4**
comp=Z,7.2nm,1.1s,mb4.3
SQTA Sankt Quirin 30.17 62⇑ *i*P **P 10 05 37.5 +0.4**
SQTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GRA1 Grafenberg Arr 30.22 57 *e*P **P 10 05 37.1 -0.5**
comp=Z,24nm,1.7s,mb4.7
GRA1 LR LR
comp=Z,500nm,21.4s,MS4.1
GRF Grafenberg Arr 30.22 57 *e*P **P 10 05 37.1 -0.5**
comp=Z,24nm,1.7s,mb4.7
GRF *e*L 10 15 36.4
comp=Z,470nm,21.4s
GRF Grafenberg Arr 30.22 57 *e*P **P 10 05 37.1 -0.5**
GRF pmax pmax
comp=Z,24nm,1.7s,mb4.7
GRF MLR MLR
comp=Z,500nm,21.4s,MS4.1
KEST Kesra 30.87 85 LR LR 10 17 05.8
comp=Z,182nm,19.7s,MS3.7,baz=278,slow=34
CLL Collm 31.46 54 *e*P **P 10 05 51.0 +2.5**
CLL pmax pmax
comp=Z,33nm,2.0s,mb4.8
CLL MLR MLR
comp=Z,400nm,21.8s,MS4.0
CLL Collm 31.46 54 *e*(P) **P 10 05 51.0 +2.5**
comp=Z,33nm,2.0s,mb4.8
CLL *e*PP PP 10 07 05.0 +5.2
CLL LmV 10 16 00.0
comp=Z,400nm,21.8s
KHC Kasperske Hory 31.74 59 *e*P **P 10 05 50.4 -0.6**
GERES GERESS Array B 31.82 59 P **P 10 05 51.4 -0.3**
comp=Z,0.3nm,0.5s,mb3.4,baz=267,slow=10,SNR=3.9
GERES LR LR 10 16 19.6
comp=Z,252nm,21.5s,MS3.9,baz=46,slow=32
MOA Molln 32.22 61⇑ *i*P **P 10 05 55.4 +0.2**
comp=Z,12nm,1.1s,mb4.6
PRU Pruhonice 32.38 57 *e*P **P 10 05 56.4 -0.2**
PRU AMS AMS 10 17 30.0
comp=Z,600nm,16.7s
PRU Pruhonice 32.38 57 *e*P **P 10 05 56.4 -0.2**
comp=Z,600nm,16.7s
PVCC Panska Ves 32.41 56 AMS AMS 10 17 50.0
comp=Z,800nm,17.5s
NOA NORSAR Array B 32.68 36 LR LR 10 16 45.6
comp=Z,201nm,19.4s,MS3.8,baz=270,slow=32
UPC Upice 33.33 56 *e*P **P 10 06 05.2 +0.3**
DPC Dobruska-Polom 33.53 56 *e*P **P 10 06 09.4 +2.8**
DPC AMS AMS 10 18 00.0
comp=Z,600nm,21.8s
DPC Dobruska-Polom 33.53 56 *e*P **P 10 06 09.4 +2.8**
comp=Z,600nm,21.8s
VRAC Vranov 33.72 58 P **P 10 06 09.0 +0.8**
comp=Z,2.7nm,0.7s,mb4.3,baz=273,slow=14,SNR=3.6
VRAC LR LR 10 18 29.9
comp=Z,177nm,18.3s,MS3.8,baz=85,slow=34
VAE Valguarnera 34.17 80 LR LR 10 17 05.4
comp=Z,352nm,20.8s,MS4.1,baz=298,slow=31
VYHS Vyhne 35.24 60 *e*P **P 10 06 21.3 -0.1**
OJC Ojcow 35.76 57 *e*P **P 10 06 26.2 +0.3**
PSZ Piszkesteto 35.99 60 *e*P **P 10 06 28.9 +1.0**
KECS Kecovo 36.33 59 *e*P **P 10 06 32.1 +1.3**
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS Kecovo 36.33 59 *e*P **P 10 06 32.1 +1.3**
comp=Z,3.5nm,1.2s,mb4.2
STHS Stebnicka Huta 36.75 58 *e*P **P 10 06 36.1 +1.8**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
STHS Stebnicka Huta 36.75 58 *e*P **P 10 06 36.1 +1.8**
comp=Z,2.9nm,1.1s,mb4.0
CRVS Cenica-Dubn 36.94 59 *e*P **P 10 06 36.3 +0.4**
KOLS Kolonicke sedl 37.46 59 *e*P **P 10 06 41.6 +1.2**
UZH Uzhgorod 37.51 59 *e*P **P 10 06 42.8 +2.0**
UZH *i* 10 06 48.0
UZH *i* 10 07 01.0
TOA0 Torodi Ar. Sit 38.31 125 *e*P **P 10 06 49.5 +1.9**
TORD Torodi Ar. Bea 38.31 125 P **P 10 06 49.5 +2.0**
comp=Z,2.3nm,0.8s,mb4.0,baz=311,slow=9.9,SNR=14
LVV L'vov 38.51 57 *e*P **P 10 06 50.9 +1.6**
FINES FINESS Array B 39.73 38 P **P 10 06 58.5 -1.0**
comp=Z,3.4nm,0.8s,mb4.1,baz=235,slow=6.7,SNR=5.4
FINES LR LR 10 21 48.0
comp=Z,252nm,18.7s,MS4.1,baz=338,slow=34
FINES FINESS Array B 39.73 38 P **P 10 06 58.5 -1.0**
FINES LR LR 10 21 48.0
ARCES ARCESS Array B 41.13 26 P **P 10 07 09.0 -2.1**
comp=Z,5.3nm,0.9s,mb4.2,baz=240,slow=9.7,SNR=6.7
ARCES LR LR 10 20 58.3
comp=Z,176nm,20.1s,MS3.9,baz=90,slow=32
AKASG Malin Array Be 41.70 55 P **P 10 07 14.8 -1.0**
comp=Z,9.5nm,0.8s,mb4.5,baz=275,slow=8.8,SNR=11
AKASG LR LR 10 23 35.6
comp=Z,277nm,18.0s,MS4.2,baz=270,slow=35
AKBB Malin Array Si 41.70 55 *e*P **P 10 07 14.8 -0.9**
PCRV Puerto La Cruz 42.95 236 LR LR 10 22 36.1
comp=Z,252nm,18.1s,MS4.2,baz=190,slow=32
APA Apatity 43.59 30⇑ *e*P **P 10 07 30.0 -1.0**
APA pmax pmax
comp=Z,32nm,1.2s,mb4.9
APA Apatity 43.59 30 *e*P **P 10 07 30.0 -1.0**
comp=Z,32nm,1.2s,mb4.9
OBN Obninsk 45.43 48⇑ *i*P **P 10 07 44.9 -0.8**
OBN pmax pmax
comp=Z,26nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.1
OBN Obninsk 45.43 48 *e*P **P 10 07 45.0 -0.7**
comp=Z,62nm,1.3s,mb5.3
OBN Obninsk 45.43 48 *i*P **P 10 07 44.9 -0.8**
comp=Z,200nm,18.0s
ULM Lac du Bonnet 46.48 306 LR LR 10 26 26.2
comp=Z,357nm,18.1s,MS4.4,baz=65,slow=35
AGMN Agassiz Refuge 46.96 303 *e*P **P 10 07 56.8 -1.0**
comp=Z,9.3nm,1.0s,mb4.7
OXF Oxford 47.17 283 *e*P **P 10 07 59.7 +0.2**
OXF pmax pmax
comp=Z,39nm,1.0s,mb5.3
OXF Oxford 47.17 283 *e*P **P 10 07 59.7 +0.2**
comp=Z,39nm,1.0s,mb5.3
BRTR Keskin Array B 47.62 69 P **P 10 08 03.4 +0.5**
comp=Z,1.0nm,0.7s,mb4.0,baz=282,slow=7.2,SNR=4.6
VOR Voronezh 47.65 52 P **P 10 08 04.0 +0.8**
VOR pmax pmax
comp=Z,90nm,1.5s,mb5.6
VOR pmax pmax
comp=E,80nm,1.4s
VOR Voronezh 47.65 52 P **P 10 08 04.0 +0.8**
comp=E,90nm,1.5s,mb5.6
VRSR Storozhevoye 47.77 52 *e*P **P 10 08 02.5 -1.6**
VRSR *e**PP pP 10 08 07.9 -5.3
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR Storozhevoye 47.77 52 *e*P **P 10 08 02.5 -1.6**
comp=N,10.0nm,1.0s,mb4.8
KSU1 Kansas State U 50.57 292 *e*P **P 10 08 24.7 -0.8**
comp=N,12nm,0.8s,mb4.9
DGMT Dagmar 52.20 306 *e*P **P 10 08 41.8 +4.1**
comp=N,14nm,1.0s,mb4.8
YKA Yellowknife Ar 53.33 325 LR LR 10 28 56.6
comp=N,116nm,18.6s,MS4.0,baz=140,slow=33
ZEI Tsey 53.60 61 *e*P **P 10 08 50.3 +2.3**
ZEI pmax pmax
comp=Z,28nm,1.0s,mb5.2
ZEI Tsey 53.60 61 *e*P **P 10 08 50.3 +2.3**
comp=Z,28nm,1.0s,mb5.2
WMOK Wichita Mounta 54.02 288 *e*P **P 10 08 50.6 -0.5**
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WMOK Wichita Mounta 54.02 288 *e*P **P 10 08 50.6 -0.5**
comp=Z,5.8nm,1.0s,mb4.5
WMOK Wichita Mounta 54.02 288 *e*P **P 10 08 50.6 -0.5**
comp=Z,6.0nm,1.0s,mb4.5
LAO LASA Array 54.12 304 *e*P **P 10 08 51.9 +0.1**
comp=Z,24nm,1.1s,mb5.0
EGMT Eagleton 55.81 307 *e*P **P 10 09 03.3 -0.8**
comp=Z,18nm,1.3s,mb5.0
EDM Edmonton 55.87 314 *e*P **P 10 09 03.6 -0.9**
AMTX Amarillo 56.06 289 *e*P **P 10 09 04.5 -1.3**
comp=Z,15nm,0.9s,mb5.0
GCMT Greycliff 56.67 304 *e*P **P 10 09 10.4 +0.2**
JCT Junction City 56.81 284 *e*P **P 10 09 10.7 -0.5**
JCT *e**PP pP 10 09 15.9 -4.5
JCT pmax pmax
comp=Z,35nm,1.3s,mb5.2
JCT Junction City 56.81 284 *e*P **P 10 09 10.7 -0.5**
comp=Z,35nm,1.3s,mb5.2
ORR Orenburg 56.83 48 *e*P **P 10 09 11.5 +0.2**
ORR pmax pmax
comp=Z,20nm,1.2s,mb5.0
ORR Orenburg 56.83 48 *e*P **P 10 09 11.5 +0.2**
comp=Z,20nm,1.2s,mb5.0
ARU Arti 56.95 41⇓ *i*P **P 10 09 11.4 -0.8**
ARU *e* 10 11 13.2
ARU *e*S **S 10 16 59.0 -5.3**
ARU *e*SS SS 10 20 46.0 -6.9
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
ARU Arti 56.95 41 *e*P **P 10 09 11.5 -0.7**
comp=Z,19nm,0.9s,mb5.1
ARU Arti 56.95 41 *i*P **P 10 09 11.4 -0.8**
comp=Z,20nm,1.0s,mb5.1
ARU *e*S **S 10 16 59.0 -5.3**
SDCO Great Sand Dun 57.45 294 *e*P **P 10 09 16.1 +0.4**
comp=Z,4.0nm,1.1s,mb4.4
SMCO Snowmass 57.81 296 *e*P **P 10 09 18.6 +0.3**
comp=Z,6.2nm,1.0s,mb4.6
WALA Waterton Lakes 57.89 309 *e*P **P 10 09 17.9 -0.9**
comp=Z,29nm,1.3s,mb5.1
BW06 Boulder Array 57.92 301 *e*P **P 10 09 17.9 -1.1**
comp=Z,12nm,1.2s,mb4.8
PDAR Pinedale Array 57.92 301 P **P 10 09 18.1 -1.0**
comp=Z,3.7nm,0.9s,mb4.4,baz=64,slow=6.7,SNR=25
FLWY Flagg Ranch 58.08 303 *e*P **P 10 09 20.3 +0.2**
comp=Z,14nm,1.2s,mb4.8
LOHW Long Hollow 58.22 302 *e*P **P 10 09 20.8 -0.3**
comp=Z,8.7nm,1.1s,mb4.7
IMW Indian Meadow 58.31 303 *e*P **P 10 09 21.7 0.0**
comp=Z,7.0nm,0.9s,mb4.7
IMW *e*pP pP 10 09 26.2 -4.8
SNOW Snow King Moun 58.39 302 *e*P **P 10 09 22.2 -0.1**
comp=Z,15nm,1.0s,mb5.0
CHMT Chamberlain Mo 58.43 307 *e*P **P 10 09 22.9 +0.4**
REDW Red Top Meadow 58.50 302 *e*P **P 10 09 22.4 -0.7**
comp=Z,29nm,1.3s,mb5.2
REDW *e*pP pP 10 09 27.3 -4.9
TPAW Teton Pass 58.50 302 *e*P **P 10 09 22.8 -0.3**
comp=Z,9.2nm,1.1s,mb4.7
RRI2 Red Ridge 58.81 302 *e*P **P 10 09 24.6 -0.6**
comp=Z,14nm,1.0s,mb4.9
MSO Missoula 58.89 307 *e*P **P 10 09 25.4 -0.4**
comp=Z,7.8nm,1.2s,mb4.6
MSO *e*pP pP 10 09 29.8 -5.2
MCMT McKenzie Canyo 59.11 305 *e*P **P 10 09 27.7 +0.4**
AKTK Aktyubinsk 59.20 48 P **P 10 09 28.1 +0.2**
AKTK Aktyubinsk 59.20 48 P **P 10 09 28.1 +0.2**
AKTO Aktyubinsk 59.20 48 P **P 10 09 28.1 +0.2**
comp=Z,6.7nm,0.8s,mb4.7,baz=303,slow=7.3,SNR=26
ANMO Albuquerque 59.47 292 *e*P **P 10 09 30.6 +0.8**
HWUT Hardware Ranch 59.78 301 *e*P **P 10 09 31.7 -0.2**
comp=Z,17nm,1.0s,mb5.0
MVCO Mesa Verde 59.80 295 *e*P **P 10 09 33.4 +1.3**
comp=Z,18nm,1.4s,mb4.9
BNM Barren Site 59.98 291 *e*P **P 10 09 34.3 +0.9**
DAU Daniels Canyon 60.14 299 *e*P **P 10 09 34.5 +0.1**
NEW Newport 60.15 310 P **P 10 09 32.7 -1.8**
comp=Z,7.1nm,0.9s,mb4.7,baz=64,slow=7.2,SNR=16
NEW Newport 60.15 310 *e*P **P 10 09 33.3 -1.2**
NEW pmax pmax
comp=Z,14nm,1.1s
NEW Newport 60.15 310 *e*P **P 10 09 33.3 -1.1**
comp=Z,14nm,1.1s,mb4.9
NEW Newport 60.15 310 *e*P **P 10 09 33.3 -1.2**
comp=Z,14nm,1.1s,mb4.9
LAZ Ladron 60.23 292 *e*P **P 10 09 36.3 +1.3**
LAZ *e*pP pP 10 09 40.9 -3.4
LENM Lemitar 60.23 291 *e*P **P 10 09 34.2 -0.8**
TXAR Lajitas Array 60.28 285 P **P 10 09 34.8 -0.5**
comp=Z,4.4nm,0.8s,mb4.6,baz=73,slow=7.4,SNR=52
TXAR LR LR 10 34 11.6
comp=Z,216nm,19.5s,MS4.3,baz=275,slow=35
TMUT Trail Mountain 60.65 298 *e*P **P 10 09 38.4 +0.5**
HLID Hailey 60.70 304 *e*P **P 10 09 38.8 +0.6**
comp=Z,6.0nm,1.1s,mb4.6
DUG Dugway 61.29 300 *e*P **P 10 09 42.2 0.0**
DUG pmax pmax
comp=Z,13nm,0.9s,mb5.1
DUG Dugway 61.29 300 *e*P **P 10 09 42.2 0.0**
comp=Z,13nm,0.9s,mb5.1
DUG Dugway 61.29 300 *e*P **P 10 09 42.2 0.0**
comp=Z,13nm,0.9s,mb5.1
MSU Marysvale 61.69 298 *e*P **P 10 09 45.6 +0.7**
BMO Blue Mountains 61.89 306 *e*P **P 10 09 44.9 -1.4**
comp=Z,5.9nm,1.1s,mb4.6
WUAZ Wupatki 62.66 295 *e*P **P 10 09 52.6 +1.2**
comp=Z,18nm,1.4s,mb5.0
SIV San Ignacio 62.89 214 P **P 10 09 55.6 +2.6**
comp=Z,1.4nm,1.0s,mb4.1,baz=35,slow=9.0,SNR=5.7
ARUT Antelope Range 62.92 298 *e*P **P 10 09 53.6 +0.5**
CCUT Cedar City 62.98 298 *e*P **P 10 09 54.4 +0.8**
TUC Tucson 63.91 291 *e*P **P 10 10 00.5 +0.8**
TUC pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
TUC Tucson 63.91 291 *e*P **P 10 10 00.5 +0.7**
comp=Z,7.0nm,1.2s,mb4.6
TUC Tucson 63.91 291 *e*P **P 10 10 00.5 +0.8**
comp=Z,7.0nm,1.2s,mb4.6
ZRNK Zerenda 63.93 42 *e*P **P 10 09 59.5 -0.4**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZRNK Zerenda 63.93 42 *e*P **P 10 09 59.5 -0.3**
comp=Z,4.6nm,1.0s,mb4.5
ZRNK Zerenda 63.93 42 *e*P **P 10 09 59.5 -0.4**
comp=Z,5.0nm,1.0s,mb4.5
WVOR Wild Horse Val 63.95 305 *e*P **P 10 10 00.2 +0.2**
WVOR pmax pmax
comp=Z,17nm,1.1s,mb5.0
WVOR Wild Horse Val 63.95 305 *e*P **P 10 10 00.2 +0.2**
comp=Z,17nm,1.1s,mb5.0
CHKZ Chkalovo 64.36 41 *e*P **P 10 10 02.1 -0.5**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CHKZ Chkalovo 64.36 41 *e*P **P 10 10 02.1 -0.5**
comp=Z,5.4nm,1.0s,mb4.5
CHKZ *e*pP pP 10 10 06.5 -5.4
CHKZ Chkalovo 64.36 41 *e*P **P 10 10 02.1 -0.5**
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 64.60 41 P **P 10 10 04.0 -0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=278,slow=5.4,SNR=5.6
COLA College 65.00 335 *e*P **P 10 10 03.9 -2.9**
MOD Modoc 65.28 305 *e*P **P 10 10 08.2 -0.4**
comp=Z,7.2nm,1.1s,mb4.6
NVAR Mina Array Bea 65.84 301 P **P 10 10 11.2 -1.1**
comp=Z,0.8nm,0.9s,mb3.8,baz=19,slow=5.8,SNR=4.8
MCK McKinley 66.12 335 *e*P **P 10 10 12.6 -1.5**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MCK McKinley 66.12 335 *e*P **P 10 10 12.6 -1.5**
comp=Z,1.8nm,0.8s,mb4.2
MCK McKinley 66.12 335 *e*P **P 10 10 12.6 -1.5**
comp=Z,2.0nm,0.8s,mb4.2
LPAZ La Paz 66.46 221 P **P 10 10 19.1 +2.9**
comp=Z,3.4nm,1.0s,mb4.3,baz=2.6,slow=6.9,SNR=10.0
LPAZ La Paz 66.46 221 *e*P **P 10 10 19.1 +2.9**
LPAZ pmax pmax
comp=Z,5.0nm,1.1s
LPAZ La Paz 66.46 221 *e*P **P 10 10 19.1 +2.8**
comp=Z,5.2nm,1.1s,mb4.5
LPAZ La Paz 66.46 221 *e*P **P 10 10 19.1 +2.9**
comp=Z,5.0nm,1.1s,mb4.5
OHCM Honcut 67.43 303 *e*P **P 10 10 21.8 -0.6**
PMR Palmer 67.66 333 *e*P **P 10 10 21.7 -2.2**
PMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PMR Palmer 67.66 333 *e*P **P 10 10 21.7 -2.2**
comp=Z,5.8nm,0.8s,mb4.7
PMR Palmer 67.66 333 *e*P **P 10 10 21.7 -2.2**
comp=Z,6.0nm,0.8s,mb4.7
TIXI Tiksi 67.68 7 *e*P **P 10 10 21.6 -2.4**
TIXI pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
TIXI Tiksi 67.68 7 *e*P **P 10 10 21.6 -2.4**
comp=Z,8.0nm,1.3s,mb4.6
NVS Novosibirsk 69.58 35 *e*P **P 10 10 35.6 -0.2**
NVS pmax pmax
comp=N,17nm,2.3s
NVS pmax pmax
comp=Z,37nm,2.3s,mb4.9

ZAL	**Zalesovo**	**70.86**	**35**	P	**P**	**10 10 44.5**	**+0.8**
	comp=Z,2.0nm,0.3s,mb4.5,baz=160,slow=5.0,SNR=7.9						
ZAL	**Zalesovo**	**70.86**	**35**	*i* P	**P**	**10 10 44.5**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**70.86**	**35**	*i* P	**P**	**10 10 44.5**	**+0.8**
	comp=Z,2.0nm,0.3s,mb4.5						
AAK	**Ala-Archa**	**72.94**	**48**	*e*P	**P**	**10 10 58.9**	**+2.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.2						
AAK	**Ala-Archa**	**72.94**	**48**	*e*P	**P**	**10 10 58.9**	**+2.7**
	comp=Z,7.0nm,2.0s,mb4.2						
MK31	**Makanchi Array**	**74.48**	**41**	*e*P	**P**	**10 11 05.0**	**-0.2**
MKAR	**Makanchi Array**	**74.48**	**41**	P	**P**	**10 11 04.5**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=330,slow=5.6,SNR=9.7						
MKAR	**Makanchi Array**	**74.48**	**41**	*i* P	**P**	**10 11 05.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YAK	**Yakutsk**	**77.02**	**10**	*e*P	**P**	**10 11 18.5**	**-1.2**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
YAK	**Yakutsk**	**77.02**	**10**	*e*P	**P**	**10 11 18.5**	**-1.2**
	comp=Z,11nm,1.0s,mb4.7						
BOD	**Bodaibo**	**77.95**	**19**	*e*P	**P**	**10 11 22.9**	**-2.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BOD	**Bodaibo**	**77.95**	**19**	*e*P	**P**	**10 11 22.9**	**-2.0**
	comp=Z,8.0nm,1.1s,mb4.6						
WMQ	**Urumqi**	**79.29**	**41**	⇑*i*P	**P**	**10 11 33.7**	**+1.4**
WMQ				AP	pP	10 11 38.2	-3.6
WMQ				XP	sP	10 11 40.7	-4.6
WMQ				PP	PP	10 14 34.7	+2.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,54nm,3.9s						
WMQ				LR	LR		
	comp=N,112nm,19.8s,MS4.4						
WMQ				LR	LR		
	comp=E,146nm,20.3s,MS4.4						
WMQ				LR	LR		
	comp=Z,171nm,20.8s,MS4.4						
ULN	**Ulaanbaatar**	**84.48**	**28**	*e*P	**P**	**10 12 00.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
ULN	**Ulaanbaatar**	**84.48**	**28**	*e*P	**P**	**10 12 00.0**	**+0.4**
	comp=Z,6.2nm,1.3s,mb4.6						
ULN	**Ulaanbaatar**	**84.48**	**28**	*e*P	**P**	**10 12 00.0**	**+0.4**
	comp=Z,6.0nm,1.3s,mb4.6						
GTA	**Gaotai**	**88.51**	**37**	*e*P	**P**	**10 12 19.2**	**-0.1**
GTA				AP	pP	10 12 23.9	-5.0
GTA				XP	sP	10 12 27.1	-5.3
GTA				PP	PP	10 15 50.4	+2.9
GTA				S	S	10 23 02.7	-0.5
GTA				SS	SS	10 28 57.5	+3.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,119nm,5.7s						
GTA				LR	LR		
	comp=N,106nm,14.8s,MS4.6						
GTA				LR	LR		
	comp=E,98nm,11.8s,MS4.6						
GTA				LR	LR		
	comp=Z,151nm,17.5s						
HHC	**Hu-ho-hao-te**	**92.17**	**28**	*e*P	**P**	**10 12 35.5**	**-0.9**
HHC				AP	pP	10 12 40.3	-5.7
HHC				PP	PP	10 16 16.3	-0.3
HHC				SKS		10 23 06.1	
HHC				S	S	10 23 33.4	-3.5
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,111nm,4.5s						
HHC				LR	LR		
	comp=N,178nm,18.8s,MS4.8						
HHC				LR	LR		
	comp=E,279nm,20.4s,MS4.8						
HHC				LR	LR		
	comp=Z,224nm,18.8s,MS4.6						
LZH	**Lanzhou**	**93.06**	**36**	*e*P	**P**	**10 12 40.0**	**-0.5**
LZH				*SP	sP	10 12 46.0	-7.6
LZH				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.4						
LZH	**Lanzhou**	**93.06**	**36**	*e*P	**P**	**10 12 40.0**	**-0.5**
	comp=Z,16nm,1.0s,mb5.4						
LZH				pP	pP	10 12 44.0	-6.1
LZH				sP	sP	10 12 46.0	-7.6
CN2	**Changchun**	**93.66**	**18**	*e*P	**P**	**10 12 42.1**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**93.78**	**15**	P	**P**	**10 12 41.6**	**-2.2**
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,118nm,3.2s						
CD2	**Chengdu**	**97.29**	**39**	*e*P	**P**	**10 12 58.3**	**-1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
KMI	**Kunming**	**101.51**	**43**	P	Pdif	10 13 19.3	+0.7
KMI				PP	PP	10 17 30.7	+2.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.5s						
KMI				AMB	AMB		
	comp=Z,80nm,5.6s						
KMI				LR	LR		
	comp=N,93nm,20.9s,MS4.4						
KMI				LR	LR		
	comp=E,94nm,20.9s,MS4.4						
KMI				LR	LR		
	comp=Z,111nm,17.4s,MS4.4						
KMI	**Kunming**	**101.51**	**43**	P	Pdif	10 13 19.3	+0.7
KMI						10 17 30.7	
KMI				S	Sdif	10 24 54.9	-2.2
KMI				PS	PS	10 26 35.2	+2.7
KMI				SS	SS	10 31 58.4	-0.3
KMI				SSS		10 35 51.9	
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				MLR	MLR		
	comp=Z,110nm,17.4s,MS4.4						
KMI	**Kunming**	**101.51**	**43**	P	Pdif	10 13 19.3	+0.7
	comp=Z,8.0nm,0.5s						
KMI				PP	PP	10 17 30.7	+2.1
KMI				S	Sdif	10 24 54.9	-2.2
KMI				PS	PS	10 26 35.2	+2.7
KMI				SS	SS	10 31 58.4	-0.3
KMI				SSS		10 35 51.9	
KMI				LR	LR		
	comp=Z,110nm,17.4s,MS4.4						
GYA	**Guiyang**	**102.40**	**39**	P	Pdif	10 13 23.0	+0.4
GYA				AP		10 13 27.8	
GYA				PP	PP	10 17 37.3	+2.0
GYA				SKS		10 24 01.7	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,240nm,20.4s,MS5.0						
GYA				LR	LR		
	comp=E,380nm,20.6s,MS5.0						
GYA				LR	LR		
	comp=Z,370nm,21.0s,MS4.9						
NJ2	**Nanjing**	**102.64**	**27**	*e*P	Pdif	10 13 25.3	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
RKT	**Rikitea**	**115.94**	**261**	*e*LR	LR	10 53 04.8	
	comp=Z,157nm,32.5s						
PPT	**Papeete**	**123.95**	**275**	*e*LR	LR	10 56 45.8	
	comp=Z,201nm,23.5s						
TBI	**Tubuai**	**127.15**	**269**	*e*LR	LR	10 58 15.6	
	comp=Z,202nm,29.8s						
VNDA	**Vanda**	**141.99**	**184**	PKhKP		10 18 55.1	
	comp=Z,1.3nm,0.9s,baz=194,slow=2.5,SNR=6.9						
CASY	**Casey**	**145.42**	**153**	*e*PKPdf	PKPdf	10 19 06.2	+1.6
MBWA	**Marble Bar**	**147.85**	**64**	*e*PKPdf	PKPdf	10 19 10.3	+1.6
MBWA				*e*PKPab	PKPab	10 19 16.6	+2.3
KAKA	**Kakadu**	**148.60**	**35**	*e*P	PKPbc	10 19 14.2	+0.5
	comp=Z,20nm,1.0s						
FITZ	**Fitzroy Crossi**	**149.49**	**52**	*e*P	PKPbc	10 19 17.2	+1.3
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**155.77**	**39**	PKP	PKPdf	10 19 21.2	+0.5
	comp=Z,0.5nm,0.8s,baz=323,slow=1.7,SNR=4.0						
WRA				PKPbc	PKPdf	10 19 28.4	+7.8
	comp=Z,1.2nm,1.0s,baz=330,slow=2.0,SNR=6.7						
WRA				PKPab	PKPab	10 19 47.2	-0.1
	comp=Z,2.0nm,0.8s,baz=338,slow=4.2,SNR=9.4						
ASAR	**Alice Springs**	**158.62**	**46**	PKP	PKPdf	10 19 23.9	-0.3
	comp=Z,1.2nm,0.9s,baz=340,slow=1.1,SNR=12						
ASAR				PKPbc	PKPdf	10 19 36.1	+12
	comp=Z,0.5nm,0.7s,baz=329,slow=2.1,SNR=5.3						
ASAR				PKPab	PKPab	10 19 59.5	0.0
	comp=Z,2.1nm,0.9s,baz=343,slow=4.3,SNR=10						

CASC 05 09:59:40.2±2.4, 970N×8263W, h7km±20km, MD3.9, 3C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIO	**Limon**	**0.50**	**307**	*e*P	Pg	09 59 51.4	+1.6
CTCR	**Cotoan**	**0.81**	**189**	⇑*i*P	Pg	09 59 55.4	-0.4
CTCR				*e*S	Sg	10 00 07.3	+0.9
ACR	**Cerro Adams**	**1.17**	**207**	*e*P	Pg	10 00 02.0	-0.6
IRZ2	**Volcan Irazu 2**	**1.27**	**282**	*e*P	Pn	10 00 03.3	-1.1
OCM	**Ochomogo**	**1.32**	**278**	⇓*e*P	Pn	10 00 03.7	-1.3
OCM				*e*S	Sb	10 00 21.1	-1.4
LCR2	**La Lucha 2**	**1.35**	**272**	⇑*e*P	Pn	10 00 04.7	-0.8
LCR2				*e*S	Sb	10 00 23.9	+0.6
PRS1	**Puriscal**	**1.68**	**280**	*e*P	Pn	10 00 10.4	+0.5
PRS1				*e*S	Sn	10 00 34.2	+2.5
EPA	**Esparza**	**1.95**	**278**	⇓*e*P	Pn	10 00 15.6	+1.9

*ISCJB **05** 10:05:26.9±0.4, 100S±007×2345W±005, h10km, mb4.7/69, MS4.4/24, Error ellipse: s-maj=10.8km s-min=6.4km az=131.0*

*MOS **05** 10:05:26.9±0.9, 087S×2366W, h10km, mb5.1/36, Error ellipse: s-maj=15.8km s-min=5.7km az=65.0*

*IDC **05** 10:05:26.6±0.6, 092S×2364W, h0km, mb4.4/20, mb1 4.6/20, mb1mx4.5/25, mbtmp4.4/20, MS4.3/14, Ms1 4.3/14, ms1mx4.1/21, Error ellipse: s-maj=20.7km s-min=13.3km az=140.0*

*NEIC **05** 10:05:28.9±0.3, 096S×2356W, h10km, mb4.9/52, MS4.4/7, Error ellipse: s-maj=8.9km s-min=5.7km az=153.0*

*BJI **05** 10:05:28.8, 100S×2360W, h10km, Ms5.0, Msz4.7*

*GCMT **05** 10:05:28.9±0.2, 097S×2353W, h12km±1km, MW5.1/83, Moment Tensor Solution. s51,c74; s83,c143; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.39±.11; Mθθ=1.39±.11; Mφφ=-1.00±.12; Mrθ=0.88±.29; Mrφ=-4.73±.12; Mθφ=1.48±.36; Best double couple: M0=5.18200×10^16^ NP1:φs265.00000°, δ75.00000°, λ-168.00000°. NP2: φs171.00000°, δ78.00000°, λ-16.00000°. Principal axes: T 5.0830, Plg2.0000°, Azm218.0000°; N 0.1970, Plg71.0000°, Azm315.0000°; P -5.2810, Plg19.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **05** 10:05:31.5, 056S×2400W, h33km, mb4.8, MS4.3, Central Mid-Atlantic Ridge*

ISC 05 10:05:29.2±0.4, 098S±007×2349W±005, h10km, n189, σ0998/175, mb4.7/69, MS4.4/24, 3C-4D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**11.43**	**127**	*e*P	**Pn**	**10 08 11.7**	**-0.8**
	210nm,0.8s						
RCBR	**Riachuelo**	**13.29**	**248**	*e*Pn	**Pn**	**10 08 29.4**	**-8.5**
	22nm,0.5s						
LIC	**Lamto**	**19.77**	**69**	*e*P	**Pn**	**10 09 59.3**	**-1.6**
	249nm,1.1s						
LIC				*e*R			
	632nm,19.0s						
LIC	**Lamto**	**19.77**	**69**	*e*P	**Pn**	**10 09 59.3**	**-1.6**
	124nm,1.1s						
TOA0	**Torodi Ar. Sit**	**28.65**	**60**	*e*P	**P**	**10 11 25.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**28.65**	**60**	P	**P**	**10 11 25.1**	**-0.8**
	11nm,1.0s,mb4.5,baz=245,slow=9.0,SNR=19						
MDT	**Midelt**	**38.04**	**26**	P	**P**	**10 12 47.3**	**-0.3**
	5.3nm,1.0s,mb4.2,baz=228,slow=9.1,SNR=7.0						
MDT				LR	LR	10 27 13.8	
	comp=Z,836nm,21.2s,MS4.5,baz=233,slow=34						
SIV	**San Ignacio**	**39.94**	**246**	P	**P**	**10 13 01.5**	**-2.0**
	2.5nm,0.6s,mb4.1,baz=91,slow=11,SNR=13						
EVO	**Evora**	**41.82**	**18**	*e*P	**P**	**10 13 18.2**	**-0.8**
EVO				*e*R			
	696nm,20.8s						
ESDC	**Sonseca Array**	**44.23**	**22**	P	**P**	**10 13 39.2**	**+0.6**
	4.5nm,0.8s,mb4.2,baz=209,slow=8.4,SNR=20						
ESDC				LR	LR	10 30 06.1	
	comp=Z,238nm,20.5s,MS4.1,baz=245,slow=33						
ESLA	**Sonseca Array**	**44.23**	**22**	*e*P	**P**	**10 13 39.5**	**+0.9**
HUMP	**Col San Antoni**	**45.78**	**297**	*e*P	**P**	**10 13 49.4**	**-1.5**
CPD	**Cerro la Pandu**	**45.81**	**296**	*e*P	**P**	**10 13 49.3**	**-1.8**
LPAZ	**La Paz**	**46.53**	**248**	P	**P**	**10 13 55.2**	**-1.6**
	12nm,0.9s,mb4.8,baz=88,slow=4.8,SNR=34						
LPAZ				LR	LR	10 33 59.7	
	comp=Z,308nm,18.1s,MS4.3,baz=332,slow=37						
LPAZ	**La Paz**	**46.53**	**248**	*e*P	**P**	**10 13 55.2**	**-1.6**
KEST	**Kesra**	**47.65**	**37**	P	**P**	**10 14 06.3**	**+0.8**
	2.5nm,0.8s,mb4.3,baz=12,slow=1.0,SNR=4.0						
KEST				LR	LR	10 35 50.7	
	comp=Z,425nm,18.5s,MS4.5,baz=181,slow=38						
SDV	**Santo Domingo**	**47.97**	**283**	P	**P**	**10 14 07.6**	**-0.4**
	5.2nm,0.9s,mb4.5,baz=33,slow=1.7,SNR=3.1						
SDV	**Santo Domingo**	**47.97**	**283**	P	**P**	**10 14 07.6**	**-0.4**
SJPF	**Ste Jean**	**48.23**	**22**	*e*P	**P**	**10 14 11.1**	**+1.0**
	32nm,0.9s,mb5.0						
SJPF	**Ste Jean**	**48.23**	**22**	*e*P	**P**	**10 14 11.1**	**+1.0**
SJPF				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.3						
SJPF	**Ste Jean**	**48.23**	**22**	*e*P	**P**	**10 14 11.1**	**+1.0**
	comp=Z,54nm,1.6s,mb5.3						
EPF	**Esparros**	**48.76**	**23**	*e*P	**P**	**10 14 15.2**	**+1.1**
	comp=Z,37nm,1.0s,mb5.0						
EPF	**Esparros**	**48.76**	**23**	*e*P	**P**	**10 14 15.2**	**+1.1**
EPF				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
EPF	**Esparros**	**48.76**	**23**	*e*P	**P**	**10 14 15.2**	**+1.1**
	comp=Z,33nm,1.3s,mb5.2						
MTLF	**Montolieu**	**49.78**	**24**	*e*P	**P**	**10 14 22.0**	**+0.1**
	comp=Z,57nm,1.4s,mb5.1						
MTLF	**Montolieu**	**49.78**	**24**	*e*P	**P**	**10 14 22.0**	**+0.1**
MTLF				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
MTLF	**Montolieu**	**49.78**	**24**	*e*P	**P**	**10 14 22.0**	**+0.1**
	comp=Z,30nm,1.5s,mb5.1						
LFF	**La Frestale**	**50.53**	**22**	*e*P	**P**	**10 14 27.4**	**-0.2**
LFF				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
LFF	**La Frestale**	**50.53**	**22**	*e*P	**P**	**10 14 27.4**	**-0.2**
	comp=Z,37nm,1.2s,mb5.2						
CAF	**Calviac**	**51.03**	**23**	*e*P	**P**	**10 14 31.7**	**+0.3**
	comp=Z,33nm,1.1s,mb4.9						
CAF	**Calviac**	**51.03**	**23**	*e*P	**P**	**10 14 31.7**	**+0.3**
CAF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
CAF	**Calviac**	**51.03**	**23**	*e*P	**P**	**10 14 31.7**	**+0.3**
	comp=Z,24nm,1.3s,mb5.0						
LASF	**Ste Croix**	**51.07**	**25**	*e*P	**P**	**10 14 32.1**	**+0.4**
ROSC	**El Rosal**	**51.11**	**277**	P	**P**	**10 14 32.0**	**0.0**
	comp=Z,5.7nm,0.4s,mb4.9,baz=114,slow=22,SNR=4.7						
MFF	**Saint Martin d**	**51.63**	**20**	*e*P	**P**	**10 14 35.9**	**0.0**
	comp=Z,16nm,0.7s,mb4.7						
MFF	**Saint Martin d**	**51.63**	**20**	*e*P	**P**	**10 14 35.9**	**0.0**
MFF				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.3						
MFF	**Saint Martin d**	**51.63**	**20**	*e*P	**P**	**10 14 35.9**	**0.0**
	comp=Z,50nm,1.4s,mb5.3						
LMR	**La Mourre**	**51.66**	**28**	*e*P	**P**	**10 14 36.3**	**+0.2**
	comp=Z,31nm,1.1s,mb4.9						
LMR	**La Mourre**	**51.66**	**28**	*e*P	**P**	**10 14 36.3**	**+0.2**
LMR				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
LMR	**La Mourre**	**51.66**	**28**	*e*P	**P**	**10 14 36.3**	**+0.2**
	comp=Z,21nm,1.4s,mb4.9						
SMRF	**Simiane la Rot**	**51.74**	**27**	*e*P	**P**	**10 14 37.9**	**+1.2**
	comp=Z,83nm,1.6s,mb5.1						
SMRF	**Simiane la Rot**	**51.74**	**27**	*e*P	**P**	**10 14 37.9**	**+1.2**
	comp=Z,30nm,1.1s,mb5.1						
VIVF	**Saint-Julien-l**	**52.04**	**25**	*e*P	**P**	**10 14 39.4**	**+0.4**
	comp=Z,25nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**52.04**	**25**	*e*P	**P**	**10 14 39.4**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**52.04**	**25**	*e*P	**P**	**10 14 39.4**	**+0.4**
	comp=Z,21nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**52.22**	**22**	*e*P	**P**	**10 14 40.6**	**+0.3**
	comp=Z,10nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**52.22**	**22**	*e*P	**P**	**10 14 40.6**	**+0.3**
TCF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**52.22**	**22**	*e*P	**P**	**10 14 40.6**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8						
PGF	**Pioggiola**	**52.28**	**30**	*e*P	**P**	**10 14 41.0**	**+0.3**
SGMF	**Saint Gilles**	**52.30**	**18**	*e*P	**P**	**10 14 40.9**	**0.0**
	comp=Z,30nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	**52.30**	**18**	*e*P	**P**	**10 14 40.9**	**0.0**
SGMF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	**52.30**	**18**	*e*P	**P**	**10 14 40.9**	**0.0**
	comp=Z,15nm,1.0s,mb4.9						
SBF	**Sospel**	**52.50**	**28**	*e*P	**P**	**10 14 42.4**	**0.0**
	comp=Z,36nm,0.9s,mb5.0						
SBF	**Sospel**	**52.50**	**28**	*e*P	**P**	**10 14 42.4**	**0.0**
SBF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
SBF	**Sospel**	**52.50**	**28**	*e*P	**P**	**10 14 42.4**	**0.0**
	comp=Z,18nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**52.62**	**26**	*e*P	**P**	**10 14 44.2**	**+1.0**
ORIF				*e*R			
	comp=Z,556nm,18.5s						
ORIF	**Oris-en-Rattie**	**52.62**	**26**	*e*P	**P**	**10 14 44.2**	**+1.0**
ORIF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
ORIF	**Oris-en-Rattie**	**52.62**	**26**	*e*P	**P**	**10 14 44.2**	**+1.0**
	comp=Z,22nm,1.3s,mb4.9						
MBDF	**Montbardon**	**52.86**	**27**	*e*P	**P**	**10 14 46.3**	**+1.3**
	comp=Z,38nm,0.9s,mb5.0						
MBDF	**Montbardon**	**52.86**	**27**	*e*P	**P**	**10 14 46.3**	**+1.3**
MBDF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MBDF	**Montbardon**	**52.86**	**27**	*e*P	**P**	**10 14 46.3**	**+1.3**
	comp=Z,19nm,0.9s,mb5.0						
GRR	**Gorron**	**52.95**	**19**	*e*P	**P**	**10 14 45.5**	**-0.2**
LBTB	**Lobatse**	**53.05**	**121**	P	**P**	**10 14 48.5**	**+2.1**
	comp=Z,3.7nm,0.8s,mb4.4,baz=276,slow=11,SNR=4.4						
BNI	**Bardonecchia**	**53.07**	**26**	*e*P	**P**	**10 14 48.5**	**+1.9**
BNI				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
BNI	**Bardonecchia**	**53.07**	**26**	*e*P	**P**	**10 14 48.5**	**+1.9**
	comp=Z,18nm,1.0s,mb5.0						
AVF	**Avril sur Loir**	**53.08**	**23**	*e*P	**P**	**10 14 47.0**	**+0.4**
HYF	**Humbligny**	**53.20**	**22**	*e*P	**P**	**10 14 47.9**	**+0.3**
SSF	**Saint Saulge**	**53.36**	**23**	*e*P	**P**	**10 14 49.0**	**+0.3**
	comp=Z,13nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**53.36**	**23**	*e*P	**P**	**10 14 49.0**	**+0.3**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**53.36**	**23**	*e*P	**P**	**10 14 49.0**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.6						
LDF	**La Druitiere**	**53.37**	**19**	*e*P	**P**	**10 14 48.2**	**-0.5**
	comp=Z,12nm,1.0s,mb4.5						
LDF	**La Druitiere**	**53.37**	**19**	*e*P	**P**	**10 14 48.2**	**-0.5**
LDF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
LDF	**La Druitiere**	**53.37**	**19**	*e*P	**P**	**10 14 48.2**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.5						
FLN	**La Foliniere**	**53.40**	**19**	*e*P	**P**	**10 14 48.6**	**-0.4**
FLN				*e*R			
	comp=Z,315nm,20.2s						
FLN	**La Foliniere**	**53.40**	**19**	*e*P	**P**	**10 14 48.6**	**-0.4**
FLN				LR	LR		
	comp=Z,320nm,20.3s,MS4.4						
LPG	**La Plagne**	**53.45**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
	comp=Z,40nm,1.2s,mb4.9						
LPG	**La Plagne**	**53.45**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
LPG				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
LPG	**La Plagne**	**53.45**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
	comp=Z,20nm,1.2s,mb4.9						
LPL	**La Plagne**	**53.46**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
	comp=Z,17nm,0.9s,mb4.7						
LPL	**La Plagne**	**53.46**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LPL	**La Plagne**	**53.46**	**26**	*e*P	**P**	**10 14 50.6**	**+1.2**
	comp=Z,8.4nm,0.9s,mb4.7						
LOR	**Lormes**	**53.67**	**23**	*e*P	**P**	**10 14 51.2**	**+0.2**
	comp=Z,13nm,0.8s,mb4.6						
LOR				*e*R			
	comp=Z,338nm,19.2s						
LOR	**Lormes**	**53.67**	**23**	*e*P	**P**	**10 14 51.2**	**+0.2**
LOR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LOR				MLR	MLR		
	comp=Z,340nm,19.3s,MS4.4						
LOR	**Lormes**	**53.67**	**23**	*e*P	**P**	**10 14 51.2**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.6						
LOR				LR	LR		
	comp=Z,340nm,19.3s,MS4.4						
CABF	**La Chapelle**	**54.04**	**25**	*e*P	**P**	**10 14 53.8**	**+0.1**
	comp=Z,46nm,1.1s,mb5.0						
CABF	**La Chapelle**	**54.04**	**25**	*e*P	**P**	**10 14 53.8**	**+0.1**
CABF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
CABF	**La Chapelle**	**54.04**	**25**	*e*P	**P**	**10 14 53.8**	**+0.1**
	comp=Z,23nm,1.1s,mb5.0						
OTAV	**Otavalo**	**54.97**	**271**	*e*P	**P**	**10 15 01.1**	**+0.6**
MEZF	**Maizieres J'vi**	**55.14**	**23**	*e*P	**P**	**10 15 01.7**	**0.0**
	comp=Z,20nm,0.9s,mb4.8						
MEZF	**Maizieres J'vi**	**55.14**	**23**	*e*P	**P**	**10 15 01.7**	**0.0**
	comp=Z,20nm,0.9s,mb5.2						
HAU	**Haudompre**	**55.26**	**24**	*e*P	**P**	**10 15 02.5**	**0.0**
	comp=Z,32nm,0.8s,mb5.1						
HAU				*e*R			
	comp=Z,343nm,17.8s						
HAU	**Haudompre**	**55.26**	**24**	*e*P	**P**	**10 15 02.5**	**0.0**
HAU				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
HAU				MLR	MLR		
	comp=Z

comp=Z,300nm,22.0s,MS4.4
GRF Grafenberg Arr 58.61 26 *e*P **P 10 15 25.6 -0.7**
comp=Z,16nm,1.5s,mb4.8
GRF *e*L 10 37 33.8
comp=Z,273nm,22.0s
GRF Grafenberg Arr 58.61 26 *e*P **P 10 15 25.6 -0.7**
GRF pmax pmax
comp=Z,16nm,1.5s,mb4.8
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.4
GERES GERESS Array B 59.10 28 P **P 10 15 29.0 -0.7**
comp=Z,3.0nm,0.9s,mb4.3,baz=224,slow=7.4,SNR=11
GERES PP PP 10 17 37.8 -2.5
comp=Z,1.4nm,0.9s,baz=238,slow=10,SNR=3.9
GERES LR LR 10 39 35.1
comp=Z,284nm,20.5s,MS4.4,baz=46,slow=35
GERES GERESS Array B 59.10 28 P **P 10 15 29.0 -0.7**
GERES 10 17 37.8
KHC Kasperske Hory 59.25 27 *e*P **P 10 15 30.3 -0.4**
KHC AMS AMS 10 36 10.0
comp=Z,400nm,26.3s
KHC Kasperske Hory 59.25 27 *e*P **P 10 15 30.9 +0.2**
MOX Moxa 59.49 25 *e*P **P 10 15 32.3 -0.1**
comp=Z,16nm,1.5s,mb4.8
MOX
comp=Z,200nm,21.0s
MOX Moxa 59.49 25 *e*P **P 10 15 32.3 -0.1**
MOX pmax pmax
comp=Z,16nm,1.5s,mb4.8
MOX MLR MLR
comp=Z,200nm,21.0s,MS4.2
PRU Pruhonice 60.30 27 *e*P **P 10 15 37.4 -0.6**
PRU AMS AMS 10 39 30.0
comp=Z,500nm,21.6s
ZST Bratislava 60.30 30 *e*P **P 10 15 37.9 -0.1**
ZST pmax pmax
comp=Z,20nm,1.6s,mb4.9
ZST Bratislava 60.30 30 *e*P **P 10 15 37.9 -0.1**
comp=Z,20nm,1.6s,mb4.9
CLL Collm 60.57 25 *e*P **P 10 15 40.0 +0.2**
CLL pmax pmax
comp=Z,28nm,1.7s,mb5.1
CLL MLR MLR
comp=Z,300nm,19.6s,MS4.4
CLL Collm 60.57 25 *e*P **P 10 15 40.0 +0.2**
comp=Z,28nm,1.7s,mb5.1
CLL LmV 10 40 00.0
comp=Z,300nm,19.6s
KMBO Kilima Mbogo 60.73 91 LR LR 10 38 35.7
comp=Z,233nm,21.3s,MS4.3,baz=287,slow=33
KMBO Kilima Mbogo 60.73 91 *e*P **P 10 15 44.0 +3.1**
KMBO pmax pmax
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 60.73 91 *e*P **P 10 15 44.0 +3.1**
comp=Z,8.0nm,1.2s,mb4.7
VYHS Vyhne 61.37 31 *e*P **P 10 15 44.7 -0.6**
VYHS pmax pmax
comp=Z,15nm,1.7s,mb4.8
VYHS Vyhne 61.37 31 *e*P **P 10 15 44.7 -0.6**
comp=Z,15nm,1.7s,mb4.8
DPC Dobruska-Polom 61.38 28 *e*P **P 10 15 47.0 +1.7**
MORC Moravsky Berou 61.57 29 *e*P **P 10 15 46.8 +0.2**
KECS Kecovo 62.22 31 *e*P **P 10 15 50.2 -0.8**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
KECS Kecovo 62.22 31 *e*P **P 10 15 50.2 -0.8**
comp=Z,2.7nm,1.0s,mb4.3
BR131 Keskin Array S 65.94 45 *e*P **P 10 16 15.6 +0.2**
comp=Z,4.7nm,0.8s,mb4.6
BRTR Keskin Array B 65.94 45 P **P 10 16 14.6 -0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=320,slow=5.0,SNR=4.0
BRTR LR LR 10 47 32.6
comp=Z,136nm,20.0s,MS4.2,baz=199,slow=38
SCHQ Schefferville 65.99 334 LR LR 10 40 37.9
comp=Z,222nm,18.7s,MS4.4,baz=152,slow=32
NB2 NORSAR Subarra 67.34 17 P **P 10 16 23.8 -0.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=217,slow=6.5
NOA NORSAR Array B 67.34 17 P **P 10 16 22.9 -1.4**
comp=Z,3.0nm,0.8s,mb4.4,baz=217,slow=6.4,SNR=8.5
NOA LR LR 10 42 55.4
comp=Z,119nm,21.4s,MS4.1,baz=230,slow=33
AKASG Malin Array Be 68.15 33 P **P 10 16 27.7 -1.8**
AKASG LR LR 10 47 09.2
comp=Z,110nm,19.4s,MS4.1,baz=225,slow=37
SNAA Sanae 71.82 173 P **P 10 16 52.0 0.0**
comp=Z,0.4nm,0.7s,mb3.5,baz=303,slow=17,SNR=2.7
SNAA Sanae 71.82 173 *e*P **P 10 16 52.0 0.0**
FINES FINESS Array B 72.74 23 P **P 10 16 56.6 -0.9**
comp=Z,3.2nm,0.7s,mb4.3,baz=180,slow=3.4,SNR=11
FINES LR LR 10 48 52.5
comp=Z,164nm,20.0s,MS4.3,baz=319,slow=36
KAF Kangasniemi 73.23 22 *e*p **P 10 16 57.8 -2.6**
CCM Cathedral Cave 73.23 310 *e*P **P 10 16 57.6 -2.8**
CCM pmax pmax
comp=Z,11nm,1.1s,mb4.7
CCM Cathedral Cave 73.23 310 *e*P **P 10 16 57.6 -2.8**
comp=Z,11nm,1.1s,mb4.7
UALR University of 73.30 307 *e*P **P 10 17 01.1 +0.3**
comp=Z,12nm,1.1s,mb4.8
JOF Joensuu 75.60 23 *e*p **P 10 17 11.9 -2.3**
ARCES ARCESS Array B 77.59 16 P **P 10 17 24.0 -1.5**
comp=Z,6.6nm,1.1s,mb4.5,baz=250,slow=3.5,SNR=3.6
JCT Junction City 78.71 301 *e*P **P 10 17 31.5 -0.2**
JCT pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
JCT Junction City 78.71 301 *e*P **P 10 17 31.5 -0.2**
comp=Z,5.4nm,0.9s,mb4.5
AGMN Agassiz Refuge 79.07 320 *e*P **P 10 17 34.2 +0.6**
comp=Z,8.1nm,1.0s,mb4.6
ULM Lac du Bonnet 79.55 322 LR LR 10 47 18.5
comp=Z,172nm,18.6s,MS4.4,baz=74,slow=32
TXAR Lajitas Array 81.91 300 P **P 10 17 47.4 -1.5**
comp=Z,2.8nm,0.8s,mb4.2,baz=123,slow=7.2,SNR=26
GDL2 Guadalupe Moun 82.79 302 *e*P **P 10 17 53.8 +0.3**
SDCO Great Sand Dun 84.27 308 *e*P **P 10 18 01.6 +0.6**
comp=Z,3.5nm,0.9s,mb4.5
DGMT Dagmar 84.56 319 *e*P **P 10 18 02.8 +0.2**
comp=Z,8.2nm,0.9s,mb4.9
ANMO Albuquerque 84.78 305 *e*P **P 10 18 04.4 +0.7**
LAZ Ladron 85.30 304 *e*P **P 10 18 07.1 +0.8**
SMCO Snowmass 85.55 309 *e*P **P 10 18 09.6 +2.0**
LAO LASA Array 85.71 317 *e*P **P 10 18 09.1 +0.7**
BW06 Boulder Array 87.76 313 *e*P **P 10 18 19.3 +1.0**
PDAR Pinedale Array 87.76 313 P **P 10 18 17.8 -0.6**
comp=Z,2.1nm,1.0s,mb4.3,baz=88,slow=5.8,SNR=11
PDAR LR LR 10 52 00.7
comp=Z,133nm,20.9s,MS4.3,baz=107,slow=32
SRU San Rafael 88.30 309 *e*P **P 10 18 20.4 -0.5**
LOHW Long Hollow 88.57 313 *e*P **P 10 18 21.5 -0.7**
comp=Z,5.7nm,1.1s,mb4.8
SNOW Snow King Moun 88.67 313 *e*P **P 10 18 23.1 +0.4**
comp=Z,7.2nm,1.0s,mb5.0
REDW Red Top Meadow 88.74 313 *e*P **P 10 18 22.2 -0.7**
comp=Z,6.5nm,1.1s,mb4.9
TPAW Teton Pass 88.81 313 *e*P **P 10 18 24.1 +0.7**
comp=Z,5.1nm,0.9s,mb4.8
WUAZ Wupatki 88.83 305 *e*P **P 10 18 24.6 +1.2**
comp=Z,4.5nm,0.9s,mb4.8
DAU Daniels Canyon 88.92 310 *e*P **P 10 18 26.1 +2.3**
QSPA South Pole Qui 89.10 180 *e*P **P 10 18 26.4 +1.7**
comp=Z,6.0nm,0.8s,mb5.0
MCMT McKenzie Canyo 90.22 315 *e*P **P 10 18 32.0 +2.1**
HLID Hailey 91.33 313 *e*P **P 10 18 37.5 +2.4**
YKA Yellowknife Ar 91.37 332 P **P 10 18 33.8 -1.4**
comp=Z,2.8nm,0.7s,mb4.7,baz=87,slow=5.3,SNR=5.7
YKA LR LR 10 55 38.3
comp=Z,228nm,19.5s,MS4.6,baz=145,slow=33
WMQ Urumqi 105.86 45 PDIF Pdif 10 19 43.0 +2.4
WMQ PP PP 10 24 09.0 +5.5
WMQ LR LR
comp=N,101nm,28.8s,MS4.4
WMQ LR LR
comp=E,118nm,29.5s,MS4.4
WMQ LR LR
comp=Z,156nm,25.5s,MS4.5
CD2 Chengdu 121.93 54 *e*PKP PKPdf 10 24 21.8 -1.9
KMI Kunming 122.88 61 PKIKP PKPdf 10 24 26.4 +0.9
KMI 10 24 30.0
KMI MLR MLR
comp=Z,70nm,31.3s,MS4.1
HHC Hu-ho-hao-te 123.22 40 *e*PKP PKPdf 10 24 24.0 -2.2
HHC PP PP 10 26 09.1 +2.9
HHC PKS 10 27 59.6
HHC SKS SKSdf 10 31 34.8 -3.4
HHC SKKS SKKSac 10 33 01.8 -3.5
HHC SS SS 10 42 55.5 +4.0
HHC LR LR
comp=N,178nm,19.8s,MS4.9
HHC LR LR
comp=E,168nm,19.6s,MS4.9
HHC LR LR
comp=Z,175nm,18.4s,MS4.8
GYA Guiyang 125.84 58 PKP PKPdf 10 24 31.6 +0.4
GYA PP PP 10 26 28.9 +5.2
GYA PKS 10 28 06.8
GYA SKS SKSdf 10 31 40.9 -2.2
GYA SKKS SKKSac 10 33 19.6 -2.5
GYA LR LR
comp=N,130nm,19.8s,MS4.7
GYA LR LR
comp=E,120nm,20.7s,MS4.7
GYA LR LR
comp=Z,150nm,20.4s,MS4.7
FITZ Fitzroy Crossi 144.20 123 *e*P PKPdf 10 25 05.3 +0.1
comp=Z,7.5nm,0.8s
ASPA Alice Springs 147.09 140 *e*P PKPdf 10 25 11.0 +0.8
ASAR Alice Springs 147.10 140 PKPbc PKPbc 10 25 11.1 -1.3
comp=Z,5.2nm,0.6s,baz=210,slow=2.0,SNR=52
AS31 Alice Springs 147.10 140 *e*P PKPdf 10 25 11.0 +0.8
WRA Warramunga Arr 149.93 135 PKP PKPdf 10 25 14.8 0.0
comp=Z,0.8nm,0.6s,baz=240,slow=1.7,SNR=15
WRA PKPbc PKPbc 10 25 20.1 +0.4
comp=Z,1.4nm,0.6s,baz=242,slow=1.8,SNR=21
WB2 Warramunga Arr 149.93 135 *e*P PKPdf 10 25 18.0 +3.2

*MOS **05** 10:15:48.5±1.0,5489N×15805E,h299km,mb4.5/6,Error ellipse: s-maj=28.1km s-min=11.9km az=85.2*
*ISCJB **05** 10:15:49.6±0.4,5479N±005×1585E±02,h301km±3km, mb3.5/10,Error ellipse: s-maj=17.8km s-min=5.1km az=40.4*
*KRSC **05** 10:15:49.6±1.2,5474N×15886E,h302km±41km,ML4.4*
*NEIC **05** 10:15:50.2±0.8,5489N×15797E,h297km±8km,Error ellipse: s-maj=15.2km s-min=10.9km az=116.0*
*IDC **05** 10:15:50.0±8.5,5493N×15799E,h296km±87km,mb3.3/10, mb1 3.5/10,mb1mx3.3/23,mbtmp3.3/10,Error ellipse: s-maj=19.4km s-min=14.4km az=128.0*
ISC 05 10:15:50.1±0.4,5483N±005×1584E±02,h295km±3km,n65, σ1§13/102,**mb3.5**/10,**1C,Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**1.11**	**65**	*i* P	**Pn**	**10 16 31.9**	**+1.3**
TUMR	**Tumrok**	**1.11**	**65**	*i* P	**Pn**	**10 16 31.9**	**+1.3**
GNL	**Ganaly**	**1.16**	**193**	*i* P	**Pn**	**10 16 32.8**	**+2.0**
GNL				*i* S	**S**	**10 17 04.4**	**+1.3**
GNL	**Ganaly**	**1.16**	**193**	*i* P	**Pn**	**10 16 32.8**	**+2.0**
GNL				*i* S	**S**	**10 17 04.4**	**+1.3**
KMNR	**Kamenistaya**	**1.41**	**48**	*i* P	**Pn**	**10 16 33.5**	**+1.2**
KMNR	**Kamenistaya**	**1.41**	**48**	*i* P	**Pn**	**10 16 33.5**	**+1.2**
KOZ	**Kozyrevsk**	**1.50**	**34**	*i* P	**Pn**	**10 16 33.9**	**+1.1**
KOZ				*e*S	**S**	**10 17 06.3**	**-0.5**
KOZ	**Kozyrevsk**	**1.50**	**34**	*i* P	**Pn**	**10 16 33.9**	**+1.1**
KOZ				*e*S	**S**	**10 17 06.3**	**-0.5**
KOZR	**Kozyr**	**1.51**	**34**	PN	**Pn**	**10 16 33.9**	**+1.0**
KOZR				S	**S**	**10 17 06.3**	**-0.6**
KPT	**Kopyto**	**1.55**	**42**	*i* P	**Pn**	**10 16 34.0**	**+0.8**
KPT				*e*S	**S**	**10 17 06.5**	**-0.9**
KPT	**Kopyto**	**1.55**	**42**	*i* P	**Pn**	**10 16 34.0**	**+0.8**
KPT				*e*S	**S**	**10 17 06.5**	**-0.9**
AVH	**Avacha**	**1.58**	**172**	P	**Pn**	**10 16 34.3**	**+1.0**
AVH				*i* S	**S**	**10 17 06.7**	**-1.0**
AVH	**Avacha**	**1.58**	**172**	P	**Pn**	**10 16 34.3**	**+1.0**
AVH				*i* S	**S**	**10 17 06.7**	**-1.0**
SRDR	**Sredinnyy**	**1.68**	**26**	*i* P	**Pn**	**10 16 34.7**	**+0.7**
SRDR	**Sredinnyy**	**1.68**	**26**	*i* P	**Pn**	**10 16 34.7**	**+0.7**
NLC	**Nalytchevo**	**1.75**	**161**	*e*P	**Pn**	**10 16 35.0**	**+0.4**
NLC				*i* S	**S**	**10 17 08.2**	**-1.7**
NLC	**Nalytchevo**	**1.75**	**161**	*e*P	**Pn**	**10 16 35.0**	**+0.4**
NLC				*i* S	**S**	**10 17 08.2**	**-1.7**
PET	**Petropavlovsk**	**1.81**	**175**	↑*i* PN	**Pn**	**10 16 36.2**	**+1.2**
PET				*e*S	**S**	**10 17 10.7**	**0.0**
PET				pmax	pmax		
	comp=Z,45nm,0.6s						
PET				smax			
	comp=N,510nm,0.8s						
PET				smax			
	comp=E,226nm,1.1s						
PET	**Petropavlovsk**	**1.81**	**175**	*e*Pn	**Pn**	**10 16 35.8**	**+0.8**
PET				*e*Sn	**S**	**10 17 11.7**	**+1.0**
PET	**Petropavlovsk**	**1.81**	**175**	*i* P	**Pn**	**10 16 36.4**	**+1.4**
PET				*i* S	**S**	**10 17 10.6**	**-0.1**
PET	**Petropavlovsk**	**1.81**	**175**	*i* P	**Pn**	**10 16 36.4**	**+1.4**
PET				*i* S	**S**	**10 17 10.6**	**-0.1**
ZLN	**Zelenaya**	**1.83**	**48**	*i* P	**Pn**	**10 16 36.4**	**+1.3**
ZLN				*i* S	**S**	**10 17 10.5**	**-0.4**
ZLN	**Zelenaya**	**1.83**	**48**	*i* P	**Pn**	**10 16 36.4**	**+1.3**
ZLN				*i* S	**S**	**10 17 10.5**	**-0.4**
KRSR	**Krestovskiy**	**1.87**	**41**	*i* P	**Pn**	**10 16 36.0**	**+0.6**
KRSR				*i* S	**S**	**10 17 10.1**	**-1.4**
KRSR	**Krestovskiy**	**1.87**	**41**	*i* P	**Pn**	**10 16 36.0**	**+0.6**
KRSR				*i* S	**S**	**10 17 10.1**	**-1.4**
MKZ	**Mys Kozlova**	**1.96**	**97**	P	**Pn**	**10 16 35.0**	**-1.2**
MKZ				*i* S	**S**	**10 17 08.3**	**-4.5**
MKZ	**Mys Kozlova**	**1.96**	**97**	P	**Pn**	**10 16 35.0**	**-1.2**
MKZ				*i* S	**S**	**10 17 08.3**	**-4.5**
KLY	**Klyuchi**	**1.97**	**40**	*i* P	**Pn**	**10 16 37.5**	**+1.3**
KLY				*i* S	**S**	**10 17 12.8**	**-0.1**
KLY	**Klyuchi**	**1.97**	**40**	*i* P	**Pn**	**10 16 37.5**	**+1.3**
KLY				*i* S	**S**	**10 17 12.8**	**-0.1**
SPN	**Mys Shipunski**	**1.98**	**150**	*i* P	**Pn**	**10 16 36.1**	**-0.2**
SPN				*i* S	**S**	**10 17 09.5**	**-3.6**
SPN	**Mys Shipunski**	**1.98**	**150**	*i* P	**Pn**	**10 16 36.1**	**-0.2**
SPN				*i* S	**S**	**10 17 09.5**	**-3.6**
GRL	**Gorelyy**	**2.29**	**185**	*e*P	**Pn**	**10 16 40.3**	**+1.5**
GRL				*i* S	**S**	**10 17 17.5**	**-0.1**
GRL	**Gorelyy**	**2.29**	**185**	*e*P	**Pn**	**10 16 40.3**	**+1.5**
GRL				*i* S	**S**	**10 17 17.5**	**-0.1**
BDR	**Baidarnaya**	**2.37**	**41**	*i* P	**Pn**	**10 16 40.7**	**+1.1**
BDR				*i* S	**S**	**10 17 18.0**	**-1.0**
BDR	**Baidarnaya**	**2.37**	**41**	*i* P	**Pn**	**10 16 40.7**	**+1.1**
BDR				*i* S	**S**	**10 17 18.0**	**-1.0**
RUS	**Russkaya**	**2.40**	**178**	*i* P	**Pn**	**10 16 39.9**	**+0.1**
RUS				*i* S	**S**	**10 17 17.2**	**-2.2**
RUS	**Russkaya**	**2.40**	**178**	*i* P	**Pn**	**10 16 39.9**	**+0.1**
RUS				*i* S	**S**	**10 17 17.2**	**-2.2**
SRKR	**Sorokina**	**2.42**	**40**	*i* P	**Pn**	**10 16 41.1**	**+1.1**
SRKR				*i* S	**S**	**10 17 18.9**	**-0.9**
SRKR	**Sorokina**	**2.42**	**40**	*i* P	**Pn**	**10 16 41.1**	**+1.1**
SRKR				*i* S	**S**	**10 17 18.9**	**-0.9**
SMKR	**Semkarok**	**2.48**	**44**	*e*P	**Pn**	**10 16 41.5**	**+0.9**
SMKR				*i* S	**S**	**10 17 19.2**	**-1.6**
SMKR	**Semkarok**	**2.48**	**44**	*e*P	**Pn**	**10 16 41.5**	**+0.9**
SMKR				*i* S	**S**	**10 17 19.2**	**-1.6**
KBTR	**Krutoberegovo**	**2.88**	**59**	*e*P	**Pn**	**10 16 43.5**	**-0.8**
KBTR				*i* S	**S**	**10 17 22.8**	**-4.8**
KBTR	**Krutoberegovo**	**2.88**	**59**	*e*P	**Pn**	**10 16 43.5**	**-0.8**
KBTR				*i* S	**S**	**10 17 22.8**	**-4.8**
SKR	**Severo-Kuril's**	**4.37**	**199**	*e*PN	**Pn**	**10 16 59.0**	**-1.2**
SKR				*e*		10 17 54.5	
BILL	**Bilibino**	**13.77**	**13**	*e*P	**Pn**	**10 18 54.3**	**+0.3**
BILL				pmax	pmax		
	comp=Z,22nm,0.3s						
BILL	**Bilibino**	**13.77**	**13**	*e*P	**Pn**	**10 18 54.3**	**+0.3**
	comp=Z,22nm,0.3s						
MJAR	**Matsushiro Arr**	**22.94**	**225**	P	**P**	**10 20 28.4**	**-0.6**
	comp=Z,0.2nm,0.3s,mb2.9,baz=28,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**46.52**	**293**	P	**P**	**10 23 45.3**	**-3.1**
	comp=Z,0.5nm,0.6s,mb3.0,baz=58,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**46.52**	**293**	P	**P**	**10 23 45.3**	**-3.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**51.32**	**341**	P	**P**	**10 24 22.5**	**-2.2**
	comp=Z,4.7nm,0.9s,mb3.8,baz=45,slow=8.7,SNR=7.1						
ARCES	**ARCESS Array B**	**51.32**	**341**	P	**P**	**10 24 22.5**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**51.32**	**341**	P	**P**	**10 24 22.5**	**-2.2**
NVAR	**Mina Array Bea**	**56.10**	**70**	P	**P**	**10 25 00.4**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.1,baz=302,slow=8.4,SNR=5.2						
PDAR	**Pinedale Array**	**57.56**	**61**	P	**P**	**10 25 09.8**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.5,baz=349,slow=2.1,SNR=11						
FINES	**FINESS Array B**	**58.12**	**335**	P	**P**	**10 25 11.3**	**-2.0**
	comp=Z,2.7nm,1.0s,mb3.6,baz=49,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**58.12**	**335**	P	**P**	**10 25 11.3**	**-1.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**58.12**	**335**	P	**P**	**10 25 11.3**	**-2.0**
NOA	**NORSAR Array B**	**61.59**	**343**	P	**P**	**10 25 35.4**	**-1.3**
	comp=Z,1.4nm,0.9s,mb3.6,baz=14,slow=5.6,SNR=2.7						
NOA	**NORSAR Array B**	**61.59**	**343**	P	**P**	**10 25 35.4**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**70.88**	**66**	P	**P**	**10 26 36.5**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=297,slow=4.8,SNR=12						
TXAR	**Lajitas Array**	**70.88**	**66**	P	**P**	**10 26 36.5**	**+1.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**77.25**	**203**	P	**P**	**10 27 11.8**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.8,baz=16,slow=6.0,SNR=9.7						
WRA	**Warramunga Arr**	**77.25**	**203**	P	**P**	**10 27 11.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**80.95**	**203**	P	**P**	**10 27 31.4**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=14,slow=4.9,SNR=8.0						
ASAR	**Alice Springs**	**80.95**	**203**	P	**P**	**10 27 31.5**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*STR **05** 12:52:16.1±0.2,4313N×084W,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 12:52:14.2±0.0,4313N×083W,h18km,Md1.3/2,Ml0.9/1, Error ellipse: s-maj=0.8km s-min=0.4km az=4.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.10**	**115**	Pg	Pg	12 52 18.0	+0.1
ATE				Sg	Sg	12 52 20.6	+0.2
ORDF	**Ordiarp**	**0.12**	**317**	Pg	Pg	12 52 18.0	0.0
ORDF				Sg	Sg	12 52 20.7	+0.1
LARF	**Larrau**	**0.15**	**232**	Pg	Pg	12 52 18.5	+0.1
LARF				Sg	Sg	12 52 21.5	+0.3
SJPF	**Ste Jean**	**0.29**	**267**	*e*Pg	Pg	12 52 20.6	0.0
SJPF				*e*Sg	Sg	12 52 25.1	+0.2
	7.5nm,0.2s						
EPF	**Esparros**	**0.86**	**96**	*e*Pg	Pg	12 52 30.7	-0.3
EPF				*e*Sg	Sg	12 52 42.0	-0.4
	0.3nm,0.2s						

*ISCJB **05** 13:06:17.3±0.7,2457S±004×693W±0.1,h92km±13km, mb3.2/1,Error ellipse: s-maj=15.5km s-min=6.4km az=14.5*
*IDC **05** 13:06:18.7±1.4,2455S×6891W,h81km±14km,mb2.8/1, mb1 3.4/4,mb1mx3.3/17,mbtmp3.2/4,Error ellipse: s-maj=50.0km s-min=11.5km az=85.0*
*NEIC **05** 13:06:19.9,2452S×6953W,h100km,MG3.6(GUC),After GUC.*
*GUC **05** 13:06:19.9±0.6,2452S×6953W,h100km,ML3.6*
ISC 05 13:06:18.7±0.7,2456S±004×6926W±009,h79km±13km, n18,σ0§92/26,mb3.2/1,**5C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.04**	**266**	*e*P	**Pn**	**13 06 39.3**	**+1.1**
CPN1				*i* S	**Sn**	**13 06 54.3**	**+1.5**
CPN1				AML	AML	13 06 59.3	
	comp=E,2μm,0.5s						
ANCH	**Antofagasta**	**1.36**	**309**	⇑*i* P	**Pn**	**13 06 42.3**	**0.0**
ANCH				*i* S	**Sn**	**13 06 59.3**	**-0.6**
ANCH				AML	AML	13 07 01.1	
	comp=N,2μm,0.1s						
ANCH	**Antofagasta**	**1.36**	**309**	⇑*i* P	**Pn**	**13 06 42.3**	**0.0**
ANCH				*i* S	**Sn**	**13 06 59.3**	**-0.6**
CEN1	**Los Morros**	**1.45**	**323**	⇑*i* P	**Pn**	**13 06 42.7**	**-0.6**
CEN1				*i* S	**Sn**	**13 07 00.3**	**-1.5**
CEN1				AML	AML	13 07 03.7	
	comp=E,1μm,0.5s						
LVC	**Limon Verde**	**1.96**	**9**	P	**Pn**	**13 06 50.0**	**0.0**
	comp=E,62nm,0.3s,baz=164,slow=12,SNR=316						
LVC				S	**Sn**	**13 07 14.1**	**+0.3**
	comp=E,122nm,0.3s,baz=228,slow=19,SNR=21						
LVC	**Limon Verde**	**1.96**	**9**	*e*Pn	**Pn**	**13 06 50.5**	**+0.5**
LVC				S	**Sn**	**13 07 14.1**	**+0.2**
LVC				*e*Sn	**Sn**	**13 07 14.8**	**+0.9**
CDCH	**Caldera**	**2.88**	**209**	⇑*i* P	**Pn**	**13 07 02.1**	**-0.3**
CDCH				*i* S	**Sn**	**13 07 35.3**	**-0.7**
CDCH				AML	AML	13 07 46.1	
	comp=N,272nm,0.4s						
CDCH	**Caldera**	**2.88**	**209**	⇑*i* P	**Pn**	**13 07 02.1**	**-0.3**
CDCH				*i* S	**Sn**	**13 07 35.3**	**-0.7**
CFAA	**Coronel Fontan**	**7.08**	**173**	P	**Pn**	**13 08 01.3**	**+1.6**
	comp=N,0.2nm,0.3s,baz=357,slow=15,SNR=11						
CFAA				S	**Sn**	**13 09 17.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=217,slow=14,SNR=2.5						
CFAA	**Coronel Fontan**	**7.08**	**173**	P	**Pn**	**13 08 01.3**	**+1.6**
CFAA				S	**Sn**	**13 09 17.2**	**-1.4**
LPAZ	**La Paz**	**8.29**	**8**	P	**Pn**	**13 08 16.0**	**-0.2**
	comp=N,0.4nm,0.3s,baz=205,slow=11,SNR=8.4						
LPAZ	**La Paz**	**8.29**	**8**	*e*P	**Pn**	**13 08 16.0**	**-0.2**
SIV	**San Ignacio**	**11.47**	**44**	P	**Pn**	**13 08 54.6**	**-4.9**
	comp=N,0.7nm,0.3s,baz=236,slow=11,SNR=16						
TXAR	**Lajitas Array**	**62.96**	**326**	P	**P**	**13 16 37.4**	**+0.4**
	comp=N,0.3nm,0.9s,mb3.2,baz=130,slow=9.4,SNR=2.8						
TXAR	**Lajitas Array**	**62.96**	**326**	P	**P**	**13 16 37.4**	**+0.4**
ASAR	**Alice Springs**	**127.06**	**207**	PKP	PKPdf	13 25 14.2	+0.5
	comp=N,0.3nm,0.5s,baz=120,slow=1.7,SNR=6.8						
WRA	**Warramunga Arr**	**130.16**	**210**	PKP	PKPdf	13 25 19.8	+0.2
	comp=N,0.2nm,0.3s,baz=154,slow=1.7,SNR=11						
MKAR	**Makanchi Array**	**148.25**	**38**	PKPbc	PKPbc	13 25 55.5	-0.2
	comp=N,0.4nm,0.7s,baz=298,slow=2.6,SNR=3.9						

*NEIC **05** 13:46:25.1,32.11S×71.13W,h82km,MD3.5(GUC),After GUC.*
GUC 05 13:46:25.1±0.9,3211S×7113W,h82km±3km,MD3.5, ML3.5,11C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**0.22**	**132**	*e*P	Pn	13 46 37.6	+0.4
PTCH				*i* S	Sn	13 46 46.5	+0.3
PTCH				AML	AML	13 46 47.4	
	comp=E,7μm,0.5s						
PTCH	**Petorca**	**0.22**	**132**	*e*P	Pn	13 46 37.6	+0.4
PTCH				*i* S	Sn	13 46 46.5	+0.3
CHNG	**Los Chungos**	**0.39**	**306**	⇓*i* P	Pn	13 46 38.2	0.0
CHNG				*i* S	Sn	13 46 47.7	-0.2
CHNG				AML	AML	13 46 49.9	
	comp=E,2μm,0.7s						
PACH	**Papudo**	**0.50**	**212**	⇓*i* P	Pn	13 46 39.2	+0.2
PACH				*i* S	Sn	13 46 49.8	+0.4
JACH	**Jahuel**	**0.72**	**142**	⇑*i* P	Pn	13 46 41.5	+0.3
JACH				*i* S	Sn	13 46 53.7	+0.5
ROCH	**El Roble**	**0.86**	**174**	⇑*i* P	Pn	13 46 42.9	+0.3
ROCH				*i* S	Sn	13 46 56.7	+0.9
CMCH	**Combarbala**	**0.94**	**6**	⇑*i* P	Pn	13 46 42.9	-0.7
CMCH				*i* S	Sn	13 46 56.5	-0.9
CMCH				AML	AML	13 46 58.2	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**0.94**	**6**	⇑*i* P	Pn	13 46 42

FCH			*i* S		Sn	13 47 09.1	+1.7
FCH			AML		AML	13 47 11.0	
	comp=E,664nm,0.2s						
LCCH	**Las Cruces**	**1.41**	**195**⇑	*i* P	Pn	13 46 49.5	+0.1
LCCH				*i* S	Sn	13 47 08.1	+0.5
OVCH	**Ovalle**	**1.50**	**357**⇑	*i* P	Pn	13 46 50.6	+0.1
OVCH				*i* S	Sn	13 47 09.6	-0.1
OVCH				AML	AML	13 47 10.7	
	comp=N,984nm,0.4s						
OVCH	**Ovalle**	**1.50**	**357**⇑	*i* P	Pn	13 46 50.6	+0.1
OVCH				*i* S	Sn	13 47 09.6	-0.1
ANTU	**Antumapu**	**1.51**	**164**	*i* P	Pn	13 46 51.2	+0.6
ANTU				*i* S	Sn	13 47 10.4	+0.5
ANTU				AML	AML	13 47 12.5	
	comp=N,815nm,0.3s						
ANTU	**Antumapu**	**1.51**	**164**	*i* P	Pn	13 46 51.2	+0.6
ANTU				*i* S	Sn	13 47 10.4	+0.5
TACH	**Talagante**	**1.54**	**174**⇑	*i* P	Pn	13 46 51.6	+0.5
TACH				*i* S	Sn	13 47 10.9	+0.2
PCH	**Pirque**	**1.59**	**161**	*e*P	Pn	13 46 52.3	+0.7
PCH				*i* S	Sn	13 47 12.3	+0.5
YECH	**El Yeso**	**1.78**	**151**⇑	*i* P	Pn	13 46 55.3	+1.2
YECH				*i* S	Sn	13 47 18.1	+1.9
YECH				AML	AML	13 47 23.0	
	comp=N,421nm,0.3s						
LNV	**Longovilo**	**1.85**	**187**	*e*P	Pn	13 46 55.0	-0.1
LNV				*i* S	Sn	13 47 17.7	-0.2
CHCH	**Chadas Angostu**	**1.86**	**168**⇑	*i* P	Pn	13 46 55.6	+0.4
CHCH				*i* S	Sn	13 47 18.3	+0.3
LMEL	**Las Melosas**	**1.90**	**156**	*e*P	Pn	13 46 56.8	+1.1
LMEL				*i* S	Sn	13 47 20.6	+1.7
CACH	**El Canelo**	**2.05**	**168**⇑	*i* P	Pn	13 46 59.0	+1.3
CACH				*i* S	Sn	13 47 24.5	+2.0
CICH	**Cipreses**	**2.28**	**165**	*e*P	Pn	13 47 01.8	+1.0
CICH				*i* S	Sn	13 47 29.4	+1.3
SFDO	**San Fernando**	**2.50**	**178**	*e*P	Pn	13 47 03.8	+0.1
SFDO				*i* S	Sn	13 47 33.2	0.0

IDC 05 13:48:58.7±1.6, 064N×12547E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=178.8km s-min=21.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.22**	**157**	P	P	13 53 56.3	-0.5
	1.1nm,0.5s,baz=335,slow=11,SNR=15						
WB2	**Warramunga Arr**	**22.23**	**157**	*e*P	P	13 53 56.5	-0.3
ASAR	**Alice Springs**	**25.51**	**162**	P	P	13 54 29.6	+0.9
	0.6nm,0.3s,baz=346,slow=12,SNR=18						
ASPA	**Alice Springs**	**25.51**	**162**	*e*P	P	13 54 31.0	+2.2
PSI	**Prapat**	**26.62**	**275**	LR	LR	14 04 18.8	
	comp=Z,43nm,20.8s,baz=247,slow=35						
STKA	**Stephens Creek**	**35.76**	**156**	P	P	13 55 59.5	+0.2
	1.6nm,0.7s,baz=5.7,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**59.40**	**327**	P	P	13 59 03.0	+0.1
	0.3nm,0.3s,baz=120,slow=8.2,SNR=13						

IDC 05 14:06:07.7±9.4, 735S×12949E, h72km±69km, mb3.8/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.2/4, ML3.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/31, Error ellipse: s-maj=76.1km s-min=60.7km az=161.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.32**	**199**	P	Pn	14 08 47.6	+1.1
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=5.6						
FITZ				S	Sn	14 10 52.3	+1.0
	0.1nm,0.3s,baz=210,slow=3.8,SNR=3.6						
WRA	**Warramunga Arr**	**13.37**	**160**	P	Pn	14 09 13.6	-0.7
	0.1nm,0.3s,baz=339,slow=10,SNR=4.6						
WRA				S	Sn	14 11 43.3	+2.2
	0.1nm,0.3s,baz=335,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**16.77**	**166**	P	Pn	14 09 56.5	-1.4
	0.1nm,0.3s,baz=340,slow=9.7,SNR=14						
STKA	**Stephens Creek**	**26.89**	**157**	P	P	14 11 42.1	+0.4
	3.0nm,1.0s,baz=348,slow=9.3,SNR=3.5						
DZM	**Mont Dzumac**	**38.49**	**116**	LR	LR	14 28 30.6	
	comp=Z,58nm,20.4s,baz=28,slow=35						
ATD	**Arta Tunnel**	**88.19**	**282**	LR	LR	14 56 54.2	
	comp=Z,222nm,18.1s,baz=84,slow=34						

IDC 05 14:11:11.4±9.3, 999S×12275E, h96km±108km, mb3.1/1, mb1 3.3/4, mb1mx3.1/16, mbtmp3.1/4, ML3.6/3, Error ellipse: s-maj=119.9km s-min=56.4km az=51.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.53**	**161**	P	Pn	14 13 13.2	+1.2
	0.6nm,0.3s,baz=356,slow=12,SNR=16						
FITZ				S	Sn	14 14 45.5	-1.1
	1.8nm,0.3s,baz=174,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**14.93**	**133**	P	Pn	14 14 36.1	-1.2
	0.2nm,0.3s,baz=301,slow=14,SNR=9.8						
WRA				S	Sn	14 17 13.9	-8.1
	0.6nm,0.3s,baz=308,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.27**	**143**	P	Pn	14 15 08.2	+1.9
	0.2nm,0.3s,baz=322,slow=12,SNR=29						
ASAR				S	S	14 18 11.7	-7.5
	0.2nm,0.3s,baz=316,slow=23,SNR=7.4						
MKAR	**Makanchi Array**	**67.06**	**331**	P	P	14 21 54.2	-0.1
	0.3nm,0.6s,baz=139,slow=7.3,SNR=4.5						

*NEIC **05** 14:19:13.0, 38.10S×176.14E, h178km, MG3.9(WEL), After WEL.*

WEL 05 14:19:15.0±0.4, 3810S×17615E, h164km±3km, ML3.8/14, 6C, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.77**	**102**	P	Pn	14 19 39.4	-0.1
URZ	**Urewera**	**0.77**	**102**	⇑PN	Pn	14 19 39.4	-0.1
URZ				SN	Sn	14 19 58.0	-0.2
BKZ	**Black Stump Fm**	**1.10**	**166**	P	Pn	14 19 42.1	+0.2
BKZ	**Black Stump Fm**	**1.10**	**166**	⇑PN	Pn	14 19 42.1	+0.2
MWZ	**Matawai**	**1.11**	**103**	P	Pn	14 19 42.2	+0.2
MWZ	**Matawai**	**1.11**	**103**	PN	Pn	14 19 42.2	+0.2
TWVZ	**Taurewa**	**1.12**	**210**	P	Pn	14 19 42.3	+0.2
TWVZ	**Taurewa**	**1.12**	**210**	PN	Pn	14 19 42.3	+0.2
NGZ	**Ngauruhoe**	**1.16**	**202**	P	Pn	14 19 42.9	+0.5
NGZ	**Ngauruhoe**	**1.16**	**202**	PN	Pn	14 19 42.9	+0.5
TUVZ	**Tukino**	**1.23**	**198**	P	Pn	14 19 43.3	+0.2
TUVZ	**Tukino**	**1.23**	**198**	PN	Pn	14 19 43.3	+0.3
TUVZ				SN	Sn	14 20 05.1	+0.5
FWVZ	**Far West T-bar**	**1.24**	**202**	*e*P	Pn	14 19 43.6	+0.4
FWVZ	**Far West T-bar**	**1.24**	**202**	PN	Pn	14 19 43.6	+0.4
MOVZ	**Moawhango**	**1.34**	**193**	P	Pn	14 19 43.7	-0.4
MOVZ	**Moawhango**	**1.34**	**193**	PN	Pn	14 19 43.7	-0.3
PKVZ	**Pokaka**	**1.34**	**208**	PN	Pn	14 19 44.1	0.0
KNZ	**Kokohu**	**1.50**	**128**	P	Pn	14 19 45.9	+0.2
KNZ	**Kokohu**	**1.50**	**128**	PN	Pn	14 19 45.9	+0.3
PUZ	**Puketiti**	**1.66**	**90**	P	Pn	14 19 47.2	-0.1
PUZ	**Puketiti**	**1.66**	**90**	PN	Pn	14 19 47.2	-0.1
MXZ	**Matakaoa Point**	**1.79**	**73**	P	Pn	14 19 48.7	+0.1
MXZ	**Matakaoa Point**	**1.79**	**73**	PN	Pn	14 19 48.7	+0.1
WAZ	**Wanganui**	**1.89**	**209**	*e*P	Pn	14 19 49.1	-0.6
WAZ	**Wanganui**	**1.89**	**209**	PN	Pn	14 19 49.1	-0.6
TSZ	**Takapari Road**	**1.96**	**184**	P	Pn	14 19 49.7	-0.8
TSZ	**Takapari Road**	**1.96**	**184**	⇑PN	Pn	14 19 49.7	-0.8
WPHZ	**Waipukurau**	**1.97**	**174**	PN	Pn	14 19 50.1	-0.6
PXZ	**Pawanui**	**2.00**	**164**	⇑PN	Pn	14 19 50.6	-0.4
MRZ	**Mangatainoka R**	**2.59**	**190**	*e*P	Pn	14 19 56.0	-1.9
MRZ	**Mangatainoka R**	**2.59**	**190**	PN	Pn	14 19 56.0	-2.0
TIWZ	**Tintock**	**2.68**	**184**	SN	Sn	14 20 29.3	-3.7
KIW	**Kapiti Island**	**2.92**	**199**	P	Pn	14 19 59.2	-2.7
KIW	**Kapiti Island**	**2.92**	**199**	PN	Pn	14 19 59.2	-2.7
MTW	**Mount Morrison**	**3.09**	**189**	P	Pn	14 20 01.2	-2.9
MTW	**Mount Morrison**	**3.09**	**189**	PN	Pn	14 20 01.2	-2.9
CAW	**Cannon Point**	**3.12**	**195**	P	Pn	14 20 01.5	-2.9
CAW	**Cannon Point**	**3.12**	**195**	PN	Pn	14 20 01.5	-2.8
DUWZ	**D'Urville Isla**	**3.20**	**212**	PN	Pn	14 20 02.2	-3.2
MRW	**Makara Radio**	**3.32**	**199**	P	Pn	14 20 03.6	-3.3
MRW	**Makara Radio**	**3.32**	**199**	PN	Pn	14 20 03.6	-3.2
MSWZ	**Moikau Station**	**3.38**	**192**	P	Pn	14 20 04.5	-3.2
MSWZ	**Moikau Station**	**3.38**	**192**	⇑PN	Pn	14 20 04.5	-3.2
SNZO	**South Karori**	**3.39**	**199**	P	Pn	14 20 04.3	-3.5
SNZO	**South Karori**	**3.39**	**199**	PN	Pn	14 20 04.3	-3.5
TCW	**Tory Channel**	**3.43**	**204**	P	Pn	14 20 05.0	-3.3
TCW	**Tory Channel**	**3.43**	**204**	PN	Pn	14 20 05.0	-3.3
NNZ	**Nelson**	**3.78**	**214**	*e*P	Pn	14 20 08.8	-3.9
NNZ	**Nelson**	**3.78**	**214**	PN	Pn	14 20 08.8	-3.9
QRZ	**Quartz Range**	**3.91**	**225**	*e*P	Pn	14 20 10.2	-4.2
QRZ	**Quartz Range**	**3.91**	**225**	PN	Pn	14 20 10.2	-4.2
BSWZ	**Blackbirch Sta**	**4.01**	**205**	P	Pn	14 20 12.2	-3.5
BSWZ	**Blackbirch Sta**	**4.01**	**205**	PN	Pn	14 20 12.2	-3.5
THZ	**Tophouse**	**4.43**	**213**	*e*P	Pn	14 20 16.9	-4.2
THZ	**Tophouse**	**4.43**	**213**	PN	Pn	14 20 16.9	-4.2
KHZ	**Kahutara**	**4.75**	**204**	*e*P	Pn	14 20 21.2	-4.1
KHZ	**Kahutara**	**4.75**	**204**	⇑PN	Pn	14 20 21.2	-4.2
LTZ	**Lake Taylor**	**5.53**	**211**	*e*P	Pn	14 20 30.5	-5.1
LTZ	**Lake Taylor**	**5.53**	**211**	PN	Pn	14 20 30.5	-5.2
MQZ	**McQueen's Vall**	**6.20**	**204**	*e*P	Pn	14 20 38.1	-6.3
MQZ	**McQueen's Vall**	**6.20**	**204**	PN	Pn	14 20 38.1	-6.3
ODZ	**Otahua Downs**	**8.07**	**209**	*e*PN	Pn	14 21 03.2	-6.0

MEX 05 14:33:10.0±0.4, 1892N×10253W, h28km±8km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**1.00**	**231**	*i* P	Pn	14 33 25.7	-2.4
MMIG				*i* S	Sn	14 33 37.8	-3.4
SFJM	**Santa Fe**	**1.63**	**343**	*i* P	Pn	14 33 34.5	-2.3
SFJM				*i* S	Sn	14 33 54.3	-2.5
CJM	**Chamela**	**2.44**	**284**	*i* P	Pn	14 33 45.5	-2.4
CJM				*i* S	Sn	14 34 14.2	-2.7
ANIG	**Ahuacatlan**	**2.83**	**319**	*i* P	Pn	14 33 51.0	-2.2
ANIG				*i* S	Sn	14 34 24.5	-2.0
CAIG	**El Cayaco**	**2.85**	**131**	*i* P	Pn	14 33 50.9	-2.6
CAIG				*i* S	Sn	14 34 24.0	-2.8
MEIG	**Mezcala**	**2.93**	**109**	*i* P	Pn	14 33 53.6	-1.1
MEIG				*i* S	Sn	14 34 27.3	-1.7

IDC 05 14:44:13.3±32.0, 2192S×17905W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, Error ellipse: s-maj=609.2km s-min=140.3km az=90.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.41**	**267**	*e*P	P	14 50 50.5	+5.8
	4.7nm,0.3s						
STKA	**Stephens Creek**	**36.30**	**246**	P	P	14 51 17.9	-0.7
	2.1nm,0.9s,baz=102,slow=14,SNR=2.3						
ASAR	**Alice Springs**	**43.26**	**258**	P	P	14 52 16.8	+0.3
	1.5nm,0.6s,baz=97,slow=7.6,SNR=65						
ASPA	**Alice Springs**	**43.26**	**258**	*e*P	P	14 52 16.7	+0.3
WB2	**Warramunga Arr**	**43.45**	**264**	*e*P	P	14 52 18.9	+1.0
WRA	**Warramunga Arr**	**43.46**	**264**	P	P	14 52 19.1	+1.1
	2.2nm,0.3s,baz=96,slow=8.4,SNR=113						
KAKA	**Kakadu**	**47.05**	**273**	*e*P	P	14 52 48.2	+1.7
	12nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.89**	**264**	*e*P	P	14 53 24.1	+0.6
	5.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.89**	**264**	P	P	14 53 23.7	+0.2
	2.2nm,0.8s,baz=101,slow=6.1,SNR=6.8						

*ISCJB **05** 15:24:44.7±3.0, 406N×748E±02, h10km, Error ellipse: s-maj=30.5km s-min=14.1km az=138.4*
*NNC **05** 15:24:45.9±4.6, 4079N×7461E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=42.4km s-min=21.7km az=149.0*
*KNET **05** 15:24:48.5±1.0, 4102N×7477E, h18km±10km, ml2.9, Error ellipse: s-maj=9.2km s-min=3.1km az=3.0*

ISC 05 15:24:44.8±3.0, 406N±02×748E±02, h10km, n12, σ1s00/13, 4C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**1.55**	**14**	P	**Pn**	**15 25 09.7**	**-2.7**
	SNR=19						
AML	**Almayashu**	**1.74**	**333**	P	**Pn**	**15 25 14.0**	**-1.1**
	SNR=123						
ULHL	**Ulahol**	**2.01**	**34**	P	**Pn**	**15 25 18.7**	**-0.1**
	SNR=111						
AAK	**Ala-Archa**	**2.06**	**355**	P	**Pn**	**15 25 19.0**	**-0.5**
	SNR=39						
KBK	**Karagaybulak**	**2.08**	**4**	P	**Pn**	**15 25 19.3**	**-0.5**
	SNR=35						
EKS2	**Erkin-Say**	**2.21**	**341**	P	**Pn**	**15 25 21.9**	**+0.4**
	SNR=15						
CHMS	**Chumysh**	**2.42**	**0**	P	**Pn**	**15 25 25.4**	**+1.0**
	SNR=21						
TKM2	**Tokmak 2**	**2.43**	**15**	P	**Pn**	**15 25 25.9**	**+1.4**
	SNR=22						
TKM2	**Tokmak 2**	**2.43**	**15**	⇑Pn	**Pn**	**15 25 25.6**	**+1.1**
	0.2nm,0.2s						
TKM2				⇓Sn	**Sn**	**15 25 54.1**	**-0.1**
	3.3nm,0.4s						
USP	**Ospenovka**	**2.69**	**356**	P	**Pn**	**15 25 29.6**	**+1.4**
	SNR=32						
KNDC	**Almaty**	**3.12**	**31**	⇓Pg	**Pg**	**15 25 39.5**	**-5.0**
	9.2nm,0.2s						
KNDC				⇑Lg		15 26 20.6	
	54nm,0.6s						
KK31	**Karatay Array**	**4.05**	**310**	⇑Pg	**Pb**	**15 25 56.2**	**+0.1**
	4.1nm,0.5s,baz=123,slow=17						
KK31				⇑Lg		15 26 46.7	
	9.1nm,0.4s,baz=130,slow=28						

*NEIC **05** 15:47:00.5, 3427S×6987W, h16km, ML2.7(GUC), After GUC.*

GUC 05 15:47:00.5±0.6, 3427S×6987W, h16km±2km, MD3.7, ML2.7, 6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.46**	**264**⇑	*i*P	Pg	15 47 09.4	-0.3
CICH				*i* S	Sg	15 47 16.9	+0.9
LMEL	**Las Melosas**	**0.51**	**327**⇓	*i*P	Pg	15 47 10.4	-0.2
LMEL				*i* S	Sg	15 47 18.1	+0.8
LMEL				AML	AML	15 47 18.8	
	comp=N,3μm,0.2s						
CACH	**El Canelo**	**0.63**	**284**⇓	*i*P	Pg	15 47 12.1	-0.7
CACH				*i* S	Sg	15 47 21.0	-0.2
CHCH	**Chadas Angostu**	**0.73**	**297**	*e*P	Pg	15 47 14.2	-0.6
CHCH				*i* S	Sg	15 47 24.3	-0.2
PCH	**Pirque**	**0.84**	**320**⇑	*i*P	Pb	15 47 16.4	-0.3
PCH				*i* S	Sb	15 47 28.1	+0.3
ANTU	**Antumapu**	**0.95**	**318**	*e*P	Pb	15 47 18.1	-0.4
ANTU				*i* S	Sb	15 47 31.3	+0.5
ANTU				AML	AML	15 47 32.6	
	comp=N,332nm,0.3s						
ANTU	**Antumapu**	**0.95**	**318**	*e*P	Pb	15 47 18.1	-0.4
ANTU				*i* S	Sb	15 47 31.3	+0.5
FCH	**Farellones**	**1.00**	**339**⇑	*i*P	Pb	15 47 19.3	-0.2
FCH				*i* S	Sb	15 47 33.9	+1.3
FCH				AML	AML	15 47 34.2	
	comp=E,284nm,0.3s						
SFDO	**San Fernando**	**1.01**	**250**⇑	*i*P	Pb	15 47 19.3	-0.3
SFDO				*i* S	Sb	15 47 33.3	+0.7
CLCH	**Cerro Calan**	**1.03**	**327**	*e*P	Pb	15 47 19.9	-0.2
CLCH				*i* S	Sb	15 47 34.7	+1.3
CLCH				AML	AML	15 47 40.0	
	comp=E,358nm,0.5s						
TACH	**Talagante**	**1.08**	**304**⇑	*i*P	Pb	15 47 20.3	-0.5
TACH				*i* S	Sb	15 47 35.4	+0.7
RCDM	**Rinconada Maip**	**1.10**	**315**	*e*P	Pb	15 47 20.9	-0.3
RCDM				*i* S	Sb	15 47 36.6	+1.2
RCDM				AML	AML	15 47 38.0	
	comp=N,302nm,0.1s						
RCDM	**Rinconada Maip**	**1.10**	**315**	*e*P	Pb	15 47 20.9	-0.3
RCDM				*i* S	Sb	15 47 36.6	+1.2
PEL	**Peldehue**	**1.31**	**329**⇓	*i*P	Pn	15 47 24.5	+0.3
PEL				*i* S	Sn	15 47 42.9	+1.5
PEL				AML	AML	15 47 48.7	
	comp=N,307nm,0.4s						
PEL	**Peldehue**	**1.31**	**329**⇓	*i*P	Pn	15 47 24.5	+0.3
PEL				*i* S	Sn	15 47 42.9	+1.5
LNV	**Longovilo**	**1.32**	**283**⇓	*i*P	Pn	15 47 24.3	+0.1
LNV				*i* S	Sn	15 47 42.3	+0.8
ROCH	**El Roble**	**1.61**	**323**⇑	*i*P	Pn	15 47 29.8	+1.5
ROCH				*i* S	Sn	15 47 52.3	+3.6
LCCH	**Las Cruces**	**1.62**	**299**⇓	*i*P	Pn	15 47 29.5	+1.1
LCCH				*i* S	Sn	15 47 51.7	+2.6
JACH	**Jahuel**	**1.70**	**339**⇓	*i*P	Pn	15 47 31.4	+2.0
JACH				*i* S	Sn	15 47 54.5	+3.6

JMA 05 16:06:09.3±0.2, 2961N×14051E, h266km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.91**	**149**	P	Pn	16 07 02.0	+0.2
CBIJ				*e*S	S	16 07 42.7	-0.7
JHHJ	**Haha-jima-NKT**	**3.31**	**153**	*e*S	S	16 07 50.6	-0.7
JHJ2	**Mitsune**	**3.54**	**351**	P	Pn	16 07 09.3	+0.7
BSO1	**Boso 1**	**5.04**	**4**	*e*S	S	16 08 26.2	-1.3
BSO2	**Boso 2**	**5.13**	**2**	*e*S	S	16 08 29.7	+0.3
BSO3	**Boso 3**	**5.18**	**0**	P	Pn	16 07 28.2	+0.5
BSO4	**Boso 4**	**5.37**	**358**	P	Pn	16 07 31.2	+1.2
JOD2	**Odawara 2**	**5.76**	**348**	P	Pn	16 07 35.9	+1.1
JNY	**Yasuok**	**6.15**	**339**	P	Pn	16 07 40.2	+0.6
JHU	**Hanno**	**6.31**	**351**	P	Pn	16 07 41.9	+0.4
JRY	**Ryogami san**	**6.53**	**348**	P	Pn	16 07 44.6	+0.3
JAG	**Ashikaga**	**6.85**	**353**	P	Pn	16 07 47.0	-1.3
JHO	**Hitachi**	**6.98**	**0**	P	Pn	16 07 51.1	+1.2
JFK	**Kawauchi**	**7.74**	**2**	P	Pn	16 08 00.1	+0.7
JFK				*e*S	S	16 09 22.0	-6.2

*ISCJB **05** 16:06:24.9±0.3, 381S±004×12940E±006, h34km, mb4.6/32, MS3.7/7, Error ellipse: s-maj=8.7km s-min=4.7km az=141.9*
*MOS **05** 16:06:24.7±0.8, 376S×12933E, h33km, mb4.7/15, Error ellipse: s-maj=17.1km s-min=8.2km az=115.2*
*BJI **05** 16:06:26.1, 380S×12940E, h29km, mB5.1, mb4.8, Ms4.7, Msz4.4*
*NEIC **05** 16:06:26.2±0.3, 381S×12942E, mb4.6/16, Error ellipse: s-maj=10.7km s-min=5.5km az=66.0*
*IDC **05** 16:06:26.3±0.6, 385S×12934E, h30km±4km, mb4.1/11, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML3.4/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/28, Error ellipse: s-maj=23.8km s-min=9.8km az=74.0*

ISC 05 16:06:27.1±0.3, 383S±004×12941E±006, h36km, h36km±3.2km: pP-P, n94, σ1s07/95, mb4.6/32, MS3.7/7, 1C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.22**	**276**	P	**Pn**	**16 06 45.8**	**-1.9**
	4μm,0.6s						
SWI	**Sorong**	**3.48**	**32**	P	**Pn**	**16 07 18.9**	**+0.2**
	253nm,0.9s						
KAKA	**Kakadu**	**9.32**	**161**	*e*P	**Pn**	**16 08 40.1**	**+1.1**
	21nm,0.3s						
FITZ	**Fitzroy Crossi**	**14.66**	**194**	*e*P	**Pn**	**16 09 54.2**	**+2.3**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.66**	**194**	Pn	**Pn**	**16 09 50.0**	**-1.9**
	0.1nm,0.3s,baz=37,slow=13,SNR=4.4						
FITZ				LR	LR	16 14 30.5	
	comp=Z,102nm,21.3s,baz=52,slow=33						
KKM	**Kota Kinabalu**	**16.42**	**307**	*e*P	**Pn**	**16 10 16.9**	**+2.1**
WRAB	**Tennant Creek**	**16.72**	**164**	*e*P	**Pn**	**16 10 18.5**	**0.0**
WRA	**Warramunga Arr**	**16.73**	**164**	Pn	**Pn**	**16 10 15.1**	**-3.5**
	0.5nm,0.3s,baz=345,slow=13,SNR=26						
WB2	**Warramunga Arr**	**16.73**	**164**	*e*P	**Pn**	**16 10 16.2**	**-2.4**
WB2				*e*S	**S**	**16 13 26.0**	**-7.3**
PMG	**Port Moresby**	**18.48**	**108**	P	**Pn**	**16 10 41.7**	**+1.4**
	0.4nm,0.3s,baz=325,slow=4.3,SNR=6.9						
PMG	**Port Moresby**	**18.48**	**108**	*e*P	**Pn**	**16 10 41.3**	**+1.1**
MBWA	**Marble Bar**	**19.63**	**208**	*e*P	**Pn**	**16 10 53.8**	**-0.3**
KSM	**Kuching**	**19.80**	**285**	*e*P	**Pn**	**16 10 55.5**	**-0.6**
AS31	**Alice Springs**	**20.20**	**168**	*e*P	**P**	**16 11 00.1**	**+1.4**
AS31				*e*S	**S**	**16 14 34.0**	**-9.3**
ASAR	**Alice Springs**	**20.20**	**168**	P	**P**	**16 11 00.2**	**+1.5**
	8.8nm,0.7s,baz=347,slow=11,SNR=239						
ASAR				pP		16 11 07.2	
	30nm,0.7s,baz=352,slow=11,SNR=42						
ASAR				S	**S**	**16 14 42.0**	**-1.3**
	1.5nm,0.9s,baz=343,slow=16,SNR=3.0						
ASAR				PcP	PcP	16 15 12.7	+0.7
	2.1nm,0.5s,baz=6.5,slow=1.6,SNR=12						
ASAR				pPcP		16 15 22.1	
	1.9nm,0.5s,baz=7.3,slow=1.6,SNR=5.9						
ASAR				LR	LR	16 19 28.4	
	comp=Z,87nm,18.3s,MS3.1,baz=357,slow=39						
ASAR	**Alice Springs**	**20.20**	**168**	P	**P**	**16 11 00.2**	**+1.5**
ASAR				S	**S**	**16 14 42.0**	**-1.3**
ASAR						16 15 12.7	
ASAR						16 15 22.1	
ASPA	**Alice Springs**	**20.20**	**168**	*e*P	**P**	**16 11 00.1**	**+1.4**
ASPA				*e*S	**S**	**16 14 34.0**	**-9.3**
CTA	**Charters Tower**	**23.04**	**136**	*e*P	**P**	**16 11 30.2**	**+1.1**
	6.3nm,0.8s,mb4.1						
CTA	**Charters Tower**	**23.04**	**136**	P	**P**	**16 11 30.2**	**+1.1**
	6.3nm,0.7s,mb4.2,baz=332,slow=10.0,SNR=15						
CTA	**Charters Tower**	**23.04**	**136**	*e*P	**P**	**16 11 30.2**	**+1.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO

LSA	**Lhasa**	**49.53**	**315**	*e*P		**P**	**16 15 15.6**	**+1.4**
	comp=Z,8.3nm,0.8s,mb4.8							
GTA	**Gaotai**	**50.93**	**330**	*e*P		**P**	**16 15 25.5**	**+0.7**
GTA					AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1							
JIRN	**Jiri**	**52.09**	**310**	*e*P		**P**	**16 15 33.8**	**+0.3**
GUN	**Gumba**	**52.45**	**310**	*e*P		**P**	**16 15 36.6**	**+0.4**
	comp=Z,25nm,0.6s,mb5.3							
PKI	**Pulchoki**	**52.65**	**309**	*e*P		**P**	**16 15 37.5**	**-0.1**
KKN	**Kakani**	**52.86**	**309**	*e*P		**P**	**16 15 39.3**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0							
DMN	**Daman**	**52.90**	**309**	*e*P		**P**	**16 15 39.6**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0							
GKN	**Gorkha**	**53.46**	**309**	*e*P		**P**	**16 15 43.6**	**0.0**
	comp=Z,20nm,0.8s,mb5.1							
KOLN	**Koldanda**	**54.15**	**308**	*e*P		**P**	**16 15 49.1**	**+0.4**
	comp=Z,35nm,0.8s,mb5.3							
ULN	**Ulaanbaatar**	**55.08**	**342**	*e*P		**P**	**16 15 55.5**	**+0.1**
ULN					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**55.08**	**342**	*e*P		**P**	**16 15 55.5**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.4							
SONM	**Songino Array**	**55.26**	**341**	P		**P**	**16 15 57.1**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.1,baz=159,slow=5.8,SNR=6.1							
ZAK	**Zakamensk**	**58.49**	**341**	*e*P		**P**	**16 16 18.4**	**-1.2**
ZAK				*e*			16 17 11.2	
WMQ	**Urumqi**	**60.43**	**326**	*i*P		**P**	**16 16 33.6**	**+0.6**
WMQ					AP	pP	16 16 46.6	+2.7
WMQ					XP	sP	16 16 51.8	+3.6
WMQ					PCP	PcP	16 17 17.9	+0.3
WMQ					PP	PP	16 18 49.0	+2.6
WMQ				*e*S		**S**	**16 24 43.6**	**-1.9**
WMQ				*e*XS		sS	16 25 05.1	+1.4
WMQ					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
WMQ					AMB	AMB		
	comp=Z,87nm,4.9s							
WMQ					LR	LR		
	comp=N,33nm,16.8s,MS3.6							
WMQ					LR	LR		
	comp=E,26nm,19.0s,MS3.6							
WMQ					LR	LR		
	comp=Z,21nm,15.6s,MS3.4							
BOD	**Bodaibo**	**62.69**	**351**	*e*P		**P**	**16 16 46.3**	**-1.9**
BOD					pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.3							
CASY	**Casey**	**63.73**	**188**	*e*P		**P**	**16 16 54.5**	**-0.6**
MKAR	**Makanchi Array**	**65.27**	**326**	P		**P**	**16 17 05.1**	**0.0**
	comp=Z,7.9nm,0.4s,mb5.1,baz=115,slow=8.0,SNR=197							
MKAR					pP	pP	16 17 14.9	-1.3
	comp=Z,5.2nm,0.4s,baz=115,slow=7.1,SNR=16							
YAK	**Yakutsk**	**65.67**	**0**	*e*P		**P**	**16 17 07.7**	**0.0**
YAK					pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3							
YAK					pmax	pmax		
	comp=N,9.0nm,1.5s							
YAK	**Yakutsk**	**65.67**	**0**	*e*P		**P**	**16 17 06.5**	**-1.3**
	comp=N,25nm,0.8s,mb5.3							
KZA	**Kyzart**	**67.00**	**319**	P		**P**	**16 17 17.6**	**+1.3**
	SNR=5.5							
TKM2	**Tokmak 2**	**67.18**	**320**	P		**P**	**16 17 17.6**	**+0.3**
	SNR=10							
KBK	**Karagaybulak**	**67.47**	**319**	P		**P**	**16 17 19.9**	**+0.7**
	SNR=6.0							
AAK	**Ala-Archa**	**67.76**	**319**	*e*P		**P**	**16 17 20.5**	**-0.5**
AAK					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**67.76**	**319**	*e*P		**P**	**16 17 20.4**	**-0.6**
	comp=Z,1.8nm,0.5s,mb4.4							
AML	**Almayashu**	**68.05**	**318**	P		**P**	**16 17 23.6**	**+0.7**
	SNR=5.7							
USP	**Ospenovka**	**68.05**	**320**	P		**P**	**16 17 23.2**	**+0.3**
	SNR=15							
EKS2	**Erkin-Say**	**68.24**	**319**	P		**P**	**16 17 24.9**	**+0.9**
	SNR=7.6							
ZAL	**Zalesovo**	**68.50**	**333**	P		**P**	**16 17 25.2**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=11,slow=6.7,SNR=11							
ZAL					pP	pP	16 17 34.5	-2.2
	comp=Z,2.2nm,0.7s,baz=1.5,slow=2.0,SNR=4.4							
ZAL	**Zalesovo**	**68.50**	**333**	P		**P**	**16 17 25.2**	**-0.5**
ZAL					pP	pP	16 17 34.5	-2.2
SEY	**Seymchan**	**68.82**	**11**	*e*P		**P**	**16 17 27.4**	**-0.3**
NVS	**Novosibirsk**	**69.78**	**334**	*e*P		**P**	**16 17 32.4**	**-1.2**
BRVK	**Borovoye**	**75.15**	**328**	*e*P		**P**	**16 18 05.3**	**-0.3**
BRVK					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
BRVK	**Borovoye**	**75.15**	**328**	*e*P		**P**	**16 18 05.3**	**-0.3**
	comp=Z,8.2nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**75.27**	**328**	*e*P		**P**	**16 18 05.7**	**-0.6**
CHKZ					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**75.27**	**328**	*e*P		**P**	**16 18 05.7**	**-0.6**
	comp=Z,7.6nm,0.8s,mb4.7							
TIXI	**Tiksi**	**75.33**	**360**	*e*P		**P**	**16 18 05.7**	**-1.0**
TIXI					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
VNDA	**Vanda**	**75.65**	**173**	P		**P**	**16 18 08.1**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=318,slow=6.8,SNR=12							
VNDA					LR	LR	16 48 08.3	
	comp=Z,77nm,18.0s,MS4.0,baz=43,slow=33							
VNDA	**Vanda**	**75.65**	**173**	*e*P		**P**	**16 18 07.8**	**-0.7**
VNDA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**75.65**	**173**	*e*P		**P**	**16 18 07.8**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**75.79**	**327**	*e*P		**P**	**16 18 09.0**	**-0.3**
ZRNK				*e*		pP	16 18 18.6	-1.9
ZRNK					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**75.79**	**327**	*e*P		**P**	**16 18 09.0**	**-0.3**
	comp=Z,8.2nm,0.6s,mb4.8							
ZRNK				*e*		pP	16 18 18.6	-2.0
SBA	**Scott Base**	**76.54**	**172**	*e*P		**P**	**16 18 13.1**	**-0.4**
SBA					pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
SBA	**Scott Base**	**76.54**	**172**	*e*P		**P**	**16 18 13.1**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.9							
MAW	**Mawson**	**77.67**	**201**	P		**P**	**16 18 19.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=93,slow=7.5,SNR=9.9							
ARU	**Arti**	**82.72**	**328**	⇑*i*P		**P**	**16 18 46.4**	**-0.7**
ARU				*e*			16 21 56.2	
ARU				*e*PPP			16 23 43.3	
ARU				*e*S		S	16 29 02.5	+0.3
ARU				*e*SS		SS	16 34 21.6	-3.2
ARU					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
ARU	**Arti**	**82.72**	**328**	*e*P		**P**	**16 18 46.6**	**-0.5**
	comp=Z,5.8nm,0.7s,mb4.7							
GNI	**Garni**	**88.36**	**310**	*e*P		**P**	**16 19 13.9**	**-1.2**
GNI					pmax	pmax		
	comp=Z,14nm,1.2s							
AKASG	**Malin Array Be**	**99.40**	**321**	*i* P		**P**	**16 20 03.5**	**-2.3**
TXAR	**Lajitas Array**	**123.76**	**57**	PKP		PKPdf	16 25 22.9	+1.9
	comp=Z,0.3nm,0.4s,baz=236,slow=1.4,SNR=4.6							
TXAR					pPKP	pPKPdf	16 25 32.1	-0.6
	comp=Z,0.9nm,0.7s,baz=232,slow=1.4,SNR=4.7							
TXAR	**Lajitas Array**	**123.76**	**57**	PKP		PKPdf	16 25 22.9	+1.9
TXAR					pPKP	pPKPdf	16 25 32.1	-0.6
TORD	**Torodi Ar. Bea**	**127.56**	**284**	PKP		PKPdf	16 25 30.0	+1.8
	comp=Z,2.8nm,0.7s,baz=59,slow=2.0,SNR=17							
TORD					pPKP	pPKPdf	16 25 39.9	-0.1
	comp=Z,2.0nm,0.9s,baz=51,slow=1.9,SNR=7.3							
TORD	**Torodi Ar. Bea**	**127.56**	**284**	PKP		PKPdf	16 25 30.0	+1.8
TORD					pPKP	pPKPdf	16 25 39.9	-0.1
LPAZ	**La Paz**	**153.54**	**139**	PKPbc		PKPbc	16 26 23.8	+2.0
	comp=Z,1.9nm,1.0s,baz=269,slow=0.5,SNR=5.1							

*ISCJB **05** 16:37:48.7±1.2,3759N±005×2090E±006,h2km,Error ellipse: s-maj=8.4km s-min=5.9km az=65.9*
*NEIC **05** 16:37:49.1,3764N×2091E,h5km,MD3.6(ATH),After ATH.*
*ATH **05** 16:37:49.1,3764N×2091E,h5km,MD3.6/4*
*THE **05** 16:37:50.0,3760N×2068E,h10km,ML3.4*
*CSEM **05** 16:37:50.0±0.7,3761N×2092E,h2km,MD3.6,Error ellipse: s-maj=14.5km s-min=8.2km az=42.0*

ISC 05 16:37:48.5±1.5,3756N±006×2088E±007,h4km±8km,n16, σ0°94/27,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.66**	**340**	*e*PG		**Pg**	**16 38 00.7**	**-0.5**
VLS				*e*SB		**Sg**	**16 38 10.0**	**+0.2**
RLS	**Riolos of Patr**	**0.68**	**42**	*e*PG		**Pg**	**16 38 00.5**	**-1.1**
RLS				*e*SB		**Sg**	**16 38 09.5**	**-0.9**
ITM	**Ithomi**	**0.91**	**114**	*e*PB		**Pb**	**16 38 07.1**	**+0.2**
LKD	**Levkas**	**1.17**	**351**	*e*Pg		**Pg**	**16 38 11.4**	**+0.6**
LKD				*e*Sg		**Sg**	**16 38 26.2**	**+0.3**
LKD	**Levkas**	**1.17**	**351**	P		**Pg**	**16 38 12.0**	**+1.2**
LKD				S		**Sg**	**16 38 26.2**	**+0.3**
LKD	**Levkas**	**1.17**	**351**	P		**Pg**	**16 38 12.0**	**+1.2**
LKD				*e*Sg		**Sg**	**16 38 26.2**	**+0.3**
EVR	**Evrytania**	**1.54**	**28**	*e*PB		**Pb**	**16 38 17.7**	**+0.1**
EVR				*e*SB		**Sb**	**16 38 37.7**	**+0.2**
AGG	**Agios Georgios**	**1.86**	**37**	*e*Pb		**Pb**	**16 38 22.2**	**-0.7**
AGG				*e*Sb		**Sg**	**16 38 50.0**	**+1.9**
AGG	**Agios Georgios**	**1.86**	**37**	*e*Pb		**Pb**	**16 38 22.2**	**-0.8**
AGG				*e*Sb		**Sg**	**16 38 50.0**	**+1.9**
IGT	**Igoumenitsa**	**2.02**	**348**	*e*Pb		**Pb**	**16 38 24.8**	**-0.9**
IGT				*e*Sb		**Sn**	**16 38 49.6**	**+0.5**
IGT	**Igoumenitsa**	**2.02**	**348**	P		**Pn**	**16 38 25.1**	**+1.8**
IGT				S		**Sn**	**16 38 49.6**	**+0.5**
IGT	**Igoumenitsa**	**2.02**	**348**	P		**Pn**	**16 38 25.1**	**+1.7**
IGT				*e*Sb		**Sb**	**16 38 49.6**	**-1.7**
FNA	**Florina**	**3.25**	**7**	*e*Pn		**Pn**	**16 38 40.4**	**+0.1**
FNA	**Florina**	**3.25**	**7**	P		**Pn**	**16 38 39.6**	**-0.6**
FNA	**Florina**	**3.25**	**7**	P		**Pn**	**16 38 39.7**	**-0.5**
FNA	**Florina**	**3.25**	**7**	*e*Pn		**Pn**	**16 38 40.4**	**+0.2**

*ISCJB **05** 16:38:19.9±0.9,2171S±007×665W±0.1,h225km±10km, mb3.5/3,Error ellipse: s-maj=18.1km s-min=10.9km az=14.2*
*NEIC **05** 16:38:20.8±0.8,2162S×6656W,h215km±9km,mb4.2/1, Error ellipse: s-maj=14.6km s-min=12.3km az=89.0*
*IDC **05** 16:38:20.8±1.2,2165S×6657W,h214km±12km,mb3.4/3, mb1 3.8/7,mb1mx3.5/18,mbtmp3.7/7,Error ellipse: s-maj=27.7km s-min=17.5km az=139.0*

ISC 05 16:38:21.2±0.8,2166S±007×666W±01,h219km±10km,n18, σ0°82/20,mb3.5/3,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**246**	P		**Pn**	**16 39 06.0**	**+1.3**
	9.4nm,0.3s,baz=46,slow=6.3,SNR=59							
LVC				S		**S**	**16 39 38.8**	**-0.1**
	17nm,0.3s,baz=237,slow=19,SNR=22							
LVC	**Limon Verde**	**2.36**	**246**	*e*Pn		**Pn**	**16 39 05.5**	**+0.8**
LVC				*e*S		**S**	**16 39 38.5**	**-0.5**
LPAZ	**La Paz**	**5.54**	**344**	P		**Pn**	**16 39 43.7**	**+0.9**
	17nm,0.3s,baz=156,slow=8.9,SNR=247							
LPAZ	**La Paz**	**5.54**	**344**	*e*Pn		**Pn**	**16 39 43.6**	**+0.8**
LPAZ				*e*S		**S**	**16 40 47.9**	**+0.3**
ARE	**Arequipa**	**6.95**	**317**	*e*P		**Pn**	**16 39 58.0**	**-2.8**
ARE				*e*S		**S**	**16 41 12.0**	**-8.3**
SIV	**San Ignacio**	**7.68**	**44**	P		**Pn**	**16 40 09.6**	**-0.6**
	21nm,0.3s,baz=251,slow=11,SNR=265							
SIV				S		**S**	**16 41 25.3**	**-12**
	baz=224,slow=16,SNR=4.2							
NNA	**Nana**	**13.74**	**313**	P		**Pn**	**16 41 26.6**	**-0.5**
	2.6nm,0.3s,baz=144,slow=9.0,SNR=5.3							
NNA	**Nana**	**13.74**	**313**	*e*P		**Pn**	**16 41 27.6**	**+0.4**
TRQA	**Tornquist**	**16.82**	**167**	*e*P		**P**	**16 42 02.4**	**-0.4**
	4.6nm,0.5s							
PDAR	**Pinedale Array**	**75.35**	**329**	P		**P**	**16 49 40.9**	**+0.5**
	0.2nm,0.4s,mb3.1,baz=119,slow=7.5,SNR=2.7							
PDAR	**Pinedale Array**	**75.35**	**329**	P		**P**	**16 49 40.9**	**+0.5**
TOA0	**Torodi Ar. Sit**	**75.38**	**69**	*e*P		**P**	**16 49 40.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**75.38**	**69**	P		**P**	**16 49 41.1**	**+0.5**
	0.3nm,0.2s,mb3.5,baz=258,slow=5.8,SNR=10							
YKA	**Yellowknife Ar**	**92.07**	**340**	P		**P**	**16 51 05.0**	**-0.4**
	0.7nm,0.5s,mb3.8,baz=135,slow=5.0,SNR=4.4							
YKA	**Yellowknife Ar**	**92.07**	**340**	P		**P**	**16 51 05.0**	**-0.4**
ASAR	**Alice Springs**	**130.73**	**205**	PKP		PKPdf	16 57 07.2	+1.1
	0.2nm,0.5s,baz=130,slow=1.8,SNR=8.4							
WRA	**Warramunga Arr**	**133.87**	**208**	PKP		PKPdf	16 57 13.6	+1.6
	0.5nm,0.7s,baz=155,slow=1.8,SNR=10							
MKAR	**Makanchi Array**	**144.46**	**38**	PKP		PKPdf	16 57 31.4	+0.1
	1.0nm,0.7s,baz=341,slow=2.3,SNR=9.4							

*NEIC **05** 16:38:34.0,3377S×7222W,h35km,ML3.3(GUC),After GUC.*

GUC 05 16:38:34.0±0.8,3377S×7222W,h35km±2km,MD3.9, ML3.3,11C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.62**	**62**	⇑*i*P		Pn	16 38 45.7	-0.5
LCCH				*i* S		Sn	16 38 55.7	+0.7
LNV	**Longovilo**	**0.70**	**105**	⇑*i*P		Pn	16 38 47.6	+0.2
LNV				*i* S		Sn	16 38 57.6	+0.6
IHA	**Instituto Hidr**	**0.89**	**33**	⇓*i*P		Pn	16 38 50.4	+0.4
IHA				*i* S		Sn	16 39 02.7	+1.1
TACH	**Talagante**	**1.08**	**84**	⇑*i*P		Pn	16 38 53.0	+0.5
TACH				*i* S		Sn	16 39 07.6	+1.3
RCDM	**Rinconada Maip**	**1.21**	**77**	⇑*i*P		Pn	16 38 54.9	+0.5
RCDM				*i* S		Sn	16 39 11.0	+1.3
RCDM					AML	AML	16 39 14.0	
	comp=N,559nm,0.5s							
RCDM	**Rinconada Maip**	**1.21**	**77**	⇑*i*P		Pn	16 38 54.9	+0.5
RCDM				*i* S		Sn	16 39 11.0	+1.3
ROCH	**El Roble**	**1.29**	**52**	⇑*i*P		Pn	16 38 56.9	+1.4
ROCH				*i* S		Sn	16 39 14.3	+2.8
SFDO	**San Fernando**	**1.31**	**130**	*e*P		Pn	16 38 57.1	+1.4
SFDO				*i* S		Sn	16 39 13.8	+1.8
CHCH	**Chadas Angostu**	**1.32**	**97**	⇑*i*P		Pn	16 38 57.2	+1.4
CHCH				*i* S		Sn	16 39 14.3	+2.1
ANTU	**Antumapu**	**1.34**	**82**	*e*P		Pn	16 38 57.8	+1.6
ANTU				*i* S		Sn	16 39 15.2	+2.4
ANTU					AML	AML	16 39 17.8	
	comp=N,1μm,0.4s							
ANTU	**Antumapu**	**1.34**	**82**	*e*P		Pn	16 38 57.8	+1.6
ANTU				*i* S		Sn	16 39 15.2	+2.4
PACH	**Papudo**	**1.40**	**28**	⇑*i*P		Pn	16 38 57.8	+0.8
PACH				*i* S		Sn	16 39 17.1	+2.9
PEL	**Peldehue**	**1.43**	**64**	⇑*i*P		Pn	16 38 59.3	+1.9
PEL				*i* S		Sn	16 39 17.8	+2.8
PEL					AML	AML	16 39 26.5	
	comp=E,2μm,0.5s							
PEL	**Peldehue**	**1.43**	**64**	⇑*i*P		Pn	16 38 59.3	+1.9
PEL				*i* S		Sn	16 39 17.8	+2.8
PCH	**Pirque**	**1.43**	**84**	⇑*i*P		Pn	16 38 58.9	+1.5
PCH				*i* S		Sn	16 39 17.9	+2.9
CLCH	**Cerro Calan**	**1.46**	**76**	*e*P		Pn	16 38 59.7	+1.9
CLCH				*i* S		Sn	16 39 18.7	+3.0
CLCH					AML	AML	16 39 26.4	
	comp=N,618nm,0.5s							
CICH	**Cipreses**	**1.59**	**111**	*e*P		Pn	16 39 01.6	+1.9
CICH				*e*S		Sn	16 39 22.2	+3.2
FCH	**Farellones**	**1.67**	**75**	⇓*i*P		Pn	16 39 02.6	+1.8
FCH				*i* S		Sn	16 39 25.0	+4.0
FCH					AML	AML	16 39 32.9	
	comp=N,448nm,0.3s							
LMEL	**Las Melosas**	**1.68**	**93**	*e*P		Pn	16 39 02.9	+2.0
LMEL				*i* S		Sn	16 39 24.8	+3.6
LMEL					AML	AML	16 39 32.2	
	comp=N,484nm,0.2s							
LMEL	**Las Melosas**	**1.68**	**93**	*e*P		Pn	16 39 02.9	+2.0
LMEL				*i* S		Sn	16 39 24.8	+3.6
TALC	**Talca**	**1.69**	**164**	*e*P		Pn	16 39 02.4	+1.4
TALC				*i* S		Sn	16 39 24.4	+2.9
TALC					AML	AML	16 39 29.0	
	comp=E,985nm,0.5s							
TALC	**Talca**	**1.69**	**164**	*e*P		Pn	16 39 02.4	+1.4
TALC				*i* S		Sn	16 39 24.4	+2.9
JACH	**Jahuel**	**1.75**	**52**	*e*P		Pn	16 39 03.6	+1.8
CHNG	**Los Chungos**	**1.98**	**18**	*e*P		Pn	16 39 04.7	-0.3

*IDC **05** 17:05:34.2±6.7,1527S×17530W,h0km,mb4.1/5, mb1 4.3/5,mb1mx3.9/15,mbtmp4.1/5,MS2.8/1,Ms1 2.8/1, ms1mx2.4/30,Error ellipse: s-maj=138.7km s-min=40.5km az=43.0*
*ISCJB **05** 17:06:14.8±2.2,1645S±03×1764W±02,h306km±41km, mb3.8/6,Error ellipse: s-maj=47.4km s-min=25.1km az=53.7*
*NEIC **05** 17:06:15.4±1.9,1645S×17641W,h295km±38km,mb3.7/3, Error ellipse: s-maj=44.3km s-min=19.4km az=210.0*

ISC 05 17:06:16.0±2.3,1655S±03×1763W±02,h305km±47km,n14, σ0°53/14,mb3.8/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.03**	**61**	LR		LR	17 07 32.8	
	comp=Z,110nm,18.6s,baz=23,slow=32							
AFI	**Afiamalu**	**5.03**	**61**	*e*Pn		**Pn**	**17 07 34.6**	**+0.5**
AFI				*e*S		**S**	**17 08 36.5**	**-0.3**
URZ	**Urewera**	**22.49**	**194**	P		**P**	**17 10 49.3**	**-0.7**
	4.3nm,0.3s,mb4.2,baz=330,slow=20,SNR=13							
STKA	**Stephens Creek**	**41.11**	**240**	P		**P**	**17 13 31.5**	**+0.8**
	3.2nm,1.0s,mb3.5,baz=81,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**41.11**	**240**	P		**P**	**17 13 31.5**	**+0.8**
WRAB	**Tennant Creek**	**46.90**	**258**	*e*P		**P**	**17 14 15.5**	**-0.8**
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**46.90**	**258**	P		**P**	**17 14 16.3**	**-0.1**
	0.4nm,0.5s,baz=91,slow=7.5,SNR=4.9							
AS31	**Alice Springs**	**47.15**	**253**	*e*P		**P**	**17 14 18.4**	**+0.1**
ASAR	**Alice Springs**	**47.15**	**253**	P		**P**	**17 14 18.3**	**0.0**
	2.7nm,0.4s,mb3.9,baz=90,slow=7.8,SNR=46							
ASPA	**Alice Springs**	**47.15**	**253**	*e*P		**P**	**17 14 18.4**	**+0.1**
SBA	**Scott Base**	**62.00**	**184**	*e*P		**P**	**17 16 05.3**	**+1.0**
	1.9nm,0.8s,mb3.8							
VNDA	**Vanda**	**62.07**	**185**	P		**P**	**17 16 04.6**	**-0.2**
	0.7nm,0.8s,mb3.3,baz=27,slow=7.4,SNR=4.5							
VNDA	**Vanda**	**62.07**	**185**	P		**P**	**17 16 04.6**	**-0.2**
QSPA	**South Pole Qui**	**73.60**	**180**	*e*P		**P**	**17 17 15.9**	**-0.3**
	2.2nm,0.8s,mb3.8							

*ISCJB **05** 17:06:59.4±1.1,465N±007×1278E±0.1,h104km±11km, mb4.1/12,Error ellipse: s-maj=21.9km s-min=9.6km az=135.9*
*NEIC **05** 17:07:00.4±0.4,469N×12791E,mb4.1/5,Error ellipse: s-maj=14.5km s-min=6.4km az=57.0*
*IDC **05** 17:07:01.1±1.4,478N×128.12E,h105km±8km,mb3.9/8, mb1 4.1/8,mb1mx3.8/18,mbtmp3.9/8,Error ellipse: s-maj=133.8km s-min=11.9km az=69.0*
*MAN **05** 17:07:03.2,475N×12730E,h184km,mb4.0,ML5.0,MS5.2*

ISC 05 17:07:01.0±1.1,466N±007×1278E±01,h101km±10km, h107km±5.7km:pP-P,n32,σ0°75/34,mb4.1/12,2C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.73**	**326**	*e*P		**Pn**	**17 07 47.9**	**+4.8**
DAV	**Davao City (W)**	**3.24**	**318**	*e*P		**Pn**	**17 07 49.3**	**-0.6**
DMPH	**Davao City--Mi**	**3.30**	**317**	⇓*i*P		**Pn**	**17 07 51.0**	**+0.3**
DMPH				*i* S		**Sn**	**17 08 29.9**	**+0.8**
KCP	**Kidapawan**	**3.55**	**311**	⇑*i*P		**Pn**	**17 07 53.6**	**-0.4**
KCP				*i* S		**Sn**	**17 08 33.8**	**-1.2**
BUKP	**Musuan**	**4.18**	**320**	*e*P		**Pn**	**17 08 03.1**	**+0.6**
BUTP	**Butuan**	**4.79**	**334**	*e*P		**Pn**	**17 08 11.7**	**+1.0**
CGP	**Cagayan de Oro**	**4.86**	**321**	⇑*e*P		**Pn**	**17 08 12.1**	**+0.4**
CGP				*e*S		**Sn**	**17 09 04.2**	**-2.5**
PAGZ	**Pagadian**	**5.39**	**306**	*e*P		**Pn**	**17 08 18.2**	**-0.7**
SCPH	**Surigao**	**5.57**	**336**	⇓*e*P		**Pn**	**17 08 21.7**	**+0.3**
MSLP	**Maasin**	**6.16**	**332**	*e*P		**Pn**	**17 08 29.6**	**+0.2**
KKM	**Kota Kinabalu**	**11.59**	**277**	P		**Pn**	**17 09 44.8**	**+1.7**
KSM	**Kuching**	**17.72**	**260**	*e*P		**Pn**	**17 11 01.4**	**+0.2**
WRAB	**Tennant Creek**	**25.28**	**165**	*e*P		**P**	**17 12 17.4**	**-0.4**
	3.4nm,0.4s,mb4.1							
WRA	**Warramunga Arr**	**25.29**	**165**	P		**P**	**17 12 17.6**	**-0.2**
	3.4nm,0.4s,mb4.2,baz=342,slow=10,SNR=29							
WRA					pP	pP	17 12 43.1	+3.0
	2.0nm,0.8s,baz=344,slow=11,SNR=2.8							
WB2	**Warramunga Arr**	**25.29**	**165**	*e*P		**P**	**17 12 17.6**	**-0.3**
WB2	**Warramunga Arr**	**25.29**	**165**	*e*P		**P**	**17 12 17.5**	**-0.4**
AS31	**Alice Springs**	**28.78**	**168**	*e*P		**P**	**17 12 49.0**	**-0.1**
ASPA	**Alice Springs**	**28.78**	**168**	*e*P		**P**	**17 12 49.0**	**-0.2**
ASAR	**Alice Springs**	**28.78**	**168**	P		**P**	**17 12 49.1**	**0.0**
	1.6nm,0.5s,mb3.9,baz=356,slow=8.7,SNR=39							
ASAR					PcP	PcP	17 15 57.3	+0.6
	0.6nm,0.4s,baz=349,slow=2.5,SNR=7.8							
MJAR	**Matsushiro Ar**	**33.15**	**15**	PcP		PcP	17 16 08.7	+0.4
	0.2nm,0.3s,baz=197,slow=3.3,SNR=4.9							
STKA	**Stephens Creek**	**38.64**	**161**	*e*P		**P**	**17 14 14.5**	**0.0**
	4.8nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**38.64**	**161**	P		**P**	**17 14 14.5**	**+0.1**
	5.8nm,0.5s,mb4.6,baz=334,slow=8.0,SNR=20							
SONM	**Songino Array**	**46.77**	**340**	P		**P**	**

FORT	**Forrest**	**49.98**	**245**	*eP*		**P**	**17 20 13.2**	**-0.6**
	31nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**53.23**	**261**	⇑*iP*		**P**	**17 20 37.5**	**+0.1**
	8.2nm,0.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**53.23**	**261**	P		**P**	**17 20 37.8**	**+0.4**
	4.3nm,0.5s,mb4.0,baz=77,slow=3.9,SNR=42								
KLBR	**Kellerberrin**	**58.79**	**244**	*eP*		**P**	**17 21 15.2**	**-0.9**
	12nm,0.6s,mb4.4								
NWAO	**Narrogin (SRO)**	**59.15**	**242**	P		**P**	**17 21 17.6**	**-0.9**
	11nm,1.0s,mb4.1,baz=96,slow=9.2,SNR=6.6								
SBA	**Scott Base**	**59.70**	**184**	*eP*		**P**	**17 21 23.1**	**+0.9**
	8.7nm,1.3s,mb4.0								
VNDA	**Vanda**	**59.73**	**185**	P		**P**	**17 21 22.7**	**+0.2**
	1.1nm,0.7s,mb3.4,baz=358,slow=7.9,SNR=13								
VNDA	**Vanda**	**59.73**	**185**	*eP*		**P**	**17 21 22.4**	**-0.1**
	0.8nm,0.6s,mb3.3								
MUN	**Mundaring**	**60.08**	**243**	*eP*		**P**	**17 21 24.1**	**-0.6**
MJAR	**Matsushiro Arr**	**68.69**	**323**	P		**P**	**17 22 18.6**	**-1.1**
	1.9nm,0.7s,mb3.8,baz=157,slow=6.2,SNR=8.1								
QSPA	**South Pole Qui**	**71.40**	**180**	*eP*		**P**	**17 22 35.5**	**-0.4**
	6.9nm,0.8s,mb4.2								
NVAR	**Mina Array Bea**	**79.74**	**44**	P		**P**	**17 23 24.0**	**+1.5**
	0.8nm,0.6s,mb3.4,baz=229,slow=8.2,SNR=7.5								
MAW	**Mawson**	**83.27**	**200**	P		**P**	**17 23 39.7**	**-1.0**
	1.4nm,0.6s,mb3.6,baz=151,slow=7.1,SNR=8.8								
TXAR	**Lajitas Array**	**86.12**	**57**	P		**P**	**17 23 56.6**	**+2.0**
	2.7nm,0.7s,mb4.0,baz=219,slow=6.3,SNR=30								
PDAR	**Pinedale Array**	**87.67**	**43**	P		**P**	**17 24 02.3**	**+0.3**
	0.8nm,0.8s,mb3.5,baz=252,slow=2.4,SNR=6.6								
ARCES	**ARCESS Array B**	**127.10**	**350**	PKP		PKPdf	17 30 11.9	-2.6
	3.3nm,0.8s,baz=72,slow=1.5,SNR=12								
BRTR	**Keskin Array B**	**145.53**	**314**	PKPbc		PKPbc	17 30 48.1	-1.4
	0.8nm,0.7s,baz=152,slow=5.6,SNR=3.6								
CLL	**Collm**	**146.26**	**347**	*i* PKPbc		PKPbc	17 30 50.4	-1.2
	comp=Z,8.0nm,1.2s								
MMAI	**Mount Meron Ar**	**146.81**	**302**	PKPbc		PKPbc	17 30 52.7	-0.4
	comp=Z,3.6nm,0.7s,baz=53,slow=10,SNR=5.0								
GERES	**GERESS Array B**	**148.41**	**345**	PKPbc		PKPbc	17 30 56.3	-1.0
	comp=Z,0.5nm,0.4s,baz=58,slow=2.4,SNR=2.9								

UPP **05** *17:13:54.4,3452N×1331E,h31km*
NAO **05** *17:14:25.5,3941N×1531E,h33km,mb5.1*
SOF **05** *17:14:47.3,4005N×1270E,h18km,MD3.3*
PDG **05** *17:14:52.2±0.9,3981N×1401E,h470km±4km*
ROM **05** *17:14:53.8±0.2,3969N×1382E,h460km±3km,Ml4.4/34, Error ellipse: s-maj=4.2km s-min=3.8km az=169.0*
BJI **05** *17:14:57.3,4008N×1377E,h409km,mB4.7,mb4.8*
LDG **05** *17:14:57.4±0.2,3986N×1396E,h410km,Mb5.1/45, Ms2.9/5, Error ellipse: s-maj=11.1km s-min=5.9km az=34.0*
CSEM **05** *17:14:58.5±0.0,3973N×1377E,h427km,mb4.7/61, ML3.7/1,Ms2.9, Error ellipse: s-maj=1.5km s-min=1.3km az=10.0*
CRAAG **05** *17:14:58.5,3970N×1370E,Mb5.0*
ISCJB **05** *17:14:59.6±0.1,3978N±001×1375E±001,h432km, mb4.7/90, Error ellipse: s-maj=2.0km s-min=1.5km az=19.8*
MOS **05** *17:14:59.1±0.9,3977N×1369E,h434km,mb4.7/32, Error ellipse: s-maj=3.5km s-min=2.5km az=95.1*
THE **05** *17:14:59.4,3959N×1376E,h10km,ML4.5*
SZGRF **05** *17:15:00.3,3978N×1380E,h450km,mb5.2, Tyrrhenian Sea*
NEIC **05** *17:15:00.3±0.1,3975N×1375E,h430km±1km,mb5.0/133, MD4.4(PDG), Error ellipse: s-maj=2.6km s-min=1.7km az=188.0*
IDC **05** *17:15:00.5±0.6,3982N×1369E,h430km±5km,mb4.2/21, mb1 4.2/34,mb1mx4.2/37,mbtmp4.1/34, Error ellipse: s-maj=8.3km s-min=7.4km az=87.0*
BGS **05** *17:15:04.0,3975N×1308E,h476km,mb4.4*
ISC 05 17:15:00.6±0.1,3980N±001×1377E±001,h428km, h424km±4.5km:pP-P,n1081,σ1§03/1186,mb4.7/90, 175C-168D,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
VENT	**Ventotene**	**1.03**	**345**	⇑*iP*	*g*		**P**	**17 15 55.3**			**+0.6**
VENT					Sg		**S**	**17 15 38.1**			**-0.3**
VENT	**Ventotene**	**1.03**	**345**	P			**P**	**17 15 55.1**			**+0.4**
VENT				⇑*iP*	*g*		**P**	**17 15 55.3**			**+0.6**
VENT					Sg		**S**	**17 16 38.1**			**-0.3**
USI	**Ustica**	**1.19**	**203**	⇑*iP*	*g*		**P**	**17 15 55.4**			**+0.2**
USI					Sg		**S**	**17 16 38.4**			**-1.0**
CMPR	**Campora**	**1.28**	**66**	⇓*iP*	*g*		**P**	**17 15 56.3**			**+0.7**
CMPR					Sg		**S**	**17 16 40.0**			**-0.1**
	119nm,0.4s										
CDRU	**Civita di Ruta**	**1.36**	**59**	⇓*eP*	*g*		**P**	**17 15 56.8**			**+0.9**
	89nm,0.4s										
IFIL	**Filicudi I Eol**	**1.38**	**153**	⇓*iP*	*g*		**P**	**17 15 55.7**			**-0.3**
	5µm,0.4s										
SGO	**Sicignano**	**1.40**	**57**	⇓*iP*	*g*		**P**	**17 15 57.4**			**+1.4**
	24nm,0.5s										
MCRV	**Calabrutti - M**	**1.45**	**47**	⇑*iP*	*g*		**P**	**17 15 57.2**			**+0.9**
MCRV					Sg		**S**	**17 16 42.1**			**+0.7**
	124nm,0.4s										
SLNA	**Salina**	**1.49**	**146**	⇓*iP*	*g*		**P**	**17 15 56.4**			**0.0**
SLNA	**Salina**	**1.49**	**146**	P			**P**	**17 15 56.3**			**-0.1**
RFI	**Roccamonfina**	**1.51**	**6**	⇓*iP*	*g*		**P**	**17 15 57.5**			**+1.0**
RFI	**Roccamonfina**	**1.51**	**6**	P			**P**	**17 15 57.4**			**+0.9**
SLCN	**Sala Consilina**	**1.54**	**67**	⇓*iP*	*g*		**P**	**17 15 57.5**			**+0.8**
SLCN					Sg		**S**	**17 16 42.1**			**0.0**
	382nm,0.5s										
SLCN	**Sala Consilina**	**1.54**	**67**	P			**P**	**17 15 56.7**			**0.0**
SLCN				⇓*iP*	*g*		**P**	**17 15 57.5**			**+0.8**
SLCN					Sg		**S**	**17 16 42.1**			**0.0**
SNAL	**S. Angelo Dei**	**1.57**	**44**	P	*g*		**P**	**17 15 57.6**			**+0.8**
SNAL					Sg		**S**	**17 16 43.3**			**+0.9**
	185nm,0.8s										
CUC	**Castrocucco**	**1.58**	**82**	⇓*iP*	*g*		**P**	**17 15 57.2**			**+0.3**
CUC					Sg		**S**	**17 16 41.3**			**-1.2**
	526nm,0.7s										
MOCO	**Biccari - m.te**	**1.59**	**10**	Pg			**P**	**17 15 59.2**			**+2.3**
MOCO					Sg		**S**	**17 16 45.3**			**+2.7**
	94nm,0.6s										
MRLC	**Muro Lucano**	**1.62**	**53**	⇑*eP*	*g*		**P**	**17 15 58.0**			**+0.9**
MRLC					Sg		**S**	**17 16 43.4**			**+0.6**
	172nm,0.7s										
MRLC	**Muro Lucano**	**1.62**	**53**	P			**P**	**17 15 57.0**			**-0.1**
MRLC				⇑*eP*	*g*		**P**	**17 15 58.0**			**+0.9**
MRLC					Sg		**S**	**17 16 43.4**			**+0.6**
PSB1	**Pescosannita**	**1.62**	**29**	⇑*iP*	*g*		**P**	**17 15 58.1**			**+1.0**
PSB1					Sg		**S**	**17 16 44.1**			**+1.2**
	289nm,0.8s										
LLI	**Lipari**	**1.63**	**146**	⇓*iP*	*g*		**P**	**17 15 57.2**			**+0.1**
	6µm,0.7s										
SGG	**Gregorio Mates**	**1.65**	**16**	⇑*iP*	*g*		**P**	**17 15 58.2**			**+1.0**
SGG					Sg		**S**	**17 16 44.2**			**+1.1**
	297nm,0.5s										
VAGA	**Valle Agricola**	**1.65**	**12**	⇑*iP*	*g*		**P**	**17 15 58.1**			**+0.9**
VAGA					Sg		**S**	**17 16 44.1**			**+1.0**
CAFE	**Carife**	**1.66**	**42**	⇑*iP*	*g*		**P**	**17 15 58.3**			**+1.1**
CAFE					Sg		**S**	**17 16 44.2**			**+1.0**
	140nm,0.5s										
VPL	**Vulcano Piano**	**1.71**	**146**	⇓*eP*	*g*		**P**	**17 15 56.9**			**-0.6**
	4µm,1.0s										
SACR	**S. Croce Del S**	**1.75**	**24**	⇑*iP*	*g*		**P**	**17 15 58.7**			**+1.0**
SACR					Sg		**S**	**17 16 44.4**			**+0.4**
	252nm,0.8s										
GIUL	**Giuliano Di Ro**	**1.80**	**347**	⇑*iP*	*g*		**P**	**17 15 58.6**			**+0.6**
GIUL					Sg		**S**	**17 16 44.8**			**+0.3**
SGTA	**Sant Agata di**	**1.80**	**42**	Pg			**P**	**17 15 58.6**			**+0.6**
SGTA					Sg		**S**	**17 16 44.8**			**+0.3**
	190nm,0.9s										
CERA	**Filignano**	**1.80**	**6**	⇑*iP*	*g*		**P**	**17 15 58.5**			**+0.5**
CERA					Sg		**S**	**17 16 45.3**			**+0.8**
	318nm,0.8s										
SCHR	**S. Chirico Rap**	**1.81**	**77**	⇓*iP*	*g*		**P**	**17 15 58.8**			**+0.8**
SCHR					Sg		**S**	**17 16 45.0**			**+0.4**
VULT	**Monte Vulture**	**1.82**	**50**	Pg			**P**	**17 15 59.1**			**+1.0**
	126nm,0.5s										
GIB	**Gibilmanna**	**1.82**	**174**	⇓*eP*	*g*		**P**	**17 15 57.2**			**-0.9**
GIB					Sg		**S**	**17 16 42.8**			**-1.9**
	2µm,0.6s										
GIB	**Gibilmanna**	**1.82**	**174**	P			**P**	**17 15 57.1**			**-1.0**
GIB					Sg		**S**	**17 16 42.8**			**-1.9**
BSSO	**Busso**	**1.85**	**19**	⇑*iPg*			**P**	**17 15 59.5**			**+1.3**
BSSO					Sg		**S**	**17 16 46.9**			**+1.9**
	339nm,0.9s										
FG5	**Orsara di Pugl**	**1.87**	**37**	Pg			**P**	**17 15 59.1**			**+0.8**
	64nm,0.4s										
FG5	**Orsara di Pugl**	**1.87**	**37**	P			**P**	**17 15 59.0**			**+0.7**
MIDA	**Miranda**	**1.87**	**11**	⇑*iPg*			**P**	**17 15 59.6**			**+1.2**
MIDA					Sg		**S**	**17 16 46.9**			**+1.7**
	400nm,0.8s										
MIDA	**Miranda**	**1.87**	**11**	P			**P**	**17 15 59.5**			**+1.1**
MIDA					Sg		**S**	**17 16 46.9**			**+1.7**
CSLB	**Castelbuono**	**1.88**	**173**	⇓*ePg*			**P**	**17 15 57.4**			**-1.0**
	1µm,0.8s										
CSLB	**Castelbuono**	**1.88**	**173**	P			**P**	**17 15 57.3**			**-1.1**
SDI	**San Donato**	**1.91**	**1**	⇑*iPg*			**P**	**17 15 59.5**			**+0.9**
SDI	**San Donato**	**1.91**	**1**	P			**P**	**17 15 59.4**			**+0.8**
RNI2	**Rionero Sannit**	**1.92**	**9**	⇑*iPg*			**P**	**17 16 00.1**			**+1.5**
RNI2					Sg		**S**	**17 16 48.2**			**+2.5**
	359nm,0.7s										
CORL	**Corleone**	**1.94**	**191**	⇓*iPg*			**P**	**17 15 58.7**			**0.0**
ERC	**Erice**	**1.99**	**208**	⇓*ePg*			**P**	**17 15 59.2**			**+0.2**
PALZ	**Palazzo San Ge**	**2.02**	**55**	Pg			**P**	**17 15 59.3**			**+0.1**
PALZ					Sg		**S**	**17 16 45.5**			**-1.3**
CIGN	**Sant'Elia a Pi**	**2.04**	**25**	⇑*iPg*			**P**	**17 15 59.6**			**+0.3**
CIGN					Sg		**S**	**17 16 47.2**			**+0.3**
	132nm,0.6s										
LAV9	**Lanuvio**	**2.04**	**337**	⇑*iPg*			**P**	**17 16 00.8**			**+1.5**
MSRU	**Castanea**	**2.05**	**138**	⇓*iPg*			**P**	**17 15 57.7**			**-1.7**
MSRU					Sg		**S**	**17 16 44.5**			**-2.5**
TRIV	**Trivento**	**2.05**	**16**	⇑*iPg*			**P**	**17 16 00.4**			**+1.0**
TRIV					Sg		**S**	**17 16 48.8**			**+1.8**
	333nm,0.9s										
VVLD	**Villa Vallelon**	**2.07**	**357**	⇑*iPg*			**P**	**17 16 00.4**			**+0.9**
VVLD					Sg		**S**	**17 16 48.5**			**+1.2**
	520nm,0.7s										
VVLD	**Villa Vallelon**	**2.07**	**357**	P			**P**	**17 15 58.3**			**-1.2**
VVLD				⇑*iPg*			**P**	**17 16 00.4**			**+0.9**
VVLD					Sg		**S**	**17 16 48.5**			**+1.2**
VVLD	**Villa Vallelon**	**2.07**	**357**	⇑*iPg*			**P**	**17 16 00.4**			**+0.9**
ORI	**Oriolo Calabro**	**2.07**	**82**	⇓*iPg*			**P**	**17 16 00.0**			**+0.5**
MSI	**Messina ING**	**2.11**	**138**	Pg			**P**	**17 15 58.0**			**-1.8**
MSI	**Messina ING**	**2.11**	**138**	P			**P**	**17 15 57.7**			**-2.1**
MSI					Pg		**P**	**17 15 58.0**			**-1.8**
RDP	**Rocca di Papa**	**2.11**	**338**	⇑*iPg*			**P**	**17 16 01.1**			**+1.3**
RDP					Sg		**S**	**17 16 49.0**			**+1.3**
RDP	**Rocca di Papa**	**2.11**	**338**	P			**P**	**17 16 01.2**			**+1.4**
RDP					Sg		**S**	**17 16 49.0**			**+1.3**
CRAC	**Craco**	**2.12**	**74**	⇓*iPg*			**P**	**17 15 59.7**			**-0.1**
MA9	**Marino**	**2.14**	**337**	⇑*iPg*			**P**	**17 16 01.2**			**+1.3**
SCLL	**Scilla**	**2.16**	**135**	⇓*ePg*			**P**	**17 15 58.2**			**-1.8**
SCLL	**Scilla**	**2.16**	**135**	P			**P**	**17 15 57.6**			**-2.4**
SCLL				⇓*ePg*			**P**	**17 15 58.2**			**-1.8**
GALF	**Gagliano Caste**	**2.18**	**163**	⇓*ePg*			**P**	**17 15 59.2**			**-1.0**
MMME	**Mongiuffi-Meli**	**2.19**	**148**	⇓*ePg*			**P**	**17 15 58.8**			**-1.4**
MMME					Sg		**S**	**17 16 48.8**			**+0.2**
MIGL	**Miglionico**	**2.19**	**68**	⇓*iPg*			**P**	**17 15 59.8**			**-0.5**
MIGL					Sg		**S**	**17 16 46.7**			**-1.9**
FG2	**Serracapriola**	**2.26**	**27**	⇑*iPg*			**P**	**17 16 00.5**			**-0.2**
FG2	**Serracapriola**	**2.26**	**27**	P			**P**	**17 16 00.4**			**-0.3**
CLTB	**Caltabellotta**	**2.26**	**191**	⇓*iPg*			**P**	**17 16 00.6**			**-0.1**
	690nm,0.4s										
CLTB	**Caltabellotta**	**2.26**	**191**	P			**P**	**17 16 00.5**			**-0.2**
FRES	**Fresagrandinar**	**2.27**	**17**	⇑*iPg*			**P**	**17 16 01.1**			**+0.3**
FRES					Sg		**S**	**17 16 49.7**			**+0.2**
	470nm,0.7s										
GRI	**Girifalco**	**2.27**	**115**	⇓*ePg*			**P**	**17 15 59.8**			**-1.0**
GRI	**Girifalco**	**2.27**	**115**	P			**P**	**17 15 59.7**			**-1.1**
ESLN	**Serra La Nave**	**2.31**	**156**	⇓*ePg*			**P**	**17 16 00.3**			**-0.7**
RGNG	**Rignano Grg**	**2.32**	**36**	⇑*iPg*			**P**	**17 16 00.3**			**-0.8**
MTTG	**Motta San Giov**	**2.34**	**140**	⇓*iPg*			**P**	**17 15 59.7**			**-1.5**
MTCE	**Montecelio**	**2.35**	**341**	⇑*iPg*			**P**	**17 16 02.0**			**+0.7**
MTCE					Sg		**S**	**17 16 50.7**			**+0.2**
	314nm,1.0s										
MTCE	**Montecelio**	**2.35**	**341**	P			**P**	**17 15 59.8**			**-1.5**
MTCE				⇑*iPg*			**P**	**17 16 02.0**			**+0.7**
MTCE					Sg		**S**	**17 16 50.7**			**+0.2**
MTCE	**Montecelio**	**2.35**	**341**	⇑*iPg*			**P**	**17 16 02.0**			**+0.7**
VAE	**Valguarnera**	**2.37**	**168**	P			**P**	**17 16 00.7**			**-0.7**
	42nm,0.3s,baz=117,slow=2.8,SNR=48										
VAE					S		**S**	**17 16 46.3**			**-4.4**
	36nm,0.3s,baz=252,slow=6.9,SNR=3.0										
VAE	**Valguarnera**	**2.37**	**168**	P			**P**	**17 16 00.7**			**-0.7**
VAE					S		**S**	**17 16 46.3**			**-4.4**
SERS	**Sersale**	**2.38**	**108**	⇓*iPg*			**P**	**17 16 00.7**			**-0.8**
SERS					Sg		**S**	**17 16 47.1**			**-3.8**
TIP	**Timpagrande**	**2.39**	**104**	⇓*iPg*			**P**	**17 16 01.0**			**-0.5**
TIP					Sg		**S**	**17 16 47.3**			**-3.7**
TIP	**Timpagrande**	**2.39**	**104**	⇓*iP*			**P**	**17 16 00.8**			**-0.7**
TIP				⇓*iPg*			**P**	**17 16 01.0**			**-0.5**
TIP					Sg		**S**	**17 16 47.3**			**-3.7**
AMUR	**Altamura**	**2.43**	**62**	⇓*iPg*			**P**	**17 16 01.6**			**-0.2**
AMUR					Sg		**S**	**17 16 48.9**			**-2.5**
SGRT	**San Giovanni R**	**2.46**	**37**	⇑*iPg*			**P**	**17 16 01.2**			**-0.8**
FAGN	**Fagnano**	**2.47**	**357**	⇑*iPg*			**P**	**17 16 03.1**			**+1.1**
	470nm,0.6s										
PLAC	**Placanica**	**2.47**	**122**	⇓*ePg*			**P**	**17 16 00.6**			**-1.5**
PLAC					Sg		**S**	**17 16 47.2**			**-4.8**
SOI	**Samo**	**2.48**	**133**	⇓*ePg*			**P**	**17 16 00.1**			**-2.0**
SOI					Sg		**S**	**17 16 48.0**			**-4.0**
MSAG	**Monte S. Angel**	**2.50**	**40**	⇑*iPg*			**P**	**17 16 01.7**			**-0.6**
MSAG					Sg		**S**	**17 16 49.7**			**-2.6**
MS1	**Monte Sant'Ang**	**2.52**	**40**	⇑*iP*			**P**	**17 16 01.8**			**-0.6**
FGMS	**Monte Sant'Ang**	**2.52**	**40**	⇓*iPg*			**P**	**17 16 01.9**			**-0.5**
FAVR	**Favara**	**2.53**	**182**	⇓*iPg*			**P**	**17 16 02.7**			**+0.2**
	391nm,0.4s										
FAVR	**Favara**	**2.53**	**182**	P			**P**	**17 16 02.6**			**+0.1**
AQU	**L'Aquila**	**2.56**	**354**	⇑*iPg*			**P**	**17 16 04.1**			**+1.4**
	408nm,0.8s										
AQU	**L'Aquila**	**2.56**	**354**	⇑*iP*			**P**	**17 16 03.9**			**+1.2**
AQU	**L'Aquila**	**2.56**	**354**	⇑*iP*			**P**	**17 16 03.7**			**+1.0**
AQU				⇑*iPg*			**P**	**17 16 04.1**			**+1.4**
VCEL	**Villa Celiera**	**2.59**	**1**	Pg			**P**	**17 16 03.7**			**+0.8**
	255nm,0.8s										
NOCI	**Noci**	**2.70**	**68**	⇓*iPg*			**P**	**17 16 03.4**			**-0.3**
NOCI					Sg		**S**	**17 16 51.8**			**-3.1**
BAI	**Bari**	**2.71**	**60**	⇓*iP*			**P**	**17 16 03.5**			**-0.2**
MNS	**Montasola**	**2.71**	**343**	⇑*iPg*			**P**	**17 16 04.6**			**+0.9**
MNS					Sg		**S**	**17 16 55.9**			**+0.9**
	233nm,0.5s										
MNS	**Montasola**	**2.71**	**343**	P			**P**	**17 16 04.5**			**+0.8**
MNS					Sg		**S**	**17 16 55.9**			**+0.9**
HVZN	**Vizzini**	**2.72**	**164**	⇓*ePg*			**P**	**17 16 02.2**			**-1.6**
HVZN					Sg		**S**	**17 16 52.8**			**-2.3**
HAGA	**Augusta**	**2.74**	**156**	⇓*ePg*			**P**	**17 16 01.6**			**-2.3**
AGST	**Augusta-Monte**	**2.79**	**155**	⇓*ePg*			**P**	**17 16 01.8**			**-2.5**
AGST	**Augusta-Monte**	**2.79**	**155**	P			**P**	**17 16 01.7**			**-2.6**
SSY	**Sortino**	**2.83**	**159**	⇓*ePg*			**P**	**17 16 02.5**			**-2.1**
LNSS	**Leonessa**	**2.85**	**349**	⇑*iPg*			**P**	**17 16 05.8**			**+1.0**
	800nm,0.7s										
PZI	**Palazzolo**	**2.89**	**161**	Pg			**P**	**17 16 04.4**			**-0.7**
HMDC	**Modica**	**2.95**	**164**	⇓*iPg*			**P**	**17 16 04.3**			**-1.2**
HMDC					Sg		**S**	**17 16 56.1**			**-2.1**
HMDC	**Modica**	**2.95**	**164**	P			**P**	**17 16 04.2**			**-1.3**
HMDC					Sg		**S**	**17 16 56.1**			**-2.1**
PE1	**Pezze di Greco**	**2.96**	**69**	⇓*iP*			**P**	**17 16 05.4**			**-0.2**
HAVL	**Avola**	**3.03**	**159**	⇓*iPg*			**P**	**17 16 04.2**			**-1.9**
OFFI	**Offida**	**3.13**	**359**	⇑*iPg*			**P**	**17 16 08.0**			**+1.1**
OFFI					Sg		**S**	**17 17 03.5**			**+2.7**
OFFI	**Offida**	**3.13**	**359**	P			**P**	**17 16 08.1**			**+1.2**
LATE	**Laterza**	**3.18**	**333**	⇑*iPg*			**P**	**17 16 08.3**			**+1.0**
LATE	**Laterza**	**3.18**	**333**	P			**P**	**17 16 08.2**			**+0.9**
DGI	**Dorgali Grotta**	**3.24**	**280**	⇑*iPg*			**P**	**17 16 08.2**			**+0.4**
MAON	**Monte Argentar**	**3.30**	**324**	⇑*iPg*			**P**	**17 16 08.8**			**+0.5**
MAON					Sg		**S**	**17 17 02.4**			**-0.8**
	228nm,1.1s										
PTS	**Pantelleria**	**3.30**	**206**	⇓*iPg*			**P**	**17 16 08.3**			**0.0**
	99nm,0.5s										
SACS	**San Casciano d**	**3.35**	**336**	⇑*iPg*			**P**	**17 16 09.9**			**+1.2**
SACS					Sg		**S**	**17 17 04.6**			**+0.5**
	430nm,0.8s										
ASS	**Assisi**	**3.37**	**346**	⇑*iPg*			**P**	**17 16 09.3**			**+0.5**
ASS	**Assisi**	**3.37**	**346**	P			**P**	**17 16 08.8**			**0.0**
ASS				⇑*iPg*			**P**	**17 16 09.3**			**+0.5**
LCI	**Lecce**	**3.37**	**80**	⇓*iPg*			**P**	**17 16 08.6**			**-0.3**
LCI	**Lecce**	**3.37**	**80**	P			**P**	**17 16 08.5**			**-0.4**
VSL	**Villasalto**	**3.41**	**266**	⇑*iPg*			**P**	**17 16 10.1**			**+0.9**
VSL	**Villasalto**	**3.41**	**266**	⇑*iP*			**P**	**17 16 09.8**			**+0.6**
VSL				⇑*iPg*			**P**	**17 16 10.1**			**+0.9**
ARCI	**Arcidosso**	**3.50**	**331**	⇑*ePg*			**P**	**17 16 11.5**			**+1.5**
	397nm,1.0s										
MURB	**Monte Urbino**	**3.58**	**345**	⇑*iPg*			**P**	**17 16 11.2**			**+0.5**
MURB				P				17 16 11.3			
MURB					Sg		**S**	**17 17 07.9**			**+0.3**
CING	**Cingoli**	**3.60**	**353**	⇑*iPg*			**P**	**17 16 10.7**			**-0.1**
CING					Sg		**S**	**17 17 08.7**			**+0.9**
SCTE	**Santa Cesarea**	**3.62**	**84**	⇓*iPg*			**P**	**17 16 10.7**			**-0.3**
AOI	**Ancona**	**3.75**	**358**	Pg			**P**	**17 16 11.5**			**-0.6**
AOI	**Ancona**	**3.75**	**358**	P			**P**	**17 16 11.4**			**-0.7**
CDCA	**Citt' di Caste**	**3.83**	**343**	⇑*ePg*			**P**	**17 16 13.3**			**+0.5**
CDCA	**Citt' di Caste**	**3.83**	**343**	P			**P**	**17 16 13.4**			**+0.6**
FSSB	**Fossombrone**	**3.96**	**349**	⇑*iPg*			**P**	**17 16 14.0**			**0.0**
WDD	**Wield Dalam**	**3.97**	**171**	P			**P**	**17 16 12.3**			**-1.8**
CRE	**Caprese Michel**	**4.05**	**341**	⇑*ePg*			**P**	**17 16 15.1**			**+0.3**
CRE	**Caprese Michel**	**4.05**	**341**	P			**P**	**17 16 15.0**			**+0.2**
CSNT	**Castellina Chi**	**4.11**	**334**	⇑*iPg*			**P**	**17 16 16.2**			**+0.8**
RSM	**Repubblica di**	**4.24**	**347**	Pg			**P**	**17 16 17.0**			**+0.4**
RSM	**Repubblica di**	**4.24**	**347**	P			**P**	**17 16 17.1**			**+0.5**
STON	**Ston**	**4.26**	**43**	*i* P			**P**	**17 16 16.8**			**+0.1**
CORF	**Corte**	**4.29**	**307**	P			**P**	**17 16 17.5**			**+0.5**
SFI	**Santa Sofia**	**4.34**	**341**	Pg			**P**	**17 16 17.8**			**+0.3**
HCY	**Herceg Novi**	**4.44**	**52**	⇑*iPn*			**P**	**17 16 17.7**			**-0.7**
HCY					*e*Sn		**S**	**17 17 19.2**			**-2.6**
VMG	**Vicchio**	**4.48**	**339**	Pg			**P**	**17 16 18.7**			**-0.1**
VMG	**Vicchio**	**4.48**	**339**	P			**P**	**17 16 18.8**			**0.0**
CRMI	**Carmignano**	**4.50**	**333**	⇑*iPg*			**P**	**17 16 19.6**			**+0.6**
PGF	**Pioggiola**	**4.53**	**309**	⇑*iP*			**P**	**17 16 19.7**			**+0.4**
	465nm,0.6s										
PGF	**Pioggiola**	**4.53**	**309**	⇑*iP*			**P**	**17 16 19.7**			**+0.4**
	232nm,0.6s				

MBDF Montbardon 7.15 316 *e*P P 17 16 47.4 +1.0
155nm,0.6s
HORT Hortiatis 7.18 81 *e*Pn P 17 16 50.6 +3.8
HORT Hortiatis 7.18 81 P P 17 16 46.8 +0.1
HORT P 17 16 50.6
HORT Hortiatis 7.18 81 *e*Pn P 17 16 50.6 +3.9
RSP Reno Superiore 7.19 320 P P 17 16 44.7 -2.2
LKR Lokris 7.25 96 *e*P P 17 16 47.8 +0.3
RRL Cesana Torines 7.27 317 P P 17 16 47.2 -0.5
XOR Xorichti 7.29 90 *e*Pn P 17 16 48.0 +0.1
NEO Neokhori 7.32 91 *e*P P 17 16 48.3 +0.1
OG25 Le Caire 7.32 311 P P 17 16 49.2 +1.0
PKSM Moragy 7.33 28⇓*i*P P 17 16 48.7 +0.4
PKSM Moragy 7.33 28 ⇓P P 17 16 48.7 +0.3
KKB Krupnik 7.36 71 *i* P P 17 16 49.6 +1.0
KKB *i* S S 17 18 17.0 -0.1
KKB Krupnik 7.36 71 P P 17 16 50.0 +1.4
SOH Sokhos 7.39 79 *e*Pn P 17 16 49.0 0.0
SMRF Simiane la Rot 7.40 307 *e*P P 17 16 50.4 +1.3
88nm,0.7s
SMRF Simiane la Rot 7.40 307 *e*P P 17 16 50.4 +1.3
44nm,0.7s
BNI Bardonecchia 7.42 317 *e*P P 17 16 49.6 +0.3
BNI *e*S S 17 18 13.8 -4.6
BNI pmax pmax
comp=Z,65nm,0.7s
BNI Bardonecchia 7.42 317 *e*P P 17 16 49.5 +0.2
comp=Z,65nm,0.7s
BNI *e*S S 17 18 13.8 -4.6
BNI Bardonecchia 7.42 317 *e*P P 17 16 49.5 +0.2
comp=Z,65nm,0.7s
PLG Polygyros 7.44 83 *e*Pn P 17 16 49.7 +0.2
LSD Ceresole Reale 7.46 321 P P 17 16 48.9 -0.9
CMER Merouana 7.51 239 P P 17 16 51.5 +1.2
SET Setif 7.53 244 P P 17 16 52.0 +1.5
DAVOX Davos 7.53 339 P P 17 16 50.1 -0.4
baz=134,slow=4.2,SNR=51
DAVOX S S 17 18 16.3 -4.3
baz=148,slow=15,SNR=4.3
ARSA Arzberg 7.55 9 *i* P P 17 16 51.1 +0.4
SNR=38
ARSA ⇑*i*S S 17 18 20.9 -0.2
SRS Serrai 7.60 77 *e*Pn P 17 16 51.2 -0.1
WTTA Wattenberg 7.62 349 *i* Pn P 17 16 51.4 -0.1
SNR=25
PAIG Paliouri 7.62 86 *e*Pn P 17 16 51.5 0.0
VTS Vitosha 7.64 66 *e*Pn P 17 16 52.8 +1.0
VTS Vitosha 7.64 66 *i* P P 17 16 52.5 +0.8
VTS *i* S S 17 18 27.7 +4.9
VTS Vitosha 7.64 66 P P 17 16 53.0 +1.3
VTS Vitosha 7.64 66 P P 17 16 53.0 +1.3
VTS Vitosha 7.64 66⇑*i*P P 17 16 52.9 +1.2
SQTA Sankt Quirin 7.65 347⇓*i*Pn P 17 16 51.3 -0.5
SNR=30
LPG La Plagne 7.69 320 *e*P P 17 16 52.7 +0.4
comp=Z,247nm,0.6s
LPG La Plagne 7.69 320 *e*P P 17 16 52.7 +0.4
comp=Z,123nm,0.6s
WATA Walderalm 7.70 349⇓*i*Pn P 17 16 52.2 -0.1
SNR=19
WATA Walderalm 7.70 349 P P 17 16 52.2 -0.1
SNR=19
LPL La Plagne 7.71 320 *e*P P 17 16 52.8 +0.3
comp=Z,253nm,0.6s
LPL La Plagne 7.71 320 *e*P P 17 16 52.8 +0.3
comp=Z,127nm,0.6s
ORIF Oris-en-Rattie 7.76 314 *e*P P 17 16 53.3 +0.2
comp=Z,137nm,0.7s
ORIF *e*R
comp=Z,329nm,21.4s
ORIF Oris-en-Rattie 7.76 314 *e*P P 17 16 53.3 +0.2
comp=Z,69nm,0.7s
MMB Musomiste 7.77 74 *i* P P 17 16 54.5 +1.3
MMB *i* S S 17 18 25.8 +0.3
MMB Musomiste 7.77 74 *e*Pn P 17 16 53.5 +0.3
MMB Musomiste 7.77 74 P P 17 16 53.8 +0.6
MOTA Moosalm 7.79 346⇓*i*Pn P 17 16 52.4 -0.9
SNR=18
MOTA Moosalm 7.79 346⇓*i*Pn P 17 16 52.4 -0.9
NVR Nevrokopi 7.83 75 *e*P P 17 16 54.9 +1.1
VLI Veliai 7.84 110 *e*P P 17 16 54.3 +0.4
AOS Alonnisos 7.84 91 *e*Pn P 17 16 54.1 +0.2
OUR Ouranopolis 7.85 83 *e*Pn P 17 16 53.5 -0.5
RSL Roselend 7.89 321 P P 17 16 54.9 +0.5
DAVA Damuels 8.00 341 *i* Pn P 17 16 54.0 -1.6
SNR=17
DAVA Damuels 8.00 341 *i* Pn P 17 16 54.0 -1.6
MOA Molln 8.05 2⇑*i*Pn P 17 16 56.3 +0.1
SNR=27
MOA ⇓*i*Sn S 17 18 31.1 0.0
SOP Sopron 8.13 13⇓*e* S 17 16 58.2 +1.1
SOP *e*Sn S 17 18 33.2 +0.5
BZS Buzias 8.19 42⇑*i*P P 17 16 58.5 +0.8
BZS Buzias 8.19 42 ⇑P P 17 16 58.5 +0.8
CONA Conrad Observa 8.26 10⇑*i*P P 17 16 59.2 +0.6
SNR=15
PKSG 8.29 22⇓*i*P P 17 17 00.1 +1.2
PGB Panagyurishte 8.31 67 *i* P P 17 17 00.0 +1.0
PGB *i* S S 17 18 36.9 +0.7
OG01 Vacheresse 8.33 324 P P 17 16 58.0 -1.3
VIVF Saint-Julien-l 8.42 310 *e*P P 17 17 00.4 +0.1
comp=Z,169nm,0.7s
VIVF Saint-Julien-l 8.42 310 *e*P P 17 17 00.4 +0.1
comp=Z,84nm,0.7s
ETOS Mallorca 8.44 273 P P 17 17 00.6 +0.2
comp=Z,56nm,0.8s
ETOS Mallorca 8.44 273 P P 17 17 00.6 +0.1
comp=Z,56nm,0.8s
RZN Rozhen 8.52 74 *i* P P 17 17 02.0 +0.6
LASF Ste Croix 8.53 303 *e*P P 17 17 01.6 +0.1
comp=Z,52nm,0.6s
LASF Ste Croix 8.53 303 *e*P P 17 17 01.6 +0.1
comp=Z,26nm,0.6s
FUR Furstenfeldbru 8.55 349 *e*Pn P 17 17 01.5 -0.2
comp=Z,139nm,0.7s
FUR *e*Sn S 17 18 39.1 -2.1
FUR Furstenfeldbru 8.55 349 *e*P P 17 17 01.5 -0.2
FUR *e*S S 17 18 39.1 -2.1
FUR pmax pmax
comp=Z,139nm,0.7s
BUD Budapest 8.57 25⇓*e* P 17 17 03.3 +1.4
PLD Plovdiv 8.59 71 *e*Pn P 17 17 03.1 +1.0
PLD Plovdiv 8.59 71 P P 17 17 03.2 +1.1
EJON La Jonquera 8.63 291 P P 17 17 02.2 -0.4
comp=Z,54nm,0.7s
EJON La Jonquera 8.63 291 P P 17 17 02.2 -0.4
comp=Z,54nm,0.7s
SJAF Saint Jean de 8.64 292 P P 17 17 02.2 -0.5
GZR Gura Zlata 8.68 47⇑*i*P P 17 17 04.3 +1.2
GZR Gura Zlata 8.68 47 ⇑P P 17 17 04.3 +1.3
LOS Limnos 8.70 86 *e*Pn P 17 17 03.7 +0.3
ZST Bratislava 8.73 15 *e*P P 17 17 04.8 +1.2
CABF La Chapelle 8.82 323⇑*i*P P 17 17 03.0 -1.6
comp=Z,96nm,0.4s
CABF La Chapelle 8.82 323⇑*i*P P 17 17 03.0 -1.6
comp=Z,48nm,0.4s
BBS Basel-Blauen 8.90 331 P P 17 17 02.9 -2.7
ABA Alger-Bouzarea 8.96 254 P P 17 17 08.0 +1.8
LRDF Laroque-de-Fa 9.01 294 P P 17 17 06.8 +0.1
GEC2 GERESS Array S 9.04 360 *e*Pn P 17 17 05.8 -1.3
comp=Z,29nm,0.6s
GEC2 *e*Sn S 17 18 49.4 -1.7
GEC2 GERESS Array S 9.04 360 *e*P P 17 17 05.8 -1.3
GEC2 *e*S S 17 18 49.4 -1.7
GEC2 pmax pmax
comp=Z,29nm,0.6s
GERES GERESS Array B 9.04 360 P P 17 17 06.8 -0.3
comp=Z,11nm,0.3s,baz=178,slow=11,SNR=155
GERES S S 17 18 49.9 -1.2
baz=218,slow=12,SNR=4.9
GERES ScP ScP 17 25 32.9 -1.8
comp=Z,0.4nm,0.3s,baz=174,slow=1.3,SNR=8.8
RDO Rodhopi 9.07 78 *e*P P 17 17 08.2 +0.9
RDO Rodhopi 9.07 78 P P 17 17 07.2 -0.2
LOMF Lomont 9.07 329 P P 17 17 05.1 -2.3
FELD Feldberg im Sc 9.08 335 P P 17 17 04.8 -2.7
DIM Dimitrovgrad 9.18 72 *i* P P 17 17 09.8 +1.2
DIM Dimitrovgrad 9.18 72 P P 17 17 09.7 +1.1
PSZ Piszkesteto 9.24 27⇓*i*P P 17 17 10.4 +1.1
PSZ Piszkesteto 9.24 27⇓*e*P P 17 17 10.5 +1.2
PSZ pmax pmax
comp=Z,130nm,0.8s
PSZ Piszkesteto 9.24 27⇓*e*P P 17 17 10.4 +1.2
comp=Z,130nm,0.8s
PSZ Piszkesteto 9.24 27⇓*e* P 17 17 10.6 +1.3
PSZ *e* 17 18 55.6
VALF Valcebollere 9.25 290 P P 17 17 09.9 +0.5
EMHD Djebel Mahouad 9.27 251 P P 17 17 09.0 -0.6
PVL Pavlikeni 9.32 65 *i* P P 17 17 09.5 -0.7
PVL Pavlikeni 9.32 65 P P 17 17 09.6 -0.6
KHC Kasperske Hory 9.33 359⇓*i*P P 17 17 10.2 -0.1
KHC *e*S 17 18 52.4
MTLF Montolieu 9.35 296 *e*P P 17 17 10.6 +0.1
comp=Z,51nm,0.7s
WET Wettzell 9.36 356 *e*Pn P 17 17 10.0 -0.6
comp=Z,67nm,0.8s
WET *e*Sn 17 18 55.2
WET Wettzell 9.36 356 *e*P P 17 17 10.0 -0.6
WET *e*S 17 18 55.2
WET pmax pmax
comp=Z,67nm,0.8s
MOF Molkenrain 9.37 331 P P 17 17 08.7 -2.0
BFO Black Forest 9.38 337 *e*Pn P 17 17 10.0 -0.8
comp=Z,42nm,0.5s
BFO Black Forest 9.38 337 *e*P P
BFO pmax pmax
comp=Z,42nm,0.5s
VYHS Vyhne 9.42 21 *e*P P 17 17 12.3 +1.0
ALN Alexandroupoli 9.44 79 P P 17 17 11.6 +0.2
HINF Hinteralfeld 9.44 330 *e*P P 17 17 09.6 -1.9
comp=Z,45nm,0.4s
LBL Lubilhac 9.47 308 P P 17 17 12.5 +0.6
EMIR Miracle 9.52 287 P P 17 17 12.4 +0.1
comp=Z,26nm,0.4s
STU Stuttgart 9.55 341 *e*Pn P 17 17 13.1 +0.4
comp=Z,74nm,0.6s
STU Stuttgart 9.55 341 *e*P P 17 17 13.3 +0.6
STU pmax pmax
comp=Z,64nm,0.6s
STU Stuttgart 9.55 341 *e*P P 17 17 13.3 +0.6
comp=Z,64nm,0.6s
DRGR 9.55 40⇓*i*P P 17 17 14.6 +1.9
DRGR 9.55 40 ⇓P P 17 17 14.6 +1.9
APE Apeiranthos 9.62 103⇑*i*P P 17 17 13.2 -0.3
APE Apeiranthos 9.62 103 P P 17 17 13.7 +0.2
EIBI Ibiza 9.65 269 P P 17 17 14.2 +0.4
comp=Z,95nm,1.1s
ECH Echery 9.66 333 P P 17 17 12.4 -1.5
PLDF La Plantade 9.66 313 P P 17 17 13.7 -0.3
PRK Paraskevi 9.68 89 *e*P P 17 17 14.4 +0.3
VRAC Vranov 9.71 11 P P 17 17 15.8 +1.3
comp=Z,16nm,0.3s,baz=202,slow=10,SNR=135
VRAC S 17 19 05.4
baz=34,slow=16,SNR=3.9
VRAC Vranov 9.71 11⇓*i*P P 17 17 15.9 +1.4
VRAC Vranov 9.71 11 P P 17 17 15.8 +1.3
VRAC S 17 19 05.4
VRAC pmax pmax
comp=Z,16nm,0.3s
VRAC Vranov 9.71 11 ⇓P P 17 17 15.9 +1.3
WLS Welschbruch 9.77 334 P P 17 17 13.3 -1.8
EPOB Poblet 9.78 283 P P 17 17 15.2 0.0
comp=Z,29nm,0.5s
CDF Champ du Feu 9.79 334 *e*P P 17 17 13.4 -1.9
comp=Z,50nm,0.6s
HAU Haudompre 9.79 329 *e*P P 17 17 13.8 -1.6
comp=Z,113nm,0.5s
HAU *e*R
comp=Z,125nm,20.2s
PYM Petit Puy Mans 9.89 310 P P 17 17 16.4 -0.1
IDI Anoyia 9.91 114 P P 17 17 16.6 -0.1
comp=Z,6.7nm,0.3s,baz=315,slow=8.3,SNR=51
IDI S 17 19 06.2
comp=Z,4.2nm,0.3s,baz=292,slow=23,SNR=11
IDI ScP ScP 17 25 35.6 -0.1
comp=Z,0.3nm,0.3s,baz=349,slow=10,SNR=3.8
SALF Salau 9.92 291 P P 17 17 19.6 +2.8
KECS Kecovo 9.93 27 *e*P P 17 17 18.4 +1.6
MTUR Matau 9.94 53⇑*i*P P 17 17 19.2 +2.2
MTUR Matau 9.94 53 ⇑P P 17 17 19.2 +2.2
SMF Signal de Mont 9.96 317 *e*P P 17 17 16.0 -1.2
comp=Z,124nm,0.7s
SMF Signal de Mont 9.96 317 *e*P P 17 17 16.0 -1.2
SMF pmax pmax
comp=Z,62nm,0.7s
SMF Signal de Mont 9.96 317 *e*P P 17 17 16.0 -1.2
comp=Z,62nm,0.7s
AGO Saint Agoulin 9.99 312 P P 17 17 17.4 -0.2
JMB Yambol 10.03 70 *i* P P 17 17 18.6 +0.7
JMB Yambol 10.03 70 P P 17 17 18.5 +0.6
ROTZ Rotzenmuhle 10.03 354 *e*Pn P 17 17 17.7 -0.2
comp=Z,68nm,0.8s
VOIR 10.04 52⇑*i*P P 17 17 20.1 +2.1
VOIR 10.04 52 ⇑P P 17 17 20.1 +2.1
MLS Moulis 10.04 292 P P 17 17 18.0 -0.1
EDRB Edirne 10.04 74 *e*P P 17 17 19.4 +1.2
GRA1 Grafenberg Arr 10.05 350 *e*P P 17 17 18.1 -0.1
comp=Z,298nm,0.8s
GRA1 *e*S 17 19 11.2
GRF Grafenberg Arr 10.05 350 *e*Pn P 17 17 18.1 -0.1
comp=Z,298nm,0.8s
GRF *e*Sn 17 19 11.2
GRF Grafenberg Arr 10.05 350 *e*P P 17 17 18.1 -0.1
GRF *e*S 17 19 11.2
GRF pmax pmax
comp=Z,298nm,0.8s
GRF Grafenberg Arr 10.05 350 *e*P P 17 17 18.1 -0.1
GRF *e*S 17 19 11.2
GRF pmax pmax
comp=Z,298nm,0.8s
CAF Calviac 10.06 304⇑*i*P P 17 17 19.0 +0.7
comp=Z,68nm,0.7s
CAF Calviac 10.06 304⇑*i*P P 17 17 19.0 +0.7
CAF pmax pmax
comp=Z,34nm,0.7s
CAF Calviac 10.06 304⇑*i*P P 17 17 19.0 +0.7
comp=Z,34nm,0.7s
THEF They Montfort 10.11 329 P P 17 17 17.6 -1.3
LANF Langenberg 10.12 337 P P 17 17 18.2 -0.7
PRU Pruhonice 10.20 3⇓*i*P P 17 17 20.5 +0.6
PRU *e*S 17 19 07.7
MANZ Manzenberg 10.25 354 *e*Pn P 17 17 20.9 +0.5
comp=Z,80nm,0.7s
MELF Melles 10.26 292 P P 17 17 22.8 +2.3
EBNR Beni Rached 10.27 254 P P 17 17 21.0 +0.4
SNX Sinaia 10.28 54⇑*i*P P 17 17 22.9 +2.2
AVF Avril sur Loir 10.31 316 *e*P P 17 17 20.0 -1.1
comp=Z,91nm,0.5s
AVF Avril sur Loir 10.31 316 *e*P P 17 17 20.0 -1.1
AVF pmax pmax
comp=Z,46nm,0.5s
AVF Avril sur Loir 10.31 316 *e*P P 17 17 20.0 -1.1
comp=Z,46nm,0.5s
ERTA Horta de San J 10.32 281 P P 17 17 21.9 +0.7
comp=Z,19nm,0.5s
MORC Moravsky Berou 10.32 14⇓*i*P P 17 17 22.3 +1.1
MORC Moravsky Berou 10.32 14 *e*P P 17 17 22.3 +1.1
MORC pmax pmax
comp=Z,26nm,0.7s
MORC Moravsky Berou 10.32 14 *e*P P 17 17 22.3 +1.1
comp=Z,26nm,0.7s
LOR Lormes 10.36 319⇑*i*P P 17 17 20.5 -1.1
comp=Z,68nm,0.5s
LOR *e*R
comp=Z,237nm,22.0s
LOR Lormes 10.36 319⇑*i*P P 17 17 20.5 -1.1
LOR pmax pmax
comp=Z,34nm,0.5s
LOR Lormes 10.36 319⇑*i*P P 17 17 20.5 -1.1
comp=Z,34nm,0.5s
SSF Saint Saulge 10.40 318⇑*i*P P 17 17 21.1 -1.0
comp=Z,94nm,0.6s
SSF Saint Saulge 10.40 318⇑*i*P P 17 17 21.1 -1.0
SSF pmax pmax
comp=Z,47nm,0.6s
SSF Saint Saulge 10.40 318⇑*i*P P 17 17 21.1 -1.0
comp=Z,47nm,0.6s
TOD Tromm 10.42 342 P P 17 17 21.9 -0.3
BGF Bois d'Agland 10.45 314 *e*P P 17 17 22.3 -0.3
comp=Z,75nm,0.5s
BGF Bois d'Agland 10.45 314 *e*P P 17 17 22.3 -0.3
BGF pmax pmax
comp=Z,37nm,0.5s
BGF Bois d'Agland 10.45 314 *e*P P 17 17 22.3 -0.3
comp=Z,37nm,0.5s
ECHA Ech Chlef 10.45 253 P P 17 17 23.0 +0.4
NKC Novy Kostel 10.47 355⇓*i*P P 17 17 23.7 +0.8
NKC *e*S 17 19 18.7
OKC Ostrava-Krasne 10.50 16⇓*i*P P 17 17 24.3 +1.1
WERN Wernitzgruen 10.53 355 *e*Pn P 17 17 24.4 +0.9
comp=Z,97nm,0.7s
RJF Les Rejaudoux 10.58 305 *e*P P 17 17 24.4 +0.4
comp=Z,82nm,0.5s
RJF *e*R
comp=Z,275nm,21.9s
RJF Les Rejaudoux 10.58 305 *e*P P 17 17 24.4 +0.4
RJF pmax pmax
comp=Z,41nm,0.5s
RJF Les Rejaudoux 10.58 305 *e*P P 17 17 24.4 +0.4
comp=Z,41nm,0.5s
EPF Esparros 10.59 292 *e*P P 17 17 24.8 +0.6
comp=Z,24nm,0.4s
EPF Esparros 10.59 292 *e*P P 17 17 24.8 +0.6
EPF pmax pmax
comp=Z,12nm,0.4s
EPF Esparros 10.59 292 *e*P P 17 17 24.8 +0.6
comp=Z,12nm,0.4s
GUNZ Gunzen 10.61 355 *e*Pn P 17 17 25.5 +1.1
comp=Z,355nm,0.7s
MLR Muntele Rosu 10.61 54 P P 17 17 26.5 +2.1
comp=Z,7.8nm,0.3s,baz=202,slow=2.2,SNR=56
MLR S S 17 19 24.6 +1.6
baz=282,slow=21,SNR=3.6
MLR Muntele Rosu 10.61 54⇓*i*P P 17 17 26.5 +2.1
MLR Muntele Rosu 10.61 54 P P 17 17 26.5 +2.1
MLR S S 17 19 24.6 +1.6
MLR pmax pmax
comp=Z,8.0nm,0.3s
MLR Muntele Rosu 10.61 54 ⇓P P 17 17 26.5 +2.1
CRVS Cervenica-Dubn 10.63 29 *e*P P 17 17 26.2 +1.7
TANN Tannenbergstha 10.65 355 *e*Pn P 17 17 25.8 +1.0
comp=Z,204nm,0.9s
TCF Toulx Ste Croi 10.65 311⇑*i*P P 17 17 25.2 +0.4
comp=Z,37nm,0.5s
TCF Toulx Ste Croi 10.65 311⇑*i*P P 17 17 25.2 +0.4
TCF pmax pmax
comp=Z,19nm,0.5s
TCF Toulx Ste Croi 10.65 311⇑*i*P P 17 17 25.2 +0.4
comp=Z,19nm,0.5s
EBIE Bielsa 10.66 290 P P 17 17 26.3 +1.4
comp=Z,42nm,0.6s
NIE Niedzica 10.68 24 *e*P P 17 17 27.3 +2.2
WERD Werda 10.70 355 *e*Pn P 17 17 26.4 +1.1
comp=Z,204nm,0.9s
DPC Dobruska-Polom 10.70 9⇓*i*P P 17 17 26.1 +0.8
MEZF Maizieres J'vi 10.71 327⇑*i*P P 17 17 25.5 0.0
comp=Z,190nm,0.8s
MEZF Maizieres J'vi 10.71 327⇑*i*P P 17 17 25.5 0.0
comp=Z,190nm,0.8s
EANR 'Ain N'Sour 10.73 253 P P 17 17 25.0 -0.7
PVCC Panska Ves 10.74 3⇓*i*P P 17 17 26.6 +0.8
PRD Provadia 10.77 67 P P 17 17 27.0 +0.9
LABF Labassere 10.79 292 P P 17 17 27.5 +1.2
VIEF Viey 10.79 291 P P 17 17 28.1 +1.8
UPC Upice 10.82 8⇓*i*P P 17 17 27.7 +1.0
ETRT Tiaret 10.83 250 P P 17 17 26.0 -0.8
EBEN Beniarda 10.91 269 P P 17 17 28.7 +1.0
comp=Z,67nm,1.2s
LFF La Frestale 10.92 302 *e*P P 17 17 28.6 +0.8
comp=Z,158nm,0.5s
LFF La Frestale 10.92 302 *e*P P 17 17 28.6 +0.8
LFF pmax pmax
comp=Z,79nm,0.5s
LFF La Frestale 10.92 302 *e*P P 17 17 28.6 +0.8
comp=Z,79nm,0.5s
EMOS Mosqueruela 10.93 278 P P 17 17 29.4 +1.5
comp=Z,70nm,0.9s
MOX Moxa 10.95 353 *e*Pn P 17 17 29.0 +0.9
comp=Z,313nm,0.9s
MOX Moxa 10.95 353⇓*i*P P 17 17 29.0 +0.9
comp=Z,357nm,1.0s
MOX *e* 17 19 26.2
MOX Moxa 10.95 353⇓*i*P P 17 17 29.0 +0.9
MOX *e* 17 19 26.2
MOX pmax pmax
comp=Z,357nm,1.0s
KOLS Kolonicke sedl 10.96 31 *e*P P 17 17 30.0 +1.8
KOLS Kolonicke sedl 10.96 31 *e*P P 17 17 30.1 +1.9
ESAC San Caprasio 10.97 285 P P 17 17 28.4 0.0
comp=Z,96nm,0.4s
STHS Stebnicka Huta 10.98 26 *e*P P 17 17 30.8 +2.4
RUP Ruppelstein 10.98 337 P P 17 17 29.8 +1.3
HYF Humbligny 10.99 316⇑*i*P P 17 17 28.4 -0.2
ABH Altenburg 11.00 338 P P 17 17 29.7 +1.1
BRG Berggiesshubel 11.07 1 *e*Pn P 17 17 30.3 +0.9
comp=Z,53nm,0.6s
BRG Berggiesshubel 11.07 1⇓*i*P P 17 17 30.5 +1.0
comp=Z,19nm,0.7s
BRG *i* 17 17 37.5
comp=Z,19nm,0.6s
BRG *i* 17 17 39.9
comp=Z,34nm,0.6s
BRG *i* 17 18 10.9
comp=Z,9.3nm,0.6s
BRG *e*SCP ScP 17 25 36.2 -1.0
comp=Z,3.6nm,1.0s
TNS Taunus Mts 11.08 342 *e*Pn P 17 17 30.0 +0.5
comp=Z,281nm,1.2s
TNS Taunus Mts 11.08 342 *e*P P 17 17 30.0 +0.5
TNS pmax pmax
comp=Z,281nm,1.2s
FBE Freiberg 11.12 359 *e*Pn P 17 17 31.0 +1.0
comp=Z,133nm,0.7s
KSP Ksiaz 11.18 8 *e*P P 17 17 31.7 +1.1
KSP Ksiaz 11.18 8⇓*i*P P 17 17 31.7 +1.1
KSP *e* 17 17 34.5
WLF Walferdange 11.24 334 *e*Pn P 17 17 31.2 -0.1
comp=Z,87nm,0.7s
WLF *e*Sn S 17 19 35.9 +0.2
WLF Walferdange 11.24 334 P P 17 17 31.5 +0.2
WLF S S 17 19 34.8 -0.9
WLF Walferdange 11.24 334 *e*P P 17 17 31.4 +0.1
WLF pmax pmax
comp=Z,61nm,0.6s
WLF Walferdange 11.24 334 *e*P P 17 17 31.4 0.0
comp=Z,61nm,0.6s
CTT Catalca 11.25 78 *e*P P 17 17 32.5 +1.2
OJC Ojcow 11.25 20 *e*P P 17 17 32.6 +1.2
VRI Vrincioaia 11.27 53⇑*i*P P 17 17 32.4 +0.8
VRI Vrincioaia 11.27 53 ⇑P P 17 17 32.4 +0.8
UBBA Unterbreizbach 11.33 348 *e*Pn P 17 17 32.7 +0.4
comp=Z,43nm,0.6s
ATE Arette 11.35 291 P P 17 17 33.7 +1.2
BURAR Bucovina Array 11.37 43⇓*i*P P 17 17 35.2 +2.5
BURAR Bucovina Array 11.37 43 ⇓P P 17 17 35.2 +2.4
CLL Collm 11.52 358 *e*Pn P 17 17 35.3 +1.0
comp=Z,144nm,0.8s
CLL Collm 11.52 358⇓*i*P P 17 17 35.5 +1.2
CLL pmax pmax
comp=Z,144nm,0.8s
CLL Collm 11.52 358⇓*i*P P 17 17 35.5 +1.2
comp=Z,144nm,0.8s
CLL *i* S S 17 19 44.6 +3.4
ORDF Ordiarp 11.54 292 P P 17 17 35.6 +1.0
LARF Larrau 11.54 291 P P 17 17 36.6 +2.0
KWP Kalwaria 11.69 30 *e*P P 17 17 38.7 +2.5
SJPF Ste Jean 11.73 291⇑*i*P P 17 17 37.2 +0.6
comp=Z,236nm,0.7s
SJPF Ste Jean 11.73 291⇑*i*P P 17 17 37.2 +0.6
SJPF pmax pmax
comp=Z,118nm,0.7s
SJPF Ste Jean 11.73 291⇑*i*P P 17 17 37.2 +0.6
comp=Z,118nm,0.7s
OSSF Osses 11.79 292 P P 17 17 37.5 +0.3
TIRR Tirgusor 11.82 62⇑*i*P P 17 17 38.2 +0.6
TIRR Tirgusor 11.82 62 *e*P P 17 17 38.0 +0.4
comp=Z,39nm,0.7s
GEMT Gemlik 11.82 82 *i* P P 17 17 37.9 +0.3
ETOB Tobarra 11.94 269 P P 17 17 39.6 +0.6
comp=Z,6.3nm,0.5s
EALK Alkurruntz 11.95 292 P P 17 17 40.7 +1.6
comp=Z,49nm,0.8s
ELIZ Elizondo 11.96 291 P P 17 17 38.9 -0.2
ELIZ pmax pmax
comp=Z,45nm,0.4s
ELIZ Elizondo 11.96 291 P P 17 17 38.9 -0.3
comp=Z,45nm,0.4s
YLV Yalova 11.96 81 *e*P P 17 17 37.7 -1.5
IZI Iznik 12.04 82 *e*P P 17 17 41.1 +1.1
DALT Dalyan (Mudla) 12.07 100 *e*P P 17 17 39.7 -0.7
GIVF Givet 12.08 331⇑*i*P P 17 17 40.6 +0.1
comp=Z,113nm,0.6s
GIVF Givet 12.08 331⇑*i*P P 17 17 40.6 +0.1
GIVF pmax pmax

GIVF Givet 12.08 331⇑ *i*P P 17 17 40.6 +0.1
comp=Z,56nm,0.6s
DENT Denizli 12.09 95 *e*P P 17 17 41.2 +0.7
MEM Membach 12.11 336 P P 17 17 41.3 +0.6
ETOR Torete 12.13 280 P P 17 17 41.2 +0.2
ETOR pmax pmax
comp=Z,95nm,0.4s
ETOR Torete 12.13 280 P P 17 17 41.1 +0.1
comp=Z,95nm,0.4s
DOU Dourbes 12.16 331 P P 17 17 40.9 -0.4
BCLA Clavier 12.18 333 P P 17 17 41.6 +0.1
HRT Hereke 12.18 80 *e*P P 17 17 39.1 -2.5
MFF Saint Martin d 12.21 308 *e*P P 17 17 42.3 +0.4
comp=Z,868nm,0.5s
MFF Saint Martin d 12.21 308 *e*P P 17 17 42.3 +0.4
MFF pmax pmax
comp=Z,434nm,0.5s
MFF Saint Martin d 12.21 308 *e*P P 17 17 42.3 +0.4
comp=Z,434nm,0.5s
HGN Heimansgroeve 12.27 336⇓ *i*P P 17 17 43.2 +0.7
comp=Z,128nm,0.7s
CLZ Clausthal 12.27 350 *e*Pn P 17 17 43.1 +0.5
comp=Z,59nm,0.8s
CLZ Clausthal 12.27 350 *e*P P 17 17 43.1 +0.5
CLZ pmax pmax
comp=Z,59nm,0.8s
BAIF Baives 12.28 330 *e*P P 17 17 41.6 -1.1
comp=Z,44nm,0.3s
BAIF Baives 12.28 330 *e*P P 17 17 41.6 -1.1
BAIF pmax pmax
comp=Z,22nm,0.3s
BAIF Baives 12.28 330 *e*P P 17 17 41.6 -1.1
comp=Z,22nm,0.3s
BEBN Eben Emael 12.37 335 P P 17 17 44.5 +0.8
FETY Fethiye 12.45 100 *e*P P 17 17 43.4 -1.1
BUG Bochum--Univer 12.49 341 *e*Pn P 17 17 46.5 +1.5
comp=Z,62nm,0.7s
ECRI Cripan 12.58 288 P P 17 17 44.0 -1.9
ECRI pmax pmax
comp=Z,66nm,0.8s
ECRI Cripan 12.58 288 P P 17 17 44.0 -2.0
comp=Z,66nm,0.8s
LCHF La Chataignera 12.61 308 P P 17 17 46.5 +0.3
OLEF Ile d'Oleron 12.67 304 P P 17 17 47.0 +0.1
EVIA Vianos 12.68 270 P P 17 17 46.7 -0.3
EVIA pmax pmax
comp=Z,44nm,0.5s
EVIA Vianos 12.68 270 P P 17 17 46.7 -0.3
comp=Z,44nm,0.5s
UCC Uccle 12.82 332 P P 17 17 48.0 -0.6
ENIJ Nijar 12.85 262 P P 17 17 46.5 -2.4
ENIJ pmax pmax
comp=Z,5.0nm,0.3s
ENIJ Nijar 12.85 262 P P 17 17 46.5 -2.4
comp=Z,5.2nm,0.3s
EHUE Huescar 12.92 266 P P 17 17 49.2 -0.4
EHUE pmax pmax
comp=Z,10.0nm,0.6s
EHUE Huescar 12.92 266 P P 17 17 49.2 -0.5
comp=Z,9.6nm,0.6s
NRDL Niedersach Rie 12.94 350 *e*Pn P 17 17 48.9 -1.0
comp=Z,67nm,0.9s
ELL Elmali 13.04 98 *e*P P 17 17 51.1 +0.1
LRYF La Roche-sur-Y 13.06 306 P P 17 17 50.6 -0.5
KIS Kishinev 13.08 52 *e*P P 17 17 50.0 -1.4
KIS *i* 17 20 15.0
KIS Kishinev 13.08 52⇑ *i*PUNK P 17 17 50.0 -1.4
KIS *i* S S 17 20 15.0 +2.5
SHUT Suhut-Afyon 13.08 90 *e*P P 17 17 52.9 +1.5
WTSB Winterswijk 13.09 341⇓ *i*P P 17 17 53.0 +1.5
comp=Z,565nm,0.5s
ESKT Eskisehir 13.16 86 *e*P P 17 17 53.0 +0.7
IBBN Ibbenburen 13.18 344 *e*Pn P 17 17 52.6 +0.1
comp=Z,673nm,1.9s
ISP Isparta 13.20 93 *c i*P P 17 17 53.4 +0.7
ISP Isparta 13.20 93 *e*P P 17 17 53.4 +0.8
comp=Z,35nm,0.6s
LDF La Druitiere 13.27 316 *e*P P 17 17 52.7 -0.8
comp=Z,250nm,0.4s
LDF La Druitiere 13.27 316 *e*P P 17 17 52.7 -0.8
LDF pmax pmax
comp=Z,125nm,0.4s
LDF La Druitiere 13.27 316 *e*P P 17 17 52.7 -0.8
comp=Z,125nm,0.4s
EQES Quesada 13.29 267 P P 17 17 54.1 +0.4
comp=Z,21nm,0.5s
ELAN Lanestosa 13.34 290 P P 17 17 54.8 +0.6
comp=Z,207nm,0.9s
EBER Berja 13.40 263 P P 17 17 56.3 +1.5
comp=Z,37nm,0.6s
GRR Gorron 13.55 314 *e*P P 17 17 55.7 -0.8
comp=Z,308nm,0.5s
GRR Gorron 13.55 314 *e*P P 17 17 55.7 -0.8
GRR pmax pmax
comp=Z,154nm,0.5s
GRR Gorron 13.55 314 *e*P P 17 17 55.7 -0.8
comp=Z,154nm,0.5s
FLN La Foliniere 13.56 316 *e*P P 17 17 55.8 -0.8
comp=Z,421nm,0.4s
FLN *e*R
comp=Z,130nm,18.0s
FLN La Foliniere 13.56 316 *e*P P 17 17 55.8 -0.8
FLN pmax pmax
comp=Z,210nm,0.4s
FLN La Foliniere 13.56 316 *e*P P 17 17 55.8 -0.8
comp=Z,210nm,0.4s
ESDC Sonseca Array 13.65 275 P P 17 17 57.9 +0.3
comp=Z,7.0nm,0.3s,baz=75,slow=11,SNR=155
ESDC ScP ScP 17 25 39.7 -1.5
comp=Z,0.1nm,0.3s,baz=48,slow=2.3,SNR=5.5
ESLA Sonseca Array 13.65 275 *e*P P 17 17 57.8 +0.1
comp=Z,7.5nm,0.8s
GKP Gorka Klasztor 13.68 9 *e*P P 17 17 58.9 +1.0
GUD Guadarrama 13.73 279 P P 17 17 57.8 -0.6
GUD pmax pmax
comp=Z,27nm,0.5s
GUD Guadarrama 13.73 279 P P 17 17 57.8 -0.6
comp=Z,27nm,0.5s
EBAN Banos Encina 13.76 269 P P 17 17 58.0 -0.8
EBAN pmax pmax
comp=Z,31nm,0.7s
EBAN Banos Encina 13.76 269 P P 17 17 58.0 -0.7
comp=Z,31nm,0.7s
ECOG Cogollos-Vega 13.81 265 P P 17 17 59.8 +0.5
ECOG pmax pmax
comp=Z,18nm,0.4s
ECOG Cogollos-Vega 13.81 265 P P 17 17 59.8 +0.5
comp=Z,18nm,0.4s
WIT Witteveen 13.90 342⇓ *i*P P 17 18 01.7 +1.4
comp=Z,843nm,0.7s
EGUA Guajares 13.93 263 P P 17 17 58.9 -1.7
EGUA pmax pmax
comp=Z,10.0nm,0.7s
EGUA Guajares 13.93 263 P P 17 17 58.9 -1.7
comp=Z,10.0nm,0.7s
ERON Agron 14.06 264 P P 17 18 02.8 +0.7
comp=Z,10nm,0.2s
ELUQ Luque 14.27 267 P P 17 18 03.0 -1.3
ELUQ pmax pmax
comp=Z,21nm,0.5s
ELUQ Luque 14.27 267 P P 17 18 03.0 -1.3
comp=Z,21nm,0.5s
ELOJ Sierra Loja 14.29 265 P P 17 18 03.0 -1.5
ELOJ pmax pmax
comp=Z,6.0nm,0.4s
ELOJ Sierra Loja 14.29 265 P P 17 18 03.0 -1.5
comp=Z,5.7nm,0.4s
BSEG Bad Segeberg 14.33 352 *e*Pn P 17 18 04.3 -0.6
comp=Z,166nm,0.9s
BSEG Bad Segeberg 14.33 352 *e*P P 17 18 04.3 -0.6
BSEG pmax pmax
comp=Z,166nm,0.9s
EADA Adamuz 14.37 269 P P 17 18 06.0 +0.6
comp=Z,10.0nm,0.4s
SGMF Saint Gilles 14.45 311 *e*P P 17 18 05.2 -1.0
comp=Z,536nm,0.6s
SGMF Saint Gilles 14.45 311 *e*P P 17 18 05.2 -1.0
SGMF pmax pmax
comp=Z,268nm,0.6s
SGMF Saint Gilles 14.45 311 *e*P P 17 18 05.2 -1.0
comp=Z,268nm,0.6s
SAFT Safranbolu 14.46 78 *i*P P 17 18 07.3 +1.0
KONT Konya--Tatoy 14.60 91 *e*P P 17 18 08.2 +0.4
ANTO Ankara 14.62 84 *e*P P 17 18 07.8 -0.2
ANTO Ankara 14.62 84⇑ *i*P P 17 18 09.0 +1.0
ANTO Ankara 14.62 84 *e*P P 17 18 08.9 +0.9
comp=Z,39nm,0.8s
EARI Arriondas 14.64 290 P P 17 18 08.4 +0.2
comp=Z,81nm,0.7s
QUIF Quistinic 14.64 309 *e*P P 17 18 07.6 -0.7
comp=Z,458nm,0.5s
QUIF Quistinic 14.64 309 *e*P P 17 18 07.6 -0.7
QUIF pmax pmax
comp=Z,229nm,0.5s
QUIF Quistinic 14.64 309 *e*P P 17 18 07.6 -0.7
comp=Z,229nm,0.5s
ROSF Rostrenen 14.91 310 *e*P P 17 18 10.1 -1.0
comp=Z,308nm,0.6s
ROSF Rostrenen 14.91 310 *e*P P 17 18 10.1 -1.0
ROSF pmax pmax
comp=Z,154nm,0.6s
ROSF Rostrenen 14.91 310 *e*P P 17 18 10.1 -1.0
comp=Z,154nm,0.6s
EMIJ Mijas 14.94 263 P P 17 18 11.2 -0.3
comp=Z,91nm,0.6s
EMIJ Mijas 14.94 263 P P 17 18 11.2 -0.3
comp=Z,91nm,0.6s
BR131 Keskin Array S 15.28 84 *e*P P 17 18 15.7 +0.6
comp=Z,24nm,0.8s
BRTR Keskin Array B 15.28 84 P P 17 18 16.1 +0.9
comp=Z,1.0nm,0.3s,baz=267,slow=8.1,SNR=98
BRTR ScP ScP 17 25 43.5 -0.6
comp=Z,0.1nm,0.3s,baz=186,slow=1.2,SNR=4.0
BRTR Keskin Array B 15.28 84 P P 17 18 16.0 +0.9
BSD Bornholm Skovb 15.34 2⇑ *i*P P 17 18 15.6 -0.2
comp=Z,197nm,1.4s
BSD Bornholm Skovb 15.34 2⇑ *i*P P 17 18 15.6 -0.2
BSD pmax pmax
comp=Z,200nm,1.4s
AKASG Malin Array Be 15.37 40 P P 17 18 14.9 -1.1
comp=Z,13nm,0.3s,baz=230,slow=7.4,SNR=41
AKASG S S 17 20 51.6 -6.0
comp=Z,15nm,0.3s,baz=226,slow=20,SNR=21
AKASG ScP ScP 17 25 41.9 -2.3
baz=256,slow=2.6,SNR=4.8
AKASG Malin Array Be 15.37 40 P P 17 18 14.9 -1.1
AKASG S S 17 20 51.6 -6.1
AKASG pmax pmax
comp=Z,13nm,0.3s
AKASG smax
comp=N,15nm,0.3s
AKBB Malin Array Si 15.37 40 *e*P P 17 18 14.7 -1.3
AKBB *e*S S 17 20 52.6 -5.1
KAMT Kaman 15.38 85 *i*P P 17 18 16.8 +0.6
AEU East Anglia Un 15.45 330 *e*P P 17 18 17.5 +0.6
TOS Tosya 15.47 79 P P 17 18 18.1 +0.9
EJIF Jimena Fronter 15.51 264 P P 17 18 16.4 -1.2
EJIF pmax pmax
comp=Z,25nm,0.5s
EJIF Jimena Fronter 15.51 264 P P 17 18 16.4 -1.2
comp=Z,24nm,0.5s
EJIF Jimena Fronter 15.51 264 P P 17 18 16.4 -1.2
comp=Z,25nm,0.5s
AWI1 Witton 15.54 331 *e*P P 17 18 18.3 +0.5
PPCY Paphos 15.56 103 P P 17 18 16.8 -1.3
SUW Suwalki 15.58 21 *e*P P 17 18 17.8 -0.5
SUW *e*S S 17 21 00.4 -1.4
SKP1 Kophill 15.64 324⇓ *e*P P 17 18 17.7 -1.2
ALFC Alevga 15.64 101 P P 17 18 17.2 -1.8
comp=Z,3.0nm,0.3s
ECAL Calabor 15.66 284 P P 17 18 19.2 0.0
comp=Z,45nm,0.7s
PBRG Braganca 15.66 284 *e*P P 17 18 18.9 -0.3
comp=Z,48nm,1.1s
ESPR Espera 15.68 265 P P 17 18 18.8 -0.6
comp=Z,24nm,0.5s
ESPR Espera 15.68 265 P P 17 18 18.8 -0.6
comp=Z,24nm,0.5s
SIM Simferopol' 15.88 64 *e*P P 17 18 20.1 -1.4
SIM pmax pmax
comp=Z,44nm,0.9s
SIM Simferopol' 15.88 64 *e*P P 17 18 20.1 -1.4
comp=Z,44nm,0.9s
COP Copenhagen 15.92 357 *i*P P 17 18 21.7 -0.2
comp=Z,63nm,0.8s
COP Copenhagen 15.92 357 *i*P P 17 18 21.7 -0.2
COP pmax pmax
comp=Z,63nm,0.8s
SWN1 Swindon 15.95 322⇓ *e*P P 17 18 21.3 -1.0
SZAC Souni-Zanaja 16.02 102 P P 17 18 22.3 -0.7
EPON Pontenova 16.05 289 P P 17 18 22.6 -0.6
comp=Z,106nm,0.9s
EPON Pontenova 16.05 289 P P 17 18 22.6 -0.7
comp=Z,106nm,0.9s
EMIN Mina Concepcio 16.07 269 P P 17 18 23.2 -0.4
comp=Z,24nm,0.6s
EMIN Mina Concepcio 16.07 269 P P 17 18 23.2 -0.4
comp=Z,24nm,0.6s
IKL Isikli 16.09 96 *i*P P 17 18 23.5 -0.3
MAMC Mammari 16.11 101 P P 17 18 23.0 -0.9
EBAD Badajoz 16.13 273 P P 17 18 23.2 -1.0
comp=Z,26nm,0.8s
EBAD Badajoz 16.13 273 P P 17 18 23.2 -1.0
comp=Z,26nm,0.8s
CSS Prodhromos 16.27 101 P P 17 18 25.7 0.0
CSS Prodhromos 16.27 101 *e*P P 17 18 25.0 -0.7
comp=Z,92nm,0.8s
CSS Prodhromos 16.27 101 *e*P P 17 18 25.0 -0.7
comp=Z,92nm,0.8s
SSW Stow on the Wo 16.27 324⇓ *e*P P 17 18 24.9 -0.9
DYA Yadsworthy 16.36 316 *e*P P 17 18 24.7 -2.0
MDT Midelt 16.36 251 P P 17 18 27.7 +1.0
comp=Z,0.7nm,0.3s,baz=74,slow=10,SNR=22
HGH Gray Hill 16.51 321⇓ *e*P P 17 18 27.3 -1.0
PESTR Estremoz 16.56 274 *e*P P 17 18 27.6 -1.1
comp=Z,29nm,0.9s
PVIS Viseu 16.57 280 *e*P P 17 18 28.1 -0.7
comp=Z,94nm,1.0s
YOZ Yozgat 16.58 84 *e*P P 17 18 29.0 0.0
PCAB Cabril 16.63 284 *e*P P 17 18 28.7 -0.7
comp=Z,42nm,0.8s
HEX Exmoor 16.66 318 *e*P P 17 18 28.6 -1.2
EGRO El Granado 16.75 269 P P 17 18 29.6 -1.3
comp=Z,47nm,0.8s
EGRO El Granado 16.75 269 P P 17 18 29.5 -1.3
comp=Z,47nm,0.8s
MCH1 Michaelchurch 16.83 322 *e*P P 17 18 30.5 -1.1
MCH1 ⇓ *e*P 17 18 30.5
MCH1 AMb AMb 17 18 32.8
comp=Z,118nm,1.1s
PBEJ Beja 16.93 271 *e*P P 17 18 31.5 -1.2
MUD Monsted U'grnd 16.94 351⇓ *i*P P 17 18 31.6 -1.2
MUD pmax pmax
comp=Z,100nm,0.7s
MUD Monsted U'grnd 16.94 351⇓ *i*P P 17 18 31.6 -1.2
comp=Z,104nm,0.7s
EVO Evora 16.94 273 *e*P P 17 18 31.7 -1.1
comp=Z,21nm,0.7s
HTL Hartland 16.97 317 *e*P P 17 18 31.8 -1.2
HTL AMb AMb 17 18 35.9
comp=Z,55nm,1.0s
HTR Trewern Hill 17.01 322⇓ *e*P P 17 18 32.5 -1.1
STS Santiago 17.04 288 P P 17 18 30.8 -3.0
STS pmax pmax
comp=Z,9.0nm,0.4s
STS Santiago 17.04 288 P P 17 18 30.8 -3.0
comp=Z,9.3nm,0.4s
STS Santiago 17.04 288 P P 17 18 30.8 -3.0
comp=Z,9.0nm,0.4s
PTO Porto 17.08 282 *e*P P 17 18 33.6 -0.6
comp=Z,54nm,0.9s
BNN Bunyan 17.10 86 *e*P P 17 18 35.2 +0.7
HLM1 Long Mynd 17.12 323 *e*P P 17 18 33.3 -1.4
EZAM Zamans 17.12 285 P P 17 18 32.8 -1.9
EZAM pmax pmax
comp=Z,94nm,0.6s
EZAM Zamans 17.12 285 P P 17 18 32.8 -1.9
comp=Z,94nm,0.6s
EZAM Zamans 17.12 285 P P 17 18 32.8 -1.9
comp=Z,94nm,0.6s
EMAZ Mazaricos 17.35 288 P P 17 18 35.6 -1.6
comp=Z,71nm,0.8s
EMAZ Mazaricos 17.35 288 P P 17 18 35.6 -1.5
comp=Z,71nm,0.8s
SBD1 Bryn Du 17.55 324⇓ *e*P P 17 18 37.9 -1.2
PTEO Sao Teotonio 17.71 270 *e*P P 17 18 39.5 -1.3
PLOU Loures 17.75 274 *e*P P 17 18 39.6 -1.7
comp=Z,36nm,1.0s
SVSK Karacayir 17.83 82 *e*P P 17 18 41.8 -0.3
HTY Hatay 18.00 95 *e*P P 17 18 43.3 -0.6
GOTU Gotland 18.17 8 P P 17 18 44.4 -1.2
ANN Anapa 18.18 66 *e*P P 17 18 43.5 -2.2
ANN *e*S S 17 21 46.9 -4.3
ANN pmax pmax
comp=Z,213nm,1.1s
ANN Anapa 18.18 66 *e*P P 17 18 43.5 -2.2
comp=Z,213nm,1.1s
KMRS Kahramanmaras 18.20 90 *e*P P 17 18 46.5 +0.5
CDU1 Dunnerdale 18.50 327 *e*P P 17 18 47.4 -1.8
GAZ Gaziantep 18.53 91 *i*P P 17 18 48.3 -1.1
CKE Keswick 18.54 326⇓ *e*P P 17 18 48.9 -1.6
MMAI Mount Meron Ar 18.56 105 P P 17 18 51.2 +0.5
comp=Z,10nm,0.3s,baz=308,slow=9.4,SNR=48
XDE Dent Fell 18.74 327 *e*P P 17 18 49.8 -1.8
XSO Sourhope Farm 18.98 331⇓ *e*P P 17 18 51.6 -2.2
GIM North Isle of 19.01 326⇓ *e*P P 17 18 52.3 -1.7
SNART Snartemo 19.03 349 *e*P P 17 18 54.2 0.0
SNART AMb AMb 17 18 56.7
comp=Z,82nm,1.8s
ECK Cauldkaine Hil 19.08 329⇓ *e*P P 17 18 52.5 -2.1
GCD Castle Douglas 19.18 328 *e*P P 17 18 53.7 -1.9
MYA Malataya 19.19 87 *e*P P 17 18 55.6 -0.1
EKA Eskdalemuir Ar 19.20 330 P P 17 18 54.0 -1.8
comp=Z,7.6nm,0.3s,baz=116,slow=8.4,SNR=113
EKA ScP ScP 17 25 51.1 -1.1
comp=Z,0.3nm,0.3s,baz=112,slow=3.1,SNR=8.4
EKA Eskdalemuir Ar 19.20 330 P P 17 18 54.0 -1.8
ESK Eskdalemuir 19.21 330⇓ *e*P P 17 18 54.1 -1.8
ESK AMb AMb 17 18 56.6
comp=Z,90nm,1.8s
ESK Eskdalemuir 19.21 330 *e*P P 17 18 53.9 -2.0
ESK pmax pmax
comp=Z,39nm,0.6s
ESK Eskdalemuir 19.21 330 *e*P P 17 18 53.9 -2.0
comp=Z,39nm,0.6s
ESK Eskdalemuir 19.21 330 *e*P P 17 18 53.9 -2.0
comp=Z,39nm,0.6s
DSB Dublin 19.22 321 *e*P P 17 18 54.2 -1.8
comp=Z,44nm,0.8s
DSB Dublin 19.22 321 *e*P P 17 18 54.2 -1.8
comp=Z,44nm,0.8s
DLF Lyons Farm 19.33 321⇓ *i*P P 17 18 55.2 -1.8
ESY Stoneypath 19.43 331 *e*P P 17 18 56.5 -1.5
EBL Broad Law 19.48 331⇓ *e*P P 17 18 57.2 -1.2
GAL1 Galloway 19.50 327 P P 17 18 56.3 -2.3
GAL1 AMb AMb 17 18 56.7
comp=Z,170nm,1.3s
GAL1 Galloway 19.50 327 P P 17 18 57.2 -1.4
GAL1 Galloway 19.50 327 *e*P P 17 18 56.3 -2.3
GAL1 AMb AMb 17 18 56.7
comp=Z,170nm,1.3s
GAL1 *e*P 17 18 57.2
GMM Mts of Mourne 19.63 324⇓ *e*P P 17 18 58.4 -1.4
EDI Edinburgh 19.65 331 *e*P P 17 18 58.4 -1.5
EDI AMb AMb 17 18 59.5
comp=Z,128nm,0.7s
EAU Auchinoon 19.69 330 *e*P P 17 18 59.0 -1.3
URFA Urfa 19.70 89 *e*P P 17 19 00.7 +0.3
SOC Sochi 19.71 70 *c i*P P 17 19 00.4 -0.1
SOC *e*S S 17 22 17.4 +1.1
SOC pmax pmax
comp=Z,135nm,0.8s
SOC Sochi 19.71 70 *i*P P 17 19 00.4 -0.1
comp=Z,135nm,0.8s
DCN Croghan 19.72 320 *e*P P 17 18 59.3 -1.3
KONO Kongsberg 20.04 354 *e*P P 17 19 02.7 -0.8
KONO Kongsberg 20.04 354 *e*P P 17 19 02.4 -1.1
comp=Z,130nm,1.2s
KONO Kongsberg 20.04 354 *e*P P 17 19 02.4 -1.1
comp=Z,130nm,1.2s
EIL Elat 20.08 114 *e*P P 17 19 05.5 +1.6
comp=Z,560nm,0.6s
ASF Jabal al Asfar 20.17 105 P P 17 19 06.3 +1.6
comp=Z,14nm,0.3s,baz=177,slow=5.0,SNR=31
ASF Jabal al Asfar 20.17 105 P P 17 19 06.3 +1.7
ASF pmax pmax
comp=Z,14nm,0.3s
BLS5 Blasjo 20.18 349 *e*P P 17 19 04.7 -0.1
BLS5 AMb AMb 17 19 06.1
comp=Z,107nm,0.6s
BLS5 Blasjo 20.18 349 *e*P P 17 19 04.7 -0.1
comp=Z,107nm,0.6s
BLS5 Blasjo 20.18 349 *e*P P 17 19 04.7 -0.1
comp=Z,107nm,0.6s,SNR=51
GMK Mull of Kintyr 20.20 327⇓ *e*P P 17 19 03.9 -1.0
GCL Cushendall 20.25 326⇓ *e*P P 17 19 04.3 -1.1
EAB Aberfoyle 20.28 330 *e*P P 17 19 04.2 -1.5
HFS Hagfors 20.35 360 P P 17 19 05.4 -1.0
comp=Z,65nm,0.5s,baz=184,slow=12,SNR=459
HFS ScP ScP 17 25 52.7 -2.3
comp=Z,2.1nm,0.8s,baz=179,slow=10,SNR=5.8
HFS Hagfors 20.35 360 P P 17 19 05.4 -1.0
HFS pmax pmax
comp=Z,65nm,0.5s
HFS pmax pmax
comp=N,2.0nm,0.8s
VAL Valentia 20.55 314⇓ *i*P P 17 19 07.2 -1.0
MME1 Meikle Cairn 20.63 334 *e*P P 17 19 07.3 -1.6
BINT Bingol 20.66 84 *i*P P 17 19 10.6 +1.4
DIY Diyarbakir 20.67 87 *i*P P 17 19 08.1 -1.1
MCD Coleburn Disti 20.94 334⇓ *e*P P 17 19 10.1 -1.6
VORD Divnogorie 21.00 49 *e*P P 17 19 11.5 -0.8
VORD pmax pmax
comp=E,70nm,0.6s
VORD pmax pmax
comp=Z,50nm,0.6s,mb5.1
VORD pmax pmax
comp=N,30nm,0.7s
VORD Divnogorie 21.00 49 *e*P P 17 19 11.5 -0.8
comp=N,30nm,0.7s,mb4.8
VRSR Storozhevoye 21.04 49 *c i*P P 17 19 12.2 -0.4
VRSR *e*S S 17 22 36.4 -1.4
VRSR pmax pmax
comp=N,40nm,0.8s
VRSR pmax pmax
comp=E,100nm,0.8s
VRSR pmax pmax
comp=Z,80nm,0.8s,mb5.2
VRSR smax
comp=N,40nm,0.9s
VRSR smax
comp=E,100nm,0.9s
VRSR smax
comp=Z,3.0nm,0.7s
NAO01 NORSAR Array S 21.14 356 *e*P P 17 19 12.6 -0.9
comp=Z,95nm,0.8s,mb5.3
EZM Erzurum 21.15 81 *e*P P 17 19 15.4 +1.8
EGD Espegrend 21.18 348 *e*P P 17 19 13.0 -0.9
MDO Dochfour 21.22 332 *e*P P 17 19 12.7 -1.5
VOR Voronezh 21.25 47 *e*P P 17 19 14.0 -0.5
VOR pmax pmax
comp=Z,100nm,2.0s,mb4.9
VOR Voronezh 21.25 47 *e*P P 17 19 14.0 -0.5
comp=Z,100nm,2.0s,mb4.9
BER Bergen 21.27 348 *e*P P 17 19 14.7 0.0
BER AMb AMb 17 19 21.5
comp=Z,225nm,1.9s,mb5.3
BER Bergen 21.27 348 *e*P P 17 19 14.7 0.0
comp=Z,225nm,1.9s,mb5.3,SNR=50
NB2 NORSAR Subarra 21.32 357 P P 17 19 14.3 -0.9
comp=Z,61nm,0.6s,mb5.2,baz=171,slow=11
NOA NORSAR Array B 21.32 357 P P 17 19 14.5 -0.7
comp=Z,62nm,0.7s,mb5.1,baz=173,slow=10,SNR=133
NOA ScP ScP 17 25 55.7 -1.6
comp=Z,6.0nm,0.7s,baz=158,slow=2.6,SNR=9.8
KAR1 Arisaig 21.39 330⇓ *e*P P 17 19 14.4 -1.3
ASK Askoy 21.39 348 *e*P P 17 19 16.4 +0.7
ASK AMb AMb 17 19 24.4
comp=Z,216nm,1.5s,mb5.4
ASK Askoy 21.39 348 *e*P P 17 19 16.4 +0.7
comp=Z,216nm,1.5s,mb5.4
ASK Askoy 21.39 348 *e*P P 17 19 16.4 +0.7
comp=Z,216nm,1.5s,mb5.4,SNR=50
KSB Sheil Bridge 21.44 331⇓ *e*P P 17 19 14.9 -1.3
MVH1 Achvaich 21.52 333⇓ *e*P P 17 19 15.3 -1.7
MLA1 Latheron 21.54 335⇓ *e*P P 17 19 15.9 -1.3
BTMT Batman 21.57 85 *i*P P 17 19 17.0 -0.4
OBN Obninsk 21.58 37⇑ *e*P P 17 19 18.1 +0.6
OBN *i*S S 17 22 44.4 -2.1
OBN *i* 17 22 59.1
OBN pmax pmax
comp=Z,33nm,1.7s,mb4.5
OBN Obninsk 21.58 37 *e*P P 17 19 18.1 +0.6
comp=Z,33nm,1.7s,mb4.5
OBN Obninsk 21.58 37 *i*PcP PcP 17 22 59.1 -3.1
KAC Achnashellach 21.60 331⇓ *e*P P 17 19 15.9 -1.7

KPL Plockton 21.62 331 *e*P P **17 19 16.6 -1.2**
KPL AMb AMB 17 19 18.9
comp=Z,186nm,0.7s,mb5.7
KIV Kislovodsk 21.87 70*c i*P P **17 19 20.9 +0.8**
KIV pmax pmax
comp=Z,80nm,1.3s,mb5.0
KIV Kislovodsk 21.87 70 *e*P P **17 19 20.6 +0.5**
comp=Z,72nm,1.1s,mb5.0
KIV Kislovodsk 21.87 70 *e*P P **17 19 20.6 +0.5**
comp=Z,72nm,1.1s,mb5.0
LRW Lerwick 22.41 340 *e*P P **17 19 23.5 -1.5**
LRW AMb AMB 17 19 26.2
comp=Z,121nm,1.3s,mb5.2
DOMB Dombas 22.45 354 *e*P P **17 19 25.1 -0.3**
ZEI Tsey 22.77 73 *e*P P **17 19 28.9 +0.6**
ZEI pmax pmax
comp=Z,29nm,0.6s,mb4.9
ZEI Tsey 22.77 73 *e*P P **17 19 28.9 +0.6**
comp=Z,29nm,0.6s,mb4.9
FINES FINESS Array B 22.95 15 P P **17 19 29.1 -0.8**
comp=Z,46nm,0.4s,mb5.3,baz=186,slow=8.5,SNR=398
FINES ScP ScP 17 25 59.1 -2.4
comp=Z,2.3nm,0.5s,baz=129,slow=5.2,SNR=7.6
FINES FINESS Array B 22.95 15 P P **17 19 29.1 -0.8**
FINES pmax pmax
comp=Z,46nm,0.4s
FINES pmax pmax
comp=N,2.0nm,0.5s
FIA1 FINESS Array S 22.95 15 *e*P P **17 19 29.2 -0.8**
FIA1 FINESS Array S 22.95 15 *e*P P **17 19 29.2 -0.7**
KAF Kangasniemi 23.61 15 *e*p P **17 19 34.0 -1.8**
comp=N,9.1nm,0.4s,mb4.6,baz=202,slow=9.1
KAF Kangasniemi 23.61 15 *e*P P **17 19 34.0 -1.8**
KAF pmax pmax
comp=Z,9.0nm,0.4s,mb4.5
GNI Garni 23.68 79 P P **17 19 37.8 +1.3**
comp=Z,16nm,0.7s,mb4.6,baz=26,slow=0.7,SNR=14
GNI Garni 23.68 79 *e*P P **17 19 37.9 +1.5**
GNI pmax pmax
comp=Z,50nm,1.2s
GNI Garni 23.68 79 *e*P P **17 19 37.4 +1.0**
comp=Z,60nm,1.2s,mb4.9
GNI Garni 23.68 79 *e*P P **17 19 37.4 +1.0**
comp=Z,60nm,1.2s,mb4.9
NSS Namsos 24.79 358 *e*P P **17 19 44.7 -1.7**
NSS AMb AMB 17 20 00.6
comp=Z,77nm,2.0s,mb4.8
NSS Namsos 24.79 358 *e*P P **17 19 44.7 -1.7**
comp=Z,77nm,2.0s,mb4.8,SNR=49
JOF Joensuu 25.43 19 *e*p P **17 19 50.0 -2.1**
comp=Z,2.7nm,0.4s,mb4.0
MOR8 Moi Rana 26.42 1 *e*P P **17 20 01.0 +0.2**
STOK Stokkvaagen 26.58 359 *e*P P **17 20 01.6 -0.6**
STOK AMb AMB 17 20 04.0
comp=Z,94nm,1.7s,mb4.9
STOK Stokkvaagen 26.58 359 *e*P P **17 20 01.6 -0.6**
comp=Z,94nm,1.7s,mb4.9
STOK Stokkvaagen 26.58 359 *e*P P **17 20 01.6 -0.6**
comp=Z,94nm,1.7s,mb4.9,SNR=49
TORD Torodi Ar. Bea 28.61 205 P P **17 20 19.5 -0.5**
comp=Z,4.3nm,0.5s,mb4.1,baz=14,slow=9.0,SNR=44
TORD PcP PcP 17 23 17.6 -0.6
comp=Z,1.3nm,0.7s,baz=332,slow=2.2,SNR=4.3
TORD ScP ScP 17 26 16.5 -1.6
comp=Z,1.4nm,0.7s,baz=346,slow=2.4,SNR=6.6
TORD Torodi Ar. Bea 28.61 205 P P **17 20 19.5 -0.6**
TORD PcP PcP 17 23 17.6 -0.6
TORD ScP ScP 17 26 16.5 -1.6
MIB Mutribah 29.16 100 *e*P P **17 20 25.1 +0.2**
MIB AMb AMB 17 20 26.2
comp=Z,139nm,0.6s,mb5.5
NAY Al-Naaiem 29.36 101 *e*P P **17 20 26.7 0.0**
NAY AMb AMB 17 20 27.3
comp=Z,20nm,0.8s,mb4.5
UMR Umm Al-Rimmam 29.57 100 *e*P P **17 20 28.3 -0.2**
UMR AMb AMB 17 20 29.6
comp=Z,97nm,0.5s,mb5.3
KTK1 Kautokeino 29.71 7 *e*P P **17 20 30.0 +0.3**
KTK1 AMb AMB 17 20 37.2
comp=Z,66nm,1.8s,mb4.7
KTK1 Kautokeino 29.71 7 *e*P P **17 20 30.0 +0.3**
comp=Z,66nm,1.8s,mb4.7
KTK1 Kautokeino 29.71 7 *e*P P **17 20 30.0 +0.3**
comp=Z,66nm,1.8s,mb4.7,SNR=48
RDF Al-Radifah 29.76 101 *e*P P **17 20 30.4 +0.2**
RDF AMb AMB 17 20 32.6
comp=Z,73nm,0.8s,mb5.1
TRO Tromso 30.02 4 *e*P P **17 20 30.7 -1.7**
TRO AMb AMB 17 20 35.5
comp=Z,57nm,1.7s,mb4.6
TRO Tromso 30.02 4 *e*P P **17 20 30.7 -1.7**
comp=Z,57nm,1.7s,mb4.6
TRO Tromso 30.02 4 *e*P P **17 20 30.7 -1.7**
comp=Z,57nm,1.7s,mb4.6,SNR=48
ARCES ARCESS Array B 30.44 8 P P **17 20 35.0 -1.1**
comp=Z,18nm,0.6s,mb4.6,baz=187,slow=8.9,SNR=243
ARCES ScP ScP 17 26 21.6 -2.4
comp=Z,2.9nm,0.8s,baz=186,slow=2.5,SNR=7.8
ARCES ARCESS Array B 30.44 8 P P **17 20 35.0 -1.1**
ARE0 ARCESS Array S 30.44 8 *e*P P **17 20 34.4 -1.7**
ARE0 ARCESS Array S 30.44 8 *e*P P **17 20 34.4 -1.7**
ORR Orenburg 30.56 54 *e*P P **17 20 36.5 -0.6**
ORR pmax pmax
comp=Z,70nm,0.4s,mb5.3
ORR Orenburg 30.56 54 *e*P P **17 20 36.5 -0.6**
comp=Z,70nm,0.4s,mb5.3
KEV Kevo 30.82 9 *e*p P **17 20 38.4 -1.0**
ARU Arti 33.50 45⇑*i*P P **17 21 01.7 -0.7**
ARU *e* 17 22 27.1
ARU *e* 17 23 30.6
ARU *e*S S **17 25 50.8 -1.6**
ARU *e*SS SS 17 28 40.1 -0.6
ARU *e* 17 30 32.8
ARU pmax pmax
comp=Z,43nm,1.1s,mb4.7
ARU Arti 33.50 45 *e*P P **17 21 01.4 -1.0**
comp=Z,50nm,0.4s,mb5.2
ARU Arti 33.50 45 *e*P P **17 21 01.4 -1.0**
comp=Z,50nm,0.4s,mb5.2
ARU Arti 33.50 45 *e*PcP PcP 17 23 30.6 -0.9
ARU *e*ScS ScS 17 30 32.8 -4.1
LIC Lamto 37.47 212⇑*i*P P **17 21 35.1 -0.5**
comp=Z,36nm,0.5s,mb4.6
LIC Lamto 37.47 212⇑*i*P P **17 21 35.1 -0.5**
comp=Z,18nm,0.5s,mb4.6
ZRNK Zerenda 39.34 52 *e*P P **17 21 50.9 0.0**
ZRNK pmax pmax
comp=Z,44nm,0.6s,mb5.0
ZRNK Zerenda 39.34 52 *e*P P **17 21 50.9 -0.1**
comp=Z,44nm,0.6s,mb5.0
ZRNK Zerenda 39.34 52 *e*P P **17 21 50.9 0.0**
comp=Z,44nm,0.6s,mb5.0
BRVK Borovoye 40.10 51 *e*P P **17 21 57.0 -0.1**
BRVK pmax pmax
comp=Z,41nm,0.6s,mb4.9
BRVK Borovoye 40.10 51 *e*P P **17 21 57.0 -0.1**
comp=Z,41nm,0.6s,mb4.9
BVAR Borovoye Array 40.17 51 P P **17 21 57.6 -0.1**
comp=Z,13nm,0.5s,mb4.5,baz=272,slow=7.4,SNR=148
BVAR ScP ScP 17 26 58.0 -1.5
comp=Z,1.3nm,0.9s,baz=242,slow=2.5,SNR=3.5
CHKZ Chkalovo 40.26 50 *e*P P **17 21 58.0 -0.4**
CHKZ pmax pmax
comp=Z,26nm,0.6s,mb4.7
CHKZ Chkalovo 40.26 50 *e*P P **17 21 58.0 -0.4**
comp=Z,26nm,0.6s,mb4.7
CHKZ *e*ScP ScP 17 26 57.1 -2.8
CHKZ Chkalovo 40.26 50 *e*P P **17 21 58.0 -0.4**
comp=Z,26nm,0.6s,mb4.7
EKS2 Erkin-Say 44.39 66 P P **17 22 31.5 +0.4**
SNR=48
AML Almayashu 44.49 67 P P **17 22 33.2 +1.2**
SNR=6.2
USP Ospenovka 44.72 65 P P **17 22 33.0 -0.7**
SNR=17
AAK Ala-Archa 44.90 66 P P **17 22 35.1 0.0**
SNR=9.4
AAK Ala-Archa 44.90 66 *e*P P **17 22 34.2 -0.9**
AAK *e* 17 24 06.6
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
AAK Ala-Archa 44.90 66 *e*P P **17 22 34.2 -0.9**
comp=Z,6.6nm,0.7s,mb4.1
AAK *e*PcP PcP 17 24 06.6 -1.4
AAK *e*ScP ScP 17 27 18.1 -0.6
AAK Ala-Archa 44.90 66 *e*P P **17 22 34.2 -0.9**
comp=Z,7.0nm,0.7s,mb4.1
AAK Ala-Archa 44.90 66 *e*PcP PcP 17 24 06.6 -1.4
CHMS Chumysh 44.97 65 P P **17 22 35.8 +0.1**
SNR=8.4
KBK Karagaybulak 45.21 66 P P **17 22 37.9 +0.4**
SNR=11
TKM2 Tokmak 2 45.59 65 P P **17 22 39.8 -0.6**
SNR=13
KZA Kyzart 45.61 66 P P **17 22 41.9 +1.3**
SNR=12
KMBO Kilima Mbogo 46.05 146 P P **17 22 44.9 +0.9**
comp=Z,3.3nm,0.8s,mb3.7,baz=352,slow=8.0,SNR=12
KMBO Kilima Mbogo 46.05 146 *e*P P **17 22 44.6 +0.6**
KMBO pmax pmax
comp=Z,6.0nm,1.3s
KMBO Kilima Mbogo 46.05 146 *e*P P **17 22 44.6 +0.6**
comp=Z,6.0nm,1.3s,mb3.8
KMBO Kilima Mbogo 46.05 146 *e*P P **17 22 44.6 +0.6**
comp=Z,6.0nm,1.3s,mb3.8
ULHL Ulahol 46.25 66 P P **17 22 46.2 +0.7**
SNR=6.1
KSH Kashi 47.00 69 P P **17 22 52.2 +1.0**
KSH *e*PCP PcP 17 24 15.9 +0.5
KSH *e*PP PP 17 24 49.3 +2.6
KSH *e*SCP ScP 17 27 25.5 -2.0
KSH *e*PCS PcS 17 28 11.4 +0.2
KSH *e*S **S** **17 29 09.3 -0.7**
KSH *e*SCS ScS 17 31 54.6 -3.7
KSH *e*SS SS 17 32 41.3 -2.1
KSH AMB AMB
comp=Z,447nm,4.8s
NVS Novosibirsk 47.44 47⇑*i*P P **17 22 54.5 0.0**
NVS *e*S **S** **17 29 14.2 -1.8**
NVS pmax pmax
comp=Z,21nm,0.6s,mb4.6
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax
comp=N,26nm,1.8s
NVS Novosibirsk 47.44 47 *i*P P **17 22 54.5 0.0**
comp=N,26nm,1.8s,mb4.3
ZAL Zalesovo 48.52 48 P P **17 23 02.2 -0.5**
comp=N,21nm,0.4s,mb4.9,baz=179,slow=5.3,SNR=41
ZAL Zalesovo 48.52 48 P P **17 23 02.3 -0.4**
ZAL pmax pmax
comp=Z,21nm,0.4s
ZAL Zalesovo 48.52 48 P P **17 23 02.2 -0.5**
MKAR Makanchi Array 48.92 58 P P **17 23 05.1 -0.6**
comp=Z,29nm,0.4s,mb5.0,baz=286,slow=6.6,SNR=476
MKAR PcP PcP 17 24 22.0 -0.4
comp=Z,4.4nm,0.7s,baz=278,slow=4.3,SNR=5.6
MKAR ScP ScP 17 27 34.5 -1.1
comp=Z,1.6nm,0.9s,baz=292,slow=3.3,SNR=4.8
MKAR Makanchi Array 48.92 58 *i*P P **17 23 05.0 -0.7**
MKAR pmax pmax
comp=Z,29nm,0.4s
WMQ Urumqi 53.53 60⇑*i*P P **17 23 39.6 +0.2**
WMQ PCP PcP 17 24 39.7 0.0
WMQ AP pP 17 25 06.8 +0.9
WMQ PP PP 17 25 48.1 +2.6
WMQ SCP ScP 17 27 55.1 -0.5
WMQ SCS ScS 17 32 40.1 -3.3
WMQ AMB AMB
comp=Z,39nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,58nm,3.8s
SCHQ Schefferville 53.65 315 P P **17 23 39.2 -1.0**
comp=Z,32nm,0.4s,mb4.9,baz=65,slow=5.8,SNR=100
SCHQ Schefferville 53.65 315 *e*P P **17 23 39.1 -1.1**
comp=Z,62nm,0.7s,mb5.0
SCHQ Schefferville 53.65 315 *e*P P **17 23 39.1 -1.1**
comp=Z,62nm,0.7s,mb5.0
LSZ Lusaka 56.42 163 *e*P P **17 23 59.6 -0.1**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.3
LSZ Lusaka 56.42 163 *e*P P **17 23 59.6 -0.1**
comp=Z,12nm,0.8s,mb4.3
LSZ Lusaka 56.42 163 *e*P P **17 23 59.6 -0.1**
comp=Z,12nm,0.8s,mb4.3
KOLN Koldanda 57.93 79 *e*P P **17 24 09.5 -0.7**
comp=Z,51nm,0.8s,mb4.9
GKN Gorkha 58.59 78 *e*P P **17 24 13.8 -0.9**
comp=Z,40nm,0.7s,mb4.9
DMN Daman 59.15 78 *e*P P **17 24 18.0 -0.5**
comp=Z,41nm,0.5s,mb5.0
KKN Kakani 59.19 78 *e*P P **17 24 17.9 -0.8**
comp=Z,34nm,0.7s,mb4.8
PKI Pulchoki 59.40 78 *e*P P **17 24 19.5 -0.7**
comp=Z,30nm,0.6s,mb4.8
GUN Gumba 59.58 78 *e*P P **17 24 20.8 -0.6**
comp=Z,50nm,0.6s,mb5.1
JIRN Jiri 59.94 78 *e*P P **17 24 23.4 -0.4**
comp=Z,13nm,0.3s,mb4.8
TLY Talaya 60.00 46 *e*P P **17 24 24.9 +0.7**
TLY pmax pmax
comp=Z,13nm,0.8s,mb4.4
TLY Talaya 60.00 46 *e*P P **17 24 24.9 +0.7**
comp=Z,14nm,0.8s,mb4.4
TLY Talaya 60.00 46 *e*P P **17 24 24.9 +0.7**
comp=Z,13nm,0.8s,mb4.4
ZAK Zakamensk 60.39 47 *e*P P **17 24 26.2 -0.6**
WES Weston 61.51 303 *e*P P **17 24 34.0 -0.2**
WES pmax pmax
comp=Z,11nm,0.7s,mb4.5
WES Weston 61.51 303 *e*P P **17 24 34.0 -0.2**
comp=Z,11nm,0.7s,mb4.5
WES Weston 61.51 303 *e*P P **17 24 34.0 -0.2**
comp=Z,11nm,0.7s,mb4.5
FRNY Flat Rock 61.76 306 *e*P P **17 24 35.3 -0.5**
FRNY Flat Rock 61.76 306 *e*P P **17 24 35.3 -0.5**
BOD Bodaibo 62.27 37 *e*P P **17 24 37.7 -1.5**
BOD pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BOD Bodaibo 62.27 37 *e*P P **17 24 37.7 -1.5**
comp=Z,8.0nm,0.7s,mb4.4
LSA Lhasa 62.56 73 P P **17 24 41.6 +0.5**
LSA Lhasa 62.56 73 *e*P P **17 24 41.2 +0.1**
LSA pmax pmax
comp=Z,16nm,0.8s,mb4.6
LSA Lhasa 62.56 73 *e*P P **17 24 41.2 +0.1**
comp=Z,16nm,0.8s,mb4.6
LSA Lhasa 62.56 73 *e*P P **17 24 41.2 +0.1**
comp=Z,16nm,0.8s,mb4.6
SONM Songino Array 63.42 49 P P **17 24 46.8 +0.1**
comp=Z,12nm,0.7s,mb4.5,baz=289,slow=7.0,SNR=53
SONM PcP PcP 17 25 18.9 -0.3
comp=Z,1.9nm,0.7s,baz=295,slow=4.3,SNR=4.1
SONM Songino Array 63.42 49 P P **17 24 46.8 +0.1**
SONM 17 25 18.9
SONM pmax pmax
comp=Z,12nm,0.7s
GTA Gaotai 63.62 60 P P **17 24 48.1 +0.2**
GTA AP pP 17 26 16.7 -1.5
GTA XP sP 17 27 01.0 -3.3
GTA PP PP 17 27 15.9 +1.6
GTA S **S** **17 32 46.3 -1.1**
GTA XS sS 17 35 23.0 -5.5
GTA SS SS 17 37 03.3 -0.9
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,69nm,5.7s
ULN Ulaanbaatar 63.79 49 *e*P P **17 24 49.0 0.0**
BINY Binghamton 64.59 305 *e*P P **17 24 54.5 +0.4**
comp=Z,12nm,0.7s,mb4.7
BINY Binghamton 64.59 305 *e*P P **17 24 54.5 +0.3**
comp=Z,12nm,0.7s,mb4.7
YAK Yakutsk 66.20 28 *e*P P **17 25 04.0 -0.3**
YAK pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
YAK Yakutsk 66.20 28 *e*P P **17 25 04.0 -0.3**
comp=Z,4.0nm,0.5s,mb4.3
LZH Lanzhou 68.09 61 *e*P P **17 25 16.5 +0.5**
LZH PCP PcP 17 25 34.2 -4.4
LZH AP pP 17 26 48.0 +0.2
LZH PP PP 17 27 51.0 -2.0
LZH *e*S S 17 33 31.0 -10
LZH SS SS 17 38 15.0 +1.8
LZH AMB AMB
comp=Z,32nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,100nm,5.3s
LZH Lanzhou 68.09 61 *e*P P **17 25 16.5 +0.5**
LZH 17 25 34.2
LZH *PP pP 17 26 48.0 +0.2
LZH *SP sP 17 27 37.5 +4.0
LZH 17 27 51.0
LZH *e*S S 17 33 31.0 -10
LZH SS SS 17 38 15.0 +1.8
LZH pmax pmax
comp=Z,32nm,1.0s,mb4.9
LZH Lanzhou 68.09 61 *e*P P **17 25 16.5 +0.5**
comp=Z,32nm,1.0s,mb4.9
LZH PcP PcP 17 25 34.2 -4.4
LZH pP pP 17 26 48.0 +0.2
LZH sP sP 17 27 37.5 +4.0
LZH PP PP 17 27 51.0 -2.0
LZH *e*S S 17 33 31.0 -10
LZH sS sS 17 36 25.1 +0.8
LZH SS SS 17 38 15.0 +1.8
MCWV Mont Chateau 68.42 304 *e*P P **17 25 18.6 +0.5**
comp=Z,12nm,0.7s,mb4.6
MCWV Mont Chateau 68.42 304 *e*P P **17 25 18.5 +0.4**
comp=Z,12nm,0.7s,mb4.6
BOSA Boshof 68.90 169 P P **17 25 20.6 -0.4**
comp=Z,12nm,0.4s,mb4.8,baz=353,slow=7.1,SNR=66
BOSA Boshof 68.90 169 P P **17 25 20.6 -0.4**
BOSA pmax pmax
comp=Z,12nm,0.4s,mb4.9
BOSA Boshof 68.90 169 *e*P P **17 25 20.3 -0.6**
comp=Z,5.2nm,0.4s,mb4.5
BOSA Boshof 68.90 169 *e*P P **17 25 20.3 -0.7**
comp=Z,5.2nm,0.4s,mb4.5
YKA Yellowknife Ar 69.96 337 P P **17 25 27.1 -0.2**
comp=Z,12nm,0.7s,mb4.5,baz=39,slow=5.9,SNR=40
YKA Yellowknife Ar 69.96 337 P P **17 25 27.1 -0.3**
FWV Forest Hill 70.23 303 *e*P P **17 25 29.1 +0.1**
FWV Forest Hill 70.23 303 *e*P P **17 25 29.1 +0.1**
HHC Hu-ho-hao-te 70.36 53 *e*P P **17 25 29.5 -0.2**
HHC PCP PcP 17 25 48.3 +0.1
HHC PP PP 17 28 13.5 +1.2
HHC S S 17 34 04.5 -2.4
HHC SKS 17 34 43.8
HHC SCS ScS 17 34 46.7 -4.3
HHC SS SS 17 38 48.3 +0.5
HHC AMB AMB
comp=Z,28nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,106nm,5.2s
EYMN Ely 70.39 316 *e*P P **17 25 29.5 -0.5**
comp=Z,10nm,0.7s,mb4.5
EYMN Ely 70.39 316 *e*P P **17 25 29.5 -0.5**
comp=Z,10nm,0.7s,mb4.5
MTP Monte Pirata 70.58 278 *e*P P **17 25 31.8 +0.8**
MTP Monte Pirata 70.58 278 *e*P P **17 25 31.8 +0.8**
CD2 Chengdu 70.97 65 P P **17 25 30.8 -2.6**
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,80nm,5.8s
ULM Lac du Bonnet 71.18 320 P P **17 25 34.1 -0.6**
comp=Z,8.5nm,0.5s,mb4.5,baz=47,slow=6.4,SNR=16
ULM Lac du Bonnet 71.18 320 *e*P P **17 25 34.1 -0.6**
comp=Z,20nm,0.9s,mb4.7
ULM Lac du Bonnet 71.18 320 *e*P P **17 25 34.1 -0.6**
comp=Z,20nm,0.9s,mb4.7
XAN Xi'an 72.67 60 P P **17 25 43.0 -0.4**
XAN AMB AMB
comp=Z,23nm,1.2s,mb4.6
WCI Wyandotte Cave 73.33 306 *e*P P **17 25 46.7 -0.5**
WCI pmax pmax
comp=Z,12nm,0.8s,mb4.5
WCI Wyandotte Cave 73.33 306 *e*P P **17 25 46.6 -0.5**
comp=Z,12nm,0.8s,mb4.5
WCI Wyandotte Cave 73.33 306 *e*P P **17 25 46.7 -0.5**
comp=Z,12nm,0.8s,mb4.5
KMI Kunming 73.63 71 P P **17 25 51.8 +2.9**
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.1
KMI Kunming 73.63 71 P P **17 25 51.8 +2.9**
comp=Z,6.0nm,1.1s,mb4.1
BJI Beijing 73.65 51 P P **17 25 49.3 +0.3**
BJI AMB AMB
comp=Z,19nm,0.6s,mb4.9
BJI Beijing 73.65 51 P P **17 25 49.3 +0.3**
comp=Z,19nm,0.6s,mb4.9
DAWY Dawson 74.31 348 *e*P P **17 25 53.4 +0.6**
DAWY Dawson 74.31 348 *e*P P **17 25 53.4 +0.6**
USIN University of 74.35 306 *e*P P **17 25 52.2 -0.8**
comp=Z,17nm,0.8s,mb4.7
USIN University of 74.35 306 *e*P P **17 25 52.2 -0.8**
comp=Z,17nm,0.8s,mb4.7
CHG Chiang Mai 74.58 78⇑P P **17 25 53.5 -0.8**
comp=Z,13nm,0.7s,mb4.7
CHTO Chiang Mai 74.58 78 *e*P P **17 25 54.0 -0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
CHTO Chiang Mai 74.58 78 *e*P P **17 25 54.0 -0.4**
comp=Z,5.4nm,0.6s,mb4.3
CHTO Chiang Mai 74.58 78 *e*P P **17 25 54.0 -0.3**
comp=Z,5.0nm,0.6s,mb4.3
GYA Guiyang 75.66 68⇑*i*P P **17 26 00.2 -0.2**
GYA PCP PcP 17 26 12.6 +1.6
GYA AP pP 17 27 36.8 +2.3
GYA PP PP 17 28 58.7 +1.7
GYA PPP 17 30 48.9
GYA S S 17 35 05.2 -0.7
GYA SKS 17 35 24.9
GYA SS SS 17 40 10.1 +2.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,80nm,4.9s
MCK McKinley 75.90 352 *e*P P **17 26 01.5 -0.2**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
MCK McKinley 75.90 352 *e*P P **17 26 01.5 -0.2**
comp=Z,5.2nm,0.9s,mb4.2
MCK McKinley 75.90 352 *e*P P **17 26 01.5 -0.2**
comp=Z,5.0nm,0.9s,mb4.1
NANT Nan 75.92 77⇑P P **17 25 59.0 -2.8**
comp=Z,119nm,0.8s,mb5.6
CCM Cathedral Cave 76.48 308 *e*P P **17 26 02.2 -2.7**
CCM pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
CCM Cathedral Cave 76.48 308 *e*P P **17 26 02.1 -2.8**
comp=Z,5.3nm,0.6s,mb4.3
CCM Cathedral Cave 76.48 308 *e*P P **17 26 02.2 -2.7**
comp=Z,5.0nm,0.6s,mb4.3
CN2 Changchun 76.48 44 *e*P P **17 26 05.0 0.0**
EDM Edmonton 76.71 330 *e*P P **17 26 06.4 +0.2**
KSU1 Kansas State U 78.95 312 *e*P P **17 26 18.2 -0.1**
comp=Z,17nm,0.9s,mb4.7
KSU1 Kansas State U 78.95 312 *e*P P **17 26 18.2 -0.2**
comp=Z,17nm,0.9s,mb4.7
EGMT Eagleton 79.23 325⇑P P **17 26 20.3 +0.4**
baz=79
RSSD Black Hills 79.43 320 *e*P P **17 26 21.7 +0.8**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
RSSD Black Hills 79.43 320 *e*P P **17 26 21.7 +0.7**
comp=Z,2.1nm,0.6s,mb3.9
RSSD Black Hills 79.43 320 *e*P P **17 26 21.7 +0.8**
comp=Z,2.0nm,0.6s,mb3.9
SDV Santo Domingo 80.09 273 *e*P P **17 26 25.1 +0.6**
comp=Z,8.5nm,0.6s,mb4.5
SDV Santo Domingo 80.09 273 *e*P P **17 26 25.1 +0.6**
comp=Z,8.5nm,0.6s,mb4.5
WALA Waterton Lakes 80.19 328 *e*P P **17 26 24.6 -0.4**
comp=Z,6.7nm,0.6s,mb4.5
WALA Waterton Lakes 80.19 328 *e*P P **17 26 24.6 -0.3**
comp=Z,6.7nm,0.6s,mb4.5
NJ2 Nanjing 80.42 56 *e*P P **17 26 26.3 +0.2**
NJ2 AP pP 17 27 59.6 -2.0
NJ2 XP sP 17 28 42.2 -4.1
NJ2 PP PP 17 29 37.6 +1.3
NJ2 S S 17 36 01.5 +5.5
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,220nm,4.9s
CBKS Cedar Bluff 80.92 313 P P **17 26 28.9 +0.1**
B13A Whitefish 80.95 328⇑P P **17 26 29.3 +0.3**
baz=81,SNR=7.3
A12A Yaak River Ran 80.99 329⇑P P **17 26 29.2 +0.1**
baz=81,SNR=5.1
D15A Lincoln 81.18 326⇑P P **17 26 30.1 0.0**
baz=81
A11A Hall Mountain, 81.25 329⇑P P **17 26 30.9 +0.4**
baz=81,SNR=7.9
B12A Libby 81.33 329⇓P P **17 26 31.3 +0.4**
baz=81

C13A	**Hot Springs**	**81.55**	**328**	⇑P		**P**	**17 26 32.5**	**+0.5**
	baz=81,SNR=6.0							
D14A	**Greenough**	**81.57**	**327**	⇓P		**P**	**17 26 32.2**	**+0.1**
	baz=81							
B11A	**Sandpoint**	**81.67**	**329**	⇓P		**P**	**17 26 32.7**	**0.0**
	baz=81							
E15A	**Deer Lodge**	**81.72**	**326**	P		**P**	**17 26 34.0**	**+1.1**
	baz=81,SNR=8.4							
C12A	**Trout Creek**	**81.90**	**328**	P		**P**	**17 26 34.5**	**+0.7**
	baz=82,SNR=7.8							
D13A	**Huson**	**81.96**	**327**	P		**P**	**17 26 34.6**	**+0.4**
	baz=82,SNR=6.0							
E14A	**Clinton**	**82.09**	**326**	P		**P**	**17 26 35.5**	**+0.6**
	baz=82,SNR=5.2							
A09A	**Danville**	**82.09**	**331**	⇓P		**P**	**17 26 35.7**	**+0.9**
	baz=82							
F15A	**Butte**	**82.11**	**325**	⇑P		**P**	**17 26 35.3**	**+0.3**
	baz=82							
KSRS	**Korea Array**	**82.23**	**47**	P		**P**	**17 26 35.6**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.2,baz=322,slow=4.0,SNR=11							
E13A	**Victor**	**82.36**	**327**	⇓P		**P**	**17 26 36.4**	**+0.2**
	baz=82,SNR=6.0							
B09A	**Rice**	**82.38**	**330**	⇓P		**P**	**17 26 36.8**	**+0.6**
	baz=82,SNR=7.1							
YSS	**Yuzh-Sakhalins**	**82.39**	**32**	*e*P		**P**	**17 26 35.5**	**-0.8**
F14A	**Wisdom**	**82.51**	**326**	⇓P		**P**	**17 26 37.6**	**+0.6**
	baz=82							
C10A	**Spilker Farm,**	**82.54**	**329**	P		**P**	**17 26 37.5**	**+0.4**
	baz=82,SNR=6.0							
A07A	**Ashnola River,**	**82.70**	**332**	⇓P		**P**	**17 26 38.1**	**+0.2**
	baz=82							
C09A	**Chrisman Ranch**	**82.93**	**330**	⇓P		**P**	**17 26 39.3**	**+0.2**
	baz=83							
F13A	**Darby**	**82.94**	**326**	⇓P		**P**	**17 26 39.5**	**+0.3**
	baz=83							
LOHW	**Long Hollow**	**82.98**	**323**	*e*P		**P**	**17 26 41.1**	**+1.8**
	comp=Z,2.8nm,0.6s,mb4.2							
MCMT	**McKenzie Canyo**	**83.05**	**325**	*e*P		**P**	**17 26 41.0**	**+1.3**
MCMT	**McKenzie Canyo**	**83.05**	**325**	*e*P		**P**	**17 26 41.0**	**+1.3**
B07A	**Winthrop**	**83.09**	**331**	⇑P		**P**	**17 26 40.1**	**+0.2**
	baz=83							
PDAR	**Pinedale Array**	**83.13**	**322**	P		**P**	**17 26 40.4**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.4,baz=51,slow=5.3,SNR=30							
C08A	**Higginbotham F**	**83.24**	**330**	⇓P		**P**	**17 26 41.0**	**+0.3**
	baz=83,SNR=11							
C07A	**Waterville**	**83.71**	**331**	⇑P		**P**	**17 26 43.4**	**+0.4**
	baz=83							
D08A	**Wollman Farm,**	**83.79**	**330**	⇑P		**P**	**17 26 43.9**	**+0.5**
	baz=84							
E09A	**Wood Farm, Sta**	**83.93**	**329**	⇑P		**P**	**17 26 44.4**	**+0.2**
	baz=84							
PGC	**Sidney**	**84.13**	**333**	*e*P		**P**	**17 26 45.5**	**+0.4**
	comp=Z,26nm,0.6s,mb5.2							
PGC	**Sidney**	**84.13**	**333**	*e*P		**P**	**17 26 45.5**	**+0.4**
	comp=Z,26nm,0.6s,mb5.2							
PSI	**Prapat**	**84.49**	**91**	P		**P**	**17 26 46.5**	**-0.4**
	comp=Z,3.9nm,0.5s,mb4.4,baz=334,slow=7.4,SNR=8.7							
PSI	**Prapat**	**84.49**	**91**	P		**P**	**17 26 46.5**	**-0.4**
PSI				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.4							
E07A	**Sunnyside**	**84.57**	**330**	⇓P		**P**	**17 26 48.0**	**+0.8**
	baz=84							
C04A	**Brinnon**	**84.76**	**332**	⇓P		**P**	**17 26 48.8**	**+0.6**
	baz=84							
F08A	**Pendleton**	**84.77**	**329**	⇑P		**P**	**17 26 49.1**	**+0.8**
	baz=84							
BMO	**Blue Mountains**	**84.95**	**327**	*e*P		**P**	**17 26 48.6**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.1							
BMO	**Blue Mountains**	**84.95**	**327**	*e*P		**P**	**17 26 48.6**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.1							
HWUT	**Hardware Ranch**	**84.97**	**322**	*e*P		**P**	**17 26 49.6**	**+0.3**
	comp=Z,5.6nm,0.6s,mb4.5							
HWUT	**Hardware Ranch**	**84.97**	**322**	*e*P		**P**	**17 26 49.6**	**+0.3**
	comp=Z,5.6nm,0.6s,mb4.5							
G06A	**Carlson Farm,**	**85.97**	**330**	⇓P		**P**	**17 26 54.9**	**+0.8**
	baz=86							
H07A	**Lands Inn, Kim**	**86.08**	**329**	⇓P		**P**	**17 26 55.4**	**+0.8**
	baz=86							
G05A	**Wamic**	**86.23**	**330**	⇑P		**P**	**17 26 56.1**	**+0.8**
	baz=86							
H06A	**Lindquist Farm**	**86.27**	**329**	⇑P		**P**	**17 26 56.0**	**+0.4**
	baz=86							
J09A	**Fry Pan Ranch,**	**86.36**	**327**	⇑P		**P**	**17 26 56.4**	**+0.5**
	baz=86							
M13A	**Montello**	**86.38**	**323**	⇓P		**P**	**17 26 56.6**	**+0.5**
	baz=86							
SRU	**San Rafael**	**86.40**	**320**	*e*P		**P**	**17 26 56.1**	**-0.1**
SRU				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.7							
SRU	**San Rafael**	**86.40**	**320**	*e*P		**P**	**17 26 56.1**	**-0.1**
	comp=Z,8.9nm,0.6s,mb4.7							
SRU	**San Rafael**	**86.40**	**320**	*e*P		**P**	**17 26 56.1**	**-0.1**
	comp=Z,9.0nm,0.6s,mb4.7							
TMUT	**Trail Mountain**	**86.59**	**320**	*e*P		**P**	**17 26 57.3**	**+0.2**
TMUT	**Trail Mountain**	**86.59**	**320**	*e*P		**P**	**17 26 57.3**	**+0.2**
J08A	**Circle Bar Ran**	**86.65**	**327**	⇑P		**P**	**17 26 57.5**	**+0.2**
	baz=86							
DUG	**Dugway**	**86.67**	**322**	*e*P		**P**	**17 26 57.8**	**+0.4**
DUG				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
DUG	**Dugway**	**86.67**	**322**	*e*P		**P**	**17 26 57.8**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.1							
DUG	**Dugway**	**86.67**	**322**	⇑P		**P**	**17 26 58.1**	**+0.6**
	baz=86							
DUG	**Dugway**	**86.67**	**322**	*e*P		**P**	**17 26 57.8**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.0							
M12A	**Wells**	**86.68**	**324**	⇑P		**P**	**17 26 58.2**	**+0.7**
	baz=86							
N13A	**Wendover, West**	**86.80**	**323**	⇓P		**P**	**17 26 58.8**	**+0.8**
	baz=86							
MVCO	**Mesa Verde**	**86.82**	**317**	⇑P		**P**	**17 26 58.7**	**+0.5**
	baz=86							
J07A	**Hines**	**86.99**	**328**	⇑P		**P**	**17 27 00.1**	**+1.2**
	baz=87							
I05A	**Bend**	**87.11**	**329**	⇑P		**P**	**17 27 00.9**	**+1.3**
	baz=87							
N12A	**Clover Valley,**	**87.18**	**324**	⇑P		**P**	**17 27 00.8**	**+1.0**
	baz=87							
M10A	**I.L. Ranch, Tu**	**87.32**	**325**	⇑P		**P**	**17 27 02.0**	**+1.5**
	baz=87							
L09A	**Wilkinson Ranc**	**87.41**	**326**	⇓P		**P**	**17 27 01.7**	**+0.7**
	baz=87							
J06A	**Christmas Vall**	**87.43**	**328**	⇑P		**P**	**17 27 02.0**	**+1.0**
	baz=87							
O12A	**Currie**	**87.51**	**323**	⇑P		**P**	**17 27 01.9**	**+0.5**
	baz=87							
K07A	**Rock Creek Ran**	**87.52**	**327**	⇓P		**P**	**17 27 02.0**	**+0.5**
	baz=87							
L08A	**Fields**	**87.56**	**327**	⇑P		**P**	**17 27 02.5**	**+0.9**
	baz=87							
MSU	**Marysvale**	**87.68**	**321**	*e*P		**P**	**17 27 03.1**	**+0.9**
M09A	**Marrel Ranch,**	**87.80**	**326**	⇓P		**P**	**17 27 03.9**	**+1.1**
	baz=88							
J05A	**Fort Rock**	**87.84**	**329**	⇑P		**P**	**17 27 03.6**	**+0.6**
	baz=88							
K06A	**Valley Falls**	**87.85**	**328**	⇓P		**P**	**17 27 03.6**	**+0.6**
	baz=88							
O11A	**Cowboy Ranch,**	**88.04**	**324**	⇑P		**P**	**17 27 04.2**	**+0.3**
	baz=88							
L07A	**Adell**	**88.12**	**327**	⇓P		**P**	**17 27 04.9**	**+0.6**
	baz=88							
K05A	**Summer Lake**	**88.17**	**328**	⇓P		**P**	**17 27 05.2**	**+0.7**
	baz=88							
M08A	**Happy Creek Ra**	**88.18**	**326**	⇓P		**P**	**17 27 05.5**	**+0.9**
	baz=88							
P12A	**McGill**	**88.22**	**323**	⇓P		**P**	**17 27 05.5**	**+0.7**
	baz=88							
N09A	**Rock Creek Ran**	**88.30**	**325**	⇑P		**P**	**17 27 05.5**	**+0.4**
	baz=88							
Q12A	**Willow Creek R**	**88.53**	**322**	⇑P		**P**	**17 27 06.9**	**+0.7**
	baz=88							
M07A	**Soldier Meadow**	**88.57**	**327**	⇓P		**P**	**17 27 07.5**	**+1.1**
	baz=88							
MOD	**Modoc**	**88.61**	**328**	*e*P		**P**	**17 27 07.9**	**+1.3**
	comp=Z,1.8nm,0.8s,mb3.9							
MOD	**Modoc**	**88.61**	**328**	⇑P		**P**	**17 27 07.4**	**+0.8**
	baz=88							
O09A	**Fish Creek Ran**	**88.70**	**325**	⇑P		**P**	**17 27 08.0**	**+1.0**
	baz=88							
L05A	**Lakeview**	**88.71**	**328**	⇑P		**P**	**17 27 07.8**	**+0.7**
	baz=88							
N07B	**Gerlach**	**88.98**	**326**	⇓P		**P**	**17 27 09.4**	**+1.1**
	baz=89							
M06C	**Likely Place G**	**89.27**	**327**	⇓P		**P**	**17 27 10.8**	**+1.2**
	baz=89							
M04C	**Macdoel**	**89.34**	**328**	⇑P		**P**	**17 27 10.9**	**+1.0**
	baz=89							
N06A	**Buffalo Meadow**	**89.38**	**327**	⇑P		**P**	**17 27 11.0**	**+0.8**
	baz=89							
M05C	**Lookout**	**89.42**	**328**	⇑P		**P**	**17 27 11.4**	**+1.1**
	baz=89							
O07A	**Toulon**	**89.45**	**326**	⇑P		**P**	**17 27 11.6**	**+1.1**
	baz=89							
WUAZ	**Wupatki**	**89.60**	**318**	⇓P		**P**	**17 27 12.0**	**+0.8**
	baz=89							
R10A	**Warm Springs**	**89.82**	**323**	⇓P		**P**	**17 27 13.2**	**+1.0**
	baz=90							
O06A	**Flanigan**	**89.86**	**326**	⇓P		**P**	**17 27 13.0**	**+0.7**
	baz=90							
ELFS	**Eagle Lake Fie**	**89.86**	**327**	⇓P		**P**	**17 27 13.4**	**+1.0**
	baz=90							
M03C	**McCloud**	**89.88**	**328**	⇓P		**P**	**17 27 13.7**	**+1.3**
	baz=90							
TXAR	**Lajitas Array**	**89.96**	**309**	P		**P**	**17 27 13.7**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.7,baz=47,slow=4.1,SNR=9.0							
TXAR	**Lajitas Array**	**89.96**	**309**	P		**P**	**17 27 13.7**	**+0.9**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
W15A	**Williams**	**90.32**	**319**	⇓P		**P**	**17 27 15.4**	**+0.9**
	baz=90							
BEKR	**Beckwourth**	**90.33**	**326**	⇑P		**P**	**17 27 15.3**	**+0.7**
	baz=90							
NVAR	**Mina Array Bea**	**90.62**	**324**	P		**P**	**17 27 16.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=46,slow=5.2,SNR=5.7							
W14A	**Seligman**	**90.71**	**319**	⇑P		**P**	**17 27 17.3**	**+1.0**
	baz=90							
N02C	**Big Bar**	**90.74**	**329**	⇓P		**P**	**17 27 17.0**	**+0.5**
	baz=90							
X15A	**Humboldt**	**90.85**	**318**	⇑P		**P**	**17 27 17.8**	**+0.9**
	baz=91							
P05C	**Yuba Gap, Truc**	**90.91**	**326**	⇑P		**P**	**17 27 17.9**	**+0.6**
	baz=91							
R05C	**Kirkwood Meado**	**91.18**	**326**	⇓P		**P**	**17 27 19.0**	**+0.6**
	baz=91							
V12A	**Nelson**	**91.18**	**321**	⇓P		**P**	**17 27 19.3**	**+0.8**
	baz=91							
U10A	**Ash Meadows, A**	**91.34**	**322**	⇓P		**P**	**17 27 20.3**	**+1.1**
	baz=91							
PDMCI	**Parker Dam,Lak**	**91.96**	**319**	⇓P		**P**	**17 27 22.5**	**+0.4**
	baz=92							
SYO	**Syowa Base**	**110.17**	**170**	⇓*e*X		PP	17 33 20.0	-4.3
FITZ	**Fitzroy Crossi**	**118.02**	**91**	*e*PKP		PKPdf	17 32 56.8	-0.7
	comp=Z,8.7nm,1.6s							
FITZ	**Fitzroy Crossi**	**118.02**	**91**	PKP		PKPdf	17 32 56.6	-0.9
	comp=Z,1.5nm,0.5s,baz=234,slow=1.9,SNR=11							
KLBR	**Kellerberrin**	**119.42**	**108**	*e*PKP		PKPdf	17 32 58.3	-1.9
	comp=Z,6.5nm,0.6s							
WRA	**Warramunga Arr**	**125.78**	**87**	PKP		PKPdf	17 33 11.6	-0.8
	comp=Z,1.8nm,0.8s,baz=315,slow=1.9,SNR=22							
WRA	**Warramunga Arr**	**125.78**	**87**	PKIKP		PKPdf	17 33 11.6	-0.8
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WB2	**Warramunga Arr**	**125.79**	**87**	*e*PKP		PKPdf	17 33 11.6	-0.8
FORT	**Forrest**	**126.68**	**102**	*e*PKP		PKPdf	17 33 13.8	-0.3
	comp=Z,10nm,0.6s							
ASPA	**Alice Springs**	**127.52**	**91**	*e*PKP		PKPdf	17 33 14.7	-1.0
AS31	**Alice Springs**	**127.52**	**91**	*e*PKP		PKPdf	17 33 14.7	-1.0
ASAR	**Alice Springs**	**127.52**	**91**	PKP		PKPdf	17 33 14.7	-1.0
	comp=Z,1.4nm,0.6s,baz=310,slow=1.7,SNR=37							
ASAR				PP		PP	17 35 22.7	+0.1
	comp=Z,0.6nm,0.8s,baz=314,slow=6.7,SNR=4.6							
ASAR				SKPbc			17 36 03.9	
	comp=Z,0.9nm,0.8s,baz=314,slow=3.6,SNR=6.4							
CTA	**Charters Tower**	**134.97**	**78**	*e*PKP		PKPdf	17 33 30.1	+0.4
	comp=Z,1.9nm,0.8s							
CTA	**Charters Tower**	**134.97**	**78**	PKP		PKPdf	17 33 30.0	+0.2
	comp=Z,1.1nm,0.5s,baz=225,slow=2.9,SNR=4.0							
CTA				SKPbc		SKPbc	17 36 19.4	+0.1
	comp=Z,4.7nm,0.8s,baz=24,slow=3.6,SNR=7.5							
CTA	**Charters Tower**	**134.97**	**78**	PKIKP		PKPdf	17 33 30.0	+0.3
CTA							17 36 19.5	
CTA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
CTA				pmax		pmax		
	comp=N,5.0nm,0.8s							
STKA	**Stephens Creek**	**137.47**	**96**	PKP		PKPdf	17 33 32.5	-1.9
	comp=N,1.0nm,0.5s,baz=14,slow=2.7,SNR=3.3							
STKA				SKPbc		SKPbc	17 36 25.6	-1.2
	comp=N,3.6nm,0.7s,baz=354,slow=10,SNR=7.1							
VNDA	**Vanda**	**139.87**	**170**	SKPbc		SKPbc	17 36 31.7	-1.8
	comp=N,1.0nm,0.9s,baz=286,slow=3.3,SNR=4.8							
TOO	**Toolangi**	**142.60**	**102**	*e*PKP		PKPdf	17 33 39.8	-3.8
	comp=N,3.0nm,0.4s							
CNB	**Canberra Magne**	**144.78**	**97**	*e*PKP		PKPdf	17 33 46.9	-0.5
	comp=N,101nm,1.8s							
DZM	**Mont Dzumac**	**150.81**	**61**	PKPbc		PKPbc	17 34 04.6	+1.2
	comp=N,12nm,0.8s,baz=244,slow=12,SNR=11							

IDC 05 17:53:37.6±2.3, 606S×13011E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=92.4km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.74**	**200**	Pn		Pn	17 56 40.6	+0.6
	0.3nm,0.3s,baz=38,slow=13,SNR=20							
FITZ						Sn	17 58 48.4	-14
	0.3nm,0.3s,baz=158,slow=19,SNR=5.8							
WRA	**Warramunga Arr**	**14.40**	**164**	Pn		Pn	17 57 02.8	+0.2
	0.4nm,0.3s,baz=346,slow=13,SNR=18							
WRA						Sn	17 59 29.8	-13
	0.6nm,0.3s,baz=333,slow=22,SNR=7.7							
WRA						LR	LR	18 01 51.3	
	comp=Z,53nm,18.5s,baz=190,slow=34							
ASAR	**Alice Springs**	**17.88**	**169**	P		Pn	17 57 47.8	0.0
	0.2nm,0.3s,baz=346,slow=9.5,SNR=32							
ASAR						S	Sn	18 00 55.4	-12
	0.1nm,0.3s,baz=2.2,slow=26,SNR=5.2							
MKAR	**Makanchi Array**	**67.50**	**327**	P		P	18 04 35.6	+0.2
	0.2nm,0.5s,baz=114,slow=6.3,SNR=4.6							

*ISCJB **05** 17:59:23.3±0.6, 4266N±003×220E±005, h10km±6km, Error ellipse: s-maj=6.3km s-min=4.2km az=50.5*
*STR **05** 17:59:24.5±0.1, 4266N×198E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 17:59:24.4±0.1, 4263N×2.18E, h5km, Md2.0/1, Ml1.6/3, Error ellipse: s-maj=1.9km s-min=1.2km az=117.0*
*MDD **05** 17:59:24.8±0.3, 4263N×2.19E, h0km±14km, mbLg0.9/10, Error ellipse: s-maj=2.6km s-min=2.0km az=95.0, PRXIMO*

ISC 05 17:59:24.2±0.6, 4265N±003×219E±005, h7km±7km, n20, σ0°60/25, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CARF	**Carcanieres**	**0.09**	**319**	Pg		**Pg**	**17 59 26.8**	**+0.4**
CARF				Sg		**Sg**	**17 59 28.5**	**+0.6**
CARF	**Carcanieres**	**0.09**	**319**	**Pg**		**Pg**	**17 59 26.8**	**+0.4**
CARF				Lg			17 59 28.5	
CLLI	**Llivia**	**0.23**	**224**	Pg		**Pg**	**17 59 28.7**	**-0.1**
CLLI				Lg			17 59 31.7	
	3.5nm,0.1s							
VALF	**Valcebollere**	**0.28**	**208**	Pg		**Pg**	**17 59 29.6**	**0.0**
VALF				Sg		**Sg**	**17 59 33.4**	**+0.1**
VALF	**Valcebollere**	**0.28**	**208**	Pg		**Pg**	**17 59 29.6**	**0.0**
VALF				Lg			17 59 33.4	
CBRU	**Bruguera**	**0.36**	**181**	Pg		**Pg**	**17 59 31.2**	**0.0**
CBRU				Lg			17 59 36.1	
	4.4nm,0.3s							
EJON	**La Jonquera**	**0.55**	**111**	Pg		**Pg**	**17 59 35.3**	**+0.4**
	0.3nm,0.1s,SNR=7.9							
EJON				Lg			17 59 41.7	
	1.5nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**0.70**	**2**	*e*Pg		**Pg**	**17 59 37.9**	**+0.3**
MTLF				*e*Sg		**Sg**	**17 59 47.1**	**+0.4**
	2.9nm,0.3s							
MTLF	**Montolieu**	**0.70**	**2**	Pg		**Pg**	**17 59 37.9**	**+0.3**
MTLF				Lg			17 59 47.1	
	1.4nm,0.3s							
CORG	**Organya**	**0.77**	**238**	Pg		**Pg**	**17 59 38.6**	**-0.4**
CORG				Lg			17 59 49.2	
CSOR	**Sort**	**0.83**	**251**	Pg		**Pg**	**17 59 39.7**	**-0.4**
CSOR				Lg			17 59 50.6	
	0.9nm,0.2s							
EMIR	**Miracle**	**0.88**	**214**	Pg		**Pg**	**17 59 41.1**	**0.0**
	1.4nm,0.1s,SNR=7.9							
EMIR				Lg			17 59 53.1	
	1.3nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.41**	**286**	*e*Pg		**Pg**	**17 59 51.1**	**-0.2**
EPF				*e*Sg		**Sg**	**18 00 08.6**	**-1.1**
	0.8nm,0.2s							
EPF	**Esparros**	**1.41**	**286**	Pg		**Pg**	**17 59 51.1**	**-0.2**
EPF				Lg			18 00 08.6	
	0.4nm,0.2s							
EBIE	**Bielsa**	**1.51**	**272**	Pg		**Pg**	**17 59 54.7**	**+1.5**
	SNR=7.9							
EBIE				Sn		**Sn**	**18 00 12.3**	**+0.8**
	0.1nm,0.1s,SNR=7.9							
EBIE				Lg			18 00 15.1	
	0.6nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**1.53**	**213**	Pg		**Pg**	**17 59 52.8**	**-0.8**
	0.2nm,0.1s,SNR=7.9							
EPOB				Lg			18 00 12.7	
	1.6nm,0.1s,SNR=9.9							
LASF	**Ste Croix**	**1.88**	**40**	*e*Pg		**Pg**	**17 59 59.7**	**-0.5**
LASF				*e*Sg		**Sg**	**18 00 24.5**	**0.0**
	0.5nm,0.2s							
LASF	**Ste Croix**	**1.88**	**40**	Pg		**Pg**	**17 59 59.7**	**-0.5**
LASF				Lg			18 00 24.5	
	0.2nm,0.2s							
CAF	**Calviac**	**2.28**	**358**	*e*Sg		**Sg**	**18 00 36.5**	**-1.0**
	0.9nm,0.3s							
CAF	**Calviac**	**2.28**	**358**	Lg			18 00 36.5	
	0.4nm,0.3s							

GUC 05 18:04:28.6±0.7, 3150S×7163W, h29km±3km, MD3.5, ML2.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.40**	**164**	⇑*i*P		Pb	18 04 37.2	-0.2
CHNG				*i* S		Sb	18 04 43.5	+0.1
CHNG				AML		AML	18 04 44.7	
	comp=E,420nm,0.4s							
CMCH	**Combarbala**	**0.63**	**59**	⇑*i*P		Pb	18 04 40.9	-0.1
CMCH				*i* S		Sb	18 04 49.9	+0.4
CMCH				AML		AML	18 04 56.0	
	comp=N,344nm,0.6s							
PTCH	**Petorca**	**0.97**	**142**	*e*P		Pn	18 04 46.0	-0.2
PTCH				*i* S		Sn	18 04 59.1	+0.1
PTCH				AML		AML	18 05 01.7	
	comp=N,492nm,0.2s							
PEL	**Peldehue**	**1.83**	**154**	*e*P		Pn	18 04 59.8	+1.7
PEL				*i* S		Sn	18 05 23.5	+3.3
PEL				AML		AML	18 05 27.4	
	comp=E,114nm,0.5s							
RCDM	**Rinconada Maip**	**2.10**	**161**	*i* S		Sn	18 05 29.3	+2.2
RCDM				AML		AML	18 05 39.0	
	comp=N,43nm,1.0s							

CASC 05 18:11:39.8±2.4, 973N×8372W, h4km±6km, MD3.6, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.28**	**272**	⇑*e*P		Pg	18 11 46.1	+0.8
SJS	**Escuela Geolog**	**0.39**	**302**	*e*P		Pg	18 11 47.6	+0.3
LAJ	**Bijagual**	**0.42**	**288**	⇓*e*P		Pg	18 11 56.1	+8.2
LAJ				*e*S		Sg	18 12 08.3	+15
PRS1	**Puriscal**	**0.64**	**293**	⇑*e*P		Pg	18 11 52.2	+0.2
LIO	**Limon**	**0.72**	**68**	⇓*e*P		Pg	18 11 52.8	-0.9
LIO				*e*S		Sg	18 12 03.4	+0.3
CGA2	**Cerro Gallo 2**	**0.79**	**291**	⇓*e*P		Pg	18 11 54.5	-0.4
CGA2				*e*S		Sg	18 12 05.7	+0.5
ACR	**Cerro Adams**	**1.20**	**153**	*e*P		Pg	18 12 02.1	-0.7
ACR				*e*S		Sg	18 12 19.1	+0.6
JCR	**Jicaral**	**1.38**	**275**	⇑*e*P		Pn	18 12 04.9	-1.0
JCR				*e*S		Sb	18 12 24.0	-0.1
LIM1	**Limonal**	**1.79**	**303**	*e*P		Pn	18 12 11.2	-0.3
VCR	**Vista de Mar**	**1.93**	**282**	⇓*e*P		Pn	18 12 13.7	+0.3
CRZC	**La Cruz**	**2.21**	**303**	*e*P		Pn	18 12 17.6	+0.3

*NIED **05** 18:24:00, 2670N×12640E, h5km, Mw3.8 Best double couple: M0 5.95000×10^14 NP1:ϕs=252.00000°, δ=49.00000°, λ=-76.00000°. NP2:ϕs=51.00000°, δ=43.00000°, λ=-106.00000°.*
*ISCJB **05** 18:24:38.5±1.3, 2674N±005×12638E±003, h8km±7km, mb3.7/5, MS3.2/3, Error ellipse: s-maj=8.1km s-min=4.5km az=134.5*
*IDC **05** 18:24:38.4±1.1, 2668N×12646E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, MS3.1/4, Ms1 3.1/4, ms1mx2.9/39, Error ellipse: s-maj=25.6km s-min=19.7km az=42.0*
*JMA **05** 18:24:39.7±0.1, 2670N×12641E, h14km±2km, M3.5*
JMA Felt I J1.

ISC 05 18:24:39.9±1.2, 2672N±005×12643E±004, h9km±6km, n21, σ0°60/28, mb3.7/5, MS3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.50**	**141**	P		**Pg**	**18 24 49.5**	**-0.1**
JKE				S		**Sg**	**18 24 56.2**	**0.0

TXAR	**Lajitas Array**	**85.23**	**58**	P		**P**		**18 40 54.9**	**-0.2**
	0.5nm,0.7s,mb3.8,baz=214,slow=5.7,SNR=6.3								
PDAR	**Pinedale Array**	**86.38**	**43**	P		**P**		**18 40 59.6**	**-1.1**
	0.4nm,0.6s,mb3.8,baz=210,slow=5.0,SNR=4.5								

*ISCJB **05** 18:39:27.2±1.2, 176S±0.1×1788W±0.1, h545km±21km, mb4.2/12, Error ellipse: s-maj=22.5km s-min=18.9km az=160.0*
*NEIC **05** 18:39:27.6±0.9, 1759S×17884W, h530km±15km, mb4.4/7, Error ellipse: s-maj=15.8km s-min=13.2km az=169.0*
*IDC **05** 18:39:27.3±1.9, 1764S×17885W, h520km±29km, mb3.5/7, mb1 3.7/9, mb1mx3.4/18, mbtmp3.5/9, Error ellipse: s-maj=23.2km s-min=20.6km az=94.0*

ISC 05 18:39:28.0±1.1, 176S±01×1788W±01, h535km±19km, n27, σ0$71/30, mb4.2/12, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**62**	P		**P**		**18 41 22.1**	**-0.3**
	8.5nm,0.3s,baz=209,slow=4.2,SNR=9.6								
AFI				S		**S**		**18 42 47.1**	**-9.0**
	2.7nm,0.3s,baz=277,slow=19,SNR=6.4								
AFI	**Afiamalu**	**7.71**	**62**	*e*P		**P**		**18 41 22.2**	**-0.2**
AFI				S		**S**		**18 42 47.1**	**-9.0**
DZM	**Mont Dzumac**	**14.56**	**250**	P		**P**		**18 42 33.1**	**0.0**
	1.2nm,0.3s,baz=79,slow=22,SNR=9.4								
URZ	**Urewera**	**20.87**	**189**	P		**P**		**18 43 31.0**	**-1.6**
	2.0nm,0.3s,baz=37,slow=11,SNR=5.8								
ARMA	**Armidale**	**29.76**	**239**	*e*P		**P**		**18 44 52.3**	**+1.2**
CTA	**Charters Tower**	**33.12**	**260**	*e*P		**P**		**18 45 19.8**	**0.0**
	4.8nm,0.8s,mb4.1								
CNB	**Canberra Magne**	**33.30**	**232**	*e*P		**P**		**18 45 22.2**	**+0.8**
	12nm,0.5s,mb4.7								
TOO	**Toolangi**	**37.06**	**230**	*e*P		**P**		**18 45 53.5**	**+0.9**
	8.9nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**38.44**	**241**	*e*P		**P**		**18 46 04.6**	**+0.7**
	6.9nm,0.5s,mb4.4								
STKA	**Stephens Creek**	**38.44**	**241**	P		**P**		**18 46 04.6**	**+0.8**
	7.9nm,0.5s,mb4.5,baz=86,slow=8.7,SNR=60								
STKA	**Stephens Creek**	**38.44**	**241**	*e*P		**P**		**18 46 04.4**	**+0.5**
WB2	**Warramunga Arr**	**44.30**	**259**	*e*P		**P**		**18 46 49.3**	**-1.0**
WB2	**Warramunga Arr**	**44.30**	**259**	*e*P		**P**		**18 46 49.4**	**-0.9**
WRAB	**Tennant Creek**	**44.30**	**259**	*e*P		**P**		**18 46 49.5**	**-0.8**
WRA	**Warramunga Arr**	**44.31**	**259**	P		**P**		**18 46 49.7**	**-0.7**
	1.4nm,0.4s,mb3.8,baz=90,slow=7.8,SNR=62								
AS31	**Alice Springs**	**44.50**	**254**	*e*P		**P**		**18 46 51.8**	**0.0**
ASAR	**Alice Springs**	**44.50**	**254**	P		**P**		**18 46 51.9**	**+0.1**
	31nm,0.7s,mb5.0,baz=89,slow=7.9,SNR=674								
ASAR				PcP		PcP		18 48 24.1	+0.5
	0.8nm,0.5s,baz=101,slow=4.0,SNR=4.4								
ASAR				S		**S**		**18 52 45.2**	**-2.9**
	0.8nm,1.0s,baz=84,slow=17,SNR=5.5								
ASPA	**Alice Springs**	**44.51**	**254**	⇓*i*P		**P**		**18 46 51.8**	**-0.1**
KAKA	**Kakadu**	**47.21**	**269**	⇑*i*P		**P**		**18 47 12.7**	**+0.3**
	9.2nm,0.4s,mb4.7								
FORT	**Forrest**	**49.79**	**244**	*e*P		**P**		**18 47 31.2**	**-0.4**
	19nm,0.5s,mb4.8								
FITZ	**Fitzroy Crossi**	**52.70**	**260**	*e*P		**P**		**18 47 53.3**	**+0.6**
	4.9nm,0.9s,mb3.8								
FITZ	**Fitzroy Crossi**	**52.70**	**260**	P		**P**		**18 47 53.2**	**+0.5**
	1.5nm,0.3s,mb3.8,baz=15,slow=3.0,SNR=26								
KLBR	**Kellerberrin**	**58.62**	**243**	*e*P		**P**		**18 48 33.3**	**-0.4**
	8.7nm,0.7s,mb4.1								
VNDA	**Vanda**	**60.70**	**185**	P		**P**		**18 48 48.0**	**+0.5**
	0.2nm,0.5s,mb2.8,baz=357,slow=7.2,SNR=5.8								
VNDA	**Vanda**	**60.70**	**185**	*e*P		**P**		**18 48 47.9**	**+0.3**
	0.5nm,0.6s,mb3.0								
MJAR	**Matsushiro Arr**	**67.45**	**324**	P		**P**		**18 49 30.8**	**+0.4**
	1.2nm,0.6s,mb3.6,baz=157,slow=6.0,SNR=6.4								
QSPA	**South Pole Qui**	**72.43**	**180**	*e*P		**P**		**18 50 00.5**	**+0.4**

IDC 05 18:46:16.4±1.9, 424N×12688E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=151.9km s-min=25.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**163**	P		P		18 51 42.5	-0.4
	0.4nm,0.3s,baz=343,slow=10,SNR=8.8								
ASAR	**Alice Springs**	**28.57**	**166**	P		P		18 52 15.2	+1.3
	0.2nm,0.5s,baz=354,slow=7.8,SNR=6.6								
STKA	**Stephens Creek**	**38.55**	**160**	P		P		18 53 40.7	0.0
	1.0nm,0.7s,baz=344,slow=6.9,SNR=3.0								
MKAR	**Makanchi Array**	**57.22**	**325**	P		P		18 56 05.5	+0.1
	0.3nm,0.4s,baz=118,slow=8.9,SNR=5.6								

*CSEM **05** 18:55:01.4, 6787N×20.16E, h0km, ML3.2, Suspected Mining explosion. After UPP*
*UPP **05** 18:55:01.4, 6787N×2016E, h0km, ML3.2, Suspected Mining explosion.*

HEL 05 18:55:02.4±0.2, 6787N×2014E, h0km, ML1.7, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**40**	*i*P		P	g	18 55 03.8	-0.8
NIKU	**Nikkaluokta**	**0.42**	**271**	*i*P		P	g	18 55 09.6	-0.8
LANU	**Lannavaara**	**0.72**	**74**	*i*P		P	g	18 55 15.0	-1.3
LANU	**Lannavaara**	**0.72**	**74**	P		P	g	18 55 15.0	-1.2
	baz=304								
KIF	**Kilpisjarvi**	**1.17**	**12**	*e*P		P	g	18 55 25.0	+0.2
KIF				*e*S		S	g	18 55 40.3	+0.3
PAJU	**Pajala**	**1.43**	**125**	*e*P		P	n	18 55 26.8	-2.7
HARU	**Harads**	**1.74**	**169**	*e*P		P	n	18 55 33.5	-0.3
SJUU	**Sjulsmark**	**2.44**	**165**	*e*P		P	n	18 55 43.5	0.0
SGF	**Sodankyl**	**2.48**	**97**	*e*P		P	n	18 55 44.8	+0.8
SGF				*e*SB		S	b	18 56 16.7	-2.2
SGF				MSG				18 56 19.8	
	comp=Z,3.5nm,0.2s								
KEV	**Kevo**	**3.13**	**50**	*e*P		P	n	18 55 53.5	+0.5
KEV				*e*S		S	n	18 56 30.3	-0.9
KEV				MSG				18 56 38.7	
	comp=Z,1.7nm,0.2s								
OUL	**Oulu**	**3.62**	**138**	*e*SG		Sg		18 56 55.2	-3.6

*NEIC **05** 19:02:00.1, 1620N×9805W, h25km, MD3.8(MEX), After MEX.*

MEX 05 19:01:59.6±0.4, 1617N×9806W, h24km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**343**	*i*P		P	b	19 02 04.6	-1.0
PNIG				*i*S		S	b	19 02 08.4	-1.2
PNIG	**Pinotepa**	**0.23**	**343**	*i*P		P	b	19 02 04.6	-1.0
PNIG				*i*S		S	b	19 02 08.4	-1.2
VHO	**Vista Hermosa**	**1.56**	**54**	*i*P		P	n	19 02 23.6	-2.2
VHO				*i*S		S	n	19 02 41.7	-3.5
OXX	**Oaxaca**	**1.57**	**54**	*e*P		P	n	19 02 24.5	-1.5
OXX				*e*S		S	n	19 02 42.3	-3.2
OXX	**Oaxaca**	**1.57**	**54**	*e*P		P	n	19 02 21.5	-4.5
OXX				*e*S		S	n	19 02 45.3	-0.2
UTMO	**Huajuapan**	**1.67**	**8**	*e*P		P	n	19 02 24.5	-2.9
UTMO				*i*S		S	n	19 02 44.5	-3.5
ACX	**Acapulco**	**1.92**	**292**	*e*P		P	n	19 02 34.0	+3.3
MEIG	**Mezcala**	**2.30**	**320**	*i*P		P	n	19 02 33.5	-2.5
MEIG				*i*S		S	n	19 03 00.9	-2.7
TPIG	**Tehuac#an**	**2.34**	**16**	*i*P		P	n	19 02 34.6	-1.9
TPIG				*i*S		S	n	19 03 02.2	-2.3
PLIG	**Platanillo**	**2.61**	**328**	*e*P		P	n	19 02 38.1	-2.2
PLIG				*e*S		S	n	19 03 07.5	-3.7
PLIG	**Platanillo**	**2.61**	**328**	*e*P		P	n	19 02 40.8	+0.5
PLIG				*i*S		S	n	19 03 06.4	-4.8

IDC 05 19:20:10.0±41.0, 1799S×17799W, h590km±359km, mb2.7/4, mb1 3.0/4, mb1mx2.7/15, mbtmp2.7/4, Error ellipse: s-maj=351.4km s-min=46.9km az=106.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.01**	**260**	P		P		19 27 33.3	-0.7
	0.4nm,0.4s,baz=95,slow=7.6,SNR=22								
ASAR	**Alice Springs**	**45.15**	**254**	P		P		19 27 36.2	+1.1
	0.5nm,0.6s,baz=90,slow=8.0,SNR=12								
ASAR				PcP		PcP		19 29 02.5	-0.2
	0.2nm,0.4s,baz=108,slow=3.6,SNR=5.0								
FITZ	**Fitzroy Crossi**	**53.41**	**261**	P		P		19 28 36.5	+0.8
	1.2nm,0.9s,baz=117,slow=4.5,SNR=3.3								
MJAR	**Matsushiro Arr**	**68.21**	**323**	P		P		19 30 12.8	+0.2
	0.8nm,0.5s,baz=152,slow=6.3,SNR=4.2								

*ISCJB **05** 19:21:21.1±3.9, 196N±0.1×1462E±03, h44km±34km, mb3.8/10, MS3.0/1, Error ellipse: s-maj=40.4km s-min=16.5km az=11.7*
*IDC **05** 19:21:23.8±4.9, 1961N×14629E, h57km±44km, mb3.4/8, mb1 3.6/10, mb1mx3.6/22, mbtmp3.5/10, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/26, Error ellipse: s-maj=34.5km s-min=17.3km az=95.0*
*NEIC **05** 19:21:28.9±6.2, 1960N×14622E, h105km±58km, mb4.2/1, Error ellipse: s-maj=33.0km s-min=12.6km az=92.0*

ISC 05 19:21:22.9±3.0, 1960N±010×1463E±02, h45km±27km, n15, σ1$08/14, mb3.8/10, MS3.0/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.13**	**193**	LR		LR		19 25 07.8	
	comp=Z,74nm,20.6s,baz=66,slow=36								
CBIJ	**Chichi jima**	**8.37**	**334**	P		**Pn**		**19 23 21.1**	**-0.5**
	3.0nm,0.3s,baz=320,slow=23,SNR=7.1								
CBIJ				S		**Sn**		**19 24 48.4**	**-6.5**
	7.4nm,0.3s,baz=289,slow=23,SNR=8.4								
MJAR	**Matsushiro Arr**	**18.32**	**339**	P		**Pn**		**19 25 33.9**	**+0.3**
	0.1nm,0.3s,baz=168,slow=12,SNR=3.4								
KSRS	**Korea Array**	**23.96**	**322**	P		**P**		**19 26 35.8**	**+2.8**
	2.2nm,0.6s,mb3.8,baz=152,slow=9.1,SNR=11								
ASAJ	**Asahikawa**	**24.65**	**354**	LR		LR		19 37 51.7	
	comp=Z,46nm,18.4s,MS3.0,baz=140,slow=40								
WRAB	**Tennant Creek**	**41.00**	**197**	*e*P		**P**		**19 28 56.0**	**-5.5**
	2.1nm,0.5s,mb4.0								
WB2	**Warramunga Arr**	**41.01**	**197**	*e*P		**P**		**19 29 01.9**	**+0.4**
WRA	**Warramunga Arr**	**41.01**	**197**	P		**P**		**19 29 01.8**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=21,slow=9.3,SNR=8.7								
FITZ	**Fitzroy Crossi**	**42.61**	**210**	P		**P**		**19 29 14.4**	**-0.2**
	1.7nm,0.7s,mb3.9,baz=10,slow=11,SNR=6.6								
SONM	**Songino Array**	**42.82**	**320**	P		**P**		**19 29 17.8**	**+1.4**
	0.5nm,0.6s,mb3.5,baz=133,slow=9.6,SNR=5.3								
ASAR	**Alice Springs**	**44.67**	**196**	P		**P**		**19 29 30.9**	**-0.3**
	0.2nm,0.5s,mb3.2,baz=16,slow=9.7,SNR=4.8								
MKAR	**Makanchi Array**	**58.27**	**313**	P		**P**		**19 31 11.9**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=82,slow=12,SNR=3.1								
NVAR	**Mina Array Bea**	**82.13**	**52**	P		**P**		**19 33 39.8**	**+1.0**
	1.9nm,0.7s,mb4.1,baz=272,slow=6.9,SNR=14								
FINES	**FINESS Array B**	**86.32**	**335**	P		**P**		**19 33 57.4**	**-2.7**
	0.3nm,0.3s,mb4.0,baz=72,slow=6.2,SNR=4.2								
PDAR	**Pinedale Array**	**86.78**	**46**	P		**P**		**19 34 01.9**	**-0.4**
	0.6nm,0.8s,mb3.9,baz=180,slow=1.5,SNR=5.2								

IDC 05 19:49:22.9±8.6, 224N×12681E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=137.7km s-min=101.3km az=140.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.25**	**183**	P		P		19 54 01.2	+1.6
	0.9nm,0.5s,baz=35,slow=12,SNR=3.3								
WRA	**Warramunga Arr**	**23.25**	**162**	P		P		19 54 31.7	-0.2
	2.2nm,0.4s,baz=339,slow=11,SNR=54								
WB2	**Warramunga Arr**	**23.25**	**162**	*e*P		P		19 54 31.7	-0.2
ASAR	**Alice Springs**	**26.66**	**165**	P		P		19 55 03.6	+0.2
	0.9nm,0.4s,baz=345,slow=7.5,SNR=36								
ASPA	**Alice Springs**	**26.66**	**165**	*e*P		P		19 55 03.6	+0.2
STKA	**Stephens Creek**	**36.72**	**159**	P		P		19 56 31.7	0.0
	1.3nm,0.5s,baz=346,slow=8.8,SNR=8.1								

*ISCJB **05** 19:54:34.3±0.4, 3653N±002×71.18E±005, h240km±4km, mb3.9/16, Error ellipse: s-maj=6.6km s-min=3.3km az=145.4*
*MOS **05** 19:54:34.1±0.8, 3655N×7120E, h241km, mb4.1/12, Error ellipse: s-maj=15.9km s-min=7.3km az=93.8*
*NEIC **05** 19:54:35.9±1.1, 3656N×7132E, h247km±12km, mb4.7/6, Error ellipse: s-maj=9.1km s-min=7.1km az=59.0*
*BJI **05** 19:54:36.6, 3670N×7129E, h237km, mB4.8, mb4.6*
*IDC **05** 19:54:37.9±2.5, 3657N×7130E, h269km±25km, mb3.6/15, mb1 3.8/20, mb1mx3.6/29, mbtmp3.7/20, Error ellipse: s-maj=10.7km s-min=10.0km az=82.0*

ISC 05 19:54:35.7±0.4, 3657N±002×7131E±005, h245km±4km, n99, σ1$08/123, mb3.9/16, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.78**	**170**	⇑P		**Pn**		**19 55 25.8**	**+0.4**
CHCP	**Chirah Chowk**	**3.32**	**150**	⇑P		**Pn**		**19 55 32.2**	**+0.9**
CHCP				S		**S**		**19 56 11.0**	**-4.3**
THW	**Thamme Wali**	**3.78**	**174**	⇑P		**Pn**		**19 55 36.6**	**0.0**
SRNI	**Srinagar**	**3.80**	**129**	*e*P		**Pn**		**19 55 38.4**	**+1.5**
SRNI				*e*S		**S**		**19 56 24.0**	**-1.4**
KSH	**Kashi**	**4.72**	**50**	*i*P		**Pn**		**19 55 49.0**	**+1.2**
KSH				S		**S**		**19 56 44.5**	**-0.7**
KSH				Smax					
	comp=N,2μm,0.4s								
KSH				Smax					
	comp=E,2μm,0.5s								
DRP	**Derazinda**	**4.90**	**191**	P		**Pn**		**19 55 49.4**	**-0.6**
THN	**Thein Dam**	**5.50**	**137**	*e*P		**Pn**		**19 55 57.8**	**+0.4**
THN				*e*S		**S**		**19 57 01.7**	**-0.9**
DLH	**Dalhousie**	**5.56**	**135**	*e*P		**Pn**		**19 55 56.0**	**-2.2**
DLH				*e*S		**S**		**19 57 02.0**	**-2.0**
AML	**Almayashu**	**5.86**	**18**	P		**Pn**		**19 56 01.9**	**+0.1**
	SNR=681								
KZA	**Kyzart**	**6.29**	**28**	P		**Pn**		**19 56 07.6**	**+0.2**
	SNR=30								
EKS2	**Erkin-Say**	**6.38**	**17**	P		**Pn**		**19 56 08.4**	**0.0**
	SNR=128								
AAK	**Ala-Archa**	**6.54**	**21**	P		**Pn**		**19 56 10.8**	**+0.3**
	SNR=144								
AAK	**Ala-Archa**	**6.54**	**21**	*e*PN		**Pn**		**19 56 09.5**	**-0.9**
AAK				pmax		pmax			
	comp=Z,51nm,1.0s								
AAK	**Ala-Archa**	**6.54**	**21**	*e*P		**Pn**		**19 56 09.5**	**-0.9**
	comp=Z,51nm,1.0s								
AAK				*e*S		**S**		**19 57 15.3**	**-11**
KK31	**Karatay Array**	**6.56**	**355**	⇑Pn		**Pn**		**19 56 09.7**	**-0.9**
	comp=Z,44nm,0.5s,baz=174,slow=12,SNR=457								
KK31				⇓Sn		**S**		**19 57 20.9**	**-5.8**
	comp=Z,284nm,0.8s,baz=185,slow=25								
KBK	**Karagaybulak**	**6.70**	**24**	P		**Pn**		**19 56 13.1**	**+0.6**
	SNR=53								
FRU	**Bishkek**	**6.76**	**21**	*e*PN		**Pn**		**19 56 13.0**	**-0.2**
FRU				*i*S		**S**		**19 57 33.0**	**+1.7**
FRU				pmax		pmax			
	comp=Z,120nm,1.4s								
FRU				smax					
	comp=N,240nm,1.8s								
ULHL	**Ulahol**	**6.84**	**32**	P		**Pn**		**19 56 14.5**	**+0.3**
	SNR=51								
SDNR	**Sundarnagar**	**6.90**	**135**	*e*P		**Pn**		**19 56 14.8**	**-0.2**
SDNR				*e*S		**S**		**19 57 30.2**	**-4.4**
CHMS	**Chumysh**	**6.95**	**21**	P		**Pn**		**19 56 16.3**	**+0.7**
	SNR=18								
USP	**Ospenovka**	**7.13**	**19**	P		**Pn**		**19 56 18.1**	**+0.2**
	SNR=25								
TKM2	**Tokmak 2**	**7.16**	**26**	P		**Pn**		**19 56 19.2**	**+1.0**
	SNR=12								
TKM2	**Tokmak 2**	**7.16**	**26**	⇓Pn		**Pn**		**19 56 18.5**	**+0.3**
	comp=N,17nm,1.1s								
TKM2				⇑Sn		**S**		**19 57 38.3**	**-2.1**
	comp=N,10nm,1.1s								
KHET	**Khetri**	**9.28**	**155**	*e*P		**Pn**		**19 56 40.9**	**-4.3**
KHET				AMb		AMB		19 56 42.6	
	comp=Z,17nm,0.6s								
KHET				*e*S		**S**		**19 58 20.0**	**-10**
NDI	**New Delhi**	**9.30**	**146**	*e*P		**Pn**		**19 56 43.5**	**-2.0**
NDI				*e*S		**S**		**19 58 23.5**	**-6.9**
AYAN	**Aya Nagar**	**9.44**	**147**	*e*P		**Pn**		**19 56 46.8**	**-0.3**
AYAN				AMb		AMB		19 56 47.9	
	comp=Z,64nm,1.1s								
AYAN				*e*S		**S**		**19 58 27.4**	**-6.1**
JASL	**Jaisalmer**	**9.62**	**182**	*ex*		x		19 56 44.9	
SONA	**Sohna**	**9.62**	**148**	*e*P		**Pn**		**19 56 49.5**	**+0.1**
SONA				AMb		AMB		19 56 50.3	
	comp=Z,41nm,1.1s								
SONA				*e*S		**S**		**19 58 30.9**	**-6.9**
AJM	**Ajmer**	**10.45**	**163**	*e*P		**Pn**		**19 56 56.5**	**-3.4**
AJM				AMb		AMB		19 57 03.1	
	comp=Z,12nm,0.6s								
AJM				*e*S		**S**		**19 58 41.1**	**-16**

MK31	**Makanchi Array**	**13.09**	**35**	*e*P		**Pn**		**19 57 33.1**	**+0.3**
MKAR	**Makanchi Array**	**13.09**	**35**	P		**Pn**		**19 57 32.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=217,slow=15,SNR=30								
MKAR	**Makanchi Array**	**13.09**	**35**	P		**Pn**		**19 57 32.6**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KOLN	**Koldanda**	**13.60**	**127**	*e*P		**Pn**		**19 57 40.1**	**+1.0**
	comp=Z,29nm,0.5s								
KOLN				*e*S		**S**		**20 00 07.9**	**-2.1**
GKN	**Gorkha**	**14.13**	**123**	*e*P		**Pn**		**19 57 46.4**	**+0.9**
GKN				*e*S		**S**		**20 00 17.5**	**-4.5**
BHPL	**Bhopal**	**14.29**	**157**	*ex*		x		19 57 50.4	
BHPL				AMb		AMB		19 57 52.2	
	comp=Z,48nm,0.7s								
BHPL				*ex*		x		20 00 20.0	
WMQ	**Urumqi**	**14.46**	**55**	P		**Pn**		**19 57 51.0**	**+1.5**
DMN	**Daman**	**14.70**	**123**	*e*P		**Pn**		**19 57 53.7**	**+1.3**
	comp=Z,24nm,0.4s								
DMN				*e*S		**S**		**20 00 31.8**	**-3.1**
KKN	**Kakani**	**14.70**	**123**	*e*P		**Pn**		**19 57 53.5**	**+1.1**
	comp=Z,59nm,0.6s								
PKI	**Pulchoki**	**14.93**	**123**	*e*P		**Pn**		**19 57 56.5**	**+1.3**
	comp=Z,43nm,0.6s								
GUN	**Gumba**	**15.04**	**121**	*e*P		**Pn**		**19 57 58.4**	**+1.9**
JIRN	**Jiri**	**15.41**	**121**	*e*P		**Pn**		**19 58 02.8**	**+1.9**
	comp=Z,76nm,0.5s								
ZRNK	**Zerenda**	**16.46**	**355**	*e*P		**P**		**19 58 12.3**	**+0.5**
ZRNK				pmax		pmax			
	comp=Z,34nm,0.5s								
ZRNK	**Zerenda**	**16.46**	**355**	*e*P		**P**		**19 58 12.3**	**+0.5**
	comp=Z,34nm,0.5s								
BVAR	**Borovoye Array**	**16.47**	**358**	P		**P**		**19 58 12.6**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=162,slow=10,SNR=67								
BVAR				S		**S**		**20 01 10.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=171,slow=22,SNR=8.9								
BVAR	**Borovoye Array**	**16.47**	**358**	P		**P**		**19 58 12.6**	**+0.7**
BVAR				S		**S**		**20 01 10.3**	**-1.2**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
BRVK	**Borovoye**	**16.51**	**358**	*e*P		**P**		**19 58 13.0**	**+0.7**
BRVK				*e*S		**S**		**20 01 08.4**	**-3.9**
BRVK				pmax		pmax			
	comp=Z,41nm,1.0s								
BRVK	**Borovoye**	**16.51**	**358**	*e*P		**P**		**19 58 13.0**	**+0.7**
	comp=Z,41nm,1.0s								
BRVK				*e*S		**S**		**20 01 08.3**	**-3.9**
NGP	**Nagpur**	**16.78**	**154**	*ex*		x		19 58 16.9	
AKTK	**Aktyubinsk**	**16.85**	**330**	P		**P**		**19 58 16.4**	**+0.4**
AKTK				S		**S**		**20 01 17.1**	**-2.0**
AKTO	**Aktyubinsk**	**16.85**	**330**	P		**P**		**19 58 16.4**	**+0.4**
	comp=Z,5.7nm,0.3s,baz=138,slow=10,SNR=214								
AKTO				S		**S**		**20 01 17.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=311,slow=19,SNR=3.0								
AKTO	**Aktyubinsk**	**16.85**	**330**	P		**P**		**19 58 16.4**	**+0.4**
AKTO				S		**S**		**20 01 17.1**	**-2.0**
AKTO				pmax		pmax			
	comp=Z,6.0nm,0.3s								
CHKZ	**Chkalovo**	**17.12**	**359**	*e*P		**P**		**19 58 18.7**	**-0.2**
CHKZ				pmax		pmax			
	comp=Z,34nm,0.5s								
CHKZ	**Chkalovo**	**17.12**	**359**	*e*P		**P**		**19 58 18.7**	**-0.2**
	comp=Z,34nm,0.5s								
WSAR	**Wadi Sarin**	**17.21**	**223**	P		**P**		**19 58 21.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=72,slow=9.2,SNR=6.1								
BOK	**Bokaro**	**17.89**	**131**	*ex*		x		19 58 30.6	
BOK				AMb		AMB		19 58 31.1	
	comp=Z,19nm,0.5s								
LSA	**Lhasa**	**17.96**	**107**	P		**P**		**19 58 32.0**	**+3.9**
LSA	**Lhasa**	**17.96**	**107**	*e*P		**P**		**19 58 32.7**	**+4.6**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.6s								
LSA	**Lhasa**	**17.96**	**107**	*e*P		**P**		**19 58 32.7**	**+4.6**
	comp=Z,7.5nm,0.6s								
ORR	**Orenburg**	**19.11**	**327**	*i*P		**P**		**19 58 39.8**	**-0.6**
ZAL	**Zalesovo**	**19.74**	**24**	P		**P**		**19 58 47.7**	**+0.6**
	comp=Z,3.1nm,0.3s,baz=254,slow=5.8,SNR=18								
ZAL				S		**S**		**20 02 14.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=18,slow=20,SNR=5.1								
ZAL	**Zalesovo**	**19.74**	**24**	P		**P**		**19 58 47.7**	**+0.5**
ZAL				S		**S**		**20 02 15.0**	**-1.0**
ZAL				pmax		pmax			
	comp=Z,3.0nm,0.3s								
NVS	**Novosibirsk**	**20.03**	**20**	*e*P		**P**		**19 58 50.6**

YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**20 06 24.4**	**+0.4**
WRA	**Warramunga Arr**	**81.82**	**122**	P		**P**	**20 06 27.4**	**0.0**
	comp=Z,2.0nm,0.7s,mb3.8,baz=322,slow=4.9,SNR=28							
WRA	**Warramunga Arr**	**81.82**	**122**	P		**P**	**20 06 27.4**	**0.0**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WRAB	**Tennant Creek**	**81.82**	**122**	*e*P		**P**	**20 06 27.4**	**0.0**
ASAR	**Alice Springs**	**84.09**	**125**	P		**P**	**20 06 39.0**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.1,baz=310,slow=5.0,SNR=43							
ASAR	**Alice Springs**	**84.09**	**125**	P		**P**	**20 06 39.1**	**+0.1**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							

BJI ***05*** *20:01:34.1, 538N×12628E, h16km, mB4.9, mb4.9, Ms4.3, Msz3.8*
MOS ***05*** *20:01:42.5±1.1, 6.14N×12598E, h33km, mb5.0/23, Error ellipse: s-maj=12.9km s-min=6.8km az=100.2*
NEIC ***05*** *20:01:42.2±0.2, 6.10N×12592E, mb4.9/29, Error ellipse: s-maj=10.1km s-min=5.0km az=79.0*
ISCJB ***05*** *20:01:48.6±0.5, 6.11N±003×12604E±004, h89km±4km, mb4.7/53, Error ellipse: s-maj=7.2km s-min=4.7km az=148.9*
MAN ***05*** *20:01:49.8, 6.17N×12593E, h58km, mb4.5, ML5.3, MS3.6*
IDC ***05*** *20:01:49.9±1.9, 6.11N×12595E, h88km±16km, mb4.4/18, mb1 4.4/18, mb1mx4.3/26, mbtmp4.4/18, MS3.4/8, Ms1 3.4/8, ms1mx3.1/34, Error ellipse: s-maj=20.1km s-min=8.5km az=80.0*

ISC 05 20:01:49.7±0.5, 610N±003×12606E±004, h81km±4km, n152, σ1$00/161, mb4.7/53, 6C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**0.86**	**13**	*e*P		**Pn**	**20 02 06.4**	**-0.8**
DAV	**Davao City (W)**	**1.07**	**334**	*e*Pn		**Pn**	**20 02 09.3**	**-0.3**
DAV				*e*Sn		**Sn**	**20 02 23.7**	**-0.9**
DMPH	**Davao City--Mi**	**1.12**	**331**	↑*i*P		**Pn**	**20 02 09.7**	**-0.5**
DMPH				*i* S		**Sn**	**20 02 25.6**	**0.0**
KCP	**Kidapawan**	**1.32**	**313**	↑*i*P		**Pn**	**20 02 11.9**	**-0.8**
KCP				*i* S		**Sn**	**20 02 29.2**	**-0.8**
BUKP	**Musuan**	**2.02**	**331**	*e*P		**Pn**	**20 02 21.8**	**-0.1**
BUKP				*e*S		**Sn**	**20 02 45.9**	**-0.5**
CTBH	**Cotabato--PC H**	**2.12**	**302**	↑*e*P		**Pn**	**20 02 22.3**	**-0.8**
CTBH				*i* S		**Sn**	**20 02 48.1**	**-0.5**
CGP	**Cagayan de Oro**	**2.70**	**330**	↑*e*P		**Pn**	**20 02 30.7**	**-0.3**
CGP				*e*S		**Sn**	**20 03 03.1**	**+0.4**
BUTP	**Butuan**	**2.88**	**351**	*e*P		**Pn**	**20 02 34.4**	**+1.0**
PAGZ	**Pagadian**	**3.17**	**303**	*e*P		**Pn**	**20 02 37.1**	**-0.2**
DCPH	**Dipolog City**	**3.64**	**313**	*e*P		**Pn**	**20 02 44.5**	**+0.8**
SCPH	**Surigao**	**3.70**	**351**	↓*e*P		**Pn**	**20 02 43.1**	**-1.4**
IPIL	**Ipil**	**3.84**	**296**	*e*P		**Pn**	**20 02 46.4**	**-0.1**
TBP	**Tagbilaran**	**4.17**	**329**	*e*P		**Pn**	**20 02 50.9**	**-0.1**
TBP				*e*S		**Sn**	**20 03 37.4**	**-1.1**
MSLP	**Maasin**	**4.18**	**344**	*e*P		**Pn**	**20 02 50.1**	**-0.9**
LLP	**Lapu-Lapu**	**4.67**	**334**	↓*i*P		**Pn**	**20 02 57.8**	**+0.1**
LLP				*i* S		Sn	20 03 30.4	-20
OCLP	**Ormoc**	**5.12**	**344**	*e*P		**Pn**	**20 03 04.4**	**+0.5**
PLP	**Palo**	**5.14**	**348**	*e*P		**Pn**	**20 03 04.2**	**+0.1**
GUIM	**Jordan**	**5.65**	**329**	*e*P		**Pn**	**20 03 11.6**	**+0.5**
RCP	**Roxas**	**6.33**	**329**	↓*e*P		**Pn**	**20 03 21.8**	**+1.4**
KALP	**Kalibo**	**6.65**	**327**	*e*P		**Pn**	**20 03 33.7**	**+9.0**
CUYO	**Cuyo Island**	**6.86**	**314**	*e*P		**Pn**	**20 03 27.6**	**0.0**
OTRP	**Odiongan**	**7.38**	**328**	*e*P		**Pn**	**20 03 37.5**	**+2.8**
PVCP	**Virac**	**7.68**	**346**	*e*P		**Pn**	**20 03 40.1**	**+1.4**
BUSP	**Coron**	**8.23**	**316**	*e*P		**Pn**	**20 03 47.2**	**+0.9**
ENPP	**El Nido**	**8.29**	**308**	*e*P		**Pn**	**20 03 47.2**	**+0.1**
BOAC	**Boac**	**8.40**	**331**	*e*P		**Pn**	**20 03 51.6**	**+2.9**
TGY	**Tagaytay City**	**9.41**	**328**	P		**Pn**	**20 04 06.8**	**+4.5**
	18nm,0.3s,baz=158,slow=16,SNR=4.8							
LUBP	**Lubang**	**9.50**	**323**	*e*P		**Pn**	**20 04 06.4**	**+2.9**
KKM	**Kota Kinabalu**	**9.79**	**270**	*e*Pn		**Pn**	**20 04 10.3**	**+2.8**
BALP	**Baler**	**10.54**	**336**	*e*P		**Pn**	**20 04 21.3**	**+3.5**
SCZP	**Santa Cruz**	**11.35**	**328**	*e*P		**Pn**	**20 04 39.6**	**+11**
CAUP	**Cauayan**	**11.54**	**339**	*e*P		**Pn**	**20 04 31.9**	**+0.5**
ABRA	**Dolores**	**12.61**	**336**	*e*P		**Pn**	**20 04 55.9**	**+10**
KSM	**Kuching**	**16.37**	**254**	*e*Pn		**Pn**	**20 05 34.4**	**0.0**
NACB	**Ninganchiao**	**18.47**	**347**	P		**Pn**	**20 05 59.2**	**-0.8**
YHNB	**Yeheng**	**19.00**	**347**	*e*P		**Pn**	**20 06 06.7**	**+0.3**
KAKA	**Kakadu**	**19.74**	**161**	*e*P		**Pn**	**20 06 13.4**	**-1.6**
	74nm,0.6s							
GUMO	**Guam**	**19.96**	**67**	P		**Pn**	**20 06 17.1**	**-0.5**
QIZ	**Qiongzhong**	**20.36**	**311**	↑*i*P		**P**	**20 06 20.0**	**+0.5**
QIZ				S		**S**	**20 09 58.0**	**-5.1**
QIZ				AMB	AMB			
	comp=Z,98nm,1.4s							
QIZ				AMB	AMB			
	comp=Z,163nm,4.1s							
QIZ				LR	LR			
	comp=Z,217nm,19.4s							
QIZ	**Qiongzhong**	**20.36**	**311**	*e*P		**P**	**20 06 20.9**	**+1.4**
	comp=Z,103nm,1.0s							
JOW	**Kunigami**	**20.72**	**6**	P		**P**	**20 06 24.4**	**+1.0**
	comp=Z,43nm,0.7s,baz=177,slow=6.3,SNR=13							
GZH	**Guangzhou**	**20.86**	**325**	P		**P**	**20 06 25.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.05**	**181**	*e*P		**P**	**20 06 57.2**	**0.0**
	comp=Z,12nm,0.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**24.05**	**181**	P		**P**	**20 06 57.7**	**+0.5**
	comp=Z,6.5nm,0.4s,mb4.3,baz=5.5,slow=8.8,SNR=54							
SSE	**Sheshan**	**25.28**	**350**	P		**P**	**20 07 07.4**	**-0.9**
SSE				S		**S**	**20 11 30.7**	**+2.5**
SSE				AMB	AMB			
	comp=Z,38nm,0.7s,mb4.9							
SSE				AMB	AMB			
	comp=Z,75nm,3.8s							
SSE				LR	LR			
	comp=N,117nm,20.0s							
SSE				LR	LR			
	comp=E,142nm,20.0s							
SSE				LR	LR			
	comp=Z,150nm,23.3s							
SSE	**Sheshan**	**25.28**	**350**	P		**P**	**20 07 07.4**	**-0.9**
	comp=Z,38nm,0.7s,mb4.9							
SSE				S		**S**	**20 11 30.7**	**+2.5**
SSE				LR	LR			
	comp=Z,150nm,23.3s							
CBIJ	**Chichi jima**	**25.91**	**35**	P		**P**	**20 07 12.8**	**-1.2**
	comp=Z,24nm,0.5s,mb4.9,baz=297,slow=15,SNR=4.7							
CBIJ				LR		LR	20 14 57.4	
	comp=Z,62nm,21.7s,baz=337,slow=30							
PMG	**Port Moresby**	**26.07**	**126**	P		**P**	**20 07 15.7**	**+0.2**
	comp=Z,17nm,0.8s,mb4.5,baz=276,slow=12,SNR=10.0							
PMG				LR		LR	20 16 43.5	
	comp=Z,56nm,22.0s,baz=96,slow=34							
PMG	**Port Moresby**	**26.07**	**126**	*e*P		**P**	**20 07 15.3**	**-0.2**
PMG				pmax	pmax			
	comp=Z,13nm,0.7s							
PMG	**Port Moresby**	**26.07**	**126**	*e*P		**P**	**20 07 15.3**	**-0.1**
	comp=Z,13nm,0.7s,mb4.5							
NJ2	**Nanjing**	**26.68**	**346**	*e*P		**P**	**20 07 21.7**	**+0.7**
NJ2				PP			20 08 07.6	
NJ2				AMB	AMB			
	comp=Z,50nm,0.8s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,330nm,5.3s							
NJ2				LR	LR			
	comp=N,780nm,17.7s							
NJ2				LR	LR			
	comp=E,450nm,13.3s							
NJ2				LR	LR			
	comp=Z,580nm,13.6s							
WHN	**Wuhan**	**26.69**	**337**	↓P		**P**	**20 07 25.5**	**+4.5**
WRAB	**Tennant Creek**	**27.13**	**163**	*e*P		**P**	**20 07 24.9**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.4s,mb4.7							
WRAB	**Tennant Creek**	**27.13**	**163**	*e*P		**P**	**20 07 24.9**	**-0.1**
	comp=Z,8.6nm,0.4s,mb4.6							
WRA	**Warramunga Arr**	**27.13**	**163**	P		**P**	**20 07 24.9**	**-0.1**
	comp=Z,8.9nm,0.5s,mb4.6,baz=343,slow=10.0,SNR=44							
WRA				S		**S**	**20 11 56.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=345,slow=15,SNR=4.3							
WB2	**Warramunga Arr**	**27.14**	**163**	*e*P		**P**	**20 07 24.6**	**-0.5**
WB2	**Warramunga Arr**	**27.14**	**163**	*e*P		**P**	**20 07 25.1**	**+0.1**
PSI	**Prapat**	**27.25**	**264**	P		**P**	**20 07 26.2**	**+0.2**
	comp=Z,2.9nm,0.4s,mb4.2,baz=120,slow=6.5,SNR=4.7							
JNU	**Nakatsue**	**27.25**	**9**	P		**P**	**20 07 26.2**	**+0.1**
	comp=Z,30nm,0.8s,mb4.9,baz=239,slow=19,SNR=5.6							
MBWA	**Marble Bar**	**27.80**	**193**	*e*P		**P**	**20 07 30.5**	**-0.5**
	comp=Z,10nm,0.6s,mb4.5							
CM31	**Chiang Mai Arr**	**29.15**	**297**	*e*P		**P**	**20 07 41.7**	**-1.3**
KMI	**Kunming**	**29.26**	**313**	P		**P**	**20 07 45.6**	**+1.6**
KMI				AP		pP	20 07 51.0	-12
KMI				XP		sP	20 07 54.7	-18
KMI				AMB	AMB			
	comp=Z,17nm,1.0s,mb4.6							
KMI				AMB	AMB			
	comp=Z,57nm,3.1s							
KMI				LR	LR			
	comp=N,100nm,32.5s							
KMI				LR	LR			
	comp=E,119nm,35.3s							
KMI				LR	LR			
	comp=Z,133nm,30.6s							
KMI	**Kunming**	**29.26**	**313**	P		**P**	**20 07 45.6**	**+1.6**
	comp=Z,17nm,1.0s,mb4.6							
KMI				pP		pP	20 07 51.0	-12
KMI				sP		sP	20 07 54.7	-18
KMI				LR	LR			
	comp=Z,130nm,30.6s							
CHTO	**Chiang Mai**	**29.28**	**298**	*e*P		**P**	**20 07 44.2**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.4							
CHTO	**Chiang Mai**	**29.28**	**298**	*e*P		**P**	**20 07 44.1**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.4							
AS31	**Alice Springs**	**30.56**	**166**	*e*P		**P**	**20 07 55.9**	**+0.4**
ASAR	**Alice Springs**	**30.56**	**166**	P		**P**	**20 07 55.5**	**+0.1**
	comp=Z,8.5nm,0.6s,mb4.6,baz=346,slow=7.3,SNR=100							
ASAR				PcP		PcP	20 10 52.5	+0.2
	comp=Z,1.7nm,0.6s,baz=347,slow=1.8,SNR=5.7							
ASAR				S		**S**	**20 12 53.4**	**+2.1**
	comp=Z,0.9nm,1.0s,baz=343,slow=20,SNR=4.4							
ASAR				ScP		ScP	20 14 26.2	-1.3
	comp=Z,1.0nm,0.9s,baz=2.6,slow=5.1,SNR=3.5							
ASAR				LR		LR	20 19 28.3	
	comp=Z,51nm,20.4s,baz=351,slow=35							
ASAR	**Alice Springs**	**30.56**	**166**	P		**P**	**20 07 55.6**	**+0.1**
ASAR							20 10 52.6	
ASAR				S		**S**	**20 12 53.4**	**+2.0**
ASPA	**Alice Springs**	**30.56**	**166**	*e*P		**P**	**20 07 55.6**	**+0.1**
KSRS	**Korea Array**	**31.25**	**3**	P		**P**	**20 08 02.2**	**+0.7**
	comp=Z,12nm,0.9s,mb4.6,baz=187,slow=9.3,SNR=24							
XAN	**Xi'an**	**32.01**	**333**	P		**P**	**20 08 06.6**	**-1.6**
XAN				AP		pP	20 08 16.3	-11
XAN				AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.5							
XAN				LR	LR			
	comp=N,146nm,16.8s							
XAN				LR	LR			
	comp=E,195nm,16.8s							
XAN				LR	LR			
	comp=Z,181nm,17.9s							
MAJO	**Matsushiro**	**32.27**	**19**	*e*P		**P**	**20 08 11.7**	**+1.2**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2							
MAJO	**Matsushiro**	**32.27**	**19**	*e*P		**P**	**20 08 11.7**	**+1.2**
	comp=Z,3.4nm,0.6s,mb4.2							
MAT	**Matsushiro**	**32.27**	**19**	P		**P**	**20 08 11.9**	**+1.4**
MJAR	**Matsushiro Arr**	**32.27**	**19**	P		**P**	**20 08 11.8**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.2,baz=194,slow=9.0,SNR=18							
MJAR				ScP		ScP	20 14 35.1	+1.8
	comp=Z,0.6nm,0.5s,baz=171,slow=3.5,SNR=4.5							
MJAR				LR		LR	20 19 29.7	
	comp=Z,36nm,20.8s,baz=80,slow=33							
MJAR	**Matsushiro Arr**	**32.27**	**19**	P		**P**	**20 08 11.8**	**+1.3**
MJAR				ScP		ScP	20 14 35.1	+1.8
MJAR				LR		LR	20 19 29.7	
CD2	**Chengdu**	**32.35**	**322**	P		**P**	**20 08 13.6**	**+2.4**
CD2				AMB	AMB			
	comp=Z,30nm,0.5s,mb5.3							
CTA	**Charters Tower**	**32.74**	**143**	*e*P		**P**	**20 08 15.8**	**+1.2**
	comp=Z,6.5nm,1.0s,mb4.4							
CTA	**Charters Tower**	**32.74**	**143**	*e*P		**P**	**20 08 15.8**	**+1.2**
CTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CTAO	**Charters Tower**	**32.74**	**143**	*e*P		**P**	**20 08 15.5**	**+0.9**
CTAO				*e*		pP	20 08 33.9	+0.3
CTAO				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
CTAO	**Charters Tower**	**32.74**	**143**	*e*P		**P**	**20 08 15.5**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.5							
CTAO				*e*		pP	20 08 33.9	+0.3
BJT	**Baijiatuan**	**34.92**	**347**	*e*P		**P**	**20 08 32.6**	**-0.9**
BJT				pmax	pmax			
	comp=Z,20nm,0.9s							
BJT	**Baijiatuan**	**34.92**	**347**	*e*P		**P**	**20 08 32.6**	**-0.9**
	comp=Z,20nm,0.9s,mb5.0							
BJI	**Beijing**	**34.94**	**347**	P		**P**	**20 08 32.5**	**-1.1**
BJI				AMB	AMB			
	comp=Z,27nm,1.1s,mb5.0							
BJI				LR	LR			
	comp=N,218nm,20.3s							
BJI				LR	LR			
	comp=E,300nm,20.4s							
BJI				LR	LR			
	comp=Z,162nm,23.3s							
BJI	**Beijing**	**34.94**	**347**	P		**P**	**20 08 32.5**	**-1.1**
	comp=Z,27nm,1.1s,mb5.0							
BJI				LR	LR			
	comp=Z,160nm,23.3s							
SNY	**Shenyang**	**35.64**	**357**	↓P		**P**	**20 08 41.5**	**+1.8**
SNY				*e*S		**S**	**20 14 09.8**	**-0.2**
SNY				AMB	AMB			
	comp=Z,50nm,0.8s,mb5.5							
SNY				LR	LR			
	comp=N,282nm,10.8s							
SNY				LR	LR			
	comp=Z,288nm,12.3s							
LZH	**Lanzhou**	**36.13**	**329**	*e*P		**P**	**20 08 45.0**	**+1.1**
LZH				AP		pP	20 08 49.0	-14
LZH				XP		sP	20 08 50.5	-22
LZH				AMB	AMB			
	comp=Z,23nm,1.0s,mb5.1							
LZH				AMB	AMB			
	comp=Z,112nm,7.6s							
LZH	**Lanzhou**	**36.13**	**329**	*e*P		**P**	**20 08 45.0**	**+1.1**
	comp=Z,23nm,1.0s,mb5.1							
LZH				pP		pP	20 08 49.0	-14
LZH				sP		sP	20 08 50.5	-22
FORT	**Forrest**	**36.72**	**177**	*e*P		**P**	**20 08 48.9**	**0.0**
	comp=Z,18nm,0.7s,mb5.1							
VLA	**Vladivostok**	**37.22**	**7**	*e*P		**P**	**20 08 52.7**	**-0.4**
VLA				pmax	pmax			
	comp=Z,45nm,1.4s,mb5.2							
KLBR	**Kellerberrin**	**38.31**	**191**	*e*P		**P**	**20 09 01.9**	**-0.4**
	comp=Z,17nm,1.0s,mb4.8							
MDJ	**Mudanjiang**	**38.48**	**4**	P		**P**	**20 09 04.9**	**+1.1**
MDJ				AMB	AMB			
	comp=Z,21nm,1.0s,mb4.9							
MDJ				LR	LR			
	comp=Z,54nm,37.9s							
MDJ	**Mudanjiang**	**38.48**	**4**	*e*P		**P**	**20 09 04.5**	**+0.7**
	comp=Z,24nm,0.8s,mb5.1							
MUN	**Mundaring**	**39.02**	**193**	*e*P		**P**	**20 09 08.2**	**0.0**
NWAO	**Narrogin (SRO)**	**39.71**	**192**	P		**P**	**20 09 14.0**	**0.0**
	comp=Z,7.6nm,0.3s,mb5.0,baz=12,slow=8.3,SNR=17							
NWAO	**Narrogin (SRO)**	**39.71**	**192**	*e*P		**P**	**20 09 14.1**	**+0.1**
NWAO				pmax	pmax			
	comp=Z,12nm,0.7s							
NWAO	**Narrogin (SRO)**	**39.71**	**192**	*e*P		**P**	**20 09 14.1**	**+0.1**
	comp=Z,12nm,0.7s,mb4.8							
LSA	**Lhasa**	**40.40**	**310**	P		**P**	**20 09 21.0**	**+1.4**
LSA	**Lhasa**	**40.40**	**310**	*e*P		**P**	**20 09 20.2**	**+0.6**
LSA				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6							
LSA	**Lhasa**	**40.40**	**310**	*e*P		**P**	**20 09 20.1**	**+0.5**
	comp=Z,8.2nm,0.8s,mb4.6							
ASAJ	**Asahikawa**	**40.55**	**18**	LR		LR	20 27 36.6	
	comp=Z,16nm,18.7s,baz=162,slow=38							
STKA	**Stephens Creek**	**40.57**	**159**	*e*P		**P**	**20 09 21.8**	**+0.7**
	comp=Z,18nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**40.57**	**159**	P		**P**	**20 09 21.9**	**+0.9**
	comp=Z,22nm,0.7s,mb5.1,baz=333,slow=8.2,SNR=55							
STKA				LR		LR	20 25 22.7	
	comp=Z,98nm,19.2s,baz=25,slow=35							
YSS	**Yuzh-Sakhalins**	**43.16**	**17**	P		**P**	**20 09 42.9**	**+0.7**
KLR	**Kul'dur**	**43.25**	**5**	*e*P		**P**	**20 09 39.7**	**-3.2**
KLR				pmax	pmax			
	comp=Z,56nm,1.8s,mb5.0							
HIA	**Hailar**	**43.34**	**354**	*e*P		**P**	**20 09 42.7**	**-1.0**
HIA	**Hailar**	**43.34**	**354**	*e*P		**P**	**20 09 43.8**	**+0.1**
	comp=Z,20nm,0.9s,mb4.8							
JIRN	**Jiri**	**43.47**	**304**	*e*P		**P**	**20 09 45.6**	**+0.9**
	comp=Z,9.0nm,0.4s,mb4.8							
ARMA	**Armidale**	**43.81**	**147**	*e*P		**P**	**20 09 49.1**	**+1.7**
GUN	**Gumba**	**43.82**	**304**	*e*P		**P**	**20 09 47.3**	**-0.2**
	comp=Z,20nm,0.6s,mb5.0							
KKN	**Kakani**	**44.27**	**304**	*e*P		**P**	**20 09 51.1**	**0.0**
	comp=Z,12nm,0.9s,mb4.6							
DMN	**Daman**	**44.34**	**304**	*e*P		**P**	**20 09 52.2**	**+0.5**
ULN	**Ulaanbaatar**	**44.67**	**342**	*e*P		**P**	**20 09 53.3**	**-1.0**
ULN				*e*			20 11 35.0	
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**44.67**	**342**	*e*P		**P**	**20 09 53.3**	**-1.0**
	comp=Z,5.8nm,0.9s,mb4.3							
ULN				*e*PcP		PcP	20 11 35.0	-0.5
SONM	**Songino Array**	**44.85**	**341**	P		**P**	**20 09 54.1**	**-1.6**
	comp=Z,2.6nm,0.8s,mb4.0,baz=158,slow=7.5,SNR=14							
SONM				PcP		PcP	20 11 35.9	-0.3
	comp=Z,3.7nm,0.8s,baz=149,slow=3.4,SNR=10							
GKN	**Gorkha**	**44.87**	**304**	*e*P		**P**	**20 09 55.1**	**-0.8**
KOLN	**Koldanda**	**45.65**	**303**	*e*P		**P**	**20 10 01.6**	**-0.4**
	comp=Z,7.0nm,0.3s,mb4.9							
CIT	**Chita**	**46.92**	**349**	*e*P		**P**	**20 10 06.0**	**-6.0**
ZAK	**Zakamensk**	**48.08**	**341**	*e*P		**P**	**20 10 19.5**	**-1.5**
TLY	**Talaya**	**49.08**	**342**	*e*P		**P**	**20 10 27.7**	**-0.9**
TLY				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
TLY				MLR	MLR			
	comp=Z,358nm,18.0s							
TLY	**Talaya**	**49.08**	**342**	P		**P**	**20 10 27.0**	**-1.6**
CLNS	**Chul'man**	**50.60**	**359**	*e*P		**P**	**20 10 40.9**	**+0.7**
CLNS				pmax	pmax			
	comp=Z,46nm,0.8s,mb5.6							
CLNS				pmax	pmax			
	comp=N,24nm,0.9s							
CLNS				pmax	pmax			
	comp=E,14nm,0.9s							
BOD	**Bodaibo**	**52.44**	**352**	*e*P		**P**	**20 10 52.9**	**-0.9**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
MK31	**Makanchi Array**	**55.24**	**325**	*e*P		**P**	**20 11 12.3**	**-2.0**
MKAR	**Makanchi Array**	**55.24**	**325**	P		**P**	**20 11 12.3**	**-2.0**
	comp=Z,5.5nm,0.8s,mb4.6,baz=123,slow=7.7,SNR=37							
MKAR				PcP		PcP	20 12 12.7	-1.6
	comp=Z,19nm,0.8s,baz=125,slow=3.5,SNR=8.3							
MKAR	**Makanchi Array**	**55.24**	**325**	P		**P**	**20 11 12.3**	**-2.0**
MKAR				PcP		PcP	20 12 12.7	-1.6
YAK	**Yakutsk**	**55.87**	**2**	*i* P		**P**	**20 11 18.8**	**0.0**
YAK				pmax	pmax			
	comp=Z,76nm,0.9s,mb5.7							
YAK	**Yakutsk**	**55.87**	**2**	*e*P		**P**	**20 11 18.4**	**-0.4**
	comp=Z,84nm,0.8s,mb5.8							
MA2	**Magadan**	**56.59**	**15**	*e*P		**P**	**20 11 24.7**	**+0.8**
MA2				pmax	pmax			
	comp=Z,11nm,0.7s,mb5.0							
MA2	**Magadan**	**56.59**	**15**	*e*P		**P**	**20 11 24.7**	**+0.8**
	comp=Z,11nm,0.7s,mb5.0							
ZAL	**Zalesovo**	**58.19**	**333**	P		**P**	**20 11 33.6**	**-1.5**
	comp=Z,0.9nm,0.3s,mb4.3,baz=332,slow=10,SNR=4.9							
RPZ	**Rata Peaks**	**64.08**	**145**	LR		LR	20 39 14.1	
	comp=Z,85nm,21.1s,baz=3.4,slow=35							
TIXI	**Tiksi**	**65.49**	**1**	↑*i*P		**P**	**20 12 22.7**	**-1.5**
TIXI				pmax	pmax			
	comp=Z,20nm,1.1s,mb4.9							
BILL	**Bilibino**	**67.45**	**15**	P		**P**	**20 12 36.8**	**+0.1**
BILL	**Bilibino**	**67.45**	**15**	P		**P**	**20 12 36.8**	**+0.2**
SLKM	**Skilak Lake**	**81.63**	**30**	*e*P		**P**	**20 13 58.2**	**-0.5**
PMR	**Palmer**	**82.20**	**29**	*e*P		**P**	**20 14 01.3**	**-0.4**
PMR				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.7							
PMR	**Palmer**	**82.20**	**29**	*e*P		**P**	**20 14 01.3**	**-0.4**
	comp=Z,8.5nm,0.7s,mb4.7							
MCK	**McKinley**	**82.35**	**27**	*e*P		**P**	**20 14 02.9**	**+0.4**
MCK				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.6							
MCK	**McKinley**	**82.35**	**27**	*e*P		**P**	**20 14 02.9**	**+0.4**
	comp=Z,5.0nm,0.5s,mb4.6							
COLA	**College**	**82.85**	**25**	*e*P		**P**	**20 14 04.9**	**-0.2**
COLA				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
COLA	**College**	**82.85**	**25**	*e*P		**P**	**20 14 04.9**	**-0.2**
	comp=Z,8.3nm,0.9s,mb4.6							
MAW	**Mawson**	**85.74**	**200**	P		**P**	**20 14 19.0**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=23,slow=7.7,SNR=5.5							
VNDA	**Vanda**	**85.85**	**173**	P		**P**	**20 14 19.3**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=332,slow=7.0,SNR=6.2							
DAWY	**Dawson**	**86.55**	**26**	*e*P		**P**	**20 14 24.7**	**+1.0**
DAG	**Danmarks Havn**	**94.83**	**352**	*i* P		**P**	**20 14 59.0**	**-3.4**
	comp=Z,8.2nm,0.8s,mb5.2							
DAG	**Danmarks Hav

PSET				*e*S	Sg	20 02 29.9	-5.3
PSET							
	162nm,0.3s						
PSET	**Sete Cidades**	**1.09**	**118**	*e*P	Pg	20 02 17.0	-4.1
PSET				*e*S	Sg	20 02 29.9	-5.3
ROSA	**Rosais**	**1.09**	**290**	*e*P	Pg	20 02 17.8	-3.5
ROSA				*e*S	Sg	20 02 31.0	-4.5
SRBC	**Serra Branca**	**1.11**	**309**	*e*P	Pg	20 02 17.9	-3.7
SRBC				*e*P		20 02 22.4	
SRBC				*e*S	Sg	20 02 31.1	-4.9
STGR	**Santa Cruz**	**1.11**	**311**	*e*S	Sg	20 02 32.2	-3.9
STGR							
	45nm,0.2s						
PTEI	**Pico do Teixo**	**1.13**	**278**	*e*P	Sg	20 02 34.9	-1.8
PVIA	**Vitoria**	**1.14**	**310**	*e*S	Sg	20 02 32.3	-4.5
PVIA							
	14nm,0.2s						
PBOI	**Pico dos Bois**	**1.14**	**275**	*e*P	Sg	20 02 32.2	-4.7
PDA	**Ponta Delgada**	**1.17**	**121**	*e*P	Pg	20 02 18.7	-3.9
PDA				*e*S	Sg	20 02 32.7	-5.0
PICO	**Pico**	**1.19**	**278**	*e*P	Pg	20 02 19.7	-3.3
PICO				*e*P		20 02 26.5	
PICO				*e*S	Sg	20 02 33.7	-4.7
PCND	**Candelaria**	**1.21**	**276**	*e*P	Sg	20 02 34.7	-4.5
CML	**Cha da Macela**	**1.23**	**117**	*e*P	Pg	20 02 20.1	-3.9
PVER	**Pico Vermelho**	**1.24**	**116**	*e*P	Pg	20 02 20.2	-3.9
PVER				*e*S	Sg	20 02 35.0	-5.3
PVER							
	46nm,0.2s						
PVER	**Pico Vermelho**	**1.24**	**116**	*e*P	Pg	20 02 20.2	-3.9
PVER				*e*S	Sg	20 02 35.0	-5.3
PMAT	**Coroa da Mata**	**1.27**	**114**	*e*P	Pg	20 02 20.5	-4.1
PMAT				*e*S	Sg	20 02 35.1	-5.9
PMAT							
	72nm,0.2s						
PMAT	**Coroa da Mata**	**1.27**	**114**	*e*P	Pg	20 02 20.5	-4.1
PMAT				*e*S	Sg	20 02 35.1	-5.9
LFA	**Lagoa do Fogo**	**1.28**	**116**	*e*P	Pg	20 02 20.8	-4.0
MESC	**Monte Escuro**	**1.29**	**115**	*e*P	Pg	20 02 20.3	-4.8
MESC				*e*S	Sg	20 02 36.2	-5.9
PRCH	**Ribeira Ch**	**1.30**	**118**	*e*P	Pg	20 02 21.2	-4.0
PRCH				*e*S	Sg	20 02 36.0	-6.1
PRCH							
	132nm,0.3s						
PRCH	**Ribeira Ch**	**1.30**	**118**	*e*P	Pg	20 02 21.2	-4.0
PRCH				*e*S	Sg	20 02 36.0	-6.1
VIF	**Vila Franca**	**1.32**	**117**	*e*S	Sg	20 02 37.0	-5.7
VIF							
	51nm,0.2s						
PCNG	**Congro**	**1.34**	**115**	*e*P	Sg	20 02 40.2	-3.2
PFAD	**Fenais da Ajud**	**1.36**	**111**	*e*P	Pg	20 02 21.1	-5.4
FRA1	**Furnas**	**1.38**	**115**	*e*P	Pg	20 02 22.0	-4.7
FRA1				*e*S	Sg	20 02 39.1	-5.5
CALA	**Caldeira**	**1.41**	**280**	*e*P	Pg	20 02 22.4	-4.8
CALA				*e*S	Sg	20 02 39.1	-6.6
MIRA	**Miradouro**	**1.42**	**113**	*e*P	Pg	20 02 22.0	-5.3
MIRA				*e*S	Sg	20 02 39.1	-6.8
PCED	**Cedros**	**1.42**	**282**	*e*S	Sg	20 02 38.8	-7.1
PCED							
	63nm,0.2s						
PLUZ	**Luz**	**1.74**	**293**	*e*S	Pn	20 02 30.3	-1.4
PLUZ							
	28nm,0.1s						
PSMN	**Pico do Norte,**	**2.00**	**132**	*e*P	Pn	20 02 30.2	-5.1
PSMN				*e*S	Sn	20 02 52.9	-8.0

IDC **05** *20:06:38.7±0.5, 3747N×4893E, h0km, mb4.5/27, mb1 4.6/35, mb1mx4.5/38, mbtmp4.5/35, ML4.0/8, MS4.0/22, Ms1 4.0/22, ms1mx3.9/33, Error ellipse: s-maj=10.2km s-min=8.4km az=165.0*

ISCJB **05** *20:06:39.4±0.6, 3759N±002×4896E±002, h11km±3km, mb4.7/113, MS4.0/31, Error ellipse: s-maj=3.2km s-min=1.8km az=62.9*

BJI **05** *20:06:39.2, 3776N×4828E, h33km, mB5.1, mb4.9, Ms4.6, Msz4.3*

THR **05** *20:06:40.2±0.6, 3750N×4888E, h14km±4km, ML5.0*

SZGRF **05** *20:06:40.3, 3758N×4974E, h33km, mb4.8, MS3.8, Caspian Sea*

TEH **05** *20:06:41.3, 3757N×4885E, h9km, Mn5.1*

NEIC **05** *20:06:41.3, 3763N×4892E, h9km, mb4.8/54, MS3.9/6, ML5.1(THR), MN5.1(TEH), After TEH.*

CSEM **05** *20:06:41.6±0.0, 3758N×4893E, h30km, mb4.7/71, Ms3.8, Mw4.8, Error ellipse: s-maj=1.7km s-min=0.9km az=34.0*

MOS **05** *20:06:41.7±1.4, 3743N×4896E, h33km, mb4.8/62, Error ellipse: s-maj=6.4km s-min=3.1km az=133.2*

GCMT **05** *20:06:41.3±0.4, 3757N×4886E, h14km±1km, MW4.8/73, Moment Tensor Solution. s13,c16; s73,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.24±.08; Mθθ=0.44±.08; Mφφ=0.67±.07; Mrθ=0.81±.20; Mθφ=1.94±.08; Mφr=0.18±.16; Best double couple: Mo=2.18500×10^16 NP1:φs188.00000°, δ67.00000°, λ-2.00000°. NP2: φs279.00000°, δ88.00000°, λ-157.00000°. Principal axes: T 2.3000, Plg14.0000°, Azm51.0000°; N -0.2310, Plg67.0000°, Azm283.0000°; P -2.0690, Plg17.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NNC **05** *20:06:50.1±5.5, 3820N×4999E, h0km, mb4.7 Error ellipse: s-maj=80.4km s-min=39.6km az=78.0*

ISC 05 20:06:40.4±0.6, **3756N**±002×**4893E**±002, **h6**km±3km, **h18**km±2.9km**:pP-P,n526,**σ1§**23**/596, **mb4.7**/114, **MS4.0**/31, **34C-16D, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.49**	**327**	*e*Pg		**Pg**	**20 07 07.9**	**-1.2**
GRMI				*e*Sg		**Sg**	**20 07 28.9**	**+0.4**
GRMI				AML		AML	20 07 30.8	
	comp=N,10μm,0.2s							
GRMI				AML		AML	20 07 34.9	
	comp=E,12μm,0.4s							
GRMI	**Germi**	**1.49**	**327**	*i* Pg		**Pg**	**20 07 07.0**	**-2.1**
GRMI				*e*Sg		**Sg**	**20 07 29.0**	**+0.5**
GRMI	**Germi**	**1.49**	**327**	*e*Pg		**Pg**	**20 07 07.9**	**-1.2**
	SNR=90							
GRMI				*e*Sg		**Sg**	**20 07 28.9**	**+0.4**
	comp=E,12μm,0.4s,SNR=90							
IHSH	**Hashtroud**	**1.52**	**300**	*e*Pg		**Pn**	**20 07 02.4**	**-5.7**
IHSH				*e*Sg		**Sg**	**20 07 19.8**	**-9.4**
IHSH	**Hashtroud**	**1.52**	**300**	Pn		**Pn**	**20 07 02.4**	**-5.7**
IHSH				Sg		**Sg**	**20 07 17.9**	**-11**
IGZV	**Gazvin**	**1.56**	**138**	*e*Pn		**Pn**	**20 07 07.4**	**-1.2**
IGZV	**Gazvin**	**1.56**	**138**	Pn		**Pn**	**20 07 07.3**	**-1.3**
IGZV				Sn		**Sn**	**20 07 28.3**	**-0.8**
IBST	**Bostanabad**	**1.63**	**276**	*e*Pn		**Pn**	**20 07 07.9**	**-1.7**
IBST	**Bostanabad**	**1.63**	**276**	Pn		**Pn**	**20 07 07.8**	**-1.8**
IBST				Sn		**Sn**	**20 07 27.9**	**-2.9**
THKV	**Tehran--Karaj**	**2.27**	**136**	*e*Pn		**Pn**	**20 07 19.2**	**+0.9**
THKV				*e*Sg		**Sg**	**20 07 51.0**	**-2.2**
THKV				AML		AML	20 07 57.5	
	comp=E,15μm,0.6s							
THKV				AML		AML	20 08 00.2	
	comp=N,16μm,0.5s							
THKV	**Tehran--Karaj**	**2.27**	**136**	Pn		**Pn**	**20 07 19.2**	**+0.8**
THKV				Sg		**Sg**	**20 07 51.5**	**-1.7**
THKV	**Tehran--Karaj**	**2.27**	**136**	*e*Pn		**Pn**	**20 07 19.2**	**+0.8**
	SNR=52							
THKV				*e*Sg		**Sg**	**20 07 51.0**	**-2.2**
	comp=N,16μm,0.5s,SNR=90							
IRAZ	**Razeghan**	**2.29**	**159**	Pn		**Pn**	**20 07 17.9**	**-0.9**
IRAZ				Sn		**Sn**	**20 07 48.4**	**+1.1**
IRAZ	**Razeghan**	**2.29**	**159**	*e*Pn		**Pn**	**20 07 18.0**	**-0.8**
IRAZ				Sn		**Sn**	**20 07 48.4**	**+1.1**
ITBZ	**Tabriz**	**2.31**	**288**	*e*Pn		**Pn**	**20 07 19.1**	**+0.2**
ITBZ	**Tabriz**	**2.31**	**288**	Pn		**Pn**	**20 07 19.0**	**+0.1**
ITBZ				Sn		**Sn**	**20 07 47.2**	**-0.4**
IMHD	**Mahdasht**	**2.33**	**143**	Pn		**Pn**	**20 07 19.4**	**+0.1**
IMHD				Sn		**Sn**	**20 07 49.7**	**+1.5**
IMHD	**Mahdasht**	**2.33**	**143**	*e*Pn		**Pn**	**20 07 19.5**	**+0.2**
IMHD				Sn		**Sn**	**20 07 49.7**	**+1.5**
IAZR	**Azarshahr**	**2.35**	**274**	Pn		**Pn**	**20 07 19.9**	**+0.4**
IAZR				Sn		**Sn**	**20 07 48.5**	**-0.1**
IAZR	**Azarshahr**	**2.35**	**274**	*e*Pn		**Pn**	**20 07 20.0**	**+0.5**
IAZR				Sn		**Sn**	**20 07 48.5**	**-0.1**
CHTH	**Charan**	**2.41**	**132**	*e*Pn		**Pn**	**20 07 21.2**	**+0.8**
CHTH				*e*Sg		**Sg**	**20 07 55.6**	**-2.3**
CHTH				AML		AML	20 07 56.8	
	comp=N,9μm,0.2s							
CHTH	**Charan**	**2.41**	**132**	Pn		**Pn**	**20 07 21.3**	**+0.9**
CHTH	**Charan**	**2.41**	**132**	*e*Pn		**Pn**	**20 07 21.2**	**+0.8**
	SNR=52							
CHTH				*e*Sg		**Sg**	**20 07 55.6**	**-2.3**
	comp=N,9μm,0.2s,SNR=90							
ISHB	**Shabestar**	**2.72**	**286**	*e*Pn		**Pn**	**20 07 24.9**	**+0.3**
ISHB	**Shabestar**	**2.72**	**286**	Pn		**Pn**	**20 07 24.9**	**+0.3**
ISHB				Sn		**Sn**	**20 07 57.9**	**+0.1**
SNGE	**Sanandaj**	**2.77**	**208**	*e*Pn		**Pn**	**20 07 25.4**	**+0.1**
SNGE	**Sanandaj**	**2.77**	**208**	Pn		**Pn**	**20 07 25.5**	**+0.1**
IAFJ	**Afjeh**	**2.81**	**126**	Pn		**Pn**	**20 07 27.2**	**+1.4**
IAFJ				Sn		**Sn**	**20 08 02.0**	**+2.1**
IAFJ	**Afjeh**	**2.81**	**126**	*e*Pn		**Pn**	**20 07 27.3**	**+1.5**
IAFJ				Sn		**Sn**	**20 08 02.0**	**+2.1**
IPRN	**Paran-Amol**	**2.96**	**115**	*e*Pn		**Pn**	**20 07 28.7**	**+0.8**
IPRN	**Paran-Amol**	**2.96**	**115**	Pn		**Pn**	**20 07 28.6**	**+0.7**
IPRN				Sn		**Sn**	**20 08 03.8**	**+0.1**
ILIN	**Laeen**	**3.08**	**212**	*e*Pn		**Pn**	**20 07 28.0**	**-1.5**
ILIN	**Laeen**	**3.08**	**212**	Pn		**Pn**	**20 07 27.9**	**-1.6**
DAMV	**Damavand**	**3.11**	**127**	*e*Pn		**Pn**	**20 07 31.2**	**+1.2**
DAMV				*e*Sg		**Sg**	**20 08 17.3**	**-3.1**
DAMV	**Damavand**	**3.11**	**127**	Pn		**Pn**	**20 07 31.1**	**+1.1**
DAMV				Sg		**Sg**	**20 08 17.5**	**-2.9**
ASAO	**Ashtian**	**3.13**	**163**	*e*Pn		**Pn**	**20 07 30.5**	**+0.2**
ASAO				AML		AML	20 08 20.6	
	comp=E,2μm,0.7s							
IDMV	**Damavand**	**3.18**	**127**	*e*Pn		**Pn**	**20 07 32.0**	**+1.0**
IDMV	**Damavand**	**3.18**	**127**	Pn		**Pn**	**20 07 31.9**	**+0.9**
IVRN	**Varamin**	**3.41**	**138**	Pn		**Pn**	**20 07 34.8**	**+0.7**
IVRN				Sn		**Sn**	**20 08 16.0**	**+1.2**
IVRN	**Varamin**	**3.41**	**138**	*e*Pn		**Pn**	**20 07 34.9**	**+0.8**
IVRN				Sn		**Sn**	**20 08 16.0**	**+1.2**
IVIS	**Veys**	**3.46**	**210**	Pn		**Pn**	**20 07 36.0**	**+1.2**
IVIS				Sn		**Sn**	**20 08 17.1**	**+0.9**
IVIS	**Veys**	**3.46**	**210**	*e*Pn		**Pn**	**20 07 36.1**	**+1.3**
IVIS				Sn		**Sn**	**20 08 17.1**	**+0.9**
IFIR	**Firoozkooh**	**3.62**	**121**	*e*Pn		**Pn**	**20 07 38.8**	**+1.8**
IFIR				Sn		**Sn**	**20 08 20.0**	**0.0**
IGHG	**Ghaleghazi**	**3.75**	**211**	*e*Pn		**Pn**	**20 07 39.6**	**+0.8**
MAKU	**Maku**	**3.79**	**300**	Pn		**Pn**	**20 07 40.5**	**+1.2**
ILAS	**Lasjerd**	**3.90**	**123**	*e*Pn		**Pn**	**20 07 42.2**	**+1.3**
ISHM	**Shahmirzad**	**3.92**	**115**	*e*Pn		**Pn**	**20 07 42.0**	**+0.9**
ISHM				eLg			20 08 46.4	
ISHM	**Shahmirzad**	**3.92**	**115**	Pn		**Pn**	**20 07 41.9**	**+0.8**
ISHM				Sn		**Sn**	**20 08 26.9**	**-0.4**
ISHM				Lg			20 08 46.3	
ISHM	**Shahmirzad**	**3.92**	**115**	*e*Pn		**Pn**	**20 07 42.0**	**+0.9**
ISHM				Sn		**Sn**	**20 08 26.9**	**-0.4**
IKIA	**Kiasar**	**4.04**	**108**	*e*Pn		**Pn**	**20 07 43.2**	**+0.4**
IKIA	**Kiasar**	**4.04**	**108**	Pn		**Pn**	**20 07 43.1**	**+0.3**
HKR	**Hakkari**	**4.12**	**272**	PN		**Pn**	**20 07 45.6**	**+1.7**
HKR	**Hakkari**	**4.12**	**272**	Pn		**Pn**	**20 07 45.0**	**+1.1**
GNI	**Garni**	**4.17**	**310**	P		**Pn**	**20 07 46.5**	**+1.9**
GNI	**Garni**	**4.17**	**310**	Pn		**Pn**	**20 07 47.1**	**+2.5**
	comp=E,4.9nm,0.3s,baz=118,slow=1.2,SNR=33							
GNI				Lg			20 08 53.6	
	comp=E,26nm,0.3s,baz=261,slow=21,SNR=7.8							
GNI				LR		LR	20 09 43.6	
	comp=E,4μm,18.6s,baz=86,slow=44							
GNI	**Garni**	**4.17**	**310**	*e*Pn		**Pn**	**20 07 48.1**	**+3.5**
GNI				*e*Sg		**Sg**	**20 08 53.5**	**-0.9**
GNI	**Garni**	**4.17**	**310**	*e*Pn		**Pn**	**20 07 48.1**	**+3.5**
GNI				*e*Sg		**Sg**	**20 08 53.5**	**-0.9**
ISFB	**Sefidab**	**4.17**	**139**	*e*Pn		**Pn**	**20 07 44.4**	**-0.2**
ISFB	**Sefidab**	**4.17**	**139**	Pn		**Pn**	**20 07 44.2**	**-0.4**
CLDR	**Caldiran**	**4.25**	**293**	P		**Pn**	**20 07 47.7**	**+2.1**
CLDR	**Caldiran**	**4.25**	**293**	Pn		**Pn**	**20 07 48.9**	**+3.3**
CUKT	**Cukurca**	**4.25**	**267**	PN		**Pn**	**20 07 45.1**	**-0.6**
VANB	**Van**	**4.50**	**285**	P		**Pn**	**20 07 51.9**	**+2.9**
IANJ	**Anjiloo**	**4.52**	**116**	*e*Pn		**Pn**	**20 07 50.5**	**+1.1**
IANJ	**Anjiloo**	**4.52**	**116**	Pn		**Pn**	**20 07 50.4**	**+1.0**
IKLH	**Kalahroud**	**4.75**	**152**	*e*Pn		**Pn**	**20 07 53.5**	**+1.0**
IKLH	**Kalahroud**	**4.75**	**152**	Pn		**Pn**	**20 07 53.4**	**+0.9**
MSL	**Mosul**	**4.85**	**257**	*ex*		x	20 07 55.0	
MSL				*i* x		x	20 08 08.0	
MSL				*i* x		x	20 09 03.5	
IPIR	**Pirpir**	**5.12**	**161**	Pn		**Pn**	**20 07 58.5**	**+0.9**
IPIR				Sn		**Sn**	**20 08 57.0**	**0.0**
IPIR	**Pirpir**	**5.12**	**161**	*e*Pn		**Pn**	**20 07 58.6**	**+1.0**
IPIR				Sn		**Sn**	**20 08 57.0**	**0.0**
SIRT	**Sirnak**	**5.16**	**271**	P		**Pn**	**20 07 59.6**	**+1.4**
KZR	**Kazreti**	**5.18**	**319**	P		**Pb**	**20 08 07.7**	**-3.6**
KZR				S		**Sg**	**20 09 33.5**	**+6.8**
MTA	**Mtatsminda**	**5.22**	**324**	P		**Pn**	**20 08 03.4**	**+4.4**
TBLG	**Delisi**	**5.28**	**323**	P		**Pn**	**20 08 03.2**	**+3.4**
IZEF	**Zefreh**	**5.42**	**148**	*e*Pn		**Pn**	**20 08 02.5**	**+0.8**
IZEF				*e*Sn		**Sn**	**20 09 00.9**	**-3.5**
IZEF	**Zefreh**	**5.42**	**148**	Pn		**Pn**	**20 08 03.0**	**+1.3**
IZEF				Sn		**Sn**	**20 09 03.1**	**-1.3**
MAK	**Makhachkala**	**5.51**	**349**	*e*P		**Pn**	**20 08 07.1**	**+4.2**
MAK				*e*S		**Sn**	**20 09 08.7**	**+2.2**
MAK				pmax	pmax			
	comp=Z,540nm,0.7s							
MAK				smax				
	comp=N,2μm,0.9s							
MAK				smax				
	comp=E,3μm,1.2s							
MAK				MLR	MLR			
	comp=Z,2μm,13.0s							
DUS	**Dusheti**	**5.58**	**326**	P		**Pn**	**20 08 07.4**	**+3.5**
DUS				S		**Sg**	**20 09 35.6**	**-3.9**
BHD	**Baghdad**	**5.67**	**222**	*i* x		x	20 09 02.8	
BHD				*i* x		x	20 09 15.3	
BHD				*i* x		x	20 09 41.0	
BHD				*i* x		x	20 09 56.5	
NASN	**Na'in**	**5.71**	**145**	*e*Pn		**Pn**	**20 08 07.1**	**+1.4**
NASN	**Na'in**	**5.71**	**145**	Pn		**Pn**	**20 08 06.9**	**+1.2**
BTMT	**Batman**	**5.92**	**278**	P		**Pn**	**20 08 10.9**	**+2.3**
IGAR	**Garneh**	**5.94**	**152**	*e*Pn		**Pn**	**20 08 07.7**	**-1.2**
ZEI	**Tsey**	**6.48**	**325**	*e*P		**Pn**	**20 08 21.4**	**+5.1**
ZEI				*e*			20 09 32.8	
ICHK	**Chekchek**	**6.95**	**138**	*e*Pn		**Pn**	**20 08 23.9**	**+1.1**
ICHK	**Chekchek**	**6.95**	**138**	Pn		**Pn**	**20 08 23.8**	**+1.0**
ISHV	**Shirvan**	**6.96**	**88**	Pn		**Pn**	**20 08 23.0**	**+0.1**
ISHV				Sn		**Sn**	**20 09 37.7**	**-4.7**
ISHV	**Shirvan**	**6.96**	**88**	*e*Pn		**Pn**	**20 08 23.1**	**+0.2**
ISHV				Sn		**Sn**	**20 09 37.7**	**-4.7**
ISFR	**Esferayen**	**7.25**	**91**	Pn		**Pn**	**20 08 26.9**	**+0.1**
ISFR				Sn		**Sn**	**20 09 45.0**	**-4.4**
ISFR	**Esferayen**	**7.25**	**91**	*e*Pn		**Pn**	**20 08 27.5**	**+0.7**
ISFR				Sn		**Sn**	**20 09 45.0**	**-4.4**
VAN	**Vannovskaya**	**7.28**	**84**	*e*P		**Pn**	**20 08 26.6**	**-0.7**
VAN				*e*S		**Sn**	**20 09 45.8**	**-4.4**
IEMG	**Emamqoli**	**7.73**	**88**	Pn		**Pn**	**20 08 32.5**	**-0.9**
IEMG				Sn		**Sn**	**20 09 56.7**	**-4.6**
IEMG	**Emamqoli**	**7.73**	**88**	*e*Pn		**Pn**	**20 08 32.6**	**-0.8**
IEMG				Sn		**Sn**	**20 09 56.7**	**-4.6**
IMEH	**Mehriz**	**7.73**	**141**	*e*Pn		**Pn**	**20 08 33.8**	**+0.3**
IMEH	**Mehriz**	**7.73**	**141**	Pn		**Pn**	**20 08 33.7**	**+0.2**
MIB	**Mutribah**	**7.85**	**190**	*e*P		**Pn**	**20 08 33.4**	**-1.7**
MIB				AML		AML	20 10 00.3	
	comp=Z,66nm,0.6s							
KIV	**Kislovodsk**	**7.96**	**325**	*e*P		**Pn**	**20 08 40.3**	**+3.8**
KIV				pmax	pmax			
	comp=Z,24nm,0.9s							
KIV				MLR	MLR			
	comp=Z,311nm,9.0s							
KIV	**Kislovodsk**	**7.96**	**325**	*e*Pn		**Pn**	**20 08 41.4**	**+4.9**
	comp=Z,59nm,1.1s							
KIV	**Kislovodsk**	**7.96**	**325**	*e*P		**Pn**	**20 08 40.3**	**+3.8**
	comp=Z,311nm,9.0s							
UMR	**Umm Al-Rimmam**	**8.05**	**188**	*e*P		**Pn**	**20 08 35.9**	**-2.0**
UMR				AML		AML	20 10 08.8	
	comp=Z,48nm,0.6s							
IBAF	**Bafgh**	**8.08**	**135**	Pn		**Pn**	**20 08 38.8**	**+0.5**
IBAF				Sn		**Sn**	**20 10 06.2**	**-3.8**
IBAF	**Bafgh**	**8.08**	**135**	*e*Pn		**Pn**	**20 08 38.9**	**+0.6**
IBAF				Sn		**Sn**	**20 10 06.2**	**-3.8**
NAY	**Al-Naaiem**	**8.41**	**190**	*e*P		**Pn**	**20 08 40.5**	**-2.2**
NAY				AML		AML	20 10 11.3	
	comp=Z,17nm,0.7s							
IPAR	**Pars**	**8.42**	**155**	*e*Pn		**Pn**	**20 08 43.3**	**+0.3**
KBD	**Kabd**	**8.42**	**187**	*e*P		**Pn**	**20 08 41.2**	**-1.8**
KBD				AML		AML	20 10 15.8	
	comp=Z,179nm,0.8s							
IMOG	**Moghan**	**8.47**	**97**	*e*Pn		**Pn**	**20 08 43.7**	**+0.1**
IMOG	**Moghan**	**8.47**	**97**	Pn		**Pn**	**20 08 43.6**	**0.0**
RDF	**Al-Radifah**	**8.69**	**188**	*e*P		**Pn**	**20 08 44.5**	**-2.0**
RDF				AML		AML	20 10 18.7	
	comp=Z,48nm,0.6s							
ISRV	**Sarvestan**	**8.87**	**156**	*e*Pn		**Pn**	**20 08 49.5**	**+0.4**
ISRV	**Sarvestan**	**8.87**	**156**	Pn		**Pn**	**20 08 49.4**	**+0.3**
IMYA	**Miamay**	**9.02**	**94**	*e*Pn		**Pn**	**20 08 52.0**	**+0.8**
IMYA	**Miamay**	**9.02**	**94**	Pn		**Pn**	**20 08 49.3**	**-1.9**
IMOK	**Mook**	**9.06**	**158**	*e*Pn		**Pn**	**20 08 50.4**	**-1.3**
IMOK	**Mook**	**9.06**	**158**	Pn		**Pn**	**20 08 50.3**	**-1.4**
SOC	**Sochi**	**9.24**	**314**	*e*P		**Pn**	**20 08 53.2**	**-0.9**
SOC				*e*SS			20 10 46.2	
SOC				pmax	pmax			
	comp=Z,42nm,1.1s							
SOC				MLR	MLR			
	comp=Z,1μm,12.0s							
ITEG		**9.28**	**117**	*e*Pn		**Pn**	**20 08 55.3**	**+0.6**
IKOO		**9.72**	**119**	*e*Pn		**Pn**	**20 09 01.7**	**+1.0**
IMON		**9.79**	**113**	*e*Pn		**Pn**	**20 09 01.3**	**-0.3**
IDAH		**10.16**	**115**	*e*Pn		**Pn**	**20 09 07.2**	**+0.4**
ASF	**Jabal al Asfar**	**11.25**	**245**	Pn		**Pn**	**20 09 20.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=136,slow=16,SNR=3.0							
ASF				Sn		**Sn**	**20 11 26.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=121,slow=17,SNR=3.0							
ASF				Lg			20 12 35.0	
	comp=Z,0.1nm,0.3s,baz=327,slow=18,SNR=3.1							
ASF				LR		LR	20 14 19.7	
	comp=Z,725nm,19.9s,baz=66,slow=41							
ASF	**Jabal al Asfar**	**11.25**	**245**	P		**Pn**	**20 09 20.6**	**-1.1**
ASF							20 11 26.5	
ASF				MLR	MLR			
	comp=Z,725nm,19.9s							
ANN	**Anapa**	**11.28**	**313**	*e*P		**Pn**	**20 09 25.0**	**+2.9**
ANN				*e*S		**Sn**	**20 11 32.8**	**+4.3**
ANN				pmax	pmax			
	comp=Z,138nm,1.3s							
ANN				MLR	MLR			
	comp=N,805nm,11.0s							
ANN				MLR	MLR			
	comp=E,288nm,11.0s							
ANN				MLR	MLR			
	comp=Z,725nm,11.0s							
MMAI	**Mount Meron Ar**	**11.95**	**252**	Pn		**Pn**	**20 09 31.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=80,slow=16,SNR=6.4							
MMAI				LR		LR	20 14 32.8	
	comp=Z,667nm,18.4s,baz=35,slow=40							
BR131	**Keskin Array S**	**12.15**	**285**	*e*Pn		**Pn**	**20 09 31.8**	**-2.3**
	comp=Z,10nm,0.9s							
BRTR	**Keskin Array B**	**12.15**	**285**	Pn		**Pn**	**20 09 39.8**	**+5.7**
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=22							
EIL	**Elat**	**14.05**	**240**	*e*Pn		**Pn**	**20 10 00.3**	**+0.4**
EIL				*e*Sn		**Sn**	**20 12 30.8**	**-5.3**
EIL	**Elat**	**14.05**	**240**	*e*Pn		**Pn**	**20 10 00.3**	**+0.4**
EIL				*e*Sn		**Sn**	**20 12 30.8**	**-5.3**
AB31	**Akbulak array**	**14.15**	**31**	⇑P		**Pn**	**20 09 58.1**	**-3.2**
	comp=Z,16nm,0.6s,baz=207,slow=13,SNR=97							
AB31				⇓S		**Sn**	**20 12 27.9**	**-11**
	comp=Z,3.2nm,0.2s							
AKTK	**Aktyubinsk**	**14.42**	**24**	Pn		**Pn**	**20 10 01.1**	**-3.9**
AKTK				Sn		**Sn**	**20 12 36.4**	**-8.8**
AKTK				LR		LR	20 17 40.9	
AKTK	**Aktyubinsk**	**14.42**	**24**	Pn		**Pn**	**20 10 01.1**	**-3.9**
AKTO	**Aktyubinsk**	**14.42**	**24**	⇑P		**Pn**	**20 10 02.5**	**-2.5**
	comp=Z,1.6nm,0.9s							
AKTO				⇑S		**Sn**	**20 12 34.6**	**-11**
AKTO	**Aktyubinsk**	**14.42**	**24**	Pn		**Pn**	**20 10 01.1**	**-3.9**
	comp=Z,2.9nm,0.3s,baz=209,slow=12,SNR=34							
AKTO				Sn		**Sn**	**20 12 36.4**	**-8.8**
	comp=Z,2.8nm,0.3s,baz=1.8,slow=22,SNR=6.9							
AKTO				LR		LR	20 17 40.9	
	comp=Z,454nm,19.8s,baz=346,slow=46							
ISP	**Isparta**	**14.59**	**277**	*e*P		**Pn**	**20 10 12.7**	**+5.3**
ISP	**Isparta**	**14.59**	**277**	*e*P		**Pn**	**20 10 12.8**	**+5.4**
ORR	**Orenburg**	**14.65**	**14**	*e*P		**P

comp=Z,27nm,0.9s
USP Ospenovka 20.25 66 P **P** **20 11 16.3 -0.1**
SNR=12
HORT Hortiatis 20.26 287 P **P** **20 11 16.9 +0.4**
FRU Bishkek 20.28 67 *eP* **P** **20 11 17.0 +0.3**
VTS Vitosha 20.28 292 ⇑*iP* **P** **20 11 19.1 +2.4**
VTS Vitosha 20.28 292 *eP* **P** **20 11 19.0 +2.3**
THE Thessaloniki 20.36 287 P **P** **20 11 18.1 +0.5**
CHMS Chumysh 20.40 66 P **P** **20 11 18.5 +0.6**
SNR=39
KNT Kendrikon 20.42 288 P **P** **20 11 19.7 +1.4**
KBK Karagaybulak 20.50 67 P **P** **20 11 20.0 +0.8**
SNR=16
VAY Valandovo 20.68 289 *eP* **P** **20 11 21.9 +0.9**
VAY Valandovo 20.68 289 *eP* **P** **20 11 21.8 +0.8**
KZA Kyzart 20.68 69 P **P** **20 11 22.1 +1.0**
SNR=13
ZRNK Zerenda 20.79 36 ⇓P **P** **20 11 21.4 -0.7**
comp=Z,46nm,0.8s
ZRNK Zerenda 20.79 36 *eP* **P** **20 11 21.6 -0.6**
ZRNK *eS* **S** **20 15 06.4 -8.0**
ZRNK pmax pmax
comp=Z,59nm,0.8s
ZRNK Zerenda 20.79 36 *eP* **P** **20 11 21.6 -0.6**
comp=Z,59nm,0.8s
ZRNK *eS* **S** **20 15 06.4 -8.0**
ZRNK Zerenda 20.79 36 P **P** **20 11 21.4 -0.8**
comp=Z,46nm,0.8s
GRG Griva 20.80 288 P **P** **20 11 24.3 +2.0**
SVE Sverdlovsk 20.80 18⇓*eP* **P** **20 11 22.0 -0.3**
SVE *eS* **S** **20 15 08.0 -6.7**
SVE pmax pmax
comp=Z,140nm,2.0s
SVE MLR MLR
comp=Z,700nm,20.0s,MS4.0
SVE Sverdlovsk 20.80 18 *eP* **P** **20 11 22.0 -0.3**
comp=Z,140nm,2.0s
STIP Stip 20.98 290 *eP* **P** **20 11 24.2 -0.1**
STIP Stip 20.98 290 *eP* **P** **20 11 24.1 -0.2**
TKM2 Tokmak 2 21.00 67 P **P** **20 11 24.7 +0.2**
SNR=24
TKM2 Tokmak 2 21.00 67 ⇓P **P** **20 11 24.7 +0.1**
comp=Z,15nm,1.6s,mb4.1
GZR Gura Zlata 21.04 300 ⇓*iP* **P** **20 11 27.7 +2.8**
GZR Gura Zlata 21.04 300 ⇓P **P** **20 11 27.7 +2.7**
ULHL Ulahol 21.43 69 P **P** **20 11 31.0 +2.0**
SNR=13
DRGR 21.43 304 ⇓*iP* **P** **20 11 29.5 +0.4**
DRGR 21.43 304 ⇓P **P** **20 11 29.5 +0.3**
ITM Ithomi 21.45 277 P **P** **20 11 30.0 +0.7**
BRVK Borovoye 21.45 37 P **P** **20 11 27.8 -1.6**
BVA0 Borovoye Array 21.48 37 P **P** **20 11 29.4 -0.3**
comp=Z,19nm,0.9s,mb4.4,baz=227,slow=9.3,SNR=668
BVAR Borovoye Array 21.48 37 P **P** **20 11 29.3 -0.4**
comp=Z,92nm,0.8s,mb5.2,baz=230,slow=9.1,SNR=284
BVAR S **S** **20 15 27.6 -0.6**
comp=Z,5.2nm,0.8s,baz=232,slow=23,SNR=4.2
BVAR LR LR 20 21 43.0
comp=Z,504nm,20.9s,MS3.9,baz=140,slow=42
BVAR Borovoye Array 21.48 37 P **P** **20 11 29.3 -0.4**
BVAR S **S** **20 15 27.6 -0.6**
BVAR pmax pmax
comp=Z,92nm,0.8s
BVAR smax
comp=N,5.0nm,0.8s
BVAR MLR MLR
comp=Z,504nm,20.9s
VOSK Vostochnaya 21.59 38 ⇑P **P** **20 11 30.2 -0.6**
comp=Z,65nm,0.9s,mb5.0
VOSK Vostochnaya 21.59 38 P **P** **20 11 30.2 -0.7**
comp=Z,65nm,0.9s,mb5.0
BIA Bitola 21.61 288 *eP* **P** **20 11 30.4 -0.7**
BIA Bitola 21.61 288 *eP* **P** **20 11 30.3 -0.8**
LVV L'vov 21.67 312 *eP* **P** **20 11 31.3 -0.4**
LVV *eS* **S** **20 15 26.1 -5.7**
KRUS Krusevo 21.67 289 *eP* **P** **20 11 33.0 +1.3**
BZS Buzias 21.88 300 ⇓*iP* **P** **20 11 34.6 +0.6**
BZS Buzias 21.88 300 ⇓P **P** **20 11 34.6 +0.6**
SVIS Svilajnac 21.93 297 *iP* **P** **20 11 36.4 +1.9**
CHKZ Chkalovo 21.99 36 ⇑P **P** **20 11 33.9 -1.3**
comp=Z,51nm,1.1s,mb4.9
CHKZ Chkalovo 21.99 36 *eP* **P** **20 11 34.0 -1.2**
CHKZ *eS* **S** **20 15 24.7 -13**
CHKZ pmax pmax
comp=Z,54nm,0.9s,mb5.0
CHKZ Chkalovo 21.99 36 *eP* **P** **20 11 34.0 -1.1**
comp=Z,54nm,0.9s,mb5.0
CHKZ *eS* **S** **20 15 24.7 -13**
OHR Ohrid 22.01 288 *eP* **P** **20 11 34.2 -1.1**
KNDC Almaty 22.03 66 ⇑P **P** **20 11 35.7 +0.1**
comp=Z,78nm,0.9s,mb5.1
UZH Uzhgorod 22.27 308*iP* **P** **20 11 37.0 -1.1**
UZH *i* 20 11 54.0
UZH *eS* **S** **20 15 37.0 -6.5**
UZH *i* 20 15 53.0
UZH Uzhgorod 22.27 308 *iP* **P** **20 11 37.0 -1.1**
KWP Kalwaria 22.38 311 *eP* **P** **20 11 40.9 +1.6**
KOLS Kolonicke sedl 22.38 309 *eP* **P** **20 11 42.6 +3.3**
THN Thein Dam 22.49 95 *eP* **P** **20 11 40.7 +0.2**
DIVS Divcibare 22.78 296 *iP* **P** **20 11 44.4 +0.8**
KEK Kerkira 22.82 284 P **P** **20 11 45.7 +1.7**
CRVS Cervenica-Dubn 22.88 308 *eP* **P** **20 11 45.2 +0.6**
STHS Stebnicka Huta 23.18 310 *eP* **P** **20 11 49.8 +2.0**
STHS *e* 20 12 03.1
STHS pmax pmax
comp=Z,13nm,0.9s,mb4.4
STHS Stebnicka Huta 23.18 310 *eP* **P** **20 11 49.8 +2.0**
comp=Z,13nm,0.9s,mb4.4
STHS *e* 20 12 03.1
KECS Kecovo 23.36 307 *eP* **P** **20 11 51.0 +1.4**
KECS pmax pmax
comp=Z,26nm,1.0s,mb4.6
KECS Kecovo 23.36 307 *eP* **P** **20 11 51.0 +1.4**
comp=Z,26nm,1.0s,mb4.6
PSZ Piszkesteto 23.58 305 ⇑*iP* **P** **20 11 53.5 +1.6**
PSZ Piszkesteto 23.58 305 *eP* **P** **20 11 53.8 +1.9**
NIE Niedzica 23.76 309 *eP* **P** **20 11 56.2 +2.6**
PKSM Moragy 24.04 301 ⇑*iP* **P** **20 11 57.6 +1.5**
PKSM Moragy 24.04 301 ⇑P **P** **20 11 57.6 +1.4**
SUW Suwalki 24.15 321 *eP* **P** **20 11 57.1 -0.1**
OJC Ojcow 24.34 311 *eP* **P** **20 11 59.9 +1.0**
OJC *eS* **S** **20 16 21.3 +2.8**
OJC L 20 26 31.5
comp=Z,0.8nm,20.3s
AJM Ajmer 24.36 110 *eP* **P** **20 11 59.5 +0.4**
AJM AMb AMB 20 12 06.2
comp=Z,62nm,1.6s,mb4.8
LIKS Likavka 24.40 308 *eP* **P** **20 11 59.8 +0.4**
LIKS pmax pmax
comp=Z,52nm,0.9s,mb5.0
LIKS Likavka 24.40 308 *eP* **P** **20 11 59.8 +0.4**
comp=Z,52nm,0.9s,mb5.0
VYHS Vyhne 24.41 306 *eP* **P** **20 12 01.0 +1.4**
VYHS pmax pmax
comp=Z,24nm,0.9s,mb4.6
VYHS Vyhne 24.41 306 *eP* **P** **20 12 01.0 +1.4**
comp=Z,24nm,0.9s,mb4.6
TIP Timpagrande 25.21 284 P **P** **20 12 05.7 -1.1**
NDI New Delhi 25.21 102 *eP* **P** **20 12 06.5 -0.4**
OKC Ostrava-Krasne 25.23 309 *eP* **P** **20 12 07.3 +0.3**
JAVC Velka Javorina 25.25 307 P **P** **20 12 08.8 +1.6**
RAC Raciborz 25.27 310 *eP* **P** **20 12 08.2 +0.8**
VSU Vasula 25.43 332 P **P** **20 12 08.3 -0.5**
ZST Bratislava 25.46 305 *eP* **P** **20 12 11.3 +2.2**
ZST pmax pmax
comp=Z,23nm,1.0s,mb4.7
ZST Bratislava 25.46 305 *eP* **P** **20 12 11.3 +2.2**
comp=Z,22nm,1.0s,mb4.7
MORC Moravsky Berou 25.58 309 ⇑*iP* **P** **20 12 12.9 +2.7**
MORC Moravsky Berou 25.58 309 ⇑P **P** **20 12 12.9 +2.7**
MORC Moravsky Berou 25.58 309 *eP* **P** **20 12 11.0 +0.8**
KOGS Kog 25.71 301 *eP* **P** **20 12 12.8 +1.4**
SOP Sopron 25.71 303⇑*eP* **P** **20 12 12.9 +1.5**
SOP Sopron 25.71 303 P **P** **20 12 11.9 +0.5**
VRAC Vranov 26.05 307 P **P** **20 12 14.6 +0.2**
comp=Z,18nm,0.9s,mb4.6,baz=97,slow=8.2,SNR=12
VRAC LR LR 20 24 10.3
comp=Z,219nm,19.3s,MS3.7,baz=280,slow=40
VRAC Vranov 26.05 307 ⇑*iP* **P** **20 12 15.7 +1.2**
VRAC Vranov 26.05 307 P **P** **20 12 14.6 +0.1**
VRAC pmax pmax
comp=Z,18nm,1.0s
VRAC MLR MLR
comp=Z,219nm,19.3s
VRAC Vranov 26.05 307 ⇑P **P** **20 12 15.7 +1.3**
KRUC Moravsky 26.12 307 P **P** **20 12 16.2 +1.1**
CRES Cresnjev 26.18 299 *eP* **P** **20 12 16.0 +0.4**
MKAR Makanchi Array 26.22 59 P **P** **20 12 16.6 +0.6**
comp=Z,24nm,0.8s,mb4.8,baz=253,slow=6.4,SNR=34
MKAR LR LR 20 25 47.0
comp=Z,332nm,18.1s,MS3.9,baz=258,slow=44
MKAR Makanchi Array 26.22 59 P **P** **20 12 16.6 +0.6**
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR MLR MLR
comp=Z,332nm,18.1s
ARSA Arzberg 26.33 302⇑*iP* **P** **20 12 17.9 +1.0**
comp=Z,30nm,1.1s,mb4.7,SNR=13
ATD Arta Tunnel 26.49 193 LR LR 20 21 56.5
comp=Z,286nm,18.7s,MS3.9,baz=357,slow=35
DPC Dobruska-Polom 26.50 309 *eP* **P** **20 12 19.6 +1.1**
PERS Pernice 26.51 301 *eP* **P** **20 12 19.9 +1.3**
KSP Ksiaz 26.66 310 *eP* **P** **20 12 21.7 +1.7**
KSP Ksiaz 26.66 310 *eP* **P** **20 12 21.1 +1.1**
UPC Upice 26.73 310 *eP* **P** **20 12 20.8 +0.2**
MOA Molln 27.27 303 *iP* **P** **20 12 27.0 +1.6**
comp=Z,14nm,1.1s,mb4.4,SNR=5.8
VAE Valguarnera 27.29 281 P **P** **20 12 28.7 +3.0**
comp=Z,8.7nm,0.9s,mb4.3,baz=32,slow=13,SNR=2.3
VAE LR LR 20 24 16.2
comp=Z,534nm,19.8s,MS4.1,baz=352,slow=39
VAE Valguarnera 27.29 281 P **P** **20 12 28.7 +3.0**
VAE LR LR 20 24 16.2
TMCR Tamitsa 27.43 350 P **P** **20 12 34.3 +7.4**
TMCR pmax pmax
comp=Z,68nm,1.3s,mb5.0
PRU Pruhonice 27.51 308 *eP* **P** **20 12 27.1 -0.5**
PRU AMS AMS 20 24 40.0
comp=Z,300nm,19.0s
AQU L'Aquila 27.52 291 ⇓*iP* **P** **20 12 35.3 +7.6**
WDD Wield Dalam 27.55 277 P **P** **20 12 32.5 +4.5**
JOF Joensuu 27.58 343 *ep* **P** **20 12 28.1 -0.2**
comp=Z,6.2nm,0.4s,mb4.6
PVCC Panska Ves 27.63 309 *eP* **P** **20 12 26.0 -2.7**
GEC2 GERESS Array S 27.81 305 *eP* **P** **20 12 30.7 +0.4**
GERES GERESS Array B 27.81 305 P **P** **20 12 30.4 +0.1**
comp=Z,6.0nm,0.6s,mb4.4,baz=98,slow=9.6,SNR=21
GERES LR LR 20 25 45.1
comp=Z,175nm,19.2s,MS3.7,baz=315,slow=41
GERES GERESS Array B 27.81 305 P **P** **20 12 30.4 +0.1**
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES MLR MLR
comp=Z,175nm,19.2s
FINES FINESS Array B 27.85 336 P **P** **20 12 31.1 +0.4**
comp=Z,2.3nm,0.7s,mb3.9,baz=142,slow=7.0,SNR=8.8
FINES LR LR 20 24 56.3
comp=Z,354nm,18.5s,MS4.0,baz=315,slow=39
FINES FINESS Array B 27.85 336 P **P** **20 12 31.1 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,354nm,18.5s
KHC Kasperske Hory 27.94 306 *eP* **P** **20 12 32.2 +0.7**
BRG Berggiesshubel 28.10 310 *eP* **P** **20 12 34.4 +1.5**
comp=Z,5.6nm,1.2s,mb4.1
BRG Berggiesshubel 28.10 310 *eP* **P** **20 12 34.4 +1.5**
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
BHPL Bhopal 28.28 112 *eP* **P** **20 12 35.8 +1.3**
BHPL AMb AMB 20 12 41.7
comp=Z,37nm,1.6s,mb4.8
KAF Kangasniemi 28.28 338 *ep* **P** **20 12 37.7 +3.2**
comp=Z,1.7nm,0.4s,mb4.0
KAF Kangasniemi 28.28 338 *eP* **P** **20 12 37.7 +3.2**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
WET Wettzell 28.40 306 P **P** **20 12 36.6 +1.1**
CLL Collm 28.78 310 *eP* **P** **20 12 40.0 +1.0**
comp=Z,46nm,1.1s,mb5.1
CLL LmV 20 25 00.0
comp=Z,200nm,21.4s
NKC Novy Kostel 28.88 308 *eP* **P** **20 12 40.2 +0.4**
WTTA Wattenberg 28.95 302⇑*iP* **P** **20 12 40.4 0.0**
comp=Z,31nm,1.2s,mb4.9
WTTA Wattenberg 28.95 302⇑*iP* **P** **20 12 40.4 -0.1**
WTTA pmax pmax
comp=Z,31nm,1.2s,mb4.9
NVS Novosibirsk 28.97 42 *eP* **P** **20 12 37.9 -2.7**
NVS *e* 20 13 31.2
NVS pmax pmax
comp=Z,22nm,1.8s,mb4.6
NVS pmax pmax
comp=N,23nm,2.0s
SQTA Sankt Quirin 29.24 301 ⇓*iP* **P** **20 12 41.8 -1.2**
comp=N,18nm,1.2s,mb4.7,SNR=14
SQTA Sankt Quirin 29.24 301 ⇓*iP* **P** **20 12 41.8 -1.2**
SQTA pmax pmax
comp=Z,18nm,1.2s,mb4.7
MOTA Moosalm 29.32 302 ⇓*iP* **P** **20 12 42.8 -0.9**
comp=Z,12nm,1.0s,mb4.6,SNR=6.3
MOTA Moosalm 29.32 302 ⇓*iP* **P** **20 12 42.8 -0.9**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.6
MOX Moxa 29.49 308 P **P** **20 12 48.5 +3.3**
ZAL Zalesovo 29.50 45 P **P** **20 12 45.5 +0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=229,slow=9.3,SNR=9.6
ZAL Zalesovo 29.50 45 P **P** **20 12 45.5 +0.1**
ZAL pmax pmax
comp=Z,3.0nm,0.6s
GRA1 Grafenberg Arr 29.56 306 *eP* **P** **20 12 46.1 +0.3**
comp=Z,16nm,1.1s,mb4.7
GRA1 LR LR
comp=Z,200nm,18.9s,MS3.8
GRF Grafenberg Arr 29.56 306 *eP* **P** **20 12 46.1 +0.3**
comp=Z,16nm,1.1s,mb4.7
GRF *eL* 20 26 51.1
comp=Z,223nm,18.9s
GRF Grafenberg Arr 29.56 306 *eP* **P** **20 12 46.1 +0.3**
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.7
GRF MLR MLR
comp=Z,200nm,18.9s,MS3.8
GRF Grafenberg Arr 29.56 306 *eP* **P** **20 12 46.1 +0.3**
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.7
GRF MLR MLR
comp=Z,200nm,18.9s,MS3.8
WMQ Urumqi 29.85 66 ⇑P **P** **20 12 46.6 -1.8**
WMQ PP PP 20 13 44.1 -12
WMQ PPP 20 13 58.1
WMQ PCP PcP 20 15 49.4 -2.2
WMQ S **S** **20 17 42.6 -3.0**
WMQ SCP ScP 20 19 29.1 -5.0
WMQ AMB AMB
comp=Z,24nm,1.0s,mb4.9
WMQ LR LR
comp=N,599nm,26.5s,MS4.1
WMQ LR LR
comp=E,90nm,22.3s,MS4.1
WMQ LR LR
comp=Z,275nm,19.5s,MS3.9
KAD Karad 29.99 125 *eP* **P** **20 12 51.0 +1.3**
KAD AMb AMB 20 12 55.8
comp=Z,15nm,0.8s,mb4.7
DAVOX Davos 30.11 300 P **P** **20 12 50.3 -0.5**
comp=Z,13nm,0.7s,mb4.7,baz=81,slow=6.7,SNR=17
DAVOX LR LR 20 24 48.4
comp=Z,146nm,20.0s,MS3.6,baz=97,slow=36
DAVA Damuels 30.15 301⇑*iP* **P** **20 12 50.8 -0.2**
comp=Z,30nm,0.9s,mb5.0,SNR=7.0
TUE Stuetta 30.46 300 P **P** **20 12 56.9 +3.1**
KOLN Koldanda 30.63 98 *eP* **P** **20 12 55.4 +0.1**
comp=Z,38nm,1.2s,mb5.1
STU Stuttgart 30.74 304 P **P** **20 12 58.3 +2.0**
NGP Nagpur 30.75 114 *eP* **P** **20 12 56.0 -0.4**
NGP AMb AMB 20 13 03.3
comp=Z,17nm,1.6s,mb4.6
PGF Pioggiola 30.77 292 *eP* **P** **20 12 55.9 -0.6**
comp=Z,53nm,0.9s,mb5.0
PGF Pioggiola 30.77 292 *eP* **P** **20 12 55.9 -0.6**
PGF pmax pmax
comp=Z,27nm,0.9s,mb5.1
PGF Pioggiola 30.77 292 *eP* **P** **20 12 55.9 -0.6**
comp=Z,26nm,0.9s,mb5.0
GKN Gorkha 31.34 97 *eP* **P** **20 13 01.2 -0.4**
comp=Z,36nm,0.8s,mb5.3
KEST Kesra 31.66 279 P **P** **20 13 03.9 -0.5**
comp=Z,3.6nm,0.9s,mb4.2,baz=321,slow=7.2,SNR=6.5
KEST LR LR 20 27 15.5
comp=Z,134nm,20.0s,MS3.6,baz=346,slow=39
HFS Hagfors 31.75 327 P **P** **20 13 05.1 -0.1**
comp=Z,10nm,0.7s,mb4.8,baz=118,slow=8.6,SNR=24
HFS Hagfors 31.75 327 P **P** **20 13 05.1 -0.1**
HFS pmax pmax
comp=Z,10.0nm,0.7s
HFA0 Hagfors New Ar 31.76 327 P **P** **20 13 04.9 -0.4**
SBF Sospel 31.82 295 *eP* **P** **20 13 05.0 -0.8**
DMN Daman 31.89 97 *eP* **P** **20 13 06.6 +0.2**
comp=Z,67nm,0.9s,mb5.5
KKN Kakani 31.94 97 *eP* **P** **20 13 06.9 0.0**
comp=Z,23nm,0.9s,mb5.0
CDF Champ du Feu 31.98 303 *eP* **P** **20 13 06.3 -0.9**
comp=Z,6.5nm,0.7s,mb4.2
CDF Champ du Feu 31.98 303 *eP* **P** **20 13 06.3 -0.9**
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CDF Champ du Feu 31.98 303 *eP* **P** **20 13 06.3 -0.9**
comp=Z,3.2nm,0.7s,mb4.2
PKI Pulchoki 32.14 97 *eP* **P** **20 13 08.8 +0.2**
IBBN Ibbenburen 32.18 311 P **P** **20 13 11.8 +2.8**
HINF Hinteralfeld 32.23 302 *eP* **P** **20 13 08.5 -0.9**
LPG La Plagne 32.26 298 *eP* **P** **20 13 08.8 -0.8**
comp=Z,14nm,0.7s,mb4.6
LPG La Plagne 32.26 298 *eP* **P** **20 13 08.8 -0.8**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LPG La Plagne 32.26 298 *eP* **P** **20 13 08.8 -0.8**
comp=Z,7.2nm,0.7s,mb4.6
MBDF Montbardon 32.26 296 *eP* **P** **20 13 08.9 -0.8**
comp=Z,28nm,0.7s,mb4.9
MBDF Montbardon 32.26 296 *eP* **P** **20 13 08.9 -0.8**
MBDF pmax pmax
comp=Z,14nm,0.7s,mb4.9
MBDF Montbardon 32.26 296 *eP* **P** **20 13 08.9 -0.8**
comp=Z,14nm,0.7s,mb4.9
LPL La Plagne 32.27 298 *eP* **P** **20 13 08.0 -1.8**
comp=Z,9.9nm,0.5s,mb4.6
LPL La Plagne 32.27 298 *eP* **P** **20 13 08.0 -1.8**
LPL pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
LPL La Plagne 32.27 298 *eP* **P** **20 13 08.0 -1.8**
comp=Z,4.9nm,0.5s,mb4.6
BNI Bardonecchia 32.32 297 *eP* **P** **20 13 10.5 +0.3**
BNI pmax pmax
comp=Z,13nm,0.9s,mb4.8
BNI Bardonecchia 32.32 297 *eP* **P** **20 13 10.5 +0.3**
comp=Z,13nm,0.9s,mb4.8
BNI Bardonecchia 32.32 297 *eP* **P** **20 13 10.5 +0.3**
comp=Z,13nm,0.9s,mb4.8
BUG Bochum--Univer 32.33 309 P **P** **20 13 12.8 +2.5**
GUN Gumba 32.36 96 *eP* **P** **20 13 11.0 +0.5**
comp=Z,73nm,0.9s,mb5.5
FRF La Foret Royal 32.41 294 *eP* **P** **20 13 09.7 -1.3**
comp=Z,40nm,1.0s,mb4.9
FRF La Foret Royal 32.41 294 *eP* **P** **20 13 09.7 -1.3**
FRF pmax pmax
comp=Z,20nm,1.0s,mb4.9
FRF La Foret Royal 32.41 294 *eP* **P** **20 13 09.7 -1.3**
comp=Z,20nm,1.0s,mb4.9
HAU Haudompre 32.57 302 *eP* **P** **20 13 11.6 -0.8**
HAU *eR*
comp=Z,341nm,21.2s
HAU Haudompre 32.57 302 *eP* **P** **20 13 11.6 -0.8**
HAU LR LR
comp=Z,340nm,21.3s,MS4.0
CABF La Chapelle 32.71 300 *eP* **P** **20 13 12.5 -1.2**
comp=Z,61nm,1.0s,mb5.2
CABF La Chapelle 32.71 300 *eP* **P** **20 13 12.5 -1.2**
CABF pmax pmax
comp=Z,30nm,1.0s,mb5.2
CABF La Chapelle 32.71 300 *eP* **P** **20 13 12.5 -1.2**
comp=Z,30nm,1.0s,mb5.2
JIRN Jiri 32.72 97 *eP* **P** **20 13 14.3 +0.6**
comp=Z,9.5nm,0.6s,mb4.9
WLF Walferdange 32.82 305 P **P** **20 13 19.3 +4.7**
HYB Hyderabad 32.84 120 *iP* **P** **20 13 16.5 +1.7**
HYB Hyderabad 32.84 120 *eP* **P** **20 13 16.5 +1.7**
ORIF Oris-en-Rattie 32.89 297 *eP* **P** **20 13 14.2 -1.0**
comp=Z,14nm,1.0s,mb4.5
ORIF *eR*
comp=Z,518nm,21.8s
ORIF Oris-en-Rattie 32.89 297 *eP* **P** **20 13 14.2 -1.0**
ORIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ORIF Oris-en-Rattie 32.89 297 *eP* **P** **20 13 14.2 -1.0**
comp=Z,7.1nm,1.0s,mb4.5
HGN Heimansgroeve 33.07 307 *eP* **P** **20 13 20.2 +3.4**
comp=Z,50nm,1.6s,mb5.2
SMRF Simiane la Rot 33.16 295 *eP* **P** **20 13 16.4 -1.1**
NB2 NORSAR Subarra 33.26 327 P **P** **20 13 18.6 +0.2**
comp=Z,23nm,1.2s,mb5.0,baz=120,slow=8.6
NOA NORSAR Array B 33.26 327 P **P** **20 13 17.8 -0.6**
comp=Z,2.9nm,0.6s,mb4.4,baz=121,slow=8.4,SNR=9.3
NOA PP PP 20 14 24.6 -8.9
comp=Z,2.2nm,0.7s,baz=126,slow=10.0,SNR=3.7
NOA LR LR 20 28 18.2
comp=Z,300nm,19.0s,MS4.0,baz=120,slow=39
NOA NORSAR Array B 33.26 327 P **P** **20 13 17.8 -0.6**
NOA 20 14 24.7
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,300nm,19.0s
MEZF Maizieres J'vi 33.46 303 *eP* **P** **20 13 19.0 -1.2**
GIVF Givet 33.71 306 *eP* **P** **20 13 21.3 -1.1**
VIVF Saint-Julien-l 33.75 297 *eP* **P** **20 13 21.2 -1.5**
comp=Z,25nm,1.2s,mb4.7
VIVF Saint-Julien-l 33.75 297 *eP* **P** **20 13 21.2 -1.5**
VIVF pmax pmax
comp=Z,13nm,1.2s,mb4.7
VIVF Saint-Julien-l 33.75 297 *eP* **P** **20 13 21.2 -1.5**
comp=Z,13nm,1.2s,mb4.7
BAIF Baives 34.10 306 *eP* **P** **20 13 24.5 -1.3**
comp=Z,46nm,1.3s,mb5.0
BAIF Baives 34.10 306 *eP* **P** **20 13 24.5 -1.3**
BAIF pmax pmax
comp=Z,23nm,1.3s,mb5.0
BAIF Baives 34.10 306 *eP* **P** **20 13 24.5 -1.3**
comp=Z,23nm,1.3s,mb5.0
LOR Lormes 34.24 301 *eP* **P** **20 13 25.8 -1.2**
comp=Z,17nm,1.0s,mb4.6
LOR *eR*
comp=Z,339nm,20.2s
LOR Lormes 34.24 301 *eP* **P** **20 13 25.8 -1.2**
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LOR MLR MLR
comp=Z,340nm,20.3s,MS4.1
LOR Lormes 34.24 301 *eP* **P** **20 13 25.8 -1.2**
comp=Z,8.4nm,1.0s,mb4.6
LOR LR LR
comp=Z,340nm,20.3s,MS4.1
SMF Signal de Mont 34.26 300 *eP* **P** **20 13 25.9 -1.2**
comp=Z,17nm,1.0s,mb4.6
SMF Signal de Mont 34.26 300 *eP* **P** **20 13 25.9 -1.2**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SMF Signal de Mont 34.26 300 *eP* **P** **20 13 25.9 -1.2**
comp=Z,8.6nm,1.0s,mb4.6
BOK Bokaro 34.39 103 *eP* **P** **20 13 27.8 -0.5**
BOK AMb AMB 20 13 30.6
comp=Z,9.4nm,0.9s,mb4.7
LASF Ste Croix 34.39 295 *eP* **P** **20 13 27.2 -1.0**
comp=Z,40nm,1.2s,mb4.9
LASF Ste Croix 34.39 295 *eP* **P** **20 13 27.2 -1.0**
comp=Z,20nm,1.2s,mb4.9
ARCES ARCESS Array B 34.45 346 P **P** **20 13 29.1 +0.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=150,slow=5.1,SNR=12
ARCES LR LR 20 29 02.9
comp=Z,288nm,18.0s,MS4.0,baz=0.1,slow=39
ARCES ARCESS Array B 34.45 346 P **P** **20 13 29.1 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,288nm,18.0s
SSF Saint Saulge 34.48 301 *eP* **P** **20 13 27.9 -1.2**
comp=Z,6.8nm,0.7s,mb4.4
SSF Saint Saulge 34.48 301 *eP* **P** **20 13 27.9 -1.2**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 34.48 301 *eP* **P** **20 13 27.9 -1.2**
comp=Z,3.4nm,0.7s,mb4.4
KRAR Krasnoyarsk 34.55 43 *eP* **P** **20 13 29.3 -0.4**
KRAR pmax pmax

comp=Z,14nm,0.8s,mb4.9
KRAR Krasnoyarsk 34.55 43 *e*P **P** **20 13 29.3 -0.4**
comp=Z,14nm,0.8s,mb4.9
AVF Avril sur Loir 34.59 300 *e*P **P** **20 13 28.8 -1.2**
comp=Z,8.6nm,0.7s,mb4.5
AVF Avril sur Loir 34.59 300 *e*P **P** **20 13 28.8 -1.2**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AVF Avril sur Loir 34.59 300 *e*P **P** **20 13 28.8 -1.2**
comp=Z,4.3nm,0.7s,mb4.5
BGF Bois d'Agland 34.95 300 *e*P **P** **20 13 31.0 -2.1**
comp=Z,25nm,1.3s,mb4.7
BGF Bois d'Agland 34.95 300 *e*P **P** **20 13 31.0 -2.1**
BGF pmax pmax
comp=Z,13nm,1.3s,mb4.7
BGF Bois d'Agland 34.95 300 *e*P **P** **20 13 31.0 -2.1**
comp=Z,13nm,1.3s,mb4.7
TCF Toulx Ste Croi 35.40 299 *e*P **P** **20 13 35.7 -1.3**
comp=Z,38nm,1.2s,mb4.9
TCF Toulx Ste Croi 35.40 299 *e*P **P** **20 13 35.7 -1.3**
TCF pmax pmax
comp=Z,19nm,1.2s,mb4.9
TCF Toulx Ste Croi 35.40 299 *e*P **P** **20 13 35.7 -1.3**
comp=Z,19nm,1.2s,mb4.9
CAF Calviac 35.59 297 *e*P **P** **20 13 37.3 -1.3**
comp=Z,6.9nm,0.7s,mb4.4
CAF Calviac 35.59 297 *e*P **P** **20 13 37.3 -1.3**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CAF Calviac 35.59 297 *e*P **P** **20 13 37.3 -1.3**
comp=Z,3.5nm,0.7s,mb4.4
MTLF Montolieu 35.65 294 *e*P **P** **20 13 37.6 -1.5**
comp=Z,8.1nm,0.9s,mb4.3
MTLF Montolieu 35.65 294 *e*P **P** **20 13 37.6 -1.5**
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MTLF Montolieu 35.65 294 *e*P **P** **20 13 37.6 -1.5**
comp=Z,4.1nm,0.9s,mb4.3
LSA Lhasa 35.78 90 P **P** **20 13 41.6 +1.4**
RJF Les Rejaudoux 35.95 298 *e*P **P** **20 13 40.3 -1.4**
RJF *e*R
comp=Z,207nm,17.1s
RJF Les Rejaudoux 35.95 298 *e*P **P** **20 13 40.3 -1.4**
RJF LR LR
comp=Z,210nm,17.1s,MS4.0
VIS Vishakhapatnam 36.03 114 *e*P **P** **20 13 42.0 -0.4**
VIS AMb AMB 20 13 45.6
comp=Z,24nm,1.2s,mb5.0
LFF La Frestale 36.53 297 *e*P **P** **20 13 45.2 -1.4**
comp=Z,8.8nm,0.7s,mb4.4
LFF La Frestale 36.53 297 *e*P **P** **20 13 45.2 -1.4**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LFF La Frestale 36.53 297 *e*P **P** **20 13 45.2 -1.4**
comp=Z,4.4nm,0.7s,mb4.4
LDF La Druitiere 36.90 303 *e*P **P** **20 13 48.3 -1.5**
comp=Z,20nm,0.7s,mb4.8
LDF La Druitiere 36.90 303 *e*P **P** **20 13 48.3 -1.5**
LDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LDF La Druitiere 36.90 303 *e*P **P** **20 13 48.3 -1.5**
comp=Z,10nm,0.7s,mb4.8
MFF Saint Martin d 37.01 300 *e*P **P** **20 13 49.4 -1.3**
comp=Z,13nm,0.8s,mb4.5
MFF Saint Martin d 37.01 300 *e*P **P** **20 13 49.4 -1.3**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MFF Saint Martin d 37.01 300 *e*P **P** **20 13 49.4 -1.3**
comp=Z,6.3nm,0.8s,mb4.5
EPF Esparros 37.05 294 *e*P **P** **20 13 49.9 -1.2**
comp=Z,7.6nm,0.9s,mb4.2
EPF Esparros 37.05 294 *e*P **P** **20 13 49.9 -1.2**
EPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
EPF Esparros 37.05 294 *e*P **P** **20 13 49.9 -1.2**
comp=Z,3.8nm,0.9s,mb4.2
MDRS Chennai 37.06 123 *ex* x 20 11 18.8
MDRS AMb AMB 20 11 34.2
comp=Z,29nm,1.6s,mb4.9
FLN La Foliniere 37.13 304 *e*P **P** **20 13 49.0 -2.8**
comp=Z,24nm,0.8s,mb4.8
FLN La Foliniere 37.13 304 *e*P **P** **20 13 49.0 -2.8**
FLN pmax pmax
comp=Z,12nm,0.8s,mb4.8
FLN La Foliniere 37.13 304 *e*P **P** **20 13 49.0 -2.8**
comp=Z,12nm,0.8s,mb4.8
GRR Gorron 37.40 303 *e*P **P** **20 13 52.3 -1.7**
comp=Z,45nm,0.7s,mb5.1
GRR Gorron 37.40 303 *e*P **P** **20 13 52.3 -1.7**
GRR pmax pmax
comp=Z,23nm,0.7s,mb5.1
GRR Gorron 37.40 303 *e*P **P** **20 13 52.3 -1.7**
comp=Z,22nm,0.7s,mb5.1
SGMF Saint Gilles 38.53 303 *e*P **P** **20 14 01.8 -1.8**
comp=Z,54nm,1.1s,mb4.9
SGMF Saint Gilles 38.53 303 *e*P **P** **20 14 01.8 -1.8**
SGMF pmax pmax
comp=Z,27nm,1.1s,mb4.9
SGMF Saint Gilles 38.53 303 *e*P **P** **20 14 01.8 -1.8**
comp=Z,27nm,1.1s,mb4.9
MOY Mondy 38.81 52 *e*P **P** **20 14 09.7 +3.7**
QUIF Quistinic 38.97 302 *e*P **P** **20 14 05.9 -1.4**
comp=Z,76nm,1.2s,mb5.0
QUIF Quistinic 38.97 302 *e*P **P** **20 14 05.9 -1.4**
QUIF pmax pmax
comp=Z,38nm,1.2s,mb5.0
QUIF Quistinic 38.97 302 *e*P **P** **20 14 05.9 -1.4**
comp=Z,38nm,1.2s,mb5.0
EKA Eskdalemuir Ar 39.00 314 P **P** **20 14 06.9 -0.7**
comp=Z,4.3nm,0.6s,mb4.3,baz=101,slow=8.6,SNR=17
EKA Eskdalemuir Ar 39.00 314 P **P** **20 14 06.9 -0.7**
EKA pmax pmax
comp=Z,4.0nm,0.6s
ROSF Rostrenen 39.01 303 *e*P **P** **20 14 06.1 -1.5**
comp=Z,19nm,0.7s,mb4.6
ROSF Rostrenen 39.01 303 *e*P **P** **20 14 06.1 -1.5**
ROSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
ROSF Rostrenen 39.01 303 *e*P **P** **20 14 06.1 -1.5**
comp=Z,9.6nm,0.7s,mb4.6
GTA Gaotai 39.44 71 *e*P **P** **20 14 14.0 +2.7**
GTA AP pP 20 14 19.3 +6.1
GTA XP sP 20 14 23.4 +9.4
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,140nm,4.6s
GTA LR LR
comp=N,311nm,19.4s,MS4.3
GTA LR LR
comp=E,263nm,17.1s,MS4.3
GTA LR LR
comp=Z,314nm,17.1s,MS4.2
ZAK Zakamensk 40.28 54 *e*P **P** **20 14 18.8 +0.5**
ZAK *e* 20 15 50.7
IRK Irkutsk 40.84 51 *e*P **P** **20 14 22.5 -0.3**
IRK *e* 20 15 57.3
IRK pmax pmax
comp=Z,27nm,0.7s,mb5.0
IRK Irkutsk 40.84 51 *e*P **P** **20 14 22.5 -0.3**
comp=Z,27nm,0.7s,mb5.0
ESDC Sonseca Array 40.89 290 P **P** **20 14 21.3 -1.9**
comp=Z,1.8nm,0.6s,mb3.9,baz=67,slow=8.1,SNR=17
ESDC LR LR 20 32 45.3
comp=Z,155nm,19.2s,MS3.9,baz=90,slow=38
SONM Songino Array 42.56 57 P **P** **20 14 36.8 -0.2**
comp=Z,1.3nm,0.7s,mb3.7,baz=279,slow=9.2,SNR=9.3
SONM PP PP 20 16 19.2 +3.7
comp=Z,1.5nm,0.9s,baz=272,slow=8.7,SNR=4.6
SPB4 Spitsbergen Ar 42.95 351 *e*P **P** **20 14 40.4 +0.3**
SPB4 Spitsbergen Ar 42.95 351 *e*P **P** **20 14 40.3 +0.2**
ULN Ulaanbaatar 43.00 57 *e*P **P** **20 14 40.7 +0.2**
LZH Lanzhou 43.45 75 *e*P **P** **20 14 47.0 +2.9**
LZH AP pP 20 14 50.0 +3.9
LZH PP PP 20 16 29.5 +4.4
LZH PCP PcP 20 16 35.4 +3.1
LZH *e*S **S** **20 21 12.0 -0.8**
LZH SS SS 20 24 19.0 -7.8
LZH AMB AMB
comp=Z,32nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,133nm,6.0s
LZH LR LR
comp=Z,2μm,15.1s,MS5.1
LZH Lanzhou 43.45 75 *e*P **P** **20 14 47.0 +2.9**
LZH *SP sP 20 14 52.5 +5.6
LZH *e*S **S** **20 21 12.0 -0.8**
LZH SS SS 20 24 19.0 -7.8
LZH pmax pmax
comp=Z,32nm,1.0s,mb5.0
LZH MLR MLR
comp=Z,2μm,15.1s,MS5.1
LZH Lanzhou 43.45 75 *e*P **P** **20 14 47.0 +2.9**
comp=Z,32nm,1.0s,mb5.0
LZH pP pP 20 14 50.0 +3.9
LZH sP sP 20 14 52.5 +5.6
LZH PP PP 20 16 29.5 +4.4
LZH PcP PcP 20 16 35.4 +3.1
LZH *e*S **S** **20 21 12.0 -0.8**
LZH sS sS 20 21 21.0 +4.9
LZH SS SS 20 24 19.0 -7.8
LZH LR LR
comp=Z,2μm,15.1s,MS5.1
LZH Lanzhou 43.45 75 PcP PcP 20 16 29.5 -2.8
MDT Midelt 43.53 280 P **P** **20 14 44.1 -0.7**
comp=Z,5.7nm,1.0s,mb4.2,baz=47,slow=5.6,SNR=6.3
CD2 Chengdu 45.27 81 P **P** **20 14 58.4 -0.3**
CD2 PP PP 20 16 44.9 +0.4
CD2 S **S** **20 21 37.2 -2.2**
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,60nm,5.8s
CD2 LR LR
comp=Z,470nm,18.0s,MS4.5
BOD Bodaibo 46.21 42 *e*P **P** **20 15 05.1 -1.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOD Bodaibo 46.21 42 *e*P **P** **20 15 05.1 -1.0**
comp=Z,8.0nm,1.0s,mb4.6
KMI Kunming 47.02 89 P **P** **20 15 12.5 0.0**
KMI XP sP 20 15 25.3 +10
KMI AMB AMB
comp=Z,46nm,0.9s,mb5.4
KMI AMB AMB
comp=Z,119nm,4.2s
KMI LR LR
comp=N,251nm,18.8s,MS4.2
KMI LR LR
comp=E,99nm,21.8s,MS4.2
KMI LR LR
comp=Z,202nm,22.8s,MS4.0
KMI Kunming 47.02 89 P **P** **20 15 12.5 0.0**
comp=Z,46nm,0.9s,mb5.4
KMI sP sP 20 15 25.3 +10
KMI LR LR
comp=Z,200nm,22.8s,MS4.0
CHG Chiang Mai 47.29 99 ⇑P **P** **20 15 14.0 -0.6**
comp=Z,15nm,1.1s,mb4.8
CHTO Chiang Mai 47.29 99 *e*P **P** **20 15 13.9 -0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CHTO Chiang Mai 47.29 99 *e*P **P** **20 15 13.9 -0.7**
comp=Z,8.0nm,0.7s,mb4.8
HHC Hu-ho-hao-te 47.73 66 *e*P **P** **20 15 18.1 +0.1**
HHC AP pP 20 15 24.1 +4.1
HHC PCP PcP 20 16 47.2 0.0
HHC PP PP 20 17 09.8 +0.2
HHC SCP ScP 20 20 39.2 -2.8
HHC PCS PcS 20 20 41.8 -0.9
HHC S **S** **20 22 12.8 -1.8**
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,76nm,5.6s
HHC LR LR
comp=N,295nm,17.8s,MS4.5
HHC LR LR
comp=E,419nm,19.0s,MS4.5
HHC LR LR
comp=Z,281nm,17.8s,MS4.3
XAN Xi'an 48.07 75 P **P** **20 15 22.4 +1.8**
XAN AMB AMB
comp=Z,26nm,1.1s,mb5.2
BDT Bhumibol Dam 48.22 101 P **P** **20 15 21.5 -0.3**
TOA0 Torodi Ar. Sit 48.49 253 *e*P **P** **20 15 21.6 -2.3**
TORD Torodi Ar. Bea 48.49 253 P **P** **20 15 21.8 -2.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=51,slow=7.5,SNR=12
TORD PcP PcP 20 16 48.2 -1.7
comp=Z,1.6nm,0.9s,baz=30,slow=3.3,SNR=4.0
TORD LR LR 20 39 20.4
comp=Z,118nm,18.7s,MS3.9,baz=50,slow=40
GYA Guiyang 49.51 85 ⇑P **P** **20 15 32.0 +0.3**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
NST Nakhon Sawan 50.01 102 P **P** **20 15 36.0 +0.5**
TIXI Tiksi 51.70 23 *e*P **P** **20 15 47.9 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TIXI Tiksi 51.70 23 *e*P **P** **20 15 47.0 -1.3**
TIXI Tiksi 51.70 23 *e*P **P** **20 15 47.9 -0.4**
comp=Z,4.0nm,1.1s,mb4.3
KKTK Khon Kaen 51.73 99 P **P** **20 15 48.0 -0.5**
comp=Z,247nm,0.8s
YAK Yakutsk 53.45 35 *e*P **P** **20 16 00.9 -0.3**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
YAK Yakutsk 53.45 35 *e*P **P** **20 16 00.2 -1.0**
comp=Z,12nm,0.9s,mb4.8
YAK Yakutsk 53.45 35 *e*P **P** **20 16 00.9 -0.3**
comp=Z,8.0nm,0.8s,mb4.7
WHN Wuhan 53.69 77 *e*P **P** **20 16 05.5 +2.5**
QIZ Qiongzhong 55.79 91 *e*P **P** **20 16 17.8 -0.4**
QIZ S **S** **20 24 05.2 -0.3**
QIZ XS sS 20 24 17.7 +8.9
QIZ AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
QIZ LR LR
comp=Z,189nm,19.2s,MS4.2
OPO Ambohidratompo 55.85 182 P **P** **20 16 17.6 -1.1**
comp=Z,3.5nm,1.0s,mb4.3,baz=301,slow=11,SNR=3.3
LSZ Lusaka 56.06 204 P **P** **20 16 18.5 -1.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=69,slow=8.6,SNR=2.6
LSZ Lusaka 56.06 204 P **P** **20 16 18.5 -1.6**
LSZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
LSZ Lusaka 56.06 204 P **P** **20 16 18.5 -1.6**
NJ2 Nanjing 56.48 73 *e*P **P** **20 16 23.9 +0.8**
NJ2 AP pP 20 16 29.9 +4.8
NJ2 PP PP 20 18 29.8 +1.0
NJ2 S **S** **20 24 13.0 -1.7**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,60nm,8.6s
NJ2 LR LR
comp=Z,620nm,13.0s,MS4.9
PSI Prapat 57.33 115 P **P** **20 16 29.6 +0.4**
comp=Z,1.9nm,0.3s,mb4.6,baz=268,slow=6.3,SNR=5.2
PSI Prapat 57.33 115 P **P** **20 16 29.6 +0.4**
PSI pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
LIC Lamto 57.98 251 *e*P **P** **20 16 30.8 -2.9**
comp=Z,48nm,1.2s,mb5.1
LIC *e*R
comp=Z,150nm,22.4s
LIC Lamto 57.98 251 *e*P **P** **20 16 30.8 -2.9**
comp=Z,24nm,1.2s,mb5.1
LIC LR LR
comp=Z,70nm,22.4s,MS3.7
MDJ Mudanjiang 58.87 55 P **P** **20 16 37.8 -2.2**
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.4
MDJ AMB AMB
comp=Z,121nm,4.3s
KSRS Korea Array 60.77 64 P **P** **20 16 52.8 -0.3**
comp=Z,2.6nm,0.6s,mb4.5,baz=289,slow=6.7,SNR=10.0
KSRS LR LR 20 48 19.1
comp=Z,85nm,21.6s,MS3.9,baz=285,slow=41
BILL Bilibino 64.84 22 *e*P **P** **20 17 20.2 0.0**
JOW Kunigami 66.18 74 P **P** **20 17 29.2 +0.4**
comp=Z,10nm,0.8s,mb4.9,baz=292,slow=19,SNR=3.2
MJAR Matsushiro Arr 68.41 60 P **P** **20 17 43.4 +0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=302,slow=5.3,SNR=5.4
MJAR Matsushiro Arr 68.41 60 P **P** **20 17 43.4 +0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 69.47 202 P **P** **20 17 47.0 -2.5**
comp=Z,6.6nm,0.8s,mb4.6,baz=358,slow=8.7,SNR=5.8
BOSA LR LR 20 49 37.9
comp=Z,181nm,19.1s,MS4.3,baz=26,slow=37
BOSA Boshof 69.47 202 P **P** **20 17 47.1 -2.4**
BOSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BOSA MLR MLR
comp=Z,181nm,19.1s,MS4.3
SCHQ Schefferville 72.83 327 P **P** **20 18 09.8 -0.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=30,slow=6.4,SNR=3.7
SCHQ LR LR 20 51 16.9
comp=Z,57nm,19.7s,MS3.9,baz=325,slow=37
COLA College 77.06 7 *e*P **P** **20 18 35.6 +1.3**
comp=Z,3.7nm,0.7s,mb4.4
COLA College 77.06 7 *e*P **P** **20 18 34.4 +0.1**
DAWY Dawson 78.50 4 *e*P **P** **20 18 43.2 +0.8**
YKA Yellowknife Ar 79.41 352 P **P** **20 18 47.5 +0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=5.8,slow=5.0,SNR=4.9
YKA Yellowknife Ar 79.41 352 P **P** **20 18 47.5 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 79.41 352 P **P** **20 18 47.5 +0.1**
YKA Yellowknife Ar 79.41 352 P **P** **20 18 47.5 +0.1**
comp=Z,2.0nm,0.8s,mb4.1
EDM Edmonton 88.29 349 P **P** **20 19 31.5 -1.3**
FITZ Fitzroy Crossi 90.78 112 P **P** **20 19 43.6 -0.9**
comp=Z,4.1nm,0.9s,mb4.8,baz=240,slow=8.5,SNR=6.4
NEW Newport 93.66 351 *e*P **P** **20 19 58.7 +1.0**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 93.66 351 *e*P **P** **20 19 58.7 +1.0**
comp=Z,4.7nm,0.9s,mb4.9
NEW Newport 93.66 351 *e*P **P** **20 19 58.7 +1.0**
comp=Z,5.0nm,0.9s,mb4.9
PDAR Pinedale Array 97.69 344 LR LR 21 11 56.0
comp=Z,98nm,18.9s,MS4.3,baz=233,slow=40
WRA Warramunga Arr 98.39 109 P **P** **20 20 19.5 +0.3**
comp=Z,0.6nm,0.9s,mb4.1,baz=317,slow=4.0,SNR=6.2
WRA Warramunga Arr 98.39 109 P **P** **20 20 19.5 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 100.28 112 P Pdif 20 20 27.1 -0.6
comp=Z,0.5nm,0.9s,baz=311,slow=4.7,SNR=3.8
ASAR Alice Springs 100.28 112 P Pdif 20 20 27.1 -0.6
ASAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 108.68 335 PP PP 20 25 33.8 -2.3
comp=Z,0.4nm,1.0s,baz=35,slow=4.6,SNR=3.5

CSEM ***05*** *20:07:29.7±0.1, 3899N×2336E, h20km, ML3.4, Error ellipse: s-maj=2.7km s-min=1.6km az=93.0*
NEIC ***05*** *20:07:29.1, 3898N×2331E, h27km, ML3.4(ATH), ML3.5(THE), After ATH.*
ATH ***05*** *20:07:29.1, 3898N×2331E, h27km±1km, MD3.4/11, ML3.4*
ISCJB ***05*** *20:07:29.4±0.9, 3899N±003×2338E±005, h16km±10km, Error ellipse: s-maj=6.9km s-min=4.3km az=8.8*
SOF ***05*** *20:07:31.1, 39.19N×2356E, h10km, MD2.8*
SKO ***05*** *20:07:39.9, 3984N×2289E, h76km*

ISC 05 20:07:29.7±0.8, 3897N±003×2338E±006, h15km±6km, n25, s0°79/30, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.36**	**341**	⇑*i*	PB	**Pg**	**20 07 37.0**	**0.0**
LKR	**Lokris**	**0.43**	**223**	⇓*i*	PB	**Pg**	**20 07 38.3**	**-0.1**
LKR				*e*	SB	**Sg**	**20 07 43.9**	**-0.4**
MGER	**Gerania Oros**	**0.99**	**185**	*e*	PN	**Pn**	**20 07 48.5**	**-0.5**
PTL	**Penteli**	**1.00**	**157**	*e*	PN	**Pn**	**20 07 49.0**	**-0.2**
PTL				*e*	SN	**Sn**	**20 08 03.0**	**0.0**
ATH	**Athens Observa**	**1.03**	**165**	*e*	PN	**Pn**	**20 07 49.0**	**-0.7**
KVR	**Kavouri**	**1.18**	**165**	*e*	PN	**Pn**	**20 07 52.0**	**+0.3**
THL	**Klokotos Trika**	**1.21**	**300**	*e*	PN	**Pn**	**20 07 51.6**	**-0.5**
THL				*e*	SN	**Sn**	**20 08 07.4**	**-0.9**
NAIG	**Nisos Aigina**	**1.21**	**176**	*e*	PN	**Pn**	**20 07 53.0**	**+0.9**
EVR	**Evrytania**	**1.22**	**268**	*e*	PN	**Pn**	**20 07 51.0**	**-1.3**
PLG	**Polygyros**	**1.40**	**2**	*e*	PN	**Pn**	**20 07 54.5**	**-0.2**
LIA	**Limnos Island**	**1.68**	**56**	*e*	PB	**Pb**	**20 07 58.7**	**-1.6**
RLS	**Riolos of Patr**	**1.75**	**239**	*e*	PN	**Pn**	**20 07 59.2**	**-0.4**
ITM	**Itsomi**	**2.12**	**213**	*e*	PB	**Pn**	**20 08 05.0**	**+0.3**
VLI	**Veliai**	**2.28**	**189**	*e*	PN	**Pn**	**20 08 07.0**	**+0.2**
NVR	**Nevrokopi**	**2.41**	**9**	*e*	PN	**Pn**	**20 08 09.2**	**+0.7**
VAY	**Valandovo**	**2.43**	**346**	*e*	Pg	**Pn**	**20 08 08.6**	**-0.2**
APE	**Apeiranthos**	**2.55**	**137**	*e*	PN	**Pn**	**20 08 11.5**	**+1.0**
BIA	**Bitola**	**2.58**	**323**	*e*	Pg	**Pn**	**20 08 12.2**	**+1.2**
MMB	**Musomiste**	**2.63**	**6**	P		**Pn**	**20 08 11.6**	**0.0**
STIP	**Stip**	**2.87**	**342**	*e*	Pg	**Pn**	**20 08 15.7**	**+0.8**
KRUS	**Krusevo**	**2.90**	**326**	*e*	Pg	**Pn**	**20 08 16.8**	**+1.5**
KKB	**Krupnik**	**2.90**	**356**	P		**Pn**	**20 08 15.6**	**+0.2**
RZN	**Rozhen**	**2.90**	**20**	P		**Pn**	**20 08 16.1**	**+0.7**
RZN				*e*	S	**Sn**	**20 08 48.8**	**-1.2**
KDZ	**Kurdzhali**	**3.10**	**30**	P		**Pn**	**20 08 17.2**	**-0.9**
KDZ				S		**Sn**	**20 08 54.3**	**-0.5**
VTS	**Vitosha**	**3.62**	**358**	*e*	P	**Pn**	**20 08 27.0**	**+1.8**

KRSC 05 20:08:29.4±0.4, 5369N×16085E, h32km±31km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.77**	**220**	*i*	P	Pn	20 08 44.1	0.0
SPN				*i*	S	Sn	20 08 55.0	+0.4
SPN	**Mys Shipunski**	**0.77**	**220**	*i*	P	Pn	20 08 44.1	0.0
SPN				*i*	S	Sn	20 08 55.0	+0.4
MKZ	**Mys Kozlova**	**1.01**	**30**	*i*	P	Pn	20 08 46.9	-0.4
MKZ				*e*	S	Sn	20 08 59.6	-0.8
MKZ	**Mys Kozlova**	**1.01**	**30**	*i*	P	Pn	20 08 46.9	-0.4
MKZ				*e*	S	Sn	20 08 59.6	-0.8
NLC	**Nalytchevo**	**1.04**	**241**	*i*	P	Pn	20 08 47.9	+0.2
NLC				*i*	S	Sn	20 09 01.5	+0.3
NLC	**Nalytchevo**	**1.04**	**241**	*i*	P	Pn	20 08 47.9	+0.2
NLC				*i*	S	Sn	20 09 01.5	+0.3
AVH	**Avacha**	**1.33**	**252**	*i*	P	Pn	20 08 53.0	+1.2
AVH				*e*	S	Sn	20 09 10.1	+1.7
AVH	**Avacha**	**1.33**	**252**	*i*	P	Pn	20 08 53.0	+1.2
AVH				*e*	S	Sn	20 09 10.1	+1.7
PET	**Petropavlovsk**	**1.48**	**244**	*i*	P	Pn	20 08 54.5	+0.8
PET				*e*	S	Sn	20 09 12.9	+1.0
PET	**Petropavlovsk**	**1.48**	**244**	*i*	P	Pn	20 08 54.5	+0.8
PET				*e*	S	Sn	20 09 12.9	+1.0
TUMR	**Tumrok**	**1.65**	**346**	*e*	P	Pn	20 08 57.2	+1.1
TUMR				*e*	S	Sn	20 09 17.2	+1.0
TUMR	**Tumrok**	**1.65**	**346**	*e*	P	Pn	20 08 57.2	+1.1
TUMR				*e*	S	Sn	20 09 17.2	+1.0
GNL	**Ganaly**	**1.73**	**271**	*e*	P	Pn	20 08 58.8	+1.6
GNL				*e*	S	Sn	20 09 19.6	+1.4
GNL	**Ganaly**	**1.73**	**271**	*e*	P	Pn	20 08 58.8	+1.6
GNL				*e*	S	Sn	20 09 19.6	+1.4
RUS	**Russkaya**	**1.89**	**229**	*e*	P	Pn	20 08 59.8	+0.4
RUS				*e*	S	Sn	20 09 22.7	+0.5
RUS	**Russkaya**	**1.89**	**229**	*e*	P	Pn	20 08 59.8	+0.4
RUS				*e*	S	Sn	20 09 22.7	+0.5
GRL	**Gorelyy**	**2.02**	**237**	*e*	P	Pn	20 09 02.7	+1.4
GRL				*e*	S	Sn	20 09 27.1	+1.6
GRL	**Gorelyy**	**2.02**	**237**	*e*	P	Pn	20 09 02.7	+1.4
GRL				*e*	S	Sn	20 09 27.1	+1.6
KMNR	**Kamenistaya**	**2.10**	**351**	*e*	P	Pn	20 09 04.3	+2.0
KMNR				*e*	S	Sn	20 09 29.3	+2.0
KMNR	**Kamenistaya**	**2.10**	**351**	*e*	P	Pn	20 09 04.3	+2.0
KMNR				*e*	S	Sn	20 09 29.3	+2.0
KPT	**Kopyto**	**2.31**	**351**	*i*	P	Pn	20 09 07.4	+2.2
KPT				*e*	S	Sn	20 09 35.3	+2.8
KPT	**Kopyto**	**2.31**	**351**	*i*	P	Pn	20 09 07.4	+2.2
KPT				*e*	S	Sn	20 09 35.3	+2.8
ZLN	**Zelenaya**	**2.33**	**359**	*i*	P	Pn	20 09 07.3	+1.8
ZLN				*e*	S	Sn	20 09 35.5	+2.4
ZLN	**Zelenaya**	**2.33**	**359**	*i*	P	Pn	20 09 07.3	+1.8
ZLN				*e*	S	Sn	20 09 35.5	+2.4
KOZ	**Kozyrevsk**	**2.44**	**347**	*i*	P	Pn	20 09 07.8	+0.8
KOZ				*e*	S	Sn	20 09 36.1	+0.4
KOZ	**Kozyrevsk**	**2.44**	**347**	*i*	P	Pn	20 09 07.8	+0.8
KOZ				*e*	S	Sn	20 09 36.1	+0.4
KRSR	**Krestovskiy**	**2.54**	**356**	S		Sn	20 09 39.4	+1.3
KRSR	**Krestovskiy**	**2.54**	**356**	S		Sn	20 09 39.4	+1.3
KLY	**Klyuchi**	**2.63**	**358**	P		Pn	20 09 09.7	+0.1
KLY				S		Sn	20 09 39.5	-0.9
KLY	**Klyuchi**	**2.63**	**358**	P		Pn	20 09 09.7	+0.1
KLY				S		Sn	20 09 39.5	-0.9
SRDR	**Sredinnyy**	**2.71**	**347**	P		Pn	20 09 12.3	+1.6
SRDR	**Sredinnyy**	**2.71**	**347**	P		Pn	20 09 12.3	+1.6
KBTR	**Krutoberegovo**	**2.77**	**23**	*e*	P	Pn	20 09 11.8	+0.3
KBTR				S		Sn	20 09 42.7	-1.1
KBTR	**Krutoberegovo**	**2.77**	**23**	*e*	P	Pn	20 09 11.8	+0.3

KBTR				S	Sn	20 09 42.7	-1.1	
SRKR	**Sorokina**	**2.98**	**3**	*e*P	Pn	20 09 16.3	+1.9	
SRKR				*e*S	Sn	20 09 50.8	+1.8	
SRKR	**Sorokina**	**2.98**	**3**	*e*P	Pn	20 09 16.3	+1.9	
SRKR				*e*S	Sn	20 09 50.8	+1.8	

CSEM ***05*** *20:10:16.5, 3755N×4893E, h14km, ML3.7, After THR*
THR 05 20:10:16.5±0.4, 3755N×4893E, h14km±3km, ML3.7, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRMI	**Germi**	**1.50**	**327**	*e*Pg	Pg	20 10 44.0	-1.3
GRMI				*e*Sg	Sg	20 11 04.4	-0.5
GRMI	comp=N,744nm,0.7s			AML	AML	20 11 06.6	
GRMI	comp=E,1μm,0.3s			AML	AML	20 11 06.8	
GRMI	**Germi** SNR=90	**1.50**	**327**	*e*Pg	Pg	20 10 44.0	-1.4
GRMI				*e*Sg	Sg	20 11 04.4	-0.5
	comp=E,1μm,0.3s,SNR=90						
THKV	**Tehran--Karaj**	**2.26**	**136**	*e*Pn	Pn	20 10 55.6	+2.2
THKV				*e*Sg	Sg	20 11 27.5	-1.6
THKV	comp=N,614nm,0.7s			AML	AML	20 11 28.7	
THKV	comp=E,666nm,0.7s			AML	AML	20 11 34.2	
THKV	**Tehran--Karaj** SNR=52	**2.26**	**136**	*e*Pn	Pn	20 10 55.6	+2.2
THKV				*e*Sg	Sg	20 11 27.5	-1.6
	comp=E,666nm,0.7s,SNR=90						
CHTH	**Charan**	**2.41**	**132**	*e*Pn	Pn	20 10 57.6	+2.2
CHTH	comp=N,402nm,0.4s			AML	AML	20 11 32.6	
CHTH	comp=E,218nm,0.6s			AML	AML	20 11 32.7	
SNGE	**Sanandaj**	**2.76**	**208**	*e*Pn	Pn	20 11 02.5	+2.2

NIED ***05*** *20:20:00, 2670N×12640E, h5km, Mw4.1 Best double couple: M0 1.54000×10^15 NP1:ϕ=251.00000°, δ=49.00000°, λ=-76.00000°. NP2:ϕ=50.00000°, δ=43.00000°, λ=-106.00000°.*
IDC ***05*** *20:20:03.8±0.7, 2670N×12638E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.1/11, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/30, Error ellipse: s-maj=21.1km s-min=14.1km az=73.0*
JMA ***05*** *20:20:05.3±0.1, 2670N×12640E, h15km±2km, M4.2*
JMA Felt I J1.
MOS ***05*** *20:20:06.1±1.1, 2670N×12650E, h33km, mb4.3/13, Error ellipse: s-maj=26.4km s-min=12.1km az=110.1*
ISCJB ***05*** *20:20:07.4±0.5, 2667N±004×12646E±003, h41km±6km, mb4.1/16, Error ellipse: s-maj=7.2km s-min=4.9km az=139.4*
BJI ***05*** *20:20:08.6, 2670N×12650E, h35km, mB4.5, mb4.2*
NEIC ***05*** *20:20:08.6±0.4, 2670N×12649E, h35km, mb4.3/6, Error ellipse: s-maj=9.8km s-min=8.2km az=83.0*
ISC 05 20:20:06.8±0.9, 2668N±004×12647E±003, h18km±6km, n57, σ1§03/64, mb4.1/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.45**	**141**	P	**Pg**	**20 20 15.2**	**-0.8**
JKE				S	**Sg**	**20 20 22.1**	**-0.1**
JAGN	**Aguni-jima**	**0.69**	**97**	P	**Pb**	**20 20 19.7**	**-0.7**
JAGN				S	**Sb**	**20 20 30.4**	**+0.8**
NAH1	**Naha**	**1.19**	**113**	P	**Pn**	**20 20 28.2**	**-0.3**
NAH1				*e*S	**Sb**	**20 20 44.8**	**+0.9**
JJT2	**Tamagusuku 2**	**1.27**	**115**	P	**Pn**	**20 20 29.5**	**0.0**
JJT2				S	**Sn**	**20 20 47.0**	**+1.0**
JIH	**Iheya**	**1.38**	**75**	P	**Pn**	**20 20 30.4**	**-0.8**
JIH				*e*S	**Sn**	**20 20 48.9**	**0.0**
JOW	**Kunigami**	**1.62**	**84**	Pn	**Pn**	**20 20 34.1**	**-0.3**
JOW	44nm,0.3s,baz=272,slow=12,SNR=114			Sn	**Sn**	**20 20 55.8**	**+1.0**
	65nm,0.3s,baz=120,slow=20,SNR=11						
JOW	**Kunigami**	**1.62**	**84**	P	**Pn**	**20 20 34.4**	**0.0**
JMJ	**Miyako jima 2**	**2.14**	**210**	P	**Pn**	**20 20 41.2**	**-0.3**
JTK	**Tokunoshima**	**2.47**	**63**	P	**Pn**	**20 20 46.2**	**+0.1**
JTJ	**Tarama**	**2.58**	**219**	P	**Pn**	**20 20 47.5**	**-0.1**
JIJ	**Ishigaki jima**	**3.12**	**223**	P	**Pn**	**20 20 54.4**	**-0.7**
JKRS	**Kuro-shima**	**3.29**	**223**	P	**Pn**	**20 20 58.2**	**+0.7**
IRIF	**Iriomote-Funau**	**3.40**	**227**	P	**Pn**	**20 20 59.4**	**+0.5**
YOJ	**Yonaguni jima**	**3.83**	**236**	P	**Pn**	**20 21 06.9**	**+2.1**
JMZ	**Minamidaito 2**	**4.35**	**100**	*e*S	**Sn**	**20 22 00.1**	**-2.0**
JNN	**Nakanoshima**	**4.35**	**43**	P	**Pn**	**20 21 16.0**	**+4.0**
TATO	**Taipei**	**4.80**	**250**	*e*P	**Pn**	**20 21 14.0**	**-4.2**
YHNB	**Yeheng**	**5.01**	**248**	*e*Pn	**Pn**	**20 21 23.8**	**+2.7**
YHNB				*e*Sn	**Sn**	**20 22 14.5**	**-4.0**
NACB	**Ninganchiao**	**5.07**	**242**	*e*Pn	**Pn**	**20 21 21.3**	**-0.5**
JNU	**Nakatsue** 0.4nm,0.3s,baz=219,slow=11,SNR=2.3	**7.47**	**30**	Pn	**Pn**	**20 21 56.6**	**+1.7**
KSRS	**Korea Array** baz=188,slow=14,SNR=3.1	**10.81**	**6**	Pn	**Pn**	**20 22 42.5**	**+1.8**
KSRS				LR	LR	20 26 58.1	
	comp=Z,85nm,21.9s,baz=189,slow=38						
HHC	**Hu-ho-hao-te**	**18.76**	**323**	*e*P	**Pn**	**20 24 31.4**	**+6.2**
HHC	comp=Z,18nm,1.0s			AMB	AMB		
HHC	comp=Z,119nm,5.1s			AMB	AMB		
CD2	**Chengdu**	**20.34**	**287**	P	**P**	**20 24 44.2**	**+2.2**
CD2	comp=Z,20nm,0.9s			AMB	AMB		
ASAJ	**Asahikawa**	**21.74**	**33**	P	**P**	**20 24 56.9**	**-0.3**
	comp=Z,2.3nm,0.4s,mb3.9,baz=232,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**21.74**	**33**	P	**P**	**20 24 56.9**	**-0.2**
ASAJ	comp=Z,2.0nm,0.4s			pmax	pmax		
GTA	**Gaotai**	**25.60**	**306**	*e*P	**P**	**20 25 34.6**	**-0.3**
GTA	comp=Z,2.0nm,1.0s,mb3.6			AMB	AMB		
ULN	**Ulaanbaatar**	**26.06**	**329**	*e*P	**P**	**20 25 39.5**	**+0.5**
ULN	comp=Z,7.0nm,0.9s,mb4.2			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,7.1nm,0.9s,mb4.2	**26.06**	**329**	*e*P	**P**	**20 25 39.5**	**+0.4**
SONM	**Songino Array** comp=Z,2.6nm,0.8s,mb3.8,baz=142,slow=7.4,SNR=13	**26.34**	**329**	P	**P**	**20 25 41.0**	**-0.6**
SONM	**Songino Array**	**26.34**	**329**	P	**P**	**20 25 41.0**	**-0.6**
SONM	comp=Z,3.0nm,0.8s			pmax	pmax		
YAK	**Yakutsk**	**35.41**	**3**	P	**P**	**20 26 58.7**	**-2.9**
PSI	**Prapat** comp=Z,3.4nm,0.7s,mb4.4,baz=7.9,slow=7.2,SNR=4.1	**35.51**	**233**	P	**P**	**20 27 02.7**	**+0.3**
PSI	**Prapat**	**35.51**	**233**	P	**P**	**20 27 02.7**	**+0.3**
PSI	comp=Z,3.0nm,0.7s,mb4.3			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,1.0nm,0.5s,mb3.8,baz=101,slow=10.0,SNR=9.5	**40.06**	**312**	P	**P**	**20 27 40.0**	**-0.9**
MKAR	**Makanchi Array**	**40.06**	**312**	P	**P**	**20 27 40.0**	**-0.9**
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
MKAR	**Makanchi Array**	**40.06**	**312**	P	**P**	**20 27 40.0**	**-0.9**
ZAL	**Zalesovo** comp=Z,2.0nm,0.7s,mb3.9,baz=11,slow=8.1,SNR=7.8	**40.95**	**323**	P	**P**	**20 27 46.5**	**-1.7**
ZAL	**Zalesovo**	**40.95**	**323**	P	**P**	**20 27 46.5**	**-1.7**
ZAL	comp=Z,2.0nm,0.7s			pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,7.6nm,0.8s,mb4.6	**44.52**	**181**	*e*P	**P**	**20 28 17.1**	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,4.0nm,0.7s,mb4.4,baz=4.7,slow=8.2,SNR=15	**44.52**	**181**	P	**P**	**20 28 17.3**	**+0.1**
WRAB	**Tennant Creek**	**46.96**	**170**	*e*P	**P**	**20 28 35.7**	**-0.8**
WRAB	comp=Z,2.0nm,0.6s,mb4.2			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,2.3nm,0.6s,mb4.3	**46.96**	**170**	*e*P	**P**	**20 28 35.7**	**-0.8**
WRA	**Warramunga Arr** comp=Z,2.4nm,0.7s,mb4.2,baz=352,slow=8.6,SNR=23	**46.97**	**170**	P	**P**	**20 28 36.6**	**0.0**
WRA	**Warramunga Arr**	**46.97**	**170**	P	**P**	**20 28 36.6**	**+0.1**
WRA	comp=Z,2.0nm,0.7s			pmax	pmax		
WB2	**Warramunga Arr**	**46.97**	**170**	*e*P	**P**	**20 28 36.8**	**+0.2**
CHKZ	**Chkalovo**	**48.88**	**319**	*e*P	**P**	**20 28 49.6**	**-1.7**
CHKZ	comp=Z,1.0nm,0.8s,mb3.9			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,1.0nm,0.8s,mb3.9	**48.88**	**319**	*e*P	**P**	**20 28 49.6**	**-1.7**
BVAR	**Borovoye Array** comp=Z,1.8nm,0.8s,mb4.1,baz=205,slow=31,SNR=7.9	**48.89**	**318**	P	**P**	**20 28 51.0**	**-0.4**
BVAR	**Borovoye Array**	**48.89**	**318**	P	**P**	**20 28 51.0**	**-0.5**
BVAR	comp=Z,2.0nm,0.8s			pmax	pmax		
BRVK	**Borovoye**	**48.96**	**318**	*e*P	**P**	**20 28 52.9**	**+0.9**
BRVK	comp=Z,3.0nm,0.8s,mb4.4			pmax	pmax		
BRVK	**Borovoye** comp=Z,2.6nm,0.8s,mb4.3	**48.96**	**318**	*e*P	**P**	**20 28 52.9**	**+0.9**
ZRNK	**Zerenda** comp=Z,4.0nm,0.7s,mb4.6	**49.71**	**318**	*e*P	**P**	**20 28 57.3**	**-0.4**
ZRNK				pmax	pmax		
ZRNK	**Zerenda** comp=Z,3.6nm,0.7s,mb4.5	**49.71**	**318**	*e*P	**P**	**20 28 57.3**	**-0.4**
ZRNK				*e*	pP	20 29 02.0	-1.5
CTAO	**Charters Tower**	**50.29**	**156**	P	**P**	**20 29 00.9**	**-1.2**
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,mb3.8,baz=357,slow=13,SNR=14	**50.56**	**171**	P	**P**	**20 29 04.7**	**+0.5**
ASAR				PcP	PcP	20 30 22.4	+0.6
	comp=Z,0.6nm,0.6s,baz=356,slow=2.9,SNR=5.0						
ASAR	**Alice Springs**	**50.56**	**171**	P	**P**	**20 29 04.7**	**+0.5**
ASAR						20 30 22.4	
ASAR	comp=Z,1.0nm,0.7s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,2.7nm,0.5s,mb4.5,baz=302,slow=6.0,SNR=9.7	**59.99**	**165**	P	**P**	**20 30 12.3**	**+0.2**

ISCJB ***05*** *20:31:43.9±1.0, 2356S±008×17992E±0.10, h502km±15km, mb4.0/11, Error ellipse: s-maj=14.1km s-min=12.3km az=24.4*
NEIC ***05*** *20:31:44.8±0.8, 2356S×17999E, h503km±11km, mb4.4/7, Error ellipse: s-maj=13.8km s-min=10.4km az=165.0*
IDC ***05*** *20:31:44.8±2.2, 2348S×17997E, h497km±22km, mb3.5/5, mb1 3.7/7, mb1mx3.3/15, mbtmp3.4/7, Error ellipse: s-maj=48.2km s-min=20.4km az=161.0*
ISC 05 20:31:45.0±0.9, 2368S±009×1800W±01, h504km±14km, n27, σ1§01/24, mb4.1/11, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.86**	**162**	*e*P	**P**	**20 33 21.4**	**+1.4**
AFI	**Afiamalu**	**12.45**	**40**	P	**P**	**20 34 27.8**	**-0.4**
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=339,slow=18,SNR=1.8	**12.60**	**275**	P	**P**	**20 34 27.8**	**-2.0**
URZ	**Urewera** 1.5nm,0.3s,baz=113,slow=1.8,SNR=6.7	**14.74**	**189**	P	**P**	**20 34 52.7**	**+0.3**
URZ	0.6nm,0.3s,baz=60,slow=20,SNR=5.3			S	**S**	**20 37 24.7**	**-2.2**
HNR	**Honiara**	**23.83**	**303**	P	**P**	**20 36 16.1**	**-1.7**
CTA	**Charters Tower** 13nm,0.3s,mb4.8	**31.48**	**270**	↓*i*P	**P**	**20 37 26.5**	**+1.8**
CTAO	**Charters Tower** 12nm,0.5s,mb4.6	**31.48**	**270**	*e*P	**P**	**20 37 26.4**	**+1.7**
STKA	**Stephens Creek** 1.7nm,0.4s,mb3.8,baz=110,slow=6.1,SNR=10	**34.80**	**248**	P	**P**	**20 37 54.2**	**+1.3**
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**20 37 54.2**	**+1.3**
STKA				*e*pP		20 39 23.3	
AS31	**Alice Springs**	**42.07**	**260**	*e*P	**P**	**20 38 52.1**	**+0.1**
ASAR	**Alice Springs** 5.2nm,0.8s,mb4.0,baz=96,slow=8.0,SNR=45	**42.07**	**260**	P	**P**	**20 38 52.8**	**+0.8**
ASAR				ScP	ScP	20 43 38.0	+0.5
	1.2nm,0.6s,baz=107,slow=4.3,SNR=13						
ASPA	**Alice Springs**	**42.07**	**260**	*e*P	**P**	**20 38 52.1**	**+0.1**
WB2	**Warramunga Arr**	**42.41**	**266**	↓*i*P	**P**	**20 38 54.8**	**+0.1**
WRAB	**Tennant Creek** 6.0nm,0.5s,mb4.3	**42.41**	**266**	*e*P	**P**	**20 38 54.8**	**+0.1**
WRA	**Warramunga Arr** 3.3nm,0.3s,mb4.2,baz=90,slow=6.0,SNR=266	**42.42**	**266**	P	**P**	**20 38 55.0**	**+0.3**
WRA	1.1nm,0.9s,baz=108,slow=4.2,SNR=7.1			ScP	ScP	20 43 39.7	+0.9
KAKA	**Kakadu** 3.0nm,0.3s,mb4.2	**46.29**	**275**	*e*P	**P**	**20 39 24.5**	**-0.2**
FORT	**Forrest** 11nm,0.5s,mb4.5	**46.39**	**249**	*e*P	**P**	**20 39 25.4**	**0.0**
GUMO	**Guam**	**50.52**	**314**	P	**P**	**20 39 55.7**	**-0.5**
FITZ	**Fitzroy Crossi** 20nm,1.8s,mb4.2	**50.85**	**265**	*e*P	**P**	**20 39 59.5**	**+0.9**
MBWA	**Marble Bar** 1.4nm,0.6s,mb3.5	**55.41**	**260**	*e*P	**P**	**20 40 31.0**	**-0.1**
SNAA	**Sanae**	**84.89**	**179**	P	**P**	**20 43 25.0**	**-1.2**
TXAR	**Lajitas Array** 0.8nm,0.7s,mb3.7,baz=214,slow=6.6,SNR=11	**90.31**	**58**	P	**P**	**20 43 53.0**	**+1.3**
PDAR	**Pinedale Array** 0.4nm,0.7s,mb3.6,baz=174,slow=2.7,SNR=3.5	**92.53**	**44**	P	**P**	**20 44 01.1**	**-0.9**
BRVK	**Borovoye**	**120.34**	**319**	*e*PKPdf	PKPdf	20 49 38.0	-0.6
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=41,slow=4.1,SNR=7.0	**144.79**	**327**	PKP	PKPdf	20 50 22.8	-1.3
AKASG	**Malin Array Be**	**144.79**	**327**	PKP	PKPdf	20 50 22.8	-1.3
CLL	**Collm**	**150.65**	**343**	*e*PKPbc	PKPbc	20 50 39.0	-0.7

IDC ***05*** *21:05:13.7±53.0, 2274S×17726W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=975.2km s-min=161.1km az=86.0*
NEIC 05 21:06:13.4±1.7, 2385S×17879W, h500km, mb3.8/7, 2D, Error ellipse: s-maj=43.8km s-min=23.5km az=218.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 2.6nm,0.4s	**32.58**	**270**	↓*i*P	P	21 12 03.7	+0.9
CTAO	**Charters Tower** 3.5nm,0.4s	**32.58**	**270**	*e*P	P	21 12 03.7	+1.0
TAU	**Tasmania Unive**	**33.78**	**227**	*e*P	P	21 12 13.4	+0.5
STKA	**Stephens Creek** 1.8nm,0.9s	**35.77**	**248**	*e*P	P	21 12 28.1	-1.5
STKA	**Stephens Creek** 1.5nm,0.8s,baz=78,slow=11,SNR=3.7	**35.77**	**248**	P	P	21 12 28.0	-1.5
ASAR	**Alice Springs** 0.4nm,0.3s,baz=102,slow=8.0,SNR=12	**43.13**	**260**	P	P	21 13 28.8	-0.2
WB2	**Warramunga Arr**	**43.50**	**266**	↓*i*P	P	21 13 31.4	-0.5
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=100,slow=8.2,SNR=94	**43.52**	**266**	P	P	21 13 32.0	+0.1
KAKA	**Kakadu** 3.9nm,0.9s	**47.41**	**275**	*e*P	P	21 14 03.1	+1.3
FITZ	**Fitzroy Crossi** 6.8nm,1.3s	**51.94**	**265**	*e*P	P	21 14 36.7	+1.5
SBA	**Scott Base** 1.5nm,0.4s	**54.49**	**184**	*e*P	P	21 14 50.7	-2.7
CASY	**Casey** 3.4nm,0.9s	**60.64**	**206**	*e*P	P	21 15 35.8	+0.4
SNAA	**Sanae**	**84.69**	**179**	P	P	21 17 56.0	+2.0
BRVK	**Borovoye**	**121.20**	**319**	*e*PKPdf	PKPdf	21 24 07.6	-1.4

CASC 05 21:07:41.6±1.4, 927N×8273W, h0km±10km, MD3.6, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTCR	**Cotoan**	**0.38**	**184**	↓*e*P	Pg	21 07 50.5	+1.7
LCR2	**La Lucha 2**	**1.34**	**290**	*e*P	Pg	21 08 07.0	-0.2
PRS1	**Puriscal**	**1.71**	**294**	*e*P	Pn	21 08 12.3	-0.3

ISCJB ***05*** *21:10:45.3±0.8, 3899N±004×2336E±005, h9km±8km, Error ellipse: s-maj=7.6km s-min=5.7km az=64.8*
NEIC ***05*** *21:10:45.8, 3898N×2330E, h25km, ML3.0(ATH), After ATH.*
ATH ***05*** *21:10:45.8, 3898N×2330E, h25km±1km, MD3.0/7, ML3.0*
THE ***05*** *21:10:46.5, 3898N×2335E, h7km, ML2.5*
CSEM ***05*** *21:10:46.2±0.1, 3895N×2336E, h15km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.8km az=109.0*
ISC 05 21:10:45.9±0.6, 3899N±003×2336E±006, h15km±6km, n18, σ0§90/21, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.33**	**342**	↑*i*PB	**Pg**	**21 10 53.6**	**+0.8**
XOR	**Xorichti**	**0.40**	**341**	*e*Pg	**Pg**	**21 10 54.7**	**+0.7**
LKR	**Lokris**	**0.44**	**220**	*e*PB	**Pb**	**21 10 54.7**	**-0.7**
LKR				*e*SB	**Sg**	**21 11 00.4**	**-0.3**
AOS	**Alonnisos**	**0.44**	**66**	*e*Pg	**Pg**	**21 10 55.2**	**+0.3**
AGG	**Agios Georgios**	**0.80**	**273**	*e*Pg	**Pg**	**21 11 01.2**	**-0.4**
AGG				*e*Sg	**Sg**	**21 11 13.0**	**+0.9**
PAIG	**Paliouri**	**0.97**	**15**	*e*Pg	**Pg**	**21 11 05.0**	**+0.3**
PAIG				*e*Sg	**Sg**	**21 11 18.9**	**+1.6**
MGER	**Gerania Oros**	**1.00**	**184**	*e*PN	**Pn**	**21 11 05.0**	**-0.4**
PTL	**Penteli**	**1.02**	**157**	*e*PN	**Pn**	**21 11 05.0**	**-0.6**
ATH	**Athens Observa**	**1.05**	**164**	*e*PN	**Pn**	**21 11 06.0**	**-0.1**
THL	**Klokotos Trika**	**1.19**	**299**	*e*PN	**Pn**	**21 11 08.1**	**+0.1**
KVR	**Kavouri**	**1.20**	**164**	*e*PN	**Pn**	**21 11 09.0**	**+0.8**
NAIG	**Nisos Aigina**	**1.23**	**175**	*e*PN	**Pn**	**21 11 10.0**	**+1.4**
LIT	**Litokhoron**	**1.30**	**329**	*e*Pg	**Pg**	**21 11 09.8**	**-1.1**
PLG	**Polygyros**	**1.39**	**3**	*e*Pg	**Pg**	**21 11 11.0**	**-1.6**
OUR	**Ouranopolis**	**1.43**	**19**	*e*Pg	**Pg**	**21 11 11.8**	**-1.6**
HORT	**Hortiatis**	**1.62**	**353**	*e*Pb	**Pb**	**21 11 14.8**	**-0.7**
SOH	**Sokhos**	**1.83**	**360**	*e*Pb	**Pb**	**21 11 18.4**	**-0.7**
KNT	**Kendrikon**	**2.20**	**351**	*e*Pn	**Pn**	**21 11 23.1**	**+1.2**

IDC ***05*** *21:16:47.7±0.5, 802S×10746E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, MS3.7/7, Ms1 3.7/7, ms1mx3.3/24, Error ellipse: s-maj=21.6km s-min=13.9km az=50.0*
MOS ***05*** *21:16:50.9±0.8, 799S×10750E, h33km, mb4.7/12, Error ellipse: s-maj=19.7km s-min=10.1km az=118.4*
NEIC ***05*** *21:16:51.2±2.4, 806S×10745E, h23km±17km, mb4.5/14, Error ellipse: s-maj=9.0km s-min=6.1km az=51.0*
BJI ***05*** *21:16:51.2, 810S×10750E, h23km, mb4.5*
ISCJB ***05*** *21:16:52.9±1.0, 806S±005×10739E±006, h54km±9km, mb4.4/37, MS3.7/7, Error ellipse: s-maj=11.0km s-min=6.9km az=101.4*
ISC 05 21:16:54.6±0.9, 805S±005×10738E±006, h51km±8km, n84, σ1§21/78, mb4.4/36, MS3.7/7, 3C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang** 6μm,1.0s	**1.24**	**11**	P	**Pn**	**21 17 17.2**	**+1.7**
CBJI	**Citeko** 8μm,0.7s	**1.70**	**342**	P	**Pn**	**21 17 19.4**	**-2.4**
TNG	**Tangerang** 2μm,1.0s	**2.00**	**339**	P	**Pn**	**21 17 31.5**	**+5.6**
SBJI	**Serang** 1μm,1.1s	**2.28**	**327**	P	**Pn**	**21 17 32.6**	**+2.9**
KLI	**Kotabumi** 456nm,0.7s	**4.04**	**322**	P	**Pn**	**21 17 59.5**	**+5.7**
KRKI	**Karangkates** 347nm,0.6s	**5.03**	**92**	P	**Pn**	**21 18 09.0**	**+1.6**
COCO	**West Island**	**11.16**	**248**	*e*Pn	**Pn**	**21 19 30.2**	**-1.2**
COCO				*e*Sn	**Sn**	**21 21 17.6**	**-17**
KULM	**Kulim**	**14.85**	**333**	*e*Pn	**Pn**	**21 20 19.8**	**-1.6**
KKM	**Kota Kinabalu**	**16.55**	**32**	Pn	**Pn**	**21 20 43.4**	**+0.4**
MBWA	**Marble Bar** 5.1nm,0.7s	**17.67**	**139**	*e*Pn	**Pn**	**21 20 53.6**	**-3.3**
MBWA				*e*Sn	**Sn**	**21 23 53.4**	**-19**
FITZ	**Fitzroy Crossi** 26nm,0.9s	**20.38**	**121**	↑/↓*i*P	**P**	**21 21 26.7**	**-0.3**
FITZ	**Fitzroy Crossi** 18nm,1.0s,baz=281,slow=6.2,SNR=26	**20.38**	**121**	P	**P**	**21 21 26.8**	**-0.2**
FITZ				LR	LR	21 29 43.5	
	comp=Z,64nm,18.3s,MS3.0,baz=301,slow=38						
AAI	**Ambon** 62nm,1.0s,mb4.9	**21.15**	**79**	P	**P**	**21 21 37.9**	**+2.6**
KAKA	**Kakadu** 18nm,0.6s,mb4.8	**25.08**	**103**	*e*P	**P**	**21 22 13.2**	**-1.0**
NWAO	**Narrogin (SRO)** comp=Z,182nm,20.7s,MS3.6,baz=35,slow=32	**26.39**	**161**	LR	LR	21 31 06.0	
QIZ	**Qiongzhong**	**27.02**	**5**	*e*P	**P**	**21 22 29.6**	**-2.1**
QIZ				S	**S**	**21 27 09.1**	**+3.4**
QIZ	comp=Z,16nm,2.3s,mb4.1			AMB	AMB		
WRA	**Warramunga Arr** comp=Z,1.4nm,0.5s,mb3.9,baz=290,slow=10,SNR=12	**28.66**	**117**	P	**P**	**21 22 45.2**	**-1.2**
WRAB	**Tennant Creek**	**28.66**	**117**	*e*P	**P**	**21 22 47.2**	**+0.8**
WB2	**Warramunga Arr**	**28.67**	**117**	*e*P	**P**	**21 22 45.4**	**-1.0**
BAKI	**Biak** comp=Z,156nm,1.0s,mb5.7	**29.42**	**78**	P	**P**	**21 23 00.6**	**+7.5**
ASAR	**Alice Springs** comp=Z,1.2nm,0.8s,mb3.7,baz=306,slow=8.7,SNR=12	**29.79**	**124**	P	**P**	**21 22 56.9**	**+0.5**
NACB	**Ninganchiao**	**34.91**	**23**	*e*P	**P**	**21 23 40.8**	**-0.4**
CTAO	**Charters Tower**	**39.46**	**112**	*e*P	**P**	**21 24 20.4**	**+0.7**
CTAO	comp=Z,2.0nm,0.6s,mb4.0			pmax	pmax		
CTAO	**Charters Tower** comp=Z,1.9nm,0.6s,mb4.0	**39.46**	**112**	*e*P	**P**	**21 24 20.4**	**+0.7**
STKA	**Stephens Creek** comp=Z,8.3nm,0.6s,mb4.6	**39.67**	**131**	*e*P	**P**	**21 24 21.4**	**-0.1**
STKA	**Stephens Creek** comp=Z,9.3nm,0.6s,mb4.7,baz=305,slow=8.3,SNR=24	**39.67**	**131**	P	**P**	**21 24 21.3**	**-0.2**
STKA	comp=Z,129nm,20.3s,MS3.8,baz=27,slow=36			LR	LR	21 40 25.4	
LSA	**Lhasa**	**40.65**	**338**	P	**P**	**21 24 29.2**	**-0.4**
LSA	**Lhasa**	**40.65**	**338**	*e*P	**P**	**21 24 30.9**	**+1.3**
LSA	comp=Z,1.0nm,0.5s,mb3.7			pmax	pmax		
LSA	**Lhasa** comp=Z,1.4nm,0.5s,mb3.9	**40.65**	**338**	*e*P	**P**	**21 24 30.9**	**+1.2**
JIRN	**Jiri** comp=Z,6.1nm,0.3s,mb4.7	**40.99**	**331**	*e*P	**P**	**21 24 31.7**	**-0.7**
GUN	**Gumba**	**41.35**	**331**	*e*P	**P**	**21 24 34.6**	**-0.8**
NJ2	**Nanjing**	**41.35**	**15**	*e*P	**P**	**21 24 35.6**	**+0.2**
NJ2	comp=Z,20nm,0.6s,mb4.9			AMB	AMB		
DMN	**Daman**	**41.49**	**329**	*e*P	**P**	**21 24 36.7**	**+0.2**
KKN	**Kakani** comp=Z,3.8nm,0.5s,mb4.3	**41.55**	**330**	*e*P	**P**	**21 24 36.3**	**-0.7**
GKN	**Gorkha**	**42.05**	**329**	*e*P	**P**	**21 24 39.5**	**-1.6**
KOLN	**Koldanda** comp=Z,12nm,0.6s,mb4.7	**42.39**	**328**	*e*P	**P**	**21 24 42.5**	**-1.4**
GTA	**Gaotai**	**47.74**	**352**	*e*P	**P**	**21 25 31.2**	**+4.9**
GTA				AP	pP	21 25 37.6	-2.4
GTA				XP	sP	21 25 42.0	-4.0
GTA	comp=Z,3.0nm,0.6s,mb4.5			AMB	AMB		
TAU	**Tasmania Unive**	**49.30**	**142**	P	**P**	**21 25 37.5**	**-0.8**
SONM	**Songino Array** comp=Z,1.6nm,0.5s,mb4.3,baz=181,slow=8.9,SNR=18	**55.65**	**359**	P	**P**	**21 26 25.8**	**+0.5**
SONM	comp=Z,90nm,18.3s,MS3.9,baz=187,slow=40			LR	LR	21 53 51.2	
ULN	**Ulaanbaatar**	**55.67**	**360**	*e*P	**P**	**21 26 25.2**	**-0.3**
WSAR	**Wadi Sarin** comp=Z,1.2n

ARU	**Arti**	**75.72**	**334**	⇑*iP*	**P**	**21 28 34.9**	**+0.3**
ARU				*e*		21 31 24.3	
ARU				*e*S	S	21 38 14.0	+1.6
ARU				*e*SS	SS	21 43 04.0	-0.7
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ARU	**Arti**	**75.72**	**334**	*e*P	**P**	**21 28 34.2**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.3						
MATP	**Matopo**	**76.85**	**251**	P	**P**	**21 28 43.0**	**+1.9**
	comp=Z,4.2nm,0.7s,mb4.5,baz=109,slow=5.7,SNR=11						
MATP	**Matopo**	**76.85**	**251**	P	**P**	**21 28 43.0**	**+1.9**
EIL	**Elat**	**78.94**	**302**	P	**P**	**21 28 54.7**	**+2.1**
BOSA	**Boshof**	**79.30**	**242**	P	**P**	**21 28 55.4**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=105,slow=4.7,SNR=4.3						
BOSA	**Boshof**	**79.30**	**242**	P	**P**	**21 28 55.9**	**+1.4**
TIXI	**Tiksi**	**80.80**	**7**	⇑*iP*	**P**	**21 29 01.8**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**82.80**	**312**	P	**P**	**21 29 15.1**	**+1.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=139,slow=6.0,SNR=6.7						
SNAA	**Sanae**	**88.64**	**197**	*e*P	**P**	**21 29 42.8**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SNAA	**Sanae**	**88.64**	**197**	*e*P	**P**	**21 29 42.8**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**88.74**	**322**	P	**P**	**21 29 44.1**	**+1.5**
	comp=Z,0.6nm,0.5s,mb4.2,baz=88,slow=4.9,SNR=4.4						
AKASG	**Malin Array Be**	**88.74**	**322**	*i* P	**P**	**21 29 44.0**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**94.64**	**340**	P	**P**	**21 30 09.2**	**-0.8**
	comp=Z,5.6nm,0.9s,mb5.0,baz=72,slow=2.9,SNR=4.4						
NOA	**NORSAR Array B**	**99.98**	**331**	P	Pdif	21 30 34.4	+0.4
	comp=Z,1.1nm,0.9s,baz=104,slow=8.1,SNR=3.3						
TXAR	**Lajitas Array**	**143.97**	**50**	PKP	PKPdf	21 36 24.2	0.0
	comp=Z,0.3nm,0.6s,baz=275,slow=0.6,SNR=6.0						
WMOK	**Wichita Mounta**	**144.19**	**38**	*e*PKIKP	PKPdf	21 36 24.5	-0.1
CCM	**Cathedral Cave**	**145.71**	**27**	*e*PKP2	PKPab	21 36 26.8	-1.3
JCT	**Junction City**	**146.17**	**45**	*e*PKP2	PKPab	21 36 31.4	+1.6
WVT	**Waverly**	**148.79**	**24**	*e*PKP2	PKPab	21 36 37.7	-2.5
PLAL	**Pickwick Lake**	**149.67**	**26**	*e*PKPdf	PKPbc	21 36 39.3	+0.9
TKL	**Tuckaleechee C**	**150.69**	**19**	PKPbc	PKPbc	21 36 42.5	+1.6
	comp=Z,2.8nm,0.6s,baz=158,slow=5.7,SNR=5.6						

IDC ***05*** *21:22:02.4±0.9, 44.09N×105.76W, h0km, mb4.1/1, mb1 3.8/5, mb1mx3.5/22, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=20.6km s-min=7.8km az=145.0*

NEIC ***05*** *21:22:02.2±0.5, 43.67N×105.15W, h0km, ML3.5, Error ellipse: s-maj=7.7km s-min=5.2km az=143.0, Suspected Mining explosion.*

NEIC 75 km [45 miles] SSE of Gillette.

ISC 05 21:22:02.3±0.4**, 4373N**±003×**10528W**±003**, h0km, n49,**
σ1§51/130, mb4.3/1, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
RSSD	**Black Hills**	**0.98**	**66**	⇑*iP*		**Pg**	**21**	**22**	**21.3**	**+0.3**
RSSD				*e*S		**Sg**	**21**	**22**	**46.6**	**+13**
PHWY	**Pilot Hill**	**2.43**	**183**	*e*Pn		**Pn**	**21**	**22**	**43.4**	**+0.2**
RWWY	**Rawlins**	**2.49**	**216**	*e*Pn		**Pn**	**21**	**22**	**44.6**	**+0.6**
RWWY				*e*Sn		**Sn**	**21**	**23**	**16.6**	**+1.5**
LAO	**LASA Array**	**3.03**	**348**	*e*Pn		**Pn**	**21**	**22**	**51.8**	**+0.3**
LAO				*e*Pg		**Pg**	**21**	**23**	**03.9**	**+3.6**
LAO				*e*Sn		**Sn**	**21**	**23**	**20.6**	**-7.8**
LAO				*e*Sg		**Sg**	**21**	**23**	**31.6**	**-8.0**
BW06	**Boulder Array**	**3.27**	**254**	*e*Pn		**Pn**	**21**	**22**	**54.9**	**+0.2**
BW06				*e*Pg		**Pg**	**21**	**23**	**04.8**	**-0.2**
BW06				*e*Sn		**Sn**	**21**	**23**	**35.3**	**+0.9**
BW06				*e*Sg		**Sg**	**21**	**23**	**42.1**	**-5.3**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn		**Pn**	**21**	**22**	**54.5**	**-0.2**
	4.8nm,0.3s,baz=69,slow=15,SNR=74									
PDAR				Lg			21	23	39.5	
	20nm,0.3s,baz=64,slow=32,SNR=17									
PDAR	**Pinedale Array**	**3.27**	**254**	Pn		**Pn**	**21**	**22**	**54.5**	**-0.2**
PDAR				Lg			21	23	39.5	
LOHW	**Long Hollow**	**3.87**	**270**	*e*Pn		**Pn**	**21**	**23**	**04.2**	**+1.3**
LOHW				*e*Pg		**Pg**	**21**	**23**	**12.6**	**-3.7**
LOHW				Sn		**Sn**	**21**	**23**	**51.8**	**+2.8**
FLWY	**Flagg Ranch**	**3.93**	**277**	*e*Pn		**Pn**	**21**	**23**	**04.6**	**+0.7**
FLWY				*e*Pg		**Pg**	**21**	**23**	**14.9**	**-2.7**
FLWY				*e*Sn		**Sn**	**21**	**23**	**52.8**	**+2.1**
FLWY				*e*Sg		**Sg**	**21**	**24**	**11.2**	**+2.6**
MOOW	**Moose Ponds**	**3.96**	**272**	*e*Pn		**Pn**	**21**	**23**	**05.7**	**+1.4**
MOOW				*e*Pg		**Pg**	**21**	**23**	**16.2**	**-2.0**
MOOW				*e*Sn		**Sn**	**21**	**23**	**48.7**	**-2.7**
SNOW	**Snow King Moun**	**3.99**	**268**	*e*Pn		**Pn**	**21**	**23**	**05.7**	**+1.1**
SNOW				*e*Pg		**Pg**	**21**	**23**	**14.3**	**-4.4**
SNOW				*e*Sn		**Sn**	**21**	**23**	**51.9**	**-0.2**
YNR	**Norris Junctio**	**4.00**	**286**	Pn		**Pn**	**21**	**23**	**08.6**	**+3.7**
YNR				*e*Pg		**Pg**	**21**	**23**	**15.6**	**-3.4**
YFT	**Old Faithful**	**4.07**	**282**	*e*Pn		**Pn**	**21**	**23**	**09.2**	**+3.5**
YFT				*e*Pg		**Pg**	**21**	**23**	**21.2**	**+1.0**
YFT				*e*Sn		**Sn**	**21**	**23**	**54.7**	**+0.7**
YFT				*e*Sg		**Sg**	**21**	**24**	**12.1**	**-0.9**
REDW	**Red Top Meadow**	**4.07**	**267**	*e*Pn		**Pn**	**21**	**23**	**07.0**	**+1.2**
REDW				*e*Pg		**Pg**	**21**	**23**	**17.0**	**-3.3**
REDW				*e*Sn		**Sn**	**21**	**23**	**55.2**	**+1.1**
REDW				*e*Sg		**Sg**	**21**	**24**	**11.0**	**-2.0**
IMW	**Indian Meadow**	**4.10**	**274**	*e*Pn		**Pn**	**21**	**23**	**07.1**	**+0.9**
IMW				*e*Pg		**Pg**	**21**	**23**	**17.3**	**-3.6**
IMW				*e*Sn		**Sn**	**21**	**23**	**54.5**	**-0.3**
IMW				*e*Sg		**Sg**	**21**	**24**	**16.3**	**+2.3**
TPAW	**Teton Pass**	**4.13**	**269**	*e*Pn		**Pn**	**21**	**23**	**07.6**	**+1.1**
TPAW				*e*Pg		**Pg**	**21**	**23**	**21.5**	**+0.1**
TPAW				*e*Sn		**Sn**	**21**	**23**	**52.5**	**-3.0**
YMR	**Madison River**	**4.20**	**285**	*e*Pn		**Pn**	**21**	**23**	**13.0**	**+5.5**
YMR				*e*Pg		**Pg**	**21**	**23**	**19.0**	**-3.7**
YMR				Sn		**Sn**	**21**	**24**	**01.0**	**+3.8**
YMR				*e*Sg		**Sg**	**21**	**24**	**16.9**	**-0.1**
DCID1	**Drake Creek**	**4.29**	**270**	*e*Pn		**Pn**	**21**	**23**	**09.9**	**+1.1**
DCID1				*e*Pg		**Pg**	**21**	**23**	**19.8**	**-4.7**
DCID1				*e*Sn		**Sn**	**21**	**23**	**51.8**	**-7.7**
AHID	**Auburn Hatcher**	**4.36**	**259**	*e*Pn		**Pn**	**21**	**23**	**12.8**	**+3.1**
AHID				*e*Pg		**Pg**	**21**	**23**	**22.6**	**-3.2**
AHID				*e*Sg		**Sg**	**21**	**24**	**22.2**	**-0.1**
RRI2	**Red Ridge**	**4.41**	**267**	*e*Pn		**Pn**	**21**	**23**	**11.6**	**+1.1**
RRI2				*e*Pg		**Pg**	**21**	**23**	**25.9**	**-0.9**
RRI2				*e*Sn		**Sn**	**21**	**23**	**58.4**	**-4.1**
RRI2				*e*Sg		**Sg**	**21**	**24**	**20.3**	**-3.7**
QLMT	**Earthquake Lak**	**4.55**	**286**	*e*Pn		**Pn**	**21**	**23**	**16.3**	**+3.9**
QLMT				*e*Pg		**Pg**	**21**	**23**	**24.5**	**-5.0**
QLMT				*e*Sg		**Sg**	**21**	**24**	**27.7**	**-0.8**
SMCO	**Snowmass**	**4.73**	**196**	*e*Pn		**Pn**	**21**	**23**	**18.4**	**+3.6**
SMCO				*e*Pg		**Pg**	**21**	**23**	**26.6**	**-6.3**
SMCO				*e*Sg		**Sg**	**21**	**24**	**24.9**	**-9.2**
DGMT	**Dagmar**	**4.80**	**9**	*e*Pn		**Pn**	**21**	**23**	**18.1**	**+2.4**
DGMT				*e*Pg		**Pg**	**21**	**23**	**34.5**	**+0.3**
DGMT				Sn		**Sn**	**21**	**24**	**17.2**	**+5.2**
DGMT				*e*Sg		**Sg**	**21**	**24**	**34.4**	**-2.0**
HWUT	**Hardware Ranch**	**5.10**	**248**	*e*Pn		**Pn**	**21**	**23**	**19.4**	**-0.5**
	15nm,0.6s									
HWUT				*e*Pg		**Pg**	**21**	**23**	**34.7**	**-5.2**
HWUT				*e*Sn		**Sn**	**21**	**24**	**17.5**	**-1.9**
HWUT				*e*Sg		**Sg**	**21**	**24**	**40.4**	**-5.7**
TCUT	**Toone Canyon**	**5.24**	**242**	*e*Pn		**Pn**	**21**	**23**	**23.3**	**+1.5**
TCUT				*e*Pg		**Pg**	**21**	**23**	**35.9**	**-6.7**
TCUT				*e*Sg		**Sg**	**21**	**24**	**44.6**	**-5.8**
DAU	**Daniels Canyon**	**5.55**	**235**	*e*Pn		**Pn**	**21**	**23**	**27.6**	**+1.5**
DAU				*e*Pg		**Pg**	**21**	**23**	**42.7**	**-5.9**
DAU				*e*Sn		**Sn**	**21**	**24**	**36.2**	**+5.7**
DAU				*e*Sg		**Sg**	**21**	**25**	**04.8**	**+4.3**
CTU	**Camp Tracy**	**5.69**	**240**	*e*Pn		**Pn**	**21**	**23**	**27.2**	**-0.7**
	9.3nm,0.6s									
CTU				*e*Pg		**Pg**	**21**	**23**	**45.4**	**-5.8**
CTU				Sn		**Sn**	**21**	**24**	**26.4**	**-7.6**
CTU				*e*Sg		**Sg**	**21**	**25**	**02.5**	**-2.4**
SPUT	**South Promonto**	**5.83**	**248**	*e*Pn		**Pn**	**21**	**23**	**28.5**	**-1.3**
SPUT				*e*Sn		**Sn**	**21**	**24**	**43.5**	**+6.1**
HVU	**Hansel Valley**	**5.85**	**253**	*e*Pn		**Pn**	**21**	**23**	**32.3**	**+2.0**
	8.1nm,0.6s									
HVU				*e*Pg		**Pg**	**21**	**23**	**48.1**	**-6.3**
HVU				*e*Sn		**Sn**	**21**	**24**	**43.8**	**+5.8**
MPU	**Maple Canyon**	**6.02**	**234**	*e*Pn		**Pn**	**21**	**23**	**32.6**	**0.0**
MPU				*e*Pg		**Pg**	**21**	**23**	**49.2**	**-8.5**
MPU				Sn		**Sn**	**21**	**24**	**29.3**	**-13**
MPU				*e*Sg		**Sg**	**21**	**25**	**19.9**	**+4.2**
SRU	**San Rafael**	**6.07**	**222**	*e*Pn		**Pn**	**21**	**23**	**32.8**	**-0.4**
	17nm,0.6s									
SRU				*e*Pg		**Pg**	**21**	**23**	**50.4**	**-8.3**
SRU				*e*Sg		**Sg**	**21**	**25**	**07.8**	**-10**
TMUT	**Trail Mountain**	**6.28**	**227**	*e*Pn		**Pn**	**21**	**23**	**36.1**	**0.0**
TMUT				*e*Pg		**Pg**	**21**	**23**	**58.7**	**-3.9**
NLU	**North Lily Min**	**6.32**	**236**	*e*Pn		**Pn**	**21**	**23**	**36.2**	**-0.5**
NLU				*e*Pg		**Pg**	**21**	**23**	**54.5**	**-8.9**
BGU	**Big Grassy Mou**	**6.39**	**247**	*e*Pn		**Pn**	**21**	**23**	**38.9**	**+1.2**
BGU				*e*Pg		**Pg**	**21**	**24**	**03.7**	**-1.0**
BGU				*e*Sn		**Sn**	**21**	**24**	**54.7**	**+3.4**
BGU				*e*Sg		**Sg**	**21**	**25**	**21.0**	**-6.6**
CBKS	**Cedar Bluff**	**6.45**	**138**	*e*Pn		**Pn**	**21**	**23**	**37.4**	**-1.0**
	41nm,0.9s									
CBKS				*e*Pg		**Pg**	**21**	**24**	**03.0**	**-2.8**
CHMT	**Chamberlain Mo**	**6.46**	**302**	*e*Pn		**Pn**	**21**	**23**	**38.6**	**+0.1**
CHMT				*e*Pg		**Pg**	**21**	**23**	**58.5**	**-7.5**
CHMT				*e*Sn		**Sn**	**21**	**24**	**58.7**	**+5.8**
CHMT				*e*Sg		**Sg**	**21**	**25**	**28.5**	**-1.2**
HLID	**Hailey**	**6.63**	**272**	*e*Pn		**Pn**	**21**	**23**	**42.8**	**+1.9**
	3.4nm,0.8s									
HLID				*e*Pg		**Pg**	**21**	**24**	**03.0**	**-6.3**
HLID				*e*Sn		**Sn**	**21**	**25**	**01.5**	**+4.3**
HLID				*e*Sg		**Sg**	**21**	**25**	**37.5**	**+2.2**
DUG	**Dugway**	**6.63**	**240**	*e*Pn		**Pn**	**21**	**23**	**41.0**	**0.0**
	7.5nm,0.8s									
DUG				*e*Pg		**Pg**	**21**	**24**	**08.1**	**-1.3**
MSU	**Marysvale**	**7.37**	**227**	*e*Pn		**Pn**	**21**	**23**	**51.2**	**+0.1**
MSU				*e*Pg		**Pg**	**21**	**24**	**19.3**	**-4.1**
MSU				Sn		**Sn**	**21**	**25**	**16.8**	**+1.5**
MSU				Sg		Sg	21	25	36.5	-22
AGMN	**Agassiz Refuge**	**7.99**	**52**	*e*Pn		**Pn**	**21**	**23**	**57.1**	**-2.4**
	11nm,0.5s									
AGMN				*e*Sg		**Sg**	**21**	**26**	**06.8**	**-12**
ARUT	**Antelope Range**	**8.58**	**229**	*e*Pn		**Pn**	**21**	**24**	**07.7**	**0.0**
CCUT	**Cedar City**	**8.71**	**228**	*e*Pn		**Pn**	**21**	**24**	**09.5**	**0.0**
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn		**Pn**	**21**	**24**	**13.0**	**-2.5**
	2.0nm,0.3s,baz=231,slow=13,SNR=19									
ULM				Lg			21	26	44.6	
	0.2nm,0.3s,baz=96,slow=19,SNR=2.0									
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn		**Pn**	**21**	**24**	**13.0**	**-2.5**
ULM				Lg			21	26	44.6	
WUAZ	**Wupatki**	**9.45**	**212**	*e*Pn		**Pn**	**21**	**24**	**22.1**	**+2.4**
	6.8nm,0.6s									
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn		**Pn**	**21**	**24**	**43.3**	**+0.2**
	0.0nm,0.3s,baz=19,slow=15,SNR=2.6									
TXAR	**Lajitas Array**	**14.43**	**174**	Pn		**Pn**	**21**	**25**	**34.7**	**+7.0**
	0.0nm,0.3s,baz=356,slow=12,SNR=3.5									
TXAR				Pg		Pn	21	26	31.7	+64
	0.1nm,0.3s,baz=11,slow=14,SNR=7.3									
TXAR				Lg			21	29	42.6	
	0.0nm,0.3s,baz=331,slow=32,SNR=3.8									
TXAR	**Lajitas Array**	**14.43**	**174**	Pn		**Pn**	**21**	**25**	**34.7**	**+7.0**
TXAR				Pg		Pn	21	26	31.7	+64
TXAR				Lg			21	29	42.5	
ARCES	**ARCESS Array B**	**61.42**	**18**	P		**P**	**21**	**32**	**19.6**	**-0.7**
	1.8nm,0.8s,mb4.3,baz=331,slow=7.7,SNR=4.5									

SOF ***05*** *21:28:58.2, 38.77N×23.47E, h10km, MD3.0*

NEIC ***05*** *21:29:01.8, 39.00N×23.40E, h25km, ML3.7(THE), ML3.8(ATH), After ATH.*

ATH ***05*** *21:29:01.8, 39.00N×23.40E, h25km±1km, MD3.5/14, ML3.8*

ISCJB ***05*** *21:29:02.9±0.5, 39.00N±0.002×23.40E±0.003, h19km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=173.7*

CSEM ***05*** *21:29:02.9±0.1, 38.99N×23.35E, h20km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.3km az=92.0*

SKO ***05*** *21:29:03.2, 39.21N×23.59E, h0km*

THE ***05*** *21:29:03.6, 39.08N×23.40E, h6km, ML3.2*

ISC 05 21:29:02.2±0.5**, 3900N**±002×**2340E**±003**, h9**km±3km**, n57,**
σ0§94/70, 3C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
NEO	**Neokhori**	**0.33**	**335**	⇑*i*PB		**Pg**	**21**	**29**	**09.9**	**+1.1**
NEO				*e*SB		**Sg**	**21**	**29**	**14.7**	**+1.4**
XOR	**Xorichti**	**0.40**	**336**	*e*Pg		**Pg**	**21**	**29**	**11.0**	**+1.0**
AOS	**Alonnisos**	**0.41**	**66**	*e*Pg		**Pg**	**21**	**29**	**11.6**	**+1.4**
LKR	**Lokris**	**0.47**	**222**	⇑*i*PB		**Pg**	**21**	**29**	**11.0**	**-0.4**
AGG	**Agios Georgios**	**0.83**	**272**	*e*Pg		**Pg**	**21**	**29**	**17.4**	**-0.9**
AGG				*e*Sg		**Sg**	**21**	**29**	**29.5**	**+0.3**
PAIG	**Paliouri**	**0.95**	**13**	*e*Pg		**Pg**	**21**	**29**	**19.6**	**-0.8**
PAIG				*e*Sg		**Sg**	**21**	**29**	**34.8**	**+2.0**
MGER	**Gerania Oros**	**1.02**	**186**	*e*PN		**Pn**	**21**	**29**	**21.5**	**-1.2**
ATH	**Athens Observa**	**1.06**	**166**	*e*PN		**Pn**	**21**	**29**	**22.4**	**-0.8**
KVR	**Kavouri**	**1.21**	**166**	*e*PN		**Pn**	**21**	**29**	**25.0**	**-0.2**
THL	**Klokotos Trika**	**1.21**	**298**	*e*PN		**Pn**	**21**	**29**	**24.4**	**-0.9**
EVR	**Evrytania**	**1.25**	**266**	*e*PN		**Pn**	**21**	**29**	**25.4**	**-0.3**
NAIG	**Nisos Aigina**	**1.25**	**177**	*e*PN		**Pn**	**21**	**29**	**25.5**	**-0.2**
LIT	**Litokhoron**	**1.30**	**328**	*e*Pg		**Pg**	**21**	**29**	**26.2**	**-1.0**
LIT				*e*Sg		**Sg**	**21**	**29**	**43.1**	**-1.0**
PLG	**Polygyros**	**1.37**	**1**	*e*Pg		**Pg**	**21**	**29**	**27.3**	**-0.1**
PLG				*e*Sg		**Sg**	**21**	**29**	**44.8**	**-1.4**
PLG	**Polygyros**	**1.37**	**1**	⇑*i*PN		**Pn**	**21**	**29**	**27.3**	**-0.1**
OUR	**Ouranopolis**	**1.40**	**18**	*e*Pg		**Pg**	**21**	**29**	**28.1**	**-1.0**
OUR	**Ouranopolis**	**1.40**	**18**	*e*Pg		**Pg**	**21**	**29**	**28.1**	**-1.0**
LOS	**Limnos**	**1.60**	**54**	*e*Pg		**Pg**	**21**	**29**	**30.7**	**-2.2**
HORT	**Hortiatis**	**1.61**	**352**	*e*Pg		**Pn**	**21**	**29**	**30.6**	**-0.1**
HORT				*e*Sg		**Sn**	**21**	**29**	**51.1**	**-0.5**
LIA	**Limnos Island**	**1.64**	**57**	*e*PN		**Pn**	**21**	**29**	**31.4**	**+0.2**
THE	**Thessaloniki**	**1.66**	**348**	*e*Pg		**Pn**	**21**	**29**	**30.9**	**-0.6**
THE				*e*Sg		**Sn**	**21**	**29**	**52.1**	**-0.7**
RLS	**Riolos of Patr**	**1.79**	**239**	*e*PN		**Pn**	**21**	**29**	**33.5**	**+0.3**
KZN	**Kozani**	**1.81**	**316**	*e*PN		**Pn**	**21**	**29**	**33.9**	**+0.4**
SOH	**Sokhos**	**1.82**	**359**	*e*Pb		**Pb**	**21**	**29**	**34.1**	**-1.5**
SOH				*e*Sb		**Sb**	**21**	**29**	**57.5**	**-1.0**
MEV	**Metsovon**	**1.86**	**296**	*e*Pb		**Pb**	**21**	**29**	**36.7**	**+0.4**
MEV				*e*Sb		**Sb**	**21**	**29**	**59.6**	**0.0**
GRG	**Griva**	**2.10**	**339**	*e*Pn		**Pn**	**21**	**29**	**37.3**	**-0.2**
GRG				*e*Sn		**Sn**	**21**	**30**	**03.1**	**-0.5**
SRS	**Serrai**	**2.12**	**4**	*e*Pn		**Pn**	**21**	**29**	**37.8**	**+0.1**
ITM	**Ithomi**	**2.16**	**213**	*e*PB		**Pn**	**21**	**29**	**38.8**	**+0.5**
KNT	**Kendrikon**	**2.19**	**350**	*e*Pn		**Pn**	**21**	**29**	**39.5**	**+0.8**
PRK	**Paraskevi**	**2.25**	**83**	*e*PN		**Pn**	**21**	**29**	**39.1**	**-0.4**
VLI	**Veliai**	**2.31**	**189**	*e*PN		**Pn**	**21**	**29**	**40.3**	**-0.1**
VLS	**Valsamata**	**2.35**	**250**	*e*PN		**Pn**	**21**	**29**	**40.5**	**-0.5**
FNA	**Florina**	**2.36**	**319**	*e*Pn		**Pn**	**21**	**29**	**41.8**	**+0.7**
NVR	**Nevrokopi**	**2.37**	**8**	*e*PN		**Pn**	**21**	**29**	**41.7**	**+0.5**
VAY	**Valandovo**	**2.40**	**345**	*e*Pn		**Pn**	**21**	**29**	**41.6**	**0.0**
VAY	**Valandovo**	**2.40**	**345**	*e*Pn		**Pn**	**21**	**29**	**42.0**	**+0.3**
VAY	**Valandovo**	**2.40**	**345**	*e*Pn		**Pn**	**21**	**29**	**41.9**	**+0.3**
IGT	**Igoumenitsa**	**2.44**	**283**	*e*Pn		**Pb**	**21**	**29**	**44.6**	**-1.6**
IGT				*e*Sn		**Sb**	**21**	**30**	**16.6**	**+0.3**
APE	**Apeiranthos**	**2.56**	**138**	*e*Pn		**Pn**	**21**	**29**	**44.2**	**+0.4**
APE				*e*Sn		**Sb**	**21**	**30**	**20.3**	**+0.5**
APE	**Apeiranthos**	**2.56**	**138**	*e*Pn		**Pn**	**21**	**29**	**44.1**	**+0.3**
BIA	**Bitola**	**2.57**	**322**	*e*Pn		**Pn**	**21**	**29**	**44.7**	**+0.8**
MMB	**Musomiste**	**2.59**	**5**	*e*Pn		**Pn**	**21**	**29**	**44.3**	**0.0**
MMB				*e*Sn		**Sn**	**21**	**30**	**15.6**	**-0.3**
MMB	**Musomiste**	**2.59**	**5**	P		**Pn**	**21**	**29**	**44.2**	**-0.1**
RDO	**Rodhopi**	**2.69**	**37**	*e*PN		**Pn**	**21**	**29**	**45.7**	**0.0**
ALN	**Alexandroupoli**	**2.78**	**46**	*e*Pn		**Pn**	**21**	**29**	**44.1**	**-2.7**
STIP	**Stip**	**2.84**	**341**	*e*Pn		**Pn**	**21**	**29**	**48.7**	**+1.0**
RZN	**Rozhen**	**2.86**	**20**	P		**Pn**	**21**	**29**	**48.7**	**+0.7**
KKB	**Krupnik**	**2.87**	**355**	P		**Pn**	**21**	**29**	**48.5**	**+0.4**
KRUS	**Krusevo**	**2.88**	**326**	*e*Pn		**Pn**	**21**	**29**	**49.4**	**+1.1**
KRUS	**Krusevo**	**2.88**	**326**	*e*Pn		**Pn**	**21**	**29**	**49.3**	**+1.1**
SMG	**Samos**	**2.99**	**115**	P		**Pn**	**21**	**29**	**53.0**	**+3.2**
KDZ	**Kurdzhali**	**3.06**	**30**	P		**Pn**	**21**	**29**	**49.8**	**-0.9**
PLD	**Plovdiv**	**3.25**	**17**	*e*Pn		**Pn**	**21**	**29**	**54.7**	**+1.4**
DIM	**Dimitrovgrad**	**3.45**	**27**	*e*P		**Pn**	**21**	**29**	**57.0**	**+0.9**
VTS	**Vitosha**	**3.59**	**358**	*e*Pn		**Pn**	**21**	**29**	**59.6**	**+1.6**
VTS	**Vitosha**	**3.59**	**358**	P		**Pn**	**21**	**29**	**59.8**	**+1.9**
TIP	**Timpagrande**	**5.17**	**274**	P		**Pn**	**21**	**30**	**21.6**	**+1.9**

ISCJB ***05*** *21:51:01.1±1.0, 2156S±008×668W±0.1, h229km±11km, mb3.6/3, Error ellipse: s-maj=20.7km s-min=12.9km az=25.4*

IDC ***05*** *21:51:01.5±1.2, 2155S×6676W, h212km±20km, mb3.4/1, mb1 3.2/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=36.4km s-min=13.9km az=109.0*

NEIC ***05*** *21:51:02.7±0.9, 2142S×6678W, h225km±11km, mb3.4/3, Error ellipse: s-maj=18.5km s-min=13.7km az=84.0*

ISC 05 21:51:02.7±0.9**, 2150S**±007×**668W**±01**, h220**km±11km**, n10,**
σ1§15/11, mb3.6/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
LVC	**Limon Verde**	**2.24**	**240**	P		**Pn**	**21**	**51**	**45.0**	**0.0**
	7.4nm,0.3s,baz=57,slow=7.4,SNR=57									
LVC				S		**S**	**21**	**52**	**17.2**	**-1.0**
	6.9nm,0.3s,baz=254,slow=20,SNR=27									
LPAZ	**La Paz**	**5.33**	**346**	P		**Pn**	**21**	**52**	**23.4**	**+1.7**
	0.5nm,0.3s,baz=162,slow=6.7,SNR=14									
LPAZ				S		**S**	**21**	**53**	**25.0**	**+0.6**
	baz=253,slow=19,SNR=4.6									
SIV	**San Ignacio**	**7.72**	**46**	P		**Pn**	**21**	**52**	**50.9**	**-1.3**
	2.5nm,0.3s,baz=258,slow=14,SNR=43									
NNA	**Nana**	**13.47**	**313**	Pn		**Pn**	**21**	**54**	**05.6**	**+0.3**
TRQA	**Tornquist**	**17.02**	**167**	*e*Pn		**Pn**	**21**	**54**	**50.0**	**+1.8**
	0.8nm,0.6s									
OTAV	**Otavalo**	**24.41**	**331**	*e*P		**P**	**21**	**56**	**01.0**	**0.0**
	0.2nm,0.3s,mb3.2									
SDV	**Santo Domingo**	**30.43**	**353**	*e*P		**P**	**21**	**56**	**52.4**	**-2.2**
	2.2nm,0.5s,mb4.0									
TORD	**Torodi Ar. Bea**	**75.52**	**69**	P		**P**	**22**	**02**	**22.8**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=257,slow=5.7,SNR=24									
TORD	**Torodi Ar. Bea**	**75.52**	**69**	P		**P**	**22**	**02**	**22.8**	**-0.1**
MKAR	**Makanchi Array**	**144.47**	**37**	PKP		PKPdf	22	10	12.1	-0.6
	0.7nm,0.8s,baz=333,slow=2.7,SNR=4.3									

NIED ***05*** *21:

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YAK	Yakutsk	23.31	345	eP	P	22 02 17.1	-3.0
	comp=Z,26nm,0.5s,mb4.9						
NACB	Ninganchiao	23.49	234	P	P	22 02 22.2	+0.5
BOD	Bodaibo	25.41	324	eP	P	22 02 37.9	-1.3
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.8						
ULN	Ulaanbaatar	26.33	299	eP	P	22 02 47.3	-0.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	Ulaanbaatar	26.33	299	eP	P	22 02 47.3	-0.2
	comp=Z,0.9nm,0.4s,mb3.6						
GUMO	Guam	26.45	174	LR	LR	22 12 47.7	
	comp=Z,48nm,19.9s,MS3.0,baz=116,slow=35						
SONM	Songino Array	26.77	299	P	P	22 02 51.3	-0.2
	comp=Z,0.7nm,0.5s,mb3.4,baz=88,slow=8.6,SNR=6.7						
SONM				LR	LR	22 13 59.1	
	comp=Z,67nm,19.4s,MS3.2,baz=120,slow=38						
ENH	Enshi	28.35	260	P	P	22 03 06.1	+0.4
TIXI	Tiksi	32.40	352	eP	P	22 03 39.5	-1.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ZAL	Zalesovo	40.44	310	P	P	22 04 49.8	-0.2
	comp=Z,1.7nm,0.4s,mb4.1,baz=26,slow=5.6,SNR=6.8						
ZAL	Zalesovo	40.44	310	P	P	22 04 49.8	-0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSA	Lhasa	42.65	272	P	P	22 05 08.8	+0.7
MKAR	Makanchi Array	43.13	300	P	P	22 05 11.4	-0.6
	comp=Z,0.7nm,0.5s,mb3.7,baz=85,slow=7.5,SNR=11						
MKAR				LR	LR	22 23 57.2	
	comp=Z,35nm,19.5s,MS3.3,baz=171,slow=37						
MKAR	Makanchi Array	43.13	300	P	P	22 05 11.4	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,35nm,19.5s						
KDAK	Kodiak Island	44.47	44	P	P	22 05 23.1	+0.3
	comp=Z,13nm,1.1s,mb4.6,baz=136,slow=18,SNR=4.5						
COLA	College	46.22	34	P	P	22 05 39.9	+3.4
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
COLA	College	46.22	34	P	P	22 05 39.9	+3.4
	comp=Z,9.5nm,0.8s,mb4.8						
JIRN	Jiri	47.45	273	eP	P	22 05 48.7	+2.5
GUN	Gumba	47.56	273	eP	P	22 05 48.4	+1.4
	comp=Z,6.2nm,0.3s,mb5.1						
KKN	Kakani	48.08	274	eP	P	22 05 52.6	+1.5
	comp=Z,5.8nm,0.6s,mb4.8						
GKN	Gorkha	48.47	274	eP	P	22 05 55.1	+1.1
	comp=Z,3.7nm,0.4s,mb4.8						
CHKZ	Chkalovo	48.77	311	eP	P	22 05 55.3	-1.1
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
CHKZ	Chkalovo	48.77	311	eP	P	22 05 55.3	-1.1
	comp=Z,1.5nm,0.4s,mb4.4						
KOLN	Koldanda	49.38	275	eP	P	22 06 02.6	+1.6
ZRNK	Zerenda	49.90	311	eP	P	22 06 04.7	-0.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	Zerenda	49.90	311	eP	P	22 06 04.7	-0.3
	comp=Z,2.8nm,0.9s,mb4.3						
RES	Resolute Bay	59.54	15	eP	P	22 07 14.9	+0.1
	comp=Z,336nm,1.1s						
WRA	Warramunga Arr	60.12	189	P	P	22 07 17.5	-1.3
	comp=Z,3.0nm,0.7s,mb4.4,baz=6.9,slow=7.1,SNR=17						
WRA	Warramunga Arr	60.12	189	P	P	22 07 17.5	-1.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	ARCESS Array B	61.42	339	P	P	22 07 25.8	-1.9
	comp=Z,4.1nm,0.9s,mb4.6,baz=20,slow=3.9,SNR=3.6						
ARCES	ARCESS Array B	61.42	339	P	P	22 07 25.8	-1.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	ARCESS Array B	61.42	339	P	P	22 07 25.8	-1.9
JOF	Joensuu	63.63	331	ep	P	22 07 40.8	-1.6
ASAR	Alice Springs	63.84	189	P	P	22 07 43.4	-0.4
	comp=Z,1.0nm,0.5s,mb4.1,baz=1.0,slow=6.0,SNR=17						
ASAR	Alice Springs	63.84	189	P	P	22 07 43.4	-0.4
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	66.47	332	P	P	22 07 59.6	-1.2
	comp=Z,1.5nm,0.6s,mb4.2,baz=46,slow=8.2,SNR=8.6						
FINES	FINESS Array B	66.47	332	P	P	22 07 59.6	-1.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	71.67	337	P	P	22 08 32.5	-0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=40,slow=6.2						
NOA	NORSAR Array B	71.67	337	P	P	22 08 32.4	-0.7
	comp=Z,1.5nm,0.8s,mb4.0,baz=40,slow=6.0,SNR=4.5						
NOA	NORSAR Array B	71.67	337	P	P	22 08 32.4	-0.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	72.32	322	P	P	22 08 36.3	-0.7
	comp=Z,1.1nm,0.5s,mb4.0,baz=44,slow=6.0,SNR=8.5						
AKASG	Malin Array Be	72.32	322	P	P	22 08 36.3	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	87.79	53	P	P	22 10 00.9	+0.5
	comp=Z,0.1nm,0.5s,mb3.4,baz=303,slow=2.0,SNR=4.6						
LPAZ	La Paz	144.57	57	PKP	PKPdf	22 16 47.2	-0.4
	comp=Z,0.5nm,0.5s,baz=353,slow=8.1,SNR=3.7						
LPAZ	La Paz	144.57	57	PKIKP	PKPdf	22 16 47.2	-0.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	144.57	57	PKP	PKPdf	22 16 47.2	-0.4
SIV	San Ignacio	148.61	47	PKPbc	PKPbc	22 16 58.9	+0.8
	comp=Z,0.5nm,0.5s,baz=281,slow=6.2,SNR=4.7						

*ISCJB **05** 22:35:37.4±0.4, 5229N±002×235W±004, h10km, Error ellipse: s-maj=4.1km s-min=3.1km az=114.7*
*CSEM **05** 22:35:38.8±0.1, 5243N×264W, h5km, ML2.7/10, Error ellipse: s-maj=2.6km s-min=1.3km az=50.0*
*BGS **05** 22:35:39.7±0.8, 5241N×262W, h3km±15km, ML2.2*
*LDG **05** 22:35:40.8±0.3, 5235N×257W, h10km, Ml2.7/13, Error ellipse: s-maj=6.4km s-min=4.8km az=138.0*
*NEIC **05** 22:35:40.8, 5235N×257W, h10km, ML2.7(LDG), After LDG.*
ISC 05 22:35:38.5±0.3, **5236N**±002×**249W**±004, **h10**km, **n62**, σ1s**12**/102, **7C-4D, United Kingdom**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HLM1	Long Mynd	0.29	304⇓	iP	Pg	22 35 44.0	-0.3
HLM1	Long Mynd	0.29	304⇓	iP	Pg	22 35 44.0	-0.3
	116nm,0.1s						
MCH1	Michaelchurch	0.48	221⇑	iP	Pg	22 35 48.7	+0.8
MCH1				eS	Sg	22 35 55.3	+1.1
MCH1				AML	AML	22 35 55.8	
	comp=N,138nm,0.2s						
MCH1				AML	AML	22 35 55.8	
	comp=E,116nm,0.1s						
MCH1	Michaelchurch	0.48	221	P	Pg	22 35 48.7	+0.8
MCH1				S	Sg	22 35 55.3	+1.1
MCH1				AML	AML	22 35 55.8	
	comp=E,138nm,0.2s						
MCH1				AML	AML	22 35 55.8	
	comp=E,116nm,0.1s						
MCH1	Michaelchurch	0.48	221⇑	iP	Pg	22 35 48.7	+0.8
MCH1				eS	Sg	22 35 55.3	+1.1
MCH1				AML	AML	22 35 55.8	
	comp=N,138nm,0.2s						
MCH1				AML	AML	22 35 55.8	
	comp=E,116nm,0.1s						
MCH1	Michaelchurch	0.48	221⇑	iP	Pg	22 35 48.7	+0.8
MCH1				eS	Sg	22 35 55.3	+1.1
MCH1				AML	AML	22 35 55.8	
	comp=N,138nm,0.2s						
MCH1				AML	AML	22 35 55.8	
	comp=E,116nm,0.1s						
SSW	Stow on the Wo	0.55	135⇓	iP	Pg	22 35 52.5	+3.3
HTR	Trewern Hill	0.56	240⇑	iP	Pg	22 35 49.5	+0.2
HTR	Trewern Hill	0.56	240⇑	iP	Pg	22 35 49.5	+0.2
SBD1	Bryn Du	0.72	320	eP	Pg	22 35 51.8	-0.7
HGH	Gray Hill	0.75	196⇑	eP	Pg	22 35 54.4	+1.5
KWE	Weaver Farm	0.77	30⇑	iP	Pg	22 35 53.7	+0.4
SWN1	Swindon	0.95	153	eP	Pg	22 35 59.3	+2.6
SWN1				eS	Sg	22 36 13.8	+4.7
SWN1				AML	AML	22 36 17.1	
	comp=E,129nm,0.4s						
SWN1				AML	AML	22 36 17.6	
	comp=N,92nm,0.3s						
SWN1	Swindon	0.95	153	eP	Pg	22 35 59.3	+2.6
SWN1				eS	Sg	22 36 13.8	+4.7
SWN1				AML	AML	22 36 17.1	
	comp=E,129nm,0.4s						
SWN1				AML	AML	22 36 17.6	
	comp=N,92nm,0.3s						
SWN1	Swindon	0.95	153	eP	Pg	22 35 59.3	+2.6
SWN1				eS	Sg	22 36 13.8	+4.7
SWN1				AML	AML	22 36 17.1	
	comp=E,129nm,0.4s						
SWN1				AML	AML	22 36 17.6	
	comp=N,92nm,0.3s						
KBI1	Birley Grange	1.07	33	eP	Pg	22 35 59.4	+0.3
SKP1	Kophill	1.22	121	eP	Pn	22 36 03.8	+2.2
WPM1	Penmaenmawr	1.25	317	eP	Pn	22 36 01.0	-1.0
YRE	Yr Eifl	1.34	299	eP	Pn	22 36 02.5	-0.7
WLF1	Llynfaes	1.49	310	eP	Pn	22 36 04.8	-0.5
HEX	Exmoor	1.53	213⇓	iP	Pn	22 36 07.1	+1.2
	comp=N,14nm,0.3s						
WCB1	Church Bay	1.61	310	eP	Pn	22 36 06.9	-0.2
WCB1				eS	Sn	22 36 25.9	-2.0
WCB1				AML	AML	22 36 27.8	
	comp=E,20nm,0.3s						
WCB1				AML	AML	22 36 27.9	
	comp=N,39nm,0.1s						
WCB1	Church Bay	1.61	310	eP	Pn	22 36 06.9	-0.2
WCB1				eS	Sn	22 36 25.9	-2.0
WCB1				AML	AML	22 36 27.8	
	comp=E,20nm,0.3s						
WCB1				AML	AML	22 36 27.9	
	comp=N,39nm,0.1s						
WCB1	Church Bay	1.61	310	eP	Pn	22 36 06.9	-0.2
WCB1				eS	Sn	22 36 25.9	-2.0
WCB1				AML	AML	22 36 27.8	
	comp=E,20nm,0.3s						
WCB1				AML	AML	22 36 27.9	
	comp=N,39nm,0.1s						
HTL	Hartland	1.85	223	eP	Pn	22 36 10.8	+0.6
HTL				eS	Sn	22 36 34.5	+0.8
HTL				AML	AML	22 36 36.6	
	comp=E,15nm,0.4s						
HTL				AML	AML	22 36 37.2	
	comp=N,14nm,0.3s						
HTL	Hartland	1.85	223	P	Pn	22 36 10.8	+0.6
HTL				S	Sn	22 36 34.5	+0.8
FLN	La Foliniere	3.82	160	ePn	Pn	22 36 38.3	+0.9
	baz=329						
FLN				eSn	Sn	22 37 19.5	-2.8
FLN				eSg	Sg	22 37 41.5	+0.3
	comp=N,2.7nm,0.3s						
FLN	La Foliniere	3.82	160	ePn	Pn	22 36 38.3	+0.9
FLN				eSn	Sn	22 37 19.5	-2.8
FLN				eSg	Sg	22 37 41.5	+0.3
	comp=N,1.4nm,0.3s						
ROSF	Rostrenen	4.06	187	ePn	Pn	22 36 41.1	+0.5
ROSF				eSn	Sn	22 37 26.5	-1.7
	comp=N,6.9nm,0.3s						
ROSF	Rostrenen	4.06	187	ePn	Pn	22 36 41.1	+0.5
ROSF				eSn	Sn	22 37 26.5	-1.7
	comp=N,3.5nm,0.3s						
LDF	La Druitiere	4.06	157	ePn	Pn	22 36 41.1	+0.4
LDF				eSn	Sn	22 37 26.5	-1.7
GRR	Gorron	4.11	165	ePn	Pn	22 36 42.1	+0.8
GRR				eSn	Sn	22 37 28.0	-1.4
GRR				eSg	Sg	22 37 50.8	+0.3
	comp=N,2.2nm,0.2s						
GRR	Gorron	4.11	165	ePn	Pn	22 36 42.1	+0.8
GRR				eSn	Sn	22 37 28.0	-1.4
GRR				eSg	Sg	22 37 50.8	+0.3
	comp=N,1.1nm,0.2s						
SGMF	Saint Gilles	4.11	181	ePn	Pn	22 36 42.0	+0.7
SGMF				eSn	Sn	22 37 27.6	-1.9
SGMF				eSg	Sg	22 37 50.1	-0.4
	comp=N,3.7nm,0.4s						
SGMF	Saint Gilles	4.11	181	ePn	Pn	22 36 42.0	+0.7
SGMF				eSn	Sn	22 37 27.6	-1.9
SGMF				eSg	Sg	22 37 50.1	-0.4
	comp=N,1.9nm,0.4s						
QUIF	Quistinic	4.47	186	ePn	Pn	22 36 46.8	+0.5
QUIF				eSn	Sn	22 37 35.4	-2.9
BAIF	Baives	4.80	116	ePn	Pn	22 36 52.1	+1.3
BAIF				eSn	Sn	22 37 44.8	-1.6
MFF	Saint Martin d	5.96	164	ePn	Pn	22 37 06.4	-0.4
MEZF	Maizieres J'vi	6.17	126	ePn	Pn	22 37 09.9	+0.2
	baz=303						
MEZF				eSn	Sn	22 38 17.3	-3.0
	comp=N,0.8nm,0.2s						
MEZF	Maizieres J'vi	6.17	126	ePn	Pn	22 37 09.9	+0.2
MEZF				eSn	Sn	22 38 17.3	-3.0
	comp=N,0.4nm,0.2s						
LOR	Lormes	6.54	139	ePn	Pn	22 37 15.9	+1.1
	baz=323						
LOR				eSn	Sn	22 38 23.0	-6.4
	comp=N,1.0nm,0.3s						
SSF	Saint Saulge	6.57	141	ePn	Pn	22 37 15.6	+0.4
SSF				eSn	Sn	22 38 26.0	-4.1
	comp=N,0.3nm,0.2s						
SSF	Saint Saulge	6.57	141	ePn	Pn	22 37 15.6	+0.4
SSF				eSn	Sn	22 38 26.0	-4.1
	comp=N,0.2nm,0.2s						
AVF	Avril sur Loir	6.74	143	ePn	Pn	22 37 18.2	+0.7
AVF				eSn	Sn	22 38 29.7	-4.6
	comp=N,0.4nm,0.2s						
AVF	Avril sur Loir	6.74	143	ePn	Pn	22 37 18.2	+0.7
AVF				eSn	Sn	22 38 29.7	-4.6
	comp=N,0.2nm,0.2s						
BGF	Bois d'Agland	6.76	147	ePn	Pn	22 37 18.6	+0.8
BGF				eSn	Sn	22 38 30.5	-4.4
	comp=N,1.5nm,0.2s						
BGF	Bois d'Agland	6.76	147	ePn	Pn	22 37 18.6	+0.8
BGF				eSn	Sn	22 38 30.5	-4.4
	comp=N,0.8nm,0.2s						
TCF	Toulx Ste Croi	6.80	151	ePn	Pn	22 37 18.5	+0.1
TCF				eSn	Sn	22 38 31.8	-4.1
	comp=N,0.3nm,0.2s						
TCF	Toulx Ste Croi	6.80	151	ePn	Pn	22 37 18.5	+0.1
TCF				eSn	Sn	22 38 31.8	-4.1
	comp=N,0.2nm,0.2s						
SMF	Signal de Mont	7.04	142	ePn	Pn	22 37 22.1	+0.4
CDF	Champ du Feu	7.38	118	eSn	Sn	22 38 46.9	-3.2
	comp=N,1.0nm,0.3s						
CDF	Champ du Feu	7.38	118	eSn	Sn	22 38 46.9	-3.2
	comp=N,0.5nm,0.3s						
HINF	Hinteralfeld	7.53	123	ePn	Pn	22 37 29.0	+0.7
RJF	Les Rejaudoux	7.54	158	ePn	Pn	22 37 28.4	0.0
LFF	La Frestale	7.72	163	ePn	Pn	22 37 30.8	-0.2
CABF	La Chapelle	8.01	132	ePn	Pn	22 37 35.4	+0.5
CAF	Calviac	8.02	156	ePn	Pn	22 37 35.0	-0.1
VIVF	Saint-Julien-l	8.88	145	ePn	Pn	22 37 46.9	+0.1
ORIF	Oris-en-Rattie	9.27	140	ePn	Pn	22 37 50.8	+0.8
LASF	Ste Croix	9.30	150	ePn	Pn	22 37 51.8	-0.8
EPF	Esparros	9.53	167	ePn	Pn	22 37 54.5	-1.2
MTLF	Montolieu	9.56	159	ePn	Pn	22 37 55.4	-0.7

*NEIC **05** 22:55:15.7, 3805N×2387E, h21km, ML3.3(ATH), After ATH.*
*ATH **05** 22:55:15.7, 3805N×2387E, h21km, MD3.2/8, ML3.3*
*ISCJB **05** 22:55:16.5±0.8, 3807N±003×2379E±005, h12km±6km, Error ellipse: s-maj=7.1km s-min=4.1km az=151.8*
*CSEM **05** 22:55:17.0±0.1, 3804N×2381E, h12km, ML3.3, Error ellipse: s-maj=2.4km s-min=1.4km az=99.0*
*THE **05** 22:55:19.5, 38.18N×2396E, h15km, ML2.5*
ISC 05 22:55:17.0±0.5, **3806N**±003×**2381E**±006, **h12**km±4km, **n23**, σ0s**59**/32, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.05	106	ePB	Pg	22 55 19.0	-0.3
ATH	Athens Observa	0.12	219	ePB	Pg	22 55 20.0	0.0
KVR	Kavouri	0.24	187	ePB	Pg	22 55 22.0	0.0
NAIG	Nisos Aigina	0.40	220	ePB	Pg	22 55 24.5	-0.3
MGER	Gerania Oros	0.44	260	ePB	Pg	22 55 25.5	-0.2
LKR	Lokris	0.87	313	ePN	Pg	22 55 33.2	-0.5
AOS	Alonnisos	1.11	3	ePg	Pg	22 55 38.0	-0.3
AOS				eSg	Sg	22 55 53.2	+0.4
NEO	Neokhori	1.32	340	ePN	Pn	22 55 41.0	-0.2
XOR	Xorichti	1.39	340	ePg	Pn	22 55 42.1	0.0
XOR				eSg	Sn	22 56 00.2	-0.1
AGG	Agios Georgios	1.50	310	ePg	Pg	22 55 45.2	-0.7
AGG				eSg	Sg	22 56 07.0	+1.6
VLI	Veliai	1.51	208	ePN	Pn	22 55 43.6	-0.2
APE	Apeiranthos	1.69	125	ePb	Pn	22 55 46.1	-0.2
APE				eSb	Sb	22 56 10.0	+0.9
APE	Apeiranthos	1.69	125	ePn	Pn	22 55 45.5	-0.8
APE	Apeiranthos	1.69	125	ePb	Pn	22 55 46.1	-0.2
APE				eSb	Sb	22 56 10.0	+0.8
PAIG	Paliouri	1.86	357	ePb	Pn	22 55 48.6	-0.1
KYTH	Kithira	1.88	199	ePN	Pn	22 55 49.0	+0.1
LOS	Limnos	2.12	28	ePn	Pn	22 55 51.8	-0.4
OUR	Ouranopolis	2.27	3	ePn	Pn	22 55 54.4	+0.1
LIT	Litokhoron	2.28	334	ePn	Pn	22 55 54.8	+0.4
LIT				eSn	Sn	22 56 22.7	+0.4
PLG	Polygyros	2.33	353	ePn	Pn	22 55 55.4	+0.4
PLG				eSn	Sn	22 56 22.1	-1.4
PLG	Polygyros	2.33	353	ePB	Pn	22 55 55.3	+0.3
HORT	Hortiatis	2.59	348	ePn	Pn	22 55 59.8	+1.1
HORT				eSn	Sn	22 56 29.2	-0.8
SOH	Sokhos	2.78	353	ePn	Pn	22 56 02.0	+0.8
SOH				eSn	Sn	22 56 34.8	+0.1

*NIED **05** 23:12:00, 3340N×14090E, h8km, Mw3.9 Best double couple: M0 8.37000×10^14 NP1:φs66.00000°, δ52.00000°, λ-110.00000°. NP2:φs276.00000°, δ42.00000°, λ-67.00000°.*
*JMA **05** 23:12:56.4±0.2, 3337N×14091E, h39km, M4.1*
JMA Felt I J1.
*MOS **05** 23:12:57.3±0.7, 3318N×14060E, h33km, mb4.3/15, Error ellipse: s-maj=29.6km s-min=10.5km az=119.9*
*ISCJB **05** 23:12:57.0±0.5, 3335N±003×14085E±005, h33km, mb4.0/16, Error ellipse: s-maj=5.8km s-min=4.3km az=11.0*
*NEIC **05** 23:12:58.4±2.6, 3319N×14059E, h26km±18km, mb4.1/5, Error ellipse: s-maj=11.3km s-min=6.8km az=84.0*
*IDC **05** 23:13:00.1±2.9, 3328N×14067E, h38km±24km, mb3.8/11, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, ML3.7/3, MS2.9/5, Ms1 2.9/5, ms1mx2.7/35, Error ellipse: s-maj=23.0km s-min=15.6km az=88.0*
ISC 05 23:12:57.7±1.3, **3337N**±003×**14080E**±006, **h24**km±9km, **n60**, σ1s**06**/65, **mb4.0**/16, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.86	253	P	Pb	23 13 13.7	-0.3
JHJ2				eS	Sb	23 13 25.4	+0.2
JHJ	Hachijo jima 2	0.89	254	Pn	Pn	23 13 14.0	-0.7
	202nm,0.3s,baz=294,slow=6.3,SNR=95						
JHJ				Sn	Sn	23 13 25.2	-1.6
	943nm,0.3s,baz=75,slow=20,SNR=40						
BSO1	Boso 1	1.29	6	P	Pn	23 13 18.4	-1.8
BSO1				eS	Sn	23 13 34.8	-2.0
BSO2	Boso 2	1.38	358	eS	Sn	23 13 38.0	-1.0
BSO3	Boso 3	1.45	350	P	Pn	23 13 21.1	-1.3
BSO3				eS	Sn	23 13 39.2	-1.5
JKO	Kozu shima	1.61	301	P	Pn	23 13 23.2	-1.4
JKO				S	Sn	23 13 46.0	+1.4
NJJJ	Nii jima 2	1.63	310	P	Pn	23 13 25.9	+1.0
BSO4	Boso 4	1.66	347	P	Pn	23 13 24.5	-0.9
BSO4				S	Sn	23 13 46.2	+0.2
JIM2	Oshima 3	1.76	320	P	Pn	23 13 26.3	-0.4
JIM2				eS	Sn	23 13 47.1	-1.3
JIZS	Izushimoda	2.09	311	P	Pn	23 13 31.6	+0.4
KTJJ	Kamata 2	2.12	318	P	Pn	23 13 31.4	-0.2
JOD2	Odawara 2	2.36	324	P	Pn	23 13 34.7	-0.3
MJAR	Matsushiro Arr	3.82	327	Pn	Pn	23 13 55.9	+1.0
	6.8nm,0.3s,baz=149,slow=11,SNR=29						
MJAR				Sn	Sn	23 14 39.0	-0.1
	12nm,0.3s,baz=147,slow=20,SNR=12						
MJAR	Matsushiro Arr	3.82	327	P	Pn	23 13 55.9	+0.9
MJAR						23 14 39.0	
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				smax			
	comp=N,12nm,0.3s						
MAJO	Matsushiro	3.82	327	ePn	Pn	23 13 56.6	+1.6
MAJO				eSn	Sn	23 14 40.4	+1.3
MAT	Matsushiro	3.82	327	P	Pn	23 13 56.5	+1.5
MAT				S	Sn	23 14 38.5	-0.6
CBIJ	Chichi jima	6.36	169	LR	LR	23 17 00.3	
	comp=N,127nm,19.6s,baz=38,slow=38						
JNU	Nakatsue	8.32	271	LR	LR	23 18 06.6	
	comp=N,106nm,19.1s,baz=275,slow=37						
ASAJ	Asahikawa	10.82	7	Pn	Pn	23 15 32.1	+1.0
	comp=N,0.9nm,0.3s,baz=192,slow=20,SNR=3.1						
ASAJ	Asahikawa	10.82	7	P	Pn	23 15 32.2	+1.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	Korea Array	11.27	295	Pn	Pn	23 15 38.4	+1.2
	baz=274,slow=35,SNR=3.2						
KSRS				LR	LR	23 19 29.2	
	comp=Z,28nm,20.3s,baz=125,slow=35						
JOW	Kunigami	12.65	242	LR	LR	23 19 39.6	
	comp=Z,71nm,19.8s,baz=305,slow=32						
MDJ	Mudanjiang	14.20	326	Pn	Pn	23 16 18.6	+1.4
TATO	Taipei	18.80	249	P	Pn	23 17 13.1	-3.0
ULN	Ulaanbaatar	29.16	310	eP	P	23 18 58.5	+1.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	Ulaanbaatar	29.16	310	eP	P	23 18 58.5	+1.5
	comp=Z,2.2nm,0.8s,mb3.9						
SONM	Songino Array	29.57	310	P	P	23 19 00.8	+0.1
	comp=Z,1.3nm,0.8s,mb3.7,baz=114,slow=7.9,SNR=12						
SONM	Songino Array	29.57	310	P	P	23 19 00.8	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LSA	Lhasa	42.16	279	P	P	23 20 48.2	-0.1
ZAL	Zalesovo	44.10	315	P	P	23 21 03.9	0.0
	comp=Z,0.7nm,0.5s,mb3.6,baz=24,slow=6.4,SNR=3.9						
ZAL	Zalesovo	44.10	315	P	P	23 21 03.9	-0.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	44.10	315	P	P	23 21 03.9	0.0
MKAR	Makanchi Array	45.73	305	P	P	23 21 17.2	+0.3
	comp=Z,4.3nm,0.6s,mb4.5,baz=90,slow=9.7,SNR=45						
MKAR	Makanchi Array	45.73	305	P	P	23 21 17.2	+0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHKZ	Chkalovo	52.50	315	eP	P	23 22 08.7	-0.1
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
CHKZ	Chkalovo	52.50	315	eP	P	23 22 08.7	-0.1
	comp=Z,4.3nm,1.3s,mb4.2						
BVAR	Borovoye Array	52.72	314	P	P	23 22 10.7	+0.3
	comp=Z,1.0nm,0.8s,mb3.8,baz=101,slow=7.7,SNR=5.6						
BVAR	Borovoye Array	52.72	314	P	P	23 22 10.7	+0.3
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	Borovoye	52.78	314	eP	P	23 22 11.8	+1.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	Borovoye	52.78	314	eP	P	23 22 11.8	+0.9
	comp=Z,1.5nm,0.7s,mb4.0						
WRAB	Tennant Creek	53.36	188	eP	P	23 22 14.2	-0.9
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WRAB	Tennant Creek	53.36	188	eP	P	23 22 14.2	-0.9
	comp=Z,3.0nm,0.7s,mb4.3						
WB2	Warramunga Arr	53.37	188	eP	P	23 22 14.4	-0.8
WRA	Warramunga Arr	53.37	188	P	P	23 22 14.5	-0.7
	comp=Z,3.1nm,0.7s,mb4.4,baz=5.2,slow=7.6,SNR=22						
WRA	Warramunga Arr	53.37	188	P	P	23 22 14.5	-0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZRNK	Zerenda	53.56	314	eP	P	23 22 17.0	+0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	Zerenda	53.56	314	eP	P	23 22 17.0	+0.4
	comp=Z,2.0nm,0.9s,mb4.0						
ASAR	Alice Springs	57.09	188	P	P	23 22 41.5	-0.6
	comp=Z,1.3nm,0.7s,mb4.1,baz=15,slow=12,SNR=12						
ASAR	Alice Springs	57.09	188	P	P	23 22 41.5	-0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	71.83	333	P	P	23 24 18.8	+0.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=20,slow=6.1,SNR=4.1						
FINES	FINESS Array B	71.83	333	P	P	23 24 18.8	+0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	76.89	323	P	P	23 24 47.6	-0.2
	comp=Z,0.7nm,0.4s,mb3.9,baz=47,slow=5.4,SNR=6.1						
AKASG	Malin Array Be	76.89	323	P	P	23 24 47.7	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	77.37	337	P	P	23 24 50.9	+0.3
	comp=Z,0.8nm,0.7s,mb3.8,baz=43,slow=5.9,SNR=3.5						
NOA	NORSAR Array B	77.37	337	P	P	23 24 50.9	+0.3
NOA				pmax	pmax		

	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**77.61**	**52**	P		**P**	**23 24 54.4**	**+2.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=301,slow=5.9,SNR=3.7							
TXAR	**Lajitas Array**	**92.76**	**52**	P		**P**	**23 26 09.7**	**+1.7**
	comp=Z,1.1nm,0.9s,mb4.3,baz=300,slow=2.8,SNR=11							
TXAR	**Lajitas Array**	**92.76**	**52**	P		**P**	**23 26 09.7**	**+1.7**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**148.87**	**64**	PKPbc		PKPbc	23 32 45.7	+2.4
	comp=Z,1.3nm,0.8s,baz=10,slow=9.0,SNR=6.8							
LPAZ	**La Paz**	**148.87**	**64**	PKPbc		PKPbc	23 32 45.7	+2.4

*IDC **05** 23:17:00.4±1.4, 13.17N×120.71E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=54.2km s-min=10.3km az=94.0*
*MAN **05** 23:17:01.1, 1348N×12149E, h1km, mb2.2, ML3.8, MS3.8*
*ISCJB **05** 23:17:04.1±0.5, 1348N±004×12150E±004, h43km±6km, mb3.9/10, Error ellipse: s-maj=7.4km s-min=6.4km az=61.6*
*NEIC **05** 23:17:05.3±0.5, 1322N×12079E, h35km, mb3.9/6, Error ellipse: s-maj=21.4km s-min=8.5km az=74.0*

ISC 05 23:17:04.2±0.8, 1347N±004×12153E±004, h26km±7km, n27, σ1§26/31, mb3.9/10, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.31**	**92**	***e***P	**Pb**	**23 17 07.4**	**-4.0**
PGP	**Puerto Galera**	**0.56**	**273**⇑	***e***P	**Pb**	**23 17 13.8**	**-1.7**
PGP				*i* S	**Sb**	**23 17 24.2**	**+1.2**
TGY	**Tagaytay City**	**0.85**	**318**	***e***P	**Pb**	**23 17 21.0**	**+0.7**
TGY				***e***S	**Sb**	**23 17 34.4**	**+3.1**
TGY	**Tagaytay City**	**0.85**	**318**	Pg	**Pb**	**23 17 18.3**	**-2.0**
	138nm,0.3s,baz=173,slow=12,SNR=27						
TGY				Lg		23 17 32.7	
	358nm,0.3s,baz=199,slow=22,SNR=9.4						
GQP	**Guinayangan**	**0.99**	**64**⇑	***e***P	**Pn**	**23 17 20.3**	**-2.0**
GQP				*i* S	**Sb**	**23 17 35.4**	**0.0**
AUQP	**San Andres**	**1.13**	**97**	***e***P	**Pn**	**23 17 24.7**	**+0.5**
OTRP	**Odiongan**	**1.20**	**156**	***e***P	**Pn**	**23 17 23.4**	**-1.8**
OTRP				***e***S	**Sn**	**23 17 41.5**	**+0.8**
LUBP	**Lubang**	**1.27**	**282**	***e***P	**Pn**	**23 17 24.9**	**-1.4**
POLP	**Polillo Island**	**1.31**	**18**	***e***P	**Pn**	**23 17 25.3**	**-1.4**
BUCP	**Coron**	**1.95**	**222**	***e***P	**Pn**	**23 17 36.2**	**+0.6**
RCP	**Roxas**	**2.24**	**148**⇓	***e***P	**Pn**	**23 17 44.9**	**+5.4**
BALP	**Baler**	**2.26**	**1**	***e***P	**Pn**	**23 17 40.4**	**+0.7**
PVCP	**Virac**	**2.56**	**87**	***e***P	**Pn**	**23 17 46.0**	**+2.1**
TATO	**Taipei**	**11.45**	**360**	***e***Pn	**Pn**	**23 19 48.2**	**+2.4**
MAJO	**Matsushiro**	**27.41**	**30**	P	**P**	**23 22 53.4**	**+5.8**
MDJ	**Mudanjiang**	**31.80**	**11**	***e***P	**P**	**23 23 30.8**	**+4.4**
	2.5nm,0.2s,mb4.7						
LSA	**Lhasa**	**32.40**	**305**	***e***P	**P**	**23 23 27.8**	**-3.9**
	0.7nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**35.52**	**159**	P	**P**	**23 23 58.9**	**+0.2**
	1.3nm,0.5s,mb4.1,baz=338,slow=9.4,SNR=5.3						
WB2	**Warramunga Arr**	**35.52**	**159**	***e***P	**P**	**23 23 59.0**	**+0.2**
ULN	**Ulaanbaatar**	**36.35**	**344**	***e***P	**P**	**23 24 06.5**	**+0.6**
	0.5nm,0.3s,mb3.9						
SONM	**Songino Array**	**36.51**	**343**	P	**P**	**23 24 08.1**	**+0.8**
	0.2nm,0.5s,mb3.2,baz=165,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**38.84**	**162**	P	**P**	**23 24 27.8**	**+0.8**
	1.1nm,0.5s,mb3.9,baz=337,slow=7.0,SNR=16						
TLY	**Talaya**	**40.75**	**343**	P	**P**	**23 24 42.6**	**-0.2**
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**23 25 48.9**	**+0.2**
	2.0nm,0.8s,mb4.2,baz=343,slow=9.4,SNR=3.9						
BRVK	**Borovoye**	**56.49**	**326**	***e***P	**P**	**23 26 44.0**	**+0.2**
	0.4nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**56.57**	**326**	***e***P	**P**	**23 26 43.1**	**-1.3**
	0.4nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**57.15**	**325**	***e***P	**P**	**23 26 46.9**	**-1.6**
	0.3nm,0.3s,mb3.8						

KRSC 05 23:22:03.3±0.7, 5333N×16050E, h43km±32km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.37**	**231**	*i* P	Pn	23 22 12.5	0.0
SPN				*i* S	Sn	23 22 19.1	+0.1
SPN	**Mys Shipunski**	**0.37**	**231**	*i* P	Pn	23 22 12.5	0.0
SPN				*i* S	Sn	23 22 19.1	+0.1
NLC	**Nalytchevo**	**0.71**	**258**	*i* P	Pn	23 22 16.9	-0.1
NLC				*i* S	Sn	23 22 27.1	+0.3
NLC	**Nalytchevo**	**0.71**	**258**	*i* P	Pn	23 22 16.9	-0.1
NLC				*i* S	Sn	23 22 27.1	+0.3
KII	**Karymskiy**	**0.94**	**319**	P	Pn	23 22 19.4	-0.7
KII				***e***S	Sn	23 22 31.9	-0.5
KII	**Karymskiy**	**0.94**	**319**	P	Pn	23 22 19.4	-0.7
KII				***e***S	Sn	23 22 31.9	-0.5
AVH	**Avacha**	**1.06**	**267**	*i* P	Pn	23 22 22.2	+0.5
AVH				***e***S	Sn	23 22 36.6	+1.4
AVH	**Avacha**	**1.06**	**267**	*i* P	Pn	23 22 22.2	+0.5
AVH				***e***S	Sn	23 22 36.6	+1.4
PET	**Petropavlovsk**	**1.15**	**255**	*i* P	Pn	23 22 23.1	+0.1
PET				***e***S	Sn	23 22 38.2	+0.7
PET	**Petropavlovsk**	**1.15**	**255**	*i* P	Pn	23 22 23.1	+0.1
PET				***e***S	Sn	23 22 38.2	+0.7
MKZ	**Mys Kozlova**	**1.43**	**30**	*i* P	Pn	23 22 24.9	-1.8
MKZ				***e***S	Sn	23 22 40.8	-3.5
MKZ	**Mys Kozlova**	**1.43**	**30**	*i* P	Pn	23 22 24.9	-1.8
MKZ				***e***S	Sn	23 22 40.8	-3.5
RUS	**Russkaya**	**1.50**	**234**	*i* P	Pn	23 22 27.7	0.0
RUS				***e***S	Sn	23 22 46.7	-0.1
RUS	**Russkaya**	**1.50**	**234**	*i* P	Pn	23 22 27.7	0.0
RUS				***e***S	Sn	23 22 46.0	-0.1
GNL	**Ganaly**	**1.57**	**284**	*i* P	Pn	23 22 29.6	+0.9
GNL				S	Sn	23 22 49.3	+1.5
GNL	**Ganaly**	**1.57**	**284**	*i* P	Pn	23 22 29.6	+0.9
GNL				S	Sn	23 22 49.3	+1.5
GRL	**Gorelyy**	**1.66**	**243**	***e***P	Pn	23 22 30.9	+1.0
GRL				***e***S	Sn	23 22 51.1	+1.0
GRL	**Gorelyy**	**1.66**	**243**	***e***P	Pn	23 22 30.9	+1.0
GRL				***e***S	Sn	23 22 51.1	+1.0
TUMR	**Tumrok**	**1.97**	**354**	***e***P	Pn	23 22 35.6	+1.5
TUMR				***e***S	Sn	23 22 58.7	+1.1
TUMR	**Tumrok**	**1.97**	**354**	***e***P	Pn	23 22 35.6	+1.5
TUMR				***e***S	Sn	23 22 58.7	+1.1
KMNR	**Kamenistaya**	**2.44**	**356**	***e***P	Pn	23 22 43.2	+2.6
KMNR				***e***S	Sn	23 23 12.2	+3.1
KMNR	**Kamenistaya**	**2.44**	**356**	***e***P	Pn	23 22 43.2	+2.6
KMNR				***e***S	Sn	23 23 12.2	+3.1
KPT	**Kopyto**	**2.65**	**357**	S	Sn	23 23 16.3	+2.0
KPT	**Kopyto**	**2.65**	**357**	S	Sn	23 23 16.3	+2.0
ZLN	**Zelenaya**	**2.70**	**4**	***e***P	Pn	23 22 45.8	+1.6
ZLN				***e***S	Sn	23 23 16.3	+0.7
ZLN	**Zelenaya**	**2.70**	**4**	***e***P	Pn	23 22 45.8	+1.6
ZLN				***e***S	Sn	23 23 16.3	+0.7
KOZ	**Kozyrevsk**	**2.76**	**353**	S	Sn	23 23 19.4	+2.4
KOZ	**Kozyrevsk**	**2.76**	**353**	S	Sn	23 23 19.4	+2.4
KRSR	**Krestovskiy**	**2.89**	**1**	S	Sn	23 23 22.2	+1.8
KRSR	**Krestovskiy**	**2.89**	**1**	S	Sn	23 23 22.2	+1.8
KLY	**Klyuchi**	**2.99**	**2**	S	Sn	23 23 24.9	+2.1
KLY	**Klyuchi**	**2.99**	**2**	S	Sn	23 23 24.9	+2.1
SRDR	**Sredinnyy**	**3.03**	**352**	P	Pn	23 22 50.0	+1.3
SRDR				S	Sn	23 23 23.8	+0.1
SRDR	**Sredinnyy**	**3.03**	**352**	P	Pn	23 22 50.0	+1.3
SRDR				S	Sn	23 23 23.8	+0.1
KBTR	**Krutoberegovo**	**3.18**	**24**	P	Pn	23 22 50.8	0.0
KBTR				S	Sn	23 23 25.9	-1.6
KBTR	**Krutoberegovo**	**3.18**	**24**	P	Pn	23 22 50.8	0.0
KBTR				S	Sn	23 23 25.9	-1.6
SRKR	**Sorokina**	**3.35**	**6**	P	Pn	23 22 55.2	+2.0
SRKR				S	Sn	23 23 33.3	+1.6
SRKR	**Sorokina**	**3.35**	**6**	P	Pn	23 22 55.2	+2.0
SRKR				S	Sn	23 23 33.3	+1.6

*KNET **05** 23:43:30.5±0.6, 42.17N×73.71E, h6km±4km, ml2.9, Error ellipse: s-maj=3.5km s-min=3.0km az=68.0*
*ISCJB **05** 23:43:31.4±1.0, 42.18N±008×73.67E±009, h10km, Error ellipse: s-maj=11.9km s-min=9.5km az=168.1*
*NNC **05** 23:43:32.3±0.9, 42.32N×73.65E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.7km s-min=3.3km az=173.0*

ISC 05 23:43:31.8±1.0, 4217N±008×7371E±008, h10km, n17, σ1§16/14, 9C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.04**	**194**	P	**Pg**	**23 43 32.5**	**-1.2**
	SNR=9952						

EKS2	**Erkin-Say**	**0.49**	**6**	P		**Pg**	**23 43 40.8**	**-0.6**
	SNR=1111							
AAK	**Ala-Archa**	**0.75**	**51**	P		**Pg**	**23 43 45.8**	**-0.4**
	SNR=129							
KBK	**Karagaybulak**	**1.04**	**62**	P		**Pg**	**23 43 51.2**	**-0.6**
	SNR=168							
CHMS	**Chumysh**	**1.13**	**43**	P		**Pb**	**23 43 52.8**	**-0.6**
	SNR=43							
KZA	**Kyzart**	**1.15**	**94**	P		**Pb**	**23 43 53.2**	**-0.5**
	SNR=104							
USP	**Ospenovka**	**1.24**	**28**	P		**Pn**	**23 43 54.6**	**-0.6**
	SNR=626							
TKM2	**Tokmak 2**	**1.59**	**61**	P		**Pn**	**23 44 00.7**	**+0.8**
	SNR=192							
TKM2	**Tokmak 2**	**1.59**	**61**	⇑P		**Pn**	**23 44 00.6**	**+0.7**
	0.8nm,0.3s							
TKM2				⇑S		**Sn**	**23 44 22.3**	**+1.8**
	8.2nm,0.5s							
ULHL	**Ulahol**	**1.89**	**87**	P		**Pn**	**23 44 06.1**	**+2.0**
	SNR=137							
KK31	**Karatay Array**	**2.54**	**293**	⇑Pn		**Pn**	**23 44 14.1**	**+1.1**
	26nm,0.6s,baz=117,slow=16,SNR=387							
KK31				⇓Lg			23 44 49.1	
	26nm,0.3s,baz=113,slow=26							
KNDC	**Almaty**	**2.62**	**65**	⇓Pg		**Pg**	**23 44 19.9**	**-2.1**
	44nm,0.5s							
KNDC				⇑Lg			23 44 55.7	
	306nm,0.8s							
MK31	**Makanchi Array**	**7.68**	**50**	⇑Pn		**Pn**	**23 45 24.9**	**+1.2**
	0.6nm,0.4s,baz=231,slow=14,SNR=33							
MK31				⇑Lg			23 47 34.9	
	2.6nm,0.7s							
VOSK	**Vostochnaya**	**10.72**	**351**	⇑Lg			23 49 06.9	
	4.2nm,0.6s							
BVA0	**Borovoye Array**	**11.09**	**350**	⇑Lg			23 49 21.7	
	0.6nm,0.6s							
ZRNK	**Zerenda**	**11.24**	**345**	⇑Lg			23 49 21.1	
	0.8nm,0.5s							
CHKZ	**Chkalovo**	**11.70**	**351**	⇓Lg			23 49 38.9	
	2.6nm,0.7s							

*ISCJB **05** 23:49:28.7±1.3, 158S±0.1×177.71W±009, h403km±16km, mb4.1/12, Error ellipse: s-maj=22.2km s-min=13.6km az=151.3*
*IDC **05** 23:49:29.9±2.2, 1586S×177.57W, h410km±25km, mb3.5/8, mb1 3.8/9, mb1mx3.6/16, mbtmp3.5/9, Error ellipse: s-maj=32.1km s-min=13.4km az=146.0*
*NEIC **05** 23:49:30.1±1.2, 1576S×177.63W, h410km±14km, mb4.6/4, Error ellipse: s-maj=16.8km s-min=10.9km az=161.0*

ISC 05 23:49:30.0±1.3, 159S±01×17762W±009, h403km±16km, n42, σ0§67/20, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.97**	**72**	P	**Pn**	**23 51 02.4**	**+0.1**
	2.5nm,0.3s,baz=328,slow=16,SNR=3.1						
AFI	**Afiamalu**	**5.97**	**72**	***e***P	**Pn**	**23 51 02.7**	**+0.4**
HNR	**Honiara**	**22.79**	**284**	***e***P	**P**	**23 53 59.8**	**+0.4**
	95nm,0.6s,mb5.4						
URZ	**Urewera**	**22.80**	**191**	P	**P**	**23 53 57.8**	**-1.8**
	5.6nm,0.4s,mb4.3,baz=350,slow=6.7,SNR=6.7						
PMG	**Port Moresby**	**34.92**	**276**	P	**P**	**23 55 45.8**	**+0.2**
STKA	**Stephens Creek**	**40.30**	**239**	P	**P**	**23 56 30.7**	**+0.6**
	1.9nm,0.5s,mb3.7,baz=72,slow=7.6,SNR=6.2						
WB2	**Warramunga Arr**	**45.77**	**257**	***e***P	**P**	**23 57 12.6**	**-0.6**
WRAB	**Tennant Creek**	**45.77**	**257**	***e***P	**P**	**23 57 12.8**	**-0.4**
	1.8nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**45.78**	**257**	P	**P**	**23 57 13.0**	**-0.4**
	1.1nm,0.4s,mb3.6,baz=89,slow=6.8,SNR=12						
AS31	**Alice Springs**	**46.10**	**252**	***e***P	**P**	**23 57 16.1**	**+0.3**
ASAR	**Alice Springs**	**46.10**	**252**	P	**P**	**23 57 16.1**	**+0.3**
	14nm,0.6s,mb4.5,baz=85,slow=7.5,SNR=212						
ASPA	**Alice Springs**	**46.11**	**252**	***e***P	**P**	**23 57 16.1**	**+0.3**
GUMO	**Guam**	**47.23**	**306**	P	**P**	**23 57 24.2**	**-0.3**
	68nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**59.33**	**255**	***e***P	**P**	**23 58 51.3**	**0.0**
QSPA	**South Pole Qui**	**74.19**	**180**	***e***P	**P**	**00 00 25.3**	**+1.4**
	5.4nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**77.42**	**44**	P	**P**	**00 00 41.3**	**-0.7**
	1.6nm,0.7s,mb3.8,baz=237,slow=9.7,SNR=8.8						
TXAR	**Lajitas Array**	**84.26**	**58**	P	**P**	**00 01 18.6**	**+0.9**
	1.2nm,0.8s,mb3.7,baz=216,slow=7.2,SNR=13						
PDAR	**Pinedale Array**	**85.34**	**43**	P	**P**	**00 01 22.1**	**-0.9**
	0.6nm,0.5s,mb3.5,baz=234,slow=3.1,SNR=5.5						
MAW	**Mawson**	**86.04**	**200**	P	**P**	**00 01 26.7**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=94,slow=8.6,SNR=3.7						
SNAA	**Sanae**	**92.62**	**178**	P	**P**	**00 01 57.1**	**0.0**
BRTR	**Keskin Array B**	**143.83**	**317**	PKP	PKPdf	00 08 16.2	-1.7
	2.6nm,0.8s,baz=80,slow=2.9,SNR=9.1						
GERES	**GERESS Array B**	**145.81**	**347**	PKPbc	PKPbc	00 08 20.4	-2.4
	0.6nm,0.6s,baz=2.5,slow=3.1,SNR=6.3						
FLN	**La Foliniere**	**147.09**	**3**	***e***PKP1	PKPbc	00 08 24.2	-2.1
CDF	**Champ du Feu**	**147.28**	**354**	***e***PKP1	PKPbc	00 08 25.2	-1.6
LDF	**La Druitiere**	**147.28**	**3**	***e***PKP1	PKPbc	00 08 24.6	-2.2
MEZF	**Maizieres J'vi**	**147.36**	**357**	***e***PKP1	PKPbc	00 08 25.7	-1.3
SGMF	**Saint Gilles**	**147.43**	**6**	***e***PKP1	PKPbc	00 08 25.2	-2.0
	5.7nm,0.6s						
GRR	**Gorron**	**147.44**	**4**	***e***PKP1	PKPbc	00 08 25.4	-1.8
	4.3nm,0.4s						
LOR	**Lormes**	**148.65**	**358**	***e***PKP1	PKPbc	00 08 28.8	-1.5
SSF	**Saint Saulge**	**148.87**	**359**	***e***PKP1	PKPbc	00 08 29.4	-1.4
	4.0nm,0.6s						
AVF	**Avril sur Loir**	**149.14**	**359**	***e***PKP1	PKPbc	00 08 29.7	-1.8
CABF	**La Chapelle**	**149.17**	**355**	***e***PKP1	PKPbc	00 08 29.7	-1.9
TCF	**Toulx Ste Croi**	**149.65**	**0**	***e***PKP1	PKPbc	00 08 31.1	-1.6
LPL	**La Plagne**	**150.20**	**354**	***e***PKP1	PKPbc	00 08 34.2	+0.2
	3.2nm,0.6s						
LPG	**La Plagne**	**150.22**	**354**	***e***PKP1	PKPbc	00 08 34.3	+0.2
RJF	**Les Rejaudoux**	**150.63**	**1**	***e***PKP1	PKPbc	00 08 33.4	-1.6
ORIF	**Oris-en-Rattie**	**150.87**	**355**	***e***PKP1	PKPbc	00 08 34.5	-1.1
	2.5nm,0.6s						
LFF	**La Frestale**	**150.97**	**2**	***e***PKP1	PKPbc	00 08 34.3	-1.5
MBDF	**Montbardon**	**150.98**	**354**	***e***PKP1	PKPbc	00 08 34.9	-0.9
	4.9nm,0.6s						
CAF	**Calviac**	**151.01**	**0**	***e***PKP1	PKPbc	00 08 34.7	-1.2
LASF	**Ste Croix**	**151.84**	**358**	***e***PKP1	PKPbc	00 08 36.7	-1.1
	3.3nm,0.8s						
MTLF	**Montolieu**	**152.60**	**0**	***e***PKP1	PKPbc	00 08 38.2	-1.3

*NEIC **06** 00:06:37.4, 31.13S×68.88W, h150km, MD3.4(GUC), After GUC.*

GUC 06 00:06:37.4±0.5, 3113S×6888W, h150km±21km, MD3.4, ML3.6, 2C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.82**	**268**⇓	*i*P	Pn	00 07 10.8	+0.3
CMCH				*i* S	Sn	00 07 36.6	+0.8
CMCH				AML	AML	00 07 38.1	
	comp=N,682nm,0.7s						
CMCH	**Combarbala**	**1.82**	**268**⇓	*i*P	Pn	00 07 10.8	+0.3
CMCH				*i* S	Sn	00 07 36.6	+0.8
TLL	**Tololo Astrono**	**1.92**	**300**⇑	*i*P	Pn	00 07 12.6	+1.0
TLL				*i* S	Sn	00 07 39.5	+1.6
TLL				AML	AML	00 07 43.6	
	comp=N,151nm,0.5s						
TLL	**Tololo Astrono**	**1.92**	**300**⇑	*i*P	Pn	00 07 12.6	+1.0
TLL				*i* S	Sn	00 07 39.5	+1.6
PTCH	**Petorca**	**2.08**	**237**	*i* P	Pn	00 07 14.1	+0.6
PTCH				*i* S	Sn	00 07 41.7	+0.5
PTCH				AML	AML	00 07 42.9	
	comp=N,374nm,0.2s						
PTCH	**Petorca**	**2.08**	**237**	*i* P	Pn	00 07 14.1	+0.6
PTCH				*i* S	Sn	00 07 41.7	+0.5
FCH	**Farellones**	**2.49**	**208**⇓	*i*P	Pn	00 07 19.7	+1.3
FCH				*i* S	Sn	00 07 51.9	+1.8
RCDM	**Rinconada Maip**	**2.86**	**214**	*i* P	Pn	00 07 24.0	+1.1
RCDM				*i* S	Sn	00 07 58.8	+0.6
RCDM				AML	AML	00 08 00.4	
	comp=E,58nm,0.1s						
RCDM	**Rinconada Maip**	**2.86**	**214**	*i* P	Pn	00 07 24.0	+1.1
RCDM				*i* S	Sn	00 07 58.8	+0.6
VACH	**Vallenar**	**3.03**	**327**	*i* S	Sn	00 08 02.5	+0.5
VACH				AML	AML	00 08 05.2	
	comp=E,610nm,0.1s						

MEX 06 00:06:43.8±0.7, 1677N×10018W, h20km±17km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.27**	**68**	*i* P	Pg	00 06 48.8	-1.1

ACX				*i* S	Sg	00 06 53.1	-1.0
CAIG	**El Cayaco**	**0.29**	**343**	*i* P	Pg	00 06 49.4	-1.0
CAIG				*i* S	Sg	00 06 53.4	-1.5
MEIG	**Mezcala**	**1.27**	**25**	*i* P	Pn	00 07 02.9	-3.5
MEIG				*i* S	Sn	00 07 18.2	-4.6
PLIG	**Platanillo**	**1.74**	**22**	*i* P	Pn	00 07 10.8	-2.1
PLIG				*i* S	Sn	00 07 31.1	-3.4
UTMO	**Huajuapan**	**2.50**	**65**	*i* P	Pn	00 07 21.0	-2.3
UTMO				*i* S	Sn	00 07 49.6	-3.6

KRSC 06 00:17:53.8±0.3, 5132N×15843E, h5km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.12**	**3**	***e***P	Pg	00 18 15.9	+0.7
RUS				*i* S	Sg	00 18 33.2	+3.5
RUS	**Russkaya**	**1.12**	**3**	***e***P	Pg	00 18 15.9	+0.7
RUS				*i* S	Sg	00 18 33.2	+3.5
GRL	**Gorelyy**	**1.25**	**350**	***e***P	Pg	00 18 18.0	+0.2
GRL				*i* S	Sg	00 18 36.2	+2.1
GRL	**Gorelyy**	**1.25**	**350**	***e***P	Pg	00 18 18.0	+0.2
GRL				*i* S	Sg	00 18 36.2	+2.1
PET	**Petropavlovsk**	**1.71**	**5**	P	Pn	00 18 25.7	+1.4
PET				*i* S	Sn	00 18 48.2	+1.7
PET	**Petropavlovsk**	**1.71**	**5**	P	Pn	00 18 25.7	+1.4
PET				*i* S	Sn	00 18 48.2	+1.7
NLC	**Nalytchevo**	**1.94**	**17**	***e***P	Pn	00 18 27.6	+0.2
NLC				*i* S	Sn	00 18 52.2	+0.1
NLC	**Nalytchevo**	**1.94**	**17**	***e***P	Pn	00 18 27.6	+0.2
NLC				*i* S	Sn	00 18 52.2	+0.1
SDLR	**Sedlovina**	**1.98**	**8**	***e***P	Pn	00 18 28.9	+0.9
SDLR				*i* S	Sn	00 18 55.3	+2.1
SDLR	**Sedlovina**	**1.98**	**8**	***e***P	Pn	00 18 28.9	+0.9
SDLR				*i* S	Sn	00 18 55.3	+2.1
SPN	**Mys Shipunski**	**2.03**	**28**	P	Pn	00 18 30.1	+1.4
SPN				*i* S	Sn	00 18 56.6	+2.2
SPN	**Mys Shipunski**	**2.03**	**28**	P	Pn	00 18 30.1	+1.4
SPN				*i* S	Sn	00 18 56.6	+2.2
GNL	**Ganaly**	**2.40**	**353**	***e***P	Pn	00 18 34.4	+0.7
GNL				*i* S	Sn	00 19 03.7	+0.3
GNL	**Ganaly**	**2.40**	**353**	***e***P	Pn	00 18 34.4	+0.7
GNL				*i* S	Sn	00 19 03.7	+0.3
MKZ	**Mys Kozlova**	**3.81**	**30**	P	Pn	00 18 54.5	+1.4
MKZ				*i* S	Sn	00 19 38.7	+0.5
MKZ	**Mys Kozlova**	**3.81**	**30**	P	Pn	00 18 54.5	+1.4
MKZ				*i* S	Sn	00 19 38.7	+0.5
KBTR	**Krutoberegovo**	**5.54**	**26**	***e***P	Pn	00 19 18.6	+1.6
KBTR	**Krutoberegovo**	**5.54**	**26**	***e***P	Pn	00 19 18.6	+1.6

*NEIC **06** 00:18:27.3, 1750N×61.42W, h3km, MD3.9(FDF), MD3.9(TRN), After TRN.*

TRN 06 00:18:26.2, 1750N×6139W, h2km, MD3.9, M3.9(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.44**	**289**	***e***P	Pg	00 18 37.9	+3.2
CPB				***e***S	Sg	00 18 47.0	+6.6
BPA	**Boggy Peak**	**0.64**	**225**	***e***P	Pg	00 18 42.6	+4.2
BPA				***e***S	Sg	00 18 53.8	+7.1
DEG	**La Desirade**	**1.22**	**165**	***e***P	Pg	00 18 51.1	+1.5
DEG				***e***S	Sg	00 19 09.6	+4.2
SFG	**Saint Francois**	**1.25**	**172**	***e***P	Pg	00 18 52.9	+2.7
LZG	**Guadaloupe-1**	**1.40**	**195**	***e***P	Pn	00 18 55.2	+2.5
SCG	**Saint Claude**	**1.49**	**191**	***e***P	Pn	00 18 56.1	+2.2
MGG	**Marie-Galante**	**1.57**	**178**	***e***P	Pn	00 18 57.9	+2.8
TBG	**Guadaloupe-3**	**1.66**	**189**	***e***P	Pn	00 18 59.3	+3.0
SABS	**Saba**	**1.77**	**274**	***e***P	Pn	00 19 00.2	+2.3
SABS				***e***S	Sn	00 19 25.0	+4.0
SABT	**Saba**	**1.77**	**274**	***e***P	Pn	00 19 00.2	+2.3
SABT				***e***S	Sn	00 19 25.0	+4.0
DWS	**Wesley**	**1.92**	**178**	***e***P	Pn	00 19 04.2	+4.

*BJI **06** 01:01:01.0, 509S×144°85E, h45km, mB5.1, mb4.7*
*IDC **06** 01:01:01.5±2.7, 489S×144°50E, h16km±16km, mb4.5/16, mb1 4.6/19, mb1mx4.6/22, mbtmp4.6/19, ML4.1/3, MS3.9/13, Ms1 3.9/13, ms1mx3.7/24, Error ellipse: s-maj=16.2km s-min=9.4km az=93.0*
*MOS **06** 01:01:02.4±0.9, 483S×144°49E, h33km, mb4.8/12, Error ellipse: s-maj=15.4km s-min=8.2km az=95.6*
*NEIC **06** 01:01:04.2±0.3, 485S×144°49E, h35km, mb4.6/13, Error ellipse: s-maj=8.8km s-min=5.3km az=86.0*
ISC 06 01:01:03.2±2.8, 485S±004×14458E±006, h26km±20km, n115, σ0§94/84, mb4.7/38, MS4.0/11, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.20**	**151**	Pn		**Pn**	**01 02 19.6**	**+0.3**
	26nm,0.3s,baz=330,slow=7.2,SNR=43							
PMG				Sn		**Sn**	**01 03 18.9**	**+0.5**
	55nm,0.3s,baz=125,slow=21,SNR=12							
KAKA	**Kakadu**	**14.31**	**236**	*e*P		**Pn**	**01 04 21.8**	**-2.3**
	51nm,0.9s							
CTA	**Charters Tower**	**15.24**	**174**	*e*P		**Pn**	**01 04 37.6**	**+1.1**
	11nm,1.0s							
CTA	**Charters Tower**	**15.24**	**174**	Pn		**Pn**	**01 04 37.0**	**+0.5**
	0.3nm,0.3s,baz=344,slow=14,SNR=6.5							
CTA	**Charters Tower**	**15.24**	**174**	*e*P		**Pn**	**01 04 37.6**	**+1.1**
CTA				pmax	pmax			
	comp=Z,11nm,1.0s							
CTAO	**Charters Tower**	**15.24**	**174**	*e*P		**Pn**	**01 04 37.4**	**+0.9**
CTAO							01 07 29.5	
CTAO				pmax	pmax			
	comp=Z,13nm,0.8s							
CTAO	**Charters Tower**	**15.24**	**174**	*e*Pn		**Pn**	**01 04 37.4**	**+1.0**
	comp=Z,13nm,0.8s							
CTAO				Sn		**Sn**	**01 07 29.5**	**+5.1**
WRAB	**Tennant Creek**	**18.00**	**213**	*e*P		**Pn**	**01 05 13.1**	**+1.6**
WRAB				pmax	pmax			
	comp=Z,31nm,0.8s							
WRAB	**Tennant Creek**	**18.00**	**213**	*e*P		**Pn**	**01 05 13.1**	**+1.5**
	comp=Z,31nm,0.8s							
WRAB				*e*PcP		PcP	01 09 46.3	+0.5
WB2	**Warramunga Arr**	**18.01**	**213**	*e*P		**Pn**	**01 05 09.6**	**-2.0**
WRA	**Warramunga Arr**	**18.02**	**213**	P		**Pn**	**01 05 10.1**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=34,slow=12,SNR=52							
WRA				S		**Sn**	**01 08 33.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=29,slow=22,SNR=4.9							
WRA				Lg			01 10 40.1	
	baz=31,slow=27,SNR=3.7							
WRA				LR	LR		01 12 35.0	
	comp=Z,183nm,21.7s,baz=35,slow=39							
WRA				ScP	ScP		01 13 21.4	+2.1
	comp=Z,0.3nm,0.3s,baz=29,slow=2.3,SNR=9.0							
WRA	**Warramunga Arr**	**18.02**	**213**	P		**Pn**	**01 05 10.1**	**-1.6**
WRA				S		**Sn**	**01 08 33.4**	**+1.5**
WRA	**Warramunga Arr**	**18.02**	**213**	P		**Pn**	**01 05 10.1**	**-1.6**
WRA				S		**Sn**	**01 08 33.4**	**+1.6**
WRA				Lg			01 10 40.1	
WRA				LR	LR		01 12 35.0	
WRA				ScP	ScP		01 13 21.4	+2.1
GUMO	**Guam**	**18.32**	**1**	LR		LR	01 11 54.0	
	comp=Z,154nm,19.1s,baz=92,slow=36							
AS31	**Alice Springs**			*e*P		**P**	**01 05 49.2**	**+0.8**
ASAR	**Alice Springs**	**21.36**	**208**	P		**P**	**01 05 47.9**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.1,baz=38,slow=6.8,SNR=38							
ASAR				S		**S**	**01 09 42.2**	**-1.9**
	comp=Z,5.1nm,1.1s,baz=25,slow=19,SNR=4.5							
ASAR				Lg			01 12 16.9	
	comp=Z,3.3nm,1.0s,baz=12,slow=28,SNR=3.2							
ASAR				ScP		ScP	01 13 29.9	+2.9
	comp=Z,4.7nm,0.8s,baz=28,slow=3.2,SNR=9.7							
ASAR	**Alice Springs**	**21.36**	**208**	P		**P**	**01 05 47.9**	**-0.5**
ASAR				S		**S**	**01 09 42.3**	**-1.9**
ASPA	**Alice Springs**	**21.36**	**208**	*e*P		**P**	**01 05 49.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**22.73**	**233**	*e*P		**P**	**01 06 03.2**	**+0.2**
	comp=Z,66nm,1.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**22.73**	**233**	P		**P**	**01 06 01.6**	**-1.5**
	comp=Z,8.7nm,0.8s,mb4.3,baz=49,slow=12,SNR=18							
FITZ				Lg			01 13 02.8	
	comp=Z,6.4nm,0.8s,baz=125,slow=15,SNR=4.3							
ARMA	**Armidale**	**26.29**	**166**	*e*P		**P**	**01 06 36.9**	**+0.4**
STKA	**Stephens Creek**	**27.03**	**186**	*e*P		**P**	**01 06 44.5**	**+1.3**
	comp=Z,7.9nm,1.5s,mb4.0							
STKA	**Stephens Creek**	**27.03**	**186**	P		**P**	**01 06 42.0**	**-1.2**
	comp=Z,4.6nm,0.8s,mb4.0,baz=30,slow=7.8,SNR=4.4							
STKA				LR	LR		01 19 04.4	
	comp=Z,710nm,18.3s,MS4.3,baz=131,slow=40							
DZM	**Mont Dzumac**	**27.23**	**131**	P		**P**	**01 06 44.1**	**-0.9**
	comp=Z,20nm,1.0s,mb4.6,baz=292,slow=9.0,SNR=6.2							
JOW	**Kunigami**	**35.23**	**334**	P		**P**	**01 07 54.4**	**-0.9**
	comp=Z,10nm,0.8s,mb4.8,baz=260,slow=5.2,SNR=2.6							
JOW				LR		LR	01 21 38.7	
	comp=Z,142nm,19.2s,MS3.7,baz=131,slow=35							
KLBR	**Kellerberrin**	**36.62**	**220**	*e*P		**P**	**01 08 07.0**	**-0.3**
	comp=Z,17nm,1.0s,mb4.8							
NWAO	**Narrogin (SRO)**	**37.83**	**219**	P		**P**	**01 08 17.4**	**-0.2**
	comp=Z,5.6nm,0.6s,mb4.5,baz=38,slow=11,SNR=4.4							
NWAO				LR		LR	01 25 24.8	
	comp=Z,193nm,19.4s,MS3.9,baz=304,slow=39							
JNU	**Nakatsue**	**39.94**	**342**	LR		LR	01 24 04.8	
	comp=Z,340nm,20.6s,MS4.2,baz=274,slow=35							
MJAR	**Matsushiro Arr**	**41.60**	**352**	P		**P**	**01 08 49.8**	**+0.9**
	comp=Z,2.2nm,0.7s,mb3.9,baz=182,slow=2.6,SNR=5.6							
MJAR				LR		LR	01 26 01.9	
	comp=Z,109nm,18.8s,MS3.8,baz=180,slow=36							
NJ2	**Nanjing**	**44.11**	**328**	*e*P		**P**	**01 09 09.0**	**-0.3**
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0							
URZ	**Urewera**	**44.51**	**143**	P		**P**	**01 09 13.4**	**+1.0**
	comp=Z,9.7nm,0.5s,mb4.9,baz=301,slow=5.7,SNR=9.1							
KSRS	**Korea Array**	**44.85**	**341**			**P**	**01 09 15.9**	**+0.7**
	comp=Z,6.9nm,0.8s,mb4.5,baz=162,slow=9.3,SNR=14							
KSRS				LR		LR	01 25 56.7	
	comp=Z,135nm,18.4s,MS3.9,baz=169,slow=33							
RPZ	**Rata Peaks**	**45.20**	**153**	P		**P**	**01 09 18.2**	**+0.2**
	comp=Z,42nm,0.9s,mb5.3,baz=338,slow=5.4,SNR=13							
PSI	**Prapat**	**46.24**	**279**	P		**P**	**01 09 26.3**	**+0.1**
	comp=Z,30nm,0.7s,mb5.3,baz=108,slow=4.0,SNR=33							
PSI	**Prapat**	**46.24**	**279**	P		**P**	**01 09 26.3**	**+0.1**
CHTO	**Chiang Mai**	**50.73**	**299**	*e*P		**P**	**01 10 01.3**	**+0.6**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
CHTO	**Chiang Mai**	**50.73**	**299**	*e*P		**P**	**01 10 01.3**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.5							
XAN	**Xi'an**	**51.28**	**322**	P		**P**	**01 10 04.9**	**0.0**
XAN				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.4							
HHC	**Hu-ho-hao-te**	**54.61**	**330**	*e*P		**P**	**01 10 31.0**	**+1.6**
HHC				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
HHC				AMB		AMB		
	comp=Z,74nm,7.4s							
HIA	**Hailar**	**58.07**	**341**	*e*P		**P**	**01 10 54.4**	**+0.3**
HIA	**Hailar**	**58.07**	**341**	P		**P**	**01 10 54.2**	**+0.1**
GTA	**Gaotai**	**60.33**	**321**	*e*P		**P**	**01 11 10.6**	**+0.9**
GTA				AMB		AMB		
	comp=Z,5.0nm,0.6s,mb4.7							
ULN	**Ulaanbaatar**	**61.96**	**332**	*e*P		**P**	**01 11 20.7**	**-0.1**
ULN	**Ulaanbaatar**	**61.96**	**332**	P		**P**	**01 11 20.6**	**-0.2**
	comp=Z,3.0nm,0.3s,mb4.9							
SONM	**Songino Array**	**62.25**	**332**	P		**P**	**01 11 23.2**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.3,baz=161,slow=6.4,SNR=12							
SONM				LR		LR	01 35 33.4	
	comp=Z,132nm,19.7s,MS4.1,baz=19,slow=33							
SONM				PKPPKP			01 40 38.4	
	comp=Z,2.5nm,1.1s,baz=329,slow=2.0,SNR=9.3							
GUN	**Gumba**	**65.23**	**304**	*e*P		**P**	**01 11 43.2**	**+0.8**
	comp=Z,39nm,0.9s,mb5.4							
ZAK	**Zakamensk**	**65.50**	**332**	*e*P		**P**	**01 11 44.0**	**-0.1**
ZAK				*e*			01 11 54.0	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
PKI	**Pulchoki**	**65.50**	**303**	*e*P		**P**	**01 11 45.5**	**+1.4**
KKN	**Kakani**	**65.68**	**303**	*e*P		**P**	**01 11 45.9**	**+0.6**
	comp=Z,20nm,0.7s,mb5.2							
DMN	**Daman**	**65.77**	**303**	*e*P		**P**	**01 11 46.8**	**+0.9**
GKN	**Gorkha**	**66.29**	**303**	*e*P		**P**	**01 11 49.9**	**+0.7**
	comp=Z,17nm,0.5s,mb5.3							
KOLN	**Koldanda**	**67.08**	**303**	*e*P		**P**	**01 11 54.5**	**+0.2**
	comp=Z,17nm,0.8s,mb5.1							
BOD	**Bodaibo**	**67.16**	**343**	⇑*i*P		**P**	**01 11 52.9**	**-1.8**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.4							
YAK	**Yakutsk**	**67.67**	**352**	*e*P		**P**	**01 11 57.9**	**-0.1**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.8							
VNDA	**Vanda**	**73.21**	**176**	P		**P**	**01 12 31.2**	**-0.6**
	comp=Z,5.7nm,1.0s,mb4.5,baz=328,slow=6.9,SNR=18							
VNDA				LR		LR	01 43 47.1	
	comp=Z,81nm,18.8s,MS4.0,baz=338,slow=35							
BILL	**Bilibino**	**74.31**	**8**	*e*P		**P**	**01 12 38.2**	**0.0**
BILL				*e*			01 15 24.5	
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**75.09**	**321**	P		**P**	**01 12 42.7**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.7,baz=96,slow=8.5,SNR=71							
MKAR	**Makanchi Array**	**75.09**	**321**	*i* P		**P**	**01 12 42.7**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MKAR	**Makanchi Array**	**75.09**	**321**	P		**P**	**01 12 42.7**	**-0.1**
ZAL	**Zalesovo**	**76.77**	**328**	P		**P**	**01 12 51.1**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.4,baz=360,slow=5.6,SNR=20							
ZAL				LR		LR	01 45 36.6	
	comp=Z,120nm,19.5s,MS4.2,baz=343,slow=35							
TIXI	**Tiksi**	**77.04**	**355**	*e*P		**P**	**01 12 53.0**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
NVS	**Novosibirsk**	**78.00**	**329**	*e*P		**P**	**01 12 57.7**	**-1.5**
NVS				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8							
NVS				pmax	pmax			
	comp=E,8.0nm,1.2s							
KZA	**Kyzart**	**78.12**	**315**	P		**P**	**01 13 01.7**	**+1.7**
	SNR=6.7							
TKM2	**Tokmak 2**	**78.14**	**316**	P		**P**	**01 13 00.6**	**+0.6**
	SNR=9.1							
AAK	**Ala-Archa**	**78.83**	**315**	*e*P		**P**	**01 13 02.7**	**-1.1**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**78.83**	**315**	*e*P		**P**	**01 13 02.6**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.2							
USP	**Ospenovka**	**79.01**	**316**	P		**P**	**01 13 04.9**	**+0.1**
	SNR=15							
AML	**Almayashu**	**79.25**	**314**	P		**P**	**01 13 07.2**	**+1.0**
	SNR=7.5							
EKS2	**Erkin-Say**	**79.34**	**315**	P		**P**	**01 13 07.2**	**+0.5**
	SNR=8.3							
MAW	**Mawson**	**82.38**	**202**	P		**P**	**01 13 22.1**	**-0.7**
	comp=Z,5.6nm,0.9s,mb4.5,baz=81,slow=6.0,SNR=9.3							
MAW				LR		LR	01 45 18.4	
	comp=Z,85nm,18.6s,MS4.1,baz=244,slow=32							
MCK	**McKinley**	**84.16**	**24**	*e*P		**P**	**01 13 31.3**	**-0.7**
MCK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6							
MCK	**McKinley**	**84.16**	**24**	*e*P		**P**	**01 13 31.3**	**-0.7**
	comp=Z,3.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**84.48**	**325**	*e*P		**P**	**01 13 32.7**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.9							
CHKZ	**Chkalovo**	**84.48**	**325**	*e*P		**P**	**01 13 32.7**	**-0.9**
	comp=Z,8.7nm,0.9s,mb4.9							
COLA	**College**	**85.04**	**23**	*e*P		**P**	**01 13 36.1**	**-0.4**
QSPA	**South Pole Qui**	**85.11**	**180**	*e*P		**P**	**01 13 35.7**	**-1.2**
	comp=Z,15nm,0.5s,mb5.4							
ZRNK	**Zerenda**	**85.22**	**324**	*e*P		**P**	**01 13 36.1**	**-1.3**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.8							
ZRNK	**Zerenda**	**85.22**	**324**	*e*P		**P**	**01 13 36.1**	**-1.3**
	comp=Z,4.5nm,0.5s,mb4.8							
DAWY	**Dawson**	**88.26**	**25**	*e*P		**P**	**01 13 52.5**	**+0.3**
DAWY				*e*			01 14 07.5	
YKA	**Yellowknife Ar**	**99.27**	**28**	LR		LR	01 56 27.6	
	comp=Z,47nm,18.6s,MS4.0,baz=175,slow=34							
OBN	**Obninsk**	**104.23**	**326**	*e*P		Pdif	01 15 04.7	-0.1
OBN				*e*SS		SS	01 34 08.4	-2.2
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
GERES	**GERESS Array B**	**119.59**	**325**	PKP		PKPdf	01 19 50.5	-0.1
	comp=Z,1.9nm,0.7s,baz=73,slow=1.2,SNR=16							
GERES				PKKPbc		PKKPbc	01 30 02.5	+1.2
	comp=Z,0.5nm,0.8s,baz=190,slow=5.0,SNR=3.8							
DAVOX	**Davos**	**122.87**	**324**	PKP		PKPdf	01 19 57.2	+0.3
	comp=Z,3.4nm,0.5s,baz=149,slow=1.2,SNR=14							
DAVOX	**Davos**	**122.87**	**324**	PKP	PKPdf		01 19 57.2	+0.3
DAVOS	**Davos**	**122.89**	**325**	PKIKP	PKPdf		01 19 57.2	+0.3
EKA	**Eskdalemuir Ar**	**123.39**	**339**	PKP	PKPdf		01 19 57.6	-0.3
	comp=Z,1.9nm,0.5s,baz=22,slow=2.8,SNR=14							
CDF	**Champ du Feu**	**123.41**	**327**	*e*PKP1	PKPdf		01 19 57.9	0.0
	comp=Z,4.2nm,0.8s							
GIVF	**Givet**	**123.64**	**330**	*e*PKP1	PKPdf		01 19 58.4	0.0
BAIF	**Baives**	**123.98**	**330**	*e*PKP1	PKPdf		01 19 59.1	+0.1
HINF	**Hinteralfeld**	**123.99**	**327**	*e*PKP1	PKPdf		01 19 58.6	-0.4
	comp=Z,5.1nm,0.6s							
SCHQ	**Schefferville**	**124.09**	**21**	PKP	PKPdf		01 19 58.7	-0.5
	comp=Z,2.1nm,0.7s,baz=315,slow=1.4,SNR=2.9							
SCHQ	**Schefferville**	**124.09**	**21**	PKP	PKPdf		01 19 58.7	-0.5
HAU	**Haudompre**	**124.15**	**327**	*e*PKP1	PKPdf		01 19 59.1	-0.3
	comp=Z,9.7nm,0.8s							
HAU				*e*R				
	comp=Z,144nm,20.0s							
MEZF	**Maizieres J'vi**	**124.53**	**328**	*e*PKP1	PKPdf		01 20 00.2	+0.1
	comp=Z,4.8nm,0.6s							
CABF	**La Chapelle**	**125.12**	**326**	*e*PKP1	PKPdf		01 20 01.5	+0.3
	comp=Z,11nm,0.8s							
LPG	**La Plagne**	**125.39**	**325**	*e*PKP1	PKPdf		01 20 02.1	+0.4
LPL	**La Plagne**	**125.39**	**325**	*e*PKP1	PKPdf		01 20 02.0	+0.3
	comp=Z,5.5nm,0.6s							
PGF	**Pioggiola**	**125.63**	**320**	*e*PKP1	PKPdf		01 20 02.3	+0.1
	comp=Z,4.5nm,0.5s							
LOR	**Lormes**	**125.93**	**328**	*e*PKP1	PKPdf		01 20 02.8	0.0
LOR				*e*R				
	comp=Z,184nm,17.5s							
ORIF	**Oris-en-Rattie**	**126.23**	**324**	*e*PKP1	PKPdf		01 20 04.0	+0.7
ORIF				*e*R				
	comp=Z,124nm,18.2s							
SSF	**Saint Saulge**	**126.25**	**328**	*e*PKP1	PKPdf		01 20 03.3	-0.1
	comp=Z,7.4nm,0.9s							
SMF	**Signal de Mont**	**126.33**	**327**	*e*PKP1	PKPdf		01 20 03.7	+0.2
AVF	**Avril sur Loir**	**126.50**	**328**	*e*PKP1	PKPdf		01 20 03.5	-0.4
	comp=Z,5.3nm,0.9s							
FRF	**La Foret Royal**	**126.54**	**323**	*e*PKP1	PKPdf		01 20 03.9	0.0
BGF	**Bois d'Agland**	**126.92**	**328**	*e*PKP1	PKPdf		01 20 04.9	+0.2
LDF	**La Druitiere**	**127.07**	**331**	*e*PKP1	PKPdf		01 20 04.8	-0.1
FLN	**La Foliniere**	**127.12**	**332**	*e*PKP1	PKPdf		01 20 04.9	-0.1
	comp=Z,5.5nm,0.7s							
FLN				*e*R				
	comp=Z,177nm,17.5s							
TCF	**Toulx Ste Croi**	**127.43**	**328**	*e*PKP1	PKPdf		01 20 05.8	+0.2
GRR	**Gorron**	**127.56**	**332**	*e*PKP1	PKPdf		01 20 05.3	-0.6
MFF	**Saint Martin d**	**128.44**	**329**	*e*PKP1	PKPdf		01 20 07.7	+0.1
SGMF	**Saint Gilles**	**128.45**	**332**	*e*PKP1	PKPdf		01 20 07.4	-0.2
	comp=Z,9.1nm,0.9s							
EPF	**Esparros**	**130.54**	**326**	*e*PKP1	PKPdf		01 20 11.3	-0.3
LPAZ	**La Paz**	**141.43**	**124**	PKhKP			01 20 27.8	
	comp=Z,2.1nm,0.8s,baz=180,slow=2.3,SNR=10.0							
LPAZ				SKPbc		SKPbc	01 24 09.0	+1.9
	comp=Z,1.8nm,0.9s,baz=302,slow=2.5,SNR=4.6							
TORD	**Torodi Ar. Bea**	**142.47**	**285**	PKhKP			01 20 28.8	
	comp=Z,2.0nm,0.8s,baz=74,slow=2.4,SNR=19							
LIC	**Lamto**	**149.72**	**274**	*e*PKIKP	PKPdf		01 20 50.9	+5.0
	comp=Z,44nm,0.7s							

*ISCJB **06** 01:19:54.4±0.1, 2467N±003×9508E±002, h107km, mb4.8/172, Error ellipse: s-maj=3.8km s-min=2.7km az=31.0*
*BJI **06** 01:19:55.8, 2469N×9507E, h124km, mB4.6, mb4.8*
*SZGRF **06** 01:19:56.1, 24.19N×9450E, h102km, mb5.3, Myanmar-India border region*
*LDG **06** 01:19:56.8±0.2, 2481N×9467E, h109km, Mb4.7/41, Error ellipse: s-maj=12.5km s-min=10.7km az=4.0*
*IDC **06** 01:19:56.9±0.6, 2468N×9523E, h115km±5km, mb4.5/29, mb1 4.6/29, mb1mx4.6/33, mbtmp4.5/29, MS3.5/5, Ms1 3.5/5, ms1mx3.0/37, Error ellipse: s-maj=13.5km s-min=7.9km az=50.0*
*MOS **06** 01:19:57.6±0.7, 2472N×9517E, h137km, mb4.8/78, Error ellipse: s-maj=8.4km s-min=3.7km az=126.8*
*NEIC **06** 01:19:57.5±0.5, 2469N×9515E, h120km±5km, mb4.8/119, Error ellipse: s-maj=4.3km s-min=2.7km az=48.0*
ISC 06 01:19:56.6±0.1, 2469N±003×9507E±002, h109km, h109km±1.1km; pP-P, n488, σ1§01/511, mb4.8/172, 23C-113D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IMP	**Imphal**	**1.03**	**275**	*i* P		**Pn**	**01 20 17.0**	**-1.1**
IMP				*ex*		x	01 20 42.0	
SHL	**Shillong**	**3.01**	**288**	*i* P		**Pn**	**01 20 43.0**	**+0.2**
SHL				*e*S		**Sn**	**01 21 16.0**	**-2.3**
AGT	**Agartala**	**3.57**	**258**	*e*P		**Pn**	**01 20 48.0**	**-2.2**
LSA	**Lhasa**	**6.09**	**326**	P		**Pn**	**01 21 24.2**	**+0.1**
LSA				S		**Sn**	**01 22 30.2**	**-2.2**
LSA				Smax				
	comp=N,790nm,0.8s							
LSA				Smax				
	comp=E,740nm,0.9s							
LSA	**Lhasa**	**6.09**	**326**	*e*P		**Pn**	**01 21 24.5**	**+0.4**
LSA				*e*			01 22 32.1	
LSA				pmax	pmax			
	comp=Z,168nm,0.3s							
LSA	**Lhasa**	**6.09**	**326**	*e*Pn		**Pn**	**01 21 24.5**	**+0.4**
	comp=Z,168nm,0.3s							
LSA				*e*Sn		**Sn**	**01 22 32.1**	**-0.2**
SLGI	**Shiliguri**	**6.32**	**290**	*e*P		**Pn**	**01 21 25.0**	**-2.3**
SLGI				*e*S		**Sn**	**01 22 32.0**	**-6.1**
GTK	**Gangtok**	**6.37**	**296**	*ex*		x	01 21 22.0	
GTK				*e*S		**Sn**	**01 22 32.0**	**-7.3**
CAL	**Calcutta**	**6.54**	**252**	*e*P		**Pn**	**01 21 29.6**	**-0.7**
CAL				*ex*		x	01 22 34.6	
CHG	**Chiang Mai**	**6.87**	**148**	⇑P		**Pn**	**01 21 35.3**	**+0.6**
	comp=Z,99nm,0.7s							
CHTO	**Chiang Mai**	**6.87**	**148**	P		**Pn**	**01 21 35.7**	**+0.9**
	SNR=34							
CHTO	**Chiang Mai**	**6.87**	**148**	*e*P		**Pn**	**01 21 35.3**	**+0.6**
CHTO							01 22 49.8	
CHTO				pmax	pmax			
	comp=Z,97nm,0.9s							
CHTO	**Chiang Mai**	**6.87**	**148**	*e*Pn		**Pn**	**01 21 35.3**	**+0.6**
	comp=Z,97nm,0.9s							
CHTO				Sn		**Sn**	**01 22 49.8**	**-1.6**
KMI	**Kunming**	**6.98**	**85**	P		**Pn**	**01 21 39.0**	**+2.7**
KMI				XP			01 22 03.1	
KMI				S		**Sn**	**01 22 54.3**	**+0.2**
KMI				AMB		AMB		
	comp=Z,50nm,1.0s							
KMI				AMB		AMB		
	comp=Z,156nm,3.1s							
KMI				LR		LR		
	comp=N,647nm,6.0s							
KMI				LR		LR		
	comp=E,479nm,7.9s							
KMI				LR		LR		
	comp=Z,561nm,11.5s							
KMI	**Kunming**	**6.98**	**85**	P		**Pn**	**01 21 39.0**	**+2.7**
	comp=Z,50nm,1.0s							
KMI				sP			01 22 03.1	
KMI				S		**Sn**	**01 22 54.3**	**+0.2**
BDT	**Bhumibol Dam**	**8.27**	**153**	P		**Pn**	**01 21 54.5**	**+0.7**
	comp=Z,18nm,1.0s							
BOK	**Bokaro**	**8.42**	**266**	*e*P		**Pn**	**01 21 53.6**	**-2.3**
BOK				AMb		AMB	01 21 55.0	
	comp=Z,221nm,0.8s							
BOK				*e*S		**Sn**	**01 23 21.9**	**-7.3**
JIRN	**Jiri**	**8.50**	**292**	*e*Pn		**Pn**	**01 21 55.3**	**-1.6**
JIRN				*e*Sn		**Sn**	**01 23 25.0**	**-6.1**
GUN	**Gumba**	**8.84**	**293**	*e*Pn		**Pn**	**01 22 00.0**	**-1.5**
GUN				*e*Sn		**Sn**	**01 23 34.1**	**-5.3**
	comp=Z,1μm,0.6s							
PKI	**Pulchoki**	**9.14**	**290**	*e*Pn		**Pn**	**01 22 03.0**	**-2.5**
PKI				*e*Sn		**Sn**	**01 23 40.3**	**-6.2**
	comp=Z,1μm,0.6s							
KKN	**Kakani**	**9.31**	**291**	*e*Pn		**Pn**	**01 22 05.6**	**-2.3**
KKN				*e*Sn		**Sn**	**01 23 45.1**	**-5.6**
	comp=Z,892nm,0.5s							
DMN	**Daman**	**9.41**	**290**	*e*Pn		**Pn**	**01 22 06.0**	**-3.2**
DMN				*e*Sn		**Sn**	**01 23 46.0**	**-7.0**
	comp=Z,516nm,0.4s							
CD2	**Chengdu**	**9.88**	**49**	*e*P		**Pn**	**01 22 13.5**	**-2.1**
CD2				XP			01 22 45.5	
CD2				S		**Sn**	**01 24 01.0**	**-3.5**
CD2				AMB		AMB		
	comp=Z,20nm,1.0s							
CD2				AMB		AMB		
	comp=Z,40nm,4.2s							
CD2				LR		LR		
	comp=N,480nm,7.8s							
CD2				LR		LR		
	comp=E,380nm,8.4s			

WHN Wuhan 18.05 67 P **P** **01 24 00.5 +1.2**
LATR Latur 18.30 254 *e*P **P** **01 24 01.6 -0.4**
LATR *ex* x 01 27 10.7
AJM Ajmer 18.51 280 *e*P **P** **01 24 04.3 0.0**
AJM AMb AMB 01 24 07.3
comp=Z,174nm,0.7s
AJM *i* x x 01 27 17.0
THN Thein Dam 18.65 299 *e*P **P** **01 24 05.7 -0.1**
THN *ex* x 01 27 21.4
WMQ Urumqi 20.02 344⇓ *i*P **P** **01 24 21.7 +1.0**
WMQ AP 01 24 42.7
WMQ PP 01 24 46.7
WMQ XP sP 01 24 57.7 +3.0
WMQ S **S** **01 27 55.2 -4.5**
WMQ XS sS 01 28 26.2 -7.2
WMQ PCP PcP 01 28 34.2 +2.0
WMQ SCP ScP 01 31 58.2 -0.3
WMQ AMB AMB
comp=Z,53nm,0.7s
WMQ LR LR
comp=N,79nm,20.3s
WMQ LR LR
comp=E,124nm,21.9s
WMQ LR LR
comp=Z,142nm,23.6s
KULM Kulim 20.02 164 *e*P **P** **01 24 19.8 -1.0**
POO Poona 20.64 257⇓ *i*P **P** **01 24 26.0 -1.5**
comp=Z,240nm,1.0s
POO *ex* x 01 24 44.0
POO *i* x x 01 24 54.0
POO *i* x x 01 28 03.0
KAD Karad 20.82 253 *e*P **P** **01 24 30.6 +1.2**
KAD AMb AMB 01 24 32.0
comp=Z,101nm,0.8s
KAD *e*S **S** **01 28 16.1 +0.7**
CHCP Chirah Chowk 21.00 300⇓ **P** **01 24 31.8 +0.6**
HHC Hu-ho-hao-te 21.20 37 *e*P **P** **01 24 33.0 -0.5**
HHC AP 01 24 57.3
HHC PP 01 25 03.3
HHC XP sP 01 25 12.0 +4.3
HHC S **S** **01 28 17.2 -5.8**
HHC PCP PcP 01 28 34.8 +0.3
HHC XS sS 01 28 56.1 -1.2
HHC SCP ScP 01 31 58.9 -2.4
HHC PCS PcS 01 32 14.5 +1.9
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.2
HHC AMB AMB
comp=Z,93nm,5.9s
HHC LR LR
comp=N,202nm,10.8s
HHC LR LR
comp=E,455nm,14.3s
HHC LR LR
comp=Z,212nm,12.9s
BOM Bombay 21.44 259 *e*P **P** **01 24 36.0 0.0**
BOM *ex* x 01 24 39.6
comp=Z,194nm,1.3s
BOM *ex* x 01 28 14.0
KSH Kashi 21.84 317 P **P** **01 24 42.1 +1.8**
KSH *e*AP 01 25 06.7
KSH *e*PP 01 25 13.2
KSH *e*XP sP 01 25 23.9 +9.3
KSH *e*S **S** **01 28 29.1 -6.1**
KSH *e*XS sS 01 29 09.8 -0.3
KSH *e*SS 01 29 16.1
KSH *e*PCS PcS 01 32 17.7 +3.5
KSH LR LR
comp=N,2μm,6.7s
KSH LR LR
comp=E,2μm,12.8s
KSH LR LR
comp=Z,1μm,18.0s
THW Thamme Wali 21.95 297 P **P** **01 24 41.1 -0.3**
PSI Prapat 22.08 170 P **P** **01 24 44.1 +1.4**
comp=Z,6.4nm,0.7s,mb4.0,baz=343,slow=7.8,SNR=6.3
PSI ScP ScP 01 32 00.9 -2.6
comp=Z,2.5nm,0.5s,baz=283,slow=5.8,SNR=4.2
PALK Pallekele 22.11 221 P **P** **01 24 45.9 +2.8**
SNR=7.8
PALK Pallekele 22.11 221 *e*P **P** **01 24 44.6 +1.6**
CEP Cherat 22.12 300⇓ **P** **01 24 43.0 -0.2**
NJ2 Nanjing 22.15 65 *e*P **P** **01 24 43.3 -0.2**
NJ2 AP 01 25 09.1
NJ2 PP 01 25 16.5
NJ2 XP sP 01 25 24.0 +6.1
NJ2 S **S** **01 28 32.5 -7.7**
NJ2 XS sS 01 29 18.0 +1.8
NJ2 AMB AMB
comp=Z,100nm,0.5s,mb5.4
NJ2 LR LR
comp=N,520nm,18.2s
NJ2 LR LR
comp=E,440nm,27.2s
NJ2 LR LR
comp=Z,240nm,21.7s
DRP Derazinda 22.98 293⇑ **P** **P** **01 24 52.4 +0.6**
ULHL Ulahol 23.43 323 P **P** **01 24 58.3 +2.4**
SNR=25
KZA Kyzart 23.87 321 P **P** **01 25 02.3 +2.3**
SNR=8.0
YHNB Yeheng 23.90 85 P **P** **01 24 59.2 -1.0**
SSE Sheshan 23.92 69 P **P** **01 25 00.9 +0.5**
SSE AMB AMB
comp=Z,77nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,53nm,3.6s
SSE Sheshan 23.92 69 P **P** **01 25 00.9 +0.5**
comp=Z,77nm,0.9s,mb5.0
TKM2 Tokmak 2 24.24 323 P **P** **01 25 04.9 +1.6**
SNR=94
MKAR Makanchi Array 24.31 338 P **P** **01 25 05.0 +1.1**
comp=Z,186nm,0.5s,mb5.7,baz=150,slow=8.9,SNR=1190
MKAR ScP ScP 01 32 07.3 -2.2
comp=Z,5.3nm,0.9s,baz=108,slow=4.0,SNR=15
MKAR LR LR 01 36 53.0
comp=Z,39nm,19.3s,baz=152,slow=42
KBK Karagaybulak 24.42 322 P **P** **01 25 07.9 +3.0**
SNR=34
AAK Ala-Archa 24.66 322 P **P** **01 25 08.8 +1.7**
comp=Z,420nm,0.8s,SNR=55
AAK Ala-Archa 24.66 322 P **P** **01 25 09.2 +2.0**
SNR=71
AAK Ala-Archa 24.66 322 P **P** **01 25 08.4 +1.3**
SNR=27
AAK Ala-Archa 24.66 322⇓ *i*P **P** **01 25 07.3 +0.2**
AAK pmax pmax
comp=Z,67nm,1.0s,mb5.0
CHMS Chumysh 24.75 323 P **P** **01 25 09.5 +1.5**
SNR=21
SONM Songino Array 24.79 18 P **P** **01 25 07.9 -0.3**
comp=Z,4.9nm,0.5s,mb4.2,baz=197,slow=10,SNR=60
SONM ScP ScP 01 32 08.6 -2.2
comp=Z,4.3nm,0.8s,baz=188,slow=2.9,SNR=21
AML Almayashu 24.80 320 P **P** **01 25 10.6 +2.2**
SNR=48
ULN Ulaanbaatar 25.01 19 P **P** **01 25 10.1 -0.2**
SNR=16
ULN Ulaanbaatar 25.01 19 *e*P **P** **01 25 10.0 -0.3**
USP Ospenovka 25.07 323 P **P** **01 25 12.1 +1.2**
SNR=35
EKS2 Erkin-Say 25.09 321 P **P** **01 25 12.9 +2.0**
SNR=80
ZAK Zakamensk 26.43 12⇓ *i*P **P** **01 25 23.6 +0.5**
ZAK *e* pP 01 25 47.9 +1.0
ZAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
DL2 Dalian 26.54 51 *e*P **P** **01 25 19.2 -4.9**
DL2 AMB AMB
comp=Z,20nm,1.3s,mb4.5
JOW Kunigami 29.94 79 P **P** **01 25 54.0 -0.3**
comp=Z,11nm,0.4s,mb4.8,baz=230,slow=4.1,SNR=6.6
JOW LR LR 01 38 16.3
comp=Z,84nm,21.2s,baz=77,slow=37
ZAL Zalesovo 30.20 348 P **P** **01 25 57.0 +0.3**
comp=Z,5.7nm,0.4s,mb4.6,baz=323,slow=6.9,SNR=22
ZAL ScP ScP 01 32 24.3 -3.0
comp=Z,1.7nm,0.3s,baz=96,slow=3.0,SNR=4.3
HIA Hailar 31.21 32 P **P** **01 26 04.7 -0.8**
CN2 Changchun 31.27 45 *e*P **P** **01 26 06.6 +0.5**
NVS Novosibirsk 31.37 347 *e*P **P** **01 26 06.4 -0.5**
NVS *e*S **S** **01 31 06.1 -0.1**
NVS pmax pmax
comp=Z,19nm,1.1s,mb4.7
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,12nm,1.3s
NVS smax
comp=N,70nm,3.5s
WSAR Wadi Sarin 33.27 275 LR LR 01 41 28.0
comp=N,61nm,18.7s,baz=19,slow=39
SMDO Samad 33.82 275 P **P** **01 26 30.4 +2.0**
SNR=7.6
BVAR Borovoye Array 33.87 333 P **P** **01 26 29.2 +0.4**
comp=N,17nm,0.4s,mb5.2,baz=140,slow=12,SNR=66
BVAR ScP ScP 01 32 39.1 -0.6
comp=N,3.4nm,0.8s,baz=151,slow=3.4,SNR=9.0
BVAR LR LR 01 42 14.0
comp=N,132nm,21.9s,baz=129,slow=39
BRVK Borovoye 33.93 333 P **P** **01 26 29.9 +0.6**
SNR=11
BRVK Borovoye 33.93 333 *e*P **P** **01 26 29.8 +0.5**
BRVK pmax pmax
comp=Z,21nm,0.6s,mb5.1
BRVK Borovoye 33.93 333 *e*P **P** **01 26 29.8 +0.5**
comp=Z,21nm,0.6s,mb5.1
CHKZ Chkalovo 34.26 334 *e*P **P** **01 26 32.7 +0.6**
CHKZ pmax pmax
comp=Z,37nm,0.8s,mb5.3
CHKZ Chkalovo 34.26 334 *e*P **P** **01 26 32.7 +0.6**
comp=Z,37nm,0.8s,mb5.3
ZRNK Zerenda 34.39 332 *e*P **P** **01 26 33.4 +0.1**
ZRNK pmax pmax
comp=Z,29nm,0.6s,mb5.3
ZRNK Zerenda 34.39 332 *e*P **P** **01 26 33.4 +0.1**
comp=Z,29nm,0.6s,mb5.3
ZRNK *e*ScP ScP 01 32 39.6 -2.0
BSY Bisya 34.65 275 P **P** **01 26 37.2 +1.7**
SNR=5.2
ASHO Ashiyiah 35.36 278 P **P** **01 26 43.6 +2.0**
SNR=3.0
BOD Bodaibo 35.77 17 *e*P **P** **01 26 43.7 -1.4**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AKTK Aktyubinsk 38.41 322 P **P** **01 27 08.0 +0.7**
AKTK ScP ScP 01 32 55.6 -0.9
AKTO Aktyubinsk 38.41 322 P **P** **01 27 08.0 +0.7**
comp=Z,19nm,0.4s,mb5.3,baz=111,slow=7.6,SNR=105
AKTO ScP ScP 01 32 55.6 -0.9
comp=Z,6.2nm,0.7s,baz=92,slow=6.1,SNR=12
MAJO Matsushiro 38.67 62 *e*P **P** **01 27 08.7 -0.9**
MAJO pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
MAJO Matsushiro 38.67 62 *e*P **P** **01 27 08.7 -0.9**
comp=Z,4.0nm,0.3s,mb4.7
MAT Matsushiro 38.67 62 P **P** **01 27 07.5 -2.1**
MJAR Matsushiro Arr 38.67 62 P **P** **01 27 08.2 -1.4**
comp=Z,6.4nm,0.9s,mb4.4,baz=274,slow=9.1,SNR=14
RBK Rabkut 38.68 267 P **P** **01 27 11.4 +1.8**
SNR=5.9
WHFO Wadi Hawf 38.95 268 P **P** **01 27 13.2 +1.3**
SNR=10
ABTO Aybut 39.55 268 P **P** **01 27 18.4 +1.5**
SNR=5.9
SVE Sverdlovsk 40.58 331 *e*P **P** **01 27 26.0 +0.6**
ORR Orenburg 40.78 322 *e*P **P** **01 27 27.7 +0.7**
ORR pmax pmax
comp=Z,70nm,0.8s,mb5.5
ARU Arti 41.27 330⇓ *i*P **P** **01 27 31.4 +0.3**
ARU *e* 01 29 07.3
ARU *e*PPP 01 29 44.1
ARU *e*S **S** **01 33 36.0 -0.9**
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.0
ARU Arti 41.27 330 *e*P **P** **01 27 31.5 +0.5**
comp=Z,24nm,0.6s,mb5.2
UMR Umm Al-Rimmam 42.20 287 *e*P **P** **01 27 39.5 +0.9**
UMR AMb AMB 01 27 40.6
comp=Z,109nm,0.7s,mb5.7
RDF Al-Radifah 42.40 287 *e*P **P** **01 27 41.2 +1.0**
RDF AMb AMB 01 27 42.3
comp=Z,231nm,0.6s
MIB Mutribah 42.50 288 *e*P **P** **01 27 42.1 +1.1**
MIB AMb AMB 01 27 43.6
comp=Z,165nm,0.7s
NAY Al-Naaiem 42.64 287 *e*P **P** **01 27 43.1 +0.9**
NAY AMb AMB 01 27 44.6
comp=Z,123nm,0.7s,mb5.7
YAK Yakutsk 44.01 23 *e*P **P** **01 27 51.3 -1.9**
YAK pmax pmax
comp=Z,12nm,0.3s,mb5.1
YAK Yakutsk 44.01 23 *e*P **P** **01 27 51.3 -1.9**
comp=Z,12nm,0.3s,mb5.1
GNI Garni 44.61 303 P **P** **01 27 60.0 +2.0**
comp=Z,15nm,0.9s,mb4.7,baz=311,slow=7.7,SNR=7.3
GNI Garni 44.61 303 *e*P **P** **01 27 58.1 +0.1**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 44.61 303 *e*P **P** **01 27 58.1 +0.1**
comp=Z,13nm,0.8s,mb4.7
ZEI Tsey 45.49 306 *e*P **P** **01 28 05.9 +1.0**
ZEI *e**PP pP 01 28 41.2 +11
ZEI pmax pmax
comp=Z,51nm,0.8s,mb5.3
KIV Kislovodsk 46.50 308 P **P** **01 28 14.6 +1.7**
SNR=7.3
KIV Kislovodsk 46.50 308 *e*P **P** **01 28 14.2 +1.3**
KIV pmax pmax
comp=Z,41nm,0.8s,mb5.2
KIV Kislovodsk 46.50 308 *e*P **P** **01 28 14.2 +1.4**
comp=Z,41nm,0.8s,mb5.2
ERZM Erzurum 47.18 302 *i* P **P** **01 28 20.5 +2.3**
ELZG Elazig 49.02 300 *i* P **P** **01 28 33.0 +0.7**
VRSR Storozhevoye 49.92 317 *e*P **P** **01 28 38.5 -0.6**
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,9.0nm,0.9s
GZT Gaziantep 50.18 299 *i* P **P** **01 28 41.4 +0.3**
ANN Anapa 50.33 309 *e*P **P** **01 28 41.9 -0.3**
ANN *e**PP pP 01 29 15.8 +7.8
ANN *e*S **S** **01 35 50.9 +4.2**
ANN pmax pmax
comp=Z,66nm,1.3s,mb5.4
TIXI Tiksi 50.70 13 *e*P **P** **01 28 43.2 -1.8**
TIXI pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
TIXI Tiksi 50.70 13 *e*P **P** **01 28 42.6 -2.4**
ASF Jabal al Asfar 51.17 292 P **P** **01 28 50.5 +1.9**
comp=Z,15nm,0.7s,mb5.1,baz=314,slow=4.9,SNR=29
ASF ScP ScP 01 33 48.8 0.0
comp=Z,2.1nm,0.9s,baz=343,slow=11,SNR=3.6
COBT Iskenderun 51.27 298 *i* P **P** **01 28 49.6 +0.3**
MBWA Marble Bar 51.50 150 *e*P **P** **01 28 51.0 0.0**
MOS Moscow 51.72 323 *e*P **P** **01 28 51.0 -1.7**
MOS pmax pmax
comp=Z,53nm,1.1s,mb5.5
FITZ Fitzroy Crossi 51.93 142 *e*P **P** **01 28 53.8 -0.4**
comp=Z,18nm,0.7s,mb5.2
FITZ *e*SCP ScP 01 33 50.4 -1.7
KAKA Kakadu 52.08 131 *e*P **P** **01 28 54.0 -1.3**
comp=Z,7.1nm,0.4s,mb5.0
BOYT Boyabat 52.11 304 *i* P **P** **01 28 54.3 -1.2**
OBN Obninsk 52.19 322 *e*P **P** **01 28 55.3 -0.8**
OBN *e*SS SS 01 39 49.7 -1.3
OBN pmax pmax
comp=Z,25nm,1.1s,mb5.2
OBN Obninsk 52.19 322 *e*P **P** **01 28 56.0 -0.1**
comp=Z,38nm,1.0s,mb5.4
MMAI Mount Meron Ar 52.32 294 P **P** **01 28 59.1 +2.1**
comp=Z,1.7nm,0.5s,mb4.3,baz=48,slow=12,SNR=7.3
BRTR Keskin Array B 53.13 302 P **P** **01 29 03.5 +0.5**
comp=Z,4.3nm,0.5s,mb4.8,baz=121,slow=8.0,SNR=40
BRTR ScP ScP 01 33 55.4 -2.0
comp=Z,1.9nm,1.0s,baz=66,slow=3.1,SNR=4.0
EIL Elat 53.20 290 *e*P **P** **01 29 04.6 +1.0**
ELDT Eldivan 53.26 303 *i* P **P** **01 29 04.4 +0.4**
ANTO Ankara 53.77 302 P **P** **01 29 08.9 +1.2**
SNR=8.2
ANTO Ankara 53.77 302⇓ *i*P **P** **01 29 08.6 +0.8**
CSS Prodhromos 53.79 296 *e*P **P** **01 29 08.4 +0.5**
ESKT Eskisehir 55.30 302 *i* P **P** **01 29 17.7 -1.1**
ISP Isparta 55.72 300 *e*P **P** **01 29 21.6 -0.2**
ISP pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ISP Isparta 55.72 300 *e*P **P** **01 29 21.6 -0.2**
comp=Z,9.2nm,0.6s,mb5.0
TKTP Tekketepe 55.85 300 *i* P **P** **01 29 21.6 -1.1**
AKASG Malin Array Be 56.13 316 P **P** **01 29 24.0 -0.7**
comp=Z,16nm,0.4s,mb5.4,baz=80,slow=6.4,SNR=65
AKASG ScP ScP 01 34 08.1 -2.4
comp=Z,1.9nm,0.8s,baz=70,slow=3.9,SNR=4.9
AKASG Malin Array Be 56.13 316 *i* P **P** **01 29 24.0 -0.7**
AKASG pmax pmax
comp=Z,16nm,0.4s
JOF Joensuu 56.40 330 *e*p **P** **01 29 25.9 -0.7**
comp=Z,16nm,0.4s,mb5.4
JOF Joensuu 56.40 330 *e*P **P** **01 29 25.9 -0.7**
JOF pmax pmax
comp=Z,16nm,0.4s,mb5.4
TIRR Tirgusor 56.76 308 P **P** **01 29 28.8 -0.4**
VRI Vrincioaia 57.87 310⇑ *i*P **P** **01 29 37.9 +0.9**
VRI Vrincioaia 57.87 310⇑P **P** **01 29 37.9 +0.9**
PLOR Plostina 57.93 310⇓ *i*P **P** **01 29 38.5 +1.1**
MLR Muntele Rosu 58.45 310 P **P** **01 29 42.2 +1.2**
comp=Z,46nm,0.8s,mb5.5,baz=235,slow=1.6,SNR=24
MLR Muntele Rosu 58.45 310⇑ *i*P **P** **01 29 42.4 +1.4**
MLR Muntele Rosu 58.45 310⇑P **P** **01 29 42.4 +1.4**
WRA Warramunga Arr 58.56 136 P **P** **01 29 41.7 -0.1**
comp=Z,17nm,0.5s,mb5.3,baz=324,slow=7.4,SNR=107
WRA ScP ScP 01 34 18.2 -3.0
comp=Z,1.2nm,0.6s,baz=324,slow=4.5,SNR=5.0
WRA S **S** **01 37 35.1 -2.1**
comp=Z,0.2nm,0.4s,baz=321,slow=13,SNR=4.9
WRAB Tennant Creek 58.56 136 P **P** **01 29 41.9 +0.1**
comp=Z,185nm,0.6s,SNR=20
WRAB Tennant Creek 58.56 136 *e*P **P** **01 29 41.7 0.0**
KAF Kangasniemi 58.56 329 *e*p **P** **01 29 41.0 -0.8**
comp=Z,8.6nm,0.5s,mb5.0,baz=97,slow=6.9
KAF Kangasniemi 58.56 329 *e*P **P** **01 29 41.0 -0.8**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
WB2 Warramunga Arr 58.57 136⇑ *i*P **P** **01 29 41.7 -0.1**
WB2 *e*S **S** **01 37 35.7 -1.5**
FINES FINESS Array B 58.60 328 P **P** **01 29 42.0 -0.1**
comp=Z,17nm,0.6s,mb5.2,baz=87,slow=6.3,SNR=89
FINES FINESS Array B 58.60 328 *i* P **P** **01 29 42.0 -0.1**
FINES pmax pmax
comp=Z,17nm,0.6s
FINES FINESS Array B 58.60 328 P **P** **01 29 42.0 -0.1**
BURAR Bucovina Array 58.81 312⇓ *i*P **P** **01 29 44.0 +0.5**
BURAR Bucovina Array 58.81 312⇓P **P** **01 29 44.0 +0.5**
VOIR 59.08 310⇓ *i*P **P** **01 29 45.9 +0.5**
VOIR 59.08 310⇓P **P** **01 29 45.9 +0.6**
LVV L'vov 59.47 315 *i* P **P** **01 29 47.5 -0.6**
KEV Kevo 59.49 338 *e*p **P** **01 29 47.1 -1.1**
comp=Z,8.3nm,0.7s,mb4.9
KEV Kevo 59.49 338 *e*P **P** **01 29 47.1 -1.1**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KEV Kevo 59.49 338 *e*P **P** **01 29 48.3 +0.1**
comp=Z,12nm,0.7s,mb5.0
SUW Suwalki 59.85 320 *e*P **P** **01 29 50.2 -0.5**
MUN Mundaring 59.86 159 *e*P **P** **01 29 48.3 -2.4**
SANT Santorini 59.93 299 *e*P **P** **01 29 50.7 -0.5**
comp=Z,22nm,0.6s,mb5.4
ARCES ARCESS Array B 59.96 338 P **P** **01 29 51.3 -0.2**
comp=Z,7.7nm,0.6s,mb4.9,baz=87,slow=7.8,SNR=31
KLBR Kellerberrin 60.02 158 *e*P **P** **01 29 50.6 -1.3**
comp=Z,24nm,1.2s,mb5.1
BILL Bilibino 60.32 24 *e*P **P** **01 29 51.4 -2.5**
BILL *e* 01 30 35.1
BILL *e* 01 32 02.5
BILL *e*SS SS 01 41 52.1 -6.9
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KWP Kalwaria 60.34 315 *e*P **P** **01 29 54.3 +0.3**
DRGR 60.58 311⇑ *i*P **P** **01 29 56.4 +0.8**
DRGR 60.58 311⇑P **P** **01 29 56.4 +0.8**
GZR Gura Zlata 60.68 310⇓ *i*P **P** **01 29 56.9 +0.6**
GZR Gura Zlata 60.68 310⇓P **P** **01 29 56.9 +0.6**
KOLS Kolonicke sedl 60.68 314 *e*P **P** **01 29 56.7 +0.4**
KTK1 Kautokeino 60.68 337 *e*P **P** **01 29 57.1 +0.8**
KTK1 AMb AMB 01 30 00.1
comp=Z,60nm,1.9s,mb5.3
UZH Uzhgorod 60.69 313*c i*P **P** **01 29 55.0 -1.4**
VTS Vitosha 60.71 306⇓ *i*P **P** **01 29 56.8 +0.3**
ASPA Alice Springs 61.06 139 *e*P **P** **01 29 59.1 +0.2**
ASPA *e*pP pP 01 30 25.5 -0.1
AS31 Alice Springs 61.06 139 *e*P **P** **01 29 59.1 +0.2**
AS31 *e*pP pP 01 30 25.5 -0.1
ASAR Alice Springs 61.06 139 P **P** **01 29 59.0 0.0**
comp=Z,11nm,0.6s,mb5.1,baz=321,slow=6.8,SNR=160
NWAO Narrogin (SRO) 61.07 159 P **P** **01 29 58.1 -0.9**
comp=Z,11nm,0.5s,mb5.1,baz=359,slow=6.3,SNR=16
NWAO Narrogin (SRO) 61.07 159 *e*P **P** **01 29 57.9 -1.1**
NWAO pmax pmax
comp=Z,8.0nm,0.4s
NWAO Narrogin (SRO) 61.07 159 *e*P **P** **01 29 57.9 -1.1**
comp=Z,8.0nm,0.4s,mb5.1
CRVS Cervenica-Dubn 61.21 314 *e*P **P** **01 30 00.7 +0.8**
GVD Gavdhos 61.31 298 *e*P **P** **01 30 00.7 +0.1**
comp=Z,19nm,0.6s,mb5.3
STHS Stebnicka Huta 61.31 314 *e*P **P** **01 30 00.4 -0.2**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
STHS Stebnicka Huta 61.31 314 *e*P **P** **01 30 00.4 -0.2**
comp=Z,2.6nm,0.7s,mb4.4
STHS *e* pP 01 30 25.1 -2.1
VAV Valandovo 61.36 305 *e*P **P** **01 29 58.4 -2.5**
BZS Buzias 61.46 310⇓ *i*P **P** **01 30 01.6 0.0**
BZS Buzias 61.46 310⇓P **P** **01 30 01.6 0.0**
KMBO Kilima Mbogo 61.55 254 P **P** **01 30 03.9 +1.7**
comp=Z,6.1nm,0.7s,mb4.8,baz=46,slow=11,SNR=29
KMBO Kilima Mbogo 61.55 254 P **P** **01 30 04.2 +2.0**
SNR=14
KMBO Kilima Mbogo 61.55 254⇑ *e*P **P** **01 30 04.6 +2.4**
KMBO Kilima Mbogo 61.55 254 *e*P **P** **01 30 04.1 +1.9**
STIP Stip 61.59 306 *e*P **P** **01 29 60.0 -2.5**
KECS Kecovo 61.90 313 *e*P **P** **01 30 04.0 -0.5**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KECS Kecovo 61.90 313 *e*P **P** **01 30 04.0 -0.5**
comp=Z,3.4nm,1.0s,mb4.3
NIE Niedzica 61.91 314 *e*P **P** **01 30 05.8 +1.2**
SKO Skopje 62.10 306 *e*P **P** **01 30 03.5 -2.4**
OJC Ojcow 62.16 315 *e*P **P** **01 30 05.7 -0.6**
TRO Tromso 62.26 337 *e*P **P** **01 30 05.6 -1.4**
TRO *e*pP pP 01 30 34.1 +0.4
GRUS Gruza 62.33 308 *i* P **P** **01 30 06.9 -0.5**
KRUS Krusevo 62.33 305 *e*P **P** **01 30 04.9 -2.5**
BIA Bitola 62.34 305 *e*P **P** **01 30 04.9 -2.5**
PSZ Piszkesteto 62.36 313 *e*P **P** **01 30 08.0 +0.4**
PSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
PSZ Piszkesteto 62.36 313 *e*P **P** **01 30 08.0 +0.4**
comp=Z,5.9nm,0.7s,mb4.7
DIVS Divcibare 62.81 308 *i* P **P** **01 30 10.2 -0.5**
VYHS Vyhne 62.99 314 *e*P **P** **01 30 11.7 -0.1**
OKC Ostrava-Krasne 63.26 315 *e*P **P** **01 30 13.9 +0.3**
BBLS Bajina Basta - 63.27 308 *i* P **P** **01 30 14.4 +0.8**
GKP Gorka Klasztor 63.43 319 *e*P **P** **01 30 14.5 -0.2**
PKSM Moragy 63.44 311⇓ *i*P **P** **01 30 14.4 -0.3**
PKSM Moragy 63.44 311⇓P **P** **01 30 14.4 -0.3**
MORC Moravsky Berou 63.66 315⇓ *i*P **P** **01 30 16.8 +0.6**
MORC Moravsky Berou 63.66 315⇓P **P** **01 30 16.8 +0.6**
MOR8 Moi Rana 63.91 333 *e*P **P** **01 30 16.8 -1.0**
MOR8 AMb AMB 01 30 20.6
comp=Z,54nm,2.3s,mb5.0
MOR8 Moi Rana 63.91 333 *e*P **P** **01 30 16.8 -1.0**
comp=Z,54nm,2.3s,mb5.0
ZST Bratislava 64.17 313 *e*P **P** **01 30 19.2 -0.4**
ZST Bratislava 64.17 313 *e*P **P** **01 30 19.3 -0.3**
ZST pmax pmax
comp=Z,11nm,0.7s,mb4.8
ZST Bratislava 64.17 313 *e*P **P** **01 30 19.3 -0.3**
comp=Z,11nm,0.7s,mb4.8
LOF Lofoten 64.19 336 *e*P **P** **01 30 20.5 +0.8**
KSP Ksiaz 64.31 316 *e*P **P** **01 30 21.2 +0.7**
KSP Ksiaz 64.31 316 *e*P **P** **01 30 20.3 -0.2**
KSP *e*pP pP 01 30 47.0 -0.3
VRAC Vranov 64.34 315⇓ *i*P **P** **01 30 21.3 +0.6**
VRAC Vranov 64.34 315⇓P **P** **01 30 21.3 +0.7**
DPC Dobruska-Polom 64.36 316 *e*P **P** **01 30 21.2 +0.4**
UPC Upice 64.53 316 *e*P **P** **01 30 22.2 +0.3**
HFS Hagfors 64.66 327 P **P** **01 30 22.6 -0.1**
comp=Z,27nm,0.6s,mb5.3,baz=131,slow=6.1,SNR=111
HFS pP pP 01 30 50.5 +0.8
comp=Z,11nm,0.6s,baz=79,slow=7.9,SNR=3.5
CONA Conrad Observa 65.04 313⇑ *i*P **P** **01 30 25.7 +0.5**
comp=Z,16nm,0.9s,mb4.8
NSS Namsos 65.05 332 *e*P **P** **01 30 23.7 -1.6**

NSS AMb AMB 01 30 27.5
comp=Z,117nm,1.8s,mb5.4
NSS Namsos 65.05 332 *eP* **P 01 30 23.7 -1.6**
comp=Z,117nm,1.8s,mb5.4
ARSA Arzberg 65.38 313⇑ *iP* **P 01 30 27.7 +0.3**
comp=Z,8.5nm,0.8s,mb4.6
PVCC Panska Ves 65.44 316 *eP* **P 01 30 28.3 +0.5**
PRU Pruhonice 65.55 316 *eP* **P 01 30 28.5 0.0**
PERS Pernice 65.77 312 *iP* **P 01 30 29.6 -0.3**
PERS *i* pP 01 30 55.1 -1.7
BRG Berggiesshubel 65.78 317 *eP* **P 01 30 30.2 +0.3**
comp=Z,13nm,0.6s,mb4.9
BRG Berggiesshubel 65.78 317 *iP* **P 01 30 30.3 +0.3**
comp=Z,8.0nm,0.6s,mb4.7
BRG *e* pP 01 30 55.2 -1.7
comp=Z,5.5nm,1.1s
BRG Berggiesshubel 65.78 317 *iP* **P 01 30 30.3 +0.4**
BRG *e* pP 01 30 55.2 -1.7
BRG pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
NB2 NORSAR Subarra 65.78 328 P **P 01 30 29.1 -0.8**
comp=Z,26nm,0.8s,mb5.1,baz=82,slow=6.5
NOA NORSAR Array B 65.78 328 P **P 01 30 29.4 -0.6**
comp=Z,18nm,0.7s,mb5.0,baz=84,slow=6.4,SNR=45
BOJS Bojanci 65.89 311 *iP* **P 01 30 31.0 +0.3**
BOJS *e* pP 01 30 56.6 -1.1
MOA Molln 66.11 313⇓ *iP* **P 01 30 32.2 +0.1**
comp=Z,21nm,1.0s,mb4.9
MOA Molln 66.11 313⇓ *iP* **P 01 30 32.1 +0.1**
comp=Z,21nm,1.0s,mb4.9
TIP Timpagrande 66.13 304 *eP* **P 01 30 31.9 -0.3**
FBE Freiberg 66.13 317 *eP* **P 01 30 32.7 +0.5**
comp=Z,42nm,1.4s,mb5.1
CLL Collm 66.28 317 *eP* **P 01 30 33.0 -0.2**
comp=Z,10.0nm,0.5s,mb4.9
CLL Collm 66.28 317⇑ *iP* **P 01 30 32.8 -0.4**
CLL pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CLL Collm 66.28 317⇑ *iP* **P 01 30 32.8 -0.4**
comp=Z,10.0nm,0.5s,mb4.9
GEC2 GERESS Array S 66.29 314 *eP* **P 01 30 33.2 0.0**
comp=Z,26nm,1.2s,mb4.9
GEC2 *ep*P pP 01 30 58.6 -1.7
GEC2 GERESS Array S 66.29 314 *eP* **P 01 30 33.2 0.0**
GEC2 *e**PP pP 01 30 58.6 -1.7
GEC2 pmax pmax
comp=Z,26nm,1.2s,mb4.9
GERES GERESS Array B 66.29 314 P **P 01 30 33.6 +0.3**
comp=Z,11nm,0.7s,mb4.8,baz=65,slow=6.3,SNR=91
KHC Kasperske Hory 66.32 315 *eP* **P 01 30 33.0 -0.4**
DOMB Dombas 66.66 329 *eP* **P 01 30 35.4 -0.2**
DOMB *ep*P pP 01 31 03.8 +1.2
WET Wettzell 66.77 315 *eP* **P 01 30 36.5 +0.2**
comp=Z,22nm,1.3s,mb4.8
WET Wettzell 66.77 315 *eP* **P 01 30 36.5 +0.2**
WET pmax pmax
comp=Z,22nm,1.3s,mb4.8
KONO Kongsberg 66.77 327 *eP* **P 01 30 36.2 -0.1**
KONO pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
KONO Kongsberg 66.77 327 *eP* **P 01 30 36.2 -0.1**
comp=Z,5.1nm,0.4s,mb4.7
TANN Tannenbergstha 66.78 316 *eP* **P 01 30 36.5 +0.1**
comp=Z,7.0nm,0.7s,mb4.6
CTA Charters Tower 66.79 127⇑ *iP* **P 01 30 36.6 +0.2**
comp=Z,4.1nm,0.6s,mb4.4
CTA Charters Tower 66.79 127⇑ *iP* **P 01 30 36.6 +0.2**
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 66.79 127 *eP* **P 01 30 36.5 +0.1**
CTAO pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
CTAO Charters Tower 66.79 127 *eP* **P 01 30 36.5 0.0**
comp=Z,3.7nm,0.4s,mb4.6
WERN Wernitzgruen 66.86 316 *eP* **P 01 30 37.3 +0.4**
comp=Z,10.0nm,1.1s,mb4.6
WERD Werda 66.88 316 *eP* **P 01 30 36.9 -0.1**
comp=Z,20nm,1.3s,mb4.8
GUNZ Gunzen 66.88 316 *eP* **P 01 30 37.1 +0.1**
comp=Z,13nm,0.7s,mb4.9
ROBS Robic 66.94 312 *iP* **P 01 30 36.7 -0.7**
ROBS *i* pP 01 31 02.5 -1.9
ROTZ Rotzenmuhle 67.07 316 *eP* **P 01 30 39.0 +0.8**
comp=Z,24nm,0.5s,mb5.3
ROTZ *ep*P pP 01 31 04.2 -1.1
MANZ Manzenberg 67.09 316 *eP* **P 01 30 38.9 +0.6**
comp=Z,8.0nm,1.1s,mb4.5
MOX Moxa 67.27 317 *eP* **P 01 30 39.5 0.0**
comp=Z,18nm,1.6s,mb4.7
MOX *ep*P pP 01 31 05.7 -0.8
BSEG Bad Segeberg 67.40 320 *eP* **P 01 30 41.0 +0.7**
comp=Z,35nm,0.9s,mb5.2
BSEG Bad Segeberg 67.40 320 *eP* **P 01 30 41.0 +0.7**
BSEG pmax pmax
comp=Z,35nm,0.9s,mb5.2
GRA1 Grafenberg Arr 67.71 316 *eP* **P 01 30 42.7 +0.5**
comp=Z,13nm,0.8s,mb4.8
GRF Grafenberg Arr 67.71 316 *eP* **P 01 30 42.7 +0.5**
comp=Z,13nm,0.8s,mb4.8
GRF Grafenberg Arr 67.71 316 *eP* **P 01 30 42.7 +0.5**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.8
CLZ Clausthal 67.79 318 *eP* **P 01 30 43.1 +0.4**
comp=Z,21nm,0.6s,mb5.1
CLZ Clausthal 67.79 318 *eP* **P 01 30 43.1 +0.4**
CLZ pmax pmax
comp=Z,21nm,0.6s,mb5.1
AQU L'Aquila 67.88 308⇑ *iP* **P 01 30 43.7 +0.4**
AQU L'Aquila 67.88 308 *eP* **P 01 30 42.5 -0.8**
comp=Z,44nm,1.3s,mb5.1
WTTA Wattenberg 67.97 313⇓ *iP* **P 01 30 43.4 -0.5**
comp=Z,8.4nm,0.6s,mb4.8
WTTA Wattenberg 67.97 313⇓ *iP* **P 01 30 43.4 -0.5**
WTTA pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
FUR Furstenfeldbru 68.01 314 *eP* **P 01 30 44.4 +0.3**
comp=Z,22nm,0.7s,mb5.1
FUR Furstenfeldbru 68.01 314 *eP* **P 01 30 44.4 +0.3**
FUR pmax pmax
comp=Z,22nm,0.7s,mb5.1
SQTA Sankt Quirin 68.27 313⇓ *iP* **P 01 30 45.1 -0.6**
comp=Z,9.6nm,1.0s,mb4.6
SQTA Sankt Quirin 68.27 313⇓ *iP* **P 01 30 45.1 -0.6**
SQTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MOTA Moosalm 68.31 313⇓ *iP* **P 01 30 45.1 -0.8**
comp=Z,12nm,1.0s,mb4.7
MOTA Moosalm 68.31 313⇓ *iP* **P 01 30 45.1 -0.9**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.7
DAVA Damuels 69.13 313⇓ *iP* **P 01 30 50.8 -0.3**
comp=Z,18nm,0.9s,mb4.9
STU Stuttgart 69.22 315 *eP* **P 01 30 51.8 +0.2**
comp=Z,40nm,1.2s,mb5.1
STU Stuttgart 69.22 315 *eP* **P 01 30 51.9 +0.3**
STU pmax pmax
comp=Z,27nm,0.9s,mb5.1
STU Stuttgart 69.22 315 *eP* **P 01 30 51.9 +0.3**
comp=Z,27nm,0.9s,mb5.1
TNS Taunus Mts 69.34 317 *eP* **P 01 30 52.4 0.0**
comp=Z,10.0nm,0.9s,mb4.7
TNS Taunus Mts 69.34 317 *eP* **P 01 30 52.4 0.0**
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BFO Black Forest 69.88 315 *eP* **P 01 30 55.3 -0.4**
comp=Z,22nm,1.4s,mb4.8
BFO Black Forest 69.88 315 *eP* **P 01 30 55.3 -0.4**
BFO pmax pmax
comp=Z,22nm,1.4s,mb4.8
CDF Champ du Feu 70.54 315⇓ *iP* **P 01 30 59.5 -0.2**
comp=Z,17nm,0.6s,mb4.8
CDF Champ du Feu 70.54 315⇓ *iP* **P 01 30 59.5 -0.2**
CDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
CDF Champ du Feu 70.54 315⇓ *iP* **P 01 30 59.5 -0.2**
comp=Z,8.4nm,0.6s,mb4.8
MEM Membach 70.75 318⇑ *iP* **P 01 31 01.5 +0.5**
comp=Z,5.2nm,0.5s,mb4.6
WLF Walferdange 70.92 317 *eP* **P 01 31 02.6 +0.6**
comp=Z,47nm,1.1s,mb5.2
WLF Walferdange 70.92 317⇑ *iP* **P 01 31 02.6 +0.7**
WLF Walferdange 70.92 317 *eP* **P 01 31 02.8 +0.8**
WLF pmax pmax
comp=Z,35nm,0.8s,mb5.2
WLF Walferdange 70.92 317 *eP* **P 01 31 02.8 +0.8**
comp=Z,35nm,0.8s,mb5.2

HINF Hinteralfeld 70.97 315⇓ *iP* **P 01 31 01.8 -0.5**
comp=Z,6.6nm,0.5s,mb4.4
HINF Hinteralfeld 70.97 315⇓ *iP* **P 01 31 01.8 -0.5**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
HINF Hinteralfeld 70.97 315⇓ *iP* **P 01 31 01.8 -0.5**
comp=Z,3.3nm,0.5s,mb4.4
PGF Pioggiola 70.97 309⇓ *iP* **P 01 31 02.3 0.0**
comp=Z,30nm,0.6s,mb5.0
PGF Pioggiola 70.97 309⇓ *iP* **P 01 31 02.3 0.0**
PGF pmax pmax
comp=Z,15nm,0.6s,mb5.0
PGF Pioggiola 70.97 309⇓ *iP* **P 01 31 02.3 0.0**
comp=Z,15nm,0.6s,mb5.0
BCLA Clavier 71.23 317 P **P 01 31 03.9 0.0**
comp=Z,4.2nm,0.6s,mb4.5
HAU Haudompre 71.25 315 *eP* **P 01 31 03.7 -0.3**
comp=Z,8.3nm,0.5s,mb4.5
HAU Haudompre 71.25 315 *eP* **P 01 31 03.7 -0.3**
HAU pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
HAU Haudompre 71.25 315 *eP* **P 01 31 03.7 -0.3**
comp=Z,4.2nm,0.5s,mb4.5
VSL Villasalto 71.57 306 *eP* **P 01 31 05.8 -0.2**
comp=Z,16nm,0.7s,mb5.0
GIVF Givet 71.62 317 *eP* **P 01 31 06.3 +0.1**
STKA Stephens Creek 71.69 139 *eP* **P 01 31 05.8 -0.8**
comp=Z,3.0nm,0.5s,mb4.4
STKA Stephens Creek 71.69 139 P **P 01 31 06.2 -0.4**
comp=Z,3.9nm,0.6s,mb4.5,baz=334,slow=7.2,SNR=11
STKA LR LR 02 04 30.0
comp=Z,80nm,19.3s,baz=206,slow=37
LPG La Plagne 71.69 312⇓ *iP* **P 01 31 07.1 +0.4**
comp=Z,31nm,0.7s,mb4.9
LPG *ep*P pP 01 31 34.9 +0.9
LPG La Plagne 71.69 312⇓ *iP* **P 01 31 07.1 +0.4**
LPG pmax pmax
comp=Z,16nm,0.7s,mb5.0
LPG La Plagne 71.69 312⇓ *iP* **P 01 31 07.1 +0.4**
comp=Z,16nm,0.7s,mb5.0
LPG *ep*P pP 01 31 34.9 +0.9
SBF Sospel 71.70 310 *eP* **P 01 31 06.4 -0.3**
comp=Z,38nm,0.8s,mb5.0
SBF Sospel 71.70 310 *eP* **P 01 31 06.4 -0.3**
SBF pmax pmax
comp=Z,19nm,0.8s,mb5.0
SBF Sospel 71.70 310 *eP* **P 01 31 06.4 -0.3**
comp=Z,19nm,0.8s,mb5.0
LPL La Plagne 71.70 312⇓ *iP* **P 01 31 07.1 +0.4**
comp=Z,27nm,0.5s,mb5.1
LPL La Plagne 71.70 312⇓ *iP* **P 01 31 07.1 +0.4**
LPL pmax pmax
comp=Z,14nm,0.5s,mb5.0
LPL La Plagne 71.70 312⇓ *iP* **P 01 31 07.1 +0.4**
comp=Z,14nm,0.5s,mb5.0
DOU Dourbes 71.76 317⇑ *iP* **P 01 31 07.1 +0.1**
CABF La Chapelle 71.81 313 *eP* **P 01 31 07.4 0.0**
comp=Z,22nm,0.8s,mb4.7
CABF La Chapelle 71.81 313 *eP* **P 01 31 07.4 0.0**
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.7
CABF La Chapelle 71.81 313 *eP* **P 01 31 07.4 0.0**
comp=Z,11nm,0.8s,mb4.7
SNF Seneffe 71.83 318 P **P 01 31 07.5 0.0**
comp=Z,5.6nm,0.9s,mb4.4
BNI Bardonecchia 71.87 312 *eP* **P 01 31 07.7 0.0**
BNI pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
BNI Bardonecchia 71.87 312 *eP* **P 01 31 07.7 0.0**
comp=Z,5.8nm,0.4s,mb4.8
MBDF Montbardon 71.90 311 *eP* **P 01 31 07.0 -0.9**
comp=Z,23nm,0.7s,mb4.8
MBDF Montbardon 71.90 311 *eP* **P 01 31 07.0 -0.9**
MBDF pmax pmax
comp=Z,12nm,0.7s,mb4.8
MBDF Montbardon 71.90 311 *eP* **P 01 31 07.0 -0.9**
comp=Z,12nm,0.7s,mb4.8
MEZF Maizieres J'vi 71.94 316⇓ *iP* **P 01 31 08.2 +0.1**
comp=Z,33nm,0.4s,mb5.3
MEZF *ep*P pP 01 31 36.0 +0.5
BAIF Baives 72.01 317⇓ *iP* **P 01 31 08.6 0.0**
comp=Z,11nm,0.6s,mb4.6
BAIF Baives 72.01 317⇓ *iP* **P 01 31 08.6 0.0**
BAIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BAIF Baives 72.01 317⇓ *iP* **P 01 31 08.6 0.0**
comp=Z,5.3nm,0.6s,mb4.5
FRF La Foret Royal 72.33 310⇓ *iP* **P 01 31 10.1 -0.4**
comp=Z,51nm,1.1s,mb5.0
FRF La Foret Royal 72.33 310⇓ *iP* **P 01 31 10.1 -0.4**
FRF pmax pmax
comp=Z,25nm,1.1s,mb5.0
FRF La Foret Royal 72.33 310⇓ *iP* **P 01 31 10.1 -0.4**
comp=Z,26nm,1.1s,mb5.0
ORIF Oris-en-Rattie 72.45 312 *eP* **P 01 31 10.7 -0.5**
comp=Z,23nm,1.0s,mb4.7
ORIF Oris-en-Rattie 72.45 312 *eP* **P 01 31 10.7 -0.5**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb4.7
ORIF Oris-en-Rattie 72.45 312 *eP* **P 01 31 10.7 -0.5**
comp=Z,12nm,1.0s,mb4.7
LMR La Mourre 72.50 310⇓ *iP* **P 01 31 11.1 -0.3**
comp=Z,48nm,1.1s,mb5.0
LMR La Mourre 72.50 310⇓ *iP* **P 01 31 11.1 -0.3**
LMR pmax pmax
comp=Z,24nm,1.1s,mb4.9
LMR La Mourre 72.50 310⇓ *iP* **P 01 31 11.1 -0.3**
comp=Z,24nm,1.1s,mb4.9
KEST Kesra 72.74 302 P **P 01 31 13.4 +0.6**
comp=Z,11nm,0.8s,mb4.7,baz=324,slow=2.4,SNR=39
SMRF Simiane la Rot 72.95 311⇓ *iP* **P 01 31 14.2 +0.1**
comp=Z,13nm,0.7s,mb4.5
SMRF Simiane la Rot 72.95 311⇓ *iP* **P 01 31 14.2 +0.1**
comp=Z,13nm,0.7s,mb4.9
LOR Lormes 73.07 315⇓ *iP* **P 01 31 14.3 -0.6**
comp=Z,12nm,0.6s,mb4.6
LOR *ep*P pP 01 31 42.0 -0.3
LOR Lormes 73.07 315⇓ *iP* **P 01 31 14.3 -0.6**
LOR pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
LOR Lormes 73.07 315⇓ *iP* **P 01 31 14.3 -0.6**
comp=Z,6.1nm,0.6s,mb4.6
LOR *ep*P pP 01 31 42.0 -0.3
SMF Signal de Mont 73.28 314⇓ *iP* **P 01 31 15.7 -0.4**
comp=Z,25nm,0.6s,mb5.0
SMF Signal de Mont 73.28 314⇓ *iP* **P 01 31 15.7 -0.4**
SMF pmax pmax
comp=Z,13nm,0.6s,mb4.9
SMF Signal de Mont 73.28 314⇓ *iP* **P 01 31 15.7 -0.4**
comp=Z,13nm,0.6s,mb4.9
VIVF Saint-Julien-l 73.29 312⇓ *iP* **P 01 31 15.9 -0.2**
comp=Z,25nm,0.9s,mb4.8
VIVF Saint-Julien-l 73.29 312⇓ *iP* **P 01 31 15.9 -0.2**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb4.7
VIVF Saint-Julien-l 73.29 312⇓ *iP* **P 01 31 15.9 -0.2**
comp=Z,12nm,0.9s,mb4.7
SSF Saint Saulge 73.37 314⇓ *iP* **P 01 31 16.3 -0.3**
comp=Z,25nm,0.6s,mb4.9
SSF Saint Saulge 73.37 314⇓ *iP* **P 01 31 16.3 -0.3**
SSF pmax pmax
comp=Z,12nm,0.6s,mb4.9
SSF Saint Saulge 73.37 314⇓ *iP* **P 01 31 16.3 -0.3**
comp=Z,12nm,0.6s,mb4.9
AVF Avril sur Loir 73.55 314⇓ *iP* **P 01 31 17.3 -0.4**
comp=Z,23nm,0.7s,mb4.7
AVF *ep*P pP 01 31 45.2 0.0
AVF Avril sur Loir 73.55 314⇓ *iP* **P 01 31 17.3 -0.4**
AVF pmax pmax
comp=Z,11nm,0.7s,mb4.7
AVF Avril sur Loir 73.55 314⇓ *iP* **P 01 31 17.3 -0.4**
comp=Z,11nm,0.7s,mb4.7
AVF *ep*P pP 01 31 45.2 0.0
HYF Humbligny 73.86 315 *eP* **P 01 31 19.9 +0.4**
BGF Bois d'Agland 73.96 314⇓ *iP* **P 01 31 19.8 -0.2**
comp=Z,13nm,0.6s,mb4.5
BGF Bois d'Agland 73.96 314⇓ *iP* **P 01 31 19.8 -0.2**
BGF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
BGF Bois d'Agland 73.96 314⇓ *iP* **P 01 31 19.8 -0.2**
comp=Z,6.4nm,0.6s,mb4.5
LASF Ste Croix 74.09 311⇓ *iP* **P 01 31 21.0 +0.2**
comp=Z,15nm,0.6s,mb4.6
LASF *ep*P pP 01 31 48.8 +0.5
TCF Toulx Ste Croi 74.46 314⇓ *iP* **P 01 31 23.1 +0.1**
comp=Z,35nm,0.8s,mb4.9
TCF *ep*P pP 01 31 51.0 +0.5

TCF Toulx Ste Croi 74.46 314⇓ *iP* **P 01 31 23.1 +0.1**
TCF pmax pmax
comp=Z,18nm,0.8s,mb4.8
TCF Toulx Ste Croi 74.46 314⇓ *iP* **P 01 31 23.1 +0.1**
comp=Z,18nm,0.8s,mb4.8
TCF *ep*P pP 01 31 51.0 +0.5
EKA Eskdalemuir Ar 74.54 324 P **P 01 31 23.6 +0.2**
comp=Z,10nm,0.7s,mb4.7,baz=69,slow=6.2,SNR=24
EKA pP pP 01 31 52.4 +1.4
comp=Z,3.7nm,0.7s,baz=67,slow=6.0,SNR=3.3
ESK Eskdalemuir 74.57 324 *eP* **P 01 31 23.9 +0.3**
ESK pmax pmax
comp=Z,13nm,0.7s,mb4.8
ESK Eskdalemuir 74.57 324 *eP* **P 01 31 23.9 +0.3**
comp=Z,13nm,0.7s,mb4.8
CAF Calviac 75.02 313⇓ *iP* **P 01 31 26.5 +0.3**
comp=Z,15nm,0.6s,mb4.6
CAF Calviac 75.02 313⇓ *iP* **P 01 31 26.5 +0.3**
CAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
CAF Calviac 75.02 313⇓ *iP* **P 01 31 26.5 +0.3**
comp=Z,7.4nm,0.6s,mb4.6
LDF La Druitiere 75.17 317⇓ *iP* **P 01 31 26.7 -0.3**
comp=Z,23nm,0.5s,mb4.8
LDF *ep*P pP 01 31 54.6 0.0
LDF La Druitiere 75.17 317⇓ *iP* **P 01 31 26.7 -0.3**
LDF pmax pmax
comp=Z,11nm,0.5s,mb4.8
LDF La Druitiere 75.17 317⇓ *iP* **P 01 31 26.7 -0.3**
comp=Z,11nm,0.5s,mb4.9
LDF *ep*P pP 01 31 54.6 0.0
RJF Les Rejaudoux 75.25 313⇓ *iP* **P 01 31 28.1 +0.6**
comp=Z,29nm,0.7s,mb4.8
RJF *ep*P pP 01 31 55.9 +0.8
RJF Les Rejaudoux 75.25 313⇓ *iP* **P 01 31 28.1 +0.6**
RJF pmax pmax
comp=Z,14nm,0.7s,mb4.8
RJF Les Rejaudoux 75.25 313⇓ *iP* **P 01 31 28.1 +0.6**
comp=Z,14nm,0.7s,mb4.8
RJF *ep*P pP 01 31 55.9 +0.8
FLN La Foliniere 75.33 317 *eP* **P 01 31 27.4 -0.5**
comp=Z,8.5nm,0.4s,mb4.5
MTLF Montolieu 75.46 311⇓ *iP* **P 01 31 28.7 0.0**
comp=Z,40nm,1.0s,mb4.8
MTLF Montolieu 75.46 311⇓ *iP* **P 01 31 28.7 0.0**
MTLF pmax pmax
comp=Z,20nm,1.0s,mb4.8
MTLF Montolieu 75.46 311⇓ *iP* **P 01 31 28.7 0.0**
comp=Z,20nm,1.0s,mb4.8
GRR Gorron 75.69 317⇓ *iP* **P 01 31 29.9 -0.1**
comp=Z,19nm,0.5s,mb4.8
GRR Gorron 75.69 317⇓ *iP* **P 01 31 29.9 -0.1**
GRR pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
GRR Gorron 75.69 317⇓ *iP* **P 01 31 29.9 -0.1**
comp=Z,9.6nm,0.5s,mb4.8
MFF Saint Martin d 75.88 315⇓ *iP* **P 01 31 30.8 -0.3**
comp=Z,5.2nm,0.5s,mb4.2
MFF Saint Martin d 75.88 315⇓ *iP* **P 01 31 30.8 -0.3**
MFF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
MFF Saint Martin d 75.88 315⇓ *iP* **P 01 31 30.8 -0.3**
comp=Z,2.6nm,0.5s,mb4.2
LFF La Frestale 75.89 313⇓ *iP* **P 01 31 31.6 +0.4**
comp=Z,18nm,0.6s,mb4.7
LFF La Frestale 75.89 313⇓ *iP* **P 01 31 31.6 +0.4**
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
LFF La Frestale 75.89 313⇓ *iP* **P 01 31 31.6 +0.4**
comp=Z,8.9nm,0.6s,mb4.4
ETOS Mallorca 76.28 308 P **P 01 31 34.2 +0.8**
comp=Z,2.6nm,0.5s,mb4.2
LSZ Lusaka 76.35 246 P **P 01 31 34.8 +1.1**
SNR=7.0
LSZ Lusaka 76.35 246 *eP* **P 01 31 34.5 +0.8**
LSZ pmax pmax
comp=Z,89nm,0.6s,mb5.7
LSZ Lusaka 76.35 246 *eP* **P 01 31 34.5 +0.7**
comp=Z,89nm,0.6s,mb5.7
EMIR Miracle 76.44 310 P **P 01 31 34.9 +0.7**
comp=Z,5.5nm,0.4s,mb4.6
SGMF Saint Gilles 76.80 317⇓ *iP* **P 01 31 36.5 +0.2**
comp=Z,33nm,0.6s,mb5.0
SGMF Saint Gilles 76.80 317⇓ *iP* **P 01 31 36.5 +0.2**
SGMF pmax pmax
comp=Z,17nm,0.6s,mb5.0
SGMF Saint Gilles 76.80 317⇓ *iP* **P 01 31 36.5 +0.2**
comp=Z,16nm,0.6s,mb4.9
EPF Esparros 76.85 311⇓ *iP* **P 01 31 36.6 0.0**
comp=Z,2.7nm,0.5s,mb4.4
EPF Esparros 76.85 311⇓ *iP* **P 01 31 36.6 0.0**
EPF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
EPF Esparros 76.85 311⇓ *iP* **P 01 31 36.6 0.0**
comp=Z,1.4nm,0.5s,mb4.0
EPOB Poblet 76.95 310 P **P 01 31 37.1 -0.1**
comp=Z,7.3nm,0.6s,mb4.6
ARMA Armidale 77.07 132 *eP* **P 01 31 39.2 +1.4**
EBIE Ielsa 77.11 311 P **P 01 31 38.8 +0.8**
comp=Z,1.8nm,0.5s,mb4.1
ROSF Rostrenen 77.21 317⇓ *iP* **P 01 31 38.8 +0.2**
comp=Z,32nm,0.6s,mb5.0
ROSF Rostrenen 77.21 317⇓ *iP* **P 01 31 38.8 +0.2**
ROSF pmax pmax
comp=Z,16nm,0.6s,mb4.9
ROSF Rostrenen 77.21 317⇓ *iP* **P 01 31 38.8 +0.2**
comp=Z,16nm,0.6s,mb4.9
QUIF Quistinic 77.31 317 *eP* **P 01 31 38.8 -0.3**
comp=Z,5.8nm,0.4s,mb4.4
EMHD Djebel Mahouad 77.46 304 P **P 01 31 41.0 +1.0**
ERTA Horta de San J 77.62 309 P **P 01 31 41.0 +0.1**
comp=Z,1.9nm,0.5s,mb4.1
SJPF Ste Jean 77.88 312 *eP* **P 01 31 42.5 +0.2**
comp=Z,9.1nm,0.6s,mb4.4
SJPF Ste Jean 77.88 312 *eP* **P 01 31 42.5 +0.2**
SJPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SJPF Ste Jean 77.88 312 *eP* **P 01 31 42.5 +0.2**
comp=Z,4.6nm,0.6s,mb4.4
ESAC San Caprasio 77.89 310 P **P 01 31 42.6 +0.2**
comp=Z,10.0nm,0.4s,mb4.9
SUMG Summit 78.03 347 *eP* **P 01 31 43.4 +0.2**
EALK Alkurruntz 78.03 312 P **P 01 31 43.7 +0.5**
comp=Z,2.5nm,0.5s,mb4.2
EMOS Mosqueruela 78.41 309 P **P 01 31 46.3 +1.0**
comp=Z,1.9nm,0.5s,mb4.1
MCK McKinley 78.78 24 *eP* **P 01 31 46.1 -1.1**
comp=Z,0.3nm,0.4s
ECRI Cripan 78.95 312 P **P 01 31 47.7 -0.5**
ECRI pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
ECRI Cripan 78.95 312 P **P 01 31 47.7 -0.5**
comp=Z,4.7nm,0.4s,mb4.7
ELAN Lanestosa 79.33 313 P **P 01 31 50.7 +0.5**
comp=Z,2.1nm,0.5s,mb4.2
ETOR Torete 79.34 310 P **P 01 31 50.5 +0.2**
ETOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ETOR Torete 79.34 310 P **P 01 31 50.5 +0.2**
comp=Z,3.2nm,0.7s,mb4.3
ETOB Tobarra 79.84 308 P **P 01 31 53.9 +0.9**
comp=Z,3.2nm,0.4s,mb4.5
EARI Arriondas 80.48 313 P **P 01 31 57.0 +0.6**
comp=Z,2.0nm,0.6s,mb4.1
EVIA Vianos 80.53 308 P **P 01 31 55.9 -0.8**
EVIA pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
EVIA Vianos 80.53 308 P **P 01 31 55.9 -0.9**
comp=Z,2.6nm,0.8s,mb4.1
GUD Guadarrama 80.87 310 P **P 01 31 57.7 -0.9**
GUD pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
GUD Guadarrama 80.87 310 P **P 01 31 57.7 -0.9**
comp=Z,8.7nm,0.6s,mb4.8
EHUE Huescar 80.93 307 P **P 01 31 57.8 -1.1**
comp=Z,0.8nm,0.4s,mb3.9
ESDC Sonseca Array 81.14 310 P **P 01 32 00.2 +0.3**
comp=Z,2.6nm,0.6s,mb4.2,baz=47,slow=4.6,SNR=37
ESDC Sonseca Array 81.14 310 P **P 01 32 00.2 +0.2**
comp=Z,4.3nm,0.9s,mb4.3
EQES Quesada 81.28 308 P **P 01 32 01.0 +0.3**
comp=Z,2.9nm,0.5s,mb4.4
EBER Berja 81.52 307 P **P 01 32 02.7 +0.7**
comp=Z,9.4nm,0.5s,mb4.9
EBAN Banos Encina 81.65 308 P **P 01 32 01.7 -0.9**
EBAN pmax pmax
comp=Z,4.0nm,0.4s,mb4.6

EBAN	**Banos Encina**	**81.65**	**308**	P		**P**	**01 32 01.7**	**-1.0**
	comp=Z,3.9nm,0.4s,mb4.6							
EPON	**Pontenova**	**81.75**	**314**	P		**P**	**01 32 03.7**	**+0.5**
	comp=Z,2.3nm,0.4s,mb4.4							
ECAL	**Calabor**	**82.08**	**312**	P		**P**	**01 32 05.4**	**+0.5**
	comp=Z,1.6nm,0.4s,mb4.2							
EADA	**Adamuz**	**82.21**	**308**	P		**P**	**01 32 05.9**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.2							
STS	**Santiago**	**82.86**	**314**	P		P	**01 32 08.4**	**-0.6**
STS				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
STS	**Santiago**	**82.86**	**314**	P		**P**	**01 32 08.4**	**-0.6**
	comp=Z,1.6nm,0.4s,mb4.2							
EMAZ	**Mazaricos**	**83.11**	**314**	P		**P**	**01 32 10.4**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.0							
EJIF	**Jimena Fronter**	**83.59**	**307**	P		**P**	**01 32 13.1**	**+0.4**
EJIF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
EJIF	**Jimena Fronter**	**83.59**	**307**	P		**P**	**01 32 13.1**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.1							
EBAD	**Badajoz**	**83.68**	**310**	P		**P**	**01 32 13.4**	**+0.2**
	comp=Z,1.4nm,0.7s,mb3.9							
ESPR	**Espera**	**83.69**	**308**	P		**P**	**01 32 13.9**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.0							
EMIN	**Mina Concepcio**	**83.88**	**309**	P		**P**	**01 32 14.7**	**+0.5**
	comp=Z,2.6nm,0.4s,mb4.4							
MDT	**Midelt**	**84.53**	**304**	P		**P**	**01 32 18.2**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.1,baz=45,slow=7.8,SNR=5.4							
EGRO	**El Granado**	**84.56**	**309**	P		**P**	**01 32 18.6**	**+1.0**
	comp=Z,1.0nm,0.4s,mb4.1							
BOSA	**Boshof**	**85.52**	**236**	P		**P**	**01 32 23.1**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.7,baz=83,slow=4.3,SNR=23							
BOSA				pP		pP	01 32 51.1	+0.5
	comp=Z,16nm,0.8s,baz=62,slow=5.0,SNR=6.8							
TORD	**Torodi Ar. Bea**	**87.61**	**283**	P		**P**	**01 32 33.8**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.5,baz=59,slow=4.0,SNR=65							
TORD				pP		pP	01 33 02.4	+1.5
	comp=Z,1.6nm,0.5s,baz=60,slow=4.4,SNR=3.8							
TORD				PP		PP	01 35 56.3	-2.8
	comp=Z,1.0nm,0.7s,baz=68,slow=6.5,SNR=4.2							
TORD				PKKPbc		PKKPbc	01 50 19.7	-0.4
	comp=Z,0.2nm,0.4s,baz=287,slow=1.6,SNR=12							
PPT	**Papeete**	**119.75**	**97**	*e*LR		LR	01 34 24.2	
	comp=Z,129nm,25.2s							
TXAR	**Lajitas Array**	**123.35**	**20**	PKP		PKPdf	01 38 40.7	-0.1
	comp=Z,0.1nm,0.5s,baz=315,slow=0.1,SNR=2.9							
SDV	**Santo Domingo**	**143.83**	**336**	PKP		PKPdf	01 39 17.4	-1.5
	comp=Z,25nm,0.4s,baz=38,slow=3.0,SNR=48							
SDV				SKPbc		SKPbc	01 42 47.5	-0.2
	comp=Z,12nm,1.1s,baz=43,slow=1.8,SNR=4.6							
SDV	**Santo Domingo**	**143.83**	**336**	PKP		PKPdf	01 39 17.4	-1.5
SDV				SKPbc		SKPbc	01 42 47.5	-0.2
ROSC	**El Rosal**	**148.87**	**339**	PKPbc		PKPbc	01 39 32.9	+1.4
	comp=Z,4.2nm,0.4s,baz=59,slow=12,SNR=4.4							
SIV	**San Ignacio**	**156.04**	**287**	PKPab		PKPab	01 40 06.5	+0.7
	comp=Z,1.8nm,0.9s,baz=93,slow=2.0,SNR=4.3							
ATAH	**Atahualpa**	**161.33**	**339**	PKPab		PKPab	01 40 30.3	+1.5
	comp=Z,5.9nm,0.7s,baz=14,slow=10,SNR=3.5							

MEX 06 01:25:34.4±0.4, 1877N×10360W, h78km±8km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.54**	**154**	*i* P		Pn	01 25 47.1	-1.2
MMIG				*i* S		Sn	01 25 56.7	-1.7
CJM	**Chamela**	**1.54**	**298**	*i* P		Pn	01 25 58.9	-1.3
CJM				*i* S		Sn	01 26 18.1	-1.5
SFJM	**Santa Fe**	**1.78**	**17**	*i* P		Pn	01 26 02.2	-1.1
SFJM				*i* S		Sn	01 26 24.5	-0.8
ANIG	**Ahuacatlan**	**2.43**	**339**	*i* P		Pn	01 26 11.5	-0.4
ANIG				*i* S		Sn	01 26 38.4	-2.4

WEL 06 01:44:16.8±0.6, 3839S×17607E, h136km±4km, ML3.5/14, Error ellipse: s-maj=5.3km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.83**	**82**	PN		Pn	01 44 37.6	-1.3
URZ				SN		Sn	01 44 55.6	+0.1
BKZ	**Black Stump Fm**	**0.85**	**157**	PN		Pn	01 44 39.5	+0.5
BKZ				SN		Sn	01 44 56.1	+0.3
MOVZ	**Moawhango**	**1.05**	**193**	PN		Pn	01 44 40.7	0.0
MOVZ				SN		Sn	01 44 59.0	0.0
MWZ	**Matawai**	**1.15**	**88**	PN		Pn	01 44 42.5	+0.9
MWZ				SN		Sn	01 45 00.9	+0.3
WPHZ	**Waipukurau**	**1.70**	**170**	SN		Sn	01 45 09.9	-1.3
PUZ	**Puketiti**	**1.75**	**80**	SN		Sn	01 45 11.0	-1.1
PXZ	**Pawanui**	**1.76**	**160**	SN		Sn	01 45 11.8	-0.5
MXZ	**Matakaoa Point**	**1.95**	**66**	PN		Pn	01 44 50.3	-0.2
MXZ				SN		Sn	01 45 15.9	-0.4
BFZ	**Birch Farm**	**2.30**	**177**	PN		Pn	01 44 53.2	-1.6
MRZ	**Mangatainoka R**	**2.31**	**189**	PN		Pn	01 44 53.0	-1.8
MRZ				SN		Sn	01 45 21.8	-2.3
KIW	**Kapiti Island**	**2.63**	**200**	PN		Pn	01 44 56.5	-2.4
MTW	**Mount Morrison**	**2.80**	**189**	PN		Pn	01 44 58.5	-2.7
MRW	**Makara Radio**	**3.03**	**200**	PN		Pn	01 45 01.2	-2.8
PAWZ	**Paruwai Farm**	**3.03**	**189**	SN		Sn	01 45 35.8	-4.7
MSWZ	**Moikau Station**	**3.09**	**191**	PN		Pn	01 45 01.7	-3.1
SNZO	**South Karori**	**3.10**	**199**	PN		Pn	01 45 01.9	-3.1
TCW	**Tory Channel**	**3.14**	**205**	PN		Pn	01 45 02.6	-2.8
NNZ	**Nelson**	**3.51**	**215**	SN		Sn	01 45 47.5	-4.0
THZ	**Tophouse**	**4.16**	**215**	*e*PN		Pn	01 45 15.5	-3.3
THZ				SN		Sn	01 46 02.9	-3.9
KHZ	**Kahutara**	**4.47**	**205**	PN		Pn	01 45 18.6	-4.2
KHZ				SN		Sn	01 46 09.0	-5.2
MQZ	**McQueen's Vall**	**5.91**	**205**	SN		Sn	01 46 38.7	-10

*IDC **06** 02:08:43.3±1.4, 2144N×12182E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/20, mbtmp3.7/6, Error ellipse: s-maj=135.4km s-min=19.0km az=67.0*
*ISCJB **06** 02:08:48.6±1.2, 2077N±004×1203E±02, h36km±11km, mb3.8/9, Error ellipse: s-maj=25.7km s-min=6.0km az=177.8*
*MAN **06** 02:08:48.9, 2053N×12002E, h121km, mb3.2, ML4.5, MS6.1*
*NEIC **06** 02:08:50.9±0.7, 2077N×12051E, h35km, mb4.3/3, Error ellipse: s-maj=28.7km s-min=10.9km az=89.0*

ISC 06 02:08:48.7±3.0, 2076N±004×1203E±01, h25km±23km, n16, σ1§21/19, mb3.8/9, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**2.45**	**172**	⇓*i* P		**Pn**	**02 09 25.0**	**-2.1**
SGCP	**Mt. Cagua**	**3.02**	**146**	*e*P		**Pn**	**02 09 35.6**	**+0.6**
ABRA	**Dolores**	**3.13**	**172**	*e*P		**Pn**	**02 09 35.6**	**-0.9**
CVP	**Callao Caves**	**3.38**	**154**	⇓*i* P		**Pn**	**02 09 40.6**	**+0.6**
CVP				*i* S		**Sn**	**02 10 19.5**	**+0.1**
NACB	**Ninganchiao**	**3.61**	**20**	*e*Pn		**Pn**	**02 09 44.2**	**+1.0**
NACB				*e*Sn		**Sn**	**02 10 24.6**	**-0.3**
YHNB	**Yeheng**	**4.02**	**15**	*e*Pn		**Pn**	**02 09 49.7**	**+1.0**
YHNB				*e*Sn		**Sn**	**02 10 34.8**	**-0.3**
MAJO	**Matsushiro**	**22.20**	**41**	P		**P**	**02 13 41.6**	**-1.6**
	25nm,1.8s,mb4.3							
SONM	**Songino Array**	**29.24**	**341**	P		**P**	**02 14 46.1**	**-2.5**
	0.3nm,0.6s,mb3.2,baz=157,slow=7.8,SNR=3.4							
FITZ	**Fitzroy Crossi**	**38.98**	**172**	P		**P**	**02 16 16.0**	**+3.0**
	0.6nm,0.8s,mb3.4,baz=348,slow=9.3,SNR=2.7							
MKAR	**Makanchi Array**	**40.27**	**319**	P		**P**	**02 16 26.7**	**+3.0**
	0.3nm,0.6s,mb3.2,baz=131,slow=6.5,SNR=3.3							
MKAR				PcP		PcP	02 18 27.0	-0.2
	0.4nm,0.6s,baz=60,slow=3.5,SNR=4.2							
WRAB	**Tennant Creek**	**42.73**	**160**	*e*P		**P**	**02 16 43.4**	**-0.5**
	2.2nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**42.74**	**160**	P		**P**	**02 16 43.5**	**-0.5**
	1.8nm,0.5s,mb4.0,baz=342,slow=9.0,SNR=20							
WRA				PcP		PcP	02 18 34.9	-0.3
	0.4nm,0.6s,baz=343,slow=3.5,SNR=4.4							
WB2	**Warramunga Arr**	**42.74**	**160**	*e*P		**P**	**02 16 43.6**	**-0.4**
ASAR	**Alice Springs**	**46.12**	**163**	P		**P**	**02 17 11.1**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=344,slow=6.9,SNR=14							
CTAO	**Charters Tower**	**47.91**	**146**	*e*P		**P**	**02 17 26.5**	**+1.6**
	3.1nm,0.6s,mb4.5							
GERES	**GERESS Array B**	**84.93**	**321**	P		**P**	**02 21 21.4**	**-0.3**
	0.6nm,0.8s,mb3.8,baz=53,slow=5.4,SNR=5.2							

*NEIC **06** 02:19:13.7, 1778N×9486W, h58km, MD3.5(MEX), After MEX.*

MEX 06 02:19:13.7±0.7, 1778N×9486W, h58km±16km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.48**	**58**	*e*P		Pn	02 19 23.5	-1.8
TUIG				*i* S		Sn	02 19 32.2	-1.5
CMIG	**Matias Romero**	**0.69**	**182**	*i* P		Pn	02 19 26.1	-1.5
CMIG				*i* S		Sn	02 19 36.1	-1.6
OXX	**Oaxaca**	**1.91**	**249**	*e*P		Pn	02 19 43.5	-0.4
OXX				*e*S		Sn	02 20 05.5	-1.4
OXX	**Oaxaca**	**1.91**	**249**	*e*P		Pn	02 19 44.0	+0.1
OXX				*e*S		Sn	02 20 05.5	-1.4
VHO	**Vista Hermosa**	**1.93**	**249**	*i* P		Pn	02 19 43.6	-0.5
VHO				*i* S		Sn	02 20 05.2	-2.0

*ISCJB **06** 02:24:46.8±1.8, 3055±0.1×1778W±02, h42km±16km, mb4.5/6, MS3.6/2, Error ellipse: s-maj=30.5km s-min=16.3km az=30.8*
*NEIC **06** 02:24:48.2±1.4, 3038S×17774W, h43km±11km, mb4.7/5, Error ellipse: s-maj=19.1km s-min=11.6km az=111.0*
*IDC **06** 02:24:48.8±2.6, 3033S×17778W, h43km±22km, mb4.3/4, mb1 4.4/5, mb1mx3.9/14, mbtmp4.2/5, ML3.5/1, MS3.7/2, Ms1 3.6/2, ms1mx3.1/15, Error ellipse: s-maj=35.3km s-min=24.1km az=119.0*

ISC 06 02:24:48.0±1.6, 3034S±009×1778W±02, h38km±15km, n20, σ1§03/16, mb4.5/6, MS3.6/2, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**353**	P		**Pn**	**02 25 07.4**	**+0.7**
	181nm,0.3s,baz=125,slow=13,SNR=11							
RAO				S		**Sn**	**02 25 18.7**	**-1.8**
	711nm,0.3s,baz=77,slow=18,SNR=13							
RAO	**Raoul Island**	**1.09**	**353**	*e*Pn		**Pn**	**02 25 07.4**	**+0.7**
RAO				*e*Sn		**Sn**	**02 25 18.2**	**-2.3**
URZ	**Urewera**	**8.97**	**207**	P		**Pn**	**02 26 54.9**	**0.0**
	0.5nm,0.3s,baz=29,slow=23,SNR=3.4							
URZ				S		**Sn**	**02 28 27.4**	**-7.2**
	1.8nm,0.3s,baz=230,slow=22,SNR=8.3							
TBI	**Tubuai**	**26.15**	**81**	*e*LR		LR	02 36 47.7	
	90nm,30.8s							
PPT	**Papeete**	**28.64**	**70**	*e*LR		LR	02 37 50.8	
	86nm,25.8s							
PPT	**Papeete**	**28.64**	**70**	LR		LR	02 39 50.5	
	comp=Z,308nm,18.0s,MS4.0,baz=341,slow=32							
CTA	**Charters Tower**	**33.99**	**279**	*e*P		**P**	**02 31 29.2**	**+1.3**
	4.7nm,0.6s,mb4.6							
CTA	**Charters Tower**	**33.99**	**279**	P		**P**	**02 31 29.7**	**+1.8**
	6.8nm,0.6s,mb4.7,baz=101,slow=10,SNR=13							
CTAO	**Charters Tower**	**33.99**	**279**	*e*P		**P**	**02 31 29.1**	**+1.3**
	7.4nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**34.69**	**257**	⇓*i* P		**P**	**02 31 35.2**	**+1.2**
	5.4nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**34.69**	**257**	P		**P**	**02 31 35.1**	**+1.2**
	8.3nm,0.7s,mb4.8,baz=92,slow=8.9,SNR=16							
STKA				LR		LR	02 43 03.9	
	comp=Z,55nm,19.1s,MS3.3,baz=205,slow=32							
ASAR	**Alice Springs**	**43.32**	**267**	P		**P**	**02 32 45.8**	**-0.3**
	1.7nm,0.6s,mb4.0,baz=104,slow=7.7,SNR=23							
WB2	**Warramunga Arr**	**44.29**	**272**	*e*P		**P**	**02 32 53.1**	**-0.8**
WRA	**Warramunga Arr**	**44.30**	**272**	P		**P**	**02 32 53.3**	**-0.7**
	2.5nm,0.3s,mb4.4,baz=111,slow=8.1,SNR=65							
CASY	**Casey**	**55.29**	**208**	*e*P		**P**	**02 34 16.1**	**-1.4**
	2.0nm,0.5s,mb4.4							
AMTX	**Amarillo**	**96.61**	**53**	*e*P		**P**	**02 38 14.4**	**+0.6**
	2.3nm,0.3s,mb5.1							
JOF	**Joensuu**	**142.43**	**339**	*e*p		PKPdf	02 44 15.9	-0.6
	1.0nm,0.3s							
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc		PKPbc	02 44 19.9	-1.0
	1.3nm,0.4s,baz=25,slow=5.0,SNR=11							
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc		PKPbc	02 44 36.4	-1.1
	0.9nm,0.5s,baz=45,slow=2.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**162.89**	**178**	PKPab		PKPab	02 45 36.2	+1.0
	0.5nm,0.8s,baz=154,slow=3.2,SNR=6.5							

CASC 06 02:48:14.2±1.6, 879N×8247W, h2km±5km, MD3.5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRU	**Baru**	**0.09**	**283**	*e*P		Pg	02 48 17.1	+1.1
CTCR	**Cotoan**	**0.31**	**291**	*e*P		Pg	02 48 20.8	+0.7
DVD	**David**	**0.35**	**177**	*e*P		Pg	02 48 21.8	+1.0
CNI	**Changuinola**	**0.63**	**356**	*e*P		Pg	02 48 27.6	+1.3
LCR2	**La Lucha 2**	**1.79**	**302**	*e*P		Pn	02 48 46.7	+0.6
LCR2				*e*S		Sn	02 49 10.4	+1.0
PRS1	**Puriscal**	**2.17**	**303**	*e*P		Pn	02 48 51.1	-0.3
PRS1				*e*S		Sn	02 49 20.1	+1.3

IDC 06 03:06:27.6±54.0, 1154S×17298E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=937.9km s-min=131.3km az=65.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.29**	**230**	P		P	03 13 24.4	+0.1
	1.9nm,0.8s,baz=45,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**38.04**	**252**	P		P	03 13 48.3	+0.6
	0.4nm,0.3s,baz=85,slow=8.5,SNR=10.0							
ASAR	**Alice Springs**	**39.02**	**247**	P		P	03 13 56.1	+0.2
	1.2nm,0.4s,baz=78,slow=9.3,SNR=20							

*IDC **06** 03:10:52.7±1.7, 1966S×17469W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=38.7km s-min=29.9km az=98.0*
*ISCJB **06** 03:10:56.1±3.9, 1965±0.1×1745W±03, h53km±49km, mb3.9/7, Error ellipse: s-maj=39.9km s-min=18.8km az=8.4*
*NEIC **06** 03:10:57.2±0.7, 1963S×17462W, h35km, mb4.2/1, Error ellipse: s-maj=17.8km s-min=9.9km az=113.0*

ISC 06 03:10:56.5±6.2, 197S±01×1745W±02, h32km±49km, n11, σ0§70/11, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.31**	**25**	Pn		**Pn**	**03 12 28.0**	**+0.7**
	1.1nm,0.3s,baz=47,slow=19,SNR=3.4							
AFI				Sn		**Sn**	**03 13 37.8**	**-0.5**
	2.2nm,0.3s,baz=237,slow=18,SNR=2.7							
RAR	**Rarotonga**	**13.89**	**99**	LR		LR	03 17 44.2	
	comp=Z,47nm,18.9s,baz=96,slow=29							
URZ	**Urewera**	**19.89**	**200**	P		**Pn**	**03 15 25.3**	**-1.5**
	0.6nm,0.3s,baz=292,slow=5.3,SNR=3.3							
RPZ	**Rata Peaks**	**26.84**	**204**	P		**P**	**03 16 35.0**	**+1.1**
	8.6nm,0.9s,mb4.3,baz=275,slow=4.3,SNR=3.3							
CTAO	**Charters Tower**	**36.85**	**263**	*e*P		**P**	**03 18 02.1**	**+0.5**
	1.6nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**41.10**	**244**	P		**P**	**03 18 37.0**	**-0.2**
	1.1nm,0.8s,mb3.5,baz=96,slow=9.2,SNR=3.4							
ASAR	**Alice Springs**	**47.91**	**256**	P		**P**	**03 19 31.9**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=99,slow=7.7,SNR=8.5							
ASAR				PcP		PcP	03 21 01.4	+1.7
	0.4nm,0.5s,baz=109,slow=2.6,SNR=5.0							
WRA	**Warramunga Arr**	**47.97**	**261**	P		**P**	**03 19 31.9**	**-0.2**
	0.3nm,0.3s,mb3.8,baz=95,slow=7.4,SNR=15							
GUMO	**Guam**	**51.89**	**306**	P		**P**	**03 20 01.1**	**-0.8**
	327nm,1.7s							
FITZ	**Fitzroy Crossi**	**56.40**	**261**	P		**P**	**03 20 35.1**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=14,slow=4.2,SNR=2.8							
VNDA	**Vanda**	**59.02**	**186**	P		**P**	**03 20 53.4**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=13,slow=6.9,SNR=6.3							

*IDC **06** 03:22:18.9±1.2, 1066S×12446E, h0km, mb3.7/2, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, ML4.2/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/26, Error ellipse: s-maj=86.8km s-min=24.4km az=66.0*
*NEIC **06** 03:22:23.6±0.6, 1085S×12432E, h35km, mb4.7/1, Error ellipse: s-maj=16.7km s-min=9.2km az=60.0*

ISC 06 03:22:24.0±0.9, 1096S±008×1244E±01, h35km, n16, σ1§74/21, mb4.0/3, MS3.0/2, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.20**	**171**	*e*P		**Pn**	**03 24 09.1**	**+2.4**
	44nm,0.6s							
FITZ				*e*S		**Sn**	**03 25 25.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**7.20**	**171**	Pn		**Pn**	**03 24 09.1**	**+2.4**
	1.6nm,0.3s,baz=353,slow=11,SNR=137							
FITZ				Sn		**Sn**	**03 25 25.9**	**-1.3**
	14nm,0.3s,baz=237,slow=13,SNR=16							
FITZ				LR		LR	03 27 37.0	
	comp=Z,76nm,18.6s,baz=338,slow=42							
KAKA	**Kakadu**	**8.05**	**103**	*e*P		**Pn**	**03 24 24.2**	**+5.8**
	9.0nm,0.3s							
KAKA				*e*S		**Sn**	**03 25 55.9**	**+7.8**
MBWA	**Marble Bar**	**11.10**	**203**	*e*Pn		**Pn**	**03 24 59.9**	**-0.2**
	4.4nm,0.6s							
WRA	**Warramunga Arr**	**13.09**	**134**	Pn		**Pn**	**03 25 28.8**	**+1.5**
	1.2nm,0.3s,baz=313,slow=13,SNR=76							
WRA				Sn		**Sn**	**03 27 47.5**	**-4.0**
	3.8nm,0.3s,baz=302,slow=24,SNR=11							
WB2	**Warramunga Arr**	**13.09**	**134**	*e*P		**Pn**	**03 25 28.5**	**+1.1**
WB2				*e*S		**Sn**	**03 27 49.1**	**-2.6**
ASPA	**Alice Springs**	**15.54**	**146**	*e*P		**Pn**	**03 26 02.2**	**+1.9**
ASPA				*e*S		**S**	**03 28 48.7**	**-17**
AS31	**Alice Springs**	**15.54**	**146**	*e*P		**Pn**	**03 26 02.2**	**+1.8**
AS31				*e*S		**S**	**03 28 48.7**	**-17**
ASAR	**Alice Springs**	**15.54**	**146**	Pn		**Pn**	**03 26 02.1**	**+1.8**
	2.0nm,0.3s,baz=320,slow=12,SNR=12							
ASAR				Sn		**Sn**	**03 28 47.4**	**-4.0**
	0.9nm,0.3s,baz=313,slow=20,SNR=8.6							
ASAR				LR		LR	03 32 40.5	
	comp=Z,83nm,19.0s,baz=222,slow=39							
NWAO	**Narrogin (SRO)**	**22.84**	**196**	LR		LR	03 37 35.8	
	comp=Z,55nm,19.9s,MS3.0,baz=336,slow=40							
CTA	**Charters Tower**	**22.90**	**116**	LR		LR	03 35 39.3	
	comp=Z,69nm,20.5s,MS3.1,baz=237,slow=35							
CASY	**Casey**	**56.06**	**187**	*e*P		**P**	**03 31 58.9**	**-0.5**
	4.5nm,0.5s,mb4.8							
CASY				*e*			03 33 05.1	
SONM	**Songino Array**	**60.68**	**346**	P		**P**	**03 32 30.1**	**-1.5**
	0.3nm,0.6s,mb3.6,baz=168,slow=9.4,SNR=4.2							
MKAR	**Makanchi Array**	**68.70**	**330**	P		**P**	**03 33 22.8**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=138,slow=7.3,SNR=7.6							
MKAR	**Makanchi Array**	**68.70**	**330**	P		**P**	**03 33 22.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**124.04**	**279**	PKP		PKPdf	03 41 20.4	+1.8
	0.5nm,0.5s,baz=83,slow=1.4,SNR=12							

*ISCJB **06** 03:43:20.8±0.4, 5088N±003×6.18E±003, h16km, Error ellipse: s-maj=4.6km s-min=2.5km az=119.8*
*BGR **06** 03:43:21.4±0.8, 5084N×628E, h5km, ML1.9/3, Error ellipse: s-maj=12.2km s-min=4.4km az=115.0*
*BNS **06** 03:43:21.3±0.8, 5087N×626E, h16km±6km, ML1.4*
*LDG **06** 03:43:21.0±0.1, 5087N×626E, h16km, Ml2.2/8, Error ellipse: s-maj=1.4km s-min=0.9km az=128.0*

ISC 06 03:43:20.7±0.4, 5084N±002×622E±003, h16km, n27, σ0§77/45, 5C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DREG	**Dreilaegerbach**	**0.17**	**178**	⇓*i* Pg		**Pg**	**03 43 26.0**	**+1.0**
DREG				*e*Sg		**Sg**	**03 43 29.2**	**+1.2**
	165nm,0.1s							
HGN	**Heimansgroeve**	**0.20**	**248**	⇑*i* Pg		**Pg**	**03 43 25.9**	**+0.5**
	9.9nm,0.2s,baz=57							
HGN				*i* Sg		**Sg**	**03 43 29.2**	**+0.6**
	3.2nm,0.2s							
KLL	**Kalltalsperre**	**0.20**	**163**	⇓*i* Pg		**Pg**	**03 43 26.3**	**+0.9**
KLL				*i* Sg		**Sg**	**03 43 30.0**	**+1.3**
	82nm,0.1s							
BD04	**Gut Margarthen**	**0.25**	**72**	*e*Pg		**Pg**	**03 43 27.3**	**+1.0**
MEM	**Membach**	**0.27**	**211**	⇑P		**Pg**	**03 43 27.2**	**+0.7**
MEM				S		**Sg**	**03 43 31.5**	**+1.1**
	comp=N,36nm,0.2s							
BD11	**Borschemich**	**0.28**	**28**	*i* Pg		**Pg**	**03 43 26.9**	**+0.2**
BD07	**Roetschberg**	**0.31**	**70**	*e*Sg		**Sg**	**03 43 31.7**	**+0.2**
BEBN	**Eben Emael**	**0.35**	**263**	⇑P		**Pg**	**03 43 28.2**	**+0.3**
BEBN				S		**Sg**	**03 43 32.6**	**-0.1**
STB	**Steinbach**	**0.46**	**122**	*e*Pg		**Pg**	**03 43 30.9**	**+0.9**
BNS	**Bensberg**	**0.62**	**78**	*e*Sg		**Sg**	**03 43 41.7**	**+0.6**
	comp=N,18nm,0.5s							
LAUG	**Laupendahl**	**0.69**	**41**	*e*Pg		**Pg**	**03 43 33.7**	**-0.4**
LAUG				*e*Sg		**Sg**	**03 43 42.0**	**-1.3**
	comp=N,17nm,0.2s							
BCLA	**Clavier**	**0.72**	**235**	⇑P		**Pg**	**03 43 35.0**	**+0.3**
BCLA

PEL					AML	AML	03 44 30.9	
	comp=E,406nm,0.3s							
PEL	**Peldehue**	**1.83**	**156**	*eP*	Pn		03 44 03.5	+1.8
PEL				*i* S	Sn		03 44 27.0	+3.0
DSCH	**Colegio Aleman**	**2.11**	**157**	*i* S	Sn		03 44 33.4	+2.7
CLCH	**Cerro Calan**	**2.12**	**156**	*eP*	Pn		03 44 07.2	+1.6
CLCH				*i* S	Sn		03 44 33.8	+2.9
CLCH					AML	AML	03 44 44.7	
	comp=E,276nm,0.6s							
STL	**Santa Lucia**	**2.12**	**159**	*i* S	Sn		03 44 33.5	+2.6
RCDM	**Rinconada Maip**	**2.12**	**163**	*eP*	Pn		03 44 06.8	+1.1
RCDM				*i* S	Sn		03 44 33.8	+2.8
RCDM					AML	AML	03 44 38.8	
	comp=E,194nm,0.2s							
RCDM	**Rinconada Maip**	**2.12**	**163**	*eP*	Pn		03 44 06.8	+1.1
RCDM				*i* S	Sn		03 44 33.8	+2.8
FCH	**Farellones**	**2.15**	**150**	*eP*	Pn		03 44 08.0	+1.9
FCH				*i* S	Sn		03 44 35.0	+3.3
FCH					AML	AML	03 44 39.5	
	comp=E,138nm,0.2s							
ANTU	**Antumapu**	**2.24**	**160**	*i* S	Sn		03 44 36.6	+2.5
ANTU					AML	AML	03 44 48.7	
	comp=E,124nm,0.4s							
TACH	**Talagante**	**2.25**	**166**	*eP*	Pn		03 44 08.4	+1.1
PCH	**Pirque**	**2.33**	**158**	*eP*	Pn		03 44 10.5	+2.0
VACH	**Vallenar**	**2.96**	**14**	*i* S	Sn		03 44 54.1	+2.3

NIED ***06*** *03:56:00,26.70N×126.40E,h5km,Mw4.4 Best double couple: M₀4.48000×10¹⁵ NP1:φs240.00000°,δ69.00000°, λ-103.00000°. NP2:φs92.00000°,δ24.00000°, λ-60.00000°.*

JMA ***06*** *03:56:14.4±0.2,2671N×12635E,h8km±3km,M4.4*

JMA Felt I J1.

MOS ***06*** *03:56:15.1±3.0,2693N×12735E,h33km,mb4.5/2,Error ellipse: s-maj=31.9km s-min=18.4km az=128.5*

ISCJB ***06*** *03:56:16.9±0.8,2662N±006×12643E±004,h23km±6km, mb4.0/12,MS3.9/16,Error ellipse: s-maj=9.3km s-min=5.6km az=2.0*

BJI ***06*** *03:56:18.8,2683N×12658E,h13km,mB4.5,mb4.4,ML4.0, Ms4.3,Msz4.0*

IDC ***06*** *03:56:19.2±7.0,2661N×12644E,h33km±59km,mb3.8/9, mb1 3.9/10,mb1mx3.7/25,mbtmp3.8/10,ML3.2/1,MS3.8/17, Ms1 3.8/17,ms1mx3.6/35,Error ellipse: s-maj=30.5km s-min=14.2km az=62.0*

NEIC ***06*** *03:56:19.7±0.6,2660N×12651E,h35km,mb4.3/2,Error ellipse: s-maj=11.7km s-min=11.1km az=105.0*

ISC 06 03:56:17.8±0.9,2662N±005×12649E±004,h15km±6km, n41,σ1§24/39,mb4.0/12,MS3.9/16,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.39**	**137**	P	**Pg**		**03 56 24.9**	**-0.8**
JKE				S	**Sg**		**03 56 32.3**	**+1.7**
JAGN	**Aguni-jima**	**0.67**	**92**	P	**Pg**		**03 56 29.8**	**-1.2**
JAGN				*eS*	**Sg**		**03 56 40.3**	**+0.7**
NAH1	**Naha**	**1.15**	**111**	P	**Pn**		**03 56 37.9**	**-1.4**
NAH1				S	**Sb**		**03 56 55.0**	**+0.9**
JJT2	**Tamagusuku 2**	**1.23**	**113**	P	**Pn**		**03 56 40.0**	**-0.3**
JJT2				S	**Sb**		**03 56 57.7**	**+1.5**
JIH	**Iheya**	**1.38**	**72**	P	**Pn**		**03 56 41.4**	**-1.1**
JOW	**Kunigami**	**1.61**	**82**	Pn	**Pn**		**03 56 45.4**	**-0.2**
	41nm,0.3s,baz=274,slow=11,SNR=27							
JOW				Sn	**Sn**		**03 57 07.6**	**+1.5**
	57nm,0.3s,baz=102,slow=27,SNR=9.1							
JOW	**Kunigami**	**1.61**	**82**	P	**Pn**		**03 56 45.1**	**-0.5**
JOW				*eS*	**Sn**		**03 57 06.1**	**0.0**
JIJ	**Ishigaki jima**	**3.09**	**224**	P	**Pn**		**03 57 05.5**	**-0.4**
YOJ	**Yonaguni jima**	**3.81**	**236**	P	**Pn**		**03 57 15.6**	**-0.2**
NACB	**Ninganchiao**	**5.05**	**242**	*e*Pn	**Pn**		**03 57 33.8**	**+0.9**
JNU	**Nakatsue**	**7.52**	**29**	Pn	**Pn**		**03 58 07.8**	**+1.1**
	0.4nm,0.3s,baz=242,slow=19,SNR=2.1							
JNU				LR	LR		04 00 48.2	
	comp=Z,1μm,21.9s,baz=82,slow=36							
KSRS	**Korea Array**	**10.87**	**6**	LR	LR		04 03 08.1	
	comp=Z,319nm,20.1s,baz=95,slow=38							
CBIJ	**Chichi jima**	**14.02**	**85**	LR	LR		04 04 21.6	
	comp=Z,60nm,20.9s,baz=133,slow=34							
MJAR	**Matsushiro Arr**	**14.05**	**42**	LR	LR		04 05 35.4	
	comp=Z,188nm,18.1s,baz=240,slow=40							
GYA	**Guiyang**	**17.74**	**274**	P	**Pn**		**04 00 27.2**	**+3.0**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**20.37**	**287**	P	**P**		**04 00 55.1**	**+1.4**
CD2				AP			04 01 03.0	
CD2				XP	sP		04 01 07.2	+7.1
CD2				S	**S**		**04 04 43.5**	**+2.0**
CD2				AMB	AMB			
	comp=Z,30nm,0.9s							
CD2				LR	LR			
	comp=N,590nm,10.2s							
CD2				LR	LR			
	comp=Z,540nm,11.4s,MS4.2							
KMI	**Kunming**	**21.42**	**271**	P	**P**		**04 01 14.9**	**+10**
KMI				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.1							
KMI	**Kunming**	**21.42**	**271**	P	**P**		**04 01 14.9**	**+10**
	comp=Z,12nm,1.1s,mb4.1							
KMI				S	**S**		**04 04 54.1**	**-8.1**
LZH	**Lanzhou**	**21.48**	**302**	*eP*	**P**		**04 01 07.5**	**+1.8**
LZH				AP			04 01 16.0	
LZH				XP	sP		04 01 20.5	+8.4
LZH				AMB	AMB			
	comp=Z,16nm,1.0s,mb4.3							
LZH				AMB	AMB			
	comp=Z,79nm,4.1s							
LZH				LR	LR			
	comp=N,978nm,14.2s							
LZH				LR	LR			
	comp=Z,2μm,15.4s,MS4.5							
LZH	**Lanzhou**	**21.48**	**302**	*eP*	**P**		**04 01 07.5**	**+1.8**
	comp=Z,16nm,1.0s,mb4.3							
LZH				pP			04 01 16.0	
LZH				sP	sP		04 01 20.5	+8.4
LZH				LR	LR			
	comp=Z,2μm,15.4s,MS4.5							
GUMO	**Guam**	**21.55**	**123**	LR	LR		04 07 37.9	
	comp=Z,80nm,19.8s,MS3.1,baz=275,slow=31							
ASAJ	**Asahikawa**	**21.78**	**33**	LR	LR		04 10 30.4	
	comp=Z,111nm,20.2s,MS3.3,baz=235,slow=39							
GTA	**Gaotai**	**25.65**	**307**	*eP*	**P**		**04 01 48.1**	**+1.4**
GTA				AP	pP		04 01 55.3	+3.9
GTA				XP	sP		04 01 59.7	+6.4
GTA				S	**S**		**04 06 22.2**	**+7.8**
GTA				AMB	AMB			
	comp=Z,5.0nm,1.4s,mb3.9							
GTA				AMB	AMB			
	comp=Z,52nm,6.1s							
GTA				LR	LR			
	comp=N,351nm,18.2s,MS4.0							
GTA				LR	LR			
	comp=E,209nm,15.2s,MS4.0							
GTA				LR	LR			
	comp=Z,317nm,14.4s,MS4.0							
SONM	**Songino Array**	**26.40**	**329**	P	**P**		**04 01 54.0**	**+0.4**
	comp=Z,11nm,1.1s,mb4.3,baz=142,slow=9.7,SNR=16							
SONM				PcP	PcP		04 05 16.7	-2.2
	comp=Z,0.1nm,0.4s,baz=92,slow=4.5,SNR=3.7							
SONM				LR	LR		04 13 52.2	
	comp=Z,276nm,18.1s,MS3.8,baz=179,slow=40							
SONM	**Songino Array**	**26.40**	**329**	P	**P**		**04 01 54.0**	**+0.5**
SONM							04 05 16.7	
PSI	**Prapat**	**35.48**	**233**	P	**P**		**04 03 14.1**	**+0.5**
	comp=Z,1.5nm,0.3s,mb4.3,baz=254,slow=0.9,SNR=3.9							
PSI	**Prapat**	**35.48**	**233**	P	**P**		**04 03 14.1**	**+0.5**
MKAR	**Makanchi Array**	**40.12**	**312**	P	**P**		**04 03 50.6**	**-2.2**
	comp=Z,1.8nm,0.8s,mb3.9,baz=97,slow=11,SNR=6.4							
MKAR				LR	LR		04 21 34.9	
	comp=Z,97nm,19.2s,MS3.7,baz=260,slow=38							
ZAL	**Zalesovo**	**41.01**	**323**	P	**P**		**04 03 58.3**	**-1.9**
	comp=Z,1.1nm,0.7s,mb3.6,baz=7.7,slow=7.1,SNR=4.4							
PMG	**Port Moresby**	**41.05**	**148**	LR	LR		04 18 04.4	
	comp=Z,167nm,21.2s,MS3.9,baz=335,slow=32							
FITZ	**Fitzroy Crossi**	**44.46**	**181**	P	**P**		**04 04 25.9**	**-2.3**
	comp=Z,2.7nm,0.7s,mb4.1,baz=355,slow=9.7,SNR=11							
WRA	**Warramunga Arr**	**46.90**	**170**	P	**P**		**04 04 46.5**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.0,baz=351,slow=8.6,SNR=12							
WRA				LR	LR		04 23 37.1	
	comp=Z,84nm,19.8s,MS3.7,baz=10.0,slow=35							
BVAR	**Borovoye Array**	**48.95**	**318**	P	**P**		**04 05 01.3**	**-2.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=54,slow=10,SNR=4.4							
ASAR	**Alice Springs**	**50.50**	**171**	P	**P**		**04 05 15.0**	**-0.1**
	comp=Z,1.2nm,1.0s,mb3.9,baz=358,slow=15,SNR=6.8							
ASAR				LR	LR		04 25 56.0	
	comp=Z,120nm,19.3s,MS3.9,baz=352,slow=35							
STKA	**Stephens Creek**	**59.92**	**165**	P	**P**		**04 06 22.6**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=344,slow=8.9,SNR=5.6							
STKA				LR	LR		04 32 18.6	
	comp=Z,74nm,19.1s,MS3.8,baz=26,slow=36							
STKA	**Stephens Creek**	**59.92**	**165**	P	**P**		**04 06 22.6**	**-0.5**
STKA				LR	LR		04 32 18.6	
ARCES	**ARCESS Array B**	**69.08**	**338**	LR	LR		04 45 16.6	
	comp=Z,155nm,18.2s,MS4.3,baz=189,slow=42							
NOA	**NORSAR Array B**	**78.27**	**333**	LR	LR		04 46 37.6	
	comp=Z,103nm,19.1s,MS4.2,baz=50,slow=39							
GERES	**GERESS Array B**	**83.95**	**322**	LR	LR		04 48 23.8	
	comp=Z,147nm,18.9s,MS4.4,baz=300,slow=37							
SCHQ	**Schefferville**	**98.08**	**8**	LR	LR		04 55 22.1	
	comp=Z,59nm,20.9s,MS4.1,baz=3.4,slow=36							
ESDC	**Sonseca Array**	**99.50**	**323**	LR	LR		04 57 48.5	
	comp=Z,63nm,19.0s,MS4.1,baz=330,slow=37							

IDC ***06*** *03:59:14.7±8.6,3183S×17950W,h268km±92km,mb3.5/3, mb1 3.6/4,mb1mx3.4/13,mbtmp3.4/4,Error ellipse: s-maj=91.9km s-min=40.5km az=179.0*

ISCJB ***06*** *03:59:18.3±2.1,3215S±01×17971W±03,h302km±19km, mb3.8/5,Error ellipse: s-maj=36.2km s-min=19.2km az=31.9*

NEIC ***06*** *03:59:23.3±6.5,3241S×17996E,h323km±44km,mb3.6/1, Error ellipse: s-maj=94.2km s-min=30.3km az=219.0*

ISC 06 03:59:22.1±2.0,324S±01×1798W±03,h321km±18km,n14, σ1§01/14,mb3.8/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.92**	**195**	PN	**Pn**		**04 00 50.5**	**-0.5**
PUZ				SN	**S**		**04 02 02.6**	**-0.3**
URZ	**Urewera**	**6.41**	**202**	P	**Pn**		**04 00 56.5**	**-0.2**
	0.8nm,0.3s,baz=202,slow=6.3,SNR=12							
URZ				S	**S**		**04 02 14.6**	**+1.3**
	2.3nm,0.3s,baz=259,slow=23,SNR=11							
URZ	**Urewera**	**6.41**	**202**	*e*PN	**Pn**		**04 00 55.6**	**-1.1**
MRZ	**Mangatainoka R**	**9.08**	**203**	SN	**S**		**04 03 12.1**	**-0.2**
TCW	**Tory Channel**	**10.03**	**207**	SN	**S**		**04 03 34.9**	**+1.4**
MQZ	**McQueen's Vall**	**12.79**	**205**	SN	**S**		**04 04 33.6**	**-1.6**
STKA	**Stephens Creek**	**32.58**	**260**	P	**P**		**04 05 25.3**	**+1.1**
	5.7nm,1.1s,mb3.7,baz=90,slow=10,SNR=3.7							
STKA	**Stephens Creek**	**32.58**	**260**	*eP*	**P**		**04 05 24.5**	**+0.3**
ASAR	**Alice Springs**	**41.51**	**270**	P	**P**		**04 06 38.5**	**-0.2**
	1.3nm,0.5s,mb3.3,baz=107,slow=7.5,SNR=20							
WRA	**Warramunga Arr**	**42.68**	**275**	P	**P**		**04 06 46.5**	**-1.6**
	2.0nm,0.6s,mb3.5,baz=113,slow=7.7,SNR=27							
SNAA	**Sanae**	**76.24**	**179**	P	**P**		**04 10 35.8**	**+0.1**
	0.9nm,0.7s,mb3.6							
KMI	**Kunming**	**93.34**	**298**	P	**P**		**04 12 02.4**	**+1.4**
	9.0nm,1.1s,mb4.7							
KAF	**Kangasniemi**	**145.84**	**338**	*ep*	PKPbc		04 18 28.9	+5.0
FINES	**FINESS Array B**	**146.41**	**338**	PKPbc	PKPbc		04 18 21.2	-4.3
	4.9nm,1.1s,baz=49,slow=4.0,SNR=7.2							

ISCJB ***06*** *04:17:49.0±0.2, 1101N±003×6245W±003,h116km±2km, mb3.9/17,Error ellipse: s-maj=5.2km s-min=3.9km az=87.1*

NEIC ***06*** *04:17:50.6, 1100N×6245W,h96km,mb4.0/6,MD3.8(TRN), After TRN.*

TRN ***06*** *04:17:50.2, 1098N×6242W,h105km,MD3.8*

FUNV ***06*** *04:17:51.8, 1101N×6242W,h100km,MW3.7*

IDC ***06*** *04:17:51.1±0.9, 1109N×6254W,h123km±8km,mb3.8/9, mb1 3.9/11,mb1mx3.7/22,mbtmp3.7/11,Error ellipse: s-maj=15.5km s-min=6.9km az=131.0*

ISC 06 04:17:50.2±0.2,1102N±003×6245W±003,h109km±2km, n57,σ1§03/78,mb3.9/17,8C-5D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.43**	**149**	*e*P	**Pn**		**04 18 06.5**	**+0.1**
GUIV				*e*S	**Sn**		**04 18 17.9**	**-0.8**
ITEV	**Isla Los Testi**	**0.75**	**297**	*e*P	**Pn**		**04 18 08.8**	**-0.1**
ITEV				*e*S	**Sn**		**04 18 22.9**	**0.0**
TCE	**Chacachacare**	**0.75**	**115**	*e*P	**Pn**		**04 18 08.5**	**-0.4**
TCE				*e*S	**Sn**		**04 18 20.8**	**-2.2**
CRUV	**Carupano**	**0.85**	**246**	*e*P	**Pn**		**04 18 11.0**	**+1.2**
CRUV				*e*S	**Sn**		**04 18 24.1**	**-0.4**
GUNV	**Guanoco**	**0.98**	**210**	*e*P	**Pn**		**04 18 12.4**	**+1.4**
GUNV				*e*S	**Sn**		**04 18 26.6**	**-0.2**
TRN	**Trinidad (W)**	**1.09**	**110**	*i*P	**Pn**		**04 18 11.8**	**-0.5**
TRN				*e*S	**Sn**		**04 18 26.3**	**-2.6**
ALNG	**Atlantic LNG**	**1.12**	**138**	*e*P	**Pn**		**04 18 14.4**	**+1.8**
ALNG				*e*S	**Sn**		**04 18 31.2**	**+1.8**
BUAY	**Buenos Aires**	**1.18**	**140**	*e*P	**Pn**		**04 18 15.4**	**+2.2**
TPP	**Pointe-a-Pierr**	**1.20**	**125**	*e*P	**Pn**		**04 18 13.5**	**0.0**
TPP				*e*S	**Sn**		**04 18 31.3**	**+0.2**
GRW	**Mount Saint Ca**	**1.37**	**34**	*e*P	**Pn**		**04 18 15.4**	**-0.1**
GRW				*e*S	**Sn**		**04 18 34.1**	**-0.4**
GRHS	**Sauteurs**	**1.44**	**33**	*e*P	**Pn**		**04 18 16.0**	**-0.2**
GRHS				*e*S	**Sn**		**04 18 35.7**	**-0.2**
TBH	**Brigand Hill**	**1.46**	**111**	*i*P	**Pn**		**04 18 15.9**	**-0.6**
TBH				*e*S	**Sn**		**04 18 36.0**	**-0.3**
GRSS	**Sisters**	**1.51**	**33**	*i*P	**Pn**		**04 18 17.9**	**+0.8**
GRIC	**Isle de Caille**	**1.52**	**34**	*i*P	**Pn**		**04 18 18.0**	**+0.9**
TPR	**Prospect**	**1.65**	**84**	*e*P	**Pn**		**04 18 17.8**	**-1.0**
TPR				*e*S	**Sn**		**04 18 39.7**	**-0.8**
PCRV	**Puerto La Cruz**	**2.31**	**249**	P	**Pn**		**04 18 28.9**	**+1.8**
	13nm,0.3s,baz=111,slow=3.7,SNR=116							
PCRV				S	**Sn**		**04 18 55.9**	**+0.6**
	70nm,0.3s,baz=237,slow=19,SNR=35							
PCRV	**Puerto La Cruz**	**2.31**	**249**	*e*P	**Pn**		**04 18 28.0**	**+0.9**
PCRV				*e*S	**Sn**		**04 18 53.5**	**-1.9**
FCV	**Fort Charlotte**	**2.43**	**29**	*e*P	**Pn**		**04 18 29.1**	**+0.4**
FCV				*e*S	**Sn**		**04 18 57.0**	**-1.2**
SVB	**Belmont**	**2.53**	**27**	*e*P	**Pn**		**04 18 30.4**	**+0.5**
SVB				*e*S	**Sn**		**04 19 02.3**	**+1.9**
SSV	**Crater Summit**	**2.60**	**28**	*e*P	**Pn**		**04 18 31.2**	**+0.3**
SSV				*e*S	**Sn**		**04 19 04.6**	**+2.4**
GURV	**El Guri**	**3.30**	**191**	*e*P	**Pn**		**04 18 39.9**	**-0.2**
CUPV	**Cepira**	**3.42**	**254**	*e*P	**Pn**		**04 18 43.4**	**+1.6**
BBGH	**Gun Hill**	**3.53**	**53**	*e*Pn	**Pn**		**04 18 42.8**	**-0.4**
BIM	**Bigot**	**3.73**	**21**	*i*P	**Pn**		**04 18 45.6**	**-0.2**
MVM	**Montagne Vaucl**	**3.83**	**23**	*e*P	**Pn**		**04 18 47.2**	**0.0**
FDF	**Fort de France**	**3.90**	**19**	*i*P	**Pn**		**04 18 48.2**	**0.0**
FDF				*e*S	**Sn**		**04 19 29.7**	**-3.5**
MERV	**Las Mercedes**	**4.18**	**245**	*e*P	**Pn**		**04 18 52.4**	**+0.5**
MERV				*e*S	**Sn**		**04 19 37.2**	**-2.5**
MTP	**Monte Pirata**	**7.65**	**337**	*e*Pn	**Pn**		**04 19 39.8**	**+0.8**
CPD	**Cerro la Pandu**	**7.74**	**335**	*e*Pn	**Pn**		**04 19 40.2**	**+0.1**
SDV	**Santo Domingo**	**8.34**	**256**	P	**Pn**		**04 19 47.5**	**-0.8**
	0.6nm,0.3s,baz=107,slow=3.5,SNR=4.9							
SDV				S	**Sn**		**04 21 17.7**	**-3.0**
	5.5nm,0.3s,baz=252,slow=9.3,SNR=12							
SDV	**Santo Domingo**	**8.34**	**256**	P	**Pn**		**04 19 47.5**	**-0.8**
SDV				*e*Sn	**Sn**		**04 21 17.3**	**-3.3**
SDV				S	**Sn**		**04 21 17.7**	**-3.0**
OTAV	**Otavalo**	**19.17**	**237**	*e*P	**P**		**04 22 04.9**	**-0.3**
	1.8nm,0.6s							
ATAH	**Atahualpa**	**23.92**	**222**	P	**P**		**04 22 57.8**	**+3.7**
	4.7nm,0.7s,mb4.0,baz=23,slow=11,SNR=4.8							
TGUH	**Tegucigalpa,Un**	**24.42**	**280**	*e*P	**P**		**04 22 58.7**	**+0.1**
	11nm,0.8s,mb4.2							
TEIG	**Tepich**	**26.47**	**293**	*e*P	**P**		**04 23 18.2**	**+1.1**
	4.1nm,0.3s,mb4.3							
SIV	**San Ignacio**	**26.87**	**177**	P	**P**		**04 23 21.8**	**+1.1**
	2.0nm,0.6s,mb3.8,baz=11,slow=10,SNR=16							
LPAZ	**La Paz**	**27.71**	**192**	*e*P	**P**		**04 23 29.1**	**+0.9**
	0.7nm,0.6s,mb3.4							
LVC	**Limon Verde**	**34.02**	**191**	*e*P	**P**		**04 24 24.5**	**+0.8**
	2.4nm,0.8s,mb4.1							
TXAR	**Lajitas Array**	**42.49**	**302**	P	**P**		**04 25 34.6**	**0.0**
	1.2nm,0.5s,mb3.9,baz=126,slow=8.3,SNR=30							
TXAR				PcP	PcP		04 27 24.7	-0.8
	0.6nm,0.5s,baz=115,slow=5.3,SNR=9.1							
TXAR	**Lajitas Array**	**42.49**	**302**	P	**P**		**04 25 34.6**	**0.0**
TXAR				PcP	PcP		04 27 24.7	-0.8
CFAA	**Coronel Fontan**	**42.74**	**187**	P	**P**		**04 25 35.2**	**-1.4**
	0.2nm,0.8s,mb2.9,baz=7.7,slow=15,SNR=3.8							
SCHQ	**Schefferville**	**43.84**	**356**	P	**P**		**04 25 44.9**	**-0.6**
	2.9nm,0.8s,mb4.1,baz=205,slow=18,SNR=4.5							
MNTX	**Cornudas Mount**	**44.60**	**304**	*e*P	**P**		**04 25 50.5**	**-1.0**
	1.6nm,0.7s,mb3.9							
BNM	**Barren Site**	**46.37**	**307**	*e*P	**P**		**04 26 05.8**	**+0.4**
LPM	**Los Pinos Moun**	**46.42**	**307**	*e*P	**P**		**04 26 06.1**	**+0.2**
LAZ	**Ladron**	**46.85**	**307**	*e*P	**P**		**04 26 08.7**	**-0.6**
ULM	**Lac du Bonnet**	**47.81**	**331**	P	**P**		**04 26 14.2**	**-2.5**
	2.2nm,0.3s,mb4.4,baz=112,slow=8.6,SNR=13							
PDAR	**Pinedale Array**	**51.65**	**317**	P	**P**		**04 26 44.0**	**-1.7**
	2.5nm,0.7s,mb4.4,baz=115,slow=9.2,SNR=26							
PDAR				PcP	PcP		04 27 55.6	-2.3
	0.4nm,0.6s,baz=104,slow=7.5,SNR=2.6							
DAU	**Daniels Canyon**	**51.95**	**313**	*e*P	**P**		**04 26 48.2**	**+0.2**
MSU	**Marysvale**	**52.00**	**311**	*e*P	**P**		**04 26 48.5**	**+0.1**
ARUT	**Antelope Range**	**52.74**	**309**	*e*P	**P**		**04 26 53.8**	**0.0**
TORD	**Tordi Ar. Bea**	**52.61**	**81**	P	**P**		**04 28 03.0**	**0.0**
	0.2nm,0.3s,mb3.5,baz=287,slow=6.6,SNR=16							
ARCES	**ARCESS Array B**	**79.04**	**21**	P	**P**		**04 29 42.7**	**+0.4**
	2.5nm,0.8s,mb4.1,baz=296,slow=4.1,SNR=5.6							
FINES	**FINESS Array B**	**79.71**	**29**	P	**P**		**04 29 45.1**	**-0.8**
	1.9nm,0.4s,mb4.3,baz=274,slow=4.8,SNR=17							
KAF	**Kangasniemi**	**79.77**	**29**	*ep*	PcP		04 29 57.2	+3.6
JOF	**Joensuu**	**81.99**	**27**	*ep*	**P**		**04 29 53.6**	**-4.5**
	1.3nm,0.4s,mb4.1							
BRTR	**Keskin Array B**	**87.67**	**50**	P	**P**		**04 30 26.9**	**+0.3**
	0.5nm,0.6s,mb3.7,baz=277,slow=6.3,SNR=2.8							

SZGRF ***06*** *04:38:40.9, 1921S×17774W,h33km,Fiji Islands region*

BGS ***06*** *04:39:38.5, 1749S×17859W,h488km,mb4.7(NEIC)*

NEIC ***06*** *04:39:39.1±1.7, 1749S×17859W,h488km±18km,mb4.7/40, Error ellipse: s-maj=20.2km s-min=6.7km az=151.0*

BJI ***06*** *04:39:39.1, 1750S×17860W,h488km,mB4.7,mb4.6*

MOS ***06*** *04:39:40.4±1.8, 1711S×17869W,h494km,mb4.7/17, Error ellipse: s-maj=13.4km s-min=7.7km az=49.2*

IDC ***06*** *04:39:46.3±1.1, 1814S×17841W,h595km±12km,mb4.4/11, mb1 4.5/13,mb1mx4.2/18,mbtmp4.4/13,Error ellipse: s-maj=15.0km s-min=8.8km az=143.0*

ISCJB ***06*** *04:39:46.4±1.0, 178S±01×17867W±006,h596km±13km, mb4.7/57,Error ellipse: s-maj=17.8km s-min=5.4km az=132.6*

ISC 06 04:39:47.6±1.0,177S±01×17868W±006,h591km±12km, n516,σ0§62/363,mb4.7/57,125C-113D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**61**	P	**P**		**04 41 42.2**	**-0.8**
	9.1nm,0.3s,baz=344,slow=2.6,SNR=16							
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**		**04 42 53.1**	**+0.2**
	5.2nm,0.3s,baz=79,slow=22,SNR=43							
URZ	**Urewera**	**20.83**	**189**	P	**P**		**04 43 44.1**	**-5.0**
	5.7nm,0.5s,baz=4.2,slow=2.3,SNR=6.8							
URZ				S	**S**		**04 46 54.6**	**-9.2**
	7.3nm,0.7s,baz=221,slow=19,SNR=3.8							
ARMA	**Armidale**	**29.83**	**239**	*i*P	**P**		**04 45 08.8**	**+0.6**
CTA	**Charters Tower**	**33.23**	**260**	*i*P	**P**		**04 45 37.7**	**+0.6**
	34nm,0.5s,mb5.2							
CTA	**Charters Tower**	**33.23**	**260**	P	**P**		**04 45 37.5**	**+0.4**
	45nm,0.6s,mb5.3,baz=89,slow=10,SNR=98							
CTA				ScP	ScP		04 50 52.1	+1.8
	2.6nm,0.5s,baz=146,slow=3.6,SNR=4.0							
CTA	**Charters Tower**	**33.23**	**260**	*i*P	**P**		**04 45 37.7**	**+0.6**
CTA				pmax	pmax			
	comp=Z,34nm,0.5s							
CTAO	**Charters Tower**	**33.23**	**260**	*e*P	**P**		**04 45 37.2**	**+0.1**
CNB	**Canberra Magne**	**33.36**	**232**	*i*P	**P**		**04 45 38.2**	**+0.1**
	comp=Z,65nm,0.6s,mb5.4							
PMG	**Port Moresby**	**34.17**	**279**	P	**P**		**04 45 47.2**	**+2.3**
	comp=Z,145nm,0.8s,mb5.7,baz=82,slow=5.9,SNR=51							
PMG	**Port Moresby**	**34.17**	**279**	*i*P	**P**		**04 45 47.3**	**+2.4**
PMG	**Port Moresby**	**34.17**	**279**	*e*P	**P**		**04 45 47.4**	**+2.5**
TAU	**Tasmania Unive**	**38.23**	**222**	*e*P	**P**		**04 46 16.5**	**-1.8**
TAU				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.6							
TAU	**Tasmania Unive**	**38.23**	**222**	*e*P	**P**		**04 46 16.5**	**-1.8**
	comp=Z,15nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**38.51**	**241**	*i*P	**P**		**04 46 20.9**	**+0.4**
	comp=Z,44nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**		**04

GASB **Alder Springs** 77.28 41 ⇑P P 04 50 42.4 +0.5
baz=78,SNR=7.8
ARVC **Arvin** 77.32 47 ⇑P P 04 50 42.1 0.0
baz=78,SNR=5.9
109C **Camp Elliot, M** 77.37 49 ⇑P P 04 50 42.2 -0.3
baz=78
MWC **Mount Wilson** 77.38 48 eP P 04 50 42.5 0.0
S05C **Merced** 77.51 44 ⇓P P 04 50 43.1 -0.1
baz=78
VES **Vestal, Richgr** 77.53 46 P P 04 50 42.9 -0.3
baz=78,SNR=11
O02C **Red Bluff** 77.55 41 ⇑P P 04 50 44.1 +0.7
baz=78,SNR=11
BAR **Barrett** 77.58 50 eP P 04 50 43.5 -0.1
NJ2 **Nanjing** 77.60 310 eP P 04 50 44.4 +0.7
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
N02C **Big Bar** 77.61 40 ⇓P P 04 50 43.9 +0.1
baz=78
R04C **Big Horse Ranc** 77.62 43 ⇓P P 04 50 43.5 -0.3
baz=78
SUTB **Sutter Butte** 77.63 42 ⇓P P 04 50 43.4 -0.5
baz=78
MURC **Murrieta** 77.67 49 ⇓P P 04 50 43.9 -0.1
baz=78,SNR=6.0
Q04C **Lincoln** 77.67 42 ⇑P P 04 50 43.7 -0.3
baz=78
BFSC **Mount Baldy St** 77.67 48 P P 04 50 43.4 -0.7
baz=78,SNR=9.9
RCTC **Rector, Farmer** 77.67 45 ⇓P P 04 50 43.7 -0.4
baz=78
T06C **Millerton Lake** 77.73 45 ⇑P P 04 50 44.2 -0.2
baz=78,SNR=14
EDW2 **Edwards Air Fo** 77.77 47 ⇑P P 04 50 44.5 -0.1
baz=78,SNR=21
ISA **Isabella** 77.85 46 eP P 04 50 45.3 +0.3
ISA **Isabella** 77.85 46 P P 04 50 45.4 +0.4
baz=78,SNR=22
CMB **Columbia Colle** 77.85 43 eP P 04 50 45.0 0.0
CMB **Columbia Colle** 77.85 43 P P 04 50 45.1 0.0
baz=78,SNR=18
MDJ **Mudanjiang** 77.86 325 P P 04 50 46.9 +1.8
MDJ AMB AMB
comp=Z,16nm,0.7s,mb4.6
MDJ **Mudanjiang** 77.86 325 eP P 04 50 46.4 +1.3
MONP **Monument Peak** 77.87 50 ⇑P P 04 50 45.5 +0.4
baz=78,SNR=14
OHCM **Honcut** 77.88 42 eP P 04 50 43.8 -1.4
O03C **Acorn Hollow,** 77.92 41 ⇑P P 04 50 45.6 +0.2
baz=78
WDC **Whiskeytown Da** 77.94 40 eP P 04 50 46.0 +0.5
WDC **Whiskeytown Da** 77.94 40 ⇑P P 04 50 45.6 +0.1
baz=78,SNR=6.6
DVTC **Desert V Tower** 77.98 50 ⇓P P 04 50 45.9 +0.2
baz=78,SNR=6.3
ORV **Oroville** 78.00 42 P P 04 50 45.8 0.0
baz=78,SNR=11
HELL **Mitchell Peak,** 78.02 45 ⇑P P 04 50 45.5 -0.4
baz=78,SNR=11
LAVA **Lava Cap Winer** 78.03 43 ⇑P P 04 50 45.8 -0.1
baz=78,SNR=6.2
S06C **San Francisco** 78.12 44 P P 04 50 46.8 +0.3
baz=78,SNR=11
KCC **Kaiser Creek** 78.17 44 ⇓P P 04 50 46.8 0.0
baz=78,SNR=12
PFO **Pinyon Flat Ob** 78.20 49 ⇓P P 04 50 47.0 0.0
baz=78
M02C **Callahan** 78.23 39 ⇓P P 04 50 47.5 +0.5
baz=78,SNR=6.0
L02A **Cave Junction** 78.23 39 ⇑P P 04 50 47.2 +0.1
baz=78
KDAK **Kodiak Island** 78.25 14 P P 04 50 46.6 -0.6
comp=Z,13nm,0.7s,mb4.5,baz=327,slow=2.2,SNR=9.3
LRMC **Laurel Mountai** 78.29 47 ⇓P P 04 50 47.3 -0.1
baz=78,SNR=9.0
SWSC **Sam W. Stewart** 78.34 50 ⇓P P 04 50 47.5 -0.2
baz=78,SNR=6.5
P05C **Yuba Gap, Truc** 78.42 42 ⇓P P 04 50 48.2 +0.1
baz=79,SNR=7.8
R05C **Kirkwood Meado** 78.43 43 P P 04 50 48.4 +0.3
baz=79,SNR=17
YBH **Yreka Blue Hor** 78.52 39 eP P 04 50 49.1 +0.5
YBH pmax pmax
comp=Z,17nm,0.7s
YBH **Yreka Blue Hor** 78.52 39 eP P 04 50 49.1 +0.5
comp=Z,17nm,0.7s,mb4.5
YBH **Yreka Blue Hor** 78.52 39 ⇓P P 04 50 49.1 +0.5
baz=79,SNR=11
CWC **Cottonwood Cre** 78.53 46 ⇑P P 04 50 48.4 -0.2
baz=79
O05C **Quincy** 78.60 42 ⇑P P 04 50 49.2 +0.2
baz=79,SNR=12
M03C **McCloud** 78.60 40 P P 04 50 49.5 +0.4
baz=79,SNR=10
MLAC **Mammoth Lakes** 78.66 44 ⇑P P 04 50 49.9 +0.6
baz=79,SNR=6.8
K02A **Glendale** 78.67 38 ⇓P P 04 50 49.5 +0.1
baz=79
MTUM **Tungsten Hills** 78.69 45 eP P 04 50 50.1 +0.6
O04C **Chester** 78.69 41 P P 04 50 49.9 +0.3
baz=79,SNR=27
BELC **Belle Mtn.** 78.73 49 ⇑P P 04 50 49.7 0.0
baz=79,SNR=9.9
WAKR **Walker** 78.73 43 eP P 04 50 51.6 +1.8
MPMC **Manual Prospec** 78.74 46 ⇑P P 04 50 49.9 +0.1
baz=79,SNR=12
R06C **Coleville** 78.74 43 ⇓P P 04 50 50.0 +0.3
baz=79,SNR=15
HATC **Hat Creek Radi** 78.74 41 ⇑P P 04 50 50.1 +0.3
baz=79,SNR=7.3
TIN **Tinemaha** 78.76 45 ⇑P P 04 50 50.0 +0.2
baz=79
R07C **Lee Vining** 78.77 44 ⇑P P 04 50 50.2 +0.3
baz=79,SNR=20
GSC **Goldstone** 78.82 47 eP P 04 50 50.6 +0.4
GSC **Goldstone** 78.82 47 ⇓P P 04 50 50.2 0.0
baz=79
HUMO **Hull Mountain** 78.89 38 eP P 04 50 50.6 +0.1
comp=Z,22nm,1.0s,mb4.4
HUMO **Hull Mountain** 78.89 38 ⇑P P 04 50 51.0 +0.5
baz=79,SNR=8.3
BEKR **Beckwourth** 78.90 42 P P 04 50 50.9 +0.3
baz=79,SNR=25
HEC **Hector,Ludlow** 78.91 48 ⇑P P 04 50 50.6 -0.1
baz=79
BC3 **Big Chuckw Mtn** 78.95 49 ⇑P P 04 50 51.2 +0.3
baz=79,SNR=6.7
WCN **Washoe City** 78.97 43 P P 04 50 51.5 +0.5
baz=79,SNR=19
J02A **Umpqua** 78.98 38 ⇑P P 04 50 51.4 +0.4
baz=79
S08C **White Mtn Res** 79.03 45 P P 04 50 51.9 +0.6
baz=79,SNR=19
M04C **Macdoel** 79.07 40 ⇑P P 04 50 51.7 +0.1
baz=79,SNR=7.2
P06A **Stead Airport,** 79.09 42 ⇑P P 04 50 51.9 +0.3
baz=79,SNR=5.7
ELFS **Eagle Lake Fie** 79.09 41 ⇓P P 04 50 51.8 +0.2
baz=79,SNR=8.8
GLA **Glamis** 79.11 50 eP P 04 50 52.7 +1.0
GLA **Glamis** 79.11 50 ⇑P P 04 50 52.3 +0.6
baz=79,SNR=5.6
I02A **Mapleton** 79.22 37 ⇓P P 04 50 52.6 +0.3
baz=79
L04A **Klamath Falls** 79.27 39 P P 04 50 52.9 +0.3
baz=79,SNR=7.6
GRAC **Grapevine Rang** 79.31 46 ⇓P P 04 50 53.2 +0.4
baz=80,SNR=13
J03A **Ideyld Park** 79.34 38 ⇑P P 04 50 53.2 +0.3
baz=80
FURC **Furnace Creek,** 79.38 46 P P 04 50 53.3 +0.2
baz=80,SNR=6.2
O06A **Flanigan** 79.40 42 P P 04 50 53.5 +0.3
baz=80,SNR=31
IRM **Iron Mountain** 79.42 49 ⇓P P 04 50 53.5 +0.2
baz=80,SNR=8.8
SHOC **Shoshone** 79.49 47 ⇓P P 04 50 53.5 -0.3
baz=80,SNR=6.9
TUQ **Turquoise Mtn.** 79.51 48 ⇓P P 04 50 53.9 +0.1
baz=80,SNR=13
M06C **Likely Place G** 79.58 41 ⇓P P 04 50 54.5 +0.3
baz=80,SNR=16
K04A **Chilquin** 79.62 39 ⇓P P 04 50 54.6 +0.2
baz=80
P07A **Fallon** 79.66 43 ⇑P P 04 50 55.0 +0.4
baz=80
Y12C **Blythe** 79.67 50 ⇓P P 04 50 54.7 +0.1
baz=80,SNR=9.1

CN2 **Changchun** 79.69 322 eP P 04 50 55.8 +1.0
N06A **Buffalo Meadow** 79.72 41 ⇑P P 04 50 55.1 +0.1
baz=80,SNR=19
U10A **Ash Meadows, A** 79.72 47 ⇓P P 04 50 55.3 +0.4
baz=80,SNR=8.9
S09A **Goldfield** 79.79 45 P P 04 50 55.2 -0.1
baz=80,SNR=6.6
L05A **Lakeview** 79.84 40 ⇑P P 04 50 56.0 +0.5
baz=80,SNR=10
Q08A **Gabbs** 79.92 44 P P 04 50 56.1 +0.2
baz=80,SNR=15
O07A **Toulon** 80.01 42 P P 04 50 56.7 +0.3
baz=80,SNR=22
MOD **Modoc** 80.08 40⇓ eP P 04 50 56.7 -0.1
comp=Z,11nm,0.7s,mb4.3
MOD **Modoc** 80.08 40 ⇓P P 04 50 57.0 +0.2
baz=80,SNR=18
R09A **Tonopah** 80.16 45 ⇓P P 04 50 57.3 0.0
baz=80,SNR=9.5
W12A **Cal Nev Ari** 80.18 48 ⇓P P 04 50 57.4 +0.1
baz=80
Y13A **Salome** 80.21 50 ⇑P P 04 50 57.6 +0.2
baz=80
PDMCI **Parker Dam,Lak** 80.22 49 ⇓P P 04 50 58.0 +0.5
baz=80
P08A **Dixie Valley** 80.27 43 ⇓P P 04 50 58.3 +0.5
baz=80
N07B **Gerlach** 80.29 42 P P 04 50 58.0 +0.2
baz=80,SNR=11
Q09A **Carvers** 80.40 44 ⇑P P 04 50 58.8 +0.3
baz=81
V12A **Nelson** 80.41 48 P P 04 50 58.9 +0.3
baz=80,SNR=5.8
M07A **Soldier Meadow** 80.50 41 ⇑P P 04 50 59.2 +0.3
baz=81,SNR=20
H04A **Detroit Lake** 80.57 37 ⇓P P 04 50 59.0 -0.4
baz=81,SNR=9.9
SHPR **Sheep Range** 80.58 47 eP P 04 51 01.2 +1.8
X13A **Yucca** 80.58 49 ⇓P P 04 50 59.6 +0.2
baz=81,SNR=9.1
K06A **Valley Falls** 80.62 39 ⇑P P 04 50 59.8 +0.2
baz=81,SNR=14
Z14A **Wintersburg** 80.64 51 ⇓P P 04 51 00.2 +0.5
baz=81,SNR=7.3
SVW2 **Sparrevohn** 80.67 11 eP P 04 50 58.5 -1.4
R10A **Warm Springs** 80.70 45 ⇓P P 04 51 00.6 +0.6
baz=81,SNR=26
L07A **Adell** 80.74 40 ⇓P P 04 51 00.7 +0.5
baz=81,SNR=26
W13A **Hualapai Mount** 80.79 49 ⇑P P 04 51 00.8 +0.3
baz=81,SNR=5.3
I05A **Bend** 80.80 38 ⇓P P 04 51 00.7 +0.2
baz=81
P09A **Austin** 80.81 44 ⇓P P 04 51 00.7 +0.1
baz=81
N08A **GE Springer Mi** 80.82 42 ⇑P P 04 51 00.8 +0.2
baz=81,SNR=13
115A **Sonoran Desert** 80.86 52 ⇓P P 04 51 01.0 +0.2
baz=81
Y14A **Wickenburg** 80.87 50 ⇓P P 04 51 00.8 -0.1
baz=81
MA2 **Magadan** 80.92 345 eP P 04 51 00.0 -1.1
J06A **Christmas Vall** 80.94 39 ⇓P P 04 51 01.0 -0.2
baz=81,SNR=10
U12A **Valley of Fire** 80.98 47 ⇑P P 04 51 01.5 +0.1
baz=81,SNR=7.5
M08A **Happy Creek Ra** 81.03 41 ⇑P P 04 51 02.0 +0.3
baz=81,SNR=9.2
O09A **Fish Creek Ran** 81.10 43 P P 04 51 02.1 0.0
baz=81,SNR=12
H05A **Madras** 81.10 38 ⇑P P 04 51 02.1 0.0
baz=81
K07A **Rock Creek Ran** 81.17 40 ⇓P P 04 51 02.7 +0.3
baz=81,SNR=18
F04A **Amboy** 81.18 36 ⇑P P 04 51 02.5 0.0
baz=81
116A **Eloy** 81.19 52 P P 04 51 03.1 +0.6
baz=81,SNR=10
X14A **Yava** 81.20 50 ⇑P P 04 51 02.9 +0.3
baz=81,SNR=16
TRCR **Troy Canyon** 81.22 45 eP P 04 51 01.3 -1.4
SLKM **Skilak Lake** 81.24 14 eP P 04 51 00.8 -2.0
P10A **Eureka** 81.29 44 ⇑P P 04 51 03.2 +0.1
baz=81
I06A **Prineville** 81.30 39 ⇓P P 04 51 03.6 +0.5
baz=82,SNR=16
VIPM **Ingram Point** 81.38 38 P P 04 51 03.7 +0.2
G05A **Wamic** 81.40 37 ⇓P P 04 51 04.0 +0.4
baz=82
WVOR **Wild Horse Val** 81.40 40 eP P 04 51 03.6 0.0
WVOR pmax pmax
comp=Z,25nm,0.9s,mb4.6
WVOR **Wild Horse Val** 81.40 40 eP P 04 51 03.6 0.0
comp=Z,25nm,0.9s,mb4.7
E04A **Hualeka** 81.41 35 ⇓P P 04 51 04.2 +0.5
baz=82
W14A **Seligman** 81.42 49 ⇓P P 04 51 04.4 +0.7
baz=82,SNR=24
Q11A **Duckwater** 81.43 45 ⇓P P 04 51 03.8 +0.1
baz=82,SNR=25
L08A **Fields** 81.45 41 ⇓P P 04 51 04.1 +0.2
baz=82,SNR=29
J07A **Hines** 81.51 39 P P 04 51 04.5 +0.4
baz=82,SNR=16
M09A **Marrel Ranch,** 81.60 42 ⇑P P 04 51 05.2 +0.6
baz=82,SNR=8.8
K08A **Mann Creek Ran** 81.66 40 ⇓P P 04 51 05.2 +0.2
baz=82,SNR=29
H06A **Lindquist Farm** 81.67 38 ⇑P P 04 51 04.9 -0.1
baz=82,SNR=19
D04A **Dobbs Creek Ra** 81.68 35 ⇓P P 04 51 04.7 -0.3
baz=82
X15A **Humboldt** 81.69 50 ⇓P P 04 51 05.5 +0.5
baz=82,SNR=20
F05A **White Salmon** 81.69 36 ⇑P P 04 51 05.0 -0.1
baz=82
P11A **Circle Ranch,** 81.72 44 ⇑P P 04 51 05.3 +0.1
baz=82,SNR=6.6
TUC **Tucson** 81.77 52 eP P 04 51 06.1 +0.6
TUC pmax pmax
comp=Z,16nm,1.1s,mb4.5
TUC **Tucson** 81.77 52 eP P 04 51 06.1 +0.7
comp=Z,16nm,1.1s,mb4.5
L09A **Wilkinson Ranc** 81.78 41 ⇓P P 04 51 05.8 +0.3
baz=82,SNR=18
G06A **Carlson Farm,** 81.79 37 P P 04 51 05.4 -0.1
baz=82,SNR=6.3
I07A **Izee** 81.79 39 ⇓P P 04 51 05.9 +0.3
baz=82,SNR=18
N10A **Dunphy** 81.83 43 ⇑P P 04 51 05.8 0.0
baz=82
HDW **Hoodsport** 81.87 34 P P 04 51 06.2 +0.3
E05A **Randle** 81.92 36 ⇑P P 04 51 05.9 -0.3
baz=82
GNW **Green Mountain** 81.94 34 eP P 04 51 06.3 0.0
C04A **Brinnon** 81.95 34 ⇓P P 04 51 06.5 +0.1
baz=82
J08A **Circle Bar Ran** 82.01 40 ⇓P P 04 51 06.8 +0.1
baz=82,SNR=17
Q12A **Willow Creek R** 82.08 45 ⇑P P 04 51 07.2 +0.1
baz=82,SNR=15
O11A **Cowboy Ranch,** 82.08 44 P P 04 51 07.3 +0.3
baz=82,SNR=18
K09A **Rome** 82.11 41 P P 04 51 07.6 +0.3
baz=82,SNR=34
D05A **Enumclaw** 82.17 35 ⇓P P 04 51 07.8 +0.3
baz=82,SNR=5.2
M10A **I.L. Ranch, Tu** 82.23 42 ⇑P P 04 51 08.4 +0.5
baz=82,SNR=24
P12A **McGill** 82.24 44 ⇓P P 04 51 08.2 +0.3
baz=82,SNR=9.9
CCUT **Cedar City** 82.34 47⇑ eP P 04 51 08.9 +0.5
E06A **Yakima** 82.35 36 ⇓P P 04 51 08.2 -0.2
baz=82
G07A **Ruggs Ranch, H** 82.36 38 ⇓P P 04 51 08.3 -0.2
baz=82,SNR=11
N11A **Elko Archery C** 82.38 43 ⇑P P 04 51 08.7 +0.1
baz=82
ARUT **Antelope Range** 82.41 47 eP P 04 51 08.7 0.0
J09A **Fry Pan Ranch,** 82.45 40 ⇑P P 04 51 08.9 0.0
baz=83,SNR=24
PMR **Palmer** 82.45 14 eP P 04 51 07.2 -1.7
PMR pmax pmax
comp=Z,13nm,0.5s,mb4.7
PMR **Palmer** 82.45 14 eP P 04 51 07.2 -1.7
comp=Z,13nm,0.5s,mb4.7
H08A **Prairie City** 82.53 39 P P 04 51 09.2 -0.2
baz=83,SNR=7.4

F07A **Phinny Hill Vi** 82.57 37 ⇓P P 04 51 09.3 -0.3
baz=83,SNR=7.0
C05A **Tolt Reservoir** 82.63 35 P P 04 51 09.8 -0.1
baz=83,SNR=6.0
M11A **Holland Ranch,** 82.67 42 P P 04 51 10.3 +0.3
baz=83,SNR=10
B05A **Bryant** 82.75 34 ⇑P P 04 51 10.2 -0.3
baz=83,SNR=5.5
O12A **Currie** 82.75 44 ⇓P P 04 51 10.4 0.0
baz=83,SNR=12
G08A **Pilot Rock** 82.79 38 ⇓P P 04 51 10.7 +0.1
baz=83,SNR=14
WUAZ **Wupatki** 82.79 49 eP P 04 51 11.0 +0.4
comp=Z,24nm,1.1s,mb4.6
WUAZ **Wupatki** 82.79 49 ⇑P P 04 51 10.9 +0.2
baz=83,SNR=14
I09A **Lost Marbles R** 82.79 40 ⇑P P 04 51 10.4 -0.2
baz=83
DIV **Divide** 82.85 15 eP P 04 51 10.8 -0.1
N12A **Clover Valley,** 82.86 43 ⇓P P 04 51 11.0 0.0
baz=83,SNR=17
PRW **Prosser** 82.89 37 P P 04 51 11.5 +0.4
E07A **Sunnyside** 82.99 36 ⇓P P 04 51 11.5 -0.1
baz=83,SNR=6.8
HAWA **Hanford** 83.08 37⇑ eP P 04 51 11.8 -0.3
comp=Z,51nm,1.4s,mb4.9
F08A **Pendleton** 83.18 38 ⇑P P 04 51 12.1 -0.4
baz=83,SNR=6.8
H09A **Durkee** 83.22 39 ⇑P P 04 51 12.7 -0.1
baz=83,SNR=11
M12A **Wells** 83.22 43 ⇓P P 04 51 12.8 0.0
baz=83,SNR=15
GBL **Gable Mountain** 83.24 37 P P 04 51 12.9 0.0
ETW **Entiat** 83.32 35 P P 04 51 13.1 -0.2
N13A **Wendover, West** 83.40 44 ⇑P P 04 51 13.8 +0.1
baz=84,SNR=6.3
C07A **Waterville** 83.52 35 ⇑P P 04 51 13.7 -0.6
baz=84,SNR=12
WTV **Waterville** 83.59 36 P P 04 51 14.1 -0.5
EPH **Ephrata** 83.59 36 P P 04 51 14.3 -0.3
MSU **Marysvale** 83.63 46 eP P 04 51 15.5 +0.7
F09A **S2 Ranch, Elgi** 83.64 38 ⇑P P 04 51 14.6 -0.3
baz=84
M13A **Montello** 83.68 43 ⇑P P 04 51 15.1 0.0
baz=84,SNR=5.4
D08A **Wollman Farm,** 83.80 36 ⇓P P 04 51 15.5 -0.2
baz=84,SNR=12
B07A **Winthrop** 83.93 35 ⇓P P 04 51 15.8 -0.5
baz=84,SNR=11
E09A **Wood Farm, Sta** 83.94 37 ⇓P P 04 51 15.8 -0.5
baz=84
DUG **Dugway** 84.00 45 ⇓P P 04 51 16.3 -0.3
baz=84
A07A **Ashnola River,** 84.13 34 ⇓P P 04 51 16.9 -0.4
baz=84
C08A **Higginbotham F** 84.14 36 ⇓P P 04 51 16.7 -0.6
baz=84,SNR=7.9
H11A **Donnelly** 84.23 40 ⇓P P 04 51 17.4 -0.3
baz=84
MCK **McKinley** 84.38 13 eP P 04 51 17.3 -1.2
C09A **Chrisman Ranch** 84.58 36 ⇓P P 04 51 18.9 -0.6
baz=85,SNR=6.0
HLID **Hailey** 84.63 41 eP P 04 51 19.9 +0.2
comp=Z,9.8nm,0.7s,mb4.5
HLID **Hailey** 84.63 41 ⇑P P 04 51 19.6 -0.1
baz=85,SNR=24
TMUT **Trail Mountain** 84.66 46 eP P 04 51 20.9 +1.0
GYA **Guiyang** 84.71 300 eP P 04 51 21.0 +0.9
GYA PP PP 04 54 51.6 +4.4
GYA S S 05 01 01.3 +2.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,60nm,4.0s
MPU **Maple Canyon** 84.71 45 eP P 04 51 20.5 +0.4
SPUT **South Promonto** 84.78 44 eP P 04 51 18.2 -2.3
HVU **Hansel Valley** 84.80 43 eP P 04 51 20.1 -0.4
HVU pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
HVU **Hansel Valley** 84.80 43 eP P 04 51 20.1 -0.4
comp=Z,2.6nm,0.5s,mb4.1
B09A **Rice** 85.00 36 ⇑P P 04 51 20.7 -0.8
baz=85,SNR=12
SRU **San Rafael** 85.05 46 eP P 04 51 21.8 +0.1
A09A **Danville** 85.06 35 ⇑P P 04 51 21.3 -0.5
baz=85,SNR=12
DAU **Daniels Canyon** 85.15 45 eP P 04 51 22.0 -0.2
TCUT **Toone Canyon** 85.38 44 eP P 04 51 23.7 +0.4
LAZ **Ladron** 85.42 52 eP P 04 51 22.9 -0.6
B10A **Chitwood Farm,** 85.44 36 ⇑P P 04 51 23.1 -0.5
baz=86
NEW **Newport** 85.48 36 P P 04 51 22.8 -1.0
comp=Z,7.0nm,0.7s,mb4.4,baz=228,slow=4.3,SNR=21
NEW **Newport** 85.48 36 eP P 04 51 22.9 -0.9
HWUT **Hardware Ranch** 85.51 44 eP P 04 51 23.8 -0.2
COLA **College** 85.61 13 eP P 04 51 22.6 -1.8
COLA pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
COLA **College** 85.61 13 eP P 04 51 22.6 -1.8
comp=Z,6.7nm,0.4s,mb4.6
MVCO **Mesa Verde** 85.63 49 ⇓P P 04 51 24.1 -0.4
baz=86
A10A **Northport** 85.63 35 ⇑P P 04 51 24.0 -0.5
baz=86,SNR=8.1
MNTX **Cornudas Mount** 85.66 55 eP P 04 51 24.6 -0.1
comp=Z,11nm,1.0s,mb4.4
BNM **Barren Site** 85.70 52 eP P 04 51 25.3 +0.4
DLBC **Dease Lake** 85.73 23 eP P 04 51 24.7 -0.3
LPM **Los Pinos Moun** 85.77 52 eP P 04 51 25.4 +0.3
F13A **Darby** 85.81 39 ⇑P P 04 51 24.7 -0.6
baz=86,SNR=20
B11A **Sandpoint** 86.00 36 ⇑P P 04 51 25.7 -0.5
baz=86
TXAR **Lajitas Array** 86.09 58 P P 04 51 27.5 +0.8
comp=Z,14nm,0.8s,mb4.7,baz=219,slow=6.1,SNR=136
C12A **Trout Creek** 86.12 37 ⇓P P 04 51 26.2 -0.6
baz=86
ANMO **Albuquerque** 86.16 52 eP P 04 51 27.0 0.0
BILL **Bilibino** 86.19 354 eP P 04 51 26.9 -0.2
BILL pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BILL **Bilibino** 86.19 354 eP P 04 51 26.9 -0.3
comp=Z,8.8nm,0.8s,mb4.4
E13A **Victor** 86.23 39 ⇓P P 04 51 26.3 -1.0
baz=86
MCMT **McKenzie Canyo** 86.24 41 P P 04 51 27.7 +0.3
A11A **Hall Mountain,** 86.28 36 ⇑P P 04 51 27.4 -0.2
baz=86,SNR=7.4
D13A **Huson** 86.40 38 ⇑P P 04 51 27.3 -0.9
baz=87,SNR=6.7
F14A **Wisdom** 86.40 40 ⇓P P 04 51 27.9 -0.2
baz=87
B12A **Libby** 86.46 36 ⇑P P 04 51 28.0 -0.4
baz=87
RRI2 **Red Ridge** 86.49 42 eP P 04 51 26.3 -2.3
MSO **Missoula** 86.57 38 eP P 04 51 28.1 -0.8
BSMT **Bassoo Peak** 86.59 37 P P 04 51 26.1 -3.0
E14A **Clinton** 86.63 39 P P 04 51 28.9 -0.4
baz=87,SNR=15
C13A **Hot Springs** 86.63 38 ⇑P P 04 51 28.6 -0.7
baz=87
GDL2 **Guadalupe Moun** 86.65 55 eP P 04 51 30.0 +0.7
DLMT **Dillon** 86.65 40 eP P 04 51 29.5 +0.1
comp=Z,14nm,0.7s,mb4.8
A12A **Yaak River Ran** 86.67 36 ⇓P P 04 51 29.1 -0.3
baz=87,SNR=5.6
TPAW **Teton Pass** 86.80 42 eP P 04 51 30.4 +0.4
comp=Z,14nm,0.9s,mb4.7
REDW **Red Top Meadow** 86.80 43 eP P 04 51 30.3 +0.3
comp=Z,29nm,1.1s,mb4.9
SNOW **Snow King Moun** 86.91 43 eP P 04 51 30.8 +0.3
HHC **Hu-ho-hao-te** 86.94 315 eP P 04 51 32.8 +2.1
HHC PP PP 04 55 10.1 +5.2
HHC S S 05 01 19.2 -1.2
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,99nm,5.8s
DAWY **Dawson** 86.95 16 eP P 04 51 30.1 -0.7
F15A **Butte** 86.95 40 ⇓P P 04 51 30.2 -0.5
baz=87
D14A **Greenough** 86.95 38 ⇓P P 04 51 29.6 -1.1
baz=87,SNR=8.2
LRM **Limekiln Ridge** 86.97 40 eP P 04 51 30.5 -0.3
IMW **Indian Meadow** 86.99 42 eP P 04 51 31.4 +0.5
CHMT **Chamberlain Mo** 87.02 39 eP P 04 51 29.8 -1.3

B13A	**Whitefish**	**87.05**	**37**	⇑P		**P**	**04 51 30.2**	**-0.9**
	baz=87,SNR=5.4							
MOOW	**Moose Ponds**	**87.05**	**42**	*e*P		**P**	**04 51 31.1**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.3							
EGAK	**Eagle**	**87.07**	**15**	*e*P		**P**	**04 51 30.3**	**-1.0**
	comp=Z,17nm,1.1s,mb4.7							
LOHW	**Long Hollow**	**87.08**	**42**	*e*P		**P**	**04 51 31.4**	**+0.1**
	comp=Z,10nm,0.7s,mb4.7							
QLMT	**Earthquake Lak**	**87.12**	**41**	*e*P		**P**	**04 51 32.6**	**+1.1**
E15A	**Deer Lodge**	**87.15**	**39**	⇓P		**P**	**04 51 31.0**	**-0.7**
	baz=87							
FLWY	**Flagg Ranch**	**87.23**	**42**	*e*P		**P**	**04 51 32.7**	**+0.6**
	comp=Z,22nm,0.9s,mb4.9							
YFT	**Old Faithful**	**87.32**	**42**	*e*P		**P**	**04 51 34.4**	**+2.0**
YMR	**Madison River**	**87.34**	**41**	*e*P		**P**	**04 51 33.2**	**+0.6**
	comp=Z,38nm,1.4s,mb4.9							
BW06	**Boulder Array**	**87.37**	**44**	*e*P		**P**	**04 51 32.3**	**-0.4**
PDAR	**Pinedale Array**	**87.37**	**44**	P		**P**	**04 51 32.1**	**-0.5**
	comp=Z,9.3nm,0.6s,mb4.7,baz=220,slow=3.2,SNR=100							
KMI	**Kunming**	**87.50**	**297**	P		**P**	**04 51 37.0**	**+3.7**
KMI				AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.5							
KMI	**Kunming**	**87.50**	**297**	P		**P**	**04 51 37.0**	**+3.7**
	comp=Z,9.0nm,0.8s,mb4.5							
D15A	**Lincoln**	**87.52**	**39**	⇓P		**P**	**04 51 32.9**	**-0.6**
	baz=88,SNR=9.6							
SMCO	**Snowmass**	**87.56**	**48**	*e*P		**P**	**04 51 33.6**	**0.0**
	comp=Z,7.2nm,1.0s,mb4.4							
CD2	**Chengdu**	**88.73**	**303**	*e*P		**P**	**04 51 38.7**	**-0.4**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.7							
CD2				AMB	AMB			
	comp=Z,30nm,5.8s							
YAK	**Yakutsk**	**89.28**	**338**	*e*P		**P**	**04 51 40.1**	**-1.5**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.7							
PHWY	**Pilot Hill**	**89.49**	**46**	*e*P		**P**	**04 51 42.6**	**+0.1**
JCT	**Junction City**	**89.63**	**58**	*e*P		**P**	**04 51 42.4**	**-0.8**
JCT				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
JCT	**Junction City**	**89.63**	**58**	*e*P		**P**	**04 51 42.4**	**-0.9**
	comp=Z,5.5nm,0.7s,mb4.5							
EGMT	**Eagleton**	**89.64**	**39**	⇑P		**P**	**04 51 42.7**	**-0.6**
	baz=90							
EDM	**Edmonton**	**90.11**	**33**	*e*P		**P**	**04 51 44.4**	**-1.0**
RSSD	**Black Hills**	**91.58**	**44**	*e*P		**P**	**04 51 51.7**	**-0.5**
RSSD				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8							
RSSD	**Black Hills**	**91.58**	**44**	*e*P		**P**	**04 51 51.7**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8							
DGMT	**Dagmar**	**93.19**	**40**	*e*P		**P**	**04 51 59.2**	**-0.4**
	comp=Z,32nm,1.0s,mb5.3							
SONM	**Songino Array**	**93.22**	**319**	P		**P**	**04 52 00.9**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=108,slow=3.2,SNR=3.8							
YKA	**Yellowknife Ar**	**94.24**	**25**	P		**P**	**04 52 02.6**	**-1.7**
	comp=Z,3.2nm,0.7s,mb4.6,baz=237,slow=4.6,SNR=13							
YKA	**Yellowknife Ar**	**94.24**	**25**	P		**P**	**04 52 02.6**	**-1.7**
KSU1	**Kansas State U**	**95.01**	**51**	*e*P		**P**	**04 52 07.5**	**-0.4**
	comp=Z,18nm,0.8s,mb5.3							
TIXI	**Tiksi**	**95.88**	**345**	*e*P		**P**	**04 52 10.0**	**-1.8**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.2s,mb4.2							
MKAR	**Makanchi Array**	**108.80**	**314**	PKiKP	PKiKP		04 57 08.7	-1.7
	comp=Z,0.9nm,0.5s,baz=216,slow=0.9,SNR=14							
BVAR	**Borovoye Array**	**116.51**	**321**	PKP	PKPdf		04 57 23.2	-1.9
	comp=Z,2.3nm,0.4s,baz=88,slow=1.5,SNR=12							
ARU	**Arti**	**122.53**	**326**	*e*PKIKP	PKPdf		04 57 35.0	-1.6
AKTK	**Aktyubinsk**	**124.54**	**320**	PKP	PKPdf		04 57 39.3	-1.2
AKTO	**Aktyubinsk**	**124.54**	**320**	PKP	PKPdf		04 57 39.3	-1.2
	comp=Z,1.0nm,0.6s,baz=44,slow=1.5,SNR=8.7							
ARCES	**ARCESS Array B**	**126.05**	**350**	PKP	PKPdf		04 57 41.5	-1.9
	comp=Z,3.0nm,0.7s,baz=25,slow=1.7,SNR=12							
ARCES	**ARCESS Array B**	**126.05**	**350**	PKP	PKPdf		04 57 41.5	-1.9
BOSA	**Boshof**	**128.48**	**207**	SKPbc			05 00 11.5	
	comp=Z,2.8nm,0.8s,baz=113,slow=5.0,SNR=3.2							
JOF	**Joensuu**	**130.27**	**343**	*e*pkp	PKPdf		04 57 47.7	-3.7
KAF	**Kangasniemi**	**132.28**	**344**	*e*pkp	PKPdf		04 57 52.7	-2.5
FINES	**FINESS Array B**	**132.91**	**344**	PKhKP			04 57 48.7	
	comp=Z,2.0nm,0.9s,baz=111,slow=4.3,SNR=3.6							
FINES				PKP	PKPdf		04 57 54.4	-2.0
	comp=Z,1.5nm,0.5s,baz=28,slow=4.5,SNR=8.1							
FINES				SKPbc	SKPbc		05 00 29.1	-0.3
	comp=Z,0.7nm,0.6s,baz=90,slow=4.4,SNR=3.4							
FINES	**FINESS Array B**	**132.91**	**344**	*i* PKIKP	PKPdf		04 58 00.5	+4.1
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**132.91**	**344**	PKP			04 57 48.7	
FINES				PKP	PKPdf		04 57 54.4	-2.0
FINES				SKPbc	SKPbc		05 00 29.1	-0.3
NOA	**NORSAR Array B**	**136.13**	**353**	PKP	PKPdf		04 58 01.8	-0.5
	comp=Z,1.6nm,0.7s,baz=12,slow=4.1,SNR=3.7							
AKASG	**Malin Array Be**	**140.25**	**332**	PKiKP			04 58 02.2	
	comp=Z,0.6nm,0.4s,baz=39,slow=4.0,SNR=7.2							
AKASG				PKP	PKPdf		04 58 11.0	+1.1
	comp=Z,1.5nm,0.4s,baz=41,slow=3.2,SNR=8.8							
AKASG	**Malin Array Be**	**140.25**	**332**	PKP			04 58 02.2	
AKASG				PKP	PKPdf		04 58 11.0	+1.1
LVV	**L'vov**	**143.10**	**335**	*i* PKHKP			04 58 11.7	
BSEG	**Bad Segeberg**	**143.16**	**351**	*e*PKP	PKPdf		04 58 12.3	-2.8
KWP	**Kalwaria**	**143.77**	**336**	*e*PKP	PKPdf		04 58 15.4	-0.7
RUE	**Ruedersdorf**	**143.93**	**347**	*e*PKPbc	PKPdf		04 58 15.3	-1.1
BURAR	**Bucovina Array**	**144.30**	**332**	⇑*i*P	PKPdf		04 58 17.9	+0.9
BURAR	**Bucovina Array**	**144.30**	**332**	⇑P	PKPdf		04 58 17.9	+0.8
OJC	**Ojcow**	**144.32**	**340**	*e*PKP	PKPdf		04 58 17.0	-0.1
KB11	**Birley Grange**	**144.44**	**3**	*e*P	PKPdf		04 58 16.2	-1.1
BR131	**Keskin Array S**	**144.45**	**315**	*e*PKPdf	PKPdf		04 58 17.6	+0.3
BRTR	**Keskin Array B**	**144.45**	**315**	PKP	PKPdf		04 58 17.6	+0.4
	comp=Z,6.2nm,0.9s,baz=105,slow=2.9,SNR=25							
STHS	**Stebnicka Huta**	**144.49**	**337**	*e*PKP	PKPdf		04 58 17.8	+0.4
KOLS	**Kolonicke sedl**	**144.50**	**336**	*e*PKP	PKPdf		04 58 17.5	+0.1
KWE	**Weaver Farm**	**144.66**	**3**	⇑*e*P	PKPdf		04 58 17.2	-0.5
UZH	**Uzhgorod**	**144.74**	**336**	*c i* PKHKP	PKPdf		04 58 17.2	-0.6
NIE	**Niedzica**	**144.82**	**338**	*e*PKPc	PKPdf		04 58 19.0	+1.1
KSP	**Ksiaz**	**144.83**	**343**	*e*PKP	PKPdf		04 58 18.7	+0.8
KSP	**Ksiaz**	**144.83**	**343**	*e*PKP	PKPdf		04 58 18.6	+0.7
CRVS	**Cervenica-Dubn**	**144.84**	**337**	*e*PKP	PKPdf		04 58 17.3	-0.7
VRI	**Vrincioaia**	**144.86**	**329**	⇓*i*P	PKPdf		04 58 18.7	+0.7
VRI	**Vrincioaia**	**144.86**	**329**	⇓P	PKPdf		04 58 18.7	+0.7
IBBN	**Ibbenburen**	**145.09**	**353**	*e*PKPbc	PKPbc		04 58 19.1	-0.3
HLM1	**Long Mynd**	**145.09**	**4**	*e*P	PKPdf		04 58 18.4	0.0
CLZ	**Clausthal**	**145.18**	**350**	*e*PKPbc	PKPbc		04 58 19.4	-0.2
OKC	**Ostrava-Krasne**	**145.18**	**341**	*e*PKP	PKPdf		04 58 19.4	+0.8
CLL	**Collm**	**145.19**	**347**	*e*PKPbc	PKPbc		04 58 19.2	-0.5
CLL	**Collm**	**145.19**	**347**	⇑*i*PKIKP	PKPdf		04 58 19.2	+0.6
CLL				pmax	pmax			
	comp=Z,42nm,0.9s							
CLL	**Collm**	**145.19**	**347**	⇑*i*PKPbc	PKPbc		04 58 19.2	-0.5
	comp=Z,42nm,0.9s							
CLL				*e*PP	PP		05 01 45.0	-0.2
UPC	**Upice**	**145.21**	**344**	*e*PKP	PKPdf		04 58 19.7	+1.1
DPC	**Dobruska-Polom**	**145.26**	**343**	*e*PKP	PKPdf		04 58 20.1	+1.4
BRG	**Berggiesshubel**	**145.39**	**346**	*e*PKPbc	PKPbc		04 58 20.0	-0.3
BRG	**Berggiesshubel**	**145.39**	**346**	*i* PKP	PKPdf		04 58 19.9	+1.0
	comp=Z,12nm,1.1s							
BRG				*e*			04 58 26.5	
	comp=Z,4.0nm,0.9s							
BRG	**Berggiesshubel**	**145.39**	**346**	*i* PKIKP	PKPdf		04 58 19.9	+1.0
BRG				pmax	pmax			
	comp=Z,12nm,1.1s							
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MORC	**Moravsky Berou**	**145.42**	**341**	⇑*i*P	PKPdf		04 58 20.5	+1.5
MORC	**Moravsky Berou**	**145.42**	**341**	⇑P	PKPdf		04 58 20.5	+1.5
FBE	**Freiberg**	**145.48**	**347**	*e*PKPbc	PKPbc		04 58 20.5	0.0
FBE				*e*PKPab	PKPbc		04 58 22.1	0.0
HTR	**Trewern Hill**	**145.49**	**5**	*e*P	PKPdf		04 58 19.2	+0.8
WTSB	**Winterswijk**	**145.52**	**354**	⇑*e*P	PKPdf		04 58 19.9	+0.8
	comp=Z,32nm,0.9s							
KECS	**Kecovo**	**145.54**	**337**	*e*PKP	PKPdf		04 58 20.5	+1.3
PVCC	**Panska Ves**	**145.56**	**345**	*e*PKP	PKPdf		04 58 20.7	+1.5
MCH1	**Michaelchurch**	**145.60**	**5**	*e*P	PKPdf		04 58 19.6	+0.3
HGH	**Gray Hill**	**145.97**	**5**	*e*P	PKPdf		04 58 20.6	+0.7
VOIR		**145.99**	**330**	⇓*i*P	PKPbc		04 58 22.7	+0.7
VOIR		**145.99**	**330**	⇓P	PKPbc		04 58 22.7	+0.7
DRGR		**146.03**	**333**	⇑*i*P	PKPbc		04 58 22.1	0.0
DRGR		**146.03**	**333**	⇑P	PKPbc		04 58 22.1	+0.1
PRU	**Pruhonice**	**146.07**	**345**	*e*PKP	PKPdf		04 58 21.8	+1.8
MOX	**Moxa**	**146.10**	**348**	*e*PKPbc	PKPbc		04 58 21.7	-0.6
VYHS	**Vyhne**	**146.12**	**339**	*e*PKP	PKPdf		04 58 21.8	+1.7
VRAC	**Vranov**	**146.12**	**342**	⇑*i*P	PKPbc		04 58 22.3	0.0
VRAC	**Vranov**	**146.12**	**342**	⇑P	PKPbc		04 58 22.3	-0.1
TANN	**Tannenbergstha**	**146.15**	**347**	*e*PKPbc	PKPbc		04 58 22.1	-0.3
TANN				*e*PKPab	PKPab		04 58 24.5	-0.2
WERD	**Werda**	**146.15**	**347**	*e*PKPbc	PKPbc		04 58 22.0	-0.4
GUNZ	**Gunzen**	**146.23**	**347**	*e*PKPbc	PKPbc		04 58 22.5	-0.1
GUNZ				*e*PKPab	PKPab		04 58 25.0	-0.1
PSZ	**Piszkesteto**	**146.24**	**337**	*e*PKIKP	PKPdf		04 58 21.5	+1.2
WERN	**Wernitzgruen**	**146.29**	**347**	*e*PKPbc	PKPbc		04 58 22.7	-0.1
WERN				*e*PKPab	PKPab		04 58 25.3	0.0
NKC	**Novy Kostel**	**146.32**	**347**	*e*PKP	PKPdf		04 58 22.4	+1.9
HEX	**Exmoor**	**146.45**	**6**	*e*P	PKPdf		04 58 21.4	+0.8
HTL	**Hartland**	**146.45**	**7**	*e*P	PKPdf		04 58 22.1	+1.4
MANZ	**Manzenberg**	**146.63**	**347**	*e*PKPbc	PKPbc		04 58 23.7	0.0
HGN	**Heimansgroeve**	**146.80**	**355**	*e*P	PKPdf		04 58 22.7	+1.5
	comp=Z,14nm,1.1s							
ROTZ	**Rotzenmuhle**	**146.82**	**347**	*e*PKPbc	PKPbc		04 58 24.1	-0.1
MEM	**Membach**	**146.94**	**355**	PKPbc	PKPbc		04 58 23.9	-0.7
TNS	**Taunus Mts**	**147.04**	**352**	*e*PKPbc	PKPbc		04 58 24.4	-0.4
TNS				*e*PKPab	PKPab		04 58 28.1	-0.2
TNS	**Taunus Mts**	**147.04**	**352**	*e*PKP2	PKPab		04 58 28.1	-0.2
DYA	**Yadsworthy**	**147.06**	**6**	*e*P	PKPdf		04 58 23.1	+1.4
GZR	**Gura Zlata**	**147.08**	**332**	⇓*i*P	PKPbc		04 58 24.6	-0.3
GZR	**Gura Zlata**	**147.08**	**332**	⇓P	PKPbc		04 58 24.6	-0.3
GRA1	**Grafenberg Arr**	**147.09**	**348**	*e*PKPbc	PKPbc		04 58 24.8	-0.1
GRF	**Grafenberg Arr**	**147.09**	**348**	*e*PKPbc	PKPbc		04 58 24.8	-0.1
KHC	**Kasperske Hory**	**147.10**	**345**	*e*PKP	PKPbc		04 58 24.8	-0.2
BCLA	**Clavier**	**147.19**	**355**	PKPbc	PKPbc		04 58 25.3	+0.1
WET	**Wettzell**	**147.25**	**346**	*e*PKPbc	PKPbc		04 58 24.8	-0.6
GEC2	**GERESS Array S**	**147.33**	**345**	*e*PKPbc	PKPbc		04 58 25.3	-0.3
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc	PKPbc		04 58 25.2	-0.4
	comp=Z,10nm,0.6s,baz=98,slow=2.7,SNR=4.3							
BZS	**Buzias**	**147.42**	**333**	⇑*i*P	PKPbc		04 58 25.3	-0.5
BZS	**Buzias**	**147.42**	**333**	⇑P	PKPbc		04 58 25.3	-0.5
ABH	**Alteburg**	**147.50**	**353**	PKP	PKPbc		04 58 25.6	-0.4
GIVF	**Givet**	**147.54**	**356**	⇑*i*PKP1	PKPbc		04 58 25.7	-0.4
	comp=Z,30nm,0.6s							
DOU	**Dourbes**	**147.56**	**356**	PKPbc	PKPbc		04 58 25.6	-0.5
DOU				E			04 58 46.0	
CONA	**Conrad Observa**	**147.58**	**342**	⇑*i*PKPbc	PKPbc		04 58 26.3	+0.1
	comp=Z,12nm,1.2s							
TOD	**Tromm**	**147.59**	**351**	PKIKP	PKPbc		04 58 25.6	-0.6
BAIF	**Baives**	**147.62**	**357**	⇑*i*PKP1	PKPbc		04 58 25.9	-0.4
	comp=Z,24nm,0.6s							
RUP	**Ruppelstein**	**147.73**	**353**	PKIKP	PKPbc		04 58 26.3	-0.3
WLF	**Walferdange**	**147.87**	**354**	*e*PKPbc	PKPbc		04 58 27.0	+0.1
WLF	**Walferdange**	**147.87**	**354**	PKPbc	PKPbc		04 58 27.0	+0.1
WLF	**Walferdange**	**147.87**	**354**	*e*PKPdf	PKPbc		04 58 26.3	-0.6
PKSM	**Moragy**	**148.13**	**337**	⇓*i*P	PKPbc		04 58 27.2	-0.4
PKSM	**Moragy**	**148.13**	**337**	⇓P	PKPbc		04 58 27.2	-0.3
STU	**Stuttgart**	**148.34**	**350**	*e*PKPbc	PKPbc		04 58 27.9	-0.2
STU				*e*PKPab	PKPab		04 58 33.7	0.0
LANF	**Langenberg**	**148.35**	**352**	PKP	PKPbc		04 58 27.5	-0.6
FUR	**Furstenfeldbru**	**148.53**	**347**	*e*PKPbc	PKPbc		04 58 28.4	-0.2
FUR				*e*PKPab	PKPab		04 58 34.8	+0.4
FUR	**Furstenfeldbru**	**148.53**	**347**	*e*PKP2	PKPab		04 58 34.8	+0.4
BFO	**Black Forest**	**148.91**	**351**	*e*PKPbc	PKPbc		04 58 28.7	-0.8
BFO				*e*PKPab	PKPab		04 58 35.6	-0.4
BFO	**Black Forest**	**148.91**	**351**	*e*PKP2	PKPab		04 58 35.6	-0.4
PERS	**Pernice**	**148.96**	**341**	*i* PKPbc	PKPbc		04 58 28.7	-0.9
PERS				*i* PKPab	PKPab		04 58 36.2	0.0
WLS	**Welschbruch**	**148.96**	**352**	PKP	PKPbc		04 58 29.1	-0.5
VTS	**Vitosha**	**148.97**	**328**	⇑*i*P	PKPbc		04 58 29.4	-0.2
VTS	**Vitosha**	**148.97**	**328**	⇑P	PKPbc		04 58 29.4	-0.2
FLN	**La Foliniere**	**148.97**	**2**	⇑*i*PKP1	PKPbc		04 58 28.8	-0.8
	comp=Z,27nm,0.6s							
CDF	**Champ du Feu**	**148.97**	**352**	*e*PKP1	PKPbc		04 58 29.2	-0.4
	comp=Z,31nm,0.9s							
MEZF	**Maizieres J'vi**	**149.12**	**355**	*e*PKP1	PKPbc		04 58 29.7	-0.3
LDF	**La Druitiere**	**149.15**	**2**	⇑*i*PKP1	PKPbc		04 58 29.0	-1.1
	comp=Z,17nm,0.5s							
ROSF	**Rostrenen**	**149.20**	**6**	*e*PKP1	PKPbc		04 58 29.0	-1.2
WATA	**Walderalm**	**149.25**	**346**	⇑*i*P	PKPbc		04 58 29.6	-0.7
	comp=Z,13nm,1.1s							
THEF	**They Montfort**	**149.30**	**354**	PKP	PKPbc		04 58 29.5	-0.9
WTTA	**Wattenberg**	**149.31**	**346**	⇑*i*P	PKPbc		04 58 30.2	-0.3
	comp=Z,24nm,0.6s							
GRR	**Gorron**	**149.33**	**3**	⇑*i*PKP1	PKPbc		04 58 29.7	-0.8
	comp=Z,30nm,0.6s							
DIVS	**Divcibare**	**149.33**	**333**	*i* P	PKPbc		04 58 30.2	-0.3
MOTA	**Moosalm**	**149.35**	**347**	⇑*i*P	PKPbc		04 58 29.8	-0.8
	comp=Z,14nm,1.1s							
SGMF	**Saint Gilles**	**149.35**	**5**	⇑*i*PKP1	PKPbc		04 58 29.5	-1.1
	comp=Z,56nm,1.0s							
SQTA	**Sankt Quirin**	**149.44**	**347**	*i* P	PKPbc		04 58 30.2	-0.6
	comp=Z,9.0nm,0.9s,SNR=9.6							
HAU	**Haudompre**	**149.48**	**353**	⇑*i*PKP1	PKPbc		04 58 30.3	-0.6
	comp=Z,15nm,0.5s							
HINF	**Hinteralfeld**	**149.61**	**353**	⇑*i*PKP1	PKPbc		04 58 30.4	-0.8
	comp=Z,15nm,0.8s							
QUIF	**Quistinic**	**149.63**	**6**	*e*PKP1	PKPbc		04 58 29.9	-1.3
DAVA	**Damuels**	**149.65**	**348**	⇑*i*P	PKPbc		04 58 30.9	-0.4
	comp=Z,18nm,0.9s,SNR=8.7							
ROBS	**Robic**	**149.78**	**343**	*i* PKPbc	PKPbc		04 58 31.0	-0.6
ROBS				*i* PKPab	PKPab		04 58 39.2	-0.4
VOY	**Vojsko**	**149.87**	**342**	*e*PKPbc	PKPbc		04 58 30.1	-1.7
BOJS	**Bojanci**	**149.93**	**340**	*i* PKPdf	PKPdf		04 58 25.9	-0.4
BOJS				*i* PKPbc	PKPbc		04 58 31.8	-0.2
BOJS				*i* PKPab	PKPab		04 58 40.3	+0.1
STIP	**Stip**	**150.14**	**328**	*e*PKP	PKPbc		04 58 30.9	-1.5
VAY	**Valandovo**	**150.21**	**327**	*e*PKP	PKPdf		04 58 30.1	+3.4
SKO	**Skopje**	**150.31**	**329**	*e*PKP	PKPbc		04 58 31.1	-1.8
LOR	**Lormes**	**150.43**	**357**	⇑*i*PKP1	PKPbc		04 58 32.6	-0.5
	comp=Z,24nm,0.6s							
HYF	**Humbligny**	**150.48**	**358**	*e*PKP1	PKPbc		04 58 33.0	-0.2
SSF	**Saint Saulge**	**150.65**	**357**	⇑*i*PKP1	PKPbc		04 58 33.1	-0.5
	comp=Z,20nm,0.6s							
KRUS	**Krusevo**	**150.86**	**328**	*e*PKP	PKPbc		04 58 33.0	-1.1
CABF	**La Chapelle**	**150.89**	**353**	⇑*i*PKP1	PKPbc		04 58 34.2	+0.1
	comp=Z,28nm,0.8s							
AVF	**Avril sur Loir**	**150.93**	**357**	⇑*i*PKP1	PKPbc		04 58 33.3	-0.9
	comp=Z,5.2nm,0.6s							
SMF	**Signal de Mont**	**151.05**	**356**	*e*PKP1	PKPbc		04 58 33.6	-0.9
MFF	**Saint Martin d**	**151.14**	**2**	⇑*i*PKP1	PKPbc		04 58 33.9	-0.8
	comp=Z,31nm,0.8s							
BGF	**Bois d'Agland**	**151.18**	**358**	⇑*i*PKP1	PKPbc		04 58 34.2	-0.6
	comp=Z,22nm,0.8s							
TCF	**Toulx Ste Croi**	**151.47**	**359**	⇑*i*PKP1	PKPbc		04 58 34.7	-0.7
	comp=Z,12nm,1.0s							
LPL	**La Plagne**	**151.89**	**352**	*e*PKP1	PKPbc		04 58 36.7	+0.3
	comp=Z,9.8nm,0.8s							
LPG	**La Plagne**	**151.90**	**352**	*e*PKP1	PKPbc		04 58 36.8	+0.4
	comp=Z,25nm,1.3s							
RJF	**Les Rejaudoux**	**152.46**	**360**	*e*PKP1	PKPbc		04 58 37.0	-0.6
	comp=Z,19nm,0.9s							
ORIF	**Oris-en-Rattie**	**152.58**	**353**	*e*PKP1	PKPbc		04 58 37.7	-0.2
	comp=Z,14nm,1.1s							
MBDF	**Montbardon**	**152.66**	**352**	*e*PKP1	PKPbc		04 58 37.8	-0.2
	comp=Z,12nm,0.7s							
VIVF	**Saint-Julien-l**	**152.77**	**355**	⇑*i*PKP1	PKPbc		04 58 38.0	-0.3
	comp=Z,6.0nm,0.7s							
CAF	**Calviac**	**152.84**	**359**	*e*PKP1	PKPbc		04 58 38.0	-0.4
	comp=Z,6.4nm,0.7s							
ESDC	**Sonseca Array**	**157.62**	**11**	PKPab	PKPab		04 59 12.8	-0.3
	comp=Z,1.9nm,0.6s,baz=338,slow=3.8,SNR=9.1							
EVO	**Evora**	**157.69**	**20**	*e*PKIKP	PKPdf		04 58 31.9	-5.2
	comp=Z,3.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**175.47**	**185**	PKP	PKPdf		04 58 48.5	-1.8
	comp=Z,2.1nm,1.2s,baz=286,slow=0.7,SNR=5.3							

*NEIC **06** 05:34:54.9, 62.32N×140.28W, h20km, ML3.2(PGC), ML3.6(AEIC), After PGC.*
NEIC Felt at Beaver Creek.

PGC 06 05:34:54.9±7.4, 62.32N×140.28W, h20km, ML3.2/4, 198km southwest of Dawson, Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCA3	**Beaver Creek A**	**1.02**	**318**	P	Pb	05 35 10.5	-3.4
BCA3				S	Sb	05 35 23.2	-3.7
MENT	**Mentasta**	**1.71**	**293**	P	Pn	05 35 21.2	-2.3
MENT				S	Sn	05 35 42.0	-2.7
DAWY	**Dawson**	**1.80**	**13**	Trac			
DAWY	**Dawson**	**1.80**	**13**	Pn	Pn	05 35 25.1	+0.3
DAWY				Pg	Pn	05 35 27.1	+2.3
DAWY				Sg	Sn	05 35 51.0	+3.9
DAWY	**Dawson**	**1.80**	**13**	P	Pn	05 35 24.5	-0.4
DAWY				Pn	Pn	05 35 25.1	+0.3
DAWY				Pg	Pn	05 35 27.1	+2.3
DAWY				Sg	Sn	05 35 51.0	+3.9
HYT	**Haines Junctio**	**2.00**	**137**	Trac			
HYT	**Haines Junctio**	**2.00**	**137**	Pn	Pn	05 35 27.3	-0.3
HYT				Pg	Pn	05 35 31.4	+3.8
HYT				Sg	Sn	05 35 57.5	+5.4
DOT	**Dot Lake**	**2.18**	**309**	P	Pn	05 35 28.1	-2.0
EGAK	**Eagle**	**2.50**	**351**	*e*Pn	Pn	05 35 35.4	+0.9
EGAK				*e*Sn	Sn	05 36 03.3	-1.1
DIV	**Divide**	**2.87**	**248**	*e*Pn	Pn	05 35 36.6	-2.9
DIV				*e*Sn	Sn	05 36 12.6	-0.9
WHY	**Whitehorse**	**3.08**	**120**	Trac			
WHY	**Whitehorse**	**3.08**	**120**	Pn	Pn	05 35 44.1	+1.7
WHY				Sg	Sn	05 36 30.2	+12
PLBC	**Pleasant Camp**	**3.45**	**145**	Trac			
PLBC	**Pleasant Camp**	**3.45**	**145**	Sg	Sn	05 36 42.5	+15
DLBC	**Dease Lake**	**6.40**	**123**	Sg	Sn	05 38 13.6	+33

*CSEM **06** 05:36:35.0, 3558N×2197E, h12km, MD3.5/4, After ATH*
*NEIC **06** 05:36:35.0, 3558N×2197E, h12km, MD3.5(ATH), After ATH.*

ATH 06 05:36:35.0, 3558N×2197E, h12km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.11**	**51**	*e*PN	Pn	05 36 56.5	+0.1
KYTH				*e*SB	Sb	05 37 11.5	+0.9
VLI	**Veliai**	**1.38**	**34**	*e*PN

1.1nm,0.8s,mb3.9,baz=154,slow=9.1,SNR=6.2
ANMO Albuquerque 55.33 330 *e*P **P 06 16 58.9 +0.8**
2.3nm,1.2s,mb4.1
SNAA Sanae 72.78 161 *e*P **P 06 18 51.5 -1.0**
1.2nm,0.6s,mb4.0
EDM Edmonton 72.95 338 *e*P **P 06 18 52.4 -1.1**
TORD Torodi Ar. Bea 81.89 75 P **P 06 19 42.4 -1.1**
2.2nm,0.7s,mb4.2,baz=258,slow=4.3,SNR=14
TORD pP pP 06 20 01.0 0.0
1.8nm,0.8s,baz=267,slow=4.4,SNR=5.1
ESDC Sonseca Array 85.27 48 LR LR 06 53 04.6
comp=Z,59nm,18.4s,baz=320,slow=32
ASAR Alice Springs 132.93 220 PKP PKPdf 06 26 38.5 -0.4
0.2nm,0.6s,baz=118,slow=1.9,SNR=5.1
WRA Warramunga Arr 135.31 224 PKP PKPdf 06 26 42.8 -0.6
0.6nm,0.7s,baz=129,slow=2.1,SNR=6.6
ZAL Zalesovo 136.51 16 PKP PKPdf 06 26 44.5 -1.2
1.0nm,0.3s,baz=343,slow=7.9,SNR=3.3
SONM Songino Array 145.07 356 PKPbc PKPbc 06 27 00.4 -0.2
2.0nm,0.8s,baz=342,slow=1.8,SNR=11
SONM pPKPbc 06 27 17.3
1.1nm,0.5s,baz=337,slow=2.7,SNR=4.8

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*IDC **06** 06:11:13.8±1.1, 845S×11100E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=58.7km s-min=20.4km az=55.0*
*NEIC **06** 06:11:15.4±0.8, 850S×11094E, h10km, mb4.3/6, Error ellipse: s-maj=26.5km s-min=14.3km az=224.0*
*ISCJB **06** 06:11:17.4±0.8, 84S±02×1111E±02, h35km, mb3.9/10, MS3.1/2, Error ellipse: s-maj=28.0km s-min=13.8km az=91.2*

ISC 06 06:11:19.2±0.8, 85S±01×1110E±02, h35km, n19, σ0°97/18, mb3.9/10, MS3.1/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.15**	**147**	*e*P	**Pn**	**06 14 45.8**	**-4.7**
	12nm,0.7s						
MBWA				*e*S	Sx	06 17 16.6	
FITZ	**Fitzroy Crossi**	**17.14**	**125**	*e*P	**Pn**	**06 15 15.8**	**-0.1**
	8.3nm,0.4s						
FITZ				*e*S	Sx	06 18 10.4	
FITZ	**Fitzroy Crossi**	**17.14**	**125**	P	**Pn**	**06 15 15.2**	**-0.7**
	1.9nm,0.3s,baz=317,slow=8.9,SNR=53						
FITZ				S	Sx	06 18 11.5	
	0.4nm,0.3s,baz=174,slow=19,SNR=4.2						
KAKA	**Kakadu**	**21.48**	**103**	*e*P	**P**	**06 16 07.3**	**+2.6**
	5.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**25.28**	**119**	P	**P**	**06 16 42.2**	**0.0**
	2.4nm,0.8s,mb3.8,baz=294,slow=11,SNR=25						
WRAB	**Tennant Creek**	**25.29**	**119**	*e*P	**P**	**06 16 42.7**	**+0.4**
	3.7nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**25.29**	**119**	*e*P	**P**	**06 16 42.7**	**+0.4**
ASPA	**Alice Springs**	**26.61**	**127**	*e*P	**P**	**06 16 52.5**	**-1.8**
AS31	**Alice Springs**	**26.62**	**127**	*e*P	**P**	**06 16 52.5**	**-1.8**
ASAR	**Alice Springs**	**26.62**	**127**	P	**P**	**06 16 54.4**	**0.0**
	0.7nm,0.4s,mb3.5,baz=302,slow=8.4,SNR=11						
ASAR				PcP	PcP	06 20 18.4	+0.7
	0.4nm,0.6s,baz=319,slow=1.4,SNR=4.1						
ASAR				LR	LR	06 26 20.0	
	comp=Z,38nm,21.1s,MS2.9,baz=245,slow=34						
ASAR	**Alice Springs**	**26.62**	**127**	P	**P**	**06 16 54.4**	**0.0**
ASAR				PcP	PcP	06 20 18.4	+0.7
STKA	**Stephens Creek**	**36.72**	**134**	P	**P**	**06 18 24.0**	**+1.0**
	1.0nm,0.4s,mb4.0,baz=295,slow=20,SNR=5.8						
STKA				PcP	PcP	06 20 45.0	0.0
	2.1nm,0.9s,baz=303,slow=13,SNR=5.8						
STKA	**Stephens Creek**	**36.72**	**134**	*e*P	**P**	**06 18 23.7**	**+0.7**
GUMO	**Guam**	**40.14**	**57**	LR	LR	06 37 30.7	
	comp=Z,33nm,18.6s,MS3.2,baz=298,slow=39						
SONM	**Songino Array**	**56.23**	**356**	P	**P**	**06 20 55.4**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=186,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**60.69**	**338**	P	**P**	**06 21 26.9**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=159,slow=6.9,SNR=5.9						
VNDA	**Vanda**	**73.80**	**170**	P	**P**	**06 22 49.9**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=273,slow=6.4,SNR=6.3						
QSPA	**South Pole Qui**	**81.51**	**180**	*e*P	**P**	**06 23 33.2**	**+0.2**
	2.4nm,0.6s,mb4.3						
SNAA	**Sanae**	**89.28**	**197**	*e*P	**P**	**06 24 12.6**	**+0.9**
	1.0nm,0.5s,mb4.4						

IDC 06 06:14:54.9±31.0, 2068S×17815W, h477km±299km, mb3.2/5, mb1 3.3/5, mb1mx3.1/14, mbtmp3.2/5, Error ellipse: s-maj=190.7km s-min=122.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.33**	**265**	P	P	06 20 52.6	+0.5
	2.2nm,0.5s,baz=93,slow=13,SNR=5.1						
STKA	**Stephens Creek**	**37.58**	**244**	P	P	06 21 27.3	-0.3
	1.9nm,0.8s,baz=110,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**44.34**	**257**	P	P	06 22 21.6	0.0
	2.4nm,0.8s,baz=86,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**44.43**	**262**	P	P	06 22 22.3	0.0
	1.1nm,0.6s,baz=92,slow=6.1,SNR=11						
FITZ	**Fitzroy Crossi**	**52.86**	**263**	P	P	06 23 26.3	+1.2
	0.6nm,0.4s,baz=82,slow=7.1,SNR=5.1						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	06 33 33.1	-0.8
	0.7nm,0.3s,baz=42,slow=3.7,SNR=7.0						

IDC 06 06:23:02.8±1.6, 6432N×3895W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/23, mbtmp3.9/6, ML2.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=47.5km s-min=33.1km az=120.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**16.87**	**249**	Pn	Pn	06 26 56.3	-4.0
	0.4nm,0.3s,baz=58,slow=12,SNR=6.7						
ARCES	**ARCESS Array B**	**24.68**	**49**	P	P	06 28 25.6	+0.2
	5.6nm,0.9s,baz=282,slow=7.7,SNR=7.3						
YKA	**Yellowknife Ar**	**32.08**	**302**	LR	LR	06 41 18.1	
	comp=Z,38nm,20.9s,baz=195,slow=34						
ZAL	**Zalesovo**	**54.36**	**37**	P	P	06 32 30.8	-0.4
	1.1nm,0.3s,baz=66,slow=7.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**58.30**	**132**	P	P	06 32 59.0	-0.4
	0.5nm,0.7s,baz=347,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**60.09**	**43**	P	P	06 33 11.2	-0.6
	0.4nm,0.4s,baz=350,slow=5.1,SNR=8.1						
SONM	**Songino Array**	**64.94**	**25**	P	P	06 33 43.1	-1.1
	0.6nm,0.7s,baz=347,slow=4.4,SNR=4.3						

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*ISCJB **06** 06:46:00.1±4.0, 60S±02×1513E±02, h63km±33km, mb3.9/7, Error ellipse: s-maj=37.1km s-min=23.5km az=55.5*
*IDC **06** 06:46:01.7±5.8, 6065×15137E, h63km±47km, mb3.6/7, mb1 3.9/8, mb1mx3.8/15, mbtmp3.7/8, ML3.6/1, MS3.2/6, Ms1 3.2/6, ms1mx3.1/17, Error ellipse: s-maj=41.4km s-min=27.7km az=99.0*

ISC 06 06:46:02.2±3.7, 60S±02×1514E±02, h67km±30km, n15, σ0°69/13, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.34**	**231**	P	**Pn**	**06 47 18.8**	**-0.5**
	13nm,0.3s,baz=63,slow=8.1,SNR=26						
PMG				S	**Sn**	**06 48 20.3**	**+0.9**
	7.4nm,0.3s,baz=97,slow=14,SNR=7.3						
PMG				LR	LR	06 49 15.2	
	comp=Z,148nm,20.2s,baz=246,slow=36						
CTA	**Charters Tower**	**14.82**	**199**	LR	LR	06 54 21.7	
	comp=Z,100nm,18.6s,baz=47,slow=34						
KAKA	**Kakadu**	**19.80**	**249**	*e*P	**Pn**	**06 50 28.4**	**-0.8**
	12nm,0.6s						
WB2	**Warramunga Arr**	**21.54**	**229**	*e*P	**P**	**06 50 45.4**	**-0.5**
WRA	**Warramunga Arr**	**21.55**	**229**	P	**P**	**06 50 45.7**	**-0.2**
	2.6nm,0.9s,mb3.6,baz=57,slow=11,SNR=19						
WRA				LR	LR	06 59 12.6	
	comp=Z,40nm,19.0s,baz=145,slow=37						
ASAR	**Alice Springs**	**24.27**	**222**	P	**P**	**06 51 13.3**	**+0.3**
	6.1nm,0.7s,mb4.1,baz=55,slow=9.0,SNR=21						
ASAR				LR	LR	06 59 36.4	
	comp=Z,76nm,19.0s,baz=244,slow=34						
ASPA	**Alice Springs**	**24.27**	**222**	*e*P	**P**	**06 51 13.9**	**+0.9**
STKA	**Stephens Creek**	**27.28**	**198**	LR	LR	07 03 42.0	
	comp=Z,107nm,18.0s,baz=203,slow=39						
FITZ	**Fitzroy Crossi**	**27.81**	**242**	*e*P	**P**	**06 51 52.4**	**+7.4**
	9.9nm,0.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.81**	**242**	P	**P**	**06 51 44.8**	**-0.2**
	1.6nm,0.7s,mb3.6,baz=90,slow=8.4,SNR=7.2						
FITZ				LR	LR	07 03 15.8	
	comp=Z,41nm,19.9s,baz=84,slow=37						
SONM	**Songino Array**	**66.62**	**329**	P	**P**	**06 56 45.7**	**+0.2**
	1.1nm,0.8s,mb3.7,baz=141,slow=4.4,SNR=5.6						
VNDA	**Vanda**	**71.65**	**178**	P	**P**	**06 57 15.6**	**-1.0**
	0.4nm,0.7s,mb3.4,baz=353,slow=5.7,SNR=3.9						
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**06 58 05.5**	**-0.4**
	0.6nm,0.9s,mb3.4,baz=108,slow=4.7,SNR=4.3						
NVAR	**Mina Array Bea**	**93.97**	**52**	P	**P**	**06 59 13.8**	**+1.2**
	0.7nm,0.8s,mb4.0,baz=266,slow=10,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.29**	**286**	PKPbc	PKPbc	07 05 44.9	+1.7
	3.3nm,0.7s,baz=60,slow=2.7,SNR=20						

MAN 06 06:56:45.0, 917N×12219E, h34km, mb3.2, ML4.5, MS5.8, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**1.29**	**117**	*e*P	Pn	06 57 07.6	+1.1
DCPH				*e*S	Sn	06 57 21.5	-1.1
IPIL	**Ipil**	**1.43**	**165**	*e*P	Pn	06 57 08.4	-0.1
GUIM	**Jordan**	**1.50**	**15**	*e*P	Pn	06 57 09.5	+0.1
GUIM				*e*S	Sn	06 57 28.6	+0.9
TBP	**Tagbilaran**	**1.73**	**73**	*e*P	Pn	06 57 12.6	0.0
TBP				*e*S	Sn	06 57 33.9	+0.4
PAGZ	**Pagadian**	**1.77**	**138**	*e*P	Pn	06 57 13.7	+0.6
CUYO	**Cuyo Island**	**2.03**	**325**	*e*P	Pn	06 57 17.4	+0.8
LLP	**Lapu-Lapu**	**2.09**	**57**	*e*P	Pn	06 57 17.4	-0.1
LLP				*e*S	Sn	06 57 36.4	-6.0
RCP	**Roxas**	**2.43**	**13**	*e*P	Pn	06 57 24.3	+2.0
MSLP	**Maasin**	**2.80**	**70**	*e*P	Pn	06 57 29.1	+1.8
OTRP	**Odiongan**	**3.17**	**357**	*e*P	Pn	06 57 33.0	+0.5
ENPP	**El Nido**	**3.39**	**307**	*e*P	Pn	06 57 36.7	+1.3

CASC 06 07:08:33.9±1.9, 1146N×8586W, h153km±5km, MD3.6, ML3.1, 13C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**0.17**	**176**	*e*P	Pn	07 08 54.3	-0.1
SSNN				*e*S	Sn	07 09 12.2	+2.1
CONN	**Concepcion**	**0.25**	**66**	↑*i*P	Pn	07 08 54.9	+0.3
MADN	**Villa Maderas**	**0.33**	**99**	↑*e*P	Pn	07 08 55.1	+0.3
TICN	**Ticuantepe**	**0.68**	**328**	↑*e*P	Pn	07 08 56.9	+0.4
MGAN	**Managua**	**0.78**	**331**	*e*P	Pn	07 08 57.5	+0.3
MGAN				*e*S	Sn	07 09 15.4	+0.4
TISN	**Laguna Tiscapa**	**0.79**	**330**	↓*e*P	Pn	07 08 57.5	+0.2
TISN				*e*S	Sn	07 09 15.1	0.0
XAVN	**Gruta Xavier**	**0.82**	**326**	↑*e*P	Pn	07 08 57.8	+0.2
XAVN				*e*S	Sn	07 09 16.4	+0.9
LIM1	**Limonal**	**0.96**	**142**	↑*i*P	Pn	07 08 59.0	+0.5
LIM1				*e*S	Sn	07 09 18.4	+0.9
COPN	**Copaltepe**	**1.01**	**315**	↓*e*P	Pn	07 08 58.8	-0.2
COPN				*e*S	Sn	07 09 18.9	+0.7
MOMJ	**Momotombo**	**1.15**	**325**	↑*i*P	Pn	07 09 00.3	0.0
MOMJ				*e*S	Sn	07 09 21.5	+1.1
MIRN	**Miramar**	**1.28**	**320**	↓*e*P	Pn	07 09 01.6	+0.1
MIRN				*e*S	Sn	07 09 23.3	+0.8
MIRN				*i*		07 09 24.8	
	comp=Z,273nm,0.3s						
CNGN	**Cerro Negro**	**1.32**	**322**	↑*e*P	Pn	07 09 01.8	0.0
CNGN				↑*i*P		07 09 01.9	
CNGN				*e*S	Sn	07 09 24.3	+1.1
CNGN				*i*		07 09 31.9	
	comp=E,481nm,0.2s						
VCR	**Vista de Mar**	**1.34**	**170**	↑*e*P	Pn	07 09 02.4	+0.3
VCR				*e*S	Sn	07 09 24.1	+0.5
LEON	**Leon**	**1.39**	**313**	↑*e*P	Pn	07 09 02.3	-0.1
LEON				*i*		07 09 25.6	
	comp=Z,216nm,0.2s						
CRIN	**San Cristobal**	**1.69**	**317**	*e*P	Pn	07 09 05.7	0.0
CRIN				*e*S	Sn	07 09 30.8	+0.6
CRIN				*i*		07 09 36.7	
	comp=Z,144nm,0.2s						
JCR	**Jicaral**	**1.76**	**155**	↑*e*P	Pn	07 09 07.0	+0.6
JCR				*e*S	Sn	07 09 31.6	+0.1
CAO	**Cobano**	**1.90**	**157**	↓*e*P	Pn	07 09 08.2	+0.2
EPA	**Esparza**	**1.92**	**139**	*e*P	Pn	07 09 08.6	+2.4
EPA				*e*S	Sn	07 09 35.3	+0.7
CGA2	**Cerro Gallo 2**	**1.98**	**136**	*e*P	Pn	07 09 09.9	+0.9
CGA2				*e*S	Sn	07 09 37.4	+1.5
POA2	**Poas 2**	**2.03**	**129**	*e*P	Pn	07 09 11.0	+1.4
POA2				*e*S	Sn	07 09 39.2	+2.3
PRS1	**Puriscal**	**2.12**	**134**	*e*P	Pn	07 09 12.5	+2.0
PRS1				*e*S	Sn	07 09 41.3	+2.7
LAJ	**Bijagual**	**2.33**	**133**	↓*e*P	Pn	07 09 12.2	-0.8
LAJ				*e*S	Sn	07 09 39.4	-3.9
IRZ2	**Volcan Irazu 2**	**2.43**	**127**	*e*P	Pn	07 09 15.1	+0.8
IRZ2				*e*S	Sn	07 09 49.3	+3.8
CTCR	**Cotoan**	**3.98**	**130**	↑*e*P	Pn	07 09 35.5	+1.6
CTCR				*e*S	Sn	07 10 21.6	+1.0

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*CSEM **06** 07:35:30.2, 6784N×2016E, h0km, ML2.6, Suspected Mining explosion. After UPP*
*UPP **06** 07:35:30.2, 6784N×2016E, h0km, ML2.6, Suspected Mining explosion.*

HEL 06 07:35:30.6±0.2, 6782N×2016E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**26**	*i* P	Pg	07 35 33.0	-0.5
NIKU	**Nikkaluokta**	**0.43**	**277**	*i* P	Pg	07 35 38.4	-0.4
LANU	**Lannavaara**	**0.73**	**71**	*i* P	Pg	07 35 43.9	-0.6
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	Pg	07 35 54.5	+0.7
KIF				*e*S	Sg	07 36 09.6	0.0
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	07 35 55.4	-1.9

CASC 06 07:54:19.6±3.2, 873N×8303W, h32km±7km, MD3.7, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.16**	**240**	↑*e*P	Pb	07 54 25.6	0.0
ACR				*e*S	Sb	07 54 30.4	+0.7
CTCR	**Cotoan**	**0.31**	**59**	↑*e*P	Pb	07 54 27.7	+0.3
BRU	**Baru**	**0.47**	**81**	*e*P	Pb	07 54 29.7	0.0
DVD	**David**	**0.65**	**117**	↑*e*P	Pb	07 54 31.4	-1.0
DVD				*e*S	Sb	07 54 41.2	+0.1
CNI	**Changuinola**	**0.85**	**37**	*e*P	Pn	07 54 35.6	+0.3
LIO	**Limon**	**1.26**	**360**	*e*P	Pn	07 54 41.3	+0.3
LCR2	**La Lucha 2**	**1.39**	**316**	↓*e*P	Pn	07 54 41.8	-0.9
LCR2				*e*S	Sn	07 55 00.8	+0.8
OCM	**Ochomogo**	**1.48**	**322**	*e*P	Pn	07 54 43.4	-0.5
OCM				*e*S	Sn	07 55 02.3	+0.2
IRZ2	**Volcan Irazu 2**	**1.50**	**325**	*e*P	Pn	07 54 45.8	+1.6
LAJ	**Bijagual**	**1.56**	**316**	↓*e*P	Pn	07 54 48.0	+2.9
LAJ				*e*S	Sn	07 55 11.7	+7.6
PRS1	**Puriscal**	**1.77**	**315**	↑*e*P	Pn	07 54 47.1	-0.9
PRS1				*e*S	Sn	07 55 08.6	-0.9
POA2	**Poas 2**	**1.87**	**320**	*e*P	Pn	07 54 50.8	+1.4
CGA2	**Cerro Gallo 2**	**1.91**	**312**	*e*P	Pn	07 54 50.3	+0.4
EPA	**Esparza**	**1.99**	**309**	*e*S	Sn	07 55 14.9	+0.2
CAO	**Cobano**	**2.26**	**295**	*e*P	Pn	07 54 53.9	-0.9
JCR	**Jicaral**	**2.33**	**299**	*e*P	Pn	07 54 56.5	+0.8
JCR				*e*S	Sn	07 55 22.4	-0.9
FORC	**Fortuna**	**2.37**	**317**	*e*P	Pn	07 54 57.7	+1.5
VACR	**Volcan Arenal**	**2.37**	**317**	*e*P	Pn	07 54 58.0	+1.7
AZU	**Azuero**	**2.88**	**109**	*e*P	Pn	07 55 04.1	+0.8
LIM1	**Limonal**	**2.94**	**312**	*e*P	Pn	07 55 05.4	+1.4
LIM1				*e*S	Sn	07 55 41.8	+3.6

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*IDC **06** 08:01:24.8±1.4, 2660N×12647E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/28, Error ellipse: s-maj=33.6km s-min=21.7km az=18.0*
*ISCJB **06** 08:01:26.2±1.3, 2667N±009×12636E±006, h18km±8km, mb3.4/3, MS2.9/1, Error ellipse: s-maj=14.5km s-min=9.0km az=18.8*
*JMA **06** 08:01:26.6±0.2, 2670N×12641E, h9km±4km, M3.2*

ISC 06 08:01:26.8±1.4, 2669N±008×12641E±006, h12km±7km, n10, σ0°65/16, mb3.4/3, MS2.9/1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.49**	**137**	P	**Pg**	**08 01 36.3**	**-0.2**
JKE				S	**Sg**	**08 01 43.0**	**0.0**
JAGN	**Aguni-jima**	**0.75**	**97**	P	**Pg**	**08 01 41.0**	**-0.3**
JAGN				S	**Sg**	**08 01 51.4**	**+0.2**
NAH1	**Naha**	**1.24**	**113**	P	**Pn**	**08 01 49.9**	**-0.1**
NAH1				*e*S	**Sb**	**08 02 06.4**	**+0.3**
JJT2	**Tamagusuku 2**	**1.32**	**114**	P	**Pn**	**08 01 51.1**	**+0.1**
JJT2				*e*S	**Sb**	**08 02 09.1**	**+0.8**
JIH	**Iheya**	**1.43**	**76**	P	**Pn**	**08 01 52.8**	**+0.2**
JIH				*e*S	**Sn**	**08 02 11.3**	**0.0**
JOW	**Kunigami**	**1.67**	**85**	Pn	**Pn**	**08 01 55.1**	**-0.7**
	9.4nm,0.3s,baz=284,slow=13,SNR=13						
JOW				Sn	**Sn**	**08 02 16.4**	**-0.8**
	17nm,0.3s,baz=138,slow=27,SNR=7.9						
JOW	**Kunigami**	**1.67**	**85**	P	**Pn**	**08 01 55.1**	**-0.8**
SONM	**Songino Array**	**26.30**	**329**	P	**P**	**08 07 04.1**	**+1.9**
	1.2nm,0.9s,mb3.4,baz=144,slow=7.4,SNR=5.7						
SONM				LR	LR	08 16 41.1	
	comp=Z,39nm,20.4s,MS2.9,baz=290,slow=35						
MKAR	**Makanchi Array**	**40.02**	**312**	P	**P**	**08 09 00.7**	**-0.8**
	0.2nm,0.5s,mb3.1,baz=98,slow=9.7,SNR=2.7						
WRA	**Warramunga Arr**	**46.98**	**170**	P	**P**	**08 09 57.1**	**-0.6**
	0.7nm,0.8s,mb3.6,baz=351,slow=8.5,SNR=4.8						

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*NEIC **06** 08:01:28.0, 3859S×17588E, h157km, MG3.7(WEL), After WEL.*

WEL 06 08:01:28.6±0.3, 3860S×17591E, h152km±2km, ML3.6/20, 2C, Error ellipse: s-maj=1.9km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.57**	**205**	P	Pn	08 01 50.8	+0.2
WTVZ	**West Tongariro**	**0.57**	**205**	PN	Pn	08 01 50.8	+0.2
TWVZ	**Taurewa**	**0.60**	**218**	P	Pn	08 01 50.7	0.0
TWVZ	**Taurewa**	**0.60**	**218**	PN	Pn	08 01 50.7	+0.0
NGZ	**Ngauruhoe**	**0.62**	**202**	P	Pn	08 01 51.1	+0.2
NGZ	**Ngauruhoe**	**0.62**	**202**	PN	Pn	08 01 51.1	+0.2
WPVZ	**Whakapapa**	**0.67**	**205**	P	Pn	08 01 51.3	+0.2
WPVZ				S	Sn	08 01 54.5	-14
WPVZ	**Whakapapa**	**0.67**	**205**	↑PN	Sn	08 01 51.3	+0.2
TUVZ	**Tukino**	**0.70**	**196**	PN	Pn	08 01 51.6	+0.3
BKZ	**Black Stump Fm**	**0.73**	**141**	P	Pn	08 01 52.0	+0.5
BKZ				S	Sn	08 02 09.3	+0.3
BKZ	**Black Stump Fm**	**0.73**	**141**	PN	Pn	08 01 51.9	+0.4
BKZ				SN	Sn	08 02 09.3	+0.3
WNVZ	**Wahianoa**	**0.77**	**198**	P	Pn	08 01 52.0	+0.2
WNVZ	**Wahianoa**	**0.77**	**198**	PN	Pn	08 01 52.0	+0.2
MOVZ	**Moawhango**	**0.82**	**188**	P	Pn	08 01 52.0	-0.1
MOVZ	**Moawhango**	**0.82**	**188**	PN	Pn	08 01 52.0	-0.2
PKVZ	**Pokaka**	**0.82**	**212**	PN	Pn	08 01 52.0	-0.2
URZ	**Urewera**	**1.00**	**71**	P	Pn	08 01 53.4	-0.2
URZ	**Urewera**	**1.00**	**71**	PN	Pn	08 01 53.4	-0.2
URZ				SN	Sn	08 02 12.2	-0.5
MWZ	**Matawai**	**1.30**	**79**	P	Pn	08 01 56.4	+0.1
MWZ	**Matawai**	**1.30**	**79**	PN	Pn	08 01 56.4	+0.1
KNZ	**Kokohu**	**1.44**	**108**	*e*P	Pn	08 01 58.2	+0.5
KNZ	**Kokohu**	**1.44**	**108**	PN	Pn	08 01 58.1	+0.4
TSZ	**Takapari Road**	**1.46**	**178**	P	Pn	08 01 57.6	-0.3
TSZ	**Takapari Road**	**1.46**	**178**	↑PN	Pn	08 01 57.5	-0.3
WPHZ	**Waipukurau**	**1.52**	**164**	PN	Pn	08 01 58.4	-0.1
PXZ	**Pawanui**	**1.61**	**153**	PN	Pn	08 01 59.5	0.0
PXZ				SN	Sn	08 02 22.2	-1.0
PUZ	**Puketiti**	**1.92**	**75**	*e*P	Pn	08 02 02.6	-0.3
PUZ	**Puketiti**	**1.92**	**75**	*e*PN	Pn	08 02 02.7	-0.2
PUZ				SN	Sn	08 02 29.5	+0.2
MRZ	**Mangatainoka R**	**2.08**	**187**	P	Pn	08 02 03.1	-1.6
MRZ	**Mangatainoka R**	**2.08**	**187**	PN	Pn	08 02 03.1	-1.6
BFZ	**Birch Farm**	**2.10**	**173**	P	Pn	08 02 03.8	-1.2
BFZ	**Birch Farm**	**2.10**	**173**	PN	Pn	08 02 03.7	-1.2
MXZ	**Matakaoa Point**	**2.16**	**62**	*e*P	Pn	08 02 05.3	-0.4
MXZ	**Matakaoa Point**	**2.16**	**62**	*e*PN	Pn	08 02 05.0	-0.6
TIWZ	**Tintock**	**2.18**	**180**	PN	Pn	08 02 04.4	-1.5
KIW	**Kapiti Island**	**2.39**	**198**	P	Pn	08 02 06.1	-2.3
KIW	**Kapiti Island**	**2.39**	**198**	PN	Pn	08 02 06.1	-2.3
MTW	**Mount Morrison**	**2.58**	**187**	P	Pn	08 02 08.2	-2.5
MTW	**Mount Morrison**	**2.58**	**187**	PN	Pn	08 02 08.2	-2.5
CAW	**Cannon Point**	**2.59**	**194**	P	Pn	08 02 08.4	-2.5
CAW	**Cannon Point**	**2.59**	**194**	PN	Pn	08 02 08.4	-2.5
DUWZ	**D'Urville Isla**	**2.68**	**214**	PN	Pn	08 02 09.1	-2.9
MRW	**Makara Radio**	**2.79**	**199**	PN	Pn	08 02 10.5	-2.8
TRWZ	**Traveller**	**2.80**	**183**	PN	Pn	08 02 11.1	-2.4
PAWZ	**Paruwai Farm**	**2.80**	**187**	P	Pn	08 02 10.8	-2.8
PAWZ	**Paruwai Farm**	**2.80**	**187**	PN	Pn

KOLN	**Koldanda**	**13.72**	**130**	*eP*		**Pn**	**08 17 43.6**	**-0.7**
	comp=N,14nm,0.4s							
GKN	**Gorkha**	**14.21**	**126**	*eP*		**Pn**	**08 17 49.5**	**-1.0**
KKN	**Kakani**	**14.77**	**125**	*eP*		**Pn**	**08 17 58.0**	**+0.5**
	comp=N,8.5nm,0.3s							
DMN	**Daman**	**14.78**	**126**	*eP*		**Pn**	**08 17 57.5**	**-0.1**
AB31	**Akbulak array**	**14.80**	**329**	⇑Pn		**Pn**	**08 17 57.7**	**-0.3**
	comp=N,0.8nm,0.3s							
AB31					Sn	**Sn**	**08 20 29.5**	**-13**
	comp=N,1.7nm,0.5s,baz=152,slow=21,SNR=7.1							
PKI	**Pulchoki**	**15.00**	**126**	*eP*		**Pn**	**08 18 01.0**	**+0.6**
	comp=N,5.4nm,0.2s							
GUN	**Gumba**	**15.08**	**124**	*eP*		**Pn**	**08 18 01.0**	**-0.4**
	comp=N,14nm,0.4s							
JIRN	**Jiri**	**15.46**	**124**	*eP*		**Pn**	**08 18 07.3**	**+1.3**

KRSC 06 08:18:15.7±0.5, 5490N×16542E, h41km±41km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.98**	**313**	*eP*	Pn	08 18 46.1	-0.5
KBTR				*eS*	Sn	08 19 08.8	-1.4
KBTR	**Krutoberegovo**	**1.98**	**313**	*eP*	Pn	08 18 46.1	-0.5
KBTR				*eS*	Sn	08 19 08.8	-1.4
MKZ	**Mys Kozlova**	**2.17**	**262**	*eP*	Pn	08 18 51.5	+2.2
MKZ				*eS*	Sn	08 19 17.2	+2.3
MKZ	**Mys Kozlova**	**2.17**	**262**	*eP*	Pn	08 18 51.5	+2.2
MKZ				*eS*	Sn	08 19 17.2	+2.3
ZLN	**Zelenaya**	**2.86**	**295**	*eP*	Pn	08 19 02.1	+3.4
ZLN				*eS*	Sn	08 19 36.5	+4.6
ZLN	**Zelenaya**	**2.86**	**295**	*eP*	Pn	08 19 02.1	+3.4
ZLN				*eS*	Sn	08 19 36.5	+4.6
SRKR	**Sorokina**	**2.98**	**308**	P	Pn	08 19 02.1	+1.7
SRKR				S	Sn	08 19 36.1	+1.3
SRKR	**Sorokina**	**2.98**	**308**	P	Pn	08 19 02.1	+1.7
SRKR				S	Sn	08 19 36.1	+1.3
KLY	**Klyuchi**	**3.05**	**300**	S	Sn	08 19 37.2	+0.5
KLY	**Klyuchi**	**3.05**	**300**	S	Sn	08 19 37.2	+0.5
TUMR	**Tumrok**	**3.06**	**279**	S	Sn	08 19 40.6	+3.8
TUMR	**Tumrok**	**3.06**	**279**	S	Sn	08 19 40.6	+3.8
KRSR	**Krestovskiy**	**3.06**	**298**	P	Pn	08 19 04.1	+2.6
KRSR				S	Sn	08 19 39.4	+2.6
KRSR	**Krestovskiy**	**3.06**	**298**	P	Pn	08 19 04.1	+2.6
KRSR				S	Sn	08 19 39.4	+2.6
KMNR	**Kamenistaya**	**3.08**	**288**	P	Pn	08 19 05.3	+3.5
KMNR				S	Sn	08 19 41.2	+3.7
KMNR	**Kamenistaya**	**3.08**	**288**	P	Pn	08 19 05.3	+3.5
KMNR				S	Sn	08 19 41.2	+3.7
KPT	**Kopyto**	**3.15**	**292**	P	Pn	08 19 06.8	+4.1
KPT				S	Sn	08 19 43.3	+4.2
KPT	**Kopyto**	**3.15**	**292**	P	Pn	08 19 06.8	+4.1
KPT				S	Sn	08 19 43.3	+4.2
KOZ	**Kozyrevsk**	**3.36**	**292**	P	Pn	08 19 10.0	+4.3
KOZ				S	Sn	08 19 49.3	+4.9
KOZ	**Kozyrevsk**	**3.36**	**292**	P	Pn	08 19 10.0	+4.3
KOZ				S	Sn	08 19 49.3	+4.9
SRDR	**Sredinnyy**	**3.53**	**296**	P	Pn	08 19 11.4	+3.4
SRDR				S	Sn	08 19 51.5	+3.0
SRDR	**Sredinnyy**	**3.53**	**296**	P	Pn	08 19 11.4	+3.4
SRDR				S	Sn	08 19 51.5	+3.0
SPN	**Mys Shipunski**	**3.66**	**243**	*eP*	Pn	08 19 11.8	+2.0
SPN				*eS*	Sn	08 19 51.4	-0.3
SPN	**Mys Shipunski**	**3.66**	**243**	*eP*	Pn	08 19 11.8	+2.0
SPN				*eS*	Sn	08 19 51.4	-0.3
NLC	**Nalytchevo**	**3.98**	**247**	*eP*	Pn	08 19 16.6	+2.4
NLC				*eS*	Sn	08 20 01.7	+2.2
NLC	**Nalytchevo**	**3.98**	**247**	*eP*	Pn	08 19 16.6	+2.4
NLC				*eS*	Sn	08 20 01.7	+2.2
AVH	**Avacha**	**4.26**	**250**	*eP*	Pn	08 19 21.6	+3.6
AVH				*eS*	Sn	08 20 09.6	+3.1
AVH	**Avacha**	**4.26**	**250**	*eP*	Pn	08 19 21.6	+3.6
AVH				*eS*	Sn	08 20 09.6	+3.1
PET	**Petropavlovsk**	**4.42**	**248**	P	Pn	08 19 22.9	+2.7
PET				S	Sn	08 20 11.5	+1.2
PET	**Petropavlovsk**	**4.42**	**248**	P	Pn	08 19 22.9	+2.7
PET				S	Sn	08 20 11.5	+1.2
GNL	**Ganaly**	**4.54**	**258**	*eP*	Pn	08 19 25.7	+3.8
GNL	**Ganaly**	**4.54**	**258**	*eP*	Pn	08 19 25.7	+3.8
RUS	**Russkaya**	**4.79**	**242**	*eP*	Pn	08 19 28.0	+2.7
RUS	**Russkaya**	**4.79**	**242**	*eP*	Pn	08 19 28.0	+2.7
GRL	**Gorelyy**	**4.96**	**245**	*eP*	Pn	08 19 31.7	+4.1
GRL	**Gorelyy**	**4.96**	**245**	*eP*	Pn	08 19 31.7	+4.1

*ISCJB **06** 08:32:24.7±0.7, 3489N×007×737E±0.1, h10km, mb3.6/4, Error ellipse: s-maj=19.6km s-min=5.0km az=123.7*
*IDC **06** 08:32:24.0±1.0, 3450N×731E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=36.3km s-min=24.4km az=46.0*

ISC 06 08:32:25.8±0.7, 3471N±009×734E±01, h10km, n19, σ1s08/22, mb3.6/4, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.01**	**138**	*eP*	**Pb**	**08 33 18.0**	**-1.4**
THN				*eS*	**Sg**	**08 34 02.4**	**0.0**
DLH	**Dalhousie**	**3.07**	**134**	*ex*	x	08 34 16.0	
SDNR	**Sundarnagar**	**4.41**	**135**	*eP*	**Pn**	**08 33 35.8**	**+3.1**
SDNR				*ex*	**Sg**	**08 34 45.8**	**-1.6**
KHET	**Khetri**	**6.94**	**162**	*eS*	**Sn**	**08 35 32.2**	**+5.9**
KHET				AML	AML	08 36 17.5	
	comp=N,4.3nm,0.3s						
KHET				AML	AML	08 36 17.6	
	comp=E,5.5nm,0.2s						
SONA	**Sohna**	**7.18**	**153**	*eP*	**Pn**	**08 34 11.6**	**+0.8**
SONA				*eS*	**Sn**	**08 35 39.9**	**+7.5**
SONA				AML	AML	08 36 25.3	
	comp=N,7.4nm,0.4s						
SONA				AML	AML	08 36 27.1	
	comp=E,12nm,0.2s						
KK31	**Karatay Array**	**8.67**	**346**	Pn	**Pn**	**08 34 33.8**	**+2.6**
	comp=E,0.7nm,0.2s,baz=161,slow=12,SNR=21						
KK31				⇑Sn	**Sn**	**08 36 08.1**	**-1.0**
	comp=E,3.9nm,0.9s,baz=166,slow=22,SNR=5.2						
KOLN	**Koldanda**	**11.16**	**125**	*eP*	**Pn**	**08 35 06.1**	**+0.7**
	comp=E,4.1nm,0.4s						
GKN	**Gorkha**	**11.73**	**122**	*eP*	**Pn**	**08 35 13.8**	**+0.7**
	comp=E,13nm,0.3s						
DMN	**Daman**	**12.30**	**122**	*eP*	**Pn**	**08 35 21.6**	**+0.7**
	comp=E,5.9nm,0.3s						
KKN	**Kakani**	**12.31**	**121**	*eP*	**Pn**	**08 35 20.8**	**-0.3**
PKI	**Pulchoki**	**12.54**	**121**	*eP*	**Pn**	**08 35 24.5**	**+0.4**
	comp=E,3.6nm,0.2s						
GUN	**Gumba**	**12.67**	**119**	*eP*	**Pn**	**08 35 25.6**	**-0.4**
JIRN	**Jiri**	**13.04**	**119**	*eP*	**Pn**	**08 35 30.5**	**-0.5**
	comp=E,26nm,0.3s						
MKAR	**Makanchi Array**	**13.83**	**27**	Pn	**Pn**	**08 35 47.1**	**+5.2**
	comp=E,0.0nm,0.3s,baz=207,slow=16,SNR=2.9						
AKTO	**Aktyubinsk**	**19.29**	**329**	P	**Pn**	**08 36 49.6**	**-2.1**
	comp=E,0.4nm,0.3s,baz=124,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**43.53**	**338**	P	**P**	**08 40 30.0**	**+0.5**
	comp=E,4.3nm,1.0s,mb4.1,baz=121,slow=8.4,SNR=6.9						
TORD	**Torodi Ar. Bea**	**67.62**	**271**	P	**P**	**08 43 22.1**	**-0.6**
	comp=E,0.4nm,0.4s,mb3.8,baz=51,slow=5.6,SNR=11						
WRA	**Warramunga Arr**	**79.41**	**123**	P	**P**	**08 44 32.6**	**+0.4**
	comp=E,0.2nm,0.4s,mb3.4,baz=322,slow=5.0,SNR=10						
ASAR	**Alice Springs**	**81.66**	**126**	P	**P**	**08 44 44.4**	**+0.2**
	comp=E,0.3nm,0.7s,mb3.3,baz=309,slow=5.0,SNR=4.4						

*ISCJB **06** 08:43:04.5±1.1, 175S±04×1784W±03, h619km±29km, mb4.3/11, Error ellipse: s-maj=62.4km s-min=28.6km az=129.1*
*NEIC **06** 08:43:04.6±0.7, 1766S×17857W, h575km±10km, mb4.3/8, Error ellipse: s-maj=35.8km s-min=9.7km az=152.0*
*IDC **06** 08:43:04.8±2.0, 1760S×17861W, h571km±24km, mb3.8/4, mb1 3.8/6, mb1mx3.3/16, mbtmp3.7/6, Error ellipse: s-maj=81.9km s-min=20.1km az=152.0*

ISC 06 08:43:05.0±1.4, 177S±04×1785W±03, h583km±41km, n23, σ0s42/20, mb4.3/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.47**	**61**	P	**P**	**08 44 58.5**	**0.0**
	1.9nm,0.3s,baz=115,slow=14,SNR=3.5						
DZM	**Mont Dzumac**	**14.83**	**250**	P	**P**	**08 46 12.1**	**-0.1**
	0.6nm,0.3s,baz=87,slow=17,SNR=12						
CTA	**Charters Tower**	**33.41**	**260**	*eP*	**P**	**08 48 56.4**	**0.0**
	3.2nm,0.6s,mb4.1						
CTAO	**Charters Tower**	**33.41**	**260**	*eP*	**P**	**08 48 56.3**	**-0.1**
	5.2nm,0.7s,mb4.3						
CNB	**Canberra Magne**	**33.51**	**232**	*eP*	**P**	**08 48 57.5**	**+0.2**
	15nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.68**	**241**	⇓*iP*	**P**	**08 49 40.1**	**+0.4**
	7.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**08 49 40.2**	**+0.5**
	8.4nm,0.5s,mb4.5,baz=92,slow=9.4,SNR=45						
STKA				PcP	PcP	08 51 37.0	+0.7
	3.2nm,1.1s,baz=333,slow=2.3,SNR=2.4						
STKA	**Stephens Creek**	**38.68**	**241**	*eP*	**P**	**08 49 40.1**	**+0.4**
WB2	**Warramunga Arr**	**44.59**	**259**	*eP*	**P**	**08 50 26.0**	**-0.2**
WRAB	**Tennant Creek**	**44.59**	**259**	*eP*	**P**	**08 50 25.7**	**-0.5**
	4.6nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.60**	**259**	P	**P**	**08 50 25.8**	**-0.4**
	4.9nm,0.5s,mb4.3,baz=95,slow=7.2,SNR=214						
WRA				PcP	PcP	08 51 56.5	+0.2
	0.6nm,0.4s,baz=93,slow=3.4,SNR=4.9						
AS31	**Alice Springs**	**44.78**	**254**	*eP*	**P**	**08 50 27.7**	**+0.1**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**08 50 27.9**	**+0.2**
	29nm,0.5s,mb5.1,baz=88,slow=8.5,SNR=701						
ASAR				PcP	PcP	08 51 57.4	+0.5
	1.1nm,0.5s,baz=104,slow=4.0,SNR=4.4						
ASPA	**Alice Springs**	**44.78**	**254**	*eP*	**P**	**08 50 27.8**	**+0.1**
KAKA	**Kakadu**	**47.51**	**269**	*eP*	**P**	**08 50 48.8**	**+0.5**
	11nm,0.5s,mb4.7						
FORT	**Forrest**	**50.04**	**244**	*eP*	**P**	**08 51 06.2**	**-0.7**
	15nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.99**	**260**	P	**P**	**08 51 28.9**	**+0.7**
	0.9nm,0.3s,mb3.6,baz=126,slow=5.9,SNR=8.0						
MBWA	**Marble Bar**	**58.06**	**256**	*eP*	**P**	**08 52 03.0**	**-0.2**
	4.6nm,0.7s,mb3.7						
KLBR	**Kellerberrin**	**58.87**	**243**	*eP*	**P**	**08 52 08.0**	**-0.6**
	9.3nm,0.7s,mb4.0						
MUN	**Mundaring**	**60.16**	**243**	*eP*	**P**	**08 52 17.8**	**+0.6**
MKAR	**Makanchi Array**	**108.92**	**314**	PKiKP	PKiKP	09 00 28.5	-0.3
	0.3nm,0.5s,baz=132,slow=2.1,SNR=5.3						
BRTR	**Keskin Array B**	**144.56**	**315**	PKP	PKPdf	09 01 37.4	+1.6
	1.0nm,0.7s,baz=100,slow=3.7,SNR=4.9						
GERES	**GERESS Array B**	**147.37**	**345**	PKPbc	PKPbc	09 01 44.9	+1.1
	1.0nm,0.5s,baz=24,slow=3.6,SNR=4.3						

*TRN **06** 09:08:36.9, 1057N×6219W, h30km, MD2.9*
*FUNV **06** 09:08:37.8, 1040N×6209W, h22km, MW2.4*
*ISCJB **06** 09:08:38.2±0.8, 1044N±008×6211W±004, h27km±6km, Error ellipse: s-maj=12.7km s-min=5.7km az=166.2*

ISC 06 09:08:38.2±0.8, 1043N±007×6211W±004, h25km±6km, n7, σ0s55/13, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.24**	**333**	*eP*	**Pb**	**09 08 44.2**	**-0.2**
GUIV				*eS*	**Sb**	**09 08 48.5**	**-0.2**
TCE	**Chacachacare**	**0.44**	**53**	*eP*	**Pb**	**09 08 47.1**	**-0.3**
TCE				*eS*	**Sb**	**09 08 53.6**	**-0.1**
TRN	**Trinidad (W)**	**0.73**	**72**	*eP*	**Pb**	**09 08 51.5**	**-0.7**
TRN				*eS*	**Sb**	**09 09 03.3**	**+1.5**
GUNV	**Guanoco**	**0.86**	**252**	*eP*	**Pb**	**09 08 54.2**	**-0.2**
GUNV				*eS*	**Sb**	**09 09 06.2**	**+0.7**
TBH	**Brigand Hill**	**1.03**	**87**	*eP*	**Pn**	**09 08 56.6**	**-0.4**
CRUV	**Carupano**	**1.13**	**283**	*eP*	**Pn**	**09 08 58.0**	**-0.4**
CRUV				*eS*	**Sn**	**09 09 13.0**	**-0.1**
ITEV	**Isla Los Testi**	**1.36**	**313**	*eP*	**Pn**	**09 09 01.4**	**-0.2**
ITEV				*eS*	**Sn**	**09 09 19.4**	**+0.6**

IDC 06 09:42:17.1±11.0, 1221S×16723E, h184km±103km, mb3.4/9, mb1 3.7/9, mb1mx3.5/16, mbtmp3.4/9, Error ellipse: s-maj=40.9km s-min=31.1km az=151.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.48**	**252**	P	P	09 48 30.4	+0.2
	0.1nm,0.4s,baz=83,slow=8.7,SNR=6.0						
ASAR	**Alice Springs**	**33.60**	**246**	P	P	09 48 40.1	+0.2
	0.5nm,0.6s,baz=74,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**40.50**	**256**	P	P	09 49 38.6	+0.6
	0.8nm,0.9s,baz=344,slow=18,SNR=3.6						
MJAR	**Matsushiro Ar**	**55.67**	**332**	P	P	09 51 34.0	-0.1
	2.1nm,0.8s,baz=175,slow=7.3,SNR=4.8						
SONM	**Songino Array**	**80.46**	**323**	P	P	09 54 08.8	+0.4
	0.4nm,0.7s,baz=141,slow=5.0,SNR=4.6						
NVAR	**Mina Array Bea**	**85.67**	**49**	P	P	09 54 35.9	+0.8
	1.1nm,0.7s,baz=240,slow=8.3,SNR=7.2						
PDAR	**Pinedale Array**	**93.27**	**47**	P	P	09 55 11.0	+0.2
	0.1nm,0.3s,baz=17,slow=7.0,SNR=2.4						
TXAR	**Lajitas Array**	**95.11**	**61**	P	P	09 55 19.9	+0.7
	0.3nm,0.7s,baz=235,slow=4.4,SNR=4.5						
MKAR	**Makanchi Array**	**95.36**	**317**	P	P	09 55 20.1	-0.3
	2.0nm,0.8s,baz=97,slow=6.2,SNR=16						
ARCES	**ARCESS Array B**	**117.81**	**346**	PKP	PKPdf	10 00 40.0	-1.5
	2.2nm,0.8s,baz=46,slow=3.5,SNR=7.3						
KEST	**Kesra**	**149.21**	**323**	PKPbc	PKPbc	10 01 44.6	+0.8
	1.0nm,0.7s,baz=127,slow=8.3,SNR=3.3						

*BJI **06** 09:53:27.6, 3732N×7206E, h231km, mb4.7*
*ISCJB **06** 09:53:28.3±0.3, 3726N±002×7224E±006, h229km±6km, mb3.7/8, Error ellipse: s-maj=8.1km s-min=3.9km az=164.4*
*MOS **06** 09:53:29.4±1.0, 3736N×7209E, h227km, mb4.1/1, Error ellipse: s-maj=19.7km s-min=10.5km az=89.4*
*NEIC **06** 09:53:29.9±1.5, 3734N×7210E, h216km±16km, mb4.4/3, Error ellipse: s-maj=13.0km s-min=12.5km az=147.0*
*IDC **06** 09:53:31.8±3.2, 3723N×7218E, h248km±36km, mb3.5/7, mb1 3.5/12, mb1mx3.3/25, mbtmp3.4/12, Error ellipse: s-maj=24.5km s-min=15.0km az=130.0*
*NNC **06** 09:53:36.2±14.0, 3789N×7232E, h236km±192km, mb2.4, mpv3.5, Error ellipse: s-maj=212.3km s-min=80.0km az=26.0*

ISC 06 09:53:29.4±0.3, 3727N±002×7228E±006, h223km±5km, n58, σ0s99/74, mb3.7/8, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.45**	**185**	⇓P	**Pn**	**09 54 26.9**	**+1.5**
CEP				S	**S**	**09 55 09.0**	**-0.6**
KSH	**Kashi**	**3.67**	**51**	P	**Pn**	**09 54 29.3**	**+1.3**
KSH				S	**S**	**09 55 12.9**	**-1.3**
KSH				Smax			
	comp=N,6μm,0.3s						
KSH				Smax			
	comp=E,6μm,0.3s						
CHCP	**Chirah Chowk**	**3.69**	**167**	P	**Pn**	**09 54 30.7**	**+2.5**
CHCP				S	**S**	**09 55 18.0**	**+3.3**
THW	**Thamme Wali**	**4.49**	**186**	P	**Pn**	**09 54 39.0**	**+1.1**
AML	**Almayashu**	**4.98**	**12**	P	**Pn**	**09 54 44.3**	**+0.3**
	SNR=220						
UCH	**Uchtor**	**5.24**	**18**	P	**Pn**	**09 54 47.8**	**+0.4**
	SNR=203						
KZA	**Kyzart**	**5.32**	**25**	P	**Pn**	**09 54 48.3**	**0.0**
	SNR=13						
EKS2	**Erkin-Say**	**5.51**	**12**	P	**Pn**	**09 54 50.8**	**+0.1**
	SNR=28						
THN	**Thein Dam**	**5.59**	**149**	*eP*	**Pn**	**09 54 52.5**	**+0.8**
THN				*eS*	**S**	**09 55 55.5**	**-1.6**
DLH	**Dalhousie**	**5.60**	**146**	*eP*	**Pn**	**09 54 50.0**	**-1.9**
DLH				*eS*	**S**	**09 55 54.0**	**-3.5**
AAK	**Ala-Archa**	**5.62**	**17**	*eP*	**Pn**	**09 54 52.7**	**+0.6**
	SNR=46						
AAK	**Ala-Archa**	**5.62**	**17**	*ePN*	**Pn**	**09 54 51.6**	**-0.6**
AAK				*eS*	**S**	**09 55 57.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,59nm,0.6s						
AAK	**Ala-Archa**	**5.62**	**17**	*ePn*	**Pn**	**09 54 51.6**	**-0.6**
	comp=Z,59nm,0.6s						
AAK				*eS*	**S**	**09 55 57.8**	**-0.1**
KBK	**Karagaybulak**	**5.76**	**20**	P	**Pn**	**09 54 55.0**	**+1.1**
	SNR=16						
DRP	**Derazinda**	**5.77**	**198**	P	**Pn**	**09 54 54.9**	**+0.9**
ULHL	**Ulahol**	**5.83**	**30**	P	**Pn**	**09 54 54.9**	**+0.1**
	SNR=9.7						
KK31	**Karatay Array**	**5.99**	**347**	P	**Pn**	**09 54 56.0**	**-0.8**
	comp=Z,1.2nm,0.2s,baz=162,slow=11,SNR=57						
KK31				S	**S**	**09 56 00.4**	**-5.9**
	comp=Z,78nm,0.3s,baz=179,slow=22,SNR=36						
CHMS	**Chumysh**	**6.03**	**17**	P	**Pn**	**09 54 57.4**	**+0.1**
	SNR=22						
TKM2	**Tokmak 2**	**6.19**	**23**	P	**Pn**	**09 54 59.9**	**+0.6**
	SNR=81						
TKM2	**Tokmak 2**	**6.19**	**23**	⇓P	**Pn**	**09 54 59.4**	**0.0**
	comp=Z,3.3nm,0.5s						
USP	**Ospenovka**	**6.23**	**15**	P	**Pn**	**09 54 59.2**	**-0.6**
	SNR=30						
SDNR	**Sundarnagar**	**6.93**	**145**	*eP*	**Pn**	**09 55 08.0**	**-0.9**
SMLA	**Simla**	**7.34**	**145**	*eP*	**Pn**	**09 55 14.0**	**-0.1**
SMLA				*eS*	**S**	**09 56 32.0**	**-5.7**
NDI	**New Delhi**	**9.51**	**153**	*eP*	**Pn**	**09 55 41.0**	**-0.9**
NDI				*ex*	x	09 57 28.5	
KHET	**Khetri**	**9.63**	**161**	*eP*	**Pn**	**09 55 41.3**	**-2.2**
KHET				*eS*	**S**	**09 57 23.8**	**-8.0**
KHET				AML	AML	09 57 31.2	
	comp=E,8.7nm,0.4s						
KHET				AML	AML	09 57 31.7	
	comp=N,9.8nm,0.1s						
SONA	**Sohna**	**9.86**	**154**	*eP*	**Pn**	**09 55 45.7**	**-0.6**
SONA				*eS*	**S**	**09 57 30.7**	**-6.3**
SONA				AML	AML	09 57 34.0	
	comp=E,17nm,0.6s						
SONA				AML	AML	09 57 34.5	
	comp=N,12nm,0.3s						
MK31	**Makanchi Array**	**12.07**	**35**	*eP*	**Pn**	**09 56 14.2**	**-0.2**
MKAR	**Makanchi Array**	**12.07**	**35**	P	**Pn**	**09 56 15.2**	**+0.8**
	comp=N,0.3nm,0.3s,baz=217,slow=15,SNR=12						
KOLN	**Koldanda**	**13.44**	**132**	*eP*	**Pn**	**09 56 31.7**	**+0.3**
	comp=N,27nm,0.6s						
GKN	**Gorkha**	**13.90**	**128**	*eP*	**Pn**	**09 56 37.5**	**+0.3**
	comp=N,87nm,0.4s						
KKN	**Kakani**	**14.46**	**127**	*eP*	**Pn**	**09 56 44.6**	**+0.6**
	comp=N,31nm,0.5s						
DMN	**Daman**	**14.48**	**128**	*eP*	**Pn**	**09 56 44.2**	**0.0**
	comp=N,41nm,0.6s						
PKI	**Pulchoki**	**14.69**	**127**	*eP*	**Pn**	**09 56 47.5**	**+0.7**
	comp=N,39nm,0.5s						
GUN	**Gumba**	**14.76**	**125**	*eP*	**Pn**	**09 56 47.9**	**+0.2**
	comp=N,20nm,0.4s						
AB31	**Akbulak array**	**14.96**	**327**	⇑Pn	**Pn**	**09 56 47.6**	**-2.4**
	comp=N,1.9nm,0.5s						
AB31				⇓Sn	**S**	**09 59 27.4**	**-8.2**
	comp=N,1.5nm,0.5s,baz=154,slow=22,SNR=5.2						
JIRN	**Jiri**	**15.13**	**125**	*eP*	**Pn**	**09 56 52.8**	**+0.6**
	comp=N,76nm,0.4s						
BVAR	**Borovoye Array**	**15.81**	**356**	P	**Pn**	**09 57 00.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=148,slow=14,SNR=5.2						
BVAR				S	**S**	**09 59 52.7**	**-1.8**
	comp=N,0.3nm,0.3s,baz=166,slow=24,SNR=6.3						
ZRNK	**Zerenda**	**15.85**	**353**	*eP*	**Pn**	**09 57 01.2**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**15.85**	**353**	*eP*	**Pn**	**09 57 01.1**	**+0.4**
	comp=Z,1.4nm,0.6s						
AKTK	**Aktyubinsk**	**16.67**	**327**	P	**P**	**09 57 09.3**	**+0.3**
AKTK				S	**S**	**10 00 12.1**	**+0.5**
AKTO	**Aktyubinsk**	**16.67**	**327**	⇓Pn	**Pn**	**09 57 08.6**	**-1.9**
	comp=Z,0.1nm,0.5s						
AKTO				Sn	**S**	**10 00 13.0**	**+1.4**
	comp=Z,2.1nm,2.9s						
AKTO	**Aktyubinsk**	**16.67**	**327**	P	**P**	**09 57 09.3**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=126,slow=14,SNR=13						
AKTO				S	**S**	**10 00 12.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=37,slow=18,SNR=4.1						
LSA	**Lhasa**	**17.44**	**110**	*eP*	**P**	**09 57 22.2**	**+4.8**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**17.44**	**110**	*eP*	**P**	**09 57 22.2**	**+4.8**
	comp=Z,9.4nm,0.6s						
WSAR	**Wadi Sarin**	**18.26**	**224**	P	**P**	**09 57 27.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=67,slow=8.6,SNR=21						
ZAL	**Zalesovo**	**18.78**	**23**	P	**P**	**09 57 32.9**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=254,slow=8.4,SNR=11						
ZAL	**Zalesovo**	**18.78**	**23**	P	**P**	**09 57 32.9**	**+0.9**
SONM	**Songino Array**	**27.05**	**56**	P	**P**	**09 58 52.7**	**+1.6**
	comp=Z,0.6nm,0.6s,mb3.4,baz=262,slow=8.8,SNR=4.6						
SONM				pP	pP	09 59 39.9	+4.4
	comp=Z,0.8nm,0.6s,baz=262,slow=9.5,SNR=4.6						
BRTR	**Keskin Array B**	**30.19**	**287**	P	**P**	**09 59 19.3**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=104,slow=8.5,SNR=3.5						
JOF	**Joensuu**	**35.73**	**329**	*ep*	**P**	**10 00 06.3**	**-0.5**
	comp=Z,2.0nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**37.43**	**325**	P	**P**	**10 00 20.8**	**-0.3**
	comp=Z,2.8nm,0.8s,mb3.8,baz=131,slow=9.4,SNR=5.7						
FINES	**FINESS Array B**	**37.43**	**325**	P	**P**	**10 00 20.8**	**-0.3**
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**10 00 49.5**	**+0.2**
	comp=Z,6.1nm,1.1s,mb3.9,baz=122,slow=9

*IDC **06** 10:53:18.6±1.1, 1569S×175.19W, h0km, mb3.8/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML3.4/1, MS4.2/22, Ms1 4.1/22, ms1mx4.1/26, Error ellipse: s-maj=51.3km s-min=23.4km az=146.0*

*ISCJB **06** 10:53:20.3±0.7, 155S±03×175.1W±02, h35km, mb3.8/6, MS4.2/19, Error ellipse: s-maj=43.5km s-min=8.5km az=127.3*

*NEIC **06** 10:53:24.1±0.8, 1571S×17522W, h35km, Error ellipse: s-maj=40.7km s-min=17.8km az=145.0*

*GCMT **06** 10:53:24.1±0.3, 1536S×17508W, h12km, MW5.0/75, Moment Tensor Solution. s38,c44; s75,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.69±.10; Mθθ=2.72±.10; Mϕϕ=2.03±.09; Mrθ=1.40±.27; Mrϕ=2.03±.08; Mθϕ=0.81±.26; Best double couple: M=3.55700×10^16 NP1:ϕs=26.00000°, δ=61.00000°, λ=-171.00000°. NP2: ϕs=292.00000°, δ=82.00000°, λ=-29.00000°. Principal axes: T 3.7250, Plg14.0000°, Azm342.0000°; N -0.3320, Plg60.0000°, Azm98.0000°; P -3.3890, Plg26.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 10:53:22.9±0.7, 156S±03×1750W±02, h35km, n32, σ1=43/11, mb3.8/6, MS4.2/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.59**	**62**	Pn	**Pn**	**10 54 11.4**	**-4.6**
	3.3nm,0.3s,baz=263,slow=18,SNR=6.0						
AFI				Sn	**Sn**	**10 54 55.8**	**-1.5**
	2.3nm,0.3s,baz=206,slow=21,SNR=2.6						
AFI				T		10 57 58.3	
	14nm,0.3s,baz=66,slow=22,SNR=4.0						
AFI	**Afiamalu**	**3.59**	**62**	*e*Pn	**Pn**	**10 54 10.7**	**-5.3**
AFI				Sn	**Sn**	**10 54 55.8**	**-1.5**
RAO	**Raoul Island**	**13.82**	**191**	LR	LR	11 01 08.4	
	comp=Z,2μm,18.4s,baz=321,slow=34						
RAR	**Rarotonga**	**15.52**	**113**	LR	LR	11 01 25.0	
	comp=Z,275nm,19.4s,baz=208,slow=31						
DZM	**Mont Dzumac**	**18.65**	**247**	P	**Pn**	**10 57 36.4**	**-1.7**
	0.1nm,0.3s,baz=81,slow=16,SNR=3.7						
DZM				LR	LR	11 02 09.9	
	comp=Z,142nm,20.7s,baz=38,slow=29						
PPT	**Papeete**	**24.48**	**98**	*e*LQ		11 03 33.1	
	3μm,27.2s						
PPT				*e*LR	LR	11 04 36.5	
	848nm,26.8s,baz=269						
PPT	**Papeete**	**24.48**	**98**	LR	LR	11 05 30.1	
	comp=Z,361nm,20.1s,MS3.9,baz=271,slow=30						
HNR	**Honiara**	**25.16**	**281**	LR	LR	11 06 51.7	
	comp=Z,629nm,21.4s,MS4.1,baz=358,slow=32						
TBI	**Tubuai**	**25.28**	**112**	*e*LQ		11 03 57.8	
	2μm,30.5s						
TBI				*e*LR	LR	11 05 06.5	
	341nm,28.0s						
TAOE	**Nuku Hiva Isla**	**34.72**	**83**	*e*LR	LR	11 09 33.0	
	4μm,27.4s						
CTA	**Charters Tower**	**37.05**	**257**	LR	LR	11 14 02.1	
	comp=Z,340nm,18.1s,MS4.2,baz=72,slow=34						
PMG	**Port Moresby**	**37.37**	**275**	LR	LR	11 12 12.3	
	comp=Z,380nm,21.4s,MS4.2,baz=289,slow=30						
RKT	**Rikitea**	**38.43**	**108**	*e*LR	LR	11 11 11.6	
	277nm,27.2s						
STKA	**Stephens Creek**	**42.55**	**240**	P	**P**	**11 01 16.9**	**+1.7**
	3.1nm,1.0s,mb4.0,baz=164,slow=11,SNR=3.0						
STKA				LR	LR	11 16 49.3	
	comp=Z,356nm,19.6s,MS4.3,baz=48,slow=33						
WRA	**Warramunga Arr**	**48.25**	**257**	P	**P**	**11 01 59.2**	**-1.1**
	2.4nm,0.9s,mb4.2,baz=91,slow=7.6,SNR=14						
WRA				LR	LR	11 19 29.0	
	comp=Z,295nm,21.9s,MS4.2,baz=65,slow=33						
ASAR	**Alice Springs**	**48.53**	**252**	P	**P**	**11 02 01.9**	**-0.6**
	1.0nm,0.7s,mb3.9,baz=87,slow=8.2,SNR=13						
ASAR				LR	LR	11 20 37.0	
	comp=Z,659nm,20.4s,MS4.6,baz=86,slow=34						
GUMO	**Guam**	**49.13**	**304**	LR	LR	11 19 17.7	
	comp=Z,130nm,18.9s,MS3.9,baz=108,slow=32						
FITZ	**Fitzroy Crossi**	**56.61**	**258**	LR	LR	11 24 59.9	
	comp=Z,344nm,19.9s,MS4.5,baz=102,slow=34						
CBIJ	**Chichi jima**	**59.39**	**315**	LR	LR	11 24 38.6	
	comp=Z,295nm,19.1s,MS4.4,baz=167,slow=32						
VNDA	**Vanda**	**63.00**	**185**	P	**P**	**11 03 46.3**	**+0.1**
	1.5nm,1.1s,mb4.0,baz=17,slow=7.5,SNR=3.3						
VNDA				LR	LR	11 25 27.4	
	comp=Z,89nm,19.8s,MS3.9,baz=45,slow=31						
NWAO	**Narrogin (SRO)**	**63.13**	**241**	LR	LR	11 29 28.1	
	comp=Z,346nm,19.3s,MS4.5,baz=274,slow=34						
MJAR	**Matsushiro Arr**	**68.10**	**321**	LR	LR	11 28 03.4	
	comp=Z,154nm,20.6s,MS4.2,baz=110,slow=31						
KSRS	**Korea Array**	**75.22**	**316**	LR	LR	11 35 04.7	
	comp=Z,121nm,18.5s,MS4.2,baz=298,slow=33						
NVAR	**Mina Array Bea**	**75.56**	**43**	P	**P**	**11 05 05.7**	**+1.8**
	0.1nm,0.3s,mb3.2,baz=251,slow=5.6,SNR=2.4						
TXAR	**Lajitas Array**	**82.06**	**57**	LR	LR	11 36 28.9	
	comp=Z,88nm,18.8s,MS4.2,baz=185,slow=32						
PDAR	**Pinedale Array**	**83.49**	**42**	P	**P**	**11 05 49.0**	**+2.0**
	0.4nm,0.7s,mb3.6,baz=250,slow=3.0,SNR=3.7						
PDAR				LR	LR	11 38 02.7	
	comp=Z,115nm,18.5s,MS4.3,baz=250,slow=32						
MAW	**Mawson**	**87.07**	**199**	LR	LR	11 39 15.6	
	comp=Z,126nm,21.0s,MS4.3,baz=258,slow=32						
YKA	**Yellowknife Ar**	**90.94**	**24**	LR	LR	11 44 24.4	
	comp=Z,91nm,18.9s,MS4.2,baz=225,slow=34						
SONM	**Songino Array**	**93.96**	**319**	LR	LR	11 43 18.1	
	comp=Z,92nm,19.9s,MS4.2,baz=17,slow=32						
BR131	**Keskin Array S**	**145.31**	**319**	*e*PKPbc	PKPbc	11 12 59.4	+2.6
BR131				*e*		11 13 17.4	
BRTR	**Keskin Array B**	**145.31**	**319**	PKPbc	PKPbc	11 12 59.8	+3.0
	3.9nm,1.0s,baz=126,slow=3.4,SNR=11						
TORD	**Torodi Ar. Bea**	**175.99**	**128**	PKPab	PKPab	11 15 11.8	+3.2
	1.1nm,1.2s,baz=232,slow=3.5,SNR=3.7						

IDC 06 11:10:09.8±8.9, 834S×12780E, h75km±66km, mb3.7/1, mb1 3.4/4, mb1mx3.1/15, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=72.1km s-min=58.2km az=149.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.93**	**192**	P	Pn	11 12 29.9	+0.4
	0.1nm,0.3s,baz=38,slow=12,SNR=3.4						
FITZ				S	Sn	11 14 20.9	+1.7
	0.2nm,0.3s,baz=288,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**13.16**	**152**	P	Pn	11 13 12.8	-0.7
	0.2nm,0.3s,baz=323,slow=14,SNR=13						
WRA				S	Sn	11 15 38.0	0.0
	0.1nm,0.3s,baz=327,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**16.33**	**160**	P	Pn	11 13 56.1	+1.8
	0.1nm,0.3s,baz=338,slow=11,SNR=14						
STKA	**Stephens Creek**	**26.71**	**153**	P	P	11 15 41.8	-0.1
	0.9nm,0.4s,baz=294,slow=10.0,SNR=3.7						

*IDC **06** 11:24:31.8±0.9, 1566S×17539W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.1/14, mbtmp4.0/6, MS4.0/13, Ms1 4.0/13, ms1mx3.7/22, Error ellipse: s-maj=46.1km s-min=22.3km az=146.0*

*ISCJB **06** 11:24:35.1±0.8, 156S±03×1754W±02, h35km, mb4.0/7, MS4.0/11, Error ellipse: s-maj=40.7km s-min=15.3km az=129.7*

*NEIC **06** 11:24:37.2±0.7, 1564S×17542W, h35km, mb4.4/1, Error ellipse: s-maj=38.2km s-min=14.9km az=151.0*

*GCMT **06** 11:24:37.2±0.4, 1537S×17497W, h19km±1km, MW4.9/60, Moment Tensor Solution. s22,c24; s60,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.42±.12; Mθθ=2.13±.12; Mϕϕ=1.71±.10; Mrθ=0.26±.24; Mrϕ=1.84±.09; Mθϕ=0.05±.22; Best double couple: M=2.67200×10^16 NP1:ϕs=23.00000°, δ=84.00000°, λ=-180.00000°. NP2: ϕs=293.00000°, δ=90.00000°, λ=-6.00000°. Principal axes: T 2.8850, Plg4.0000°, Azm338.0000°; N -0.4280, Plg84.0000°, Azm112.0000°; P -2.4600, Plg4.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 11:24:37.3±0.7, 157S±03×1754W±02, h35km, n26, σ=0.991/14, mb4.0/7, MS4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.90**	**64**	Pn	**Pn**	**11 25 24.2**	**-10**
	10nm,0.3s,baz=65,slow=16,SNR=8.7						
AFI				LR	LR	11 26 27.6	
	comp=Z,969nm,21.6s,baz=258,slow=30						
AFI				T		11 29 12.5	
	13nm,0.3s,baz=33,slow=17,SNR=4.3						
AFI	**Afiamalu**	**3.90**	**64**	*e*Pn	**Pn**	**11 25 23.3**	**-11**
AFI				*e*Sn	**Sn**	**11 26 06.2**	**-13**
RAO	**Raoul Island**	**13.74**	**189**	LR	LR	11 32 21.5	
	comp=Z,770nm,19.7s,baz=350,slow=34						
DZM	**Mont Dzumac**	**18.33**	**247**	P	**Pn**	**11 28 50.6**	**+1.9**
	0.2nm,0.3s,baz=77,slow=16,SNR=5.8						
PPT	**Papeete**	**24.80**	**98**	*e*LQ		11 34 45.3	
	1μm,26.0s						
PPT				*e*LR	LR	11 35 49.7	
	481nm,27.0s,baz=265						
PPT	**Papeete**	**24.80**	**98**	LR	LR	11 36 30.2	
	comp=Z,326nm,19.9s,MS3.8,baz=273,slow=29						
HNR	**Honiara**	**24.84**	**281**	LR	LR	11 38 15.4	
	comp=Z,358nm,20.3s,MS3.9,baz=356,slow=33						
TBI	**Tubuai**	**25.59**	**111**	*e*LQ		11 35 10.2	
	1μm,27.2s						
TBI				*e*LR	LR	11 36 18.4	
	260nm,29.0s,baz=292						
CTA	**Charters Tower**	**36.72**	**257**	LR	LR	11 44 19.0	
	comp=Z,218nm,18.6s,MS4.0,baz=72,slow=32						
RKT	**Rikitea**	**38.75**	**108**	*e*LR	LR	11 42 22.5	
	205nm,28.8s						
STKA	**Stephens Creek**	**42.26**	**240**	LR	LR	11 48 12.0	
	comp=Z,210nm,18.9s,MS4.0,baz=34,slow=34						
WB2	**Warramunga Arr**	**47.91**	**257**	*e*P	**P**	**11 33 11.5**	**-0.6**
WRAB	**Tennant Creek**	**47.91**	**257**	*e*P	**P**	**11 33 10.6**	**-1.5**
	3.8nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**47.92**	**257**	P	**P**	**11 33 11.3**	**-0.9**
	3.2nm,1.0s,mb4.3,baz=90,slow=7.3,SNR=18						
WRA				LR	LR	11 51 17.5	
	comp=Z,146nm,19.8s,MS4.0,baz=30,slow=34						
AS31	**Alice Springs**	**48.21**	**252**	*e*P	**P**	**11 33 14.5**	**+0.1**
ASAR	**Alice Springs**	**48.21**	**252**	P	**P**	**11 33 14.6**	**+0.2**
	1.9nm,0.7s,mb4.2,baz=85,slow=7.7,SNR=14						
ASAR				LR	LR	11 52 01.0	
	comp=Z,330nm,20.3s,MS4.3,baz=95,slow=34						
ASPA	**Alice Springs**	**48.21**	**252**	*e*P	**P**	**11 33 14.7**	**+0.3**
GUMO	**Guam**	**48.87**	**304**	LR	LR	11 50 42.3	
	comp=Z,93nm,18.8s,MS3.8,baz=132,slow=32						
VNDA	**Vanda**	**62.94**	**185**	P	**P**	**11 35 00.1**	**-0.1**
	1.0nm,0.9s,mb3.9,baz=11,slow=6.3,SNR=6.2						
VNDA				LR	LR	11 56 53.0	
	comp=Z,68nm,18.6s,MS3.9,baz=71,slow=31						
MJAR	**Matsushiro Arr**	**67.90**	**321**	LR	LR	11 58 18.8	
	comp=Z,182nm,22.0s,MS4.3,baz=175,slow=30						
KSRS	**Korea Array**	**75.00**	**316**	LR	LR	12 07 43.3	
	comp=Z,52nm,18.6s,MS3.9,baz=100,slow=34						
NVAR	**Mina Array Bea**	**75.80**	**43**	P	**P**	**11 36 20.6**	**+0.9**
	0.8nm,0.9s,mb3.7,baz=220,slow=8.3,SNR=5.7						
TXAR	**Lajitas Array**	**82.34**	**57**	P	**P**	**11 36 54.6**	**-0.9**
	1.4nm,1.2s,mb3.8,baz=186,slow=1.3,SNR=5.5						
PDAR	**Pinedale Array**	**83.73**	**43**	P	**P**	**11 37 03.3**	**+0.7**
	0.3nm,0.4s,mb3.7,baz=216,slow=1.4,SNR=4.8						
PDAR				LR	LR	12 10 02.2	
	comp=Z,100nm,18.2s,MS4.2,baz=162,slow=33						
BR131	**Keskin Array S**	**145.11**	**319**	*e*PKPbc	PKPbc	11 44 11.6	+1.1
BRTR	**Keskin Array B**	**145.11**	**319**	PKPbc	PKPbc	11 44 12.2	+1.8
	2.2nm,0.8s,baz=108,slow=4.0,SNR=7.0						

*MOS **06** 11:32:02.5±3.4, 4972N×8809E, h10km, mb4.3/2, Error ellipse: s-maj=16.3km s-min=10.4km az=92.7*

*BJI **06** 11:32:03.2, 50.14N×8775E, h20km, mb4.5, ML4.1*

*IDC **06** 11:32:04.3±0.8, 4991N×8806E, h0km, mb4.0/7, mb1 4.3/11, mb1mx4.0/25, mbtmp4.1/11, ML4.2/4, Error ellipse: s-maj=11.8km s-min=10.0km az=79.0*

*ISCJB **06** 11:32:05.0±0.6, 4991N±004×8761E±009, h10km, mb4.4/11, MS4.2/1, Error ellipse: s-maj=8.5km s-min=5.8km az=135.7*

*NEIC **06** 11:32:06.5±0.9, 4998N×8795E, h10km, mb3.9/2, Error ellipse: s-maj=14.1km s-min=13.0km az=172.0*

*NNC **06** 11:32:08.8±1.3, 4993N×8748E, h12km±6km, mb4.3, mpv4.4, Error ellipse: s-maj=10.8km s-min=6.0km az=90.0*

ISC 06 11:32:07.5±1.1, 5008N±004×8787E±007, h24km±9km, n52, σ=1.931/68, mb4.4/11, MS4.2/1, 13C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.29**	**326**	*i* PG	**Pb**	**11 32 14.0**	**-0.4**
UKR	**Ust'-Kan**	**2.16**	**295**	*e*Pn	**Pn**	**11 32 45.7**	**+3.7**
UKR				*e*		11 33 16.9	
TASR	**Tashtagol**	**2.69**	**0**	*e*Pn	**Pn**	**11 32 56.9**	**+7.7**
TASR				*e*		11 33 35.2	
CERR	**Cheremushki**	**3.56**	**37**	*e*Pn	**Pn**	**11 33 07.5**	**+6.3**
CERR				*e*		11 33 14.0	
CERR				*e*		11 34 02.4	
ZAL	**Zalesovo**	**4.31**	**335**	Pn	**Pn**	**11 33 15.9**	**+4.4**
	22nm,0.3s,baz=325,slow=9.8,SNR=113						
ZAL				Sn	**Sn**	**11 34 08.3**	**+7.4**
	21nm,0.3s,baz=241,slow=20,SNR=12						
ZAL				Lg		11 34 26.3	
	13nm,0.3s,baz=258,slow=4.4,SNR=4.5						
ZAL	**Zalesovo**	**4.31**	**335**	PN	**Pn**	**11 33 16.0**	**+4.5**
ZAL						11 34 08.4	
MK31	**Makanchi Array**	**4.96**	**231**	⇑Pn	**Pn**	**11 33 21.9**	**+1.4**
	26nm,0.5s,baz=62,slow=12,SNR=581						
MK31				⇑Pg	**Pn**	**11 33 33.4**	**+13**
	20nm,0.2s,baz=53,slow=17,SNR=11						
MK31				⇑Sn	**Sn**	**11 34 19.2**	**+2.1**
	109nm,0.7s						
MK31				⇑Lg		11 34 38.9	
	233nm,0.7s						
MK31	**Makanchi Array**	**4.96**	**231**	*e*Pn	**Pn**	**11 33 21.8**	**+1.3**
MK31				*e*Sn	**Sn**	**11 34 18.8**	**+1.7**
MKAR	**Makanchi Array**	**4.96**	**231**	Pn	**Pn**	**11 33 21.8**	**+1.3**
	19nm,0.3s,baz=51,slow=13,SNR=398						
MKAR				Sn	**Sn**	**11 34 19.1**	**+2.1**
	20nm,0.3s,baz=45,slow=22,SNR=7.2						
MKAR				Lg		11 34 37.7	
	35nm,0.3s,baz=56,slow=28,SNR=15						
MKAR	**Makanchi Array**	**4.96**	**231**	PN	**Pn**	**11 33 21.8**	**+1.3**
MKAR						11 34 19.1	
MKAR	**Makanchi Array**	**4.96**	**231**	Pn	**Pn**	**11 33 21.8**	**+1.3**
MKAR				Sn	**Sn**	**11 34 19.1**	**+2.1**
MKAR				Lg		11 34 37.7	
NVS	**Novosibirsk**	**5.55**	**331**	*e*PN	**Pn**	**11 33 32.6**	**+4.0**
NVS				*e*		11 33 51.2	
NVS				*e*		11 35 04.2	
WMQ	**Urumqi**	**6.26**	**181**	P	**Pn**	**11 33 39.4**	**+1.1**
WMQ				S	**Sn**	**11 34 47.5**	**-1.6**
WMQ				Smax			
	comp=N,87nm,0.8s						
WMQ				Smax			
	comp=E,113nm,0.8s						
KRAR	**Krasnoyarsk**	**6.66**	**25**	*i* PN	**Pn**	**11 33 39.3**	**-4.6**
VOSK	**Vostochnaya**	**10.88**	**291**	⇑Pn	**Pn**	**11 34 41.6**	**-0.1**
	comp=E,4.3nm,0.6s						
VOSK				⇑Sn	**Sn**	**11 36 40.2**	**-2.5**
	comp=E,6.1nm,0.6s						
VOSK				⇑Lg		11 37 48.1	
	comp=E,13nm,0.8s						
CHKZ	**Chkalovo**	**11.26**	**295**	⇑Pn	**Pn**	**11 34 46.0**	**-0.9**
	comp=E,3.1nm,0.6s						
CHKZ				⇑Sn	**Sn**	**11 36 51.2**	**-0.6**
	comp=E,9.6nm,0.7s						
CHKZ	**Chkalovo**	**11.26**	**295**	*e*P	**Pn**	**11 34 46.4**	**-0.5**
CHKZ				*e*		11 36 53.0	
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CHKZ	**Chkalovo**	**11.26**	**295**	*e*Pn	**Pn**	**11 34 46.4**	**-0.4**
	comp=Z,4.3nm,0.5s						
CHKZ				*e*Sn	**Sn**	**11 36 53.0**	**+1.1**
BVA0	**Borovoye Array**	**11.28**	**292**	Pn	**Pn**	**11 34 47.2**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=104,slow=14,SNR=32						
BVA0				⇑Sn	**Sn**	**11 36 51.2**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=108,slow=23,SNR=4.1						
BVA0				⇑Lg		11 38 02.2	
	comp=Z,9.5nm,2.1s						
BVAR	**Borovoye Array**	**11.28**	**292**	Pn	**Pn**	**11 34 47.5**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=101,slow=13,SNR=28						
BVAR				Sn	**Sn**	**11 36 52.0**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=107,slow=23,SNR=6.5						
BRVK	**Borovoye**	**11.35**	**292**	*i* P	**Pn**	**11 34 46.2**	**-1.9**
AAK	**Ala-Archa**	**11.86**	**236**	*e*P	**Pn**	**11 34 54.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AAK	**Ala-Archa**	**11.86**	**236**	*e*Pn	**Pn**	**11 34 54.9**	**-0.1**
	comp=Z,4.6nm,0.5s						
ZRNK	**Zerenda**	**12.10**	**291**	⇓Pn	**Pn**	**11 34 58.7**	**+0.3**
	comp=Z,7.1nm,0.7s						
ZRNK				⇓Sn	**Sn**	**11 37 12.3**	**-0.2**
	comp=Z,5.8nm,0.6s						
ZRNK				⇓Lg		11 38 26.6	
	comp=Z,17nm,0.9s						
ZRNK	**Zerenda**	**12.10**	**291**	*e*P	**Pn**	**11 34 58.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZRNK	**Zerenda**	**12.10**	**291**	*e*Pn	**Pn**	**11 34 58.5**	**+0.1**
	comp=Z,9.2nm,0.6s						
ZRNK				*e*Sn	**Sn**	**11 36 56.7**	**-16**
SONM	**Songino Array**	**12.38**	**93**	Pn	**Pn**	**11 35 01.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=291,slow=17,SNR=2.1						
SONM				Lg		11 38 34.2	
	comp=Z,0.1nm,0.3s,baz=286,slow=21,SNR=5.2						
SONM	**Songino Array**	**12.38**	**93**	Pn	**Pn**	**11 35 01.1**	**-1.1**
SONM				Lg		11 38 34.2	
ULN	**Ulaanbaatar**	**12.79**	**93**	*e*P	**Pn**	**11 35 02.9**	**-5.0**
KK31	**Karatay Array**	**13.81**	**246**	⇓Pn	**Pn**	**11 35 17.9**	**-3.9**
	comp=Z,6.7nm,0.8s,baz=48,slow=14,SNR=25						
KK31				⇑Sn	**Sn**	**11 37 53.6**	**-0.6**
	comp=Z,3.9nm,0.6s						
KK31				⇓Lg		11 39 19.6	
	comp=Z,10nm,0.7s						
KK31	**Karatay Array**	**13.81**	**246**	*e*P	**Pn**	**11 35 18.5**	**-3.2**
AB31	**Akbulak array**	**18.06**	**278**	⇑Pn	**Pn**	**11 36 16.0**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=84,slow=11,SNR=23						
ARU	**Arti**	**18.56**	**301**	*e*P	**Pn**	**11 36 26.1**	**+3.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARU	**Arti**	**18.56**	**301**	*e*Pn	**Pn**	**11 36 26.1**	**+3.3**
	comp=Z,4.4nm,0.4s						
AKTK	**Aktyubinsk**	**19.04**	**283**	P	**Pn**	**11 36 29.1**	**+0.4**
AKTO	**Aktyubinsk**	**19.04**	**283**	⇓Pn	**Pn**	**11 36 29.4**	**+0.7**
	comp=Z,88nm,4.3s						
AKTO	**Aktyubinsk**	**19.04**	**283**	P	**Pn**	**11 36 29.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=82,slow=11,SNR=32						
SOC	**Sochi**	**33.10**	**278**	*e*P	**P**	**11 38 42.7**	**+1.2**
SOC				*e*PPP		11 40 09.2	
SOC				*e*S	**S**	**11 44 03.9**	**+4.7**
SOC				*e*SS	SS	11 45 58.9	-23
SOC				MLR	MLR		
	comp=Z,278nm,11.0s,MS4.2						
UMR	**Umm Al-Rimmam**	**36.45**	**251**	*e*P	**P**	**11 39 08.6**	**-1.8**
UMR				AMb	AMB	11 39 11.4	
	comp=Z,32nm,0.8s,mb5.3						
MIB	**Mutribah**	**36.51**	**252**	*e*P	**P**	**11 39 10.7**	**-0.2**
MIB				AMb	AMB	11 39 12.6	
	comp=Z,7.4nm,0.7s,mb4.7						
AKASG	**Malin Array Be**	**36.55**	**294**	P	**P**	**11 39 12.4**	**+1.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=63,slow=9.1,SNR=6.1						
NAY	**Al-Naaiem**	**36.96**	**251**	*e*P	**P**	**11 39 13.5**	**-1.3**
NAY				AMb	AMB	11 39 17.5	
	comp=Z,16nm,0.4s,mb5.2						
RDF	**Al-Radifah**	**37.00**	**250**	*e*P	**P**	**11 39 12.1**	**-3.0**
RDF				AMb	AMB	11 39 15.1	
	comp=Z,36nm,1.1s,mb5.1						
BR131	**Keskin Array S**	**38.99**	**276**	*e*P	**P**	**11 39 33.8**	**+1.9**
	comp=Z,1.6nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**38.99**	**276**	P	**P**	**11 39 33.6**	**+1.7**
	comp=Z,2.9nm,0.6s,mb4.2,baz=74,slow=6.9,SNR=13						
NOA	**NORSAR Array B**	**42.23**	**315**	P	**P**	**11 40 00.2**	**+1.6**
	comp=Z,1.7nm,0.7s,mb3.8,baz=63,slow=9.8,SNR=3.1						
ESDC	**Sonseca Array**	**61.94**	**299**	P	**P**	**11 42 26.4**	**+1.1**
	comp=Z,2.1nm,0.7s,mb4.4,baz=44,slow=7.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.60**	**276**	P	**P**	**11 44 02.2**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=31,slow=5.2,SNR=9.3						
WRA	**Warramunga Arr**	**80.90**	**136**	P	**P**	**11 44 18.8**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=339,slow=5.7,SNR=15						
WRA	**Warramunga Arr**	**80.90**	**136**	P	**P**	**11 44 18.8**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**83.98**	**138**	P	**P**	**11 44 35.3**	**-0.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=333,slow=5.0,SNR=19						
ASAR	**Alice Springs**	**83.98**	**138**	P	**P**	**11 44 35.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **06** 11:35:26.8±0.9, 1557S×17546W, h0km, mb3.8/6, mb1 4.2/6, mb1mx4.0/14, mbtmp3.8/6, MS3.7/5, Ms1 3.7/5, ms1mx3.4/21, Error ellipse: s-maj=49.8km s-min=22.6km az=146.0*

NEIC 06 11:35:32.1±0.6, 1554S×17553W, h35km, Error ellipse: s-maj=32.9km s-min=16.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.98**	**66**	Pn	Pn	11 36 22.5	-8.1
	6.7nm,0.3s,baz=54,slow=13,SNR=9.7						
AFI				LR	LR	11 37 12.4	
	comp=Z,819nm,18.3s,baz=280,slow=27						
AFI				T		11 39 51.4	
	11nm,0.3s,baz=61,slow=20,SNR=5.1						
AFI	**Afiamalu**	**3.98**	**66**	*e*Pn	Pn	11 36 19.0	-12
HNR	**Honiara**	**24.69**	**281**	LR	LR	11 49 20.0	
	comp=Z,124nm,18.7s,baz=358,slow=34						
PPT	**Papeete**	**24.95**	**98**	*e*LQ		11 45 41.1	
	465nm,25.8s						
PPT				*e*L

TUVZ	**Tukino**	**3.39 221**	P	Pn	11 45 06.8	+0.3
HIZ	**Hauiti**	**3.41 238**	P	Pn	11 45 08.3	+1.5
HIZ	**Hauiti**	**3.41 238**	PN	Pn	11 45 08.1	+1.3
MOVZ	**Moawhango**	**3.44 219**	P	Pn	11 45 06.2	-1.0
MOVZ	**Moawhango**	**3.44 219**	PN	Pn	11 45 06.1	-1.1
WNVZ	**Wahianoa**	**3.46 221**	P	Pn	11 45 07.7	+0.2
WCZ	**Waipu Caves**	**3.47 282**	*e*P	Pn	11 45 08.4	+0.7
WCZ	**Waipu Caves**	**3.47 282**	PN	Pn	11 45 08.4	+0.7
PXZ	**Pawanui**	**3.53 201**	PN	Pn	11 45 06.1	-2.4
WAZ	**Wanganui**	**4.10 222**	*e*P	Pn	11 45 19.0	+2.8
MRZ	**Mangatainoka R**	**4.54 210**	*e*P	Pn	11 45 19.2	-2.9
KIW	**Kapiti Island**	**4.99 213**	P	Pn	11 45 24.5	-3.8
KIW	**Kapiti Island**	**4.99 213**	*e*PN	Pn	11 45 24.4	-3.8
CAW	**Cannon Point**	**5.12 211**	P	Pn	11 45 26.2	-3.9
MRW	**Makara Radio**	**5.38 213**	SN	Sn	11 46 28.5	-5.6
MQZ	**McQueen's Vall**	**8.27 211**	SN	Sn	11 47 32.6	-12

IDC 06 11:53:19.3±2.0, 3237S×7708E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/24, Error ellipse: s-maj=67.2km s-min=39.4km az=79.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**44.46**	**261**	LR	LR	12 15 33.7	
	comp=Z,72nm,20.4s,baz=146,slow=30						
ASAR	**Alice Springs**	**50.41**	**95**	P	P	12 02 18.7	+0.3
	0.3nm,1.0s,baz=259,slow=5.9,SNR=5.7						
VNDA	**Vanda**	**57.53**	**165**	P	P	12 03 09.9	-0.6
	1.2nm,1.1s,baz=286,slow=5.4,SNR=4.4						
VNDA				LR	LR	12 24 56.3	
	comp=Z,90nm,20.6s,baz=246,slow=33						
MKAR	**Makanchi Array**	**78.94**	**4**	P	P	12 05 24.5	-0.2
	0.4nm,0.6s,baz=190,slow=6.2,SNR=3.9						

*NEIC **06** 12:03:08.4, 3235S×7182W, h18km, ML2.5(GUC), After GUC.*

GUC 06 12:03:08.4±0.8, 3235S×7182W, h18km±17km, MD3.8, ML2.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.54**	**30**	*e*P	Pg	12 03 18.6	-0.7
CHNG				*i* S	Sg	12 03 26.3	-0.2
CHNG				AML	AML	12 03 27.0	
	comp=N,232nm,0.3s						
PTCH	**Petorca**	**0.76**	**84**	*e*P	Pb	12 03 22.7	-0.3
PTCH				*i* S	Sb	12 03 33.0	0.0
PTCH				AML	AML	12 03 34.6	
	comp=E,461nm,0.4s						
PTCH	**Petorca**	**0.76**	**84**	*e*P	Pb	12 03 22.7	-0.3
PTCH				*i* S	Sb	12 03 33.0	0.0
ROCH	**El Roble**	**0.92**	**132**	*i* P	Pb	12 03 26.2	+0.5
ROCH				*i* S	Sb	12 03 37.8	+0.2
JACH	**Jahuel**	**1.09**	**108**	⇓*i* P	Pb	12 03 27.9	-0.8
JACH				*i* S	Sb	12 03 42.4	0.0
LCCH	**Las Cruces**	**1.14**	**169**	*i* P	Pn	12 03 29.7	+0.3
PEL	**Peldehue**	**1.24**	**130**	*e*P	Pn	12 03 29.1	-1.7
PEL				*i* S	Sb	12 03 46.9	+0.1
PEL				AML	AML	12 03 48.2	
	comp=N,290nm,0.4s						
PEL	**Peldehue**	**1.24**	**130**	P	Pn	12 03 29.1	-1.7
PEL				S	Sb	12 03 46.9	+0.1
FCH	**Farellones**	**1.61**	**127**	*e*P	Pn	12 03 36.9	+1.0
FCH				*i* S	Sn	12 03 57.6	+1.4
PCH	**Pirque**	**1.68**	**139**	*e*P	Pn	12 03 38.1	+1.4
SFDO	**San Fernando**	**2.35**	**164**	⇓*i* P	Pn	12 03 47.3	+1.2

*NIED **06** 12:28:00, 2670N×12640E, h5km, Mw4.7 Best double couple: M0 1.21000×10^16 NP1:φs269.00000°, δ48.00000°, λ-69.00000°. NP2:φs59.00000°, δ47.00000°, λ-112.00000°.*

*IDC **06** 12:28:26.9±0.8, 2670N×12645E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/23, mbtmp4.2/8, MS4.2/30, Ms1 4.2/30, ms1mx4.1/40, Error ellipse: s-maj=22.2km s-min=14.9km az=51.0*

*JMA **06** 12:28:28.5±0.2, 2670N×12641E, h14km±3km, M4.8*

JMA Felt II J1.

*BJI **06** 12:28:30.8, 2674N×12647E, h23km, mB4.8, mb4.3, ML4.4, Ms4.7, Ms4.4*

*ISCJB **06** 12:28:30.4±0.6, 2664N±003×12647E±003, h28km±5km, mb4.3/21, MS4.3/32, Error ellipse: s-maj=5.1km s-min=4.5km az=152.0*

*MOS **06** 12:28:31.2±1.8, 2652N×12622E, h33km, mb4.7/8, Error ellipse: s-maj=19.6km s-min=9.5km az=114.6*

*GCMT **06** 12:28:32.6±0.3, 2668N×12644E, h17km, MW4.9/71, Moment Tensor Solution. s26,c30; s71,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.80±.16; Mθθ2.47±.11; Mθφ0.33±.09; Mrθ0.81±.23; Mφφ0.99±.06; Mφr-0.39±.26; Best double couple: M0 2.96800×10^16 NP1:φs56.00000°, δ40.00000°, λ-109.00000°. NP2: φs261.00000°, δ52.00000°, λ-74.00000°. Principal axes: T 2.9240, Plg6.0000°, Azm340.0000°; N 0.0920, Plg12.0000°, Azm71.0000°; P -3.0110, Plg76.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 12:28:32.6±1.1, 2674N×12658E, h40km±11km, mb4.6/10, MW4.7(NIED) Error ellipse: s-maj=11.1km s-min=8.0km az=51.0*

ISC 06 12:28:30.6±0.8, 2669N±003×12652E±003, h17km±5km, n89, σ1521/86, mb4.3/21, MS4.3/32, 2C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.43**	**146**	P	**Pg**	**12 28 38.2**	**-1.2**
JKE				*e*S	**Sg**	**12 28 45.0**	**-0.3**
JAGN	**Aguni-jima**	**0.66**	**99**	P	**Pg**	**12 28 42.7**	**-0.8**
JAGN				*e*S	**Sg**	**12 28 53.3**	**+1.1**
NAH1	**Naha**	**1.16**	**114**	P	**Pn**	**12 28 51.0**	**-1.0**
NAH1				*e*S	**Sb**	**12 29 07.5**	**+0.7**
JJT2	**Tamagusuku 2**	**1.23**	**116**	P	**Pn**	**12 28 52.6**	**-0.4**
JJT2				*e*S	**Sb**	**12 29 10.1**	**+1.1**
JIH	**Iheya**	**1.34**	**75**	P	**Pn**	**12 28 53.7**	**-0.8**
JOW	**Kunigami**	**1.58**	**84**	Pn	**Pn**	**12 28 56.9**	**-0.9**
	78nm,0.3s,baz=270,slow=10.0,SNR=110						
JOW				Sn	**Sn**	**12 29 20.9**	**+3.1**
	168nm,0.3s,baz=296,slow=29,SNR=10						
JOW	**Kunigami**	**1.58**	**84**	P	**Pn**	**12 28 56.8**	**-1.0**
JOW				*e*S	**Sn**	**12 29 19.1**	**+1.3**
JOGS	**Gusukube**	**2.17**	**208**	P	**Pn**	**12 29 06.0**	**+0.1**
JTK	**Tokunoshima**	**2.42**	**63**	P	**Pn**	**12 29 09.4**	**-0.1**
JTJ	**Tarama**	**2.62**	**219**	P	**Pn**	**12 29 12.3**	**+0.2**
JIJ	**Ishigaki jima**	**3.16**	**223**	P	**Pn**	**12 29 18.8**	**-0.7**
JAM	**Amami Oshima**	**3.23**	**57**	P	**Pn**	**12 29 22.1**	**+1.5**
JKRS	**Kuro-shima**	**3.33**	**223**	P	**Pn**	**12 29 21.9**	**0.0**
IRIF	**Iriomote-Funau**	**3.44**	**228**	P	**Pn**	**12 29 22.8**	**-0.6**
YOJ	**Yonaguni jima**	**3.87**	**236**	P	**Pn**	**12 29 29.7**	**+0.4**
JNN	**Nakanoshima**	**4.32**	**43**	P	**Pn**	**12 29 38.3**	**+2.9**
YHNB	**Yeheng**	**5.06**	**248**	*e*P	**Pn**	**12 29 46.1**	**+0.4**
NACB	**Ninganchiao**	**5.11**	**242**	*e*P	**Pn**	**12 29 48.2**	**+1.9**
JNU	**Nakatsue**	**7.44**	**30**	Pn	**Pn**	**12 30 23.4**	**+5.0**
	2.4nm,0.3s,baz=237,slow=19,SNR=7.2						
JNU				LR	LR	12 33 01.7	
	comp=Z,4μm,21.9s,baz=87,slow=37						
KSRS	**Korea Array**	**10.80**	**6**	Pn	**Pn**	**12 31 11.2**	**+6.8**
	baz=185,slow=13,SNR=2.4						
KSRS				LR	LR	12 35 21.7	
	comp=Z,1μm,20.4s,baz=188,slow=38						
MJAR	**Matsushiro Arr**	**13.98**	**43**	LR	LR	12 37 49.6	
	comp=Z,369nm,19.1s,baz=250,slow=40						
CBIJ	**Chichi jima**	**13.99**	**85**	LR	LR	12 36 33.8	
	comp=Z,162nm,20.1s,baz=200,slow=35						
SNY	**Shenyang**	**15.29**	**352**	⇑P	**Pn**	**12 32 06.6**	**+1.0**
SNY				AMB	AMB		
	comp=Z,16nm,1.6s						
SNY				AMB	AMB		
	comp=Z,287nm,5.1s						
SNY				LR	LR		
	comp=N,1μm,11.6s						
SNY				LR	LR		
	comp=Z,2μm,14.4s						
BJI	**Beijing**	**15.86**	**330**	P	**Pn**	**12 32 24.4**	**+11**
BJI				S	**Sn**	**12 35 22.3**	**+14**
XAN	**Xi'an**	**16.85**	**300**	P	**Pn**	**12 32 25.7**	**+0.1**
XAN				AP	pP	12 32 32.7	+0.3
XAN				AMB	AMB		
	comp=Z,64nm,1.5s						
XAN				AMB	AMB		
	comp=Z,202nm,12.1s						
XAN				LR	LR		
	comp=N,1μm,16.3s						
XAN				LR	LR		
	comp=E,729nm,20.0s						
XAN				LR	LR		
	comp=Z,2μm,13.6s						
VLA	**Vladivostok**	**16.97**	**14**	*e*P	**Pn**	**12 32 32.6**	**+5.5**
VLA				pmax	pmax		
	comp=Z,84nm,1.8s						
VLA				MLR	MLR		
	comp=Z,400nm,11.2s						
CN2	**Changchun**	**17.10**	**357**	*e*P	**Pn**	**12 32 30.9**	**+2.2**
CN2				*e*XP	sP	12 32 45.0	+7.6
CN2				*e*S	**Sn**	**12 35 38.0**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,13.0s						
CN2				LR	LR		
	comp=E,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
QIZ	**Qiongzhong**	**17.14**	**247**	P	**Pn**	**12 32 31.3**	**+2.0**
QIZ				AP	pP	12 32 38.8	+3.1
QIZ				S	**Sn**	**12 35 41.0**	**+1.4**
QIZ				SS		12 35 55.3	
QIZ				PCP	PcP	12 37 10.7	-2.5
QIZ				AMB	AMB		
	comp=Z,37nm,1.7s						
QIZ				AMB	AMB		
	comp=Z,344nm,8.7s						
QIZ				LR	LR		
	comp=N,775nm,10.5s						
QIZ				LR	LR		
	comp=E,534nm,9.2s						
MDJ	**Mudanjiang**	**18.06**	**7**	P	**Pn**	**12 32 40.1**	**-0.6**
MDJ				AP	pP	12 32 48.0	+2.2
MDJ				XP	sP	12 32 52.6	+4.6
MDJ				S	**Sn**	**12 36 00.7**	**-1.1**
MDJ				SCP	ScP	12 40 46.3	-2.9
MDJ				LR	LR		
	comp=N,392nm,24.0s						
MDJ				LR	LR		
	comp=E,923nm,15.6s						
MDJ				LR	LR		
	comp=Z,741nm,19.2s						
HHC	**Hu-ho-hao-te**	**18.78**	**323**	*e*P	**Pn**	**12 32 50.1**	**+0.7**
HHC				AP	pP	12 32 57.7	+4.0
HHC				XP	sP	12 33 02.4	+6.5
HHC				PP		12 33 06.3	
HHC				S	**Sn**	**12 36 15.8**	**-3.3**
HHC				XS	sS	12 36 26.0	-3.6
HHC				SS		12 36 38.2	
HHC				PCP	PcP	12 37 18.3	+2.4
HHC				SCP	ScP	12 40 50.4	-0.4
HHC				PCS	PcS	12 40 54.8	+2.0
HHC				AMB	AMB		
	comp=Z,22nm,1.0s						
HHC				AMB	AMB		
	comp=Z,366nm,9.0s						
HHC				LR	LR		
	comp=N,1μm,11.4s						
HHC				LR	LR		
	comp=E,1μm,12.6s						
HHC				LR	LR		
	comp=Z,2μm,12.1s						
BTO	**Baotou**	**19.48**	**320**	*e*P	**Pn**	**12 32 57.9**	**0.0**
CD2	**Chengdu**	**20.38**	**287**	⇑*i*P	**P**	**12 33 07.6**	**+1.2**
CD2				AP		12 33 16.4	
CD2				XP	sP	12 33 20.6	+7.2
CD2				PP		12 33 30.8	
CD2				S	**S**	**12 36 54.7**	**+0.6**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s						
CD2				AMB	AMB		
	comp=Z,350nm,6.9s						
CD2				LR	LR		
	comp=N,3μm,16.2s						
CD2				LR	LR		
	comp=Z,2μm,12.6s,MS4.6						
KMI	**Kunming**	**21.44**	**271**	P	**P**	**12 33 18.9**	**+1.0**
KMI				AP		12 33 25.1	
KMI				PP		12 33 46.9	
KMI				PPP		12 33 55.3	
KMI				S	**S**	**12 37 16.0**	**+0.9**
KMI				XS	sS	12 37 25.0	+2.1
KMI				AMB	AMB		
	comp=Z,6.0nm,1.9s,mb3.6						
KMI				AMB	AMB		
	comp=Z,152nm,3.9s						
KMI				LR	LR		
	comp=N,1μm,10.8s						
KMI				LR	LR		
	comp=E,2μm,9.1s						
KMI				LR	LR		
	comp=Z,1μm,8.8s						
KMI	**Kunming**	**21.44**	**271**	P	**P**	**12 33 18.9**	**+1.0**
	comp=Z,6.0nm,1.9s,mb3.6						
KMI				pP		12 33 25.1	
KMI				sP	sP	12 33 28.2	+3.3
KMI				PP		12 33 46.9	
KMI				PPP		12 33 55.3	
KMI				S	**S**	**12 37 16.0**	**+0.9**
KMI				sS	sS	12 37 25.0	+2.1
KMI				SS		12 37 55.8	
LZH	**Lanzhou**	**21.46**	**301**	*e*P	**P**	**12 33 20.5**	**+2.4**
LZH				AP		12 33 29.5	
LZH				XP	sP	12 33 32.5	+7.3
LZH				PP		12 33 46.0	
LZH				*e*S	**S**	**12 37 17.0**	**+1.5**
LZH				PCP	PcP	12 37 22.1	+1.2
LZH				XS	sS	12 37 28.2	+4.9
LZH				SS		12 37 42.0	
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,358nm,5.1s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,2μm,16.4s,MS4.5						
LZH	**Lanzhou**	**21.46**	**301**	*e*P	**P**	**12 33 20.5**	**+2.4**
LZH				*SP	sP	12 33 32.5	+7.3
LZH						12 33 46.0	
LZH				*e*S	**S**	**12 37 17.0**	**+1.5**
LZH						12 37 22.1	
LZH				*SS	sS	12 37 28.2	+4.9
LZH				SS		12 37 42.0	
LZH				pmax	pmax		
	comp=Z,58nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,2μm,16.4s,MS4.5						
LZH	**Lanzhou**	**21.46**	**301**	*e*P	**P**	**12 33 20.5**	**+2.4**
	comp=Z,58nm,1.5s,mb4.7						
LZH				pP		12 33 29.5	
LZH				sP	sP	12 33 32.5	+7.3
LZH				PP		12 33 46.0	
LZH				*e*S	**S**	**12 37 17.0**	**+1.5**
LZH				PcP	PcP	12 37 22.1	+1.2
LZH				sS	sS	12 37 28.2	+4.9
LZH				SS		12 37 42.0	
LZH				LR	LR		
	comp=Z,2μm,16.4s,MS4.5						
GUMO	**Guam**	**21.56**	**124**	LR	LR	12 40 02.5	
	comp=Z,124nm,19.6s,MS3.3,baz=120,slow=32						
ASAJ	**Asahikawa**	**21.71**	**33**	LR	LR	12 42 23.4	
	comp=Z,391nm,19.0s,MS3.8,baz=234,slow=38						
KLR	**Kul'dur**	**22.87**	**9**	*e*P	**P**	**12 33 35.7**	**+2.6**
KLR				MLR	MLR		
	comp=E,800nm,13.0s,MS4.6						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.7						
KLR				MLR	MLR		
	comp=N,1μm,11.0s,MS4.6						
KLR				MLR	MLR		
	comp=E,600nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
GTA	**Gaotai**	**25.62**	**306**	*e*P	**P**	**12 33 58.2**	**-0.9**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.6						
GTA				AMB	AMB		
	comp=Z,107nm,5.7s						
GTA				LR	LR		
	comp=N,1μm,17.9s,MS4.6						
GTA				LR	LR		
	comp=E,787nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=Z,866nm,20.5s,MS4.3						
ULN	**Ulaanbaatar**	**26.07**	**329**	*e*P	**P**	**12 34 03.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**26.07**	**329**	*e*P	**P**	**12 34 03.7**	**+0.5**
	comp=Z,17nm,1.1s,mb4.5						
SONM	**Songino Array**	**26.35**	**329**	P	**P**	**12 34 05.3**	**-0.4**
	comp=Z,5.0nm,0.9s,mb4.0,baz=144,slow=10,SNR=16						
SONM				LR	LR	12 45 25.0	
	comp=Z,747nm,19.0s,MS4.2,baz=145,slow=39						
ZAK	**Zakamensk**	**29.60**	**329**	*e*P	**P**	**12 34 38.0**	**+3.2**
TLY	**Talaya**	**30.37**	**331**	*e*P	**P**	**12 34 41.6**	**+0.1**
TLY				*e*		12 35 52.2	
TLY				*e*S	**S**	**12 39 45.2**	**+4.0**
TLY				*e*SS	SS	12 41 35.7	-15
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TLY				MLR	MLR		
	comp=Z,477nm,16.0s,MS4.2						
PSI	**Prapat**	**35.55**	**233**	P	**P**	**12 35 26.7**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.5,baz=344,slow=2.3,SNR=6.5						
PSI	**Prapat**	**35.55**	**233**	P	**P**	**12 35 26.7**	**-0.1**
WMQ	**Urumqi**	**35.63**	**309**	⇑P	**P**	**12 35 27.5**	**0.0**
WMQ				AP	pP	12 35 37.0	+4.3
WMQ				XP	sP	12 35 41.1	+6.3
WMQ				PP	PP	12 36 48.0	-0.5
WMQ				PPP		12 37 07.5	
WMQ				S	**S**	**12 41 00.5**	**-2.5**
WMQ				XS	sS	12 41 16.5	+4.9
WMQ				SCP	ScP	12 41 38.0	-3.1
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,289nm,4.4s						
WMQ				LR	LR		
	comp=N,698nm,19.0s,MS4.5						
WMQ				LR	LR		
	comp=E,420nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,541nm,21.0s,MS4.3						
MK31	**Makanchi Array**	**40.09**	**312**	P	**P**	**12 36 03.1**	**-2.0**
	comp=Z,3.7nm,0.8s,mb4.2,baz=100,slow=9.6,SNR=23						
MK31	**Makanchi Array**	**40.09**	**312**	*e*P	**P**	**12 36 03.3**	**-1.9**
MKAR	**Makanchi Array**	**40.09**	**312**	P	**P**	**12 36 02.8**	**-2.4**
	comp=Z,1.0nm,0.5s,mb3.8,baz=101,slow=9.9,SNR=13						
MKAR				LR	LR	12 53 56.6	
	comp=Z,284nm,18.8s,MS4.1,baz=108,slow=38						
ZAL	**Zalesovo**	**40.97**	**323**	P	**P**	**12 36 10.7**	**-1.7**
	comp=Z,1.7nm,0.6s,mb3.9,baz=16,slow=6.1,SNR=12						
ZAL				LR	LR	12 55 23.7	
	comp=Z,511nm,18.2s,MS4.4,baz=353,slow=40						
PMG	**Port Moresby**	**41.10**	**148**	LR	LR	12 51 20.3	
	comp=Z,403nm,19.3s,MS4.3,baz=309,slow=33						
FITZ	**Fitzroy Crossi**	**44.53**	**181**	*e*P	**P**	**12 36 40.3**	**-1.0**
	comp=Z,8.1nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**46.96**	**170**	*e*P	**P**	**12 36 59.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WRAB	**Tennant Creek**	**46.96**	**170**	*e*P	**P**	**12 36 59.7**	**-0.9**
	comp=Z,6.9nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**46.97**	**170**	P	**P**	**12 36 59.1**	**-1.5**
	comp=Z,2.7nm,0.7s,mb4.3,baz=351,slow=8.5,SNR=22						
WRA				LR	LR	12 55 51.3	
	comp=Z,264nm,21.7s,MS4.2,baz=15,slow=35						
WB2	**Warramunga Arr**	**46.97**	**170**	*e*P	**P**	**12 37 00.4**	**-0.2**
HNR	**Honiara**	**48.40**	**133**	LR	LR	12 54 33.8	
	comp=Z,108nm,18.2s,MS3.9,baz=1.2,slow=32						
CHKZ	**Chkalovo**	**48.89**	**319**	P	**P**	**12 37 14.2**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**48.89**	**319**	P	**P**	**12 37 14.2**	**-1.3**
	comp=Z,4.6nm,1.1s,mb4.4						
BVAR	**Borovoye Array**	**48.91**	**318**	P	**P**	**12 37 13.9**	**-1.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=101,slow=7.7,SNR=8.7						
BRVK	**Borovoye**	**48.98**	**318**	*e*P	**P**	**12 37 14.4**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**48.98**	**318**	*e*P	**P**	**12 37 14.4**	**-1.8**
	comp=Z,7.4nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**49.73**	**318**	*e*P	**P**	**12 37 20.2**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**49.73**	**318**	*e*P	**P**	**12 37 20.2**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.5						
CTA	**Charters Tower**	**50.28**	**156**	LR	LR	12 57 00.6	
	comp=Z,258nm,21.1s,MS4.2,baz=26,slow=34						
CTAO	**Charters Tower**	**50.28**	**156**	P	**P**	**12 37 27.0**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**50.28**	**156**	P	**P**	**12 37 27.0**	**+0.9**
	comp=Z,11nm,1.2s,mb4.8						
ASAR	**Alice Springs**	**50.56**	**171**	P	**P**	**12 37 27.9**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.0,baz=354,slow=8.3,SNR=13						
ASAR				PcP	PcP	12 38 44.2	-1.6
	comp=Z,0.8nm,0.8s,baz=346,slow=3.3,SNR=2.7						
ASAR				LR	LR	12 58 20.2	
	comp=Z,313nm,20.0s,MS4.3,baz=360,slow=36						
ASAR	**Alice Springs**	**50.56**	**171**	P	**P**	**12 37 27.9**	**-0.3**
ASAR						12 38 44.3	
NWAO	**Narrogin (SRO)**	**59.94**	**189**	LR	LR	13 06 52.6	
	comp=Z,60nm,18.4s,MS3.8,baz=195,slow=38						
STKA	**Stephens Creek**	**59.99**	**165**	*e*P	**P**	**12 38 36.1**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**59.99**	**165**	P	**P**	**12 38 35.7**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.6,baz=329,slow=6.1,SNR=9.9						
STKA				LR	LR	13 03 08.0	
	comp=Z,191nm,20.5s,MS4.2,baz=23,slow=35						
ARCES	**ARCESS Array B**	**69.02**	**338**	LR	LR	13 16 38.3	
	comp=Z,310nm,18.4s,MS4.6,baz=68,slow=42						
FINES	**FINESS Array B**	**71.71**	**330**	LR	LR	13 14 35.3	
	comp=Z,431nm,21.1s,MS4.7,baz=158,slow=39						
AKASG	**Malin Array Be**	**74.19**	**319**	LR	LR	13 14 07.2	
	comp=Z,424nm,19.9s,MS4.7,baz=65,slow=37						
BRTR	**Keskin Array B**	**75.54**	**307**	LR	LR	13 20 33.6	
	comp=Z,204nm,20.3s,MS4.4,baz=116,slow=41						
NOA	**NORSAR Array B**	**78.22**	**333**	LR	LR	13 19 06.2	
	comp=Z,519nm,19.9s,MS4.9,baz=25,slow=39						
YKA	**Yellowknife Ar**	**78.75**	**24**	LR	LR	13 15 23.6	
	comp=Z,56nm,21.6s,MS3.9,baz=215,slow=36						
URZ	**Urewera**	**80.12**	**142**	LR	LR	13 09 34.1	
	comp=Z,147nm,20.5s,MS4.3,baz=256,slow=31						
RPZ	**Rata Peaks**	**81.10**	**149**	LR	LR	13 10 14.3	
	comp=Z,229nm,20.0s,MS4.5,baz=342,slow=31						
GERES	**GERESS Array B**	**83.91**	**322**	LR	LR	13 20 26.8	
	comp=Z,429nm,19.6s,MS4.8,baz=110,slow=37						
BORG	**Borgarnes**	**85.49**	**347**	LR	LR	13 19 39.1	
	comp=Z,373nm,19.8s,MS4.8,baz=48,slow=36						
PPT	**Papeete**	**92.49**	**108**	LR	LR	13 22 22.4	
	comp=Z,89nm,18.4s,MS4.2,baz=306,slow=35						
KEST	**Kesra**	**94.17**	**313**	LR	LR	13 29 58.1	
	comp=Z,56nm,19.6s,MS4.0,baz=306,slow=39						
ULM	**Lac du Bonnet**	**94.69**	**26**	LR	LR	13 30 09.2	
	comp=Z,99nm,19.2s,MS4.3,baz=352,slow=39						
ESDC	**Sonseca Array**	**99.45**	**323**	LR	LR	13 29 56.9	
	comp=Z,146nm,18.4s,MS4.5,baz

*IDC **06** 12:37:21.3±5.2, 3192S×17840W, h33km±38km, mb4.3/4, mb1 4.5/6, mb1mx4.2/14, mbtmp4.4/6, ML4.6/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/27, Error ellipse: s-maj=30.3km s-min=21.2km az=106.0*

*ISCJB **06** 12:37:24.9±1.3, 3231S×007×1789W±02, h57km±18km, mb4.7/10, MS3.8/1, Error ellipse: s-maj=31.4km s-min=8.1km az=36.4*

*NEIC **06** 12:37:27.2±2.1, 3112S×17864W, h70km±19km, mb4.9/7, Error ellipse: s-maj=24.0km s-min=16.5km az=167.0*

ISC 06 12:37:25.3±1.3, 3218S±009×1789W±02, h41km±16km, n62, σ1§25/58, mb4.7/10, MS3.8/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.04**	**16**	Pn	**Pn**	**12 38 02.6**	**-8.2**
	137nm,0.3s,baz=156,slow=20,SNR=3.4						
RAO				Sn	**Sn**	**12 38 31.3**	**-15**
	188nm,0.3s,baz=280,slow=23,SNR=4.6						
RAO				LR	LR	12 39 04.3	
	comp=Z,310nm,21.8s,baz=208,slow=38						
RAO	**Raoul Island**	**3.04**	**16**	*e*Pn	**Pn**	**12 37 58.2**	**-13**
RAO				Sn	**Sn**	**12 38 31.3**	**-15**
RAO				LR	LR	12 39 04.3	
MXZ	**Matakaoa Point**	**5.84**	**203**	*e*Pn	**Pn**	**12 38 51.0**	**+1.6**
MXZ				SN	**Sn**	**12 40 01.2**	**+6.1**
PUZ	**Puketiti**	**6.33**	**201**	*e*Pn	**Pn**	**12 38 56.8**	**+0.9**
WCZ	**Waipu Caves**	**6.76**	**234**	*e*PN	**Pn**	**12 39 11.2**	**+9.3**
MWZ	**Matawai**	**6.80**	**205**	*e*PN	**Pn**	**12 39 03.9**	**+1.4**
MWZ				SN	**Sn**	**12 40 25.4**	**+6.7**
URZ	**Urewera**	**6.89**	**207**	Pn	**Pn**	**12 39 05.3**	**+1.5**
	9.0nm,0.3s,baz=282,slow=1.0,SNR=38						
URZ				Sn	**Sn**	**12 40 27.0**	**+6.1**
	11nm,0.3s,baz=115,slow=21,SNR=9.9						
URZ	**Urewera**	**6.89**	**207**	*e*PN	**Pn**	**12 39 05.4**	**+1.7**
URZ				SN	**Sn**	**12 40 27.5**	**+6.7**
OUZ	**Omahuta**	**6.96**	**242**	PN	**Pn**	**12 39 13.3**	**+8.6**
KNZ	**Kokohu**	**7.38**	**201**	*e*PN	**Pn**	**12 39 11.3**	**+0.9**
BKZ	**Black Stump Fm**	**7.92**	**207**	*e*PN	**Pn**	**12 39 18.7**	**+0.9**
BKZ				SN	**Sn**	**12 40 51.2**	**+5.1**
PXZ	**Pawanui**	**8.56**	**203**	*e*PN	**Pn**	**12 39 26.9**	**+0.4**
PXZ				SN	**Sn**	**12 41 02.5**	**+0.8**
WPHZ	**Waipukurau**	**8.73**	**204**	SN	**Sn**	**12 41 09.3**	**+3.4**
BFZ	**Birch Farm**	**9.35**	**203**	SN	**Sn**	**12 41 22.6**	**+1.5**
MRZ	**Mangatainoka R**	**9.56**	**206**	PN	**Pn**	**12 39 38.7**	**-1.7**
MRZ				SN	**Sn**	**12 41 26.5**	**0.0**
KIW	**Kapiti Island**	**10.00**	**208**	*e*PN	**Pn**	**12 39 45.3**	**-0.9**
CAW	**Cannon Point**	**10.14**	**207**	*e*PN	**Pn**	**12 39 46.1**	**-2.2**
PAWZ	**Paruwai Farm**	**10.25**	**205**	SN	**Sn**	**12 41 42.7**	**-0.6**
MRW	**Makara Radio**	**10.39**	**208**	SN	**Sn**	**12 41 47.3**	**+0.5**
WEL	**Wellington**	**10.41**	**207**	SN	**Sn**	**12 41 47.1**	**-0.2**
TCW	**Tory Channel**	**10.55**	**209**	*e*PN	**Pn**	**12 39 52.3**	**-1.6**
TCW				SN	**Sn**	**12 41 49.7**	**-1.0**
NNZ	**Nelson**	**10.95**	**212**	PN	**Pn**	**12 39 58.0**	**-1.3**
NNZ				SN	**Sn**	**12 42 00.9**	**+0.5**
THZ	**Tophouse**	**11.60**	**212**	SN	**Sn**	**12 42 16.2**	**-0.1**
KHZ	**Kahutara**	**11.86**	**208**	PN	**Pn**	**12 40 08.5**	**-3.3**
KHZ				SN	**Sn**	**12 42 20.0**	**-2.7**
DSZ	**Denniston Nort**	**12.10**	**215**	SN	**Sn**	**12 42 27.7**	**-0.9**
LTZ	**Lake Taylor**	**12.69**	**211**	SN	**Sn**	**12 42 38.5**	**-4.6**
MQZ	**McQueen's Vall**	**13.29**	**208**	SN	**Sn**	**12 42 50.7**	**-7.1**
RPZ	**Rata Peaks**	**13.97**	**212**	Pn	**Pn**	**12 40 37.2**	**-3.4**
	0.5nm,0.3s,baz=37,slow=20,SNR=4.5						
RPZ				Sn	**Sn**	**12 43 08.1**	**-6.2**
	1.2nm,0.3s,baz=26,slow=12,SNR=9.8						
DZM	**Mont Dzumac**	**16.48**	**304**	LR	LR	12 46 11.6	
	comp=Z,228nm,19.6s,baz=28,slow=32						
PAE	**Paea**	**30.13**	**68**	*e*T		13 14 24.3	
	43nm,0.3s						
PPT	**Papeete**	**30.18**	**68**	*e*LR	LR	12 51 13.2	
	88nm,25.8s						
PPT	**Papeete**	**30.18**	**68**	*e*T		13 14 27.6	
	8.2nm,0.3s						
TVO	**Taravao**	**30.32**	**69**	*e*T		13 14 33.0	
	6.1nm,0.4s						
PMOR	**Pomariorio Ree**	**32.98**	**66**	*e*T		13 17 58.7	
	3.8nm,0.3s						
VAH	**Vaihoa**	**33.05**	**67**	*e*T		13 18 03.3	
	29nm,0.2s						
STKA	**Stephens Creek**	**33.38**	**260**	*e*P	**P**	**12 44 02.5**	**+2.9**
	3.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**33.38**	**260**	P	**P**	**12 44 01.7**	**+2.1**
	2.0nm,0.4s,mb4.4,baz=133,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**33.38**	**260**	*e*P	**P**	**12 44 02.6**	**+3.0**
CTA	**Charters Tower**	**33.39**	**283**	*e*P	**P**	**12 44 01.7**	**+2.0**
	11nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**33.39**	**283**	*e*P	**P**	**12 44 01.5**	**+1.8**
	11nm,0.6s,mb5.0						
RKT	**Rikitea**	**39.70**	**88**	*e*T		13 26 33.4	
	1.8nm,0.3s						
AS31	**Alice Springs**	**42.30**	**269**	*e*P	**P**	**12 45 15.1**	**+0.3**
ASAR	**Alice Springs**	**42.30**	**269**	P	**P**	**12 45 14.9**	**+0.1**
	6.6nm,0.5s,mb4.5,baz=105,slow=7.6,SNR=71						
ASPA	**Alice Springs**	**42.30**	**269**	*e*P	**P**	**12 45 15.3**	**+0.5**
WB2	**Warramunga Arr**	**43.44**	**275**	*e*P	**P**	**12 45 23.6**	**-0.4**
WB2	**Warramunga Arr**	**43.44**	**275**	*e*P	**P**	**12 45 23.7**	**-0.4**
WRAB	**Tennant Creek**	**43.44**	**275**	*e*P	**P**	**12 45 23.7**	**-0.4**
	13nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**43.45**	**275**	P	**P**	**12 45 24.0**	**-0.2**
	13nm,0.5s,mb4.9,baz=113,slow=7.9,SNR=284						
VNDA	**Vanda**	**46.25**	**186**	P	**P**	**12 45 45.2**	**-1.3**
	0.4nm,0.4s,mb3.7,baz=74,slow=6.9,SNR=9.2						
KAKA	**Kakadu**	**48.53**	**282**	*e*P	**P**	**12 46 02.9**	**-1.3**
	14nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.63**	**272**	*e*P	**P**	**12 46 27.7**	**+0.1**
	6.0nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.63**	**272**	LR	LR	13 07 31.2	
	comp=Z,79nm,19.5s,MS3.8,baz=55,slow=35						
QSPA	**South Pole Qui**	**57.93**	**180**	*e*P	**P**	**12 47 20.2**	**+7.0**
	14nm,0.6s,mb5.2						
SNAA	**Sanae**	**76.40**	**179**	*e*P	**P**	**12 49 14.1**	**+3.8**
	6.1nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**140.16**	**347**	PKhKP		12 56 37.9	
	3.7nm,0.9s,baz=84,slow=1.7,SNR=6.7						
KAF	**Kangasniemi**	**145.96**	**339**	*e*p	PKPdf	12 56 54.7	-4.9
FIA1	**FINESS Array S**	**146.54**	**338**	*e*P	PKPdf	12 56 57.3	-3.3
FINES	**FINESS Array B**	**146.54**	**338**	PKPbc	PKPbc	12 56 56.9	-5.2
	3.3nm,0.4s,baz=45,slow=3.7,SNR=27						
NB2	**NORSAR Subarra**	**150.38**	**350**	PKP	PKPdf	12 57 07.2	+0.4
	comp=Z,1.1nm,0.5s,baz=34,slow=3.0						
NOA	**NORSAR Array B**	**150.38**	**350**	PKPbc	PKPbc	12 57 07.2	-4.9
	comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=3.1						
BRTR	**Keskin Array B**	**152.73**	**295**	PKPbc	PKPbc	12 57 16.4	-1.1
	comp=Z,1.1nm,0.5s,baz=101,slow=2.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**161.05**	**182**	PKPab	PKPab	12 58 02.8	-1.3
	comp=Z,2.1nm,0.9s,baz=173,slow=3.5,SNR=5.8						

IDC 06 12:55:24.8±3.3, 3042S×13938E, h0km, mb1 3.0/3, mb1mx3.0/13, mbtmp2.8/3, ML2.8/3, Error ellipse: s-maj=122.3km s-min=14.4km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.39**	**128**	Pn	Pn	12 56 04.3	-0.9
	0.6nm,0.3s,baz=252,slow=23,SNR=14						
STKA				Pg	Pg	12 56 10.3	-0.3
	6.0nm,0.3s,baz=288,slow=14,SNR=57						
STKA				Lg		12 56 39.8	
	11nm,0.3s,baz=330,slow=14,SNR=17						
ASAR	**Alice Springs**	**8.31**	**323**	Pn	Pn	12 57 26.6	+0.1
	0.1nm,0.3s,baz=153,slow=13,SNR=4.6						
ASAR				Sn	Sn	12 59 00.9	-0.1
	0.3nm,0.3s,baz=145,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**11.38**	**335**	Pn	Pn	12 58 09.2	+0.5
	0.1nm,0.3s,baz=160,slow=11,SNR=7.5						
WRA				Sn	Sn	13 00 18.2	+1.6
	0.1nm,0.3s,baz=168,slow=24,SNR=4.8						

*BJI **06** 12:58:34.5, 780S×11090E, h10km, mB5.0, mb4.6, Ms4.7, Ms2.2*

*NEIC **06** 12:58:34.5±0.3, 780S×11089E, h10km, mb4.5/10, Error ellipse: s-maj=10.3km s-min=5.8km az=48.0*

NEIC Felt [III] at Pacitan and Trenggalek; [II] at Karangkates and Parigi.

*IDC **06** 12:58:46.6±3.2, 784S×11104E, h113km±29km, mb4.1/17, mb1 4.2/18, mb1mx4.1/22, mbtmp4.1/18, Error ellipse: s-maj=16.0km s-min=11.2km az=66.0*

*ISCJB **06** 12:58:47.4±0.5, 785S±006×11107E±005, h138km±5km, mb4.3/29, Error ellipse: s-maj=10.8km s-min=5.9km az=64.4*

ISC 06 12:58:48.5±0.5, 787S±006×11106E±005, h129km±5km, h24km±6.6km: pP-P, n68, σ1§07/62, mb4.3/29, 2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**1.41**	**102**	P	**Pn**	**12 59 13.5**	**-2.0**
	10μm,0.4s						
BJII	**Banjamegara**	**1.44**	**292**	P	**Pn**	**12 59 15.7**	**-0.2**
	974nm,0.7s						
KMMI	**Kalianget**	**3.00**	**74**	P	**Pn**	**12 59 34.4**	**-0.7**
	868nm,0.8s						
JCJI	**Jatiwangi**	**3.09**	**296**	P	**Pn**	**12 59 36.4**	**+0.2**
	475nm,0.5s						
NBBI	**Negara**	**3.56**	**98**	P	**Pn**	**12 59 44.4**	**+2.0**
	770nm,0.7s						
LEM	**Lembang**	**3.57**	**287**	P	**Pn**	**12 59 44.1**	**+1.6**
	222nm,1.0s						
DNP	**Denpasar**	**4.19**	**101**	P	**Pn**	**12 59 51.9**	**+1.2**
	760nm,0.5s						
CBJI	**Citeko**	**4.42**	**289**	P	**Pn**	**12 59 52.9**	**-0.9**
	373nm,0.7s						
MBWA	**Marble Bar**	**15.64**	**149**	*e*Pn	**Pn**	**13 02 17.4**	**-4.4**
	32nm,0.4s						
PSI	**Prapat**	**16.09**	**311**	P	**Pn**	**13 02 27.8**	**+0.4**
	0.5nm,0.3s,baz=114,slow=10,SNR=5.5						
PSI	**Prapat**	**16.09**	**311**	P	**Pn**	**13 02 27.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**17.46**	**127**	*e*P	**Pn**	**13 02 41.9**	**-2.0**
	44nm,0.9s						
FITZ				*e*S	**S**	**13 05 42.2**	**-16**
FITZ	**Fitzroy Crossi**	**17.46**	**127**	P	**Pn**	**13 02 42.0**	**-2.0**
	2.8nm,0.3s,baz=311,slow=6.1,SNR=67						
FITZ				S	**S**	**13 05 43.4**	**-15**
	1.7nm,0.3s,baz=206,slow=22,SNR=6.3						
AAI	**Ambon**	**17.55**	**77**	P	**Pn**	**13 02 46.5**	**+1.5**
	51nm,1.1s						
KAKA	**Kakadu**	**21.57**	**105**	*e*P	**P**	**13 03 27.4**	**-0.3**
	7.0nm,0.4s,mb4.4						
KLBR	**Kellerberrin**	**24.41**	**166**	*e*P	pP	13 04 15.4	-6.5
	336nm,3.4s						
MUN	**Mundaring**	**24.46**	**169**	*e*P	pP	13 04 17.4	-5.0
WRA	**Warramunga Arr**	**25.54**	**120**	P	**P**	**13 04 05.3**	**+0.1**
	7.0nm,0.4s,mb4.6,baz=294,slow=11,SNR=105						
WRA				pP	pP	13 04 29.5	-3.1
	8.6nm,0.8s,baz=289,slow=12,SNR=8.6						
WRA				Sx	Sx	13 08 54.3	
	0.5nm,0.6s,baz=291,slow=25,SNR=4.9						
WRAB	**Tennant Creek**	**25.55**	**120**	*e*P	**P**	**13 04 05.6**	**+0.4**
	10.0nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**25.55**	**120**	*e*P	**P**	**13 04 04.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**25.58**	**168**	P	**P**	**13 04 04.0**	**-1.4**
	5.3nm,0.6s,mb4.3,baz=298,slow=15,SNR=5.6						
ASPA	**Alice Springs**	**26.95**	**128**	*e*P	**P**	**13 04 17.4**	**-0.4**
ASAR	**Alice Springs**	**26.95**	**128**	P	**P**	**13 04 17.7**	**-0.1**
	3.0nm,0.4s,mb4.2,baz=302,slow=8.0,SNR=88						
ASAR				PcP	PcP	13 07 36.6	+0.3
	1.3nm,0.7s,baz=317,slow=1.9,SNR=4.1						
ASAR				Sx	Sx	13 09 33.5	
	4.5nm,0.9s,baz=309,slow=24,SNR=6.8						
AS31	**Alice Springs**	**26.95**	**128**	*e*P	**P**	**13 04 17.4**	**-0.4**
FORT	**Forrest**	**27.79**	**147**	*e*P	sP	13 05 02.4	-5.5
	26nm,0.6s						
KMI	**Kunming**	**33.78**	**346**	P	**P**	**13 05 20.1**	**+2.2**
KMI				AP	pP	13 05 26.4	-20
KMI				XP	sP	13 05 28.6	-32
KMI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
KMI	**Kunming**	**33.78**	**346**	P	**P**	**13 05 20.1**	**+2.2**
	comp=Z,3.0nm,0.6s,mb4.2						
KMI				pP	pP	13 05 26.4	-20
KMI				sP	sP	13 05 28.6	-32
PMG	**Port Moresby**	**35.72**	**95**	P	**P**	**13 05 35.4**	**+0.9**
	comp=Z,7.2nm,0.5s,mb4.1,baz=252,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**37.11**	**134**	P	**P**	**13 05 46.8**	**+0.4**
	comp=Z,7.3nm,0.5s,mb4.6,baz=310,slow=8.9,SNR=37						
STKA				pP	pP	13 06 12.9	-2.0
	comp=Z,6.9nm,0.7s,baz=318,slow=9.3,SNR=5.9						
STKA	**Stephens Creek**	**37.11**	**134**	*e*P	**P**	**13 05 46.7**	**+0.3**
LSA	**Lhasa**	**41.98**	**334**	P	**P**	**13 06 28.4**	**+1.7**
JIRN	**Jiri**	**42.74**	**327**	*e*P	**P**	**13 06 31.0**	**-1.9**
GUN	**Gumba**	**43.11**	**327**	*e*P	**P**	**13 06 34.3**	**-1.5**
GKN	**Gorkha**	**43.87**	**325**	*e*P	**P**	**13 06 41.8**	**-0.1**
LZH	**Lanzhou**	**44.25**	**352**	*e*P	**P**	**13 06 49.5**	**+4.5**
LZH				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.4						
KOLN	**Koldanda**	**44.28**	**324**	*e*P	**P**	**13 06 44.5**	**-0.7**
	comp=Z,7.9nm,0.3s,mb4.8						
KSRS	**Korea Array**	**47.77**	**18**	P	**P**	**13 07 13.7**	**+1.1**
	comp=Z,3.4nm,0.9s,mb4.0,baz=205,slow=8.2,SNR=6.4						
GTA	**Gaotai**	**48.19**	**348**	*e*P	**P**	**13 07 16.8**	**+1.1**
GTA				AP	pP	13 07 21.2	-24
GTA				XP	sP	13 07 24.4	-35
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.9						
HHC	**Hu-ho-hao-te**	**48.48**	**1**	*e*P	**P**	**13 07 19.3**	**+1.3**
HHC				AP	pP	13 07 28.8	-19
HHC				XP	sP	13 07 33.4	-29
HHC				PCP	PcP	13 08 44.6	+2.5
HHC				PP	PP	13 09 11.9	0.0
HHC				SCP	ScP	13 12 35.9	+11
HHC				PCS	PcS	13 12 39.7	+1.4
HHC				S	**S**	**13 14 18.9**	**+10**
HHC				XS	sS	13 14 35.2	-25
HHC				SS	SS	13 17 42.7	+2.1
HHC				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,140nm,6.7s						
HHC				LR	LR		
	comp=N,212nm,17.6s						
HHC				LR	LR		
	comp=E,458nm,21.0s						
HHC				LR	LR		
	comp=Z,225nm,16.6s						
MJAR	**Matsushiro Arr**	**51.00**	**28**	P	**P**	**13 07 35.6**	**-1.5**
	comp=Z,2.4nm,0.7s,mb4.0,baz=207,slow=8.2,SNR=4.7						
ULN	**Ulaanbaatar**	**55.61**	**357**	*e*P	**P**	**13 08 10.9**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**55.62**	**356**	P	**P**	**13 08 11.1**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.0,baz=173,slow=8.7,SNR=20						
SONM				PcP	PcP	13 09 09.0	+0.1
	comp=Z,1.2nm,0.6s,baz=167,slow=5.5,SNR=4.7						
SONM				ScP	ScP	13 12 55.9	+0.2
	comp=Z,1.3nm,0.8s,baz=178,slow=3.4,SNR=7.3						
WMQ	**Urumqi**	**55.64**	**340**	⇓P	**P**	**13 08 09.5**	**-1.5**
WMQ				AP	pP	13 08 19.5	-22
WMQ				XP	sP	13 08 23.7	-32
WMQ				PCP	PcP	13 09 08.5	-0.5
WMQ				PP	PP	13 10 15.1	-1.3
WMQ				*e*S	**S**	**13 15 51.1**	**+4.2**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,69nm,5.2s						
WMQ				LR	LR		
	comp=N,144nm,17.6s						
WMQ				LR	LR		
	comp=E,125nm,15.5s						
WMQ				LR	LR		
	comp=Z,60nm,16.6s						
WSAR	**Wadi Sarin**	**59.85**	**303**	P	**P**	**13 08 40.4**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.2,baz=166,slow=7.7,SNR=6.6						
MK31	**Makanchi Array**	**60.15**	**338**	*e*P	**P**	**13 08 41.7**	**-0.7**
MKAR	**Makanchi Array**	**60.15**	**338**	P	**P**	**13 08 41.8**	**-0.7**
	comp=Z,1.8nm,0.3s,mb4.3,baz=153,slow=7.3,SNR=31						
OPO	**Ambohidratompo**	**62.81**	**253**	P	**P**	**13 09 00.1**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.2,baz=83,slow=13,SNR=5.9						
ZAL	**Zalesovo**	**65.44**	**343**	P	**P**	**13 09 16.4**	**-1.1**
	comp=Z,2.7nm,0.3s,mb4.5,baz=351,slow=4.2,SNR=9.0						
MAW	**Mawson**	**67.74**	**198**	P	**P**	**13 09 32.6**	**+0.5**
	comp=Z,6.1nm,0.6s,mb4.5,baz=68,slow=6.4,SNR=15						
CHKZ	**Chkalovo**	**70.17**	**336**	*e*P	**P**	**13 09 45.9**	**-1.2**
ZRNK	**Zerenda**	**70.32**	**335**	*e*P	**P**	**13 09 46.7**	**-1.3**
	comp=Z,1.6nm,0.6s,mb3.9						
KMBO	**Kilima Mbogo**	**73.81**	**271**	P	**P**	**13 10 10.6**	**+1.8**
	comp=Z,1.1nm,0.5s,mb3.8,baz=90,slow=5.1,SNR=3.3						
VNDA	**Vanda**	**74.39**	**170**	P	**P**	**13 10 12.3**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=306,slow=5.8,SNR=26						
VNDA	**Vanda**	**74.39**	**170**	*e*P	**P**	**13 10 12.0**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.8						
SBA	**Scott Base**	**75.45**	**170**	*e*P	**P**	**13 10 19.3**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.8						
SYO	**Syowa Base**	**76.09**	**201**	⇓*e*P	**P**	**13 10 21.4**	**-0.5**
LSZ	**Lusaka**	**81.12**	**256**	*e*P	**P**	**13 10 50.6**	**+1.2**
QSPA	**South Pole Qui**	**82.12**	**180**	*e*P	**P**	**13 10 55.3**	**+0.6**
	comp=Z,11nm,0.5s,mb4.7						
BOSA	**Boshof**	**82.61**	**242**	P	**P**	**13 10 58.2**	**+0.9**
	comp=Z,4.5nm,0.9s,mb4.2,baz=85,slow=5.3,SNR=10						
BOSA	**Boshof**	**82.61**	**242**	P	**P**	**13 10 58.2**	**+0.9**
BRTR	**Keskin Array B**	**85.42**	**311**	P	**P**	**13 11 10.9**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.0,baz=109,slow=6.9,SNR=9.1						
TBI	**Tubuai**	**95.53**	**114**	*e*T		13 11 07.0	
	comp=Z,30nm,0.4s						
PPT	**Papeete**	**96.49**	**109**	*e*LR	LR	13 11 21.0	
	comp=Z,148nm,23.0s,baz=290						
YKA	**Yellowknife Ar**	**116.23**	**22**	PKP	PKPdf	13 17 16.0	-0.5
	comp=Z,1.2nm,0.8s,baz=296,slow=1.6,SNR=4.1						
PDAR	**Pinedale Array**	**130.23**	**39**	SKPbc	SKPbc	13 20 54.7	+0.3
	comp=Z,1.8nm,0.9s,baz=276,slow=0.4,SNR=11						
ULM	**Lac du Bonnet**	**132.17**	**23**	SKPbc	SKPbc	13 21 01.7	+0.2
	comp=Z,8.5nm,0.9s,baz=346,slow=3.8,SNR=7.7						
TXAR	**Lajitas Array**	**141.02**	**52**	SKPbc	SKPbc	13 21 29.4	+1.2
	comp=Z,0.3nm,0.7s,baz=5.7,slow=1.3,SNR=4.2						
LPAZ	**La Paz**	**155.98**	**182**	PKPab	PKPab	13 18 57.9	+2.8
	comp=Z,0.8nm,0.5s,baz=207,slow=4.5,SNR=4.6						

CASC 06 13:29:16.5±1.5, 794N×8294W, h8km±6km, MD3.6, 3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.69**	**44**	⇓*i*P	Pg	13 29 29.4	-0.3
BRU	**Baru**	**0.94**	**23**	*e*P	Pg	13 29 34.5	0.0
CTCR	**Cotoan**	**0.97**	**10**	⇓*e*P	Pg	13 29 34.5	-0.6
CTCR				*e*S	Sg	13 29 48.1	+0.5
CNI	**Changuinola**	**1.53**	**16**	*e*P	Pn	13 29 43.5	-0.6
LCR2	**La Lucha 2**	**2.08**	**330**	*e*P	Pn	13 29 52.5	+0.9
LCR2				*e*S	Sn	13 30 19.2	+1.5
PRS1	**Puriscal**	**2.44**	**326**	*e*P	Pn	13 29 55.3	-1.4
PTP	**Ponta Puerca**	**19.71**	**57**	⇓*i*P		13 29 23.3	

*NEIC **06** 13:41:02.4, 3466S×7194W, h15km, ML3.3(GUC), After GUC.*

GUC 06 13:41:02.4±0.7, 3466S×7194W, h15km±999km, MD3.8, ML3.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.68**	**121**	*e*P	Pg	13 41 15.1	-0.6
NICH				*i* S	Sg	13 41 24.6	+0.1
SFDO	**San Fernando**	**0.76**	**87**	*e*P	Pg	13 41 16.1	-1.2
SFDO				*i* S	Sg	13 41 27.2	-0.1
TALC	**Talca**	**0.78**	**161**	*e*P	Pg	13 41 16.7	-0.8
TALC				*i* S	Sg	13 41 27.1	-0.7
TALC				AML	AML	13 41 27.7	
	comp=E,3μm,0.1s						
TALC	**Talca**	**0.78**	**161**	*e*P	Pg	13 41 16.7	-0.8
TALC				*i* S	Sg	13 41 27.1	-0.7
CACH	**El Canelo**	**1.23**	**64**	⇑*i*P	Pn	13 41 24.6	-0.4
CACH				*i* S	Sb	13 41 40.9	-0.1
CHCH	**Chadas Angostu**	**1.29**	**56**	*e*P	Pn	13 41 24.9	-0.9
CHCH				*i* S	Sb	13 41 41.6	-1.0
CICH	**Cipreses**	**1.30**	**75**	⇓*i*P	Pn	13 41 25.5	-0.5
CICH				*i* S	Sb	13 41 42.2	-0.7
LMEL	**Las Melosas**	**1.65**	**61**	*e*P	Pn	13 41 30.4	-0.4
LMEL				*i* S	Sn	13 41 52.3	+0.7
LMEL				AML	AML	13 41 54.3	
	comp=N,547nm,0.4s						
LMEL	**Las Melosas**	**1.65**	**61**	*e*P	Pn	13 41 30.4	-0.4
LMEL				*i* S	Sn	13 41 52.3	+0.7

*GRAL **06** 13:41:07.6±1.0, 3376N×37.17E, h8km±240km, MD3.4*

*CSEM **06** 13:41:09.9±0.1, 3371N×3694E, h8km, Mc2.5, Error ellipse: s-maj=3.1km s-min=3.0km az=80.0*

*ISCJB **06** 13:41:10.5±0.8, 3376N±004×3692E±005, h7km±9km, Error ellipse: s-maj=6.8km s-min=6.5km az=159.8*

*NSSC **06** 13:41:11, 3377N×3688E, h17km±2km*

ISC 06 13:41:11.1±0.8, 3377N±004×3693E±005, h23km±12km, n18, σ1§07/28, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARH	**Ras Al Marh**	**0.45**	**305**	⇑*i*P	**Pb**	**13 41 19.6**	**-0.8**
MARH	**Ras Al Marh**	**0.45**	**305**	⇑P	**Pb**	**13 41 19.0**	**-1.4**
MARH				⇑S	**Sb**	**13 41 26.0**	**-0.7**
ROOS	**

OCLP	**Ormoc**	**0.97**	**282**	*e*P		Pn	13 59 30.6	-0.1
MSLP	**Maasin**	**1.00**	**225**	*e*P		Pn	13 59 31.6	+0.5
MSLP				*e*S		Sn	13 59 44.9	+0.7
SCPH	**Surigao**	**1.06**	**185**	⇓*e*P		Pn	13 59 31.9	+0.1
SCPH				*i* S		Sn	13 59 45.5	-0.2
LLP	**Lapu-Lapu**	**1.67**	**252**	*e*P		Pn	13 59 41.0	+0.8
LLP				*e*S		Sn	14 00 00.8	+0.1
PVCP	**Virac**	**3.07**	**333**	⇑*i*P		Pn	14 00 02.9	+3.5
PVCP				*i* S		Sn	14 00 45.4	+10
PVCP	**Virac**	**3.07**	**333**	*e*P		Pn	14 00 01.1	+1.7

NEIC ***06*** *14:01:09.4, 3250S×7182W, h28km, ML2.8(GUC), After GUC.*

GUC 06 14:01:09.4±0.7, 3250S×7182W, h28km±3km, MD3.7, ML2.8, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.32**	**97**	⇓*i*P	Pb	14 01 17.1	+0.2
PACH				*i* S	Sb	14 01 22.4	+0.2
CHNG	**Los Chungos**	**0.67**	**24**	⇓*i*P	Pb	14 01 22.1	-0.4
CHNG				*i* S	Sb	14 01 31.6	+0.1
CHNG				AML	AML	14 01 33.3	
	comp=N,182nm,0.4s						
PTCH	**Petorca**	**0.78**	**73**	⇓*i*P	Pb	14 01 24.4	-0.1
PTCH				*i* S	Sb	14 01 35.2	+0.5
PTCH				AML	AML	14 01 39.8	
	comp=N,737nm,0.2s						
PTCH	**Petorca**	**0.78**	**73**	⇓*i*P	Pb	14 01 24.4	-0.1
PTCH				*i* S	Sb	14 01 35.2	+0.5
PEL	**Peldehue**	**1.15**	**124**	*e*P	Pn	14 01 29.6	+0.1
PEL				*i* S	Sn	14 01 45.2	+0.8
PEL				AML	AML	14 01 48.5	
	comp=N,467nm,0.4s						
PEL	**Peldehue**	**1.15**	**124**	*e*P	Pn	14 01 29.6	+0.1
PEL				*i* S	Sn	14 01 45.2	+0.8
CLCH	**Cerro Calan**	**1.40**	**130**	*e*P	Pn	14 01 32.3	-0.7
CLCH				*i* S	Sn	14 01 50.5	0.0
CMCH	**Combarbala**	**1.49**	**28**	*e*P	Pn	14 01 34.9	+0.6
CMCH				*i* S	Sn	14 01 54.4	+1.6
CMCH				AML	AML	14 01 57.9	
	comp=E,641nm,0.6s						
CMCH	**Combarbala**	**1.49**	**28**	*e*P	Pn	14 01 34.9	+0.6
CMCH				*i* S	Sn	14 01 54.4	+1.6
FCH	**Farellones**	**1.53**	**123**	⇑*i*P	Pn	14 01 36.0	+1.3
FCH				*i* S	Sn	14 01 55.8	+2.1
FCH				AML	AML	14 01 57.7	
	comp=E,112nm,0.3s						
CHCH	**Chadas Angostu**	**1.73**	**146**	*e*P	Pn	14 01 38.8	+1.2
LMEL	**Las Melosas**	**1.91**	**135**	*i* P	Pn	14 01 41.7	+1.7
LMEL				*i* S	Sn	14 02 06.2	+3.1
LMEL				AML	AML	14 02 10.9	
	comp=N,151nm,0.5s						
LMEL	**Las Melosas**	**1.91**	**135**	*i* P	Pn	14 01 41.7	+1.7
LMEL				*i* S	Sn	14 02 06.2	+3.1
CACH	**El Canelo**	**1.91**	**148**	⇑*i*P	Pn	14 01 42.3	+2.3
CICH	**Cipreses**	**2.16**	**148**	*e*P	Pn	14 01 45.3	+1.8
TLL	**Tololo Astrono**	**2.48**	**21**	*e*P	Pn	14 01 49.8	+2.0
TLL				AML	AML	14 02 40.1	
	comp=N,70nm,0.4s						

IDC ***06*** *14:31:14.8±0.9, 043N×12084E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/19, mbtmp4.0/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/39, Error ellipse: s-maj=75.7km s-min=15.5km az=68.0*

ISCJB ***06*** *14:31:22.3±1.5, 04N±0.1×1209E±02, h77km±15km, mb4.2/12, Error ellipse: s-maj=36.6km s-min=7.9km az=113.8*

NEIC ***06*** *14:31:26.1±0.4, 036N×12079E, h100km, mb4.3/5, Error ellipse: s-maj=42.8km s-min=6.4km az=59.0*

ISC 06 14:31:23.4±1.3, 04N±01×1209E±02, h67km±13km, n27, σ0s85/27, mb4.2/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSM	**Tawau**	**4.88**	**322**	P	**Pn**	**14 32 34.9**	**+0.7**
KKM	**Kota Kinabalu**	**7.28**	**320**	P	**Pn**	**14 33 06.2**	**-0.8**
KKM	**Kota Kinabalu**	**7.28**	**320**	*e*P	**Pn**	**14 33 09.0**	**+2.1**
KKM				*e*S	**Sn**	**14 34 25.8**	**-2.3**
KAKA	**Kakadu**	**17.37**	**139**	*e*P	**Pn**	**14 35 22.5**	**+1.3**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.98**	**166**	*e*P	**Pn**	**14 35 40.3**	**-0.4**
	6.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.98**	**166**	P	**Pn**	**14 35 40.1**	**-0.6**
	0.4nm,0.3s,baz=4.8,slow=10,SNR=18						
WRAB	**Tennant Creek**	**24.15**	**148**	*e*P	**P**	**14 36 32.2**	**-0.9**
	7.7nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**24.15**	**148**	P	**P**	**14 36 32.3**	**-0.8**
	4.9nm,0.5s,mb4.1,baz=328,slow=10,SNR=83						
WB2	**Warramunga Arr**	**24.16**	**148**	*e*P	**P**	**14 36 32.3**	**-0.9**
WB2	**Warramunga Arr**	**24.16**	**148**	*e*P	**P**	**14 36 32.1**	**-1.1**
AS31	**Alice Springs**	**27.07**	**153**	*e*P	**P**	**14 37 00.5**	**+1.0**
ASAR	**Alice Springs**	**27.07**	**153**	P	**P**	**14 36 59.8**	**+0.2**
	1.1nm,0.6s,mb3.6,baz=339,slow=11,SNR=14						
GUMO	**Guam**	**27.13**	**60**	LR	LR	14 47 01.2	
	comp=Z,37nm,18.6s,baz=58,slow=35						
KSRS	**Korea Array**	**37.43**	**9**	P	**P**	**14 38 30.2**	**+0.3**
	0.7nm,0.7s,mb3.7,baz=183,slow=8.8,SNR=4.4						
STKA	**Stephens Creek**	**37.63**	**150**	P	**P**	**14 38 30.9**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=325,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**37.63**	**150**	P	**P**	**14 38 30.9**	**-0.7**
LSA	**Lhasa**	**40.62**	**318**	P	**P**	**14 38 55.9**	**-0.7**
	6.2nm,0.7s,mb4.5						
GUN	**Gumba**	**43.26**	**312**	*e*P	**P**	**14 39 19.2**	**+1.1**
	17nm,0.8s,mb4.8						
PKI	**Pulchoki**	**43.42**	**311**	*e*P	**P**	**14 39 20.0**	**+0.6**
DMN	**Daman**	**43.67**	**311**	*e*P	**P**	**14 39 22.3**	**+0.9**
GKN	**Gorkha**	**44.23**	**311**	*e*P	**P**	**14 39 26.4**	**+0.5**
KOLN	**Koldanda**	**44.89**	**311**	*e*P	**P**	**14 39 31.8**	**+0.6**
	6.1nm,0.7s,mb4.5						
SONM	**Songino Array**	**48.88**	**347**	P	**P**	**14 40 02.1**	**-0.2**
	1.7nm,0.9s,mb4.0,baz=153,slow=9.1,SNR=4.9						
MK31	**Makanchi Array**	**57.16**	**329**	*e*P	**P**	**14 41 03.1**	**-0.1**
MKAR	**Makanchi Array**	**57.16**	**329**	P	**P**	**14 41 03.2**	**0.0**
	0.7nm,0.4s,mb4.1,baz=127,slow=8.4,SNR=22						
ZAL	**Zalesovo**	**61.08**	**337**	P	**P**	**14 41 29.8**	**-0.4**
	1.2nm,0.7s,mb4.0,baz=322,slow=9.7,SNR=8.1						
BRVK	**Borovoye**	**67.12**	**330**	*e*P	**P**	**14 42 09.2**	**-0.6**
	8.0nm,1.0s,mb4.5						

NIED ***06*** *14:34:00, 2460N×12190E, h29km, Mw3.8 Best double couple: M0 6.34000×10^14 NP1:ϕs41.00000°, δ54.00000°, λ72.00000°. NP2:ϕs250.00000°, δ39.00000°, λ113.00000°.*

IDC ***06*** *14:34:02.6±1.1, 2430N×12188E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/21, mbtmp3.6/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/38, Error ellipse: s-maj=43.2km s-min=22.6km az=64.0*

BJI ***06*** *14:34:06.5, 2450N×12190E, h15km, ML3.8, Ms3.7, Msz3.5*

JMA ***06*** *14:34:06.8±0.3, 2455N×12186E, h43km, M3.7*

NEIC ***06*** *14:34:07.7±0.6, 2434N×12193E, h35km, MG3.7(JMA), Error ellipse: s-maj=11.5km s-min=9.8km az=218.0*

ISCJB ***06*** *14:34:07.3±0.5, 2436N±006×12188E±003, h51km±5km, mb3.4/4, Error ellipse: s-maj=10.8km s-min=4.3km az=18.8*

ISC 06 14:34:08.3±0.4, 2439N±006×12189E±003, h40km±7km, n17, σ0s71/27, mb3.4/4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.34**	**231**	*e*P	**Pn**	**14 34 16.4**	**-0.7**
NACB				*e*S	**Sn**	**14 34 23.6**	**+0.4**
YHNB	**Yeheng**	**0.54**	**301**	*e*P	**Pn**	**14 34 19.6**	**0.0**
YHNB				*e*S	**Sn**	**14 34 27.9**	**+0.3**
TATO	**Taipei**	**0.69**	**328**	*e*P	**Pn**	**14 34 21.7**	**+0.1**
TATO				*e*S	**Sn**	**14 34 31.6**	**+0.5**
YOJ	**Yonaguni jima**	**1.03**	**86**	P	**Pn**	**14 34 25.4**	**-0.8**
YOJ				S	**Sn**	**14 34 39.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.68**	**91**	P	**Pn**	**14 34 34.6**	**-0.6**
IRIF				S	**Sn**	**14 34 55.4**	**-0.1**
HATJ	**Hateruma jima**	**1.78**	**100**	P	**Pn**	**14 34 37.2**	**+0.6**
HATJ				*e*S	**Sn**	**14 34 59.1**	**+1.1**
JKRS	**Kuro-shima**	**1.94**	**94**	P	**Pn**	**14 34 38.8**	**0.0**
JKRS				S	**Sn**	**14 35 02.4**	**+0.5**
JIJ	**Ishigaki jima**	**2.06**	**90**	P	**Pn**	**14 34 40.2**	**-0.2**
JIJ				*e*S	**Sn**	**14 35 04.0**	**-0.8**
JTJ	**Tarama**	**2.58**	**84**	P	**Pn**	**14 34 48.1**	**+0.6**
JTJ				S	**Sn**	**14 35 18.1**	**+0.5**
QZH	**Quanzhou**	**3.05**	**281**	P	**Pn**	**14 34 54.5**	**+0.5**
QZH				S	**Sn**	**14 35 28.9**	**-0.3**
QZH				Smax			
	comp=N,440nm,1.0s						
QZH				Smax			
	comp=E,170nm,0.7s						
JOW	**Kunigami**	**6.26**	**66**	Pn	**Pn**	**14 35 37.5**	**-0.5**
	comp=E,2.9nm,0.3s,baz=232,slow=16,SNR=6.5						
JOW				LR	LR	14 38 19.9	
	comp=E,105nm,18.5s,baz=282,slow=41						
NJ2	**Nanjing**	**8.09**	**341**	*e*P	**Pn**	**14 36 00.6**	**-2.6**
NJ2				Smax			
	comp=N,100nm,0.8s						
NJ2				Smax			
	comp=E,130nm,1.0s						
NJ2				LR	LR		
	comp=N,550nm,14.4s						
NJ2				LR	LR		
	comp=E,300nm,13.6s						
NJ2				LR	LR		
	comp=Z,480nm,14.3s						
KSRS	**Korea Array**	**14.01**	**20**	Pn	**Pn**	**14 37 31.8**	**+7.6**
	baz=200,slow=12,SNR=9.5						
SONM	**Songino Array**	**26.43**	**336**	P	**P**	**14 39 41.5**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.5,baz=146,slow=9.0,SNR=6.6						
MKAR	**Makanchi Array**	**38.64**	**315**	P	**P**	**14 41 29.0**	**+1.2**
	comp=Z,1.4nm,1.0s,mb3.6,baz=109,slow=9.9,SNR=5.0						
MKAR				PcP	PcP	14 43 39.1	-0.2
	comp=Z,0.3nm,0.7s,baz=131,slow=4.4,SNR=3.7						
WRA	**Warramunga Arr**	**45.70**	**164**	P	**P**	**14 42 24.2**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=346,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**49.17**	**165**	P	**P**	**14 42 52.5**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.4,baz=343,slow=7.0,SNR=4.2						

CSEM ***06*** *14:46:26.5±1.1, 3818N×2659W, h0km±3km, ML2.7, Error ellipse: s-maj=4.1km s-min=1.0km az=37.0, After PDA*

PDA ***06*** *14:46:26.5±1.1, 3818N×2659W, h0km±3km, MD2.8, ML2.7, Error ellipse: s-maj=4.1km s-min=1.0km az=37.0*

SVSA 06 14:46:26.5±1.1, 3818N×2659W, h0km±3km, MD2.8, ML2.7, Error ellipse: s-maj=4.1km s-min=1.0km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.66**	**324**	*e*P	Pg	14 46 37.9	-1.3
PFAV				*i* S	Sg	14 46 46.9	-0.8
PFAV							
	188nm,0.2s						
PFAV	**Pico das Favas**	**0.66**	**324**	*e*P	Pg	14 46 37.9	-1.3
PFAV				*i* S	Sg	14 46 46.9	-0.8
RIB2	**Ribeirinha**	**0.67**	**317**	*e*P	Pg	14 46 38.3	-1.1
RIB2				*e*S	Sg	14 46 46.9	-1.3
RIB2							
	143nm,0.1s						
RIB2	**Ribeirinha**	**0.67**	**317**	*e*P	Pg	14 46 38.3	-1.1
RIB2				*e*S	Sg	14 46 46.9	-1.3
SET4	**Mosteiros**	**0.69**	**116**	*e*P	Pg	14 46 38.3	-1.5
SET2	**Ginetes**	**0.70**	**118**	*e*P	Pg	14 46 38.6	-1.3
PFET	**Feteiras**	**0.73**	**119**	*e*P	Pg	14 46 38.7	-1.7
PVNV	**Vila Nova**	**0.73**	**323**	*e*P	Pg	14 46 38.8	-1.8
PVNV				*e*S	Sg	14 46 48.4	-1.7
PSAN	**Santo Antonio**	**0.75**	**115**	*e*P	Pg	14 46 39.2	-1.8
PPAD	**Pico dos Padre**	**0.76**	**314**	*e*P	Pg	14 46 39.3	-1.7
PPAD				*e*S	Sg	14 46 49.3	-1.6
PPAD							
	232nm,0.2s						
PPAD	**Pico dos Padre**	**0.76**	**314**	*e*P	Pg	14 46 39.3	-1.7
PPAD				*e*S	Sg	14 46 49.3	-1.6
PBIS	**Biscoitos**	**0.78**	**318**	*e*P	Pg	14 46 39.6	-1.9
PBIS				*e*S	Sg	14 46 49.7	-1.9
PBIS							
	187nm,0.1s						
PBIS	**Biscoitos**	**0.78**	**318**	*e*P	Pg	14 46 39.6	-1.9
PBIS				*e*S	Sg	14 46 49.7	-1.9
ASBA	**Santa Barbara**	**0.79**	**313**	*e*P	Pg	14 46 39.9	-1.8
ASBA				*i* S	Sg	14 46 50.3	-1.7
ASBA							
	236nm,0.3s						
ASBA	**Santa Barbara**	**0.79**	**313**	*e*P	Pg	14 46 39.9	-1.8
ASBA				*i* S	Sg	14 46 50.3	-1.7
FAC	**Faja de Cima**	**0.84**	**118**	*e*P	Pg	14 46 40.5	-2.2
CML	**Cha da Macela**	**0.92**	**116**	*e*P	Pg	14 46 41.8	-2.3
PVER	**Pico Vermelho**	**0.93**	**114**	*e*S	Sg	14 46 53.4	-3.0
PVER							
	101nm,0.2s						
PMAT	**Coroa da Mata**	**0.95**	**112**	*e*P	Pg	14 46 42.2	-2.6
PMAT				*e*S	Sg	14 46 53.8	-3.3
PMAT							
	127nm,0.3s						
PMAT	**Coroa da Mata**	**0.95**	**112**	*e*P	Pg	14 46 42.2	-2.6
PMAT				*e*S	Sg	14 46 53.8	-3.3
LFA	**Lagoa do Fogo**	**0.96**	**115**	*e*P	Pg	14 46 42.4	-2.5
MESC	**Monte Escuro**	**0.98**	**113**	*e*P	Pg	14 46 42.2	-3.1
MESC				*e*S	Sg	14 46 54.7	-3.3
PRCH	**Ribeira Ch**	**0.98**	**117**	*e*P	Pg	14 46 42.8	-2.6
PRCH				*e*S	Sg	14 46 54.8	-3.3
PRCH							
	102nm,0.2s						
PRCH	**Ribeira Ch**	**0.98**	**117**	*e*P	Pg	14 46 42.8	-2.6
PRCH				*e*S	Sg	14 46 54.8	-3.3
VIF	**Vila Franca**	**1.00**	**115**	*e*P	Pg	14 46 42.7	-3.1
VIF				*e*S	Sg	14 46 55.6	-3.2
VIF							
	47nm,0.2s						
VIF	**Vila Franca**	**1.00**	**115**	*e*P	Pg	14 46 42.7	-3.1
VIF				*e*S	Sg	14 46 55.6	-3.2
PCNG	**Congro**	**1.03**	**113**	*e*P	Pg	14 46 42.9	-3.3
PCNG				*e*S	Sg	14 46 55.8	-3.7
PCNG							
	26nm,0.2s						
PCNG	**Congro**	**1.03**	**113**	*e*P	Pg	14 46 42.9	-3.3
PCNG				*e*S	Sg	14 46 55.8	-3.7
PFAD	**Fenais da Ajud**	**1.05**	**108**	*e*P	Pg	14 46 43.4	-3.3
FRA1	**Furnas**	**1.06**	**114**	*e*P	Pg	14 46 43.7	-3.2
MIRA	**Miradouro**	**1.11**	**110**	*e*P	Pg	14 46 43.7	-4.0
MIRA				*e*S	Sg	14 46 57.3	-4.7
PID	**Ribeirinha**	**1.23**	**283**	*e*P	Pg	14 46 46.1	-4.1
PID				*e*S	Sg	14 47 00.7	-5.5
PMAN	**Manadas**	**1.26**	**292**	*e*P	Pg	14 46 46.4	-4.3
PMAN				*e*S	Sg	14 47 01.0	-6.1
PMAN							
	46nm,0.2s						
PMAN	**Manadas**	**1.26**	**292**	*e*P	Pg	14 46 46.4	-4.3
PMAN				*e*S	Sg	14 47 01.0	-6.1
PAMA	**Santo Amaro**	**1.35**	**292**	*e*P	Pg	14 47 04.9	-4.9
PGRA	**Graciosa**	**1.38**	**308**	*e*P	Pn	14 46 48.5	-4.5
PGRA				*e*S	Sg	14 47 04.2	-6.8
PGRA							
	71nm,0.3s						
PGRA	**Graciosa**	**1.38**	**308**	*e*P	Pn	14 46 48.5	-4.5
PGRA				*e*S	Sg	14 47 04.2	-6.8
ROSA	**Rosais**	**1.41**	**293**	*e*P	Pn	14 46 48.6	-4.7
ROSA				*e*S	Sg	14 47 04.7	-7.0
SRBC	**Serra Branca**	**1.43**	**307**	*e*P	Pn	14 46 49.2	-4.4
SRBC				*e*S	Sg	14 47 05.3	-7.0
PBOI	**Pico dos Bois**	**1.43**	**281**	*e*S	Sg	14 47 05.9	-6.6
PBOI							
	10nm,0.1s						
PVIA	**Vitoria**	**1.45**	**308**	*e*S	Sg	14 47 06.0	-7.1
PVIA							
	12nm,0.1s						
PICO	**Pico**	**1.48**	**283**	*e*P	Pn	14 46 49.9	-4.4
PICO				*e*S	Sg	14 47 06.4	-7.7
HOR	**Horta**	**1.64**	**283**	*e*P	Pn	14 46 52.0	-4.6
PSMN	**Pico do Norte,**	**1.68**	**134**	*e*S	Sn	14 47 11.6	-7.8
CALA	**Caldeira**	**1.71**	**284**	*e*P	Pn	14 46 53.0	-4.5
CALA				*e*S	Sn	14 47 12.1	-7.9
PCED	**Cedros**	**1.72**	**286**	*e*S	Sn	14 47 12.4	-7.9
PCED							
	9.2nm,0.1s						

MOS ***06*** *14:51:34.5±1.1, 2652S×7064W, h38km, mb5.5/25, Error ellipse: s-maj=20.8km s-min=7.1km az=102.2*

ISCJB ***06*** *14:51:36.8±0.1, 2667S±002×7048W±006, h64km, mb5.2/83, Error ellipse: s-maj=7.2km s-min=2.2km az=171.0*

GUC ***06*** *14:51:36.7±0.9, 2660S×7065W, h63km, ML5.6*

GCMT ***06*** *14:51:38.3±0.2, 2663S×7099W, h75km±1km, MW5.2/80, Moment Tensor Solution. s73,c107; s80,c128; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.85±.17; Mθθ=3.23±.17; Mφφ=2.62±.22; Mrθ=2.73±.10; Mrφ=-0.41±.15; Mθφ=-4.49±.13; Best double couple: M0 6.94900×10^16 NP1:ϕs130.00000°, δ21.00000°, λ-102.00000°. NP2: ϕs323.00000°, δ69.00000°, λ-85.00000°. Principal axes: T 5.6260, Plg24.0000°, Azm50.0000°; N 2.6460, Plg4.0000°, Azm142.0000°; P -8.2720, Plg65.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***06*** *14:51:38.5±0.3, 2660S×7054W, h67km±2km, mb4.7/20, mb1 4.9/24, mb1mx4.8/26, mbtmp4.8/24, MS4.2/15, Ms1 4.2/15, ms1mx4.1/25 Error ellipse: s-maj=14.8km s-min=7.5km az=82.0*

NEIC ***06*** *14:51:38.3±0.1, 2664S×7049W, mb5.4/69, Error ellipse: s-maj=7.8km s-min=2.9km az=81.0*

NEIC Felt [V] at Chanaral; [IV] at Caldera and Copiapo; [III] at Diego de Almagro, El Salvador, Taltal and Tierra Amarilla; [II] at Alto del Carmen, Huasco and Vallenar.

BJI ***06*** *14:51:38.2, 2660S×7050W, h64km, mB5.3, Ms5.7, Msz5.3*

ISC 06 14:51:38.6±0.1, 2667S±002×7051W±006, h66km, h66km±3km: pP-P, n563, σ0s74/442, mb5.1/83, 96C-96D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.49**	**215**	⇑*i*P	**Pn**	**14 51 50.3**	**-0.6**
CDCH				*i* S	**Sn**	**14 51 59.2**	**-0.7**
CDCH				AML	AML	14 52 00.1	
	comp=E,184μm,0.5s						
CDCH	**Caldera**	**0.49**	**215**	⇑*i*P	**Pn**	**14 51 50.3**	**-0.6**
CDCH				*i* S	**Sn**	**14 51 59.2**	**-0.7**
CPCH	**Copiapo**	**0.70**	**168**	⇑*i*P	**Pn**	**14 51 54.0**	**+0.8**
CPCH				*i* S	**Sn**	**14 52 05.8**	**+2.0**
VACH	**Vallenar**	**1.91**	**187**	⇑*i*P	**Pn**	**14 52 09.1**	**+0.2**
VACH				*i* S	**Sn**	**14 52 32.4**	**+0.5**
VACH				AML	AML	14 52 33.4	
	comp=E,166μm,0.2s						
VACH	**Vallenar**	**1.91**	**187**	⇑*i*P	**Pn**	**14 52 09.1**	**+0.2**
VACH				*i* S	**Sn**	**14 52 32.4**	**+0.5**
CPN1	**Cerro Paranal**	**2.04**	**3**	⇑*i*P	**Pn**	**14 52 09.3**	**-1.4**
CPN1				*i* S	**Sn**	**14 52 33.3**	**-1.9**
CPN1				AML	AML	14 52 35.1	
	comp=E,56μm,0.6s						
CEN1	**Los Morros**	**3.28**	**5**	⇑*i*P	**Pn**	**14 52 22.9**	**-4.8**
CEN1				*i* S	**Sn**	**14 52 58.0**	**-7.5**
CEN1				AML	AML	14 53 14.3	
	comp=E,7μm,0.6s						
LSCH	**La Serena**	**3.29**	**191**	⇓*i*P	**Pn**	**14 52 27.0**	**-0.7**
LSCH				*i* S	**Sn**	**14 53 04.8**	**-0.8**
TLL	**Tololo Astrono**	**3.49**	**184**	⇑*i*P	**Pn**	**14 52 31.1**	**+0.6**
TLL				*i* S	**Sn**	**14 52 11.5**	**+0.9**
TLL				AML	AML	14 53 31.2	
	comp=N,15μm,0.6s						
TLL	**Tololo Astrono**	**3.49**	**184**	⇑*i*P	**Pn**	**14 52 31.1**	**+0.6**
TLL				*i* S	**Sn**	**14 53 11.5**	**+0.9**
OVCH	**Ovalle**	**3.97**	**189**	⇓*i*P	**Pn**	**14 52 35.8**	**-1.1**
OVCH				*i* S	**Sn**	**14 53 20.4**	**-1.8**
LVC	**Limon Verde**	**4.30**	**20**	P	**Pn**	**14 52 41.3**	**-0.1**
	comp=N,279nm,0.3s,baz=201,slow=9.7,SNR=2492						
LVC				S	**Sn**	**14 53 30.9**	**+0.6**
	comp=N,754nm,0.3s,baz=197,slow=22,SNR=15						
LVC				LR	LR	14 53 48.8	
	comp=N,938nm,19.4s,baz=199,slow=31						
LVC	**Limon Verde**	**4.30**	**20**	⇑*i*Pn	**Pn**	**14 52 41.3**	**-0.2**
CMCH	**Combarbala**	**4.50**	**185**	⇓*i*P	**Pn**	**14 52 43.1**	**-1.3**
CMCH				*i* S	**Sn**	**14 53 34.2**	**-1.1**
CHNG	**Los Chungos**	**5.26**	**189**	*e*P	**Pn**	**14 52 52.2**	**-2.5**
CHNG				*i* S	**Sn**	**14 53 50.4**	**-3.6**
CFAA	**Coronel Fontan**	**5.30**	**158**	P	**Pn**	**14 52 57.8**	**+2.6**
	comp=N,3.3nm,0.3s,baz=332,slow=13,SNR=260						
CFAA				S	**Sn**	**14 53 55.8**	**+0.9**
	comp=N,19nm,0.3s,baz=188,slow=20,SNR=4.4						
PTCH	**Petorca**	**5.58**	**184**	*e*P	**Pn**	**14 52 58.3**	**-0.8**
PTCH				*i* S	**Sn**	**14 54 01.1**	**-0.7**
JACH	**Jahuel**	**5.99**	**181**	⇓*i*P	**Pn**	**14 53 04.6**	**0.0**
PEL	**Peldehue**	**6.45**	**181**	⇑*i*P	**Pn**	**14 53 09.8**	**-1.2**
PEL				*i* S	**Sn**	**14 54 21.4**	**-1.8**
FCH	**Farellones**	**6.63**	**178**	⇑*i*P	**Pn**	**14 53 14.1**	**+0.6**
FCH				*i* S	**Sn**	**14 54 27.9**	**+0.3**
CLCH	**Cerro Calan**	**6.70**	**180**	⇑*i*P	**Pn**	**14 53 14.0**	**-0.3**
CLCH				*i* S	**Sn**	**14 54 28.2**	**-1.0**
LMEL	**Las Melosas**	**7.16**	**178**	⇓*i*P	**Pn**	**14 53 21.0**	**+0.4**
ARE	**Arequipa**	**10.20**	**355**	*e*P	**Pn**	**14 53 58.0**	**-4.2**
ARE				*e*S	**Sn**	**14 55 47.0**	**-8.0**
LPAZ	**La Paz**	**10.57**	**13**	P	**Pn**	**14 54 06.1**	**-1.2**
	comp=N,38nm,0.3s,baz=196,slow=7.7,SNR=580						
LPAZ				S	**Sn**	**14 55 56.2**	**-7.7**
	baz=58,slow=21,SNR=1.5						
LPAZ				LR	LR	14 58 37.0	
	comp=N,2μm,21.6s,baz=187,slow=40						
LPAZ	**La Paz**	**10.57**	**13**	*e*P	**Pn**	**14 54 05.3**	**-1.9**
LPAZ				pmax	pmax		
	comp=Z,126nm,0.4s						
LPAZ	**La Paz**	**10.57**	**13**	*e*Pn	**Pn**	**14 54 05.3**	**-1.9**
	comp=Z,126nm,0.4s						
TRQA	**Tornquist**	**13.44**	**150**	*e*P	**Pn**	**14 54 46.0**	**-0.3**
	comp=Z,234nm,1.2s						
SIV	**San Ignacio**	**13.79**	**41**	P	**Pn**	**14 54 45.2**	**-5.7**
	comp=Z,23nm,0.3s,baz=222,slow=13,SNR=293						
NNA	**Nana**	**15.78**	**337

NVL N'lazarevskaya 62.56 158 *d iP* **P 15 01 54.0 -1.7**
NVL pmax pmax
comp=Z,117nm,1.2s,mb5.7
NVL pmax pmax
comp=N,18nm,0.8s
NVL pmax pmax
comp=E,49nm,1.1s
SWET Sewanee 63.26 346 *eP* **P 15 01 58.6 -1.6**
SWET epP pP 15 02 15.7 -2.0
JCT Junction City 63.36 332 *eP* **P 15 02 00.7 -0.2**
JCT *e*PP pP 15 02 18.0 -0.3
JCT pmax pmax
comp=Z,43nm,0.8s,mb5.4
JCT MLR MLR
comp=Z,144nm,19.0s
JCT Junction City 63.36 332 *eP* **P 15 02 00.7 -0.3**
comp=Z,43nm,0.8s,mb5.4
JCT epP pP 15 02 18.0 -0.3
JCT LR LR
comp=Z,144nm,19.0s
QSPA South Pole Qui 63.54 180 ⇓ *iP* **P 15 02 02.8 +0.7**
comp=Z,111nm,0.8s,mb5.7
TXAR Lajitas Array 64.12 328 P **P 15 02 05.5 -0.4**
comp=Z,12nm,0.9s,mb4.7,baz=148,slow=8.0,SNR=88
TXAR pP pP 15 02 23.3 -0.1
comp=Z,4.7nm,0.7s,baz=156,slow=8.2,SNR=7.6
TXAR PKPPKP 15 30 53.5
comp=Z,0.8nm,1.0s,baz=270,slow=2.5,SNR=4.3
TXAR Lajitas Array 64.12 328 P **P 15 02 05.6 -0.3**
TXAR *P pP 15 02 23.3 -0.1
ELN Prospectdale 64.29 351 P **P 15 02 05.0 -2.0**
ELN epP pP 15 02 22.8 -1.6
UALR University of 64.52 340 *eP* **P 15 02 08.1 -0.4**
comp=Z,32nm,1.1s,mb5.1
UALR epP pP 15 02 24.8 -1.2
WCI Wyandotte Cave 66.23 346 *eP* **P 15 02 17.6 -2.0**
WCI *e*PP pP 15 02 34.8 -2.3
WCI pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
WCI Wyandotte Cave 66.23 346 *eP* **P 15 02 17.6 -2.0**
comp=Z,9.9nm,0.8s,mb4.7
WCI epP pP 15 02 34.8 -2.3
USIN University of 66.28 345 P **P 15 02 19.0 -0.9**
comp=Z,59nm,1.0s,mb5.4
USIN epP pP 15 02 35.3 -2.1
SIUC Southern Illin 66.41 344 *eP* **P 15 02 19.2 -1.6**
comp=Z,17nm,0.6s,mb5.0
SIUC epP pP 15 02 36.5 -1.7
WMOK Wichita Mounta 66.69 335 *eP* **P 15 02 21.1 -1.4**
WMOK *e*PP pP 15 02 38.5 -1.6
WMOK pmax pmax
comp=Z,14nm,1.0s,mb4.8
WMOK Wichita Mounta 66.69 335 *eP* **P 15 02 21.1 -1.4**
comp=Z,14nm,1.0s,mb4.7
WMOK epP pP 15 02 38.5 -1.6
MNTX Cornudas Mount 66.90 328 *eP* **P 15 02 22.6 -1.3**
comp=Z,36nm,0.8s,mb5.2
MNTX epP pP 15 02 40.3 -1.1
FVM French Village 66.97 343 *eP* **P 15 02 22.7 -1.7**
FVM *e*PP pP 15 02 40.1 -1.8
FVM pmax pmax
comp=Z,19nm,0.7s,mb5.0
FVM French Village 66.97 343 *eP* **P 15 02 22.7 -1.7**
comp=Z,19nm,0.7s,mb5.0
FVM epP pP 15 02 40.1 -1.8
CCM Cathedral Cave 67.26 342 *eP* **P 15 02 22.4 -3.8**
CCM *e*PP pP 15 02 39.4 -4.3
CCM pmax pmax
comp=Z,39nm,0.8s,mb5.3
CCM Cathedral Cave 67.26 342 *eP* **P 15 02 22.4 -3.7**
comp=Z,39nm,0.8s,mb5.3
CCM epP pP 15 02 39.4 -4.3
SSPA Standing Stone 67.31 354 P **P 15 02 25.8 -0.7**
comp=Z,17nm,0.9s,mb4.9
SSPA epP pP 15 02 42.9 -1.2
AMTX Amarillo 67.96 333 *eP* **P 15 02 29.7 -0.9**
comp=Z,24nm,1.0s,mb5.0
AMTX epP pP 15 02 47.4 -0.8
ALLY Alegheny Colle 68.56 352 *eP* pP 15 02 50.5 -1.4
BNM Barren Site 69.51 329 *eP* **P 15 02 41.0 +0.8**
BNM epP pP 15 02 58.7 +0.8
LPM Los Pinos Moun 69.65 329 *eP* **P 15 02 41.3 +0.2**
LPM epP pP 15 02 58.5 -0.2
LENM Lemitar 69.69 328 *eP* **P 15 02 42.3 +1.0**
ACCN Adirondack Com 69.77 358 *eP* **P 15 02 41.9 +0.1**
ACCN epP pP 15 02 58.0 -1.5
KSU1 Kansas State U 69.83 339 *eP* **P 15 02 40.9 -1.3**
comp=Z,43nm,1.1s,mb5.2
KSU1 epP pP 15 02 58.2 -1.6
LAZ Ladron 69.96 328 *eP* **P 15 02 44.0 +1.1**
LAZ epP pP 15 03 01.5 +0.9
HNH Hanover 70.05 359 epP pP 15 03 01.1 -0.1
comp=Z,1.6nm,0.8s
TUC Tucson 70.08 324 *eP* **P 15 02 44.1 +0.4**
TUC *e*PP pP 15 03 01.6 +0.2
TUC pmax pmax
comp=Z,25nm,1.3s,mb4.9
TUC Tucson 70.08 324 *eP* **P 15 02 44.0 +0.3**
comp=Z,25nm,1.3s,mb4.9
TUC epP pP 15 03 01.6 +0.2
ANMO Albuquerque 70.10 329 *eP* **P 15 02 44.2 +0.4**
ANMO *e*PP pP 15 03 02.1 +0.6
ANMO pmax pmax
comp=Z,41nm,1.4s
ANMO MLR MLR
comp=Z,213nm,21.0s
ANMO Albuquerque 70.10 329 *eP* **P 15 02 44.2 +0.4**
comp=Z,41nm,1.4s,mb5.1
ANMO epP pP 15 03 02.0 +0.6
ANMO LR LR
comp=Z,213nm,21.0s
NCB Newcomb 70.38 357 *eP* **P 15 02 47.0 +1.4**
comp=Z,21nm,1.1s,mb4.9
NCB epP pP 15 03 02.0 -1.2
SBA Scott Base 70.50 191 *eP* **P 15 02 47.4 +1.1**
SBA pmax pmax
comp=Z,42nm,1.2s,mb5.1
SBA Scott Base 70.50 191 *eP* **P 15 02 47.4 +1.1**
comp=Z,42nm,1.2s,mb5.2
CBKS Cedar Bluff 70.65 336 *eP* **P 15 02 47.1 -0.1**
CBKS *e*PP pP 15 03 04.5 -0.4
CBKS pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
CBKS Cedar Bluff 70.65 336 *eP* **P 15 02 47.0 -0.1**
comp=Z,6.5nm,0.5s,mb4.7
CBKS epP pP 15 03 04.5 -0.4
116A Eloy 70.77 324 ⇓ **P P 15 02 48.2 +0.3**
baz=71
LONY Lake Ozonia 71.04 357 *eP* **P 15 02 48.5 -1.0**
comp=Z,13nm,0.9s,mb4.8
LONY epP pP 15 03 06.0 -1.3
115A Sonoran Desert 71.15 324 ⇓ **P P 15 02 50.9 +0.7**
baz=71
LIC Lamto 71.28 73 ⇑ *iP* pP 15 03 09.4 +0.7
comp=Z,94nm,0.9s
MSNY Massena 71.43 357 *eP* **P 15 02 51.9 0.0**
MSNY epP pP 15 03 08.2 -1.5
VNDA Vanda 71.52 190 P **P 15 02 53.5 +1.1**
comp=Z,11nm,0.9s,mb4.7,baz=135,slow=5.3,SNR=42
VNDA LR LR 15 30 33.1
comp=Z,117nm,21.3s,baz=136,slow=33
VNDA Vanda 71.52 190 *eP* **P 15 02 53.3 +0.8**
VNDA pmax pmax
comp=Z,20nm,1.1s
VNDA Vanda 71.52 190 *eP* **P 15 02 53.3 +0.8**
comp=Z,20nm,1.1s,mb4.9
JFWS Jewell Farm 71.59 345 *eP* **P 15 02 51.5 -1.4**
JFWS *e*PP pP 15 03 08.4 -2.2
JFWS pmax pmax
comp=Z,32nm,0.8s,mb5.2
JFWS Jewell Farm 71.59 345 *eP* **P 15 02 51.5 -1.4**
comp=Z,32nm,0.8s,mb5.2
JFWS epP pP 15 03 08.4 -2.2
PKME Peaks-Kenny Pk 71.60 1 epP pP 15 03 09.9 -0.8
comp=Z,16nm,0.8s
SDCO Great Sand Dun 72.00 331 *eP* **P 15 02 55.8 +0.4**
comp=Z,62nm,1.3s,mb5.3
SDCO epP pP 15 03 13.1 0.0
Z14A Wintersburg 72.04 324 ⇑ **P P 15 02 55.9 +0.3**
baz=72
SYO Syowa Base 72.20 159 ⇑ *iP* **P 15 02 56.2 -0.3**
SYO Syowa Base 72.20 159 ⇑ *iPcP* PcP 15 03 14.2 -0.2
Y14A Wickenburg 72.52 324 P **P 15 02 58.9 +0.5**
baz=73,SNR=13
X15A Humboldt 72.54 325 ⇓ **P P 15 02 59.3 +0.8**
baz=73,SNR=18
PPT Papeete 72.79 259 *eS* SKSac 15 13 02.9 +3.3
comp=Z,158nm,31.5s
PPT *e*LR LR 15 25 16.0
comp=Z,549nm,31.8s
PPT Papeete 72.79 259 LR LR 15 26 29.6
comp=Z,217nm,19.1s,baz=282,slow=29
GLA Glamis 72.82 322 *eP* **P 15 03 00.8 +0.6**
GLA Glamis 72.82 322 ⇓ **P P 15 03 00.6 +0.4**
baz=73
Y13A Salome 72.86 323 P **P 15 03 01.1 +0.7**
baz=73,SNR=19
X14A Yava 72.87 324 ⇓ **P P 15 03 01.0 +0.6**
baz=73,SNR=14
MVCO Mesa Verde 72.89 329 *eP* **P 15 03 01.2 +0.5**
comp=Z,75nm,1.3s,mb5.4
MVCO epP pP 15 03 18.5 +0.1
MVCO Mesa Verde 72.89 329 P **P 15 03 01.3 +0.7**
baz=73,SNR=25
WUAZ Wupatki 72.91 326 *eP* **P 15 03 01.6 +0.8**
comp=Z,59nm,1.1s,mb5.3
WUAZ Wupatki 72.91 326 P **P 15 03 01.7 +0.9**
baz=73,SNR=23
W15A Williams 73.10 325 P **P 15 03 03.1 +1.2**
baz=73,SNR=14
Y12C Blythe 73.19 323 ⇑ **P P 15 03 02.8 +0.5**
baz=73,SNR=17
SWSC Sam W. Stewart 73.28 321 ⇑ **P P 15 03 03.3 +0.4**
baz=74,SNR=6.2
PDMCI Parker Dam,Lak 73.40 323 P **P 15 03 04.3 +0.7**
baz=74,SNR=5.2
W14A Seligman 73.54 325 ⇓ **P P 15 03 05.1 +0.7**
baz=74,SNR=18
MONP Monument Peak 73.59 321 ⇑ **P P 15 03 05.4 +0.6**
baz=74,SNR=13
BC3 Big Chuckw Mtn 73.62 322 ⇓ **P P 15 03 05.4 +0.5**
baz=74,SNR=12
SMCO Snowmass 73.83 331 *eP* **P 15 03 07.2 +1.0**
comp=Z,43nm,0.9s,mb5.2
SMCO *e*pP pP 15 03 24.4 +0.4
IRM Iron Mountain 73.83 323 P **P 15 03 06.7 +0.5**
baz=74,SNR=15
W13A Hualapai Mount 73.87 324 ⇓ **P P 15 03 07.1 +0.7**
baz=74,SNR=8.9
109C Camp Elliot, M 73.97 321 ⇓ **P P 15 03 07.2 +0.2**
baz=74
PFO Pinyon Flat Ob 74.14 321 P **P 15 03 08.5 +0.5**
comp=Z,112nm,1.0s,mb5.5,SNR=5.8
PFO Pinyon Flat Ob 74.14 321 P **P 15 03 07.8 -0.2**
comp=Z,23nm,1.2s,mb4.8
PFO Pinyon Flat Ob 74.14 321 P **P 15 03 08.8 +0.9**
baz=74,SNR=9.3
BELC Belle Mtn. 74.18 322 ⇓ **P P 15 03 08.6 +0.4**
baz=74,SNR=5.0
W12A Cal Nev Ari 74.55 324 ⇓ **P P 15 03 10.7 +0.4**
baz=75
MURC Murrieta 74.55 321 ⇑ **P P 15 03 10.8 +0.4**
baz=75
EGOM La Gomera 74.78 47 P pP 15 03 29.7 +0.2
V12A Nelson 74.86 324 P **P 15 03 12.7 +0.5**
baz=75,SNR=12
SCI San Clemente I 74.87 320 ⇓ **P P 15 03 12.3 +0.1**
baz=75
HEC Hector,Ludlow 74.98 322 ⇓ **P P 15 03 13.5 +0.7**
baz=75,SNR=18
CIS Catalina Islan 75.09 320 ⇓ **P P 15 03 13.6 +0.1**
baz=75,SNR=5.1
TUQ Turquoise Mtn. 75.21 323 P **P 15 03 14.8 +0.6**
baz=75,SNR=8.0
CCAN Las Canadas 75.22 48 P pP 15 03 30.7 -1.3
U12A Valley of Fire 75.23 325 P **P 15 03 15.0 +0.7**
baz=76,SNR=10
FMP Fort Macarthur 75.25 320 ⇑ **P P 15 03 14.8 +0.4**
baz=76
BFSC Mount Baldy St 75.28 321 ⇑ **P P 15 03 14.5 -0.1**
baz=76,SNR=9.7
SRU San Rafael 75.36 329 *eP* **P 15 03 15.3 +0.3**
SRU *e*PP pP 15 03 32.7 -0.2
SRU pmax pmax
comp=Z,47nm,0.8s,mb5.3
SRU San Rafael 75.36 329 *eP* **P 15 03 15.3 +0.3**
comp=Z,47nm,0.8s,mb5.3
SRU epP pP 15 03 32.7 -0.2
CCUT Cedar City 75.50 326 *eP* **P 15 03 17.2 +1.4**
CCUT epP pP 15 03 34.8 +1.2
GSC Goldstone 75.59 322 *eP* **P 15 03 16.8 +0.5**
GSC Goldstone 75.59 322 P **P 15 03 17.1 +0.8**
baz=76,SNR=14
EBAJ Bajamar 75.60 47 P pP 15 03 33.3 -1.0
SNCC San Nicolas Is 75.63 319 ⇓ **P P 15 03 17.4 +0.8**
baz=76
DECC Green Verdugo 75.67 321 ⇓ **P P 15 03 17.5 +0.8**
baz=76
MSU Marysvale 75.67 327 *eP* **P 15 03 17.6 +0.8**
MSU *e*PP pP 15 03 34.8 +0.2
U11A Corn Creek 75.67 324 ⇓ **P P 15 03 17.5 +0.7**
baz=76
ARUT Antelope Range 75.72 326 *eP* **P 15 03 18.2 +1.1**
ARUT *e*PP pP 15 03 35.7 +0.8
SHOC Shoshone 75.75 323 ⇓ **P P 15 03 17.8 +0.6**
baz=76
TMUT Trail Mountain 75.83 329 *eP* **P 15 03 18.3 +0.6**
TMUT epP pP 15 03 36.2 +0.7
EDW2 Edwards Air Fo 75.93 321 P **P 15 03 18.5 +0.2**
baz=76,SNR=12
RWWY Rawlins 76.02 333 *eP* **P 15 03 19.4 +0.6**
comp=Z,45nm,1.2s,mb5.1
RWWY epP pP 15 03 36.3 -0.4
OSI Osito Adit 76.15 321 ⇓ **P P 15 03 19.8 +0.3**
baz=76
U10A Ash Meadows, A 76.17 323 P **P 15 03 20.5 +0.9**
baz=76,SNR=13
LRMC Laurel Mountai 76.20 322 P **P 15 03 20.2 +0.4**
baz=76,SNR=15
BSC Santa Cruz Isl 76.23 320 ⇓ **P P 15 03 20.2 +0.2**
baz=76
FURC Furnace Creek, 76.49 323 ⇑ **P P 15 03 21.9 +0.4**
baz=77,SNR=13
MPMC Manual Prospec 76.53 322 P **P 15 03 22.0 +0.4**
baz=77,SNR=14
MPU Maple Canyon 76.60 329 *eP* **P 15 03 22.9 +0.8**
comp=Z,61nm,1.1s,mb5.2
MPU epP pP 15 03 39.8 -0.2
EYMN Ely 76.63 346 *eP* **P 15 03 20.7 -1.6**
comp=Z,16nm,1.4s,mb4.5
EYMN epP pP 15 03 38.2 -2.0
DAU Daniels Canyon 76.74 329 *eP* **P 15 03 23.6 +0.7**
DAU *e*PP pP 15 03 41.7 +0.3
NLU North Lily Min 76.76 328 *eP* **P 15 03 23.7 +0.8**
NLU epP pP 15 03 40.7 -0.1
ISA Isabella 76.78 322 *eP* **P 15 03 23.5 +0.5**
ISA Isabella 76.78 322 P **P 15 03 23.8 +0.7**
baz=77,SNR=24
RSSD Black Hills 76.85 336 *eP* **P 15 03 23.5 0.0**
RSSD *e*PP pP 15 03 41.0 -0.4
RSSD pmax pmax
comp=Z,16nm,1.0s,mb4.7
RSSD Black Hills 76.85 336 *eP* **P 15 03 23.5 0.0**
comp=Z,16nm,1.0s,mb4.7
RSSD epP pP 15 03 41.0 -0.4
PKM Peak Mountain 76.98 320 ⇑ **P P 15 03 24.9 +0.7**
baz=77,SNR=12
CWC Cottonwood Cre 77.13 322 P **P 15 03 25.7 +0.7**
baz=77,SNR=19
GRAC Grapevine Rang 77.16 323 ⇑ **P P 15 03 25.7 +0.5**
baz=77
CTU Camp Tracy 77.19 329 *eP* **P 15 03 24.9 -0.5**
comp=Z,21nm,0.8s,mb4.9
TRCR Troy Canyon 77.23 325 *eP* **P 15 03 26.3 +0.7**
VES Vestal, Richgr 77.24 321 ⇑ **P P 15 03 25.9 +0.2**
baz=78,SNR=7.8
DUG Dugway 77.30 328 *eP* **P 15 03 26.5 +0.5**
DUG *e*PP pP 15 03 44.1 +0.2
DUG pmax pmax
comp=Z,45nm,1.0s,mb5.2
DUG Dugway 77.30 328 *eP* **P 15 03 26.5 +0.5**
comp=Z,45nm,1.0s,mb5.2
DUG epP pP 15 03 44.1 +0.2
DUG Dugway 77.30 328 P **P 15 03 26.7 +0.7**
baz=78,SNR=36
TCUT Toone Canyon 77.38 330 *eP* **P 15 03 26.6 +0.1**
Q12A Willow Creek R 77.38 326 P **P 15 03 27.1 +0.7**
baz=78,SNR=17
R10A Warm Springs 77.56 325 ⇓ **P P 15 03 28.5 +1.1**
baz=78,SNR=19
S09A Goldfield 77.62 324 P **P 15 03 28.2 +0.4**
baz=78,SNR=18
Q11A Duckwater 77.64 325 P **P 15 03 28.6 +0.7**
baz=78,SNR=28
TIN Tinemaha 77.66 323 ⇑ **P P 15 03 28.7 +0.7**
baz=78
RCTC Rector, Farmer 77.67 322 ⇑ **P P 15 03 28.3 +0.3**
baz=78
V05C Boulder Hill, 77.72 321 ⇓ **P P 15 03 29.0 +0.6**
baz=78
P12A McGill 77.75 326 P **P 15 03 29.3 +0.8**
baz=78,SNR=24
HELL Mitchell Peak, 77.82 322 P **P 15 03 28.9 0.0**
baz=78,SNR=23
HWUT Hardware Ranch 77.84 330 *eP* **P 15 03 28.9 -0.1**
comp=Z,111nm,1.1s,mb5.5
HWUT epP pP 15 03 46.6 -0.3
PDAR Pinedale Array 77.90 332 P **P 15 03 29.0 -0.3**
comp=Z,8.0nm,0.8s,mb4.5,baz=133,slow=6.3,SNR=47
PDAR pP pP 15 03 46.3 -0.9
comp=Z,5.7nm,1.0s,baz=166,slow=3.1,SNR=3.9
R09A Tonopah 77.92 324 P **P 15 03 29.8 +0.4**
baz=78,SNR=21
S08C White Mtn Res 77.95 323 P **P 15 03 30.4 +0.8**
baz=78,SNR=15
BGU Big Grassy Mou 77.97 328 *eP* **P 15 03 29.6 -0.2**
SPUT South Promonto 78.00 329 *eP* **P 15 03 27.2 -2.7**
SPUT epP pP 15 03 45.3 -2.5
AGMN Agassiz Refuge 78.02 343 *eP* **P 15 03 28.7 -1.3**
comp=Z,11nm,0.8s,mb4.6
AGMN epP pP 15 03 46.2 -1.7
MTUM Tungsten Hills 78.06 323 *eP* **P 15 03 30.9 +0.7**
V04C Ramage Ranch, 78.11 320 ⇓ **P P 15 03 31.1 +0.6**
baz=78
PKD Parkfield 78.14 321 P **P 15 03 31.3 +0.7**
baz=78,SNR=5.1
P11A Circle Ranch, 78.23 326 ⇓ **P P 15 03 32.0 +0.8**
baz=78,SNR=6.1
O12A Currie 78.28 327 P **P 15 03 32.0 +0.6**
baz=78,SNR=37
MLAC Mammoth Lakes 78.41 323 ⇑ **P P 15 03 32.9 +0.7**
baz=79,SNR=6.1
Q09A Carvers 78.42 325 ⇑ **P P 15 03 32.8 +0.5**
baz=79,SNR=5.2
T06C Millerton Lake 78.44 322 ⇓ **P P 15 03 31.6 -0.7**
baz=79
KCC Kaiser Creek 78.45 322 P **P 15 03 32.3 -0.1**
baz=79,SNR=7.8
N13A Wendover, West 78.47 328 P **P 15 03 32.6 +0.1**
baz=79,SNR=14
HVU Hansel Valley 78.53 329 *eP* **P 15 03 32.7 -0.1**
HVU pmax pmax
comp=Z,44nm,0.8s,mb5.3
HVU Hansel Valley 78.53 329 *eP* **P 15 03 32.7 -0.1**
comp=Z,44nm,0.8s,mb5.3
AHID Auburn Hatcher 78.56 331 *eP* **P 15 03 33.0 0.0**
comp=Z,86nm,1.1s,mb5.5
AHID epP pP 15 03 51.1 +0.1
U04C Hernandez Rese 78.58 321 P **P 15 03 33.7 +0.7**
baz=79,SNR=9.3
V03C Hunter Liggett 78.59 320 ⇓ **P P 15 03 33.7 +0.5**
baz=79
O11A Cowboy Ranch, 78.62 326 P **P 15 03 34.0 +0.7**
baz=79,SNR=52
P10A Eureka 78.64 326 ⇑ **P P 15 03 34.3 +0.9**
baz=79,SNR=12
NVAR Mina Array Bea 78.71 324 P **P 15 03 33.5 -0.4**
comp=Z,8.7nm,0.8s,mb4.6,baz=176,slow=5.4,SNR=52
NVAR pP pP 15 03 52.3 +0.6
comp=Z,4.6nm,0.8s,baz=148,slow=4.1,SNR=5.5
LRV Little Rabbit 78.75 321 *eP* **P 15 03 35.1 +1.0**
Q08A Gabbs 78.83 324 P **P 15 03 34.8 +0.3**
baz=79,SNR=13
M13A Montello 78.85 328 ⇑ **P P 15 03 34.3 -0.2**
baz=79,SNR=16
R07C Lee Vining 78.86 323 P **P 15 03 35.5 +0.9**
baz=79,SNR=18
N12A Clover Valley, 78.87 327 P **P 15 03 34.9 +0.2**
baz=79,SNR=20
ELK Elko 78.89 327 *eP* **P 15 03 35.1 +0.3**
ELK pmax pmax
comp=Z,50nm,0.9s
ELK Elko 78.89 327 *eP* **P 15 03 35.0 +0.3**
comp=Z,50nm,0.9s,mb5.3
REDW Red Top Meadow 78.93 331 *eP* **P 15 03 35.1 +0.1**
comp=Z,52nm,1.0s,mb5.3
P09A Austin 78.94 325 ⇑ **P P 15 03 35.3 +0.2**
baz=79
SNOW Snow King Moun 78.97 331 *eP* **P 15 03 35.8 +0.5**
comp=Z,66nm,0.9s,mb5.5
S05C Merced 79.02 322 ⇓ **P P 15 03 35.8 +0.2**
baz=79
LOHW Long Hollow 79.03 332 *eP* **P 15 03 35.3 -0.2**
comp=Z,60nm,1.1s,mb5.3
HAST UC Hastings Re 79.03 320 ⇑ **P P 15 03 36.0 +0.4**
baz=79,SNR=5.3
TPAW Teton Pass 79.08 331 *eP* **P 15 03 36.1 +0.3**
comp=Z,75nm,1.0s,mb5.5
TPAW epP pP 15 03 53.5 -0.3
RRI2 Red Ridge 79.12 331 *eP* **P 15 03 36.4 +0.4**
comp=Z,82nm,1.1s,mb5.5
S06C San Francisco 79.14 322 P **P 15 03 36.5 +0.3**
baz=79,SNR=15
N11A Elko Archery C 79.19 327 ⇑ **P P 15 03 36.7 +0.3**
baz=79
MOOW Moose Ponds 79.20 332 *eP* **P 15 03 36.4 -0.1**
comp=Z,27nm,1.3s,mb4.9
M12A Wells 79.25 328 P **P 15 03 36.9 +0.1**
baz=80,SNR=26
DCID1 Drake Creek 79.26 331 *eP* **P 15 03 37.4 +0.6**
PACP Pacheco Peak 79.32 321 ⇑ **P P 15 03 37.5 +0.4**
baz=80,SNR=5.8
R06C Coleville 79.39 323 P **P 15 03 38.5 +0.9**
baz=80,SNR=16
IMW Indian Meadow 79.40 332 *eP* **P 15 03 37.8 +0.2**
comp=Z,63nm,1.1s,mb5.4
IMW epP pP 15 03 55.8 +0.2
O09A Fish Creek Ran 79.42 325 ⇓ **P P 15 03 37.5 -0.2**
baz=80,SNR=14
FLWY Flagg Ranch 79.45 332 *eP* **P 15 03 38.3 +0.4**
comp=Z,95nm,0.9s,mb5.6
N10A Dunphy 79.49 326 ⇑ **P P 15 03 38.4 +0.3**
baz=80
P08A Dixie Valley 79.53 325 ⇓ **P P 15 03 38.6 +0.3**
baz=80,SNR=11
CMB Columbia Colle 79.55 322 *eP* **P 15 03 38.2 -0.2**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CMB Columbia Colle 79.55 322 *eP* **P 15 03 38.2 -0.2**
comp=Z,6.1nm,1.0s,mb4.4
CMB Columbia Colle 79.55 322 ⇑ **P P 15 03 38.2 -0.1**
baz=80
M11A Holland Ranch, 79.68 327 ⇑ **P P 15 03 39.6 +0.5**
baz=80,SNR=67
RLMT Red Lodge 79.71 333 *eP* **P 15 03 39.5 +0.3**
comp=Z,38nm,0.9s,mb5.2
RLMT pP pP 15 03 56.8 -0.5
YFT Old Faithful 79.81 332 *eP* **P 15 03 41.4 +1.6**
MAW Mawson 79.81 164 ⇓ *iP* **P 15 03 40.1 +0.3**
comp=Z,73nm,1.0s,mb5.5
MAW Mawson 79.81 164 P **P 15 03 40.2 +0.4**
comp=Z,89nm,0.9s,mb5.6,baz=214,slow=6.4,SNR=105
MAW LR LR 15 39 37.0
comp=Z,181nm,20.2s,baz=231,slow=36
MAW Mawson 79.81 164 ⇓ *iP* **P 15 03 40.1 +0.3**
MAW pmax pmax
comp=Z,73nm,1.0s
ULM Lac du Bonnet 79.82 344 P **P 15 03 38.3 -1.5**
comp=Z,14nm,0.9s,mb4.8,baz=164,slow=3.2,SNR=12
ULM pP pP 15 03 56.0 -1.9
comp=Z,30nm,1.1s,baz=171,slow=3.9,SNR=8.7
R05C Kirkwood Meado 79.86 323 ⇓ **P P 15 03 40.8 +0.7**
baz=80,SNR=7.7
TSUM Tsumeb 79.98 106 *eP* **P 15 03 42.1 +1.4**
comp=Z,13nm,1.1s,mb4.7
TSUM epP pP 15 03 59.9 +1.2
O08A Rochester Mine 80.00 325 ⇑ **P P 15 03 40.8 -0.1**
baz=80
R04C Big Horse Ranc 80.01 322 ⇓ **P P 15 03 41.2 +0.3**
baz=80
YMR Madison River 80.04 332 *eP* **P 15 03 41.9 +0.9**
comp=Z,114nm,0.9s,mb5.7
YMR epP pP 15 03 59.6 +0.5
N09A Rock Creek Ran 80.10 326 ⇓ **P P 15 03 40.8 -0.6**
baz=80
M10A I.L. Ranch, Tu 80.12 327 ⇓ **P P 15 03 41.7 +0.2**
baz=80,SNR=24
WCN Washoe City 80.12 323 ⇑ **P P 15 03 41.9 +0.4**
baz=80,SNR=6.9

PAHR **Pah Rah Range** 80.22 324 *eP* P 15 03 42.5 +0.5
comp=Z,61nm,1.0s,mb5.4
PAHR *epP* pP 15 04 00.2 +0.2
LAVA **Lava Cap Winer** 80.26 322 P P **15 03 42.2 0.0**
baz=80,SNR=6.1
O07A **Toulon** 80.28 324 P P 15 03 42.5 +0.2
baz=80,SNR=27
BDM **Black Diamond** 80.31 321 ⇑P P 15 03 43.1 +0.6
baz=80
N08A **GE Springer Mi** 80.36 325 P P 15 03 42.4 -0.4
baz=81,SNR=15
QLMT **Earthquake Lak** 80.36 332 *eP* P **15 03 43.7 +0.9**
QLMT *epP* pP 15 04 01.4 +0.6
GCMT **Greycliff** 80.42 333 *eP* P **15 03 43.1 +0.1**
TOA0 **Torodi Ar. Sit** 80.48 70 *eP* P **15 03 44.0 +0.6**
TOA0 *epP* pP 15 04 01.9 +0.5
TORD **Torodi Ar. Bea** 80.48 70 P P **15 03 43.7 +0.3**
comp=Z,14nm,0.6s,mb5.0,baz=264,slow=5.1,SNR=137
TORD pP pP 15 04 02.0 +0.6
comp=Z,149nm,0.8s,baz=252,slow=5.2,SNR=49
TORD LR LR 15 37 23.2
comp=Z,220nm,20.0s,baz=240,slow=34
TORD **Torodi Ar. Bea** 80.48 70 P P **15 03 43.7 +0.3**
TORD pP pP 15 04 02.0 +0.6
TORD LR LR 15 37 23.2
M09A **Marrel Ranch,** 80.49 326 ⇓P P **15 03 43.5 0.0**
baz=81,SNR=5.5
P05C **Yuba Gap, Truc** 80.58 323 P P **15 03 44.4 +0.5**
baz=81,SNR=10
DGMT **Dagmar** 80.66 338 *eP* P **15 03 43.8 -0.6**
comp=Z,134nm,1.3s,mb5.6
DGMT *epP* pP 15 04 02.0 -0.4
Q04C **Lincoln** 80.67 322 ⇑P P **15 03 45.0 +0.6**
baz=81
HLID **Hailey** 80.67 329 *eP* P **15 03 44.8 +0.4**
comp=Z,56nm,0.9s,mb5.4
HLID *epP* pP 15 04 02.5 0.0
HLID **Hailey** 80.67 329 P P **15 03 45.1 +0.7**
baz=81,SNR=78
O06A **Flanigan** 80.78 324 ⇑P P **15 03 45.3 +0.2**
baz=81,SNR=11
N07B **Gerlach** 80.79 325 P P **15 03 45.2 +0.2**
baz=81,SNR=64
BEKR **Beckwourth** 80.85 323 ⇓P P **15 03 45.5 +0.2**
baz=81,SNR=21
CVS **Carmenet Viney** 80.92 321 ⇓P P **15 03 45.7 -0.1**
baz=81,SNR=6.4
MCMT **McKenzie Canyo** 80.97 331 *eP* P **15 03 46.6 +0.6**
MCMT *epP* pP 15 04 04.4 +0.4
M08A **Happy Creek Ra** 80.98 326 P P **15 03 46.2 +0.2**
baz=81,SNR=14
L09A **Wilkinson Ranc** 81.05 326 P P **15 03 46.5 +0.1**
baz=81,SNR=8.4
OHCM **Honcut** 81.08 322 *eP* P **15 03 46.6 0.0**
OHCM *epP* pP 15 04 04.4 -0.2
NSHM **Saint Helena R** 81.12 321 *eP* P **15 03 47.3 +0.5**
SUTB **Sutter Butte** 81.17 322 ⇓P P **15 03 47.3 +0.2**
baz=81
N06A **Buffalo Meadow** 81.21 324 P P **15 03 47.4 +0.1**
baz=81,SNR=46
O05C **Quincy** 81.22 323 ⇑P P **15 03 47.4 +0.1**
baz=81,SNR=5.6
SCHQ **Schefferville** 81.23 2 P P **15 03 46.5 -0.9**
comp=Z,9.0nm,1.1s,mb4.5,baz=98,slow=4.6,SNR=3.3
SCHQ pP pP 15 04 04.2 -1.3
comp=Z,8.4nm,0.8s,baz=158,slow=6.4,SNR=5.7
ORV **Oroville** 81.24 323 ⇓P P **15 03 47.5 +0.1**
baz=82,SNR=16
MNRC **McLaughlin Nat** 81.28 322 ⇑P P **15 03 48.0 +0.3**
baz=82
DLMT **Dillon** 81.28 331 *eP* P **15 03 48.0 +0.3**
comp=Z,54nm,1.0s,mb5.3
M07A **Soldier Meadow** 81.33 325 ⇓P P **15 03 47.9 -0.1**
baz=82,SNR=23
L08A **Fields** 81.51 326 P P **15 03 48.8 -0.1**
baz=82,SNR=36
O04C **Chester** 81.56 323 ⇑P P **15 03 49.0 -0.2**
baz=82,SNR=13
K09A **Rome** 81.58 327 P P **15 03 49.0 -0.2**
baz=82,SNR=20
ELFS **Eagle Lake Fie** 81.59 324 ⇑P P **15 03 49.6 +0.3**
baz=82,SNR=26
F15A **Butte** 81.62 332 ⇓P P **15 03 49.6 +0.1**
baz=82
HOPS **Hopland** 81.71 321 ⇑P P **15 03 50.1 +0.2**
baz=82
WVOR **Wild Horse Val** 81.83 326 *eP* P **15 03 49.8 -0.8**
WVOR pmax pmax
comp=Z,28nm,1.1s,mb5.0
WVOR **Wild Horse Val** 81.83 326 *eP* P **15 03 49.8 -0.8**
comp=Z,28nm,1.1s,mb5.0
M06C **Likely Place G** 81.88 324 P P **15 03 51.0 +0.2**
baz=82,SNR=25
L07A **Adell** 81.88 325 P P **15 03 51.4 +0.5**
baz=82,SNR=28
F14A **Wisdom** 81.97 331 ⇓P P **15 03 51.9 +0.6**
baz=82,SNR=14
GASB **Alder Springs** 81.98 322 ⇑P P **15 03 52.0 +0.6**
baz=82,SNR=21
K08A **Mann Creek Ran** 81.98 326 P P **15 03 51.5 +0.2**
baz=82,SNR=7.3
J09A **Fry Pan Ranch,** 82.08 327 ⇓P P **15 03 51.6 -0.3**
baz=82,SNR=13
HATC **Hat Creek Radi** 82.12 323 ⇑P P **15 03 51.9 -0.2**
baz=82,SNR=14
E15A **Deer Lodge** 82.15 332 ⇓P P **15 03 52.2 0.0**
baz=82,SNR=5.1
P01C **Double 8 Ranch** 82.19 321 P P **15 03 53.0 +0.6**
baz=82,SNR=12
EGMT **Eagleton** 82.28 335 *eP* P **15 03 52.2 -0.7**
comp=Z,50nm,1.0s,mb5.3
EGMT *epP* pP 15 04 09.3 -1.7
EGMT **Eagleton** 82.28 335 ⇑P P **15 03 52.3 -0.7**
baz=82,SNR=14
H11A **Donnelly** 82.28 329 ⇑P P **15 03 52.6 -0.4**
baz=82
MOD **Modoc** 82.29 325 *eP* P **15 03 52.6 -0.4**
comp=Z,24nm,0.9s,mb5.0
MOD *epP* pP 15 04 11.0 -0.1
MOD **Modoc** 82.29 325 ⇓P P **15 03 53.0 0.0**
baz=82,SNR=26
BOSA **Boshof** 82.32 118 P P **15 03 52.9 -0.2**
comp=Z,9.9nm,0.8s,mb4.7,baz=250,slow=6.5,SNR=11
BOSA pP pP 15 04 11.7 +0.5
comp=Z,23nm,0.9s,baz=243,slow=4.0,SNR=11
BOSA LR LR 15 38 09.0
comp=Z,183nm,18.6s,baz=216,slow=34
BOSA **Boshof** 82.32 118 P P **15 03 52.9 -0.2**
BOSA *PP pP 15 04 11.7 +0.5
K07A **Rock Creek Ran** 82.33 326 P P **15 03 53.7 +0.5**
baz=83,SNR=54
F13A **Darby** 82.37 331 P P **15 03 53.4 0.0**
baz=83,SNR=56
O02C **Red Bluff** 82.38 322 ⇓P P **15 03 52.9 -0.6**
baz=83,SNR=9.5
J08A **Circle Bar Ran** 82.44 327 P P **15 03 54.0 +0.3**
baz=83,SNR=34
KCPM **Cahto Peak** 82.48 322 *eP* P **15 03 54.8 +0.8**
E14A **Clinton** 82.50 332 P P **15 03 54.5 +0.4**
baz=83,SNR=14
WDC **Whiskeytown Da** 82.53 323 *eP* P **15 03 52.6 -1.6**
WDC *e*PP pP 15 04 10.4 -1.9
WDC pmax pmax
comp=Z,30nm,1.2s,mb5.0
WDC **Whiskeytown Da** 82.53 323 *eP* P **15 03 52.6 -1.6**
comp=Z,30nm,1.2s,mb5.0
WDC *epP* pP 15 04 10.4 -1.9
WDC **Whiskeytown Da** 82.53 323 P P **15 03 52.9 -1.3**
baz=83,SNR=11
I09A **Lost Marbles R** 82.54 328 ⇑P P **15 03 54.5 +0.2**
baz=83
D15A **Lincoln** 82.59 333 P P **15 03 54.8 +0.3**
baz=83,SNR=16
L05A **Lakeview** 82.67 325 ⇑P P **15 03 55.2 +0.3**
baz=83,SNR=25
CHMT **Chamberlain Mo** 82.79 332 *eP* P **15 03 55.5 -0.1**
CHMT *epP* pP 15 04 13.6 -0.1
M03C **McCloud** 82.79 323 ⇓P P **15 03 54.7 -0.9**
baz=83
E13A **Victor** 82.82 331 ⇑P P **15 03 55.6 -0.2**
baz=83,SNR=18
J07A **Hines** 82.86 326 P P **15 03 55.9 -0.1**
baz=83,SNR=10
I08A **Drewsey** 82.89 327 ⇑P P **15 03 56.2 +0.1**
baz=83
K06A **Valley Falls** 82.91 326 P P **15 03 56.6 +0.4**
baz=83,SNR=18

O01C **Eel River Cons** 82.92 322 ⇑P P **15 03 56.8 +0.5**
baz=83,SNR=9.1
BMO **Blue Mountains** 83.00 329 *eP* P **15 03 56.0 -0.7**
comp=Z,25nm,1.3s,mb4.9
BMO *epP* pP 15 04 14.1 -0.6
M04C **Macdoel** 83.00 324 ⇓P P **15 03 56.5 -0.2**
baz=83,SNR=22
H09A **Durkee** 83.03 328 ⇓P P **15 03 56.9 +0.1**
baz=83
D14A **Greenough** 83.03 332 ⇓P P **15 03 56.7 -0.2**
baz=83,SNR=10
N02C **Big Bar** 83.11 322 P P **15 03 57.2 0.0**
baz=83,SNR=11
K05A **Summer Lake** 83.19 325 ⇓P P **15 03 58.0 +0.4**
baz=83
J06A **Christmas Vall** 83.19 326 ⇓P P **15 03 57.4 -0.3**
baz=83
M02C **Callahan** 83.27 323 ⇓P P **15 03 57.5 -0.5**
baz=84,SNR=6.8
L04A **Klamath Falls** 83.31 324 ⇑P P **15 03 58.2 -0.1**
baz=84
H08A **Prairie City** 83.39 328 ⇑P P **15 03 58.4 -0.3**
baz=84,SNR=6.5
YBH **Yreka Blue Hor** 83.43 323 P P **15 03 57.9 -1.0**
baz=84,SNR=6.8
D13A **Huson** 83.44 331 ⇑P P **15 03 58.8 -0.2**
baz=84,SNR=14
I07A **Izee** 83.48 327 P P **15 03 59.3 +0.2**
baz=84,SNR=19
K04A **Chilquin** 83.54 325 ⇑P P **15 03 59.3 -0.2**
baz=84
I06A **Prineville** 83.72 326 ⇓P P **15 04 00.7 +0.3**
baz=84,SNR=20
J05A **Fort Rock** 83.76 325 ⇑P P **15 04 00.7 +0.1**
baz=84
F10A **Beach Ranch, E** 83.81 329 ⇓P P **15 04 00.5 -0.3**
baz=84
KTRM **Thompson Ridge** 83.91 323 P P **15 04 01.7 +0.4**
F09A **S2 Ranch, Elgi** 83.92 329 ⇑P P **15 04 00.7 -0.7**
baz=84,SNR=6.2
C13A **Hot Springs** 83.95 332 ⇑P P **15 04 01.2 -0.3**
baz=84,SNR=12
G08A **Pilot Rock** 84.10 328 ⇓P P **15 04 01.9 -0.4**
baz=84
E10A **Myers Farm, Un** 84.14 330 ⇓P P **15 04 02.4 -0.1**
baz=84
HUMO **Hull Mountain** 84.17 324 ⇑P P **15 04 01.9 -0.8**
baz=84
J04A **Umpqua Nationa** 84.18 325 ⇓P P **15 04 02.6 -0.1**
baz=84
LBTB **Lobatse** 84.18 115 *eP* P **15 04 03.6 +0.9**
LBTB *e*PP pP 15 04 20.1 -0.8
LBTB pmax pmax
comp=Z,11nm,0.7s,mb4.8
LBTB **Lobatse** 84.18 115 *eP* P **15 04 03.5 +0.8**
comp=Z,11nm,0.7s,mb4.8
LBTB *epP* pP 15 04 20.1 -0.7
L02A **Cave Junction** 84.20 323 ⇓P P **15 04 02.4 -0.5**
baz=84
BBOR **Butler Butte** 84.22 324 P P **15 04 02.1 -0.8**
C12A **Trout Creek** 84.36 331 P P **15 04 03.4 -0.2**
baz=85,SNR=9.1
H06A **Lindquist Farm** 84.36 327 ⇑P P **15 04 03.8 +0.2**
baz=85,SNR=17
F08A **Pendleton** 84.39 328 ⇓P P **15 04 03.6 -0.2**
baz=85
I05A **Bend** 84.41 326 ⇑P P **15 04 04.2 +0.3**
baz=85
G07A **Ruggs Ranch, H** 84.42 328 ⇑P P **15 04 04.3 +0.4**
baz=85
B13A **Whitefish** 84.45 332 P P **15 04 03.7 -0.3**
baz=85,SNR=10
K02A **Glendale** 84.57 324 ⇑P P **15 04 04.5 -0.1**
baz=85,SNR=5.8
I04A **Tendick Farm,** 84.73 325 ⇓P P **15 04 05.1 -0.3**
baz=85
H05A **Madras** 84.74 326 ⇑P P **15 04 05.5 0.0**
baz=85
WALA **Waterton Lakes** 84.76 333 *eP* P **15 04 04.9 -0.7**
comp=Z,37nm,0.9s,mb5.3
WALA *epP* pP 15 04 22.9 -0.9
G06A **Carlson Farm,** 84.87 327 ⇓P P **15 04 06.4 +0.2**
baz=85
B12A **Libby** 84.99 332 ⇑P P **15 04 06.3 -0.5**
baz=85,SNR=12
F07A **Phinny Hill Vi** 85.01 328 ⇑P P **15 04 07.3 +0.4**
baz=85
J02A **Umpqua** 85.03 324 ⇑P P **15 04 06.8 -0.2**
baz=85
E08A **Dider Farm, El** 85.04 329 ⇑P P **15 04 07.0 0.0**
baz=85
HAWA **Hanford** 85.19 328 *eP* P **15 04 07.3 -0.5**
comp=Z,59nm,1.4s,mb5.3
HAWA *epP* pP 15 04 25.6 -0.4
G05A **Wamic** 85.21 327 ⇑P P **15 04 08.0 +0.2**
baz=85
C10A **Spilker Farm,** 85.24 330 ⇓P P **15 04 07.2 -0.9**
baz=86
H04A **Detroit Lake** 85.24 326 ⇓P P **15 04 07.3 -0.8**
baz=86
I03A **Eugene** 85.30 325 ⇓P P **15 04 08.0 -0.4**
baz=86
B11A **Sandpoint** 85.30 331 ⇑P P **15 04 07.5 -0.9**
baz=86
F06A **Goldendale** 85.33 327 ⇑P P **15 04 08.1 -0.3**
baz=86
A12A **Yaak River Ran** 85.38 332 ⇓P P **15 04 08.0 -0.7**
baz=86,SNR=10
D08A **Wollman Farm,** 85.39 329 ⇑P P **15 04 08.2 -0.6**
baz=86,SNR=5.7
E07A **Sunnyside** 85.46 328 ⇑P P **15 04 08.4 -0.8**
baz=86
NEW **Newport** 85.50 331 *eP* P **15 04 07.2 -2.1**
NEW *e*PP pP 15 04 24.9 -2.6
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW **Newport** 85.50 331 *eP* P **15 04 07.2 -2.2**
comp=Z,9.1nm,0.8s,mb4.8
NEW *epP* pP 15 04 24.9 -2.6
OD2 **Odessa Site #2** 85.55 329 P P **15 04 08.9 -0.6**
B10A **Chitwood Farm,** 85.57 331 ⇓P P **15 04 08.9 -0.8**
baz=86
C09A **Chrisman Ranch** 85.66 330 ⇓P P **15 04 09.4 -0.7**
baz=86,SNR=8.3
A11A **Hall Mountain,** 85.70 332 P P **15 04 09.7 -0.7**
baz=86,SNR=42
F05A **White Salmon** 85.74 327 ⇓P P **15 04 10.0 -0.5**
baz=86
G04A **Mulino** 85.76 326 ⇑P P **15 04 10.1 -0.5**
baz=86
H03A **Soap Creek Ran** 85.80 325 ⇑P P **15 04 10.6 -0.2**
baz=86
E06A **Yakima** 85.98 328 ⇑P P **15 04 11.1 -0.6**
baz=86
C08A **Higginbotham F** 85.99 330 ⇑P P **15 04 10.7 -1.1**
baz=86
EBG **Ellensburg** 86.05 328 P P **15 04 12.0 -0.1**
B09A **Rice** 86.06 330 P P **15 04 11.2 -1.0**
baz=86,SNR=13
MDT **Midelt** 86.17 50 P P **15 04 12.6 0.0**
comp=Z,1.0nm,0.9s,baz=234,slow=9.1,SNR=2.4
MDT pP pP 15 04 30.6 -0.2
comp=Z,30nm,1.0s,baz=236,slow=5.3,SNR=25
A10A **Northport** 86.23 331 ⇑P P **15 04 11.6 -1.3**
baz=86
G03A **Yamhill** 86.24 326 ⇓P P **15 04 12.9 -0.1**
baz=86
F04A **Amboy** 86.24 327 ⇑P P **15 04 12.1 -0.9**
baz=86
TBM **Table Mountain** 86.25 328 P P **15 04 13.0 -0.1**
PTEO **Sao Teotonio** 86.26 45 *eP* pP 15 04 32.7 +1.4
comp=Z,134nm,0.9s
C07A **Waterville** 86.39 329 P P **15 04 13.1 -0.6**
baz=87,SNR=11
D06A **Cle Elum** 86.39 328 ⇓P P **15 04 13.0 -0.7**
baz=87
ETW **Entiat** 86.45 329 P P **15 04 13.7 -0.4**
A09A **Danville** 86.67 331 ⇑P P **15 04 14.4 -0.7**
baz=87
D05A **Enumclaw** 86.93 328 ⇓P P **15 04 15.5 -0.8**
baz=87
B07A **Winthrop** 86.97 329 P P **15 04 15.4 -1.2**
baz=87,SNR=10.0
EGRO **El Granado** 87.03 45 P pP 15 04 35.7 +0.6
PBEJ **Beja** 87.09 45 *eP* pP 15 04 36.4 +1.0
comp=Z,64nm,1.3s
C05A **Tolt Reservoir** 87.15 328 ⇓P P **15 04 16.0 -1.4**
baz=87

EVO **Evora** 87.30 44 *eP* pP 15 04 36.1 -0.3
comp=Z,71nm,1.3s
CASY **Casey** 87.34 180 ⇓*i*P P **15 04 18.8 +0.4**
CASY *e* pP 15 04 37.9 +1.3
A07A **Ashnola River,** 87.52 330 ⇑P P **15 04 18.6 -0.7**
baz=88
B06A **Marblemount** 87.64 329 ⇓P P **15 04 18.7 -1.1**
baz=88
EMIN **Mina Concepcio** 87.69 45 P pP 15 04 38.6 +0.3
B05A **Bryant** 87.75 328 ⇓P P **15 04 19.4 -0.9**
baz=88
C04A **Brinnon** 87.77 328 ⇑P P **15 04 19.6 -0.8**
baz=88
EDM **Edmonton** 87.83 336 *eP* P **15 04 18.5 -2.2**
EDM *e**PP pP 15 04 36.8 -2.2
EBAD **Badajoz** 88.06 44 P pP 15 04 40.1 +0.1
A05A **Maple Falls** 88.26 329 ⇓P P **15 04 21.6 -1.1**
baz=88
B04A **Port Angeles** 88.27 328 ⇓P P **15 04 22.2 -0.6**
baz=88
PCBR **Castelo Branco** 88.42 43 *eP* pP 15 04 43.6 +1.8
PVRL **Vila Real** 89.15 42 *eP* pP 15 04 46.5 +1.3
comp=Z,42nm,1.2s
EADA **Adamuz** 89.27 46 P pP 15 04 45.3 -0.4
URZ **Urewera** 89.59 227 P P **15 04 29.1 +0.1**
comp=Z,7.7nm,0.8s,mb4.9,baz=45,slow=3.9,SNR=4.3
EBAN **Banos Encina** 89.77 46 P pP 15 04 46.6 -1.5
EQES **Quesada** 90.03 47 P pP 15 04 48.0 -1.3
PBRG **Braganca** 90.05 42 *eP* pP 15 04 51.1 +1.7
comp=Z,23nm,1.4s
RPZ **Rata Peaks** 90.08 220 P P **15 04 31.3 +0.1**
comp=Z,45nm,0.9s,mb5.6,baz=122,slow=1.3,SNR=18
ECAL **Calabor** 90.13 42 P pP 15 04 53.0 +3.2
EHUE **Huescar** 90.36 47 P pP 15 04 48.3 -2.6
ESDC **Sonseca Array** 90.52 45 pP pP 15 04 51.7 0.0
comp=Z,2.8nm,0.7s,baz=253,slow=4.1,SNR=4.6
ESDC LR LR 15 40 46.6
comp=Z,168nm,20.6s,baz=20,slow=33
ESDC **Sonseca Array** 90.52 45 P pP 15 04 51.3 -0.3
LSZ **Lusaka** 90.79 107 *eP* P **15 04 35.9 +1.3**
LSZ *e**PP pP 15 04 54.7 +1.8
LSZ pmax pmax
comp=Z,14nm,1.4s,mb4.9
LSZ **Lusaka** 90.79 107 *eP* P **15 04 35.9 +1.4**
comp=Z,14nm,1.4s,mb4.9
LSZ *epP* pP 15 04 54.7 +1.9
ETOB **Tobarra** 91.50 47 P pP 15 04 55.1 -1.0
ETOR **Torete** 92.37 45 P pP 15 04 59.6 -0.6
SJPF **Ste Jean** 94.15 43 *eP* pP 15 05 07.1 -1.3
comp=Z,32nm,1.2s
EPF **Esparros** 95.07 44 *eP* pP 15 05 12.7 +0.1
YKA **Yellowknife Ar** 95.57 341 P P **15 04 54.4 -2.1**
comp=Z,6.8nm,0.8s,mb5.1,baz=140,slow=4.5,SNR=17
YKA pP pP 15 05 13.0 -1.9
comp=Z,6.1nm,0.9s,baz=140,slow=4.4,SNR=7.7
YKA LR LR 15 51 57.6
comp=Z,86nm,18.4s,baz=335,slow=38
YKA **Yellowknife Ar** 95.57 341 P P **15 04 54.4 -2.2**
YKA *PP pP 15 05 13.1 -1.8
YKA **Yellowknife Ar** 95.57 341 P P **15 04 54.4 -2.1**
YKA pP pP 15 05 13.1 -1.9
YKA LR LR 15 51 57.6
QUIF **Quistinic** 95.66 39 *eP* pP 15 05 12.8 -2.5
comp=Z,92nm,1.4s
MTLF **Montolieu** 96.40 45 *eP* pP 15 05 18.0 -0.7
comp=Z,26nm,1.3s
MFF **Saint Martin d** 96.67 41 *eP* pP 15 05 19.0 -0.9
comp=Z,47nm,1.3s
KEST **Kesra** 97.55 54 LR LR 15 50 50.2
comp=Z,133nm,18.5s,baz=190,slow=36
LASF **Ste Croix** 97.80 44 *eP* pP 15 05 24.9 -0.1
DLBC **Dease Lake** 98.10 333 *eP* P **15 05 07.2 -0.8**
DLBC *epP* pP 15 05 25.5 -0.9
AVF **Avril sur Loir** 98.83 42 *eP* pP 15 05 28.6 -1.1
SMRF **Simiane la Rot** 98.84 45 *eP* pP 15 05 30.0 +0.3
comp=Z,26nm,1.2s
SMF **Signal de Mont** 99.05 42 *eP* pP 15 05 30.0 -0.7
LMR **La Mourre** 99.13 46 *eP* pP 15 05 30.8 -0.2
comp=Z,53nm,1.2s
FRF **La Foret Royal** 99.33 46 *eP* pP 15 05 31.8 -0.1
ORIF **Oris-en-Rattie** 99.48 44 *eP* pP 15 05 32.9 +0.4
comp=Z,23nm,1.1s
MBDF **Montbardon** 99.95 45 *eP* 15 05 34.9
comp=Z,29nm,1.4s
LPL **La Plagne** 100.29 44 *eP* 15 05 36.6
LPG **La Plagne** 100.29 44 *eP* 15 05 36.8
comp=Z,42nm,1.4s
CDF **Champ du Feu** 101.94 42 *eP* 15 05 42.5
LVV **L'vov** 112.71 44 *eP* Pdif 15 06 18.5 +5.5
AKASG **Malin Array Be** 116.16 44 PKP PKPdf 15 10 12.6 -1.7
comp=Z,3.3nm,0.6s,baz=266,slow=3.0,SNR=16
AKASG pPKP pPKPdf 15 10 32.2 -1.1
comp=Z,1.7nm,0.7s,baz=265,slow=2.8,SNR=3.8
AKASG PKKPbc PKKPbc 15 20 44.9 +0.9
comp=Z,0.4nm,0.4s,baz=70,slow=2.8,SNR=4.4
AKASG **Malin Array Be** 116.16 44 PKP PKPdf 15 10 12.6 -1.7
AKASG pPKP pPKPdf 15 10 32.2 -1.1
AKASG PKKPbc PKKPbc 15 20 44.9 +0.9
ARCES **ARCESS Array B** 116.81 23 PKKPbc PKKPbc 15 20 41.5 -0.3
comp=Z,3.4nm,0.8s,baz=99,slow=3.9,SNR=7.0
BRTR **Keskin Array B** 116.93 57 PKP PKPdf 15 10 15.3 -0.5
comp=Z,1.3nm,0.7s,baz=204,slow=2.2,SNR=6.9
BRTR PKKPbc PKKPbc 15 20 44.9 +3.6
comp=Z,1.1nm,0.8s,baz=85,slow=5.0,SNR=4.6
OBN **Obninsk** 121.09 40 ⇓*i*PKIKP PKPdf 15 10 22.5 -1.3
OBN *e* 15 17 20.4
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,200nm,14.0s
CTA **Charters Tower** 121.42 221 *e*PKP PKPdf 15 10 24.3 -0.1
comp=Z,2.8nm,0.7s
CTA **Charters Tower** 121.42 221 PKP PKPdf 15 10 24.1 -0.2
comp=Z,4.0nm,0.8s,baz=18,slow=1.5,SNR=5.4
AS31 **Alice Springs** 124.67 207 *e*PKP PKPdf 15 10 30.3 -0.3
ASAR **Alice Springs** 124.67 207 PKP PKPdf 15 10 30.2 -0.4
comp=Z,11nm,0.8s,baz=148,slow=2.2,SNR=86
ASAR pPKP pPKPdf 15 10 49.1 -0.5
comp=Z,3.9nm,0.9s,baz=124,slow=1.6,SNR=3.8
ASAR PP PP 15 12 13.1 -5.3
comp=Z,2.0nm,1.0s,baz=155,slow=5.2,SNR=4.4
ASPA **Alice Springs** 124.67 207 *e*PKP PKPdf 15 10 30.3 -0.3
BILL **Bilibino** 126.73 337 ⇑*i*PKIKP PKPdf 15 10 33.1 -1.5
BILL *e* 15 10 48.4
BILL *e*SS SS 15 29 41.0 +8.0
BILL pmax pmax
comp=Z,6.0nm,0.9s
WB2 **Warramunga Arr** 127.76 210 *e*PKP PKPdf 15 10 36.1 -0.4
WB2 *epPKP* pPKPdf 15 10 55.3 -0.2
WRA **Warramunga Arr** 127.77 210 PKP PKPdf 15 10 35.8 -0.8
comp=Z,19nm,0.7s,baz=164,slow=1.7,SNR=90
WRA pPKP pPKPdf 15 10 55.6 0.0
comp=Z,4.7nm,0.7s,baz=155,slow=1.6,SNR=5.3
WRAB **Tennant Creek** 127.77 210 *i* PKIKP PKPdf 15 10 36.5 -0.1
PMG **Port Moresby** 128.78 231 *e*PKIKP PKPdf 15 10 39.5 +1.0
FITZ **Fitzroy Crossi** 132.81 201 *e*PKP PKPdf 15 10 44.4 -1.7
comp=Z,17nm,0.7s
FITZ *ep*PKP pPKPdf 15 11 05.5 +0.4
FITZ *e*PKS 15 14 13.3
ARU **Arti** 133.20 36 *i* PKIKP PKPdf 15 10 46.5 -0.4
ARU *e* 15 13 12.5
ARU *e*SS SS 15 30 53.2 +0.7
TIXI **Tiksi** 133.70 352 *i* PKIKP PKPdf 15 10 45.4 -2.4
TIXI pmax pmax
comp=Z,8.0nm,1.2s
SEY **Seymchan** 134.18 334 ⇑*i*PKIKP PKPdf 15 10 47.9 -0.8
ZRNK **Zerenda** 140.11 38 *e*PKIKP PKPdf 15 10 59.8 +0.1
ZRNK *e* 15 11 18.2
CHKZ **Chkalovo** 140.65 36 *e*PKIKP PKPdf 15 11 00.2 -0.4
CHKZ *e* 15 11 18.8
BVAR **Borovoye Array** 140.83 37 PKP PKPdf 15 11 00.7 -0.2
comp=Z,3.6nm,0.7s,baz=300,slow=2.9,SNR=17
BVAR pPKP pPKPdf 15 11 20.3 +0.3
comp=Z,2.8nm,0.8s,baz=228,slow=3.8,SNR=4.4
YAK **Yakutsk** 142.16 345 *e*PKIKP PKPdf 15 10 58.5 -4.8
YAK *e* 15 11 15.1
YAK pmax pmax
comp=Z,21nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK **Yakutsk** 142.16 345 *e*PKPpre 15 10 56.8
GUMO **Guam** 144.45 256 PKP PKPdf 15 11 05.9 -1.4
comp=E,285nm,0.9s,baz=166,slow=8.3,SNR=17

GUMO					pPKP	pPKPdf	15 11 25.5	-0.9		
	comp=E,40nm,0.6s,baz=133,slow=5.3,SNR=2.6									
GUMO	**Guam**	**144.45**	**256**		*e*PKP	PKPdf	15 11 06.0	-1.4		
NVS	**Novosibirsk**	**145.94**	**27**	⇓	*i*PKP2	PKPab	15 11 09.8	-1.5		
NVS					*e*		15 14 40.3			
NVS					pmax	pmax				
	comp=Z,89nm,1.8s									
NVS					pmax	pmax				
	comp=E,26nm,1.6s									
KAD	**Karad**	**146.06**	**99**		*e*P	PKPdf	15 11 10.8	+0.7		
POO	**Poona**	**146.20**	**96**	⇑	*i*P	PKPdf	15 11 10.0	-0.4		
	comp=E,20nm,1.0s									
POO					*ex*	x	15 11 45.3			
POO					AMb	AMB	15 11 48.3			
	comp=Z,42nm,1.8s									
PALK	**Pallekele**	**146.53**	**120**		*e*PKPbc	PKPbc	15 11 13.6	+1.1		
PALK					*ep*PKPbc	pPKPbc	15 11 32.4	+1.1		
EKS2	**Erkin-Say**	**146.87**	**52**		P	PKPdf	15 11 12.9	+1.4		
	SNR=23									
YSS	**Yuzh-Sakhalins**	**146.91**	**317**	⇑	*i*PKP2	PKPab	15 11 11.9	-3.1		
YSS	**Yuzh-Sakhalins**	**146.91**	**317**		*e*PKPdf	PKPdf	15 11 11.4	-0.1		
YSS					*ep*PKPdf	pPKPdf	15 11 30.1	-0.5		
AML	**Almayashu**	**146.96**	**53**		P	PKPdf	15 11 13.6	+2.0		
	SNR=9.0									
USP	**Ospenovka**	**147.19**	**51**		P	PKPdf	15 11 12.8	+0.8		
	SNR=16									
ZAL	**Zalesovo**	**147.22**	**27**		PKPbc	PKPbc	15 11 12.2	-2.2		
	comp=Z,42nm,0.8s,baz=168,slow=3.4,SNR=78									
ZAL					pPKPbc	pPKPbc	15 11 33.2	-0.1		
	comp=Z,28nm,0.8s,baz=168,slow=4.1,SNR=9.0									
AAK	**Ala-Archa**	**147.38**	**52**		P	PKPdf	15 11 13.8	+1.4		
	SNR=34									
AAK	**Ala-Archa**	**147.38**	**52**		*e*PKIKP	PKPdf	15 11 12.3	-0.1		
AAK					*e*		15 11 15.4			
AAK	**Ala-Archa**	**147.38**	**52**		*e*PKPdf	PKPdf	15 11 12.3	0.0		
AAK					*e*PKPbc	PKPbc	15 11 15.4	+0.5		
AAK					*ep*PKPbc	pPKPbc	15 11 34.2	+0.5		
FRU	**Bishkek**	**147.40**	**51**		*e*PKIKP	PKPdf	15 11 13.0	+0.6		
FRU					*i*		15 11 15.8			
FRU					pmax	pmax				
	comp=Z,90nm,1.8s									
CHMS	**Chumysh**	**147.44**	**51**		P	PKPdf	15 11 16.3	+3.9		
	SNR=7.4									
UCH	**Uchtor**	**147.52**	**52**		P	PKPdf	15 11 14.6	+2.0		
	SNR=45									
KBK	**Karagaybulak**	**147.69**	**51**		P	PKPdf	15 11 13.8	+0.9		
	SNR=24									
CLNS	**Chul'man**	**147.90**	**344**		*e*PKIKP	PKPdf	15 11 11.8	-1.4		
CLNS					pmax	pmax				
	comp=N,14nm,1.0s									
CLNS					pmax	pmax				
	comp=E,15nm,1.0s									
CLNS					pmax	pmax				
	comp=Z,59nm,1.0s									
TKM2	**Tokmak 2**	**148.06**	**51**		P	PKPdf	15 11 14.3	+0.9		
	SNR=25									
ASAJ	**Asahikawa**	**148.16**	**312**		PKPbc	PKPbc	15 11 16.1	-0.9		
	comp=Z,62nm,0.9s,baz=239,slow=4.7,SNR=20									
ERM	**Erimo**	**148.50**	**308**		*e*PKP2	PKPab	15 11 17.7	-3.7		
BOD	**Bodaibo**	**148.71**	**355**		*e*PKIKP	PKPdf	15 11 12.9	-1.6		
BOD					pmax	pmax				
	comp=Z,28nm,0.9s									
ULHL	**Ulahol**	**148.73**	**52**		P	pPKPbc	15 11 39.3	+2.0		
	SNR=5.1									
AJM	**Ajmer**	**148.89**	**82**		*e*P	PKPdf	15 11 14.9	+0.1		
KSH	**Kashi**	**149.32**	**57**		*e*PKP	PKPdf	15 11 18.2	+2.7		
KSH					*e*PKS		15 14 53.4			
KSH					*e*SKS	SKSdf	15 18 14.9	-3.0		
HYB	**Hyderabad**	**149.95**	**101**		*i* PKP	PKPdf	15 11 18.0	+1.5		
HYB					*e*		15 11 46.0			
HYB	**Hyderabad**	**149.95**	**101**		*e*P	PKPdf	15 11 18.0	+1.5		
THN	**Thein Dam**	**150.15**	**71**		*e*P	PKPdf	15 11 17.1	+0.3		
MK31	**Makanchi Array**	**150.60**	**40**		*e*PKPdf	PKPdf	15 11 17.3	-0.3		
MK31					*e*PKPbc	PKPbc	15 11 22.8	-0.3		
MK31					*e*		15 11 42.6			
MKAR	**Makanchi Array**	**150.60**	**40**		PKP	PKPdf	15 11 17.3	-0.2		
	comp=Z,1.8nm,0.8s,baz=295,slow=1.0,SNR=12									
MKAR					PKPbc	PKPbc	15 11 23.1	0.0		
	comp=Z,59nm,0.7s,baz=298,slow=2.3,SNR=308									
MKAR					pPKPbc	pPKPbc	15 11 42.4	+0.4		
	comp=Z,45nm,0.8s,baz=302,slow=2.5,SNR=14									
MKAR	**Makanchi Array**	**150.60**	**40**		PKIKP	PKPdf	15 11 17.3	-0.2		
MKAR							15 11 23.1			
BHPL	**Bhopal**	**150.77**	**90**		*e*P	PKPdf	15 11 16.6	-1.2		
NDI	**New Delhi**	**151.40**	**78**		*e*P	PKPdf	15 11 19.5	+0.7		
KLR	**Kul'dur**	**151.65**	**328**		*e*PKIKP	PKPdf	15 11 16.0	-3.1		
NGP	**Nagpur**	**151.68**	**95**		*e*P	PKPdf	15 11 18.8	-0.4		
MJAR	**Matsushiro Arr**	**153.72**	**299**		PKP	PKPdf	15 11 21.8	-0.4		
	comp=Z,2.3nm,0.9s,baz=2.5,slow=2.4,SNR=5.5									
MJAR					PKPbc	PKPbc	15 11 29.8	-0.2		
	comp=Z,7.5nm,0.9s,baz=87,slow=2.1,SNR=15									
MJAR					PKPab	PKPab	15 11 42.7	-0.3		
	comp=Z,17nm,1.0s,baz=117,slow=2.0,SNR=16									
MJAR	**Matsushiro Arr**	**153.72**	**299**		PKP	PKPdf	15 11 21.8	-0.4		
MJAR					PKPbc	PKPbc	15 11 29.8	-0.2		
MJAR					PKPab	PKPab	15 11 42.7	-0.3		
MAJO	**Matsushiro**	**153.72**	**299**		*e*PKIKP	PKPbc	15 11 29.7	-0.4		
MAJO					*e*		15 11 43.1			
MAT	**Matsushiro**	**153.72**	**299**		PKP	PKPdf	15 11 22.6	+0.4		
IRK	**Irkutsk**	**154.16**	**7**		*e*PKIKP	PKPdf	15 11 22.5	-0.3		
IRK					*e*		15 11 41.8			
IRK					pmax	pmax				
	comp=Z,28nm,1.3s									
VIS	**Vishakhapatnam**	**154.24**	**105**		*e*P	PKPdf	15 11 21.6	-1.3		
KSM	**Kuching**	**154.93**	**182**		*e*PKPab	PKPab	15 11 49.4	+1.2		
WMQ	**Urumqi**	**155.43**	**40**	⇑	PKP	PKPdf	15 11 25.3	+0.7		
WMQ					APKP		15 11 44.3			
WMQ					PKP2	PKPab	15 11 53.3	+3.0		
WMQ					PP	PP	15 15 31.5	+4.6		
WMQ					PP	PP				
	comp=Z,457nm,7.4s									
WMQ					LR	LR				
	comp=N,190nm,22.8s									
WMQ					LR	LR				
	comp=E,159nm,22.0s									
WMQ					LR	LR				
	comp=Z,134nm,19.3s									
ZAK	**Zakamensk**	**155.85**	**10**	⇓	*i*PKIKP	PKPdf	15 11 25.6	+0.5		
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.0s									
KOLN	**Koldanda**	**156.96**	**81**		*e*P	PKPdf	15 11 26.8	+0.2		
	comp=Z,49nm,1.5s									
GKN	**Gorkha**	**157.89**	**81**		*e*P	PKPdf	15 11 28.0	+0.3		
	comp=Z,63nm,1.2s									
DMN	**Daman**	**158.29**	**82**		*e*P	PKPdf	15 11 28.8	+0.6		
	comp=Z,51nm,1.3s									
KKN	**Kakani**	**158.45**	**82**		*e*P	PKPdf	15 11 28.9	+0.5		
	comp=Z,35nm,1.1s									
BOK	**Bokaro**	**158.46**	**92**		*e*P	PKPdf	15 11 28.3	-0.1		
BOK					AMb	AMB	15 11 31.2			
	comp=Z,15nm,1.1s									
PKI	**Pulchoki**	**158.55**	**82**		*e*P	PKPdf	15 11 28.6	+0.1		
CN2	**Changchun**	**158.57**	**327**		*e*PKP	PKPdf	15 11 31.2	+2.7		
CN2					LR	LR				
	comp=N,580nm,16.0s									
CN2					LR	LR				
	comp=E,610nm,16.0s									
CN2					LR	LR				
	comp=Z,470nm,16.0s									
SONM	**Songino Array**	**158.74**	**6**		PKP	PKPdf	15 11 28.4	-0.4		
	comp=Z,13nm,0.9s,baz=311,slow=0.6,SNR=78									
SONM					pPKP	pPKPdf	15 11 48.2	+0.4		
	comp=Z,5.3nm,0.9s,baz=344,slow=0.9,SNR=5.9									
SONM					pPKPab	pPKPab	15 12 22.8	-0.2		
	comp=Z,3.3nm,0.7s,baz=321,slow=4.3,SNR=3.3									
ULN	**Ulaanbaatar**	**158.76**	**5**		*e*PKIKP	PKPdf	15 11 29.1	+0.3		
ULN					*e*		15 11 47.7			
GUN	**Gumba**	**158.99**	**81**		*e*P	PKPdf	15 11 29.5	+0.5		
KSRS	**Korea Array**	**161.07**	**309**		PKP	PKPdf	15 11 31.0	-0.4		
	comp=Z,6.7nm,0.9s,baz=74,slow=1.7,SNR=14									
KSRS					PKPab	PKPab	15 12 15.0	+0.2		
	comp=Z,7.6nm,0.8s,baz=55,slow=4.2,SNR=9.4									
LSA	**Lhasa**	**163.55**	**75**		PKP	PKPdf	15 11 33.0	-0.9		
LSA	**Lhasa**	**163.55**	**75**		*e*PKPdf	PKPdf	15 11 35.8	+1.9		
SHL	**Shillong**	**164.15**	**90**		*e*P	PKPdf	15 11 31.4	-3.0		
GTA	**Gaotai**	**164.94**	**30**		*e*PKP	PKPdf	15 11 35.8	+0.7		
GTA					APKP		15 11 54.6			
GTA					PKS		15 15 09.0			
GTA					SKS	SKSdf	15 18 29.4	-4.2		
GTA					PP	PP				
	comp=Z,191nm,7.6s									
GTA					LR	LR				
	comp=N,306nm,16.8s									
GTA					LR	LR				
	comp=E,215nm,15.3s									
GTA					LR	LR				
	comp=Z,261nm,15.3s									
HHC	**Hu-ho-hao-te**	**165.76**	**354**		*e*PKP	PKPdf	15 11 34.6	-1.2		
HHC					PKS		15 15 05.9			
HHC					PP	PP	15 16 25.3	+2.8		
HHC					SKS	SKSdf	15 18 27.2	-7.0		
HHC					SKKS	SKKSac	15 22 58.6	-5.7		
HHC					SS	SS	15 36 51.4	-4.1		
HHC					PP	PP				
	comp=Z,116nm,9.2s									
HHC					LR	LR				
	comp=N,155nm,20.2s									
HHC					LR	LR				
	comp=E,167nm,20.0s									
HHC					LR	LR				
	comp=Z,264nm,23.8s									
NST	**Nakhon Sawan**	**166.01**	**140**		P	PKPab	15 12 36.0	-0.5		
CHG	**Chiang Mai**	**167.52**	**127**	⇓	P	PKPdf	15 11 37.5	+0.4		
	comp=Z,11nm,0.8s									
CHTO	**Chiang Mai**	**167.52**	**127**		*e*PKIKP	PKPdf	15 11 37.5	+0.4		
CHTO					*e*		15 11 55.8			
CHTO					*e*		15 12 43.3			
CHTO	**Chiang Mai**	**167.52**	**127**		*e*PKPdf	PKPdf	15 11 37.5	+0.3		
CHTO					*ep*PKPdf	pPKPdf	15 11 55.8	-0.5		
CHTO					*e*PKPab	PKPab	15 12 43.3	+0.1		
CHTO					*ep*PKPab	pPKPab	15 13 01.8	+0.3		
NANT	**Nan**	**168.73**	**132**	⇑	P	PKPdf	15 11 36.0	-1.9		
LZH	**Lanzhou**	**169.45**	**26**		*e*PKP	PKPdf	15 11 40.0	+1.6		
LZH					PKS		15 15 13.5			
LZH					PP	PP	15 16 46.0	+4.6		
LZH					SKS	SKSdf	15 18 35.0	-1.2		
LZH					PP	PP				
	comp=Z,188nm,7.7s									
LZH					LR	LR				
	comp=E,322nm,14.3s									
LZH					LR	LR				
	comp=Z,310nm,15.6s									
NJ2	**Nanjing**	**170.23**	**305**		*e*PKP	PKPdf	15 11 34.2	-4.7		
XAN	**Xi'an**	**172.64**	**4**		PKP	PKPdf	15 11 40.3	+0.3		
CD2	**Chengdu**	**173.44**	**49**		*e*PKP	PKPdf	15 11 39.2	-1.2		
CD2					APKP		15 11 58.1			
CD2					XPKP		15 12 05.2			
CD2					PKP2	PKPab	15 13 09.2	-0.2		
CD2					PP	PP	15 17 02.2	+1.1		
CD2					SKS	SKSdf	15 18 33.7	-4.1		
CD2					SKKS	SKKSac	15 23 41.7	-0.2		
CD2					SS	SS	15 38 08.0	-3.8		
CD2					PP	PP				
	comp=Z,120nm,10.2s									
CD2					LR	LR				
	comp=N,320nm,13.1s									
CD2					LR	LR				
	comp=Z,210nm,14.3s									
KMI	**Kunming**	**173.73**	**103**		PKP	PKPdf	15 11 40.9	+0.4		
KMI					APKP		15 11 59.4			
KMI					XPKP		15 12 06.2			
KMI					PKP2	PKPab	15 13 12.9	+2.2		
KMI					PKS		15 15 11.1			
KMI					PP	PP	15 17 03.6	+1.0		
KMI					SKS	SKSdf	15 18 35.7	-2.2		
KMI					SKKS	SKKSac	15 23 43.1	-0.2		
KMI					SS	SS	15 38 12.4	-2.3		
KMI					PP	PP				
	comp=Z,92nm,5.2s									
KMI					LR	LR				
	comp=Z,133nm,31.0s									
GYA	**Guiyang**	**177.46**	**94**		PKP	PKPdf	15 11 42.0	+0.6		
GYA					APKP		15 12 00.4			
GYA					XPKP		15 12 04.2			
GYA					PKP2	PKPab	15 13 29.3	+2.0		
GYA					PKS		15 15 12.5			
GYA					PP	PP	15 17 23.1	+2.7		
GYA					SKS	SKSdf	15 18 36.4	-2.2		
GYA					SKKS	SKKSac	15 24 01.4	+0.5		
GYA					SS	SS	15 38 48.8	-1.5		
GYA					PP	PP				
	comp=Z,140nm,8.9s									
GYA					LR	LR				
	comp=N,1μm,21.4s									
GYA					LR	LR				
	comp=E,970nm,21.8s									
GYA					LR	LR				
	comp=Z,1μm,22.0s									

NIED **06** *15:31:00, 24.30N×122.00E, h32km, Mw4.3 Best double couple: M0 2.79000×10^15 NP1:ϕ=174.00000°, δ=84.00000°, λ=-24.00000°. NP2:ϕ=267.00000°, δ=67.00000°, λ=-174.00000°.*

IDC **06** *15:31:49.9±1.0, 24.10N×121.95E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=32.6km s-min=19.1km az=65.0*

NEIC **06** *15:31:54.4±1.4, 24.07N×121.98E, h33km±11km, MG4.0(JMA), Error ellipse: s-maj=18.8km s-min=11.6km az=62.0*

ISCJB **06** *15:31:54.4±0.5, 24.07N±0.005×121.94E±0.003, h47km±7km, mb3.7/5, Error ellipse: s-maj=9.1km s-min=4.3km az=17.4*

JMA **06** *15:31:55.0±0.2, 24.27N×121.95E, h61km±5km, M4.0*

BJI **06** *15:32:02.6, 24.59N×121.20E, h15km, mb4.6, ML4.0*

ISC 06 15:31:55.4±0.5, 24.13N±0.006×121.92E±0.003, h37km±8km, n24, σ=0.75/35, mb3.7/5, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.30**	**279**	*e*Pn		**Pn**		**15 32 03.0**	**-0.5**
YHNB	**Yeheng**	**0.73**	**317**	*e*Pn		**Pn**		**15 32 09.4**	**+0.1**
YHNB				*e*Sn		**Sn**		**15 32 19.9**	**+0.7**
TATO	**Taipei**	**0.93**	**335**	*e*Pn		**Pn**		**15 32 12.8**	**+0.8**
YOJ	**Yonaguni jima**	**1.05**	**71**	P		**Pn**		**15 32 13.1**	**-0.5**
YOJ				S		**Sn**		**15 32 26.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.66**	**83**	P		**Pn**		**15 32 21.8**	**-0.2**
IRIF				S		**Sn**		**15 32 41.6**	**-0.6**
HATJ	**Hateruma jima**	**1.72**	**92**	P		**Pn**		**15 32 23.0**	**+0.1**
HATJ				S		**Sn**		**15 32 44.0**	**+0.4**
JKRS	**Kuro-shima**	**1.91**	**86**	P		**Pn**		**15 32 25.8**	**+0.4**
JKRS				S		**Sn**		**15 32 48.9**	**+0.7**
JIJ	**Ishigaki jima**	**2.04**	**83**	P		**Pn**		**15 32 26.9**	**-0.3**
JIJ				S		**Sn**		**15 32 50.5**	**-1.0**
JTJ	**Tarama**	**2.59**	**78**	P		**Pn**		**15 32 34.8**	**+0.1**
JTJ				S		**Sn**		**15 33 03.9**	**-1.0**
QZH	**Quanzhou**	**3.14**	**286**	⇑	*i*P	**Pn**		**15 32 42.5**	**+0.2**
QZH				S		**Sn**		**15 33 17.1**	**-1.4**
QZH				Smax					
	comp=N,550nm,0.6s								
QZH				Smax					
	comp=E,570nm,0.8s								
JMJ	**Miyako jima 2**	**3.15**	**77**	S		**Sn**		**15 33 18.6**	**-0.2**
JOGS	**Gusukube**	**3.24**	**78**	P		**Pn**		**15 32 45.2**	**+1.5**
JOGS				S		**Sn**		**15 33 21.9**	**+0.9**
JOW	**Kunigami**	**6.34**	**64**	Pn		**Pn**		**15 33 25.2**	**-1.1**
	comp=E,4.6nm,0.3s,baz=179,slow=29,SNR=12								
JOW				Sn		**Sn**		**15 34 38.0**	**+0.6**
	comp=E,1.9nm,0.3s,baz=288,slow=14,SNR=2.8								
CVP	**Callao Caves**	**6.39**	**181**	*e*P		**Pn**		**15 33 28.0**	**+1.0**
NJ2	**Nanjing**	**8.34**	**342**	*e*P		**Pn**		**15 33 58.0**	**+4.2**
NJ2				AP				15 34 02.2	
NJ2				XP				15 34 06.2	
NJ2				S		**Sn**		**15 35 33.5**	**+6.8**
NJ2				Smax					
	comp=N,110nm,0.8s								
NJ2				Smax					
	comp=E,170nm,1.0s								
KSRS	**Korea Array**	**14.24**	**20**	Pn		**Pn**		**15 35 21.3**	**+6.9**
	baz=196,slow=12,SNR=4.3								
SONM	**Songino Array**	**26.68**	**336**	P		**P**		**15 37 30.2**	**-0.6**
	comp=E,0.8nm,0.8s,mb3.3,baz=156,slow=11,SNR=6.1								
MKAR	**Makanchi Array**	**38.85**	**316**	P		**P**		**15 39 16.8**	**0.0**
	comp=E,0.6nm,0.8s,mb3.4,baz=104,slow=8.1,SNR=5.7								
ZAL	**Zalesovo**	**40.66**	**327**	P		**P**		**15 39 32.8**	**+0.8**
	comp=E,1.4nm,0.3s,mb4.1,baz=28,slow=4.4,SNR=4.0								
WRA	**Warramunga Arr**	**45.44**	**164**	P		**P**		**15 40 10.3**	**-0.3**
	comp=E,1.5nm,0.7s,mb4.0,baz=345,slow=8.7,SNR=19								
WB2	**Warramunga Arr**	**45.45**	**163**	*e*P		**P**		**15 40 11.1**	**+0.5**
WB2	**Warramunga Arr**	**45.45**	**163**	*e*P		**P**		**15 40 11.4**	**+0.8**
AS31	**Alice Springs**	**48.91**	**165**	*e*P		**P**		**15 40 34.1**	**-3.5**
ASAR	**Alice Springs**	**48.91**	**165**	P		**P**		**15 40 37.5**	**-0.2**
	comp=E,0.7nm,0.8s,mb3.8,baz=340,slow=7.0,SNR=14								

ISCJB **06** *15:45:31.0±0.7, 47.2N±0.1×276.2W±0.10, h10km, mb4.2/12, MS3.6/12, Error ellipse: s-maj=21.1km s-min=8.6km az=23.8*

IDC **06** *15:45:30.5±0.9, 47.36N×274.48W, h0km, mb4.2/5, mb1 4.2/6, mb1mx3.8/24, mbtmp4.1/6, ML4.9/1, MS3.7/11, Ms1 3.6/11, ms1mx3.4/38, Error ellipse: s-maj=35.6km s-min=21.7km az=30.0*

NEIC **06** *15:45:32.4±0.6, 47.13N×276.4W, h10km, mb4.2/9, MS3.8/1, Error ellipse: s-maj=20.8km s-min=8.9km az=188.0*

CSEM **06** *15:45:33.4±0.1, 47.18N×276.4W, h33km, mb4.2/6, Ms3.6, Error ellipse: s-maj=4.8km s-min=2.3km az=22.0*

ISC 06 15:45:32.7±0.7, 47.2N±0.1×276.0W±0.09, h10km, n50, σ=1.1/13, mb4.2/12, MS3.6/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.69**	**105**	P		**Pn**		**15 49 51.6**	**+0.2**
	0.7nm,0.3s,baz=296,slow=12,SNR=7.6								
ESDC				LR		LR		15 55 16.4	
	comp=Z,141nm,22.0s,baz=350,slow=31								
TCF	**Toulx Ste Croi**	**20.40**	**82**	*e*P		**P**		**15 50 10.0**	**+0.3**
	28nm,1.3s								
TCF	**Toulx Ste Croi**	**20.40**	**82**	*e*P		**P**		**15 50 10.0**	**+0.3**
	14nm,1.3s								
BGF	**Bois d'Agland**	**20.77**	**80**	*e*P		**P**		**15 50 15.0**	**+1.3**
	27nm,1.0s								
BGF	**Bois d'Agland**	**20.77**	**80**	*e*P		**P**		**15 50 15.0**	**+1.3**
	13nm,1.0s								
AVF	**Avril sur Loir**	**21.06**	**80**	*e*P		**P**		**15 50 19.0**	**+2.2**
	23nm,1.0s,mb4.2								
AVF	**Avril sur Loir**	**21.06**	**80**	*e*P		**P**		**15 50 19.0**	**+2.2**
	12nm,1.0s,mb4.2								
SSF	**Saint Saulge**	**21.10**	**79**	*e*P		**P**		**15 50 17.1**	**-0.2**
	13nm,0.9s,mb4.0								
SSF	**Saint Saulge**	**21.10**	**79**	*e*P		**P**		**15 50 17.1**	**-0.2**
	6.7nm,0.9s,mb4.0								
BAIF	**Baives**	**21.14**	**70**	*e*P		**P**		**15 50 18.0**	**+0.3**
	23nm,1.0s,mb4.2								
BAIF	**Baives**	**21.14**	**70**	*e*P		**P**		**15 50 18.0**	**+0.3**
	12nm,1.0s,mb4.2								
LOR	**Lormes**	**21.30**	**78**	*e*P		**P**		**15 50 19.0**	**-0.4**
	14nm,0.9s,mb4.0								
LOR				*e*R					
	376nm,19.5s								
LOR	**Lormes**	**21.30**	**78**	*e*P		**P**		**15 50 19.0**	**-0.4**
	6.8nm,0.9s,mb4.0								
LOR				LR		LR			
	comp=Z,380nm,19.5s,MS3.8								
SMF	**Signal de Mont**	**21.42**	**80**	*e*P		**P**		**15 50 22.4**	**+1.7**
	comp=Z,35nm,1.2s,mb4.3								
SMF	**Signal de Mont**	**21.42**	**80**	*e*P		**P**		**15 50 22.4**	**+1.7**
	comp=Z,18nm,1.2s,mb4.3								
GIVF	**Givet**	**21.53**	**70**	*e*P		**P**		**15 50 22.7**	**+0.7**
MEZF	**Maizieres J'vi**	**21.87**	**74**	*e*P		**P**		**15 50 26.7**	**+1.1**
HAU	**Haudompre**	**22.81**	**75**	*e*P		**P**		**15 50 34.5**	**-1.1**
HAU				*e*R					
	comp=Z,216nm,17.5s								
HAU	**Haudompre**	**22.81**	**75**	*e*P		**P**		**15 50 34.5**	**-1.1**
HAU				LR		LR			
	comp=Z,220nm,17.5s,MS3.6								
CABF	**La Chapelle**	**22.93**	**79**	*e*P		**P**		**15 50 36.1**	**-0.8**
HINF	**Hinteralfeld**	**23.18**	**76**	*e*P		**P**		**15 50 39.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**23.25**	**83**	*e*P		**P**		**15 50 38.7**	**-1.5**
ORIF				*e*R					
	comp=Z,293nm,20.5s								
MBDF	**Montbardon**	**23.91**	**83**	*e*P		**P**		**15 50 46.7**	**0.0**
DAVOX	**Davos**	**25.42**	**77**	LR		LR		16 00 13.0	
	comp=Z,158nm,20.4s,MS3.5,baz=76,slow=35								
SCHQ	**Scheefferville**	**25.56**	**302**	P		**P**		**15 51 00.9**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.1,baz=137,slow=4.2,SNR=4.5								
SCHQ				LR		LR		15 59 25.7	
	comp=Z,116nm,19.5s,MS3.4,baz=230,slow=33								
GERES	**GERESS Array B**	**27.44**	**71**	LR		LR		16 00 20.8	
	comp=Z,208nm,21.4s,MS3.7,baz=131,slow=33								
VRAC	**Vranov**	**29.20**	**69**	LR		LR		16 01 45.5	
	comp=Z,148nm,19.9s,MS3.6,baz=177,slow=34								
KEST	**Kesra**	**29.70**	**99**	LR		LR		16 01 27.0	
	comp=Z,53nm,18.3s,MS3.2,baz=241,slow=32								
TOA0	**Torodi Ar. Sit**	**41.86**	**134**	*e*P		**P**		**15 53 22.4**	**-0.5**
TOA0				*e*				15 53 29.4	
TOA0	**Torodi Ar. Sit**	**41.86**	**134**	*e*P		**P**		**15 53 22.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**41.86**	**134**	P		**P**		**15 53 22.4**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.4,baz=327,slow=8.4,SNR=43

comp=Z,3.4nm,0.6s,mb4.0
STKA Stephens Creek 30.39 226 P **P** **15 54 29.8 +0.2**
comp=Z,5.3nm,0.8s,mb4.1,baz=44,slow=7.0,SNR=8.6
RPZ Rata Peaks 31.43 174 P **P** **15 54 39.9 +1.2**
comp=Z,8.8nm,0.6s,mb4.5,baz=297,slow=3.0,SNR=14
WB2 Warramunga Arr 32.23 252⇓*i* P **P** **15 54 45.1 -0.5**
WRAB Tennant Creek 32.23 252 *i* P **P** **15 54 44.4 -1.2**
WRA Warramunga Arr 32.24 252 P **P** **15 54 44.6 -1.1**
comp=Z,4.6nm,0.7s,mb4.2,baz=85,slow=8.8,SNR=47
WRA S **S** **15 59 38.2 -1.2**
comp=Z,1.1nm,1.0s,baz=81,slow=15,SNR=3.6
AS31 Alice Springs 33.35 246 *e*P **P** **15 54 54.7 -0.6**
AS31 *e* pP 15 55 43.5 -3.1
ASAR Alice Springs 33.36 246 P **P** **15 54 54.9 -0.5**
comp=Z,7.7nm,0.7s,mb4.4,baz=71,slow=9.6,SNR=153
ASAR S **S** **15 59 55.9 -0.8**
comp=Z,0.7nm,0.9s,baz=74,slow=15,SNR=4.6
ASPA Alice Springs 33.36 246 *e*P **P** **15 54 54.7 -0.7**
ASPA *e* pP 15 55 43.5 -3.1
FITZ Fitzroy Crossi 40.27 257⇓*i* P **P** **15 55 53.3 -0.1**
comp=Z,12nm,1.1s,mb4.1
FITZ Fitzroy Crossi 40.27 257 P **P** **15 55 53.3 -0.1**
comp=Z,2.6nm,0.4s,mb4.0,baz=64,slow=7.8,SNR=26
FORT Forrest 40.34 237 *e*P **P** **15 55 54.6 +0.6**
comp=Z,40nm,0.6s,mb4.9
CBIJ Chichi jima 46.04 329 P **P** **15 56 38.5 -0.8**
comp=Z,18nm,0.5s,mb4.7,baz=298,slow=20,SNR=5.7
MJAR Matsushiro Arr 55.71 332 P **P** **15 57 50.4 -0.8**
comp=Z,9.5nm,0.8s,mb4.3,baz=166,slow=8.3,SNR=19
MAT Matsushiro 55.71 332 P **P** **15 57 50.6 -0.6**
ASAJ Asahikawa 60.45 340 P **P** **15 58 24.5 +0.6**
comp=Z,10nm,0.7s,mb4.5,baz=228,slow=8.3,SNR=8.1
YSS Yuzh-Sakhalins 62.92 342⇑*e*P **P** **15 58 41.0 +0.7**
YSS pmax pmax
comp=Z,36nm,1.4s,mb4.8
NJ2 Nanjing 63.83 315 *e*P **P** **15 58 47.1 +0.8**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
VNDA Vanda 65.21 181 P **P** **15 58 55.6 +0.4**
comp=Z,1.4nm,0.6s,mb3.8,baz=0.9,slow=6.6,SNR=14
VNDA Vanda 65.21 181 *e*P **P** **15 58 55.2 0.0**
comp=Z,1.5nm,0.7s,mb3.7
SBA Scott Base 65.49 180 *e*P **P** **15 58 58.4 +1.4**
SBA pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
SBA Scott Base 65.49 180 *e*P **P** **15 58 58.4 +1.4**
comp=Z,2.7nm,0.7s,mb4.0
MDJ Mudanjiang 66.09 332 P **P** **15 59 01.8 +1.0**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,120nm,3.8s
CN2 Changchun 67.51 329 *e*P **P** **15 59 09.7 0.0**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
KLR Kul'dur 68.76 336 *e*P **P** **15 59 15.2 -2.3**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.0
GYA Guiyang 70.19 304 P **P** **15 59 24.2 -2.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
KMI Kunming 72.87 301 ⇑P **P** **15 59 44.0 +1.9**
KMI AP pP 16 00 46.1 +4.3
KMI XP sP 16 01 14.9 +5.6
KMI PP PP 16 02 30.9 +2.9
KMI PPP 16 04 17.6
KMI S S 16 08 45.3 -1.5
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,52nm,3.1s
KMI LR LR
comp=N,405nm,14.4s
KMI LR LR
comp=E,463nm,9.6s
KMI LR LR
comp=Z,390nm,9.8s
KMI Kunming 72.87 301 ⇑P **P** **15 59 44.0 +1.9**
KMI 16 02 30.9
KMI PPP 16 04 17.6
KMI S S 16 08 45.3 -1.5
KMI SS SS 16 13 33.5 +0.8
KMI SSS 16 16 46.9
KMI pmax pmax
comp=Z,13nm,1.0s,mb4.5
KMI Kunming 72.87 301 ⇑P **P** **15 59 44.0 +1.9**
comp=Z,13nm,1.0s,mb4.5
KMI pP pP 16 00 46.1 +4.3
KMI sP sP 16 01 14.9 +5.6
KMI PP PP 16 02 30.9 +2.9
KMI PPP 16 04 17.6
KMI S S 16 08 45.3 -1.5
KMI sS sS 16 10 37.6 +5.9
KMI SS SS 16 13 33.5 +0.8
KMI SSS 16 16 46.9
HHC Hu-ho-hao-te 73.64 319 *e*P **P** **15 59 48.1 +1.5**
HHC PCP PcP 16 00 02.4 +1.4
HHC PP PP 16 02 39.2 +4.7
HHC AMB AMB
comp=Z,11nm,1.3s,mb4.3
HHC AMB AMB
comp=Z,179nm,7.1s
HHC LR LR
comp=N,237nm,21.4s
HHC LR LR
comp=E,194nm,19.4s
HHC LR LR
comp=Z,148nm,18.6s
HIA Hailar 74.13 330 *e*P **P** **15 59 49.8 +0.4**
HIA pmax pmax
comp=Z,8.0nm,1.0s
HIA Hailar 74.13 330 *e*P **P** **15 59 49.8 +0.3**
comp=Z,7.9nm,1.0s,mb4.3
CD2 Chengdu 74.39 307 *e*P **P** **15 59 50.3 -0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,30nm,8.2s
SEY Seymchan 75.92 353⇑*e*P **P** **15 59 59.0 -0.6**
LZH Lanzhou 76.56 312 *e*P **P** **16 00 05.0 +1.8**
LZH PCP PcP 16 00 14.5 +0.9
LZH AP pP 16 01 09.0 +5.5
LZH PP PP 16 03 02.4 +3.3
LZH *e*S S 16 09 28.1 +0.5
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,91nm,4.0s
LZH Lanzhou 76.56 312 *e*P **P** **16 00 05.0 +1.8**
LZH 16 00 14.5
LZH 16 03 02.4
LZH *e*S S 16 09 28.1 +0.5
LZH SS SS 16 14 27.0 -1.5
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.9
LZH Lanzhou 76.56 312 *e*P **P** **16 00 05.0 +1.8**
comp=Z,25nm,1.0s,mb4.9
LZH PcP PcP 16 00 14.5 +0.9
LZH pP pP 16 01 09.0 +5.5
LZH sP sP 16 01 39.0 +8.1
LZH PP PP 16 03 02.4 +3.3
LZH *e*S S 16 09 28.1 +0.5
LZH sS sS 16 11 21.0 +7.5
LZH SS SS 16 14 27.0 -1.5
YAK Yakutsk 79.71 343 *e*P **P** **16 00 19.9 -0.6**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
YAK Yakutsk 79.71 343 *e*P **P** **16 00 19.9 -0.6**
comp=Z,7.8nm,0.6s,mb4.6
ULN Ulaanbaatar 80.09 324 *e*P **P** **16 00 23.1 +0.6**
ULN pmax pmax
comp=Z,12nm,1.2s,mb4.5
ULN Ulaanbaatar 80.09 324 *e*P **P** **16 00 23.1 +0.5**
comp=Z,12nm,1.2s,mb4.5
BILL Bilibino 80.19 360 *e*P **P** **16 00 22.4 -0.6**
BILL pmax pmax
comp=Z,22nm,1.0s,mb4.8
BILL Bilibino 80.19 360 *e*P **P** **16 00 22.4 -0.6**
comp=Z,22nm,1.0s,mb4.8
SLKM Skilak Lake 80.20 20 *e*P **P** **16 00 22.3 -0.8**
SONM Songino Array 80.46 323 P **P** **16 00 25.0 +0.5**
comp=Z,3.5nm,0.9s,mb4.1,baz=140,slow=4.9,SNR=16
GTA Gaotai 80.87 314 *e*P **P** **16 00 28.0 +1.4**
GTA PP PP 16 03 38.2 +3.4
GTA S S 16 10 14.4 +1.4
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,227nm,6.9s
GTA LR LR
comp=N,281nm,16.4s
GTA LR LR
comp=E,115nm,13.7s
GTA LR LR
comp=Z,241nm,11.4s
MCK McKinley 82.99 18 *e*P **P** **16 00 36.7 -0.9**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
MCK McKinley 82.99 18 *e*P **P** **16 00 36.6 -1.0**
comp=Z,8.0nm,1.0s,mb4.5
ZAK Zakamensk 83.49 325 *e*P **P** **16 00 39.7 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
WDC Whiskeytown Da 83.61 46 *e*P **P** **16 00 40.9 +0.1**
WDC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WDC Whiskeytown Da 83.61 46 *e*P **P** **16 00 40.9 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
OHCM Honcut 83.90 48 *e*P **P** **16 00 42.4 +0.2**
HUMO Hull Mountain 84.09 44 *e*P **P** **16 00 44.0 +0.8**
comp=Z,20nm,1.0s,mb4.9
COLA College 84.15 18*c i*P **P** **16 00 42.2 -1.3**
COLA College 84.15 18 *e*P **P** **16 00 42.1 -1.3**
comp=Z,28nm,0.8s,mb5.2
NVAR Mina Array Bea 85.92 49 P **P** **16 00 52.7 +0.5**
comp=Z,3.3nm,0.9s,mb4.2,baz=230,slow=6.5,SNR=19
NVAR Mina Array Bea 85.92 49 P **P** **16 00 52.7 +0.4**
EGAK Eagle 86.18 20 *e*P **P** **16 00 52.9 -0.7**
comp=Z,16nm,0.8s,mb4.9
DAWY Dawson 86.33 21 *e*P **P** **16 00 53.2 -1.1**
TIXI Tiksi 87.61 349⇑*e*P **P** **16 00 59.8 -0.6**
TIXI pmax pmax
comp=Z,13nm,1.6s,mb4.5
GUN Gumba 89.05 299 *e*P **P** **16 01 03.6 +1.2**
comp=Z,20nm,0.9s,mb4.9
PKI Pulchoki 88.36 299 *e*P **P** **16 01 05.1 +1.2**
KKN Kakani 88.53 299 *e*P **P** **16 01 05.6 +0.9**
comp=Z,18nm,0.8s,mb4.9
DMN Daman 88.63 298 *e*P **P** **16 01 06.4 +1.2**
comp=Z,43nm,0.9s,mb5.3
GKN Gorkha 89.13 299 *e*P **P** **16 01 08.1 +0.6**
ARUT Antelope Range 89.38 51 *e*P **P** **16 01 09.5 +0.8**
NEW Newport 89.93 40 P **P** **16 01 11.2 -0.1**
comp=Z,5.1nm,0.6s,mb4.6,baz=251,slow=4.4,SNR=7.1
NEW Newport 89.93 40 *e*P **P** **16 01 11.3 +0.1**
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 89.93 40 *e*P **P** **16 01 11.2 0.0**
comp=Z,5.8nm,0.8s,mb4.5
KOLN Koldanda 89.97 298 *e*P **P** **16 01 11.4 0.0**
SYO Syowa Base 90.89 197⇑*e*P **P** **16 01 15.0 -0.7**
WMQ Urumqi 90.90 315⇑*i*P **P** **16 01 16.2 +0.4**
WMQ AP pP 16 02 22.7 +4.7
WMQ PP PP 16 04 58.4 +2.9
WMQ AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,215nm,5.2s
WMQ LR LR
comp=N,69nm,17.0s
WMQ LR LR
comp=E,105nm,18.0s
WMQ LR LR
comp=Z,76nm,18.0s
HRY Holter Researc 92.92 43 *e*P **P** **16 01 25.9 +0.9**
PDAR Pinedale Array 93.52 47 P **P** **16 01 27.9 +0.1**
comp=Z,0.3nm,0.4s,mb3.7,baz=224,slow=4.1,SNR=4.7
MKAR Makanchi Array 95.33 317 P **P** **16 01 35.8 -0.3**
comp=Z,7.1nm,0.8s,mb4.9,baz=97,slow=6.4,SNR=72
MKAR PKKPbc PKKPbc 16 18 27.1 -0.4
comp=Z,0.7nm,0.7s,baz=291,slow=3.4,SNR=6.4
ZAL Zalesovo 95.36 324 P **P** **16 01 35.9 -0.4**
comp=Z,1.3nm,0.4s,mb4.5,baz=18,slow=4.8,SNR=6.3
TXAR Lajitas Array 95.36 61 P **P** **16 01 36.6 +0.3**
comp=Z,1.0nm,0.7s,mb4.0,baz=223,slow=5.1,SNR=11
YKA Yellowknife Ar 95.56 27 P **P** **16 01 35.7 -1.4**
comp=Z,2.0nm,0.7s,mb4.4,baz=257,slow=4.7,SNR=7.1
YKA Yellowknife Ar 95.56 27 P **P** **16 01 35.7 -1.4**
SNAA Sanae 95.89 183 *e*P **P** **16 01 37.5 -1.1**
SNAA *e* 16 01 44.9
VNA2 Neumayer--Watz 96.83 182 *e*P **P** **16 01 42.4 -0.5**
VNA2 *e* 16 01 49.8
ARCES ARCESS Array B 117.91 346 PKP PKPdf 16 06 56.5 -0.6
comp=Z,7.4nm,0.6s,baz=55,slow=2.1,SNR=40
ARCES PKKPbc PKKPbc 16 17 17.9 +0.1
comp=Z,7.2nm,1.1s,baz=236,slow=1.3,SNR=5.3
JOF Joensuu 120.61 338 *e*pkp PKPdf 16 07 01.1 -1.2
OBN Obninsk 122.57 329⇑*i*PKIKP PKPdf 16 07 06.0 0.0
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,300nm,20.0s
KAF Kangasniemi 122.91 339 *e*pkp PKPdf 16 07 05.0 -1.7
FINES FINESS Array B 123.45 339 PKP PKPdf 16 07 07.2 -0.5
comp=Z,7.4nm,0.9s,baz=3.8,slow=5.7,SNR=5.9
FINES FINESS Array B 123.45 339⇑*i*PKIKP PKPdf 16 07 07.1 -0.6
NB2 NORSAR Subarra 128.29 345 PKPdf PKPdf 16 07 17.5 +0.5
comp=Z,5.3nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 128.29 345 PKP PKPdf 16 07 16.8 -0.2
comp=Z,2.7nm,0.7s,baz=32,slow=1.9,SNR=5.1
HFS Hagfors 128.40 343 PKP PKPdf 16 07 16.6 -0.6
comp=Z,3.2nm,0.8s,baz=350,slow=7.3,SNR=4.3
AKASG Malin Array Be 128.64 327 PKP PKPdf 16 07 17.8 +0.1
comp=Z,0.5nm,0.5s,baz=54,slow=3.1,SNR=6.0
CLL Collm 135.80 337 *e*PKIKP PKPdf 16 07 32.0 +0.9
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 135.80 337 *e*PKPdf PKPdf 16 07 32.0 +0.9
comp=Z,15nm,1.5s
KHC Kasperske Hory 137.26 334⇑*i*PKIKP PKPdf 16 07 34.6 +0.7
GERES GERESS Array B 137.43 334 PKP PKPdf 16 07 35.4 +1.3
comp=Z,1.7nm,0.7s,baz=11,slow=1.4,SNR=11
DAVOS Davos 140.64 335 PKIKP PKPdf 16 07 42.4 +2.4
DAVOX Davos 140.65 335 PKP PKPdf 16 07 42.4 +2.4
comp=Z,5.1nm,0.7s,baz=68,slow=7.7,SNR=4.2
SSF Saint Saulge 142.73 341 *e*PKP1 PKPdf 16 07 41.2 -2.5
comp=Z,6.1nm,0.7s
LPL La Plagne 142.94 337 *e*PKP1 PKPdf 16 07 42.2 -1.9
LPG La Plagne 142.95 337 *e*PKP1 PKPdf 16 07 42.3 -1.8
BNI Bardalecchia 143.35 336 *e*PKIKP PKPdf 16 07 43.5 -1.3
MBDF Montbardon 143.59 336 *e*PKP1 PKPdf 16 07 43.7 -1.5
comp=Z,11nm,0.7s
ORIF Oris-en-Rattie 143.77 337 *e*PKP1 PKPdf 16 07 44.8 -0.8
comp=Z,46nm,0.8s
TCF Toulx Ste Croi 143.82 342 *e*PKP1 PKPdf 16 07 44.6 -1.1
comp=Z,21nm,0.9s
MFF Saint Martin d 144.19 345 *e*PKP1 PKPdf 16 07 45.7 -0.6
comp=Z,41nm,0.9s
VIVF Saint-Julien-l 144.27 338 *e*PKP1 PKPdf 16 07 46.4 0.0
comp=Z,44nm,1.0s
PGF Pioggiola 144.38 332⇑*i*PKP1 PKPdf 16 07 46.4 -0.2
comp=Z,72nm,0.8s
FRF La Foret Royal 144.60 335⇑*i*PKP1 PKPdf 16 07 47.0 0.0
comp=Z,75nm,0.9s
SMRF Simiane la Rot 144.68 337⇑*i*PKP1 PKPdf 16 07 47.9 +0.7
comp=Z,40nm,0.9s
LMR La Mourre 144.84 335⇑*i*PKP1 PKPdf 16 07 47.9 +0.5
comp=Z,108nm,1.1s
RJF Les Rejaudoux 144.92 342 *e*PKP1 PKPdf 16 07 48.3 +0.7
comp=Z,147nm,1.4s
CAF Calviac 145.09 341 *e*PKP1 PKPbc 16 07 49.0 +1.1
LASF Ste Croix 145.24 339⇑*i*PKP1 PKPbc 16 07 49.6 +1.2
MTLF Montolieu 146.45 340 *e*PKP1 PKPbc 16 07 53.1 +1.1
KEST Kesra 149.21 323 PKPbc PKPbc 16 07 59.4 +0.2
comp=Z,8.5nm,0.9s,baz=119,slow=0.8,SNR=18
ESDC Sonseca Array 151.65 345 PKPbc PKPbc 16 08 05.6 +0.6
comp=Z,6.0nm,0.8s,baz=8.2,slow=3.0,SNR=18
ESDC PKPab PKPab 16 08 16.1 +1.4
comp=Z,4.6nm,0.7s,baz=13,slow=4.0,SNR=7.1
ESLA Sonseca Array 151.65 345 *e*PKPbc PKPbc 16 08 05.6 +0.6
TORD Torodi Ar. Bea 165.67 275 PKP PKPdf 16 08 15.4 +0.5
comp=Z,2.1nm,1.1s,baz=154,slow=1.1,SNR=6.0
TORD PKPab PKPab 16 09 16.3 +0.8
comp=Z,2.7nm,1.1s,baz=90,slow=5.3,SNR=8.8
TORD Torodi Ar. Bea 165.67 275 PKP PKPdf 16 08 15.4 +0.5
TORD PKPab PKPab 16 09 16.3 +0.8

*ISCJB **06** 15:50:00.5±0.5, 34.15N±0.003×135.43E±0.04, h8km±5km, mb2.9/2, Error ellipse: s-maj=5.5km s-min=4.6km az=72.9*

*IDC **06** 15:50:00.4±3.5, 34.08N×135.44E, h0km, mb3.2/2, mb1 3.1/5, mb1mx3.1/25, mbtmp3.1/5, ML2.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/23, Error ellipse: s-maj=61.8km s-min=17.4km az=152.0*
*JMA **06** 15:50:00.7, 34.15N×135.42E, h6km±1km, M3.1*
JMA Felt I J1.
ISC 06 15:50:01.0±0.6, 34.15N±0.03×135.44E±0.04, h1km±6km, n13, σ0.76/20, mb3.0/2, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.15**	**63**	P	**Pg**	**15 50 03.9**	**+0.1**
JWY				S	**Sg**	**15 50 06.4**	**+0.7**
JWM	**Minabe**	**0.31**	**193**	P	**Pg**	**15 50 06.9**	**0.0**
JWM				S	**Sg**	**15 50 11.0**	**+0.1**
JAJ2	**Tsuna**	**0.53**	**301**	P	**Pg**	**15 50 10.9**	**-0.2**
JAJ2				S	**Sg**	**15 50 18.2**	**+0.2**
JHE	**Heguri**	**0.54**	**22**	P	**Pg**	**15 50 11.4**	**0.0**
JHE				S	**Sg**	**15 50 18.7**	**+0.3**
JWZ	**Kozaga**	**0.66**	**159**	P	**Pg**	**15 50 13.7**	**+0.1**
JWZ				S	**Sg**	**15 50 22.4**	**+0.2**
JKN2	**Miekihoku**	**0.70**	**83**	P	**Pg**	**15 50 14.1**	**-0.3**
JKN2				S	**Sg**	**15 50 23.7**	**+0.2**
MAT	**Matsushiro**	**3.29**	**43**	P	**Pn**	**15 50 52.3**	**-1.4**
MAT				S	**Sn**	**15 51 34.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.29**	**43**	Pn	**Pn**	**15 50 54.2**	**+0.5**
	0.6nm,0.3s,baz=311,slow=9.4,SNR=6.2						
MJAR				Pg	**Pg**	**15 51 02.2**	**-1.8**
	1.8nm,0.3s,baz=209,slow=16,SNR=10						
MJAR				Lg		15 51 46.5	
	0.9nm,0.3s,baz=225,slow=28,SNR=6.5						
JHJ	**Hachijo jima 2**	**3.77**	**105**	LR	LR	15 52 18.1	
	comp=Z,131nm,18.3s,baz=188,slow=36						
JNU	**Nakatsue**	**3.94**	**256**	Pn	**Pn**	**15 51 02.4**	**-0.2**
	0.9nm,0.3s,baz=222,slow=12,SNR=4.1						
KSRS	**Korea Array**	**6.94**	**301**	Pn	**Pn**	**15 51 46.0**	**+2.2**
	baz=116,slow=14,SNR=4.7						
SONM	**Songino Array**	**25.66**	**311**	P	**P**	**15 55 31.6**	**-0.7**
	0.3nm,0.6s,mb3.1,baz=125,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**41.60**	**304**	P	**P**	**15 57 49.9**	**-0.6**
	0.1nm,0.4s,mb2.9,baz=94,slow=9.4,SNR=4.5						

IDC 06 15:56:05.1±5.4, 250S×13873E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=224.5km s-min=29.6km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.86**	**194**	Pn	Pn	16 00 15.1	+0.1
	0.5nm,0.3s,baz=15,slow=12,SNR=22						
WRA				Sn	Sn	16 03 22.3	-12
	0.0nm,0.3s,baz=12,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**21.56**	**192**	P	P	16 00 56.4	+0.3
	0.8nm,0.4s,baz=20,slow=10,SNR=24						
MKAR	**Makanchi Array**	**69.64**	**322**	P	P	16 07 16.5	+0.2
	0.4nm,0.4s,baz=110,slow=8.2,SNR=8.3						

*BJI **06** 16:02:02.0, 5305N×160.15E, h57km, mB4.7, mb4.5, Ms4.5, Msz4.3*
*MOS **06** 16:02:04.0±1.3, 5356N×160.28E, h59km, mb4.8/25, Error ellipse: s-maj=11.3km s-min=5.8km az=89.8*
*IDC **06** 16:02:04.2±6.3, 5372N×160.18E, h40km±57km, mb4.0/21, mb1 4.2/21, mb1mx4.1/28, mbtmp4.0/21, MS3.6/2, Ms1 3.6/2, ms1mx3.1/32, Error ellipse: s-maj=16.3km s-min=12.5km az=158.0*
*ISCJB **06** 16:02:05.2±0.4, 5356N±0.002×160.35E±0.006, h71km±2km, mb4.3/53, Error ellipse: s-maj=6.4km s-min=3.0km az=57.3*
*KRSC **06** 16:02:05.1±0.7, 5356N×160.49E, h50km±50km, ML4.5*
*NEIC **06** 16:02:06.3±0.9, 5360N×160.26E, h63km±8km, mb4.6/25, Error ellipse: s-maj=9.9km s-min=6.2km az=177.0*
ISC 06 16:02:06.4±0.4, 5357N±0.003×160.28E±0.006, h68km±2km, n167, σ1$06/208, mb4.3/53, 14C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.50**	**198**	*i* P	**Pn**	**16 02 16.6**	**-2.5**
SPN	**Mys Shipunski**	**0.50**	**198**	*i* P	**Pn**	**16 02 16.6**	**-2.5**
NLC	**Nalytchevo**	**0.69**	**234**	*i* P	**Pn**	**16 02 20.2**	**-0.9**
NLC				*e*S	**Sn**	**16 02 30.8**	**-1.0**
NLC	**Nalytchevo**	**0.69**	**234**	*i* P	**Pn**	**16 02 20.2**	**-0.9**
NLC				*e*S	**Sn**	**16 02 30.8**	**-1.0**
AVH	**Avacha**	**0.97**	**252**	*i* P	**Pn**	**16 02 25.3**	**+0.9**
AVH				*i* S	**Sn**	**16 02 39.3**	**+1.5**
AVH	**Avacha**	**0.97**	**252**	*i* P	**Pn**	**16 02 25.3**	**+0.9**
AVH				*i* S	**Sn**	**16 02 39.3**	**+1.5**
PET	**Petropavlovsk**	**1.12**	**241**	*i* PN	**Pn**	**16 02 26.5**	**+0.2**
PET				*e*S	**Sn**	**16 02 42.4**	**+1.2**
PET				pmax	pmax		
	comp=Z,117nm,0.2s						
PET				pmax	pmax		
	comp=Z,200nm,0.2s						
PET				smax			
	comp=E,6μm,0.5s						
PET				smax			
	comp=E,6μm,0.5s						
PET				smax			
	comp=N,4μm,0.4s						
PET	**Petropavlovsk**	**1.12**	**241**	*e*Pn	**Pn**	**16 02 26.4**	**+0.1**
PET	**Petropavlovsk**	**1.12**	**241**	*i* P	**Pn**	**16 02 26.5**	**+0.2**
PET				*i* S	**Sn**	**16 02 41.8**	**+0.6**
PET	**Petropavlovsk**	**1.12**	**241**	*i* P	**Pn**	**16 02 26.5**	**+0.2**
PET				*i* S	**Sn**	**16 02 41.8**	**+0.6**
MKZ	**Mys Kozlova**	**1.30**	**40**	*i* P	**Pn**	**16 02 25.4**	**-3.3**
MKZ				*i* S	**Sn**	**16 02 40.1**	**-5.4**
MKZ	**Mys Kozlova**	**1.30**	**40**	*i* P	**Pn**	**16 02 25.4**	**-3.3**
MKZ				*i* S	**Sn**	**16 02 40.1**	**-5.4**
GNL	**Ganaly**	**1.40**	**276**	*i* P	**Pn**	**16 02 31.5**	**+1.6**
GNL				*i* S	**Sn**	**16 02 50.5**	**+2.9**
GNL	**Ganaly**	**1.40**	**276**	*i* P	**Pn**	**16 02 31.5**	**+1.6**
GNL				*i* S	**Sn**	**16 02 50.5**	**+2.9**
RUS	**Russkaya**	**1.56**	**224**	*i* P	**Pn**	**16 02 31.6**	**-0.5**
RUS				*i* S	**Sn**	**16 02 50.7**	**-0.8**
RUS	**Russkaya**	**1.56**	**224**	*i* P	**Pn**	**16 02 31.6**	**-0.5**
RUS				*i* S	**Sn**	**16 02 50.7**	**-0.8**
GRL	**Gorelyy**	**1.68**	**233**	*i* P	**Pn**	**16 02 34.8**	**+1.1**
GRL				*i* S	**Sn**	**16 02 56.4**	**+2.1**
GRL	**Gorelyy**	**1.68**	**233**	*i* P	**Pn**	**16 02 34.8**	**+1.1**
GRL				*i* S	**Sn**	**16 02 56.4**	**+2.1**
TUMR	**Tumrok**	**1.71**	**358**	*i* P	**Pn**	**16 02 34.4**	**+0.2**
TUMR				*i* S	**Sn**	**16 02 55.7**	**+0.5**
TUMR	**Tumrok**	**1.71**	**358**	*i* P	**Pn**	**16 02 34.4**	**+0.2**
TUMR				*i* S	**Sn**	**16 02 55.7**	**+0.5**
KMNR	**Kamenistaya**	**2.19**	**359**	*e*P	**Pn**	**16 02 41.3**	**+0.8**
KMNR				*i* S	**Sn**	**16 03 07.1**	**+0.5**
KMNR	**Kamenistaya**	**2.19**	**359**	*e*P	**Pn**	**16 02 41.3**	**+0.8**
KMNR				*i* S	**Sn**	**16 03 07.1**	**+0.5**
KPT	**Kopyto**	**2.40**	**359**	*e*P	**Pn**	**16 02 43.8**	**+0.4**
KPT				*e*S	**Sn**	**16 03 12.1**	**+0.4**
KPT	**Kopyto**	**2.40**	**359**	*e*P	**Pn**	**16 02 43.8**	**+0.4**
KPT				*e*S	**Sn**	**16 03 12.1**	**+0.4**
ZLN	**Zelenaya**	**2.47**	**7**	*i* P	**Pn**	**16 02 45.1**	**+0.8**
ZLN				*i* S	**Sn**	**16 03 13.6**	**+0.2**
ZLN	**Zelenaya**	**2.47**	**7**	*i* P	**Pn**	**16 02 45.1**	**+0.8**
ZLN				*i* S	**Sn**	**16 03 13.6**	**+0.2**
KOZ	**Kozyrevsk**	**2.50**	**355**	*e*P	**Pn**	**16 02 45.3**	**+0.5**
KOZ				*e*S	**Sn**	**16 03 14.0**	**-0.2**
KOZ	**Kozyrevsk**	**2.50**	**355**	*e*P	**Pn**	**16 02 45.3**	**+0.5**
KOZ				*e*S	**Sn**	**16 03 14.0**	**-0.2**
KOZR	**Kozyr**	**2.51**	**355**	PN	**Pn**	**16 02 45.3**	**+0.4**
KOZR				S	**Sn**	**16 03 14.0**	**-0.4**
KRSR	**Krestovskiy**	**2.65**	**4**	*e*P	**Pn**	**16 02 47.2**	**+0.3**
KRSR				*e*S	**Sn**	**16 03 17.8**	**-0.1**
KRSR	**Krestovskiy**	**2.65**	**4**	*e*P	**Pn**	**16 02 47.2**	**+0.3**
KRSR				*e*S	**Sn**	**16 03 17.8**	**-0.1**
KLY	**Klyuchi**	**2.75**	**4**	*e*P	**Pn**	**16 02 48.7**	**+0.5**
KLY				*i* S	**Sn**	**16 03 19.9**	**-0.5**
KLY	**Klyuchi**	**2.75**	**4**	*e*P	**Pn**	**16 02 48.7**	**+0.5**
KLY				*i* S	**Sn**	**16 03 19.9**	**-0.5**
SRDR	**Sredinnyy**	**2.77**	**354**	*i* P	**Pn**	**16 02 48.4**	**0.0**
SRDR				*e*S	**Sn**	**16 03 19.6**	**-1.1**
SRDR	**Sredinnyy**	**2.77**	**354**	*i* P	**Pn**	**16 02 48.4**	**0.0**
SRDR				*e*S	**Sn**	**16 03 19.6**	**-1.1**
KBTR	**Krutoberegovo**	**3.02**	**28**	*e*P	**Pn**	**16 02 50.8**	**-1.1**
KBTR				*i* S	**Sn**	**16 03 23.7**	**-3.2**
KBTR	**Krutoberegovo**	**3.02**	**28**	*e*P	**Pn**	**16 02 50.8**	**-1.1**
KBTR				*i* S	**Sn**	**16 03 23.7**	**-3.2**

BDR	**Baidarnaya**	**3.05**	**10**	*e*P	**Pn**	**16 02 52.8**	**+0.6**
BDR				*i* S	**Sn**	**16 03 27.2**	**-0.4**
BDR	**Baidarnaya**	**3.05**	**10**	*e*P	**Pn**	**16 02 52.8**	**+0.6**
BDR				*i* S	**Sn**	**16 03 27.2**	**-0.4**
SRKR	**Sorokina**	**3.13**	**9**	*i* P	**Pn**	**16 02 53.8**	**+0.5**
SRKR				*i* S	**Sn**	**16 03 28.9**	**-0.6**
SRKR	**Sorokina**	**3.13**	**9**	*i* P	**Pn**	**16 02 53.8**	**+0.5**
SRKR				*i* S	**Sn**	**16 03 28.9**	**-0.6**
SKR	**Severo-Kuril's**	**3.87**	**223**	*e*PN	**Pn**	**16 03 02.0**	**-1.4**
SKR				*e*S	**Sn**	**16 03 46.4**	**-1.2**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=E,410nm,0.4s						
SKR				smax			
	comp=Z,410nm,0.4s						
MA2	**Magadan**	**7.98**	**323**	PN	**Pn**	**16 04 01.5**	**+1.9**
SMY	**Shemya**	**8.36**	**90**	P	**Pn**	**16 04 03.0**	**-1.8**
SMY				*e*Sn	**Sn**	**16 05 29.5**	**-8.0**
YSS	**Yuzh-Sakhalins**	**13.00**	**246**	*i* PN	**Pn**	**16 05 04.3**	**-3.8**
YSS				pmax	pmax		
	comp=Z,18nm,1.4s						
BILL	**Bilibino**	**14.79**	**9**	*i* P	**Pn**	**16 05 35.1**	**+3.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BILL	**Bilibino**	**14.79**	**9**	*e*P	**Pn**	**16 05 36.0**	**+4.3**
YAK	**Yakutsk**	**18.21**	**310**	*e*P	**Pn**	**16 06 14.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,39nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK	**Yakutsk**	**18.21**	**310**	*e*P	**Pn**	**16 06 13.8**	**-0.6**
	comp=E,45nm,0.6s						
MDJ	**Mudanjiang**	**21.85**	**258**	P	**P**	**16 06 50.0**	**-3.3**
MDJ				S	**S**	**16 10 45.9**	**-4.9**
MDJ				PCS	PcS	16 14 26.4	-2.6
MDJ				AMB	AMB		
	comp=Z,97nm,4.2s						
MDJ				LR	LR		
	comp=N,157nm,28.0s						
MDJ				LR	LR		
	comp=E,152nm,15.6s						
MDJ				LR	LR		
	comp=Z,144nm,21.2s						
TIXI	**Tiksi**	**22.69**	**335**	*i* P	**P**	**16 07 00.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.8						
MJAR	**Matsushiro Arr**	**22.93**	**231**	P	**P**	**16 07 06.1**	**+1.4**
	comp=Z,5.0nm,0.9s,mb3.8,baz=23,slow=12,SNR=8.5						
MJAR				LR	LR	16 15 14.8	
	comp=Z,164nm,20.3s,baz=205,slow=34						
HIA	**Hailar**	**25.39**	**277**	*i* P	**P**	**16 07 26.5**	**-0.8**
BOD	**Bodaibo**	**26.01**	**298**	*e*P	**P**	**16 07 31.3**	**-1.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
KDAK	**Kodiak Island**	**26.48**	**62**	P	**P**	**16 07 35.5**	**-1.6**
	comp=Z,5.5nm,0.8s,mb4.0,baz=147,slow=20,SNR=7.6						
MCK	**McKinley**	**27.55**	**48**	*e*P	**P**	**16 07 46.4**	**-0.3**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
MCK	**McKinley**	**27.55**	**48**	*e*P	**P**	**16 07 46.4**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.7						
COLA	**College**	**27.98**	**46**	*i* P	**P**	**16 07 50.2**	**-0.4**
COLA	**College**	**27.98**	**46**	P	**P**	**16 07 50.1**	**-0.5**
SONM	**Songino Array**	**33.90**	**283**	P	**P**	**16 08 43.3**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.8,baz=65,slow=8.0,SNR=7.6						
SONM				PcP	PcP	16 11 20.9	+1.0
	comp=Z,1.2nm,0.7s,baz=105,slow=1.7,SNR=9.1						
HHC	**Hu-ho-hao-te**	**34.76**	**269**	*e*P	**P**	**16 08 49.1**	**-1.0**
HHC				PP	PP	16 10 08.9	-1.1
HHC				PCP	PcP	16 11 24.0	+1.7
HHC				S	**S**	**16 14 11.1**	**-4.5**
HHC				SCP	ScP	16 14 56.8	-4.9
HHC				PCS	PcS	16 15 07.9	-1.1
HHC				SS	SS	16 16 29.0	-20
HHC				SCS	ScS	16 18 58.7	-6.3
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,184nm,6.5s						
HHC				LR	LR		
	comp=N,383nm,13.2s						
HHC				LR	LR		
	comp=E,332nm,14.9s						
HHC				LR	LR		
	comp=Z,314nm,13.9s						
NJ2	**Nanjing**	**36.52**	**251**	*e*P	**P**	**16 09 04.0**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				LR	LR		
	comp=N,1μm,8.9s						
NJ2				LR	LR		
	comp=E,1μm,14.8s						
NJ2				LR	LR		
	comp=Z,2μm,8.4s						
ZAL	**Zalesovo**	**42.63**	**302**	*i* P	**P**	**16 09 56.5**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**42.74**	**43**	P	**P**	**16 09 56.6**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.3,baz=297,slow=7.4,SNR=9.1						
YKA	**Yellowknife Ar**	**42.74**	**43**	*i* P	**P**	**16 09 56.5**	**-0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NVS	**Novosibirsk**	**42.93**	**304**	*e*P	**P**	**16 09 57.5**	**-0.9**
CD2	**Chengdu**	**46.13**	**264**	*e*P	**P**	**16 10 25.0**	**+1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,9.2s						
WMQ	**Urumqi**	**46.92**	**289**	⇑P	**P**	**16 10 30.2**	**+0.2**
WMQ				PCP	PcP	16 12 02.2	+0.5
WMQ				PP	PP	16 12 21.5	+0.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,68nm,4.5s						
WMQ				LR	LR		
	comp=N,260nm,18.3s						
WMQ				LR	LR		
	comp=E,151nm,18.3s						
WMQ				LR	LR		
	comp=Z,191nm,20.0s						
MK31	**Makanchi Array**	**48.05**	**295**	*e*P	**P**	**16 10 37.4**	**-1.4**
MKAR	**Makanchi Array**	**48.05**	**295**	P	**P**	**16 10 37.6**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.8,baz=54,slow=6.8,SNR=17						
MKAR				PcP	PcP	16 12 04.8	-0.9
	comp=Z,0.6nm,0.8s,baz=64,slow=6.6,SNR=2.8						
EDM	**Edmonton**	**48.39**	**53**	*e*P	**P**	**16 10 41.3**	**-0.1**
NEW	**Newport**	**49.57**	**61**	LR	LR	16 30 26.2	
	comp=Z,52nm,19.3s,baz=92,slow=34						
CHKZ	**Chkalovo**	**49.66**	**309**	*e*P	**P**	**16 10 48.7**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**49.66**	**309**	*e*P	**P**	**16 10 48.6**	**-2.5**
	comp=Z,2.0nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**50.18**	**308**	P	**P**	**16 10 53.5**	**-1.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=59,slow=7.6,SNR=12						
BVAR				PcP	PcP	16 12 13.1	-0.3
	comp=Z,0.7nm,0.4s,baz=40,slow=2.0,SNR=4.1						
BRVK	**Borovoye**	**50.20**	**308**	*e*P	**P**	**16 10 53.3**	**-2.0**
ZRNK	**Zerenda**	**50.87**	**309**	*e*P	**P**	**16 10 59.4**	**-0.9**
KMI	**Kunming**	**51.02**	**260**	P	**P**	**16 10 59.3**	**-2.1**
KMI				AP	pP	16 11 18.1	-0.7
KMI				XP	sP	16 11 25.0	-1.6
KMI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.8						
KMI	**Kunming**	**51.02**	**260**	P	**P**	**16 10 59.3**	**-2.1**
	comp=Z,5.0nm,0.5s,mb4.8						
KMI				pP	pP	16 11 18.1	-0.7
KMI				sP	sP	16 11 25.0	-1.6
KEV	**Kevo**	**52.40**	**341**	*e*p	**P**	**16 11 11.1**	**-0.6**
ARCES	**ARCESS Array B**	**52.87**	**342**	P	**P**	**16 11 13.9**	**-1.2**
	comp=Z,6.0nm,0.9s,mb4.6,baz=49,slow=8.3,SNR=7.1						
GCMT	**Greycliff**	**55.03**	**59**	*e*P	**P**	**16 11 31.7**	**+0.7**
NVAR	**Mina Array Bea**	**55.48**	**70**	P	**P**	**16 11 35.5**	**+1.4**
	comp=Z,2.5nm,0.6s,mb4.4,baz=304,slow=8.0,SNR=20						
IMW	**Indian Meadow**	**55.68**	**61**	*e*P	**P**	**16 11 36.9**	**+1.3**
	comp=Z,4.3nm,0.9s,mb4.5						
HWUT	**Hardware Ranch**	**56.95**	**63**	*e*P	**P**	**16 11 45.8**	**+1.2**
	comp=Z,6.5nm,1.0s,mb4.6						
JOF	**Joensuu**	**57.18**	**335**	*e*p	**P**	**16 11 45.0**	**-1.2**
BW06	**Boulder Array**	**57.19**	**61**	*e*P	**P**	**16 11 46.8**	**+0.4**
	comp=Z,4.8nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**57.20**	**61**	P	**P**	**16 11 47.3**	**+1.0**
	comp=Z,4.2nm,0.8s,mb4.5,baz=320,slow=3.1,SNR=26						
AKTK	**Aktyubinsk**	**57.58**	**312**	P	**P**	**16 11 48.1**	**-1.0**
AKTO	**Aktyubinsk**	**57.58**	**312**	P	**P**	**16 11 48.1**	**-1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=67,slow=9.9,SNR=7.0						
ULM	**Lac du Bonnet**	**58.41**	**47**	P	**P**	**16 11 54.9**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.5,baz=307,slow=7.0,SNR=6.5						
RSSD	**Black Hills**	**59.05**	**57**	*e*P	**P**	**16 12 00.0**	**+0.7**
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
RSSD	**Black Hills**	**59.05**	**57**	*e*P	**P**	**16 11 60.0**	**+0.7**
	comp=Z,8.9nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**59.09**	**337**	*e*p	**P**	**16 11 58.6**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.6,baz=30,slow=6.3						
KAF	**Kangasniemi**	**59.09**	**337**	*e*P	**P**	**16 11 58.6**	**-0.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
SRU	**San Rafael**	**59.28**	**65**	*e*P	**P**	**16 12 01.7**	**+0.8**
SRU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SRU	**San Rafael**	**59.28**	**65**	*e*P	**P**	**16 12 01.7**	**+0.7**
	comp=Z,9.5nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**59.72**	**336**	P	**P**	**16 12 03.0**	**-1.0**
	comp=Z,4.6nm,0.8s,mb4.6,baz=38,slow=9.6,SNR=11						
FINES	**FINESS Array B**	**59.72**	**336**	*i* P	**P**	**16 12 03.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NB2	**NORSAR Subarra**	**63.11**	**344**	P	**P**	**16 12 26.3**	**-0.5**
	comp=Z,3.1nm,0.5s,mb4.5,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.11**	**344**	P	**P**	**16 12 26.1**	**-0.6**
	comp=Z,4.6nm,0.6s,mb4.6,baz=21,slow=6.6,SNR=13						
HFS	**Hagfors**	**63.53**	**342**	P	**P**	**16 12 29.0**	**-0.5**
	comp=Z,3.6nm,0.4s,mb4.5,baz=45,slow=4.4,SNR=22						
ANMO	**Albuquerque**	**64.54**	**65**⇑	*e*P	**P**	**16 12 37.0**	**+0.8**
SCHQ	**Schefferville**	**65.17**	**28**	P	**P**	**16 12 39.0**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.1,baz=302,slow=9.5,SNR=4.2						
AKASG	**Malin Array Be**	**68.26**	**329**	P	**P**	**16 12 58.5**	**-1.4**
	comp=Z,2.1nm,0.4s,mb4.3,baz=28,slow=6.7,SNR=11						
AKASG	**Malin Array Be**	**68.26**	**329**	*i* P	**P**	**16 12 59.7**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WMOK	**Wichita Mounta**	**68.77**	**60**	*e*P	**P**	**16 13 03.0**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WMOK	**Wichita Mounta**	**68.77**	**60**	*e*P	**P**	**16 13 03.0**	**-0.1**
	comp=Z,7.1nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**70.35**	**67**	P	**P**	**16 13 13.8**	**+0.9**
	comp=Z,4.9nm,0.6s,mb4.5,baz=299,slow=4.6,SNR=66						
MEM	**Membach**	**73.96**	**343**	P	**P**	**16 13 34.6**	**+0.2**
	comp=Z,11nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**74.11**	**338**	P	**P**	**16 13 35.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.9,baz=45,slow=5.3,SNR=11						
BCLA	**Clavier**	**74.26**	**344**	P	**P**	**16 13 36.5**	**+0.4**
SNF	**Seneffe**	**74.34**	**344**	P	**P**	**16 13 36.9**	**+0.3**
GIVF	**Givet**	**74.65**	**344**	*e*P	**P**	**16 13 38.4**	**0.0**
DOU	**Dourbes**	**74.69**	**344**	P	**P**	**16 13 37.9**	**-0.7**
	comp=Z,2.9nm,1.0s,mb4.0						
BAIF	**Baives**	**74.79**	**344**	*e*P	**P**	**16 13 38.5**	**-0.7**
	comp=Z,8.2nm,0.6s,mb4.3						
BAIF	**Baives**	**74.79**	**344**	*e*P	**P**	**16 13 38.5**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BAIF	**Baives**	**74.79**	**344**	*e*P	**P**	**16 13 38.5**	**-0.7**
	comp=Z,4.1nm,0.6s,mb4.3						
CDF	**Champ du Feu**	**75.84**	**342**⇑	*i*P	**P**	**16 13 45.6**	**+0.4**
	comp=Z,22nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**75.84**	**342**⇑	*i*P	**P**	**16 13 45.6**	**+0.4**
CDF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**75.84**	**342**⇑	*i*P	**P**	**16 13 45.6**	**+0.4**
	comp=Z,11nm,1.1s,mb4.5						
HAU	**Haudompre**	**76.41**	**342**	*e*P	**P**	**16 13 48.6**	**+0.2**
WRA	**Warramunga Arr**	**76.56**	**205**	P	**P**	**16 13 49.8**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.6,baz=20,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**76.56**	**205**	*i* P	**P**	**16 13 48.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FLN	**La Foliniere**	**76.75**	**347**	*e*P	**P**	**16 13 50.3**	**0.0**
LDF	**La Druitiere**	**76.86**	**347**	*e*P	**P**	**16 13 51.5**	**+0.5**
GRR	**Gorron**	**77.16**	**347**	*e*P	**P**	**16 13 52.7**	**0.0**
	comp=Z,7.7nm,0.6s,mb4.3						
GRR	**Gorron**	**77.16**	**347**	*e*P	**P**	**16 13 52.7**	**0.0**
GRR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
GRR	**Gorron**	**77.16**	**347**	*e*P	**P**	**16 13 52.7**	**0.0**
	comp=Z,3.8nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**77.36**	**214**	P	**P**	**16 13 55.0**	**+1.2**
	comp=Z,0.9nm,0.8s,mb3.5,baz=343,slow=11,SNR=3.2						
SGMF	**Saint Gilles**	**77.51**	**348**	*e*P	**P**	**16 13 54.9**	**+0.3**
	comp=Z,15nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**77.51**	**348**	*e*P	**P**	**16 13 54.9**	**+0.3**
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**77.51**	**348**	*e*P	**P**	**16 13 54.9**	**+0.3**
	comp=Z,7.4nm,0.7s,mb4.5						
ROSF	**Rostrenen**	**77.51**	**349**	*e*P	**P**	**16 13 54.7**	**+0.1**
LOR	**Lormes**	**77.55**	**344**	*e*P	**P**	**16 13 55.0**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.2						
LOR	**Lormes**	**77.55**	**344**	*e*P	**P**	**16 13 55.0**	**+0.1**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LOR	**Lormes**	**77.55**	**344**	*e*P	**P**	**16 13 55.0**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.2						
CABF	**La Chapelle**	**77.80**	**342**	*e*P	**P**	**16 13 57.0**	**+0.8**
	comp=Z,14nm,0.9s,mb4.4						
CABF	**La Chapelle**	**77.80**	**342**	*e*P	**P**	**16 13 57.0**	**+0.8**
CABF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
CABF	**La Chapelle**	**77.80**	**342**	*e*P	**P**	**16 13 57.0**	**+0.8**
	comp=Z,7.0nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**77.81**	**344**	*e*P	**P**	**16 13 56.4**	**+0.1**
	comp=Z,14nm,1.0s,mb4.4						
SSF	**Saint Saulge**	**77.81**	**344**	*e*P	**P**	**16 13 56.4**	**+0.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**77.81**	**344**	*e*P	**P**	**16 13 56.4**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.3						
AVF	**Avril sur Loir**	**78.10**	**344**	*e*P	**P**	**16 13 58.2**	**+0.3**
	comp=Z,6.3nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**78.10**	**344**	*e*P	**P**	**16 13 58.2**	**+0.3**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**78.10**	**344**	*e*P	**P**	**16 13 58.2**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**78.16**	**344**	*e*P	**P**	**16 13 58.5**	**+0.3**
LPL	**La Plagne**	**78.73**	**341**⇑	*i*P	**P**	**16 14 02.9**	**+1.5**
	comp=Z,24nm,0.9s,mb4.7						
LPL	**La Plagne**	**78.73**	**341**⇑	*i*P	**P**	**16 14 02.9**	**+1.5**
LPL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
LPL	**La Plagne**	**78.73**	**341**⇑	*i*P	**P**	**16 14 02.9**	**+1.5**
	comp=Z,12nm,0.9s,mb4.7						
LPG	**La Plagne**	**78.75**	**341**⇑	*i*P	**P**	**16 14 03.2**	**+1.7**
	comp=Z,24nm,0.8s,mb4.8						
LPG	**La Plagne**	**78.75**	**341**⇑	*i*P	**P**	**16 14 03.2**	**+1.7**
LPG				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
LPG	**La Plagne**	**78.75**	**341**⇑	*i*P	**P**	**16 14 03.2**	**+1.7**
	comp=Z,12nm,0.8s,mb4.8						
ORIF	**Oris-en-Rattie**	**79.47**	**342**⇑	*i*P	**P**	**16 14 06.9**	**+1.5**
	comp=Z,11nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**79.47**	**342**⇑	*i*P	**P**	**16 14 06.9**	**+1.5**
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**79.47**	**342**⇑	*i*P	**P**	**16 14 06.9**	**+1.5**
	comp=Z,5.5nm,0.7s,mb4.5						
MBDF	**Montbardon**	**79.48**	**341**	*e*P	**P**	**16 14 07.3**	**+1.8**
	comp=Z,5.0nm,0.6s,mb4.2						
MBDF	**Montbardon**	**79.48**	**341**	*e*P	**P**	**16 14 07.3**	**+1.8**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MBDF	**Montbardon**	**79.48**	**341**	*e*P	**P**	**16 14 07.3**	**+1.8**
	comp=Z,2.5nm,0.6s,mb4.2						
VIVF	**Saint-Julien-l**	**79.75**	**343**	*e*P	**P**	**16 14 08.0**	**+1.1**
	comp=Z,7.6nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**79.75**	**343**	*e*P	**P**	**16 14 08.0**	**+1.1**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**79.75**	**343**	*e*P	**P**	**16 14 08.0**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.3						
SBF	**Sospel**	**80.19**	**340**	*e*P	**P**	**16 14 11.2**	**+1.9**
ASAR	**Alice Springs**	**80.24**	**204**	P	**P**	**16 14 11.1**	**+1.5**
	comp=Z,1.0nm,0.8s,mb3.7,baz=14,slow=5.6,SNR=14						
PGF	**Pioggiola**	**81.12**	**339**	*e*P	**P**	**16 14 16.7**	**+2.4**
	comp=Z,4.1nm,0.7s,mb4.1						
PGF	**Pioggiola**	**81.12**	**339**	*e*P	**P**	**16 14 16.7**	**+2.4**
PGF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
PGF	**Pioggiola**	**81.12**	**339**	*e*P	**P**	**16 14 16.7**	**+2.4**
	comp=Z,2.0nm,0.6s,mb4.1						

JMA 06 16:06:31.0±0.2, 2671N×12641E, h5km±3km, M3.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.51**	**139**	P	Pg	16 06 40.9	+0.1
JKE				S	Sg	16 06 47.8	+0.4
JAGN	**Aguni-jima**	**0.75**	**99**	P	Pg	16 06 45.5	0.0
JAGN				S	Sg	16 06 55.7	+0.4
NAH1	**Naha**	**1.25**	**113**	P	Pg	16 06 54.5	-0.5
NAH1				S	Sg	16 07 10.5	-0.8
JJT2	**Tamagusuku 2**	**1.33**	**115**	P	Pn	16 06 56.0	-0.2
JJT2				S	Sg	16 07 13.0	-0.7
JIH	**Iheya**	**1.43**	**77**	P	Pn	16 06 57.8	+0.2
JIH				S	Sb	16 07 16.3	-0.3
JOW	**Kunigami**	**1.67**	**85**	P	Pn	16 07 00.2	-0.7

NIED ***06*** *16:06:00, 2670N×126.40E, h5km, Mw4.4 Best double couple: M0=4.60000×10^15 NP1:φs=46.00000°, δ52.00000°, λ-108.00000°. NP2:φs=253.00000°, δ41.00000°, λ-69.00000°.*

IDC ***06*** *16:06:51.1±0.8, 2656N×12627E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, MS3.8/8, Ms1 3.8/8, ms1mx3.4/27, Error ellipse: s-maj=31.4km s-min=15.6km az=62.0*

JMA ***06*** *16:06:52.5±0.2, 2669N×12641E, h9km±3km, M4.2*

JMA Felt I J1.

ISCJB ***06*** *16:06:53.5±0.9, 2667N±005×12644E±004, h24km±7km, mb4.1/13, MS4.0/7, Error ellipse: s-maj=8.0km s-min=5.5km az=164.7*

MOS ***06*** *16:06:54.0±2.6, 2664N×12671E, h33km, mb4.6/4, Error ellipse: s-maj=35.2km s-min=12.5km az=123.8*

NEIC ***06*** *16:06:57.1±1.3, 2660N×12643E, h46km±13km, mb4.3/7, Error ellipse: s-maj=14.5km s-min=10.6km az=49.0*

BJI ***06*** *16:07:04.7, 2726N×12585E, h50km, mB4.5, mb4.2, Ms4.2, Msz4.0*

ISC 06 16:06:54.0±1.1, 2667N±005×12648E±003, h17km±7km, n45, σ1§06/44, mb4.1/13, MS4.0/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.44**	**141**	P	**Pg**	**16 07 02.2**	**-0.8**
JKE				S	**Sg**	**16 07 09.0**	**0.0**
JAGN	**Aguni-jima**	**0.69**	**96**	P	**Pb**	**16 07 07.0**	**-0.6**
JAGN				S	**Sb**	**16 07 16.9**	**+0.1**
NAH1	**Naha**	**1.18**	**113**	P	**Pn**	**16 07 16.0**	**+0.2**
NAH1				S	**Sb**	**16 07 31.7**	**+0.7**
JJT2	**Tamagusuku 2**	**1.26**	**115**	P	**Pn**	**16 07 16.8**	**0.0**
JJT2				S	**Sb**	**16 07 35.4**	**+2.2**
JIH	**Iheya**	**1.38**	**74**	P	**Pn**	**16 07 18.3**	**-0.2**
JIH				*e*S	**Sn**	**16 07 36.0**	**-0.4**
JOW	**Kunigami**	**1.61**	**84**	Pn	**Pn**	**16 07 23.8**	**+2.0**
	22nm,0.3s,baz=275,slow=12,SNR=22						
JOW	**Kunigami**	**1.61**	**84**	P	**Pn**	**16 07 21.5**	**-0.3**
JMJ	**Miyako jima 2**	**2.13**	**210**	*e*S	**Sn**	**16 07 54.4**	**-0.5**
JTJ	**Tarama**	**2.58**	**219**	P	**Pn**	**16 07 36.2**	**+1.2**
JJJ	**Ishigaki jima**	**3.12**	**223**	P	**Pn**	**16 07 41.8**	**-0.6**
IRIF	**Iriomote-Funau**	**3.40**	**227**	P	**Pn**	**16 07 46.5**	**+0.2**
YHNB	**Yeheng**	**5.01**	**248**	*e*P	**Pn**	**16 08 09.0**	**+0.5**
JNU	**Nakatsue**	**7.48**	**30**	Pn	**Pn**	**16 08 52.0**	**+10**
	1.0nm,0.3s,baz=236,slow=12,SNR=3.6						
KSRS	**Korea Array**	**10.82**	**6**	LR	LR	16 13 44.6	
	comp=Z,218nm,18.5s,baz=179,slow=38						
CBIJ	**Chichi jima**	**14.03**	**85**	LR	LR	16 14 32.5	
	comp=Z,135nm,19.9s,baz=52,slow=32						
BJI	**Beijing**	**15.85**	**330**	P	pP	16 10 46.5	+1.7
BJI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BJI	**Beijing**	**15.85**	**330**	P	pP	16 10 46.5	+1.7
	comp=Z,6.0nm,1.3s						
GYA	**Guiyang**	**17.73**	**274**	P	**Pn**	**16 11 02.3**	**+2.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**20.35**	**287**	P	**P**	**16 11 35.3**	**+5.8**
CD2				XP	sP	16 11 46.7	+10
CD2				PP		16 11 50.6	
CD2				AMB	AMB		
	comp=

SDV	**Santo Domingo**	**140.95**	**27**	PKP		PKPdf	16 26 24.9	+1.7
	comp=Z,3.5nm,0.7s,baz=321,slow=6.1,SNR=4.7							

JMA 06 16:07:24.6±0.1, 2669N×12643E, h7km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.48**	**139**	P	Pg	16 07 33.9	0.0
JKE				S	Sg	16 07 40.4	+0.1
JAGN	**Aguni-jima**	**0.73**	**98**	P	Pg	16 07 38.6	-0.1
JAGN				S	Sg	16 07 48.4	+0.1
NAH1	**Naha**	**1.23**	**113**	*e*S	Sg	16 08 02.9	-1.2
JJT2	**Tamagusuku 2**	**1.30**	**115**	S	Sb	16 08 06.6	+0.3

MAN 06 17:13:32.5, 1782N×12057E, h18km, mb1.8, ML3.6, MS4.3, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.22**	**142**	*e*P	Pg	17 13 39.2	+1.5
ABRA				*e*S	Sg	17 13 46.5	+5.2
BCPH	**Baguio City Da**	**1.43**	**180**	⇓*i*P	Pn	17 13 55.5	-2.0
BCPH				*i* S	Sn	17 14 16.6	+0.7
CAUP	**Cauayan**	**1.48**	**126**	*e*P	Pn	17 13 58.7	+0.5
PALP	**Palanan**	**1.93**	**113**	⇓*i*P	Pn	17 14 04.5	+0.2
PALP				*i* S	Sn	17 14 13.8	-.14
PALP	**Palanan**	**1.93**	**113**	*e*P	Pn	17 14 04.9	+0.6
BALP	**Baler**	**2.28**	**155**	*e*P	Pn	17 14 09.3	+0.1

NIED ***06*** *17:15:00, 2460N×12190E, h23km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1: φ=272.00000°, δ=56.00000°, λ=98.00000°. NP2: φ=77.00000°, δ=35.00000°, λ=78.00000°.*
BJI ***06*** *17:15:49.3, 2440N×12187E, h10km, mB4.5, mb4.5, ML3.9*
JMA ***06*** *17:15:49.9±0.2, 2460N×12186E, h46km±5km, M3.8*
ISCJB ***06*** *17:15:50.7±0.4, 2433N±006×12188E±003, h49km±4km, mb3.8/7, MS3.1/1, Error ellipse: s-maj=9.7km s-min=3.9km az=19.6*
NEIC ***06*** *17:15:51.2±0.7, 2432N×12190E, h37km±7km, mb4.1/2, Error ellipse: s-maj=10.3km s-min=7.6km az=58.0*
IDC ***06*** *17:15:54.2±9.0, 2441N×122.12E, h68km±95km, mb3.4/5, mb1 3.6/6, mb1mx3.4/21, mbtmp3.5/6, ML3.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/18, Error ellipse: s-maj=94.1km s-min=17.3km az=63.0*

ISC 06 17:15:51.7±0.4, 2436N±006×12189E±003, h40km±6km, n24, σ0§48/33, mb3.8/7, MS3.1/1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.32**	**235**	*e*Pn	**Pn**	**17 15 59.8**	**-0.5**
NACB				*e*Sn	**Sn**	**17 16 06.9**	**+0.8**
YHNB	**Yeheng**	**0.56**	**304**	*e*Pn	**Pn**	**17 16 02.8**	**-0.4**
YHNB				*e*Sn	**Sn**	**17 16 11.5**	**+0.2**
TATO	**Taipei**	**0.71**	**330**	*e*Pn	**Pn**	**17 16 05.0**	**-0.3**
TATO				*e*Sn	**Sn**	**17 16 14.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.03**	**84**	P	**Pn**	**17 16 08.6**	**-1.0**
YOJ				S	**Sn**	**17 16 22.4**	**-0.4**
IRIF	**Iriomote-Funau**	**1.68**	**90**	P	**Pn**	**17 16 17.8**	**-0.8**
IRIF				S	**Sn**	**17 16 38.5**	**-0.4**
HATJ	**Hateruma jima**	**1.78**	**99**	P	**Pn**	**17 16 20.4**	**+0.5**
HATJ				S	**Sn**	**17 16 42.2**	**+1.0**
JKRS	**Kuro-shima**	**1.94**	**93**	P	**Pn**	**17 16 22.2**	**+0.1**
JKRS				S	**Sn**	**17 16 45.5**	**+0.2**
JIJ	**Ishigaki jima**	**2.06**	**89**	P	**Pn**	**17 16 23.3**	**-0.4**
JIJ				S	**Sn**	**17 16 48.0**	**-0.2**
JTJ	**Tarama**	**2.58**	**83**	P	**Pn**	**17 16 31.1**	**+0.2**
JTJ				S	**Sn**	**17 17 01.5**	**+0.5**
QZH	**Quanzhou**	**3.05**	**282**	P	**Pn**	**17 16 37.7**	**+0.3**
QZH				S	**Sn**	**17 17 12.4**	**-0.3**
QZH				Smax			
	comp=N,440nm,0.6s						
QZH				Smax			
	comp=E,230nm,0.4s						
JMJ	**Miyako jima 2**	**3.13**	**81**	*e*S	**Sn**	**17 17 15.3**	**+0.6**
JOW	**Kunigami**	**6.27**	**66**	P	**Pn**	**17 17 21.5**	**-0.1**
	comp=E,4.3nm,0.3s,baz=158,slow=12,SNR=14						
NJ2	**Nanjing**	**8.12**	**341**	*e*P	**Pn**	**17 17 51.6**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,120nm,4.7s						
NJ2				Smax			
	comp=N,160nm,1.0s						
NJ2				Smax			
	comp=E,100nm,1.0s						
KSRS	**Korea Array**	**14.04**	**20**	P	**Pn**	**17 19 15.8**	**+7.9**
	baz=200,slow=12,SNR=14						
KSRS				LR	LR	17 24 37.8	
	comp=E,66nm,21.4s,baz=347,slow=38						
ASAJ	**Asahikawa**	**25.98**	**36**	LR	LR	17 32 24.7	
	comp=E,53nm,19.6s,MS3.1,baz=168,slow=38						
SONM	**Songino Array**	**26.46**	**336**	P	**P**	**17 21 25.1**	**+0.3**
	comp=E,1.0nm,0.6s,mb3.5,baz=147,slow=9.4,SNR=9.4						
MKAR	**Makanchi Array**	**38.66**	**315**	P	**P**	**17 23 12.2**	**+0.9**
	comp=E,0.3nm,0.4s,mb3.4,baz=99,slow=10.0,SNR=11						
MKAR				PcP	PcP	17 25 22.4	-0.4
	comp=E,0.5nm,0.7s,baz=73,slow=5.0,SNR=3.9						
ZAL	**Zalesovo**	**40.45**	**327**	P	**P**	**17 23 26.3**	**+0.1**
	comp=E,1.1nm,0.4s,mb4.0,baz=85,slow=3.3,SNR=3.8						
ZAL	**Zalesovo**	**40.45**	**327**	P	**P**	**17 23 26.3**	**+0.1**
WRA	**Warramunga Arr**	**45.67**	**164**	P	**P**	**17 24 08.1**	**-0.3**
	comp=E,0.6nm,0.6s,mb3.7,baz=346,slow=8.5,SNR=11						
WB2	**Warramunga Arr**	**45.68**	**164**	*e*P	**P**	**17 24 07.9**	**-0.5**
CHKZ	**Chkalovo**	**48.00**	**321**	*e*P	**P**	**17 24 26.5**	**0.0**
	comp=E,0.8nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**48.73**	**320**	*e*P	**P**	**17 24 32.6**	**+0.3**
	comp=E,0.7nm,0.3s,mb4.2						
ASAR	**Alice Springs**	**49.14**	**165**	P	**P**	**17 24 35.1**	**-0.2**
	comp=E,0.3nm,0.6s,mb3.5,baz=342,slow=7.2,SNR=8.3						

IDC 06 17:29:07.8±5.1, 2237N×14392E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=205.8km s-min=21.4km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.97**	**342**	P	Pn	17 30 23.5	-0.1
	7.1nm,0.3s,baz=90,slow=20,SNR=12						
CBIJ				S	Sn	17 31 20.6	-1.1
	7.4nm,0.3s,baz=105,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**43.08**	**193**	P	P	17 37 09.7	+0.2
	0.7nm,0.5s,baz=12,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**46.78**	**193**	P	P	17 37 38.7	-0.3
	0.1nm,0.3s,baz=11,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**54.76**	**312**	P	P	17 38 39.8	+0.7
	0.2nm,0.6s,baz=81,slow=8.8,SNR=3.7						

MAN 06 18:13:51.4, 1336N×12099E, h0km, mb2.1, ML3.8, MS7.3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.82**	**297**	*e*P	Sg	18 14 20.7	+3.1
BOAC	**Boac**	**0.83**	**83**	*e*P	Pg	18 14 03.1	-4.3
OTRP	**Odiongan**	**1.41**	**135**	*e*P	Pn	18 14 18.9	+0.5
OTRP				*e*S	Sg	18 14 37.0	+0.2
BUSP	**Coron**	**1.56**	**210**	*e*P	Pn	18 14 19.8	-0.6
AUQP	**San Andres**	**1.64**	**91**	*e*P	Pn	18 14 20.6	-0.8
BALP	**Baler**	**2.43**	**13**	*e*P	Pn	18 14 33.2	+0.8
PVCP	**Virac**	**3.08**	**85**	*e*P	Pn	18 14 42.0	+0.7

ISCJB ***06*** *18:32:39.5±0.4, 5146N±002×16.12E±002, h0km, Error ellipse: s-maj=3.2km s-min=1.9km az=25.7*
BGR ***06*** *18:32:40.7±0.6, 5162N×1611E, h1km, ML3.3, Error ellipse: s-maj=8.9km s-min=3.3km az=7.0*
NEIC ***06*** *18:32:40.6±0.4, 5158N×1613E, h5km, ML3.3(SZGRF), Error ellipse: s-maj=5.3km s-min=3.9km az=192.0*
CSEM ***06*** *18:32:41.5±0.2, 5153N×1604E, h0km, ML3.6/15, Ms3.7, Error ellipse: s-maj=3.0km s-min=2.1km az=12.0*
WAR ***06*** *18:32:41.9, 5153N×1608E, ML2.9, Mining Induced*
IPEC ***06*** *18:32:41.0±0.3, 5155N×1617E, h7km±1km, ML2.6/3, Error ellipse: s-maj=1.9km s-min=0.7km az=35.0*
IDC ***06*** *18:32:41.7±0.8, 5149N×1598E, h0km, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.1/7, Error ellipse: s-maj=14.1km s-min=7.3km az=112.0*
PRU ***06*** *18:32:42.0, 5149N×1607E, h0km*

VIE ***06*** *18:32:43.6±0.8, 5136N×1590E, h0km, mb2.7/8, ML3.0/11, Ms3.7/1, Error ellipse: s-maj=5.8km s-min=5.2km az=10.0*
83 km WNW of Breslau Mining explosion.

ISC 06 18:32:40.1±0.3, 5156N±002×1612E±002, h0km, n84, σ1§00/161, 13C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**18 32 54.7**	**+0.7**
KSP				*e*Sg	**Sg**	**18 33 04.0**	**+0.5**
KSP	**Ksiaz**	**0.73**	**171**	⇓*i*Pg	**Pg**	**18 32 54.7**	**+0.7**
KSP				*e*Sg	**Sg**	**18 33 03.9**	**+0.4**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**18 32 54.6**	**+0.6**
KSP				*e*Sg	**Sg**	**18 33 03.9**	**+0.4**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**18 33 00.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**18 33 03.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**18 33 03.5**	**+0.1**
DPC				*e*SG	**Sg**	**18 33 18.1**	**-1.2**
	95nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**174**	Pg	**Pg**	**18 33 03.5**	**+0.1**
DPC				*e*Sg	**Sg**	**18 33 18.2**	**-1.1**
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**18 33 07.1**	**-0.3**
PVCC				*e*SG	**Sg**	**18 33 26.2**	**+0.4**
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pn	**Pn**	**18 33 07.2**	**0.0**
PVCC				*e*Sg	**Sg**	**18 33 26.2**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pg	**Pg**	**18 33 09.8**	**+0.3**
BRG				*e*Sg	**Sg**	**18 33 29.7**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**244**	PN	**Pn**	**18 33 08.0**	**-0.7**
BRG				PG	**Pg**	**18 33 09.7**	**+0.2**
BRG				SG	**Sg**	**18 33 29.6**	**+0.3**
	123nm,0.4s						
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**18 33 10.9**	**-0.2**
FBE	**Freiberg**	**1.85**	**251**	*e*Sg	**Sg**	**18 33 39.5**	**-0.1**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**18 33 12.9**	**-0.4**
PRU				*e*PG	**Pg**	**18 33 14.7**	**-1.1**
PRU				*e*SG	**Sg**	**18 33 38.6**	**-1.5**
	47nm,0.4s						
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**18 33 14.2**	**-0.4**
CLL				*e*Pg	**Pg**	**18 33 18.0**	**+0.2**
CLL				*e*Sg	**Sg**	**18 33 44.0**	**+0.7**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**18 33 14.1**	**-0.5**
CLL				*e*Pg	**Pg**	**18 33 18.0**	**+0.2**
CLL				*e*Sg	**Sg**	**18 33 44.0**	**+0.7**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**18 33 14.1**	**-0.5**
	comp=Z,25nm,0.4s						
CLL				*e*Pg	**Pg**	**18 33 18.0**	**+0.2**
CLL				*ex*	x	18 33 21.0	
CLL				*e*Sg	**Sg**	**18 33 44.0**	**+0.7**
	comp=Z,113nm,0.6s						
CLL	**Collm**	**1.97**	**264**	Pg	**Pg**	**18 33 18.0**	**+0.2**
CLL				*e*Sg	**Sg**	**18 33 43.0**	**-0.3**
RAC	**Raciborz**	**1.98**	**138**	*e*Pg	**Pg**	**18 33 17.8**	**-0.2**
RAC				*e*Sg	**Sg**	**18 33 44.4**	**+0.7**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*P	**Pn**	**18 33 14.7**	**-0.5**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*P	**Pn**	**18 33 14.6**	**-0.5**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**18 33 15.1**	**0.0**
MORC				*e*Sg	**Sg**	**18 33 42.3**	**-2.1**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pn	**Pn**	**18 33 15.9**	**-1.3**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**18 33 21.2**	**-0.2**
OKC				*e*SG	**Sg**	**18 33 47.5**	**-1.8**
	comp=Z,166nm,0.8s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pg	**Pg**	**18 33 21.2**	**-0.2**
OKC				*e*Sg	**Sg**	**18 33 47.5**	**-1.8**
	comp=Z,166nm,0.8s						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**18 33 19.4**	**+0.5**
	comp=Z,7.6nm,0.3s,baz=345,slow=17,SNR=13						
VRAC				Lg		18 33 51.8	
	comp=Z,9.2nm,0.3s,baz=71,slow=17,SNR=6.0						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**18 33 19.4**	**+0.5**
VRAC				*e*Sg	**Sg**	**18 33 51.6**	**-1.6**
	comp=Z,35nm,0.4s						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**18 33 22.9**	**+0.8**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pg	**Pg**	**18 33 26.6**	**-1.6**
KRUC				*e*Sg	**Sg**	**18 33 59.5**	**-1.2**
	comp=Z,28nm,0.4s						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**18 33 23.3**	**+0.3**
TANN	**Tannenbergstha**	**2.58**	**245**	Pn	**Pn**	**18 33 23.3**	**+0.2**
WERD	**Werda**	**2.66**	**247**	*e*Pn	**Pn**	**18 33 24.2**	**+0.1**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**18 33 24.8**	**+0.4**
NKC				*e*PG	**Pg**	**18 33 31.0**	**-0.4**
NKC				*e*SG	**Sg**	**18 34 06.8**	**+0.7**
	comp=Z,115nm,0.3s						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**18 33 31.7**	**+0.1**
OJC				*e*Sg	**Sg**	**18 34 07.3**	**+0.8**
OJC	**Ojcow**	**2.69**	**119**	*e*Sg	**Sg**	**18 34 08.1**	**+1.6**
MROB	**Rosenbuehl-Arz**	**2.91**	**241**	*e*Pn	**Pn**	**18 33 27.9**	**+0.4**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**18 33 27.7**	**-0.1**
KHC				*e*PG	**Pg**	**18 33 33.9**	**-2.3**
KHC				*e*SN	**Sn**	**18 34 04.0**	**+0.3**
KHC				*e*SG	**Sg**	**18 34 12.7**	**-1.4**
	comp=Z,27nm,0.4s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*Pn	**Pn**	**18 33 27.7**	**-0.1**
KHC				*e*Pg	**Pg**	**18 33 33.9**	**-2.3**
KHC				*e*Sn	**Sn**	**18 34 04.0**	**+0.3**
KHC				*e*Sg	**Sg**	**18 34 12.7**	**-1.4**
KHC				*e*Sg	**Sg**	**18 34 26.1**	**+12**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*Pn	**Pn**	**18 33 27.9**	**+0.1**
MGBB	**Grossbuechelbe**	**2.95**	**239**	*e*Pn	**Pn**	**18 33 28.6**	**+0.5**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**18 33 28.5**	**-0.1**
MOX				*e*Pg	**Pg**	**18 33 37.1**	**-0.2**
MOX				*e*Sg	**Sg**	**18 34 16.5**	**+0.6**
MOX	**Moxa**	**2.98**	**254**	*e*PN	**Pn**	**18 33 28.5**	**-0.1**
MOX				*e*PG	**Pg**	**18 33 37.1**	**-0.2**
MOX				*e*SG	**Sg**	**18 34 16.5**	**+0.6**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**18 33 28.5**	**-0.1**
MOX				*e*Pg	**Pg**	**18 33 37.1**	**-0.2**
MOX				*e*Sg	**Sg**	**18 34 16.5**	**+0.6**
MOX	**Moxa**	**2.98**	**254**	*e*Pg	**Pg**	**18 33 36.7**	**-0.6**
MOX				*e*Sg	**Sg**	**18 34 15.1**	**-0.8**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**18 33 29.5**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**18 33 30.4**	**+0.6**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**18 33 31.6**	**+0.9**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**18 33 30.8**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=29,slow=13,SNR=101						
GERES				Pg	**Pg**	**18 33 37.6**	**-2.5**
	comp=Z,5.1nm,0.3s,baz=30,slow=18,SNR=33						
GERES				Lg		18 34 16.3	
	comp=Z,7.6nm,0.3s,baz=30,slow=25,SNR=12						
GERES	**GERESS Array B**	**3.13**	**211**	Pg	**Pg**	**18 33 37.6**	**-2.5**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**18 33 31.7**	**+0.3**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**18 33 31.7**	**+0.3**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**18 33 31.6**	**+0.2**
ZST	**Bratislava**	**3.43**	**169**	*e*SG	**Sg**	**18 34 30.7**	**+0.5**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**18 33 45.6**	**-0.2**
NIE				*e*S	**Sg**	**18 34 30.3**	**0.0**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**18 33 36.4**	**+0.2**
VYHS				*e*PG	**Pg**	**18 33 44.4**	**-3.4**
VYHS				*e*SG	**Sg**	**18 34 34.9**	**+1.3**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pn	**Pn**	**18 33 36.4**	**+0.2**
VYHS				*e*Pg	**Pg**	**18 33 44.4**	**-3.4**
VYHS				*e*Sg	**Sg**	**18 34 35.0**	**+1.4**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pg	**Pg**	**18 33 44.4**	**-3.4**
VYHS				*e*Sg	**Sg**	**18 34 35.0**	**+1.4**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**18 33 37.5**	**+0.6**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**18 33 36.9**	**-0.6**
BSD				*i* S	**Sn**	**18 34 17.6**	**-3.5**
GRA1	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**18 33 38.1**	**+0.5**
GRA1				*e*Sg	**Sg**	**18 34 37.1**	**+0.2**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**18 33 38.1**	**+0.5**
GRF				*e*Sg	**Sg**	**18 34 37.1**	**+0.2**
CONA	**Conrad Observa**	**3.64**	**183**	⇓*i*Pn	**Pn**	**18 33 38.6**	**+1.0**
	comp=Z,3.6nm,0.4s						
CONA				⇓*i*Pg	**Pg**	**18 33 49.1**	**-0.7**
	comp=Z,4.6nm,0.2s						
CONA				⇑*e*Sg	**Sg**	**18 34 36.3**	**-0.7**
	comp=Z,14nm,0.3s						
CONA	**Conrad Observa**	**3.64**	**183**	Pn	**Pn**	**18 33 38.6**	**+1.0**
	comp=Z,3.6nm,0.4s						
MOA	**Molln**	**3.91**	**199**	⇑*i*Pn	**Pn**	**18 33 41.9**	**+0.6**
	comp=Z,9.4nm,0.3s						
MOA				⇓*e*Sg	**Sg**	**18 34 46.1**	**+0.5**
	comp=Z,18nm,0.4s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PN	**Pn**	**18 33 42.8**	**+1.4**
STHS				*e*PG	**Pg**	**18 33 55.5**	**+0.4**
STHS				*e*SG	**Sg**	**18 34 50.5**	**+4.7**
KECS	**Kecovo**	**4.17**	**136**	*e*Pn	**Pn**	**18 33 45.1**	**+0.1**
KECS				*e*PG	**Pg**	**18 33 59.9**	**-0.1**
KECS				*e*SG	**Sg**	**18 34 55.4**	**+1.3**
ARSA	**Arzberg**	**4.33**	**185**	⇑*i*Pg	**Pg**	**18 34 02.0**	**-1.1**
	comp=Z,5.5nm,0.3s						
ARSA	**Arzberg**	**4.33**	**185**	⇓*i*Pn	**Pn**	**18 33 49.8**	**+2.6**
	comp=Z,3.8nm,0.3s						
ARSA				⇑*i*Pg	**Pg**	**18 34 02.0**	**-1.1**
	comp=Z,5.5nm,0.3s						
ARSA				⇓*e*Sg	**Sg**	**18 34 59.0**	**-0.3**
	comp=Z,33nm,0.5s						
ARSA	**Arzberg**	**4.33**	**185**	Pg	**Pg**	**18 34 02.0**	**-1.1**
	comp=Z,5.5nm,0.3s						
ARSA				Sg	**Sg**	**18 34 59.0**	**-0.3**
	comp=Z,33nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PN	**Pn**	**18 33 49.1**	**+1.8**
CRVS				*e*PG	**Pg**	**18 34 02.9**	**-0.3**
CRVS				*e*SG	**Sg**	**18 35 00.1**	**+0.6**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**18 33 53.1**	**+0.3**
KOLS				*e*PG	**Pg**	**18 34 10.3**	**-0.7**
KOLS				*e*SG	**Sg**	**18 35 12.6**	**+0.1**
KBA	**Koelnbreinsper**	**4.84**	**203**	⇑*i*Pn	**Pn**	**18 33 55.0**	**+0.9**
	comp=Z,7.9nm,0.4s						
KBA				⇑*e*Sg	**Sg**	**18 35 18.8**	**+3.2**
	comp=Z,9.1nm,0.3s						
OBKA	**Obir**	**5.16**	**192**	⇑*i*Pn	**Pn**	**18 33 60.0**	**+1.4**
	comp=Z,1.6nm,0.3s						
OBKA				⇓*e*Pg	**Pg**	**18 34 18.2**	**-0.8**
	comp=Z,3.8nm,0.5s						
OBKA				⇑*e*Sg	**Sg**	**18 35 27.0**	**+1.2**
	comp=Z,7.3nm,0.5s						
OBKA	**Obir**	**5.16**	**192**	⇑*i*Pn	**Pn**	**18 33 60.0**	**+1.4**
	comp=Z,1.6nm,0.3s						
OBKA				⇓*e*Pg	**Pg**	**18 34 18.2**	**-0.8**
OBKA				*e*Sg	**Sg**	**18 35 27.0**	**+1.2**
WATA	**Walderalm**	**5.16**	**217**	⇓*i*Pn	**Pn**	**18 33 60.0**	**+1.4**
	comp=Z,3.8nm,0.4s						
WATA				⇓*e*Sg	**Sg**	**18 35 27.5**	**+1.6**
	comp=Z,5.6nm,0.4s						
WTTA	**Wattenberg**	**5.20**	**216**	⇑*i*Pn	**Pn**	**18 34 00.4**	**+1.3**
	comp=Z,3.4nm,0.5s						
WTTA				⇓*e*Sg	**Sg**	**18 35 24.7**	**-2.5**
	comp=Z,13nm,0.6s						
MOTA	**Moosalm**	**5.34**	**220**	⇓*i*Pn	**Pn**	**18 34 01.4**	**+0.4**
	comp=Z,3.0nm,0.3s						
MOTA				⇑*e*Sg	**Sg**	**18 35 33.1**	**+1.5**
	comp=Z,7.5nm,0.5s						
SQTA	**Sankt Quirin**	**5.40**	**218**	⇓*i*Pn	**Pn**	**18 34 03.2**	**+1.4**
	comp=Z,2.5nm,0.3s						
SQTA				⇑*e*Sg	**Sg**	**18 35 31.2**	**-2.3**
	comp=Z,2.5nm,0.3s						
DAVA	**Damuels**	**5.91**	**226**	⇓*e*Pn	**Pn**	**18 34 08.6**	**-0.1**
	comp=Z,2.5nm,0.3s						
DAVA				⇑*e*Sg	**Sg**	**18 35 49.4**	**-0.3**
	comp=Z,17nm,0.7s						
DAVOX	**Davos**	**6.29**	**223**	Pn	**Pn**	**18 34 12.6**	**-1.5**
	baz=342,slow=20,SNR=1.5						
DAVOX				Lg		18 36 02.5	
	baz=27,slow=23,SNR=3.7						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**18 34 40.6**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=280,slow=12,SNR=6.9						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**18 34 46.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**18 35 21.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=6.0						
FINES				Sn	**Sn**	**18 37 24.8**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=225,slow=21,SNR=5.7						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**Pn**	**18 36 54.5**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=5.3						

BJI 06 18:39:36.5, 2438N×12026E, h23km, ML3.8, Ms3.8, Msz3.6, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**1.62**	**291**	P	Pn	18 40 02.8	-0.8
QZH				PG	Pn	18 40 04.9	+1.3
QZH				S	Sn	18 40 21.7	-2.0
QZH				SG	Sn	18 40 26.2	+2.5
QZH				Smax			
	comp=N,2μm,0.2s						
QZH				Smax			
	comp=E,1μm,0.5s						
NJ2	**Nanjing**	**7.74**	**351**	*e*P	Pn	18 41 35.3	+7.5
NJ

comp=Z,376nm,20.8s,baz=19,slow=35
CTAO Charters Tower 14.46 200 *e*P **Pn 19 27 38.7 +4.8**
CTAO pmax pmax
comp=Z,43nm,1.8s
CTAO Charters Tower 14.46 200 *e*P **Pn 19 27 38.7 +4.9**
comp=Z,42nm,1.8s
KAKA Kakadu 19.68 250 *e*P **Pn 19 28 36.6 -2.4**
comp=Z,32nm,0.9s
GUMO Guam 20.90 342 LR LR 19 35 26.3
comp=Z,117nm,19.2s,MS3.3,baz=344,slow=32
WRAB Tennant Creek 21.30 229 *e*P **P 19 28 55.0 +0.2**
WB2 Warramunga Arr 21.30 229 *e*P **P 19 28 54.9 0.0**
WB2 *e*S **S 19 32 49.6 +0.5**
DZM Mont Dzumac 21.31 138 P **P 19 28 56.0 +1.1**
comp=Z,11nm,1.0s,mb4.1,baz=356,slow=16,SNR=5.7
DZM LR LR 19 35 58.0
comp=Z,658nm,19.5s,MS4.0,baz=298,slow=33
WRA Warramunga Arr 21.31 229 P **P 19 28 54.8 -0.2**
comp=Z,11nm,0.8s,mb4.2,baz=39,slow=9.0,SNR=45
WRA S **S 19 32 48.5 -0.8**
comp=Z,0.9nm,1.0s,baz=58,slow=19,SNR=5.0
AS31 Alice Springs 24.00 223 *e*P **P 19 29 22.6 +0.1**
ASAR Alice Springs 24.00 223 P **P 19 29 22.6 +0.1**
comp=Z,5.4nm,0.7s,mb4.1,baz=66,slow=8.9,SNR=53
ASAR LR LR 19 39 36.4
comp=Z,182nm,19.4s,MS3.6,baz=54,slow=39
ASPA Alice Springs 24.00 223 *e*P **P 19 29 22.6 +0.1**
STKA Stephens Creek 26.92 199 *e*P **P 19 29 49.5 +0.5**
comp=Z,10.0nm,1.0s,mb4.3
STKA *e* pP 19 29 59.8 -0.5
STKA Stephens Creek 26.92 199 P **P 19 29 49.5 +0.5**
comp=Z,16nm,1.1s,mb4.5,baz=12,slow=12,SNR=13
STKA LR LR 19 39 02.8
comp=Z,229nm,21.4s,MS3.7,baz=22,slow=33
FITZ Fitzroy Crossi 27.65 243 *e*P **P 19 29 55.8 +0.3**
comp=Z,19nm,1.0s,mb4.7
FITZ *e* pP 19 30 03.8 -3.1
FITZ Fitzroy Crossi 27.65 243 P **P 19 29 54.9 -0.6**
comp=Z,9.0nm,0.7s,mb4.5,baz=55,slow=10,SNR=35
FITZ LR LR 19 42 09.4
comp=Z,139nm,18.4s,MS3.6,baz=67,slow=39
MBWA Marble Bar 33.94 241 *e*P **P 19 30 59.2 +8.3**
CBIJ Chichi jima 34.49 345 LR LR 19 43 34.1
comp=Z,187nm,19.7s,MS3.8,baz=131,slow=34
RAO Raoul Island 36.80 132 LR LR 19 43 44.4
comp=Z,153nm,21.2s,MS3.8,baz=134,slow=32
AFI Afiamalu 36.99 105 LR LR 19 45 41.1
comp=Z,82nm,18.3s,MS3.5,baz=249,slow=35
URZ Urewera 39.35 147 P **P 19 31 36.4 -0.7**
comp=Z,4.1nm,0.7s,mb4.3,baz=329,slow=5.9,SNR=3.6
URZ LR LR 19 44 34.2
comp=Z,192nm,21.4s,MS3.9,baz=189,slow=31
RPZ Rata Peaks 40.97 158 LR LR 19 45 48.5
comp=Z,475nm,18.7s,MS4.4,baz=117,slow=32
YHNB Yeheng 42.53 318 *e*P **P 19 32 02.8 -0.4**
comp=Z,117nm,1.4s,mb5.4
MJAR Matsushiro Arr 44.48 345 P **P 19 32 24.0 +5.1**
comp=Z,2.0nm,1.0s,mb3.8,baz=169,slow=7.6,SNR=4.2
MJAR PcP PcP 19 34 01.2 -0.6
comp=Z,3.5nm,1.1s,baz=189,slow=4.4,SNR=5.2
MJAR LR LR 19 47 48.5
comp=Z,168nm,21.6s,MS3.9,baz=180,slow=32
MJAR Matsushiro Arr 44.48 345 P **P 19 32 24.0 +5.1**
MJAR 19 34 01.3
KSRS Korea Array 48.83 335 PcP PcP 19 34 17.9 +0.7
comp=Z,3.4nm,0.8s,baz=192,slow=2.6,SNR=6.5
KSRS LR LR 19 50 25.5
comp=Z,81nm,19.6s,MS3.7,baz=250,slow=32
NJ2 Nanjing 49.24 323 *e*P **P 19 32 57.4 +1.3**
NJ2 AP pP 19 33 12.1 +4.1
NJ2 XP sP 19 33 17.6 +4.7
NJ2 S **S 19 39 59.0 0.0**
NJ2 AMB AMB
comp=Z,70nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,350nm,5.0s
NJ2 LR LR
comp=N,560nm,24.0s,MS4.6
NJ2 LR LR
comp=E,510nm,23.1s,MS4.6
NJ2 LR LR
comp=Z,260nm,21.2s,MS4.2
KMI Kunming 56.74 306 P **P 19 33 51.8 +0.5**
KMI AP pP 19 34 01.8 -1.6
KMI XP sP 19 34 06.2 -2.1
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
KMI Kunming 56.74 306 P **P 19 33 51.8 +0.5**
KMI *SP sP 19 34 06.2 -2.1
KMI pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
KMI MLR MLR
comp=Z,90nm,29.3s,MS3.7
KMI Kunming 56.74 306 P **P 19 33 51.8 +0.5**
comp=Z,8.0nm,1.3s,mb4.6
KMI pP pP 19 34 01.8 -1.6
KMI sP sP 19 34 06.2 -2.1
KMI PP PP 19 36 10.3 +13
KMI LR LR
comp=Z,90nm,29.3s,MS3.7
XAN Xi'an 56.84 318 P **P 19 33 51.9 -0.1**
XAN AP pP 19 33 59.9 -4.3
XAN AMB AMB
comp=Z,18nm,1.4s,mb4.9
PPT Papeete 58.61 107 *e*LR LR 19 51 32.4
comp=Z,47nm,23.8s
TBI Tubuai 59.21 113 *e*LR LR 19 51 49.2
comp=Z,228nm,36.8s
PET Petropavlovsk 59.54 5⇑ *e*P **P 19 34 09.0 -1.9**
PET pmax pmax
comp=Z,39nm,1.2s,mb5.3
LZH Lanzhou 61.42 317 *e*P **P 19 34 24.5 +0.7**
LZH AP pP 19 34 35.5 -0.5
LZH XP sP 19 34 42.0 +1.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.3
LZH Lanzhou 61.42 317 *e*P **P 19 34 24.5 +0.7**
comp=Z,25nm,1.0s,mb5.3
LZH pP pP 19 34 35.5 -0.5
LZH sP sP 19 34 42.0 +1.2
HIA Hailar 61.94 337 *e*P **P 19 34 26.7 -0.6**
HIA pmax pmax
comp=Z,24nm,1.3s
HIA Hailar 61.94 337 *e*P **P 19 34 26.7 -0.5**
comp=Z,24nm,1.3s,mb5.2
GTA Gaotai 65.89 318 *e*P **P 19 34 53.9 +0.6**
GTA AP pP 19 35 02.8 -2.8
GTA XP sP 19 35 07.4 -3.0
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.7
ULN Ulaanbaatar 66.63 329 *e*P **P 19 34 58.8 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ULN Ulaanbaatar 66.63 329 *e*P **P 19 34 58.8 +0.8**
comp=Z,6.9nm,1.1s,mb4.6
SONM Songino Array 66.95 329 P **P 19 35 00.5 +0.5**
comp=Z,3.4nm,0.6s,mb4.5,baz=147,slow=5.5,SNR=28
SONM LR LR 19 59 47.6
comp=Z,93nm,20.9s,MS4.0,baz=6.1,slow=32
LSA Lhasa 68.00 305 P **P 19 35 08.0 +1.4**
LSA Lhasa 68.00 305 *e*P **P 19 35 07.8 +1.2**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSA Lhasa 68.00 305 *e*P **P 19 35 07.8 +1.2**
comp=Z,6.0nm,0.8s,mb4.7
SEY Seymchan 69.16 0⇓ *e*P **P 19 35 12.4 -1.5**
ZAK Zakamensk 70.15 330 *e*P **P 19 35 19.4 -0.5**
ZAK *e* 19 35 41.3
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
YAK Yakutsk 70.28 349⇑ *e*P **P 19 35 20.5 -0.3**
YAK pmax pmax
comp=Z,35nm,1.7s,mb5.0
BOK Bokaro 70.54 298 *e*P **P 19 35 22.3 0.0**
BOK AMb AMB 19 35 26.2
comp=Z,17nm,0.9s,mb5.0
BOD Bodaibo 70.80 340 *e*P **P 19 35 17.9 -6.1**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VNDA Vanda 71.27 178 P **P 19 35 25.6 -1.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=323,slow=6.7,SNR=10
VNDA LR LR 20 00 53.5
comp=Z,56nm,19.6s,MS3.8,baz=56,slow=31
VIS Vishakhapatnam 71.30 291 *e*P **P 19 35 26.0 -0.9**
VIS AMb AMB 19 35 34.1
comp=Z,16nm,0.9s,mb5.0

GUN Gumba 71.75 302 *e*P **P 19 35 30.1 +0.4**
comp=Z,9.7nm,0.4s,mb5.1
PKI Pulchoki 72.05 302 *e*P **P 19 35 31.2 -0.3**
KKN Kakani 72.22 302 *e*P **P 19 35 32.5 0.0**
comp=Z,28nm,1.1s,mb5.1
DMN Daman 72.32 302 *e*P **P 19 35 33.3 +0.2**
comp=Z,24nm,0.8s,mb5.2
GKN Gorkha 72.83 302 *e*P **P 19 35 35.9 -0.2**
comp=Z,69nm,1.2s,mb5.5
KOLN Koldanda 73.64 301 *e*P **P 19 35 40.9 0.0**
comp=Z,45nm,1.1s,mb5.3
BILL Bilibino 75.03 6⇑ *e*P **P 19 35 48.9 -0.1**
BILL pmax pmax
comp=Z,28nm,1.1s,mb5.1
BILL Bilibino 75.03 6 *e*P **P 19 35 49.4 +0.4**
comp=Z,23nm,1.0s,mb5.0
TRD Trivandrum 75.65 280 *e*P **P 19 35 53.4 +0.9**
TRD AMb AMB 19 35 56.0
comp=Z,71nm,1.2s,mb5.5
WMQ Urumqi 75.98 318 P **P 19 35 55.0 +0.6**
BHPL Bhopal 77.92 295 *e*P **P 19 36 05.8 +0.4**
BHPL AMb AMB 19 36 06.7
comp=Z,10nm,1.0s,mb4.7
TIXI Tiksi 79.31 353⇑ *e*P **P 19 36 11.8 -1.2**
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KAD Karad 79.77 289 *e*P **P 19 36 15.7 +0.2**
KAD AMb AMB 19 36 17.6
comp=Z,31nm,1.1s,mb5.1
POO Poona 80.29 290 *ex* x 19 36 49.7
POO AMb AMB 19 36 54.3
comp=Z,29nm,1.4s,mb5.0
MK31 Makanchi Array 80.61 319 *e*P **P 19 36 19.8 -0.2**
MKAR Makanchi Array 80.61 319 P **P 19 36 20.1 0.0**
comp=Z,8.2nm,1.1s,mb4.6,baz=108,slow=6.5,SNR=22
MKAR PP PP 19 39 20.5 -3.5
comp=Z,1.9nm,1.1s,baz=150,slow=5.5,SNR=4.3
MKAR LR LR 20 13 12.1
comp=Z,83nm,18.7s,MS4.1,baz=151,slow=36
MKAR Makanchi Array 80.61 319 *i*P **P 19 36 20.1 +0.1**
MKAR pmax pmax
comp=Z,8.0nm,1.1s
AJM Ajmer 81.07 298 *e*P **P 19 36 21.5 -0.9**
AJM AMb AMB 19 36 24.6
comp=Z,12nm,1.9s,mb4.5
ZAL Zalesovo 81.72 327 P **P 19 36 24.5 -1.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=356,slow=5.5,SNR=11
ZAL LR LR 20 11 37.0
comp=Z,138nm,18.7s,MS4.3,baz=262,slow=35
MCK McKinley 82.90 23 *e*P **P 19 36 31.4 -0.7**
MCK pmax pmax
comp=Z,17nm,1.0s,mb5.0
MCK McKinley 82.90 23 *e*P **P 19 36 31.4 -0.7**
comp=Z,36nm,1.0s,mb5.3
NVS Novosibirsk 82.91 327 *e*P **P 19 36 30.8 -1.3**
COLA College 83.88 22 *e*P **P 19 36 36.4 -0.7**
COLA pmax pmax
comp=Z,12nm,0.8s,mb5.1
COLA College 83.88 22 *e*P **P 19 36 36.4 -0.7**
comp=Z,12nm,0.8s,mb5.1
TKM2 Tokmak 2 84.03 314 P **P 19 36 38.7 +0.8**
SNR=6.1
KBK Karagaybulak 84.43 314 P **P 19 36 40.9 +1.0**
SNR=6.3
UCH Uchtor 84.64 313 P **P 19 36 42.8 +1.9**
SNR=15
CHMS Chumysh 84.65 314 P **P 19 36 41.6 +0.6**
SNR=7.1
AAK Ala-Archa 84.75 314 P **P 19 36 42.7 +1.2**
SNR=9.7
AAK Ala-Archa 84.75 314 *e*P **P 19 36 41.4 -0.1**
AAK pmax pmax
comp=Z,12nm,1.1s,mb4.9
AAK Ala-Archa 84.75 314 *e*P **P 19 36 41.4 -0.1**
comp=Z,12nm,1.1s,mb4.9
USP Ospenovka 84.89 314 P **P 19 36 43.1 +0.8**
SNR=13
AML Almayashu 85.21 313 P **P 19 36 45.6 +1.7**
SNR=14
EKS2 Erkin-Say 85.27 314 P **P 19 36 45.5 +1.4**
SNR=13
EGAK Eagle 86.40 23 *e*P **P 19 36 50.4 +0.6**
comp=Z,19nm,1.0s,mb5.3
DAWY Dawson 86.84 24 *e*P **P 19 36 53.0 +1.1**
CHKZ Chkalovo 89.67 324 *e*P **P 19 37 03.5 -1.8**
CHKZ pmax pmax
comp=Z,7.0nm,1.6s,mb4.7
CHKZ Chkalovo 89.67 324 *e*P **P 19 37 03.5 -1.8**
comp=Z,7.5nm,1.6s,mb4.8
BRVK Borovoye 89.75 323 *e*P **P 19 37 04.6 -1.1**
ZRNK Zerenda 90.49 323 *e*P **P 19 37 07.5 -1.7**
YKA Yellowknife Ar 97.52 28 P **P 19 37 41.8 +0.5**
comp=Z,1.9nm,0.7s,mb4.8,baz=267,slow=4.6,SNR=7.7
YKA LR LR 20 19 02.4
comp=Z,44nm,20.7s,MS3.9,baz=160,slow=34
PDAR Pinedale Array 100.99 48 P Pdif 19 37 57.6 +0.7
comp=Z,0.3nm,0.6s,baz=335,slow=4.0,SNR=3.5
BRG Berggiesshubel 123.34 329 *e*(P) PKPdf 19 43 01.6 -2.7
comp=Z,5.9nm,1.5s
BRG *e* 19 43 07.2
comp=Z,6.8nm,1.5s
KHC Kasperske Hory 124.56 328 *e*PKPdf PKPdf 19 43 06.0 -0.5
GERES GERESS Array B 124.66 327 PKP PKPdf 19 43 07.5 +0.7
comp=Z,0.9nm,0.5s,baz=50,slow=2.1,SNR=10.0
KEST Kesra 134.59 315 PKP PKPdf 19 43 27.6 +2.0
comp=Z,0.9nm,0.8s,baz=62,slow=12,SNR=4.0
LPAZ La Paz 134.87 120 PKP PKPdf 19 43 28.8 +2.7
comp=Z,1.0nm,0.7s,baz=212,slow=3.1,SNR=4.9
SDV Santo Domingo 138.31 84 *e*PKPdf PKPdf 19 43 34.1 +1.6
TOA0 Torodi Ar. Sit 149.40 285 *e*PKPbc PKPbc 19 43 57.0 +0.8
TORD Torodi Ar. Bea 149.40 285 PKPbc PKPbc 19 43 56.6 +0.4
comp=Z,9.4nm,0.7s,baz=86,slow=2.4,SNR=70

*NEIC **06** 19:34:41.5±0.6, 5.44S×151.33E, h10km, mb4.5/3, Error ellipse: s-maj=20.0km s-min=9.8km az=107.0*
*ISCJB **06** 19:34:46.8±2.5, 5.49S±009×151.1E±0.1, h56km±19km, mb4.1/11, MS3.4/2, Error ellipse: s-maj=24.9km s-min=12.8km az=35.3*
*MOS **06** 19:34:49.8±1.2, 5.48S×150.90E, h38km, mb4.5/3, Error ellipse: s-maj=17.6km s-min=10.5km az=74.4*
*IDC **06** 19:34:51.2±3.0, 5.60S×151.00E, h76km±24km, mb3.8/9, mb1 4.0/10, mb1mx3.9/14, mbtmp3.9/10, MS3.4/4, Ms1 3.4/4, ms1mx2.8/19, Error ellipse: s-maj=29.1km s-min=14.2km az=117.0*
ISC 06 19:34:51.0±2.0, 5.54S×008×1510E±01, h77km±15km, n36, σ1§06/34, mb4.0/11, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	h	m	s	Res ISC
PMG	**Port Moresby**	**5.40**	**224**	P			**Pn**	**19 36 08.9**				**-0.1**
	14nm,0.3s,baz=27,slow=5.8,SNR=59											
PMG				S			**Sn**	**19 37 09.7**				**-0.2**
	16nm,0.3s,baz=124,slow=11,SNR=3.8											
CTA	**Charters Tower**	**15.18**	**197**	P			**Pn**	**19 38 23.8**				**+2.8**
	0.2nm,0.3s,baz=23,slow=12,SNR=4.9											
CTA				LR		LR	LR	19 43 45.6				
	comp=Z,105nm,19.3s,baz=269,slow=35											
CTA	**Charters Tower**	**15.18**	**197**	P			**Pn**	**19 38 23.8**				**+2.8**
CTA				LR		LR	LR	19 43 45.6				
CTAO	**Charters Tower**	**15.18**	**197**	*e*P			**Pn**	**19 38 20.0**				**-1.0**
KAKA	**Kakadu**	**19.64**	**247**	*e*P			**Pn**	**19 39 14.0**				**-1.5**
	10nm,0.6s											
GUMO	**Guam**	**19.95**	**342**	LR		LR	LR	19 45 33.7				
	comp=Z,74nm,19.3s,baz=298,slow=32											
WRAB	**Tennant Creek**	**21.60**	**227**	*e*P			**P**	**19 39 34.2**				**-0.4**
WB2	**Warramunga Arr**	**21.61**	**227**	*e*P			**P**	**19 39 34.3**				**-0.3**
WB2				*e*S			**S**	**19 43 27.4**				**-2.1**
WRA	**Warramunga Arr**	**21.62**	**227**	P			**P**	**19 39 34.8**				**+0.1**
	5.8nm,0.5s,mb4.1,baz=51,slow=10.0,SNR=33											
WRA				S			**S**	**19 43 30.8**				**+1.2**
	3.7nm,1.1s,baz=57,slow=18,SNR=6.9											
DZM	**Mont Dzumac**	**22.22**	**139**	LR		LR	LR	19 45 47.2				
	comp=Z,132nm,18.7s,baz=275,slow=30											
AS31	**Alice Springs**	**24.40**	**221**	*e*P			**P**	**19 40 03.0**				**+0.9**
ASAR	**Alice Springs**	**24.41**	**221**	P			**P**	**19 40 02.7**				**+0.6**
	1.6nm,0.5s,mb3.6,baz=56,slow=8.9,SNR=42											
ASAR				LR		LR	LR	19 48 26.8				
	comp=Z,111nm,20.7s,baz=48,slow=34											
ASAR	**Alice Springs**	**24.41**	**221**	P			**P**	**19 40 02.7**				**+0.6**
ASAR				LR		LR	LR	19 48 26.8				
ASPA	**Alice Springs**	**24.41**	**221**	*e*P			**P**	**19 40 03.0**				**+0.8**
STKA	**Stephens Creek**	**27.64**	**197**	P			**P**	**19 40 31.3**				**-0.1**
	3.1nm,0.9s,mb3.8,baz=52,slow=12,SNR=3.2											
STKA	**Stephens Creek**	**27.64**	**197**	P			**P**	**19 40 31.3**				**-0.1**

FITZ Fitzroy Crossi 27.73 241⇑ *i*P **P 19 40 32.5 +0.4**
7.8nm,0.6s,mb4.4
FITZ Fitzroy Crossi 27.73 241 P **P 19 40 32.6 +0.5**
1.8nm,0.3s,mb4.0,baz=78,slow=7.8,SNR=20
MBWA Marble Bar 34.04 240 *e*P **P 19 41 28.4 +0.7**
HIA Hailar 60.98 337 *e*P **P 19 44 56.8 +0.6**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 60.98 337 *e*P **P 19 44 56.8 +0.6**
comp=Z,2.8nm,0.6s,mb4.5
SONM Songino Array 66.00 329 P **P 19 45 30.9 +1.6**
comp=Z,1.3nm,0.7s,mb3.9,baz=147,slow=4.9,SNR=12
LSA Lhasa 67.18 305 *e*P **P 19 45 39.2 +2.5**
ZAK Zakamensk 69.19 330 *e*P **P 19 45 47.6 -1.8**
ZAK *e* pP 19 46 08.3 -1.3
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
VNDA Vanda 72.17 178 P **P 19 46 07.3 -0.2**
comp=Z,0.8nm,0.6s,mb3.7,baz=317,slow=4.9,SNR=6.0
MKAR Makanchi Array 79.70 319 P **P 19 46 50.9 +0.7**
comp=Z,0.6nm,0.6s,mb3.6,baz=99,slow=7.1,SNR=7.3
MKAR Makanchi Array 79.70 319 P **P 19 46 50.9 +0.6**
ZAL Zalesovo 80.78 327 P **P 19 46 55.8 -0.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=349,slow=6.6,SNR=3.9
MAW Mawson 84.20 203 P **P 19 47 13.7 -0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=78,slow=12,SNR=5.2
QSPA South Pole Qui 84.43 180 *e*P **P 19 47 14.1 -0.9**
CHKZ Chkalovo 88.74 324 *e*P **P 19 47 34.6 -1.4**
BRVK Borovoye 88.82 323 *e*P **P 19 47 33.8 -2.6**
ZRNK Zerenda 89.56 323 *e*P **P 19 47 40.1 +0.2**
GERES GERESS Array B 123.72 327 PKP PKPdf 19 53 39.7 0.0
comp=Z,0.6nm,0.7s,baz=93,slow=2.9,SNR=5.5
LPAZ La Paz 135.64 120 PKP PKPdf 19 54 03.5 +1.1
comp=Z,0.8nm,0.8s,baz=291,slow=4.0,SNR=4.9
TORD Torodi Ar. Bea 148.80 286 PKPbc PKPbc 19 54 30.9 +1.3
comp=Z,5.7nm,0.7s,baz=96,slow=2.7,SNR=56

CASC 06 19:36:11.7±2.8, 1284N×8888W, h61km±75km, MD3.5, ML3.3, 1C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	h	m	s	Res ISC
SNVI	**San Vicente**	**0.77**	**3**	⇓ *e*P		x		19 36 27.4				
SNVI				*e*S		x		19 36 38.5				
LFRS	**El Faro**	**0.80**	**347**	⇓ *i*P		x		19 36 27.8				
LFRS				*e*S		x		19 36 41.5				
LCBS	**La Ceiba**	**0.81**	**353**	⇓ *e*P		x		19 36 27.8				
LCBS				*e*S		x		19 36 38.6				
VSM	**San Miguel**	**0.83**	**45**	*e*S		x		19 36 41.2				
BLLM	**Bellamira**	**0.87**	**46**	⇓ *e*P		x		19 36 29.3				
BLLM				*e*S		x		19 36 41.3				
LBRS	**Las Brisas**	**0.91**	**350**	*e*P		x		19 36 29.1				
LBRS				*e*S		x		19 36 42.5				
SNET	**Serv Nac Est T**	**0.91**	**338**	⇓ *e*P		x		19 36 28.7				
SNET				*i*				19 36 38.9				
	comp=Z,6μm,0.2s											
LFU	**La Fuente**	**0.93**	**346**	*e*P		x		19 36 29.4				
LFU				*e*S		x		19 36 42.0				
BOQS	**Boqueron**	**0.97**	**336**⇑	*e*P		x		19 36 30.4				
BOQS				*e*S		x		19 36 42.5				
CNCH	**Conchagua**	**1.11**	**67**	⇓ *e*P		x		19 36 33.0				
CNCH				*e*S		x		19 36 47.7				
SBLS	**San Blas**	**1.23**	**324**	*e*P		x		19 36 33.9				
SBLS				*e*S		x		19 36 48.9				
RBDL	**Robledal**	**1.49**	**328**	*e*P		x		19 36 36.8				
RBDL				*e*S		x		19 36 54.2				
MIRN	**Miramar**	**2.16**	**100**	*e*P		Pn		19 36 45.9				+0.7
MIRN				*e*S		Sn		19 37 10.4				-0.5
MIRN				*i*				19 37 13.7				
	comp=Z,137nm,0.2s											
CNGN	**Cerro Negro**	**2.16**	**99**	*e*P		Pn		19 36 44.6				-0.7
CNGN				*e*S		Sn		19 37 10.3				-0.7
MOMJ	**Momotombo**	**2.33**	**100**	*e*P		Pn		19 36 47.4				-0.2
MOMJ				*e*S		Sn		19 37 15.6				+0.5
COPN	**Copaltepe**	**2.33**	**106**	*e*P		Pn		19 36 49.2				+1.5
COPN				*e*S		Sn		19 37 15.5				+0.3
COPN				*i*				19 37 17.1				
	comp=Z,82nm,0.3s											
APYN	**Apoyeque**	**2.54**	**103**	*e*P		Pn		19 36 51.7				+1.1
MGAN	**Managua**	**2.66**	**105**	*e*S		Sn		19 37 23.3				0.0
MGAN				*i*				19 37 24.0				
	comp=N,85nm,0.3s											

IDC 06 20:02:16.4±2.9, 611S×151.44E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=73.5km s-min=46.7km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	h	m	s	Res ISC
WRA	**Warramunga Arr**	**21.56**	**229**	P			P	20 07 07.8				+0.4
	0.7nm,0.6s,baz=54,slow=11,SNR=9.7											
ASAR	**Alice Springs**	**24.27**	**222**	P			P	20 07 34.8				-0.4
	0.4nm,0.5s,baz=57,slow=9.1,SNR=6.5											
STKA	**Stephens Creek**	**27.24**	**199**	P			P	20 08 02.6				+0.6
	2.4nm,0.8s,baz=343,slow=13,SNR=3.5											
FITZ	**Fitzroy Crossi**	**27.85**	**242**	P			P	20 08 08.2				+0.7
	0.7nm,0.6s,baz=90,slow=12,SNR=4.9											
TORD	**Torodi Ar. Bea**	**149.38**	**285**	PKPbc			PKPbc	20 22 07.9				+0.7
	0.7nm,0.6s,baz=85,slow=2.3,SNR=6.8											

*IDC **06** 20:03:56.7±3.3, 9.06N×84.62W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/16, mbtmp3.8/4, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=102.2km s-min=37.3km az=23.0*
*ISCJB **06** 20:03:57.6±1.7, 9.04N±008×84.96W±006, h18km±9km, mb3.6/4, MS3.5/2, Error ellipse: s-maj=15.5km s-min=6.2km az=57.7*
*CASC **06** 20:03:58.5±2.3, 9.05N×85.02W, h34km±17km, MD4.1*
ISC 06 20:03:58.2±1.5, 910N±007×8492W±005, h13km±7km, n29, σ1§06/28, mb3.6/4, MS3.5/2, 6C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	h	m	s	Res ISC
CAO	**Cobano**	**0.62**	**343**	⇓	*e*P		**Pg**	**20 04 10.1**				**-0.2**
JCR	**Jicaral**	**0.77**	**346**	⇓	*e*P		**Pg**	**20 04 12.5**				**-0.6**
JCR					*e*S		**Sg**	**20 04 26.3**				**+3.2**
EPA	**Esparza**	**0.94**	**20**		*e*P		**Pg**	**20 04 15.8**				**-0.5**
CGA2	**Cerro Gallo 2**	**1.02**	**26**	⇑	*e*P		**Pb**	**20 04 17.7**				**+0.1**
PRS1	**Puriscal**	**1.07**	**34**	⇑	*e*P		**Pb**	**20 04 16.8**				**-1.6**
LAJ	**Bijagual**	**1.10**	**46**	⇓	*i*P		**Pb**	**20 04 12.5**				**-6.4**
LCR2	**La Lucha 2**	**1.11**	**55**	⇓	*e*P		**Pb**	**20 04 19.4**				**+0.2**
SJS	**Escuela Geolog**	**1.20**	**46**		*e*P		**Pn**	**20 04 21.4**				**+0.8**
OCM	**Ochomogo**	**1.23**	**50**		*e*P		**Pn**	**20 04 20.9**				**-0.2**
OCM					*e*S		**Sb**	**20 04 37.4**				**+0.2**
VCR	**Vista de Mar**	**1.24**	**326**		*e*P		**Pn**	**20 04 18.5**				**-2.6**
POA2	**Poas 2**	**1.26**	**32**		*e*P		**Pn**	**20 04 22.1**				**+0.7**
IRZ2	**Volcan Irazu 2**	**1.33**	**49**		*e*P		**Pn**	**20 04 23.3**				**+0.9**
VACR	**Volcan Arenal**	**1.39**	**10**		*e*P		**Pn**	**20 04 23.1**				**-0.1**
VTU	**Volcan Turrial**	**1.47**	**51**		*e*P		**Pn**	**20 04 26.0**				**+1.7**
LIM1	**Limonal**	**1.62**	**348**	⇑	*e*P		**Pn**	**20 04 25.4**				**-1.1**
LIM1					*e*S		**Sn**	**20 04 46.3**				**-0.9**
ACR	**Cerro Adams**	**1.79**	**104**		*e*P		**Pn**	**20 04 28.1**				**-0.6**
ACR					*e*S		**Sn**	**20 04 50.8**				**-0.5**
CRZC	**La Cruz**	**1.96**	**340**	⇑	*e*P		**Pn**	**20 04 30.6**				**-0.5**
LIO	**Limon**	**2.07**	**64**	⇑	*e*P		**Pn**	**20 04 34.0**				**+1.4**
CTCR	**Cotoan**	**2.15**	**95**		*e*P		**Pn**	**20 04 33.7**				**+0.1**
CTCR					*e*S		**Sn**	**20 04 58.9**				**-1.2**
CMIG	**Matias Romero**	**12.54**	**310**	LR		LR	20 11 04.2					
	comp=Z,49nm,20.3s,baz=23,slow=33											
ATAH	**Atahualpa**	**17.27**	**158**	LR		LR	20 13 49.0					
	comp=Z,193nm,19.8s,baz=219,slow=34											
TKL	**Tuckaleechee C**	**26.46**	**2**	LR		LR	20 19 33.7					
	comp=Z,95nm,21.2s,MS3.3,baz=197,slow=35											
TXAR	**Lajitas Array**	**26.73**	**321**	P			**P**	**20 09 40.5**				**+3.3**
	1.0nm,0.5s,mb3.6,baz=136,slow=10,SNR=14											
PDAR	**Pinedale Array**	**39.88**	**331**	P			**P**	**20 11 32.4**				**+0.8**
	0.3nm,0.6s,mb3.2,baz=158,slow=7.4,SNR=3.9											
NVAR	**Mina Array Bea**	**41.85**	**320**	P			**P**	**20 11 51.4**				**+3.6**

IDC 06 20:09:32.2±8.8, 623S×15159E, h59km±63km, mb3.6/3, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=90.6km s-min=54.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.41**	**234**	P	Pn	20 10 50.6	+0.4
	2.5nm,0.3s,baz=60,slow=8.6,SNR=18						
PMG				S	Sn	20 11 51.7	+0.6
	3.9nm,0.3s,baz=6.1,slow=7.4,SNR=6.6						
WRA	**Warramunga Arr**	**21.61**	**229**	P	P	20 14 17.1	-0.1
	1.6nm,0.8s,baz=56,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**24.29**	**223**	P	P	20 14 44.8	+0.9
	3.4nm,0.7s,baz=55,slow=8.9,SNR=35						
FITZ	**Fitzroy Crossi**	**27.93**	**243**	*e*P	P	20 15 22.8	+6.0
	6.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.93**	**243**	P	P	20 15 17.5	+0.7
	1.1nm,0.3s,baz=34,slow=15,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.56**	**285**	PKPbc	PKPbc	20 29 15.2	+0.4
	1.1nm,0.8s,baz=83,slow=2.8,SNR=11						

*IDC **06** 20:17:36.8±1.1, 2664N×12649E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/41, Error ellipse: s-maj=25.3km s-min=20.8km az=41.0*

*ISCJB **06** 20:17:38.2±1.5, 2663N±008×12632E±006, h20km±9km, mb3.5/5, Error ellipse: s-maj=14.0km s-min=9.3km az=175.1*

*JMA **06** 20:17:39.0±0.2, 2669N×12640E, h11km±4km, M3.2*

ISC 06 20:17:39.0±1.4, 2667N±008×12639E±005, h14km±7km, n13, σ0°73/17, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.49**	**134**	P	**Pg**	**20 17 48.7**	**0.0**
JKE				S	**Sg**	**20 17 55.4**	**+0.1**
JAGN	**Aguni-jima**	**0.77**	**96**	P	**Pg**	**20 17 53.4**	**-0.5**
JAGN				S	**Sg**	**20 18 04.1**	**+0.2**
NAH1	**Naha**	**1.25**	**112**	P	**Pn**	**20 18 02.1**	**0.0**
NAH1				*e*S	**Sb**	**20 18 18.6**	**+0.2**
JJT2	**Tamagusuku 2**	**1.33**	**113**	P	**Pn**	**20 18 03.4**	**+0.3**
JJT2				*e*S	**Sb**	**20 18 21.4**	**+0.9**
JIH	**Iheya**	**1.45**	**75**	*e*S	**Sn**	**20 18 24.8**	**+1.1**
JOW	**Kunigami**	**1.69**	**84**	Pn	**Pn**	**20 18 07.2**	**-1.0**
	4.2nm,0.3s,baz=297,slow=11,SNR=3.3						
JOW				Sn	**Sn**	**20 18 27.4**	**-2.1**
	18nm,0.3s,baz=147,slow=17,SNR=5.4						
JOW	**Kunigami**	**1.69**	**84**	P	**Pn**	**20 18 07.6**	**-0.5**
KSRS	**Korea Array**	**10.83**	**6**	LR	LR	20 24 39.7	
	comp=Z,50nm,18.9s,baz=190,slow=39						
SONM	**Songino Array**	**26.31**	**329**	P	**P**	**20 23 15.4**	**+1.3**
	1.7nm,1.0s,mb3.5,baz=151,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**40.02**	**312**	P	**P**	**20 25 13.1**	**-0.3**
	0.4nm,0.9s,mb3.1,baz=106,slow=10.0,SNR=2.1						
FITZ	**Fitzroy Crossi**	**44.51**	**181**	P	**P**	**20 25 49.8**	**-0.2**
	3.6nm,1.1s,mb4.1,baz=25,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**46.97**	**170**	P	**P**	**20 26 09.4**	**0.0**
	0.6nm,0.7s,mb3.6,baz=350,slow=8.6,SNR=5.4						
ASAR	**Alice Springs**	**50.56**	**171**	P	**P**	**20 26 36.6**	**-0.5**
	0.4nm,0.8s,mb3.4,baz=7.0,slow=11,SNR=4.4						

*NEIC **06** 20:17:53.1, 1563N×9646W, h16km, MD3.7(MEX), After MEX.*

MEX 06 20:17:53.1±0.8, 1563N×9645W, h20km±56km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.36**	**68**	*i* P	Pg	20 17 59.9	-0.9
HUIG				*i* S	Sg	20 18 04.2	-1.8
VHO	**Vista Hermosa**	**1.46**	**349**	*i* P	Pn	20 18 15.1	-3.2
VHO				*i* S	Sn	20 18 32.6	-4.1
OXX	**Oaxaca**	**1.46**	**350**	*i* P	Pn	20 18 16.7	-1.7
OXX				*i* S	Sn	20 18 33.8	-3.1
CMIG	**Matias Romero**	**2.09**	**46**	*e*P	Pn	20 18 23.7	-3.3
CMIG				*i* S	Sn	20 18 49.5	-2.9
UTMO	**Huajuapan**	**2.54**	**330**	*i* P	Pn	20 18 30.8	-2.4
UTMO				*i* S	Sn	20 19 01.5	-1.9

KRSC 06 20:21:33.3±1.5, 4962N×15694E, h10km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.99**	**19**	*e*P	Pn	20 22 21.3	+0.6
RUS				*e*S	Sn	20 22 56.0	-0.6
RUS	**Russkaya**	**2.99**	**19**	*e*P	Pn	20 22 21.3	+0.6
RUS				*e*S	Sn	20 22 56.0	-0.6
GRL	**Gorelyy**	**3.02**	**13**	P	Pn	20 22 22.2	+1.0
GRL				S	Sn	20 22 58.3	+0.9
GRL	**Gorelyy**	**3.02**	**13**	P	Pn	20 22 22.2	+1.0
GRL				S	Sn	20 22 58.3	+0.9
PET	**Petropavlovsk**	**3.57**	**17**	S	Sn	20 23 09.4	-1.6
PET	**Petropavlovsk**	**3.57**	**17**	S	Sn	20 23 09.4	-1.6
NLC	**Nalytchevo**	**3.86**	**22**	S	Sn	20 23 16.7	-1.4
NLC	**Nalytchevo**	**3.86**	**22**	S	Sn	20 23 16.7	-1.4
SPN	**Mys Shipunski**	**3.98**	**28**	P	Pn	20 22 36.1	+1.7
SPN				*e*S	Sn	20 23 21.6	+0.5
SPN	**Mys Shipunski**	**3.98**	**28**	P	Pn	20 22 36.1	+1.7
SPN				*e*S	Sn	20 23 21.6	+0.5
GNL	**Ganaly**	**4.13**	**8**	P	Pn	20 22 37.9	+1.5
GNL				S	Sn	20 23 25.6	+0.9
GNL	**Ganaly**	**4.13**	**8**	P	Pn	20 22 37.9	+1.5
GNL				S	Sn	20 23 25.6	+0.9
MKZ	**Mys Kozlova**	**5.76**	**29**	P	Pn	20 22 59.4	+0.6
MKZ	**Mys Kozlova**	**5.76**	**29**	P	Pn	20 22 59.4	+0.6
KBTR	**Krutoberegovo**	**7.49**	**26**	P	Pn	20 23 24.0	+1.4
KBTR	**Krutoberegovo**	**7.49**	**26**	P	Pn	20 23 24.0	+1.4

*NEIC **06** 20:35:21.2, 2752S×7160W, h13km, ML3.2(GUC), After GUC.*

GUC 06 20:35:21.2±0.9, 2752S×7160W, h13km±9km, MD3.7, ML3.2, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.82**	**57**	⇑*i* P	Pg	20 35 36.7	-0.4
CDCH				*i* S	Sg	20 35 47.3	-0.6
CPCH	**Copiapo**	**1.12**	**82**	⇓*i* P	Pb	20 35 40.9	-1.6
CPCH				*i* S	Sb	20 35 56.5	-0.5
CPCH				AML	AML	20 35 59.8	
	comp=E,1μm,0.1s						
CPCH	**Copiapo**	**1.12**	**82**	⇓*i* P	Pb	20 35 40.9	-1.6
CPCH				*i* S	Sb	20 35 56.5	-0.5
VACH	**Vallenar**	**1.29**	**145**	⇓*e* P	Pn	20 35 43.2	-1.6
VACH				*i* S	Sb	20 36 01.0	-0.7
TLL	**Tololo Astrono**	**2.73**	**165**	*e*P	Pn	20 36 06.5	+1.8
TLL				*i* S	Sn	20 36 40.5	+3.0
TLL				AML	AML	20 37 01.6	
	comp=E,91nm,0.7s						
TLL	**Tololo Astrono**	**2.73**	**165**	*e*P	Pn	20 36 06.5	+1.8
TLL				*i* S	Sn	20 36 40.5	+3.0

IDC 06 20:38:13.3±9.9, 2155S×17837W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.7/4, Error ellipse: s-maj=229.1km s-min=41.9km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.03**	**245**	P	P	20 45 25.4	+0.6
	0.8nm,0.5s,baz=101,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**43.96**	**258**	P	P	20 46 22.1	+0.1
	0.4nm,0.4s,baz=90,slow=7.3,SNR=9.8						
WB2	**Warramunga Arr**	**44.12**	**263**	*e*P	P	20 46 23.6	+0.2
WRA	**Warramunga Arr**	**44.13**	**263**	P	P	20 46 23.7	+0.3
	0.4nm,0.3s,baz=102,slow=8.6,SNR=36						
VNDA	**Vanda**	**56.84**	**185**	P	P	20 47 59.1	-0.5
	0.6nm,0.5s,baz=19,slow=8.4,SNR=6.7						

MOS 06 20:38:20.3±1.7, 4276N×4750E, h9km, mb3.7/1, Error ellipse: s-maj=15.8km s-min=11.3km az=134.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSR	**Manas**	**0.17**	**109**	*e*PG	Pg	20 38 25.0	+1.1
MNSR				*e*S	Sg	20 38 32.8	+6.5
MNSR				pmax	pmax		
	comp=Z,470nm,0.2s						
MAK	**Makhachkala**	**0.20**	**0**	*e*PG	Pg	20 38 26.5	+2.0
MAK				*i*		20 38 30.3	
MAK				pmax	pmax		
	comp=Z,78nm,0.2s						
MAK				smax			
	comp=N,1μm,0.6s						
MAK				smax			
	comp=E,2μm,0.8s						
BUJR	**Buynaksk**	**0.30**	**283**	*e*PG	Pg	20 38 27.5	+1.3
BUJR				*e*S	Sg	20 38 37.5	+7.2
BUJR				pmax	pmax		
	comp=Z,39nm,0.3s						
SGKR	**Sergokala**	**0.32**	**159**	*e*PG	Pg	20 38 31.0	+4.4
KRNR	**Karanay**	**0.45**	**279**	*e*PG	Pg	20 38 30.5	+1.5
KRNR				*e*S	Sg	20 38 41.0	+6.2
UNCR	**Uncukul**	**0.53**	**266**	*e*PG	Pg	20 38 31.5	+1.0
UNCR				S	Sg	20 38 44.5	+7.1
UNCR				pmax	pmax		
	comp=Z,41nm,0.3s						
DBC	**Dubki**	**0.56**	**298**	*e*PG	Pg	20 38 31.5	+0.3
DBC				*i* S	Sg	20 38 44.5	+6.0
BTLR	**Botlikh**	**0.95**	**265**	*e*PG	Pg	20 38 39.5	+0.9
BTLR				*e*S	Sg	20 38 57.5	+6.6
AKT	**Akhty**	**1.29**	**172**	*i* PG	Pg	20 38 41.5	-3.5
AKT				*i* S	Sb	20 39 01.0	-0.3
AKT				pmax	pmax		
	comp=Z,30nm,0.3s						

*BJI **06** 20:56:41.8, 587S×14730E, h111km, mB5.7, mb5.5*

*MOS **06** 20:56:47.1±1.5, 529S×14652E, h103km, mb5.8/42, MS5.0/14, Error ellipse: s-maj=9.0km s-min=5.3km az=96.1*

*ISCJB **06** 20:56:48.0±0.1, 545S±002×14652E±002, h113km, mb5.7/128, Error ellipse: s-maj=3.2km s-min=2.9km az=105.4*

*GCMT **06** 20:56:48.7±0.1, 547S×14671E, h160km, MW6.0/108, Moment Tensor Solution. s104,c228; s108,c328; Duration: 23 Moment tensor: Scale 1018Nm; Mrr-0.85±.01; Mθθ-0.33±.01; Mϕϕ1.18±.01; Mrθ0.01±.01; Mrϕ0.32±.01; Mθϕ-0.34±.01; Best double couple: M0 1.10300×1018 NP1:ϕs201.00000°,δ37.00000°, λ-76.00000°. NP2:ϕs4.00000°,δ54.00000°,λ-100.00000°. Principal axes: T 1.2950, Plg9.0000°, Azm101.0000°; N -0.3820, Plg8.0000°, Azm10.0000°; P -0.9100, Plg78.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **06** 20:56:49.4±1.1, 549S×14656E, h121km±8km, mb5.2/20, mb1 5.4/22, mb1mx5.4/23, mbtmp5.3/22, MS4.9/10, Ms1 4.9/10, ms1mx4.5/24 Error ellipse: s-maj=9.6km s-min=6.7km az=84.0*

*NEIC **06** 20:56:51.1±0.9, 545S×14664E, h133km±8km, mb5.8/91, MW5.9, Error ellipse: s-maj=5.6km s-min=4.9km az=72.0, Moment Tensor Solution. s26 Moment tensor: Scale 1018Nm; Mrr-0.77; Mθθ-0.38; Mϕϕ1.16; Mrθ0.02; Mrϕ0.15; Mθϕ-0.07; Best double couple: M0 0.97000×1018 NP1: ϕs2.00000°,δ47.00000°,λ-95.00000°. NP2:ϕs190.00000°, δ43.00000°,λ-84.00000°. Principal axes: T 1.1700, Plg2.0000°, Azm96.0000°; N -0.4000, Plg4.0000°, Azm5.0000°; P -0.7700, Plg86.0000°, Azm213.0000°;*

NEIC Felt at Mount Hagen.

ISC 06 20:56:49.9±0.1, 546S±002×14658E±002, h115km, h115km±3.0km:pP-P, n751, σ0s97/549, mb5.7/128, 120C-115D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**172**	P	**Pn**	**20 57 50.1**	**+1.3**
	476nm,0.3s,baz=355,slow=5.1,SNR=1000						
PMG				S	**Sn**	**20 58 34.0**	**-0.4**
	782nm,0.3s,baz=310,slow=21,SNR=19						
PMG	**Port Moresby**	**3.96**	**172**	*e*P	**Pn**	**20 57 50.1**	**+1.4**
PMG				*e*S	**Sn**	**20 58 28.6**	**-5.9**
HNR	**Honiara**	**13.83**	**107**	P	**Pn**	**21 00 01.0**	**+0.1**
	31nm,0.3s,baz=258,slow=1.8,SNR=101						
HNR				S	**Sn**	**21 02 42.5**	**+9.3**
	5.8nm,0.3s,baz=268,slow=11,SNR=2.7						
HNR	**Honiara**	**13.83**	**107**	*e*P	**Pn**	**21 00 00.8**	**-0.1**
HNR				pmax	pmax		
	comp=Z,4μm,0.9s						
HNR	**Honiara**	**13.83**	**107**	*e*P	**Pn**	**21 00 00.8**	**-0.2**
	comp=Z,4μm,0.9s						
CTA	**Charters Tower**	**14.54**	**181**	⇓*i* P	**Pn**	**21 00 11.6**	**+1.5**
	comp=Z,663nm,0.9s						
CTA				*e*S	**Sn**	**21 02 46.1**	**-4.5**
CTA	**Charters Tower**	**14.54**	**181**	P	**Pn**	**21 00 11.3**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=360,slow=13,SNR=74						
CTA				S	**Sn**	**21 02 59.6**	**+9.0**
	comp=Z,1.8nm,0.3s,baz=320,slow=16,SNR=3.4						
CTA	**Charters Tower**	**14.54**	**181**	⇓*i* P	**Pn**	**21 00 11.6**	**+1.5**
CTA				*e*S	**Sn**	**21 02 46.1**	**-4.5**
CTA				pmax	pmax		
	comp=Z,663nm,0.9s						
CTAO	**Charters Tower**	**14.54**	**181**	*e*P	**Pn**	**21 00 11.6**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,1μm,1.0s						
CTAO	**Charters Tower**	**14.54**	**181**	*e*P	**Pn**	**21 00 11.6**	**+1.5**
	comp=Z,1μm,1.0s						
KAKA	**Kakadu**	**15.71**	**242**	*e*P	**Pn**	**21 00 25.8**	**+1.2**
	comp=Z,671nm,0.6s						
KAKA				*e*S	**S**	**21 03 17.8**	**-7.7**
WRAB	**Tennant Creek**	**18.67**	**219**	Pn	**Pn**	**21 01 00.0**	**-0.6**
	comp=Z,17μm,0.7s						
WRAB	**Tennant Creek**	**18.67**	**219**	*d* iP	**P**	**21 00 59.1**	**+0.2**
WRAB	**Tennant Creek**	**18.67**	**219**	Pn	**Pn**	**21 01 00.1**	**-0.5**
WB2	**Warramunga Arr**	**18.68**	**218**	⇓*i* P	**P**	**21 01 00.1**	**+1.2**
WB2				*e*S	**S**	**21 04 15.1**	**-10**
WRA	**Warramunga Arr**	**18.68**	**219**	P	**P**	**21 00 59.6**	**+0.6**
	comp=Z,78nm,0.3s,baz=39,slow=12,SNR=2895						
WRA				S	**S**	**21 04 23.2**	**-2.6**
	baz=38,slow=20,SNR=5.1						
WRA				LR	LR	21 09 06.2	
	comp=Z,6μm,18.4s,baz=40,slow=40						
WRA	**Warramunga Arr**	**18.68**	**219**	P	**P**	**21 00 59.6**	**+0.6**
WRA				S	**S**	**21 04 23.2**	**-2.5**
GUMO	**Guam**	**19.00**	**355**	P	**P**	**21 01 04.5**	**+2.0**
	comp=Z,21nm,0.3s,baz=177,slow=7.6,SNR=30						
GUMO				LR	LR	21 07 13.0	
	comp=Z,2μm,21.8s,baz=346,slow=33						
GUMO	**Guam**	**19.00**	**355**	*e*P	**P**	**21 01 04.2**	**+1.7**
GUMO				pmax	pmax		
	comp=Z,699nm,0.8s						
GUMO	**Guam**	**19.00**	**355**	*e*P	**P**	**21 01 04.2**	**+1.7**
	comp=Z,699nm,0.8s						
AS31	**Alice Springs**	**21.83**	**213**	*e*P	**P**	**21 01 33.6**	**+0.7**
AS31				*e*S	**S**	**21 05 22.7**	**-4.5**
ASAR	**Alice Springs**	**21.84**	**213**	P	**P**	**21 01 33.8**	**+0.9**
	comp=Z,162nm,0.4s,mb5.7,baz=49,slow=8.1,SNR=2646						
ASAR				S	**S**	**21 05 25.1**	**-2.1**
	comp=Z,72nm,0.9s,baz=29,slow=21,SNR=9.3						
ASAR				LR	LR	21 11 15.7	
	comp=Z,9μm,19.0s,baz=45,slow=40						
ASAR	**Alice Springs**	**21.84**	**213**	P	**P**	**21 01 33.8**	**+0.9**
ASAR				S	**S**	**21 05 25.1**	**-2.2**
ASPA	**Alice Springs**	**21.84**	**213**	*e*P	**P**	**21 01 33.6**	**+0.7**
ASPA				*e*S	**S**	**21 05 22.7**	**-4.6**
FITZ	**Fitzroy Crossi**	**24.00**	**237**	⇓*i* P	**P**	**21 01 54.3**	**+0.4**
	comp=Z,2μm,0.9s,mb6.4						
FITZ				*e*S	**S**	**21 05 56.0**	**-6.5**
FITZ	**Fitzroy Crossi**	**24.00**	**237**	P	**P**	**21 01 54.4**	**+0.5**
	comp=Z,228nm,0.6s,mb5.7,baz=54,slow=8.2,SNR=301						
FITZ				S	**S**	**21 06 02.1**	**-0.4**
	comp=Z,27nm,0.8s,baz=251,slow=21,SNR=3.3						
BUKP	**Musuan**	**25.23**	**301**	*e*P	**P**	**21 02 06.6**	**+1.7**
ARMA	**Armidale**	**25.28**	**170**	*e*P	**P**	**21 02 05.9**	**+0.5**
ARMA				*e*S	**S**	**21 06 24.6**	**+1.9**
DZM	**Mont Dzumac**	**25.34**	**133**	P	**P**	**21 02 04.4**	**-1.6**
	comp=Z,71nm,0.8s,mb5.2,baz=318,slow=8.1,SNR=33						
DZM				S	**S**	**21 06 21.6**	**-2.1**
	comp=Z,9.4nm,1.0s,baz=66,slow=19,SNR=1.7						
DZM				LR	LR	21 10 08.4	
	comp=Z,5μm,20.4s,baz=136,slow=32						
CGP	**Cagayan de Oro**	**25.83**	**302**	⇓*e*P	**P**	**21 02 15.2**	**+4.8**
SCPH	**Surigao**	**25.90**	**306**	⇓*e*P	**P**	**21 02 13.6**	**+2.5**
MSLP	**Maasin**	**26.61**	**306**	*e*P	**P**	**21 02 18.6**	**+1.2**
STKA	**Stephens Creek**	**26.69**	**189**	⇓*i* P	**P**	**21 02 17.4**	**-0.8**
	comp=Z,186nm,0.6s,mb5.8						
STKA				*e*S	**S**	**21 07 02.2**	**+17**
STKA	**Stephens Creek**	**26.69**	**189**	P	**P**	**21 02 17.8**	**-0.4**
	comp=Z,41nm,0.5s,mb5.2,baz=4.0,slow=7.8,SNR=96						
STKA				LR	LR	21 13 46.6	
	comp=Z,3μm,18.9s,baz=128,slow=38						
KAPI	**Kappang**	**26.72**	**270**	P	**P**	**21 02 18.8**	**+0.4**
	comp=Z,241nm,0.9s,mb5.7,SNR=5.1						
RIV	**Riverview**	**28.55**	**172**	*e*P	**P**	**21 02 39.0**	**+4.3**
PVCP	**Virac**	**29.23**	**311**	*e*P	**P**	**21 02 40.4**	**-0.3**
CNB	**Canberra Magne**	**29.82**	**175**	*e*P	**P**	**21 02 45.8**	**-0.2**
	comp=Z,149nm,0.7s,mb5.7						
OTRP	**Odiongan**	**30.16**	**306**	*e*P	**P**	**21 02 53.0**	**+4.0**
CUYO	**Cuyo Island**	**30.17**	**302**	*e*P	**P**	**21 02 48.7**	**-0.3**
ADE	**Adelaide**	**30.25**	**193**	*e*P	**P**	**21 02 50.0**	**+0.3**
TSM	**Tawau**	**30.26**	**288**	P	**P**	**21 02 49.8**	**-0.1**
MBWA	**Marble Bar**	**30.35**	**237**	P	**P**	**21 02 51.0**	**+0.3**
	SNR=25						
MBWA				P		21 02 56.4	
	SNR=9.2						
MBWA	**Marble Bar**	**30.35**	**237**	*e*P	**P**	**21 02 50.8**	**+0.1**
	comp=Z,193nm,1.0s,mb5.7						
FORT	**Forrest**	**30.62**	**212**	*e*P	**P**	**21 02 53.2**	**+0.2**
	comp=Z,1μm,0.6s						
ENPP	**El Nido**	**31.69**	**302**	*e*P	**P**	**21 03 02.0**	**-0.4**
BATP	**Bataraza**	**32.00**	**296**	*e*P	**P**	**21 03 05.0**	**-0.1**
KKM	**Kota Kinabalu**	**32.40**	**290**	P	**P**	**21 03 08.3**	**-0.3**
KKM	**Kota Kinabalu**	**32.40**	**290**	*e*P	**P**	**21 03 07.3**	**-1.3**
BALP	**Baler**	**32.51**	**311**	*e*P	**P**	**21 03 09.1**	**-0.4**
FUNA	**Funafuti**	**32.51**	**97**	*e*P	**P**	**21 03 07.0**	**-2.6**
	comp=Z,199nm,1.0s,mb5.9						
PALP	**Palanan**	**32.72**	**314**	*e*P	**P**	**21 03 09.5**	**-1.9**
CAUP	**Cauayan**	**33.08**	**313**	*e*P	**P**	**21 03 18.4**	**+3.8**
CVP	**Callao Caves**	**33.57**	**314**	*e*P	**P**	**21 03 09.0**	**-10**
ABRA	**Dolores**	**34.34**	**312**	*e*P	**P**	**21 03 24.7**	**-0.8**
KSM	**Kuching**	**36.88**	**280**	*e*P	**P**	**21 03 47.2**	**+0.1**
TAU	**Tasmania Unive**	**37.30**	**179**	P	**P**	**21 03 56.1**	**+5.4**
	comp=Z,1μm,1.5s,mb6.5,SNR=5.7						
TAU	**Tasmania Unive**	**37.30**	**179**	*e*P	**P**	**21 03 50.6**	**-0.1**
TAU				pmax	pmax		
	comp=Z,263nm,1.2s,mb6.0						
TAU	**Tasmania Unive**	**37.30**	**179**	*e*P	**P**	**21 03 50.6**	**-0.1**
	comp=Z,263nm,1.2s,mb6.0						
TAU				P		21 03 56.1	
KLBR	**Kellerberrin**	**37.48**	**223**	*e*P	**P**	**21 03 51.8**	**-0.4**
	comp=Z,433nm,0.8s,mb6.4						
KLBR				*e*S	**S**	**21 09 33.8**	**+1.4**
NACB	**Ninganchiao**	**38.22**	**321**	*e*P	**P**	**21 03 57.1**	**-1.3**
	comp=Z,700nm,1.3s,mb6.3						
NWAO	**Narrogin (SRO)**	**38.65**	**221**	*e*P	**P**	**21 04 02.3**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,409nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.65**	**221**	*e*P	**P**	**21 04 02.3**	**+0.2**
	comp=Z,409nm,1.4s,mb6.1						
YHNB	**Yeheng**	**38.72**	**322**	*e*P	**P**	**21 04 03.8**	**+1.2**
	comp=Z,320nm,1.0s,mb6.1						
MUN	**Mundaring**	**38.76**	**223**	*e*P	**P**	**21 04 03.1**	**+0.1**
MUN				*e*S	**S**	**21 09 54.3**	**+2.6**
TATO	**Taipei**	**38.87**	**322**	P	**P**	**21 04 05.6**	**+1.8**
	SNR=17						
TATO				P		21 04 09.2	
	SNR=5.6						
TATO	**Taipei**	**38.87**	**322**	*e*P	**P**	**21 04 04.7**	**+0.8**
	comp=Z,586nm,0.9s,mb6.4						
JHJ	**Hachijo jima 2**	**38.90**	**351**	LR	LR	21 18 18.7	
	comp=Z,1μm,21.0s,baz=142,slow=33						
QZH	**Quanzhou**	**40.67**	**319**	P	**P**	**21 04 19.6**	**+0.8**
QZH				S	**S**	**21 10 18.0**	**-2.3**
QZH				AMB	AMB		
	comp=Z,430nm,0.8s,mb6.3						
QZH				AMB	AMB		
	comp=Z,2μm,3.5s						
QZH				LR	LR		
	comp=N,2μm,13.0s						
QZH				LR	LR		
	comp=E,1μm,12.4s						
QZH				LR	LR		
	comp=Z,2μm,19.8s						
AFI	**Afiamalu**	**41.84**	**105**	P	**P**	**21 04 27.0**	**-1.4**
	comp=Z,211nm,0.8s,mb5.9,baz=282,slow=0.9,SNR=25						
AFI	**Afiamalu**	**41.84**	**105**	*e*P	**P**	**21 04 27.5**	**-0.9**
AFI				pmax	pmax		
	comp=Z,202nm,0.8s,mb5.9						
AFI	**Afiamalu**	**41.84**	**105**	*e*P	**P**	**21 04 27.5**	**-0.8**
	comp=Z,202nm,0.8s,mb5.9						
TWVZ	**Taurewa**	**42.44**	**146**	PN	**P**	**21 04 34.8**	**+1.6**
MJAR	**Matsushiro Arr**	**42.51**	**350**	P	**P**	**21 04 32.8**	**-1.0**
	comp=Z,39nm,0.9s,mb5.2,baz=179,slow=8.8,SNR=36						
MJAR				ScP	ScP	21 09 59.7	-4.8
	comp=Z,3.2nm,0.8s,baz=173,slow=4.4,SNR=5.0						
MAJO	**Matsushiro**	**42.51**	**350**	*e*P	**P**	**21 04 31.5**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,277nm,1.4s,mb5.8						
MAJO	**Matsushiro**	**42.51**	**350**	*e*P	**P**	**21 04 31.5**	**-2.3**
	comp=Z,277nm,1.4s,mb5.8						
MAT	**Matsushiro**	**42.51**	**350**	P	**P**	**21 04 32.8**	**-1.0**
MAT				S	**S**	**21 10 43.0**	**-4.4**
URZ	**Urewera**	**42.83**	**144**	P	**P**	**21 04 34.6**	**-1.8**
	comp=Z,19nm,0.3s,mb5.2,baz=270,slow=3.0,SNR=25						
URZ				PcP	PcP	21 06 26.4	+0.9
	comp=Z,89nm,0.9s,baz=20,slow=7.2,SNR=6.3						
URZ				S	**S**	**21 10 53.0**	**+0.9**
	comp=Z,26nm,1.0s,baz=162,slow=22,SNR=12						
FOZ	**Fox Glacier**	**43.07**	**155**	PN	**P**	**21 04 38.7**	**+0.4**
THZ	**Tophouse**	**43.09**	**151**	PN	**P**	**21 04 37.8**	**-0.6**
JCZ	**Jackson Bay**	**43.12**	**157**	PN	**P**	**21 04 39.2**	**+0.5**
GZH	**Guangzhou**	**43.12**	**312**	P	**P**	**21 04 40.6**	**+1.9**
GZH				S	**S**	**21 10 57.0**	**+

NJ2 AMB AMB
comp=Z,2µm,6.6s
NJ2 LR LR
comp=N,9µm,27.5s
NJ2 LR LR
comp=E,11µm,31.4s
NJ2 LR LR
comp=Z,4µm,22.8s
KSRS Korea Array 46.10 339 P **P 21 05 02.5 +0.1**
comp=Z,155nm,1.0s,mb5.7,baz=155,slow=9.0,SNR=65
IPM Ipoh 46.55 281 P **P 21 05 06.8 +0.9**
INCN Inchon 46.59 338 *e*P **P 21 05 06.8 +0.6**
comp=Z,222nm,0.9s,mb5.9
KULM Kulim 47.09 282 *e*P **P 21 05 09.5 -0.6**
WHN Wuhan 47.25 321 ⇓P **P 21 05 12.5 +1.1**
WHN S **S 21 11 55.4 -0.4**
WHN LR LR
comp=Z,3µm,22.3s
ERM Erimo 47.35 357 *e*P **P 21 05 12.6 +0.5**
ERM pmax pmax
comp=Z,189nm,1.4s,mb5.6
ERM Erimo 47.35 357 *e*P **P 21 05 12.6 +0.5**
comp=Z,189nm,1.4s,mb5.6
SNG Songkhla 47.55 285 P **P 21 05 14.0 +0.3**
PSI Prapat 48.30 279 S **S 21 12 10.0 -0.6**
comp=Z,1.7nm,0.3s,baz=261,slow=19,SNR=4.5
KKTK Khon Kaen 48.40 297 P **P 21 05 19.0 -1.2**
COCO West Island 49.55 259 P **P 21 05 31.8 +2.9**
SNR=5.5
COCO West Island 49.55 259 *e*P **P 21 05 31.2 +2.2**
comp=Z,489nm,1.5s,mb6.2
TIA Tai'an 49.80 329 ⇓P **P 21 05 30.5 -0.4**
TIA AMB AMB
comp=Z,49nm,1.0s,mb5.4
DL2 Dalian 49.82 334 P **P 21 05 31.9 +0.9**
DL2 XP sP 21 06 08.4 -2.5
DL2 S **S 21 12 33.6 +1.7**
DL2 XS sS 21 13 19.3 +0.9
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,340nm,6.6s
MCQ Macquarie Isla 49.91 171 *e*P **P 21 05 31.6 -0.1**
GYA Guiyang 50.01 311 ⇑*i*P **P 21 05 34.1 +1.6**
GYA AP pP 21 06 01.4 +1.9
GYA XP sP 21 06 14.5 +2.2
GYA PCP PcP 21 06 52.6 +1.9
GYA PP PP 21 07 31.3 +2.9
GYA SCP ScP 21 10 36.4 +0.6
GYA PCS PcS 21 10 48.3 +0.4
GYA S **S 21 12 35.7 +1.2**
GYA PS 21 13 03.9
GYA XS sS 21 13 22.9 +1.9
GYA SCS ScS 21 15 11.2 -1.0
GYA SS SS 21 16 07.1 -1.7
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,460nm,7.5s
GYA LR LR
comp=N,1µm,20.1s
GYA LR LR
comp=E,1µm,20.4s
GYA LR LR
comp=Z,690nm,20.8s
NST Nakhon Sawan 50.55 295 P **P 21 05 36.6 +0.1**
comp=Z,53nm,0.7s,mb5.7
NANT Nan 51.23 299 ⇑P **P 21 05 40.0 -1.6**
comp=Z,349nm,1.0s,mb6.3
SNY Shenyang 51.53 338 ⇑P **P 21 05 44.4 +0.6**
SNY S **S 21 12 51.8 -3.7**
SNY XS sS 21 13 49.2 +7.0
SNY AMB AMB
comp=Z,26nm,0.6s,mb5.4
SNY AMB AMB
comp=Z,2µm,3.5s
SNY LR LR
comp=N,1µm,21.6s
SNY LR LR
comp=Z,2µm,21.6s
MDJ Mudanjiang 52.13 345 P **P 21 05 49.1 +0.8**
MDJ XP sP 21 06 26.9 -1.4
MDJ PCP PcP 21 06 58.6 0.0
MDJ PCS PcS 21 10 57.2 +0.2
MDJ S **S 21 13 06.2 +2.5**
MDJ AMB AMB
comp=Z,33nm,0.9s,mb5.4
MDJ AMB AMB
comp=Z,581nm,7.9s
MDJ LR LR
comp=N,912nm,20.1s
MDJ LR LR
comp=E,2µm,25.9s
MDJ LR LR
comp=Z,1µm,25.9s
MDJ Mudanjiang 52.13 345 *e*P **P 21 05 47.6 -0.7**
comp=Z,76nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 52.29 357 *e*P **P 21 05 48.8 -0.7**
YSS *e**PP pP 21 06 17.9 +1.2
YSS *e*S **S 21 13 02.0 -3.9**
YSS PS 21 13 10.0
YSS pmax pmax
comp=N,110nm,1.3s
YSS pmax pmax
comp=Z,200nm,1.3s,mb6.0
YSS pmax pmax
comp=E,90nm,1.2s
YSS pmax pmax
comp=Z,900nm,4.0s
YSS pmax pmax
comp=N,500nm,3.0s
YSS MLR MLR
comp=E,400nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS Yuzh-Sakhalins 52.29 357 *e*P **P 21 05 48.8 -0.7**
comp=N,200nm,1.3s,mb6.0
YSS *e*pP pP 21 06 17.9 +1.2
YSS *e*S **S 21 13 02.0 -3.9**
YSS PS 21 13 10.0
YSS LR LR
comp=Z,500nm,16.0s
KMI Kunming 52.34 308 ⇑P **P 21 05 51.8 +2.0**
KMI AP pP 21 06 19.1 +2.1
KMI XP sP 21 06 28.8 -1.0
KMI PCP PcP 21 07 01.4 +2.0
KMI PP PP 21 07 52.9 +3.4
KMI PPP 21 08 59.9
KMI SCP ScP 21 10 45.6 -0.2
KMI S **S 21 13 07.4 +0.9**
KMI PS 21 13 35.3
KMI AMB AMB
comp=Z,55nm,1.4s,mb5.4
KMI AMB AMB
comp=Z,436nm,4.5s
KMI LR LR
comp=N,1µm,21.4s
KMI LR LR
comp=E,997nm,17.8s
KMI LR LR
comp=Z,2µm,22.2s
KMI Kunming 52.34 308 ⇑P **P 21 05 51.8 +2.0**
KMI *PP pP 21 06 19.1 +2.1
KMI *SP sP 21 06 28.8 -1.0
KMI 21 07 01.4
KMI 21 07 52.9
KMI PPP 21 08 59.9
KMI S **S 21 13 07.4 +0.9**
KMI *SS sS 21 13 51.6 -1.8
KMI SS SS 21 16 40.3 -5.3
KMI SSS 21 18 30.8
KMI pmax pmax
comp=Z,55nm,1.4s,mb5.4
KMI MLR MLR
comp=Z,2µm,22.2s
KMI Kunming 52.34 308 ⇑P **P 21 05 51.8 +2.0**
comp=Z,55nm,1.4s,mb5.4
KMI pP pP 21 06 19.1 +2.1
KMI sP sP 21 06 28.8 -1.0
KMI PcP PcP 21 07 01.4 +2.0
KMI PP PP 21 07 52.9 +3.4
KMI PPP 21 08 59.9
KMI ScP ScP 21 10 45.6 -0.2
KMI S **S 21 13 07.4 +0.9**
KMI PS 21 13 35.3
KMI SS SS 21 16 40.3 -5.3
KMI SSS 21 18 30.8
KMI LR LR
comp=Z,2µm,22.2s
CN2 Changchun 52.62 341 *e*P **P 21 05 51.7 -0.2**
CN2 *e*AP pP 21 06 17.7 -1.4
CN2 *e*XP sP 21 06 33.4 +1.5
CN2 PCP PcP 21 06 59.1 -1.3
CN2 *e*S **S 21 13 11.8 +1.5**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
CN2 AMB AMB
comp=Z,760nm,3.0s
CM31 Chiang Mai Arr 52.63 298 *e*P **P 21 05 52.8 +0.8**
comp=Z,9.8nm,0.8s,mb4.9
CHG Chiang Mai 52.76 298 ⇑P **P 21 05 54.0 +1.0**
comp=Z,33nm,1.0s,mb5.3
CHTO Chiang Mai 52.76 298 P **P 21 05 54.4 +1.5**
SNR=13
CHTO Chiang Mai 52.76 298 *e*P **P 21 05 53.6 +0.6**
CHTO pmax pmax
comp=Z,49nm,1.3s,mb5.4
CHTO Chiang Mai 52.76 298 *e*P **P 21 05 53.6 +0.6**
comp=Z,49nm,1.3s,mb5.4
XAN Xi'an 53.00 321 P **P 21 05 54.7 0.0**
XAN AMB AMB
comp=Z,90nm,0.9s,mb5.8
XAN AMB AMB
comp=Z,609nm,9.4s
XAN LR LR
comp=N,562nm,26.0s
XAN LR LR
comp=E,867nm,29.7s
XAN LR LR
comp=Z,1µm,22.3s
BJT Baijiatuan 53.22 331 *e*P **P 21 05 55.6 -0.7**
BJT pmax pmax
comp=Z,469nm,1.4s
BJT Baijiatuan 53.22 331 *e*P **P 21 05 55.6 -0.7**
comp=Z,469nm,1.4s,mb6.3
BJI Beijing 53.23 331 P **P 21 05 55.8 -0.6**
BJI AP pP 21 06 22.2 -1.5
BJI XP sP 21 06 35.1 -1.3
BJI S **S 21 13 15.2 -3.4**
BJI XS sS 21 14 08.0 +2.4
BJI AMB AMB
comp=Z,58nm,1.1s,mb5.5
BJI AMB AMB
comp=Z,892nm,3.6s
BJI LR LR
comp=N,2µm,16.4s
BJI LR LR
comp=E,2µm,16.5s
BJI LR LR
comp=Z,1µm,19.9s
BJI Beijing 53.23 331 P **P 21 05 55.8 -0.6**
BJI *PP pP 21 06 22.2 -1.5
BJI *SP sP 21 06 35.1 -1.3
BJI S **S 21 13 15.2 -3.4**
BJI SS SS 21 16 56.3 -3.4
BJI pmax pmax
comp=Z,58nm,1.1s,mb5.5
BJI MLR MLR
comp=Z,1µm,19.9s
BJI Beijing 53.23 331 P **P 21 05 55.8 -0.6**
comp=Z,58nm,1.1s,mb5.5
BJI pP pP 21 06 22.2 -1.5
BJI sP sP 21 06 35.1 -1.3
BJI S **S 21 13 15.2 -3.4**
BJI sS sS 21 14 08.0 +2.4
BJI SS SS 21 16 56.3 -3.4
BJI LR LR
comp=Z,1µm,19.9s
CD2 Chengdu 54.60 314 ⇓*i*P **P 21 06 06.5 +0.2**
CD2 AP pP 21 06 33.0 -0.7
CD2 XP sP 21 06 45.4 -1.1
CD2 PCP PcP 21 07 08.0 0.0
CD2 PP PP 21 08 11.9 +2.1
CD2 PCS PcS 21 11 06.3 -1.5
CD2 S **S 21 13 35.7 -1.4**
CD2 SCS ScS 21 15 41.1 -3.1
CD2 AMB AMB
comp=Z,170nm,0.7s,mb6.2
CD2 AMB AMB
comp=Z,690nm,4.5s
CD2 LR LR
comp=N,2µm,24.0s
CD2 LR LR
comp=E,2µm,25.2s
CD2 LR LR
comp=Z,1µm,19.2s
KLR Kul'dur 55.98 348 *e*P **P 21 06 13.0 -3.2**
KLR *e* 21 08 28.0
KLR *e*S **S 21 13 48.0 -7.4**
KLR pmax pmax
comp=Z,85nm,1.6s,mb5.5
KLR pmax pmax
comp=N,700nm,11.0s
KLR pmax pmax
comp=E,500nm,11.0s
KLR pmax pmax
comp=Z,2µm,11.0s
KLR MLR MLR
comp=N,600nm,13.5s
KLR MLR MLR
comp=Z,2µm,13.5s
KLR Kul'dur 55.98 348 *e*P **P 21 06 13.0 -3.2**
KLR *e* 21 08 28.0
KLR *e*S **S 21 13 48.0 -7.4**
HHC Hu-ho-hao-te 56.16 328 ⇓P **P 21 06 17.5 0.0**
HHC AP pP 21 06 47.2 +2.2
HHC XP sP 21 07 02.3 +4.6
HHC PCP PcP 21 07 14.3 +0.3
HHC PP PP 21 08 26.0 +2.3
HHC SCP ScP 21 10 58.8 -3.7
HHC PCS PcS 21 11 11.5 -3.1
HHC S **S 21 13 56.0 -1.8**
HHC XS sS 21 14 48.4 +3.2
HHC SCS ScS 21 15 49.8 -5.6
HHC SS SS 21 17 47.2 +1.4
HHC AMB AMB
comp=Z,19nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,850nm,7.4s
HHC LR LR
comp=N,1µm,20.8s
HHC LR LR
comp=E,2µm,20.6s
HHC LR LR
comp=Z,1µm,25.0s
SKR Severo-Kuril's 56.52 7 *e*P **P 21 06 17.0 -3.1**
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.2
SKR Severo-Kuril's 56.52 7 *e*P **P 21 06 17.0 -3.1**
comp=Z,270nm,1.0s,mb6.2
BTO Baotou 56.80 327 *e*P **P 21 06 21.3 -0.8**
BTO AMB AMB
comp=Z,37nm,1.0s,mb5.4
LZH Lanzhou 57.53 319 *e*P **P 21 06 27.5 +0.3**
LZH AP pP 21 06 54.0 -0.8
LZH XP sP 21 07 06.5 -1.0
LZH PCP PcP 21 07 16.3 -3.1
LZH PP PP 21 08 42.1 +6.2
LZH *e*S **S 21 14 15.1 -0.7**
LZH SCS ScS 21 16 01.0 -4.4
LZH SS SS 21 18 09.0 +1.6
LZH LR LR
comp=Z,82nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,82nm,19.8s
LZH Lanzhou 57.53 319 *e*P **P 21 06 27.5 +0.3**
comp=Z,82nm,1.5s,mb5.5
LZH pP pP 21 06 54.0 -0.8
LZH sP sP 21 07 06.5 -1.0
LZH PcP PcP 21 07 16.3 -3.1
LZH PP PP 21 08 42.1 +6.2
LZH *e*S **S 21 14 15.1 -0.7**
LZH sS sS 21 15 00.0 -3.4
LZH ScS ScS 21 16 01.0 -4.4
LZH SS SS 21 18 09.0 +1.6
LZH LR LR
comp=Z,2µm,19.8s
PET Petropavlovsk 59.15 8 *d i*P **P 21 06 37.6 -0.9**
PET *e**PP pP 21 07 13.2 +6.9
PET *e*S **S 21 14 36.6 -0.3**
PET *e*SS SS 21 18 39.1 +6.2
PET *e*SSS 21 21 00.2
PET pmax pmax
comp=Z,40nm,1.0s,mb5.4
PET pmax pmax
comp=Z,600nm,5.6s
PET pmax pmax
comp=Z,600nm,10.3s
PET smax
comp=N,500nm,13.0s
PET smax
comp=E,400nm,16.4s
PET smax
comp=N,700nm,13.7s
PET MLR MLR
comp=Z,400nm,17.0s
PET Petropavlovsk 59.15 8 *i* P **P 21 06 37.6 -0.9**
comp=Z,40nm,1.0s,mb5.4
PET *e*pP pP 21 07 13.2 +6.9
PET *e*S **S 21 14 36.6 -0.3**
PET *e*SS SS 21 18 39.1 +6.2
PET *e*SSS 21 21 00.2
PET LR LR
comp=Z,400nm,17.0s
HIA Hailar 59.30 340 *e*P **P 21 06 39.0 -0.5**
HIA pmax pmax
comp=Z,293nm,1.1s
HIA Hailar 59.30 340 *e*P **P 21 06 39.0 -0.5**
comp=Z,293nm,1.1s,mb6.2
DRV Dumont d'Urvil 61.27 183 P **P 21 06 52.0 -0.9**
DRV Dumont d'Urvil 61.27 183 PP PP 21 09 08.0 -1.0
DRV S **S 21 15 06.0 +2.0**
DRV L 21 22 00.0
DRV R 21 26 00.0
SHL Shillong 61.38 303 *e*P **P 21 06 54.2 +0.6**
SHL AMb AMB 21 06 58.4
comp=Z,861nm,1.3s,mb6.6
SHL *e*S **S 21 15 05.0 -0.3**
GTA Gaotai 62.06 320 P **P 21 06 58.6 +0.4**
GTA AP pP 21 07 26.9 +0.7
GTA XP sP 21 07 37.7 -1.1
GTA PP PP 21 09 19.2 +3.2
GTA S **S 21 15 10.3 -3.6**
GTA AMB AMB
comp=Z,30nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,644nm,6.5s
GTA LR LR
comp=N,747nm,18.6s
GTA LR LR
comp=E,604nm,21.7s
GTA LR LR
comp=Z,659nm,26.6s
SMY Shemya 62.49 18 *e*P **P 21 07 02.0 +0.9**
SMY pmax pmax
comp=Z,320nm,1.0s,mb6.3
SMY Shemya 62.49 18 *e*P **P 21 07 02.1 +1.0**
comp=Z,466nm,1.1s,mb6.4
CAL Calcutta 63.37 298 *ex* x 21 07 07.5
CAL *ex* x 21 15 32.5
ULN Ulaanbaatar 63.44 331 P **P 21 07 08.0 +0.7**
SNR=66
ULN Ulaanbaatar 63.44 331 *d i*P **P 21 07 07.6 +0.3**
ULN Ulaanbaatar 63.44 331 *e*P **P 21 07 06.9 -0.5**
comp=Z,153nm,0.8s,mb6.0
PPT Papeete 63.45 107 *e*S **S 21 15 26.7 -4.6**
comp=Z,8µm,30.2s
PPT *e*LQ 21 23 33.2
comp=Z,3µm,28.0s
PPT *e*LR LR 21 26 23.3
comp=Z,718nm,26.5s
LSA Lhasa 63.58 307 P **P 21 07 09.2 +0.9**
LSA PCP PcP 21 07 39.2 -4.5
LSA AMB AMB
comp=Z,20nm,1.1s,mb4.9
LSA LR LR
comp=N,690nm,27.3s
LSA LR LR
comp=E,1µm,27.3s
LSA LR LR
comp=Z,950nm,33.6s
LSA Lhasa 63.58 307 *e*P **P 21 07 08.7 +0.4**
LSA pmax pmax
comp=Z,52nm,0.8s,mb5.4
LSA Lhasa 63.58 307 *e*P **P 21 07 08.7 +0.4**
comp=Z,52nm,0.8s,mb5.4
SONM Songino Array 63.73 331 P **P 21 07 09.2 0.0**
comp=Z,67nm,0.9s,mb5.5,baz=143,slow=8.5,SNR=138
SONM S **S 21 15 34.8 0.0**
comp=Z,0.8nm,0.9s,baz=28,slow=6.5,SNR=3.0
SONM PKPPKP 21 35 53.8
comp=Z,1.2nm,1.0s,baz=323,slow=3.7,SNR=4.9
SONM PKP2ab 21 36 10.9
comp=Z,17nm,0.8s,baz=300,slow=2.4,SNR=34
SONM LR LR 21 36 30.0
comp=Z,678nm,18.9s,baz=133,slow=37
SONM Songino Array 63.73 331 P **P 21 07 09.2 -0.1**
SONM S **S 21 15 34.8 0.0**
TVO Taravao 63.77 107 *e*P **P 21 07 08.8 -0.7**
comp=Z,226nm,1.2s,mb5.9
TVO Taravao 63.77 107 *e*P **P 21 07 08.8 -0.7**
TVO pmax pmax
comp=Z,226nm,1.2s,mb5.9
CIT Chita 63.80 338 *e*P **P 21 07 10.1 +0.4**
CIT *e* 21 07 49.8
CIT *e* 21 15 34.8
CIT pmax pmax
comp=Z,754nm,1.5s,mb6.3
CIT Chita 63.80 338 *e*P **P 21 07 10.1 +0.4**
comp=Z,754nm,1.5s,mb6.3
CIT *e* 21 07 49.8
CIT *e* 21 15 34.8
TBI Tubuai 63.97 113 *e*LQ 21 23 46.4
comp=Z,2µm,35.2s
TBI Tubuai 63.97 113 *e*S **S 21 15 32.5 -5.2**
comp=Z,5µm,33.2s
TBI *e*LR LR 21 26 27.1
comp=Z,2µm,40.5s
TBI Tubuai 63.97 113 *e*P **P 21 07 09.6 -1.2**
comp=Z,308nm,1.2s,mb6.0
TBI *e*S **S 21 15 32.5 -5.2**
TBI *e*LQ 21 23 46.4
NRGR Nerungri 64.44 347 *i* P **P 21 07 14.0 +0.1**
NRGR S **S 21 15 37.2 -6.3**
NRGR smax
comp=N,14nm,0.4s
CLNS Chul'man 64.57 347 *e*P **P 21 07 12.0 -2.7**
CLNS *e* pP 21 07 44.6 +1.7
CLNS *e*S **S 21 15 48.7 +3.6**
CLNS *e*SP 21 15 57.8
CLNS pmax pmax
comp=Z,80nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,48nm,1.1s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS smax
comp=N,333nm,11.4s
CLNS smax
comp=Z,243nm,14.2s
CLNS smax

comp=E,475nm,11.1s
CLNS Chul'man 64.57 347 *e*P **P** **21 07 12.0 -2.7**
CLNS *e* pP 21 07 44.6 +1.7
CLNS *e*S **S** **21 15 48.7 +3.6**
CLNS *e*SP 21 15 57.8
MA2 Magadan 64.92 2*d i*P **P** **21 07 16.1 -0.9**
MA2 *e**PP pP 21 07 55.8 +11
MA2 *i* S **S** **21 15 48.6 -0.8**
MA2 *e*SP 21 16 10.8
MA2 *e**SS sS 21 16 56.8 +19
MA2 *e*SS SS 21 20 04.4 +1.5
MA2 pmax pmax
comp=Z,500nm,1.5s,mb6.1
MA2 pmax pmax
comp=N,200nm,1.4s
MA2 Magadan 64.92 2 *i* P **P** **21 07 16.1 -0.9**
MA2 *e*pP pP 21 07 55.8 +11
MA2 *i* S **S** **21 15 48.6 -0.8**
MA2 *e*SP 21 16 10.8
MA2 *e*SS sS 21 16 56.8 +19
MA2 *e*SS SS 21 20 04.4 +1.5
PMOR Pomariorio Ree 64.98 104 *e*P **P** **21 07 16.7 -0.7**
comp=N,87nm,0.8s,mb5.6
VAH Vaihoa 65.25 104 *e*P **P** **21 07 18.1 -1.0**
comp=N,70nm,1.0s,mb5.5
CASY Casey 65.67 195 *e*P **P** **21 07 20.5 -1.3**
BOK Bokaro 65.89 299 *e*P **P** **21 07 23.4 +0.1**
VIS Vishakhapatnam 66.52 292 *e*P **P** **21 07 27.1 -0.1**
PALK Pallekele 66.94 280 *e*P **P** **21 07 29.2 -0.7**
comp=N,35nm,1.3s,mb5.0
ZAK Zakamensk 66.97 332 *e*P **P** **21 07 29.7 -0.4**
ZAK *e* 21 08 10.3
ZAK *e* 21 16 13.8
ZAK pmax pmax
comp=Z,155nm,1.0s,mb5.8
ZAK Zakamensk 66.97 332 *e*P **P** **21 07 29.7 -0.4**
comp=Z,155nm,1.0s,mb5.8
ZAK *e* 21 08 10.3
ZAK *e* 21 16 13.8
GUN Gumba 67.22 303 *e*P **P** **21 07 31.7 0.0**
comp=Z,234nm,1.0s,mb6.0
PKI Pulchoki 67.50 303 *e*P **P** **21 07 33.5 0.0**
comp=Z,111nm,1.2s,mb5.6
TLY Talaya 67.68 333 P **P** **21 07 34.7 +0.1**
comp=Z,551nm,0.9s,mb6.4,SNR=6.6
TLY Talaya 67.68 333 P **P** **21 07 34.5 0.0**
SNR=29
TLY Talaya 67.68 333*d i*P **P** **21 07 33.8 -0.8**
TLY *e* 21 10 05.0
TLY *e*S S 21 16 23.6 +0.9
TLY *e* 21 17 13.7
TLY pmax pmax
comp=Z,109nm,1.0s,mb5.6
TLY Talaya 67.68 333 *i* P **P** **21 07 33.8 -0.8**
TLY *e* 21 10 05.0
TLY *e*S S 21 16 23.6 +0.9
TLY *e* 21 17 13.7
KKN Kakani 67.68 303 *e*P **P** **21 07 34.2 -0.4**
comp=Z,211nm,1.2s,mb5.8
DMN Daman 67.77 303 *e*P **P** **21 07 34.0 -1.2**
comp=Z,288nm,1.1s,mb6.0
IRK Irkutsk 67.78 333 *e*P **P** **21 07 34.8 -0.4**
IRK *e* 21 07 55.0
IRK pmax pmax
comp=Z,226nm,0.9s,mb6.0
IRK Irkutsk 67.78 333 *e*P **P** **21 07 34.8 -0.4**
comp=Z,226nm,0.9s,mb6.0
IRK *e* 21 07 55.0
GKN Gorkha 68.29 303 *e*P **P** **21 07 37.8 -0.6**
comp=Z,243nm,1.2s,mb5.9
BOD Bodaibo 68.34 342 *e*P **P** **21 07 37.2 -1.5**
BOD pmax pmax
comp=Z,148nm,1.3s,mb5.7
BOD Bodaibo 68.34 342 *e*P **P** **21 07 37.2 -1.5**
comp=Z,148nm,1.3s,mb5.7
SEY Seymchan 68.34 3⇑ *e*P **P** **21 07 37.7 -1.1**
SEY *i* *PP pP 21 08 18.3 +11
MDRS Chennai 68.40 286⇓ *e*P **P** **21 07 41.2 +2.1**
MDRS *ex* x 21 10 23.2
YAK Yakutsk 68.55 352 *e*P **P** **21 07 40.4 +0.4**
YAK *e**PP pP 21 07 59.5 -9.0
YAK *e* 21 08 20.2
YAK *e* 21 10 12.1
YAK *e*S S 21 16 32.3 -0.8
YAK *e**SS sS 21 16 54.5 -28
YAK *e* 21 17 31.3
YAK pmax pmax
comp=Z,227nm,1.1s,mb5.9
YAK pmax pmax
comp=N,130nm,1.3s
YAK pmax pmax
comp=E,25nm,1.2s
YAK pmax pmax
comp=Z,203nm,3.6s
YAK pmax pmax
comp=N,336nm,4.5s
YAK pmax pmax
comp=E,354nm,3.6s
YAK smax
comp=N,495nm,3.8s
YAK smax
comp=Z,463nm,4.7s
YAK smax
comp=E,909nm,5.7s
YAK Yakutsk 68.55 352 *e*P **P** **21 07 40.4 +0.4**
comp=E,227nm,1.1s,mb5.9
YAK *e*pP pP 21 07 59.5 -9.0
YAK *e* 21 08 20.2
YAK *e* 21 10 12.1
YAK *e*S S 21 16 32.3 -0.8
YAK *e*SS sS 21 16 54.5 -28
YAK *e* 21 17 31.3
MOY Mondy 68.90 332 *e*P **P** **21 07 41.8 -0.4**
MOY pmax pmax
comp=Z,290nm,1.7s,mb5.8
MOY Mondy 68.90 332 *e*P **P** **21 07 41.8 -0.4**
comp=Z,290nm,1.7s,mb5.8
KOLN Koldanda 69.09 302 *e*P **P** **21 07 42.6 -0.8**
comp=Z,179nm,0.9s,mb5.9
ALBI Allahabad 69.89 299 *ex* x 21 07 45.0
TRD Trivandrum 70.79 281 *e*P **P** **21 07 54.1 +0.3**
TRD AMb AMB 21 08 00.3
comp=Z,90nm,1.6s,mb5.3
TRD *e*S S 21 17 01.1 +1.7
HYB Hyderabad 70.88 290 *i* P **P** **21 07 56.5 +2.2**
HYB *e*S S 21 16 56.0 -4.4
HYB Hyderabad 70.88 290 *e*P **P** **21 07 56.5 +2.2**
UNV Unalaska Valle 70.93 27 *e*P **P** **21 07 53.3 -1.3**
comp=Z,203nm,1.3s,mb5.8
MIR Mirnyy 71.14 200*d i*P **P** **21 08 00.0 +4.1**
MIR *i* 21 08 15.0
MIR *i* pP 21 08 25.0 +0.4
MIR *i* 21 08 38.0
NGP Nagpur 71.26 294 *e*P **P** **21 07 55.4 -1.2**
WMQ Urumqi 72.11 319⇑ *i*P **P** **21 08 01.8 +0.1**
WMQ PCP PcP 21 08 19.9 +0.4
WMQ AP pP 21 08 29.8 -0.7
WMQ XP sP 21 08 42.3 -0.6
WMQ PP PP 21 10 44.8 +1.5
WMQ PPP 21 12 27.8
WMQ S S 21 17 12.8 -1.7
WMQ SKS 21 17 50.8
WMQ SCS ScS 21 17 53.8 -3.5
WMQ PS 21 17 59.8
WMQ AMB AMB
comp=Z,78nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,743nm,5.2s
WMQ LR LR
comp=N,1μm,20.7s
WMQ LR LR
comp=E,708nm,20.7s
WMQ LR LR
comp=Z,676nm,23.4s
LGTI Lohaghat 72.40 303 *i* P **P** **21 08 03.5 0.0**
VNDA Vanda 72.47 177 P **P** **21 08 02.5 -1.4**
comp=Z,135nm,1.1s,mb5.7,baz=329,slow=6.7,SNR=93
VNDA S S 21 17 17.6 -1.0
comp=Z,0.3nm,0.4s,baz=101,slow=16,SNR=4.2
VNDA LR LR 21 39 37.6
comp=Z,560nm,20.1s,baz=347,slow=35
VNDA Vanda 72.47 177 *e*P **P** **21 08 02.4 -1.5**
VNDA pmax pmax
comp=Z,374nm,1.1s
VNDA Vanda 72.47 177 *e*P **P** **21 08 02.4 -1.5**
comp=Z,374nm,1.1s,mb6.1
VNDA *e* 21 08 07.5
TAOE Nuku Hiva Isla 72.69 98 *e*S S 21 17 16.0 -5.1
comp=Z,3μm,28.2s
TAOE *e*LR LR 21 30 36.5
comp=Z,2μm,27.8s
TAOE Nuku Hiva Isla 72.69 98 *e*P **P** **21 08 03.7 -1.4**
comp=Z,508nm,1.3s,mb6.2
TAOE *e*S S 21 17 16.0 -5.1
LATR Latur 72.95 291 *e*P **P** **21 08 03.8 -2.8**
SBA Scott Base 73.12 176 *e*P **P** **21 08 07.3 -0.4**
SBA pmax pmax
comp=Z,283nm,1.4s,mb5.9
SBA Scott Base 73.12 176 *e*P **P** **21 08 07.3 -0.4**
comp=Z,284nm,1.4s,mb5.9
SBA *e* 21 08 11.7
BHPL Bhopal 73.22 296 *e*P **P** **21 08 06.4 -1.9**
SDPT Sand Point 74.63 28 *e*P **P** **21 08 18.8 +2.3**
comp=Z,424nm,1.7s,mb5.9
SDPT LR LR
comp=Z,500nm,21.0s
BILL Bilibino 74.63 8*d i*P **P** **21 08 15.3 -1.2**
BILL *e* 21 08 27.1
BILL *e* 21 17 44.9
BILL pmax pmax
comp=Z,81nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,400nm,20.0s
BILL Bilibino 74.63 8 *i* P **P** **21 08 15.3 -1.2**
comp=Z,81nm,1.3s,mb5.3
BILL *e* 21 08 27.1
BILL *e* 21 17 44.9
BILL LR LR
comp=Z,400nm,20.0s
NDI New Delhi 74.74 302 *e*P **P** **21 08 18.0 +0.9**
KAD Karad 74.95 289 *e*P **P** **21 08 17.8 -0.5**
POO Poona 75.49 291⇑ *ix* x 21 08 17.0
comp=Z,80nm,1.0s
CHGN Chignik 76.13 28 *e*P **P** **21 08 25.1 +0.1**
AJM Ajmer 76.42 299 *e*P **P** **21 08 26.3 -0.5**
AJM AMb AMB 21 08 31.2
comp=Z,80nm,1.2s,mb5.3
DLH Dalhousie 76.79 305 *ex* x 21 08 24.0
MK31 Makanchi Array 76.82 321 *e*P **P** **21 08 27.3 -1.6**
MKAR Makanchi Array 76.82 321 P **P** **21 08 27.6 -1.3**
comp=Z,18nm,0.7s,mb4.9,baz=98,slow=7.9,SNR=107
MKAR PKKPbc PKKPbc 21 27 40.2 +3.0
comp=Z,1.5nm,0.6s,baz=277,slow=1.5,SNR=15
MKAR PKPPKP 21 35 30.5
comp=Z,1.4nm,1.1s,baz=336,slow=2.7,SNR=4.3
MKAR Makanchi Array 76.82 321 P **P** **21 08 27.7 -1.2**
THN Thein Dam 76.97 305 *e*P **P** **21 08 27.7 -2.1**
RKT Rikitea 77.26 112 *e*LQ 21 29 16.1
comp=Z,1μm,29.0s
RKT *e*LR LR 21 32 35.3
comp=Z,2μm,39.5s
TIXI Tiksi 77.83 354 *e*P **P** **21 08 31.1 -3.5**
TIXI *e* 21 18 55.6
TIXI *e* 21 19 09.2
TIXI pmax pmax
comp=Z,87nm,0.9s,mb5.5
TIXI Tiksi 77.83 354 *e*P **P** **21 08 31.1 -3.5**
comp=Z,87nm,0.9s,mb5.5
TIXI *e* 21 18 55.6
TIXI *e* 21 19 09.2
TNA Tin City 78.21 18 P **P** **21 08 35.8 -0.9**
comp=Z,78nm,1.0s,mb5.4
ZAL Zalesovo 78.34 328 P **P** **21 08 35.6 -1.8**
comp=Z,14nm,0.6s,mb4.8,baz=358,slow=5.9,SNR=33
ZAL PKKPbc PKKPbc 21 27 34.6 +0.7
comp=Z,3.5nm,0.5s,baz=159,slow=1.7,SNR=3.1
ZAL PKPPKP 21 35 38.0
comp=Z,1.3nm,0.9s,baz=195,slow=4.0,SNR=5.8
KSH Kashi 78.71 312 *e*P **P** **21 08 40.5 +1.1**
KSH *e*PCP PcP 21 08 50.4 +2.5
KSH *e*PP PP 21 11 39.5 +0.5
KSH *e*PPP 21 13 33.2
KSH *e*S S 21 18 24.9 -2.4
KSH *e*SKS 21 18 38.9
KSH *e*SCS ScS 21 18 47.3 -3.1
KSH *e*XS sS 21 19 21.5 +4.0
KSH *e*PS 21 19 30.6
KSH *e*SS SS 21 23 38.7 +4.9
KSH AMB AMB
comp=Z,729nm,2.1s,mb6.1
KSH LR LR
comp=N,2μm,8.5s
KSH LR LR
comp=E,2μm,9.1s
KSH LR LR
comp=Z,3μm,8.6s
NIL Nilore 79.27 306 P **P** **21 08 42.2 -0.3**
comp=Z,109nm,0.6s,mb5.9,SNR=6.8
NVS Novosibirsk 79.56 328 *e*P **P** **21 08 42.1 -1.9**
NVS *i* *PP pP 21 09 22.6 +9.3
NVS *i* S S 21 18 29.0 -7.3
NVS pmax pmax
comp=N,80nm,1.4s
NVS pmax pmax
comp=E,131nm,1.4s
NVS pmax pmax
comp=Z,160nm,1.4s,mb5.7
NVS smax
comp=E,140nm,2.7s
NVS Novosibirsk 79.56 328 *e*P **P** **21 08 42.1 -1.9**
comp=E,160nm,1.4s,mb5.7
NVS *i* pP pP 21 09 22.6 +9.3
NVS *i* S S 21 18 29.0 -7.3
KDAK Kodiak Island 79.63 28 P **P** **21 08 47.3 +2.9**
comp=E,681nm,1.1s,mb6.4,SNR=6.0
KDAK Kodiak Island 79.63 28 P **P** **21 08 44.2 -0.2**
comp=E,89nm,1.0s,mb5.6,baz=208,slow=2.9,SNR=15
KDAK Kodiak Island 79.63 28 *e*P **P** **21 08 44.0 -0.5**
comp=E,214nm,1.3s,mb5.8
KDAK P 21 08 47.7
SVW2 Sparrevohn 79.93 25 *e*P **P** **21 08 46.6 +0.5**
TKM2 Tokmak 2 79.97 315 P **P** **21 08 45.6 -0.7**
SNR=20
KZA Kyzart 79.97 314 P **P** **21 08 46.7 +0.4**
SNR=18
KBK Karagaybulak 80.35 315 P **P** **21 08 47.4 -1.0**
SNR=7.1
KURK Kurchatov 80.53 323 P **P** **21 08 47.8 -1.5**
comp=E,217nm,1.2s,mb5.9,SNR=7.4
UCH Uchtor 80.54 314 P **P** **21 08 49.6 +0.3**
SNR=27
CHMS Chumysh 80.59 315 P **P** **21 08 52.3 +2.7**
SNR=16
FRU Bishkek 80.64 315 *e*P **P** **21 08 52.8 +3.0**
FRU pmax pmax
comp=Z,148nm,2.4s,mb5.4
FRU Bishkek 80.64 315 *e*P **P** **21 08 52.8 +3.0**
comp=Z,148nm,2.4s,mb5.4
AAK Ala-Archa 80.67 315 P **P** **21 08 48.6 -1.4**
comp=Z,174nm,0.7s,mb6.0,SNR=13
AAK Ala-Archa 80.67 315 P **P** **21 08 49.9 -0.1**
SNR=13
AAK Ala-Archa 80.67 315 P **P** **21 08 48.9 -1.1**
SNR=28
AAK P 21 08 52.6
SNR=9.7
AAK Ala-Archa 80.67 315⇓ *e*P **P** **21 08 48.3 -1.7**
AAK pmax pmax
comp=Z,23nm,0.7s,mb5.1
AAK Ala-Archa 80.67 315⇓ P **P** **21 08 48.3 -1.7**
comp=Z,23nm,0.7s,mb5.1
USP Osepenovka 80.84 315 P **P** **21 08 48.9 -2.0**
SNR=28
AML Almayashu 81.10 314 P **P** **21 08 53.1 +0.9**
SNR=27
EKS2 Erkin-Say 81.18 315 P **P** **21 08 52.7 0.0**
SNR=21
SLKM Skilak Lake 81.95 26 *e*P **P** **21 08 55.4 -1.4**
MAW Mawson 82.58 203 *e*P **P** **21 08 58.6 -1.5**
comp=Z,177nm,0.6s,mb6.1
MAW Mawson 82.58 203 P **P** **21 08 57.5 -2.6**
comp=Z,25nm,0.8s,mb5.1,baz=100,slow=6.0,SNR=26
MAW PKKPbc PKKPbc 21 27 22.9 -1.5
comp=Z,3.5nm,0.7s,baz=302,slow=3.5,SNR=7.1
MAW LR LR 21 43 56.7
comp=Z,712nm,21.3s,baz=78,slow=34
MAW Mawson 82.58 203 *e*P **P** **21 08 58.6 -1.5**
MAW pmax pmax
comp=Z,177nm,0.6s
PMR Palmer 82.90 26 *e*P **P** **21 09 00.3 -1.4**
PMR pmax pmax
comp=Z,68nm,0.8s,mb5.5
PMR MLR MLR
comp=Z,500nm,19.0s
PMR Palmer 82.90 26 *e*P **P** **21 09 00.3 -1.4**
comp=Z,68nm,0.8s,mb5.5
PMR LR LR
comp=Z,500nm,19.0s
SML Sawmill 83.34 26 *e*P **P** **21 09 01.9 -2.1**
SML *e* 21 09 06.0
MCK McKinley 83.91 24 *e*P **P** **21 09 04.5 -2.4**
MCK pmax pmax
comp=Z,118nm,1.0s,mb5.7
MCK McKinley 83.91 24 *e*P **P** **21 09 04.5 -2.4**
comp=Z,240nm,1.0s,mb6.0
MCK *e* 21 09 08.3
EYAK Cordova Ski Ar 83.99 27 *e*P **P** **21 09 06.0 -1.2**
comp=Z,104nm,1.2s,mb5.5
DIV Divide 84.20 27 *e*P **P** **21 09 07.5 -0.8**
comp=Z,193nm,1.0s,mb5.9
DIV *e* 21 09 10.5
QSPA South Pole Qui 84.50 180⇓ *i*P **P** **21 09 12.6 +2.7**
comp=Z,308nm,0.9s,mb6.2
COLA College 84.82 23 *e*P **P** **21 09 08.7 -2.8**
COLA College 84.82 23 *e*P **P** **21 09 08.6 -2.9**
comp=Z,164nm,0.9s,mb6.0
BVAR Borovoye Array 86.09 324 P **P** **21 09 15.3 -2.5**
comp=Z,25nm,0.8s,mb5.2,baz=107,slow=5.1,SNR=39
BVAR PKKPbc PKKPbc 21 27 17.3 +1.0
comp=Z,2.4nm,0.6s,baz=298,slow=3.1,SNR=14
BVAR PKPPKP 21 35 12.2
comp=Z,0.7nm,0.9s,baz=272,slow=3.9,SNR=4.2
BVAR Borovoye Array 86.09 324 P **P** **21 09 15.3 -2.5**
CHKZ Chkalovo 86.12 325 P **P** **21 09 15.2 -2.7**
CHKZ pmax pmax
comp=Z,25nm,0.8s,mb5.2
BRVK Borovoye 86.16 324 P **P** **21 09 16.5 -1.6**
comp=Z,215nm,0.9s,mb6.1,SNR=22
BRVK Borovoye 86.16 324 P **P** **21 09 16.5 -1.6**
SNR=16
BRVK Borovoye 86.16 324 P **P** **21 09 15.7 -2.4**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb5.1
BRVK Borovoye 86.16 324 P **P** **21 09 15.7 -2.4**
comp=Z,21nm,0.9s,mb5.1
ZRNK Zerenda 86.88 324 P **P** **21 09 18.8 -2.8**
ZRNK pmax pmax
comp=Z,15nm,0.8s,mb5.0
EGAK Eagle 87.44 24 *e*P **P** **21 09 22.9 -1.5**
comp=Z,155nm,1.0s,mb5.9
DAWY Dawson 87.96 25 *e*P **P** **21 09 24.8 -2.0**
DAWY *e* 21 10 08.0
SKAG Skagway 88.64 30 *e*P **P** **21 09 33.0 +3.0**
comp=Z,185nm,1.4s,mb5.9
BIDO Bidbid 90.73 293 P **P** **21 09 43.2 +3.4**
SNR=7.2
SYO Syowa Base 90.95 200⇓ *e*P **P** **21 09 35.0 -5.8**
SYO Syowa Base 90.95 200⇑ *i*P **P** **21 09 43.2 +2.4**
BANOM Banah 92.61 296 P **P** **21 09 51.3 +2.8**
SNR=5.9
JCC Jacoby Creek 93.07 49 ⇓P **P** **21 09 51.8 +1.3**
baz=93,SNR=5.4
M01C Crescent City 93.08 48 ⇑P **P** **21 09 51.6 +1.0**
baz=93
O01C Eel River Cons 93.17 50 ⇑P **P** **21 09 52.2 +1.1**
baz=93,SNR=7.0
AKTK Aktyubinsk 93.25 320 P **P** **21 09 49.6 -1.8**
AKTK PP PP 21 13 39.8 +3.4
AKTK PKKPbc PKKPbc 21 27 00.9 +2.4
AKTO Aktyubinsk 93.25 320 P **P** **21 09 49.6 -1.8**
comp=Z,7.8nm,1.0s,mb5.0,baz=95,slow=5.1,SNR=16
AKTO PP PP 21 13 39.8 +3.4
comp=Z,4.5nm,1.0s,baz=110,slow=13,SNR=3.7
AKTO PKKPbc PKKPbc 21 27 00.9 +2.4
comp=Z,2.9nm,0.8s,baz=283,slow=1.3,SNR=11
KHMM Horse Mountain 93.30 49 *e*P **P** **21 09 52.2 +0.6**
KCPM Cahto Peak 93.32 51 *e*P **P** **21 09 51.9 +0.2**
KIPM Iron Peak 93.41 51 *e*P **P** **21 09 52.4 +0.3**
I02A Mapleton 93.46 46 ⇑P **P** **21 09 52.9 +0.5**
baz=94
L02A Cave Junction 93.49 48 ⇑P **P** **21 09 53.2 +0.7**
baz=94
P01C Double 8 Ranch 93.49 51 ⇓P **P** **21 09 53.6 +1.1**
baz=94,SNR=10
J02A Umpqua 93.59 47 ⇓P **P** **21 09 54.1 +1.1**
baz=94
K02A Glendale 93.61 48 ⇓P **P** **21 09 54.2 +1.1**
baz=94
N02C Big Bar 93.61 50 ⇓P **P** **21 09 53.6 +0.5**
baz=94,SNR=17
HOPS Hopland 93.67 51 *e*P **P** **21 09 52.9 -0.4**
comp=Z,74nm,1.3s,mb5.8
HOPS Hopland 93.67 51 ⇑P **P** **21 09 54.1 +0.8**
baz=94,SNR=9.1
MCCM Marconi Confer 93.76 52 ⇑P **P** **21 09 55.0 +1.2**
baz=94
F03A Seaside 93.78 44 ⇑P **P** **21 09 54.8 +1.0**
baz=94
E03A Lebam 93.82 44 ⇑P **P** **21 09 55.3 +1.2**
baz=94
I03A Eugene 93.85 46 ⇑P **P** **21 09 55.8 +1.6**
baz=94
H03A Soap Creek Ran 93.89 46 ⇑P **P** **21 09 55.8 +1.5**
baz=94
G03A Yamhill 93.94 45 ⇓P **P** **21 09 56.1 +1.5**
baz=94
B04A Port Angeles 93.96 42 ⇑P **P** **21 09 56.3 +1.6**
baz=94
O02C Red Bluff 93.97 50 P **P** **21 09 55.5 +0.9**
baz=94,SNR=55
GASB Alder Springs 93.98 51 P **P** **21 09 55.7 +0.9**
baz=94,SNR=42
M02C Callahan 93.99 49 P **P** **21 09 55.6 +0.8**
baz=94,SNR=22
HUMO Hull Mountain 94.00 48 *e*P **P** **21 09 55.0 +0.2**
comp=Z,45nm,1.1s,mb5.7
HUMO Hull Mountain 94.00 48 ⇓P **P** **21 09 55.9 +1.1**
baz=94,SNR=8.0
CVS Carmenet Viney 94.10 52 ⇑P **P** **21 09 55.7 +0.4**
baz=94,SNR=6.2
YBH Yreka Blue Hor 94.12 49 P **P** **21 09 56.3 +0.9**
YBH pmax pmax
comp=Z,69nm,1.2s
YBH Yreka Blue Hor 94.12 49 *e*P **P** **21 09 55.4 0.0**
comp=Z,70nm,1.3s,mb5.8
YBH Yreka Blue Hor 94.12 49 P **P** **21 09 56.4 +1.0**
baz=94,SNR=25
MNRC McLaughlin Nat 94.15 51 ⇓P **P** **21 09 56.1 +0.5**
baz=94
WDC Whiskeytown Da 94.18 50 P **P** **21 09 56.1 +0.4**
WDC pmax pmax
comp=Z,74nm,1.3s,mb5.9
WDC Whiskeytown Da 94.18 50 *e*P **P** **21 09 55.5 -0.2**
comp=Z,75nm,1.3s,mb5.9
WDC Whiskeytown Da 94.18 50 P **P** **21 09 56.2 +0.5**
baz=94,SNR=22
JRSC Jasper Ridge 94.22 53 ⇓P **P** **21 09 56.5 +0.7**
baz=94
BNLO Ben Lomond (Sa 94.25 53 ⇓P **P** **21 09 56.8 +0.8**
baz=94
C04A Brinnon 94.30 43 ⇑P **P** **21 09 57.0 +0.8**
baz=94
I04A Tendick Farm, 94.47 47 ⇓P **P** **21 09 57.4 +0.4**
baz=94
O03C Acorn Hollow, 94.53 50 ⇓P **P** **21 09 57.5 +0.2**
baz=94
M03C McCloud 94.54 49 ⇑P **P** **21 09 58.0 +0.6**
baz=94,SNR=5.8
BDM Black Diamond 94.54 52 ⇑P **P** **21 09 57.7 +0.4**
baz=95
F04A Amboy 94.58 44 ⇑P **P** **21 09 58.0 +0.5**
baz=95
WENL Wente Brothers 94.61 53 ⇓P **P** **21 09 58.6 +0.9**
baz=95
J04A Umpqua Nationa 94.66 47 ⇓P **P** **21 09 58.2 +0.4**
baz=95
H04A Detroit Lake 94.68 46 ⇑P **P** **21 09 58.6 +0.6**
baz=95
SUTB Sutter Butte 94.68 51 ⇑P **P** **21 09 58.6 +0.6**
baz=95
HAST UC Hastings Re 94.70 54 ⇓P **P** **21 09 58.9 +0.8**
baz=95,SNR=6.0
L04A Klamath Falls 94.76 48 ⇓P **P** **21 09 59.0 +0.6**
baz=95,SNR=5.2
M04C Macdoel 94.78 49 ⇑P **P** **21 09 59.0 +0.6**
baz=95,SNR=8.3
K04A Chilquin 94.90 48 ⇓P **P** **21 09 59.7 +0.8**

baz=95
B05A Bryant 94.92 42 ⇑P P 21 10 00.1 +1.0
baz=95
ORV Oroville 94.92 51 P P 21 09 59.1 +0.1
baz=95,SNR=30
OHCM Honcut 94.92 51 *eP* P 21 09 59.0 0.0
V03C Hunter Liggett 94.94 54 ⇓P P 21 09 59.4 +0.2
baz=95,SNR=5.3
PACP Pacheco Peak 94.95 53 ⇓P P 21 09 59.4 +0.2
baz=95,SNR=9.7
LTIM Timbered Crate 95.01 49 P P 21 09 59.7 +0.2
HATC Hat Creek Radi 95.01 50 ⇓P P 21 09 60.0 +0.5
baz=95,SNR=5.2
LBCM Butte Creek Ri 95.10 50 P P 21 10 00.0 +0.2
V04C Ramage Ranch, 95.22 55 ⇓P P 21 10 01.2 +0.8
baz=95
O04C Chester 95.27 50 ⇓P P 21 10 00.9 +0.2
baz=95,SNR=7.9
J05A Fort Rock 95.29 47 ⇓P P 21 10 01.5 +0.8
baz=95,SNR=5.9
I05A Bend 95.31 46 ⇑P P 21 10 01.5 +0.6
baz=95
G05A Wamic 95.32 45 ⇓P P 21 10 01.5 +0.6
baz=95
U04C Hernandez Rese 95.32 54 ⇓P P 21 10 01.9 +1.0
baz=95,SNR=9.6
ORR Orenburg 95.38 321 *eP* P 21 09 59.7 -1.4
ORR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
O05C Quincy 95.39 50 ⇑P P 21 10 01.5 +0.3
baz=95
LAVA Lava Cap Winer 95.47 52 ⇑P P 21 10 01.3 -0.2
baz=96,SNR=7.2
PKD Parkfield 95.50 55 ⇓P P 21 10 01.3 -0.4
baz=96,SNR=6.8
K05A Summer Lake 95.52 48 ⇑P P 21 10 01.9 0.0
baz=96,SNR=5.9
L05A Lakeview 95.54 48 ⇓P P 21 10 02.1 +0.2
baz=96
ELFS Eagle Lake Fie 95.56 50 ⇓P P 21 10 02.2 +0.2
baz=96,SNR=9.5
P05C Yuba Gap, Truc 95.60 51 ⇓P P 21 10 02.2 0.0
baz=96,SNR=11
E06A Yakima 95.60 44 ⇓P P 21 10 02.4 +0.2
baz=96
F06A Goldendale 95.71 45 ⇑P P 21 10 03.0 +0.3
baz=96
CMB Columbia Colle 95.72 52 P P 21 10 02.2 -0.5
CMB pmax pmax
comp=Z,33nm,1.4s,mb5.6
CMB Columbia Colle 95.72 52 P P 21 10 02.2 -0.5
comp=Z,32nm,1.4s,mb5.6
CMB *e* 21 10 06.0
CMB Columbia Colle 95.72 52 ⇓P P 21 10 02.5 -0.2
baz=96,SNR=7.8
D06A Cle Elum 95.72 43 ⇓P P 21 10 02.7 0.0
baz=96
S05C Merced 95.73 53 ⇓P P 21 10 02.5 -0.2
baz=96,SNR=5.7
M06C Likely Place G 95.77 49 ⇓P P 21 10 03.3 +0.3
baz=96
BEKR Beckwourth 95.81 51 P P 21 10 03.2 0.0
baz=96,SNR=24
TBM Table Mountain 95.89 43 P P 21 10 03.4 -0.1
MOD Modoc 95.93 49 *eP* P 21 10 03.0 -0.7
comp=Z,9.3nm,0.9s,mb5.2
MOD Modoc 95.93 49 ⇑P P 21 10 03.4 -0.3
baz=96,SNR=8.2
R05C Kirkwood Meado 95.99 52 ⇑P P 21 10 04.1 +0.2
baz=96,SNR=8.9
H06A Lindquist Farm 96.00 46 ⇓P P 21 10 04.3 +0.3
baz=96,SNR=7.4
K06A Valley Falls 96.00 48 ⇑P P 21 10 04.1 +0.2
baz=96,SNR=5.7
V05C Boulder Hill, 96.01 55 ⇓P P 21 10 04.9 +0.9
baz=96
PKM Peak Mountain 96.04 56 ⇓P P 21 10 04.2 +0.1
baz=96,SNR=6.4
I06A Prineville 96.06 46 ⇑P P 21 10 04.8 +0.6
baz=96
A07A Ashnola River, 96.08 41 ⇑P P 21 10 04.3 0.0
baz=96,SNR=7.2
J06A Christmas Vall 96.08 47 ⇓P P 21 10 04.2 -0.1
baz=96,SNR=5.8
S06C San Francisco 96.13 53 ⇓P P 21 10 04.6 0.0
baz=96,SNR=10
BSC Santa Cruz Isl 96.16 56 ⇑P P 21 10 05.0 +0.3
baz=96
T06C Millerton Lake 96.21 53 ⇑P P 21 10 04.6 -0.4
baz=96,SNR=9.4
SNCC San Nicolas Is 96.22 57 ⇑P P 21 10 05.3 +0.3
baz=96
O06A Flanigan 96.23 50 ⇓P P 21 10 05.5 +0.4
baz=96
B07A Winthrop 96.24 42 ⇓P P 21 10 04.8 -0.3
baz=96
N06A Buffalo Meadow 96.24 50 ⇑P P 21 10 05.2 +0.2
baz=96,SNR=8.2
WCN Washoe City 96.26 51 ⇑P P 21 10 05.0 -0.1
baz=96,SNR=6.2
C07A Waterville 96.26 43 ⇑P P 21 10 04.9 -0.3
baz=96,SNR=5.7
F07A Phinny Hill Vi 96.31 45 ⇓P P 21 10 04.9 -0.6
baz=96
E07A Sunnyside 96.38 44 ⇑P P 21 10 05.0 -0.7
baz=96
R06C Coleville 96.47 52 ⇑P P 21 10 06.1 0.0
baz=96,SNR=7.8
G07A Ruggs Ranch, H 96.48 45 ⇓P P 21 10 06.4 +0.3
baz=96,SNR=5.5
KCC Kaiser Creek 96.53 53 ⇑P P 21 10 06.4 0.0
baz=96,SNR=10
PAHR Pah Rah Range 96.56 51 P P 21 10 06.5 -0.1
comp=Z,22nm,1.0s,mb5.5
PAHR *e* 21 10 09.3
I07A Izee 96.58 46 ⇑P P 21 10 06.7 +0.1
baz=97
HAWA Hanford 96.60 44 *eP* P 21 10 07.4 +0.7
comp=Z,30nm,0.9s,mb5.7
L07A Adell 96.65 48 ⇑P P 21 10 06.8 -0.1
baz=97
GBL Gable Mountain 96.65 44 P P 21 10 10.6 +3.7
VES Vestal, Richgr 96.68 55 ⇑P P 21 10 06.6 -0.4
baz=97
J07A Hines 96.70 47 ⇑P P 21 10 07.2 0.0
baz=97
K07A Rock Creek Ran 96.73 48 ⇓P P 21 10 06.7 -0.6
baz=97,SNR=5.2
HELL Mitchell Peak, 96.75 54 ⇑P P 21 10 07.1 -0.3
baz=97,SNR=10
M07A Soldier Meadow 96.76 49 ⇓P P 21 10 07.1 -0.3
baz=97,SNR=7.5
R07C Lee Vining 96.77 52 ⇓P P 21 10 07.3 -0.1
baz=97,SNR=6.9
E08A Dider Farm, El 96.93 44 ⇑P P 21 10 08.0 -0.2
baz=97,SNR=7.3
C08A Higginbotham F 96.95 43 ⇓P P 21 10 07.8 -0.5
baz=97,SNR=6.0
O07A Toulon 96.96 50 ⇑P P 21 10 08.2 -0.2
baz=97,SNR=8.7
G08A Pilot Rock 96.98 45 ⇑P P 21 10 08.1 -0.3
baz=97,SNR=8.4
D08A Wollman Farm, 97.03 43 ⇑P P 21 10 08.6 0.0
baz=97
F08A Pendleton 97.12 45 ⇓P P 21 10 09.1 +0.1
baz=97
MTUM Tungsten Hills 97.14 53 *eP* P 21 10 09.2 +0.1
MTUM *e* 21 10 13.0
CIS Catalina Islan 97.16 57 ⇑P P 21 10 08.9 -0.3
baz=97,SNR=7.1
ISA Isabella 97.17 55 P P 21 10 09.2 -0.1
ISA Isabella 97.17 55 *eP* P 21 10 08.8 -0.4
comp=Z,18nm,1.1s,mb5.4
ISA *e* 21 10 12.5
ISA Isabella 97.17 55 ⇓P P 21 10 09.1 -0.2
baz=97,SNR=8.2
WVOR Wild Horse Val 97.18 48 P P 21 10 09.6 +0.3
WVOR pmax pmax
comp=Z,25nm,1.0s,mb5.6
WVOR Wild Horse Val 97.18 48 *eP* P 21 10 09.0 -0.3
comp=Z,23nm,1.1s,mb5.5
WVOR *e* 21 10 12.9
H08A Prairie City 97.18 46 ⇓P P 21 10 09.3 0.0
baz=97
DECC Green Verdugo 97.25 56 ⇓P P 21 10 10.1 +0.5
baz=97
I08A Drewsey 97.25 47 ⇓P P 21 10 09.9 +0.2
baz=97
A09A Danville 97.26 41 ⇓P P 21 10 10.1 +0.4
baz=97
K08A Mann Creek Ran 97.30 48 ⇑P P 21 10 09.7 -0.2
baz=97
J08A Circle Bar Ran 97.31 47 ⇓P P 21 10 10.0 +0.1
baz=97,SNR=6.8
M08A Happy Creek Ra 97.36 49 ⇑P P 21 10 10.1 0.0
baz=97
NVAR Mina Array Bea 97.37 52 P P 21 10 10.7 +0.5
comp=Z,14nm,0.8s,mb5.4,baz=267,slow=9.3,SNR=20
NVAR PP PP 21 14 13.3 +5.0
comp=Z,3.5nm,1.1s,baz=270,slow=8.6,SNR=4.2
NVAR PKKPab 21 27 21.3
comp=Z,2.6nm,0.9s,baz=102,slow=3.8,SNR=12
NVAR Mina Array Bea 97.37 52 P P 21 10 10.7 +0.5
NVAR PP PP 21 14 13.3 +5.0
NVAR PKKPab 21 27 21.3
L08A Fields 97.39 48 ⇓P P 21 10 10.4 +0.1
baz=97,SNR=7.9
D09A Jones Farm, Ri 97.45 43 P P 21 10 10.4 -0.1
baz=97,SNR=15
S08C White Mtn Res 97.45 53 ⇓P P 21 10 10.4 -0.2
baz=98,SNR=8.5
C09A Chrisman Ranch 97.47 43 ⇑P P 21 10 10.3 -0.3
baz=98
CWC Cottonwood Cre 97.50 54 ⇓P P 21 10 10.5 -0.3
baz=98
N08A GE Springer Mi 97.54 50 ⇑P P 21 10 10.9 -0.1
baz=98,SNR=5.8
EDW2 Edwards Air Fo 97.54 56 ⇓P P 21 10 11.0 +0.1
baz=98,SNR=11
B09A Rice 97.55 42 ⇓P P 21 10 10.8 -0.2
baz=98
E09A Wood Farm, Sta 97.56 44 ⇓P P 21 10 10.7 -0.3
baz=98,SNR=23
P08A Dixie Valley 97.56 51 ⇑P P 21 10 11.1 +0.1
baz=98
Q08A Gabbs 97.67 52 ⇓P P 21 10 11.3 -0.2
baz=98
BFSC Mount Baldy St 97.80 56 ⇓P P 21 10 11.8 -0.3
baz=98,SNR=5.3
LRMC Laurel Mountai 97.80 55 ⇑P P 21 10 11.7 -0.4
baz=98,SNR=23
J09A Fry Pan Ranch, 97.84 47 ⇑P P 21 10 11.8 -0.5
baz=98,SNR=7.2
I09A Lost Marbles R 97.85 46 ⇓P P 21 10 11.7 -0.6
baz=98
K09A Rome 97.86 48 ⇓P P 21 10 12.3 -0.1
baz=98,SNR=6.2
L09A Wilkinson Ranc 97.90 48 ⇑P P 21 10 12.5 -0.1
baz=98
H09A Durkee 97.90 46 ⇑P P 21 10 12.3 -0.2
baz=98
MPMC Manual Prospec 97.97 54 ⇓P P 21 10 12.8 -0.1
baz=98,SNR=11
N09A Rock Creek Ran 98.00 50 ⇓P P 21 10 13.1 +0.1
baz=98
M09A Marrel Ranch, 98.06 49 ⇑P P 21 10 13.2 -0.1
baz=98
BMO Blue Mountains 98.16 46 P P 21 10 13.2 -0.5
BMO pmax pmax
comp=Z,19nm,0.9s,mb5.6
BMO Blue Mountains 98.16 46 *eP* P 21 10 12.7 -1.0
comp=Z,18nm,0.9s,mb5.6
BMO *e* 21 10 17.0
B10A Chitwood Farm, 98.17 42 ⇓P P 21 10 14.2 +0.5
baz=98
MURC Murrieta 98.17 57 ⇓P P 21 10 14.3 +0.5
baz=98
F10A Beach Ranch, E 98.20 44 P P 21 10 14.2 +0.2
baz=98,SNR=18
NVL N'lazarevskaya 98.23 194 *d i*P P 21 10 15.1 +1.1
NVL *i* 21 14 15.1
NVL *i* S SKSac 21 20 44.4 +3.3
NVL *e*SSS 21 32 13.8
NVL pmax pmax
comp=Z,50nm,1.5s,mb5.8
NVL MLR MLR
comp=Z,1μm,18.7s
NVL MLR MLR
comp=N,457nm,18.7s
NVL MLR MLR
comp=E,544nm,18.7s
109C Camp Elliot, M 98.23 58 ⇓P P 21 10 14.3 +0.2
baz=98
NEW Newport 98.24 42 P P 21 10 14.3 +0.2
comp=E,14nm,0.8s,mb5.5,baz=240,slow=2.2,SNR=9.6
NEW Newport 98.24 42 P P 21 10 14.9 +0.8
NEW pmax pmax
comp=Z,20nm,1.0s
NEW Newport 98.24 42 *eP* P 21 10 13.9 -0.2
comp=Z,19nm,0.9s,mb5.6
O09A Fish Creek Ran 98.25 50 ⇓P P 21 10 14.8 +0.6
baz=98
Q09A Carvers 98.25 52 ⇓P P 21 10 14.2 +0.1
baz=98
E10A Myers Farm, Un 98.28 44 ⇑P P 21 10 14.6 +0.3
baz=98
P09A Austin 98.29 51 ⇓P P 21 10 14.9 +0.6
baz=98
R09A Tonopah 98.33 52 ⇑P P 21 10 15.0 +0.5
baz=98
FURC Furnace Creek, 98.49 54 ⇑P P 21 10 15.4 +0.2
baz=98
GSC Goldstone 98.52 55 P P 21 10 19.7 +4.4
GSC Goldstone 98.52 55 *eP* P 21 10 19.1 +3.7
comp=Z,4.7nm,0.8s,mb5.1
GSC Goldstone 98.52 55 ⇑P P 21 10 15.0 -0.4
baz=98,SNR=5.2
A11A Hall Mountain, 98.72 41 ⇑P P 21 10 16.4 +0.1
baz=99
B11A Sandpoint 98.74 42 ⇑P P 21 10 16.3 0.0
baz=99
M10A I.L. Ranch, Tu 98.74 49 ⇑P P 21 10 16.4 0.0
baz=99
PFO Pinyon Flat Ob 98.79 57 ⇑P P 21 10 16.9 +0.3
baz=99
MONP Monument Peak 98.81 58 ⇓P P 21 10 16.3 -0.4
baz=99,SNR=10
YKA Yellowknife Ar 98.89 28 P P 21 10 16.2 -0.8
comp=Z,9.7nm,1.0s,mb5.3,baz=278,slow=4.6,SNR=13
YKA PKKPab 21 27 12.8
comp=Z,5.1nm,0.9s,baz=94,slow=5.1,SNR=9.0
YKA LR LR 21 50 36.1
comp=Z,258nm,21.4s,baz=330,slow=33
YKA Yellowknife Ar 98.89 28 *i* P P 21 10 19.1 +2.1
YKA pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 98.89 28 P P 21 10 16.2 -0.8
YKA PKKPab 21 27 12.8
YKA LR LR 21 50 36.1
HEC Hector,Ludlow 98.91 56 ⇑P P 21 10 17.5 +0.4
baz=99
U10A Ash Meadows, A 98.92 54 ⇓P P 21 10 17.4 +0.3
baz=99
SHOC Shoshone 98.95 55 ⇑P P 21 10 18.2 +0.9
baz=99,SNR=8.0
DVTC Desert V Tower 99.08 58 ⇑P P 21 10 18.4 +0.6
baz=99
H11A Donnelly 99.08 46 ⇑P P 21 10 17.0 -0.8
baz=99
BELC Belle Mtn. 99.17 57 ⇑P P 21 10 18.0 -0.2
baz=99,SNR=9.9
TUQ Turquoise Mtn. 99.24 55 ⇑P P 21 10 18.0 -0.5
baz=99,SNR=6.2
B12A Libby 99.25 42 ⇑P P 21 10 18.9 +0.3
baz=99
M11A Holland Ranch, 99.30 49 ⇑P P 21 10 19.0 +0.1
baz=99
SWSC Sam W. Stewart 99.33 58 ⇑P Pdif 21 10 19.0 0.0
baz=99
C12A Trout Creek 99.36 43 ⇓P Pdif 21 10 19.2 +0.1
baz=99
P11A Circle Ranch, 99.36 51 ⇑P Pdif 21 10 19.5 +0.4
baz=99
O11A Cowboy Ranch, 99.43 50 ⇓P Pdif 21 10 19.7 +0.3
baz=99
Q11A Duckwater 99.44 52 ⇑P Pdif 21 10 20.2 +0.7
baz=99
BC3 Big Chuckw Mtn 99.63 57 ⇑P Pdif 21 10 20.4 +0.2
baz=100,SNR=8.2
IRM Iron Mountain 99.88 56 ⇑P Pdif 21 10 21.3 -0.1
baz=100,SNR=9.2
N12A Clover Valley, 99.88 50 ⇓P Pdif 21 10 22.1 +0.7
baz=100
M12A Wells 99.96 49 ⇑P Pdif 21 10 22.3 +0.6
baz=100
C13A Hot Springs 99.97 43 ⇓P Pdif 21 10 21.6 -0.2
baz=100
B13A Whitefish 100.00 42 ⇓P Pdif 21 10 21.8 -0.2
baz=100
P12A McGill 100.02 51 ⇑P Pdif 21 10 22.1 +0.1
baz=100
D13A Huson 100.08 43 ⇑P Pdif 21 10 22.1 -0.2
baz=100
Q12A Willow Creek R 100.08 51 ⇑P Pdif 21 10 22.7 +0.4
baz=100
V12A Nelson 100.11 55 ⇓P Pdif 21 10 23.0 +0.6
baz=100
O12A Currie 100.12 50 ⇑P Pdif 21 10 23.0 +0.6
baz=100
F13A Darby 100.23 45 ⇓P Pdif 21 10 23.3 +0.4
baz=100
HLID Hailey 100.26 47 ⇓P Pdif 21 10 23.4 +0.3
baz=100
E13A Victor 100.30 44 ⇑P Pdif 21 10 23.1 -0.2
baz=100
Y12C Blythe 100.40 57 ⇓P Pdif 21 10 24.1 +0.4
baz=100
SNAA Sanae 100.46 189 *e*Pdiff Pdif 21 10 25.5 +1.5
SNAA *e* 21 10 36.4
SNAA *e* 21 10 53.2
SNAA *e* 21 11 06.0
SNAA *e* 21 14 29.5
SNAA Sanae 100.46 189 P Pdif 21 10 23.7 -0.3
SNAA pmax pmax
comp=Z,41nm,1.2s
SNAA Sanae 100.46 189 *e*Pdif Pdif 21 10 21.8 -2.2
comp=Z,41nm,1.3s
SNAA *e* 21 10 25.8
M13A Montello 100.53 49 ⇑P Pdif 21 10 24.1 -0.2
baz=100
PDMCI Parker Dam,Lak 100.71 56 ⇓P Pdif 21 10 25.3 +0.1
baz=101
D14A Greenough 100.73 43 ⇑P Pdif 21 10 25.3 +0.1
baz=101
E14A Clinton 100.78 44 ⇓P Pdif 21 10 25.2 -0.2
baz=101
CHMT Chamberlain Mo 100.91 43 *e*Pdif Pdif 21 10 26.1 +0.1
CHMT *e* 21 10 29.5
W13A Hualapai Mount 100.91 55 ⇑P Pdif 21 10 26.0 0.0
baz=101
Y13A Salome 100.98 57 ⇑P Pdif 21 10 26.1 -0.1
baz=101
ARUT Antelope Range 101.21 53 P Pdif 21 10 28.7 +1.4
CCUT Cedar City 101.28 53 *e*Pdif Pdif 21 10 31.9 +4.2
E15A Deer Lodge 101.36 44 ⇑P Pdif 21 10 28.1 +0.1
baz=101
BGU Big Grassy Mou 101.40 49 *e*Pdif Pdif 21 10 27.9 -0.3
BGU *e* 21 10 31.7
F15A Butte 101.51 44 ⇑P Pdif 21 10 28.6 -0.1
baz=102
HVU Hansel Valley 101.55 49 *e*P Pdif 21 10 28.9 +0.1
HVU pmax pmax
comp=Z,26nm,1.2s
HVU Hansel Valley 101.55 49 *e*Pdif Pdif 21 10 28.9 +0.1
comp=Z,26nm,1.2s
HVU *e* 21 10 32.6
DUG Dugway 101.60 50 P Pdif 21 10 33.1 +4.0
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway 101.60 50 *e*Pdif Pdif 21 10 27.0 -2.0
comp=Z,13nm,1.2s
DUG Dugway 101.60 50 ⇑P Pdif 21 10 29.0 0.0
baz=102
X14A Yava 101.74 56 ⇓P Pdif 21 10 30.1 +0.4
baz=102
VNA2 Neumayer--Watz 101.82 188 *e*Pdiff Pdif 21 10 32.7 +2.7
baz=152,slow=3.6
VNA2 *e* 21 10 33.5
VNA2 *e* 21 10 41.4
VNA2 *e* 21 10 59.7
VNA2 *e* 21 11 10.7
VNA2 *e* 21 14 43.7
SPUT South Promonto 101.82 49 *e*Pdif Pdif 21 10 31.0 +1.0
VNA3 Neumayer Olymp 101.85 188 *e*Pdiff Pdif 21 10 31.8 +1.6
MSU Marysvale 102.17 52 *e*P Pdif 21 10 35.2 +3.6
VNA1 Neumayer--Stat 102.20 188 *e*Pdiff Pdif 21 10 33.0 +1.3
VNA1 *e* 21 10 42.8
VNA1 *e* 21 11 00.9
VNA1 *e* 21 11 11.6
QLMT Earthquake Lak 102.33 45 Pdif Pdif 21 10 34.0 +1.7
HWUT Hardware Ranch 102.47 49 *e*Pdif Pdif 21 10 32.4 -0.5
comp=Z,12nm,1.0s
DAU Daniels Canyon 102.78 50 *e*P Pdif 21 10 34.3 0.0
TMUT Trail Mountain 102.89 51 *e*Pdif Pdif 21 10 35.4 +0.6
TMUT *e* 21 10 38.9
WUAZ Wupatki 102.95 55 Pdif Pdif 21 10 37.4 +2.3
comp=Z,5.2nm,0.8s
WUAZ Wupatki 102.95 55 ⇑P Pdif 21 10 35.9 +0.8
baz=103
SRU San Rafael 103.43 51 P Pdif 21 10 38.1 +0.9
SRU pmax pmax
comp=Z,24nm,1.4s
SRU San Rafael 103.43 51 Pdif Pdif 21 10 38.0 +0.9
comp=Z,24nm,1.4s
TUC Tucson 103.57 58 P Pdif 21 10 45.5 +7.7
TUC pmax pmax
comp=Z,4.0nm,1.1s
PDAR Pinedale Array 103.86 47 Pdiff Pdif 21 10 38.6 -0.5
comp=Z,3.1nm,0.6s,baz=237,slow=2.0,SNR=10
PDAR PKKPbc PKKPbc 21 26 31.6 +2.6
comp=Z,1.4nm,0.7s,baz=105,slow=5.6,SNR=9.4
PDAR PKKPab PKKPab 21 26 51.2 +2.3
comp=Z,1.5nm,0.8s,baz=106,slow=6.4,SNR=5.7
KEV Kevo 105.05 342 *ep* Pdif 21 10 40.4 -4.0
comp=Z,19nm,1.1s
KEV Kevo 105.05 342 *eP* Pdif 21 10 40.4 -4.0
KEV pmax pmax
comp=Z,19nm,1.1s
MVCO Mesa Verde 105.16 53 ⇑P PKiKP 21 14 59.5 +0.8
baz=105
ARCES ARCESS Array B 105.62 342 Pdiff Pdif 21 10 45.0 -1.9
comp=Z,11nm,0.7s,baz=79,slow=5.6,SNR=16
ARCES PKiKP PKiKP 21 14 56.0 -3.6
comp=Z,3.7nm,1.1s,baz=72,slow=2.9,SNR=5.0
ARCES PKKPbc PKKPbc 21 26 24.3 +0.6
comp=Z,9.0nm,0.9s,baz=245,slow=2.3,SNR=4.3
ARCES ARCESS Array B 105.62 342 Pdif Pdif 21 10 45.0 -1.9
ARCES PKPdf PKiKP 21 14 56.0 -3.6
ARCES PKKPbc PKKPbc 21 26 24.3 +0.6
OBN Obninsk 105.85 326 *eP* Pdif 21 10 46.9 -1.0
OBN *e* 21 15 11.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 105.85 326 *eP* Pdif 21 10 46.9 -1.0
comp=Z,4.0nm,1.0s
OBN *e* 21 15 11.2
SMCO Snowmass 106.17 51 Pdif Pdif 21 10 46.2 -3.1
comp=Z,18nm,1.0s
BNM Barren Site 106.94 56 *e*PKPdf PKiKP 21 15 01.8 -0.2
BNM *e* 21 15 05.0
ANMO Albuquerque 107.00 55 PKiKP PKiKP 21 15 01.9 -0.2
comp=Z,3.5nm,0.8s,baz=191,slow=3.4,SNR=5.1
ANMO PKKPab PKKPab 21 26 39.5 +4.6
comp=Z,9.0nm,0.9s,baz=90,slow=7.6,SNR=12
ANMO Albuquerque 107.00 55 PKPdf PKiKP 21 15 01.9 -0.2
ANMO PKKPab PKKPab 21 26 39.5 +4.6
MNTX Cornudas Mount 108.19 59 *e*PKPdf PKiKP 21 15 02.5 -1.8
KAF Kangasniemi 108.63 335 *ep* Pdif 21 10 52.7 -7.6
FINES FINESS Array B 109.01 334 PKiKP PKiKP 21 15 05.9 +0.1
comp=Z,1.3nm,0.8s,baz=206,slow=30,SNR=3.5
FINES PP PP 21 15 36.2 +1.0
comp=Z,3.6nm,0.7s,baz=120,slow=7.5,SNR=4.9
FINES PKKPbc PKKPbc 21 26 11.4 -1.7
comp=Z,5.3nm,0.9s,baz=292,slow=10,SNR=6.9
FINES FINESS Array B 109.01 334 PKPdf PKiKP 21 15 05.9 +0.1
FINES PP PP 21 15 36.2 +1.0
FINES PKKPbc PKKPbc 21 26 11.4 -1.7
TXAR Lajitas Array 109.87 61 Pdiff Pdif 21 11 09.9 +4.1
comp=Z,0.3nm,0.8s,baz=219,slow=3.2,SNR=3.7
TXAR PKiKP PKiKP 21 15 07.2 -0.2
comp=Z,5.5nm,0.9s,baz=325,slow=1.0,SNR=22
TXAR PKKPbc PKKPbc 21 26 12.8 +2.4
comp=Z,0.9nm,0.6s,baz=114,slow=6.4,SNR=6.1
TXAR PKKP PKKPbc 21 26 23.6 +13
comp=Z,5.4nm,0.8s,baz=113,slow=6.8,SNR=15
TXAR Lajitas Array 109.87 61 P Pdif 21 11 09.9 +4.1
TXAR 21 26 12.8
BRTR Keskin Array B 111.06 310 PP PP 21 15 50.9 +0.9
comp=Z,2.1nm,1.0s,baz=80,slow=8.9,SNR=3.9
BRTR PKKPbc PKKPbc 21 26 06.8 +0.3
comp=Z,3.3nm,0.8s,baz=209,slow=4.2,SNR=11

AKASG **Malin Array Be** **111.34 323** PKiKP PKiKP 21 15 10.8 +0.6
comp=Z,0.2nm,0.3s,baz=63,slow=2.1,SNR=4.5
AKASG PP PP 21 15 47.5 -4.4
comp=Z,1.6nm,0.7s,baz=57,slow=6.6,SNR=4.1
AKASG PKKPbc PKKPbc 21 26 07.7 +2.1
comp=Z,4.3nm,0.6s,baz=265,slow=3.9,SNR=20
AKASG **Malin Array Be** **111.34 323** PKiKP PKiKP 21 15 10.8 +0.6
AKASG 21 15 47.5
AKASG **Malin Array Be** **111.34 323** PKPdf PKiKP 21 15 10.8 +0.6
AKASG *e* 21 15 47.5
ULM **Lac du Bonnet** **111.59 38** PKiKP PKiKP 21 15 11.2 +0.5
comp=Z,7.0nm,0.8s,baz=292,slow=4.7,SNR=8.7
ULM PKKPbc PKKPbc 21 26 04.1 -0.7
comp=Z,2.4nm,0.7s,baz=12,slow=1.1,SNR=3.3
JCT **Junction City** **113.08 59** PKIKP PKiKP 21 15 12.3 -1.2
JCT **Junction City** **113.08 59** *e*PKPdf PKiKP 21 15 12.0 -1.6
WMOK **Wichita Mounta** **113.29 55** PKIKP PKiKP 21 15 12.9 -1.0
WMOK **Wichita Mounta** **113.29 55** *e*PKPdf PKiKP 21 15 12.7 -1.3
WMOK *e* 21 15 15.9
MATP **Matopo** **114.00 245** PKiKP PKiKP 21 15 16.6 +1.3
comp=Z,2.3nm,0.5s,baz=127,slow=2.9,SNR=8.7
BOSA **Boshof** **114.21 235** PKKPbc PKKPbc 21 25 57.1 +1.1
comp=Z,2.1nm,0.7s,baz=305,slow=8.5,SNR=4.0
HFS **Hagfors** **114.89 336** PKKPbc PKKPbc 21 25 53.9 +0.2
comp=Z,3.6nm,0.8s,baz=197,slow=4.6,SNR=4.8
EYMN **Ely** **115.08 39** *e*PKPdf PKiKP 21 15 14.8 -2.5
MLR **Muntele Rosu** **115.09 318** PKKPbc PKKPbc 21 25 55.2 +2.2
comp=Z,7.1nm,0.6s,baz=264,slow=6.7,SNR=6.6
MLR **Muntele Rosu** **115.09 318** ⇓*i*P PKKPbc 21 25 56.0 +3.0
LBTB **Lobatse** **115.17 239** PKKPbc PKKPbc 21 25 55.8 +3.0
comp=Z,1.8nm,0.7s,baz=324,slow=7.0,SNR=5.2
NOA **NORSAR Array B** **115.30 338** PKKPbc PKKPbc 21 25 54.8 +2.5
comp=Z,4.6nm,0.8s,baz=230,slow=3.6,SNR=7.4
KOLS **Kolonicke sedl** **116.17 323** *e*PKP PKPdf 21 15 22.2 +2.7
STHS **Stebnicka Huta** **116.59 323** *e*PP PP 21 16 24.9 -4.2
JFWS **Jewell Farm** **117.66 44** PKIKP PKPdf 21 15 22.5 +0.2
JFWS **Jewell Farm** **117.66 44** *e*PKPdf PKPdf 21 15 19.5 -2.8
OKC **Ostrava-Krasne** **118.21 325** *e*PP PP 21 16 44.7 +4.4
OKC *e*PKKP PKKPbc 21 25 45.3 +3.3
OKC **Ostrava-Krasne** **118.21 325** *e*P PKKPbc 21 25 45.3 +3.3
VYHS **Vyhne** **118.42 323** *e*PKP PKPdf 21 15 25.5 +1.7
VYHS *e*PP PP 21 16 37.2 -4.6
UALR **University of** **118.47 53** *e*PKPdf PKPdf 21 15 22.9 -1.0
UALR *e* 21 15 25.9
MORC **Moravsky Berou** **118.58 325** ⇓*i*P PKKPbc 21 25 43.0 +2.3
MORC **Moravsky Berou** **118.58 325** ⇓P PKKPbc 21 25 43.0 +2.3
CMIG **Matias Romero** **118.84 74** PKP PKPdf 21 15 22.6 -2.0
comp=Z,5.0nm,0.7s,baz=270,slow=2.0,SNR=3.0
DPC **Dobruska-Polom** **118.99 326** *e*PKPDF PKPdf 21 15 26.6 +1.7
DPC *e*PP PP 21 16 48.6 +2.9
DPC *e*PKKP PKKPbc 21 25 42.4 +3.2
DPC AMS AMS 21 53 50.0
DPC **Dobruska-Polom** **118.99 326** *e*PKIKP PKPdf 21 15 26.6 +1.7
DPC *e* 21 16 48.6
DPC **Dobruska-Polom** **118.99 326** *e*PKP PKPdf 21 15 26.6 +1.7
DPC *e*PP PP 21 16 48.6 +2.9
DPC *e*P 21 25 42.4
UPC **Upice** **119.09 326** *e*PP PP 21 16 51.4 +5.0
UPC *e*PKKP PKKPbc 21 25 41.5 +2.6
GRUS **Gruza** **119.14 318** *i*P PKPdf 21 15 26.1 +0.9
DIVS **Divcibare** **119.54 318** *i*P PKPdf 21 15 24.0 -2.0
PVCC **Panska Ves** **119.87 327** *e*PKPDF PKPdf 21 15 28.3 +1.7
PVCC *e*PP PP 21 16 55.8 +4.1
PVCC *e*PKKP PKKPbc 21 25 40.7 +4.7
PVCC AMS AMS 21 57 20.0
PVCC **Panska Ves** **119.87 327** *e*PKIKP PKPdf 21 15 28.3 +1.7
PVCC *e* 21 16 55.8
PVCC **Panska Ves** **119.87 327** *e*PKP PKPdf 21 15 28.3 +1.7
PVCC *e*PP PP 21 16 55.8 +4.1
PVCC *e*P 21 25 40.7
BRG **Berggiesshubel** **120.02 327** *e*PKP PKPdf 21 15 28.7 +1.8
comp=Z,6.7nm,1.1s
BRG *e* 21 16 55.3
comp=Z,9.2nm,1.4s
BRG *e* 21 25 38.7
comp=Z,16nm,1.8s
BRG comp=N,1μm,25.8s
BRG comp=E,1μm,33.8s
BRG comp=Z,511nm,19.6s
BRG **Berggiesshubel** **120.02 327** *e*PKIKP PKPdf 21 15 28.7 +1.8
BRG *e* 21 16 55.3
BRG MLR MLR
comp=Z,510nm,19.6s
BRG **Berggiesshubel** **120.02 327** *e*PKP PKPdf 21 15 28.7 +1.8
BRG *e* 21 16 55.3
BRG *e* 21 25 38.7
BRG LR LR
comp=Z,510nm,19.6s
PRU **Pruhonice** **120.16 326** *e*PP PP 21 16 47.8 -6.0
PRU *e*PKKP PKKPbc 21 25 35.2 +0.3
PRU AMS AMS 21 54 20.0
PRU **Pruhonice** **120.16 326** *e*P PKKPbc 21 25 35.2 +0.3
CLL **Collm** **120.29 328** *i*PKP PKPdf 21 15 28.1 +0.7
CLL *e*PKKP PKKPbc 21 25 36.0 +1.5
CLL LR LR
comp=Z,600nm,21.6s
CLL **Collm** **120.29 328** *i*PKPdf PKPdf 21 15 28.1 +0.7
comp=Z,21nm,1.7s
CLL *e*PKKPab PKKPab 21 25 36.0 -0.3
comp=Z,16nm,1.2s
CLL *e*PS PS 21 26 42.0 -4.1
CLL *e*SS SS 21 33 12.0 -1.4
CLL *e*SSS 21 37 36.0
CLL LmV 22 00 00.0
comp=Z,600nm,21.6s
CONA **Conrad Observa** **120.44 324** ⇑*i*PKiKP PKiKP 21 15 29.0 +1.2
comp=Z,4.7nm,0.8s
CONA **Conrad Observa** **120.44 324** ⇓*e*P PP 21 16 57.6 +2.0
comp=Z,21nm,1.2s
KHC **Kasperske Hory** **121.15 326** *e*PKPDF PKPdf 21 15 30.1 +1.1
KHC x x 21 16 09.5
KHC *e*PP PP 21 17 01.0 +0.5
KHC *e*PKKP PKKPbc 21 25 33.7 +2.4
KHC *ex* x 21 29 08.0
KHC AMS AMS 21 55 20.0
KHC **Kasperske Hory** **121.15 326** *e*PKIKP PKPdf 21 15 30.1 +1.1
KHC *e* 21 17 01.0
KHC **Kasperske Hory** **121.15 326** *e*PKP PKPdf 21 15 30.1 +1.1
KHC *e*PP PP 21 17 01.0 +0.5
KHC *e*P 21 25 33.7
NKC **Novy Kostel** **121.17 327** *e*PKPDF PKPdf 21 15 30.9 +1.8
NKC *e*PP PP 21 17 07.5 +6.9
NKC *e*PKKP PKKPbc 21 25 34.2 +3.0
NKC AMS AMS 21 56 00.0
NKC **Novy Kostel** **121.17 327** *e*PKIKP PKPdf 21 15 30.9 +1.8
NKC *e* 21 17 07.5
NKC **Novy Kostel** **121.17 327** *e*PKP PKPdf 21 15 30.9 +1.8
NKC *e*PP PP 21 17 07.5 +6.9
NKC *e*P 21 25 34.2
USIN **University of** **121.17 49** *e*PKPdf PKPdf 21 15 27.9 -1.2
GERES **GERESS Array B** **121.23 326** PKP PKPdf 21 15 26.0 -3.2
comp=Z,2.9nm,0.7s,baz=94,slow=1.9,SNR=5.5
GERES PKKPbc PKKPbc 21 25 32.8 +1.8
comp=Z,4.5nm,0.7s,baz=216,slow=2.8,SNR=24
GERES PKKP PKKPdf 21 26 07.3 +2.4
comp=Z,1.5nm,0.7s,baz=171,slow=1.0,SNR=5.0
MOX **Moxa** **121.39 328** *e*PKP PKPdf 21 15 30.0 +0.5
MOX *e*PP PP 21 17 04.0 +1.9
MOX *e* 21 17 24.0
MOX *e* 21 17 40.0
MOX *e*PKKP PKKPbc 21 25 32.0 +1.6
MOA **Molln** **121.42 324** ⇑*e*P PKPdf 21 15 30.5 +0.9
comp=Z,3.1nm,0.8s
MOA **Molln** **121.42 324** ⇑*i*P PP 21 17 04.4 +2.1
comp=Z,21nm,1.2s
PERS **Pernice** **121.51 323** *e*PKPdf PKPdf 21 15 30.8 +1.0
BLO **Bloomington** **121.61 47** *e*PKIKP PKPdf 21 15 31.3 +1.4
BLO **Bloomington** **121.61 47** *e*PKPdf PKPdf 21 15 27.0 -2.9
BLO *e* 21 15 31.2
OBKA **Obir** **121.92 323** ⇑*i*P PKKPab 21 25 31.1 +1.9
comp=Z,26nm,0.9s
BOJS **Bojanci** **121.97 321** *e*PKPdf PKPdf 21 15 32.0 +1.4
GRA1 **Grafenberg Arr** **122.13 327** *e*PKPdf PKPdf 21 15 32.0 +1.1
GRA1 *e*PP PP 21 17 12.7 +5.6
GRA1 *e*PKKPab PKKPab 21 25 30.8 +2.5
GRF **Grafenberg Arr** **122.13 327** *e*PKPdf PKPdf 21 15 32.0 +1.1
GRF *e*PP PP 21 17 12.7 +5.6
KBA **Koelnbreinsper** **122.35 324** ⇑*i*P PP 21 17 12.0 +3.4
comp=Z,25nm,1.1s
KBA **Koelnbreinsper** **122.35 324** ⇑*i*P PKKPab 21 25 29.5 +2.1
comp=Z,4.7nm,0.6s
ROBS **Robic** **122.67 323** *i*PKPdf PKPdf 21 15 32.4 +0.4
WTTA **Wattenberg** **123.24 325** ⇑*i*P PKPdf 21 15 31.8 -1.3
comp=Z,25nm,1.2s
MOTA **Moosalm** **123.50 325** ⇑*i*P PKPdf 21 15 32.7 -0.9
comp=Z,6.1nm,0.7s
MOTA **Moosalm** **123.50 325** ⇑*i*P PKPdf 21 15 32.7 -0.9
MOTA ⇓*i*P PKKPbc 21 25 22.9 +0.6
SQTA **Sankt Quirin** **123.51 325** ⇓*i*P PKKPab 21 25 24.7 +2.3
comp=Z,16nm,0.8s
SCHQ **Schefferville** **123.91 23** PKP PKPdf 21 15 31.6 -2.8
comp=Z,12nm,0.7s,baz=278,slow=1.8,SNR=4.8
SCHQ PKKPbc PKKPbc 21 25 23.4 +2.8
comp=Z,13nm,0.7s,baz=137,slow=2.0,SNR=12
SCHQ **Schefferville** **123.91 23** *e*PKPdf PKPdf 21 15 31.5 -2.9
SCHQ *e* 21 15 35.6
TSUM **Tsumeb** **124.13 243** PKP PKPdf 21 15 35.0 +0.3
comp=Z,5.5nm,1.0s,baz=125,slow=3.6,SNR=7.3
TSUM PKKPbc PKKPbc 21 25 21.0 +1.3
comp=Z,2.3nm,0.6s,baz=294,slow=3.6,SNR=5.9
TSUM **Tsumeb** **124.13 243** *e*PKPdf PKPdf 21 15 34.6 -0.2
DAVA **Damuels** **124.23 326** ⇑*i*P PKKPab 21 25 22.5 +3.2
comp=Z,9.8nm,0.7s
MEM **Membach** **124.25 331** PKP PKPdf 21 15 37.6 +2.7
DAVOX **Davos** **124.51 325** PKKPbc 21 25 22.0
comp=Z,12nm,0.7s,baz=268,slow=3.3,SNR=14
EKA **Eskdalemuir Ar** **124.67 340** PKKPbc 21 25 18.3
comp=Z,4.0nm,0.5s,baz=221,slow=4.0,SNR=19
WLF **Walferdange** **124.78 330** PKP PKPdf 21 15 38.0 +2.0
TKL **Tuckaleechee C** **124.90 50** PKP PKPdf 21 15 34.4 -1.8
comp=Z,40nm,0.9s,baz=174,slow=3.4,SNR=7.1
FELD **Feldberg im Sc** **124.92 327** PKP PKPdf 21 15 37.2 +0.9
GIVF **Givet** **125.16 331** *e*PKIKP PKPdf 21 15 35.4 -1.3
BAIF **Baives** **125.48 331** *e*PKIKP PKPdf 21 15 35.8 -1.6
comp=Z,20nm,1.2s
HINF **Hinteralfeld** **125.57 328** *e*PKIKP PKPdf 21 15 35.9 -1.6
comp=Z,38nm,1.2s
HAU **Haudompre** **125.72 328** *e*PKIKP PKPdf 21 15 36.3 -1.5
comp=Z,34nm,1.1s
HAU *e*R
comp=Z,578nm,21.2s
HAU **Haudompre** **125.72 328** *e*PKPdf PKPdf 21 15 36.3 -1.5
HAU LR LR
comp=Z,580nm,21.3s
THEF **They Montfort** **125.78 328** PKP PKPdf 21 15 39.5 +1.6
MEZF **Maizieres J'vi** **126.08 329** *e*PKIKP PKPdf 21 15 37.5 -1.0
TGUH **Tegucigalpa,Un** **126.35 77** *e*PKPdf PKPdf 21 15 39.1 +0.1
TGUH *e* 21 15 42.2
FWV **Forest Hill** **126.36 47** *e*PKPdf PKPdf 21 15 36.7 -2.3
ELN **Prospectdale** **126.55 47** *e*PKPdf PKPdf 21 15 40.8 +1.4
CABF **La Chapelle** **126.72 327** *e*PKIKP PKPdf 21 15 38.9 -0.8
comp=Z,98nm,1.5s
BLA **Blacksburg** **126.80 47** *e*PKIKP PKPdf 21 15 41.8 +1.9
BLA **Blacksburg** **126.80 47** PKPdf PKPdf 21 15 38.3 -1.6
BLA *e* 21 15 41.2
LPG **La Plagne** **127.03 325** *e*PKIKP PKPdf 21 15 39.2 -1.1
comp=Z,11nm,0.8s
LPL **La Plagne** **127.03 325** *e*PKIKP PKPdf 21 15 39.7 -0.6
comp=Z,8.9nm,0.7s
BNI **Bardonecchia** **127.33 325** PKIKP PKPdf 21 15 39.8 -1.1
PGF **Pioggiola** **127.36 321** *e*PKIKP PKPdf 21 15 39.7 -1.2
comp=Z,54nm,1.4s
FRNY **Flat Rock** **127.42 35** *e*PKPdf PKPdf 21 15 37.9 -3.2
FRNY *e* 21 15 41.9
SAOF **Saorge** **127.44 323** PKP PKPdf 21 15 37.3 -3.8
BINY **Binghamton** **127.45 39** *e*PKPdf PKPdf 21 15 42.8 +1.7
LOR **Lormes** **127.49 329** *e*PKIKP PKPdf 21 15 39.9 -1.3
comp=Z,30nm,1.3s
LOR *e*R
comp=Z,452nm,20.0s
LOR **Lormes** **127.49 329** *e*PKPdf PKPdf 21 15 39.9 -1.3
LOR LR LR
comp=Z,450nm,20.0s
AUTN **L'Aution** **127.51 323** PKP PKPdf 21 15 47.4 +6.2
AUTN **L'Aution** **127.51 323** PKP PKPdf 21 15 42.8 +1.6
AUTN **L'Aution** **127.51 323** PKP PKPdf 21 15 42.8 +1.6
AUTN PKP PKPdf 21 15 47.4 +6.2
SBF **Sospel** **127.58 323** *e*PKIKP PKPdf 21 15 40.3 -1.1
comp=Z,62nm,1.2s
LHS **Liberty Hill** **127.60 50** *e*PKIKP PKPdf 21 15 43.9 +2.5
TOUF **Mont Tournerai** **127.61 324** PKP PKPdf 21 15 44.7 +3.3
LUCF **Luceram** **127.62 323** PKP PKPdf 21 15 43.3 +1.9
REVF **Revere** **127.69 323** PKP PKPdf 21 15 43.5 +1.9
MVIF **Mont Vial** **127.73 324** PKP PKPdf 21 15 43.3 +1.6
SSF **Saint Saulge** **127.81 329** *e*PKIKP PKPdf 21 15 40.5 -1.3
comp=Z,43nm,1.4s
SMF **Signal de Mont** **127.91 328** *e*PKIKP PKPdf 21 15 40.6 -1.4
comp=Z,47nm,1.3s
AVF **Avril sur Loir** **128.07 329** *e*PKIKP PKPdf 21 15 40.6 -1.7
COW **Cow Castle Cre** **128.09 51** *e*PKPdf PKPdf 21 15 42.1 -0.2
FRF **La Foret Royal** **128.22 323** *e*PKIKP PKPdf 21 15 41.2 -1.4
comp=Z,32nm,1.3s
MVL **Millersville** **128.35 42** *e*PKPdf PKPdf 21 15 41.7 -1.1
LMR **La Mourre** **128.44 323** *e*PKIKP PKPdf 21 15 41.7 -1.3
comp=Z,39nm,1.2s
BGF **Bois d'Agland** **128.48 329** *e*PKIKP PKPdf 21 15 42.1 -1.0
LDF **La Druitiere** **128.54 332** *e*PKIKP PKPdf 21 15 41.9 -1.3
FLN **La Foliniere** **128.59 333** *e*PKIKP PKPdf 21 15 42.0 -1.3
FLN *e*R
comp=Z,593nm,20.8s
FLN **La Foliniere** **128.59 333** *e*PKPdf PKPdf 21 15 42.0 -1.3
FLN LR LR
comp=Z,590nm,20.8s
SMRF **Simiane la Rot** **128.61 324** *e*PKIKP PKPdf 21 15 42.5 -0.8
comp=Z,43nm,1.3s
LBNH **Lisbon** **128.73 35** *e*PKPdf PKPdf 21 15 42.4 -1.1
LBNH *e* 21 15 45.4
HNH **Hanover** **128.84 36** *e*PKPdf PKPdf 21 15 43.1 -0.7
TCF **Toulx Ste Croi** **128.99 329** *e*PKIKP PKPdf 21 15 43.1 -1.0
comp=Z,37nm,1.3s
GRR **Gorron** **129.03 332** *e*PKIKP PKPdf 21 15 42.7 -1.4
comp=Z,74nm,1.4s
LBL **Lubilhac** **129.13 327** PKP PKPdf 21 15 46.7 +2.4
TRQA **Tornquist** **129.22 151** *e*PKPdf PKPdf 21 15 44.2 -0.3
PAL **Palisades** **129.41 39** *e*PKPdf PKPdf 21 15 43.7 -1.1
PAL **Palisades** **129.41 39** PKIKP PKPdf 21 15 47.6 +2.8
LASF **Ste Croix** **129.53 326** *e*PKIKP PKPdf 21 15 44.2 -0.9
MFF **Saint Martin d** **129.97 330** *e*PKIKP PKPdf 21 15 44.8 -1.1
comp=Z,18nm,1.0s
CAF **Calviac** **129.97 327** *e*PKIKP PKPdf 21 15 45.2 -0.7
HRV **Harvard--Oak R** **129.99 37** PKIKP PKPdf 21 15 41.8 -4.1
KEST **Kesra** **130.51 313** PKP PKPdf 21 15 46.2 -0.7
comp=Z,1.5nm,1.0s,baz=207,slow=4.5,SNR=2.2
LFF **La Frestale** **130.66 328** *e*PKIKP PKPdf 21 15 46.0 -1.2
MTLF **Montolau** **130.91 326** *e*PKIKP PKPdf 21 15 46.4 -1.3
ATAH **Atahualpa** **133.44 105** PKP PKPdf 21 15 54.2 +1.7
comp=Z,23nm,0.7s,baz=180,slow=1.6,SNR=14
ATAH SKPbc SKPbc 21 19 11.3 +1.0
comp=Z,16nm,0.8s,baz=270,slow=3.0,SNR=5.1
NNA **Nana** **133.47 112** PKP PKPdf 21 15 53.4 +0.9
comp=Z,20nm,0.8s,baz=262,slow=2.8,SNR=7.2
NNA **Nana** **133.47 112** *e*PKPdf PKPdf 21 15 53.9 +1.3
OTAV **Otavalo** **134.74 95** *e*PKPdf PKPdf 21 15 57.3 +2.3
LVC **Limon Verde** **135.47 130** PKhKP 21 15 49.0
comp=Z,6.5nm,0.8s,baz=247,slow=6.3,SNR=5.6
LVC PKP PKPdf 21 15 57.3 +1.0
comp=Z,23nm,0.8s,baz=253,slow=4.2,SNR=17
LVC SKPbc SKPbc 21 19 16.1 -0.8
comp=Z,4.0nm,0.6s,baz=311,slow=4.3,SNR=4.4
LVC **Limon Verde** **135.47 130** *e*PKPpre 21 15 48.0
LVC PKP PKPdf 21 15 57.3 +1.0
LVC SKPbc SKPbc 21 19 16.1 -0.8
ESDC **Sonseca Array** **136.81 326** PKP PKPdf 21 15 58.5 -0.2
comp=Z,0.1nm,0.3s,baz=19,slow=8.2,SNR=3.1
ESDC PKKP 21 25 38.3
comp=Z,0.6nm,0.5s,baz=277,slow=1.7,SNR=5.9
ESDC SKKPbc 21 28 11.5
comp=Z,1.8nm,0.8s,baz=220,slow=4.9,SNR=4.2
ROSC **El Rosal** **139.26 89** PKP PKPdf 21 16 01.0 -2.2
comp=Z,34nm,0.6s,baz=83,slow=17,SNR=8.1
ROSC **El Rosal** **139.26 89** *e*PKPpre 21 15 59.3
LPAZ **La Paz** **139.43 123** PKhKP 21 15 56.1
comp=Z,15nm,0.9s,baz=234,slow=1.6,SNR=8.0
LPAZ SKPbc SKPbc 21 19 29.5 +1.1
comp=Z,8.4nm,0.8s,baz=215,slow=3.0,SNR=5.9
LPAZ **La Paz** **139.43 123** *e*PKPpre 21 15 53.5
MDT **Midelt** **141.77 319** PKhKP 21 16 02.3
comp=Z,1.6nm,0.6s,baz=25,slow=20,SNR=12
SDV **Santo Domingo** **142.93 83** PKhKP 21 16 06.3
comp=Z,29nm,0.6s,baz=326,slow=4.0,SNR=28
SDV **Santo Domingo** **142.93 83** *e*PKPpre 21 16 06.0
TOA0 **Torodi Ar. Sit** **144.55 285** *e*PKPpre 21 16 10.0
TORD **Torodi Ar. Bea** **144.55 285** PKP PKPdf 21 16 10.1 -2.6
comp=Z,63nm,0.9s,baz=107,slow=4.8,SNR=82
TORD SKKPbc 21 27 43.7
comp=Z,5.3nm,0.8s,baz=273,slow=3.6,SNR=8.0
TORD **Torodi Ar. Bea** **144.55 285** PKP PKPdf 21 16 10.1 -2.6
TORD SKKPbc 21 27 43.7
SIV **San Ignacio** **145.31 128** PKPbc PKPbc 21 16 12.7 -1.4
comp=Z,522nm,1.0s,baz=238,slow=4.4,SNR=294
SHEL **Horse Pasture** **145.31 232** *e*PKPdf PKPdf 21 16 15.9 +1.9
SHEL *e* 21 16 19.7
CPD **Cerro la Pandu** **145.89 66** *e*PKIKP PKPdf 21 16 14.8 -0.2
CPD **Cerro la Pandu** **145.89 66** *e*PKPdf PKPdf 21 16 14.6 -0.4
MTP **Monte Pirata** **146.20 65** *e*PKPdf PKPdf 21 16 14.7 -0.8
PGRA **Graciosa** **146.22 352** *e*PKP PKPbc 21 16 21.9 +5.1
SRBC **Serra Branca** **146.22 352** *e*PKP PKPbc 21 16 20.7 +3.9
PSBA **Serra de Santa** **146.39 351** *e*PKP PKPbc 21 16 20.0 +2.7
ADH **Angra Heroismo** **146.48 351** *e*PKP PKPbc 21 16 20.5 +2.9
ROSA **Rosais** **146.56 353** *e*PKP PKPbc 21 16 20.9 +3.1
PMAN **Manadas** **146.63 352** *e*PKP PKPbc 21 16 20.3 +2.3
PCED **Cedros** **146.71 353** *e*PKP PKPbc 21 16 20.3 +2.1
CALA **Caldeira** **146.75 353** *e*PKP PKPbc 21 16 20.6 +2.3
PICO **Pico** **146.80 353** *e*PKP PKPbc 21 16 25.0 +6.5
PID **Ribeirinha** **146.82 352** *e*PKP PKPbc 21 16 21.2 +2.7
PMPS **Porto Santo** **148.26 332** *e*PKP PKPbc 21 16 25.0 +2.6
PCRV **Puerto La Cruz** **148.73 79** PKPbc PKPbc 21 16 22.2 -1.5
comp=Z,45nm,0.8s,baz=12,slow=13,SNR=6.1
PMAR **Madeira** **148.81 332** *e*PKP PKPbc 21 16 26.4 +2.6
LZG **Guadaloupe-1** **150.24 67** *e*P PKPdf 21 16 24.1 +2.0
TBG **Guadaloupe-3** **150.44 67** *e*P PKPdf 21 16 24.7 +2.3
MGG **Marie-Galante** **150.72 67** *e*P PKPdf 21 16 24.0 +1.1
DEG **La Desirade** **150.84 66** *e*P PKPdf 21 16 25.2 +2.2
CAM4 **Nova Friburgo** **150.94 162** ⇑*i*P PKPbc 21 16 27.9 -1.1
CAM4 *i* 21 16 29.9
CAM4 *i* 21 16 33.0
CAM4 *i* 21 16 34.8
CAM4 *i* 21 16 42.5
LIC **Lamto** **151.75 273** *e*PKIKP PKPbc 21 16 29.9 -1.0
comp=Z,35nm,0.4s
LIC *e*R
comp=Z,593nm,22.8s
LIC **Lamto** **151.75 273** *e*PKPdf PKPbc 21 16 29.9 -1.0
LIC LR LR
comp=Z,300nm,22.8s
CAM3 **Guarapari** **153.06 165** ⇑*i*P PKPbc 21 16 36.6 +2.8
CAM3 *i* 21 16 43.1
CAM3 *i* 21 16 49.9
CAM3 *i* 21 16 52.0
CAM3 *i* 21 16 56.7

WEL 06 21:28:33.6±0.5, 3894S×17510E, h216km±3km, ML3.7/14, 1D, Error ellipse: s-maj=7.2km s-min=5.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNVZ	**Wahianoa**	**0.54**	**135**	PN	Pn	21 29 02.8	0.0
WNVZ				SN	S	21 29 25.3	-0.2
WNVZ				SN	S	21 29 25.5	+0.1
MOVZ	**Moawhango**	**0.69**	**133**	PN	Pn	21 29 02.8	-0.5
MOVZ				SN	S	21 29 25.4	-1.0
WAZ	**Wanganui**	**0.82**	**186**	PN	Pn	21 29 04.1	+0.1
TSZ	**Takapari Road**	**1.30**	**150**	PN	Pn	21 29 07.4	+0.2
WPHZ	**Waipukurau**	**1.53**	**138**	PN	Pn	21 29 09.0	0.0
MRZ	**Mangatainoka R**	**1.76**	**168**	PN	Pn	21 29 10.7	-0.3
KIW	**Kapiti Island**	**1.92**	**184**	PN	Pn	21 29 12.1	-0.5
BFZ	**Birch Farm**	**1.95**	**154**	PN	Pn	21 29 12.5	-0.3
MWZ	**Matawai**	**1.99**	**73** ⇓	PN	Pn	21 29 10.5	-2.8
KNZ	**Kokohu**	**2.00**	**93**	PN	Pn	21 29 11.9	-1.5
DUWZ	**D'Urville Isla**	**2.07**	**206**	PN	Pn	21 29 13.2	-0.8
CAW	**Cannon Point**	**2.16**	**181**	PN	Pn	21 29 14.4	-0.5
MTW	**Mount Morrison**	**2.24**	**172**	PN	Pn	21 29 14.9	-0.8
MRW	**Makara Radio**	**2.31**	**188**	PN	Pn	21 29 15.7	-0.7
TCW	**Tory Channel**	**2.36**	**195**	PN	Pn	21 29 16.4	-0.6
SNZO	**South Karori**	**2.38**	**187**	PN	Pn	21 29 16.4	-0.9
PAWZ	**Paruwai Farm**	**2.45**	**174**	PN	Pn	21 29 17.2	-0.8
PAWZ				SN	S	21 29 52.0	-0.8
BHW	**Baring Head**	**2.47**	**184**	PN	Pn	21 29 17.2	-1.0
MSWZ	**Moikau Station**	**2.47**	**177**	PN	Pn	21 29 17.3	-0.9
PUZ	**Puketiti**	**2.62**	**72**	PN	Pn	21 29 16.3	-3.5
NNZ	**Nelson**	**2.63**	**210**	PN	Pn	21 29 18.3	-1.6
QRZ	**Quartz Range**	**2.73**	**226**	PN	Pn	21 29 18.6	-2.4
BSWZ	**Blackbirch Sta**	**2.92**	**198**	PN	Pn	21 29 22.4	-0.8
THZ	**Tophouse**	**3.28**	**210**	PN	Pn	21 29 25.4	-1.9
KHZ	**Kahutara**	**3.67**	**198**	PN	Pn	21 29 30.6	-1.4
LTZ	**Lake Taylor**	**4.40**	**208**	PN	Pn	21 29 38.0	-2.8

*ISCJB **06** 21:32:57.2±2.9, 7.1S±02.0×1253E±0.3, h463km±37km, mb3.8/2, Error ellipse: s-maj=51.3km s-min=28.7km az=132.3*
*IDC **06** 21:32:57.3±6.1, 6.88S×125.67E, h449km±82km, mb3.3/2, mb1 3.4/5, mb1mx3.1/17, mbtmp3.3/5, Error ellipse: s-maj=102.5km s-min=26.6km az=53.0*
*NEIC **06** 21:32:59.6±1.8, 7.17S×125.33E, h480km±23km, mb4.6/3, Error ellipse: s-maj=35.9km s-min=20.4km az=62.0*

ISC 06 21:32:59.4±2.4, 7.71S±02.0×1254E±0.3, h475km±29km, n11, σ0.33/11, mb3.8/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.91**	**129**	*e*P	**P**	**21 35 05.3**	**+0.5**
	29nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.91**	**179**	*e*P	**P**	**21 35 26.3**	**0.0**
	13nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.91**	**179**	P	**P**	**21 35 26.5**	**+0.2**
	2.3nm,0.3s,baz=18,slow=10,SNR=99						
WRA	**Warramunga Arr**	**15.44**	**147**	P	**P**	**21 36 14.0**	**-0.6**
	1.1nm,0.3s,baz=326,slow=11,SNR=63						
WB2	**Warramunga Arr**	**15.44**	**146**	*e*P	**P**	**21 36 14.0**	**-0.6**
AS31	**Alice Springs**	**18.38**	**154**	*e*P	**P**	**21 36 44.6**	**+0.2**
ASAR	**Alice Springs**	**18.38**	**154**	P	**P**	**21 36 44.5**	**+0.1**
	1.1nm,0.3s,baz=328,slow=8.7,SNR=56						
ASPA	**Alice Springs**	**18.38**	**154**	*e*P	**P**	**21 36 44.6**	**+0.2**
STKA	**Stephens Creek**	**28.91**	**151**	*e*P	**P**	**21 38 18.8**	**+0.2**
	1.4nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**28.91**	**151**	P	**P**	**21 38 18.9**	**+0.2**
	1.9nm,0.3s,mb4.0,baz=329,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**65.88**	**329**	P	**P**	**21 42 57.0**	**-0.1**
	0.7nm,0.5s,mb3.6,baz=122,slow=7.7,SNR=23						

IDC 06 21:33:28.7±11.0, 738S×12844E, h115km±108km, mb3.4/2, mb1 3.9/5, mb1mx3.6/15, mbtmp3.7/5, ML4.3/3, Error ellipse: s-maj=127.4km s-min=33.9km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.01**	**194**	*e*P	Pn	21 36 02.6	-0.1
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.01**	**194**	P	Pn	21 36 02.9	+0.2
	2.9nm,0.3s,baz=30,slow=11,SNR=16						
FITZ				S	Sn	21 37 57.7	-6.1
	1.1nm,0.3s,baz=294,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**13.74**	**156**	P	Pn	21 36 37.7	-0.8
	1.2nm,0.3s,baz=328,slow=14,SNR=9.6						
WRA				S	Sn	21 38 58.1	-12
	2.6nm,0.3s,baz=336,slow=23,SNR=9.8						
WB2	**Warramunga Arr**	**13.74**	**156**	*e*P	Pn	21 36 38.2	-0.4
ASAR	**Alice Springs**	**17.02**	**163**	P	Pn	21 37 21.1	+1.4

0.8nm,0.3s,baz=306,slow=19,SNR=4.6
WB2 Warramunga Arr 17.61 194 *e*P **Pn 21 45 01.7 -1.9**
WRA Warramunga Arr 17.62 194 P **Pn 21 45 03.8 +0.1**
0.6nm,0.3s,baz=18,slow=12,SNR=14
WRA S **S 21 48 11.0 -9.4**
0.3nm,0.3s,baz=8.7,slow=22,SNR=5.3
FITZ Fitzroy Crossi 19.99 219 P **Pn 21 45 32.2 +0.4**
2.0nm,0.7s,baz=40,slow=16,SNR=5.2
FITZ S **S 21 49 09.4 +0.2**
3.0nm,0.7s,baz=166,slow=9.4,SNR=3.8
AS31 Alice Springs 21.31 193 *e*P **P 21 45 43.8 +0.3**
ASAR Alice Springs 21.31 193 P **P 21 45 44.1 +0.6**
2.1nm,0.7s,mb3.6,baz=23,slow=9.6,SNR=14
ASAR S **S 21 49 39.7 +4.6**
1.0nm,0.9s,baz=18,slow=27,SNR=4.0
SONM Songino Array 57.84 335 P **P 21 50 47.2 +0.9**
0.5nm,1.0s,mb3.5,baz=163,slow=10,SNR=3.5
MKAR Makanchi Array 69.92 322 P **P 21 52 06.6 +1.1**
1.9nm,0.6s,mb4.1,baz=102,slow=8.0,SNR=29
ZAL Zalesovo 72.06 330 P **P 21 52 18.0 -0.5**
0.7nm,0.4s,mb3.8,baz=359,slow=11,SNR=3.6
VNDA Vanda 75.70 175 P **P 21 52 39.7 0.0**
1.7nm,0.7s,mb3.9,baz=325,slow=6.8,SNR=20
VNDA Vanda 75.70 175 P **P 21 52 39.7 0.0**
BRVK Borovoye 79.51 325 *e*P **P 21 52 59.6 -1.3**
3.2nm,0.7s,mb4.3
CHKZ Chkalovo 79.53 326 *e*P **P 21 53 01.0 0.0**
1.1nm,0.6s,mb3.9
ZRNK Zerenda 80.21 325 *e*P **P 21 53 04.2 -0.4**
1.9nm,0.9s,mb3.9
TORD Torodi Ar. Bea 136.40 286 PKP PKPdf 22 00 17.5 +2.2
0.4nm,0.6s,baz=68,slow=1.4,SNR=5.5
TORD Torodi Ar. Bea 136.40 286 PKP PKPdf 22 00 17.5 +2.2

*ISCJB **06** 21:48:03.4±1.3, 569S±005×14722E±009, h61km±12km, mb4.4/17, Error ellipse: s-maj=15.3km s-min=8.1km az=35.8*
*NEIC **06** 21:48:07.5±1.9, 574S×147.17E, h85km±17km, mb4.6/9, Error ellipse: s-maj=15.2km s-min=12.3km az=75.0*
*IDC **06** 21:48:08.7±1.9, 587S×147.18E, h92km±18km, mb4.0/10, mb1 4.1/13, mb1mx4.1/17, mbtmp4.0/13, MS3.8/10, Ms1 3.8/10, ms1mx3.6/21, Error ellipse: s-maj=20.8km s-min=9.8km az=105.0*
ISC 06 21:48:08.3±1.2, 584S±006×14715E±009, h88km±11km, n39, σ1§08/40, mb4.3/17, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**180**	P	**Pn**	**21 48 60.0**	**-1.1**
	44nm,0.3s,baz=26,slow=4.6,SNR=122						
PMG				S	**Sn**	**21 49 41.9**	**0.0**
	123nm,0.3s,baz=357,slow=20,SNR=7.4						
HNR	**Honiara**	**13.18**	**106**	P	**Pn**	**21 51 20.9**	**+9.1**
	17nm,0.3s,baz=246,slow=1.1,SNR=5.5						
CTA	**Charters Tower**	**14.19**	**183**	*e*P	**Pn**	**21 51 27.6**	**+2.5**
	6.3nm,0.4s						
CTA	**Charters Tower**	**14.19**	**183**	P	**Pn**	**21 51 26.3**	**+1.2**
	2.1nm,0.3s,baz=1.5,slow=14,SNR=21						
CTA				LR	LR	21 56 04.1	
	comp=Z,598nm,20.0s,baz=5.9,slow=34						
CTAO	**Charters Tower**	**14.19**	**183**	*e*P	**Pn**	**21 51 27.7**	**+2.6**
	7.6nm,0.5s						
KAKA	**Kakadu**	**16.03**	**244**	*e*P	**Pn**	**21 51 48.2**	**-0.3**
	38nm,0.4s						
WB2	**Warramunga Arr**	**18.74**	**220**	*e*P	**Pn**	**21 52 20.3**	**-1.2**
WB2				*e*S	**S**	**21 55 45.6**	**-3.1**
WB2	**Warramunga Arr**	**18.74**	**220**	*e*P	**Pn**	**21 52 19.8**	**-1.7**
WB2				*e*P		21 52 20.3	
WB2				*e*S	**S**	**21 55 45.6**	**-3.1**
WRA	**Warramunga Arr**	**18.75**	**220**	P	**Pn**	**21 52 20.5**	**-1.1**
	1.8nm,0.3s,baz=37,slow=11,SNR=41						
WRA				S	**S**	**21 55 49.7**	**+0.8**
	0.3nm,0.3s,baz=44,slow=22,SNR=6.3						
WRA				LR	LR	22 00 49.6	
	comp=Z,335nm,18.4s,baz=55,slow=41						
GUMO	**Guam**	**19.43**	**353**	LR	LR	21 59 31.4	
	comp=Z,88nm,19.4s,baz=92,slow=35						
AS31	**Alice Springs**	**21.83**	**214**	*e*P	**P**	**21 52 54.2**	**+0.8**
AS31				*e*S	**S**	**21 56 48.8**	**-0.8**
ASAR	**Alice Springs**	**21.83**	**214**	P	**P**	**21 52 53.7**	**+0.3**
	4.4nm,0.4s,mb4.1,baz=52,slow=8.1,SNR=42						
ASAR				S	**S**	**21 56 49.2**	**-0.4**
	3.4nm,0.6s,baz=33,slow=21,SNR=6.2						
ASAR				LR	LR	22 01 30.0	
	comp=Z,236nm,19.3s,baz=18,slow=37						
ASPA	**Alice Springs**	**21.83**	**214**	*e*P	**P**	**21 52 54.2**	**+0.8**
ASPA				*e*S	**S**	**21 56 48.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.27**	**238**	*i*P	**P**	**21 53 18.4**	**+1.2**
	124nm,0.6s,mb5.4						
FITZ				*e*S	**S**	**21 57 30.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.27**	**238**	P	**P**	**21 53 18.4**	**+1.1**
	69nm,0.6s,mb5.1,baz=62,slow=8.5,SNR=196						
FITZ				LR	LR	22 02 04.6	
	comp=Z,102nm,21.2s,baz=185,slow=34						
DZM	**Mont Dzumac**	**24.67**	**133**	P	**P**	**21 53 19.5**	**-1.3**
	9.7nm,0.9s,mb4.2,baz=32,slow=8.4,SNR=7.1						
ARMA	**Armidale**	**24.81**	**171**	*e*P	**P**	**21 53 23.3**	**+1.2**
STKA	**Stephens Creek**	**26.42**	**191**	*e*P	**P**	**21 53 36.8**	**+0.1**
	6.5nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**26.42**	**191**	P	**P**	**21 53 37.1**	**+0.5**
	3.9nm,0.5s,mb4.1,baz=5.2,slow=9.1,SNR=8.4						
STKA				LR	LR	22 04 17.2	
	comp=Z,288nm,18.6s,baz=22,slow=37						
MBWA	**Marble Bar**	**30.62**	**238**	*e*P	**P**	**21 54 14.2**	**+0.3**
	12nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**37.59**	**223**	*e*P	**P**	**21 55 14.6**	**+0.4**
	13nm,0.4s,mb5.1						
NWAO	**Narrogin (SRO)**	**38.74**	**222**	P	**P**	**21 55 24.9**	**+1.0**
	5.9nm,0.6s,mb4.6,baz=49,slow=12,SNR=4.7						
NWAO				LR	LR	22 12 35.3	
	comp=Z,210nm,20.7s,baz=294,slow=38						
NWAO	**Narrogin (SRO)**	**38.74**	**222**	P	**P**	**21 55 24.9**	**+1.0**
NWAO				LR	LR	22 12 35.3	
MJAR	**Matsushiro Arr**	**42.98**	**349**	P	**P**	**21 55 59.3**	**+0.6**
	2.2nm,0.5s,mb4.2,baz=157,slow=6.3,SNR=6.8						
RPZ	**Rata Peaks**	**43.19**	**155**	LR	LR	22 10 34.0	
	comp=Z,176nm,20.9s,baz=342,slow=31						
KSRS	**Korea Array**	**46.65**	**339**	P	**P**	**21 56 28.6**	**+0.7**
	1.3nm,0.4s,mb4.0,baz=157,slow=8.8,SNR=5.8						
KSRS				LR	LR	22 12 54.0	
	comp=Z,105nm,18.6s,baz=320,slow=32						
PPT	**Papeete**	**62.80**	**107**	LR	LR	22 23 00.4	
	comp=Z,110nm,19.7s,baz=343,slow=33						
LSA	**Lhasa**	**64.26**	**307**	*e*P	**P**	**21 58 35.4**	**+1.3**
	1.6nm,0.7s,mb4.0						
SONM	**Songino Array**	**64.33**	**331**	P	**P**	**21 58 35.2**	**+0.6**
	1.3nm,0.6s,mb4.0,baz=136,slow=4.9,SNR=13						
VNDA	**Vanda**	**72.06**	**177**	P	**P**	**21 59 23.4**	**+0.5**
	3.1nm,0.7s,mb4.3,baz=330,slow=6.4,SNR=35						
MKAR	**Makanchi Array**	**77.47**	**320**	P	**P**	**21 59 53.4**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=97,slow=8.5,SNR=10						
ZAL	**Zalesovo**	**78.96**	**328**	P	**P**	**22 00 01.1**	**-1.2**
	1.2nm,0.4s,mb4.0,baz=356,slow=3.2,SNR=5.8						
QSPA	**South Pole Qui**	**84.13**	**180**	*e*P	**P**	**22 00 29.2**	**-0.3**
	6.3nm,0.4s,mb4.8						
CHKZ	**Chkalovo**	**86.75**	**325**	*e*P	**P**	**22 00 39.5**	**-3.1**
	1.1nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**87.52**	**324**	*e*P	**P**	**22 00 44.1**	**-2.2**
	1.1nm,0.6s,mb4.1						
GNI	**Garni**	**103.22**	**310**	*e*P	Pdif	22 01 55.3	-2.5
	15nm,0.4s						
GERES	**GERESS Array B**	**121.86**	**326**	PKP	PKPdf	22 06 52.3	+0.2
	0.6nm,0.4s,baz=90,slow=1.3,SNR=9.1						
TOA0	**Torodi Ar. Sit**	**145.19**	**285**	*e*PKPdf	PKPdf	22 07 36.3	+0.7
TORD	**Torodi Ar. Bea**	**145.19**	**285**	PKPbc	PKPbc	22 07 35.5	+0.1
	1.7nm,0.6s,baz=68,slow=4.3,SNR=35						

MAN 06 21:49:33.3, 917N×12222E, h33km, mb3.5, ML4.7, MS2.6, 2C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**1.26**	**117**	*i*P	Pn	21 49 53.8	-0.8
DCPH				*i* S	Sn	21 50 09.1	-1.3
IPIL	**Ipil**	**1.41**	**166**	*i*P	Pn	21 49 56.8	0.0
IPIL				*i* S	Sn	21 50 12.5	-1.7
IPIL	**Ipil**	**1.41**	**166**	*e*P	Pn	21 49 57.2	+0.5
IPIL				*e*S	Sn	21 50 14.5	+0.3
GUIM	**Jordan**	**1.49**	**14**	*e*P	Pn	21 49 58.2	+0.4
GUIM				*e*S	Sn	21 50 13.1	-3.0
TBP	**Tagbilaran**	**1.70**	**72**	*e*P	Pn	21 50 01.1	+0.5
TBP				*e*S	Sn	21 50 30.8	+10
CUYO	**Cuyo Island**	**2.05**	**325**	*e*P	Pn	21 50 06.3	+0.8
LLP	**Lapu-Lapu**	**2.06**	**56**	*i*P	Pn	21 50 06.3	+0.7
LLP				*i* S	Sn	21 50 30.8	+0.6
RCP	**Roxas**	**2.43**	**12**	*e*P	Pn	21 50 14.1	+3.4
KALP	**Kalibo**	**2.50**	**3**	*e*P	Pn	21 50 22.4	+11
MSLP	**Maasin**	**2.77**	**70**	*e*P	Pn	21 50 17.3	+1.9
BUKP	**Musuan**	**3.09**	**114**	*e*P	Pn	21 50 23.4	+3.7
OTRP	**Odiongan**	**3.18**	**356**	*e*P	Pn	21 50 22.2	+1.2
ENPP	**El Nido**	**3.42**	**307**	*e*P	Pn	21 50 25.4	+1.1
BUSP	**Coron**	**3.45**	**325**	*e*P	Pn	21 50 25.3	+0.6

IDC 06 21:59:35.2±4.5, 4650N×15396E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=154.0km s-min=39.3km az=9.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.57**	**298**	P	P	22 08 12.3	-0.2
	0.3nm,0.5s,baz=75,slow=6.5,SNR=4.6						
FINES	**FINESS Array B**	**64.52**	**335**	P	P	22 10 13.2	-0.6
	2.0nm,0.8s,baz=54,slow=7.1,SNR=7.3						
TXAR	**Lajitas Array**	**77.11**	**61**	P	P	22 11 30.6	+0.2
	0.4nm,0.7s,baz=328,slow=3.2,SNR=5.3						

*MOS **06** 22:19:22.2±0.9, 4256N×4607E, h17km, mb3.8/1, Error ellipse: s-maj=16.6km s-min=10.5km az=19.1*
*CSEM **06** 22:19:22.0, 4256N×4607E, h17km, mb3.8, After OBN*
*ISCJB **06** 22:19:24.4±0.5, 4264N±005×4607E±004, h21km±5km, Error ellipse: s-maj=8.4km s-min=4.8km az=147.0*
ISC 06 22:19:23.7±0.5, 4268N±004×4598E±003, h11km±6km, n16, σ1§12/30, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.18**	**94**	*e*Pg	**Pg**	**22 19 26.0**	**-1.6**
BTLR				*i* S	**Sg**	**22 19 31.0**	**+0.7**
BTLR				pmax	pmax		
	comp=Z,53nm,0.3s						
BTLR	**Botlikh**	**0.18**	**94**	*e*Pg	**Pg**	**22 19 26.0**	**-1.6**
	comp=Z,53nm,0.3s						
BTLR				*i* Sg	**Sg**	**22 19 31.0**	**+0.7**
KRNR	**Karanay**	**0.70**	**77**	*e*Pg	**Pg**	**22 19 37.3**	**+0.1**
KRNR				*i* S	**Sg**	**22 19 47.8**	**+1.4**
DBC	**Dubki**	**0.71**	**61**	*e*Pg	**Pg**	**22 19 37.0**	**-0.5**
DBC				*i* S	**Sg**	**22 19 47.0**	**+0.2**
SNJR	**Sundja**	**0.95**	**295**	*i* Pg	**Pg**	**22 19 42.1**	**+0.1**
SNJR				*e*Sg	**Sg**	**22 19 57.3**	**+3.0**
DUS	**Dusheti**	**1.11**	**239**	P	**Pg**	**22 19 45.2**	**0.0**
DUS				S	**Sg**	**22 20 01.1**	**+1.4**
LACR	**Lac**	**1.25**	**277**	*i* Pg	**Pg**	**22 19 45.8**	**-2.0**
LACR				*i* Sg	**Sg**	**22 20 03.8**	**-0.3**
BTKR	**Batakoyurt**	**1.27**	**304**	*i* Pg	**Pg**	**22 19 47.5**	**-0.5**
BTKR				*i* Sg	**Sg**	**22 20 07.0**	**+2.5**
MTA	**Mtatsminda**	**1.32**	**222**	P	**Pn**	**22 19 48.8**	**+0.8**
MTA				S	**Sb**	**22 20 06.7**	**+1.3**
ARNR	**Ardon**	**1.35**	**293**	*i* Pg	**Pg**	**22 19 48.3**	**-1.4**
ARNR				*i* Sg	**Sg**	**22 20 08.1**	**+0.8**
KMSR	**Komsomolskaya**	**1.42**	**300**	*i* Pg	**Pg**	**22 19 49.9**	**-1.1**
KMSR				*i* Sg	**Sg**	**22 20 10.9**	**+1.4**
KORR	**Kora**	**1.47**	**287**	*i* Pg	**Pn**	**22 19 49.7**	**-0.3**
KORR				*i* Sg	**Sg**	**22 20 10.8**	**-0.1**
ZEI	**Tsey**	**1.54**	**274**	*i* Pg	**Pn**	**22 19 50.2**	**-0.8**
ZEI				*i* Sg	**Sn**	**22 20 11.3**	**+0.3**
KZR	**Kazreti**	**1.74**	**223**	S	**Sn**	**22 20 10.1**	**-6.0**
DIGR	**Digorskoe uzhe**	**1.78**	**278**	*e*Pn	**Pn**	**22 19 53.7**	**-0.7**
ONI	**Oni**	**1.87**	**268**	P	**Pg**	**22 19 58.4**	**-1.2**
ONI				S	**Sg**	**22 20 22.5**	**-1.4**

KRSC 06 22:22:21.8±1.0, 5412N×15767E, h278km±48km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.46**	**159**	*i* P	Pn	22 23 00.2	+2.4
GNL	**Ganaly**	**0.46**	**159**	*i* P	Pn	22 23 00.2	+2.4
AVH	**Avacha**	**1.07**	**143**	P	Pn	22 23 01.1	+1.0
AVH	**Avacha**	**1.07**	**143**	P	Pn	22 23 01.1	+1.0
NLC	**Nalytchevo**	**1.38**	**133**	*e*P	Pn	22 23 03.8	+1.8
NLC				S	S	22 23 33.9	+0.1
NLC	**Nalytchevo**	**1.38**	**133**	*e*P	Pn	22 23 03.8	+1.8
NLC				S	S	22 23 33.9	+0.1
SPN	**Mys Shipunski**	**1.74**	**125**	*e*P	Pn	22 23 05.6	+1.1
SPN				*e*S	S	22 23 38.1	-0.2
SPN	**Mys Shipunski**	**1.74**	**125**	*e*P	Pn	22 23 05.6	+1.1
SPN				*e*S	S	22 23 38.1	-0.2
RUS	**Russkaya**	**1.76**	**163**	P	Pn	22 23 06.4	+1.7
RUS				S	S	22 23 39.3	+0.6
RUS	**Russkaya**	**1.76**	**163**	P	Pn	22 23 06.4	+1.7
RUS				S	S	22 23 39.3	+0.6
KMNR	**Kamenistaya**	**2.21**	**41**	P	Pn	22 23 10.5	+2.1
KMNR	**Kamenistaya**	**2.21**	**41**	P	Pn	22 23 10.5	+2.1
MKZ	**Mys Kozlova**	**2.42**	**78**	*e*P	Pn	22 23 11.4	+1.1
MKZ				*e*S	S	22 23 47.6	-1.2
MKZ	**Mys Kozlova**	**2.42**	**78**	*e*P	Pn	22 23 11.4	+1.1
MKZ				*e*S	S	22 23 47.6	-1.2
ZLN	**Zelenaya**	**2.62**	**42**	S	S	22 23 53.7	+1.4
ZLN	**Zelenaya**	**2.62**	**42**	S	S	22 23 53.7	+1.4
KBTR	**Krutoberegovo**	**3.62**	**53**	*e*P	Pn	22 23 23.7	+1.1
KBTR	**Krutoberegovo**	**3.62**	**53**	*e*P	Pn	22 23 23.7	+1.1

KRSC 06 22:26:39.7±2.3, 4943N×15552E, h142km±99km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**3.52**	**26**	P	Pn	22 27 34.8	+1.4
GRL	**Gorelyy**	**3.52**	**26**	P	Pn	22 27 34.8	+1.4
RUS	**Russkaya**	**3.55**	**31**	*e*P	Pn	22 27 36.0	+2.1
RUS				*e*S	Sn	22 28 17.0	+1.2
RUS	**Russkaya**	**3.55**	**31**	*e*P	Pn	22 27 36.0	+2.1
RUS				*e*S	Sn	22 28 17.0	+1.2
AVH	**Avacha**	**4.34**	**26**	P	Pn	22 27 46.3	+2.1
AVH	**Avacha**	**4.34**	**26**	P	Pn	22 27 46.3	+2.1
SDLR	**Sedlovina**	**4.39**	**27**	P	Pn	22 27 47.1	+2.2
SDLR	**Sedlovina**	**4.39**	**27**	P	Pn	22 27 47.1	+2.2
NLC	**Nalytchevo**	**4.45**	**31**	S	Sn	22 28 36.0	-0.9
NLC	**Nalytchevo**	**4.45**	**31**	S	Sn	22 28 36.0	-0.9
GNL	**Ganaly**	**4.53**	**19**	P	Pn	22 27 49.0	+2.3
GNL	**Ganaly**	**4.53**	**19**	P	Pn	22 27 49.0	+2.3
SPN	**Mys Shipunski**	**4.63**	**36**	P	Pn	22 27 49.8	+1.7
SPN				S	Sn	22 28 41.0	-0.3
SPN	**Mys Shipunski**	**4.63**	**36**	P	Pn	22 27 49.8	+1.7
SPN				S	Sn	22 28 41.0	-0.3
MKZ	**Mys Kozlova**	**6.41**	**34**	P	Pn	22 28 11.3	-0.4
MKZ	**Mys Kozlova**	**6.41**	**34**	P	Pn	22 28 11.3	-0.4

*NEIC **06** 22:28:42.3±2.6, 4059N×14603E, h35km, mb4.0/1, Error ellipse: s-maj=44.3km s-min=17.9km az=102.0*
*ISCJB **06** 22:28:49.9±0.9, 4078N±004×14501E±008, h73km±10km, mb4.2/2, Error ellipse: s-maj=10.4km s-min=4.7km az=51.2*
*JMA **06** 22:28:49.0±0.2, 4076N×14521E, h56km, M3.9*
ISC 06 22:28:50.9±0.9, 4080N±004×14503E±008, h68km±10km, n23, σ1§07/39, mb4.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.86**	**311**	*e*Pn	**Pn**	**22 29 21.8**	**+1.2**
ERM				*e*Sn	**Sn**	**22 29 43.0**	**-0.1**
JEM	**Erimo**	**1.86**	**312**	*e*S	**Sn**	**22 29 43.2**	**0.0**
JCH	**Churui**	**2.20**	**326**	P	**Pn**	**22 29 25.7**	**+0.5**
JCH				*e*S	**Sn**	**22 29 51.1**	**-0.4**
JAK	**Akkeshi**	**2.21**	**354**	P	**Pn**	**22 29 24.7**	**-0.7**
JAK				*e*S	**Sn**	**22 29 49.3**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.26**	**312**	P	**Pn**	**22 29 27.8**	**+1.8**
JNBK				*e*S	**Sn**	**22 29 54.5**	**+1.6**
JOB	**Onbets**	**2.29**	**337**	P	**Pn**	**22 29 26.9**	**+0.5**
JOB				*e*S	**Sn**	**22 29 53.7**	**+0.2**
JTH	**Tanohata**	**2.56**	**252**	P	**Pn**	**22 29 30.4**	**+0.3**
JTH				*e*S	**Sn**	**22 29 57.6**	**-2.6**
NEM2	**Nemuro 2**	**2.62**	**11**	P	**Pn**	**22 29 30.3**	**-0.6**
NEM2				*e*S	**Sn**	**22 29 58.5**	**-3.1**
JAR	**Ashorobuto**	**2.67**	**340**	P	**Pn**	**22 29 31.2**	**-0.4**
JAR				*e*S	**Sn**	**22 30 01.2**	**-1.6**
JANG	**Nango**	**2.71**	**262**	P	**Pn**	**22 29 32.4**	**+0.3**
JANG				*e*S	**Sn**	**22 30 02.6**	**-1.1**
MIYJ	**Miyakonagasawa**	**2.74**	**245**	P	**Pn**	**22 29 33.1**	**+0.5**
MIYJ				*e*S	**Sn**	**22 30 03.5**	**-1.1**
JFR	**Furan**	**2.98**	**323**	P	**Pn**	**22 29 36.7**	**+0.9**
JFR				*e*S	**Sn**	**22 30 09.6**	**-0.8**
JOT	**Ohata**	**3.06**	**282**	P	**Pn**	**22 29 38.1**	**+1.2**
JOT				*e*S	**Sn**	**22 30 12.6**	**+0.2**
JOM	**Ohasama**	**3.15**	**246**	P	**Pn**	**22 29 39.4**	**+1.2**
JOM				*e*S	**Sn**	**22 30 14.0**	**-0.6**
JKB	**Kayabe**	**3.20**	**291**	P	**Pn**	**22 29 40.4**	**+1.6**
JKB				*e*S	**Sn**	**22 30 16.2**	**+0.5**
JTKR	**Abashiri--Toko**	**3.28**	**346**	P	**Pn**	**22 29 40.5**	**+0.6**
JTKR				*e*S	**Sn**	**22 30 18.3**	**+0.6**
JMK	**Ichinoseki**	**3.46**	**239**	P	**Pn**	**22 29 43.3**	**+1.0**
JMK				*e*S	**Sn**	**22 30 20.7**	**-1.4**
MAJO	**Matsushiro**	**6.82**	**234**	Pn	**Pn**	**22 30 27.9**	**-0.3**
YAK	**Yakutsk**	**23.20**	**342**	*e*Pn	**P**	**22 33 51.0**	**-0.9**
	12nm,0.3s,mb4.7						
TATO	**Taipei**	**25.18**	**238**	P	**P**	**22 34 10.4**	**+0.4**
NACB	**Ninganchiao**	**25.68**	**237**	*e*P	**P**	**22 34 12.4**	**-2.0**
ULN	**Ulaanbaatar**	**27.85**	**298**	P	**P**	**22 34 34.3**	**+0.3**
LSA	**Lhasa**	**44.75**	**273**	*e*P	**P**	**22 36 58.5**	**+1.0**
	0.7nm,0.4s,mb3.7						

*ISCJB **06** 22:28:51.6±0.7, 473N±0.1×276W±0.1, h10km, mb3.9/9, MS3.6/2, Error ellipse: s-maj=17.8km s-min=10.9km az=162.2*
*IDC **06** 22:28:52.4±1.4, 4719N×2771W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/25, mbtmp3.9/5, ML4.6/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/37, Error ellipse: s-maj=56.5km s-min=24.3km az=38.0*
*NEIC **06** 22:28:53.4±0.6, 4727N×2765W, h10km, mb4.1/8, Error ellipse: s-maj=15.1km s-min=9.3km az=168.0*
*CSEM **06** 22:28:53.4, 4727N×2765W, h10km, mb4.0/5, After NEIC*
ISC 06 22:28:53.5±0.7, 473N±01×276W±01, h10km, n34, σ0§80/32, mb3.9/9, MS3.6/2, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**16.77**	**114**	*e*P	**Pn**	**22 32 43.3**	**-5.1**
	32nm,1.2s						
ESDC	**Sonseca Array**	**18.71**	**105**	P	**Pn**	**22 33 14.1**	**+1.6**
	0.4nm,0.3s,baz=294,slow=12,SNR=9.5						
ESDC				LR	LR	22 38 57.1	
	comp=Z,176nm,18.1s,baz=310,slow=32						
ESLA	**Sonseca Array**	**18.71**	**105**	*e*P	**Pn**	**22 33 12.9**	**+0.4**
	0.5nm,0.7s						
ESLA	**Sonseca Array**	**18.71**	**105**	*e*P	**Pn**	**22 33 12.9**	**+0.4**
	0.5nm,0.7s						
SFS	**San Fernando**	**19.18**	**116**	P	**Pn**	**22 33 17.1**	**-1.1**
	64nm,0.6s						
SFS	**San Fernando**	**19.18**	**116**	P	**Pn**	**22 33 17.1**	**-1.1**
	64nm,0.6s						
TCF	**Toulx Ste Croi**	**20.39**	**82**	*e*P	**P**	**22 33 30.2**	**-0.2**
	26nm,1.3s						
TCF	**Toulx Ste Croi**	**20.39**	**82**	*e*P	**P**	**22 33 30.2**	**-0.2**
	13nm,1.3s						
BGF	**Bois d'Agland**	**20.75**	**81**	*e*P	**P**	**22 33 34.2**	**-0.2**
	19nm,1.0s						
BGF	**Bois d'Agland**	**20.75**	**81**	*e*P	**P**	**22 33 34.2**	**-0.2**
	9.7nm,1.0s						
AVF	**Avril sur Loir**	**21.04**	**80**	*e*P	**P**	**22 33 38.0**	**+0.5**
SSF	**Saint Saulge**	**21.09**	**79**	*e*P	**P**	**22 33 38.2**	**+0.2**
	11nm,0.8s,mb3.9						
SSF	**Saint Saulge**	**21.09**	**79**	*e*P	**P**	**22 33 38.2**	**+0.2**
	5.5nm,0.8s,mb3.9						
BAIF	**Baives**	**21.11**	**71**	*e*P	**P**	**22 33 37.8**	**-0.5**
	20nm,1.0s,mb4.1						
BAIF	**Baives**	**21.11**	**71**	*e*P	**P**	**22 33 37.8**	**-0.5**
	9.8nm,1.0s,mb4.1						
LOR	**Lormes**	**21.28**	**78**	*e*P	**P**	**22 33 39.2**	**-0.9**
	12nm,1.0s,mb3.9						
LOR	**Lormes**	**21.28**	**78**	*e*P	**P**	**22 33 39.2**	**-0.9**
	6.1nm,1.0s,mb3.9						
SMF	**Signal de Mont**	**21.40**	**80**	*e*P	**P**	**22 33 41.6**	**+0.2**
	20nm,1.1s,mb4.1						
SMF	**Signal de Mont**	**21.40**	**80**	*e*P	**P**	**22 33 41.6**	**+0.2**
	9.8nm,1.1s,mb4.0						
GIVF	**Givet**	**21.50**	**70**	*e*P	**P**	**22 33 42.5**	**0.0**
MEZF	**Maizieres J'vi**	**21.85**	**75**	*e*P	**P**	**22 33 46.5**	**+0.3**
MDT	**Midelt**	**22.65**	**121**	P	**P**	**22 33 56.8**	**+2.0**
	2.6nm,1.0s,mb3.6,baz=322,slow=13,SNR=4.1						
HINF	**Hinteralfeld**	**23.16**	**76**	*e*P	**P**	**22 33 58.7**	**-1.4**
GERES	**GERESS Array B**	**27.41**	**71**	LR	LR	22 44 34.0	
	comp=Z,158nm,20.4s,MS3.6,baz=122,slow=34						
VRAC	**Vranov**	**29.17**	**69**	LR	LR	22 46 49.6	
	comp=Z,179nm,20.7s,MS3.7,baz=7.8,slow=37						
TOA0	**Torodi Ar. Sit**	**41.92**	**134**	*e*P	**P**	**22 36 43.8**	**-0.5**
TOA0				*e*		22 36 50.9	
TOA0	**Torodi Ar. Sit**	**41

BVAR	**Borovoye Array**	**119.04**	**320**	PKP	PKPdf	22 59 10.7	-1.9
	0.7nm,0.3s,baz=138,slow=3.0,SNR=7.0						
BRVK	**Borovoye**	**119.10**	**320**	*e*PKPdf	PKPdf	22 59 12.9	+0.2
ZRNK	**Zerenda**	**119.88**	**320**	*e*PKPdf	PKPdf	22 59 11.9	-2.3
ARCES	**ARCESS Array B**	**129.22**	**349**	PKP	PKPdf	22 59 30.5	-1.6
	6.1nm,1.1s,baz=54,slow=4.8,SNR=6.0						
HFS	**Hagfors**	**139.86**	**350**	PKhKP		22 59 44.4	
	1.1nm,0.4s,baz=62,slow=3.5,SNR=7.8						
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPdf	22 59 53.9	-3.8
	4.2nm,0.5s,baz=43,slow=4.0,SNR=25						
BRTR	**Keskin Array B**	**146.71**	**311**	PKPbc	PKPbc	23 00 05.8	-0.8
	1.2nm,0.6s,baz=152,slow=3.9,SNR=5.0						
MMAI	**Mount Meron Ar**	**147.54**	**299**	PKPbc	PKPbc	23 00 09.2	+0.4
	1.7nm,0.5s,baz=70,slow=7.3,SNR=16						
GERES	**GERESS Array B**	**150.44**	**343**	PKPbc	PKPbc	23 00 13.5	-2.3
	1.7nm,1.0s,baz=48,slow=2.0,SNR=6.5						

NEIC ***06*** *23:04:04.9, 1731N×101.17W, h10km, MD3.8(MEX), After MEX.*

MEX 06 23:04:04.8±0.6, 1730N×10117W, h10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**317**	*i* P	Pg	23 04 12.4	-0.5
ZIIG				*i* S	Sg	23 04 19.0	+0.6
CAIG	**El Cayaco**	**0.90**	**106**	*i* P	Pg	23 04 19.2	-2.9
CAIG				*i* S	Sg	23 04 31.6	-2.3
ACX	**Acapulco**	**1.27**	**110**	*i* P	Pn	23 04 25.8	-2.9
ACX				*i* S	Sb	23 04 41.0	-4.3
MEIG	**Mezcala**	**1.60**	**67**	*i* P	Pn	23 04 29.5	-3.7
MEIG				*i* S	Sn	23 04 49.6	-4.4
PLIG	**Platanillo**	**1.93**	**55**	*i* P	Pn	23 04 33.1	-4.5
PLIG				*i* S	Sn	23 04 57.3	-4.6
PLIG	**Platanillo**	**1.93**	**55**	*i* P	Pn	23 04 33.0	-4.6
PLIG				*i* S	Sn	23 04 56.4	-5.5
MOIG	**Morelia**	**2.36**	**360**	*i* P	Pn	23 04 40.5	-3.1
MOIG				*i* S	Sn	23 05 07.4	-5.3
IIO	**Organos**	**3.25**	**45**	*i* P	Pn	23 04 54.0	-1.8
IIO				*i* S	Sn	23 05 32.3	-2.4
UTMO	**Huajuapan**	**3.25**	**80**	*i* P	Pn	23 04 52.4	-3.5
UTMO				*i* S	Sn	23 05 31.0	-3.7

NEIC ***06*** *23:08:29.9, 1699N×9985W, h15km, MD3.5(MEX), After MEX.*

MEX 06 23:08:28.9±0.4, 1690N×9984W, h29km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.09**	**244**	*i* P	Pb	23 08 32.8	-1.1
ACX				*i* S	Sb	23 08 35.7	-1.7
CAIG	**El Cayaco**	**0.44**	**289**	*i* P	Pb	23 08 36.4	-1.8
CAIG				*i* S	Sb	23 08 43.0	-1.6
MEIG	**Mezcala**	**1.04**	**12**	*i* P	Pn	23 08 45.2	-2.3
MEIG				*i* S	Sn	23 08 57.2	-3.8
PLIG	**Platanillo**	**1.51**	**12**	*i* P	Pn	23 08 52.8	-1.2
PLIG				*i* S	Sn	23 09 09.6	-3.2
UTMO	**Huajuapan**	**2.15**	**64**	*i* P	Pn	23 09 01.8	-1.0
UTMO				*i* S	Sn	23 09 25.9	-2.6
IIO	**Organos**	**2.88**	**21**	*i* P	Pn	23 09 12.1	-0.7
IIO				*i* S	Sn	23 09 44.5	-1.9

CSEM ***06*** *23:24:54.7, 67.19N×2065E, h0km, ML3.2, Mining explosion. After UPP*

UPP ***06*** *23:24:54.7, 67.19N×2065E, h0km, ML3.2, Mining explosion.*

HEL 06 23:24:55.3±0.0, 6718N×2064E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**206**	*i* P	Pg	23 24 56.3	-0.2
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	23 25 06.0	-0.8
MASU	**Masugnsbyn**	**0.60**	**61**	P	Pg	23 25 06.9	-0.8
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	23 25 09.3	-1.1
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	23 25 12.1	-1.0
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	23 25 12.8	-1.2
PAJU	**Pajala**	**0.98**	**98**	P	Pg	23 25 12.8	-1.3
	baz=25						
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	23 25 13.6	-1.2
HARU	**Harads**	**1.03**	**172**	*e*P	Pg	23 25 13.9	-1.2
HARU	**Harads**	**1.03**	**172**	P	Pg	23 25 13.9	-1.1
	baz=337						
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	23 25 25.9	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	23 25 28.4	+0.4
KIF				*e*S	Sn	23 25 53.1	+1.2
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	23 25 29.4	0.0
LILU	**Lilltraesk**	**1.93**	**190**	P	Pn	23 25 29.4	+0.1
	baz=14						
SGF	**Sodankyl**	**2.30**	**81**	*e*PB	Pb	23 25 34.9	-2.7
SGF				*e*SB	Sb	23 26 05.1	-1.4

CSEM ***06*** *23:32:06.5, 67.18N×2060E, h0km, ML3.2, Mining explosion. After UPP*

UPP ***06*** *23:32:06.5, 67.18N×2060E, h0km, ML3.2, Mining explosion.*

HEL 06 23:32:07.1±0.0, 6718N×2060E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**192**	*i* P	Pg	23 32 08.0	-0.2
MASU	**Masugnsbyn**	**0.61**	**62**	*i* P	Pg	23 32 18.1	-0.7
KUA	**Kurravaara**	**0.79**	**353**	*i* P	Pg	23 32 21.2	-1.0
NIKU	**Nikkaluokta**	**0.92**	**320**	*e*P	Pg	23 32 23.6	-1.1
PAJU	**Pajala**	**1.00**	**98**	*e*P	Pg	23 32 24.8	-1.4
LANU	**Lannavaara**	**1.03**	**31**	*e*P	Pg	23 32 25.4	-1.3
HARU	**Harads**	**1.03**	**171**	*e*P	Pg	23 32 25.6	-1.3
HARU	**Harads**	**1.03**	**171**	P	Pg	23 32 25.6	-1.2
	baz=328						
SJUU	**Sjulsmark**	**1.72**	**166**	*e*P	Pn	23 32 37.7	-0.6
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PN	Pn	23 32 40.4	+0.4
KIF				*e*SG	Sg	23 33 06.3	+0.1
LILU	**Lilltraesk**	**1.92**	**189**	*e*P	Pn	23 32 41.1	0.0
SGF	**Sodankyl**	**2.31**	**81**	*e*PB	Pb	23 32 47.5	-2.3
SGF				*e*SG	Sg	23 33 18.1	-3.3

ISCJB ***06*** *23:52:27.5±2.2, 1186N±007×1409E±0.1, h134km±27km, mb3.9/14, Error ellipse: s-maj=24.0km s-min=11.2km az=168.8*

NEIC ***06*** *23:52:27.8±1.8, 1186N×14074E, h114km±20km, mb4.1/5, Error ellipse: s-maj=20.4km s-min=8.6km az=81.0*

IDC ***06*** *23:52:27.3±4.3, 1186N×14079E, h109km±50km, mb3.7/8, mb1 3.8/9, mb1mx3.6/22, mbtmp3.7/9, MS3.8/1, Ms1 3.8/1, ms1mx2.4/30, Error ellipse: s-maj=38.6km s-min=15.9km az=96.0*

ISC 06 23:52:28.6±1.9, 1189N±007×1408E±01, h123km±23km, n28, σ0§87/28, mb4.0/14, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.28**	**66**	P	**Pn**	**23 53 32.3**	**+0.4**
	14nm,0.3s,baz=202,slow=22,SNR=3.6						
GUMO				S	**Sn**	**23 54 20.8**	**-0.3**
	9.9nm,0.3s,baz=232,slow=23,SNR=13						
JHJ	**Hachijo jima 2**	**21.15**	**358**	LR	LR	00 04 07.5	
	comp=Z,263nm,20.8s,baz=101,slow=33						
YHNB	**Yeheng**	**22.39**	**307**	*e*P	**P**	**23 57 17.5**	**+0.6**
TATO	**Taipei**	**22.46**	**308**	P	**P**	**23 57 15.8**	**-1.9**
WRAB	**Tennant Creek**	**32.26**	**191**	*e*P	**P**	**23 58 44.7**	**-0.6**
	1.1nm,0.8s,mb3.6						
WB2	**Warramunga Arr**	**32.27**	**191**	*e*P	**P**	**23 58 46.3**	**+0.9**
WRA	**Warramunga Arr**	**32.27**	**192**	P	**P**	**23 58 46.2**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=11,slow=9.7,SNR=5.6						
FITZ	**Fitzroy Crossi**	**33.36**	**207**	P	**P**	**23 58 53.0**	**-2.0**
	1.5nm,0.7s,mb3.9,baz=25,slow=12,SNR=4.1						
MDJ	**Mudanjiang**	**34.01**	**346**	P	**P**	**23 59 00.1**	**-0.5**
ASAR	**Alice Springs**	**35.98**	**191**	P	**P**	**23 59 18.7**	**+1.2**
	0.5nm,0.6s,mb3.6,baz=18,slow=12,SNR=6.8						
PSI	**Prapat**	**42.48**	**261**	P	**P**	**00 00 11.2**	**-0.3**
	4.2nm,0.4s,mb4.5,baz=89,slow=7.2,SNR=9.9						
STKA	**Stephens Creek**	**43.52**	**179**	*e*P	**P**	**00 00 19.1**	**-0.7**
ULN	**Ulaanbaatar**	**45.64**	**328**	*e*P	**P**	**00 00 36.8**	**+0.1**
	1.2nm,0.5s,mb3.9						
SONM	**Songino Array**	**45.96**	**328**	P	**P**	**00 00 40.9**	**+1.7**
	0.8nm,0.7s,mb3.6,baz=137,slow=6.8,SNR=7.4						

TLY	**Talaya**	**49.78**	**330**	P	**P**	**00 01 07.9**	**-0.8**
GUN	**Gumba**	**53.65**	**296**	*e*P	**P**	**00 01 38.4**	**+1.0**
	14nm,0.7s						
PKI	**Pulchoki**	**54.03**	**295**	*e*P	**P**	**00 01 40.3**	**+0.2**
KKN	**Kakani**	**54.17**	**296**	*e*P	**P**	**00 01 41.5**	**+0.4**
	3.7nm,0.5s,mb4.7						
DMN	**Daman**	**54.31**	**295**	*e*P	**P**	**00 01 42.7**	**+0.6**
GKN	**Gorkha**	**54.75**	**296**	*e*P	**P**	**00 01 45.7**	**+0.3**
KOLN	**Koldanda**	**55.65**	**296**	*e*P	**P**	**00 01 50.5**	**-1.3**
	6.7nm,0.8s						
MKAR	**Makanchi Array**	**60.02**	**317**	P	**P**	**00 02 22.9**	**+0.6**
	1.3nm,0.6s,mb4.1,baz=100,slow=9.0,SNR=32						
MKAR				pP	pP	00 02 50.5	-1.3
	0.8nm,0.8s,baz=100,slow=7.2,SNR=3.9						
ZAL	**Zalesovo**	**60.77**	**326**	P	**P**	**00 02 27.5**	**+0.2**
	1.1nm,0.5s,mb4.2,baz=9.8,slow=2.8,SNR=4.6						
ZAL	**Zalesovo**	**60.77**	**326**	P	**P**	**00 02 27.5**	**+0.2**
CHKZ	**Chkalovo**	**68.80**	**323**	*e*P	**P**	**00 03 19.2**	**-0.2**
	1.6nm,0.6s,mb4.0						
BRVK	**Borovoye**	**68.91**	**322**	*e*P	**P**	**00 03 20.6**	**+0.5**
	2.6nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**69.66**	**322**	*e*P	**P**	**00 03 24.7**	**0.0**
	2.2nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**91.00**	**334**	P	**P**	**00 05 17.4**	**-1.4**
	1.1nm,0.4s,mb4.3,baz=75,slow=5.4,SNR=11						

IDC ***06*** *23:58:11.4±6.5, 1319N×5108E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/19, Error ellipse: s-maj=183.8km s-min=36.0km az=156.0*

ISCJB ***06*** *23:58:12.5±1.6, 134N±02×510E±0.1, h10km, mb3.5/3, Error ellipse: s-maj=32.4km s-min=14.5km az=23.6*

ISC 06 23:58:15.1±1.6, 136N±02×509E±01, h10km, n6, σ0§27/7, mb3.5/3, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.07**	**297**	*i* P	**Pn**	**23 58 49.8**	**-0.1**
MUKL				*e*		23 58 49.9	
	baz=123,slow=6.9						
MUKL				*i* S	**Sn**	**23 59 15.6**	**-0.1**
MUKL				AML	AML	23 59 17.9	
	comp=N,390nm,0.5s						
LBOS		**5.54**	**274**	*i* P	**Pn**	**23 59 37.6**	**0.0**
LBOS				*i* S	**Sn**	**00 00 51.9**	**+11**
KMBO	**Kilima Mbogo**	**19.92**	**224**	LR	LR	00 11 04.0	
	comp=N,44nm,19.9s,baz=86,slow=39						
MKAR	**Makanchi Array**	**42.29**	**32**	P	**P**	**00 06 08.6**	**-0.2**
	comp=N,0.4nm,0.5s,mb3.3,baz=222,slow=8.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**47.85**	**276**	P	**P**	**00 06 52.8**	**-0.3**
	comp=N,1.0nm,1.1s,mb3.8,baz=92,slow=8.4,SNR=5.8						
ESDC	**Sonseca Array**	**54.58**	**309**	P	**P**	**00 07 44.1**	**+0.6**
	comp=N,0.2nm,0.5s,mb3.4,baz=106,slow=7.2,SNR=4.8						

ISCJB ***07*** *00:05:20.6±5.0, 6.1S±02×1514E±03, h62km±37km, mb3.6/4, Error ellipse: s-maj=50.4km s-min=29.8km az=45.9*

NEIC ***07*** *00:05:22.3±4.7, 606S×15141E, h64km±31km, mb3.7/1, Error ellipse: s-maj=56.2km s-min=23.8km az=100.0*

IDC ***07*** *00:05:22.6±8.7, 608S×15137E, h65km±61km, mb3.4/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=109.4km s-min=54.5km az=130.0*

ISC 07 00:05:21.6±4.8, 61S±02×1515E±03, h58km±35km, n10, σ0§75/10, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**232**	P	**Pn**	**00 06 39.8**	**0.0**
	3.0nm,0.3s,baz=52,slow=8.0,SNR=20						
PMG				S	**Sn**	**00 07 41.0**	**+0.1**
	2.8nm,0.3s,baz=109,slow=20,SNR=6.6						
WRAB	**Tennant Creek**	**21.62**	**229**	*e*P	**P**	**00 10 06.3**	**-0.5**
	4.4nm,1.1s,mb3.8						
WB2	**Warramunga Arr**	**21.62**	**229**	*e*P	**P**	**00 10 08.6**	**+1.8**
WRA	**Warramunga Arr**	**21.63**	**229**	P	**P**	**00 10 05.4**	**-1.5**
	1.5nm,0.9s,mb3.4,baz=52,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**24.34**	**222**	P	**P**	**00 10 33.9**	**0.0**
	3.0nm,0.7s,mb3.8,baz=54,slow=9.3,SNR=30						
STKA	**Stephens Creek**	**27.31**	**199**	P	**P**	**00 11 00.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	**P**	**00 11 06.0**	**-0.1**
	0.8nm,0.7s,mb3.5,baz=86,slow=15,SNR=2.0						
CHKZ	**Chkalovo**	**89.43**	**324**	P	**P**	**00 18 11.9**	**-0.1**
BRVK	**Borovoye**	**89.51**	**323**	P	**P**	**00 18 12.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**149.40**	**286**	PKPbc	PKPbc	00 25 04.9	+0.9
	1.3nm,0.8s,baz=92,slow=2.2,SNR=9.3						

CSEM ***07*** *00:23:38.2, 6784N×2019E, h0km, ML3.3, Mining explosion. After UPP*

UPP ***07*** *00:23:38.2, 6784N×2019E, h0km, ML3.3, Mining explosion.*

HEL 07 00:23:38.8±0.1, 6783N×2020E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	00 23 40.9	-0.4
KUA				*i* S	Sg	00 23 42.8	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 23 46.6	-0.7
NIKU				*i* S	Sg	00 23 52.7	-0.4
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 23 51.6	-0.8
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	00 23 51.9	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 23 53.0	-0.9
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 24 01.2	-0.5
KIF				*e*S	Sg	00 24 17.1	-0.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	00 24 03.5	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 24 08.9	-0.9

IDC 07 00:48:36.6±1.0, 5365N×3553W, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, MS3.8/18, Ms1 3.8/18, ms1mx3.7/26, Error ellipse: s-maj=48.7km s-min=20.4km az=15.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.25**	**27**	LR	LR	00 55 05.3	
	comp=Z,226nm,20.6s,baz=219,slow=29						
SCHQ	**Schefferville**	**18.26**	**286**	LR	LR	00 58 56.8	
	comp=Z,103nm,20.0s,baz=38,slow=34						
FRB	**Frobisher Bay**	**19.67**	**314**	LR	LR	00 59 11.8	
	comp=Z,326nm,18.7s,baz=325,slow=32						
ESDC	**Sonseca Array**	**25.52**	**110**	P	P	00 54 07.0	+0.2
	0.9nm,0.7s,baz=316,slow=9.5,SNR=6.3						
ESDC				LR	LR	01 01 46.7	
	comp=Z,196nm,19.7s,baz=315,slow=31						
NOA	**NORSAR Array B**	**25.78**	**55**	LR	LR	01 03 47.8	
	comp=Z,178nm,18.5s,baz=290,slow=35						
HFS	**Hagfors**	**27.10**	**56**	LR	LR	01 04 22.0	
	comp=Z,399nm,18.6s,baz=249,slow=35						
DAVOX	**Davos**	**29.43**	**85**	LR	LR	01 06 26.7	
	comp=Z,276nm,18.0s,baz=284,slow=36						
GERES	**GERESS Array B**	**30.68**	**79**	LR	LR	01 07 00.9	
	comp=Z,221nm,18.5s,baz=127,slow=36						
ARCES	**ARCESS Array B**	**31.40**	**36**	LR	LR	01 06 29.2	
	comp=Z,295nm,18.8s,baz=127,slow=34						
FINES	**FINESS Array B**	**32.79**	**51**	LR	LR	01 06 11.9	
	comp=Z,218nm,21.2s,baz=334,slow=32						
KEST	**Kesra**	**35.86**	**102**	P	P	00 55 38.2	+0.2
	1.0nm,0.9s,baz=8.4,slow=19,SNR=3.1						
ULM	**Lac du Bonnet**	**36.38**	**290**	LR	LR	01 09 35.8	
	comp=Z,182nm,18.0s,baz=152,slow=35						
YKA	**Yellowknife Ar**	**40.18**	**315**	LR	LR	01 11 02.7	
	comp=Z,105nm,20.7s,baz=135,slow=34						
PDAR	**Pinedale Array**	**48.38**	**289**	P	P	00 57 20.7	+0.5
	0.3nm,0.6s,baz=83,slow=6.9,SNR=4.1						
PDAR				LR	LR	01 16 43.1	
	comp=Z,133nm,20.1s,baz=40,slow=35						
TORD	**Torodi Ar. Bea**	**49.95**	**130**	P	P	00 57 31.7	-0.5
	1.2nm,0.8s,baz=330,slow=8.3,SNR=6.7						
TORD				LR	LR	01 17 31.1	
	comp=Z,71nm,18.3s,baz=335,slow=35						
TXAR	**Lajitas Array**	**54.19**	**272**	P	P	00 58 03.4	-0.4
	0.2nm,0.7s,baz=46,slow=7.4,SNR=3.2						
TXAR				LR	LR	01 20 34.4	
	comp=Z,172nm,18.6s,baz=185,slow=35						
ROSC	**El Rosal**	**58.00**	**227**	LR	LR	01 20 22.9	
	comp=Z,51nm,19.8s,baz=352,slow=33						
ZAL	**Zalesovo**	**61.95**	**35**	LR	LR	01 23 19.5	
	comp=Z,94nm,20.0s,baz=10,slow=34						
MKAR	**Makanchi Array**	**66.86**	**41**	P	P	00 59 29.7	-0.6
	0.4nm,0.8s,baz=339,slow=4.5,SNR=4.7						
MKAR				LR	LR	01 26 47.5	
	comp=Z,99nm,19.3s,baz=322,slow=34						

IDC ***07*** *00:57:29.4±2.6, 3035N×13656E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/12, mbtmp3.6/3, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=109.7km s-min=31.2km az=81.0*

ISCJB ***07*** *00:57:31.5±1.7, 305S±01×1368E±05, h35km, mb3.9/4, MS3.0/1, Error ellipse: s-maj=76.5km s-min=11.4km az=161.4*

NEIC ***07*** *00:57:33.8±1.5, 299S×13669E, h35km, mb3.9/5, Error ellipse: s-maj=66.5km s-min=9.6km az=81.0*

ISC 07 00:57:33.7±1.7, 30S±01×1368E±05, h35km, n14, σ0§70/13, mb3.9/4, MS3.0/1, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.59**	**204**	*i* P	**Pn**	**01 00 11.2**	**+8.3**
	6.6nm,0.5s						
WRAB	**Tennant Creek**	**17.02**	**188**	*e*Pn	**Pn**	**01 01 29.0**	**+0.1**
	6.1nm,0.7s						
WB2	**Warramunga Arr**	**17.03**	**188**	*e*P	**Pn**	**01 01 28.8**	**-0.2**
WRA	**Warramunga Arr**	**17.03**	**188**	Pn	**Pn**	**01 01 28.5**	**-0.6**
	0.4nm,0.3s,baz=9.3,slow=13,SNR=6.3						
FITZ	**Fitzroy Crossi**	**18.59**	**215**	*e*P	**Pn**	**01 01 56.9**	**+8.6**
	6.3nm,0.9s						
AS31	**Alice Springs**	**20.76**	**188**	*e*P	**P**	**01 02 13.4**	**+2.0**
ASAR	**Alice Springs**	**20.76**	**188**	P	**P**	**01 02 10.4**	**-1.0**
	2.4nm,0.5s,baz=18,slow=11,SNR=31						
ASAR				LR	LR	01 10 39.5	
	comp=Z,60nm,19.0s,MS3.0,baz=236,slow=38						
STKA	**Stephens Creek**	**29.10**	**172**	*e*P	**P**	**01 03 31.0**	**+0.1**
LSA	**Lhasa**	**54.41**	**310**	*e*P	**P**	**01 06 57.5**	**+0.3**
	2.4nm,0.3s,mb4.6						
MKAR	**Makanchi Array**	**68.85**	**323**	P	**P**	**01 08 34.5**	**-0.1**
	0.1nm,0.4s,mb3.1,baz=119,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**68.85**	**323**	P	**P**	**01 08 34.5**	**-0.1**
BRVK	**Borovoye**	**78.52**	**326**	*e*P	**P**	**01 09 31.0**	**-0.3**
	0.9nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**79.21**	**325**	*e*P	**P**	**01 09 35.1**	**0.0**
	0.4nm,0.3s,mb3.8						
TORD	**Torodi Ar. Bea**	**134.50**	**285**	PKP	PKPdf	01 16 52.0	+3.9
	0.3nm,0.3s,baz=77,slow=2.1,SNR=16						

IDC 07 01:21:43.2±8.1, 1876S×17911W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/13, mbtmp3.7/2, Error ellipse: s-maj=415.3km s-min=115.6km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.83**	**260**	P	P	01 29 52.9	+2.1
	0.4nm,0.3s,baz=91,slow=7.8,SNR=6.9						
ASAR	**Alice Springs**	**43.92**	**255**	P	P	01 29 50.2	-1.4
	0.8nm,0.8s,baz=96,slow=7.3,SNR=6.7						
AKASG	**Malin Array Be**	**140.99**	**331**	PKP	PKPdf	01 41 14.7	-0.6
	0.7nm,0.5s,baz=39,slow=3.7,SNR=6.9						

IDC ***07*** *01:33:46.3±0.7, 925N×12248E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.3/17, mbtmp4.2/11, MS3.7/9, Ms1 3.7/9, ms1mx3.3/34, Error ellipse: s-maj=84.9km s-min=14.6km az=66.0*

BJI ***07*** *01:33:48.7, 895N×12249E, h40km, mB5.2, mb4.8, Ms4.1, Msz4.0*

MOS ***07*** *01:33:49.6±1.0, 932N×12252E, h33km, mb5.2/15, Error ellipse: s-maj=27.1km s-min=8.8km az=119.8*

ISCJB ***07*** *01:33:50.4±0.4, 9.17N±003×12223E±003, h35km±4km, mb4.6/36, MS3.6/8, Error ellipse: s-maj=4.6km s-min=3.8km az=80.4*

MAN ***07*** *01:33:50.3, 9.19N×12221E, h30km, mb4.8, ML5.5, MS2.1*

NEIC ***07*** *01:33:51.5±0.3, 942N×12267E, h35km, mb4.7/11, Error ellipse: s-maj=17.1km s-min=6.3km az=67.0*

ISC 07 01:33:48.5±1.0, 916N±003×12225E±002, h8km±6km, n94, σ1§06/99, mb4.6/36, MS3.6/8, 10C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.99**	**79**	*e*P	**Pg**	**01 34 06.5**	**-1.0**
DCPH	**Dipolog City**	**1.23**	**118**	*i* P	**Pb**	**01 34 10.7**	**-1.2**
DCPH				*i* S	**Sg**	**01 34 27.4**	**-0.5**
IPIL	**Ipil**	**1.40**	**167**	*e*P	**Pn**	**01 34 13.4**	**-0.8**
IPIL				*i* S	**Sb**	**01 34 31.6**	**-1.1**
IPIL	**Ipil**	**1.40**	**167**	*e*P	**Pn**	**01 34 14.3**	**+0.1**
GUIM	**Jordan**	**1.50**	**13**	*e*P	**Pn**	**01 34 14.8**	**-0.8**
GUIM				*e*S	**Sn**	**01 34 33.4**	**-1.9**
TBP	**Tagbilaran**	**1.67**	**71**	*e*P	**Pn**	**01 34 17.9**	**-0.1**
TBP				*e*S	**Sn**	**01 34 39.5**	**-0.2**
LLP	**Lapu-Lapu**	**2.04**	**56**	*i* P	**Pn**	**01 34 23.1**	**0.0**
LLP				*e*S	**Sn**	**01 34 46.7**	**-2.1**
CUYO	**Cuyo Island**	**2.08**	**324**	*e*P	**Pn**	**01 34 20.0**	**+0.6**
ZMPH	**Zamboanga City**	**2.20**	**185**	*i* P	**Pn**	**01 34 25.4**	**+0.2**
RCP	**Roxas**	**2.44**	**11**	*e*P	**Pn**	**01 34 29.1**	**+0.6**
RCP				*e*S	**Sn**	**01 35 02.6**	**+4.2**
KALP	**Kalibo**	**2.51**	**2**	*e*P	**Pn**	**01 34 29.7**	**+0.2**

LZH				sP	sP	01 40 21.5	+6.2	
AS31	**Alice Springs**	**34.55 161**		*e*P	**P**	**01 40 38.0**	**+0.6**	
ASAR	**Alice Springs**	**34.55 161**		P	**P**	**01 40 37.8**	**+0.4**	
	comp=Z,2.5nm,0.6s,mb4.3,baz=340,slow=7.0,SNR=38							
ASAR				PcP	PcP	01 43 11.2	-0.9	
	comp=Z,0.8nm,0.5s,baz=343,slow=2.5,SNR=5.9							
ASAR				ScP	ScP	01 46 55.7	-1.9	
	comp=Z,0.7nm,0.9s,baz=356,slow=4.1,SNR=4.3							
ASAR				LR	LR	01 56 18.8		
	comp=Z,44nm,19.0s,MS3.2,baz=169,slow=39							
ASAR	**Alice Springs**	**34.55 161**		P	**P**	**01 40 37.8**	**+0.4**	
ASAR						01 43 11.2		
LSA	**Lhasa**	**35.56 309**		*e*P	**P**	**01 40 47.4**	**+1.3**	
LSA				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8							
LSA	**Lhasa**	**35.56 309**		*e*P	**P**	**01 40 47.4**	**+1.3**	
	comp=Z,6.1nm,0.5s,mb4.8							
MDJ	**Mudanjiang**	**35.90**	**9**	P	**P**	**01 40 45.5**	**-3.5**	
GTA	**Gaotai**	**36.19 330**		*e*P	**P**	**01 40 52.3**	**+0.8**	
GTA				AP	pP	01 40 58.0	+3.9	
GTA				AMB	AMB			
	comp=Z,3.0nm,0.6s,mb4.4							
CTA	**Charters Tower**	**37.45 141**		LR	LR	01 56 08.1		
	comp=Z,41nm,18.0s,MS3.3,baz=98,slow=36							
CTAO	**Charters Tower**	**37.45 141**		*e*P	**P**	**01 41 03.5**	**+1.3**	
CTAO				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.9							
CTAO	**Charters Tower**	**37.45 141**		*e*P	**P**	**01 41 03.5**	**+1.3**	
	comp=Z,0.9nm,0.5s,mb3.9							
JIRN	**Jiri**	**38.65 303**		*e*P	**P**	**01 41 13.0**	**+0.7**	
	comp=Z,5.9nm,0.4s,mb4.7							
GUN	**Gumba**	**38.99 303**		*e*P	**P**	**01 41 16.8**	**+1.6**	
	comp=Z,41nm,0.8s,mb5.2							
PKI	**Pulchoki**	**39.26 303**		*e*P	**P**	**01 41 18.8**	**+1.3**	
	comp=Z,14nm,0.7s,mb4.8							
KKN	**Kakani**	**39.45 303**		*e*P	**P**	**01 41 20.2**	**+1.2**	
DMN	**Daman**	**39.53 303**		*e*P	**P**	**01 41 21.0**	**+1.3**	
GKN	**Gorkha**	**40.05 303**		*e*P	**P**	**01 41 25.1**	**+1.0**	
	comp=Z,14nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**40.67 344**		*e*P	**P**	**01 41 29.0**	**-0.2**	
	comp=Z,4.5nm,0.4s,mb4.4							
SONM	**Songino Array**	**40.82 344**		P	**P**	**01 41 29.8**	**-0.6**	
	comp=Z,2.6nm,0.7s,mb4.0,baz=164,slow=9.2,SNR=21							
KOLN	**Koldanda**	**40.84 302**		*e*P	**P**	**01 41 31.6**	**+1.0**	
	comp=Z,23nm,0.8s,mb4.9							
HNR	**Honiara**	**41.83 115**		LR	LR	01 56 59.5		
	comp=Z,60nm,20.6s,MS3.5,baz=359,slow=33							
STKA	**Stephens Creek**	**44.80 156**		P	**P**	**01 42 03.1**	**+0.4**	
	comp=Z,4.6nm,0.9s,mb4.3,baz=343,slow=5.9,SNR=4.7							
TLY	**Talaya**	**45.06 344**		P	**P**	**01 42 01.8**	**-3.0**	
WMQ	**Urumqi**	**45.76 325**		P	**P**	**01 42 10.1**	**-0.2**	
MK31	**Makanchi Array**	**50.59 325**		*e*P	**P**	**01 42 47.8**	**+0.1**	
MKAR	**Makanchi Array**	**50.59 325**		P	**P**	**01 42 48.1**	**+0.4**	
	comp=Z,3.7nm,0.8s,mb4.4,baz=130,slow=8.7,SNR=52							
MKAR				LR	LR	02 07 49.1		
	comp=Z,81nm,18.4s,MS3.8,baz=238,slow=40							
MKAR	**Makanchi Array**	**50.59 325**	⇑	*e*P	**P**	**01 42 48.2**	**+0.5**	
YAK	**Yakutsk**	**53.05**	**4**	⇓*e*P	**P**	**01 43 13.6**	**+7.6**	
YAK				pmax	pmax			
	comp=Z,32nm,1.3s,mb5.1							
ZAL	**Zalesovo**	**53.77 334**		P	**P**	**01 43 10.7**	**-0.7**	
	comp=Z,2.8nm,0.6s,mb4.4,baz=355,slow=6.4,SNR=13							
NVS	**Novosibirsk**	**55.06 334**		*e*P	**P**	**01 43 19.3**	**-1.4**	
NVS				*e*		01 53 10.3		
NVS				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9							
NVS				pmax	pmax			
	comp=N,9.0nm,1.5s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.1s							
BRVK	**Borovoye**	**60.45 327**		*e*P	**P**	**01 43 58.3**	**-0.3**	
BRVK				pmax	pmax			
	comp=Z,17nm,1.1s,mb5.0							
BRVK	**Borovoye**	**60.45 327**		*e*P	**P**	**01 43 58.3**	**-0.3**	
	comp=Z,17nm,1.1s,mb5.0							
CHKZ	**Chkalovo**	**60.55 328**		*e*P	**P**	**01 43 58.7**	**-0.6**	
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7							
CHKZ	**Chkalovo**	**60.55 328**		*e*P	**P**	**01 43 58.7**	**-0.5**	
	comp=Z,4.2nm,0.7s,mb4.7							
ZRNK	**Zerenda**	**61.09 326**		*e*P	**P**	**01 44 02.2**	**-0.8**	
ZRNK				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
ZRNK	**Zerenda**	**61.09 326**		*e*P	**P**	**01 44 02.2**	**-0.7**	
	comp=Z,9.6nm,0.7s,mb5.0							
TIXI	**Tiksi**	**62.57**	**2**	*e*P	**P**	**01 44 08.1**	**-4.8**	
TIXI				*e*		01 44 19.4		
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
ARU	**Arti**	**68.00 328**	⇓	*e*P	**P**	**01 44 46.9**	**-1.2**	
ARU				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.9							
ORR	**Orenburg**	**68.95 322**		*e*P	**P**	**01 44 54.4**	**+0.3**	
ORR				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							
KIV	**Kislovodsk**	**76.20 313**	⇑	*e*P	**P**	**01 45 37.5**	**+0.3**	
KIV				pmax	pmax			
	comp=Z,15nm,1.3s,mb4.8							
JOF	**Joensuu**	**82.35 332**		*e*p	**P**	**01 46 07.0**	**-3.8**	
	comp=Z,3.2nm,0.5s,mb4.5							
JOF	**Joensuu**	**82.35 332**		*e*P	**P**	**01 46 07.0**	**-3.8**	
JOF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
BRTR	**Keskin Array B**	**83.16 309**		P	**P**	**01 46 15.3**	**+0.3**	
	comp=Z,1.7nm,0.9s,mb4.1,baz=117,slow=7.1,SNR=5.6							
BRTR	**Keskin Array B**	**83.16 309**		*i* P	**P**	**01 46 15.3**	**+0.3**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**83.85 339**		P	**P**	**01 46 16.9**	**-1.7**	
	comp=Z,5.2nm,1.0s,mb4.6,baz=81,slow=7.9,SNR=8.2							
KAF	**Kangasniemi**	**84.75 332**		*e*p	**P**	**01 46 21.1**	**-2.1**	
	comp=Z,4.7nm,0.7s,mb4.7							
KAF	**Kangasniemi**	**84.75 332**		*e*P	**P**	**01 46 21.1**	**-2.1**	
KAF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
AKASG	**Malin Array Be**	**84.90 320**		P	**P**	**01 46 23.0**	**-0.9**	
	comp=Z,0.6nm,0.5s,mb4.0,baz=84,slow=2.2,SNR=5.5							
FINES	**FINESS Array B**	**84.97 331**		P	**P**	**01 46 23.4**	**-0.9**	
	comp=Z,1.9nm,0.6s,mb4.4,baz=46,slow=5.5,SNR=7.6							
FINES	**FINESS Array B**	**84.97 331**		*i* P	**P**	**01 46 23.7**	**-0.6**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VNDA	**Vanda**	**89.36 172**		P	**P**	**01 46 44.3**	**-1.2**	
	comp=Z,0.5nm,0.5s,mb4.1,baz=343,slow=8.0,SNR=3.4							
VNDA				LR	LR	02 30 34.7		
	comp=Z,58nm,18.4s,MS4.0,baz=78,slow=38							
TORD	**Torodi Ar. Bea**	**116.96 290**		PKP	PKPdf	01 52 34.3	+0.6	
	comp=Z,0.5nm,0.6s,baz=45,slow=2.9,SNR=5.4							
TXAR	**Lajitas Array**	**121.52**	**47**	PKP	PKPdf	01 52 42.2	-0.3	
	comp=Z,0.3nm,0.5s,baz=276,slow=0.4,SNR=7.3							

*CSEM **07** 01:56:00.6±1.0, 3818N×2660W, h0km±2km, ML2.5, Error ellipse: s-maj=5.1km s-min=1.1km az=38.0, After PDA*
*PDA **07** 01:56:00.6±1.0, 3818N×2660W, h0km±2km, MD2.8, ML2.5, Error ellipse: s-maj=5.1km s-min=1.1km az=38.0*
SVSA 07 01:56:00.6±1.0, 3818N×2660W, h0km±2km, MD2.8, ML2.5, Error ellipse: s-maj=5.1km s-min=1.1km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.65**	**324**	*e*P	Pg	01 56 11.9	-1.2
PFAV				*e*S	Sg	01 56 20.9	-0.7
PFAV							
	86nm,0.4s						
PFAV	**Pico das Favas**	**0.65**	**324**	*e*P	Pg	01 56 11.9	-1.2
PFAV				*e*S	Sg	01 56 20.9	-0.7
RIB2	**Ribeirinha**	**0.67**	**318**	*e*P	Pg	01 56 12.4	-1.0
RIB2				*e*S	Sg	01 56 21.0	-1.0
RIB2							
	47nm,0.1s						
RIB2	**Ribeirinha**	**0.67**	**318**	*e*P	Pg	01 56 12.4	-1.0
RIB2				*e*S	Sg	01 56 21.0	-1.0
ADH	**Angra Heroismo**	**0.69**	**314**	*i* P	Pg	01 56 11.3	-2.5
ADH				*e*S	Sg	01 56 20.4	-2.4
ADH	**Angra Heroismo**	**0.69**	**314**	*e*S	Sg	01 56 20.4	-2.4
SET4	**Mosteiros**	**0.70**	**116**	*e*P	Pg	01 56 12.5	-1.5
SET4				*e*S	Sg	01 56 21.9	-1.2
SET2	**Ginetes**	**0.71**	**118**	*e*P	Pg	01 56 12.8	-1.4
SET2				*e*S	Sg	01 56 22.3	-1.1
PVNV	**Vila Nova**	**0.73**	**323**	*e*P	Pg	01 56 13.1	-1.4
PVNV				*e*S	Sg	01 56 22.6	-1.4
PVNV							
	70nm,0.2s						
PVNV	**Vila Nova**	**0.73**	**323**	*e*P	Pg	01 56 13.1	-1.4
PVNV				*e*S	Sg	01 56 22.6	-1.4
PFET	**Feteiras**	**0.73**	**119**	*e*S	Sg	01 56 22.9	-1.3
PPAD	**Pico dos Padre**	**0.75**	**314**	*e*P	Pg	01 56 13.4	-1.6
PPAD				*e*S	Sg	01 56 23.3	-1.4
PPAD							
	114nm,0.4s						
PPAD	**Pico dos Padre**	**0.75**	**314**	*e*P	Pg	01 56 13.4	-1.6
PPAD				*e*S	Sg	01 56 23.3	-1.4
PSAN	**Santo Antonio**	**0.76**	**115**	*e*P	Pg	01 56 13.4	-1.8
PSAN				*e*S	Sg	01 56 23.4	-1.7
PBIS	**Biscoitos**	**0.78**	**319**	*e*P	Pg	01 56 13.6	-1.9
PBIS				*e*S	Sg	01 56 23.9	-1.6
PBIS							
	49nm,0.3s						
PBIS	**Biscoitos**	**0.78**	**319**	*e*P	Pg	01 56 13.6	-1.9
PBIS				*e*S	Sg	01 56 23.9	-1.6
ASBA	**Santa Barbara**	**0.79**	**314**	*e*P	Pg	01 56 13.9	-1.8
ASBA				*e*S	Sg	01 56 24.6	-1.2
ASBA							
	109nm,0.3s						
ASBA	**Santa Barbara**	**0.79**	**314**	*e*P	Pg	01 56 13.9	-1.8
ASBA				*e*S	Sg	01 56 24.6	-1.2
PSBA	**Serra de Santa**	**0.82**	**316**	*i* P	Pg	01 56 13.4	-2.9
PSBA				*e*S	Sg	01 56 23.8	-3.1
PSBA							
	208nm,0.4s						
FAC	**Faja de Cima**	**0.85**	**118**	*e*P	Pg	01 56 15.0	-1.9
FAC				*e*S	Sg	01 56 25.9	-2.1
CML	**Cha da Macela**	**0.93**	**116**	*e*P	Pg	01 56 15.7	-2.7
CML				*e*S	Sg	01 56 27.6	-2.8
PVER	**Pico Vermelho**	**0.94**	**114**	*e*S	Sg	01 56 27.8	-2.9
PVER							
	54nm,0.3s						
PMAT	**Coroa da Mata**	**0.96**	**112**	*e*S	Sg	01 56 28.4	-3.1
PMAT							
	33nm,0.3s						
LFA	**Lagoa do Fogo**	**0.97**	**114**	*e*P	Pg	01 56 16.6	-2.6
MESC	**Monte Escuro**	**0.99**	**113**	*e*P	Pg	01 56 16.4	-3.2
MESC				*e*S	Sg	01 56 28.6	-3.8
PRCH	**Ribeira Ch**	**0.99**	**117**	*e*P	Pg	01 56 17.1	-2.5
PRCH				*e*S	Sg	01 56 29.5	-3.0
PRCH							
	60nm,0.3s						
PRCH	**Ribeira Ch**	**0.99**	**117**	*e*P	Pg	01 56 17.1	-2.5
PRCH				*e*S	Sg	01 56 29.5	-3.0
VIF	**Vila Franca**	**1.01**	**115**	*e*S	Sg	01 56 30.1	-3.1
VIF							
	18nm,0.3s						
PCNG	**Congro**	**1.04**	**113**	*e*S	Sg	01 56 30.4	-3.5
PCNG							
	15nm,0.1s						
PFAD	**Fenais da Ajud**	**1.06**	**108**	*e*S	Sg	01 56 30.8	-4.0
FRA1	**Furnas**	**1.07**	**114**	*e*P	Pg	01 56 17.8	-3.4
MIRA	**Miradouro**	**1.11**	**110**	*e*P	Pg	01 56 18.1	-3.9
PID	**Ribeirinha**	**1.23**	**283**	*e*P	Pg	01 56 20.2	-3.9
PID				*e*S	Sg	01 56 32.3	-7.7
PMAN	**Manadas**	**1.26**	**292**	*e*P	Pg	01 56 20.2	-4.5
PMAN				*e*S	Sg	01 56 34.9	-6.0
PMAN							
	23nm,0.3s						
PMAN	**Manadas**	**1.26**	**292**	*e*P	Pg	01 56 20.2	-4.5
PMAN				*e*S	Sg	01 56 34.9	-6.0
PGRA	**Graciosa**	**1.38**	**308**	*e*P	Pg	01 56 22.2	-4.8
PGRA				*e*S	Sg	01 56 38.3	-6.5
PGRA							
	35nm,0.3s						
PGRA	**Graciosa**	**1.38**	**308**	*e*P	Pg	01 56 22.2	-4.8
PGRA				*e*S	Sg	01 56 38.3	-6.5
ROSA	**Rosais**	**1.40**	**293**	*e*P	Pn	01 56 22.6	-4.7
ROSA				*e*S	Sg	01 56 38.6	-6.9
SRBC	**Serra Branca**	**1.42**	**308**	*e*P	Pn	01 56 22.6	-5.0
SRBC				*e*S	Sg	01 56 39.3	-6.9
PICO	**Pico**	**1.47**	**283**	*e*P	Pn	01 56 24.1	-4.3
PICO				*e*S	Sg	01 56 40.8	-7.1
HOR	**Horta**	**1.64**	**283**	*e*P	Pn	01 56 25.6	-5.0
CALA	**Caldeira**	**1.70**	**284**	*e*S	Sn	01 56 46.7	-7.3

*CSEM **07** 01:59:07.6, 6783N×2019E, h6km, ML3.0, Mining explosion. After UPP*
*UPP **07** 01:59:07.6, 6783N×2019E, h6km, ML3.0, Mining explosion.*
HEL 07 01:59:08.0±0.0, 6784N×2019E, h0km, ML3.0 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	01 59 10.2	-0.3
KUA				*i* S	Sg	01 59 12.0	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	01 59 15.9	-0.5
NIKU				*i* S	Sg	01 59 22.0	0.0
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	01 59 20.8	-0.8
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	01 59 20.8	-0.9
	baz=298						
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	01 59 21.1	-1.0
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	01 59 22.2	-1.0
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	01 59 30.3	-0.6
KIF				*e*S	Sg	01 59 45.9	-0.5
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	01 59 32.7	-2.0
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	01 59 38.2	-0.8

*ISCJB **07** 02:10:26.4±1.4, 4408N±0.1×1283W±0.1, h10km, mb3.0/1, MS3.3/3, Error ellipse: s-maj=19.3km s-min=9.9km az=69.5*
*IDC **07** 02:10:29.6±4.5, 4411N×12794W, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.4/22, mbtmp3.2/5, ML3.2/3, MS3.6/6, Ms1 3.6/6, ms1mx3.4/10, Error ellipse: s-maj=70.1km s-min=29.9km az=69.0*
ISC 07 02:10:26.9±1.5, 4408N±01×1283W±01, h10km, n17, σ1°06/18, mb3.0/1, MS3.3/3, 5C-8D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J02A	**Umpqua**	**3.51**	**98**	⇑P	**Pn**	**02 11 20.6**	**-0.8**
	baz=3.7,SNR=15						
J02A				⇓S	**Sn**	**02 12 04.6**	**+1.5**
	baz=3.7						
I03A	**Eugene**	**3.65**	**88**	⇓P	**Pn**	**02 11 22.3**	**-1.1**
	baz=3.9,SNR=21						
I03A				⇑S	**Sn**	**02 12 07.2**	**+0.6**
	baz=3.9						
H03A	**Soap Creek Ran**	**3.69**	**77**	⇓P	**Pn**	**02 11 23.1**	**-0.9**
	baz=3.9						
K02A	**Glendale**	**3.73**	**107**	⇓P	**Pn**	**02 11 23.5**	**-1.1**
	baz=3.9						
K02A				⇓S	**Sn**	**02 12 08.8**	**+0.2**
	baz=3.9						
J03A	**Ideyld Park**	**3.94**	**97**	⇓P	**Pn**	**02 11 27.0**	**-0.5**
	baz=4.1						
HUMO	**Hull Mountain**	**4.16**	**107**	⇑P	**Pn**	**02 11 30.1**	**-0.3**
	baz=4.3,SNR=8.3						
HUMO				⇓S	**Sn**	**02 12 18.4**	**-0.7**
	baz=4.3						
I04A	**Tendick Farm,**	**4.29**	**90**	⇑P	**Pn**	**02 11 31.3**	**-0.9**
	baz=4.5						
H04A	**Detroit Lake**	**4.47**	**79**	⇓P	**Pn**	**02 11 33.8**	**-0.9**
	baz=4.7,SNR=8.2						
YBH	**Yreka Blue Hor**	**4.70**	**116**	⇑S	**Sn**	**02 12 33.2**	**+0.7**
	baz=4.9						
NEW	**Newport**	**8.89**	**57**	LR	LR	02 16 00.1	
	comp=Z,475nm,20.6s,baz=260,slow=38						
NVAR	**Mina Array Bea**	**9.37**	**123**	Pn	**Pn**	**02 12 47.1**	**+5.1**
	baz=308,slow=18,SNR=2.5						
PDAR	**Pinedale Array**	**13.72**	**89**	Pn	**Pn**	**02 13 45.6**	**+4.2**
	0.0nm,0.3s,baz=294,slow=12,SNR=3.4						
PDAR				LR	LR	02 19 13.7	
	comp=Z,349nm,19.5s,baz=338,slow=39						
ANMO	**Albuquerque**	**19.10**	**111**	P	**Pn**	**02 14 52.4**	**+1.8**
	0.1nm,0.3s,baz=336,slow=10.0,SNR=3.5						
ANMO				LR	LR	02 22 45.5	
	comp=Z,160nm,18.6s,baz=273,slow=39						
YKA	**Yellowknife Ar**	**20.21**	**19**	P	**P**	**02 15 04.4**	**+2.5**
	0.1nm,0.3s,baz=209,slow=9.9,SNR=2.8						
ULM	**Lac du Bonnet**	**22.84**	**63**	LR	LR	02 24 35.9	
	comp=Z,192nm,18.9s,MS3.6,baz=303,slow=38						
TXAR	**Lajitas Array**	**24.48**	**118**	P	**P**	**02 15 46.8**	**+0.8**
	0.5nm,0.9s,mb3.0,baz=294,slow=6.3,SNR=6.0						
TXAR				LR	LR	02 25 56.0	
	comp=Z,60nm,19.3s,MS3.1,baz=5.0,slow=38						
LPIG	**La Paz**	**24.72**	**137**	LR	LR	02 24 17.7	
	comp=Z,111nm,19.2s,MS3.4,baz=330,slow=34						

MAN 07 02:38:03.6, 937N×12284E, h155km, mb2.6, ML4.1, MS7.8, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.39**	**94**	*i* P	Pn	02 38 28.3	+3.3
GUIM	**Jordan**	**1.27**	**349**	*e*P	Pn	02 38 35.7	+4.4
GUIM				*e*S	Sn	02 38 53.0	+0.6
LLP	**Lapu-Lapu**	**1.45**	**49**	*e*P	Pn	02 38 28.0	-5.0
LLP				*i* S	Sn	02 38 55.6	0.0
IPIL	**Ipil**	**1.59**	**190**	*e*P	Pn	02 38 34.7	+0.2
MSLP	**Maasin**	**2.13**	**69**	*e*P	Pn	02 38 40.4	-0.1
RCP	**Roxas**	**2.18**	**357**	⇓*e*P	Pn	02 38 51.0	+10
RCP				*e*S	Sn	02 39 22.7	+13
CUYO	**Cuyo Island**	**2.32**	**309**	*e*P	Pn	02 38 43.5	+0.7

IDC 07 03:11:17.9±4.8, 252S×13991E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/12, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=186.7km s-min=28.6km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.16**	**197**	P	Pn	03 15 31.6	+0.3
	0.1nm,0.3s,baz=18,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.82**	**195**	P	P	03 16 11.7	+0.1
	0.4nm,0.4s,baz=18,slow=12,SNR=7.1						
MKAR	**Makanchi Array**	**70.37**	**322**	P	P	03 22 33.8	+0.3
	0.1nm,0.4s,baz=104,slow=6.1,SNR=2.3						

*IDC **07** 03:28:46.3±1.8, 2545S×6664W, h0km, mb3.6/1, mb1 3.8/2, mb1mx3.5/15, mbtmp3.7/2, ML3.9/1, Error ellipse: s-maj=66.6km s-min=49.6km az=81.0*
*NEIC **07** 03:29:04.7±1.1, 2446S×6700W, h148km±15km, mb3.5/3, Error ellipse: s-maj=22.9km s-min=9.4km az=97.0*
*ISCJB **07** 03:29:05.1±1.1, 2446S±007×673W±02, h176km±24km, mb3.2/1, Error ellipse: s-maj=26.4km s-min=9.5km az=23.3*
*GUC **07** 03:29:07.4±1.0, 2452S×6766W, h204km±143km, ML4.4*
ISC 07 03:29:06.0±1.1, 2448S±006×672W±02, h165km±24km, n14, σ0°92/17, mb3.2/1, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.42**	**320**	*e*Pn	**Pn**	**03 29 47.9**	**+1.1**
LVC				*e*Sn	**Sn**	**03 30 17.7**	**-0.8**
CPN1	**Cerro Paranal**	**2.91**	**266**	⇓*e*P	**Pn**	**03 29 54.0**	**+1.2**
CPN1				*i* S	**Sn**	**03 30 28.8**	**-0.2**
CPN1				AML	AML	03 30 30.8	
	comp=E,1μm,0.5s						
CEN1	**Los Morros**	**2.94**	**291**	⇓*i* P	**Pn**	**03 29 54.7**	**+1.6**
CEN1				*i* S	**Sn**	**03 30 29.6**	**0.0**
CEN1				AML	AML	03 30 31.4	
	comp=E,619nm,0.2s						
ANCH	**Antofagasta**	**3.02**	**285**	⇑*i* P	**Pn**	**03 29 54.3**	**+0.1**
ANCH				*i* S	**Sn**	**03 30 30.8**	**-0.8**
CPCH	**Copiapo**	**4.03**	**224**	*e*P	**Pn**	**03 30 06.7**	**-0.2**
CDCH	**Caldera**	**4.16**	**231**	⇓*i* P	**Pn**	**03 30 09.1**	**+0.5**
CDCH				*i* S	**Sn**	**03 30 56.6**	**-0.9**
LPAZ	**La Paz**	**8.19**	**354**	Pn	**Pn**	**03 31 01.9**	**+0.1**
	comp=E,0.6nm,0.3s,baz=167,slow=6.4,SNR=10						
LPAZ	**La Paz**	**8.19**	**354**	*e*Pn	**Pn**	**03 31 01.7**	**0.0**
	comp=E,1.5nm,0.3s						
TRQA	**Tornquist**	**14.26**	**163**	*e*Pn	**Pn**	**03 32 19.7**	**-0.6**
	comp=E,0.7nm,0.3s						
SAML	**Samuel**	**15.91**	**15**	*e*P	**Pn**	**03 32 38.4**	**-2.4**
	comp=E,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**03 40 40.7**	**+0.7**
	comp=E,0.5nm,0.7s,mb3.2,baz=257,slow=5.4,SNR=10						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**03 40 40.7**	**+0.7**
WRA	**Warramunga Arr**	**131.12**	**207**	PKP	PKPdf	03 47 60.0	+1.9
	comp=E,0.3nm,0.4s,baz=157,slow=1.8,SNR=10						
MKAR	**Makanchi Array**	**147.02**	**40**	PKPbc	PKPbc	03 48 30.2	+1.1
	comp=E,1.0nm,0.6s,baz=299,slow=2.9,SNR=13						

*NDI **07** 03:36:01.6±6.9, 3467N×7353E, h33km, ML3.6, mb3.9(NEIC)*
*IDC **07** 03:36:01.9±0.9, 3424N×7386E, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, ML4.1/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/32, Error ellipse: s-maj=25.4km s-min=19.5km az=53.0*
*MOS **07** 03:36:03.4±1.2, 3418N×7381E, h33km, mb3.9/1, Error ellipse: s-maj=32.7km s-min=10.6km az=87.2*
*ISCJB **07** 03:36:06.0±0.5, 3433N±004×7420E±004, h49km±7km, mb3.9/7, MS3.8/1, Error ellipse: s-maj=7.1km s-min=5.5km az=79.6*
*NEIC **07** 03:36:07.0±1.0, 3427N×7392E, h35km, mb3.9/3, Error ellipse: s-maj=19.9km s-min=11.2km az=130.0*
ISC 07 03:36:05.1±0.9, 3440N±003×7412E±005, h17km±6km, n44, σ1°23/55, mb3.9/7, MS3.8/1, 1C, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRNI	**Srinagar**	**0.67**	**116**	*e*P	**Pg**	**03 36 18.0**	**-0.3**
SRNI				*e*S	**Sg**	**03 36

CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CHKZ	**Chkalovo**	**19.43**	354	*e*P	**Pn**	**03 40 30.1**	**-1.7**
	comp=Z,0.9nm,0.5s							
AKTK	**Aktyubinsk**	**19.89**	329	P	**Pn**	**03 40 35.7**	**-1.5**
AKTO	**Aktyubinsk**	**19.89**	329	P	**Pn**	**03 40 35.7**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=142,slow=7.2,SNR=11							
ZAL	**Zalesovo**	**20.94**	18	P	**P**	**03 40 47.6**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=237,slow=5.1,SNR=4.8							
SONM	**Songino Array**	**27.55**	51	P	**P**	**03 41 51.8**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.5,baz=257,slow=9.5,SNR=6.3							
ARCES	**ARCESS Array B**	**44.05**	338	P	**P**	**03 44 11.8**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=115,slow=8.9,SNR=10							
NOA	**NORSAR Array B**	**47.58**	324	P	**P**	**03 44 38.7**	**-1.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=96,slow=7.6,SNR=3.0							
MJAR	**Matsushiro Arr**	**51.36**	68	LR	LR	04 10 10.1		
	comp=Z,80nm,19.1s,MS3.8,baz=210,slow=40							
TORD	**Torodi Ar. Bea**	**68.27**	271	P	**P**	**03 47 03.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**68.27**	271	P	**P**	**03 47 03.2**	**-1.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=54,slow=5.8,SNR=16							
TSUM	**Tsumeb**	**75.70**	234	*e*P	**P**	**03 47 49.0**	**-0.5**
	comp=Z,4.2nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**78.71**	124	P	**P**	**03 48 07.2**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=325,slow=5.3,SNR=19							
ASAR	**Alice Springs**	**80.96**	127	P	**P**	**03 48 19.2**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=310,slow=5.0,SNR=7.9							

*ISCJB **07** 04:11:42.8±0.9, 3483N±008×234E±02, h75km±24km, Error ellipse: s-maj=27.8km s-min=9.4km az=134.5*
*HLW **07** 04:11:43.1, 3504N×2358E, h28km, Mb3.3*
*NEIC **07** 04:11:43.1, 3496N×2326E, h27km, MD3.3(ATH), After ATH.*
*ATH **07** 04:11:43.1, 3496N×2326E, h27km±7km, MD3.3/6*
*CSEM **07** 04:11:43.4±0.3, 3478N×2335E, h36km±5km, MD3.3, Error ellipse: s-maj=7.3km s-min=5.4km az=112.0*

ISC 07 04:11:44.3±0.9, 3483N±007×233E±02, h50km±53km, n11, σ1§07/13, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.63**	**89**	*e*PN		**Pn**	**04 11 57.0**	**-0.1**
VAM	**Vamos**	**0.92**	**51**	*e*PN		**Pn**	**04 12 00.0**	**-1.0**
VAM				*e*SN		**Sn**	**04 12 13.7**	**+0.5**
KYTH	**Kithira**	**1.47**	**351**	*e*PN		**Pn**	**04 12 07.5**	**-0.8**
VLI	**Veliai**	**1.91**	**351**	*e*PN		**Pn**	**04 12 14.7**	**+0.3**
NPS	**Neapolis**	**1.93**	**76**	*e*PB		**Pn**	**04 12 16.5**	**+1.8**
APE	**Apeiranthos**	**2.87**	**38**	*e*PN		**Pn**	**04 12 25.3**	**-2.2**
EVR	**Evrytania**	**4.26**	**344**	*e*PN		**Pn**	**04 12 47.2**	**+0.7**
SWA2		**5.86**	**161**	⇓*i*P		**Pn**	**04 13 09.3**	**+0.9**
SWA1		**5.91**	**159**	⇓*e*P		**Pn**	**04 13 10.1**	**+0.8**
SWA1				S		**Sn**	**04 13 13.5**	**-2.0**
AWBH		**8.05**	**142**	P		**Pn**	**04 13 38.6**	**+0.1**
HFRF	**Wahat Farafira**	**8.77**	**149**	⇑P		**Pn**	**04 13 48.8**	**+0.4**

CASC 07 04:33:44.3±2.3, 844N×8287W, h6km±8km, MD3.6, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.37**	**305**	*e*P		Pg	04 33 51.2	-0.2
ACR				*e*S		Sg	04 33 57.4	+1.2
DVD	**David**	**0.41**	**91**	*e*P		Pg	04 33 52.7	+0.5
DVD				*e*S		Sg	04 33 59.1	+1.5
CTCR	**Cotoan**	**0.47**	**13**	⇓*i*P		Pg	04 33 54.3	+1.0
CTCR				*e*S		Sg	04 34 02.0	+2.7
BRU	**Baru**	**0.47**	**40**	*e*P		Pg	04 33 54.6	+1.2
CNI	**Changuinola**	**1.03**	**19**	*e*P		Pg	04 34 03.4	-0.7
OCM	**Ochomogo**	**1.81**	**323**	*e*P		Pn	04 34 16.3	+0.4
OCM				*e*S		Sn	04 34 40.9	+1.7
LAJ	**Bijagual**	**1.88**	**319**	*e*P		Pn	04 34 18.9	+1.9
PRS1	**Puriscal**	**2.10**	**317**	⇓*e*P		Pn	04 34 19.0	-0.9
PRS1				*e*S		Sn	04 34 46.7	+0.4
PTP	**Ponta Puerca**	**19.38**	**58**	⇑*i*P			04 33 49.7	

*ISCJB **07** 04:43:00.6±0.6, 3433N±002×2660E±002, h23km±5km, mb4.1/36, MS3.4/9, Error ellipse: s-maj=3.8km s-min=2.1km az=69.3*
*IDC **07** 04:43:00.5±0.8, 3458N×2655E, h0km, mb4.2/15, mb1 4.2/22, mb1mx4.1/29, mbtmp4.1/22, ML4.1/6, MS3.5/7, Ms1 3.5/7, ms1mx3.1/40, Error ellipse: s-maj=17.4km s-min=13.2km az=165.0*
*HLW **07** 04:43:01.9, 3447N×2681E, h14km, Mb4.0*
*CSEM **07** 04:43:02.5±0.0, 3435N×2666E, h44km, mb4.2/17, Ms3.2, Mw3.6, Error ellipse: s-maj=1.6km s-min=0.8km az=39.0*
*MOS **07** 04:43:02.1±1.4, 3443N×2650E, h33km, mb4.4/14, Error ellipse: s-maj=13.4km s-min=7.8km az=89.6*
*ATH **07** 04:43:04.0, 3465N×2656E, h24km±4km, MD4.1/20, ML4.3*
*NEIC **07** 04:43:04.0, 3465N×2656E, h24km, mb3.9/38, ML3.9(NIC), ML4.3(ATH), After ATH.*
*NIC **07** 04:43:05.2±0.2, 3527N×2679E, h71km, mb4.4, ML3.9, MW3.6*
*GII **07** 04:43:08.8±0.5, 3413N×2722E, h6km±30km, mb4.2/6, ML4.1/6, Mw3.6/3*
*NAO **07** 04:43:45.9, 3821N×2141E, h33km, mb4.1*

ISC 07 04:43:03.2±0.7, 3438N±002×2660E±002, h25km±6km, n275, σ1§12/301, mb4.1/36, MS3.4/9, 17C-12D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.80**	**337**	P		**Pb**	**04 43 16.0**	**-2.5**
XRY	**Khrisi**	**0.90**	**304**	*e*PN		**Pn**	**04 43 18.0**	**-2.3**
NPS	**Neapolis**	**1.20**	**318**	⇓*i*PN		**Pn**	**04 43 23.5**	**-0.9**
IDI	**Anoyia**	**1.68**	**303**	*i*Pn		**Pn**	**04 43 32.4**	**+1.4**
	43nm,0.3s,baz=128,slow=14,SNR=115							
IDI					Sn	**Sn**	**04 43 55.5**	**+3.9**
	94nm,0.3s,baz=37,slow=19,SNR=10							
IDI	**Anoyia**	**1.68**	**303**	Pn		**Pn**	**04 43 32.3**	**+1.4**
GVD	**Gavdhos**	**2.13**	**283**	*e*Pb		**Pb**	**04 43 39.0**	**-2.1**
GVD				*e*Sn		**Sn**	**04 43 58.8**	**-3.9**
SANT	**Santorini**	**2.20**	**335**	*e*Pn		**Pn**	**04 43 37.1**	**-1.1**
SANT	**Santorini**	**2.20**	**335**	*e*Pn		**Pn**	**04 43 37.1**	**-1.0**
ARG	**Arkhangelos**	**2.22**	**34**	⇑*i*PN		**Pn**	**04 43 40.2**	**+1.8**
VAM	**Vamos**	**2.23**	**298**	⇑*i*PN		**Pn**	**04 43 40.8**	**+2.3**
NISR	**Nisiros**	**2.27**	**11**	*e*PB		**Pb**	**04 43 38.0**	**-5.5**
DAT	**Datca**	**2.48**	**18**	*e*PN		**Pn**	**04 43 54.4**	**+0.5**
BODT	**Bodrum**	**2.74**	**12**	*e*PN		**Pn**	**04 43 45.5**	**0.0**
BDRM	**Kayabasi**	**2.77**	**14**	*i*P		**Pn**	**04 43 46.2**	**+0.2**
BDRM				*i*S		**Sn**	**04 44 08.8**	**-10**
APE	**Apeiranthos**	**2.82**	**342**	*e*PN		**Pn**	**04 43 46.6**	**-0.1**
DALT	**Dalyan (Mudla)**	**2.91**	**34**	*e*PN		**Pn**	**04 43 48.5**	**+0.7**
KSL	**Kastellorizon**	**3.01**	**53**	*e*PN		**Pn**	**04 43 50.5**	**+1.2**
FETY	**Fethiye**	**3.03**	**41**	*e*PN		**Pn**	**04 43 49.6**	**+0.1**
MLSB	**Milas**	**3.06**	**18**	*e*PN		**Pn**	**04 43 49.7**	**-0.3**
YER	**Yerkesik**	**3.07**	**26**	*e*PN		**Pn**	**04 43 50.9**	**+0.7**
SMG	**Samos**	**3.33**	**3**	*e*PN		**Pn**	**04 43 53.1**	**-0.6**
KYTH	**Kithira**	**3.48**	**304**	*e*PN		**Pn**	**04 43 56.0**	**+0.3**
ELL	**Elmali**	**3.58**	**48**	*e*PN		**Pn**	**04 43 58.4**	**+1.2**
VLI	**Veliai**	**3.79**	**309**	⇑*i*PN		**Pn**	**04 44 00.1**	**0.0**
VLI				*e*SN		**Sn**	**04 44 42.8**	**-1.1**
DENT	**Denizli**	**3.90**	**30**	*e*PN		**Pn**	**04 44 02.6**	**+1.1**
URLA	**Izmir**	**3.98**	**360**	*i*P		**Pn**	**04 44 02.5**	**0.0**
URLA				*i*S		**Sn**	**04 44 31.4**	**-17**
KDAG	**Bornova**	**4.05**	**7**	*i*P		**Pn**	**04 44 03.9**	**+0.3**
KDAG				*i*S		**Sn**	**04 44 39.1**	**-11**
KVR	**Kavouri**	**4.14**	**327**	*e*PN		**Pn**	**04 44 05.0**	**+0.2**
ANTB	**Antalya**	**4.15**	**51**	*e*P		**Pn**	**04 44 07.0**	**+2.0**
NAIG	**Nisos Aigina**	**4.21**	**324**	*e*PN		**Pn**	**04 44 06.5**	**+0.7**
ATH	**Athens Observa**	**4.28**	**328**	*e*PN		**Pn**	**04 44 08.1**	**+1.4**
PTL	**Penteli**	**4.28**	**330**	*e*PN		**Pn**	**04 44 08.5**	**+1.7**
MGER	**Gerania Oros**	**4.50**	**324**	*e*PN		**Pn**	**04 44 10.5**	**+0.7**
ITM	**Ithomi**	**4.72**	**308**	*e*PN		**Pn**	**04 44 14.0**	**+1.2**
PPCY	**Paphos**	**4.76**	**82**	P		**Pn**	**04 44 12.9**	**-0.4**
AKMC	**Akamas**	**4.76**	**81**	P		**Pn**	**04 44 12.8**	**-0.5**
PRK	**Paraskevi**	**4.87**	**357**	*e*PN		**Pn**	**04 44 14.6**	**-0.2**
ALFC	**Alevga**	**5.00**	**79**	P		**Pn**	**04 44 15.8**	**-0.8**
	6.6nm,0.2s							
ALFC				S		**Sn**	**04 45 10.3**	**-3.2**
SWA1		**5.16**	**189**	S		**Sn**	**04 44 19.8**	**+1.0**
SWA1				S		**Sn**	**04 44 17.1**	**-0.3**
LKR	**Lokris**	**5.16**	**327**	*e*PN		**Pn**	**04 44 19.7**	**+0.9**
SZAC	**Souni-Zanaja**	**5.19**	**84**	P		**Pn**	**04 44 19.0**	**-0.3**
	6.0nm,0.5s							
SZAC				S		**Sn**	**04 45 17.7**	**-0.7**
SWA2		**5.21**	**191**	⇓*e*P		**Pn**	**04 44 20.9**	**+1.3**
SHUT	**Suhut-Afyon**	**5.24**	**36**	*e*P		**Pn**	**04 44 21.8**	**+1.8**
RLS	**Riolos of Patr**	**5.54**	**313**	*e*PN		**Pn**	**04 44 26.9**	**+2.8**
CSS	**Prodhromos**	**5.57**	**82**	P		**Pn**	**04 44 24.3**	**-0.2**
	2.8nm,0.5s							
CSS				S		**Sn**	**04 45 26.2**	**-1.5**
CSS	**Prodhromos**	**5.57**	**82**	*e*P		**Pn**	**04 44 23.6**	**-0.9**
CSS	**Prodhromos**	**5.57**	**82**	*e*Pn		**Pn**	**04 44 24.6**	**+0.1**
	62nm,0.6s							
CSS				*e*Sn		**Sn**	**04 45 23.9**	**-3.8**
CSS	**Prodhromos**	**5.57**	**82**	*e*Pn		**Pn**	**04 44 24.6**	**+0.1**
	62nm,0.6s							
CSS				S		**Sn**	**04 45 26.2**	**-1.5**
AANS		**5.75**	**134**	⇓*e*P		**Pn**	**04 44 26.1**	**-0.8**
HMYD	**Mayadein**	**5.79**	**141**	⇑*i*P		**Pn**	**04 44 27.0**	**-0.5**
KONT	**Konya--Tatoy**	**5.86**	**51**	*e*P		**Pn**	**04 44 30.2**	**+1.8**
SQR		**5.94**	**138**	P		**Pn**	**04 44 29.3**	**-0.2**
EVR	**Evrytania**	**5.95**	**321**	*e*PN		**Pn**	**04 44 31.0**	**+1.3**
FYM	**Al Fayyum**	**6.00**	**140**	⇑*e*P		**Pn**	**04 44 29.7**	**-0.7**
AYT	**Al 'Ayyat**	**6.05**	**139**	P		**Pn**	**04 44 30.4**	**-0.7**
IKL	**Isikli**	**6.08**	**70**	*e*P		**Pn**	**04 44 32.6**	**+1.1**
VLS	**Valsamata**	**6.16**	**310**	*e*PN		**Pn**	**04 44 34.5**	**+1.9**
KOT	**Kottamia**	**6.27**	**134**	⇓*i*P		**Pn**	**04 44 33.4**	**-0.7**
KOT				S		**Sn**	**04 45 40.2**	**-4.6**
THL	**Klokotos Trika**	**6.35**	**326**	*e*PN		**Pn**	**04 44 36.7**	**+1.6**
AWBH		**6.35**	**161**	⇓*i*P		**Pn**	**04 44 35.4**	**+0.3**
GLL	**Jalalah**	**6.46**	**136**	⇓P		**Pn**	**04 44 36.1**	**-0.5**
AMAG	**Maghara**	**6.71**	**122**	⇓*e*P		**Pn**	**04 44 38.7**	**-1.3**
SUZ		**6.95**	**129**	⇑*e*P		**Pn**	**04 44 42.4**	**-1.1**
JAN	**Janina**	**7.00**	**321**	*e*PN		**Pn**	**04 44 46.1**	**+2.1**
ZAF		**7.17**	**134**	⇑P		**Pn**	**04 44 45.5**	**-0.9**
ZNM		**7.30**	**131**	⇓*e*P		**Pn**	**04 44 47.4**	**-0.8**
HFRF	**Wahat Farafira**	**7.35**	**168**	⇓*i*P		**Pn**	**04 44 49.8**	**+0.8**
SLTI	**Sal'it**	**7.38**	**104**	Pn		**Pn**	**04 44 48.5**	**-0.7**
SLTI				Sn		**Sn**	**04 46 06.9**	**-5.3**
KZIT	**Kziot**	**7.43**	**116**	Pn		**Pn**	**04 44 49.3**	**-0.6**
KZIT				Sn		**Sn**	**04 46 09.0**	**-4.4**
MMA0	**Mount Meron ar**	**7.46**	**98**	Pn		**Pn**	**04 44 50.8**	**+0.4**
MMAI	**Mount Meron Ar**	**7.46**	**98**	Pn		**Pn**	**04 44 49.7**	**-0.7**
	7.3nm,0.3s,baz=290,slow=11,SNR=22							
MMAI					Sn	**Sn**	**04 46 15.5**	**+1.4**
	12nm,0.3s,baz=303,slow=24,SNR=9.5							
MMA1	**Mount Meron ar**	**7.46**	**98**	Pn		**Pn**	**04 44 51.4**	**+1.0**
BHL	**Bhannes**	**7.52**	**91**	*e*Pn		**Pn**	**04 44 51.4**	**+0.2**
SVTA	**Shivta**	**7.58**	**115**	Pn		**Pn**	**04 44 52.1**	**0.0**
KEK	**Kerkira**	**7.61**	**316**	*e*PN		**Pn**	**04 44 53.3**	**+0.8**
HNKL	**Nakhl**	**7.67**	**123**	⇑*e*P		**Pn**	**04 44 52.2**	**-1.0**
HNKL				S		**Sn**	**04 46 12.4**	**-6.8**
RCY	**Rachaya**	**7.71**	**94**	*e*Pn		**Pn**	**04 44 53.0**	**-0.9**
HWQ	**Hawqa**	**7.73**	**88**	*e*Pn		**Pn**	**04 44 54.4**	**+0.3**
BR131	**Keskin Array S**	**7.75**	**44**	*e*Pn		**Pn**	**04 44 54.0**	**-0.5**
	3.6nm,0.8s							
BR131				*e*Sn		**Sn**	**04 46 19.5**	**-1.9**
BRTR	**Keskin Array B**	**7.75**	**44**	Pn		**Pn**	**04 44 55.1**	**+0.7**
	0.4nm,0.3s,baz=220,slow=14,SNR=13							
BRTR					Sn	**Sn**	**04 46 20.2**	**-1.2**
	0.2nm,0.3s,baz=213,slow=22,SNR=3.3							
YTIR	**Yattir**	**7.76**	**110**	Pn		**Pn**	**04 44 55.2**	**+0.6**
DRGI	**Dragot**	**7.89**	**108**	Pn		**Pn**	**04 44 56.2**	**-0.1**
DSI	**Dead Sea**	**7.89**	**108**	Pn		**Pn**	**04 44 56.4**	**+0.1**
MZDA	**Masada**	**7.98**	**110**	Pn		**Pn**	**04 44 57.2**	**-0.3**
MZDA				Sn		**Sn**	**04 46 22.7**	**-4.2**
GRB	**Gharib**	**8.06**	**137**	⇑*e*P		**Pn**	**04 44 58.4**	**-0.2**
PRNI	**Paran**	**8.16**	**117**	Pn		**Pn**	**04 45 00.5**	**+0.5**
PRNI				Sn		**Sn**	**04 46 28.0**	**-3.3**
KRUS	**Krusevo**	**8.16**	**330**	*e*Pn		**Pn**	**04 45 00.3**	**+0.2**
KRUS	**Krusevo**	**8.16**	**330**	*e*Pn		**Pn**	**04 45 00.2**	**+0.2**
HRFI	**Mount Harif**	**8.35**	**119**	Pn		**Pn**	**04 45 03.5**	**+0.9**
EIL	**Elat**	**8.50**	**121**	*e*Pn		**Pn**	**04 45 05.5**	**+0.8**
	272nm,0.6s							
EIL				*e*Sn		**Sn**	**04 46 35.5**	**-4.2**
EIL	**Elat**	**8.50**	**121**	*e*Pn		**Pn**	**04 45 05.5**	**+0.8**
	272nm,0.6s							
EIL				*e*Sn		**Sn**	**04 46 35.5**	**-4.2**
TR2		**8.52**	**133**	⇓*e*P		**Pn**	**04 45 04.4**	**-0.6**
HBST	**Basata**	**8.62**	**124**	⇓*e*P		**Pn**	**04 45 05.4**	**-0.9**
HDHB	**Dhahab**	**8.86**	**127**	P		**Pn**	**04 45 09.0**	**-0.6**
ASF	**Jabal al Asfar**	**8.89**	**101**	Pn		**Pn**	**04 45 10.3**	**+0.3**
	1.0nm,0.3s,baz=328,slow=19,SNR=4.7							
ASF					Sn	**Sn**	**04 46 47.5**	**-2.0**
	0.8nm,0.3s,baz=57,slow=23,SNR=6.3							
ASF	**Jabal al Asfar**	**8.89**	**101**	P		**Pn**	**04 45 10.3**	**+0.2**
ASF							04 46 47.5	
ASF					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ASF					smax			
	comp=N,1.0nm,0.3s							
TR1		**8.94**	**133**	P		**Pn**	**04 45 10.0**	**-0.7**
LCI	**Lecce**	**9.00**	**314**	Pn		**Pn**	**04 45 10.5**	**-1.0**
SHRM		**9.13**	**133**	P		**Pn**	**04 45 12.6**	**-0.7**
HDK1	**Dakhla**	**9.13**	**164**	⇓*e*P		**Pn**	**04 45 14.5**	**+1.2**
TIP	**Timpagrande**	**9.24**	**304**	*e*Pn		**Pn**	**04 45 13.7**	**-1.1**
TIP				*e*Sn		**Sn**	**04 46 50.3**	**-7.5**
TIP	**Timpagrande**	**9.24**	**304**	*e*Pn		**Pn**	**04 45 13.7**	**-1.1**
SOI	**Samo**	**9.29**	**296**	Pn		**Pn**	**04 45 15.2**	**-0.3**
SOI				Sn		**Sn**	**04 46 52.3**	**-6.8**
GRI	**Girifalco**	**9.31**	**301**	Pn		**Pn**	**04 45 16.6**	**-5.2**
AKRG	**Al Kharijah**	**9.47**	**158**	⇑*i*P		**Pn**	**04 45 18.5**	**-0.6**
GTR	**Jabal at Tayr**	**9.48**	**158**	⇑*e*P		**Pn**	**04 45 19.0**	**+0.9**
MTTG	**Motta San Giov**	**9.53**	**295**	Pn		**Pn**	**04 45 18.5**	**-0.3**
MTTG				Sn		**Sn**	**04 46 57.0**	**-8.1**
AGST	**Augusta-Monte**	**9.68**	**291**	Pn		**Pn**	**04 45 19.1**	**-1.7**
	comp=N,2μm,6.5s							
HAVL	**Avola**	**9.69**	**289**	Pn		**Pn**	**04 45 19.9**	**-1.1**
HAVL				Sn		**Sn**	**04 47 00.1**	**-8.9**
SSY	**Sortino**	**9.77**	**290**	Pn		**Pn**	**04 45 22.6**	**+0.5**
	comp=N,84nm,1.0s							
ORI	**Oriolo Calabro**	**9.88**	**308**	Pn		**Pn**	**04 45 24.4**	**+0.7**
	comp=N,217nm,0.6s							
HMDC	**Modica**	**9.96**	**288**	Pn		**Pn**	**04 45 24.0**	**-0.7**
	comp=N,68nm,0.4s							
HSFG		**10.02**	**139**	⇑*e*P		**Pn**	**04 45 24.9**	**-0.6**
HVZN	**Vizzini**	**10.06**	**290**	Pn		**Pn**	**04 45 25.1**	**-0.9**
	comp=N,154nm,0.9s							
CUC	**Castrocucco**	**10.27**	**306**	Pn		**Pn**	**04 45 29.2**	**+0.3**
	comp=N,32nm,0.4s							
SLNA	**Salina**	**10.36**	**297**	Pn		**Pn**	**04 45 32.3**	**+2.2**
VAE	**Valguarnera**	**10.36**	**291**	Pn		**Pn**	**04 45 28.2**	**-1.9**
	comp=N,1.2nm,0.3s,baz=83,slow=16,SNR=3.1							
VAE					Sn	**Sn**	**04 47 19.4**	**-6.0**
	comp=N,2.2nm,0.3s,baz=315,slow=8.6,SNR=3.2							
VAE	**Valguarnera**	**10.36**	**291**	Pn		**Pn**	**04 45 28.2**	**-1.9**
VAE					Sn	**Sn**	**04 47 19.4**	**-6.0**
SLCN	**Sala Consilina**	**10.59**	**308**	Pn		**Pn**	**04 45 31.8**	**-1.5**
	comp=N,28nm,0.3s							
DIVS	**Divcibare**	**10.97**	**334**	*i*Pn		**Pn**	**04 45 39.4**	**+0.9**
DIVS				Sn		**Sn**	**04 47 34.9**	**-5.6**
RGNG	**Rignano Grg**	**11.33**	**313**	Pn		**Pn**	**04 45 39.8**	**-3.7**
HMSM	**Jabal Masmas**	**12.36**	**157**	⇓*i*P		**Pn**	**04 45 58.7**	**+1.2**
KEST	**Kesra**	**14.21**	**280**	Pn		**Pn**	**04 46 22.2**	**-0.5**
	comp=N,0.0nm,0.3s,baz=232,slow=19,SNR=3.0							
GNI	**Garni**	**15.54**	**63**	LR		LR	04 54 12.2	
	comp=N,162nm,18.6s,baz=276,slow=43							
ZEI	**Tsey**	**15.89**	**53**	*e*P		**Pn**	**04 46 47.3**	**+2.2**
PGF	**Pioggiola**	**16.00**	**306**	*e*P		**Pn**	**04 46 46.5**	**-0.1**
	comp=N,10nm,0.7s							
PGF	**Pioggiola**	**16.00**	**306**	*e*P		**Pn**	**04 46 46.5**	**-0.1**
	comp=N,5.2nm,0.7s							
KBA	**Koelnbreinsper**	**16.16**	**326**	⇑*i*Pn		**Pn**	**04 46 45.9**	**-2.6**
	comp=N,4.4nm,0.5s							
MOA	**Molln**	**16.33**	**329**	⇓*e*Pn		**Pn**	**04 46 49.6**	**-1.1**
	comp=N,1.6nm,0.5s							
AKASG	**Malin Array Be**	**16.43**	**6**	Pn		**Pn**	**04 46 50.2**	**-1.8**
	comp=N,3.1nm,0.3s,baz=193,slow=12,SNR=17							
AKASG	**Malin Array Be**	**16.43**	**6**	P		**Pn**	**04 46 50.2**	**-1.8**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.3s							
AKASG	**Malin Array Be**	**16.43**	**6**	Pn		**Pn**	**04 46 50.2**	**-1.8**
AKBB	**Malin Array Si**	**16.43**	**6**	*e*Pn		**Pn**	**04 46 50.4**	**-1.5**
AKBB	**Malin Array Si**	**16.43**	**6**	*e*Pn		**Pn**	**04 46 50.4**	**-1.6**
VRAC	**Vranov**	**16.66**	**337**	LR		LR	04 52 32.8	
	comp=Z,159nm,18.6s,baz=332,slow=35							
MORC	**Moravsky Berou**	**16.77**	**339**	*e*Pn		**Pn**	**04 46 53.1**	**-3.2**
	comp=Z,2.7nm,0.9s							
MORC	**Moravsky Berou**	**16.77**	**339**	*e*Pn		**Pn**	**04 46 53.2**	**-3.2**
	comp=Z,2.7nm,0.9s							
WTTA	**Wattenberg**	**17.11**	**323**	⇑*e*Pn		**Pn**	**04 47 03.5**	**+2.9**
	comp=Z,2.9nm,0.5s							
SQTA	**Sankt Quirin**	**17.29**	**322**	⇑*i*Pn		**Pn**	**04 47 04.5**	**+1.7**
	comp=Z,1.9nm,0.4s							
GERES	**GERESS Array B**	**17.34**	**330**	P		**Pn**	**04 47 03.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=11							
MOTA	**Moosalm**	**17.43**	**323**	⇑*e*Pn		**Pn**	**04 47 06.4**	**+1.9**
	comp=Z,1.4nm,0.4s							
MOTA					⇓*i*Sn	**Sn**	**04 50 14.9**	**-2.9**
	comp=Z,1.8nm,0.5s							
MOTA	**Moosalm**	**17.43**	**323**	⇑*e*Pn		**Pn**	**04 47 06.4**	**+1.8**
	comp=Z,1.4nm,0.4s							
MOTA					*i*Sn	**Sn**	**04 50 14.9**	**-2.9**
SBF	**Sospel**	**17.60**	**308**	*e*P		**Pn**	**04 47 06.5**	**-0.2**
KHC	**Kasperske Hory**	**17.62**	**331**	*e*P		**Pn**	**04 47 06.1**	**-0.8**
KHC				*ex*		x	04 47 10.5	
DPC	**Dobruska-Polom**	**17.65**	**338**	*e*P		**Pn**	**04 47 04.7**	**-2.6**
DAVOX	**Davos**	**17.70**	**319**	P		**Pn**	**04 47 08.9**	**+1.0**
	baz=151,slow=19,SNR=3.2							
UPC	**Upice**	**17.88**	**338**	*e*P		**Pn**	**04 47 00.6**	**-10**
PRU	**Pruhonice**	**17.94**	**334**	*e*P		**Pn**	**04 47 09.1**	**-1.8**
FRF	**La Foret Royal**	**17.99**	**307**	*e*P		**Pn**	**04 47 11.3**	**-0.2**
	comp=Z,4.8nm,0.4s							
FRF	**La Foret Royal**	**17.99**	**307**	*e*P		**Pn**	**04 47 11.3**	**-0.2**
	comp=Z,2.4nm,0.4s							
LMR	**La Mourre**	**17.99**	**306**	*e*P		**Pn**	**04 47 11.4**	**-0.1**
MBDF	**Montbardon**	**18.41**	**310**	*e*P		**Pn**	**04 47 17.2**	**+0.5**
	comp=Z,12nm,0.6s							
MBDF	**Montbardon**	**18.41**	**310**	*e*P		**Pn**	**04 47 17.2**	**+0.5**
	comp=Z,6.2nm,0.6s							
LPG	**La Plagne**	**18.79**	**312**	*e*P		**Pn**	**04 47 21.4**	**+0.1**
	comp=Z,4.2nm,0.4s							
LPG	**La Plagne**	**18.79**	**312**	*e*P		**Pn**	**04 47 21.4**	**+0.1**
	comp=Z,2.1nm,0.4s							
LPL	**La Plagne**	**18.81**	**312**	*e*P		**Pn**	**04 47 21.5**	**0.0**
	comp=Z,4.8nm,0.4s							
LPL	**La Plagne**	**18.81**	**312**	*e*P		**Pn**	**04 47 21.5**	**0.0**
	comp=Z,2.4nm,0.4s							
SMRF	**Simiane la Rot**	**18.87**	**307**	*e*P		**Pn**	**04 47 21.9**	**-0.3**
BRG	**Berggiesshubel**	**18.89**	**335**	*e*P		**Pn**	**04 47 22.4**	**-0.1**
	comp=Z,5.7nm,1.2s							
BRG	**Berggiesshubel**	**18.89**	**335**	*e*P		**Pn**	**04 47 22.4**	**0.0**
BRG					pmax	pmax		
	comp=Z,8.0nm,1.2s							
ORIF	**Oris-en-Rattie**	**19.07**	**310**

HFS	**Hagfors**	**27.11**	**346**	P	**P**	**04 48 42.1**	**-2.0**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HFS				MLR	MLR		
	comp=Z,183nm,18.7s						
ATD	**Arta Tunnel**	**27.14**	**143**	LR	LR	04 59 53.7	
	comp=Z,28nm,21.2s,MS2.8,baz=132,slow=37						
KAF	**Kangasniemi**	**27.76**	**360**	*ep*	**P**	**04 48 46.1**	**-3.7**
	comp=Z,3.0nm,0.6s,mb4.1						
KAF	**Kangasniemi**	**27.76**	**360**	*eP*	**P**	**04 48 46.1**	**-3.7**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
AKTK	**Aktyubinsk**	**27.93**	**45**	P	**P**	**04 48 51.5**	**+0.1**
AKTK	**Aktyubinsk**	**27.93**	**45**	P	**P**	**04 48 51.5**	**+0.1**
AKTO	**Aktyubinsk**	**27.93**	**45**	P	**P**	**04 48 51.5**	**+0.1**
	comp=Z,1.4nm,0.4s,mb3.9,baz=241,slow=11,SNR=6.1						
AKTO	**Aktyubinsk**	**27.93**	**45**	P	**P**	**04 48 51.5**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NB2	**NORSAR Subarra**	**28.46**	**344**	P	**P**	**04 48 53.9**	**-2.2**
	comp=Z,7.5nm,1.1s,mb4.2,baz=160,slow=10						
NOA	**NORSAR Array B**	**28.46**	**344**	P	**P**	**04 48 54.0**	**-2.1**
	comp=Z,1.4nm,0.7s,mb3.7,baz=148,slow=9.2,SNR=3.0						
NOA	**NORSAR Array B**	**28.46**	**344**	P	**P**	**04 48 54.0**	**-2.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**28.46**	**344**	P	**P**	**04 48 54.0**	**-2.1**
JOF	**Joensuu**	**28.72**	**4**	*ep*	**P**	**04 48 55.7**	**-2.7**
	comp=Z,2.8nm,0.4s,mb4.3						
JOF	**Joensuu**	**28.72**	**4**	*eP*	**P**	**04 48 55.7**	**-2.7**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
EKA	**Eskdalemuir Ar**	**29.36**	**325**	P	**P**	**04 49 04.5**	**+0.4**
	comp=Z,2.3nm,0.9s,mb3.9,baz=124,slow=9.7,SNR=6.2						
EKA	**Eskdalemuir Ar**	**29.36**	**325**	P	**P**	**04 49 04.6**	**+0.5**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOA0	**Torodi Ar. Sit**	**30.93**	**233**	*eP*	**P**	**04 49 19.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**30.93**	**233**	P	**P**	**04 49 20.0**	**+2.0**
	comp=Z,3.3nm,0.6s,mb4.4,baz=35,slow=8.7,SNR=60						
TORD	**Torodi Ar. Bea**	**30.93**	**233**	P	**P**	**04 49 20.0**	**+2.0**
ZRNK	**Zerenda**	**35.21**	**45**	*eP*	**P**	**04 49 55.8**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**35.21**	**45**	*eP*	**P**	**04 49 55.8**	**+0.5**
	comp=Z,4.2nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**35.22**	**359**	P	**P**	**04 49 53.0**	**-2.4**
	comp=Z,3.5nm,0.5s,mb4.6,baz=177,slow=7.7,SNR=42						
ARCES	**ARCESS Array B**	**35.22**	**359**	P	**P**	**04 49 53.0**	**-2.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR	**Borovoye Array**	**36.04**	**45**	P	**P**	**04 50 03.5**	**+1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=248,slow=7.8,SNR=5.2						
BVAR	**Borovoye Array**	**36.04**	**45**	P	**P**	**04 50 03.5**	**+1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**36.33**	**44**	*eP*	**P**	**04 50 04.5**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**36.33**	**44**	*eP*	**P**	**04 50 04.6**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.3						
LIC	**Lamto**	**40.48**	**233**	*eP*	**P**	**04 50 40.1**	**+0.3**
MK31	**Makanchi Array**	**43.22**	**56**	*eP*	**P**	**04 51 02.7**	**+0.5**
MK31	**Makanchi Array**	**43.22**	**56**	*eP*	**P**	**04 51 02.7**	**+0.5**
MKAR	**Makanchi Array**	**43.22**	**56**	P	**P**	**04 51 03.0**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.1,baz=271,slow=7.0,SNR=30						
MKAR				LR	LR	05 10 25.2	
	comp=Z,48nm,21.4s,MS3.4,baz=95,slow=38						
MKAR	**Makanchi Array**	**43.22**	**56**	P	**P**	**04 51 03.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,48nm,21.4s						
NVS	**Novosibirsk**	**43.81**	**44**	*eP*	**P**	**04 51 07.3**	**+0.3**
ZAL	**Zalesovo**	**44.68**	**46**	P	**P**	**04 51 14.1**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.4,baz=205,slow=6.8,SNR=3.0						
ZAL	**Zalesovo**	**44.68**	**46**	P	**P**	**04 51 14.1**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KOLN	**Koldanda**	**48.72**	**81**	*eP*	**P**	**04 51 46.2**	**+0.6**
GKN	**Gorkha**	**49.48**	**81**	*eP*	**P**	**04 51 52.4**	**+1.0**
DMN	**Daman**	**50.02**	**81**	*eP*	**P**	**04 51 56.8**	**+1.3**
KKN	**Kakani**	**50.09**	**81**	*eP*	**P**	**04 51 57.5**	**+1.5**
PKI	**Pulchoki**	**50.28**	**81**	*eP*	**P**	**04 51 58.0**	**+0.5**
GUN	**Gumba**	**50.53**	**80**	*eP*	**P**	**04 52 00.3**	**+0.9**
JIRN	**Jiri**	**50.88**	**80**	*eP*	**P**	**04 52 03.4**	**+1.4**
TSUM	**Tsumeb**	**53.97**	**191**	LR	LR	05 20 11.6	
	comp=Z,46nm,19.3s,MS3.6,baz=140,slow=41						
MATP	**Matopo**	**54.53**	**178**	P	**P**	**04 52 31.8**	**+2.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=303,slow=6.3,SNR=4.5						
ZAK	**Zakamensk**	**56.37**	**48**	*eP*	**P**	**04 52 34.2**	**-8.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**59.06**	**51**	P	**P**	**04 53 02.1**	**+0.9**
	comp=Z,3.5nm,0.5s,mb4.7,baz=281,slow=7.0,SNR=26						
SONM	**Songino Array**	**59.06**	**51**	P	**P**	**04 53 02.1**	**+0.9**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ULN	**Ulaanbaatar**	**59.47**	**50**	*eP*	**P**	**04 53 05.2**	**+1.2**
	comp=Z,3.6nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**59.47**	**50**	*eP*	**P**	**04 53 05.2**	**+1.2**
	comp=Z,3.6nm,0.6s,mb4.6						
SCHQ	**Schefferville**	**64.55**	**320**	P	**P**	**04 53 37.5**	**-0.6**
	comp=Z,2.6nm,0.4s,mb4.7,baz=59,slow=5.9,SNR=8.0						
SUR	**Sutherland**	**66.63**	**185**	LR	LR	05 24 46.2	
	comp=Z,53nm,19.5s,MS3.8,baz=62,slow=38						
TXAR	**Lajitas Array**	**101.12**	**317**	PP	PP	05 00 57.8	-2.1
	comp=Z,0.5nm,0.9s,baz=51,slow=10.0,SNR=3.6						

WEL 07 04:52:49.2±0.2, 4415S×16862E, h5km, ML3.6/13, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.12**	**53**	PG	Pg	04 52 51.9	+0.2
JCZ				SG	Sg	04 52 53.5	+0.1
MSZ	**Milford Sound**	**0.72**	**223**	P*	Pb	04 53 03.2	-1.1
MSZ				S*	Sb	04 53 13.5	-1.0
WKZ	**Wanaka**	**0.74**	**158**	P*	Pb	04 53 03.3	-1.2
WKZ				S*	Sb	04 53 12.7	-2.2
FOZ	**Fox Glacier**	**0.97**	**53**	P*	Pb	04 53 08.8	+0.4
FOZ				S*	Sb	04 53 24.0	+2.4
LBZ	**Lake Benmore**	**1.15**	**103**	P*	Pb	04 53 11.0	-0.5
LBZ				S*	Sb	04 53 25.7	-1.0
EAZ	**Earnscleugh**	**1.19**	**156**	P*	Pb	04 53 11.4	-0.9
EAZ				S*	Sb	04 53 27.5	-0.4
MLZ	**Mavora Lakes**	**1.24**	**195**	P*	Pb	04 53 12.9	-0.2
DCZ	**Deep Cove**	**1.69**	**218**	PN	Pn	04 53 19.2	-0.2
ODZ	**Otahua Downs**	**1.70**	**123**	PN	Pn	04 53 19.4	-0.1
RPZ	**Rata Peaks**	**1.81**	**77**	PN	Pn	04 53 21.1	+0.1
WHZ	**Wether Hill Ro**	**1.81**	**195**	PN	Pn	04 53 21.3	+0.3
WVZ	**Waitaha Valley**	**1.87**	**56**	PN	Pn	04 53 20.5	-1.4

*NEIC **07** 05:43:47.4±0.8, 5065S×14646E, h35km, mb4.5/9, Error ellipse: s-maj=15.4km s-min=12.0km az=74.0*
*ISCJB **07** 05:43:51.3±2.8, 545S±0.1×1464E±0.1, h70km±23km, mb4.2/12, Error ellipse: s-maj=21.9km s-min=16.6km az=56.6*
*IDC **07** 05:43:56.0±1.0, 562S×14639E, h88km±7km, mb3.8/7, mb1 4.0/9, mb1mx3.8/16, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/20, Error ellipse: s-maj=27.2km s-min=14.0km az=71.0*

ISC 07 05:43:52.7±2.5, 54S±01×1464E±01, h66km±21km, n27, σ1901/26, mb4.2/12, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02**	**169**	P	**Pn**	**05 44 52.5**	**+0.9**
	58nm,0.3s,baz=1.1,slow=5.1,SNR=139						
PMG				S	**Sn**	**05 45 35.9**	**-1.5**
	28nm,0.3s,baz=166,slow=24,SNR=3.7						
CTA	**Charters Tower**	**14.56**	**181**	*eP*	**Pn**	**05 47 17.5**	**+2.4**
	7.1nm,0.4s						
CTA	**Charters Tower**	**14.56**	**181**	P	**Pn**	**05 47 18.9**	**+3.7**
	1.8nm,0.3s,baz=357,slow=14,SNR=21						
CTAO	**Charters Tower**	**14.56**	**181**	*ePn*	**Pn**	**05 47 17.2**	**+2.0**
	13nm,0.6s						
KAKA	**Kakadu**	**15.56**	**241**	⇑*iP*	**Pn**	**05 47 29.7**	**+1.8**
	24nm,0.5s						
WRAB	**Tennant Creek**	**18.57**	**218**	*eP*	**Pn**	**05 48 03.7**	**-1.5**
	4.7nm,0.6s						
WB2	**Warramunga Arr**	**18.58**	**218**	*eP*	**Pn**	**05 48 04.2**	**-1.0**
WRA	**Warramunga Arr**	**18.59**	**218**	P	**Pn**	**05 48 04.7**	**-0.7**
	0.8nm,0.3s,baz=36,slow=12,SNR=47						
AS31	**Alice Springs**	**21.75**	**212**	*eP*	**P**	**05 48 38.5**	**-0.1**
ASAR	**Alice Springs**	**21.76**	**212**	P	**P**	**05 48 39.2**	**+0.5**
	2.6nm,0.5s,mb3.8,baz=54,slow=7.7,SNR=40						
ASAR				LR	LR	05 58 03.6	
	comp=Z,53nm,18.7s,baz=354,slow=39						
ASPA	**Alice Springs**	**21.76**	**212**	*eP*	**P**	**05 48 38.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**23.87**	**236**	*eP*	**P**	**05 49 00.0**	**+0.1**
	25nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**23.87**	**236**	P	**P**	**05 49 00.4**	**+0.5**
	14nm,0.7s,mb4.4,baz=67,slow=8.1,SNR=41						
FITZ				LR	LR	05 58 52.1	
	comp=Z,47nm,19.8s,baz=169,slow=38						
DZM	**Mont Dzumac**	**25.49**	**132**	P	**P**	**05 49 15.1**	**+0.4**
	6.6nm,0.9s,mb4.0,baz=69,slow=15,SNR=8.0						
STKA	**Stephens Creek**	**26.69**	**189**	P	**P**	**05 49 25.3**	**-0.2**
	1.2nm,0.3s,mb3.9,baz=355,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**26.69**	**189**	P	**P**	**05 49 25.8**	**+0.4**
MBWA	**Marble Bar**	**30.21**	**236**	*eP*	**P**	**05 49 57.3**	**+0.5**
	8.8nm,1.1s,mb4.3						
KLBR	**Kellerberrin**	**37.38**	**222**	*eP*	**P**	**05 50 59.2**	**+0.3**
	11nm,0.3s,mb5.2						
COCO	**West Island**	**49.37**	**259**	*eP*	**P**	**05 52 36.2**	**+0.7**
	21nm,0.6s,mb5.2						
ENH	**Enshi**	**50.10**	**317**	*eP*	**P**	**05 52 38.6**	**-2.4**
	0.5nm,0.4s,mb3.8						
VNDA	**Vanda**	**72.51**	**177**	P	**P**	**05 55 12.7**	**+0.3**
	0.9nm,0.5s,mb3.9,baz=326,slow=6.7,SNR=17						
VNDA				pP	pP	05 55 35.0	+4.9
	0.7nm,0.3s,baz=322,slow=8.1,SNR=4.3						
MKAR	**Makanchi Array**	**76.68**	**321**	P	**P**	**05 55 37.4**	**+0.9**
	0.5nm,0.6s,mb3.4,baz=94,slow=8.0,SNR=5.0						
MKAR				pP	pP	05 56 00.4	+5.9
	0.4nm,0.7s,baz=115,slow=5.8,SNR=3.3						
AAK	**Ala-Archa**	**80.52**	**315**	*eP*	**P**	**05 55 56.4**	**-1.2**
	0.7nm,0.5s,mb3.8						
MAW	**Mawson**	**82.53**	**203**	P	**P**	**05 56 08.4**	**+0.1**
	1.7nm,0.5s,mb4.1,baz=88,slow=8.7,SNR=6.5						
MAW	**Mawson**	**82.53**	**203**	*eP*	**P**	**05 56 08.1**	**-0.1**
	1.8nm,0.5s,mb4.2						
TORD	**Torodi Ar. Bea**	**144.37**	**285**	PKP	PKPdf	06 03 20.9	-0.4
	0.8nm,0.7s,baz=74,slow=3.0,SNR=7.7						
TORD				pPKP	pPKPdf	06 03 49.0	+8.7
	0.8nm,0.9s,baz=186,slow=1.3,SNR=3.5						
BBGH	**Gun Hill**	**153.29**	**72**	PKPdf	PKPdf	06 03 32.6	-2.9

*IDC **07** 06:06:52.3±0.5, 233N×32.06W, h0km, mb4.5/21, mb1 4.6/21, mb1mx4.5/26, mbtmp4.5/21, MS4.1/22, Ms1 4.1/22, ms1mx4.0/37, Error ellipse: s-maj=16.4km s-min=11.6km az=152.0*
*BJI **07** 06:06:52.1, 200N×32.40W, h10km, mB5.6, Ms4.8, Msz4.5*
*ISCJB **07** 06:06:53.2±0.3, 2.19N±006×32.37W±004, h10km, mb4.7/67, MS4.2/23, Error ellipse: s-maj=9.0km s-min=5.0km az=133.7*
*GCMT **07** 06:06:54.1±0.3, 2.42N×32.08W, h16km±1km, MW5.0/82, Moment Tensor Solution. s34,c47; s82,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.66±.19; Mθθ4.79±.16; Mϕϕ-3.12±.14; Mrθ-0.41±.39; Mϕθ2.05±.14; Mϕr-0.38±.45; Best double couple: M=4.49000×10^16 NP1:ϕ301.00000°, δ82.00000°, λ-3.00000°. NP2: ϕ32.00000°, δ87.00000°, λ-172.00000°. Principal axes: T 5.3240, Plg4.0000°, Azm166.0000°; N -1.6580, Plg81.0000°, Azm49.0000°; P -3.6560, Plg8.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 06:06:54.1±0.3, 204N×32.37W, h10km, mb4.9/54 Error ellipse: s-maj=10.5km s-min=6.9km az=160.0*
*SZGRF **07** 06:07:08.3, 427N×32.56W, h33km, mb4.9, Central Mid-Atlantic Ridge*

ISC 07 06:06:54.8±0.3, 211N±006×3240W±004, h10km, (h13km±.5km: pP-P), n291, σ086/273, mb4.7/67, MS4.2/23, 75C-51D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**27.60**	**81**	*eP*	**P**	**06 12 38.9**	**-3.3**
	35nm,0.9s,mb4.7						
LIC				*eR*			
	1μm,21.2s						
LIC	**Lamto**	**27.60**	**81**	*eP*	**P**	**06 12 38.9**	**-3.3**
	17nm,0.9s,mb4.7						
SIV	**San Ignacio**	**33.56**	**237**	P	**P**	**06 13 39.2**	**+4.3**
	19nm,0.8s,mb5.1,baz=85,slow=9.3,SNR=100						
TOA0	**Torodi Ar. Sit**	**35.47**	**70**	*eP*	**P**	**06 13 47.6**	**-3.8**
TORD	**Torodi Ar. Bea**	**35.47**	**70**	P	**P**	**06 13 46.6**	**-4.7**
	6.1nm,0.7s,mb4.7,baz=264,slow=9.1,SNR=50						
SDV	**Santo Domingo**	**38.62**	**282**	P	**P**	**06 14 19.6**	**+1.4**
	44nm,0.8s,mb5.2,baz=118,slow=4.8,SNR=36						
SDV	**Santo Domingo**	**38.62**	**282**	*eP*	**P**	**06 14 20.8**	**+2.6**
	49nm,0.9s,mb5.2						
LPAZ	**La Paz**	**39.74**	**241**	P	**P**	**06 14 31.6**	**+4.0**
	14nm,0.8s,mb4.7,baz=60,slow=7.6,SNR=37						
LPAZ	**La Paz**	**39.74**	**241**	*eP*	**P**	**06 14 31.6**	**+4.0**
	18nm,0.9s,mb4.8						
MDT	**Midelt**	**40.17**	**37**	P	**P**	**06 14 27.2**	**-3.8**
	6.9nm,1.1s,mb4.3,baz=226,slow=9.5,SNR=8.0						
MDT				LR	LR	06 28 24.5	
	comp=Z,604nm,20.1s,MS4.4,baz=235,slow=32						
ROSC	**El Rosal**	**41.94**	**275**	P	**P**	**06 14 49.3**	**+3.7**
	37nm,0.8s,mb5.1,baz=107,slow=4.7,SNR=33						
ROSC	**El Rosal**	**41.94**	**275**	*eP*	**P**	**06 14 48.9**	**+3.3**
EVO	**Evora**	**42.56**	**29**	*eP*	**P**	**06 14 50.5**	**-0.3**
EVO				*eR*			
	396nm,22.5s						
ARE	**Arequipa**	**42.78**	**243**	*eP*	**P**	**06 14 53.0**	**+0.5**
LVC	**Limon Verde**	**43.26**	**233**	P	**P**	**06 14 58.5**	**+2.1**
	6.4nm,0.7s,mb4.4,baz=47,slow=8.3,SNR=7.1						
LVC				LR	LR	06 31 54.2	
	comp=Z,175nm,21.9s,MS3.9,baz=58,slow=34						
LVC	**Limon Verde**	**43.26**	**233**	*eP*	**P**	**06 14 57.9**	**+1.5**
	6.8nm,0.8s,mb4.4						
ESDC	**Sonseca Array**	**45.46**	**31**	P	**P**	**06 15 11.6**	**-2.4**
	0.4nm,0.3s,mb3.7,baz=230,slow=7.9,SNR=10						
ESDC				LR	LR	06 30 38.7	
	comp=Z,160nm,19.8s,MS4.0,baz=235,slow=32						
OTAV	**Otavalo**	**46.08**	**268**	*eP*	**P**	**06 15 21.4**	**+2.6**
	6.0nm,1.5s,mb4.9						
CFAA	**Coronel Fontan**	**47.76**	**222**	P	**P**	**06 15 33.8**	**+1.8**
	0.7nm,0.9s,mb3.7,baz=68,slow=8.3,SNR=8.3						
CFAA				LR	LR	06 35 27.4	
	comp=Z,32nm,19.6s,MS3.3,baz=58,slow=36						
TRQA	**Tornquist**	**48.42**	**211**	*eP*	**P**	**06 15 39.2**	**+2.1**
	10nm,0.9s,mb4.8						
EPF	**Esparros**	**50.12**	**31**	*eP*	**P**	**06 15 50.5**	**+0.4**
	80nm,1.5s,mb5.2						
EPF	**Esparros**	**50.12**	**31**	*eP*	**P**	**06 15 50.5**	**+0.4**
	40nm,1.5s,mb5.2						
KEST	**Kesra**	**51.11**	**44**	LR	LR	06 36 31.9	
	comp=Z,102nm,19.5s,MS3.9,baz=212,slow=35						
MTLF	**Montolieu**	**51.32**	**32**	*eP*	**P**	**06 15 59.9**	**+0.7**
	41nm,1.2s,mb4.9						
MTLF	**Montolieu**	**51.32**	**32**	*eP*	**P**	**06 15 59.9**	**+0.7**
	21nm,1.2s,mb4.9						
LFF	**La Frestale**	**51.68**	**30**	*eP*	**P**	**06 16 02.5**	**+0.6**
QUIF	**Quistinic**	**52.15**	**25**	*eP*	**P**	**06 16 06.2**	**+0.8**
RJF	**Les Rejaudoux**	**52.33**	**30**	*eP*	**P**	**06 16 07.1**	**+0.4**
RJF				*eR*			
	487nm,20.0s						
CAF	**Calviac**	**52.34**	**31**	*eP*	**P**	**06 16 07.3**	**+0.5**
ROSF	**Rostrenen**	**52.43**	**24**	*eP*	**P**	**06 16 07.8**	**+0.3**
	35nm,1.1s,mb4.9						
ROSF	**Rostrenen**	**52.43**	**24**	*eP*	**P**	**06 16 07.8**	**+0.3**
	18nm,1.0s,mb4.9						
MFF	**Saint Martin d**	**52.47**	**28**	*eP*	**P**	**06 16 08.2**	**+0.4**
SGMF	**Saint Gilles**	**52.66**	**25**	*eP*	**P**	**06 16 09.9**	**+0.7**
	39nm,0.8s,mb5.1						
SGMF	**Saint Gilles**	**52.66**	**25**	*eP*	**P**	**06 16 09.9**	**+0.7**
	20nm,0.8s,mb5.1						
LASF	**Ste Croix**	**52.69**	**32**	*eP*	**P**	**06 16 10.3**	**+0.9**
TCF	**Toulx Ste Croi**	**53.37**	**29**	*eP*	**P**	**06 16 15.3**	**+0.9**
	31nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**53.37**	**29**	*eP*	**P**	**06 16 15.3**	**+0.9**
	15nm,1.2s,mb4.8						
TSUM	**Tsumeb**	**53.46**	**116**	P	**P**	**06 16 13.8**	**-1.3**
	4.3nm,0.9s,mb4.4,baz=257,slow=15,SNR=4.6						
TSUM				LR	LR	06 34 16.8	
	comp=Z,192nm,19.7s,MS4.2,baz=314,slow=31						
TSUM	**Tsumeb**	**53.46**	**116**	*eP*	**P**	**06 16 13.5**	**-1.6**
	15nm,1.4s,mb4.7						
GRR	**Gorron**	**53.49**	**26**	*eP*	**P**	**06 16 15.7**	**+0.4**
SMRF	**Simiane la Rot**	**53.56**	**34**	*eP*	**P**	**06 16 16.5**	**+0.7**
LMR	**La Mourre**	**53.67**	**35**	*eP*	**P**	**06 16 17.5**	**+0.9**
BGF	**Bois d'Agland**	**53.87**	**30**	*eP*	**P**	**06 16 18.7**	**+0.6**
FRF	**La Foret Royal**	**53.89**	**35**	*eP*	**P**	**06 16 19.1**	**+0.9**
FLN	**La Foliniere**	**53.94**	**26**	*eP*	**P**	**06 16 19.5**	**+0.9**
FLN				*eR*			
	362nm,21.8s						
LDF	**La Druitiere**	**53.97**	**26**	*eP*	**P**	**06 16 19.3**	**+0.5**
	50nm,1.4s,mb5.0						
LDF	**La Druitiere**	**53.97**	**26**	*eP*	**P**	**06 16 19.3**	**+0.5**
	25nm,1.4s,mb5.0						
AVF	**Avril Loir**	**54.28**	**30**	*eP*	**P**	**06 16 21.8**	**+0.7**
	13nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**54.28**	**30**	*eP*	**P**	**06 16 21.8**	**+0.7**
	6.3nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**54.33**	**33**	*eP*	**P**	**06 16 22.3**	**+0.8**
	19nm,1.2s,mb4.6						
ORIF				*eR*			
	312nm,22.0s						
ORIF	**Oris-en-Rattie**	**54.33**	**33**	*eP*	**P**	**06 16 22.3**	**+0.8**
	9.3nm,1.2s,mb4.6						
SMF	**Signal de Mont**	**54.42**	**30**	*eP*	**P**	**06 16 23.2**	**+1.1**
SBF	**Sospel**	**54.53**	**35**	*eP*	**P**	**06 16 23.9**	**+1.0**
SSF	**Saint Saulge**	**54.55**	**29**	*eP*	**P**	**06 16 23.8**	**+0.8**
PGF	**Pioggiola**	**54.65**	**37**	*eP*	**P**	**06 16 24.7**	**+0.9**
MBDF	**Montbardon**	**54.70**	**33**	*eP*	**P**	**06 16 25.3**	**+1.2**
	17nm,0.9s,mb4.8						
MBDF	**Montbardon**	**54.70**	**33**	*eP*	**P**	**06 16 25.3**	**+1.2**
	8.7nm,0.9s,mb4.8						
BNI	**Bardonecchia**	**54.85**	**33**	*eP*	**P**	**06 16 24.9**	**-0.3**
	18nm,1.1s,mb5.0						
LOR	**Lormes**	**54.86**	**30**	*eP*	**P**	**06 16 25.5**	**+0.2**
LOR				*eR*			
	422nm,20.8s						
LPG	**La Plagne**	**55.18**	**33**	*eP*	**P**	**06 16 29.0**	**+1.4**
	10nm,0.9s,mb4.5						
LPG	**La Plagne**	**55.18**	**33**	*eP*	**P**	**06 16 29.0**	**+1.4**
	5.3nm,0.9s,mb4.6						
LPL	**La Plagne**	**55.18**	**33**	*eP*	**P**	**06 16 28.9**	**+1.3**
TGUH	**Tegucigalpa,Un**	**55.47**	**286**	*eP*	**P**	**06 16 30.3**	**+0.6**
	33nm,0.9s,mb5.4						
CABF	**La Chapelle**	**55.55**	**31**	*eP*	**P**	**06 16 31.1**	**+0.9**
BLA	**Blacksburg**	**56.25**	**314**	*eP*	**P**	**06 16 35.3**	**+0.1**
	36nm,1.1s,mb5.3						
HINF	**Hinteralfeld**	**56.73**	**31**	*eP*	**P**	**06 16 39.7**	**+1.0**
BAIF	**Baives**	**56.98**	**27**	*eP*	**P**	**06 16 41.4**	**+1.0**
GIVF	**Givet**	**57.29**	**28**	*eP*	**P**	**06 16 44.4**	**+1.7**
CDF	**Champ du Feu**	**57.34**	**30**	*eP*	**P**	**06 16 43.9**	**+0.9**
SWET	**Sewanee**	**59.51**	**310**	*eP*	**P**	**06 16 58.1**	**-0.1**
JAVS	**Javornik**	**59.54**	**36**	*eP*	**P**	**06 16 58.0**	**-0.4**
BOJS	**Bojanci**	**60.04**	**37**	*iP*	**P**	**06 17 01.6**	**-0.2**
GRA1	**Grafenberg Arr**	**60.16**	**31**	*eP*	**P**	**06 17 01.6**	**-1.0**
	20nm,1.7s,mb4.9						
GRF	**Grafenberg Arr**	**60.16**	**31**	*eP*	**P**	**06 17 01.6**	**-1.0**
	comp=Z,20nm,1.7s,mb4.9						
AAM	**Amn Arbor**	**60.76**	**318**	*eP*	**P**	**06 17 05.8**	**-0.9**
	comp=Z,20nm,0.9s,mb5.2						
SUR	**Sutherland**	**60.86**	**129**	LR	LR	06 37 50.6	
	comp=Z,193nm,19.1s,MS4.3,baz=11,slow=31						
SUR	**Sutherland**	**60.86**	**129**	*eP*	**P**	**06 17 04.7**	**-2.8**
	comp=Z,36nm,1.3s,mb5.3						
WCI	**Wyandotte Cave**	**60.90**	**313**	*eP*	**P**	**06 17 07.0**	**-0.8**
	comp=Z,4.5nm,0.7s,mb4.7						
GERES	**GERESS Array B**	**60.98**	**33**	P	**P**	**06 17 05.7**	**-2.5**
	comp=Z,1.2nm,0.8s,mb4.1,baz=251,slow=4.1,SNR=8.0						
GERES				LR	LR	06 44 35.2	
	comp=Z,160nm,18.7s,MS4.2,baz=270,slow=37						
KHC	**Kasperske Hory**	**61.07**	**33**	*eP*	**P**	**06 17 07.5**	**-1.4**
WVT	**Waverly**	**61.28**	**311**	*eP*	**P**	**06 17 09.1**	**-1.2**
	comp=Z

comp=Z,3.4nm,0.8s,mb4.3
PDAR Pinedale Array 79.15 313 P P 06 18 58.9 -0.9
comp=Z,2.0nm,0.6s,mb4.2,baz=92,slow=6.5,SNR=18
RPN Rapa Nui 79.35 242 LR LR 06 49 19.0
comp=Z,195nm,19.3s,MS4.5,baz=32,slow=32
SRU San Rafael 79.46 309 eP P 06 19 01.6 +0.2
comp=Z,5.8nm,0.8s,mb4.6
WUAZ Wupatki 79.80 306 eP P 06 19 04.2 +0.9
comp=Z,10nm,1.0s,mb4.7
WUAZ Wupatki 79.80 306 ⇑P P 06 19 03.7 +0.5
baz=80,SNR=6.6
116A Eloy 79.85 303 ⇑P P 06 19 04.3 +0.7
baz=80
EGMT Eagleton 79.98 318 ⇑P P 06 19 03.6 -0.7
baz=80
LOHW Long Hollow 80.01 314 eP P 06 19 03.9 -0.5
comp=Z,9.8nm,1.1s,mb4.7
FLWY Flagg Ranch 80.13 314 eP P 06 19 04.8 -0.3
comp=Z,8.8nm,0.8s,mb4.7
DAU Daniels Canyon 80.15 311 eP P 06 19 05.6 +0.4
IMW Indian Meadow 80.28 314 eP P 06 19 05.4 -0.5
comp=Z,13nm,1.4s,mb4.7
115A Sonoran Desert 80.30 303 ⇓P P 06 19 06.5 +0.6
baz=80
TCUT Toone Canyon 80.33 311 eP P 06 19 05.6 -0.5
X15A Humboldt 80.43 304 ⇑P P 06 19 07.4 +0.8
baz=80,SNR=6.3
HWUT Hardware Ranch 80.50 312 eP P 06 19 06.6 -0.5
comp=Z,15nm,0.7s,mb5.0
W15A Williams 80.50 305 ⇑P P 06 19 07.8 +0.8
baz=81
CTU Camp Tracy 80.55 311 eP P 06 19 07.3 0.0
comp=Z,7.1nm,0.7s,mb4.7
MSU Marysvale 80.69 309 eP P 06 19 08.8 +0.7
Z14A Wintersburg 80.95 303 ⇑P P 06 19 09.6 +0.2
baz=81
X14A Yava 80.97 304 ⇑P P 06 19 10.2 +0.7
baz=81
Y14A Wickenburg 81.03 304 ⇑P P 06 19 10.4 +0.6
baz=81
W14A Seligman 81.17 305 ⇑P P 06 19 11.2 +0.6
baz=81
DUG Dugway 81.32 310 ⇓P P 06 19 11.2 -0.2
baz=81,SNR=7.6
F15A Butte 81.59 316 ⇓P P 06 19 12.4 -0.5
baz=82,SNR=6.4
ARUT Antelope Range 81.63 308 eP P 06 19 13.7 +0.7
Y13A Salome 81.71 304 ⇑P P 06 19 14.0 +0.6
baz=82,SNR=5.1
D15A Lincoln 81.72 317 ⇓P P 06 19 13.0 -0.6
baz=82
E15A Deer Lodge 81.75 316 ⇑P P 06 19 13.3 -0.4
baz=82
W13A Hualapai Mount 81.82 305 ⇑P P 06 19 14.9 +0.8
baz=82
PDMCI Parker Dam,Lak 81.99 304 ⇓P P 06 19 15.8 +0.8
baz=82
Y12C Blythe 82.28 304 ⇑P P 06 19 17.4 +0.9
baz=82
E14A Clinton 82.33 316 ⇑P P 06 19 16.2 -0.6
baz=82
D14A Greenough 82.40 317 ⇑P P 06 19 16.3 -0.8
baz=82
N13A Wendover, West 82.42 311 ⇑P P 06 19 17.0 -0.2
baz=82
U12A Valley of Fire 82.42 306 ⇑P P 06 19 17.7 +0.4
baz=82,SNR=5.4
M13A Montello 82.43 311 ⇑P P 06 19 17.1 -0.1
baz=82,SNR=9.4
GLA Glamis 82.50 303 ⇓P P 06 19 18.1 +0.5
baz=83
W12A Cal Nev Ari 82.64 305 ⇑P P 06 19 19.0 +0.7
baz=83
V12A Nelson 82.64 306 ⇑P P 06 19 18.5 +0.2
baz=83
HLID Hailey 82.76 313 eP P 06 19 18.8 -0.2
comp=Z,1.9nm,0.7s,mb4.2
HLID Hailey 82.76 313 ⇑P P 06 19 18.8 -0.2
baz=83
Q12A Willow Creek R 82.79 309 ⇑P P 06 19 19.3 +0.2
baz=83,SNR=6.1
E13A Victor 82.81 316 ⇓P P 06 19 19.0 -0.2
baz=83,SNR=5.8
IRM Iron Mountain 82.82 304 ⇑P P 06 19 20.0 +0.8
baz=83
WALA Waterton Lakes 82.85 319 eP P 06 19 18.3 -1.1
F13A Darby 82.86 316 ⇓P P 06 19 19.0 -0.5
baz=83
P12A McGill 82.88 309 ⇓P P 06 19 19.9 +0.3
baz=83,SNR=5.1
EDM Edmonton 82.89 323 eP P 06 19 18.2 -1.4
M12A Wells 82.99 311 ⇓P P 06 19 19.5 -0.7
baz=83
D13A Huson 83.05 317 ⇑P P 06 19 19.5 -1.0
baz=83
BC3 Big Chuckw Mtn 83.05 303 ⇓P P 06 19 20.7 +0.2
baz=83
N12A Clover Valley, 83.05 311 ⇑P P 06 19 20.4 -0.1
baz=83,SNR=9.9
B13A Whitefish 83.16 318 ⇓P P 06 19 19.9 -1.1
baz=83
C13A Hot Springs 83.17 318 ⇓P P 06 19 19.9 -1.2
baz=83
SWSC Sam W. Stewart 83.31 303 ⇓P P 06 19 22.0 +0.1
baz=83
Q11A Duckwater 83.43 309 P P 06 19 22.5 +0.1
baz=84,SNR=5.4
TUQ Turquoise Mtn. 83.50 305 ⇑P P 06 19 23.2 +0.4
baz=84,SNR=5.2
F12A Elk City 83.51 316 ⇓P P 06 19 22.4 -0.4
baz=84
BELC Belle Mtn. 83.52 304 ⇓P P 06 19 23.6 +0.7
baz=84
DVTC Desert V Tower 83.56 302 ⇓P P 06 19 23.5 +0.4
baz=84
N11A Elko Archery C 83.58 311 ⇑P P 06 19 23.0 -0.3
baz=84
M11A Holland Ranch, 83.65 311 ⇓P P 06 19 23.6 0.0
baz=84,SNR=6.1
C12A Trout Creek 83.79 318 ⇑P P 06 19 23.4 -0.9
baz=84
SHOC Shoshone 83.81 306 ⇑P P 06 19 24.9 +0.5
baz=84
HEC Hector,Ludlow 83.82 305 ⇓P P 06 19 25.0 +0.5
baz=84
U10A Ash Meadows, A 83.87 306 ⇓P P 06 19 25.2 +0.5
baz=84
PFO Pinyon Flat Ob 83.89 303 ⇓P P 06 19 25.5 +0.7
baz=84
B12A Libby 83.91 318 ⇑P P 06 19 24.2 -0.7
baz=84
A12A Yaak River Ran 83.98 319 ⇓P P 06 19 24.5 -0.7
baz=84
H11A Donnelly 83.98 315 ⇑P P 06 19 24.2 -1.0
baz=84
P10A Eureka 84.09 309 ⇑P P 06 19 26.0 +0.2
baz=84
F11A Grangeville 84.14 316 ⇑P P 06 19 25.7 -0.4
baz=84
M10A I.L. Ranch, Tu 84.22 311 ⇓P P 06 19 26.6 +0.1
baz=84
GSC Goldstone 84.22 305 ⇑P P 06 19 26.8 +0.3
baz=84
BBRC Big Bear Sol-O 84.29 304 ⇑P P 06 19 27.6 +0.8
baz=84
FURC Furnace Creek, 84.30 306 ⇑P P 06 19 27.4 +0.6
baz=84,SNR=7.6
109C Camp Elliot, M 84.41 303 ⇑P P 06 19 28.0 +0.5
baz=84
B11A Sandpoint 84.42 318 ⇓P P 06 19 26.6 -0.9
baz=84
A11A Hall Mountain, 84.45 319 P P 06 19 27.5 -0.1
baz=84,SNR=12
MURC Murrieta 84.51 303 ⇓P P 06 19 28.1 +0.1
baz=85
R09A Tonopah 84.52 308 ⇑P P 06 19 27.9 0.0
baz=85
YKA Yellowknife Ar 84.53 332 LR LR 06 53 07.3
comp=Z,109nm,21.4s,MS4.2,baz=155,slow=33
O09A Fish Creek Ran 84.66 310 P P 06 19 29.1 +0.3
baz=85,SNR=5.8
GRAC Grapevine Rang 84.72 307 ⇓P P 06 19 29.5 +0.5
baz=85
MPMC Manual Prospec 84.80 306 ⇑P P 06 19 29.2 -0.2
baz=85,SNR=7.3
E10A Myers Farm, Un 84.83 316 ⇑P P 06 19 28.9 -0.6
baz=85
F10A Beach Ranch, E 84.89 316 ⇓P P 06 19 29.0 -0.9
baz=85
BFSC Mount Baldy St 84.90 304 ⇑P P 06 19 29.6 -0.3
baz=85
NEW Newport 84.92 318 eP P 06 19 28.3 -1.7
comp=Z,5.9nm,1.0s,mb4.7
N09A Rock Creek Ran 84.94 311 ⇑P P 06 19 29.9 -0.2
baz=85,SNR=6.7
LRMC Laurel Mountai 84.95 305 ⇑P P 06 19 30.0 -0.2
baz=85,SNR=8.2
B10A Chitwood Farm, 84.99 318 ⇑P P 06 19 29.0 -1.4
baz=85
C10A Spilker Farm, 85.02 318 ⇓P P 06 19 29.2 -1.3
baz=85
L09A Wilkinson Ranc 85.08 312 ⇓P P 06 19 30.5 -0.3
baz=85
K09A Rome 85.14 312 ⇑P P 06 19 31.0 -0.1
baz=85,SNR=6.2
H09A Durkee 85.16 314 ⇑P P 06 19 30.8 -0.4
baz=85
J09A Fry Pan Ranch, 85.18 313 ⇓P P 06 19 31.5 +0.1
baz=85
EDW2 Edwards Air Fo 85.18 305 ⇑P P 06 19 30.8 -0.5
baz=85,SNR=5.4
I09A Lost Marbles R 85.19 314 ⇓P P 06 19 31.2 -0.2
baz=85,SNR=5.8
Q08A Gabbs 85.20 309 ⇑P P 06 19 31.0 -0.5
baz=85
A10A Northport 85.24 319 ⇑P P 06 19 30.6 -1.0
baz=85
CWC Cottonwood Cre 85.28 306 ⇑P P 06 19 32.0 +0.1
baz=85
F09A S2 Ranch, Elgi 85.36 316 ⇓P P 06 19 31.8 -0.4
baz=85,SNR=13
S08C White Mtn Res 85.37 307 ⇓P P 06 19 32.4 +0.1
baz=85,SNR=6.8
N08A GE Springer Mi 85.40 311 ⇑P P 06 19 32.2 -0.3
baz=85
NVAR Mina Array Bea 85.49 308 P P 06 19 33.3 +0.4
comp=Z,2.5nm,0.7s,mb4.5,baz=96,slow=4.6,SNR=22
E09A Wood Farm, Sta 85.55 316 ⇓P P 06 19 32.1 -1.1
baz=86
SYO Syowa Base 85.57 160⇓eP P 06 19 32.0 -1.3
L08A Fields 85.59 312 ⇓P P 06 19 33.3 -0.1
baz=86,SNR=7.3
ISA Isabella 85.59 305 eP P 06 19 33.9 +0.6
ISA Isabella 85.59 305 P P 06 19 34.0 +0.7
baz=86,SNR=12
M08A Happy Creek Ra 85.60 311 ⇓P P 06 19 33.6 +0.2
baz=86
B09A Rice 85.61 318 ⇓P P 06 19 32.1 -1.4
baz=86
C09A Chrisman Ranch 85.67 318 ⇓P P 06 19 32.8 -1.0
baz=86
D09A Jones Farm, Ri 85.68 317 ⇑P P 06 19 33.1 -0.7
baz=86
K08A Mann Creek Ran 85.70 313 P P 06 19 34.4 +0.4
baz=86,SNR=5.9
J08A Circle Bar Ran 85.70 313 P P 06 19 34.5 +0.6
baz=86,SNR=13
I08A Drewsey 85.78 314 P P 06 19 34.5 +0.2
baz=86,SNR=6.3
H08A Prairie City 85.87 314 ⇓P P 06 19 34.5 -0.3
baz=86
MLAC Mammoth Lakes 85.90 307 ⇑P P 06 19 34.9 0.0
baz=86
O07A Toulon 85.96 310 ⇓P P 06 19 34.5 -0.6
baz=86
F08A Pendleton 85.97 316 ⇓P P 06 19 34.3 -0.9
baz=86
R07C Lee Vining 86.07 308 ⇑P P 06 19 35.9 +0.1
baz=86
D08A Wollman Farm, 86.09 317 ⇓P P 06 19 34.9 -1.0
baz=86
E08A Dider Farm, El 86.18 316 P P 06 19 35.8 -0.5
baz=86,SNR=5.1
C08A Higginbotham F 86.19 318 ⇑P P 06 19 34.8 -1.5
baz=86
M07A Soldier Meadow 86.19 311 ⇑P P 06 19 36.1 -0.3
baz=86
RCTC Rector, Farmer 86.21 306 ⇓P P 06 19 35.8 -0.6
baz=86
K07A Rock Creek Ran 86.26 312 ⇑P P 06 19 36.8 +0.1
baz=86
KCC Kaiser Creek 86.28 307 ⇑P P 06 19 36.9 +0.1
baz=86
J07A Hines 86.31 313 ⇑P P 06 19 37.2 +0.3
baz=86
L07A Adell 86.32 312 ⇑P P 06 19 37.6 +0.6
baz=86,SNR=18
R06C Coleville 86.39 308 ⇑P P 06 19 38.2 +0.9
baz=86
G07A Riggs Ranch, H 86.59 315 ⇑P P 06 19 37.8 -0.5
baz=87
WCN Washoe City 86.63 309 ⇑P P 06 19 39.2 +0.7
baz=87
O06A Flanigan 86.68 310 P P 06 19 38.8 0.0
baz=87,SNR=14
PKM Peak Mountain 86.69 305 ⇓P P 06 19 39.8 +1.0
baz=87
N06A Buffalo Meadow 86.69 311 P P 06 19 39.1 +0.3
baz=87,SNR=6.8
S06C San Francisco 86.70 308 P P 06 19 39.5 +0.6
baz=87,SNR=5.6
F07A Phinny Hill Vi 86.78 316 ⇓P P 06 19 39.4 +0.2
baz=87
R05C Kirkwood Meado 86.88 308 ⇑P P 06 19 39.8 +0.1
baz=87
J06A Christmas Vall 86.93 313 P P 06 19 40.3 +0.3
baz=87,SNR=5.8
K06A Valley Falls 87.00 313 ⇑P P 06 19 40.6 +0.2
baz=87
MOD Modoc 87.04 312 eP P 06 19 40.5 -0.1
comp=Z,7.2nm,1.0s,mb4.9
MOD Modoc 87.04 312 P P 06 19 40.8 +0.3
baz=87,SNR=7.4
H06A Lindquist Farm 87.06 315 ⇓P P 06 19 40.9 +0.3
baz=87
BEKR Beckwourth 87.09 310 P P 06 19 41.2 +0.5
baz=87,SNR=8.0
A07A Ashnola River, 87.10 319 P P 06 19 40.7 -0.1
baz=87,SNR=6.4
CMB Columbia Colle 87.13 308 ⇑P P 06 19 41.7 +0.7
baz=87
M06C Likely Place G 87.18 311 ⇑P P 06 19 41.6 +0.4
baz=87
P05C Yuba Gap, Truc 87.29 309 ⇑P P 06 19 41.8 0.0
baz=87
ELFS Eagle Lake Fie 87.37 310 ⇑P P 06 19 42.4 +0.3
baz=87
F06A Goldendale 87.37 316 ⇑P P 06 19 41.6 -0.5
baz=87
LAVA Lava Cap Winer 87.40 309 ⇓P P 06 19 42.5 +0.2
baz=88
L05A Lakeview 87.44 312 ⇓P P 06 19 42.4 0.0
baz=88
U04C Hernandez Rese 87.46 306 ⇑P P 06 19 43.3 +0.8
baz=88
O04C Chester 87.65 310 ⇓P P 06 19 43.5 0.0
baz=88
Q04C Lincoln 87.89 309 ⇑P P 06 19 44.7 +0.1
baz=88
HATC Hat Creek Radi 87.92 311 ⇑P P 06 19 44.9 +0.1
baz=88
ORV Oroville 87.98 309 ⇓P P 06 19 44.6 -0.4
baz=88
AKTO Aktyubinsk 88.66 40 LR LR 06 58 23.0
comp=Z,103nm,20.0s,MS4.2,baz=108,slow=35
WSAR Wadi Sarin 90.13 67 LR LR 07 00 53.3
comp=Z,273nm,19.2s,MS4.7,baz=288,slow=36
MAW Mawson 93.95 158 LR LR 06 54 20.4
comp=Z,169nm,20.0s,MS4.5,baz=156,slow=30
BVAR Borovoye Array 96.00 36 LR LR 07 07 44.1
comp=Z,158nm,18.6s,MS4.5,baz=139,slow=38
CD2 Chengdu 126.93 48 ePKP PKPdf 06 25 56.1 -2.8
KMI Kunming 128.81 55 PKP PKPdf 06 26 01.5 -1.0
KMI PP PP 06 28 08.1 -0.8
KMI PP PP
KMI comp=Z,168nm,3.7s
LR LR
comp=Z,74nm,22.2s,MS4.3
KMI Kunming 128.81 55 PKP PKPdf 06 26 01.5 -1.0
KMI pPKP pPKPdf 06 26 10.3 +4.4
KMI sPKP 06 26 13.6
KMI PP PP 06 28 08.1 -0.8
KMI SS SS 06 45 31.3 +4.3
STKA Stephens Creek 149.85 170 ePKPbc PKPbc 06 26 47.6 +2.5
FITZ Fitzroy Crossi 153.23 128 PKPbc PKPbc 06 26 55.0 +2.1
comp=Z,1.8nm,0.5s,baz=213,slow=4.9,SNR=10
ASAR Alice Springs 154.80 149 PKP PKPdf 06 26 47.4 -0.3
comp=Z,1.0nm,0.9s,baz=197,slow=3.9,SNR=5.8

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*ISCJB **07** 06:14:55.3±0.3,231N±007×3204W±006,h10km,mb4.5/47, MS4.2/4, Error ellipse: s-maj=9.5km s-min=8.0km az=167.9*
*BJI **07** 06:14:55.5,230N×32.10W,h10km,Ms4.8,Msz4.4*
*IDC **07** 06:14:55.4±0.5,233N×32.08W,h0km,mb4.5/19, mb1 4.6/19,mb1mx4.5/26,mbtmp4.5/19,MS4.1/3, Ms1 4.1/3,ms1mx3.7/26,Error ellipse: s-maj=17.2km s-min=12.1km az=155.0*
*NEIC **07** 06:14:56.6±0.3,234N×32.10W,h10km,mb4.8/30,Error ellipse: s-maj=9.9km s-min=7.7km az=160.0*
*SZGRF **07** 06:15:12.1,440N×3247W,h33km,mb4.7,Central Mid-Atlantic Ridge*

ISC 07 06:14:57.2±0.3,237N±006×3206W±006,h10km, (h11km±1.2km:pP-P),n196,s0s72/193,mb4.5/47,MS4.2/4, 54C-48D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
RCBR	Riachuelo	9.00	205	ePn	Pn	06 17 05.2	-2.0
RCBR				eSn	Sn	06 18 37.7	-11
SIV	San Ignacio	33.99	237	P	P	06 21 42.2	+1.2
	16nm,0.7s,mb5.1,baz=86,slow=9.1,SNR=43						
TOA0	Torodi Ar. Sit	35.06	70	eP	P	06 21 48.9	-1.4
TORD	Torodi Ar. Bea	35.06	70	P	P	06 21 49.0	-1.3
	5.0nm,0.7s,mb4.6,baz=257,slow=9.3,SNR=20						
SDV	Santo Domingo	38.91	281	P	P	06 22 24.0	+1.0
	34nm,0.8s,mb5.1,baz=106,slow=5.2,SNR=31						
SDV	Santo Domingo	38.91	281	eP	P	06 22 23.7	+0.7
	43nm,0.9s,mb5.2						
MDT	Midelt	39.75	37	P	P	06 22 31.0	+0.9
	7.6nm,0.9s,mb4.4,baz=241,slow=7.9,SNR=12						
LPAZ	La Paz	40.17	241	P	P	06 22 35.0	+1.5
	10nm,0.8s,mb4.6,baz=50,slow=7.0,SNR=27						
LPAZ	La Paz	40.17	241	eP	P	06 22 34.9	+1.4
	13nm,0.9s,mb4.7						
ROSC	El Rosal	42.26	275	P	P	06 22 51.9	+1.2
	31nm,0.8s,mb5.0,baz=98,slow=5.7,SNR=24						
ROSC	El Rosal	42.26	275	eP	P	06 22 52.0	+1.3
LVC	Limon Verde	43.69	233	P	P	06 23 01.4	-0.9
	5.7nm,0.8s,mb4.4,baz=49,slow=9.5,SNR=5.0						
ESDC	Sonseca Array	45.06	31	P	P	06 23 13.8	+0.5
	0.3nm,0.3s,mb3.6,baz=230,slow=8.7,SNR=7.6						
ESDC				LR	LR	06 39 01.9	
	comp=Z,119nm,19.0s,MS3.8,baz=260,slow=32						
OTAV	Otavalo	46.43	268	eP	P	06 23 23.9	-0.2
	12nm,1.3s,mb4.7						
CFAA	Coronel Fontan	48.18	223	P	P	06 23 36.7	-1.0
	0.4nm,0.7s,mb3.5,baz=54,slow=9.1,SNR=7.0						
TSUM	Tsumeb	53.27	116	P	P	06 24 17.1	+1.0
	3.1nm,0.9s,mb4.2,baz=276,slow=7.3,SNR=4.6						
TGUH	Tegucigalpa,Un	55.73	285	eP	P	06 24 34.1	+0.1
	22nm,0.9s,mb5.2						
DAVOX	Davos	57.27	33	LR	LR	06 45 03.9	
	comp=Z,200nm,20.6s,MS4.2,baz=213,slow=32						
SWET	Sewanee	59.61	310	eP	P	06 25 00.9	-0.4
GRA1	Grafenberg Arr	59.76	31	eP	P	06 25 04.3	+2.0
	17nm,1.9s,mb4.8						
GRF	Grafenberg Arr	59.76	31	eP	P	06 25 04.3	+2.0
	comp=Z,17nm,1.9s,mb4.8						
GERES	GERESS Array B	60.57	33	P	P	06 25 09.3	+1.4
	comp=Z,0.6nm,0.6s,mb3.9,baz=218,slow=7.6,SNR=7.3						
KHC	Kasperske Hory	60.67	33	eP	P	06 25 06.5	-2.1
KHC				pP	pP	06 25 09.5	-2.3
LBTB	Lobatse	62.11	120	P	P	06 25 20.4	+2.2
	comp=Z,5.8nm,0.8s,mb4.7,baz=293,slow=7.3,SNR=7.1						
BOSA	Boshof	62.94	124	P	P	06 25 23.9	0.0
	comp=Z,6.5nm,0.8s,mb4.8,baz=282,slow=6.0,SNR=7.8						
CCM	Cathedral Cave	64.58	311	eP	P	06 25 30.2	-4.4
	comp=Z,5.8nm,0.8s,mb4.7						
NB2	NORSAR Subarra	67.05	21	P	P	06 25 47.7	-2.9
	comp=Z,5.2nm,1.0s,mb4.5,baz=228,slow=6.5						
NOA	NORSAR Array B	67.05	21	P	P	06 25 51.7	+1.1
	comp=Z,2.4nm,0.9s,mb4.2,baz=231,slow=6.2,SNR=3.0						
NOA	NORSAR Array B	67.05	21	P	P	06 25 51.7	+1.1
HFS	Hagfors	67.39	23	LR	LR	06 50 54.0	
	comp=Z,201nm,18.4s,MS4.4,baz=250,slow=32						
KSU1	Kansas State U	68.91	311	eP	P	06 26 00.2	-2.1
	comp=Z,14nm,0.8s,mb4.9						
KMBO	Kilima Mbogo	69.38	92	eP	P	06 26 09.6	+4.4
	comp=Z,14nm,1.8s,mb4.6						
WMOK	Wichita Mounta	69.61	306	eP	P	06 26 04.3	-2.3
	comp=Z,2.4nm,0.7s,mb4.2						
JCT	Junction City	69.67	302	eP	P	06 26 06.5	-0.5
	comp=Z,12nm,0.8s,mb4.9						
BRTR	Keskin Array B	69.92	48	P	P	06 26 09.8	+1.2
	comp=Z,3.1nm,1.1s,mb4.2,baz=284,slow=5.0,SNR=7.3						
AKASG	Malin Array Be	70.31	36	P	P	06 26 09.4	-1.5
	comp=Z,0.4nm,0.3s,mb3.8,baz=250,slow=6.2,SNR=4.2						
TXAR	Lajitas Array	72.83	300	P	P	06 26 25.8	-0.3
	comp=Z,2.8nm,0.7s,mb4.3,baz=125,slow=7.8,SNR=34						
MNTX	Cornudas Mount	74.58	302	eP	P	06 26 35.4	-1.0
	comp=Z,4.0nm,0.9s,mb4.3						
VNA2	Neumayer--Watz	74.94	172	e	P	06 26 38.5	0.0
	baz=327,slow=6.0						
VNA2				e	pP	06 26 42.7	+0.9
VNA2				e		06 26 48.0	
VNA2				e		06 26 54.2	
VNA2				e		06 27 07.0	
RSSD	Black Hills	75.46	315	eP	P	06 26 39.7	-1.7
	comp=Z,12nm,0.6s,mb5.0						
SDCO	Great Sand Dun	75.48	308	eP	P	06 26 41.8	+0.2
	comp=Z,3.3nm,0.9s,mb4.3						
ANMO	Albuquerque	75.87	305	eP	P	06 26 43.8	0.0
	comp=Z,4.4nm,1.0s,mb4.3						
BNM	Barren Site	75.92	304	eP	P	06 26 44.2	+0.2
LPM	Los Pinos Moun	75.94	305	eP	P	06 26 45.1	+0.9
SNAA	Sanae	76.29	171	P	P	06 26 44.6	-1.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=330,slow=6.1,SNR=17						
SNAA	Sanae	76.29	171	e	P	06 26 45.8	-0.4
SNAA				e	pP	06 26 48.7	-0.8
SNAA				e		06 26 54.4	
SNAA				e		06 26 59.8	
SNAA				e		06 27 17.5	
LAZ	Ladron	76.36	305	eP	P	06 26 47.2	+0.6
DGMT	Dagmar	76.44	319	eP	P	06 26 46.8	-0.2
	comp=Z,42nm,0.9s,mb5.4						
LAO	LASA Array	77.44	317	eP	P	06 26 51.8	-0.9
	comp=Z,15nm,0.9s,mb4.9						
MVCO	Mesa Verde	77.78	307	⇓P	P	06 26 54.5	0.0
	baz=78						
BW06	Boulder Array	79.22	313	eP	P	06 27 01.8	-0.7
	comp=Z,3.0nm,0.8s,mb4.3						
PDAR	Pinedale Array	79.22	313	P	P	06 27 01.6	-1.0
	comp=Z,2.4nm,0.6s,mb4.3,baz=84,slow=6.4,SNR=18						
SRU	San Rafael	79.56	309	eP	P	06 27 04.3	-0.1
	comp=Z,6.0nm,0.8s,mb4.6						
WUAZ	Wupatki	79.93	305	eP	P	06 27 07.3	+0.9
	comp=Z,9.3nm,1.0s,mb4.7						
WUAZ	Wupatki	79.93	305	⇓P	P	06 27 06.8	+0.4
	baz=80						
116A	Eloy	80.00	302	⇑P	P	06 27 07.2	+0.4
	baz=80						
EGMT	Eagleton	80.02	318	⇑P	P	06 27 05.7	-1.2
	baz=80						
LOHW	Long Hollow	80.08	314	eP	P	06 27 06.9	-0.3
	comp=Z,7.0nm,1.0s,mb4.5						
MOOW	Moose Ponds	80.20	314	eP	P	06 27 07.2	-0.7
	comp=Z,4.1nm,0.8s,mb4.4						
FLWY	Flagg Ranch	80.20	314	eP	P	06 27 07.5	-0.3
	comp=Z,7.9nm,0.8s,mb4.7						
REDW	Red Top Meadow	80.23	313	eP	P	06 27 07.6	-0.4
	comp=Z,13nm,1.2s,mb4.7						
DAU	Daniels Canyon	80.25	310	eP	P	06 27 08.5	+0.4
YMR	Madison River	80.45	315	eP	P	06 27 09.7	+0.5
	comp=Z,14nm,0.8s,mb4.9						
115A	Sonoran Desert	80.45	303	⇓P	P	06 27 09.9	+0.7
	baz=80						
X15A	Humboldt	80.57	304	⇑P	P	06 27 10.5	+0.7
	baz=81						
HWUT	Hardware Ranch	80.59	312	eP	P	06 27 09.5	-0.4
	comp=Z,16nm,0.7s,mb5.1						
CTU	Camp Tracy	80.64	311	eP	P	06 27 10.2	-0.1
	comp=Z,6.7nm,0.8s,mb4.6						
MSU	Marysvale	80.80	308	eP	P	06 27 11.8	+0.7
X14A	Yava	81.11	304	⇓P	P	06 27 13.7	+1.0
	baz=81						
Y14A	Wickenburg	81.17	304	⇑P	P	06 27 13.2	+0.1
	baz=81						
W14A	Seligman	81.31	305	⇑P	P	06 27 14.1	+0.3
	baz=81						
DUG	Dugway	81.41	310	eP	P	06 27 14.1	-0.3

comp=Z,9.9nm,1.4s,mb4.5
DUG Dugway 81.41 310 ⇓P P 06 27 14.3 -0.1
baz=82
F15A Butte 81.64 316 ⇓P P 06 27 15.4 -0.1
baz=82
ARUT Antelope Range 81.74 308 eP P 06 27 16.8 +0.7
D15A Lincoln 81.77 317 ⇑P P 06 27 15.7 -0.5
baz=82
Y13A Salome 81.85 304 ⇓P P 06 27 17.2 +0.5
baz=82
W13A Hualapai Mount 81.96 305 ⇓P P 06 27 17.5 +0.3
baz=82
PDMCI Parker Dam,Lak 82.13 304 ⇓P P 06 27 17.8 -0.3
baz=82
F14A Wisdom 82.25 316 ⇑P P 06 27 18.4 -0.3
baz=82
Y12C Blythe 82.43 304 ⇑P P 06 27 20.5 +0.8
baz=82
D14A Greenough 82.45 317 ⇑P P 06 27 19.1 -0.7
baz=82
M13A Montello 82.52 311 ⇑P P 06 27 19.8 -0.3
baz=83
N13A Wendover, West 82.52 311 ⇓P P 06 27 20.1 0.0
baz=83
U12A Valley of Fire 82.55 306 ⇑P P 06 27 20.8 +0.5
baz=83
GLA Glamis 82.65 303 ⇓P P 06 27 21.2 +0.3
baz=83
V12A Nelson 82.77 306 ⇑P P 06 27 21.2 -0.3
baz=83
HLID Hailey 82.83 313 eP P 06 27 21.7 -0.1
comp=Z,1.8nm,0.7s,mb4.2
HLID Hailey 82.83 313 ⇑P P 06 27 21.7 0.0
baz=83
E13A Victor 82.86 316 ⇓P P 06 27 21.5 -0.5
baz=83
WALA Waterton Lakes 82.88 319 eP P 06 27 21.4 -0.7
comp=Z,16nm,1.1s,mb5.0
EDM Edmonton 82.89 323 eP P 06 27 21.1 -1.0
Q12A Willow Creek R 82.90 309 P P 06 27 22.7 +0.5
baz=83,SNR=7.2
F13A Darby 82.92 316 ⇑P P 06 27 22.0 -0.3
baz=83
IRM Iron Mountain 82.96 304 ⇓P P 06 27 23.0 +0.5
baz=83
P12A McGill 82.98 309 ⇑P P 06 27 23.2 +0.6
baz=83
M12A Wells 83.08 311 ⇑P P 06 27 23.0 -0.1
baz=83
N12A Clover Valley, 83.15 311 P P 06 27 23.7 +0.3
baz=83,SNR=9.2
B13A Whitefish 83.19 318 ⇑P P 06 27 22.7 -1.0
baz=83
BC3 Big Chuckw Mtn 83.20 303 ⇓P P 06 27 23.8 +0.1
baz=83
C13A Hot Springs 83.21 318 ⇑P P 06 27 23.2 -0.6
baz=83
SWSC Sam W. Stewart 83.47 303 ⇑P P 06 27 25.4 +0.3
baz=84
Q11A Duckwater 83.53 309 P P 06 27 25.4 0.0
baz=84,SNR=5.3
F12A Elk City 83.56 316 ⇓P P 06 27 25.4 -0.1
baz=84
TUQ Turquoise Mtn. 83.64 305 ⇓P P 06 27 26.6 +0.7
baz=84
BELC Belle Mtn. 83.66 304 ⇑P P 06 27 26.1 0.0
baz=84
M11A Holland Ranch, 83.74 311 ⇓P P 06 27 26.9 +0.5
baz=84
C12A Trout Creek 83.83 318 ⇑P P 06 27 26.3 -0.6
baz=84
SHOC Shoshone 83.94 306 P P 06 27 28.0 +0.5
baz=84,SNR=5.2
HEC Hector,Ludlow 83.95 305 ⇓P P 06 27 27.5 -0.1
baz=84
MONP Monument Peak 83.99 303 ⇓P P 06 27 28.6 +0.9
baz=84
U10A Ash Meadows, A 83.99 306 ⇑P P 06 27 27.3 -0.4
baz=84
A12A Yaak River Ran 84.01 319 ⇓P P 06 27 27.3 -0.6
baz=84
H11A Donnelly 84.04 315 ⇑P P 06 27 26.5 -1.6
baz=84
P10A Eureka 84.19 309 ⇑P P 06 27 29.1 +0.3
baz=84
GSC Goldstone 84.35 305 ⇓P P 06 27 29.9 +0.3
baz=84
FURC Furnace Creek, 84.42 306 ⇓P P 06 27 30.0 +0.1
baz=84,SNR=6.3
A11A Hall Mountain, 84.48 319 P P 06 27 30.4 +0.2
baz=84,SNR=9.5
109C Camp Elliot, M 84.56 303 ⇓P P 06 27 31.1 +0.5
baz=85
R09A Tonopah 84.63 308 ⇑P P 06 27 31.1 +0.1
baz=85,SNR=7.2
MURC Murrieta 84.65 303 ⇑P P 06 27 31.8 +0.7
baz=85
O09A Fish Creek Ran 84.76 310 ⇑P P 06 27 31.5 -0.2
baz=85,SNR=5.3
GRAC Grapevine Rang 84.84 307 ⇓P P 06 27 32.3 +0.2
baz=85
E10A Myers Farm, Un 84.88 316 ⇑P P 06 27 31.9 -0.3
baz=85
MPMC Manual Prospec 84.92 306 P P 06 27 33.3 +0.9
baz=85,SNR=6.6
F10A Beach Ranch, E 84.95 316 ⇓P P 06 27 32.0 -0.6
baz=85
N09A Rock Creek Ran 85.03 311 P P 06 27 33.4 +0.4
baz=85,SNR=5.5
BFSC Mount Baldy St 85.04 304 ⇓P P 06 27 32.2 -0.8
baz=85
C10A Spilker Farm, 85.06 318 ⇑P P 06 27 32.1 -1.1
baz=85
LRMC Laurel Mountai 85.08 305 P P 06 27 33.6 +0.3
baz=85,SNR=8.1
H09A Durkee 85.22 314 ⇓P P 06 27 34.2 +0.2
baz=85
K09A Rome 85.22 312 P P 06 27 34.8 +0.9
baz=85,SNR=7.5
J09A Fry Pan Ranch, 85.25 313 ⇓P P 06 27 34.4 +0.3
baz=85
I09A Lost Marbles R 85.26 314 P P 06 27 34.4 +0.2
baz=85,SNR=5.0
A10A Northport 85.27 319 ⇓P P 06 27 33.8 -0.4
baz=85
Q08A Gabbs 85.31 309 ⇑P P 06 27 33.8 -0.6
baz=85
EDW2 Edwards Air Fo 85.32 305 P P 06 27 34.6 +0.2
baz=85,SNR=5.2
F09A S2 Ranch, Elgi 85.42 315 P P 06 27 35.0 +0.1
baz=86,SNR=9.6
S08C White Mtn Res 85.49 307 P P 06 27 36.1 +0.9
baz=86,SNR=6.5
N08A GE Springer Mi 85.49 311 ⇓P P 06 27 35.6 +0.2
baz=86
NVAR Mina Array Bea 85.60 308 P P 06 27 35.9 0.0
comp=Z,3.2nm,0.8s,mb4.6,baz=96,slow=4.6,SNR=26
E09A Wood Farm, Sta 85.60 316 ⇑P P 06 27 35.3 -0.5
baz=86
B09A Rice 85.64 318 ⇓P P 06 27 35.2 -0.9
baz=86
L08A Fields 85.67 312 ⇑P P 06 27 36.0 -0.2
baz=86
M08A Happy Creek Ra 85.69 311 ⇑P P 06 27 36.5 +0.2
baz=86
C09A Chrisman Ranch 85.72 318 ⇑P P 06 27 35.5 -0.9
baz=86
ISA Isabella 85.72 305 eP P 06 27 36.8 +0.3
ISA Isabella 85.72 305 P P 06 27 37.2 +0.7
baz=86,SNR=9.2
D09A Jones Farm, Ri 85.72 317 ⇑P P 06 27 35.9 -0.6
baz=86
J08A Circle Bar Ran 85.78 313 P P 06 27 37.5 +0.7
baz=86,SNR=12
K08A Mann Creek Ran 85.78 312 P P 06 27 37.8 +1.0
baz=86,SNR=5.6
I08A Drewsey 85.86 314 ⇑P P 06 27 37.0 -0.1
baz=86,SNR=5.9
H08A Prairie City 85.94 314 ⇓P P 06 27 37.5 0.0
baz=86
A09A Danville 85.94 319 ⇑P P 06 27 36.8 -0.8
baz=86
MLAC Mammoth Lakes 86.02 307 ⇑P P 06 27 38.4 +0.5
baz=86
F08A Pendleton 86.03 316 ⇓P P 06 27 37.4 -0.6
baz=86
O07A Toulon 86.06 310 ⇓P P 06 27 38.0 -0.1
baz=86
N07B Gerlach 86.13 311 ⇓P P 06 27 38.4 -0.1
baz=86
D08A Wollman Farm, 86.14 317 ⇑P P 06 27 38.1 -0.4
baz=86
G08A Pilot Rock 86.15 315 ⇓P P 06 27 37.6 -1.0
baz=86
R07C Lee Vining 86.18 308 ⇓P P 06 27 39.2 +0.5
baz=86
E08A Dider Farm, El 86.23 316 ⇑P P 06 27 38.5 -0.5
baz=86
C08A Higginbotham F 86.23 318 ⇑P P 06 27 38.3 -0.7
baz=86
M07A Soldier Meadow 86.28 311 ⇑P P 06 27 39.8 +0.6
baz=86
RCTC Rector, Farmer 86.34 306 ⇓P P 06 27 39.4 -0.2
baz=86
K07A Rock Creek Ran 86.34 312 P P 06 27 40.1 +0.6
baz=86,SNR=5.0
J07A Hines 86.39 313 ⇑P P 06 27 40.2 +0.4
baz=86
A08A Turner Farm, O 86.40 319 ⇓P P 06 27 39.2 -0.6
baz=86
L07A Adell 86.41 312 P P 06 27 41.0 +1.1
baz=86,SNR=14
R06C Coleville 86.50 308 ⇑P P 06 27 41.0 +0.7
baz=86
T06C Millerton Lake 86.71 307 ⇓P P 06 27 40.8 -0.6
baz=87
WCN Washoe City 86.73 309 ⇓P P 06 27 41.5 +0.1
baz=87
O06A Flanigan 86.78 310 P P 06 27 42.0 +0.4
baz=87,SNR=9.7
N06A Buffalo Meadow 86.78 311 P P 06 27 41.8 +0.1
baz=87,SNR=7.2
S06C San Francisco 86.82 308 ⇓P P 06 27 42.0 +0.2
baz=87
F07A Phinny Hill Vi 86.83 316 ⇑P P 06 27 42.2 +0.2
baz=87
P06A Stead Airport, 86.84 309 ⇓P P 06 27 42.3 +0.3
baz=87
D07A Quincy 86.86 317 ⇑P P 06 27 41.3 -0.8
baz=87
R05C Kirkwood Meado 86.99 308 ⇑P P 06 27 43.8 +1.1
baz=87
J06A Christmas Vall 87.00 313 ⇑P P 06 27 43.1 +0.3
baz=87
K06A Valley Falls 87.08 313 ⇓P P 06 27 43.6 +0.5
baz=87
H06A Lindquist Farm 87.12 314 ⇓P P 06 27 44.0 +0.6
baz=87
MOD Modoc 87.13 312 P P 06 27 43.8 +0.5
baz=87,SNR=6.0
A07A Ashnola River, 87.13 319 P P 06 27 43.5 +0.2
baz=87,SNR=5.1
BEKR Beckwourth 87.19 310 P P 06 27 44.1 +0.4
baz=87,SNR=7.7
CMB Columbia Colle 87.24 308 ⇑P P 06 27 44.2 +0.2
baz=87
M06C Likely Place G 87.27 311 ⇑P P 06 27 44.2 +0.1
baz=87
P05C Yuba Gap, Truc 87.39 309 ⇓P P 06 27 44.5 -0.1
baz=87
LAVA Lava Cap Winer 87.51 309 ⇓P P 06 27 45.4 +0.2
baz=88
L05A Lakeview 87.52 312 ⇓P P 06 27 44.9 -0.4
baz=88
K05A Summer Lake 87.56 312 ⇑P P 06 27 45.3 -0.1
baz=88
U04C Hernandez Rese 87.59 306 ⇑P P 06 27 46.1 +0.5
baz=88
Q04C Lincoln 88.00 309 ⇑P P 06 27 48.1 +0.6
baz=88
ORV Orrville 88.08 309 ⇑P P 06 27 47.5 -0.4
baz=88
CD2 Chengdu 126.50 48 ePKP PKPdf 06 33 58.1 -2.4
KMI Kunming 128.38 55 PKP PKPdf 06 34 02.4 -1.7
KMI XPKP 06 34 07.2
KMI LR LR
comp=Z,54nm,20.8s,MS4.2

MOS ***07*** *06:23:39.0±0.8,2340S×17985W,h517km,mb5.3/23, Error ellipse: s-maj=9.2km s-min=8.8km az=157.7*
IDC ***07*** *06:23:40.2±0.5,2349S×17986W,h524km±5km,mb4.7/22, mb1 4.7/26,mb1mx4.7/27,mbtmp4.6/26,Error ellipse: s-maj=8.5km s-min=6.8km az=159.0*
ISCJB ***07*** *06:23:40.2±0.1,2359S±002×17992W±003,h534km, mb5.1/74,Error ellipse: s-maj=4.1km s-min=2.6km az=74.1*
BJI ***07*** *06:23:40.5,2311S×17935W,h543km,mB5.0,mb5.0*
GCMT ***07*** *06:23:41.3±0.4,2318S×17984W,h540km±2km,MW5.3/55, Moment Tensor Solution. s55,c77; Duration: 1⁸1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.66±.04; Mθθ0.23±.08; Mϕϕ0.43±.06; Mrθ0.26±.07; Mϕr0.27±.06; Mϕr-0.97±.06; Best double couple: M₀1.16100×10¹⁷ NP1:φs225.00000°,δ22.00000°,λ-43.00000°. NP2: φs356.00000°,δ75.00000°,λ-106.00000°. Principal axes: T 1.0100, Plg29.0000°, Azm99.0000°; N 0.3010, Plg16.0000°, Azm1.0000°; P -1.3110, Plg57.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***07*** *06:23:41.3±0.6,2353S×17982W,h542km±6km,mb5.2/48 Error ellipse: s-maj=7.6km s-min=4.5km az=163.0*
SZGRF ***07*** *06:23:42.1,2350S×17863W,h554km,South of Fiji Islands*
BGS ***07*** *06:23:45.8,2353S×17982W,h542km,mb5.2(NEIC)*
ISC 07 06:23:41.2±0.1,2367S±003×17984W±003,h536km, h536km±2.3km:pP-P,n720,σ0§78/398,mb5.1/74, 116C-151D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.82	163	P	P	P	06 25 18.6	+1.2
	49nm,0.3s,baz=120,slow=20,SNR=2.5							
RAO				S	S	S	06 26 36.1	+0.1
	240nm,0.3s,baz=49,slow=22,SNR=5.1							
AFI	Afiamalu	12.35	40	P	P	P	06 26 18.2	-5.0
	14nm,0.3s,baz=192,slow=3.4,SNR=14							
AFI				S	S	S	06 28 21.7	-15
	38nm,0.3s,baz=71,slow=22,SNR=12							
AFI	Afiamalu	12.35	40	eP	P	P	06 26 17.2	-6.0
AFI				pmax	pmax			
	comp=Z,92nm,0.6s							
AFI	Afiamalu	12.35	40	eP	P	P	06 26 17.2	-6.0
	comp=Z,92nm,0.6s							
DZM	Mont Dzumac	12.74	274	P	P	P	06 26 27.7	+0.4
	comp=Z,4.8nm,0.3s,baz=84,slow=14,SNR=66							
DZM				S	S	S	06 28 55.9	+12
	baz=326,slow=20,SNR=6.1							
DZM				ScP	ScP	ScP	06 34 03.8	+4.0
	comp=Z,0.8nm,0.3s,baz=79,slow=11,SNR=17							
MKAZ	Moumakai	14.07	197	PN	P	P	06 26 43.1	+2.0
PUZ	Puketiti	14.45	186	PN	P	P	06 26 46.1	+1.1
URZ	Urewera	14.77	189	P	P	P	06 26 47.3	-1.1
	comp=Z,65nm,0.3s,baz=347,slow=2.6,SNR=67							
URZ				S	S	S	06 29 18.4	-4.2
	comp=Z,7.5nm,0.3s,baz=60,slow=20,SNR=3.7							
URZ	Urewera	14.77	189	PN	P	P	06 26 47.2	-1.2
MWZ	Matawai	14.79	188	PN	P	P	06 26 48.5	-0.1
MWZ				SN	S	S	06 29 20.8	-2.1
PXZ	Pawanui	16.55	189	PN	P	P	06 27 04.4	-1.9
PXZ				SN	S	S	06 29 49.3	-4.5
WPHZ	Waipukurau	16.64	190	SN	S	S	06 29 56.0	+0.6
BFZ	Birch Farm	17.28	190	PN	P	P	06 27 12.0	-1.0
MRZ	Mangatainoka R	17.37	192	PN	P	P	06 27 12.4	-1.5
MRZ				SN	S	S	06 30 05.2	-2.2
DUWZ	D'Urville Isla	17.87	196	PN	P	P	06 27 18.7	+0.3
CAW	Cannon Point	17.90	193	PN	P	P	06 27 17.8	-1.0
CAW				SN	S	S	06 30 14.8	-1.2
SNZO	South Karori	18.17	193	eP	P	P	06 27 22.0	+0.9
	comp=Z,183nm,0.5s							
NNZ	Nelson	18.40	196	PN	P	P	06 27 23.7	+0.5
RAR	Rarotonga	18.71	86	P	P	P	06 27 24.1	-2.1
	comp=Z,3.0nm,0.3s,baz=252,slow=8.1,SNR=10							
BSWZ	Blackbirch Sta	18.74	195	PN	P	P	06 27 27.2	+0.8
THZ	Tophouse	19.03	197	SN	S	S	06 30 31.6	-2.7
LTZ	Lake Taylor	20.15	197	SN	S	S	06 30 49.9	-2.3
WVZ	Waitaha Valley	20.86	200	PN	P	P	06 27 45.5	-0.1
MQZ	McQueen's Vall	20.92	195	PN	P	P	06 27 45.4	-0.7
RPZ	Rata Peaks	21.35	198	P	P	P	06 27 49.8	-0.3
	comp=Z,111nm,0.5s,mb5.7,baz=351,slow=1.2,SNR=63							
RPZ				S	S	S	06 31 14.0	+2.7
	comp=Z,28nm,0.8s,baz=328,slow=13,SNR=3.8							
RPZ	Rata Peaks	21.35	198	PN	P	P	06 27 49.4	-0.6
FOZ	Fox Glacier	21.64	201	PN	P	P	06 27 51.6	-1.0
LBZ	Lake Benmore	22.22	199	PN	P	P	06 27 56.6	-1.3
JCZ	Jackson Bay	22.40	202	PN	P	P	06 27 59.3	-0.1
WKZ	Wanaka	22.98	201	PN	P	P	06 28 04.1	-0.6
HNR	Honiara	23.95	303	eP	P	P	06 28 12.1	-1.1
HNR				pmax	pmax			
	comp=Z,142nm,1.0s,mb5.5							
HNR	Honiara	23.95	303	eP	P	P	06 28 12.1	-1.1
	comp=Z,142nm,1.0s,mb5.5							
WHZ	Wether Hill Ro	24.28	201	PN	P	P	06 28 16.7	+0.5
ARMA	Armidale	26.24	249	⇓iP	P	P	06 28 35.8	+2.3
PAE	Paea	28.91	84	eP	P	P	06 28 55.7	-1.1
	comp=Z,282nm,1.0s,mb5.8							
PAE				epP			06 30 19.4	
	comp=Z,226nm,1.4s							
PPT	Papeete	28.94	84	eP	P	P	06 28 56.3	-0.8
	comp=Z,130nm,1.0s,mb5.5							
PPT				epP			06 30 22.5	
	comp=Z,86nm,1.3s							
PPT	Papeete	28.94	84	P	P	P	06 28 56.1	-0.9
	comp=Z,119nm,0.8s,mb5.6,baz=250,slow=3.9,SNR=20							
CNB	Canberra Magne	29.09	239	⇓iP	P	P	06 29 00.7	+2.3
	comp=Z,173nm,1.0s,mb5.6							
CNB				ePCP	PcP	PcP	06 31 51.3	+2.1
CNB				eS	S	S	06 33 16.9	+4.4
TVO	Taravao	29.17	84	eP	P	P	06 28 58.2	-0.9
	comp=Z,244nm,0.7s,mb5.9							
TVO	Taravao	29.17	84	eP	P	P	06 28 58.2	-0.9
TVO				pmax	pmax			
	comp=Z,244nm,0.7s,mb5.9							
PMOR	Pomariorio Ree	31.30	80	eP	P	P	06 29 16.3	-1.1
	comp=Z,202nm,1.1s,mb5.6							
VAH	Vaihoa	31.46	80	eP	P	P	06 29 17.5	-1.3
	comp=Z,157nm,1.1s,mb5.5							
CTA	Charters Tower	31.62	270	⇓iP	P	P	06 29 21.1	+0.9
	comp=Z,270nm,0.4s,mb6.1							
CTA				ePCP	PcP	PcP	06 31 56.8	+0.8
CTA				iS	S	S	06 33 52.1	+0.7
CTA	Charters Tower	31.62	270	P	P	P	06 29 21.2	+1.0
	comp=Z,317nm,0.5s,mb6.1,baz=96,slow=11,SNR=273							
CTA					PcP	PcP	06 31 56.8	+0.9
	comp=Z,23nm,0.7s,baz=190,slow=0.6,SNR=4.9							
CTA				S	S	S	06 33 52.2	+0.8
	comp=Z,10nm,1.0s,baz=237,slow=18,SNR=13							
CTA				ScP	ScP		06 34 51.2	+2.8
	comp=Z,11nm,1.0s,baz=145,slow=3.9,SNR=3.9							
CTAO	Charters Tower	31.62	270	eP	P	P	06 29 21.1	+0.9
CTAO				e			06 31 56.8	
CTAO				pmax	pmax			
	comp=Z,310nm,0.5s,mb6.1							
CTAO	Charters Tower	31.62	270	eP	P	P	06 29 21.1	+0.9
	comp=Z,310nm,0.5s,mb6.1							
CTAO				ePcP	PcP	PcP	06 31 56.8	+0.8
TAU	Tasmania Unive	33.19	227	P	P	P	06 29 35.9	+2.4
	comp=Z,897nm,0.7s,SNR=17							
TAU	Tasmania Unive	33.19	227	eP	P	P	06 29 35.6	+2.1
TAU				e			06 32 01.3	
TAU				pmax	pmax			
	comp=Z,84nm,0.6s,mb5.5							
TAU	Tasmania Unive	33.19	227	eP	P	P	06 29 35.6	+2.1
	comp=Z,84nm,0.6s,mb5.4							
TAU				ePcP	PcP	PcP	06 32 01.3	+0.9
PMG	Port Moresby	34.56	289	P	P	P	06 29 45.1	+0.1
	comp=Z,211nm,0.8s,mb5.7,baz=101,slow=4.8,SNR=59							
PMG				PcP	PcP		06 32 05.3	+0.9
	comp=Z,22nm,0.8s,baz=66,slow=3.7,SNR=4.4							
PMG	Port Moresby	34.56	289	diP	P	P	06 29 44.8	-0.2
PMG	Port Moresby	34.56	289	eP	P	P	06 29 44.9	-0.1
	comp=Z,135nm,0.6s,mb5.7							
PMG				ePcP	PcP	PcP	06 32 04.5	+0.2
MCQ	Macquarie Isla	34.62	202	eP	P	P	06 29 47.5	+1.9
STKA	Stephens Creek	34.94	248	⇓iP	P	P	06 29 49.6	+1.4
	comp=Z,129nm,0.6s,mb5.6							
STKA				eS	S	S	06 34 42.4	+0.7
STKA	Stephens Creek	34.94	248	P	P	P	06 29 49.7	+1.5
	comp=Z,148nm,0.6s,mb5.7,baz=92,slow=9.8,SNR=324							
STKA				PcP	PcP	PcP	06 32 06.1	+0.6
	comp=Z,15nm,0.5s,baz=12,slow=3.8,SNR=3.2							
STKA				S	S	S	06 34 42.2	+0.5
	comp=Z,10nm,1.0s,baz=330,slow=20,SNR=4.1							
RKT	Rikitea	41.05	99	eP	P	P	06 30 38.0	+0.1
	comp=Z,55nm,0.8s,mb5.1							
RKT	Rikitea	41.05	99	eP	P	P	06 30 38.0	+0.1
RKT				pmax	pmax			
	comp=Z,55nm,0.8s,mb5.1							
AS31	Alice Springs	42.21	260	eP	P	P	06 30 47.6	+0.5
AS31				eS	S	S	06 36 28.4	-0.1
ASAR	Alice Springs	42.21	260	P	P	P	06 30 47.7	+0.6
	comp=Z,209nm,0.8s,mb5.7,baz=101,slow=7.0,SNR=1313							
ASAR				PcP	PcP		06 32 29.6	+0.9
	comp=Z,22nm,0.8s,baz=103,slow=4.8,SNR=7.6							
ASAR				ScP	ScP		06 35 32.2	+4.0
	comp=Z,12nm,0.9s,baz=112,slow=3.9,SNR=12							
ASAR				S	S	S	06 36 28.1	-0.5
	comp=Z,12nm,0.7s,baz=99,slow=14,SNR=18							
ASAR	Alice Springs	42.21	260	P	P	P	06 30 47.7	+0.6
ASAR						pP	06 32 29.6	+6.5
ASAR				S	S	S	06 36 28.1	-0.5
ASPA	Alice Springs	42.22	260	eP	P	P	06 30 47.6	+0.5
ASPA				eS	S	S	06 36 28.4	-0.2
WB2	Warramunga Arr	42.55	266	⇓iP	P	P	06 30 49.7	-0.1
WB2				eS	S	S	06 36 30.7	-2.7
WRAB	Tennant Creek	42.56	266	P	P	P	06 30 49.0	-0.8
	comp=Z,2μm,0.7s							
WRAB	Tennant Creek	42.56	266	eP	P	P	06 30 49.8	0.0
WRAB				e	pP	pP	06 32 30.7	+4.7
WRAB				eS	S	S	06 36 31.8	-1.7
WRAB				pmax	pmax			
	comp=Z,150nm,0.6s,mb5.7							
WRAB	Tennant Creek	42.56	266	eP	P	P	06 30 49.8	0.0
	comp=Z,150nm,0.6s,mb5.7							
WRAB				ePcP	PcP	PcP	06 32 30.7	+0.9
WRAB				eS	S	S	06 36 31.8	-1.7
WRA	Warramunga Arr	42.56	266	P	P	P	06 30 49.9	+0.1
	comp=Z,265nm,0.7s,mb5.9,baz=102,slow=8.2,SNR=2784							
WRA				PcP	PcP	PcP	06 32 30.7	+0.8
	comp=Z,25nm,0.8s,baz=99,slow=3.4,SNR=11							
WRA				ScP	ScP		06 35 33.6	+3.9
	comp=Z,17nm,1.0s,baz=99,slow=4.1,SNR=11							
WRA				S	S	S	06 36 32.0	-1.6
	comp=Z,35nm,1.1s,baz=100,slow=14,SNR=30							
WRA				PKiKP	PKiKP		06 39 31.3	-1.1
	comp=Z,1.5nm,0.6s,baz=71,slow=0.3,SNR=5.2							
WRA	Warramunga Arr	42.56	266	P	P	P	06 30 49.9	+0.1
WRA						pP	06 32 30.8	+4.7
WRA				S	S	S	06 36 32.0	-1.6
WRA	Warramunga Arr	42.56	266	P	P	P	06 30 49.9	+0.1
WRA				PcP	PcP	PcP	06 32 30.8	+0.8
WRA				ScP	ScP	ScP	06 35 33.6	+3.9
WRA				S	S	S	06 36 32.0	-1.6
KAKA	Kakadu	46.43	275	eP	P	P	06 31 19.3	-0.3
	comp=Z,217nm,0.8s,mb5.7							
KAKA				e			06 35 48.6	
KAKA				eS	S	S	06 37 26.7	-1.5
FORT	Forrest	46.52	249	⇓iP	P	P	06 31 20.5	+0.2
	comp=Z,582nm,0.6s							
FORT				eS	S	S	06 37 28.5	-1.0
GUMO	Guam	50.62	313	P	P	P	06 31 50.2	-0.5
	comp=Z,68nm,0.4s,mb5.4,baz=160,slow=9.4,SNR=7.7							
GUMO	Guam	50.62	313	eP	P	P	06 31 49.5	-1.2
GUMO				pmax	pmax			
	comp=Z,373nm,1.4s,mb5.5							
GUMO	Guam	50.62	313	eP	P	P	06 31 49.5	-1.2
	comp=Z,373nm,1.4s,mb5.5							
FITZ	Fitzroy Crossi	50.99	265	⇓iP	P	P	06 31 53.9	+0.5
	comp=Z,140nm,0.4s,mb5.7							
FITZ				e			06 33 41.4	
FITZ				eS	S	S	06 38 31.6	+1.1
FITZ	Fitzroy Crossi	50.99	265	P	P	P	06 31 54.0	+0.6
	comp=Z,89nm,0.6s,mb5.3,baz=110,slow=4.9,SNR=402							
FITZ					pP	pP	06 33 33.8	-0.9
	comp=Z,12nm,0.7s,baz=147,slow=6.5,SNR=2.4							
FITZ				S	S	S	06 38 29.4	-1.1
	comp=Z,3.0nm,0.8s,baz=137,slow=22,SNR=4.3							
SBA	Scott Base	54.61	183	eP	P	P	06 32 22.7	+3.4
SBA				e			06 33 15.6	
SBA				pmax	pmax			
	comp=Z,136nm,0.9s,mb5.2							
SBA	Scott Base	54.61	183	eP	P	P	06 32 22.7	+3.4
	comp=Z,136nm,0.9s,mb5.2							
SBA				ePcP	PcP	PcP	06 33 15.6	+1.6
VNDA	Vanda	54.62	185	P	P	P	06 32 21.7	+2.4
	comp=Z,38nm,0.6s,mb4.8,baz=357,slow=7.9,SNR=269							
VNDA				PcP	PcP	PcP	06 33 15.0	+1.0
	comp=Z,18nm,0.6s,baz=330,slow=5.6,SNR=6.2							

VNDA Vanda 54.62 185 *e*P P 06 32 21.5 +2.2
VNDA *e* 06 33 14.7
VNDA pmax pmax
comp=Z,31nm,0.6s
VNDA Vanda 54.62 185 *e*P P 06 32 21.5 +2.2
comp=Z,31nm,0.6s,mb4.7
VNDA *e*PcP PcP 06 33 14.7 +0.7
KLBR Kellerberrin 55.21 247⇓*i*P P 06 32 23.9 +0.5
comp=Z,298nm,0.6s,mb5.7
NWAO Narrogin (SRO) 55.46 245 P P 06 32 25.9 +0.8
comp=Z,62nm,0.6s,mb5.0,baz=118,slow=6.4,SNR=97
NWAO Narrogin (SRO) 55.46 245 *e*P P 06 32 25.9 +0.7
NWAO pmax pmax
comp=Z,114nm,0.9s
NWAO Narrogin (SRO) 55.46 245 *e*P P 06 32 25.9 +0.7
comp=Z,114nm,0.9s,mb5.1
MBWA Marble Bar 55.55 260 *e*P P 06 32 26.0 +0.1
comp=Z,214nm,0.8s,mb5.4
MBWA *e*pP pP 06 34 09.8 +0.1
MUN Mundaring 56.45 246⇓*i*P P 06 32 32.9 +0.8
CASY Casey 60.38 206⇓*i*P P 06 32 59.1 +0.6
KAPI Kappang 60.94 278 P P 06 33 00.7 -1.5
comp=Z,255nm,0.6s,mb5.7,SNR=9.0
CBIJ Chichi jima 62.39 322 P P 06 33 10.8 -0.9
comp=Z,86nm,0.5s,mb5.5,baz=248,slow=5.6,SNR=8.5
QSPA South Pole Qui 66.41 180⇓*i*P P 06 33 39.3 +2.2
comp=Z,313nm,1.2s,mb5.7
TSM Tawau 66.70 286 P P 06 33 39.3 +0.4
KKM Kota Kinabalu 68.97 287 P P 06 33 52.9 +0.1
KKM Kota Kinabalu 68.97 287 *e*P P 06 33 52.7 -0.1
MJAR Matsushiro Arr 71.79 325 P P 06 34 08.4 -1.0
comp=Z,16nm,0.8s,mb4.5,baz=158,slow=5.4,SNR=27
MJAR PKKP 06 53 37.9
comp=Z,1.1nm,0.3s,baz=9.6,slow=5.8,SNR=4.1
MAJO Matsushiro 71.79 325 *e*P P 06 34 08.2 -1.2
MAJO pmax pmax
comp=Z,19nm,0.7s,mb4.6
MAJO Matsushiro 71.79 325 *e*P P 06 34 08.2 -1.3
comp=Z,19nm,0.7s,mb4.6
MAT Matsushiro 71.79 325 P P 06 34 08.2 -1.2
NACB Ninganchiao 74.09 306 *e*PKPdf P 06 34 21.5 -1.1
YHNB Yeheng 74.54 306 *e*PKPdf P 06 34 24.8 -0.3
TATO Taipei 74.63 306 *e*P P 06 34 24.8 -0.9
comp=Z,140nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 77.99 335*d i*P P 06 34 43.8 -0.3
YSS pmax pmax
comp=Z,43nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 77.99 335 *e*P P 06 34 44.0 -0.2
comp=Z,47nm,0.9s,mb4.8
MAW Mawson 78.01 200⇓*i*P P 06 34 45.6 +1.3
comp=Z,57nm,0.6s,mb5.1
MAW Mawson 78.01 200 P P 06 34 45.6 +1.4
comp=Z,72nm,0.6s,mb5.2,baz=126,slow=6.8,SNR=185
MAW Mawson 78.01 200⇓*i*P P 06 34 45.6 +1.3
MAW pmax pmax
comp=Z,57nm,0.6s
KSRS Korea Array 78.16 320 P P 06 34 45.0 -0.1
comp=Z,11nm,0.7s,mb4.3,baz=136,slow=5.7,SNR=31
PET Petropavlovsk 78.63 347⇑*i*P P 06 34 45.7 -1.9
PET *e**PP pP 06 36 38.4 -3.3
PET *e*S S 06 44 01.8 +1.1
PET pmax pmax
comp=Z,22nm,0.6s,mb4.7
PET MLR MLR
comp=Z,100nm,21.0s
KGM Kluang 78.77 277 P P 06 34 49.2 +0.8
COCO West Island 79.16 261 *e*P P 06 34 53.1 +2.7
comp=Z,116nm,1.2s,mb5.1
NJ2 Nanjing 80.62 311 *e*P P 06 34 58.5 +0.5
NJ2 AP pP 06 36 54.8 +1.9
NJ2 XP sP 06 37 47.4 -0.3
NJ2 PP PP 06 38 11.2 -0.1
NJ2 S S 06 44 19.0 -2.2
NJ2 XS sS 06 47 42.0 -3.9
NJ2 AMB AMB
comp=Z,90nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,260nm,8.1s
BSC Santa Cruz Isl 81.01 47⇓P P 06 35 00.3 +0.2
baz=81
SCI San Clemente I 81.15 48⇑P P 06 35 01.0 +0.2
baz=81
HAST UC Hastings Re 81.20 44⇑P P 06 35 01.4 +0.3
baz=81
PKD Parkfield 81.58 45⇑P P 06 35 03.2 +0.2
baz=82
U04C Hernandez Rese 81.67 44⇓P P 06 35 04.1 +0.6
baz=82
PACP Pacheco Peak 81.75 44⇑P P 06 35 04.4 +0.6
baz=82,SNR=5.8
CVS Carmenet Viney 81.84 42⇑P P 06 35 04.3 -0.1
baz=82
IPM Ipoh 81.87 278 P P 06 35 05.6 +1.1
HOPS Hopland 81.88 41⇓P P 06 35 04.5 +0.1
baz=82
OSI Osito Adit 81.98 47⇑P P 06 35 05.7 +0.6
baz=82
P01C Double 8 Ranch 82.02 41⇑P P 06 35 05.1 -0.1
baz=82
DECC Green Verdugo 82.03 47⇑P P 06 35 05.2 -0.1
baz=82
109C Camp Elliot, M 82.09 49⇑P P 06 35 05.3 -0.2
baz=82
MDJ Mudanjiang 82.16 326 P P 06 35 05.8 -0.1
MDJ PP PP 06 38 22.6 -1.2
MDJ S S 06 44 39.6 +3.0
MDJ XS sS 06 48 01.6 -0.7
MDJ SS SS 06 50 13.3 +1.6
MDJ AMB AMB
comp=Z,37nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,191nm,4.4s
MDJ Mudanjiang 82.16 326 *e*P P 06 35 05.9 0.0
comp=Z,42nm,1.2s,mb4.8
O01C Eel River Cons 82.16 40⇑P P 06 35 06.5 +0.6
baz=82
MNRC McLaughlin Nat 82.18 42⇑P P 06 35 06.5 +0.5
baz=82,SNR=6.2
MWC Mount Wilson 82.20 47 *e*P P 06 35 06.4 +0.2
ARVC Arvin 82.21 46⇓P P 06 35 06.1 -0.1
baz=82
Q03C Winters 82.29 42⇑P P 06 35 07.4 +0.8
baz=82
MURC Murrieta 82.43 48⇓P P 06 35 07.1 -0.2
baz=83
VES Vestal, Richgr 82.47 46 P P 06 35 07.3 -0.2
baz=83,SNR=5.3
BFSC Mount Baldy St 82.48 48 P P 06 35 06.9 -0.6
baz=83,SNR=5.1
GASB Alder Springs 82.50 41⇑P P 06 35 08.8 +1.1
baz=83,SNR=6.9
S05C Merced 82.56 44⇑P P 06 35 07.7 -0.2
baz=83
MONP Monument Peak 82.57 49⇓P P 06 35 08.6 +0.6
baz=83,SNR=12
EDW2 Edwards Air Fo 82.63 47 P P 06 35 08.3 0.0
baz=83,SNR=9.0
DVTC Desert V Tower 82.66 50⇓P P 06 35 08.9 +0.4
baz=83,SNR=6.9
T06C Milleton Lake 82.75 44⇑P P 06 35 08.6 -0.3
baz=83,SNR=12
ISA Isabella 82.76 46 *e*P P 06 35 08.7 -0.3
ISA *e**PP pP 06 37 04.3 -0.3
ISA Isabella 82.76 46 P P 06 35 09.2 +0.3
baz=83,SNR=15
O02C Red Bluff 82.79 40⇓P P 06 35 09.7 +0.6
baz=83,SNR=8.0
SUTB Sutter Butte 82.80 42⇓P P 06 35 08.7 -0.5
baz=83
N02C Big Bar 82.89 40⇑P P 06 35 10.0 +0.3
baz=83
CMB Columbia Colle 82.94 43 *e*P P 06 35 09.6 -0.2
CMB pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
CMB Columbia Colle 82.94 43 *e*P P 06 35 09.6 -0.2
comp=Z,10nm,0.7s,mb4.5
CMB Columbia Colle 82.94 43 P P 06 35 09.7 -0.1
baz=83,SNR=20
PFO Pinyon Flat Ob 82.95 49⇓P P 06 35 10.0 +0.1
baz=83
WHN Wuhan 82.98 308⇑P P 06 35 10.8 +0.8
SWSC Sam W. Stewart 83.03 50⇓P P 06 35 10.5 +0.1
baz=83,SNR=8.2
OHCM Honcut 83.05 42 *e*P P 06 35 09.8 -0.7
PSI Prapat 83.10 276 P P 06 35 10.3 -0.3
comp=Z,39nm,0.9s,mb4.9,baz=158,slow=2.9,SNR=32
PSI PP PP 06 38 29.2 -2.2
comp=Z,1.8nm,0.5s,baz=82,slow=2.4,SNR=4.2
PSI Prapat 83.10 276 P P 06 35 10.3 -0.3
PSI PP PP 06 38 29.2 -2.2
LAVA Lava Cap Winer 83.15 43⇑P P 06 35 10.7 -0.2
baz=83,SNR=6.7
LRMC Laurel Mountai 83.17 47 P P 06 35 11.2 +0.2
baz=83,SNR=6.7
ORV Oroville 83.18 42 P P 06 35 10.9 -0.1
baz=83,SNR=11
S06C San Francisco 83.18 44⇓P P 06 35 11.0 -0.1
baz=83,SNR=11
KCC Kaiser Creek 83.19 44⇓P P 06 35 11.0 -0.1
baz=83,SNR=8.2
WDC Whiskeytown Da 83.19 40 *e*P P 06 35 11.2 +0.1
WDC Whiskeytown Da 83.19 40⇓P P 06 35 11.3 +0.2
baz=83,SNR=5.2
SYO Syowa Base 83.27 193⇑*i*P P 06 35 11.0 -0.5
SYO Syowa Base 83.27 193⇓*i*PcP PcP 06 35 12.4 -2.2
SNG Songkhla 83.36 281 P P 06 35 11.0 -1.0
CWC Cottonwood Cre 83.47 46 P P 06 35 12.7 +0.2
baz=84,SNR=6.9
BELC Belle Mtn. 83.48 49⇑P P 06 35 13.1 +0.5
baz=84
M02C Callahan 83.52 39⇑P P 06 35 13.3 +0.6
baz=84
R05C Kirkwood Meado 83.53 43⇓P P 06 35 12.8 0.0
baz=84,SNR=14
P05C Yuba Gap, Truc 83.57 42⇓P P 06 35 13.2 +0.2
baz=84,SNR=12
MPMC Manual Prospec 83.64 46⇑P P 06 35 13.4 0.0
baz=84,SNR=8.8
GSC Goldstone 83.67 47 *e*P P 06 35 13.8 +0.3
GSC *e**PP pP 06 37 09.7 +0.3
GSC Goldstone 83.67 47⇓P P 06 35 13.5 +0.1
baz=84,SNR=6.6
BC3 Big Chuckw Mtn 83.67 49⇓P P 06 35 14.0 +0.6
baz=84
MTUM Tungsten Hills 83.69 45 *e*P P 06 35 13.5 -0.1
MTUM *e*pP pP 06 37 10.1 +0.6
DAC Darwin (Calif) 83.70 46 *e*P P 06 35 10.9 +0.3
HEC Hector,Ludlow 83.72 48⇓P P 06 35 14.2 +0.4
baz=84
TIN Tinemaha 83.73 45⇓P P 06 35 14.4 +0.6
baz=84
GLA Glamis 83.77 50 *e*P P 06 35 15.2 +1.2
GLA *e**PP pP 06 37 11.6 +1.6
GLA Glamis 83.77 50⇑P P 06 35 14.7 +0.7
baz=84,SNR=6.6
O05C Quincy 83.78 41⇑P P 06 35 14.0 -0.1
baz=84,SNR=5.2
CN2 Changchun 83.79 324⇓P P 06 35 13.4 -0.7
CN2 *e*AP pP 06 37 10.1 0.0
CN2 *e*XP sP 06 38 04.2 -0.4
CN2 *e*S S 06 44 52.2 -0.5
CN2 XS sS 06 48 17.8 -1.7
CN2 AMB AMB
comp=Z,60nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
R07C Lee Vining 83.82 44⇑P P 06 35 14.6 +0.4
baz=84,SNR=10
WAKR Walker 83.82 43 *e*P P 06 35 14.9 +0.7
WAKR *e*pP pP 06 37 13.0 +2.8
R06C Coleville 83.82 43⇓P P 06 35 14.4 +0.2
baz=84,SNR=9.2
YBH Yreka Blue Hor 83.82 39⇑P P 06 35 14.5 +0.3
baz=84
M03C McCloud 83.88 40⇓P P 06 35 14.7 +0.2
baz=84
O04C Chester 83.90 41 P P 06 35 14.8 +0.1
baz=84,SNR=8.3
HATC Hat Creek Radi 83.98 41⇓P P 06 35 15.2 +0.2
baz=84
S08C White Mtn Res 84.03 45 P P 06 35 15.7 +0.4
baz=84,SNR=12
BEKR Beckwourth 84.06 42 P P 06 35 15.4 0.0
baz=84,SNR=8.0
WCN Washoe City 84.09 43 P P 06 35 15.8 +0.2
baz=84,SNR=12
IRM Iron Mountain 84.15 49 P P 06 35 16.4 +0.5
baz=84,SNR=12
TIA Tai'an 84.18 314⇓P P 06 35 16.0 0.0
HUMO Hull Mountain 84.23 38⇓P P 06 35 16.6 +0.3
baz=84
GRAC Grapevine Rang 84.26 46 P P 06 35 16.6 +0.2
baz=84,SNR=12
FURC Furnace Creek, 84.29 46⇓P P 06 35 16.4 -0.1
baz=84
ELFS Eagle Lake Fie 84.30 41⇑P P 06 35 16.6 0.0
baz=84
TUQ Turquoise Mtn. 84.33 47⇑P P 06 35 16.9 +0.2
baz=84,SNR=6.6
SHOC Shoshone 84.36 47⇑P P 06 35 16.9 0.0
baz=84
M04C Macdoel 84.36 40⇓P P 06 35 17.1 +0.2
baz=84
Y12C Blythe 84.36 50⇓P P 06 35 17.3 +0.4
baz=84,SNR=5.5
KLR Kul'dur 84.40 330 *e*P P 06 35 13.2 -3.9
KLR pmax pmax
comp=Z,48nm,1.4s,mb4.8
NVAR Mina Array Bea 84.49 44 P P 06 35 17.2 -0.3
comp=Z,3.8nm,0.9s,baz=224,slow=6.9,SNR=21
NVAR pP pP 06 37 12.8 -1.0
comp=Z,0.9nm,0.9s,baz=229,slow=6.6,SNR=2.7
M05C Lookout 84.50 40 P P 06 35 17.8 +0.2
baz=85,SNR=5.7
PAHR Pah Rah Range 84.57 42 *e*P P 06 35 18.2 +0.3
PAHR *e*pP pP 06 37 17.2 +3.0
O06A Flanigan 84.57 42 P P 06 35 17.9 0.0
baz=85,SNR=5.4
L04A Klamath Falls 84.57 39⇓P P 06 35 18.1 +0.1
baz=85
U10A Ash Meadows, A 84.62 46⇑P P 06 35 18.5 +0.3
baz=85
M06C Likely Place G 84.81 41⇓P P 06 35 19.4 +0.3
baz=85
Y13A Salome 84.89 50⇑P P 06 35 20.0 +0.6
baz=85,SNR=7.3
SNAA Sanae 84.89 179 P P 06 35 19.3 -0.2
comp=Z,8.8nm,0.5s,mb4.5,baz=210,slow=7.2,SNR=309
SNAA Sanae 84.89 179⇓*i*P P 06 35 19.2 -0.3
SNAA *e* 06 35 21.1
SNAA *e* 06 35 24.3
SNAA *e* 06 35 28.8
SNAA *e* 06 35 36.0
SNAA Sanae 84.89 179 *e*P P 06 35 19.3 -0.2
SNAA pmax pmax
comp=Z,23nm,0.6s
SNAA Sanae 84.89 179 *e*P P 06 35 19.3 -0.2
comp=Z,23nm,0.6s,mb4.9
N06A Buffalo Meadow 84.92 41⇑P P 06 35 19.6 0.0
baz=85
PDMCI Parker Dam,Lak 84.93 49⇓P P 06 35 19.9 +0.2
baz=85,SNR=8.9
TPH Tonopah 84.97 45 *e*P P 06 35 19.5 -0.4
TPH pmax pmax
comp=Z,15nm,1.0s,mb4.5
TPH Tonopah 84.97 45 *e*P P 06 35 19.5 -0.5
comp=Z,15nm,1.0s,mb4.5
TPH *e*pP pP 06 37 20.4 +4.1
W12A Cal Nev Ari 84.97 48⇑P P 06 35 20.1 +0.1
baz=85
Q08A Gabbs 84.98 44⇓P P 06 35 19.9 0.0
baz=85
L05A Lakeview 85.11 40⇓P P 06 35 20.8 +0.2
baz=85
J04A Umpqua Nationa 85.11 38⇑P P 06 35 20.9 +0.3
baz=85
O07A Toulon 85.15 42 P P 06 35 20.4 -0.3
baz=85,SNR=8.0
R09A Tonopah 85.17 45 P P 06 35 20.8 -0.1
baz=85,SNR=6.2
V12A Nelson 85.22 48⇑P P 06 35 21.2 +0.1
baz=85
U11A Corn Creek 85.25 47⇑P P 06 35 21.3 +0.1
baz=85
Z14A Wintersburg 85.27 51⇑P P 06 35 21.7 +0.3
baz=85,SNR=5.4
I04A Tendick Farm, 85.29 38⇑P P 06 35 21.6 +0.1
baz=85
MOD Modoc 85.33 40 *e*P P 06 35 21.6 0.0
MOD Modoc 85.33 40⇓P P 06 35 22.2 +0.5
baz=86
115A Sonoran Desert 85.43 51⇓P P 06 35 22.6 +0.5
baz=86
N07B Gerlach 85.46 42⇑P P 06 35 22.2 0.0
baz=86
NVL N'lazarevskaya 85.46 184*d i*P P 06 35 21.1 -1.2
NVL pmax pmax
comp=Z,83nm,1.1s,mb5.2
NVL pmax pmax
comp=N,26nm,1.2s
NVL pmax pmax
comp=E,13nm,0.8s
K05A Summer Lake 85.49 39⇑P P 06 35 22.8 +0.4
baz=86
VNA2 Neumayer--Watz 85.51 178⇓*i*P P 06 35 22.8 +0.3
baz=195,slow=3.4
VNA2 *e* 06 35 24.6
VNA2 *e* 06 35 28.6
VNA2 *e* 06 35 32.0
VNA2 *e* 06 35 39.8
Y14A Wickenburg 85.53 50⇓P P 06 35 22.8 +0.2
baz=86,SNR=5.5
W13A Hualapai Mount 85.54 49⇑P P 06 35 22.9 +0.3
baz=86
J05A Fort Rock 85.64 39⇑P P 06 35 23.2 +0.1
baz=86
M07A Soldier Meadow 85.70 41⇓P P 06 35 23.5 +0.1
baz=86
116A Eloy 85.73 52⇓P P 06 35 24.2 +0.7
baz=86,SNR=6.3
VNA1 Neumayer--Stat 85.75 177⇓*i*P P 06 35 24.2 +0.6
VNA1 *e* 06 35 26.0
VNA1 *e* 06 35 29.7
VNA1 *e* 06 35 33.4
VNA1 *e* 06 35 41.4
U12A Valley of Fire 85.82 47⇑P P 06 35 24.4 +0.4
baz=86
X14A Yava 85.89 50⇓P P 06 35 24.7 +0.4
baz=86
K06A Valley Falls 85.91 40⇑P P 06 35 24.9 +0.5
baz=86
N08A GE Springer Mi 85.97 42⇑P P 06 35 24.7 0.0
baz=86
L07A Adell 85.98 41 P P 06 35 25.1 +0.4
baz=86,SNR=7.0
W14A Seligman 86.16 49⇓P P 06 35 26.3 +0.7
baz=86,SNR=7.3
I05A Bend 86.17 38⇓P P 06 35 25.8 +0.2
baz=86
O09A Fish Creek Ran 86.20 43⇓P P 06 35 25.8 0.0
baz=86
M08A Happy Creek Ra 86.22 41⇓P P 06 35 26.1 +0.2
baz=86
J06A Christmas Vall 86.25 39⇓P P 06 35 25.7 -0.3
baz=86
P10A Eureka 86.34 44⇓P P 06 35 26.1 -0.3
baz=86
X15A Humboldt 86.36 50⇓P P 06 35 27.1 +0.6
baz=86,SNR=6.0
N09A Rock Creek Ran 86.39 42⇑P P 06 35 26.8 +0.1
baz=86
MA2 Magadan 86.39 346 *e*P P 06 35 24.6 -2.1
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.0
MA2 Magadan 86.39 346 *e*P P 06 35 23.7 -3.0
comp=Z,130nm,1.4s,mb5.4
Q11A Duckwater 86.43 45⇑P P 06 35 26.9 0.0
baz=86
K07A Rock Creek Ran 86.44 40⇑P P 06 35 27.2 +0.3
baz=87
I06A Prineville 86.63 39⇑P P 06 35 28.2 +0.3
baz=87
L08A Fields 86.67 41⇑P P 06 35 28.1 +0.1
baz=87
GYA Guiyang 86.75 301 P P 06 35 30.0 +1.6
GYA PP PP 06 39 03.1 +2.5
GYA S S 06 45 24.9 +3.8
GYA PS 06 47 38.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,90nm,5.2s
P11A Circle Ranch, 86.76 44⇑P P 06 35 28.5 +0.1
baz=87
M09A Marrel Ranch, 86.77 42⇓P P 06 35 28.5 +0.1
baz=87
J07A Hines 86.81 39⇑P P 06 35 28.6 0.0
baz=87
K08A Mann Creek Ran 86.91 40 P P 06 35 29.4 +0.3
baz=87,SNR=5.2
N10A Dunphy 86.94 43⇑P P 06 35 29.1 -0.2
baz=87
BJT Baijiatuau 86.96 316 *e*P P 06 35 29.2 -0.1
BJT pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuau 86.96 316 *e*P P 06 35 29.2 -0.1
comp=Z,29nm,0.8s,mb5.0
H06A Lindquist Farm 87.05 38⇑P P 06 35 29.7 -0.1
baz=87
Q12A Willow Creek R 87.07 45⇓P P 06 35 29.8 -0.1
baz=87
I07A Izee 87.12 39⇓P P 06 35 30.4 +0.2
baz=87
G06A Carlson Farm, 87.18 37⇓P P 06 35 30.6 +0.2
baz=87
P12A McGill 87.26 45⇑P P 06 35 30.9 +0.2
baz=87
J08A Circle Bar Ran 87.29 40⇑P P 06 35 30.9 0.0
baz=87,SNR=5.5
K09A Rome 87.34 41⇓P P 06 35 31.3 +0.1
baz=88,SNR=8.6
NST Nakhon Sawan 87.37 288⇑P P 06 35 33.0 +1.7
comp=Z,67nm,0.7s,mb5.4
M10A I.L. Ranch, Tu 87.38 42⇑P P 06 35 31.6 +0.3
baz=88,SNR=6.4
F06A Goldendale 87.43 37⇓P P 06 35 31.8 +0.2
baz=88
WUAZ Wupatki 87.50 49 *e*P P 06 35 32.8 +0.9
WUAZ Wupatki 87.50 49⇓P P 06 35 32.1 +0.2
baz=88
I08A Drewsey 87.56 39⇑P P 06 35 32.2 0.0
baz=88,SNR=5.5
J09A Fry Pan Ranch, 87.71 40 P P 06 35 33.0 +0.2
baz=88,SNR=7.5
G07A Ruggs Ranch, H 87.74 38⇓P P 06 35 33.1 +0.1
baz=88
M11A Holland Ranch, 87.80 43⇑P P 06 35 33.7 +0.4
baz=88
E06A Yakima 87.80 36⇑P P 06 35 33.1 -0.2
baz=88
H08A Prairie City 87.86 39⇑P P 06 35 33.5 -0.1
baz=88
N12A Clover Valley, 87.94 43⇓P P 06 35 33.9 0.0
baz=88
F07A Phinny Hill Vi 87.98 37⇓P P 06 35 34.1 -0.1
baz=88
I09A Lost Marbles R 88.08 40⇑P P 06 35 34.4 -0.2
baz=88
C05A Tolt Reservoir 88.14 35⇑P P 06 35 34.6 -0.3
baz=88
G08A Pilot Rock 88.16 38⇑P P 06 35 34.8 -0.2
baz=88
NANT Nan 88.22 291⇓P P 06 35 33.0 -2.3
comp=Z,331nm,0.9s,mb6.1
D06A Cle Elum 88.28 36⇓P P 06 35 35.4 -0.1
baz=88
B05A Bryant 88.29 34⇑P P 06 35 35.4 -0.2
baz=88
M12A Wells 88.33 43⇓P P 06 35 35.7 -0.1
baz=88
E07A Sunnyside 88.42 37⇓P P 06 35 36.1 -0.1
baz=88
N13A Wendover, West 88.47 44⇓P P 06 35 36.3 -0.1
baz=89
PMR Palmer 88.49 14 *e*P P 06 35 34.5 -2.0
PMR pmax pmax
comp=Z,23nm,1.1s,mb4.8
PMR Palmer 88.49 14 *e*P P 06 35 34.5 -2.1
comp=Z,23nm,1.1s,mb4.8
HAWA Hanford 88.50 37 *e*P P 06 35 36.6 +0.1
MSU Marysvale 88.52 47 *e*P P 06 35 36.8 +0.1
MSU *e**PP pP 06 37 36.1 +1.8
H09A Durkee 88.53 39⇓P P 06 35 36.6 -0.1
baz=89
F08A Pendleton 88.56 38⇓P P 06 35 36.8 -0.1
baz=89
XAN Xi'an 88.71 308 P P 06 35 37.9 +0.3
XAN AMB AMB
comp=Z,51nm,0.8s,mb5.4
D07A Quincy 88.75 36⇑P P 06 35 37.5 -0.2

baz=89
M13A Montello 88.77 43 ⇑P **P 06 35 37.9 +0.1**
baz=89,SNR=11
E08A Dider Farm, El 88.82 37 ⇑P **P 06 35 38.2 +0.2**
baz=89
BMO Blue Mountains 88.85 39 *eP* **P 06 35 38.0 -0.2**
comp=Z,8.9nm,1.4s,mb4.4
F09A S2 Ranch, Elgi 89.00 38 ⇓P **P 06 35 38.8 -0.1**
baz=89
C07A Waterville 89.00 36 ⇓P **P 06 35 38.5 -0.4**
baz=89
DUG Dugway 89.00 45 ⇑P **P 06 35 38.9 0.0**
baz=89
BDT Bhumibol Dam 89.02 289 P **P 06 35 41.0 +2.0**
SEY Seymchan 89.08 348 *d* /P **P 06 35 37.5 -1.7**
D08A Wollman Farm, 89.24 37 ⇓P **P 06 35 39.7 -0.2**
baz=89
KMI Kunming 89.28 298 P P **06 35 40.7 +0.5**
KMI AP pP 06 37 39.2 +1.2
KMI XP sP 06 38 31.6 -0.4
KMI PP PP 06 39 24.3 +3.8
KMI SKS 06 45 17.8
KMI S S 06 45 45.4 +0.9
KMI SS SS 06 51 58.0 +3.1
KMI AMB AMB
comp=Z,32nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,150nm,3.1s
KMI Kunming 89.28 298 P P **06 35 40.7 +0.5**
comp=Z,32nm,1.0s,mb5.1
KMI pP pP 06 37 39.2 +1.2
KMI sP sP 06 38 31.6 -0.4
KMI PP PP 06 39 24.3 +3.8
KMI SKS 06 45 17.8
KMI S S 06 45 45.4 +0.9
KMI SS SS 06 51 58.0 +3.1
KMI LR LR
comp=Z,70nm,19.4s
E09A Wood Farm, Sta 89.34 37 ⇓P **P 06 35 40.2 -0.2**
baz=90
B07A Winthrop 89.44 35 ⇓P **P 06 35 40.7 -0.3**
baz=90
H11A Donnelly 89.52 40 P **P 06 35 41.2 0.0**
baz=90,SNR=9.3
F10A Beach Ranch, E 89.54 38 ⇑P **P 06 35 41.0 -0.4**
baz=90
D09A Jones Farm, Ri 89.58 37 ⇓P **P 06 35 41.2 -0.4**
baz=90
TMUT Trail Mountain 89.58 46 *eP* **P 06 35 42.0 +0.4**
TMUT *epP* pP 06 37 39.8 +0.3
CHG Chiang Mai 89.73 291 ⇓P **P 06 35 43.7 +1.4**
comp=Z,63nm,0.9s,mb5.5
CHTO Chiang Mai 89.73 291 *eP* **P 06 35 43.6 +1.3**
CHTO pmax pmax
comp=Z,76nm,1.1s,mb5.4
CHTO Chiang Mai 89.73 291 *eP* **P 06 35 43.6 +1.3**
comp=Z,76nm,1.1s,mb5.4
HLID Hailey 89.83 41 *eP* **P 06 35 43.0 +0.3**
comp=Z,6.9nm,1.0s,mb4.4
HLID Hailey 89.83 41 P **P 06 35 43.1 +0.4**
baz=90,SNR=8.8
SPUT South Promonto 89.83 44 *eP* **P 06 35 40.1 -2.6**
HVU Hansel Valley 89.88 44 *eP* **P 06 35 43.3 +0.4**
E10A Myers Farm, Un 89.91 38 ⇑P **P 06 35 43.3 +0.2**
baz=90
SRU San Rafael 89.94 47 *eP* **P 06 35 43.2 0.0**
SRU *e*PP pP 06 37 42.8 +1.6
SRU pmax pmax
comp=Z,12nm,0.7s,mb4.8
SRU San Rafael 89.94 47 *eP* **P 06 35 43.2 0.0**
comp=Z,12nm,0.7s,mb4.8
SRU *epP* pP 06 37 42.8 +1.7
LAZ Ladron 89.95 52 *eP* **P 06 35 43.7 +0.4**
LAZ *epP* pP 06 37 43.1 +1.9
CTU Camp Tracy 89.95 45 *eP* **P 06 35 43.3 0.0**
MNTX Cornudas Mount 89.97 55 *eP* **P 06 35 43.5 +0.2**
comp=Z,11nm,1.3s,mb4.5
MNTX *epP* pP 06 37 41.8 +0.5
C09A Chrisman Ranch 90.03 36 ⇓P **P 06 35 43.3 -0.4**
baz=90
DAU Daniels Canyon 90.13 45 *eP* **P 06 35 43.8 -0.3**
TXAR Lajitas Array 90.19 58 P **P 06 35 45.0 +0.7**
comp=Z,6.1nm,0.8s,mb4.5,baz=212,slow=6.6,SNR=62
TXAR pP pP 06 37 40.3 -2.1
comp=Z,2.4nm,1.0s,baz=218,slow=5.7,SNR=4.2
TXAR PKKP PKKPbc 06 53 12.8 +2.1
comp=Z,1.2nm,0.6s,baz=81,slow=3.9,SNR=13
TXAR Lajitas Array 90.19 58 P **P 06 35 45.1 +0.7**
TXAR *PP pP 06 37 40.3 -2.1
TXAR Lajitas Array 90.19 58 P **P 06 35 45.0 +0.7**
TXAR pP pP 06 37 40.3 -2.1
TXAR PKKP PKKPbc 06 53 12.8 +2.1
LPM Los Pinos Moun 90.28 52 *eP* **P 06 35 44.5 -0.3**
LPM *epP* pP 06 37 44.5 +1.7
HHC Hu-ho-hao-te 90.36 315 ⇓P **P 06 35 45.4 +0.2**
HHC PP PP 06 39 30.0 +1.1
HHC S S 06 45 55.9 +1.7
HHC SS SS 06 52 14.0 +3.7
HHC AMB AMB
comp=Z,41nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,151nm,9.3s
TCUT Toone Canyon 90.40 45 *eP* **P 06 35 45.8 +0.4**
MCK McKinley 90.43 13 *eP* **P 06 35 42.9 -2.6**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
MCK McKinley 90.43 13 *eP* **P 06 35 42.9 -2.6**
comp=Z,7.4nm,1.2s,mb4.4
B09A Rice 90.47 36 ⇓P **P 06 35 45.1 -0.6**
baz=91
HWUT Hardware Ranch 90.55 44 *eP* **P 06 35 45.3 -0.8**
comp=Z,4.2nm,0.6s,mb4.5
ANMO Albuquerque 90.70 52 ⇑/P **P 06 35 46.0 -0.8**
ANMO Albuquerque 90.70 52 *eP* **P 06 35 47.0 +0.2**
comp=Z,6.1nm,1.0s,mb4.5
ANMO *epP* pP 06 37 44.0 -0.8
GDL2 Guadalupe Moun 90.96 55 *eP* **P 06 35 48.9 +1.0**
CD2 Chengdu 91.07 303 P **P 06 35 48.5 0.0**
CD2 AP pP 06 37 48.3 +1.8
CD2 XP sP 06 38 41.4 +1.0
CD2 PP PP 06 39 37.1 +2.6
CD2 SKS 06 45 28.4
CD2 S S 06 45 58.1 -2.4
CD2 XS sS 06 49 30.3 -1.5
CD2 SS SS 06 52 22.0 +1.5
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,120nm,5.8s
F13A Darby 91.11 40 ⇑P **P 06 35 48.1 -0.6**
baz=91
B11A Sandpoint 91.44 37 ⇓P **P 06 35 50.0 -0.2**
baz=92
AHID Auburn Hatcher 91.45 43 *eP* **P 06 35 51.2 +1.0**
comp=Z,7.1nm,0.8s,mb4.7
C12A Trout Creek 91.52 38 ⇓P **P 06 35 50.2 -0.3**
baz=92
COLA College 91.66 13 *eP* **P 06 35 48.6 -2.6**
COLA *e*PP pP 06 37 46.9 -2.4
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
COLA College 91.66 13 *eP* **P 06 35 48.5 -2.6**
comp=Z,2.7nm,0.6s,mb4.5
COLA *epP* pP 06 37 46.9 -2.4
A11A Hall Mountain, 91.74 36 ⇑P **P 06 35 51.5 0.0**
baz=92
BILL Bilibino 92.01 355 *d* /P **P 06 35 51.0 -1.8**
BILL *e* 06 39 39.3
BILL *e*S SKSac 06 45 34.4 0.0
BILL pmax pmax
comp=Z,23nm,1.0s,mb5.2
BILL Bilibino 92.01 355 *eP* **P 06 35 50.9 -2.0**
comp=Z,22nm,0.9s,mb5.2
CMIG Matias Romero 92.27 72 P **P 06 35 53.5 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=207,slow=6.8,SNR=3.2
PDAR Pinedale Array 92.43 44 P **P 06 35 53.8 -0.9**
comp=Z,2.5nm,0.8s,mb4.3,baz=221,slow=3.7,SNR=20
PDAR pP pP 06 37 49.0 -3.9
comp=Z,0.6nm,0.9s,baz=224,slow=3.8,SNR=3.1
PDAR PP PP 06 39 39.8 -5.2
comp=Z,2.5nm,1.1s,baz=235,slow=5.2,SNR=9.0
PDAR PKKP PKKPbc 06 53 02.8 -2.4
comp=Z,1.2nm,0.7s,baz=102,slow=4.3,SNR=8.0
CLNS Chul'man 92.66 333 *eP* **P 06 35 51.9 -3.9**
CLNS pmax pmax
comp=Z,14nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.9s
SDCO Great Sand Dun 92.71 50 *eP* **P 06 35 56.2 +0.2**
comp=E,4.1nm,0.9s,mb4.5
DAWY Dawson 92.97 17 *eP* **P 06 35 55.8 -1.4**
DAWY *ep*P pP 06 37 54.7 -0.7
LZH Lanzhou 93.35 308 *eP* **P 06 35 59.8 +0.9**
LZH AP pP 06 37 59.2 +2.1
LZH XP sP 06 38 53.2 +2.2
LZH AMB AMB
comp=Z,27nm,1.0s,mb5.2
LZH Lanzhou 93.35 308 *eP* **P 06 35 59.8 +0.9**
LZH *PP pP 06 37 59.2 +2.1
LZH pmax pmax
comp=Z,27nm,1.0s,mb5.2
LZH Lanzhou 93.35 308 *eP* **P 06 35 59.8 +0.9**
comp=Z,27nm,1.0s,mb5.2
LZH pP pP 06 37 59.2 +2.1
LZH sP sP 06 38 53.2 +2.2
YAK Yakutsk 94.42 339 ⇑/P **P 06 36 01.7 -2.1**
YAK pmax pmax
comp=Z,32nm,1.0s,mb5.4
ULN Ulaanbaatar 96.64 320 *c* /P **P 06 36 13.3 -0.5**
SONM Songino Array 97.02 319 P **P 06 36 14.5 -1.0**
comp=Z,1.5nm,0.7s,mb4.3,baz=106,slow=3.7,SNR=7.3
SONM PKKP PKKPbc 06 52 54.1 +1.0
comp=Z,1.3nm,0.5s,baz=286,slow=2.5,SNR=6.6
GTA Gaotai 97.66 310 *eP* **P 06 36 18.6 +0.2**
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,73nm,4.2s
TLY Talaya 100.33 322 *eP* Pdif 06 36 29.1 -1.1
JIRN Jiri 103.92 294 *eP* PKiKP 06 40 59.0 -1.4
comp=Z,4.4nm,0.3s
GUN Gumba 104.27 294 *eP* PKiKP 06 41 00.8 -0.2
comp=Z,22nm,0.9s
PKI Pulchoki 104.55 294 *eP* PKiKP 06 41 00.2 -1.3
comp=Z,14nm,0.8s
KKN Kakani 104.73 294 *eP* PKiKP 06 41 00.4 -1.5
comp=Z,18nm,0.8s
DMN Daman 104.81 294 *eP* PKiKP 06 41 00.6 -1.4
KOLN Koldanda 106.13 294 *eP* PKiKP 06 41 03.7 -0.7
comp=Z,12nm,0.9s
ZAL Zalesovo 111.88 321 PKiKP PKiKP 06 41 12.8 -2.4
comp=Z,2.8nm,0.6s,baz=327,slow=2.4,SNR=11
ZAL Zalesovo 111.88 321 PKPdf PKiKP 06 41 12.8 -2.4
MK31 Makanchi Array 112.10 313 *e*PKiKP PKiKP 06 41 14.1 -1.6
MKAR Makanchi Array 112.10 313 Pdiff Pdif 06 37 24.1 +1.6
comp=Z,0.9nm,0.7s,baz=99,slow=5.2,SNR=11
MKAR PKiKP PKiKP 06 41 14.0 -1.7
comp=Z,6.6nm,0.6s,baz=136,slow=0.3,SNR=58
MKAR SKP 06 44 00.1
comp=Z,1.3nm,0.8s,baz=52,slow=2.3,SNR=3.8
MKAR PKKPbc PKKPbc 06 52 08.6 +0.3
comp=Z,0.6nm,0.7s,baz=275,slow=3.9,SNR=5.2
MKAR PKKPab PKKPab 06 52 19.4 +0.3
comp=Z,0.5nm,0.6s,baz=277,slow=3.8,SNR=4.3
MKAR Makanchi Array 112.10 313 P Pdif 06 37 24.2 +1.6
MKAR 06 41 14.0
MKAR 06 44 00.1
MKAR 06 52 08.6
MKAR Makanchi Array 112.10 313 Pdif Pdif 06 37 24.1 +1.6
MKAR PKPdf PKiKP 06 41 14.0 -1.7
MKAR SKP 06 44 00.1
MKAR PKKPbc PKKPbc 06 52 08.6 +0.3
MKAR PKKPab PKKPab 06 52 19.4 +0.3
NVS Novosibirsk 112.93 321 *e*PKIKP PKiKP 06 41 15.2 -2.1
NVS pmax pmax
comp=Z,15nm,0.9s
NVS pmax pmax
comp=N,5.0nm,0.7s
TKM2 Tokmak 2 116.12 308 P PKPdf 06 41 22.4 -1.0
SNR=18
KBK Karagaybulak 116.55 307 P PKPdf 06 41 23.5 -0.7
SNR=6.4
CHMS Chumysh 116.74 308 P PKPdf 06 41 23.9 -0.7
SNR=8.8
UCH Uchtor 116.80 307 P PKPdf 06 41 24.6 -0.1
SNR=21
AAK Ala-Archa 116.88 307 P PKPdf 06 41 24.2 -0.7
SNR=9.1
AAK Ala-Archa 116.88 307 *e*PKPdf PKPdf 06 41 22.9 -2.0
USP Ospenovka 116.96 308 P PKPdf 06 41 24.0 -1.0
SNR=18
AML Almayashu 117.39 307 P PKPdf 06 41 25.8 -0.1
SNR=24
EKS2 Erkin-Say 117.41 307 P PKPdf 06 41 25.3 -0.6
SNR=5.4
CHKZ Chkalovo 120.22 320 *e*PKIKP PKPdf 06 41 28.9 -2.4
BRVK Borovoye 120.43 319 *e*PKIKP PKPdf 06 41 29.6 -2.1
ZRNK Zerenda 121.20 319 *e*PKIKP PKPdf 06 41 31.4 -1.8
SCHQ Schefferville 122.21 39 PKP PKPdf 06 41 33.1 -2.0
comp=N,5.5nm,0.8s,baz=344,slow=7.4,SNR=3.8
BOSA Boshof 122.67 206 PKP PKPdf 06 41 37.1 +1.1
comp=N,14nm,0.8s,baz=140,slow=2.4,SNR=22
DAG Danmarks Havn 126.04 5 ⇓/P PKPdf 06 41 39.5 -2.9
comp=N,6.7nm,0.8s
DAG Danmarks Havn 126.04 5 ⇓/PKIKP PKPdf 06 41 39.5 -2.9
DAG pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 126.78 324 *i* PKIKP PKPdf 06 41 42.6 -1.3
ARU *e* 06 43 44.2
ARU Arti 126.78 324 *e*PKPdf PKPdf 06 41 42.9 -0.9
AKTK Aktyubinsk 128.23 316 PKP PKPdf 06 41 46.0 -0.6
AKTO Aktyubinsk 128.23 316 PKP PKPdf 06 41 46.0 -0.6
comp=Z,15nm,0.7s,baz=98,slow=2.7
ORR Orenburg 130.04 318 *e*PKIKP PKPdf 06 41 50.1 +0.1
ORR pmax pmax
comp=Z,20nm,0.4s
ARCES ARCESS Array B 131.69 348 PKhKP 06 41 42.1
comp=Z,1.5nm,0.5s,baz=90,slow=1.2,SNR=12
ARCES PKP PKPdf 06 41 51.2 -2.0
comp=Z,24nm,0.8s,baz=14,slow=0.9,SNR=44
ARCES SKPbc SKPbc 06 44 28.1 -0.7
comp=Z,14nm,0.9s,baz=49,slow=3.7,SNR=10
ARCES ARCESS Array B 131.69 348 PKP PKPdf 06 41 51.2 -2.0
ARCES SKPbc SKPbc 06 44 28.1 -0.7
LSZ Lusaka 132.57 218 *e*PKIKP PKPdf 06 41 55.9 +1.1
TSUM Tsumeb 134.12 203 *e*PKPdf PKPdf 06 41 58.7 +0.9
JOF Joensuu 135.57 340 *ep* 06 41 48.8
comp=Z,26nm,0.6s
JOF Joensuu 135.57 340 *e*PKHKP 06 41 48.8
JOF pmax pmax
comp=Z,26nm,0.6s
KMBO Kilima Mbogo 136.33 241 *e*PKHKP 06 41 53.2
KMBO *e* 06 42 03.9
KAF Kangasniemi 137.67 342 *ep* 06 41 53.4
comp=Z,15nm,0.6s
KAF Kangasniemi 137.67 342 *e*PKHKP 06 41 53.4
KAF pmax pmax
comp=Z,15nm,0.6s
MOS Moscow 137.80 329 *e*PKIKP PKPdf 06 42 01.6 -3.0
FINES FINESS Array B 138.28 342 PKhKP 06 41 53.0
comp=Z,3.5nm,0.6s,baz=39,slow=4.8,SNR=14
FINES SKP 06 44 48.6
comp=Z,6.9nm,0.8s,baz=79,slow=4.1,SNR=8.0
OBN Obninsk 138.65 329 ⇓*e*PKHKP 06 41 55.8
OBN *i* 06 42 06.1
OBN *e* 06 44 58.8
OBN *e*SS SS 07 02 40.4 +4.2
OBN pmax pmax
comp=Z,14nm,0.9s
OBN pmax pmax
comp=Z,79nm,1.9s
GNI Garni 139.19 305 PKP PKPdf 06 42 06.1 -1.0
comp=Z,8.3nm,0.6s,baz=216,slow=8.4,SNR=4.6
GNI Garni 139.19 305 *e*PKPdf PKPdf 06 42 07.5 +0.4
VRSR Storozhevoye 139.32 323 *e*PKIKP PKPdf 06 42 07.3 0.0
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,9.0nm,0.8s
ERZM Erzurum 141.78 305 *i* P PKPdf 06 42 07.5 -4.3
EZM Erzurum 141.79 305 *eP* 06 42 06.3
NB2 NORSAR Subarra 141.88 351 PKHKP 06 42 06.0
NB2 NORSAR Subarra 141.88 351 PKP 06 42 06.0
comp=Z,5.1nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 141.88 351 PKhKP 06 42 06.2
comp=Z,15nm,0.7s,baz=16,slow=4.7,SNR=39
NOA SKP 06 44 58.0
comp=Z,5.0nm,0.8s,baz=14,slow=4.2,SNR=7.9
NOA NORSAR Array B 141.88 351 PKP 06 42 06.2
NOA SKP 06 44 58.0
HFS Hagfors 142.35 349 PKhKP 06 42 08.0
baz=72,slow=4.7
HFS SKP 06 44 58.4
comp=Z,12nm,0.8s,baz=190,slow=0.9,SNR=7.8
MARD Mardin 142.73 301 *i* P 06 42 07.5
EZC Erzincan 142.98 305 *eP* PKPdf 06 42 13.2 -0.7
ANN Anapa 143.11 314 *i* PKHKP 06 42 10.3
ANN pmax pmax
comp=Z,277nm,1.0s
KELT Kelkit 143.30 306 *i* P PKPdf 06 42 13.9 -0.5
KONO Kongsberg 143.44 352 *e*PKIKP PKPdf 06 42 11.3 -3.4
PTK Pertek 143.50 304 *eP* PKPdf 06 42 14.1 -0.7
LRW Lerwick 143.55 1 *eP* PKPdf 06 42 11.7 -3.2
LRW *eP* 06 42 11.7
LRW AMb AMB 06 42 12.5
comp=Z,111nm,1.3s
GRSN GIRESUNGRSN 143.82 308 *i* P PKPdf 06 42 13.1 -2.2
ELZG Elazig 143.90 303 *i* P PKPdf 06 42 16.0 +0.5
URFA Urfa 144.24 302 *eP* PKPdf 06 42 16.3 +0.2
MYA Malataya 144.36 303 *eP* PKPdf 06 42 16.2 -0.1
ATAB Bozova 144.65 302 *i* P PKPdf 06 42 17.7 +1.0
AKASG Malin Array Be 144.86 328 PKP PKPdf 06 42 15.9 -1.2
comp=Z,58nm,0.5s,baz=44,slow=4.0,SNR=207
AKASG pPKP pPKPdf 06 44 21.0 -2.1
comp=Z,1.5nm,0.5s,baz=43,slow=3.9,SNR=2.3
AKASG SKPbc SKPbc 06 45 06.0 +0.1
comp=Z,9.2nm,0.8s,baz=42,slow=2.3,SNR=8.4
AKBB Malin Array Si 144.86 328 *e*PKPdf PKPdf 06 42 15.8 -1.3
AKBB *ep*PKPdf pPKPdf 06 44 22.8 -0.3
AKBB *e*SKPbc SKPbc 06 45 05.9 0.0
JHLN Al Jahlan 144.86 299 ⇓P PKPdf 06 42 17.9 +0.7
SVSK Karacayir 145.03 306 *eP* PKPdf 06 42 18.6 +1.2
SUW Suwalki 145.12 336 *e*PKP PKPdf 06 42 17.2 -0.4
SUW *e* 06 42 18.3
SLMH Al Salmeh 145.18 300 ⇓P PKPdf 06 42 18.4 +0.8
SIM Simferopol' 145.20 316 ⇓*e*PKIKP PKPdf 06 42 18.3 +0.6
SIM pmax pmax
comp=Z,124nm,1.1s
GZT Gaziantep 145.24 302 *i* P PKPdf 06 42 18.0 +0.2
GAZ Gaziantep 145.55 302 *eP* PKPdf 06 42 18.4 +0.1
KMRS Kahramanmaras 145.72 302 *eP* PKPdf 06 42 20.1 +1.5
KAC Achnashellach 145.98 5 *eP* PKPdf 06 42 19.3 +0.3
ROOS tl_alroos 146.02 296 ⇓P PKPdf 06 42 21.1 +2.1
DRWC Darouich 146.10 301 ⇓P PKPdf 06 42 21.5 +2.3
KPL Plockton 146.10 6 *eP* PKPdf 06 42 19.0 -0.3
KPL AMb AMB 06 42 19.9
comp=Z,148nm,1.7s
ZALF Zalf 146.14 294 ⇓P PKPdf 06 42 22.0 +2.7
BNN Bunyan 146.19 305 *eP* PKPdf 06 42 20.2 +0.8
KSB Sheil Bridge 146.25 5 *eP* PKPdf 06 42 19.9 +0.4
KFRA Kufra 146.26 298 ⇓P PKPdf 06 42 22.3 +2.8
BTCH Batrach 146.38 300 ⇓P PKPdf 06 42 21.6 +1.9
CTKT Corum 146.42 309 *i* P PKPdf 06 42 22.1 +2.3
COBT Iskenderun 146.44 301 *i* P PKPbc 06 42 23.1 +0.9
KAR1 Arisaig 146.50 6 *eP* PKPdf 06 42 20.8 +0.8
WRDH Warideh 146.52 299 ⇓P PKPdf 06 42 22.7 +2.8
KOZT Kozan 146.56 303 *eP* PKPdf 06 42 22.4 +2.4
ASF Jabal al Asfar 146.58 293 PKP PKPdf 06 42 20.3 +0.3
comp=Z,51nm,0.7s,baz=336,slow=2.2,SNR=54
ASF PKPbc PKPbc 06 42 23.5 +0.9
comp=Z,51nm,0.7s,baz=325,slow=1.4,SNR=46
MUD Monsted U'grnd 146.59 351 *i* P PKPdf 06 42 21.4 +1.3
comp=Z,41nm,1.0s
MUD Monsted U'grnd 146.59 351 *i* PKIKP PKPdf 06 42 21.4 +1.3
MUD pmax pmax
comp=Z,41nm,1.0s
HTY Hatay 146.62 300 *eP* PKPdf 06 42 22.8 +2.7
SLNF Slenfeh 146.65 299 ⇓P PKPbc 06 42 23.1 +0.4
SALA Sala 146.66 294 ⇓P PKPbc 06 42 23.5 +0.7
BIDA Albida 146.68 298 ⇓P PKPbc 06 42 23.3 +0.4
CORM Corum 146.69 308 *eP* PKPbc 06 42 23.3 +0.4
MARH Ras Al Marh 146.71 296 ⇓P PKPbc 06 42 24.3 +1.4
CEYT Ceyhan 146.73 302 *eP* PKPdf 06 42 22.8 +2.5
BSD Bornholm Skovb 146.74 345 ⇓/P PKPdf 06 42 21.4 +1.1
comp=Z,87nm,0.9s
BSD Bornholm Skovb 146.74 345 ⇓/PKIKP PKPdf 06 42 21.4 +1.1
BSD pmax pmax
comp=Z,87nm,0.9s
ARNB Al Arnab 146.80 300 ⇓P PKPbc 06 42 23.4 +0.2
TOS Tosya 146.83 310 *eP* PKPbc 06 42 23.2 0.0
TOTH TOTAH 146.84 295 ⇓P PKPbc 06 42 24.1 +0.8
QASN Qassioun 146.94 295 ⇓P PKPdf 06 42 22.8 +2.1
AVNT Avonos 146.95 305 *i* P PKPbc 06 42 23.8 +0.3
BALT Daday 147.09 311 *i* P PKPbc 06 42 24.2 +0.3
KARA Karaisali 147.21 303 *eP* PKPdf 06 42 22.7 +1.6
BRBR Barbar 147.23 295 ⇓P PKPbc 06 42 25.3 +1.0
CANT Cankiri 147.26 309 *eP* PKPbc 06 42 22.2 +1.0
WAR Warsaw 147.31 336 *e*PKP PKPdf 06 42 24.1 +2.9
RCY Rachaya 147.33 295 *eP* PKPbc 06 42 25.0 +0.5
BHL Bhannes 147.40 296 *eP* PKPbc 06 42 25.2 +0.4
ELDT Eldivan 147.44 309 *i* P PKPbc 06 42 25.0 +0.1
BR131 Keskin Array S 147.55 308 *e*PKPdf PKPdf 06 42 21.2 -0.4
BR131 *e*PKPbc PKPbc 06 42 24.7 -0.4
BR131 *e*PKPab PKPab 06 42 29.1 0.0
BRTR Keskin Array B 147.55 308 PKP PKPdf 06 42 20.8 -0.9
comp=Z,19nm,0.7s,baz=5.7,slow=1.4,SNR=21
BRTR PKPbc PKPbc 06 42 24.5 -0.6
comp=Z,22nm,0.7s,baz=143,slow=4.1,SNR=56
KAMT Kaman 147.62 307 *eP* PKPbc 06 42 24.4 -0.9
MERS Mersin 147.72 302 *eP* PKPbc 06 42 25.0 -0.6
GKP Gorka Klasztor 147.74 341 *e*PKP PKPbc 06 42 24.8 -0.8
MMAI Mount Meron Ar 147.74 295 PKPbc PKPbc 06 42 26.5 +0.9
comp=Z,108nm,0.6s,baz=70,slow=5.4,SNR=130
LVV L'vov 147.91 330 *i* PKIKP PKPdf 06 42 24.5 +2.3
LVV *e* 06 42 29.5
GMK Mull of Kintyr 148.08 6 *eP* PKPbc 06 42 25.3 -1.2
ANTO Ankara 148.12 308 *eP* PKPbc 06 42 25.3 -1.3
ANTO Ankara 148.12 308 ⇓/P PKPbc 06 42 26.4 -0.2
ANTO Ankara 148.12 308 PKP2 PKPbc 06 42 27.0 +0.4
ANTO Ankara 148.12 308 *e*PKPdf PKPdf 06 42 22.6 0.0
ANTO *e*PKPbc PKPbc 06 42 26.5 -0.1
ANTO *e*PKPab PKPab 06 42 31.7 +0.3
XSO Sourhope Farm 148.17 3 *eP* PKPdf 06 42 25.0 +2.4
EKA Eskdalemuir Ar 148.28 4 pPKPbc pPKPbc 06 44 27.4 -3.9
comp=Z,2.2nm,1.0s,baz=321,slow=43,SNR=1.6
GCL Cushendall 148.29 7 *eP* PKPbc 06 42 25.6 +2.8
SGKT Sivrigoynuk 148.38 310 *i* P PKPbc 06 42 26.9 -0.4
EIL Elat 148.42 289 *e*PKPbc PKPbc 06 42 27.9 +0.6
EIL *e*PKPab PKPab 06 42 34.0 +1.3
ECK Cauldkaine Hil 148.44 4 *eP* PKPdf 06 42 25.4 +2.3
IKL Isikli 148.53 301 *eP* PKPbc 06 42 27.3 -0.3
GAL1 Galloway 148.63 5 *eP* PKPbc 06 42 26.6 -1.2
KWP Kalwaria 148.64 331 *e*PKP PKPbc 06 42 27.4 -0.5
GCD Castle Douglas 148.70 5 *eP* PKPbc 06 42 26.5 -1.5
XAL Allendale 148.80 3 *eP* PKPdf 06 42 26.4 +2.7
BSEG Bad Segeberg 148.82 348 *e*PKPbc PKPbc 06 42 27.5 -0.8
BSEG *e*PKPab PKPab 06 42 33.2 -1.2
BSEG Bad Segeberg 148.82 348 *e*PKP2 PKPab 06 42 33.2 -1.2
BURAR Bucovina Array 148.86 326 ⇓/P PKPbc 06 42 29.3 +0.9
BURAR Bucovina Array 148.86 326 ⇓P PKPbc 06 42 29.3 +0.9
TIRR Tirgusor 148.98 319 ⇓/P PKPbc 06 42 28.2 -0.5
TIRR Tirgusor 148.98 319 *e*PKPbc PKPbc 06 42 27.8 -1.0
TIRR *e*PKPab PKPab 06 42 35.0 -0.1
CKE Keswick 149.03 4 *eP* PKPdf 06 42 27.1 +3.1
KDHN Kadinhani 149.07 306 *i* P PKPbc 06 42 28.3 -0.7
KONT Konya--Tatoy 149.07 305 *eP* PKPbc 06 42 27.9 -1.0
XDE Dent Fell 149.09 4 *eP* PKPdf 06 42 26.8 +2.7
HENT Hendek 149.09 311 *i* P PKPbc 06 42 28.3 -0.7
CSS Prodhromos 149.10 299 *e*PKPbc PKPbc 06 42 28.7 -0.3
GMM Mts of Mourne 149.13 7 *eP* PKPbc 06 42 27.7 -1.4
VRI Vrincioaia 149.16 322 ⇓/P PKPbc 06 42 28.4 -0.7
VRI Vrincioaia 149.16 322 P PKPbc 06 42 28.3 -0.8
PLOR Plostina 149.21 322 ⇑/P PKPbc 06 42 28.7 -0.6
GIM North Isle of 149.22 5 *eP* PKPbc 06 42 27.8 -1.5
CDU1 Dunnerdale 149.27 4 *eP* PKPbc 06 42 27.9 -1.5
KOLS Kolonicke sedl 149.34 331 *e*PKP PKPbc 06 42 29.5 -0.1
OJC Ojcow 149.39 335 *e*PKP PKPbc 06 42 28.8 -0.9
RUE Ruedersdorf 149.41 344 *e*PKPbc PKPbc 06 42 28.8 -0.9
STHS Stebnicka Huta 149.43 332 *e*PKP PKPbc 06 42 29.6 -0.2
UZH Uzhgorod 149.56 330 *c* /PKHKP PKPbc 06 42 27.8 -2.3
UZH *e* 06 42 35.0
ESKT Eskisehir 149.64 309 *eP* PKPbc 06 42 29.7 -0.6
ESKT Eskisehir 149.64 309 *i* P PKPbc 06 42 29.7 -0.6
CRVS Cervenica-Dubn 149.73 332 *e*PKP PKPbc 06 42 30.0 -0.5
NIE Niedzica 149.82 333 *e*PKPdf PKPbc 06 42 30.8 +0.1
MLR Muntele Rosu 149.82 322 PKPbc PKPbc 06 42 30.1 -0.6
comp=Z,17nm,0.6s,baz=358,slow=4.2,SNR=13

MLR	**Muntele Rosu**	**149.82**	**322**	⇓	*i*P	PKPbc	06 42 29.8	-0.9
MLR	**Muntele Rosu**	**149.82**	**322**		P	PKPbc	06 42 30.3	-0.4
DCN	**Croghan**	**149.84**	**9**		*e*P	PKPdf	06 42 22.8	-2.5
DCN	**Croghan**	**149.84**	**9**	⇓	*i*P	PKPbc	06 42 29.2	-1.6
DLF	**Lyons Farm**	**149.99**	**8**		*e*P	PKPdf	06 42 23.0	-2.5
DLF	**Lyons Farm**	**149.99**	**8**	⇓	*i*P	PKPbc	06 42 29.5	-1.6
OSMT	**Osmaniye**	**150.01**	**311**		*e*P	PKPdf	06 42 28.5	+2.9
KSP	**Ksiaz**	**150.13**	**339**		*e*PKHKP	PKPbc	06 42 31.0	-0.4
KSP					*e*		06 42 38.7	
KSP	**Ksiaz**	**150.13**	**339**		*e*PKP	PKPbc	06 42 31.0	-0.4
KSP					*e*		06 42 38.7	
KSP					*e*pPKP	pPKPbc	06 44 38.0	+1.8
SHUT	**Suhut-Afyon**	**150.21**	**307**		*e*P	PKPbc	06 42 31.3	-0.3
YLV	**Yalova**	**150.25**	**311**		*e*P	PKPbc	06 42 29.8	-1.9
IZI	**Iznik**	**150.28**	**311**		*e*P	PKPbc	06 42 30.7	-1.1
OKC	**Ostrava-Krasne**	**150.33**	**336**	⇑	*i*PKP	PKPbc	06 42 31.2	-0.7
OKC					*e*PKPAB	PKPab	06 42 39.4	-1.2
OKC					*e*pPKP	pPKPbc	06 44 39.9	+3.2
OKC	**Ostrava-Krasne**	**150.33**	**336**		*i* PKIKP	PKPbc	06 42 31.2	-0.7
OKC					*e*		06 42 39.4	
VOIR		**150.35**	**323**	⇓	*i*P	PKPbc	06 42 30.9	-1.1
VOIR		**150.35**	**323**	⇓	P	PKPbc	06 42 30.9	-1.0
KBI1	**Birley Grange**	**150.43**	**2**		*e*P	PKPbc	06 42 30.5	-1.6
GEMT	**Gemlik**	**150.44**	**311**		*e*P	PKPbc	06 42 30.3	-1.9
KECS	**Kecovo**	**150.47**	**332**		*e*PKP	PKPbc	06 42 31.3	-0.9
KECS					*e*		06 42 40.3	
ISP	**Isparta**	**150.49**	**306**		*e*P	PKPbc	06 42 30.4	-1.9
ISP	**Isparta**	**150.49**	**306**		*e*PKIKP	PKPbc	06 42 31.3	-1.0
UPC	**Upice**	**150.51**	**339**	⇑	*i*PKP	PKPbc	06 42 31.8	-0.5
UPC					*e*pPKP	pPKPbc	06 44 40.0	+2.9
DPC	**Dobruska-Polom**	**150.54**	**339**		*e*PKPDF	PKPdf	06 42 26.9	+0.5
DPC				⇑	*i*PKP	PKPbc	06 42 31.9	-0.5
DPC					*e*PKPAB	PKPab	06 42 41.0	-0.5
DPC					*e*pPKP	pPKPbc	06 44 39.8	+2.6
DPC	**Dobruska-Polom**	**150.54**	**339**		*e*PKIKP	PKPdf	06 42 26.9	+0.5
DPC					*e*		06 42 41.0	
TKTP	**Tekketepe**	**150.56**	**306**		*i* P	PKPbc	06 42 31.6	-0.9
MORC	**Moravsky Berou**	**150.60**	**337**	⇓	*i*P	PKPbc	06 42 31.9	-0.6
MORC	**Moravsky Berou**	**150.60**	**337**		PKIKP	PKPbc	06 42 32.4	-0.1
MORC	**Moravsky Berou**	**150.60**	**337**		*e*PKPbc	PKPbc	06 42 31.7	-0.8
MORC					*e*PKPab	PKPab	06 42 41.0	-0.7
KWE	**Weaver Farm**	**150.66**	**2**		*e*P	PKPbc	06 42 31.3	-1.4
DRGR		**150.68**	**327**	⇓	*i*P	PKPbc	06 42 31.9	-0.8
DRGR		**150.68**	**327**		P	PKPbc	06 42 32.2	-0.5
CLL	**Collm**	**150.68**	**343**		*e*PKPbc	PKPbc	06 42 31.8	-0.9
CLL					*e*PKPab	PKPab	06 42 40.8	-1.3
CLL					*e*pPKPbc	pPKPbc	06 44 40.3	+2.7
CLL	**Collm**	**150.68**	**343**	⇓	*e*PKIKP	PKPdf	06 42 27.0	+0.4
CLL					pmax	pmax		
	comp=Z,2.0nm,0.9s							
CLL	**Collm**	**150.68**	**343**		*e*PKPdf	PKPdf	06 42 27.0	+0.4
	comp=Z,9.0nm,0.9s							
CLL				⇓	*i*PKPbc	PKPbc	06 42 31.9	-0.8
	comp=Z,144nm,0.8s							
CLL					*i* PKPab	PKPab	06 42 40.5	-1.6
	comp=Z,51nm,0.8s							
CLL					*e*pPKPdf	pPKPdf	06 44 35.0	+2.2
CLL					*i* pPKPbc	pPKPbc	06 44 39.5	+1.9
SBD1	**Bryn Du**	**150.69**	**4**		*e*P	PKPbc	06 42 31.4	-1.4
GDZ	**Gediz**	**150.79**	**309**		*i* P	PKPbc	06 42 32.0	-1.0
CLZ	**Clausthal**	**150.80**	**347**		*e*PKPdf	PKPdf	06 42 26.0	-0.8
CLZ					*e*PKPbc	PKPbc	06 42 32.2	-0.8
CLZ					*e*PKPab	PKPab	06 42 41.1	-1.5
BRG	**Berggiesshubel**	**150.81**	**342**		*e*PKPdf	PKPdf	06 42 26.1	-0.7
BRG					*e*PKPbc	PKPbc	06 42 32.3	-0.7
BRG					*e*PKPab	PKPab	06 42 41.8	-0.9
BRG					*e*pPKPbc	pPKPbc	06 44 40.9	+3.0
BRG	**Berggiesshubel**	**150.81**	**342**		*e*PKP	PKPdf	06 42 26.1	-0.7
	comp=Z,5.5nm,1.0s							
BRG	**Berggiesshubel**	**150.81**	**342**		*i* PKP	PKPbc	06 42 32.3	-0.7
	comp=Z,51nm,0.6s							
BRG	**Berggiesshubel**	**150.81**	**342**		*i* PKP	PKPab	06 42 41.7	-0.9
	comp=Z,16nm,0.9s							
BRG					*e*pPKP	pPKPbc	06 44 40.8	+2.9
	comp=Z,21nm,1.3s							
BRG					*e*PP	PP	06 46 13.9	-1.8
	comp=Z,4.4nm,1.3s							
BRG	**Berggiesshubel**	**150.81**	**342**		*e*PKIKP	PKPdf	06 42 26.1	-0.7
BRG					*i*		06 42 41.7	
BRG					*e*		06 46 13.9	
BRG					pmax	pmax		
	comp=Z,6.0nm,1.0s							
BRG					pmax	pmax		
	comp=Z,21nm,1.3s							
IBBN	**Ibbenburen**	**150.82**	**350**		*e*PKPbc	PKPbc	06 42 32.2	-0.8
IBBN					*e*PKPab	PKPab	06 42 41.5	-1.2
IBBN					*e*pPKPbc	pPKPbc	06 44 40.7	+2.8
FBE	**Freiberg**	**150.94**	**343**		*e*PKPdf	PKPdf	06 42 26.6	-0.4
FBE					*e*PKPbc	PKPbc	06 42 32.7	-0.6
FBE					*e*PKPab	PKPab	06 42 42.4	-0.8
PVCC	**Panska Ves**	**150.94**	**341**	⇑	*i*PKP	PKPbc	06 42 32.8	-0.5
PVCC					*e*pPKP	pPKPbc	06 44 41.1	+2.9
HLM1	**Long Mynd**	**151.10**	**4**		*e*P	PKPbc	06 42 32.0	-1.7
VYHS	**Vyhne**	**151.15**	**334**		*e*PKP	PKPbc	06 42 33.1	-0.7
VYHS					*e*		06 42 43.5	
VYHS					*e*		06 44 41.1	
VYHS	**Vyhne**	**151.15**	**334**		*e*PKIKP	PKPbc	06 42 33.1	-0.7
VYHS					*e*		06 42 43.5	
PSZ	**Piszkesteto**	**151.15**	**332**	⇑	*i*P	PKPbc	06 42 32.7	-1.1
PSZ	**Piszkesteto**	**151.15**	**332**		*e*PKPbc	PKPbc	06 42 32.7	-1.1
WTSB	**Winterswijk**	**151.29**	**351**	⇓	*e*PKiKP	PKiKP	06 42 33.0	-1.4
	comp=Z,122nm,0.5s							
VRAC	**Vranov**	**151.33**	**337**		PKPbc	PKPbc	06 42 33.5	-0.7
	comp=Z,12nm,0.6s,baz=79,slow=1.2,SNR=10							
VRAC					PKPab	PKPab	06 42 44.5	-0.3
	comp=Z,30nm,0.8s,baz=53,slow=2.8,SNR=17							
VRAC	**Vranov**	**151.33**	**337**	⇓	*i*P	PKPbc	06 42 33.6	-0.6
VRAC	**Vranov**	**151.33**	**337**	⇓	P	PKPbc	06 42 33.6	-0.6
GOLH	**Golhisar**	**151.40**	**305**		*i* P	PKPdf	06 42 30.3	+2.6
PRU	**Pruhonice**	**151.42**	**340**	⇑	*i*PKP	PKPbc	06 42 33.4	-1.0
PRU					*e*PKPAB	PKPab	06 42 44.2	-1.0
PRU					*e*pPKP	pPKPbc	06 44 41.3	+1.9
PRU	**Pruhonice**	**151.42**	**340**		*i* PKIKP	PKPbc	06 42 33.4	-1.0
PRU					*e*		06 42 44.2	
GZR	**Gura Zlata**	**151.60**	**325**	⇓	*i*P	PKPbc	06 42 33.8	-1.0
GZR	**Gura Zlata**	**151.60**	**325**		P	PKPbc	06 42 33.9	-0.9
MCH1	**Michaelchurch**	**151.62**	**4**		*e*P	PKPbc	06 42 33.4	-1.4
DNZL	**Cakiroluk**	**151.63**	**306**		*i* P	PKPab	06 42 41.7	-4.4
TANN	**Tannenbergstha**	**151.63**	**343**		*e*PKPdf	PKPdf	06 42 27.4	-0.6
TANN					*e*PKPbc	PKPbc	06 42 34.0	-0.9
TANN					*e*PKPab	PKPab	06 42 45.0	-1.1
TANN					*e*pPKPbc	pPKPbc	06 44 42.6	+2.7
MOX	**Moxa**	**151.64**	**345**		*e*PKPbc	PKPbc	06 42 33.8	-1.1
MOX					*e*PKPab	PKPab	06 42 45.0	-1.1
MOX					*e*pPKPbc	pPKPbc	06 44 42.7	+2.8
MOX	**Moxa**	**151.64**	**345**		*e*PKP	PKPbc	06 42 34.0	-0.9
	comp=Z,41nm,1.1s							
MOX					*e*		06 42 44.8	
MOX					*e*		06 44 41.7	
MOX	**Moxa**	**151.64**	**345**		*e*PKIKP	PKPbc	06 42 34.0	-0.9
MOX					*e*		06 42 44.8	
MOX					pmax	pmax		
	comp=Z,41nm,1.1s							
WERD	**Werda**	**151.65**	**344**		*e*PKPbc	PKPbc	06 42 33.9	-1.0
WERD					*e*PKPab	PKPab	06 42 45.0	-1.2
WERD					*e*pPKPbc	pPKPbc	06 44 42.7	+2.8
SMOL	**Smolenice**	**151.68**	**335**		*e*PKP	PKPab	06 42 45.7	-0.6
GUNZ	**Gunzen**	**151.72**	**343**		*e*PKPdf	PKPdf	06 42 27.6	-0.6
GUNZ					*e*PKPbc	PKPbc	06 42 34.4	-0.7
GUNZ					*e*PKPab	PKPab	06 42 45.4	-1.1
GUNZ					*e*pPKPbc	pPKPbc	06 44 43.2	+3.1
BUG	**Bochum--Univer**	**151.74**	**351**		*e*PKPbc	PKPbc	06 42 34.0	-1.1
WERN	**Wernitzgruen**	**151.77**	**343**		*e*PKPbc	PKPbc	06 42 34.6	-0.6
WERN					*e*PKPab	PKPab	06 42 45.8	-0.9
WERN					*e*pPKPbc	pPKPbc	06 44 43.4	+3.2
NKC	**Novy Kostel**	**151.80**	**343**		*e*PKPDF	PKPdf	06 42 27.3	-1.0
NKC				⇑	*i*PKP	PKPbc	06 42 34.5	-0.8
NKC					*e*PKPAB	PKPab	06 42 45.4	-1.5
NKC					*e*pPKP	pPKPbc	06 44 43.2	+2.9
NKC	**Novy Kostel**	**151.80**	**343**		*e*PKIKP	PKPdf	06 42 27.3	-1.0
NKC					*e*		06 42 45.4	
UBBA	**Unterbreizbach**	**151.84**	**347**		*e*PKPdf	PKPdf	06 42 27.1	-1.2
UBBA					*e*PKPbc	PKPbc	06 42 34.1	-1.2
UBBA					*e*PKPab	PKPab	06 42 45.3	-1.7
FETY	**Fethiye**	**151.97**	**304**		*e*P	PKPbc	06 42 35.0	-0.6
HGH	**Gray Hill**	**151.99**	**4**		*e*P	PKPbc	06 42 33.8	-1.9
BZS	**Buzias**	**152.04**	**327**	⇓	*i*P	PKPbc	06 42 34.7	-1.1
BZS	**Buzias**	**152.04**	**327**		P	PKPbc	06 42 35.0	-0.8
ZST	**Bratislava**	**152.07**	**335**		*e*PKP	PKPdf	06 42 28.9	+0.2
ZST					*e*		06 42 35.6	
ZST					*e*		06 42 47.8	
MANZ	**Manzenberg**	**152.12**	**343**		*e*PKPdf	PKPdf	06 42 28.2	-0.6
MANZ					*e*PKPbc	PKPbc	06 42 35.4	-0.5
MANZ					*e*PKPab	PKPab	06 42 47.4	-0.8
ROTZ	**Rotzenmuhle**	**152.29**	**343**		*e*PKPbc	PKPbc	06 42 35.5	-0.8
ROTZ					*e*PKPab	PKPab	06 42 48.2	-0.7
KHC	**Kasperske Hory**	**152.48**	**341**		*e*PKPDF	PKPdf	06 42 27.9	-1.4
KHC				⇑	*i*PKP	PKPbc	06 42 35.9	-0.8
KHC					*e*PKPAB	PKPab	06 42 48.8	-0.9
KHC					x	x	06 43 52.0	
KHC					*e*pPKP	pPKPbc	06 44 43.0	+1.2
KHC	**Kasperske Hory**	**152.48**	**341**		*e*PKIKP	PKPdf	06 42 27.9	-1.4
KHC					*e*		06 42 48.8	
KHC	**Kasperske Hory**	**152.48**	**341**		*e*PKP	PKPdf	06 42 27.9	-1.4
KHC					*i*		06 42 35.6	
KHC					*e*		06 42 48.8	
KHC					*e*		06 44 43.0	
HEX	**Exmoor**	**152.48**	**5**		*e*P	PKPbc	06 42 35.1	-1.6
HTL	**Hartland**	**152.49**	**6**		*e*P	PKPbc	06 42 35.5	-1.3
HTL					AMb	AMB	06 42 42.6	
	comp=Z,37nm,1.5s							
HGN	**Heimansgroeve**	**152.59**	**352**	⇓	*e*PKiKP	PKPab	06 42 48.2	-1.9
	comp=Z,34nm,0.9s							
GRA1					*e*PKPab	PKPab	06 42 49.6	-0.7
GRA1	**Grafenberg Arr**	**152.62**	**344**		*e*PKPbc	PKPbc	06 42 36.3	-0.7
GRF	**Grafenberg Arr**	**152.62**	**344**		*e*PKPbc	PKPbc	06 42 36.3	-0.7
GRF					*e*PKPab	PKPab	06 42 49.6	-0.7
GRF	**Grafenberg Arr**	**152.62**	**344**		*e*PKP2	PKPab	06 42 49.6	-0.7
KDAG	**Bornova**	**152.65**	**309**		*i* P	PKPbc	06 42 35.5	-1.6
WET	**Wettzell**	**152.67**	**342**		*e*PKPdf	PKPdf	06 42 28.8	-0.8
WET					*e*PKPbc	PKPbc	06 42 36.3	-0.9
WET					*e*PKPab	PKPab	06 42 49.7	-0.8
WET	**Wettzell**	**152.67**	**342**		*e*PKPdf	PKPdf	06 42 28.8	-0.8
WET					*e*PKPbc	PKPbc	06 42 36.3	-0.9
WET					*e*PKPab	PKPab	06 42 49.6	-0.9
GEC2	**GERESS Array S**	**152.69**	**340**		*e*PKPbc	PKPbc	06 42 36.2	-1.0
GEC2					*e*PKPab	PKPab	06 42 49.8	-0.8
GEC2	**GERESS Array S**	**152.69**	**340**		*e*PKP2	PKPab	06 42 49.8	-0.8
GEC2	**GERESS Array S**	**152.69**	**340**		*e*PKPdf	PKPdf	06 42 29.4	-0.1
GEC2					*e*PKPbc	PKPbc	06 42 36.3	-0.9
GEC2					*e*PKPab	PKPab	06 42 49.9	-0.8
GERES	**GERESS Array B**	**152.69**	**340**		PKP	PKPdf	06 42 28.6	-0.9
	comp=Z,1.4nm,0.7s,baz=0.0,slow=0.3,SNR=11							
GERES					PKPbc	PKPbc	06 42 36.3	-0.9
	comp=Z,9.8nm,0.8s,baz=48,slow=2.0,SNR=38							
GERES					PKPab	PKPab	06 42 49.4	-1.2
	comp=Z,3.1nm,0.6s,baz=46,slow=3.9,SNR=6.3							
GERES					pPKPbc	pPKPbc	06 44 38.6	-3.8
	comp=Z,1.1nm,0.7s,baz=298,slow=2.1,SNR=2.5							
GERES	**GERESS Array B**	**152.69**	**340**		PKIKP	PKPdf	06 42 28.6	-1.0
GERES							06 42 49.4	
TNS	**Taunus Mts**	**152.72**	**348**		*e*PKPbc	PKPbc	06 42 36.5	-0.8
TNS					*e*PKPab	PKPab	06 42 49.2	-1.5
TNS	**Taunus Mts**	**152.72**	**348**		*e*PKP2	PKPab	06 42 49.2	-1.5
MEM	**Membach**	**152.73**	**352**		PKPbc	PKPbc	06 42 36.3	-1.0
MEM					PKPab	PKPab	06 42 49.2	-1.6
CONA	**Conrad Observa**	**152.75**	**337**	⇓	*i*PKPdf	PKPdf	06 42 28.2	-1.5
	comp=Z,4.8nm,0.9s							
CONA				⇑	*i*PKiKP	PKiKP	06 42 37.1	-0.3
	comp=Z,18nm,0.8s							
CONA				⇑	*i*PKPab	PKPab	06 42 51.0	+0.1
	comp=Z,21nm,0.8s							
BCLA	**Clavier**	**153.00**	**353**		APKPbc		06 42 47.5	
BCLA					PKPab	PKPab	06 42 50.1	-1.9
PKSM	**Moragy**	**153.01**	**331**	⇑	*i*P	PKPbc	06 42 36.8	-1.1
PKSM	**Moragy**	**153.01**	**331**		P	PKPbc	06 42 37.2	-0.6
SNF	**Seneffe**	**153.02**	**354**		PKPbc	PKPbc	06 42 36.6	-1.3
SNF					PKPab	PKPab	06 42 50.5	-1.5
BDRM	**Kayabasi**	**153.04**	**306**		*i* P	PKPbc	06 42 38.2	-2.1
DAT	**Datca**	**153.07**	**305**		*e*P	PKPbc	06 42 36.6	-1.4
VTS	**Vitosha**	**153.15**	**320**	⇓	*i*P	PKPbc	06 42 37.6	-0.6
VTS	**Vitosha**	**153.15**	**320**		P	PKPbc	06 42 37.7	-0.4
MOA	**Molln**	**153.38**	**339**	⇑	*i*	PKPbc	06 42 37.9	-0.8
	comp=Z,10.0nm,0.9s							
MOA	**Molln**	**153.38**	**339**	⇓	*i*	PKPab	06 42 53.7	+0.1
	comp=Z,23nm,1.6s							
MOA	**Molln**	**153.38**	**339**	⇑	*i*PKPdf	PKPdf	06 42 29.3	-1.3
	comp=Z,5.9nm,1.2s							
MOA				⇑	*i*PKPbc	PKPbc	06 42 37.9	-0.8
	comp=Z,10.0nm,0.9s							
MOA				⇓	*i*PKPab	PKPab	06 42 53.7	+0.1
	comp=Z,23nm,1.6s							
DOU	**Dourbes**	**153.40**	**354**		PKPbc	PKPbc	06 42 37.7	-1.0
DOU					APKP		06 42 44.0	
DOU					PKPab	PKPab	06 42 51.8	-1.8
ARSA	**Arzberg**	**153.45**	**336**	⇑	*i*	PKPbc	06 42 39.1	+0.2
	comp=Z,3.2nm,0.6s							
ARSA	**Arzberg**	**153.45**	**336**	⇑	*i*	PKPab	06 42 53.2	-0.6
	comp=Z,16nm,0.9s							
ARSA	**Arzberg**	**153.45**	**336**	⇓	*i*PKPdf	PKPdf	06 42 28.5	-2.2
	comp=Z,4.2nm,1.0s							
ARSA				⇑	*i*PKiKP	PKiKP	06 42 39.1	+0.2
	comp=Z,3.2nm,0.6s							
ARSA				⇑	*i*PKPab	PKPab	06 42 53.2	-0.6
	comp=Z,16nm,0.9s							
WLF	**Walferdange**	**153.63**	**351**		*e*PKPdf	PKPdf	06 42 30.6	-0.3
WLF					*e*PKPbc	PKPbc	06 42 38.7	-0.5
WLF					*e*PKPab	PKPab	06 42 53.3	-1.3
WLF	**Walferdange**	**153.63**	**351**		PKPbc	PKPbc	06 42 38.6	-0.6
WLF					PKPab	PKPab	06 42 52.8	-1.8
KOGS	**Kog**	**153.84**	**334**	*i*	PKPbc	PKPbc	06 42 38.2	-1.4
KOGS				*i*	PKPab	PKPab	06 42 54.4	-1.1
FUR	**Furstenfeldbru**	**154.01**	**343**	*e*	PKPab	PKPab	06 42 55.5	-0.7
PERS	**Pernice**	**154.12**	**336**	*i*	PKPbc	PKPbc	06 42 38.1	-1.5
PERS				*i*	PKPab	PKPab	06 42 55.8	-1.0
KBA	**Koelnbreinsper**	**154.36**	**339**	*e*	PKPdf	PKPdf	06 42 30.7	-1.2
OBKA	**Obir**	**154.43**	**337**	⇓	*i*	PKPbc	06 42 39.4	-1.5
	comp=Z,4.7nm,0.8s							
OBKA	**Obir**	**154.43**	**337**	⇓	*i*	PKPab	06 42 57.3	-0.8
	comp=Z,13nm,0.8s							
OBKA	**Obir**	**154.43**	**337**	⇑	*i*PKPdf	PKPdf	06 42 30.4	-1.6
	comp=Z,3.4nm,0.9s							
OBKA				⇓	*i*PKPbc	PKPbc	06 42 39.4	-1.5
	comp=Z,4.7nm,0.8s							
OBKA				⇓	*i*PKPab	PKPab	06 42 57.3	-0.8
	comp=Z,13nm,0.8s							
BFO	**Black Forest**	**154.55**	**347**		*e*PKPdf	PKPdf	06 42 31.1	-1.1
BFO					*e*PKPbc	PKPbc	06 42 40.0	-1.1
BFO					*e*PKPab	PKPab	06 42 57.1	-1.5
CDF	**Champ du Feu**	**154.67**	**349**		*e*PKIKP	PKPdf	06 42 31.2	-1.2
WTTA	**Wattenberg**	**154.73**	**341**	⇑	*i*	PKPdf	06 42 40.9	+8.4
	comp=Z,13nm,0.6s							
WTTA	**Wattenberg**	**154.73**	**341**	⇑	*i*	PKPab	06 42 58.9	-0.4
	comp=Z,20nm,0.6s							
WTTA	**Wattenberg**	**154.73**	**341**	⇑	*i*PKPdf	PKPdf	06 42 31.7	-0.7
	comp=Z,5.8nm,0.5s							
WTTA				⇑	*i*PKPbc	PKPdf	06 42 40.9	+8.4
	comp=Z,13nm,0.6s							
WTTA				⇑	*i*PKPab	PKPab	06 42 58.9	-0.4
	comp=Z,20nm,0.6s							
MOTA	**Moosalm**	**154.81**	**342**	⇑	*i*	PKPdf	06 42 41.4	+8.9
	comp=Z,5.8nm,0.8s							
MOTA	**Moosalm**	**154.81**	**342**	⇑	*i*	PKPab	06 42 59.0	-0.7
	comp=Z,37nm,1.1s							
MOTA	**Moosalm**	**154.81**	**342**	⇑	*i*PKPdf	PKPdf	06 42 31.6	-1.0
	comp=Z,12nm,0.9s							
MOTA				⇑	*i*PKPdf	PKPdf	06 42 41.4	+8.9
	comp=Z,5.8nm,0.8s							
MOTA				⇑	*i*PKPab	PKPab	06 42 59.0	-0.7
	comp=Z,37nm,1.1s							
LJU	**Ljubljana**	**154.84**	**336**		*e*PKPdf	PKPdf	06 42 31.5	-1.1
LJU					*i* PKPbc	PKPdf	06 42 40.8	+8.2
LJU					*i* PKPab	PKPab	06 42 58.6	-1.2
SQTA	**Sankt Quirin**	**154.89**	**342**	⇑	*i*	PKPdf	06 42 41.1	+8.5
	comp=Z,5.3nm,0.6s							
SQTA	**Sankt Quirin**	**154.89**	**342**	⇓	*i*	PKPab	06 42 60.0	0.0
	comp=Z,15nm,0.7s							
SQTA	**Sankt Quirin**	**154.89**	**342**	⇑	*i*PKPdf	PKPdf	06 42 31.7	-1.0
	comp=Z,5.5nm,0.6s							
SQTA				⇑	*i*PKPdf	PKPdf	06 42 41.1	+8.5
	comp=Z,5.3nm,0.6s							
SQTA				⇓	*i*PKPab	PKPab	06 42 60.0	0.0
	comp=Z,15nm,0.7s							
FLN	**La Foliniere**	**154.95**	**1**		*e*PKIKP	PKPdf	06 42 31.3	-1.4
	comp=Z,25nm,0.8s							
BOJS	**Bojanci**	**155.01**	**334**		*i* PKPdf	PKPdf	06 42 32.0	-0.8
BOJS					*i* PKPbc	PKPdf	06 42 41.5	+8.6
BOJS					*i* PKPab	PKPab	06 42 59.5	-1.0
KRUS	**Krusevo**	**155.05**	**320**		*e*PKP	PKPdf	06 42 41.8	+8.9
LDF	**La Druitiere**	**155.13**	**0**		*e*PKIKP	PKPdf	06 42 31.5	-1.5
DAVA	**Damuels**	**155.18**	**344**	⇑	*i*	PKPab	06 43 00.6	-0.7
DAVA	**Damuels**	**155.18**	**344**	⇑	*i*PKPdf	PKPdf	06 42 32.5	-0.6
DAVA				⇑	*i*PKPab	PKPab	06 43 00.6	-0.7
GRR	**Gorron**	**155.32**	**2**		*e*PKIKP	PKPdf	06 42 31.8	-1.4
HINF	**Hinteralfeld**	**155.32**	**349**		*e*PKIKP	PKPdf	06 42 32.2	-1.0
SGMF	**Saint Gilles**	**155.37**	**4**		*e*PKIKP	PKPdf	06 42 31.8	-1.5
DAVOS	**Davos**	**155.62**	**344**		PKIKP	PKPdf	06 42 33.1	-0.5
DAVOS							06 42 42.4	
DAVOS							06 43 02.9	
IDI	**Anoyia**	**155.62**	**304**		PKP	PKPdf	06 42 32.4	-1.3
	comp=Z,7.7nm,0.9s,baz=171,slow=5.7,SNR=4.7							
DAVOX	**Davos**	**155.65**	**344**		PKP	PKPdf	06 42 33.1	-0.6
	comp=Z,4.9nm,0.7s,baz=122,slow=0.9,SNR=6.9							
DAVOX					PKPbc	PKPdf	06 42 42.4	+8.7
	comp=Z,7.7nm,0.6s,baz=82,slow=4.0,SNR=8.0							
DAVOX					PKPab	PKPab	06 43 02.9	-0.5
	comp=Z,23nm,0.6s,baz=4.4,slow=3.5,SNR=16							
LOR	**Lormes**	**156.27**	**354**		*e*PKIKP	PKPdf	06 42 33.4	-1.1
	comp=Z,14nm,0.8s							
SSF	**Saint Saulge**	**156.51**	**354**		*e*PKIKP	PKPdf	06 42 33.7	-1.1
	comp=Z,21nm,1.0s							
CABF	**La Chapelle**	**156.62**	**350**		*e*PKIKP	PKPdf	06 42 34.2	-0.7
	comp=Z,24nm,0.8s							
AVF	**Avril sur Loir**	**156.79**	**354**		*e*PKIKP	PKPdf	06 42 33.7	-1.4
	comp=Z,12nm,1.0s							
SMF	**Signal de Mont**	**156.89**	**354**		*e*PKIKP	PKPdf	06 42 33.9	-1.4
	comp=Z,16nm,1.0s							
BGF	**Bois d'Agland**	**157.06**	**355**		*e*PKIKP	PKPdf	06 42 34.5	-1.0
MFF	**Saint Martin d**	**157.12**	**1**		*e*PKIKP	PKPdf	06 42 34.5	-1.1
TCF	**Toulx Ste Croi**	**157.38**	**356**		*e*PKIKP	PKPdf	06 42 34.8	-1.1
	comp=Z,23nm,1.0s							
LPL	**La Plagne**	**157.56**	**348**		*e*PKIKP	PKPdf	06 42 35.5	-0.6
LPG	**La Plagne**	**157.58**	**348**		*e*PKIKP	PKPdf

WB2	**Warramunga Arr**	**47.21 262**	*e*P	P	06 39 11.6	-0.4		
WRA	**Warramunga Arr**	**47.22 262**	P	P	06 39 11.9	-0.2		
	1.3nm,0.3s,baz=94,slow=8.3,SNR=24							
FITZ	**Fitzroy Crossi**	**55.65 262**	P	P	06 40 16.6	+1.4		
	3.2nm,1.0s,baz=79,slow=8.0,SNR=4.3							
VNDA	**Vanda**	**57.04 186**	LR	LR	07 00 12.0			
	comp=Z,93nm,21.6s,baz=156,slow=31							

CASC 07 06:36:49.4±2.4, 1165N×8580W, h6km±7km, MD3.6, ML3.0, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.19**	**116**	*e*P		Pg	06 36 53.8	+0.6
MADN	**Villa Maderas**	**0.35**	**132**	*e*P		Pg	06 36 56.5	+0.2
SSNN	**San Juan del S**	**0.36**	**188**	*e*P		Pg	06 36 56.9	+0.5
TICN	**Ticuantepe**	**0.57**	**312**	*e*P		Pg	06 37 01.0	+0.6
MGAN	**Managua**	**0.66**	**319**	*e*P		Pg	06 37 02.3	+0.2
MGAN				*e*S		Sg	06 37 12.3	+1.6
MGAN				*i*			06 37 12.9	
	comp=N,502nm,0.2s							
TISN	**Laguna Tiscapa**	**0.67**	**317**	*e*P		Pg	06 37 02.8	+0.4
XAVN	**Gruta Xavier**	**0.72**	**314**	*e*P		Pg	06 37 03.6	+0.4
COPN	**Copaltepe**	**0.94**	**304**	*e*P		Pg	06 37 07.4	0.0
MOMJ	**Momotombo**	**1.05**	**316**	*e*P		Pg	06 37 08.5	-1.0
MIRN	**Miramar**	**1.19**	**311**	*e*		Pg	06 37 11.2	-1.0
MIRN				*e*P			06 37 11.2	
CNGN	**Cerro Negro**	**1.22**	**314**	*e*P		Pg	06 37 09.9	-2.9
VCR	**Vista de Mar**	**1.52**	**174**	*e*P		Pn	06 37 16.4	-0.8
JCR	**Jicaral**	**1.91**	**159**⇑	*e*P		Pn	06 37 22.3	-0.1
JCR				*e*S		Sn	06 37 47.9	+1.1
PRS1	**Puriscal**	**2.21**	**138**	*e*P		Pn	06 37 26.3	-0.2
PRS1				*e*S		Sn	06 37 58.0	+3.9

IDC 07 07:04:27.0±4.7, 2156S×17885W, h571km±55km, mb2.8/4, mb1 3.2/6, mb1mx2.9/14, mbtmp2.9/6, Error ellipse: s-maj=41.1km s-min=27.5km az=1.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.67**	**265**	P		P	07 07 22.6	0.0
	0.2nm,0.3s,baz=90,slow=19,SNR=5.6							
URZ	**Urewera**	**17.00**	**191**	P		P	07 07 54.4	-0.3
	0.9nm,0.3s,baz=294,slow=4.8,SNR=5.0							
ASAR	**Alice Springs**	**43.51**	**258**	P		P	07 11 41.5	+0.8
	0.6nm,0.5s,baz=92,slow=7.9,SNR=10							
ASAR				PcP		PcP	07 13 16.4	+0.8
	0.2nm,0.5s,baz=97,slow=3.8,SNR=4.2							
WRA	**Warramunga Arr**	**43.68**	**263**	P		P	07 11 42.0	-0.1
	0.5nm,0.3s,baz=95,slow=7.7,SNR=13							
TXAR	**Lajitas Array**	**88.29**	**58**	P		P	07 16 19.0	+0.7
	0.4nm,1.0s,baz=354,slow=34,SNR=5.2							
PDAR	**Pinedale Array**	**90.28**	**44**	P		P	07 16 28.0	+0.5
	0.2nm,0.7s,baz=266,slow=3.6,SNR=3.7							
ARCES	**ARCESS Array B**	**129.81**	**349**	PKP		PKPdf	07 22 30.4	-1.7
	2.8nm,0.9s,baz=52,slow=1.5,SNR=5.9							
AKASG	**Malin Array Be**	**143.54**	**330**	PKP		PKPdf	07 22 55.1	-2.1
	1.9nm,0.5s,baz=41,slow=4.0,SNR=9.0							
GERES	**GERESS Array B**	**150.99**	**343**	PKPbc		PKPbc	07 23 15.8	-0.1
	0.3nm,0.3s,baz=16,slow=6.1,SNR=4.2							

*ISCJB **07** 07:49:57.4±1.1, 449S±005×8096W±007, h57km±11km, mb4.2/17, MS4.1/7, Error ellipse: s-maj=12.9km s-min=7.0km az=140.1*
*BJI **07** 07:49:57.4, 3965S×8047W, h36km, mB5.1, Ms5.2, Msz4.7*
*IDC **07** 07:49:58.8±2.8, 439S×8071W, h50km±28km, mb3.7/11, mb1 4.0/15, mb1mx3.9/23, mbtmp3.9/15, ML4.4/4, MS3.9/6, Ms1 3.9/6, ms1mx3.7/31, Error ellipse: s-maj=28.5km s-min=15.5km az=57.0*
*NEIC **07** 07:49:58.7±0.4, 445S×8084W, mb4.6/11, MD4.5(IGQ), Error ellipse: s-maj=12.5km s-min=6.5km az=57.0*
NEIC Felt [III] at Talara, Peru. Felt lightly at Cariamanga, Ecuador.

ISC 07 07:49:59.3±0.9, 448S±006×8089W±008, h53km±10km, n50, σ1§10/41, mb4.2/17, MS4.1/7, 1C, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.53**	**135**	P		Pn	07 50 52.7	+1.1
	38nm,0.3s,baz=326,slow=8.9,SNR=96							
ATAH				S		Sn	07 51 38.4	+6.4
	107nm,0.3s,baz=347,slow=23,SNR=6.6							
ATAH				LR		LR	07 52 15.1	
	comp=Z,3μm,18.9s,baz=137,slow=38							
OTAV	**Otavalo**	**5.28**	**28**	*e*Pn		Pn	07 51 14.6	-1.0
	128nm,0.8s							
OTAV				*e*Sn		Sn	07 52 18.5	+3.5
NNA	**Nana**	**8.47**	**152**	P		Pn	07 51 57.8	-1.5
	4.3nm,0.3s,baz=339,slow=10,SNR=12							
NNA				S		Sn	07 53 38.2	+4.7
	10nm,0.3s,baz=254,slow=22,SNR=4.0							
NNA	**Nana**	**8.47**	**152**	*e*Pn		Pn	07 51 59.6	+0.4
	48nm,0.6s							
NNA				*e*Sn		Sn	07 53 41.7	+8.3
PAYG	**Puerto Ayora**	**10.12**	**292**	*e*Pn		Pn	07 52 20.3	-1.5
PAYG				*e*Sn		Sn	07 54 05.7	-8.0
ARE	**Arequipa**	**15.07**	**143**	P		Pn	07 53 30.0	+1.2
SDV	**Santo Domingo**	**16.76**	**38**	P		Pn	07 53 49.5	-0.7
	2.5nm,0.3s,baz=236,slow=11,SNR=41							
SDV	**Santo Domingo**	**16.76**	**38**	*e*P		Pn	07 53 51.5	+1.2
	36nm,0.7s							
LPAZ	**La Paz**	**17.17**	**134**	P		Pn	07 53 55.1	-0.2
	0.3nm,0.3s,baz=324,slow=14,SNR=10.0							
LPAZ	**La Paz**	**17.17**	**134**	*e*P		Pn	07 53 56.3	+0.9
	16nm,0.6s							
TGUH	**Tegucigalpa,Un**	**19.47**	**341**	*e*P		Pn	07 54 23.1	-0.1
	37nm,1.1s							
LVC	**Limon Verde**	**21.44**	**148**	P		P	07 54 43.6	+0.8
	14nm,0.9s,mb4.3,baz=307,slow=8.7,SNR=18							
LVC	**Limon Verde**	**21.44**	**148**	*e*P		P	07 54 43.6	+0.8
	15nm,0.9s,mb4.3							
PCRV	**Puerto La Cruz**	**21.77**	**48**	P		P	07 54 44.1	-2.4
	46nm,1.1s,mb4.8,baz=160,slow=5.0,SNR=3.8							
PCRV				LR		LR	08 04 08.9	
	comp=Z,891nm,20.2s,MS4.2,baz=241,slow=39							
SIV	**San Ignacio**	**22.58**	**122**	P		P	07 54 53.6	-1.5
	3.2nm,0.6s,mb4.0,baz=298,slow=10,SNR=17							
CMIG	**Matias Romero**	**25.50**	**328**	LR		LR	08 03 10.9	
	comp=Z,275nm,21.2s,MS3.8,baz=97,slow=31							
CFAA	**Coronel Fontan**	**29.49**	**158**	P		P	07 55 58.1	-0.1
	0.4nm,1.0s,mb3.1,baz=334,slow=8.4,SNR=3.5							
CFAA				LR		LR	08 05 51.4	
	comp=Z,58nm,20.7s,MS3.2,baz=349,slow=32							
TXAR	**Lajitas Array**	**40.10**	**328**	P		P	07 57 30.0	+0.4
	0.4nm,1.0s,mb3.1,baz=104,slow=7.5,SNR=2.4							
TXAR				PcP		PcP	07 59 33.5	+0.1
	1.5nm,1.0s,baz=123,slow=4.6,SNR=5.1							
TXAR	**Lajitas Array**	**40.10**	**328**	P		P	07 57 30.0	+0.4
TXAR				PcP		PcP	07 59 33.5	+0.1
ANMO	**Albuquerque**	**46.01**	**330**	P		P	07 58 18.1	+0.8
	0.6nm,0.5s,mb3.8,baz=190,slow=2.3,SNR=4.1							
ANMO	**Albuquerque**	**46.01**	**330**	*e*P		P	07 58 17.8	+0.5
	5.1nm,1.0s,mb4.4							
SDCO	**Great Sand Dun**	**47.83**	**334**	*e*P		P	07 58 33.0	+1.4
	35nm,2.1s,mb5.0							
DAU	**Daniels Canyon**	**52.64**	**331**	*e*P		P	07 59 09.6	+1.7
HWUT	**Hardware Ranch**	**53.72**	**332**	*e*P		P	07 59 15.4	-0.4
	18nm,1.5s,mb4.8							
PDAR	**Pinedale Array**	**53.72**	**334**	P		P	07 59 15.1	-0.8
	1.1nm,0.9s,mb3.8,baz=114,slow=7.2,SNR=7.4							
NVAR	**Mina Array Bea**	**54.97**	**324**	P		P	07 59 26.3	+1.4
	1.8nm,1.1s,mb4.0,baz=152,slow=4.1,SNR=9.5							
RKT	**Rikitea**	**55.34**	**245**	*e*LR		LR	08 15 00.3	
	248nm,25.2s							
RKT	**Rikitea**	**55.34**	**245**	*e*T			08 58 34.9	
	6.0nm,0.2s							
ULM	**Lac du Bonnet**	**56.02**	**348**	P		P	07 59 31.2	-1.3
	4.2nm,0.8s,mb4.5,baz=185,slow=8.7,SNR=4.9							
ULM	**Lac du Bonnet**	**56.02**	**348**	P		P	07 59 31.2	-1.3
QLMT	**Earthquake Lak**	**56.18**	**334**	*e*P		P	07 59 34.8	+1.2
HLID	**Hailey**	**56.57**	**331**	*e*P		P	07 59 37.0	+0.6
	6.7nm,1.4s,mb4.5							
SCHQ	**Scheffervill e**	**60.24**	**9**	LR		LR	08 26 46.3	
	comp=Z,139nm,20.9s,MS4.1,baz=274,slow=37							
WALA	**Waterton Lakes**	**60.56**	**336**	*e*P		P	08 00 04.4	+0.3
	6.9nm,0.9s,mb4.8							
WALA				*e*pP		pP	08 00 19.6	+0.9
EDM	**Edmonton**	**63.65**	**339**	*e*P		P	08 00 23.4	-1.4
PMOR	**Pomariorio Ree**	**66.65**	**256**	*e*T			09 12 45.9	
	2.0nm,0.3s							
PPT	**Papeete**	**68.35**	**253**	*e*LR		LR	08 21 06.3	
	153nm,27.8s							
YKA	**Yellowknife Ar**	**71.55**	**344**	LR		LR	08 34 36.6	
	comp=Z,99nm,21.2s,MS4.0,baz=205,slow=37							
SNAA	**Sanae**	**82.02**	**162**	*e*P		P	08 02 12.0	-1.7
	6.1nm,0.8s,mb4.6							
SNAA				*e*pP		pP	08 02 25.3	-3.5
ESDC	**Sonseca Array**	**82.83**	**49**	P		P	08 02 18.2	+0.3
	0.3nm,0.3s,mb3.8,baz=270,slow=4.6,SNR=10							
TOA0	**Torodi Ar. Sit**	**83.81**	**76**	*e*P		P	08 02 22.2	-0.7
TORD	**Torodi Ar. Bea**	**83.81**	**76**	P		P	08 02 22.4	-0.5
	1.1nm,0.4s,mb4.3,baz=276,slow=5.4,SNR=26							
TSUM	**Tsumeb**	**96.52**	**110**	*e*P		P	08 03 23.5	+0.5
	3.3nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**129.32**	**11**	PKP		PKPdf	08 09 01.2	-0.5
	1.4nm,0.9s,baz=170,slow=1.9,SNR=8.1							
MKAR	**Makanchi Array**	**135.40**	**16**	PKP		PKPdf	08 09 11.8	-1.3
	0.3nm,0.7s,baz=52,slow=2.0,SNR=3.8							
GTA	**Gaotai**	**145.22**	**359**	⇑PKP		PKPdf	08 09 29.8	-1.1
GTA				APKP			08 09 42.2	
GTA				XPKP			08 09 48.6	
GTA				LR		LR		
	comp=N,164nm,13.4s,MS5.1							
GTA				LR		LR		
	comp=E,149nm,12.6s,MS5.1							
GTA				LR		LR		
	comp=Z,148nm,13.0s,MS5.0							
LZH	**Lanzhou**	**148.24**	**353**	*e*PKP		PKPdf	08 09 40.2	+4.3
XAN	**Xi'an**	**149.20**	**344**	PKP		PKPdf	08 09 40.6	+3.1
XAN				APKP			08 09 51.6	
CD2	**Chengdu**	**153.34**	**351**	*e*PKP		PKPdf	08 09 44.4	+0.6
KMI	**Kunming**	**159.18**	**351**	PKP		PKPdf	08 09 52.7	+1.3
KMI				APKP			08 10 03.9	
KMI				XPKP			08 10 09.9	
KMI				PP		PP	08 14 12.2	+2.6
KMI				SS		SS	08 34 10.4	0.0
KMI				PP		PP		
	comp=Z,121nm,7.4s							
KMI				LR		LR		
	comp=Z,117nm,21.7s,MS4.7							

*ISCJB **07** 08:03:44.0±0.6, 2744S±0.10×133W±0.1, h10km, mb4.1/15, Error ellipse: s-maj=16.5km s-min=13.3km az=57.4*
*IDC **07** 08:03:44.0±0.7, 2749S×1333W, h0km, mb4.0/11, mb1 4.0/11, mb1mx3.9/20, mbtmp4.0/11, Error ellipse: s-maj=21.6km s-min=19.1km az=159.0*
*NEIC **07** 08:03:45.7±0.5, 2741S×1327W, h10km, mb4.5/7, Error ellipse: s-maj=16.0km s-min=13.1km az=134.0*

ISC 07 08:03:45.8±0.6, 2747S±010×133W±01, h10km, n22, σ0§83/20, mb4.1/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.46**	**80**	P		P	08 09 47.4	-2.3
	2.0nm,0.6s,mb4.0,baz=270,slow=20,SNR=3.5							
BOSA	**Boshof**	**33.94**	**101**	P		P	08 10 29.6	+0.5
	4.4nm,0.8s,mb4.4,baz=256,slow=1.5,SNR=5.9							
BOSA	**Boshof**	**33.94**	**101**	*e*P		P	08 10 30.1	+1.0
	4.9nm,0.9s,mb4.4							
LBTB	**Lobatse**	**34.87**	**95**	P		P	08 10 38.0	+0.8
	2.6nm,0.6s,mb4.3,baz=280,slow=9.6,SNR=5.4							
LBTB	**Lobatse**	**34.87**	**95**	*e*P		P	08 10 45.0	+7.8
	19nm,1.1s,mb4.9							
LSZ	**Lusaka**	**40.30**	**81**	P		P	08 11 24.6	+1.5
	2.0nm,0.7s,mb4.0,baz=94,slow=19,SNR=3.8							
TORD	**Torodi Ar. Bea**	**42.91**	**22**	P		P	08 11 43.6	-0.9
	1.8nm,0.9s,mb3.8,baz=203,slow=7.9,SNR=7.5							
VNA2	**Neumayer--Watz**	**43.62**	**177**	*e*		P	08 11 50.2	-0.1
	baz=343,slow=8.8							
VNA2				*e*			08 11 57.6	
VNA2				*e*			08 12 01.9	
SNAA	**Sanae**	**44.62**	**175**	P		P	08 11 57.1	-1.2
	0.5nm,0.9s,mb3.3,baz=347,slow=6.3,SNR=4.2							
SNAA	**Sanae**	**44.62**	**175**	*e*P		P	08 11 58.7	+0.4
	4.3nm,1.2s,mb4.2							
SIV	**San Ignacio**	**45.59**	**274**	P		P	08 12 06.4	+0.5
	0.8nm,0.8s,mb3.7,baz=114,slow=14,SNR=3.7							
CFAA	**Coronel Fontan**	**47.57**	**251**	P		P	08 12 21.4	-0.1
	0.2nm,0.8s,mb3.2,baz=0.0,slow=6.1,SNR=2.7							
MAW	**Mawson**	**59.65**	**154**	P		P	08 13 49.5	-0.6
	2.9nm,0.9s,mb4.3,baz=298,slow=9.1,SNR=7.5							
MAW	**Mawson**	**59.65**	**154**	*e*P		P	08 13 50.1	0.0
	4.4nm,0.8s,mb4.5							
MDT	**Midelt**	**60.52**	**8**	P		P	08 13 56.6	+0.6
	2.6nm,0.9s,mb4.4,baz=200,slow=3.2,SNR=5.3							
QSPA	**South Pole Qui**	**62.75**	**180**	*e*P		P	08 14 11.4	+0.3
	7.9nm,0.8s,mb4.9							
SBA	**Scott Base**	**74.92**	**180**	*e*P		P	08 15 27.0	+0.1
	4.2nm,0.8s,mb4.4							
VNDA	**Vanda**	**75.21**	**179**	*e*P		P	08 15 28.2	-0.3
	2.1nm,0.8s,mb4.1							
BRTR	**Keskin Array B**	**79.87**	**35**	P		P	08 15 55.2	+0.6
	2.5nm,0.9s,mb4.1,baz=188,slow=7.5,SNR=6.6							
AKASG	**Malin Array Be**	**86.42**	**26**	P		P	08 16 27.7	-0.7
	0.3nm,0.2s,mb4.1,baz=226,slow=5.1,SNR=5.0							
ASAR	**Alice Springs**	**120.10**	**145**	PKP		PKPdf	08 22 36.4	-0.4
	1.2nm,0.9s,baz=196,slow=3.7,SNR=8.3							
KSRS	**Korea Array**	**146.00**	**63**	PKPbc		PKPbc	08 23 24.8	-1.0
	4.2nm,1.0s,baz=263,slow=5.5,SNR=5.5							

*ISCJB **07** 08:03:46.5±2.8, 485S±02×1508E±02, h57km±19km, mb4.3/6, Error ellipse: s-maj=45.2km s-min=22.6km az=85.3*
*IDC **07** 08:03:53.8±3.0, 497S×15059E, h98km±22km, mb4.2/4, mb1 4.3/6, mb1mx3.8/15, mbtmp4.2/6, Error ellipse: s-maj=58.8km s-min=20.4km az=131.0*
*NEIC **07** 08:03:54.2±5.2, 5.10S×15081E, h108km±31km, mb4.2/5, Error ellipse: s-maj=48.5km s-min=30.0km az=222.0*

ISC 07 08:03:52.4±2.4, 50S±02×1508E±02, h93km±16km, n17, σ0§79/19, mb4.2/6, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.69**	**219**	P		Pn	08 05 14.4	0.0
	19nm,0.3s,baz=46,slow=7.0,SNR=40							
PMG				S		Sn	08 06 18.2	-0.1
	27nm,0.3s,baz=268,slow=18,SNR=12							
CTA	**Charters Tower**	**15.67**	**196**	*e*P		Pn	08 07 28.5	+0.7
	4.3nm,0.8s							
CTA	**Charters Tower**	**15.67**	**196**	P		Pn	08 07 27.2	-0.5
	0.2nm,0.3s,baz=42,slow=12,SNR=8.3							
CTAO	**Charters Tower**	**15.67**	**196**	*e*P		Pn	08 07 28.3	+0.5
	6.3nm,0.8s							
KAKA	**Kakadu**	**19.68**	**246**⇑	*i*P		Pn	08 08 16.4	+0.1
	11nm,0.4s							
WRAB	**Tennant Creek**	**21.84**	**226**	*e*P		P	08 08 36.9	-0.4
	7.2nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**21.85**	**226**⇑	*i*P		P	08 08 37.2	-0.1
WB2				*e*S		S	08 12 33.9	+0.5
WRA	**Warramunga Arr**	**21.86**	**226**	P		P	08 08 37.1	-0.3
	4.4nm,0.4s,mb4.1,baz=50,slow=10,SNR=72							
WRA				S		S	08 12 33.1	-0.5
	1.5nm,0.9s,baz=53,slow=19,SNR=5.9							
AS31	**Alice Springs**	**24.70**	**220**	*e*P		P	08 09 06.1	+1.3
ASAR	**Alice Springs**	**24.71**	**220**	P		P	08 09 04.8	0.0
	7.4nm,0.6s,mb4.3,baz=56,slow=8.8,SNR=75							
ASPA	**Alice Springs**	**24.71**	**220**	*e*P		P	08 09 06.1	+1.3
FITZ	**Fitzroy Crossi**	**27.82**	**240**	*e*P		P	08 09 32.0	-0.9
	20nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**27.82**	**240**	P		P	08 09 32.1	-0.7
	5.4nm,0.4s,mb4.5,baz=76,slow=5.8,SNR=28							
STKA	**Stephens Creek**	**28.13**	**197**	P		P	08 09 32.5	-3.1
	2.6nm,0.9s,mb3.8,baz=37,slow=13,SNR=3.6							
STKA	**Stephens Creek**	**28.13**	**197**	P		P	08 09 32.5	-3.1
MAW	**Mawson**	**84.65**	**203**	P		P	08 16 15.7	0.0
	2.4nm,0.6s,mb4.3,baz=214,slow=17,SNR=7.5							
TORD	**Torodi Ar. Bea**	**148.43**	**287**	PKPbc		PKPbc	08 23 29.8	+1.7
	0.3nm,0.5s,baz=53,slow=2.1,SNR=4.7							

*ISCJB **07** 08:08:40.4±0.6, 276S±0.1×133W±0.1, h10km, mb4.0/12, MS4.3/5, Error ellipse: s-maj=17.2km s-min=13.9km az=114.7*
*GCMT **07** 08:08:40.0±0.3, 2752S×1333W, h12km, MW4.9/51, Moment Tensor Solution. s18,c23; s51,c70; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.10±.12; Mθθ=0.31±.13; Mϕϕ 2.41±.08; Mrθ 0.52±.49; Mθϕ=0.41±.09; Mϕr=0.04±.30; Best double couple: M=2.35900×10^16 NP1: ϕs=337.00000°, δ48.00000°, λ-111.00000°. NP2: ϕs=83.00000°, δ48.00000°, λ-69.00000°. Principal axes: T 2.4740, Plg1.0000°, Azm81.0000°; N -0.2270, Plg15.0000°, Azm351.0000°; P -2.2430, Plg75.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 08:08:40.7±0.8, 2759S×1326W, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/20, mbtmp3.9/12, MS4.4/5, Ms1 4.4/5, ms1mx3.8/31 Error ellipse: s-maj=23.0km s-min=19.1km az=145.0*
*NEIC **07** 08:08:42.0±0.6, 2757S×1327W, h10km, Error ellipse: s-maj=18.9km s-min=13.7km az=162.0*

ISC 07 08:08:42.4±0.6, 276S±01×133W±01, h10km, n17, σ0§80/13, mb3.9/12, MS4.3/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.46**	**80**	P		P	08 14 46.8	+0.5
	1.2nm,0.7s,mb3.8,baz=236,slow=22,SNR=2.6							
TSUM				LR		LR	08 24 49.5	
	comp=Z,653nm,18.3s,MS4.3,baz=319,slow=33							
SUR	**Sutherland**	**29.81**	**108**	LR		LR	08 24 08.0	
	comp=Z,599nm,20.6s,MS4.2,baz=206,slow=31							
BOSA	**Boshof**	**33.89**	**101**	P		P	08 15 25.1	-0.2
	2.2nm,0.7s,mb4.2,baz=273,slow=13,SNR=3.1							
BOSA				LR		LR	08 26 53.1	
	comp=Z,733nm,19.6s,MS4.4,baz=275,slow=32							
LBTB	**Lobatse**	**34.84**	**95**	P		P	08 15 33.9	+0.4
	8.8nm,0.8s,mb4.7,baz=290,slow=12,SNR=5.5							
LSZ	**Lusaka**	**40.31**	**81**	P		P	08 16 20.2	+0.4
	1.5nm,0.5s,mb4.0,baz=209,slow=12,SNR=4.2							
TORD	**Torodi Ar. Bea**	**43.05**	**22**	P		P	08 16 40.6	-1.6
	1.3nm,0.9s,mb3.6,baz=198,slow=7.0,SNR=7.4							
VNA2	**Neumayer--Watz**	**43.47**	**177**	*e*		P	08 16 45.9	+0.3
	baz=339,slow=11							
VNA2				*e*			08 16 52.2	
VNA2				*e*			08 16 59.5	
VNA2				*e*			08 17 03.2	
SNAA	**Sanae**	**44.47**	**175**	P		P	08 16 51.5	-2.2
	1.5nm,1.2s,mb3.6,baz=346,slow=7.2,SNR=4.8							
SIV	**San Ignacio**	**45.62**	**274**	P		P	08 17 03.1	+0.3
	1.1nm,1.0s,mb3.8,baz=115,slow=15,SNR=4.1							
CFAA	**Coronel Fontan**	**47.54**	**251**	P		P	08 17 18.1	+0.2
	0.5nm,0.9s,mb3.5,baz=63,slow=6.8,SNR=2.7							
LPAZ	**La Paz**	**51.76**	**271**	LR		LR	08 38 08.6	
	comp=Z,228nm,19.1s,MS4.2,baz=114,slow=34							
MAW	**Mawson**	**59.50**	**154**	P		P	08 18 45.6	0.0
	3.0nm,1.0s,mb4.3,baz=284,slow=7.0,SNR=3.6							
KEST	**Kesra**	**66.53**	**20**	P		P	08 19 32.9	+0.5
	0.7nm,0.5s,mb3.9,baz=51,slow=5.4,SNR=4.4							
VNDA	**Vanda**	**75.06**	**179**	P		P	08 20 25.2	+0.9
	2.1nm,1.1s,mb4.0,baz=201,slow=4.8,SNR=5.9							
BRTR	**Keskin Array B**	**79.98**	**35**	P		P	08 20 52.0	+0.1
	1.3nm,0.9s,mb3.9,baz=206,slow=6.3,SNR=2.9							
WSAR	**Wadi Sarin**	**85.83**	**61**	LR		LR	08 59 12.4	
	comp=Z,245nm,20.6s,MS4.6,baz=242,slow=35							
KSRS	**Korea Array**	**146.05**	**63**	PKPbc		PKPbc	08 28 22.0	-0.5
	2.1nm,0.8s,baz=268,slow=4.5,SNR=4.4							

*NSSP **07** 08:08:52.8, 4182N×4590E, h12km, ML3.5*
*ISCJB **07** 08:08:53.4±0.3, 4203N±002×4584E±002, h10km, Error ellipse: s-maj=2.9km s-min=2.0km az=141.5*
*MOS **07** 08:08:54.3±2.0, 4199N×4587E, h13km, mb4.5/1, Error ellipse: s-maj=6.1km s-min=5.7km az=77.5*
*CSEM **07** 08:08:54.1±0.2, 4198N×4582E, h2km, mb4.5, Error ellipse: s-maj=4.0km s-min=2.9km az=162.0*

ISC 07 08:08:54.3±0.3, 4201N±002×4585E±002, h10km, n56, σ1§49/87, 1C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.66**	**213**	*e*Pg		Pg	08 09 07.1	0.0
BTLR	**Botlikh**	**0.71**	**23**	*e*Pg		Pg	08 09 05.5	-2.5
BTLR				*e*S		Sg	08 09 16.5	-0.8
BTLR	**Botlikh**	**0.71**	**23**	*e*Sg		Sg	08 09 16.5	-0.8
XNZR	**Khunzakh**	**0.83**	**50**⇓	*i*PG		Pg	08 09 06.0	-4.3
XNZR				pmax		pmax		
	comp=Z,225nm,0.7s							
MTA	**Mtatsminda**	**0.85**	**249**	*e*Pg		Pg	08 09 08.8	-1.8
DUS	**Dusheti**	**0.86**	**276**	P		Pg	08 09 10.2	-0.6
DUS				S		Sg	08 09 22.2	+0.2
TBLG	**Delisi**	**0.87**	**252**	*e*Pg		Pg	08 09 10.2	-0.9
GNBR	**Gunib**	**0.91**	**65**	*i*PG		Pg	08

KORR	**Kora**	**1.70**	**310**	*i* Pn		**Pn**		**08 09 25.2**	**+1.2**
KORR				*i* Sg		**Sg**		**08 09 48.4**	**-0.5**
BAW	**Bavra**	**1.77**	**241**	P		**Pn**		**08 09 28.0**	**+3.0**
BAW				S		**Sn**		**08 09 49.0**	**+1.4**
KMSR	**Komsomolskaya**	**1.78**	**320**	*e*PN		**Pn**		**08 09 27.1**	**+2.0**
KMSR				*e*S		**Sg**		**08 09 51.6**	**+0.1**
KMSR	**Komsomolskaya**	**1.78**	**320**	*e*Sg		**Sg**		**08 09 51.6**	**+0.1**
DRN	**Derbent**	**1.85**	**89**	*e*PN		**Pn**		**08 09 29.0**	**+3.0**
DRN				*i* S		**Sg**		**08 09 55.0**	**+1.3**
DRN	**Derbent**	**1.85**	**89**	*i* Sg		**Sg**		**08 09 55.0**	**+1.3**
KAMZ	**Kamo**	**1.85**	**231**	P		**Pn**		**08 09 25.1**	**-1.0**
ONI	**Oni**	**1.87**	**289**	P		**Pn**		**08 09 27.0**	**+0.7**
ONI				S		**Sn**		**08 09 51.7**	**+1.8**
ONI	**Oni**	**1.87**	**289**	*e*Pn		**Pn**		**08 09 27.0**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.90**	**299**	*i* Pn		**Pn**		**08 09 27.8**	**+1.1**
HARI	**Harich**	**1.97**	**225**	⇓P		**Pn**		**08 09 26.7**	**-1.0**
HARI				S		**Sn**		**08 09 53.0**	**+0.5**
GNI	**Garni**	**2.04**	**205**	*d i*Pn		**Pn**		**08 09 29.0**	**+0.4**
GNI	**Garni**	**2.04**	**205**	P		**Pn**		**08 09 28.5**	**-0.1**
GNI	**Garni**	**2.04**	**205**	*i* Pn		**Pn**		**08 09 29.0**	**+0.4**
GNI				S		**Sn**		**08 09 56.2**	**+2.1**
CHVG	**Ch'k'valeri**	**2.88**	**286**	S		**Sg**		**08 10 21.6**	**-5.1**
SHAR	**Shatzhatmas**	**2.91**	**308**	*e*PN		**Pn**		**08 09 43.7**	**+3.1**
KIV	**Kislovodsk**	**3.03**	**311**	*e*PN		**Pn**		**08 09 46.4**	**+4.2**
SOC	**Sochi**	**4.78**	**291**	*e*PN		**Pn**		**08 10 09.5**	**+3.2**
AKTO	**Aktyubinsk**	**11.90**	**41**	⇑Pn		**Pn**		**08 11 46.2**	**+2.2**
	comp=N,0.1nm,0.7s								
AKTO				⇓Sn		**Sn**		**08 13 53.9**	**-3.0**
	comp=N,0.5nm,1.8s								
AB31	**Akbulak array**	**12.23**	**49**	Pn		**Pn**		**08 11 48.8**	**+0.3**
	comp=N,0.9nm,0.3s,baz=240,slow=14,SNR=22								
AB31				Sn		**Sn**		**08 14 03.5**	**-1.3**
	comp=N,0.7nm,0.3s,baz=237,slow=23,SNR=5.3								
MKAR	**Makanchi Array**	**26.31**	**67**	*i* P		**P**		**08 14 30.7**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								

IDC 07 08:12:45.5±57.0, 1567S×17129W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, Error ellipse: s-maj=1118.0km s-min=178.7km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.67**	**241**	P	P	08 21 08.5	+0.6
	0.6nm,0.4s,baz=99,slow=13,SNR=3.2						
WB2	**Warramunga Arr**	**51.75**	**257**	*e*P	P	08 21 55.2	+0.5
WRA	**Warramunga Arr**	**51.76**	**257**	P	P	08 21 54.8	+0.1
	1.0nm,0.3s,baz=96,slow=7.0,SNR=50						
ASAR	**Alice Springs**	**51.96**	**252**	P	P	08 21 56.7	+0.5
	2.3nm,0.5s,baz=90,slow=8.1,SNR=35						
ASPA	**Alice Springs**	**51.97**	**252**	*e*P	P	08 21 56.6	+0.3

*MOS **07** 08:33:57.5±0.8, 2755S×1344W, h10km, mb5.2/47, Error ellipse: s-maj=16.5km s-min=6.8km az=77.1*

*ISCJB **07** 08:33:57.9±0.2, 2755S±005×1339W±007, h10km, mb4.9/97, MS4.8/29, Error ellipse: s-maj=9.3km s-min=6.4km az=33.4*

*BJI **07** 08:33:58.6, 2760S×1340W, h10km, mB5.5, Ms5.8, Msz5.4*

*IDC **07** 08:33:58.1±0.5, 2753S×1340W, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.5/25, mbtmp4.4/23, MS4.7/25, Ms1 4.7/25, ms1mx4.6/35, Error ellipse: s-maj=16.6km s-min=13.2km az=123.0*

*GCMT **07** 08:33:59.7±0.2, 2754S×1332W, h12km, MW5.3/96, Moment Tensor Solution. s55,c79; s96,c173; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.29±.02; $M_{\theta\theta}$-0.03±.02; $M_{\phi\phi}$ 1.32±.02; $M_{r\theta}$-0.19±.07; $M_{\theta\phi}$0.04±.02; $M_{\phi r}$0.05±.06; Best double couple: $M_0$1.32000×10^{17} NP1:ϕ_s173.00000°,δ47.00000°,λ-102.00000°. NP2: ϕ_s173.00000°,δ47.00000°,λ-102.00000°. Principal axes: T 1.3220, Plg1.0000°, Azm271.0000°; N 0.0010, Plg8.0000°, Azm181.0000°; P -1.3190, Plg82.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 08:33:59.7±0.2, 2755S×1336W, h10km, mb5.1/65 Error ellipse: s-maj=8.3km s-min=6.2km az=119.0*

*SZGRF **07** 08:34:08.6, 2638S×1120W, h33km, mb5.1, Southern Mid-Atlantic Ridge*

ISC 07 08:33:59.6±0.2, 2755S±005×1336W±007, h10km, (h21km±7km; pP-P), n247, σ1s02/225, mb4.9/97, MS4.8/29, 34C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUM	**Tsumeb**	**29.53**	**80**	P	**P**	**08 40 02.1**	**-2.1**
	4.3nm,0.6s,mb4.3,baz=245,slow=9.6,SNR=15						
TSUM				LR	LR	08 50 06.6	
	comp=Z,4μm,18.4s,MS5.0,baz=320,slow=33						
TSUM	**Tsumeb**	**29.53**	**80**	*e*P	**P**	**08 40 04.6**	**+0.4**
	30nm,1.4s,mb4.8						
SUR	**Sutherland**	**29.92**	**108**	LR	LR	08 49 25.0	
	comp=Z,3μm,20.7s,MS5.0,baz=269,slow=31						
BOSA	**Boshof**	**33.99**	**101**	P	**P**	**08 40 42.7**	**-0.7**
	4.9nm,0.6s,mb4.6,baz=263,slow=7.9,SNR=16						
BOSA				LR	LR	08 52 10.1	
	comp=Z,4μm,20.2s,MS5.1,baz=271,slow=32						
BOSA	**Boshof**	**33.99**	**101**	*e*P	**P**	**08 40 43.6**	**+0.2**
BOSA				*e**PP	pP	08 40 49.3	+2.9
BOSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
BOSA	**Boshof**	**33.99**	**101**	*e*P	**P**	**08 40 43.6**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9						
BOSA				*e*pP	pP	08 40 49.3	+2.9
LIC	**Lamto**	**34.52**	**15**	*e*P	**P**	**08 40 48.2**	**+0.2**
	comp=Z,219nm,1.8s,mb5.5						
LIC				*e*R			
	comp=Z,350nm,23.0s						
LIC	**Lamto**	**34.52**	**15**	*e*P	**P**	**08 40 48.2**	**+0.2**
	comp=Z,110nm,1.8s,mb5.5						
LBTB	**Lobatse**	**34.93**	**95**	*e*P	**P**	**08 40 51.7**	**+0.2**
LBTB				*e**PP	pP	08 40 57.8	+3.3
LBTB				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
LBTB	**Lobatse**	**34.93**	**95**	*e*P	**P**	**08 40 51.7**	**+0.3**
	comp=Z,26nm,0.8s,mb5.2						
LBTB				*e*pP	pP	08 40 57.8	+3.2
LSZ	**Lusaka**	**40.38**	**81**	P	**P**	**08 41 39.2**	**+1.6**
	comp=Z,4.6nm,0.7s,mb4.3,baz=240,slow=8.7,SNR=13						
LSZ	**Lusaka**	**40.38**	**81**	P	**P**	**08 41 39.8**	**+2.2**
	SNR=13						
LSZ	**Lusaka**	**40.38**	**81**	*e*P	**P**	**08 41 39.1**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
LSZ	**Lusaka**	**40.38**	**81**	*e*P	**P**	**08 41 39.1**	**+1.5**
	comp=Z,20nm,1.0s,mb4.8						
EFI	**East Falkland**	**41.16**	**222**	*e*P	**P**	**08 41 41.1**	**-2.9**
TRQA	**Tornquist**	**41.78**	**243**	*e*P	**P**	**08 41 49.2**	**+0.1**
	comp=Z,12nm,0.7s,mb4.7						
TRQA				*e*pP	pP	08 41 55.2	+3.0
TOA0	**Torodi Ar. Sit**	**43.01**	**22**	*e*P	**P**	**08 41 59.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**43.01**	**22**	P	**P**	**08 41 58.0**	**-1.0**
	comp=Z,8.8nm,1.2s,mb4.4,baz=201,slow=7.1,SNR=26						
TORD				LR	LR	08 56 20.5	
	comp=Z,1μm,19.6s,MS4.7,baz=190,slow=31						
VNA1	**Neumayer--Stat**	**43.24**	**178**	*e*P	**P**	**08 42 01.3**	**+0.3**
VNA1				*e*		08 42 06.3	
VNA1				*e*		08 42 12.5	
VNA1				*e*		08 42 28.4	
VNA2	**Neumayer--Watz**	**43.55**	**177**	*e*P	**P**	**08 42 02.5**	**-1.0**
	baz=345,slow=10						
VNA2				*e*		08 42 09.2	
VNA2				*e*		08 42 16.3	
VNA2				*e*		08 42 21.5	
VNA2				*e*		08 42 24.1	
VNA2				*e*		08 42 30.8	
VNA2				*e*		08 42 45.5	
SNAA	**Sanae**	**44.55**	**175**	P	**P**	**08 42 10.9**	**-0.6**
	comp=Z,2.9nm,1.2s,mb4.0,baz=340,slow=8.4,SNR=8.5						
SNAA	**Sanae**	**44.55**	**175**	*e*P	**P**	**08 42 10.2**	**-1.3**
SNAA				*e*		08 42 16.6	
SNAA	**Sanae**	**44.55**	**175**	*e*P	**P**	**08 42 10.7**	**-0.8**
SNAA	**Sanae**	**44.55**	**175**	*e*P	**P**	**08 42 10.6**	**-0.9**
	comp=Z,34nm,1.6s,mb4.9						
SIV	**San Ignacio**	**45.53**	**274**	P	**P**	**08 42 20.5**	**+1.2**
	comp=Z,4.0nm,0.7s,mb4.4,baz=118,slow=10,SNR=16						
NVL	**N'lazarevskaya**	**45.55**	**169**	*e*P	**P**	**08 42 22.5**	**+3.0**
NVL				pmax	pmax		
	comp=Z,29nm,1.8s,mb4.9						
NVL				MLR	MLR		
	comp=Z,657nm,21.0s,MS4.5						
NVL				MLR	MLR		
	comp=N,137nm,21.0s,MS4.3						
NVL				MLR	MLR		
	comp=E,316nm,21.0s,MS4.3						
CFAA	**Coronel Fontan**	**47.49**	**251**	P	**P**	**08 42 33.4**	**-1.3**
	comp=E,0.3nm,0.7s,baz=73,slow=6.4,SNR=4.5						
USHA	**Ushuaia**	**47.99**	**220**	P	**P**	**08 42 38.8**	**+0.2**
	comp=E,8.6nm,0.8s,mb4.8,baz=25,slow=19,SNR=2.4						
SYO	**Syowa Base**	**51.55**	**158**	*e*P	P	08 43 04.4	-1.2
SYO	**Syowa Base**	**51.55**	**158**	*e*sP	sP	08 43 10.2	+0.2
LPAZ	**La Paz**	**51.67**	**271**	P	**P**	**08 43 05.8**	**-0.8**
	comp=E,1.9nm,0.7s,mb4.2,baz=95,slow=4.5,SNR=7.9						
LPAZ				LR	LR	09 03 25.7	
	comp=E,1μm,20.2s,MS5.0,baz=114,slow=34						
LPAZ	**La Paz**	**51.67**	**271**	*e*P	**P**	**08 43 06.1**	**-0.5**
LPAZ				*e**PP	pP	08 43 12.6	+2.8
LPAZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LPAZ	**La Paz**	**51.67**	**271**	*e*P	**P**	**08 43 06.1**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.6						
LPAZ				*e*pP	pP	08 43 12.6	+2.8
ARE	**Arequipa**	**54.59**	**269**	*e*P	**P**	**08 43 29.0**	**+0.9**
KMBO	**Kilima Mbogo**	**55.09**	**70**	*e*P	**P**	**08 43 36.0**	**+4.3**
KMBO				pmax	pmax		
	comp=Z,18nm,1.3s						
KMBO	**Kilima Mbogo**	**55.09**	**70**	*e*P	**P**	**08 43 36.0**	**+4.3**
	comp=Z,18nm,1.3s,mb4.9						
OPO	**Ambohidratompo**	**55.96**	**95**	LR	LR	09 05 24.9	
	comp=Z,2μm,19.5s,MS5.2,baz=228,slow=34						
MAW	**Mawson**	**59.61**	**154**	P	**P**	**08 44 03.4**	**-0.2**
	comp=Z,6.3nm,0.7s,mb4.8,baz=274,slow=8.5,SNR=17						
MAW				LR	LR	09 05 36.5	
	comp=Z,440nm,18.4s,MS4.6,baz=261,slow=32						
MAW	**Mawson**	**59.61**	**154**	*e*P	**P**	**08 44 03.8**	**+0.2**
MAW				pmax	pmax		
	comp=Z,13nm,0.8s						
MAW	**Mawson**	**59.61**	**154**	*e*P	**P**	**08 44 03.8**	**+0.2**
	comp=Z,13nm,0.8s,mb5.0						
MDT	**Mirdelt**	**60.60**	**8**	P	**P**	**08 44 10.9**	**+0.5**
	comp=Z,4.6nm,1.0s,mb4.6,baz=219,slow=6.7,SNR=11						
MDT				LR	LR	09 08 18.4	
	comp=Z,221nm,19.4s,MS4.3,baz=336,slow=34						
NNA	**Nana**	**61.13**	**271**	LR	LR	09 09 33.3	
	comp=Z,1μm,19.6s,MS5.2,baz=124,slow=35						
PCRV	**Puerto La Cruz**	**62.22**	**300**	LR	LR	09 09 21.5	
	comp=Z,3μm,19.3s,MS5.4,baz=116,slow=34						
QSPA	**South Pole Qui**	**62.68**	**180**	*e*P	**P**	**08 44 25.2**	**+0.8**
	comp=Z,42nm,1.1s,mb5.5						
ATAH	**Atahualpa**	**64.68**	**275**	LR	LR	09 11 39.6	
	comp=Z,2μm,21.8s,MS5.2,baz=138,slow=35						
ERON	**Agron**	**64.85**	**8**	P	**P**	**08 44 43.4**	**+4.7**
	comp=Z,9.0nm,0.6s,mb5.0						
ECOG	**Cogollos-Vega**	**65.13**	**9**	P	**P**	**08 44 42.8**	**+2.2**
ECOG				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ECOG	**Cogollos-Vega**	**65.13**	**9**	P	**P**	**08 44 42.8**	**+2.2**
	comp=Z,8.2nm,0.6s,mb4.9						
EMIN	**Mina Moncepcio**	**65.27**	**6**	P	**P**	**08 44 43.8**	**+2.3**
	comp=Z,14nm,0.9s,mb5.0						
ELUQ	**Luque**	**65.32**	**8**	P	**P**	**08 44 45.4**	**+3.6**
ELUQ				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ELUQ	**Luque**	**65.32**	**8**	P	**P**	**08 44 45.4**	**+3.6**
	comp=Z,12nm,0.7s,mb5.0						
PBEJ	**Beja**	**65.43**	**5**	*e*P	**P**	**08 44 43.1**	**+0.6**
	comp=Z,48nm,1.7s,mb5.2						
PBEJ				*e*P		08 44 49.2	
EADA	**Adamuz**	**65.88**	**8**	P	**P**	**08 44 49.8**	**+4.4**
	comp=Z,9.7nm,1.0s,mb4.8						
EVO	**Evora**	**65.92**	**5**	*e*P	**P**	**08 44 42.2**	**-3.5**
	comp=Z,57nm,1.1s,mb5.2						
EVO				*e*R			
	comp=Z,575nm,23.0s						
EBAN	**Banos Encina**	**65.98**	**8**	P	**P**	**08 44 49.2**	**+3.2**
EBAN				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
EBAN	**Banos Encina**	**65.98**	**8**	P	**P**	**08 44 49.2**	**+3.2**
	comp=Z,14nm,0.7s,mb5.1						
SDV	**Santo Domingo**	**66.19**	**295**	LR	LR	09 11 29.9	
	comp=Z,2μm,20.2s,MS5.3,baz=169,slow=34						
SDV	**Santo Domingo**	**66.19**	**295**	*e*P	**P**	**08 44 48.0**	**+0.6**
	comp=Z,18nm,0.8s,mb5.1						
PESTR	**Estremoz**	**66.29**	**5**	*e*P	**P**	**08 44 48.7**	**+0.7**
	comp=Z,30nm,1.3s,mb5.2						
PESTR				*e*P		08 44 54.2	
KEST	**Kesra**	**66.48**	**20**	P	**P**	**08 44 50.0**	**+0.7**
	comp=Z,9.1nm,1.3s,mb4.7,baz=135,slow=5.9,SNR=8.6						
KEST				LR	LR	09 11 20.5	
	comp=Z,315nm,20.1s,MS4.5,baz=151,slow=34						
ATD	**Arta Tunnel**	**66.88**	**62**	LR	LR	09 15 01.9	
	comp=Z,536nm,18.6s,MS4.8,baz=47,slow=37						
ROSC	**El Rosal**	**67.00**	**289**	P	**P**	**08 44 54.1**	**+1.5**
	comp=Z,3.9nm,0.7s,mb4.5,baz=193,slow=9.2,SNR=6.1						
PCBR	**Castelo Branco**	**67.26**	**5**	*e*P	**P**	**08 44 54.5**	**+0.2**
	comp=Z,31nm,1.9s,mb5.0						
PCBR				*e*P		08 45 00.5	
ESDC	**Sonseca Array**	**67.44**	**8**	P	**P**	**08 44 55.8**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=191,slow=6.8,SNR=5.0						
ESDC				LR	LR	09 12 13.6	
	comp=Z,151nm,18.4s,MS4.2,baz=275,slow=34						
GUD	**Guadarrama**	**68.38**	**8**	P	**P**	**08 45 04.2**	**+2.9**
GUD				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
GUD	**Guadarrama**	**68.38**	**8**	P	**P**	**08 45 04.2**	**+2.9**
	comp=Z,14nm,0.8s,mb5.0						
ETOR	**Torete**	**68.82**	**9**	P	**P**	**08 45 06.8**	**+2.7**
ETOR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ETOR	**Torete**	**68.82**	**9**	P	**P**	**08 45 06.8**	**+2.7**
	comp=Z,6.3nm,1.0s,mb4.5						
PBRG	**Braganca**	**69.27**	**5**	*e*P	**P**	**08 45 13.4**	**+6.5**
ERTA	**Horta de San J**	**69.33**	**11**	P	**P**	**08 45 09.7**	**+2.5**
	comp=Z,100nm,2.1s,mb5.4						
ECAL	**Calabor**	**69.41**	**5**	P	**P**	**08 45 11.3**	**+3.6**
	comp=Z,52nm,1.9s,mb5.1						
VAE	**Valguarrera**	**69.74**	**23**	LR	LR	09 14 09.9	
	comp=Z,357nm,18.5s,MS4.7,baz=275,slow=35						
EPOB	**Poblet**	**69.84**	**12**	P	**P**	**08 45 15.2**	**+4.9**
	comp=Z,18nm,1.0s,mb5.0						
STS	**Santiago**	**70.22**	**4**	P	**P**	**08 45 16.0**	**+3.3**
STS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
STS	**Santiago**	**70.22**	**4**	P	**P**	**08 45 16.0**	**+3.3**
	comp=Z,14nm,0.8s,mb4.9						
EBIE	**Bielsa**	**70.98**	**10**	P	**P**	**08 45 22.3**	**+5.0**
	comp=Z,19nm,1.3s,mb4.9						
ELAN	**Lanestosa**	**71.02**	**8**	P	**P**	**08 45 22.8**	**+5.2**
	comp=Z,68nm,1.5s,mb5.4						
ETSF	**Etsaut**	**71.08**	**10**	*e*P	**P**	**08 45 18.1**	**+0.2**
	comp=Z,46nm,1.2s,mb5.0						
ETSF	**Etsaut**	**71.08**	**10**	*e*P	**P**	**08 45 18.1**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
ETSF	**Etsaut**	**71.08**	**10**	*e*P	**P**	**08 45 18.1**	**+0.2**
	comp=Z,23nm,1.2s,mb5.0						
ELIZ	**Elizondo**	**71.20**	**9**	P	**P**	**08 45 22.6**	**+4.0**
ELIZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ELIZ	**Elizondo**	**71.20**	**9**	P	**P**	**08 45 22.6**	**+4.0**
	comp=Z,12nm,0.9s,mb4.8						
EALK	**Alkurruntz**	**71.25**	**9**	P	**P**	**08 45 23.1**	**+4.1**
	comp=Z,21nm,0.9s,mb5.1						
EPF	**Esparros**	**71.35**	**11**	*e*P	**P**	**08 45 19.7**	**+0.1**
MTLF	**Montolieu**	**71.98**	**12**	*e*P	**P**	**08 45 22.4**	**-0.9**
TIP	**Timpagrande**	**72.09**	**24**	*e*P	**P**	**08 45 24.0**	**0.0**
IDI	**Anoyia**	**72.19**	**32**	LR	LR	09 18 12.9	
	comp=Z,99nm,18.6s,MS4.1,baz=242,slow=37						
PGF	**Pioggiola**	**72.73**	**17**	*e*P	**P**	**08 45 27.2**	**-0.6**
	comp=Z,42nm,1.3s,mb4.9						
PGF	**Pioggiola**	**72.73**	**17**	*e*P	**P**	**08 45 27.2**	**-0.6**
PGF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
PGF	**Pioggiola**	**72.73**	**17**	*e*P	**P**	**08 45 27.2**	**-0.6**
	comp=Z,21nm,1.3s,mb4.9						
LMR	**La Mourre**	**72.86**	**15**	*e*P	**P**	**08 45 28.2**	**-0.4**
LASF	**Ste Croix**	**73.00**	**13**	*e*P	**P**	**08 45 29.2**	**-0.2**
FRF	**La Foret Royal**	**73.10**	**15**	*e*P	**P**	**08 45 29.6**	**-0.5**
	comp=Z,14nm,0.9s,mb4.6						
FRF	**La Foret Royal**	**73.10**	**15**	*e*P	**P**	**08 45 29.6**	**-0.5**
FRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
FRF	**La Foret Royal**	**73.10**	**15**	*e*P	**P**	**08 45 29.6**	**-0.5**
	comp=Z,7.0nm,0.9s,mb4.6						
SMRF	**Simiane la Rot**	**73.26**	**14**	*e*P	**P**	**08 45 31.3**	**+0.3**
	comp=Z,23nm,1.1s,mb4.7						
SMRF	**Simiane la Rot**	**73.26**	**14**	*e*P	**P**	**08 45 31.3**	**+0.3**
	comp=Z,23nm,1.1s,mb5.0						
LFF	**La Frestale**	**73.27**	**10**	⇑*i*P	**P**	**08 45 31.0**	**-0.1**
	comp=Z,72nm,0.9s,mb5.3						
LFF	**La Frestale**	**73.27**	**10**	⇑*i*P	**P**	**08 45 31.0**	**-0.1**
LFF				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
LFF	**La Frestale**	**73.27**	**10**	⇑*i*P	**P**	**08 45 31.0**	**-0.1**
	comp=Z,36nm,0.9s,mb5.3						
EIL	**Elat**	**73.30**	**43**	*e*P	**P**	**08 45 33.3**	**+2.1**
	comp=Z,526nm,1.2s						
CAF	**Calviac**	**73.48**	**11**	*e*P	**P**	**08 45 32.0**	**-0.3**
SBF	**Sospel**	**73.57**	**16**	*e*P	**P**	**08 45 33.0**	**+0.2**
RJF	**Les Rejaudoux**	**73.76**	**11**	*e*P	**P**	**08 45 33.7**	**-0.2**
RJF				*e*R			
	comp=Z,504nm,22.2s						
VIVF	**Saint-Julien-l**	**73.91**	**13**	⇑*i*P	**P**	**08 45 34.9**	**+0.1**
	comp=Z,54nm,1.1s,mb5.1						
VIVF	**Saint-Julien-l**	**73.91**	**13**	⇑*i*P	**P**	**08 45 34.9**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
VIVF	**Saint-Julien-l**	**73.91**	**13**	⇑*i*P	**P**	**08 45 34.9**	**+0.1**
	comp=Z,27nm,1.0s,mb5.1						
ORIF	**Oris-en-Rattie**	**74.22**	**14**	*e*P	**P**	**08 45 36.9**	**+0.3**
	comp=Z,49nm,1.2s,mb5.0						
ORIF				*e*R			
	comp=Z,439nm,20.2s						
ORIF	**Oris-en-Rattie**	**74.22**	**14**	*e*P	**P**	**08 45 36.9**	**+0.3**
ORIF				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
ORIF	**Oris-en-Rattie**	**74.22**	**14**	*e*P	**P**	**08 45 36.9**	**+0.3**
	comp=Z,24nm,1.2s,mb5.0						
MBDF	**Montbardon**	**74.24**	**15**	⇑*i*P	**P**	**08 45 37.0**	**+0.3**
	comp=Z,25nm,0.9s,mb4.8						
MBDF	**Montbardon**	**74.24**	**15**	⇑*i*P	**P**	**08 45 37.0**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
MBDF	**Montbardon**	**74.24**	**15**	⇑*i*P	**P**	**08 45 37.0**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**74.76**	**9**	*e*P	**P**	**08 45 39.6**	**-0.2**
	comp=Z,32nm,1.1s,mb4.9						
MFF	**Saint Martin d**	**74.76**	**9**	*e*P	**P**	**08 45 39.6**	**-0.2**
MFF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
MFF	**Saint Martin d**	**74.76**	**9**	*e*P	**P**	**08 45 39.6**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**74.83**	**11**	⇑*i*P	**P**	**08 45 40.1**	**-0.1**
	comp=Z,37nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**74.83**	**11**	⇑*i*P	**P**	**08 45 40.1**	**-0.1**
TCF				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**74.83**	**11**	⇑*i*P	**P**	**08 45 40.1**	**-0.1**
	comp=Z,19nm,1.0s,mb5.0						
SBA	**Scott Base**	**74.84**	**180**	*e*P	**P**	**08 45 39.9**	**-0.3**
SBA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
SBA	**Scott Base**	**74.84**	**180**	*e*P	**P**	**08 45 39.9**	**-0.3**
	comp=Z,16nm,1.1s,mb4.9						
LPG	**La Plagne**	**74.96**	**15**	⇑*i*P	**P**	**08 45 41.4**	**+0.5**
	comp=Z,36nm,0.9s,mb5.0						
LPG	**La Plagne**	**74.96**	**15**	⇑*i*P	**P**	**08 45 41.4**	**+0.5**
LPG				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
LPG	**La Plagne**	**74.96**	**15**	⇑*i*P	**P**	**08 45 41.4**	**+0.5**
	comp=Z,18nm,0.9s,mb5.0						
LPL	**La Plagne**	**74.98**	**14**	⇑*i*P	**P**	**08 45 41.3**	**+0.3**
	comp=Z,43nm,0.9s,mb5.1						
LPL	**La Plagne**	**74.98**	**14**	⇑*i*P	**P**	**08 45 41.3**	**+0.3**
LPL				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
LPL	**La Plagne**	**74.98**	**14**	⇑*i*P	**P**	**08 45 41.3**	**+0.3**
	comp=Z,22nm,0.9s,mb5.1						
VNDA	**Vanda**	**75.14**	**179**	P	**P**	**08 45 42.2**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=212,slow=4.8,SNR=18						
VNDA				LR	LR	09 14 06.9	
	comp=Z,424nm,20.1s,MS4.7,baz=224,slow=32						
VNDA	**Vanda**	**75.14**	**179**	*e*P	**P**	**08 45 41.8**

MEZF	**Maizieres J'vi**	**77.48**	**12**	*eP*	**P**		**08 45 55.0**	**-0.2**
LJU	**Ljubljana**	**77.49**	**19**	*eP*	**P**		**08 45 55.4**	**+0.1**
LJU				*e*			08 46 01.5	
CDF	**Champ du Feu**	**77.84**	**14**	*eP*	**P**		**08 45 56.6**	**-0.7**
BFO	**Black Forest**	**78.00**	**15**	*eP*	**P**		**08 45 56.9**	**-1.2**
	comp=Z,21nm,1.3s,mb4.9							
BFO	**Black Forest**	**78.00**	**15**	*eP*	**P**		**08 45 56.9**	**-1.2**
BFO					pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9							
WLF	**Walferdange**	**78.80**	**13**	*eP*	**P**		**08 46 02.1**	**-0.5**
	comp=Z,80nm,1.8s,mb5.3							
WLF	**Walferdange**	**78.80**	**13**	P	**P**		**08 46 02.2**	**-0.4**
WLF				AP	pP		08 46 07.8	+2.0
BAIF	**Baives**	**78.82**	**11**	*eP*	**P**		**08 46 02.1**	**-0.6**
GIVF	**Givet**	**78.97**	**12**	*eP*	**P**		**08 46 03.0**	**-0.5**
SNF	**Seneffe**	**79.27**	**11**	P	**P**		**08 46 05.7**	**+0.6**
BCLA	**Clavier**	**79.36**	**12**	AP	pP		08 46 10.8	+1.9
UCC	**Uccle**	**79.56**	**11**	P	**P**		**08 46 07.1**	**+0.4**
MEM	**Membach**	**79.68**	**12**	P	**P**		**08 46 07.6**	**+0.2**
GEC2	**GERESS Array S**	**79.81**	**18**	*eP*	**P**		**08 46 06.7**	**-1.3**
	comp=Z,47nm,2.2s,mb5.0							
GEC2	**GERESS Array S**	**79.81**	**18**	*eP*	**P**		**08 46 06.7**	**-1.3**
GEC2					pmax	pmax		
	comp=Z,47nm,2.2s,mb5.0							
GERES	**GERESS Array B**	**79.81**	**18**	P	**P**		**08 46 07.6**	**-0.4**
	comp=Z,0.9nm,0.2s,mb4.3,baz=168,slow=6.8,SNR=7.1							
GERES					PP	PP	08 49 06.6	-2.6
	comp=Z,0.3nm,0.2s,baz=218,slow=14,SNR=2.9							
GERES					LR	LR	09 19 03.5	
	comp=Z,253nm,18.1s,MS4.6,baz=286,slow=34							
GERES	**GERESS Array B**	**79.81**	**18**	P	**P**		**08 46 07.6**	**-0.4**
GERES					PP	PP	08 49 06.6	-2.6
TNS	**Taunus Mts**	**79.81**	**14**	*eP*	**P**		**08 46 07.2**	**-0.9**
	comp=Z,24nm,1.5s,mb4.9							
TNS	**Taunus Mts**	**79.81**	**14**	*eP*	**P**		**08 46 07.2**	**-0.9**
TNS					pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9							
WET	**Wettzell**	**79.86**	**17**	*eP*	**P**		**08 46 07.2**	**-1.1**
	comp=Z,26nm,1.4s,mb5.0							
WET	**Wettzell**	**79.86**	**17**	*eP*	**P**		**08 46 07.2**	**-1.1**
WET					pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0							
GRA1	**Grafenberg Arr**	**79.95**	**16**	*eP*	**P**		**08 46 07.7**	**-1.1**
	comp=Z,47nm,1.6s,mb5.2							
GRF	**Grafenberg Arr**	**79.95**	**16**	*eP*	**P**		**08 46 07.7**	**-1.1**
	comp=Z,47nm,1.6s,mb5.2							
GRF	**Grafenberg Arr**	**79.95**	**16**	*eP*	**P**		**08 46 07.7**	**-1.1**
GRF					pmax	pmax		
	comp=Z,47nm,1.6s,mb5.2							
GRF	**Grafenberg Arr**	**79.95**	**16**	*eP*	**P**		**08 46 07.7**	**-1.1**
GRF					pmax	pmax		
	comp=Z,47nm,1.6s,mb5.2							
BRTR	**Keskin Array B**	**79.97**	**35**	P	**P**		**08 46 08.7**	**-0.3**
	comp=Z,7.8nm,1.2s,mb4.5,baz=176,slow=5.0,SNR=7.8							
ROTZ	**Rotzenmuhle**	**80.26**	**16**	*eP*	**P**		**08 46 09.4**	**-1.1**
	comp=Z,82nm,2.2s,mb5.3							
MANZ	**Manzenberg**	**80.44**	**16**	*eP*	**P**		**08 46 10.4**	**-1.1**
	comp=Z,17nm,1.4s,mb4.8							
UBBA	**Unterbreizbach**	**80.71**	**15**	*eP*	**P**		**08 46 12.4**	**-0.5**
	comp=Z,26nm,1.6s,mb4.9							
WERN	**Wernitzgruen**	**80.78**	**16**	*eP*	**P**		**08 46 12.3**	**-1.0**
	comp=Z,92nm,2.5s,mb5.3							
GUNZ	**Gunzen**	**80.84**	**16**	*eP*	**P**		**08 46 12.9**	**-0.7**
	comp=Z,15nm,1.2s,mb4.8							
WERD	**Werda**	**80.91**	**16**	*eP*	**P**		**08 46 12.8**	**-1.2**
	comp=Z,23nm,1.5s,mb4.9							
TANN	**Tannenbergstha**	**80.92**	**16**	*eP*	**P**		**08 46 13.0**	**-1.1**
	comp=Z,35nm,1.7s,mb5.0							
MOX	**Moxa**	**80.92**	**16**	*eP*	**P**		**08 46 12.8**	**-1.3**
	comp=Z,9.0nm,0.9s,mb4.7							
VYHS	**Vyhne**	**81.00**	**21**	*eP*	**P**		**08 46 12.9**	**-1.6**
VYHS				*e*			08 46 19.8	
VYHS					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
VYHS	**Vyhne**	**81.00**	**21**	*eP*	**P**		**08 46 12.9**	**-1.6**
	comp=Z,7.5nm,1.0s,mb4.6							
VYHS				*e*			08 46 19.8	
MLR	**Muntele Rosu**	**81.01**	**27**	P	**P**		**08 46 13.8**	**-0.7**
	comp=Z,6.3nm,0.6s,mb4.8,baz=152,slow=12,SNR=5.4							
VRAC	**Vranov**	**81.04**	**19**	LR	LR		09 20 49.6	
	comp=Z,489nm,18.1s,MS4.9,baz=66,slow=35							
KECS	**Kecovo**	**81.53**	**22**	*eP*	**P**		**08 46 16.7**	**-0.6**
KECS				*e*			08 46 22.3	
KECS					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
KECS	**Kecovo**	**81.53**	**22**	*eP*	**P**		**08 46 16.7**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.4							
KECS				*e*			08 46 22.3	
FBE	**Freiberg**	**81.61**	**17**	*eP*	**P**		**08 46 16.8**	**-0.9**
	comp=Z,72nm,2.3s,mb5.2							
BRG	**Berggiesshubel**	**81.72**	**17**	*eP*	**P**		**08 46 17.3**	**-1.0**
	comp=Z,26nm,1.8s,mb4.9							
BRG	**Berggiesshubel**	**81.72**	**17**	*eP*	**P**		**08 46 23.2**	**+4.9**
	comp=Z,5.4nm,1.2s,mb4.4							
BRG				*e*			08 49 26.9	
	comp=Z,15nm,1.8s							
BRG	**Berggiesshubel**	**81.72**	**17**	*eP*	**P**		**08 46 23.2**	**+4.9**
BRG				*e*			08 49 26.9	
BRG					pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
BRG					pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.1							
CLZ	**Clausthal**	**81.75**	**15**	*eP*	**P**		**08 46 18.5**	**+0.1**
	comp=Z,38nm,1.8s,mb5.0							
CLZ	**Clausthal**	**81.75**	**15**	*eP*	**P**		**08 46 18.5**	**+0.1**
CLZ					pmax	pmax		
	comp=Z,38nm,1.8s,mb5.0							
CLL	**Collm**	**81.88**	**16**	*eP*	**P**		**08 46 18.3**	**-0.8**
	comp=Z,50nm,2.1s,mb5.1							
CLL	**Collm**	**81.88**	**16**	*eP*	**P**		**08 46 25.0**	**+5.9**
CLL	**Collm**	**81.88**	**16**	*e*(P)	**P**		**08 46 19.0**	**-0.1**
CRVS	**Cervenica-Dubn**	**82.22**	**22**	*eP*	**P**		**08 46 20.7**	**-0.2**
UZH	**Uzhgorod**	**82.27**	**23**	*ceP*	**P**		**08 46 18.2**	**-3.0**
DGAR	**Diego Garcia**	**82.92**	**95**	*eP*	**P**		**08 46 25.8**	**+1.2**
EKA	**Eskdalemuir Ar**	**83.00**	**6**	P	**P**		**08 46 23.6**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.2,baz=170,slow=5.1,SNR=4.6							
BSEG	**Bad Segeberg**	**83.69**	**14**	*eP*	**P**		**08 46 28.3**	**-0.3**
ASHO	**Ashiyiah**	**84.67**	**59**	P	**P**		**08 46 35.7**	**+2.2**
	SNR=11							
ASHO	**Ashiyiah**	**84.67**	**59**	P	**P**		**08 46 35.7**	**+2.2**
	SNR=11							
HATD	**Hatta, Dubai**	**84.80**	**59**	P	**P**		**08 46 36.3**	**+2.1**
	SNR=16							
HATD	**Hatta, Dubai**	**84.80**	**59**	P	**P**		**08 46 36.3**	**+2.1**
	SNR=16							
HOQ	**Hoqain**	**85.03**	**60**	P	**P**		**08 46 37.1**	**+1.8**
	SNR=11							
WSAR	**Wadi Sarin**	**85.87**	**61**	P	**P**		**08 46 40.3**	**+0.8**
	comp=Z,2.8nm,0.9s,mb4.5,baz=94,slow=2.8,SNR=6.0							
AKASG	**Malin Array Be**	**86.52**	**26**	P	**P**		**08 46 41.6**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.4,baz=223,slow=5.2,SNR=14							
AKASG					LR	LR	09 26 49.6	
	comp=Z,99nm,19.1s,MS4.2,baz=15,slow=37							
WES	**Weston**	**87.71**	**321**	*eP*	**P**		**08 46 50.2**	**+1.7**
WES					pmax	pmax		
	comp=Z,34nm,0.8s,mb5.6							
WES	**Weston**	**87.71**	**321**	*eP*	**P**		**08 46 50.2**	**+1.7**
	comp=Z,34nm,0.8s,mb5.6							
HRV	**Harvard--Oak R**	**87.92**	**321**	*eP*	**P**		**08 46 50.6**	**+1.1**
HRV					pmax	pmax		
	comp=Z,29nm,0.9s,mb5.5							
HRV	**Harvard--Oak R**	**87.92**	**321**	*eP*	**P**		**08 46 50.6**	**+1.1**
	comp=Z,28nm,0.9s,mb5.5							
QUA2	**Belchertown**	**88.22**	**320**	*eP*	**P**		**08 46 52.0**	**+1.1**
	comp=Z,17nm,0.7s,mb5.4							
HFS	**Hagfors**	**90.14**	**13**	P	**P**		**08 46 59.8**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.8,baz=205,slow=13,SNR=3.3							
NB2	**NORSAR Subarra**	**90.51**	**12**	P	**P**		**08 47 02.7**	**+1.0**
	comp=Z,24nm,1.2s,mb5.4,baz=203,slow=4.4							
NOA	**NORSAR Array B**	**90.51**	**12**	P	**P**		**08 47 02.6**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.6,baz=202,slow=5.0,SNR=3.9							
OBN	**Obninsk**	**92.76**	**26**	*eP*	**P**		**08 47 11.9**	**-0.2**
OBN					pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.9							
OBN					MLR	MLR		
	comp=Z,200nm,20.0s,MS4.6							
SCHQ	**Schefferville**	**93.98**	**332**		LR	LR	09 22 30.4	
	comp=Z,228nm,21.8s,MS4.6,baz=99,slow=31							
KMI	**Kunming**	**123.25**	**77**		PKP	PKPdf	08 52 57.9	+1.3
KMI					XPKP		08 53 01.5	
KMI					PP	PP	08 54 40.6	+3.8
KMI					PPP		08 57 20.5	
KMI					SS	SS	09 11 22.8	+0.6
KMI					SSS		09 16 01.1	
KMI					PP	PP		
	comp=Z,185nm,5.2s							
KMI					LR	LR		
	comp=N,561nm,19.8s,MS5.4							
KMI					LR	LR		
	comp=E,667nm,18.4s,MS5.4							
KMI					LR	LR		
	comp=Z,805nm,24.1s							
KMI	**Kunming**	**123.25**	**77**		PKP	PKPdf	08 52 57.9	+1.3
KMI					sPKP		08 53 01.5	
KMI					PP	PP	08 54 40.6	+3.8
KMI					PPP		08 57 20.5	
KMI					SS	SS	09 11 22.8	+0.6
KMI					SSS		09 16 01.1	
GTA	**Gaotai**	**124.17**	**59**	*e*	PKP	PKPdf	08 52 58.6	+0.2
GTA					XPKP		08 53 07.2	
CD2	**Chengdu**	**125.66**	**70**	*e*	PKP	PKPdf	08 53 01.0	-0.2
CD2					XPKP		08 53 08.2	
CD2					PP	PP	08 54 58.0	+5.1
CD2					PKS		08 56 36.3	
CD2					SKS	SKSdf	09 00 09.5	-3.6
CD2					SKKS	SKKSac	09 01 47.5	-3.9
CD2					SS	SS	09 11 54.5	+1.9
CD2					PP	PP		
	comp=Z,90nm,9.2s							
CD2					LR	LR		
	comp=N,1μm,18.0s,MS5.8							
CD2					LR	LR		
	comp=E,1μm,22.8s,MS5.8							
CD2					LR	LR		
	comp=Z,2μm,22.8s,MS5.7							
NJ2	**Nanjing**	**138.55**	**72**	*e*	PKP	PKPdf	08 53 24.6	-0.9
MDJ	**Mudanjiang**	**145.91**	**50**		PKP	PKPdf	08 53 34.1	-4.5
MDJ	**Mudanjiang**	**145.91**	**50**	*e*	PKPdf	PKPdf	08 53 39.4	+0.8
KSRS	**Korea Array**	**146.09**	**63**		PKPbc	PKPbc	08 53 40.1	+0.4
	comp=Z,6.0nm,0.8s,baz=279,slow=4.8,SNR=12							

*ISCJB **07** 08:34:07.7±0.7, 1721N±004×10128W±003, h39km±13km, MS4.3/1, Error ellipse: s-maj=8.0km s-min=3.9km az=63.0*
*IDC **07** 08:34:08.6±11.0, 1671N×10017W, h0km, mb4.1/2, mb1 4.5/3, mb1mx4.0/17, mbtmp4.0/3, ML3.3/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/29, Error ellipse: s-maj=212.3km s-min=128.1km az=117.0*
*NEIC **07** 08:34:10.9, 1724N×10126W, h23km, MD4.5(MEX), After MEX.*
*MEX **07** 08:34:11.0±1.0, 1726N×10125W, h23km±19km, MD4.5*

ISC 07 08:34:08.4±0.8, 1721N±004×10124W±004, h22km±7km, n34, σ1§12/56, MS4.3/1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**332**	*i* P		**Pb**	**08 34 17.8**	**+0.1**
ZIIG				*i* S		**Sb**	**08 34 23.9**	**-0.1**
CAIG	**El Cayaco**	**0.94**	**99**	*i* P		**Pb**	**08 34 25.7**	**-0.3**
CAIG				*i* S		**Sb**	**08 34 36.7**	**-1.3**
ACX	**Acapulco**	**1.31**	**105**	*i* P		**Pn**	**08 34 32.8**	**+1.5**
ACX				*i* S		**Sn**	**08 34 47.2**	**-0.9**
MEIG	**Mezcala**	**1.70**	**65**	*i* P		**Pn**	**08 34 36.4**	**-0.3**
MEIG				*i* S		**Sn**	**08 34 56.7**	**-1.1**
PLIG	**Platanillo**	**2.03**	**54**	*i* P		**Pn**	**08 34 40.7**	**-0.5**
PLIG				*i* S		**Sn**	**08 35 00.8**	**+0.1**
MOIG	**Morelia**	**2.46**	**1**	*e* P		**Pn**	**08 34 47.5**	**+0.4**
MOIG				*i* S		**Sn**	**08 35 15.4**	**-1.1**
YAIG	**Yautepec**	**2.64**	**51**	*i* P		**Pn**	**08 34 48.5**	**-1.2**
YAIG				*i* S		**Sn**	**08 35 20.3**	**-0.7**
YAIG	**Yautepec**	**2.64**	**51**	*i* P		**Pn**	**08 34 50.0**	**+0.4**
YAIG				*e*S		**Sn**	**08 35 22.5**	**+1.5**
SZVM	**Salazar**	**2.75**	**40**	*i* P		**Pn**	**08 34 50.8**	**-0.3**
SZVM				*i* S		**Sn**	**08 35 22.6**	**-1.0**
UNM	**Universidad Na**	**2.88**	**43**	*e*P		**Pn**	**08 34 53.0**	**+0.1**
UNM				*i* P			08 34 54.6	
UNM				*i* S		**Sn**	**08 35 27.5**	**+0.7**
UNM	**Universidad Na**	**2.88**	**43**	*e*P		**Pn**	**08 34 51.1**	**-1.8**
UNM				*i* S		**Sn**	**08 35 27.5**	**+0.7**
PNIG	**Pinotepa**	**3.09**	**105**	*i* P		**Pn**	**08 34 55.3**	**-0.5**
PNIG				*i* S		**Sn**	**08 35 30.4**	**-1.5**
PNIG	**Pinotepa**	**3.09**	**105**	*e*P		**Pn**	**08 34 53.4**	**-2.3**
PNIG				*i* S		**Sn**	**08 35 30.4**	**-1.5**
PPM	**Popocatepetl**	**3.10**	**53**	*i* P		**Pn**	**08 34 55.6**	**-0.3**
PPM				*e*S		**Sn**	**08 35 34.1**	**+1.9**
UTMO	**Huajuapan**	**3.34**	**79**	*e*P		**Pn**	**08 34 59.8**	**+0.6**
UTMO				*i* S		**Sn**	**08 35 36.3**	**-1.8**
IIO	**Organos**	**3.37**	**45**	*i* P		**Pn**	**08 34 58.5**	**-1.1**
IIO				*i* S		**Sn**	**08 35 35.5**	**-3.3**
SFJM	**Santa Fe**	**3.68**	**333**	*i* P		**Pn**	**08 35 08.0**	**+4.1**
TPIG	**Tehuac#an**	**3.88**	**71**	*e*P		**Pn**	**08 35 07.8**	**+1.0**
TPIG				*i* S		**Sn**	**08 35 52.8**	**+1.1**
CJM	**Chamela**	**4.27**	**303**	*i* P		**Pn**	**08 35 14.4**	**+2.4**
CJM				*i* S		**Sn**	**08 35 59.8**	**-1.4**
CJM	**Chamela**	**4.27**	**303**	*i* P		**Pn**	**08 35 20.0**	**+8.0**
CJM				*i* S		**Sn**	**08 35 59.8**	**-1.4**
VHO	**Vista Hermosa**	**4.31**	**91**	*e*P		**Pn**	**08 35 13.2**	**+0.6**
VHO				*i* S		**Sn**	**08 36 02.5**	**+0.4**
VHO	**Vista Hermosa**	**4.31**	**91**	*e*P		**Pn**	**08 35 13.2**	**+0.6**
VHO				*i* S		**Sn**	**08 36 00.0**	**-2.1**
ANIG	**Ahuacatlan**	**4.93**	**321**	*i* P		**Pn**	**08 35 21.0**	**0.0**
ANIG				*i* S		**Sn**	**08 35 16.9**	**-0.5**
HUIG	**Huatulco**	**5.12**	**105**	*i* S		**Sn**	**08 36 23.7**	**+1.5**
LVIG	**Laguna Verde**	**5.21**	**61**	*i* P		**Pn**	**08 35 26.3**	**+1.3**
LVIG				*i* S		**Sn**	**08 36 24.9**	**+0.4**
LVIG	**Laguna Verde**	**5.21**	**61**	*i* P		**Pn**	**08 35 26.3**	**+1.3**
LVIG				*i* S		**Sn**	**08 36 26.9**	**+2.5**
ZAIG	**Zacatecas**	**5.67**	**348**	*i* P		**Pn**	**08 35 31.9**	**+0.6**
ZAIG				*i* S		**Sn**	**08 36 35.0**	**-0.7**
CMIG	**Matias Romero**	**6.08**	**90**	*i* P		**Pn**	**08 35 38.0**	**+1.1**
LNIG	**Linares**	**7.83**	**12**	*i* P		**Pn**	**08 36 02.7**	**+1.8**
LNIG				*i* S		**Sn**	**08 37 29.7**	**+0.8**
CCIG	**Comitan**	**8.77**	**95**	*i* S		**Sn**	**08 37 55.8**	**+3.9**
TXAR	**Lajitas Array**	**12.28**	**350**	Pn			08 37 16.1	
	0.0nm,0.3s,baz=164,slow=10,SNR=13							
NVAR	**Mina Array Bea**	**25.89**	**328**	P		pP	08 39 51.0	+5.8
	1.3nm,0.7s,baz=147,slow=10,SNR=9.8							
PDAR	**Pinedale Array**	**26.45**	**346**	P		pP	08 39 54.4	+4.2
	3.9nm,0.9s,baz=146,slow=11,SNR=19							
CFAA	**Coronel Fontan**	**57.95**	**147**	LR		LR	09 00 42.3	
	comp=Z,224nm,20.0s,MS4.3,baz=168,slow=28							

MAN 07 08:40:02.6, 1727N×12066E, h29km, mb2.0, ML3.7, MS4.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.38**	**8**	*e*P		Pb	08 40 12.4	+1.3
ABRA				*e*S		Sb	08 40 19.9	+3.0
PIP	**Pasuquin**	**1.05**	**358**	⇑*i*P		Pn	08 40 22.5	+1.1
BOLP	**Bolinao**	**1.14**	**219**	*e*P		Pn	08 40 22.5	-0.1
CAUP	**Cauayan**	**1.16**	**106**	*e*P		Pn	08 40 23.6	+0.7
CVP	**Callao Caves**	**1.19**	**69**	⇓*i*P		Pn	08 40 22.0	-1.3
CVP				*i* S		Sn	08 40 40.0	+1.5
PALP	**Palanan**	**1.70**	**97**	*e*P		Pn	08 40 30.8	+0.5
BALP	**Baler**	**1.76**	**150**	*e*P		Pn	08 40 30.6	-0.5

ISC 07 08:45:33.3±0.8, 3814N±006×732E±02, h150km±17km, n18, σ0§68/21, 5C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.01**	**6**	P		**Pn**	**08 46 33.3**	**-0.4**
	SNR=102							
UCH	**Uchtor**	**4.22**	**14**	P		**Pn**	**08 46 36.5**	**+0.1**
	SNR=29							
KZA	**Kyzart**	**4.25**	**22**	P		**Pn**	**08 46 36.9**	**+0.1**
	SNR=8.2							
EKS2	**Erkin-Say**	**4.55**	**6**	P		**Pn**	**08 46 40.6**	**0.0**
	SNR=11							
AAK	**Ala-Archa**	**4.61**	**12**	P		**Pn**	**08 46 41.8**	**+0.3**
	SNR=20							
ULHL	**Ulahol**	**4.74**	**29**	P		**Pn**	**08 46 43.9**	**+0.7**
	SNR=14							
TKM2	**Tokmak 2**	**5.13**	**21**	P		**Pn**	**08 46 48.5**	**+0.1**
	SNR=6.0							
USP	**Ospenovka**	**5.23**	**11**	P		**Pn**	**08 46 49.1**	**-0.5**
	SNR=6.2							
KK31	**Karatay Array**	**5.35**	**339**	⇑Pn		**Pn**	**08 46 50.5**	**-0.9**
	3.9nm,0.2s,baz=140,slow=13,SNR=139							
KK31				Sn		**Sn**	**08 47 46.1**	**-6.2**
	18nm,0.3s,baz=137,slow=24,SNR=39							
THN	**Thein Dam**	**6.06**	**159**	*e*P		**Pn**	**08 47 02.5**	**+1.7**
THN				*e*S		**Sn**	**08 48 08.7**	**-0.6**
KOLN	**Koldanda**	**13.55**	**137**	*e*P		**Pn**	**08 48 38.4**	**-1.0**
	3.4nm,0.2s							
GKN	**Gorkha**	**13.95**	**133**	*e*P		**Pn**	**08 48 44.7**	**+0.3**
	5.8nm,0.3s							
KKN	**Kakani**	**14.48**	**132**	*e*P		**Pn**	**08 48 51.2**	**+0.1**
DMN	**Daman**	**14.51**	**133**	*e*P		**Pn**	**08 48 50.6**	**-1.0**
	8.4nm,0.3s							
AB31	**Akbulak array**	**14.63**	**324**	⇑Pn		**Pn**	**08 48 52.1**	**-0.9**
	0.7nm,0.6s,baz=128,slow=13,SNR=26							
AB31				⇑Pg		**Pn**	**08 48 57.2**	**+4.2**
	1.2nm,0.4s,baz=128,slow=12,SNR=3.5							
AB31				⇑Lg			08 51 21.8	
	2.0nm,0.6s,baz=128,slow=23,SNR=12							
GUN	**Gumba**	**14.75**	**130**	*e*P		**Pn**	**08 48 54.8**	**+0.3**
	4.3nm,0.2s							
JIRN	**Jiri**	**15.12**	**130**	*e*P		**Pn**	**08 48 59.4**	**+0.3**
	10.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.35**	**324**	⇑Pn		**Pn**	**08 49 15.1**	**+0.9**
AKTO				⇓Lg			08 52 06.7	
	1.1nm,2.1s							

*IDC **07** 08:45:46.0±0.7, 372S×13509E, h0km, mb4.1/8, mb1 4.4/13, mb1mx4.3/15, mbtmp4.3/13, ML4.3/4, MS3.5/6, Ms1 3.5/6, ms1mx3.1/32, Error ellipse: s-maj=33.8km s-min=14.9km az=70.0*
*ISCJB **07** 08:45:49.4±0.4, 378S±004×13523E±009, h35km, mb4.5/20, MS3.8/3, Error ellipse: s-maj=12.4km s-min=5.0km az=167.3*
*BJI **07** 08:45:50.0, 370S×13520E, h30km, mB5.3, mb5.0, Ms4.5, Msz4.2*
*NEIC **07** 08:45:51.0±0.5, 370S×13524E, h30km, mb4.4/11, Error ellipse: s-maj=14.8km s-min=9.6km az=70.0*

ISC 07 08:45:51.7±0.4, 384S±005×13522E±009, h35km, n46, σ1§37/46, mb4.5/20, MS3.8/3, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.23**	**197**	⇑*i*P		**Pn**	**08 48 03.9**	**+1.7**
	21nm,0.3s							
KAKA				*e*S		**Sn**	**08 49 48.0**	**+3.2**
PMG	**Port Moresby**	**13.08**	**116**	Pn		**Pn**	**08 48 55.7**	**+0.8**
	1.1nm,0.3s,baz=333,slow=6.8,SNR=4.2							
PMG				LR		LR	08 54 01.9	
	comp=Z,193nm,20.6s,baz=110,slow=37							
WRAB	**Tennant Creek**	**16.02**	**183**	*e*P		**Pn**	**08 49 39.5**	**+5.4**
	28nm,0.5s							
WRA	**Warramunga Arr**	**16.02**	**183**	Pn		**Pn**	**08 49 32.3**	**-2.0**
	0.9nm,0.3s,baz=4.4,slow=13,SNR=30							
WRA				Sn		**Sn**	**08 52 25.7**	**-5.1**
	1.0nm,0.3s,baz=6.8,slow=22,SNR=4.5							
FITZ	**Fitzroy Crossi**	**17.00**	**213**	*e*P		**Pn**	**08 49 46.4**	**-0.2**
	16nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.00**	**213**	P		**Pn**	**08 49 45.6**	**-1.0**
	1.3nm,0.3s,baz=36,slow=13,SNR=38							
FITZ				S		**Sn**	**08 52 49.0**	**-5.4**
	0.7nm,0.3s,baz=192,slow=13,SNR=6.8							
FITZ				LR		LR	08 56 09.8	
	comp=Z,56nm,22.0s,baz=43,slow=37							
CTA	**Charters Tower**	**19.40**	**147**	*e*P		**Pn**	**08 50 15.7**	**-0.2**
	5.8nm,0.5s							
CTA	**Charters Tower**	**19.40**	**147**	P		**Pn**	**08 50 15.2**	**-0.7**
	0.5nm,0.3s,baz=323,slow=12,SNR=12							
CTA				LR		LR	08 58 39.4	
	comp=Z,238nm,19.2s,baz=217,slow=40							
CTAO	**Charters Tower**	**19.40**	**147**	*e*P		**Pn**	**08 50 15.4**	**-0.5**
	14nm,0.9s							
AS31	**Alice Springs**	**19.75**	**184**	*e*P		**Pn**	**08 50 21.3**	**+1.2**
AS31				*e*S		**S**	**08 53 55.5**	**-3.6**
ASAR	**Alice Springs**	**19.75**	**184**	P		**Pn**	**08 50 20.6**	**+0.5**
	5.7nm,0.3s,baz=8.8,slow=11,SNR=472							
ASAR				S		**S**	**08 53 57.8**	**-1.3**
	0.3nm,0.3s,baz=4.7,slow=10,SNR=3.8							
ASAR				LR		LR	08 58 13.6	
	comp=Z,130nm,19.7s,baz=10.0,slow=38							
ASAR	**Alice Springs**	**19.75**	**184**	P		**Pn**	**08 50 20.6**	**+0.5**
ASAR				S		**S**	**08 53 57.8**	**-1.3**
ASPA	**Alice Springs**	**19.75**	**184**	*e*P		**Pn**	**08 50 21.3**	**+1.2**
ASPA		

PICO	**Pico**	**0.17**	**170**	*e*P	Pg	08 49 22.1	-0.5
PICO				*e*S	Sg	08 49 24.6	-0.6
ROSA	**Rosais**	**0.18**	**74**	*i* P	Pg	08 49 22.2	-0.5
ROSA				*e*S	Sg	08 49 25.1	-0.2
PCED	**Cedros**	**0.19**	**257**	*e*S	Sg	08 49 25.4	-0.3
PCED							
	8.7nm,0.2s						
PTEI	**Pico do Teixo**	**0.19**	**155**	*e*S	Sg	08 49 25.9	+0.1
PTEI							
	6.2nm,0.1s						
PCND	**Candelaria**	**0.20**	**180**	*e*S	Sg	08 49 26.0	0.0
PCND							
	6.6nm,0.1s						
CALA	**Caldeira**	**0.21**	**245**	*e*P	Pg	08 49 23.0	-0.2
PBOI	**Pico dos Bois**	**0.24**	**164**	*e*S	Sg	08 49 26.6	-0.6
PBOI							
	8.2nm,0.2s						

IDC ***07*** *08:52:19.9±1.6, 32.13N×4901E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/24, mbtmp4.1/13, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/36, Error ellipse: s-maj=36.3km s-min=18.1km az=165.0*

ISCJB ***07*** *08:52:20.7±0.4, 3199N±003×49.16E±004, h10km, mb4.1/11, Error ellipse: s-maj=5.0km s-min=4.4km az=132.2*

THR ***07*** *08:52:21.4±0.7, 3191N×49.19E, h16km±5km, ML4.0*

MOS ***07*** *08:52:21.3±1.4, 3209N×4895E, h28km, mb4.1/1, Error ellipse: s-maj=20.5km s-min=11.3km az=94.4*

NEIC ***07*** *08:52:21.7, 3193N×49.17E, h18km, ML4.0(THR), MN4.1(TEH), After THR.*

CSEM ***07*** *08:52:22.0±0.1, 3187N×4920E, h25km, ML4.1, Error ellipse: s-maj=2.0km s-min=1.5km az=27.0*

TEH ***07*** *08:52:24.9, 3188N×49.17E, h30km, Mn4.1*

ISC 07 08:52:21.9±0.3, 3199N±003×4914E±004, h10km, n80, σ1§42/87, mb4.1/11, 2C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.31**	**294**	*e*Pg	**Pg**	**Pg**	**08 52 29.3**	**+1.2**
SHGR					AML	AML	08 52 45.6	
	comp=E,25μm,0.4s							
SHGR	**Shooshtar-Gavs**	**0.31**	**294**	Pg	**Pg**	**Pg**	**08 52 29.0**	**+0.9**
IPIR	**Pirpir**	**1.64**	**64**	*e*Pn	**Pn**	**Pn**	**08 52 50.9**	**0.0**
IKLH	**Kalahroud**	**2.45**	**57**	*e*Pn	**Pn**	**Pn**	**08 53 03.9**	**+1.9**
IKLH				*e*Sn	**Sn**	**Sn**	**08 53 31.9**	**-0.1**
IGAR	**Garneh**	**2.61**	**84**	*e*Pn	**Pn**	**Pn**	**08 53 04.0**	**-0.2**
ASAO	**Ashtian**	**2.66**	**16**	*e*Pn	**Pn**	**Pn**	**08 53 07.1**	**+2.2**
ASAO				*e*Sg	**Sg**	**Sg**	**08 53 46.8**	**-0.7**
ASAO					AML	AML	08 53 52.3	
	comp=E,837nm,0.5s							
ASAO					AML	AML	08 53 57.0	
	comp=N,725nm,0.7s							
ASAO	**Ashtian**	**2.66**	**16**	Pn	**Pn**	**Pn**	**08 53 07.0**	**+2.1**
ASAO				Sg	**Sg**	**Sg**	**08 53 46.0**	**-1.5**
ASAO	**Ashtian**	**2.66**	**16**	*e*Pn	**Pn**	**Pn**	**08 53 07.1**	**+2.2**
	SNR=52							
ASAO				*e*Sg	**Sg**	**Sg**	**08 53 46.8**	**-0.7**
	SNR=90							
MIB	**Mutribah**	**2.67**	**216**	*e*P	**Pn**	**Pn**	**08 53 06.1**	**+1.2**
MIB					AML	AML	08 53 50.7	
	comp=Z,189nm,0.4s							
UMR	**Umm Al-Rimmam**	**2.71**	**207**	*e*P	**Pn**	**Pn**	**08 53 06.4**	**+0.8**
UMR					AML	AML	08 53 51.0	
	comp=Z,317nm,0.4s							
IZEF	**Zefreh**	**2.85**	**71**	*e*Pn	**Pn**	**Pn**	**08 53 08.7**	**+1.2**
IZEF				*e*Sn	**Sn**	**Sn**	**08 53 40.5**	**-1.3**
IZEF	**Zefreh**	**2.85**	**71**	Pn	**Pn**	**Pn**	**08 53 08.6**	**+1.1**
IZEF				Sn	**Sn**	**Sn**	**08 53 40.5**	**-1.3**
IVIS	**Veys**	**3.17**	**324**	*e*Pn	**Pn**	**Pn**	**08 53 14.2**	**+2.3**
IVIS	**Veys**	**3.17**	**324**	Pn	**Pn**	**Pn**	**08 53 14.1**	**+2.2**
IGHG	**Ghaleghazi**	**3.18**	**318**	*e*Pn	**Pn**	**Pn**	**08 53 14.2**	**+2.2**
IGHG	**Ghaleghazi**	**3.18**	**318**	Pn	**Pn**	**Pn**	**08 53 14.1**	**+2.1**
NASN	**Na'in**	**3.21**	**74**	*e*Pn	**Pn**	**Pn**	**08 53 13.6**	**+1.2**
NASN				*e*Sg	**Sg**	**Sg**	**08 54 01.2**	**-3.9**
NASN	**Na'in**	**3.21**	**74**	Pn	**Pn**	**Pn**	**08 53 13.0**	**+0.6**
RDF	**Al-Radifah**	**3.34**	**205**	*e*P	**Pn**	**Pn**	**08 53 15.4**	**+1.2**
ISFB	**Sefidab**	**3.51**	**47**	*e*Pn	**Pn**	**Pn**	**08 53 17.6**	**+1.0**
ISFB	**Sefidab**	**3.51**	**47**	Pn	**Pn**	**Pn**	**08 53 17.5**	**+0.9**
IVRN	**Varamin**	**3.70**	**35**	*e*Pn	**Pn**	**Pn**	**08 53 20.4**	**+1.2**
IVRN	**Varamin**	**3.70**	**35**	Pn	**Pn**	**Pn**	**08 53 20.3**	**+1.1**
IPAR	**Pars**	**3.98**	**121**	*e*Pn	**Pn**	**Pn**	**08 53 22.4**	**-0.7**
THKV	**Tehran--Karaj**	**4.18**	**20**	*e*Pn	**Pn**	**Pn**	**08 53 27.7**	**+1.9**
THKV				*e*Sg	**Sg**	**Sg**	**08 54 32.9**	**-3.3**
THKV					AML	AML	08 54 41.1	
	comp=N,132nm,0.6s							
THKV					AML	AML	08 54 45.7	
	comp=E,185nm,0.6s							
THKV	**Tehran--Karaj**	**4.18**	**20**	Pn	**Pn**	**Pn**	**08 53 27.0**	**+1.2**
THKV	**Tehran--Karaj**	**4.18**	**20**	*e*Pn	**Pn**	**Pn**	**08 53 27.7**	**+1.9**
	SNR=52							
THKV				*e*Sg	**Sg**	**Sg**	**08 54 32.9**	**-3.3**
	SNR=90							
BHD	**Baghdad**	**4.21**	**289**	*ex*	x		08 53 30.9	
BHD				*ex*	x		08 53 40.7	
BHD				*ex*	x		08 54 06.8	
BHD				*ex*	x		08 54 18.2	
BHD				*i* x	x		08 54 32.7	
CHTH	**Charan**	**4.25**	**22**	*e*Pn	**Pn**	**Pn**	**08 53 28.2**	**+1.5**
CHTH	**Charan**	**4.25**	**22**	Pn	**Pn**	**Pn**	**08 53 28.0**	**+1.3**
IMOK	**Mook**	**4.26**	**133**	*e*Pn	**Pn**	**Pn**	**08 53 25.9**	**-0.9**
IMOK	**Mook**	**4.26**	**133**	Pn	**Pn**	**Pn**	**08 53 25.8**	**-1.0**
ISRV	**Sarvestan**	**4.30**	**126**	*e*Pn	**Pn**	**Pn**	**08 53 26.7**	**-0.7**
ISRV	**Sarvestan**	**4.30**	**126**	Pn	**Pn**	**Pn**	**08 53 26.6**	**-0.8**
IDMV	**Damavand**	**4.32**	**33**	*e*Pn	**Pn**	**Pn**	**08 53 28.6**	**+0.9**
DAMV	**Damavand**	**4.33**	**32**	*e*Pn	**Pn**	**Pn**	**08 53 29.4**	**+1.5**
DAMV					AML	AML	08 54 47.3	
	comp=N,93nm,0.5s							
DAMV					AML	AML	08 54 48.8	
	comp=E,89nm,0.6s							
DAMV	**Damavand**	**4.33**	**32**	Pn	**Pn**	**Pn**	**08 53 29.0**	**+1.1**
ICHK	**Chekchek**	**4.48**	**85**	*e*Pn	**Pn**	**Pn**	**08 53 30.3**	**+0.4**
ILAS	**Lasjerd**	**4.65**	**42**	*e*Pn	**Pn**	**Pn**	**08 53 31.9**	**-0.3**
IPRN	**Paran-Amol**	**4.97**	**30**	*e*Pn	**Pn**	**Pn**	**08 53 39.2**	**+2.6**
IPRN	**Paran-Amol**	**4.97**	**30**	Pn	**Pn**	**Pn**	**08 53 39.1**	**+2.5**
GHIR	**Ghir-Karzin**	**4.97**	**137**	*e*Pn	**Pn**	**Pn**	**08 53 36.2**	**-0.4**
GHIR					AML	AML	08 54 34.7	
	comp=N,133nm,0.4s							
GHIR					AML	AML	08 54 37.0	
	comp=E,103nm,0.3s							
ISHM	**Shahmirzad**	**5.15**	**41**	*e*Pn	**Pn**	**Pn**	**08 53 39.5**	**+0.5**
ISHM	**Shahmirzad**	**5.15**	**41**	Pn	**Pn**	**Pn**	**08 53 39.4**	**+0.4**
IANJ	**Anjiloo**	**5.28**	**48**	*e*Pn	**Pn**	**Pn**	**08 53 42.0**	**+1.1**
IANJ	**Anjiloo**	**5.28**	**48**	Pn	**Pn**	**Pn**	**08 53 41.9**	**+1.0**
IBAF	**Bafgh**	**5.49**	**92**	*e*Pn	**Pn**	**Pn**	**08 53 43.5**	**-0.3**
MSL	**Mosul**	**6.60**	**312**	*ex*	x		08 54 49.0	
MSL				*ex*	x		08 56 05.5	
GNI	**Garni**	**8.89**	**338**	LR	LR	LR	08 58 33.1	
	comp=E,176nm,20.4s,baz=320,slow=43							
ASF	**Jabal al Asfar**	**10.38**	**274**	Pn	**Pn**	**Pn**	**08 54 48.7**	**-2.2**
	comp=E,1.5nm,0.3s,baz=325,slow=4.0,SNR=10							
ASF				Sn	**Sn**	**Sn**	**08 56 39.0**	**-8.4**
	comp=E,0.6nm,0.3s,baz=151,slow=15,SNR=3.4							
WSAR	**Wadi Sarin**	**12.11**	**134**	Pn	**Pn**	**Pn**	**08 55 10.2**	**-4.3**
	comp=E,1.2nm,0.3s,baz=327,slow=13,SNR=18							
BR131	**Keskin Array S**	**14.74**	**306**	*e*P	**Pn**	**Pn**	**08 55 57.1**	**+6.8**
	comp=E,1.3nm,0.4s							
BRTR	**Keskin Array B**	**14.74**	**306**	Pn	**Pn**	**Pn**	**08 55 53.5**	**+3.2**
	comp=E,0.4nm,0.3s,baz=130,slow=13,SNR=9.6							
AKTK	**Aktyubinsk**	**19.58**	**17**	P	**P**	**Pn**	**08 56 47.9**	**-3.4**
AKTO	**Aktyubinsk**	**19.58**	**17**	P	**P**	**Pn**	**08 56 47.9**	**-3.4**
	comp=E,0.3nm,0.3s,baz=202,slow=13,SNR=6.8							
ORR	**Orenburg**	**20.05**	**10**	*e*P	**P**	**P**	**08 56 54.7**	**-0.5**
ORR					pmax	pmax		
	comp=Z,20nm,1.2s							
ORR	**Orenburg**	**20.05**	**10**	*e*P	**P**	**P**	**08 56 54.7**	**-0.5**
	comp=Z,20nm,1.2s							
IDI	**Anoyia**	**20.44**	**286**	P	**P**	**P**	**08 56 58.6**	**-0.9**
	comp=Z,13nm,0.9s,baz=80,slow=8.4,SNR=4.2							
VRSR	**Storozhevoye**	**20.57**	**342**	*e*P	**P**	**P**	**08 56 58.5**	**-2.3**
VRSR				*e*S	**S**	**S**	**09 00 45.3**	**-5.5**
VRSR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
VRSR					smax			
	comp=N,10.0nm,0.9s							
VOIR		**22.99**	**313**	⇓*i*P	**P**	**P**	**08 57 31.3**	**+4.5**
AKASG	**Malin Array Be**	**23.81**	**328**	P	**P**	**P**	**08 57 33.7**	**-1.3**
	comp=N,1.2nm,0.5s,mb3.6,baz=54,slow=17,SNR=4.2							
AKASG	**Malin Array Be**	**23.81**	**328**	P	**P**	**P**	**08 57 33.7**	**-1.3**
BURAR	**Bucovina Array**	**23.97**	**318**	⇑*i*P	**P**	**P**	**08 57 37.8**	**+1.3**
GZR	**Gura Zlata**	**24.42**	**311**	⇓*i*P	**P**	**P**	**08 57 41.0**	**+0.5**
DRGR		**25.06**	**314**	⇑*i*P	**P**	**P**	**08 57 47.2**	**+0.8**
BVAR	**Borovoye Array**	**26.04**	**30**	P	**P**	**P**	**08 57 53.7**	**-1.6**
	comp=N,3.5nm,0.5s,mb4.1,baz=220,slow=7.7,SNR=20							
BVAR	**Borovoye Array**	**26.04**	**30**	P	**P**	**P**	**08 57 53.7**	**-1.6**
BVAR	**Borovoye Array**	**26.04**	**30**	P	**P**	**P**	**08 57 53.7**	**-1.6**
MKAR	**Makanchi Array**	**29.33**	**50**	P	**P**	**P**	**08 58 23.5**	**-1.3**
	comp=N,0.3nm,0.3s,mb3.5,baz=240,slow=11,SNR=2.0							
JOF	**Joensuu**	**32.97**	**345**	*ep*	**P**	**P**	**08 58 51.9**	**-4.9**
	comp=N,7.4nm,0.9s,mb4.6							
FINES	**FINESS Array B**	**33.07**	**340**	P	**P**	**P**	**08 58 55.8**	**-2.0**
	comp=N,1.3nm,0.5s,mb4.1,baz=144,slow=7.1,SNR=7.5							
KAF	**Kangasniemi**	**33.54**	**341**	*ep*	**P**	**P**	**08 58 59.1**	**-2.7**
ZAL	**Zalesovo**	**33.56**	**39**	P	**P**	**P**	**08 59 00.6**	**-1.4**
	comp=N,2.2nm,0.2s,mb4.7,baz=235,slow=9.5,SNR=3.1							
MDRS	**Chennai**	**34.17**	**116**	*ex*	x		08 59 48.2	
HFS	**Hagfors**	**36.59**	**331**	P	**P**	**P**	**08 59 25.1**	**-3.0**
	comp=N,2.3nm,0.7s,mb4.1,baz=99,slow=9.2,SNR=5.3							
NOA	**NORSAR Array B**	**38.12**	**331**	P	**P**	**P**	**08 59 38.3**	**-2.7**
	comp=N,1.7nm,0.8s,mb3.8,baz=122,slow=8.3,SNR=3.3							
ARCES	**ARCESS Array B**	**39.89**	**347**	P	**P**	**P**	**08 59 54.2**	**-1.7**
	comp=N,3.0nm,0.9s,mb4.0,baz=156,slow=6.1,SNR=3.7							
ARCES	**ARCESS Array B**	**39.89**	**347**	P	**P**	**P**	**08 59 54.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**47.23**	**258**	P	**P**	**P**	**09 00 53.6**	**-1.4**
	comp=N,1.6nm,0.8s,mb4.0,baz=55,slow=8.4,SNR=7.8							
KSRS	**Korea Array**	**63.21**	**61**	P	**P**	**P**	**09 02 51.5**	**+1.2**
	comp=N,1.2nm,0.5s,mb4.2,baz=287,slow=9.0,SNR=4.1							

BJI ***07*** *09:15:56.6, 629S×15192E, h75km, mB5.3, mb5.0, Ms5.1, Msz4.9*

ISCJB ***07*** *09:15:58.2±1.3, 584S±003×15109E±003, h33km±9km, mb5.1/73, MS4.8/27, Error ellipse: s-maj=5.8km s-min=4.2km az=141.2*

MOS ***07*** *09:16:00.8±1.1, 581S×15107E, h43km, mb5.3/24, Error ellipse: s-maj=8.9km s-min=6.8km az=71.6*

IDC ***07*** *09:16:01.3±1.5, 586S×151.11E, h51km±12km, mb4.8/20, mb1 4.9/23, mb1mx4.9/24, mbtmp4.8/23, ML4.5/3, MS4.7/16, Ms1 4.7/16, ms1mx4.5/24, Error ellipse: s-maj=11.3km s-min=8.5km az=124.0*

GCMT ***07*** *09:16:04.3±0.2, 602S×151.30E, h34km, MW5.3/80, Moment Tensor Solution. s71,c115; s80,c133; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.80±.03; Mθθ-0.66±.02; Mϕϕ-0.14±.02; Mrθ-0.13±.02; Mθϕ-0.51±.01; Mϕr-0.38±.02; Best double couple: M0 0.97800×10^17 NP1:ϕs221.00000°, δ57.00000°, λ69.00000°. Principal axes: T 0.9360, Plg69.0000°, Azm84.0000°; N 0.0850, Plg18.0000°, Azm233.0000°; P -1.0210, Plg10.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *09:16:04.3±0.1, 592S×151.11E, mb5.2/40 Error ellipse: s-maj=5.5km s-min=4.3km az=123.0*

ISC 07 09:16:03.1±0.8, 590S±004×15110E±003, h60km±7km, h76km±1.0km:pP-P, n372, σ0§80/315, mb5.1/71, 62C-56D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**228**	P	**Pn**	**Pn**	**09 17 18.6**	**-0.1**
	23nm,0.3s,baz=34,slow=8.3,SNR=70							
PMG				S	**Sn**	**Sn**	**09 18 18.0**	**+0.3**
	61nm,0.3s,baz=89,slow=19,SNR=11							
PMG				LR	LR	LR	09 18 35.2	
	comp=Z,681nm,21.8s,baz=1.9,slow=29							
PMG	**Port Moresby**	**5.23**	**228**	*e*Pn	**Pn**	**Pn**	**09 17 19.9**	**+1.2**
PMG				*e*Sn	**Sn**	**Sn**	**09 18 19.1**	**+1.4**
HNR	**Honiara**	**9.45**	**112**	P	**Pn**	**Pn**	**09 18 16.4**	**0.0**
	22nm,0.3s,baz=256,slow=2.4,SNR=13							
HNR				S	**Sn**	**Sn**	**09 20 01.1**	**+0.1**
	7.7nm,0.3s,baz=273,slow=7.7,SNR=2.9							
HNR				LR	LR	LR	09 21 24.0	
	comp=Z,4μm,21.4s,baz=354,slow=34							
HNR	**Honiara**	**9.45**	**112**	*e*P	**Pn**	**Pn**	**09 18 16.5**	**+0.1**
HNR				*e*			09 20 01.4	
HNR				pmax	pmax			
	comp=Z,457nm,1.0s							
HNR	**Honiara**	**9.45**	**112**	*e*Pn	**Pn**	**Pn**	**09 18 16.5**	**+0.1**
	comp=Z,457nm,1.0s							
HNR				*e*Sn	**Sn**	**Sn**	**09 20 01.4**	**+0.3**
CTA	**Charters Tower**	**14.87**	**198**	*e*P	**Pn**	**Pn**	**09 19 35.2**	**+5.5**
	comp=Z,19nm,0.7s							
CTA				*e*S	**Sn**	**Sn**	**09 22 31.1**	**+18**
CTA	**Charters Tower**	**14.87**	**198**	P	**Pn**	**Pn**	**09 19 30.4**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=30,slow=13,SNR=30							
CTA				LR	LR	LR	09 23 31.0	
	comp=Z,732nm,20.1s,baz=23,slow=30							
CTA	**Charters Tower**	**14.87**	**198**	P	**Pn**	**Pn**	**09 19 30.4**	**+0.7**
CTA				LR	LR	LR	09 23 31.0	
CTAO	**Charters Tower**	**14.87**	**198**	*e*Pn	**Pn**	**Pn**	**09 19 30.7**	**+0.9**
CTAO				*e*PcP	PcP	PcP	09 24 37.0	+0.6
KAKA	**Kakadu**	**19.61**	**248**	*e*P	**Pn**	**Pn**	**09 20 25.7**	**-2.5**
	comp=Z,67nm,0.5s							
KAKA				*e*S	**S**	**S**	**09 24 03.0**	**-1.4**
GUMO	**Guam**	**20.32**	**342**	P	**P**	**P**	**09 20 34.5**	**+0.4**
	comp=Z,341nm,1.1s,baz=176,slow=9.7,SNR=11							
GUMO				LR	LR	LR	09 26 46.2	
	comp=Z,2μm,21.9s,baz=333,slow=32							
GUMO	**Guam**	**20.32**	**342**	*e*P	**P**	**P**	**09 20 34.9**	**+0.8**
GUMO					pmax	pmax		
	comp=Z,385nm,1.1s							
GUMO	**Guam**	**20.32**	**342**	*e*P	**P**	**P**	**09 20 34.9**	**+0.8**
	comp=Z,385nm,1.1s							
WRAB	**Tennant Creek**	**21.44**	**228**	P	**P**	**P**	**09 20 46.0**	**-0.2**
	comp=Z,743nm,0.6s,mb6.2,SNR=58							
WRAB	**Tennant Creek**	**21.44**	**228**	*e*P	**P**	**P**	**09 20 46.1**	**-0.1**
WB2	**Warramunga Arr**	**21.44**	**228**	⇑*i*P	**P**	**P**	**09 20 46.0**	**-0.2**
WB2				*e*S	**S**	**S**	**09 24 41.6**	**+0.9**
WB2				*e*PCS	PcS	PcS	09 28 26.6	+1.0
WB2				*e*SCS	ScS	ScS	09 32 08.0	+4.7
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**P**	**09 20 46.1**	**-0.3**
	comp=Z,86nm,0.8s,mb5.1,baz=54,slow=11,SNR=224							
WRA				S	**S**	**S**	**09 24 42.5**	**+1.7**
	comp=Z,22nm,1.1s,baz=52,slow=19,SNR=12							
WRA				PcP	PcP	PcP	09 24 47.8	+0.3
	comp=Z,14nm,0.8s,baz=48,slow=2.1,SNR=8.5							
WRA				ScP	ScP	ScP	09 28 20.9	+1.7
	comp=Z,6.2nm,0.9s,baz=46,slow=2.4,SNR=8.2							
WRA				LR	LR	LR	09 29 16.2	
	comp=Z,1μm,21.2s,baz=55,slow=37							
WRA				PKiKP	PKiKP	PKiKP	09 32 33.2	-1.0
	comp=Z,0.3nm,0.8s,baz=312,slow=1.2,SNR=5.0							
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**P**	**09 20 46.1**	**-0.2**
WRA				S	**S**	**S**	**09 24 42.5**	**+1.7**
WRA							09 24 47.8	
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**P**	**09 20 46.1**	**-0.3**
WRA				S	**S**	**S**	**09 24 42.5**	**+1.7**
WRA				PcP	PcP	PcP	09 24 47.8	+0.3
WRA				ScP	ScP	ScP	09 28 20.9	+1.7
WRA				LR	LR	LR	09 29 16.2	
DZM	**Mont Dzumac**	**21.88**	**139**	P	**P**	**P**	**09 20 49.7**	**-1.2**
	comp=Z,34nm,0.6s,mb5.0,baz=356,slow=9.3,SNR=47							
DZM				LR	LR	LR	09 28 10.6	
	comp=Z,5μm,20.6s,baz=296,slow=33							
AS31	**Alice Springs**	**24.20**	**221**	⇑*i*P	**P**	**P**	**09 21 14.0**	**+0.1**
AS31				*e*S	**S**	**S**	**09 25 36.1**	**+8.0**
AS31				*e*ScS	ScS	ScS	09 32 19.0	+5.2
ASAR	**Alice Springs**	**24.20**	**221**	P	**P**	**P**	**09 21 14.1**	**+0.1**
	comp=Z,112nm,0.8s,mb5.4,baz=55,slow=9.2,SNR=36							
ASAR				S	**S**	**S**	**09 25 30.9**	**+2.9**
	comp=Z,2.2nm,0.8s,baz=56,slow=8.2,SNR=3.3							
ASAR				ScP	ScP	ScP	09 28 28.6	+2.2
	comp=Z,5.1nm,0.9s,baz=43,slow=3.3,SNR=8.4							
ASAR				LR	LR	LR	09 30 59.9	
	comp=Z,1μm,18.4s,baz=104,slow=37							
ASAR	**Alice Springs**	**24.20**	**221**	P	**P**	**P**	**09 21 14.1**	**+0.2**
ASAR				S	**S**	**S**	**09 25 30.9**	**+2.8**
ASPA	**Alice Springs**	**24.21**	**221**	⇑*i*P	**P**	**P**	**09 21 14.0**	**0.0**
ASPA				*e*S	**S**	**S**	**09 25 36.1**	**+8.0**
ASPA				*e*SCS	ScS	ScS	09 32 19.0	+5.2
ARMA	**Armidale**	**24.40**	**179**	*e*P	**P**	**P**	**09 21 15.8**	**+0.1**
ARMA				*e*S	**S**	**S**	**09 25 39.2**	**+8.0**
STKA	**Stephens Creek**	**27.33**	**198**	*e*P	**P**	**P**	**09 21 41.4**	**-0.8**
	comp=Z,47nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**27.33**	**198**	P	**P**	**P**	**09 21 41.1**	**-1.1**
	comp=Z,56nm,0.9s,mb5.1,baz=359,slow=8.3,SNR=25							
STKA				LR	LR	LR	09 33 16.0	
	comp=Z,2μm,18.7s,baz=29,slow=38							
FITZ	**Fitzroy Crossi**	**27.65**	**242**	⇑*i*P	**P**	**P**	**09 21 44.7**	**-0.4**
	comp=Z,128nm,0.8s,mb5.6							
FITZ				*e*S	**S**	**S**	**09 26 23.6**	**+1.0**
FITZ				*e*SCS	ScS	ScS	09 32 32.4	+4.0
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**P**	**09 21 44.8**	**-0.2**
	comp=Z,67nm,0.8s,mb5.3,baz=79,slow=7.8,SNR=101							
FITZ				LR	LR	LR	09 34 15.5	
	comp=Z,1μm,19.3s,baz=41,slow=40							
CNB	**Canberra Magne**	**29.32**	**183**	*e*P	**P**	**P**	**09 22 00.8**	**+0.9**
	comp=Z,20nm,0.9s,mb4.8							
FORT	**Forrest**	**32.88**	**218**	*e*P	**P**	**P**	**09 22 30.7**	**-0.5**
	comp=Z,51nm,0.6s,mb5.6							
MBWA	**Marble Bar**	**33.96**	**240**	*e*P	**P**	**P**	**09 22 40.6**	**0.0**
	comp=Z,60nm,0.8s,mb5.6							
MBWA				*e*PcP	PcP	PcP	09 25 17.1	-0.6
TAU	**Tasmania Unive**	**37.01**	**185**	*e*P	**P**	**P**	**09 23 07.0**	**+0.2**
RAO	**Raoul Island**	**37.36**	**132**	LR	LR	LR	09 36 07.2	
	comp=Z,1μm,20.4s,baz=276,slow=32							
AFI	**Afiamalu**	**37.39**	**105**	P	**P**	**P**	**09 23 10.4**	**+0.4**
	comp=Z,76nm,1.0s,mb5.5,baz=288,slow=6.1,SNR=4.6							
URZ	**Urewera**	**39.94**	**147**	P	**P**	**P**	**09 23 29.9**	**-1.5**
	comp=Z,19nm,0.6s,mb5.0,baz=255,slow=4.4,SNR=11							
URZ				PcP	PcP	PcP	09 25 34.1	-1.7
	comp=Z,21nm,0.8s,baz=320,slow=5.9,SNR=5.1							
KLBR	**Kellerberrin**	**40.32**	**226**	*e*P	**P**	**P**	**09 23 33.5**	**-1.1**
	comp=Z,106nm,0.9s,mb5.6							
NWAO	**Narrogin (SRO)**	**41.41**	**225**	P	**P**	**P**	**09 23 43.4**	**-0.2**
	comp=Z,29nm,0.9s,mb4.9,baz=69,slow=8.1,SNR=6.5							
NWAO				LR	LR	LR	09 41 21.2	
	comp=Z,1μm,20.6s,baz=54,slow=37							
NWAO	**Narrogin (SRO)**	**41.41**	**225**	*e*P	**P**	**P**	**09 23 43.3**	**-0.2**
NWAO					pmax	pmax		
	comp=Z,24nm,0.8s							
NWAO	**Narrogin (SRO)**	**41.41**	**225**	*e*P	**P**	**P**	**09 23 43.2**	**-0.3**
	comp=Z,24nm,0.8s,mb4.9							
NACB	**Ninganchiao**	**41.48**	**317**	*e*P	**P**	**P**	**09 23 44.5**	**+0.4**
RPZ	**Rata Peaks**	**41.56**	**158**	P	**P**	**P**	**09 23 44.2**	**-0.5**
	comp=Z,44nm,0.8s,mb5.2,baz=37,slow=5.0,SNR=15							
MUN	**Mundaring**	**41.65**	**227**	*e*P	**P**	**P**	**09 23 45.3**	**-0.1**
YHNB	**Yeheng**	**41.96**	**318**	*e*P	**P**	**P**	**09 23 49.0**	**+1.0**
MJAR	**Matsushiro Arr**	**43.91**	**345**	P	**P**	**P**	**09 24 03.7**	**-0.1**
	comp=Z,5.3nm,1.1s,mb4.2,baz=197,slow=4.1,SNR=5.7							
SSE	**Sheshan**	**46.59**	**324**	*e*P	**P**	**P**	**09 24 27.2**	**+2.3**
SSE					AP	pP	09 24 45.7	+5.3
SSE					XP	sP	09 24 53.9	+6.6
SSE					S	**S**	**09 31 12.5**	**+3.1**
SSE					XS	sS	09 31 43.5	+7.9
SSE					AMB	AMB		
	comp=Z,48nm,0.7s,mb5.5							
SSE					AMB	AMB		
	comp=Z,121nm,5.7s							
SSE					LR	LR		
	comp=N,565nm,22.2s							
SSE					LR	LR		
	comp=E,618nm,22.2s							
SSE					LR	LR		
	comp=Z,1μm,24.8s							
SSE	**Sheshan**	**46.59**	**324**	*e*P	**P**	**P**	**09 24 27.2**	**+2.3**
	comp=Z,48nm,0.7s,mb5.5							
SSE					pP	pP

KMI S **S** 09 33 22.4 +0.4
KMI SS SS 09 37 10.8 +1.6
KMI SSS 09 39 22.6
KMI pmax pmax
comp=Z,13nm,0.7s,mb5.1
KMI MLR MLR
comp=Z,810nm,26.0s
KMI Kunming 56.21 305 P **P** **09 25 39.7 +2.8**
comp=Z,13nm,0.7s,mb5.1
KMI pP pP 09 25 58.5 +5.7
KMI sP sP 09 26 06.6 +7.0
KMI PP PP 09 27 47.5 +4.9
KMI PPP 09 29 05.3
KMI S **S** **09 33 22.4 +0.4**
KMI sS sS 09 33 54.7 +5.9
KMI SS SS 09 37 10.8 +1.6
KMI SSS 09 39 22.6
KMI LR LR
comp=Z,810nm,26.0s
KIP Kipapa 56.80 60 *eP* **P** **09 25 41.0 -0.1**
KLR Kul'dur 57.44 345 *eP* **P** **09 25 41.0 -4.6**
KHU Kahuku 58.10 63 *eP* **P** **09 25 50.7 +0.5**
CD2 Chengdu 58.18 312 *iP* **P** **09 25 51.3 +0.5**
CD2 PP PP 09 28 02.5 +2.4
CD2 PCS PcS 09 30 41.9 -1.3
CD2 S **S** **09 33 46.3 -1.6**
CD2 SCS ScS 09 35 31.7 -3.3
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
CD2 AMB AMB
comp=Z,380nm,7.8s
CD2 LR LR
comp=N,1µm,20.4s
CD2 LR LR
comp=E,1µm,21.6s
CD2 LR LR
comp=Z,2µm,22.8s
POHA Pohakuloa 58.35 63 *eP* **P** **09 25 52.4 +0.4**
comp=Z,537nm,1.9s,mb6.2
HHC Hu-ho-hao-te 58.97 326 *eP* **P** **09 25 58.0 +1.7**
HHC AP pP 09 26 17.2 +4.9
HHC XP sP 09 26 26.4 +7.4
HHC PCP PcP 09 26 45.1 +0.3
HHC PP PP 09 28 11.2 +4.2
HHC SCP ScP 09 30 38.4 -1.7
HHC PCS PcS 09 30 45.6 -1.1
HHC S **S** **09 34 00.8 +2.7**
HHC XS sS 09 34 32.0 +6.9
HHC SCS ScS 09 35 38.3 -2.5
HHC SS SS 09 37 55.7 +3.2
HHC AMB AMB
comp=Z,16nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,218nm,9.3s
HHC LR LR
comp=N,393nm,17.7s
HHC LR LR
comp=E,422nm,18.6s
HHC LR LR
comp=Z,907nm,19.5s
PPT Papeete 59.02 107 *eS* **S** **09 34 04.7 +5.9**
comp=Z,722nm,26.5s
PPT *eSS* SS 09 37 59.7 +6.3
comp=Z,209nm,25.2s
PPT *eLR* LR 09 43 24.6
comp=Z,328nm,24.2s
PET Petropavlovsk 59.04 5 *eP* **P** **09 25 54.2 -2.6**
PET *eS* **S** **09 33 52.5 -6.6**
PET *e*SS sS 09 34 25.9 -0.2
PET *eSS* SS 09 37 47.9 -5.8
PET pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
PET smax
comp=E,7.0nm,0.5s
PET smax
comp=N,9.0nm,0.4s
PMOR Pomariorio Ree 60.52 104 *eP* **P** **09 26 08.2 +1.3**
comp=N,128nm,1.1s,mb6.0
LZH Lanzhou 60.85 317 *eP* **P** **09 26 10.3 +1.1**
LZH AP pP 09 26 30.7 +5.4
LZH XP sP 09 26 41.2 +9.2
LZH AMB AMB
comp=Z,33nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,131nm,5.6s
LZH Lanzhou 60.85 317 *eP* **P** **09 26 10.3 +1.1**
comp=Z,33nm,1.0s,mb5.4
LZH pP pP 09 26 30.7 +5.4
LZH sP sP 09 26 41.2 +9.2
DRV Dumont d'Urvil 61.15 185 S **S** **09 34 30.0 +3.9**
HIA Hailar 61.35 337 *eP* **P** **09 26 11.6 -1.0**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA Hailar 61.35 337 *eP* **P** **09 26 11.6 -1.0**
comp=Z,14nm,0.8s,mb5.2
MA2 Magadan 65.26 360⇑ *eP* **P** **09 26 38.7 +0.3**
MA2 pmax pmax
comp=Z,92nm,1.8s,mb5.5
GTA Gaotai 65.32 318 *eP* **P** **09 26 39.2 +0.4**
GTA AP pP 09 26 59.1 +4.0
GTA XP sP 09 27 06.9 +5.1
GTA PP PP 09 29 07.9 +4.9
GTA S S 09 35 17.3 -0.8
GTA XS sS 09 35 49.8 +4.3
GTA SS SS 09 39 33.1 +1.2
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,192nm,6.9s
GTA LR LR
comp=N,296nm,16.4s
GTA LR LR
comp=E,410nm,16.4s
GTA LR LR
comp=Z,590nm,20.3s
ULN Ulaanbaatar 66.04 329⇑ *eP* **P** **09 26 43.5 +0.1**
ULN Ulaanbaatar 66.04 329 *eP* **P** **09 26 43.0 -0.5**
comp=Z,6.9nm,0.9s,mb4.7
SONM Songino Array 66.36 329 P **P** **09 26 44.8 -0.7**
comp=Z,5.7nm,0.9s,mb4.6,baz=131,slow=6.0,SNR=15
SONM LR LR 09 55 19.3
comp=Z,1µm,20.3s,baz=178,slow=36
CASY Casey 66.48 197 *eP* **P** **09 26 46.1 -0.1**
LSA Lhasa 67.47 305 P **P** **09 26 52.0 -0.5**
LSA Lhasa 67.47 305 *eP* **P** **09 26 53.8 +1.3**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSA Lhasa 67.47 305 *eP* **P** **09 26 53.8 +1.3**
comp=Z,9.4nm,0.8s,mb4.9
SEY Seymchan 68.64 1⇑ *eP* **P** **09 26 58.4 -1.5**
ZAK Zakamensk 69.56 330 *eP* **P** **09 27 04.5 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
YAK Yakutsk 69.72 349 *eP* **P** **09 27 05.1 -1.4**
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.2
BOD Bodaibo 70.22 340 *eP* **P** **09 27 06.3 -3.3**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
JIRN Jiri 70.91 302 *eP* **P** **09 27 13.8 0.0**
GUN Gumba 71.24 302 *eP* **P** **09 27 16.1 +0.3**
PALK Pallekele 71.44 280 *eP* **P** **09 27 18.3 +1.3**
comp=Z,4.4nm,0.8s,mb4.4
PKI Pulchoki 71.54 301 *eP* **P** **09 27 17.2 -0.4**
KKN Kakani 71.72 302 *eP* **P** **09 27 18.7 0.0**
VNDA Vanda 71.81 178 P **P** **09 27 18.4 -0.8**
comp=Z,17nm,0.9s,mb5.0,baz=331,slow=6.6,SNR=94
VNDA Vanda 71.81 178 *eP* **P** **09 27 18.8 -0.4**
VNDA pmax pmax
comp=Z,23nm,1.0s
VNDA Vanda 71.81 178 *eP* **P** **09 27 18.8 -0.5**
comp=Z,23nm,1.0s,mb5.1
DMN Daman 71.81 301 *eP* **P** **09 27 19.4 +0.2**
comp=Z,26nm,0.8s,mb5.2
GKN Gorkha 72.32 302 *eP* **P** **09 27 21.9 -0.4**
comp=Z,21nm,0.7s,mb5.2
SBA Scott Base 72.39 177 *eP* **P** **09 27 23.1 +0.4**
SBA pmax pmax
comp=Z,21nm,1.0s,mb5.0
SBA Scott Base 72.39 177 *eP* **P** **09 27 23.1 +0.4**
comp=Z,21nm,1.0s,mb5.0
RKT Rikitea 72.94 112 *eS* S 09 36 53.7 +5.7
comp=Z,160nm,27.2s
RKT *eSS* SS 09 41 34.4 +5.0
comp=Z,181nm,30.5s
RKT *eLR* LR 09 49 50.4
comp=Z,721nm,29.5s
KOLN Koldanda 73.14 301 *eP* **P** **09 27 26.9 -0.2**
comp=Z,28nm,0.6s,mb5.3
BILL Bilibino 74.54 6⇓ *eP* **P** **09 27 34.5 -0.8**
BILL *eS* S 09 37 00.3 -5.7
BILL pmax pmax
comp=Z,21nm,1.0s,mb5.0
BILL Bilibino 74.54 6 *eP* **P** **09 27 34.2 -1.1**
comp=Z,19nm,0.8s,mb5.1
WMQ Urumqi 75.40 318⇑ *iP* **P** **09 27 38.8 -1.5**
WMQ PCP PcP 09 27 51.9 -1.4
WMQ AP pP 09 27 57.7 +0.8
WMQ XP sP 09 28 05.3 +1.8
WMQ PP PP 09 30 30.3 +0.5
WMQ PPP 09 32 16.8
WMQ S S 09 37 11.8 -3.8
WMQ SKS 09 37 37.3
WMQ SCS ScS 09 37 41.8 -6.6
WMQ AMB AMB
comp=Z,11nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,128nm,4.6s
WMQ LR LR
comp=N,220nm,21.6s
WMQ LR LR
comp=E,217nm,21.6s
WMQ LR LR
comp=Z,327nm,20.0s
TIXI Tiksi 78.76 353 *eP* **P** **09 27 57.5 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MK31 Makanchi Array 80.04 319 *eP* **P** **09 28 05.1 -1.0**
MK31 *e* 09 31 07.2
MKAR Makanchi Array 80.04 319 P **P** **09 28 05.5 -0.7**
comp=Z,5.7nm,0.8s,mb4.5,baz=104,slow=5.8,SNR=31
MKAR PKiKP PKiKP 09 33 33.8 -2.0
comp=Z,0.4nm,0.7s,baz=76,slow=0.5,SNR=3.7
MKAR PKKPbc PKKPbc 09 46 50.5 +0.4
comp=Z,0.6nm,0.9s,baz=264,slow=3.4,SNR=4.6
MKAR LR LR 10 01 47.1
comp=Z,428nm,20.6s,baz=102,slow=34
ZAL Zalesovo 81.13 327 P **P** **09 28 09.7 -2.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=5.7,slow=6.4,SNR=12
ZAL LR LR 10 03 56.3
comp=Z,711nm,21.1s,baz=357,slow=35
PMR Palmer 81.38 25 *eP* **P** **09 28 11.4 -1.9**
PMR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
PMR Palmer 81.38 25 *eP* **P** **09 28 11.4 -1.9**
comp=Z,4.6nm,0.6s,mb4.6
SML Sawmill 81.82 25 *eP* **P** **09 28 13.7 -1.9**
KSH Kashi 82.36 311 *eP* **P** **09 28 19.7 +1.3**
KSH *e*AP pP 09 28 40.4 +5.2
KSH *e*XP sP 09 28 49.1 +7.3
KSH *e*PP PP 09 31 32.2 +4.4
KSH *e*PPP 09 33 25.1
KSH *e*S S 09 38 28.0 -1.7
KSH *e*XS sS 09 39 04.5 +6.4
KSH *e*PS 09 39 39.6
KSH *e*SS SS 09 43 56.7 +5.4
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=N,867nm,7.0s
KSH LR LR
comp=E,1µm,5.5s
KSH LR LR
comp=Z,981nm,6.4s
MCK McKinley 82.52 23 *eP* **P** **09 28 16.6 -2.7**
MCK pmax pmax
comp=Z,16nm,0.8s,mb5.1
MCK McKinley 82.52 23 *eP* **P** **09 28 16.6 -2.7**
comp=Z,16nm,0.8s,mb5.1
TKM2 Tokmak 2 83.47 314 P **P** **09 28 23.6 -0.5**
SNR=8.3
COLA College 83.50 22 *eP* **P** **09 28 21.6 -2.7**
COLA College 83.50 22 *eP* **P** **09 28 20.9 -3.3**
comp=Z,17nm,0.8s,mb5.1
KURK Kurchatov 83.59 322 P **P** **09 28 23.5 -1.3**
comp=Z,61nm,1.0s,mb5.7,SNR=6.2
MAW Mawson 83.91 203 *eP* **P** **09 28 25.6 -0.8**
comp=Z,18nm,0.6s,mb5.4
MAW Mawson 83.91 203 P **P** **09 28 25.6 -0.8**
comp=Z,24nm,0.7s,mb5.4,baz=80,slow=6.3,SNR=57
MAW LR LR 10 03 12.5
comp=Z,665nm,20.2s,baz=79,slow=34
MAW Mawson 83.91 203 *eP* **P** **09 28 25.6 -0.8**
MAW pmax pmax
comp=Z,18nm,0.6s
QSPA South Pole Qui 84.07 180 *eP* **P** **09 28 26.6 -0.6**
comp=Z,73nm,0.9s,mb5.8
UCH Uchtor 84.08 313 P **P** **09 28 28.1 +0.8**
SNR=14
FRU Bishkek 84.15 314 *eP* **P** **09 28 27.0 -0.6**
AAK Ala-Archa 84.19 314 P **P** **09 28 27.0 -0.8**
comp=Z,49nm,0.7s,mb5.8,SNR=5.9
AAK Ala-Archa 84.19 314 *eP* **P** **09 28 28.0 +0.2**
SNR=7.6
AAK Ala-Archa 84.19 314 *eP* **P** **09 28 26.8 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
AAK Ala-Archa 84.19 314 *eP* **P** **09 28 26.8 -1.0**
comp=Z,4.6nm,0.6s,mb4.8
USP Ospenovka 84.33 314 P **P** **09 28 27.9 -0.6**
SNR=12
AML Almayashu 84.65 313 P **P** **09 28 31.4 +1.2**
SNR=16
EKS2 Erkin-Say 84.71 314 P **P** **09 28 31.1 +0.7**
SNR=9.3
EGAK Eagle 86.03 23 *eP* **P** **09 28 35.9 -1.1**
comp=Z,16nm,0.9s,mb5.2
DAWY Dawson 86.48 24 *eP* **P** **09 28 38.5 -0.8**
CHKZ Chkalovo 89.09 324 *eP* **P** **09 28 49.5 -2.2**
CHKZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
CHKZ Chkalovo 89.09 324 *eP* **P** **09 28 49.5 -2.2**
comp=Z,7.4nm,1.1s,mb4.9
BRVK Borovoye 89.17 323 *eP* **P** **09 28 51.8 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
BRVK Borovoye 89.17 323 *eP* **P** **09 28 51.8 -0.3**
comp=Z,2.5nm,0.6s,mb4.7
O01C Eel River Cons 90.01 50⇓ P **P** **09 28 56.1 +0.1**
baz=90
P01C Double 8 Ranch 90.29 51⇓ P **P** **09 28 57.0 -0.4**
baz=90
K02A Glendale 90.60 47⇑ P **P** **09 28 58.7 -0.1**
baz=91
J02A Umpqua 90.62 47⇑ P **P** **09 28 58.8 -0.1**
baz=91
GASB Alder Springs 90.79 50⇑ P **P** **09 28 59.9 +0.3**
baz=91,SNR=5.4
O02C Red Bluff 90.80 50⇑ P **P** **09 29 00.7 +1.0**
baz=91,SNR=12
CVS Carmenet Viney 90.83 52⇑ P **P** **09 28 59.7 -0.1**
baz=91
M02C Callahan 90.90 49⇓ P **P** **09 29 00.1 -0.1**
baz=91,SNR=9.8
MNRC McLaughlin Nat 90.91 51⇑ P **P** **09 28 59.8 -0.4**
baz=91
HUMO Hull Mountain 90.97 47 P **P** **09 29 00.7 +0.3**
baz=91,SNR=13
WDC Whiskeytown Da 91.03 49 *eP* **P** **09 29 01.4 +0.6**
WDC Whiskeytown Da 91.03 49⇑ P **P** **09 29 01.2 +0.5**
baz=91,SNR=6.9
YBH Yreka Blue Hor 91.05 48 *eP* **P** **09 29 01.5 +0.7**
YBH pmax pmax
comp=Z,36nm,1.2s
YBH Yreka Blue Hor 91.05 48 *eP* **P** **09 29 01.5 +0.7**
comp=Z,36nm,1.2s,mb5.6
YBH Yreka Blue Hor 91.05 48⇑ P **P** **09 29 00.6 -0.2**
baz=91,SNR=9.8
J03A Ideyld Park 91.06 47⇓ P **P** **09 29 00.8 -0.1**
baz=91
HAST UC Hastings Re 91.33 54⇓ P **P** **09 29 02.6 +0.5**
baz=91
O03C Acorn Hollow, 91.36 50⇓ P **P** **09 29 02.1 -0.1**
baz=91
M03C McCloud 91.43 49 P **P** **09 29 02.7 +0.1**
baz=91,SNR=15
I04A Tendick Farm, 91.51 46⇓ P **P** **09 29 02.9 -0.1**
baz=92
V03C Hunter Liggett 91.54 54⇑ P **P** **09 29 03.3 +0.2**
baz=92
PACP Pacheco Peak 91.61 53⇓ P **P** **09 29 03.1 -0.3**
baz=92,SNR=6.0
M04C Macdoel 91.70 48⇑ P **P** **09 29 03.7 -0.2**
baz=92,SNR=12
OHCM Honcut 91.70 51 *eP* **P** **09 29 03.3 -0.5**
L04A Klamath Falls 91.70 48⇓ P **P** **09 29 04.1 +0.2**
baz=92,SNR=8.5
ORV Oroville 91.71 51⇑ P **P** **09 29 04.0 +0.1**
baz=92,SNR=18
K04A Chilquin 91.87 48⇓ P **P** **09 29 05.2 +0.5**
baz=92
HATC Hat Creek Radi 91.88 49⇓ P **P** **09 29 05.2 +0.5**
baz=92
U04C Hernandez Rese 91.94 54⇓ P **P** **09 29 05.2 +0.2**
baz=92,SNR=6.2
SYO Syowa Base 92.08 200⇑ *eP* **P** **09 29 04.0 -1.6**
SYO Syowa Base 92.08 200⇑ *epP* pP 09 29 22.2 -0.4
PKD Parkfield 92.10 54⇓ P **P** **09 29 05.9 +0.2**
baz=92,SNR=10
O04C Chester 92.11 50⇑ P **P** **09 29 06.0 +0.2**
baz=92,SNR=15
M05C Lookout 92.17 49⇑ P **P** **09 29 06.1 +0.1**
baz=92,SNR=10.0
LAVA Lava Cap Winer 92.22 51⇑ P **P** **09 29 06.2 -0.1**
baz=92,SNR=21
J05A Fort Rock 92.30 47⇓ P **P** **09 29 06.5 -0.1**
baz=92,SNR=9.0
I05A Bend 92.37 46⇑ P **P** **09 29 07.0 +0.1**
baz=92
P05C Yuba Gap, Truc 92.38 51⇓ P **P** **09 29 07.3 +0.3**
baz=92,SNR=14
ELFS Eagle Lake Fie 92.41 50⇓ P **P** **09 29 07.7 +0.5**
baz=92,SNR=8.3
CMB Columbia Colle 92.42 52 *eP* **P** **09 29 07.2 0.0**
CMB pmax pmax
comp=Z,26nm,1.3s,mb5.4
CMB Columbia Colle 92.42 52 *eP* **P** **09 29 07.2 0.0**
comp=Z,26nm,1.3s,mb5.4
CMB Columbia Colle 92.42 52⇑ P **P** **09 29 07.2 -0.1**
baz=92,SNR=11
L05A Lakeview 92.47 48⇓ P **P** **09 29 07.8 +0.3**
baz=92,SNR=7.4
K05A Summer Lake 92.50 47⇑ P **P** **09 29 07.7 +0.1**
baz=92,SNR=11
PKM Peak Mountain 92.58 55⇑ P **P** **09 29 08.6 +0.6**
baz=93,SNR=7.5
BEKR Beckwourth 92.62 50⇑ P **P** **09 29 08.3 +0.1**
baz=93,SNR=20
M06C Likely Place G 92.66 49⇓ P **P** **09 29 08.5 +0.2**
baz=93,SNR=5.6
R05C Kirkwood Meado 92.73 52⇓ P **P** **09 29 08.7 0.0**
baz=93,SNR=13
S06C San Francisco 92.83 52 P **P** **09 29 09.2 0.0**
baz=93,SNR=28
MOD Modoc 92.85 48 *eP* **P** **09 29 08.0 -1.2**
comp=Z,23nm,1.1s,mb5.5
MOD Modoc 92.85 48 P **P** **09 29 09.5 +0.3**
baz=93,SNR=12
T06C Millerton Lake 92.86 53⇓ P **P** **09 29 09.5 +0.2**
baz=93,SNR=21
P06A Stead Airport, 92.96 51⇑ P **P** **09 29 09.5 -0.2**
baz=93,SNR=6.1
K06A Valley Falls 92.97 47 P **P** **09 29 10.1 +0.3**
baz=93,SNR=6.7
WCN Washoe City 93.03 51 P **P** **09 29 10.5 +0.4**
baz=93,SNR=31
O06A Flanigan 93.05 50⇑ P **P** **09 29 10.3 +0.2**
baz=93,SNR=13
J06A Christmas Vall 93.09 47 P **P** **09 29 09.8 -0.5**
baz=93,SNR=13
N06A Buffalo Meadow 93.10 50 P **P** **09 29 10.3 0.0**
baz=93,SNR=12
I06A Prineville 93.11 46⇑ P **P** **09 29 10.2 -0.2**
baz=93,SNR=6.4
R06C Coleville 93.20 52⇓ P **P** **09 29 11.2 +0.4**
baz=93,SNR=22
KCC Kaiser Creek 93.20 53⇑ P **P** **09 29 10.9 +0.1**
baz=93,SNR=21
WAKR Walker 93.21 52 *eP* **P** **09 29 11.4 +0.5**
VES Vestal, Richgr 93.27 54⇑ P **P** **09 29 10.7 -0.4**
baz=93,SNR=8.7
PAHR Pah Rah Range 93.36 51 *eP* **P** **09 29 10.7 -0.9**
comp=Z,19nm,0.9s,mb5.5
A07A Ashnola River, 93.44 41⇑ P **P** **09 29 11.4 -0.5**
baz=93
R07C Lee Vining 93.48 52⇑ P **P** **09 29 12.2 +0.1**
baz=94,SNR=15
L07A Adell 93.58 48 P **P** **09 29 13.2 +0.6**
baz=94,SNR=17
G07A Ruggs Ranch, H 93.61 45⇓ P **P** **09 29 12.2 -0.5**
baz=94
CIS Catalina Islan 93.62 57⇑ P **P** **09 29 12.9 +0.1**
baz=94,SNR=5.9
I07A Izee 93.63 46⇓ P **P** **09 29 12.7 -0.1**
baz=94,SNR=9.4
M07A Soldier Meadow 93.65 49⇑ P **P** **09 29 13.1 +0.2**
baz=94,SNR=9.1
K07A Rock Creek Ran 93.70 48⇑ P **P** **09 29 13.3 +0.2**
baz=94,SNR=10.0
ISA Isabella 93.75 55 *eP* **P** **09 29 13.3 0.0**
ISA Isabella 93.75 55 P **P** **09 29 13.4 +0.1**
baz=94,SNR=13
N07B Gerlach 93.76 50⇓ P **P** **09 29 13.5 +0.1**
baz=94,SNR=11
O07A Toulon 93.78 50 P **P** **09 29 13.7 +0.2**
baz=94,SNR=12
MTUM Tungsten Hills 93.81 53 *eP* **P** **09 29 14.2 +0.6**
MWC Mount Wilson 93.97 56 *eP* **P** **09 29 15.0 +0.6**
EDW2 Edwards Air Fo 94.08 56⇓ P **P** **09 29 14.7 -0.1**
baz=94,SNR=26
NVAR Mina Array Bea 94.09 52 P **P** **09 29 15.2 +0.3**
comp=Z,16nm,0.8s,mb5.5,baz=265,slow=7.8,SNR=90
G08A Pilot Rock 94.11 45⇓ P **P** **09 29 15.0 0.0**
baz=94,SNR=5.4
S08C White Mtn Res 94.13 53 P **P** **09 29 15.7 +0.6**
baz=94,SNR=19
M08A Happy Creek Ra 94.25 49⇑ P **P** **09 29 15.9 +0.3**
baz=94,SNR=8.9
H08A Prairie City 94.26 46⇓ P **P** **09 29 15.1 -0.5**
baz=94
K08A Mann Creek Ran 94.26 48⇓ P **P** **09 29 15.5 -0.2**
baz=94
BFSC Mount Baldy St 94.31 56⇑ P **P** **09 29 15.8 0.0**
baz=94,SNR=10
J08A Circle Bar Ran 94.32 47 P **P** **09 29 15.9 0.0**
baz=94,SNR=9.1
L08A Fields 94.33 48⇑ P **P** **09 29 16.2 +0.2**
baz=94,SNR=6.6
P08A Dixie Valley 94.36 51⇓ P **P** **09 29 16.0 -0.1**
baz=94,SNR=5.1
LRMC Laurel Mountai 94.37 55⇓ P **P** **09 29 16.3 +0.1**
baz=94,SNR=48
N08A GE Springer Mi 94.39 50⇑ P **P** **09 29 16.3 0.0**
baz=94,SNR=6.9
Q08A Gabbs 94.41 52 P **P** **09 29 16.6 +0.2**
baz=94,SNR=16
DAC Darwin (Calif) 94.50 54 *eP* **P** **09 29 17.0 +0.2**
MPMC Manual Prospec 94.57 54⇑ P **P** **09 29 17.2 +0.1**
baz=95,SNR=31
E09A Wood Farm, Sta 94.76 44 P **P** **09 29 17.6 -0.3**
baz=95,SNR=7.9
L09A Wilkinson Ranc 94.82 48⇓ P **P** **09 29 18.6 +0.3**
baz=95,SNR=5.4
J09A Fry Pan Ranch, 94.84 47⇑ P **P** **09 29 18.1 -0.2**
baz=95,SNR=11
N09A Rock Creek Ran 94.86 50⇑ P **P** **09 29 18.5 +0.1**
baz=95,SNR=6.4
I09A Lost Marbles R 94.89 46 P **P** **09 29 18.6 +0.1**
baz=95,SNR=6.2
TPH Tonopah 94.92 52 *eP* **P** **09 29 19.4 +0.7**
TPH pmax pmax
comp=Z,19nm,1.0s,mb5.5
TPH Tonopah 94.92 52 *eP* **P** **09 29 19.4 +0.7**
comp=Z,19nm,1.0s,mb5.5
BAR Barrett 95.02 58 *eP* **P** **09 29 19.3 +0.1**
R09A Tonopah 95.05 52 P **P** **09 29 19.5 +0.3**
baz=95,SNR=18
BMN Battle Mountai 95.06 50 *eP* **P** **09 29 19.4 +0.1**
BMN pmax pmax
comp=Z,11nm,1.1s,mb5.2
BMN Battle Mountai 95.06 50 *eP* **P** **09 29 19.4 +0.1**
comp=Z,11nm,1.1s,mb5.2
O09A Fish Creek Ran 95.07 50⇑ P **P** **09 29 19.5 +0.1**
baz=95,SNR=11
GSC Goldstone 95.08 55 *eP* **P** **09 29 19.8 +0.4**
GSC Goldstone 95.08 55⇑ P **P** **09 29 19.9 +0.5**
baz=95,SNR=10
FURC Furnace Creek, 95.11 54 P **P** **09 29 20.0 +0.5**
baz=95,SNR=24

MONP	**Monument Peak**	**95.25**	**58**	⇓P	**P**	**09 29 20.8**	**+0.6**
	baz=95,SNR=16						
BMO	**Blue Mountains**	**95.25**	**46**	*e*P	**P**	**09 29 19.4**	**-0.8**
PFO	**Pinyon Flat Ob**	**95.26**	**57**	P	**P**	**09 29 21.5**	**+1.2**
	comp=Z,78nm,0.9s,mb6.1,SNR=5.8						
PFO	**Pinyon Flat Ob**	**95.26**	**57**	*e*P	**P**	**09 29 20.5**	**+0.2**
	comp=Z,16nm,1.0s,mb5.4						
PFO	**Pinyon Flat Ob**	**95.26**	**57**	⇓P	**P**	**09 29 21.1**	**+0.9**
	baz=95,SNR=10						
F10A	**Beach Ranch, E**	**95.36**	**44**	⇑P	**P**	**09 29 20.5**	**-0.2**
	baz=95,SNR=6.5						
HEC	**Hector,Ludlow**	**95.44**	**56**	⇓P	**P**	**09 29 21.6**	**+0.6**
	baz=95,SNR=12						
DVTC	**Desert V Tower**	**95.50**	**58**	⇓P	**P**	**09 29 21.4**	**0.0**
	baz=96,SNR=6.3						
U10A	**Ash Meadows, A**	**95.53**	**54**	⇑P	**P**	**09 29 21.3**	**-0.2**
	baz=96,SNR=9.6						
SHOC	**Shoshone**	**95.54**	**55**	P	**P**	**09 29 21.9**	**+0.4**
	baz=96,SNR=21						
NEW	**Newport**	**95.54**	**42**	*e*P	**P**	**09 29 21.5**	**0.0**
NEW				pmax	pmax		
	comp=Z,12nm,1.2s						
NEW	**Newport**	**95.54**	**42**	*e*P	**P**	**09 29 21.5**	**0.0**
	comp=Z,12nm,1.2s,mb5.2						
BELC	**Belle Mtn.**	**95.67**	**56**	⇓P	**P**	**09 29 22.8**	**+0.7**
	baz=96,SNR=15						
TUQ	**Turquoise Mtn.**	**95.81**	**55**	⇑P	**P**	**09 29 23.2**	**+0.5**
	baz=96,SNR=8.4						
A11A	**Hall Mountain,**	**96.07**	**41**	⇓P	**P**	**09 29 23.7**	**-0.3**
	baz=96						
BC3	**Big Chuckw Mtn**	**96.10**	**57**	⇓P	**P**	**09 29 24.5**	**+0.5**
	baz=96,SNR=9.1						
Q11A	**Duckwater**	**96.19**	**52**	⇓P	**P**	**09 29 24.5**	**0.0**
	baz=96,SNR=9.3						
IRM	**Iron Mountain**	**96.38**	**56**	⇑P	**P**	**09 29 26.0**	**+0.7**
	baz=96,SNR=15						
SHPR	**Sheep Range**	**96.48**	**54**	*e*P	**P**	**09 29 26.9**	**+1.1**
V12A	**Nelson**	**96.69**	**55**	⇓P	**P**	**09 29 27.2**	**+0.4**
	baz=97,SNR=12						
N12A	**Clover Valley,**	**96.74**	**50**	⇑P	**P**	**09 29 27.1**	**+0.2**
	baz=97,SNR=21						
P12A	**McGill**	**96.79**	**51**	⇓P	**P**	**09 29 27.2**	**0.0**
	baz=97,SNR=7.7						
Q12A	**Willow Creek R**	**96.84**	**51**	⇑P	**P**	**09 29 27.7**	**+0.2**
	baz=97,SNR=9.3						
M12A	**Wells**	**96.85**	**49**	⇓P	**P**	**09 29 27.7**	**+0.2**
	baz=97,SNR=6.7						
Y12C	**Blythe**	**96.88**	**57**	⇓P	**P**	**09 29 27.8**	**+0.2**
	baz=97,SNR=5.5						
YKA	**Yellowknife Ar**	**97.18**	**28**	P	**P**	**09 29 29.0**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.7,baz=269,slow=5.0,SNR=8.4						
YKA				LR	LR	10 12 36.3	
	comp=Z,378nm,18.2s,baz=215,slow=35						
YKA	**Yellowknife Ar**	**97.18**	**28**	P	**P**	**09 29 29.1**	**+0.1**
YKA				LR	LR	10 12 36.3	
HLID	**Hailey**	**97.28**	**47**	*e*P	**P**	**09 29 29.2**	**-0.2**
HLID	**Hailey**	**97.28**	**47**	⇓P	**P**	**09 29 29.0**	**-0.4**
	baz=97						
N13A	**Wendover, West**	**97.37**	**50**	⇓P	**P**	**09 29 28.7**	**-1.1**
	baz=97						
F13A	**Darby**	**97.38**	**45**	⇓P	**P**	**09 29 28.9**	**-1.0**
	baz=97						
M13A	**Montello**	**97.42**	**49**	⇑P	**P**	**09 29 29.5**	**-0.5**
	baz=97,SNR=11						
W13A	**Hualapai Mount**	**97.46**	**55**	⇓P	**P**	**09 29 31.1**	**+0.9**
	baz=97,SNR=11						
WALA	**Waterton Lakes**	**97.69**	**41**	*e*P	**P**	**09 29 31.1**	**-0.2**
	comp=Z,13nm,0.9s,mb5.5						
ARUT	**Antelope Range**	**97.89**	**53**	*e*P	**P**	**09 29 32.8**	**+0.6**
EDM	**Edmonton**	**98.02**	**37**	*e*P	**P**	**09 29 32.1**	**-0.6**
X14A	**Yava**	**98.26**	**56**	⇑P	**P**	**09 29 34.7**	**+0.9**
	baz=98,SNR=5.4						
DUG	**Dugway**	**98.42**	**50**	⇑P	**P**	**09 29 34.1**	**-0.4**
	baz=98						
E15A	**Deer Lodge**	**98.56**	**44**	⇑P	**P**	**09 29 35.0**	**-0.1**
	baz=98						
SPUT	**South Promonto**	**98.71**	**49**	*e*P	**P**	**09 29 33.7**	**-2.2**
W15A	**Williams**	**98.78**	**55**	⇓P	**P**	**09 29 37.2**	**+1.0**
	baz=99,SNR=5.6						
X15A	**Humboldt**	**98.80**	**56**	⇑P	**P**	**09 29 37.0**	**+0.8**
	baz=99						
WUAZ	**Wupatki**	**99.52**	**55**	*e*Pdif	Pdif	09 29 41.0	+1.5
	comp=Z,4.9nm,0.8s						
WUAZ	**Wupatki**	**99.52**	**55**	⇓P	Pdif	09 29 40.2	+0.8
	baz=100						
TMUT	**Trail Mountain**	**99.66**	**51**	*e*Pdif	Pdif	09 29 40.0	0.0
IMW	**Indian Meadow**	**99.80**	**47**	*e*Pdif	Pdif	09 29 41.0	+0.3
REDW	**Red Top Meadow**	**99.87**	**47**	*e*Pdif	Pdif	09 29 41.5	+0.4
	comp=Z,11nm,1.3s						
TUC	**Tucson**	**99.98**	**58**	*e*P	Pdif	09 29 44.2	+2.7
SRU	**San Rafael**	**100.19**	**51**	*e*P	Pdif	09 29 43.0	+0.6
BW06	**Boulder Array**	**100.84**	**48**	*e*Pdif	Pdif	09 29 44.3	-1.0
PDAR	**Pinedale Array**	**100.84**	**48**	P	Pdif	09 29 44.1	-1.2
	comp=Z,4.2nm,0.8s,baz=244,slow=1.8,SNR=29						
SMCO	**Snowmass**	**102.95**	**51**	*e*Pdif	Pdif	09 29 55.6	+0.9
TXAR	**Lajitas Array**	**106.14**	**61**	Pdif	Pdif	09 30 14.1	+5.2
	comp=Z,0.3nm,0.8s,baz=237,slow=4.3,SNR=4.1						
TXAR				PKIKP	PKiKP	09 34 24.9	+4.4
	comp=Z,1.0nm,1.1s,baz=239,slow=14,SNR=3.8						
TXAR				PKKPbc	PKKPbc	09 45 42.7	+0.8
	comp=Z,0.6nm,0.8s,baz=66,slow=3.0,SNR=5.6						
TXAR				PKKPab	PKKPab	09 45 58.6	+0.2
	comp=Z,0.6nm,0.7s,baz=114,slow=6.8,SNR=6.7						
TXAR	**Lajitas Array**	**106.14**	**61**	Pdif	Pdif	09 30 14.1	+5.2
TXAR				PKPdf	PKiKP	09 34 24.9	+4.4
TXAR				PKKPbc	PKKPbc	09 45 42.7	+0.8
TXAR				PKKPab	PKKPab	09 45 58.6	+0.2
ARCES	**ARCESS Array B 107.41 343**			PKIKP	PKiKP	09 34 21.8	-1.0
	comp=Z,1.8nm,0.5s,baz=102,slow=1.7,SNR=13						
ARCES	**ARCESS Array B 107.41 343**			PKPdf	PKiKP	09 34 21.8	-1.0
OBN	**Obninsk**	**108.71 327**	⇑	*e*P	Pdif	09 30 23.0	+2.7
OBN				*e*		09 34 49.3	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,600nm,21.0s						
AKASG	**Malin Array Be**	**114.38 324**		PKP	PKiKP	09 34 34.4	-1.6
	comp=Z,1.1nm,0.5s,baz=61,slow=2.2,SNR=5.3						
AKASG				PKKPbc	PKKPbc	09 45 13.7	-1.5
	comp=Z,1.3nm,0.6s,baz=266,slow=3.3,SNR=5.8						
MMAI	**Mount Meron Ar**	**114.69 304**		PKP	PKiKP	09 34 37.2	+0.7
	comp=Z,1.2nm,0.5s,baz=116,slow=3.4,SNR=4.0						
BRTR	**Keskin Array B**	**114.75 311**		PKP	PKiKP	09 34 34.2	-2.4
	comp=Z,3.5nm,1.0s,baz=99,slow=1.7,SNR=7.1						
HFS	**Hagfors**	**117.06 338**		PKP	PKPdf	09 34 39.2	-2.0
	comp=Z,2.4nm,0.8s,baz=48,slow=2.2,SNR=4.6						
NB2	**NORSAR Subarra**	**117.35 339**		PKIKP	PKPdf	09 34 41.0	-0.7
NB2	**NORSAR Subarra**	**117.35 339**		PKPdf	PKPdf	09 34 41.0	-0.7
	comp=Z,1.6nm,0.8s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.35 339**		PKP	PKPdf	09 34 40.9	-0.8
	comp=Z,1.4nm,0.6s,baz=46,slow=1.9,SNR=5.7						
BOSA	**Boshof**	**117.61 234**		PKP	PKPdf	09 34 42.8	+0.6
	comp=Z,2.9nm,0.7s,baz=120,slow=5.2,SNR=4.7						
BOSA				PKKPbc	PKKPbc	09 45 04.6	+0.6
	comp=Z,3.5nm,0.9s,baz=22,slow=10.0,SNR=3.2						
BOSA	**Boshof**	**117.61 234**		PKP	PKPdf	09 34 42.8	+0.6
BOSA				PKKPbc	PKKPbc	09 45 04.6	+0.6
KOLS	**Kolonicke sedl**	**119.21 324**		*e*PKP	PKPdf	09 34 46.0	+0.7
STHS	**Stebnicka Huta**	**119.58 325**		*e*PKP	PKPdf	09 34 46.8	+0.8
DRGR		**119.90 322**	⇓	*i*P	PKPdf	09 34 46.9	+0.3
RGN	**Rugen**	**120.81 333**		*e*PKPdf	PKPdf	09 34 56.8	+8.5
BZS	**Buzias**	**121.10 321**	⇑	*i*P	PKPdf	09 34 48.9	0.0
VTS	**Vitosha**	**121.33 317**	⇑	*i*P	PKPdf	09 34 49.6	+0.3
VYHS	**Vyhne**	**121.41 325**		*e*PKP	PKPdf	09 34 49.7	+0.2
MORC	**Moravsky Berou**	**121.47 327**	⇓	*i*P	PKPdf	09 34 50.4	+0.8
GRUS	**Gruza**	**122.44 319**		*i*P	PKPdf	09 34 49.3	-2.1
IDI	**Anoyia**	**122.64 308**		PKKPbc	PKKPbc	09 44 45.9	+0.6
	comp=Z,7.6nm,1.0s,baz=281,slow=2.1,SNR=5.6						
PKSM	**Moragy**	**122.66 323**	⇓	*i*P	PKPdf	09 34 51.8	-0.1
BRG	**Berggiesshubel**	**122.75 329**		*e*PKP	PKPdf	09 34 52.7	+0.6
	comp=Z,5.1nm,1.3s						
BRG	**Berggiesshubel**	**122.75 329**		*e*PKIKP	PKPdf	09 34 52.7	+0.6
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
DIVS	**Divcibare**	**122.82 320**		*i*P	PKPdf	09 34 51.6	-0.6
CLL	**Collm**	**122.97 330**		*e*PKIKP	PKPdf	09 34 52.0	-0.5
CLL				pmax	pmax		
	comp=Z,144nm,1.5s						
CLL				MLR	MLR		
	comp=Z,500nm,21.2s						
CLL	**Collm**	**122.97 330**		*e*PKPdf	PKPdf	09 34 52.0	-0.5
	comp=Z,21nm,1.5s						
CLL				LmV		10 28 00.0	
	comp=Z,500nm,21.2s						
KRUS	**Krusevo**	**123.16 316**		*e*PKP	PKPdf	09 34 52.5	-0.4
WERD	**Werda**	**123.84 330**		*e*PKPdf	PKPdf	09 34 54.1	-0.1
GUNZ	**Gunzen**	**123.88 329**		*e*PKPdf	PKPdf	09 34 54.5	+0.3
KHC	**Kasperske Hory**	**123.97 328**		*e*PKPdf	PKPdf	09 34 53.0	-1.4
KHC				*ex*	x	09 35 01.0	
GEC2	**GERESS Array S**	**124.08 327**		*e*PKPdf	PKPdf	09 34 55.1	+0.5
GERES	**GERESS Array B**	**124.08 327**		PKP	PKPdf	09 34 54.6	0.0
	comp=Z,2.9nm,0.6s,baz=70,slow=1.5,SNR=17						
WET	**Wettzell**	**124.34 328**		*e*PKPdf	PKPdf	09 34 55.5	+0.4
PERS	**Pernice**	**124.53 324**		*e*PKPdf	PKPdf	09 34 55.3	-0.2
GRA1	**Grafenberg Arr**	**124.86 329**		*e*PKPdf	PKPdf	09 34 56.8	+0.7
GRF	**Grafenberg Arr**	**124.86 329**		*e*PKPdf	PKPdf	09 34 56.8	+0.7
BOJS	**Bojanci**	**125.06 323**		*e*PKPdf	PKPdf	09 34 57.0	+0.4
BOJS				*e*		09 35 18.3	
LJU	**Ljubljana**	**125.20 324**		*e*PKPdf	PKPdf	09 34 57.2	+0.4
CEY	**Cerknica**	**125.42 324**		*e*PKPdf	PKPdf	09 34 57.5	+0.4
EKA	**Eskdalemuir Ar**	**126.56 342**		PKP	PKPdf	09 34 58.8	-0.6
	comp=Z,1.5nm,0.5s,baz=20,slow=3.1,SNR=7.8						
TIP	**Timpagrande**	**127.20 316**		*e*PKPdf	PKPdf	09 35 01.1	+0.5
DAVOX	**Davos**	**127.38 327**		PKP	PKPdf	09 35 00.1	-0.9
	comp=Z,5.9nm,0.7s,baz=351,slow=23,SNR=7.6						
DAVOS	**Davos**	**127.39 327**		PKIKP	PKPdf	09 35 00.1	-0.8
GIVF	**Givet**	**127.65 333**		*e*PKP1	PKPdf	09 34 59.9	-1.6
CDF	**Champ du Feu**	**127.67 330**		*e*PKP1	PKPdf	09 35 00.9	-0.6
HINF	**Hinteralfeld**	**128.28 330**		*e*PKP1	PKPdf	09 35 02.3	-0.3
HAU	**Haudompre**	**128.40 330**		*e*PKP1	PKPdf	09 35 02.7	-0.2
	comp=Z,7.0nm,0.6s						
CABF	**La Chapelle**	**129.47 329**		*e*PKP1	PKPdf	09 35 05.4	+0.5
	comp=Z,14nm,0.8s						
LPL	**La Plagne**	**129.87 328**		*e*PKP1	PKPdf	09 35 06.1	+0.4
SSF	**Saint Saulge**	**130.44 331**		*e*PKP1	PKPdf	09 35 04.1	-2.7
PGF	**Pioggiola**	**130.45 323**		*e*PKP1	PKPdf	09 35 06.5	-0.3
	comp=Z,16nm,0.8s						
LDF	**La Druitiere**	**130.93 335**		*e*PKP1	PKPdf	09 35 05.4	-2.3
FLN	**La Foliniere**	**130.95 335**		*e*PKP1	PKPdf	09 35 06.0	-1.7
GRR	**Gorron**	**131.40 335**		*e*PKP1	PKPdf	09 35 07.4	-1.2
	comp=Z,33nm,1.2s						
SMRF	**Simiane la Rot**	**131.50 327**		*e*PKP1	PKPdf	09 35 09.5	+0.7
	comp=Z,39nm,1.2s						
TCF	**Toulx Ste Croi**	**131.62 331**		*e*PKP1	PKPdf	09 35 07.9	-1.1
	comp=Z,7.4nm,0.7s						
SGMF	**Saint Gilles**	**132.20 336**		*e*PKP1	PKPdf	09 35 10.1	0.0
KEST	**Kesra**	**134.02 316**		PKP	PKPdf	09 35 13.6	+0.1
	comp=Z,3.8nm,0.9s,baz=330,slow=4.0,SNR=8.9						
ROSC	**El Rosal**	**134.77 89**		PKP	PKPdf	09 35 16.2	+1.3
	comp=Z,8.8nm,0.7s,baz=96,slow=8.6,SNR=6.2						
ROSC	**El Rosal**	**134.77 89**		*e*PKPdf	PKPdf	09 35 15.7	+0.8
LPAZ	**La Paz**	**135.37 120**		PKP	PKPdf	09 35 17.6	+1.6
	comp=Z,5.3nm,0.8s,baz=119,slow=1.3,SNR=9.5						
LPAZ	**La Paz**	**135.37 120**		*e*PKPdf	PKPdf	09 35 17.1	+1.1
ETSF	**Etsaut**	**135.44 330**		*e*PKP1	PKPdf	09 35 17.9	+1.7
	comp=Z,42nm,1.3s						
SDV	**Santo Domingo**	**138.53 83**		*e*PKPpre		09 35 12.9	
SDV				*e*PKPdf	PKPdf	09 35 23.2	+1.3
MDT	**Midelt**	**144.94 323**		PKP	PKPdf	09 35 33.4	0.0
	comp=Z,4.8nm,0.8s,baz=60,slow=5.8,SNR=8.0						
TOA0	**Torodi Ar. Sit**	**149.00 286**		*e*PKPdf	PKPdf	09 35 41.8	+1.7
TOA0				*e*PKPbc	PKPbc	09 35 44.6	+0.3
TORD	**Torodi Ar. Bea**	**149.00 286**		PKP	PKPdf	09 35 40.2	+0.1
	comp=Z,72nm,0.8s,baz=31,slow=1.7,SNR=169						
TORD				PKPbc	PKPbc	09 35 44.0	-0.3
	comp=Z,72nm,0.8s,baz=50,slow=2.7,SNR=212						
TORD	**Torodi Ar. Bea**	**149.00 286**		PKP	PKPdf	09 35 40.2	+0.1
TORD				PKPbc	PKPbc	09 35 44.0	-0.3
LIC	**Lamto**	**156.25 272**		*e*PKIKP	PKPdf	09 35 51.1	+0.3
	comp=Z,56nm,1.4s						

IDC 07 09:28:42.9±8.7,569S×15093E,h67km±61km, mb3.6/3, mb1 3.8/4,mb1mx3.5/15,mbtmp3.7/4,ML2.6/1,Error ellipse: s-maj=99.5km s-min=56.0km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**225**	P	Pn	09 29 59.6	+0.8
	1.4nm,0.3s,baz=35,slow=12,SNR=4.2						
PMG				S	Sn	09 30 58.7	+0.7
	2.5nm,0.3s,baz=350,slow=22,SNR=3.8						
WB2	**Warramunga Arr**	**21.46**	**227**	*e*P	P	09 33 25.5	-0.2
WRA	**Warramunga Arr**	**21.47**	**227**	P	P	09 33 25.5	-0.3
	1.5nm,0.5s,baz=53,slow=10,SNR=24						
ASAR	**Alice Springs**	**24.25**	**221**	P	P	09 33 53.8	+0.2
	1.8nm,0.6s,baz=56,slow=9.3,SNR=22						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	P	P	09 34 24.7	+0.9
	2.9nm,1.1s,baz=75,slow=10.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc	PKPbc	09 48 23.1	+0.5
	0.8nm,0.6s,baz=87,slow=2.5,SNR=5.7						

*CSEM **07** 09:28:52.8,3462N×2525E,h13km,MD3.7/4,After ATH*
ATH 07 09:28:52.8,3462N×2525E,h13km,MD3.6/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.71**	**25**	*e*PB	Pb	09 29 06.0	-1.0
VAM	**Vamos**	**1.17**	**313**	*e*PB	Pb	09 29 15.1	+0.3
KYTH	**Kithira**	**2.45**	**313**	*e*PB	Pb	09 29 34.0	-2.7
VLI	**Veliai**	**2.82**	**319**	*e*PB	Pb	09 29 41.0	-1.9

*ISCJB **07** 10:40:07.5±0.8,3881N±007×216E±0.1,h17km, Error ellipse: s-maj=15.5km s-min=5.6km az=73.5*
*CSEM **07** 10:40:07.6±0.1,3883N×2156E,h2km,MD3.1,Error ellipse: s-maj=5.6km s-min=2.6km az=126.0*
*ATH **07** 10:40:07.2,3882N×2160E,h17km±5km,MD3.1/4*
*SKO **07** 10:40:09.0,3884N×2161E,h0km*
ISC 07 10:40:06.8±1.5,3884N±006×215E±02,h4km±22km, n5, σ0§66/8,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.26**	**74**	*e*PB	**Pg**	**10 40 11.5**	**-0.4**
EVR				SB	**Sg**	**10 40 15.3**	**-0.1**
RLS	**Riolos of Patr**	**0.79**	**181**	*e*PN	**Pg**	**10 40 22.1**	**+0.2**
THL	**Klokotos Trika**	**0.83**	**30**	*e*PN	**Pg**	**10 40 22.6**	**-0.1**
THL				SN	**Sg**	**10 40 34.4**	**+0.9**
VLS	**Valsamata**	**0.97**	**227**	*e*PB	**Pb**	**10 40 26.0**	**-0.1**
VLS				SN	**Sn**	**10 40 41.7**	**+0.4**
KRUS	**Krusevo**	**2.53**	**356**	*e*Pn	**Pb**	**10 40 52.0**	**-0.7**

*IDC **07** 10:46:13.3±1.1,078N×12555E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.8/16,mbtmp4.0/5,Error ellipse: s-maj=134.4km s-min=18.8km az=66.0*
NEIC 07 10:46:18.1±0.9,052N×12496E,h30km,Error ellipse: s-maj=187.0km s-min=15.3km az=67.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.31**	**156**	P	P	10 51 13.8	+0.7
	1.3nm,0.6s,baz=337,slow=12,SNR=32						
WB2	**Warramunga Arr**	**22.32**	**156**	*e*P	P	10 51 14.0	+0.9
ASAR	**Alice Springs**	**25.56**	**161**	P	P	10 51 45.6	+1.3
	0.2nm,0.5s,baz=355,slow=8.2,SNR=6.4						
STKA	**Stephens Creek**	**35.86**	**155**	P	P	10 53 13.3	-1.8
	2.4nm,0.5s,baz=343,slow=9.1,SNR=7.2						
SONM	**Songino Array**	**49.81**	**344**	P	P	10 55 08.9	+0.8
	3.2nm,0.6s,baz=129,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**59.23**	**327**	P	P	10 56 16.3	-0.2
	1.6nm,0.3s,baz=115,slow=8.1,SNR=36						
MKAR	**Makanchi Array**	**59.23**	**327**	P	P	10 56 16.3	-0.2

MAN 07 10:47:12.5,1018N×12620E,h34km,mb1.7,ML3.5,MS1.6, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.80**	**240**	⇑*e*P	Pn	10 47 27.7	+0.3
SCPH				*e*S	Sn	10 47 39.2	+1.1
MSLP	**Maasin**	**1.32**	**268**	*e*P	Pn	10 47 34.9	+0.5
BESP	**Borongan**	**1.59**	**332**	*e*P	Pn	10 47 38.7	+0.4

*CSEM **07** 10:48:40.8,3739N×2277E,h26km,MD3.5/11,After ATH*
*NEIC **07** 10:48:40.8,3739N×2277E,h26km,ML3.2(ATH),After ATH.*
ATH 07 10:48:40.8,3739N×2277E,h26km±2km,MD3.5/11,ML3.2, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAIG	**Nisos Aigina**	**0.68**	**57**	*e*PN	Pn	10 48 54.0	-0.7
NAIG				*e*SN	Sn	10 49 04.0	-0.5
VLI	**Veliai**	**0.68**	**169**	*e*PN	Pn	10 48 54.8	0.0
VLI				SN	Sn	10 49 04.0	-0.6
ITM	**Ithomi**	**0.70**	**253**	*e*PN	Pn	10 48 55.3	+0.2
ITM				SN	Sn	10 49 04.6	-0.5
KVR	**Kavouri**	**0.91**	**61**	*e*PN	Pn	10 48 58.0	+0.2
ATH	**Athens Observa**	**0.95**	**52**	*e*PN	Pn	10 48 58.7	+0.3
ATH				SN	Sn	10 49 13.2	+2.1
PTL	**Penteli**	**1.09**	**53**	*e*PN	Pn	10 49 02.0	+1.6
KYTH	**Kithira**	**1.13**	**169**	*e*PN	Pn	10 49 03.0	+2.1
RLS	**Riolos of Patr**	**1.23**	**303**	*e*PN	Pn	10 49 04.2	+1.9
RLS				SN	Sn	10 49 21.3	+3.3
LKR	**Lokris**	**1.27**	**8**	*e*PN	Pn	10 49 04.2	+1.3
EVR	**Evrytania**	**1.70**	**334**	*e*PN	Pn	10 49 11.4	+2.6
VAM	**Vamos**	**2.29**	**149**	*e*PN	Pn	10 49 18.8	+1.9

*ISCJB **07** 11:00:26.8±4.1,55S±05×1508E±05,h64km±33km, mb4.0/4,Error ellipse: s-maj=115.3km s-min=27.0km az=92.2*
*NEIC **07** 11:00:28.0±3.1,566S×151.12E,h69km±25km,mb4.2/1, Error ellipse: s-maj=96.4km s-min=23.6km az=139.0*
*IDC **07** 11:00:27.2±6.3,566S×15108E,h59km±53km,mb3.9/4, mb1 4.1/5,mb1mx3.7/15,mbtmp3.9/5,ML2.7/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/27,Error ellipse: s-maj=99.5km s-min=35.3km az=141.0*
ISC 07 11:00:28.4±3.7,57S±06×1510E±05,h64km±29km,n12, σ0§55/12,mb4.0/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.35**	**226**	P	**Pn**	**11 01 46.3**	**+0.6**
	1.7nm,0.3s,baz=20,slow=9.6,SNR=7.3						
PMG				S	**Sn**	**11 02 45.3**	**-0.6**
	3.5nm,0.3s,baz=1.0,slow=20,SNR=5.7						
PMG				LR	LR	11 03 11.2	
	comp=Z,820nm,18.8s,baz=247,slow=30						
PMG	**Port Moresby**	**5.35**	**226**	P	**Pn**	**11 01 46.3**	**+0.6**
PMG				S	**Sn**	**11 02 45.3**	**-0.6**
CTA	**Charters Tower**	**15.08**	**198**	LR	LR	11 09 29.8	
	comp=Z,105nm,18.3s,baz=45,slow=36						
WB2	**Warramunga Arr**	**21.56**	**227**	*e*P	**P**	**11 05 12.0**	**-0.5**
WRA	**Warramunga Arr**	**21.57**	**227**	P	**P**	**11 05 11.9**	**-0.6**
	3.0nm,0.6s,mb3.9,baz=53,slow=10,SNR=45						
AS31	**Alice Springs**	**24.34**	**221**	*e*P	**P**	**11 05 40.7**	**+0.6**
ASAR	**Alice Springs**	**24.34**	**221**	P	**P**	**11 05 40.4**	**+0.2**
	3.8nm,0.7s,mb3.9,baz=55,slow=9.3,SNR=42						
ASPA	**Alice Springs**	**24.35**	**221**	*e*P	**P**	**11 05 40.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.71**	**241**	*e*P	**P**	**11 06 11.1**	**+0.6**
	4.1nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.71**	**241**	P	**P**	**11 06 10.7**	**+0.2**
	2.5nm,0.7s,mb4.0,baz=48,slow=8.3,SNR=8.6						
RPZ	**Rata Peaks**	**41.81**	**158**	LR	LR	11 22 39.9	
	comp=Z,105nm,18.4s,baz=252,slow=32						
NVAR	**Mina Array Bea**	**93.99**	**52**	P	**P**	**11 13 38.6**	**-0.7**
	1.0nm,0.9s,mb4.3,baz=268,slow=8.0,SNR=7.0						

*LDG **07** 11:13:27.5±0.9,3660N×19.18E,h10km,Mb4.7/10,Error ellipse: s-maj=51.0km s-min=12.1km az=63.0*
*MOS **07** 11:13:34.0±1.2,3589N×1822E,h10km,mb4.3/3,Error ellipse: s-maj=6.2km s-min=3.5km az=95.9*
*CSEM **07** 11:13:34.5±0.1,3578N×1839E,h60km,mb4.1/3,Error ellipse: s-maj=1.7km s-min=1.0km az=35.0*
*ROM **07** 11:13:35.6±0.1,3588N×1832E,h60km±2km,Ml4.6/37, Error ellipse: s-maj=2.9km s-min=2.4km az=168.0*
*HLW **07** 11:13:35.6,3635N×1907E,h36km,Mb4.3*
*ISCJB **07** 11:13:35.6±0.3,3598N±002×1837E±002,h92km±5km, mb3.9/13,Error ellipse: s-maj=3.1km s-min=2.2km az=28.3*
*IDC **07** 11:13:36.0±0.9,3581N×1826E,h32km±4km,mb3.9/10, mb1 3.8/16,mb1mx3.8/27,mbtmp3.7/16,ML4.5/4,MS3.1/5, Ms1 3.1/5,ms1mx2.8/42,Error ellipse: s-maj=20.1km s-min=15.3km az=162.0*
*NEIC **07** 11:13:36.8±0.5,3591N×1826E,h35km,mb4.1/3, MD4.9(PDG),ML4.6(ROM),ML5.0(CSEM),Error ellipse: s-maj=6.1km s-min=3.5km az=180.0*
*PDG **07** 11:13:36.4±0.3

MNO	Monte Soro	3.54	305		Pn		Pn	11 14 30.0	+0.6	
MNO	Monte Soro	3.54	305		P		Pn	11 14 29.9	+0.5	
VPL	Vulcano Piano	3.63	313		Pn		Pn	11 14 30.9	+0.3	
	6µm,0.4s									
LLI	Lipari	3.69	314		Pn		Pn	11 14 31.9	+0.4	
	4µm,0.6s									
CARO	Carolei	3.71	333		Pn		Pn	11 14 32.5	+0.8	
	993nm,0.4s									
VLI	Vellai	3.78	77	*e*	P		Pn	11 14 34.0	+1.4	
KYTH	Kithira	3.80	84	*e*	P		Pn	11 14 34.0	+1.1	
IGT	Igoumenitsa	3.91	23	*e*	Pn		Pn	11 14 35.0	+0.6	
IGT				*e*	Sn		Sn	11 15 18.0	-1.1	
IGT	Igoumenitsa	3.91	23		P		Pn	11 14 36.0	+1.6	
IGT					S		Sn	11 15 18.0	-1.1	
KEK	Kerkira	3.93	16		Pn		Pn	11 14 34.7	0.0	
KEK					Sn		Sn	11 15 18.5	-1.1	
	268nm,0.4s									
CSLB	Castelbuono	3.98	301		Pn		Pn	11 14 36.1	+0.8	
	300nm,0.4s									
CSLB	Castelbuono	3.98	301		P		Pn	11 14 35.7	+0.4	
FAVR	Favara	4.00	291		Pn		Pn	11 14 36.1	+0.5	
	345nm,0.2s									
IFIL	Filicudi I Eol	4.00	312		Pn		Pn	11 14 35.4	-0.2	
	5µm,0.5s									
GIB	Gibilmanna	4.02	302		Pn		Pn	11 14 36.6	+0.6	
	293nm,0.4s									
EVR	Evrytania	4.04	42	*e*	P		Pn	11 14 37.0	+0.8	
SCTE	Santa Cesarea	4.12	1		Pn		Pn	11 14 37.0	-0.3	
SCTE					Sn		Sn	11 15 22.6	-1.7	
	1µm,0.5s									
SRN	Sarande	4.14	18	*i*	Pn		Pn	11 14 38.5	+1.0	
SRN				*i*	Sn		Sn	11 15 24.6	-0.1	
MCT	Mte Cammarata	4.15	295		Pn		Pn	11 14 40.9	+3.2	
JAN	Janina	4.20	27	*e*	P		Pn	11 14 41.0	+2.7	
ORI	Oriolo Calabro	4.38	340		P		Pn	11 14 40.9	+0.1	
LCI	Lecce	4.39	358		Pn		Pn	11 14 40.6	-0.3	
	460nm,0.4s									
LCI	Lecce	4.39	358		P		Pn	11 14 40.5	-0.4	
AGG	Agios Georgios	4.41	45	*e*	Pn		Pn	11 14 42.8	+1.6	
AGG				*e*	Sn		Sn	11 15 29.3	-1.9	
AGG	Agios Georgios	4.41	45		P		Pn	11 14 42.5	+1.3	
AGG					S		Sn	11 15 29.3	-1.9	
CLTB	Caltabellotta	4.44	293		Pn		Pn	11 14 41.8	+0.2	
	230nm,0.4s									
CLTB	Caltabellotta	4.44	293		P		Pn	11 14 41.7	+0.1	
MEV	Metsovon	4.46	30	*e*	Pn		Pn	11 14 44.0	+2.1	
MEV				*e*	Sn		Sn	11 15 31.1	-1.3	
MEV	Metsovon	4.46	30		P		Pn	11 14 44.2	+2.3	
MEV					S		Sn	11 15 31.1	-1.3	
CORL	Corleone	4.49	297		Pn		Pn	11 14 43.3	+1.0	
	751nm,0.5s									
NAIG	Nisos Aigina	4.50	65	*e*	P		Pn	11 14 46.5	+4.1	
SCHR	S. Chirico Rap	4.61	338		Pn		Pn	11 14 45.1	+1.1	
SCHR					Sn		Sn	11 15 37.6	+1.3	
	156nm,0.4s									
SIRI	Monte Sirino -	4.67	336		Pn		Pn	11 14 44.7	0.0	
	345nm,0.4s									
CRAC	Craco	4.67	342		Pn		Pn	11 14 44.9	+0.2	
	433nm,0.6s									
KVR	Kavouri	4.73	65	*e*	P		Pn	11 14 47.0	+1.5	
BULG	Bulgheria - Ca	4.75	331		Pn		Pn	11 14 45.8	-0.1	
	817nm,0.7s									
MTSN	Montesano sull	4.78	335		Pn		Pn	11 14 46.2	0.0	
	358nm,0.5s									
VAM	Vamos	4.79	95	*e*	P		Pn	11 14 49.0	+2.7	
GVD	Gavdhos	4.81	102	*e*	P		Pn	11 14 46.0	-0.6	
GVD	Gavdhos	4.81	102	*e*	Pn		Pn	11 14 46.2	-0.4	
GVD				*e*	Sn		Sn	11 15 37.7	-3.3	
GVD	Gavdhos	4.81	102	*e*	Pn		Pn	11 14 46.2	-0.4	
GVD				*e*	Sn		Sn	11 15 37.7	-3.3	
MCEL	Monticello	4.81	336		Pn		Pn	11 14 47.4	+0.7	
	367nm,0.7s									
PTL	Penteli	4.88	63	*e*	P		Pn	11 14 45.0	-2.7	
MIGL	Miglionico	4.89	343		Pn		Pn	11 14 47.3	-0.5	
SLCN	Sala Consilina	4.93	335		Pn		Pn	11 14 48.0	-0.3	
	396nm,0.4s									
SLCN	Sala Consilina	4.93	335		P		Pn	11 14 48.1	-0.2	
NOCI	Noci	4.94	349		Pn		Pn	11 14 47.1	-1.4	
NOCI					Sn		Sn	11 15 40.1	-4.2	
	891nm,0.2s									
USI	Ustica	4.96	305		Pn		Pn	11 14 48.0	-0.8	
	310nm,0.4s									
USI	Ustica	4.96	305		P		Pn	11 14 47.9	-0.9	
CMPR	Campora	4.99	332		Pn		Pn	11 14 48.8	-0.3	
	187nm,0.3s									
SG1	Sgolgore (BA)	5.06	345	*e*	Pn		Pn	11 14 48.8	-1.3	
NEO	Neokhori	5.12	48	*e*	P		Pn	11 14 53.5	+2.7	
CDRU	Civita di Ruta	5.13	333		Pn		Pn	11 14 50.9	-0.2	
	169nm,0.5s									
XOR	Xorichti	5.13	47	*e*	Pn		Pn	11 14 53.1	+2.0	
XOR				*e*	Sn		Sn	11 15 46.7	-2.4	
XOR	Xorichti	5.13	47		P		Pn	11 14 53.3	+2.2	
XOR					S		Sn	11 15 46.7	-2.4	
AMUR	Altamura	5.14	345		Pn		Pn	11 14 50.1	-1.1	
AMUR					Sn		Sn	11 15 44.7	-4.5	
	449nm,0.3s									
PTS	Pantelleria	5.21	281		Pn		Pn	11 14 50.7	-1.4	
	45nm,0.2s									
PTS	Pantelleria	5.21	281		P		Pn	11 14 50.7	-1.4	
PTS					pmax		pmax			
	comp=Z,45nm,0.2s									
LIT	Litokhoron	5.28	37	*e*	Pn		Pn	11 14 55.4	+2.4	
LIT				*e*	Sn		Sn	11 15 51.7	-0.8	
BAI	Bari	5.28	348	*e*	Pn		Pn	11 14 51.8	-1.3	
MRLC	Muro Lucano	5.31	336		Pn		Pn	11 14 54.4	+1.0	
	comp=Z,126nm,0.6s									
PALZ	Palazzo San Ge	5.33	340		Pn		Pn	11 14 54.0	+0.2	
	comp=Z,116nm,0.6s									
IDI	Anoyia	5.36	95		Pn		Pn	11 14 55.9	+1.7	
	comp=Z,32nm,0.3s,baz=252,slow=12,SNR=116									
IDI					Sn		Sn	11 15 52.0	-2.6	
	comp=Z,66nm,0.3s,baz=157,slow=20,SNR=13									
FNA	Florina	5.38	25	*e*	Pn		Pn	11 14 56.3	+1.9	
FNA				*e*	Sn		Sn	11 15 55.4	+0.3	
FNA	Florina	5.38	25		P		Pn	11 14 57.5	+3.0	
FNA					S		Sn	11 15 55.4	+0.3	
CDT	Castel del Mon	5.38	343	*e*	Pn		Pn	11 14 53.5	-1.0	
AOS	Alonnisos	5.44	52	*e*	Pn		Pn	11 14 57.8	+2.5	
AOS				*e*	Sn		Sn	11 15 55.6	-0.9	
MCRV	Calabrutti - M	5.44	334		Pn		Pn	11 14 55.5	+0.2	
	comp=Z,152nm,0.5s									
VULT	Monte Vulture	5.45	338		Pn		Pn	11 14 55.7	+0.4	
	comp=Z,113nm,0.5s									
OHR	Ohrid	5.50	20	*e*	Pn		Pn	11 14 57.0	+0.9	
OHR				*e*	Sn		Sn	11 15 57.3	-0.7	
SNAL	S. Angelo Dei	5.55	335		Pn		Pn	11 14 57.9	+1.1	
	comp=Z,139nm,0.6s									
CSSN	Cassano Irpino	5.56	333		Pn		Pn	11 14 57.4	+0.5	
	comp=Z,72nm,0.4s									
BIA	Bitola	5.58	24	*e*	Pn		Pn	11 14 58.6	+1.5	
BIA				*e*	Sn		Sn	11 15 58.5	-1.3	
BIA	Bitola	5.58	24	*e*	Pn		Pn	11 14 58.5	+1.4	
CAFE	Carife	5.63	335		Pn		Pn	11 14 58.4	+0.5	
	comp=Z,133nm,0.5s									
PAIG	Paliouri	5.79	45	*e*	Pn		Pn	11 15 01.5	+1.5	
PAIG				*e*	Sn		Sn	11 16 03.4	-1.6	
FG5	Orsara di Pugl	5.85	337		Pn		Pn	11 15 00.9	0.0	
	comp=Z,40nm,0.3s									
FG5	Orsara di Pugl	5.85	337		P		Pn	11 15 00.9	0.0	
FG5					pmax		pmax			
	comp=Z,40nm,0.3s									
KRUS	Krusevo	5.87	22	*e*	Pn		Pn	11 15 03.1	+1.9	
KRUS				*e*	Sn		Sn	11 16 06.3	-0.7	
KRUS	Krusevo	5.87	22	*e*	Pn		Pn	11 15 03.0	+1.9	
KRUS				*e*	Sn		Sn	11 16 06.2	-0.8	
APE	Apeiranthos	5.88	77	*e*	P		Pn	11 15 03.0	+1.7	
GRG	Griva	5.92	31	*e*	Pn		Pn	11 15 04.0	+2.1	
GRG	Griva	5.92	31		P		Pn	11 15 03.7	+1.8	
NPS	Neapolis	5.95	94	*e*	P		Pn	11 14 56.0	-6.2	
HORT	Hortiatis	5.96	37	*e*	Pn		Pn	11 15 03.6	+1.3	
HORT				*e*	Sn		Sn	11 16 08.6	-0.5	
PHP	Peshkopia	5.96	15	*i*	Pn		Pn	11 15 05.3	+3.0	
PHP				*i*	Sn		Sn	11 16 09.4	+0.3	
PSB1	Pescosannita	5.96	333		Pn		Pn	11 15 02.9	+0.6	
	comp=Z,108nm,0.5s									
PLG	Polygyros	5.97	41	*e*	P		Pn	11 15 04.0	+1.5	
ULC	Ulcinj	6.05	6	⇑	*i*	Pn	Pn	11 15 03.0	-0.6	
ULC				*e*	Sn		Sn	11 16 08.9	-2.5	
FGMS	Monte Sant'Ang	6.05	343		Pn		Pn	11 15 03.2	-0.4	
	comp=Z,151nm,0.4s									
MS1	Monte Sant'Ang	6.05	343	*e*	Pn		Pn	11 15 03.4	-0.2	
MSAG	Monte S. Angel	6.07	342		Pn		Pn	11 15 03.1	-0.7	
XRY	Khrisi	6.09	98	*e*	P		Pn	11 15 06.0	+1.9	
RGNG	Rignano Grg	6.12	340		Pn		Pn	11 15 03.9	-0.6	
RGNG	Rignano Grg	6.12	340		P		Pn	11 15 04.0	-0.5	
SACR	S. Croce Del S	6.15	333		Pn		Pn	11 15 05.4	+0.5	
	comp=Z,31nm,0.4s									
SGRT	San Giovanni R	6.15	341		Pn		Pn	11 15 04.2	-0.7	
	comp=Z,109nm,0.3s									
SGRT	San Giovanni R	6.15	341		P		Pn	11 15 04.7	-0.2	
PUK	Puka	6.21	11	*i*	Pn		Pn	11 15 06.0	+0.3	
PUK				*i*	Sn		Sn	11 16 14.6	-0.6	
OUR	Ouranopolis	6.23	44	*e*	Pn		Pn	11 15 07.4	+1.3	
SOH	Sokhos	6.25	37	*e*	Pn		Pn	11 15 08.1	+1.7	
SOH				*e*	Sn		Sn	11 16 14.9	-1.4	
SGG	Gregorio Mates	6.26	331		Pn		Pn	11 15 07.4	+0.9	
	comp=Z,76nm,0.4s									
SGG	Gregorio Mates	6.26	331		P		Pn	11 15 07.3	+0.8	
VAY	Valandovo	6.30	30	*e*	Pn		Pn	11 15 07.0	0.0	
VAY				*e*	Sn		Sn	11 16 15.2	-2.3	
CIGN	Sant'Elia a Pi	6.31	336		P		Pn	11 15 09.0	+1.9	
BSSO	Busso	6.32	333		Pn		Pn	11 15 08.0	+0.7	
	comp=Z,55nm,0.7s									
MOCO	Biccari - m.te	6.33	330		Pn		Pn	11 15 03.3	-4.2	
	comp=Z,74nm,0.9s									
VAGA	Valle Agricola	6.34	331		Pn		Pn	11 15 08.2	+0.6	
	comp=Z,88nm,0.8s									
RFI	Roccamonfina	6.35	329		Pn		Pn	11 15 09.0	+1.3	
	comp=Z,4.0nm,0.6s									
BUM	Brajici-Budva	6.36	4	⇑	*i*	Pn	Pn	11 15 06.7	-1.2	
BUM				*e*	Sn		Sn	11 16 14.8	-4.2	
SKO	Skopje	6.48	21	*e*	Pn		Pn	11 15 11.0	+1.6	
SKO				*e*	Sn		Sn	11 16 20.2	-1.7	
HCY	Herceg Novi	6.50	1	⇑	*i*	Pn	Pn	11 15 07.9	-1.7	
HCY				*e*	Sn		Sn	11 16 17.2	-5.1	
TTG	Podgorica	6.51	6	⇑	*i*	Pn	Pn	11 15 09.4	-0.5	
TTG				*e*	Sn		Sn	11 16 19.5	-3.2	
TRIV	Trivento	6.53	334		Pn		Pn	11 15 11.4	+1.3	
	comp=Z,55nm,0.8s									
MIDA	Minda	6.53	332		P		Pn	11 15 11.1	+1.0	
CERA	Filignano	6.58	330		Pn		Pn	11 15 12.0	+1.1	
	comp=Z,130nm,0.5s									
SRS	Serrai	6.59	37	*e*	Pn		Pn	11 15 12.4	+1.4	
SRS				*e*	Sn		Sn	11 16 24.6	-0.1	
RNI2	Rionero Sannit	6.62	332		Pn		Pn	11 15 12.9	+1.5	
	comp=Z,142nm,0.5s									
LOS	Limnos	6.64	51	*e*	Pn		Pn	11 15 13.7	+2.1	
FRES	Fresagrandinar	6.67	336		Pn		Pn	11 15 13.0	+1.0	
	comp=Z,54nm,0.5s									
PVY	Plav	6.76	10	⇑	*i*	Pn	Pn	11 15 14.4	+1.2	
PVY				*e*	Sn		Sn	11 16 28.0	-0.7	
PVY	Plav	6.76	10	⇑	*i*	Pn	Pn	11 15 14.4	+1.1	
PVY				*e*	Sn		Sn	11 16 28.0	-0.7	
SDI	San Donato	6.76	330		Pn		Pn	11 15 14.1	+0.8	
	comp=Z,7.0nm,0.3s									
TREB	Trebinje	6.76	360		P		Pn	11 15 12.0	-1.3	
TREB					S		Sn	11 16 24.4	-4.4	
NKY	Niksic	6.88	4	⇑	*i*	Pn	Pn	11 15 14.2	-0.7	
NKY				*e*	Sn		Sn	11 16 27.4	-4.2	
GIUL	Giuliano Di Ro	6.88	326		Pn		Pn	11 15 15.8	+0.9	
	comp=Z,24nm,1.0s									
STON	Ston	6.94	356	*i*	Pn		Pn	11 15 13.9	-1.8	
STON				*i*	Sn		Sn	11 16 28.1	-4.9	
BRY	Bratogost	6.95	1	⇑	*i*	Pn	Pn	11 15 14.3	-1.3	
BRY				*e*	Sn		Sn	11 16 28.3	-5.1	
VVLD	Villa Vallelon	6.97	329		Pn		Pn	11 15 17.0	+0.8	
	comp=Z,104nm,0.5s									
VVLD	Villa Vallelon	6.97	329		P		Pn	11 15 16.9	+0.7	
INTR	Introdacqua	6.98	332		P		Pn	11 15 16.4	+0.1	
URLA	Izmir	7.01	67	*i*	P		Pn	11 15 16.2	-0.4	
IVA	Berane	7.02	9	⇓	*i*	Pn	Pn	11 15 18.1	+1.3	
IVA				*e*	Sn		Sn	11 16 33.7	-1.4	
GUAR	Guarcino	7.04	328		Pn		Pn	11 15 18.1	+1.0	
	comp=Z,98nm,0.6s									
GUAR	Guarcino	7.04	328		P		Pn	11 15 18.2	+1.1	
UPM	Unac-Piva	7.26	3	⇓	*i*	Pn	Pn	11 15 19.7	-0.4	
UPM				*e*	Sn		Sn	11 16 36.7	-4.3	
BODT	Bodrum	7.30	79	*e*	PN		Pn	11 15 23.0	+2.4	
CERT	Cerreto	7.31	327		P		Pn	11 15 22.1	+1.3	
FAGN	Fagnano	7.32	331		Pn		Pn	11 15 22.5	+1.6	
	comp=Z,118nm,0.5s									
KEST	Kesra	7.32	271		Pn		Pn	11 15 20.9	0.0	
	comp=Z,0.5nm,0.3s,baz=72,slow=6.9,SNR=18									
KEST					Sn		Sn	11 16 38.2	-4.3	
	comp=Z,1.8nm,0.3s,baz=40,slow=20,SNR=14									
KEST					LR		LR	11 19 06.8		
	comp=Z,66nm,18.3s,baz=261,slow=46									
PLE	Pljevlja	7.42	6	⇑	*i*	Pn	Pn	11 15 22.6	+0.3	
PLE				*e*	Sn		Sn	11 16 41.8	-3.1	
AQU	L'Aquila	7.47	330		Pn		Pn	11 15 24.5	+1.6	
	comp=Z,12nm,0.5s									
AQU	L'Aquila	7.47	330	*e*	Pn		Pn	11 15 22.3	-0.7	
AQU	L'Aquila	7.47	330	*e*	Pn		Pn	11 15 22.3	-0.6	
DAT	Datca	7.48	81	*e*	PN		Pn	11 15 25.0	+1.9	
FIAM	Fiamignano	7.51	329		Pn		Pn	11 15 25.4	+1.9	
	comp=Z,72nm,0.7s									
TERO	Teramo	7.62	333		Pn		Pn	11 15 27.1	+2.1	
	comp=Z,27nm,0.7s									
MLSB	Milas	7.69	77	*e*	PN		Pn	11 15 25.9	-0.1	
MNS	Montasola	7.80	327		Pn		Pn	11 15 28.8	+1.4	
	comp=Z,25nm,0.5s									
MNS	Montasola	7.80	327		P		Pn	11 15 28.8	+1.4	
MNS					pmax		pmax			
	comp=Z,25nm,0.5s									
ALN	Alexandroupoli	7.80	48	*e*	Pn		Pn	11 15 29.2	+1.7	
LNSS	Leonessa	7.82	330		Pn		Pn	11 15 30.2	+2.4	
	comp=Z,115nm,1.0s									
OFFI	Offida	7.86	334		P		Pn	11 15 30.6	+2.3	
TOLF	Tolfa	7.86	323		P		Pn	11 15 31.3	+3.0	
VSL	Villasalto	7.95	299	*e*	Pn		Pn	11 15 29.8	+0.3	
	comp=Z,34nm,0.4s									
VSL				*e*	Sn		Sn	11 16 52.6	-5.2	
VSL	Villasalto	7.95	299		Pn		Pn	11 15 29.8	+0.3	
	comp=Z,46nm,0.2s									
VSL				*e*	Sn		Sn	11 16 52.6	-5.2	
YER	Yerkesik	8.08	79	*e*	PN		Pn	11 15 32.8	+1.6	
DALT	Dalyan (Mudla)	8.33	81	*e*	PN		Pn	11 15 36.4	+1.6	
SNTG	Esanatoglia	8.41	332		Pn		Pn	11 15 36.8	+1.0	
	comp=Z,12nm,0.5s									
FETY	Fethiye	8.69	82	*e*	P		Pn	11 15 41.6	+2.0	
DNZL	Cakiroluk	8.75	75	*i*	P		Pn	11 15 50.9	+10	
HMAT	Matruh	8.75	121	⇓	*e*	P	Pn	11 15 37.0	-3.5	
SWA2		8.97	136	⇓	*e*	P	Pn	11 15 42.4	-1.0	
SWA2					S		Sn	11 17 15.1	-7.7	
SWA1		9.10	135		P		Pn	11 15 44.2	-1.1	
SWA1					S		Sn	11 17 18.2	-7.6	
GOLH	Golhisar	9.10	79	*i*	P		Pn	11 15 48.0	+2.8	
ELL	Elmali	9.35	82	*e*	P		Pn	11 15 50.2	+1.6	
TKTP	Tekketepe	9.80	74	*i*	P		Pn	11 15 58.3	+3.6	
PGF	Pioggiola	9.80	315	*e*	P		Pn	11 15 53.8	-1.0	
	comp=Z,16nm,0.5s									
PGF	Pioggiola	9.80	315	*e*	P		Pn	11 15 53.8	-1.0	
	comp=Z,8.1nm,0.5s									
ISP	Isparta	9.92	75	*e*	P		Pn	11 15 58.6	+2.3	
CRES	Cresnjev	10.11	348	*i*	Pn		Pn	11 15 58.1	-0.9	
CRES				*i*	Sn		Sn	11 17 44.1	-6.5	
CRES										
	comp=Z,37nm,0.7s									
CRES	Cresnjev	10.11	348	*i*	Pn		Pn	11 15 58.1	-0.9	
CRES				*i*	Sn		Sn	11 17 44.1	-6.5	
LJU	Ljubljana	10.49	345	*i*	Pn		Pn	11 16 03.7	-0.6	
LJU				*e*	Sn		Sn	11 17 53.5	-6.5	
ESKT	Eskisehir	10.52	66	*i*	P		Pn	11 16 05.8	+1.3	
VOY	Vojsko	10.62	343	*e*	Pn		Pn	11 16 04.5	-1.5	
VOY				*e*	Sn		Sn	11 17 56.3	-6.8	
OBKA	Obir	10.94	346	⇑	*i*	S	Sn	11 18 04.6	-6.1	
	comp=Z,34nm,0.5s									
OBKA	Obir	10.94	346	⇑	*i*	Pn	Pn	11 16 09.9	-0.4	
	comp=Z,16nm,0.3s									
OBKA				⇑	*i*	Sn	Sn	11 18 04.6	-6.1	
	comp=Z,34nm,0.5s									
PERS	Pernice	10.96	348	*e*	Pn		Pn	11 16 09.5	-1.0	
ARSA	Arzberg	11.49	350	⇓	*i*	S	Sn	11 18 15.4	-8.9	
	comp=Z,14nm,0.5s									
ARSA	Arzberg	11.49	350	⇓	*i*	Pn	Pn	11 16 16.6	-1.2	
	comp=Z,20nm,0.4s									
ARSA				⇓	*i*	Sn	Sn	11 18 15.4	-8.9	
	comp=Z,14nm,0.5s									
KBA	Koelnbreinsper	11.74	343	⇑	*i*	S	Sn	11 18 25.0	-5.3	
	comp=Z,9.1nm,0.5s									
KBA	Koelnbreinsper	11.74	343	⇓	*i*	Pn	Pn	11 16 21.4	+0.2	
	comp=Z,6.2nm,0.5s									
KBA				⇑	*i*	Sn	Sn	11 18 25.0	-5.3	
	comp=Z,9.1nm,0.5s									
KBA	Koelnbreinsper	11.74	343	⇓	*i*	P	Pn	11 16 21.4	+0.2	
KBA					*i*	S	Sn	11 18 25.0	-5.3	
KBA					pmax		pmax			
	comp=Z,6.0nm,0.5s									
FRF	La Foret Royal	11.79	314	*e*	P		Pn	11 16 18.0	-3.8	
HNAT	Natroun	12.08	118	⇑	*e*	P	Pn	11 16 22.8	-3.0	
CONA	Conrad Observa	12.12	352	⇓	*i*	Pn	Pn	11 16 26.0	-0.3	
	comp=Z,1.6nm,0.3s									
CONA				⇑	*i*	Sn	Sn	11 18 32.0	-7.5	
	comp=Z,5.0nm,0.5s									
CSS	Prodhromos	12.25	90	*e*	Pn		Pn	11 16 27.0	-1.2	
	comp=Z,14nm,0.4s									
CSS				*e*	Sn		Sn	11 18 29.6	-13	
MOA	Molln	12.28	347	⇑	*i*	S	Sn	11 18 35.7	-7.7	
	comp=Z,9.1nm,0.5s									
MOA	Molln	12.28	347	⇓	*i*	Pn	Pn	11 16 28.8	+0.3	
	comp=Z,5.5nm,0.3s									
MOA				⇑	*i*	Sn	Sn	11 18 35.7	-7.7	
	comp=Z,9.1nm,0.5s									
ZST	Bratislava	12.28	356	*e*	SN		Sn	11 18 34.7	-8.7	
WTTA	Wattenberg	12.37	338	⇑	*i*	S	Sn	11 18 42.5	-3.2	
	comp=Z,15nm,0.5s									
WTTA	Wattenberg	12.37	338	⇑	*i*	Pn	Pn	11 16 31.1	+1.3	
	comp=Z,4.8nm,0.5s									
WTTA				⇑	*i*	Sn	Sn	11 18 42.5	-3.2	
	comp=Z,15nm,0.5s									
WTTA	Wattenberg	12.37	338	⇑	*i*	P	Pn	11 16 31.1	+1.3	
WTTA					*i*	S	Sn	11 18 42.5	-3.2	
WTTA					pmax		pmax			
	comp=Z,5.0nm,0.5s									
AYT	Al 'Ayyat	12.43	116	⇓	*e*	P	Pn	11 16 28.2	-2.3	
MBDF	Montbardon	12.44	318	*e*	P		Pn	11 16 28.5	-2.2	
	comp=Z,31nm,0.8s									
MBDF	Montbardon	12.44	318	*e*	P		Pn	11 16 28.5	-2.2	
MBDF					pmax		pmax			
	comp=Z,15nm,0.8s									
MBDF	Montbardon	12.44	318	*e*	P		Pn	11 16 28.5	-2.2	
	comp=Z,15nm,0.8s									
WATA	Walderalm	12.45	338	⇑	*i*	S	Sn	11 18 47.3	-0.4	
	comp=Z,7.6nm,0.5s									
WATA	Walderalm	12.45	338	⇑	*i*	Pn	Pn	11 16 32.6	+1.7	
	comp=Z,7.7nm,0.5s									
WATA				⇑	*i*	Sn	Sn	11 18 47.3	-0.4	
	comp=Z,7.6nm,0.5s									
WATA	Walderalm	12.45	338	⇑	*i*	P	Pn	11 16 32.6	+1.7	
WATA					*i*	S	Sn	11 18 47.3	-0.4	
WATA					pmax		pmax			
	comp=Z,8.0nm,0.5s									
SQTA	Sankt Quirin	12.46	337	⇓	*i*	S	Sn	11 18 48.6	+0.7	
	comp=Z,6.5nm,0.5s									
SQTA	Sankt Quirin	12.46	337	⇓	*i*	Pn	Pn	11 16 30.8	-0.2	
	comp=Z,4.4nm,0.4s									
SQTA				⇓	*i*	Sn	Sn	11

HRFI	**Mount Harif**	**15.18**	**108**	P		**Pn**	**11 17 05.5**	**-1.1**
EIL	**Elat**	**15.28**	**109**	P		**Pn**	**11 17 06.2**	**-1.7**
TR1		**15.41**	**117**↓	*eP*		**Pn**	**11 17 08.6**	**-0.8**
MOX	**Moxa**	**15.48**	**344**	P		**Pn**	**11 17 11.4**	**+1.0**
AVF	**Avril sur Loir**	**15.60**	**319**	*eP*		**Pn**	**11 17 08.7**	**-3.2**
RJF	**Les Rejaudoux**	**15.81**	**311**	*eP*		**Pn**	**11 17 12.4**	**-2.2**
	comp=Z,24nm,1.1s							
RJF	**Les Rejaudoux**	**15.81**	**311**	*eP*		**Pn**	**11 17 12.4**	**-2.2**
RJF				pmax	pmax			
	comp=Z,12nm,1.1s							
RJF	**Les Rejaudoux**	**15.81**	**311**	*eP*		**Pn**	**11 17 12.4**	**-2.2**
	comp=Z,12nm,1.1s							
ASF	**Jabal al Asfar**	**15.82**	**98**	Pn		**Pn**	**11 17 14.5**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=147,slow=7.0,SNR=13							
LFF	**La Frestale**	**16.12**	**309**	*eP*		**Pn**	**11 17 17.2**	**-1.2**
	comp=Z,121nm,1.5s							
LFF	**La Frestale**	**16.12**	**309**	*eP*		**Pn**	**11 17 17.2**	**-1.2**
LFF				pmax	pmax			
	comp=Z,61nm,1.5s							
LFF	**La Frestale**	**16.12**	**309**	*eP*		**Pn**	**11 17 17.2**	**-1.2**
	comp=Z,60nm,1.5s							
ETSF	**Etsaut**	**16.17**	**301**	*eP*		**Pn**	**11 17 18.4**	**-0.6**
	comp=Z,19nm,0.9s							
ETSF	**Etsaut**	**16.17**	**301**	*eP*		**Pn**	**11 17 18.4**	**-0.6**
ETSF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ETSF	**Etsaut**	**16.17**	**301**	*eP*		**Pn**	**11 17 18.4**	**-0.6**
	comp=Z,9.3nm,0.9s							
AKASG	**Malin Array Be**	**16.71**	**25**	Pn		**Pn**	**11 17 28.1**	**+2.4**
	baz=217,slow=11,SNR=3.2							
ESDC	**Sonseca Array**	**18.02**	**289**	P		**Pn**	**11 17 42.8**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=99,slow=9.7,SNR=5.0							
MDT	**Midelt**	**19.21**	**267**	P		**Pn**	**11 17 56.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=97,slow=17,SNR=3.2							
MDT				LR		LR	11 24 51.2	
	comp=Z,89nm,20.8s,baz=110,slow=35							
SGMF	**Saint Gilles**	**19.73**	**315**	*eP*		**Pn**	**11 18 03.1**	**+1.0**
KIV	**Kislovodsk**	**20.25**	**59**	*eP*		**P**	**11 18 10.4**	**+4.9**
KIV				pmax	pmax			
	comp=Z,15nm,1.2s							
KIV				MLR	MLR			
	comp=Z,50nm,13.0s							
EVO	**Evora**	**21.13**	**285**	*eP*		**P**	**11 18 21.8**	**+6.7**
GNI	**Garni**	**21.17**	**71**	LR		LR	11 26 52.9	
	comp=Z,75nm,19.2s,baz=195,slow=37							
GNI	**Garni**	**21.17**	**71**	*eP*		**P**	**11 18 17.5**	**+2.1**
GNI				pmax	pmax			
	comp=Z,17nm,1.3s							
OBN	**Obninsk**	**22.90**	**27**↓	*eP*		**P**	**11 18 36.9**	**+3.1**
OBN				*i*			11 18 52.1	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb3.9							
EKA	**Eskdalemuir Ar**	**24.36**	**329**	P		**P**	**11 18 52.0**	**+4.7**
	comp=Z,2.6nm,0.8s,mb3.6,baz=140,slow=11,SNR=5.4							
HFS	**Hagfors**	**24.39**	**354**	P		**P**	**11 18 53.6**	**+6.1**
	comp=Z,4.2nm,0.9s,mb3.8,baz=183,slow=16,SNR=3.4							
NB2	**NORSAR Subarra**	**25.52**	**352**	P		**P**	**11 19 09.5**	**+12**
	comp=Z,2.7nm,0.8s,mb3.7,baz=166,slow=9.3							
FINES	**FINESS Array B**	**25.99**	**8**	P		**P**	**11 19 07.4**	**+5.4**
	comp=Z,1.4nm,0.8s,mb3.5,baz=194,slow=10.0,SNR=3.0							
FINES				pP		pP	11 19 14.9	-5.4
	comp=Z,1.5nm,0.6s,baz=169,slow=11,SNR=2.1							
FINES				sP		sP	11 19 20.4	-9.1
	comp=Z,2.0nm,0.5s,baz=183,slow=7.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**27.21**	**218**	P		**P**	**11 19 16.4**	**+3.4**
	comp=Z,4.8nm,0.7s,mb4.1,baz=34,slow=9.2,SNR=39							
ARCES	**ARCESS Array B**	**33.88**	**5**	P		**P**	**11 20 16.3**	**+4.6**
	comp=Z,1.5nm,0.6s,mb4.0,baz=201,slow=6.4,SNR=8.2							
BVAR	**Borovoye Array**	**39.89**	**48**	P		**P**	**11 21 08.4**	**+5.7**
	comp=Z,0.8nm,0.5s,mb3.8,baz=252,slow=8.9,SNR=3.7							
BVAR				sP		sP	11 21 21.3	-10
	comp=Z,1.5nm,0.5s,baz=257,slow=6.1,SNR=5.7							
NVS	**Novosibirsk**	**47.47**	**45**	*eP*		**P**	**11 22 16.1**	**+13**
NVS				pmax	pmax			
	comp=E,5.0nm,0.8s							
NVS				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.7							
MKAR	**Makanchi Array**	**47.96**	**56**	P		**P**	**11 22 12.7**	**+5.3**
	comp=Z,0.5nm,0.5s,mb3.6,baz=273,slow=7.4,SNR=2.8							
MKAR				sP		sP	11 22 25.9	-10
	comp=Z,3.9nm,0.6s,baz=280,slow=6.9,SNR=12							
ZAL	**Zalesovo**	**48.47**	**46**	P		**P**	**11 22 16.2**	**+5.0**
	comp=Z,2.0nm,0.4s,mb4.3,baz=236,slow=8.5,SNR=3.2							
ZAL				sP		sP	11 22 29.9	-10
	comp=Z,3.0nm,0.5s,baz=203,slow=5.7,SNR=5.0							
ZAL	**Zalesovo**	**48.47**	**46**	P		**P**	**11 22 16.2**	**+5.0**
ZAL				sP		sP	11 22 29.9	-10
YKA	**Yellowknife Ar**	**74.88**	**339**	P		**P**	**11 25 12.9**	**+4.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=145,slow=36,SNR=4.3							
YKA	**Yellowknife Ar**	**74.88**	**339**	P		**P**	**11 25 12.9**	**+4.1**
ULM	**Lac du Bonnet**	**76.45**	**323**	P		**P**	**11 25 22.4**	**+4.6**
	comp=Z,3.2nm,0.9s,mb4.0,baz=63,slow=5.4,SNR=5.2							
ASAR	**Alice Springs**	**123.65**	**96**	PKP		PKPdf	11 32 29.0	+3.9
	comp=Z,0.4nm,0.7s,baz=309,slow=1.7,SNR=7.2							

IDC 07 11:15:37.0±2.9, 3170S×17829W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=59.4km s-min=35.6km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.46**	**7**	LR	LR	11 17 03.7	
	comp=Z,324nm,21.9s,baz=74,slow=35						
URZ	**Urewera**	**7.56**	**209**	Pn	Pn	11 17 28.6	+0.2
	1.3nm,0.3s,baz=156,slow=8.0,SNR=8.0						
URZ				Sn	Sn	11 18 55.4	+0.6
	2.8nm,0.3s,baz=242,slow=21,SNR=5.7						
CTA	**Charters Tower**	**33.79**	**281**	P	P	11 22 22.7	+2.1
	2.8nm,0.7s,baz=113,slow=7.5,SNR=6.7						
ASAR	**Alice Springs**	**42.81**	**268**	P	P	11 23 36.4	-0.1
	1.6nm,0.7s,baz=105,slow=7.6,SNR=28						
WRA	**Warramunga Ar**	**43.92**	**274**	P	P	11 23 44.7	-0.8
	2.6nm,0.5s,baz=113,slow=7.9,SNR=63						
FITZ	**Fitzroy Crossi**	**52.12**	**271**	P	P	11 24 49.2	+0.2
	1.2nm,0.8s,baz=83,slow=8.1,SNR=2.8						
FINES	**FINESS Array B**	**146.27**	**339**	PKPbc	PKPbc	11 35 18.0	-1.5
	6.0nm,1.1s,baz=90,slow=1.9,SNR=8.6						

CASC 07 11:38:25.4±3.0, 1128N×8722W, h32km±38km, MD4.1, ML3.5, 4C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.09**	**35**↓	*eP*	Pn	11 38 44.6	+0.2
COPN				*eS*	Sn	11 38 59.1	+0.8
TICN	**Ticuantepe**	**1.23**	**52**↓	*eP*	Pn	11 38 46.8	+0.5
XAVN	**Gruta Xavier**	**1.23**	**45**↑	*eP*	Pn	11 38 46.5	+0.1
MIRN	**Miramar**	**1.26**	**23**↓	*eP*	Pn	11 38 46.7	-0.1
APYN	**Apoyeque**	**1.28**	**42**↓	*eP*	Pn	11 38 47.1	+0.1
APYN				*eS*	Sn	11 39 01.5	-1.5
MGAN	**Managua**	**1.29**	**48**↑	*eP*	Pn	11 38 47.1	-0.1
MGAN				*eS*	Sn	11 39 06.0	+2.7
MGAN				*i*		11 39 08.9	
	comp=N,948nm,0.3s						
MOMJ	**Momotombo**	**1.30**	**31**↑	*eP*	Pn	11 38 47.3	-0.1
CNGN	**Cerro Negro**	**1.32**	**23**	*eP*	Pn	11 38 47.6	0.0
CNGN				*eP*		11 38 47.7	
SSNN	**San Juan del S**	**1.35**	**90**↑	*eP*	Pn	11 38 47.9	-0.1
CONN	**Concepcion**	**1.59**	**80**↓	*eP*	Pn	11 38 51.2	-0.2
MADN	**Villa Maderas**	**1.66**	**85**	*eP*	Pn	11 38 52.2	-0.1
SNVI	**San Vicente**	**2.80**	**326**	*eP*	x	11 39 18.6	
SNVI				*eS*	x	11 39 53.3	
LCBS	**La Ceiba**	**2.92**	**324**	*eP*	x	11 39 21.0	
LCBS				*eS*	x	11 39 55.2	
LFRS	**El Faro**	**2.94**	**323**	*eP*	x	11 39 21.8	
LFRS				*eS*	x	11 39 54.7	

*LDG **07** 11:48:36.6±0.6, 1425S×16754E, h10km, Mb3.9/1, Error ellipse: s-maj=95.5km s-min=14.8km az=91.0*
*ISCJB **07** 11:48:52.5±2.3, 153S±01×1674E±02, h169km±16km, mb4.0/7, Error ellipse: s-maj=34.2km s-min=9.2km az=123.5*
*IDC **07** 11:48:52.2±3.1, 1525S×16741E, h150km±23km, mb3.7/7, mb1 3.8/9, mb1mx3.6/20, mbtmp3.8/9, Error ellipse: s-maj=32.0km s-min=14.5km az=54.0*
*NEIC **07** 11:48:53.6±1.9, 1542S×16728E, h151km±14km, mb4.0/1, Error ellipse: s-maj=32.9km s-min=11.4km az=53.0*
ISC 07 11:48:52.6±2.3, 153S±01×1674E±02, h152km±15km, n23, σ0§75/12, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.84**	**188**	P	**Pn**	**11 50 29.1**	**-1.3**
	6.1nm,0.3s,baz=49,slow=17,SNR=96						
DZM				S	**Sn**	**11 51 47.7**	**+0.7**
	28nm,0.3s,baz=125,slow=21,SNR=20						
HNR	**Honiara**	**9.32**	**308**	P	**Pn**	**11 51 04.9**	**+1.5**
	4.7nm,0.3s,baz=174,slow=1.9,SNR=2.5						
HNR				S	**Sn**	**11 52 46.0**	**-0.7**
	3.0nm,0.3s,baz=268,slow=21,SNR=2.2						
URZ	**Urewera**	**24.46**	**161**	P	**P**	**11 53 57.3**	**0.0**
	5.4nm,0.5s,mb4.4,baz=17,slow=11,SNR=5.3						
RPZ	**Rata Peaks**	**28.53**	**174**	P	**P**	**11 54 33.8**	**0.0**
	6.9nm,0.7s,mb4.5,baz=331,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**28.76**	**230**	P	**P**	**11 54 36.8**	**+0.9**
	2.9nm,0.3s,mb4.4,baz=57,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**31.84**	**257**	P	**P**	**11 55 02.3**	**-0.6**
	0.2nm,0.4s,mb3.2,baz=82,slow=6.8,SNR=6.8						
ASAR	**Alice Springs**	**32.62**	**250**	P	**P**	**11 55 09.3**	**-0.4**
	1.7nm,0.5s,mb4.0,baz=81,slow=9.0,SNR=33						
FITZ	**Fitzroy Crossi**	**40.06**	**260**	*eP*	**P**	**11 56 13.0**	**+0.2**
	2.8nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**40.06**	**260**	P	**P**	**11 56 13.0**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=90,slow=9.2,SNR=3.8						
VNDA	**Vanda**	**62.34**	**181**	P	**P**	**11 58 58.5**	**-0.2**
	0.6nm,0.5s,mb3.7,baz=358,slow=6.1,SNR=9.7						
ARCES	**ARCESS Array B**	**120.80**	**345**	PKP	PKPdf	12 07 25.2	-1.3
	1.5nm,0.6s,baz=103,slow=2.7,SNR=6.7						
HINF	**Hinteralfeld**	**143.77**	**338**	*e*PKP1	PKPdf	12 08 07.8	-1.7
CABF	**La Chapelle**	**145.07**	**337**	*e*PKP1	PKPbc	12 08 12.3	+0.8
	3.2nm,0.5s						
FLN	**La Foliniere**	**145.14**	**346**	*e*PKP1	PKPbc	12 08 11.7	0.0
	8.5nm,0.4s						
LDF	**La Druitiere**	**145.22**	**345**	*e*PKP1	PKPbc	12 08 11.4	-0.6
SSF	**Saint Saulge**	**145.58**	**340**	*e*PKP1	PKPbc	12 08 13.3	+0.2
	7.1nm,0.6s						
GRR	**Gorron**	**145.58**	**346**	*e*PKP1	PKPbc	12 08 12.8	-0.3
AVF	**Avril sur Loir**	**145.87**	**340**	*e*PKP1	PKPbc	12 08 14.8	+0.8
	6.9nm,0.9s						
SGMF	**Saint Gilles**	**146.08**	**348**	*e*PKP1	PKPbc	12 08 14.2	-0.4
	6.3nm,0.4s						
BGF	**Bois d'Agland**	**146.24**	**341**	*e*PKP1	PKPbc	12 08 15.5	+0.4
	8.8nm,0.5s						
TCF	**Toulx Ste Croi**	**146.68**	**341**	*e*PKP1	PKPbc	12 08 16.7	+0.4
MFF	**Saint Martin d**	**147.07**	**344**	*e*PKP1	PKPbc	12 08 17.7	+0.3
	7.3nm,0.5s						
LFF	**La Frestale**	**148.34**	**342**	*e*PKP1	PKPbc	12 08 21.3	+0.5
	7.3nm,0.5s						

*NEIC **07** 11:56:37.8±1.8, 124N×12403E, h15km, mb4.4/3, Error ellipse: s-maj=83.2km s-min=27.2km az=61.0*
*ISCJB **07** 11:56:53.2±1.4, 06N±03×1234E±05, h150km, mb4.3/4, Error ellipse: s-maj=83.1km s-min=13.7km az=111.4*
*IDC **07** 11:56:59.0±4.9, 046N×12359E, h176km±28km, mb4.1/3, mb1 4.1/4, mb1mx3.5/17, mbtmp3.9/4, MS4.7/1, Ms1 4.7/1, ms1mx2.7/28, Error ellipse: s-maj=99.3km s-min=41.7km az=57.0*
ISC 07 11:56:54.6±1.4, 07N±03×1237E±05, h150km, n16, σ1§15/13, mb4.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.80**	**174**	*eP*	**P**	**12 01 02.2**	**-0.2**
	4.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.80**	**174**	P	**P**	**12 01 01.8**	**-0.7**
	1.0nm,0.3s,baz=20,slow=10,SNR=90						
WRAB	**Tennant Creek**	**23.02**	**154**	*eP*	**P**	**12 01 45.3**	**-1.1**
	8.8nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**23.02**	**154**	P	**P**	**12 01 45.3**	**-1.2**
	8.5nm,0.7s,mb4.3,baz=332,slow=10,SNR=106						
WRA				ScP	ScP	12 08 54.2	-0.7
	0.3nm,0.5s,baz=332,slow=1.9,SNR=5.1						
WB2	**Warramunga Arr**	**23.03**	**154**	*eP*	**P**	**12 01 44.8**	**-1.7**
AS31	**Alice Springs**	**26.18**	**158**	*eP*	**P**	**12 02 15.7**	**+0.6**
AS31				*eP*		12 02 16.0	
ASPA	**Alice Springs**	**26.18**	**158**	*eP*	**P**	**12 02 16.0**	**+0.9**
ASAR	**Alice Springs**	**26.18**	**158**	P	**P**	**12 02 16.1**	**+1.0**
	4.3nm,0.4s,mb4.4,baz=347,slow=14,SNR=97						
ASAR				ScP	ScP	12 09 00.9	-2.8
	0.4nm,0.4s,baz=344,slow=1.9,SNR=6.8						
ASAR				LR	LR	12 11 49.9	
	comp=Z,68nm,19.6s,baz=228,slow=34						
ASAR	**Alice Springs**	**26.18**	**158**	P	**P**	**12 02 16.1**	**+1.0**
ASAR				ScP	ScP	12 09 00.9	-2.8
STKA	**Stephens Creek**	**36.58**	**154**	*eP*	**P**	**12 03 48.2**	**+2.3**
	4.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**36.58**	**154**	P	**P**	**12 03 48.0**	**+2.1**
	7.6nm,0.8s,mb4.4,baz=320,slow=8.8,SNR=11						
CHCP	**Chirah Chowk**	**57.46**	**310**	P	**P**	**12 06 26.8**	**-0.9**
THW	**Thamme Wali**	**58.30**	**309**	P	**P**	**12 06 34.3**	**+0.8**
ASF	**Jabal al Asfar**	**86.92**	**302**	LR	LR	12 51 59.6	
	comp=Z,360nm,18.6s,baz=152,slow=38						
TORD	**Torodi Ar. Bea**	**120.91**	**286**	PKP	PKPdf	12 15 30.9	+1.9
	0.8nm,0.8s,baz=264,slow=4.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.91**	**286**	PKP	PKPdf	12 15 30.9	+1.9

*ISCJB **07** 12:04:46.3±0.7, 1145N±004×6487W±003, h31km±8km, Error ellipse: s-maj=6.9km s-min=3.8km az=141.9*
*FUNV **07** 12:04:47.5, 1147N×6485W, h28km, MW3.6*
ISC 07 12:04:46.5±1.6, 1142N±003×6488W±003, h20km±12km, n24, σ0§81/34, 2C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAV	**Isla La Blanqu**	**0.50**	**36**↓	*i*P	**Pb**	**12 04 56.6**	**-0.1**
IBAV				*e*S	**Sb**	**12 05 04.0**	**+0.4**
PCRV	**Puerto La Cruz**	**1.25**	**169**	*e*P	**Pn**	**12 05 09.0**	**+0.1**
PCRV				*e*S	**Sb**	**12 05 26.3**	**+1.1**
ORCV	**Isla La Orchil**	**1.35**	**287**↑	*i*P	**Pn**	**12 05 09.9**	**-0.4**
ORCV				*e*S	**Sn**	**12 05 27.3**	**-0.3**
CUPV	**Cœpira**	**1.62**	**214**	*e*P	**Pn**	**12 05 14.1**	**+0.1**
CUPV				*e*S	**Sn**	**12 05 35.5**	**+1.2**
BIRV	**Birongo**	**1.66**	**236**	*e*P	**Pn**	**12 05 14.2**	**-0.3**
BIRV				*e*S	**Sn**	**12 05 35.1**	**-0.1**
ITEV	**Isla Los Testi**	**1.71**	**92**	*e*P	**Pn**	**12 05 14.1**	**-1.2**
ITEV				*e*S	**Sn**	**12 05 34.3**	**-2.3**
CRUV	**Carupano**	**1.77**	**114**	*e*P	**Pn**	**12 05 16.7**	**+0.7**
CRUV				*e*S	**Sn**	**12 05 38.8**	**+0.8**
FUNV	**FUNVISIS**	**2.12**	**244**	*e*P	**Pn**	**12 05 21.6**	**+0.7**
GUNV	**Guanoco**	**2.27**	**123**	*e*P	**Pn**	**12 05 23.4**	**+0.5**
MERV	**Las Mercedes**	**2.56**	**213**	*e*P	**Pn**	**12 05 28.0**	**+1.0**
GUIV	**Guiria**	**2.71**	**106**	*e*P	**Pn**	**12 05 28.9**	**-0.1**
GUIV				*e*S	**Sn**	**12 05 59.5**	**-1.8**
JACV	**Jacura**	**3.89**	**266**	*e*P	**Pn**	**12 05 44.8**	**-0.5**
BAUV	**El Baul**	**3.97**	**232**	*e*P	**Pn**	**12 05 45.8**	**-0.5**
SVB	**Belmont**	**3.99**	**62**	*e*P	**Pn**	**12 05 48.0**	**+1.3**
SVB				*e*S	**Sn**	**12 06 34.0**	**+1.1**
GURV	**El Guri**	**4.04**	**154**	*e*P	**Pn**	**12 05 46.5**	**-0.7**
SSV	**Crater Summit**	**4.07**	**62**	*e*P	**Pn**	**12 05 48.9**	**+1.2**
SSV				*e*S	**Sn**	**12 06 35.2**	**+0.5**
CAOV	**Caicara del Or**	**4.31**	**199**	*e*P	**Pn**	**12 05 49.8**	**-1.2**
TEPV	**Terepaima**	**4.48**	**252**	*e*P	**Pn**	**12 05 53.5**	**+0.1**
BIM	**Bigot**	**4.82**	**50**↑	*e*P	**Pn**	**12 05 57.7**	**-0.3**
SIQV	**Siquisique**	**4.90**	**262**	*e*P	**Pn**	**12 05 58.7**	**-0.4**
FDF	**Fort de France**	**4.90**	**47**	*e*P	**Pn**	**12 05 59.1**	**0.0**
MVM	**Montagne Vaucl**	**4.98**	**51**	*e*P	**Pn**	**12 05 59.9**	**-0.3**
LUEV	**Luepa**	**6.49**	**148**	*e*P	**Pn**	**12 06 20.1**	**-0.8**
SOCV	**Socops**	**6.66**	**243**	*e*P	**Pn**	**12 06 23.0**	**-0.3**

*IDC **07** 12:05:23.2±6.8, 3691N×7169E, h75km±53km, mb3.8/6, mb1 4.1/10, mb1mx3.8/23, mbtmp3.9/10, ML4.1/4, Error ellipse: s-maj=54.3km s-min=33.4km az=157.0*
*ISCJB **07** 12:05:27.0±0.6, 3709N±003×7173E±007, h128km±8km, mb4.1/7, Error ellipse: s-maj=10.1km s-min=4.0km az=153.3*
*BJI **07** 12:05:26.6, 3691N×7169E, h73km, mb4.2*
*NEIC **07** 12:05:27.6±4.4, 3733N×7154E, h84km±27km, mb4.1/1, Error ellipse: s-maj=46.4km s-min=16.2km az=182.0*
*MOS **07** 12:05:28.1±1.0, 3739N×7158E, h109km, mb4.1/1, Error ellipse: s-maj=23.3km s-min=9.5km az=87.3*
ISC 07 12:05:28.1±0.6, 3709N±003×7173E±008, h125km±8km, n57, σ1§16/66, mb4.1/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.26**	**177**	P	**Pn**	**12 06 21.4**	**+3.5**
CEP				S	**Sn**	**12 06 57.0**	**+0.7**
KSH	**Kashi**	**4.13**	**53**	P	**Pn**	**12 06 33.1**	**+3.7**
KSH				S	**Sn**	**12 07 17.5**	**+0.6**
KSH				Smax			
	comp=N,974nm,0.9s						
KSH				Smax			
	comp=E,1μm,1.0s						
AML	**Almayashu**	**5.26**	**16**	P	**Pn**	**12 06 45.0**	**+0.4**
	SNR=90						
DRP	**Derazinda**	**5.47**	**194**	P	**Pn**	**12 06 51.1**	**+3.6**
UCH	**Uchtor**	**5.57**	**22**	P	**Pn**	**12 06 48.8**	**+0.2**
	SNR=27						
KZA	**Kyzart**	**5.68**	**28**	P	**Pn**	**12 06 51.4**	**+1.2**
	SNR=5.2						
THN	**Thein Dam**	**5.68**	**144**	*e*P	**Pn**	**12 06 51.5**	**+1.3**
THN				*e*S	**Sn**	**12 07 54.8**	**+0.5**
DLH	**Dalhousie**	**5.72**	**141**	*e*P	**Pn**	**12 06 49.0**	**-1.7**
DLH				*e*S	**Sn**	**12 07 54.0**	**-1.1**
EKS2	**Erkin-Say**	**5.79**	**15**	P	**Pn**	**12 06 52.0**	**+0.4**
	SNR=42						
AAK	**Ala-Archa**	**5.94**	**20**	P	**Pn**	**12 06 54.3**	**+0.6**
	SNR=38						
AAK	**Ala-Archa**	**5.94**	**20**	*e*PN	**Pn**	**12 06 50.6**	**-3.0**
AAK				pmax	pmax		
	comp=Z,39nm,0.4s						
AAK	**Ala-Archa**	**5.94**	**20**	*e*Pn	**Pn**	**12 06 50.6**	**-3.1**
	comp=Z,39nm,0.4s						
AAK				*e*Sn	**Sn**	**12 07 42.0**	**-18**
KK31	**Karatay Array**	**6.08**	**352**	Pn	**Pn**	**12 06 54.6**	**-1.0**
	comp=Z,22nm,0.3s,baz=175,slow=13,SNR=208						
KK31				Lg		12 07 58.3	
	comp=Z,44nm,0.5s,baz=172,slow=21,SNR=15						
KBK	**Karagaybulak**	**6.09**	**23**	P	**Pn**	**12 06 56.5**	**+0.8**
	SNR=7.6						
ULHL	**Ulahol**	**6.22**	**33**	P	**Pn**	**12 06 58.8**	**+1.3**
	SNR=11						
CHMS	**Chumysh**	**6.34**	**20**	P	**Pn**	**12 06 59.5**	**+0.3**
	SNR=28						
USP	**Ospenovka**	**6.53**	**18**	P	**Pn**	**12 07 01.3**	**-0.4**
	SNR=23						
TKM2	**Tokmak 2**	**6.54**	**26**	P	**Pn**	**12 07 02.2**	**+0.4**
	SNR=60						
BHK	**Bhakra**	**6.86**	**144**	*e*S	**Sn**	**12 08 24.3**	**+1.7**
SDNR	**Sundarnagar**	**7.06**	**141**	*e*P	**Pn**	**12 07 11.0**	**+2.2**
SDNR				*e*S	**Sn**	**12 08 25.0**	**-2.5**
DDI	**Dehra Dun**	**8.56**	**140**	*ex*	x	12 09 08.0	
NDI	**New Delhi**	**9.56**	**150**	*e*P	**Pn**	**12 07 42.0**	**-0.6**
NDI				*e*S	**Sn**	**12 09 24.0**	**-4.1**
AYAN	**Aya Nagar**	**9.70**	**151**	*e*P	**Pn**	**12 07 44.5**	**0.0**
AYAN				*e*S	**Sn**	**12 09 27.7**	**-3.9**
AYAN				AML	AML	12 09 29.8	
	comp=Z,35nm,0.5s						
SONA	**Sohna**	**9.89**	**151**	*e*P	**Pn**	**12 07 47.2**	**+0.1**
SONA				*e*S	**Sn**	**12 09 31.7**	**-4.6**
SONA				AML	AML	12 09 38.5	
	comp=N,39nm,0.5s						
SONA				AML	AML	12 09 38.7	
	comp=E,58nm,0.2s						
AJM	**Ajmer**	**10.86**	**166**	*e*S	**Sn**	**12 09 55.4**	**-4.2**
AJM				AML	AML	12 09 58.0	
	comp=E,33nm,0.5s						
AJM				AML	AML	12 09 58.5	
	comp=N,30nm,0.3s						
AGRA	**Agra**	**11.14**	**150**	*e*P	**Pn**	**12 08 03.1**	**-0.5**
AGRA				*e*S	**Sn**	**12 10 02.0**	**-4.4**
AGRA				AML	AML	12 10 04.6	
	comp=E,72nm,0.4s						
AGRA				AML	AML	12 10 07.1	
	comp=N,72nm,0.5s						
MK31	**Makanchi Array**	**12.47**	**36**	*e*P	**Pn**	**12 08 20.3**	**-0.9**
MKAR	**Makanchi Array**	**12.47**	**36**	P	**Pn**	**12 08 20.9**	**-0.3**
	comp=N,0.2nm,0.3s,baz=224,slow=14,SNR=24						
MKAR	**Makanchi Array**	**12.47**	**36**	P	**Pn**	**12 08 20.9**	**-0.3**
KOLN	**Koldanda**	**13.65**	**129**	*e*P	**Pn**	**12 08 35.3**	**-1.2**
	comp=N,28nm,0.4s						
GKN	**Gorkha**	**14.15**	**126**	*e*P	**Pn**	**12 08 43.0**	**+0.2**
	comp=N,136nm,0.7s						
BHPL	**Bhopal**	**14.64**	**159**	*e*P	**Pn**

TLL	**Tololo Astrono**	**3.16**	**331**	*e*P		Pn	12 18 26.2	+1.6
TLL				S		Sn	12 19 10.9	+8.5

CASC 07 12:23:02.8±2.7, 1052N×8316W, h20km±7km, MD3.7, ML3.6, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIO	**Limon**	**0.53**	**167**	*e*P	Pb	12 23 14.3	+0.9
LIO				*e*S	Sb	12 23 22.6	+2.0
IRZ2	**Volcan Irazu 2**	**0.91**	**233**	⇓*e*P	Pb	12 23 20.1	+0.1
OCM	**Ochomogo**	**1.01**	**232**	*e*P	Pb	12 23 21.3	-0.3
OCM				*e*S	Sb	12 23 36.0	+1.6
LCR2	**La Lucha 2**	**1.14**	**227**	⇓*i*P	Pn	12 23 23.4	-0.2
LCR2				*e*S	Sb	12 23 38.5	+0.3
PRS1	**Puriscal**	**1.26**	**245**	⇓*e*P	Pn	12 23 27.0	+1.8
PRS1				*e*S	Sn	12 23 43.8	+2.2
CGA2	**Cerro Gallo 2**	**1.38**	**249**	*e*P	Pn	12 23 27.7	+0.7
CGA2				*e*S	Sn	12 23 45.6	+0.9
VACR	**Volcan Arenal**	**1.50**	**268**	*e*P	Pn	12 23 29.2	+0.6
VACR				*e*S	Sn	12 23 49.7	+2.2
EPA	**Esparza**	**1.52**	**250**	*e*P	Pn	12 23 29.4	+0.7
EPA				*e*S	Sn	12 23 49.4	+1.5
CTCR	**Cotoan**	**1.66**	**166**	*e*P	Pn	12 23 29.0	-1.8
APYN	**Apoyeque**	**3.56**	**299**	*e*P	Pn	12 23 57.9	+0.9

ISCJB ***07*** *12:31:36.6±0.2, 2443N×003×6499E×002, h10km, mb5.0/144, MS4.2/42, Error ellipse: s-maj=4.2km s-min=2.2km az=13.1*

IDC ***07*** *12:31:37.2±0.5, 2445N×6498E, h0km, mb4.8/30, mb1 4.9/31, mb1mx4.9/35, mbtmp4.8/31, ML5.1/1, MS4.1/22, Ms1 4.1/22, ms1mx4.0/37, Error ellipse: s-maj=14.2km s-min=11.1km az=29.0*

CSEM ***07*** *12:31:38.2±0.1, 2445N×6491E, h20km, mb5.1/74, Ms4.2, Mw5.0, Error ellipse: s-maj=3.6km s-min=2.4km az=168.0*

NEIC ***07*** *12:31:40.3±2.8, 2445N×6493E, h20km±17km, mb5.2/88, MS4.2/7, Error ellipse: s-maj=5.4km s-min=3.4km az=201.0*

BJI ***07*** *12:31:42.3, 2457N×6478E, h56km, mB5.1, mb4.9, Ms4.7, Msz4.3*

MOS ***07*** *12:31:42.1±0.9, 2451N×6491E, h47km, mb5.3/59, Error ellipse: s-maj=7.8km s-min=3.5km az=123.6*

SZGRF ***07*** *12:31:42.1, 2396N×6433E, h33km, mb5.3, Off coast of Pakistan*

GCMT ***07*** *12:31:44.4±0.4, 2431N×6499E, h23km±1km, MW5.0/67, Moment Tensor Solution. s32,c42; s67,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.38±.14; Mθθ 2.81±.13; Mφφ -4.19±.14; Mrθ 0.80±.22; Mφθ -0.22±.11; Mφr 1.47±.23; Best double couple: Mo 3.88600×10^16 NP1: φs 137.00000°, δ 61.00000°, λ 9.00000°. NP2: φs 43.00000°, δ 82.00000°, λ 150.00000°. Principal axes: T 3.1960, Plg26.0000°, Azm356.0000°; N 1.3820, Plg59.0000°, Azm209.0000°; P -4.5770, Plg14.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

THR ***07*** *12:33:08.0±0.8, 2799N×58.10E, h14km, ML3.7*

ISC 07 12:31:37.6±0.9, 2449N±003×6497E±002, h2km±5km, n497, σ1°06/523, mb5.0/144, MS4.2/42, 72C-32D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	**Wadi Bani Khal** SNR=33	**5.82**	**252**	⇓P	**Pn**	**12 33 03.1**	**-1.8**
JASL	**Jaisalmer**	**5.87**	**64**	*e*P	**Pn**	**12 33 03.4**	**-2.3**
JASL				*e*S	**Sn**	**12 34 07.6**	**-6.0**
WSAR	**Wadi Sarin** 46nm,0.3s,baz=108,slow=11,SNR=399	**5.94**	**259**	Pn	**Pn**	**12 33 04.3**	**-2.3**
WSAR				Sn	**Sn**	**12 34 03.5**	**-12**
	82nm,0.3s,baz=165,slow=20,SNR=9.6						
WSAR				LR	LR	12 35 19.2	
	comp=Z,1μm,20.1s,baz=351,slow=37						
WSAR				T		12 38 53.0	
	14nm,0.3s,baz=326,slow=16,SNR=5.7						
WSAR	**Wadi Sarin**	**5.94**	**259**	Pn	**Pn**	**12 33 04.3**	**-2.3**
WSAR				Sn	**Sn**	**12 34 03.5**	**-12**
WSAR				LR	LR	12 35 19.2	
WSAR	**Wadi Sarin**	**5.94**	**259**	Pn	**Pn**	**12 33 04.3**	**-2.3**
WSAR				Sn	**Sn**	**12 34 03.5**	**-12**
BIDO	**Bidbid** SNR=85	**6.33**	**263**	⇑P	**Pn**	**12 33 10.8**	**-1.3**
SMDO	**Samad** SNR=58	**6.50**	**259**	⇑P	**Pn**	**12 33 13.1**	**-1.2**
JMDO	**Jabal Madar** SNR=83	**6.65**	**253**	⇓P	**Pn**	**12 33 15.7**	**-0.7**
HOQ	**Hoqain** SNR=74	**7.06**	**264**	⇓P	**Pn**	**12 33 20.1**	**-1.9**
BHV	**Bhavnagar**	**7.14**	**111**	*e*P	**Pn**	**12 33 23.0**	**-0.1**
BSYO	**Bisya** SNR=291	**7.30**	**258**	P	**Pn**	**12 33 25.5**	**+0.1**
BSY	**Bisya** SNR=291	**7.34**	**258**	⇓P	**Pn**	**12 33 25.5**	**-0.3**
ARQ	**Araqi** SNR=123	**7.82**	**263**	⇓P	**Pn**	**12 33 33.0**	**+0.6**
ASHO	**Ashiyiah** SNR=83	**8.12**	**273**	⇓P	**Pn**	**12 33 37.0**	**+0.5**
BNDS	**Bandar-Abbas**	**8.43**	**292**	*e*Pg	**Pn**	**12 33 40.8**	**-0.1**
BNDS				AML	AML	12 33 52.7	
	comp=E,408nm,0.1s						
DRP	**Derazinda**	**8.57**	**31**	P	**Pn**	**12 33 44.5**	**+1.8**
AJM	**Ajmer**	**8.96**	**75**	*e*S	**Sn**	**12 35 22.3**	**-7.2**
KRBR	**Kerman**	**9.13**	**309**	*e*Pg	**Pn**	**12 33 49.8**	**-0.5**
KRBR				*e*Sg		12 34 20.7	
BOM	**Bombay**	**9.17**	**126**	*i* P	**Pn**	**12 33 51.7**	**+0.8**
BOM				*ex*	**Sn**	**12 35 35.0**	**+0.2**
POO	**Poona**	**10.17**	**124**	*i* x	x	12 34 17.0	
POO				*ex*	x	12 34 39.5	
POO				AMb	AMB	12 34 42.2	
	comp=Z,126nm,0.7s						
POO				*i* x	x	12 35 53.0	
POO				*i* x	x	12 36 06.0	
THW	**Thamme Wali**	**10.18**	**34**	⇑P	**Pn**	**12 34 04.6**	**-0.2**
THW				S	**Sn**	**12 35 45.0**	**-15**
KHET	**Khetri**	**10.35**	**68**	*e*P	**Pn**	**12 34 06.7**	**-0.5**
KHET				AMb	AMB	12 34 08.5	
	comp=Z,47nm,0.7s						
KHET				*e*S	**Sn**	**12 35 56.1**	**-7.7**
CEP	**Cherat**	**11.10**	**31**	P	**Pn**	**12 34 16.9**	**-0.4**
CEP				S	**Sn**	**12 36 14.0**	**-8.0**
KAD	**Karad**	**11.19**	**128**	*e*P	**Pn**	**12 34 18.8**	**+0.3**
KAD				*e*P		12 34 18.9	
KAD				AMb	AMB	12 34 21.9	
	comp=N,48nm,1.1s						
GHIR	**Ghir-Karzin**	**11.39**	**292**	*e*Pn	**Pn**	**12 34 19.1**	**-2.3**
GHIR				AML	AML	12 34 56.9	
	comp=E,82nm,0.6s						
GHIR				AML	AML	12 34 57.0	
	comp=N,92nm,0.7s						
BHPL	**Bhopal**	**11.46**	**94**	*e*P	**Pn**	**12 34 23.0**	**+0.7**
BHPL				AMb	AMB	12 34 24.7	
	comp=Z,241nm,0.9s						
BHPL				*ex*	x	12 36 26.7	
SONA	**Sohna**	**11.48**	**68**	*e*P	**Pn**	**12 34 21.9**	**-0.7**
SONA				AMb	AMB	12 34 25.6	
	comp=Z,36nm,0.5s						
SONA				*e*S	**Sn**	**12 36 21.5**	**-10**
NIL	**Nilore** comp=Z,144nm,0.7s,SNR=5.2	**11.64**	**37**	Pn	**Pn**	**12 34 25.9**	**+1.1**
CHCP	**Chirah Chowk**	**11.66**	**37**	P	**Pn**	**12 34 24.0**	**-1.0**
NDI	**New Delhi** comp=Z,4.0nm,0.6s	**11.72**	**66**	*e*P	**Pn**	**12 34 24.0**	**-1.9**
NDI				*e*S	**Sn**	**12 36 27.0**	**-10**
KKR	**Kurukshetra**	**11.86**	**60**	*e*P	**Pn**	**12 34 26.2**	**-1.6**
KKR				AMb	AMB	12 34 29.7	
	comp=Z,135nm,1.1s						
AGRA	**Agra**	**11.99**	**74**	*e*P	**Pn**	**12 34 29.4**	**-0.2**
AGRA				AMb	AMB	12 34 32.2	
	comp=Z,73nm,0.5s						
AGRA				*e*S	**Sn**	**12 36 33.9**	**-10**
BHK	**Bhakra**	**12.24**	**53**	*e*P	**Pn**	**12 34 37.0**	**+4.1**
BHK				*e*S	**Sn**	**12 36 43.2**	**-6.8**
THN	**Thein Dam**	**12.32**	**48**	*e*P	**Pn**	**12 34 34.3**	**+0.2**
THN				*ex*	**Sn**	**12 36 46.6**	**-5.3**
LATR	**Latur**	**12.36**	**117**	*e*P	**Pn**	**12 34 33.5**	**-1.2**
DLH	**Dalhousie**	**12.55**	**48**	*e*P	**Pn**	**12 34 34.0**	**-3.2**
DLH				*ex*	**Sn**	**12 36 53.0**	**-4.7**
SDNR	**Sundarnagar**	**12.69**	**54**	*e*P	**Pn**	**12 34 38.5**	**-0.6**
SDNR				*e*S	**Sn**	**12 36 50.0**	**-11**
DDI	**Dehra Dun**	**12.99**	**61**	*ex*	**Sn**	**12 36 53.5**	**-15**
NGP	**Nagpur**	**13.40**	**102**	*e*P	**Pn**	**12 34 48.0**	**-0.8**
NGP				AMb	AMB	12 34 50.5	
	comp=Z,143nm,0.9s						
NGP				*ex*	**Sn**	**12 37 03.2**	**-15**
NASN	**Na'in**	**13.50**	**311**	*e*Pn	**Pn**	**12 34 47.5**	**-2.8**
JBP	**Jabalpur**	**13.80**	**92**	⇓*i*P	**Pn**	**12 34 53.5**	**-0.9**
JBP				*ex*	x	12 34 55.9	
	comp=Z,188nm,1.0s						
JBP				*i* x	x	12 37 49.9	
LGTI	**Lohaghat**	**14.48**	**67**	*e*P	**Pn**	**12 35 01.0**	**-2.6**
LGTI				*ex*	**Sn**	**12 37 38.0**	**-6.8**
PTH	**Pithoragarh**	**14.49**	**66**	*e*P	**Pn**	**12 35 06.2**	**+2.5**
PTH				*ex*	x	12 37 38.3	
HYB	**Hyderabad** comp=Z,220nm,1.0s	**14.50**	**116**	*i* P	**Pn**	**12 35 02.5**	**-1.3**
HYB	**Hyderabad**	**14.50**	**116**	*e*P	**Pn**	**12 35 02.5**	**-1.3**
ALBI	**Allahabad**	**15.30**	**83**	*ex*	**Pn**	**12 35 10.0**	**-4.7**
KBD	**Kabd**	**16.11**	**291**	*e*P	**Pn**	**12 35 22.7**	**-2.5**
KBD				AML	AML	12 38 09.3	
	comp=Z,367nm,0.6s						
UMR	**Umm Al-Rimmam**	**16.18**	**292**	*e*P	**Pn**	**12 35 23.3**	**-2.8**
UMR				AMb	AMB	12 38 13.1	
	comp=Z,211nm,0.5s						
RDF	**Al-Radifah**	**16.18**	**290**	*e*P	**Pn**	**12 35 22.8**	**-3.3**
RDF				AMb	AMB	12 38 12.2	
	comp=Z,215nm,0.6s						
ASAO	**Ashtian**	**16.40**	**311**	*e*Pn	**Pn**	**12 35 27.4**	**-1.6**
NAY	**Al-Naaiem**	**16.51**	**291**	*e*P	**Pn**	**12 35 27.7**	**-2.6**
NAY				AMb	AMB	12 38 18.8	
	comp=Z,133nm,0.8s						
MIB	**Mutribah**	**16.56**	**292**	*e*P	**Pn**	**12 35 28.3**	**-2.6**
MIB				AML	AML	12 38 22.3	
	comp=Z,282nm,0.6s						
KOLN	**Koldanda** comp=Z,196nm,1.0s	**17.04**	**75**	*e*P	**Pn**	**12 35 34.9**	**-2.2**
KSH	**Kashi**	**17.62**	**29**	P	**Pn**	**12 35 45.0**	**+0.7**
KSH				*e*AP	pP	12 35 54.4	+8.5
KSH				*e*XP	sP	12 35 59.1	+13
KSH				*e*S	**Sn**	**12 38 54.1**	**-7.0**
KSH				*e*PS		12 39 11.5	
KSH				*e*PCP	PcP	12 40 25.8	+2.2
KSH				*e*PCS	PcS	12 44 01.2	+1.3
KSH				AMB	AMB		
	comp=Z,447nm,4.8s						
KSH				LR	LR		
	comp=N,2μm,6.1s						
KSH				LR	LR		
	comp=E,3μm,7.2s						
KSH				LR	LR		
	comp=Z,3μm,6.4s						
GKN	**Gorkha** comp=Z,147nm,1.0s	**17.98**	**75**	*e*P	**Pn**	**12 35 46.7**	**-2.0**
DMN	**Daman** comp=Z,72nm,0.7s	**18.35**	**76**	*e*P	**Pn**	**12 35 52.4**	**-0.9**
MDRS	**Chennai**	**18.37**	**125**	*ex*	x	12 35 37.2	
MDRS				*ex*	x	12 38 15.2	
VIS	**Vishakhapatnam**	**18.39**	**108**	*e*P	**Pn**	**12 35 54.5**	**+0.7**
VIS				AMb	AMB	12 35 58.9	
	comp=Z,58nm,0.6s						
VIS				*i* x	**Sn**	**12 39 24.3**	**+4.5**
KKN	**Kakani** comp=Z,87nm,0.8s	**18.52**	**75**	*e*P	**Pn**	**12 35 54.0**	**-1.4**
PKI	**Pulchoki** comp=Z,164nm,1.1s	**18.62**	**76**	*e*P	**Pn**	**12 35 55.6**	**-1.0**
AML	**Almayashu** SNR=80	**19.02**	**20**	P	**Pn**	**12 36 00.6**	**-0.9**
GUN	**Gumba** comp=Z,375nm,1.0s	**19.06**	**75**	*e*P	**Pn**	**12 36 01.2**	**-0.8**
BOK	**Bokaro**	**19.10**	**88**	*e*P	**Pn**	**12 36 02.0**	**-0.4**
BOK				AMb	AMB	12 36 05.2	
	comp=Z,105nm,1.1s						
BOK				*i* x	**Sn**	**12 39 24.3**	**-12**
JIRN	**Jiri** comp=Z,105nm,0.6s	**19.32**	**76**	*e*P	**Pn**	**12 36 05.1**	**+0.1**
UCH	**Uchtor** SNR=8.6	**19.38**	**22**	P	**Pn**	**12 36 08.1**	**+2.4**
KZA	**Kyzart** SNR=141	**19.50**	**23**	P	**Pn**	**12 36 09.0**	**+1.8**
EKS2	**Erkin-Say** SNR=102	**19.53**	**20**	P	**Pn**	**12 36 07.0**	**-0.5**
TRD	**Trivandrum**	**19.59**	**142**	*ex*	**Pn**	**12 36 04.1**	**-4.2**
TRD				AMb	AMB	12 36 13.5	
	comp=Z,35nm,1.3s						
AAK	**Ala-Archa** comp=Z,507nm,0.8s,SNR=42	**19.73**	**21**	P	**Pn**	**12 36 09.2**	**-0.8**
AAK	**Ala-Archa** SNR=99	**19.73**	**21**	P	**Pn**	**12 36 10.8**	**+0.8**
AAK	**Ala-Archa**	**19.73**	**21**	⇑*e*P	**Pn**	**12 36 08.2**	**-1.8**
KBK	**Karagaybulak** SNR=87	**19.90**	**22**	P	**Pn**	**12 36 12.0**	**0.0**
FRU	**Bishkek**	**19.95**	**21**	⇑*e*P	**Pn**	**12 36 12.5**	**-0.1**
FRU				*e*		12 39 46.0	
FRU				pmax	pmax		
	comp=Z,220nm,1.9s						
FRU	**Bishkek** comp=Z,220nm,1.9s	**19.95**	**21**	⇑*e*P	**Pn**	**12 36 12.5**	**-0.1**
FRU				*e*		12 39 46.0	
BHD	**Baghdad**	**20.02**	**301**	*ex*	x	12 36 09.0	
BHD				*ex*	x	12 39 51.3	
BHD				*ex*	x	12 43 48.0	
ULHL	**Ulahol** SNR=5.2	**20.02**	**25**	P	**P**	**12 36 14.2**	**+2.5**
CHMS	**Chumysh** SNR=30	**20.14**	**21**	P	**P**	**12 36 14.0**	**+1.0**
USP	**Ospenovka** SNR=94	**20.30**	**20**	P	**P**	**12 36 15.5**	**+0.8**
TKM2	**Tokmak 2** SNR=70	**20.36**	**23**	P	**P**	**12 36 16.4**	**+0.9**
CAL	**Calcutta**	**21.50**	**90**	*ex*	x	12 36 37.5	
CAL				*ex*	x	12 40 45.5	
MSL	**Mosul**	**22.18**	**307**	*ex*	x	12 36 35.5	
HAKT	**HAKKARI**	**22.34**	**311**	*i* P	**P**	**12 36 36.1**	**-0.6**
PALK	**Pallekele** comp=Z,25nm,1.1s,mb4.5	**22.80**	**136**	*e*P	**P**	**12 36 43.6**	**+2.0**
PALK	**Pallekele** comp=Z,25nm,1.1s,mb4.5	**22.80**	**136**	*e*P	**P**	**12 36 43.6**	**+1.9**
GNI	**Garni** comp=Z,143nm,1.0s,mb5.3,baz=140,slow=2.4,SNR=20	**23.07**	**317**	P	**P**	**12 36 45.7**	**+1.2**
GNI	**Garni** SNR=17	**23.07**	**317**	P	**P**	**12 36 46.9**	**+2.4**
GNI	**Garni**	**23.07**	**317**	*e*P	**P**	**12 36 46.8**	**+2.3**
GNI				pmax	pmax		
	comp=Z,172nm,1.1s						
GNI	**Garni** comp=Z,172nm,1.1s,mb5.4	**23.07**	**317**	*e*P	**P**	**12 36 46.8**	**+2.3**
MAK	**Makhachkala**	**23.38**	**326**	*e*P	**P**	**12 36 46.9**	**-0.8**
MAK				*e**PP		12 37 02.0	
MAK				*i*		12 37 15.9	
MAK				*i* S	**S**	**12 40 57.0**	**-4.2**
MAK				*i* SS		12 41 51.9	
MAK				pmax	pmax		
	comp=Z,288nm,1.2s,mb5.6						
MAK				MLR	MLR		
	comp=Z,778nm,14.0s,MS4.3						
MAK	**Makhachkala** comp=Z,288nm,1.2s,mb5.6	**23.38**	**326**	*e*P	**P**	**12 36 46.9**	**-0.8**
MAK				*e*pP		12 37 02.0	
MAK				*i*		12 37 15.9	
MAK				*i* S	**S**	**12 40 57.0**	**-4.2**
MAK				*i* SS		12 41 51.9	
MAK				LR	LR		
	comp=Z,780nm,14.0s,MS4.3						
MAK	**Makhachkala** comp=Z,288nm,1.2s,mb5.6	**23.38**	**326**	*e*P	**P**	**12 36 46.9**	**-0.8**
MAK				*e*pP		12 37 02.0	
MAK				*i* S	**S**	**12 40 57.0**	**-4.2**
LSA	**Lhasa**	**23.85**	**72**	P	**P**	**12 36 56.0**	**+3.7**
MARD	**Mardin**	**24.30**	**307**	*i* P	**P**	**12 36 57.1**	**+0.7**
SHL	**Shillong**	**24.39**	**82**	*e*P	**P**	**12 36 58.2**	**+0.9**
SHL				*ex*	x	12 41 29.5	
ATD	**Arta Tunnel** comp=Z,254nm,18.5s,MS3.8,baz=82,slow=37	**24.63**	**242**	LR	LR	12 46 46.7	
BNGL	**BINGOL**	**24.77**	**311**	*i* P	**P**	**12 37 02.5**	**+1.8**
ERZM	**Erzurum**	**25.10**	**313**	*i* P	**P**	**12 37 06.3**	**+2.7**
ZEI	**Tsey**	**25.19**	**322**	*e*P	**P**	**12 37 05.6**	**+1.1**
ZEI				*e**PP		12 37 16.4	
ZEI				*e*		12 37 39.1	
ZEI				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.1						
ZEI	**Tsey**	**25.19**	**322**	*e*P	**P**	**12 37 05.6**	**+1.1**
ZEI				*e*pP		12 37 16.4	
ZEI				*e*		12 37 39.1	
ZEI	**Tsey**	**25.19**	**322**	*e*P	**P**	**12 37 05.6**	**+1.1**
ZEI				*e*pP		12 37 16.4	
ASF	**Jabal al Asfar** comp=Z,42nm,1.1s,mb4.9,baz=316,slow=2.9,SNR=20	**25.82**	**294**	P	**P**	**12 37 12.4**	**+2.1**
ASF				S	**S**	**12 41 50.4**	**+10**
	comp=Z,3.2nm,0.8s,baz=25,slow=15,SNR=2.9						
MK31	**Makanchi Array**	**26.22**	**28**	*e*P	**P**	**12 37 14.4**	**+0.6**
MKAR	**Makanchi Array** comp=Z,42nm,0.8s,mb5.0,baz=213,slow=9.1,SNR=299	**26.22**	**28**	P	**P**	**12 37 14.3**	**+0.5**
MKAR				LR	LR	12 49 25.3	
	comp=Z,444nm,19.2s,MS4.0,baz=221,slow=41						
MKAR	**Makanchi Array**	**26.22**	**28**	⇑*e*P	**P**	**12 37 14.3**	**+0.5**
IMP	**Imphal**	**26.31**	**83**	*ex*	x	12 37 27.0	
AKTK	**Aktyubinsk**	**26.45**	**350**	P	**P**	**12 37 16.6**	**+0.7**
AKTK				LR	LR	12 49 16.8	
AKTK	**Aktyubinsk**	**26.45**	**350**	P	**P**	**12 37 16.6**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,42nm,0.7s,mb5.1,baz=160,slow=11,SNR=110	**26.45**	**350**	P	**P**	**12 37 16.6**	**+0.7**
AKTO				LR	LR	12 49 16.8	
	comp=Z,436nm,21.1s,MS4.0,baz=154,slow=40						
KIV	**Kislovodsk** comp=Z,1μm,1.2s,SNR=14	**26.62**	**322**	P	**P**	**12 37 19.2**	**+1.7**
KIV	**Kislovodsk**	**26.62**	**322**	*e*P	**P**	**12 37 19.3**	**+1.8**
KIV				pmax	pmax		
	comp=Z,305nm,1.2s,mb5.7						
KIV				MLR	MLR		
	comp=Z,323nm,16.0s,MS4.0						
KIV	**Kislovodsk** comp=Z,305nm,1.2s,mb5.7	**26.62**	**322**	*e*P	**P**	**12 37 19.3**	**+1.8**
KIV				LR	LR		
	comp=Z,320nm,16.0s,MS4.0						
GZT	**Gaziantep**	**26.68**	**305**	*i* P	**P**	**12 37 19.1**	**+1.2**
WMQ	**Urumqi**	**26.78**	**38**	⇑P	**P**	**12 37 20.6**	**+1.7**
WMQ				AP		12 37 30.1	
WMQ				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,37nm,8.5s						
WMQ				LR	LR		
	comp=N,597nm,22.3s,MS4.2						
WMQ				LR	LR		
	comp=E,420nm,21.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,273nm,17.4s,MS3.9						
RCY	**Rachaya**	**26.96**	**296**	*e*P	**P**	**12 37 23.6**	**+3.0**
BHL	**Bhannes**	**27.18**	**297**	*e*P	**P**	**12 37 25.1**	**+2.6**
EIL	**Elat**	**27.18**	**288**	*e*P	**P**	**12 37 24.6**	**+2.1**
EIL	**Elat**	**27.18**	**288**	*e*P	**P**	**12 37 24.6**	**+2.1**
MMAI	**Mount Meron Ar** comp=Z,39nm,0.9s,mb4.9,baz=98,slow=13,SNR=28	**27.21**	**295**	P	**P**	**12 37 24.4**	**+1.6**
ORR	**Orenburg**	**28.20**	**346**	*e*P	**P**	**12 37 32.6**	**+1.0**
ORR				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.2						
ORR				MLR	MLR		
	comp=Z,1μm,25.0s,MS4.5						
KURK	**Kurchatov** comp=Z,80nm,1.1s,mb5.3,SNR=9.6	**28.23**	**18**	P	**P**	**12 37 32.5**	**+0.6**
ZRNK	**Zerenda**	**28.58**	**5**	*e*P	**P**	**12 37 35.5**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
BVAR	**Borovoye Array** comp=Z,4.4nm,0.7s,mb4.3,baz=181,slow=8.9,SNR=27	**28.79**	**7**	P	**P**	**12 37 37.2**	**+0.3**
BVAR				LR	LR	12 51 29.1	
	comp=Z,277nm,20.1s,MS3.9,baz=142,slow=41						
BRVK	**Borovoye**	**28.81**	**7**	*e*P	**P**	**12 37 37.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
BRVK	**Borovoye** comp=Z,22nm,0.8s,mb4.9	**28.81**	**7**	*e*P	**P**	**12 37 37.5**	**+0.4**
CHKZ	**Chkalovo**	**29.45**	**7**	*e*P	**P**	**12 37 43.2**	**+0.4**
BRTR	**Keskin Array B** comp=Z,4.8nm,1.0s,mb4.2,baz=116,slow=8.4,SNR=9.6	**30.39**	**308**	P	**P**	**12 37 51.0**	**-0.1**
BRTR	**Keskin Array B**	**30.39**	**308**	*i* P	**P**	**12 37 51.0**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	**Keskin Array B**	**30.39**	**308**	P	**P**	**12 37 51.0**	**-0.1**
BR131	**Keskin Array S** comp=Z,3.4nm,0.9s,mb4.1	**30.39**	**308**	*e*P	**P**	**12 37 51.3**	**+0.2**
BR131	**Keskin Array S** comp=Z,3.4nm,0.9s,mb4.1	**30.39**	**308**	*e*P	**P**	**12 37 51.3**	**+0.2**
ANTO	**Ankara**	**31.05**	**307**	⇓*i*P	**P**	**12 37 57.9**	**+1.0**
ANTO	**Ankara**	**31.05**	**307**	⇓P	**P**	**12 37 57.9**	**+1.0**
CHTO	**Chiang Mai**	**32.02**	**93**	*e*P	**P**	**12 38 06.8**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
CHTO	**Chiang Mai** comp=Z,20nm,1.0s,mb4.9	**32.02**	**93**	*e*P	**P**	**12 38 06.8**	**+1.3**
CHTO	**Chiang Mai** comp=Z,20nm,1.0s,mb4.9	**32.02**	**93**	*e*P	**P**	**12 38 06.8**	**+1.3**
VRHR	**Novokhopersk**	**32.07**	**332**	*e*P	**P**	**12 38 06.2**	**+0.3**
VRHR				pmax	pmax		
	comp=Z,40nm,0.4s,mb5.6						
VRHR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,50nm,0.7s						
CM31	**Chiang Mai Arr** comp=E,12nm,0.8s,mb4.8	**32.12**	**94**	*e*P	**P**	**12 38 08.4**	**+2.1**
CM31	**Chiang Mai Arr** comp=E,12nm,0.8s,mb4.8	**32.12**	**94**	*e*P	**P**	**12 38 08.4**	**+2.1**
ARU	**Arti** comp=E,175nm,1.1s,mb5.8,SNR=5.6	**32.25**	**353**	P	**P**	**12 38 08.6**	**+1.2**
ARU	**Arti**	**32.25**	**353**	⇑*i*P	**P**	**12 38 08.2**	**+0.8**
ARU				*e*		12 39 09.4	
ARU				*e*S	**S**	**12 43 19.5**	**-2.0**
ARU				*e*SS	SS	12 45 15.6	-24
ARU				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.1						
ARU	**Arti** comp=Z,40nm,1.2s,mb5.1	**32.25**	**353**	⇑*i*P	**P**	**12 38 08.2**	**+0.8**
ARU				*e*		12 39 09.4	
ARU				*e*S	**S**	**12 43 19.5**	**-2.0**
ARU				*e*SS	SS	12 45 15.6	-24
SIM	**Simferopol'**	**32.26**	**317**	*e*P	**P**	**12 38 08.2**	**+0.7**
SIM				S	**S**	**12 43 18.0**	**-3.7**
SIM				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.3						
SIM	**Simferopol'** comp=Z,56nm,1.1s,mb5.3	**32.26**	**317**	*e*P	**P**	**12 38 08.2**	**+0.7**
SIM				S	**S**	**12 43 18.0**	**-3.7**
TKTP	**Tekketepe**	**32.36**	**303**	*i* P	**P**	**12 38 09.2**	**+0.8**
GOLH	**Golhisar**	**32.75**	**301**	*i* P	**P**	**12 38 12.6**	**+0.7**
GTA	**Gaotai**	**32.86**	**55**	⇑P	**P**	**12 38 14.5**	**+1.6**
GTA				AP		12 38 28.0	
GTA				XP	sP	12 38 32.9	+19
GTA

MANT Manisa 33.81 303 *i* P **P 12 38 21.4 +0.3**
KMI Kunming 34.22 81 P **P 12 38 26.5 +1.9**
KMI AP 12 38 39.3
KMI XP sP 12 38 47.3 +22
KMI PP PP 12 39 43.2 +1.2
KMI PPP 12 40 02.7
KMI S **S** **12 43 48.4 -3.7**
KMI XS sS 12 44 13.2 +20
KMI SS SS 12 46 00.1 -20
KMI SSS 12 46 26.6
KMI SCS ScS 12 48 42.2 -7.5
KMI AMB AMB
comp=Z,13nm,0.6s,mb5.0
KMI AMB AMB
comp=Z,99nm,3.9s
KMI LR LR
comp=N,286nm,13.7s,MS4.2
KMI LR LR
comp=E,247nm,15.9s,MS4.2
KMI LR LR
comp=Z,285nm,17.1s,MS4.1
KMI Kunming 34.22 81 P **P 12 38 26.5 +1.9**
KMI *PP 12 38 39.3
KMI *SP sP 12 38 47.3 +22
KMI 12 39 43.2
KMI PPP 12 40 02.7
KMI S **S** **12 43 48.4 -3.7**
KMI *SS sS 12 44 13.2 +20
KMI SS SS 12 46 00.1 -20
KMI SSS 12 46 26.6
KMI 12 48 42.2
KMI pmax pmax
comp=Z,13nm,0.6s,mb5.0
KMI MLR MLR
comp=Z,290nm,17.1s,MS4.1
KMI Kunming 34.22 81 P **P 12 38 26.5 +1.9**
comp=Z,13nm,0.6s,mb5.0
KMI pP 12 38 39.3
KMI sP sP 12 38 47.3 +22
KMI PP PP 12 39 43.2 +1.2
KMI PPP 12 40 02.7
KMI S **S** **12 43 48.4 -3.7**
KMI sS sS 12 44 13.2 +20
KMI SS SS 12 46 00.1 -20
KMI SSS 12 46 26.6
KMI ScS ScS 12 48 42.2 -7.5
KMI LR LR
comp=Z,290nm,17.1s,MS4.1
CD2 Chengdu 34.80 71 *eP* **P 12 38 29.6 -0.1**
CD2 AP 12 38 43.2
CD2 XP sP 12 38 49.6 +19
CD2 PP PP 12 39 47.4 -1.1
CD2 S **S** **12 43 54.6 -6.5**
CD2 SCS ScS 12 48 44.6 -8.2
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,510nm,14.4s,MS4.6
CD2 LR LR
comp=E,530nm,12.0s,MS4.6
CD2 LR LR
comp=Z,450nm,14.4s,MS4.3
URLA Izmir 35.29 302 *i* P **P 12 38 34.6 +0.7**
OBN Obninsk 37.07 333⇑ *eP* **P 12 38 49.3 +0.1**
OBN *e* 12 40 16.5
OBN *eS* **S** **12 44 24.1 -12**
OBN *eSS* SS 12 47 08.7 -9.2
OBN pmax pmax
comp=Z,200nm,1.5s,mb5.7
OBN Obninsk 37.07 333⇑ *eP* **P 12 38 49.3 +0.1**
comp=Z,200nm,1.5s,mb5.7
OBN *e* 12 40 16.5
OBN *eS* **S** **12 44 24.1 -12**
OBN *eSS* SS 12 47 08.7 -9.2
MOS Moscow 37.09 334 *eP* **P 12 38 48.9 -0.4**
MOS *e* 12 39 03.5
MOS *e* 12 40 13.7
MOS pmax pmax
comp=Z,500nm,1.7s,mb6.1
MOS pmax pmax
comp=Z,268nm,1.4s,mb5.9
MOS pmax pmax
comp=N,127nm,1.0s
MOS Moscow 37.09 334 *eP* **P 12 38 48.9 -0.4**
comp=N,268nm,1.4s,mb5.9
MOS *e* 12 39 03.5
MOS *e* 12 40 13.7
VRI Vrincioaia 37.36 315⇑ *iP* **P 12 38 53.2 +1.6**
VRI Vrincioaia 37.36 315 ⇑P **P 12 38 53.2 +1.6**
GYA Guiyang 37.57 78⇑ *iP* **P 12 38 53.8 +0.4**
GYA AP 12 39 07.9
GYA XP sP 12 39 14.0 +20
GYA PP PP 12 40 22.8 +3.8
GYA PCP PcP 12 41 13.2 +1.8
GYA S **S** **12 44 40.1 -3.4**
GYA SCP ScP 12 44 54.7 -5.0
GYA PCS PcS 12 45 00.6 +0.7
GYA XS sS 12 45 04.3 +20
GYA SS SS 12 47 15.1 -13
GYA SCS ScS 12 49 01.5 -6.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=N,870nm,17.8s,MS4.7
GYA LR LR
comp=E,690nm,17.6s,MS4.7
GYA LR LR
comp=Z,810nm,18.0s,MS4.6
MLR Muntele Rosu 37.73 314⇑ *iP* **P 12 38 57.7 +2.9**
MLR Muntele Rosu 37.73 314 ⇑P **P 12 38 57.7 +2.9**
AKASG Malin Array Be 37.97 323 P **P 12 38 55.9 -0.9**
comp=Z,26nm,0.8s,mb5.0,baz=124,slow=7.1,SNR=71
AKASG PP PP 12 40 20.3 -3.1
comp=Z,1.8nm,0.8s,baz=119,slow=8.3,SNR=2.9
AKASG PcP PcP 12 41 11.9 -0.7
comp=Z,0.3nm,0.3s,baz=101,slow=2.7,SNR=4.1
AKASG Malin Array Be 37.97 323 P **P 12 38 55.9 -0.9**
AKASG *e* 12 40 20.3
AKASG *e* 12 41 11.9
AKBB Malin Array Si 37.97 323 *eP* **P 12 38 56.2 -0.6**
VTS Vitosha 38.76 308⇓ *iP* **P 12 39 03.6 +0.2**
VTS Vitosha 38.76 308 ⇓P **P 12 39 03.6 +0.2**
BURAR Bucovina Array 38.97 317⇑ *iP* **P 12 39 06.0 +0.8**
BURAR Bucovina Array 38.97 317 ⇑P **P 12 39 06.0 +0.8**
PSI Prapat 39.21 118 P **P 12 39 08.8 +1.6**
comp=Z,47nm,0.8s,mb5.3,baz=313,slow=7.1,SNR=53
PSI LR LR 12 55 58.4
comp=Z,340nm,19.8s,MS4.2,baz=291,slow=37
KULM Kulim 39.22 113 *eP* **P 12 39 10.9 +3.6**
KULM Kulim 39.22 113 *eP* **P 12 39 10.9 +3.6**
XAN Xi'an 39.25 66 P **P 12 39 08.4 +0.9**
XAN AMB AMB
comp=Z,17nm,1.0s,mb4.7
SKO Skopje 39.90 307 *eP* **P 12 39 13.2 +0.2**
SKO Skopje 39.90 307 *eP* **P 12 39 13.1 +0.2**
KRUS Krusevo 39.91 306 *eP* **P 12 39 13.7 +0.6**
KRUS Krusevo 39.91 306 *eP* **P 12 39 13.6 +0.5**
SONM Songino Array 40.10 44 P **P 12 39 16.2 +1.6**
comp=Z,7.5nm,0.9s,mb4.4,baz=246,slow=7.3,SNR=5.4
OHR Ohrid 40.20 305 *eP* **P 12 39 14.3 -1.2**
OHR Ohrid 40.20 305 *eP* **P 12 39 14.2 -1.2**
DRGR 40.29 314⇑ *iP* **P 12 39 17.1 +0.9**
DRGR 40.29 314 ⇑P **P 12 39 17.1 +0.9**
ULN Ulaanbaatar 40.52 44⇓ *eP* **P 12 39 18.8 +0.7**
LVV L'vov 40.55 319 *eP* **P 12 39 17.5 -0.8**
BZS Buzias 40.66 312⇓ *iP* **P 12 39 19.2 0.0**
BZS Buzias 40.66 312 ⇑P **P 12 39 19.4 +0.2**
BZS Buzias 40.66 312 ⇑P **P 12 39 19.4 +0.2**
BTO Baotou 40.77 56 *eP* **P 12 39 20.4 +0.3**
UZH Uzhgorod 41.17 317 *eP* **P 12 39 22.0 -1.4**
UZH *e* 12 39 41.6
UZH *i* 12 41 22.6
KWP Kalwaria 41.27 318 *eP* **P 12 39 25.1 +0.8**
KOLS Kolonicke sedl 41.28 317 *eP* **P 12 39 25.4 +1.0**
CRVS Cervenica-Dubn 41.78 317 *eP* **P 12 39 26.8 -1.6**
QIZ Qiongzhong 41.89 88 P **P 12 39 31.0 +1.6**
QIZ S **S** **12 45 43.8 -4.4**
QIZ AMB AMB
comp=Z,30nm,1.5s,mb4.7
QIZ LR LR
comp=Z,410nm,15.6s,MS4.4
HHC Hu-ho-hao-te 41.97 56 *eP* **P 12 39 32.0 +2.0**
HHC AP 12 39 44.7
HHC XP sP 12 39 49.8 +19
HHC PP PP 12 41 14.8 +7.9
HHC PCP PcP 12 41 28.0 +2.7
HHC S **S** **12 45 47.0 -2.4**
HHC XS sS 12 46 08.4 +18
HHC SS SS 12 48 49.1 -6.8
HHC SCS ScS 12 49 28.8 -5.1
HHC AMB AMB
comp=Z,20nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,138nm,5.7s
HHC LR LR
comp=N,326nm,18.4s,MS4.4
HHC LR LR
comp=E,272nm,15.9s,MS4.4
HHC LR LR
comp=Z,289nm,16.2s,MS4.2
KECS Kecovo 42.25 316 *eP* **P 12 39 33.0 +0.7**
KECS pmax pmax
comp=Z,15nm,1.3s,mb4.5
KECS Kecovo 42.25 316 *eP* **P 12 39 33.0 +0.7**
comp=Z,15nm,1.3s,mb4.5
PSZ Piszkesteto 42.45 315⇑ *iP* **P 12 39 34.5 +0.5**
PSZ Piszkesteto 42.45 315 ⇑P **P 12 39 34.6 +0.6**
PSZ Piszkesteto 42.45 315⇓ *eP* **P 12 39 34.8 +0.8**
PUL Pulkovo 42.71 335⇓ *eP* **P 12 39 36.8 +0.8**
PUL pmax pmax
comp=N,92nm,0.6s
PUL pmax pmax
comp=Z,61nm,0.6s,mb5.5
PUL pmax pmax
comp=E,132nm,0.7s
PUL Pulkovo 42.71 335⇓ *eP* **P 12 39 36.8 +0.8**
comp=E,61nm,0.6s,mb5.5
SUW Suwalki 42.80 325 *eP* **P 12 39 36.5 -0.3**
PKSM Moragy 42.82 312⇓ *iP* **P 12 39 37.8 +0.9**
PKSM Moragy 42.82 312⇓ *eP* **P 12 39 37.7 +0.8**
TIP Timpagrande 43.01 302 *eP* **P 12 39 40.5 +2.0**
TIP Timpagrande 43.01 302 *eP* **P 12 39 40.5 +2.0**
OJC Ojcow 43.24 318 *eP* **P 12 39 40.8 +0.5**
VYHS Vyhne 43.30 316 *i* P **P 12 39 41.1 +0.3**
VYHS Vyhne 43.30 316 *i* P **P 12 39 41.2 +0.4**
VYHS pmax pmax
comp=Z,13nm,1.3s,mb4.5
VYHS Vyhne 43.30 316 *i* P **P 12 39 41.2 +0.4**
comp=Z,12nm,1.3s,mb4.5
VYHS Vyhne 43.30 316 *i* P **P 12 39 41.2 +0.4**
comp=Z,12nm,1.3s,mb4.5
VSU Vasula 43.38 332 *eP* **P 12 39 40.6 -0.9**
CUC Castrocucco 43.81 303 P **P 12 39 45.8 +0.9**
comp=Z,38nm,0.8s,mb5.2
WHN Wuhan 43.93 71 *eP* **P 12 39 46.2 +0.3**
SLCN Sala Consilina 43.99 303 P **P 12 39 47.9 +1.5**
OKC Ostrava-Krasne 44.13 317 *eP* **P 12 39 44.9 -2.6**
MRLC Muro Lucano 44.13 304 P **P 12 39 48.3 +0.8**
comp=Z,168nm,2.9s,mb5.3
ZST Bratislava 44.33 315 *eP* **P 12 39 49.5 +0.4**
ZST pmax pmax
comp=Z,41nm,1.7s,mb4.9
ZST Bratislava 44.33 315 *eP* **P 12 39 49.5 +0.4**
comp=Z,41nm,1.7s,mb4.9
FG5 Orsara di Pugl 44.35 305 P **P 12 39 52.2 +2.9**
FG5 pmax pmax
comp=Z,77nm,1.3s,mb5.3
FG5 Orsara di Pugl 44.35 305 P **P 12 39 52.2 +2.9**
comp=Z,77nm,1.3s,mb5.3
JOF Joensuu 44.47 339 *ep* **P 12 39 49.1 -1.1**
MORC Moravsky Berou 44.48 317⇓ *iP* **P 12 39 50.7 +0.4**
MORC Moravsky Berou 44.48 317 *eP* **P 12 39 50.1 -0.3**
comp=Z,7.5nm,0.6s,mb4.6
MORC Moravsky Berou 44.48 317 *eP* **P 12 39 50.1 -0.2**
comp=Z,7.5nm,0.6s,mb4.6
SOP Sopron 44.56 314⇓ *eP* **P 12 39 51.5 +0.5**
CRES Cresnjev 44.90 311 *eP* **P 12 39 54.1 +0.4**
VRAC Vranov 44.95 316 P **P 12 39 54.2 +0.2**
comp=Z,3.5nm,0.4s,mb4.5,baz=78,slow=9.2,SNR=7.0
VRAC LR LR 13 01 31.9
comp=Z,148nm,18.0s,MS4.0,baz=108,slow=40
GROS Grobnik 45.00 312 *eP* **P 12 39 54.2 -0.2**
GROS *e*PcP PcP 12 41 35.6 0.0
GROS *e*PP PP 12 41 53.5 +14
CONA Conrad Observa 45.08 314⇑ *iP* **P 12 39 54.9 -0.1**
comp=Z,13nm,1.1s,mb4.7
ARSA Arzberg 45.15 313⇓ *iP* **P 12 39 56.6 +1.0**
comp=Z,27nm,1.3s,mb4.9
PERS Pernice 45.29 312 *eP* **P 12 39 56.6 -0.1**
BJI Beijing 45.38 57 P **P 12 39 59.2 +1.7**
BJI S **S** **12 46 40.4 +1.1**
BJI AMB AMB
comp=Z,17nm,1.2s,mb4.8
BJI LR LR
comp=N,318nm,17.3s,MS4.5
BJI LR LR
comp=E,332nm,12.3s,MS4.5
BJI LR LR
comp=Z,223nm,28.9s
BJI Beijing 45.38 57 P **P 12 39 59.2 +1.7**
comp=Z,17nm,1.2s,mb4.8
BJI S **S** **12 46 40.4 +1.1**
BJI SS SS 12 50 08.9 +6.3
BJI LR LR
comp=Z,220nm,28.9s,MS3.9
FINES FINESS Array B 45.39 335 P **P 12 39 57.3 -0.3**
comp=Z,8.7nm,0.6s,mb4.8,baz=131,slow=9.0,SNR=42
FINES FINESS Array B 45.39 335 *i* P **P 12 39 57.2 -0.4**
FINES pmax pmax
comp=Z,9.0nm,0.6s
DPC Dobruska-Polom 45.40 318 *eP* **P 12 39 57.7 +0.1**
KSP Ksiaz 45.56 318 *eP* **P 12 39 59.9 +1.0**
KSP Ksiaz 45.56 318 *eP* **P 12 39 59.3 +0.4**
LJU Ljubljana 45.58 311 *eP* **P 12 40 00.2 +1.1**
UPC Upice 45.63 318 *eP* **P 12 39 59.9 +0.4**
OBKA Obir 45.65 312⇓ *iP* **P 12 39 59.8 +0.1**
KAF Kangasniemi 45.71 336 *ep* **P 12 39 59.2 -0.9**
comp=Z,40nm,0.8s,mb5.4,baz=126,slow=7.8
KAF Kangasniemi 45.71 336 *eP* **P 12 39 59.2 -0.9**
KAF pmax pmax
comp=Z,40nm,0.8s,mb5.4
AQU L'Aquila 45.86 306 *eP* **P 12 40 02.0 +0.8**
TIA Tai'an 46.01 63 *eP* **P 12 40 03.6 +1.2**
MOA Molln 46.10 314⇓ *iP* **P 12 40 03.6 +0.4**
comp=Z,40nm,1.7s,mb5.1
CADS Cadrg 46.15 311 *eP* **P 12 40 03.2 -0.4**
OPO Ambohidratompo 46.18 204 P **P 12 40 05.0 +1.2**
comp=Z,0.5nm,0.4s,baz=101,slow=16,SNR=3.5
PRU Pruhonice 46.41 317 *eP* **P 12 40 05.6 0.0**
PTCC Patocco-Chiusa 46.45 312 P **P 12 40 06.2 +0.3**
PVCC Panska Ves 46.53 317 *eP* **P 12 40 06.6 +0.1**
KBA Koelnbreinsper 46.57 312⇓ *iP* **P 12 40 07.4 +0.6**
comp=Z,4.1nm,0.7s,mb4.5
KBA Koelnbreinsper 46.57 312⇓ *iP* **P 12 40 07.4 +0.5**
KBA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GEC2 GERESS Array S 46.68 315 *eP* **P 12 40 07.6 -0.2**
comp=Z,78nm,1.7s,mb5.4
GEC2 GERESS Array S 46.68 315 *eP* **P 12 40 07.6 -0.2**
GEC2 pmax pmax
comp=Z,78nm,1.7s,mb5.4
GERES GERESS Array B 46.68 315 P **P 12 40 08.2 +0.4**
comp=Z,5.0nm,0.7s,mb4.6,baz=107,slow=7.3,SNR=32
GERES PcP PcP 12 41 41.6 +0.1
comp=Z,5.9nm,0.9s,baz=108,slow=3.2,SNR=6.0
GERES GERESS Array B 46.68 315 PcP PcP 12 41 41.6 +0.2
KHC Kasperske Hory 46.82 315 *eP* **P 12 40 08.2 -0.7**
KHC Kasperske Hory 46.82 315⇓ *eP* **P 12 40 08.5 -0.4**
BRG Berggiesshubel 47.00 318 *eP* **P 12 40 10.4 +0.2**
comp=Z,22nm,1.3s,mb4.9
BRG Berggiesshubel 47.00 318 *eP* **P 12 40 10.8 +0.6**
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
BRG Berggiesshubel 47.00 318 *eP* **P 12 40 10.8 +0.6**
comp=Z,11nm,1.3s,mb4.6
SFI Santa Sofia 47.15 308 P **P 12 40 12.4 +1.0**
SFI pmax pmax
comp=Z,23nm,0.9s,mb5.1
SFI Santa Sofia 47.15 308 P **P 12 40 12.4 +1.0**
comp=Z,23nm,0.9s,mb5.1
APA Apatity 47.27 344⇓ *iP* **P 12 40 12.0 -0.3**
APA *i* 12 40 20.6
APA pmax pmax
comp=Z,23nm,0.7s,mb5.2
APA Apatity 47.27 344⇓ *iP* **P 12 40 12.0 -0.3**
comp=Z,23nm,0.7s,mb5.2
APA *i* 12 40 20.6
WET Wettzell 47.28 315 *eP* **P 12 40 11.4 -1.0**
comp=Z,37nm,1.7s,mb5.0
WET Wettzell 47.28 315 *eP* **P 12 40 11.4 -1.0**
WET pmax pmax
comp=Z,37nm,1.7s,mb5.0
FBE Freiberg 47.37 318 *eP* **P 12 40 13.7 +0.5**
comp=Z,46nm,1.5s,mb5.2
VMG Vicchio 47.38 308 P **P 12 40 14.7 +1.5**
comp=Z,39nm,1.0s,mb5.3
RUE Ruedersdorf 47.52 320 *eP* **P 12 40 14.9 +0.6**
comp=Z,31nm,0.4s,mb5.7
NJ2 Nanjing 47.64 68 *eP* **P 12 40 16.7 +1.5**
NJ2 AP 12 40 31.8
NJ2 XP sP 12 40 37.6 +22
NJ2 PP PP 12 42 09.8 +3.1
NJ2 S **S** **12 47 08.0 -3.7**
NJ2 XS sS 12 47 34.5 +22
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
NJ2 LR LR
comp=N,440nm,24.6s,MS4.6
NJ2 LR LR
comp=E,710nm,23.0s,MS4.6
NJ2 LR LR
comp=Z,480nm,22.5s,MS4.4
CLL Collm 47.68 318 *eP* **P 12 40 15.9 +0.3**
comp=Z,84nm,1.4s,mb5.6
CLL Collm 47.68 318 *eP* **P 12 40 16.0 +0.4**
CLL pmax pmax
comp=Z,21nm,1.4s,mb5.0
CLL Collm 47.68 318 *eP* **P 12 40 16.0 +0.4**
comp=Z,85nm,1.4s,mb5.6
WTTA Wattenberg 47.75 312⇓ *iP* **P 12 40 16.2 +0.1**
comp=Z,23nm,1.6s,mb5.0
WTTA Wattenberg 47.75 312⇓ *iP* **P 12 40 16.2 +0.1**
WTTA pmax pmax
comp=Z,23nm,1.6s,mb5.0
NKC Novy Kostel 47.78 317 *eP* **P 12 40 16.8 +0.5**
ROTZ Rotzenmuhle 47.83 316 *eP* **P 12 40 16.7 0.0**
comp=Z,48nm,1.8s,mb5.2
WERN Wernitzgruen 47.84 317 *eP* **P 12 40 17.1 +0.4**
comp=Z,30nm,1.4s,mb5.1
GUNZ Gunzen 47.88 317 *eP* **P 12 40 17.2 +0.1**
comp=Z,23nm,1.7s,mb4.9
MANZ Manzenberg 47.94 316 *eP* **P 12 40 17.8 +0.2**
comp=Z,13nm,1.1s,mb4.9
BOD Bodaibo 48.09 33 *e* **P 12 40 18.4 -0.3**
BOD pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
BOD Bodaibo 48.09 33 *e* **P 12 40 18.4 -0.3**
MOTA Moosalm 48.12 312⇓ *eP* **P 12 40 18.1 -0.8**
comp=Z,1.3nm,0.4s,mb4.4
MOTA Moosalm 48.12 312 P **P 12 40 18.1 -0.8**
comp=Z,1.3nm,0.4s,mb4.4
MOX Moxa 48.39 317 *eP* **P 12 40 21.0 0.0**
comp=Z,64nm,1.7s,mb5.4
MOX Moxa 48.39 317 *eP* **P 12 40 21.8 +0.8**
MOX pmax pmax
comp=Z,41nm,1.6s,mb5.2
MOX Moxa 48.39 317 *eP* **P 12 40 21.8 +0.8**
comp=Z,41nm,1.6s,mb5.2
GRA1 Grafenberg Arr 48.45 316 *eP* **P 12 40 21.8 +0.3**
comp=Z,123nm,1.7s,mb5.7
GRF Grafenberg Arr 48.45 316 *eP* **P 12 40 21.8 +0.3**
comp=Z,123nm,1.7s,mb5.7
GRF Grafenberg Arr 48.45 316 *eP* **P 12 40 21.8 +0.3**
GRF pmax pmax
comp=Z,123nm,1.7s,mb5.7
GRF Grafenberg Arr 48.45 316 *eP* **P 12 40 21.8 +0.3**
GRF pmax pmax
comp=Z,123nm,1.7s,mb5.7
KEST Kesra 48.84 297 P **P 12 40 26.2 +1.7**
comp=Z,2.1nm,0.9s,mb4.2,baz=51,slow=0.8,SNR=5.5
KEST LR LR 13 06 22.7
comp=Z,44nm,18.4s,MS3.5,baz=26,slow=43
DAVOX Davos 48.87 312 P **P 12 40 25.5 +0.7**
comp=Z,3.6nm,0.5s,mb4.7,baz=121,slow=3.5,SNR=6.4
DAVA Damuels 48.94 312⇓ *iP* **P 12 40 23.2 -2.1**
comp=Z,18nm,0.9s,mb5.1
DAVOS Davos 48.94 312 P **P 12 40 25.5 +0.3**
PGF Pioggiola 49.12 306 *eP* **P 12 40 26.2 -0.4**
KSM Kuching 49.40 111 *eP* **P 12 40 29.8 +1.0**
KSM Kuching 49.40 111 *eP* **P 12 40 29.8 +1.0**
CLZ Clausthal 49.40 318 *eP* **P 12 40 29.2 +0.4**
comp=Z,82nm,1.5s,mb5.5
CLZ Clausthal 49.40 318 *eP* **P 12 40 29.2 +0.4**
CLZ pmax pmax
comp=Z,82nm,1.5s,mb5.5
UBBA Unterbreizbach 49.43 317 *eP* **P 12 40 29.5 +0.5**
comp=Z,24nm,1.3s,mb5.1
STU Stuttgart 49.60 314 *eP* **P 12 40 29.6 -0.7**
comp=Z,19nm,0.7s,mb5.2
NRDL Niedersach Rie 49.70 319 *eP* **P 12 40 29.5 -1.6**
comp=Z,50nm,1.2s,mb5.4
SSE Sheshan 49.72 69 *eP* **P 12 40 31.5 +0.2**
SSE AP 12 40 46.0
SSE S **S** **12 47 38.9 -2.1**
SSE XS sS 12 47 59.4 +17
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,199nm,4.7s
SSE LR LR
comp=N,169nm,22.2s,MS4.0
SSE LR LR
comp=E,85nm,22.2s,MS4.0
SSE LR LR
comp=Z,128nm,22.0s,MS3.9
SSE Sheshan 49.72 69 *eP* **P 12 40 31.5 +0.2**
comp=Z,33nm,0.7s,mb5.5
SSE pP 12 40 46.0
SSE S **S** **12 47 38.9 -2.1**
SSE sS sS 12 47 59.4 +17
SSE LR LR
comp=Z,130nm,22.0s,MS3.9
BSEG Bad Segeberg 49.90 321 *eP* **P 12 40 33.0 +0.4**
HFS Hagfors 50.05 329 P **P 12 40 33.3 -0.5**
comp=Z,41nm,0.7s,mb5.5,baz=116,slow=6.8,SNR=41
BFO Black Forest 50.11 313 *eP* **P 12 40 33.3 -0.9**
comp=Z,25nm,1.8s,mb4.9
BFO Black Forest 50.11 313 *eP* **P 12 40 33.3 -0.9**
BFO pmax pmax
comp=Z,25nm,1.8s,mb4.9
TNS Taunus Mts 50.30 316 *eP* **P 12 40 36.0 +0.4**
comp=Z,68nm,1.5s,mb5.5
TNS Taunus Mts 50.30 316 *eP* **P 12 40 36.0 +0.4**
TNS pmax pmax
comp=Z,68nm,1.5s,mb5.5
SBF Sospel 50.33 308 *eP* **P 12 40 34.6 -1.3**
KEV Kevo 50.47 344 *ep* **P 12 40 35.8 -1.1**
comp=Z,24nm,0.7s,mb5.3
KEV Kevo 50.47 344 *eP* **P 12 40 35.8 -1.1**
KEV pmax pmax
comp=Z,24nm,0.7s,mb5.3
ARCES ARCESS Array B 50.71 343 P **P 12 40 38.3 -0.4**
comp=Z,20nm,0.7s,mb5.2,baz=139,slow=7.7,SNR=80
ARCES PcP PcP 12 41 55.2 -0.8
comp=Z,4.0nm,0.7s,baz=116,slow=5.5,SNR=3.6
ARCES LR LR 13 06 03.3
comp=Z,534nm,19.6s,MS4.6,baz=133,slow=41
ARCES ARCESS Array B 50.71 343 P **P 12 40 38.3 -0.4**
ARCES 12 41 55.2
ARCES ARCESS Array B 50.71 343 P **P 12 40 38.3 -0.4**
ARCES PcP PcP 12 41 55.2 -0.8
ARCES LR LR 13 06 03.3
ARCES ARCESS Array B 50.71 343 PcP PcP 12 41 55.2 -0.8
ARE0 ARCESS Array S 50.71 343 *eP* **P 12 40 38.4 -0.3**
ARE0 ARCESS Array S 50.71 343 *eP* **P 12 40 38.4 -0.3**
CDF Champ du Feu 50.82 313 *eP* **P 12 40 38.3 -1.2**
comp=Z,14nm,1.0s,mb4.6
CDF Champ du Feu 50.82 313 *eP* **P 12 40 38.3 -1.2**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 50.82 313 *eP* **P 12 40 38.3 -1.2**
comp=Z,6.9nm,1.0s,mb4.5
MBDF Montbardon 50.85 309 *eP* **P 12 40 39.3 -0.5**
comp=Z,19nm,0.9s,mb4.7
MBDF Montbardon 50.85 309 *eP* **P 12 40 39.3 -0.5**
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MBDF Montbardon 50.85 309 *eP* **P 12 40 39.3 -0.5**
comp=Z,9.5nm,0.9s,mb4.7
LPG La Plagne 50.91 310 *eP* **P 12 40 39.3 -1.0**

LPL	**La Plagne**	**50.93**	**310**	*e*P	**P**	**12 40 39.3**	**-1.1**
	comp=Z,9.5nm,0.7s,mb4.6							
LPL	**La Plagne**	**50.93**	**310**	*e*P	**P**	**12 40 39.3**	**-1.1**
LPL				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
LPL	**La Plagne**	**50.93**	**310**	*e*P	**P**	**12 40 39.3**	**-1.1**
	comp=Z,4.8nm,0.7s,mb4.5							
BNI	**Bardonecchia**	**50.94**	**309**	*e*P	**P**	**12 40 41.4**	**+1.0**
BNI				pmax	pmax			
	comp=Z,21nm,1.2s,mb4.9							
BNI	**Bardonecchia**	**50.94**	**309**	*e*P	**P**	**12 40 41.4**	**+0.9**
	comp=Z,21nm,1.2s,mb5.0							
BNI	**Bardonecchia**	**50.94**	**309**	*e*P	**P**	**12 40 41.4**	**+1.0**
	comp=Z,21nm,1.2s,mb5.0							
LMR	**La Mourre**	**50.98**	**307**	*e*P	**P**	**12 40 40.0**	**-0.8**
HINF	**Hinteralfeld**	**51.03**	**313**	*e*P	**P**	**12 40 40.1**	**-1.1**
IBBN	**Ibbenburen**	**51.08**	**318**	*e*P	**P**	**12 40 41.8**	**+0.3**
	comp=Z,97nm,1.1s,mb5.7							
BUG	**Bochum–Univer**	**51.23**	**317**	*e*P	**P**	**12 40 43.2**	**+0.6**
	comp=Z,52nm,1.1s,mb5.4							
CABF	**La Chapelle**	**51.45**	**311**	⇑*i*P	**P**	**12 40 44.0**	**-0.3**
	comp=Z,86nm,1.4s,mb5.2							
CABF	**La Chapelle**	**51.45**	**311**	⇑*i*P	**P**	**12 40 44.0**	**-0.3**
CABF				pmax	pmax			
	comp=Z,43nm,1.4s,mb5.2							
CABF	**La Chapelle**	**51.45**	**311**	⇑*i*P	**P**	**12 40 44.0**	**-0.3**
	comp=Z,43nm,1.4s,mb5.2							
ORIF	**Oris-en-Rattie**	**51.49**	**309**	*e*P	**P**	**12 40 43.9**	**-0.7**
ORIF				*e*R				
	comp=Z,276nm,21.0s							
NB2	**NORSAR Subarra**	**51.52**	**330**	P	**P**	**12 40 43.7**	**-1.1**
	comp=Z,23nm,0.6s,mb5.3,baz=109,slow=7.4							
NOA	**NORSAR Array B**	**51.52**	**330**	P	**P**	**12 40 43.9**	**-0.9**
	comp=Z,27nm,0.8s,mb5.2,baz=110,slow=7.4,SNR=48							
NOA				LR	LR	13 06 29.9		
	comp=Z,298nm,19.5s,MS4.3,baz=100,slow=41							
NOA	**NORSAR Array B**	**51.52**	**330**	P	**P**	**12 40 43.9**	**-0.9**
NOA				LR	LR	13 06 29.9		
SMRF	**Simiane la Rot**	**51.68**	**308**	*e*P	**P**	**12 40 45.7**	**-0.3**
	comp=Z,42nm,1.4s,mb4.9							
SMRF	**Simiane la Rot**	**51.68**	**308**	*e*P	**P**	**12 40 45.7**	**-0.3**
	comp=Z,42nm,1.4s,mb5.2							
WLF	**Walferdange**	**51.69**	**315**	*e*P	**P**	**12 40 46.5**	**+0.4**
	comp=Z,28nm,1.2s,mb5.1							
WLF	**Walferdange**	**51.69**	**315**	P	**P**	**12 40 46.8**	**+0.7**
WLF	**Walferdange**	**51.69**	**315**	*e*P	**P**	**12 40 46.8**	**+0.7**
WLF				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.1							
WLF	**Walferdange**	**51.69**	**315**	*e*P	**P**	**12 40 46.8**	**+0.6**
	comp=Z,9.7nm,0.4s,mb5.1							
WLF	**Walferdange**	**51.69**	**315**	*e*P	**P**	**12 40 46.8**	**+0.7**
	comp=Z,9.7nm,0.4s,mb5.1							
KONO	**Kongsberg**	**51.83**	**328**	⇑*e*P	**P**	**12 40 47.9**	**+0.8**
KONO	**Kongsberg**	**51.83**	**328**	*e*P	**P**	**12 40 47.0**	**-0.1**
KONO	**Kongsberg**	**51.83**	**328**	*e*P	**P**	**12 40 47.0**	**-0.1**
MEM	**Membach**	**51.90**	**316**	P	**P**	**12 40 48.5**	**+0.9**
MEM				AP		12 41 02.6		
VIVF	**Saint-Julien-l**	**52.35**	**309**	*e*P	**P**	**12 40 50.1**	**-0.9**
	comp=Z,29nm,1.2s,mb4.8							
VIVF	**Saint-Julien-l**	**52.35**	**309**	*e*P	**P**	**12 40 50.1**	**-0.9**
VIVF				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8							
VIVF	**Saint-Julien-l**	**52.35**	**309**	*e*P	**P**	**12 40 50.1**	**-0.9**
	comp=Z,14nm,1.2s,mb4.8							
CN2	**Changchun**	**52.45**	**53**	*e*P	**P**	**12 40 53.3**	**+1.5**
CN2				*e*XP	sP	12 41 13.5	+21	
CN2				*e*S	**S**	**12 48 20.2**	**+1.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9							
CN2				AMB	AMB			
	comp=Z,300nm,5.0s							
CN2				LR	LR			
	comp=N,1μm,22.0s,MS5.0							
CN2				LR	LR			
	comp=E,680nm,22.0s,MS5.0							
CN2				LR	LR			
	comp=Z,400nm,22.0s,MS4.4							
GIVF	**Givet**	**52.60**	**315**	*e*P	**P**	**12 40 53.1**	**+0.3**
	comp=Z,49nm,1.0s,mb5.1							
GIVF	**Givet**	**52.60**	**315**	*e*P	**P**	**12 40 53.1**	**+0.3**
GIVF				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.1							
GIVF	**Givet**	**52.60**	**315**	*e*P	**P**	**12 40 53.1**	**+0.3**
	comp=Z,25nm,1.0s,mb5.1							
DOU	**Dourbes**	**52.74**	**315**	P	**P**	**12 40 54.4**	**+0.4**
DOU				AP		12 41 09.9		
DOU	**Dourbes**	**52.74**	**315**	P	**P**	**12 40 54.3**	**+0.4**
LASF	**Ste Croix**	**52.92**	**308**	*e*P	**P**	**12 40 54.9**	**-0.3**
	comp=Z,41nm,1.1s,mb5.0							
SNF	**Seneffe**	**52.98**	**316**	P	**P**	**12 40 56.2**	**+0.5**
SNF				AP		12 41 09.1		
BAIF	**Baives**	**52.99**	**315**	*e*P	**P**	**12 40 55.9**	**+0.2**
SMF	**Signal de Mont**	**53.00**	**311**	⇑*i*P	**P**	**12 40 54.9**	**-0.9**
	comp=Z,70nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**53.00**	**311**	⇑*i*P	**P**	**12 40 54.9**	**-0.9**
SMF				pmax	pmax			
	comp=Z,35nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**53.00**	**311**	⇑*i*P	**P**	**12 40 54.9**	**-0.9**
	comp=Z,35nm,1.2s,mb5.2							
LOR	**Lormes**	**53.02**	**312**	⇑*i*P	**P**	**12 40 54.9**	**-1.0**
	comp=Z,30nm,1.1s,mb4.8							
LOR				*e*R				
	comp=Z,188nm,19.8s							
LOR	**Lormes**	**53.02**	**312**	⇑*i*P	**P**	**12 40 54.9**	**-1.0**
LOR				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.8							
LOR				MLR	MLR			
	comp=Z,190nm,19.8s,MS4.1							
LOR	**Lormes**	**53.02**	**312**	⇑*i*P	**P**	**12 40 54.9**	**-1.0**
	comp=Z,15nm,1.1s,mb4.8							
LOR				LR	LR			
	comp=Z,190nm,19.8s,MS4.1							
SSF	**Saint Saulge**	**53.25**	**311**	⇑*i*P	**P**	**12 40 56.8**	**-0.8**
	comp=Z,55nm,1.2s,mb5.1							
SSF	**Saint Saulge**	**53.25**	**311**	⇑*i*P	**P**	**12 40 56.8**	**-0.8**
SSF				pmax	pmax			
	comp=Z,27nm,1.2s,mb5.0							
SSF	**Saint Saulge**	**53.25**	**311**	⇑*i*P	**P**	**12 40 56.8**	**-0.8**
	comp=Z,27nm,1.2s,mb5.1							
AVF	**Avril sur Loir**	**53.34**	**311**	*e*P	**P**	**12 40 57.2**	**-1.1**
	comp=Z,40nm,1.2s,mb4.9							
AVF	**Avril sur Loir**	**53.34**	**311**	*e*P	**P**	**12 40 57.2**	**-1.1**
AVF				pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9							
AVF	**Avril sur Loir**	**53.34**	**311**	*e*P	**P**	**12 40 57.2**	**-1.1**
	comp=Z,20nm,1.2s,mb4.9							
CLNS	**Chul'man**	**53.46**	**36**	*e*P	**P**	**12 40 59.6**	**+0.4**
CLNS				pmax	pmax			
	comp=E,12nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
CLNS				pmax	pmax			
	comp=N,7.0nm,0.7s							
BGF	**Bois d'Agland**	**53.68**	**311**	⇑*i*P	**P**	**12 41 00.0**	**-0.8**
HYF	**Humbligny**	**53.84**	**312**	*e*P	**P**	**12 41 01.7**	**-0.3**
MTLF	**Montolieu**	**54.11**	**307**	*e*P	**P**	**12 41 03.6**	**-0.4**
	comp=N,32nm,1.0s,mb4.9							
MTLF	**Montolieu**	**54.11**	**307**	*e*P	**P**	**12 41 03.6**	**-0.4**
MTLF				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9							
MTLF	**Montolieu**	**54.11**	**307**	*e*P	**P**	**12 41 03.6**	**-0.4**
	comp=Z,16nm,1.0s,mb4.9							
TCF	**Toulx Ste Croi**	**54.11**	**310**	⇑*i*P	**P**	**12 41 03.3**	**-0.7**
	comp=Z,30nm,1.1s,mb4.8							
TCF	**Toulx Ste Croi**	**54.11**	**310**	⇑*i*P	**P**	**12 41 03.3**	**-0.7**
TCF				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.8							
TCF	**Toulx Ste Croi**	**54.11**	**310**	⇑*i*P	**P**	**12 41 03.3**	**-0.7**
	comp=Z,15nm,1.1s,mb4.8							
CAF	**Calviac**	**54.20**	**309**	*e*P	**P**	**12 41 04.4**	**-0.3**
RJF	**Les Rejaudoux**	**54.59**	**309**	*e*P	**P**	**12 41 07.2**	**-0.3**
RJF				*e*R				
	comp=Z,212nm,18.5s							
RJF	**Les Rejaudoux**	**54.59**	**309**	*e*P	**P**	**12 41 07.2**	**-0.3**
RJF				LR	LR			
	comp=Z,210nm,18.5s,MS4.2							
KSRS	**Korea Array**	**54.59**	**60**	P	**P**	**12 41 07.3**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.5,baz=271,slow=7.4,SNR=14							
KSRS				LR	LR	13 08 26.3		
	comp=Z,121nm,18.4s,MS4.0,baz=89,slow=40							
LFF	**La Frestale**	**55.15**	**309**	*e*P	**P**	**12 41 11.1**	**-0.4**
	comp=Z,88nm,1.1s,mb5.4							
LFF	**La Frestale**	**55.15**	**309**	*e*P	**P**	**12 41 11.1**	**-0.4**
LFF				pmax	pmax			
	comp=Z,44nm,1.1s,mb5.4							
LFF	**La Frestale**	**55.15**	**309**	*e*P	**P**	**12 41 11.1**	**-0.4**
	comp=Z,44nm,1.1s,mb5.4							
MDJ	**Mudanjiang**	**55.43**	**52**	P	**P**	**12 41 13.2**	**-0.3**
MDJ				XP	sP	12 41 32.8	+19	
MDJ				PCS	PcS	12 46 14.0	+0.1	
MDJ				S	**S**	**12 48 58.3**	**-0.8**
MDJ				XS	sS	12 49 17.5	+18	
MDJ				SS	SS	12 52 39.1	-4.5	
MDJ				AMB	AMB			
	comp=Z,158nm,4.3s							
MDJ				LR	LR			
	comp=N,150nm,23.4s,MS4.0							
MDJ				LR	LR			
	comp=E,70nm,25.7s,MS4.0							
MDJ				LR	LR			
	comp=Z,107nm,17.5s							
EPF	**Esparros**	**55.49**	**306**	*e*P	**P**	**12 41 14.6**	**+0.6**
LDF	**La Druitiere**	**55.74**	**313**	⇑*i*P	**P**	**12 41 14.5**	**-1.2**
	comp=Z,54nm,1.1s,mb5.2							
LDF	**La Druitiere**	**55.74**	**313**	⇑*i*P	**P**	**12 41 14.5**	**-1.2**
LDF				pmax	pmax			
	comp=Z,27nm,1.1s,mb5.2							
LDF	**La Druitiere**	**55.74**	**313**	⇑*i*P	**P**	**12 41 14.5**	**-1.2**
	comp=Z,27nm,1.1s,mb5.2							
MFF	**Saint Martin d**	**55.74**	**311**	⇑*i*P	**P**	**12 41 14.8**	**-1.0**
	comp=Z,52nm,1.2s,mb5.1							
MFF	**Saint Martin d**	**55.74**	**311**	⇑*i*P	**P**	**12 41 14.8**	**-1.0**
MFF				pmax	pmax			
	comp=Z,26nm,1.2s,mb5.1							
MFF	**Saint Martin d**	**55.74**	**311**	⇑*i*P	**P**	**12 41 14.8**	**-1.0**
	comp=Z,26nm,1.2s,mb5.1							
FLN	**La Foliniere**	**55.98**	**313**	⇑*i*P	**P**	**12 41 16.3**	**-1.2**
	comp=Z,62nm,1.1s,mb5.3							
FLN				*e*R				
	comp=Z,208nm,18.0s							
FLN	**La Foliniere**	**55.98**	**313**	⇑*i*P	**P**	**12 41 16.3**	**-1.2**
FLN				pmax	pmax			
	comp=Z,31nm,1.1s,mb5.2							
FLN				MLR	MLR			
	comp=Z,210nm,18.0s,MS4.3							
FLN	**La Foliniere**	**55.98**	**313**	⇑*i*P	**P**	**12 41 16.3**	**-1.2**
	comp=Z,31nm,1.1s,mb5.2							
FLN				LR	LR			
	comp=Z,210nm,18.0s,MS4.3							
ETSF	**Etsaut**	**56.16**	**306**	⇑*i*P	**P**	**12 41 18.5**	**-0.3**
	comp=Z,49nm,1.0s,mb5.2							
ETSF	**Etsaut**	**56.16**	**306**	⇑*i*P	**P**	**12 41 18.5**	**-0.3**
ETSF				pmax	pmax			
	comp=Z,24nm,1.0s,mb5.2							
ETSF	**Etsaut**	**56.16**	**306**	⇑*i*P	**P**	**12 41 18.5**	**-0.3**
	comp=Z,24nm,1.0s,mb5.2							
YAK	**Yakutsk**	**56.83**	**31**	*c i*P	**P**	**12 41 23.0**	**-0.6**
YAK				pmax	pmax			
	comp=Z,88nm,1.0s,mb5.7							
YAK	**Yakutsk**	**56.83**	**31**	⇑*i*P	**P**	**12 41 23.0**	**-0.6**
	comp=Z,88nm,1.0s,mb5.7							
KLR	**Kul'dur**	**56.85**	**46**	*e*P	**P**	**12 41 20.8**	**-2.9**
SGMF	**Saint Gilles**	**57.36**	**313**	⇑*i*P	**P**	**12 41 26.4**	**-0.9**
	comp=Z,115nm,1.1s,mb5.5							
SGMF	**Saint Gilles**	**57.36**	**313**	⇑*i*P	**P**	**12 41 26.4**	**-0.9**
SGMF				pmax	pmax			
	comp=Z,57nm,1.1s,mb5.5							
SGMF	**Saint Gilles**	**57.36**	**313**	⇑*i*P	**P**	**12 41 26.4**	**-0.9**
	comp=Z,58nm,1.1s,mb5.5							
JNU	**Nakatsue**	**57.57**	**65**	LR	LR	13 06 13.2		
	comp=Z,543nm,19.8s,MS4.7,baz=339,slow=36							
QUIF	**Quistinic**	**57.77**	**312**	*e*P	**P**	**12 41 28.9**	**-1.3**
	comp=Z,74nm,1.1s,mb5.3							
QUIF	**Quistinic**	**57.77**	**312**	*e*P	**P**	**12 41 28.9**	**-1.3**
QUIF				pmax	pmax			
	comp=Z,37nm,1.1s,mb5.3							
QUIF	**Quistinic**	**57.77**	**312**	*e*P	**P**	**12 41 28.9**	**-1.3**
	comp=Z,37nm,1.1s,mb5.3							
ROSF	**Rostrenen**	**57.84**	**313**	*e*P	**P**	**12 41 29.4**	**-1.2**
EKA	**Eskdalemuir Ar**	**57.84**	**321**	P	**P**	**12 41 29.8**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.7,baz=105,slow=7.9,SNR=10							
EKA				PcP	PcP	12 42 22.6	-0.6	
	comp=Z,4.9nm,0.9s,baz=94,slow=6.7,SNR=3.9							
EKA	**Eskdalemuir Ar**	**57.84**	**321**	PcP	PcP	12 42 22.6	-0.6	
TIXI	**Tiksi**	**58.80**	**19**	*e*P	**P**	**12 41 36.8**	**-0.6**
ESDC	**Sonseca Array**	**59.01**	**303**	P	**P**	**12 41 38.3**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.4,baz=62,slow=7.2,SNR=11							
ESDC				PcP	PcP	12 42 27.8	-0.1	
	comp=Z,1.6nm,0.6s,baz=64,slow=4.6,SNR=4.8							
ESDC	**Sonseca Array**	**59.01**	**303**	PcP	PcP	12 42 27.8	-0.1	
KBS	**Kingsbay**	**59.31**	**350**	⇑*e*P	**P**	**12 41 40.1**	**-0.8**
TOA0	**Torodi Ar. Sit**	**60.51**	**272**	*e*P	**P**	**12 41 48.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**60.51**	**272**	P	**P**	**12 41 48.7**	**-0.5**
	comp=Z,16nm,0.9s,mb5.1,baz=65,slow=5.9,SNR=66							
TORD				LR	LR	13 11 06.6		
	comp=Z,251nm,18.1s,MS4.4,baz=5.0,slow=39							
TORD	**Torodi Ar. Bea**	**60.51**	**272**	P	**P**	**12 41 48.7**	**-0.5**
TORD				LR	LR	13 11 06.6		
MDT	**Midelt**	**60.66**	**295**	P	**P**	**12 41 50.6**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.7,baz=69,slow=9.7,SNR=8.2							
PBRG	**Braganca**	**60.82**	**306**	*e*P	**P**	**12 41 51.3**	**0.0**
	comp=Z,24nm,1.3s,mb5.2							
PCBR	**Castelo Branco**	**61.67**	**303**	*e*P	**P**	**12 41 57.0**	**0.0**
	comp=Z,47nm,1.3s,mb5.5							
PCAB	**Cabril**	**61.79**	**306**	*e*P	**P**	**12 41 58.1**	**+0.2**
	comp=Z,31nm,1.2s,mb5.3							
PVIS	**Viseu**	**61.84**	**305**	*e*P	**P**	**12 41 58.5**	**+0.3**
	comp=Z,26nm,1.2s,mb5.2							
LBTB	**Lobatse**	**62.25**	**221**	*e*P	**P**	**12 42 01.8**	**+0.8**
LBTB				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.3							
LBTB	**Lobatse**	**62.25**	**221**	*e*P	**P**	**12 42 01.8**	**+0.8**
	comp=Z,19nm,0.8s,mb5.3							
LBTB	**Lobatse**	**62.25**	**221**	*e*P	**P**	**12 42 01.8**	**+0.8**
	comp=Z,19nm,0.8s,mb5.3							
EVO	**Evora**	**62.30**	**302**	*e*P	**P**	**12 42 00.7**	**-0.6**
	comp=Z,22nm,1.0s,mb4.9							
EVO				*e*R				
	comp=Z,108nm,19.5s							
MJAR	**Matsushiro Arr**	**62.87**	**60**	LR	LR	13 13 16.2		
	comp=Z,123nm,18.1s,MS4.1,baz=175,slow=40							
TSUM	**Tsumeb**	**63.38**	**231**	*e*P	**P**	**12 42 09.1**	**+0.6**
DAG	**Danmarks Havn**	**64.88**	**345**	⇓*i*P	**P**	**12 42 17.9**	**-0.5**
	comp=Z,38nm,1.0s,mb5.4							
DAG	**Danmarks Havn**	**64.88**	**345**	⇓*i*P	**P**	**12 42 17.9**	**-0.5**
DAG				pmax	pmax			
	comp=Z,38nm,1.0s,mb5.4							
BOSA	**Boshof**	**65.18**	**218**	P	**P**	**12 42 20.4**	**+0.1**
	comp=Z,5.4nm,0.9s,mb4.5,baz=61,slow=6.7,SNR=6.4							
BOSA				LR	LR	13 07 40.5		
	comp=Z,142nm,19.5s,MS4.2,baz=44,slow=33							
BOSA	**Boshof**	**65.18**	**218**	*e*P	**P**	**12 42 20.4**	**+0.1**
BOSA	**Boshof**	**65.18**	**218**	*e*P	**P**	**12 42 20.4**	**+0.1**
SEY	**Seymchan**	**67.33**	**30**	⇑*e*P	**P**	**12 42 34.3**	**+0.2**
LIC	**Lamto**	**69.26**	**267**	⇑*i*P	**P**	**12 42 46.2**	**0.0**
	comp=Z,27nm,0.6s,mb5.0							
LIC				*e*R				
	comp=Z,179nm,19.5s							
LIC	**Lamto**	**69.26**	**267**	⇑*i*P	**P**	**12 42 46.2**	**0.0**
	comp=Z,13nm,0.6s,mb5.0							
LIC				LR	LR			
	comp=Z,90nm,19.5s,MS4.0							
LIC	**Lamto**	**69.26**	**267**	⇑*i*P	**P**	**12 42 46.2**	**0.0**
	comp=Z,13nm,0.6s,mb5.0							
BILL	**Bilibino**	**71.65**	**23**	⇑*e*P	**P**	**12 43 01.0**	**+0.2**
BILL				*e*		12 45 42.4		
BILL				*i* S	S	12 52 15.4	-5.8	
BILL				pmax	pmax			
	comp=Z,38nm,1.7s,mb5.0							
BILL				MLR	MLR			
	comp=Z,200nm,25.0s,MS4.3							
BILL	**Bilibino**	**71.65**	**23**	⇑*e*P	**P**	**12 43 01.0**	**+0.2**
	comp=Z,38nm,1.7s,mb5.0							
BILL				*e*		12 45 42.4		
BILL				*i* S	S	12 52 15.4	-5.8	
BILL				LR	LR			
	comp=Z,200nm,25.0s,MS4.3							
FITZ	**Fitzroy Crossi**	**72.71**	**120**	*e*P	**P**	**12 43 06.8**	**-0.3**
	comp=Z,8.8nm,1.1s,mb4.6							
FITZ	**Fitzroy Crossi**	**72.71**	**120**	LR	LR	13 16 55.0		
	comp=Z,99nm,19.3s,MS4.1,baz=298,slow=37							
PET	**Petropavlovsk**	**72.95**	**39**	*e*P	**P**	**12 43 07.0**	**-1.6**
PET				*e*S	S	12 52 28.2	-7.9	
PET				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.1							
PET	**Petropavlovsk**	**72.95**	**39**	*e*P	**P**	**12 43 07.0**	**-1.6**
PET				*e*S	S	12 52 28.2	-7.9	
KAKA	**Kakadu**	**75.49**	**111**	*e*P	**P**	**12 43 23.0**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8							
RES	**Resolute Bay**	**80.21**	**355**	*e*P	**P**	**12 43 48.6**	**-1.0**
WRA	**Warramunga Arr**	**80.66**	**117**	P	**P**	**12 43 51.5**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=316,slow=4.6,SNR=32							
WRA				LR	LR	13 17 54.1		
	comp=Z,77nm,21.2s,MS4.0,baz=160,slow=34							
WRAB	**Tennant Creek**	**80.67**	**117**	*e*P	**P**	**12 43 52.5**	**+0.4**
WRAB	**Tennant Creek**	**80.67**	**117**	*e*P	**P**	**12 43 51.7**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**80.67**	**117**	*e*P	**P**	**12 43 51.5**	**-0.6**
ASPA	**Alice Springs**	**82.20**	**120**	*e*P	**P**	**12 43 53.6**	**-6.6**
AS31	**Alice Springs**	**82.20**	**120**	*e*P	**P**	**12 43 53.6**	**-6.6**
ASAR	**Alice Springs**	**82.20**	**120**	P	**P**	**12 43 59.6**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=302,slow=5.2,SNR=30							
ASAR				LR	LR	13 23 08.4		
	comp=Z,137nm,18.7s,MS4.3,baz=325,slow=38							
FRB	**Frobisher Bay**	**84.82**	**341**	P	**P**	**12 44 12.9**	**-0.9**
	comp=Z,24nm,1.0s,mb5.3,baz=27,slow=5.9,SNR=3.9							
IMA2	**Indian Mountai**	**85.06**	**15**	*e*P	**P**	**12 44 14.4**	**-0.5**
COLA	**College**	**87.37**	**13**	*e*P	**P**	**12 44 25.8**	**-0.5**
COLA	**College**	**87.37**	**13**	*e*P	**P**	**12 44 25.2**	**-1.1**
	comp=Z,29nm,1.1s,mb5.4							
MCK	**McKinley**	**88.12**	**14**	*e*P	**P**	**12 44 29.5**	**-0.4**
MCK				pmax	pmax			
	comp=Z,34nm,1.1s,mb5.5							
MCK	**McKinley**	**88.12**	**14**	*e*P	**P**	**12 44 29.5**	**-0.5**
	comp=Z,68nm,1.1s,mb5.8							
EGAK	**Eagle**	**88.74**	**11**	*e*P	**P**	**12 44 32.7**	**-0.1**
	comp=Z,46nm,1.3s,mb5.7							
DAWY	**Dawson**	**89.70**	**10**	*e*P	**P**	**12 44 37.5**	**+0.1**
PMR	**Palmer**	**89.93**	**16**	*e*P	**P**	**12 44 38.3**	**-0.1**
PMR				pmax	pmax			
	comp=Z,41nm,1.1s,mb5.7							
PMR	**Palmer**	**89.93**	**16**	*e*P	**P**	**12 44 38.3**	**-0.1**
	comp=Z,41nm,1.1s,mb5.7							
SML	**Sawmill**	**89.93**	**15**	*e*P	**P**	**12 44 38.8**	**+0.4**
CTA	**Charters Tower**	**90.63**	**112**	*e*P	**P**	**12 44 41.5**	**-0.2**
	comp=Z,5.0nm,1.1s,mb4.8							
CTA	**Charters Tower**	**90.63**	**112**	P	**P**	**12 44 41.1**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.7,baz=301,slow=4.1,SNR=2.2							
CTA				LR	LR	13 30 17.7		
	comp=Z,109nm,18.5s,MS4.3,baz=60,slow=39							
CTA	**Charters Tower**	**90.63**	**112**	*e*P	**P**	**12 44 41.5**	**-0.2**
CTA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
DIV	**Divide**	**91.12**	**14**	*e*P	**P**	**12 44 44.8**	**+0.8**
	comp=Z,62nm,1.0s,mb5.9							
MAW	**Mawson**	**91.83**	**181**	LR	LR	13 18 02.4		
	comp=Z,95nm,19.0s,MS4.3,baz=51,slow=30							
STKA	**Stephens Creek**	**92.14**	**124**	*e*P	**P**	**12 44 58.0**	**+9.3**
	comp=Z,3.1nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**92.14**	**124**	LR	LR	13 26 47.2		
	comp=Z,239nm,19.0s,MS4.7,baz=205,slow=36							
KDAK	**Kodiak Island**	**92.22**	**19**	*e*P	**P**	**12 44 49.3**	**+0.2**
	comp=Z,29nm,0.7s,mb5.7							
YKA	**Yellowknife Ar**	**93.32**	**360**	P	**P**	**12 44 53.7**	**-0.4**
	comp=Z,7.0nm,0.8s,mb5.1,baz=349,slow=4.8,SNR=7.3							
YKA				LR	LR	13 27 17.3		
	comp=Z,138nm,21.5s,MS4.4,baz=215,slow=36							
YKA	**Yellowknife Ar**	**93.32**	**360**	P	**P**	**12 44 53.7**	**-0.4**
YKA				LR	LR	13 27 17.3		
NVAR	**Mina Array Bea**	**117.34**	**3**	PKP	PKPdf	12 50 26.1	+1.4	
	comp=Z,0.5nm,0.7s,baz=299,slow=1.5,SNR=4.9							
TXAR	**Lajitas Array**	**125.38**	**348**	PKP	PKPdf	12 50 40.5	+0.3	
	comp=Z,0.8nm,0.9s,baz=149,slow=2.1,SNR=7.1							
TXAR				PP	PP	12 52 26.7	-3.7	
	comp=Z,1.4nm,1.1s,baz=35,slow=4.6,SNR=4.8							
TXAR	**Lajitas Array**	**125.38**	**348**	PKP	PKPdf	12 50 40.5	+0.3	
TXAR				PP	PP	12 52 26.7	-3.7	

*ISCJB **07** 12

*IDC **07** 13:09:20.4±2.3, 2286S×17686W, h141km±19km, mb4.0/7, mb1 4.0/9, mb1mx3.8/19, mbtmp4.0/9, Error ellipse: s-maj=26.5km s-min=20.8km az=131.0*

ISC 07 13:09:21.4±2.3, 229S±01×17655W±009, h172km±28km, n20, σ0.62/19, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.04**	**28**	P		**Pn**		**13 11 41.5**	**0.0**
	0.6nm,0.3s,baz=320,slow=24,SNR=2.1								
AFI				S		**Sn**		**13 13 22.5**	**-11**
	0.6nm,0.3s,baz=90,slow=19,SNR=2.5								
RAR	**Rarotonga**	**15.65**	**87**	P		**Pn**		**13 13 01.8**	**+9.1**
	0.7nm,0.3s,baz=288,slow=2.9,SNR=1.7								
RAR				S		**S**		**13 15 46.7**	**0.0**
	0.9nm,0.3s,baz=321,slow=22,SNR=2.0								
URZ	**Urewera**	**16.22**	**198**	P		**Pn**		**13 12 59.4**	**-0.3**
	0.9nm,0.3s,baz=141,slow=11,SNR=4.7								
URZ				S		**S**		**13 15 47.0**	**-13**
	0.1nm,0.3s,baz=270,slow=18,SNR=2.1								
RPZ	**Rata Peaks**	**23.13**	**203**	P		**P**		**13 14 12.3**	**+0.1**
	3.0nm,0.5s,mb4.0,baz=12,slow=23,SNR=2.4								
CTA	**Charters Tower**	**34.66**	**267**	*e*P		**P**		**13 15 55.2**	**+0.8**
	4.1nm,0.3s,mb4.5								
CTA	**Charters Tower**	**34.66**	**267**	P		**P**		**13 15 55.0**	**+0.6**
	4.9nm,0.3s,mb4.6,baz=99,slow=11,SNR=13								
PMG	**Port Moresby**	**37.24**	**285**	P		**P**		**13 16 16.6**	**+0.3**
	9.5nm,0.8s,mb4.5,baz=115,slow=9.9,SNR=5.3								
STKA	**Stephens Creek**	**38.02**	**247**	P		**P**		**13 16 24.4**	**+1.5**
	1.5nm,0.6s,mb3.8,baz=101,slow=18,SNR=3.2								
AS31	**Alice Springs**	**45.33**	**259**	*e*P		**P**		**13 17 22.1**	**0.0**
ASAR	**Alice Springs**	**45.33**	**259**	P		**P**		**13 17 22.1**	**0.0**
	3.8nm,0.5s,mb4.3,baz=92,slow=7.9,SNR=30								
ASAR				ScP		ScP		13 22 39.2	+4.2
	0.2nm,0.7s,baz=94,slow=4.6,SNR=4.2								
ASPA	**Alice Springs**	**45.33**	**259**	*e*P		**P**		**13 17 22.1**	**-0.1**
WB2	**Warramunga Arr**	**45.63**	**264**	*e*P		**P**		**13 17 23.5**	**-1.1**
WRA	**Warramunga Arr**	**45.65**	**264**	P		**P**		**13 17 24.0**	**-0.7**
	2.9nm,0.5s,mb4.2,baz=96,slow=8.2,SNR=59								
WRA				ScP		ScP		13 22 40.6	+4.2
	0.9nm,0.9s,baz=94,slow=3.9,SNR=6.0								
KAKA	**Kakadu**	**49.40**	**273**	*e*P		**P**		**13 17 52.8**	**-0.8**
	3.3nm,0.6s,mb4.1								
FITZ	**Fitzroy Crossi**	**54.07**	**264**	*e*P		**P**		**13 18 28.9**	**+0.7**
	2.6nm,0.5s,mb4.2								
FITZ	**Fitzroy Crossi**	**54.07**	**264**	P		**P**		**13 18 28.1**	**-0.1**
	1.3nm,0.5s,mb4.0,baz=135,slow=6.7,SNR=9.4								
ARCES	**ARCESS Array B**	**131.53**	**350**	PKP		PKPdf		13 28 15.4	+1.9
	7.1nm,1.0s,baz=35,slow=4.4,SNR=4.7								
AKASG	**Malin Array Be**	**145.78**	**331**	PKPbc		PKPbc		13 28 41.0	+0.8
	1.0nm,0.3s,baz=42,slow=3.9,SNR=6.6								
BRTR	**Keskin Array B**	**149.44**	**310**	PKPbc		PKPbc		13 28 51.9	+1.8
	1.0nm,0.6s,baz=137,slow=3.9,SNR=4.0								
TORD	**Torodi Ar. Bea**	**170.14**	**170**	PKPab		PKPab		13 30 30.0	+4.9
	0.6nm,0.8s,baz=190,slow=3.8,SNR=3.8								

*ISCJB **07** 13:25:35.4±0.1, 2172S±003×6824W±003, h125km, mb5.5/149, Error ellipse: s-maj=4.5km s-min=3.3km az=51.4*

*IDC **07** 13:25:36.0±0.3, 2191S×6851W, h121km±2km, mb4.9/16, mb1 5.0/19, mb1mx5.0/19, mbtmp4.9/19, MS4.4/16, Ms1 4.4/16, ms1mx4.3/23, Error ellipse: s-maj=11.5km s-min=6.2km az=95.0*

*MOS **07** 13:25:36.5±0.9, 2152S×6827W, h129km, mb5.6/61, MS4.6/18, Error ellipse: s-maj=8.7km s-min=5.9km az=89.1*

*GCMT **07** 13:25:36.3±0.1, 2185S×6868W, h140km, MW5.6/90, Moment Tensor Solution. s83,c157; s90,c193; Duration: 15 Moment tensor: Scale 10^{17}Nm; M_{rr}0.27±.04; $M_{\theta\theta}$0.06±.05; $M_{\phi\phi}$-0.32±.06; $M_{r\theta}$0.05±.03; $M_{\theta\phi}$0.68±.04; $M_{\phi r}$-2.94±.03; Best double couple: M_o3.03300×10^{17} NP1:ϕ282.00000°,δ13.00000°, λ13.00000°. NP2:ϕ179.00000°,δ87.00000°,λ103.00000°. Principal axes: T 2.9870, Plg46.0000°, Azm102.0000°; N 0.0920, Plg13.0000°, Azm358.0000°; P -3.0780, Plg41.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*GUC **07** 13:25:36.4±1.0, 2220S×6847W, h125km±7km, ML5.4*

*NEIC **07** 13:25:36.3±0.3, 2173S×6820W, h121km±2km, mb5.5/124, MW5.8, Error ellipse: s-maj=4.4km s-min=3.4km az=209.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.24; $M_{\theta\theta}$-2.90; $M_{\phi\phi}$3.14; $M_{r\theta}$1.39; $M_{\theta\phi}$2.81; $M_{\phi r}$-4.03; Best double couple: M_o5.90000×10^{17} NP1: ϕs338.00000°,δ89.00000°,λ-134.00000°. NP2: ϕs247.00000°,δ44.00000°,λ-1.00000°. Principal axes: T 6.1200, Plg30.0000°, Azm102.0000°; N -0.3900, Plg44.0000°, Azm339.0000°; P -5.7300, Plg31.0000°, Azm213.0000°;*

NEIC Felt [IV] at Huara and Pica; [III] at Calama, Maria Elena, Pozo Almonte and Tocopilla; [II] at Arica, Camina, Cuya and Pisagua.

*BJI **07** 13:25:36.3, 2149S×6781W, h120km, mB5.4*

*LDG **07** 13:25:37.1±0.3, 2130S×6817W, h124km, Mb5.5/36, Ms4.4/9, Error ellipse: s-maj=17.7km s-min=8.9km az=6.0*

ISC 07 13:25:37.2±0.2, 2173S±003×6816W±003, h127km±3km: pP-P, n838, σ0.75/717, mb5.5/149, 139C-81D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.12**	**218**	P		**Pn**		**13 25 56.4**	**-4.5**
	2µm,0.3s,baz=21,slow=7.5								
LVC				S		**Sn**		**13 26 12.1**	**-6.9**
	3µm,0.3s,baz=259,slow=23,SNR=71								
LVC	**Limon Verde**	**1.12**	**218**	*i* P		**Pn**		**13 25 56.7**	**-4.2**
LVC				*i* S		**Sn**		**13 26 11.2**	**-7.8**
LVC	**Limon Verde**	**1.12**	**218**	*e*Pn		**Pn**		**13 25 55.8**	**-5.1**
LVC				*e*Sn		**Sn**		**13 26 11.2**	**-7.8**
CEN1	**Los Morros**	**2.51**	**228**	*i* P		**Pn**		**13 26 14.7**	**-2.7**
CEN1				*i* S		**Sn**		**13 26 43.4**	**-4.8**
CEN1				AML		AML		13 26 53.6	
	comp=E,11µm,1.0s								
ANCH	**Antofagasta**	**2.85**	**226**	*e*P		**Pn**		**13 26 15.1**	**-6.6**
ANCH				*i* S		**Sn**		**13 26 44.0**	**-12**
ANCH				AML		AML		13 26 56.0	
	comp=E,47µm,0.6s								
CPN1	**Cerro Paranal**	**3.55**	**215**	*e*P		**Pn**		**13 26 24.9**	**-6.0**
CPN1				*i* S		**Sn**		**13 27 01.7**	**-11**
CPN1				AML		AML		13 27 21.1	
	comp=E,6µm,0.6s								
LPAZ	**La Paz**	**5.41**	**0**	P		**Pn**		**13 26 56.9**	**+1.2**
	comp=E,45nm,0.3s,baz=178,slow=8.6,SNR=158								
LPAZ				ScS		ScS		13 40 47.6	+2.1
	comp=E,0.1nm,0.3s,baz=64,slow=24,SNR=4.3								
LPAZ	**La Paz**	**5.41**	**0**	*e*P		**Pn**		**13 26 56.9**	**+1.2**
LPAZ				pmax		pmax			
	comp=Z,36nm,0.8s								
LPAZ	**La Paz**	**5.41**	**0**	*e*Pn		**Pn**		**13 26 56.9**	**+1.2**
	comp=Z,36nm,0.8s								
LPAZ				*e*Sn				13 27 15.5	
ARE	**Arequipa**	**6.11**	**328**	*i* P		**Pn**		**13 26 59.5**	**-5.6**
ARE				*i*				13 27 06.0	
ARE				*e*S		Sn		13 27 47.0	-27
SIV	**San Ignacio**	**8.80**	**51**	P		**Pn**		**13 27 40.5**	**-0.9**
	comp=Z,57nm,0.3s,baz=238,slow=12,SNR=641								
SIV				S		**Sn**		**13 29 11.3**	**-7.6**
	comp=Z,4.5nm,0.3s,baz=251,slow=14,SNR=2.4								
CFAA	**Coronel Fontan**	**9.84**	**180**	P		**Pn**		**13 27 49.1**	**-6.3**
	comp=Z,0.4nm,0.3s,baz=353,slow=13,SNR=17								
CFAA				S		**Sn**		**13 29 31.9**	**-12**
	comp=Z,0.9nm,0.3s,baz=254,slow=18,SNR=3.8								
CFAA	**Coronel Fontan**	**9.84**	**180**	P		**Pn**		**13 27 49.1**	**-6.3**
CFAA				S		**Sn**		**13 29 31.9**	**-12**
NNA	**Nana**	**12.76**	**318**	Pn		**Pn**		**13 28 31.0**	**-2.9**
	comp=Z,3µm,0.9s,SNR=7.5								
NNA	**Nana**	**12.76**	**318**	P		**Pn**		**13 28 31.2**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=165,slow=12,SNR=26								
NNA				S		**Sn**		**13 30 41.4**	**-13**
	comp=Z,28nm,0.3s,baz=283,slow=14,SNR=5.6								
NNA				LR		LR		13 33 48.4	
	comp=Z,1µm,19.1s,baz=132,slow=39								
NNA	**Nana**	**12.76**	**318**	*e*Pn		**Pn**		**13 28 29.6**	**-4.3**
NNA				*e*P				13 28 39.2	
NNA				*e*Sn		**Sn**		**13 30 41.1**	**-13**
SAML	**Samuel**	**13.58**	**21**	*e*Pn		**Pn**		**13 28 42.3**	**-2.2**
TRQA	**Tornquist**	**17.12**	**163**	*e*P		**Pn**		**13 29 26.5**	**-2.2**
	comp=Z,880nm,1.8s								
ATAH	**Atahualpa**	**17.67**	**324**	P		**Pn**		**13 29 33.0**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=181,slow=9.9,SNR=27								
ATAH				S		**S**		**13 32 44.2**	**-6.9**
	comp=Z,0.7nm,0.3s,baz=12,slow=22,SNR=1.6								
CAM4	**Nova Friburgo**	**23.73**	**96**	*e*P		**P**		**13 30 37.3**	**-0.3**
CAM4				*i*				13 30 38.9	
CAM4				*i*				13 30 39.8	
CAM4				*i*				13 30 51.5	
OTAV	**Otavalo**	**24.03**	**334**	*e*P		**P**		**13 30 41.0**	**+0.7**
	comp=Z,183nm,0.9s,mb5.4								
OTAV				LR		LR			
	comp=E,458nm,21.0s								
CAM3	**Guarapari**	**25.77**	**93**	*e*P		**P**		**13 30 55.3**	**-0.7**
CAM3				*i*				13 30 56.0	
CAM3				*i*				13 30 56.5	
ROSC	**El Rosal**	**27.10**	**346**	P		**P**		**13 31 08.8**	**+0.8**
	comp=Z,15nm,0.5s,mb4.8,baz=105,slow=12,SNR=8.9								
ROSC				pP		pP		13 31 35.8	+0.7
	comp=Z,70nm,0.9s,baz=93,slow=13,SNR=7.0								
ROSC				sP		sP		13 31 49.7	-0.1
	comp=Z,68nm,1.0s,baz=89,slow=20,SNR=3.7								
ROSC				LR		LR		13 43 21.2	
	comp=Z,2µm,18.3s,baz=194,slow=39								
ROSC	**El Rosal**	**27.10**	**346**	*e*P		**P**		**13 31 08.7**	**+0.7**
PAYG	**Puerto Ayora**	**30.05**	**311**	*e*P		**P**		**13 31 34.4**	**+0.2**
	comp=Z,70nm,0.8s,mb5.3								
PAYG				LR		LR			
	comp=Z,830nm,22.0s								
SDV	**Santo Domingo**	**30.52**	**355**	LR		LR		13 46 29.5	
	comp=Z,2µm,18.6s,baz=320,slow=41								
SDV	**Santo Domingo**	**30.52**	**355**	*e*P		**P**		**13 31 37.2**	**-1.1**
	comp=Z,90nm,1.0s,mb5.5								
SDV				LR		LR			
	comp=Z,964nm,19.0s								
EFI	**East Falkland**	**30.91**	**168**	*e*P		**P**		**13 31 43.9**	**+2.2**
PCRV	**Puerto La Cruz**	**31.89**	**7**	S		**S**		**13 36 56.2**	**+4.3**
PCRV				LR		LR		13 47 07.3	
	comp=Z,2µm,19.9s,baz=323,slow=40								
USHA	**Ushuaia**	**33.06**	**180**	S		**S**		**13 37 08.3**	**-1.6**
	comp=Z,9.9nm,0.9s,baz=208,slow=22,SNR=1.6								
CTCR	**Cotoan**	**33.64**	**333**	*e*P		**P**		**13 32 06.7**	**+1.1**
LCR2	**La Lucha 2**	**34.93**	**332**	*e*P		**P**		**13 32 18.0**	**+1.3**
RCBR	**Riachuelo**	**34.97**	**68**	PFAKE				13 32 30.0	+13
RCBR				LR		LR			
	comp=Z,768nm,22.0s								
OCM	**Ochomogo**	**35.05**	**332**	*e*P		**P**		**13 32 19.1**	**+1.3**
OCM						*i*P		13 32 19.2	
LAJ	**Bijagual**	**35.09**	**332**	*e*P		**P**		**13 32 19.7**	**+1.6**
PRS1	**Puriscal**	**35.28**	**332**	*e*P		**P**		**13 32 21.1**	**+1.4**
CAO	**Cobano**	**35.38**	**330**	*e*P		**P**		**13 32 21.9**	**+1.3**
EPA	**Esparza**	**35.41**	**331**	*i*P		**P**		**13 32 22.8**	**+1.9**
JCR	**Jicaral**	**35.52**	**330**	*e*P		**P**		**13 32 22.9**	**+1.1**
BBGH	**Gun Hill**	**35.67**	**14**	PFAKE				13 32 30.0	+7.0
BBGH				LR		LR			
	comp=Z,1µm,19.0s								
VCR	**Vista de Mar**	**36.00**	**330**	*e*P		**P**		**13 32 27.0**	**+1.1**
RPN	**Rapa Nui**	**37.75**	**253**	*e*P		**P**		**13 32 40.0**	**-0.7**
CPD	**Cerro la Pandu**	**39.58**	**3**	*e*P		**P**		**13 32 53.9**	**-2.0**
CPD				*e**PP		pP		13 33 23.8	-0.4
MTP	**Monte Pirata**	**39.66**	**4**	*e*P		**P**		**13 32 56.8**	**+0.2**
MTP				*e*pP		pP		13 33 24.1	-0.7
HUMP	**Col San Antoni**	**39.69**	**3**	*e*pP		pP		13 33 25.2	+0.1
MPR	**Mayaguez**	**39.70**	**2**	*e*P		**P**		**13 32 55.4**	**-1.6**
MPR				*e*pP		pP		13 33 25.0	-0.3
CBYP	**Canovanas**	**39.81**	**3**	*e*P		**P**		**13 32 55.2**	**-2.7**
CBYP				*e*pP		pP		13 33 25.3	-0.9
TGUH	**Tegucigalpa,Un**	**40.20**	**331**	*e*P		**P**		**13 33 01.1**	**0.0**
	comp=Z,113nm,0.8s,mb5.8								
TGUH				LR		LR			
	comp=Z,739nm,19.0s								
HOPE	**Hope Point**	**40.35**	**152**	*e*P		**P**		**13 33 03.0**	**+0.7**
CCIG	**Comitan**	**44.49**	**326**	*i* P		**P**		**13 33 35.0**	**-0.7**
TEIG	**Tepich**	**46.10**	**333**	*e*P		**P**		**13 33 47.4**	**-1.1**
TEIG				*e*pP		pP		13 34 15.5	-2.0
TEIG				LR		LR			
	comp=Z,490nm,19.0s								
HUIG	**Huatulco**	**46.26**	**321**	*i* P		**P**		**13 33 49.7**	**0.0**
TUIG	**Tuzandepetl**	**47.15**	**325**	*i* P		**P**		**13 33 56.1**	**-0.6**
VHO	**Vista Hermosa**	**47.65**	**322**	*i* P		**P**		**13 34 01.0**	**+0.5**
PNIG	**Pinotepa**	**47.94**	**320**	*i* P		**P**		**13 34 02.1**	**-0.7**
CAIG	**El Cayaco**	**49.75**	**318**	*i* P		**P**		**13 34 16.2**	**-0.4**
PLIG	**Platanillo**	**50.31**	**320**	*i* P		**P**		**13 34 20.6**	**-0.2**
PPM	**Popocatepetl**	**50.32**	**321**	*i* P		**P**		**13 34 21.1**	**+0.2**
IIO	**Organos**	**50.79**	**322**	*i* P		**P**		**13 34 25.3**	**+0.9**
DWPF	**Disney**	**51.18**	**345**	*e*P		**P**		**13 34 27.0**	**-0.3**
DWPF				*e*pP		pP		13 34 56.5	-0.3
DWPF				*e*sP		sP		13 35 10.9	+0.1
DWPF				LR		LR			
	comp=Z,733nm,20.0s								
MOIG	**Morelia**	**52.31**	**320**	*i* P		**P**		**13 34 36.1**	**+0.4**
ASCN	**Ascension**	**53.53**	**84**	*e*P		**P**		**13 34 44.8**	**+0.1**
	comp=Z,166nm,1.0s,mb6.0								
ASCN				LR		LR			
	comp=Z,201nm,20.0s								
BBSR	**BB Station**	**53.89**	**4**	*e*P		**P**		**13 34 45.7**	**-1.6**
BBSR				LR		LR			
	comp=Z,216nm,19.0s								
BRAL	**Brewton**	**55.49**	**340**	*e*P		**P**		**13 34 59.0**	**+0.2**
	comp=Z,505nm,1.5s,mb6.3								
BRAL				*e*pP		pP		13 35 28.6	0.0
COW	**Cow Castle Cre**	**56.09**	**347**	*e*P		**P**		**13 35 03.0**	**-0.1**
JSC	**Jenkinsville**	**57.08**	**347**	*e*P		**P**		**13 35 09.4**	**-0.7**
LHS	**Liberty Hill**	**57.17**	**348**	*e*P		**P**		**13 35 11.0**	**+0.3**
LHS				*e**PP		pP		13 35 40.8	0.0
HKT	**Hockley**	**57.87**	**332**	*e*P		**P**		**13 35 14.9**	**-0.7**
HKT				*e**PP		pP		13 35 44.9	-0.9
HKT				pmax		pmax			
	comp=Z,157nm,1.6s,mb5.8								
HKT				MLR		MLR			
	comp=Z,476nm,22.0s								
HKT	**Hockley**	**57.87**	**332**	*e*P		**P**		**13 35 14.9**	**-0.7**
	comp=Z,157nm,1.6s,mb5.8								
HKT				*e*pP		pP		13 35 44.9	-0.9
HKT				LR		LR			
	comp=Z,476nm,22.0s								
MAIG	**Mazatlaan**	**58.15**	**318**	*i* P		**P**		**13 35 17.3**	**-0.3**
MYNC	**Murphy**	**58.49**	**345**	*e*P		**P**		**13 35 19.0**	**-0.9**
MYNC				*e**PP		pP		13 35 49.4	-0.7
MYNC				*e**SP		sP		13 36 03.4	-0.6
MYNC				pmax		pmax			
	comp=Z,127nm,1.0s,mb5.9								
MYNC				MLR		MLR			
	comp=Z,370nm,20.0s								
MYNC	**Murphy**	**58.49**	**345**	*e*P		**P**		**13 35 19.0**	**-0.9**
	comp=Z,127nm,1.0s,mb5.9								
MYNC				*e*pP		pP		13 35 49.4	-0.8
MYNC				*e*sP		sP		13 36 03.4	-0.6
MYNC				LR		LR			
	comp=Z,370nm,20.0s								
NATX	**Nacogdoches**	**58.93**	**334**	*e*P		**P**		**13 35 22.8**	**-0.3**
NATX				*e*pP		pP		13 35 52.9	-0.3
NATX				LR		LR			
	comp=Z,477nm,19.0s								
CPCT	**Cooper Cave**	**58.94**	**344**	*e*P		**P**		**13 35 21.9**	**-1.1**
CPCT				*e*pP		pP		13 35 51.9	-1.4
TKL	**Tuckaleechee C**	**58.96**	**345**	S		**S**		**13 43 20.5**	**+1.0**
	comp=Z,5.8nm,1.0s,baz=116,slow=13,SNR=2.2								
SHEL	**Horse Pasture**	**59.02**	**96**	P		**P**		**13 35 25.8**	**+2.2**
	comp=Z,2µm,0.7s,SNR=10								
SHEL	**Horse Pasture**	**59.02**	**96**	*e*P		**P**		**13 35 25.8**	**+2.2**
	comp=Z,576nm,1.4s,mb6.4								
SHEL				LR		LR			
	comp=Z,227nm,20.0s								
SWET	**Sewanee**	**59.09**	**343**	*e*P		**P**		**13 35 22.8**	**-1.3**
SWET				*e*pP		pP		13 35 53.0	-1.4
OXF	**Oxford**	**59.47**	**340**	*e*P		**P**		**13 35 24.3**	**-2.4**
OXF				*e**PP		pP		13 35 54.5	-2.5
BLA	**Blacksburg**	**59.75**	**349**	*e*P		**P**		**13 35 28.2**	**-0.4**
BLA				*e**PP		pP		13 35 59.2	+0.3
BLA				pmax		pmax			
	comp=Z,359nm,1.4s,mb6.2								
BLA	**Blacksburg**	**59.75**	**349**	*e*P		**P**		**13 35 28.1**	**-0.5**
	comp=Z,360nm,1.4s,mb6.2								
BLA				*e*pP		pP		13 35 59.2	+0.3
TZTN	**Tazewell**	**59.75**	**346**	*e*P		**P**		**13 35 27.7**	**-0.9**
TZTN				*e*pP		pP		13 35 57.0	-1.9
ELN	**Prospectdale**	**59.83**	**348**	*e*P		**P**		**13 35 29.2**	**0.0**
ELN				*e*pP		pP		13 35 60.0	+0.5
VNA1	**Neumayer--Stat**	**59.84**	**161**	*e*P		**P**		**13 35 29.0**	**-0.2**
VNA1				*e*				13 35 41.0	
VNA1				*e*		pP		13 36 01.9	+2.4
VNA1				*e*				13 36 11.8	
JCT	**Junction City**	**60.16**	**329**	*e*P		**P**		**13 35 30.3**	**-1.1**
JCT				*e**PP		pP		13 36 00.1	-1.7
JCT				pmax		pmax			
	comp=Z,77nm,0.8s,mb5.8								
JCT				MLR		MLR			
	comp=Z,437nm,19.0s								
JCT	**Junction City**	**60.16**	**329**	*e*P		**P**		**13 35 30.3**	**-1.1**
	comp=Z,76nm,0.8s,mb5.8								
JCT				*e*pP		pP		13 36 00.1	-1.7
JCT				LR		LR			
	comp=Z,437nm,19.0s								
FWV	**Forest Hill**	**60.18**	**348**	*e*P		**P**		**13 35 31.5**	**0.0**
FWV				*e*pP		pP		13 36 01.5	-0.4
VNA2	**Neumayer--Watz**	**60.21**	**161**	*e*P		**P**		**13 35 31.2**	**-0.5**
	baz=302,slow=8.3								
VNA2				*e*				13 35 43.8	
VNA2				*e*				13 35 49.6	
VNA2				*e*		pP		13 36 00.1	-2.0
VNA2				*e*				13 36 15.2	
VNA2				*e*				13 36 21.8	
CBN	**Corbin**	**60.24**	**352**	PFAKE				13 35 40.0	+8.0
CBN				LR		LR			
	comp=Z,469nm,20.0s								
UALR	**University of**	**60.71**	**337**	*e*P		**P**		**13 35 34.0**	**-1.1**
	comp=Z,164nm,1.4s,mb5.9								
UALR				*e*pP		pP		13 36 03.9	-1.6
UTMT	**University of**	**60.98**	**341**	*e*P		**P**		**13 35 36.3**	**-0.7**
UTMT				*e*pP		pP		13 36 06.0	-1.4
TXAR	**Lajitas Array**	**61.22**	**325**	P		**P**		**13 35 37.6**	**-1.0**
	comp=Z,7.9nm,0.8s,mb4.8,baz=151,slow=8.4,SNR=102								
TXAR				pP		pP		13 36 07.3	-1.7
	comp=Z,21nm,0.9s,baz=142,slow=7.7,SNR=16								
TXAR				S		**S**		**13 43 47.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=253,slow=42,SNR=2.9								
RKT	**Rikitea**	**61.27**	**255**	*e*S		**S**		**13 43 49.3**	**+0.2**
	comp=Z,711nm,26.2s								
RKT				*e*LQ				13 51 25.6	
	comp=Z,704nm,30.0s								
RKT				*e*LR		LR		13 53 55.8	
	comp=Z,1µm,41.5s,baz=111								
RKT	**Rikitea**	**61.27**	**255**	*e*P		**P**		**13 35 38.5**	**-0.4**
RKT				*e*S		**S**		**13 43 49.3**	**+0.2**
RKT				pmax		pmax			
	comp=Z,133nm,1.2s,mb5.8								
RKT	**Rikitea**	**61.27**	**255**	*e*P		**P**		**13 35 38.5**	**-0.4**
	comp=Z,133nm,1.2s,mb5.8								
RKT				*e*S		**S**		**13 43 49.3**	**+0.2**
RKT				*e*LQ				13 51 25.6	
SDMD	**Soldier's Deli**	**61.36**	**352**	*e*P		**P**		**13 35 35.6**	**-3.9**
PARMO	**Parma**	**61.55**	**340**	*e*P		**P**		**13 35 40.0**	**-0.8**
PARMO				*e*pP		pP		13 36 10.1	-1.2
SNAA	**Sanae**	**61.84**	**161**	P		**P**		**13 35 41.9**	**-0.9**
	comp=Z,14nm,1.0s,mb4.9,baz=289,slow=6.2,SNR=106								
SNAA				S		**S**		**13 43 54.8**	**-1.4**
	comp=Z,0.2nm,0.9s,baz=61,slow=22,SNR=4.3								
SNAA				ScS		ScS		13 45 20.2	-2.2
	comp=Z,1.3nm,1.3s,baz=274,slow=17,SNR=4.2								
SNAA	**Sanae**	**61.84**	**161**	*e*P		**P**		**13 35 41.7**	**-1.1**
SNAA				*e*				13 35 53.8	
SNAA				*e*		pP		13 36 11.9	-1.3
SNAA				*e*				13 36 21.1	
SNAA				*e*				13 36 26.5	
SNAA	**Sanae**	**61.84**	**161**	*c* *i*P		**P**		**13 35 41.7**	**-1.1**
SNAA	**Sanae**	**61.84**	**161**	*e*P		**P**		**13 35 41.6**	**-1.1**
	comp=Z,81nm,1.2s,mb5.6								
MVL	**Millersville**	**61.88**	**353**	*e*P		**P**		**13 35 43.3**	**+0.3**
MVL				*e*pP		pP		13 36 13.5	0.0
WCI	**Wyandotte Cave**	**62.02**	**344**	*e*P		**P**		**13 35 42.1**	**-1.9**
WCI				*e**PP		pP		13 36 12.9	-1.6
WCI				pmax		pmax			
	comp=Z,41nm,0.8s,mb5.5								
WCI	**Wyandotte Cave**	**62.02**	**344**	*e*P		**P**		**13 35 42.1**	**-1.9**
	comp=Z,41nm,0.8s,mb5.5								
WCI				*e*pP		pP		13 36 12.8	-1.7
MCWV	**Mont Chateau**	**62.03**	**350**	*e*P		**P**		**13 35 44.4**	**+0.3**
MCWV				*e*pP		pP		13 36 15.0	+0.4
USIN	**University of**	**62.14**	**343**	*e*P		**P**		**13 35 43.1**	**-1.7**
USIN				*e*pP		pP		13 36 13.5	-1.8
**SIU

MSNY Massena 66.68 355 *e*P P **13 36 14.7 +0.3**
MSNY *e*pP pP 13 36 45.7 +0.5
LENM Lemitar 66.73 326 *e*P P **13 36 14.8 +0.1**
LENM *e*pP pP 13 36 45.2 -0.3
LAZ Ladron 67.00 326 *e*P P **13 36 16.7 +0.3**
LAZ *e*pP pP 13 36 47.1 -0.2
ANMO Albuquerque 67.08 326 *e*P P **13 36 16.6 -0.2**
ANMO *e**PP pP 13 36 47.2 -0.6
ANMO pmax pmax
comp=Z,81nm,1.2s
ANMO MLR MLR
comp=Z,203nm,19.0s
ANMO Albuquerque 67.08 326 *e*P P **13 36 16.6 -0.2**
comp=Z,81nm,1.2s,mb5.4
ANMO *e*pP pP 13 36 47.2 -0.6
ANMO LR LR
comp=Z,203nm,19.0s
CBKS Cedar Bluff 67.10 334 *e*P P **13 36 16.4 -0.6**
CBKS *e**PP pP 13 36 47.1 -0.8
CBKS MLR MLR
comp=Z,434nm,21.0s
SCIA State Center 67.43 340 *e*P P **13 36 17.4 -1.6**
comp=Z,59nm,0.9s,mb5.4
SCIA *e*pP pP 13 36 48.5 -1.5
TUC Tucson 67.44 322 *e*P P **13 36 18.8 -0.4**
TUC *e**PP pP 13 36 49.6 -0.5
TUC pmax pmax
comp=Z,137nm,1.4s,mb5.6
TUC MLR MLR
comp=Z,278nm,20.0s
TUC Tucson 67.44 322 *e*P P **13 36 18.8 -0.4**
comp=Z,137nm,1.4s,mb5.6
TUC *e*pP pP 13 36 49.6 -0.5
TUC LR LR
comp=Z,278nm,20.0s
JFWS Jewell Farm 67.46 343 *e*P P **13 36 17.7 -1.6**
JFWS *e**PP pP 13 36 48.9 -1.3
JFWS MLR MLR
comp=Z,548nm,19.0s
LIC Lamto 67.78 73⇑ *i*P P **13 36 21.8 +0.5**
comp=Z,393nm,1.1s,mb5.9
LIC *e*R
comp=Z,532nm,21.5s
LIC Lamto 67.78 73⇑ *i*P P **13 36 21.8 +0.5**
comp=Z,197nm,1.1s,mb5.8
LIC LR LR
comp=Z,270nm,21.5s
116A Eloy 68.16 321 ⇓P P **13 36 24.1 +0.4**
baz=68
116A ⇑S S 13 45 16.3 +2.7
baz=68
QSPA South Pole Qui 68.47 180 *e*P P **13 36 25.1 -0.4**
QSPA *e*pP pP 13 36 57.9 +1.3
115A Sonoran Desert 68.57 321 ⇓P P **13 36 26.7 +0.6**
baz=69,SNR=22
115A ⇑S S 13 45 22.6 +4.3
baz=69
SDCO Great Sand Dun 68.80 329 *e*P P **13 36 27.8 +0.2**
comp=Z,188nm,1.2s,mb5.8
SDCO *e*pP pP 13 36 58.5 -0.1
SDCO LR LR
comp=Z,347nm,20.0s
Z14A Wintersburg 69.46 321 ⇓P P **13 36 32.0 +0.3**
baz=70,SNR=15
Z14A ⇑S S 13 45 32.0 +3.1
baz=70
X15A Humboldt 69.86 322 P P **13 36 34.8 +0.6**
baz=70,SNR=88
X15A ⇓S S 13 45 37.8 +4.2
baz=70
MVCO Mesa Verde 69.87 327 *e*P P **13 36 34.1 0.0**
comp=Z,222nm,1.3s,mb5.8
MVCO *e*pP pP 13 37 05.2 -0.1
MVCO LR LR
comp=Z,293nm,20.0s
MVCO Mesa Verde 69.87 327 P P **13 36 34.3 +0.2**
baz=70,SNR=71
Y14A Wickenburg 69.91 321 ⇑P P **13 36 34.6 +0.1**
baz=70,SNR=9.4
Y14A ⇓S S 13 45 38.5 +4.4
baz=70
TAOE Nuku Hiva Isla 70.10 268 *e*S S 13 45 36.8 +0.4
comp=Z,673nm,25.0s
TAOE *e*LQ 13 55 09.0
comp=Z,4µm,31.4s
WUAZ Wupatki 70.13 324 *e*P P **13 36 36.4 +0.6**
comp=Z,223nm,1.0s,mb6.0
WUAZ *e*pP pP 13 37 07.4 +0.5
WUAZ Wupatki 70.13 324 ⇓P P **13 36 36.5 +0.7**
baz=70
ECSD EROS,Sioux Fal 70.18 338 PFAKE 13 36 50.0 +14
ECSD LR LR
comp=Z,272nm,22.0s
X14A Yava 70.22 322 P P **13 36 37.0 +0.7**
baz=70,SNR=76
X14A ⇑S S 13 45 40.9 +3.2
baz=70
Y13A Salome 70.30 321 P P **13 36 37.2 +0.4**
baz=70,SNR=85
GLA Glamis 70.36 320 *e*P P **13 36 37.6 +0.4**
GLA *e**PP pP 13 37 08.3 -0.1
GLA Glamis 70.36 320⇑P P **13 36 37.5 +0.3**
baz=70,SNR=24
GLA ⇓S S 13 45 44.6 +5.2
baz=70
W15A Williams 70.38 323 P P **13 36 38.4 +1.1**
baz=71,SNR=52
Y12C Blythe 70.67 320 ⇓P P **13 36 39.3 +0.3**
baz=71,SNR=39
Y12C ⇓S S 13 45 47.9 +4.9
baz=71
PDMCI Parker Dam,Lak 70.83 321 P P **13 36 40.2 +0.2**
baz=71,SNR=31
PDMCI ⇑S S 13 45 48.9 +4.1
baz=71
W14A Seligman 70.86 322 P P **13 36 41.1 +0.9**
baz=71,SNR=84
W14A ⇓S S 13 45 50.6 +5.3
baz=71
DVTC Desert V Tower 70.87 318 ⇓P P **13 36 40.8 +0.5**
baz=71,SNR=37
SWSC Sam W. Stewart 70.87 319 P P **13 36 40.5 +0.3**
baz=71,SNR=25
BC3 Big Chuckw Mtn 71.16 320 P P **13 36 42.4 +0.4**
baz=71,SNR=107
BC3 ⇓S S 13 45 53.7 +5.1
baz=71
MONP Monument Peak 71.22 318 ⇑P P **13 36 42.9 +0.5**
baz=71,SNR=45
MONP ⇓S S 13 45 55.0 +5.6
baz=71
BAR Barrett 71.23 318 *e*P P **13 36 42.6 +0.1**
W13A Hualapai Mount 71.24 322 ⇓P P **13 36 43.1 +0.6**
baz=71,SNR=71
IRM Iron Mountain 71.32 320 P P **13 36 43.4 +0.4**
baz=72,SNR=113
IRM ⇑S S 13 45 53.7 +3.2
baz=72
PHWY Pilot Hill 71.62 331 *e*P P **13 36 44.8 0.0**
PHWY *e*pP pP 13 37 15.8 -0.2
109C Camp Elliot, M 71.64 318 ⇓P P **13 36 44.7 -0.2**
baz=72,SNR=5.8
109C ⇓S S 13 45 58.5 +4.2
baz=72
BELC Belle Mtn. 71.72 320 P P **13 36 45.9 +0.5**
baz=72,SNR=52
PFO Pinyon Flat Ob 71.73 319 P P **13 36 45.0 -0.5**
comp=Z,383nm,1.0s,mb6.2,SNR=36
PFO Pinyon Flat Ob 71.73 319 *e*P P **13 36 45.8 +0.3**
PFO *e**PP pP 13 37 16.8 +0.1
PFO pmax pmax
comp=Z,87nm,1.1s,mb5.5
PFO MLR MLR
comp=Z,51nm,19.0s
PFO Pinyon Flat Ob 71.73 319 *e*P P **13 36 45.8 +0.3**
comp=Z,87nm,1.1s,mb5.5
PFO *e*pP pP 13 37 16.8 +0.1
PFO LR LR
comp=Z,51nm,19.0s
PFO Pinyon Flat Ob 71.73 319 P P **13 36 46.0 +0.6**
baz=72,SNR=58
W12A Cal Nev Ari 71.95 321 ⇓P P **13 36 47.0 +0.2**
baz=72,SNR=26
W12A ⇑S S 13 46 01.9 +4.1
baz=72
CFTV Fuerteventura 72.16 49 P P **13 36 46.0 -2.0**
comp=Z,20nm,0.8s,mb5.0

MURC Murrieta 72.18 319 ⇓P P **13 36 48.4 +0.3**
baz=72,SNR=15
MURC ⇓S S 13 46 06.0 +5.6
baz=72
V12A Nelson 72.24 322 P P **13 36 48.8 +0.3**
baz=72,SNR=78
V12A ⇓S S 13 46 05.5 +4.4
baz=72
EYMN Ely 72.45 344 *e*P P **13 36 48.3 -1.5**
EYMN *e*pP pP 13 37 19.6 -1.5
BBRC Big Bear Sol-O 72.46 319 ⇑P P **13 36 50.5 +0.7**
baz=73,SNR=18
HEC Hector,Ludlow 72.49 320 ⇑P P **13 36 50.6 +0.6**
baz=73,SNR=92
U12A Valley of Fire 72.56 322 ⇑P P **13 36 50.9 +0.5**
baz=73,SNR=30
U12A ⇓S S 13 46 08.4 +3.7
baz=73
SCI San Clemente I 72.61 317 ⇑P P **13 36 50.7 0.0**
baz=73,SNR=11
TUQ Turquoise Mtn. 72.67 321 P P **13 36 51.5 +0.5**
baz=73,SNR=41
CCUT Cedar City 72.70 324 *e*P P **13 36 52.4 +1.2**
CCUT *e*pP pP 13 37 23.6 +1.0
RWWY Rawlins 72.72 330 *e*P P **13 36 51.5 +0.2**
comp=Z,102nm,1.1s,mb5.6
RWWY *e*pP pP 13 37 22.2 -0.5
MSU Marysvale 72.76 325 *e*P P **13 36 52.3 +0.7**
MSU *e**PP pP 13 37 23.3 +0.3
MVU Marysvale 72.78 325 PFAKE 13 37 00.0 +8.3
MVU LR LR
comp=Z,274nm,20.0s
CIS Catalina Islan 72.80 318 P P **13 36 52.0 +0.2**
baz=73,SNR=14
CIS ⇑S S 13 46 12.5 +5.1
baz=73
TMUT Trail Mountain 72.84 326 *e*P P **13 36 52.3 +0.3**
TMUT *e*pP pP 13 37 23.6 +0.2
BFSC Mount Baldy St 72.89 319 P P **13 36 52.1 -0.2**
baz=73,SNR=61
BFSC ⇑S S 13 46 12.1 +3.6
baz=73
ARUT Antelope Range 72.92 324 *e*P P **13 36 53.4 +0.9**
ARUT *e**PP pP 13 37 24.7 +0.8
RRX Edison Barstow 72.93 320 ⇑P P **13 36 53.1 +0.6**
baz=73
RRX ⇓S S 13 46 12.8 +3.9
baz=73
FMP Fort Macarthur 72.93 318 ⇓P P **13 36 52.8 +0.2**
baz=73
SHPR Sheep Range 72.97 322 *e*P P **13 36 53.3 +0.5**
U11A Corn Creek 73.04 322 ⇓P P **13 36 54.1 +0.9**
baz=73
U11A ⇑S S 13 46 15.0 +4.9
baz=73
GSC Goldstone 73.10 320 *e*pP pP 13 37 25.1 +0.2
GSC Goldstone 73.10 320 ⇑S S 13 46 14.8 +4.0
baz=73
MWC Mount Wilson 73.13 319 *e*P P **13 36 54.1 +0.4**
SHOC Shoshone 73.20 321 ⇓P P **13 36 54.2 +0.1**
baz=73,SNR=13
SHOC ⇑S S 13 46 16.8 +4.9
baz=73
RSSD Black Hills 73.30 334 *e*P P **13 36 54.7 -0.1**
RSSD *e**PP pP 13 37 25.9 -0.3
DECC Green Verdugo 73.31 318 ⇑P P **13 36 55.2 +0.4**
baz=74,SNR=5.5
SNCC San Nicolas Is 73.40 317 *e*P P **13 36 55.7 +0.4**
comp=Z,0.4nm,1.4s
SNCC San Nicolas Is 73.40 317 ⇓P P **13 36 55.3 -0.1**
baz=74
EDW2 Edwards Air Fo 73.53 319 P P **13 36 56.1 0.0**
baz=74,SNR=58
U10A Ash Meadows, A 73.58 321 ⇓P P **13 36 57.0 +0.6**
baz=74,SNR=57
U10A ⇓S S 13 46 21.5 +5.2
baz=74
MPU Maple Canyon 73.59 327 *e*P P **13 36 56.8 +0.4**
MPU *e*pP pP 13 37 28.0 +0.1
MPU LR LR
comp=Z,892nm,20.0s
BLG Laguna Peak 73.68 318 ⇓P P **13 36 56.9 -0.1**
baz=74,SNR=5.9
DAU Daniels Canyon 73.70 327 *e*P P **13 36 57.6 +0.5**
DAU *e**PP pP 13 37 28.7 +0.2
LRMC Laurel Mountai 73.75 320 P P **13 36 57.7 +0.3**
baz=74,SNR=64
LRMC ⇓S S 13 46 21.4 +3.3
baz=74
NLU North Lily Min 73.77 326 *e*P P **13 36 57.9 +0.4**
NLU *e*pP pP 13 37 35.4 +6.5
OSI Osito Adit 73.80 318 ⇑P P **13 36 57.4 -0.2**
baz=74
FURC Furnace Creek, 73.93 321 ⇓P P **13 36 58.8 +0.4**
baz=74,SNR=97
BSC Santa Cruz Isl 73.96 317 ⇑P P **13 36 58.6 0.0**
baz=74,SNR=15
AGMN Agassiz Refuge 73.99 341 *e*P P **13 36 57.5 -1.3**
comp=Z,136nm,1.1s,mb5.6
AGMN *e*pP pP 13 37 28.9 -1.4
MPMC Manual Prospec 74.02 320 P P **13 36 59.2 +0.3**
baz=74,SNR=48
MPMC ⇓S S 13 46 24.5 +3.3
baz=74
TBI Tubuai 74.08 251 *e*S S 13 46 22.0 +0.2
comp=Z,505nm,28.0s
TBI *e*LR LR 13 59 47.0
comp=Z,504nm,36.2s
CTU Camp Tracy 74.16 327 *e*P P **13 36 59.7 -0.1**
CTU *e*pP pP 13 37 31.1 -0.1
ARVC Arvin 74.20 319 P P **13 37 00.2 +0.2**
baz=74,SNR=8.8
ARVC ⇑S S 13 46 26.4 +3.2
baz=74
DAC Darwin (Calif) 74.23 320 *e*P P **13 36 59.9 -0.3**
DAC *e**PP pP 13 37 31.6 0.0
DAC pmax pmax
comp=Z,86nm,0.9s,mb5.5
DAC MLR MLR
comp=Z,495nm,19.0s
DAC Darwin (Calif) 74.23 320 *e*P P **13 36 59.9 -0.3**
comp=Z,86nm,0.9s,mb5.5
DAC *e*pP pP 13 37 31.6 -0.1
DAC LR LR
comp=Z,495nm,19.0s
SBC Santa Barbara 74.30 318 ⇓P P **13 37 00.4 -0.1**
baz=74
TCUT Toone Canyon 74.30 327 *e*P P **13 37 00.5 -0.1**
TCUT *e*pP pP 13 37 33.8 +1.8
NOQ North Oquirrh 74.31 327 *e*P P **13 37 00.7 +0.1**
comp=Z,48nm,1.1s,mb5.1
DUG Dugway 74.33 326 *e*P P **13 37 01.0 +0.2**
DUG *e**PP pP 13 37 32.5 +0.2
DUG pmax pmax
comp=Z,136nm,1.3s,mb5.5
DUG MLR MLR
comp=Z,255nm,19.0s
DUG Dugway 74.33 326 *e*P P **13 37 01.0 +0.2**
comp=Z,136nm,1.3s,mb5.5
DUG *e*pP pP 13 37 32.5 +0.3
DUG LR LR
comp=Z,255nm,19.0s
DUG Dugway 74.33 326 P P **13 37 01.2 +0.4**
baz=74,SNR=78
ISA Isabella 74.34 319 *e*P P **13 37 01.4 +0.5**
comp=Z,0.2nm,0.9s
ISA *e*pP pP 13 37 32.5 +0.2
ISA Isabella 74.34 319 P P **13 37 01.4 +0.6**
baz=74,SNR=105
Q12A Willow Creek R 74.57 324 P P **13 37 02.7 +0.5**
baz=75,SNR=59
GRAC Grapevine Rang 74.59 321 ⇓P P **13 37 02.9 +0.6**
baz=75
CWC Cottonwood Cre 74.63 320 ⇓P P **13 37 02.9 +0.5**
baz=75,SNR=12
BW06 Boulder Array 74.66 330 *e*P P **13 37 01.9 -0.7**
BW06 LR LR
comp=Z,380nm,19.0s
PDAR Pinedale Array 74.66 330 P P **13 37 02.0 -0.6**
comp=Z,10nm,0.7s,mb4.6,baz=150,slow=6.3,SNR=58
PDAR *e*P P 13 37 33.0 -1.1
comp=Z,19nm,1.0s,baz=142,slow=7.5,SNR=9.2
PDAR S S 13 46 30.1 +1.8
comp=Z,0.4nm,1.0s,baz=71,slow=32,SNR=2.2
PKM Peak Mountain 74.66 318 ⇑P P **13 37 03.1 +0.4**
baz=75,SNR=44

HWUT Hardware Ranch 74.75 328 *e*P P **13 37 02.9 -0.2**
comp=Z,69nm,0.9s,mb5.4
HWUT *e*pP pP 13 37 34.3 -0.4
HWUT LR LR
comp=Z,243nm,22.0s
VES Vestal, Richgr 74.83 319 P P **13 37 03.9 +0.2**
baz=75,SNR=44
Q11A Duckwater 74.89 323 P P **13 37 04.6 +0.6**
baz=75,SNR=82
VAH Vaihoa 74.92 259 *e*P P **13 37 04.5 +0.3**
comp=Z,234nm,1.4s,mb5.7
P12A McGill 74.92 324 P P **13 37 04.7 +0.5**
baz=75,SNR=62
SPUT South Promonto 74.97 327 *e*P P **13 37 01.8 -2.6**
SPUT *e*pP pP 13 37 33.0 -2.9
BGU Big Grassy Mou 74.98 326 *e*P P **13 37 04.4 -0.1**
BGU *e*pP pP 13 37 35.7 -0.3
TIN Tinemaha 75.13 321 ⇑P P **13 37 05.9 +0.6**
baz=75,SNR=5.9
RCTC Rector, Farmer 75.24 319 P P **13 37 05.5 -0.5**
baz=75,SNR=17
TPH Tonopah 75.24 322 *e*P P **13 37 06.8 +0.8**
TPH *e**PP pP 13 37 37.5 0.0
TPH pmax pmax
comp=Z,88nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,332nm,21.0s
TPH Tonopah 75.24 322 *e*P P **13 37 06.8 +0.8**
comp=Z,88nm,1.1s,mb5.4
TPH *e*pP pP 13 37 37.5 -0.1
TPH LR LR
comp=Z,332nm,21.0s
PMOR Pomariorio Ree 75.24 260 *e*P P **13 37 06.5 +0.5**
comp=Z,132nm,1.2s,mb5.5
PMOR *e*pP pP 13 37 36.1 -1.4
comp=Z,175nm,1.6s
R09A Tonopah 75.27 322 P P **13 37 06.5 +0.4**
baz=75,SNR=65
V05C Boulder Hill, 75.35 319 ⇓P P **13 37 07.0 +0.4**
baz=76
AHID Auburn Hatcher 75.39 329 *e*P P **13 37 06.8 -0.1**
comp=Z,126nm,1.0s,mb5.6
AHID *e*pP pP 13 37 38.1 -0.3
AHID LR LR
comp=Z,292nm,20.0s
S08C White Mtn Res 75.40 321 P P **13 37 07.5 +0.6**
baz=76,SNR=71
PTRM Twissleman Ran 75.40 318 *e*P P **13 37 07.3 +0.4**
PTRM *e*PcP PcP 13 37 23.0 +3.5
PTRM *e*pP pP 13 37 38.1 -0.4
PTRM *e*sP sP 13 37 49.2 -2.8
P11A Circle Ranch, 75.44 324 ⇓P P **13 37 07.5 +0.3**
baz=76,SNR=12
HVU Hansel Valley 75.48 327 *e*P P **13 37 07.1 -0.2**
HVU *e**PP pP 13 37 38.5 -0.4
MTUM Tungsten Hills 75.53 321 *e*P P **13 37 08.0 +0.4**
MTUM *e*pP pP 13 37 39.3 +0.1
N13A Wendover, West 75.54 326 P P **13 37 07.7 0.0**
baz=76,SNR=15
TVO Taravao 75.59 256 *e*P P **13 37 08.5 +0.5**
comp=Z,314nm,1.3s,mb5.9
TVO *e*pP pP 13 37 38.7 -0.9
comp=Z,398nm,1.4s
TVO Taravao 75.59 256 *e*P P **13 37 08.5 +0.5**
TVO *e**PP pP 13 37 38.7 -0.9
TVO pmax pmax
comp=Z,314nm,1.3s,mb5.9
REDW Red Top Meadow 75.72 329 *e*P P **13 37 08.7 0.0**
comp=Z,92nm,1.0s,mb5.5
REDW *e*pP pP 13 37 40.2 -0.1
SBA Scott Base 75.73 190 *e*P P **13 37 09.1 +0.3**
SBA *e**PP pP 13 37 40.2 -0.2
Q09A Carvers 75.74 323⇑P P **13 37 09.4 +0.6**
baz=76,SNR=7.6
ULM Lac du Bonnet 75.74 342 P P **13 37 07.1 -1.8**
comp=Z,7.6nm,0.6s,mb4.6,baz=152,slow=7.0,SNR=11
ULM *e*pP pP 13 37 38.9 -1.6
comp=Z,42nm,0.9s,baz=153,slow=5.7,SNR=12
ULM LR LR 14 13 27.8
comp=Z,150nm,20.6s,baz=178,slow=38
U05C Westside ANR, 75.79 319⇑P P **13 37 08.8 -0.3**
baz=76
PKD Parkfield 75.79 318 ⇓P P **13 37 09.1 0.0**
baz=76,SNR=15
LOHW Long Hollow 75.80 330 *e*P P **13 37 09.2 +0.1**
LOHW *e*pP pP 13 37 40.6 -0.2
V04C Ramage Ranch, 75.80 318 P P **13 37 09.9 +0.7**
baz=76,SNR=9.4
TPAW Teton Pass 75.87 329 *e*P P **13 37 09.8 +0.3**
comp=Z,155nm,1.2s,mb5.6
TPAW *e*pP pP 13 37 41.1 0.0
MLAC Mammoth Lakes 75.88 321 ⇓P P **13 37 10.2 +0.6**
baz=76
P10A Eureka 75.88 324⇑P P **13 37 10.4 +0.7**
baz=76,SNR=46
M13A Montello 75.88 326 P P **13 37 09.4 -0.2**
baz=76,SNR=37
PAE Paea 75.92 256 *e*P P **13 37 10.2 +0.3**
comp=Z,221nm,1.2s,mb5.8
PAE *e*pP pP 13 37 40.1 -1.4
comp=Z,399nm,1.3s
PAE Paea 75.92 256 *e*P P **13 37 10.2 +0.3**
PAE *e**PP pP 13 37 40.1 -1.4
PAE pmax pmax
comp=Z,221nm,1.2s,mb5.8
PPT Papeete 75.95 256 *e*P P **13 37 10.7 +0.7**
comp=Z,141nm,1.4s,mb5.5
PPT *e*pP pP 13 37 40.4 -1.2
comp=Z,117nm,1.4s
PPT Papeete 75.95 256 *e*S S 13 46 42.0 -0.5
comp=Z,879nm,24.5s
PPT *e*LQ 13 57 37.6
comp=Z,689nm,29.2s
PPT *e*LR LR 14 00 53.4
comp=Z,2µm,45.2s,baz=105
PPT Papeete 75.95 256 P P **13 37 09.9 -0.1**
comp=Z,89nm,1.2s,mb5.4,baz=82,slow=10,SNR=4.6
PPT LR LR 14 01 08.1
comp=Z,245nm,20.6s,baz=288,slow=28
KCC Kaiser Creek 75.96 320 P P **13 37 09.6 -0.4**
baz=76,SNR=25
MOOW Moose Ponds 75.97 330 *e*P P **13 37 10.2 0.0**
comp=Z,143nm,1.5s,mb5.5
MOOW *e*pP pP 13 37 41.5 -0.2
N12A Clover Valley, 75.98 325 P P **13 37 10.2 0.0**
baz=76,SNR=17
T06C Millerton Lake 75.98 320 ⇓P P **13 37 08.9 -1.3**
baz=76,SNR=10
ELK Elko 76.01 325 *e*P P **13 37 10.9 +0.5**
ELK *e**PP pP 13 37 41.7 -0.3
SYO Syowa Base 76.04 159⇓ *i*P P **13 37 09.5 -1.1**
SYO Syowa Base 76.04 159⇑ *i*PcP PcP 13 37 22.6 +0.3
DCID1 Drake Creek 76.06 329 *e*P P **13 37 10.3 -0.3**
DCID1 *e*pP pP 13 37 42.2 -0.1
NVAR Mina Array Bea 76.10 322 P P **13 37 11.2 +0.3**
comp=Z,30nm,0.9s,mb5.0,baz=161,slow=5.5,SNR=166
NVAR pP pP 13 37 41.5 -1.0
comp=Z,17nm,0.9s,baz=159,slow=6.5,SNR=6.3
NVAR sP sP 13 37 54.6 -1.4
comp=Z,8.0nm,1.0s,baz=120,slow=43,SNR=2.1
Q08A Gabbs 76.18 322 P P **13 37 11.4 +0.1**
baz=76,SNR=53
FLWY Flagg Ranch 76.20 330 *e*P P **13 37 12.0 +0.5**
FLWY *e*pP pP 13 37 43.6 +0.6
P09A Austin 76.21 323⇑P P **13 37 11.9 +0.4**
baz=76,SNR=16
U04C Hernandez Rese 76.21 319 P P **13 37 12.0 +0.5**
baz=76,SNR=32
SCHQ Schefferville 76.25 1 P P **13 37 11.2 -0.6**
comp=Z,12nm,0.7s,mb4.7,baz=180,slow=2.4,SNR=8.1
SCHQ pP pP 13 37 42.7 -0.7
comp=Z,30nm,1.0s,baz=147,slow=5.9,SNR=6.3
SCHQ S S 13 46 46.2 +0.4
comp=Z,6.9nm,0.8s,baz=211,slow=17,SNR=5.9
SCHQ LR LR 14 13 07.4
comp=Z,100nm,20.9s,baz=167,slow=37
SCHQ Schefferville 76.25 1 *e*P P **13 37 11.2 -0.5**
SCHQ *e*pP pP 13 37 43.1 -0.3
V03C Hunter Liggett 76.27 318 ⇓P P **13 37 12.6 +0.7**
baz=76,SNR=9.2
LAO LASA Array 76.29 334 *e*P P **13 37 11.6 -0.3**
LAO *e*pP pP 13 37 43.0 -0.6
LAO LR LR
comp=Z,306nm,20.0s
R07C Lee Vining 76.31 321 P P **13 37 12.8 +0.8**
baz=76,SNR=64

M12A Wells 76.31 326 P P 13 37 12.2 +0.1
baz=76,SNR=54
N11A Elko Archery C 76.32 325 P P 13 37 12.2 +0.1
baz=76,SNR=10
LRV Little Rabbit 76.40 319 eP P 13 37 13.2 +0.7
LRV epP pP 13 37 44.7 +0.5
LKWY Lake 76.43 330 eP P 13 37 14.5 +1.8
LKWY e*PP pP 13 37 45.6 +1.2
LKWY pmax pmax
comp=Z,85nm,1.0s,mb5.4
LKWY Lake 76.43 330 eP P 13 37 14.5 +1.8
comp=Z,85nm,1.0s,mb5.4
LKWY epP pP 13 37 45.6 +1.3
T05C Eagle Field, D 76.49 319 ⇑P P 13 37 13.5 +0.4
baz=77
YFT Old Faithful 76.54 330 eP P 13 37 15.3 +1.9
YFT epP pP 13 37 46.5 +1.5
S05C Merced 76.58 320 ⇓P P 13 37 13.8 +0.2
baz=77,SNR=69
S06C San Francisco 76.64 320 P P 13 37 14.2 +0.2
baz=77,SNR=105
O09A Fish Creek Ran 76.66 324 P P 13 37 13.7 -0.3
baz=77,SNR=33
YNR Norris Junctio 76.67 330 eP P 13 37 15.5 +1.4
YNR epP pP 13 37 46.8 +1.0
N10A Dunphy 76.67 324 P P 13 37 14.3 +0.2
baz=77,SNR=15
HAST UC Hastings Re 76.70 318 ⇑P P 13 37 14.3 0.0
baz=77,SNR=20
Q07A Schurz 76.74 322 ⇑P P 13 37 14.9 +0.4
baz=77
VNDA Vanda 76.75 190 P P 13 37 14.1 -0.5
comp=Z,3.5nm,0.9s,baz=137,slow=5.3,SNR=19
VNDA S S 13 46 50.1 -1.1
comp=Z,0.1nm,0.4s,baz=58,slow=2.1,SNR=1.8
VNDA Vanda 76.75 190 P P 13 37 14.1 -0.5
VNDA S S 13 46 50.1 -1.1
VNDA LR LR
comp=Z,190nm,20.0s
YMR Madison River 76.77 330 eP P 13 37 16.1 +1.4
comp=Z,269nm,1.4s,mb5.8
YMR LR LR
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit 76.77 70 eP P 13 37 15.2 +0.5
TORD Torodi Ar. Bea 76.77 70 P P 13 37 15.1 +0.4
comp=Z,221nm,0.9s,mb5.9,baz=255,slow=4.9,SNR=580
TORD pP pP 13 37 46.6 +0.2
comp=Z,49nm,1.0s,baz=247,slow=5.3,SNR=2.7
TORD S S 13 46 52.5 +1.0
comp=Z,7.8nm,1.2s,baz=243,slow=8.0,SNR=14
TORD LR LR 14 11 08.9
comp=Z,396nm,19.2s,baz=215,slow=35
M11A Holland Ranch, 76.79 325 P P 13 37 15.3 +0.5
baz=77,SNR=106
WAKR Walker 76.81 321 eP P 13 37 15.6 +0.7
R06C Coleville 76.83 321 P P 13 37 15.8 +0.8
baz=77,SNR=56
P08A Dixie Valley 76.83 323 ⇓P P 13 37 15.4 +0.4
baz=77,SNR=39
BMN Battle Mountai 76.86 324 eP P 13 37 14.8 -0.4
BMN MLR MLR
comp=Z,628nm,22.0s
SAO San Andreas Ge 76.88 319 eP P 13 37 15.2 -0.1
SAO e*PP pP 13 37 46.5 -0.4
SAO e*SP sP 13 37 57.1 -3.4
PACP Pacheco Peak 76.94 319 P P 13 37 16.0 +0.4
baz=77,SNR=17
DGMT Dagmar 76.96 336 eP P 13 37 15.7 0.0
DGMT epP pP 13 37 47.2 -0.2
CMB Columbia Colle 77.06 320 eP P 13 37 15.9 -0.4
CMB e*PP pP 13 37 47.0 -1.0
CMB Columbia Colle 77.06 320 P P 13 37 15.9 -0.3
baz=77,SNR=18
QLMT Earthquake Lak 77.11 330 eP P 13 37 17.5 +0.9
QLMT epP pP 13 37 48.9 +0.6
P07A Fallon 77.19 322 ⇓P P 13 37 17.4 +0.4
baz=77
M10A I.L. Ranch, Tu 77.25 325 P P 13 37 17.7 +0.3
baz=77,SNR=23
O08A Rochester Mine 77.28 323 ⇓P P 13 37 17.4 -0.1
baz=78
R05C Kirkwood Meado 77.32 321 P P 13 37 18.3 +0.6
baz=78,SNR=59
N09A Rock Creek Ran 77.32 324 P P 13 37 17.2 -0.5
baz=78,SNR=18
WCN Washoe City 77.53 321 P P 13 37 19.4 +0.6
baz=78,SNR=25
R04C Big Horse Ranc 77.53 320 ⇓P P 13 37 19.2 +0.3
baz=78,SNR=11
BNLO Ben Lomond (Sa 77.56 319 ⇑P P 13 37 19.0 -0.1
baz=78,SNR=7.5
PAHR Pah Rah Range 77.58 322 eP P 13 37 19.9 +0.7
PAHR epP pP 13 37 51.2 +0.3
O07A Toulon 77.60 323 P P 13 37 19.3 0.0
baz=78,SNR=56
N08A GE Springer Mi 77.61 323 P P 13 37 18.7 -0.6
baz=78,SNR=38
HLID Hailey 77.61 327 eP P 13 37 19.9 +0.6
comp=Z,109nm,1.0s,mb5.5
HLID epP pP 13 37 51.5 +0.4
HLID Hailey 77.61 327 P P 13 37 20.1 +0.7
baz=78,SNR=129
WENL Wante Brothers 77.62 319 ⇑P P 13 37 19.7 +0.3
baz=78
M09A Marrel Ranch, 77.67 324 P P 13 37 19.9 +0.2
baz=78,SNR=35
LAVA Lava Cap Winer 77.74 321 P P 13 37 19.9 -0.2
baz=78,SNR=41
MCMT McKenzie Canyo 77.77 329 P P 13 37 20.9 +0.7
JRSC Jasper Ridge 77.77 319 ⇓P P 13 37 20.2 -0.1
baz=78
P06A Stead Airport, 77.86 322 ⇓P P 13 37 21.2 +0.5
baz=78,SNR=5.9
SUR Sutherland 77.86 120 P P 13 37 22.9 +2.2
comp=Z,596nm,1.5s,mb6.1,SNR=17
SUR Sutherland 77.86 120 eP P 13 37 22.7 +1.9
comp=Z,248nm,1.4s,mb5.8
BDM Black Diamond 77.90 319 ⇑P P 13 37 21.4 +0.5
baz=78,SNR=18
SAC San Andreas 78.00 319 eP P 13 37 21.9 +0.4
SAC e*PP pP 13 37 51.9 -1.3
P05C Yuba Gap, Truc 78.02 321 P P 13 37 22.2 +0.5
baz=78,SNR=36
DLMT Dillon 78.05 330 eP P 13 37 22.0 +0.2
comp=Z,144nm,1.3s,mb5.5
DLMT epP pP 13 37 53.7 +0.2
N07B Gerlach 78.07 323 P P 13 37 21.9 +0.1
baz=78,SNR=107
O06A Flanigan 78.14 322 P P 13 37 22.4 +0.2
baz=78,SNR=26
Q04C Lincoln 78.17 320 ⇑P P 13 37 22.9 +0.4
baz=78,SNR=9.9
M08A Happy Creek Ra 78.20 324 P P 13 37 22.7 +0.1
baz=78,SNR=30
L09A Wilkinson Ranc 78.20 325 P P 13 37 22.6 0.0
baz=78,SNR=39
BEKR Beckwourth 78.25 322 P P 13 37 23.0 +0.1
baz=78,SNR=97
LRM Limekiln Ridge 78.33 330 eP P 13 37 23.5 +0.2
F15A Butte 78.36 330 P P 13 37 23.8 +0.3
baz=79,SNR=33
Q03C Winters 78.42 320 ⇑P P 13 37 24.5 +0.6
baz=79,SNR=14
FARB Farallon Islan 78.43 319 ⇑P P 13 37 23.7 -0.2
baz=79,SNR=6.0
CVS Carmenet Viney 78.51 319 P P 13 37 24.2 -0.1
baz=79,SNR=23
N06A Buffalo Meadow 78.54 323 P P 13 37 24.4 0.0
baz=79,SNR=88
OHCM Honcut 78.56 321 eP P 13 37 24.4 -0.2
OHCM epP pP 13 37 55.9 -0.4
M07A Soldier Meadow 78.59 323 ⇓P P 13 37 24.7 0.0
baz=79,SNR=56
MCCM Marconi Confer 78.64 319 P P 13 37 24.9 -0.1
baz=79,SNR=6.3
O05C Quincy 78.64 321 ⇑P P 13 37 25.1 +0.1
baz=79,SNR=35
SUTB Sutter Butte 78.67 320 P P 13 37 24.9 -0.3
baz=79,SNR=12
L08A Fields 78.69 324 P P 13 37 25.2 -0.1
baz=79,SNR=33
K09A Rome 78.70 325 P P 13 37 25.4 0.0
baz=79,SNR=58
ORV Oroville 78.71 321 P P 13 37 25.5 +0.1
baz=79,SNR=134
HRY Holter Researc 78.71 331 eP P 13 37 25.6 +0.1

F14A Wisdom 78.75 330 ⇑P P 13 37 26.2 +0.5
baz=79,SNR=11
EGMT Eagleton 78.81 333 eP P 13 37 25.3 -0.6
comp=Z,179nm,1.1s,mb5.8
EGMT epP pP 13 37 57.0 -0.7
EGMT Eagleton 78.81 333 ⇓P P 13 37 25.3 -0.6
baz=79,SNR=11
MNRC McLaughlin Nat 78.84 320 P P 13 37 26.2 +0.1
baz=79,SNR=13
E15A Deer Lodge 78.86 330 ⇓P P 13 37 26.3 +0.1
baz=79,SNR=25
ELFS Eagle Lake Fie 78.96 322 P P 13 37 27.1 +0.4
baz=79,SNR=104
O04C Chester 78.97 322 ⇑P P 13 37 26.7 -0.2
baz=79,SNR=39
WVOR Wild Horse Val 79.01 324 eP P 13 37 26.6 -0.5
WVOR e*PP pP 13 37 58.3 -0.6
WVOR pmax pmax
comp=Z,45nm,1.1s,mb5.2
WVOR MLR MLR
comp=Z,293nm,19.0s
WVOR Wild Horse Val 79.01 324 eP P 13 37 26.6 -0.4
comp=Z,45nm,1.1s,mb5.2
WVOR epP pP 13 37 58.3 -0.5
WVOR LR LR
comp=Z,293nm,19.0s
L07A Adell 79.11 324 P P 13 37 28.1 +0.4
baz=79,SNR=35
K08A Mann Creek Ran 79.13 325 P P 13 37 27.6 -0.2
baz=79,SNR=12
J09A Fry Pan Ranch, 79.17 326 P P 13 37 27.8 -0.1
baz=79,SNR=34
F13A Darby 79.19 329 P P 13 37 28.3 +0.3
baz=79,SNR=94
M06C Likely Place G 79.20 323 P P 13 37 28.3 +0.2
baz=79,SNR=88
H11A Donnelly 79.23 327 P P 13 37 28.1 -0.1
baz=79,SNR=25
E14A Clinton 79.25 330 P P 13 37 28.8 +0.5
baz=80,SNR=24
D15A Lincoln 79.27 331 P P 13 37 28.8 +0.3
baz=80,SNR=19
HOPS Hopland 79.29 320 eP P 13 37 28.6 +0.1
HOPS Hopland 79.29 320 P P 13 37 28.7 +0.1
baz=80,SNR=8.0
TSUM Tsumeb 79.31 106 P P 13 37 30.2 +1.6
TSUM S S 13 47 23.2 +4.5
TSUM Tsumeb 79.31 106 eP P 13 37 30.3 +1.6
comp=Z,205nm,1.0s,mb5.9
TSUM LR LR
comp=Z,422nm,22.0s
O03C Acorn Hollow, 79.31 321 ⇓P P 13 37 27.7 -1.0
baz=80,SNR=6.3
GASB Alder Springs 79.49 320 P P 13 37 30.1 +0.4
baz=80,SNR=53
HATC Hat Creek Radi 79.51 322 ⇓P P 13 37 29.6 -0.2
baz=80,SNR=28
CHMT Chamberlain Mo 79.51 330 eP P 13 37 29.8 0.0
CHMT epP pP 13 38 01.8 +0.2
K07A Rock Creek Ran 79.52 324 P P 13 37 30.1 +0.3
baz=80,SNR=41
J08A Circle Bar Ran 79.56 325 P P 13 37 30.2 +0.2
baz=80,SNR=36
MOD Modoc 79.57 323 eP P 13 37 30.3 +0.2
MOD epP pP 13 38 01.8 -0.2
MOD Modoc 79.57 323 ⇑P P 13 37 30.2 +0.1
baz=80,SNR=43
I09A Lost Marbles R 79.59 326 P P 13 37 30.3 +0.1
baz=80,SNR=40
E13A Victor 79.60 330 P P 13 37 30.6 +0.3
baz=80,SNR=40
M05C Lookout 79.68 322 P P 13 37 30.6 -0.1
baz=80,SNR=43
P01C Double 8 Ranch 79.75 320 P P 13 37 31.5 +0.4
baz=80,SNR=23
D14A Greenough 79.75 330 P P 13 37 31.1 0.0
baz=80,SNR=11
LTIM Timbered Crate 79.76 322 P P 13 37 30.9 -0.2
O02C Red Bluff 79.87 321 P P 13 37 31.1 -0.7
baz=80,SNR=25
L05A Lakeview 79.96 323 P P 13 37 32.8 +0.6
baz=80,SNR=40
WDC Whiskeytown Da 79.98 321 eP P 13 37 30.5 -1.8
WDC MLR MLR
comp=Z,697nm,19.0s
WDC Whiskeytown Da 79.98 321 P P 13 37 30.7 -1.6
baz=80,SNR=30
BMO Blue Mountains 79.98 327 eP P 13 37 32.1 -0.2
comp=Z,102nm,1.0s,mb5.6
BMO epP pP 13 38 04.0 -0.2
BMO LR LR
comp=Z,370nm,19.0s
I08A Drewsey 79.98 326 P P 13 37 32.7 +0.4
baz=80,SNR=69
J07A Hines 80.01 325 P P 13 37 32.9 +0.4
baz=80,SNR=44
KCPM Cahto Peak 80.03 320 eP P 13 37 33.1 +0.6
H09A Durkee 80.04 327 P P 13 37 32.5 -0.1
baz=80,SNR=19
KIPM Iron Peak 80.05 320 eP P 13 37 33.5 +0.8
KIPM epP pP 13 38 04.5 0.0
K06A Valley Falls 80.14 324 P P 13 37 33.6 +0.5
baz=80,SNR=38
M03C McCloud 80.19 322 P P 13 37 32.8 -0.6
baz=80,SNR=19
D13A Huson 80.20 330 P P 13 37 33.5 +0.1
baz=80,SNR=30
M04C Macdoel 80.35 322 P P 13 37 34.2 -0.1
baz=80,SNR=32
J06A Christmas Vall 80.39 324 P P 13 37 34.6 +0.1
baz=81,SNR=56
K05A Summer Lake 80.44 324 ⇑P P 13 37 35.3 +0.6
baz=81,SNR=37
H08A Prairie City 80.45 326 P P 13 37 34.9 +0.1
baz=81,SNR=33
O01C Eel River Cons 80.46 320 P P 13 37 35.5 +0.6
baz=81,SNR=15
N02C Big Bar 80.58 321 P P 13 37 35.6 +0.1
baz=81,SNR=42
I07A Izee 80.59 325 P P 13 37 36.0 +0.4
baz=81,SNR=35
L04A Klamath Falls 80.64 323 P P 13 37 35.6 -0.2
baz=81,SNR=21
C13A Hot Springs 80.68 330 ⇑P P 13 37 36.3 +0.3
baz=81,SNR=22
M02C Callahan 80.68 322 P P 13 37 35.5 -0.6
baz=81,SNR=11
F10A Beach Ranch, E 80.73 328 P P 13 37 36.4 +0.1
baz=81,SNR=15
YBH Yreka Blue Hor 80.82 322 eP P 13 37 35.5 -1.3
YBH e*PP pP 13 38 07.0 -1.7
YBH Yreka Blue Hor 80.82 322 ⇓P P 13 37 35.5 -1.3
baz=81,SNR=13
K04A Chilquin 80.83 323 ⇓P P 13 37 36.7 -0.1
baz=81,SNR=6.8
KHMM Horse Mountain 80.87 321 eP P 13 37 37.3 +0.3
KHMM epP pP 13 38 09.1 +0.1
I06A Prineville 80.88 325 P P 13 37 37.7 +0.6
baz=81,SNR=34
F09A S2 Ranch, Elgi 80.89 327 P P 13 37 36.9 -0.2
baz=81,SNR=24
BSMT Bassoo Peak 80.91 330 eP P 13 37 37.4 +0.1
J05A Fort Rock 81.00 324 P P 13 37 38.0 +0.3
baz=81,SNR=19
JCC Jacoby Creek 81.01 320 ⇓P P 13 37 37.8 0.0
baz=81,SNR=5.8
E10A Myers Farm, Un 81.03 328 P P 13 37 37.9 0.0
baz=81,SNR=38
C12A Trout Creek 81.12 330 P P 13 37 38.3 -0.1
baz=81,SNR=19
G08A Pilot Rock 81.13 326 P P 13 37 38.4 0.0
baz=81,SNR=18
B13A Whitefish 81.14 331 P P 13 37 38.3 -0.2
baz=81,SNR=22
PTEO Sao Teotonio 81.23 44 eP P 13 37 40.4 +1.5
comp=Z,225nm,1.1s,mb5.9
PTEO epP pP 13 38 12.7 +1.8
MDT Midelt 81.36 50 P P 13 37 41.1 +1.4
comp=Z,36nm,0.9s,mb5.2,baz=240,slow=4.5,SNR=58
MDT pP pP 13 38 12.8 +1.2
comp=Z,35nm,1.2s,baz=249,slow=6.3,SNR=4.8
MDT S S 13 47 44.1 +4.0
comp=Z,0.4nm,0.4s,baz=1.7,slow=21,SNR=1.7
F08A Pendleton 81.39 327 P P 13 37 39.3 -0.5
baz=82,SNR=7.0
WALA Waterton Lakes 81.40 332 eP P 13 37 39.4 -0.5
comp=Z,102nm,1.1s,mb5.6

WALA epP pP 13 38 11.4 -0.4
J04A Umpqua Nationa 81.45 323 ⇓P P 13 37 40.3 +0.2
baz=82
FFC Flin Flon 81.47 341 eP P 13 37 39.1 -1.1
FFC pmax pmax
comp=Z,106nm,1.3s,mb5.5
FFC Flin Flon 81.47 341 eP P 13 37 39.0 -1.2
comp=Z,106nm,1.3s,mb5.5
H06A Lindquist Farm 81.47 325 P P 13 37 40.8 +0.6
baz=82,SNR=26
VIPM Ingram Point 81.47 325 P P 13 37 40.7 +0.5
G07A Ruggs Ranch, H 81.48 326 P P 13 37 40.8 +0.5
baz=82,SNR=29
HUMO Hull Mountain 81.52 322 ⇓P P 13 37 39.6 -0.9
baz=82
E09A Wood Farm, Sta 81.56 328 P P 13 37 40.0 -0.7
baz=82,SNR=12
I05A Bend 81.59 324 P P 13 37 41.5 +0.6
baz=82,SNR=17
L02A Cave Junction 81.60 322 ⇑P P 13 37 40.9 0.0
baz=82,SNR=9.4
PMAFR Mafra 81.70 42 eP P 13 37 42.6 +1.1
comp=Z,74nm,0.9s,mb5.5
PMAFR Mafra 81.70 42 eS S 13 47 45.0 +1.4
M01C Crescent City 81.71 321 ⇓P P 13 37 41.3 -0.1
baz=82
B12A Libby 81.72 330 P P 13 37 41.6 +0.1
baz=82,SNR=26
MSKU Masuku 81.74 88 PFAKE 13 37 50.0 +8.3
MSKU LR LR
comp=Z,7.0nm,19.0s
PLOU Loures 81.74 43 eP P 13 37 43.1 +1.4
comp=Z,83nm,0.9s,mb5.6
K02A Glendale 81.92 322 ⇑P P 13 37 42.5 -0.1
baz=82,SNR=14
G06A Carlson Farm, 81.97 326 P P 13 37 43.3 +0.5
baz=82,SNR=9.7
I04A Tendick Farm, 81.98 324 P P 13 37 42.1 -0.8
baz=82,SNR=8.7
E08A Dider Farm, El 82.01 327 P P 13 37 42.4 -0.6
baz=82,SNR=5.5
J03A Ideyld Park 82.01 323 ⇓P P 13 37 42.3 -0.7
baz=82
D09A Jones Farm, Ri 82.03 328 P P 13 37 42.7 -0.4
baz=82,SNR=25
EGRO El Granado 82.03 44 P P 13 37 44.4 +1.2
comp=Z,91nm,0.9s,mb5.6
F07A Phinny Hill Vi 82.04 326 ⇓P P 13 37 43.4 +0.2
baz=82,SNR=5.4
PBEJ Beja 82.06 44 eP P 13 37 44.3 +1.0
comp=Z,82nm,1.2s,mb5.4
B11A Sandpoint 82.06 330 ⇑P P 13 37 42.4 -0.9
baz=82
C10A Spilker Farm, 82.07 329 ⇓P P 13 37 42.8 -0.6
baz=82,SNR=7.2
A12A Yaak River Ran 82.09 331 P P 13 37 43.4 -0.1
baz=82,SNR=20
HAWA Hanford 82.18 327 eP P 13 37 43.9 -0.1
comp=Z,142nm,1.1s,mb5.7
HAWA epP pP 13 38 15.4 -0.6
EVO Evora 82.26 43 ⇑iP P 13 37 44.8 +0.4
comp=Z,112nm,1.1s,mb5.3
EVO eR
comp=Z,310nm,21.8s
WRD Warden 82.26 327 P P 13 37 45.0 +0.7
NEW Newport 82.30 329 eP P 13 37 43.8 -0.7
NEW e*PP pP 13 38 15.4 -1.2
D08A Wollman Farm, 82.33 328 P P 13 37 44.3 -0.4
baz=82,SNR=17
G05A Wamic 82.33 325 ⇓P P 13 37 44.9 +0.2
baz=82,SNR=7.3
J02A Umpqua 82.35 323 ⇓P P 13 37 44.6 -0.2
baz=82,SNR=6.4
B10A Chitwood Farm, 82.37 329 ⇑P P 13 37 45.1 +0.1
baz=83
F06A Goldendale 82.40 326 ⇑P P 13 37 45.1 +0.1
baz=83,SNR=7.9
H04A Detroit Lake 82.43 324 ⇑P P 13 37 44.3 -0.9
baz=83,SNR=5.5
A11A Hall Mountain, 82.43 330 P P 13 37 44.9 -0.4
baz=83,SNR=34
OD2 Odessa Site #2 82.45 328 P P 13 37 45.0 -0.4
E07A Sunnyside 82.45 327 P P 13 37 45.4 0.0
baz=83,SNR=5.8
KEBM Edson Butte 82.47 322 eP P 13 37 45.4 -0.1
KEBM epP pP 13 38 18.3 +0.7
C09A Chrisman Ranch 82.52 329 P P 13 37 45.5 -0.3
baz=83,SNR=39
I03A Eugene 82.57 323 ⇓P P 13 37 45.8 -0.2
baz=83,SNR=8.6
EMIN Mina Concepcio 82.69 45 P P 13 37 47.5 +0.9
comp=Z,99nm,0.9s,mb5.6
MXC Moxie City 82.69 327 P P 13 37 46.9 +0.3
ESPR Espera 82.72 46 P P 13 37 48.0 +1.3
comp=Z,67nm,0.8s,mb5.5
PESTR Estremoz 82.72 43 eP P 13 37 47.7 +0.9
comp=Z,102nm,1.3s,mb5.5
PESTR epP pP 13 38 20.3 +1.5
PESTR eS S 13 47 54.7 +0.7
BOSA Boshof 82.72 118 P P 13 37 47.3 +0.6
comp=Z,64nm,0.9s,mb5.4,baz=251,slow=4.6,SNR=68
BOSA S S 13 47 57.8 +3.7
comp=Z,2.8nm,0.7s,baz=157,slow=21,SNR=3.1
BOSA Boshof 82.72 118 P P 13 37 47.3 +0.6
BOSA S S 13 47 57.8 +3.7
BOSA LR LR
comp=Z,294nm,20.0s
EJIF Jimena Fronter 82.75 46 P P 13 37 47.0 +0.1
EJIF pmax pmax
comp=Z,46nm,0.9s,mb5.3
EJIF Jimena Fronter 82.75 46 P P 13 37 47.0 +0.1
comp=Z,46nm,0.9s,mb5.3
F05A White Salmon 82.83 326 ⇑P P 13 37 47.0 -0.4
baz=83
EPH Ephrata 82.86 328 P P 13 37 47.3 -0.2
C08A Higginbotham F 82.89 328 P P 13 37 46.9 -0.7
baz=83,SNR=7.8
B09A Rice 82.89 329 P P 13 37 47.0 -0.7
baz=83,SNR=15
G04A Mulino 82.93 325 ⇓P P 13 37 47.4 -0.4
baz=83
D07A Quincy 82.94 327 P P 13 37 47.9 0.0
baz=83,SNR=13
COR Corvallis 82.98 324 eP P 13 37 47.9 -0.2
COR e*PP pP 13 38 20.0 -0.2
A10A Northport 83.01 330 ⇓P P 13 37 47.1 -1.1
baz=83,SNR=6.3
E06A Yakima 83.02 326 ⇓P P 13 37 48.2 -0.1
baz=83,SNR=5.9
EBAD Badajoz 83.03 44 P P 13 37 49.3 +1.0
comp=Z,43nm,0.9s,mb5.3
WTV Waterville 83.28 328 P P 13 37 49.0 -0.6
EMIJ Mijas 83.28 46 P P 13 37 50.2 +0.5
comp=Z,33nm,0.8s,mb5.2
C07A Waterville 83.32 328 P P 13 37 49.5 -0.4
baz=84,SNR=27
PCBR Castelo Branco 83.36 43 eP P 13 37 50.3 +0.3
comp=Z,59nm,1.5s,mb5.2
F04A Amboy 83.37 325 ⇑P P 13 37 49.5 -0.6
baz=84
D06A Cle Elum 83.38 327 ⇑P P 13 37 50.0 -0.2
baz=84,SNR=7.4
A09A Danville 83.49 329 ⇑P P 13 37 49.6 -1.1
baz=84
LON Longmire 83.58 326 epP pP 13 38 22.4 -1.0
PVIS Viseu 83.60 42 eP P 13 37 51.6 +0.3
comp=Z,111nm,1.6s,mb5.4
RAR Rarotonga 83.80 250 LR LR 14 08 05.8
comp=Z,173nm,19.1s,baz=340,slow=31
RAR Rarotonga 83.80 250 PFAKE 13 38 00.0 +7.7
RAR LR LR
comp=Z,2.0nm,22.0s
B07A Winthrop 83.87 328 P P 13 37 51.9 -0.8
baz=84,SNR=18
MAW Mawson 83.91 163 P P 13 37 52.4 -0.5
comp=Z,18nm,0.8s,mb4.9,baz=224,slow=7.4,SNR=30
MAW pP pP 13 38 23.8 -1.3
comp=Z,10nm,1.0s,baz=210,slow=6.6,SNR=3.3
MAW S S 13 48 03.6 -2.4
comp=Z,0.6nm,0.2s,baz=184,slow=3.7,SNR=2.7
MAW LR LR 14 14 07.3
comp=Z,226nm,18.7s,baz=229,slow=35
MAW Mawson 83.91 163 eP P 13 37 52.2 -0.7
MAW pmax pmax
comp=Z,13nm,0.7s
MAW MLR MLR
comp=Z,595nm,19.0s

MAW Mawson 83.91 163 *e*P P **13 37 52.2 -0.7**
comp=Z,13nm,0.7s,mb4.9
MAW LR LR
comp=Z,595nm,19.0s
EZAM Zamans 83.96 40 P P **13 37 51.7 -1.4**
EZAM pmax pmax
comp=Z,83nm,1.0s,mb5.5
EZAM Zamans 83.96 40 P P **13 37 51.7 -1.4**
comp=Z,82nm,1.0s,mb5.5
D05A Enumclaw 83.97 326 P P **13 37 52.9 -0.3**
baz=84,SNR=5.7
ELOJ Sierra Loja 84.01 46 P P **13 37 53.0 -0.4**
ELOJ pmax pmax
comp=Z,80nm,1.1s,mb5.5
ELOJ Sierra Loja 84.01 46 P P **13 37 53.0 -0.3**
comp=Z,80nm,1.1s,mb5.5
PVRL Vila Real 84.04 41 *e*P P **13 37 54.0 +0.5**
comp=Z,135nm,1.6s,mb5.5
PCAB Cabril 84.10 41 *e*P P **13 37 54.1 +0.3**
comp=Z,128nm,1.2s,mb5.6
C05A Tolt Reservoir 84.15 327 ⇑P P **13 37 52.4 -1.7**
baz=84
ELUQ Luque 84.16 46 P P **13 37 53.5 -0.6**
ELUQ pmax pmax
comp=Z,202nm,1.2s,mb5.8
ELUQ Luque 84.16 46 P P **13 37 53.5 -0.6**
comp=Z,202nm,1.2s,mb5.8
ERON Agron 84.17 46 P P **13 37 53.1 -1.1**
comp=Z,19nm,0.8s,mb5.0
EDM Edmonton 84.26 335 *e*P P **13 37 52.6 -2.0**
EDM *e**PP pP 13 38 24.9 -1.9
EMAZ Mazaricos 84.27 39 P P **13 37 56.3 +1.7**
comp=Z,11nm,0.8s,mb4.7
EADA Adamuz 84.28 45 P P **13 37 55.7 +1.0**
comp=Z,48nm,0.9s,mb5.3
LBTB Lobatse 84.29 115 *e*P P **13 37 55.6 +0.8**
LBTB pmax pmax
comp=Z,119nm,1.1s,mb5.6
LBTB MLR MLR
comp=Z,435nm,21.0s
LBTB Lobatse 84.29 115 *e*P P **13 37 55.6 +0.8**
comp=Z,119nm,1.1s,mb5.6
LBTB LR LR
comp=Z,435nm,21.0s
E03A Lebam 84.37 325 ⇓P P **13 37 54.6 -0.5**
baz=85
A07A Ashnola River, 84.40 328 P P **13 37 55.0 -0.3**
baz=85,SNR=17
ECOG Cogollos-Vega 84.47 46 P P **13 37 53.5 -2.2**
ECOG pmax pmax
comp=Z,13nm,0.7s,mb4.9
ECOG Cogollos-Vega 84.47 46 P P **13 37 53.5 -2.2**
comp=Z,13nm,0.7s,mb4.9
STS Santiago 84.48 40 P P **13 37 53.8 -1.9**
STS pmax pmax
comp=Z,42nm,1.1s,mb5.2
STS Santiago 84.48 40 P P **13 37 53.8 -1.9**
comp=Z,42nm,1.1s,mb5.2
B06A Marblemount 84.59 328 ⇓P P **13 37 55.0 -1.2**
baz=85
GNW Green Mountain 84.64 326 *e*pP pP 13 38 27.7 -1.0
B05A Bryant 84.73 327 ⇓P P **13 37 55.8 -1.2**
baz=85,SNR=6.8
EBER Berja 84.73 47 P P **13 37 58.0 +1.0**
comp=Z,41nm,1.0s,mb5.3
EBAN Banos Encina 84.81 46 P P **13 37 56.9 -0.5**
EBAN pmax pmax
comp=Z,184nm,0.9s,mb6.0
EBAN Banos Encina 84.81 46 P P **13 37 56.9 -0.5**
comp=Z,184nm,0.9s,mb6.0
C04A Brinnon 84.82 326 ⇓P P **13 37 56.8 -0.6**
baz=85
PBRG Braganca 84.94 41 *e*P P **13 37 58.4 +0.4**
comp=Z,118nm,1.6s,mb5.6
ECAL Calabor 85.02 41 P P **13 37 59.0 +0.6**
comp=Z,45nm,0.9s,mb5.4
ERUA La Rua 85.03 41 P P **13 37 57.5 -1.0**
ERUA pmax pmax
comp=Z,61nm,0.9s,mb5.5
ERUA La Rua 85.03 41 P P **13 37 57.5 -1.0**
comp=Z,61nm,0.9s,mb5.5
EQES Quesada 85.09 46 P P **13 37 59.0 +0.2**
comp=Z,78nm,1.0s,mb5.6
A05A Maple Falls 85.20 328 P P **13 37 58.4 -0.9**
baz=85,SNR=9.6
ENIJ Nijar 85.23 47 P P **13 37 57.8 -1.7**
ENIJ pmax pmax
comp=Z,77nm,1.2s,mb5.5
ENIJ Nijar 85.23 47 P P **13 37 57.8 -1.7**
comp=Z,77nm,1.2s,mb5.5
ESDC Sonseca Array 85.51 44 P P **13 38 01.5 +0.7**
comp=Z,43nm,1.0s,mb5.3,baz=238,slow=5.2,SNR=96
ESDC pP pP 13 38 34.3 +1.2
comp=Z,29nm,1.1s,baz=237,slow=5.1,SNR=5.4
ESDC S S 13 48 14.6 -7.2
comp=Z,0.1nm,0.3s,baz=248,slow=35,SNR=2.3
ESDC LR LR 14 13 52.7
comp=Z,117nm,18.3s,baz=270,slow=34
ESDC Sonseca Array 85.51 44 P P **13 38 01.6 +0.7**
comp=Z,34nm,0.9s,mb5.3
ESLA Sonseca Array 85.51 44 *e*P P **13 38 01.6 +0.7**
ESLA *e*pP pP 13 38 34.8 +1.7
ESLA LR LR
comp=Z,1μm,20.0s
EPON Pontenova 85.57 40 P P **13 38 01.9 +0.7**
comp=Z,104nm,1.3s,mb5.6
PGC Sidney 85.66 327 *e*P P **13 38 01.4 -0.3**
PGC *e*pP pP 13 38 33.2 -0.7
GUD Guadarrama 85.91 43 P P **13 38 02.2 -0.6**
GUD pmax pmax
comp=Z,30nm,1.1s,mb5.1
GUD Guadarrama 85.91 43 P P **13 38 02.2 -0.7**
comp=Z,30nm,1.1s,mb5.1
EVIA Vianos 85.91 46 P P **13 38 02.0 -0.8**
EVIA pmax pmax
comp=Z,27nm,0.8s,mb5.2
EVIA Vianos 85.91 46 P P **13 38 02.0 -0.8**
comp=Z,27nm,0.8s,mb5.2
ETOB Tobarra 86.55 46 P P **13 38 06.9 +0.9**
comp=Z,76nm,0.9s,mb5.6
ETOR Torete 87.35 44 P P **13 38 11.0 +1.1**
ETOR pmax pmax
comp=Z,22nm,0.8s,mb5.1
ETOR Torete 87.35 44 P P **13 38 11.0 +1.2**
comp=Z,22nm,0.8s,mb5.1
ELAN Lanestosa 87.77 41 P P **13 38 12.3 +0.5**
comp=Z,10nm,0.8s,mb4.9
ECRI Cripan 88.01 42 P P **13 38 11.9 -1.1**
ECRI pmax pmax
comp=Z,15nm,0.8s,mb5.1
ECRI Cripan 88.01 42 P P **13 38 11.9 -1.1**
comp=Z,15nm,0.8s,mb5.1
ESAC San Caprasio 88.84 44 P P **13 38 18.3 +1.4**
comp=Z,32nm,0.7s,mb5.5
ERTA Horta de San J 88.98 45 P P **13 38 18.4 +0.9**
comp=Z,44nm,0.9s,mb5.5
DRV Dumont d'Urvil 89.37 191 S S 13 49 02.0 +3.3
ETSF Etsaut 89.38 43 *e*P P **13 38 20.2 +0.8**
comp=Z,52nm,1.2s,mb5.1
ETSF Etsaut 89.38 43 *e*P P **13 38 20.2 +0.8**
ETSF pmax pmax
comp=Z,26nm,1.2s,mb5.1
ETSF Etsaut 89.38 43 *e*P P **13 38 20.2 +0.8**
comp=Z,26nm,1.2s,mb5.1
EBIE Bielsa 89.72 43 P P **13 38 22.1 +1.1**
comp=Z,11nm,0.9s,mb5.0
EPF Esparros 90.02 43 *e*P P **13 38 22.9 +0.5**
comp=Z,30nm,1.2s,mb5.0
EPF Esparros 90.02 43 *e*P P **13 38 22.9 +0.5**
EPF pmax pmax
comp=Z,15nm,1.2s,mb5.0
EPF Esparros 90.02 43 *e*P P **13 38 22.9 +0.5**
comp=Z,15nm,1.2s,mb5.0
LSZ Lusaka 90.16 106 *e*P P **13 38 25.9 +2.8**
LSZ *e**PP pP 13 38 59.7 +4.1
LSZ pmax pmax
comp=Z,53nm,1.4s,mb5.5
LSZ MLR MLR
comp=Z,490nm,20.0s
LSZ Lusaka 90.16 106 *e*P P **13 38 25.9 +2.8**
comp=Z,53nm,1.4s,mb5.5
LSZ *e*pP pP 13 38 59.7 +4.1
LSZ LR LR
comp=Z,490nm,20.0s
MELF Melles 90.21 43 *e*P P **13 38 24.0 +0.7**
EMIR Miracle 90.23 44 P P **13 38 23.7 +0.3**
comp=Z,30nm,0.9s,mb5.4

SALF Salau 90.43 44 *e*P P **13 38 25.1 +0.8**
QUIF Quistinic 90.45 38⇑*i*P P **13 38 23.7 -0.7**
comp=Z,38nm,0.9s,mb5.2
QUIF *e*pP pP 13 38 56.1 -0.8
QUIF Quistinic 90.45 38⇑*i*P P **13 38 23.7 -0.7**
QUIF *e**PP pP 13 38 56.1 -0.8
QUIF pmax pmax
comp=Z,19nm,0.9s,mb5.2
QUIF Quistinic 90.45 38⇑*i*P P **13 38 23.7 -0.7**
comp=Z,19nm,0.9s,mb5.2
QUIF *e*pP pP 13 38 56.1 -0.8
MLS Moulis 90.46 43 *e*P P **13 38 24.9 +0.4**
ROSF Rostrenen 90.62 37⇑*i*P P **13 38 24.6 -0.6**
comp=Z,75nm,1.1s,mb5.4
ROSF Rostrenen 90.62 37⇑*i*P P **13 38 24.6 -0.6**
ROSF pmax pmax
comp=Z,38nm,1.1s,mb5.4
ROSF Rostrenen 90.62 37⇑*i*P P **13 38 24.6 -0.6**
comp=Z,38nm,1.1s,mb5.4
SGMF Saint Gilles 90.98 37⇑*i*P P **13 38 26.1 -0.8**
comp=Z,68nm,1.4s,mb5.3
SGMF Saint Gilles 90.98 37⇑*i*P P **13 38 26.1 -0.8**
SGMF pmax pmax
comp=Z,34nm,1.4s,mb5.3
SGMF Saint Gilles 90.98 37⇑*i*P P **13 38 26.1 -0.8**
comp=Z,34nm,1.4s,mb5.3
CARF Carcanieres 90.99 44 *e*P P **13 38 27.6 +0.7**
FILF Fillols 91.21 44 *e*P P **13 38 27.9 0.0**
LFF La Frestale 91.22 42⇑*i*P P **13 38 27.9 -0.1**
comp=Z,116nm,1.0s,mb5.7
LFF La Frestale 91.22 42⇑*i*P P **13 38 27.9 -0.1**
LFF pmax pmax
comp=Z,58nm,1.0s,mb5.7
LFF La Frestale 91.22 42⇑*i*P P **13 38 27.9 -0.1**
comp=Z,58nm,1.0s,mb5.7
MTLF Montolieu 91.37 43 *e*P P **13 38 28.6 -0.1**
comp=Z,119nm,1.4s,mb5.5
MTLF Montolieu 91.37 43 *e*P P **13 38 28.6 -0.1**
MTLF pmax pmax
comp=Z,60nm,1.4s,mb5.5
MTLF Montolieu 91.37 43 *e*P P **13 38 28.6 -0.1**
comp=Z,60nm,1.4s,mb5.5
DYA Yadsworthy 91.40 35 *e*P P **13 38 27.8 -1.0**
HTL Hartland 91.41 35 *e*P P **13 38 28.1 -0.8**
HTL AMb AMB 13 38 37.9
comp=Z,42nm,1.6s,mb5.3
MFF Saint Martin d 91.52 40⇑*i*P P **13 38 29.2 -0.2**
comp=Z,141nm,1.1s,mb5.8
MFF Saint Martin d 91.52 40⇑*i*P P **13 38 29.2 -0.2**
MFF pmax pmax
comp=Z,70nm,1.1s,mb5.8
MFF Saint Martin d 91.52 40⇑*i*P P **13 38 29.2 -0.2**
comp=Z,70nm,1.1s,mb5.8
YKA Yellowknife Ar 91.63 340 P P **13 38 28.7 -1.2**
comp=Z,18nm,0.8s,mb5.3,baz=134,slow=4.4,SNR=29
YKA pP pP 13 39 01.3 -1.1
comp=Z,71nm,1.1s,baz=135,slow=4.7,SNR=12
YKA S SKSac 13 48 51.6 +0.9
comp=Z,4.2nm,0.9s,baz=167,slow=35,SNR=2.7
YKA LR LR 14 26 19.6
comp=Z,131nm,20.1s,baz=155,slow=40
YKA Yellowknife Ar 91.63 340 P P **13 38 28.7 -1.2**
YKA *PP pP 13 39 01.4 -1.0
YKA S SKSac 13 48 51.6 +0.9
YKA Yellowknife Ar 91.63 340 P P **13 38 28.7 -1.2**
YKA pP pP 13 39 01.4 -1.1
YKA S SKSac 13 48 51.6 +0.9
YKA LR LR 14 26 19.6
YKW3 Yellowknife Ar 91.69 340 *e*pP pP 13 39 01.4 -1.2
RJF Les Rejaudoux 91.88 41⇑*i*P P **13 38 30.8 -0.2**
comp=Z,92nm,1.2s,mb5.6
RJF *e*R
comp=Z,340nm,18.8s
RJF Les Rejaudoux 91.88 41⇑*i*P P **13 38 30.8 -0.2**
RJF pmax pmax
comp=Z,46nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,340nm,18.8s
RJF Les Rejaudoux 91.88 41⇑*i*P P **13 38 30.8 -0.2**
comp=Z,46nm,1.2s,mb5.6
RJF LR LR
comp=Z,340nm,18.8s
GRR Gorron 92.02 38 *e*P P **13 38 30.9 -0.8**
comp=Z,122nm,1.2s,mb5.7
GRR Gorron 92.02 38 *e*P P **13 38 30.9 -0.8**
GRR pmax pmax
comp=Z,61nm,1.2s,mb5.7
GRR Gorron 92.02 38 *e*P P **13 38 30.9 -0.8**
comp=Z,61nm,1.2s,mb5.7
CAF Calviac 92.04 42 *e*P P **13 38 31.8 +0.1**
comp=Z,52nm,1.1s,mb5.4
CAF Calviac 92.04 42 *e*P P **13 38 31.8 +0.1**
CAF pmax pmax
comp=Z,26nm,1.1s,mb5.4
CAF Calviac 92.04 42 *e*P P **13 38 31.8 +0.1**
comp=Z,26nm,1.1s,mb5.4
FLN La Foliniere 92.42 38⇑*i*P P **13 38 33.0 -0.5**
comp=Z,104nm,1.2s,mb5.6
FLN *e*R
comp=Z,315nm,21.2s
FLN La Foliniere 92.42 38⇑*i*P P **13 38 33.0 -0.5**
FLN pmax pmax
comp=Z,52nm,1.2s,mb5.6
FLN MLR MLR
comp=Z,310nm,21.3s
FLN La Foliniere 92.42 38⇑*i*P P **13 38 33.0 -0.5**
comp=Z,52nm,1.2s,mb5.6
FLN LR LR
comp=Z,310nm,21.3s
LDF La Druitiere 92.54 38⇑*i*P P **13 38 33.5 -0.6**
comp=Z,51nm,1.0s,mb5.5
LDF *e*pP pP 13 39 06.0 -0.6
LDF La Druitiere 92.54 38⇑*i*P P **13 38 33.5 -0.6**
LDF *e**PP pP 13 39 06.0 -0.6
LDF pmax pmax
comp=Z,25nm,1.0s,mb5.5
LDF La Druitiere 92.54 38⇑*i*P P **13 38 33.5 -0.6**
comp=Z,26nm,1.0s,mb5.5
LDF *e*pP pP 13 39 06.0 -0.6
MCH1 Michaelchurch 92.74 34 P P **13 38 33.7 -1.3**
MCH1 AMb AMB 13 38 36.7
comp=Z,33nm,1.5s,mb5.5
MCH1 Michaelchurch 92.74 34 *e*P P **13 38 33.6 -1.4**
MCH1 *e*P 13 38 33.7
MCH1 AMb AMB 13 38 36.7
comp=Z,33nm,1.5s,mb5.5
LASF Ste Croix 92.76 43 *e*P P **13 38 35.3 +0.2**
comp=Z,23nm,1.2s,mb5.1
TCF Toulx Ste Croi 92.78 41⇑*i*P P **13 38 34.7 -0.5**
comp=Z,61nm,1.2s,mb5.5
TCF *e*pP pP 13 39 07.3 -0.5
TCF Toulx Ste Croi 92.78 41⇑*i*P P **13 38 34.7 -0.5**
TCF *e**PP pP 13 39 07.3 -0.5
TCF pmax pmax
comp=Z,30nm,1.2s,mb5.5
TCF Toulx Ste Croi 92.78 41⇑*i*P P **13 38 34.7 -0.5**
comp=Z,30nm,1.2s,mb5.5
TCF *e*pP pP 13 39 07.3 -0.5
KEST Kesra 92.88 53 P P **13 38 36.6 +1.0**
comp=Z,6.8nm,1.0s,mb4.9,baz=214,slow=2.6,SNR=14
KEST LR LR 14 23 16.6
comp=Z,141nm,18.0s,baz=240,slow=37
LBL Lubilhac 92.92 42 *e*P P **13 38 36.3 +0.5**
PYM Petit Puy Mans 93.01 42 *e*P P **13 38 36.8 +0.5**
HLM1 Long Mynd 93.08 34 *e*P P **13 38 35.5 -1.1**
AGO Saint Agoulin 93.23 41 *e*P P **13 38 37.5 +0.2**
BGF Bois d'Agland 93.30 41⇑*i*P P **13 38 37.3 -0.3**
comp=Z,120nm,1.2s,mb5.8
BGF Bois d'Agland 93.30 41⇑*i*P P **13 38 37.3 -0.3**
BGF pmax pmax
comp=Z,60nm,1.2s,mb5.8
BGF Bois d'Agland 93.30 41⇑*i*P P **13 38 37.3 -0.3**
comp=Z,60nm,1.2s,mb5.8
PLDF La Plantade 93.50 42 *e*P P **13 38 38.4 -0.1**
VIVF Saint-Julien-l 93.64 43⇑*i*P P **13 38 39.5 +0.4**
comp=Z,29nm,1.1s,mb5.2
VIVF Saint-Julien-l 93.64 43⇑*i*P P **13 38 39.5 +0.4**
VIVF pmax pmax
comp=Z,15nm,1.1s,mb5.2
VIVF Saint-Julien-l 93.64 43⇑*i*P P **13 38 39.5 +0.4**
comp=Z,14nm,1.1s,mb5.2
AVF Avril sur Loir 93.72 41⇑*i*P P **13 38 39.0 -0.5**
comp=Z,58nm,1.2s,mb5.5
AVF Avril sur Loir 93.72 41⇑*i*P P **13 38 39.0 -0.5**
AVF pmax pmax
comp=Z,29nm,1.2s,mb5.5

AVF Avril sur Loir 93.72 41⇑*i*P P **13 38 39.0 -0.5**
comp=Z,29nm,1.2s,mb5.5
SMRF Simiane la Rot 93.82 44⇑*i*P P **13 38 40.8 +0.8**
comp=Z,71nm,1.6s,mb5.5
SMRF Simiane la Rot 93.82 44⇑*i*P P **13 38 40.8 +0.8**
comp=Z,71nm,1.6s,mb5.8
SSF Saint Saulge 93.93 41⇑*i*P P **13 38 39.7 -0.8**
comp=Z,38nm,1.1s,mb5.3
SSF *e*pP pP 13 39 12.2 -0.9
SSF Saint Saulge 93.93 41⇑*i*P P **13 38 39.7 -0.8**
SSF *e**PP pP 13 39 12.2 -0.9
SSF pmax pmax
comp=Z,19nm,1.1s,mb5.3
SSF Saint Saulge 93.93 41⇑*i*P P **13 38 39.7 -0.8**
comp=Z,19nm,1.1s,mb5.3
SSF *e*pP pP 13 39 12.2 -0.9
SMF Signal de Mont 93.94 41⇑*i*P P **13 38 40.3 -0.2**
comp=Z,137nm,1.3s,mb5.8
SMF *e*pP pP 13 39 12.8 -0.3
SMF Signal de Mont 93.94 41⇑*i*P P **13 38 40.3 -0.2**
SMF *e**PP pP 13 39 12.8 -0.3
SMF pmax pmax
comp=Z,69nm,1.3s,mb5.8
SMF Signal de Mont 93.94 41⇑*i*P P **13 38 40.3 -0.2**
comp=Z,69nm,1.3s,mb5.8
SMF *e*pP pP 13 39 12.8 -0.3
PGBU Glenifferbraes 94.07 30 *e*P P **13 38 40.9 -0.2**
PGBU AMb AMB 13 38 42.5
comp=Z,69nm,1.9s,mb5.7
LMR La Mourre 94.14 45⇑*i*P P **13 38 41.8 +0.3**
comp=Z,114nm,1.3s,mb5.7
LMR *e*pP pP 13 39 14.4 +0.4
LMR La Mourre 94.14 45⇑*i*P P **13 38 41.8 +0.3**
LMR *e**PP pP 13 39 14.4 +0.4
LMR pmax pmax
comp=Z,57nm,1.3s,mb5.7
LMR La Mourre 94.14 45⇑*i*P P **13 38 41.8 +0.3**
comp=Z,57nm,1.3s,mb5.7
LMR *e*pP pP 13 39 14.4 +0.4
LOR Lormes 94.24 41⇑*i*P P **13 38 41.2 -0.7**
comp=Z,51nm,1.3s,mb5.4
LOR *e*R
comp=Z,235nm,17.8s
LOR Lormes 94.24 41⇑*i*P P **13 38 41.2 -0.7**
LOR pmax pmax
comp=Z,25nm,1.3s,mb5.4
LOR MLR MLR
comp=Z,240nm,17.8s
LOR Lormes 94.24 41⇑*i*P P **13 38 41.2 -0.7**
comp=Z,26nm,1.3s,mb5.4
LOR LR LR
comp=Z,240nm,17.8s
FRF La Foret Royal 94.33 45⇑*i*P P **13 38 42.7 +0.4**
comp=Z,176nm,1.7s,mb5.8
FRF La Foret Royal 94.33 45⇑*i*P P **13 38 42.7 +0.4**
FRF pmax pmax
comp=Z,88nm,1.7s,mb5.8
FRF La Foret Royal 94.33 45⇑*i*P P **13 38 42.7 +0.4**
comp=Z,88nm,1.7s,mb5.8
ORIF Oris-en-Rattie 94.44 43⇑*i*P P **13 38 43.5 +0.7**
comp=Z,98nm,1.6s,mb5.6
ORIF *e*R
comp=Z,403nm,19.5s
ORIF Oris-en-Rattie 94.44 43⇑*i*P P **13 38 43.5 +0.7**
ORIF pmax pmax
comp=Z,49nm,1.6s,mb5.6
ORIF Oris-en-Rattie 94.44 43⇑*i*P P **13 38 43.5 +0.7**
comp=Z,49nm,1.6s,mb5.6
URZ Urewera 94.55 226 LR LR 14 14 01.8
comp=Z,173nm,21.6s,baz=161,slow=31
DLBC Dease Lake 94.73 332 *e*P P **13 38 44.5 +0.3**
DLBC *e*pP pP 13 39 16.2 -0.5
MVIF Mont Vial 94.81 45 *e*P P **13 38 45.0 +0.5**
REVF Revere 94.88 45 *e*P P **13 38 45.3 +0.5**
MBDF Montbardon 94.92 44⇑*i*P P **13 38 45.6 +0.6**
comp=Z,44nm,1.4s,mb5.4
MBDF Montbardon 94.92 44⇑*i*P P **13 38 45.6 +0.6**
MBDF pmax pmax
comp=Z,22nm,1.4s,mb5.4
MBDF Montbardon 94.92 44⇑*i*P P **13 38 45.6 +0.6**
comp=Z,22nm,1.4s,mb5.4
TOUF Mont Tournerai 94.92 44 *e*P P **13 38 45.5 +0.5**
LUCF Luceram 94.93 45 *e*P P **13 38 45.7 +0.6**
SBF Sospel 94.98 45⇑*i*P P **13 38 45.7 +0.4**
comp=Z,146nm,1.4s,mb5.9
SBF Sospel 94.98 45⇑*i*P P **13 38 45.7 +0.4**
SBF pmax pmax
comp=Z,73nm,1.4s,mb5.9
SBF Sospel 94.98 45⇑*i*P P **13 38 45.7 +0.4**
comp=Z,73nm,1.4s,mb5.9
SAOF Saorge 95.11 45 *e*P P **13 38 45.7 -0.2**
LPL La Plagne 95.24 43⇑*i*P P **13 38 47.3 +0.8**
comp=Z,39nm,1.2s,mb5.4
LPL La Plagne 95.24 43⇑*i*P P **13 38 47.3 +0.8**
LPL pmax pmax
comp=Z,20nm,1.2s,mb5.4
LPL La Plagne 95.24 43⇑*i*P P **13 38 47.3 +0.8**
comp=Z,20nm,1.2s,mb5.4
LPG La Plagne 95.24 43⇑*i*P P **13 38 47.6 +1.1**
comp=Z,44nm,1.2s,mb5.5
LPG La Plagne 95.24 43⇑*i*P P **13 38 47.6 +1.1**
LPG pmax pmax
comp=Z,22nm,1.2s,mb5.5
LPG La Plagne 95.24 43⇑*i*P P **13 38 47.6 +1.1**
comp=Z,22nm,1.2s,mb5.5
RPZ Rata Peaks 95.26 219 LR LR 14 13 43.4
comp=Z,106nm,19.1s,baz=141,slow=30
CABF La Chapelle 95.31 42 *e*P P **13 38 46.8 0.0**
PGF Pioggiola 95.47 46 *e*P P **13 38 48.0 +0.5**
PGF *e*pP pP 13 39 20.6 +0.5
MEZF Maizieres J'vi 95.52 40 *e*P P **13 38 47.2 -0.5**
BAIF Baives 95.73 38 *e*P P **13 38 48.2 -0.5**
THEF They Montfort 95.96 40 *e*P P **13 38 48.8 -0.9**
DOU Dourbes 95.97 38 P P **13 38 48.7 -1.1**
SNF Seneffe 95.98 38 P P **13 38 49.6 -0.2**
HAU Haudompre 96.08 41 *e*P P **13 38 49.7 -0.6**
HAU *e*R
comp=Z,211nm,18.0s
HAU Haudompre 96.08 41 *e*P P **13 38 49.7 -0.6**
HAU LR LR
comp=Z,210nm,18.0s
LOMF Lomont 96.09 41 *e*P P **13 38 49.8 -0.5**
GIVF Givet 96.10 38 *e*P P **13 38 49.9 -0.5**
SUMG Summit 96.18 9 *e*P P **13 38 52.5 +1.8**
HINF Hinteralfeld 96.30 41 *e*P P **13 38 50.7 -0.6**
MOF Molkenrain 96.49 41 *e*P P **13 38 51.2 -0.9**
BCLA Clavier 96.52 38 P P **13 38 52.1 -0.2**
ECH Echery 96.66 41 *e*P P **13 38 52.1 -0.8**
WLF Walferdange 96.68 39 P P **13 38 53.0 0.0**
CDF Champ du Feu 96.81 40 *e*P P **13 38 53.2 -0.4**
comp=Z,38nm,1.3s,mb5.4
CDF Champ du Feu 96.81 40 *e*P P **13 38 53.2 -0.4**
CDF pmax pmax
comp=Z,19nm,1.3s,mb5.4
CDF Champ du Feu 96.81 40 *e*P P **13 38 53.2 -0.4**
comp=Z,19nm,1.3s,mb5.4
WLS Welschbruch 96.86 41 *e*P P **13 38 53.3 -0.5**
MEM Membach 97.01 38 P P **13 38 54.3 -0.2**
FELD Feldberg im Sc 97.03 41 *e*P P **13 38 53.8 -0.8**
AFI Afiamalu 97.16 252 LR LR 14 13 51.7
comp=Z,196nm,19.0s,baz=105,slow=30
RUP Ruppelstein 97.23 39 *e*P P **13 38 55.4 -0.1**
KIP Kipapa 97.55 290 PFAKE 13 39 10.0 +13
KIP LR LR
comp=Z,32μm,21.0s
GRA1 Grafenberg Arr 99.70 40 *e*Pdif Pdif 13 39 06.7 +0.1
GRA1 *e*Sdif Sdif 13 50 36.6 +7.5
GRA1 *e*SS SS 13 57 28.0 +4.8
GRF Grafenberg Arr 99.70 40 *e*Pdiff Pdif 13 39 06.7 +0.1
GRF *e*Sdiff Sdif 13 50 36.6 +7.5
GRF *e*SS SS 13 57 28.0 +4.8
ROBS Robic 99.87 44 *e*Pdiff Pdif 13 39 07.4 +0.1
CADS Cadrg 100.01 44 *e*Pdiff Pdif 13 39 08.0 +0.1
GERES GERESS Array B 100.91 42 P Pdif 13 39 11.2 -0.8
comp=Z,1.6nm,0.9s,baz=264,slow=1.3,SNR=9.9
GERES PP PP 13 43 22.2 +0.8
comp=Z,2.5nm,0.9s,baz=214,slow=6.6,SNR=6.1
PERS Pernice 101.05 44 *e*Pdiff Pdif 13 39 12.7 +0.1
GCIS Gornji Cirnik 101.13 45 *i* Pdiff Pdif 13 39 14.1 +1.2
GCIS *e*PP PP 13 43 10.8 -12
GCIS *e* 13 43 21.8
CLL Collm 101.35 39⇑*i*P Pdif 13 39 13.7 -0.2
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 101.35 39⇑*i*Pdif Pdif 13 39 13.7 -0.2

comp=Z,15nm,1.5s
CLL *e*PP PP 13 43 25.0 +0.3
CLL LmV 14 20 00.0
comp=Z,200nm,20.8s
BRG Berggiesshubel 101.76 40 *e*P PP 13 43 24.5 -3.3
comp=Z,11nm,1.4s
BRG
comp=N,308nm,6.1s
BRG
comp=E,283nm,6.3s
BRG
comp=Z,314nm,8.0s
NB2 NORSAR Subarra103.77 30 P PKiKP 13 43 39.6 -2.4
comp=Z,2.0nm,0.8s,baz=247,slow=7.9
NOA NORSAR Array B103.77 30 PP PP 13 43 42.4 -0.4
comp=Z,10nm,1.1s,baz=246,slow=7.6,SNR=3.4
KMBO Kilima Mbogo 103.88 97 PFAKE 13 39 40.0 +15
KMBO LR LR
comp=Z,348nm,20.0s
FINES FINESS Array B 110.84 31 PP PP 13 44 33.3 -1.2
comp=Z,6.3nm,1.1s,baz=243,slow=8.4,SNR=4.1
AKASG Malin Array Be 111.10 43 PKiKP PKiKP 13 43 54.4 -1.3
AKASG PP PP 13 44 27.1 -9.2
comp=Z,1.0nm,0.7s,baz=259,slow=4.8,SNR=6.9
ANTO Ankara 111.77 54 PFAKE 13 44 10.0 +13
ANTO LR LR
comp=Z,288nm,22.0s
BRTR Keskin Array B 112.39 55 PKiKP PKiKP 13 43 58.2 +0.1
comp=Z,1.8nm,0.8s,baz=207,slow=2.5,SNR=4.9
BRTR PP PP 13 44 41.9 -3.6
comp=Z,9.6nm,1.1s,baz=225,slow=5.1,SNR=9.2
OBN Obninsk 115.92 38 ⇑*i*PKIKP PKPdf 13 44 03.3 -1.6
OBN *e* 13 47 35.2
OBN *e* 13 51 03.2
OBN pmax pmax
comp=Z,17nm,1.1s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 115.92 38 *e*PKP PKPdf 13 44 03.4 -1.5
SOC Sochi 117.40 51 *e* SKSac 13 50 46.5 -2.2
SOC *e*PS PS 13 54 51.3 -15
SOC *e*SS SS 14 01 23.2 +1.9
MSEY Mahe Island 118.92 109 PFAKE 13 44 20.0 +9.4
MSEY LR LR
comp=Z,63nm,20.0s
KIV Kislovodsk 119.57 51 *i* PKIKP PKPdf 13 44 03.4 -8.5
KIV pmax pmax
comp=Z,17nm,1.2s
KIV Kislovodsk 119.57 51 PFAKE 13 44 20.0 +8.1
KIV LR LR
comp=Z,29nm,21.0s
BILL Bilibino 122.99 339 ⇑*i*PKIKP PKPdf 13 44 12.6 -5.8
BILL *e* 13 45 55.2
BILL *e* 13 51 19.8
BILL pmax pmax
comp=Z,15nm,1.5s
CTA Charters Tower 126.54 221 *e*PKP PKPdf 13 44 25.4 +0.2
comp=Z,2.9nm,0.9s
CTA Charters Tower 126.54 221 PKP PKPdf 13 44 25.6 +0.3
comp=Z,3.5nm,0.9s,baz=258,slow=4.8,SNR=4.2
CTAO Charters Tower 126.54 221 PFAKE 13 44 40.0 +15
CTAO LR LR
comp=Z,199nm,20.0s
ARU Arti 127.94 34 *i* PKIKP PKPdf 13 44 27.7 -0.2
ARU *e* 13 45 01.8
ARU *e* 13 46 32.8
ARU *e* 13 51 22.7
ARU *e*SS SS 14 03 38.4 +3.5
TIXI Tiksi 129.10 353 *i* PKIKP PKPdf 13 44 28.4 -1.7
TIXI *e* 13 45 00.4
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 129.10 353 *e*PKP PKPdf 13 44 28.7 -1.4
ASAR Alice Springs 130.03 207 PKP PKPdf 13 44 31.5 -0.4
comp=Z,6.9nm,0.8s,baz=129,slow=2.0,SNR=55
ASAR pPKP pPKPdf 13 45 04.8 -1.1
comp=Z,8.0nm,1.0s,baz=150,slow=2.2,SNR=5.4
AS31 Alice Springs 130.03 207 *e*PKP PKPdf 13 44 31.6 -0.3
ASPA Alice Springs 130.03 207 *e*PKP PKPdf 13 44 31.6 -0.3
SEY Seymchan 130.58 337 *e*PKIKP PKPdf 13 44 32.3 -0.6
PET Petropavlovsk 132.66 323 *e*PKIKP PKPdf 13 44 36.1 -0.8
PET *e* 13 45 06.5
WB2 Warramunga Arr 133.10 210 *e*PKP PKPdf 13 44 37.5 -0.2
WB2 *e*SKP 13 47 54.9
WRA Warramunga Arr 133.11 210 PKP PKPdf 13 44 37.9 +0.1
comp=Z,6.0nm,0.6s,baz=158,slow=1.7,SNR=79
WRA pPKP pPKPdf 13 45 10.4 -1.3
comp=Z,9.4nm,1.1s,baz=155,slow=1.9,SNR=4.5
WRA SKPab 13 47 54.9
comp=Z,7.5nm,1.0s,baz=149,slow=3.1,SNR=13
WRA Warramunga Arr 133.11 210 PKIKP PKPdf 13 44 37.9 +0.2
WRA 13 45 10.4
WRAB Tennant Creek 133.11 210 *i* PKIKP PKPdf 13 44 38.3 +0.6
WRAB Tennant Creek 133.11 210 *e*PKPdf PKPdf 13 44 37.9 +0.2
PMG Port Moresby 133.54 232 SKPbc SKPbc 13 47 54.1 -1.3
comp=Z,9.0nm,1.0s,baz=14,slow=14,SNR=2.3
ZRNK Zerenda 134.88 35 *e*PKIKP PKPdf 13 44 41.6 +0.6
ZRNK *e* 13 45 17.2
CHKZ Chkalovo 135.39 34 *e*PKIKP PKPdf 13 44 42.4 +0.4
CHKZ *e* 13 45 16.7
YAK Yakutsk 137.89 348 *e*PKIKP PKPdf 13 44 45.4 -1.2
FITZ Fitzroy Crossi 138.18 200 *e*PKP 13 44 37.0
comp=Z,3.6nm,0.8s
FITZ *e*PKIKP PKPdf 13 44 47.8 +0.7
NVS Novosibirsk 140.57 26 *e*PKIKP 13 44 46.1
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,30nm,1.4s
ZAL Zalesovo 141.86 26 PKhKP 13 44 48.4
comp=Z,3.7nm,0.8s,baz=156,slow=3.8,SNR=20
ZAL PKP PKPdf 13 44 53.9 +0.1
comp=Z,9.1nm,0.8s,baz=197,slow=2.7,SNR=29
ZAL pPKP pPKPdf 13 45 27.5 -0.3
comp=Z,9.9nm,0.9s,baz=201,slow=3.7,SNR=5.5
ZAL SKPbc SKPbc 13 48 19.9 +0.3
comp=Z,6.0nm,1.0s,baz=167,slow=2.6,SNR=4.7
ZAL Zalesovo 141.86 26 PKHKP 13 44 48.4
ZAL 13 44 53.9
ZAL 13 45 27.5
ZAL Zalesovo 141.86 26 PKP 13 44 48.4
ZAL PKP PKPdf 13 44 53.9 +0.1
ZAL pPKP pPKPdf 13 45 27.5 -0.3
ZAL SKPbc SKPbc 13 48 19.9 +0.3
USP Ospenovka 142.31 46 P PKPdf 13 44 58.8 +4.2
SNR=7.0
AAK Ala-Archa 142.55 47 P PKPdf 13 44 52.5 -2.6
SNR=13
AAK Ala-Archa 142.55 47 *e*PKP PKPdf 13 44 51.4 -3.6
AAK LR LR
comp=Z,37nm,19.0s
FRU Bishkek 142.56 47 *e*PKHKP 13 44 50.8
FRU *e* 13 48 02.0
UCH Uchtor 142.71 48 P PKPdf 13 44 53.7 -1.6
SNR=17
KBK Karagaybulak 142.85 47 P PKPdf 13 44 53.3 -2.3
SNR=12
TKM2 Tokmak 2 143.19 46 P PKPdf 13 44 54.5 -1.7
SNR=8.7
CLNS Chul'man 143.64 348 *e*PKHKP 13 44 51.0
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
ULHL Ulahol 143.89 47 P PKPdf 13 44 57.6 +0.2
SNR=6.7
BOD Bodaibo 143.92 358 *e*PKIKP PKPdf 13 44 53.9 -3.6
BOD *e* 13 45 27.2
BOD pmax pmax
comp=Z,35nm,1.4s
TRD Trivandrum 143.95 106 *e*P PKPdf 13 44 57.4 -0.1
POO Poona 144.24 88 ⇑*i*P PKPdf 13 44 56.0 -2.0
comp=Z,80nm,1.0s
POO *ex* x 13 45 28.5
YSS Yuzh-Sakhalins 144.55 323 *e*PKIKP PKPdf 13 44 56.3 -2.3
YSS *e* 13 45 30.0
YSS Yuzh-Sakhalins 144.55 323 *e*PKP PKPdf 13 44 55.4 -3.2
KSH Kashi 144.70 52 *i* PKP PKPdf 13 44 59.1 +0.3
KSH PP PP
comp=Z,967nm,3.5s
KSH LR LR
comp=N,3μm,6.3s
KSH LR LR
MK31 Makanchi Array 145.40 37 *e*PKPdf PKPdf 13 45 00.3 +0.3
MK31 *ep*PKPdf pPKPdf 13 45 35.5 +1.4
MKAR Makanchi Array 145.40 37 PKPbc PKPbc 13 45 00.3 +0.1
comp=E,46nm,0.8s,baz=320,slow=4.5,SNR=181
MKAR pPKPbc pPKPbc 13 45 34.0 +0.4
comp=E,40nm,0.9s,baz=318,slow=2.3,SNR=6.8
MKAR PP PP 13 48 22.8 +1.8
comp=E,1.4nm,0.9s,baz=283,slow=7.2,SNR=1.9
AJM Ajmer 145.80 75 *e*P PKPdf 13 45 00.3 -0.4
THN Thein Dam 146.26 64 *e*P PKPdf 13 45 02.0 +0.5
PALK Pallekele 146.70 111 *e*PKPbc PKPbc 13 45 05.1 +1.0
PALK LR LR
comp=Z,48nm,19.0s
GUMO Guam 147.56 261 PKPbc PKPbc 13 45 05.7 -0.7
NDI New Delhi 148.00 70 *e*P PKPdf 13 45 04.5 +0.1
BHPL Bhopal 148.21 81 *e*P PKPdf 13 45 03.6 -1.1
KLR Kul'dur 148.32 335 *e*PKIKP PKPdf 13 45 04.2 -0.7
KLR *e* 13 45 36.8
HYB Hyderabad 148.38 92 *i* PKP PKPdf 13 45 06.0 +1.0
HYB *es*PKP 13 46 29.0
HYB *es*KP 13 48 08.0
HYB Hyderabad 148.38 92 *e*P PKPdf 13 45 06.0 +1.0
MDRS Chennai 148.70 101 *ex* x 13 45 10.2
MOY Mondy 148.95 13 *e*PKP2 PKPbc 13 45 10.8 +0.7
MOY pmax pmax
comp=Z,67nm,1.9s
IRK Irkutsk 148.98 9 *e*PKP2 PKPbc 13 45 09.5 -0.7
IRK pmax pmax
comp=Z,66nm,0.7s
TLY Talaya 149.43 10 *e*PKHKP 13 45 06.0
TLY *e*PPS 14 01 24.8
TLY *e*SS SS 14 07 44.0 -3.8
TLY pmax pmax
comp=Z,31nm,1.1s
TLY Talaya 149.43 10 *e*PKPbc PKPbc 13 45 11.4 +0.1
TLY *e*PKPab PKPab 13 45 17.5 +1.1
TLY LR LR
comp=Z,37nm,19.0s
CIT Chita 149.73 358 *e*PKP2 PKPbc 13 45 12.3 +0.3
WMQ Urumqi 150.24 37 ⇑PKP PKPdf 13 45 08.1 +0.1
WMQ PKP2 PKPab 13 45 22.8 +3.0
WMQ APKP 13 45 41.6
WMQ XPKP 13 45 56.3
WMQ PP PP 13 48 53.2 +4.0
WMQ PP PP
comp=Z,183nm,7.5s
WMQ LR LR
comp=N,132nm,31.4s
WMQ LR LR
comp=E,144nm,33.0s
WMQ LR LR
comp=Z,110nm,22.5s
JBP Jabalpur 150.55 81 ⇑*i*P PKPdf 13 45 10.6 +2.1
JBP *i* x x 13 45 47.5
LGTI Lohaghat 150.55 68 *ex* x 13 45 14.5
ZAK Zakamensk 150.62 11 *e*PKIKP PKPdf 13 45 09.0 +0.4
ZAK *e* 13 45 48.1
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ZAK pmax pmax
comp=Z,18nm,1.2s
MJAR Matsushiro Arr 152.76 309 PKPbc PKPbc 13 45 18.6 -0.4
comp=Z,14nm,1.2s,baz=30,slow=1.5,SNR=8.4
MJAR PKPab PKPab 13 45 28.2 -2.1
comp=Z,22nm,1.1s,baz=70,slow=2.7,SNR=14
MJAR pPKPbc pPKPbc 13 45 51.8 -1.1
comp=Z,26nm,1.0s,baz=59,slow=1.8,SNR=9.8
MAJO Matsushiro 152.76 309 *e*PKPdf PKPdf 13 45 12.9 +1.1
MAJO *e*PKPbc PKPbc 13 45 19.8 +0.8
MAJO *e*PKPab PKPab 13 45 29.3 -1.0
MAT Matsushiro 152.76 309 PKP PKPbc 13 45 18.2 -0.8
MDJ Mudanjiang 152.88 331 PKP PKPdf 13 45 11.8 -0.2
MDJ XPKP 13 45 52.8
MDJ PP PP 13 49 04.4 +0.1
MDJ SS SS 14 08 27.6 +1.7
MDJ PP PP
comp=Z,183nm,6.0s
MDJ LR LR
comp=Z,119nm,35.7s
VIS Vishakhapatnam 152.88 93 *e*P PKPdf 13 45 12.0 0.0
SONM Songino Array 153.59 8 PKP PKPdf 13 45 13.7 +0.7
comp=Z,2.3nm,0.5s,baz=151,slow=6.4,SNR=3.3
SONM pPKP pPKPdf 13 45 45.3 -1.8
comp=Z,8.2nm,0.9s,baz=329,slow=1.7,SNR=3.9
KOLN Kolodanda 153.69 71 *e*P PKPdf 13 45 13.4 +0.3
comp=Z,59nm,1.1s
GKN Gorkha 154.57 70 *e*P PKPdf 13 45 14.8 +0.4
DMN Daman 155.03 71 *e*P PKPdf 13 45 14.5 -0.5
comp=Z,110nm,1.0s
KKN Kakani 155.16 71 *e*P PKPdf 13 45 15.7 +0.5
comp=Z,95nm,1.0s
CN2 Changchun 155.26 336 *e*PKP PKPdf 13 45 16.8 +1.5
CN2 PKS 13 48 48.8
PKI Pulchoki 155.31 71 *e*P PKPdf 13 45 14.8 -0.6
comp=Z,120nm,1.2s
GUN Gumba 155.67 70 *e*P PKPdf 13 45 16.4 +0.5
comp=Z,105nm,1.1s
BOK Bokaro 155.99 80 *e*P PKPdf 13 45 16.7 +0.4
KSRS Korea Array 159.05 322 PKP PKPdf 13 45 20.8 +0.7
comp=Z,2.8nm,0.9s,baz=9.8,slow=1.0,SNR=8.0
KSRS pPKP pPKPdf 13 45 53.2 -1.1
comp=Z,15nm,1.0s,baz=56,slow=1.4,SNR=12
KSRS pPKPab pPKPab 13 46 28.5 -1.6
comp=Z,7.2nm,1.0s,baz=60,slow=3.8,SNR=3.3
GTA Gaotai 159.59 28 PKP PKPdf 13 45 21.8 +1.1
GTA XPKP 13 46 06.2
GTA PKS 13 48 54.0
GTA SKS SKSdf 13 52 10.7 -3.7
GTA PP PP
comp=Z,130nm,6.5s
GTA LR LR
comp=N,192nm,18.0s
GTA LR LR
comp=E,157nm,16.4s
GTA LR LR
comp=Z,193nm,18.3s
HHC Hu-ho-hao-te 160.94 1 *e*PKP PKPdf 13 45 20.0 -2.2
HHC PKS 13 48 52.8
HHC SKS SKSdf 13 52 13.3 -2.3
HHC LR LR
comp=N,175nm,19.1s
HHC LR LR
comp=E,206nm,17.7s
HHC LR LR
comp=Z,269nm,23.1s
BJI Beijing 161.38 350 PKP PKPdf 13 45 34.1 +11
BJI SS SS 14 09 44.6 -12
BJI LR LR
comp=Z,160nm,38.7s
LZH Lanzhou 164.08 24 *e*PKP PKPdf 13 45 27.5 +2.2
LZH APKP 13 46 01.0
LZH XPKP 13 46 12.5
LZH LR LR
comp=N,126nm,19.3s
LZH LR LR
comp=Z,254nm,20.1s
XAN Xi'an 167.47 11 PKP PKPdf 13 45 28.6 +0.5
CHTO Chiang Mai 167.55 101 PFAKE 13 45 40.0 +12
CHTO LR LR
comp=Z,152nm,20.0s
NJ2 Nanjing 167.97 330 *e*PKP PKPdf 13 45 31.4 +3.0
NJ2 APKP 13 45 55.8
NJ2 PKP2 PKPab 13 46 40.9 +4.4
NJ2 PKS 13 49 02.5
NJ2 PP PP 13 50 31.5 +6.1
NJ2 PP PP
comp=Z,1μm,8.2s
NJ2 LR LR
comp=N,4μm,25.4s
NJ2 LR LR
comp=E,4μm,27.4s
NJ2 LR LR
comp=Z,5μm,23.6s
CD2 Chengdu 168.34 37 *e*PKP PKPdf 13 45 25.8 -2.9
CD2 APKP 13 46 00.7
CD2 XPKP 13 46 14.5
CD2 PKP2 PKPab 13 46 37.8 -0.3
CD2 PP PP 13 50 27.8 +0.6
CD2 SKS SKSdf 13 52 14.8 -5.9
CD2 SKKS SKKSac 13 56 59.3 -3.1
CD2 SS SS 14 11 05.4 -2.3
CD2 PP PP
comp=Z,220nm,10.8s
CD2 LR LR
comp=N,300nm,18.0s
CD2 LR LR
comp=E,340nm,21.6s
CD2 LR LR
comp=Z,230nm,19.2s
KMI Kunming 170.99 66 PKP PKPdf 13 45 30.0 -0.2
KMI APKP 13 46 04.6
KMI XPKP 13 46 17.1
KMI PKP2 PKPab 13 46 52.1 +2.2
KMI PKS 13 49 00.8
KMI PP PP 13 50 42.0 +1.5
KMI SKS SKSdf 13 52 18.8 -3.1
KMI PPP 13 54 50.5
KMI SKKS SKKSac 13 57 14.1 -1.2
KMI SS SS 14 11 34.3 +0.3
KMI PP PP
comp=Z,173nm,5.7s
KMI LR LR
comp=N,162nm,10.4s
KMI LR LR
comp=E,158nm,11.5s
KMI LR LR
comp=Z,217nm,20.6s
GYA Guiyang 173.32 44 PKP PKPdf 13 45 31.4 +0.1
GYA APKP 13 46 05.2
GYA XPKP 13 46 18.1
GYA PKP2 PKPab 13 47 02.0 +1.7
GYA PKS 13 49 01.7
GYA PP PP 13 50 54.6 +2.5
GYA SKS SKSdf 13 52 19.6 -3.1
GYA SKKS SKKSac 13 57 26.9 +0.3
GYA SS SS 14 11 56.2 -0.6
GYA PP PP
comp=Z,180nm,8.9s
GYA LR LR
comp=N,1μm,21.9s
GYA LR LR
comp=E,2μm,22.4s
GYA LR LR
comp=Z,1μm,21.8s
QIZ Qiongzhong 176.73 145 *e*PKP PKPdf 13 45 31.1 -1.2
QIZ PP PP 13 51 11.0 +2.6

IDC ***07*** *13:41:43.2±1.7, 1672S×17489W, h314km±45km, mb3.7/4, mb1 3.7/6, mb1mx3.4/17, mbtmp3.6/6, Error ellipse: s-maj=45.2km s-min=34.1km az=67.0*
NEIC 07 13:41:44.0±1.2, 1676S×17495W, h318km±32km, Error ellipse: s-maj=35.5km s-min=31.9km az=224.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.17**	**48**	P	Pn	13 42 53.1	+0.2
	8.6nm,0.3s,baz=87,slow=12,SNR=25						
AFI				S	S	13 43 45.7	-2.7
	20nm,0.3s,baz=218,slow=23,SNR=16						
DZM	**Mont Dzumac**	**18.32**	**250**	P	P	13 45 36.4	+0.4
	0.1nm,0.3s,baz=126,slow=23,SNR=3.4						
URZ	**Urewera**	**22.52**	**197**	P	P	13 46 17.5	+0.1
	7.9nm,0.6s,baz=116,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**42.07**	**241**	P	P	13 49 04.9	-0.5
	1.7nm,0.4s,baz=82,slow=9.4,SNR=4.8						
WRA	**Warramunga Arr**	**48.10**	**258**	P	P	13 49 52.9	+0.5
	1.2nm,0.5s,baz=96,slow=7.1,SNR=33						
AS31	**Alice Springs**	**48.28**	**253**	*e*P	P	13 49 54.6	+0.8
ASAR	**Alice Springs**	**48.28**	**253**	P	P	13 49 54.5	+0.7
	9.6nm,0.5s,baz=88,slow=8.6,SNR=167						

ISCJB ***07*** *14:04:34.1±3.1, 70S×03×1578E±0.1, h173km±16km, mb4.0/5, Error ellipse: s-maj=53.6km s-min=13.1km az=26.0*
NEIC ***07*** *14:04:35.4±2.4, 703S×15767E, h152km±15km, mb4.0/4, Error ellipse: s-maj=47.0km s-min=16.1km az=199.0*
IDC ***07*** *14:04:36.1±5.1, 7.14S×15765E, h151km±25km, mb3.8/3, mb1 3.8/6, mb1mx3.5/16, mbtmp3.8/6, Error ellipse: s-maj=81.4km s-min=20.9km az=20.0*
ISC 07 14:04:35.6±3.1, 70S±03×1577E±01, h157km±14km, n15, σ0°73/17, mb4.0/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.28**	**138**	P	**Pn**	**14 05 26.6**	**-0.1**
	54nm,0.3s,baz=252,slow=2.4,SNR=40						
HNR				S	**Sn**	**14 06 05.4**	**-1.0**
	136nm,0.3s,baz=90,slow=23,SNR=18						
HNR	**Honiara**	**3.28**	**138**	*e*Pn	**Pn**	**14 05 26.4**	**-0.4**
HNR				*e*S	**Sn**	**14 06 08.2**	**+1.8**
PMG	**Port Moresby**	**10.71**	**256**	P	**Pn**	**14 07 04.6**	**-0.1**
	1.3nm,0.3s,baz=36,slow=9.8,SNR=9.0						
PMG				S	**Sn**	**14 09 03.7**	**+0.5**
	0.2nm,0.3s,baz=165,slow=13,SNR=2.2						
CTA	**Charters Tower**	**17.11**	**219**	*e*P	**Pn**	**14 08 24.0**	**-1.3**
	2.5nm,0.6s						
CTA	**Charters Tower**	**17.11**	**219**	P	**Pn**	**14 08 23.5**	**-1.8**
	0.5nm,0.3s,baz=54,slow=12,SNR=5.4						
CTAO	**Charters Tower**	**17.11**	**219**	*e*P	**Pn**	**14 08 23.9**	**-1.4**
	4.9nm,0.8s						
WRAB	**Tennant Creek**	**26.05**	**238**	*e*P	**P**	**14 09 54.4**	**+0.1**
	3.6nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**26.05**	**238**	*e*P	**P**	**14 09 54.7**	**+0.4**
WRA	**Warramunga Arr**	**26.06**	**238**	P	**P**	**14 09 54.7**	**+0.3**
	3.0nm,0.6s,mb4.1,baz=65,slow=9.4,SNR=30						
AS31	**Alice Springs**	**28.23**	**231**	*e*P	**P**	**14 10 13.1**	**-0.6**
ASAR	**Alice Springs**	**28.23**	**231**	P	**P**	**14 10 13.4**	**-0.3**
	1.6nm,0.8s,mb3.8,baz=62,slow=9.2,SNR=20						
ASPA	**Alice Springs**	**28.23**	**231**	*e*P	**P**	**14 10 13.5**	**-0.2**
STKA	**Stephens Creek**	**28.96**	**209**	P	**P**	**14 10 21.5**	**+1.3**
	1.4nm,0.4s,mb4.0,baz=29,slow=10,SNR=3.1						
FITZ	**Fitzroy Crossi**	**33.12**	**248**	*e*P	**P**	**14 10 56.6**	**-0.1**
	4.2nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**85.19**	**318**	pP	pP	14 17 26.5	-6.8
	0.4nm,0.6s,baz=91,slow=6.3,SNR=5.8						

ISCJB ***07*** *14:11:24.5±0.4, 1971N±006×7051W±004, h10km, mb4.1/15, MS4.1/11, Error ellipse: s-maj=8.4km s-min=5.4km az=37.6*
BJI ***07*** *14:11:24.2, 1970N×7040W, h10km, mB5.1, Ms4.8, Msz4.6*
SSNC ***07*** *14:11:25.0, 1931N×7028W, h50km, MD4.4, ML4.4*
IDC ***07*** *14:11:26.0±0.7, 1995N×7041W, h0km, mb3.7/8, mb1 4.1/9, mb1mx4.0/19, mbtmp3.8/9, ML4.4/2, MS3.7/9, Ms1 3.8/9, ms1mx3.5/34, Error ellipse: s-maj=23.6km s-min=15.7km az=26.0*
NEIC ***07*** *14:11:26.2±0.4, 1972N×7044W, h10km, mb4.5/8, Error ellipse: s-maj=10.9km s-min=7.0km az=49.0*
NEIC Felt [IV] at Sosua and [III] at Puerto Plata and Santiago. Felt at Santo Domingo and Villa Bisono.
ISC 07 14:11:27.0±2.7, 1974N±006×7057W±004, h11km±19km, n54, σ1831/51, mb4.1/15, MS4.1/11, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**3.47**	**278**	*e*P	**Pn**	**14 12 20.9**	**0.0**
MASC				*e*S	**Sn**	**14 13 03.1**	**+1.1**
	comp=N,840nm,0.1s						
MASC				*e*			
	comp=E,224nm,0.1s						
MOAC	**Moa**	**4.22**	**283**	*e*P	**Pn**	**14 12 31.4**	**+0.1**
MOAC				*e*S	**Sn**	**14 13 19.8**	**-0.7**
	comp=N,6.6nm,0.8s						
MOAC				*e*			
	comp=E,10.0nm,0.5s						
CPD	**Cerro la Pandu**	**4.72**	**110**	*e*Pn	**Pn**	**14 12 33.9**	**-4.2**
CPD				*e*		14 12 44.4	
RCC	**Rio Carpintero**	**4.83**	**274**	*e*P	**Pn**	**14 12 37.9**	**-1.7**
RCC				*e*S	**Sn**	**14 13 32.8**	**-2.7**
	comp=N,21μm,0.7s						
RCC				*e*			
	comp=E,20μm,0.7s						
MTP	**Monte Pirata**	**5.02**	**108**	*e*Pn	**Pn**	**14 12 40.8**	**-1.4**
MTP				*e*		14 12 48.6	
LMGC	**Las Mercedes**	**6.06**	**274**	*e*P	**Pn**	**14 12 57.1**	**+0.6**
LMGC				*e*S	**Sn**	**14 14 04.2**	**-1.7**
	comp=N,142nm,0.3s						
LMGC				*e*			
	comp=E,222nm,0.9s						

SDV	**Santo Domingo**	**10.79**	**180**	Pn		**Pn**	**14 14 02.3**	**+1.0**
	comp=E,3.7nm,0.3s,baz=2.7,slow=5.7,SNR=23							
SDV				Sn		**Sn**	**14 15 54.5**	**-7.5**
	comp=E,1.4nm,0.3s,baz=317,slow=23,SNR=9.6							
SDV				LR		LR	14 18 17.5	
	comp=E,350nm,20.2s,baz=11,slow=37							
SDV	**Santo Domingo**	**10.79**	**180**	*e*Pn		**Pn**	**14 13 58.9**	**-2.5**
	comp=E,26nm,0.6s							
SDV				Sn		**Sn**	**14 15 54.5**	**-7.5**
SDV				LR		LR	14 18 17.5	
PCRV	**Puerto La Cruz**	**11.10**	**148**	Pn		**Pn**	**14 14 05.9**	**+0.3**
	comp=E,4.5nm,0.3s,baz=318,slow=4.3,SNR=38							
PCRV				Sn		**Sn**	**14 16 01.6**	**-8.0**
	comp=E,1.5nm,0.3s,baz=40,slow=9.5,SNR=2.5							
PCRV				LR		LR	14 18 15.9	
	comp=E,252nm,19.1s,baz=149,slow=36							
BBSR	**BB Station**	**13.64**	**22**	Pn		**Pn**	**14 14 40.0**	**-0.4**
BBSR				Sn		**Sn**	**14 16 58.4**	**-13**
ROSC	**El Rosal**	**15.23**	**194**	Pn		**Pn**	**14 15 02.5**	**+0.5**
	comp=E,1.8nm,0.3s,baz=99,slow=22,SNR=1.8							
TEIG	**Tepich**	**16.65**	**275**	P		**Pn**	**14 15 23.6**	**+3.3**
JSC	**Jenkinsville**	**17.32**	**329**	*e*P		**Pn**	**14 15 27.2**	**-1.5**
TKL	**Tuckaleechee C**	**19.67**	**326**	P		**Pn**	**14 15 57.0**	**-0.4**
	comp=E,0.7nm,0.3s,baz=158,slow=15,SNR=4.8							
TKL				S		**Sn**	**14 19 20.6**	**-18**
	comp=E,0.8nm,0.3s,baz=63,slow=13,SNR=3.7							
TKL	**Tuckaleechee C**	**19.67**	**326**	P		**Pn**	**14 15 57.0**	**-0.4**
TKL				S		**Sn**	**14 19 20.6**	**-18**
FWV	**Forest Hill**	**19.90**	**335**	*e*P		**Pn**	**14 15 59.6**	**-0.5**
TZTN	**Tazewell**	**20.25**	**328**	*e*P		**P**	**14 16 02.8**	**+0.6**
	comp=E,26nm,1.0s							
MVL	**Millersville**	**20.80**	**347**	P		**P**	**14 16 15.3**	**+7.2**
HRV	**Harvard--Oak R**	**22.72**	**358**	P		**P**	**14 16 36.4**	**+7.7**
	comp=E,28nm,0.8s,mb4.7							
CMIG	**Matias Romero**	**23.21**	**267**	P		**P**	**14 16 35.9**	**+1.9**
	comp=E,2.1nm,0.7s,mb3.7,baz=69,slow=5.6,SNR=2.6							
CMIG	**Matias Romero**	**23.21**	**267**	P		**P**	**14 16 35.9**	**+1.9**
SIUC	**Southern Illin**	**24.18**	**322**	*e*P		**P**	**14 16 44.4**	**+1.2**
	comp=E,16nm,0.7s,mb4.6							
NCB	**Newcomb**	**24.36**	**354**	P		**P**	**14 16 46.0**	**+1.1**
CCM	**Cathedral Cave**	**25.61**	**320**	*e*P		**P**	**14 16 53.7**	**-2.6**
	comp=E,4.6nm,0.9s,mb4.0							
ATAH	**Atahualpa**	**27.66**	**197**	LR		LR	14 29 14.6	
	comp=E,88nm,20.5s,MS3.3,baz=201,slow=38							
WMOK	**Wichita Mounta**	**29.07**	**307**	*e*P		**P**	**14 17 27.6**	**+0.3**
	comp=E,8.2nm,0.9s,mb4.5							
TXAR	**Lajitas Array**	**31.50**	**294**	P		**P**	**14 17 49.8**	**+1.0**
	comp=E,1.3nm,0.9s,mb3.8,baz=110,slow=12,SNR=5.1							
TXAR				PcP		PcP	14 20 44.5	+2.9
	comp=E,0.4nm,0.6s,baz=114,slow=4.0,SNR=3.5							
MNTX	**Cornudas Mount**	**33.41**	**298**	*e*P		**P**	**14 18 06.2**	**+0.7**
	comp=E,14nm,1.1s,mb4.8							
BNM	**Barren Site**	**35.00**	**302**	P		**P**	**14 18 16.6**	**-2.8**
LPM	**Los Pinos Moun**	**35.05**	**302**	P		**P**	**14 18 16.6**	**-3.1**
LENM	**Lemitar**	**35.28**	**302**	P		**P**	**14 18 23.4**	**+1.7**
LAZ	**Ladron**	**35.48**	**302**	*e*P		**P**	**14 18 15.6**	**-7.8**
LPAZ	**La Paz**	**35.88**	**176**	P		**P**	**14 18 31.1**	**+4.2**
	comp=E,0.9nm,0.6s,mb3.9,baz=335,slow=10,SNR=3.5							
WUAZ	**Wupatki**	**39.12**	**302**	*e*P		**P**	**14 18 55.8**	**+1.5**
	comp=E,7.1nm,1.0s,mb4.3							
TMUT	**Trail Mountain**	**39.97**	**308**	P		**P**	**14 19 02.6**	**+1.1**
PDAR	**Pinedale Array**	**39.98**	**314**	P		**P**	**14 19 02.3**	**+0.7**
	comp=E,0.4nm,0.5s,mb3.4,baz=137,slow=22,SNR=3.7							
PDAR				LR		LR	14 38 20.1	
	comp=E,187nm,20.7s,MS3.9,baz=243,slow=40							
DAU	**Daniels Canyon**	**40.34**	**310**	*e*P		**P**	**14 19 06.2**	**+1.6**
HWUT	**Hardware Ranch**	**40.95**	**311**	P		**P**	**14 19 08.9**	**-0.7**
	comp=E,6.6nm,1.0s,mb4.2							
FRB	**Frobisher Bay**	**44.00**	**1**	LR		LR	14 35 53.5	
	comp=E,143nm,20.8s,MS3.9,baz=338,slow=34							
NVAR	**Mina Array Bea**	**45.14**	**305**	P		**P**	**14 19 44.8**	**+1.3**
	comp=E,3.6nm,1.0s,mb4.2,baz=89,slow=4.2,SNR=12							
YKA	**Yellowknife A**	**52.29**	**336**	LR		LR	14 41 00.2	
	comp=E,93nm,19.9s,MS3.8,baz=180,slow=34							
MDT	**Midelt**	**59.72**	**63**	LR		LR	14 40 09.2	
	comp=E,95nm,19.1s,MS3.9,baz=318,slow=29							
ESDC	**Sonseca Array**	**59.86**	**55**	P		**P**	**14 21 33.0**	**+0.4**
	comp=E,0.2nm,0.3s,mb3.6,baz=280,slow=7.5,SNR=4.7							
ESDC				LR		LR	14 42 32.6	
	comp=E,62nm,18.8s,MS3.8,baz=90,slow=31							
NOA	**NORSAR Array B**	**68.98**	**31**	P		**P**	**14 22 30.9**	**-1.4**
	comp=E,1.7nm,0.9s,mb4.0,baz=270,slow=6.7,SNR=2.7							
TORD	**Torodi Ar. Bea**	**69.18**	**83**	P		**P**	**14 22 32.9**	**-0.7**
	comp=E,2.7nm,0.9s,mb4.2,baz=312,slow=5.9,SNR=13							
TORD				LR		LR	14 48 28.9	
	comp=E,68nm,18.1s,MS3.9,baz=330,slow=32							
MDJ	**Mudanjiang**	**113.36**	**344**	PDIF		Pdif	14 26 09.6	-2.0
MDJ				SS		SS	14 46 39.6	-1.6
MDJ				LR		LR		
	comp=N,107nm,33.3s,MS4.3							
MDJ				LR		LR		
	comp=E,76nm,33.3s,MS4.3							
MDJ				LR		LR		
	comp=Z,93nm,27.5s							
WMQ	**Urumqi**	**113.69**	**17**	PKP		PKiKP	14 30 01.7	-3.8
WMQ				PP		PP	14 30 59.8	+2.0
WMQ				PP		PP		
	comp=Z,15nm,5.6s							
WMQ				LR		LR		
	comp=N,129nm,27.0s,MS4.6							
WMQ				LR		LR		
	comp=E,139nm,25.2s,MS4.6							
WMQ				LR		LR		
	comp=Z,159nm,23.5s,MS4.5							
HHC	**Hu-ho-hao-te**	**119.70**	**358**	*e*PKP		PKPdf	14 30 13.1	-3.9
HHC				PP		PP	14 31 39.9	+0.1
HHC				PKS			14 33 48.6	
HHC				SKS		SKSdf	14 37 23.9	-5.1
HHC				SKKS		SKKSac	14 38 32.8	-7.1
HHC				SS		SS	14 48 03.1	-0.8
HHC				PP		PP		
	comp=Z,87nm,7.4s							
HHC				LR		LR		
	comp=N,154nm,19.8s,MS4.8							
HHC				LR		LR		
	comp=E,167nm,19.0s,MS4.8							
HHC				LR		LR		
	comp=Z,142nm,19.4s,MS4.6							
BJI	**Beijing**	**120.20**	**354**	PKP		PKPdf	14 30 13.7	-4.3
LZH	**Lanzhou**	**124.23**	**5**	*e*PKP		PKPdf	14 30 21.5	-4.2
LZH				XPKP			14 30 30.0	
LZH				LR		LR		
	comp=N,125nm,19.2s							
LZH				LR		LR		
	comp=Z,246nm,20.3s,MS4.9							
NJ2	**Nanjing**	**127.72**	**350**	*e*PKP		PKPdf	14 30 30.2	-2.2
CD2	**Chengdu**	**129.35**	**6**	*e*PKP		PKPdf	14 30 32.4	-3.1
KMI	**Kunming**	**134.94**	**9**	PKP		PKPdf	14 30 43.5	-2.6
STKA	**Stephens Creek**	**148.74**	**241**	PKPbc		PKPbc	14 31 14.9	+0.5
	comp=Z,4.7nm,0.9s,baz=117,slow=4.5,SNR=3.5							

IDC ***07*** *14:26:55.7±1.8, 1609S×17864W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, Error ellipse: s-maj=150.4km s-min=31.1km az=155.0*

ISCJB ***07*** *14:26:59.3±1.5, 165S±07×1785W±03, h35km, mb4.3/6, Error ellipse: s-maj=101.9km s-min=24.8km az=135.8*

ISC 07 14:27:01.1±1.5,167S±07×1784W±03,h35km,n9,σ0°51/9, mb4.3/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.22**	**240**	*e*P	**P**	**14 34 26.3**	**+0.4**
	1.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**39.22**	**240**	P	**P**	**14 34 26.6**	**+0.6**
	2.7nm,0.5s,mb4.3,baz=91,slow=10,SNR=12						
WB2	**Warramunga Arr**	**44.84**	**258**	*e*P	**P**	**14 35 11.7**	**-0.1**
WRA	**Warramunga Arr**	**44.85**	**258**	P	**P**	**14 35 11.5**	**-0.4**
	1.0nm,0.5s,mb3.9,baz=91,slow=6.9,SNR=25						
ASAR	**Alice Springs**	**45.12**	**253**	P	**P**	**14 35 13.9**	**-0.1**
	11nm,0.6s,mb4.9,baz=89,slow=7.8,SNR=258						
ASPA	**Alice Springs**	**45.12**	**253**	*e*P	**P**	**14 35 13.9**	**-0.1**
KAKA	**Kakadu**	**47.60**	**268**	*e*P	**P**	**14 35 34.5**	**+1.0**
	10nm,1.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.23**	**260**	*e*P	**P**	**14 36 15.2**	**-0.8**
	4.7nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**85.35**	**58**	P	**P**	**14 39 34.7**	**0.0**
	0.4nm,0.7s,mb3.7,baz=217,slow=6.1,SNR=4.3						

CSEM ***07*** *14:31:02.5, 3461N×2422E, h15km, MD3.7/4, After ATH*

ATH 07 14:31:02.5,3461N×2422E,h15km,MD3.6/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.25**	**334**	*e*PB	Pg	14 31 08.0	0.0
VAM	**Vamos**	**0.80**	**359**	*e*PN	Pn	14 31 18.0	-1.2
XRY	**Khrisi**	**1.24**	**77**	*e*PN	Pn	14 31 26.0	+0.7
KYTH	**Kithira**	**1.93**	**330**	*e*PN	Pn	14 31 37.0	+2.3

ISCJB ***07*** *14:41:22.8±0.5, 1072N×6241W±003, h82km±6km, Error ellipse: s-maj=6.0km s-min=4.1km az=135.3*

FUNV ***07*** *14:41:23.3, 1080N×6230W, h77km, MW3.4*

NEIC ***07*** *14:41:24.1, 1074N×6239W, h72km, MD3.2(TRN), After TRN.*

TRN ***07*** *14:41:24.1, 1074N×6239W, h72km, MD3.2*

ISC 07 14:41:23.8±0.6,1074N±003×6240W±003,h76km±7km,n25, σ0°80/42,1C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.19**	**118**	*e*P	**Pn**	**14 41 34.9**	**-0.3**
GUIV				*e*S	**Sn**	**14 41 42.8**	**-0.6**
TCE	**Chacachacare**	**0.64**	**94**	*e*P	**Pn**	**14 41 39.1**	**+0.6**
TCE				*e*S	**Sn**	**14 41 49.0**	**-0.3**
GUNV	**Guanoco**	**0.78**	**223**	*e*P	**Pn**	**14 41 41.1**	**+1.0**
GUNV				*e*S	**Sn**	**14 41 54.2**	**+2.0**
CRUV	**Carupano**	**0.83**	**266**	*e*P	**Pn**	**14 41 41.2**	**+0.6**
CRUV				*e*S	**Sn**	**14 41 53.0**	**0.0**
ITEV	**Isla Los Testi**	**0.95**	**310**	*e*P	**Pn**	**14 41 41.6**	**-0.3**
ITEV				*e*S	**Sn**	**14 41 54.4**	**-1.1**
TRN	**Trinidad (W)**	**0.98**	**95**	*i*P	**Pn**	**14 41 42.8**	**+0.3**
TRN				*e*S	**Sn**	**14 41 54.9**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.02**	**114**	*e*P	**Pn**	**14 41 42.9**	**0.0**
TPP				*e*S	**Sn**	**14 41 57.3**	**+0.2**
TBH	**Brigand Hill**	**1.33**	**101**	*i*P	**Pn**	**14 41 47.5**	**+0.6**
TBH				*e*S	**Sn**	**14 42 04.1**	**0.0**
GRW	**Mount Saint Ca**	**1.59**	**27**	*e*P	**Pn**	**14 41 51.1**	**+1.0**
GRW				*e*S	**Sn**	**14 42 11.7**	**+1.7**
GRW	**Mount Saint Ca**	**1.59**	**27**	*e*P	**Pn**	**14 41 51.1**	**+1.0**
GRW				*e*S	**Sn**	**14 42 11.7**	**+1.7**
GRHS	**Sauteurs**	**1.65**	**27**	*e*P	**Pn**	**14 41 50.7**	**-0.3**
GRHS				*e*S	**Sn**	**14 42 10.8**	**-0.8**
TPR	**Prospect**	**1.65**	**74**	*e*P	**Pn**	**14 41 51.5**	**+0.5**
TPR				*e*S	**Sn**	**14 42 11.1**	**-0.4**
GRIC	**Isle de Caille**	**1.73**	**27**	*e*P	**Pn**	**14 41 52.2**	**+0.1**
GRIC				*e*S	**Sn**	**14 42 14.1**	**+0.6**
GRSS	**Sisters**	**1.73**	**26**	*e*P	**Pn**	**14 41 52.1**	**+0.1**
GRSS				*e*S	**Sn**	**14 42 13.5**	**0.0**
GRSS	**Sisters**	**1.73**	**26**	*e*P	**Pn**	**14 41 52.1**	**+0.1**
GRSS				*e*S	**Sn**	**14 42 13.5**	**0.0**
GRCU	**Cariacou**	**1.96**	**28**	*e*P	**Pn**	**14 41 54.7**	**-0.4**
GRCU				*e*S	**Sn**	**14 42 18.6**	**-0.2**
PCRV	**Puerto La Cruz**	**2.27**	**256**	*e*P	**Pn**	**14 41 59.8**	**+0.5**
IBAV	**Isla La Blanqu**	**2.39**	**297**	*e*P	**Pn**	**14 42 01.4**	**+0.5**
IBAV				*e*S	**Sn**	**14 42 27.6**	**-1.7**
PRGV	**PARIAGUAN**	**2.96**	**229**	*e*P	**Pn**	**14 42 08.4**	**-0.1**
CUPV	**Cœpira**	**3.40**	**259**	*e*P	**Pn**	**14 42 15.3**	**+0.7**
BIRV	**Birongo**	**3.81**	**266**	*e*P	**Pn**	**14 42 20.7**	**+0.6**
MERV	**Las Mercedes**	**4.12**	**249**	*e*P	**Pn**	**14 42 24.1**	**-0.1**
LUEV	**Luepa**	**4.95**	**169**	*e*P	**Pn**	**14 42 33.4**	**-2.3**
CAOV	**Caicara del Or**	**5.15**	**229**	*e*P	**Pn**	**14 42 37.7**	**-0.6**
BAUV	**El Baul**	**5.84**	**253**	*e*P	**Pn**	**14 42 46.8**	**-1.0**

MOS ***07*** *14:41:50.2±1.3, 2.12N×12853E, h50km, mb4.9/12, Error ellipse: s-maj=17.6km s-min=7.7km az=113.2*

BJI ***07*** *14:41:51.2, 236N×12861E, h43km, mB5.3, mb4.8, Ms4.7, Msz4.3*

ISCJB ***07*** *14:41:52.2±0.8, 209N±003×12859E±005, h71km±7km, mb4.8/43, Error ellipse: s-maj=9.4km s-min=5.0km az=139.6*

NEIC ***07*** *14:41:52.3±0.3, 205N×12851E, mb4.8/16, Error ellipse: s-maj=11.6km s-min=5.5km az=68.0*

IDC ***07*** *14:41:53.8±1.8, 205N×12844E, h71km±15km, mb4.4/21, mb1 4.5/21, mb1mx4.4/25, mbtmp4.5/21, MS3.7/9, Ms1 3.7/9, ms1mx3.4/29, Error ellipse: s-maj=19.9km s-min=8.7km az=75.0*

ISC 07 14:41:54.1±0.6,207N±003×12862E±005,h72km±6km, h58km±1.0km:pP-P,n106,σ1°07/107,mb4.8/43,5C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**3.93**	**138**	P	**Pn**	**14 42 51.0**	**-1.0**
	1μm,0.4s						
MATI	**Mati**	**5.38**	**334**	*e*P	**Pn**	**14 43 12.8**	**+1.0**
MATI	**Mati**	**5.38**	**334**	*e*P	**Pn**	**14 43 12.9**	**+1.1**
AAI	**Ambon**	**5.73**	**184**	P	**Pn**	**14 43 18.1**	**+1.5**
	66nm,0.5s						
BUKP	**Musuan**	**6.77**	**329**	*e*P	**Pn**	**14 43 30.4**	**-0.3**
BUKP	**Musuan**	**6.77**	**329**	*e*P	**Pn**	**14 43 30.8**	**+0.1**
BUTP	**Butuan**	**7.47**	**337**	*e*P	**Pn**	**14 43 41.9**	**+1.6**
ZMPH	**Zamboanga City**	**8.13**	**307**	*i*P	**Pn**	**14 43 47.5**	**-1.8**
SCPH	**Surigao**	**8.27**	**338**	*e*P	**Pn**	**14 43 51.0**	**-0.2**
IPIL	**Ipil**	**8.28**	**314**	*e*P	**Pn**	**14 43 49.9**	**-1.4**
IPIL	**Ipil**	**8.28**	**314**	*e*P	**Pn**	**14 43 50.0**	**-1.3**
IPIL	**Ipil**	**8.28**	**314**	*e*P	**Pn**	**14 43 50.2**	**-1.1**
MSLP	**Maasin**	**8.84**	**335**	*e*P	**Pn**	**14 43 53.2**	**-5.8**
PCI	**Palu**	**9.26**	**251**	P	**Pn**	**14 44 06.6**	**+1.8**
	81nm,1.0s						
KKM	**Kota Kinabalu**	**12.98**	**288**	*e*P	**Pn**	**14 44 54.6**	**-0.9**
TGY	**Tagaytay City**	**14.16**	**328**	P	**Pn**	**14 45 11.2**	**+0.2**
	38nm,0.3s,baz=212,slow=8.8,SNR=6.6						
KAKA	**Kakadu**	**15.17**	**166**	*e*P	**Pn**	**14 45 20.9**	**-3.2**
	60nm,1.3s						
KSM	**Kuching**	**18.31**	**268**	*e*P	**Pn**	**14 46 01.5**	**-1.5**
KRKI	**Karangkates**	**19.05**	**238**	P	**Pn**	**14 46 11.9**	**0.0**
	243nm,1.1s						
GUMO	**Guam**	**19.73**	**54**	LR	LR	14 52 34.3	
	comp=Z,185nm,20.9s,baz=246,slow=32						
FITZ	**Fitzroy Crossi**	**20.26**	**188**	*e*P	**P**	**14 46 21.3**	**-2.2**
	26nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.26**	**188**	P	**P**	**14 46 22.7**	**-0.8**
	8.6nm,0.5s,baz=30,slow=9.7,SNR=31						
FITZ				LR	LR	14 54 50.3	
	comp=Z,153nm,19.9s,baz=0.1,slow=38						
BJI	**Banjamegara**	**21.05**	**243**	P	**P**	**14 46 32.8**	**+0.7**
	102nm,1.8s,mb4.8						
WRAB	**Tennant Creek**	**22.58**	**166**	*e*P	**P**	**14 46 48.4**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,34nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**22.58**	**166**	*e*P	**P**	**14 46 48.4**	**+0.1**
	comp=Z,34nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**22.59**	**166**	P	**P**	**14 46 48.5**	**+0.1**
	comp=Z,21nm,0.5s,mb4.7,baz=343,slow=10,SNR=91						
WRA				S	**S**	**14 50 50.4**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=348,slow=22,SNR=3.3						
WRA				ScP	ScP	14 54 11.9	+1.5
	comp=Z,1.2nm,0.7s,baz=339,slow=3.1,SNR=8.1						
WRA	**Warramunga Arr**	**22.59**	**166**	P	**P**	**14 46 48.5**	**+0.1**
WRA				S	**S**	**14 50 50.4**	**-0.4**
WB2	**Warramunga Arr**	**22.59**	**166**	*e*P	**P**	**14 46 47.8**	**-0.6**
YHNB	**Yeheng**	**23.53**	**343**	*e*P	**P**	**14 46 57.0**	**-0.6**
JOW	**Kunigami**	**24.62**	**359**	P	**P**	**14 47 08.2**	**+0.6**
	comp=Z,33nm,0.9s,mb4.8,baz=189,slow=16,SNR=4.4						
JOW				LR	LR	14 55 22.9	
	comp=Z,161nm,20.1s,baz=168,slow=33						
QIZ	**Qiongzhong**	**24.94**	**314**	P	**P**	**14 47 10.3**	**-0.2**
QIZ				S	**S**	**14 51 28.7**	**-0.1**
QIZ				AMB	AMB		
	comp=Z,49nm,1.1s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,139nm,3.6s						
AS31	**Alice Springs**	**26.09**	**169**	*e*P	**P**	**14 47 21.3**	**+0.4**
ASPA	**Alice Springs**	**26.09**	**169**	*e*P	**P**	**14 47 21.3**	**+0.4**
ASAR	**Alice Springs**	**26.09**	**169**	P	**P**	**14 47 21.2**	**+0.3**
	comp=Z,9.6nm,0.6s,mb4.4,baz=346,slow=7.5,SNR=154						
ASAR				PcP	PcP	14 50 47.2	+0.4
	comp=Z,1.6nm,0.6s,baz=342,slow=2.1,SNR=5.3						
ASAR				ScP	ScP	14 54 21.8	+1.7
	comp=Z,1.8nm,0.8s,baz=337,slow=2.1,SNR=11						
ASAR	**Alice Springs**	**26.09**	**169**	P	**P**	**14 47 21.3**	**+0.4**
ASAR						14 50 47.2	
CTA	**Charters Tower**	**28.01**	**143**	*e*P	**P**	**14 47 41.2**	**+3.1**
	comp=Z,3.6nm,0.9s,mb3.9						
CTA	**Charters Tower**	**28.01**	**143**	P	**P**	**14 47 40.8**	**+2.7**
	comp=Z,4.3nm,0.8s,mb4.0,baz=342,slow=13,SNR=4.7						
CTA				LR	LR	15 01 15.8	
	comp=Z,146nm,18.1s,baz=351,slow=41						
CTA	**Charters Tower**	**28.01**	**143**	*e*P	**P**	**14 47 41.2**	**+3.1**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	**Charters Tower**	**28.01**	**143**	*e*P	**P**	**14 47 41.7**	**+3.6**
CBIJ	**Chichi jima**	**28.08**	**26**	P	**P**	**14 47 39.0**	**+0.2**
	comp=Z,33nm,0.6s,mb5.1,baz=289,slow=22,SNR=6.0						
CBIJ				LR	LR	14 57 47.7	
	comp=Z,92nm,19.7s,baz=125,slow=34						
PSI	**Prapat**	**29.67**	**272**	P	**P**	**14 47 52.8**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.2,baz=61,slow=6.0,SNR=5.6						
FORT	**Forrest**	**32.67**	**181**	*e*P	**P**	**14 48 18.7**	**-0.5**
	comp=Z,77nm,0.8s,mb5.6						
CHTO	**Chiang Mai**	**33.49**	**302**	*e*P	**P**	**14 48 27.3**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.7						
CHTO	**Chiang Mai**	**33.49**	**302**	*e*P	**P**	**14 48 27.3**	**+0.9**
	comp=Z,20nm,1.4s,mb4.7						
KMI	**Kunming**	**33.88**	**315**	P	**P**	**14 48 31.3**	**+1.5**
KMI				AP	pP	14 48 45.3	-1.7
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
KMI	**Kunming**	**33.88**	**315**	P	**P**	**14 48 31.3**	**+1.5**
	comp=Z,16nm,1.1s,mb4.8						
KMI				pP	pP	14 48 45.3	-1.7
KLBR	**Kellerberrin**	**35.03**	**196**	*e*P	**P**	**14 48 38.0**	**-1.7**
	comp=Z,8.8nm,0.4s,mb4.9						
KSRS	**Korea Array**	**35.22**	**359**	P	**P**	**14 48 41.5**	**+0.2**
	comp=Z,8.5nm,0.5s,mb4.9,baz=175,slow=9.6,SNR=40						
KSRS				LR	LR	15 01 56.4	
	comp=Z,111nm,19.9s,baz=205,slow=34						
MAJO	**Matsushiro**	**35.43**	**13**	*e*P	**P**	**14 48 42.4**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**35.43**	**13**	*e*P	**P**	**14 48 42.4**	**-0.8**
	comp=Z,27nm,0.8s,mb5.1						
MAT	**Matsshiro**	**35.43**	**13**	P	**P**	**14 48 42.4**	**-0.7**
MJAR	**Matsushiro Arr**	**35.43**	**13**	P	**P**	**14 48 42.4**	**-0.7**
	comp=Z,19nm,0.7s,mb5.0,baz=186,slow=9.1,SNR=43						
MUN	**Mundaring**	**35.85**	**198**	*e*P	**P**	**14 48 45.4**	**-1.3**
STKA	**Stephens Creek**	**35.94**	**161**	*i*P	**P**	**14 48 48.3**	**+0.8**
	comp=Z,34nm,0.4s,mb5.6						
STKA	**Stephens Creek**	**35.94**	**161**	P	**P**	**14 48 48.5**	**+1.0**
	comp=Z,43nm,0.4s,mb5.7,baz=340,slow=8.0,SNR=246						
STKA				LR	LR	15 02 44.1	
	comp=Z,147nm,20.4s,baz=228,slow=35						
XAN	**Xi'an**	**36.74**	**332**	P	**P**	**14 48 54.0**	**-0.4**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
ARMA	**Armidale**	**39.06**	**148**	*e*P	**P**	**14 49 16.3**	**+2.5**
LZH	**Lanzhou**	**40.88**	**329**	*e*P	**P**	**14 49 30.0**	**+1.0**
LZH				AP	pP	14 49 44.5	-2.1
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
LZH	**Lanzhou**	**40.88**	**329**	*e*P	**P**	**14 49 30.0**	**+1.0**
LZH				*PP	pP	14 49 44.5	-2.1
LZH				*SP	sP	14 49 52.5	-2.4
LZH				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
LZH	**Lanzhou**	**40.88**	**329**	*e*P	**P**	**14 49 30.0**	**+1.0**
	comp=Z,16nm,1.0s,mb4.8						
LZH				pP	pP	14 49 44.5	-2.1
LZH				sP	sP	14 49 52.5	-2.4
HHC	**Hu-ho-hao-te**	**41.57**	**340**	*e*P	**P**	**14 49 31.5**	**-3.1**
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,140nm,6.0s						
DZM	**Mont Dzumac**	**44.05**	**125**	P	**P**	**14 49 56.7**	**+2.1**
	comp=Z,1.9nm,0.8s,mb3.9,baz=100,slow=20,SNR=3.3						
LSA	**Lhasa**	**44.94**	**311**	P	**P**	**14 50 04.0**	**+2.2**
GTA	**Gaotai**	**45.48**	**328**	*e*P	**P**	**14 50 06.8**	**+0.8**
GTA				AP	pP	14 50 21.8	-2.1
GTA				XP	sP	14 50 28.3	-3.9
GTA				PCP	PcP	14 51 46.0	+2.2
GTA				PP	PP	14 51 53.9	+0.3
GTA				SCP	ScP	14 55 31.9	+1.7
GTA				S	**S**	**14 56 44.0**	**+1.6**
GTA				SCS	ScS	14 59 54.5	-1.0
GTA				AMB	AMB		
	comp=Z,8.0nm

TORD	**Torodi Ar. Bea**	**125.22**	**288**	PKP	PKPdf	15 00 46.9	+0.6		
	comp=Z,0.5nm,0.3s,baz=71,slow=1.9,SNR=18								

*MOS **07** 14:43:51.3±2.1, 3878N×7551E, h33km, mb3.9/1, Error ellipse: s-maj=29.6km s-min=10.0km az=95.1*
*BJI **07** 14:43:54.6, 3930N×7531E, h11km, ML3.5*
*NEIC **07** 14:43:55.0±2.1, 3934N×7501E, h10km, Error ellipse: s-maj=41.4km s-min=15.2km az=145.0*
*ISCJB **07** 14:43:56.7±0.5, 3943N±003×7547E±006, h10km±6km, mb4.0/5, Error ellipse: s-maj=6.7km s-min=4.2km az=26.8*
*IDC **07** 14:44:04.1±6.1, 3945N×7570E, h116km±67km, mb3.7/5, mb1 3.7/7, mb1mx3.4/22, mbtmp3.6/7, Error ellipse: s-maj=75.2km s-min=45.3km az=106.0*

ISC 07 14:43:58.3±0.5, 3945N±004×7548E±006, h10km±∞, n35, σ1§55/41, mb4.0/5, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.39**	**79**	⇑*i*PG	**Pg**	**14 44 03.3**	**-2.5**
KSH				SG	**Sg**	**14 44 10.8**	**-0.2**
KZA	**Kyzart**	**2.63**	**356**	P	**Pn**	**14 44 40.2**	**-0.6**
	SNR=12						
ULHL	**Ulahol**	**2.85**	**11**	P	**Pn**	**14 44 46.8**	**+3.0**
	SNR=13						
UCH	**Uchtor**	**2.87**	**345**	P	**Pn**	**14 44 43.3**	**-0.8**
	SNR=172						
AML	**Almayashu**	**3.01**	**334**	P	**Pn**	**14 44 43.9**	**-2.0**
	SNR=8.2						
KBK	**Karagaybulak**	**3.23**	**353**	P	**Pn**	**14 44 48.9**	**-0.1**
	SNR=51						
AAK	**Ala-Archa**	**3.27**	**347**	P	**Pn**	**14 44 49.1**	**-0.5**
	SNR=70						
AAK	**Ala-Archa**	**3.27**	**347**	*e*Pn	**Pn**	**14 44 47.9**	**-1.7**
AAK				*e*Sn	**Sn**	**14 45 29.8**	**+1.3**
FRU	**Bishkek**	**3.45**	**349**	*e*PN	**Pn**	**14 44 52.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,110nm,1.8s						
EKS2	**Erkin-Say**	**3.46**	**339**	P	**Pn**	**14 44 50.6**	**-1.6**
	SNR=22						
TKM2	**Tokmak 2**	**3.47**	**1**	P	**Pn**	**14 44 53.9**	**+1.6**
	SNR=14						
TKM2	**Tokmak 2**	**3.47**	**1**	⇑Pn		**14 44 52.2**	**-0.2**
	comp=Z,7.8nm,0.7s						
TKM2				⇑Sn	**Sn**	**14 45 35.5**	**+2.0**
	comp=Z,19nm,0.7s						
CHMS	**Chumysh**	**3.59**	**351**	P	**Pn**	**14 44 53.4**	**-0.6**
	SNR=20						
USP	**Ospenovka**	**3.89**	**349**	P	**Pn**	**14 44 57.2**	**-0.9**
	SNR=16						
KK31	**Karatay Array**	**5.23**	**316**	⇓Pn	**Pn**	**14 45 12.9**	**-3.7**
	comp=Z,2.0nm,0.4s,baz=124,slow=13,SNR=12						
KK31				⇑Pg	**Pg**	**14 45 34.5**	**-4.0**
	comp=Z,7.7nm,0.6s,baz=140,slow=16,SNR=8.0						
KK31				⇓Lg		14 46 37.8	
	comp=Z,20nm,0.7s,baz=125,slow=28,SNR=5.2						
CHCP	**Chirah Chowk**	**6.05**	**198**	P	**Pn**	**14 45 29.2**	**+1.5**
CEP	**Cherat**	**6.30**	**208**	P	**Pn**	**14 45 32.2**	**+0.9**
CEP				S	**Sn**	**14 46 43.0**	**-0.3**
THN	**Thein Dam**	**7.00**	**178**	*e*P	**Pg**	**14 46 20.8**	**+8.5**
THN				*e*S	**Sn**	**14 47 04.2**	**+3.7**
THW	**Thamme Wali**	**7.29**	**206**	P	**Pn**	**14 45 45.1**	**+0.2**
DRP	**Derazinda**	**8.80**	**211**	P	**Pn**	**14 46 07.3**	**+1.7**
MK31	**Makanchi Array**	**8.87**	**32**	*e*P	**Pn**	**14 46 06.9**	**+0.5**
MKAR	**Makanchi Array**	**8.87**	**32**	P	**Pn**	**14 46 07.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=14						
KOLN	**Koldanda**	**13.46**	**147**	*e*P	**Pn**	**14 47 02.6**	**-6.6**
	comp=Z,6.5nm,0.4s						
GKN	**Gorkha**	**13.71**	**144**	*e*P	**Pn**	**14 47 06.0**	**-6.7**
	comp=Z,19nm,0.4s						
BVAR	**Borovoye Array**	**14.03**	**347**	P	**Pn**	**14 47 19.2**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=153,slow=9.8,SNR=20						
BRVK	**Borovoye**	**14.08**	**347**	*e*P	**Pn**	**14 47 21.5**	**+3.8**
KKN	**Kakani**	**14.19**	**142**	*e*P	**Pn**	**14 47 12.4**	**-6.9**
	comp=Z,16nm,0.6s						
ZRNK	**Zerenda**	**14.22**	**344**	*e*P	**Pn**	**14 47 23.0**	**+3.3**
GUN	**Gumba**	**14.38**	**140**	*e*P	**Pn**	**14 47 15.5**	**-6.4**
JIRN	**Jiri**	**14.74**	**140**	*e*P	**Pn**	**14 47 20.7**	**-6.1**
	comp=Z,22nm,0.3s						
BRTR	**Keskin Array B**	**32.04**	**284**	P	**P**	**14 50 21.0**	**-4.0**
	comp=Z,1.1nm,0.6s,mb3.9,baz=82,slow=7.3,SNR=4.2						
FINES	**FINESS Array B**	**37.15**	**323**	P	**P**	**14 51 03.6**	**-5.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=113,slow=8.9,SNR=3.6						
ARCES	**ARCESS Array B**	**39.87**	**335**	P	**P**	**14 51 26.6**	**-5.4**
	comp=Z,3.0nm,0.8s,mb4.1,baz=93,slow=8.5,SNR=6.1						
NOA	**NORSAR Array B**	**44.24**	**321**	P	**P**	**14 52 02.4**	**-5.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=90,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**69.29**	**270**	P	**P**	**14 55 00.4**	**-5.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=47,slow=5.6,SNR=25						

*CSEM **07** 15:09:06.6, 3471N×2403E, h8km, MD3.8/6, After ATH*
*NEIC **07** 15:09:06.6, 3471N×2403E, h8km, MD3.8(ATH), After ATH.*

ATH 07 15:09:06.6, 3471N×2403E, h8km, MD3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.14**	**20**	*e*PG	Pg	15 09 10.0	+0.4
VAM	**Vamos**	**0.71**	**11**	*e*PB	Pb	15 09 19.7	-1.5
XRY	**Khrisi**	**1.38**	**83**	*e*PG	Pg	15 09 32.0	-1.1
NPS	**Neapolis**	**1.41**	**67**	*e*PG	Pg	15 09 33.5	-0.2
KYTH	**Kithira**	**1.76**	**333**	*e*PG	Pg	15 09 39.0	-1.4
SANT	**Santorini**	**2.03**	**35**	*e*Pn	Pn	15 09 40.8	-0.2
VLI	**Veliai**	**2.19**	**336**	*e*PN	Pn	15 09 46.4	+3.1

*IDC **07** 15:26:35.3±2.1, 539S×129.11E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=120.4km s-min=30.5km az=68.0*
*ISCJB **07** 15:26:53.4±1.9, 581S±008×1295E±02, h198km±17km, mb3.1/1, Error ellipse: s-maj=27.3km s-min=12.4km az=151.5*

ISC 07 15:26:56.8±1.8, 601S±009×1293E±02, h214km±15km, n9, σ1§09/14, mb3.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.36**	**155**	*e*P	**Pn**	**15 28 41.2**	**-0.5**
	8.0nm,0.2s						
FITZ	**Fitzroy Crossi**	**12.53**	**196**	*e*P	**Pn**	**15 29 53.6**	**+5.7**
	7.6nm,0.8s						
FITZ				*e*S	**S**	**15 32 07.6**	**-0.1**
WRA	**Warramunga Arr**	**14.70**	**161**	Pn	**Pn**	**15 30 14.4**	**-0.4**
	0.4nm,0.3s,baz=340,slow=13,SNR=13						
WRA				Sn	**S**	**15 32 52.7**	**-5.1**
	0.4nm,0.3s,baz=338,slow=23,SNR=4.6						
WB2	**Warramunga Arr**	**14.71**	**161**	*e*P	**Pn**	**15 30 14.0**	**-0.8**
WB2				*e*S	**S**	**15 32 53.1**	**-4.8**
ASAR	**Alice Springs**	**18.11**	**166**	P	**P**	**15 30 55.4**	**+2.5**
	0.4nm,0.3s,baz=348,slow=11,SNR=22						
ASAR				S	**S**	**15 34 09.0**	**-0.1**
	0.2nm,0.3s,baz=350,slow=18,SNR=11						
ASPA	**Alice Springs**	**18.11**	**166**	*e*P	**P**	**15 30 55.5**	**+2.6**
ASPA				*e*S	**S**	**15 34 08.6**	**-0.5**
MKAR	**Makanchi Array**	**67.00**	**327**	P	**P**	**15 37 26.3**	**-0.4**
	0.3nm,0.6s,mb3.1,baz=120,slow=7.6,SNR=4.9						
SNAA	**Sanae**	**96.45**	**194**	*e*	**P**	**15 40 01.1**	**-0.6**
SNAA				*e*		15 40 08.5	
VNA2	**Neumayer--Watz**	**98.03**	**193**	*e*	**P**	**15 40 13.1**	**+4.4**
	baz=129,slow=6.3						
VNA2				*e*		15 40 20.5	

*NEIC **07** 15:46:44.7±2.7, 3612N×7031E, h156km±24km, mb3.6/3, Error ellipse: s-maj=21.6km s-min=12.3km az=214.0*
*IDC **07** 15:46:44.7±11.0, 3613N×7030E, h156km±103km, mb3.3/5, mb1 3.4/8, mb1mx3.2/23, mbtmp3.2/8, Error ellipse: s-maj=56.9km s-min=25.4km az=18.0*
*ISCJB **07** 15:46:49.7±0.6, 3648N±004×7041E±009, h212km±7km, mb3.2/4, Error ellipse: s-maj=12.6km s-min=5.3km az=156.7*

ISC 07 15:46:50.9±0.6, 3647N±004×7046E±010, h206km±7km, n37, σ0§78/42, mb3.2/4, 2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.89**	**155**	P	**Pn**	**15 47 40.3**	**+0.8**
CEP				S	**Sn**	**15 48 17.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.62**	**140**	P	**Pn**	**15 47 49.4**	**+1.2**
THW	**Thamme Wali**	**3.81**	**163**	P	**Pn**	**15 47 50.8**	**+0.3**
DRP	**Derazinda**	**4.71**	**183**	P	**Pn**	**15 48 02.5**	**+0.8**
THN	**Thein Dam**	**5.92**	**131**	*e*P	**Pn**	**15 48 17.1**	**0.0**
THN				*e*x	x	15 49 24.2	
AML	**Almayashu**	**6.19**	**23**	P	**Pn**	**15 48 20.4**	**-0.3**
	SNR=34						
UCH	**Uchtor**	**6.56**	**27**	P	**Pn**	**15 48 25.3**	**0.0**
	SNR=36						
KK31	**Karatay Array**	**6.63**	**0**	Pn	**Pn**	**15 48 25.1**	**-1.2**
	3.9nm,0.6s,baz=181,slow=12,SNR=36						
KK31				⇓Pg	**Pn**	**15 48 35.6**	**+9.3**
	1.5nm,0.3s,baz=187,slow=14,SNR=4.8						
KK31				⇓Lg		15 49 36.7	
	5.8nm,0.5s,baz=187,slow=26,SNR=8.1						
EKS2	**Erkin-Say**	**6.70**	**21**	P	**Pn**	**15 48 27.0**	**-0.2**
	SNR=14						
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**15 48 29.8**	**-0.1**
	SNR=11						
AAK	**Ala-Archa**	**6.90**	**26**	*e*Pn	**Pn**	**15 48 28.6**	**-1.3**
	4.9nm,0.4s						
AAK				*e*Sn	**Sn**	**15 49 44.8**	**-3.7**
USP	**Ospenovka**	**7.47**	**23**	P	**Pn**	**15 48 37.2**	**0.0**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.57**	**30**	P	**Pn**	**15 48 37.9**	**-0.5**
	SNR=16						
KHET	**Khetri**	**9.51**	**150**	*e*P	**Pn**	**15 49 02.4**	**-1.2**
KHET				*e*S	**Sn**	**15 50 34.6**	**-16**
KHET				AML	AML	15 54 32.0	
	comp=N,4.4nm,0.1s						
KHET				AML	AML	15 54 32.7	
	comp=E,4.0nm,0.1s						
NDI	**New Delhi**	**9.63**	**142**	*ex*	x	14 51 21.0	
NDI				*ex*	x	15 52 26.0	
AYAN	**Aya Nagar**	**9.75**	**143**	*e*P	**Pn**	**15 49 06.0**	**-0.7**
SONA	**Sohna**	**9.92**	**144**	*e*P	**Pn**	**15 49 07.8**	**-1.1**
SONA				*e*S	**Sn**	**15 50 46.0**	**-14**
SONA				AML	AML	15 52 40.9	
	comp=E,14nm,0.2s						
SONA				AML	AML	15 52 41.4	
	comp=N,10nm,0.7s						
AGRA	**Agra**	**11.19**	**143**	*e*P	**Pn**	**15 49 25.6**	**+0.4**
AGRA				*e*S	**S**	**15 51 12.3**	**-18**
AGRA				AML	AML	15 53 55.7	
	comp=N,80nm,0.6s						
AGRA				AML	AML	15 53 55.7	
	comp=E,81nm,0.3s						
MK31	**Makanchi Array**	**13.58**	**37**	*e*P	**Pn**	**15 49 54.8**	**-0.5**
MKAR	**Makanchi Array**	**13.58**	**37**	P	**Pn**	**15 49 55.5**	**+0.2**
	comp=E,0.4nm,0.3s,baz=218,slow=7.7,SNR=16						
KOLN	**Koldanda**	**14.10**	**124**	*e*P	**Pn**	**15 50 01.5**	**-0.3**
	comp=E,7.0nm,0.3s						
GKN	**Gorkha**	**14.66**	**121**	*e*P	**Pn**	**15 50 07.8**	**-0.8**
	comp=E,12nm,0.3s						
DMN	**Daman**	**15.23**	**121**	*e*P	**Pn**	**15 50 16.3**	**+0.8**
	comp=E,7.7nm,0.4s						
KKN	**Kakani**	**15.23**	**120**	*e*P	**Pn**	**15 50 14.8**	**-0.8**
	comp=E,6.7nm,0.2s						
PKI	**Pulchoki**	**15.46**	**121**	*e*P	**Pn**	**15 50 19.4**	**+1.1**
	comp=E,11nm,0.3s						
GUN	**Gumba**	**15.58**	**119**	*e*P	**Pn**	**15 50 21.1**	**+1.3**
	comp=E,8.3nm,0.4s						
JIRN	**Jiri**	**15.95**	**119**	*e*P	**Pn**	**15 50 25.1**	**+0.8**
	comp=E,24nm,0.3s						
ZRNK	**Zerenda**	**16.52**	**357**	*e*P	**P**	**15 50 30.6**	**+0.6**
	comp=E,0.9nm,0.4s						
BVAR	**Borovoye Array**	**16.56**	**360**	P	**P**	**15 50 31.7**	**+1.2**
	comp=E,0.3nm,0.3s,baz=189,slow=9.2,SNR=5.3						
AKTK	**Aktyubinsk**	**16.60**	**331**	P	**P**	**15 50 30.9**	**0.0**
AKTO	**Aktyubinsk**	**16.60**	**331**	P	**P**	**15 50 30.9**	**0.0**
	comp=E,0.3nm,0.3s,baz=149,slow=11,SNR=11						
CHKZ	**Chkalovo**	**17.21**	**0**	*e*P	**P**	**15 50 38.5**	**+0.9**
	comp=E,0.9nm,0.4s						
ZAL	**Zalesovo**	**20.11**	**25**	P	**P**	**15 51 09.5**	**+0.5**
	comp=E,2.2nm,0.4s,baz=259,slow=6.7,SNR=8.5						
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**15 54 14.3**	**+0.4**
	comp=E,5.7nm,1.1s,mb3.9,baz=110,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.28**	**268**	P	**P**	**15 57 09.1**	**-1.5**
	comp=E,0.3nm,0.4s,mb3.2,baz=48,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**82.34**	**122**	P	**P**	**15 58 49.0**	**-0.6**
	comp=E,0.3nm,1.0s,mb2.9,baz=324,slow=4.4,SNR=4.7						
ASAR	**Alice Springs**	**84.59**	**125**	P	**P**	**15 59 00.4**	**-0.6**
	comp=E,0.2nm,0.7s,mb3.0,baz=306,slow=4.8,SNR=6.9						

FUNV 07 15:57:34.8, 1177N×6493W, h66km, MW3.5, 1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAV	**Isla La Blanqu**	**0.35**	**81**	⇓*e*P	Pn	15 57 46.1	+0.1
IBAV				*e*S	Sn	15 57 53.7	-0.3
ITEV	**Isla Los Testi**	**1.81**	**103**	*e*P	Pn	15 58 03.1	-0.6
ITEV				*e*S	Sn	15 58 24.3	-1.5
BIRV	**Birongo**	**1.84**	**226**	*e*P	Pn	15 58 03.8	-0.3
BIRV				*e*S	Sn	15 58 24.8	-1.6
CUPV	**Cœpira**	**1.90**	**206**	*e*P	Pn	15 58 03.8	-1.1
CRUV	**Carupano**	**1.99**	**123**	*e*P	Pn	15 58 06.8	+0.7
CRUV				*e*S	Sn	15 58 30.3	+0.3
GUNV	**Guanoco**	**2.52**	**129**	*e*P	Pn	15 58 12.8	-0.6
MERV	**Las Mercedes**	**2.84**	**208**	*e*P	Pn	15 58 16.4	-1.3
MERV				*e*S	Sn	15 58 48.6	-2.2
GUIV	**Guiria**	**2.88**	**112**	*e*P	Pn	15 58 17.7	-0.7
BAUV	**El Baul**	**4.15**	**228**	*e*P	Pn	15 58 34.9	-0.8
BAUV				*e*S	Sn	15 59 18.6	-4.4

TRN 07 15:58:36.5, 1438N×6149W, h35km, M2.1(FDF), 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIM	**Bigot**	**0.43**	**71**	*e*P	Pb	15 58 47.5	+1.3
FDF	**Fort de France**	**0.48**	**43**	⇑*e*P	Pb	15 58 48.9	+1.9
FDF				*e*S	Sb	15 58 56.7	+2.6
MVM	**Montagne Vaucl**	**0.60**	**73**	*e*P	Pn	15 58 49.6	+1.0
MVM				*e*S	Sn	15 59 00.2	+3.0

*ISCJB **07** 16:16:03.4±2.1, 5580S±007×271W±0.1, h39km±20km, mb4.8/20, MS4.2/13, Error ellipse: s-maj=13.8km s-min=9.3km az=77.6*
*BJI **07** 16:16:05.4, 5580S×2710W, h46km, mB5.0, Ms5.1, Msz4.6*
*NEIC **07** 16:16:05.4±1.2, 5585S×2715W, h47km±11km, mb4.9/16, MS4.9/1, Error ellipse: s-maj=8.1km s-min=6.3km az=213.0*
*GCMT **07** 16:16:05.4±0.4, 5598S×2711W, h34km±1km, MW5.0/53, Moment Tensor Solution. s26,c31; s53,c60; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.65±.23; Mθθ -1.21±.19; Mϕϕ -1.43±.19; Mrθ 0.65±.18; Mϕr 2.31±.14; Mθr 1.41±.14; Best double couple: Mo 3.60500×10^16 NP1: ϕs 110.00000°, δ47.00000°, λ48.00000°. NP2: ϕs 343.00000°, δ57.00000°, λ126.00000°. Principal axes: T 3.5220, Plg60.0000°, Azm308.0000°; N 0.1750, Plg29.0000°, Azm141.0000°; P -3.6880, Plg6.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 16:16:06.7±5.5, 5583S×2720W, h54km±49km, mb4.5/9, mb1 4.5/10, mb1mx4.4/13, mbtmp4.4/10, ML4.1/1, MS4.0/12, Ms1 4.0/12, ms1mx4.0/19 Error ellipse: s-maj=23.5km s-min=17.1km az=45.0*

ISC 07 16:16:05.4±1.8, 5587S±007×272W±01, h43km±17km, n66, σ0§80/37, mb4.8/20, MS4.2/13, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.59**	**283**	*e*Pn	**Pn**	**16 17 25.1**	**-0.8**
	136nm,0.6s						
HOPE				*e*Sn	**Sn**	**16 18 22.7**	**-6.1**
VNA1	**Neumayer--Stat**	**16.96**	**158**	*e*	**Pn**	**16 20 05.0**	**+5.6**
VNA1				*e*		16 20 06.3	
VNA1				*e*		16 20 30.8	
VNA3	**Neumayer Olymp**	**17.16**	**161**	*e*	**Pn**	**16 20 04.9**	**+3.0**
VNA3				*e*		16 20 28.9	
VNA2	**Neumayer--Watz**	**17.35**	**158**	*e*	**Pn**	**16 20 06.2**	**+1.9**
VNA2				*e*		16 20 08.5	
VNA2				*e*		16 20 11.9	
VNA2				*e*		16 20 20.9	
VNA2				*e*		16 20 30.1	
VNA2				*e*		16 20 35.7	
VNA2				*e*		16 20 43.2	
VNA2				*e*		16 20 54.7	
VNA2				*e*		16 28 14.7	
VNA2				*e*		16 28 27.4	
VNA2				*e*		16 28 29.6	
VNA2				*e*		16 28 38.2	
SNAA	**Sanae**	**18.90**	**156**	P	**Pn**	**16 20 21.9**	**-1.3**
	0.5nm,0.3s,baz=314,slow=10.0,SNR=70						
SNAA				LR	LR	16 26 19.4	
	comp=Z,140nm,21.7s,baz=138,slow=32						
SNAA	**Sanae**	**18.90**	**156**	*e*	**Pn**	**16 20 22.0**	**-1.2**
SNAA				*e*		16 20 23.3	
SNAA				*e*		16 20 29.1	
SNAA				*e*		16 20 37.0	
SNAA				*e*		16 28 17.7	
SNAA				*e*		16 28 30.4	
SNAA	**Sanae**	**18.90**	**156**	*e*P	**Pn**	**16 20 21.4**	**-1.8**
	14nm,0.6s						
PMSA	**Palmer Station**	**20.03**	**229**	P	**P**	**16 20 38.4**	**+3.8**
	44nm,0.7s,baz=128,slow=4.4,SNR=7.2						
PMSA				LR	LR	16 26 51.6	
	comp=Z,859nm,18.5s,MS4.1,baz=339,slow=32						
PMSA	**Palmer Station**	**20.03**	**229**	P	**P**	**16 20 34.5**	**-0.1**
PMSA				LR	LR	16 26 51.6	
USHA	**Ushuaia**	**23.25**	**255**	P	**P**	**16 21 08.2**	**-0.8**
	9.5nm,0.7s,mb4.3,baz=94,slow=13,SNR=4.1						
USHA				LR	LR	16 27 57.3	
	comp=Z,882nm,21.6s,MS4.2,baz=56,slow=31						
TRQA	**Tornquist**	**29.27**	**293**	*e*P	**P**	**16 22 02.8**	**-0.6**
	17nm,1.0s,mb4.7						
SYO	**Syowa Base**	**31.71**	**141**	⇑*e*P	**P**	**16 22 24.0**	**-1.0**
SYO	**Syowa Base**	**31.71**	**141**	⇓*e*pP	pP	16 22 34.4	-2.1
QSPA	**South Pole Qui**	**34.38**	**180**	*e*P	**P**	**16 22 48.2**	**-0.1**
	41nm,0.6s,mb5.5						
MAW	**Mawson**	**40.29**	**144**	P	**P**	**16 23 38.4**	**+0.1**
	9.1nm,0.7s,mb4.6,baz=234,slow=8.4,SNR=18						
MAW				LR	LR	16 37 46.1	
	comp=Z,258nm,21.2s,MS4.0,baz=257,slow=32						
MAW	**Mawson**	**40.29**	**144**	*e*P	**P**	**16 23 37.4**	**-0.8**
	9.2nm,0.7s,mb4.6						
SUR	**Sutherland**	**40.58**	**75**	P	**P**	**16 23 41.2**	**+0.5**
	21nm,1.1s,mb4.7						
LVC	**Limon Verde**	**45.22**	**300**	*e*P	**P**	**16 24 18.9**	**+0.7**
	49nm,1.0s,mb5.3						
BOSA	**Boshof**	**45.91**	**76**	P	**P**	**16 24 23.5**	**-0.2**
	3.3nm,0.7s,mb4.4,baz=220,slow=7.4,SNR=8.4						
BOSA				LR	LR	16 39 48.2	
	comp=Z,451nm,20.4s,MS4.4,baz=205,slow=31						
BOSA	**Boshof**	**45.91**	**76**	*e*P	**P**	**16 24 23.5**	**-0.2**
	9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**46.26**	**184**	*e*P	**P**	**16 24 26.3**	**-0.2**
	9.8nm,0.8s,mb4.8						
VNDA	**Vanda**	**46.76**	**183**	P	**P**	**16 24 30.4**	**+0.1**
	9.5nm,0.7s,mb4.9,baz=187,slow=6.4,SNR=78						
VNDA				LR	LR	16 43 05.0	
	comp=Z,116nm,19.9s,MS3.8,baz=159,slow=35						
VNDA	**Vanda**	**46.76**	**183**	*e*P	**P**	**16 24 30.1**	**-0.3**
	16nm,0.7s,mb5.1						
LBTB	**Lobatse**	**48.94**	**73**	*e*P	**P**	**16 24 46.8**	**-0.5**
	15nm,1.0s,mb5.0						
TSUM	**Tsumeb**	**49.58**	**61**	*e*P	**P**	**16 24 52.1**	**-0.1**
	4.2nm,0.9s,mb4.5						
LPAZ	**La Paz**	**50.29**	**305**	P	**P**	**16 24 58.6**	**+1.1**
	19nm,0.6s,mb5.3,baz=150,slow=6.4,SNR=77						
LPAZ				LR	LR	16 45 26.3	
	comp=Z,108nm,21.5s,MS3.8,baz=164,slow=35						
LPAZ	**La Paz**	**50.29**	**305**	*e*P	**P**	**16 24 58.2**	**+0.7**
	28nm,0.8s,mb5.3						
ARE	**Arequipa**	**51.72**	**301**	*e*P	**P**	**16 25 09.0**	**+0.7**
NNA	**Nana**	**58.18**	**299**	*e*P	**P**	**16 25 55.0**	**0.0**
	21nm,0.9s,mb5.2						
LSZ	**Lusaka**	**58.29**	**69**	*e*P	**P**	**16 25 55.4**	**-0.3**
	2.5nm,0.8s,mb4.3						
ATAH	**Atahualpa**	**63.23**	**300**	LR	LR	16 53 37.2	
	comp=Z,117nm,20.4s,MS4.0,baz=288,slow=36						
RPN	**Rapa Nui**	**63.70**	**260**	LR	LR	16 47 22.8	
	comp=Z,141nm,20.6s,MS4.1,baz=162,slow=30						
OTAV	**Otavalo**	**69.57**	**304**	*e*P	**P**	**16 27 10.6**	**+0.7**
	21nm,1.1s,mb5.0						
ROSC	**El Rosal**	**71.80**	**310**	P	**P**	**16 27 23.6**	**+0.2**
	7.3nm,0.4s,mb4.9,baz=96,slow=22,SNR=4.8						
ROSC				LR	LR	16 57 42.5	
	comp=Z,79nm,21.4s,MS4.0,baz=181,slow=35						
TOA0	**Torodi Ar. Sit**	**72.89**	**29**	*e*P	**P**	**16 27 30.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.89**	**29**	P	**P**	**16 27 29.9**	**0.0**
	10nm,0.8s,mb4.8,baz=198,slow=6.0,SNR=52						
TORD				LR	LR	16 52 34.4	
	comp=Z,91nm,20.7s,MS4.0,baz=215,slow=30						
SDV	**Santo Domingo**	**73.89**	**315**	*e*P	**P**	**16 27 35.5**	**-0.3**
	27nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**92.08**	**170**	P	**P**	**16 29 10.2**	**+0.3**
	2.4nm,0.6s,mb4.7,baz=126,slow=2.9,SNR=3.9						
PPT	**Papeete**	**92.32**	**234**	LR	LR	17 03 36.1	
	comp=Z,142nm,21.8s,MS4.4,baz=163,slow=31						
ASAR	**Alice Springs**	**99.16**	**162**	P	**P**	**16 29 41.2**	**-0.9**
	1.4nm,0.7s,mb4.6,baz=186,slow=4.1,SNR=21						
ASAR				PP	PP	16 33 36.6	-8.3
	0.3nm,0.8s,baz=182,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**102.88**	**162**	P	Pdif	16 29 58.1	-0.6
	0.7nm,0.7s,baz=194,slow=4.3,SNR=6.3						
WRA				PP	PP	16 34 09.1	-3.9
	0.4nm,0.7s,baz=192,slow=6.0,SNR=3.5						
WRA				PKKP	PKKPbc	16 45 56.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.03**	**296**	PN	Pn	16 23 34.4	+0.2
PXZ				SN	Sn	16 23 39.5	+0.7
WPHZ	**Waipukurau**	**0.35**	**266**	PN	Pn	16 23 36.1	-0.4
WPHZ				SN	Sn	16 23 42.5	-0.3
TSZ	**Takapari Road**	**0.72**	**268**	P	Pn	16 23 40.5	-0.8
TSZ				S	Sn	16 23 49.6	-1.5
TSZ	**Takapari Road**	**0.72**	**268**	PN	Pn	16 23 40.5	-0.8
TSZ				SN	Sn	16 23 49.6	-1.6
BFZ	**Birch Farm**	**0.81**	**218**	P	Pn	16 23 42.7	+0.2
BFZ	**Birch Farm**	**0.81**	**218**	PN	Pn	16 23 42.7	+0.2
BFZ				SN	Sn	16 23 54.6	+1.3
BKZ	**Black Stump Fm**	**0.93**	**340**	P	Pn	16 23 43.4	-0.8
BKZ	**Black Stump Fm**	**0.93**	**340**	PN	Pn	16 23 43.4	-0.8
BKZ				SN	Sn	16 23 54.7	-1.6
TIWZ	**Tintock**	**1.06**	**226**	PN	Pn	16 23 45.9	-0.1
MOVZ	**Moawhango**	**1.09**	**305**	P	Pn	16 23 45.8	-0.5
MOVZ	**Moawhango**	**1.09**	**305**	PN	Pn	16 23 45.8	-0.5
MRZ	**Mangatainoka R**	**1.18**	**238**	P	Pn	16 23 47.2	-0.4
MRZ	**Mangatainoka R**	**1.18**	**238**	PN	Pn	16 23 47.2	-0.4
KNZ	**Kokohu**	**1.19**	**31**	P	Pn	16 23 47.1	-0.6
KNZ	**Kokohu**	**1.19**	**31**	PN	Pn	16 23 47.1	-0.6
WNVZ	**Wahianoa**	**1.23**	**305**	PN	Pn	16 23 48.4	+0.1
TUVZ	**Tukino**	**1.23**	**309**	P	Pn	16 23 48.5	+0.2
TUVZ	**Tukino**	**1.23**	**309**	PN	Pn	16 23 48.5	+0.2
TRVZ	**Turoa**	**1.28**	**305**	PN	Pn	16 23 49.1	+0.2
MTVZ	**Mangateitei**	**1.28**	**300**	PN	Pn	16 23 49.1	+0.2
DRZ	**Dome Shelter**	**1.28**	**306**	P	Pn	16 23 49.3	+0.3
DRZ	**Dome Shelter**	**1.28**	**306**	PN	Pn	16 23 49.3	+0.3
OTVZ	**Oturere**	**1.29**	**312**	PN	Pn	16 23 49.4	+0.2
FWVZ	**Far West T-bar**	**1.30**	**307**	P	Pn	16 23 49.4	+0.1
FWVZ	**Far West T-bar**	**1.30**	**307**	PN	Pn	16 23 49.4	+0.1
HATZ	**Hinemaiaia**	**1.31**	**331**	P	Pn	16 23 48.9	-0.4
HATZ	**Hinemaiaia**	**1.31**	**331**	PN	Pn	16 23 48.9	-0.4
NGZ	**Ngauruhoe**	**1.32**	**311**	P	Pn	16 23 49.7	+0.2
NGZ	**Ngauruhoe**	**1.32**	**311**	PN	Pn	16 23 49.7	+0.2
RITZ	**Rihia Road**	**1.33**	**323**	P	Pn	16 23 49.7	0.0
RITZ	**Rihia Road**	**1.33**	**323**	PN	Pn	16 23 49.7	0.0
WPVZ	**Whakapapa**	**1.34**	**308**	P	Pn	16 23 49.6	-0.1
WPVZ	**Whakapapa**	**1.34**	**308**	PN	Pn	16 23 49.6	-0.1
KRVZ	**Karewarewa**	**1.36**	**314**	PN	Pn	16 23 50.0	0.0
WTVZ	**West Tongariro**	**1.37**	**312**	P	Pn	16 23 50.2	0.0
WTVZ	**West Tongariro**	**1.37**	**312**	PN	Pn	16 23 50.2	0.0
KATZ	**Kakaramea**	**1.42**	**319**	P	Pn	16 23 51.0	+0.2
KATZ	**Kakaramea**	**1.42**	**319**	PN	Pn	16 23 51.0	+0.2
RATZ	**Rangitukua**	**1.46**	**323**	P	Pn	16 23 51.2	-0.3
RATZ	**Rangitukua**	**1.46**	**323**	PN	Pn	16 23 51.2	-0.3
TWVZ	**Taurewa**	**1.49**	**310**	P	Pn	16 23 51.2	-0.6
TWVZ	**Taurewa**	**1.49**	**310**	PN	Pn	16 23 51.2	-0.6
WAZ	**Wanganui**	**1.50**	**280**	P	Pn	16 23 52.5	+0.6
WAZ	**Wanganui**	**1.50**	**280**	PN	Pn	16 23 52.5	+0.6
MTW	**Mount Morrison**	**1.54**	**223**	P	Pn	16 23 51.4	-1.1
MTW	**Mount Morrison**	**1.54**	**223**	PN	Pn	16 23 51.4	-1.1
WATZ	**Wairara**	**1.61**	**326**	P	Pn	16 23 52.7	-0.8
WATZ	**Wairara**	**1.61**	**326**	PN	Pn	16 23 52.7	-0.8
TRWZ	**Traveller**	**1.64**	**214**	PN	Pn	16 23 52.6	-1.2
KIW	**Kapiti Island**	**1.72**	**241**	P	Pn	16 23 54.4	-0.6
KIW	**Kapiti Island**	**1.72**	**241**	PN	Pn	16 23 54.4	-0.6
CAW	**Cannon Point**	**1.75**	**232**	P	Pn	16 23 54.2	-1.2
CAW	**Cannon Point**	**1.75**	**232**	PN	Pn	16 23 54.2	-1.2
MWZ	**Matawai**	**1.78**	**16**	P	Pn	16 23 54.8	-1.0
MWZ	**Matawai**	**1.78**	**16**	PN	Pn	16 23 54.8	-1.0
URZ	**Urewera**	**1.79**	**5**	P	Pn	16 23 55.1	-0.8
URZ	**Urewera**	**1.79**	**5**	PN	Pn	16 23 55.1	-0.8
MSWZ	**Moikau Station**	**1.85**	**222**	P	Pn	16 23 55.5	-1.3
MSWZ	**Moikau Station**	**1.85**	**222**	PN	Pn	16 23 55.5	-1.4
MRW	**Makara Radio**	**2.05**	**234**	P	Pn	16 23 58.5	-1.0
MRW	**Makara Radio**	**2.05**	**234**	PN	Pn	16 23 58.5	-1.0
HIZ	**Hauiti**	**2.20**	**313**	*eP*	Pn	16 24 00.9	-0.7
HIZ	**Hauiti**	**2.20**	**313**	PN	Pn	16 24 00.9	-0.7
TCW	**Tory Channel**	**2.31**	**239**	P	Pn	16 24 01.9	-1.2
TCW	**Tory Channel**	**2.31**	**239**	PN	Pn	16 24 01.9	-1.2
DUWZ	**D'Urville Isla**	**2.39**	**251**	PN	Pn	16 24 03.3	-0.9
BSWZ	**Blackbirch Sta**	**2.83**	**233**	P	Pn	16 24 08.6	-1.7
BSWZ	**Blackbirch Sta**	**2.83**	**233**	PN	Pn	16 24 08.6	-1.7
NNZ	**Nelson**	**2.92**	**245**	*eP*	Pn	16 24 10.1	-1.4
NNZ	**Nelson**	**2.92**	**245**	PN	Pn	16 24 10.1	-1.3
QRZ	**Quartz Range**	**3.42**	**255**	*eP*	Pn	16 24 16.9	-1.5
QRZ	**Quartz Range**	**3.42**	**255**	PN	Pn	16 24 16.9	-1.5
MQZ	**McQueen's Vall**	**4.84**	**219**	*eP*	Pn	16 24 35.6	-2.2
MQZ	**McQueen's Vall**	**4.84**	**219**	PN	Pn	16 24 35.6	-2.2
ODZ	**Otahua Downs**	**6.80**	**221**	*eP*	Pn	16 25 02.4	-2.4
ODZ	**Otahua Downs**	**6.80**	**221**	PN	Pn	16 25 02.4	-2.3

*BJI **07** 16:35:04.1, 640S×15150E, h10km, mB5.2, mb4.5, Ms4.5, Msz4.2*

*IDC **07** 16:35:04.5±0.7, 631S×15133E, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.4/18, mbtmp4.4/13, ML3.1/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/10, Error ellipse: s-maj=24.0km s-min=14.7km az=126.0*

*ISCJB **07** 16:35:06.1±0.4, 644S±006×15140E±008, h17km, mb4.5/21, MS4.0/5, Error ellipse: s-maj=12.0km s-min=6.9km az=66.1*

*NEIC **07** 16:35:06.2±0.5, 641S×15148E, h10km, mb4.7/8, Error ellipse: s-maj=13.5km s-min=9.6km az=117.0*

*MOS **07** 16:35:08.3±1.2, 641S×15138E, h33km, mb4.7/7, Error ellipse: s-maj=15.9km s-min=12.2km az=69.1*

ISC 07 16:35:08.3±0.4,**648S**±006×**15147E**±007,**h20**km, **h20**km±5.2km:**pP-P**,**n52**,σ1**9**14/54,**mb4.5**/21,**MS4.0**/5, **1C-1D**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**235**	Pn	**Pn**	**16 36 24.7**	**+0.3**
	3.1nm,0.3s,baz=53,slow=8.4,SNR=18						
PMG				Sn	**Sn**	**16 37 23.3**	**-0.1**
	14nm,0.3s,baz=21,slow=20,SNR=9.6						
PMG				LR	LR	16 37 48.9	
	comp=Z,202nm,20.5s,baz=192,slow=32						
PMG	**Port Moresby**	**5.17**	**235**	*eP*	**Pn**	**16 36 25.7**	**+1.3**
PMG				pmax	pmax		
	comp=Z,100nm,0.9s						
PMG	**Port Moresby**	**5.17**	**235**	*eP*	**Pn**	**16 36 25.7**	**+1.3**
	comp=Z,100nm,0.9s						
HNR	**Honiara**	**8.89**	**110**	LR	LR	16 40 15.4	
	comp=Z,425nm,21.6s,baz=360,slow=34						
CTA	**Charters Tower**	**14.45**	**200**	Pn	**Pn**	**16 38 31.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=17,SNR=2.1						
KAKA	**Kakadu**	**19.75**	**250**	*eP*	**Pn**	**16 39 36.6**	**-1.8**
	comp=Z,27nm,0.6s						
GUMO	**Guam**	**20.98**	**342**	LR	LR	16 46 17.1	
	comp=Z,247nm,21.3s,MS3.6,baz=107,slow=32						
WRAB	**Tennant Creek**	**21.34**	**230**	*eP*	**P**	**16 39 50.8**	**-3.2**
WB2	**Warramunga Arr**	**21.34**	**230**	*eP*	**P**	**16 39 54.1**	**0.0**
WRA	**Warramunga Arr**	**21.35**	**230**	P	**P**	**16 39 54.0**	**-0.2**
	comp=Z,5.7nm,0.5s,mb4.1,baz=56,slow=12,SNR=78						
AS31	**Alice Springs**	**24.02**	**223**	*eP*	**P**	**16 40 21.9**	**+0.1**
ASAR	**Alice Springs**	**24.03**	**223**	P	**P**	**16 40 21.8**	**0.0**
	comp=Z,10.0nm,0.8s,mb4.3,baz=56,slow=9.2,SNR=7.6						
ASAR				S	**S**	**16 44 41.0**	**+3.2**
	comp=Z,1.5nm,1.2s,baz=38,slow=21,SNR=3.3						
ASPA	**Alice Springs**	**24.03**	**223**	*eP*	**P**	**16 40 21.9**	**+0.1**
STKA	**Stephens Creek**	**26.90**	**199**	*eP*	**P**	**16 40 47.5**	**-0.4**
	comp=Z,11nm,1.0s,mb4.4						
STKA				*e*		16 40 59.2	
STKA	**Stephens Creek**	**26.90**	**199**	P	**P**	**16 40 47.6**	**-0.2**
	comp=Z,15nm,1.0s,mb4.5,baz=29,slow=10,SNR=11						
FITZ	**Fitzroy Crossi**	**27.71**	**243**	*eP*	**P**	**16 40 54.5**	**-0.6**
	comp=Z,19nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.71**	**243**	P	**P**	**16 40 54.6**	**-0.6**
	comp=Z,10.0nm,0.7s,mb4.6,baz=89,slow=8.3,SNR=35						
MBWA	**Marble Bar**	**34.00**	**241**	P	**P**	**16 41 51.2**	**+0.6**
MBWA				*e*	pP	16 41 58.6	+1.8
AFI	**Afiamalu**	**36.88**	**104**	P	**P**	**16 42 16.5**	**+1.2**
	comp=Z,87nm,1.2s,mb5.5,baz=96,slow=2.5,SNR=4.1						
AFI	**Afiamalu**	**36.88**	**104**	P	**P**	**16 42 16.5**	**+1.2**
AFI				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.3						
AFI	**Afiamalu**	**36.88**	**104**	P	**P**	**16 42 16.5**	**+1.2**
	comp=Z,46nm,1.0s,mb5.3						
KSM	**Kuching**	**41.84**	**279**	*eP*	**P**	**16 42 58.2**	**+1.5**
QIZ	**Qiongzhong**	**48.21**	**303**	P	**P**	**16 43 47.9**	**+0.5**
QIZ				S	**S**	**16 50 53.4**	**+7.8**
QIZ				LR	LR		
	comp=Z,327nm,25.7s,MS4.2						
KMI	**Kunming**	**56.85**	**306**	P	**P**	**16 44 53.5**	**+2.1**
KMI				AP	pP	16 44 57.1	-0.7
KMI				XP	sP	16 44 59.0	-1.3
KMI				PP	PP	16 47 02.6	+4.8
KMI				S	**S**	**16 52 46.9**	**+3.2**
KMI				XS	sS	16 52 58.8	+4.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=N,89nm,24.3s						
KMI				LR	LR		
	comp=E,174nm,19.1s						
KMI				LR	LR		
	comp=Z,194nm,23.3s,MS4.1						
KMI	**Kunming**	**56.85**	**306**	P	**P**	**16 44 53.5**	**+2.1**
KMI				*SP	sP	16 44 59.0	-1.3
KMI						16 47 02.6	
KMI				S	**S**	**16 52 46.9**	**+3.2**
KMI				*SS	sS	16 52 58.8	+4.4
KMI				SS	SS	16 56 32.5	+0.6
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KMI				MLR	MLR		
	comp=Z,190nm,23.3s,MS4.1						
KMI	**Kunming**	**56.85**	**306**	P	**P**	**16 44 53.5**	**+2.1**
	comp=Z,5.0nm,1.0s,mb4.5						
KMI				pP	pP	16 44 57.1	-0.7
KMI				sP	sP	16 44 59.0	-1.3
KMI				PP	PP	16 47 02.6	+4.8
KMI				S	**S**	**16 52 46.9**	**+3.2**
KMI				sS	sS	16 52 58.8	+4.4
KMI				SS	SS	16 56 32.5	+0.6
KMI				LR	LR		
	comp=Z,190nm,23.3s,MS4.1						
CD2	**Chengdu**	**58.84**	**312**	*eP*	**P**	**16 45 06.4**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,6.0s						
HHC	**Hu-ho-hao-te**	**59.65**	**326**	*eP*	**P**	**16 45 13.8**	**+2.8**
HHC				AP	pP	16 45 18.5	+1.0
HHC				XP	sP	16 45 21.7	+1.8
HHC				PP	PP	16 47 27.3	+4.7
HHC				SCP	ScP	16 49 59.7	+2.0
HHC				PCS	PcS	16 50 01.1	+1.0
HHC				S	**S**	**16 53 23.9**	**+3.6**
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,119nm,5.9s						
HHC				LR	LR		
	comp=N,186nm,21.0s,MS4.4						
HHC				LR	LR		
	comp=E,206nm,16.5s,MS4.4						
HHC				LR	LR		
	comp=Z,168nm,17.8s,MS4.2						
LZH	**Lanzhou**	**61.52**	**317**	*eP*	**P**	**16 45 25.0**	**+1.3**
LZH				AP	pP	16 45 34.5	+4.3
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.0						
LZH	**Lanzhou**	**61.52**	**317**	*eP*	**P**	**16 45 25.0**	**+1.3**
LZH				*PP	pP	16 45 34.5	+4.3
LZH				*SP	sP	16 45 40.0	+7.3
LZH				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
LZH	**Lanzhou**	**61.52**	**317**	*eP*	**P**	**16 45 25.0**	**+1.3**
	comp=Z,21nm,1.5s,mb5.0						
LZH				pP	pP	16 45 34.5	+4.3
LZH				sP	sP	16 45 40.0	+7.3
ULN	**Ulaanbaatar**	**66.73**	**329**	*eP*	**P**	**16 45 56.5**	**-1.4**
YAK	**Yakutsk**	**70.35**	**349**	*eP*	**P**	**16 46 18.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
VNDA	**Vanda**	**71.22**	**178**	P	**P**	**16 46 25.9**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=333,slow=6.9,SNR=21						
VNDA	**Vanda**	**71.22**	**178**	*eP*	**P**	**16 46 25.8**	**0.0**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**71.22**	**178**	*eP*	**P**	**16 46 25.8**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.1						
BILL	**Bilibino**	**75.07**	**6**	*eP*	**P**	**16 46 49.1**	**+0.5**
BILL				*PP	pP	16 47 08.2	+13
BILL				*e		16 49 41.2	
BILL				eS	S	16 56 18.6	-7.1
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
WMQ	**Urumqi**	**76.08**	**318**	⇑P	**P**	**16 46 54.0**	**-0.4**
WMQ				AP	pP	16 46 59.0	-2.0
WMQ				XP	sP	16 47 01.0	-2.4
WMQ				PCP	PcP	16 47 06.8	+0.3
WMQ				PP	PP	16 49 46.5	+1.3
WMQ				PPP		16 51 33.5	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,143nm,4.6s						
WMQ				LR	LR		
	comp=N,45nm,22.0s,MS3.9						
WMQ				LR	LR		
	comp=E,49nm,19.4s,MS3.9						
WMQ				LR	LR		
	comp=Z,39nm,22.1s,MS3.7						
TIXI	**Tiksi**	**79.38**	**353**	*eP*	**P**	**16 47 12.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
MK31	**Makanchi Array**	**80.72**	**319**	*eP*	**P**	**16 47 18.9**	**-1.1**
MKAR	**Makanchi Array**	**80.72**	**319**	P	**P**	**16 47 19.4**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=99,slow=7.5,SNR=7.8						
ZAL	**Zalesovo**	**81.82**	**327**	P	**P**	**16 47 22.2**	**-3.6**
	comp=Z,1.8nm,0.3s,mb4.5,baz=208,slow=2.5,SNR=3.1						
QSPA	**South Pole Qui**	**83.50**	**180**	*eP*	**P**	**16 47 34.3**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.5						
MAW	**Mawson**	**83.52**	**203**	P	**P**	**16 47 34.6**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.6,baz=115,slow=9.4,SNR=4.7						
COLA	**College**	**83.89**	**22**	*eP*	**P**	**16 47 36.9**	**+0.3**
AAK	**Ala-Archa**	**84.86**	**314**	*eP*	**P**	**16 47 39.3**	**-2.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**89.78**	**324**	*eP*	**P**	**16 48 04.7**	**-0.5**
BVAR	**Borovoye Array**	**89.78**	**323**	P	**P**	**16 48 03.6**	**-1.7**
	comp=Z,1.1nm,0.8s,mb4.3,baz=101,slow=6.4,SNR=6.5						
NVAR	**Mina Array Bea**	**94.15**	**52**	P	**P**	**16 48 26.3**	**+0.8**
	comp=Z,1.1nm,0.9s,mb4.3,baz=265,slow=7.2,SNR=6.4						
GERES	**GERESS Array B**	**124.76**	**327**	PKP	PKPdf	16 54 06.9	+0.4
	comp=Z,0.9nm,0.6s,baz=0.0,slow=2.7,SNR=5.3						
TOA0	**Torodi Ar. Sit**	**149.51**	**285**	ePKPbc	PKPbc	16 54 56.1	+0.1
TORD	**Torodi Ar. Bea**	**149.51**	**285**	PKPbc	PKPbc	16 54 56.2	+0.2
	comp=Z,4.2nm,0.6s,baz=58,slow=3.0,SNR=30						

IDC 07 16:35:58.2±1.7,**634S**×**15152E**,**h0**km,**mb4.1**/5,**mb1 4.4**/5, **mb1mx4.1**/14,**mbtmp4.2**/5,**MS3.7**/1,**Ms1 3.7**/1, **ms1mx2.9**/10,**Error ellipse: s-maj=46.5km s-min=34.0km az=103.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.60**	**200**	LR	LR	16 43 45.2	
	comp=Z,326nm,20.5s,baz=17,slow=32						
WRA	**Warramunga Arr**	**21.48**	**229**	P	P	16 40 49.1	+0.8
	5.3nm,0.8s,baz=54,slow=9.6,SNR=2.8						
ASAR	**Alice Springs**	**24.16**	**223**	P	P	16 41 16.0	0.0
	5.6nm,0.8s,baz=62,slow=9.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	P	16 41 49.2	+0.1
	4.2nm,0.4s,baz=78,slow=9.3,SNR=2.4						
VNDA	**Vanda**	**71.36**	**178**	P	P	16 47 19.6	-0.3
	0.8nm,0.8s,baz=329,slow=6.7,SNR=2.3						
MKAR	**Makanchi Array**	**80.64**	**319**	P	P	16 48 13.1	+0.2
	1.2nm,0.9s,baz=104,slow=6.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.52**	**285**	PKPbc	PKPbc	16 55 50.2	+0.8
	2.9nm,0.6s,baz=67,slow=3.0,SNR=6.5						

*CSEM **07** 16:40:39.6, 6789N×2014E, h0km, ML3.5, Suspected Mining explosion. After UPP*

*UPP **07** 16:40:39.6, 6789N×2014E, h0km, ML3.5, Suspected Mining explosion.*

HEL 07 16:40:40.2±0.1,**6790N**×**2015E**,**h0**km,**ML3.5**(UPP), **Explosion**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**51**	*i* P	Pg	16 40 41.6	-0.3
NIKU	**Nikkaluokta**	**0.42**	**266**	*i* P	Pg	16 40 47.6	-0.7
LANU	**Lannavaara**	**0.71**	**77**	*i* P	Pg	16 40 53.5	-0.3
LANU	**Lannavaara**	**0.71**	**77**	P	Pg	16 40 53.5	-0.3
DUNU	**Dundret**	**0.80**	**168**	*i* P	Pg	16 40 54.2	-1.3
SALU	**Saltoluokta**	**0.82**	**231**	*i* P	Pg	16 40 55.1	-0.7
SALU	**Saltoluokta**	**0.82**	**231**	P	Pg	16 40 55.2	-0.6
	baz=70						
MASU	**Masugnsbyn**	**0.83**	**121**	*i* P	Pg	16 40 55.2	-1.0
KIF	**Kilpisjarvi**	**1.14**	**12**	*eP*	Pg	16 41 03.4	+1.4
KIF				*eS*	Sg	16 41 19.2	+2.5
PAJU	**Pajala**	**1.44**	**126**	*eP*	Pn	16 41 05.7	-1.9
HARU	**Harads**	**1.77**	**169**	*eP*	Pn	16 41 11.6	-0.5
HARU	**Harads**	**1.77**	**169**	P	Pn	16 41 11.6	-0.5
	baz=330						

*ISCJB **07** 16:41:03.3±1.2, 2346S±005×17936W±009, h378km±15km, mb4.1/19, Error ellipse: s-maj=13.7km s-min=7.1km az=42.3*

*BJI **07** 16:41:04.4, 2398S×17902W, h417km, mB5.0, mb4.7*

*NEIC **07** 16:41:07.7±1.4, 2347S×17937W, h418km±15km, mb4.5/9, Error ellipse: s-maj=14.1km s-min=10.4km az=137.0*

*IDC **07** 16:41:09.2±1.6, 2351S×17937W, h432km±15km, mb3.6/12, mb1 3.8/14, mb1mx3.7/19, mbtmp3.6/14, Error ellipse: s-maj=15.5km s-min=13.1km az=143.0*

ISC 07 16:41:07.0±1.5,**2358S**±006×**17935W**±009,**h404**km±16km, **n55**,σ1**9**00/50,**mb4.1**/19,**2C**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.00**	**38**	P	**P**	**16 43 46.7**	**+0.3**
	14nm,0.3s,baz=260,slow=23,SNR=23						
AFI				S	**S**	**16 45 52.0**	**-6.2**
	5.9nm,0.3s,baz=60,slow=20,SNR=6.0						
AFI	**Afiamalu**	**12.00**	**38**	*eP*	**P**	**16 43 46.1**	**-0.3**
	71nm,0.8s						
AFI				*eS*	**S**	**16 45 51.1**	**-7.1**
PUZ	**Puketiti**	**14.59**	**188**	PN	**P**	**16 44 17.1**	**+2.3**
URZ	**Urewera**	**14.94**	**191**	P	**P**	**16 44 18.6**	**+0.1**
	16nm,0.3s,baz=347,slow=2.2,SNR=18						
URZ				S	**S**	**16 46 57.8**	**+0.6**
	2.8nm,0.3s,baz=180,slow=20,SNR=6.1						
URZ	**Urewera**	**14.94**	**191**	PN	**P**	**16 44 18.2**	**-0.4**
MWZ	**Matawai**	**14.95**	**190**	PN	**P**	**16 44 16.0**	**-2.7**
KNZ	**Kokohu**	**15.60**	**189**	PN	**P**	**16 44 25.0**	**-0.6**
BKZ	**Black Stump Fm**	**15.93**	**192**	PN	**P**	**16 44 30.9**	**+1.6**
PXZ	**Pawanui**	**16.71**	**190**	PN	**P**	**16 44 38.5**	**+1.0**
TSZ	**Takapari Road**	**16.90**	**192**	*e*PN	**P**	**16 44 39.3**	**-0.3**
BFZ	**Birch Farm**	**17.45**	**191**	*e*PN	**P**	**16 44 46.0**	**+0.6**
SNZO	**South Karori**	**18.37**	**194**	*eP*	**P**	**16 44 56.0**	**+1.0**
	47nm,0.6s						
TCW	**Tory Channel**	**18.37**	**195**	*e*PN	**P**	**16 44 53.6**	**-1.6**
NNZ	**Nelson**	**18.61**	**197**	*e*PN	**P**	**16 44 56.8**	**-0.9**
THZ	**Tophouse**	**19.25**	**198**	*e*PN	**P**	**16 45 03.2**	**-1.0**
KHZ	**Kahutara**	**19.69**	**196**	*e*PN	**P**	**16 45 06.9**	**-1.3**
WVZ	**Waitaha Valley**	**21.10**	**201**	*e*PN	**P**	**16 45 20.6**	**-0.5**
RPZ	**Rata Peaks**	**21.58**	**199**	P	**P**	**16 45 25.7**	**+0.2**
	26nm,0.5s,mb5.0,baz=46,slow=1.4,SNR=16						
JCZ	**Jackson Bay**	**22.65**	**203**	*e*PN	**P**	**16 45 34.3**	**-0.9**
CTA	**Charters Tower**	**32.07**	**269**	P	**P**	**16 46 59.4**	**+1.1**
	3.7nm,0.3s,mb4.2,baz=96,slow=11,SNR=26						
CTAO	**Charters Tower**	**32.07**	**269**	*eP*	**P**	**16 46 58.9**	**+0.6**
	5.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**35.39**	**248**	P	**P**	**16 47 27.6**	**+1.0**
	1.7nm,0.5s,mb3.6,baz=119,slow=13,SNR=5.4						
STKA				PcP	PcP	16 49 45.8	-0.2
	2.7nm,0.6s,baz=43,slow=6.0,SNR=5.2						
STKA	**Stephens Creek**	**35.39**	**248**	*eP*	**P**	**16 47 26.8**	**+0.3**
AS31	**Alice Springs**	**42.67**	**260**	*eP*	**P**	**16 48 26.0**	**0.0**
ASAR	**Alice Springs**	**42.67**	**260**	P	**P**	**16 48 25.9**	**-0.1**
	3.0nm,0.8s,mb3.7,baz=92,slow=7.1,SNR=33						
ASAR				PcP	PcP	16 50 08.3	-0.9
	0.6nm,0.7s,baz=99,slow=6.2,SNR=4.6						
ASAR				ScP	ScP	16 53 17.4	-3.4
	2.5nm,1.0s,baz=118,slow=4.1,SNR=8.2						
ASPA	**Alice Springs**	**42.67**	**260**	*eP*	**P**	**16 48 26.0**	**0.0**
WB2	**Warramunga Arr**	**43.01**	**266**	*eP*	**P**	**16 48 28.1**	**-0.5**
WRA	**Warramunga Arr**	**43.02**	**266**	P	**P**	**16 48 28.4**	**-0.3**
	2.1nm,0.6s,mb3.7,baz=96,slow=8.5,SNR=27						
WRA				PcP	PcP	16 50 10.0	-0.4
	1.7nm,0.9s,baz=102,slow=3.9,SNR=4.8						
WRA				ScP	ScP	16 53 19.4	-2.8
	1.2nm,0.7s,baz=100,slow=4.0,SNR=8.4						
FORT	**

az=26.4
NEIC ***07*** *16:51:13.9±3.9, 34.89S×178.93W, h139km±27km, mb4.2/2, Error ellipse: s-maj=42.0km s-min=17.1km az=50.0*

ISC 07 16:51:08.8±2.8, 347S±02×1785W±03, h111km±20km, n20, σ0≤41/20, mb4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.24**	**217**	PN		**Pn**		**16 52 11.6**	**+0.2**
PUZ				*e*SN		**Sn**		**16 53 06.3**	**+6.4**
PUZ				SN		**Sn**		**16 53 07.2**	**+7.3**
URZ	**Urewera**	**4.99**	**224**	Pn		**Pn**		**16 52 22.1**	**+0.6**
	12nm,0.3s,baz=33,slow=3.8,SNR=29								
URZ						**Sn**		**16 53 26.2**	**+8.1**
	10nm,0.3s,baz=334,slow=21,SNR=7.1								
URZ	**Urewera**	**4.99**	**224**	*e*PN		**Pn**		**16 52 20.8**	**-0.7**
KNZ	**Kokohu**	**5.27**	**215**	PN		**Pn**		**16 52 25.2**	**-0.1**
BKZ	**Black Stump Fm**	**5.97**	**221**	PN		**Pn**		**16 52 34.8**	**+0.1**
TCW	**Tory Channel**	**8.62**	**219**	SN		**Sn**		**16 54 46.3**	**+0.1**
MQZ	**McQueen's Vall**	**11.28**	**215**	SN		**Sn**		**16 55 46.4**	**-4.3**
RPZ	**Rata Peaks**	**12.08**	**219**	Pn		**Pn**		**16 53 57.0**	**-0.2**
	0.6nm,0.3s,baz=67,slow=7.7,SNR=3.5								
STKA	**Stephens Creek**	**33.33**	**263**	LR		LR		17 10 47.2	
	comp=Z,210nm,18.7s,baz=204,slow=36								
CTA	**Charters Tower**	**34.33**	**286**	P		**P**		**16 57 44.8**	**+0.1**
	2.7nm,0.7s,mb4.2,baz=120,slow=9.1,SNR=8.3								
CTAO	**Charters Tower**	**34.33**	**286**	*e*P		**P**		**16 57 44.4**	**-0.2**
	2.6nm,0.6s,mb4.2								
AS31	**Alice Springs**	**42.64**	**272**	*e*P		**P**		**16 58 54.1**	**-0.1**
ASAR	**Alice Springs**	**42.64**	**272**	P		**P**		**16 58 54.7**	**+0.5**
	1.6nm,0.8s,mb3.8,baz=114,slow=6.7,SNR=19								
ASPA	**Alice Springs**	**42.65**	**272**	*e*P		**P**		**16 58 54.8**	**+0.6**
SBA	**Scott Base**	**43.70**	**184**	*e*P		**P**		**16 59 02.7**	**0.0**
	2.0nm,0.4s,mb4.2								
WB2	**Warramunga Arr**	**44.01**	**277**	*e*P		**P**		**16 59 04.5**	**-0.6**
WRA	**Warramunga Arr**	**44.02**	**277**	P		**P**		**16 59 04.6**	**-0.6**
	1.5nm,0.6s,mb3.9,baz=117,slow=7.8,SNR=26								
FITZ	**Fitzroy Crossi**	**52.07**	**274**	P		**P**		**17 00 07.4**	**+0.3**
	2.0nm,0.9s,mb4.1,baz=184,slow=15,SNR=4.9								
FITZ				LR		LR		17 21 45.1	
	comp=Z,119nm,18.2s,baz=155,slow=36								
FINES	**FINESS Array B**	**149.01**	**337**	PKPbc		PKPbc		17 10 44.9	+1.2
	3.8nm,0.8s,baz=54,slow=3.3,SNR=8.3								
TORD	**Torodi Ar. Bea**	**158.51**	**181**	PKPab		PKPab		17 11 36.0	+7.6
	0.6nm,0.7s,baz=183,slow=5.5,SNR=3.4								

ISCJB ***07*** *17:19:46.4±0.5, 56.16S±007×255W±0.1, h10km, mb4.9/12, MS4.9/5, Error ellipse: s-maj=13.4km s-min=7.7km az=98.0*
IDC ***07*** *17:19:46.8±0.8, 56.13S×254.2W, h0km, mb4.8/6, mb1 4.8/7, mb1mx4.6/13, mbtmp4.7/7, ML4.1/1, MS4.6/4, Ms1 4.6/4, ms1mx4.3/23, Error ellipse: s-maj=29.6km s-min=21.2km az=74.0*
GCMT ***07*** *17:19:48.2±0.4, 56.25S×253.6W, h21km±1km, MW5.2/21, Moment Tensor Solution. s18,c27; s21,c31; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=6.30±.47; Mθθ=1.98±.38; Mφφ=4.33±.32; Mrθ=0.05±.64; Mθφ=3.02±.22; Mφr=2.77±.56; Best double couple: M=6.92300×10^16 NP1:φs=133.00000°, δ=37.00000°, λ=69.00000°; NP2: φs=339.00000°, δ=56.00000°, λ=105.00000°. Principal axes: T 7.0500, Plg74.0000°, Azm290.0000°; N -0.2640, Plg12.0000°, Azm150.0000°; P -6.7960, Plg10.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***07*** *17:19:48.2, 56.10S×255.0W, h11km, mb5.9*
NEIC ***07*** *17:19:48.2±3.9, 56.14S×254.9W, h11km±24km, mb5.0/4, Error ellipse: s-maj=10.6km s-min=6.0km az=46.0*
MOS ***07*** *17:19:52.6±3.1, 56.53S×256.0W, h33km, mb4.6/3, Error ellipse: s-maj=36.6km s-min=14.8km az=105.2*

ISC 07 17:19:47.0±6.0, 5618S±010×255W±02, h3km±38km, n44, σ0≤75/32, mb4.9/12, MS4.9/5, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.58**	**282**	*e*Pn		**Pn**		**17 21 24.1**	**-0.5**
VNA1	**Neumayer--Stat**	**16.32**	**159**	*e*Pn		**Pn**		**17 23 37.9**	**+0.7**
VNA1				*e*				17 23 39.7	
VNA1				*e*				17 23 41.1	
VNA1				*e*				17 23 42.2	
VNA1				*e*				17 23 45.8	
VNA1				*e*				17 23 49.1	
VNA1				*e*				17 24 02.8	
VNA2	**Neumayer--Watz**	**16.72**	**159**	⇓*i*Pn		**Pn**		**17 23 42.1**	**-0.1**
	baz=331,slow=16								
VNA2				*e*				17 23 43.7	
VNA2				*e*				17 23 45.4	
VNA2				*e*				17 23 46.6	
VNA2				*e*				17 23 49.6	
VNA2				*e*				17 23 53.5	
VNA2				*e*				17 24 07.7	
VNA2				*e*				17 24 17.7	
VNA2				*e*				17 24 29.5	
VNA2				*e*				17 25 30.2	
VNA2				*e*				17 25 36.0	
VNA2				*e*				17 25 48.8	
VNA2				*e*				17 26 08.9	
VNA2				*e*				17 26 15.1	
SNAA	**Sanae**	**18.24**	**157**	Pn		**Pn**		**17 24 01.5**	**+0.4**
	0.5nm,0.3s,baz=319,slow=9.9,SNR=104								
SNAA				SN		**Sn**		**17 27 12.0**	**-13**
	0.0nm,0.3s,baz=339,slow=16,SNR=2.5								
SNAA				LR		LR		17 29 54.6	
	comp=Z,578nm,18.8s,baz=322,slow=33								
SNAA	**Sanae**	**18.24**	**157**	*e*Pn		**Pn**		**17 24 02.3**	**+1.2**
SNAA				*e*				17 24 03.9	
SNAA				*e*				17 24 04.9	
SNAA				*e*				17 24 06.5	
SNAA				*e*				17 24 15.9	
SNAA				*e*				17 24 28.7	
SNAA	**Sanae**	**18.24**	**157**	*e*P		**P**		**17 24 01.8**	**+0.7**
SNAA								17 27 12.0	
SNAA	**Sanae**	**18.24**	**157**	*e*P		**Pn**		**17 24 01.8**	**+0.7**
SNAA				Sn		**Sn**		**17 27 12.0**	**-13**
SNAA				LR		LR		17 29 54.6	
EFI	**East Falkland**	**19.59**	**270**	*e*P		**Pn**		**17 24 18.6**	**+1.1**
EFI	**East Falkland**	**19.59**	**270**	*e*P		**Pn**		**17 24 15.6**	**-1.9**
PMSA	**Palmer Station**	**20.54**	**230**	P		**P**		**17 24 27.0**	**+0.5**
	62nm,1.0s,baz=90,slow=9.1,SNR=4.3								
PMSA				LR		LR		17 30 34.8	
	comp=Z,1μm,19.7s,MS4.3,baz=92,slow=32								
NVL	**N'lazarevskaya**	**21.63**	**147**	*c i*P		**P**		**17 24 37.2**	**-1.1**
NVL				*i* S		**S**		**17 28 42.6**	**+4.3**
NVL				pmax		pmax			
	comp=Z,31nm,1.4s,mb4.5								
NVL				MLR		MLR			
	comp=Z,1μm,18.3s,MS4.4								
USHA	**Ushuaia**	**24.08**	**255**	LR		LR		17 32 40.4	
	comp=Z,2μm,19.5s,MS4.5,baz=54,slow=32								
TRQA	**Tornquist**	**30.26**	**291**	*e*P		**P**		**17 25 58.1**	**-0.9**
	comp=Z,22nm,1.1s,mb4.8								
QSPA	**South Pole Qui**	**34.07**	**180**	*e*P		**P**		**17 26 32.2**	**-0.3**
	comp=Z,29nm,0.5s,mb5.5								
MAW	**Mawson**	**39.47**	**143**	P		**P**		**17 27 18.9**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.5,baz=242,slow=9.9,SNR=13								
BOSA	**Boshof**	**45.08**	**74**	LR		LR		17 44 09.5	
	comp=Z,2μm,18.4s,MS5.2,baz=191,slow=32								
SBA	**Scott Base**	**46.01**	**184**	*e*P		**P**		**17 28 11.2**	**-0.4**
SBA				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
SBA	**Scott Base**	**46.01**	**184**	*e*P		**P**		**17 28 11.2**	**-0.5**
	comp=Z,6.4nm,0.9s,mb4.5								
LVC	**Limon Verde**	**46.20**	**298**	*e*P		**P**		**17 28 13.5**	**+0.4**
	comp=Z,54nm,0.9s,mb5.5								
VNDA	**Vanda**	**46.48**	**182**	P		**P**		**17 28 14.9**	**-0.4**
	comp=Z,4.3nm,0.5s,mb4.6,baz=185,slow=6.8,SNR=50								
VNDA				ScP		ScP		17 33 44.6	+0.4
	comp=Z,1.8nm,1.1s,baz=203,slow=3.7,SNR=3.1								
LBTB	**Lobatse**	**48.14**	**71**	*e*P		**P**		**17 28 28.1**	**-0.1**
MIR	**Mirnyy**	**49.23**	**152**	*d i*P		**P**		**17 28 33.0**	**-3.6**
MIR				*i*				17 28 50.0	
LPAZ	**La Paz**	**51.24**	**303**	P		**P**		**17 28 53.0**	**+1.1**
	comp=Z,26nm,1.2s,mb5.0,baz=135,slow=7.4,SNR=33								
LPAZ	**La Paz**	**51.24**	**303**	*e*P		**P**		**17 28 52.8**	**+0.9**
ARE	**Arequipa**	**52.69**	**300**	*e*P		**P**		**17 29 04.0**	**+1.3**
SAML	**Samuel**	**55.58**	**313**	*e*P		**P**		**17 29 23.3**	**-0.5**
	comp=Z,18nm,1.1s,mb5.0								
TOA0	**Torodi Ar. Sit**	**72.71**	**28**	*e*P		**P**		**17 31 16.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.71**	**28**	P		**P**		**17 31 16.4**	**+0.1**
	comp=Z,7.5nm,0.6s,mb4.8,baz=198,slow=6.7,SNR=60								

SDV	**Santo Domingo**	**74.78**	**313**	*e*P		**P**		**17 31 28.8**	**+0.4**
	comp=Z,23nm,1.1s,mb5.0								
TEIG	**Tepich**	**92.57**	**303**	*e*P		**P**		**17 32 59.1**	**-0.7**
RAR	**Rarotonga**	**93.79**	**222**	LR		LR		18 09 23.4	
	comp=Z,6μm,18.0s,MS6.1,baz=284,slow=32								
ASAR	**Alice Springs**	**98.56**	**161**	P		**P**		**17 33 27.4**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.4,baz=186,slow=4.3,SNR=8.3								
BVAR	**Borovoye Array**	**134.05**	**57**	PKP		PKPdf		17 39 03.9	-1.9
	comp=Z,1.2nm,0.8s,baz=234,slow=1.3,SNR=5.6								
MKAR	**Makanchi Array**	**136.03**	**70**	PKP		PKPdf		17 39 11.6	+2.1
	comp=Z,0.4nm,0.8s,baz=229,slow=1.5,SNR=3.8								
YKA	**Yellowknife Ar**	**136.91**	**317**	PKP		PKPdf		17 39 15.0	+3.9
	comp=Z,1.8nm,0.8s,baz=127,slow=2.2,SNR=5.5								
NJ2	**Nanjing**	**145.45**	**119**	*e*PKP		PKPdf		17 39 26.3	-0.1
NJ2				PP		PP		17 42 48.5	+2.3
NJ2				PKS				17 42 59.0	
NJ2				PP		PP			
	comp=Z,400nm,5.1s								
BTO	**Baotou**	**147.26**	**99**	*e*PKP		PKPdf		17 39 29.9	+0.4
DAWY	**Dawson**	**147.59**	**311**	*e*PKPbc		PKPbc		17 39 30.4	-2.3
ZAK	**Zakamensk**	**149.43**	**79**	*e*PKHKP				17 39 35.8	
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.3s								
SONM	**Songino Array**	**149.78**	**85**	PKPbc		PKPbc		17 39 36.2	-2.1
	comp=Z,2.5nm,0.7s,baz=211,slow=1.7,SNR=5.4								
COLA	**College**	**151.34**	**311**	*e*PKIKP		PKPbc		17 39 40.2	-1.8
MCK	**McKinley**	**151.60**	**309**	*e*PKIKP		PKPbc		17 39 41.3	-1.3
KDAK	**Kodiak Island**	**151.73**	**296**	PKPbc		PKPbc		17 39 41.5	-1.5
	comp=Z,3.9nm,0.4s,baz=110,slow=2.6,SNR=6.7								
KDAK	**Kodiak Island**	**151.73**	**296**	PKPbc		PKPbc		17 39 41.5	-1.5

CSEM ***07*** *17:28:30.7, 67.81N×023.6E, h0km, ML3.5, Mining explosion. After UPP*

UPP 07 17:28:30.7, 67.81N×023.6E, h0km, ML3.5, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.46**	**278**	P		P	Pg	17 28 39.3	-0.2
LANU	**Lannavaara**	**0.70**	**69**	P		P	Pg	17 28 44.3	+0.1
MASU	**Masugnsbyn**	**0.76**	**117**	P		P	Pg	17 28 44.7	-0.6
SALU	**Saltoluokta**	**0.79**	**238**	P		P	Pg	17 28 45.8	-0.1
	baz=66								
PAJU	**Pajala**	**1.36**	**124**	P		P	Pg	17 28 56.2	-0.7
HARU	**Harads**	**1.68**	**170**	P		P	Pn	17 29 02.0	+0.7

BJI ***07*** *17:38:28.6, 68.1S×152.0E, h23km, mB6.6, mb5.7, Ms6.5, Msz6.4*
IDC ***07*** *17:38:31.8±0.3, 64.3S×151.25E, h0km, mb5.4/28, mb1 5.4/30, mb1mx5.4/31, mbtmp5.4/30, ML4.6/2, MS6.2/21, Ms1 6.2/21, ms1mx6.1/25, Error ellipse: s-maj=8.5km s-min=7.1km az=69.0*
GCMT ***07*** *17:38:33.6±0.0, 65.7S×151.58E, h12km, MW6.6/111, Moment Tensor Solution. s110,c260; s111,c493; Duration: 4≤6 Moment tensor: Scale 10^19 Nm; Mrr=0.77±.00; Mθθ=0.55±.00; Mφφ=0.21±.00; Mrθ=0.23±.01; Mθφ=0.41±.00; Mφr=0.21±.01; Best double couple: M=0.85400×10^19 NP1:φs=240.00000°, δ=35.00000°, λ=-85.00000°. NP2:φs=53.00000°, δ=56.00000°, λ=-94.00000°. Principal axes: T 0.8840, Plg11.0000°, Azm146.0000°; N -0.0590, Plg3.0000°, Azm55.0000°; P -0.8250, Plg79.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***07*** *17:38:33.8±0.1, 64.8S×151.20E, h11km, mb6.3/108, ME6.5, MS6.3/142, MW6.4 Error ellipse: s-maj=4.7km s-min=4.0km az=138.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^18 Nm; Mrr=4.10; Mθφ=3.54; Mθθ=0.56; Mrθ=0.11; Mφφ 1.64; Mφr=0.83; Best double couple: M=4.30000×10^18 NP1:φs=236.00000°, δ=49.00000°, λ=-103.00000°. NP2:φs=76.00000°, δ=43.00000°, λ=-75.00000°. Principal axes: T 4.2900, Plg3.0000°, Azm336.0000°; N -0.0400, Plg10.0000°, Azm245.0000°; P -4.2500, Plg80.0000°, Azm82.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
MOS ***07*** *17:38:35.5±1.3, 64.7S×151.15E, h33km, mb6.4/45, MS6.3/72 Error ellipse: s-maj=7.3km s-min=6.0km az=79.1*
ISCJB ***07*** *17:38:36.0±0.1, 64.3S±003×150.76E±002, h17km, mb6.1/158, MS6.3/212, Error ellipse: s-maj=4.5km s-min=3.0km az=171.7*
SZGRF ***07*** *17:38:36.7, 65.3S×153.44E, h33km, mb6.5, New Britain, Papua New Guinea, region*

ISC 07 17:38:38.0±0.1, 645S±003×1508.5E±002, h18km, h18km±1.9km: pP-P, n1364, σ1≤18/679, mb6.1/157, MS6.3/212, 266C-240D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.69**	**231**	Pn		**Pn**		**17 39 51.1**	**+3.3**
	31nm,0.3s,baz=64,slow=6.2,SNR=67								
PMG				Sn		**Sn**		**17 40 53.6**	**+12**
	367nm,0.3s,baz=32,slow=9.6,SNR=3.9								
PMG				LR		LR		17 41 57.2	
	comp=Z,69μm,20.4s,baz=63,slow=41								
PMG	**Port Moresby**	**4.69**	**231**	*e*P		**Pn**		**17 39 48.5**	**+0.7**
PMG	**Port Moresby**	**4.69**	**231**	*e*Pn		**Pn**		**17 39 51.7**	**+3.9**
PMG				*e*Sn		**Sn**		**17 40 58.0**	**+16**
HNR	**Honiara**	**9.49**	**109**	Pn		**Pn**		**17 40 44.9**	**-8.8**
	14nm,0.3s,baz=348,slow=0.5,SNR=8.1								
HNR				Sn		**Sn**		**17 42 37.8**	**-2.1**
	22nm,0.3s,baz=330,slow=1.2,SNR=5.9								
HNR	**Honiara**	**9.49**	**109**	*e*P		**Pn**		**17 40 44.1**	**-10**
HNR				pmax		pmax			
	comp=Z,3μm,1.0s								
HNR	**Honiara**	**9.49**	**109**	*e*Pn		**Pn**		**17 40 44.1**	**-10**
	comp=Z,3μm,1.0s								
CTA	**Charters Tower**	**14.27**	**198**	*e*P		**Pn**		**17 41 59.1**	**0.0**
	comp=Z,265nm,1.6s								
CTA				*e*S		**Sn**		**17 44 56.8**	**+20**
CTA	**Charters Tower**	**14.27**	**198**	Pn		**Pn**		**17 41 58.0**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=29,slow=14,SNR=34								
CTA				Sn		**Sn**		**17 44 52.6**	**+16**
	comp=Z,0.6nm,0.3s,baz=297,slow=16,SNR=1.8								
CTA	**Charters Tower**	**14.27**	**198**	*e*P		**Pn**		**17 41 59.1**	**0.0**
CTA				pmax		pmax			
	comp=Z,265nm,1.6s								
CTAO	**Charters Tower**	**14.27**	**198**	*e*P		**Pn**		**17 41 59.1**	**0.0**
CTAO				pmax		pmax			
	comp=Z,857nm,1.5s								
CTAO	**Charters Tower**	**14.27**	**198**	*e*P		**Pn**		**17 41 59.0**	**-0.1**
	comp=Z,856nm,1.5s								
KAKA	**Kakadu**	**19.18**	**250**	⇓*i*P		**Pn**		**17 43 01.5**	**0.0**
	comp=Z,2μm,0.9s								
KAKA				*e*S		**Sn**		**17 46 50.5**	**+15**
GUMO	**Guam**	**20.77**	**343**	P		**P**		**17 43 16.0**	**-1.9**
	comp=Z,897nm,1.2s,baz=179,slow=3.4,SNR=11								
GUMO				S		**S**		**17 47 15.4**	**+6.4**
	comp=Z,138nm,1.2s,baz=42,slow=22,SNR=5.7								
GUMO	**Guam**	**20.77**	**343**	*e*P		**P**		**17 43 17.5**	**-0.4**
GUMO				pmax		pmax			
	comp=Z,6μm,1.5s								
GUMO				MLR		MLR			
	comp=Z,68μm,22.0s,MS6.0								
GUMO	**Guam**	**20.77**	**343**	*e*P		**P**		**17 43 17.4**	**-0.5**
	comp=Z,6μm,1.5s								
GUMO				LR		LR			
	comp=Z,68μm,22.0s,MS6.0								
WRAB	**Tennant Creek**	**20.89**	**229**	P		**P**		**17 43 19.7**	**+0.5**
	comp=Z,4μm,0.9s,SNR=56								
WRAB	**Tennant Creek**	**20.89**	**229**	*e*P		**P**		**17 43 17.6**	**-1.6**
WRAB	**Tennant Creek**	**20.89**	**229**	*e*Pn		**P**		**17 43 19.1**	**0.0**
	comp=Z,341nm,3.8s								
WRAB				LR		LR			
	comp=Z,12μm,19.0s,MS5.3								
WB2	**Warramunga Arr**	**20.89**	**229**	*e*P		**P**		**17 43 19.1**	**-0.1**
WB2				*e*S		**S**		**17 47 17.9**	**+6.5**
WB2				*e*SCS		ScS		17 54 52.1	+5.9
WRA	**Warramunga Arr**	**20.90**	**229**	P		**P**		**17 43 18.9**	**-0.4**
	comp=Z,144nm,0.9s,baz=55,slow=11,SNR=177								
WRA				S		**S**		**17 47 16.3**	**+4.7**
	comp=Z,29nm,0.9s,baz=55,slow=10,SNR=3.1								
WRA				ScP		ScP		17 51 04.9	+2.2
	comp=Z,6.1nm,0.8s,baz=39,slow=2.2,SNR=2.6								
WRA				LR		LR		17 52 18.6	
	comp=Z,53μm,18.1s,MS6.0,baz=60,slow=39								
WRA				P3KP				18 18 23.1	
	comp=Z,2.6nm,0.9s,baz=165,slow=1.6,SNR=5.2								
WRA	**Warramunga Arr**	**20.90**	**229**	P		**P**		**17 43 18.9**	**-0.4**
WRA				S		**S**		**17 47 16.3**	**+4.7**
WRA	**Warramunga Arr**	**20.90**	**229**	P		**P**		**17 43 18.9**	**-0.4**
WRA				S		**S**		**17 47 16.3**	**+4.7**
WRA				ScP		ScP		17 51 04.9	+2.2
WRA				LR		LR		17 52 18.6	
AS31	**Alice Springs**	**23.63**	**222**	*e*P		**P**		**17 43 47.7**	**-0.5**
AS31				*e*S		**S**		**17 48 12.1**	**+11**
AS31				*e*ScS		ScS		17 55 09.5	+13
ASAR	**Alice Springs**	**23.63**	**222**	P		**P**		**17 43 46.9**	**-1.3**
	comp=Z,48nm,0.5s,mb5.2,baz=58,slow=8.8,SNR=393								
ASAR				S		**S**		**17 48 10.8**	**+9.2**
	comp=Z,32nm,1.0s,baz=34,slow=20,SNR=5.1								
ASAR				ScP		ScP		17 51 16.8	+7.0
	comp=Z,20nm,1.0s,baz=39,slow=4.2,SNR=5.2								
ASAR				LR		LR		17 53 39.2	
	comp=Z,39μm,18.6s,MS5.9,baz=230,slow=38								
ASPA	**Alice Springs**	**23.63**	**222**	*e*P		**P**		**17 43 47.7**	**-0.5**
ASPA				*e*S		**S**		**17 48 12.1**	**+10**
ASPA				*e*ScS		ScS		17 55 09.5	+13
ARMA	**Armidale**	**23.85**	**178**	⇑*i*P		**P**		**17 43 46.7**	**-3.5**
ARMA				*e*S		**S**		**17 48 13.3**	**+8.1**
STKA	**Stephens Creek**	**26.73**	**198**	⇓*i*P		**P**		**17 44 14.7**	**-1.7**
	comp=Z,462nm,1.2s,mb5.9								
STKA				*e*S		**S**		**17 49 06.4**	**+15**
STKA	**Stephens Creek**	**26.73**	**198**	P		**P**		**17 44 14.7**	**-1.7**
	comp=Z,44nm,0.6s,mb5.2,baz=12,slow=9.3,SNR=35								
STKA				S		**S**		**17 48 53.3**	**+2.1**
	comp=Z,42nm,1.1s,baz=75,slow=20,SNR=1.7								
STKA				LR		LR		17 53 47.9	
	comp=Z,57μm,21.2s,MS6.1,baz=215,slow=34								
FITZ	**Fitzroy Crossi**	**27.17**	**243**	*e*P		**P**		**17 44 20.0**	**-0.3**
	comp=Z,1μm,0.9s,mb6.4								
FITZ				*e*S		sS		17 49 20.7	+13
FITZ	**Fitzroy Crossi**	**27.17**	**243**	P		**P**		**17 44 20.1**	**-0.3**
	comp=Z,83nm,0.5s,mb5.5,baz=75,slow=8.5,SNR=81								
FITZ				S		**S**		**17 49 04.4**	**+6.3**
	comp=Z,49nm,0.9s,baz=310,slow=18,SNR=1.5								
FITZ				LR		LR		17 55 35.7	
	comp=Z,17μm,20.2s,MS5.6,baz=49,slow=37								
MATI	**Mati**	**27.91**	**298**	*e*P		**P**		**17 44 26.9**	**0.0**
FUNA	**Funafuti**	**28.18**	**96**	*e*P		**P**		**17 44 23.8**	**-5.6**
	comp=Z,951nm,1.5s,mb6.2								
FUNA				LR		LR			
	comp=Z,40μm,22.0s,MS6.0								
DAV	**Davao City (W)**	**28.56**	**298**	PFAKE				17 44 40.0	+7.2
DAV				LR		LR			
	comp=Z,30μm,20.0s,MS5.9								
CNB	**Canberra Magne**	**28.76**	**183**	*e*P		**P**		**17 44 35.3**	**+0.8**
	comp=Z,210nm,1.3s,mb5.7								
CNB				*e*S		sS		17 49 45.5	+13
BUKP	**Musuan**	**29.39**	**299**	*e*P		**P**		**17 44 41.1**	**+1.0**
MSLP	**Maasin**	**30.68**	**302**	*e*P		**P**		**17 44 52.2**	**+0.7**
KAPI	**Kappang**	**30.97**	**271**	P		**P**		**17 44 56.5**	**+2.4**
	comp=Z,2μm,2.0s,mb6.5,SNR=25								
OCLP	**Ormoc**	**31.37**	**304**	*e*P		**P**		**17 44 58.7**	**+1.0**
LLP	**Lapu-Lapu**	**31.53**	**302**	*e*P		**P**		**17 45 06.1**	**+7.1**
IPIL	**Ipil**	**31.55**	**296**	*e*P		**P**		**17 45 01.2**	**+2.0**
FORT	**Forrest**	**32.29**	**219**	*e*P		**P**		**17 45 04.1**	**-1.6**
	comp=Z,377nm,0.6s,mb6.4								
GUIM	**Jordan**	**32.85**	**301**	*e*P		**P**		**17 45 18.3**	**+7.7**
PVCP	**Virac**	**33.15**	**307**	⇓P		**P**		**17 45 14.5**	**+1.2**
PVCP	**Virac**	**33.15**	**307**	*e*P		**P**		**17 45 13.3**	**+0.1**
RCP	**Roxas**	**33.19**	**303**	⇓P		**P**		**17 45 16.1**	**+2.5**
MBWA	**Marble Bar**	**33.47**	**241**	*e*P		**P**		**17 45 17.0**	**+1.0**
	comp=Z,34nm,0.9s,mb5.3								
MBWA				LR		LR			
	comp=Z,39μm,20.0s,MS6.1								
AUQP	**San Andres**	**34.19**	**305**	*e*P		**P**		**17 45 29.9**	**+7.7**
OTRP	**Odiongan**	**34.21**	**303**	*e*P		**P**		**17 45 26.3**	**+3.8**
CUYO	**Cuyo Island**	**34.31**	**300**	*e*P		**P**		**17 45 26.1**	**+2.8**
CBIJ	**Chichi jima**	**34.38**	**346**	P		**P**		**17 45 25.6**	**+1.7**
	comp=Z,48nm,0.6s,mb5.6,baz=175,slow=19,SNR=3.2								
TSM	**Tawau**	**34.61**	**287**	P		**P**		**17 45 27.3**	**+1.5**
GQP	**Guinayangan**	**34.69**	**306**	*e*P		**P**		**17 45 24.9**	**-1.7**
BOAC	**Boac**	**34.94**	**305**	*e*P		**P**		**17 45 30.5**	**+1.8**
POLP	**Polilio Island**	**35.56**	**306**	*e*P		**P**		**17 45 33.8**	**-0.3**
BUSP	**Coron**	**35.57**	**301**	*e*P		**

comp=Z,1μm,1.4s,mb6.3
ODZ Otahua Downs 42.13 159 PN **P** **17 46 31.3 +2.1**
YHNB Yeheng 42.20 318 *eP* **P** **17 46 30.4 +0.6**
comp=Z,479nm,0.8s,mb6.2
TATO Taipei 42.34 319 *eP* **P** **17 46 30.9 0.0**
comp=Z,1μm,1.4s,mb6.3
TATO LR LR
comp=Z,62μm,22.0s,MS6.5
JNU Nakatsue 43.69 335 P **P** **17 46 40.7 -1.1**
comp=Z,50nm,0.9s,mb5.2,baz=168,slow=28,SNR=9.0
JNU LR LR 18 01 31.6
comp=Z,52μm,19.4s,MS6.5,baz=279,slow=32
QZH Quanzhou 44.26 316⇓ *i*P **P** **17 46 46.3 -0.1**
QZH S **S** **17 53 17.0 -2.2**
QZH AMB AMB
comp=Z,340nm,0.8s,mb6.1
QZH AMB AMB
comp=Z,15μm,8.4s
QZH LR LR
comp=N,31μm,17.8s,MS6.5
QZH LR LR
comp=E,45μm,17.2s,MS6.5
QZH LR LR
comp=Z,69μm,18.2s,MS6.6
MJAR Matsushiro Arr 44.38 345 P **P** **17 46 46.4 -0.9**
comp=Z,29nm,1.1s,baz=170,slow=7.1,SNR=19
PcP PcP
MJAR 17 48 29.4 -1.6
comp=Z,16nm,0.7s,baz=153,slow=3.8,SNR=6.7
MJAR ScP ScP 17 52 23.2 +1.0
comp=Z,14nm,1.0s,baz=170,slow=4.4,SNR=7.8
MJAR LR LR 18 04 50.3
comp=Z,29μm,18.9s,MS6.2,baz=170,slow=36
MJAR Matsushiro Arr 44.38 345 P **P** **17 46 46.4 -0.9**
MJAR 17 48 29.4
MAJO Matsushiro 44.38 345 *eP* **P** **17 46 43.8 -3.5**
MAJO pmax pmax
comp=Z,70nm,0.9s,mb5.4
MAJO MLR MLR
comp=Z,35μm,19.0s,MS6.3
MAJO Matsushiro 44.38 345 *eP* **P** **17 46 43.8 -3.5**
comp=Z,70nm,0.9s,mb5.4
MAJO LR LR
comp=Z,35μm,19.0s,MS6.3
MAT Matsushiro 44.38 345 P **P** **17 46 46.5 -0.8**
MAT S **S** **17 53 17.0 -3.9**
HKC Hong Kong 45.89 310⇑ *i*P **P** **17 47 06.0 +6.7**
HKC *i* S **S** **17 53 46.0 +3.2**
MIDW Midway 46.13 40 *eP* **P** **17 46 57.1 -4.1**
comp=Z,1μm,1.3s,mb6.7
MIDW LR LR
comp=Z,17μm,21.0s,MS6.0
SSE Sheshan 46.89 324⇓ P **P** **17 47 07.9 +0.8**
SSE AP pP 17 47 11.3 -1.6
SSE XP sP 17 47 13.3 -1.9
SSE S **S** **17 54 00.5 +3.5**
SSE AMB AMB
comp=Z,63nm,1.2s,mb5.4
SSE LR LR
comp=N,21μm,25.6s,MS6.2
SSE LR LR
comp=E,30μm,25.7s,MS6.2
SSE LR LR
comp=Z,49μm,26.0s,MS6.3
SSE Sheshan 46.89 324⇓ P **P** **17 47 07.9 +0.8**
comp=Z,63nm,1.2s,mb5.4
SSE pP pP 17 47 11.3 -1.6
SSE sP sP 17 47 13.3 -1.9
SSE PcP PcP 17 48 43.0 +3.2
SSE S **S** **17 54 00.5 +3.5**
SSE sS sS 17 54 08.4 +1.8
SSE LR LR
comp=Z,49μm,26.0s,MS6.3
GZH Guangzhou 46.96 310 P **P** **17 47 10.7 +3.0**
GZH S **S** **17 54 06.1 +8.0**
GZH LR LR
comp=N,18μm,15.5s,MS6.2
GZH LR LR
comp=E,17μm,17.4s,MS6.2
GZH LR LR
comp=Z,85μm,32.3s
QIZ Qiongzhong 47.68 303 P **P** **17 47 14.1 +0.8**
QIZ XP sP 17 47 21.4 0.0
QIZ S **S** **17 54 11.5 +3.2**
QIZ AMB AMB
comp=Z,6μm,9.3s
QIZ LR LR
comp=N,18μm,28.2s,MS6.2
QIZ LR LR
comp=E,29μm,27.4s,MS6.2
QIZ LR LR
comp=Z,73μm,33.7s
KGM Kluang 48.19 278 P **P** **17 47 18.5 +1.3**
MCQ Macquarie Isla 48.35 174 *eP* **P** **17 47 25.8 +7.3**
KSRS Korea Array 48.64 336 P **P** **17 47 18.9 -1.8**
comp=Z,19nm,0.9s,mb5.1,baz=155,slow=7.9,SNR=22
KSRS PcP PcP 17 48 43.5 -2.5
comp=Z,34nm,0.8s,baz=167,slow=3.6,SNR=15
KSRS LR LR 18 04 22.3
comp=Z,21μm,21.1s,MS6.1,baz=131,slow=32
NJ2 Nanjing 48.95 323 *eP* **P** **17 47 23.5 +0.4**
NJ2 AP pP 17 47 27.7 -1.2
NJ2 XP sP 17 47 30.3 -0.9
NJ2 PP PP 17 49 17.4 +0.9
NJ2 S **S** **17 54 34.5 +8.3**
NJ2 XS sS 17 54 42.0 +6.2
NJ2 AMB AMB
comp=Z,200nm,1.0s,mb6.1
NJ2 AMB AMB
comp=Z,18μm,9.6s
NJ2 LR LR
comp=N,37μm,20.8s,MS6.5
NJ2 LR LR
comp=E,45μm,20.7s,MS6.5
NJ2 LR LR
comp=Z,39μm,30.2s
INCN Inchon 49.20 334 *eP* **P** **17 47 25.2 +0.1**
comp=Z,168nm,0.9s,mb6.1
INCN LR LR
comp=Z,33μm,22.0s,MS6.3
RAR Rarotonga 49.92 112 P **P** **17 47 24.0 -6.5**
comp=Z,34nm,0.9s,mb5.4,baz=310,slow=7.9,SNR=3.0
YUK Yuzh-Kuril'sk 50.45 355 *eP* **P** **17 47 32.5 -2.0**
WHN Wuhan 50.74 318⇓ P **P** **17 47 38.2 +1.4**
WHN S **S** **17 55 01.0 +10**
WHN LR LR
comp=Z,144μm,34.0s,MS6.8
ASAJ Asahikawa 50.88 352 P **P** **17 47 35.6 -2.2**
comp=Z,70nm,0.9s,mb5.6,baz=244,slow=12,SNR=7.4
IPM Ipoh 50.91 281 P **P** **17 47 39.9 +1.9**
KULM Kulim 51.45 282 *eP* **P** **17 47 40.9 -1.1**
SNG Songkhla 51.91 284 P **P** **17 47 48.0 +2.5**
comp=Z,280nm,0.9s,mb6.2
VLA Vladivostok 52.25 342 *eP* **P** **17 47 45.8 -2.2**
VLA *e* 17 49 45.3
VLA *i* S **S** **17 55 15.4 +3.3**
VLA pmax pmax
comp=Z,68nm,1.5s,mb5.4
VLA MLR MLR
comp=Z,7μm,17.8s,MS5.7
VLA Vladivostok 52.25 342 *i* P **P** **17 47 47.5 -0.5**
KKTK Khon Kaen 52.63 296⇓ P **P** **17 47 52.0 +1.1**
comp=Z,741nm,0.5s,mb6.9
DL2 Dalian 52.63 331⇑ *i*P **P** **17 47 54.4 +3.5**
DL2 AP pP 17 47 59.8 +3.1
DL2 PCP PcP 17 48 59.3 -1.5
DL2 S **S** **17 55 24.5 +7.2**
DL2 SS SS 17 59 01.2 +5.5
DL2 AMB AMB
comp=Z,90nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,4μm,7.4s
DL2 LR LR
comp=N,9μm,24.8s,MS5.8
DL2 LR LR
comp=E,7μm,24.0s,MS5.8
DL2 LR LR
comp=Z,27μm,29.5s
PSI Prapat 52.65 278 P **P** **17 47 51.9 +0.9**
comp=Z,75nm,1.0s,mb5.6,baz=156,slow=4.9,SNR=36
PSI S **S** **17 55 23.9 +6.3**
comp=Z,2.4nm,0.5s,baz=205,slow=23,SNR=5.7
TIA Tai'an 52.93 326⇓ P **P** **17 47 52.0 -1.1**
TIA S **S** **17 55 26.0 +4.6**
TIA LR LR
comp=N,16μm,18.0s,MS6.1
TIA LR LR
comp=E,7μm,19.0s,MS6.1
COCO West Island 53.53 260 P **P** **17 48 01.7 +4.2**
comp=E,3μm,0.9s,SNR=15
COCO West Island 53.53 260 *eP* **P** **17 47 59.6 +2.1**
comp=E,516nm,1.0s,mb6.4
COCO LR LR
comp=Z,3μm,21.0s,MS5.3
YSS Yuzh-Sakhalins 53.65 353 *eP* **P** **17 48 01.5 +3.1**
YSS *e* 17 49 09.0
YSS *e*PPP 17 51 12.0
YSS *e*S **S** **17 55 36.0 +4.8**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS pmax pmax
comp=Z,4μm,9.0s
YSS MLR MLR
comp=N,16μm,17.0s,MS6.3
YSS MLR MLR
comp=E,14μm,17.0s,MS6.3
YSS MLR MLR
comp=Z,15μm,17.0s,MS6.1
YSS Yuzh-Sakhalins 53.65 353⇑ *e*P **P** **17 47 57.9 -0.5**
YSS LR LR
comp=Z,13μm,20.0s,MS6.0
GYA Guiyang 53.88 309⇑ *i*P **P** **17 48 00.4 +0.3**
GYA AP pP 17 48 04.8 -1.1
GYA XP sP 17 48 07.9 -0.3
GYA PCP PcP 17 49 06.6 +1.1
GYA PP PP 17 50 05.3 +4.0
GYA S **S** **17 55 37.4 +3.0**
GYA SCS ScS 17 57 48.2 -0.4
GYA SS SS 17 59 19.1 +3.6
GYA AMB AMB
comp=Z,70nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,7μm,9.0s
GYA LR LR
comp=N,127μm,20.0s,MS7.1
GYA LR LR
comp=E,126μm,23.0s,MS7.1
GYA LR LR
comp=Z,27μm,22.0s,MS6.3
SNY Shenyang 54.12 335⇑ P **P** **17 48 04.0 +2.2**
SNY AP pP 17 48 08.3 +0.6
SNY XP sP 17 48 12.3 +2.4
SNY S **S** **17 55 42.8 +5.2**
SNY XS sS 17 55 53.0 +5.8
SNY SS SS 17 59 20.8 +1.6
SNY AMB AMB
comp=Z,8μm,6.7s
SNY LR LR
comp=E,20μm,22.7s
SNY LR LR
comp=Z,41μm,28.9s
NNT Nongplab 54.20 290 P **P** **17 48 06.5 +4.1**
MDJ Mudanjiang 54.31 341 P **P** **17 48 01.6 -1.6**
MDJ PP PP 17 50 05.2 +0.1
MDJ S **S** **17 55 45.5 +5.3**
MDJ AMB AMB
comp=Z,51nm,1.4s,mb5.3
MDJ AMB AMB
comp=Z,7μm,10.0s
MDJ LR LR
comp=N,38μm,37.5s,MS6.2
MDJ LR LR
comp=E,22μm,38.0s,MS6.2
MDJ LR LR
comp=Z,50μm,40.9s,MS6.3
NST Nakhon Sawan 54.82 294 P **P** **17 48 06.0 -0.9**
comp=Z,117nm,1.0s,mb5.9
CN2 Changchun 55.04 338⇑ P **P** **17 48 04.7 -3.8**
CN2 *e*S **S** **17 55 49.4 -0.5**
CN2 AMB AMB
comp=Z,8μm,7.0s
CN2 LR LR
comp=N,19μm,22.0s,MS6.2
CN2 LR LR
comp=E,13μm,22.0s,MS6.2
CN2 LR LR
comp=Z,25μm,24.0s,MS6.2
NANT Nan 55.42 298⇑ P **P** **17 48 09.0 -2.2**
comp=Z,506nm,1.0s,mb6.5
BJI Beijing 56.22 328 P **P** **17 48 15.9 -1.1**
BJI PCP PcP 17 49 14.0 -0.5
BJI S **S** **17 55 58.8 -6.9**
BJI SS SS 17 59 54.8 +2.5
BJI AMB AMB
comp=Z,84nm,1.2s,mb5.7
BJI AMB AMB
comp=Z,2μm,3.6s
BJI LR LR
comp=N,19μm,25.0s
BJI LR LR
comp=E,17μm,18.4s
BJI LR LR
comp=Z,51μm,37.5s
BJI Beijing 56.22 328 P **P** **17 48 15.9 -1.1**
BJI 17 49 14.0
BJI S **S** **17 55 58.8 -6.9**
BJI 17 58 05.3
BJI SS SS 17 59 54.8 +2.5
BJI pmax pmax
comp=Z,84nm,1.2s,mb5.7
BJI MLR MLR
comp=Z,51μm,37.5s,MS6.3
BJI Beijing 56.22 328 P **P** **17 48 15.9 -1.1**
comp=Z,84nm,1.2s,mb5.7
BJI PcP PcP 17 49 14.0 -0.5
BJI S **S** **17 55 58.8 -6.9**
BJI PcP ScS 17 58 05.3 0.0
BJI SS SS 17 59 54.8 +2.5
BJI LR LR
comp=Z,51μm,37.5s,MS6.3
KMI Kunming 56.33 306⇓ P **P** **17 48 19.7 +2.0**
KMI AP pP 17 48 24.3 +0.7
KMI XP sP 17 48 26.5 +0.6
KMI PCP PcP 17 49 15.9 +1.0
KMI PP PP 17 50 27.6 +4.4
KMI PPP 17 51 45.0
KMI S **S** **17 56 17.3 +10**
KMI AMB AMB
comp=Z,46nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,7μm,6.5s
KMI LR LR
comp=N,18μm,21.7s,MS6.3
KMI LR LR
comp=E,20μm,20.1s,MS6.3
KMI LR LR
comp=Z,53μm,20.9s,MS6.6
KMI Kunming 56.33 306⇓ P **P** **17 48 19.7 +2.0**
KMI *SP sP 17 48 26.5 +0.6
KMI 17 49 15.9
KMI 17 50 27.6
KMI PPP 17 51 45.0
KMI S **S** **17 56 17.3 +10**
KMI *SS sS 17 56 21.9 +5.1
KMI SSS 18 02 11.1
KMI pmax pmax
comp=Z,46nm,0.9s,mb5.5
KMI MLR MLR
comp=Z,53μm,20.9s,MS6.6
KMI Kunming 56.33 306⇓ P **P** **17 48 19.7 +2.0**
comp=Z,46nm,0.9s,mb5.5
KMI pP pP 17 48 24.3 +0.7
KMI sP sP 17 48 26.5 +0.6
KMI PcP PcP 17 49 15.9 +1.0
KMI PP PP 17 50 27.6 +4.4
KMI PPP 17 51 45.0
KMI S **S** **17 56 17.3 +10**
KMI sS sS 17 56 21.9 +5.1
KMI SS SS 18 00 11.8 +18
KMI SSS 18 02 11.1
KMI LR LR
comp=Z,53μm,20.9s,MS6.6
BDT Bhumibol Dam 56.37 296 P **P** **17 48 20.0 +2.0**
XAN Xi'an 56.51 318 P **P** **17 48 17.3 -1.7**
XAN AP pP 17 48 23.9 -1.0
XAN PP PP 17 50 25.2 +0.4
XAN S **S** **17 56 11.8 +2.3**
XAN SS SS 18 00 05.2 +8.4
XAN AMB AMB
comp=Z,103nm,1.2s,mb5.7
XAN AMB AMB
comp=Z,728nm,6.3s
XAN LR LR
comp=N,2μm,18.8s
XAN LR LR
comp=E,14μm,35.5s
CM31 Chiang Mai Arr 56.85 297 PFAKE 17 48 30.0 +8.6
CM31 LR LR
comp=Z,10μm,19.0s,MS6.0
CHG Chiang Mai 56.97 297⇑ P **P** **17 48 23.1 +0.8**
comp=Z,100nm,0.9s,mb5.8
CHTO Chiang Mai 56.97 297 *eP* **P** **17 48 21.7 -0.6**
CHTO pmax pmax
comp=Z,109nm,1.3s,mb5.7
CHTO MLR MLR
comp=Z,14μm,20.0s,MS6.0
CHTO Chiang Mai 56.97 297 *eP* **P** **17 48 21.7 -0.6**
comp=Z,109nm,1.3s,mb5.7
CHTO LR LR
comp=Z,14μm,20.0s,MS6.0
SKR Severo-Kuril's 57.08 4 *eP* **P** **17 48 24.0 +0.9**
SKR *e* 17 49 20.0
SKR *e* 17 50 36.0
SKR *e*PPP 17 51 54.0
SKR *e*S **S** **17 56 16.0 -1.1**
SKR *e*SSS 18 02 22.0
SKR pmax pmax
comp=N,3μm,6.0s
SKR pmax pmax
comp=E,5μm,6.0s
SKR pmax pmax
comp=Z,6μm,6.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,8μm,10.0s
SKR smax
comp=E,9μm,14.0s
SKR MLR MLR
comp=N,15μm,18.0s,MS6.3
SKR MLR MLR
comp=Z,21μm,18.0s,MS6.3
SKR MLR MLR
comp=E,11μm,14.0s,MS6.3
HON Honolulu 57.26 60 P **P** **17 48 19.2 -5.1**
KIP Kipapa 57.29 60 *eP* **P** **17 48 20.2 -4.3**
KIP Kipapa 57.29 60 *eP* **P** **17 48 20.9 -3.7**
comp=E,1μm,1.4s,mb6.8
KIP LR LR
comp=Z,12μm,19.0s,MS6.0
KLR Kul'dur 57.90 345 *eP* **P** **17 48 22.0 -6.9**
KLR *e* 17 49 15.0
KLR *e*S **S** **17 56 20.0 -7.9**
KLR *e* 17 58 15.7
KLR *e*SS SS 18 00 17.0 -1.8
KLR *e*SSS 18 02 35.5
KLR pmax pmax
comp=E,430nm,3.0s
KLR pmax pmax
comp=Z,1μm,3.0s
KLR pmax pmax
comp=N,4μm,9.0s
KLR pmax pmax
comp=E,2μm,9.0s
KLR pmax pmax
comp=Z,12μm,9.0s
KLR smax
comp=N,4μm,11.0s
KLR smax
comp=E,2μm,11.0s
KLR MLR MLR
comp=Z,22μm,14.0s,MS6.4
KKH Kailua Kona 58.36 62 P **P** **17 48 32.5 +0.4**
CD2 Chengdu 58.36 312 P **P** **17 48 31.8 -0.3**
CD2 AP pP 17 48 36.2 -1.8
CD2 XP sP 17 48 48.9 +8.7
CD2 PP PP 17 50 43.8 +2.5
CD2 S **S** **17 56 38.8 +4.9**
CD2 SS SS 18 00 34.7 +8.7
CD2 AMB AMB
comp=Z,90nm,0.7s,mb5.9
CD2 AMB AMB
comp=Z,10μm,7.8s
CD2 LR LR
comp=N,27μm,21.6s
CD2 LR LR
comp=E,41μm,27.6s
CD2 LR LR
comp=Z,45μm,23.4s,MS6.5
KHU Kahuku 58.57 63 *eP* **P** **17 48 29.9 -3.6**
HPO Honuapo 58.57 63 P **P** **17 48 34.0 +0.5**
POHA Pohakuloa 58.83 62 PFAKE 17 48 40.0 +4.7
POHA LR LR
comp=Z,16μm,20.0s,MS6.1
PPT Papeete 59.10 107 *eS* **S** **17 56 34.2 -9.3**
comp=Z,47μm,25.5s
PPT *e*SS SS 18 00 30.1 -7.5
comp=Z,7μm,28.8s
PPT *e*LQ 18 03 22.7
comp=Z,112μm,30.2s
PPT *e*LR LR 18 05 41.9
comp=Z,35μm,27.8s
PPT Papeete 59.10 107 LR LR 18 07 22.5
comp=Z,11μm,20.7s,MS6.0,baz=279,slow=30
PPT Papeete 59.10 107 *eP* **P** **17 48 32.6 -4.6**
PPT *e*S **S** **17 56 34.2 -9.3**
PPT *e*SS SS 18 00 30.1 -7.5
PPT pmax pmax
comp=Z,116nm,1.4s
PPT Papeete 59.10 107 *eP* **P** **17 48 32.6 -4.6**
comp=Z,116nm,1.4s,mb5.7
PPT *e*S **S** **17 56 34.2 -9.3**
PPT *e*SS SS 18 00 30.1 -7.5
PPT *e*LQ 18 03 22.7
PAE Paea 59.10 107 *eP* **P** **17 48 32.1 -5.1**
comp=Z,401nm,1.4s,mb6.2
PAE Paea 59.10 107 *eP* **P** **17 48 32.1 -5.1**
PAE pmax pmax
comp=Z,401nm,1.4s,mb6.3
HHC Hu-ho-hao-te 59.28 326⇓ *i*P **P** **17 48 38.7 +0.2**
HHC AP pP 17 48 43.4 -1.0
HHC XP sP 17 48 45.8 -0.8
HHC PCP PcP 17 49 25.6 -0.9
HHC PP PP 17 50 52.6 +3.2
HHC SCP ScP 17 53 24.0 -2.3
HHC PCS PcS 17 53 25.7 -2.8
HHC S **S** **17 56 46.4 +0.6**
HHC SCS ScS 17 58 25.6 -2.1
HHC SS SS 18 00 43.6 +3.2
HHC AMB AMB
comp=Z,47nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,7μm,9.0s
HHC LR LR
comp=N,19μm,19.6s,MS6.3
HHC LR LR
comp=E,14μm,19.1s,MS6.3
HHC LR LR
comp=Z,34μm,22.6s,MS6.4
TVO Taravao 59.42 107 *eP* **P** **17 48 34.8 -4.7**
comp=Z,876nm,1.5s,mb6.5
TVO Taravao 59.42 107 *eP* **P** **17 48 34.8 -4.7**
TVO pmax pmax
comp=Z,876nm,1.5s,mb6.6
PET Petropavlovsk 59.62 5α *i*P **P** **17 48 40.3 -0.5**
PET *e* 17 49 25.9
PET *e* 17 50 44.7
PET *i* S **S** **17 56 47.7 -2.4**
PET *e*SS SS 18 00 43.5 -2.1
PET pmax pmax
comp=Z,47nm,0.6s,mb5.7
PET pmax pmax
comp=Z,6μm,7.8s
PET pmax pmax
comp=Z,3μm,12.0s
PET Petropavlovsk 59.62 5 *eP* **P** **17 48 36.5 -4.3**
comp=Z,124nm,1.1s,mb5.8
PET LR LR
comp=Z,10μm,21.0s,MS5.9
TBI Tubuai 59.68 113 *e*LQ 18 03 39.5
comp=Z,87μm,32.8s
TBI Tubuai 59.68 113 *e*S **S** **17 56 41.7 -9.2**
comp=Z,45μm,29.0s
TBI *e*SS SS 18 00 38.2 -8.4
comp=Z,17μm,26.2s
TBI *e*LR LR 18 06 11.4
comp=Z,97μm,35.5s,baz=279
TBI Tubuai 59.68 113 *eP* **P** **17 48 36.3 -4.9**

TBI *e*S **S** **17 56 41.7 -9.2**
TBI *e*SS SS 18 00 38.2 -8.4
TBI *e*LQ 18 03 39.5
BTO Baotou 59.99 325 *e*P **P** **17 48 41.7 -1.6**
PBA Port Blair 60.53 287 *e*P **P** **17 48 46.0 -1.0**
PBA *ex* x 17 48 49.7
comp=Z,173nm,0.9s
PBA *ex* x 17 56 52.6
DRV Dumont d'Urvil 60.58 185 P **P** **17 48 41.0 -6.4**
DRV S **S** **17 57 02.0 -0.5**
DRV SS SS 18 00 56.0 -4.8
DRV L 18 04 00.0
DRV R 18 08 00.0
PMOR Pomariorio Ree 60.63 104 *e*P **P** **17 48 43.1 -4.6**
comp=Z,898nm,1.4s,mb6.7
VAH Vaihoa 60.89 104 *e*P **P** **17 48 44.6 -4.9**
comp=Z,481nm,1.5s,mb6.4
LZH Lanzhou 61.09 317 *e*P **P** **17 48 50.5 -0.3**
LZH AP pP 17 49 00.0 +3.2
LZH XP sP 17 49 04.0 +5.0
LZH PP PP 17 51 07.2 +1.8
LZH *e*S **S** **17 57 11.0 +2.1**
LZH AMB AMB
comp=Z,114nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,2μm,4.0s
LZH LR LR
comp=E,15μm,17.3s
LZH LR LR
comp=Z,27μm,19.3s,MS6.4
LZH Lanzhou 61.09 317 *e*P **P** **17 48 50.5 -0.3**
LZH *PP pP 17 49 00.0 +3.2
LZH *SP sP 17 49 04.0 +5.0
LZH 17 49 35.6
LZH 17 51 07.2
LZH *e*S **S** **17 57 11.0 +2.1**
LZH SS SS 18 01 10.0 +1.3
LZH pmax pmax
comp=Z,114nm,1.0s,mb6.0
LZH MLR MLR
comp=Z,27μm,19.3s,MS6.4
LZH Lanzhou 61.09 317 *e*P **P** **17 48 50.5 -0.3**
comp=Z,114nm,1.0s,mb6.0
LZH pP pP 17 49 00.0 +3.2
LZH sP sP 17 49 04.0 +5.0
LZH PcP PcP 17 49 35.6 +1.8
LZH PP PP 17 51 07.2 +1.8
LZH *e*S **S** **17 57 11.0 +2.1**
LZH sS ScS 17 58 14.2 -27
LZH SS SS 18 01 10.0 +1.3
LZH LR LR
comp=Z,27μm,19.3s,MS6.4
SMY Shemya 62.18 16 *e*P **P** **17 48 55.7 -2.5**
SMY pmax pmax
comp=Z,182nm,1.5s,mb6.0
SMY MLR MLR
comp=Z,17μm,18.0s,MS6.3
SMY Shemya 62.18 16 *e*P **P** **17 48 55.7 -2.5**
comp=Z,2μm,1.5s,mb7.0
SMY LR LR
comp=Z,17μm,18.0s,MS6.3
IMP Imphal 63.47 302 *i* P **P** **17 49 07.0 +0.2**
IMP *ex* x 17 54 12.0
AGT Agartala 65.45 300 *i* x x 17 49 24.0
AGT *i* x x 17 50 20.0
SHL Shillong 65.49 302 *e*P **P** **17 49 19.2 -0.8**
SHL AMb AMB 17 49 27.5
comp=Z,4μm,1.8s,mb7.1
SHL *e*S S 17 58 08.0 +4.1
GTA Gaotai 65.57 319 *e*P **P** **17 49 18.4 -2.1**
GTA AP pP 17 49 23.2 -3.3
GTA PCP PcP 17 49 46.2 -5.9
GTA PP PP 17 51 48.8 +4.0
GTA SCP 17 53 47.3
GTA S S 17 58 08.1 +3.2
GTA SCS ScS 17 59 09.8 -5.5
GTA SS SS 18 02 27.7 +9.0
GTA AMB AMB
comp=Z,59nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,9μm,6.9s
GTA LR LR
comp=N,13μm,19.4s,MS6.2
GTA LR LR
comp=E,11μm,19.9s,MS6.2
GTA LR LR
comp=Z,18μm,21.0s,MS6.2
MA2 Magadan 65.81 360 *e*P **P** **17 49 22.9 +0.8**
MA2 *i* S S 17 58 05.4 -2.5
MA2 *e*PS 17 58 28.9
MA2 pmax pmax
comp=Z,100nm,0.7s,mb6.0
MA2 MLR MLR
comp=N,28μm,17.6s
MA2 Magadan 65.81 360 *e*P **P** **17 49 17.1 -5.0**
comp=N,190nm,1.1s,mb6.0
MA2 LR LR
comp=Z,15μm,22.0s,MS6.2
CASY Casey 65.88 197 *e*P **P** **17 49 18.7 -3.8**
CASY *e*S S 17 58 09.1 +0.4
CIT Chita 66.37 336 *e*P **P** **17 49 24.6 -1.1**
CIT *e* 17 49 42.6
CIT *e* 17 49 58.5
CIT pmax pmax
comp=Z,826nm,2.6s,mb6.3
ULN Ulaanbaatar 66.39 329 *e*P **P** **17 49 23.0 -2.8**
ULN pmax pmax
comp=Z,538nm,1.8s,mb6.3
ULN MLR MLR
comp=Z,11μm,20.0s,MS6.0
ULN Ulaanbaatar 66.39 329 *e*P **P** **17 49 23.0 -2.8**
comp=Z,538nm,1.8s,mb6.3
ULN LR LR
comp=Z,11μm,20.0s,MS6.0
NRGR Nerungri 66.44 345 *e*P **P** **17 49 30.0 +3.9**
NRGR S S 17 58 28.7 +13
NRGR smax
comp=N,7.0nm,0.2s
CLNS Chul'man 66.56 345 *e*P **P** **17 49 22.4 -4.5**
CLNS *e**PP pP 17 49 29.7 -3.1
CLNS *e* 17 49 52.4
CLNS *e*S S 17 58 04.6 -12
CLNS *e* 17 59 15.8
CLNS pmax pmax
comp=N,31nm,1.2s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS smax
comp=N,2μm,11.9s
CLNS smax
comp=Z,5μm,16.2s
CLNS smax
comp=E,3μm,12.6s
CLNS MLR MLR
comp=Z,6μm,15.0s,MS5.9
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.8
CLNS MLR MLR
comp=E,4μm,16.0s,MS5.8
SONM Songino Array 66.70 329 P **P** **17 49 26.2 -1.7**
comp=E,36nm,1.0s,mb5.3,baz=138,slow=6.5,SNR=43
SONM PKP2ab 18 17 57.9
comp=E,4.8nm,0.8s,baz=336,slow=3.3,SNR=7.5
SONM LR LR 18 19 47.8
comp=E,18μm,20.0s,MS6.3,baz=131,slow=37
TURI Tura 66.80 301 *e*P **P** **17 49 28.0 -0.4**
CAL Calcutta 67.57 297 *e*P **P** **17 49 39.7 +6.4**
CAL *e*S S 17 58 44.5 +15
LSA Lhasa 67.59 306 P **P** **17 49 33.6 +0.2**
LSA AP pP 17 49 43.0 +3.6
LSA XP sP 17 49 47.2 +5.6
LSA S S 17 58 35.0 +5.6
LSA AMB AMB
comp=Z,60nm,1.0s,mb5.6
LSA AMB AMB
comp=Z,6μm,11.7s
LSA LR LR
comp=N,6μm,21.4s,MS6.1
LSA LR LR
comp=E,12μm,20.5s,MS6.1
LSA LR LR
comp=Z,7μm,21.4s,MS5.8
TAOE Nuku Hiva Isla 68.35 97 *e*S S 17 58 29.2 -9.3
comp=Z,43μm,26.7s
TAOE *e*SS SS 18 02 52.6 -9.3
comp=Z,23μm,29.9s
TAOE *e*LR LR 18 10 05.4
comp=Z,32μm,27.3s
TAOE Nuku Hiva Isla 68.35 97 *e*P **P** **17 49 33.3 -4.9**
comp=Z,783nm,1.4s,mb6.5
TAOE *e*S S 17 58 29.2 -9.3
TAOE *e*SS SS 18 02 52.6 -9.3
SEY Seymchan 69.19 1 *e*P **P** **17 49 41.1 -2.4**
SEY Seymchan 69.19 1 *e*P **P** **17 49 41.2 -2.3**
ZAK Zakamensk 69.91 330 *e*P **P** **17 49 45.8 -2.1**
ZAK pmax pmax
comp=Z,102nm,1.6s,mb5.5
UNV Unalaska Valle 69.93 25 *e*P **P** **17 49 42.2 -5.8**
comp=Z,1μm,1.6s,mb6.6
UNV LR LR
comp=Z,47μm,20.0s,MS6.7
BOK Bokaro 70.09 298 *e*P **P** **17 49 49.2 +0.2**
BOK AMb AMB 17 50 00.6
comp=Z,293nm,1.4s,mb6.0
BOK *i* x x 17 50 06.7
YAK Yakutsk 70.21 350 *e*P **P** **17 49 46.6 -3.2**
YAK *e* 17 50 06.3
YAK *e* 17 52 27.0
YAK *e*S S 17 58 48.9 -12
YAK *e* 17 59 48.2
YAK *e*SS SS 18 03 28.0 -2.6
YAK pmax pmax
comp=E,68nm,1.4s
YAK pmax pmax
comp=Z,199nm,1.4s,mb5.8
YAK pmax pmax
comp=N,104nm,1.3s
YAK pmax pmax
comp=Z,951nm,4.0s
YAK pmax pmax
comp=N,880nm,4.9s
YAK pmax pmax
comp=E,629nm,6.3s
YAK smax
comp=N,5μm,7.8s
YAK smax
comp=E,2μm,7.9s
YAK MLR MLR
comp=N,9μm,16.0s,MS6.2
YAK MLR MLR
comp=Z,10μm,16.0s,MS6.2
YAK MLR MLR
comp=E,6μm,17.0s,MS6.2
YAK Yakutsk 70.21 350 *e*P **P** **17 49 45.3 -4.5**
comp=E,681nm,1.4s,mb6.4
YAK LR LR
comp=Z,16μm,22.0s,MS6.2
AKUT Akutan 70.44 25 *e*P **P** **17 49 48.1 -3.0**
comp=Z,3μm,1.8s,mb6.8
AKUT LR LR
comp=Z,14μm,22.0s,MS6.2
TLY Talaya 70.55 331 P **P** **17 49 50.6 -1.2**
comp=Z,329nm,1.0s,mb6.2,SNR=9.8
TLY Talaya 70.55 331 *e*P **P** **17 49 49.4 -2.4**
TLY *e* 17 50 11.5
TLY *e* 17 52 30.9
TLY *e*S S 17 59 08.7 +4.3
TLY *e* 17 59 46.9
TLY pmax pmax
comp=Z,129nm,1.4s,mb5.7
TLY Talaya 70.55 331 *e*P **P** **17 49 50.2 -1.6**
comp=Z,88nm,1.1s,mb5.6
TLY LR LR
comp=Z,9μm,21.0s,MS6.0
IRK Irkutsk 70.61 332 *e*P **P** **17 49 50.7 -1.5**
IRK *e* 17 52 24.0
IRK pmax pmax
comp=Z,435nm,2.6s,mb5.9
BOD Bodaibo 70.65 340 *e*P **P** **17 49 48.3 -4.1**
BOD pmax pmax
comp=Z,69nm,1.4s,mb5.4
VIS Vishakhapatnam 70.83 291 *e*P **P** **17 49 53.2 -0.2**
VIS AMb AMB 17 50 05.3
comp=Z,241nm,1.2s,mb6.0
VIS *i* x x 17 59 13.4
JIRN Jiri 70.99 302 *e*P **P** **17 49 54.2 -0.3**
comp=Z,472nm,1.4s,mb6.2
VNDA Vanda 71.27 177 P **P** **17 49 51.2 -5.0**
comp=Z,15nm,0.6s,mb5.1,baz=333,slow=6.9,SNR=51
VNDA S S 17 59 14.7 +1.9
comp=Z,4.3nm,1.4s,baz=30,slow=20,SNR=2.5
VNDA Vanda 71.27 177 *e*P **P** **17 49 51.3 -4.9**
VNDA pmax pmax
comp=Z,205nm,1.3s
VNDA MLR MLR
comp=Z,11μm,20.0s
VNDA Vanda 71.27 177 *e*P **P** **17 49 51.3 -4.9**
comp=Z,205nm,1.3s,mb5.9
VNDA LR LR
comp=Z,11μm,20.0s,MS6.1
PALK Pallekele 71.29 280 P **P** **17 49 57.3 +1.0**
comp=Z,884nm,0.9s,mb6.7,SNR=24
PALK Pallekele 71.29 280 *e*P **P** **17 49 55.9 -0.4**
comp=Z,129nm,0.8s,mb5.9
PALK LR LR
comp=Z,1μm,22.0s,MS5.2
GUN Gumba 71.33 302 *e*P **P** **17 49 56.2 -0.3**
comp=Z,513nm,0.8s,mb6.5
PKI Pulchoki 71.62 302 *e*P **P** **17 49 58.5 +0.2**
comp=Z,505nm,1.2s,mb6.3
MIR Mirnyy 71.70 201 *d i*P **P** **17 49 59.0 +0.2**
MIR *e*PPP 17 54 14.0
MIR *e*PS 17 59 48.0
MIR *e*SS SS 18 03 44.0 -9.4
MIR *e*SSS 18 07 04.0
MIR pmax pmax
comp=Z,6μm,6.0s
MIR MLR MLR
comp=N,10μm,17.0s,MS6.3
MIR MLR MLR
comp=E,10μm,17.0s,MS6.3
MIR MLR MLR
comp=Z,32μm,17.0s,MS6.7
KKN Kakani 71.80 302 *e*P **P** **17 49 59.1 -0.3**
comp=Z,573nm,1.0s,mb6.5
MOY Mondy 71.84 330 *e*P **P** **17 49 59.4 -0.2**
MOY pmax pmax
comp=Z,791nm,2.5s,mb6.2
SBA Scott Base 71.85 176 *e*P **P** **17 49 55.7 -4.0**
SBA pmax pmax
comp=Z,417nm,1.5s,mb6.1
SBA MLR MLR
comp=Z,7μm,20.0s,MS5.9
SBA Scott Base 71.85 176 *e*P **P** **17 49 55.7 -4.0**
comp=Z,417nm,1.5s,mb6.1
SBA LR LR
comp=Z,7μm,20.0s,MS5.9
DMN Daman 71.89 302 *e*P **P** **17 49 59.6 -0.3**
comp=Z,880nm,1.0s,mb6.6
GKN Gorkha 72.40 302 *e*P **P** **17 50 01.9 -1.1**
comp=Z,1μm,1.3s,mb6.8
MDRS Chennai 72.75 286 *e*P **P** **17 50 05.6 +0.5**
MDRS AMb AMB 17 50 15.5
comp=Z,298nm,1.4s,mb6.0
RKT Rikitea 72.96 112 *e*S S 17 59 24.2 -8.0
comp=Z,19μm,30.0s
RKT *e*SS SS 18 04 02.7 -10
comp=Z,14μm,33.5s
RKT *e*LQ 18 09 16.7
comp=Z,25μm,39.8s
RKT *e*LR LR 18 12 15.0
comp=Z,61μm,34.8s,baz=272
RKT Rikitea 72.96 112 *e*P **P** **17 50 01.1 -5.2**
RKT *e*S S 17 59 24.2 -8.0
RKT *e*SS SS 18 04 02.7 -10
RKT *e*LQ 18 09 16.7
comp=Z,320nm,1.3s,mb6.1
RKT Rikitea 72.96 112 *e*P **P** **17 50 01.1 -5.2**
comp=Z,320nm,1.3s,mb6.1
RKT *e*S S 17 59 24.2 -8.0
RKT *e*SS SS 18 04 02.7 -10
RKT *e*LQ 18 09 16.7
KOLN Koldanda 73.21 301 *e*P **P** **17 50 08.2 +0.4**
comp=Z,320nm,0.8s,mb6.3
SDPT Sand Point 73.55 27 *e*P **P** **17 50 05.7 -4.1**
comp=Z,576nm,0.9s,mb6.5
SDPT LR LR
comp=Z,14μm,20.0s,MS6.2
ALBI Allahabad 74.08 298 *e*P **P** **17 50 11.0 -1.9**
BILL Bilibino 75.11 6⇓ *e*P **P** **17 50 16.6 -2.3**
BILL *e* 17 53 00.5
BILL *i* S S 17 59 52.5 -3.9
BILL pmax pmax
comp=Z,199nm,1.0s,mb6.0
BILL MLR MLR
comp=Z,6μm,17.0s,MS6.0
BILL Bilibino 75.11 6 *e*P **P** **17 50 14.3 -4.6**
comp=Z,790nm,1.1s,mb6.6
BILL LR LR
comp=Z,7μm,20.0s,MS6.0
TRD Trivandrum 75.14 281 *e*P **P** **17 50 19.1 0.0**
TRD AMb AMB 17 50 30.5
comp=Z,787nm,1.5s,mb6.4
JBP Jabalpur 75.16 296⇑ *e*P **P** **17 50 18.9 -0.3**
JBP *ex* x 17 50 32.1
comp=Z,367nm,1.6s
JBP *e*S S 17 59 59.1 +2.2
HYB Hyderabad 75.20 290 *i* P **P** **17 50 20.0 +0.6**
comp=Z,240nm,1.0s,mb6.1
HYB *e*SP sP 17 50 24.5 -3.2
HYB *e*S S 18 00 04.0 +6.6
HYB LR LR
comp=Z,12nm,8.0s
HYB Hyderabad 75.20 290 *e*P **P** **17 50 20.0 +0.6**
HYB *e*S S 18 00 04.0 +6.6
HYB pmax pmax
comp=Z,240nm,1.0s,mb6.1
HYB Hyderabad 75.20 290 *e*P **P** **17 50 20.0 +0.6**
comp=Z,240nm,1.0s,mb6.1
HYB *e*S S 18 00 04.0 +6.6
NGP Nagpur 75.54 294⇑ *i*P **P** **17 50 21.4 +0.1**
NGP *ex* x 17 50 31.2
comp=Z,409nm,1.5s
NGP *e*S S 18 00 04.8 +3.7
WMQ Urumqi 75.65 318⇑ *i*P **P** **17 50 21.5 -0.5**
WMQ AP pP 17 50 26.5 -1.5
WMQ XP sP 17 50 28.5 -1.7
WMQ PCP PcP 17 50 34.5 -0.2
WMQ PP PP 17 53 13.3 +1.7
WMQ PPP 17 55 00.0
WMQ S S 18 00 02.0 -0.3
WMQ SKS 18 00 26.5
WMQ SCS ScS 18 00 31.5 -3.4
WMQ PS 18 00 41.0
WMQ SS SS 18 04 57.0 +3.4
WMQ AMB AMB
comp=Z,215nm,1.6s,mb5.8
WMQ AMB AMB
comp=Z,10μm,7.7s
WMQ LR LR
comp=N,11μm,24.3s,MS6.3
WMQ LR LR
comp=E,15μm,28.0s,MS6.3
WMQ LR LR
comp=Z,12μm,24.3s,MS6.1
LGTI Lohaghat 76.51 302 *i* P **P** **17 50 27.5 +0.6**
PTH Pithoragarh 76.56 302 *e*P **P** **17 50 28.9 +1.8**
LATR Latur 77.26 290 *ex* x 17 50 26.4
BHPL Bhopal 77.47 295 *e*P **P** **17 50 32.1 -0.1**
BHPL AMb AMB 17 50 39.9
comp=Z,238nm,0.7s,mb6.2
BHPL *e*S S 18 00 25.7 +3.5
DGAR Diego Garcia 77.73 264 *e*P **P** **17 50 34.3 +0.6**
DGAR Diego Garcia 77.73 264 *e*P **P** **17 50 34.6 +0.9**
comp=Z,687nm,1.0s,mb6.5
DGAR LR LR
comp=Z,2μm,20.0s,MS5.3
TNA Tin City 77.91 16 *e*P **P** **17 50 32.1 -2.6**
comp=Z,536nm,1.6s,mb6.2
TNA LR LR
comp=Z,11μm,19.0s,MS6.2
MNGI Mangalore 77.93 285 *e*P **P** **17 50 34.6 -0.2**
MNGI AMb AMB 17 50 46.3
comp=Z,337nm,2.1s,mb5.9
MNGI *i* x x 18 00 37.2
KRAR Krasnoyarsk 78.25 331 *e*P **P** **17 50 35.3 -1.3**
KRAR pmax pmax
comp=Z,19nm,1.3s
KDAK Kodiak Island 78.52 27 P **P** **17 50 35.6 -2.5**
comp=Z,1μm,1.1s,mb6.8,SNR=8.1
KDAK Kodiak Island 78.52 27 P **P** **17 50 34.8 -3.3**
comp=Z,63nm,1.1s,mb5.5,baz=203,slow=2.2,SNR=10
KDAK Kodiak Island 78.52 27 *e*P **P** **17 50 35.1 -3.0**
comp=Z,678nm,1.4s,mb6.4
KDAK LR LR
comp=Z,4μm,21.0s,MS5.7
DDI Dehra Dun 78.57 303 *e*P **P** **17 50 39.7 +1.3**
DDI *ex* x 17 51 01.0
NDI New Delhi 78.88 301 *e*P **P** **17 50 37.0 -3.1**
NDI *e*S S 18 00 37.5 0.0
SVW2 Sparrevohn 79.10 23 *e*P **P** **17 50 39.4 -1.9**
TIXI Tiksi 79.28 353 *e*P **P** **17 50 34.8 -7.5**
TIXI *e*S S 18 00 31.7 -10
TIXI *e* 18 00 50.3
TIXI *e* 18 08 58.4
TIXI *e*SS SS 18 05 39.0 -9.4
TIXI pmax pmax
comp=Z,153nm,1.2s,mb5.8
TIXI pmax pmax
comp=N,38nm,1.0s
TIXI pmax pmax
comp=E,41nm,1.1s
TIXI pmax pmax
comp=Z,9μm,7.9s
TIXI MLR MLR
comp=Z,27μm,18.0s,MS6.6
TIXI MLR MLR
comp=N,7μm,17.0s,MS6.1
TIXI MLR MLR
comp=E,4μm,17.0s,MS6.1
TIXI Tiksi 79.28 353 *i* P **P** **17 50 39.3 -3.0**
TIXI LR LR
comp=Z,28μm,19.0s,MS6.6
KAD Karad 79.28 289 *e*P **P** **17 50 42.7 +0.4**
KAD AMb AMB 17 50 53.2
comp=Z,721nm,0.9s,mb6.6
SDNR Sundarnagar 79.76 304 *e*P **P** **17 50 44.5 -0.4**
POO Poona 79.81 290⇑ *i*P **P** **17 50 42.5 -2.7**
comp=Z,500nm,1.0s,mb6.4
POO *i* PCP PcP 17 50 50.0 -2.8
POO *ex* x 17 51 19.6
POO AMb AMB 17 51 29.5
comp=Z,664nm,1.3s,mb6.4
POO *ex* x 17 55 41.5
POO *i* S S 18 00 52.5 +5.2
POO *e*SCS ScS 18 01 10.0 +1.4
MK31 Makanchi Array 80.30 320 *e*P **P** **17 50 44.6 -3.2**
MKAR Makanchi Array 80.30 320 P **P** **17 50 44.7 -3.1**
comp=Z,49nm,1.0s,mb5.4,baz=102,slow=6.1,SNR=98
MKAR S S 18 00 57.4 +5.0
comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=2.0
MKAR PKKPbc PKKPbc 18 09 27.3 -2.8
comp=Z,1.8nm,0.8s,baz=327,slow=2.0,SNR=6.4
MKAR PKPPKP 18 17 26.6
comp=Z,0.7nm,0.9s,baz=50,slow=1.9,SNR=3.6
MKAR LR LR 18 25 11.3
comp=Z,16μm,21.7s,MS6.3,baz=106,slow=35
MKAR Makanchi Array 80.30 320 P **P** **17 50 44.7 -3.1**
MKAR S S 18 00 57.4 +5.0
MKAR 18 09 27.3
MKAR Makanchi Array 80.30 320 P **P** **17 50 44.7 -3.1**
MKAR S S 18 00 57.4 +5.0
MKAR PKKPbc PKKPbc 18 09 27.3 -2.8
MKAR P'P' 18 17 26.6
MKAR LR LR 18 25 11.3
AJM Ajmer 80.62 298 *e*P **P** **17 50 49.0 -0.5**
AJM AMb AMB 17 51 00.2
comp=Z,524nm,1.3s,mb6.3
DLH Dalhousie 80.84 304 *ex* x 17 50 46.0
BOM Bombay 80.84 290 *e*P **P** **17 50 51.4 +0.7**
BOM *ex* x 17 51 01.6
comp=Z,542nm,1.5s
BOM *ex* x 17 57 28.7
SLKM Skilak Lake 80.98 25 *e*P **P** **17 50 45.9 -5.6**
THN Thein Dam 81.02 304 *e*P **P** **17 50 48.8 -2.9**
THN *e*S S 18 01 03.9 +3.9
ZAL Zalesovo 81.46 327 P **P** **17 50 50.1 -3.8**
comp=Z,23nm,1.1s,mb5.0,baz=7.6,slow=6.1,SNR=63
ZAL S S 18 01 05.3 +0.8
baz=204,slow=19
ZAL PKKPbc PKKPbc 18 09 25.1 -2.4
comp=Z,0.8nm,0.6s,baz=118,slow=1.0,SNR=3.6
ZAL LR LR 18 26 56.8
comp=Z,17μm,19.9s,MS6.4,baz=1.4,slow=36
ZAL Zalesovo 81.46 327 P **P** **17 50 50.2 -3.8**

ZAL S S 18 01 05.4 +0.9
BHV Bhavnagar 81.96 293 *e*P **P 17 50 55.0 -1.6**
PMR Palmer 81.98 25 *e*P **P 17 50 53.5 -3.3**
PMR pmax pmax
comp=Z,2µm,2.4s,mb6.6
PMR MLR MLR
comp=Z,6µm,18.0s,MS6.0
PMR Palmer 81.98 25 *e*P **P 17 50 53.5 -3.3**
comp=Z,2µm,2.4s,mb6.6
PMR LR LR
comp=Z,6µm,18.0s,MS6.0
SML Sawmill 82.42 25 *e*P **P 17 50 53.4 -5.7**
KSH Kashi 82.54 311 *e*P **P 17 51 00.7 +1.0**
KSH *e*AP pP 17 51 05.2 -0.6
KSH *e*XP sP 17 51 07.7 -0.3
KSH *e*PP PP 17 54 13.2 +4.2
KSH *e*PPP 17 56 06.8
KSH *e*SKS 18 01 10.4
KSH *e*S S 18 01 19.1 +3.4
KSH *e*SS SS 18 06 44.0 +7.0
IMA2 Indian Mountai 82.65 20 *e*P **P 17 50 57.6 -2.7**
NVS Novosibirsk 82.65 327 *e*P **P 17 50 57.7 -2.6**
NVS *e* 17 54 04.8
NVS *e*S S 18 01 17.0 +0.2
NVS pmax pmax
comp=Z,3µm,4.3s
NVS pmax pmax
comp=N,600nm,3.6s
NVS pmax pmax
comp=E,2µm,3.8s
NVS pmax pmax
comp=E,131nm,2.4s
NVS pmax pmax
comp=Z,196nm,2.4s,mb5.7
NVS smax
comp=N,292nm,2.4s
NVS smax
comp=E,2µm,3.1s
AAA Alma-Ata 82.81 315 *i* P **P 17 51 07.0 +5.9**
AAA *i* S S 18 01 25.1 +6.6
AAA pmax pmax
comp=Z,14µm,8.0s
AAA smax
comp=E,20µm,7.4s
EYAK Cordova Ski Ar 82.94 26 *e*P **P 17 50 58.2 -3.6**
comp=E,508nm,1.4s,mb6.4
ULHL Ulahol 83.04 314 P **P 17 51 02.9 +0.6**
SNR=16
MCK McKinley 83.12 23 P **P 17 50 57.6 -5.1**
MCK pmax pmax
comp=Z,290nm,1.0s,mb6.3
MCK McKinley 83.12 23 *e*P **P 17 50 57.8 -4.9**
comp=Z,587nm,1.0s,mb6.6
MCK LR LR
comp=Z,15µm,21.0s,MS6.3
DIV Divide 83.19 26 *e*P **P 17 50 58.0 -5.0**
comp=Z,13µm,0.6s
DIV LR LR
comp=Z,34µm,21.0s,MS6.7
NIL Nilore 83.31 305 P **P 17 51 03.5 -0.2**
comp=E,610nm,0.7s,mb6.7,SNR=18
MAW Mawson 83.31 203 *e*P **P 17 51 01.4 -2.3**
comp=Z,111nm,1.2s,mb5.8
MAW Mawson 83.31 203 P **P 17 51 00.9 -2.8**
comp=Z,75nm,1.2s,mb5.6,baz=81,slow=6.5,SNR=28
MAW PKKPbc PKKPbc 18 09 21.5 -1.7
comp=Z,4.3nm,0.8s,baz=275,slow=4.9,SNR=3.8
MAW LR LR 18 25 43.8
comp=Z,19µm,21.2s,MS6.4,baz=91,slow=34
MAW Mawson 83.31 203 *e*P **P 17 51 01.4 -2.3**
MAW pmax pmax
comp=Z,111nm,1.2s
QSPA South Pole Qui 83.52 180 *e*P **P 17 50 59.7 -5.1**
comp=Z,623nm,1.3s,mb6.6
QSPA LR LR
comp=Z,10µm,22.0s,MS6.2
TKM2 Tokmak 2 83.68 314 P **P 17 51 06.0 +0.4**
SNR=33
KZA Kyzart 83.71 313 P **P 17 51 07.2 +1.5**
SNR=68
KURK Kurchatov 83.87 322 P **P 17 51 04.8 -1.8**
comp=Z,959nm,1.0s,mb6.9,SNR=24
KBK Karagaybulak 84.07 314 P **P 17 51 05.9 -1.7**
SNR=50
COLA College 84.10 22 *e*P **P 17 51 02.9 -4.8**
COLA College 84.10 22 *e*P **P 17 51 02.1 -5.6**
comp=Z,268nm,0.9s,mb6.4
COLA LR LR
comp=Z,9µm,19.0s,MS6.2
UCH Uchtor 84.28 314 P **P 17 51 09.5 +0.9**
SNR=104
CHMS Chumysh 84.30 314 P **P 17 51 08.4 -0.3**
SNR=49
FRU Bishkek 84.35 314⇑ *e*P **P 17 51 08.5 -0.5**
FRU *i* pP 17 51 15.0 -0.1
FRU *e* 17 54 20.0
FRU *e*PPP 17 56 15.0
FRU *i* 18 01 34.0
FRU MLR MLR
comp=E,10µm,20.5s
FRU MLR MLR
comp=Z,12µm,20.5s,MS6.3
AAK Ala-Archa 84.39 314 P **P 17 51 07.6 -1.6**
comp=Z,953nm,1.1s,mb6.8,SNR=63
AAK Ala-Archa 84.39 314 P **P 17 51 08.0 -1.2**
SNR=61
AAK Ala-Archa 84.39 314⇑ *e*P **P 17 51 06.6 -2.6**
AAK pmax pmax
comp=Z,177nm,1.5s,mb6.0
AAK MLR MLR
comp=Z,24µm,26.0s,MS6.5
AAK Ala-Archa 84.39 314 *e*P **P 17 51 06.7 -2.5**
comp=Z,210nm,0.9s,mb6.3
AAK LR LR
comp=Z,5µm,20.0s,MS5.9
USP Ospenovka 84.54 315 P **P 17 51 07.8 -2.1**
SNR=128
AML Almayashu 84.85 313 P **P 17 51 11.8 +0.3**
SNR=119
EKS2 Erkin-Say 84.91 314 P **P 17 51 10.1 -1.7**
SNR=165
EGAK Eagle 86.63 23 *e*P **P 17 51 15.9 -4.4**
comp=Z,442nm,1.2s,mb6.6
SIT Sitka 86.69 32 *e*P **P 17 51 17.8 -2.8**
SIT pmax pmax
comp=Z,434nm,1.3s,mb6.5
SIT MLR MLR
comp=Z,39µm,22.0s,MS6.8
SIT Sitka 86.69 32 *e*P **P 17 51 17.8 -2.8**
comp=Z,434nm,1.3s,mb6.5
SIT LR LR
comp=Z,39µm,22.0s,MS6.8
DAWY Dawson 87.08 24 *e*P **P 17 51 18.0 -4.5**
SKAG Skagway 87.40 29 *e*P **P 17 51 21.6 -2.5**
comp=Z,1µm,1.9s,mb6.8
SKAG LR LR
comp=Z,13µm,22.0s,MS6.3
CRAG Craig 87.43 34 *e*P **P 17 51 21.4 -2.8**
comp=Z,710nm,1.6s,mb6.7
WRAK Wrangell Islan 88.09 33 *e*P **P 17 51 24.9 -2.6**
comp=Z,826nm,1.5s,mb6.7
CHKZ Chkalovo 89.39 324 *e*P **P 17 51 29.7 -3.9**
comp=Z,1.1nm,1.4s
BVAR Borovoye Array 89.39 323 P **P 17 51 29.8 -3.8**
comp=Z,13nm,0.8s,mb5.3,baz=108,slow=4.8,SNR=60
BRVK Borovoye 89.46 323 P **P 17 51 31.7 -2.2**
comp=Z,239nm,1.2s,mb6.4,SNR=16
BRVK Borovoye 89.46 323 *e*P **P 17 51 31.5 -2.4**
BRVK pmax pmax
comp=Z,238nm,1.6s,mb6.3
BRVK MLR MLR
comp=Z,3µm,19.0s,MS5.8
BRVK Borovoye 89.46 323 *e*P **P 17 51 31.5 -2.4**
comp=Z,238nm,1.6s,mb6.3
BRVK LR LR
comp=Z,3µm,19.0s,MS5.8
ZRNK Zerenda 90.20 323 *e*P **P 17 51 32.7 -4.6**
ZRNK pmax pmax
comp=Z,68nm,0.7s,mb6.1
ZRNK Zerenda 90.20 323 *e*P **P 17 51 32.7 -4.6**
comp=Z,68nm,0.7s,mb6.1
O01C Eel River Cons 90.56 50⇑ P **P 17 51 37.8 -1.2**
baz=90
M01C Crescent City 90.56 48⇑ P **P 17 51 38.5 -0.5**
baz=90
KCPM Cahto Peak 90.67 50 P **P 17 51 37.2 -2.3**
KRMB Red Mountain 90.68 48 *e*P **P 17 51 37.9 -1.6**

KHMM Horse Mountain 90.72 49 *e*P **P 17 51 36.3 -3.4**
KIPM Iron Peak 90.77 50 *e*P **P 17 51 37.1 -2.8**
P01C Double 8 Ranch 90.83 51⇓ P **P 17 51 40.3 0.0**
baz=91
FARB Farallon Islan 90.86 52⇓ P **P 17 51 40.4 0.0**
baz=91
HOPS Hopland 90.97 51 P **P 17 51 36.1 -4.8**
comp=Z,74nm,1.1s,mb5.9
HOPS LR LR
comp=Z,36µm,19.0s,MS6.8
HOPS Hopland 90.97 51⇑ P **P 17 51 41.8 +0.9**
baz=91,SNR=6.4
L02A Cave Junction 90.99 48⇓ P **P 17 51 40.2 -0.8**
baz=91
MCCM Marconi Confer 91.02 52⇑ P **P 17 51 41.7 +0.6**
baz=91
N02C Big Bar 91.03 49⇓ P **P 17 51 41.6 +0.4**
baz=91
I02A Mapleton 91.08 46⇑ P **P 17 51 41.9 +0.5**
baz=91
K02A Glendale 91.16 47⇑ P **P 17 51 40.6 -1.1**
baz=91,SNR=7.2
K02A ⇓SKSac SKSac 18 02 16.1 +3.1
baz=91
J02A Umpqua 91.17 47⇑ P **P 17 51 42.9 +1.1**
baz=91
GASB Alder Springs 91.33 50⇓ P **P 17 51 43.2 +0.7**
baz=91,SNR=12
GASB ⇓SKSac SKSac 18 02 14.8 +0.8
baz=91
O02C Red Bluff 91.34 50⇑ P **P 17 51 44.2 +1.6**
baz=91,SNR=11
O02C ⇓SKSac SKSac 18 02 13.5 -0.6
baz=91
CVS Carmenet Viney 91.37 52⇑ P **P 17 51 43.9 +1.2**
baz=91
CVS ⇓SKSac SKSac 18 02 14.3 +0.1
CVS ⇑SKSac SKSac 18 02 15.0 +0.7
baz=91
JRSC Jasper Ridge 91.43 53⇓ P **P 17 51 43.0 -0.1**
baz=91
BNLO Ben Lomond (Sa 91.45 53⇑ P **P 17 51 44.0 +0.9**
baz=91,SNR=5.7
BNLO ⇑SKSac SKSac 18 02 14.6 0.0
baz=91
M02C Callahan 91.45 49⇑ P **P 17 51 43.8 +0.7**
baz=91,SNR=8.8
M02C ⇑SKSac SKSac 18 02 15.4 +0.7
baz=91
MNRC McLaughlin Nat 91.45 51⇑ P **P 17 51 44.0 +0.9**
baz=91,SNR=5.1
I03A Eugene 91.47 46⇑ P **P 17 51 44.3 +1.1**
baz=91
SYO Syowa Base 91.47 200⇓ *e*P **P 17 51 39.0 -4.2**
SYO Syowa Base 91.47 200⇓ *i*sP sP 17 51 48.4 -3.2
HUMO Hull Mountain 91.53 47 *e*P **P 17 51 40.3 -3.1**
comp=Z,121nm,1.1s,mb6.1
HUMO LR LR
comp=Z,19µm,19.0s,MS6.6
HUMO Hull Mountain 91.53 47⇓ P **P 17 51 44.5 +1.0**
baz=91,SNR=14
HUMO ⇓SKSac SKSac 18 02 15.8 +0.7
baz=91
F03A Seaside 91.53 44⇓ P **P 17 51 44.6 +1.1**
baz=91
COR Corvallis 91.53 45 PFAKE 17 51 50.0 +6.5
COR LR LR
comp=Z,26µm,20.0s,MS6.7
D03A Wishkah Elem. 91.54 43⇓ P **P 17 51 44.4 +0.9**
baz=91
D03A ⇓SKSac SKSac 18 02 16.6 +1.4
baz=91
H03A Soap Creek Ran 91.55 45⇑ P **P 17 51 44.7 +1.1**
baz=91,SNR=5.5
WDC Whiskeytown Da 91.58 50 *e*P **P 17 51 40.5 -3.2**
WDC pmax pmax
comp=Z,309nm,1.8s,mb6.3
WDC MLR MLR
comp=Z,26µm,19.0s,MS6.7
WDC Whiskeytown Da 91.58 50 *e*P **P 17 51 40.5 -3.3**
comp=Z,309nm,1.8s,mb6.3
WDC LR LR
comp=Z,26µm,19.0s,MS6.7
WDC Whiskeytown Da 91.58 50 P **P 17 51 44.8 +1.1**
baz=91,SNR=11
WDC ⇑SKSac SKSac 18 02 13.9 -1.5
baz=91
YBH Yreka Blue Hor 91.60 48 *e*P **P 17 51 41.0 -2.8**
YBH *e* 17 55 23.0
YBH pmax pmax
comp=Z,405nm,1.9s
YBH MLR MLR
comp=Z,24µm,20.0s
YBH Yreka Blue Hor 91.60 48 *e*P **P 17 51 41.0 -2.8**
comp=Z,409nm,1.9s,mb6.4
YBH *e*PP PP 17 55 23.0 +1.0
YBH LR LR
comp=Z,24µm,20.0s,MS6.6
YBH Yreka Blue Hor 91.60 48⇑ P **P 17 51 44.5 +0.7**
baz=91,SNR=21
YBH ⇑SKSac SKSac 18 02 17.4 +1.9
baz=91
J03A Ideyld Park 91.62 47⇑ P **P 17 51 44.9 +1.1**
baz=92,SNR=5.4
J03A ⇑SKSac SKSac 18 02 21.0 +5.4
baz=92
Q03C Winters 91.75 51⇓ P **P 17 51 45.7 +1.2**
baz=92
Q03C ⇓SKSac SKSac 18 02 20.1 +3.8
baz=92
BDM Black Diamond 91.79 52⇓ P **P 17 51 45.9 +1.2**
baz=92
BDM ⇑SKSac SKSac 18 02 20.3 +3.7
baz=92
WENL Wente Brothers 91.83 53⇑ P **P 17 51 45.1 +0.2**
baz=92
WENL ⇓SKSac SKSac 18 02 19.8 +3.0
baz=92
B04A Port Angeles 91.84 42⇑ P **P 17 51 45.2 +0.3**
baz=92
HAST UC Hastings Re 91.86 54⇓ P **P 17 51 45.8 +0.8**
baz=92,SNR=7.7
HAST ⇓SKSac SKSac 18 02 21.3 +4.3
baz=92
O03C Acorn Hollow, 91.90 50⇑ P **P 17 51 45.5 +0.3**
baz=92
O03C ⇑SKSac SKSac 18 02 18.1 +0.9
baz=92
M03C McCloud 91.98 49⇑ P **P 17 51 46.5 +1.0**
baz=92
M03C ⇑SKSac SKSac 18 02 17.8 +0.2
baz=92
SAO San Andreas Ge 91.98 53 *e*P **P 17 51 43.6 -2.0**
SAO pmax pmax
comp=Z,419nm,2.2s,mb6.4
SAO MLR MLR
comp=Z,12µm,21.0s,MS6.3
SAO San Andreas Ge 91.98 53 *e*P **P 17 51 43.6 -2.0**
comp=Z,419nm,2.2s,mb6.4
SAO LR LR
comp=Z,12µm,21.0s,MS6.3
SUTB Sutter Butte 92.00 51⇑ P **P 17 51 45.6 0.0**
baz=92
SUTB ⇓SKSac SKSac 18 02 20.6 +2.8
baz=92
I04A Tendick Farm, 92.07 46⇓ P **P 17 51 46.1 +0.1**
baz=92,SNR=6.2
I04A ⇑SKSac SKSac 18 02 19.0 +0.8
baz=92
V03C Hunter Liggett 92.07 54⇑ P **P 17 51 47.1 +1.1**
baz=92
V03C ⇓SKSac SKSac 18 02 20.9 +2.7
baz=92
PACP Pacheco Peak 92.14 53⇓ P **P 17 51 46.5 +0.2**
baz=92,SNR=11
PACP ⇓SKSac SKSac 18 02 21.9 +3.3
baz=92
C04A Brinnon 92.16 42⇑SKSac SKSac 18 02 23.6 +4.9
baz=92
E04A Onalaska 92.19 44⇑ P **P 17 51 47.1 +0.5**
baz=92
G04A Mulino 92.19 45⇑ P **P 17 51 46.7 +0.2**
baz=92
D04A Dobbs Creek Ra 92.19 43⇓ P **P 17 51 47.4 +0.9**
baz=92
J04A Umpqua Nationa 92.22 47⇓ P **P 17 51 47.7 +1.0**
baz=92

OHCM Honcut 92.24 51 *e*P **P 17 51 44.1 -2.7**
M04C Macdoel 92.25 48⇑ P **P 17 51 46.9 +0.1**
baz=92,SNR=9.1
M04C ⇓SKSac SKSac 18 02 21.8 +2.6
baz=92
ORV Oroville 92.25 51⇓ P **P 17 51 47.1 +0.3**
baz=92,SNR=22
ORV ⇓SKSac SKSac 18 02 21.8 +2.6
baz=92
L04A Klamath Falls 92.26 48 P **P 17 51 47.6 +0.8**
baz=92,SNR=10
L04A ⇑SKSac SKSac 18 02 23.2 +4.0
baz=92
Q04C Lincoln 92.27 51⇓ P **P 17 51 48.1 +1.2**
baz=92
Q04C ⇑SKSac SKSac 18 02 20.5 +1.2
baz=92
LRV Little Rabbit 92.29 54 P **P 17 51 45.6 -1.4**
F04A Amboy 92.32 44⇑ P **P 17 51 47.6 +0.5**
baz=92
V04C Ramage Ranch, 92.32 55⇑ P **P 17 51 47.6 +0.5**
baz=92
V04C ⇑SKSac SKSac 18 02 24.1 +4.5
baz=92
H04A Detroit Lake 92.33 45⇑ P **P 17 51 47.0 -0.2**
baz=92,SNR=7.0
HATC Hat Creek Radi 92.42 49⇓ P **P 17 51 48.3 +0.6**
baz=92,SNR=7.0
K04A Chilquin 92.42 48⇓ P **P 17 51 48.6 +1.0**
baz=92
K04A ⇑SKSac SKSac 18 02 22.6 +2.5
baz=92
LTIM Timbered Crate 92.44 49 P **P 17 51 49.2 +1.5**
A04A Legoe Bay, Lum 92.45 41⇓ P **P 17 51 49.0 +1.2**
baz=92
U04C Hernandez Rese 92.47 54⇓ P **P 17 51 48.9 +1.1**
baz=92,SNR=9.1
U04C ⇓SKSac SKSac 18 02 23.4 +3.0
baz=92
R04C Big Horse Ranc 92.55 52⇑ P **P 17 51 48.1 -0.1**
baz=92
R04C ⇑SKSac SKSac 18 02 23.1 +2.3
baz=92
T05C Eagle Field, D 92.61 53⇓ P **P 17 51 48.7 +0.2**
baz=92
T05C ⇑SKSac SKSac 18 02 24.8 +3.5
baz=92
PKD Parkfield 92.62 54⇑ P **P 17 51 48.7 +0.2**
baz=92,SNR=8.1
PKD ⇑SKSac SKSac 18 02 22.7 +1.5
baz=92
O04C Chester 92.65 50⇑ P **P 17 51 49.6 +0.9**
baz=92,SNR=16
M05C Lookout 92.72 49⇑ P **P 17 51 49.0 0.0**
baz=92
M05C ⇓SKSac SKSac 18 02 23.3 +1.5
baz=92
O05C Quincy 92.74 50⇑ P **P 17 51 50.0 +0.9**
baz=93
O05C ⇓SKSac SKSac 18 02 24.7 +2.8
baz=93
LAVA Lava Cap Winer 92.75 51⇑ P **P 17 51 49.7 +0.6**
baz=93,SNR=17
D05A Enumclaw 92.76 43⇓ P **P 17 51 49.7 +0.5**
baz=93
D05A ⇓SKSac SKSac 18 02 23.6 +1.6
baz=93
B05A Bryant 92.81 42⇑ P **P 17 51 50.2 +0.9**
baz=93
B05A ⇓SKSac SKSac 18 02 25.2 +2.9
baz=93
PTRM Twissleman Ran 92.86 55 P **P 17 51 47.3 -2.3**
J05A Fort Rock 92.86 47⇑ P **P 17 51 49.4 -0.2**
baz=93,SNR=16
A05A Maple Falls 92.89 41⇑SKSac SKSac 18 02 25.6 +2.8
baz=93
P05C Yuba Gap, Truc 92.91 51⇑ P **P 17 51 50.2 +0.3**
baz=93,SNR=38
P05C ⇑SKSac SKSac 18 02 25.5 +2.6
baz=93
I05A Bend 92.93 46⇓ P **P 17 51 50.4 +0.4**
baz=93
I05A ⇓SKSac SKSac 18 02 24.3 +1.3
baz=93
S05C Merced 92.93 53⇓ P **P 17 51 50.8 +0.8**
baz=93
S05C ⇑SKSac SKSac 18 02 24.2 +1.2
baz=93
CMB Columbia Colle 92.96 52 *e*P **P 17 51 47.1 -3.0**
CMB pmax pmax
comp=Z,256nm,1.8s,mb6.3
CMB MLR MLR
comp=Z,25µm,20.0s,MS6.7
CMB Columbia Colle 92.96 52 *e*P **P 17 51 47.1 -3.0**
comp=Z,249nm,1.8s,mb6.3
CMB LR LR
comp=Z,24µm,20.0s,MS6.6
CMB Columbia Colle 92.96 52⇑ P **P 17 51 50.0 -0.1**
baz=93,SNR=24
CMB ⇓SKSac SKSac 18 02 25.0 +1.9
baz=93
ELFS Eagle Lake Fie 92.96 50⇑ P **P 17 51 51.0 +0.9**
baz=93
ELFS ⇓SKSac SKSac 18 02 27.8 +4.6
baz=93
F05A White Salmon 92.98 44⇑ P **P 17 51 51.0 +0.8**
baz=93,SNR=7.8
C05A Tolt Reservoir 93.01 43⇓ P **P 17 51 50.0 -0.4**
baz=93
L05A Lakeview 93.02 48⇓ P **P 17 51 51.4 +1.0**
baz=93,SNR=7.8
L05A ⇓SKSac SKSac 18 02 26.1 +2.6
baz=93
K05A Summer Lake 93.05 48⇓ P **P 17 51 50.6 +0.1**
baz=93,SNR=18
PKM Peak Mountain 93.10 55⇓ P **P 17 51 50.3 -0.5**
baz=93,SNR=21
PKM ⇓SKSac SKSac 18 02 29.7 +5.8
baz=93
V05C Boulder Hill, 93.13 54⇑ P **P 17 51 51.3 +0.5**
baz=93
SBC Santa Barbara 93.14 56⇑ P **P 17 51 51.7 +0.7**
baz=93
BEKR Beckwourth 93.16 50⇓ P **P 17 51 50.7 -0.3**
baz=93,SNR=36
BSC Santa Cruz Isl 93.16 56⇓ P **P 17 51 50.8 -0.2**
baz=93,SNR=6.8
SNCC San Nicolas Is 93.18 57 P **P 17 51 47.8 -3.3**
comp=Z,476nm,1.6s,mb6.7
SNCC LR LR
comp=Z,13µm,19.0s,MS6.4
M06C Likely Place G 93.20 49⇓ P **P 17 51 50.9 -0.3**
baz=93,SNR=13
B06A Marblemount 93.24 42⇓ P **P 17 51 51.6 +0.2**
baz=93
R05C Kirkwood Meado 93.27 52⇑ P **P 17 51 51.4 -0.1**
baz=93,SNR=32
R05C ⇑SKSac SKSac 18 02 27.1 +2.3
baz=93
S06C San Francisco 93.36 52⇓ P **P 17 51 51.2 -0.7**
baz=93,SNR=56
S06C ⇓SKSac SKSac 18 02 26.9 +1.5
baz=93
E06A Yakima 93.38 44⇑ P **P 17 51 53.1 +1.1**
baz=93,SNR=9.9
E06A ⇑SKSac SKSac 18 02 28.4 +3.0
baz=93
T06C Millerton Lake 93.39 53 P **P 17 51 52.9 +0.8**
baz=93,SNR=9.8
T06C ⇓SKSac SKSac 18 02 28.3 +2.8
baz=93
MOD Modoc 93.40 48 *e*P **P 17 51 48.0 -4.1**
comp=Z,120nm,1.3s,mb6.2
MOD LR LR
comp=Z,35µm,19.0s,MS6.8
MOD Modoc 93.40 48⇑ P **P 17 51 52.8 +0.6**
baz=93
MOD ⇑SKSac SKSac 18 02 29.8 +4.3
baz=93
F06A Goldendale 93.44 45⇑ P **P 17 51 53.1 +0.8**
baz=93,SNR=9.7
G06A Carlson Farm, 93.49 45⇑ P **P 17 51 52.7 +0.1**
baz=93,SNR=7.5
P06A Stead Airport, 93.50 51⇓ P **P 17 51 53.8 +1.2**
baz=93
P06A ⇑SKSac SKSac 18 02 29.5 +3.4
baz=93
K06A Valley Falls 93.53 48⇑ P **P 17 51 52.8 +0.1**

baz=93,SNR=11
D06A Cle Elum 93.53 43 ⇓P P 17 51 52.3 -0.4
baz=93
WCN Washoe City 93.57 51 ⇓P P 17 51 53.5 +0.6
baz=93
WCN ⇓SKSac SKSac 18 02 25.8 -0.7
baz=93
O06A Flanigan 93.60 50 ⇓P P 17 51 53.0 0.0
baz=93,SNR=20
O06A ⇓SKSac SKSac 18 02 30.0 +3.4
baz=93
J06A Christmas Vall 93.64 47 ⇓P P 17 51 53.0 -0.2
baz=94,SNR=16
J06A ⇓SKSac SKSac 18 02 29.6 +2.7
baz=94
BLG Laguna Peak 93.64 56 ⇓P P 17 51 52.7 -0.5
baz=93
N06A Buffalo Meadow 93.65 50 ⇑P P 17 51 52.6 -0.6
baz=94,SNR=30
N06A ⇑SKSac SKSac 18 02 29.6 +2.7
baz=94
H06A Lindquist Farm 93.65 46 ⇓P P 17 51 53.1 -0.2
baz=94,SNR=10.0
H06A ⇓SKSac SKSac 18 02 33.8 +6.8
baz=94
I06A Prineville 93.67 46 ⇑P P 17 51 52.5 -0.8
baz=94,SNR=9.1
I06A ⇓SKSac SKSac 18 02 33.1 +6.1
baz=94
KCC Kaiser Creek 93.73 53 ⇓P P 17 51 53.0 -0.7
baz=94
KCC ⇓SKSac SKSac 18 02 31.9 +4.6
baz=94
R06C Coleville 93.74 52 ⇑P P 17 51 54.2 +0.5
baz=94,SNR=18
VES Vestal, Richgr 93.79 55 ⇑P P 17 51 53.7 -0.2
baz=94
VES ⇑SKSac SKSac 18 02 33.5 +5.8
baz=94
SLFW Sugar Loaf 93.80 43 P P 17 51 55.1 +1.1
MXC Moxie City 93.85 44 P P 17 51 55.9 +1.7
PAHR Pah Rah Range 93.89 51 *eP* P 17 51 51.4 -3.0
comp=Z,430nm,2.0s,mb6.5
PAHR PP PP 17 55 33.7 -6.4
ARVC Arvin 93.93 55 ⇓P P 17 51 55.9 +1.3
baz=94
ARVC ⇓SKSac SKSac 18 02 34.8 +6.4
baz=94
OSI Osito Adit 93.97 56 ⇓P P 17 51 55.5 +0.7
baz=94
SCI San Clemente I 93.97 57 ⇑P P 17 51 55.4 +0.7
baz=94
R07C Lee Vining 94.02 52 ⇑P P 17 51 56.1 +1.1
baz=94,SNR=18
R07C ⇓SKSac SKSac 18 02 34.6 +5.7
baz=94
C07A Waterville 94.11 43 P P 17 51 55.2 -0.2
baz=94,SNR=12
C07A ⇓SKSac SKSac 18 02 32.5 +3.1
baz=94
D07A Quincy 94.12 43 ⇑P P 17 51 55.0 -0.4
baz=94,SNR=11
L07A Adell 94.13 48 ⇑P P 17 51 56.7 +1.2
baz=94
L07A ⇑SKSac SKSac 18 02 31.8 +2.3
baz=94
CIS Catalina Islan 94.13 57 ⇓P P 17 51 55.8 +0.3
baz=94,SNR=9.2
B07A Winthrop 94.14 42 ⇓P P 17 51 55.1 -0.4
baz=94,SNR=9.2
B07A ⇑SKSac SKSac 18 02 32.6 +3.1
baz=94
MLAC Mammoth Lakes 94.14 53 ⇓P P 17 51 57.3 +1.7
baz=94
MLAC ⇑SKSac SKSac 18 02 33.1 +3.5
baz=94
E07A Sunnyside 94.15 44 ⇓P P 17 51 56.0 +0.5
baz=94,SNR=11
G07A Ruggs Ranch, H 94.17 45 ⇓P P 17 51 55.5 -0.2
baz=94
G07A ⇑SKSac SKSac 18 02 33.4 +3.6
baz=94
I07A Izee 94.19 46 ⇑P P 17 51 55.2 -0.5
baz=94,SNR=25
M07A Soldier Meadow 94.20 49 ⇓P P 17 51 55.8 0.0
baz=94,SNR=21
FMP Fort Macarthur 94.25 57 ⇑P P 17 51 55.2 -0.9
baz=94
FMP ⇓SKSac SKSac 18 02 32.2 +2.0
baz=94
K07A Rock Creek Ran 94.25 48 ⇑P P 17 51 56.1 0.0
baz=94,SNR=13
P07A Fallon 94.26 51 ⇓P P 17 51 56.6 +0.5
baz=94
DECC Green Verdugo 94.26 56 ⇑P P 17 51 55.9 -0.2
baz=94
ISA Isabella 94.27 55 *eP* P 17 51 52.9 -3.2
comp=Z,140nm,1.5s,mb6.2
ISA *e*PP PP 17 55 37.0 -5.9
ISA LR LR
comp=Z,6µm,21.0s,MS6.0
ISA Isabella 94.27 55 ⇑P P 17 51 55.3 -0.8
baz=94
J07A Hines 94.27 47 ⇑P P 17 51 56.5 +0.4
baz=94,SNR=6.1
Q07A Schurz 94.27 51 ⇓P P 17 51 57.0 +0.8
baz=94
Q07A ⇑SKSac SKSac 18 02 33.1 +2.8
baz=94
N07B Gerlach 94.30 50 ⇑P P 17 51 56.5 +0.3
baz=94,SNR=25
N07B ⇑SKSac SKSac 18 02 33.2 +2.8
baz=94
RSW Rattlesnake Hi 94.32 44 P P 17 51 58.2 +1.9
O07A Toulon 94.32 50 ⇓P P 17 51 56.3 -0.1
baz=94,SNR=29
O07A ⇓SKSac SKSac 18 02 34.7 +4.1
baz=94
MTUM Tungsten Hills 94.33 53 *eP* P 17 51 52.3 -4.1
MTUM *e*PP PP 17 55 33.6 -10
HAWA Hanford 94.36 44 *eP* P 17 51 53.3 -3.2
comp=Z,175nm,1.5s,mb6.3
HAWA LR LR
comp=Z,21µm,19.0s,MS6.6
TIN Tinemaha 94.58 53 ⇓P P 17 51 58.3 +0.8
baz=94
EDW2 Edwards Air Fo 94.59 56 ⇓P P 17 51 57.7 +0.1
baz=94
EDW2 ⇑SKSac SKSac 18 02 34.5 +2.4
baz=94
NVAR Mina Array Bea 94.63 52 P P 17 51 52.6 -5.2
comp=Z,13nm,0.8s,mb5.4,baz=266,slow=9.2,SNR=52
NVAR PP PP 17 55 42.9 -2.9
comp=Z,13nm,1.2s,baz=273,slow=8.7,SNR=5.4
CWC Cottonwood Cre 94.65 54 ⇑P P 17 51 58.6 +0.7
baz=94
CWC ⇑SKSac SKSac 18 02 34.7 +2.4
baz=94
S08C White Mtn Res 94.66 53 ⇑P P 17 51 57.8 -0.1
baz=94
S08C ⇓SKSac SKSac 18 02 36.8 +4.5
baz=94
G08A Pilot Rock 94.67 45 ⇓P P 17 51 58.0 +0.1
baz=94,SNR=24
WVOR Wild Horse Val 94.68 48 *eP* P 17 51 54.5 -3.5
WVOR pmax pmax
comp=Z,303nm,1.8s,mb6.4
WVOR MLR MLR
comp=Z,29µm,20.0s,MS6.7
WVOR Wild Horse Val 94.68 48 *eP* P 17 51 54.5 -3.5
comp=Z,303nm,1.8s,mb6.4
WVOR LR LR
comp=Z,29µm,20.0s,MS6.7
E08A Dider Farm, El 94.69 44 ⇓P P 17 51 57.6 -0.5
baz=94,SNR=11
E08A ⇓SKSac SKSac 18 02 35.8 +3.2
baz=94
A08A Turner Farm, O 94.73 41 ⇑P P 17 51 58.8 +0.5
baz=95,SNR=15
MSEY Mahe Island 94.80 265 *eP* P 17 51 58.9 +0.3
comp=Z,48nm,1.4s,mb5.7
MSEY LR LR
comp=Z,1µm,20.0s,MS5.3
C08A Higginbotham F 94.80 43 ⇓P P 17 51 57.8 -0.8
baz=95
C08A ⇓SKSac SKSac 18 02 35.6 +2.5
baz=95
M08A Happy Creek Ra 94.80 49 ⇑P P 17 51 58.8 +0.3
baz=95,SNR=10.0
M08A ⇑SKSac SKSac 18 02 36.9 +3.7
baz=95
BFSC Mount Baldy St 94.82 56 ⇑P P 17 51 58.1 -0.6
baz=95
BFSC ⇑SKSac SKSac 18 02 36.2 +2.9
baz=95
H08A Prairie City 94.82 46 ⇑P P 17 51 58.4 -0.2
baz=95,SNR=13
K08A Mann Creek Ran 94.82 48 ⇓P P 17 51 58.3 -0.3
baz=95
K08A ⇑SKSac SKSac 18 02 35.6 +2.4
baz=95
D08A Wollman Farm, 94.83 43 ⇑P P 17 51 58.8 +0.1
baz=95,SNR=11
D08A ⇓SKSac SKSac 18 02 37.1 +3.8
baz=95
F08A Pendleton 94.84 45 ⇑P P 17 51 58.5 -0.2
baz=95
F08A ⇓SKSac SKSac 18 02 35.8 +2.4
baz=95
I08A Drewsey 94.84 46 ⇑P P 17 51 58.8 0.0
baz=95
I08A ⇓SKSac SKSac 18 02 35.1 +1.7
baz=95
J08A Circle Bar Ran 94.87 47 ⇑P P 17 51 58.9 0.0
baz=95,SNR=9.9
L08A Fields 94.88 48 ⇓P P 17 51 59.5 +0.6
baz=95
L08A ⇓SKSac SKSac 18 02 38.0 +4.4
baz=95
O08A Rochester Mine 94.88 50 ⇓P P 17 51 58.9 -0.1
baz=95
LRMC Laurel Mountai 94.89 55 ⇑P P 17 51 58.2 -0.8
baz=95
LRMC ⇑SKSac SKSac 18 02 36.5 +2.9
baz=95
P08A Dixie Valley 94.90 51 ⇓P P 17 51 59.2 +0.2
baz=95
N08A GE Springer Mi 94.94 50 ⇓P P 17 51 59.4 +0.2
baz=95
N08A ⇓SKSac SKSac 18 02 34.1 +0.2
baz=95
Q08A Gabbs 94.95 52 ⇓P P 17 51 59.7 +0.5
baz=95
OD2 Odessa Site #2 95.00 43 P P 17 52 00.8 +1.4
DAC Darwin (Calif) 95.03 54 *eP* P 17 51 56.6 -3.0
DAC 17 55 46.9
DAC pmax pmax
comp=Z,390nm,1.8s,mb6.5
DAC Darwin (Calif) 95.03 54 *eP* P 17 51 56.6 -3.0
comp=Z,390nm,1.8s,mb6.5
DAC PP PP 17 55 46.9 -2.0
MPMC Manual Prospec 95.09 54 ⇓P P 17 52 00.3 +0.4
baz=95
MPMC ⇓SKSac SKSac 18 02 36.1 +1.3
baz=95
MURC Murrieta 95.15 57 ⇑P P 17 52 00.5 +0.4
baz=95
109C Camp Elliot, M 95.17 58 ⇓P P 17 52 01.2 +0.9
baz=95
109C ⇓SKSac SKSac 18 02 36.4 +1.2
baz=95
A09A Danville 95.19 41 ⇓P P 17 52 00.5 +0.2
baz=95
D09A Jones Farm, Ri 95.25 43 ⇑P P 17 52 00.4 -0.2
baz=95,SNR=16
D09A ⇑SKSac SKSac 18 02 37.7 +2.1
baz=95
GRAC Grapevine Rang 95.26 53 ⇑P P 17 52 00.2 -0.5
baz=95,SNR=33
C09A Chrisman Ranch 95.32 43 ⇓P P 17 52 00.8 -0.1
baz=95
E09A Wood Farm, Sta 95.32 44 ⇓P P 17 52 00.7 -0.2
baz=95,SNR=21
L09A Wilkinson Ranc 95.37 48 ⇑P P 17 52 01.7 +0.6
baz=95
K09A Rome 95.37 48 ⇓P P 17 52 02.1 +0.9
baz=95
K09A ⇓SKSac SKSac 18 02 40.2 +4.0
baz=95
J09A Fry Pan Ranch, 95.40 47 ⇑P P 17 52 01.3 0.0
baz=95
J09A ⇑SKSac SKSac 18 02 36.9 +0.6
baz=95
N09A Rock Creek Ran 95.40 50 ⇓P P 17 52 01.5 +0.2
baz=95,SNR=12
N09A ⇓SKSac SKSac 18 02 37.6 +1.2
baz=95
RRX Edison Barstow 95.41 56 ⇑P P 17 52 02.0 +0.7
baz=95
BBRC Big Bear Sol-O 95.43 56 ⇑P P 17 52 01.8 +0.3
baz=95
F09A S2 Ranch, Elgi 95.44 45 ⇓P P 17 52 01.5 +0.1
baz=95
F09A ⇓SKSac SKSac 18 02 37.8 +1.2
baz=95
B09A Rice 95.44 42 ⇑P P 17 52 01.3 -0.2
baz=95
I09A Lost Marbles R 95.45 46 ⇑P P 17 52 01.8 +0.3
baz=95
I09A ⇓SKSac SKSac 18 02 37.8 +1.2
baz=95
TPH Tonopah 95.45 52 *eP* P 17 51 57.2 -4.3
TPH pmax pmax
comp=Z,333nm,1.9s,mb6.4
TPH MLR MLR
comp=Z,20µm,20.0s,MS6.6
TPH Tonopah 95.45 52 *eP* P 17 51 57.2 -4.3
comp=Z,333nm,1.9s,mb6.4
TPH LR LR
comp=Z,20µm,20.0s,MS6.6
SVE Sverdlovsk 95.46 326 *eP* P 17 52 01.0 -0.6
SVE *e* 17 55 55.0
SVE *e*PPP 17 58 02.0
SVE *e* 18 02 32.0
SVE *e* 18 03 20.0
SVE *e* 18 04 42.0
SVE *e* 18 05 20.0
SVE pmax pmax
comp=Z,52nm,2.5s,mb5.5
SVE MLR MLR
comp=Z,28µm,23.0s,MS6.7
M09A Marrel Ranch, 95.50 49 ⇑P P 17 52 02.0 +0.2
baz=95
M09A ⇑SKSac SKSac 18 02 38.0 +1.1
baz=95
Q09A Carvers 95.53 52 ⇓P P 17 52 02.4 +0.5
baz=95
Q09A ⇓SKSac SKSac 18 02 38.8 +1.7
baz=95
H09A Durkee 95.54 46 ⇑P P 17 52 01.4 -0.6
baz=95,SNR=7.8
H09A ⇓SKSac SKSac 18 02 35.5 -1.6
baz=95
R09A Tonopah 95.58 52 ⇓P P 17 52 01.9 -0.2
baz=95
R09A ⇓SKSac SKSac 18 02 39.7 +2.4
baz=95
GSC Goldstone 95.59 55 *eP* P 17 51 58.6 -3.6
comp=Z,241nm,1.8s,mb6.3
GSC Goldstone 95.59 55 ⇑P P 17 52 02.6 +0.4
baz=95
GSC ⇓SKSac SKSac 18 02 38.3 +0.9
baz=95
BMN Battle Mountai 95.60 50 *eP* P 17 51 59.1 -3.1
BMN pmax pmax
comp=Z,203nm,1.8s,mb6.2
BMN MLR MLR
comp=Z,22µm,21.0s,MS6.6
BMN Battle Mountai 95.60 50 *eP* P 17 51 59.1 -3.2
comp=Z,203nm,1.8s,mb6.2
BMN LR LR
comp=Z,22µm,21.0s,MS6.6
P09A Austin 95.61 51 ⇑P P 17 52 02.4 +0.2
baz=95
O09A Fish Creek Ran 95.61 50 ⇓P P 17 52 02.8 +0.5
baz=95
O09A ⇑SKSac SKSac 18 02 37.8 +0.3
baz=95
FURC Furnace Creek, 95.63 54 P P 17 52 02.1 -0.2
baz=95
MONP Monument Peak 95.75 58 ⇓P P 17 52 03.2 +0.3
baz=96
MONP ⇑SKSac SKSac 18 02 40.4 +2.1
baz=96
RPN Rapa Nui 95.77 118 PFAKE 17 52 10.0 +7.0
RPN LR LR
comp=Z,2µm,21.0s,MS5.5
PFO Pinyon Flat Ob 95.77 57 P P 17 51 59.4 -3.6
comp=Z,210nm,2.0s,mb6.2,SNR=9.9
PFO Pinyon Flat Ob 95.77 57 *eP* P 17 51 58.8 -4.2
PFO pmax pmax
comp=Z,138nm,1.6s,mb6.1
PFO MLR MLR
comp=Z,679nm,19.0s
PFO Pinyon Flat Ob 95.77 57 *eP* P 17 51 58.8 -4.2
comp=Z,138nm,1.6s,mb6.1
PFO LR LR
comp=Z,679nm,19.0s
PFO Pinyon Flat Ob 95.77 57 ⇓P P 17 52 03.3 +0.3
baz=96
PFO ⇓SKSac SKSac 18 02 39.1 +0.8
baz=96
BMO Blue Mountains 95.81 46 *eP* P 17 51 59.1 -4.1
BMO pmax pmax
comp=Z,391nm,2.0s,mb6.5
BMO MLR MLR
comp=Z,18µm,22.0s,MS6.5
BMO Blue Mountains 95.81 46 *eP* P 17 51 59.1 -4.1
comp=Z,391nm,2.0s,mb6.5
BMO LR LR
comp=Z,18µm,22.0s,MS6.5
A10A Northport 95.86 41 ⇑P P 17 52 03.6 +0.1
baz=96
A10A ⇑SKSac SKSac 18 02 39.8 +1.0
baz=96
F10A Beach Ranch, E 95.93 44 ⇓P P 17 52 03.4 -0.3
baz=96
F10A ⇑SKSac SKSac 18 02 41.4 +2.2
baz=96
HEC Hector,Ludlow 95.95 56 ⇑P P 17 52 04.1 +0.3
baz=96
HEC ⇑SKSac SKSac 18 02 41.3 +2.0
baz=96
C10A Spilker Farm, 95.97 43 ⇑P P 17 52 04.0 +0.1
baz=96
C10A ⇓SKSac SKSac 18 02 40.9 +1.6
baz=96
DVTC Desert V Tower 96.00 58 ⇑P P 17 52 04.3 +0.3
baz=96
E10A Myers Farm, Un 96.04 44 ⇓P P 17 52 03.9 -0.2
baz=96
E10A ⇓SKSac SKSac 18 02 42.6 +2.9
baz=96
B10A Chitwood Farm, 96.05 42 ⇑P P 17 52 05.3 +1.0
baz=96
B10A ⇑SKSac SKSac 18 02 43.3 +3.6
baz=96
U10A Ash Meadows, A 96.05 54 ⇑P P 17 52 04.7 +0.4
baz=96
U10A ⇓SKSac SKSac 18 02 43.8 +4.0
baz=96
SHOC Shoshone 96.06 55 ⇑P P 17 52 04.7 +0.4
baz=96
SHOC ⇓SKSac SKSac 18 02 43.2 +3.3
baz=96
ABKT Ailbek 96.07 307 P P 17 52 03.5 -0.8
comp=Z,446nm,1.1s,mb6.8,SNR=20
NEW Newport 96.12 42 LR LR 18 34 14.1
comp=Z,15µm,18.3s,MS6.5,baz=292,slow=35
NEW Newport 96.12 42 *eP* P 17 52 00.1 -4.5
NEW pmax pmax
comp=Z,155nm,1.5s
NEW MLR MLR
comp=Z,14µm,19.0s
NEW Newport 96.12 42 *eP* P 17 52 00.1 -4.5
comp=Z,155nm,1.5s,mb6.2
NEW LR LR
comp=Z,14µm,19.0s,MS6.5
P10A Eureka 96.14 51 ⇑P P 17 52 05.4 +0.8
baz=96
P10A ⇑SKSac SKSac 18 02 42.9 +2.7
baz=96
N10A Dunphy 96.16 50 ⇓P P 17 52 05.9 +1.1
baz=96
N10A ⇓SKSac SKSac 18 02 43.0 +2.7
baz=96
BELC Belle Mtn. 96.17 57 ⇑P P 17 52 05.1 +0.3
baz=96
BELC ⇓SKSac SKSac 18 02 41.6 +1.2
baz=96
M10A I.L. Ranch, Tu 96.18 49 ⇑P P 17 52 05.7 +0.8
baz=96
M10A ⇓SKSac SKSac 18 02 43.8 +3.3
baz=96
SWSC Sam W. Stewart 96.28 58 ⇓P P 17 52 06.5 +1.2
baz=96
SWSC ⇑SKSac SKSac 18 02 42.7 +1.8
baz=96
TUQ Turquoise Mtn. 96.32 55 ⇓P P 17 52 06.1 +0.7
baz=96
TUQ ⇑SKSac SKSac 18 02 46.4 +5.2
baz=96
ARU Arti 96.59 326 P P 17 52 03.8 -2.9
comp=Z,102nm,1.7s,mb6.0,SNR=5.9
ARU Arti 96.59 326 ⇓*i*P P 17 52 02.2 -4.5
ARU *e* 17 55 56.8
ARU *e*PPP 17 58 02.7
ARU *e*S SKSac 18 02 39.0 -3.6
ARU *e*PS PS 18 04 46.9 -2.3
ARU pmax pmax
comp=Z,25nm,1.1s,mb5.6
ARU MLR MLR
comp=E,24µm,23.0s,MS6.7
ARU MLR MLR
comp=Z,30µm,23.0s,MS6.7
ARU MLR MLR
comp=N,4µm,19.0s,MS6.7
ARU Arti 96.59 326 *eP* P 17 52 03.2 -3.5
comp=N,298nm,2.1s,mb6.3
ARU LR LR
comp=Z,7µm,21.0s,MS6.1
BC3 Big Chuckw Mtn 96.61 57 ⇓P P 17 52 07.1 +0.3
baz=96
B11A Sandpoint 96.63 42 ⇓P P 17 52 07.6 +0.7
baz=96,SNR=16
B11A ⇑SKSac SKSac 18 02 44.6 +1.8
baz=96
A11A Hall Mountain, 96.65 42 ⇑P P 17 52 07.7 +0.7
baz=96
A11A ⇓SKSac SKSac 18 02 45.4 +2.4
baz=96
F11A Grangeville 96.67 45 ⇓P P 17 52 07.4 +0.3
baz=96
P11A Circle Ranch, 96.68 51 ⇓P P 17 52 07.6 +0.4
baz=96
P11A ⇓SKSac SKSac 18 02 45.3 +2.3
baz=96
H11A Donnelly 96.72 46 ⇑P P 17 52 07.3 0.0
baz=96
Q11A Duckwater 96.72 52 ⇓P P 17 52 07.4 +0.1
baz=96
Q11A ⇓SKSac SKSac 18 02 47.6 +4.3
baz=96
AKTK Aktyubinsk 96.73 320 P P 17 52 04.7 -2.6
AKTO Aktyubinsk 96.73 320 P P 17 52 04.7 -2.6
comp=Z,2.0nm,0.7s,baz=81,slow=6.4,SNR=9.5
M11A Holland Ranch, 96.74 49 ⇑P P 17 52 08.5 +1.1
baz=97
TRCR Troy Canyon 96.75 52 *eP* P 17 52 03.8 -3.6
N11A Elko Archery C 96.75 50 ⇑P P 17 52 08.9 +1.4
baz=97
N11A ⇓SKSac SKSac 18 02 46.4 +2.9
baz=97
U11A Corn Creek 96.81 54 ⇑P P 17 52 09.0 +1.3
baz=97
IRM Iron Mountain 96.89 56 ⇑P P 17 52 08.4 +0.3
baz=97
IRM ⇓SKSac SKSac 18 02 46.9 +2.7
baz=97
GLA Glamis 97.10 58 *eP* P 17 52 06.5 -2.5
comp=Z,124nm,1.5s,mb6.1
GLA Glamis 97.10 58 ⇓P P 17 52 09.9 +0.9
baz=97
GLA ⇑SKSac SKSac 18 02 49.2 +3.9
baz=97
A12A Yaak River Ran 97.12 42 ⇑SKSac SKSac 18 02 50.2 +4.8
baz=97
ELK Elko 97.13 50 *eP* P 17 52 06.2 -2.9
ELK pmax pmax
comp=Z,98nm,1.5s
ELK MLR MLR
comp=Z,25µm,20.0s
ELK Elko 97.13 50 *eP* P 17 52 06.2 -3.0
comp=Z,98nm,1.5s,mb6.0

ELK LR LR
comp=Z,25µm,20.0s,MS6.7
B12A Libby 97.15 42 ⇑P **P 17 52 09.3 +0.1**
baz=97,SNR=7.4
W12A Cal Nev Ari 97.18 55 ⇑P **P 17 52 10.6 +1.2**
baz=97
W12A ⇑SKSac SKSac 18 02 51.6 +5.9
baz=97
C12A Trout Creek 97.20 43 ⇓P **P 17 52 09.8 +0.3**
baz=97,SNR=14
V12A Nelson 97.21 55 ⇓P **P 17 52 10.5 +0.9**
baz=97
V12A ⇓SKSac SKSac 18 02 47.7 +1.8
baz=97
N12A Clover Valley, 97.28 50 ⇓P **P 17 52 10.3 +0.5**
baz=97
N12A ⇑SKSac SKSac 18 02 48.8 +2.5
baz=97
P12A McGill 97.33 51 ⇑P **P 17 52 11.1 +1.0**
baz=97
P12A ⇓SKSac SKSac 18 02 51.0 +4.5
baz=97
Q12A Willow Creek R 97.37 52 ⇓P **P 17 52 11.3 +1.0**
baz=97
Y12C Blythe 97.39 57 ⇓P **P 17 52 10.9 +0.6**
baz=97
Y12C ⇓SKSac SKSac 18 02 49.8 +3.1
baz=97
M12A Wells 97.40 49 ⇑P **P 17 52 11.1 +0.8**
baz=97
M12A ⇑SKSac SKSac 18 02 51.3 +4.5
baz=97
U12A Valley of Fire 97.50 54 ⇓P **P 17 52 11.1 +0.3**
baz=97
U12A ⇓SKSac SKSac 18 02 51.7 +4.4
baz=97
BSMT Bassoo Peak 97.67 43 P **P 17 52 12.5 +0.9**
PDMCI Parker Dam,Lak 97.73 56 ⇑P **P 17 52 11.5 -0.4**
baz=98
YKA Yellowknife Ar 97.78 28 P **P 17 52 07.8 -4.3**
comp=Z,16nm,0.9s,mb5.5,baz=271,slow=4.7,SNR=13
YKA PKiKP PKiKP 17 56 43.1 -2.9
comp=Z,1.9nm,0.7s,baz=269,slow=1.6,SNR=3.9
YKA PKKP PKKPbc 18 08 44.5 -2.3
comp=Z,1.4nm,0.7s,baz=100,slow=2.7,SNR=4.7
YKA Yellowknife Ar 97.78 28 P **P 17 52 07.8 -4.3**
C13A Hot Springs 97.81 43 ⇑P **P 17 52 12.4 +0.1**
baz=98
HLID Hailey 97.83 47 *e*P **P 17 52 08.2 -4.1**
comp=Z,180nm,1.9s,mb6.3
HLID LR LR
comp=Z,15µm,20.0s,MS6.5
HLID Hailey 97.83 47 ⇓P **P 17 52 13.1 +0.8**
baz=98
D13A Huson 97.88 43 ⇓P **P 17 52 11.9 -0.6**
baz=98
D13A ⇓SKSac SKSac 18 02 50.1 +0.9
baz=98
B13A Whitefish 97.89 42 ⇑P **P 17 52 13.2 +0.6**
baz=98
B13A ⇑SKSac SKSac 18 02 50.2 +0.9
baz=98
N13A Wendover, West 97.92 50 ⇓P **P 17 52 13.4 +0.7**
baz=98
N13A ⇓SKSac SKSac 18 02 50.9 +1.5
baz=98
F13A Darby 97.94 45 ⇓P **P 17 52 12.8 -0.1**
baz=98
F13A ⇑SKSac SKSac 18 02 51.8 +2.2
baz=98
M13A Montello 97.96 49 ⇑P **P 17 52 12.7 -0.2**
baz=98
M13A ⇑SKSac SKSac 18 02 53.8 +4.2
baz=98
Y13A Salome 97.97 57 ⇓P **P 17 52 14.1 +1.1**
baz=98
Y13A ⇑SKSac SKSac 18 02 53.7 +4.0
baz=98
W13A Hualapai Mount 97.97 56 ⇓P **P 17 52 14.1 +1.2**
baz=98
W13A ⇑SKSac SKSac 18 02 53.8 +4.1
baz=98
MSO Missoula 98.23 44 PFAKE 17 52 20.0 +5.9
MSO LR LR
comp=Z,14µm,20.0s,MS6.5
NVL N'lazarevskaya 98.24 193 *d* iP **P 17 52 15.4 +1.2**
NVL *i* 17 56 16.8
NVL *i* S SKSac 18 02 51.9 +0.8
NVL *i* PS PS 18 05 06.6 -0.5
NVL pmax pmax
comp=Z,79nm,1.7s,mb6.0
WALA Waterton Lakes 98.27 41 *e*P **P 17 52 11.6 -2.7**
comp=Z,197nm,1.5s,mb6.4
ARUT Antelope Range 98.42 53 *e*P **P 17 52 12.6 -2.4**
CCUT Cedar City 98.48 53 *e*P **P 17 52 13.4 -1.8**
D14A Greenough 98.53 43 ⇑P **P 17 52 15.4 -0.1**
baz=98
D14A ⇑SKSac SKSac 18 02 52.3 -0.2
baz=98
E14A Clinton 98.53 44 ⇑P **P 17 52 15.1 -0.4**
baz=98
E14A ⇓SKSac SKSac 18 02 56.4 +3.9
baz=98
EDM Edmonton 98.60 37 *e*P **P 17 52 11.9 -3.9**
F14A Wisdom 98.61 45 ⇓P **P 17 52 15.5 -0.3**
baz=98
W14A Seligman 98.63 55 ⇓P **P 17 52 16.8 +0.8**
baz=98
W14A ⇓SKSac SKSac 18 02 59.4 +6.4
baz=98
Y14A Wickenburg 98.66 57 ⇑P **P 17 52 15.9 -0.1**
baz=98
Y14A ⇓SKSac SKSac 18 02 57.5 +4.3
baz=98
Z14A Wintersburg 98.69 57 ⇓P **P 17 52 17.6 +1.4**
baz=98
Z14A ⇑SKSac SKSac 18 02 56.2 +2.9
baz=98
CHMT Chamberlain Mo 98.70 44 *e*P **P 17 52 12.5 -3.7**
X14A Yava 98.77 56 ⇑P **P 17 52 17.6 +1.1**
baz=98
X14A ⇓SKSac SKSac 18 02 57.3 +3.6
baz=98
ORR Orenburg 98.80 321 *e*P **P 17 52 14.2 -2.5**
ORR pmax pmax
comp=Z,70nm,1.7s,mb5.9
BGU Big Grassy Mou 98.81 50 *e*P **P 17 52 12.8 -3.9**
DUG Dugway 98.96 50 *e*P **P 17 52 11.4 -6.0**
DUG pmax pmax
comp=Z,43nm,1.4s,mb5.8
DUG MLR MLR
comp=Z,15µm,21.0s,MS6.5
DUG Dugway 98.96 50 *e*P **P 17 52 11.3 -6.0**
comp=Z,42nm,1.4s,mb5.8
DUG LR LR
comp=Z,15µm,21.0s,MS6.5
DUG Dugway 98.96 50 ⇓P **P 17 52 18.1 +0.7**
baz=99
MCMT McKenzie Canyo 98.98 46 *e*P **P 17 52 13.3 -4.1**
HVU Hansel Valley 99.01 49 *e*P **P 17 52 14.6 -3.0**
HVU pmax pmax
comp=Z,33nm,1.0s,mb5.8
HVU Hansel Valley 99.01 49 *e*P **P 17 52 14.6 -3.0**
comp=Z,32nm,1.0s,mb5.8
E15A Deer Lodge 99.12 44 ⇓P **P 17 52 18.3 +0.2**
baz=99
E15A ⇑SKSac SKSac 18 02 58.4 +2.9
baz=99
DLMT Dillon 99.16 45 P **P 17 52 14.0 -4.2**
comp=Z,55nm,1.4s,mb5.9
D15A Lincoln 99.20 43 ⇑P **P 17 52 17.8 -0.7**
baz=99
D15A ⇑SKSac SKSac 18 02 58.1 +2.1
baz=99
F15A Butte 99.23 45 ⇓SKSac SKSac 18 03 01.6 +5.5
baz=99
SPUT South Promonto 99.25 49 P **P 17 52 16.3 -2.3**
115A Sonoran Desert 99.27 58 ⇑P **P 17 52 20.1 +1.4**
baz=99
115A ⇑SKSac SKSac 18 02 59.5 +3.3
baz=99
W15A Williams 99.30 55 ⇓P **P 17 52 21.3 +2.4**
baz=99
W15A ⇑SKSac SKSac 18 03 01.0 +4.6
baz=99
X15A Humboldt 99.31 56 ⇓P **P 17 52 20.3 +1.4**
baz=99
X15A ⇑SKSac SKSac 18 02 59.7 +3.3
baz=99
MSU Marysvale 99.43 52 *e*P **P 17 52 16.9 -2.6**
MSU *e* 17 56 18.4
NLU North Lily Min 99.53 51 *e*Pdif **P 17 52 16.5 -3.4**
116A Eloy 99.70 58 ⇓P Pdif 17 52 23.0 +2.3
baz=100
MPU Maple Canyon 99.87 51 PFAKE 17 52 30.0 +8.6
MPU LR LR
comp=Z,23µm,21.0s,MS6.7
HWUT Hardware Ranch 99.92 49 *e*Pdif Pdif 17 52 18.2 -3.4
comp=Z,16nm,1.0s
HWUT LR LR
comp=Z,15µm,19.0s,MS6.5
TCUT Toone Canyon 100.04 49 *e*Pdif Pdif 17 52 18.6 -3.6
WUAZ Wupatki 100.04 55 Pdif Pdif 17 52 20.6 -1.6
comp=Z,47nm,1.3s
WUAZ LR LR
comp=Z,8µm,20.0s,MS6.2
WUAZ Wupatki 100.04 55 ⇑P Pdif 17 52 23.8 +1.6
baz=100
WUAZ ⇑SKSac SKSac 18 03 07.0 +7.0
baz=100
WUAZ ⇓SKSac SKSac 18 03 07.7 +7.7
baz=100
RRI2 Red Ridge 100.09 47 *e*Pdif Pdif 17 52 19.9 -2.5
comp=Z,20nm,0.9s
SNAA Sanae 100.14 188 PKKPbc PKKPbc 18 08 35.7 -4.5
comp=Z,0.8nm,0.8s,baz=243,slow=4.5,SNR=3.1
SNAA Sanae 100.14 188 *e*Pdiff Pdif 17 52 19.3 -3.3
SNAA *e* 17 52 22.8
SNAA *e* 17 52 28.1
SNAA *e* 17 52 48.1
SNAA Sanae 100.14 188 *e*P Pdif 17 52 17.7 -4.9
SNAA pmax pmax
comp=Z,55nm,1.5s
SNAA Sanae 100.14 188 *e*P Pdif 17 52 17.7 -4.9
comp=Z,55nm,1.5s
TMUT Trail Mountain 100.19 51 *e*Pdif Pdif 17 52 19.2 -3.6
AHID Auburn Hatcher 100.25 48 PFAKE 17 52 30.0 +6.9
AHID LR LR
comp=Z,24µm,19.0s,MS6.7
YMR Madison River 100.32 46 PFAKE 17 52 30.0 +6.6
YMR LR LR
comp=Z,19µm,20.0s,MS6.6
IMW Indian Meadow 100.36 47 *e*Pdif Pdif 17 52 20.9 -2.7
comp=Z,34nm,1.2s
REDW Red Top Meadow 100.43 47 *e*Pdif Pdif 17 52 19.6 -4.3
comp=Z,50nm,1.4s
TUC Tucson 100.48 58 *e*P Pdif 17 52 20.3 -3.8
TUC *e* 17 56 28.3
TUC pmax pmax
comp=Z,47nm,1.8s
TUC MLR MLR
comp=Z,13µm,19.0s,MS6.5
TUC Tucson 100.48 58 *e*Pdif Pdif 17 52 20.3 -3.8
comp=Z,47nm,1.8s
TUC *e*PP PP 17 56 28.3 -2.4
TUC LR LR
comp=Z,13µm,19.0s,MS6.5
FLWY Flagg Ranch 100.53 46 *e*Pdif Pdif 17 52 21.8 -2.6
comp=Z,66nm,1.4s
YNR Norris Junctio 100.53 46 *e*Pdif Pdif 17 52 27.1 +2.8
SRU San Rafael 100.73 52 *e*P Pdif 17 52 19.7 -5.5
SRU pmax pmax
comp=Z,39nm,1.4s
SRU San Rafael 100.73 52 *e*Pdif Pdif 17 52 19.7 -5.5
comp=Z,39nm,1.4s
LKWY Lake 100.73 46 PFAKE 17 52 30.0 +4.8
LKWY LR LR
comp=Z,21µm,19.0s,MS6.7
EGMT Eagleton 101.05 42 *e*Pdif Pdif 17 52 19.3 -7.4
comp=Z,9.7nm,0.8s
EGMT LR LR
comp=Z,14µm,22.0s,MS6.4
EGMT Eagleton 101.05 42 ⇓P Pdif 17 52 27.8 +1.1
baz=101
BW06 Boulder Array 101.39 48 PFAKE 17 52 30.0 +1.8
BW06 LR LR
comp=Z,25µm,19.0s,MS6.7
PDAR Pinedale Array 101.39 48 P Pdif 17 52 22.8 -5.4
comp=Z,3.7nm,0.8s,baz=248,slow=1.8,SNR=17
PDAR PP PP 17 56 32.5 -5.2
comp=Z,4.8nm,1.0s,baz=280,slow=5.4,SNR=5.1
PDAR PKiKP PKiKP 17 56 47.0 -5.4
comp=Z,28nm,1.2s,baz=280,slow=5.1,SNR=7.3
PDAR Pinedale Array 101.39 48 P Pdif 17 52 22.8 -5.4
PDAR PP PP 17 56 32.5 -5.2
VNA2 Neumayer--Watz 101.42 187 *e*Pdiff Pdif 17 52 30.0 +1.7
baz=177,slow=2.4
VNA2 *e* 17 52 33.6
VNA2 *e* 17 52 39.4
VNA2 *e* 17 52 54.6
VNA2 *e* 17 52 58.8
VNA2 *e* 17 53 05.3
VNA2 *e* 17 53 09.5
VNA2 *e* 17 53 15.4
VNA2 *e* 17 53 18.8
VNA1 Neumayer--Stat 101.79 187 *e*Pdiff Pdif 17 52 31.5 +1.6
VNA1 *e* 17 52 35.5
VNA1 *e* 17 52 40.9
VNA1 *e* 17 53 00.5
VNA1 *e* 17 53 07.6
MVCO Mesa Verde 102.35 53 *e*Pdif Pdif 17 52 29.9 -2.6
comp=Z,66nm,1.4s
MVCO Mesa Verde 102.35 53 ⇓P Pdif 17 52 33.7 +1.3
baz=102
RES Resolute Bay 102.48 14 *e*P Pdif 17 52 29.7 -3.3
RES pmax pmax
comp=Z,5µm,1.6s
RES Resolute Bay 102.48 14 *e*Pdif Pdif 17 52 29.7 -3.3
comp=Z,5µm,1.6s
SMCO Snowmass 103.48 51 *e*Pdif Pdif 17 52 34.8 -2.7
comp=Z,52nm,1.3s
SMCO PP PP 17 56 47.6 -5.7
LAO LASA Array 103.53 44 PFAKE 17 52 40.0 +2.3
LAO LR LR
comp=Z,20µm,19.0s,MS6.7
ANMO Albuquerque 104.06 56 *e*P Pdif 17 52 38.2 -1.9
ANMO pmax pmax
comp=Z,38nm,1.8s
ANMO MLR MLR
comp=Z,5µm,20.0s
ANMO Albuquerque 104.06 56 *e*Pdif Pdif 17 52 38.2 -1.9
comp=Z,38nm,1.8s
ANMO LR LR
comp=Z,5µm,20.0s,MS6.1
MAK Makhachkala 104.13 313 *i* P Pdif 17 52 40.9 +0.5
MAK *i* 17 56 52.3
MAK *i* PPP 17 59 12.3
MAK *i* PS PS 18 06 15.5 +5.6
MAK pmax pmax
comp=Z,398nm,1.6s
MAK MLR MLR
comp=Z,12µm,21.0s,MS6.4
PMSA Palmer Station 104.39 165 PFAKE 17 52 50.0 +8.5
PMSA LR LR
comp=Z,10µm,21.0s,MS6.3
PECR Pechory 104.62 327 *i* P Pdif 17 52 44.8 +2.3
PECR *e* 17 57 08.0
PECR *e* 18 04 07.0
PECR pmax pmax
comp=Z,190nm,2.0s
PECR pmax pmax
comp=Z,2µm,14.0s
PECR MLR MLR
comp=Z,54µm,20.0s,MS7.1
PECR MLR MLR
comp=N,2µm,19.0s,MS6.2
PECR MLR MLR
comp=E,6µm,19.0s,MS6.2
SDCO Great Sand Dun 104.71 53 *e*Pdif Pdif 17 52 44.7 +1.8
comp=E,17nm,1.4s
SDCO LR LR
comp=Z,20µm,20.0s,MS6.7
DGMT Dagmar 104.71 42 *e*Pdif Pdif 17 52 41.9 -1.1
comp=Z,83nm,1.4s
DGMT LR LR
comp=Z,14µm,22.0s,MS6.5
KBS Kingsbay 104.73 352 *e*P Pdif 17 52 37.6 -5.4
KBS *e*PP PP 17 57 00.2 -2.5
KBS *e* 18 06 12.1
KBS *e*SS SS 18 11 55.8 +1.7
KBS AMS AMS 18 35 52.1
comp=Z,4µm,17.7s,MS6.0
KBS Kingsbay 104.73 352 *e*P Pdif 17 52 42.1 -0.9
KBS LR LR
comp=Z,6µm,19.0s,MS6.1
MNTX Cornudas Mount 105.07 59 PFAKE 17 52 50.0 +5.5
MNTX LR LR
comp=Z,13µm,20.0s,MS6.5
FFC Flin Flon 105.14 35 PFAKE 17 52 50.0 +5.2
FFC LR LR
comp=Z,2µm,19.0s,MS5.7
RSSD Black Hills 105.31 46 P Pdif 17 52 42.9 -2.7
RSSD *e* 17 57 06.2
RSSD pmax pmax
comp=Z,120nm,1.8s
RSSD Black Hills 105.31 46 *e*Pdif Pdif 17 52 41.8 -3.8
comp=Z,107nm,1.8s
RSSD *e*PP PP 17 57 02.4 -4.6
RSSD LR LR
comp=Z,8µm,19.0s,MS6.3
APA Apatity 106.19 339 ⇓ *i* P Pdif 17 52 46.0 -3.5
APA *i* PS PS 18 06 25.0 -6.3
APA pmax pmax
comp=Z,70nm,1.4s
DUS Dusheti 106.27 312 P Pdif 17 52 53.2 +3.4
GNI Garni 106.44 310 PFAKE 17 57 10.0 +8.4
GNI LR LR
comp=Z,8µm,21.0s,MS6.2
BJO Bjornoya 106.56 348 *e*PP PP 17 57 12.8 -3.4
BJO AMS AMS 18 39 31.8
comp=Z,11µm,24.2s,MS6.3
BJO1 Bjornoya 106.60 348 *e*P PP 17 57 26.2 +10
BJO1 LR LR
comp=Z,11µm,24.2s,MS6.3
TXAR Lajitas Array 106.62 61 Pdiff Pdif 17 52 53.0 +1.6
comp=Z,0.6nm,0.9s,baz=262,slow=6.3,SNR=3.5
TXAR PKiKP PKiKP 17 57 00.6 -1.4
comp=Z,4.7nm,0.9s,baz=232,slow=1.4,SNR=5.0
TXAR PKKPbc PKKPbc 18 08 22.4 +1.4
comp=Z,1.2nm,0.8s,baz=131,slow=4.2,SNR=3.9
TXAR Lajitas Array 106.62 61 Pdif Pdif 17 52 53.0 +1.6
TXAR PKPdf PKiKP 17 57 00.6 -1.3
TXAR PKKPbc PKKPbc 18 08 22.4 +1.4
ZEI Tsey 106.79 313 *i* P Pdif 17 52 47.5 -4.7
ZEI *e* 17 57 08.3
BHD Baghdad 107.27 303 *ex* x 17 52 50.0
BHD *ex* x 17 57 19.0
BHD *ex* x 18 03 40.0
BHD *ex* x 18 06 41.0
BHD *ex* x 18 12 52.0
KEV Kevo 107.29 342 PFAKE 17 57 10.0 +6.8
KEV LR LR
comp=Z,15µm,22.0s,MS6.5
KIV Kislovodsk 107.51 314 *e*P Pdif 17 52 53.4 -2.0
KIV *e* 17 57 25.4
KIV *e* 18 03 31.0
KIV *e*PS PS 18 06 43.1 -1.8
KIV *e*SS SS 18 12 36.6 +4.6
KIV *e*SSS 18 16 38.3
KIV pmax pmax
comp=Z,24nm,1.2s
KIV MLR MLR
comp=Z,12µm,20.0s,MS6.5
KIV Kislovodsk 107.51 314 PFAKE 17 57 10.0 +6.4
KIV LR LR
comp=Z,2µm,20.0s,MS5.7
ARCES ARCESS Array B 107.86 342 Pdiff Pdif 17 52 54.1 -2.8
comp=Z,4.3nm,0.8s,baz=41,slow=8.1,SNR=4.4
ARCES PKiKP PKiKP 17 57 01.6 -2.6
comp=Z,3.3nm,0.7s,baz=55,slow=1.7,SNR=8.9
AMTX Amarillo 107.99 56 PFAKE 17 57 10.0 +5.5
AMTX LR LR
comp=Z,10µm,20.0s,MS6.4
MSL Mosul 108.10 306 *ex* x 17 53 04.0
MSL *ex* x 17 57 29.0
MSL *ex* x 18 03 46.0
MOS Moscow 108.28 327 *i* P Pdif 17 52 57.9 -0.9
MOS *e* 17 57 31.1
MOS *e*PPP 17 59 48.9
MOS *e*PS PS 18 06 47.9 -4.9
MOS *e*SS SS 18 13 02.2 +20
MOS MLR MLR
comp=Z,19µm,23.8s,MS6.6
MOS MLR MLR
comp=N,13µm,25.1s
JOF Joensuu 108.87 335 *e*PKP Pdif 17 52 53.5 -7.9
JOF *e*PKP PKiKP 17 57 02.2 -4.0
OBN Obninsk 109.03 326 P Pdif 17 53 05.0 +2.8
OBN pmax pmax
comp=Z,54nm,2.0s
OBN Obninsk 109.03 326 PFAKE 17 57 10.0 +3.5
OBN LR LR
comp=Z,5µm,21.0s,MS6.0
CBKS Cedar Bluff 109.13 51 PFAKE 17 57 10.0 +3.3
CBKS LR LR
comp=Z,19µm,20.0s,MS6.7
BNGL BINGOL 109.33 309 *i* P PP 17 57 35.3 -1.2
DAG Danmarks Havn 109.49 357 ⇓ *i* P Pdif 17 53 00.1 -4.1
comp=Z,3.0nm,0.8s
TRO Tromso 109.69 344 *e*PP PP 17 57 40.5 +1.5
TRO *e*SKS SKSac 18 03 41.0 -2.9
TRO *e* 18 13 22.0
TRO AMS AMS 18 41 27.0
comp=Z,7µm,23.3s,MS6.2
SOC Sochi 109.69 314 *i* P Pdif 17 53 03.7 -1.4
SOC *e* 17 57 45.7
SOC *e* 18 03 37.0
SOC *e*PS PS 18 07 02.7 -4.4
SOC *e*SS SS 18 13 18.2 +17
SOC MLR MLR
comp=Z,18µm,23.0s,MS6.6
ULM Lac du Bonnet 109.74 39 PKiKP PKiKP 17 57 04.1 -3.7
comp=Z,16nm,1.1s,baz=332,slow=1.3,SNR=6.2
ULM Lac du Bonnet 109.74 39 PKPdf PKiKP 17 57 04.1 -3.7
MARD Mardin 109.83 307 *i* P PP 17 57 36.2 -3.8
JCT Junction City 109.91 60 PKiKP PKiKP 17 57 04.7 -3.4
JCT LR LR
comp=Z,17µm,20.0s,MS6.6
MACK Trabzon 110.09 311 *i* P PP 17 57 44.9 +2.9
WMOK Wichita Mounta 110.38 55 *e*PKIKP PKiKP 17 57 06.3 -2.7
WMOK MLR MLR
comp=Z,8µm,19.0s,MS6.3
USHA Ushuaia 110.73 157 PKKPab PKKPab 18 08 13.2 -5.2
comp=Z,15nm,0.7s,baz=356,slow=3.4,SNR=6.6
ANN Anapa 111.07 316 *i* P Pdif 17 53 03.2 -8.0
ANN *i* 17 57 04.6
ANN *e* 17 57 52.1
ANN *e*SP SP 18 07 23.7 +5.9
ANN *e*SS SS 18 13 19.3 -0.6
ANN pmax pmax
comp=Z,193nm,1.3s
ELZG Elazig 111.07 309 *i* P PKiKP 17 57 12.1 +1.8
KAF Kangasniemi 111.31 335 *e*pkp PKiKP 17 57 08.0 -2.8
KAF Kangasniemi 111.31 335 *e*P Pdif 17 53 09.5 -2.8
KAF *e* 17 57 08.0
KSU1 Kansas State U 111.50 51 PKiKP PKiKP 17 57 07.3 -3.9
FINES FINESS Array B 111.73 335 Pdiff Pdif 17 53 09.9 -4.2
comp=Z,7.8nm,0.7s,baz=64,slow=4.4,SNR=8.2
FINES PKiKP PKiKP 17 57 08.8 -2.7
comp=Z,5.2nm,0.8s,baz=114,slow=3.4,SNR=5.8
FINES FINESS Array B 111.73 335 Pdif Pdif 17 53 09.9 -4.2
FINES PKPdf PKiKP 17 57 08.8 -2.7
DESE Dese 111.98 279 *i* P Pdif 17 53 21.5 +6.2
GZT Gaziantep 112.36 308 *i* P PKiKP 17 57 09.0 -3.8
FURI Furi 112.81 277 *e*P PKiKP 17 57 13.0 -0.6
FURI S PP 17 57 58.7 -2.8
EYMN Ely 113.13 40 *e*PKiKP PKiKP 17 57 10.7 -3.5
EYMN LR LR
comp=Z,9µm,19.0s,MS6.4
SIM Simferopol' 113.33 316 *de*P Pdif 17 53 28.3 +7.0
SIM *e* 17 58 14.0
SIM *e*PPP 18 00 38.0
SIM *e*PS PS 18 07 40.0 -0.9
SIM *e*PPS 18 08 52.0
SIM pmax pmax
comp=Z,230nm,8.0s
SIM pmax pmax
comp=Z,1µm,9.0s
SIM MLR MLR
comp=Z,10µm,20.0s,MS6.4
HKT Hockley 113.38 60 PFAKE 17 57 20.0 +5.3
HKT LR LR
comp=Z,17µm,20.0s,MS6.6
CTKT Corum 113.87 312 *i* P PP 17 58 15.6 +6.6
MNK Minsk 113.98 328 ⇑ *e*PKIKP PKiKP 17 57 15.0 -0.9
NATX Nacogdoches 114.17 58 PFAKE 17 57 20.0 +3.8

NATX LR LR
comp=Z,10µm,19.0s,MS6.4
JMIC Jan Mayen 114.22 353 *i* SP 18 07 39.1 -7.7
JMIC AMS AMS 18 42 16.4
comp=Z,3µm,25.1s,MS5.8
CDAG Cicekdag 114.40 311 *i* P PP 17 58 06.4 -6.3
BHL Bhannes 114.44 304 *e*P PKiKP 17 57 17.7 +1.0
AKASG Malin Array Be 114.67 323 PKP PKiKP 17 57 12.2 -5.0
comp=Z,3.3nm,0.6s,baz=60,slow=2.1,SNR=11
AKASG PKKPab PKKPab 18 07 55.2 -5.8
comp=Z,6.1nm,0.6s,baz=264,slow=4.2,SNR=16
AKBB Malin Array Si 114.67 323 *e*PKIKP PKiKP 17 57 12.8 -4.4
ELDT Eldivan 114.91 312 *i* P PP 17 58 22.0 +5.7
BR131 Keskin Array S 114.93 311 *e*PKPdf PKiKP 17 57 11.3 -6.3
BR131 LR LR
comp=Z,5µm,22.0s,MS6.0
BRTR Keskin Array B 114.93 311 PKhKP 17 57 07.2
comp=Z,1.9nm,1.0s,baz=117,slow=4.3,SNR=3.5
BRTR PKP PKiKP 17 57 15.6 -2.1
comp=Z,6.1nm,1.0s,baz=93,slow=2.5,SNR=8.0
BRTR PKKPbc PKKPbc 18 07 51.1 -2.8
comp=Z,2.5nm,0.7s,baz=232,slow=2.9,SNR=7.3
CMIG Matias Romero 115.04 74 PKP PKiKP 17 57 15.0 -2.9
comp=Z,5.1nm,0.6s,baz=8.4,slow=1.7,SNR=4.5
CMIG Matias Romero 115.04 74 PKP PKiKP 17 57 15.0 -2.9
NSS Namsos 115.11 342 *e*PP PP 17 58 12.1 -5.7
NSS *e*SKS SKSac 18 03 59.4 -6.1
NSS *i* 18 07 59.6
NSS *e*SS SS 18 14 13.4 0.0
NSS AMS AMS 18 43 31.9
comp=Z,10µm,20.7s,MS6.4
JFWS Jewell Farm 115.38 45 *e*PKIKP PKPdf 17 57 14.9 -3.6
JFWS MLR MLR
comp=Z,16µm,19.0s,MS6.7
ANTO Ankara 115.53 311 ⇓*i*P PKPdf 17 57 18.1 -0.7
ANTO Ankara 115.53 311 *e*PKPdf PKPdf 17 57 17.1 -1.7
ANTO LR LR
comp=Z,4µm,22.0s,MS6.0
UALR University of 115.62 55 *e*PKPdf PKPdf 17 57 16.3 -2.7
EIL Elat 115.64 300 *e*PKPdf PKPdf 17 57 17.4 -1.7
CCM Cathedral Cave 115.83 51 PKIKP PKPdf 17 57 13.5 -5.9
CCM Cathedral Cave 115.83 51 *e*PKPdf PKPdf 17 57 11.3 -8.1
CCM LR LR
comp=Z,11µm,21.0s,MS6.5
CSS Prodhromos 116.15 306 *e*P PKPdf 17 57 17.1 -2.9
KIS Kishinev 116.24 320 *e*PKP pPKPdf 17 57 34.0 +7.5
KIS Kishinev 116.24 320 *i* PP PP 17 58 34.0 +8.3
comp=Z,2µm,10.0s
KIS *i* SKKS SKKSac 18 05 28.0 +2.0
KIS Kishinev 116.24 320 *e*PS PS 18 08 08.0 +0.5
KIS LRM 18 47 24.0
comp=Z,14µm,20.0s
KDHN Kadinhani 116.35 310 *i* P PP 17 58 15.5 -11
FVM French Village 116.48 51 PKIKP PKPdf 17 57 18.2 -2.4
SUW Suwalki 116.65 328 *e*PKP PKPdf 17 57 19.2 -1.8
SUW *e*PP PP 17 58 34.2 +5.7
SUW Suwalki 116.65 328 PKIKP PKPdf 17 57 19.0 -2.0
SUW Suwalki 116.65 328 *e*PKP PKPdf 17 57 19.2 -1.8
SUW *e*PP PP 17 58 34.2 +5.7
SUW *e*PS PS 18 08 14.5 +3.3
SUW *e*SS 18 15 12.5
SUW *e*SS 18 15 12.5
SUW Suwalki 116.65 328 *e*PS PS 18 08 14.5 +3.3
EFI East Falkland 117.03 160 PFAKE 17 57 30.0 +8.3
EFI LR LR
comp=Z,2µm,19.0s,MS5.8
ESKT Eskisehir 117.07 311 *i* P PKPdf 17 57 20.4 -1.4
BOSA Boshof 117.09 233 PKP PKPdf 17 57 20.1 -1.8
comp=Z,6.2nm,0.8s,baz=148,slow=5.5,SNR=6.2
BOSA PKKPab PKKPab 18 07 48.0 -2.3
comp=Z,2.7nm,0.9s,baz=11,slow=6.3,SNR=3.6
BOSA Boshof 117.09 233 *e*PKIKP PKPdf 17 57 15.4 -6.4
BOSA 17 57 20.1
BOSA MLR MLR
comp=Z,7µm,20.0s,MS6.2
BOSA Boshof 117.09 233 *e*PKPdf PKPdf 17 57 15.3 -6.5
BOSA PKP PKPdf 17 57 20.1 -1.8
BOSA PKKPab PKKPab 18 07 48.0 -2.3
BOSA LR LR
comp=Z,7µm,20.0s,MS6.2
PARMO Parma 117.30 52 PKPdf PKPdf 17 57 19.9 -2.4
TIRR Tirgusor 117.36 317 ⇑*i*P PKPdf 17 57 26.8 +4.5
TIRR Tirgusor 117.36 317 ⇑P PKPdf 17 57 26.8 +4.5
MATP Matopo 117.39 243 PKKPab PKKPab 18 07 47.1 -1.9
comp=Z,5.2nm,1.0s,baz=270,slow=6.1,SNR=4.3
GLAT Glass 117.75 52 *e*PKPdf PKPdf 17 57 20.7 -2.4
NB2 NORSAR Subarra 117.77 339 PKPdf PKPdf 17 57 19.8 -3.3
baz=44,slow=1.9
NB2 NORSAR Subarra 117.77 339 PKPdf PKPdf 17 57 19.8 -3.3
comp=Z,18nm,1.2s,baz=44,slow=1.9
NOA NORSAR Array B 117.77 339 PKP PKPdf 17 57 20.4 -2.8
comp=Z,5.0nm,0.8s,baz=51,slow=2.0,SNR=8.2
NOA PKKPab PKKPab 18 07 46.1 -1.2
comp=Z,3.1nm,0.9s,baz=46,slow=3.3,SNR=6.0
SFJD Kangerlussuaq 117.78 9 *i* P PKPdf 17 57 30.6 +7.4
SFJD *i* 17 58 40.1
SFJD *i* S PS 18 08 32.5 +11
SFJD Kangerlussuaq 117.78 9 *e*P PKPdf 17 57 30.6 +7.4
SFJD *i* 17 58 40.1
SFJD *i* S PS 18 08 32.5 +11
TKTP Tekketepe 117.84 310 *i* P PKPdf 17 57 21.9 -1.3
MOL Molde 117.90 342 *e*PP PP 17 58 34.5 -2.7
VRI Vrincioaia 117.99 319 ⇓*i*P PKPdf 17 57 22.9 -0.7
VRI Vrincioaia 117.99 319 ⇑*i*P PKKPbc 18 07 47.3 +4.2
VRI Vrincioaia 117.99 319 ⇓P PKPdf 17 57 22.9 -0.6
NAO01 NORSAR Array S 118.03 339 *e*PKPdf PKPdf 17 57 22.1 -1.6
NAO01 LR LR
comp=Z,9µm,20.0s,MS6.4
OXF Oxford 118.04 54 PFAKE 17 57 30.0 +6.3
OXF LR LR
comp=Z,10µm,19.0s,MS6.4
PLOR Plostina 118.05 319 ⇓*i*P PKPdf 17 57 31.2 +7.5
LVV L'vov 118.08 324 *e*PKIKP PKPdf 17 57 26.1 +2.4
LVV *e* 17 58 39.1
LVV *e* 18 04 08.1
LVV *e*SS SS 18 15 16.3 +24
LVV MLR MLR
comp=N,4µm,23.0s,MS6.1
LVV MLR MLR
comp=E,4µm,23.0s,MS6.1
LVV MLR MLR
comp=Z,6µm,23.0s,MS6.1
LBTB Lobatse 118.26 237 PKKPbc PKKPbc 18 07 45.4 +3.2
comp=Z,4.4nm,0.8s,baz=292,slow=7.4,SNR=5.8
LBTB Lobatse 118.26 237 PFAKE 17 57 30.0 +5.9
LBTB LR LR
comp=Z,4µm,19.0s,MS6.1
BURAR Bucovina Array 118.28 321 ⇓*i*P PKPdf 17 57 24.1 0.0
BURAR Bucovina Array 118.28 321 ⇓*i*P PKKPbc 18 07 40.8 -1.3
BURAR Bucovina Array 118.28 321 ⇓P PKPdf 17 57 24.1 -0.1
ELBA Catalca 118.39 314 *i* P PKPdf 17 57 25.8 +1.5
PAYG Puerto Ayora 118.58 94 PFAKE 17 57 30.0 +5.3
PAYG LR LR
comp=Z,4µm,19.0s,MS6.1
MLR Muntele Rosu 118.64 319 ⇓*i*P PKPdf 17 57 23.6 -1.2
MLR Muntele Rosu 118.64 319 ⇓P PKPdf 17 57 23.6 -1.2
MLR P 17 57 30.7
SUR Sutherland 118.78 228 PKKPab PKKPab 18 07 44.0 +1.0
comp=Z,8.5nm,0.8s,baz=312,slow=2.7,SNR=5.1
SUR Sutherland 118.78 228 PFAKE 17 57 30.0 +4.9
SUR LR LR
comp=Z,3µm,19.0s,MS6.0
DNZL Cakiroluk 118.91 310 *i* P PKPdf 17 57 30.2 +4.8
WVT Waverly 118.93 52 PFAKE 17 57 30.0 +4.6
WVT LR LR
comp=Z,14µm,19.0s,MS6.6
KWP Kalwaria 118.94 324 *e*PKP PKPdf 17 57 24.0 -1.4
KWP *e*PP PP 17 58 32.8 -12
KWP *e*SS SKKSdf 18 15 40.4 +20
KWP L 18 45 56.8
comp=Z,29nm,27.4s
KWP Kalwaria 118.94 324 *e*PKP PKPdf 17 57 24.0 -1.4
KWP *e*PP PP 17 58 32.8 -12
KWP *e*SS SKKSdf 18 15 40.4 +20
BLO Bloomington 119.13 49 *e*PKIKP PKPdf 17 57 23.0 -2.7
HOPE Hope Point 119.18 175 PFAKE 17 57 30.0 +4.2
HOPE LR LR
comp=Z,3µm,20.0s,MS5.9
LSZ Lusaka 119.23 249 *e*PKIKP PKPdf 17 57 25.7 -0.2
LSZ MLR MLR
comp=Z,8µm,21.0s,MS6.3
VOIR 119.24 319 ⇑*i*P PKPdf 17 57 24.7 -1.3
VOIR 119.24 319 ⇑*i*P PKKPbc 18 07 41.9 +3.3
VOIR 119.24 319 ⇑P PKPdf 17 57 24.7 -1.3
MTUR Matau 119.31 319 ⇑*i*P PKPdf 17 57 31.0 +4.9
KONO Kongsberg 119.32 339 *e*PP PP 17 58 46.3 -0.8
KONO *e* 18 08 44.2
KONO Kongsberg 119.32 339 PFAKE 17 57 30.0 +3.9
KONO LR LR
comp=Z,9µm,22.0s,MS6.4
SART Tekirdag 119.43 313 *i* P PKPdf 17 57 27.6 +1.3
SZH Strazhica 119.45 317 *i* P PKPdf 17 57 27.5 +1.1
KOLS Kolonicke sedl 119.50 324 *e*PKP PKPdf 17 57 25.2 -1.3
KOLS *e* 17 57 34.1
KOLS *e* 17 57 51.1
KOLS SDIF SP 18 08 29.6 -5.1
KOLS Kolonicke sedl 119.50 324 *e*PKIKP PKPdf 17 57 25.2 -1.3
KOLS *e* 17 57 34.1
KOLS *e* 18 08 29.6
KOLS Kolonicke sedl 119.50 324 *e*PKP PKPdf 17 57 25.2 -1.3
KOLS *e* 17 57 34.1
KOLS *e* 17 57 51.1
KOLS *e* 18 08 29.6
WCI Wyandotte Cave 119.57 50 *e*PKIKP PKPdf 17 57 22.5 -4.1
WCI MLR MLR
comp=Z,12µm,19.0s,MS6.5
UZH Uzhgorod 119.63 323 *i* PKIKP PKPdf 17 57 25.8 -0.9
UZH *e* 17 58 53.0
UZH *i* PS PS 18 08 35.0 -3.1
UZH MLR MLR
comp=Z,7µm,21.0s,MS6.3
ZIMR 119.70 317 ⇓*i*P PKPdf 17 57 25.2 -1.6
ZIMR 119.70 317 ⇓P PKPdf 17 57 25.2 -1.7
PVL Pavlikeni 119.88 317 *i* P pPKPdf 17 57 38.2 +4.7
STHS Stebnicka Huta 119.88 325 *e*PKP PKPdf 17 57 25.5 -1.7
STHS *e* 17 57 32.0
STHS *e* 17 57 45.8
STHS Stebnicka Huta 119.88 325 *e*PKIKP PKPdf 17 57 25.5 -1.7
STHS *e* 17 57 32.0
CRVS Cervenica-Dubn 120.00 324 *e*PKP PKPdf 17 57 26.1 -1.3
CRVS SDIF SP 18 08 38.0 -1.1
CRVS Cervenica-Dubn 120.00 324 *e*PKP PKPdf 17 57 26.1 -1.3
CRVS *e* 18 08 38.0
ARG Arkhangelos 120.00 308 *e*P PKPdf 17 57 28.0 +0.6
KDAG Bornova 120.06 311 *i* P PKPdf 17 57 25.5 -2.0
ALN Alexandroupoli 120.18 314 *e*P PKPdf 17 57 25.6 -2.2
DRGR 120.18 321 ⇑*i*P PKPdf 17 57 22.3 -5.5
DRGR 120.18 321 ⇑P PKPdf 17 57 22.3 -5.5
DRGR P 17 57 28.4
AAM Ann Arbor 120.19 44 *e*PKIKP PKPdf 17 57 25.3 -2.5
AAM MLR MLR
comp=Z,22µm,20.0s,MS6.8
BER Bergen 120.25 341 *e*PP PP 17 58 48.0 -5.5
BDRM Kayabasi 120.30 309 *i* P PKPdf 17 57 23.3 -4.7
OJC Ojcow 120.31 326 *e*Pdiff Pdif 17 53 48.5 -3.8
OJC *e*PKPdf PKPdf 17 57 24.9 -3.1
OJC *e*PP PP 17 58 50.1 -3.8
OJC *e*SKSac SKSac 18 04 19.7 -4.7
OJC *e*SP SP 18 08 40.7 -1.3
OJC *e*SS SS 18 15 19.0 -2.0
OJC L 18 49 01.2
comp=Z,63nm,21.2s
OJC Ojcow 120.31 326 *e*PKIKP PKPdf 17 57 24.9 -3.1
OJC *e* 18 04 19.7
OJC *e*SP SP 18 08 40.7 -1.3
OJC *e*SS SS 18 15 19.0 -2.0
OJC MLR MLR
comp=Z,63µm,21.2s,MS7.2
NIE Niedzica 120.42 325 *e*PKP PKPdf 17 57 27.3 -0.9
RDO Rodhopi 120.46 314 *e*P PKPdf 17 57 26.5 -1.8
PRK Paraskevi 120.55 312 *e*P PKPdf 17 57 27.0 -1.5
URLA Izmir 120.58 311 *i* P PKPdf 17 57 23.8 -4.8
SMG Samos 120.58 310 *e*P PKPdf 17 57 26.5 -2.0
SWET Sewanee 120.66 53 *e*PKPdf PKPdf 17 57 25.0 -3.7
GZR Gura Zlata 120.73 320 ⇑*i*P PKPdf 17 57 26.9 -1.9
GZR Gura Zlata 120.73 320 ⇑*i*P PKKPbc 18 07 33.3 +0.2
GZR Gura Zlata 120.73 320 P PKPdf 17 57 27.0 -1.8
KECS Kecovo 120.76 324 *e*PKP PKPdf 17 57 27.0 -1.9
KECS *e* 17 57 48.4
TEIG Tepich 121.15 70 *e*PKPdf PKPdf 17 57 27.3 -2.3
TEIG LR LR
comp=Z,4µm,21.0s,MS6.0
RGN Rugen 121.18 333 *e*PP PP 17 59 03.8 +4.0
RGN *e* 18 16 14.4
LOS Limnos 121.19 313 *e*P PKPdf 17 57 27.0 -2.8
BZS Buzias 121.37 320 ⇑*i*P PKPdf 17 57 28.7 -1.4
BZS Buzias 121.37 320 ⇑*i*P PKKPbc 18 07 28.0 -2.7
BZS Buzias 121.37 320 P PKPdf 17 57 28.8 -1.3
PSZ Piszkesteto 121.38 323 ⇑*i*P PKPdf 17 57 28.7 -1.4
PSZ Piszkesteto 121.38 323 *e*PKPdf PKPdf 17 57 27.8 -2.3
PSZ *e*P 17 57 34.4
PSZ Piszkesteto 121.38 323 *e*pPKP pPKPdf 17 57 34.4 -2.0
OKC Ostrava-Krasne 121.43 326 *e*PKPDF PKPdf 17 57 28.7 -1.5
OKC *e*PP PP 17 59 09.4 +7.9
OKC *e*PKKP PKKPbc 18 07 32.6 +2.1
OKC *e*PS PS 18 09 00.3 +6.1
OKC *e*x x 18 16 22.0
OKC AMS AMS 18 42 00.0
comp=Z,8µm,31.6s
OKC Ostrava-Krasne 121.43 326 *e*PKIKP PKPdf 17 57 28.7 -1.5
OKC *e* 17 59 09.4
OKC *e*PS PS 18 09 00.3 +6.1
OKC Ostrava-Krasne 121.43 326 *e*PKP PKPdf 17 57 28.7 -1.5
OKC *e*PP PP 17 59 09.4 +7.9
OKC *e*PS PS 18 09 00.3 +6.1
OKC *e*SS 18 16 22.0
BORG Borgarnes 121.54 356 PFAKE 17 57 40.0 +10
BORG LR LR
comp=Z,3µm,19.0s,MS5.9
VTS Vitosha 121.56 317 ⇓*i*P PKPdf 17 57 28.7 -1.7
VTS Vitosha 121.56 317 *e*P PKPdf 17 57 28.6 -1.8
CPCT Cooper Cave 121.70 52 *e*PKPdf PKPdf 17 57 27.6 -3.1
VYHS Vyhne 121.72 324 *e*PKP PKPdf 17 57 28.1 -2.6
VYHS *e* 17 57 35.3
VYHS *e*PP PP 17 59 07.6 +4.1
VYHS SDIF PS 18 08 58.1 +1.3
VYHS *e* 18 16 10.3
VYHS Vyhne 121.72 324 *e*PKIKP PKPdf 17 57 28.1 -2.6
VYHS *e* 17 57 35.3
VYHS *e* 17 59 07.6
VYHS *e* 18 08 58.1
VYHS *e* 18 16 10.3
VYHS Vyhne 121.72 324 *e*PKP PKPdf 17 57 28.1 -2.6
VYHS *e* 17 57 35.3
VYHS *e*PP PP 17 59 07.6 +4.1
VYHS *e* 18 08 58.1
VYHS *e* 18 16 10.3
VYHS LR LR
comp=Z,14µm,26.3s,MS6.5
MORC Moravsky Berou 121.79 326 ⇑*i*P PKPdf 17 57 29.1 -1.8
MORC Moravsky Berou 121.79 326 ⇑*i*P PKKPbc 18 07 23.8 -5.3
MORC Moravsky Berou 121.79 326 P PKPdf 17 57 29.6 -1.3
KSP Ksiaz 121.89 328 *e*PKP PKPdf 17 57 30.0 -1.1
KSP *e*PP PP 17 59 12.7 +8.0
KSP Ksiaz 121.89 328 *e*PKIKP PKPdf 17 57 28.9 -2.2
KSP *e* 17 57 33.9
KSP *e* 17 59 08.0
KSP *e*SP SP 18 08 58.0 +2.0
KSP *e*SS SS 18 15 38.0 -3.2
KSP MLR MLR
comp=Z,37µm,23.4s,MS7.0
KSP Ksiaz 121.89 328 *e*Pdif Pdif 17 54 03.0 +3.7
KSP *e*PKP PKPdf 17 57 28.9 -2.2
KSP *e*pPKP pPKPdf 17 57 33.9 -3.5
KSP *e*PP PP 17 59 08.0 +3.3
KSP *e*SKKS SKKSac 18 06 00.0 -3.2
KSP *e*SP SP 18 08 58.0 +2.0
KSP *e*SS SS 18 15 38.0 -3.2
KSP *e*SSS 18 20 36.0
KSP LR LR
comp=Z,37µm,23.4s,MS7.0
KSP *e*SS 18 16 30.7
KSP Ksiaz 121.89 328 *e*PS PS 18 09 03.2 +4.9
KKB Krupnik 121.92 316 *i* P PKPdf 17 57 32.5 +1.4
BUD Budapest 122.10 323 *e*P PKPdf 17 57 36.0 +4.5
BUD Budapest 122.10 323 *e*pPKP pPKPdf 17 57 36.0 -1.8
TZTN Tazewell 122.15 51 *e*PKPdf PKPdf 17 57 27.4 -4.1
DPC Dobruska-Polom 122.15 327 *e*PDIF Pdif 17 54 05.1 +4.6
DPC *e*PKPDF PKPdf 17 57 30.2 -1.4
DPC *ex* x 17 59 15.1
DPC *e*PKKP PKKPbc 18 07 28.5 +0.8
DPC *e*PS PS 18 09 04.6 +4.0
DPC *ex* x 18 16 22.6
DPC AMS AMS 18 38 10.0
comp=Z,39µm,47.5s
DPC Dobruska-Polom 122.15 327 *e*P Pdif 17 54 05.1 +4.6
DPC *e* 17 57 30.2
DPC *e*PS PS 18 09 04.6 +4.0
DPC Dobruska-Polom 122.15 327 *e*Pdif Pdif 17 54 05.1 +4.6
DPC *e*PKP PKPdf 17 57 30.2 -1.4
DPC *e*PP PP 17 59 15.1 +8.7
DPC *e*PS PS 18 09 04.6 +4.0
DPC *e*SS 18 16 22.6
DPC LR LR
comp=Z,39µm,47.5s,MS6.7
SVIS Svilajnac 122.19 319 *i* P PKPdf 17 57 29.6 -2.1
PAIG Paliouri 122.21 314 *e*P PKPdf 17 57 29.4 -2.2
PLG Polygyros 122.22 314 *e*P PKPdf 17 57 30.0 -1.7
RUE Ruedersdorf 122.23 330 *e*PKPdf PKPdf 17 57 29.3 -2.4
RUE *e*PP PP 17 59 11.8 +4.8
RUE *e*SP SP 18 09 00.3 +1.3
RUE *e* 18 16 25.6
UPC Upice 122.23 328 *e*PKKP PKKPbc 18 07 28.7 +1.3
UPC Upice 122.23 328 *e*PKIKP PKPdf 17 57 30.0 -1.7
NPS Neapolis 122.23 308 *e*P PKPdf 17 57 31.0 -0.7
XRY Khrisi 122.27 307 *e*P PKPdf 17 57 27.0 -4.8
HORT Hortiatis 122.38 315 *e*P PKPdf 17 57 29.3 -2.7
LRW Lerwick 122.40 344 P PKPdf 17 57 30.4 -1.7
LRW AMb AMB 17 57 38.6
comp=Z,132nm,1.6s
LRW Lerwick 122.40 344 *e*P PKPdf 17 57 30.4 -1.7
LRW AMb AMB 17 57 38.6
comp=Z,132nm,1.6s
LRW AMS AMS 18 47 55.8
comp=Z,4µm,23.4s,MS6.0
BARS Barje 122.41 317 *i* P PKPdf 17 57 30.1 -1.9
TGUH Tegucigalpa,Un 122.43 78 PKPdf PKPdf 17 57 30.1 -2.0
THE Thessaloniki 122.47 315 *e*P PKPdf 17 57 29.3 -2.9
VAY Valandovo 122.48 315 *e*PKP PKPdf 17 57 30.6 -1.6
VRAC Vranov 122.56 326 ⇑*i*P PKPdf 17 57 30.5 -1.9
VRAC Vranov 122.56 326 ⇑*i*P PKKPbc 18 07 32.1 +6.0
VRAC Vranov 122.56 326 P PKPdf 17 57 31.5 -0.8
STIP Stip 122.61 316 *e*PKP PKPdf 17 57 30.5 -1.9
GRUS Gruza 122.70 319 *i* P PKPdf 17 57 29.8 -2.9
PTL Penteli 122.71 311 *e*P PKPdf 17 57 30.0 -2.6
GRG Griva 122.74 315 *e*P PKPdf 17 57 27.6 -5.1
XOR Xorichti 122.76 313 *e*P PKPdf 17 57 27.6 -5.1
ZST Bratislava 122.86 325 *e*PKP PKPdf 17 57 31.8 -1.1
ZST *e* 17 57 54.7
ZST *e*SP SP 18 09 06.1 +1.4
ZST Bratislava 122.86 325 *e*PKP PKPdf 17 57 31.8 -1.1
ZST *e* 17 57 54.7
ZST *e* 18 09 06.1
ZST LR LR
comp=Z,6µm,22.3s,MS6.2
BSEG Bad Segeberg 122.93 333 *e*PKPdf PKPdf 17 57 30.8 -2.2
BSEG *e*PP PP 17 59 16.5 +4.8
BSEG *e*SP SP 18 09 06.2 +1.0
BSEG *e* 18 16 36.8
BSEG Bad Segeberg 122.93 333 *e*PKIKP PKPdf 17 57 30.8 -2.2
BSEG *e* 17 59 16.5
BSEG *e*SP SP 18 09 06.2 +1.0
PKSM Moragy 122.95 322 ⇓*i*P PKPdf 17 57 31.0 -2.1
PKSM Moragy 122.95 322 ⇑*i*P PKKPbc 18 07 22.0 -2.6
PKSM Moragy 122.95 322 *e*P PKPdf 17 57 31.3 -1.8
PVCC Panska Ves 122.98 328 *e*PKPDF PKPdf 17 57 31.1 -2.0
PVCC *e*PP PP 17 59 19.6 +7.6
PVCC *e*PS PS 18 09 12.0 +4.1
PVCC *ex* x 18 16 37.3
PVCC AMS AMS 18 38 50.0
comp=Z,39µm,48.5s
PVCC Panska Ves 122.98 328 *e*PKIKP PKPdf 17 57 31.1 -2.0
PVCC *e* 17 59 19.6
PVCC *e*PS PS 18 09 12.0 +4.1
LIT Litokhoron 123.00 314 *e*P PKPdf 17 57 30.9 -2.3
SKO Skopje 123.01 317 *e*PKP PKPdf 17 57 31.5 -1.7
DIVS Divcibare 123.08 319 *i* P PKPdf 17 57 31.5 -1.9
NAIG Nisos Aigina 123.09 311 *e*P PKPdf 17 57 33.0 -0.4
SCHQ Schefferville 123.10 25 PKP PKPdf 17 57 29.9 -3.4
comp=Z,14nm,0.9s,baz=16,slow=3.7,SNR=6.3
SCHQ PKKPbc PKKPbc 18 07 28.0 +4.0
comp=Z,7.4nm,0.8s,baz=228,slow=5.2,SNR=7.2
SCHQ Schefferville 123.10 25 *e*PKPdf PKPdf 17 57 29.6 -3.8
BRG Berggiesshubel 123.10 329 *e*PKPdf PKPdf 17 57 31.0 -2.4
BRG *e*PP PP 17 59 18.3 +5.4
BRG *e*SP SP 18 09 10.1 +3.4
BRG *e* 18 16 38.6
BRG Berggiesshubel 123.10 329 *i* PKP PKPdf 17 57 31.9 -1.5
comp=Z,11nm,1.1s
BRG PP PP 17 58 47.0 -26
BRG SKP 18 01 51.0
BRG SKS SKSdf 18 04 38.0 -6.4
BRG SDIF SKKSac 18 06 30.0 +19
BRG *e* 18 07 24.0
BRG *e* 18 09 01.0
BRG *e* 18 10 02.9
comp=Z,28nm,2.2s
BRG *e* 18 16 23.0
BRG *e*PKPPKP 18 17 38.0
comp=Z,8.6nm,1.9s
BRG
comp=N,13µm,28.7s
BRG
comp=E,11µm,35.9s
BRG
comp=Z,10µm,23.9s
BRG Berggiesshubel 123.10 329 *i* PKIKP PKPdf 17 57 31.9 -1.5
BRG 18 01 51.0
BRG 18 04 38.0
BRG *e* 18 09 01.0
BRG *e* 18 16 23.0
BRG pmax pmax
comp=Z,100nm,1.1s
BRG MLR MLR
comp=Z,11µm,23.9s,MS6.4
BRG Berggiesshubel 123.10 329 Pdif Pdif 17 54 09.0 +4.3
BRG *i* PKP PKPdf 17 57 31.9 -1.5
BRG PP PP 17 58 47.0 -26
BRG SKP 18 01 51.0
BRG SKS SKSdf 18 04 38.0 -6.4
BRG Sdif SKKSac 18 06 30.0 +19
BRG *e* 18 07 24.0
BRG *e* 18 09 01.0
BRG *e* 18 10 02.9
BRG *e* 18 16 23.0
BRG *eP'P'* 18 17 38.0
BRG LR LR
comp=Z,10µm,23.9s,MS6.4
VAM Vamos 123.29 308 *e*P PKPdf 17 57 33.0 -0.7
PRU Pruhonice 123.30 328 *e*PKPDF PKPdf 17 57 32.1 -1.7
PRU *e*PP PP 17 59 22.0 +7.8
PRU *e*PKKP PKKPbc 18 07 25.4 +2.2
PRU *e*PS PS 18 09 14.4 +3.6
PRU *ex* x 18 16 45.1
PRU AMS AMS 18 39 10.0
comp=Z,57µm,64.4s
PRU Pruhonice 123.30 328 *e*PKIKP PKPdf 17 57 32.1 -1.7
PRU *e* 17 59 22.0
PRU *e*PS PS 18 09 14.4 +3.6
PRU Pruhonice 123.30 328 *e*PKP PKPdf 17 57 32.1 -1.7
PRU *e*PP PP 17 59 22.0 +7.8
PRU *e*PS PS 18 09 14.4 +3.6
PRU LR LR
comp=Z,57µm,64.4s
PRA Prague 123.31 328 PKPDF PKPdf 17 57 33.0 -0.8
CLL Collm 123.32 330 *e*PKPdf PKPdf 17 57 31.2 -2.6
comp=Z,65nm,1.1s
CLL *e*PP PP 17 59 15.7 +1.3
CLL *e*PPP 18 01 55.4
CLL *e*SKKSac SKKSac 18 06 11.8 -0.7
CLL *e*PKKPbc PKKPbc 18 07 23.3 +0.1
CLL *e*PS PS 18 09 11.8 +0.8
CLL *e*PPS 18 10 35.8
CLL *e*SS SS 18 16 17.0 +18
CLL *e*SSS 18 20 43.6
CLL *e*LR LR 18 37 49.6
CLL *e*L 18 50 58.6
comp=Z,19µm,22.0s
CLL Collm 123.32 330 *e*PKIKP PKPdf 17 57 32.0 -1.8
CLL *e* 17 59 16.0
CLL *e*PS PS 18 09 05.0 -6.0
CLL MLR MLR
comp=Z,11µm,20.2s,MS6.5
CLL Collm 123.32 330 *e*PKP PKPdf 17 57 32.0 -1.8
CLL *e*PP PP 17 59 16.0 +1.6

CLL *e*PKKP PKKPbc 18 07 24.0 +0.8
CLL *e*PS PS 18 09 05.0 -6.0
CLL LR LR
comp=Z,11µm,20.2s,MS6.5
CLL Collm 123.32 330 *i* PKPdf PKPdf 17 57 31.6 -2.2
comp=Z,14nm,0.9s
CLL *i* PKPdfmax 17 57 36.2
comp=Z,64nm,1.1s
CLL *i* x x 17 57 52.0
CLL *e*PP PP 17 59 16.0 +1.6
comp=Z,140nm,2.3s
CLL *e*PPlp 17 59 20.0
comp=N,1µm,15.7s
CLL *e*PPlp 17 59 20.0
comp=E,1µm,15.4s
CLL *e*PPlp 17 59 20.0
comp=Z,4µm,10.4s
CLL *e*PPP 18 01 56.0
CLL *e*SKKSac SKKSac 18 06 11.0 -1.5
CLL *i* PKKPab PKKPab 18 07 23.5 +0.2
comp=Z,89nm,1.8s
CLL *e*PKKPdf PKKPdf 18 07 57.0 -4.5
CLL *e*PS PS 18 09 11.0 0.0
CLL *e*PPS 18 10 40.0
CLL *e*PcPPKPre 18 11 22.0
CLL *e*SS SS 18 16 06.0 +6.7
CLL *e*SSS 18 20 36.0
CLL *e*SSSS 18 24 36.0
CLL LmV 18 54 00.0
comp=Z,11µm,20.2s
FBE Freiberg 123.37 329 *e*PKPdf PKPdf 17 57 31.6 -2.3
KRUS Krusevo 123.38 316 *e*PKP PKPdf 17 57 31.4 -2.5
SOP Sopron 123.44 325⇓ *e*P PKPdf 17 57 37.0 +3.0
SOP Sopron 123.44 325⇓ *e*pPKP pPKPdf 17 57 37.0 -3.3
AGG Agios Georgios 123.51 313 *e*P PKPdf 17 57 31.9 -2.2
FNA Florina 123.53 315 *e*P PKPdf 17 57 31.0 -3.2
GVD Gavdhos 123.55 308 *e*P PKPdf 17 57 33.0 -1.2
GVD Gavdhos 123.55 308 *e*PKPdf PKPdf 17 57 30.9 -3.3
IVA Berane 123.67 318⇑ *i*PKP PKPdf 17 57 32.0 -2.4
CONA Conrad Observa 123.71 325⇑ *i*PKiKP PKiKP 17 57 33.3 -1.6
comp=Z,6.3nm,0.9s
CONA ⇑ *i*PKiKP PKiKP 17 57 40.0 +5.2
comp=Z,63nm,1.8s
PVY Plav 123.74 318⇑ *i*PKP PKPdf 17 57 32.5 -2.1
OHR Ohrid 123.80 316 *e*PKP PKPdf 17 57 32.2 -2.5
PLE Pljevlja 123.80 319⇑ *i*PKP PKPdf 17 57 34.4 -0.3
PHP Peshkopia 123.81 317 *i* p PKPdf 17 57 32.5 -2.2
HLG Helgoland 123.82 335 *e*PP PP 17 59 21.5 +3.8
MCWV Mont Chateau 123.84 46 *e*PKPdf PKPdf 17 57 32.0 -2.8
MCWV LR LR
comp=Z,15µm,20.0s,MS6.7
VLI Velíai 123.85 310 *e*P PKPdf 17 57 37.0 +2.2
FWV Forest Hill 123.89 49 *e*PKPdf PKPdf 17 57 32.0 -2.8
KYTH Kithira 123.92 310 *e*P PKPdf 17 57 33.0 -1.9
EVR Evrytania 123.92 313 *e*P PKPdf 17 57 34.0 -1.0
MEV Metsovon 124.02 314 *e*P PKPdf 17 57 34.3 -0.8
TANN Tannenbergstha 124.13 329 *e*PKPdf PKPdf 17 57 33.1 -2.3
TANN *e*PP PP 17 59 25.5 +5.7
TANN *e*SP SP 18 09 19.4 +3.6
TANN *e* 18 16 52.9
WERD Werda 124.19 329 *e*PKPdf PKPdf 17 57 33.1 -2.4
GUNZ Gunzen 124.23 329 *e*PKPdf PKPdf 17 57 33.4 -2.1
NKC Novy Kostel 124.25 329 *e*PKPDF PKPdf 17 57 32.1 -3.5
NKC *e*PP PP 17 59 28.7 +8.1
NKC *e*PKKP 18 07 27.7
NKC *e*PS PS 18 09 25.7 +6.5
NKC *ex* x 18 16 54.1
NKC AMS AMS 18 39 30.0
comp=Z,56µm,66.7s
NKC Novy Kostel 124.25 329 *e*PKIKP PKPdf 17 57 32.1 -3.5
NKC *e* 17 59 28.7
NKC *e*PS PS 18 09 25.7 +6.5
NKC Novy Kostel 124.25 329 *e*PKP PKPdf 17 57 32.1 -3.5
NKC *e*PP PP 17 59 28.7 +8.1
NKC *e*PS PS 18 09 25.7 +6.5
WERN Wernitzgruen 124.25 329 *e*PKPdf PKPdf 17 57 33.4 -2.2
KOGS Kog 124.27 323 *e*PKPdf PKPdf 17 57 33.3 -2.3
KOGS *e* 17 57 38.5
CLZ Clausthal 124.27 331 *e*PKPdf PKPdf 17 57 33.6 -2.0
CLZ *e*PP PP 17 59 27.3 +6.6
CLZ *e*SP SP 18 09 19.4 +2.3
CLZ *e* 18 16 54.2
CLZ Clausthal 124.27 331 *e*PKIKP PKPdf 17 57 33.6 -2.0
CLZ *e* 17 59 27.3
CLZ *e*SP SP 18 09 19.4 +2.3
ARSA Arzberg 124.27 325⇑ *i* PKPdf 17 57 33.9 -1.7
comp=Z,13nm,1.0s
ARSA Arzberg 124.27 325⇓ *i* PKPdf 17 57 39.9 +4.2
comp=Z,31nm,1.2s
ARSA Arzberg 124.27 325⇑ *i*PKPdf PKPdf 17 57 30.0 -5.6
comp=Z,3.8nm,1.0s
ARSA ⇑ *i*PKiKP PKiKP 17 57 33.9 -2.0
comp=Z,13nm,1.0s
ARSA ⇓ *i*PKiKP PKiKP 17 57 39.9 +3.9
comp=Z,31nm,1.2s
TTG Podgorica 124.29 318⇑ *i*PKP PKPdf 17 57 33.1 -2.5
NKY Niksic 124.29 318⇑ *i*PKP PKPdf 17 57 33.7 -1.9
BLA Blacksburg 124.31 49 PFAKE 17 57 40.0 +4.3
BLA LR LR
comp=Z,13µm,22.0s,MS6.6
KHC Kasperske Hory 124.31 327 *e*PKPDF PKPdf 17 57 33.5 -2.2
KHC *e*PP PP 17 59 28.8 +7.8
KHC *e*PKKP 18 07 19.7
KHC *e*PS PS 18 09 25.9 +6.2
KHC *ex* x 18 16 54.5
KHC AMS AMS 18 39 40.0
comp=Z,46µm,54.9s
KHC Kasperske Hory 124.31 327 *e*PKIKP PKPdf 17 57 33.5 -2.2
KHC *e* 17 59 28.8
KHC *e*PS PS 18 09 25.9 +6.2
KHC Kasperske Hory 124.31 327 *e*PKP PKPdf 17 57 33.5 -2.2
KHC *e*PP PP 17 59 28.8 +7.8
KHC *e*PS PS 18 09 25.9 +6.2
KHC LR LR
comp=Z,46µm,54.9s,MS6.7
GEC2 GERESS Array S 124.40 327 *e*PKPdf PKPdf 17 57 33.5 -2.4
GEC2 *e*PP PP 17 59 28.1 +6.4
GEC2 *e*SP SP 18 09 22.4 +4.1
GEC2 *e* 18 16 56.1
GEC2 GERESS Array S 124.40 327 *e*PKIKP PKPdf 17 57 33.5 -2.4
GEC2 *e* 17 59 28.1
GEC2 *e*SP SP 18 09 22.4 +4.1
GERES GERESS Array B 124.40 327 PKhKP 17 57 28.2
comp=Z,0.9nm,0.6s,baz=76,slow=5.6,SNR=3.9
GERES PKP PKPdf 17 57 32.8 -3.0
comp=Z,17nm,0.9s,baz=50,slow=1.5,SNR=24
MOX Moxa 124.42 330 *e*PKPdf PKPdf 17 57 33.5 -2.4
MOX *e*PP PP 17 59 28.4 +6.7
MOX *e*SP SP 18 09 21.5 +3.1
MOX *e* 18 16 56.1
MOX Moxa 124.42 330 *e*PKP PKPdf 17 57 31.9 -4.0
comp=Z,209nm,2.0s
MOX *e* 17 59 24.2
MOX
comp=Z,10µm,22.0s
MOX Moxa 124.42 330 *e*PKP PKPdf 17 57 31.9 -4.0
MOX *e* 17 57 42.0
MOX *e*PP PP 17 59 24.2 +2.5
MOX *e*PS PS 18 09 27.0 +6.3
MOX *e*SS SS 18 16 41.0 +28
ITM Ithomi 124.46 311 *e*P PKPdf 17 57 34.0 -2.0
MANZ Manzenberg 124.57 329 *e*PKPdf PKPdf 17 57 34.1 -2.1
MANZ *e*PP PP 17 59 28.8 +6.0
MANZ *e*SP SP 18 09 24.1 +4.4
MANZ *e* 18 16 59.2
BUM Brajici-Budva 124.59 318⇑ *i*PKP PKPdf 17 57 33.6 -2.6
JSC Jenkinsville 124.61 53 *e*PKIKP PKPdf 17 57 32.8 -3.5
ROTZ Rotzenmuhle 124.65 329 *e*PKPdf PKPdf 17 57 34.1 -2.3
ROTZ *e*PP PP 17 59 29.5 +6.2
ROTZ *e*SP SP 18 09 24.1 +3.7
ROTZ *e* 18 17 01.7
MOA Molln 124.66 326⇑ *i* PKPdf 17 57 36.4 0.0
comp=Z,9.1nm,0.8s
MOA Molln 124.66 326⇑ *i* PKPdf 17 57 41.3 +5.0
comp=Z,51nm,1.6s
MOA Molln 124.66 326⇑ *i*PKPdf PKPdf 17 57 31.1 -5.2
comp=Z,2.8nm,1.1s
MOA ⇑ *i*PKiKP PKiKP 17 57 36.4 -0.3
comp=Z,9.1nm,0.8s
MOA ⇑ *i*PKiKP PKiKP 17 57 41.3 +4.7
comp=Z,51nm,1.6s
MOA Molln 124.66 326⇑ *i*P PKPdf 17 57 31.1 -5.2
MOA *i* 17 57 36.4
MOA *i* 17 57 41.3
WET Wettzell 124.67 328 *e*PKPdf PKPdf 17 57 34.2 -2.2
WET *e*PP PP 17 59 29.5 +6.1
WET *e*SP SP 18 09 25.8 +5.2
WET *e* 18 17 02.3
WET Wettzell 124.67 328 *e*PKIKP PKPdf 17 57 34.2 -2.2
WET *e* 17 59 29.5
WET *e*SP SP 18 09 25.8 +5.2
SISC Sisak 124.69 322 P PKPdf 17 57 39.3 +2.9
SISC Sisak 124.69 322 *i* P PKPdf 17 57 39.3 +2.9
HCY Herceg Novi 124.79 318⇑ *i*PKP PKPdf 17 57 34.6 -2.0
MSNY Massena 124.82 38 *e*PKPdf PKPdf 17 57 32.4 -4.3
SSPA Standing Stone 124.83 44 *e*PKPdf PKPdf 17 57 31.9 -4.9
SSPA LR LR
comp=Z,20µm,19.0s,MS6.8
LKD Levkas 124.84 313 *e*P PKPdf 17 57 35.3 -1.4
LHS Liberty Hill 124.91 52 *e*PKIKP PKPdf 17 57 34.7 -2.1
VLS Valsamata 125.08 313 *e*P PKPdf 17 57 35.0 -2.2
MVH1 Achvaich 125.11 344 *e*P PKPdf 17 57 33.7 -3.5
UBBA Unterbreizbach 125.11 331 *e*PKPdf PKPdf 17 57 34.8 -2.4
UBBA *e*PP PP 17 59 32.4 +6.1
UBBA *e*SP SP 18 09 25.8 +1.4
UBBA *e* 18 17 04.1
STON Ston 125.12 319 *i* P PKPdf 17 57 34.5 -2.7
MCD Coleburn Disti 125.14 343 *e*P PKPdf 17 57 35.1 -2.2
IBBN Ibbenburen 125.17 333 *e*PKPdf PKPdf 17 57 35.1 -2.2
IBBN *e*PP PP 17 59 32.0 +5.2
IBBN *e*SP SP 18 09 24.9 -0.1
IBBN *e* 18 17 02.3
LONY Lake Ozonia 125.18 38 *e*PKPdf PKPdf 17 57 34.2 -3.1
GRA1 Grafenberg Arr 125.21 329 *e*PKPdf PKPdf 17 57 35.1 -2.3
GRA1 *e*PP PP 17 59 33.5 +6.5
GRA1 *e*SP SP 18 09 29.2 +3.9
GRA1 *e* 18 17 07.3
GRA1 *e*L 18 52 48.7
comp=Z,10µm,19.4s,MS6.5
GRF Grafenberg Arr 125.21 329 *e*PKPdf PKPdf 17 57 35.1 -2.3
GRF *e*PP PP 17 59 33.5 +6.5
GRF *e*SP SP 18 09 29.2 +3.9
GRF *e* 18 17 07.3
GRF *e*L 18 52 48.7
comp=Z,10µm,19.4s
GRF Grafenberg Arr 125.21 329 *e*PKIKP PKPdf 17 57 35.1 -2.3
GRF *e* 17 59 33.5
GRF *e*SP SP 18 09 29.2 +3.9
GRF MLR MLR
comp=Z,10µm,19.4s,MS6.5
GRF Grafenberg Arr 125.21 329 *e*PKIKP PKPdf 17 57 35.1 -2.3
GRF *e* 17 59 33.5
GRF *e*SP SP 18 09 29.2 +3.9
GRF MLR MLR
comp=Z,10µm,19.4s,MS6.5
GRFO Grafenberg 125.21 329 *e*PP PP 17 59 33.5 +6.5
OBKA Obir 125.23 324⇓ *i* PKPdf 17 57 42.1 +4.7
comp=Z,30nm,1.1s,SNR=6.3
OBKA Obir 125.23 324⇑ *i* 17 57 56.0
comp=Z,46nm,1.3s
OBKA Obir 125.23 324⇑ *i*PKPdf PKPdf 17 57 34.6 -2.9
comp=Z,4.2nm,0.8s
OBKA ⇓ *i*PKiKP PKiKP 17 57 42.1 +4.3
comp=Z,30nm,1.1s,SNR=6.3
OBKA ⇑ *i*PKiKP 17 57 56.0
comp=Z,46nm,1.3s
MME1 Meikle Cairn 125.28 343 *e*P PKPdf 17 57 35.0 -2.6
COW Cow Castle Cre 125.33 53 *e*PKPdf PKPdf 17 57 36.1 -1.5
BOJS Bojanci 125.35 323 *e*PKPdf PKPdf 17 57 41.1 +3.4
BOJS *e*PP PP 17 59 39.2 +11
BOJS *e*SP SP 18 09 26.9 +0.4
BOJS *e* 18 09 28.3
BOJS *e* 18 17 00.6
BOJS *e* 18 21 45.0
BOJS *e* 18 22 04.5
BOJS *e* 18 40 17.5
BINY Binghamton 125.44 42 *e*PKPdf PKPdf 17 57 33.7 -4.2
BINY LR LR
comp=Z,10µm,19.0s,MS6.5
LJU Ljubljana 125.50 324 *e*PKPdf PKPdf 17 57 35.9 -2.1
LJU *e* 17 57 41.2
LJU *e*PP PP 17 59 37.9 +8.9
LJU *e* 18 00 56.8
LJU *e* 18 02 21.9
LJU *e* 18 17 04.8
LJU *e* 18 40 14.8
LJU Ljubljana 125.50 324 *e*PKIKP PKPdf 17 57 35.9 -2.1
LJU *e* 17 57 41.2
LJU *e* 17 59 37.9
LJU *e* 18 02 21.9
LJU Ljubljana 125.50 324 *e*PKPdf PKPdf 17 57 35.9 -2.1
LJU *e* 17 57 41.2
LJU *e*PP PP 17 59 37.9 +8.9
LJU *e* 18 00 56.8
LJU *e* 18 02 21.9
LJU *e* 18 17 04.8
MDO Dochfour 125.57 344 *e*P PKPdf 17 57 34.5 -3.6
KBA Koelnbreinsper 125.61 325⇑ *i*P PKPdf 17 57 33.2 -5.0
comp=Z,26nm,1.4s
NCB Newcomb 125.73 39 *e*PKPdf PKPdf 17 57 33.8 -4.7
NCB LR LR
comp=Z,11µm,21.0s,MS6.5
KAC Achnashellach 125.78 344 *e*P PKPdf 17 57 36.2 -2.3
WTSB Winterswijk 125.83 333 *e*PKiKP PKiKP 17 57 41.2 +2.2
comp=Z,190nm,2.1s
CADS Cadrg 125.86 324 *e*PKPdf PKPdf 17 57 36.2 -2.4
CADS *e* 17 57 41.3
CADS *e*PP PP 17 59 40.3 +8.9
CADS *e*SKSac SKSac 18 04 38.5 -4.1
CADS *e*SKKSac SKKSac 18 06 25.9 -2.8
CADS *e* 18 29 38.5
KNDS Knezji Dol 125.86 323 *e*Pdiff Pdif 17 54 21.6 +4.6
KNDS *e*PKPdf PKPdf 17 57 36.3 -2.3
KNDS *e*PP PP 17 59 40.6 +9.2
KNDS *e* 18 00 58.9
KNDS *e* 18 02 22.6
KNDS *e* 18 03 05.0
KNDS *e* 18 03 57.6
VOY Vojsko 125.87 324 *e* PKPdf 17 57 33.8 -4.9
VOY *e* 17 57 36.5
VOY *e*PKPdf PKPdf 17 57 41.3 +2.6
TLL Tololo Astrono 125.96 135 *e*P PKPdf 17 57 36.0 -2.9
PTCC Patocco-Chiusa 125.98 325 PKP PKPdf 17 57 34.6 -4.3
BUG Bochum--Univer 125.98 333 *e*PKPdf PKPdf 17 57 36.5 -2.4
BUG *e*PP PP 17 59 37.1 +4.9
BUG *e*SP SP 18 09 31.7 -0.4
NVLJ Novalja 126.07 322 *i* P PKPdf 17 57 35.9 -3.2
FUR Furstenfeldbru 126.11 327 *e*PKPdf PKPdf 17 57 36.8 -2.3
FUR *e*PP PP 17 59 38.2 +5.2
FUR *e*SP SP 18 09 37.7 +4.5
FUR *e* 18 17 21.6
FUR Furstenfeldbru 126.11 327 *e*PKIKP PKPdf 17 57 36.8 -2.3
FUR *e* 17 59 38.2
FUR *e*SP SP 18 09 37.7 +4.5
DWPF Disney 126.11 60 *e*PKPdf PKPdf 17 57 37.6 -1.6
DWPF LR LR
comp=Z,8µm,20.0s,MS6.4
GMNA Gemona 126.12 325 PKP PKPdf 17 57 36.4 -2.8
MVL Millersville 126.17 44 *e*PKPdf PKPdf 17 57 36.3 -3.0
CBN Corbin 126.18 47 PFAKE 17 57 50.0 +11
CBN LR LR
comp=Z,18µm,20.0s,MS6.7
TRQA Tornquist 126.21 148 *e*PKPdf PKPdf 17 57 35.6 -3.7
TRQA LR LR
comp=Z,6µm,19.0s,MS6.3
TNS Taunus Mts 126.25 331 *e*PKPdf PKPdf 17 57 37.2 -2.2
TNS *e*PP PP 17 59 39.6 +5.6
TNS *e* 18 17 23.4
TNS Taunus Mts 126.25 331 *e*PKIKP PKPdf 17 57 37.2 -2.2
TNS *e* 17 59 39.6
ESY Stoneypath 126.35 342 *e*P PKPdf 17 57 34.8 -4.8
KAR1 Arisaig 126.42 344 *e*P PKPdf 17 57 38.2 -1.5
WATA Walderalm 126.44 327⇓ *i* PKPdf 17 57 45.6 +5.8
comp=Z,42nm,1.0s
WATA Walderalm 126.44 327⇓ *i*PKiKP PKiKP 17 57 37.6 -2.6
comp=Z,15nm,0.9s
WATA ⇓ *i*PKiKP PKiKP 17 57 45.6 +5.3
comp=Z,42nm,1.0s
WTTA Wattenberg 126.45 326⇑ *i* PKPdf 17 57 45.3 +5.5
comp=Z,156nm,1.2s
WTTA Wattenberg 126.45 326⇑ *i*PKPdf PKPdf 17 57 36.6 -3.2
comp=Z,34nm,1.0s,SNR=16
WTTA ⇑ *i*PKiKP PKiKP 17 57 45.3 +5.1
comp=Z,156nm,1.2s
WTTA ⇑ *i*PKiKP 17 57 59.8
comp=Z,154nm,1.3s
WTTA Wattenberg 126.45 326⇑ *i*PKiKP PKPdf 17 57 36.6 -3.2
WTTA *i* 17 57 45.3
EDI Edinburgh 126.52 342 P PKPdf 17 57 35.0 -4.9
EDI AMb AMB 17 57 38.1
comp=Z,84nm,1.5s
EDI Edinburgh 126.52 342 *e*P PKPdf 17 57 35.0 -4.9
EDI AMb AMB 17 57 38.1
comp=Z,84nm,1.5s
EDI AMS AMS 18 42 22.5
comp=Z,2µm,20.8s,MS5.7
LUPA Lehigh Univers 126.58 43 *e*PKPdf PKPdf 17 57 37.4 -2.6
XSO Sourhope Farm 126.59 341 *e*P PKPdf 17 57 39.9 -0.1
EBL Broad Law 126.61 342 *e*P PKPdf 17 57 38.3 -1.8
EAB Aberfoyle 126.64 343 *e*P PKPdf 17 57 37.9 -2.2
EAU Auchinoon 126.67 342 *e*P PKPdf 17 57 36.1 -4.1
MOTA Moosalm 126.69 327 *i* PKPdf 17 57 39.1 -1.2
comp=Z,32nm,0.7s,SNR=13
MOTA Moosalm 126.69 327⇑ *i* PKPdf 17 57 45.5 +5.2
comp=Z,65nm,0.8s
MOTA Moosalm 126.69 327⇓ *i*PKPdf PKPdf 17 57 33.3 -7.0
comp=Z,5.1nm,0.7s
MOTA *i* PKiKP PKiKP 17 57 39.1 -1.6
comp=Z,32nm,0.7s,SNR=13
MOTA ⇑ *i*PKiKP PKiKP 17 57 45.5 +4.7
comp=Z,65nm,0.8s
SQTA Sankt Quirin 126.71 327⇑ *i* PKPdf 17 57 45.7 +5.4
comp=Z,48nm,0.9s
SQTA Sankt Quirin 126.71 327 *i* PKPdf PKPdf 17 57 36.1 -4.2
comp=Z,10nm,1.0s,SNR=13
SQTA ⇑ *i*PKiKP PKiKP 17 57 45.7 +5.0
comp=Z,48nm,0.9s
FGMS Monte Sant'Ang 126.81 319 PKP PKPdf 17 57 39.1 -1.4
STU Stuttgart 126.82 329 *e*PKPdf PKPdf 17 57 38.2 -2.3
STU *e*PP PP 17 59 42.9 +5.2
STU *e* 18 17 28.4
CFAA Coronel Fontan 126.87 138 PKP PKPdf 17 57 35.6 -5.0
comp=Z,3.0nm,0.7s,baz=242,slow=3.6,SNR=3.4
LBNH Lisbon 127.01 38 *e*PKIKP PKPdf 17 57 37.3 -3.6
LBNH MLR MLR
comp=Z,17µm,20.0s,MS6.7
ESK Eskdalemuir 127.04 342 P PKPdf 17 57 37.4 -3.5
ESK AMb AMB 17 57 46.1
comp=Z,119nm,1.8s
ESK Eskdalemuir 127.04 342 *e*P PKPdf 17 57 37.4 -3.5
ESK AMb AMB 17 57 46.1
comp=Z,119nm,1.8s
ESK AMS AMS 18 48 35.3
comp=Z,2µm,23.7s,MS5.8
ESK Eskdalemuir 127.04 342 PFAKE 17 57 50.0 +9.1
ESK LR LR
comp=Z,2µm,22.0s,MS5.7
HGN Heimansgroeve 127.06 333 *e*PKiKP PKiKP 17 57 43.6 +2.1
comp=Z,120nm,2.6s
HGN *e*PP PP 17 59 43.9 +4.6
HGN *e*PPP 18 02 28.6
HGN *e*SKSP 18 09 52.1
HGN *e*SS SS 18 16 11.4 -35
HNH Hanover 127.07 38 *e*PKPdf PKPdf 17 57 38.4 -2.6
BRNJ Basking Ridge 127.08 43 *e*PKPdf PKPdf 17 57 39.0 -2.0
XAL Allendale 127.10 341 *e*P PKPdf 17 57 36.4 -4.6
ECK Cauldkaine Hil 127.13 342 *e*P PKPdf 17 57 40.8 -0.3
MEM Membach 127.13 333 E 17 57 34.7
MEM XPKiKP 17 57 43.6
MEM E 17 58 02.2
MEM PP PP 17 59 41.7 +1.9
APPI Appiano 127.14 326 PKP PKPdf 17 57 38.0 -3.1
BEBN Eben Emael 127.15 333 XPKiKP 17 57 44.1
BEBN PP PP 17 59 42.0 +2.1
CTI Castel Tesino 127.16 325 PKIKP PKPdf 17 57 39.8 -1.3
PAL Palisades 127.38 42 PKIKP PKPdf 17 57 39.3 -2.3
TSUM Tsumeb 127.38 240 PFAKE 17 57 50.0 +8.4
TSUM LR LR
comp=Z,7µm,20.0s,MS6.3
DAVA Damuels 127.39 327⇓ *i* PKPdf 17 57 42.6 +1.0
comp=Z,36nm,0.9s,SNR=7.2
DAVA Damuels 127.39 327⇑ *i* PKPdf 17 57 47.2 +5.6
comp=Z,74nm,0.9s
DAVA Damuels 127.39 327⇑ *i*PKPdf PKPdf 17 57 34.6 -7.0
comp=Z,8.6nm,1.0s
DAVA ⇓ *i*PKiKP PKiKP 17 57 42.6 +0.5
comp=Z,36nm,0.9s,SNR=7.2
DAVA ⇑ *i*PKiKP PKiKP 17 57 47.2 +5.1
comp=Z,74nm,0.9s
TIP Timpagrande 127.42 315 PKP PKPdf 17 57 44.7 +3.1
CPNY Central Park 127.44 42 *e*PKPdf PKPdf 17 57 36.7 -5.0
SPAK Spaichingen-Ko 127.45 329 PKP PKPdf 17 57 40.5 -1.2
BFO Black Forest 127.54 329 *e*PKPdf PKPdf 17 57 39.2 -2.7
BFO *e*PP PP 17 59 48.3 +5.8
BFO *e* 18 17 36.5
BFO Black Forest 127.54 329 *e*PKIKP PKPdf 17 57 39.2 -2.7
BFO *e* 17 59 48.3
FFD Franklin Falls 127.58 38 PKPdf PKPdf 17 57 40.0 -2.0
BCLA Clavier 127.59 333 PKP PKPdf 17 57 39.2 -2.8
BCLA XPKiKP 17 57 47.2
BCLA E 17 57 56.9
BCLA PP PP 17 59 45.1 +2.3
AEU East Anglia Un 127.67 337 *e*P PKPdf 17 57 42.2 +0.1
CUC Castrocucco 127.70 317 PKP PKPdf 17 57 43.3 +1.1
WLF Walferdange 127.72 332 *e*PKPdf PKPdf 17 57 40.7 -1.5
WLF *e*PP PP 17 59 49.4 +5.7
WLF Walferdange 127.72 332 E PKPdf 17 57 40.2 -2.0
WLF XPKiKP 17 57 45.8
WLF Walferdange 127.72 332 PKIKP PKPdf 17 57 40.0 -2.2
CING Cingoli 127.73 322 PKP PKPdf 17 57 39.8 -2.4
UCC Uccle 127.74 334 PKP PKPdf 17 57 40.1 -2.2
UCC XPKiKP 17 57 45.3
UCC E 17 58 03.2
UCC E 17 58 20.2
UCC PP PP 17 59 40.1 -3.7
MABI Malga Bissina 127.79 326 PKP PKPdf 17 57 44.5 +2.1
GAL1 Galloway 127.88 342 P PKPdf 17 57 39.2 -3.3
GAL1 AMb AMB 17 57 50.4
comp=Z,271nm,1.6s
GAL1 Galloway 127.88 342 *e*P PKPdf 17 57 39.2 -3.3
GAL1 AMb AMB 17 57 50.4
comp=Z,271nm,1.6s
GAL1 AMS AMS 18 43 03.7
comp=Z,1µm,23.4s,MS5.6
MIDA Miranda 127.95 319 PKP PKPdf 17 57 43.6 +0.9
SNF Seneffe 127.98 333 E 17 57 37.7
SNF XPKiKP 17 57 45.4
SNF E 17 58 28.8
WLS Welschbruch 127.98 330 PKP PKPdf 17 57 35.8 -6.9
PKME Peaks-Kenny Pk 127.99 35 *e*PKPdf PKPdf 17 57 39.4 -3.3
FELD Feldberg im Sc 128.00 329 PKP PKPdf 17 57 35.3 -7.5
FELD ⇓ *e*P 17 57 45.4
CDF Champ du Feu 128.02 330 *e*PKIKP PKPdf 17 57 40.4 -2.4
comp=Z,248nm,1.5s
GIVF Givet 128.03 333 *e*PKIKP PKPdf 17 57 41.0 -1.8
comp=Z,639nm,1.6s
AQU L'Aquila 128.13 320⇑ *i*P PKPdf 17 57 45.2 +2.2
AQU L'Aquila 128.13 320 P PKPdf 17 57 44.8 +1.8
DOU Dourbes 128.14 333 XPKiKP PKiKP 17 57 45.6 +2.0
DOU E 17 57 54.9
DOU E 17 58 04.3
HRV Harvard--Oak R 128.15 39 *e*PKIKP PKPdf 17 57 40.6 -2.4
HRV MLR MLR
comp=Z,10µm,19.0s,MS6.5
TUE Stuetta 128.18 327 PKP PKPdf 17 57 44.2 +1.1
KBI1 Birley Grange 128.19 339 *e*P PKPdf 17 57 39.4 -3.7
MURB Monte Urbino 128.20 322 PKP PKPdf 17 57 46.6 +3.5
ECH Echery 128.21 330 PKP PKPdf 17 57 37.4 -5.8
RFI Roccamonfina 128.30 319 PKP PKPdf 17 57 45.3 +2.0
BAIF Baives 128.34 333 *e*PKIKP PKPdf 17 57 41.6 -1.8
comp=Z,209nm,1.4s
WES Weston 128.36 39 *e*PKIKP PKPdf 17 57 40.7 -2.7
WES MLR MLR
comp=Z,7µm,19.0s,MS6.4
MOF Molkenrain 128.46 329 PKP PKPdf 17 57 36.7 -6.9
KWE Weaver Farm 128.49 339 *e*P PKPdf 17 57 43.5 -0.2
BBS Basel-Blauen 128.53 329 PKIKP PKPdf 17 57 37.9 -5.9
FNVD Fontana Vidola 128.54 324 PKP PKPdf 17 57 42.4 -1.4
SCLL Scilla 128.56 315 PKP PKPdf 17 57 43.9 +0.1
CERT Cerreto 128.61 320 PKP PKPdf 17 57 40.6 -3.3
HINF Hinteralfeld 128.63 330 *e*PKIKP PKPdf 17 57 41.7 -2.2
comp=Z,648nm,1.7s
HAU Haudompre 128.75 330 *e*PKIKP PKPdf 17 57 42.1 -2.1
comp=Z,128nm,1.0s
HAU *e*R
comp=Z,14µm,22.2s
HAU Haudompre 128.75 330 *e*PKPdf PKPdf 17 57 42.1 -2.1

HAU LR LR
comp=Z,14µm,22.3s,MS6.6
CSNT Castellina Chi 128.84 323 PKP PKPdf 17 57 46.0 +1.7
LOMF Lomont 128.95 329 PKP PKPdf 17 57 35.8 -8.8
VLC Villacollemand 128.98 324 PKP PKPdf 17 57 46.8 +2.2
MEZF Maizieres J'vi 129.05 331 *e*PKIKP PKPdf 17 57 43.1 -1.6
NOV Novara 129.07 315 PKP PKPdf 17 57 47.4 +2.6
SBD1 Bryn Du 129.07 340 *e*P PKPdf 17 57 42.8 -2.0
ATAH Atahualpa 129.09 104 PKP PKPdf 17 57 40.7 -4.1
comp=Z,33nm,0.8s,baz=322,slow=1.6,SNR=20
ATAH SKP 18 01 24.1
comp=Z,3.2nm,0.4s,baz=315,slow=5.7,SNR=2.7
NNA Nana 129.16 111 PKP PKPdf 17 57 43.4 -1.5
comp=Z,34nm,0.9s,baz=273,slow=4.2,SNR=9.1
NNA Nana 129.16 111 *e*PKPdf PKPdf 17 57 43.1 -1.8
NNA LR LR
comp=Z,2µm,20.0s,MS5.7
BOB Bobbio (Coli) 129.16 325 PKIKP PKPdf 17 57 40.0 -5.0
TOLF Tolfa 129.17 321 PKP PKPdf 17 57 41.7 -3.3
HLM1 Long Mynd 129.26 340 *e*P PKPdf 17 57 43.1 -2.0
ORO Oropa 129.45 327 PKIKP PKPdf 17 57 40.3 -5.2
MAON Monte Argentar 129.51 322 PKP PKPdf 17 57 39.2 -6.4
SWN1 Swindon 129.69 338 *e*P PKPdf 17 57 44.3 -1.7
OG01 Vacheresse 129.69 328 PKP PKPdf 17 57 37.4 -8.6
MCH1 Michaelchurch 129.73 339 P PKPdf 17 57 44.0 -2.1
MCH1 AMb AMB 17 57 54.1
comp=Z,167nm,1.7s
MCH1 Michaelchurch 129.73 339 *e*P PKPdf 17 57 44.0 -2.1
MCH1 *e*P 17 57 44.0
MCH1 AMb AMB 17 57 54.1
comp=Z,167nm,1.7s
MCH1 AMS AMS 18 47 54.2
comp=Z,1µm,24.2s,MS5.5
HVZN Vizzini 129.75 314 PKP PKPdf 17 57 49.6 +3.5
DLF Lyons Farm 129.78 343 *e*P PKPdf 17 57 41.0 -5.1
CABF La Chapelle 129.82 329 *e*PKIKP PKPdf 17 57 44.9 -1.3
comp=Z,467nm,1.4s
HGH Gray Hill 129.96 339 *e*P PKPdf 17 57 45.6 -0.9
DCN Croghan 129.96 343 *e*P PKPdf 17 57 41.3 -5.2
QLNO Quiliano 130.06 325 PKP PKPdf 17 57 49.2 +2.5
USI Ustica 130.11 316 PKP PKPdf 17 57 47.4 +0.6
LPL La Plagne 130.20 327 *e*PKIKP PKPdf 17 57 45.7 -1.2
comp=Z,55nm,0.7s
LPG La Plagne 130.20 327 *e*PKIKP PKPdf 17 57 45.8 -1.1
comp=Z,64nm,0.8s
OTAV Otavalo 130.43 95 PFAKE 17 58 00.0 +13
OTAV LR LR
comp=Z,5µm,19.0s,MS6.2
LOR Lormes 130.48 331 *e*PKIKP PKPdf 17 57 45.6 -1.9
LOR *e*R
comp=Z,6µm,19.5s
LOR Lormes 130.48 331 *e*PKPdf PKPdf 17 57 45.6 -1.9
LOR LR LR
comp=Z,6µm,19.5s,MS6.3
BNI Bardonecchia 130.53 327 PKIKP PKPdf 17 57 47.3 -0.3
DOI San Damiano 130.56 326 PKIKP PKPdf 17 57 49.7 +2.1
MBDF Montbardon 130.69 327 *e*PKIKP PKPdf 17 57 46.1 -1.8
SAOF Saorge 130.72 325 PKP PKPdf 17 57 42.0 -5.9
PGF Pioggiola 130.74 323 *e*PKIKP PKPdf 17 57 46.3 -1.7
AUTN L'Aution 130.78 325 PKP PKPdf 17 57 42.5 -5.5
HEX Exmoor 130.78 339 *e*P PKPdf 17 57 46.1 -1.9
SSF Saint Saulge 130.80 331 *e*PKIKP PKPdf 17 57 46.5 -1.6
comp=Z,153nm,1.2s
SURF Saint Ours 130.82 326 PKP PKPdf 17 57 40.2 -7.9
SURF Saint Ours 130.82 326 PKP PKPdf 17 57 39.9 -8.2
SURF PKP PKPdf 17 57 40.2 -7.9
SBF Sospel 130.86 325 *e*PKIKP PKPdf 17 57 46.2 -2.0
TOUF Mont Tournerai 130.87 326 PKP PKPdf 17 57 40.4 -7.8
LUCF Luceram 130.89 325 PKP PKPdf 17 57 39.3 -8.9
SMF Signal de Mont 130.93 330 *e*PKIKP PKPdf 17 57 46.5 -1.8
comp=Z,324nm,1.5s
REVF Revere 130.97 325 PKP PKPdf 17 57 41.1 -7.3
MVIF Mont Vial 131.00 325 PKP 17 57 36.7
ORIF Oris-en-Rattie 131.04 327 *e*PKIKP PKPdf 17 57 46.9 -1.6
comp=Z,120nm,1.0s
ORIF *e*R
comp=Z,14µm,22.5s
AVF Avril sur Loir 131.07 331 *e*PKIKP PKPdf 17 57 46.6 -2.0
HYF Humbligny 131.07 332 *e*PKIKP PKPdf 17 57 47.3 -1.3
HTL Hartland 131.09 340 P PKPdf 17 57 47.4 -1.2
HTL AMb AMB 17 57 55.4
comp=Z,87nm,1.7s
HTL Hartland 131.09 340 *e*P PKPdf 17 57 47.4 -1.2
HTL AMb AMB 17 57 55.4
comp=Z,87nm,1.7s
HTL AMS AMS 18 48 45.0
comp=Z,1µm,22.9s,MS5.5
OG25 Le Caire 131.30 327 PKP 17 57 37.5
LDF La Druitiere 131.32 335 *e*PKIKP PKPdf 17 57 46.9 -2.2
comp=Z,377nm,1.5s
FLN La Foliniere 131.35 335 *e*PKIKP PKPdf 17 57 47.1 -2.0
comp=Z,302nm,1.3s
FLN *e*R
comp=Z,14µm,22.8s
FLN La Foliniere 131.35 335 *e*PKPdf PKPdf 17 57 47.1 -2.0
FLN LR LR
comp=Z,14µm,22.8s,MS6.6
BGF Bois d'Agland 131.48 331 *e*PKIKP PKPdf 17 57 47.6 -1.8
comp=Z,139nm,1.0s
FRF La Foret Royal 131.50 325 *e*PKIKP PKPdf 17 57 47.3 -2.1
PLDF La Plantade 131.51 330 PKP PKPdf 17 57 42.7 -6.7
LVC Limon Verde 131.55 128 PKP PKPdf 17 57 46.3 -3.2
comp=Z,9.1nm,0.7s,baz=249,slow=1.4,SNR=7.5
LVC Limon Verde 131.55 128 *e*PKPdf PKPdf 17 57 48.0 -1.4
LVC LR LR
comp=Z,5µm,21.0s,MS6.2
LMGC Las Mercedes 131.68 69 *e*P PKPdf 17 57 46.9 -2.8
baz=96
LMGC *e*
comp=E,244nm,4.3s
AGO Saint Agoulin 131.69 330 PKP PKPdf 17 57 39.7 -10
LMR La Mourre 131.72 325 *e*PKIKP PKPdf 17 57 48.2 -1.6
VIVF Saint-Julien-l 131.73 328 *e*PKIKP PKPdf 17 57 48.3 -1.5
GRR Gorron 131.79 335 *e*PKIKP PKPdf 17 57 48.1 -1.9
SMRF Simiane la Rot 131.82 326 *e*PKIKP PKPdf 17 57 48.9 -1.1
PYM Petit Puy Mans 131.97 330 PKP PKPdf 17 57 43.4 -6.9
TCF Toulx Ste Croi 131.98 331 *e*PKIKP PKPdf 17 57 48.9 -1.4
comp=E,161nm,1.1s
LBL Lubilhac 132.21 329 PKP 17 57 37.3
VSL Villasalto 132.24 319 PKP PKPdf 17 57 53.8 +3.0
ARE Arequipa 132.33 119 *e*PKIKP PKPdf 17 57 46.0 -5.0
SGMF Saint Gilles 132.60 336 *e*PKIKP PKPdf 17 57 49.5 -2.0
comp=E,101nm,0.8s
LASF Ste Croix 132.69 328 *e*PKIKP PKPdf 17 57 50.0 -1.6
comp=E,105nm,0.9s
ROSF Rostrenen 132.82 337 *e*PKIKP PKPdf 17 57 50.0 -1.9
comp=E,86nm,1.0s
MFF Saint Martin d 132.85 333 *e*PKIKP PKPdf 17 57 48.7 -3.2
CAF Calviac 133.02 330 *e*PKIKP PKPdf 17 57 49.5 -2.8
comp=E,105nm,1.3s
RJF Les Rejaudoux 133.02 331 *e*PKIKP PKPdf 17 57 49.3 -3.0
comp=E,59nm,0.9s
RJF *e*R
comp=E,13µm,22.8s
RJF Les Rejaudoux 133.02 331 *e*PKPdf PKPdf 17 57 49.3 -3.0
RJF LR LR
comp=Z,13µm,22.8s,MS6.6
QUIF Quistinic 133.12 336 *e*PKIKP PKPdf 17 57 50.6 -1.8
LFF La Frestale 133.66 331 *e*PKIKP PKPdf 17 57 50.5 -3.0
TRIS Tristan da Cun 133.93 199 PFAKE 17 58 00.0 +6.0
TRIS LR LR
comp=Z,6µm,19.0s,MS6.3
MTLF Montolieu 134.06 328 *e*PKIKP PKPdf 17 57 51.1 -3.1
comp=Z,126nm,1.3s
MASC Masc 134.22 68 *e*P PKPdf 17 57 58.1 +3.6
KEST Kesra 134.24 315 PKhKP 17 57 41.1
comp=Z,1.8nm,1.0s,baz=62,slow=1.4,SNR=3.3
KEST SKPbc SKPbc 18 01 23.7 +0.5
comp=Z,4.3nm,1.0s,baz=334,slow=6.3,SNR=2.4
EJON La Jonquera 134.31 327 PKP 17 57 44.1
MLS Moulis 134.91 329 PKP 17 57 41.4
ROSC El Rosal 135.03 90 PKhKP 17 57 48.4
comp=Z,9.0nm,0.6s,baz=277,slow=16,SNR=4.8
ROSC PKP PKPdf 17 57 53.6 -2.4
comp=Z,12nm,0.5s,baz=105,slow=16,SNR=4.8
ROSC El Rosal 135.03 90 PKP PKPdf 17 57 48.4 -7.6
ROSC *e*PKPdf PKPdf 17 57 53.6 -2.4
CMAH Djebel Manchou 135.10 317 P PKPdf 17 57 56.5 +0.3
CGMA Guelma 135.20 317 P PKPdf 17 57 55.0 -1.4
EPF Esparros 135.25 329 *e*PKIKP PKPdf 17 57 53.6 -2.8
comp=Z,42nm,0.9s
ABSA Djebel Ababsia 135.25 317 P PKPdf 17 57 59.0 +2.6
LPAZ La Paz 135.30 121 PKhKP 17 57 43.5
comp=Z,2.0nm,0.6s,baz=191,slow=3.2,SNR=8.4
LPAZ La Paz 135.30 121 PKP 17 57 43.5
LPAZ LR LR
comp=Z,3µm,21.0s,MS6.0
CAEH 'Ain El Ouahch 135.40 318 P PKPdf 17 58 03.0 +6.3
EMIR Miracle 135.41 327 PKP 17 57 46.2
VIEF Viey 135.51 329 PKP 17 57 44.3
EBIE Bielsa 135.59 329 PKP PKPdf 17 57 47.2 -10
CKFL Kef-Lekhel 135.69 317 P PKPdf 17 57 58.5 +1.2
LARF Larrau 135.91 330 PKP 17 57 47.3
LARF Larrau 135.91 330 PKP 17 57 45.2
LARF Larrau 135.91 330 PKP 17 57 45.2
LARF PKP PKPdf 17 57 47.3 -10
CASM Ain Smara 135.93 317 P PKPdf 17 57 55.0 -2.7
EPOB Poblet 136.04 327 PKP 17 57 46.6
ELIZ Elizondo 136.08 331 PKHKP 17 57 47.8
CTEI Djebel Teioual 136.09 317 P PKPdf 17 57 54.0 -4.0
ETOS Mallorca 136.13 324 PKP 17 57 46.9
DFRA Djebel Bou Aff 136.18 318 P PKPdf 17 57 54.0 -4.2
ESAC San Caprasio 136.60 328 PKP 17 57 47.6
CMER Merouana 136.68 317 P PKPdf 17 58 00.0 +0.9
SET Setif 136.69 318 P PKPdf 17 57 59.0 -0.1
ERTA Horta de San J 136.72 327 PKP 17 57 47.6
ELAN Lanestosa 136.93 332 PKP 17 57 47.3
ECRI Cripan 136.97 331 PKHKP 17 57 47.3
EIBI Ibiza 137.47 324 PKP 17 57 48.3
EMOS Mosqueruela 137.57 327 PKP 17 57 48.8
EARI Arriondas 137.67 334 PKP 17 57 48.6
ABA Alger-Bouzarea 137.87 320 P PKPdf 17 57 55.0 -6.3
BBSR BB Station 138.05 47 PFAKE 17 58 10.0 +8.4
BBSR LR LR
comp=Z,7µm,20.0s,MS6.4
ETOR Torete 138.08 329 PKHKP 17 57 50.8
EMHD Djebel Mahouad 138.29 320 P PKPdf 17 57 57.0 -5.1
EPON Pontenova 138.47 336 PKP PKPdf 17 57 52.5 -10
EBEN Beniarda 138.59 325 PKP 17 57 51.8
SDV Santo Domingo 138.84 84 PKhKP 17 57 53.0
comp=Z,11nm,0.8s,baz=239,slow=5.6,SNR=1.3
SDV Santo Domingo 138.84 84 *e*PKPpre 17 57 53.0
SDV LR LR
comp=Z,2µm,20.0s,MS5.8
EBNR Beni Rached 139.13 321 P PKPdf 17 58 00.0 -3.6
GUD Guadarrama 139.27 330 PKHKP 17 57 52.2
ECHA Ech Chlef 139.32 321 P PKPdf 17 58 05.0 +1.0
ETOB Tobarra 139.38 326 PKP PKPdf 17 57 54.1 -10
STS Santiago 139.41 337 PKHKP 17 57 52.9
ECAL Calabor 139.44 334 PKP 17 57 53.8
EMAZ Mazaricos 139.52 337 PKP 17 57 54.2
PBRG Braganca 139.55 334 *e*PKP PKPdf 17 57 59.3 -5.1
PBRG *e*P 18 01 46.2
EANR 'Ain N'Sour 139.62 321 P PKPdf 17 58 01.5 -3.0
ETRT Tiaret 139.84 320 P PKPdf 17 58 02.3 -2.6
EVIA Vianos 139.90 327 PKHKP 17 57 54.4
ESDC Sonseca Array 139.91 329 PKhKP 17 57 55.9
comp=Z,3.3nm,0.7s,baz=8.7,slow=3.7,SNR=11
ESDC PKP PKPdf 17 58 01.2 -3.8
comp=Z,3.1nm,0.7s,baz=24,slow=2.8,SNR=11
ESDC PP PP 18 01 01.2 -0.1
comp=Z,4.6nm,0.9s,baz=47,slow=7.2,SNR=4.4
ESDC Sonseca Array 139.91 329 PKP 17 57 54.2
ESDC PKP PKPdf 17 58 01.2 -3.8
ESDC PP PP 18 01 01.2 -0.1
ESLA Sonseca Array 139.91 329 *e*PKPpre 17 57 54.9
ESLA LR LR
comp=Z,46µm,22.0s,MS7.2
EZAM Zamans 140.09 336 PKHKP 17 57 54.4
PCAB Cabril 140.18 335 *e*PKP PKPdf 17 58 01.4 -4.1
PVRL Vila Real 140.40 334 *e*PKP PKPdf 17 58 02.6 -3.3
PVRL *e*P 18 01 48.6
EQES Quesada 140.82 327 PKP PKPdf 17 57 57.0 -10
ENIJ Nijar 140.92 325 PKHKP 17 57 55.6
EBAN Banos Encina 140.94 328 PKHKP 17 57 56.6
PVIS Viseu 140.94 334 *e*PKP PKPdf 17 58 04.1 -2.8
PVIS *e*P 18 01 51.7
SIV San Ignacio 141.33 126 PKhKP 17 57 56.3
comp=Z,9.2nm,0.7s,baz=225,slow=3.4,SNR=37
SIV PKP PKPdf 17 58 03.5 -4.1
comp=Z,20nm,0.7s,baz=228,slow=6.1,SNR=28
EADA Adamuz 141.35 328 PKP PKPdf 17 57 57.9 -10
EBER Berja 141.36 325 PKP PKPdf 17 57 57.9 -10
PCBR Castelo Branco 141.47 333 *e*PKP PKPdf 17 58 01.4 -6.5
PCBR *e*P 18 01 49.7
ECOG Cogollos-Vega 141.47 326 PKHKP 17 57 58.7
ELUQ Luque 141.64 327 PKHKP 17 57 58.4
EGUA Guajares 141.79 326 PKHKP 17 57 58.6
ERON Agron 141.79 326 PKP PKPdf 17 57 58.8 -10
ELOJ Sierra Loja 141.88 327 PKHKP 17 57 58.7
EBAD Badajoz 142.12 331 PKP PKPdf 17 57 59.2 -10
EALB Alboran 142.12 324 PKP PKPdf 17 57 59.4 -10
PESTR Estremoz 142.30 332 *e*PKP PKPdf 17 58 03.8 -5.5
PESTR Estremoz 142.30 332 *e*SS SS 18 20 16.8 +27
PESTR Estremoz 142.30 332 *e*LQ 18 39 55.0
PESTR *e*LR LR 18 47 38.1
comp=Z,7µm,20.0s
EMIJ Mijas 142.65 327 PKP PKPdf 17 58 00.4 -10
EMIN Mina Concepcio 142.73 330 PKP 17 57 59.9
EVO Evora 142.77 332 *e*PKIKP PKPdf 17 58 03.9 -6.3
comp=Z,210nm,1.0s
EVO *e*R
comp=Z,13µm,21.5s
PLOU Loures 142.99 334 *e*PKP PKPdf 17 58 06.3 -4.3
PMAFR Mafra 142.99 334 *e*PKP PKPdf 17 58 06.4 -4.2
PMAFR Mafra 142.99 334 *e*LQ 18 40 01.7
PMAFR *e*LR LR 18 47 33.0
comp=Z,5µm,22.0s
ESPR Espera 143.00 328 PKP PKPdf 17 58 01.2 -9.4
PBEJ Beja 143.10 331 *e*PKP PKPdf 17 58 06.8 -4.0
EJIF Jimena Fronter 143.11 327 PKHKP 17 58 00.7
LIS Lisbon 143.13 334 *e*P PKPdf 17 58 10.4 -0.5
EGRO El Granado 143.31 331 PKP PKPdf 17 58 01.9 -9.2
SFS San Fernando 143.49 328 PKIKP PKPdf 17 58 08.7 -2.7
PCRV Puerto La Cruz 144.71 82 PKhKP 17 58 07.7
comp=Z,29nm,0.6s,baz=349,slow=5.2,SNR=13
CPB Codrington 146.23 68 *e*P PKPbc 17 58 19.2 +2.0
BPA Boggy Peak 146.35 69 *e*P PKPbc 17 58 19.3 +1.7
LZG Guadalaupe-1 146.64 70 *e*P PKPdf 17 58 15.1 -1.8
TBG Guadalaupe-3 146.83 71 *e*P PKPdf 17 58 15.2 -1.9
MDN Morne-Daniel 147.18 72 *e*P PKPbc 17 58 21.7 +1.7
DWS Wesley 147.20 71 *e*P PKPdf 17 58 21.1 +3.2
DSHT Scott's Head 147.22 72 *e*P PKPdf 17 58 18.7 +0.8
DBCT Belle View Cho 147.23 72 *e*P PKPbc 17 58 21.5 +1.3
DBCT Belle View Cho 147.23 72 *e*P PKPdf 17 58 14.2 -3.7
DBCT *e*P 17 58 21.5
DEG La Desirade 147.27 70 *e*P PKPdf 17 58 18.4 +0.5
GRHS Sauteurs 147.45 77 *e*P PKPdf 17 58 19.5 +1.2
STGR Santa Cruz 147.50 358 *e*PKP PKPbc 17 58 21.7 +0.8
TCE Chacachacare 147.50 80 *e*P PKPdf 17 58 15.2 -3.1
PVIL Vitoria 147.51 358 *e*PKP PKPbc 17 58 21.7 +0.8
FDF Fort de France 147.53 73 *e*P PKPdf 17 58 19.1 +0.7
SRBC Serra Branca 147.54 358 *e*PKP PKPdf 17 58 21.3 +2.9
PLUZ Luz 147.58 360 *e*PKP PKPbc 17 58 21.9 +0.8
BIM Bigot 147.64 73 *e*P PKPdf 17 58 18.9 +0.3
PVNV Vila Nova 147.78 357 *e*PKP PKPdf 17 58 21.9 +3.1
PSBA Serra de Santa 147.79 357 *e*PKP PKPbc 17 58 23.3 +1.6
PBIS Biscoitos 147.79 357 *e*PKP PKPbc 17 58 22.1 +0.4
PFAV Pico das Favas 147.83 357 *e*PKP PKPdf 17 58 21.8 +2.9
TPP Pointe-a-Pierr 147.83 81 *e*P PKPdf 17 58 20.3 +1.4
ASBA Santa Barbara 147.83 357 *e*PKP PKPbc 17 58 23.0 +1.2
PPAD Pico dos Padre 147.85 357 *e*PKP PKPbc 17 58 22.1 +0.3
TRN Trinidad (W) 147.85 80 *e*P PKPdf 17 58 17.0 -1.9
SHEL Horse Pasture 147.86 226 PFAKE 17 58 30.0 +11
SHEL LR LR
comp=Z,1µm,19.0s,MS5.8
ROSA Rosais 147.87 359 *e*PKP PKPab 17 58 26.3 +1.9
RIB2 Ribeirinha 147.87 357 *e*PKP PKPbc 17 58 22.0 +0.1
ADH Angra Heroismo 147.89 357 *e*PKP PKPdf 17 58 21.6 +2.6
PAMA Santo Amaro 147.90 359 *e*PKP PKPab 17 58 24.7 +0.2
PMAN Manadas 147.95 358 *e*PKP PKPab 17 58 25.5 +0.8
PCED Cedros 147.96 359 *e*PKP PKPab 17 58 25.2 +0.4
CALA Caldeira 148.01 359 *e*PKP PKPab 17 58 26.9 +1.9
PICO Pico 148.09 359 *e*PKP 17 58 43.7
PID Ribeirinha 148.14 358 *e*PKP PKPab 17 58 27.1 +1.6
TBH Brigand Hill 148.19 81 *e*P PKPdf 17 58 21.1 +1.6
TPR Prospect 148.41 79 *e*P PKPdf 17 58 19.1 -0.7
CAM4 Nova Friburgo 148.50 156 *e*P PKPdf 17 58 21.6 +1.6
CAM4 *i* 17 58 24.0
CAM4 *i* 17 58 29.4
CAM4 *i* 17 58 32.6
CAM4 *i* 17 58 50.3
CAM4 *i* 17 59 39.8
PFAD Fenais da Ajud 148.56 354 *e*PKP PKPab 17 58 27.2 0.0
PMAT Coroa da Mata 148.60 354 *e*PKP PKPab 17 58 28.3 +1.0
SET2 Ginetes 148.60 355 *e*PKP pPKPdf 17 58 33.5 +7.1
MIRA Miradouro 148.61 354 *e*PKP PKPbc 17 58 25.8 +2.0
PSET Sete Cidades 148.62 355 *e*PKP PKPdf 17 58 22.5 +2.4
MESC Monte Escuro 148.62 354 *e*PKP PKPab 17 58 29.1 +1.7
PVER Pico Vermelho 148.62 354 *e*PKP PKPab 17 58 29.3 +1.9
PVER Pico Vermelho 148.62 354 *e*PKP PKPab 17 58 29.4 +2.0
PCNG Congro 148.64 354 *e*PKP PKPab 17 58 28.2 +0.7
LFA Lagoa do Fogo 148.64 354 *e*PKP PKPbc 17 58 25.8 +1.9
CML Cha da Macela 148.65 354 *e*PKP PKPab 17 58 28.6 +1.1
VIF Vila Franca 148.67 354 *e*PKP PKPab 17 58 28.3 +0.7
PDA Ponta Delgada 148.69 355 *i* PKP PKPbc 17 58 26.0 +2.0
PDA *i* P PKPab 17 58 31.0 +3.3
PDA *e*P 17 58 49.0
PDA *i* P 17 58 54.0
PDA Ponta Delgada 148.69 355 *e*PP PP 18 01 43.0 -11
PDA Ponta Delgada 148.69 355 *e*LR LR 18 48 06.0
PRCH Ribeira Ch 148.69 354 *e*PKP PKPbc 17 58 25.3 +1.3
TOA0 Torodi Ar. Sit 148.91 285 *e*PKPbc PKPbc 17 58 24.5 -0.1
TORD Torodi Ar. Bea 148.91 285 PKP PKPdf 17 58 18.5 -2.1
comp=Z,114nm,0.7s,baz=70,slow=2.9,SNR=65
TORD PKPbc PKPbc 17 58 22.0 -2.6
comp=Z,114nm,0.7s,baz=70,slow=2.8,SNR=141
PSMN Pico do Norte, 149.36 354 *e*PKP PKPbc 17 58 26.5 +0.8
CAM3 Guarapari 150.77 158 *e*P PKPdf 17 58 26.4 +2.8
CAM3 *i* 17 58 34.8
CAM3 *i* 17 58 44.5
CAM3 *i* 17 58 55.5
PMPS Porto Santo 150.97 337 *e*PKP PKPbc 17 58 28.7 -0.9
PMAR Madeira 151.48 338 *e*PKP PKPdf 17 58 28.7 +4.0
EFAM Famara 153.05 329 PKP PKPdf 17 58 17.7 -9.3
CFTV Fuerteventura 153.91 329 PKP PKPdf 17 58 18.7 -9.5
EBAJ Bajamar 154.91 333 PKP PKPdf 17 58 20.5 -9.1
EOSO Osorio 154.93 331 PKP PKPdf 17 58 20.5 -9.1
CCAN Las Canadas 155.30 333 PKP PKPdf 17 58 22.1 -8.1
EGOM La Gomera 155.62 334 PKP PKPdf 17 58 22.7 -7.9
LIC Lamto 156.02 271 *e*PKIKP PKPdf 17 58 29.6 -1.5
comp=Z,154nm,1.1s
LIC *e*R
comp=Z,12µm,22.5s
LIC Lamto 156.02 271 *e*PKPdf PKPdf 17 58 29.6 -1.5
LIC LR LR
comp=Z,6µm,22.5s,MS6.4
ASCN Ascension 159.46 226 PFAKE 17 58 40.0 +4.6
ASCN LR LR
comp=Z,1µm,21.0s,MS5.7

IDC 07 17:51:29.8±3.4, 656S×15174E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=121.3km s-min=47.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**230**	P	P	17 56 20.8	+0.5
	0.9nm,0.3s,baz=56,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.15**	**223**	P	P	17 56 48.2	+0.7
	1.5nm,0.5s,baz=57,slow=9.2,SNR=8.5						
FITZ	**Fitzroy Crossi**	**27.92**	**243**	P	P	17 57 21.5	-0.1
	4.3nm,0.6s,baz=78,slow=9.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**149.79**	**285**	PKPbc	PKPbc	18 11 22.5	+0.8
	1.3nm,0.7s,baz=85,slow=2.3,SNR=7.9						

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*NEIC **07** 17:54:07.6±0.8, 6.15S×151.38E, h10km, mb4.1/1, Error ellipse: s-maj=33.1km s-min=14.5km az=135.0*
*ISCJB **07** 17:54:13.5±4.0, 6.4S±03×151.3E±0.2, h60km±32km, mb4.2/6, Error ellipse: s-maj=54.8km s-min=26.0km az=100.1*
*IDC **07** 17:54:14.7±6.2, 6.34S×151.29E, h58km±50km, mb4.1/6, mb1 4.3/7, mb1mx4.0/15, mbtmp4.1/7, ML3.1/1, Error ellipse: s-maj=42.0km s-min=34.9km az=116.0*
ISC 07 17:54:15.3±3.6, 64S±03×151.3E±0.3, h62km±29km, n18, σ0554/16, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.10**	**234**	P	**Pn**	**17 55 28.3**	**-0.8**
	4.9nm,0.3s,baz=3.3,slow=4.9,SNR=7.0						
PMG				S	**Sn**	**17 56 27.4**	**+0.8**
	5.5nm,0.3s,baz=15,slow=20,SNR=3.7						
PMG	**Port Moresby**	**5.10**	**234**	*e*P	**Pn**	**17 55 28.6**	**-0.5**
PMG				S	**Sn**	**17 56 27.4**	**+0.8**
WRAB	**Tennant Creek**	**21.29**	**229**	*e*P	**P**	**17 58 56.1**	**-0.5**
WB2	**Warramunga Arr**	**21.29**	**229**	*e*P	**P**	**17 58 56.5**	**-0.1**
WRA	**Warramunga Arr**	**21.30**	**229**	P	**P**	**17 58 56.9**	**+0.1**
	8.2nm,0.9s,mb4.0,baz=50,slow=10,SNR=20						
AS31	**Alice Springs**	**23.99**	**222**	*e*P	**P**	**17 59 24.0**	**-0.1**
ASAR	**Alice Springs**	**23.99**	**222**	P	**P**	**17 59 24.2**	**+0.1**
	4.1nm,0.5s,mb4.1,baz=55,slow=9.3,SNR=29						
ASPA	**Alice Springs**	**24.00**	**222**	*e*P	**P**	**17 59 23.8**	**-0.3**
STKA	**Stephens Creek**	**26.94**	**198**	P	**P**	**17 59 51.4**	**+0.5**
	14nm,1.2s,mb4.4,baz=25,slow=14,SNR=4.4						
STKA	**Stephens Creek**	**26.94**	**198**	*e*P	**P**	**17 59 51.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P	**P**	**17 59 56.5**	**-0.4**
	3.1nm,0.4s,mb4.3,baz=63,slow=8.3,SNR=7.3						
VNDA	**Vanda**	**71.32**	**178**	P	**P**	**18 05 27.7**	**-0.6**
	1.3nm,0.9s,mb3.9,baz=325,slow=6.2,SNR=5.8						
VNDA	**Vanda**	**71.32**	**178**	*e*P	**P**	**18 05 27.5**	**-0.8**
	1.5nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**94.22**	**52**	P	**P**	**18 07 28.4**	**+0.9**
	1.0nm,0.8s,mb4.3,baz=272,slow=6.3,SNR=5.1						
SUW	**Suwalki**	**116.83**	**329**	L		18 44 11.6	
	comp=Z,29nm,26.3s						
KSP	**Ksiaz**	**122.08**	**328**	L		18 49 53.4	
	comp=Z,30nm,24.3s						
MDT	**Midelt**	**145.46**	**323**	PKPbc	PKPbc	18 13 45.0	-1.3
	comp=Z,2.6nm,0.8s,baz=39,slow=6.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc	18 13 58.4	+1.3
	comp=Z,4.3nm,0.8s,baz=62,slow=2.3,SNR=14						

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*IDC **07** 17:55:05.1±2.3, 6.32S×151.59E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/14, mbtmp4.5/4, Error ellipse: s-maj=76.3km s-min=35.5km az=114.0*
NEIC 07 17:55:05.4±1.4, 626S×15177E, h10km, Error ellipse: s-maj=51.7km s-min=20.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**21.71**	**230**	P	P	17 59 58.3	+1.7
WRA	**Warramunga Arr**	**21.72**	**230**	P	P	17 59 56.1	-0.6
	8.5nm,0.8s,baz=55,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.39**	**223**	P	P	18 00 24.5	+0.7
	6.6nm,0.9s,baz=57,slow=9.3,SNR=8.4						
STKA	**Stephens Creek**	**27.20**	**199**	P	P	18 00 49.3	0.0
	9.7nm,1.0s,baz=358,slow=9.5,SNR=3.2						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	P	18 00 56.7	-0.3
	3.2nm,0.4s,baz=52,slow=9.4,SNR=6.4						
MDT	**Midelt**	**145.63**	**323**	PKPbc	PKPbc	18 14 46.2	+1.9
	3.6nm,0.8s,baz=16,slow=2.0,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**149.74**	**285**	*e*PKPbc	PKPbc	18 14 56.6	+1.1
TORD	**Torodi Ar. Bea**	**149.74**	**285**	PKPbc	PKPbc	18 14 56.5	+1.0
	1.5nm,0.5s,baz=96,slow=2.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.74**	**285**	PKPbc	PKPbc	18 14 56.5	+1.0

IDC 07 17:58:00.7±3.9, 673S×15184E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.5/13, mbtmp3.5/2, Error ellipse: s-maj=172.6km s-min=50.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.47**	**231**	P	P	18 02 52.2	+1.4
	1.7nm,0.9s,baz=56,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**24.09**	**224**	P	P	18 03 17.1	-0.7
	0.9nm,0.8s,baz=57,slow=9.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.93**	**285**	PKPbc	PKPbc	18 17 53.8	+0.9
	0.6nm,0.6s,baz=62,slow=3.2,SNR=6.3						

JMA 07 17:58:26.2±0.2, 2559N×12817E, h53km±3km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.67**	**325**	P	Pn	17 58 39.8	+0.2

JAGN	**Aguni-jima**	**1.30 320**	P	Pn	17 58 48.8	+0.8
JAGN			S	Sn	17 59 04.3	0.0
JKE	**Kume jima 2**	**1.45 301**	P	Pn	17 58 50.6	+0.6
JKE			S	Sn	17 59 07.1	-0.7
JIH	**Iheya**	**1.45 353**	P	Pn	17 58 51.0	+0.9
JIH			S	Sn	17 59 07.7	-0.3
JTK	**Tokunoshima**	**2.30 18**	P	Pn	17 59 02.3	+0.7
JTK			S	Sn	17 59 27.9	-0.7
JOGS	**Gusukube**	**2.64 252**	P	Pn	17 59 07.8	+1.5
JMZ	**Minamidaito 2**	**2.76 85**	P	Pn	17 59 08.1	+0.1
JMZ			S	Sn	17 59 37.8	-2.3
JAM	**Amami Oshima**	**3.09 24**	P	Pn	17 59 13.9	+1.5
JTJ	**Tarama**	**3.28 254**	P	Pn	17 59 16.4	+1.3
JIJ	**Ishigaki jima**	**3.85 252**	P	Pn	17 59 23.7	+0.8
JKRS	**Kuro-shima**	**4.01 251**	P	Pn	17 59 26.4	+1.3
IRIF	**Iriomote-Funau**	**4.22 254**	P	Pn	17 59 28.1	+0.2

IDC 07 18:01:56.8±3.9, 681S×15175E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.5/13, mbtmp3.6/2, Error ellipse: s-maj=150.7km s-min=53.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36 231**		P	P	18 06 45.8	+0.2
	1.4nm,0.8s,baz=57,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**23.98 224**		P	P	18 07 13.3	+0.4
	1.5nm,0.7s,baz=55,slow=9.0,SNR=7.1						
TORD	**Torodi Ar. Bea**	**149.87 284**		PKPbc	PKPbc	18 21 49.7	+0.8
	0.3nm,0.8s,baz=55,slow=3.1,SNR=2.3						

NEIC ***07*** *18:04:12.1±2.0, 603S×151.17E, h10km, Error ellipse: s-maj=76.1km s-min=17.2km az=120.0*
ISCJB ***07*** *18:04:13.2±7.0, 60S±03×151.1E±0.4, h28km±53km, mb3.7/3, Error ellipse: s-maj=80.2km s-min=20.0km az=83.7*
IDC ***07*** *18:04:13.3±3.2, 571S×15053E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML2.2/1, Error ellipse: s-maj=109.2km s-min=38.0km az=121.0*
ISC 07 18:04:14.6±6.9, 60S±03×1512E±03, h30km±52km, n11, σ0§40/11, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25 230**		Pn	**Pn**	**18 05 31.2**	**+0.3**
	0.7nm,0.3s,baz=349,slow=16,SNR=3.2						
PMG				Sn	**Sn**	**18 06 30.6**	**+0.2**
	1.8nm,0.3s,baz=192,slow=19,SNR=2.3						
WRAB	**Tennant Creek**	**21.45 228**		*eP*	**P**	**18 08 59.7**	**-0.6**
WB2	**Warramunga Arr**	**21.45 228**		*eP*	**P**	**18 09 00.5**	**+0.1**
WRA	**Warramunga Arr**	**21.46 228**		P	**P**	**18 09 00.6**	**+0.1**
	1.3nm,0.6s,mb3.4,baz=52,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**21.46 228**		P	**P**	**18 09 00.6**	**+0.1**
AS31	**Alice Springs**	**21.48 228**		*eP*	**P**	**18 09 28.6**	**+0.3**
ASAR	**Alice Springs**	**24.19 222**		P	**P**	**18 09 28.2**	**-0.1**
	1.1nm,0.5s,mb3.6,baz=56,slow=9.2,SNR=14						
ASPA	**Alice Springs**	**24.20 222**		*eP*	**P**	**18 09 28.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.71 242**		P	**P**	**18 09 59.3**	**-0.9**
	3.0nm,0.8s,mb4.0,baz=45,slow=13,SNR=3.4						
ZRNK	**Zerenda**	**90.11 323**		P	**P**	**18 17 12.1**	**+0.4**
	50nm,2.0s						
TORD	**Torodi Ar. Bea**	**149.18 286**		PKPbc	PKPbc	18 24 02.9	+2.8
	0.3nm,0.6s,baz=71,slow=3.7,SNR=4.5						

IDC ***07*** *18:10:05.3±2.4, 637S×15146E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=65.3km s-min=37.3km az=130.0*
NEIC 07 18:10:06.2±2.1, 650S×15168E, h10km, mb4.3/2, Error ellipse: s-maj=45.0km s-min=32.5km az=143.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33 237**		Pn	Pn	18 11 24.2	-1.6
	3.5nm,0.3s,baz=59,slow=19,SNR=9.4						
PMG				Sn	Sn	18 12 24.3	-3.0
	2.8nm,0.3s,baz=192,slow=20,SNR=3.6						
KAKA	**Kakadu**	**19.95 251**		*eP*	Pn	18 14 40.4	+0.4
	5.0nm,0.5s						
WRAB	**Tennant Creek**	**21.49 230**		*eP*	P	18 14 49.6	-5.4
WB2	**Warramunga Arr**	**21.49 230**		*eP*	P	18 14 56.6	+1.6
WB2	**Warramunga Arr**	**21.49 230**		*eP*	P	18 14 54.4	-0.6
WRA	**Warramunga Arr**	**21.50 230**		P	P	18 14 55.4	+0.2
	1.0nm,0.7s,baz=55,slow=11,SNR=4.2						
AS31	**Alice Springs**	**24.16 223**		*eP*	P	18 15 23.7	+1.3
ASAR	**Alice Springs**	**24.16 223**		P	P	18 15 22.6	+0.2
	1.7nm,0.8s,baz=55,slow=9.4,SNR=7.7						
ASPA	**Alice Springs**	**24.16 223**		*eP*	P	18 15 24.2	+1.8
STKA	**Stephens Creek**	**26.95 199**		P	P	18 15 49.2	+1.4
	1.5nm,0.7s,baz=4.5,slow=8.0,SNR=3.0						
STKA	**Stephens Creek**	**26.95 199**		Pn	P	18 15 48.4	+0.6
FITZ	**Fitzroy Crossi**	**27.89 243**		*eP*	P	18 15 57.8	+1.6
	5.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.89 243**		P	P	18 15 57.0	+0.8
	2.3nm,0.7s,baz=64,slow=7.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.72 285**		PKPbc	PKPbc	18 29 56.6	+0.4
	0.6nm,0.6s,baz=94,slow=2.2,SNR=7.7						

IDC ***07*** *18:11:28.1±3.5, 6.19S×15132E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=119.1km s-min=49.7km az=122.0*
NEIC 07 18:11:28.6±1.7, 629S×15152E, h10km, mb4.1/3, Error ellipse: s-maj=48.0km s-min=24.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**19.86 250**		*eP*	Pn	18 16 00.4	-1.0
	6.1nm,0.6s						
WRAB	**Tennant Creek**	**21.50 229**		*eP*	P	18 16 17.7	+0.2
	5.2nm,0.9s						
WB2	**Warramunga Arr**	**21.50 229**		*eP*	P	18 16 17.7	+0.1
WRA	**Warramunga Arr**	**21.51 229**		P	P	18 16 17.9	+0.2
	2.3nm,0.6s,baz=52,slow=9.9,SNR=7.1						
AS31	**Alice Springs**	**24.20 223**		*eP*	P	18 16 45.8	+0.6
ASAR	**Alice Springs**	**24.20 223**		P	P	18 16 45.6	+0.4
	1.4nm,0.7s,baz=63,slow=8.8,SNR=11						
ASPA	**Alice Springs**	**24.20 223**		*eP*	P	18 16 45.8	+0.5
FITZ	**Fitzroy Crossi**	**27.84 243**		*eP*	P	18 17 19.0	+0.8
	5.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.84 243**		P	P	18 17 18.5	+0.3
	3.2nm,0.7s,baz=51,slow=9.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.51 285**		PKPbc	PKPbc	18 31 19.6	+1.4
	0.9nm,0.7s,baz=52,slow=2.7,SNR=5.1						

IDC 07 18:12:48.7±3.9, 600S×15095E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/13, mbtmp3.6/2, Error ellipse: s-maj=155.0km s-min=50.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.28 228**		P	P	18 17 37.3	+0.7
	1.3nm,0.8s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.04 221**		P	P	18 18 05.3	0.0
	3.7nm,1.1s,baz=59,slow=8.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.89 285**		PKPbc	PKPbc	18 32 39.0	+0.7
	0.4nm,0.6s,baz=96,slow=2.8,SNR=5.8						

ISCJB ***07*** *18:14:41.9±4.7, 63S±0.1×1515E±0.1, h10km±31km, mb4.0/7, Error ellipse: s-maj=31.0km s-min=15.5km az=88.0*
IDC ***07*** *18:14:42.8±1.3, 636S×151.45E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.1/15, mbtmp4.0/7, ML2.2/1, Error ellipse: s-maj=40.8km s-min=25.2km az=118.0*
NEIC ***07*** *18:14:44.3±0.9, 635S×151.41E, h10km, mb4.4/3, Error ellipse: s-maj=25.5km s-min=14.2km az=121.0*
MOS ***07*** *18:14:45.0±0.9, 635S×151.45E, h33km, mb4.4/1, Error ellipse: s-maj=49.2km s-min=19.6km az=137.4*
ISC 07 18:14:42.2±5.5, 63S±01×1515E±01, h2km±35km, n19, σ0§66/17, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29 234**		Pn	**Pn**	**18 16 02.9**	**+0.6**
	0.5nm,0.3s,baz=233,slow=20,SNR=1.6						
PMG				Sn	**Sn**	**18 17 04.0**	**+0.1**
	6.3nm,0.3s,baz=92,slow=13,SNR=5.7						
KAKA	**Kakadu**	**19.84 250**		*eP*	**Pn**	**18 19 14.9**	**-0.9**
	9.6nm,0.6s						
WRAB	**Tennant Creek**	**21.48 229**		*eP*	**P**	**18 19 31.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**21.48 229**		*eP*	**P**	**18 19 31.5**	**-0.5**
	comp=Z,6.6nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**21.48 229**		*eP*	**P**	**18 19 32.4**	**+0.3**
WRA	**Warramunga Arr**	**21.49 229**		P	**P**	**18 19 32.1**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.0,baz=54,slow=11,SNR=13						
AS31	**Alice Springs**	**24.18 223**		*eP*	**P**	**18 19 59.1**	**-0.8**
ASAR	**Alice Springs**	**24.18 223**		P	**P**	**18 20 00.3**	**+0.4**
	comp=Z,2.2nm,0.5s,mb3.9,baz=58,slow=8.8,SNR=24						
ASPA	**Alice Springs**	**24.18 223**		*eP*	**P**	**18 19 59.9**	**0.0**
STKA	**Stephens Creek**	**27.08 199**		P	**P**	**18 20 27.8**	**+1.5**
	comp=Z,2.2nm,0.5s,mb3.9,baz=35,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.82 243**		*eP*	**P**	**18 20 32.9**	**+0.1**
	comp=Z,7.9nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.82 243**		P	**P**	**18 20 33.1**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.3,baz=86,slow=9.6,SNR=9.6						
VNDA	**Vanda**	**71.40 178**		P	**P**	**18 26 02.7**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=324,slow=7.8,SNR=5.5						
VNDA	**Vanda**	**71.40 178**		P	**P**	**18 26 02.7**	**-1.2**
MK31	**Makanchi Array**	**80.60 319**		*eP*	**P**	**18 26 56.8**	**+0.5**
MKAR	**Makanchi Array**	**80.60 319**		P	**P**	**18 26 56.5**	**+0.1**
	comp=Z,0.9nm,1.0s,mb3.7,baz=112,slow=5.9,SNR=4.6						
GERES	**GERESS Array B**	**124.62 327**		PKP	PKPdf	18 33 46.6	+3.3
	comp=Z,0.3nm,0.5s,baz=48,slow=2.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.49 285**		PKPbc	PKPbc	18 34 34.5	+1.4
	comp=Z,1.9nm,0.6s,baz=66,slow=3.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.49 285**		PKPbc	PKPbc	18 34 34.5	+1.4

IDC ***07*** *18:15:39.8±1.5, 642S×151.49E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.3/14, mbtmp4.3/7, Error ellipse: s-maj=46.8km s-min=25.8km az=97.0*
NEIC ***07*** *18:15:41.3±1.0, 646S×151.48E, h10km, mb4.5/2, Error ellipse: s-maj=29.1km s-min=15.2km az=110.0*
ISCJB ***07*** *18:15:43.7±1.4, 65S±0.1×1514E±0.2, h35km, mb4.1/8, Error ellipse: s-maj=36.4km s-min=19.8km az=32.4*
ISC 07 18:15:45.4±1.4, 65S±01×1514E±02, h35km, n15, σ0§82/14, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.31 229**		*eP*	**P**	**18 20 27.9**	**-1.1**
	8.3nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**21.31 229**		*eP*	**P**	**18 20 29.4**	**+0.3**
WRA	**Warramunga Arr**	**21.32 229**		P	**P**	**18 20 28.4**	**-0.8**
	9.6nm,0.8s,mb4.2,baz=54,slow=11,SNR=7.9						
AS31	**Alice Springs**	**24.00 223**		*eP*	**P**	**18 20 56.0**	**-0.7**
ASAR	**Alice Springs**	**24.00 223**		P	**P**	**18 20 57.6**	**+0.9**
	3.1nm,0.5s,mb4.0,baz=56,slow=8.8,SNR=6.6						
STKA	**Stephens Creek**	**26.89 199**		*eP*	**P**	**18 21 24.9**	**+2.0**
	6.4nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**26.89 199**		P	**P**	**18 21 23.9**	**+0.9**
	5.5nm,0.7s,mb4.2,baz=14,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**26.89 199**		*eP*	**P**	**18 21 23.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.68 243**		*eP*	**P**	**18 21 31.6**	**+1.6**
	12nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.68 243**		P	**P**	**18 21 30.4**	**+0.4**
	9.7nm,0.9s,mb4.4,baz=58,slow=12,SNR=6.1						
VNDA	**Vanda**	**71.22 178**		P	**P**	**18 27 00.1**	**-0.7**
	1.3nm,0.8s,mb3.9,baz=323,slow=6.9,SNR=7.0						
MKAR	**Makanchi Array**	**80.69 319**		P	**P**	**18 27 55.2**	**+0.4**
	1.3nm,0.9s,mb3.9,baz=103,slow=5.5,SNR=5.4						
ZAL	**Zalesovo**	**81.79 327**		P	**P**	**18 28 00.2**	**-0.5**
	1.0nm,0.3s,mb4.2,baz=43,slow=3.0,SNR=3.3						
ZAL	**Zalesovo**	**81.79 327**		P	**P**	**18 28 00.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.47 285**		PKPbc	PKPbc	18 35 31.9	+1.1
	3.2nm,0.7s,baz=72,slow=2.8,SNR=8.8						

IDC 07 18:16:26.5±3.6, 647S×15150E, h0km, mb4.2/3, mb1 4.5/3, mb1mx4.0/14, mbtmp4.3/3, Error ellipse: s-maj=126.5km s-min=49.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38 230**		P	P	18 21 15.9	+0.5
	3.0nm,0.5s,baz=55,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**24.05 223**		P	P	18 21 43.1	-0.1
	5.7nm,0.9s,baz=55,slow=8.9,SNR=5.9						
FITZ	**Fitzroy Crossi**	**27.74 243**		P	P	18 22 17.3	+0.6
	5.0nm,0.5s,baz=75,slow=8.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.54 285**		PKPbc	PKPbc	18 36 18.5	+0.8
	1.0nm,0.7s,baz=84,slow=2.5,SNR=5.3						

ISCJB ***07*** *18:17:29.5±0.3, 641S±0.004×15129E±0.06, h10km, mb4.9/42, MS5.4/7, Error ellipse: s-maj=8.2km s-min=5.8km az=40.6*
BJI ***07*** *18:17:29.8, 6.17S×151.30E, h9km, mB5.7, mb4.9, Ms5.7, Msz5.4*
IDC ***07*** *18:17:29.7±0.6, 639S×151.26E, h0km, mb4.7/13, mb1 4.8/16, mb1mx4.8/17, mbtmp4.6/16, ML3.8/3, MS5.3/1, Ms1 5.3/1, ms1mx4.0/25, Error ellipse: s-maj=19.3km s-min=12.8km az=114.0*
NEIC ***07*** *18:17:31.2±0.3, 639S×151.25E, h10km, mb5.1/18, Error ellipse: s-maj=7.4km s-min=5.7km az=110.0*
MOS ***07*** *18:17:32.4±1.0, 641S×151.30E, h33km, mb5.1/13, Error ellipse: s-maj=12.3km s-min=9.4km az=75.4*
ISC 07 18:17:31.0±2.1, 640S±005×15132E±006, h8km±13km, h30km±1.9km: pP-P, n110, σ0§97/103, mb4.9/42, MS5.4/7, 8C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09 234**		Pn	**Pn**	**18 18 47.9**	**+0.3**
	9.0nm,0.3s,baz=7.7,slow=8.0,SNR=8.6						
PMG				Sn	**Sn**	**18 19 47.5**	**+1.0**
	32nm,0.3s,baz=342,slow=23,SNR=8.0						
PMG	**Port Moresby**	**5.09 234**		*eP*	**Pn**	**18 18 48.8**	**+1.2**
PMG				pmax	pmax		
	comp=Z,205nm,0.8s						
PMG	**Port Moresby**	**5.09 234**		*eP*	**Pn**	**18 18 48.8**	**+1.2**
	comp=Z,205nm,0.8s						
HNR	**Honiara**	**9.06 110**		Pn	**Pn**	**18 19 43.5**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=264,slow=18,SNR=2.7						
HNR	**Honiara**	**9.06 110**		Pn	**Pn**	**18 19 43.0**	**+0.8**
CTA	**Charters Tower**	**14.47 199**		*eP*	**Pn**	**18 20 55.8**	**-0.3**
	comp=Z,4.3nm,0.6s						
CTA	**Charters Tower**	**14.47 199**		Pn	**Pn**	**18 20 55.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=27,slow=15,SNR=4.3						
CTA	**Charters Tower**	**14.47 199**		*eP*	**Pn**	**18 20 55.8**	**-0.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CTAO	**Charters Tower**	**14.47 199**		*eP*	**Pn**	**18 20 56.4**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,123nm,2.0s						
CTAO	**Charters Tower**	**14.47 199**		*eP*n	**Pn**	**18 20 56.4**	**+0.3**
	comp=Z,123nm,2.0s						
KAKA	**Kakadu**	**19.63 250**		*i*P	**Pn**	**18 22 00.2**	**-1.2**
	comp=Z,86nm,0.8s						
WRAB	**Tennant Creek**	**21.27 229**		P	**P**	**18 22 17.6**	**-0.2**
	comp=Z,352nm,1.0s,mb5.7,SNR=10						
WRAB	**Tennant Creek**	**21.27 229**		*eP*	**P**	**18 22 15.9**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,40nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**21.27 229**		*eP*	**P**	**18 22 15.9**	**-1.9**
	comp=Z,40nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**21.28 229**		*eP*	**P**	**18 22 17.6**	**-0.3**
WRA	**Warramunga Arr**	**21.29 229**		P	**P**	**18 22 18.0**	**0.0**
	comp=Z,36nm,0.9s,mb4.7,baz=54,slow=10,SNR=16						
WRA				ScP	ScP	18 30 06.9	+7.2
	comp=Z,1.5nm,0.7s,baz=46,slow=2.4,SNR=5.5						
AS31	**Alice Springs**	**23.98 222**		*i*P	**P**	**18 22 45.8**	**-0.2**
ASAR	**Alice Springs**	**23.98 222**		P	**P**	**18 22 45.9**	**-0.1**
	comp=Z,25nm,0.7s,mb4.7,baz=55,slow=9.0,SNR=28						
ASAR				S	**S**	**18 27 05.3**	**+2.4**
	comp=Z,5.5nm,1.0s,baz=41,slow=21,SNR=7.1						
ASAR				ScP	ScP	18 30 16.3	+10
	comp=Z,1.3nm,0.8s,baz=51,slow=3.8,SNR=5.7						
ASAR	**Alice Springs**	**23.98 222**		P	**P**	**18 22 45.9**	**-0.1**
ASAR				S	**S**	**18 27 05.3**	**+2.4**
ASPA	**Alice Springs**	**23.98 222**		*i*P	**P**	**18 22 45.8**	**-0.2**
STKA	**Stephens Creek**	**26.93 198**		*i*P	**P**	**18 23 13.7**	**+1.0**
	comp=Z,18nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**26.93 198**		P	**P**	**18 23 13.4**	**+0.7**
	comp=Z,19nm,0.7s,mb4.7,baz=10,slow=9.4,SNR=12						
FITZ	**Fitzroy Crossi**	**27.61 243**		*eP*	**P**	**18 23 18.6**	**-0.3**
	comp=Z,51nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.61 243**		P	**P**	**18 23 18.8**	**-0.1**
	comp=Z,37nm,0.8s,mb5.1,baz=60,slow=9.3,SNR=19						
MBWA	**Marble Bar**	**33.90 241**		*eP*	**P**	**18 24 14.3**	**-0.1**
	comp=Z,20nm,0.6s,mb5.2						
MBWA				*e*		18 24 22.3	
KKM	**Kota Kinabalu**	**37.15 289**		*eP*	**P**	**18 24 40.9**	**-1.4**
URZ	**Urewera**	**39.40 147**		P	**P**	**18 25 01.1**	**-0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=180,slow=9.1,SNR=3.6						
RPZ	**Rata Peaks**	**41.02 158**		LR	LR	18 39 46.1	
	comp=Z,3μm,19.0s,MS5.2,baz=318,slow=33						
KSM	**Kuching**	**41.67 279**		*eP*	**P**	**18 25 20.0**	**0.0**
MJAR	**Matsushiro Arr**	**44.45 345**		PcP	PcP	18 27 26.5	+0.5
	comp=Z,2.9nm,0.7s,baz=158,slow=3.0,SNR=5.5						
KSRS	**Korea Array**	**48.78 335**		P	**P**	**18 26 16.0**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=134,slow=8.9,SNR=5.1						
KSRS				PcP	PcP	18 27 41.6	+0.3
	comp=Z,3.6nm,0.7s,baz=162,slow=3.3,SNR=10.0						
NJ2	**Nanjing**	**49.18 323**		*eP*	**P**	**18 26 20.7**	**+1.1**
NJ2				AP	pP	18 26 29.6	+7.5
NJ2				PP	PP	18 28 16.0	+2.7
NJ2				S	**S**	**18 33 25.0**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,8.6s						
NJ2				LR	LR		
	comp=N,4μm,15.2s,MS5.8						
NJ2				LR	LR		
	comp=E,6μm,16.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,8μm,15.7s,MS5.8						
KULM	**Kulim**	**51.89 282**		*eP*	**P**	**18 26 39.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**53.66 353**		*eP*	**P**	**18 26 53.7**	**+0.6**
YSS				pmax	pmax		
	comp=Z,200nm,5.0s						
KMI	**Kunming**	**56.68 306**		P	**P**	**18 27 15.8**	**+0.9**
KMI				AP	pP	18 27 23.3	+5.9
KMI				XP	sP	18 27 27.2	+8.8
KMI				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.3						
KMI	**Kunming**	**56.68 306**		P	**P**	**18 27 15.8**	**+0.9**
	comp=Z,6.0nm,1.7s,mb4.3						
KMI				pP	pP	18 27 23.3	+5.9
KMI				sP	sP	18 27 27.2	+8.8
XAN	**Xi'an**	**56.78 318**		P	**P**	**18 27 15.1**	**-0.5**
XAN				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
CD2	**Chengdu**	**58.67 312**		*eP*	**P**	**18 27 29.2**	**+0.2**
CD2				XP	sP	18 27 40.1	+7.7
CD2				PP	PP	18 29 41.0	+2.4
CD2				S	**S**	**18 35 31.3**	**-2.4**
CD2				SS	SS	18 39 26.3	-0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
CD2				LR	LR		
	comp=N,4μm,16.8s						
CD2				LR	LR		
	comp=Z,3μm,16.8s,MS5.5						
HHC	**Hu-ho-hao-te**	**59.50 326**		*eP*	**P**	**18 27 36.5**	**+1.8**
HHC				S	**S**	**18 35 44.7**	**+0.3**
HHC				XS	sS	18 35 56.6	+8.0
HHC				SCS	ScS	18 37 19.9	-5.4
HHC				SS	SS	18 39 41.4	+1.9
HHC				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
HHC				LR	LR		
	comp=N,2μm,19.0s,MS5.5						
HHC				LR	LR		
	comp=E,2μm,19.0s,MS5.5						
HHC				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
LZH	**Lanzhou**	**61.36 317**		*eP*	**P**	**18 27 48.0**	**+0.6**
LZH				AP	pP	18 27 57.5	+7.6
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,481nm,4.3s						
LZH	**Lanzhou**	**61.36 317**		*eP*	**P**	**18 27 48.0**	**+0.6**
	comp=Z,56nm,1.5s,mb5.5						
LZH				pP	pP	18 27 57.5	+7.6
LZH				sP	sP	18 28 03.0	+12
MA2	**Magadan**	**65.76 360**		P	**P**	**18 28 15.1**	**-1.4**
MA2				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
MA2	**Magadan**	**65.76 360**		P	**P**	**18 28 15.1**	**-1.4**
	comp=Z,17nm,0.9s,mb5.1						
GTA	**Gaotai**	**65.84 318**		⇓P	**P**	**18 28 17.5**	**+0.5**
GTA				AP	pP	18 28 25.4	+5.9
GTA				XP	sP	18 28 28.7	+8.2
GTA				PCP	PcP	18 28 46.7	-1.3
GTA				PP	PP	18 30 44.9	+3.1
GTA				S	S	18 37 02.1	-1.9
GTA				XS	sS	18 37 14.7	+6.5
GTA				SS	SS	18 41 17.6	-1.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
GTA				LR	LR		
	comp=N,1μm,15.7s,MS5.5						
GTA				LR	LR		
	comp=E,2μm,16.8s,MS5.5						
GTA				LR	LR		
	comp=Z,3μm,17.2s,MS5.5						
ULN	**Ulaanbaatar**	**66.58 329**	⇑	*eP*	**P**	**18 28 20.4**	**-1.3**
ULN	**Ulaanbaatar**	**66.58 329**		*eP*	**P**	**18 28 21.9**	**+0.2**
	comp=Z,9.3nm,1.3s,mb4.7						
ULN				*e*		18 28 35.3	
SONM	**Song

WMQ SCS ScS 18 39 28.1 -4.9
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
WMQ LR LR
comp=N,1μm,19.4s,MS5.4
WMQ LR LR
comp=E,1μm,19.4s,MS5.4
WMQ LR LR
comp=Z,2μm,18.2s,MS5.3
TIXI Tiksi 79.28 353 *e*P **P 18 29 35.5 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
POO Poona 80.23 290 *e*P **P 18 29 39.0 -3.2**
MK31 Makanchi Array 80.56 319 *e*P **P 18 29 43.7 -0.2**
MKAR Makanchi Array 80.56 319 P **P 18 29 43.6 -0.3**
comp=Z,5.0nm,0.9s,mb4.4,baz=99,slow=7.5,SNR=22
MKAR PP PP 18 32 45.8 -1.5
comp=Z,1.5nm,1.1s,baz=111,slow=6.6,SNR=4.0
ZAL Zalesovo 81.67 327 P **P 18 29 48.8 -1.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=359,slow=7.6,SNR=10
KSH Kashi 82.86 311 P **P 18 29 58.2 +2.1**
KSH *e*AP pP 18 30 06.3 +7.6
KSH *e*XP sP 18 30 09.8 +10
KSH *e*PP PP 18 33 11.3 +5.1
KSH *e*SKS 18 40 07.6
KSH *e*S S 18 40 15.0 +0.2
KSH *e*PS 18 41 10.4
KSH LR LR
comp=Z,441nm,10.2s,MS5.1
MAW Mawson 83.53 203 P **P 18 29 58.9 -0.7**
comp=Z,1.8nm,0.6s,mb4.4,baz=94,slow=15,SNR=3.2
MAW Mawson 83.53 203 *e*P **P 18 29 58.8 -0.8**
MAW pmax pmax
comp=Z,51nm,1.9s
MAW Mawson 83.53 203 *e*P **P 18 29 58.8 -0.8**
comp=Z,51nm,1.9s,mb5.3
QSPA South Pole Qui 83.57 180 *e*P **P 18 29 58.5 -1.3**
comp=Z,13nm,1.1s,mb5.0
COLA College 83.88 22 *e*P **P 18 29 59.5 -1.8**
TKM2 Tokmak 2 83.97 314 P **P 18 30 02.2 +0.4**
SNR=8.0
KZA Kyzart 84.02 313 P **P 18 30 03.1 +1.0**
SNR=6.1
KURK Kurchatov 84.12 322 P **P 18 30 01.8 -0.8**
comp=Z,101nm,1.0s,mb5.9,SNR=10
KBK Karagaybulak 84.37 314 P **P 18 30 04.8 +0.9**
SNR=7.1
UCH Uchtor 84.58 313 P **P 18 30 06.8 +1.9**
SNR=14
CHMS Chumysh 84.59 314 P **P 18 30 05.4 +0.4**
SNR=6.2
AAK Ala-Archa 84.69 314 P **P 18 30 05.9 +0.4**
comp=Z,70nm,1.6s,mb5.5,SNR=8.5
AAK Ala-Archa 84.69 314 P **P 18 30 06.6 +1.1**
SNR=8.4
AAK Ala-Archa 84.69 314 *e*P **P 18 30 05.1 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
AAK Ala-Archa 84.69 314 *e*P **P 18 30 05.1 -0.4**
comp=Z,7.1nm,0.8s,mb4.8
USP Ospenovka 84.84 314 P **P 18 30 07.0 +0.8**
SNR=15
AML Almayashu 85.15 313 P **P 18 30 08.8 +1.0**
SNR=22
EKS2 Erkin-Say 85.21 314 P **P 18 30 08.9 +0.8**
SNR=18
DAWY Dawson 86.84 24 *e*P **P 18 30 17.1 +0.9**
ZRNK Zerenda 90.44 323 *e*P **P 18 30 31.7 -1.5**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
ZRNK Zerenda 90.44 323 *e*P **P 18 30 31.7 -1.4**
comp=Z,2.1nm,0.6s,mb4.6
SYO Syowa Base 91.68 200⇑ *e*P **P 18 30 35.8 -3.1**
SYO Syowa Base 91.68 200⇑ *e*pP pP 18 30 48.2 +6.7
NVAR Mina Array Bea 94.23 52 P **P 18 30 52.0 +1.4**
comp=Z,2.4nm,1.0s,mb4.6,baz=273,slow=8.5,SNR=6.5
YKA Yellowknife Ar 97.52 28 P **P 18 31 07.2 +1.5**
comp=Z,1.4nm,0.6s,mb4.7,baz=272,slow=4.9,SNR=6.5
PDAR Pinedale Array 101.01 48 P Pdif 18 31 21.0 -0.3
comp=Z,0.3nm,0.5s,baz=315,slow=0.5,SNR=2.4
OBN Obninsk 109.25 326⇑ *e*P Pdif 18 31 55.1 -2.8
OBN pmax pmax
comp=Z,29nm,2.6s
NOA NORSAR Array B 117.89 339 PKP PKPdf 18 36 19.1 +0.9
comp=Z,1.7nm,1.1s,baz=42,slow=2.8,SNR=2.6
KHC Kasperske Hory 124.51 328⇑ *i*PKIKP PKPdf 18 36 28.0 -2.9
GERES GERESS Array B 124.61 327 PKP PKPdf 18 36 30.8 -0.3
comp=Z,1.4nm,0.7s,baz=82,slow=3.0,SNR=8.9
BOJS Bojanci 125.59 323 *e*PKPdf PKPdf 18 36 33.1 +0.2
VISS Visnje 125.68 324 *e*PKPdf PKPdf 18 36 33.0 -0.1
LPAZ La Paz 134.93 120 PKP PKPdf 18 36 52.3 +1.7
comp=Z,1.0nm,0.5s,baz=330,slow=5.0
TOA0 Torodi Ar. Sit 149.34 285 *e*PKPbc PKPbc 18 37 20.5 0.0
TORD Torodi Ar. Bea 149.34 285 PKPbc PKPbc 18 37 20.7 +0.2
comp=Z,7.3nm,0.6s,baz=56,slow=2.3,SNR=22

IDC 07 18:26:26.0±2.4, 604S×15113E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.7/5, ML2.2/1, Error ellipse: s-maj=67.9km s-min=37.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**229**	Pn	Pn	18 27 45.1	+0.6
	0.6nm,0.3s,baz=294,slow=19,SNR=2.6						
PMG				Sn	Sn	18 28 44.8	0.0
	1.5nm,0.3s,baz=288,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**21.38**	**228**	P	P	18 31 15.4	+0.3
	0.7nm,0.6s,baz=52,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.12**	**222**	P	P	18 31 44.1	+0.7
	0.5nm,0.5s,baz=57,slow=9.5,SNR=10						
STKA	**Stephens Creek**	**27.21**	**198**	P	P	18 32 10.6	-0.7
	2.6nm,0.9s,baz=43,slow=13,SNR=3.0						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	P	18 32 15.9	+0.9
	1.4nm,0.4s,baz=57,slow=12,SNR=9.0						
TORD	**Torodi Ar. Bea**	**149.07**	**285**	PKPbc	PKPbc	18 46 16.6	+0.5
	0.6nm,0.6s,baz=62,slow=2.9,SNR=5.6						

IDC 07 18:27:17.3±3.1, 616S×15100E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=72.1km s-min=49.0km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.21**	**228**	P	P	18 32 03.8	-0.7
	2.8nm,0.7s,baz=55,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**23.95**	**222**	P	P	18 32 33.1	0.0
	1.8nm,0.8s,baz=55,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**27.06**	**198**	P	P	18 33 02.4	+1.1
	1.6nm,0.6s,baz=20,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**27.45**	**242**	P	P	18 33 05.4	+0.6
	2.2nm,0.7s,baz=72,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.98**	**285**	PKPbc	PKPbc	18 47 07.7	+0.5
	0.7nm,0.7s,baz=61,slow=3.7,SNR=3.8						

IDC 07 18:29:26.5±2.4, 620S×15116E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=64.9km s-min=36.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**231**	Pn	Pn	18 30 45.9	+2.0
	0.7nm,0.3s,baz=241,slow=19,SNR=3.8						
PMG				Sn	Sn	18 31 43.8	+0.5
	2.5nm,0.3s,baz=359,slow=18,SNR=3.1						
KAKA	**Kakadu**	**19.55**	**249**	*e*P	Pn	18 33 57.9	+1.0
	10nm,0.8s						
WB2	**Warramunga Arr**	**21.29**	**229**	*e*P	P	18 34 04.6	-10
WRA	**Warramunga Arr**	**21.30**	**229**	P	P	18 34 15.1	+0.4
	0.7nm,0.3s,baz=54,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**24.02**	**222**	P	P	18 34 43.3	+0.3
	1.2nm,0.5s,baz=56,slow=9.0,SNR=12						
ASPA	**Alice Springs**	**24.02**	**222**	*e*P	P	18 34 42.3	-0.7
STKA	**Stephens Creek**	**27.07**	**198**	P	P	18 35 10.7	+0.1
	1.6nm,0.8s,baz=13,slow=13,SNR=3.4						
FITZ	**Fitzroy Crossi**	**27.56**	**242**	*e*P	P	18 35 15.6	+0.6
	1.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.56**	**242**	P	P	18 35 14.6	-0.5
	2.0nm,0.6s,baz=85,slow=7.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**149.13**	**285**	PKPbc	PKPbc	18 49 17.6	+0.9
	0.5nm,0.4s,baz=94,slow=2.6,SNR=9.1						

IDC ***07*** *18:29:45.4±1.4, 638S×15134E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML2.5/1, Error ellipse: s-maj=41.5km s-min=24.2km az=110.0*
NEIC ***07*** *18:29:47.1±1.0, 640S×15125E, h10km, mb4.1/2, Error ellipse: s-maj=28.4km s-min=15.4km az=115.0*
ISCJB ***07*** *18:29:49.1±1.0, 645S±01×1513E±02, h35km, mb4.0/6, Error ellipse: s-maj=27.7km s-min=12.9km az=88.7*
ISC 07 18:29:50.7±1.0, 645S±01×1513E±02, h35km, n13, σ1s00/13, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.06**	**234**	Pn	Pn	18 31 02.2	-1.9
	1.2nm,0.3s,baz=30,slow=8.1,SNR=3.2						
PMG				Sn	Sn	18 32 01.9	+0.6
	4.6nm,0.3s,baz=204,slow=18,SNR=4.1						
WRAB	**Tennant Creek**	**21.25**	**229**	P	P	18 34 31.6	-2.1
	6.0nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**21.25**	**229**	P	P	18 34 28.7	-5.0
WRA	**Warramunga Arr**	**21.26**	**229**	P	P	18 34 34.5	+0.7
	3.6nm,0.8s,mb3.7,baz=56,slow=11,SNR=8.0						
AS31	**Alice Springs**	**23.95**	**222**	*e*P	P	18 35 01.7	+0.1
ASAR	**Alice Springs**	**23.95**	**222**	P	P	18 35 02.8	+1.2
	3.8nm,0.5s,mb4.1,baz=55,slow=9.0,SNR=9.0						
STKA	**Stephens Creek**	**26.89**	**198**	P	P	18 35 29.2	+0.9
	2.7nm,0.6s,mb4.0,baz=51,slow=15,SNR=6.3						
STKA	**Stephens Creek**	**26.89**	**198**	P	P	18 35 29.2	+0.9
FITZ	**Fitzroy Crossi**	**27.59**	**243**	P	P	18 35 35.0	+0.5
	3.5nm,0.5s,mb4.2,baz=53,slow=7.5,SNR=8.8						
VNDA	**Vanda**	**71.27**	**178**	P	P	18 41 05.7	-0.7
	0.4nm,0.7s,baz=310,slow=4.3,SNR=4.1						
MKAR	**Makanchi Array**	**80.58**	**319**	P	P	18 41 59.8	+0.3
	0.3nm,0.5s,baz=96,slow=7.7,SNR=3.9						
ZAL	**Zalesovo**	**81.69**	**327**	P	P	18 42 05.5	0.0
	0.8nm,0.3s,mb4.2,baz=22,slow=4.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc	18 49 37.0	+1.2
	2.1nm,0.7s,baz=57,slow=2.9,SNR=9.4						

ISCJB ***07*** *18:34:07.4±0.3, 642S±004×15131E±005, h10km, mb5.0/52, MS5.4/6, Error ellipse: s-maj=8.3km s-min=5.5km az=51.1*
IDC ***07*** *18:34:07.7±0.7, 641S×15129E, h0km, mb4.8/11, mb1 4.9/13, mb1mx4.9/15, mbtmp4.8/13, ML3.7/2, Error ellipse: s-maj=22.2km s-min=13.2km az=116.0*
NEIC ***07*** *18:34:09.1±0.3, 646S×15128E, h10km, mb5.0/22, Error ellipse: s-maj=8.0km s-min=6.2km az=128.0*
BJI ***07*** *18:34:09.5, 592S×15126E, h10km, mB5.8, mb4.8, Ms5.6, Msz5.2*
MOS ***07*** *18:34:10.9±1.3, 642S×15125E, h33km, mb5.1/15, Error ellipse: s-maj=11.1km s-min=9.3km az=77.2*
ISC 07 18:34:10.5±2.4, 647S±005×15135E±006, h18km±15km, h21km±2.6km: pP-P, n135, σ1s05/122, mb5.0/52, MS5.4/6, 8C-5D, New British region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**235**	Pn	Pn	18 35 26.5	+0.8
	7.5nm,0.3s,baz=57,slow=12,SNR=17						
PMG				Sn	Sn	18 36 26.4	+2.5
	11nm,0.3s,baz=185,slow=23,SNR=14						
PMG	**Port Moresby**	**5.08**	**235**	*e*P	Pn	18 35 26.5	+0.8
PMG				pmax	pmax		
	comp=Z,187nm,0.8s						
PMG	**Port Moresby**	**5.08**	**235**	*e*Pn	Pn	18 35 26.5	+0.7
	comp=Z,187nm,0.8s						
HNR	**Honiara**	**9.01**	**110**	Pn	Pn	18 36 20.9	+1.3
	comp=Z,3.6nm,0.3s,baz=243,slow=3.0,SNR=2.6						
CTAO	**Charters Tower**	**14.42**	**200**	P	Pn	18 37 34.7	+1.1
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CTAO	**Charters Tower**	**14.42**	**200**	P	Pn	18 37 34.7	+1.1
	comp=Z,10nm,1.0s						
KAKA	**Kakadu**	**19.65**	**250**⇓	*i*P	Pn	18 38 38.4	-1.3
	comp=Z,59nm,0.8s						
WRAB	**Tennant Creek**	**21.26**	**229**	P	P	18 38 55.2	-0.5
	comp=Z,338nm,0.7s,mb5.8,SNR=18						
WRAB	**Tennant Creek**	**21.26**	**229**	*e*P	P	18 38 55.4	-0.3
WRAB				pmax	pmax		
	comp=Z,41nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**21.26**	**229**	*e*P	P	18 38 55.4	-0.3
	comp=Z,41nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**21.26**	**229**	*i*P	P	18 38 55.7	0.0
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P	P	18 38 55.6	-0.2
WRA	**Warramunga Arr**	**21.27**	**229**	P	P	18 38 55.7	-0.1
	comp=Z,51nm,0.8s,mb4.9,baz=52,slow=9.6,SNR=60						
WRA				S	S	18 42 49.4	-2.0
	comp=Z,1.4nm,0.9s,baz=56,slow=15,SNR=5.0						
WRA				ScP	ScP	18 46 46.5	+10
	comp=Z,4.1nm,0.9s,baz=45,slow=2.7,SNR=9.9						
WRA	**Warramunga Arr**	**21.27**	**229**	P	P	18 38 55.7	-0.1
WRA				S	S	18 42 49.4	-2.1
AS31	**Alice Springs**	**23.95**	**223**	*e*P	P	18 39 23.4	-0.3
ASAR	**Alice Springs**	**23.96**	**223**	P	P	18 39 23.9	+0.2
	comp=Z,24nm,0.8s,mb4.7,baz=62,slow=9.5,SNR=122						
ASAR				S	S	18 43 42.9	+3.4
	comp=Z,6.7nm,1.0s,baz=44,slow=18,SNR=7.0						
ASAR				ScP	ScP	18 46 54.8	+11
	comp=Z,2.7nm,0.9s,baz=37,slow=3.3,SNR=9.9						
ASAR	**Alice Springs**	**23.96**	**223**	P	P	18 39 23.9	+0.2
ASAR				S	S	18 43 42.9	+3.4
ASPA	**Alice Springs**	**23.96**	**223**	*i*P	P	18 39 23.8	+0.1
STKA	**Stephens Creek**	**26.88**	**199**	*e*P	P	18 39 49.5	-0.7
	comp=Z,16nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**26.88**	**199**	P	P	18 39 51.5	+1.3
	comp=Z,28nm,0.9s,mb4.8,baz=13,slow=11,SNR=18						
STKA	**Stephens Creek**	**26.88**	**199**	*e*P	P	18 39 48.8	-1.4
STKA				*e*		18 40 01.0	
FITZ	**Fitzroy Crossi**	**27.61**	**243**	*e*P	P	18 39 56.8	0.0
	comp=Z,81nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.61**	**243**	P	P	18 39 56.9	0.0
	comp=Z,44nm,0.8s,mb5.1,baz=90,slow=7.1,SNR=54						
MBWA	**Marble Bar**	**33.91**	**241**	*e*P	P	18 40 52.2	-0.1
	comp=Z,30nm,0.9s,mb5.2						
MBWA				*e*		18 41 00.7	
KKM	**Kota Kinabalu**	**37.21**	**289**	*e*P	P	18 41 19.6	-1.1
NWAO	**Narrogin (SRO)**	**41.20**	**226**	P	P	18 41 51.6	-2.5
NWAO				pmax	pmax		
	comp=Z,64nm,1.5s						
NWAO	**Narrogin (SRO)**	**41.20**	**226**	P	P	18 41 51.6	-2.4
	comp=Z,64nm,1.5s,mb5.0						
KSM	**Kuching**	**41.72**	**279**	*e*P	P	18 41 58.6	+0.2
MJAR	**Matsushiro Ar**	**44.52**	**345**	PcP	PcP	18 44 04.7	+0.6
	comp=Z,5.2nm,0.7s,baz=165,slow=3.7,SNR=9.1						
KSRS	**Korea Array**	**48.86**	**335**	P	P	18 42 54.9	-0.1
	comp=Z,2.9nm,0.8s,mb4.3,baz=147,slow=7.0,SNR=5.9						
KSRS				PcP	PcP	18 44 19.9	+0.5
	comp=Z,7.1nm,0.8s,baz=186,slow=2.8,SNR=13						
NJ2	**Nanjing**	**49.26**	**323**	*e*P	P	18 42 59.1	+1.1
NJ2				AP	pP	18 43 08.6	+5.0
NJ2				PP	PP	18 44 54.5	+2.6
NJ2				S	S	18 50 03.0	-0.3
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,7.6s						
NJ2				LR	LR		
	comp=N,4μm,15.4s,MS5.7						
NJ2				LR	LR		
	comp=E,3μm,14.3s,MS5.7						
NJ2				LR	LR		
	comp=Z,4μm,15.2s,MS5.6						
KULM	**Kulim**	**51.94**	**282**	*e*P	P	18 43 17.8	-0.5
COCO	**West Island**	**54.02**	**260**	*e*P	P	18 43 35.2	+1.5
	comp=Z,37nm,0.9s,mb5.3						
KMI	**Kunming**	**56.75**	**306**	P	P	18 43 53.4	+0.1
KMI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
KMI	**Kunming**	**56.75**	**306**	P	P	18 43 53.4	+0.1
	comp=Z,11nm,1.4s,mb4.7						
XAN	**Xi'an**	**56.86**	**318**	P	P	18 43 53.5	-0.5
XAN				AP	pP	18 44 00.9	+1.2
XAN				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
CM31	**Chiang Mai Arr**	**57.30**	**297**	*e*P	P	18 43 57.8	+0.5
	comp=Z,37nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**57.43**	**297**	*e*P	P	18 43 58.3	+0.2
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**57.43**	**297**	*e*P	P	18 43 58.2	+0.2
	comp=Z,4.9nm,0.9s,mb4.5						
CD2	**Chengdu**	**58.75**	**312**	P	P	18 44 07.6	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**59.58**	**326**	*e*P	P	18 44 14.9	+1.8
HHC				XP	sP	18 44 22.3	+1.4
HHC				PCP	PcP	18 45 01.8	+1.5
HHC				SCP	ScP	18 48 59.4	-0.9
HHC				S	S	18 52 25.1	+2.9
HHC				XS	sS	18 52 33.1	+1.6
HHC				SCS	ScS	18 54 01.5	-1.0
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,1μm,10.2s						
HHC				LR	LR		
	comp=N,1μm,22.6s,MS5.1						
HHC				LR	LR		
	comp=E,848nm,17.7s,MS5.1						
HHC				LR	LR		
	comp=Z,2μm,19.6s,MS5.3						
LZH	**Lanzhou**	**61.44**	**317**	*e*P	P	18 44 26.5	+0.7
LZH				AP	pP	18 44 33.5	+2.1
LZH				XP	sP	18 44 36.5	+2.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,490nm,4.8s						
LZH	**Lanzhou**	**61.44**	**317**	*e*P	P	18 44 26.5	+0.7
	comp=Z,42nm,1.5s,mb5.3						
LZH				pP	pP	18 44 33.5	+2.1
LZH				sP	sP	18 44 36.5	+2.9
GTA	**Gaotai**	**65.91**	**318**	⇓P	P	18 44 55.7	+0.4
GTA				AP	pP	18 44 58.8	-2.2
GTA				XP	sP	18 45 01.4	-1.7
GTA				PCP	PcP	18 45 27.7	+1.6
GTA				PP	PP	18 47 22.8	+2.4
GTA				S	S	18 53 41.4	-0.4
GTA				XS	sS	18 53 48.3	-2.9
GTA				SS	SS	18 57 56.6	-0.1
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
GTA				LR	LR		
	comp=N,2μm,16.0s,MS5.6						
GTA				LR	LR		
	comp=E,2μm,16.1s,MS5.6						
GTA				LR	LR		
	comp=Z,3μm,18.3s,MS5.5						
SHL	**Shillong**	**65.92**	**302**	*e*P	P	18 44 55.1	-0.3
CASY	**Casey**	**66.01**	**197**	*e*P	P	18 44 54.9	-1.1
	comp=Z,12nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**66.66**	**329**⇑	*e*P	P	18 44 59.6	-0.5
ULN	**Ulaanbaatar**	**66.66**	**329**	*e*P	P	18 45 00.7	+0.6
	comp=Z,7.2nm,1.0s,mb4.7						
ULN				*e*		18 45 13.4	
SONM	**Songino Array**	**66.98**	**329**	P	P	18 45 02.4	+0.3
	comp=Z,5.5nm,0.7s,mb4.7,baz=129,slow=6.3,SNR=8.1						
SEY	**Seymchan**	**69.20**	**1**⇑	*e*P	P	18 45 14.8	-1.3
ZAK	**Zakamensk**	**70.17**	**330**	*e*P	P	18 45 21.9	-0.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
YAK	**Yakutsk**	**70.32**	**349**	P	P	18 45 21.8	-1.2
YAK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
YAK	**Yakutsk**	**70.32**	**349**	P	P	18 45 21.8	-1.2
	comp=Z,22nm,1.1s,mb5.0						
BOK	**Bokaro**	**70.55**	**298**	*e*P	P	18 45 22.3	-2.0
BOK				AMb	AMB	18 45 28.4	
	comp=Z,20nm,0.9s,mb5.0						
BOD	**Bodaibo**	**70.84**	**340**	*e*P	P	18 45 22.9	-3.2
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
VNDA	**Vanda**	**71.23**	**178**	P	P	18 45 28.1	-0.4
	comp=Z,5.2nm,0.8s,mb4.5,baz=330,slow=6.5,SNR=39						
VNDA	**Vanda**	**71.23**	**178**	*e*P	P	18 45 27.5	-1.0
VNDA				*e*		18 45 38.1	
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**71.23**	**178**	*e*P	P	18 45 27.5	-1.0
	comp=Z,5.6nm,0.9s,mb4.5						
VNDA				*e*		18 45 38.1	
VIS	**Vishakhapatnam**	**71.30**	**291**	*e*P	P	18 45 29.1	+0.2
VIS				AMb	AMB	18 45 33.4	
	comp=Z,19nm,1.3s,mb4.9						
GUN	**Gumba**	**71.76**	**302**	*e*P	P	18 45 32.0	+0.3
	comp=Z,60nm,1.2s,mb5.4						
PALK	**Pallekele**	**71.79**	**280**	P	P	18 45 32.1	+0.2
	comp=Z,158nm,0.9s,mb6.0,SNR=5.1						
PALK	**Pallekele**	**71.79**	**280**	*e*P	P	18 45 32.6	+0.7
	comp=Z,33nm,1.1s,mb5.2						
SBA	**Scott Base**	**71.81**	**177**	*e*P	P	18 45 31.8	-0.2
SBA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SBA	**Scott Base**	**71.81**	**177**	*e*P	P	18 45 31.8	-0.2
	comp=Z,3.7nm,0.8s,mb4.4						
MIR	**Mirnyy**	**71.86**	**201**	*d i*P	P	18 45 34.0	+1.7
MIR				*i*	pP	18 45 41.0	+2.9
MIR				*i*		18 45 52.0	
PKI	**Pulchoki**	**72.06**	**302**	*e*P	P	18 45 33.1	-0.4
	comp=Z,76nm,1.3s,mb5.5						
KKN	**Kakani**	**72.23**	**302**	*e*P	P	18 45 34.4	-0.1
	comp=Z,36nm,1.1s,mb5.2						
DMN	**Daman**	**72.32**	**302**	*e*P	P	18 45 35.3	+0.2
	comp=Z,59nm,1.2s,mb5.4						
GKN	**Gorkha**	**72.84**	**302**	*e*P	P	18 45 37.8	-0.3
	comp=Z,142nm,1.5s,mb5.7						
MDRS	**Chennai**	**73.24**	**286**	*e*P	P	18 45 40.7	+0.2
MDRS				AMb	AMB	18 45 42.7	
	comp=Z,34nm,0.8s,mb5.3						
KOLN	**Koldanda**	**73.65**	**301**	*e*P	P	18 45 42.6	-0.3
	comp=Z,56nm,1.0s,mb5.5						
BILL	**Bilibino**	**75.08**	**6**⇑	*e*P	P	18 45 50.6	-0.6
BILL				*e*		18 48 35.4	
BILL				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
BILL	**Bilibino**	**75.08**	**6**	*e*P	P	18 45 51.0	-0.2
	comp=Z,36nm,1.0s,mb5.2						
TRD	**Trivandrum**	**75.64**	**280**	*e*P	P	18 45 54.9	+0.4
HYB	**Hyderabad**	**75.68**	**290**	*i*P	P	18 45 54.5	-0.2
HYB	**Hyderabad**	**75.68**	**290**	*e*P	P	18 45 54.5	-0.2
WMQ	**Urumqi**	**76.00**	**318**	⇑P	P	18 45 57.2	+0.7
WMQ				AP	pP	18 46 02.2	-0.1
WMQ				XP	sP	18 46 04.2	-0.2
WMQ				PCP	PcP	18 46 09.9	+1.1
WMQ				PP	PP	18 48 49.7	+2.7
WMQ				PPP		18 50 36.7	
WMQ				S	S	18 55 38.5	-0.3
WMQ				XS	sS	18 55 46.4	-1.9
WMQ				SKS		18 56 02.4	
WMQ				SCS	ScS	18 56 07.9	-2.4
WMQ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
WMQ				LR	LR		
	comp=N,1μm,19.6s,MS5.3						
WMQ				LR	LR		
	comp=E,795nm,18.2s,MS5

comp=Z,447nm,4.8s
KSH LR LR
comp=Z,441nm,10.2s,MS5.1
NVS Novosibirsk 82.94 327 *e*P **P 18 46 32.7 -1.6**
MAW Mawson 83.49 203 P **P 18 46 36.6 -0.5**
comp=Z,6.0nm,0.9s,mb4.6,baz=100,slow=5.5,SNR=6.6
MAW Mawson 83.49 203 *e*P **P 18 46 36.4 -0.7**
MAW pmax pmax
comp=Z,8.0nm,1.1s
MAW Mawson 83.49 203 *e*P **P 18 46 36.4 -0.7**
comp=Z,8.1nm,1.1s,mb4.7
QSPA South Pole Qui 83.51 180 *e*P **P 18 46 36.3 -0.9**
comp=Z,15nm,1.0s,mb5.1
COLA College 83.92 22 *e*P **P 18 46 38.2 -1.2**
TKM2 Tokmak 2 84.05 314 P **P 18 46 40.4 +0.4**
SNR=8.0
KZA Kyzart 84.09 313 P **P 18 46 41.9 +1.7**
SNR=7.1
KURK Kurchatov 84.19 322 P **P 18 46 40.1 -0.6**
comp=Z,142nm,1.1s,mb6.0,SNR=15
KBK Karagaybulak 84.45 314 P **P 18 46 43.0 +1.0**
SNR=10
UCH Uchtor 84.66 313 P **P 18 46 44.5 +1.4**
SNR=22
CHMS Chumysh 84.67 314 P **P 18 46 44.5 +1.3**
SNR=8.1
AAK Ala-Archa 84.77 314 P **P 18 46 43.7 +0.1**
comp=Z,88nm,0.7s,mb6.0,SNR=15
AAK Ala-Archa 84.77 314 P **P 18 46 44.8 +1.1**
SNR=17
AAK Ala-Archa 84.77 314⇑ *e*P **P 18 46 43.2 -0.4**
AAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
AAK Ala-Archa 84.77 314 *e*P **P 18 46 43.3 -0.3**
comp=Z,10nm,0.8s,mb5.0
USP Ospenovka 84.91 314 P **P 18 46 45.2 +0.8**
SNR=34
AML Almayashu 85.23 313 P **P 18 46 47.8 +1.9**
SNR=28
EKS2 Erkin-Say 85.29 314 P **P 18 46 46.8 +0.5**
SNR=43
DAWY Dawson 86.89 24 *e*P **P 18 46 54.8 +0.7**
BRVK Borovoye 89.78 323 *e*P **P 18 47 05.0 -2.9**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
BRVK Borovoye 89.78 323 *e*P **P 18 47 05.0 -2.9**
comp=Z,7.6nm,1.1s,mb4.9
ZRNK Zerenda 90.52 323 *e*P **P 18 47 09.3 -2.0**
ZRNK pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
ZRNK Zerenda 90.52 323 *e*P **P 18 47 09.3 -2.1**
comp=Z,5.5nm,1.2s,mb4.8
SYO Syowa Base 91.63 200⇑ *e*P **P 18 47 14.6 -1.9**
MTUM Tungsten Hills 93.94 53 *e*P **P 18 47 29.1 +1.9**
NVAR Mina Array Bea 94.24 52 P **P 18 47 30.5 +2.0**
comp=Z,4.1nm,0.8s,mb4.9,baz=265,slow=8.1,SNR=24
ABKT Ailbek 96.48 307 P **P 18 47 38.8 +0.1**
comp=Z,51nm,0.9s,mb6.0,SNR=5.3
PDAR Pinedale Array 101.03 48 P Pdif 18 47 59.6 +0.5
comp=Z,0.8nm,0.8s,baz=288,slow=1.4,SNR=6.0
ANN Anapa 111.43 316 *i* PKIKP PKiKP 18 52 46.7 +3.1
ANN pmax pmax
comp=Z,204nm,1.4s
DPC Dobruska-Polom 122.43 328 *e*pPKP pPKPdf 18 53 12.2 +1.5
UPC Upice 122.51 328 *e*PKP PKPdf 18 53 05.5 +0.7
BRG Berggiesshubel 123.37 329 *e*P PKPdf 18 53 06.8 +0.3
comp=Z,3.7nm,1.0s
BRG *e* 18 54 50.3
comp=Z,5.0nm,1.5s
BRG *e* 18 54 59.1
comp=Z,26nm,2.4s
BRG
comp=N,699nm,18.5s
BRG
comp=E,1μm,18.8s
BRG
comp=Z,2μm,17.6s
BRG Berggiesshubel 123.37 329 *e*P PKPdf 18 53 06.8 +0.3
BRG *e* 18 54 50.3
BRG *e* 18 54 59.1
BRG LR LR
comp=Z,2μm,17.5s,MS5.8
CLL Collm 123.58 330 *e*PKIKP PKPdf 18 53 07.0 +0.1
CLL pmax pmax
comp=Z,89nm,1.0s
CLL Collm 123.58 330 *e*PKPdf PKPdf 18 53 07.0 +0.1
comp=Z,6.0nm,1.0s
NKC Novy Kostel 124.52 329 *e*PKP PKPdf 18 53 09.6 +0.9
KHC Kasperske Hory 124.59 328 *e*PKP PKPdf 18 53 09.5 +0.7
GERES GERESS Array B 124.69 327 PKP PKPdf 18 53 08.6 -0.3
comp=Z,2.1nm,0.8s,baz=338,slow=1.4,SNR=14
BOJS Bojanci 125.67 323 *e*PKPdf PKPdf 18 53 11.2 +0.3
VISS Visnje 125.75 324 *e*PKPdf PKPdf 18 53 11.1 +0.1
KEST Kesra 134.60 315 PKP PKPdf 18 53 29.6 +1.8
comp=Z,2.3nm,0.9s,baz=289,slow=1.7,SNR=6.4
LPAZ La Paz 134.86 121 PKP PKPdf 18 53 29.8 +1.5
comp=Z,3.1nm,0.9s,baz=73,slow=1.9,SNR=9.8
SDV Santo Domingo 138.34 84 *e*PKPpre 18 53 31.9
SDV *e*PKPdf PKPdf 18 53 35.7 +1.0
TOA0 Torodi Ar. Sit 149.40 285 *e*PKPbc PKPbc 18 53 58.7 +0.4
TORD Torodi Ar. Bea 149.40 285 PKPbc PKPbc 18 53 58.9 +0.5
comp=Z,20nm,0.7s,baz=48,slow=2.1,SNR=100

*ISCJB **07** 18:37:00.7±4.1, 63S×02×151.1E×02, h72km±33km, mb4.0/6, Error ellipse: s-maj=42.8km s-min=27.1km az=76.8*
*IDC **07** 18:37:02.7±5.6, 629S×151.07E, h75km±45km, mb3.9/6, mb1 4.1/7, mb1mx3.9/15, mbtmp3.9/7, ML2.9/1, Error ellipse: s-maj=44.9km s-min=32.8km az=118.0*
ISC 07 18:37:02.6±3.7, 62S±02×151.1E±02, h74km±30km, n10, σ0.973/10, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.98**	**231**	P	**Pn**	**18 38 14.2**	**-0.7**
	2.9nm,0.3s,baz=61,slow=6.2,SNR=3.7						
PMG				S	**Sn**	**18 39 12.4**	**+1.3**
	4.7nm,0.3s,baz=196,slow=15,SNR=2.7						
KAKA	**Kakadu**	**19.45**	**249**	*e*P	**Pn**	**18 41 24.3**	**-0.7**
	10nm,0.4s						
WRA	**Warramunga Arr**	**21.20**	**228**	P	**P**	**18 41 41.7**	**-0.4**
	4.4nm,0.6s,mb4.0,baz=53,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**23.93**	**222**	P	**P**	**18 42 09.5**	**-0.1**
	2.9nm,0.7s,mb3.7,baz=60,slow=9.0,SNR=6.1						
ASPA	**Alice Springs**	**23.93**	**222**	*e*P	**P**	**18 42 09.7**	**+0.1**
STKA	**Stephens Creek**	**27.00**	**198**	P	**P**	**18 42 37.8**	**+0.3**
	7.3nm,0.9s,mb4.2,baz=1.4,slow=11,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.46**	**242**	P	**P**	**18 42 40.4**	**-1.1**
	12nm,0.9s,mb4.4,baz=164,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**80.27**	**319**	P	**P**	**18 49 06.4**	**+1.1**
	0.3nm,0.4s,mb3.5,baz=118,slow=6.1,SNR=4.1						
NVAR	**Mina Array Bea**	**94.33**	**52**	P	**P**	**18 50 14.1**	**+0.3**
	0.6nm,0.8s,mb4.0,baz=279,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.05**	**285**	PKPbc	PKPbc	18 56 43.4	+1.2
	3.4nm,0.6s,baz=96,slow=2.6,SNR=18						

*IDC **07** 18:46:03.6±1.5, 625S×151.48E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.1/15, mbtmp4.1/7, ML2.8/1, Error ellipse: s-maj=40.4km s-min=26.1km az=113.0*
*NEIC **07** 18:46:04.7±1.1, 625S×151.49E, h10km, mb4.4/3, Error ellipse: s-maj=24.8km s-min=17.2km az=126.0*
*ISCJB **07** 18:46:05.9±6.4, 63S±02×151.4E±02, h29km±46km, mb4.0/6, Error ellipse: s-maj=34.4km s-min=19.2km az=103.1*
ISC 07 18:46:04.9±5.7, 62S±02×151.5E±01, h10km±37km, n17, σ0.979/17, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**233**	Pn	**Pn**	**18 47 25.8**	**+1.5**
	2.2nm,0.3s,baz=35,slow=10,SNR=10						
PMG				Sn	**Sn**	**18 48 25.8**	**+0.3**
	4.5nm,0.3s,baz=156,slow=19,SNR=3.8						
KAKA	**Kakadu**	**19.85**	**250**	*e*P	**Pn**	**18 50 36.2**	**-1.3**
	11nm,0.6s						
WRAB	**Tennant Creek**	**21.50**	**229**	*e*P	**P**	**18 50 53.4**	**-0.5**
	5.6nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**21.51**	**229**	*e*P	**P**	**18 50 53.6**	**-0.3**
WRA	**Warramunga Arr**	**21.52**	**229**	P	**P**	**18 50 54.0**	**0.0**
	4.8nm,0.7s,mb4.0,baz=53,slow=10,SNR=20						
AS31	**Alice Springs**	**24.21**	**222**	*e*P	**P**	**18 51 20.2**	**-1.4**
ASAR	**Alice Springs**	**24.21**	**222**	P	**P**	**18 51 21.5**	**-0.1**
	1.8nm,0.5s,mb3.8,baz=53,slow=9.7,SNR=36						
ASPA	**Alice Springs**	**24.21**	**222**	*e*P	**P**	**18 51 21.4**	**-0.2**
STKA	**Stephens Creek**	**27.13**	**199**	*e*P	**P**	**18 51 49.3**	**+1.3**
	4.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.13**	**199**	P	**P**	**18 51 49.4**	**+1.3**
	7.4nm,1.0s,mb4.2,baz=6.4,slow=7.3,SNR=5.8						
STKA	**Stephens Creek**	**27.13**	**199**	*e*P	**P**	**18 51 49.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.83**	**243**	*e*P	**P**	**18 51 54.4**	**+0.1**
	8.1nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.83**	**243**	P	**P**	**18 51 54.9**	**+0.5**
	3.0nm,0.5s,mb4.2,baz=68,slow=8.3,SNR=20						
VNDA	**Vanda**	**71.45**	**178**	P	**P**	**18 57 25.1**	**-0.4**
	0.4nm,0.7s,baz=352,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**18 58 18.2**	**+0.8**
	0.6nm,1.0s,mb3.5,baz=108,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**18 58 18.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**149.47**	**285**	PKPbc	PKPbc	19 05 55.3	+1.1
	1.8nm,0.6s,baz=34,slow=2.8,SNR=15						

*NEIC **07** 18:47:24.9±1.3, 631S×151.26E, h10km, mb4.3/2, Error ellipse: s-maj=35.5km s-min=16.1km az=117.0*
*IDC **07** 18:47:24.6±1.9, 6.16S×150.98E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, ML2.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/24, Error ellipse: s-maj=57.1km s-min=25.5km az=111.0*
*ISCJB **07** 18:47:26.8±1.3, 63S±02×151.3E±02, h35km, mb3.8/6, Error ellipse: s-maj=36.3km s-min=15.1km az=91.4*
ISC 07 18:47:28.3±1.3, 64S±02×151.3E±02, h35km, n15, σ0.967/14, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.13**	**233**	Pn	**Pn**	**18 48 41.8**	**-0.9**
	1.6nm,0.3s,baz=6.5,slow=12,SNR=3.5						
PMG				Sn	**Sn**	**18 49 41.5**	**+0.8**
	2.7nm,0.3s,baz=356,slow=19,SNR=3.7						
PMG				LR	LR	18 50 22.8	
	comp=Z,779nm,19.9s,baz=137,slow=36						
WRAB	**Tennant Creek**	**21.32**	**229**	*e*P	**P**	**18 52 10.8**	**-1.3**
	5.3nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**21.33**	**229**	*e*P	**P**	**18 52 12.3**	**+0.1**
WB2	**Warramunga Arr**	**21.33**	**229**	*e*P	**P**	**18 52 12.1**	**-0.1**
WRA	**Warramunga Arr**	**21.34**	**229**	P	**P**	**18 52 12.5**	**+0.2**
	2.9nm,0.7s,mb3.7,baz=50,slow=10,SNR=7.8						
AS31	**Alice Springs**	**24.03**	**222**	*e*P	**P**	**18 52 39.4**	**-0.5**
ASAR	**Alice Springs**	**24.03**	**222**	P	**P**	**18 52 40.0**	**0.0**
	1.7nm,0.4s,mb3.8,baz=56,slow=9.0,SNR=11						
ASPA	**Alice Springs**	**24.03**	**222**	*e*P	**P**	**18 52 40.0**	**0.0**
STKA	**Stephens Creek**	**26.98**	**198**	P	**P**	**18 53 07.7**	**+1.0**
	2.3nm,0.9s,mb3.7,baz=8.1,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**26.98**	**198**	P	**P**	**18 53 07.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.65**	**243**	*e*P	**P**	**18 53 12.8**	**+0.1**
	7.6nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.65**	**243**	P	**P**	**18 53 12.6**	**-0.1**
	3.6nm,0.5s,mb4.2,baz=76,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**18 59 37.5**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=100,slow=6.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.35**	**285**	PKPbc	PKPbc	19 07 14.8	+1.3
	2.0nm,0.6s,baz=66,slow=3.0,SNR=14						
TORD	**Torodi Ar. Bea**	**149.35**	**285**	PKPbc	PKPbc	19 07 14.8	+1.3

IDC 07 18:47:30.1±12.0, 594S×15154E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/13, mbtmp4.3/4, Error ellipse: s-maj=203.9km s-min=68.9km az=37.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.75**	**229**	P	P	18 52 23.3	+0.2
	3.0nm,0.6s,baz=52,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**24.46**	**222**	P	P	18 52 50.4	-0.3
	5.1nm,0.6s,baz=58,slow=8.6,SNR=14						
STKA	**Stephens Creek**	**27.43**	**199**	*e*P	P	18 53 17.0	-0.5
	2.2nm,0.6s						
STKA	**Stephens Creek**	**27.43**	**199**	P	P	18 53 17.3	-0.2
	2.9nm,0.6s,baz=6.8,slow=11,SNR=8.1						
FITZ	**Fitzroy Crossi**	**28.01**	**242**	P	P	18 53 24.7	+1.9
	4.1nm,0.7s,baz=59,slow=12,SNR=3.8						

IDC 07 18:54:55.4±1.9, 634S×15130E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/13, mbtmp3.7/6, ML2.5/1, Error ellipse: s-maj=55.5km s-min=25.8km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**233**	Pn	Pn	18 56 15.0	+1.9
	1.1nm,0.3s,baz=0.0,slow=7.9,SNR=7.5						
PMG				Sn	Sn	18 57 13.7	+0.9
	1.8nm,0.3s,baz=356,slow=19,SNR=5.3						
WRA	**Warramunga Arr**	**21.31**	**229**	P	P	18 59 43.8	+0.1
	1.1nm,0.5s,baz=54,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.01**	**222**	P	P	19 00 11.7	-0.1
	0.7nm,0.4s,baz=55,slow=9.0,SNR=34						
ASPA	**Alice Springs**	**24.01**	**222**	*e*P	P	19 00 11.8	0.0
STKA	**Stephens Creek**	**26.98**	**198**	P	P	19 00 38.7	0.0
	2.0nm,0.8s,baz=28,slow=3.0,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P	P	19 00 44.9	+0.4
	2.2nm,0.6s,baz=99,slow=7.8,SNR=6.8						
MKAR	**Makanchi Array**	**80.51**	**319**	P	P	19 07 09.7	+0.4
	0.2nm,0.8s,baz=111,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKPbc	PKPbc	19 14 46.9	+0.8
	0.6nm,0.5s,baz=63,slow=3.0,SNR=11						

*BJI **07** 18:58:49.4, 657S×151.81E, h22km, mB5.3, mb4.6, Ms5.2, Msz5.0*
*NEIC **07** 18:58:52.0±0.6, 639S×151.49E, h10km, mb4.9/12, Error ellipse: s-maj=19.2km s-min=9.6km az=114.0*
*MOS **07** 18:58:53.5±1.1, 644S×151.57E, h33km, mb5.0/7, Error ellipse: s-maj=20.7km s-min=12.9km az=55.0*
*ISCJB **07** 18:58:56.6±3.0, 646S±008×1514E±0.1, h58km±25km, mb4.7/25, MS5.0/3, Error ellipse: s-maj=20.6km s-min=14.1km az=4.5*
*IDC **07** 18:58:59.4±3.2, 634S×151.34E, h67km±26km, mb4.0/7, mb1 4.2/8, mb1mx4.0/13, mbtmp4.0/8, Error ellipse: s-maj=29.0km s-min=16.7km az=123.0*
ISC 07 18:58:53.8±3.0, 645S±008×15162E±010, h23km±21km, h23km±5.7km: pP-P, n52, σ1.913/53, mb4.7/25, MS5.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**236**	P	**Pn**	**19 00 14.0**	**+2.4**
	3.8nm,0.3s,baz=48,slow=10,SNR=20						
PMG				S	**Sn**	**19 01 13.5**	**+1.6**
	6.3nm,0.3s,baz=163,slow=17,SNR=6.8						
PMG	**Port Moresby**	**5.30**	**236**	*e*P	**Pn**	**19 00 12.9**	**+1.3**
PMG				pmax	pmax		
	comp=Z,67nm,0.7s						
PMG	**Port Moresby**	**5.30**	**236**	*e*Pn	**Pn**	**19 00 12.9**	**+1.3**
	comp=Z,67nm,0.7s						
CTAO	**Charters Tower**	**14.52**	**201**	*e*P	**Pn**	**19 02 18.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s						
CTAO	**Charters Tower**	**14.52**	**201**	*e*Pn	**Pn**	**19 02 18.6**	**+0.8**
	comp=Z,12nm,1.0s						
KAKA	**Kakadu**	**19.90**	**250**	*e*P	**Pn**	**19 03 22.1**	**-3.2**
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**21.47**	**230**	*e*P	**P**	**19 03 39.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**21.47**	**230**	*e*Pn	**P**	**19 03 39.5**	**-1.1**
	comp=Z,32nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**21.47**	**230**	*e*P	**P**	**19 03 39.5**	**-1.1**
WRA	**Warramunga Arr**	**21.48**	**230**	P	**P**	**19 03 40.3**	**-0.5**
	comp=Z,6.8nm,0.8s,mb4.0,baz=53,slow=10,SNR=26						
WRA				S	**S**	**19 07 35.7**	**-2.1**
	comp=Z,1.5nm,1.0s,baz=54,slow=19,SNR=4.2						
AS31	**Alice Springs**	**24.14**	**223**	*e*Pn	**P**	**19 04 07.5**	**-0.5**
ASAR	**Alice Springs**	**24.15**	**223**	P	**P**	**19 04 08.0**	**0.0**
	comp=Z,2.4nm,0.6s,mb3.8,baz=28,slow=12,SNR=37						
ASPA	**Alice Springs**	**24.15**	**223**	*e*P	**P**	**19 04 07.8**	**-0.2**
STKA	**Stephens Creek**	**26.97**	**199**	*e*P	**P**	**19 04 27.8**	**-5.8**
	comp=Z,13nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**26.97**	**199**	P	**P**	**19 04 35.2**	**+1.6**
	comp=Z,19nm,1.1s,mb4.6,baz=20,slow=11,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.86**	**243**	*e*P	**P**	**19 04 40.7**	**-0.8**
	comp=Z,15nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.86**	**243**	P	**P**	**19 04 41.0**	**-0.5**
	comp=Z,5.8nm,0.6s,mb4.4,baz=55,slow=8.6,SNR=32						
MBWA	**Marble Bar**	**34.14**	**241**	*e*Pn	**P**	**19 05 43.7**	**+6.7**
	comp=Z,15nm,0.7s,mb5.0						
KSM	**Kuching**	**41.98**	**279**	*e*P	**P**	**19 06 41.7**	**-1.4**
KMI	**Kunming**	**56.96**	**305**	P	**P**	**19 08 39.9**	**+2.7**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
KMI	**Kunming**	**56.96**	**305**	P	**P**	**19 08 39.9**	**+2.7**
	comp=Z,6.0nm,1.0s,mb4.6						
CD2	**Chengdu**	**58.94**	**312**	*e*P	**P**	**19 08 53.0**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.3s						
HHC	**Hu-ho-hao-te**	**59.72**	**326**	*e*P	**P**	**19 08 58.0**	**+1.5**
HHC				XP	sP	19 09 05.6	-1.1
HHC				PCP	PcP	19 09 44.4	+1.1
HHC				PP	PP	19 11 11.2	+2.8
HHC				SCP	ScP	19 13 43.4	+0.7
HHC				PCS	PcS	19 13 46.2	+0.8
HHC				S	**S**	**19 17 07.8**	**+1.8**
HHC				XS	sS	19 17 14.9	-3.2
HHC				SCS	ScS	19 18 44.7	-0.7
HHC				SS	SS	19 21 05.0	+3.1
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,710nm,10.3s						
HHC				LR	LR		
	comp=N,585nm,19.1s,MS4.9						
HHC				LR	LR		
	comp=E,561nm,17.1s,MS4.9						
HHC				LR	LR		
	comp=Z,1μm,19.7s,MS5.0						
LZH	**Lanzhou**	**61.61**	**317**	*e*P	**P**	**19 09 11.5**	**+2.1**
LZH				AP	pP	19 09 22.0	+5.2
LZH				XP	sP	19 09 25.5	+5.9
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,148nm,4.8s						
LZH	**Lanzhou**	**61.61**	**317**	*e*P	**P**	**19 09 11.5**	**+2.1**
LZH				*PP	pP	19 09 22.0	+5.2
LZH				*SP	sP	19 09 25.5	+5.9
LZH				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.3						
LZH	**Lanzhou**	**61.61**	**317**	*e*P	**P**	**19 09 11.5**	**+2.1**
	comp=Z,35nm,1.5s,mb5.3						
LZH				pP	pP	19 09 22.0	+5.2
LZH				sP	sP	19 09 25.5	+5.9
GTA	**Gaotai**	**66.08**	**318**	*e*P	**P**	**19 09 38.6**	**-0.3**
GTA				AP	pP	19 09 45.2	-1.1
GTA				XP	sP	19 09 48.3	-0.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
ZAK	**Zakamensk**	**70.30**	**329**	*e*P	**P**	**19 10 04.6**	**-0.7**
YAK	**Yakutsk**	**70.36**	**349**	*e*P	**P**	**19 10 04.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
YAK	**Yakutsk**	**70.36**	**349**	*e*P	**P**	**19 10 04.9**	**-0.8**
	comp=Z,14nm,1.2s,mb4.8						
VNDA	**Vanda**	**71.23**	**178**	P	**P**	**19 10 11.8**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=336,slow=6.1,SNR=12						
VNDA	**Vanda**	**71.23**	**178**	*e*P	**P**	**19 10 11.3**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0						
VNDA				*e*		19 10 21.0	
GUN	**Gumba**	**71.98**	**302**	*e*P	**P**	**19 10 14.7**	**-0.8**
	comp=Z,14nm,0.7s,mb5.0						
KKN	**Kakani**	**72.45**	**302**	*e*P	**P**	**19 10 17.9**	**-0.4**
	comp=Z,9.2nm,0.7s,mb4.8						
DMN	**Daman**	**72.54**	**301**	*e*P	**P**	**19 10 18.2**	**-0.7**
	comp=Z,11nm,0.6s,mb4.9						
GKN	**Gorkha**	**73.06**	**302**	*e*P	**P**	**19 10 21.0**	**-0.9**
	comp=Z,27nm,1.1s,mb5.1						
KOLN	**Koldanda**	**73.87**	**301**	*e*P	**P**	**19 10 27.0**	**+0.3**
	comp=Z,19nm,0.9s,mb5.0						
BILL	**Bilibino**	**75.04**	**6**	*e*P	**P**	**19 10 33.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BILL	**Bilibino**	**75.04**	**6**	*e*P	**P**	**19 10 33.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.8						
WMQ	**Urumqi**	**76.16**	**318**	P	**P**	**19 10 39.9**	**0.0**
WMQ				AP	pP	19 10 44.9	-2.6
WMQ				XP	sP	19 10 46.9	-3.4
WMQ				PCP	PcP	19 10 52.6	+0.6
WMQ				PP	PP	19 13 32.4	+1.4
WMQ				PPP		19 15 19.4	
WMQ				S	S	19 20 21.2	-1.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,82nm,6.6s						
WMQ				LR	LR		
	comp=N,732nm,21.0s,MS5.0						
WMQ				LR	LR		
	comp=E,425nm,21.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,628nm,22.4s,MS4.9						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**19 11 04.6**	**-0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=98,slow=5.1,SNR=9.9						
ZAL	**Zalesovo**	**81.88**	**327**	P	**P**	**19 11 09.8**	**-1.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=10,slow=4.2,SNR=5.5						
ZAL	**Zalesovo**	**81.88**	**327**	P	**P**	**19 11 09.8**	**-1.5**
KSH	**Kashi**	**83.12**	**311**	*e*P	**P**	**19 11 19.0**	**+1.3**
KSH				*e*AP	pP	19 11 24.9	-0.4
KSH				*e*XP	sP	19 11 28.0	-0.1
KSH				*e*PP	PP	19 14 33.1	+4.3
KSH				*e*PPP		19 16 27.0	
KSH				*e*S	S	19 21 37.0	+0.9
KSH				*e*XS	sS	19 21 47.9	-0.8
KSH				*e*PS		19 22 32.7	
KSH				*e*SS	SS	19 27 06.5	+6.2
KSH				AMB	AMB		
	comp=Z,447nm,4.8s						
KSH				LR	LR		
	comp=Z,441nm,10.2s,MS5.1						
QSPA	**South Pole Qui**	**83.52**	**180**	*e*P	**P**	**19 11 20.4**	**+0.6**
	comp=Z,2.7nm,0.3s,mb4.8						
COLA	**College**	**83.81**	**22**	*e*P	**P**	**19 11 20.5**	**-0.8**
COLA				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
COLA	**College**	**83.81**	**22**	*e*P	**P**	**19 11 20.5**	**-0.7**
	comp=Z,12nm,0.9s,mb5.0						
AAK	**Ala-Archa**	**84.95**	**314**	*e*P	**P**	**19 11 26.2**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**84.95**	**314**	*e*P	**P**	**19 11 26.2**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.7						
DAWY	**Dawson**	**86.77**	**24**	*e*P	**P**	**19 11 37.2**	**+1.2**
GERES	**GERESS Array B**	**124.82**	**327**	PKP	PKPdf	19 17 51.8	+0.1
	comp=Z,0.8nm,0.8s,baz=23,slow

*THR **07** 19:07:12.0±0.4, 3670N×4924E, h14km±5km, ML3.6*
*TEH **07** 19:07:17.5, 3666N×4947E, h4km, Mn3.6*
CSEM 07 19:07:14.9±0.1, 3670N×4950E, h2km, ML3.6, Error ellipse: s-maj=5.4km s-min=1.8km az=33.0, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**1.34**	**165**	*e*Pg	Pg	19 07 39.4	-1.1
THKV	**Tehran--Karaj**	**1.36**	**125**	*e*Pg	Pg	19 07 40.3	-0.7
THKV	comp=E,778nm,0.0s			AML	AML	19 08 00.6	
THKV	comp=N,1μm,0.0s			AML	AML	19 08 01.1	
IMHD	**Mahdasht**	**1.38**	**137**	*e*Pg	Pg	19 07 40.5	-0.9
ASAO	**Ashtian**	**2.19**	**169**	*e*Pg	Pn	19 07 52.8	+0.6
DAMV	**Damavand**	**2.27**	**117**	*e*Pn	Pn	19 07 54.0	+0.6
DAMV	comp=E,502nm,0.4s			AML	AML	19 08 28.2	
DAMV	comp=N,412nm,0.3s			AML	AML	19 08 29.0	
GRMI	**Germi**	**2.46**	**329**	*e*Pn	Pn	19 07 52.4	-3.7
GRMI	comp=N,134nm,0.2s			AML	AML	19 08 27.3	
GRMI	comp=E,195nm,0.6s			AML	AML	19 08 30.0	
IVRN	**Varamin**	**2.48**	**132**	*e*Pn	Pn	19 07 58.4	+2.1
IFIR	**Firoozkooh**	**2.84**	**111**	*e*Pn	Pn	19 08 03.6	+2.4
IAZR	**Azarshahr**	**2.98**	**290**	*e*Pn	Pn	19 08 03.5	+0.4
IKOM	**Komasi**	**2.99**	**213**	*e*Pn	Pn	19 08 04.5	+1.2
ISHM	**Shahmirzad**	**3.19**	**105**	*e*Pn	Pn	19 08 07.9	+1.8
ISFB	**Sefidab**	**3.23**	**136**	*e*Pn	Pn	19 08 08.6	+2.0
IKIA	**Kiasar**	**3.41**	**97**	*e*Pn	Pn	19 08 09.9	+0.8
IKLH	**Kalahroud**	**3.78**	**153**	*e*Pn	Pn	19 08 15.9	+1.8
IANJ	**Anjiloo**	**3.78**	**108**	*e*Pn	Pn	19 08 16.0	+1.8
IPIR	**Pirpir**	**4.17**	**164**	*e*Pn	Pn	19 08 21.3	+1.8
NASN	**Na'in**	**4.75**	**144**	*e*Pn	Pn	19 08 27.2	-0.3

MAN 07 19:08:47.3, 1861N×12071E, h1km, mb3.0, ML4.4, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.30**	**196**	*i*P	Pg	19 08 50.2	-2.9
PIP				*e*S	Sg	19 09 06.5	+10
ABRA	**Dolores**	**0.96**	**180**	*e*P	Pg	19 09 06.2	+0.5
ABRA				*e*S	Sg	19 09 21.3	+3.1
SGCP	**Mt. Cagua**	**1.33**	**106**	*e*P	Pg	19 09 12.3	-0.5
CVP	**Callao Caves**	**1.40**	**130**	*e*P	Pn	19 09 12.0	-1.9
CVP				*i* S	Sg	19 09 34.0	+1.8
CAUP	**Cauayan**	**1.97**	**147**	*e*P	Pn	19 09 24.4	+2.5
PALP	**Palanan**	**2.25**	**133**	*e*P	Pn	19 09 26.5	+0.8
BOLP	**Bolinao**	**2.35**	**199**	*e*P	Pn	19 09 28.8	+1.7
BALP	**Baler**	**2.98**	**164**	*e*P	Pn	19 09 37.1	+1.4

IDC 07 19:09:56.8±7.5, 637S×15145E, h47km±59km, mb3.5/5, mb1 3.7/6, mb1mx3.6/13, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=55.5km s-min=38.3km az=81.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**234**	P	Pn	19 11 12.9	+0.9
PMG	1.9nm,0.3s,baz=43,slow=6.7,SNR=5.9			S	Sn	19 12 11.7	+0.9
KAKA	**Kakadu**	**19.76**	**250**	*e*P	Pn	19 14 23.1	-1.5
WB2	**Warramunga Arr**	**21.39**	**229**	*e*P	P	19 14 40.4	+0.1
WRA	**Warramunga Arr**	**21.40**	**229**	P	P	19 14 40.7	+0.3
ASAR	**Alice Springs**	**24.09**	**223**	P	P	19 15 08.0	+0.2
FITZ	**Fitzroy Crossi**	**27.74**	**243**	*e*P	P	19 15 41.0	+0.3
FITZ	**Fitzroy Crossi**	**27.74**	**243**	P	P	19 15 40.9	+0.2
VNDA	**Vanda**	**71.32**	**178**	P	P	19 21 10.5	-0.9
MKAR	**Makanchi Array**	**80.63**	**319**	P	P	19 22 04.5	+0.1
TORD	**Torodi Ar. Bea**	**149.46**	**285**	PKPbc	PKPbc	19 29 41.9	+1.3

IDC 07 19:12:00.1±2.8, 636S×15144E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, Error ellipse: s-maj=92.1km s-min=27.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**234**	Pn	Pn	19 13 20.5	+1.2
PMG	baz=22,slow=19,SNR=1.9			Sn	Sn	19 14 18.9	-1.2
KAKA	**Kakadu**	**19.77**	**250**	*e*P	Pn	19 16 32.8	-0.3
WB2	**Warramunga Arr**	**21.39**	**229**	*e*P	P	19 16 49.0	-0.3
WRA	**Warramunga Arr**	**21.40**	**229**	P	P	19 16 50.0	+0.5
ASAR	**Alice Springs**	**24.09**	**223**	P	P	19 17 17.2	0.0
FITZ	**Fitzroy Crossi**	**27.74**	**243**	P	P	19 17 51.0	+0.7
MKAR	**Makanchi Array**	**80.62**	**319**	P	P	19 24 14.9	+0.3
TORD	**Torodi Ar. Bea**	**149.46**	**285**	PKPbc	PKPbc	19 31 51.7	+0.5

*IDC **07** 19:13:40.6±1.3, 620S×15145E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.2/13, mbtmp4.2/8, ML2.9/1, Error ellipse: s-maj=38.1km s-min=23.5km az=108.0*
*NEIC **07** 19:13:41.9±0.7, 620S×15148E, h10km, mb4.4/4, Error ellipse: s-maj=18.8km s-min=10.0km az=115.0*
*ISCJB **07** 19:13:44.7±0.9, 628S±0.10×1514E±0.1, h35km, mb4.2/12, Error ellipse: s-maj=21.9km s-min=9.8km az=61.8*
*MOS **07** 19:13:44.8±2.6, 584S×15106E, h33km, mb4.5/1, Error ellipse: s-maj=52.5km s-min=17.2km az=53.3*
ISC 07 19:13:46.4±0.9, 630S±0.10×1514E±0.1, h35km, n24, σ0s70/24, mb4.2/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**234**	Pn	**Pn**	**19 15 02.7**	**+0.5**
PMG	2.4nm,0.3s,baz=63,slow=6.6,SNR=6.0			Sn	**Sn**	**19 16 01.6**	**+0.2**
CTAO	**Charters Tower**	**14.60**	**200**	*e*P	**Pn**	**19 17 19.0**	**+8.6**
CTAO	comp=Z,5.0nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**14.60**	**200**	*e*P	**Pn**	**19 17 19.0**	**+8.6**
KAKA	comp=Z,4.6nm,0.9s **Kakadu**	**19.78**	**250**	*e*P	**Pn**	**19 18 13.6**	**-1.6**
WRAB	comp=Z,9.1nm,0.4s **Tennant Creek**	**21.43**	**229**	*e*P	**P**	**19 18 31.3**	**0.0**
WRAB	comp=Z,12nm,0.9s,mb4.2			pmax	pmax		
WRAB	**Tennant Creek**	**21.43**	**229**	*e*P	**P**	**19 18 31.3**	**0.0**
WB2	comp=Z,12nm,0.9s,mb4.2 **Warramunga Arr**	**21.43**	**229**	*e*P	**P**	**19 18 30.5**	**-0.9**
WRA	**Warramunga Arr**	**21.44**	**229**	P	**P**	**19 18 31.5**	**+0.1**
AS31	comp=Z,7.8nm,0.8s,mb4.1,baz=53,slow=10,SNR=13 **Alice Springs**	**24.13**	**222**	*e*P	**P**	**19 18 59.0**	**+0.1**
ASAR	**Alice Springs**	**24.13**	**222**	P	**P**	**19 18 59.1**	**+0.2**
STKA	comp=Z,2.2nm,0.6s,mb3.8,baz=24,slow=12,SNR=26 **Stephens Creek**	**27.06**	**199**	*e*P	**P**	**19 19 25.9**	**+0.4**
STKA	comp=Z,5.0nm,0.8s,mb4.1 **Stephens Creek**	**27.06**	**199**	P	**P**	**19 19 26.0**	**+0.5**
FITZ	comp=Z,7.2nm,0.9s,mb4.2,baz=4.9,slow=13,SNR=5.7 **Fitzroy Crossi**	**27.76**	**243**	*e*P	**P**	**19 19 32.0**	**+0.2**
FITZ	comp=Z,7.4nm,0.5s,mb4.6 **Fitzroy Crossi**	**27.76**	**243**	P	**P**	**19 19 31.9**	**+0.2**
VNDA	comp=Z,3.8nm,0.5s,mb4.3,baz=67,slow=7.5,SNR=12 **Vanda**	**71.40**	**178**	P	**P**	**19 25 02.6**	**-0.3**
GUN	comp=Z,1.0nm,0.6s,mb3.9,baz=340,slow=7.2,SNR=10 **Gumba**	**71.74**	**302**	*e*P	**P**	**19 25 06.7**	**+1.7**
KKN	**Kakani** comp=Z,1.8nm,0.4s,mb4.3	**72.21**	**302**	*e*P	**P**	**19 25 08.2**	**+0.4**
DMN	**Daman** comp=Z,5.2nm,0.5s,mb4.7	**72.30**	**301**	*e*P	**P**	**19 25 09.3**	**+1.0**
GKN	**Gorkha**	**72.81**	**302**	*e*P	**P**	**19 25 11.8**	**+0.4**
	comp=Z,4.5nm,0.7s,mb4.5						
KOLN	**Koldanda** comp=Z,5.4nm,0.8s,mb4.5	**73.63**	**301**	*e*P	**P**	**19 25 15.6**	**-0.6**
MK31	**Makanchi Array**	**80.56**	**319**	*e*P	**P**	**19 25 54.4**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.8s,mb3.5,baz=88,slow=7.4,SNR=4.5	**80.56**	**319**	P	**P**	**19 25 54.5**	**-0.6**
ZAL	**Zalesovo** comp=Z,0.6nm,0.7s,mb3.6,baz=27,slow=7.4,SNR=3.6	**81.65**	**327**	P	**P**	**19 26 00.2**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,3.4nm,0.7s,baz=72,slow=3.0,SNR=17	**149.43**	**285**	PKPbc	PKPbc	19 33 32.5	+0.8

IDC 07 19:19:30.6±32.0, 1789S×17840W, h581km±288km, mb2.4/2, mb1 2.7/2, mb1mx2.6/12, mbtmp2.4/2, Error ellipse: s-maj=337.9km s-min=81.1km az=122.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.64**	**260**	P	P	19 26 52.8	+0.5
WRA	0.1nm,0.4s,baz=96,slow=7.6,SNR=8.3			PcP	PcP	19 28 22.5	+0.2
ASAR	**Alice Springs**	**44.80**	**254**	P	P	19 26 53.7	+0.1
ASAR	0.6nm,0.6s,baz=86,slow=8.9,SNR=11			PcP	PcP	19 28 22.9	+0.1
GERES	0.3nm,0.4s,baz=100,slow=3.9,SNR=7.2 **GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc	19 38 09.9	-0.4
	0.6nm,0.7s,baz=46,slow=3.9,SNR=4.8						

IDC 07 19:50:15.7±2.8, 648S×15180E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/13, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=111.4km s-min=39.4km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.44**	**237**	Pn	Pn	19 51 39.4	+1.4
PMG	0.4nm,0.3s,baz=126,slow=19,SNR=2.2			Sn	Sn	19 52 41.0	-0.2
WRA	1.2nm,0.3s,baz=58,slow=18,SNR=4.1 **Warramunga Arr**	**21.60**	**230**	P	P	19 55 08.0	+0.9
ASAR	0.4nm,0.6s,baz=55,slow=11,SNR=9.8 **Alice Springs**	**24.25**	**223**	P	P	19 55 33.8	-0.5
TORD	0.5nm,0.8s,baz=57,slow=8.4,SNR=6.4 **Torodi Ar. Bea**	**149.82**	**285**	PKPbc	PKPbc	20 10 08.6	+0.9
	0.7nm,0.6s,baz=72,slow=2.3,SNR=5.2						

IDC 07 19:52:33.3±2.7, 639S×15166E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML2.0/1, Error ellipse: s-maj=111.8km s-min=37.7km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**236**	Pn	Pn	19 53 56.1	+1.4
PMG	0.3nm,0.3s,baz=357,slow=18,SNR=1.8			Sn	Sn	19 54 56.1	-1.2
WRA	1.1nm,0.3s,baz=18,slow=20,SNR=3.2 **Warramunga Arr**	**21.55**	**230**	P	P	19 57 24.4	+0.2
ASAR	0.6nm,0.5s,baz=55,slow=9.6,SNR=5.4 **Alice Springs**	**24.22**	**223**	P	P	19 57 52.1	+0.5
FITZ	0.8nm,0.6s,baz=55,slow=9.2,SNR=7.9 **Fitzroy Crossi**	**27.92**	**243**	P	P	19 58 25.5	+0.4
TORD	1.0nm,0.5s,baz=45,slow=11,SNR=8.6 **Torodi Ar. Bea**	**149.87**	**285**	PKPbc	PKPbc	20 12 25.4	+0.6
	0.4nm,0.6s,baz=72,slow=3.0,SNR=3.6						

*CSEM **07** 19:53:26.8±1.2, 3820N×2657W, h0km±3km, ML2.2, Error ellipse: s-maj=5.6km s-min=1.1km az=37.0, After PDA*
*PDA **07** 19:53:26.8±1.2, 3820N×2657W, h0km±3km, MD2.6, ML2.2, Error ellipse: s-maj=5.6km s-min=1.1km az=37.0*
SVSA 07 19:53:26.8±1.2, 3820N×2657W, h0km±3km, MD2.6, ML2.2, Error ellipse: s-maj=5.6km s-min=1.1km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.65**	**322**	*e*P	Pg	19 53 38.3	-1.0
PFAV				*e*S	Sg	19 53 47.0	-0.8
PFAV	27nm,0.1s						
PFAV	**Pico das Favas**	**0.65**	**322**	*e*P	Pg	19 53 38.3	-1.0
PFAV				*e*S	Sg	19 53 47.0	-0.8
RIB2	**Ribeirinha**	**0.67**	**315**	*e*S	Sg	19 53 47.5	-0.9
RIB2	36nm,0.2s						
SET4	**Mosteiros**	**0.69**	**118**	*e*P	Pg	19 53 38.6	-1.4
SET4				*e*S	Sg	19 53 48.0	-0.9
ADH	**Angra Heroismo**	**0.69**	**311**	*e*P	Pg	19 53 37.9	-2.2
ADH				*e*S	Sg	19 53 47.3	-1.8
SET2	**Ginetes**	**0.70**	**120**	*e*P	Pg	19 53 39.0	-1.2
SET2				*e*S	Sg	19 53 48.2	-1.0
PFET	**Feteiras**	**0.72**	**121**	*e*P	Pg	19 53 39.1	-1.1
PFET				*e*S	Sg	19 53 48.8	-1.2
PVNV	**Vila Nova**	**0.73**	**321**	*e*P	Pg	19 53 39.2	-1.6
PVNV				*e*S	Sg	19 53 48.9	-1.3
PVNV	47nm,0.1s						
PVNV	**Vila Nova**	**0.73**	**321**	*e*P	Pg	19 53 39.2	-1.6
PVNV				*e*S	Sg	19 53 48.9	-1.3
PSAN	**Santo Antonio**	**0.75**	**117**	*e*P	Pg	19 53 39.7	-1.5
PSAN				*e*S	Sg	19 53 49.7	-1.2
PPAD	**Pico dos Padre**	**0.76**	**312**	*e*P	Pg	19 53 39.7	-1.6
PPAD				*e*S	Sg	19 53 49.5	-1.6
PPAD	53nm,0.1s						
PPAD	**Pico dos Padre**	**0.76**	**312**	*e*P	Pg	19 53 39.7	-1.6
PPAD				*e*S	Sg	19 53 49.5	-1.6
PSET	**Sete Cidades**	**0.77**	**119**	*e*P	Pg	19 53 38.8	-2.7
PSET				*e*S	Sg	19 53 49.3	-2.1
PSET	82nm,0.3s						
PSET	**Sete Cidades**	**0.77**	**119**	*e*P	Pg	19 53 38.8	-2.7
PSET				*e*S	Sg	19 53 49.3	-2.1
PBIS	**Biscoitos**	**0.78**	**316**	*e*P	Pg	19 53 39.9	-1.8
PBIS				*e*S	Sg	19 53 49.7	-2.1
PBIS	28nm,0.2s						
PBIS	**Biscoitos**	**0.78**	**316**	*e*P	Pg	19 53 39.9	-1.8
PBIS				*e*S	Sg	19 53 49.7	-2.1
PSBA	**Serra de Santa**	**0.82**	**314**	*e*S	Sg	19 53 50.9	-2.3
PSBA	128nm,0.2s						
CML	**Cha da Macela**	**0.91**	**118**	*e*S	Sg	19 53 53.5	-2.6
PVER	**Pico Vermelho**	**0.92**	**115**	*e*S	Sg	19 53 54.0	-2.5
PVER	15nm,0.1s						
PMAT	**Coroa da Mata**	**0.95**	**113**	*e*S	Sg	19 53 54.2	-3.0
PMAT	39nm,0.2s						
LFA	**Lagoa do Fogo**	**0.96**	**116**	*e*P	Pg	19 53 42.8	-2.3
MESC	**Monte Escuro**	**0.97**	**114**	*e*P	Pg	19 53 42.5	-3.0
MESC				*e*S	Sg	19 53 54.9	-3.2
PRCH	**Ribeira Ch**	**0.98**	**118**	*e*P	Pg	19 53 42.5	-3.1
PRCH				*e*S	Sg	19 53 55.0	-3.3
PRCH	28nm,0.2s						
PRCH	**Ribeira Ch**	**0.98**	**118**	*e*P	Pg	19 53 42.5	-3.1
PRCH				*e*S	Sg	19 53 55.0	-3.3
VIF	**Vila Franca**	**1.00**	**117**	*e*S	Sg	19 53 55.5	-3.4
VIF	14nm,0.2s						
PCNG	**Congro**	**1.02**	**115**	*e*S	Sg	19 53 56.0	-3.6
PFAD	**Fenais da Ajud**	**1.05**	**110**	*e*S	Sg	19 53 57.0	-3.4
FRA1	**Furnas**	**1.06**	**115**	*e*S	Sg	19 53 56.6	-4.2
PID	**Ribeirinha**	**1.25**	**282**	*e*P	Pg	19 53 47.0	-3.7
PID				*e*S	Sg	19 54 01.2	-5.6
PMAN	**Manadas**	**1.27**	**290**	*e*P	Pg	19 53 47.7	-3.5
PMAN				*e*S	Sg	19 54 01.7	-6.0
ROSA	**Rosais**	**1.41**	**292**	*e*P	Pn	19 53 49.9	-3.9
ROSA				*e*S	Sg	19 54 05.4	-6.8
SRBC	**Serra Branca**	**1.43**	**306**	*e*S	Sg	19 54 05.9	-6.7
PICO	**Pico**	**1.49**	**282**	*e*P	Pn	19 53 50.9	-3.9
PICO				*e*S	Sg	19 54 07.2	-7.6
PSMN	**Pico do Norte,**	**1.69**	**135**	*e*S	Sn	19 54 10.3	-10
CALA	**Caldeira**	**1.72**	**284**	*e*S	Sn	19 54 13.5	-7.2
PCED	**Cedros**	**1.73**	**285**	*e*P	Pn	19 53 54.3	-3.8

*NEIC **07** 20:06:41.0±1.4, 563S×15003E, h10km, mb4.1/3, Error ellipse: s-maj=30.2km s-min=15.6km az=93.0*
*ISCJB **07** 20:06:47.1±4.1, 585±0.2×1498E±0.2, h59km±30km, mb3.6/4, Error ellipse: s-maj=36.3km s-min=29.1km az=21.3*
*IDC **07** 20:06:47.4±6.7, 572S×14974E, h43km±52km, mb3.5/5, mb1 3.8/7, mb1mx3.7/14, mbtmp3.7/7, ML3.1/2, Error ellipse: s-maj=54.7km s-min=39.7km az=96.0*
ISC 07 20:06:48.2±3.9, 585±0.2×1499E±0.2, h55km±29km, n14, σ0s83/14, mb3.6/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**217**	P	**Pn**	**20 07 53.7**	**+0.5**
PMG	5.7nm,0.3s,baz=21,slow=9.5,SNR=19			S	**Sn**	**20 08 43.3**	**-0.6**
CTA	7.0nm,0.3s,baz=116,slow=23,SNR=7.7 **Charters Tower**	**14.61**	**194**	P	**Pn**	**20 10 11.2**	**-0.4**
CTAO	0.1nm,0.3s,baz=24,slow=12,SNR=5.4 **Charters Tower**	**14.61**	**194**	*e*P	**Pn**	**20 10 10.9**	**-0.7**
KAKA	6.4nm,0.9s **Kakadu**	**18.51**	**247**	*e*P	**Pn**	**20 11 01.4**	**+0.8**
WRAB	4.7nm,0.8s **Tennant Creek**	**20.60**	**226**	*e*P	**P**	**20 11 22.6**	**-0.2**
WB2	4.7nm,0.5s **Warramunga Arr**	**20.61**	**226**	*e*P	**P**	**20 11 22.6**	**-0.1**
WRA	**Warramunga Arr**	**20.62**	**226**	P	**P**	**20 11 23.1**	**+0.2**
WRA	4.5nm,0.7s,baz=50,slow=10,SNR=41			PcP	PcP	20 15 31.6	0.0
AS31	0.6nm,0.7s,baz=52,slow=2.1,SNR=6.5 **Alice Springs**	**23.47**	**219**	P	**P**	**20 11 51.3**	**-1.6**
ASAR	**Alice Springs**	**23.47**	**219**	P	**P**	**20 11 53.0**	**0.0**
FITZ	0.6nm,0.5s,mb3.3,baz=56,slow=9.1,SNR=9.3 **Fitzroy Crossi**	**26.62**	**241**	*i*P	**P**	**20 12 22.5**	**+1.0**
FITZ	6.2nm,0.9s,mb4.1 **Fitzroy Crossi**	**26.62**	**241**	P	**P**	**20 12 22.3**	**+0.8**
STKA	3.2nm,0.8s,mb3.9,baz=70,slow=7.8,SNR=10 **Stephens Creek**	**27.05**	**196**	P	**P**	**20 12 26.9**	**+1.6**
MKAR	2.4nm,0.8s,mb3.8,baz=20,slow=12,SNR=3.1 **Makanchi Array**	**79.21**	**320**	P	**P**	**20 18 46.4**	**-0.9**
TORD	0.3nm,0.8s,mb3.2,baz=358,slow=30,SNR=3.0 **Torodi Ar. Bea**	**147.82**	**285**	PKPbc	PKPbc	20 26 28.1	+1.2
	1.6nm,0.7s,baz=70,slow=2.3,SNR=15						

*ISCJB **07** 20:11:35.0±0.6, 1146N±004×6484W±003, h51km±12km, Error ellipse: s-maj=6.9km s-min=5.3km az=158.7*
*FUNV **07** 20:11:35.7, 1143N×6487W, h26km, MW3.7*
ISC 07 20:11:35.9±0.9, 1143N±005×6485W±003, h31km±9km, n14, σ0s98/25, 1C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAV	**Isla La Blanqu**	**0.48**	**34**	*e*P	**Pb**	**20 11 45.5**	**-0.5**
IBAV				*e*S	**Sb**	**20 11 52.9**	**-0.1**
PCRV	**Puerto La Cruz**	**1.26**	**170**	*e*P	**Pn**	**20 11 57.5**	**+0.2**
PCRV				*e*S	**Sn**	**20 12 14.9**	**+1.7**
ORCV	**Isla La Orchil**	**1.37**	**286**	*e*P	**Pn**	**20 11 58.8**	**0.0**
ORCV				*e*S	**Sn**	**20 12 16.6**	**+0.7**
BIRV	**Birongo**	**1.68**	**236**	*e*P	**Pn**	**20 12 02.5**	**-0.6**
BIRV				*e*S	**Sn**	**20 12 22.6**	**-0.9**
ITEV	**Isla Los Testi**	**1.69**	**92**	*e*P	**Pn**	**20 12 02.8**	**-0.4**
ITEV				*e*S	**Sn**	**20 12 22.6**	**-1.1**
CRUV	**Carupano**	**1.75**	**115**	*e*P	**Pn**	**20 12 06.2**	**+2.1**
CRUV				*e*S	**Sn**	**20 12 27.0**	**+1.6**
GUNV	**Guanoco**	**2.26**	**124**	*e*P	**Pn**	**20 12 11.7**	**+0.6**
GUNV				*e*S	**Sn**	**20 12 37.9**	**+0.1**
GUIV	**Guiria**	**2.69**	**106**	*e*P	**Pn**	**20 12 16.9**	**-0.1**
GUIV				*e*S	**Sn**	**20 12 48.0**	**-0.6**
ORIV	**Oritupano**	**2.74**	**149**	*e*P	**Pn**	**20 12 17.9**	**+0.2**
ORIV				*e*S	**Sn**	**20 12 48.1**	**-1.5**
GRCU	**Cariacou**	**3.49**	**72**	*e*P	**Pn**	**20 12 27.9**	**0.0**
GRCU				*e*S	**Sn**	**20 13 06.0**	**-2.1**
CAOV	**Caicara del Or**	**4.32**	**200**	*e*P	**Pn**	**20 12 38.2**	**-1.2**
CAOV				*e*S	**Sn**	**20 13 24.4**	**-4.4**
BIM	**Bigot**	**4.80**	**50**	*e*P	**Pn**	**20 12 46.6**	**+0.6**
FDF	**Fort de France**	**4.88**	**47**	*e*P	**Pn**	**20 12 48.0**	**+0.9**
MVM	**Montagne Vaucl**	**4.96**	**51**	*e*P	**Pn**	**20 12 48.7**	**+0.6**

*CSEM **07** 20:15:38.1±0.9, 3713N×2466W, h5km±18km, ML2.5, Error ellipse: s-maj=14.0km s-min=7.2km az=153.0, After PDA*
*PDA **07** 20:15:38.1±0.9, 3713N×2466W, h5km±18km, MD2.4, ML2.5, Error ellipse: s-maj=14.0km s-min=7.2km az=153.0*
SVSA 07 20:15:38.1±0.9, 3713N×2466W, h5km±18km, MD2.4, ML2.5, Error ellipse: s-maj=14.0km s-min=7.2km az=153.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.34**	**249**	*e*P	Pg	20 15 44.1	-0.7
PSMN				*i* S	Sg	20 15 49.2	-0.1
MIRA	**Miradouro**	**0.82**	**323**	*e*P	Pg	20 15 51.3	-2.5
MIRA				*e*S	Sg	20 16 01.4	-3.1
FRA1	**Furnas**	**0.83**	**318**	*e*S	Sg	20 16 01.2	-3.5
PCNG	**Congro**	**0.86**	**318**	*e*P	Pg	20 16 03.1	+8.4
VIF	**Vila Franca**	**0.87**	**315**	*e*S	Sg	20 16 03.0	-3.2
VIF	43nm,0.2s						
PFAD	**Fenais da Ajud**	**0.88**	**324**	*e*S	Sg	20 16 02.6	-3.9
PRCH	**Ribeira Ch**	**0.89**	**313**	*e*S	Sg	20 16 03.1	-3.5
PRCH	53nm,0.1s						
MESC	**Monte Escuro**	**0.91**	**317**	*e*S	Sg	20 16 03.8	-3.6
LFA	**Lagoa do Fogo**	**0.92**	**315**	*e*P	Pg	20 15 53.0	-2.7
PMAT	**Coroa da Mata**	**0.94**	**317**	*e*S	Sg	20 16 04.6	-3.8
PMAT	28nm,0.2s						
CML	**Cha da Macela**	**0.95**	**313**	*e*S	Sg	20 16 04.7	-4.0
PVER	**Pico Vermelho**	**0.95**	**315**	*e*P	Pg	20 16 05.5	+9.1
FAC	**Faja de Cima**	**1.02**	**310**	*e*S	Sg	20 16 06.1	-4.7
PSAN	**Santo Antonio**	**1.11**	**311**	*e*S	Sg	20 16 08.8	-5.1
PFET	**Feteiras**	**1.13**	**308**	*e*S	Sg	20 16 09.0	-5.4
SET2	**Ginetes**	**1.16**	**309**	*e*S	Sg	20 16 09.5	-5.8
PSBA	**Serra de Santa**	**2.67**	**309**	*e*S	Sn	20 16 45.3	-9.1
PSBA	12nm,0.3s						
PID	**Ribeirinha**	**3.04**	**297**	*e*P	Pn	20 16 22.9	-3.9
PMAN	**Manadas**	**3.10**	**300**	*e*S	Sn	20 16 55.8	-9.3
PMAN	6.9nm,0.1s						
ROSA	**Rosais**	**3.25**	**300**	*e*S	Sn	20 16 59.9	-8.8
SRBC	**Serra Branca**	**3.28**	**307**	*e*S	Sn	20 17 00.2	-9.2
PICO	**Pico**	**3.28**	**296**	*e*P	Pn	20 16 26.7	-3.4
PICO				*e*S	Sn	20 17 01.1	-8.4
CALA	**Caldeira**	**3.51**	**296**	*e*S	Sn	20 17 06.8	-8.4
CALA	**Caldeira**	**3.51**	**296**	*e*S	Sn	20 17 06.8	-8.4
PCED	**Cedros**	**3.53**	**296**	*e*P	Pn	20 16 30.4	-3.2

GUC 07 20:26:54.9±0.8, 3314S×7019W, h6km±4km, MD3.7, ML2.2, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.21**	**204**	*i*P	Pg	20 26 59.5	+0.5
FCH				*i* S	Sg	20 27 02.9	+1.1
FCH	comp=E,828nm,0.2s			AML	AML	20 27

*ISCJB **07** 20:51:05.3±4.5, 63S×01×1515E±02, h70km±34km, mb3.8/10, Error ellipse: s-maj=38.8km s-min=22.5km az=17.1*

*IDC **07** 20:51:06.3±7.3, 632S×151.49E, h62km±57km, mb3.6/8, mb1 3.8/9, mb1mx3.7/14, mbtmp3.6/9, ML2.8/1, Error ellipse: s-maj=50.4km s-min=25.6km az=83.0*

ISC 07 20:51:06.5±4.3, 64S±01×1515E±02, h67km±33km, n17, σ0§72/16, mb3.8/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.29**	**235**	P	**Pn**	**20 52 22.9**	**0.0**
	1.9nm,0.3s,baz=10,slow=8.9,SNR=6.1						
PMG				S	**Sn**	**20 53 22.8**	**+0.2**
	5.8nm,0.3s,baz=166,slow=17,SNR=8.5						
WRAB	**Tennant Creek**	**21.47**	**229**	P	**P**	**20 55 49.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**21.47**	**229**	P	**P**	**20 55 49.0**	**-0.5**
WRA	**Warramunga Arr**	**21.48**	**229**	P	**P**	**20 55 48.8**	**-0.8**
	comp=Z,1.7nm,0.8s,mb3.4,baz=58,slow=11,SNR=13						
AS31	**Alice Springs**	**24.16**	**223**	*eP*	**P**	**20 56 15.9**	**-0.5**
ASAR	**Alice Springs**	**24.16**	**223**	P	**P**	**20 56 16.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.6,baz=47,slow=10,SNR=19						
STKA	**Stephens Creek**	**27.05**	**199**	P	**P**	**20 56 44.6**	**+2.2**
	comp=Z,3.3nm,0.8s,mb3.9,baz=37,slow=9.6,SNR=3.7						
STKA	**Stephens Creek**	**27.05**	**199**	P	**P**	**20 56 44.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	**P**	**20 56 49.9**	**+0.4**
	comp=Z,1.8nm,0.4s,mb3.9,baz=55,slow=11,SNR=13						
MBWA	**Marble Bar**	**34.12**	**241**	*eP*	**P**	**20 57 51.6**	**+6.8**
	comp=Z,6.1nm,0.5s,mb4.7						
SONM	**Songino Array**	**66.97**	**329**	P	**P**	**21 01 51.8**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.8,baz=149,slow=4.8,SNR=3.0						
VNDA	**Vanda**	**71.34**	**178**	P	**P**	**21 02 18.3**	**-0.8**
	comp=Z,0.8nm,1.1s,mb3.5,baz=277,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**21 03 13.0**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.2,baz=103,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**21 03 13.0**	**+0.9**
ZAL	**Zalesovo**	**81.74**	**327**	P	**P**	**21 03 17.7**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=342,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.54**	**285**	PKPbc	PKPbc	21 10 49.4	+1.2
	comp=Z,1.8nm,0.5s,baz=85,slow=2.0,SNR=26						
TORD	**Torodi Ar. Bea**	**149.54**	**285**	PKPbc	PKPbc	21 10 49.4	+1.2

*NEIC **07** 20:59:39.5±1.2, 550S×15129E, h10km, mb4.3/4, Error ellipse: s-maj=23.1km s-min=21.7km az=214.0*

*ISCJB **07** 20:59:48.2±3.8, 625S×02×1512E±01, h58km±29km, mb4.0/8, Error ellipse: s-maj=30.4km s-min=21.4km az=6.9*

*IDC **07** 20:59:50.3±5.5, 621S×151.14E, h62km±44km, mb3.8/7, mb1 4.0/8, mb1mx3.8/14, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=34.9km s-min=26.0km az=25.0*

ISC 07 20:59:50.0±3.4, 62S±02×1512E±01, h60km±26km, n19, σ0§65/17, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**231**	P	**Pn**	**21 01 04.6**	**+0.6**
	4.6nm,0.3s,baz=24,slow=8.8,SNR=13						
PMG				S	**Sn**	**21 02 01.4**	**-0.2**
	1.8nm,0.3s,baz=314,slow=24,SNR=7.3						
PMG	**Port Moresby**	**5.11**	**231**	*e*Pn	**Pn**	**21 01 03.9**	**-0.1**
	116nm,1.2s						
KAKA	**Kakadu**	**19.57**	**249**	*eP*	**Pn**	**21 04 14.3**	**-0.5**
	7.1nm,0.6s						
WRA	**Warramunga Arr**	**21.33**	**228**	P	**P**	**21 04 31.6**	**-0.3**
	7.8nm,0.8s,mb4.1,baz=53,slow=11,SNR=42						
DZM	**Mont Dzumac**	**21.64**	**138**	P	**P**	**21 04 35.4**	**+0.2**
	1.8nm,0.7s,mb3.6,baz=332,slow=15,SNR=4.0						
AS31	**Alice Springs**	**24.05**	**222**	*eP*	**P**	**21 04 59.7**	**+0.2**
ASAR	**Alice Springs**	**24.05**	**222**	P	**P**	**21 04 59.6**	**+0.2**
	10nm,0.7s,mb4.3,baz=52,slow=9.3,SNR=88						
STKA	**Stephens Creek**	**27.11**	**198**	P	**P**	**21 05 26.8**	**-0.4**
	4.0nm,0.8s,mb4.0,baz=356,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	*eP*	**P**	**21 05 31.9**	**+0.5**
	13nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	P	**P**	**21 05 31.9**	**+0.5**
	2.8nm,0.6s,mb4.0,baz=42,slow=6.5,SNR=8.6						
KKM	**Kota Kinabalu**	**36.93**	**289**	P	**P**	**21 06 46.9**	**-6.2**
NWAO	**Narrogin (SRO)**	**41.28**	**225**	P	**P**	**21 07 32.5**	**+3.1**
	6.8nm,0.9s,mb4.3						
TLY	**Talaya**	**70.45**	**331**	P	**P**	**21 10 49.5**	**-8.5**
VNDA	**Vanda**	**71.54**	**178**	P	**P**	**21 11 03.8**	**-0.8**
	0.7nm,0.8s,mb3.7,baz=336,slow=10,SNR=4.2						
VNDA	**Vanda**	**71.54**	**178**	*eP*	**P**	**21 11 03.9**	**-0.7**
	1.3nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**21 11 54.1**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=108,slow=4.0,SNR=4.7						
GERES	**GERESS Array B**	**124.33**	**327**	PKP	PKPdf	21 18 42.9	+0.8
	0.3nm,0.5s,baz=40,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.13**	**285**	PKPbc	PKPbc	21 19 32.4	+0.9
	1.1nm,0.6s,baz=84,slow=2.1,SNR=20						
TORD	**Torodi Ar. Bea**	**149.13**	**285**	PKPbc	PKPbc	21 19 32.4	+0.9

IDC 07 21:12:25.2±3.5, 640S×15146E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=123.1km s-min=49.0km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.91**	**342**	LR	LR	21 24 02.3	
	comp=Z,124nm,18.2s,baz=157,slow=33						
WRA	**Warramunga Arr**	**21.39**	**229**	P	P	21 17 14.7	+0.2
	0.5nm,0.7s,baz=56,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**24.08**	**223**	P	P	21 17 43.0	+0.7
	0.5nm,0.5s,baz=57,slow=9.2,SNR=8.4						
FITZ	**Fitzroy Crossi**	**27.74**	**243**	P	P	21 18 15.5	+0.1
	0.8nm,0.8s,baz=54,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.48**	**285**	PKPbc	PKPbc	21 32 17.1	+0.7
	0.3nm,0.7s,baz=103,slow=2.5,SNR=5.8						

IDC 07 21:19:17.3±4.4, 612S×15105E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/12, mbtmp3.2/2, Error ellipse: s-maj=188.6km s-min=52.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.27**	**228**	P	P	21 24 04.9	-0.2
	0.5nm,0.6s,baz=54,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.01**	**222**	P	P	21 24 34.5	+0.8
	0.5nm,0.5s,baz=56,slow=9.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**149.01**	**285**	PKPbc	PKPbc	21 39 07.8	+0.5
	0.5nm,0.9s,baz=52,slow=2.6,SNR=3.6						

*ISCJB **07** 21:21:20.5±0.5, 78S×01×1189E±01, h10km, mb4.4/16, Error ellipse: s-maj=22.8km s-min=8.3km az=111.0*

*IDC **07** 21:21:20.4±0.7, 773S×11883E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML4.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=36.5km s-min=12.2km az=54.0*

*NEIC **07** 21:21:21.6±0.6, 783S×11872E, h10km, mb4.4/4, Error ellipse: s-maj=20.9km s-min=9.8km az=55.0*

ISC 07 21:21:25.0±5.2, 79S±01×1189E±01, h25km±38km, n26, σ1§13/28, mb4.4/16, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.11**	**148**	Pn	**Pn**	**21 24 16.0**	**+0.1**
	0.2nm,0.3s,baz=341,slow=5.4,SNR=5.9						
FITZ				Sn	**Sn**	**21 26 26.1**	**-4.0**
	0.6nm,0.3s,baz=197,slow=19,SNR=7.4						
FITZ				LR	LR	21 29 36.0	
	comp=Z,117nm,20.3s,baz=211,slow=40						
MBWA	**Marble Bar**	**13.23**	**176**	*e*Pn	**Pn**	**21 24 30.3**	**-0.8**
MBWA				*e*Sn	**Sn**	**21 26 47.6**	**-10**
WRA	**Warramunga Arr**	**19.20**	**130**	P	**Pn**	**21 25 46.7**	**-1.2**
	2.3nm,0.3s,baz=306,slow=13,SNR=56						
AS31	**Alice Springs**	**21.31**	**139**	*eP*	**P**	**21 26 10.3**	**+0.5**
ASAR	**Alice Springs**	**21.31**	**139**	P	**P**	**21 26 10.8**	**+0.9**
	10nm,0.3s,mb4.6,baz=316,slow=10,SNR=50						
ASAR				S	**S**	**21 30 10.5**	**+5.2**
	0.5nm,0.6s,baz=312,slow=21,SNR=4.8						
NWAO	**Narrogin (SRO)**	**24.97**	**183**	P	**P**	**21 26 47.8**	**+1.4**
	7.5nm,0.8s,mb4.2,baz=326,slow=7.3,SNR=2.5						
NWAO	**Narrogin (SRO)**	**24.97**	**183**	*eP*	**P**	**21 26 46.3**	**-0.1**
	22nm,1.1s,mb4.6						
CTA	**Charters Tower**	**29.16**	**117**	P	**P**	**21 27 24.2**	**+0.2**
	1.0nm,0.3s,mb4.0,baz=310,slow=16,SNR=4.0						
CTA	**Charters Tower**	**29.16**	**117**	P	**P**	**21 27 24.2**	**+0.2**
STKA	**Stephens Creek**	**31.90**	**142**	P	**P**	**21 27 49.3**	**+1.1**
	3.5nm,0.5s,mb4.4,baz=307,slow=11,SNR=10						
STKA	**Stephens Creek**	**31.90**	**142**	*eP*	**P**	**21 27 48.9**	**+0.6**
GUN	**Gumba**	**47.78**	**319**	*eP*	**P**	**21 30 01.4**	**+1.4**
	18nm,0.7s,mb5.2						
DMN	**Daman**	**48.08**	**318**	*eP*	**P**	**21 30 06.9**	**+4.5**
	17nm,1.0s,mb5.0						
KKN	**Kakani**	**48.09**	**319**	*eP*	**P**	**21 30 04.9**	**+2.5**
	20nm,1.3s,mb5.0						
GKN	**Gorkha**	**48.65**	**318**	*eP*	**P**	**21 30 07.1**	**+0.3**
	9.6nm,0.9s,mb4.8						
KOLN	**Koldanda**	**49.18**	**317**	*eP*	**P**	**21 30 10.8**	**-0.1**
	3.3nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**21 31 52.0**	**-0.3**
	1.3nm,0.6s,mb4.2,baz=143,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**21 31 52.0**	**-0.3**
ZAL	**Zalesovo**	**67.95**	**339**	P	**P**	**21 32 20.1**	**-1.6**
	0.7nm,0.3s,mb4.1,baz=82,slow=1.9,SNR=2.3						
VNDA	**Vanda**	**73.11**	**171**	P	**P**	**21 32 53.7**	**+0.6**
	0.9nm,0.5s,mb3.9,baz=311,slow=6.1,SNR=17						
VNDA	**Vanda**	**73.11**	**171**	*eP*	**P**	**21 32 52.9**	**-0.2**
	2.3nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**73.25**	**332**	P	**P**	**21 32 52.1**	**-1.9**
	0.3nm,0.5s,mb3.4,baz=150,slow=9.6,SNR=3.9						
MATP	**Matopo**	**87.64**	**250**	P	**P**	**21 34 10.7**	**-0.4**
	1.2nm,0.8s,mb4.2,baz=198,slow=3.2,SNR=3.2						
LBTB	**Lobatse**	**89.66**	**245**	P	**P**	**21 34 17.6**	**-3.1**
	3.4nm,1.0s,mb4.6						
SNAA	**Sanae**	**92.04**	**196**	*eP*	**P**	**21 34 32.5**	**+0.8**
	1.1nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**118.13**	**281**	PKP	PKPdf	21 40 08.8	-0.9
	0.3nm,0.6s,baz=96,slow=2.5,SNR=9.4						

KRSC 07 21:30:45.8±0.1, 5019N×15554E, h231km±80km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRL	**Gorelyy**	**2.85**	**33**	P	Pn	21 31 36.8	+1.4
GRL	**Gorelyy**	**2.85**	**33**	P	Pn	21 31 36.8	+1.4
RUS	**Russkaya**	**2.92**	**39**	P	Pn	21 31 37.3	+1.1
RUS				S	S	21 32 16.3	+0.4
RUS	**Russkaya**	**2.92**	**39**	P	Pn	21 31 37.3	+1.1
RUS				S	S	21 32 16.3	+0.4
SDLR	**Sedlovina**	**3.73**	**33**	P	Pn	21 31 47.0	+1.5
SDLR	**Sedlovina**	**3.73**	**33**	P	Pn	21 31 47.0	+1.5
NLC	**Nalytchevo**	**3.81**	**37**	S	S	21 32 33.2	-1.3
NLC	**Nalytchevo**	**3.81**	**37**	S	S	21 32 33.2	-1.3
GNL	**Ganaly**	**3.81**	**22**	P	Pn	21 31 47.5	+1.0
GNL	**Ganaly**	**3.81**	**22**	P	Pn	21 31 47.5	+1.0
SPN	**Mys Shipunski**	**4.03**	**42**	P	Pn	21 31 51.5	+2.4
SPN				S	S	21 32 37.5	-1.8
SPN	**Mys Shipunski**	**4.03**	**42**	P	Pn	21 31 51.5	+2.4
SPN				S	S	21 32 37.5	-1.8
MKZ	**Mys Kozlova**	**5.79**	**39**	P	Pn	21 32 11.9	+1.1
MKZ	**Mys Kozlova**	**5.79**	**39**	P	Pn	21 32 11.9	+1.1
KBTR	**Krutoberegovo**	**7.44**	**33**	P	Pn	21 32 33.1	+1.2
KBTR	**Krutoberegovo**	**7.44**	**33**	P	Pn	21 32 33.1	+1.2

IDC 07 21:34:49.7±3.5, 507S×15139E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=126.8km s-min=46.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.23**	**227**	P	P	21 39 48.0	+0.1
	0.5nm,0.7s,baz=52,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**25.02**	**221**	P	P	21 40 15.7	+0.3
	0.3nm,0.4s,baz=58,slow=9.1,SNR=6.7						
FITZ	**Fitzroy Crossi**	**28.30**	**241**	P	P	21 40 45.6	+0.6
	1.1nm,0.4s,baz=70,slow=10.0,SNR=10						
KSRS	**Korea Array**	**47.62**	**335**	LR	LR	22 00 00.7	
	comp=Z,31nm,20.0s,baz=185,slow=32						
TORD	**Torodi Ar. Bea**	**149.05**	**287**	PKPbc	PKPbc	21 54 40.4	+0.6
	0.4nm,0.7s,baz=79,slow=2.4,SNR=9.2						

*ISCJB **07** 21:36:01.7±5.4, 625S±01×1513E±01, h11km±35km, mb3.8/8, Error ellipse: s-maj=25.8km s-min=14.2km az=88.9*

*IDC **07** 21:36:01.6±1.1, 6.18S×15130E, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/16, mbtmp4.0/9, ML2.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=29.9km s-min=20.9km az=109.0*

ISC 07 21:36:02.7±6.6, 62S±01×1513E±01, h6km±42km, n12, σ0§49/10, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**232**	Pn	**Pn**	**21 37 22.3**	**+0.7**
	1.8nm,0.3s,baz=67,slow=5.8,SNR=7.2						
PMG				Sn	**Sn**	**21 38 22.8**	**+0.3**
	4.0nm,0.3s,baz=152,slow=10,SNR=6.7						
HNR	**Honiara**	**9.13**	**111**	LR	LR	21 40 47.7	
	comp=Z,161nm,19.5s,baz=182,slow=31						
WRA	**Warramunga Arr**	**21.46**	**229**	P	**P**	**21 40 50.9**	**-0.8**
	2.9nm,0.6s,mb3.8,baz=53,slow=10,SNR=16						
DZM	**Mont Dzumac**	**21.53**	**139**	P	**P**	**21 40 52.9**	**+0.4**
	1.7nm,0.5s,mb3.8,baz=270,slow=16,SNR=4.4						
ASAR	**Alice Springs**	**24.17**	**222**	P	**P**	**21 41 18.9**	**-0.7**
	1.3nm,0.5s,mb3.6,baz=59,slow=8.9,SNR=21						
STKA	**Stephens Creek**	**27.16**	**198**	P	**P**	**21 41 46.5**	**-0.2**
	2.5nm,0.5s,mb4.0,baz=5.1,slow=13,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	P	**P**	**21 41 51.9**	**-0.1**
	2.2nm,0.4s,mb4.1,baz=79,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**	**21 48 15.4**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=94,slow=7.3,SNR=5.6						
ZAL	**Zalesovo**	**81.48**	**327**	P	**P**	**21 48 20.4**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=32,slow=6.4,SNR=3.6						
BVAR	**Borovoye Array**	**89.45**	**323**	P	**P**	**21 49 00.9**	**+0.4**
	0.7nm,0.7s,mb4.1,baz=98,slow=6.1,SNR=4.5						
GERES	**GERESS Array B**	**124.42**	**327**	PKP	PKPdf	21 55 03.2	+0.5
	0.2nm,0.3s,baz=29,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.30**	**285**	PKPbc	PKPbc	21 55 52.0	-0.3
	3.0nm,0.7s,baz=72,slow=1.8,SNR=24						

IDC 07 21:50:26.8±8.8, 613S×15106E, h60km±63km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.7/1, Error ellipse: s-maj=60.8km s-min=53.8km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.05**	**230**	P	Pn	21 51 40.5	+0.5
	1.8nm,0.3s,baz=40,slow=12,SNR=7.8						
PMG				S	Sn	21 52 38.4	+1.4
	1.3nm,0.3s,baz=170,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**21.27**	**228**	P	P	21 55 07.5	-0.6
	2.6nm,0.8s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.01**	**222**	P	P	21 55 36.2	+0.4
	1.0nm,0.5s,baz=56,slow=9.4,SNR=22						
STKA	**Stephens Creek**	**27.11**	**198**	P	P	21 56 03.1	-0.7
	3.0nm,0.7s,baz=14,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P	P	21 56 08.2	+0.7
	2.0nm,0.5s,baz=67,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**149.03**	**285**	PKPbc	PKPbc	22 10 09.1	+1.2
	0.3nm,0.4s,baz=60,slow=2.7,SNR=5.9						

*ISCJB **07** 21:56:54.6±0.2, 682N×004×12363E±005, h625km±3km, mb4.5/60, Error ellipse: s-maj=7.3km s-min=5.0km az=129.7*

*BJI **07** 21:56:54.2, 691N×12380E, h616km, mB4.6, mb4.5*

*NEIC **07** 21:56:55.8±0.4, 684N×12356E, h621km±6km, mb4.5/24, Error ellipse: s-maj=7.9km s-min=4.7km az=64.0*

*MOS **07** 21:56:55.3±0.8, 685N×12359E, h639km, mb4.3/17, Error ellipse: s-maj=14.7km s-min=7.6km az=117.8*

*MAN **07** 21:56:55.3, 687N×12364E, h617km, mb3.1, ML4.4, MS4.0*

*IDC **07** 21:56:56.3±0.8, 678N×12355E, h629km±11km, mb3.7/23, mb1 3.7/23, mb1mx3.7/27, mbtmp3.7/23, Error ellipse: s-maj=12.6km s-min=6.1km az=67.0*

ISC 07 21:56:55.7±0.2, 683N±004×12364E±005, h615km±3km, n145, σ0§93/158, mb4.5/60, 20C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**1.42**	**312**	*eP*	**P**	**21 58 09.3**	**-0.1**
BUKP	**Musuan**	**1.75**	**54**	*eP*	**P**	**21 58 11.0**	**+0.6**
DAV	**Davao City (W)**	**1.94**	**83**	*eP*	**P**	**21 58 11.3**	**+0.2**
SNPH	**Sibulan**	**2.52**	**351**	*eP*	**P**	**21 58 12.5**	**-1.1**
MATI	**Mati**	**2.60**	**87**	*eP*	**P**	**21 58 13.4**	**-0.5**
BUTP	**Butuan**	**2.89**	**43**	*eP*	**P**	**21 58 16.5**	**+1.1**
SCPH	**Surigao**	**3.46**	**32⇑**	*eP*	**P**	**21 58 19.3**	**+0.6**
LLP	**Lapu-Lapu**	**3.48**	**5**	*eP*	**P**	**21 58 18.7**	**-0.1**
LLP				*e*S	**S**	**21 59 25.1**	**-1.5**
MSLP	**Maasin**	**3.49**	**20**	*eP*	**P**	**21 58 19.0**	**+0.1**
GUIM	**Jordan**	**3.91**	**345**	*eP*	**P**	**21 58 20.0**	**-1.5**
CUYO	**Cuyo Island**	**4.76**	**327**	*eP*	**P**	**21 58 28.2**	**+0.6**
PPR	**Puerto Princes**	**5.67**	**301⇑**	*iP*	**P**	**21 58 35.0**	**+0.2**
OTRP	**Odiongan**	**5.72**	**344**	*eP*	**P**	**21 58 35.5**	**+0.3**
ENPP	**El Nido**	**6.01**	**317**	*eP*	**P**	**21 58 37.7**	**+0.1**
BATP	**Bataraza**	**6.10**	**289**	*eP*	**P**	**21 58 38.3**	**-0.1**
BUSP	**Coron**	**6.16**	**327**	*eP*	**P**	**21 58 38.9**	**0.0**
TSM	**Tawau**	**6.27**	**247**	P	**P**	**21 58 39.3**	**-0.5**
PVCP	**Virac**	**6.74**	**4**	*eP*	**P**	**21 58 43.4**	**-0.6**
KKM	**Kota Kinabalu**	**7.42**	**264**	P	**P**	**21 58 49.5**	**-0.6**
KKM	**Kota Kinabalu**	**7.42**	**264**	*eP*	**P**	**21 58 49.0**	**-1.0**
LUBP	**Lubang**	**7.62**	**334**	*eP*	**P**	**21 58 52.1**	**+0.1**
TGY	**Tagaytay City**	**7.70**	**340**	P	**P**	**21 58 52.6**	**0.0**
	46nm,0.3s,baz=108,slow=4.4,SNR=9.7						
BALP	**Baler**	**9.08**	**347**	*eP*	**P**	**21 59 04.9**	**-0.8**
BOLP	**Bolinao**	**10.16**	**339**	*eP*	**P**	**21 59 09.1**	**-7.1**
CAUP	**Cauayan**	**10.20**	**350**	*eP*	**P**	**21 59 16.9**	**+0.2**
KSM	**Kuching**	**14.32**	**249⇓**	*iP*	**P**	**21 59 56.7**	**-0.2**
YHNB	**Yeheng**	**17.87**	**353**	*eP*	**P**	**22 00 28.6**	**-0.8**
JOW	**Kunigami**	**20.37**	**12**	P	**P**	**22 00 52.0**	**0.0**
	14nm,0.9s,baz=144,slow=18,SNR=2.0						
KGM	**Kluang**	**20.81**	**258**	P	**P**	**22 00 56.6**	**+0.7**
KAKA	**Kakadu**	**21.30**	**156⇑**	*iP*	**P**	**22 00 59.7**	**-0.6**
	25nm,0.6s,mb5.0						
GUMO	**Guam**	**21.93**	**70**	P	**P**	**22 01 07.2**	**+1.3**
	23nm,0.3s,mb5.3,baz=349,slow=19,SNR=2.6						
IPM	**Ipoh**	**22.62**	**265**	P	**P**	**22 01 14.5**	**+2.4**
KULM	**Kulim**	**22.91**	**267**	P	**P**	**22 01 13.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.86**	**175⇑**	*iP*	**P**	**22 01 31.6**	**-0.2**
	9.4nm,1.0s,mb4.4						
FITZ				*e*S	**S**	**22 05 09.6**	**-3.5**
FITZ	**Fitzroy Crossi**	**24.86**	**175**	P	**P**	**22 01 31.7**	**-0.1**
	3.0nm,0.3s,mb4.3,baz=7.5,slow=8.3,SNR=55						
FITZ				ScP	ScP	22 07 25.9	-1.3
	2.7nm,0.9s,baz=4.8,slow=2.6,SNR=5.5						
PSI	**Prapat**	**24.95**	**262**	P	**P**	**22 01 32.7**	**+0.1**
	11nm,0.6s,mb4.7,baz=87,slow=5.8,SNR=14						
PSI	**Prapat**	**24.95**	**262**	P	**P**	**22 01 32.7**	**+0.1**
NJ2	**Nanjing**	**25.48**	**351**	*eP*	**P**	**22 01 36.2**	**-1.1**
NJ2				S	**S**	**22 05 21.5**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,140nm,4.8s						
CM31	**Chiang Mai Arr**	**26.68**	**298**	*eP*	**P**	**22 01 48.7**	**+0.9**
	comp=Z,10nm,0.8s,mb4.5						
CBIJ	**Chichi jima**	**26.77**	**39**	P	**P**	**22 01 48.5**	**-0.1**
	comp=Z,58nm,0.5s,mb5.5,baz=247,slow=13,SNR=7.5						
CHTO	**Chiang Mai**	**26.82**	**299⇓**	*iP*	**P**	**22 01 49.3**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**26.82**	**299⇓**	*iP*	**P**	**22 01 49.3**	**+0.4**
	comp=Z,15nm,1.0s,mb4.6						
KMI	**Kunming**	**27.02**	**315**	P	**P**	**22 01 51.6**	**+0.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
KMI	**Kunming**	**27.02**	**315**	P	**P**	**22 01 51.6**	**+0.8**
	comp=Z,8.0nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**28.08**	**188**	*eP*	**P**	**22 01 59.4**	**-0.6**
	comp=Z,12nm,0.9s,mb4.5						
PMG	**Port Moresby**	**28.45**	**124**	P	**P**	**22 02 03.7**	**+0.6**
	comp=Z,36nm,0.9s,mb5.0,baz=312,slow=5.4,SNR=16						
PMG	**Port Moresby**	**28.45**	**124**	*eP*	**P**	**22 02 03.4**	**+0.2**
PMG				pmax	pmax		
	comp=Z,39nm,0.8s						
PMG	**Port Moresby**	**28.45**

STKA	**Stephens Creek**	**42.14**	**157**	P	**P**	**22 03 56.7**	**+0.8**
	comp=Z,18nm,0.5s,mb4.9,baz=330,slow=7.4,SNR=52						
STKA	**Stephens Creek**	**42.14**	**157**	⇑*i*P	**P**	**22 03 56.4**	**+0.5**
GKN	**Gorkha**	**42.48**	**305**	*e*P	**P**	**22 03 58.5**	**0.0**
	comp=Z,9.8nm,0.5s,mb4.6						
PALK	**Pallekele**	**42.60**	**273**	*e*P	**P**	**22 03 59.5**	**0.0**
	comp=Z,13nm,1.0s,mb4.4						
KOLN	**Koldanda**	**43.24**	**304**	*e*P	**P**	**22 04 05.2**	**+0.7**
	comp=Z,34nm,0.3s,mb5.3						
SONM	**Songino Array**	**43.42**	**343**	P	**P**	**22 04 06.7**	**+0.8**
	comp=Z,2.9nm,0.5s,mb4.0,baz=167,slow=8.7,SNR=4.8						
HYB	**Hyderabad**	**45.21**	**288**	*i* P	**P**	**22 04 19.5**	**0.0**
HYB	**Hyderabad**	**45.21**	**288**	*e*P	**P**	**22 04 19.5**	**0.0**
ARMA	**Armidale**	**45.74**	**146**	⇑*i*P	**P**	**22 04 25.7**	**+2.1**
TRD	**Trivandrum**	**46.27**	**275**	*e*P	**P**	**22 04 27.7**	**+0.1**
TRD				AMb	AMB	22 04 29.8	
	comp=Z,22nm,1.0s,mb4.7						
BHPL	**Bhopal**	**47.28**	**295**	*e*P	**P**	**22 04 35.0**	**-0.1**
BHPL				AMb	AMB	22 04 36.7	
	comp=Z,25nm,1.1s,mb4.7						
TLY	**Talaya**	**47.66**	**343**	*e*P	**P**	**22 04 38.8**	**+0.8**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
TLY	**Talaya**	**47.66**	**343**	*e*P	**P**	**22 04 38.8**	**+0.9**
	comp=Z,5.0nm,0.6s,mb4.2						
CNB	**Canberra Magne**	**48.43**	**152**	*e*P	**P**	**22 04 44.4**	**+0.8**
	comp=Z,14nm,0.8s,mb4.5						
WMQ	**Urumqi**	**48.44**	**325**	⇑*i*P	**P**	**22 04 45.0**	**+1.3**
WMQ				PCP	PcP	22 05 59.2	+1.5
WMQ				AP	pP	22 06 34.6	+0.7
WMQ				PP	PP	22 06 48.0	+2.9
WMQ				XP	sP	22 07 39.5	-1.8
WMQ				S	**S**	**22 11 01.6**	**+1.2**
WMQ				XS	sS	22 14 20.0	+0.2
WMQ				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,121nm,6.0s						
KAD	**Karad**	**49.34**	**287**	*e*P	**P**	**22 04 49.1**	**-1.2**
POO	**Poona**	**49.79**	**288**	*ex*	**P**	**22 04 50.0**	**-3.6**
AJM	**Ajmer**	**50.48**	**299**	*e*P	**P**	**22 04 58.0**	**-0.6**
DZM	**Mont Dzumac**	**50.83**	**126**	P	**P**	**22 05 03.2**	**+2.1**
	comp=Z,10nm,0.5s,mb4.5,baz=253,slow=8.8,SNR=28						
THN	**Thein Dam**	**51.26**	**306**	*e*P	**P**	**22 05 03.1**	**-1.1**
MK31	**Makanchi Array**	**53.27**	**326**	⇓*i*P	**P**	**22 05 19.0**	**+0.4**
MK31				*e*		22 06 14.8	
MK31				*e**PP	pP	22 07 12.8	+0.6
MK31	**Makanchi Array**	**53.27**	**326**	⇓*i*P	**P**	**22 05 19.0**	**+0.4**
MK31				*e*PcP	PcP	22 06 14.8	-1.2
MK31				*e*pP	pP	22 07 12.8	+0.6
MK31				*e*ScP	ScP	22 09 12.9	-2.5
MKAR	**Makanchi Array**	**53.27**	**326**	P	**P**	**22 05 19.0**	**+0.4**
	comp=Z,17nm,0.5s,mb4.6,baz=121,slow=8.1,SNR=323						
MKAR				PcP	PcP	22 06 15.3	-0.6
	comp=Z,2.3nm,0.6s,baz=114,slow=4.6,SNR=6.8						
MKAR				ScP	ScP	22 09 13.4	-2.0
	comp=Z,2.1nm,0.8s,baz=119,slow=6.5,SNR=8.5						
MKAR				S	**S**	**22 12 05.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=127,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**53.27**	**326**	P	**P**	**22 05 19.0**	**+0.4**
MKAR						22 06 15.3	
MKAR				S	**S**	**22 12 05.5**	**+0.4**
MKAR	**Makanchi Array**	**53.27**	**326**	P	**P**	**22 05 19.0**	**+0.4**
MKAR				PcP	PcP	22 06 15.3	-0.6
MKAR				ScP	ScP	22 09 13.4	-2.0
MKAR				S	**S**	**22 12 05.5**	**+0.4**
YAK	**Yakutsk**	**55.26**	**3**	*e*P	**P**	**22 05 31.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
YAK	**Yakutsk**	**55.26**	**3**	*e*P	**P**	**22 05 31.6**	**-0.9**
	comp=Z,11nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**55.40**	**318**	P	**P**	**22 05 34.2**	**+0.8**
	SNR=12						
KBK	**Karagaybulak**	**55.71**	**318**	P	**P**	**22 05 36.5**	**+0.9**
	SNR=8.8						
UCH	**Uchtor**	**55.82**	**317**	P	**P**	**22 05 38.0**	**+1.7**
	SNR=23						
AAK	**Ala-Archa**	**56.00**	**318**	P	**P**	**22 05 38.5**	**+0.9**
	SNR=5.7						
AAK	**Ala-Archa**	**56.00**	**318**	⇑*e*P	**P**	**22 05 37.2**	**-0.4**
AAK	**Ala-Archa**	**56.00**	**318**	*e*P	**P**	**22 05 36.9**	**-0.7**
	comp=Z,4.9nm,0.9s,mb3.7						
USP	**Ospenovka**	**56.27**	**318**	P	**P**	**22 05 39.9**	**+0.5**
	SNR=15						
AML	**Almayashu**	**56.34**	**317**	P	**P**	**22 05 41.2**	**+1.4**
	SNR=17						
ZAL	**Zalesovo**	**56.45**	**334**	P	**P**	**22 05 39.8**	**-0.8**
	comp=Z,2.1nm,0.8s,mb3.5,baz=354,slow=6.4,SNR=13						
EKS2	**Erkin-Say**	**56.50**	**317**	P	**P**	**22 05 42.0**	**+1.0**
	SNR=18						
NVS	**Novosibirsk**	**57.74**	**334**	*e*P	**P**	**22 05 47.9**	**-1.5**
NVS				*e*S	**S**	**22 12 57.9**	**-4.8**
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,12nm,1.3s,mb3.9						
NVS				smax			
	comp=N,19nm,2.1s						
NVS				smax			
	comp=E,13nm,1.8s						
BRVK	**Borovoye**	**63.13**	**327**	*e*P	**P**	**22 06 24.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
BRVK	**Borovoye**	**63.13**	**327**	*e*P	**P**	**22 06 24.3**	**-0.4**
	comp=Z,20nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**63.23**	**328**	*e*P	**P**	**22 06 24.6**	**-0.9**
	comp=Z,6.9nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**63.78**	**327**	⇓*i*P	**P**	**22 06 28.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**63.78**	**327**	⇓*i*P	**P**	**22 06 28.4**	**-0.5**
	comp=Z,15nm,0.7s,mb4.4						
TIXI	**Tiksi**	**64.83**	**2**	⇑*e*P	**P**	**22 06 34.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
BILL	**Bilibino**	**67.40**	**16**	⇑*e*P	**P**	**22 06 51.9**	**+0.6**
BILL				*e*		22 09 28.7	
BILL				*e*S	S	22 15 01.7	+1.8
BILL				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.0						
AKTK	**Aktyubinsk**	**69.33**	**321**	P	**P**	**22 07 02.5**	**-0.4**
AKTO	**Aktyubinsk**	**69.33**	**321**	P	**P**	**22 07 02.5**	**-0.4**
	comp=Z,8.9nm,0.7s,mb4.3,baz=99,slow=8.1,SNR=40						
ARU	**Arti**	**70.69**	**328**	⇓*i*P	**P**	**22 07 09.2**	**-1.8**
ARU				*e*S	S	22 15 36.8	-0.6
ARU				*e*SS	SS	22 20 23.3	-3.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
ARU	**Arti**	**70.69**	**328**	*e*P	**P**	**22 07 10.0**	**-1.0**
	comp=Z,11nm,0.7s,mb4.5						
SOC	**Sochi**	**80.93**	**313**	*i* P	**P**	**22 08 01.7**	**-5.6**
OBN	**Obninsk**	**82.77**	**325**	⇓*e*P	**P**	**22 08 14.6**	**-2.0**
OBN				*e*S	S	22 17 37.3	-7.5
OBN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
OBN	**Obninsk**	**82.77**	**325**	*e*P	**P**	**22 08 15.5**	**-1.1**
	comp=Z,14nm,0.6s,mb4.7						
JOF	**Joensuu**	**85.03**	**333**	*e*p	**P**	**22 08 24.2**	**-3.5**
	comp=Z,5.4nm,0.6s,mb4.3						
JOF	**Joensuu**	**85.03**	**333**	*e*P	**P**	**22 08 24.2**	**-3.5**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
MAW	**Mawson**	**85.60**	**200**	P	**P**	**22 08 28.8**	**-1.6**
	comp=Z,1.0nm,0.9s,mb3.4,baz=345,slow=4.7,SNR=3.5						
BRTR	**Keskin Array B**	**85.68**	**309**	P	**P**	**22 08 29.6**	**-1.2**
	comp=Z,2.2nm,0.8s,mb3.9,baz=124,slow=5.0,SNR=8.2						
ARCES	**ARCESS Array B**	**86.49**	**340**	P	**P**	**22 08 32.6**	**-2.0**
	comp=Z,3.2nm,0.9s,mb4.0,baz=76,slow=5.1,SNR=5.7						
KMBO	**Kilima Mbogo**	**86.54**	**268**	*e*P	**P**	**22 08 33.9**	**-0.9**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**86.54**	**268**	*e*P	**P**	**22 08 33.9**	**-0.9**
	comp=Z,3.4nm,1.0s,mb4.0						
VNDA	**Vanda**	**86.88**	**172**	P	**P**	**22 08 35.5**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.7,baz=320,slow=6.1,SNR=12						
KAF	**Kangasniemi**	**87.44**	**332**	*e*p	**P**	**22 08 33.9**	**-5.1**
AKASG	**Malin Array Be**	**87.56**	**321**	P	**P**	**22 08 37.7**	**-1.9**
	comp=Z,1.2nm,0.6s,mb3.8,baz=67,slow=4.4,SNR=6.0						
AKASG	**Malin Array Be**	**87.56**	**321**	P	**P**	**22 08 37.7**	**-1.9**
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**22 08 38.5**	**-1.6**
	comp=Z,0.9nm,0.5s,mb3.8,baz=60,slow=4.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**119.02**	**289**	PKP	PKPdf	22 14 35.6	-0.1
	comp=Z,1.5nm,0.7s,baz=58,slow=1.9,SNR=16						

*BJI **07** 22:08:55.5, 620S×1513**0**E, h26km, mb4.8, Ms4.5, Msz4.2*
*MOS **07** 22:08:55.8±0.9, 622S×1514**3**E, h33km, mb4.8/4, Error ellipse: s-maj=18.7km s-min=11.9km az=60.4*
*ISCJB **07** 22:08:56.7±2.0, 624S±009×1513**8**E±0.0**0**7, h41km±18km, mb4.5/17, MS3.8/13, Error ellipse: s-maj=15.7km s-min=11.1km az=136.8*
*NEIC **07** 22:08:56.6±0.4, 6.18S×1513**5**E, mb4.8/5, Error ellipse: s-maj=10.8km s-min=7.8km az=121.0*
*IDC **07** 22:08:59.4±3.1, 6.25S×1514**1**E, h51km±25km, mb4.0/7, mb1 4.2/9, mb1mx4.0/15, mbtmp4.0/9, ML3.4/2, MS3.8/14, Ms1 3.8/14, ms1mx3.6/23, Error ellipse: s-maj=30.1km s-min=16.1km az=127.0*

ISC 07 22:08:58.9±1.4, 623S±008×15141E±007, h45km±13km, h27km±3.8km: pP-P, n48, σ0°96/41, mb4.5/17, MS3.8/13, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**233**	P		**Pn**		**22 10 16.2**	**+1.3**
	5.2nm,0.3s,baz=65,slow=7.8,SNR=17								
PMG				S		**Sn**		**22 11 15.9**	**+1.6**
	6.5nm,0.3s,baz=306,slow=13,SNR=3.9								
PMG	**Port Moresby**	**5.26**	**233**	*e*Pn		**Pn**		**22 10 15.4**	**+0.4**
PMG				*e*Sn		**Sn**		**22 11 14.4**	**+0.1**
HNR	**Honiara**	**9.04**	**111**	*e*P		**Pn**		**22 11 06.7**	**-0.1**
CTA	**Charters Tower**	**14.66**	**199**	P		**Pn**		**22 12 21.9**	**-1.5**
	0.2nm,0.3s,baz=66,slow=20,SNR=2.0								
CTA				LR		LR		22 17 22.4	
	comp=Z,341nm,19.4s,baz=25,slow=34								
CTAO	**Charters Tower**	**14.66**	**199**	*e*P		**Pn**		**22 12 23.5**	**+0.1**
KAKA	**Kakadu**	**19.78**	**250**	⇓*i*P		**Pn**		**22 13 24.8**	**-2.2**
	24nm,0.4s								
GUMO	**Guam**		**20.73**	**342**	LR	LR		22 20 44.6	
	comp=Z,112nm,19.7s,MS3.2,baz=177,slow=34								
DZM	**Mont Dzumac**	**21.43**	**139**	LR		LR		22 20 53.2	
	comp=Z,571nm,19.6s,MS4.0,baz=358,slow=33								
WRA	**Warramunga Arr**	**21.46**	**229**	P		**P**		**22 13 42.6**	**-0.9**
	12nm,0.8s,mb4.3,baz=54,slow=11,SNR=37								
WRA				S		**S**		**22 17 39.9**	**+1.0**
	0.2nm,0.4s,baz=171,slow=36,SNR=5.4								
AS31	**Alice Springs**	**24.16**	**222**	*e*P		**P**		**22 14 10.0**	**-0.7**
ASAR	**Alice Springs**	**24.16**	**222**	P		**P**		**22 14 11.2**	**+0.4**
	5.0nm,0.7s,mb4.0,baz=26,slow=13,SNR=52								
ASAR				LR		LR		22 24 42.7	
	comp=Z,118nm,18.0s,MS3.4,baz=50,slow=39								
STKA	**Stephens Creek**	**27.11**	**199**	*e*P		**P**		**22 14 37.8**	**+0.3**
	5.6nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**27.11**	**199**	P		**P**		**22 14 37.6**	**+0.1**
	5.7nm,0.5s,mb4.3,baz=8.2,slow=13,SNR=9.2								
STKA				LR		LR		22 23 51.3	
	comp=Z,158nm,21.9s,MS3.5,baz=22,slow=33								
STKA	**Stephens Creek**	**27.11**	**199**	*e*P		**P**		**22 14 38.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.77**	**243**	*e*P		**P**		**22 14 43.4**	**0.0**
	12nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**27.77**	**243**	P		**P**		**22 14 43.2**	**-0.2**
	5.9nm,0.6s,mb4.4,baz=67,slow=8.3,SNR=27								
FITZ				LR		LR		22 26 06.2	
	comp=Z,136nm,19.2s,MS3.5,baz=58,slow=37								
MBWA	**Marble Bar**	**34.06**	**241**	*e*P		**P**		**22 15 39.5**	**+0.7**
MBWA				*e*		pP		22 15 46.5	-4.5
TAU	**Tasmania Unive**	**36.71**	**185**	*e*P		**P**		**22 16 02.5**	**+1.0**
RAO	**Raoul Island**	**36.91**	**132**	LR		LR		22 27 00.8	
	comp=Z,185nm,20.8s,MS3.9,baz=325,slow=29								
AFI	**Afiamalu**	**37.00**	**105**	LR		LR		22 28 25.6	
	comp=Z,126nm,18.1s,MS3.8,baz=131,slow=32								
KKM	**Kota Kinabalu**	**37.18**	**288**	P		**P**		**22 16 04.7**	**-0.9**
MJAR	**Matsushiro Arr**	**44.31**	**345**	LR		LR		22 32 21.6	
	comp=Z,214nm,21.3s,MS4.0,baz=165,slow=32								
KSRS	**Korea Array**	**48.67**	**335**	LR		LR		22 35 38.3	
	comp=Z,62nm,19.5s,MS3.6,baz=335,slow=33								
LZH	**Lanzhou**	**61.30**	**317**	*e*P		**P**		**22 19 14.5**	**+4.8**
LZH				AP		pP		22 19 22.5	-0.1
LZH				XP		sP		22 19 28.0	+0.2
LZH				AMB		AMB			
	comp=Z,16nm,1.5s,mb4.9								
LZH	**Lanzhou**	**61.30**	**317**	*e*P		**P**		**22 19 14.5**	**+4.8**
	comp=Z,16nm,1.5s,mb4.9								
LZH				pP		pP		22 19 22.5	-0.1
LZH				sP		sP		22 19 28.0	+0.2
SONM	**Songino Array**	**66.80**	**329**	LR		LR		22 45 13.2	
	comp=Z,77nm,20.1s,MS3.9,baz=172,slow=32								
JIRN	**Jiri**	**71.34**	**302**	*e*P		**P**		**22 20 15.4**	**+1.4**
	comp=Z,2.0nm,0.3s,mb4.5								
VNDA	**Vanda**	**71.46**	**178**	P		**P**		**22 20 14.3**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=342,slow=9.4,SNR=6.9								
VNDA	**Vanda**	**71.46**	**178**	*e*P		**P**		**22 20 13.6**	**-1.1**
VNDA				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VNDA	**Vanda**	**71.46**	**178**	*e*P		**P**		**22 20 13.6**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7								
GUN	**Gumba**	**71.68**	**302**	*e*P		**P**		**22 20 14.8**	**-1.2**
	comp=Z,8.3nm,0.6s,mb4.9								
KKN	**Kakani**	**72.15**	**302**	*e*P		**P**		**22 20 19.5**	**+0.7**
	comp=Z,7.4nm,0.8s,mb4.7								
DMN	**Daman**	**72.25**	**301**	*e*P		**P**		**22 20 21.0**	**+1.6**
	comp=Z,6.7nm,0.5s,mb4.8								
GKN	**Gorkha**	**72.76**	**302**	*e*P		**P**		**22 20 21.1**	**-1.3**
	comp=Z,38nm,1.3s,mb5.2								
KOLN	**Koldanda**	**73.57**	**301**	*e*P		**P**		**22 20 27.1**	**-0.1**
	comp=Z,24nm,1.2s,mb5.0								
BILL	**Bilibino**	**74.84**	**6**	P		**P**		**22 20 35.5**	**+0.9**
BILL				pmax		pmax			
	comp=Z,3.0nm,0.3s,mb4.7								
BILL	**Bilibino**	**74.84**	**6**	P		**P**		**22 20 35.5**	**+0.9**
	comp=Z,3.1nm,0.3s,mb4.7								
MKAR	**Makanchi Array**	**80.49**	**319**	P		**P**		**22 21 06.2**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.7,baz=103,slow=5.5,SNR=8.3								
MKAR				LR		LR		22 55 23.9	
	comp=Z,69nm,18.8s,MS4.0,baz=264,slow=35								
ZAL	**Zalesovo**	**81.58**	**327**	P		**P**		**22 21 12.0**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=332,slow=6.7,SNR=3.5								
ZAL				LR		LR		22 58 00.9	
	comp=Z,84nm,20.7s,MS4.1,baz=36,slow=36								
COLA	**College**	**83.69**	**22**	*e*P		**P**		**22 21 22.4**	**-0.4**
COLA				*e*		pP		22 21 33.0	-3.3
COLA				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.7								
COLA	**College**	**83.69**	**22**	*e*P		**P**		**22 21 22.4**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.7								
COLA				*e*		pP		22 21 33.0	-3.3
QSPA	**South Pole Qui**	**83.74**	**180**	P		**P**		**22 21 22.5**	**-0.6**
EGAK	**Eagle**	**86.21**	**23**	*e*P		**P**		**22 21 36.6**	**+1.1**
	comp=Z,6.7nm,0.9s,mb4.9								
EGAK				*e*pP		pP		22 21 44.9	-4.1
EGAK				*e*sP		sP		22 21 48.5	-5.6
DAWY	**Dawson**	**86.65**	**24**	*e*P		**P**		**22 21 38.2**	**+0.5**
CHKZ	**Chkalovo**	**89.54**	**324**	P		**P**		**22 21 49.8**	**-1.6**
NEW	**Newport**	**95.58**	**42**	LR		LR		23 00 39.5	
	comp=Z,127nm,18.5s,MS4.4,baz=94,slow=32								
GERES	**GERESS Array B**	**124.52**	**327**	PKP	PKPdf			22 27 52.9	-0.3
	comp=Z,0.3nm,0.7s,baz=337,slow=23,SNR=2.9								
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	PKPbc			22 28 43.4	+0.5
	comp=Z,3.1nm,0.7s,baz=88,slow=1.6,SNR=22								

IDC 07 22:11:15.2±13.0, 1384S×16340E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, ML3.7/1, MS4.1/3, Ms1 4.1/3, ms1mx3.2/25, Error ellipse: s-maj=239.1km s-min=43.1km az=40.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.68**	**161**	Pn		Pn		22 13 22.2	+0.2
	0.9nm,0.3s,baz=189,slow=19,SNR=9.6								
STKA	**Stephens Creek**	**26.85**	**224**	P		P		22 16 57.3	0.0
	1.2nm,0.5s,baz=41,slow=9.3,SNR=2.5								
WRA	**Warramunga Arr**	**28.44**	**254**	P		P		22 17 11.8	+0.2
	0.7nm,0.4s,baz=84,slow=9.0,SNR=4.6								
ASAR	**Alice Springs**	**29.54**	**246**	P		P		22 17 22.2	+0.9
	1.0nm,0.5s,baz=70,slow=9.8,SNR=4.4								
LPIG	**La Paz**	**92.24**	**66**	LR		LR		22 56 54.1	
	comp=Z,80nm,19.2s,baz=4.9,slow=30								
SNAA	**Sanae**	**94.19**	**184**	LR		LR		23 07 30.5	
	comp=Z,48nm,18.7s,baz=204,slow=36								
PDAR	**Pinedale Array**	**97.12**	**48**	LR		LR		23 06 45.6	
	comp=Z,109nm,18.2s,baz=165,slow=34								

IDC 07 22:20:18.8±2.3, 623S×15129E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML2.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/21, Error ellipse: s-maj=68.7km s-min=36.3km az=127.0, New Britain region

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

PMG	**Port Moresby**	**5.17**	**232**	Pn		Pn		22 21 39.2	+1.9
	1.2nm,0.3s,baz=5.7,slow=10,SNR=3.0								
PMG				Sn		Sn		22 22 39.2	+1.5
	1.1nm,0.3s,baz=174,slow=22,SNR=3.2								
PMG				LR		LR		22 23 53.1	
	comp=Z,68nm,19.6s,baz=306,slow=41								
WRA	**Warramunga Arr**	**21.38**	**229**	P		P		22 25 08.2	+0.4
	1.9nm,0.6s,baz=54,slow=10,SNR=9.3								
ASAR	**Alice Springs**	**24.09**	**222**	P		P		22 25 36.0	+0.2
	1.2nm,0.5s,baz=56,slow=9.1,SNR=15								
STKA	**Stephens Creek**	**27.08**	**198**	P		P		22 26 03.0	-0.1
	3.6nm,0.9s,baz=346,slow=4.2,SNR=3.2								
FITZ	**Fitzroy Crossi**	**27.66**	**242**	P		P		22 26 08.0	-0.3
	1.7nm,0.6s,baz=83,slow=11,SNR=6.6								
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	PKPbc			22 40 10.4	+1.1
	0.4nm,0.6s,baz=55,slow=3.0,SNR=10.0								

*IDC **07** 22:30:37.8±1.6, 362S×13490E, h0km, mb4.1/1, mb1 4.2/5, mb1mx3.9/13, mbtmp4.0/5, ML3.9/3, Error ellipse: s-maj=62.0km s-min=24.0km az=73.0*
*ISCJB **07** 22:30:40.3±0.8, 369S±009×1351E±0.1, h35km, mb4.3/4, Error ellipse: s-maj=18.0km s-min=12.9km az=142.3*
*NEIC **07** 22:30:42.6±0.7, 357S×13509E, h35km, mb4.1/3, Error ellipse: s-maj=18.9km s-min=12.0km az=56.0*

ISC 07 22:30:42.3±0.8, 372S±009×1350E±01, h35km, n13, σ0°83/14, mb4.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**13.29**	**116**	Pn		**Pn**		**22 33 47.7**	**-0.8**
WRA	**Warramunga Arr**	**16.14**	**182**	Pn		**Pn**		**22 34 25.3**	**-1.1**
	0.3nm,0.3s,baz=4.7,slow=13,SNR=4.8								
WRA				Sn		**Sn**		**22 37 12.5**	**-12**
	0.2nm,0.3s,baz=8.5,slow=23,SNR=3.9								
FITZ	**Fitzroy Crossi**	**17.00**	**212**	P		**Pn**		**22 34 36.1**	**-1.3**
	0.3nm,0.3s,baz=37,slow=12,SNR=9.9								
CTA	**Charters Tower**	**19.60**	**147**	P		**Pn**		**22 35 10.3**	**+1.3**
	0.4nm,0.3s,baz=327,slow=11,SNR=9.5								
CTA	**Charters Tower**	**19.60**	**147**	P		**Pn**		**22 35 10.3**	**+1.3**
CTAO	**Charters Tower**	**19.60**	**147**	*e*P		**Pn**		**22 35 10.3**	**+1.3**
	4.7nm,0.6s								
AS31	**Alice Springs**	**19.86**	**183**	*e*P		**Pn**		**22 35 12.7**	**+0.6**
ASAR	**Alice Springs**	**19.86**	**183**	P		**Pn**		**22 35 12.3**	**+0.2**
	0.7nm,0.3s,baz=8.9,slow=11,SNR=53								
MBWA	**Marble Bar**	**22.85**	**219**	*e*P		**P**		**22 35 43.5**	**+1.1**
	34nm,1.4s,mb4.6								
MK31	**Makanchi Array**	**68.39**	**324**	*e*P		**P**		**22 41 39.9**	**-0.5**
MKAR	**Makanchi Array**	**68.39**	**324**	P		**P**		**22 41 40.4**	**0.0**
	1.1nm,0.5s,mb4.1,baz=112,slow=8.4,SNR=20								
CHKZ	**Chkalovo**	**78.20**	**327**	*e*P		**P**		**22 42 38.5**	**+0.4**
	0.3nm,0.3s,mb3.7								
MAW	**Mawson**	**79.83**	**202**	*e*P		**P**		**22 42 54.1**	**+7.0**
	13nm,0.8s,mb4.9								

*CSEM **07** 22:36:21.0, 3602N×2238E, h26km, MD3.7/6, After ATH*
*NEIC **07** 22:36:21.0, 3602N×2238E, h26km, MD3.6(ATH), After ATH.*

ATH 07 22:36:21.0, 3602N×2238E, h26km±22km, MD3.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.59**	**64**	*e*PN		Pn		22 36 33.0	-0.7
VLI	**Veliai**	**0.83**	**33**	*e*PN		Pn		22 36 37.6	+0.6
ITM	**Ithomi**	**1.21**	**343**	*e*PN		Pn		22 36 41.8	-0.5
VAM	**Vamos**	**1.60**	**112**	*e*PN		Pn		22 36 49.8	+2.2
RLS	**Riolos of

FINES	**FINESS Array B**	**150.16**	**304**	PKPbc	PKPbc	23	15	20.6 +1.1
	2.1nm,1.0s,baz=141,slow=12,SNR=3.8							
GERES	**GERESS Array B**	**151.22**	**274**	PKPbc	PKPbc	23	15	21.3 -0.7
	0.9nm,0.8s,baz=127,slow=2.0,SNR=5.6							
ARCES	**ARCESS Array B**	**151.83**	**321**	PKPbc	PKPbc	23	15	24.4 +1.0
	8.7nm,1.1s,baz=41,slow=8.3,SNR=3.8							

CSEM ***07*** *23:09:20.9, 67.19N×2071E, h1km, ML3.2, Mining explosion. After UPP*

UPP ***07*** *23:09:20.9, 67.19N×2071E, h1km, ML3.2, Mining explosion.*

HEL 07 23:09:21.4±0.0, 6718N×2070E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**220**	*i* P	Pg	23 09 22.8	-0.1
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	23 09 35.5	-1.0
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	23 09 37.2	-0.9
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	23 09 37.2	-0.9
	baz=104						
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	23 09 38.3	-1.1
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	23 09 38.7	-1.1
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	23 09 39.9	-1.3
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	23 09 52.1	-0.5
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	23 09 54.4	+0.3
KIF				*e*S	Sn	23 10 18.4	+0.5
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	Pn	23 09 55.8	+0.2
LILU	**Lilltraesk**	**1.94**	**191**	P	Pn	23 09 55.8	+0.3
	baz=13						

IDC 07 23:10:26.6±3.7, 618S×15117E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=136.7km s-min=49.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.32**	**229**	P	P	23 15 14.5	-0.5
	1.4nm,0.6s,baz=53,slow=10.0,SNR=6.8						
ASAR	**Alice Springs**	**24.05**	**222**	P	P	23 15 43.5	+0.1
	0.7nm,0.7s,baz=57,slow=8.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	P	P	23 16 16.4	+1.0
	1.4nm,0.6s,baz=85,slow=9.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.15**	**285**	PKPbc	PKPbc	23 30 17.6	+0.7
	0.5nm,0.8s,baz=54,slow=3.0,SNR=5.8						

NIED ***07*** *23:14:00, 39.70N×14260E, h35km, Mw3.9 Best double couple: M0 7.05000×10^14 NP1:ϕ=253.00000°, δ=77.00000°, λ=149.00000°. NP2:ϕ=351.00000°, δ=60.00000°, λ=15.00000°.*

NEIC ***07*** *23:14:04.3±3.6, 4048N×14275E, h36km±32km, mb3.5/1, Error ellipse: s-maj=39.6km s-min=22.1km az=91.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.

ISCJB ***07*** *23:14:08.1±1.0, 3971N±004×14270E±008, h33km, mb3.9/3, Error ellipse: s-maj=8.8km s-min=6.1km az=171.7*

JMA ***07*** *23:14:08.5±0.1, 3971N×14264E, h31km±2km, M3.9*

JMA Felt I J1.

ISC 07 23:14:08.9±1.4, 3971N±004×14263E±009, h29km±7km, n17, σ0°83/27, mb3.9/3, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.63**	**291**	⇓P	**Pb**	**23 14 21.1**	**-0.4**
JTH				S	**Sb**	**23 14 30.3**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.64**	**258**	⇓P	**Pb**	**23 14 21.1**	**-0.6**
MIYJ				S	**Sb**	**23 14 29.6**	**-0.7**
OFUJ	**Ofunato**	**0.98**	**230**	⇑P	**Pn**	**23 14 26.1**	**-0.6**
OFUJ				S	**Sn**	**23 14 38.5**	**-1.1**
JKZ	**Kuzumaki**	**1.04**	**285**	⇓P	**Pn**	**23 14 27.5**	**-0.1**
JKZ				S	**Sn**	**23 14 40.8**	**-0.3**
JOM	**Ohasama**	**1.06**	**257**	⇓P	**Pn**	**23 14 27.9**	**0.0**
JOM				S	**Sn**	**23 14 41.9**	**+0.2**
JANG	**Nango**	**1.08**	**308**	⇓P	**Pn**	**23 14 27.2**	**-1.0**
JMK	**Ichinoseki**	**1.33**	**236**	⇑P	**Pn**	**23 14 31.7**	**+0.1**
JMK				S	**Sn**	**23 14 48.4**	**0.0**
JIO	**Ouri**	**1.61**	**219**	⇑P	**Pn**	**23 14 35.2**	**-0.2**
JIO				S	**Sn**	**23 14 54.7**	**-0.4**
JAH	**Hinai**	**1.61**	**288**	P	**Pn**	**23 14 36.5**	**+1.1**
JTM	**Tenmabayashi**	**1.61**	**312**	P	**Pn**	**23 14 35.5**	**+0.1**
JTM				S	**Sn**	**23 14 55.7**	**+0.5**
MAJO	**Matsushiro**	**4.71**	**229**	*e*Pn	**Pn**	**23 15 21.0**	**+3.0**
	13nm,0.4s						
MAJO				*e*Sn	**Sb**	**23 16 36.8**	**+10**
MAT	**Matsushiro**	**4.71**	**229**	P	**Pn**	**23 15 20.7**	**+2.6**
MAT				*e*S	**Sb**	**23 16 28.3**	**+1.2**
TATO	**Taipei**	**23.05**	**237**	P	**P**	**23 19 02.9**	**-9.0**
YHNB	**Yeheng**	**23.34**	**236**	*e*P	**P**	**23 19 07.0**	**-7.9**
CHKZ	**Chkalovo**	**49.22**	**312**	*e*P	**P**	**23 22 45.4**	**-9.2**
	0.3nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**59.85**	**189**	P	**P**	**23 24 11.2**	**-0.6**
	1.8nm,0.7s,mb4.2,baz=10.0,slow=7.2,SNR=8.5						
ASAR	**Alice Springs**	**63.57**	**189**	P	**P**	**23 24 36.7**	**-0.2**
	0.8nm,0.7s,mb3.9,baz=6.3,slow=5.4,SNR=7.4						

IDC 07 23:17:12.1±2.8, 626S×15126E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, MS3.3/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=70.8km s-min=44.8km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.34**	**229**	P	P	23 22 01.2	+0.6
	2.3nm,0.9s,baz=52,slow=9.9,SNR=7.9						
ASAR	**Alice Springs**	**24.04**	**222**	P	P	23 22 28.4	-0.5
	1.1nm,0.7s,baz=56,slow=8.8,SNR=7.5						
STKA	**Stephens Creek**	**27.04**	**198**	P	P	23 22 56.1	+0.2
	2.0nm,0.7s,baz=357,slow=18,SNR=2.6						
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P	P	23 23 02.1	+0.8
	1.5nm,0.6s,baz=70,slow=8.8,SNR=6.9						
FITZ				LR	LR	23 34 30.1	
	comp=Z,15nm,21.4s,baz=334,slow=38						
YKA	**Yellowknife Ar**	**97.43**	**28**	LR	LR	00 07 15.2	
	comp=Z,66nm,21.8s,baz=200,slow=31						
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	PKPbc	23 37 03.4	+0.8
	0.5nm,0.6s,baz=54,slow=2.8,SNR=7.8						

IDC ***07*** *23:33:21.7±2.2, 629S×15122E, h0km, mb4.1/4, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, ML2.9/2, Error ellipse: s-maj=57.9km s-min=34.5km az=121.0*

NEIC ***07*** *23:33:22.4±1.0, 626S×15132E, h10km, mb4.0/2, Error ellipse: s-maj=20.4km s-min=11.7km az=100.0*

ISCJB ***07*** *23:33:23.2±6.1, 63S±02×1512E±02, h23km±45km, mb4.0/5, Error ellipse: s-maj=35.3km s-min=19.7km az=100.9*

ISC 07 23:33:23.9±5.5, 63S±02×1513E±02, h16km±37km, n12, σ0°33/12, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**232**	Pn	**Pn**	**23 34 40.4**	**+0.5**
	2.3nm,0.3s,baz=96,slow=13,SNR=4.3						
PMG				Sn	**Sn**	**23 35 38.6**	**0.0**
	2.2nm,0.3s,baz=169,slow=12,SNR=3.4						
CTA	**Charters Tower**	**14.58**	**199**	Pn	**Pn**	**23 36 49.0**	**-0.4**
	0.0nm,0.3s,baz=45,slow=10.0,SNR=3.0						
CTAO	**Charters Tower**	**14.58**	**199**	*e*Pn	**Pn**	**23 36 49.5**	**+0.1**
KAKA	**Kakadu**	**19.62**	**250**	*e*P	**Pn**	**23 37 52.3**	**-0.7**
	3.7nm,0.5s						
WB2	**Warramunga Arr**	**21.32**	**229**	*e*P	**P**	**23 38 10.1**	**+0.1**
WRA	**Warramunga Arr**	**21.33**	**229**	P	**P**	**23 38 10.2**	**+0.1**
	3.4nm,0.7s,mb3.8,baz=54,slow=10,SNR=19						
ASAR	**Alice Springs**	**24.04**	**222**	P	**P**	**23 38 37.8**	**-0.3**
	2.2nm,0.5s,mb3.8,baz=56,slow=9.0,SNR=35						
STKA	**Stephens Creek**	**27.04**	**198**	P	**P**	**23 39 05.3**	**0.0**
	2.6nm,0.9s,mb3.8,baz=49,slow=11,SNR=5.4						
FITZ	**Fitzroy Crossi**	**27.62**	**242**	*e*P	**P**	**23 39 10.8**	**+0.3**
	5.3nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.62**	**242**	P	**P**	**23 39 11.0**	**+0.5**
	3.8nm,0.7s,mb4.1,baz=80,slow=8.0,SNR=18						
BRVK	**Borovoye**	**89.55**	**323**	*e*P	**P**	**23 46 20.5**	**+0.1**
	0.7nm,0.5s,mb4.2						
TORD	**Torodi Ar. Bea**	**149.25**	**285**	PKPbc	PKPbc	23 53 12.9	+1.3
	1.0nm,0.6s,baz=60,slow=3.1,SNR=16						

NEIC ***07*** *23:51:30.6±0.8, 6.14S×151.51E, h10km, mb4.2/1, Error ellipse: s-maj=22.6km s-min=12.3km az=130.0*

IDC ***07*** *23:51:32.0±3.1, 6.18S×151.15E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=127.7km s-min=38.1km az=129.0*

ISCJB ***07*** *23:51:34.9±1.6, 62S±02×1512E±02, h35km, mb3.6/3, Error ellipse: s-maj=29.3km s-min=17.3km az=75.6*

ISC 07 23:51:34.9±1.1, 62S±02×1514E±01, h35km, n11, σ0°89/11, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.27**	**233**	Pn	**Pn**	**23 52 50.5**	**-0.7**
	0.7nm,0.3s,baz=296,slow=9.8,SNR=2.5						
PMG				Sn	**Sn**	**23 53 49.2**	**-1.5**
	1.1nm,0.3s,baz=348,slow=22,SNR=3.1						
CTAO	**Charters Tower**	**14.67**	**199**	Pn	**Pn**	**23 55 00.1**	**+0.2**
WB2	**Warramunga Arr**	**21.47**	**229**	*e*P	**P**	**23 56 20.6**	**+0.3**
WRA	**Warramunga Arr**	**21.48**	**229**	P	**P**	**23 56 21.0**	**+0.7**
	0.9nm,0.5s,mb3.3,baz=52,slow=9.7,SNR=7.3						
ASAR	**Alice Springs**	**24.18**	**222**	P	**P**	**23 56 48.5**	**+0.6**
	0.8nm,0.5s,mb3.4,baz=56,slow=8.8,SNR=13						
FITZ	**Fitzroy Crossi**	**27.78**	**243**	*e*P	**P**	**23 57 21.1**	**+0.7**
	2.6nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.78**	**243**	P	**P**	**23 57 20.9**	**+0.5**
	1.2nm,0.5s,mb3.8,baz=85,slow=8.6,SNR=8.3						
KKM	**Kota Kinabalu**	**37.18**	**288**	*e*P	**P**	**23 58 42.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**41.42**	**226**	P	**P**	**23 59 18.9**	**+1.0**
HON	**Honolulu**	**56.66**	**60**	*e*P	**P**	**00 01 12.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	PKPbc	00 11 23.1	+3.0
	0.2nm,0.6s,baz=56,slow=2.2,SNR=5.6						

BJI ***08*** *00:04:44.9, 621S×151.13E, h22km, mB5.1, mb4.7, Ms4.6, Msz4.3*

IDC ***08*** *00:04:45.4±0.6, 586S×150.81E, h0km, mb4.7/11, mb1 4.8/14, mb1mx4.7/17, mbtmp4.7/14, ML3.8/3, MS4.4/25, Ms1 4.4/25, ms1mx4.3/34, Error ellipse: s-maj=21.7km s-min=10.5km az=122.0*

NEIC ***08*** *00:04:46.6±0.1, 588S×150.95E, h10km, mb4.9/20, MS4.8/3, Error ellipse: s-maj=8.0km s-min=4.1km az=111.0*

GCMT ***08*** *00:04:46.6±0.2, 634S×151.15E, h22km, MW5.2/78, Moment Tensor Solution. s51,c79; s78,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.42±.23; Mθθ-5.48±.15; Mϕϕ0.06±.14; Mrθ3.84±.24; Mϕθ-0.82±.10; Mϕr0.88±.26; Best double couple: M0 6.77400×10^16 NP1:ϕ=265.00000°, δ=27.00000°, λ=95.00000°. NP2: ϕ=79.00000°, δ=63.00000°, λ=87.00000°. Principal axes: T 6.6900, Plg72.0000°, Azm343.0000°; N 0.1700, Plg2.0000°, Azm80.0000°; P -6.8570, Plg18.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***08*** *00:04:48.5±0.3, 599S±004×15102E±005, h33km, mb4.7/31, MS4.5/28 Error ellipse: s-maj=7.3km s-min=5.5km az=59.3*

MOS ***08*** *00:04:50.1±0.8, 593S×150.71E, h33km, mb5.0/14, Error ellipse: s-maj=13.5km s-min=8.6km az=77.8*

ISC 08 00:04:47.8±2.3, 595S±004×15102E±006, h15km±14km, n192, σ1°31/96, mb4.7/31, MS4.5/28, 5C-13D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**228**	Pn	**Pn**	**00 06 04.3**	**0.0**
	6.1nm,0.3s,baz=44,slow=10,SNR=27						
PMG				Sn	**Sn**	**00 07 01.2**	**-2.1**
	40nm,0.3s,baz=291,slow=19,SNR=8.8						
PMG				LR	LR	00 07 52.6	
	comp=Z,2μm,19.1s,baz=39,slow=37						
PMG	**Port Moresby**	**5.14**	**228**	P	**Pn**	**00 06 04.3**	**0.0**
PMG						00 07 01.3	
HNR	**Honiara**	**9.50**	**112**	Pn	**Pn**	**00 07 04.6**	**+0.6**
	11nm,0.3s,baz=252,slow=3.5,SNR=3.6						
HNR				LR	LR	00 10 05.3	
	comp=Z,2μm,21.6s,baz=355,slow=33						
CTA	**Charters Tower**	**14.80**	**198**	*e*P	**Pn**	**00 08 16.6**	**+0.1**
	21nm,1.0s						
CTA				*e*S	**Sn**	**00 11 08.1**	**+7.9**
CTA	**Charters Tower**	**14.80**	**198**	Pn	**Pn**	**00 08 16.4**	**-0.1**
	0.2nm,0.3s,baz=28,slow=14,SNR=7.5						
CTA				LR	LR	00 13 17.8	
	comp=Z,2μm,21.4s,baz=18,slow=35						
CTA	**Charters Tower**	**14.80**	**198**	*e*P	**Pn**	**00 08 16.6**	**+0.1**
CTA				*e*S	**Sn**	**00 11 08.1**	**+7.9**
CTA				pmax	pmax		
	comp=Z,21nm,1.0s						
CTAO	**Charters Tower**	**14.80**	**198**	*e*P	**Pn**	**00 08 16.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,58nm,1.3s						
CTAO	**Charters Tower**	**14.80**	**198**	*e*P	**Pn**	**00 08 16.9**	**+0.4**
	comp=Z,58nm,1.3s						
KAKA	**Kakadu**	**19.52**	**249**	*e*P	**Pn**	**00 09 14.2**	**-1.6**
	comp=Z,28nm,0.4s						
GUMO	**Guam**	**20.35**	**343**	LR	LR	00 15 44.3	
	comp=Z,779nm,18.3s,MS4.1,baz=121,slow=33						
WRAB	**Tennant Creek**	**21.35**	**228**	*e*P	**P**	**00 09 33.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,41nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**21.35**	**228**	*e*P	**P**	**00 09 33.9**	**-0.5**
	comp=Z,41nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**21.36**	**228**	*e*P	**P**	**00 09 33.7**	**-0.8**
WB2				*e*S	**S**	**00 13 23.9**	**-7.1**
WRA	**Warramunga Arr**	**21.36**	**228**	P	**P**	**00 09 34.2**	**-0.3**
	comp=Z,36nm,0.7s,mb4.8,baz=52,slow=11,SNR=79						
WRA				S	**S**	**00 13 27.8**	**-3.4**
	comp=Z,14nm,1.3s,baz=56,slow=20,SNR=12						
WRA				ScP	ScP	00 17 15.3	+0.7
	comp=Z,1.7nm,0.9s,baz=50,slow=2.7,SNR=5.0						
WRA				LR	LR	00 18 12.2	
	comp=Z,815nm,18.3s,MS4.2,baz=50,slow=38						
WRA	**Warramunga Arr**	**21.36**	**228**	P	**P**	**00 09 34.2**	**-0.4**
WRA				S	**S**	**00 13 27.8**	**-3.4**
DZM	**Mont Dzumac**	**21.89**	**139**	*e*P	**P**	**00 09 39.6**	**-0.5**
DZM	**Mont Dzumac**	**21.89**	**139**	P	**P**	**00 09 39.5**	**-0.7**
	comp=Z,26nm,1.0s,mb4.6,baz=336,slow=8.9,SNR=22						
DZM				LR	LR	00 17 20.5	
	comp=Z,2μm,18.5s,MS4.5,baz=117,slow=34						
AS31	**Alice Springs**	**24.12**	**221**	*e*P	**P**	**00 10 03.4**	**+0.5**
AS31				*e*S	**S**	**00 14 22.9**	**+2.8**
ASAR	**Alice Springs**	**24.12**	**221**	P	**P**	**00 10 02.9**	**0.0**
	comp=Z,29nm,0.8s,mb4.8,baz=55,slow=9.5,SNR=260						
ASAR				S	**S**	**00 14 25.4**	**+5.2**
	comp=Z,8.6nm,1.1s,baz=38,slow=20,SNR=12						
ASAR				ScP	ScP	00 17 22.7	+0.9
	comp=Z,1.5nm,0.8s,baz=42,slow=3.0,SNR=6.5						
ASAR				LR	LR	00 19 28.0	
	comp=Z,1μm,19.6s,MS4.4,baz=55,slow=37						
ASPA	**Alice Springs**	**24.12**	**221**	*e*P	**P**	**00 10 03.4**	**+0.5**
ASPA				*e*S	**S**	**00 14 22.9**	**+2.8**
ARMA	**Armidale**	**24.35**	**179**	*e*P	**P**	**00 10 03.9**	**-1.1**
ARMA				*e*S	**S**	**00 14 27.0**	**+3.2**
STKA	**Stephens Creek**	**27.26**	**198**	*e*P	**P**	**00 10 31.9**	**+0.5**
	comp=Z,30nm,1.0s,mb4.8						
STKA				*e*S	**S**	**00 15 24.8**	**+15**
STKA	**Stephens Creek**	**27.26**	**198**	P	**P**	**00 10 32.6**	**+1.2**
	comp=Z,38nm,0.9s,mb4.9,baz=6.0,slow=9.4,SNR=13						
STKA				LR	LR	00 21 09.4	
	comp=Z,1μm,20.4s,MS4.4,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**27.56**	**242**	*e*P	**P**	**00 10 34.8**	**+0.7**
	comp=Z,31nm,0.8s,mb5.0						
FITZ				*e*S	**S**	**00 15 12.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**27.56**	**242**	P	**P**	**00 10 34.1**	**0.0**
	comp=Z,8.2nm,0.7s,mb4.5,baz=85,slow=8.2,SNR=35						
FITZ				LR	LR	00 22 46.2	
	comp=Z,652nm,18.4s,MS4.2,baz=251,slow=39						
MBWA	**Marble Bar**	**33.87**	**240**	*e*P	**P**	**00 11 32.7**	**+3.0**
	comp=Z,17nm,1.2s,mb4.8						
RAO	**Raoul Island**	**37.38**	**132**	LR	LR	00 25 06.7	
	comp=Z,380nm,20.2s,MS4.2,baz=345,slow=32						
RAO	**Raoul Island**	**37.38**	**132**	P	**P**	**00 12 00.5**	**+0.6**
JOW	**Kunigami**	**39.34**	**327**	LR	LR	00 25 10.5	
	comp=Z,420nm,20.4s,MS4.3,baz=161,slow=31						
URZ	**Urewera**	**39.94**	**147**	LR	LR	00 25 59.4	
	comp=Z,552nm,21.5s,MS4.4,baz=267,slow=32						
KLBR	**Kellerberrin**	**40.24**	**226**	*e*P	**P**	**00 12 29.8**	**+5.9**
	comp=Z,55nm,1.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**41.33**	**225**	LR	LR	00 30 15.5	
	comp=Z,977nm,18.1s,MS4.7,baz=317,slow=37						
RPZ	**Rata Peaks**	**41.54**	**158**	LR	LR	00 26 48.7	
	comp=Z,921nm,20.1s,MS4.7,baz=300,slow=32						
MUN	**Mundaring**	**41.56**	**227**	*e*P	**P**	**00 12 36.7**	**+1.9**
YHNB	**Yeheng**	**41.95**	**318**	*e*P	**P**	**00 12 39.7**	**+1.7**
MAJO	**Matsushiro**	**43.94**	**345**	P	**P**	**00 12 52.1**	**-2.0**
KSRS	**Korea Array**	**48.26**	**335**	P	**P**	**00 13 28.6**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=148,slow=9.8,SNR=5.5						
KSRS				LR	LR	00 32 18.2	
	comp=Z,253nm,19.9s,MS4.2,baz=135,slow=34						
BJI	**Beijing**	**55.89**	**328**	*e*P	**P**	**00 14 26.4**	**+1.5**
BJI				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.7						
BJI				LR	LR		
	comp=N,250nm,14.8s,MS4.5						
BJI				LR	LR		
	comp=E,171nm,16.0s,MS4.5						
BJI				LR	LR		
	comp=Z,281nm,25.0s						
BJI	**Beijing**	**55.89**	**328**	*e*P	**P**	**00 14 26.4**	**+1.5**
	comp=Z,14nm,1.6s,mb4.7						
BJI				S	**S**	**00 22 24.3**	**+12**
BJI				LR	LR		
	comp=Z,280nm,25.0s,MS4.2						
HHC	**Hu-ho-hao-te**	**58.97**	**326**	*e*P	**P**	**00 14 48.2**	**+1.6**
HHC				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,147nm,6.5s						
PPT	**Papeete**	**59.08**	**107**	*e*S	**S**	**00 22 49.5**	**-4.3**
	comp=Z,390nm,25.5s						
PPT				*e*LQ		00 29 42.2	
	comp=Z,707nm,29.5s						
PPT				*e*LR	LR	00 32 15.9	
	comp=Z,162nm,25.5s						
PPT	**Papeete**	**59.08**	**107**	LR	LR	00 35 43.3	
	comp=Z,146nm,18.4s,MS4.1,baz=289,slow=31						
TBI	**Tubuai**	**59.71**	**113**	*e*S	**S**	**00 22 58.2**	**-3.8**
	comp=Z,242nm,25.5s						
TBI				*e*LQ		00 30 13.6	
	comp=Z,713nm,32.0s						
TBI				*e*LR	LR	00 32 32.9	
	comp=Z,396nm,35.2s						
LZH	**Lanzhou**	**60.84**	**317**	*e*P	**P**	**00 15 01.5**	**+2.0**
LZH				AP	pP	00 15 08.5	+4.1
LZH				XP	sP	00 15 12.5	+6.3
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.2						
LZH	**Lanzhou**	**60.84**	**317**	*e*P	**P**	**00 15 01.5**	**+2.0**
	comp=Z,19nm,1.0s,mb5.2						
LZH				pP	pP	00 15 08.5	+4.1
LZH				sP	sP	00 15 12.5	+6.3
GTA	**Gaotai**	**65.31**	**318**	*e*P	**P**	**00 15 30.1**	**+0.9**
GTA				AP	pP	00 15 36.8	+2.7
GTA				XP	sP	00 15 39.6	+3.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,130nm,4.6s						
GTA				LR	LR		
	comp=N,164nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=E,135nm,19.5s,MS4.4						
GTA				LR	LR		
	comp=Z,235nm,17.2s,MS4.5						
MA2	**Magadan**	**65.31**	**360**	*e*P	**P**	**00 15 26.8**	**-2.4**
MA2				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.3						
MA2	**Magadan**	**65.31**	**360**	*e*P	**P**	**00 15 26.8**	**-2.4**
	comp=Z,23nm,0.7s,mb5.3						
SONM	**Songino Array**	**66.37**	**329**	P	**P**	**00 15 34.3**	**-1.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=128,slow=6.0,SNR=9.6						
SONM				LR	LR	00 43 57.3	
	comp=Z,342nm,20.6s,MS4.5,baz=264,slow=36						
CASY	**Casey**	**66.41**	**197**	*e*P	**P**	**00 15 35.0**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
ZAK	**Zakamensk**	**69.56**	**330**	*e*P	**P**	**00 15 56.0**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
YAK	**Yakutsk**	**69.76**	**349**	P	**P**	**00 15 54.8**	**-2.5**
GUN	**Gumba**	**71.21**	**302**	*e*P	**P**	**00 16 07.1**	**+1.0**
	comp=Z,6.5nm,0.3s,mb5.0						
PALK	**Palilekele**	**71.38**	**280**	*e*P	**P**	**00 16 07.6**	**+0.5**
PKI	**Pulchoki**	**71.51**	**302**	*e*P	**P**	**00 16 10.6**	**+2.7**
KKN	**Kakani**	**71.68**	**302**	*e*P	**P**	**00 16 11.7**	**+2.7**
VNDA	**Vanda**	**71.76**	**178**	P	**P**	**00 16 09.0**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4,baz=319,slow=6.2,SNR=15						
VNDA				LR	LR	00 45 18.8	
	comp=Z,188nm,19.7s,MS4.4,baz=326,slow=34						
VNDA	**Vanda**	**71.76**	**178**	*e*P	**P**	**00 16 08.6**	**-0.9**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**71.76**	**178**	*e*P	**P**	**00 16 08.6**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.4						
DMN	**Daman**	**71.78**	**301**	*e*P	**P**	**00 16 13.3**	**+3.8**
MIR	**Mirnyy**	**72.23**	**201**	*e*P	**P**	**00 16 13.0**	**+0.7**
MIR				*e*		00 16 26.0	
GKN	**Gorkha**	**72.29**	**302**	*e*P	**P**	**00 16 13.2**	**+0.6**
SBA	**Scott Base**	**72.34**	**177**	*e*P	**P**	**00 16 13.4**	**+0.5**
SBA				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
SBA	**Scott Base**	**72.34**	**177**	*e*P	**P**	**00 16 13.4**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.3						
RKT	**Rikitea**	**72.99**	**112**	*e*S	S	00 25 39.8	-3.4
	comp=Z,68nm,30.5s						

BRVK	**Borovoye**	**89.17**	**323**	*e*P	**P**		**00 17 39.7**	**-3.1**
	comp=Z,2.2nm,0.8s,mb4.5							
MTUM	**Tungsten Hills**	**93.89**	**53**	*e*P	**P**		**00 18 05.9**	**+1.2**
NVAR	**Mina Array Bea**	**94.18**	**52**	P	**P**		**00 18 07.6**	**+1.5**
	comp=Z,6.5nm,1.0s,mb5.0,baz=269,slow=8.7,SNR=24							
NVAR	**Mina Array Bea**	**94.18**	**52**	P	**P**		**00 18 07.6**	**+1.5**
AKTO	**Aktyubinsk**	**96.46**	**320**	LR	LR		01 01 48.0	
	comp=Z,188nm,19.6s,MS4.6,baz=88,slow=36							
YKA	**Yellowknife Ar**	**97.26**	**29**	LR	LR		01 01 10.3	
	comp=Z,177nm,20.1s,MS4.5,baz=220,slow=35							
BW06	**Boulder Array**	**100.92**	**48**	*e*Pdif	Pdif		00 18 37.2	+0.7
PDAR	**Pinedale Array**	**100.92**	**48**	P	Pdif		00 18 35.6	-0.8
	comp=Z,1.6nm,0.9s,baz=267,slow=2.5,SNR=9.7							
BRTR	**Keskin Array B**	**114.73**	**311**	PKP	PKiKP		00 23 26.6	-1.0
	comp=Z,1.3nm,0.9s,baz=90,slow=4.9,SNR=4.3							
NB2	**NORSAR Subarra**	**117.37**	**339**	PKPdf	PKPdf		00 23 31.9	-0.8
	comp=Z,2.7nm,1.0s,baz=44,slow=1.9							
NOA	**NORSAR Array B**	**117.37**	**339**	PKP	PKPdf		00 23 31.5	-1.2
	comp=Z,2.8nm,0.9s,baz=50,slow=1.5,SNR=4.6							
MLR	**Muntele Rosu**	**118.38**	**319**	PKP	PKPdf		00 23 33.6	-1.1
	comp=Z,2.4nm,0.8s,baz=296,slow=21,SNR=3.1							
LBTB	**Lobatse**	**118.67**	**237**	PKIKP	PKPdf		00 23 34.9	-0.3
KOLS	**Kolonicke sedl**	**119.21**	**324**	*e*PKP	PKPdf		00 23 36.6	+0.4
GZR	**Gura Zlata**	**120.46**	**320**	↑*i*P	PKPdf		00 23 38.6	0.0
BZS	**Buzias**	**121.10**	**321**	↓*i*P	PKPdf		00 23 39.4	-0.5
BZS	**Buzias**	**121.10**	**321**	↑P	PKPdf		00 23 39.4	-0.5
VTS	**Vitosha**	**121.32**	**317**	↓*i*P	PKPdf		00 23 40.0	-0.3
VTS	**Vitosha**	**121.32**	**317**	↑P	PKPdf		00 23 39.8	-0.5
VYHS	**Vyhne**	**121.41**	**325**	*e*PKP	PKPdf		00 23 40.2	-0.3
MORC	**Moravsky Berou**	**121.47**	**327**	↓*i*P	PKPdf		00 23 41.0	+0.4
MORC	**Moravsky Berou**	**121.47**	**327**	↓P	PKPdf		00 23 40.8	+0.2
DPC	**Dobruska-Polom**	**121.82**	**328**	*e*PKPdf	PKPdf		00 23 41.1	-0.2
UPC	**Upice**	**121.90**	**328**	*e*P	PKPdf		00 23 41.9	+0.5
BSEG	**Bad Segeberg**	**122.56**	**334**	*e*PKIKP	PKPdf		00 23 43.0	+0.3
IDI	**Anoyia**	**122.62**	**308**	PKP	PKPdf		00 23 43.4	+0.6
	comp=Z,11nm,0.9s,baz=181,slow=4.2,SNR=6.6							
PVCC	**Panska Ves**	**122.64**	**329**	*e*P	PKPdf		00 23 43.4	+0.6
PKSM	**Moragy**	**122.66**	**322**	↑*i*P	PKPdf		00 23 42.4	-0.5
PKSM	**Moragy**	**122.66**	**322**	↓P	PKPdf		00 23 42.3	-0.6
BRG	**Berggiesshubel**	**122.76**	**329**	*i* P	PKPdf		00 23 43.1	+0.1
	comp=Z,7.2nm,1.1s							
BRG	**Berggiesshubel**	**122.76**	**329**	*i* PKIKP	PKPdf		00 23 43.1	0.0
BRG				pmax	pmax			
	comp=Z,8.0nm,1.1s							
PRU	**Pruhonice**	**122.97**	**328**	*e*P	PKPdf		00 23 43.7	+0.2
CLL	**Collm**	**122.97**	**330**	↓*i*P	PKPdf		00 23 43.6	+0.1
CLL	**Collm**	**122.97**	**330**	↓*i*P	PKPdf		00 23 43.6	+0.1
	comp=Z,10.0nm,1.1s							
CLL				LmV			01 25 00.0	
	comp=Z,200nm,18.3s							
NKC	**Novy Kostel**	**123.91**	**329**	*e*PKPdf	PKPdf		00 23 45.1	-0.2
CLZ	**Clausthal**	**123.91**	**332**	*e*PKIKP	PKPdf		00 23 45.4	+0.1
KHC	**Kasperske Hory**	**123.98**	**328**	*e*P	PKPdf		00 23 45.4	0.0
GEC2	**GERESS Array S**	**124.08**	**327**	*e*PKIKP	PKPdf		00 23 45.3	-0.3
GERES	**GERESS Array B**	**124.08**	**327**	PKP	PKPdf		00 23 45.5	-0.1
	comp=Z,2.6nm,0.6s,baz=73,slow=1.6,SNR=30							
MOA	**Molln**	**124.34**	**326**	↓*i*P	PKPdf		00 23 45.6	-0.5
	comp=Z,3.6nm,0.9s							
WET	**Wettzell**	**124.34**	**328**	*e*PKIKP	PKPdf		00 23 46.2	+0.1
GRA1	**Grafenberg Arr**	**124.87**	**329**	*e*PKPdf	PKPdf		00 23 47.1	0.0
GRF	**Grafenberg Arr**	**124.87**	**329**	*e*PKIKP	PKPdf		00 23 47.1	0.0
KBA	**Koelnbreinsper**	**125.30**	**326**	↓*i*P	PKPdf		00 23 47.1	-0.8
	comp=Z,8.0nm,1.1s							
TNS	**Taunus Mts**	**125.90**	**331**	*e*PKIKP	PKPdf		00 23 49.8	+0.7
WATA	**Walderalm**	**126.12**	**327**	↓*e*P	PKPdf		00 23 50.0	+0.5
WTTA	**Wattenberg**	**126.13**	**327**	↓*i*P	PKPdf		00 23 49.6	+0.1
	comp=Z,14nm,1.0s							
MOTA	**Moosalm**	**126.37**	**327**	↑*i*P	PKPdf		00 23 50.2	+0.2
	comp=Z,14nm,1.1s							
SQTA	**Sankt Quirin**	**126.39**	**327**	↓*i*P	PKPdf		00 23 51.0	+1.0
	comp=Z,18nm,1.3s							
EKA	**Eskdalemuir Ar**	**126.59**	**342**	PKP	PKPdf		00 23 49.4	-1.1
	comp=Z,4.9nm,0.8s,baz=12,slow=2.1,SNR=16							
DAVA	**Damuels**	**127.06**	**328**	↓*i*P	PKPdf		00 23 51.4	+0.1
	comp=Z,6.5nm,0.8s							
DAVOX	**Davos**	**127.38**	**327**	PKP	PKPdf		00 23 52.3	+0.4
	comp=Z,5.9nm,0.8s,baz=134,slow=3.0,SNR=6.6							
DAVOS	**Davos**	**127.39**	**327**	PKIKP	PKPdf		00 23 52.3	+0.4
GIVF	**Givet**	**127.66**	**333**	*e*PKIKP	PKPdf		00 23 52.4	0.0
CDF	**Champ du Feu**	**127.68**	**330**	*e*PKIKP	PKPdf		00 23 52.0	-0.5
	comp=Z,16nm,1.3s							
BAIF	**Baives**	**127.97**	**333**	*e*PKIKP	PKPdf		00 23 53.2	+0.2
	comp=Z,16nm,1.1s							
HINF	**Hinteralfeld**	**128.28**	**330**	*e*PKIKP	PKPdf		00 23 53.3	-0.3
	comp=Z,38nm,1.3s							
HAU	**Haudompre**	**128.41**	**330**	*e*PKIKP	PKPdf		00 23 53.7	-0.2
	comp=Z,28nm,1.1s							
HAU				*e*R				
	comp=Z,159nm,18.8s							
HAU	**Haudompre**	**128.41**	**330**	*e*PKPdf	PKPdf		00 23 53.7	-0.2
HAU				LR	LR			
	comp=Z,160nm,18.8s,MS4.7							
MEZF	**Maizieres J'vi**	**128.69**	**332**	*e*PKIKP	PKPdf		00 23 54.6	+0.2
NNA	**Nana**	**129.18**	**111**	*e*PKPdf	PKPdf		00 23 56.8	+1.5
CABF	**La Chapelle**	**129.48**	**329**	*e*PKIKP	PKPdf		00 23 56.3	+0.4
	comp=Z,47nm,1.2s							
LPL	**La Plagne**	**129.87**	**328**	*e*PKIKP	PKPdf		00 23 56.9	+0.2
	comp=Z,14nm,1.1s							
LPG	**La Plagne**	**129.87**	**328**	*e*PKIKP	PKPdf		00 23 56.9	+0.2
	comp=Z,6.2nm,0.9s							
LOR	**Lormes**	**130.13**	**331**	*e*PKIKP	PKPdf		00 23 57.4	+0.3
	comp=Z,15nm,1.1s							
LOR				*e*R				
	comp=Z,216nm,19.8s							
LOR	**Lormes**	**130.13**	**331**	*e*PKPdf	PKPdf		00 23 57.4	+0.3
LOR				LR	LR			
	comp=Z,220nm,19.8s,MS4.9							
PGF	**Pioggiola**	**130.45**	**323**	*e*PKIKP	PKPdf		00 23 57.9	+0.2
	comp=Z,5.0nm,0.5s							
SSF	**Saint Saulge**	**130.45**	**331**	*e*PKIKP	PKPdf		00 23 58.0	+0.3
	comp=Z,15nm,1.1s							
SBF	**Sospel**	**130.55**	**326**	*e*PKIKP	PKPdf		00 23 57.6	-0.3
	comp=Z,42nm,1.0s							
SMF	**Signal de Mont**	**130.58**	**331**	*e*PKIKP	PKPdf		00 23 58.1	+0.1
	comp=Z,14nm,1.0s							
AVF	**Avril sur Loir**	**130.72**	**331**	*e*PKIKP	PKPdf		00 23 58.9	+0.6
ORIF	**Oris-en-Rattie**	**130.72**	**328**	*e*PKIKP	PKPdf		00 23 58.3	0.0
	comp=Z,8.3nm,0.9s							
ORIF				*e*R				
	comp=Z,145nm,20.0s							
LDF	**La Druitiere**	**130.95**	**335**	*e*PKIKP	PKPdf		00 23 58.3	-0.4
	comp=Z,24nm,1.1s							
FLN	**La Foliniere**	**130.97**	**335**	*e*PKIKP	PKPdf		00 23 58.5	-0.2
FLN				*e*R				
	comp=Z,154nm,22.5s							
FLN	**La Foliniere**	**130.97**	**335**	*e*PKPdf	PKPdf		00 23 58.5	-0.2
FLN				LR	LR			
	comp=Z,150nm,22.5s,MS4.6							
BGF	**Bois d'Agland**	**131.13**	**331**	*e*PKIKP	PKPdf		00 23 59.1	+0.1
FRF	**La Foret Royal**	**131.18**	**326**	*e*PKIKP	PKPdf		00 23 58.9	-0.2
VIVF	**Saint-Julien-l**	**131.40**	**328**	*e*PKIKP	PKPdf		00 23 59.6	+0.1
	comp=Z,61nm,1.8s							
LMR	**La Mourre**	**131.40**	**326**	*e*PKIKP	PKPdf		00 23 59.4	-0.2
	comp=Z,24nm,1.2s							
GRR	**Gorron**	**131.41**	**335**	*e*PKIKP	PKPdf		00 23 59.6	0.0
SMRF	**Simiane la Rot**	**131.50**	**327**	*e*PKIKP	PKPdf		00 24 00.1	+0.4
	comp=Z,13nm,0.9s							
TCF	**Toulx Ste Croi**	**131.62**	**331**	*e*PKIKP	PKPdf		00 24 00.4	+0.4
	comp=Z,12nm,0.9s							
SGMF	**Saint Gilles**	**132.22**	**336**	*e*PKIKP	PKPdf		00 24 01.1	0.0
LASF	**Ste Croix**	**132.36**	**328**	*e*PKIKP	PKPdf		00 24 00.4	-1.0
	comp=Z,11nm,1.0s							
ROSF	**Rostrenen**	**132.43**	**337**	*e*PKIKP	PKPdf		00 24 01.0	-0.5
MFF	**Saint Martin d**	**132.48**	**333**	*e*PKIKP	PKPdf		00 24 01.2	-0.4
	comp=Z,5.0nm,0.8s							
RJF	**Les Rejaudoux**	**132.67**	**331**	*e*PKIKP	PKPdf		00 24 02.6	+0.6
RJF				*e*R				
	comp=Z,199nm,21.2s							
RJF	**Les Rejaudoux**	**132.67**	**331**	*e*PKPdf	PKPdf		00 24 02.6	+0.6
RJF				LR	LR			
	comp=Z,200nm,21.3s,MS4.8							
CAF	**Calviac**	**132.68**	**330**	*e*PKIKP	PKPdf		00 24 02.7	+0.7
LFF	**La Frestale**	**133.31**	**331**	*e*PKIKP	PKPdf		00 24 03.8	+0.6
MTLF	**Montolieu**	**133.72**	**328**	*e*PKIKP	PKPdf		00 24 03.8	-0.1
KEST	**Kesra**	**134.01**	**315**	PKP	PKPdf		00 24 06.7	+2.3
	comp=Z,2.2nm,0.9s,baz=300,slow=3.2,SNR=5.7							
EPF	**Esparros**	**134.91**	**330**	*e*PKIKP	PKPdf		00 24 06.1	0.0
	comp=Z,10nm,1.0s							
LPAZ	**La Paz**	**135.41**	**120**	PKP	PKPdf		00 24 10.4	+3.3
	comp=Z,0.9nm,0.7s,baz=48,slow=7.9,SNR=4.4							
LPAZ	**La Paz**	**135.41**	**120**	*e*PKPdf	PKPdf		00 24 08.3	+1.2
LPAZ				PKP	PKPdf		00 24 10.4	+3.3
ETSF	**Etsaut**	**135.45**	**330**	*e*PKIKP	PKPdf		00 24 07.6	+0.4
SDV	**Santo Domingo**	**138.61**	**83**	*e*PKPdf	PKPdf		00 24 14.1	+1.1
EVO	**Evora**	**142.41**	**333**	*e*PKIKP	PKPdf		00 24 19.4	-0.5
EVO				*e*R				
	comp=Z,152nm,19.8s							
MDT	**Midelt**	**144.94**	**323**	PKP	PKPdf		00 24 24.9	+0.6
	comp=Z,2.5nm,0.9s,baz=267,slow=3.7,SNR=7.9							
TOA0	**Torodi Ar. Sit**	**148.94**	**286**	*e*PKPbc	PKPbc		00 24 35.3	+0.3
TORD	**Torodi Ar. Bea**	**148.94**	**286**	PKPbc	PKPbc		00 24 35.0	0.0
	comp=Z,23nm,1.0s,baz=31,slow=3.1,SNR=126							
TORD	**Torodi Ar. Bea**	**148.94**	**286**	PKPbc	PKPbc		00 24 35.0	-0.1
LIC	**Lamto**	**156.18**	**272**	*e*PKP2	PKPab		00 25 08.5	-0.9
	comp=Z,11nm,0.8s							
LIC				*e*R				
	comp=Z,182nm,22.0s							

*ISCJB **08** 00:15:04.7±4.4, 632S×007×15152E±0.07, h8km±28km, mb4.3/21, MS4.1/9, Error ellipse: s-maj=13.0km s-min=10.2km az=96.0*

*IDC **08** 00:15:05.0±0.8, 629S×15152E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.4/17, mbtmp4.3/13, ML3.4/1, MS4.1/10, Ms1 4.1/10, ms1mx3.9/29, Error ellipse: s-maj=25.7km s-min=17.5km az=98.0*

*NEIC **08** 00:15:06.8±0.3, 630S×15148E, h10km, mb4.7/12, Error ellipse: s-maj=7.7km s-min=6.0km az=117.0*

*MOS **08** 00:15:08.5±0.9, 632S×15151E, h33km, mb4.6/8, Error ellipse: s-maj=15.2km s-min=11.5km az=58.2*

ISC 08 00:15:10.9±1.4, 636S±007×15150E±007, h39km±13km, n58, σ0=76/46, mb4.3/21, MS4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.26**	**235**	Pn	**Pn**		**00 16 27.6**	**+0.6**
	9.5nm,0.3s,baz=48,slow=3.5,SNR=22							
PMG				Sn	**Sn**		**00 17 44.5**	**+18**
	16nm,0.3s,baz=167,slow=14,SNR=6.0							
PMG				LR	LR		00 17 51.1	
	comp=Z,243nm,18.1s,baz=30,slow=31							
PMG	**Port Moresby**	**5.26**	**235**	*e*Pn	**Pn**		**00 16 27.5**	**+0.5**
PMG				*e*Sn	**Sn**		**00 17 31.5**	**+5.1**
HNR	**Honiara**	**8.91**	**111**	*e*P	**Pn**		**00 17 16.4**	**-0.6**
CTAO	**Charters Tower**	**14.57**	**200**	*e*P	**Pn**		**00 18 35.1**	**+0.7**
KAKA	**Kakadu**	**19.82**	**250**	*e*P	**Pn**		**00 19 37.7**	**-2.3**
	67nm,1.0s							
GUMO	**Guam**	**20.88**	**342**	LR	LR		00 26 30.6	
	comp=Z,512nm,18.2s,MS3.9,baz=111,slow=33							
DZM	**Mont Dzumac**	**21.27**	**139**	P	**P**		**00 19 53.5**	**-0.4**
	2.6nm,0.9s,mb3.6,baz=127,slow=16,SNR=2.5							
DZM				LR	LR		00 26 51.2	
	comp=Z,1μm,18.1s,MS4.4,baz=20,slow=33							
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**		**00 19 55.4**	**-0.3**
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.3							
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**		**00 19 55.4**	**-0.2**
	comp=Z,7.7nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**		**00 19 55.2**	**-0.5**
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**		**00 19 55.6**	**-0.3**
	comp=Z,12nm,0.8s,mb4.3,baz=54,slow=11,SNR=30							
AS31	**Alice Springs**	**24.14**	**223**	*e*P	**P**		**00 20 23.5**	**+0.4**
ASAR	**Alice Springs**	**24.14**	**223**	P	**P**		**00 20 23.3**	**+0.2**
	comp=Z,10nm,0.6s,mb4.4,baz=45,slow=10,SNR=97							
ASPA	**Alice Springs**	**24.14**	**223**	*e*P	**P**		**00 20 23.5**	**+0.3**
STKA	**Stephens Creek**	**27.03**	**199**	*e*P	**P**		**00 20 49.9**	**+0.6**
	comp=Z,19nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**27.03**	**199**	P	**P**		**00 20 49.9**	**+0.6**
	comp=Z,4.3nm,0.5s,mb4.2,baz=354,slow=13,SNR=14							
STKA	**Stephens Creek**	**27.03**	**199**	*e*P	**P**		**00 20 50.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.79**	**243**	*e*P	**P**		**00 20 55.4**	**-0.8**
	comp=Z,11nm,0.3s,mb5.0							
FITZ	**Fitzroy Crossi**	**27.79**	**243**	P	**P**		**00 20 56.7**	**+0.5**
	comp=Z,6.7nm,0.4s,mb4.6,baz=59,slow=8.2,SNR=86							
FITZ				LR	LR		00 32 35.2	
	comp=Z,193nm,18.4s,MS3.7,baz=321,slow=38							
FORT	**Forrest**	**32.77**	**219**	*e*P	**P**		**00 21 39.9**	**-0.3**
	comp=Z,44nm,0.8s,mb5.4							
MBWA	**Marble Bar**	**34.09**	**241**	*e*P	**P**		**00 21 52.4**	**+0.8**
	comp=Z,11nm,1.0s,mb4.7							
URZ	**Urewera**	**39.34**	**148**	LR	LR		00 35 24.4	
	comp=Z,443nm,21.3s,MS4.3,baz=291,slow=31							
JOW	**Kunigami**	**39.93**	**327**	LR	LR		00 36 16.9	
	comp=Z,354nm,19.5s,MS4.2,baz=158,slow=32							
NACB	**Ninganchiao**	**42.09**	**317**	P	**P**		**00 23 00.3**	**+1.3**
YHNB	**Yeheng**	**42.57**	**318**	P	**P**		**00 23 03.3**	**+0.4**
JNU	**Nakatsue**	**43.88**	**335**	LR	LR		00 38 11.7	
	comp=Z,584nm,19.0s,MS4.5,baz=281,slow=32							
MJAR	**Matsushiro Arr**	**44.45**	**345**	LR	LR		00 41 40.8	
	comp=Z,157nm,18.1s,MS4.0,baz=150,slow=36							
MAJO	**Matsushiro**	**44.45**	**345**	P	**P**		**00 23 18.8**	**+0.7**
KSRS	**Korea Array**	**48.83**	**335**	LR	LR		00 41 58.3	
	comp=Z,220nm,19.2s,MS4.2,baz=147,slow=33							
RAR	**Rarotonga**	**49.36**	**112**	LR	LR		00 39 47.0	
	comp=Z,168nm,19.1s,MS4.1,baz=203,slow=30							
SONM	**Songino Array**	**66.96**	**329**	P	**P**		**00 25 59.6**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=144,slow=5.1,SNR=6.4							
VNDA	**Vanda**	**71.33**	**178**	P	**P**		**00 26 26.1**	**-0.6**
	comp=Z,1.3nm,0.9s,mb3.9,baz=331,slow=6.4,SNR=6.9							
VNDA	**Vanda**	**71.33**	**178**	*e*P	**P**		**00 26 26.6**	**0.0**
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**71.33**	**178**	*e*P	**P**		**00 26 26.6**	**0.0**
	comp=Z,1.7nm,0.9s,mb4.0							
SBA	**Scott Base**	**71.91**	**177**	P	**P**		**00 26 30.7**	**+0.7**
SBA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
SBA	**Scott Base**	**71.91**	**177**	P	**P**		**00 26 30.7**	**+0.7**
	comp=Z,4.2nm,0.6s,mb4.5							
BILL	**Bilibino**	**74.95**	**6**	*e*P	**P**		**00 26 48.3**	**+0.3**
BILL				*i*			00 27 04.0	
BILL				*i* S	S		00 36 14.5	-8.2
BILL				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8							
BILL	**Bilibino**	**74.95**	**6**	*e*P	**P**		**00 26 48.1**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0							
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**		**00 27 19.8**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=99,slow=5.8,SNR=8.0							
ZAL	**Zalesovo**	**81.73**	**327**	P	**P**		**00 27 25.1**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=288,slow=4.2,SNR=3.2							
QSPA	**South Pole Qui**	**83.61**	**180**	*e*P	**P**		**00 27 34.9**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.5							
MAW	**Mawson**	**83.65**	**203**	P	**P**		**00 27 35.3**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.6,baz=112,slow=4.3,SNR=7.6							
COLA	**College**	**83.77**	**22**	*e*P	**P**		**00 27 35.0**	**-1.0**
COLA				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
COLA	**College**	**83.77**	**22**	*e*P	**P**		**00 27 35.0**	**-0.9**
	comp=Z,7.7nm,0.8s,mb4.9							
AAK	**Ala-Archa**	**84.80**	**314**	*e*P	**P**		**00 27 40.3**	**-0.9**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.2							
AAK	**Ala-Archa**	**84.80**	**314**	*e*P	**P**		**00 27 40.3**	**-0.9**
	comp=Z,0.8nm,0.5s,mb4.1							
DAWY	**Dawson**	**86.73**	**24**	*e*P	**P**		**00 27 50.8**	**+0.1**
CHKZ	**Chkalovo**	**89.70**	**324**	*e*P	**P**		**00 28 03.9**	**-1.0**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.4							
CHKZ	**Chkalovo**	**89.70**	**324**	*e*P	**P**		**00 28 03.9**	**-1.0**
	comp=Z,0.7nm,0.5s,mb4.2							
BVAR	**Borovoye Array**	**89.71**	**323**	P	**P**		**00 28 03.8**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.9,baz=169,slow=32,SNR=3.1							
NVAR	**Mina Array Bea**	**94.06**	**52**	P	**P**		**00 28 27.2**	**+2.1**
	comp=Z,1.1nm,0.9s,mb4.3,baz=266,slow=8.8,SNR=5.3							
WMOK	**Wichita Mounta**	**109.79**	**55**	*e*PKiKP	PKiKP		00 33 38.7	+1.0
GERES	**GERESS Array B**	**124.68**	**327**	PKP	PKPdf		00 34 06.3	+0.1
	comp=Z,0.1nm,0.2s,baz=106,slow=2.9,SNR=4.3							
LPAZ	**La Paz**	**134.79**	**120**	*e*PKIKP	PKPdf		00 34 28.0	+2.6
SDV	**Santo Domingo**	**138.18**	**84**	*e*PKPdf	PKPdf		00 34 34.3	+2.6
MDT	**Midelt**	**145.55**	**323**	PKPbc	PKPbc		00 34 45.7	+0.7
	comp=Z,3.5nm,0.8s,baz=81,slow=2.1,SNR=8.9							
TOA0	**Torodi Ar. Sit**	**149.51**	**285**	*e*PKPdf	PKPbc		00 34 56.5	+0.5
TORD	**Torodi Ar. Bea**	**149.51**	**285**	PKPbc	PKPbc		00 34 56.1	+0.2
	comp=Z,3.9nm,0.6s,baz=89,slow=2.9,SNR=56							

*IDC **08** 00:17:42.3±0.8, 624S×15149E, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.5/15, mbtmp4.4/11, MS4.1/1, Ms1 4.1/1, ms1mx3.4/27, Error ellipse: s-maj=28.3km s-min=19.2km az=95.0*

*NEIC **08** 00:17:44.1±0.3, 620S×15142E, h10km, mb4.6/12, Error ellipse: s-maj=9.3km s-min=8.0km az=132.0*

*ISCJB **08** 00:17:45.4±4.0, 624S±009×15143E±007, h30km±28km, mb4.4/20, Error ellipse: s-maj=14.9km s-min=12.0km az=144.8*

*MOS **08** 00:17:46.0±0.9, 621S×15142E, h33km, mb4.7/8, Error ellipse: s-maj=14.9km s-min=12.8km az=136.5*

ISC 08 00:17:48.9±1.6, 627S±008×15143E±007, h44km±15km, n48, σ0=91/41, mb4.4/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.25**	**233**	P	**Pn**		**00 19 05.2**	**+0.4**
HNR	**Honiara**	**9.01**	**111**	P	**Pn**		**00 19 57.0**	**+0.7**
CTA	**Charters Tower**	**14.63**	**200**	LR	LR		00 26 14.4	
	comp=Z,668nm,18.1s,baz=4.5,slow=35							
KAKA	**Kakadu**	**19.78**	**250**	*e*P	**Pn**		**00 22 15.4**	**-1.7**
	26nm,0.6s							
DZM	**Mont Dzumac**	**21.39**	**139**	P	**P**		**00 22 31.0**	**-1.7**
	13nm,1.1s,mb4.1,baz=16,slow=11,SNR=4.0							
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**		**00 22 32.7**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,22nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**		**00 22 32.7**	**-0.5**
	comp=Z,22nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**		**00 22 33.0**	**-0.3**
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**		**00 22 33.2**	**-0.2**
	comp=Z,23nm,1.0s,mb4.5,baz=54,slow=11,SNR=6.9							
AS31	**Alice Springs**	**24.15**	**222**	*e*P	**P**		**00 23 01.3**	**+0.6**
ASAR	**Alice Springs**	**24.15**	**222**	P	**P**		**00 23 01.1**	**+0.4**
	comp=Z,10nm,1.0s,mb4.5,baz=57,slow=9.2,SNR=10							
ASPA	**Alice Springs**	**24.15**	**222**	*e*P	**P**		**00 23 01.3**	**+0.6**
STKA	**Stephens Creek**	**27.09**	**199**	*e*P	**P**		**00 23 27.2**	**-0.1**
	comp=Z,15nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**27.09**	**199**	P	**P**		**00 23 28.2**	**+0.9**
	comp=Z,17nm,1.0s,mb4.5,baz=354,slow=12,SNR=8.5							
FITZ	**Fitzroy Crossi**	**27.77**	**243**	*e*P	**P**		**00 23 33.8**	**+0.4**
	comp=Z,18nm,1.1s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.77**	**243**	P	**P**		**00 23 34.1**	**+0.7**
	comp=Z,4.7nm,0.5s,mb4.4,baz=28,slow=9.1,SNR=6.0							
MBWA	**Marble Bar**	**34.06**	**241**	*e*P	**P**		**00 24 36.0**	**+7.2**
	comp=Z,7.4nm,0.4s,mb5.0							
KKM

mb3.9/11,Error ellipse: s-maj=32.3km s-min=20.3km az=172.8

IDC ***08*** *00:24:48.6±7.6,643S×151 40E,h52km±59km,mb3.7/7, mb1 3.9/8,mb1mx3.8/15,mbtmp3.7/8,ML2.6/1,MS2.3/1, Ms1 2.3/1,ms1mx2.3/27,Error ellipse: s-maj=49.0km s-min=25.4km az=79.0*

ISC 08 00:24:50.0±4.1,64S±01×1514E±02,h67km±32km,n26, σ0969/22,mb3.9/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.13 234**		P		**Pn**	**00 26 04.5**	**+0.3**
	1.6nm,0.3s,baz=14,slow=9.0,SNR=5.5							
PMG				S		**Sn**	**00 27 01.8**	**-0.2**
	3.4nm,0.3s,baz=348,slow=23,SNR=7.5							
KAKA	**Kakadu**	**19.68 250**		*e*P		**Pn**	**00 29 13.8**	**-1.8**
	12nm,0.7s							
WRAB	**Tennant Creek**	**21.31 229**		*e*P		**P**	**00 29 31.7**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb3.9							
WRAB	**Tennant Creek**	**21.31 229**		*e*P		**P**	**00 29 31.7**	**+0.5**
	comp=Z,3.5nm,0.7s,mb3.8							
WB2	**Warramunga Arr**	**21.32 229**		*e*P		**P**	**00 29 31.7**	**+0.5**
WRA	**Warramunga Arr**	**21.32 229**		P		**P**	**00 29 31.3**	**0.0**
	comp=Z,2.8nm,0.6s,mb3.8,baz=51,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**24.01 223**		P		**P**	**00 29 59.0**	**+0.6**
	comp=Z,3.2nm,0.8s,mb3.7,baz=58,slow=8.6,SNR=17							
STKA	**Stephens Creek**	**26.94 199**		P		**P**	**00 30 26.0**	**+1.1**
	comp=Z,2.9nm,0.7s,mb3.9,baz=47,slow=14,SNR=2.1							
FITZ	**Fitzroy Crossi**	**27.66 243**		*e*P		**P**	**00 30 31.9**	**+0.6**
	comp=Z,6.6nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**27.66 243**		P		**P**	**00 30 31.0**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.1,baz=59,slow=8.2,SNR=16							
MBWA	**Marble Bar**	**33.95 241**		*e*P		**P**	**00 31 35.6**	**+8.8**
	comp=Z,5.2nm,0.5s,mb4.6							
TGY	**Tagaytay City**	**36.43 304**		LR		LR	00 44 36.7	
	comp=Z,4.3nm,21.0s,baz=292,slow=33							
CASY	**Casey**	**66.08 197**		*e*P		**P**	**00 35 29.6**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.0							
SONM	**Songino Array**	**66.93 329**		P		**P**	**00 35 35.1**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=162,slow=3.6,SNR=4.0							
VNDA	**Vanda**	**71.29 178**		P		**P**	**00 36 00.8**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=337,slow=6.8,SNR=4.4							
VNDA	**Vanda**	**71.29 178**		*e*P		**P**	**00 36 01.5**	**-0.7**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**71.29 178**		*e*P		**P**	**00 36 01.4**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.5							
SBA	**Scott Base**	**71.86 177**		*e*P		**P**	**00 36 04.8**	**-0.9**
MKAR	**Makanchi Array**	**80.60 319**		P		**P**	**00 36 55.1**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=106,slow=7.7,SNR=4.4							
CHKZ	**Chkalovo**	**89.66 324**		P		**P**	**00 37 41.2**	**+0.8**
BRVK	**Borovoye**	**89.74 323**		*e*P		**P**	**00 37 40.9**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.3							
BRVK	**Borovoye**	**89.74 323**		*e*P		**P**	**00 37 40.9**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.1							
EIL	**Elat**	**116.07 300**		*e*PKPdf		PKPdf	00 43 26.6	+1.3
MDT	**Midelt**	**145.51 323**		PKPbc		PKPbc	00 44 23.4	+2.8
	comp=Z,2.1nm,0.7s,baz=113,slow=1.2,SNR=5.0							
TOA0	**Torodi Ar. Sit**	**149.40 285**		*e*PKPbc		PKPbc	00 44 33.4	+2.1
TORD	**Torodi Ar. Bea**	**149.40 285**		PKPbc		PKPbc	00 44 33.2	+2.0
	comp=Z,2.4nm,0.6s,baz=28,slow=3.6,SNR=34							

IDC 08 00:26:56.6±3.5,612S×15109E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.5/14,mbtmp3.6/3,Error ellipse: s-maj=120.9km s-min=48.6km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31 228**		P		P	00 31 45.3	+0.4
	0.8nm,0.5s,baz=53,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**24.04 222**		P		P	00 32 13.0	-0.3
	0.6nm,0.5s,baz=60,slow=9.3,SNR=5.6							
FITZ	**Fitzroy Crossi**	**27.55 242**		P		P	00 32 45.9	+0.8
	1.2nm,0.5s,baz=78,slow=9.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**149.06 285**		PKPbc		PKPbc	00 46 47.3	+0.6
	0.5nm,0.6s,baz=94,slow=2.4,SNR=6.3							

ISCJB ***08*** *00:39:45.6±2.8,302S±04×1775W±06,h50km±49km, mb4.5/5,Error ellipse: s-maj=98.5km s-min=29.8km az=105.4*

NEIC ***08*** *00:39:45.8±1.1,3026S×17740W,h35km,mb4.5/2,Error ellipse: s-maj=23.6km s-min=16.0km az=81.0*

IDC ***08*** *00:39:47.1±7.6,3016S×17756W,h33km±55km,mb4.3/4, mb1 4.5/4,mb1mx3.9/13,mbtmp4.3/4,Error ellipse: s-maj=39.2km s-min=29.7km az=127.0*

ISC 08 00:39:46.0±3.0,301S±04×1773W±06,h44km±48km,n17, σ0991/13,mb4.5/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01 329**		Pn		**Pn**	**00 40 04.7**	**+0.9**
	222nm,0.3s,baz=199,slow=21,SNR=26							
RAO				Sn		**Sn**	**00 40 16.0**	**-0.8**
	2µm,0.3s,baz=0.8,slow=23,SNR=41							
DZM	**Mont Dzumac**	**16.63 295**		Pn		pP	00 43 46.3	-1.9
	0.3nm,0.3s,baz=120,slow=19,SNR=6.2							
TAU	**Tasmania Unive**	**30.91 236**		P		**P**	**00 45 57.7**	**-0.8**
CTA	**Charters Tower**	**34.33 278**		*e*P		**P**	**00 46 30.0**	**+1.6**
	4.6nm,0.4s,mb4.8							
CTA	**Charters Tower**	**34.33 278**		P		**P**	**00 46 30.1**	**+1.7**
	6.6nm,0.5s,mb4.8,baz=106,slow=10,SNR=15							
CTAO	**Charters Tower**	**34.33 278**		*e*P		**P**	**00 46 30.0**	**+1.6**
	5.4nm,0.4s,mb4.8							
STKA	**Stephens Creek**	**35.11 256**		*e*P		**P**	**00 46 36.0**	**+0.9**
	3.0nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**35.11 256**		P		**P**	**00 46 36.0**	**+0.9**
	2.8nm,0.5s,mb4.5,baz=112,slow=8.6,SNR=6.3							
ASAR	**Alice Springs**	**43.70 266**		P		**P**	**00 47 46.7**	**0.0**
	1.5nm,0.4s,mb4.1,baz=104,slow=7.4,SNR=25							
WB2	**Warramunga Arr**	**44.66 272**		*e*P		**P**	**00 47 54.4**	**0.0**
WRAB	**Tennant Creek**	**44.66 272**		*e*P		**P**	**00 47 52.8**	**-1.6**
	4.0nm,0.3s,mb4.7							
WRAB				*e*PcP		PcP	00 49 38.9	+2.4
WRA	**Warramunga Arr**	**44.67 272**		P		**P**	**00 47 54.7**	**+0.2**
	3.3nm,0.3s,mb4.7,baz=110,slow=8.1,SNR=23							
VNDA	**Vanda**	**48.42 186**		P		**P**	**00 48 23.5**	**-0.4**
QSPA	**South Pole Qui**	**59.98 180**		*e*P		pP	00 49 55.0	-5.5
	5.4nm,0.1s							
FINES	**FINESS Array B**	**145.09 341**		PKPbc		PKPbc	00 59 19.1	+1.0
	1.9nm,0.5s,baz=60,slow=3.9,SNR=16							
TORD	**Torodi Ar. Bea**	**163.08 177**		PKP		PKPdf	00 59 44.7	+1.1
	0.4nm,1.0s,baz=204,slow=1.4,SNR=3.6							
TORD				PKPab		PKPab	01 00 36.4	+2.8
	0.8nm,1.1s,baz=176,slow=3.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**163.08 177**		PKP		PKPdf	00 59 44.7	+1.1
TORD				PKPab		PKPab	01 00 36.4	+2.8

NNC 08 00:45:39.7±5.0,3906N×7327E,h0km,mb3.0,mpv2.5, 4C-3D,Error ellipse: s-maj=39.8km s-min=23.8km az=170.0,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.24**	**24**	⇑Pn		Pn	00 46 45.2	-0.3
	0.2nm,0.6s							
TKM2				⇑Sn		Sn	00 47 37.2	+1.5
	1.3nm,0.7s							
TKM2				⇓Lg			00 47 58.8	
	0.3nm,0.5s							
KK31	**Karatay Array**	**4.54 334**		⇑Pn		Pn	00 46 52.9	+3.3
	1.1nm,0.4s,baz=143,slow=12							
KK31				⇓Sn		Sn	00 47 49.7	+6.5
	12nm,0.5s,baz=149,slow=21							
DLH	**Dalhousie**	**6.87 161**		*e*P		Pg	00 48 00.0	+8.8
AB31	**Akbulak array**	**13.95 321**		⇓Pn		Pn	00 48 55.1	-3.5
	0.2nm,0.5s,baz=123,slow=13,SNR=4.8							
AB31				⇑Sn		Sn	00 51 32.0	-2.3
	0.7nm,0.6s							

NEIC ***08*** *01:26:30.0±0.5,620S×151 46E,h10km,mb4.3/11,Error ellipse: s-maj=18.2km s-min=9.1km az=123.0*

MOS ***08*** *01:26:31.9±0.7,624S×151 47E,h33km,mb4.4/6,Error ellipse: s-maj=26.3km s-min=13.9km az=48.2*

ISCJB ***08*** *01:26:36.8±3.6,62S±01×1511E±02,h65km±28km, mb4.1/16,Error ellipse: s-maj=28.6km s-min=17.6km az=18.5*

IDC ***08*** *01:26:37.7±5.8,626S×151 22E,h63km±47km,mb3.9/9, mb1 4.1/10,mb1mx4.0/15,mbtmp3.9/10,ML2.8/1,MS3.4/11, Ms1 3.4/11,ms1mx3.2/28,Error ellipse: s-maj=39.2km s-min=23.0km az=86.0*

ISC 08 01:26:38.4±3.3,63S±01×1512E±02,h67km±26km,n41, σ0957/33,mb4.1/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07 231**		P		**Pn**	**01 27 51.9**	**+0.1**
	2.5nm,0.3s,baz=42,slow=9.0,SNR=13							
PMG				S		**Sn**	**01 28 48.9**	**-0.1**
	2.5nm,0.3s,baz=1.3,slow=19,SNR=3.7							
PMG				LR		LR	01 29 54.7	
	comp=Z,230nm,18.8s,baz=224,slow=39							
PMG	**Port Moresby**	**5.07 231**		P		**Pn**	**01 27 51.9**	**+0.1**
PMG				S		**Sn**	**01 28 48.9**	**-0.1**
HNR	**Honiara**	**9.25 111**		LR		LR	01 31 35.6	
	comp=Z,275nm,20.9s,baz=181,slow=32							
CTA	**Charters Tower**	**14.57 199**		LR		LR	01 34 59.5	
	comp=Z,139nm,19.1s,baz=43,slow=34							
KAKA	**Kakadu**	**19.56 249**		*e*P		**Pn**	**01 31 01.4**	**-1.1**
	18nm,0.6s							
WRAB	**Tennant Creek**	**21.27 229**		*e*P		**P**	**01 31 19.1**	**0.0**
WRAB				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.2							
WRAB	**Tennant Creek**	**21.27 229**		*e*P		**P**	**01 31 19.1**	**0.0**
	comp=Z,7.7nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**21.27 229**		*e*P		**P**	**01 31 18.9**	**-0.3**
WRA	**Warramunga Arr**	**21.28 229**		P		**P**	**01 31 19.4**	**+0.1**
	comp=Z,15nm,0.9s,mb4.3,baz=55,slow=11,SNR=51							
DZM	**Mont Dzumac**	**21.57 138**		LR		LR	01 37 46.7	
	comp=Z,301nm,21.5s,baz=266,slow=31							
AS31	**Alice Springs**	**24.00 222**		*e*P		**P**	**01 31 47.3**	**+0.6**
ASAR	**Alice Springs**	**24.00 222**		P		**P**	**01 31 47.1**	**+0.3**
	comp=Z,17nm,0.8s,mb4.4,baz=54,slow=9.0,SNR=100							
ASAR				LR		LR	01 40 21.7	
	comp=Z,67nm,22.0s,baz=264,slow=34							
ASPA	**Alice Springs**	**24.00 222**		*e*P		**P**	**01 31 47.3**	**+0.5**
STKA	**Stephens Creek**	**27.03 198**		P		**P**	**01 32 15.1**	**+0.9**
	comp=Z,5.5nm,0.8s,mb4.1,baz=31,slow=11,SNR=6.5							
STKA				LR		LR	01 43 11.1	
	comp=Z,81nm,18.6s,baz=26,slow=37							
STKA	**Stephens Creek**	**27.03 198**		P		**P**	**01 32 15.1**	**+0.9**
STKA				LR		LR	01 43 11.1	
FITZ	**Fitzroy Crossi**	**27.56 242**		*e*P		**P**	**01 32 18.8**	**-0.1**
	comp=Z,17nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**27.56 242**		P		**P**	**01 32 19.5**	**+0.5**
	comp=Z,5.0nm,0.6s,mb4.2,baz=80,slow=8.6,SNR=25							
FITZ				LR		LR	01 43 01.1	
	comp=Z,44nm,19.9s,baz=64,slow=36							
MBWA	**Marble Bar**	**33.86 241**		*e*P		**P**	**01 33 22.6**	**+8.2**
	comp=Z,7.8nm,0.5s,mb4.8							
NWAO	**Narrogin (SRO)**	**41.23 225**		LR		LR	01 50 16.7	
	comp=Z,57nm,21.2s,baz=76,slow=34							
NWAO	**Narrogin (SRO)**	**41.23 225**		*e*P		**P**	**01 34 17.1**	**+0.5**
NWAO				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**41.23 225**		*e*P		**P**	**01 34 17.1**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.1							
JNU	**Nakatsue**	**43.64 335**		LR		LR	01 48 44.5	
	comp=Z,122nm,21.1s,baz=278,slow=30							
KSRS	**Korea Array**	**48.59 335**		LR		LR	01 53 26.0	
	comp=Z,34nm,18.9s,baz=114,slow=33							
SONM	**Songino Array**	**66.70 329**		P		**P**	**01 37 22.9**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=159,slow=4.6,SNR=6.8							
SONM				LR		LR	02 05 47.7	
	comp=Z,31nm,18.5s,baz=344,slow=35							
VNDA	**Vanda**	**71.46 178**		P		**P**	**01 37 50.3**	**-1.4**
	comp=Z,1.2nm,0.9s,mb3.7,baz=312,slow=7.9,SNR=5.9							
VNDA	**Vanda**	**71.46 178**		*e*P		**P**	**01 37 50.3**	**-1.4**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
VNDA	**Vanda**	**71.46 178**		*e*P		**P**	**01 37 50.3**	**-1.4**
	comp=Z,1.2nm,0.8s,mb3.8							
MKAR	**Makanchi Array**	**80.36 319**		P		**P**	**01 38 42.4**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=103,slow=5.2,SNR=3.6							
ZAL	**Zalesovo**	**81.47 327**		P		**P**	**01 38 48.1**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.8,baz=346,slow=4.9,SNR=6.6							
MAW	**Mawson**	**83.62 203**		*e*P		**P**	**01 38 58.7**	**-0.8**
MAW				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MAW	**Mawson**	**83.62 203**		*e*P		**P**	**01 38 58.7**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.8							
QSPA	**South Pole Qui**	**83.72 180**		*e*P		**P**	**01 38 59.9**	**-0.1**
	comp=Z,8.6nm,1.0s,mb4.5							
CHKZ	**Chkalovo**	**89.42 324**		*e*P		**P**	**01 39 27.2**	**-0.6**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**89.42 324**		*e*P		**P**	**01 39 27.2**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.8							
BRVK	**Borovoye**	**89.50 323**		*e*P		**P**	**01 39 28.4**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
BRVK	**Borovoye**	**89.50 323**		*e*P		**P**	**01 39 28.4**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2							
NVAR	**Mina Array Bea**	**94.24 52**		P		**P**	**01 39 50.4**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.8,baz=270,slow=7.7,SNR=3.9							
SNAA	**Sanae**	**100.38 188**		P		Pdif	01 40 16.7	-1.1
GERES	**GERESS Array B**	**124.41 327**		PKP		PKPdf	01 45 29.3	-0.5
	comp=Z,0.4nm,0.5s,baz=72,slow=2.1,SNR=5.1							
TOA0	**Torodi Ar. Sit**	**149.17 285**		*e*PKPbc		PKPbc	01 46 20.1	+0.9
TORD	**Torodi Ar. Bea**	**149.17 285**		PKPbc		PKPbc	01 46 19.9	+0.7
	comp=Z,3.6nm,0.7s,baz=68,slow=2.0,SNR=30							

IDC 08 01:40:29.0±3.3,628S×15132E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/15,mbtmp3.6/4,ML2.2/1,Error ellipse: s-maj=128.7km s-min=42.2km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16 233**		Pn		Pn	01 41 49.6	+2.0
	0.6nm,0.3s,baz=329,slow=17,SNR=2.4							
WRA	**Warramunga Arr**	**21.37 229**		P		P	01 45 17.8	-0.2
	0.7nm,0.6s,baz=54,slow=10,SNR=7.5							
ASAR	**Alice Springs**	**24.07 222**		P		P	01 45 46.2	+0.2
	0.6nm,0.5s,baz=54,slow=9.1,SNR=11							
FITZ	**Fitzroy Crossi**	**27.67 243**		P		P	01 46 18.4	-0.2
	1.4nm,0.7s,baz=84,slow=9.5,SNR=4.6							
TORD	**Torodi Ar. Bea**	**149.32 285**		PKPbc		PKPbc	02 00 20.8	+1.0
	0.5nm,0.6s,baz=65,slow=2.1,SNR=9.1							

IDC 08 01:53:38.7±3.4,656S×15141E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.6/14,mbtmp3.7/3,Error ellipse: s-maj=128.2km s-min=45.2km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.25 230**		*e*P		P	01 58 27.7	+1.4
WRA	**Warramunga Arr**	**21.26 230**		P		P	01 58 25.6	-0.9
	2.1nm,0.8s,baz=56,slow=11,SNR=12							
ASAR	**Alice Springs**	**23.93 223**		P		P	01 58 55.5	+1.1
	1.0nm,0.5s,baz=60,slow=9.6,SNR=12							
FITZ	**Fitzroy Crossi**	**27.63 243**		*e*P		P	01 59 28.4	+0.5
	4.9nm,1.1s							
FITZ	**Fitzroy Crossi**	**27.63 243**		P		P	01 59 28.5	+0.7
	1.9nm,0.7s,baz=75,slow=6.5,SNR=6.7							
TORD	**Torodi Ar. Bea**	**149.48 285**		PKPbc		PKPbc	02 13 30.4	+0.6
	1.0nm,0.7s,baz=32,slow=3.4,SNR=12							

CSEM ***08*** *01:55:40.1,4308N×4589E,h29km,mb3.8,After OBN*

MOS 08 01:55:40.8±0.8,4308N×4589E,h29km,mb3.8/1,Error ellipse: s-maj=23.1km s-min=11.3km az=12.4,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.48 149**		*e*PG		Pb	01 55 50.5	-0.4
BTLR				*e*S		Sb	01 55 58.5	+0.8
UNCR	**Uncukul**	**0.76 118**		*e*PG		Pb	01 55 55.8	+0.3
UNCR				*e*S		Sb	01 56 07.8	+2.3
UNCR				pmax		pmax		
	comp=Z,14nm,0.2s							
UNCR	**Uncukul**	**0.76 118**		*e*Pg		Pb	01 55 55.8	+0.3
	comp=Z,14nm,0.2s							
UNCR				*e*Sg		Sb	01 56 07.8	+2.3
SNJR	**Sundja**	**0.79 270**		*e*Pg		Pn	01 55 56.0	+0.1
SNJR				*i* Sg		Sb	01 56 07.3	+1.0
KRNR	**Karanay**	**0.79 108**		PG		Pn	01 55 57.0	+1.0
KRNR				*e*S		Sb	01 56 11.8	+5.5
VLKR	**Vladikavkaz**	**0.89 268**		*e*Pg		Pn	01 55 57.5	+0.2
VLKR				*e*Sg		Sb	01 56 10.1	+1.0
TRKR	**Terskaya**	**1.06 308**		*i* Pg		Pn	01 55 58.7	-1.0
ARNR	**Ardon**	**1.18 276**		*i* Pg		Pn	01 56 01.4	0.0
ARNR				*i* Sg		Sn	01 56 17.5	+1.0
LACR	**Lac**	**1.20 258**		*i* Pg		Pn	01 56 02.6	+1.1
LACR				*i* Sg		Sn	01 56 18.8	+2.0
KORR	**Kora**	**1.33 271**		*i* Pg		Pn	01 56 03.8	+0.4
KORR				*i* Sg		Sn	01 56 21.1	+0.9
ZEI	**Tsey**	**1.49 259**		*i* Pg		Pn	01 56 05.3	-0.3
DIGR	**Digorskoe uzhe**	**1.70 265**		*e*Pn		Pn	01 56 09.3	+0.8

MAN 08 02:02:50.8,808N×12210E,h33km,mb3.2,ML4.4,MS2.4, 3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.55 122**		⇓*i*P		Pb	02 03 01.9	-0.2
IPIL				*i* S		Sb	02 03 09.9	-0.1
IPIL	**Ipil**	**0.55 122**		*e*P		Pb	02 03 01.9	-0.3
IPIL				*e*S		Sb	02 03 09.3	-0.7
ZMPH	**Zamboanga City**	**1.12 182**		⇑*i*P		Pn	02 03 10.6	+0.5
ZMPH				*i* S		Sn	02 03 24.4	0.0
DCPH	**Dipolog City**	**1.34 68**		⇑*e*P		Pn	02 03 13.6	+0.5
DCPH				*e*S		Sn	02 03 29.7	0.0
SNPH	**Sibulan**	**1.69 42**		⇑*e*P		Pn	02 03 19.0	+1.1
SNPH				*e*S		Sn	02 03 41.0	+2.7
GUIM	**Jordan**	**2.58 11**		*e*P		Pn	02 03 31.7	+1.6
GUIM				*e*S		Sn	02 04 01.0	+0.7
LLP	**Lapu-Lapu**	**2.89 40**		*e*P		Pn	02 03 35.5	+1.1
LLP				*e*S		Sn	02 04 07.9	-0.1
BUKP	**Musuan**	**2.94 94**		*e*P		Pn	02 03 45.8	+11
CUYO	**Cuyo Island**	**2.95 339**		*e*P		Pn	02 03 37.4	+2.1
CUYO				*e*S		Sn	02 04 10.0	+0.5
ENPP	**El Nido**	**4.07 320**		*e*P		Pn	02 03 51.8	+1.1
OTRP	**Odiongan**	**4.25 359**		*e*P		Pn	02 03 55.1	+1.8
OTRP				*e*S		Sn	02 04 41.9	+0.1
BUSP	**Coron**	**4.32 335**		*e*P		Pn	02 03 55.5	+1.4
BUSP				*e*S		Sn	02 04 43.6	+0.2

IDC 08 02:11:14.6±2.7,583S×15410E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/16,mbtmp3.7/4,ML3.0/1,MS2.9/3,Ms1 2.9/3, ms1mx2.6/16,Error ellipse: s-maj=122.0km s-min=40.4km az=134.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.74 242**		Pn		Pn	02 13 09.1	+0.7
	1.2nm,0.3s,baz=70,slow=12,SNR=3.2							
PMG				LR		LR	02 16 02.5	
	comp=Z,54nm,19.8s,baz=93,slow=37							
CTA	**Charters Tower**	**16.10 208**		LR		LR	02 20 03.6	
	comp=Z,27nm,20.2s,baz=235,slow=33							
WRA	**Warramunga Arr**	**23.79 232**		P		P	02 16 28.7	-0.2
	0.5nm,0.6s,baz=56,slow=9.8,SNR=5.8							
ASAR	**Alice Springs**	**26.31 226**		P		P	02 16 52.0	+0.1
	1.1nm,0.8s,baz=61,slow=7.3,SNR=7.4							
ASAR				LR		LR	02 26 22.3	
	comp=Z,45nm,19.0s,baz=180,slow=34							
FITZ	**Fitzroy Crossi**	**30.34 244**		P		P	02 17 28.6	+0.8
	0.9nm,0.7s,baz=82,slow=11,SNR=4.3							
TORD	**Torodi Ar. Bea**	**151.84 287**		PKPbc		PKPbc	02 31 12.4	+1.1
	0.5nm,0.8s,baz=87,slow=2.4,SNR=13							

ISCJB ***08*** *02:14:33.3±0.4,6084N±003×14959W±0.10,h45km±5km, mb3.9/11,MS4.3/1,Error ellipse: s-maj=7.8km s-min=5.7km az=10.6*

IDC ***08*** *02:14:34.3±3.2,6104N×14955W,h40km±36km,mb3.7/7, mb1 4.0/9,mb1mx3.7/21,mbtmp3.7/9,ML3.5/2,MS3.6/2, Ms1 3.5/2,ms1mx3.0/28,Error ellipse: s-maj=27.8km s-min=21.9km az=48.0*

NEIC ***08*** *02:14:34.8,6083N×14951W,h27km,mb4.1/4, ML3.7(AEIC),ML4.1(PMR),After AEIC.*

NEIC Felt [III] at Anchorage and Girdwood; [II] at Eagle River and Elmendorf AFB. Felt at Chugiak, Palmer and Valdez.

ISC 08 02:14:34.0±0.5,6083N±003×14960W±010,h34km±4km, n38,σ1917/45,mb3.9/11,MS4.3/1,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.27**	**346**	P		**Pb**	**02 14 40.1**	**-1.4**
RC01				S		**Sb**	**02 14 46.8**	**+0.2**
SLKM	**Skilak Lake**	**0.44**	**224**	P		**Pb**	**02 14 44.0**	**+0.2**
FIB	**Fire Island**	**0.44**	**321**	P		**Pn**	**02 14 44.2**	**+0.4**
SEW	**Seward**	**0.73**	**174**	P		**Pn**	**02 14 47.3**	**-0.6**
SEW				S		**Sb**	**02 14 58.6**	**+0.6**
PMR	**Palmer**	**0.80**

M_W~0.21±.22; Best double couple: M_o2.06900×10^16 NP1:ψ_s84.00000°,δ40.00000°,λ97.00000°. NP2: ϕ_s255.00000°,δ50.00000°,λ84.00000°. Principal axes: T 2.0140, Plg83.0000°, Azm129.0000°; N 0.1110, Plg4.0000°, Azm259.0000°; P -2.1250, Plg5.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **08** 02:21:27.2±0.2, 4262N×7539E, h10km, mb4.8/91 Error ellipse: s-maj=6.1km s-min=4.1km az=208.0*

NEIC Felt [V] at Kemin and [IV] at Bishkek and Kant. Also felt [V] at Kaskelen and [III] at Almaty, Kazakhstan.

*ISCJB **08** 02:21:27.3±0.3, 4257N±002×7537E±002, h20km±2km, mb4.7/126, MS4.1/32, Error ellipse: s-maj=3.1km s-min=2.4km az=21.3*

*NNC **08** 02:21:28.2±0.6, 4291N×7519E, h10km±4km, mb4.9, mpv4.7, Error ellipse: s-maj=15.3km s-min=4.0km az=173.0*

*MOS **08** 02:21:29.1±1.1, 4258N×7541E, h33km, mb4.9/70, MS4.1/16, Error ellipse: s-maj=8.4km s-min=4.6km az=39.8*

MOS Felt (IV) at Bishkek; (III) at Almaty.

*SZGRF **08** 02:21:32.0, 4351N×7629E, h20km, mb4.6, Lake Issyk-Kul, Kyrgyzstan, region*

ISC 08 02:21:27.3±0.4, **4259N**±002×**7536E**±002, **h8**km±2km, **h15**km±1.5km**:pP-P, n359,** σ1**s13**/403, **mb4.7**/126, **MS4.1**/32, **45C-36D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.31**	**283**	⇓P	**Pg**	**02 21 33.8**	**+0.4**
	14μm,0.1s						
KBK				⇑S	**Sg**	**02 21 38.8**	**+1.2**
	172μm,0.2s						
TKM2	**Tokmak 2**	**0.38**	**28**	⇑P	**Pg**	**02 21 35.2**	**+0.6**
	9μm,0.2s						
TKM2				⇑S	**Sg**	**02 21 41.0**	**+1.4**
	39μm,0.1s						
TKM2	**Tokmak 2**	**0.38**	**28**	⇓P	**Pg**	**02 21 35.2**	**+0.6**
	574nm,0.4s						
TKM2				⇑S	**Sg**	**02 21 40.7**	**+1.1**
	3μm,0.5s						
KZA	**Kyzart**	**0.52**	**189**	P	**Pg**	**02 21 37.1**	**-0.2**
	7μm,0.2s,SNR=9307						
KZA				⇑S	**Sg**	**02 21 44.0**	**0.0**
	29μm,0.5s						
FRU	**Bishkek**	**0.60**	**294**	⇓*i*PG	**Pg**	**02 21 38.8**	**-0.1**
FRU				*i*		02 21 50.0	
CHMS	**Chumysh**	**0.61**	**313**	P	**Pg**	**02 21 39.0**	**0.0**
	3μm,0.2s,SNR=3081						
CHMS				⇑S	**Sg**	**02 21 47.6**	**+0.6**
	31μm,0.2s						
AAK	**Ala-Archa**	**0.64**	**274**	P	**Pg**	**02 21 39.3**	**-0.3**
	4μm,0.2s,SNR=6451						
AAK				⇑S	**Sg**	**02 21 47.8**	**-0.1**
	55μm,0.3s						
AAK	**Ala-Archa**	**0.64**	**274**	*e*Pn	**Pg**	**02 21 38.3**	**-1.3**
AAK				*e*Sn	**Sg**	**02 21 46.8**	**-1.2**
UCH	**Uchtor**	**0.72**	**240**	P	**Pg**	**02 21 40.5**	**-0.7**
	1μm,0.2s,SNR=3367						
UCH				⇑S	**Sg**	**02 21 50.0**	**-0.6**
	11μm,0.3s						
ULHL	**Ulahol**	**0.74**	**117**	P	**Pg**	**02 21 41.0**	**-0.5**
	4μm,0.3s						
ULHL				⇑S	**Sg**	**02 21 50.9**	**-0.1**
	14μm,0.2s						
USP	**Ospenovka**	**0.93**	**317**	P	**Pg**	**02 21 44.7**	**-0.4**
	8μm,0.2s,SNR=9682						
USP				⇓S	**Sg**	**02 21 57.7**	**+0.6**
	14μm,0.2s						
EKS2	**Erkin-Say**	**1.17**	**274**	P	**Pb**	**02 21 49.3**	**-0.4**
	1μm,0.2s,SNR=6488						
EKS2				⇓S	**Sg**	**02 22 05.4**	**+0.5**
	6μm,0.3s						
AML	**Almayashu**	**1.32**	**250**	P	**Pn**	**02 21 51.5**	**-0.4**
	650nm,0.2s,SNR=1850						
AML				⇓S	**Sb**	**02 22 08.4**	**-0.8**
	24μm,0.6s						
KNDC	**Almaty**	**1.34**	**61**	⇑P	**Pn**	**02 21 52.7**	**+0.5**
	4μm,0.6s						
KNDC				⇑S	**Sb**	**02 22 11.4**	**+1.6**
	9μm,0.4s						
AAA	**Alma-Ata**	**1.35**	**59**	*c i*PG	**Pg**	**02 21 52.2**	**-1.0**
AAA				*i* S	**Sb**	**02 22 09.5**	**-0.7**
AAA				pmax	pmax		
	comp=Z,8.0nm,0.2s						
AAA				smax			
	comp=E,19nm,0.2s						
KSH	**Kashi**	**3.10**	**171**	⇑P	**Pn**	**02 22 21.6**	**+5.2**
KK31	**Karatay Array**	**3.60**	**280**	Pn	**Pn**	**02 22 24.4**	**+1.1**
	comp=E,4.9nm,0.3s,baz=94,slow=13,SNR=5277						
KK31				⇑Pg	**Pg**	**02 22 33.8**	**-2.5**
	comp=E,264nm,0.4s,baz=96,slow=16,SNR=18						
KK31				⇑Lg		02 23 17.7	
	comp=E,2μm,0.5s,baz=94,slow=30,SNR=15						
MK31	**Makanchi Array**	**6.49**	**47**	Pn	**Pn**	**02 23 05.0**	**+2.0**
	comp=E,48nm,0.4s,baz=222,slow=13,SNR=1373						
MK31				Sn	**Sn**	**02 24 19.1**	**+2.0**
	comp=E,74nm,0.5s,baz=234,slow=17,SNR=6.3						
MK31				⇓Lg		02 24 47.1	
	comp=E,226nm,0.6s,baz=228,slow=28,SNR=3.4						
MK31	**Makanchi Array**	**6.49**	**47**	*e*Pn	**Pn**	**02 23 04.9**	**+2.0**
MK31				*e*Sg	**Sg**	**02 24 48.3**	**-7.2**
MKAR	**Makanchi Array**	**6.49**	**47**	Pn	**Pn**	**02 23 05.0**	**+2.0**
	comp=E,20nm,0.3s,baz=224,slow=14,SNR=558						
MKAR				Sn	**Sn**	**02 24 19.2**	**+2.1**
	comp=E,62nm,0.3s,baz=223,slow=22,SNR=11						
MKAR				Lg		02 24 48.4	
	comp=E,90nm,0.3s,baz=229,slow=33,SNR=8.1						
MKAR	**Makanchi Array**	**6.49**	**47**	PN	**Pn**	**02 23 05.0**	**+2.1**
MKAR						02 24 19.2	
MKAR	**Makanchi Array**	**6.49**	**47**	Pn	**Pn**	**02 23 05.0**	**+2.0**
MKAR				Sn	**Sn**	**02 24 19.2**	**+2.1**
MKAR				Lg		02 24 48.4	
CHCP	**Chirah Chowk**	**9.07**	**191**	⇑P	**Pn**	**02 23 40.6**	**+2.3**
WMQ	**Urumqi**	**9.10**	**78**	P	**Pn**	**02 23 39.3**	**+0.6**
WMQ				AP		02 23 42.8	
WMQ				XP		02 23 45.3	
WMQ				S	**Sn**	**02 25 21.7**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,23nm,0.4s						
WMQ				LR	LR		
	comp=N,432nm,18.5s						
WMQ				LR	LR		
	comp=E,681nm,19.5s						
WMQ				LR	LR		
	comp=Z,563nm,15.6s						
CEP	**Cherat**	**9.16**	**198**	⇓P	**Pn**	**02 23 41.3**	**+1.7**
CEP				S	**Sn**	**02 25 25.0**	**+2.1**
THN	**Thein Dam**	**10.14**	**178**	*e*P	**Pn**	**02 23 52.2**	**-0.9**
THN				*ex*	x	02 25 55.3	
THW	**Thamme Wali**	**10.19**	**197**	P	**Pn**	**02 23 56.2**	**+2.5**
VOSK	**Vostochnaya**	**10.56**	**345**	⇑Pn	**Pn**	**02 23 57.7**	**-1.1**
	comp=Z,10nm,0.4s						
VOSK				⇓Lg		02 26 57.2	
	comp=Z,664nm,1.1s						
BVA0	**Borovoye Array**	**10.96**	**344**	Pn	**Pn**	**02 24 02.4**	**-1.9**
	comp=Z,4.4nm,0.7s,baz=154,slow=12,SNR=144						
BVA0				⇓Sn	**Sn**	**02 26 01.8**	**-5.3**
	comp=Z,24nm,1.1s,baz=173,slow=19,SNR=4.0						
BVA0				⇓Lg		02 27 05.8	
	comp=Z,155nm,0.9s						
BVAR	**Borovoye Array**	**10.96**	**344**	Pn	**Pn**	**02 24 02.7**	**-1.6**
	comp=Z,5.8nm,0.3s,baz=151,slow=13,SNR=61						
BVAR				Sn	**Sn**	**02 26 04.3**	**-2.7**
	comp=Z,14nm,0.3s,baz=153,slow=24,SNR=5.8						
BVAR				Lg		02 27 10.0	
	comp=Z,24nm,0.3s,baz=172,slow=25,SNR=4.3						
BVAR				LR	LR	02 28 38.1	
	comp=Z,622nm,18.1s,baz=144,slow=39						
BVAR	**Borovoye Array**	**10.96**	**344**	P	**Pn**	**02 24 02.7**	**-1.6**
BVAR						02 26 04.3	
BRVK	**Borovoye**	**11.01**	**344**	*e*P	**Pn**	**02 24 03.3**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,27nm,0.5s						
BRVK	**Borovoye**	**11.01**	**344**	*e*Pn	**Pn**	**02 24 03.2**	**-1.8**
	comp=Z,27nm,0.5s						
CHKZ	**Chkalovo**	**11.54**	**346**	⇓Pn	**Pn**	**02 24 09.9**	**-2.2**
	comp=Z,7.9nm,0.3s						
CHKZ				⇓Sn	**Sn**	**02 26 13.4**	**-7.8**
	comp=Z,72nm,0.7s						
CHKZ				⇓Lg		02 27 26.5	
	comp=Z,419nm,1.3s						
CHKZ	**Chkalovo**	**11.54**	**346**	*e*P	**Pn**	**02 24 09.6**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.2s						
CHKZ	**Chkalovo**	**11.54**	**346**	*e*Pn	**Pn**	**02 24 09.6**	**-2.5**
	comp=Z,3.1nm,0.2s						
DRP	**Derazinda**	**11.57**	**202**	P	**Pn**	**02 24 18.2**	**+5.5**
AB31	**Akbulak array**	**12.62**	**307**	Pn	**Pn**	**02 24 25.0**	**-2.0**
	comp=Z,21nm,0.5s,baz=108,slow=12,SNR=392						
AB31				⇓Sn	**Sn**	**02 26 39.3**	**-8.4**
	comp=E,51nm,0.7s						
AB31				⇓Lg		02 27 57.8	
	comp=Z,338nm,1.1s						
ZAL	**Zalesovo**	**12.96**	**26**	Pn	**Pn**	**02 24 30.0**	**-1.7**
	comp=Z,3.3nm,0.3s,baz=257,slow=9.9,SNR=19						
ZAL				Sn	**Sn**	**02 26 46.8**	**-9.3**
	comp=Z,6.7nm,0.3s,baz=272,slow=18,SNR=3.5						
ZAL				Lg		02 28 18.0	
	comp=Z,13nm,0.3s,baz=350,slow=23,SNR=3.7						
ZAL	**Zalesovo**	**12.96**	**26**	Pn	**Pn**	**02 24 30.0**	**-1.7**
ZAL				Sn	**Sn**	**02 26 46.8**	**-9.3**
ZAL				Lg		02 28 18.0	
NVS	**Novosibirsk**	**13.31**	**20**	*e*P	**Pn**	**02 24 36.2**	**-0.2**
NVS				*e*		02 26 59.2	
NDI	**New Delhi**	**13.96**	**173**	*e*P	**Pn**	**02 24 41.0**	**-4.2**
NDI				*e*S	**Sn**	**02 27 16.0**	**-4.3**
AKTK	**Aktyubinsk**	**14.27**	**309**	Pn	**Pn**	**02 24 47.1**	**-2.3**
AKTK				Sn	**Sn**	**02 27 19.9**	**-8.0**
AKTK				Lg		02 28 58.6	
AKTK				LR	LR	02 30 42.6	
AKTO	**Aktyubinsk**	**14.27**	**309**	⇑Pn	**Pn**	**02 24 47.0**	**-2.5**
	comp=Z,1.5nm,0.8s						
AKTO				⇑Sn	**Sn**	**02 27 18.4**	**-9.5**
	comp=Z,0.7nm,0.7s						
AKTO				⇑Lg		02 28 56.6	
	comp=Z,4.2nm,0.9s						
AKTO	**Aktyubinsk**	**14.27**	**309**	Pn	**Pn**	**02 24 47.1**	**-2.3**
	comp=Z,2.5nm,0.3s,baz=114,slow=12,SNR=40						
AKTO				Sn	**Sn**	**02 27 19.9**	**-8.0**
	comp=Z,1.4nm,0.3s,baz=324,slow=20,SNR=3.5						
AKTO				Lg		02 28 58.6	
	comp=Z,1.6nm,0.3s,baz=324,slow=21,SNR=2.8						
AKTO				LR	LR	02 30 42.6	
	comp=Z,948nm,18.3s,baz=294,slow=39						
AKTO	**Aktyubinsk**	**14.27**	**309**	P	**Pn**	**02 24 47.1**	**-2.4**
AKTO						02 27 19.9	
AJM	**Ajmer**	**16.08**	**182**	*e*P	**Pn**	**02 25 15.0**	**+1.4**
AJM				*e*P		02 25 15.9	
AJM				AMb	AMB	02 25 20.1	
	comp=Z,40nm,0.9s						
KOLN	**Koldanda**	**16.23**	**153**	*e*P	**Pn**	**02 25 15.2**	**-0.4**
	comp=Z,179nm,1.1s						
GKN	**Gorkha**	**16.39**	**150**	*e*P	**Pn**	**02 25 15.6**	**-1.9**
	comp=Z,113nm,1.0s						
ORR	**Orenburg**	**16.64**	**310**	*e*P	**Pn**	**02 25 19.5**	**-1.2**
ORR				S	**Sn**	**02 28 20.1**	**-5.5**
ORR				pmax	pmax		
	comp=Z,50nm,1.0s						
ORR				MLR	MLR		
	comp=Z,590nm,12.0s						
KKN	**Kakani**	**16.82**	**148**	*e*P	**Pn**	**02 25 21.6**	**-1.5**
DMN	**Daman**	**16.92**	**149**	*e*P	**Pn**	**02 25 22.7**	**-1.6**
	comp=Z,132nm,1.2s						
GUN	**Gumba**	**16.96**	**146**	*e*P	**Pn**	**02 25 23.4**	**-1.3**
	comp=Z,210nm,1.2s						
PKI	**Pulchoki**	**17.07**	**148**	*e*P	**Pn**	**02 25 24.4**	**-1.8**
SVE	**Sverdlovsk**	**17.08**	**332**	*e*P	**Pn**	**02 25 23.0**	**-3.3**
SVE				*e*		02 28 27.0	
JIRN	**Jiri**	**17.30**	**146**	*e*P	**Pn**	**02 25 27.8**	**-1.3**
ARU	**Arti**	**17.56**	**328**	*i*P	**Pn**	**02 25 29.8**	**-2.5**
ARU				*e*S	**Sn**	**02 28 42.1**	**-5.8**
ARU				pmax	pmax		
	comp=Z,25nm,0.9s						
ARU				MLR	MLR		
	comp=Z,500nm,16.0s						
ARU				MLR	MLR		
	comp=N,300nm,17.0s						
ARU				MLR	MLR		
	comp=E,300nm,15.0s						
ARU	**Arti**	**17.56**	**328**	*e*P	**Pn**	**02 25 29.7**	**-2.6**
	comp=E,36nm,0.9s						
ARU				*e*Sn	**Sn**	**02 28 43.8**	**-4.2**
GTA	**Gaotai**	**18.71**	**92**	⇓P	**Pn**	**02 25 46.5**	**+0.1**
GTA				AP	pP	02 25 51.2	+2.7
GTA				XP	sP	02 25 53.5	+3.9
GTA				PP		02 26 02.6	
GTA				S	**Sn**	**02 29 18.6**	**+2.8**
GTA				XS	sS	02 29 25.8	+2.7
GTA				AMB	AMB		
	comp=Z,15nm,1.0s						
GTA				AMB	AMB		
	comp=Z,333nm,4.2s						
GTA				LR	LR		
	comp=N,450nm,10.7s						
GTA				LR	LR		
	comp=E,912nm,13.4s						
GTA				LR	LR		
	comp=Z,1μm,13.4s						
BHPL	**Bhopal**	**19.37**	**174**	*e*P	**Pn**	**02 25 54.0**	**-0.3**
BHPL				AMb	AMB	02 25 58.0	
	comp=Z,42nm,1.1s						
JBP	**Jabalpur**	**19.75**	**167**	*i*P	**Pn**	**02 25 59.0**	**+0.2**
JBP				*ex*	x	02 26 11.0	
	comp=Z,110nm,1.8s						
JBP				*i* S	**Sn**	**02 29 39.2**	**-1.6**
MAK	**Makhachkala**	**20.42**	**281**	*e*P	**P**	**02 26 01.3**	**-3.4**
MAK				*e*S	**S**	**02 29 47.0**	**-6.5**
MAK				pmax	pmax		
	comp=Z,231nm,1.4s						
MAK				MLR	MLR		
	comp=Z,1μm,10.0s,MS4.5						
ZAK	**Zakamensk**	**20.66**	**58**	⇓*e*P	**P**	**02 26 08.7**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,46nm,1.0s						
BOK	**Bokaro**	**20.68**	**152**	*e*P	**P**	**02 26 08.0**	**+0.4**
BOK				AMb	AMB	02 26 09.5	
	comp=Z,93nm,0.9s						
TLY	**Talaya**	**21.17**	**55**	*e*P	**P**	**02 26 17.0**	**+4.2**
TLY				*e*PPP		02 26 28.7	
TLY				*e*S	**S**	**02 30 07.4**	**-0.9**
TLY				*e*SS		02 30 29.9	
TLY				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.4						
TLY				MLR	MLR		
	comp=Z,471nm,15.0s,MS4.0						
SHL	**Shillong**	**21.74**	**136**	*e*P	**P**	**02 26 21.7**	**+2.7**
SONM	**Songino Array**	**22.39**	**66**	P	**P**	**02 26 26.3**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.0,baz=260,slow=10,SNR=20						
SONM				LR	LR	02 36 21.2	
	comp=Z,432nm,18.6s,MS3.9,baz=53,slow=40						
LZH	**Lanzhou**	**22.90**	**97**	*e*P	**P**	**02 26 30.5**	**-0.9**
LZH				AP		02 26 34.7	
LZH				XP	sP	02 26 37.5	+2.6
LZH				PP		02 26 59.3	
LZH				*e*S	**S**	**02 30 34.5**	**-6.9**
LZH				*e*SS		02 31 17.6	
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,113nm,4.1s						
LZH				LR	LR		
	comp=N,475nm,10.2s						
LZH				LR	LR		
	comp=Z,931nm,14.5s,MS4.4						
LZH	**Lanzhou**	**22.90**	**97**	*e*P	**P**	**02 26 30.5**	**-0.9**
LZH				*SP	sP	02 26 37.5	+2.6
LZH						02 26 59.3	
LZH				*e*S	**S**	**02 30 34.5**	**-6.9**
LZH				*e*SS		02 31 17.6	
LZH				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
LZH				MLR	MLR		
	comp=Z,930nm,14.5s,MS4.4						
LZH	**Lanzhou**	**22.90**	**97**	*e*P	**P**	**02 26 30.5**	**-0.9**
	comp=Z,25nm,1.2s,mb4.5						
LZH				pP		02 26 34.7	
LZH				sP	sP	02 26 37.5	+2.6
LZH				PP		02 26 59.3	
LZH				*e*S	**S**	**02 30 34.5**	**-6.9**
LZH				sS	sS	02 30 41.7	-4.0
LZH				*e*SS		02 31 17.6	
LZH				LR	LR		
	comp=Z,930nm,14.5s,MS4.4						
GNI	**Garni**	**23.05**	**274**	P	**P**	**02 26 37.1**	**+4.2**
	comp=Z,36nm,1.1s,mb4.7,baz=245,slow=6.6,SNR=7.4						
GNI				LR	LR	02 36 56.9	
	comp=Z,365nm,18.3s,MS3.9,baz=172,slow=40						
GNI	**Garni**	**23.05**	**274**	⇑*e*P	**P**	**02 26 31.0**	**-1.9**
GNI				pmax	pmax		
	comp=Z,66nm,1.3s						
GNI				MLR	MLR		
	comp=Z,400nm,16.0s						
GNI	**Garni**	**23.05**	**274**	*e*P	**P**	**02 26 36.5**	**+3.6**
	comp=Z,61nm,1.0s,mb5.0						
ZEI	**Tsey**	**23.07**	**281**	⇓*e*P	**P**	**02 26 34.4**	**+1.3**
ZEI				*e*PP		02 26 39.8	
KIV	**Kislovodsk**	**23.75**	**285**	*e*P	**P**	**02 26 39.2**	**-0.8**
KIV				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6						
KIV				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.1						
KIV	**Kislovodsk**	**23.75**	**285**	*e*P	**P**	**02 26 40.7**	**+0.7**
	comp=Z,43nm,0.8s,mb4.9						
WSAR	**Wadi Sarin**	**23.78**	**221**	P	**P**	**02 26 40.9**	**+0.5**
	comp=Z,8.5nm,1.0s,mb4.1,baz=87,slow=8.1,SNR=5.8						
WSAR				LR	LR	02 35 32.4	
	comp=Z,36nm,21.9s,baz=323,slow=36						
POO	**Poona**	**24.02**	**184**	⇓*i*P	**P**	**02 26 42.0**	**-0.4**
	comp=Z,30nm,1.0s,mb4.7						
POO				*ex*	x	02 31 20.0	
POO				*ex*	x	02 33 21.0	
LATR	**Latur**	**24.12**	**177**	*e*P	**P**	**02 26 45.5**	**+2.1**
KAD	**Karad**	**25.22**	**183**	*e*P	**P**	**02 26 53.3**	**-0.1**
KAD				AMb	AMB	02 26 55.2	
	comp=Z,32nm,1.2s,mb4.7						
HYB	**Hyderabad**	**25.24**	**173**	*i* P	**P**	**02 26 53.5**	**-0.1**
HYB	**Hyderabad**	**25.24**	**173**	*e*P	**P**	**02 26 53.5**	**-0.1**
CD2	**Chengdu**	**25.45**	**108**	P	**P**	**02 26 55.6**	**+0.1**
CD2				AP	pP	02 26 59.8	+1.8
CD2				XP	sP	02 27 02.8	+3.7
CD2				PP		02 27 34.5	
CD2				S	**S**	**02 31 19.2**	**-3.3**
CD2				SS		02 32 21.0	
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,470nm,14.4s,MS4.3						
CD2				LR	LR		
	comp=E,520nm,13.2s,MS4.3						
CD2				LR	LR		
	comp=Z,460nm,13.2s,MS4.2						
VORD	**Divnogorie**	**25.87**	**301**	*e*P	**P**	**02 27 02.1**	**+2.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
VORD				pmax	pmax		
	comp=N,8.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,40nm,1.0s						
SOC	**Sochi**	**25.93**	**284**	*e*P	**P**	**02 26 58.5**	**-1.4**
SOC				*e*PPP		02 27 54.4	
SOC				*e*S	**S**	**02 31 26.3**	**-3.9**
SOC				pmax	pmax		
	comp=Z,92nm,0.6s,mb5.5						
SOC				MLR	MLR		
	comp=Z,727nm,16.0s,MS4.3						
VRSR	**Storozhevoye**	**25.95**	**302**	*e*P	**P**	**02 27 03.8**	**+3.7**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
VRSR				pmax	pmax		
	comp=N,7.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,20nm,1.0s						
HHC	**Hu-ho-hao-te**	**26.95**	**81**	*e*P	**P**	**02 27 09.1**	**0.0**
HHC				XP	sP	02 27 16.3	+3.6
HHC				PP		02 27 54.0	
HHC				PCP	PcP	02 30 32.9	+2.0
HHC				S	**S**	**02 31 44.6**	**-1.7**
HHC				SS		02 32 55.2	
HHC				SCP	ScP	02 34 10.5	-0.8
HHC				PCS	PcS	02 34 12.5	+0.2
HHC				SCS	ScS	02 37 59.6	-2.6
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,202nm,5.9s						
HHC				LR	LR		
	comp=N,385nm,10.4s,MS4.5						
HHC				LR	LR		
	comp=E,672nm,11.5s,MS4.5						
HHC				LR	LR		
	comp=Z,669nm,13.3s,MS4.4						
ANN	**Anapa**	**27.35**	**288**	*e*P	**P**	**02 27 08.7**	**-4.0**
ANN				MLR	MLR		
	comp=N,1μm,17.0s,MS4.6						
ANN				MLR	MLR		
	comp=E,631nm,17.0s,MS4.6						
ANN				MLR	MLR		
	comp=Z,855nm,17.0s,MS4.4						
MOS	**Moscow**	**27.58**	**312**	*e*P	**P**	**02 27 18.5**	**+3.8**
MOS				*e*		02 27 35.2	
MOS				*e*SS		02 33 10.0	
MOS				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.1						
OBN	**Obninsk**	**28.05**	**310**	⇑*e*P	**P**	**02 27 19.1**	**+0.2**
OBN				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.5						
OBN				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.0						
KMI	**Kunming**	**28.46**	**119**	P	**P**	**02 27 23.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=Z,382nm,22.2s,MS4.0						
KMI	**Kunming**	**28.46**	**119**	P	**P**	**02 27 23.8**	**+1.2**
	comp=Z,12nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=Z,380nm,22.2s,MS4.0						
BOD	**Bodaibo**	**28.57**	**44**	⇑*i*P	**P**	**02 27 23.8**	**+0.3**
BOD				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
MNGI	**Mangalore**	**29.54**	**181**	*ex*	x	02 27 22.9	
MNGI				AMb	AMB	02 27 25.7	
	comp=Z,25nm,2.3s,mb4.5						
GYA	**Guiyang**	**30.18**	**112**	P	**P**	**02 27 39.4**	**+1.6**
GYA				AP	pP	02 27 42.6	+2.2
GYA				XP	sP	02 27 46.4	+4.9
GYA				PP	PP	02 28 38.1	-7.8
GYA				PCP	PcP	02 30 40.7	+1.8
GYA				S	**S**	**02 32 37.5**	**+0.4**
GYA				SS	SS	02 34 14.9	-31
GYA				SCP	ScP	02 34 21.8	+0.4
GYA				SCS	ScS	02 38 16.0	-1.0
GYA				LR	LR		
	comp=N,430nm,17.9s,MS4.3						
GYA				LR	LR		
	comp=E,420nm,17.8s,MS4.3						
GYA				LR	LR		
	comp=Z,390nm,18.2s,MS4.1						
BJI	**Beijing**	**30.56**	**81**	*e*P	**P**	**02 27 41.5**	**+0.3**
BJI				S	**S**	**02 32 39.4**	**-3.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
BJI				LR	LR		
	comp=N,706nm,17.5s,MS4.4						
BJI				LR	LR		
	comp=E,358nm,17.1s,MS4.4						
BJI				LR	LR		
	comp=Z,284nm,16.5s,MS4.0						
BJI	**Beijing**	**30.56**	**81**	*e*P	**P**	**02 27 41.5**	**+0.3**
	comp=Z,10.0nm,1.2s,mb4.5						
BJI				S	**S**	**02 32 39.4**	**-3.6**
BJI				LR	LR		
	comp=Z,280nm,16.5s,MS4.0						
CHTO	**Chiang Mai**	**30.99**	**133**	*e*P	**P**	**02 27 45.7**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3		

LVZ pmax pmax
comp=Z,60nm,1.6s,mb5.3
LVZ MLR MLR
comp=N,361nm,9.0s
LVZ MLR MLR
comp=Z,652nm,9.0s
LVZ MLR MLR
comp=E,516nm,7.0s
PLOR Plostina 34.63 292 ⇓P **P 02 28 18.8 +2.0**
FINES FINESS Array B 34.63 320 P **P 02 28 17.6 +0.7**
comp=E,1.3nm,0.5s,mb4.1,baz=100,slow=7.9,SNR=6.2
FINES LR LR 02 42 57.9
comp=E,476nm,18.4s,MS4.3,baz=141,slow=37
EIL Elat 34.77 262 *e*P **P 02 28 19.1 +1.1**
comp=E,397nm,1.2s
MLR Muntele Rosu 35.19 292 ⇓*i*P **P 02 28 24.2 +2.5**
MLR Muntele Rosu 35.19 292 ⇓P **P 02 28 23.3 +1.6**
BURAR Bucovina Array 35.24 296 ⇓*i*P **P 02 28 22.9 +0.8**
BURAR Bucovina Array 35.24 296 ⇓P **P 02 28 23.0 +0.9**
PALK Pallekele 35.49 171 *e*P **P 02 28 25.5 +1.3**
comp=E,18nm,1.1s,mb4.9
NJ2 Nanjing 35.80 92 *e*P **P 02 28 27.6 +0.7**
NJ2 AP pP 02 28 31.0 +1.4
NJ2 XP sP 02 28 33.6 +3.0
NJ2 PP PP 02 29 48.1 -0.1
NJ2 S **S 02 34 04.0 -0.4**
NJ2 XS sS 02 34 12.5 +3.7
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,630nm,4.1s
NJ2 LR LR
comp=N,920nm,14.7s,MS4.8
NJ2 LR LR
comp=E,970nm,16.6s,MS4.8
NJ2 LR LR
comp=Z,890nm,15.8s,MS4.6
CN2 Changchun 36.09 71 *e*P **P 02 28 28.9 -0.5**
CN2 *e*XP sP 02 28 35.0 +2.0
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.7
CN2 LR LR
comp=E,700nm,15.0s,MS4.7
CN2 LR LR
comp=Z,900nm,17.0s,MS4.6
KWP Kalwaria 36.53 300 *e*P **P 02 28 34.9 +1.8**
KWP pmax pmax
comp=Z,19nm,0.9s,mb4.9
KWP Kalwaria 36.53 300 *e*P **P 02 28 34.9 +1.8**
comp=Z,19nm,0.9s,mb4.9
KOLS Kolonicke sedl 36.93 299 *e*PP PP 02 30 05.3 +4.7
ARCES ARCESS Array B 37.00 333 P **P 02 28 38.0 +0.8**
comp=Z,1.8nm,0.4s,mb4.2,baz=102,slow=7.7,SNR=13
ARCES ARCESS Array B 37.00 333 P **P 02 28 38.0 +0.8**
DRGR 37.09 295 ⇑*i*P **P 02 28 39.8 +1.9**
YAK Yakutsk 37.09 39 ⇑*e*P **P 02 28 37.2 -0.7**
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.0
YAK MLR MLR
comp=Z,100nm,16.0s,MS3.7
QIZ Qiongzhong 37.40 118 P **P 02 28 41.8 +1.2**
QIZ S **S 02 34 27.5 -1.3**
QIZ LR LR
comp=Z,474nm,17.4s,MS4.3
CRVS Cervenica-Dubn 37.46 299 *e*PP PP 02 30 10.0 +3.5
STHS Stebnicka Huta 37.51 300 *e*PP PP 02 30 15.8 +8.9
VTS Vitosha 37.88 288 ⇑*i*P **P 02 28 50.8 +6.2**
VTS Vitosha 37.88 288 ⇑P **P 02 28 44.9 +0.3**
SSE Sheshan 38.01 92 ⇑P **P 02 28 46.9 +1.2**
SSE AP pP 02 28 50.3 +2.0
SSE S **S 02 34 36.7 -1.3**
SSE AMB AMB
comp=Z,76nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,54nm,3.5s
SSE LR LR
comp=N,232nm,16.9s,MS4.3
SSE LR LR
comp=E,324nm,16.9s,MS4.3
SSE LR LR
comp=Z,342nm,13.8s,MS4.3
SSE Sheshan 38.01 92 ⇑P **P 02 28 46.9 +1.2**
comp=Z,76nm,0.8s,mb5.5
SSE pP pP 02 28 50.3 +2.0
SSE S **S 02 34 36.7 -1.3**
SSE sS sS 02 34 41.4 -0.9
SSE ScS ScS 02 38 59.8 +1.6
SSE LR LR
comp=Z,340nm,13.8s,MS4.3
NIE Niedzica 38.10 300 *e*P **P 02 28 48.3 +1.8**
BZS Buzias 38.11 294 ⇑*i*P **P 02 28 48.1 +1.5**
BZS Buzias 38.11 294 ⇑P **P 02 28 48.8 +2.2**
KECS Kecovo 38.18 298 *e*P **P 02 28 48.8 +1.7**
KECS *e* 02 30 24.1
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KECS Kecovo 38.18 298 *e*P **P 02 28 48.8 +1.7**
comp=Z,2.4nm,0.8s,mb4.0
KECS *e*PP PP 02 30 24.1 +10
APE Apeiranthos 38.21 279 ⇑*i*P **P 02 28 48.1 +0.7**
APE Apeiranthos 38.21 279 *d i*P **P 02 28 47.3 -0.1**
MDJ Mudanjiang 38.72 68 P **P 02 28 49.5 -2.2**
MDJ S **S 02 34 46.1 -2.7**
MDJ SS SS 02 37 26.0 -13
MDJ AMB AMB
comp=Z,6.0nm,1.6s,mb4.1
MDJ AMB AMB
comp=Z,29nm,3.5s
MDJ LR LR
comp=N,139nm,27.8s,MS3.7
MDJ LR LR
comp=E,70nm,31.1s,MS3.7
MDJ LR LR
comp=Z,118nm,26.9s,MS3.6
TIXI Tiksi 38.86 24 *e*P **P 02 28 50.2 -2.7**
TIXI *e* 02 28 57.7
TIXI *e*S **S 02 34 48.7 -2.2**
TIXI pmax pmax
comp=Z,25nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,839nm,14.0s,MS4.7
VYHS Vyhne 39.25 299 *e*P **P 02 28 57.9 +1.8**
OKC Ostrava-Krasne 39.40 301 *e*pP pP 02 29 03.5 +3.5
DIVS Divcibare 39.65 292 *i* P **P 02 29 00.6 +1.1**
MORC Moravsky Berou 39.79 301 ⇑*i*P **P 02 29 02.0 +1.4**
MORC Moravsky Berou 39.79 301 *e*P **P 02 28 59.4 -1.2**
MORC pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
MORC Moravsky Berou 39.79 301 *e*P **P 02 28 59.4 -1.3**
comp=Z,7.2nm,1.3s,mb4.2
PKSM Moragy 39.95 295 ⇓*i*P **P 02 29 02.8 +0.8**
PKSM Moragy 39.95 295 ⇓P **P 02 29 03.9 +1.9**
KSRS Korea Array 40.05 79 P **P 02 29 03.0 +0.3**
comp=Z,3.3nm,0.8s,mb4.1,baz=287,slow=5.1,SNR=6.5
GVD Gavdhos 40.23 276 *e*P **P 02 29 04.2 -0.1**
comp=Z,35nm,1.0s,mb5.0
DPC Dobruska-Polom 40.44 302 *e*P **P 02 29 07.9 +1.9**
ZST Bratislava 40.44 299 *e*P **P 02 29 12.1 +6.1**
UPC Upice 40.60 302 *e*P **P 02 29 09.0 +1.7**
CONA Conrad Observa 41.32 299 ⇑*i*P **P 02 29 15.3 +2.1**
comp=Z,8.3nm,1.1s,mb4.3
PVCC Panska Ves 41.49 303 *e*P **P 02 29 17.0 +2.3**
PRU Pruhonice 41.63 302 *e*P **P 02 29 17.3 +1.4**
ARSA Arzberg 41.72 298 ⇑*i*P **P 02 29 16.9 +0.3**
comp=Z,3.6nm,1.1s,mb3.9
NB2 NORSAR Subarra 41.78 319 P **P 02 29 17.2 +0.2**
comp=Z,2.5nm,0.5s,mb4.1,baz=86,slow=8.6
NOA NORSAR Array B 41.78 319 P **P 02 29 17.4 +0.4**
comp=Z,3.8nm,0.7s,mb4.2,baz=87,slow=8.2,SNR=7.8
BRG Berggiesshubel 41.80 303 *e*P **P 02 29 22.9 +5.7**
comp=Z,5.6nm,1.4s,mb4.0
BRG
comp=N,255nm,15.9s
BRG
comp=E,226nm,15.6s
BRG
comp=Z,370nm,15.1s
NAO01 NORSAR Array S 41.95 319 *e*P **P 02 29 18.1 -0.4**
comp=Z,2.9nm,0.5s,mb4.2
CLL Collm 42.27 304 *e*P **P 02 29 21.0 -0.1**
comp=Z,6.0nm,1.0s,mb4.2

CLL *e*sP sP 02 29 26.0 +1.2
CLL *e*PP PP 02 31 04.0 +5.1
CLL LmV 02 50 00.0
comp=Z,400nm,19.1s
MOA Molln 42.37 299 ⇓*e* **P 02 29 28.0 +6.1**
comp=Z,5.5nm,1.1s,mb4.1
MOA Molln 42.37 299 **P 02 29 28.0 +6.1**
comp=Z,5.5nm,1.1s,mb4.1
GERES GERESS Array B 42.46 301 P **P 02 29 24.0 +1.5**
comp=Z,1.1nm,0.7s,baz=66,slow=6.4,SNR=12
GERES LR LR 02 50 44.3
comp=Z,220nm,19.4s,MS4.1,baz=276,slow=41
KHC Kasperske Hory 42.46 301 ⇑*e*P **P 02 29 21.4 -1.2**
KHC Kasperske Hory 42.46 301 *e*P **P 02 29 24.0 +1.4**
OBKA Obir 42.58 297 ⇓*i* pP 02 29 30.0 +3.8
comp=Z,9.5nm,0.9s
OBKA Obir 42.58 297 pP 02 29 30.0 +3.8
comp=Z,9.5nm,0.9s
OBKA Obir 42.58 297 ⇓*i*P **P 02 29 25.0 +1.4**
comp=Z,7.1nm,1.3s,mb4.2
OBKA *i* pP 02 29 30.0 +3.8
KBA Koelnbreinsper 43.19 298 ⇑*i*P **P 02 29 29.8 +1.3**
comp=Z,3.3nm,0.8s,mb4.1
KBA Koelnbreinsper 43.19 298 ⇑*i*P **P 02 29 29.9 +1.3**
KBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
TIP Timpagrande 43.67 286 *e*P **P 02 29 32.9 +0.4**
GRA1 Grafenberg Arr 43.79 302 *e*P **P 02 29 34.2 +0.9**
comp=Z,16nm,1.2s,mb4.6
GRA1 *e*pP pP 02 29 39.5 +3.5
GRF Grafenberg Arr 43.79 302 *e*P **P 02 29 34.2 +0.9**
comp=Z,16nm,1.2s,mb4.6
GRF *e*pP pP 02 29 39.5 +3.5
comp=Z,17nm,1.5s
GRF Grafenberg Arr 43.79 302 *e*P **P 02 29 34.2 +0.9**
GRF *e**PP pP 02 29 39.5 +3.5
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.6
GRF Grafenberg Arr 43.79 302 *e*P **P 02 29 34.2 +0.9**
GRF *e**PP pP 02 29 39.5 +3.5
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.6
WTTA Wattenberg 44.24 299 ⇑*i*P **P 02 29 38.2 +1.2**
comp=Z,15nm,1.3s,mb4.6
WTTA Wattenberg 44.24 299 ⇑*i*P **P 02 29 38.2 +1.2**
WTTA pmax pmax
comp=Z,15nm,1.3s,mb4.6
MOTA Moosalm 44.56 299 ⇑*i*P **P 02 29 40.4 +0.8**
comp=Z,6.5nm,0.9s,mb4.5
MOTA Moosalm 44.56 299 ⇑*i*P **P 02 29 40.4 +0.8**
MOTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
AQU L'Aquila 44.77 292 *e*P **P 02 29 42.6 +1.4**
AQU pmax pmax
comp=Z,14nm,1.0s,mb4.8
AQU L'Aquila 44.77 292 *e*P **P 02 29 42.6 +1.4**
comp=Z,14nm,1.0s,mb4.8
DAVA Damuels 45.37 299 ⇓*i*P **P 02 29 46.7 +0.8**
comp=Z,14nm,0.8s,mb4.8
DAVA ⇑*i* 02 29 52.3
comp=Z,16nm,0.9s
CDF Champ du Feu 46.65 302 *e*P **P 02 29 56.2 +0.1**
ECH Echery 46.79 302 *e*P **P 02 30 02.2 +5.0**
MOF Molkenrain 46.93 301 *e*P **P 02 29 59.6 +1.3**
HINF Hinteralfeld 47.12 301 *e*P **P 02 29 59.9 +0.2**
comp=Z,20nm,0.9s,mb4.7
HINF Hinteralfeld 47.12 301 *e*P **P 02 29 59.9 +0.2**
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HINF Hinteralfeld 47.12 301 *e*P **P 02 29 59.9 +0.2**
comp=Z,10nm,0.9s,mb4.8
LOMF Lomont 47.30 301 *e*P **P 02 30 05.0 +3.9**
HAU Haudompre 47.37 302 *e*P **P 02 30 01.7 0.0**
comp=Z,11nm,0.7s,mb4.6
HAU *e*R
comp=Z,135nm,21.0s
HAU Haudompre 47.37 302 *e*P **P 02 30 01.7 0.0**
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HAU MLR MLR
comp=Z,140nm,21.0s,MS3.9
HAU Haudompre 47.37 302 *e*P **P 02 30 01.7 0.0**
comp=Z,5.7nm,0.7s,mb4.6
HAU LR LR
comp=Z,140nm,21.0s,MS3.9
GIVF Givet 47.60 305 *e*P **P 02 30 03.9 +0.4**
PGF Pioggiola 47.69 294 *e*P **P 02 30 04.4 +0.2**
comp=Z,36nm,1.1s,mb5.0
PGF Pioggiola 47.69 294 *e*P **P 02 30 04.4 +0.2**
PGF pmax pmax
comp=Z,18nm,1.1s,mb5.0
PGF Pioggiola 47.69 294 *e*P **P 02 30 04.4 +0.2**
comp=Z,18nm,1.1s,mb5.0
MJAR Matsushiro Arr 47.85 75 P **P 02 30 05.4 0.0**
comp=Z,4.2nm,0.9s,mb4.5,baz=294,slow=8.4,SNR=7.2
MJAR LR LR 02 51 34.6
comp=Z,175nm,18.4s,MS4.1,baz=250,slow=38
BAIF Baives 47.99 305 *e*P **P 02 30 06.9 +0.4**
comp=Z,31nm,1.4s,mb4.8
BAIF Baives 47.99 305 *e*P **P 02 30 06.9 +0.4**
BAIF pmax pmax
comp=Z,15nm,1.4s,mb4.8
BAIF Baives 47.99 305 *e*P **P 02 30 06.9 +0.4**
comp=Z,15nm,1.4s,mb4.8
MEZF Maizieres J'vi 48.01 303 *e*P **P 02 30 07.2 +0.5**
comp=Z,63nm,1.4s,mb5.2
MEZF Maizieres J'vi 48.01 303 *e*P **P 02 30 07.2 +0.5**
comp=Z,63nm,1.4s,mb5.5
LPG La Plagne 48.03 298 *e*P **P 02 30 07.3 +0.5**
LPL La Plagne 48.03 298 *e*P **P 02 30 07.5 +0.6**
comp=Z,14nm,0.6s,mb4.8
LPL La Plagne 48.03 298 *e*P **P 02 30 07.5 +0.6**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LPL La Plagne 48.03 298 *e*P **P 02 30 07.5 +0.6**
comp=Z,6.8nm,0.6s,mb4.8
RSL Roselend 48.04 299 *e*P **P 02 30 07.5 +0.6**
CABF La Chapelle 48.04 300 *e*P **P 02 30 06.6 -0.3**
comp=Z,25nm,1.2s,mb4.8
CABF La Chapelle 48.04 300 *e*P **P 02 30 06.6 -0.3**
CABF pmax pmax
comp=Z,12nm,1.2s,mb4.8
CABF La Chapelle 48.04 300 *e*P **P 02 30 06.6 -0.3**
comp=Z,12nm,1.2s,mb4.8
SAOF Saorge 48.09 296 *e*P **P 02 30 07.9 +0.6**
AUTN L'Aution 48.17 296 *e*P **P 02 30 08.4 +0.5**
SBF Sospel 48.22 296 *e*P **P 02 30 08.4 +0.1**
comp=Z,40nm,1.0s,mb5.1
SBF Sospel 48.22 296 *e*P **P 02 30 08.4 +0.1**
SBF pmax pmax
comp=Z,20nm,1.0s,mb5.1
SBF Sospel 48.22 296 *e*P **P 02 30 08.4 +0.1**
comp=Z,20nm,1.0s,mb5.1
BNI Bardonecchia 48.25 298 *e*P **P 02 30 08.7 +0.2**
BNI pmax pmax
comp=Z,25nm,1.0s,mb5.2
BNI Bardonecchia 48.25 298 *e*P **P 02 30 08.7 +0.2**
comp=Z,25nm,1.0s,mb5.2
LUCF Luceram 48.26 296 *e*P **P 02 30 06.2 -2.4**
MBDF Montbardon 48.31 297 *e*P **P 02 30 08.7 -0.3**
comp=Z,19nm,0.8s,mb4.9
MBDF Montbardon 48.31 297 *e*P **P 02 30 08.7 -0.3**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MBDF Montbardon 48.31 297 *e*P **P 02 30 08.7 -0.3**
comp=Z,9.6nm,0.8s,mb4.9
ORIF Oris-en-Rattie 48.82 298 *e*P **P 02 30 12.6 -0.3**
comp=Z,14nm,0.8s,mb4.7
ORIF *e*R
comp=Z,357nm,20.0s
ORIF Oris-en-Rattie 48.82 298 *e*P **P 02 30 12.6 -0.3**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 48.82 298 *e*P **P 02 30 12.6 -0.3**
comp=Z,6.9nm,0.8s,mb4.7
FRF La Foret Royal 48.86 296 *e*P **P 02 30 13.1 -0.1**
comp=Z,43nm,1.2s,mb5.0
FRF La Foret Royal 48.86 296 *e*P **P 02 30 13.1 -0.1**
FRF pmax pmax
comp=Z,21nm,1.2s,mb5.0
FRF La Foret Royal 48.86 296 *e*P **P 02 30 13.1 -0.1**
comp=Z,21nm,1.2s,mb5.0
LMR La Mourre 49.04 296 *e*P **P 02 30 14.7 +0.1**
comp=Z,40nm,1.2s,mb5.0
LMR La Mourre 49.04 296 *e*P **P 02 30 14.7 +0.1**
LMR pmax pmax
comp=Z,20nm,1.2s,mb5.0
LMR La Mourre 49.04 296 *e*P **P 02 30 14.7 +0.1**
comp=Z,20nm,1.2s,mb5.0
LOR Lormes 49.21 301 *e*P **P 02 30 15.1 -0.8**
comp=Z,9.2nm,0.9s,mb4.5
LOR *e*R
comp=Z,116nm,21.0s
LOR Lormes 49.21 301 *e*P **P 02 30 15.1 -0.8**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LOR MLR MLR
comp=Z,120nm,21.0s,MS3.9
LOR Lormes 49.21 301 *e*P **P 02 30 15.1 -0.8**
comp=Z,4.6nm,0.9s,mb4.5
LOR LR LR
comp=Z,120nm,21.0s,MS3.9
SMRF Simiane la Rot 49.40 297 *e*P **P 02 30 17.5 +0.1**
comp=Z,33nm,1.1s,mb5.0
SMRF Simiane la Rot 49.40 297 *e*P **P 02 30 17.5 +0.1**
comp=Z,33nm,1.1s,mb5.3
SMF Signal de Mont 49.46 301 *e*P **P 02 30 17.4 -0.4**
comp=Z,12nm,0.9s,mb4.6
SMF Signal de Mont 49.46 301 *e*P **P 02 30 17.4 -0.4**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SMF Signal de Mont 49.46 301 *e*P **P 02 30 17.4 -0.4**
comp=Z,5.8nm,0.9s,mb4.6
SSF Saint Saulge 49.51 301 *e*P **P 02 30 17.6 -0.6**
comp=Z,5.5nm,0.7s,mb4.4
SSF Saint Saulge 49.51 301 *e*P **P 02 30 17.6 -0.6**
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SSF Saint Saulge 49.51 301 *e*P **P 02 30 17.6 -0.6**
comp=Z,2.8nm,0.6s,mb4.5
VIVF Saint-Julien-l 49.63 298 *e*P **P 02 30 19.2 +0.1**
comp=Z,11nm,0.6s,mb4.8
VIVF Saint-Julien-l 49.63 298 *e*P **P 02 30 19.2 +0.1**
VIVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
VIVF Saint-Julien-l 49.63 298 *e*P **P 02 30 19.2 +0.1**
comp=Z,5.7nm,0.6s,mb4.8
AVF Avril sur Loir 49.71 301 *e*P **P 02 30 19.4 -0.3**
comp=Z,28nm,0.8s,mb5.0
AVF Avril sur Loir 49.71 301 *e*P **P 02 30 19.4 -0.3**
AVF pmax pmax
comp=Z,14nm,0.8s,mb5.0
AVF Avril sur Loir 49.71 301 *e*P **P 02 30 19.4 -0.3**
comp=Z,14nm,0.8s,mb5.0
DAG Danmarks Havn 49.89 343 ⇓*i*P **P 02 30 20.9 -0.2**
comp=Z,5.0nm,1.0s,mb4.5
DAG Danmarks Havn 49.89 343 ⇓*e*P **P 02 30 20.9 -0.2**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DAG Danmarks Havn 49.89 343 ⇓*e*P **P 02 30 20.9 -0.2**
comp=Z,5.0nm,1.0s,mb4.5
BGF Bois d'Agland 50.12 301 *e*P **P 02 30 22.5 -0.4**
comp=Z,19nm,1.0s,mb4.8
BGF Bois d'Agland 50.12 301 *e*P **P 02 30 22.5 -0.4**
BGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BGF Bois d'Agland 50.12 301 *e*P **P 02 30 22.5 -0.4**
comp=Z,9.4nm,1.0s,mb4.8
PYM Petit Puy Mans 50.35 300 *e*P **P 02 30 24.6 +0.1**
LBL Lubilhac 50.40 299 *e*P **P 02 30 25.5 +0.5**
KEST Kesra 50.49 286 P **P 02 30 26.8 +1.2**
comp=Z,1.5nm,0.9s,mb4.0,baz=216,slow=19,SNR=3.6
KEST LR LR 02 52 56.2
comp=Z,20nm,18.4s,MS3.2,baz=132,slow=37
LASF Ste Croix 50.49 298 *e*P **P 02 30 25.9 +0.3**
comp=Z,14nm,0.8s,mb4.8
TCF Toulx Ste Croi 50.64 301 *e*P **P 02 30 26.7 0.0**
comp=Z,14nm,0.8s,mb4.6
TCF Toulx Ste Croi 50.64 301 *e*P **P 02 30 26.7 0.0**
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 50.64 301 *e*P **P 02 30 26.7 0.0**
comp=Z,6.9nm,0.8s,mb4.6
LDF La Druitiere 51.16 304 *e*P **P 02 30 30.1 -0.6**
comp=Z,12nm,0.8s,mb4.6
LDF La Druitiere 51.16 304 *e*P **P 02 30 30.1 -0.6**
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LDF La Druitiere 51.16 304 *e*P **P 02 30 30.1 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
CAF Calviac 51.29 299 *e*P **P 02 30 32.0 +0.3**
comp=Z,12nm,0.9s,mb4.5
CAF Calviac 51.29 299 *e*P **P 02 30 32.0 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CAF Calviac 51.29 299 *e*P **P 02 30 32.0 +0.3**
comp=Z,6.1nm,0.9s,mb4.5
RJF Les Rejaudoux 51.48 300 *e*P **P 02 30 33.5 +0.4**
comp=Z,18nm,0.8s,mb4.8
RJF *e*R
comp=Z,172nm,18.8s
RJF Les Rejaudoux 51.48 300 *e*P **P 02 30 33.5 +0.4**
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RJF MLR MLR
comp=Z,170nm,18.8s,MS4.1
RJF Les Rejaudoux 51.48 300 *e*P **P 02 30 33.5 +0.4**
comp=Z,9.1nm,0.8s,mb4.8
RJF LR LR
comp=Z,170nm,18.8s,MS4.1
GRR Gorron 51.69 304 *e*P **P 02 30 34.0 -0.7**
comp=Z,50nm,1.2s,mb5.0
GRR Gorron 51.69 304 *e*P **P 02 30 34.0 -0.7**
GRR pmax pmax
comp=Z,25nm,1.2s,mb5.0
GRR Gorron 51.69 304 *e*P **P 02 30 34.0 -0.7**
comp=Z,25nm,1.2s,mb5.0
MTLF Montolieu 51.88 297 *e*P **P 02 30 36.1 +0.1**
comp=Z,16nm,1.0s,mb4.6
MTLF Montolieu 51.88 297 *e*P **P 02 30 36.1 +0.1**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MTLF Montolieu 51.88 297 *e*P **P 02 30 36.1 +0.1**
comp=Z,8.3nm,1.0s,mb4.6
MFF Saint Martin d 51.99 302 *e*P **P 02 30 36.1 -0.8**
comp=Z,20nm,1.0s,mb4.7
MFF Saint Martin d 51.99 302 *e*P **P 02 30 36.1 -0.8**
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MFF Saint Martin d 51.99 302 *e*P **P 02 30 36.1 -0.8**
comp=Z,9.8nm,1.0s,mb4.7
LFF La Frestale 52.14 300 *e*P **P 02 30 38.3 +0.3**
comp=Z,33nm,1.0s,mb4.9
LFF La Frestale 52.14 300 *e*P **P 02 30 38.3 +0.3**
LFF pmax pmax
comp=Z,17nm,1.0s,mb4.9
LFF La Frestale 52.14 300 *e*P **P 02 30 38.3 +0.3**
comp=Z,17nm,1.0s,mb4.9
SGMF Saint Gilles 52.78 305 *e*P **P 02 30 42.3 -0.5**
comp=Z,85nm,1.3s,mb5.2
SGMF Saint Gilles 52.78 305 *e*P **P 02 30 42.3 -0.5**
SGMF pmax pmax
comp=Z,42nm,1.3s,mb5.2
SGMF Saint Gilles 52.78 305 *e*P **P 02 30 42.3 -0.5**
comp=Z,42nm,1.3s,mb5.2
EMIR Miracle 52.97 296 P **P 02 30 43.8 -0.4**
comp=Z,38nm,1.0s,mb5.3
ROSF Rostrenen 53.18 305 *e*P **P 02 30 45.1 -0.6**
comp=Z,12nm,0.8s,mb4.6
ROSF Rostrenen 53.18 305 *e*P **P 02 30 45.1 -0.6**
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ROSF Rostrenen 53.18 305 *e*P **P 02 30 45.1 -0.6**
comp=Z,5.9nm,0.8s,mb4.6
EPF Esparros 53.24 298 *e*P **P 02 30 45.4 -0.8**
comp=Z,23nm,1.2s,mb4.7
EPF Esparros 53.24 298 *e*P **P 02 30 45.4 -0.8**
EPF pmax pmax
comp=Z,11nm,1.2s,mb4.7
EPF Esparros 53.24 298 *e*P **P 02 30 45.4 -0.8**
comp=Z,11nm,1.2s,mb4.7
QUIF Quistinic 53.29 305 *e*P **P 02 30 45.9 -0.6**
comp=Z,8.9nm,0.7s,mb4.5
QUIF Quistinic 53.29 305 *e*P **P 02 30 45.9 -0.6**
QUIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
QUIF Quistinic 53.29 305 *e*P **P 02 30 45.9 -0.6**
comp=Z,4.4nm,0.7s,mb4.5
EBIE Bielsa 53.53 298 P **P 02 30 48.1 -0.2**
comp=Z,4.0nm,0.5s,mb4.6
ETSF Etsaut 53.89 298 *e*P **P 02 30 51.1 +0.2**
comp=Z,27nm,1.0s,mb4.8
ETSF Etsaut 53.89 298 *e*P **P 02 30 51.1 +0.2**

ETSF					pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8								
ETSF	**Etsaut**	**53.89**	**298**	*eP*	**P**		**02 30 51.1**	**+0.2**
	comp=Z,14nm,1.0s,mb4.8								
SJPF	**Ste Jean**	**54.22**	**299**	*eP*	**P**		**02 30 52.9**	**-0.5**
	comp=Z,9.7nm,0.8s,mb4.5								
SJPF	**Ste Jean**	**54.22**	**299**	*eP*	**P**		**02 30 52.9**	**-0.5**
SJPF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
SJPF	**Ste Jean**	**54.22**	**299**	*eP*	**P**		**02 30 52.9**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.5								
ELAN	**Lanestosa**	**55.59**	**300**	P	**P**		**02 31 02.5**	**-0.8**
	comp=Z,38nm,1.1s,mb5.3								
ETOR	**Torete**	**55.86**	**297**	P	**P**		**02 31 04.9**	**-0.3**
ETOR					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.7								
ETOR	**Torete**	**55.86**	**297**	P	**P**		**02 31 04.9**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.8								
EARI	**Arriondas**	**56.69**	**300**	P	**P**		**02 31 10.8**	**-0.3**
	comp=Z,17nm,0.8s,mb5.1								
EVIA	**Vianos**	**57.26**	**294**	P	**P**		**02 31 14.1**	**-1.0**
EVIA					pmax	pmax			
	comp=Z,11nm,0.7s,mb5.0								
EVIA	**Vianos**	**57.26**	**294**	P	**P**		**02 31 14.1**	**-1.0**
	comp=Z,11nm,0.7s,mb5.0								
GUD	**Guadarrama**	**57.33**	**297**	P	**P**		**02 31 13.9**	**-1.8**
GUD					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
GUD	**Guadarrama**	**57.33**	**297**	P	**P**		**02 31 13.9**	**-1.8**
	comp=Z,3.6nm,0.9s,mb4.4								
ESDC	**Sonseca Array**	**57.70**	**296**	P	**P**		**02 31 18.3**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.5,baz=52,slow=8.0,SNR=13								
ESDC					LR	LR	02 57 56.4		
	comp=Z,62nm,18.5s,MS3.8,baz=330,slow=38								
ESDC	**Sonseca Array**	**57.70**	**296**	P	**P**		**02 31 17.3**	**-1.0**
	comp=Z,4.6nm,0.6s,mb4.7								
ESLA	**Sonseca Array**	**57.70**	**296**	*eP*	**P**		**02 31 17.6**	**-0.6**
	comp=Z,3.3nm,1.0s,mb4.3								
EPON	**Pontenova**	**57.91**	**301**	P	**P**		**02 31 17.7**	**-2.0**
	comp=Z,23nm,1.1s,mb5.1								
EQES	**Quesada**	**58.07**	**294**	P	**P**		**02 31 20.9**	**+0.1**
	comp=Z,19nm,1.0s,mb5.1								
EBAN	**Banos Encina**	**58.36**	**295**	P	**P**		**02 31 20.9**	**-2.0**
EBAN					pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9								
EBAN	**Banos Encina**	**58.36**	**295**	P	**P**		**02 31 20.9**	**-2.0**
	comp=Z,7.6nm,0.6s,mb4.9								
EADA	**Adamuz**	**58.89**	**295**	P	**P**		**02 31 26.4**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.8								
ELUQ	**Luque**	**59.01**	**294**	P	**P**		**02 31 25.8**	**-1.6**
ELUQ					pmax	pmax			
	comp=Z,17nm,0.8s,mb5.1								
ELUQ	**Luque**	**59.01**	**294**	P	**P**		**02 31 25.8**	**-1.6**
	comp=Z,17nm,0.8s,mb5.1								
EBAD	**Badajoz**	**60.20**	**297**	P	**P**		**02 31 35.0**	**-0.6**
	comp=Z,7.7nm,0.6s,mb4.9								
ESPR	**Espera**	**60.45**	**294**	P	**P**		**02 31 36.4**	**-0.9**
	comp=Z,30nm,1.0s,mb5.3								
EMIN	**Mina Concepcio**	**60.51**	**296**	P	**P**		**02 31 36.8**	**-0.9**
	comp=Z,9.7nm,0.7s,mb5.0								
EGRO	**El Granado**	**61.17**	**296**	P	**P**		**02 31 41.8**	**-0.4**
	comp=Z,22nm,1.1s,mb5.2								
COLA	**College**	**67.67**	**18**	*eP*	**P**		**02 32 24.0**	**-0.8**
COLA					pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0								
COLA	**College**	**67.67**	**18**	*eP*	**P**		**02 32 24.0**	**-0.8**
	comp=Z,13nm,0.9s,mb5.0								
TOA0	**Torodi Ar. Sit**	**69.22**	**269**	*eP*	**P**		**02 32 33.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**69.22**	**269**	P	**P**		**02 32 33.8**	**-0.7**
	comp=Z,8.0nm,0.8s,mb4.7,baz=44,slow=5.1,SNR=41								
TORD					LR	LR	03 08 01.8		
	comp=Z,56nm,18.6s,MS3.8,baz=235,slow=40								
LSZ	**Lusaka**	**72.06**	**228**	*eP*	**P**		**02 32 51.9**	**+0.1**
LSZ					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
LSZ	**Lusaka**	**72.06**	**228**	*eP*	**P**		**02 32 51.9**	**+0.1**
	comp=Z,6.9nm,1.0s,mb4.5								
YKA	**Yellowknife Ar**	**74.96**	**5**	P	**P**		**02 33 08.4**	**-0.5**
	comp=Z,5.3nm,0.9s,mb4.5,baz=345,slow=5.9,SNR=6.3								
YKA					LR	LR	03 11 32.3		
	comp=Z,62nm,18.2s,MS3.9,baz=205,slow=40								
MBWA	**Marble Bar**	**75.48**	**138**	*eP*	**P**		**02 33 11.2**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0								
KAKA	**Kakadu**	**75.86**	**122**	*eP*	**P**		**02 33 13.6**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**76.08**	**131**	*eP*	**P**		**02 33 14.7**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8								
FITZ	**Fitzroy Crossi**	**76.08**	**131**	P	**P**		**02 33 15.0**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.5,baz=342,slow=3.7,SNR=9.5								
LIC	**Lamto**	**78.74**	**268**	*eP*	**P**		**02 33 29.1**	**-1.1**
	comp=Z,39nm,1.4s,mb4.8								
LIC	**Lamto**	**78.74**	**268**	*eP*	**P**		**02 33 29.1**	**-1.1**
	comp=Z,20nm,1.4s,mb4.8								
TSUM	**Tsumeb**	**81.27**	**234**	*eP*	**P**		**02 33 43.9**	**0.0**
	comp=Z,12nm,0.9s,mb4.8								
LBTB	**Lobatse**	**81.41**	**224**	*eP*	**P**		**02 33 44.9**	**+0.3**
LBTB					pmax	pmax			
	comp=Z,25nm,0.9s,mb5.1								
LBTB	**Lobatse**	**81.41**	**224**	*eP*	**P**		**02 33 44.9**	**+0.3**
	comp=Z,25nm,0.9s,mb5.1								
WRAB	**Tennant Creek**	**82.56**	**126**	*eP*	**P**		**02 33 49.8**	**-0.9**
WRAB					pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9								
WRAB	**Tennant Creek**	**82.56**	**126**	*eP*	**P**		**02 33 49.8**	**-0.9**
	comp=Z,12nm,0.9s,mb4.9								
WRA	**Warramunga Arr**	**82.56**	**126**	P	**P**		**02 33 49.9**	**-0.8**
	comp=Z,6.8nm,0.9s,mb4.7,baz=320,slow=5.0,SNR=43								
WB2	**Warramunga Arr**	**82.57**	**126**	*eP*	**P**		**02 33 49.5**	**-1.2**
FFC	**Flin Flon**	**83.03**	**358**	*eP*	**P**		**02 33 52.4**	**-0.7**
FFC					pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9								
FFC	**Flin Flon**	**83.03**	**358**	*eP*	**P**		**02 33 52.4**	**-0.7**
	comp=Z,12nm,1.0s,mb4.9								
MUN	**Mundaring**	**83.14**	**146**	*eP*	**P**		**02 33 51.3**	**-2.4**
EDM	**Edmonton**	**84.27**	**5**	*eP*	**P**		**02 33 58.6**	**-0.9**
BOSA	**Boshof**	**84.53**	**223**	P	**P**		**02 34 00.6**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.7,baz=46,slow=4.5,SNR=7.3								
BOSA	**Boshof**	**84.53**	**223**	*eP*	**P**		**02 34 00.1**	**-0.7**
BOSA					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7								
BOSA	**Boshof**	**84.53**	**223**	*eP*	**P**		**02 34 00.1**	**-0.7**
	comp=Z,6.4nm,0.9s,mb4.8								
AS31	**Alice Springs**	**85.17**	**128**	*eP*	**P**		**02 34 03.2**	**-0.8**
NEW	**Newport**	**88.86**	**8**	P	**P**		**02 34 21.2**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.6,baz=18,slow=6.4,SNR=4.1								
CTA	**Charters Tower**	**90.17**	**117**	P	**P**		**02 34 27.4**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.8,baz=348,slow=6.1,SNR=4.6								
PDAR	**Pinedale Array**	**94.92**	**4**	P	**P**		**02 34 49.7**	**-0.3**
	comp=Z,1.0nm,0.8s,mb4.3,baz=29,slow=3.4,SNR=9.0								
PDAR					LR	LR	03 23 37.0		
	comp=Z,77nm,19.3s,MS4.2,baz=102,slow=39								
HWUT	**Hardware Ranch**	**95.96**	**5**	*eP*	**P**		**02 34 55.1**	**+0.4**
	comp=Z,13nm,1.3s,mb5.2								
VNA2	**Neumayer--Watz**	**127.31**	**204**	*e*PKPdf	PKPdf		02 40 30.8	-1.6
	baz=26,slow=2.4								
VNA2				*e*			02 40 34.4		
VNA2				*e*			02 40 40.1		
VNA2				*e*			02 40 44.9		
VNA2				*e*			02 40 55.5		
VNA2				*e*			02 41 05.4		
TRQA	**Tornquist**	**147.42**	**263**	*e*PKPbc	PKPbc		02 41 10.6	-1.0

*NEIC **08** 02:25:34.0,3330S×7159W,h42km,MD3.6(GUC), After GUC.*

GUC 08 02:25:34.0±0.8,3330S×7159W,h42km±4km,MD3.6, ML2.3,5C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.17**	**175**	⇓*i*P	Pn	02 25 41.3	+0.1
LCCH				*i* S	Sn	02 25 46.4	+0.2
IHA	**Instituto Hidr**	**0.28**	**351**	⇑*i*P	Pn	02 25 42.5	+0.3
IHA				*i* S	Sn	02 25 48.3	+0.4
ROCH	**El Roble**	**0.58**	**56**	*i* P	Pn	02 25 46.7	+0.8
ROCH				*i* S	Sn	02 25 56.0	+1.7
TACH	**Talagante**	**0.64**	**123**	⇑*i*P	Pn	02 25 46.8	+0.1
TACH				*i* S	Sn	02 25 56.8	+1.0
LNV	**Longovilo**	**0.67**	**167**	⇓*i*P	Pn	02 25 46.4	-0.7
LNV				*i* S	Sn	02 25 55.6	-0.7
PEL	**Peldehue**	**0.77**	**78**	*e*P	Pn	02 25 49.1	+0.7
PEL				*i* S	Sn	02 26 00.4	+1.5
PEL				AML	AML	02 26 03.1	
	comp=E,219nm,0.3s						
PEL	**Peldehue**	**0.77**	**78**	*e*P	Pn	02 25 49.1	+0.7
PEL				*i* S	Sn	02 26 00.4	+1.5
PACH	**Papudo**	**0.78**	**9**	⇓*i*P	Pn	02 25 48.6	+0.1
PACH				*i* S	Sn	02 25 59.5	+0.5
ANTU	**Antumapu**	**0.84**	**109**	*e*P	Pn	02 25 50.0	+0.6
ANTU				*i* S	Sn	02 26 02.2	+1.7
ANTU				AML	AML	02 26 03.6	
	comp=N,174nm,0.6s						
ANTU	**Antumapu**	**0.84**	**109**	*e*P	Pn	02 25 50.0	+0.6
ANTU				*i* S	Sn	02 26 02.2	+1.7
CLCH	**Cerro Calan**	**0.88**	**96**	*e*P	Pn	02 25 50.8	+0.9
CLCH				*i* S	Sn	02 26 03.4	+1.8
CLCH				AML	AML	02 26 04.7	
	comp=E,209nm,0.3s						
PCH	**Pirque**	**0.95**	**110**	⇑*i*P	Pn	02 25 52.0	+1.1
PCH				*i* S	Sn	02 26 04.8	+1.6
CHCH	**Chadas Angostu**	**1.00**	**129**	⇑*i*P	Pn	02 25 52.2	+0.7
CHCH				*i* S	Sn	02 26 06.1	+1.6
JACH	**Jahuel**	**1.04**	**54**	⇓*i*P	Pn	02 25 52.7	+0.6
JACH				*i* S	Sn	02 26 07.2	+1.7
FCH	**Farellones**	**1.08**	**92**	⇑*e*P	Pn	02 25 53.9	+1.2
FCH				*i* S	Sn	02 26 09.3	+2.8
FCH				AML	AML	02 26 10.2	
	comp=E,169nm,0.2s						

*KNET **08** 02:26:49.9±0.3, 4255N×7534E, h22km±7km, ml3.2, Error ellipse: s-maj=2.2km s-min=1.6km az=66.0*
*ISCJB **08** 02:26:51.2±0.6, 4255N±003×7533E±004, h10km±5km, Error ellipse: s-maj=5.1km s-min=4.5km az=11.2*
*NNC **08** 02:26:52.8±2.1, 4261N×7540E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=16.3km s-min=11.5km az=116.0*

ISC 08 02:26:51.5±0.5,4256N±003×7535E±004,h4km±10km,n11, σ0$45/21,12C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.31**	**288**	⇑P	**Pg**	**02 26 57.9**	**+0.4**
	549nm,0.1s,SNR=98						
KBK				⇑S	**Sg**	**02 27 02.6**	**+1.1**
	6μm,0.2s						
TKM2	**Tokmak 2**	**0.40**	**27**	P	**Pg**	**02 26 59.3**	**0.0**
	393nm,0.1s,SNR=171						
TKM2				⇓S	**Sg**	**02 27 04.9**	**+0.4**
	3μm,0.1s						
TKM2	**Tokmak 2**	**0.40**	**27**	⇑P	**Pg**	**02 26 59.2**	**0.0**
	14nm,0.3s						
TKM2				⇑S	**Sg**	**02 27 04.8**	**+0.3**
	31nm,0.2s						
KZA	**Kyzart**	**0.49**	**188**	P	**Pg**	**02 27 01.1**	**+0.2**
	1μm,0.1s,SNR=447						
KZA				⇑S	**Sg**	**02 27 07.9**	**+0.7**
	1μm,0.3s						
CHMS	**Chumysh**	**0.62**	**315**	P	**Pg**	**02 27 03.1**	**-0.3**
	156nm,0.1s,SNR=64						
CHMS				⇑S	**Sg**	**02 27 11.4**	**0.0**
	1μm,0.2s						
AAK	**Ala-Archa**	**0.63**	**277**	⇓P	**Pg**	**02 27 03.3**	**-0.3**
	134nm,0.2s,SNR=35						
AAK				⇑S	**Sg**	**02 27 11.9**	**0.0**
	946nm,0.2s						
UCH	**Uchtor**	**0.70**	**242**	⇑P	**Pg**	**02 27 04.5**	**-0.4**
	54nm,0.2s,SNR=14						
UCH				⇓S	**Sg**	**02 27 13.6**	**-0.5**
	236nm,0.2s						
ULHL	**Ulahol**	**0.73**	**115**	⇓P	**Pg**	**02 27 05.1**	**-0.5**
	136nm,0.1s,SNR=73						
ULHL				⇑S	**Sg**	**02 27 15.0**	**-0.1**
	980nm,0.2s						
USP	**Ospenovka**	**0.94**	**319**	P	**Pg**	**02 27 08.8**	**-0.8**
	198nm,0.1s,SNR=49						
USP				⇑S	**Sg**	**02 27 21.4**	**-0.3**
	366nm,0.2s						
KNDC	**Almaty**	**1.36**	**61**	⇑P	**Pn**	**02 27 17.0**	**-0.2**
	44nm,0.2s						
KNDC				⇑S	**Sb**	**02 27 35.6**	**+0.5**
	251nm,0.3s						
KK31	**Karatay Array**	**3.60**	**280**	⇓Pn	**Pb**	**02 27 55.8**	**+0.2**
	30nm,0.6s,baz=97,slow=15,SNR=15						
KK31				⇓Lg		02 28 42.2	
	67nm,0.7s,baz=98,slow=28,SNR=5.2						

*NEIC **08** 02:30:21.5,3140S×7163W,h24km,ML2.5(GUC), After GUC.*

GUC 08 02:30:21.5±0.6,3140S×7163W,h24km±3km,MD3.7, ML2.5,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.50**	**167**	⇑*i*P	Pb	02 30 31.5	-0.1
CHNG				*i* S	Sb	02 30 38.6	+0.1
CHNG				AML	AML	02 30 39.5	
	comp=E,548nm,0.3s						
CMCH	**Combarbala**	**0.58**	**68**	⇑*i*P	Pb	02 30 32.7	-0.3
CMCH				*i* S	Sb	02 30 41.3	+0.5
CMCH				AML	AML	02 30 42.5	
	comp=E,559nm,1.0s						
CMCH	**Combarbala**	**0.58**	**68**	⇑*i*P	Pb	02 30 32.7	-0.3
CMCH				*i* S	Sb	02 30 41.3	+0.5
TLL	**Tololo Astrono**	**1.41**	**30**	*e*P	Pn	02 30 46.5	+0.7
TLL				*i* S	Sn	02 31 05.2	+1.6
TLL				AML	AML	02 31 10.6	
	comp=N,94nm,0.3s						
TLL	**Tololo Astrono**	**1.41**	**30**	*e*P	Pn	02 30 46.5	+0.7
TLL				*i* S	Sn	02 31 05.2	+1.6
PEL	**Peldehue**	**1.92**	**156**	*e*P	Pn	02 30 53.5	+0.9
PEL				*i* S	Sn	02 31 18.6	+2.6
PEL				AML	AML	02 31 20.9	
	comp=E,135nm,0.3s						
PEL	**Peldehue**	**1.92**	**156**	*e*P	Pn	02 30 53.5	+0.9
PEL				*i* S	Sn	02 31 18.6	+2.6
RCDM	**Rinconada Maip**	**2.20**	**162**	*i* P	Pn	02 30 57.6	+1.1
RCDM				*i* S	Sn	02 31 25.7	+2.7
RCDM				AML	AML	02 31 34.5	
	comp=E,50nm,0.7s						
RCDM	**Rinconada Maip**	**2.20**	**162**	*i* P	Pn	02 30 57.6	+1.1
RCDM				*i* S	Sn	02 31 25.7	+2.7

IDC 08 02:31:54.2±7.3,593S×15319E,h86km±52km,mb3.4/5, mb1 3.6/6,mb1mx3.4/16,mbtmp3.5/6,ML3.1/1,MS3.3/5, Ms1 3.3/5,ms1mx3.1/18,Error ellipse: s-maj=72.2km s-min=29.6km az=112.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.90**	**240**	P	Pn	02 33 31.9	-0.7
	2.0nm,0.3s,baz=78,slow=9.3,SNR=5.7						
PMG				S	Sn	02 34 52.8	+3.1
	0.8nm,0.3s,baz=175,slow=22,SNR=2.5						
PMG				LR	LR	02 36 19.2	
	comp=Z,160nm,19.6s,baz=35,slow=38						
HNR	**Honiara**	**7.54**	**118**	LR	LR	02 36 16.1	
	comp=Z,247nm,18.4s,baz=358,slow=35						
CTA	**Charters Tower**	**15.60**	**205**	LR	LR	02 40 57.7	
	comp=Z,110nm,19.2s,baz=53,slow=35						
WRA	**Warramunga Arr**	**23.01**	**231**	P	P	02 36 53.4	+1.5
	0.5nm,0.6s,baz=52,slow=9.7,SNR=5.0						
ASAR	**Alice Springs**	**25.60**	**225**	P	P	02 37 14.6	-0.8
	0.8nm,0.5s,baz=55,slow=9.2,SNR=6.7						
ASAR				LR	LR	02 47 29.6	
	comp=Z,49nm,20.2s,baz=260,slow=36						
STKA	**Stephens Creek**	**28.00**	**201**	LR	LR	02 48 03.2	
	comp=Z,82nm,19.0s,baz=27,slow=35						
FITZ	**Fitzroy Crossi**	**29.48**	**243**	P	P	02 37 50.2	+0.1
	1.1nm,0.6s,baz=41,slow=5.8,SNR=8.1						
SONM	**Songino Array**	**67.48**	**328**	P	P	02 42 41.0	0.0
	0.6nm,0.5s,baz=148,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**81.43**	**319**	P	P	02 44 02.5	+0.7
	0.6nm,0.4s,baz=94,slow=5.4,SNR=5.3						

*ISCJB **08** 02:35:12.2±0.7, 4257N±003×7534E±005, h10km±6km, Error ellipse: s-maj=5.8km s-min=5.3km az=9.7*
*KNET **08** 02:35:12.2±0.3, 4257N×7532E, h0km, ml1.4, Error ellipse: s-maj=2.2km s-min=1.7km az=78.0*

ISC 08 02:35:12.6±0.7,4257N±003×7535E±005,h3km±14km,n11, σ0$58/20,10C-10D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.31**	**287**	⇑P	**Pg**	**02 35 18.9**	**+0.3**
	11nm,0.1s,SNR=16						
KBK				⇑S	**Sg**	**02 35 23.6**	**+1.1**
	70nm,0.2s						
TKM2	**Tokmak 2**	**0.40**	**28**	⇓P	**Pg**	**02 35 20.3**	**+0.1**
	23nm,0.1s,SNR=7.5						
TKM2				⇓S	**Sg**	**02 35 26.0**	**+0.5**
	96nm,0.1s						
TKM2	**Tokmak 2**	**0.40**	**28**	⇓P	**Pg**	**02 35 20.2**	**-0.1**
	0.5nm,0.3s						
TKM2				⇑S	**Sg**	**02 35 25.7**	**+0.3**
	2.3nm,0.4s						
KZA	**Kyzart**	**0.50**	**188**	⇓P	**Pg**	**02 35 22.2**	**0.0**
	32nm,0.1s,SNR=5.5						
KZA				⇓S	**Sg**	**02 35 29.2**	**+0.7**
	16nm,0.1s						
CHMS	**Chumysh**	**0.61**	**315**	⇑P	**Pg**	**02 35 24.1**	**-0.3**
	2.0nm,0.1s,SNR=8.6						
CHMS				⇑S	**Sg**	**02 35 32.4**	**+0.1**
	22nm,0.1s						
AAK	**Ala-Archa**	**0.63**	**276**	⇓P	**Pg**	**02 35 24.4**	**-0.4**
	3.6nm,0.1s,SNR=9.4						
AAK				⇑S	**Sg**	**02 35 33.0**	**0.0**
	17nm,0.2s						
UCH	**Uchtor**	**0.70**	**241**	⇓P	**Pg**	**02 35 25.5**	**-0.7**
	2.9nm,0.2s,SNR=7.9						
UCH				⇑S	**Sg**	**02 35 34.9**	**-0.4**
	10nm,0.2s						
ULHL	**Ulahol**	**0.74**	**116**	⇑P	**Pg**	**02 35 26.8**	**0.0**
	3.3nm,0.1s						
USP	**Ospenovka**	**0.94**	**319**	⇓P	**Pg**	**02 35 29.7**	**-0.8**
	4.2nm,0.1s,SNR=14						
USP				⇑S	**Sg**	**02 35 42.6**	**0.0**
	17nm,0.1s						
EKS2	**Erkin-Say**	**1.16**	**275**	⇓P	**Pg**	**02 35 34.7**	**-0.2**
	2.2nm,0.1s,SNR=10.0						
KK31	**Karatay Array**	**3.60**	**280**	⇓Pn	**Pn**	**02 36 08.9**	**-0.4**
	4.0nm,1.0s,baz=91,slow=15						
KK31				⇑Sn	**Sb**	**02 37 04.3**	**+3.4**
	0.9nm,0.5s,baz=97,slow=28,SNR=5.0						

IDC 08 02:35:29.0±2.6,663S×15176E,h0km,mb3.7/3,mb1 3.9/4, mb1mx3.6/15,mbtmp3.8/4,ML2.5/1,Error ellipse: s-maj=102.2km s-min=37.8km az=135.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**239**	P	Pn	02 36 51.2	+1.5
	0.9nm,0.3s,baz=10,slow=11,SNR=2.5						
PMG				S	Sn	02 37 52.6	+0.8
	2.2nm,0.3s,baz=34,slow=15,SNR=3.8						
WRA	**Warramunga Arr**	**21.47**	**230**	P	P	02 40 19.6	+0.5
	0.9nm,0.5s,baz=57,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**24.11**	**223**	P	P	02 40 46.9	+0.6
	0.9nm,0.5s,baz=56,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**27.90**	**243**	P	P	02 41 20.1	-0.6
	1.7nm,0.6s,baz=64,slow=8.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**149.83**	**285**	PKPbc	PKPbc	02 55 21.9	+0.9
	0.5nm,0.6s,baz=27,slow=3.4,SNR=7.7						

WEL 08 02:42:41.4±1.0,3551S×17799E,h33km,ML4.1/3,Error ellipse: s-maj=28.7km s-min=7.9km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.83**	**194**	P*	Pb	02 43 24.5	-6.8
URZ				S*	Sb	02 43 58.1	-7.4
MWZ	**Matawai**	**2.84**	**187**	P*	Pb	02 43 24.2	-7.3
MWZ				S*	Sb	02 43 56.9	-9.0
KNZ	**Kokohu**	**3.51**	**184**	PN	Pn	02 43 33.3	-0.3

IDC 08 02:48:41.7±9.1,623S×15120E,h51km±66km,mb3.5/3, mb1 3.7/4,mb1mx3.5/15,mbtmp3.6/4,ML2.3/1,Error ellipse: s-maj=98.5km s-min=55.5km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.10**	**231**	P	Pn	02 49 56.0	+0.5
	0.8nm,0.3s,baz=59,slow=5.9,SNR=2.6						
PMG				S	Sn	02 50 53.9	+0.7
	1.1nm,0.3s,baz=345,slow=15,SNR=2.7						
KAKA	**Kakadu**	**19.59**	**249**	*e*P	Pn	02 53 05.5	-1.7
	2.8nm,0.4s						
WB2	**Warramunga Arr**	**21.30**	**229**	*e*P	P	02 53 23.5	-0.6
WRA	**Warramunga Arr**	**21.31**	**229**	P	P	02 53 24.1	-0.1
	1.6nm,0.8s,baz=54,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**24.03**	**222**	P	P	02 53 51.9	0.0
	1.5nm,0.9s,baz=62,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	*e*P	P	02 54 24.6	+0.6
	3.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	P	P	02 54 25.2	+1.1
	1.1nm,0.4s,baz=62,slow=8.9,SNR=12						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	03 08 24.9	+0.4
	0.8nm,0.6s,baz=48,slow=2.7,SNR=9.8						

*NEIC **08** 02:51:46.8,3144S×7171W,h12km,ML3.1(GUC), After GUC.*

GUC 08 02:51:46.8±0.7,3144S×7171W,h12km±4km,MD4.0, ML3.1,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.47**	**157**

ms1mx2.5/19, **Error ellipse: s-maj=114.2km s-min=48.3km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.22**	**226**	P	P	03 02 03.0	-0.2
	0.4nm,0.3s,baz=50,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.05**	**220**	P	P	03 02 32.1	-0.6
	0.5nm,0.5s,baz=25,slow=13,SNR=9.3						
FITZ	**Fitzroy Crossi**	**27.24**	**241**	P	P	03 03 03.4	+1.8
	0.9nm,0.5s,baz=72,slow=7.0,SNR=7.7						
AFI	**Afiamalu**	**38.14**	**105**	LR	LR	03 18 09.5	
	comp=Z,58nm,20.4s,baz=199,slow=33						
TORD	**Torodi Ar. Bea**	**148.25**	**286**	PKPbc	PKPbc	03 17 04.2	+0.3
	0.5nm,0.7s,baz=52,slow=2.6,SNR=6.7						

SZGRF ***08*** *02:57:26.6, 2223S×17568W, h33km, Tonga Islands region*

ISCJB ***08*** *02:58:13.3±1.2, 2121S±0.006×17805W±0.007, h402km±13km, mb4.3/36, Error ellipse: s-maj=11.0km s-min=7.9km az=80.8*

IDC ***08*** *02:58:14.6±1.9, 2128S×17794W, h404km±20km, mb3.9/13, mb1 4.1/16, mb1mx4.0/20, mbtmp3.9/16, Error ellipse: s-maj=13.4km s-min=11.3km az=139.0*

NEIC ***08*** *02:58:15.7±1.1, 2115S×17799W, h420km±11km, mb4.3/25, Error ellipse: s-maj=12.1km s-min=7.5km az=145.0*

MOS ***08*** *02:58:18.1±3.2, 2127S×17845W, h419km, mb4.4/10, Error ellipse: s-maj=16.7km s-min=13.0km az=0.6*

BJI ***08*** *02:58:22.5, 2145S×17789W, h514km, mB5.2, mb4.4*

ISC 08 02:58:14.6±1.2, 2123S±007×17796W±006, h404km±13km, n169, σ0§94/78, mb4.3/36, 16C-17D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.99**	**180**	S	S	03 01 43.8	+0.1
	133nm,0.3s,baz=253,slow=24,SNR=4.9						
AFI	**Afiamalu**	**9.36**	**40**	P	P	03 00 23.9	-1.1
	3.7nm,0.3s,baz=268,slow=15,SNR=2.6						
AFI				S	S	03 02 02.8	-9.4
	5.8nm,0.3s,baz=53,slow=16,SNR=4.9						
DZM	**Mont Dzumac**	**14.53**	**264**	P	P	03 01 21.8	0.0
	1.1nm,0.3s,baz=78,slow=16,SNR=14						
URZ	**Urewera**	**17.50**	**193**	P	P	03 01 51.8	-1.9
	4.2nm,0.3s,baz=124,slow=16,SNR=15						
URZ				S	S	03 04 49.8	-5.1
	3.3nm,0.3s,baz=143,slow=21,SNR=9.3						
SNZO	**South Karori**	**20.96**	**196**	*e*P	P	03 02 30.3	+2.8
ARMA	**Armidale**	**28.79**	**245**	*e*P	P	03 03 38.7	+1.2
CNB	**Canberra Magne**	**31.86**	**237**	⇓*i*P	P	03 04 05.5	+1.4
	54nm,0.6s,mb5.0						
CTA	**Charters Tower**	**33.47**	**265**	⇓*i*P	P	03 04 18.7	+0.8
	7.5nm,0.4s,mb4.4						
CTA	**Charters Tower**	**33.47**	**265**	P	P	03 04 18.8	+0.9
	9.6nm,0.5s,mb4.4,baz=90,slow=10,SNR=27						
CTA	**Charters Tower**	**33.47**	**265**	⇓*i*P	P	03 04 18.7	+0.8
CTA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
CTAO	**Charters Tower**	**33.47**	**265**	*e*P	P	03 04 18.3	+0.4
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**33.47**	**265**	*e*P	P	03 04 18.3	+0.4
	comp=Z,7.0nm,0.6s,mb4.2						
PMG	**Port Moresby**	**35.55**	**284**	P	P	03 04 36.3	+0.7
	comp=Z,28nm,0.8s,mb4.6,baz=90,slow=3.3,SNR=8.5						
PMG	**Port Moresby**	**35.55**	**284**	*d*⇓*i*P	P	03 04 35.4	-0.1
PMG	**Port Moresby**	**35.55**	**284**	*e*P	P	03 04 36.2	+0.7
PMG				pmax	pmax		
	comp=Z,30nm,0.8s						
PMG	**Port Moresby**	**35.55**	**284**	*e*P	P	03 04 36.2	+0.7
	comp=Z,30nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**37.51**	**245**	⇓*i*P	P	03 04 52.3	+0.4
	comp=Z,16nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**37.51**	**245**	P	P	03 04 52.6	+0.8
	comp=Z,29nm,0.9s,mb4.6,baz=79,slow=7.8,SNR=28						
AS31	**Alice Springs**	**44.40**	**257**	*e*P	P	03 05 47.5	+0.3
ASAR	**Alice Springs**	**44.40**	**257**	P	P	03 05 47.6	+0.4
	comp=Z,18nm,0.5s,mb4.7,baz=98,slow=7.9,SNR=194						
ASAR				PcP	PcP		
	comp=Z,2.7nm,0.6s,baz=101,slow=4.2,SNR=6.1					03 07 22.6	-0.2
ASPA	**Alice Springs**	**44.40**	**257**	*e*P	P	03 05 47.5	+0.3
WB2	**Warramunga Arr**	**44.53**	**263**	⇓*i*P	P	03 05 47.7	-0.6
WRAB	**Tennant Creek**	**44.54**	**263**	*e*P	P	03 05 46.6	-1.7
WRA	**Warramunga Arr**	**44.55**	**263**	P	P	03 05 48.0	-0.4
	comp=Z,7.6nm,0.5s,mb4.3,baz=97,slow=6.4,SNR=139						
FORT	**Forrest**	**49.05**	**247**	*e*P	P	03 06 22.6	-0.1
	comp=Z,83nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.98**	**263**	*e*P	P	03 06 52.1	+0.5
	comp=Z,20nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.98**	**263**	P	P	03 06 52.3	+0.8
	comp=Z,9.4nm,0.4s,mb4.4,baz=126,slow=5.8,SNR=81						
VNDA	**Vanda**	**57.19**	**185**	P	P	03 07 22.1	+0.8
	comp=Z,0.8nm,0.7s,baz=351,slow=7.2,SNR=6.6						
VNDA	**Vanda**	**57.19**	**185**	*e*P	P	03 07 22.2	+0.9
	comp=Z,1.3nm,0.8s,mb3.3						
MBWA	**Marble Bar**	**57.74**	**258**	*e*P	P	03 07 24.9	-0.2
	comp=Z,55nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**57.79**	**245**	⇓*i*P	P	03 07 25.0	-0.4
	comp=Z,50nm,0.9s,mb4.8						
MUN	**Mundaring**	**59.05**	**245**	*e*P	P	03 07 34.1	+0.1
CASY	**Casey**	**63.33**	**205**	*e*P	P	03 08 01.6	-0.7
QSPA	**South Pole Qui**	**68.84**	**180**	*e*P	P	03 08 37.7	+0.7
	comp=Z,7.2nm,0.6s,mb4.5						
KKM	**Kota Kinabalu**	**69.98**	**285**	*e*P	P	03 08 44.6	+0.7
MJAR	**Matsushiro Arr**	**70.82**	**324**	P	P	03 08 48.7	-0.1
	comp=Z,3.1nm,0.7s,mb4.0,baz=156,slow=6.4,SNR=6.6						
MJAR	**Matsushiro Arr**	**70.82**	**324**	P	P	03 08 48.7	-0.1
KSM	**Kuching**	**73.55**	**278**	*e*P	P	03 09 05.6	+0.7
MAW	**Mawson**	**80.90**	**200**	P	P	03 09 44.8	-0.3
	comp=Z,3.2nm,0.6s,mb4.2,baz=133,slow=8.2,SNR=9.5						
MAW	**Mawson**	**80.90**	**200**	*e*P	P	03 09 44.3	-0.8
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAW	**Mawson**	**80.90**	**200**	*e*P	P	03 09 44.3	-0.8
	comp=Z,2.3nm,0.6s,mb4.1						
MDJ	**Mudanjiang**	**81.13**	**325**	P	P	03 09 46.8	+0.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,58nm,3.7s						
NVAR	**Mina Array Bea**	**81.52**	**43**	P	P	03 09 49.5	+1.2
	comp=Z,2.5nm,0.7s,mb4.0,baz=229,slow=8.6,SNR=19						
CN2	**Changchun**	**82.90**	**322**	*e*P	P	03 09 54.2	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
TUC	**Tucson**	**83.39**	**52**	*e*P	P	03 09 59.0	+1.1
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
TUC	**Tucson**	**83.39**	**52**	*e*P	P	03 09 59.0	+1.1
	comp=Z,4.0nm,1.1s,mb4.1						
KULM	**Kulm**	**83.91**	**278**	*e*P	P	03 10 00.5	0.0
SYO	**Syowa Base**	**86.03**	**193**	⇑*e*P	P	03 10 08.8	-2.1
HLID	**Hailey**	**86.85**	**41**	*e*P	P	03 10 15.1	+0.3
	comp=Z,2.0nm,0.7s,mb4.0						
GYA	**Guiyang**	**87.04**	**300**	*e*P	P	03 10 15.7	0.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
MNTX	**Cornudas Mount**	**87.14**	**55**	*e*P	P	03 10 17.0	+0.9
	comp=Z,3.9nm,0.9s,mb4.1						
SNAA	**Sanae**	**87.29**	**178**	*e*P	P	03 10 15.6	-1.3
SNAA				*e*		03 10 18.0	
SNAA				*e*		03 10 23.5	
SNAA				*e*		03 10 35.3	
SNAA	**Sanae**	**87.29**	**178**	*e*P	P	03 10 15.2	-1.7
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SNAA	**Sanae**	**87.29**	**178**	*e*P	P	03 10 15.2	-1.7
	comp=Z,1.5nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**87.41**	**57**	P	P	03 10 18.9	+1.4
	comp=Z,1.6nm,0.7s,mb3.9,baz=217,slow=6.6,SNR=23						
ANMO	**Albuquerque**	**87.83**	**51**	P	P	03 10 19.8	+0.4
	comp=Z,2.1nm,0.8s,mb3.9,baz=256,slow=6.9,SNR=7.3						
ANMO	**Albuquerque**	**87.83**	**51**	*e*P	P	03 10 19.9	+0.5
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**87.83**	**51**	*e*P	P	03 10 19.9	+0.5
	comp=Z,2.3nm,0.9s,mb3.9						
VNA2	**Neumayer--Watz**	**87.86**	**177**	*e*P	P	03 10 18.7	-0.9
	baz=199,slow=3.5						
VNA2				*e*		03 10 20.1	
VNA2				*e*		03 10 26.1	
VNA2				*e*		03 10 33.7	
VNA2				*e*		03 10 37.7	
VNA1	**Neumayer--Stat**	**88.09**	**177**	*e*P	P	03 10 20.1	-0.5
VNA1				*e*		03 10 21.4	
VNA1				*e*		03 10 27.3	
VNA1				*e*		03 10 39.3	
COLA	**College**	**88.90**	**12**	*e*P	P	03 10 22.6	-1.8
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
COLA	**College**	**88.90**	**12**	*e*P	P	03 10 22.6	-1.8
	comp=Z,3.5nm,0.6s,mb4.3						
TPAW	**Teton Pass**	**88.94**	**42**	*e*P	P	03 10 25.5	+0.8
	comp=Z,7.4nm,1.2s,mb4.3						
MOOW	**Moose Ponds**	**89.21**	**42**	*e*P	P	03 10 26.3	+0.4
	comp=Z,3.5nm,0.8s,mb4.1						
LOHW	**Long Hollow**	**89.22**	**42**	*e*P	P	03 10 26.3	+0.4
	comp=Z,2.4nm,0.6s,mb4.1						
SMCO	**Snowmass**	**89.44**	**47**	*e*P	P	03 10 27.5	+0.6
	comp=Z,2.1nm,0.8s,mb3.9						
BW06	**Boulder Array**	**89.46**	**43**	*e*P	P	03 10 27.0	-0.1
	comp=Z,2.5nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**89.46**	**43**	P	P	03 10 27.0	0.0
	comp=Z,2.9nm,0.8s,mb4.1,baz=210,slow=3.0,SNR=23						
KMI	**Kunming**	**89.71**	**297**	P	P	03 10 28.6	+0.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
KMI	**Kunming**	**89.71**	**297**	P	P	03 10 28.6	+0.4
	comp=Z,5.0nm,1.0s,mb4.3						
BILL	**Bilibino**	**89.76**	**354**	*e*P	P	03 10 26.9	-1.5
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
HHC	**Hu-ho-hao-te**	**89.89**	**314**	*e*P	P	03 10 28.2	-0.8
HHC				AP	pP	03 12 20.9	+19
HHC				XP	sP	03 13 11.6	+28
HHC				PP	PP	03 14 12.9	+4.6
HHC				S	S	03 20 35.2	-11
HHC				SS	SS	03 26 55.2	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,220nm,6.5s						
YAK	**Yakutsk**	**92.80**	**338**	*e*P	P	03 10 39.2	-3.2
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
LZH	**Lanzhou**	**93.24**	**307**	P	P	03 10 43.5	-1.0
LZH				AP	pP	03 12 36.7	+19
LZH				*e*PP	PP	03 14 38.6	+4.2
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,53nm,8.7s						
LZH	**Lanzhou**	**93.24**	**307**	P	P	03 10 43.5	-1.0
LZH				*e*		03 14 38.6	
LZH				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
LZH	**Lanzhou**	**93.24**	**307**	P	P	03 10 43.5	-1.0
	comp=Z,19nm,1.4s,mb4.8						
LZH				pP	pP	03 12 36.7	+19
LZH				sP	sP	03 13 36.5	+37
LZH				*e*PP	PP	03 14 38.6	+4.2
WMQ	**Urumqi**	**107.43**	**311**	PDIF	Pdif	03 11 45.2	-2.7
WMQ				PP	PP	03 16 22.7	+2.0
WMQ				PP	PP		
	comp=Z,182nm,5.0s						
CHKZ	**Chkalovo**	**119.48**	**320**	*e*PKIKP	PKPdf	03 16 14.3	-2.7
BRVK	**Borovoye**	**119.72**	**320**	*e*PKIKP	PKPdf	03 16 15.2	-2.2
BOSA	**Boshof**	**125.62**	**205**	PKP	PKPdf	03 16 28.6	-0.1
	comp=Z,2.4nm,0.8s,baz=157,slow=6.8,SNR=4.2						
ARU	**Arti**	**125.82**	**325**	*e*PKIKP	PKPdf	03 16 27.1	-2.0
ARCES	**ARCESS Array B**	**129.64**	**350**	PKP	PKPdf	03 16 34.5	-1.9
	comp=Z,2.6nm,0.4s,baz=32,slow=1.1,SNR=28						
ARCES	**ARCESS Array B**	**129.64**	**350**	PKP	PKPdf	03 16 34.5	-2.0
FINES	**FINESS Array B**	**136.48**	**343**	PKP	PKPdf	03 16 47.7	-1.6
	comp=Z,1.6nm,0.5s,baz=62,slow=4.5,SNR=6.4						
FINES	**FINESS Array B**	**136.48**	**343**	PKP	PKPdf	03 16 47.7	-1.6
NB2	**NORSAR Subarra**	**139.70**	**353**	PKP	PKPdf	03 16 45.5	-10
	comp=Z,2.2nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**139.70**	**353**	PKP	PKPdf	03 16 55.6	+0.4
	comp=Z,1.2nm,0.5s,baz=14,slow=3.9,SNR=3.9						
SUW	**Suwalki**	**143.53**	**339**	*e*PKP	PKPdf	03 16 58.7	-3.3
AKASG	**Malin Array Be**	**143.66**	**331**	PKhKP		03 16 58.6	
	comp=Z,8.8nm,0.4s,baz=42,slow=4.4,SNR=54						
AKBB	**Malin Array Si**	**143.66**	**331**	*e*PKHKP		03 16 58.7	
SIM	**Simferopol'**	**144.57**	**319**	*i* PKIKP	PKPdf	03 17 03.3	-0.5
SIM				pmax	pmax		
	comp=Z,20nm,0.7s						
BSEG	**Bad Segeberg**	**146.74**	**351**	*e*PKPbc	PKPbc	03 17 08.7	-1.2
KWP	**Kalwaria**	**147.25**	**335**	*e*PKP	PKPbc	03 17 10.5	-0.8
BR131	**Keskin Array S**	**147.35**	**311**	*e*PKPbc	PKPbc	03 17 10.5	-1.1
BRTR	**Keskin Array B**	**147.35**	**311**	PKPbc	PKPbc	03 17 10.8	-0.8
	comp=Z,3.1nm,0.6s,baz=138,slow=3.4,SNR=13						
BURAR	**Bucovina Array**	**147.71**	**330**	⇑*i*P	PKPbc	03 17 12.3	-0.2
BURAR	**Bucovina Array**	**147.71**	**330**	⇓*i*P	PKPbc	03 17 13.3	+0.8
ANTO	**Ankara**	**147.88**	**312**	⇑*i*P	PKPbc	03 17 11.8	-1.1
PLOR	**Plostina**	**148.24**	**326**	⇓*i*P	PKPbc	03 17 13.1	-0.8
PLOR	**Plostina**	**148.24**	**326**	⇑PKHKP	PKPbc	03 17 13.1	-0.8
NIE	**Niedzica**	**148.34**	**337**	*e*PKP	PKPbc	03 17 14.0	-0.1
KSP	**Ksiaz**	**148.39**	**343**	*e*PKP	PKPbc	03 17 13.7	-0.5
KSP	**Ksiaz**	**148.39**	**343**	*e*PKP	PKPbc	03 17 13.0	-1.2
CLZ	**Clausthal**	**148.76**	**350**	*e*PKPbc	PKPbc	03 17 14.7	-0.5
UPC	**Upice**	**148.77**	**343**	⇑*e*PKP	PKPbc	03 17 14.4	-0.8
UPC				*e*PKPAB	PKPab	03 17 22.0	+1.5
CLL	**Collm**	**148.78**	**347**	*e*PKPbc	PKPbc	03 17 14.0	-1.2
CLL				*e*PKPab	PKPab	03 17 19.9	-0.6
CLL	**Collm**	**148.78**	**347**	⇓*e*PKIKP	PKPdf	03 17 10.0	-0.8
CLL				*i*		03 17 13.8	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.4s						
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**148.78**	**347**	*e*PKP	PKPdf	03 17 10.0	-0.8
CLL				⇓*i*PKP	PKPbc	03 17 13.8	-1.4
CLL	**Collm**	**148.78**	**347**	*e*PKPdf	PKPdf	03 17 10.0	-0.8
	comp=Z,3.0nm,0.4s						
CLL				⇓*i*PKPbc	PKPbc	03 17 13.8	-1.4
	comp=Z,15nm,0.7s						
CLL				*e*PKPab	PKPab	03 17 19.0	-1.5
	comp=Z,9.0nm,0.6s						
DPC	**Dobruska-Polom**	**148.83**	**342**	⇑*e*PKP	PKPbc	03 17 14.8	-0.5
DPC				*e*PKPAB	PKPab	03 17 21.0	+0.3
MLR	**Muntele Rosu**	**148.85**	**327**	⇓*i*P	PKPbc	03 17 14.1	-1.3
MLR	**Muntele Rosu**	**148.85**	**327**	⇑P	PKPbc	03 17 14.5	-0.9
BRG	**Berggiesshubel**	**148.97**	**345**	*e*PKPbc	PKPbc	03 17 14.2	-1.5
BRG				*e*PKPab	PKPab	03 17 21.2	-0.1
BRG	**Berggiesshubel**	**148.97**	**345**	*i* PKP	PKPbc	03 17 14.5	-1.2
	comp=Z,4.7nm,0.6s						
BRG				*i*	PKPab	03 17 21.4	+0.1
	comp=Z,3.7nm,0.8s						
BRG	**Berggiesshubel**	**148.97**	**345**	*i* PKHKP	PKPbc	03 17 14.5	-1.2
BRG				*i*	PKPab	03 17 21.4	+0.1
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MORC	**Moravsky Berou**	**148.97**	**340**	*e*PKHKP	PKPbc	03 17 14.7	-1.0
FBE	**Freiberg**	**149.06**	**346**	*e*PKPbc	PKPbc	03 17 15.2	-0.7
FBE				*e*PKPab	PKPab	03 17 21.7	+0.1
PVCC	**Panska Ves**	**149.14**	**344**	⇑*e*PKP	PKPbc	03 17 15.5	-0.6
PVCC				*e*PKPAB	PKPab	03 17 22.6	+0.6
EIL	**Elat**	**149.20**	**293**	*e*PKPbc	PKPbc	03 17 15.5	-0.7
CSS	**Prodhromos**	**149.34**	**303**	*e*PKPbc	PKPbc	03 17 15.7	-0.9
DRGR		**149.47**	**331**	⇑*i*P	PKPbc	03 17 15.5	-1.4
PRU	**Pruhonice**	**149.64**	**344**	⇑*e*PKP	PKPbc	03 17 16.4	-0.9
PRU				*e*PKPAB	PKPab	03 17 23.7	-0.3
VRAC	**Vranov**	**149.68**	**341**	⇓PKHKP	PKPbc	03 17 17.0	-0.4
MOX	**Moxa**	**149.69**	**348**	*e*PKPbc	PKPbc	03 17 16.0	-1.4
MOX				*e*PKPab	PKPab	03 17 24.0	-0.2
MOX	**Moxa**	**149.69**	**348**	*e*PKP	PKPbc	03 17 16.5	-0.9
MOX				*e*		03 17 23.8	
TANN	**Tannenbergstha**	**149.73**	**347**	*e*PKPbc	PKPbc	03 17 16.3	-1.2
WERD	**Werda**	**149.74**	**347**	*e*PKPbc	PKPbc	03 17 16.7	-0.8
GUNZ	**Gunzen**	**149.81**	**347**	*e*PKPbc	PKPbc	03 17 16.9	-0.8
WERN	**Wernitzgruen**	**149.87**	**347**	*e*PKPbc	PKPbc	03 17 16.9	-0.9
WERN				*e*PKPab	PKPab	03 17 25.4	+0.4
NKC	**Novy Kostel**	**149.91**	**347**	⇑*e*PKP	PKPbc	03 17 17.3	-0.6
NKC				*e*PKPAB	PKPab	03 17 25.6	+0.5
MANZ	**Manzenberg**	**150.21**	**347**	*e*PKPbc	PKPbc	03 17 17.8	-0.9
ROTZ	**Rotzenmuhle**	**150.40**	**347**	*e*PKPbc	PKPbc	03 17 18.3	-0.8
GZR	**Gura Zlata**	**150.49**	**330**	⇑*i*P	PKPbc	03 17 18.1	-1.2
MEM	**Membach**	**150.51**	**355**	PKPbc	PKPbc	03 17 18.3	-1.0
TNS	**Taunus Mts**	**150.62**	**352**	*e*PKPbc	PKPbc	03 17 18.3	-1.3
TNS				*e*PKPab	PKPab	03 17 26.8	-1.3
GRA1	**Grafenberg Arr**	**150.68**	**348**	*e*PKPbc	PKPbc	03 17 18.9	-0.8
GRA1				*e*PKPab	PKPab	03 17 26.8	-1.5
GRF	**Grafenberg Arr**	**150.68**	**348**	*e*PKPbc	PKPbc	03 17 18.9	-0.8
GRF				*e*PKPab	PKPab	03 17 26.8	-1.5
KHC	**Kasperske Hory**	**150.68**	**344**	⇑*e*PKP	PKPbc	03 17 18.8	-0.9
KHC				*e*PKPAB	PKPab	03 17 28.4	+0.1
BZS	**Buzias**	**150.85**	**331**	⇑*i*P	PKPbc	03 17 18.8	-1.3
BZS	**Buzias**	**150.85**	**331**	⇑P	PKPbc	03 17 18.9	-1.3
GEC2	**GERESS Array S**	**150.91**	**344**	*e*PKPbc	PKPbc	03 17 19.2	-1.1
GERES	**GERESS Array B**	**150.91**	**344**	PKPbc	PKPbc	03 17 19.2	-1.1
	comp=Z,3.0nm,0.6s,baz=4.2,slow=7.2,SNR=4.9						
GERES				PKPab	PKPab	03 17 29.4	+0.1
	comp=Z,1.3nm,0.6s,baz=20,slow=4.3,SNR=5.5						
GIVF	**Givet**	**151.10**	**356**	*e*PKP1	PKPbc	03 17 19.6	-1.1
DOU	**Dourbes**	**151.12**	**357**	PKPbc	PKPbc	03 17 19.8	-1.0
DOU				AP		04 38 19.9	
BAIF	**Baives**	**151.18**	**357**	*e*PKP1	PKPbc	03 17 19.8	-1.1
	comp=Z,20nm,1.0s						
WLF	**Walferdange**	**151.44**	**354**	*e*PKPbc	PKPbc	03 17 21.0	-0.5
WLF				*e*PKPab	PKPab	03 17 30.4	-1.1
WLF	**Walferdange**	**151.44**	**354**	*e*PKPbc	PKPbc	03 17 20.7	-0.7
PKSM	**Moragy**	**151.63**	**335**	⇓*i*P	PKPbc	03 17 20.7	-1.2
PKSM	**Moragy**	**151.63**	**335**	⇑P	PKPbc	03 17 20.9	-1.0
STU	**Stuttgart**	**151.93**	**350**	*e*PKPbc	PKPbc	03 17 21.8	-0.8
VTS	**Vitosha**	**152.28**	**325**	⇓*i*P	PKPbc	03 17 22.6	-0.7
VTS	**Vitosha**	**152.28**	**325**	⇓P	PKPdf	03 17 20.6	+4.4
FLN	**La Foliniere**	**152.45**	**4**	*e*PKP1	PKPbc	03 17 22.1	-1.6
	comp=Z,8.8nm,0.5s						
BFO	**Black Forest**	**152.49**	**351**	*e*PKPbc	PKPbc	03 17 22.3	-1.5
BFO				*e*PKPab	PKPab	03 17 35.8	-0.2
PERS	**Pernice**	**152.51**	**340**	*i* PKPbc	PKPbc	03 17 22.1	-1.7
CDF	**Champ du Feu**	**152.55**	**352**	*e*PKP1	PKPbc	03 17 22.7	-1.3
	comp=Z,4.8nm,0.6s						
ROSF	**Rostrenen**	**152.62**	**8**	*e*PKP1	PKPbc	03 17 22.2	-1.9
LDF	**La Druitiere**	**152.64**	**3**	*e*PKP1	PKPbc	03 17 22.5	-1.6
	comp=Z,7.5nm,0.6s						
SGMF	**Saint Gilles**	**152.78**	**7**	*e*PKP1	PKPbc	03 17 22.8	-1.7
	comp=Z,7.6nm,0.6s						
GRR	**Gorron**	**152.80**	**4**	*e*PKP1	PKPbc	03 17 23.1	-1.4
	comp=Z,4.5nm,0.5s						
HAU	**Haudompre**	**153.06**	**354**	*e*PKP1	PKPbc	03 17 23.7	-1.4
	comp=Z,5.3nm,0.6s						
HINF	**Hinteralfeld**	**153.19**	**353**	*e*PKP1	PKPbc	03 17 23.9	-1.4
	comp=Z,3.5nm,0.6s						
BOJS	**Bojanci**	**153.47**	**339**	*i* PKPbc	PKPbc	03 17 24.9	-1.0
LOR	**Lormes**	**153.98**	**357**	*e*PKP1	PKPbc	03 17 25.8	-1.2
	comp=Z,6.3nm,0.8s						
SSF	**Saint Saulge**	**154.20**	**358**	*e*PKP1	PKPbc	03 17 27.1	-0.4
MFF	**Saint Martin d**	**154.62**	**4**	*e*PKP1	PKPbc	03 17 26.9	-1.5
KEST	**Kesra**	**164.20**	**338**	PKPab	PKPab	03 18 26.9	0.0
	comp=Z,0.6nm,0.6s,baz=267,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**171.96**	**178**	PKP	PKPdf	03 17 34.7	-0.9
	comp=Z,1.9nm,0.8s,baz=358,slow=1.4,SNR=8.6						
TORD				PKPab	PKPab	03 19 01.5	+0.3
	comp=Z,2.1nm,0.7s,baz=174,slow=4.0,SNR=15						
TORD	**Torodi Ar. Bea**	**171.96**	**178**	PKP	PKPdf	03 17 34.7	-0.9
TORD				PKPab	PKPab	03 19 01.5	+0.3

SKHL ***08*** *03:17:09.8±1.8, 4570N×149.10E, h65km±30km*

ISCJB ***08*** *03:17:12.3±1.4, 446N±0.1×1492E±02, h155km±18km, Error ellipse: s-maj=27.3km s-min=10.9km az=86.5*

JMA ***08*** *03:17:12.7±0.7, 4476N×149

GBPR	**Guanica, Bosqu**	**3.68**	**249**⇑	*e*P	**Pn**	**03 36 18.8**	**+0.8**
GBPR				*e*S	**Sn**	**03 37 01.1**	**+0.9**
AGPR	**Aguadilla, PR**	**3.74**	**258**⇑	*e*P	**Pn**	**03 36 18.6**	**-0.3**
AGPR				*e*S	**Sn**	**03 37 01.2**	**-0.5**
LSP	**Las Mesas**	**3.80**	**253**⇑	*e*P	**Pn**	**03 36 19.9**	**+0.3**
LSP				*e*S	**Sn**	**03 37 03.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**3.87**	**251**⇓	*e*P	**Pn**	**03 36 20.7**	**0.0**
SDV	**Santo Domingo**	**12.59**	**216**	*e*Pn	**Pn**	**03 38 23.6**	**+4.0**
	7.4nm,1.0s						

*TRN **08** 03:44:30.9, 1953N×6304W, h56km*
*NEIC **08** 03:44:33.8, 1953N×6316W, h90km, MD3.8(RSPR), After RSPR.*

RSPR 08 03:44:33.8, 1953N×6316W, h90km±10km, MD3.8/5, MD3.8/5, 9C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.77**	**231**⇑	*e*P	Pn	03 45 02.3	-0.7
TBVI				*e*S	Sn	03 45 24.8	-0.3
STVI	**Saint Thomas**	**2.06**	**236**⇑	*e*P	Pn	03 45 06.5	-0.3
STVI				*e*S	Sn	03 45 31.8	-0.2
MTP	**Monte Pirata**	**2.68**	**238**⇑	*e*P	Pn	03 45 14.7	-0.3
MTP				*e*S	Sn	03 45 46.5	-0.1
CBYP	**Canovanas**	**2.84**	**244**⇑	*e*P	Pn	03 45 17.3	+0.1
CBYP				*e*S	Sn	03 45 51.0	+0.5
HUMP	**Col San Antoni**	**2.90**	**242**⇑	*e*P	Pn	03 45 17.6	-0.4
HUMP				*e*S	Sn	03 45 52.2	+0.3
SJG	**San Juan**	**3.16**	**244**⇑	*e*P	Pn	03 45 21.3	-0.2
SJG				*e*S	Sn	03 45 58.6	+0.3
AOPR	**Arecibo Observ**	**3.60**	**251**⇑	*e*P	Pn	03 45 27.1	-0.2
AOPR				*e*S	Sn	03 46 08.8	0.0
LSP	**Las Mesas**	**3.95**	**251**⇑	*e*P	Pn	03 45 32.8	+0.7
LSP				*e*S	Sn	03 46 17.9	+0.5
CRPR	**Cabo Rojo, PR**	**4.04**	**249**⇑	*e*P	Pn	03 45 33.5	+0.2

KRSC 08 03:46:29.1±0.7, 5201N×15833E, h137km±47km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.44**	**15**	*i* P	Pn	03 46 49.1	+0.5
RUS				*i* S	Sn	03 47 04.6	+1.2
RUS	**Russkaya**	**0.44**	**15**	*i* P	Pn	03 46 49.1	+0.5
RUS				*i* S	Sn	03 47 04.6	+1.2
GRL	**Gorelyy**	**0.56**	**344**	*i* P	Pn	03 46 50.0	+0.7
GRL				*e*S	Sn	03 47 05.9	+1.3
GRL	**Gorelyy**	**0.56**	**344**	*i* P	Pn	03 46 50.0	+0.7
GRL				*e*S	Sn	03 47 05.9	+1.3
PET	**Petropavlovsk**	**1.03**	**11**	P	Pn	03 46 54.4	+1.5
PET				*i* S	Sn	03 47 13.4	+2.3
PET	**Petropavlovsk**	**1.03**	**11**	P	Pn	03 46 54.4	+1.5
PET				*i* S	Sn	03 47 13.4	+2.3
AVH	**Avacha**	**1.28**	**11**	P	Pn	03 46 57.6	+2.3
AVH				*i* S	Sn	03 47 18.2	+2.9
AVH	**Avacha**	**1.28**	**11**	P	Pn	03 46 57.6	+2.3
AVH				*i* S	Sn	03 47 18.2	+2.9
NLC	**Nalytchevo**	**1.32**	**28**	P	Pn	03 46 57.9	+2.2
NLC				*i* S	Sn	03 47 18.6	+2.6
NLC	**Nalytchevo**	**1.32**	**28**	P	Pn	03 46 57.9	+2.2
NLC				*i* S	Sn	03 47 18.6	+2.6
SPN	**Mys Shipunski**	**1.50**	**43**	P	Pn	03 46 59.4	+1.7
SPN				*i* S	Sn	03 47 21.8	+2.3
SPN	**Mys Shipunski**	**1.50**	**43**	P	Pn	03 46 59.4	+1.7
SPN				*i* S	Sn	03 47 21.8	+2.3
GNL	**Ganaly**	**1.70**	**352**	P	Pn	03 47 00.6	+0.6
GNL				*i* S	Sn	03 47 23.6	0.0
GNL	**Ganaly**	**1.70**	**352**	P	Pn	03 47 00.6	+0.6
GNL				*i* S	Sn	03 47 23.6	0.0
MKZ	**Mys Kozlova**	**3.27**	**37**	P	Pn	03 47 21.0	+1.6
MKZ				*i* S	Sn	03 47 59.4	+1.1
MKZ	**Mys Kozlova**	**3.27**	**37**	P	Pn	03 47 21.0	+1.6
MKZ				*i* S	Sn	03 47 59.4	+1.1
KBTR	**Krutoberegovo**	**4.97**	**30**	P	Pn	03 47 43.4	+1.6
KBTR	**Krutoberegovo**	**4.97**	**30**	P	Pn	03 47 43.4	+1.6

IDC 08 03:46:54.4±3.7, 596S×15097E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.1/16, Error ellipse: s-maj=126.1km s-min=51.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**228**	P	P	03 51 43.4	+0.7
	0.3nm,0.5s,baz=53,slow=10.0,SNR=4.8						
WRA				LR	LR	03 59 29.7	
	comp=Z,40nm,20.0s,baz=75,slow=35						
ASAR	**Alice Springs**	**24.07**	**221**	P	P	03 52 11.2	-0.2
	0.3nm,0.6s,baz=55,slow=9.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P	P	03 52 43.1	+0.6
	0.5nm,0.6s,baz=45,slow=7.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.89**	**286**	PKPbc	PKPbc	04 06 44.7	+0.6
	0.1nm,0.4s,baz=99,slow=2.2,SNR=4.4						

IDC 08 03:55:51.8±7.8, 639S×15113E, h105km±54km, mb3.5/4, mb1 3.6/5, mb1mx3.3/15, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/22, Error ellipse: s-maj=60.5km s-min=50.6km az=90.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.94**	**232**	P	Pn	03 57 02.2	-1.6
	0.9nm,0.3s,baz=233,slow=20,SNR=4.7						
PMG				S	Sn	03 58 02.4	+2.6
	1.3nm,0.3s,baz=73,slow=22,SNR=4.0						
WB2	**Warramunga Arr**	**21.14**	**229**	*e*P	P	04 00 27.6	-0.7
WRA	**Warramunga Arr**	**21.15**	**229**	P	P	04 00 28.0	-0.4
	0.9nm,0.5s,baz=54,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.86**	**222**	P	P	04 00 55.3	-0.1
	1.1nm,0.5s,baz=56,slow=9.5,SNR=21						
STKA	**Stephens Creek**	**26.88**	**198**	P	P	04 01 22.9	+0.2
	3.7nm,0.9s,baz=359,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P	P	04 01 27.8	0.0
	0.7nm,0.4s,baz=68,slow=8.9,SNR=6.3						
KSRS	**Korea Array**	**48.70**	**335**	LR	LR	04 22 16.4	
	comp=Z,23nm,20.9s,baz=221,slow=32						
TORD	**Torodi Ar. Bea**	**149.16**	**285**	PKPbc	PKPbc	04 15 29.4	+1.6
	0.7nm,0.7s,baz=32,slow=2.6,SNR=7.5						

IDC 08 04:06:08.4±3.4, 628S×15165E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=123.7km s-min=48.7km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**229**	P	P	04 11 01.1	+1.0
	0.4nm,0.6s,baz=56,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.29**	**223**	P	P	04 11 27.4	0.0
	0.3nm,0.4s,baz=32,slow=12,SNR=5.5						
FITZ	**Fitzroy Crossi**	**27.96**	**243**	P	P	04 12 00.7	+0.1
	1.4nm,0.8s,baz=117,slow=12,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.63**	**285**	PKPbc	PKPbc	04 26 00.8	+0.8
	0.3nm,0.7s,baz=92,slow=2.4,SNR=7.5						

*ISCJB **08** 04:31:36.3±0.6, 1357N±009×885W±0.1, h186km±8km, mb3.9/14, Error ellipse: s-maj=22.2km s-min=8.7km az=104.0*
*NEIC **08** 04:31:36.9±1.5, 1359N×8854W, h176km±7km, mb4.0/12, Error ellipse: s-maj=28.6km s-min=14.0km az=180.0*
*CASC **08** 04:31:40.0±2.5, 1245N×8890W, h0km±5km, MD4.0, ML3.6, mb4.0(NEIC)*
*IDC **08** 04:31:43.1±9.1, 1432N×8876W, h170km±48km, mb3.4/4, mb1 3.7/5, mb1mx3.4/16, mbtmp3.4/5, Error ellipse: s-maj=107.2km s-min=41.8km az=170.0*

ISC 08 04:31:37.5±0.6, 1359N±010×885W±01, h182km±8km, n41, σ1℗01/44, mb3.9/14, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.30**	**119**	*e*P	x	04 32 17.3	
BLLM				*e*S	x	04 32 35.8	
SNVI	**San Vicente**	**0.32**	**275**	*e*P	x	04 32 17.5	
SNVI				*e*S	x	04 32 36.2	
LCBS	**La Ceiba**	**0.46**	**278**⇑	*i*P	x	04 32 17.5	
LCBS				*e*S	x	04 32 35.5	
LFRS	**El Faro**	**0.54**	**274**⇑	*i*P	x	04 32 17.8	
LFRS				*e*S	x	04 32 36.1	
SNET	**Serv Nac Est T**	**0.71**	**278**	*e*P	x	04 32 00.9	
SNET				*e*S	x	04 32 21.0	
CNCH	**Conchagua**	**0.72**	**115**	*e*P	x	04 32 19.3	
CNCH				*e*S	x	04 32 40.0	
TGUH	**Tegucigalpa,Un**	**1.29**	**69**	*e*Pn	**Pn**	**04 32 06.9**	**-0.7**
MIRN	**Miramar**	**2.09**	**123**	*e*P	**Pn**	**04 32 15.6**	**0.0**
MOMJ	**Momotombo**	**2.25**	**121**	*e*P	**Pn**	**04 32 18.5**	**+1.2**
MOMJ				*e*S	**Sn**	**04 32 49.6**	**+1.4**
COPN	**Copaltepe**	**2.33**	**127**	*e*P	**Pn**	**04 32 18.3**	**0.0**
COPN				*e*S	**Sn**	**04 32 48.2**	**-1.8**
APYN	**Apoyeque**	**2.50**	**122**	*e*P	**Pn**	**04 32 20.8**	**+0.6**
XAIN	**Gruta Xavier**	**2.56**	**124**	*e*P	**Pn**	**04 32 21.6**	**+0.6**
TISN	**Laguna Tiscapa**	**2.61**	**123**	*e*P	**Pn**	**04 32 22.1**	**+0.6**
TISN				*e*S	**Sn**	**04 32 55.8**	**0.0**
MGAN	**Managua**	**2.63**	**123**	*e*S	**Sn**	**04 32 56.2**	**+0.1**
MGAN				*i*		04 32 58.5	
	comp=N,273nm,0.4s						
TICN	**Ticuantepe**	**2.70**	**125**	*e*P	**Pn**	**04 32 23.3**	**+0.7**
TICN				*e*S	**Sn**	**04 32 57.9**	**+0.2**
TICN				*i*		04 33 04.3	
	comp=Z,620nm,0.3s						
SSNN	**San Juan del S**	**3.46**	**131**	*e*S	**Sn**	**04 33 13.1**	**-1.1**
LIM1	**Limonal**	**4.28**	**132**	*i* P	**Pn**	**04 32 42.7**	**+0.5**
LIM1				*i* S	**Sn**	**04 33 30.6**	**-2.3**
VCR	**Vista de Mar**	**4.44**	**140**	*e*P	**Pn**	**04 32 42.1**	**-2.2**
VCR				*e*S	**Sn**	**04 33 32.6**	**-4.0**
JCR	**Jicaral**	**4.99**	**138**	*e*P	**Pn**	**04 32 51.1**	**-0.1**
JCR				*e*S	**Sn**	**04 33 45.2**	**-3.9**
CGA2	**Cerro Gallo 2**	**5.32**	**131**	*e*P	**Pn**	**04 32 58.0**	**+2.5**
PRS1	**Puriscal**	**5.45**	**131**	*e*P	**Pn**	**04 32 58.9**	**+1.6**
PRS1				*e*S	**Sn**	**04 34 00.3**	**+0.4**
TEIG	**Tepich**	**6.61**	**2**	*e*Pn	**Pn**	**04 33 12.3**	**-0.1**
CMIG	**Matias Romero**	**7.07**	**300**	P	**Pn**	**04 33 17.1**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=151,slow=9.8,SNR=59						
CMIG				S	**Sn**	**04 34 30.1**	**-8.1**
	comp=Z,1.1nm,0.3s,baz=39,slow=5.0,SNR=7.3						
OTAV	**Otavalo**	**16.59**	**142**	*e*P	**Pn**	**04 35 25.0**	**+5.3**
	comp=Z,1.6nm,0.8s						
SDV	**Santo Domingo**	**18.14**	**103**	*e*P	**P**	**04 35 33.4**	**-2.6**
	comp=Z,7.2nm,0.8s						
TXAR	**Lajitas Array**	**21.05**	**321**	P	**P**	**04 36 07.1**	**-0.1**
	comp=Z,2.2nm,0.5s,mb3.7,baz=140,slow=9.5,SNR=44						
TKL	**Tuckaleechee C**	**22.39**	**10**	P	**P**	**04 36 20.6**	**-0.1**
	comp=Z,12nm,0.7s,mb4.4,baz=182,slow=10,SNR=11						
MNTX	**Cornudas Mount**	**23.76**	**322**	*e*P	**P**	**04 36 33.3**	**0.0**
	comp=Z,2.1nm,1.1s,mb3.6						
AMTX	**Amarillo**	**24.32**	**333**	*e*P	**P**	**04 36 37.8**	**-0.5**
	comp=Z,1.9nm,0.5s,mb3.9						
WCI	**Wyandotte Cave**	**24.62**	**4**	*e*P	**P**	**04 36 39.7**	**-1.4**
	comp=Z,7.1nm,0.6s,mb4.4						
SDCO	**Great Sand Dun**	**28.42**	**331**	*e*P	**P**	**04 37 15.2**	**+0.1**
	comp=Z,3.5nm,1.2s,mb4.0						
SMCO	**Snowmass**	**30.26**	**331**	*e*P	**P**	**04 37 31.9**	**+0.6**
	comp=Z,2.4nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**34.29**	**332**	P	**P**	**04 38 06.4**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.5,baz=133,slow=10,SNR=4.2						
HWUT	**Hardware Ranch**	**34.37**	**329**	*e*P	**P**	**04 38 07.4**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0						
LOHW	**Long Hollow**	**35.43**	**332**	*e*P	**P**	**04 38 16.5**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.0						
TPAW	**Teton Pass**	**35.49**	**331**	*e*P	**P**	**04 38 17.3**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.1						
MOOW	**Moose Ponds**	**35.60**	**332**	*e*P	**P**	**04 38 17.5**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.0						
HLID	**Hailey**	**37.24**	**328**	*e*P	**P**	**04 38 31.4**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.6						
MCMT	**McKenzie Canyo**	**37.40**	**331**	*e*P	**P**	**04 38 34.0**	**+1.2**
EDM	**Edmonton**	**44.18**	**339**	*e*P	**P**	**04 39 26.6**	**-1.7**
YKA	**Yellowknife Ar**	**52.25**	**345**	P	**P**	**04 40 30.8**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=149,slow=6.5,SNR=5.9						

*GII **08** 04:31:57.3±0.0, 2801N×3079E, h0km±1km, mb4.8/5, ML4.8/5*
*BJI **08** 04:32:07.9, 2860N×3160E, h5km, mB5.4, mb4.8, Ms4.8, Msz4.6*
*ISCJB **08** 04:32:09.5±0.2, 2855N±002×3163E±002, h10km, mb4.3/47, MS3.2/7, Error ellipse: s-maj=2.9km s-min=2.5km az=145.7*
*CSEM **08** 04:32:09.1±0.1, 2852N×3157E, h10km, mb4.3/9, Error ellipse: s-maj=1.6km s-min=1.2km az=66.0*
*IDC **08** 04:32:09.6±0.7, 2862N×3157E, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, ML4.1/4, MS3.2/9, Ms1 3.2/9, ms1mx2.9/30, Error ellipse: s-maj=16.6km s-min=11.7km az=117.0*
*NEIC **08** 04:32:10.0±0.8, 2861N×3165E, h2km±5km, mb4.5/33, ML4.2(HLW), Error ellipse: s-maj=6.3km s-min=4.3km az=46.0*
NEIC Felt [II] at Al Jizah and Cairo.
*HLW **08** 04:32:10.0, 2858N×3160E, h4km, Mb4.7*
*MOS **08** 04:32:11.1±1.4, 2867N×3175E, h17km, mb4.6/23, Error ellipse: s-maj=12.1km s-min=4.5km az=109.8*
*NSSC **08** 04:32:27, 2920N×3256E, h31km±2km*
*SZGRF **08** 04:32:35.3, 3100N×3075E, h10km, mb4.4, Egypt*

ISC 08 04:32:10.9±0.2, 2858N±002×3164E±002, h10km, (h13km±2.7km:pP-P), n286, σ1℗17/308, mb4.3/47, MS3.2/7, 58C-35D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLL	**Jalalah**	**1.00**	**3**⇑	*i*P	**Pg**	**04 32 29.2**	**-0.9**
GLL	**Jalalah**	**1.00**	**3**⇑	P	**Pg**	**04 32 29.2**	**-0.9**
GLL	**Jalalah**	**1.00**	**3**	P	**Pg**	**04 32 29.2**	**-0.9**
HSAF	**As Saff**	**1.04**	**356**⇑	*i*P	**Pg**	**04 32 29.9**	**-1.1**
HSAF				S	**Sg**	**04 32 44.4**	**-0.2**
HSAF	**As Saff**	**1.04**	**356**	⇑P	**Pg**	**04 32 29.8**	**-1.2**
HSAF	**As Saff**	**1.04**	**356**	P	**Pg**	**04 32 29.8**	**-1.1**
GRB	**Gharib**	**1.05**	**107**	P	**Pg**	**04 32 30.8**	**-0.3**
GRB	**Gharib**	**1.05**	**107**	⇑P	**Pg**	**04 32 30.8**	**-0.4**
ZAF		**1.06**	**48**	P	**Pg**	**04 32 30.8**	**-0.5**
ZAF		**1.06**	**48**	⇑P	**Pg**	**04 32 30.8**	**-0.5**
ZAF		**1.06**	**48**	*e*P	**Pg**	**04 32 30.8**	**-0.5**
ASUT		**1.18**	**184**	*i*P	**Pb**	**04 32 32.5**	**-0.9**
ASUT		**1.18**	**184**	⇓P	**Pb**	**04 32 32.5**	**-0.9**
ASUT		**1.18**	**184**	P	**Pb**	**04 32 32.5**	**-0.9**
AYT	**Al 'Ayyat**	**1.20**	**339**⇑	*e*P	**Pb**	**04 32 32.4**	**-1.4**
AYT	**Al 'Ayyat**	**1.20**	**339**	⇑P	**Pb**	**04 32 32.3**	**-1.5**
AYT	**Al 'Ayyat**	**1.20**	**339**	P	**Pb**	**04 32 32.3**	**-1.5**
FYM	**Al Fayyum**	**1.23**	**335**⇑	*e*P	**Pn**	**04 32 32.8**	**-1.4**
FYM				S	**Sb**	**04 32 50.0**	**-0.2**
FYM	**Al Fayyum**	**1.23**	**335**	⇑P	**Pn**	**04 32 32.8**	**-1.4**
FYM	**Al Fayyum**	**1.23**	**335**	P	**Pn**	**04 32 32.8**	**-1.4**
FYM				S	**Sb**	**04 32 49.6**	**-0.5**
FYM	**Al Fayyum**	**1.23**	**335**	P	**Pn**	**04 32 32.8**	**-1.4**
FYM				S	**Sb**	**04 32 49.6**	**-0.6**
HLW	**Helwan**	**1.30**	**348**⇑	*e*P	**Pn**	**04 32 34.3**	**-0.9**
HLW	**Helwan**	**1.30**	**348**	⇑P	**Pn**	**04 32 34.2**	**-1.0**
ZNM		**1.34**	**53**⇑	*e*P	**Pn**	**04 32 35.3**	**-0.4**
ZNM		**1.34**	**53**	⇑P	**Pn**	**04 32 36.1**	**+0.4**
KOT	**Kottamia**	**1.36**	**7**	P	**Pn**	**04 32 35.2**	**-0.7**
KOT				S	**Sb**	**04 32 53.7**	**-0.1**
KOT	**Kottamia**	**1.36**	**7**	P	**Pn**	**04 32 35.2**	**-0.7**
KOT				S	**Sb**	**04 32 53.1**	**-0.6**
SQR		**1.36**	**343**	P	**Pn**	**04 32 34.9**	**-1.0**
HNAT	**Natroun**	**1.38**	**320**	P	**Pn**	**04 32 35.1**	**-1.2**
HMYD	**Mayadein**	**1.42**	**329**	⇓P	**Pn**	**04 32 35.8**	**-1.0**
HMYD	**Mayadein**	**1.42**	**329**	⇑P	**Pn**	**04 32 35.9**	**-0.9**
HMYD	**Mayadein**	**1.42**	**329**	P	**Pn**	**04 32 35.9**	**-0.9**
HRDS	**Abu Rudays**	**1.46**	**84**	⇑P	**Pn**	**04 32 36.8**	**-0.5**
HRDS	**Abu Rudays**	**1.46**	**84**	⇓P	**Pn**	**04 32 37.0**	**-0.3**
HRDS	**Abu Rudays**	**1.46**	**84**	P	**Pn**	**04 32 37.0**	**-0.3**
SUZ		**1.63**	**39**⇑	*i*P	**Pn**	**04 32 39.6**	**-0.1**
SUZ		**1.63**	**39**	⇑P	**Pn**	**04 32 39.7**	**0.0**
SUZ		**1.63**	**39**	P	**Pn**	**04 32 39.7**	**0.0**
AANS		**1.72**	**353**⇑	*e*P	**Pn**	**04 32 39.9**	**-1.0**
AANS		**1.72**	**353**	⇑P	**Pn**	**04 32 40.4**	**-0.5**
AANS		**1.72**	**353**	P	**Pn**	**04 32 40.5**	**-0.5**
AANS		**1.72**	**353**	P	**Pn**	**04 32 40.5**	**-0.4**
TR2		**1.84**	**95**	P	**Pn**	**04 32 41.9**	**-0.6**
TR1		**2.11**	**105**⇓	*e*P	**Pn**	**04 32 45.7**	**-0.7**
TR1		**2.11**	**105**	⇓P	**Pn**	**04 32 45.6**	**-0.7**
HHRG	**Al Ghardaqah**	**2.18**	**128**⇓	*e*P	**Pn**	**04 32 47.0**	**-0.1**
HHRG	**Al Ghardaqah**	**2.18**	**128**	⇓P	**Pn**	**04 32 47.0**	**-0.2**
HHRG	**Al Ghardaqah**	**2.18**	**128**	P	**Pn**	**04 32 47.0**	**-0.2**
SHRM		**2.30**	**107**⇑	*e*P	**Pn**	**04 32 48.1**	**-0.7**
SHRM		**2.30**	**107**	⇑P	**Pn**	**04 32 48.1**	**-0.8**
SHRM		**2.30**	**107**	P	**Pn**	**04 32 48.1**	**-0.8**
AWBH		**2.43**	**265**	⇓P	**Pn**	**04 32 48.5**	**-2.2**
HNKL	**Nakhl**	**2.45**	**56**⇓	*e*P	**Pn**	**04 32 50.9**	**0.0**
HNKL	**Nakhl**	**2.45**	**56**	⇓P	**Pn**	**04 32 51.0**	**+0.1**
AMAG	**Maghara**	**2.47**	**33**	⇓P	**Pn**	**04 32 51.0**	**-0.2**
HDHB	**Dhahab**	**2.62**	**86**	⇓P	**Pn**	**04 32 53.1**	**-0.2**
HDHB	**Dhahab**	**2.62**	**86**	⇑P	**Pn**	**04 32 53.1**	**-0.2**
HBST	**Basata**	**2.78**	**76**⇑	*e*P	**Pn**	**04 32 55.2**	**-0.3**
HBST	**Basata**	**2.78**	**76**	P	**Pn**	**04 32 55.6**	**+0.1**
HBST	**Basata**	**2.78**	**76**	P	**Pn**	**04 32 55.2**	**-0.3**
HSFG		**2.85**	**134**⇓	*e*P	**Pn**	**04 32 55.9**	**-0.5**
HSFG		**2.85**	**134**	P	**Pn**	**04 32 56.1**	**-0.3**
EIL	**Elat**	**3.09**	**69**	Pn	**Pn**	**04 33 00.4**	**+0.6**
EIL				Sn	**Sg**	**04 33 48.8**	**-1.5**
EIL	**Elat**	**3.09**	**69**	*e*Pn	**Pn**	**04 32 59.9**	**+0.2**
EIL				*e*Pg	**Pg**	**04 33 08.1**	**-2.1**
EIL				*e*Sg	**Sg**	**04 33 50.1**	**-0.2**
EIL	**Elat**	**3.09**	**69**	*e*Pn	**Pn**	**04 32 59.9**	**+0.1**
EIL	**Elat**	**3.09**	**69**	*e*Pg	**Pg**	**04 33 08.1**	**-2.1**
MBH	**Mount Berech**	**3.11**	**66**	Pn	**Pn**	**04 33 00.2**	**+0.2**
AQBJ	**Aqaba**	**3.19**	**68**	Pn	**Pn**	**04 33 01.6**	**+0.4**
GTR	**Jabal at Tayr**	**3.20**	**198**	P	**Pn**	**04 33 00.2**	**-1.1**
AKRG	**Al Kharijah**	**3.23**	**199**	⇓P	**Pn**	**04 33 00.9**	**-0.7**
AKRG	**Al Kharijah**	**3.23**	**199**	P	**Pn**	**04 33 00.5**	**-1.2**
HFRF	**Wahat Farafira**	**3.28**	**245**	P	**Pn**	**04 33 00.1**	**-2.2**
HFRF	**Wahat Farafira**	**3.28**	**245**	⇑P	**Pn**	**04 33 00.1**	**-2.3**
HRFI	**Mount Harif**	**3.30**	**63**	Pn	**Pn**	**04 33 02.6**	**-0.1**
HRFI				Sn	**Sg**	**04 33 54.2**	**-2.8**
KZIT	**Kziot**	**3.33**	**45**	Pn	**Pn**	**04 33 03.3**	**+0.2**
KZIT				Sn	**Sg**	**04 33 55.0**	**-3.0**
RMNI	**Mount Ramon**	**3.38**	**53**	Pn	**Pn**	**04 33 04.6**	**+0.8**
PRNI	**Paran**	**3.42**	**58**	Pn	**Pn**	**04 33 04.6**	**+0.3**
PRNI				Sn	**Sg**	**04 33 57.6**	**-3.3**
SVTA	**Shivta**	**3.49**	**47**	Pn	**Pn**	**04 33 05.4**	**+0.1**
HDK1	**Dakhla**	**3.62**	**214**	P	**Pn**	**04 33 06.4**	**-0.7**
HDK1	**Dakhla**	**3.62**	**214**	⇑P	**Pn**	**04 33 06.4**	**-0.7**
HQSR		**3.72**	**138**	P	**Pn**	**04 33 08.3**	**-0.1**
HEDF	**Idfu**	**3.73**	**158**	⇓*e*P	**Pn**	**04 33 07.9**	**-0.7**
HEDF	**Idfu**	**3.73**	**158**	⇓P	**Pn**	**04 33 07.8**	**-0.8**
AMAZ	**Amatzia**	**4.09**	**43**	Pn	**Pn**	**04 33 13.7**	**+0.2**
YTIR	**Yattir**	**4.10**	**46**	Pn	**Pn**	**04 33 14.1**	**+0.4**
HADB		**4.17**	**140**⇑	*e*P	**Pn**	**04 33 14.9**	**+0.3**
HADB		**4.17**	**140**	P	**Pn**	**04 33 15.2**	**+0.5**
HADB		**4.17**	**140**	P	**Pn**	**04 33 14.9**	**+0.3**
MZDA	**Masada**	**4.22**	**49**	Pn	**Pn**	**04 33 15.0**	**-0.3**
APRS		**4.27**	**191**	P	**Pn**	**04 33 15.1**	**-0.9**
DSI	**Dead Sea**	**4.40**	**46**	Pn	**Pn**	**04 33 19.2**	**+1.4**
DRGI	**Dragot**	**4.43**	**46**	Pn	**Pn**	**04 33 18.4**	**+0.3**
EMRS	**Mersa Alam**	**4.55**	**140**	⇓P	**Pn**	**04 33 19.8**	**-0.1**
EMRS	**Mersa Alam**	**4.55**	**140**	⇓P	**Pn**	**04 33 19.8**	**-0.1**
SLTI	**Sal'it**	**4.68**	**38**	Pn	**Pn**	**04 33 21.7**	**0.0**
MMLI	**Mount Malkishu**	**5.04**	**39**	Pn	**Pn**	**04 33 27.0**	**+0.4**
HAGS	**Hagol**	**5.14**	**144**⇓	*e*P	**Pn**	**04 33 27.7**	**-0.3**
HAGS	**Hagol**	**5.14**	**144**	⇓P	**Pn**	**04 33 27.8**	**-0.2**
ASHG	**Umm Shaghir**	**5.29**	**180**⇑	*i*P	**Pn**	**04 33 29.8**	**-0.2**
ASHG	**Umm Shaghir**	**5.29**	**180**	⇑P	**Pn**	**04 33 29.9**	**-0.1**
MMA0	**Mount Meron ar**	**5.48**	**35**	Pn	**Pn**	**04 33 33.1**	**+0.5**
MMAI	**Mount Meron Ar**	**5.48**	**35**	Pn	**Pn**	**04 33 32.4**	**-0.3**
	18nm,0.3s,baz=210,slow=13,SNR=51						
MMAI				Pg	**Pg**	**04 33 45.1**	**-11**
	81nm,0.3s,baz=202,slow=13,SNR=22						
MMAI				Sn	**Sn**	**04 34 36.7**	**+1.1**
	41nm,0.3s,ba

comp=Z,29nm,0.6s
MLR Muntele Rosu 17.48 347 P **Pn** 04 36 18.9 +4.2
comp=Z,0.3nm,0.3s,baz=197,slow=5.5,SNR=9.1
MLR Muntele Rosu 17.48 347 ⇓*i*P **Pn** 04 36 19.7 +5.0
MLR Muntele Rosu 17.48 347 ⇑P **Pn** 04 36 19.1 +4.4
VOIR 17.62 345 ⇑*i*P **Pn** 04 36 23.4 +6.9
SLCN Sala Consilina 17.66 316 Pn **Pn** 04 36 15.1 -1.9
comp=Z,34nm,0.5s
PLOR Plostina 17.69 348 ⇑*i*P **Pn** 04 36 22.9 +5.5
PLOR Plostina 17.69 348 ⇓P **Pn** 04 36 20.4 +3.0
VRI Vrincioaia 17.69 349 ⇓P **Pn** 04 36 22.7 +5.3
MRLC Muro Lucano 17.97 317 Pn **Pn** 04 36 22.7 +1.9
comp=Z,15nm,0.8s
DIVS Divcibare 18.08 332 *i* P **Pn** 04 36 23.2 +1.0
GZR Gura Zlata 18.20 340 ⇑*i*P **Pn** 04 36 29.6 +6.0
FG5 Orsara di Pugl 18.43 318 P **Pn** 04 36 28.4 +2.0
FG5 pmax pmax
comp=Z,14nm,0.1s
FG5 Orsara di Pugl 18.43 318 P **Pn** 04 36 28.4 +2.0
comp=Z,14nm,0.1s
BZS Buzias 18.77 338 ⇑*i*P **Pn** 04 36 31.4 +0.8
BZS Buzias 18.77 338 ⇓P **Pn** 04 36 27.1 -3.4
SGG Gregorio Mates 19.02 317 Pn **Pn** 04 36 34.8 +1.2
comp=Z,20nm,0.9s
DRGR 19.48 341 ⇑*i*P **Pn** 04 36 43.6 +4.4
BURAR Bucovina Array 19.66 347 ⇓*i*P **Pn** 04 36 43.1 +1.9
BURAR Bucovina Array 19.66 347 ⇑P **Pn** 04 36 43.2 +2.0
BURAR Bucovina Array 19.66 347 ⇑P **Pn** 04 36 43.2 +2.0
KEST Kesra 20.16 296 P **P** 04 36 46.1 +0.8
comp=Z,3.8nm,0.6s,baz=87,slow=1.7,SNR=40
PKSM Moragy 20.36 333 ⇓*i*P **P** 04 36 46.2 -1.4
PKSM Moragy 20.36 333 ⇑P **P** 04 36 46.4 -1.2
PKSM Moragy 20.36 333 ⇑P **P** 04 36 46.4 -1.2
UZH Uzhgorod 21.28 343 *i* **P** 04 36 57.4 -0.1
UZH *e* 04 37 17.4
PSZ Piszkesteto 21.36 338 ⇓*i*P **P** 04 37 00.6 +2.3
PSZ Piszkesteto 21.36 338 *e*P **P** 04 37 00.6 +2.3
PSZ pmax pmax
comp=Z,14nm,0.8s,mb4.3
PSZ Piszkesteto 21.36 338 *e*P **P** 04 37 00.6 +2.3
comp=Z,14nm,0.8s,mb4.3
KWP Kalwaria 22.11 344 *e*P **P** 04 37 09.6 +3.2
KWP pmax pmax
comp=Z,16nm,0.7s,mb4.6
KWP Kalwaria 22.11 344 *e*P **P** 04 37 09.6 +3.2
comp=Z,16nm,0.7s,mb4.6
AKASG Malin Array Be 22.17 356 P **P** 04 37 07.7 +0.6
comp=Z,9.5nm,0.7s,mb4.3,baz=180,slow=9.5,SNR=23
AKBB Malin Array Si 22.17 356 *e*P **P** 04 37 07.9 +0.8
OBKA Obir 22.37 328 ⇑*i*P **P** 04 37 08.8 -0.4
comp=Z,8.0nm,1.2s,mb4.0
ARSA Arzberg 22.49 330 ⇑*i*P **P** 04 37 11.6 +1.1
comp=Z,5.7nm,0.9s,mb4.0
CONA Conrad Observa 22.87 332 ⇑*i*P **P** 04 37 15.2 +0.7
comp=Z,4.5nm,1.1s,mb3.8
VRSR Storozhevoye 23.32 12 *e*P **P** 04 37 19.3 +0.1
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
KBA Koelnbreinsper 23.35 327 ⇑*i*P **P** 04 37 19.6 0.0
comp=E,25nm,1.4s,mb4.4
KBA Koelnbreinsper 23.35 327 ⇑*i*P **P** 04 37 19.6 0.0
KBA pmax pmax
comp=Z,25nm,1.4s,mb4.5
MOA Molln 23.50 330 ⇑*i*P **P** 04 37 22.4 +1.4
comp=Z,2.6nm,0.6s,mb3.9
OKC Ostrava-Krasne 23.60 338 *e*P **P** 04 37 28.7 +6.7
VRAC Vranov 23.70 335 ⇓P **P** 04 37 23.5 +0.5
VRHR Novokhopersk 23.72 16 *e*P **P** 04 37 26.0 +2.9
VRHR pmax pmax
comp=Z,20nm,0.6s,mb4.7
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.5s
MORC Moravsky Berou 23.75 337 ⇑*i*P **P** 04 37 25.8 +2.4
MORC Moravsky Berou 23.75 337 ⇓P **P** 04 37 24.0 +0.6
MORC Moravsky Berou 23.75 337 *e*P **P** 04 37 25.5 +2.0
comp=E,3.8nm,0.7s,mb3.9
WTTA Wattenberg 24.31 326 ⇑*i*P **P** 04 37 29.5 +0.8
comp=E,14nm,1.0s,mb4.3
WTTA Wattenberg 24.31 326 ⇑*i*P **P** 04 37 29.5 +0.9
WTTA pmax pmax
comp=Z,14nm,1.0s,mb4.3
WATA Walderalm 24.39 326 ⇑*i*P **P** 04 37 28.1 -1.3
comp=Z,5.4nm,0.6s,mb4.2
WATA Walderalm 24.39 326 ⇑*i*P **P** 04 37 28.1 -1.2
WATA pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
GEC2 GERESS Array S 24.49 331 *e*P **P** 04 37 30.4 +0.2
comp=Z,13nm,0.9s,mb4.4
GEC2 GERESS Array S 24.49 331 *e*P **P** 04 37 30.4 +0.2
GEC2 pmax pmax
comp=Z,13nm,0.9s,mb4.4
GERES GERESS Array B 24.49 331 P **P** 04 37 29.7 -0.6
comp=Z,10nm,0.8s,mb4.3,baz=142,slow=9.7,SNR=25
SQTA Sankt Quirin 24.50 325 ⇑*i*P **P** 04 37 30.9 +0.6
comp=Z,3.3nm,0.5s,mb4.0
SQTA Sankt Quirin 24.50 325 ⇑*i*P **P** 04 37 30.9 +0.6
SQTA pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
MOTA Moosalm 24.64 325 ⇑*i*P **P** 04 37 31.7 +0.2
comp=Z,5.6nm,0.6s,mb4.3
MOTA Moosalm 24.64 325 ⇑*i*P **P** 04 37 31.7 +0.2
MOTA pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
DPC Dobruska-Polom 24.66 336 *e*P **P** 04 37 36.6 +4.9
KHC Kasperske Hory 24.76 331 *e*P **P** 04 37 32.3 -0.4
WSAR Wadi Sarin 24.82 96 LR LR 04 48 24.1
comp=Z,46nm,18.1s,MS3.0,baz=15,slow=39
UPC Upice 24.90 336 *e*P **P** 04 37 36.7 +2.8
DAVOX Davos 24.90 323 P **P** 04 37 34.2 +0.2
comp=Z,5.6nm,0.5s,mb4.4,baz=165,slow=6.6
DAVOS Davos 24.98 323 P **P** 04 37 34.2 -0.5
PRU Pruhonice 25.03 333 *e*P **P** 04 37 31.6 -3.6
WET Wettzell 25.08 330 *e*P **P** 04 37 35.8 +0.2
comp=Z,7.0nm,1.0s,mb4.2
WET Wettzell 25.08 330 *e*P **P** 04 37 35.8 +0.2
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
DAVA Damuels 25.22 324 ⇓*i*P **P** 04 37 36.8 -0.1
comp=Z,19nm,0.5s,mb4.9
PVCC Panska Ves 25.45 334 *e*P **P** 04 37 39.6 +0.6
MBDF Montbardon 25.51 316 *e*P **P** 04 37 39.3 -0.2
comp=Z,10nm,0.8s,mb4.1
MBDF Montbardon 25.51 316 *e*P **P** 04 37 39.3 -0.2
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
MBDF Montbardon 25.51 316 *e*P **P** 04 37 39.3 -0.2
comp=Z,5.2nm,0.8s,mb4.1
ROTZ Rotzenmuhle 25.83 330 *e*P **P** 04 37 43.0 +0.6
comp=Z,5.0nm,0.8s,mb4.1
MANZ Manzenberg 26.04 331 *e*P **P** 04 37 45.2 +0.9
comp=Z,10.0nm,1.1s,mb4.3
NKC Novy Kostel 26.08 331 *e*P **P** 04 37 46.1 +1.5
WERN Wernitzgruen 26.15 331 *e*P **P** 04 37 46.5 +1.2
comp=Z,13nm,1.1s,mb4.4
GRA1 Grafenberg Arr 26.22 329 *e*P **P** 04 37 46.8 +0.9
comp=Z,14nm,0.7s,mb4.6
GRF Grafenberg Arr 26.22 329 *e*P **P** 04 37 46.8 +0.9
comp=Z,14nm,0.7s,mb4.6
GRF Grafenberg Arr 26.22 329 *e*P **P** 04 37 46.8 +0.9
GRF pmax pmax
comp=Z,14nm,0.7s,mb4.6
GRF Grafenberg Arr 26.22 329 *e*P **P** 04 37 46.8 +0.9
GRF pmax pmax
comp=Z,14nm,0.7s,mb4.6
STU Stuttgart 26.54 326 *e*P **P** 04 37 51.2 +2.4
comp=Z,24nm,0.8s,mb4.8
STU Stuttgart 26.54 326 *e*P **P** 04 37 50.6 +1.8
STU pmax pmax
comp=Z,21nm,0.8s,mb4.7
STU Stuttgart 26.54 326 *e*P **P** 04 37 50.6 +1.8
comp=Z,21nm,0.8s,mb4.7
CLL Collm 26.68 333 *e*P **P** 04 37 51.4 +1.4
comp=Z,9.0nm,0.8s,mb4.3
CLL Collm 26.68 333 *e*P **P** 04 37 54.0 +4.0
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
CLL Collm 26.68 333 *e*P **P** 04 37 54.0 +4.0
comp=Z,9.0nm,0.8s,mb4.3
CLL Collm 26.68 333 *e*P **P** 04 37 51.0 +0.9
CLL *e*(pP) pP 04 37 55.0 +1.9
comp=Z,9.0nm,0.8s
BFO Black Forest 26.70 324 *e*P **P** 04 37 50.0 -0.2
BFO pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
BFO Black Forest 26.70 324 *e*P **P** 04 37 50.0 -0.2
comp=Z,3.4nm,0.6s,mb4.0
MOX Moxa 26.74 331 *e*P **P** 04 37 52.5 +1.9
comp=Z,11nm,0.9s,mb4.4
MOX Moxa 26.74 331 *e*P **P** 04 37 52.7 +2.1
comp=Z,14nm,1.0s,mb4.5
MOX Moxa 26.74 331 *e*P **P** 04 37 52.7 +2.1
MOX pmax pmax
comp=Z,14nm,1.0s,mb4.5
CDF Champ du Feu 27.30 323 *e*P **P** 04 37 57.4 +1.8
comp=Z,6.9nm,0.8s,mb3.9
CDF Champ du Feu 27.30 323 *e*P **P** 04 37 57.4 +1.8
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
CDF Champ du Feu 27.30 323 *e*P **P** 04 37 57.4 +1.8
comp=Z,3.5nm,0.8s,mb3.9
LFF La Frestale 29.43 312 *e*P **P** 04 38 15.8 +1.2
AKTO Aktyubinsk 29.57 35 LR LR 04 54 42.8
comp=Z,33nm,18.1s,MS3.0,baz=63,slow=46
MDT Midelt 31.36 287 LR LR 04 52 08.8
comp=Z,28nm,20.7s,MS2.9,baz=344,slow=38
LDF La Druitiere 31.54 318 *e*P **P** 04 38 32.3 -1.0
TORD Torodi Ar. Bea 31.80 247 P **P** 04 38 34.2 -1.3
comp=Z,0.8nm,0.6s,mb3.8,baz=65,slow=7.1,SNR=7.3
TORD PcP PcP 04 41 26.2 -0.4
comp=Z,0.5nm,0.4s,baz=31,slow=2.2,SNR=8.9
TORD Torodi Ar. Bea 31.80 247 P **P** 04 38 34.2 -1.3
TORD PcP PcP 04 41 26.2 -0.4
FLN La Foliniere 31.83 318 *e*P **P** 04 38 34.5 -1.3
FINES FINESS Array B 33.08 355 P **P** 04 38 45.1 -1.6
comp=Z,3.8nm,0.7s,mb4.5,baz=156,slow=10.0,SNR=6.2
KAF Kangasniemi 33.72 355 *e*P **P** 04 38 50.3 -2.1
comp=Z,6.7nm,0.7s,mb4.7
KAF Kangasniemi 33.72 355 *e*P **P** 04 38 50.3 -2.1
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU Arti 33.76 27 ⇓*i*P **P** 04 38 52.2 -0.5
ARU *e* 04 40 00.7
ARU *e*S **S** 04 44 15.5 -0.8
ARU *e*SS SS 04 46 20.6 -21
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
HFS Hagfors 33.83 344 P **P** 04 38 52.5 -0.8
comp=Z,1.5nm,0.4s,mb4.2,baz=157,slow=4.2,SNR=11
JOF Joensuu 34.35 360 *e*p **P** 04 38 56.1 -1.7
comp=Z,7.1nm,0.7s,mb4.7
NB2 NORSAR Subarra 35.23 343 P **P** 04 39 04.0 -1.4
comp=Z,3.9nm,0.8s,mb4.4,baz=145,slow=9.3
NOA NORSAR Array B 35.23 343 P **P** 04 39 03.9 -1.5
comp=Z,3.3nm,0.8s,mb4.3,baz=146,slow=8.8,SNR=7.0
EKA Eskdalemuir Ar 36.56 327 P **P** 04 39 16.5 -0.4
comp=Z,1.7nm,0.5s,mb4.1,baz=127,slow=10.0,SNR=12
BVAR Borovoye Array 37.48 38 LR LR 04 55 58.0
comp=Z,31nm,19.0s,MS3.1,baz=141,slow=38
ARCES ARCESS Array B 41.15 357 P **P** 04 39 56.1 +0.8
comp=Z,4.6nm,0.8s,mb4.1,baz=175,slow=8.3,SNR=12
LIC Lamto 41.19 244 *e*P **P** 04 39 57.4 +1.8
MKAR Makanchi Array 43.20 51 P **P** 04 40 12.4 +0.4
comp=Z,0.3nm,0.4s,mb3.4,baz=268,slow=6.0,SNR=7.6
LSZ Lusaka 43.72 185 P **P** 04 40 16.7 +0.4
comp=Z,2.0nm,0.6s,mb4.0,baz=12,slow=6.2,SNR=6.2
LSZ LR LR 04 57 08.7
comp=Z,51nm,21.5s,MS3.4,baz=244,slow=34
LSZ Lusaka 43.72 185 *e*P **P** 04 40 19.2 +3.0
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
LSZ Lusaka 43.72 185 *e*P **P** 04 40 19.2 +3.0
comp=Z,2.3nm,0.7s,mb4.0
ZAL Zalesovo 45.92 41 P **P** 04 40 32.8 -1.0
comp=Z,2.4nm,0.3s,mb4.5,baz=30,slow=4.5,SNR=3.1
WMQ Urumqi 46.85 55 P **P** 04 40 42.6 +1.5
WMQ AP pP 04 40 47.1 +2.8
WMQ XP sP 04 40 49.6 +4.1
WMQ PCP PcP 04 42 16.1 +2.1
WMQ PP PP 04 42 32.6 +1.4
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
MATP Matopo 48.81 184 P **P** 04 40 57.2 +1.0
comp=Z,0.9nm,0.5s,mb4.0,baz=331,slow=12,SNR=4.1
MATP LR LR 05 01 28.4
comp=Z,29nm,18.4s,MS3.3,baz=166,slow=36
MATP Matopo 48.81 184 P **P** 04 40 57.2 +1.0
MATP LR LR 05 01 28.4
LBTB Lobatse 53.60 187 P **P** 04 41 34.4 +2.2
comp=Z,2.5nm,0.5s,mb4.4,baz=4.9,slow=5.0,SNR=6.6
LBTB Lobatse 53.60 187 *e*P **P** 04 41 34.7 +2.5
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LBTB Lobatse 53.60 187 *e*P **P** 04 41 34.7 +2.5
comp=Z,2.9nm,0.6s,mb4.4
BOSA Boshof 57.19 187 LR LR 05 06 32.0
comp=Z,42nm,19.4s,MS3.5,baz=217,slow=36
SONM Songino Array 59.50 49 P **P** 04 42 14.5 +0.3
comp=Z,1.7nm,0.6s,mb4.3,baz=280,slow=8.4,SNR=4.3
CD2 Chengdu 61.62 68 *e*P **P** 04 42 30.2 +1.5
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
KMI Kunming 62.66 75 P **P** 04 42 41.4 +5.7
KMI AP pP 04 42 43.8 +4.9
KMI XP sP 04 42 45.0 +4.9
KMI AMB AMB
comp=Z,11nm,0.5s,mb5.2
KMI Kunming 62.66 75 P **P** 04 42 41.4 +5.7
comp=Z,11nm,0.5s,mb5.2
KMI pP pP 04 42 43.8 +4.9
KMI sP sP 04 42 45.0 +4.9
NJ2 Nanjing 73.28 62 *e*P **P** 04 43 44.9 +2.4
NJ2 AMB AMB
comp=Z,30nm,0.5s
MDJ Mudanjiang 75.75 47 P **P** 04 43 55.4 -1.4
MDJ AMB AMB
comp=Z,212nm,4.7s

IDC 08 04:41:43.7±4.5, 2172S×14836E, h0km, mb1 3.7/4, mb1mx3.6/12, mbtmp3.6/4, ML3.2/4, Error ellipse: s-maj=44.9km s-min=22.0km az=75.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.55**	**309**	Pn	Pn	04 42 27.1	+0.8
	4.6nm,0.3s,baz=132,slow=17,SNR=22						
CTA				Pg	Pg	04 42 31.5	-1.1
	4.7nm,0.3s,baz=130,slow=17,SNR=38						
CTA				Lg		04 43 04.5	
	7.4nm,0.3s,baz=201,slow=22,SNR=9.4						
STKA	**Stephens Creek**	**11.78**	**209**	Pn	Pn	04 44 32.5	-0.4
	0.2nm,0.3s,baz=7.2,slow=17,SNR=3.5						
STKA				Sn	Sn	04 46 46.8	+1.7
	0.1nm,0.3s,baz=307,slow=16,SNR=3.2						
STKA				Lg		04 48 05.4	
	0.2nm,0.3s,baz=296,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**13.23**	**275**	Pn	Pn	04 44 51.5	-1.2
	0.1nm,0.3s,baz=96,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**13.48**	**259**	Pn	Pn	04 44 55.0	-1.3
	0.2nm,0.3s,baz=69,slow=15,SNR=9.2						
ASAR				Sn	Sn	04 47 21.4	-5.3
	0.1nm,0.3s,baz=77,slow=24,SNR=4.3						
ASAR				Lg		04 48 53.0	
	0.2nm,0.3s,baz=70,slow=30,SNR=5.9						

*CSEM **08** 04:42:08.7, 6783N×2021E, h1km, ML3.6, Mining explosion. After UPP*
*UPP **08** 04:42:08.7, 6783N×2021E, h1km, ML3.6, Mining explosion.*
HEL 08 04:42:09.2±0.0, 6784N×2019E, h0km, ML3.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	04 42 11.4	-0.3
KUA				*i* S	Sg	04 42 13.2	-0.2
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	04 42 17.1	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	04 42 21.9	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	04 42 22.2	-1.1
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	04 42 23.4	-0.9
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	04 42 31.2	-0.9
KIF				*e*S	Sg	04 42 47.3	-0.3
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	04 42 39.6	-0.6
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	04 42 50.5	+0.6
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	04 42 50.7	+0.2
SGF				*e*S	Sn	04 43 22.2	+1.1
KU6	**Riekki**	**4.23**	**111**	*e*SG	Sg	04 44 20.3	-4.7

*IDC **08** 04:46:44.2±1.2, 596S×151.12E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.2/16, mbtmp4.2/8, ML2.9/1, MS3.4/11, Ms1 3.4/11, ms1mx3.3/22, Error ellipse: s-maj=29.6km s-min=26.1km az=99.0*
*NEIC **08** 04:46:45.2±0.7, 594S×151.17E, h10km, mb4.1/2, Error ellipse: s-maj=16.0km s-min=13.2km az=149.0*
*ISCJB **08** 04:46:48.7±3.9, 6.1S±02×151.0E±0.1, h40km±31km, mb4.0/7, MS3.5/8, Error ellipse: s-maj=30.8km s-min=22.1km az=14.7*
ISC 08 04:46:50.4±3.5, 61S±02×151.1E±01, h37km±28km, n24, σ1°03/15, mb4.0/7, MS3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.06**	**229**	Pn	**Pn**	**04 48 05.6**	**+1.9**
	2.8nm,0.3s,baz=52,slow=7.5,SNR=4.1						
PMG				Sn	**Sn**	**04 48 59.4**	**-1.5**
	1.5nm,0.3s,baz=127,slow=19,SNR=3.3						
PMG				LR	LR	04 49 20.9	
	comp=Z,74nm,19.4s,baz=40,slow=30						
HNR	**Honiara**	**9.42**	**111**	LR	LR	04 52 02.5	
	comp=Z,111nm,20.5s,baz=357,slow=34						
CTA	**Charters Tower**	**14.66**	**198**	LR	LR	04 55 25.4	
	comp=Z,114nm,18.9s,baz=234,slow=35						
KAKA	**Kakadu**	**19.49**	**249**	*e*P	**Pn**	**04 51 15.0**	**-0.5**
	7.6nm,0.4s						
GUMO	**Guam**	**20.50**	**343**	LR	LR	04 57 01.1	
	comp=Z,68nm,19.0s,MS3.0,baz=106,slow=30						
WB2	**Warramunga Arr**	**21.27**	**228**	*e*P	**P**	**04 51 33.7**	**+0.3**
WRA	**Warramunga Arr**	**21.28**	**228**	P	**P**	**04 51 32.5**	**-1.1**
	11nm,0.7s,mb4.3,baz=54,slow=10,SNR=32						
WRA				ScP	ScP	04 59 17.5	+6.4
	0.3nm,0.6s,baz=54,slow=3.2,SNR=5.1						
DZM	**Mont Dzumac**	**21.76**	**138**	P	**P**	**04 51 37.2**	**-1.5**
	3.0nm,0.6s,mb3.9,baz=305,slow=15,SNR=5.5						
DZM				LR	LR	04 58 21.0	
	comp=Z,160nm,18.2s,MS3.5,baz=305,slow=32						
DZM	**Mont Dzumac**	**21.76**	**138**	P	**P**	**04 51 37.2**	**-1.5**
DZM				LR	LR	04 58 21.0	
AS31	**Alice Springs**	**24.02**	**222**	*e*P	**P**	**04 52 02.3**	**+0.6**
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**04 52 02.1**	**+0.5**
	6.2nm,0.6s,mb4.2,baz=58,slow=8.9,SNR=30						
ASAR				LR	LR	05 01 25.6	
	comp=Z,90nm,19.3s,MS3.3,baz=209,slow=36						
STKA	**Stephens Creek**	**27.12**	**198**	P	**P**	**04 52 31.4**	**+1.6**
	7.4nm,0.9s,mb4.2,baz=6.7,slow=16,SNR=5.1						
STKA				LR	LR	05 02 34.5	
	comp=Z,92nm,19.2s,MS3.4,baz=26,slow=35						
STKA	**Stephens Creek**	**27.12**	**198**	*e*P	**P**	**04 52 31.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P	**P**	**04 52 33.4**	**+0.2**
	3.0nm,0.7s,mb4.0,baz=174,slow=7.0,SNR=7.7						
RPZ	**Rata Peaks**	**41.39**	**158**	LR	LR	05 07 58.8	
	comp=Z,117nm,20.9s,MS3.7,baz=346,slow=31						
MJAR	**Matsushiro Arr**	**44.09**	**345**	LR	LR	05 09 33.3	
	comp=Z,63nm,19.4s,MS3.5,baz=0.0,slow=31						
KSRS	**Korea Array**	**48.41**	**335**	LR	LR	05 14 18.4	
	comp=Z,41nm,18.2s,MS3.5,baz=292,slow=34						
VNDA	**Vanda**	**71.61**	**178**	P	**P**	**04 58 08.3**	**+0.5**
	0.6nm,0.8s,mb3.5,baz=334,slow=6.3,SNR=6.2						
VNDA	**Vanda**	**71.61**	**178**	*e*P	**P**	**04 58 08.3**	**+0.4**
	0.5nm,0.7s,mb3.5						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**04 58 56.0**	**-0.7**
	0.6nm,0.9s,mb3.5,baz=112,slow=3.3,SNR=4.3						
BVAR	**Borovoye Array**	**89.23**	**323**	LR	LR	05 41 34.2	
	comp=Z,30nm,18.1s,MS3.8,baz=140,slow=37						
GERES	**GERESS Array B**	**124.22**	**327**	PKP	PKPdf	05 05 44.5	-0.5
	0.3nm,0.5s,baz=101,slow=1.0,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**149.01**	**285**	*e*PKPbc	PKPbc	05 06 35.1	+0.8
TORD	**Torodi Ar. Bea**	**149.01**	**285**	PKPbc	PKPbc	05 06 35.3	+1.0
	2.8nm,0.8s,baz=74,slow=2.2,SNR=28						

*ISCJB **08** 05:05:24.6±0.7, 5148N±004×1601E±004, h0km, Error ellipse: s-maj=5.5km s-min=3.0km az=38.6*
*CSEM **08** 05:05:26.5±0.3, 5151N×1603E, h0km, ML3.0/7, Error ellipse: s-maj=4.0km s-min=2.2km az=8.0, Suspected Mining induced.*
*PRU **08** 05:05:26.4, 5152N×1602E, h0km*
*VIE **08** 05:05:27.1±0.8, 5138N×1599E, h0km, mb2.2/2, ML2.7/3, Error ellipse: s-maj=5.7km s-min=3.5km az=13.0 78 km WNW of Breslau Suspected Mining induced.*
ISC 08 05:05:25.1±0.7, 5155N±004×1604E±004, h0km, n17, σ0°70/38, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**05 05 39.6**	**+0.6**
KSP				*e*Sg	**Sg**	**05 05 49.2**	**+0.9**
UPC	**Upice**	**1.04**	**181**	*e*PG	**Pg**	**05 05 45.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*PG	**Pg**	**05 05 48.5**	**+0.2**
DPC				*e*SG	**Sg**	**05 06 04.0**	**0.0**
	19nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**223**	*e*PG	**Pg**	**05 05 52.0**	**+0.5**
BRG	**Berggiesshubel**	**1.48**	**244**	PN	**Pn**	**05 05 52.5**	**-0.5**
BRG				PG	**Pg**	**05 05 53.6**	**+0.1**
BRG				SG	**Sg**	**05 06 13.8**	**+1.1**
	22nm,0.4s						
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	**Pn**	**05 05 57.4**	**-0.4**
PRU				*e*PG	**Pg**	**05 05 59.3**	**-0.8**
PRU				*e*SG	**Sg**	**05 06 23.1**	**-0.7**
	24nm,0.7s						
CLL	**Collm**	**1.92**	**264**	*i* Pn	**Pn**	**05 05 58.4**	**-0.6**
	comp=Z,9.0nm,0.5s						
CLL				*e*Pg	**Pg**	**05 06 01.0**	**-0.8**
CLL				*e*x	x	05 06 06.0	
CLL				*e*Sg	**Sg**	**05 06 28.0**	**+1.3**
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	**Pn**	**05 06 00.1**	**-0.2**
MORC				*e*Sg	**Sg**	**05 06 29.4**	**-0.4**
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PN	**Pn**	**05 06 03.3**	**+0.8**
OKC				*e*PG	**Pg**	**05 06 06.3**	**-0.5**
OKC				*e*SG	**Sg**	**05 06 35.3**	**+0.3**
	comp=Z,20nm,0.7s						
VRAC	**Vranov**	**2.27**	**171**	*e*Sg	**Sg**	**05 06 38.5**	**+0.5**
NKC	**Novy Kostel**	**2.63**	**241**	*e*PN	**Pn**	**05 06 09.0**	**+0.2**
NKC				*e*PG	**Pg**	**05 06 14.8**	**-0.7**
NKC				*e*SG	**Sg**	**05 06 49.1**	**-0.4**
	comp=Z,26nm,0.4s						
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pg**	**05 06 17.1**	**-0.3**
OJC				*e*Sg	**Sg**	**05 06 53.2**	**+0.5**
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	**Pn**	**05 06 12.3**	**0.0**
KHC				*e*PG	**Pg**	**05 06 18.6**	**-1.9**
KHC				*e*SN	**Sn**	**05 06 48.1**	**+0.3**
KHC				*e*SG	**Sg**	**05 06 56.9**	**-1.0**
	comp=Z,6.5nm,0.5s						
MOX	**Moxa**	**2.93**	**254**	*e*PN	**Pn**	**05 06 13.8**	**+0.8**
MOX				*e*PG	**Pg**	**05 06 20.8**	**-0.5**
MOX				*e*SG	**Sg**	**05 07 00.6**	**+1.3**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	**05 06 21.6**	**-0.9**
	comp=Z,0.9nm,0.2s						
CONA				⇓*e*Sg	**Sg**	**05 07 21.0**	**-0.6**
	comp=Z,3.0nm,0.3s						
CONA	**Conrad Observa**	**3.62**	**182**	Sg	**Sg**	**05 07 21.0**	**-0.6**
	comp=Z,3.0nm,0.3s						
MOA	**Molln**	**3.88**	**198**	⇓*i*Pn	**Pn**	**05 06 26.5**	**+0.6**
	comp=Z,1.4nm,0.2s						
MOA				⇑Sg	**Sg**	**05 07 30.2**	**+0.6**
	comp=Z,1.9nm,0.3s						

IDC 08 05:21:42.6±4.0, 639S×15499E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/14, mbtmp3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/10, Error ellipse: s-maj=218.3km s-min=52.4km az=128.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.04**	**211**	LR	LR	05 30 42.5	
	comp=Z,35nm,18.0s,baz=231,slow=34						
WRA	**Warramunga Arr**	**24.16**	**234**	P	P	05 27 00.1	-0.2
	0.4nm,0.6s,baz=55,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**26.57**	**228**	P

IDC 08 05:29:30.9±3.9, 576S×15074E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/13, mbtmp3.4/2, Error ellipse: s-maj=146.7km s-min=51.5km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.28	227	P	P	05 34 19.5	+0.5
	0.8nm,0.6s,baz=53,slow=11,SNR=4.6						
ASAR	Alice Springs	24.07	221	P	P	05 34 48.5	+0.5
	0.8nm,0.6s,baz=58,slow=9.9,SNR=8.1						
TORD	Torodi Ar. Bea	148.62	286	PKPbc	PKPbc	05 49 20.2	+0.3
	0.6nm,0.7s,baz=94,slow=2.7,SNR=4.3						

IDC 08 05:36:28.5±3.4, 687S×15300E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=123.7km s-min=50.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.29	233	P	P	05 41 26.8	-0.6
	0.3nm,0.5s,baz=56,slow=11,SNR=3.0						
ASAR	Alice Springs	24.81	226	P	P	05 41 51.6	-0.5
	0.4nm,0.6s,baz=60,slow=9.1,SNR=7.8						
FITZ	Fitzroy Crossi	28.91	245	P	P	05 42 31.2	+2.1
	0.6nm,0.3s,baz=52,slow=13,SNR=9.8						
TORD	Torodi Ar. Bea	151.09	285	PKPbc	PKPbc	05 56 24.1	+0.6
	0.3nm,0.7s,baz=85,slow=2.7,SNR=4.8						

*NEIC **08** 05:57:20.0, 4003S×17679E, h42km, ML4.0(WEL), After WEL.*

WEL 08 05:57:19.5±0.1, 4003S×17676E, h46km±1km, ML3.8/20, 4C-5D, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	Pawanui	0.08	93	⇑PN	Pn	05 57 26.7	0.0
PXZ				SN	Sn	05 57 31.8	+0.1
WPHZ	Waipukurau	0.25	261	⇓PN	Pn	05 57 27.5	-0.2
WPHZ				SN	Sn	05 57 33.3	-0.2
TSZ	Takapari Road	0.61	267	P	Pn	05 57 31.7	-0.2
TSZ	Takapari Road	0.61	267	⇓PN	Pn	05 57 31.7	-0.2
TSZ				SN	Sn	05 57 40.3	-0.5
BFZ	Birch Farm	0.76	211	P	Pn	05 57 34.4	+0.5
BFZ	Birch Farm	0.76	211	PN	Pn	05 57 34.4	+0.6
BKZ	Black Stump Fm	0.88	347	P	Pn	05 57 35.6	+0.1
BKZ	Black Stump Fm	0.88	347	⇑PN	Pn	05 57 35.6	+0.1
BKZ				SN	Sn	05 57 46.7	-0.5
MOVZ	Moawhango	0.99	308	P	Pn	05 57 37.3	+0.3
MOVZ	Moawhango	0.99	308	⇑PN	Pn	05 57 37.3	+0.3
TIWZ	Tintock	1.00	221	⇓PN	Pn	05 57 37.5	+0.4
MRZ	Mangatainoka R	1.10	234	P	Pn	05 57 39.1	+0.6
MRZ	Mangatainoka R	1.10	234	PN	Pn	05 57 38.6	+0.1
MRZ				SN	Sn	05 57 53.2	+0.7
WNVZ	Wahianoa	1.13	308	P	Pn	05 57 39.9	+1.0
WNVZ	Wahianoa	1.13	308	PN	Pn	05 57 39.9	+1.0
TUVZ	Tukino	1.14	311	PN	Pn	05 57 40.1	+1.1
MTVZ	Mangateitei	1.18	302	PN	Pn	05 57 40.1	+0.6
TRVZ	Turoa	1.18	308	PN	Pn	05 57 40.6	+1.0
DRZ	Dome Shelter	1.19	309	P	Pn	05 57 40.7	+1.0
DRZ	Dome Shelter	1.19	309	PN	Pn	05 57 40.8	+1.2
OTVZ	Oturere	1.21	315	PN	Pn	05 57 40.7	+0.8
FWVZ	Far West T-bar	1.21	309	P	Pn	05 57 40.8	+0.9
FWVZ	Far West T-bar	1.21	309	PN	Pn	05 57 40.8	+0.9
KNZ	Kokohu	1.23	36	P	Pn	05 57 40.0	-0.2
KNZ	Kokohu	1.23	36	⇓PN	Pn	05 57 40.0	-0.2
NGZ	Ngauruhoe	1.23	313	PN	Pn	05 57 41.0	+0.7
WPVZ	Whakapapa	1.24	311	P	Pn	05 57 41.2	+0.8
WPVZ	Whakapapa	1.24	311	PN	Pn	05 57 41.2	+0.8
HATZ	Hinemaiaia	1.25	335	P	Pn	05 57 41.1	+0.7
HATZ	Hinemaiaia	1.25	335	⇓PN	Pn	05 57 41.1	+0.7
RITZ	Rihia Road	1.26	326	P	Pn	05 57 41.7	+1.1
RITZ	Rihia Road	1.26	326	PN	Pn	05 57 41.7	+1.1
KRVZ	Karewarewa	1.27	317	PN	Pn	05 57 41.4	+0.7
WTVZ	West Tongariro	1.28	315	P	Pn	05 57 42.0	+1.1
WTVZ	West Tongariro	1.28	315	PN	Pn	05 57 42.0	+1.1
PKVZ	Pokaka	1.31	304	PN	Pn	05 57 42.4	+1.0
KATZ	Kakaramea	1.33	322	PN	Pn	05 57 42.8	+1.2
RATZ	Rangitukua	1.39	326	P	Pn	05 57 42.9	+0.5
WAZ	Wanganui	1.39	281	*eP*	Pn	05 57 43.9	+1.5
WAZ	Wanganui	1.39	281	PN	Pn	05 57 43.9	+1.5
TWVZ	Taurewa	1.40	313	P	Pn	05 57 43.1	+0.6
TWVZ	Taurewa	1.40	313	PN	Pn	05 57 43.1	+0.6
MTW	Mount Morrison	1.48	220	P	Pn	05 57 42.9	-0.8
MTW	Mount Morrison	1.48	220	PN	Pn	05 57 42.9	-0.7
WHTZ	Whakaora	1.49	335	P	Pn	05 57 44.7	+0.9
WATZ	Wairara	1.54	329	P	Pn	05 57 44.7	+0.3
WATZ	Wairara	1.54	329	PN	Pn	05 57 44.7	+0.3
TRWZ	Traveller	1.59	210	PN	Pn	05 57 44.5	-0.7
KIW	Kapiti Island	1.64	239	P	Pn	05 57 45.7	-0.1
KIW	Kapiti Island	1.64	239	PN	Pn	05 57 45.7	-0.1
CAW	Cannon Point	1.68	229	P	Pn	05 57 45.8	-0.6
CAW	Cannon Point	1.68	229	PN	Pn	05 57 45.8	-0.6
PATZ	Paeroa	1.69	347	P	Pn	05 57 47.2	+0.7
PATZ	Paeroa	1.69	347	PN	Pn	05 57 47.2	+0.7
PAWZ	Paruwai Farm	1.69	216	P	Pn	05 57 45.7	-0.8
PAWZ	Paruwai Farm	1.69	216	PN	Pn	05 57 45.7	-0.8
URZ	Urewera	1.79	9	P	Pn	05 57 47.5	-0.3
URZ	Urewera	1.79	9	⇑PN	Pn	05 57 47.5	-0.4
MWZ	Matawai	1.79	20	*eP*	Pn	05 57 47.5	-0.4
MWZ	Matawai	1.79	20	PN	Pn	05 57 47.5	-0.5
MSWZ	Moikau Station	1.80	219	P	Pn	05 57 46.8	-1.2
MSWZ	Moikau Station	1.80	219	PN	Pn	05 57 46.8	-1.3
TAZ	Tarawera	1.80	354	P	Pn	05 57 48.4	+0.3
TAZ	Tarawera	1.80	354	PN	Pn	05 57 48.4	+0.3
MRW	Makara Radio	1.97	232	P	Pn	05 57 49.6	-0.8
MRW	Makara Radio	1.97	232	PN	Pn	05 57 49.6	-0.8
SNZO	South Karori	2.02	230	PN	Pn	05 57 50.1	-0.9
HIZ	Hauiti	2.11	315	P	Pn	05 57 52.7	+0.4
HIZ	Hauiti	2.11	315	PN	Pn	05 57 52.7	+0.3
DFE	Dawson Falls	2.16	288	P	Pn	05 57 58.8	+5.8
TCW	Tory Channel	2.23	237	P	Pn	05 57 52.9	-1.0
TCW	Tory Channel	2.23	237	PN	Pn	05 57 52.9	-1.0
DUWZ	D'Urville Isla	2.30	249	PN	Pn	05 57 54.7	-0.2
BSWZ	Blackbirch Sta	2.76	231	P	Pn	05 57 59.7	-1.5
BSWZ	Blackbirch Sta	2.76	231	PN	Pn	05 57 59.7	-1.5
NNZ	Nelson	2.83	244	*eP*	Pn	05 58 01.5	-0.7
NNZ	Nelson	2.83	244	PN	Pn	05 58 01.5	-0.7
QRZ	Quartz Range	3.32	255	*eP*	Pn	05 58 08.3	-0.7
QRZ	Quartz Range	3.32	255	PN	Pn	05 58 08.3	-0.6
THZ	Tophouse	3.40	238	*eP*	Pn	05 58 08.3	-1.6
THZ	Tophouse	3.40	238	PN	Pn	05 58 08.3	-1.6
KHZ	Kahutara	3.40	224	*eP*	Pn	05 58 07.5	-2.5
KHZ	Kahutara	3.40	224	PN	Pn	05 58 07.5	-2.6
DSZ	Denniston Nort	4.13	244	*eP*	Pn	05 58 18.9	-1.1
LTZ	Lake Taylor	4.36	229	*eP*	Pn	05 58 20.8	-2.3
LTZ	Lake Taylor	4.36	229	PN	Pn	05 58 20.8	-2.3
MQZ	McQueen's Vall	4.79	218	*eP*	Pn	05 58 27.2	-1.8
MQZ	McQueen's Vall	4.79	218	PN	Pn	05 58 27.2	-1.9
RPZ	Rata Peaks	5.63	227	*eP*	Pn	05 58 38.3	-2.3
ODZ	Otahua Downs	6.75	220	*eP*	Pn	05 58 53.5	-2.4
ODZ	Otahua Downs	6.75	220	PN	Pn	05 58 53.5	-2.4

*NEIC **08** 05:57:29.1, 2934S×7123W, h45km, MD3.9(GUC), After GUC.*

GUC 08 05:57:29.1±1.0, 2934S×7123W, h45km±11km, MD3.9, ML3.4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	La Serena	0.57	181	⇑*i*P	Pn	05 57 40.9	-0.1
LSCH				*i* S	Sn	05 57 50.4	+1.0
VACH	Vallenar	0.86	29	⇓*i*P	Pn	05 57 46.0	+1.1
VACH				*i* S	Sn	05 57 57.8	+1.5
VACH				AML	AML	05 57 58.9	
	comp=E,4μm,0.3s						
VACH	Vallenar	0.86	29	⇓*i*P	Pn	05 57 46.0	+1.1
VACH				*i* S	Sn	05 57 57.8	+1.5
TLL	Tololo Astrono	0.91	156	*e*P	Pn	05 57 46.5	+1.0
TLL				*i* S	Sn	05 58 00.1	+2.7
TLL				AML	AML	05 58 01.9	
	comp=E,487nm,0.7s						
TLL	Tololo Astrono	0.91	156	*e*P	Pn	05 57 46.5	+1.0
TLL				*i* S	Sn	05 58 00.1	+2.7
CMCH	Combarbala	1.84	174	*e*P	Pn	05 57 57.6	-0.6
CMCH				*i* S	Sn	05 58 20.8	+0.5
CMCH				AML	AML	05 58 43.6	
	comp=E,258nm,0.9s						
CMCH	Combarbala	1.84	174	*e*P	Pn	05 57 57.6	-0.6
CMCH				*i* S	Sn	05 58 20.8	+0.5
CPCH	Copiapo	2.12	22	*e*P	Pn	05 58 00.9	-1.1
CPCH				*i* S	Sn	05 58 26.1	-1.0
CPCH				AML	AML	05 58 27.0	
	comp=N,1μm,0.1s						
CPCH	Copiapo	2.12	22	*e*P	Pn	05 58 00.9	-1.1
CPCH				*i* S	Sn	05 58 26.1	-1.0
CDCH	Caldera	2.28	9	*e*P	Pn	05 58 00.9	-3.3

*NEIC **08** 06:05:43.0, 3931N×2313E, h27km, MD2.8(ATH), After ATH.*

ATH 08 06:05:43.0, 3931N×2313E, h27km, MD2.8/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	Neokhori	0.07	93	*e*PB	Pb	06 05 47.7	0.0
NEO				*e*SB	Sb	06 05 51.4	+0.5
LKR	Lokris	0.67	189	*e*PN	Pn	06 05 56.4	-0.2
PLG	Polygyros	1.09	13	*e*PN	Pn	06 06 03.5	+1.0

IDC 08 06:13:08.8±7.8, 632S×15080E, h106km±52km, mb3.1/3, mb1 3.3/4, mb1mx3.1/14, mbtmp3.1/4, Error ellipse: s-maj=100.6km s-min=54.3km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.73	229	P	Pn	06 14 18.4	+0.5
	1.4nm,0.3s,baz=352,slow=19,SNR=3.0						
PMG				S	Sn	06 15 12.0	+0.4
	0.9nm,0.3s,baz=168,slow=22,SNR=3.4						
WRA	Warramunga Arr	20.95	228	P	P	06 17 44.1	+1.0
	0.4nm,0.3s,baz=53,slow=10,SNR=4.8						
ASAR	Alice Springs	23.69	222	P	P	06 18 10.3	-0.4
	0.4nm,0.5s,baz=56,slow=9.1,SNR=9.0						
FITZ	Fitzroy Crossi	27.19	242	P	P	06 18 43.4	+1.0
	0.8nm,0.4s,baz=56,slow=9.5,SNR=8.6						
TORD	Torodi Ar. Bea	148.82	285	PKPbc	PKPbc	06 32 44.2	+0.3
	0.6nm,0.6s,baz=87,slow=2.2,SNR=7.3						

IDC 08 06:31:22.6±8.7, 643S×15146E, h59km±64km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, ML2.5/1, Error ellipse: s-maj=56.5km s-min=45.8km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.19	235	P	Pn	06 32 38.2	+0.6
	1.2nm,0.3s,baz=41,slow=9.3,SNR=2.9						
PMG				S	Sn	06 33 37.7	+1.5
	3.2nm,0.3s,baz=66,slow=19,SNR=5.9						
WRA	Warramunga Arr	21.38	229	P	P	06 36 04.5	-0.6
	1.3nm,0.8s,baz=56,slow=11,SNR=8.3						
ASAR	Alice Springs	24.06	223	P	P	06 36 32.2	0.0
	1.1nm,0.5s,baz=57,slow=9.4,SNR=24						
STKA	Stephens Creek	26.95	199	P	P	06 36 58.9	+0.5
	2.4nm,0.7s,baz=12,slow=9.3,SNR=3.7						
FITZ	Fitzroy Crossi	27.73	243	P	P	06 37 05.5	+0.1
	0.8nm,0.5s,baz=56,slow=11,SNR=5.7						
VNDA	Vanda	71.26	178	P	P	06 42 35.4	-0.2
	0.4nm,0.6s,baz=332,slow=2.2,SNR=5.6						
TORD	Torodi Ar. Bea	149.49	285	PKPbc	PKPbc	06 51 06.2	+1.1
	0.7nm,0.7s,baz=70,slow=1.9,SNR=4.8						

*SZGRF **08** 06:37:33.3, 2145S×17738W, h33km, Fiji Islands region*
*MOS **08** 06:37:38.6±1.4, 2128S×17902W, h542km, mb4.8/19, Error ellipse: s-maj=12.1km s-min=9.5km az=48.5*
*BGS **08** 06:37:39.7, 2140S×17897W, h550km, mb4.8(NEIC)*
*BJI **08** 06:37:39.6, 2140S×17900W, h549km, mB5.2, mb4.7*
*NEIC **08** 06:37:39.6±0.2, 2140S×17897W, mb4.8/58, Error ellipse: s-maj=8.9km s-min=4.9km az=144.0*
*GCMT **08** 06:37:39.6±0.9, 2140S×17907W, h595km±5km, MW5.1/28, Moment Tensor Solution. s28,c32; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.23±.40; $M_{\theta\theta}$5.91±.80; $M_{\phi\phi}$-0.68±.80; $M_{r\theta}$-2.67±.76; $M_{r\phi}$-1.20±.58; $M_{\theta\phi}$0.59±.85; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_S279.00000°, δ32.00000°, λ-92.00000°. NP2:ϕ_N101.00000°, δ58.00000°, λ-89.00000°. Principal axes: T 6.7450, Plg13.0000°, Azm190.0000°; N -0.8910, Plg1.0000°, Azm280.0000°; P -5.8560, Plg77.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s.*
*ISCJB **08** 06:37:40.5±0.7, 2152S±0.04×17906W±0.04, h572km±9km, mb4.7/71 Error ellipse: s-maj=7.5km s-min=4.9km az=112.8*
*IDC **08** 06:37:41.4±1.0, 2139S×17906W, h568km±11km, mb4.0/18, mb1 4.2/20, mb1mx4.2/23, mbtmp4.1/20, Error ellipse: s-maj=11.3km s-min=8.5km az=160.0*

ISC 08 06:37:41.3±0.7, 2151S±0.05×17901W±0.04, h567km±8km, h555km±4.1km:pP-P,n561,σ9?71/348, mb4.7/71, 97C-114D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	7.77	173	P	P	06 39 37.0	-0.2
	139nm,0.3s,baz=94,slow=13,SNR=7.7						
RAO				S	S	06 41 11.9	-0.4
	230nm,0.3s,baz=108,slow=20,SNR=7.6						
RAO	Raoul Island	7.77	173	*e*P	P	06 39 37.0	-0.2
RAO				pmax	pmax		
	comp=Z,335nm,0.3s						
RAO	Raoul Island	7.77	173	*e*Pn	P	06 39 37.0	-0.3
	comp=Z,335nm,0.3s						
AFI	Afiamalu	10.23	44	P	P	06 39 57.7	-3.9
	comp=Z,19nm,0.3s,baz=43,slow=3.2,SNR=33						
AFI				S	S	06 41 48.0	-9.1
	comp=Z,12nm,0.3s,baz=359,slow=24,SNR=4.1						
AFI	Afiamalu	10.23	44	*e*P	P	06 39 57.4	-4.3
AFI				pmax	pmax		
	comp=Z,306nm,0.8s						
AFI	Afiamalu	10.23	44	*e*Pn	P	06 39 57.4	-4.3
	comp=Z,306nm,0.8s						
FUNA	Funafuti	13.03	352	*e*P	P	06 40 28.2	-2.1
	comp=Z,90nm,0.8s						
DZM	Mont Dzumac	13.53	265	P	P	06 40 36.4	+1.0
	comp=Z,1.0nm,0.3s,baz=78,slow=19,SNR=27						
DZM				S	S	06 43 03.1	+4.4
	comp=Z,0.1nm,0.3s,baz=223,slow=23,SNR=1.8						
WCZ	Waipu Caves	15.51	201	PN	P	06 40 57.8	+2.3
KUZ	Kuaotunu	15.86	196	PN	P	06 41 00.0	+1.4
URZ	Urewera	17.02	190	P	P	06 41 07.3	-2.1
	comp=Z,21nm,0.3s,baz=4.2,slow=6.8,SNR=62						
URZ				S	S	06 43 54.4	-4.5
	comp=Z,1.9nm,0.3s,baz=65,slow=22,SNR=5.6						
URZ	Urewera	17.02	190	PN	P	06 41 06.8	-2.6
PXZ	Pawanui	18.80	190	PN	P	06 41 25.0	-0.5
SNZO	South Karori	20.44	194	*e*P	P	06 41 40.1	-0.4
	comp=Z,114nm,1.0s						
TCW	Tory Channel	20.45	195	PN	P	06 41 39.8	-0.7
QRZ	Quartz Range	20.55	199	PN	P	06 41 42.1	+0.7
NNZ	Nelson	20.68	196	PN	P	06 41 41.7	-0.8
THZ	Tophouse	21.31	197	PN	P	06 41 47.3	-1.0
KHZ	Kahutara	21.76	195	PN	P	06 41 51.4	-1.0
LTZ	Lake Taylor	22.43	197	PN	P	06 41 57.0	-1.3
HNR	Honiara	23.53	297	*e*P	P	06 42 08.8	+0.7
	comp=Z,152nm,0.8s,mb5.7						
RPZ	Rata Peaks	23.64	198	P	P	06 42 08.3	-0.7
	comp=Z,28nm,0.6s,mb5.1,baz=329,slow=3.9,SNR=17						
FOZ	Fox Glacier	23.92	201	PN	P	06 42 10.0	-1.5
JCZ	Jackson Bay	24.68	201	*e*PN	P	06 42 17.1	-1.2
DCZ	Deep Cove	26.46	202	PN	P	06 42 34.1	+0.2
ARMA	Armidale	27.78	245	⇑*i*P	P	06 42 47.8	+2.3
CNB	Canberra Magne	30.88	237	⇑*i*P	P	06 43 14.0	+1.7
	comp=Z,40nm,0.8s,mb5.0						
CTA	Charters Tower	32.47	266	⇓*i*P	P	06 43 26.6	+0.9
	comp=Z,16nm,0.8s,mb4.6						
CTA	Charters Tower	32.47	266	P	P	06 43 26.7	+1.0
	comp=Z,15nm,0.4s,mb4.8,baz=98,slow=10,SNR=38						
CTA				PcP	PcP	06 45 55.6	+0.1
	comp=Z,4.7nm,0.5s,baz=11,slow=2.2,SNR=5.3						
CTA				ScP	ScP	06 48 48.1	+2.3
	comp=Z,1.1nm,0.6s,baz=92,slow=2.1,SNR=4.4						
CTA	Charters Tower	32.47	266	⇓*i*P	P	06 43 26.6	+0.9
CTA				pmax	pmax		
	comp=Z,16nm,0.8s						
CTAO	Charters Tower	32.47	266	*e*P	P	06 43 26.5	+0.8
CTAO				*e*		06 45 55.7	
CTAO				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.8						
CTAO	Charters Tower	32.47	266	*e*P	P	06 43 26.5	+0.8
	comp=Z,20nm,0.7s,mb4.8						
CTAO				*e*PcP	PcP	06 45 55.7	+0.2
PMG	Port Moresby	34.67	285	P	P	06 43 44.5	+0.3
	comp=Z,48nm,0.8s,mb5.1,baz=96,slow=4.5,SNR=17						
PMG	Port Moresby	34.67	285	*d*iP	P	06 43 43.4	-0.8
STKA	Stephens Creek	36.50	245	*e*P	P	06 44 00.6	+1.2
	comp=Z,18nm,0.9s,mb4.6						
STKA	Stephens Creek	36.50	245	P	P	06 44 00.8	+1.4
	comp=Z,19nm,0.8s,mb4.7,baz=94,slow=9.1,SNR=25						
STKA				PcP	PcP	06 46 08.3	+0.9
	comp=Z,3.0nm,0.5s,baz=30,slow=9.1,SNR=3.6						
STKA				ScP	ScP	06 49 02.6	+2.2
	comp=Z,6.3nm,0.9s,baz=107,slow=1.1,SNR=5.5						
AS31	Alice Springs	43.38	258	⇓*i*P	P	06 44 54.8	+0.6
AS31				*e*S	S	06 50 39.7	-1.8
AS31				*e*ScS	ScS	06 53 52.3	+1.7
ASAR	Alice Springs	43.38	258	P	P	06 44 54.8	+0.6
	comp=Z,39nm,0.8s,mb5.0,baz=98,slow=7.8,SNR=377						
ASAR				PcP	PcP	06 46 30.4	+0.5
	comp=Z,7.7nm,0.7s,baz=103,slow=3.6,SNR=14						
ASAR				ScP	ScP	06 49 29.1	+1.6
	comp=Z,4.0nm,0.9s,baz=100,slow=4.0,SNR=9.6						
ASAR				S	S	06 50 40.0	-1.5
	comp=Z,13nm,0.9s,baz=94,slow=16,SNR=37						
ASAR				PKiKP	PKiKP	06 53 28.9	-1.2
	comp=Z,0.5nm,0.6s,baz=78,slow=1.7,SNR=5.9						
ASAR	Alice Springs	43.38	258	P	P	06 44 54.8	+0.6
ASAR						06 46 30.4	
ASAR				S	S	06 50 40.0	-1.5
ASAR	Alice Springs	43.38	258	P	P	06 44 54.8	+0.6
ASAR				PcP	PcP	06 46 30.4	+0.5
ASAR				ScP	ScP	06 49 29.1	+1.6
ASAR				S	S	06 50 40.0	-1.5
ASPA	Alice Springs	43.38	258	⇓*i*P	P	06 44 54.8	+0.5
ASPA				*e*S	S	06 50 39.7	-1.9
ASPA				*e*ScS	ScS	06 53 52.3	+1.7
WB2	Warramunga Arr	43.52	263	⇓*i*P	P	06 44 55.1	-0.3
WB2				*e*S	S	06 50 40.3	-3.3
WB2				*e*ScS	ScS	06 53 53.6	+2.0
WRAB	Tennant Creek	43.53	263	*d*iP	P	06 44 55.0	-0.4
WRAB	Tennant Creek	43.53	263	*e*P	P	06 44 55.0	-0.4
	comp=Z,39nm,0.9s,mb4.9						
WRA	Warramunga Arr	43.53	263	P	P	06 44 55.4	-0.1
	comp=Z,27nm,0.8s,mb4.8,baz=96,slow=7.6,SNR=80						
WRA				PcP	PcP	06 46 31.2	+0.8
	comp=Z,5.5nm,0.9s,baz=93,slow=4.0,SNR=8.5						
WRA				ScP	ScP	06 49 29.6	+1.4
	comp=Z,2.5nm,0.9s,baz=96,slow=4.1,SNR=4.9						
WRA				S	S	06 50 40.5	-3.3
	comp=Z,4.9nm,0.9s,baz=96,slow=13,SNR=9.0						
WRA				PKiKP	PKiKP	06 53 28.9	-1.4
	comp=Z,0.6nm,0.5s,baz=58,slow=0.5,SNR=6.0						
WRA	Warramunga Arr	43.53	263	P	P	06 44 55.4	-0.1
WRA						06 46 31.2	
WRA				S	S	06 50 40.5	-3.3
WRA	Warramunga Arr	43.53	263	P	P	06 44 55.4	-0.1
WRA				PcP	PcP	06 46 31.2	+0.8
WRA				ScP	ScP	06 49 29.6	+1.4
WRA				S	S	06 50 40.5	-3.3
KAKA	Kakadu	47.06	272	⇓*i*P	P	06 45 22.2	-0.2
	comp=Z,25nm,0.6s,mb4.9						
KAKA				*e*S	S	06 51 31.4	-1.7
FORT	Forrest	48.03	247	*e*P	P	06 45 29.9	+0.3
	comp=Z,22nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	51.97	263	*e*P	P	06 45 58.1	-0.3
	comp=Z,12nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	51.97	263	P	P	06 45 58.9	+0.6
	comp=Z,4.9nm,0.4s,mb4.2,baz=130,slow=5.0,SNR=41						
MBWA	Marble Bar	56.72	258	*e*P	P	06 46 31.8	+0.1
	comp=Z,23nm,0.6s,mb4.6						
MBWA				*e*PcP	PcP	06 47 19.9	+0.4
KLBR	Kellerberrin	56.78	246	*e*P	P	06 46 32.2	+0.1
	comp=Z,20nm,0.9s,mb4.3						
SBA	Scott Base	56.81	184	*e*P	P	06 46 34.5	+2.2
SBA				*e*		06 47 20.2	
SBA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.3						
SBA	Scott Base	56.81	184	*e*P	P	06 46 34.5	+2.2
	comp=Z,16nm,0.8s,mb4.3						
SBA				*e*PcP	PcP	06 47 20.2	+0.3
VNDA	Vanda	56.83	185	P	P	06 46 34.2	+1.8
	comp=Z,3.2nm,0.5s,mb3.8,baz=360,slow=7.2,SNR=58						
VNDA				PcP	PcP	06 47 20.1	+0.1
	comp=Z,2.9nm,0.9s,baz=79,slow=2.7,SNR=4.9						
VNDA				ScP	ScP	06 50 25.6	+0.3
	comp=Z,2.0nm,1.0s,baz=355,slow=4.8,SNR=3.7						
VNDA	Vanda	56.83	185	*e*P	P	06 46 33.9	+1.5
VNDA				*e*		06 47 20.1	
VNDA				*e*		06 50 25.6	
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VNDA	Vanda	56.83	185	*e*P	P	06 46 33.9	+1.5
	comp=Z,5.6nm,0.8s,mb3.9			

Q03C Winters 80.18 42 ⇓P P 06 48 53.9 +0.8
baz=80
MWC Mount Wilson 80.18 47 eP P 06 48 53.5 +0.3
BAR Barrett 80.29 49 eP P 06 48 53.7 0.0
MAW Mawson 80.30 200 eP P 06 48 54.1 +0.3
comp=Z,4.0nm,0.6s,mb3.9
MAW Mawson 80.30 200 P P 06 48 54.2 +0.5
comp=Z,4.1nm,0.6s,mb4.0,baz=121,slow=6.4,SNR=15
MAW Mawson 80.30 200 eP P 06 48 54.1 +0.3
MAW pmax pmax
comp=Z,4.0nm,0.6s
JCC Jacoby Creek 80.32 39 ⇑P P 06 48 54.2 +0.4
baz=80
GASB Alder Springs 80.37 41 ⇓P P 06 48 55.0 +0.8
baz=80,SNR=8.9
VES Vestal, Richgr 80.41 45 ⇓P P 06 48 54.0 -0.4
baz=80,SNR=7.4
MURC Murrieta 80.42 48 ⇓P P 06 48 54.4 0.0
baz=80,SNR=6.9
BFSC Mount Baldy St 80.46 47 P P 06 48 54.2 -0.5
baz=80,SNR=5.5
S05C Merced 80.47 44 ⇑P P 06 48 54.5 -0.2
baz=81,SNR=6.4
RCTC Rector, Farmer 80.58 45 ⇓P P 06 48 54.5 -0.8
baz=81
MONP Monument Peak 80.58 49 ⇑P P 06 48 55.8 +0.5
baz=81,SNR=22
EDW2 Edwards Air Fo 80.60 47 P P 06 48 55.5 +0.2
baz=81,SNR=19
R04C Big Horse Ranc 80.62 43 ⇓P P 06 48 55.4 -0.1
baz=81
O02C Red Bluff 80.65 40 ⇓P P 06 48 56.0 +0.4
baz=81,SNR=12
T06C Millerton Lake 80.67 44 ⇑P P 06 48 55.5 -0.3
baz=81,SNR=16
DVTC Desert V Tower 80.68 50 ⇑P P 06 48 56.1 +0.3
baz=81,SNR=5.9
SUTB Sutter Butte 80.68 41 ⇑P P 06 48 55.3 -0.4
baz=81,SNR=7.3
Q04C Lincoln 80.70 42 ⇓P P 06 48 55.6 -0.3
baz=81
ISA Isabella 80.71 46 eP P 06 48 56.2 +0.3
ISA Isabella 80.71 46 P P 06 48 56.3 +0.3
baz=81,SNR=16
N02C Big Bar 80.75 39 ⇑P P 06 48 56.1 0.0
baz=81,SNR=7.1
CMB Columbia Colle 80.84 43 eP P 06 48 56.6 0.0
CMB pmax pmax
comp=Z,23nm,1.1s,mb4.5
CMB Columbia Colle 80.84 43 eP P 06 48 56.6 0.0
comp=Z,23nm,1.1s,mb4.5
CMB Columbia Colle 80.84 43 ⇓P P 06 48 56.3 -0.3
baz=81,SNR=17
OHCM Honcut 80.93 41 eP P 06 48 54.2 -2.9
PFO Pinyon Flat Ob 80.95 49 P P 06 48 57.3 +0.2
comp=Z,5.9nm,0.8s,mb4.0,baz=272,slow=4.2,SNR=13
PFO Pinyon Flat Ob 80.95 49 eP P 06 48 57.3 +0.2
PFO pmax pmax
comp=Z,26nm,1.4s,mb4.5
PFO Pinyon Flat Ob 80.95 49 eP P 06 48 57.3 +0.2
comp=Z,26nm,1.4s,mb4.5
PFO Pinyon Flat Ob 80.95 49 ⇓P P 06 48 57.0 -0.2
baz=81,SNR=8.0
O03C Acorn Hollow, 81.00 41 P P 06 48 57.6 +0.2
baz=81,SNR=7.6
LAVA Lava Cap Winer 81.05 42 ⇑P P 06 48 57.6 -0.1
baz=81,SNR=6.7
SWSC Sam W. Stewart 81.05 49 P P 06 48 57.9 +0.3
baz=81,SNR=12
WDC Whiskeytown Da 81.05 40 eP P 06 48 55.7 -2.0
WDC pmax pmax
comp=Z,60nm,1.3s,mb4.9
WDC Whiskeytown Da 81.05 40 eP P 06 48 55.7 -2.0
comp=Z,60nm,1.3s,mb4.9
WDC Whiskeytown Da 81.05 40 P P 06 48 58.1 +0.4
baz=81,SNR=12
ORV Oroville 81.06 41 P P 06 48 57.7 0.0
baz=81,SNR=22
S06C San Francisco 81.09 43 ⇑P P 06 48 57.6 -0.3
baz=81,SNR=18
KCC Kaiser Creek 81.11 44 ⇑P P 06 48 58.2 +0.2
baz=81,SNR=17
LRMC Laurel Mountai 81.14 46 P P 06 48 58.3 +0.2
baz=81,SNR=12
M02C Callahan 81.37 39 ⇓P P 06 48 59.9 +0.6
baz=82,SNR=16
L02A Cave Junction 81.41 38 ⇓P P 06 48 59.9 +0.3
baz=82
CWC Cottonwood Cre 81.42 45 ⇑P P 06 48 59.7 +0.1
baz=82
R05C Kirkwood Meado 81.43 43 P P 06 48 59.9 +0.3
baz=82,SNR=19
P05C Yuba Gap, Truc 81.45 42 P P 06 49 00.0 +0.2
baz=82,SNR=20
BELC Belle Mtn. 81.48 48 P P 06 49 00.3 +0.4
baz=82,SNR=16
MPMC Manual Prospec 81.60 46 P P 06 49 00.7 +0.3
baz=82,SNR=23
MLAC Mammoth Lakes 81.60 44 ⇓P P 06 49 01.0 +0.5
baz=82,SNR=7.5
MTUM Tungsten Hills 81.62 44 eP P 06 49 01.2 +0.6
GSC Goldstone 81.64 47 eP P 06 49 00.7 0.0
GSC Goldstone 81.64 47 P P 06 49 00.8 +0.1
baz=82,SNR=12
O05C Quincy 81.66 41 ⇓P P 06 49 01.0 +0.2
baz=82,SNR=5.6
YBH Yreka Blue Hor 81.66 39 eP P 06 49 00.9 +0.1
YBH pmax pmax
comp=Z,87nm,1.4s
YBH Yreka Blue Hor 81.66 39 eP P 06 49 00.9 +0.1
comp=Z,87nm,1.4s,mb5.0
YBH Yreka Blue Hor 81.66 39 ⇓P P 06 49 01.3 +0.5
baz=82,SNR=12
TIN Tinemaha 81.67 45 ⇑P P 06 49 00.9 +0.1
baz=82
BC3 Big Chuckw Mtn 81.67 49 P P 06 49 01.5 +0.6
baz=82,SNR=11
HEC Hector,Ludlow 81.70 48 ⇑P P 06 49 00.8 -0.2
baz=82
WAKR Walker 81.72 43 eP P 06 49 01.4 +0.3
R06C Coleville 81.72 43 P P 06 49 01.6 +0.5
baz=82,SNR=20
M03C McCloud 81.73 40 ⇑P P 06 49 01.4 +0.2
baz=82,SNR=20
R07C Lee Vining 81.73 44 ⇑P P 06 49 01.1 0.0
baz=82,SNR=7.3
O04C Chester 81.77 41 P P 06 49 01.7 +0.3
baz=82,SNR=13
GLA Glamis 81.80 50 eP P 06 49 02.3 +0.8
GLA Glamis 81.80 50 P P 06 49 02.3 +0.8
baz=82,SNR=25
HATC Hat Creek Radi 81.84 40 ⇓P P 06 49 02.2 +0.5
baz=82,SNR=8.7
K02A Glendale 81.86 38 ⇓P P 06 49 02.0 +0.2
baz=82
BEKR Beckwourth 81.95 42 P P 06 49 02.4 +0.1
baz=82,SNR=22
S08C White Mtn Res 81.96 45 ⇑P P 06 49 02.8 +0.4
baz=82,SNR=48
WCN Washoe City 81.99 42 P P 06 49 02.8 +0.4
baz=82,SNR=18
HUMO Hull Mountain 82.07 38 eP P 06 49 03.5 +0.6
comp=Z,48nm,1.1s,mb4.8
HUMO Hull Mountain 82.07 38 ⇑P P 06 49 03.4 +0.5
baz=82,SNR=11
P06A Stead Airport, 82.12 42 ⇑P P 06 49 03.3 +0.1
baz=82
IRM Iron Mountain 82.16 49 P P 06 49 03.8 +0.5
baz=82,SNR=19
J02A Umpqua 82.19 37 ⇓P P 06 49 03.8 +0.3
baz=82
GRAC Grapevine Rang 82.20 45 ⇓P P 06 49 03.7 +0.1
baz=82,SNR=18
M04C Macdoel 82.21 39 ⇓P P 06 49 03.8 +0.2
baz=82,SNR=8.9
FURC Furnace Creek, 82.25 46 P P 06 49 04.0 +0.3
baz=82,SNR=10
TUQ Turquoise Mtn. 82.31 47 P P 06 49 04.3 +0.2
baz=82,SNR=17
SHOC Shoshone 82.32 47 ⇑P P 06 49 03.9 -0.2
baz=82,SNR=11
M05C Lookout 82.36 40 P P 06 49 04.7 +0.3
baz=82,SNR=12
Y12C Blythe 82.38 49 ⇑P P 06 49 04.6 +0.2
baz=82,SNR=9.1
NVAR Mina Array Bea 82.40 44 P P 06 49 04.7 +0.1
comp=Z,15nm,0.8s,mb4.5,baz=227,slow=7.9,SNR=67
L04A Klamath Falls 82.42 39 P P 06 49 05.0 +0.4
baz=82,SNR=12
O06A Flanigan 82.45 42 P P 06 49 05.0 +0.1
baz=82,SNR=21
I02A Mapleton 82.45 37 ⇓P P 06 49 05.4 +0.6
baz=83
PAHR Pah Rah Range 82.46 42 eP P 06 49 05.0 +0.2
comp=Z,32nn,0.9s,mb4.8
PAHR ePP PP 06 52 18.0 -6.4
CN2 Changchun 82.53 323 eP P 06 49 05.1 -0.1
CN2 eAP pP 06 51 05.0 -1.2
CN2 eS S 06 58 38.9 +3.4
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,400nm,4.0s
J03A Ideyld Park 82.54 38 ⇑P P 06 49 05.7 +0.5
baz=83
U10A Ash Meadows, A 82.58 46 P P 06 49 05.9 +0.5
baz=83,SNR=12
P07A Fallon 82.67 43 ⇓P P 06 49 06.0 +0.1
baz=83
M06C Likely Place G 82.67 40 P P 06 49 06.3 +0.4
baz=83,SNR=12
I03A Eugene 82.74 37 ⇓P P 06 49 06.7 +0.4
baz=83
K04A Chilquin 82.78 39 ⇑P P 06 49 06.6 +0.2
baz=83
N06A Buffalo Meadow 82.79 41 P P 06 49 06.7 +0.1
baz=83,SNR=17
Q08A Gabbs 82.89 44 P P 06 49 06.9 -0.1
baz=83,SNR=26
TPH Tonopah 82.90 44 eP P 06 49 06.0 -1.1
TPH pmax pmax
comp=Z,41nm,1.1s,mb4.9
TPH Tonopah 82.90 44 eP P 06 49 06.0 -1.1
comp=Z,41nm,1.1s,mb4.9
Y13A Salome 82.91 50 ⇑P P 06 49 07.5 +0.4
baz=83,SNR=17
PDMCI Parker Dam,Lak 82.94 49 P P 06 49 07.6 +0.3
baz=83,SNR=20
J04A Umpqua Nationa 82.95 38 P P 06 49 07.9 +0.6
baz=83,SNR=12
W12A Cal Nev Ari 82.96 48 ⇑P P 06 49 07.7 +0.3
baz=83
O07A Toulon 83.04 42 P P 06 49 07.8 0.0
baz=83,SNR=27
H03A Soap Creek Ran 83.18 36 ⇑P P 06 49 08.3 -0.1
baz=83
MOD Modoc 83.19 40 eP P 06 49 08.2 -0.3
U11A Corn Creek 83.22 47 ⇑P P 06 49 08.7 +0.1
baz=83
P08A Dixie Valley 83.27 43 ⇓P P 06 49 09.1 +0.2
baz=83
IRO Indian Ridge 83.34 37 P P 06 49 09.4 +0.2
N07B Gerlach 83.34 41 ⇓P P 06 49 09.1 -0.1
baz=83
Q09A Carvers 83.36 44 ⇑P P 06 49 09.3 0.0
baz=83
SHPR Sheep Range 83.41 47 eP P 06 49 10.0 +0.4
U12A Valley of Fire 83.80 47 ⇓P P 06 49 11.6 +0.1
baz=84
L07A Adell 83.84 40 ⇑P P 06 49 11.8 +0.1
baz=84
G04A Mulino 83.96 36 ⇑P P 06 49 13.0 +0.7
baz=84
E03A Lebam 84.22 35 ⇓P P 06 49 13.4 -0.1
baz=84
BMN Battle Mountai 84.23 43 eP P 06 49 13.7 +0.1
BMN pmax pmax
comp=Z,21nm,1.2s,mb4.5
BMN Battle Mountai 84.23 43 eP P 06 49 13.7 0.0
comp=Z,21nm,1.2s,mb4.5
P10A Eureka 84.26 44 ⇑P P 06 49 13.6 -0.2
baz=84
TUC Tucson 84.34 52 eP P 06 49 14.9 +0.7
TUC pmax pmax
comp=Z,17nm,1.0s,mb4.5
TUC Tucson 84.34 52 eP P 06 49 14.9 +0.7
comp=Z,17nm,1.0s,mb4.5
F04A Amboy 84.45 36 ⇑P P 06 49 14.3 -0.4
baz=85
D03A Wishkah Elem. 84.47 34 ⇑P P 06 49 14.7 -0.1
baz=85
WVOR Wild Horse Val 84.51 40 eP P 06 49 14.9 -0.1
WVOR pmax pmax
comp=Z,21nm,1.1s,mb4.6
WVOR Wild Horse Val 84.51 40 eP P 06 49 14.9 -0.1
comp=Z,21nm,1.1s,mb4.6
NLWA Neilton Lookou 84.60 34 ⇓P P 06 49 15.3 -0.2
baz=85
G05A Wamic 84.63 37 ⇑P P 06 49 15.5 -0.1
baz=85
M09A Marrel Ranch, 84.65 42 ⇑P P 06 49 15.6 -0.1
baz=85
P11A Circle Ranch, 84.68 44 ⇓P P 06 49 15.6 -0.2
baz=85
E04A Onalaska 84.70 35 ⇓P P 06 49 16.1 +0.2
baz=85
W15A Williams 84.72 49 ⇓P P 06 49 16.4 +0.4
baz=85
N10A Dunphy 84.84 43 ⇑P P 06 49 16.7 +0.1
baz=85
CCUT Cedar City 85.19 47 eP P 06 49 17.8 -0.5
E05A Randle 85.19 36 ⇓P P 06 49 17.7 -0.7
baz=85
B04A Port Angeles 85.21 34 ⇓P P 06 49 18.4 0.0
baz=85
F06A Goldendale 85.25 37 ⇓P P 06 49 18.4 -0.2
baz=85
GNW Green Mountain 85.25 34 eP P 06 49 18.3 -0.3
ARUT Antelope Range 85.26 46 eP P 06 49 18.7 +0.1
C04A Brinnon 85.27 34 ⇑P P 06 49 18.6 -0.2
baz=85
N11A Elko Archery C 85.38 43 ⇓P P 06 49 19.0 -0.3
baz=86
D05A Enumclaw 85.46 35 ⇓P P 06 49 19.6 0.0
baz=86
WUAZ Wupatki 85.52 49 eP P 06 49 19.9 0.0
comp=Z,13nm,1.1s,mb4.5
SYO Syowa Base 85.54 193⇑eP P 06 49 18.6 -1.4
SYO Syowa Base 85.54 193⇓ePcP PcP 06 49 19.8 -2.1
F07A Phinny Hill Vi 85.80 37 ⇓P P 06 49 21.3 +0.1
baz=86
C05A Tolt Reservoir 85.94 35 ⇓P P 06 49 21.4 -0.5
baz=86
MXC Moxie City 86.01 36 P P 06 49 22.2 0.0
A04A Legoe Bay, Lum 86.04 34 ⇓P P 06 49 22.1 -0.3
baz=86
EBG Ellensburg 86.06 36 P P 06 49 22.6 +0.2
PMR Palmer 86.22 14 eP P 06 49 21.2 -2.0
PMR pmax pmax
comp=Z,20nm,1.0s,mb4.7
PMR Palmer 86.22 14 eP P 06 49 21.2 -2.0
comp=Z,20nm,1.0s,mb4.7
M12A Wells 86.23 43 ⇓P P 06 49 23.1 -0.2
baz=86
RSW Rattlesnake Hi 86.29 37 P P 06 49 23.9 +0.3
HAWA Hanford 86.32 37 eP P 06 49 23.4 -0.2
comp=Z,83nm,1.4s,mb5.2
GYA Guiyang 86.33 300 P P 06 49 24.4 +0.7
GYA AP pP 06 51 26.2 0.0
GYA XP sP 06 52 21.2 -2.1
GYA PP PP 06 52 58.0 +2.6
GYA SKS 06 58 56.4
GYA S S 06 59 12.9 +0.6
GYA PS 07 01 34.6
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,90nm,4.9s
N13A Wendover, West 86.38 43 ⇓P P 06 49 23.7 -0.3
baz=86
MSU Marysvale 86.48 46 eP P 06 49 25.2 +0.7
WAH2 Wahluke Slope 86.52 36 P P 06 49 24.6 0.0
A05A Maple Falls 86.54 34 ⇓P P 06 49 24.5 -0.2
baz=87
B06A Marblemount 86.55 34 ⇑P P 06 49 24.6 -0.2
baz=87
ETW Entiat 86.61 35 P P 06 49 25.1 +0.1
BMO Blue Mountains 86.69 39 eP P 06 49 24.8 -0.6
comp=Z,37nn,1.4s,mb4.8
NLW Nelson Butte 86.89 35 P P 06 49 26.0 -0.3
DUG Dugway 86.93 45 eP P 06 49 26.4 -0.2
DUG Dugway 86.93 45 ⇓P P 06 49 26.0 -0.6
baz=87
WRAK Wrangell Islan 87.02 24 eP P 06 49 25.8 -1.2
comp=Z,38nn,1.2s,mb4.9
SNAA Sanae 87.03 179⇓iP P 06 49 25.8 -1.2
SNAA Sanae 87.03 179⇓iP P 06 49 25.8 -1.2
SNAA e 06 49 27.2
SNAA e 06 49 30.2
SNAA e 06 49 33.1
SNAA e 06 49 36.2
SNAA e 06 51 35.4
SNAA Sanae 87.03 179 eP P 06 49 26.1 -0.9
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 87.03 179 eP P 06 49 26.1 -0.9
comp=Z,2.2nm,0.6s,mb4.0
SNAA epP pP 06 51 34.4 +4.7
SEY Seymchan 87.14 347 iP P 06 49 24.8 -2.8
OD2 Odessa Site #2 87.36 36 P P 06 49 28.5 -0.1
TMUT Trail Mountain 87.53 46 eP P 06 49 30.1 +0.7
VNA2 Neumayer--Watz 87.63 177⇓iP P 06 49 29.2 -0.6
baz=192,slow=4.0
VNA2 e 06 49 30.7
VNA2 e 06 49 33.4
VNA2 e 06 49 37.5
VNA2 e 06 49 39.7
VNA2 e 06 49 45.2
VNA2 e pP 06 51 36.3 +3.5
VNA2 e 06 51 38.9
MAIT Maitri 87.66 184 eP P 06 49 29.8 -0.2
HLID Hailey 87.70 41 eP P 06 49 30.5 +0.3
comp=Z,18nm,0.9s,mb4.8
E10A Myers Farm, Un 87.73 38 ⇓P P 06 49 29.9 -0.5
baz=88
SPUT South Promonto 87.75 44 eP P 06 49 27.6 -2.7
HVU Hansel Valley 87.78 43 eP P 06 49 30.7 +0.1
HVU pmax pmax
comp=Z,16nm,1.0s,mb4.7
HVU Hansel Valley 87.78 43 eP P 06 49 30.7 +0.2
comp=Z,16nm,1.0s,mb4.7
VNA1 Neumayer--Stat 87.86 177 eP P 06 49 30.8 -0.1
VNA1 e 06 49 32.0
VNA1 e 06 49 35.5
VNA1 e 06 49 38.4
VNA1 e 06 49 41.4
VNA1 e 06 49 47.2
VNA1 e pP 06 51 38.4 +4.5
VNA1 e 06 51 40.4
CTU Camp Tracy 87.88 45 eP P 06 49 30.9 -0.1
SRU San Rafael 87.90 46 eP P 06 49 31.1 0.0
SRU pmax pmax
comp=Z,39nm,1.2s,mb5.0
SRU San Rafael 87.90 46 eP P 06 49 31.1 0.0
comp=Z,39nn,1.2s,mb5.0
LAZ Ladron 88.02 52 eP P 06 49 31.7 0.0
Y22C IRIS PASSCAL I 88.03 52 ⇑P P 06 49 30.9 -0.8
baz=88
LENM Lemitar 88.03 52 eP P 06 49 31.9 +0.2
DAU Daniels Canyon 88.06 45 eP P 06 49 31.8 -0.1
MNTX Cornudas Mount 88.10 55 eP P 06 49 32.1 +0.1
comp=Z,18nm,0.9s,mb4.8
NANT Nan 88.17 291 ⇓P P 06 49 31.0 -1.3
comp=Z,88nm,1.0s,mb5.4
BNM Barren Site 88.28 52 eP P 06 49 33.2 +0.3
TCUT Toone Canyon 88.32 44 eP P 06 49 33.3 +0.2
LPM Los Pinos Moun 88.35 52 eP P 06 49 33.4 +0.2
MVCO Mesa Verde 88.37 49 ⇓P P 06 49 32.8 -0.5
baz=88
C10A Spilker Farm, 88.39 36 ⇑P P 06 49 32.7 -0.7
baz=88
TXAR Lajitas Array 88.39 58 P P 06 49 34.0 +0.6
comp=Z,14nm,0.9s,mb4.7,baz=219,slow=5.5,SNR=104
HWUT Hardware Ranch 88.47 44 eP P 06 49 33.3 -0.5
comp=Z,9.5nm,0.9s,mb4.5
NEW Newport 88.74 36 eP P 06 49 34.5 -0.5
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 88.74 36 eP P 06 49 34.5 -0.6
comp=Z,9.8nm,1.1s,mb4.5
ANMO Albuquerque 88.77 52 P P 06 49 35.1 0.0
comp=Z,10nm,1.0s,mb4.6,baz=224,slow=5.5,SNR=26
ANMO Albuquerque 88.77 52 eP P 06 49 35.3 +0.2
ANMO pmax pmax
comp=Z,17nm,1.1s
ANMO Albuquerque 88.77 52 eP P 06 49 35.2 +0.1
comp=Z,17nm,1.1s,mb4.8
HIA Hailar 88.97 325⇑iP P 06 49 35.4 -0.7
KMI Kunming 88.97 297 P P 06 49 38.3 +2.2
KMI *PP pP 06 51 39.1 -0.3
KMI *SP sP 06 52 33.6 -2.6
KMI pmax pmax
comp=Z,12nm,1.6s,mb4.5
KMI MLR MLR
comp=Z,20nm,34.9s
KMI Kunming 88.97 297 P P 06 49 38.3 +2.2
comp=Z,12nm,1.6s,mb4.5
KMI pP pP 06 51 39.1 -0.3
KMI sP sP 06 52 33.6 -2.6
KMI LR LR
comp=Z,20nm,34.9s
BDT Bhumibol Dam 89.05 289 P P 06 49 38.5 +2.1
GDL2 Guadalupe Moun 89.10 55 eP P 06 49 37.5 +0.8
MCMT McKenzie Canyo 89.33 41 P P 06 49 38.1 +0.4
AHID Auburn Hatcher 89.36 43 eP P 06 49 38.0 +0.1
comp=Z,13nm,0.7s,mb4.9
HHC Hu-ho-hao-te 89.39 315 eP P 06 49 39.0 +1.0
HHC AP pP 06 51 39.0 -2.4
HHC XP sP 06 52 31.2 -7.0
HHC PP PP 06 53 21.0 +1.6
HHC SKS 06 59 17.4
HHC S S 06 59 41.1 +0.6
HHC XS sS 07 03 14.2 -6.5
HHC SS SS 07 05 59.4 +6.6
HHC AMB AMB
comp=Z,19nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,155nm,6.5s
COLA College 89.39 13 eP P 06 49 35.3 -2.7
COLA pmax pmax
comp=Z,32nm,1.0s,mb5.1
COLA College 89.39 13 eP P 06 49 35.2 -2.8
comp=Z,32nn,1.0s,mb5.1
RRI2 Red Ridge 89.51 42 eP P 06 49 38.8 +0.2
comp=Z,32nn,0.8s,mb5.2
CHTO Chiang Mai 89.70 290 eP P 06 49 41.1 +1.6
CHTO pmax pmax
comp=Z,53nn,1.6s,mb5.1
CHTO Chiang Mai 89.70 290 eP P 06 49 41.1 +1.7
comp=Z,53nn,1.6s,mb5.1
DCID1 Drake Creek 89.72 42 eP P 06 49 39.2 -0.4
DLMT Dillon 89.76 40 eP P 06 49 38.5 -1.3
comp=Z,16nn,1.2s,mb4.7
REDW Red Top Meadow 89.81 43 eP P 06 49 39.8 -0.2
comp=Z,32nn,1.0s,mb5.1
REDW epP pP 06 51 41.9 -1.6
TPAW Teton Pass 89.81 42 eP P 06 49 40.0 0.0
comp=Z,28nn,1.2s,mb5.0
BILL Bilibino 89.94 355⇑iP P 06 49 38.5 -2.1
BILL e*PP pP 06 51 40.6 -3.5
BILL pmax pmax
comp=Z,39nn,2.5s,mb4.8
BILL Bilibino 89.94 355 eP P 06 49 38.8 -1.8
comp=Z,6.1nn,0.6s,mb4.6
IMW Indian Meadow 90.03 42 eP P 06 49 41.1 +0.1
comp=Z,30nn,1.0s,mb5.1
MOOW Moose Ponds 90.07 42 eP P 06 49 41.0 -0.2
LOHW Long Hollow 90.09 42 eP P 06 49 40.9 -0.4
comp=Z,7.0nm,0.6s,mb4.7
D14A Greenough 90.13 38 ⇑P P 06 49 40.9 -0.6
baz=90
B13A Whitefish 90.28 37 ⇑P P 06 49 41.5 -0.6
baz=90
E15A Deer Lodge 90.29 39 ⇑P P 06 49 41.6 -0.6
baz=90
BW06 Boulder Array 90.34 44 eP P 06 49 42.1 -0.3
PDAR Pinedale Array 90.34 44 P P 06 49 42.0 -0.4
comp=Z,12nn,0.8s,mb4.8,baz=210,slow=3.1,SNR=84
SMCO Snowmass 90.35 48 eP P 06 49 42.0 -0.5
comp=Z,7.1nm,0.9s,mb4.5
CD2 Chengdu 90.54 303 eP P 06 49 44.5 +1.2
CD2 XP sP 06 52 37.4 -6.3
CD2 PP PP 06 53 31.8 +3.4
CD2 SKS 06 59 24.0
CD2 S S 06 59 52.5 +1.7
CD2 XS sS 07 03 24.5 -7.3
CD2 SS SS 07 06 14.3 +5.0
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6

D15A	Lincoln	90.68	39	⇓P		P		06 49 43.2	-0.8		
	baz=91										
DAWY	Dawson	90.69	16	*eP*		P		06 49 42.4	-1.6		
SDCO	Great Sand Dun	90.73	49	*eP*		P		06 49 44.3	+0.1		
	comp=Z,9.6nm,1.0s,mb4.7										
EGAK	Eagle	90.82	15	*eP*		P		06 49 42.7	-1.9		
	comp=Z,25nm,1.2s,mb5.0										
CMIG	Matias Romero	90.88	72	P		P		06 49 44.9	0.0		
	comp=Z,1.5nm,0.8s,mb4.0,baz=208,slow=3.1,SNR=4.0										
CMIG	Matias Romero	90.88	72	P		P		06 49 44.9	0.0		
JCT	Junction City	91.92	58	*eP*		P		06 49 49.4	-0.3		
JCT				pmax		pmax					
	comp=Z,6.0nm,0.7s,mb4.7										
JCT	Junction City	91.92	58	*eP*		P		06 49 49.4	-0.3		
	comp=Z,6.5nm,0.7s,mb4.8										
LZH	Lanzhou	92.63	308	⇑P		P		06 49 53.5	+0.5		
LZH				AP		pP		06 51 54.6	-2.2		
LZH				XP		sP		06 52 48.2	-5.2		
LZH				PP		PP		06 53 48.7	+4.1		
LZH				SKS				06 59 34.5			
LZH				*e*S		S		07 00 08.3	-0.9		
LZH				PS				07 02 39.4			
LZH				XS		sS		07 03 44.2	-7.3		
LZH				SS		SS		07 06 44.6	+5.7		
LZH				AMB		AMB					
	comp=Z,29nm,1.5s,mb5.1										
LZH				AMB		AMB					
	comp=Z,97nm,8.8s										
LZH	Lanzhou	92.63	308	⇑P		P		06 49 53.5	+0.5		
LZH				*PP		pP		06 51 54.6	-2.2		
LZH				*SP		sP		06 52 48.2	-5.2		
LZH								06 53 48.7			
LZH								06 59 34.5			
LZH				*e*S		S		07 00 08.3	-0.9		
LZH				SS		SS		07 06 44.6	+5.7		
LZH				pmax		pmax					
	comp=Z,29nm,1.5s,mb5.1										
LZH	Lanzhou	92.63	308	⇑P		P		06 49 53.5	+0.5		
	comp=Z,29nm,1.5s,mb5.1										
LZH				pP		pP		06 51 54.6	-2.2		
LZH				sP		sP		06 52 48.2	-5.2		
LZH				PP		PP		06 53 48.7	+4.1		
LZH				SKS				06 59 34.5			
LZH				*e*S		S		07 00 08.3	-0.9		
LZH				PS				07 02 39.4			
LZH				sS		sS		07 03 44.2	-7.3		
LZH				SS		SS		07 06 44.6	+5.7		
YAK	Yakutsk	92.70	338	⇑*i*P		P		06 49 51.3	-2.0		
LAO	LASA Array	94.28	41	*eP*		P		06 50 00.8	+0.3		
CFAA	Coronel Fontan	95.26	127	P		P		06 50 04.8	-0.1		
	comp=Z,0.2nm,0.8s,baz=256,slow=2.7,SNR=5.3										
GTA	Gaotai	96.88	310	*eP*		P		06 50 12.6	+0.4		
GTA				AP		pP		06 52 16.5	+0.1		
GTA				XP		sP		06 53 05.9	-7.1		
GTA				AMB		AMB					
	comp=Z,5.0nm,1.1s,mb4.7										
WMQ	Urumqi	106.87	311	PDIF		Pdif		06 50 54.6	-2.0		
WMQ				PP		PP		06 55 30.1	-0.7		
WMQ				PP		PP					
	comp=Z,196nm,5.4s										
ZAL	Zalesovo	110.69	321	PKiKP		PKiKP		06 55 07.5	-2.5		
	comp=Z,1.0nm,0.5s,baz=289,slow=2.9,SNR=3.8										
MKAR	Makanchi Array	111.20	313	PKiKP		PKiKP		06 55 09.0	-2.0		
	comp=Z,1.8nm,0.6s,baz=195,slow=0.8,SNR=17										
AAK	Ala-Archa	116.17	308	⇑*i*PKIKP		PKPdf		06 55 18.9	-1.7		
BRVK	Borovoye	119.30	320	*e*PKIKP		PKPdf		06 55 24.6	-2.0		
SUMG	Summit	124.35	13	*e*PKPdf		PKPdf		06 55 32.7	-3.5		
BOSA	Boshof	124.94	206	PKP		PKPdf		06 55 38.4	+1.0		
	comp=Z,3.7nm,0.8s,baz=104,slow=21,SNR=6.1										
ARU	Arti	125.49	325	*i* PKIKP		PKPdf		06 55 36.9	-1.5		
ARU				*e*				06 57 36.6			
ARU	Arti	125.49	325	*e*PKPdf		PKPdf		06 55 37.1	-1.3		
KEV	Kevo	129.27	349	*ep*		PKPdf		06 55 42.9	-2.7		
	comp=Z,6.9nm,0.6s										
KEV	Kevo	129.27	349	*e*PKIKP		PKPdf		06 55 42.9	-2.7		
KEV				pmax		pmax					
	comp=Z,7.0nm,0.6s										
ARCES	ARCESS Array B	129.73	349	PKP		PKPdf		06 55 44.5	-2.0		
	comp=Z,13nm,0.6s,baz=356,slow=1.0,SNR=48										
ARCES	ARCESS Array B	129.73	349	PKP		PKPdf		06 55 44.5	-2.1		
JOF	Joensuu	133.79	341	*ep*		PKPdf		06 55 51.0	-3.2		
	comp=Z,17nm,0.6s										
JOF	Joensuu	133.79	341	*e*PKIKP		PKPdf		06 55 51.0	-3.2		
JOF				pmax		pmax					
	comp=Z,17nm,0.6s										
LSZ	Lusaka	134.74	218	*e*PKIKP		PKPdf		06 55 56.4	+0.5		
KAF	Kangasniemi	135.85	343	*ep*		PKPdf		06 55 54.9	-3.1		
	comp=Z,10nm,0.7s										
KAF	Kangasniemi	135.85	343	*e*PKIKP		PKPdf		06 55 54.9	-3.1		
KAF				pmax		pmax					
	comp=Z,10.0nm,0.7s										
FINES	FINESS Array B	136.46	343	PKP		PKPdf		06 55 58.1	-1.0		
	comp=Z,7.9nm,0.8s,baz=38,slow=3.4,SNR=11										
OBN	Obninsk	137.18	331	⇑*i*PKIKP		PKPdf		06 55 57.4	-3.1		
OBN				*e*				06 58 50.1			
OBN				pmax		pmax					
	comp=Z,12nm,0.9s										
KIV	Kislovodsk	138.96	313	*e*PKIKP		PKPdf		06 56 05.2	+1.5		
KIV				pmax		pmax					
	comp=Z,8.0nm,0.5s										
NB2	NORSAR Subarra	139.86	352	PKP				06 55 55.7			
	comp=Z,2.7nm,0.5s,baz=10,slow=3.2										
NOA	NORSAR Array B	139.86	352	PKhKP				06 55 56.0			
	comp=Z,3.9nm,0.7s,baz=9.6,slow=2.4,SNR=13										
NOA				PKP		PKPdf		06 56 04.5	-0.9		
	comp=Z,4.3nm,0.7s,baz=18,slow=3.9,SNR=6.6										
ELZG	Elazig	143.30	306	*i* P		PKPdf		06 56 10.8	-0.6		
AKASG	Malin Array Be	143.42	330	PKP		PKPdf		06 56 07.0	-4.6		
	comp=Z,42nm,0.7s,baz=42,slow=4.3,SNR=178										
AKBB	Malin Array Si	143.42	330	*e*PKHKP				06 56 08.2			
SUW	Suwalki	143.43	338	*e*PKP		PKPdf		06 56 08.9	-2.8		
MVH1	Achvaich	143.43	5	*e*P		PKPdf		06 56 08.4	-3.3		
KSK	Scoval	143.65	7	*e*P		PKPdf		06 56 09.7	-2.4		
KAC	Achnashellach	143.76	6	*e*P		PKPdf		06 56 09.8	-2.5		
MCD	Coleburn Disti	143.84	4	*e*P		PKPdf		06 56 09.3	-3.1		
KPL	Plockton	143.88	6	*e*P		PKPdf		06 56 09.1	-3.4		
MDO	Dochfour	143.90	5	*e*P		PKPdf		06 56 09.8	-2.7		
KSB	Sheil Bridge	144.03	6	*e*P		PKPdf		06 56 10.4	-2.4		
MME1	Meikle Cairn	144.12	4	*e*P		PKPdf		06 56 09.8	-3.1		
SIM	Simferopol'	144.14	319	*d*⇑PKIKP		PKPdf		06 56 12.3	-0.6		
SIM				pmax		pmax					
	comp=Z,60nm,0.8s										
MUD	Monsted U'grnd	144.58	352	⇑*i*P		PKPdf		06 56 12.7	-1.0		
	comp=Z,50nm,1.0s										
MUD	Monsted U'grnd	144.58	352	⇑*i*PKIKP		PKPdf		06 56 12.7	-1.0		
MUD				pmax		pmax					
	comp=Z,50nm,1.0s										
GZT	Gaziantep	144.70	305	*i* P		PKPdf		06 56 14.5	+0.6		
BSD	Bornholm Skovb	144.85	346	⇓*i*P		PKPdf		06 56 12.9	-1.2		
	comp=Z,43nm,0.9s										
BSD	Bornholm Skovb	144.85	346	⇓*i*PKIKP		PKPdf		06 56 12.9	-1.2		
BSD				pmax		pmax					
	comp=Z,43nm,0.9s										
EAB	Aberfoyle	145.14	5	*e*P		PKPdf		06 56 14.0	-0.7		
EAU	Auchinoon	145.55	4	*e*P		PKPdf		06 56 15.3	0.0		
EBL	Broad Law	145.65	4	*e*P		PKPdf		06 56 15.6	+0.1		
XSO	Sourhope Farm	145.98	3	*e*P		PKPdf		06 56 16.6	+0.5		
ESK	Eskdalemuir	146.10	4	*e*P		PKPdf		06 56 15.8	-0.5		
ESK	Eskdalemuir	146.10	4	*e*PKPdf		PKPdf		06 56 15.0	-1.3		
ESK				*e*PKPbc		PKPbc		06 56 16.8	-1.6		
ECK	Cauldkaine Hil	146.24	4	*e*P		PKPdf		06 56 15.9	-0.6		
LVV	L'vov	146.38	333	*i* PKIKP		PKPdf		06 56 17.5	+0.8		
GAL1	Galloway	146.42	6	*e*P		PKPdf		06 56 17.8	+1.0		
XAL	Allendale	146.61	3	*e*P		PKPdf		06 56 17.1	-0.1		
ELDT	Eldivan	146.63	312	*i* P		PKPdf		06 56 19.5	+2.3		
BR131	Keskin Array S	146.80	311	*e*PKPbc		PKPbc		06 56 19.7	-0.6		
BRTR	Keskin Array B	146.80	311	*e*PKPbc		PKPbc		06 56 19.4	-0.8		
	comp=Z,13nm,0.7s,baz=147,slow=2.3,SNR=51										
BSEG	Bad Segeberg	146.86	350	*e*PKPbc		PKPbc		06 56 19.5	-0.9		
ANTO	Ankara	147.33	311	⇓*i*P		PKPbc		06 56 21.3	-0.4		
ANTO	Ankara	147.33	311	*e*PKPbc		PKPbc		06 56 21.6	0.0		
ANTO				*e*PKPab		PKPab		06 56 25.7	+0.1		
BURAR	Bucovina Array	147.46	329	⇓*i*P		PKPbc		06 56 21.5	-0.5		
BURAR	Bucovina Array	147.46	329	⇑P		PKPbc		06 56 21.9	0.0		
RUE	Ruedersdorf	147.54	345	*e*PKPbc		PKPbc		06 56 21.3	-0.9		
OJC	Ojcow	147.74	337	*e*PKP		PKPbc		06 56 21.6	-1.1		
TIRR	Tirgusor	147.82	322	⇓*i*P		PKPbc		06 56 22.4	-0.5		
TIRR	Tirgusor	147.82	322	⇓P		PKPbc		06 56 21.9	-1.0		
VRI	Vrincioaia	147.88	325	⇑*i*P		PKPbc		06 56 22.0	-1.1		
VRI	Vrincioaia	147.88	325	⇑PKHKP		PKPbc		06 56 21.6	-1.5		
VRI	Vrincioaia	147.88	325	P		PKPbc		06 56 22.4	-0.6		
PLOR	Plostina	147.93	325	⇑*i*P		PKPbc		06 56 22.0	-1.2		
UZH	Uzhgorod	148.03	333	*d*⇑PKHKP		PKPbc		06 56 21.6	-1.8		
NIE	Niedzica	148.20	336	*e*PKP		PKPbc		06 56 24.0	+0.1		
NRDL	Niedersach Rie	148.28	349	*e*PKPbc		PKPdf		06 56 20.9	+1.0		
KSP	Ksiaz	148.36	341	*e*PKP		PKPbc		06 56 23.9	-0.4		
KSP	Ksiaz	148.36	341	*e*PKP2		PKPab		06 56 28.1	-1.6		
KSP	Ksiaz	148.36	341	*e*PKPdf		PKPbc		06 56 23.6	-0.7		
KSP				*e*PKPab		PKPab		06 56 28.1	-1.6		
EIL	Elat	148.40	292	*e*PKPdf		PKPdf		06 56 19.7	-0.3		
EIL				*e*PKPbc		PKPbc		06 56 24.8	+0.4		
EIL				*e*PKPab		PKPab		06 56 30.8	+0.9		
SBD1	Bryn Du	148.49	5	*e*P		PKPdf		06 56 19.2	-1.0		
MLR	Muntele Rosu	148.54	325	⇓*i*P		PKPbc		06 56 23.3	-1.4		
MLR	Muntele Rosu	148.54	325	⇑PKHKP		PKPbc		06 56 24.0	-0.7		
MLR	Muntele Rosu	148.54	325	P		PKPbc		06 56 24.5	-0.2		
OKC	Ostrava-Krasne	148.64	338	⇑*e*PKP		PKPbc		06 56 24.2	-0.8		
OKC				*e*PKPAB		PKPab		06 56 30.3	-0.6		
CSS	Prodhromos	148.66	302	*e*PKPdf		PKPdf		06 56 21.3	+0.8		
CSS				*e*PKPbc		PKPbc		06 56 24.3	-0.7		
CSS				*e*PKPab		PKPab		06 56 30.9	0.0		
UPC	Upice	148.74	341	⇑*e*PKP		PKPbc		06 56 24.9	-0.3		
UPC				*e*PKPAB		PKPab		06 56 30.9	-0.4		
DPC	Dobruska-Polom	148.78	341	⇑*e*PKP		PKPbc		06 56 24.7	-0.6		
DPC				*e*PKPAB		PKPab		06 56 31.5	0.0		
CLL	Collm	148.81	345	*e*PKPdf		PKPdf		06 56 20.0	-0.7		
CLL				*e*PKPbc		PKPbc		06 56 24.5	-0.9		
CLL	Collm	148.81	345	⇓*i*PKHKP		PKPbc		06 56 24.5	-0.9		
CLL				*i*				06 56 30.4			
CLL				pmax		pmax					
	comp=Z,9.0nm,1.0s										
CLL				pmax		pmax					
	comp=Z,77nm,0.9s										
CLL	Collm	148.81	345	⇓*i*PKPbc		PKPbc		06 56 24.5	-0.9		
	comp=Z,77nm,1.0s										
CLL				*i* PKPab		PKPab		06 56 30.4	-1.2		
	comp=Z,24nm,0.9s										
CLL				*e*pPKPbc		pPKPbc		06 58 44.0	+8.0		
IBBN	Ibbenburen	148.81	352	*e*PKPbc		PKPbc		06 56 24.6	-0.8		
CLZ	Clausthal	148.86	349	*e*PKPdf		PKPdf		06 56 19.6	-1.2		
CLZ				*e*PKPbc		PKPbc		06 56 24.9	-0.6		
MORC	Moravsky Berou	148.90	339	⇓*i*P		PKPbc		06 56 25.0	-0.6		
MORC	Moravsky Berou	148.90	339	*e*PKPbc		PKPbc		06 56 24.8	-0.8		
MORC				*e*PKPab		PKPab		06 56 31.4	-0.5		
HLM1	Long Mynd	148.90	5	*e*P		PKPdf		06 56 20.0	-0.9		
BRG	Berggiesshubel	148.98	344	*e*PKPdf		PKPdf		06 56 20.2	-0.8		
BRG				*e*PKPbc		PKPbc		06 56 25.1	-0.7		
BRG				*e*PKPab		PKPab		06 56 31.1	-1.2		
BRG	Berggiesshubel	148.98	344	⇓*i*P		PKPbc		06 56 24.8	-1.0		
	comp=Z,45nm,1.4s										
BRG				*i*				06 56 31.3			
	comp=Z,10nm,1.0s										
BRG	Berggiesshubel	148.98	344	⇓*i*PKHKP		PKPbc		06 56 24.8	-1.0		
BRG				*i*				06 56 31.3			
BRG				pmax		pmax					
	comp=Z,3.0nm,1.4s										
BRG				pmax		pmax					
	comp=Z,45nm,1.0s										
VOIR		149.04	326	⇑*i*P		PKPbc		06 56 25.6	-0.3		
VOIR		149.04	326	⇑P		PKPbc		06 56 25.5	-0.5		
FBE	Freiberg	149.09	345	*e*PKPbc		PKPbc		06 56 25.5	-0.5		
FBE				*e*PKPab		PKPab		06 56 31.8	-0.9		
PVCC	Panska Ves	149.13	343	⇑*e*PKP		PKPbc		06 56 25.5	-0.7		
DRGR		149.23	330	⇓*i*P		PKPbc		06 56 25.4	-1.0		
DRGR		149.23	330	⇑PKHKP		PKPbc		06 56 25.9	-0.5		
DRGR		149.23	330	P		PKPbc		06 56 25.7	-0.7		
WTSB	Winterswijk	149.27	353	⇓*e*PKiKP		PKiKP		06 56 25.2	-2.1		
	comp=Z,95nm,0.8s										
MCH1	Michaelchurch	149.41	5	*e*P		PKPdf		06 56 20.6	-1.1		
PSZ	Piszkesteto	149.58	335	⇓*i*P		PKPbc		06 56 26.2	-1.0		
PSZ	Piszkesteto	149.58	335	*e*PKPdf		PKPdf		06 56 26.8	-1.2		
PSZ				*e*PKPbc		PKPbc		06 56 26.7	-0.5		
PSZ	Piszkesteto	149.58	335	⇓*e*PKP		PKPbc		06 56 26.4	-0.8		
VRAC	Vranov	149.61	340	⇓*i*P		PKPbc		06 56 26.5	-0.8		
VRAC	Vranov	149.61	340	⇑PKHKP		PKPbc		06 56 27.0	-0.3		
VRAC	Vranov	149.61	340	P		PKPbc		06 56 26.9	-0.4		
PRU	Pruhonice	149.63	343	⇑*e*PKP		PKPbc		06 56 26.5	-0.8		
PRU				*e*PKPAB		PKPab		06 56 34.3	-0.7		
BUG	Bochum--Univer	149.73	352	*e*PKPbc		PKPbc		06 56 26.5	-1.1		
MOX	Moxa	149.75	347	*e*PKPdf		PKPdf		06 56 21.3	-0.9		
MOX				*e*PKPbc		PKPbc		06 56 26.8	-0.8		
MOX				*e*PKPab		PKPab		06 56 34.1	-1.4		
MOX	Moxa	149.75	347	*e*PKP		PKPbc		06 56 26.5	-1.1		
	comp=Z,49nm,1.2s										
MOX				*e*				06 56 34.2			
MOX	Moxa	149.75	347	*e*PKHKP		PKPbc		06 56 26.5	-1.1		
MOX				*e*				06 56 34.2			
MOX				pmax		pmax					
	comp=Z,49nm,1.2s										
TANN	Tannenbergstha	149.77	345	*e*PKPbc		PKPbc		06 56 27.0	-0.7		
TANN				*e*PKPab		PKPab		06 56 34.6	-1.0		
WERD	Werda	149.78	346	*e*PKPbc		PKPbc		06 56 26.9	-0.8		
WERD				*e*PKPab		PKPab		06 56 34.6	-1.0		
HGH	Gray Hill	149.78	5	*e*P		PKPdf		06 56 20.5	-1.7		
GUNZ	Gunzen	149.85	345	*e*PKPbc		PKPbc		06 56 27.3	-0.6		
UBBA	Unterbreizbach	149.91	349	*e*PKPbc		PKPbc		06 56 26.9	-1.1		
WERN	Wernitzgruen	149.91	345	*e*PKPbc		PKPbc		06 56 27.5	-0.5		
WERN				*e*PKPab		PKPab		06 56 35.5	-0.6		
NKC	Novy Kostel	149.94	345	⇑*e*PKP		PKPbc		06 56 27.4	-0.7		
NKC				*e*PKPAB		PKPab		06 56 34.6	-1.7		
GZR	Gura Zlata	150.22	328	⇓*i*P		PKPbc		06 56 27.8	-0.9		
GZR	Gura Zlata	150.22	328	P		PKPbc		06 56 27.6	-1.1		
MANZ	Manzenberg	150.25	345	*e*PKPbc		PKPbc		06 56 28.3	-0.5		
BUD	Budapest	150.28	335	⇑*e*PKP		PKPbc		06 56 28.4	-0.5		
ZST	Bratislava	150.40	338	*e*PKP		PKPbc		06 56 28.6	-0.5		
ZST				LR		LR					
	comp=Z,400nm,18.4s										
ROTZ	Rotzenmuhle	150.43	345	*e*PKPbc		PKPbc		06 56 28.6	-0.6		
HGN	Heimansgroeve	150.55	354	⇓*e*PKiKP		PKiKP		06 56 28.3	-1.6		
	comp=Z,34nm,1.1s										
BZS	Buzias	150.61	330	⇓*i*P		PKPbc		06 56 28.6	-1.0		
BZS	Buzias	150.61	330	P		PKPbc		06 56 28.8	-0.8		
UCC	Uccle	150.65	356	PKPbc		PKPbc		06 56 28.6	-1.1		
KHC	Kasperske Hory	150.67	343	*e*PKPDF		PKPdf		06 56 22.6	-1.0		
KHC				⇑*e*PKP		PKPbc		06 56 29.0	-0.8		
KHC				*e*PKPAB		PKPab		06 56 38.8	-0.5		
MEM	Membach	150.69	353	PKPbc		PKPbc		06 56 28.6	-1.3		
MEM				PKPab		PKPab		06 56 39.2	-0.3		
GRF	Grafenberg Arr	150.73	346	*e*PKPbc		PKPbc		06 56 28.9	-1.0		
GRF				*e*PKPab		PKPab		06 56 39.0	-0.6		
TNS	Taunus Mts	150.75	350	*e*PKPbc		PKPbc		06 56 29.9	0.0		
TNS				*e*PKPab		PKPab		06 56 38.2	-1.5		
WET	Wettzell	150.84	344	*e*PKPbc		PKPbc		06 56 29.5	-0.7		
WET				*e*PKPab		PKPab		06 56 39.4	-0.7		
DYA	Yadsworthy	150.87	6	*e*P		PKPdf		06 56 24.6	+0.7		
GEC2	GERESS Array S	150.90	343	*e*PKPbc		PKPbc		06 56 29.5	-0.8		
GERES	GERESS Array B	150.90	343	PKP		PKPdf		06 56 23.0	-0.9		
	comp=Z,0.9nm,0.5s,baz=45,slow=0.9,SNR=9.1										
GERES				PKPbc		PKPbc		06 56 29.6	-0.6		
	comp=Z,20nm,0.8s,baz=45,slow=2.1,SNR=85										
GERES				PKPab		PKPab		06 56 39.4	-0.9		
	comp=Z,2.8nm,0.8s,baz=39,slow=8.6,SNR=6.2										
SNF	Seneffe	150.94	356	PKPbc		PKPbc		06 56 29.3	-1.1		
SNF				PKPab		PKPab		06 56 39.0	-1.5		
BCLA	Clavier	150.95	354	PKPbc		PKPbc		06 56 29.2	-1.2		
BCLA				PKPab		PKPab		06 56 39.1	-1.4		
SOP	Sopron	151.03	338	⇓*e*PKP		PKPbc		06 56 29.8	-0.8		
CONA	Conrad Observa	151.05	339	⇑*i*PKPdf		PKPdf		06 56 23.3	-0.9		
CONA				⇓*i*PKPbc		PKPbc		06 56 30.2	-0.5		
	comp=Z,27nm,0.7s										
ABH	Alteburg	151.22	351	PKP		PKPbc		06 56 29.9	-1.1		
TOD	Tromm	151.29	349	PKIKP		PKPbc		06 56 29.9	-1.3		
DOU	Dourbes	151.33	355	PKPbc		PKPbc		06 56 30.2	-1.1		
RUP	Ruppelstein	151.46	352	PKIKP		PKPbc		06 56 30.9	-0.7		
PKSM	Moragy	151.46	334	⇓*i*P		PKPbc		06 56 30.3	-1.3		
PKSM	Moragy	151.46	334	⇓PKIKP		PKPbc		06 56 30.5	-1.1		
PKSM	Moragy	151.46	334	P		PKPbc		06 56 30.6	-1.0		
WLF	Walferdange	151.61	353	*e*PKPbc		PKPbc		06 56 31.5	-0.4		
WLF	Walferdange	151.61	353	PKPbc		PKPbc		06 56 31.6	-0.3		
WLF				PKPab		PKPab		06 56 42.3	-1.0		
WLF	Walferdange	151.61	353	*e*PKPbc		PKPbc		06 56 31.8	-0.1		
WLF				*e*PKPab		PKPab		06 56 42.4	-0.9		
MOA	Molln	151.63	341	⇓*i*		PKPbc		06 56 30.6	-1.3		
	comp=Z,12nm,0.7s										
MOA	Molln	151.63	341	⇓*i*		PKPab		06 56 43.5	+0.1		
	comp=Z,13nm,1.1s										
MOA	Molln	151.63	341	⇓*i*PKPdf		PKPdf		06 56 23.7	-1.4		
	comp=Z,1.1nm,0.5s										
MOA				⇓*i*PKPbc		PKPbc		06 56 30.6	-1.3		
	comp=Z,12nm,0.7s										
MOA				⇓*i*PKPab		PKPab		06 56 43.5	+0.1		
	comp=Z,13nm,1.1s										
BEO	Belgrade	151.75	330	*i* P		PKPdf		06 56 28.6	+3.3		
ARSA	Arzberg	151.76	339	⇑*i*		PKPbc		06 56 31.2	-1.0		
VTS	Vitosha	151.93	324	⇓*i*P		PKPbc		06 56 32.0	-0.6		
VTS	Vitosha	151.93	324	⇓P		PKPbc		06 56 32.1	-0.5		
STU	Stuttgart	152.02	348	*e*PKPbc		PKPbc		06 56 31.9	-0.9		
STU	Stuttgart	152.02	348	*e*PKPdf		PKPdf		06 56 23.4	-2.2		
STU				*e*PKPbc		PKPbc		06 56 32.1	-0.7		
STU				*e*PKPab		PKPab		06 56 42.0	-3.0		
LANF	Langenberg	152.06	350	PKP		PKPbc		06 56 32.1	-0.8		
FUR	Furstenfeldbru	152.15	345	*e*PKPbc		PKPbc		06 56 32.1	-1.0		
FUR				*e*PKPab		PKPab		06 56 45.0	-0.6		
GRUS	Gruza	152.32	328	*i* P		PKPdf		06 56 24.6	-1.5		
DIVS	Divcibare	152.52	329	*i* P		PKPdf		06 56 25.0	-1.4		
KBA	Koelnbreinsper	152.60	341	⇓*i*		PKPbc		06 56 33.2	-0.8		
	comp=Z,11nm,0.6s										
KBA	Koelnbreinsper	152.60	341	⇑*i*PKPdf		PKPdf		06 56 26.2	-0.3		
	comp=Z,4.4nm,0.5s										
KBA				⇓*i*PKPbc		PKPbc		06 56 33.2	-0.8		
	comp=Z,11nm,0.6s										
BFO	Black Forest	152.60	349	*e*PKPbc		PKPbc		06 56 33.0	-1.1		
BFO				*e*PKPab		PKPab		06 56 46.2	-1.3		
BFO	Black Forest	152.60

LCR2	La Lucha 2	0.65	62	⇓	*i*	P	Pg	06 38 35.4 +0.9
JCR	Jicaral	0.66	309	⇓	*i*	P	Pg	06 38 33.4 -1.2
JCR					*e*	S	Sg	06 38 44.9 +1.7
JCR	Jicaral	0.66	309	⇓	*e*	P	Pg	06 38 33.3 -1.2
JCR					*e*	S	Sg	06 38 40.6 -2.6
SJS	Escuela Geolog	0.73	47		*e*	P	Pg	06 38 36.4 +0.5
SJS				⇓	*i*	P		06 38 36.5
SJS					*e*	S	Sg	06 38 45.3 -0.1
SJS	Escuela Geolog	0.73	47	⇓	*e*	P	Pg	06 38 36.5 +0.7
SJS					*e*	S	Sg	06 38 45.2 -0.2
FORC	Fortuna	1.03	356	⇓	*i*	P	Pb	06 38 40.5 -1.0
FORC					*i*	S	Sg	06 38 54.6 -0.5
VCR	Vista de Mar	1.23	304		*i*	P	Pn	06 38 42.3 -2.5
VCR	Vista de Mar	1.23	304	⇑	*e*	P	Pn	06 38 42.0 -2.9
VCR					*e*	S	Sb	06 39 00.4 -0.4
LIM1	Limonal	1.41	333		*i*	P	Pn	06 38 46.2 -1.1
TRTC	Tortuguero	1.42	37	⇑	*e*	P	Pn	06 38 48.1 +0.7
TRTC					*e*	S	Sn	06 39 06.3 +0.2
ACR	Cerro Adams	1.61	119		*e*	P	Pn	06 38 50.4 +0.4
ACR					*e*	S	Sn	06 39 10.4 -0.2
ACR	Cerro Adams	1.61	119	⇑	*e*	P	Pn	06 38 49.7 -0.3
ACR					*e*	S	Sn	06 39 12.6 +2.0
LIO	Limon	1.63	70	⇑	*i*	P	Pn	06 38 51.0 +0.6
LIO	Limon	1.63	70	⇑	*e*	P	Pn	06 38 51.0 +0.7
LIO					*e*	S	Sn	06 39 11.6 +0.3
MADN	Villa Maderas	2.17	335		*e*	P	Pn	06 38 57.1 -0.5
MADN					*e*	S	Sg	06 39 33.2 +1.8
SSNN	San Juan del S	2.22	326		*e*	P	Pn	06 38 58.9 +0.6
CONN	Concepcion	2.35	334		*e*	P	Pn	06 38 59.1 -1.0
TICN	Ticuantepe	3.04	328		*e*	P	Pn	06 39 11.5 +1.8
MGAN	Managua	3.15	329		*e*	P	Pn	06 39 12.3 +1.2
TISN	Laguna Tiscapa	3.15	329		*e*	P	Pn	06 39 13.1 +1.9
XAVN	Gruta Xavier	3.19	328		*e*	P	Pn	06 39 13.2 +1.5
APYN	Apoyeque	3.27	328		*e*	P	Pn	06 39 14.8 +1.9
COPN	Copaltepe	3.36	324		*e*	P	Pn	06 39 15.8 +1.8
COPN					*i*			06 40 07.1
	comp=Z,270nm,0.6s							
MOMJ	Momotombo	3.52	327		*e*	P	Pn	06 39 16.6 +0.3
MIRN	Miramar	3.64	325		*e*	P	Pn	06 39 18.5 +0.6
MIRN					*i*			06 40 18.1
	comp=Z,278nm,0.5s							
CNGN	Cerro Negro	3.68	326		*e*	S	Sb	06 40 11.6 +0.3
TGUH	Tegucigalpa,Un	5.29	330		*e*	Pn	Pn	06 39 40.6 0.0
	comp=Z,149nm,0.8s							
OTAV	Otavalo	10.99	146		*e*	Pn	Pn	06 41 05.3 +6.5
	comp=Z,6.3nm,1.1s							
ROSC	El Rosal	11.15	113		LR	LR	LR	06 45 56.2
	comp=Z,125nm,18.6s,baz=354,slow=40							
CMIG	Matias Romero	12.57	308		P	P	Pn	06 41 23.6 +3.2
	comp=Z,1.3nm,0.3s,baz=116,slow=9.9,SNR=20							
SDV	Santo Domingo	13.79	91		P	P	Pn	06 41 39.6 +2.5
	comp=Z,0.3nm,0.3s,baz=341,slow=13,SNR=2.9							
ATAH	Atahualpa	17.46	159		LR	LR	LR	06 48 28.9
	comp=Z,348nm,18.3s,baz=192,slow=34							
JSC	Jenkinsville	24.91	7		*e*P	P	P	06 43 43.6 -1.0
JCT	Junction City	25.29	328		*e*P	P	P	06 43 48.0 -0.1
	comp=Z,9.9nm,0.8s,mb4.4							
TKL	Tuckaleechee C	26.11	2		P	P	P	06 43 56.0 +0.6
	comp=Z,2.2nm,0.5s,mb4.0,baz=192,slow=15,SNR=5.5							
TKL						LR	LR	06 53 56.0
	comp=Z,119nm,20.2s,MS3.4,baz=227,slow=36							
TXAR	Lajitas Array	26.67	321		P	P	P	06 43 59.2 -1.3
	comp=Z,2.1nm,0.6s,mb3.9,baz=141,slow=9.7,SNR=39							
TXAR						PcP	PcP	06 47 25.1 +1.0
	comp=Z,0.5nm,0.8s,baz=151,slow=5.7,SNR=4.4							
TXAR	Lajitas Array	26.67	321		P	P	P	06 43 59.2 -1.3
TXAR						PcP	PcP	06 47 25.1 +1.0
MNTX	Cornudas Mount	29.38	322		*e*P	P	P	06 44 22.5 -2.1
	comp=Z,1.6nm,0.6s,mb3.9							
ANMO	Albuquerque	32.32	325		P	P	P	06 44 50.0 -0.6
	comp=Z,1.0nm,0.6s,mb3.8,baz=136,slow=7.3,SNR=6.2							
WUAZ	Wupatki	35.63	321		*e*P	P	P	06 45 19.7 +0.3
	comp=Z,6.6nm,1.0s,mb4.5							
GLA	Glamis	36.45	315		*e*P	P	P	06 45 27.7 +1.3
SRU	San Rafael	37.56	326		*e*P	P	P	06 45 33.9 -2.0
	comp=Z,2.6nm,0.5s,mb4.2							
PFO	Pinyon Flat Ob	37.90	314		P	P	P	06 45 40.3 +1.6
	comp=Z,3.2nm,0.6s,mb4.3,baz=142,slow=6.1,SNR=12							
PDAR	Pinedale Array	39.75	331		P	P	P	06 45 54.0 -0.2
	comp=Z,0.4nm,0.6s,mb3.3,baz=130,slow=11,SNR=3.4							
PDAR						PcP	PcP	06 48 00.3 -0.2
	comp=Z,0.6nm,0.8s,baz=134,slow=2.6,SNR=4.2							
HWUT	Hardware Ranch	39.90	328		*e*P	P	P	06 45 55.0 -0.4
	comp=Z,2.6nm,0.6s,mb4.1							
NVAR	Mina Array Bea	41.80	319		P	P	P	06 46 12.3 +1.1
	comp=Z,5.0nm,0.7s,mb4.2,baz=136,slow=6.5,SNR=31							
NVAR						PcP	PcP	06 48 08.6 +1.4
	comp=Z,0.8nm,0.6s,baz=154,slow=2.6,SNR=4.4							
NVAR	Mina Array Bea	41.80	319		P	P	P	06 46 12.3 +1.1
NVAR						PcP	PcP	06 48 08.6 +1.4
PPT	Papeete	69.57	247		*e*LR	LR	LR	06 49 28.5
	comp=Z,122nm,25.0s							
TBI	Tubuai	71.28	241		*e*LR	LR	LR	06 49 16.0
	comp=Z,161nm,30.0s							
ESDC	Sonseca Array	76.84	51		P	P	P	06 50 12.7 -0.9
	comp=Z,2.7nm,0.6s,mb4.3,baz=282,slow=5.6,SNR=9.4							
TORD	Torodi Ar. Bea	84.31	78		P	P	P	06 50 53.2 -0.4
	comp=Z,0.7nm,0.7s,mb3.9,baz=288,slow=5.0,SNR=8.2							
TORD	Torodi Ar. Bea	84.31	78		P	P	P	06 50 53.2 -0.4
NOA	NORSAR Array B	84.62	29		P	P	P	06 50 52.9 -2.3
	comp=Z,0.3nm,0.7s,mb3.5,baz=284,slow=4.9,SNR=3.6							
CLL	Collm	87.42	39		*i* P		P	06 51 07.6 -1.4
	comp=Z,7.0nm,0.6s,mb5.1							
BRG	Bergqiesshubel	88.09	39		*e*P	P	P	06 51 11.2 -1.0
	comp=Z,2.6nm,0.9s,mb4.5							
GERES	GERESS Array B	88.38	41		P	P	P	06 51 11.4 -2.2
	comp=Z,0.5nm,0.2s,mb4.3,baz=251,slow=4.1,SNR=7.6							
ASAR	Alice Springs	140.63	244		PKP	PKPdf		06 57 51.3 +0.1
	comp=Z,0.4nm,0.7s,baz=92,slow=2.5,SNR=4.3							
WRA	Warramunga Arr	141.01	250		PKP	PKPdf		06 57 50.2 -1.7
	comp=Z,0.8nm,0.7s,baz=98,slow=2.3,SNR=7.2							

*TRN **08** 06:48:59.3, 1887N×6331W, h95km*
*NEIC **08** 06:49:01.9, 1904N×6342W, h92km, MD3.7(RSPR), After RSPR.*

RSPR 08 06:49:01.9, 1904N×6342W, h92km±15km, MD3.7/8, MD3.7/8, 8C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.29	242	⇑	*e*P		Pn	06 49 24.1	-0.9
STVI	Saint Thomas	1.60	245	⇑	*e*P		Pn	06 49 29.0	0.0
MTP	Monte Pirata	2.23	246	⇑	*e*P		Pn	06 49 36.8	-0.3
MTP						*e*S	Sn	06 50 04.5	+0.4
CBYP	Canovanas	2.43	252	⇑	*e*P		Pn	06 49 39.2	-0.6
CBYP						*e*S	Sn	06 50 09.1	+0.2
HUMP	Col San Antoni	2.47	249	⇑	*e*P		Pn	06 49 40.0	-0.2
HUMP						*e*S	Sn	06 50 09.6	-0.1
CPD	Cerro la Pandu	2.57	248	⇑	*e*P		Pn	06 49 40.2	-1.4
SJG	San Juan	2.75	251	⇑	*e*P		Pn	06 49 45.5	+1.5
AOPR	Arecibo Observ	3.23	258	⇓	*e*P		Pn	06 49 51.6	+1.1
AOPR						*e*S	Sn	06 50 27.8	-0.3
LSP	Las Mesas	3.58	257	⇓	*e*P		Pn	06 49 55.3	+0.1
CRPR	Cabo Rojo, PR	3.65	254	⇑	*e*P		Pn	06 49 56.1	0.0

*IDC **08** 07:02:02.9±8.2, 633S×15096E, h100km±55km, mb3.5/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/20, Error ellipse: s-maj=92.1km s-min=55.5km az=126.0*

NEIC 08 07:01:48.2±2.0, 636S×15171E, h10km, mb4.2/2, Error ellipse: s-maj=65.5km s-min=27.9km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.42	236		P		Pn	07 03 12.5	+3.4
	1.1nm,0.3s,baz=124,slow=3.6,SNR=3.8								
PMG						S	Sn	07 04 10.3	-1.3
	2.8nm,0.3s,baz=204,slow=23,SNR=3.9								
PMG	Port Moresby	5.42	236		*e*Pn		Pn	07 03 10.6	+1.5
PMG						S	Sn	07 04 10.3	-1.3
PMG					*e*Sn		Sn	07 04 11.8	+0.1
HNR	Honiara	8.71	111		LR		LR	07 07 13.1	
	comp=Z,38nm,18.7s,baz=177,slow=33								
KAKA	Kakadu	20.01	250		*e*P		P	07 06 21.0	0.0
	6.1nm,0.6s								
WB2	Warramunga Arr	21.59	230		*e*P		P	07 06 37.5	-0.7
WRA	Warramunga Arr	21.60	230		P		P	07 06 38.3	0.0
	1.4nm,0.4s,baz=53,slow=11,SNR=10								
ASAR	Alice Springs	24.27	223		P		P	07 07 06.0	+0.6
	0.9nm,0.5s,baz=54,slow=9.3,SNR=22								
FITZ	Fitzroy Crossi	27.97	243		*e*P		P	07 07 39.4	+0.4
	2.4nm,0.4s								
FITZ	Fitzroy Crossi	27.97	243		P		P	07 07 38.9	-0.1
	1.3nm,0.4s,baz=55,slow=8.9,SNR=16								
TORD	Torodi Ar. Bea	149.71	285		PKPbc		PKPbc	07 21 40.2	+2.0
	1.3nm,0.6s,baz=68,slow=2.9,SNR=10								
TORD	Torodi Ar. Bea	149.71	285		PKPbc		PKPbc	07 21 40.2	+2.0

IDC 08 07:14:36.2±9.5, 643S×15128E, h75km±68km, mb3.5/2, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/19, Error ellipse: s-maj=103.9km s-min=59.3km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.04	234		P		Pn	07 15 49.8	+0.6
	1.2nm,0.3s,baz=51,slow=9.2,SNR=3.5								
PMG					S		Sn	07 16 46.6	+0.6
	2.8nm,0.3s,baz=150,slow=14,SNR=4.2								
WRA	Warramunga Arr	21.24	229		P		P	07 19 16.0	+0.1
	2.4nm,0.8s,baz=56,slow=11,SNR=9.1								
DZM	Mont Dzumac	21.37	138		LR		LR	07 25 55.4	
	comp=Z,105nm,20.4s,baz=49,slow=32								
ASAR	Alice Springs	23.93	222		P		P	07 19 43.9	+0.7
	2.6nm,0.9s,baz=55,slow=9.2,SNR=16								
TORD	Torodi Ar. Bea	149.31	285		PKPbc		PKPbc	07 34 16.8	+0.5
	1.1nm,0.7s,baz=70,slow=2.7,SNR=8.8								

IDC 08 07:15:01.6±2.1, 685S×12881E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=90.4km s-min=28.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.60	195		Pn		Pn	07 17 48.4	-0.1
	1.2nm,0.3s,baz=22,slow=11,SNR=56								
FITZ					Sn		Sn	07 19 46.6	-12
	0.9nm,0.3s,baz=156,slow=18,SNR=4.2								
WRA	Warramunga Arr	14.08	158		Pn		Pn	07 18 22.1	-0.3
	0.5nm,0.3s,baz=341,slow=12,SNR=7.6								
WRA					Sn		Sn	07 20 45.0	-14
	1.2nm,0.3s,baz=329,slow=22,SNR=9.6								
ASAR	Alice Springs	17.43	164		P		Pn	07 19 07.0	+0.9
	0.3nm,0.3s,baz=336,slow=9.7,SNR=17								
ASAR					S		Sn	07 22 06.0	-15
	0.4nm,0.3s,baz=317,slow=20,SNR=6.3								
MKAR	Makanchi Array	67.45	327		P		P	07 25 59.4	+0.2
	0.6nm,0.5s,baz=135,slow=6.0,SNR=5.5								

*MOS **08** 07:27:38.2±0.9, 392N×12240E, h570km, mb4.8/16, Error ellipse: s-maj=15.5km s-min=7.4km az=115.2*
*ISCJB **08** 07:27:40.7±0.3, 383N±003×12246E±004, h604km±4km, mb4.7/68, Error ellipse: s-maj=6.4km s-min=4.2km az=125.1*
*NEIC **08** 07:27:41.9±0.5, 386N×12241E, h601km±6km, mb4.8/26, Error ellipse: s-maj=8.2km s-min=4.3km az=60.0*
*BJI **08** 07:27:41.9, 390N×12240E, h600km, mB5.2, mb4.7*
*IDC **08** 07:27:42.1±0.8, 382N×12240E, h603km±9km, mb4.0/31, mb1 4.0/31, mb1mx4.0/33, mbtmp4.0/31, Error ellipse: s-maj=11.2km s-min=5.5km az=66.0*

ISC 08 07:27:41.7±0.3, 384N±003×12247E±004, h595km±3km, n163, σ1§05/173, mb4.8/67, 13C-12D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	3.79	28	⇑	*i*P	P		07 29 05.7	+0.4
CTBH	Cotabato--PC H	3.79	28		*i* S	P		07 29 10.7	+5.4
KCP	Kidapawan	4.09	39	⇑	*i*P	P		07 29 08.2	+0.9
KCP	Kidapawan	4.09	39	⇑	*i*P	S		07 30 22.8	+5.6
DAV	Davao City (W)	4.46	44	⇓	*e*P	P		07 29 10.0	+0.1
DAV	Davao City (W)	4.46	44		*e*Pn	P		07 29 10.2	+0.2
TSM	Tawau	4.61	276		P	P		07 29 11.2	+0.1
BUKP	Musuan	4.77	33		*e*P	P		07 29 12.6	+0.3
MATI	Mati	4.87	50		*e*P	S		07 30 17.8	-10
TARAI	Tarakan	4.92	264		P	P		07 29 13.3	-0.2
	4µm,0.9s								
PCI	Palu	5.40	209		P	P		07 29 15.7	-1.7
	1µm,1.2s								
TBP	Tagbilaran	5.98	13		*e*P	P		07 29 22.4	+0.2
TBP					*e*S	S		07 30 43.1	-1.4
KKM	Kota Kinabalu	6.61	290		P	P		07 29 27.7	-0.1
KKM	Kota Kinabalu	6.61	290		*e*P	P		07 29 27.3	-0.6
KKM					*e*S	S		07 30 52.1	-2.7
SCPH	Surigao	6.62	27	⇓	*e*P	P		07 29 27.5	-0.4
	216µm,92.0s								
MSLP	Maasin	6.69	21		*e*P	P		07 29 28.3	-0.3
GUIM	Jordan	6.75	1		*e*P	P		07 29 28.4	-0.7
BATP	Bataraza	6.77	317		*e*P	P		07 29 28.7	-0.5
PPR	Puerto Princes	6.97	328	⇓	*i*P	P		07 29 31.9	+0.8
SWI	Sorong	9.95	118		P	P		07 30 00.5	+0.8
	104nm,0.3s								
LUBP	Lubang	10.08	348		*e*P	P		07 30 01.4	+0.4
KSM	Kuching	12.38	259		*e*P	P		07 30 23.6	-0.4
BAKI	Biak	14.51	110		P	P		07 30 44.4	-1.1
	599nm,1.0s								
BJII	Banjarnegara	16.89	229		P	P		07 31 08.4	+1.1
	254nm,1.8s								
LEM	Lembang	18.23	234		P	P		07 31 20.8	+1.3
	133nm,1.2s								
KAKA	Kakadu	19.19	149	⇑	*i*P	P		07 31 28.3	+0.1
	69nm,0.5s								
QIZ	Qiongzhong	19.50	322	⇓		P		07 31 32.2	+1.2
QIZ						XP	sP	07 34 01.6	+1.7
QIZ						S	S	07 34 38.2	+1.5
QIZ						SCP	ScP	07 38 00.1	-2.8
QIZ						AMB	AMB		
	comp=Z,31nm,1.5s								
QIZ						AMB	AMB		
	comp=Z,291nm,4.3s								
QIZ	Qiongzhong	19.50	322		*e*P	P		07 31 31.6	+0.6
	comp=Z,9.7nm,0.7s								
SNG	Songkhla	22.00	280		P	P		07 31 54.0	+0.5
FITZ	Fitzroy Crossi	22.02	172	⇓	*i*P	P		07 31 53.5	-0.2
	comp=Z,25nm,0.8s,mb4.9								
FITZ					*e*			07 38 08.7	
FITZ	Fitzroy Crossi	22.02	172		P	P		07 31 53.8	+0.2
	comp=Z,15nm,0.8s,mb4.7,baz=359,slow=7.8,SNR=34								
FITZ						ScP	ScP	07 38 08.6	-0.5
	comp=Z,5.1nm,0.6s,baz=262,slow=1.5,SNR=9.1								
PPI	Padang Panjang	22.47	260		P	P	P	07 31 57.0	-0.7
	comp=Z,59nm,0.8s,mb5.3								
JOW	Kunigami	23.53	13		P	P		07 32 07.7	+0.6
	comp=Z,26nm,0.5s,mb5.1,baz=218,slow=9.8,SNR=14								
PSI	Prapat	23.53	268		P	P		07 32 06.4	-0.7
	comp=Z,24nm,0.8s,mb4.9,baz=76,slow=4.1,SNR=27								
PSI						PcP	PcP	07 35 30.8	+0.2
	comp=Z,1.0nm,0.3s,baz=129,slow=6.5,SNR=3.8								
PSI						ScP	ScP	07 38 12.3	-0.9
	comp=Z,8.6nm,0.8s,baz=175,slow=1.2,SNR=10								
PSI	Prapat	23.53	268		P	P		07 32 06.4	-0.7
PSI								07 35 30.8	
NANT	Nan	25.96	307	⇓	P	P		07 32 27.0	-1.5
	comp=Z,675nm,0.7s								
WRAB	Tennant Creek	26.35	154		*c* *i*P	P		07 32 31.7	-0.2
WRAB	Tennant Creek	26.35	154		*e*P	P		07 32 31.8	-0.1
	comp=Z,20nm,0.4s,mb5.1								
WRA	Warramunga Arr	26.35	154		P	P		07 32 31.8	-0.1
	comp=Z,25nm,0.3s,mb5.3,baz=338,slow=9.5,SNR=390								
WRA						PcP	PcP	07 35 38.0	+0.9
	comp=Z,1.9nm,0.6s,baz=304,slow=4.8,SNR=4.5								
WRA						S	S	07 36 20.4	-4.0
	comp=Z,8.8nm,0.7s,baz=336,slow=15,SNR=11								
WRA						ScP	ScP	07 38 20.5	-0.8
	comp=Z,6.7nm,0.5s,baz=339,slow=3.1,SNR=19								
WRA						ScS	ScS	07 42 09.7	-3.0
	comp=Z,0.6nm,0.8s,baz=313,slow=4.8,SNR=4.7								
WRA	Warramunga Arr	26.35	154		P	P		07 32 31.8	-0.1
WRA								07 35 38.0	
WRA						S	S	07 36 20.4	-4.0
WRA								07 42 09.7	
WB2	Warramunga Arr	26.36	154	⇑	*i*P	P		07 32 31.8	-0.2
WB2						*e*S	S	07 36 20.6	-3.9
WB2					*e*			07 38 20.5	
BDT	Bhumibol Dam	26.59	302		P	P		07 32 35.0	+0.9
CHTO	Chiang Mai	27.39	305		*e*P	P		07 32 41.7	+0.7
CHTO					pmax	pmax			
	comp=Z,38nm,1.1s,mb4.9								
CHTO	Chiang Mai	27.39	305		*e*P	P		07 32 41.7	+0.6
	comp=Z,38nm,1.1s,mb4.9								
PMG	Port Moresby	27.90	118		P	P		07 32 45.9	+0.5
	comp=Z,42nm,0.5s,mb5.3,baz=337,slow=3.7,SNR=20								
PMG	Port Moresby	27.90	118		*c* *i*P	P		07 32 45.6	+0.2
PMG	Port Moresby	27.90	118		*e*P	P		07 32 45.7	+0.3
	comp=Z,59nm,0.8s,mb5.3								
NJ2	Nanjing	28.27	354		*e*P	P		07 32 50.3	+1.6
NJ2						XP	sP	07 35 34.8	+2.8
NJ2						S	S	07 36 57.0	+2.8
NJ2						AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0								
NJ2						AMB	AMB		
	comp=Z,270nm,4.3s								
KMI	Kunming	28.43	320		P	P	P	07 32 51.6	+1.6
KMI						AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5								
KMI	Kunming	28.43	320		P	P	P	07 32 51.6	+1.6
	comp=Z,17nm,1.2s,mb4.5								
AS31	Alice Springs	29.52	158		*e*P	P	P	07 33 00.0	+0.6
AS31					*i* S	S	S	07 37 12.0	-1.5
AS31					*e*			07 38 30.6	
AS31					*e*ScS	ScS	ScS	07 42 24.0	-3.4
ASPA	Alice Springs	29.52	158		*e*P	P	P	07 33 00.0	+0.6
ASPA					*i* S	S	S	07 37 12.0	-1.5
ASPA					*e*			07 38 30.6	
ASPA					*e*SCS	ScS	ScS	07 42 24.0	-3.4
ASAR	Alice Springs	29.52	158		P	P	P	07 33 00.1	+0.7
	comp=Z,13nm,0.6s,mb4.8,baz=334,slow=7.2,SNR=225								
ASAR						PcP	PcP	07 35 45.5	+0.4
	comp=Z,3.0nm,0.5s,baz=342,slow=3.0,SNR=8.0								
ASAR						S	S	07 37 12.2	-1.3
	comp=Z,16nm,0.7s,baz=329,slow=13,SNR=37								
ASAR						ScP	ScP	07 38 30.5	-0.7
	comp=Z,12nm,0.6s,baz=341,slow=2.8,SNR=24								
ASAR						ScS	ScS	07 42 24.1	-3.3
	comp=Z,1.0nm,0.6s,baz=352,slow=6.3,SNR=6.8								
ASAR	Alice Springs	29.52	158		P	P	P	07 33 00.2	+0.7
ASAR								07 35 45.5	
ASAR						S	S	07 37 12.2	-1.3
ASAR								07 42 24.2	
CBIJ	Chichi jima	29.83	37		P	P	P	07 33 01.4	-0.7
	comp=Z,113nm,0.4s,baz=87,slow=22,SNR=11								
CD2	Chengdu	32.20	329		*e*P	P		07 33 23.0	+0.7
CD2						XP	sP	07 36 09.9	+2.7
CD2						S	S	07 37 57.6	+3.2
CTA	Charters Tower	33.33	136	⇑	*i*P	P	P	07 33 33.3	+1.5
	comp=Z,16nm,1.4s,mb4.5								
CTA					*e*			07 38 44.1	
CTA	Charters Tower	33.33	136		P	P	P	07 33 33.5	+1.7
	comp=Z,12nm,0.8s,mb4.6,baz=313,slow=9.8,SNR=16								
CTA						ScP	ScP	07 38 44.4	+0.2
	comp=Z,3.9nm,0.8s,baz=342,slow=5.5,SNR=4.9								
CTA	Charters Tower	33.33	136	⇑	*i*P	P	P	07 33 33.3	+1.5
CTA						pmax	pmax		
	comp=Z,16nm,1.4s								
CTAO	Charters Tower	33.33	136		*e*P	P	P	07 33 33.4	+1.6
CTAO						pmax	pmax		
	comp=Z,35nm,1.3s,mb4.8								
CTAO	Charters Tower	33.33	136		*e*P	P	P	07 33 33.4	+1.5
	comp=Z,34nm,1.3s,mb4.8								
KSRS	Korea Array	33.83	8		P	P	P	07 33 37.0	+1.0
	comp=Z,11nm,0.7s,mb4.6,baz=185,slow=9.9,SNR=21								
KSRS						ScP	ScP	07 38 46.4	+0.4
	comp=Z,2.6nm,0.9s,baz=153,slow=2.9,SNR=4.6								
FORT	Forrest	34.83	172		*e*P	P	P	07 33 44.8	+0.5
	comp=Z,80nm,0.5s,mb5.6								
KLBR	Kellerberrin	35.52	187		*e*P	P	P	07 33 49.9	-0.1
	comp=Z,46nm,0.5s,mb5.3								
MAJO	Matsushiro	35.62	22		*e*P	P	P	07 33 49.9	-1.0
MAJO						pmax	pmax		
	comp=Z,49nm,1.3s,mb4.9								
MAJO	Matsushiro	35.62	22		*e*P	P	P	07 33 49.9	-1.0
	comp=Z,49nm,1.3s,mb4.9								
MAT	Matsushiro	35.62	22		P	P	P	07 33 49.8	-1.1
MJAR	Matsushiro Arr	35.62	22		P	P	P	07 33 49.9	-1.0
	comp=Z,17nm,0.8s,mb4.6,baz=196,slow=8.4,SNR=28								
MJAR						ScP	ScP	07 38 53.0	+0.4

comp=Z,57nm,1.5s,mb4.9
BHPL Bhopal 47.59 298 *e*P **P 07 35 24.9 +0.2**
BHPL AMb AMB 07 35 25.7
comp=Z,54nm,0.3s,mb5.6
ZAK Zakamensk 49.13 344 *e*P **P 07 35 35.4 -0.8**
KAD Karad 49.17 290 *e*P **P 07 35 35.7 -0.8**
KAD AMb AMB 07 35 36.6
comp=Z,31nm,0.5s,mb5.0
POO Poona 49.70 291⇑ *i*P **P 07 35 38.0 -2.4**
comp=Z,70nm,1.0s,mb5.0
DZM Mont Dzumac 50.11 123 P **P 07 35 45.3 +1.9**
comp=Z,6.3nm,0.5s,mb4.3,baz=308,slow=6.9,SNR=28
THN Thein Dam 52.15 309 *e*P **P 07 35 57.4 -0.7**
BOD Bodaibo 54.24 354 *e*P **P 07 36 12.1 -0.8**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
MK31 Makanchi Array 55.11 327 *e*P **P 07 36 19.1 +0.2**
MK31 *e* 07 37 10.5
MKAR Makanchi Array 55.11 327 P **P 07 36 18.9 0.0**
comp=Z,16nm,0.4s,mb4.7,baz=124,slow=7.9,SNR=165
MKAR PcP PcP 07 37 10.5 -0.5
comp=Z,8.6nm,0.6s,baz=126,slow=4.3,SNR=15
MKAR ScP ScP 07 40 11.9 -1.2
comp=Z,4.2nm,0.6s,baz=128,slow=5.1,SNR=10
MKAR Makanchi Array 55.11 327 P **P 07 36 18.9 0.0**
MKAR 07 37 10.5
ULHL Ulahol 56.15 320 P **P 07 36 27.0 +0.9**
SNR=12
KZA Kyzart 56.71 319 P **P 07 36 31.3 +1.4**
SNR=21
TKM2 Tokmak 2 56.90 320 P **P 07 36 31.9 +0.7**
SNR=20
KBK Karagaybulak 57.19 320 P **P 07 36 34.2 +1.1**
SNR=7.4
UCH Uchtor 57.26 319 P **P 07 36 35.3 +1.6**
SNR=27
AAK Ala-Archa 57.47 319 P **P 07 36 36.0 +0.9**
SNR=12
AAK Ala-Archa 57.47 319 *e*P **P 07 36 34.9 -0.2**
AAK *e* 07 37 19.6
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.1
AAK Ala-Archa 57.47 319 *e*P **P 07 36 34.9 -0.2**
comp=Z,12nm,0.9s,mb4.1
AAK *e*PcP PcP 07 37 19.6 -0.7
AML Almayashu 57.76 319 P **P 07 36 38.3 +1.3**
SNR=26
USP Ospenovka 57.77 320 P **P 07 36 37.5 +0.4**
SNR=18
EKS2 Erkin-Say 57.95 319 P **P 07 36 38.9 +0.6**
SNR=15
YAK Yakutsk 58.31 4⇑ *e*P **P 07 36 39.7 -1.0**
YAK pmax pmax
comp=Z,26nm,0.7s,mb4.5
ZAL Zalesovo 58.63 335 P **P 07 36 42.1 -0.8**
comp=Z,6.0nm,0.3s,mb4.1,baz=349,slow=5.7,SNR=19
NVS Novosibirsk 59.92 335⇓ *i*P **P 07 36 49.6 -1.8**
NVS *e*S **S 07 44 14.5 -4.2**
NVS pmax pmax
comp=Z,13nm,0.7s,mb4.3
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,13nm,0.9s
NVS smax
comp=N,24nm,1.7s
NVS smax
comp=E,29nm,1.7s
RPZ Rata Peaks 64.35 143 P **P 07 37 20.2 +0.1**
comp=E,8.1nm,0.5s,mb4.3,baz=145,slow=23,SNR=5.4
WSAR Wadi Sarin 64.49 294 P **P 07 37 20.2 -0.7**
comp=E,6.9nm,0.7s,mb4.1,baz=108,slow=5.9,SNR=12
BVAR Borovoye Array 64.95 328 P **P 07 37 23.2 -0.6**
comp=E,14nm,0.9s,mb4.4,baz=139,slow=7.9,SNR=41
BRVK Borovoye 65.03 328 *e*P **P 07 37 23.4 -0.9**
BRVK pmax pmax
comp=Z,20nm,1.0s,mb4.5
BRVK Borovoye 65.03 328 *e*P **P 07 37 23.4 -0.9**
comp=Z,20nm,1.0s,mb4.5
SNZO South Karori 65.38 139 *e*P **P 07 37 26.2 -0.3**
comp=Z,103nm,1.2s,mb5.1
URZ Urewera 65.57 135 P **P 07 37 27.8 +0.1**
comp=Z,14nm,0.5s,mb4.7,baz=262,slow=7.4,SNR=13
TIXI Tiksi 67.84 2⇓ *i*P **P 07 37 40.5 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.1
CASY Casey 70.48 185 *e*P **P 07 37 56.9 -0.5**
BILL Bilibino 70.58 16 *i*P **P 07 37 59.1 +1.1**
AKTK Aktyubinsk 70.96 322 P **P 07 37 59.8 -0.4**
AKTO Aktyubinsk 70.96 322 P **P 07 37 59.8 -0.4**
comp=Z,13nm,0.5s,mb4.8,baz=107,slow=8.0,SNR=66
ARU Arti 72.60 328⇓ *i*P **P 07 38 08.3 -1.4**
ARU *e* 07 38 21.2
ARU *e* 07 40 59.5
ARU *e*PPP 07 42 48.2
ARU *e*S S 07 46 46.0 -1.7
ARU *e*SS SS 07 51 43.3 -0.2
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.5
ARU Arti 72.60 328 *e*P **P 07 38 08.6 -1.1**
comp=Z,12nm,0.9s,mb4.4
ORR Orenburg 73.27 323 *e*P **P 07 38 13.4 -0.2**
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.0
ATD Arta Tunnel 79.09 281 P **P 07 38 46.5 +1.1**
comp=Z,17nm,0.8s,mb4.4,baz=217,slow=21,SNR=7.4
MAW Mawson 82.41 199 *e*P **P 07 39 02.2 -0.3**
comp=Z,2.2nm,0.6s,mb3.9
MAW Mawson 82.41 199 P **P 07 39 02.3 -0.2**
comp=Z,2.0nm,0.5s,mb3.9,baz=65,slow=4.9,SNR=8.6
ANN Anapa 83.79 314 *e*P **P 07 39 07.2 -2.2**
ANN pmax pmax
comp=Z,99nm,1.0s,mb5.3
VNDA Vanda 84.09 172 P **P 07 39 10.5 -0.4**
comp=Z,3.3nm,0.6s,mb4.0,baz=318,slow=6.0,SNR=51
VNDA Vanda 84.09 172 *e*P **P 07 39 10.3 -0.6**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 84.09 172 *e*P **P 07 39 10.3 -0.6**
comp=Z,4.2nm,0.9s,mb4.0
OBN Obninsk 84.53 325⇑ *i*P **P 07 39 11.5 -1.5**
OBN pmax pmax
comp=Z,24nm,1.1s,mb4.7
KMBO Kilima Mbogo 85.31 269 *e*P **P 07 39 18.0 +1.2**
KMBO pmax pmax
comp=Z,45nm,1.5s
KMBO Kilima Mbogo 85.31 269 *e*P **P 07 39 18.0 +1.2**
comp=Z,45nm,1.5s,mb4.9
MMAI Mount Meron Ar 85.47 303 P **P 07 39 18.0 +0.4**
comp=Z,4.1nm,0.5s,mb4.3,baz=80,slow=6.9,SNR=8.4
BRTR Keskin Array B 86.68 309 P **P 07 39 21.9 -1.4**
comp=Z,1.3nm,0.8s,mb3.7,baz=122,slow=6.2,SNR=6.0
JOF Joensuu 87.14 333 *e*p **P 07 39 22.8 -2.7**
comp=Z,12nm,0.6s,mb4.8
JOF Joensuu 87.14 333 *e*P **P 07 39 22.8 -2.7**
JOF pmax pmax
comp=Z,12nm,0.6s,mb4.8
ARCES ARCESS Array B 88.87 340 P **P 07 39 31.7 -1.8**
comp=Z,3.8nm,0.7s,mb4.3,baz=80,slow=6.7,SNR=13
AKASG Malin Array Be 89.12 321 P **P 07 39 32.8 -1.9**
comp=Z,2.9nm,0.7s,mb4.2,baz=72,slow=4.3,SNR=9.0
KAF Kangasniemi 89.53 332 *e*p **P 07 39 34.5 -2.0**
baz=78,slow=4.3
FINES FINESS Array B 89.72 331 P **P 07 39 35.2 -2.2**
comp=Z,3.0nm,0.7s,mb4.3,baz=49,slow=5.8,SNR=16
SYO Syowa Base 91.00 201⇑ *e*P **P 07 39 42.2 -1.2**
NOA NORSAR Array B 96.78 333 P **P 07 40 07.9 -1.7**
comp=Z,0.9nm,0.8s,mb4.0,baz=76,slow=4.2,SNR=2.8
GERES GERESS Array B 99.33 321 P Pdif 07 40 21.0 0.0
comp=Z,0.2nm,0.2s,baz=96,slow=6.0,SNR=4.7
VNA2 Neumayer--Watz 105.85 195 *e*Pdiff Pdif 07 40 46.3 -3.6
baz=63,slow=16
VNA2 *e* 07 40 49.3
VNA2 *e* 07 40 53.7
TORD Torodi Ar. Bea 118.84 287 PKP PKPdf 07 45 23.2 -0.1
comp=Z,3.3nm,0.6s,baz=63,slow=1.7,SNR=27
TXAR Lajitas Array 124.84 50 PP PP 07 47 33.7 +1.0
comp=Z,0.4nm,1.0s,baz=259,slow=4.6,SNR=3.5
TXAR pPKP pPKPdf 07 47 54.5 +2.3
comp=Z,0.6nm,0.6s,baz=246,slow=3.5,SNR=8.7
TXAR SKP 07 48 15.2
comp=Z,0.6nm,0.6s,baz=321,slow=0.8,SNR=6.0
TGUH Tegucigalpa,Un 145.55 58 *e*PKPbc PKPbc 07 46 16.0 +1.5

NEIC ***08*** *07:33:34.1±1.1, 6.17S×151.73E, h10km, mb4.5/2, Error ellipse: s-maj=31.2km s-min=19.8km az=133.0*
ISCJB ***08*** *07:33:41.9±5.1, 6.4S±03.4×151.4E±02.0, h67km±35km, mb4.0/6, Error ellipse: s-maj=58.2km s-min=36.3km az=144.5*
IDC ***08*** *07:33:43.1±8.2, 6.41S×151.41E, h65km±62km, mb3.9/5, mb1 4.1/6, mb1mx3.8/15, mbtmp3.9/6, ML2.9/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/21, Error ellipse: s-maj=53.2km s-min=40.3km az=71.0*

ISC 08 07:33:43.2±5.1, 65S±04×1515E±02, h62km±34km, n13, σ0°52/9, mb4.0/6, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.18**	**235**	P		**Pn**	**07 34 58.1**	**+0.1**
	2.8nm,0.3s,baz=295,slow=6.1,SNR=4.0							
PMG				S		**Sn**	**07 35 56.0**	**-0.4**
	1.4nm,0.3s,baz=358,slow=23,SNR=3.7							
PMG				LR		LR	07 36 37.2	
	comp=Z,90nm,21.6s,baz=181,slow=34							
HNR	**Honiara**	**8.91**	**110**	LR		LR	07 39 04.0	
	comp=Z,130nm,18.2s,baz=181,slow=36							
KAKA	**Kakadu**	**19.75**	**250**⇑	*i*P		**Pn**	**07 38 01.7**	**-8.2**
	19nm,0.6s							
DZM	**Mont Dzumac**	**21.22**	**139**	LR		LR	07 45 04.0	
	comp=Z,195nm,20.2s,baz=11,slow=32							
WRA	**Warramunga Arr**	**21.36**	**230**	P		**P**	**07 38 26.1**	**+0.8**
	6.3nm,1.0s,mb3.9,baz=53,slow=9.9,SNR=13							
ASAR	**Alice Springs**	**24.04**	**223**	P		**P**	**07 38 52.9**	**+0.6**
	8.2nm,0.9s,mb4.2,baz=59,slow=9.1,SNR=14							
STKA	**Stephens Creek**	**26.92**	**199**	P		**P**	**07 39 18.8**	**+0.3**
	4.6nm,0.9s,mb4.0,baz=12,slow=11,SNR=3.9							
FITZ	**Fitzroy Crossi**	**27.72**	**243**	P		**P**	**07 39 25.3**	**-0.3**
	2.8nm,0.4s,mb4.2,baz=51,slow=7.9,SNR=12							
MBWA	**Marble Bar**	**34.01**	**241**	*e*P		**P**	**07 40 20.7**	**-0.3**
	2.7nm,0.5s,mb4.4							
JNU	**Nakatsue**	**43.95**	**335**	LR		LR	07 57 17.1	
	comp=Z,168nm,21.2s,baz=86,slow=32							
VNDA	**Vanda**	**71.24**	**178**	P		**P**	**07 44 54.8**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=6.8,slow=7.1,SNR=3.6							
MDT	**Midelt**	**145.60**	**323**	PKPbc		PKPbc	07 53 14.7	+0.1
	2.4nm,0.8s,baz=44,slow=4.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**149.50**	**285**	PKPbc		PKPbc	07 53 24.8	-0.5
	2.8nm,0.8s,baz=72,slow=2.4,SNR=16							

ISCJB ***08*** *08:03:10.3±0.3, 4020N±001×11825W±002, h10km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=132.3*
NEIC ***08*** *08:03:10.9, 4021N×11826W, h10km, ML3.7(REN), After REN.*

ISC 08 08:03:10.8±0.3, 4020N±001×11825W±002, h10km±2km, n79, σ0°89/125, 37C-42D, Nevada

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
O08A	**Rochester Mine**	**0.12**	**37**	P		**Pg**	**08 03 14.1**	**+0.5**
	baz=0.1,SNR=1000							
O08A				⇓S		**Sg**	**08 03 16.2**	**+0.6**
	baz=0.1							
O07A	**Toulon**	**0.48**	**266**	⇑P		**Pg**	**08 03 20.6**	**+0.3**
	baz=0.5,SNR=1000							
O07A				⇑S		**Sg**	**08 03 27.3**	**+0.6**
	baz=0.5							
P08A	**Dixie Valley**	**0.52**	**166**	⇓P		**Pg**	**08 03 21.7**	**+0.8**
	baz=0.5,SNR=340							
P08A				⇑S		**Sg**	**08 03 29.5**	**+1.8**
	baz=0.5							
N08A	**GE Springer Mi**	**0.59**	**8**	⇓P		**Pg**	**08 03 22.2**	**0.0**
	baz=0.6,SNR=778							
N08A				⇑S		**Sg**	**08 03 29.9**	**-0.2**
	baz=0.6							
N07B	**Gerlach**	**0.80**	**317**	P		**Pg**	**08 03 26.4**	**0.0**
	baz=0.8,SNR=1000							
N07B				⇓S		**Sg**	**08 03 37.3**	**+0.5**
	baz=0.8							
O09A	**Fish Creek Ran**	**0.81**	**92**	⇑P		**Pg**	**08 03 26.5**	**0.0**
	baz=0.8,SNR=1000							
O09A				⇑S		**Sg**	**08 03 37.7**	**+0.7**
	baz=0.8							
BMN	**Battle Mountai**	**0.82**	**73**	*e*Pg		**Pg**	**08 03 26.4**	**-0.2**
BMN				*e*Sg		**Sg**	**08 03 37.0**	**-0.3**
P07A	**Fallon**	**0.82**	**217**	⇑P		**Pg**	**08 03 27.0**	**+0.4**
	baz=0.8,SNR=57							
P07A				⇓S		**Sg**	**08 03 38.9**	**+1.5**
	baz=0.8							
N09A	**Rock Creek Ran**	**0.86**	**40**	⇑P		**Pg**	**08 03 27.3**	**0.0**
	baz=0.9,SNR=1000							
N09A				⇓S		**Sg**	**08 03 38.8**	**+0.3**
	baz=0.9							
PAHR	**Pah Rah Range**	**1.00**	**241**	*e*Pg		**Pg**	**08 03 29.8**	**-0.3**
PAHR				*e*Sg		**Sg**	**08 03 43.3**	**+0.2**
P09A	**Austin**	**1.07**	**127**	⇑P		**Pg**	**08 03 31.0**	**-0.4**
	baz=1.1,SNR=308							
P09A				⇓S		**Sg**	**08 03 45.7**	**+0.4**
	baz=1.1							
O06A	**Flanigan**	**1.21**	**269**	⇓P		**Pn**	**08 03 33.3**	**-0.5**
	baz=1.2,SNR=35							
O06A				⇓S		**Sb**	**08 03 50.0**	**+0.4**
	baz=1.2							
M08A	**Happy Creek Ra**	**1.25**	**355**	P		**Pn**	**08 03 34.2**	**-0.3**
	baz=1.2,SNR=627							
M08A				⇑S		**Sb**	**08 03 51.5**	**+0.7**
	baz=1.2							
Q07A	**Schurz**	**1.33**	**199**	⇓P		**Pn**	**08 03 35.2**	**-0.2**
	baz=1.3							
Q07A				⇓S		**Sb**	**08 03 54.1**	**+1.1**
	baz=1.3							
N06A	**Buffalo Meadow**	**1.33**	**295**	P		**Pn**	**08 03 34.8**	**-0.7**
	baz=1.3,SNR=1000							
N06A				⇓S		**Sb**	**08 03 53.2**	**+0.2**
	baz=1.3							
Q08A	**Gabbs**	**1.36**	**170**	⇓P		**Pn**	**08 03 35.0**	**-0.8**
	baz=1.4,SNR=136							
Q08A				⇑S		**Sb**	**08 03 53.5**	**-0.2**
	baz=1.4							
M09A	**Marrel Ranch,**	**1.37**	**26**	⇑P		**Pn**	**08 03 35.5**	**-0.5**
	baz=1.4,SNR=36							
M09A				⇓S		**Sb**	**08 03 54.1**	**+0.1**
	baz=1.4							
P06A	**Stead Airport,**	**1.37**	**248**	⇑P		**Pn**	**08 03 35.1**	**-0.9**
	baz=1.4,SNR=57							
P06A				⇑S		**Sb**	**08 03 54.4**	**+0.2**
	baz=1.4							
N10A	**Dunphy**	**1.43**	**68**	⇑P		**Pn**	**08 03 35.5**	**-1.3**
	baz=1.4							
N10A				⇓S		**Sn**	**08 03 54.5**	**-1.0**
	baz=1.4							
WCN	**Washoe City**	**1.47**	**233**	⇓P		**Pn**	**08 03 36.4**	**-1.0**
	baz=1.5,SNR=133							
WCN				⇓S		**Sn**	**08 03 56.3**	**-0.4**
	baz=1.5							
P10A	**Eureka**	**1.49**	**112**	⇑P		**Pn**	**08 03 36.7**	**-0.9**
	baz=1.5,SNR=108							
P10A				⇑S		**Sn**	**08 03 56.5**	**-0.6**
	baz=1.5							
Q09A	**Carvers**	**1.59**	**148**	⇓P		**Pn**	**08 03 38.6**	**-0.4**
	baz=1.6							
Q09A				⇑S		**Sn**	**08 03 59.7**	**+0.1**
	baz=1.6							
BEKR	**Beckwourth**	**1.66**	**259**	⇑P		**Pn**	**08 03 39.2**	**-0.7**
	baz=1.6,SNR=58							
BEKR				⇑S		**Sn**	**08 04 00.6**	**-0.7**
	baz=1.6							
M10A	**I.L. Ranch, Tu**	**1.85**	**44**	⇓P		**Pn**	**08 03 42.2**	**-0.5**
	baz=1.9,SNR=141							
L09A	**Wilkinson Ranc**	**1.87**	**13**	⇑P		**Pn**	**08 03 43.1**	**+0.1**
	baz=1.9,SNR=24							
R06C	**Coleville**	**1.91**	**210**	⇓P		**Pn**	**08 03 42.9**	**-0.6**
	baz=1.9,SNR=34							
L08A	**Fields**	**1.99**	**358**	⇓P		**Pn**	**08 03 44.1**	**-0.5**
	baz=2.0,SNR=43							
N11A	**Elko Archery C**	**2.01**	**71**	P		**Pn**	**08 03 44.4**	**-0.5**
	baz=2.0,SNR=51							
N11A				⇓S		**Sn**	**08 04 09.5**	**-0.6**
	baz=2.0							
P05C	**Yuba Gap, Truc**	**2.03**	**245**	⇓P		**Pn**	**08 03 44.1**	**-0.9**
	baz=2.0,SNR=13							
P05C				⇓S		**Sn**	**08 04 10.1**	**-0.4**
	baz=2.0							
R05C	**Kirkwood Meado**	**2.06**	**224**	⇓P		**Pn**	**08 03 44.9**	**-0.5**
	baz=2.1							
O05C	**Quincy**	**2.06**	**264**	⇓P		**Pn**	**08 03 44.7**	**-0.9**
	baz=2.0							
O05C				⇑S		**Sn**	**08 04 11.4**	**+0.1**
	baz=2.0							
R09A	**Tonopah**	**2.16**	**155**	P		**Pn**	**08 03 47.0**	**+0.2**
	baz=2.2,SNR=52							
R09A				⇑S		**Sn**	**08 04 13.7**	**+0.1**
	baz=2.2							
O04C	**Chester**	**2.18**	**274**	⇓P		**Pn**	**08 03 47.1**	**0.0**
	baz=2.2,SNR=66							
R07C	**Lee Vining**	**2.19**	**197**	⇓P		**Pn**	**08 03 47.8**	**+0.4**
	baz=2.2,SNR=26							
M11A	**Holland Ranch,**	**2.23**	**56**	⇑P		**Pn**	**08 03 47.5**	**-0.4**
	baz=2.2,SNR=33							
M11A				⇓S		**Sn**	**08 04 15.0**	**-0.5**
	baz=2.2							
WVOR	**Wild Horse Val**	**2.25**	**353**	*e*Pn		**Pn**	**08 03 50.2**	**+2.0**
WVOR				*e*Sn		**Sn**	**08 04 21.3**	**+5.3**
TPH	**Tonopah**	**2.26**	**159**	*e*Pn		**Pn**	**08 03 51.7**	**+3.4**
TPH				*e*Sg		**Sg**	**08 04 23.8**	**+0.2**
MOD	**Modoc**	**2.31**	**318**	*e*Pn		**Pn**	**08 03 52.2**	**+3.3**
MOD				*e*Sg		**Sg**	**08 04 23.9**	**-1.1**
LAVA	**Lava Cap Winer**	**2.41**	**234**	⇑P		**Pn**	**08 03 49.8**	**-0.5**
	baz=2.4,SNR=10.0							
N12A	**Clover Valley,**	**2.53**	**74**	P		**Pn**	**08 03 51.8**	**-0.2**
	baz=2.5,SNR=13							
K09A	**Rome**	**2.53**	**9**	⇑P		**Pn**	**08 03 52.1**	**+0.1**
	baz=2.5,SNR=6.4							
K08A	**Mann Creek Ran**	**2.54**	**356**	⇓P		**Pn**	**08 03 52.2**	**+0.1**
	baz=2.5,SNR=37							
ORV	**Oroville**	**2.58**	**257**	⇑P		**Pn**	**08 03 52.5**	**-0.3**
	baz=2.6							
ORV				⇑S		**Sn**	**08 04 23.7**	**-0.5**
	baz=2.6							
K07A	**Rock Creek Ran**	**2.60**	**344**	⇓P		**Pn**	**08 03 53.0**	**0.0**
	baz=2.6,SNR=12							
S06C	**San Francisco**	**2.63**	**209**	⇑P		**Pn**	**08 03 53.4**	**+0.1**
	baz=2.6,SNR=14							
OHCM	**Honcut**	**2.64**	**252**	Pn		**Pn**	**08 03 53.1**	**-0.3**
OHCM				*e*Sg		**Sg**	**08 04 32.2**	**-3.5**
P12A	**McGill**	**2.67**	**105**	⇓P		**Pn**	**08 03 53.7**	**-0.2**
	baz=2.7							
S08C	**White Mtn Res**	**2.69**	**179**	⇑P		**Pn**	**08 03 54.4**	**+0.2**
	baz=2.7,SNR=16							
CMB	**Columbia Colle**	**2.73**	**218**	*e*Pn		**Pn**	**08 03 54.6**	**-0.1**
CMB				*e*Sg		**Sg**	**08 04 36.9**	**-1.5**
CMB	**Columbia Colle**	**2.73**	**218**	⇓P		**Pn**	**08 03 54.3**	**-0.3**
	baz=2.7							
CMB				⇑S		**Sn**	**08 04 28.0**	**+0.3**
	baz=2.7							
TRCR	**Troy Canyon**	**2.77**	**131**	*e*Pn		**Pn**	**08 03 58.1**	**+2.8**
TRCR				*e*Pg		**Pg**	**08 04 03.6**	**-0.3**
TRCR				*e*Sg		**Sg**	**08 04 37.7**	**-2.1**
Q04C	**Lincoln**	**2.77**	**242**	⇓P		**Pn**	**08 03 55.3**	**0.0**
	baz=2.8							
Q04C				⇓S		**Sn**	**08 04 29.1**	**+0.2**
	baz=2.8							
M12A	**Wells**	**2.81**	**63**	⇓P		**Pn**	**08 03 55.1**	**-0.7**
	baz=2.8,SNR=16							
M12A				⇑S		**Sn**	**08 04 29.8**	**+0.2**
	baz=2.8							
R04C	**Big Horse Ranc**	**2.85**	**228**	⇑P		**Pn**	**08 03 56.2**	**-0.2**
	baz=2.8							
MTUM	**Tungsten Hills**	**2.85**	**185**	*e*Pg		**Pg**	**08 04 04.2**	**-1.2**
MTUM				*e*Sg		**Sg**	**08 04 41.2**	**-1.2**
SUTB	**Sutter Butte**	**2.90**	**252**	⇓S		**Sn**	**08 04 33.9**	**+2.0**
	baz=2.9							
WDC	**Whiskeytown Da**	**3.30**	**278**	*e*Pn		**Pn**	**08 04 04.0**	**+1.4**
WDC				*e*Sg		**Sg**	**08 04 53.5**	**-3.4**
M13A	**Montello**	**3.31**	**68**	⇑P		**Pn**	**08 04 01.8**	**-0.9**
	baz=3.3,SNR=21							
M13A				⇓S		**Sn**	**08 04 42.3**	**+0.3**
	baz=3.3							
GASB	**Alder Springs**	**3.48**	**262**	⇓S		**Sn**	**08 04 46.5**	**+0.1**
	baz=3.5							
K04A	**Chilquin**	**3.56**	**314**	⇑S		**Sn**	**08 04 48.1**	**-0.2**
	baz=3.5							
BGU	**Big Grassy Mou**	**4.04**	**78**	*e*Pn		**Pn**	**08 04 13.6**	**+0.9**
BGU				*e*Sn		**Sg**	**08 05 17.6**	**-2.9**
U10A	**Ash Meadows, A**	**4.06**	**158**	⇓P		**Pn**	**08 04 13.5**	**+0.5**
	baz=4.1,SNR=6.2							
DUG	**Dugway**	**4.16**	**88**	*e*Pn		**Pn**	**08 04 16.0**	**+1.6**
DUG				*e*Sn		**Sg**	**08 05 21.2**	**-3.3**
DUG	**Dugway**	**4.16**	**88**	⇓P		**Pn**	**08 04 14.8**	**+0.4**
	baz=4.2,SNR=24							
MPMC	**Manual Prospec**	**4.17**	**172**	⇑P		**Pn**	**08 04 15.4**	**+0.9**
	baz=4.2,SNR=8.8							
KHMM	**Horse Mountain**	**4.23**	**281**	*e*Pn		**Pn**	**08 04 15.8**	**+0.4**
HLID	**Hailey**	**4.42**	**39**	*e*Pn		**Pn**	**08 04 19.6**	**+1.7**
HLID	**Hailey**	**4.42**	**39**	⇑P		**Pn**	**08 04 17.6**	**-0.3**
	baz=4.4							
HVU	**Hansel Valley**	**4.43**	**67**	*e*Pn		**Pn**	**08 04 17.2**	**-1.0**
ARUT	**Antelope Range**	**4.45**	**121**	*e*Pn		**Pn**	**08 04 20.2**	**+1.9**
H09A	**Durkee**	**4.49**	**5**	⇓P		**Pn**	**08 04 19.5**	**+0.6**
	baz=4.5							
KRMB	**Red Mountain**	**4.49**	**289**	*e*Pn		**Pn**	**08 04 19.4**	**+0.5**
ISA	**Isabella**	**4.53**	**182**	*e*Pn		**Pn**	**08 04 24.4**	**+5.0**
SPUT	**South Promonto**	**4.54**	**74**	*e*Pn		**Pn**	**08 04 22.4**	**+2.8**
SPUT				*e*Sn		**Sb**	**08 05 29.8**	**+4.4**
NLU	**North Lily Min**	**4.74**	**91**	*e*Pn		**Pn**	**08 04 27.0**	**+4.6**
MSU	**Marysvale**	**5.00**	**108**	*e*Pn		**Pn**	**08 04 28.0**	**+2.1**
GSC	**Goldstone**	**5.02**	**166**	*e*Pn		**Pn**	**08 04 26.2**	**+0.1**
GSC				*e*Sg		**Sg**	**08 05 51.5**	**-0.5**
TMUT	**Trail Mountain**	**5.50**	**97**	*e*Pn		**Pn**	**08 04 36.0**	**+3.3**
SRU	**San Rafael**	**6.06**	**98**	*e*Pn		**Pn**	**08 04 42.0**	**+1.5**
	10nm,0.7s							

ISCJB ***08*** *08:05:31.1±0.7, 384N±006×12250E±008, h606km±10km, mb4.3/23, Error ellipse: s-maj=13.9km s-min=6.5km az=110.4*
NEIC ***08*** *08:05:32.1±0.9, 385N×12238E, h599km±12km, mb4.5/4, Error ellipse: s-maj=14.9km s-min=7.0km az=56.0*
IDC ***08*** *08:05:32.8±1.0, 377N×12239E, h611km±13km, mb3.5/18, mb1 3.6/18, mb1mx3.4/28, mbtmp3.5/18, Error ellipse: s-maj=15.8km s-min=6.8km az=63.0*

ISC 08 08:05:32.3±0.7, 382N±006×12241E±008, h597km±9km, n43, σ0°85/49, mb4.3/23, 3C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**4.55**	**276**	P		**P**	**08 07 02.0**	**+0.6**
KKM	**Kota Kinabalu**	**6.55**	**290**	P		**P**	**08 07 17.5**	**-0.5**
KKM	**Kota Kinabalu**	**6.55**	**290**	*e*P		**P**	**08 07 17.7**	**-0.3**
KKM				*e*S		**S**	**08 08 43.6**	**-1.0**
KSM	**Kuching**	**12.31**	**259**	*e*P		**P**	**08 08 14.2**	**+0.3**
KSM				*e*S		**S**	**08 10 26.8**	**-0.2**
KAKA	**Kakadu**	**19.21**	**149**⇑	*i*P		**P**	**08 09 18.7**	**-0.2**
	49nm,0.5s							
FITZ	**Fitzroy Crossi**	**22.01**	**172**	P		**P**	**08 09 42.3**	**-1.8**
	1.1nm,0.7s,mb3.6,baz=81,slow=19,SNR=2.5							
FITZ				ScP		ScP	08 15 58.2	-1.1
	1.8nm,0.9s,baz=180,slow=7.1,SNR=3.5							
PSI	**Prapat**	**23.46**	**268**	P		**P**	**08 09 57.1**	**+0.1**
	5.7nm,0.6s,mb4.4,baz=25,slow=2.1,SNR=8.3							
WRAB	**Tennant Creek**	**26.36**	**154**	*e*P		**P**	**08 10 22.3**	**-0.1**
	13nm,0.4s,mb4.9							
WRA	**Warramunga Arr**	**26.36**	**154**	P		**P**	**08 10 22.2**	**-0.3**
	18nm,0.4s,mb5.0,baz=336,sl

MUN	**Mundaring**	**36.08**	**189**	*e*P	**P**	**08**	**11**	**45.6 +0.5**
NWAO	**Narrogin (SRO)**	**36.87**	**187**	P	**P**	**08**	**11**	**51.3 -0.2**
	13nm,0.7s,mb4.5,baz=24,slow=9.1,SNR=9.1							
STKA	**Stephens Creek**	**39.91**	**154**	⇑*i*P	**P**	**08**	**12**	**17.1 +1.0**
	7.5nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**39.91**	**154**	P	**P**	**08**	**12**	**16.5 +0.4**
	11nm,0.7s,mb4.5,baz=325,slow=7.3,SNR=27							
GUN	**Gumba**	**42.24**	**308**	*e*P	**P**	**08**	**12**	**34.8 +0.4**
PKI	**Pulchoki**	**42.45**	**308**	*e*P	**P**	**08**	**12**	**36.5 +0.4**
KKN	**Kakani**	**42.65**	**308**	*e*P	**P**	**08**	**12**	**37.9 +0.3**
DMN	**Daman**	**42.71**	**308**	*e*P	**P**	**08**	**12**	**39.1 +1.0**
	37nm,0.9s,mb4.9							
GKN	**Gorkha**	**43.25**	**308**	*e*P	**P**	**08**	**12**	**43.1 +0.8**
	32nm,0.8s,mb4.9							
ASAJ	**Asahikawa**	**43.91**	**21**	P	**P**	**08**	**12**	**47.2 -0.2**
	5.6nm,0.5s,mb4.3,baz=223,slow=16,SNR=4.7							
KOLN	**Koldanda**	**43.97**	**307**	*e*P	**P**	**08**	**12**	**48.8 +0.9**
	52nm,0.7s,mb5.2							
ARMA	**Armidale**	**44.03**	**143**	*e*P	**P**	**08**	**12**	**51.1 +2.8**
SONM	**Songino Array**	**45.97**	**345**	P	**P**	**08**	**13**	**03.2 +0.1**
	2.4nm,0.7s,mb3.9,baz=155,slow=8.1,SNR=5.2							
DZM	**Mont Dzumac**	**50.16**	**123**	P	**P**	**08**	**13**	**35.7 +1.6**
	4.0nm,0.8s,mb3.9,baz=135,slow=19,SNR=11							
MKAR	**Makanchi Array**	**55.09**	**327**	P	**P**	**08**	**14**	**09.3 +0.2**
	3.0nm,0.4s,mb4.0,baz=126,slow=7.6,SNR=32							
MKAR				PcP	PcP	08	15	00.2 -1.1
	2.4nm,0.6s,baz=124,slow=4.1,SNR=11							
MKAR				ScP	ScP	08	18	02.2 -1.0
	0.9nm,0.7s,baz=137,slow=4.1,SNR=5.0							
MKAR	**Makanchi Array**	**55.09**	**327**	P	**P**	**08**	**14**	**09.3 +0.2**
MKAR				PcP	PcP	08	15	00.2 -1.1
MKAR				ScP	ScP	08	18	02.2 -1.0
ZAL	**Zalesovo**	**58.62**	**335**	P	**P**	**08**	**14**	**32.8 -0.5**
	2.9nm,0.3s,mb3.8,baz=3.4,slow=9.5,SNR=6.3							
BVAR	**Borovoye Array**	**64.94**	**328**	P	**P**	**08**	**15**	**13.4 -0.8**
	0.9nm,0.3s,mb3.6,baz=134,slow=8.5,SNR=9.8							
AKTK	**Aktyubinsk**	**70.94**	**322**	P	**P**	**08**	**15**	**50.0 -0.5**
AKTO	**Aktyubinsk**	**70.94**	**322**	P	**P**	**08**	**15**	**50.0 -0.5**
	3.3nm,0.4s,mb4.2,baz=107,slow=7.2,SNR=19							
ASF	**Jabal al Asfar**	**84.19**	**302**	P	**P**	**08**	**17**	**02.5 +0.7**
	2.8nm,0.6s,mb4.0,baz=346,slow=7.6,SNR=4.6							
FINES	**FINESS Array B**	**89.71**	**331**	P	**P**	**08**	**17**	**25.8 -2.0**
	1.4nm,0.7s,mb3.9,baz=101,slow=9.9,SNR=3.5							
FINES	**FINESS Array B**	**89.71**	**331**	P	**P**	**08**	**17**	**25.8 -2.0**
TORD	**Torodi Ar. Bea**	**118.78**	**287**	PKP	PKPdf	08	23	13.1 -0.5
	0.6nm,0.3s,baz=79,slow=1.6,SNR=17							

*NEIC **08** 08:07:27.3, 1882N×6481W, h17km, MD2.6(RSPR), After RSPR.*

RSPR 08 08:07:27.3, 1882N×6481W, h17km±1km, 1C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.44**	**156**	*e*S	Sg	08 07 42.2	-0.1
STVI	**Saint Thomas**	**0.49**	**197**	⇓*e*P	Pg	08 07 36.5	-0.6
STVI				*e*S	Sg	08 07 43.6	-0.1
MTP	**Monte Pirata**	**1.01**	**225**	⇑*e*P	Pb	08 07 43.8	-2.5
MTP				*e*S	Sb	08 07 56.6	-2.7
CBYP	**Canovanas**	**1.14**	**241**	*e*S	Sb	08 07 59.8	-3.2

*NEIC **08** 08:08:27.4, 1930N×6309W, h47km, mb4.2/1, MD3.7(RSPR), After RSPR.*
*RSPR **08** 08:08:27.4, 1930N×6309W, h47km±14km, MD3.7/9, MD3.7/9*

TRN 08 08:08:24.5, 1903N×6319W, h10km, 8C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**1.48**	**246**	⇑*e*P	Pn	08 08 53.6	+2.4
TBVI				*e*S	Sn	08 09 13.7	+3.1
STVI	**Saint Thomas**	**1.80**	**248**	⇑*e*P	Pn	08 08 57.9	+2.3
STVI				*e*S	Sn	08 09 21.4	+2.9
MTP	**Monte Pirata**	**2.42**	**248**	⇓*e*P	Pn	08 09 06.5	+2.3
MTP				*e*S	Sn	08 09 37.2	+3.4
CBYP	**Canovanas**	**2.64**	**254**	⇑*e*P	Pn	08 09 09.3	+2.3
CBYP				*e*S	Sn	08 09 41.6	+2.5
HUMP	**Col San Antoni**	**2.67**	**251**	⇑*e*P	Pn	08 09 10.2	+2.6
HUMP				*e*S	Sn	08 09 42.8	+2.8
CPD	**Cerro la Pandu**	**2.77**	**250**	⇑*e*P	Pn	08 09 10.9	+2.1
CPD				*e*S	Sn	08 09 45.8	+3.5
AOPR	**Arecibo Observ**	**3.45**	**259**	⇑*e*P	Pn	08 09 20.0	+1.8
LSP	**Las Mesas**	**3.79**	**258**	⇑*e*P	Pn	08 09 25.2	+2.3
LSP				*e*S	Sn	08 10 10.5	+3.0
CRPR	**Cabo Rojo, PR**	**3.85**	**255**	⇑*e*P	Pn	08 09 26.1	+2.2
CRPR				*e*S	Sn	08 10 11.9	+2.7

*NEIC **08** 08:18:29.4, 3016S×7156W, h33km, ML2.6(GUC), After GUC.*

GUC 08 08:18:29.4±1.0, 3016S×7156W, h33km±5km, MD3.6, ML2.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.37**	**48**	*e*P	Pb	08 18 38.0	-0.1
LSCH				*i* S	Sb	08 18 43.8	-0.2
TLL	**Tololo Astrono**	**0.66**	**91**	*e*P	Pn	08 18 43.2	+0.8
TLL				*i* S	Sb	08 18 52.6	+1.3
TLL				AML	AML	08 18 57.2	
	comp=E,180nm,0.5s						
TLL	**Tololo Astrono**	**0.66**	**91**	*e*P	Pn	08 18 43.2	+0.8
TLL				*i* S	Sb	08 18 52.6	+1.3
CMCH	**Combarbala**	**1.12**	**155**	⇑*i*P	Pn	08 18 49.4	+0.6
CMCH				*i* S	Sn	08 19 04.2	+1.1
CMCH				AML	AML	08 19 06.6	
	comp=E,208nm,0.9s						
CMCH	**Combarbala**	**1.12**	**155**	⇑*i*P	Pn	08 18 49.4	+0.6
CMCH				*i* S	Sn	08 19 04.2	+1.1
VACH	**Vallenar**	**1.73**	**24**	⇓*i*P	Pn	08 18 58.7	+1.6
VACH				*i* S	Sn	08 19 20.5	+2.5
VACH				AML	AML	08 19 22.8	
	comp=E,437nm,0.1s						
VACH	**Vallenar**	**1.73**	**24**	⇓*i*P	Pn	08 18 58.7	+1.6
VACH				*i* S	Sn	08 19 20.5	+2.5

JMA 08 08:21:22.9±0.2, 2787N×12707E, h160km±5km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**1.15**	**136**	P	Pn	08 21 50.3	+0.4
JIH				S	Sn	08 22 11.8	+1.2
JAGN	**Aguni-jima**	**1.28**	**173**	P	Pn	08 21 51.2	+0.1
JAGN				S	Sn	08 22 13.1	+0.4
JOW	**Kunigami**	**1.49**	**134**	P	Pn	08 21 53.2	+0.1
JOW				*e*S	Sn	08 22 16.0	-0.3
JKE	**Kume jima 2**	**1.56**	**189**	P	Pn	08 21 53.8	0.0
JKE				*e*S	Sn	08 22 17.4	-0.1
JTK	**Tokunoshima**	**1.67**	**92**	P	Pn	08 21 55.0	+0.1
JTK				*e*S	Sn	08 22 18.8	-0.8
NAH1	**Naha**	**1.75**	**161**	P	Pn	08 21 56.1	+0.3
NAH1				S	Sn	08 22 20.3	-0.8
JJT2	**Tamagusuku 2**	**1.83**	**161**	P	Pn	08 21 57.3	+0.6
JJT2				*e*S	Sn	08 22 22.4	-0.3
JAM	**Amami Oshima**	**2.30**	**76**	S	Sn	08 22 31.9	-0.5
JZK	**Kikaishima**	**2.60**	**80**	*e*S	Sn	08 22 39.7	+0.9
JNN	**Nakanoshima**	**3.15**	**51**	P	Pn	08 22 12.9	+0.4
JNN				*e*S	Sn	08 22 51.8	+0.9
JTJ	**Tarama**	**3.85**	**214**	P	Pn	08 22 18.9	-2.6
JTJ				*e*S	Sn	08 23 02.9	-4.2
JJ	**Ishigaki jima**	**4.37**	**218**	P	Pn	08 22 24.7	-3.5
IRIF	**Iriomote-Funau**	**4.63**	**221**	P	Pn	08 22 28.2	-3.3
JTSR	**Tashiro 2**	**4.70**	**45**	P	Pn	08 22 32.5	+0.1

*NIED **08** 08:22:00, 4750N×15430E, h32km, Mw5.0 Best double couple: M0 3.59000×10^16 NP1:φs37.00000°, δ70.00000°, λ157.00000°. NP2:φs135.00000°, δ68.00000°, λ21.00000°.*
*IDC **08** 08:22:25.2±0.5, 4716N×15409E, h0km, mb4.8/24, mb1 4.9/25, mb1mx4.9/28, mbtmp4.8/25, ML3.8/1, MS4.3/29, Ms1 4.3/29, ms1mx4.1/47, Error ellipse: s-maj=15.3km s-min=12.2km az=135.0*
*SKHL **08** 08:22:26.5±1.9, 4701N×15440E, h57km±22km, Ms4.9/3, msh5.5/1*
*ISCJB **08** 08:22:29.6±0.2, 4704N±003×15401E±003, h39km, mb5.2/179, MS4.5/57, Error ellipse: s-maj=5.1km*

s-min=2.3km az=114.0
*BJI **08** 08:22:29.1, 4735N×15398E, h34km, mB5.2, mb5.4, Ms4.9, Msz4.6*
*NEIC **08** 08:22:31.5±0.2, 4719N×15401E, mb5.2/112, MS4.6/8, Error ellipse: s-maj=5.7km s-min=3.6km az=161.0*
*GCMT **08** 08:22:31.5±0.3, 4725N×15442E, h20km, MW5.1/74, Moment Tensor Solution. s38,c56; s74,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.45±.21; Mθθ-1.02±.14; Mφφ-3.43±.13; Mrθ0.28±.29; Mθφ-2.56±.09; Mφr1.74±.23; Best double couple: M0 5.07700×10^16 NP1:φs222.00000°, δ36.00000°, λ105.00000°. NP2: φs23.00000°, δ55.00000°, λ79.00000°. Principal axes: T 4.8300, Plg77.0000°, Azm257.0000°; N 0.4940, Plg9.0000°, Azm30.0000°; P -5.3240, Plg9.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **08** 08:22:31.7±1.0, 4712N×15400E, h56km, mb5.5/77, MS4.6/29 Error ellipse: s-maj=8.3km s-min=4.3km az=105.9*
*SZGRF **08** 08:22:38.8, 4800N×15325E, h42km, mb5.4, MS4.5, Kuril Islands, Russia*

ISC 08 08:22:31.7±0.2, 4717N±003×15398E±004, h41km, h41km±2.0km: pP-P, n604, σ1 11/624, mb5.2/179, MS4.5/57, 85C-33D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**21**	*e*P	**Pn**	**08**	**23**	**24.5 -3.1**
SKR				AMB	AMB	08	23	28.1
	60nm,0.5s							
SKR				AMB	AMB	08	23	28.1
	250nm,0.5s							
SKR				AMB	AMB	08	23	28.1
	310nm,1.0s							
SKR				pP		08	23	37.0
SKR				*e*S	**Sn**	**08**	**24**	**06.5 -4.4**
SKR				A		08	24	11.5
	1μm,0.7s							
SKR				A		08	24	11.5
	620nm,0.5s							
SKR				A		08	24	11.5
	390nm,0.5s							
SKR				A		08	24	32.0
	15μm,8.0s							
SKR				A		08	24	32.0
	8μm,8.0s							
SKR				A		08	24	32.0
	10μm,6.0s							
SKR				A		08	24	32.0
	15μm,8.0s							
SKR				A		08	24	32.0
	8μm,8.0s							
SKR				A		08	24	32.0
	10μm,6.0s							
SKR				AMS	AMS	08	25	20.0
	8μm,8.0s							
SKR				AMS	AMS	08	25	20.0
	8μm,8.0s							
SKR				AMS	AMS	08	25	20.0
	6μm,8.0s							
SKR				AMS	AMS	08	25	20.0
	5μm,8.0s							
SKR				AMS	AMS	08	25	20.0
	6μm,8.0s							
SKR				AMS	AMS	08	25	20.0
	5μm,8.0s							
KUR	**Kuril'sk**	**4.66**	**248**	⇑*i*P	**Pn**	**08**	**23**	**38.0 -1.5**
KUR				AMB	AMB	08	23	43.0
	144nm,0.6s							
KUR				AMB	AMB	08	23	43.0
	175nm,0.6s							
KUR				AMB	AMB	08	23	43.0
	532nm,0.6s							
KUR				*i* S	**Sn**	**08**	**24**	**33.0 +0.6**
KUR				A		08	25	02.4
	3μm,0.9s							
KUR				A		08	25	02.4
	880nm,0.9s							
KUR	**Kuril'sk**	**4.66**	**248**	⇓*i*PN	**Pn**	**08**	**23**	**38.0 -1.5**
KUR				*e*S	**Sn**	**08**	**24**	**33.0 +0.6**
KUR				pmax	pmax			
	comp=N,140nm,0.6s							
KUR				pmax	pmax			
	comp=E,170nm,0.6s							
KUR				pmax	pmax			
	comp=Z,530nm,0.6s							
KUR				smax				
	comp=N,3μm,0.9s							
KUR				smax				
	comp=E,880nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**6.50**	**244**	*e*P	**Pn**	**08**	**24**	**05.0 +0.3**
YUK				AMB	AMB	08	24	15.8
	comp=E,390nm,0.5s							
YUK				AMB	AMB	08	24	15.8
	comp=E,470nm,0.6s							
YUK				AMB	AMB	08	24	26.0
	comp=E,3μm,1.2s							
YUK				*i* S	**Sn**	**08**	**25**	**19.0 +1.4**
YUK				A		08	25	36.5
	comp=E,1μm,0.6s							
YUK				A		08	25	36.5
	comp=E,770nm,0.6s							
YUK				A		08	25	38.0
	comp=E,4μm,1.2s							
YUK				A		08	25	38.0
	comp=E,3μm,1.8s							
PET	**Petropavlovsk**	**6.59**	**25**	*e*PN	**Pn**	**08**	**24**	**02.3 -3.7**
PET				MLR	MLR			
	comp=Z,2μm,17.0s							
PET	**Petropavlovsk**	**6.59**	**25**	*e*Pn	**Pn**	**08**	**24**	**01.8 -4.1**
NEM2	**Nemuro 2**	**6.94**	**240**	P	**Pn**	**08**	**24**	**08.8 -2.0**
NEM2				*e*S	**Sn**	**08**	**25**	**25.7 -2.8**
JRA	**Rausu**	**7.01**	**246**	P	**Pn**	**08**	**24**	**12.7 +1.0**
JNK	**Nakash**	**7.44**	**245**	P	**Pn**	**08**	**24**	**17.7 +0.1**
JNK				*e*S	**Sn**	**08**	**25**	**40.4 -0.3**
YSS	**Yuzh-Sakhalins**	**7.67**	**273**	⇑*i*P	**Pn**	**08**	**24**	**25.4 +4.6**
YSS				*e*S	**Sn**	**08**	**25**	**50.0 +3.6**
YSS				eLQ		08	26	20.0
YSS				eLR	LR	08	26	47.0
YSS				AMS	AMS	08	27	26.0
	comp=Z,2μm,13.0s							
YSS				AMS	AMS	08	27	26.0
	comp=Z,5μm,16.0s							
YSS				AMS	AMS	08	27	26.0
	comp=Z,5μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.67**	**273**	⇑*i*PN	**Pn**	**08**	**24**	**25.4 +4.6**
YSS				*e*S	**Sn**	**08**	**25**	**50.0 +3.6**
YSS				MLR	MLR			
	comp=Z,5μm,16.0s							
YSS				MLR	MLR			
	comp=N,2μm,13.0s							
YSS				MLR	MLR			
	comp=E,5μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.67**	**273**	*e*Pn	**Pn**	**08**	**24**	**20.8 0.0**
JTKR	**Abashiri--Toko**	**7.76**	**249**	P	**Pn**	**08**	**24**	**22.7 +0.7**
JAK	**Akkeshi**	**7.78**	**241**	P	**Pn**	**08**	**24**	**20.4 -1.9**
JAK				*e*S	**Sn**	**08**	**25**	**45.5 -3.6**
JMP	**Maruseppu**	**8.09**	**251**	P	**Pn**	**08**	**24**	**27.4 +0.8**
JAR	**Ashorobuto**	**8.18**	**245**	P	**Pn**	**08**	**24**	**27.9 +0.1**
JAR				*e*S	**Sn**	**08**	**25**	**58.3 -0.6**
UGL	**Uglegorsk**	**8.20**	**288**	*e*P	**Pn**	**08**	**24**	**28.0 -0.1**
UGL				AMS	AMS	08	27	50.0
	comp=E,6μm,16.0s							
UGL				AMS	AMS	08	27	50.0
	comp=E,4μm,18.0s							
UGL				AMS	AMS	08	27	50.0
	comp=E,12μm,18.0s							
TYV	**Tymovskoe**	**8.31**	**301**	*e*P	**Pn**	**08**	**24**	**32.8 +3.2**
TYV				AMB	AMB	08	24	35.0
	comp=E,115nm,1.0s							
JOB	**Onbets**	**8.35**	**243**	*e*S	**Sn**	**08**	**26**	**00.0 -3.1**
ASAJ	**Asahikawa**	**8.54**	**253**	Pn	**Pn**	**08**	**24**	**34.8 +2.0**
	comp=E,2.9nm,0.3s,baz=65,slow=16,SNR=15							
ASAJ				Sn	**Sn**	**08**	**26**	**13.8 +6.1**
	baz=85,slow=30,SNR=1.1							
ASAJ				LR	LR	08	27	17.0
	comp=E,1μm,19.4s,baz=92,slow=34							
ASAJ	**Asahikawa**	**8.54**	**253**	P	**Pn**	**08**	**24**	**35.3 +2.6**
ASAJ	**Asahikawa**	**8.54**	**253**	PN	**Pn**	**08**	**24**	**34.8 +2.1**
ASAJ						08	26	13.9
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,1μm,19.4s							
JKK2	**Kamakawa 2**	**8.55**	**251**	P	**Pn**	**08**	**24**	**34.7 +1.9**
JWK2	**Keihoku**	**8.58**	**262**	P	**Pn**	**08**	**24**	**39.1 +5.8**
JCH	**Churui**	**8.80**	**243**	P	**Pn**	**08**	**24**	**34.8 -1.5**
JCH				*e*S	**Sn**	**08**	**26**	**10.4 -3.8**
JFR	**Furan**	**8.98**	**248**	P	**Pn**	**08**	**24**	**39.3 +0.5**
JAB	**Ashibetsu**	**9.05**	**250**	P	**Pn**	**08**	**24**	**41.9 +2.1**
ERM	**Erimo**	**9.28**	**240**	Pn	**Pn**	**08**	**24**	**42.0 -0.8**
	comp=Z,778nm,1.0s,SNR=6.1							
ERM	**Erimo**	**9.28**	**240**	*e*PN	**Pn**	**08**	**24**	**43.0 +0.1**
ERM				pmax	pmax			
	comp=Z,115nm,0.7s							
ERM	**Erimo**	**9.28**	**240**	*e*Pn	**Pn**	**08**	**24**	**43.0 +0.2**
	comp=Z,115nm,0.7s							
ERM				*e*Sn	**Sn**	**08**	**26**	**27.3 +1.4**
JEM	**Erimo**	**9.28**	**240**	P	**Pn**	**08**	**24**	**42.6 -0.2**
JBT2	**Biratori 2**	**9.33**	**246**	P	**Pn**	**08**	**24**	**43.4 -0.1**
JNBK	**Urakawa-nobuka**	**9.36**	**243**	P	**Pn**	**08**	**24**	**42.1 -1.9**
JNBK				*e*S	**Sn**	**08**	**26**	**23.7 -4.3**
JEW	**Eniwo**	**9.87**	**249**	P	**Pn**	**08**	**24**	**52.9 +1.9**
JNB	**Noboribetsu**	**10.32**	**248**	P	**Pn**	**08**	**24**	**55.5 -1.6**
JKB	**Kayabe**	**10.64**	**245**	P	**Pn**	**08**	**24**	**58.7 -2.8**
JKB				*e*S	**Sn**	**08**	**26**	**52.5 -6.8**
JSH	**Shimam**	**10.87**	**250**	P	**Pn**	**08**	**25**	**08.8 +4.2**
JOT	**Ohata**	**10.92**	**243**	P	**Pn**	**08**	**25**	**01.9 -3.4**
JOT				*e*S	**Sn**	**08**	**26**	**56.3 -10**
JTM	**Tenmabayashi**	**11.27**	**240**	P	**Pn**	**08**	**25**	**06.6 -3.5**
JTM				*e*S	**Sn**	**08**	**27**	**06.8 -7.9**
JANG	**Nango**	**11.28**	**237**	P	**Pn**	**08**	**25**	**05.5 -4.7**
JANG				*e*S	**Sn**	**08**	**27**	**03.8 -11**
JOM	**Ohasama**	**12.01**	**235**	P	**Pn**	**08**	**25**	**15.4 -4.8**
JOM				*e*S	**Sn**	**08**	**27**	**21.8 -11**
OFUJ	**Ofunato**	**12.08**	**232**	P	**Pn**	**08**	**25**	**16.6 -4.6**
OFUJ				*e*S	**Sn**	**08**	**27**	**22.8 -12**
TEY	**Ternei**	**12.25**	**266**	*e*P	**Pn**	**08**	**25**	**26.0 +2.5**
TEY				AMS	AMS	08	30	23.0
	comp=Z,2μm,13.0s							
TEY				AMS	AMS	08	30	23.0
	comp=Z,4μm,14.0s							
JRG	**Rokugo**	**12.43**	**236**	P	**Pn**	**08**	**25**	**22.0 -4.0**
JRG				*e*S	**Sn**	**08**	**27**	**35.2 -7.9**
MA2	**Magadan**	**12.58**	**352**	*e*PN	**Pn**	**08**	**25**	**27.0 -1.0**
MA2				*e*		08	28	01.9
MA2				pmax	pmax			
	comp=N,20nm,0.7s							
MA2				pmax	pmax			
	comp=Z,20nm,0.7s							
JIO	**Ouri**	**12.71**	**231**	P	**Pn**	**08**	**25**	**24.9 -4.8**
JIO				*e*S	**Sn**	**08**	**27**	**38.9 -11**
JMM	**Marumori**	**13.44**	**231**	P	**Pn**	**08**	**25**	**36.8 -2.9**
JMM				*e*S	**Sn**	**08**	**27**	**56.2 -11**
JYA	**Atsumi**	**13.51**	**236**	P	**Pn**	**08**	**25**	**34.6 -6.0**
JFY	**Yanaizu**	**14.36**	**232**	P	**Pn**	**08**	**25**	**48.5 -3.7**
KLR	**Kul'dur**	**14.96**	**286**	*e*P	**Pn**	**08**	**26**	**02.3 +2.0**
KLR				MLR	MLR			
	comp=E,3μm,15.0s							
KLR				MLR	MLR			
	comp=E,2μm,12.5s							
KLR				MLR	MLR			
	comp=Z,12μm,12.5s							
MAJO	**Matsushiro**	**15.80**	**233**	*e*P	**Pn**	**08**	**26**	**07.8 -3.4**
MAJO				pmax	pmax			
	comp=Z,68nm,1.2s							
MAJO	**Matsushiro**	**15.80**	**233**	*e*Pn	**Pn**	**08**	**26**	**07.8 -3.4**
	comp=Z,68nm,1.2s							
MAT	**Matsushiro**	**15.80**	**233**	P	**Pn**	**08**	**26**	**07.8 -3.4**
MAT				*e*S	**S**	**08**	**29**	**07.0 -11**
MAT	**Matsushiro**	**15.80**	**233**	P	**Pn**	**08**	**26**	**07.9 -3.3**
MJAR	**Matsushiro Arr**	**15.80**	**233**	Pn	**Pn**	**08**	**26**	**07.8 -3.4**
	comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=22							
MJAR				LR	LR	08	33	14.1
	comp=Z,632nm,18.4s,baz=40,slow=41							
JRY	**Ryogami san**	**15.82**	**231**	P	**Pn**	**08**	**26**	**09.6 -1.9**
JRY				S		08	28	56.5 -22
SEY	**Seymchan**	**15.83**	**357**	⇓*e*P	**Pn**	**08**	**26**	**10.6 -0.9**
VLA	**Vladivostok**	**16.09**	**264**	*e*P	**Pn**	**08**	**26**	**12.2 -2.6**
VLA				pmax	pmax			
	comp=Z,97nm,1.6s							
VLA				MLR	MLR			
	comp=Z,2μm,16.8s							
JOD2	**Odawara 2**	**16.30**	**229**	P	**Pn**	**08**	**26**	**21.7 +4.1**
JGF	**Kuroka**	**16.96**	**233**	P	**Pn**	**08**	**26**	**22.8 -3.1**
MDJ	**Mudanjiang**	**17.15**	**270**	P	**Pn**	**08**	**26**	**27.8 -0.4**
MDJ				AP	pP	08	26	37.0 -2.5
MDJ				XP	sP	08	26	41.4 -3.2
MDJ				S	**S**	**08**	**29**	**37.2 -8.7**
MDJ				AMB	AMB			
	comp=Z,51nm,1.3s							
MDJ				AMB	AMB			
	comp=Z,348nm,4.1s							
MDJ				LR	LR			
	comp=N,1μm,17.3s							
MDJ				LR	LR			
	comp=E,940nm,17.9s							
MDJ				LR	LR			
	comp=Z,2μm,16.7s							
MDJ	**Mudanjiang**	**17.15**	**270**	*e*Pn	**Pn**	**08**	**26**	**28.3 +0.1**
	comp=Z,34nm,0.8s							
JSG	**Sagara**	**17.23**	**229**	P	**Pn**	**08**	**26**	**32.7 +3.5**
JHJ	**Hachijo jima 2**	**17.70**	**223**	LR	LR	08	33	34.9
	comp=Z,105nm,18.4s,baz=154,slow=38							
ZEA	**Zeya**	**18.18**	**301**	*e*P	**Pn**	**08**	**26**	**37.7 -3.1**
ZEA				AMB	AMB	08	26	42.3
	comp=Z,60nm,0.9s							
ZEA				AMB	AMB	08	26	42.3
	comp=Z,62nm,0.9s							
JWT	**Wachi**	**18.28**	**236**	P	**Pn**	**08**	**26**	**39.9 -2.3**
JWZ	**Kozaga**	**19.41**	**232**	P	**Pn**	**08**	**26**	**53.6 -2.1**
JHS	**Saijyo**	**19.81**	**240**	P	**Pn**	**08**	**26**	**58.6 -1.8**
CLNS	**Chul'man**	**20.21**	**309**	*e*P	**P**	**08**	**27**	**03.5 +0.5**
CLNS				*e*		08	27	18.7
CLNS				*e**SP	sP	08	27	33.7 +15
CLNS				*e*S	**S**	**08**	**30**	**44.1 -3.4**
CLNS				*e*SS		08	31	18.8
CLNS				pmax	pmax			
	comp=Z,72nm,1.0s							
CLNS				pmax	pmax			
	comp=N,26nm,0.9s							
CLNS				pmax	pmax			
	comp

comp=Z,37nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,700nm,15.0s,MS4.2
BILL Bilibino 21.85 12 *e*P **P 08 27 18.9 -1.8**
comp=Z,49nm,1.1s,mb4.8
INCN Inchon 22.32 254 *e*P **P 08 27 26.6 +1.0**
comp=Z,120nm,1.0s,mb5.3
JNU Nakatsue 22.44 240 P **P 08 27 28.1 +1.2**
comp=Z,81nm,0.9s,mb5.2,baz=274,slow=25,SNR=15
JNU LR LR 08 35 36.2
comp=Z,2µm,20.1s,MS4.5,baz=78,slow=35
JNU Nakatsue 22.44 240 P **P 08 27 27.5 +0.5**
HIA Hailar 22.80 288 *e*P **P 08 27 29.5 -1.2**
HIA pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 22.80 288 *e*P **P 08 27 29.5 -1.2**
comp=Z,19nm,0.8s,mb4.6
JSU Suzuyama 23.86 237 ⇓P **P 08 27 42.5 +1.3**
BOD Bodaibo 26.18 309 *e*P **P 08 27 59.8 -2.5**
BOD pmax pmax
comp=Z,19nm,1.6s,mb4.4
TIXI Tiksi 27.24 343*d i*P **P 08 28 09.4 -2.4**
TIXI pmax pmax
comp=Z,20nm,1.3s,mb4.5
TIXI MLR MLR
comp=Z,15µm,21.0s,MS5.5
TIXI Tiksi 27.24 343 *e*P **P 08 28 08.9 -2.9**
BJI Beijing 28.08 269 *e*P **P 08 28 21.4 +2.1**
BJI AMB AMB
comp=Z,12nm,1.2s,mb4.4
BJI LR LR
comp=N,975nm,11.3s
BJI LR LR
comp=E,2µm,17.1s
BJI LR LR
comp=Z,1µm,16.5s
BJI Beijing 28.08 269 *e*P **P 08 28 21.4 +2.1**
comp=Z,12nm,1.2s,mb4.4
BJI S **S 08 33 11.2 +10**
BJI LR LR
comp=Z,1µm,16.5s,MS4.5
SSE Sheshan 29.80 249 *e*P **P 08 28 34.5 -0.1**
SSE AP pP 08 28 42.0 -3.8
SSE XP sP 08 28 47.3 -3.4
SSE S **S 08 33 31.6 +3.2**
SSE XS sS 08 33 49.1 +2.1
SSE ScS ScS 08 39 06.0 -5.2
SSE AMB AMB
comp=Z,57nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,57nm,4.6s
SSE LR LR
comp=N,335nm,22.6s,MS4.0
SSE LR LR
comp=E,169nm,22.6s,MS4.0
SSE LR LR
comp=Z,153nm,20.4s,MS3.6
SSE Sheshan 29.80 249 *e*P **P 08 28 34.5 -0.1**
comp=Z,57nm,0.8s,mb5.3
SSE pP pP 08 28 42.0 -3.8
SSE sP sP 08 28 47.3 -3.4
SSE S **S 08 33 31.6 +3.2**
SSE sS sS 08 33 49.1 +2.1
SSE ScS ScS 08 39 06.0 -5.2
SSE LR LR
comp=Z,150nm,20.4s,MS3.6
NJ2 Nanjing 30.69 253 *e*P **P 08 28 43.6 +1.2**
NJ2 AP pP 08 28 52.0 -1.6
NJ2 XP sP 08 28 56.2 -2.3
NJ2 PP PP 08 29 43.4 -8.7
NJ2 S **S 08 33 37.0 -5.3**
NJ2 XS sS 08 33 55.0 -5.9
NJ2 AMB AMB
comp=Z,90nm,0.9s,mb5.6
NJ2 AMB AMB
comp=Z,160nm,7.5s
NJ2 LR LR
comp=N,2µm,16.6s,MS4.9
NJ2 LR LR
comp=E,1µm,15.2s,MS4.9
NJ2 LR LR
comp=Z,1µm,13.8s,MS4.8
HHC Hu-ho-hao-te 30.86 274 ⇓P **P 08 28 45.1 +1.2**
HHC AP pP 08 28 54.2 -0.9
HHC XP sP 08 28 58.7 -1.3
HHC PP PP 08 29 47.0 -7.0
HHC PCP PcP 08 31 41.9 +1.8
HHC S **S 08 33 44.8 -0.1**
HHC XS sS 08 34 00.9 -2.7
HHC SCP ScP 08 35 19.4 -0.1
HHC PCS PcS 08 35 25.0 +0.9
HHC SS SS 08 35 28.6 -29
HHC SCS ScS 08 39 15.7 -0.6
HHC AMB AMB
comp=Z,37nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,293nm,5.6s
HHC LR LR
comp=N,1µm,15.1s,MS4.8
HHC LR LR
comp=E,1µm,12.5s,MS4.8
HHC LR LR
comp=Z,922nm,14.5s,MS4.6
SONM Songino Array 31.76 289 P **P 08 28 51.8 0.0**
comp=Z,12nm,0.8s,mb4.8,baz=69,slow=9.0,SNR=20
SONM LR LR 08 42 33.4
comp=Z,937nm,19.2s,MS4.5,baz=292,slow=38
SVW2 Sparrevohn 31.78 45 *e*P pP 08 29 02.1 -1.1
TLY Talaya 32.52 297 *e*P **P 08 28 57.6 -0.9**
TLY *e* 08 29 17.3
TLY *e* 08 30 20.5
TLY *e*S **S 08 34 09.0 -1.9**
TLY pmax pmax
comp=Z,19nm,1.6s,mb4.8
TLY MLR MLR
comp=Z,1µm,16.0s,MS4.7
TLY Talaya 32.52 297 *e*P **P 08 28 57.9 -0.6**
TLY *e*PcP PcP 08 31 45.0 +0.4
ZAK Zakamensk 33.04 295 *e*P **P 08 29 02.1 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
IMA2 Indian Mountai 33.12 36 *e*pP pP 08 29 15.2 +0.2
KDAK Kodiak Island 33.38 51 P **P 08 29 03.8 -2.3**
comp=Z,16nm,0.9s,mb4.9,baz=306,slow=13,SNR=4.5
WHN Wuhan 34.61 256 ⇑P **P 08 29 17.0 +0.3**
MCK McKinley 34.95 41 *e*P **P 08 29 18.7 -1.0**
MCK *e**SP sP 08 29 31.6 -4.2
MCK pmax pmax
comp=Z,28nm,1.1s,mb5.1
MCK McKinley 34.95 41 *e*P **P 08 29 18.7 -1.0**
comp=Z,28nm,1.1s,mb5.1
MCK *es*P sP 08 29 31.6 -4.2
COLA College 35.44 39*c i*P **P 08 29 22.9 -1.0**
COLA College 35.44 39 *e*P **P 08 29 23.5 -0.4**
comp=Z,74nm,0.9s,mb5.6
COLA *es*P sP 08 29 36.4 -3.6
XAN Xi'an 36.14 265 P **P 08 29 30.3 +0.4**
XAN AP pP 08 29 43.7 +2.5
XAN AMB AMB
comp=Z,99nm,0.9s,mb5.7
XAN AMB AMB
comp=Z,145nm,7.5s
XAN LR LR
comp=N,675nm,15.0s,MS4.6
XAN LR LR
comp=E,489nm,14.8s,MS4.6
XAN LR LR
comp=Z,1µm,15.0s,MS4.8
DIV Divide 36.53 45 *e*P **P 08 29 33.3 0.0**
EGAK Eagle 38.30 39 *e*P **P 08 29 46.8 -1.5**
comp=Z,70nm,1.0s,mb5.3
EGAK *es*P sP 08 29 59.7 -4.7
LZH Lanzhou 38.47 272 ⇑P **P 08 29 49.7 +0.1**
LZH AP pP 08 29 58.5 -2.5
LZH XP sP 08 30 03.2 -2.6
LZH PP PP 08 31 20.7 +2.6
LZH *e*S **S 08 35 42.3 +0.2**
LZH AMB AMB
comp=Z,106nm,1.2s,mb5.5
LZH LR LR
comp=Z,337nm,5.4s
LZH LR LR
comp=N,2µm,13.7s
LZH LR LR
comp=Z,3µm,17.6s,MS5.1
LZH Lanzhou 38.47 272 ⇑P **P 08 29 49.7 +0.1**
LZH *SP sP 08 30 03.2 -2.6
LZH 08 31 20.7
LZH *e*S **S 08 35 42.3 +0.2**
LZH pmax pmax
comp=Z,106nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,3µm,17.6s,MS5.1
LZH Lanzhou 38.47 272 ⇑P **P 08 29 49.7 +0.1**
comp=Z,106nm,1.2s,mb5.5
LZH pP pP 08 29 58.5 -2.5
LZH sP sP 08 30 03.2 -2.6
LZH PP PP 08 31 20.7 +2.6
LZH *e*S **S 08 35 42.3 +0.2**
LZH sS sS 08 35 57.4 -3.6
LZH LR LR
comp=Z,3µm,17.6s,MS5.1
DAWY Dawson 39.14 40 *e*P **P 08 29 54.5 -0.8**
DAWY *es*P sP 08 30 09.1 -2.4
DAWY *e*PcP PcP 08 31 57.3 -6.9
GTA Gaotai 39.49 279 ⇓P **P 08 29 59.3 +1.1**
GTA AP pP 08 30 08.3 -1.3
GTA XP sP 08 30 12.7 -1.7
GTA PP PP 08 31 36.0 +6.7
GTA S **S 08 35 59.7 +2.2**
GTA XS sS 08 36 16.6 +0.2
GTA SS SS 08 38 49.9 -3.1
GTA AMB AMB
comp=Z,14nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,211nm,5.0s
GTA LR LR
comp=N,664nm,12.6s,MS4.8
GTA LR LR
comp=E,621nm,13.8s,MS4.8
GTA LR LR
comp=Z,581nm,16.1s,MS4.5
CD2 Chengdu 41.51 265 P **P 08 30 15.8 +1.0**
CD2 AP pP 08 30 25.6 -0.6
CD2 XP sP 08 30 29.6 -1.5
CD2 PP PP 08 31 55.2 +4.0
CD2 PCP PcP 08 32 14.1 +2.3
CD2 S **S 08 36 29.2 +1.7**
CD2 XS sS 08 36 44.5 -2.0
CD2 SS SS 08 39 28.1 -5.0
CD2 SCS ScS 08 40 14.8 -0.1
CD2 AMB AMB
comp=Z,400nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,210nm,7.2s
CD2 LR LR
comp=N,780nm,16.8s,MS4.8
CD2 LR LR
comp=E,450nm,14.4s,MS4.8
CD2 LR LR
comp=Z,820nm,16.2s,MS4.7
GYA Guiyang 42.38 258 ⇑*i*P **P 08 30 22.9 +0.9**
GYA AP pP 08 30 31.7 -1.7
GYA XP sP 08 30 35.3 -3.0
GYA PP PP 08 32 04.6 +4.0
GYA PCP PcP 08 32 16.8 +2.1
GYA PPP 08 32 37.3
GYA SCP ScP 08 36 04.6 +2.5
GYA S **S 08 36 42.0 +1.5**
GYA XS sS 08 36 57.2 -2.3
GYA SS SS 08 39 44.6 -5.8
GYA SCS ScS 08 40 21.0 +0.7
GYA AMB AMB
comp=Z,70nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,230nm,6.6s
GYA LR LR
comp=N,790nm,17.6s,MS4.8
GYA LR LR
comp=E,730nm,17.9s,MS4.8
GYA LR LR
comp=Z,710nm,17.5s,MS4.6
ZAL Zalesovo 42.87 306 P **P 08 30 24.3 -1.6**
comp=Z,14nm,0.8s,mb4.8,baz=44,slow=8.9,SNR=67
ZAL LR LR 08 49 35.7
comp=Z,638nm,20.7s,MS4.5,baz=43,slow=38
NVS Novosibirsk 43.41 307 *e*P **P 08 30 28.5 -1.8**
NVS *e* 08 32 14.4
NVS pmax pmax
comp=Z,60nm,1.6s,mb5.1
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,42nm,1.5s
WMQ Urumqi 45.33 291 P **P 08 30 45.4 -0.2**
WMQ AP pP 08 30 55.4 -1.8
WMQ XP sP 08 30 59.4 -2.6
WMQ PCP PcP 08 32 25.7 +1.0
WMQ PP PP 08 32 31.9 -0.2
WMQ SCP ScP 08 36 14.4 +0.3
WMQ PCS PcS 08 36 18.4 -0.3
WMQ S **S 08 37 22.2 -1.3**
WMQ XS sS 08 37 39.6 -3.0
WMQ AMB AMB
comp=Z,15nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,95nm,6.4s
WMQ LR LR
comp=N,438nm,16.0s,MS4.6
WMQ LR LR
comp=E,362nm,16.0s,MS4.6
WMQ LR LR
comp=Z,730nm,18.7s,MS4.6
QIZ Qiongzhong 45.56 247 ⇓P **P 08 30 49.8 +2.4**
QIZ S **S 08 37 31.6 +4.8**
QIZ XS sS 08 37 47.4 +1.5
QIZ AMB AMB
comp=Z,243nm,2.5s,mb5.7
QIZ LR LR
comp=N,443nm,21.7s,MS4.6
QIZ LR LR
comp=E,496nm,19.5s,MS4.6
QIZ LR LR
comp=Z,474nm,15.2s,MS4.5
KMI Kunming 45.90 260 P **P 08 30 51.4 +1.3**
KMI AP pP 08 31 00.5 -1.2
KMI XP sP 08 31 03.8 -2.7
KMI PP PP 08 32 39.0 +0.8
KMI S **S 08 37 33.2 +1.5**
KMI SS SS 08 40 48.8 -7.9
KMI AMB AMB
comp=Z,48nm,1.1s,mb5.3
KMI AMB AMB
comp=Z,227nm,4.4s
KMI LR LR
comp=N,292nm,13.4s,MS4.5
KMI LR LR
comp=E,272nm,16.0s,MS4.5
KMI LR LR
comp=Z,365nm,15.5s,MS4.4
KMI Kunming 45.90 260 P **P 08 30 51.4 +1.3**
KMI *SP sP 08 31 03.8 -2.7
KMI 08 32 39.0
KMI S **S 08 37 33.2 +1.5**
KMI SS SS 08 40 48.8 -7.9
KMI pmax pmax
comp=Z,48nm,1.1s,mb5.3
KMI MLR MLR
comp=Z,370nm,15.5s,MS4.4
KMI Kunming 45.90 260 P **P 08 30 51.4 +1.3**
comp=Z,48nm,1.1s,mb5.3
KMI pP pP 08 31 00.5 -1.2
KMI sP sP 08 31 03.8 -2.7
KMI PP PP 08 32 39.0 +0.8
KMI S **S 08 37 33.2 +1.5**
KMI SS SS 08 40 48.8 -7.9
KMI LR LR
comp=Z,370nm,15.5s,MS4.4
MK31 Makanchi Array 47.28 297 *e*P **P 08 31 00.0 -0.9**
MK31 *e**SP sP 08 31 14.6 -2.7
MK31 *e* 08 32 31.2
MKAR Makanchi Array 47.28 297 P **P 08 31 00.0 -0.9**
comp=Z,32nm,0.8s,mb5.3,baz=64,slow=7.7,SNR=153
MKAR LR LR 08 51 55.5
comp=Z,464nm,18.2s,MS4.5,baz=57,slow=37
KURK Kurchatov 47.63 304 P **P 08 31 02.1 -1.6**
comp=Z,834nm,0.8s,SNR=72
BBB Bella Bella 48.39 54 LR LR 08 47 59.3
comp=Z,213nm,20.1s,MS4.1,baz=278,slow=32
ALE Alert 49.27 6 P **P 08 31 15.0 -1.3**
comp=Z,231nm,0.8s,mb6.3,SNR=10
YKA Yellowknife Ar 50.23 37 P **P 08 31 22.8 -0.8**
comp=Z,8.1nm,0.8s,mb4.8,baz=296,slow=7.3,SNR=8.6
YKA LR LR 08 54 25.9
comp=Z,117nm,19.8s,MS3.9,baz=235,slow=38
YKA Yellowknife Ar 50.23 37 P **P 08 31 22.8 -0.8**
YKA LR LR 08 54 25.9
RES Resolute Bay 50.25 19 *e*P **P 08 31 22.4 -1.4**
comp=Z,769nm,1.0s
LSA Lhasa 50.84 273 P **P 08 31 31.0 +2.8**
LSA Lhasa 50.84 273 *e*P **P 08 31 30.9 +2.7**
LSA pmax pmax
comp=Z,117nm,0.7s,mb5.9
LSA Lhasa 50.84 273 *e*P **P 08 31 30.9 +2.7**
comp=Z,117nm,0.7s,mb5.9
BRVK Borovoye 51.09 310 P **P 08 31 29.5 -0.6**
comp=Z,313nm,0.9s,mb6.2,SNR=17
BRVK Borovoye 51.09 310 P **P 08 31 29.2 -0.9**
SNR=12
BRVK Borovoye 51.09 310 *e*P **P 08 31 29.1 -1.0**
BRVK *e* 08 32 45.3
BRVK pmax pmax
comp=Z,44nm,0.8s,mb5.4
BRVK Borovoye 51.09 310 *e*P **P 08 31 29.1 -1.0**
comp=Z,44nm,0.8s,mb5.5
BRVK *e*PcP PcP 08 32 45.3 -0.1
IMP Imphal 52.09 267 *e*P **P 08 31 38.0 +0.5**
CHTO Chiang Mai 52.79 257 P **P 08 31 44.5 +1.8**
SNR=12
CHTO Chiang Mai 52.79 257 P **P 08 31 43.9 +1.2**
CHTO pmax pmax
comp=Z,40nm,1.0s,mb5.3
CHTO Chiang Mai 52.79 257 *e*P **P 08 31 44.2 +1.5**
comp=Z,41nm,1.0s,mb5.3
SHL Shillong 52.97 269 *e*P **P 08 31 44.5 +0.4**
ULHL Ulahol 53.33 295 P **P 08 31 46.6 -0.1**
SNR=28
TKM2 Tokmak 2 53.35 296 P **P 08 31 47.1 +0.3**
SNR=17
CHMS Chumysh 53.82 297 P **P 08 31 50.3 0.0**
SNR=9.0
USP Ospenovka 53.82 297 P **P 08 31 50.1 -0.3**
SNR=48
KBK Karagaybulak 53.89 296 P **P 08 31 50.5 -0.4**
SNR=12
FRU Bishkek 53.99 297 *e*P **P 08 31 50.0 -1.6**
FRU pmax pmax
comp=Z,64nm,1.1s,mb5.5
FRU MLR MLR
comp=Z,1µm,16.0s,MS5.1
KZA Kyzart 54.03 296 P **P 08 31 52.6 +0.8**
SNR=31
AAK Ala-Archa 54.18 297 P **P 08 31 51.1 -1.8**
comp=Z,208nm,0.8s,mb6.1,SNR=14
AAK Ala-Archa 54.18 297 P **P 08 31 52.8 -0.2**
SNR=18
AAK Ala-Archa 54.18 297 P **P 08 31 51.9 -1.1**
SNR=12
AAK Ala-Archa 54.18 297*c i*P **P 08 31 51.3 -1.6**
AAK pmax pmax
comp=Z,28nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,700nm,17.0s,MS4.8
AAK Ala-Archa 54.18 297 *e*P **P 08 31 51.7 -1.3**
comp=Z,18nm,0.8s,mb5.0
UCH Uchtor 54.40 296 P **P 08 31 55.2 +0.7**
SNR=7.3
EKS2 Erkin-Say 54.60 297 P **P 08 31 55.6 -0.4**
SNR=28
AML Almayashu 54.95 296 P **P 08 31 59.0 +0.5**
SNR=17
KSH Kashi 55.04 293 *e*P **P 08 32 00.9 +1.7**
KSH *e*AP pP 08 32 11.0 0.0
KSH *e*XP sP 08 32 15.1 -0.6
KSH *e*PCP PcP 08 33 00.7 +0.3
KSH *e*PP PP 08 34 05.1 +2.5
KSH *e*S **S 08 39 37.6 -1.0**
KSH *e*PS 08 39 50.8
KSH *e*XS sS 08 39 57.1 -1.1
KSH *e*SCS ScS 08 41 44.5 -0.5
KSH *e*SS SS 08 43 22.7 0.0
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
ARU Arti 55.10 318 *e*P **P 08 31 57.8 -1.8**
ARU *e* 08 34 00.4
ARU *e*PPP 08 35 14.8
ARU *e*S **S 08 39 38.5 -1.0**
ARU *e*SS SS 08 43 20.6 -3.1
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.5
ARU MLR MLR
comp=N,300nm,17.0s,MS4.5
ARU MLR MLR
comp=E,200nm,17.0s,MS4.5
ARU Arti 55.10 318 *e*P **P 08 31 58.2 -1.4**
comp=E,61nm,0.8s,mb5.7
JIRN Jiri 55.50 275 *e*P **P 08 32 04.6 +2.1**
GUN Gumba 55.55 275 *e*P **P 08 32 04.3 +1.4**
comp=E,148nm,0.7s,mb6.1
EDM Edmonton 55.60 47 *e*P **P 08 32 03.0 -0.2**
EDM *e**SP sP 08 32 15.6 -4.1
KKN Kakani 56.04 276 *e*P **P 08 32 07.8 +1.5**
comp=E,323nm,0.9s
PKI Pulchoki 56.09 275 *e*P **P 08 32 07.0 +0.3**
comp=E,262nm,0.9s,mb6.2
DAG Danmarks Havn 56.25 358⇓*i*P **P 08 32 06.3 -1.5**
comp=E,14nm,1.0s,mb5.0
DAG Danmarks Havn 56.25 358⇓*i*P **P 08 32 06.3 -1.5**
DAG pmax pmax
comp=Z,14nm,1.0s,mb5.0
DMN Daman 56.27 276 *e*P **P 08 32 09.8 +1.8**
comp=Z,555nm,0.9s
GKN Gorkha 56.34 276 *e*P **P 08 32 09.9 +1.4**
comp=Z,503nm,0.8s
NEW Newport 56.45 53 P **P 08 32 08.7 -0.5**
comp=Z,2.3nm,0.7s,mb4.3,baz=294,slow=5.7,SNR=3.7
NEW LR LR 08 55 28.0
comp=Z,131nm,18.9s,MS4.0,baz=234,slow=35
LVZ Lovozero 56.62 337 *e*P **P 08 32 08.8 -1.7**
LVZ pmax pmax
comp=Z,24nm,1.1s,mb5.1
KOLN Koldanda 57.19 277 *e*P **P 08 32 16.1 +1.6**
comp=Z,380nm,0.9s
ARCES ARCESS Array B 57.65 341 P **P 08 32 16.7 -1.1**
comp=Z,5.9nm,0.7s,mb4.7,baz=29,slow=6.7,SNR=11
ARCES LR LR 09 00 30.7
comp=Z,614nm,18.0s,MS4.8,baz=204,slow=40
BOK Bokaro 58.23 272⇑*i*P **P 08 32 23.0 +1.2**
BOK AMb AMB 08 32 26.9
comp=Z,76nm,1.5s,mb5.5
BMO Blue Mountains 58.35 57 *e*P **P 08 32 24.1 +1.5**
comp=Z,24nm,1.5s,mb5.0
LGTI Lohaghat 58.38 280 *i* P **P 08 32 24.5 +1.6**
MSO Missoula 59.04 53 *e*P **P 08 32 30.6 +3.1**
comp=Z,12nm,1.3s,mb4.8
KSM Kuching 59.20 233 *e*P **P 08 32 30.1 +1.5**
ORR Orenburg 59.78 315 *e*P **P 08 32 31.6 -0.9**
ORR pmax pmax
comp=Z,50nm,1.5s,mb5.3
ORR MLR MLR
comp=Z,780nm,14.0s,MS5.0
ALBI Allahabad 60.01 276 *ex* **P 08 32 31.5 -2.6**
FFC Flin Flon 60.04 41 *ep*P pP 08 32 44.1 -2.1
SUMG Summit 60.24 4 *e*P **P 08 32 33.9 -1.8**
PAHR Pah Rah Range 60.26 62 *e*P **P 08 32 37.3 +1.4**
comp=Z,8.1nm,1.1s,mb4.7
LRM Limekiln Ridge 60.47 53 *e*P **P 08 32 37.9 +0.6**
FCC Fort Churchill 60.59 34 P **P 08 32 37.1 -1.0**
FCC Fort Churchill 60.59 34 *e*P **P 08 32 37.5 -0.6**
comp=Z,13nm,0.8s,mb5.1
CMB Columbia Colle 60.69 65 *e*P **P 08 32 41.7 +2.9**
CMB *ep*P pP 08 32 50.9 +0.2
HLID Hailey 60.78 56 *e*P **P 08 32 40.4 +1.0**
MCMT McKenzie Canyo 60.87 54 *e*P **P 08 32 41.2 +1.2**
MCMT *ep*P pP 08 32 52.0 +0.1
NDI New Delhi 60.90 282 *e*P **P 08 32 40.3 +0.1**
JOF Joensuu 61.22 334 *ep* **P 08 32 40.7 -1.7**
comp=Z,20nm,0.6s,mb5.4
QLMT Earthquake Lak 61.65 54 *e*P **P 08 32 47.1 +1.8**
NVAR Mina Array Bea 61.72 63 P **P 08 32 45.4 -0.3**
comp=Z,1.0nm,0.7s,baz=292,slow=7.9,SNR=8.2
NVAR Mina Array Bea 61.72 63 P **P 08 32 45.4 -0.3**

RRI2 **Red Ridge** 62.66 55 eP P 08 32 57.2 +5.2
TPAW **Teton Pass** 62.78 55 eP P 08 32 53.1 +0.3
comp=Z,16nm,1.0s,mb5.1
LOHW **Long Hollow** 62.89 54 eP P 08 32 58.0 +4.5
comp=Z,21nm,1.4s,mb5.1
REDW **Red Top Meadow** 62.91 55 eP P 08 32 58.8 +5.1
comp=Z,18nm,1.1s,mb5.1
KAF **Kangasniemi** 63.31 335 ep P 08 32 53.9 -2.5
comp=Z,14nm,0.8s,mb5.2,baz=36,slow=6.2
KAF **Kangasniemi** 63.31 335 eP P 08 32 53.9 -2.5
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.1
SPUT **South Promonto** 63.34 57 eP P 08 32 56.4 -0.2
SPUT epP pP 08 33 06.1 -2.5
HWUT **Hardware Ranch** 63.65 57 eP P 08 32 59.2 +0.6
comp=Z,3.3nm,0.7s,mb4.5
DUG **Dugway** 63.85 58 eP P 08 33 00.4 +0.5
DUG e*PP pP 08 33 11.8 -0.1
DUG pmax pmax
comp=Z,40nm,1.8s,mb5.2
DUG **Dugway** 63.85 58 eP P 08 33 00.4 +0.4
comp=Z,40nm,1.8s,mb5.1
DUG epP pP 08 33 11.8 -0.2
FIA1 **FINESS Array S** 63.91 335 eP P 08 32 59.5 -0.8
FIA1 ePcP PcP 08 33 34.0 -1.7
FINES **FINESS Array B** 63.91 335 P P 08 32 59.6 -0.8
comp=Z,8.4nm,0.4s,mb5.2,baz=38,slow=7.6,SNR=58
FINES LR LR 09 05 26.8
comp=Z,426nm,19.3s,MS4.6,baz=157,slow=40
BW06 **Boulder Array** 64.02 54 eP P 08 33 00.7 -0.3
comp=Z,8.0nm,1.0s,mb4.7
PDAR **Pinedale Array** 64.02 54 P P 08 33 00.7 -0.4
comp=Z,3.0nm,1.0s,mb4.3,baz=316,slow=2.2,SNR=10
PDAR LR LR 08 57 43.4
comp=Z,104nm,19.4s,MS4.0,baz=103,slow=33
AJM **Ajmer** 64.06 282 eP P 08 33 01.8 +0.5
AJM i P 08 33 02.0
VIS **Vishakhapatnam** 64.11 268 eP P 08 33 02.8 +1.2
VIS AMb AMB 08 33 03.8
comp=Z,36nm,0.7s,mb5.5
BHPL **Bhopal** 64.36 277 eP P 08 33 03.9 +0.6
MOS **Moscow** 64.43 326 eP P 08 32 59.3 -4.4
MOS e 08 33 19.8
MOS e 08 35 22.9
GSC **Goldstone** 64.65 65 eP P 08 33 05.6 +0.5
NGP **Nagpur** 64.67 274 eP P 08 33 04.2 -1.1
NGP AMb AMB 08 33 07.4
comp=Z,55nm,1.9s,mb5.3
PSI **Prapat** 64.80 245 P P 08 33 07.2 +1.1
comp=Z,7.5nm,0.8s,mb4.8,baz=111,slow=1.9,SNR=9.2
PSI LR LR 09 02 40.8
comp=Z,67nm,19.5s,MS3.9,baz=40,slow=37
PSI **Prapat** 64.80 245 P P 08 33 07.2 +1.1
PSI LR LR 09 02 40.8
ARUT **Antelope Range** 65.06 61 eP P 08 33 07.6 -0.2
OBN **Obninsk** 65.30 326 ⇓iP P 08 33 08.2 -1.2
OBN e 08 35 30.8
OBN pmax pmax
comp=Z,53nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.5
MSU **Marysvale** 65.33 59 eP P 08 33 10.2 +0.6
SRU **San Rafael** 65.89 58 eP P 08 33 12.7 -0.5
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SRU **San Rafael** 65.89 58 eP P 08 33 12.7 -0.5
comp=Z,3.7nm,0.7s,mb4.5
VSU **Vasula** 66.12 333⇓eP P 08 33 13.0 -1.7
CTA **Charters Tower** 67.30 188 P P 08 33 20.8 -1.4
comp=Z,1.7nm,0.6s,mb4.2,baz=9.0,slow=5.9,SNR=3.0
GLA **Glamis** 67.36 65 P P 08 33 24.2 +1.6
GLA e*SP sP 08 33 35.8 -3.5
WUAZ **Wupatki** 67.81 61 eP P 08 33 30.3 +4.9
SMCO **Snowmass** 67.88 56 eP P 08 33 25.9 0.0
NB2 **NORSAR Subarra** 68.02 341 P P 08 33 26.2 -0.6
comp=Z,65nm,0.8s,mb5.7,baz=26,slow=6.5
NOA **NORSAR Array B** 68.02 341 P P 08 33 26.2 -0.6
comp=Z,55nm,0.9s,mb5.6,baz=26,slow=6.3,SNR=102
NOA LR LR 09 07 37.7
comp=Z,339nm,18.0s,MS4.6,baz=5.0,slow=40
NOA **NORSAR Array B** 68.02 341 P P 08 33 26.2 -0.6
NOA LR LR 09 07 37.7
AFI **Afiamalu** 68.09 144 LR LR 08 59 24.8
comp=Z,191nm,18.9s,MS4.3,baz=126,slow=33
NAO01 **NORSAR Array S** 68.27 342 eP P 08 33 27.9 -0.4
comp=Z,20nm,0.8s,mb5.2
MNK **Minsk** 68.96 330 eP P 08 33 28.0 -4.6
WRAB **Tennant Creek** 69.09 200⇓eP P 08 33 32.3 -1.1
WB2 **Warramunga Arr** 69.10 200 eP P 08 33 32.1 -1.4
WRA **Warramunga Arr** 69.10 200 P P 08 33 32.3 -1.2
comp=Z,5.8nm,1.0s,mb4.5,baz=18,slow=6.4,SNR=22
WRA LR LR 09 03 15.2
comp=Z,50nm,18.0s,MS3.8,baz=25,slow=35
KONO **Kongsberg** 69.63 342 ⇓iP P 08 33 36.6 -0.1
KONO **Kongsberg** 69.63 342 eP P 08 33 36.8 +0.1
comp=Z,40nm,0.9s,mb5.3
FITZ **Fitzroy Crossi** 69.79 209 eP P 08 33 37.9 +0.2
comp=Z,11nm,1.4s,mb4.6
FITZ **Fitzroy Crossi** 69.79 209 P P 08 33 37.8 +0.1
comp=Z,6.2nm,1.1s,mb4.5,baz=24,slow=8.2,SNR=4.5
GOF **Gofitskoye** 69.95 315 ⇓iP P 08 33 33.3 -5.4
GOF pmax pmax
comp=Z,75nm,0.8s,mb5.7
POO **Poona** 70.01 276 ⇓ix P 08 33 36.5 -2.6
comp=Z,100nm,1.0s,mb5.7
ECSD **EROS,Sioux Fal** 70.17 47 eP P 08 33 38.6 -1.5
comp=Z,45nm,1.6s,mb5.2
KAD **Karad** 70.63 275 eP P 08 33 43.7 +0.8
KAD eP 08 33 43.9
KAD AMb AMB 08 33 45.2
comp=Z,67nm,0.5s,mb5.8
SUW **Suwalki** 70.91 332 eP P 08 33 43.6 -1.0
KIV **Kislovodsk** 70.93 315 eP P 08 33 45.3 +0.6
KIV eS S 08 42 58.2 +0.8
KIV pmax pmax
comp=Z,43nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,851nm,16.0s,MS5.1
KIV **Kislovodsk** 70.93 315 eP P 08 33 45.7 +1.0
comp=Z,16nm,0.8s,mb5.0
KIV esP sP 08 33 58.7 -2.8
ANMO **Albuquerque** 71.11 59 eP P 08 33 45.8 0.0
ZEI **Tsey** 71.21 313 eP P 08 33 45.4 -1.0
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.0
AKASG **Malin Array Be** 71.53 327 P P 08 33 47.3 -1.0
comp=Z,56nm,0.8s,mb5.5,baz=34,slow=6.1,SNR=87
AKASG LR LR 09 07 44.4
comp=Z,273nm,18.5s,MS4.5,baz=40,slow=38
AKBB **Malin Array Si** 71.53 327 eP P 08 33 47.1 -1.2
AKBB e*SP sP 08 34 01.4 -3.7
BSD **Bornholm Skovb** 72.41 337 ⇓iP P 08 33 53.5 -0.1
comp=Z,57nm,1.0s,mb5.5
BSD e 08 53 28.4
BSD **Bornholm Skovb** 72.41 337 ⇓iP P 08 33 53.5 -0.1
BSD pmax pmax
comp=Z,57nm,1.0s,mb5.5
MUD **Monsted U'grnd** 72.64 340 i P P 08 33 56.4 +1.5
comp=Z,61nm,1.4s,mb5.3
MUD
comp=Z,320nm,18.0s
MUD **Monsted U'grnd** 72.64 340 eP P 08 33 56.4 +1.5
MUD pmax pmax
comp=Z,61nm,1.4s,mb5.3
MUD **Monsted U'grnd** 72.64 340 eP P 08 33 56.4 +1.5
comp=Z,61nm,1.4s,mb5.3
SOC **Sochi** 72.64 316 eP P 08 33 54.3 -0.6
SOC eS S 08 43 15.3 -1.6
SOC pmax pmax
comp=Z,67nm,1.0s,mb5.5
GNI **Garni** 72.71 311 P P 08 33 55.9 +0.5
comp=Z,27nm,0.8s,mb5.2,baz=10,slow=4.3,SNR=7.9
GNI LR LR 09 09 36.8
comp=Z,646nm,18.4s,MS4.9,baz=359,slow=39
GNI **Garni** 72.71 311 es iP P 08 33 55.5 +0.1
GNI pmax pmax
comp=Z,77nm,1.7s
GNI MLR MLR
comp=Z,700nm,18.0s
GNI **Garni** 72.71 311 eP P 08 33 57.5 +2.1
comp=Z,51nm,0.9s,mb5.5
AS31 **Alice Springs** 72.79 199 eP P 08 33 56.3 +0.4
ASAR **Alice Springs** 72.79 199 P P 08 33 56.0 +0.1
comp=Z,6.2nm,0.7s,mb4.6,baz=11,slow=5.2,SNR=67
ASAR LR LR 09 02 48.4
comp=Z,90nm,20.0s,MS4.0,baz=14,slow=33
ASPA **Alice Springs** 72.80 199 eP P 08 33 56.3 +0.4
MNGI **Mangalore** 73.27 271 eP P 08 34 01.6 +2.9
MNGI AMb AMB 08 34 08.0
comp=Z,28nm,1.2s,mb5.1
PALK **Pallekele** 73.34 263 eP P 08 33 60.0 +0.9
comp=Z,24nm,1.1s,mb5.0
PALK epP pP 08 34 09.9 -1.4
MNTX **Cornudas Mount** 74.05 61 eP P 08 34 03.0 -0.3
SIM **Simferopol'** 74.13 320 diP P 08 34 04.2 +0.5
SIM e pP 08 34 17.0 +1.1
SIM pmax pmax
comp=Z,48nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,200nm,13.8s,MS4.6
LVV **L'vov** 74.15 329 i P P 08 34 03.3 -0.5
ERZM **Erzurum** 74.62 313 i P P 08 34 08.6 +2.1
BSEG **Bad Segeberg** 74.66 339 eP P 08 34 06.9 +0.1
comp=Z,44nm,1.2s,mb5.3
KIS **Kishinev** 74.69 325 eP P 08 34 05.0 -2.0
KIS **Kishinev** 74.69 325 ePP PP 08 37 03.0 +8.7
KIS LRM 09 13 12.0
comp=Z,500nm,15.0s
KWP **Kalwaria** 74.77 330 eP P 08 34 07.8 +0.4
KWP **Kalwaria** 74.77 330 eP P 08 34 07.6 +0.2
KWP pmax pmax
comp=Z,108nm,1.0s,mb5.7
KWP **Kalwaria** 74.77 330 eP P 08 34 07.6 +0.2
comp=Z,108nm,1.0s,mb5.7
RUE **Ruedersdorf** 75.06 336 eP P 08 34 09.5 +0.3
comp=Z,100nm,1.1s,mb5.7
HAKT **HAKKARI** 75.18 310 i P P 08 34 10.7 +0.8
OJC **Ojcow** 75.24 332 eP P 08 34 10.0 -0.2
STHS **Stebnicka Huta** 75.45 330 eP P 08 34 11.9 +0.5
STHS pmax pmax
comp=Z,29nm,1.0s,mb5.2
STHS **Stebnicka Huta** 75.45 330 eP P 08 34 11.9 +0.5
comp=Z,29nm,1.0s,mb5.2
KOLS **Kolonicke sedl** 75.51 329 eP P 08 34 11.6 -0.1
BURAR **Bucovina Array** 75.57 327⇑iP P 08 34 11.8 -0.2
BURAR **Bucovina Array** 75.57 327⇑P P 08 34 11.8 -0.3
WMOK **Wichita Mounta** 75.63 54 eP P 08 34 11.7 -0.7
WMOK e pP 08 34 24.4 -0.3
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WMOK **Wichita Mounta** 75.63 54 eP P 08 34 11.7 -0.7
comp=Z,3.6nm,0.9s,mb4.3
WMOK ePcP PcP 08 34 24.4 -0.7
UZH **Uzhgorod** 75.76 329 eP P 08 34 11.4 -1.8
UZH e pP 08 34 23.0 -2.4
UZH e 08 34 32.4
KSP **Ksiaz** 75.79 334 eP P 08 34 13.5 +0.2
KSP **Ksiaz** 75.79 334 eP P 08 34 12.5 -0.8
KSP epP pP 08 34 25.5 -0.1
CRVS **Cervenica-Dubn** 75.82 330 eP P 08 34 13.3 -0.2
OKC **Ostrava-Krasne** 76.10 332 eP P 08 34 15.7 +0.6
OKC epP pP 08 34 29.1 +1.8
OKC AMS AMS 09 14 40.0
OKC **Ostrava-Krasne** 76.10 332 eP P 08 34 15.7 +0.6
OKC epP pP 08 34 29.1 +1.8
UPC **Upice** 76.17 334 eP P 08 34 15.8 +0.3
DPC **Dobruska-Polom** 76.22 334 eP P 08 34 15.6 -0.2
DPC epP pP 08 34 29.8 +1.8
DPC AMS AMS 09 12 30.0
comp=Z,800nm,16.9s
CLL **Collm** 76.33 336 eP P 08 34 15.9 -0.5
comp=Z,84nm,1.0s,mb5.6
CLL epP pP 08 34 29.5 +0.9
CLL **Collm** 76.33 336 i P P 08 34 15.9 -0.5
CLL e*SP sP 08 34 29.0 -4.3
CLL pmax pmax
comp=Z,85nm,1.0s,mb5.6
CLL **Collm** 76.33 336 i P P 08 34 15.9 -0.5
comp=Z,85nm,1.0s,mb5.6
CLL esP sP 08 34 29.0 -4.3
CLL **Collm** 76.33 336 i P P 08 34 15.9 -0.5
comp=Z,85nm,1.0s,mb5.6
CLL i PcP PcP 08 34 29.3 +1.2
CLL LmV 09 11 00.0
comp=Z,300nm,18.8s
MORC **Moravsky Berou** 76.35 333⇑iP P 08 34 17.5 +1.0
MORC **Moravsky Berou** 76.35 333 eP P 08 34 16.6 +0.1
MORC pmax pmax
comp=Z,52nm,1.0s,mb5.4
MORC **Moravsky Berou** 76.35 333 eP P 08 34 16.6 +0.2
comp=Z,52nm,1.0s,mb5.4
BANOM **Banah** 76.36 293 ⇑P P 08 34 17.2 +0.6
SNR=6.7
VRI **Vrincioaia** 76.45 325 P P 08 34 17.9 +0.9
BRG **Berggiesshubel** 76.45 335 eP P 08 34 16.7 -0.4
comp=Z,30nm,1.1s,mb5.1
BRG **Berggiesshubel** 76.45 335 i P P 08 34 17.4 +0.3
comp=Z,18nm,1.1s,mb4.9
BRG
comp=N,245nm,19.5s
BRG
comp=E,152nm,14.7s
BRG
comp=Z,300nm,23.9s
LIKS **Likavka** 76.48 331 eP P 08 34 18.2 +1.0
LIKS pmax pmax
comp=Z,48nm,0.9s,mb5.4
LIKS **Likavka** 76.48 331 eP P 08 34 18.2 +1.0
comp=Z,48nm,0.9s,mb5.4
PLOR **Plostina** 76.49 325⇓iP P 08 34 17.7 +0.4
KECS **Kecovo** 76.51 330 eP P 08 34 17.0 -0.4
KECS epP pP 08 34 31.4 +1.7
KECS **Kecovo** 76.51 330 eP P 08 34 17.0 -0.4
KECS e pP 08 34 31.5 +1.8
KECS pmax pmax
comp=Z,14nm,1.0s,mb4.8
KECS **Kecovo** 76.51 330 eP P 08 34 17.0 -0.4
comp=Z,14nm,1.0s,mb4.8
KECS e pP 08 34 31.5 +1.8
CLZ **Clausthal** 76.55 338 eP P 08 34 18.1 +0.5
comp=Z,85nm,1.3s,mb5.5
CLZ **Clausthal** 76.55 338 eP P 08 34 18.2 +0.6
CLZ pmax pmax
comp=Z,85nm,1.3s,mb5.5
CLZ **Clausthal** 76.55 338 eP P 08 34 18.2 +0.6
comp=Z,85nm,1.3s,mb5.5
BOYT **Boyabat** 76.56 317 i P P 08 34 19.4 +1.7
FBE **Freiberg** 76.58 336 eP P 08 34 17.7 -0.1
comp=Z,51nm,1.0s,mb5.4
PVCC **Panska Ves** 76.58 335 eP P 08 34 17.8 0.0
PVCC AMS AMS 09 11 30.0
comp=Z,400nm,20.8s
TXAR **Lajitas Array** 76.77 61 P P 08 34 18.4 -0.5
comp=Z,6.8nm,0.8s,mb4.6,baz=296,slow=4.0,SNR=76
TXAR LR LR 09 08 31.3
comp=Z,133nm,19.3s,MS4.3,baz=130,slow=36
TXAR **Lajitas Array** 76.77 61 P P 08 34 18.4 -0.5
TXAR LR LR 09 08 31.2
IBBN **Ibbenburen** 76.78 339 eP P 08 34 19.0 +0.1
comp=Z,87nm,1.6s,mb5.4
ELZG **Elazig** 76.88 313 i P P 08 34 21.6 +2.0
MARD **Mardin** 76.88 311 i P P 08 34 20.9 +1.4
TIRR **Tirgusor** 76.94 323⇑iP P 08 34 20.7 +0.9
TIRR **Tirgusor** 76.94 323 P P 08 34 19.5 -0.3
TIRR **Tirgusor** 76.94 323 P P 08 34 20.2 +0.4
VYHS **Vyhne** 77.05 331 eP P 08 34 20.5 0.0
VYHS pmax pmax
comp=Z,23nm,1.2s,mb5.0
VYHS **Vyhne** 77.05 331 eP P 08 34 20.5 0.0
comp=Z,23nm,1.2s,mb5.0
VRAC **Vranov** 77.05 333⇓iP P 08 34 21.8 +1.3
VRAC **Vranov** 77.05 333 P P 08 34 20.9 +0.4
MLR **Muntele Rosu** 77.06 325⇓iP P 08 34 21.6 +1.1
MLR **Muntele Rosu** 77.06 325 P P 08 34 21.2 +0.7
PRU **Pruhonice** 77.07 334 eP P 08 34 20.9 +0.3
PRU epP pP 08 34 34.3 +1.5
PRU AMS AMS 09 11 50.0
comp=Z,500nm,16.6s
DRGR 77.18 328⇓iP P 08 34 21.4 +0.2
DRGR 77.18 328 P P 08 34 21.3 +0.1
PSZ **Piszkesteto** 77.20 330⇑iP P 08 34 22.7 +1.4
PSZ **Piszkesteto** 77.20 330 eP P 08 34 22.0 +0.7
PSZ pmax pmax
comp=Z,36nm,1.1s,mb5.2
PSZ **Piszkesteto** 77.20 330 eP P 08 34 22.0 +0.7
comp=Z,36nm,1.1s,mb5.2
PSZ **Piszkesteto** 77.20 330⇓eP P 08 34 22.1 +0.8
CTKT **Corum** 77.24 317 iP P 08 34 22.8 +1.2
TANN **Tannenbergstha** 77.28 336 eP P 08 34 21.9 +0.1
comp=Z,25nm,1.2s,mb5.0
WERD **Werda** 77.30 336 eP P 08 34 22.0 +0.2
comp=Z,33nm,1.1s,mb5.2
SMDO **Samad** 77.31 290 ⇑P P 08 34 23.3 +1.4
SNR=7.5
MOX **Moxa** 77.31 337 eP P 08 34 22.0 +0.1
comp=Z,61nm,1.4s,mb5.3
MOX
comp=Z,300nm,22.0s
MOX **Moxa** 77.31 337 eP P 08 34 22.0 +0.1
MOX pmax pmax
comp=Z,61nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,300nm,22.0s,MS4.6
WTSB **Winterswijk** 77.32 340 eP P 08 34 21.7 -0.3
comp=Z,34nm,1.6s,mb5.0
GUNZ **Gunzen** 77.37 336 eP P 08 34 22.5 +0.3
comp=Z,33nm,1.0s,mb5.2
HOQ **Hoqain** 77.40 291 ⇓P P 08 34 23.5 +1.0
SNR=19
ASHO **Ashiyiah** 77.41 293 ⇓P P 08 34 23.0 +0.5
SNR=12
WERN **Wernitzgruen** 77.42 336 eP P 08 34 22.8 +0.3
comp=Z,36nm,0.9s,mb5.3
NKC **Novy Kostel** 77.45 336 eP P 08 34 22.9 +0.2
NKC epP pP 08 34 36.8 +1.8
NKC AMS AMS 09 13 20.0
NKC **Novy Kostel** 77.45 336 eP P 08 34 22.9 +0.2
NKC epP pP 08 34 36.8 +1.8
VOIR 77.45 326⇑iP P 08 34 23.8 +1.1
VOIR 77.45 326⇑P P 08 34 23.8 +1.1
UBBA **Unterbreizbach** 77.58 338 eP P 08 34 23.5 +0.1
comp=Z,50nm,1.6s,mb5.2
BUG **Bochum--Univer** 77.69 339 eP P 08 34 24.1 +0.1
comp=Z,45nm,1.5s,mb5.2
MANZ **Manzenberg** 77.77 336 eP P 08 34 24.8 +0.3
comp=Z,21nm,1.0s,mb5.0
MANZ epP pP 08 34 38.3 +1.6
BUD **Budapest** 77.87 331⇓eP P 08 34 26.4 +1.4
ROTZ **Rotzenmuhle** 77.94 336 eP P 08 34 26.0 +0.6
ELDT **Eldivan** 77.98 318 iP P 08 34 26.8 +1.1
BHD **Baghdad** 78.03 306 ex x 08 34 24.0
ARQ **Araqi** 78.08 291 ⇓P P 08 34 27.8 +1.6
SNR=6.9
KHC **Kasperske Hory** 78.12 335 eP P 08 34 26.5 +0.1
KHC epP pP 08 34 40.6 +1.9
KHC AMS AMS 09 14 10.0
comp=Z,500nm,17.2s
KHC **Kasperske Hory** 78.12 335⇑eP P 08 34 26.2 -0.2
KHC e*PP pP 08 34 40.6 +1.9
JCT **Junction City** 78.20 58 eP P 08 34 24.5 -2.4
GRA1 **Grafenberg Arr** 78.28 336 eP P 08 34 28.0 +0.7
comp=Z,83nm,1.2s,mb5.5
GRA1 LR LR
comp=Z,200nm,21.5s,MS4.4
GRF **Grafenberg Arr** 78.28 336 eP P 08 34 28.0 +0.7
comp=Z,83nm,1.2s,mb5.5
GRF eL 09 11 42.3
comp=Z,246nm,21.5s
GRF **Grafenberg Arr** 78.28 336 eP P 08 34 28.0 +0.7
GRF pmax pmax
comp=Z,83nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
GRF **Grafenberg Arr** 78.28 336 eP P 08 34 28.0 +0.7
GRF pmax pmax
comp=Z,83nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
WET **Wettzell** 78.31 335 eP P 08 34 28.1 +0.6
comp=Z,44nm,1.1s,mb5.3
WET esP sP 08 34 41.4 -3.0
WET **Wettzell** 78.31 335 eP P 08 34 28.1 +0.6
WET e*SP sP 08 34 41.4 -3.0
WET pmax pmax
comp=Z,44nm,1.1s,mb5.3
GEC2 **GERESS Array S** 78.34 334 eP P 08 34 27.8 +0.2
comp=Z,18nm,1.0s,mb5.0
GEC2 **GERESS Array S** 78.34 334 eP P 08 34 27.8 +0.2
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb5.0
GERES **GERESS Array B** 78.34 334 P P 08 34 27.1 -0.5
comp=Z,9.5nm,0.9s,mb4.7,baz=34,slow=5.2,SNR=39
GERES LR LR 09 13 19.7
comp=Z,454nm,18.2s,MS4.8,baz=117,slow=39
GZR **Gura Zlata** 78.34 327⇓iP P 08 34 27.8 +0.1
GZR **Gura Zlata** 78.34 327 P P 08 34 27.9 +0.3
GZT **Gaziantep** 78.48 313 i P P 08 34 29.3 +0.9
BR131 **Keskin Array S** 78.49 317 eP P 08 34 29.4 +0.9
comp=Z,18nm,0.9s,mb5.0
BRTR **Keskin Array B** 78.49 317 P P 08 34 29.0 +0.5
comp=Z,19nm,0.9s,mb5.0,baz=68,slow=2.7,SNR=44
SOP **Sopron** 78.50 332⇓eP P 08 34 29.7 +1.2
CONA **Conrad Observa** 78.50 333⇑iP P 08 34 29.1 +0.6
comp=Z,24nm,1.4s,mb4.9,SNR=7.4
TNS **Taunus Mts** 78.53 338 eP P 08 34 29.0 +0.3
comp=Z,26nm,1.1s,mb5.1
TNS **Taunus Mts** 78.53 338 eP P 08 34 29.0 +0.3
TNS pmax pmax
comp=Z,26nm,1.1s,mb5.1
SGKT **Sivrigoynuk** 78.53 319 i P P 08 34 29.8 +1.1
BZS **Buzias** 78.58 328⇓iP P 08 34 29.1 +0.1
BZS **Buzias** 78.58 328 P P 08 34 29.9 +1.0
HGN **Heimansgroeve** 78.64 340 eP P 08 34 28.9 -0.4
comp=Z,27nm,1.8s,mb4.9
AVNT **Avonos** 78.67 316 i P P 08 34 30.3 +0.9
MEM **Membach** 78.76 340 P P 08 34 30.2 +0.2
ANTO **Ankara** 78.77 318 P P 08 34 31.7 +1.7
SNR=5.3
ANTO **Ankara** 78.77 318⇑iP P 08 34 30.7 +0.7
UMR **Umm Al-Rimmam** 78.92 302 eP P 08 34 31.5 +0.7
UMR AMb AMB 08 34 33.8
comp=Z,173nm,1.0s,mb6.0
UMR **Umm Al-Rimmam** 78.92 302 eP P 08 34 31.7 +0.9
UMR AMb AMB 08 34 33.3
comp=Z,141nm,0.8s,mb5.9
MIB **Mutribah** 78.95 302 eP P 08 34 31.6 +0.6
MIB AMb AMB 08 34 34.0
comp=Z,208nm,0.9s,mb6.1
MIB **Mutribah** 78.95 302 eP P 08 34 31.9 +0.9
MIB AMb AMB 08 34 34.0
comp=Z,211nm,0.8s,mb6.1
TOD **Tromm** 79.00 338 eP P 08 34 31.3 0.0
MOA **Molln** 79.06 334⇑iP P 08 34 31.9 +0.3
comp=Z,16nm,0.9s,mb5.0,SNR=5.8
BCLA **Clavier** 79.10 340 P P 08 34 32.0 +0.1
PKSM **Moragy** 79.10 330⇓iP P 08 34 31.5 -0.3
PKSM **Moragy** 79.10 330 P P 08 34 32.5 +0.6
PVL **Pavilkeni** 79.21 324 iP P 08 34 33.5 +1.1
ARSA **Arzberg** 79.21 333⇑eP P 08 34 32.7 +0.3
comp=Z,16nm,0.9s,mb4.9
SNF **Seneffe** 79.25 341 P P 08 34 34.2 +1.6
QRN **Al-Qurain** 79.40 301 eP P 08 34 34.0 +0.6
QRN AMb AMB 08 34 35.8
comp=Z,98nm,0.8s,mb5.8
QRN **Al-Qurain** 79.40 301 eP P 08 34 34.2 +0.8
QRN AMb AMB 08 34 36.2
comp=Z,108nm,0.7s,mb5.9
RDF **Al-Radifah** 79.48 301 eP P 08 34 34.7 +0.9
RDF AMb AMB 08 34 37.3
comp=Z,201nm,1.1s,mb5.9
RDF **Al-Radifah** 79.48 301 eP P 08 34 34.9 +1.0
RDF AMb AMB 08 34 37.4
comp=Z,209nm,1.1s,mb6.0
GIVF **Givet** 79.51 340 eP P 08 34 33.6 -0.5
comp=Z,48nm,1.1s,mb5.0
GIVF **Givet** 79.51 340 eP P 08 34 33.6 -0.5
GIVF pmax pmax
comp=Z,24nm,1.1s,mb5.0
GIVF **Givet** 79.51 340 eP P 08 34 33.6 -0.5
comp=Z,24nm,1.1s,mb5.0
DOU **Dourbes** 79.57 341 P P 08 34 32.6 -1.8
DOU XP sP 08 34 48.4 -3.0
WLF **Walferdange** 79.61 339 eP P 08 34 35.4 +0.8
comp=Z,25nm,1.2s,mb5.0
FUR **Furstenfeldbru** 79.65 336 eP P 08 34 35.4 +0.6
comp=Z,56nm,1.2s,mb5.4
FUR **Furstenfeldbru** 79.65 336 eP P 08 34 35.4 +0.6
FUR pmax pmax
comp=Z,56nm,1.2s,mb5.4
STU **Stuttgart** 79.67 337 eP P 08 34 35.2 +0.3
comp=Z,27nm,1.1s,mb5.1
STU **Stuttgart** 79.67 337 P P 08 34 28.9 -6.0
BEO **Belgrade** 79.68 328 iP P 08 34 33.8 -1.1
BAIF **Baives** 79.69 341 eP P 08 34 34.6 -0.4

RAR Rarotonga 79.79 137 LR LR 09 03 35.6
comp=Z,218nm,20.3s,MS4.5,baz=328,slow=31

LANF Langenberg 79.83 338 *e*P **P** **08 34 37.3 +1.5**
SVIS Svilajnac 79.86 328 *i* P **P** **08 34 34.5 -1.4**
PERS Pernice 79.88 333 *i* PKPbc **P** **08 34 36.5 +0.5**
ESKT Eskisehir 79.93 319 *i* P **P** **08 34 36.5 +0.2**
KBA Koelnbreinsper 80.03 334⇑*i*P **P** **08 34 37.7 +0.8**
comp=Z,56nm,0.8s,mb5.5
KBA Koelnbreinsper 80.03 334⇑*i*P **P** **08 34 37.7 +0.8**
KBA pmax pmax
comp=Z,56nm,0.8s,mb5.5
OBKA Obir 80.17 333⇑*i*P **P** **08 34 37.6 0.0**
comp=Z,14nm,0.9s,mb4.9
RAO Raoul Island 80.18 155 LR LR 09 04 36.4
comp=Z,222nm,19.2s,MS4.5,baz=359,slow=32
BFO Black Forest 80.30 338 P **P** **08 34 38.6 +0.3**
comp=Z,122nm,1.0s,mb5.8,SNR=8.6
BFO Black Forest 80.30 338 *e*P **P** **08 34 38.7 +0.4**
comp=Z,24nm,1.1s,mb5.0
BFO Black Forest 80.30 338 P **P** **08 34 38.4 +0.1**
BFO *e* 08 34 53.2
BFO Black Forest 80.30 338 *e*P **P** **08 34 38.6 +0.3**
comp=Z,24nm,1.1s,mb5.0
WATA Walderalm 80.32 335⇓*i*P **P** **08 34 39.3 +0.8**
comp=Z,12nm,0.5s,mb5.0
WATA Walderalm 80.32 335⇓*i*P **P** **08 34 39.3 +0.9**
WATA pmax pmax
comp=Z,12nm,0.5s,mb5.1
WTTA Wattenberg 80.37 335⇑*i*P **P** **08 34 39.3 +0.6**
comp=Z,69nm,1.1s,mb5.5,SNR=11
WTTA Wattenberg 80.37 335⇑*i*P **P** **08 34 39.3 +0.6**
WTTA pmax pmax
comp=Z,69nm,1.1s,mb5.5
GRUS Gruza 80.39 328 *i* P **P** **08 34 38.1 -0.7**
MOTA Moosalm 80.44 335 *i* P **P** **08 34 39.8 +0.7**
comp=Z,46nm,1.0s,mb5.3,SNR=14
MOTA Moosalm 80.44 335 *i* P **P** **08 34 39.8 +0.7**
MOTA pmax pmax
comp=Z,46nm,1.0s,mb5.4
DIVS Divcibare 80.47 328 *i* P **P** **08 34 38.6 -0.6**
WLS Welschbruch 80.47 338 *e*P **P** **08 34 39.2 -0.1**
KDZ Kurdzhali 80.49 324 *i* P **P** **08 34 40.0 +0.7**
CDF Champ du Feu 80.49 338⇑*i*P **P** **08 34 39.0 -0.4**
comp=Z,42nm,1.2s,mb5.0
CDF Champ du Feu 80.49 338⇑*i*P **P** **08 34 39.0 -0.4**
CDF pmax pmax
comp=Z,21nm,1.2s,mb4.9
CDF Champ du Feu 80.49 338⇑*i*P **P** **08 34 39.0 -0.4**
comp=Z,21nm,1.2s,mb4.9
SQTA Sankt Quirin 80.53 335⇑*i*P **P** **08 34 40.0 +0.4**
comp=Z,31nm,0.9s,mb5.2,SNR=9.3
SQTA Sankt Quirin 80.53 335⇑*i*P **P** **08 34 40.0 +0.5**
SQTA pmax pmax
comp=Z,31nm,0.9s,mb5.2
SART Tekirdag 80.56 322 *i* P **P** **08 34 35.9 -3.8**
VTS Vitosha 80.57 325⇑*i*P **P** **08 34 39.7 -0.1**
VTS Vitosha 80.57 325 *i* P **P** **08 34 39.5 -0.3**
TAOE Nuku Hiva Isla 80.57 114 *e*S S 08 44 44.0 +0.3
comp=Z,959nm,26.0s
TAOE *e*LR LR 08 59 23.0
comp=Z,855nm,22.5s,baz=314
PTCC Patocco-Chiusa 80.63 334 P **P** **08 34 37.9 -2.2**
comp=Z,11nm,0.8s,mb4.8
ECH Echery 80.70 338 *e*P **P** **08 34 40.1 -0.4**
ROBS Robic 80.73 333 *i* PKPbc **P** **08 34 39.9 -0.7**
GMNA Gemona 80.79 334 P **P** **08 34 40.4 -0.5**
comp=Z,117nm,0.9s,mb5.8
FELD Feldberg im Sc 80.80 338 *e*P **P** **08 34 40.6 -0.4**
DAVA Damuels 80.84 336⇑*i*P **P** **08 34 41.7 +0.4**
comp=Z,29nm,0.9s,mb5.2,SNR=9.2
BOJS Bojanci 80.85 332 *i* PKPbc **P** **08 34 41.4 +0.1**
MEZF Maizieres J'vi 80.95 340 *e*P **P** **08 34 41.7 -0.1**
BTOK Tokmak 80.97 321 *i* P **P** **08 34 41.9 0.0**
MOF Molkenrain 81.05 338 *e*P **P** **08 34 42.0 -0.3**
HAU Haudompre 81.10 339 *e*P **P** **08 34 42.2 -0.4**
HAU *e*R
comp=Z,348nm,22.5s
HAU Haudompre 81.10 339 *e*P **P** **08 34 42.2 -0.4**
HAU LR LR
comp=Z,350nm,22.5s,MS4.7
HINF Hinteralfeld 81.15 338 *e*P **P** **08 34 42.2 -0.7**
MMB Musomiste 81.22 325 *i* P **P** **08 34 43.6 +0.4**
BBS Basel-Blauen 81.31 338 *e*P **P** **08 34 43.4 -0.3**
TKTP Tekketepe 81.37 318 *i* P **P** **08 34 44.3 +0.3**
BRMO Bormio 81.44 336 P **P** **08 34 45.5 +1.1**
comp=Z,18nm,1.0s,mb5.0
ISP Isparta 81.45 318*ce*P **P** **08 34 43.7 -0.8**
CTI Castel Tesino 81.47 335 P **P** **08 34 45.1 +0.6**
CTI pmax pmax
comp=Z,16nm,0.8s,mb5.0
CTI Castel Tesino 81.47 335 P **P** **08 34 45.1 +0.6**
comp=Z,16nm,0.8s,mb5.0
LOMF Lomont 81.59 338 *e*P **P** **08 34 45.1 -0.1**
STIP Stip 81.73 326 *e*P **P** **08 34 44.8 -1.1**
SKO Skopje 81.78 326 *e*P **P** **08 34 45.5 -0.7**
VAY Valandovo 81.90 325 *e*P **P** **08 34 45.5 -1.3**
FLN La Foliniere 81.91 343 *e*P **P** **08 34 46.3 -0.6**
comp=Z,16nm,0.8s,mb4.7
FLN *e*R
comp=Z,344nm,18.5s
FLN La Foliniere 81.91 343 *e*P **P** **08 34 46.3 -0.6**
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FLN MLR MLR
comp=Z,340nm,18.5s,MS4.7
FLN La Foliniere 81.91 343 *e*P **P** **08 34 46.3 -0.6**
comp=Z,7.8nm,0.8s,mb4.7
FLN LR LR
comp=Z,340nm,18.5s,MS4.7
PPT Papeete 81.92 127 LR LR 09 04 39.4
comp=Z,260nm,20.0s,MS4.6,baz=310,slow=31
SWET Sewanee 81.98 46 *e*P **P** **08 34 49.9 +2.7**
LDF La Druitiere 82.00 343 *e*P **P** **08 34 46.7 -0.7**
comp=Z,45nm,1.2s,mb5.0
LDF La Druitiere 82.00 343 *e*P **P** **08 34 46.7 -0.7**
LDF pmax pmax
comp=Z,23nm,1.2s,mb5.0
LDF La Druitiere 82.00 343 *e*P **P** **08 34 46.7 -0.7**
comp=Z,22nm,1.2s,mb5.0
GRR Gorron 82.34 343⇑*i*P **P** **08 34 48.8 -0.3**
comp=Z,71nm,1.1s,mb5.2
GRR Gorron 82.34 343⇑*i*P **P** **08 34 48.8 -0.3**
GRR pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRR Gorron 82.34 343⇑*i*P **P** **08 34 48.8 -0.3**
comp=Z,36nm,1.1s,mb5.2
KRUS Krusevo 82.37 326 *e*P **P** **08 34 48.9 -0.4**
LOR Lormes 82.39 340⇑*i*P **P** **08 34 49.0 -0.4**
comp=Z,37nm,1.1s,mb4.9
LOR *e*R
comp=Z,393nm,20.2s
LOR Lormes 82.39 340⇑*i*P **P** **08 34 49.0 -0.4**
LOR pmax pmax
comp=Z,19nm,1.1s,mb4.9
LOR MLR MLR
comp=Z,390nm,20.3s,MS4.8
LOR Lormes 82.39 340⇑*i*P **P** **08 34 49.0 -0.4**
comp=Z,18nm,1.1s,mb4.9
LOR LR LR
comp=Z,390nm,20.3s,MS4.8
CSS Prodhromos 82.45 315 *e*P **P** **08 34 50.0 +0.2**
comp=Z,31nm,0.7s,mb5.3
BIA Bitola 82.64 326 *e*P **P** **08 34 48.6 -2.1**
SSF Saint Saulge 82.67 340⇑*i*P **P** **08 34 50.6 -0.3**
comp=Z,16nm,0.8s,mb4.8
SSF Saint Saulge 82.67 340⇑*i*P **P** **08 34 50.6 -0.3**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SSF Saint Saulge 82.67 340⇑*i*P **P** **08 34 50.6 -0.3**
comp=Z,8.0nm,0.8s,mb4.8
URLA Izmir 82.75 321 *i* P **P** **08 34 50.5 -0.8**
OHR Ohrid 82.76 326 *e*P **P** **08 34 49.2 -2.2**
SGMF Saint Gilles 82.79 344⇑*i*P **P** **08 34 51.2 -0.3**
comp=Z,34nm,0.9s,mb5.1
SGMF Saint Gilles 82.79 344⇑*i*P **P** **08 34 51.2 -0.3**
SGMF pmax pmax
comp=Z,17nm,0.9s,mb5.1
SGMF Saint Gilles 82.79 344⇑*i*P **P** **08 34 51.2 -0.3**
comp=Z,17nm,0.9s,mb5.1
ROSF Rostrenen 82.84 345⇑*i*P **P** **08 34 51.4 -0.3**
comp=Z,64nm,1.0s,mb5.3
ROSF Rostrenen 82.84 345⇑*i*P **P** **08 34 51.4 -0.3**
ROSF pmax pmax
comp=Z,32nm,1.0s,mb5.3
ROSF Rostrenen 82.84 345⇑*i*P **P** **08 34 51.4 -0.3**
comp=Z,32nm,1.0s,mb5.3

ASF Jabal al Asfar 82.88 310 P **P** **08 34 53.0 +1.0**
comp=Z,14nm,0.9s,mb5.0,baz=347,slow=0.9,SNR=18
AVF Avril sur Loir 82.96 340⇑*i*P **P** **08 34 52.2 -0.2**
comp=Z,53nm,1.0s,mb5.2
AVF Avril sur Loir 82.96 340⇑*i*P **P** **08 34 52.2 -0.2**
AVF pmax pmax
comp=Z,27nm,1.0s,mb5.2
AVF Avril sur Loir 82.96 340⇑*i*P **P** **08 34 52.2 -0.2**
comp=Z,27nm,1.0s,mb5.2
SMF Signal de Mont 82.98 340⇑*i*P **P** **08 34 52.4 -0.1**
comp=Z,122nm,1.1s,mb5.5
SMF Signal de Mont 82.98 340⇑*i*P **P** **08 34 52.4 -0.1**
SMF pmax pmax
comp=Z,61nm,1.1s,mb5.5
SMF Signal de Mont 82.98 340⇑*i*P **P** **08 34 52.4 -0.1**
comp=Z,61nm,1.1s,mb5.5
QUIF Quistinic 83.23 345⇑*i*P **P** **08 34 53.1 -0.6**
comp=Z,52nm,1.3s,mb5.1
QUIF Quistinic 83.23 345⇑*i*P **P** **08 34 53.1 -0.6**
QUIF pmax pmax
comp=Z,26nm,1.3s,mb5.1
QUIF Quistinic 83.23 345⇑*i*P **P** **08 34 53.1 -0.6**
comp=Z,26nm,1.3s,mb5.1
FSSB Fossombrone 83.25 333 P **P** **08 34 54.1 +0.2**
BGF Bois d'Agland 83.30 340 *e*P **P** **08 34 53.8 -0.3**
LPL La Plagne 83.32 337⇑*i*P **P** **08 34 54.9 +0.7**
comp=Z,36nm,0.9s,mb5.1
LPL La Plagne 83.32 337⇑*i*P **P** **08 34 54.9 +0.7**
LPL pmax pmax
comp=Z,18nm,0.9s,mb5.1
LPL La Plagne 83.32 337⇑*i*P **P** **08 34 54.9 +0.7**
comp=Z,18nm,0.9s,mb5.1
GSCL Gusciola 83.32 334 P **P** **08 34 54.7 +0.5**
comp=Z,41nm,1.0s,mb5.4
FNVD Fontana Vidola 83.33 334 P **P** **08 34 56.5 +2.2**
LPG La Plagne 83.33 337⇑*i*P **P** **08 34 55.1 +0.8**
comp=Z,83nm,1.2s,mb5.3
LPG La Plagne 83.33 337⇑*i*P **P** **08 34 55.1 +0.8**
LPG pmax pmax
comp=Z,41nm,1.2s,mb5.3
LPG La Plagne 83.33 337⇑*i*P **P** **08 34 55.1 +0.8**
comp=Z,42nm,1.2s,mb5.3
SFI Santa Sofia 83.35 333 P **P** **08 34 55.6 +1.2**
SFI pmax pmax
comp=Z,39nm,1.0s,mb5.4
SFI Santa Sofia 83.35 333 P **P** **08 34 55.6 +1.2**
comp=Z,39nm,1.0s,mb5.4
SEI Scarperia 83.36 334 P **P** **08 34 56.2 +1.8**
comp=Z,132nm,0.7s,mb6.1
VMG Vicchio 83.39 334 P **P** **08 34 56.1 +1.5**
comp=Z,74nm,1.0s,mb5.7
BDRM Kayabasi 83.47 320 *i* P **P** **08 34 53.8 -1.2**
CRE Caprese Michel 83.58 333 P **P** **08 34 56.0 +0.5**
CRE pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
CRE Caprese Michel 83.58 333 P **P** **08 34 56.0 +0.5**
comp=Z,9.1nm,0.6s,mb5.1
SNTG Esanatoglia 83.60 332 P **P** **08 34 56.2 +0.6**
comp=Z,7.0nm,0.6s,mb5.2
PLDF Plantade 83.67 340 *e*P **P** **08 34 56.0 0.0**
TCF Toulx Ste Croi 83.69 341⇑*i*P **P** **08 34 56.0 -0.1**
comp=Z,27nm,0.9s,mb5.1
TCF Toulx Ste Croi 83.69 341⇑*i*P **P** **08 34 56.0 -0.1**
TCF pmax pmax
comp=Z,14nm,0.9s,mb5.1
TCF Toulx Ste Croi 83.69 341⇑*i*P **P** **08 34 56.0 -0.1**
comp=Z,14nm,0.9s,mb5.1
AGO Saint Agoulin 83.71 340 *e*P **P** **08 34 57.2 +1.0**
BNI Bardonecchia 83.76 337 *e*P **P** **08 34 57.0 +0.5**
BNI *e**SP sP 08 35 09.0 -4.5
BNI pmax pmax
comp=Z,17nm,1.0s,mb5.1
BNI Bardonecchia 83.76 337 *e*P **P** **08 34 57.0 +0.5**
comp=Z,17nm,1.0s,mb5.1
BNI *es*P sP 08 35 09.0 -4.5
ASS Assisi 83.86 333 P **P** **08 34 58.2 +1.2**
ASS pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
ASS Assisi 83.86 333 P **P** **08 34 58.2 +1.2**
comp=Z,2.0nm,0.4s,mb4.6
MFF Saint Martin d 83.91 342 *e*P **P** **08 34 57.0 -0.2**
comp=Z,15nm,0.8s,mb4.8
MFF Saint Martin d 83.91 342 *e*P **P** **08 34 57.0 -0.2**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MFF Saint Martin d 83.91 342 *e*P **P** **08 34 57.0 -0.2**
comp=Z,7.4nm,0.8s,mb4.9
FGMS Monte Sant'Ang 83.99 330 P **P** **08 34 56.6 -1.0**
comp=Z,21nm,0.7s,mb5.4
MBDF Montbardon 84.04 337⇑*i*P **P** **08 34 58.0 +0.1**
comp=Z,17nm,0.8s,mb4.9
MBDF Montbardon 84.04 337⇑*i*P **P** **08 34 58.0 +0.1**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MBDF Montbardon 84.04 337⇑*i*P **P** **08 34 58.0 +0.1**
comp=Z,8.3nm,0.8s,mb4.9
ORIF Oris-en-Rattie 84.10 338⇑*i*P **P** **08 34 58.7 +0.5**
comp=Z,54nm,0.9s,mb5.4
ORIF *e*R
comp=Z,250nm,22.0s
ORIF Oris-en-Rattie 84.10 338⇑*i*P **P** **08 34 58.7 +0.5**
ORIF pmax pmax
comp=Z,27nm,0.9s,mb5.4
ORIF Oris-en-Rattie 84.10 338⇑*i*P **P** **08 34 58.7 +0.5**
comp=Z,27nm,0.9s,mb5.4
AQU L'Aquila 84.26 332⇓*i*P **P** **08 35 00.0 +1.0**
AQU L'Aquila 84.26 332 *e*P **P** **08 34 59.3 +0.3**
AQU pmax pmax
comp=Z,26nm,0.7s,mb5.5
AQU L'Aquila 84.26 332 *e*P **P** **08 34 59.3 +0.3**
comp=Z,26nm,0.7s,mb5.5
AQU *e*PcP PcP 08 35 03.2 +0.5
APE Apeiranthos 84.30 321⇑*i*P **P** **08 34 57.2 -2.0**
APE Apeiranthos 84.30 321⇑P **P** **08 34 57.2 -2.0**
VIVF Saint-Julien-l 84.46 339⇑*i*P **P** **08 35 00.3 +0.3**
comp=Z,39nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.46 339⇑*i*P **P** **08 35 00.3 +0.3**
VIVF pmax pmax
comp=Z,19nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.46 339⇑*i*P **P** **08 35 00.3 +0.3**
comp=Z,20nm,1.0s,mb5.2
OG25 Le Cairc 84.56 337 *e*P **P** **08 35 01.0 +0.5**
TOUF Mont Tournerai 84.57 337 *e*P **P** **08 35 00.7 +0.1**
VVLD Villa Vallelon 84.62 331 P **P** **08 35 00.3 -0.6**
LUCF Luceram 84.66 336 *e*P **P** **08 35 00.0 -1.0**
SBF Sospel 84.66 336 *e*P **P** **08 35 00.5 -0.6**
comp=Z,50nm,0.9s,mb5.3
SBF Sospel 84.66 336 *e*P **P** **08 35 00.5 -0.6**
SBF pmax pmax
comp=Z,25nm,0.9s,mb5.3
SBF Sospel 84.66 336 *e*P **P** **08 35 00.5 -0.6**
comp=Z,25nm,0.9s,mb5.3
SDI San Donato 84.71 331 P **P** **08 35 00.5 -0.8**
SDI pmax pmax
comp=Z,18nm,0.8s,mb5.2
SDI San Donato 84.71 331 P **P** **08 35 00.5 -0.8**
comp=Z,18nm,0.8s,mb5.2
MVIF Mont Vial 84.71 337 *e*P **P** **08 35 01.0 -0.3**
RJF Les Rejaudoux 84.78 341 *e*P **P** **08 35 01.6 -0.1**
comp=Z,19nm,0.9s,mb4.9
RJF *e*R
comp=Z,309nm,20.0s
RJF Les Rejaudoux 84.78 341 *e*P **P** **08 35 01.6 -0.1**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,310nm,20.0s,MS4.7
RJF Les Rejaudoux 84.78 341 *e*P **P** **08 35 01.6 -0.1**
comp=Z,9.6nm,0.9s,mb4.9
RJF LR LR
comp=Z,310nm,20.0s,MS4.7
REVF Revere 84.80 336 *e*P **P** **08 35 01.7 0.0**
CAF Calviac 85.02 340 *e*P **P** **08 35 03.1 +0.3**
comp=Z,36nm,1.1s,mb5.1
CAF Calviac 85.02 340 *e*P **P** **08 35 03.1 +0.3**
CAF pmax pmax
comp=Z,18nm,1.1s,mb5.1
CAF Calviac 85.02 340 *e*P **P** **08 35 03.1 +0.3**
comp=Z,18nm,1.1s,mb5.1
SMRF Simiane la Rot 85.05 338 *e*P **P** **08 35 03.7 +0.7**
comp=Z,24nm,1.0s,mb5.0
SMRF Simiane la Rot 85.05 338 *e*P **P** **08 35 03.7 +0.7**
comp=Z,24nm,1.0s,mb5.3
FRF La Foret Royal 85.16 337 *e*P **P** **08 35 03.2 -0.3**
LFF La Frestale 85.30 341 *e*P **P** **08 35 03.6 -0.7**
LASF Ste Croix 85.39 339 *e*P **P** **08 35 03.7 -1.0**

LMR La Mourre 85.41 337 *e*P **P** **08 35 04.7 -0.1**
comp=Z,58nm,1.0s,mb5.4
LMR La Mourre 85.41 337 *e*P **P** **08 35 04.7 -0.1**
LMR pmax pmax
comp=Z,29nm,1.0s,mb5.4
LMR La Mourre 85.41 337 *e*P **P** **08 35 04.7 -0.1**
comp=Z,29nm,1.0s,mb5.4
PGF Pioggiola 85.44 335 *e*P **P** **08 35 04.9 0.0**
comp=Z,20nm,1.0s,mb4.9
PGF Pioggiola 85.44 335 *e*P **P** **08 35 04.9 0.0**
PGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
PGF Pioggiola 85.44 335 *e*P **P** **08 35 04.9 0.0**
comp=Z,10.0nm,1.0s,mb4.9
EIL Elat 85.88 310 *e*P **P** **08 35 07.4 +0.3**
comp=Z,249nm,0.7s
TIP Timpagrande 85.95 328 *e*P **P** **08 35 07.3 -0.2**
TIP *ep*P pP 08 35 19.6 -0.3
NWAO Narrogin (SRO) 86.31 210 LR LR 09 14 21.1
comp=Z,72nm,19.0s,MS4.1,baz=91,slow=36
MTLF Montolieu 86.48 340 *e*P **P** **08 35 10.4 +0.3**
SOI Samo 87.18 328 P **P** **08 35 13.1 -0.4**
SOI pmax pmax
comp=Z,20nm,0.9s,mb5.3
SOI Samo 87.18 328 P **P** **08 35 13.1 -0.4**
comp=Z,20nm,0.9s,mb5.3
ETSF Etsaut 87.53 342 *e*P **P** **08 35 16.3 +1.1**
comp=Z,9.4nm,0.7s,mb4.8
ETSF Etsaut 87.53 342 *e*P **P** **08 35 16.3 +1.1**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ETSF Etsaut 87.53 342 *e*P **P** **08 35 16.3 +1.1**
comp=Z,4.7nm,0.7s,mb4.8
ESDC Sonseca Array 91.33 343 P **P** **08 35 31.2 -1.8**
comp=Z,0.9nm,0.6s,mb4.3,baz=12,slow=5.2,SNR=7.4
ESDC LR LR 09 23 07.5
comp=Z,261nm,18.6s,MS4.7,baz=15,slow=40
KEST Kesra 91.59 332 LR LR 09 20 49.3
comp=Z,99nm,19.7s,MS4.3,baz=286,slow=38
RKT Rikitea 94.67 119 *e*SP SP 08 48 14.1 -0.1
comp=Z,107nm,28.8s
RKT *e*SS SS 08 53 22.5 +0.2
comp=Z,81nm,24.0s
RKT *e*LR LR 09 05 38.7
comp=Z,287nm,33.0s
TORD Torodi Ar. Bea 115.04 330 PKP PKiKP 08 41 06.5 -1.8
comp=Z,0.6nm,0.8s,baz=351,slow=3.6,SNR=3.8
TORD PKKP PKKPbc 08 52 03.0 +19
comp=Z,0.3nm,0.3s,baz=222,slow=3.0,SNR=3.7
TORD Torodi Ar. Bea 115.04 330 PKP PKiKP 08 41 06.5 -1.8
TORD PKKP PKKPbc 08 52 03.0 +19
VNDA Vanda 124.51 178 *e*PKiKP PKPdf 08 41 24.6 -1.8
BOSA Boshof 136.35 276 PKP PKPdf 08 41 48.6 -0.2
comp=Z,1.5nm,0.8s,baz=141,slow=12,SNR=3.2
SIV San Ignacio 137.51 55 PKP PKPdf 08 41 51.0 0.0
comp=Z,2.9nm,0.9s,baz=265,slow=3.2,SNR=9.4
SYO Syowa Base 141.58 212⇑*e*PKiKP PKiKP 08 42 00.6 -0.6
CFAA Coronel Fontan 144.33 80 PKP PKPdf 08 42 00.5 -2.7
comp=Z,2.4nm,0.9s,baz=281,slow=3.0,SNR=31
CFAA Coronel Fontan 144.33 80 PKP PKPdf 08 42 00.5 -2.7
SNAA Sanae 153.12 196 *e*PKPdf PKPbc 08 42 22.3 -2.5
SNAA *e* 08 42 31.3
SNAA *e* 08 42 34.8
SNAA *e* 08 42 42.6
SNAA *e* 08 42 47.8
SNAA *e* 08 42 58.4
SNAA Sanae 153.12 196 *e*PKPbc PKPbc 08 42 22.4 -2.5
SNAA *e*PKPab PKPab 08 42 34.8 -1.7
VNA2 Neumayer--Watz 154.55 194 *e*PKPdf PKPbc 08 42 26.2 -1.7
baz=118,slow=1.1
VNA2 *e* 08 42 35.3
VNA2 *e* 08 42 41.2
VNA2 *e* 08 42 46.6
VNA2 *e* 08 42 49.8
VNA2 *e* 08 43 01.0
VNA2 *e* 08 43 07.0
VNA1 Neumayer--Stat 154.94 194 *e*PKPdf PKPbc 08 42 27.1 -1.6
VNA1 *e* 08 42 36.3
VNA1 *e* 08 42 43.0
VNA1 *e* 08 42 47.9
VNA1 *e* 08 42 53.0
VNA1 *e* 08 43 02.0
VNA1 *e* 08 43 08.9

*IDC **08** 08:34:41.2±9.4, 656S×151 23E, h58km±67km, mb3.6/3, mb1 3.8/4, mb1mx3.4/15, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=92.9km s-min=58.8km az=136.0*
NEIC 08 08:34:32.5±1.9, 627S×15149E, h10km, mb3.9/3, Error ellipse: s-maj=58.6km s-min=24.9km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30 234**		P		Pn 08 35 53.0	+1.3
	1.6nm,0.3s,baz=11,slow=9.5,SNR=3.6						
PMG				S		Sn 08 36 49.2	-3.5
	1.3nm,0.3s,baz=142,slow=19,SNR=3.7						
KAKA	**Kakadu**	**19.84 250**		*e*P		Pn 08 39 03.7	-1.3
	3.5nm,0.6s						
WRAB	**Tennant Creek**	**21.48 229**		*e*P		P 08 39 21.3	0.0
	1.0nm,0.4s						
WB2	**Warramunga Arr**	**21.49 229**		*e*P		P 08 39 21.8	+0.5
WRA	**Warramunga Arr**	**21.50 229**		P		P 08 39 21.0	-0.4
	2.3nm,0.9s,baz=55,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.19 223**		P		P 08 39 49.3	+0.3
	1.2nm,0.5s,baz=55,slow=8.9,SNR=25						
FITZ	**Fitzroy Crossi**	**27.82 243**		*e*P		P 08 40 21.8	-0.1
	4.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.82 243**		P		P 08 40 22.2	+0.3
	3.0nm,0.8s,baz=109,slow=8.3,SNR=9.6						
TORD	**Torodi Ar. Bea**	**149.47 285**		PKPbc	PKPbc	08 54 24.0	+2.1
	0.7nm,0.6s,baz=74,slow=3.1,SNR=5.2						

IDC 08 08:36:04.1±1.2, 670N×7288W, h171km±13km, mb3.3/3, mb1 3.8/5, mb1mx3.4/17, mbtmp3.4/5, Error ellipse: s-maj=32.7km s-min=14.3km az=129.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.33 218**		P		Pn 08 36 44.7	+0.4
	37nm,0.3s,baz=37,slow=4.4,SNR=188						
ROSC				S		Sn 08 37 12.0	-3.5
	26nm,0.3s,baz=87,slow=16,SNR=7.4						
SDV	**Santo Domingo**	**3.11 46**		P		Pn 08 36 54.9	+1.3
	14nm,0.3s,baz=246,slow=7.8,SNR=71						
SDV				S		Sn 08 37 32.6	+0.6
	13nm,0.3s,baz=313,slow=12,SNR=20						
PCRV	**Puerto La Cruz**	**8.85 66**		P		Pn 08 38 12.4	+3.9
	0.5nm,0.3s,baz=208,slow=21,SNR=2.4						
PCRV				S		Sn 08 39 49.9	+2.7
	0.6nm,0.3s,baz=219,slow=13,SNR=2.9						
TXAR	**Lajitas Array**	**36.72 312**		P		P 08 42 55.1	+0.5
	0.7nm,0.7s,baz=128,slow=9.1,SNR=11						
PDAR	**Pinedale Array**	**48.32 324**		P		P 08 44 28.1	+0.1
	0.4nm,0.5s,baz=125,slow=9.6,SNR=4.3						
YKA	**Yellowknife Ar**	**63.46 340**		P		P 08 46 15.4	-0.2
	1.7nm,0.6s,baz=132,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**149.24 234**		PKPbc	PKPbc	08 55 33.1	+0.8
	0.6nm,0.7s,baz=124,slow=3.1,SNR=5.6						
WRA	**Warramunga Arr**	**150.49 241**		PKPbc	PKPbc	08 55 36.0	+0.6
	0.9nm,0.8s,baz=109,slow=2.4,SNR=9.0						

*IDC **08** 08:38:27.7±7.3, 626S×150 42E, h111km±49km, mb3.6/4, mb1 3.7/5, mb1mx3.4/15, mbtmp3.5/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=59.0km s-min=48.6km az=94.0*
NEIC 08 08:38:11.9±1.7, 616S×15125E, h10km, mb4.2/2, Error ellipse: s-maj=36.3km s-min=25.5km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.18 231**		P		Pn 08 39 33.7	+4.3
	1.5nm,0.3s,baz=39,slow=6.5,SNR=3.5						
PMG				S		Sn 08 40 26.1	-3.1
	1.9nm,0.3s,baz=3.6,slow=19,SNR=2.5						
PMG	**Port Moresby**	**5.18 231**		*e*Pn		Pn 08 39 30.1	+0.6
	42nm,0.8s						
PMG				S		Sn 08 40 26.1	-3.1
PMG				*e*Sn		Sn 08 40 30.9	+1.7
HNR	**Honiara**	**9.21 111**		LR		LR 08 43 22.6	

comp=Z,103nm,19.9s,baz=180,slow=30
CTA Charters Tower 14.67 199 LR LR 08 46 46.9
comp=Z,49nm,18.6s,baz=239,slow=35
KAKA Kakadu 19.65 249 *eP* Pn 08 42 42.2 0.0
5.2nm,0.6s
WB2 Warramunga Arr 21.38 229 *eP* P 08 43 00.3 +0.7
WB2 Warramunga Arr 21.38 229 *eP* P 08 42 59.5 -0.1
WRA Warramunga Arr 21.39 229 P P 08 42 58.8 -0.9
1.1nm,0.3s,baz=50,slow=10,SNR=14
ASAR Alice Springs 24.11 222 P P 08 43 27.6 -0.1
1.4nm,0.5s,baz=56,slow=8.8,SNR=23
STKA Stephens Creek 27.13 198 P P 08 43 56.1 +1.0
2.3nm,1.0s,baz=66,slow=12,SNR=4.1
FITZ Fitzroy Crossi 27.66 242 *eP* P 08 44 00.3 +0.4
4.4nm,0.5s
FITZ Fitzroy Crossi 27.66 242 P P 08 43 59.1 -0.8
2.4nm,0.5s,baz=44,slow=8.0,SNR=11
TORD Torodi Ar. Bea 149.21 285 PKPbc PKPbc 08 58 02.2 +1.5
1.3nm,0.6s,baz=58,slow=3.0,SNR=10
TORD pPKPbc pPKPbc 08 58 29.5 +25
1.5nm,0.6s,baz=67,slow=2.9,SNR=6.2
TORD Torodi Ar. Bea 149.21 285 PKPbc PKPbc 08 58 02.2 +1.5
TORD pPKPbc pPKPbc 08 58 29.5 +25

*ISCJB **08** 08:41:19.4±2.4, 373N±02×711E±02, h164km±39km, Error ellipse: s-maj=28.5km s-min=21.5km az=99.3*
*NNC **08** 08:41:22.7±10.0, 3748N×713E, h194km±147km, mb2.4, mpv3.4, Error ellipse: s-maj=102.0km s-min=52.9km az=19.0*
ISC 08 08:41:18.8±2.4, 372N±02×711E±02, h104km±57km, n11, σ0ᵍ57/14, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.35**	**21**	P	**Pn**	**08 42 36.6**	**+0.3**
	SNR=50						
UCH	**Uchtor**	**5.71**	**26**	P	**Pn**	**08 42 41.0**	**-0.1**
	SNR=13						
KZA	**Kyzart**	**5.87**	**32**	P	**Pn**	**08 42 42.5**	**-0.7**
	SNR=9.7						
EKS2	**Erkin-Say**	**5.87**	**20**	P	**Pn**	**08 42 43.6**	**+0.4**
	SNR=9.5						
KK31	**Karatay Array**	**5.95**	**356**	⇓P	**Pn**	**08 42 45.6**	**+1.2**
	6.8nm,0.4s,baz=181,slow=13,SNR=92						
KK31				⇑S	**Sn**	**08 43 50.5**	**-0.7**
	3.9nm,0.6s,baz=165,slow=30,SNR=4.3						
AAK	**Ala-Archa**	**6.06**	**24**	P	**Pn**	**08 42 46.0**	**+0.2**
	SNR=26						
CHMS	**Chumysh**	**6.47**	**25**	P	**Pn**	**08 42 51.5**	**0.0**
	SNR=6.3						
USP	**Ospenovka**	**6.63**	**22**	P	**Pn**	**08 42 53.3**	**-0.4**
	SNR=9.4						
TKM2	**Tokmak 2**	**6.71**	**30**	P	**Pn**	**08 42 54.4**	**-0.3**
	SNR=9.9						
TKM2	**Tokmak 2**	**6.71**	**30**	⇑P	**Pn**	**08 42 53.5**	**-1.2**
	0.4nm,0.5s						
TKM2				⇑S	**Sn**	**08 44 10.3**	**+0.7**
	0.5nm,0.9s						
AB31	**Akbulak array**	**14.55**	**330**	⇑P	**Pn**	**08 44 39.5**	**0.0**
	0.3nm,0.4s,baz=128,slow=11,SNR=7.5						
AB31				⇑S	**Sn**	**08 47 11.9**	**-8.0**
	0.4nm,0.3s						

*BJI **08** 08:47:26.0, 5270N×16720W, h10km, mb4.9*
*IDC **08** 08:47:27.1±1.1, 5278N×167.16W, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.2/23, mbtmp4.1/15, Error ellipse: s-maj=34.6km s-min=16.1km az=11.0*
*NEIC **08** 08:47:28.0±0.6, 5268N×16722W, h10km, mb4.6/1, ML3.7(AEIC), Error ellipse: s-maj=14.5km s-min=7.3km az=162.0*
*ISCJB **08** 08:47:29.9±1.5, 527N±0.1×1672W±0.1, h36km±10km, mb4.1/17, Error ellipse: s-maj=22.1km s-min=9.2km az=148.2*
ISC 08 08:47:30.1±2.9, 527N±01×1672W±01, h24km±20km, n32, σ0ᵍ90/36, mb4.1/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**1.21**	**21**	*e*Pn	**Pn**	**08 47 52.1**	**+0.6**
UNV				S	**Sn**	**08 48 12.9**	**+5.8**
AKLV	**Akutan Long Va**	**1.64**	**28**	P	**Pn**	**08 47 58.1**	**+0.7**
AKUT	**Akutan**	**1.67**	**31**	P	**Pn**	**08 47 58.5**	**+0.7**
ATKA	**Atka Island**	**4.28**	**266**	P	**Pn**	**08 48 33.8**	**+0.1**
SDPT	**Sand Point**	**4.78**	**54**	*e*Pn	**Pn**	**08 48 39.8**	**-0.8**
SDPT				*e*Sn	**Sn**	**08 49 35.6**	**+0.4**
KDAK	**Kodiak Island**	**9.78**	**53**	Pn	**Pn**	**08 49 47.4**	**-1.7**
	1.1nm,0.3s,baz=13,slow=14,SNR=8.9						
KDAK				Sn	**Sn**	**08 51 30.0**	**-8.2**
	0.2nm,0.3s,baz=59,slow=16,SNR=4.0						
KDAK	**Kodiak Island**	**9.78**	**53**	Pn	**Pn**	**08 49 47.4**	**-1.7**
KDAK				Sn	**Sn**	**08 51 30.0**	**-8.2**
DAWY	**Dawson**	**18.31**	**41**	*e*Pn	**Pn**	**08 51 42.7**	**+0.3**
YKA	**Yellowknife Ar**	**29.03**	**50**	P	**P**	**08 53 27.9**	**-0.2**
	2.2nm,0.8s,mb3.9,baz=183,slow=33,SNR=3.1						
NVAR	**Mina Array Bea**	**36.39**	**93**	P	**P**	**08 54 33.2**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=294,slow=40,SNR=5.2						
PDAR	**Pinedale Array**	**39.06**	**81**	P	**P**	**08 54 55.2**	**+0.2**
	0.7nm,0.6s,mb3.6,baz=296,slow=4.7,SNR=6.6						
MJAR	**Matsushiro Arr**	**41.00**	**269**	P	**P**	**08 55 12.0**	**+0.9**
	1.4nm,0.7s,mb3.7,baz=356,slow=11,SNR=4.4						
MDJ	**Mudanjiang**	**41.26**	**285**	P	**P**	**08 55 11.7**	**-1.6**
KSRS	**Korea Array**	**46.65**	**278**	P	**P**	**08 55 57.5**	**+1.1**
	1.0nm,0.4s,mb4.1,baz=66,slow=7.0,SNR=4.5						
TXAR	**Lajitas Array**	**51.45**	**91**	P	**P**	**08 56 32.7**	**-0.5**
	1.0nm,0.6s,mb4.0,baz=302,slow=5.3,SNR=28						
TXAR	**Lajitas Array**	**51.45**	**91**	P	**P**	**08 56 32.7**	**-0.5**
ARCES	**ARCESS Array B**	**57.70**	**355**	P	**P**	**08 57 18.2**	**-0.4**
	3.1nm,0.8s,mb4.4,baz=359,slow=14,SNR=8.3						
ZAL	**Zalesovo**	**58.05**	**318**	P	**P**	**08 57 21.4**	**+0.4**
	1.6nm,0.3s,mb4.5,baz=156,slow=16,SNR=3.3						
ZAL	**Zalesovo**	**58.05**	**318**	P	**P**	**08 57 21.4**	**+0.4**
JOF	**Joensuu**	**63.78**	**351**	*ep*	**P**	**08 57 57.3**	**-2.8**
	5.4nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**64.16**	**325**	P	**P**	**08 58 03.3**	**+0.8**
	1.5nm,0.6s,mb4.2,baz=54,slow=7.7,SNR=7.5						
MK31	**Makanchi Array**	**64.50**	**315**	*e*P	**P**	**08 58 03.9**	**-0.8**
MKAR	**Makanchi Array**	**64.50**	**315**	P	**P**	**08 58 04.6**	**-0.1**
	3.1nm,0.8s,mb4.4,baz=49,slow=5.6,SNR=21						
MKAR	**Makanchi Array**	**64.50**	**315**	P	**P**	**08 58 04.6**	**-0.2**
KAF	**Kangasniemi**	**65.01**	**353**	*ep*	**P**	**08 58 07.2**	**-0.9**
	baz=4.6,slow=6.2						
FINES	**FINESS Array B**	**65.69**	**353**	P	**P**	**08 58 11.9**	**-0.5**
	3.8nm,0.6s,mb4.6,baz=32,slow=7.5,SNR=14						
NB2	**NORSAR Subarra**	**66.58**	**1**	P	**P**	**08 58 18.4**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=66,slow=6.9						
NOA	**NORSAR Array B**	**66.58**	**1**	P	**P**	**08 58 17.6**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=1.5,slow=6.7,SNR=4.0						
AAK	**Ala-Archa**	**71.15**	**317**	*e*P	**P**	**08 58 46.0**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.3						
AKASG	**Malin Array Be**	**76.02**	**349**	P	**P**	**08 59 15.2**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=13,slow=5.6,SNR=7.9						
GERES	**GERESS Array B**	**78.81**	**359**	P	**P**	**08 59 32.2**	**+1.3**
	comp=Z,0.4nm,0.3s,mb3.9,baz=311,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**86.16**	**344**	P	**P**	**09 00 10.9**	**+1.7**
	comp=Z,0.8nm,0.6s,mb4.1,baz=19,slow=4.2,SNR=4.1						

*ISCJB **08** 08:48:09.9±1.4, 3684N±007×1414E±01, h75km±10km, Error ellipse: s-maj=17.2km s-min=7.7km az=68.0*
*JMA **08** 08:48:10.4±0.1, 3682N×14131E, h79km±1km, M3.6*
JMA Felt I J1.
ISC 08 08:48:10.4±1.4, 3684N±007×1414E±01, h70km±12km, n12, σ0ᵍ51/21, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.55**	**299**	⇓P	**Pn**	**08 48 24.0**	**+0.3**
ONAJ				S	**Sn**	**08 48 34.1**	**+0.5**
JFK	**Kawauchi**	**0.68**	**322**	⇓P	**Pn**	**08 48 25.3**	**+0.2**
JFK				*i* S	**Sn**	**08 48 35.9**	**0.0**
JHO	**Hitachi**	**0.71**	**252**	⇓P	**Pn**	**08 48 25.3**	**-0.1**
JHO				S	**Sn**	**08 48 36.0**	**-0.5**
JFT	**Otama**	**1.09**	**309**	⇓P	**Pn**	**08 48 30.5**	**+0.5**
JFT				S	**Sn**	**08 48 45.2**	**+0.5**
JMM	**Marumori**	**1.14**	**335**	⇓P	**Pn**	**08 48 30.8**	**+0.2**
JMM				*i* S	**Sn**	**08 48 45.8**	**+0.1**
JFY	**Yanaizu**	**1.47**	**293**	⇓P	**Pn**	**08 48 34.9**	**-0.1**
JFY				S	**Sn**	**08 48 52.8**	**-0.7**
JIO	**Ouri**	**1.62**	**358**	⇑P	**Pn**	**08 48 36.6**	**-0.3**
JIO				S	**Sn**	**08 48 55.9**	**-1.0**
JAG	**Ashikaga**	**1.62**	**256**	⇑P	**Pn**	**08 48 36.8**	**-0.2**
JAG				S	**Sn**	**08 48 55.8**	**-1.2**
JOU	**Okura**	**1.64**	**339**	P	**Pn**	**08 48 37.1**	**0.0**
JYS	**Shirataka**	**1.74**	**323**	P	**Pn**	**08 48 39.0**	**+0.4**
JHK	**Hiroka**	**1.95**	**283**	P	**Pn**	**08 48 41.3**	**-0.1**
MAT	**Matsushiro**	**2.59**	**264**	P	**Pn**	**08 48 50.7**	**+0.8**
MAT				S	**Sn**	**08 49 21.0**	**+0.7**

*IDC **08** 08:52:59.0±1.1, 632S×15122E, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.2/17, mbtmp4.3/8, ML2.7/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/27, Error ellipse: s-maj=31.2km s-min=21.9km az=138.0*
*NEIC **08** 08:53:00.4±0.6, 633S×15124E, h10km, mb4.8/3, Error ellipse: s-maj=14.9km s-min=10.2km az=148.0*
*ISCJB **08** 08:53:02.5±0.9, 645S±01×1513E±0.1, h35km, mb4.2/7, MS3.8/2, Error ellipse: s-maj=22.6km s-min=11.1km az=120.1*
ISC 08 08:53:04.1±0.9, 63S±01×1513E±01, h35km, n19, σ0ᵍ81/15, mb4.2/7, MS3.8/2, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**233**	Pn	**Pn**	**08 54 16.9**	**-0.8**
	1.9nm,0.3s,baz=69,slow=7.6,SNR=13						
PMG				Sn	**Sn**	**08 55 16.8**	**+1.7**
	1.5nm,0.3s,baz=343,slow=20,SNR=4.3						
PMG				LR	LR	08 56 07.9	
	comp=Z,276nm,20.3s,baz=54,slow=37						
HNR	**Honiara**	**9.15**	**110**	LR	LR	08 57 28.2	
	comp=Z,270nm,18.2s,baz=359,slow=29						
CTA	**Charters Tower**	**14.52**	**199**	LR	LR	09 01 12.5	
	comp=Z,150nm,19.8s,baz=46,slow=34						
KAKA	**Kakadu**	**19.60**	**250**	*e*P	**Pn**	**08 57 29.9**	**-0.8**
	13nm,0.6s						
WB2	**Warramunga Arr**	**21.28**	**229**	⇑*i*P	**P**	**08 57 47.2**	**-0.2**
WRA	**Warramunga Arr**	**21.29**	**229**	P	**P**	**08 57 47.0**	**-0.5**
	11nm,1.0s,mb4.2,baz=54,slow=10,SNR=25						
DZM	**Mont Dzumac**	**21.46**	**138**	P	**P**	**08 57 49.2**	**-0.2**
	6.7nm,0.9s,mb4.0,baz=340,slow=13,SNR=8.2						
DZM				LR	LR	09 04 39.7	
	comp=Z,381nm,19.4s,MS3.8,baz=47,slow=33						
AS31	**Alice Springs**	**23.99**	**222**	*e*P	**P**	**08 58 15.4**	**0.0**
ASAR	**Alice Springs**	**23.99**	**222**	P	**P**	**08 58 15.1**	**-0.3**
	7.3nm,0.8s,mb4.1,baz=55,slow=9.0,SNR=51						
ASPA	**Alice Springs**	**23.99**	**222**	*e*P	**P**	**08 58 15.4**	**0.0**
STKA	**Stephens Creek**	**26.98**	**198**	*e*P	**P**	**08 58 42.0**	**-0.4**
	7.6nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**26.98**	**198**	P	**P**	**08 58 42.2**	**-0.2**
	11nm,0.9s,mb4.4,baz=19,slow=12,SNR=9.8						
FITZ	**Fitzroy Crossi**	**27.59**	**243**	*e*P	**P**	**08 58 48.1**	**+0.2**
	13nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.59**	**243**	P	**P**	**08 58 48.3**	**+0.4**
	6.1nm,0.6s,mb4.4,baz=48,slow=6.1,SNR=27						
AFI	**Afiamalu**	**37.13**	**105**	LR	LR	09 12 06.2	
	comp=Z,120nm,18.1s,MS3.7,baz=146,slow=31						
BVAR	**Borovoye Array**	**89.53**	**323**	P	**P**	**09 05 57.3**	**-0.5**
	0.3nm,0.3s,mb4.0,baz=95,slow=4.8,SNR=3.9						
NVAR	**Mina Array Bea**	**94.23**	**52**	P	**P**	**09 06 21.6**	**+2.1**
	1.0nm,0.9s,mb4.2,baz=261,slow=7.1,SNR=6.6						
TOA0	**Torodi Ar. Sit**	**149.26**	**285**	*e*PKPbc	PKPbc	09 12 50.5	+1.5
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	PKPbc	09 12 50.1	+1.1
	2.4nm,0.6s,baz=65,slow=2.8,SNR=22						

*NEIC **08** 08:54:52.8, 1952N×6455W, h25km, MD3.7(RSPR), After RSPR.*
RSPR 08 08:54:52.8, 1952N×6455W, h25km±33km, MD3.7/8, MD3.7/8, 10C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.81**	**165**	*e*S	Sb	08 55 16.6	-2.1
TBVI	**Tortola**	**1.10**	**184**	⇑*e*P	Pn	08 55 10.1	-2.4
TBVI				*e*S	Sn	08 55 24.4	-2.4
STVI	**Saint Thomas**	**1.22**	**198**	⇓*e*P	Pn	08 55 12.0	-2.2
STVI				*e*S	Sn	08 55 26.8	-3.2
MTP	**Monte Pirata**	**1.70**	**214**	⇑*e*P	Pn	08 55 19.1	-1.7
MTP	**Monte Pirata**	**1.70**	**214**	*e*S	Sn	08 55 39.3	-2.5
MTP	**Monte Pirata**	**1.70**	**214**	*e*Pn	Pn	08 55 19.6	-1.3
MTP				*e*S	Sn	08 55 39.3	-2.5
CBYP	**Canovanas**	**1.75**	**225**	⇑*e*P	Pn	08 55 19.2	-2.3
CBYP				*e*S	Sn	08 55 39.8	-3.2
HUMP	**Col San Antoni**	**1.84**	**222**	⇑*e*P	Pn	08 55 20.3	-2.5
HUMP				*e*S	Sn	08 55 43.0	-2.2
CPD	**Cerro la Pandu**	**1.96**	**222**	⇑*e*P	Pn	08 55 23.2	-1.2
CPD	**Cerro la Pandu**	**1.96**	**222**	*e*S	Sn	08 55 46.4	-1.8
CPD	**Cerro la Pandu**	**1.96**	**222**	Pn	Pn	08 55 23.9	-0.5
CPD				*e*S	Sn	08 55 46.4	-1.8
SJG	**San Juan**	**2.06**	**228**	⇑*e*P	Pn	08 55 23.7	-2.1
SJG				*e*S	Sn	08 55 48.2	-2.5
AOPR	**Arecibo Observ**	**2.39**	**241**	⇑*e*P	Pn	08 55 28.8	-1.5
AOPR				*e*S	Sn	08 55 56.2	-2.6
CELP	**Cerrillos**	**2.40**	**234**	⇑*e*P	Pn	08 55 28.4	-2.1
AGPR	**Aguadilla, PR**	**2.64**	**247**	⇑*e*P	Pn	08 55 32.6	-1.2
LSP	**Las Mesas**	**2.75**	**241**	⇑*e*P	Pn	08 55 34.4	-0.8
LSP				*e*S	Sn	08 56 05.1	-2.6
CRPR	**Cabo Rojo, PR**	**2.86**	**239**	⇓*e*P	Pn	08 55 34.9	-1.8
CRPR				*e*S	Sn	08 56 09.0	-1.2

IDC 08 08:58:39.6±8.6, 610S×15116E, h75km±60km, mb3.2/3, mb1 3.4/4, mb1mx3.3/15, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=96.4km s-min=56.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**230**	P	Pn	08 59 54.4	+0.2
	1.2nm,0.3s,baz=28,slow=4.9,SNR=3.2						
PMG				S	Sn	09 00 53.7	+1.5
	1.7nm,0.3s,baz=229,slow=21,SNR=3.6						
WRA	**Warramunga Arr**	**21.37**	**228**	P	P	09 03 20.5	-0.3
	0.4nm,0.4s,baz=53,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**24.10**	**222**	P	P	09 03 47.9	-0.3
	0.4nm,0.4s,baz=58,slow=9.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	P	09 04 20.5	+0.6
	0.9nm,0.4s,baz=55,slow=13,SNR=7.7						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	PKPbc	09 18 20.4	+1.1
	0.7nm,0.5s,baz=91,slow=3.2,SNR=7.4						

*NEIC **08** 09:02:04.6, 1790N×6430W, h136km, MD3.6(RSPR), After RSPR.*
RSPR 08 09:02:04.6, 1790N×6430W, h136km±3km, MD3.6/8, MD3.6/8, 8C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.59**	**329**	⇑*e*P	Pn	09 02 24.5	-0.3
TBVI				*e*S	Sn	09 02 40.1	0.0
STVI	**Saint Thomas**	**0.77**	**305**	⇑*e*P	Pn	09 02 25.8	-0.3
STVI				*e*S	Sn	09 02 42.1	-0.1
MTP	**Monte Pirata**	**1.21**	**279**	⇑*e*P	Pn	09 02 29.9	-0.1
MTP				*e*S	Sn	09 02 51.0	+1.6
HUMP	**Col San Antoni**	**1.50**	**279**	⇑*e*P	Pn	09 02 32.6	-0.4
CBYP	**Canovanas**	**1.53**	**284**	⇑*e*P	Pn	09 02 33.6	+0.2
CBYP				*e*S	Sn	09 02 55.6	+0.2
AOPR	**Arecibo Observ**	**2.38**	**281**	⇑*e*P	Pn	09 02 43.4	-0.1
LSP	**Las Mesas**	**2.67**	**276**	⇑*e*P	Pn	09 02 47.3	+0.2
CRPR	**Cabo Rojo, PR**	**2.68**	**273**	⇑*e*P	Pn	09 02 47.1	-0.1

*KNET **08** 09:17:16.7±0.4, 4256N×7535E, h12km±6km, ml1.9, Error ellipse: s-maj=3.0km s-min=2.0km az=27.0*
*ISCJB **08** 09:17:17.4±0.7, 4257N±005×7534E±007, h10km, Error ellipse: s-maj=8.1km s-min=6.2km az=96.0*
ISC 08 09:17:17.5±0.8, 4257N±005×7534E±007, h18km±8km, n11, σ0ᵍ65/12, 2C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.30**	**286**	P	**Pg**	**09 17 24.4**	**+0.4**
	SNR=59						
TKM2	**Tokmak 2**	**0.40**	**28**	P	**Pg**	**09 17 25.5**	**-0.1**
	SNR=47						
TKM2	**Tokmak 2**	**0.40**	**28**	⇑P	**Pg**	**09 17 25.6**	**0.0**
	0.7nm,0.3s						
TKM2				⇓S	**Sg**	**09 17 31.2**	**+0.1**
	1.0nm,0.2s						
KZA	**Kyzart**	**0.50**	**188**	P	**Pg**	**09 17 27.7**	**+0.2**
	SNR=144						
CHMS	**Chumysh**	**0.61**	**315**	P	**Pg**	**09 17 29.3**	**-0.2**
	SNR=5.6						
AAK	**Ala-Archa**	**0.63**	**276**	P	**Pg**	**09 17 29.9**	**0.0**
	SNR=18						
UCH	**Uchtor**	**0.70**	**241**	P	**Pg**	**09 17 31.1**	**-0.2**
	SNR=6.0						
ULHL	**Ulahol**	**0.74**	**116**	P	**Pb**	**09 17 31.6**	**-0.3**
	SNR=60						
USP	**Ospenovka**	**0.93**	**319**	P	**Pb**	**09 17 35.2**	**+0.2**
	SNR=119						
EKS2	**Erkin-Say**	**1.16**	**275**	P	**Pn**	**09 17 40.1**	**+1.4**
	SNR=13						
KK31	**Karatay Array**	**3.59**	**280**	⇑Pn	**Pb**	**09 18 18.9**	**-1.6**
	0.2nm,0.2s,baz=91,slow=16,SNR=3.5						
KK31				⇓Lg		09 19 08.4	
	0.9nm,0.3s,baz=99,slow=28,SNR=5.0						

IDC 08 10:05:46.6±3.4, 631S×15151E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/20, Error ellipse: s-maj=114.6km s-min=48.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.92**	**111**	LR	LR	10 10 56.0	
	comp=Z,30nm,21.9s,baz=0.5,slow=35						
WB2	**Warramunga Arr**	**21.48**	**229**	*e*P	P	10 10 36.9	+0.2
WRA	**Warramunga Arr**	**21.49**	**229**	P	P	10 10 37.1	+0.3
	0.8nm,0.5s,baz=54,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.18**	**223**	P	P	10 11 04.6	+0.1
	1.3nm,0.8s,baz=61,slow=9.3,SNR=16						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	*e*P	P	10 11 38.4	+0.9
	4.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	P	10 11 38.1	+0.7
	0.7nm,0.3s,baz=67,slow=10,SNR=7.6						
TORD	**Torodi Ar. Bea**	**149.50**	**285**	PKPbc	PKPbc	10 25 38.5	+0.8
	1.0nm,0.6s,baz=64,slow=3.3,SNR=6.3						

*CSEM **08** 10:20:13.1±1.0, 3866N×2858W, h6km±5km, ML1.5, Error ellipse: s-maj=4.2km s-min=2.9km az=57.0, After PDA*
*PDA **08** 10:20:13.1±1.0, 3866N×2858W, h6km±5km, MD3.1, ML1.5, Error ellipse: s-maj=4.2km s-min=2.9km az=57.0*
SVSA 08 10:20:13.1±1.0, 3866N×2858W, h6km±5km, MD3.1, ML1.5, Error ellipse: s-maj=4.2km s-min=2.9km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.10**	**254**	*e*P	Pg	10 20 14.8	-0.5
PCED				*e*S	Sg	10 20 17.1	+0.3
PCED							
	155nm,0.3s						
PCED	**Cedros**	**0.10**	**254**	*e*P	Pg	10 20 14.8	-0.5
PCED				*e*S	Sg	10 20 17.1	+0.3
CALA	**Caldeira**	**0.12**	**232**	*e*P	Pg	10 20 15.5	-0.2
CALA				*e*S	Sg	10 20 17.5	+0.1
HOR	**Horta**	**0.14**	**197**	*e*P	Pg	10 20 15.9	0.0
PICO	**Pico**	**0.20**	**142**	*e*P	Pg	10 20 16.6	-0.4
PICO				*e*S	Sg	10 20 19.5	-0.2
PCND	**Candelaria**	**0.21**	**154**	*e*P	Pg	10 20 17.0	-0.2
PCND				*e*S	Sg	10 20 20.2	+0.2
PCND							
	21nm,0.2s						
PTEI	**Pico do Teixo**	**0.24**	**133**	*e*P	Pg	10 20 18.5	+0.7
PTEI				*e*S	Sg	10 20 21.9	+0.9
PTEI							
	11nm,0.1s						
PBOI	**Pico dos Bois**	**0.27**	**144**	*e*S	Sg	10 20 22.0	0.0
PBOI							
	11nm,0.1s						
ROSA	**Rosais**	**0.27**	**76**	*e*P	Pg	10 20 18.3	-0.1
ROSA				*e*S	Sg	10 20 21.7	-0.3
PMAN	**Manadas**	**0.38**	**93**	*e*S	Sg	10 20 24.7	-0.9
PMAN							
	47nm,0.1s						
PID	**Ribeirinha**	**0.42**	**120**	*i* P	Pg	10 20 20.6	-0.6
PID				*e*S	Sg	10 20 25.8	-0.9
PID	**Ribeirinha**	**0.42**	**120**	*e*S	Sg	10 20 25.8	-0.9

*ISCJB **08** 10:31:32.2±2.0, 1155S±0.10×1663E±0.1, h140km±16km, mb4.3/15, Error ellipse: s-maj=19.6km s-min=12.7km az=95.4*
*NEIC **08** 10:31:32.0±1.6, 1140S×16634E, h128km±13km, mb4.6/11, Error ellipse: s-maj=12.9km s-min=11.5km az=221.0*
*IDC **08** 10:31:33.0±3.1, 1144S×16635E, h138km±26km, mb3.9/9, mb1 4.1/12, mb1mx3.9/20, mbtmp4.0/12, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=20.8km s-min=20.2km az=43.0*
ISC 08 10:31:32.8±1.9, 115S±01×1664E±01, h131km±15km, n34, σ0ᵍ96/33, mb4.3/15, 3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.65**	**287**	P	**Pn**	**10 33 06.9**	**-1.1**
	12nm,0.3s,baz=259,slow=1.6,SNR=7.5						
HNR				S	**Sn**	**10 34 24.0**	**+1.7**
	10nm,0.3s,baz=85,slow=23,SNR=7.2						
DZM	**Mont Dzumac**	**10.53**	**180**	*e*P	**Pn**	**10 33 59.6**	**-0.5**
DZM				*e*S	**Sn**	**10 35 51.0**	**-5.3**
DZM	**Mont Dzumac**	**10.53**	**180**	P	**Pn**	**10 33 59.7**	**-0.5**
	2.3nm,0.3s,baz=37,slow=16,SNR=11.1						
PMG	**Port Moresby**	**19.02**	**274**	P	**P**	**10 35 42.7**	**-1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.42**	**85**	*eP*	Pg	10 43 08.7	+0.2
BOAC				*eS*	Sg	10 43 14.8	+0.7
PGP	**Puerto Galera**	**0.45**	**281**⇑	*eP*	Pg	10 43 14.3	+5.2
TGY	**Tagaytay City**	**0.82**	**326**⇓	*eP*	Pg	10 43 16.2	+0.1
LUBP	**Lubang**	**1.17**	**286**	*eP*	Pg	10 43 25.3	+2.4
LUBP				*eS*	Sg	10 43 44.2	+6.1
OTRP	**Odiongan**	**1.21**	**150**	*eP*	Pg	10 43 23.7	+0.1
OTRP				*eS*	Sg	10 43 41.7	+2.4
AUQP	**San Andres**	**1.24**	**94**	*eP*	Pg	10 43 26.0	+1.9
AUQP				*eS*	Sg	10 43 45.7	+5.6
POLP	**Polilio Island**	**1.40**	**22**	*eP*	Pn	10 43 27.4	+0.3
POLP				*eS*	Sg	10 43 46.2	+0.9

IDC ***08*** *10:49:30.3±1.9, 648S×1515.4E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML2.9/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=47.9km s-min=33.6km az=145.0*

ISCJB ***08*** *10:49:33.0±5.2, 64S±03×1515E±02, h33km±38km, mb3.8/5, MS3.1/2, Error ellipse: s-maj=57.1km s-min=34.3km az=133.1*

ISC 08 10:49:33.5±6.9, 64S±04×1516E±02, h28km±56km, n15, σ0§84/11, mb3.8/5, MS3.1/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**235**	Pn	**Pn**	**10 50 51.7**	**+0.5**
	2.9nm,0.3s,baz=77,slow=14,SNR=12						
PMG				Sn	**Sn**	**10 51 51.6**	**-0.1**
	5.4nm,0.3s,baz=322,slow=21,SNR=6.5						
HNR	**Honiara**	**8.84**	**111**	LR	LR	10 54 37.1	
	comp=Z,84nm,18.2s,baz=181,slow=35						
CTA	**Charters Tower**	**14.61**	**200**	LR	LR	10 57 47.3	
	comp=Z,23nm,18.1s,baz=234,slow=34						
KAKA	**Kakadu**	**19.90**	**250**	*eP*	**Pn**	**10 54 03.4**	**-1.1**
	5.1nm,0.5s						
GUMO	**Guam**	**20.90**	**341**	LR	LR	11 00 42.8	
	comp=Z,51nm,19.9s,MS2.9,baz=219,slow=32						
DZM	**Mont Dzumac**	**21.22**	**139**	LR	LR	11 01 31.9	
	comp=Z,121nm,18.5s,MS3.3,baz=198,slow=34						
WB2	**Warramunga Arr**	**21.51**	**229**	*eP*	**P**	**10 54 20.5**	**+0.3**
WRA	**Warramunga Arr**	**21.52**	**229**	P	**P**	**10 54 20.5**	**+0.2**
	2.5nm,0.7s,mb3.7,baz=54,slow=11,SNR=28						
ASAR	**Alice Springs**	**24.20**	**223**	P	**P**	**10 54 48.4**	**+0.8**
	1.9nm,0.5s,mb3.8,baz=57,slow=9.5,SNR=38						
ASPA	**Alice Springs**	**24.20**	**223**	*eP*	**P**	**10 54 48.4**	**+0.8**
STKA	**Stephens Creek**	**27.06**	**199**	P	**P**	**10 55 11.5**	**-2.1**
	1.9nm,0.8s,mb3.7,baz=15,slow=12,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.87**	**243**	*eP*	**P**	**10 55 14.1**	**-6.7**
	5.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.87**	**243**	P	**P**	**10 55 20.6**	**-0.2**
	2.9nm,0.7s,mb4.0,baz=69,slow=9.4,SNR=15						
VNDA	**Vanda**	**71.34**	**178**	P	**P**	**11 00 51.1**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=354,slow=6.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.58**	**285**	PKPbc	PKPbc	11 09 22.6	+2.3
	2.3nm,0.6s,baz=73,slow=3.0,SNR=18						

CASC 08 10:51:11.1±2.1, 944N×8460W, h3km±7km, MD3.6, ML2.8, 4C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.59**	**13**⇓	*eP*	Pg	10 51 23.3	+0.9
CGA2				*eS*	Sg	10 51 33.2	+3.1
PRS1	**Puriscal**	**0.61**	**28**⇓	*iP*	Pg	10 51 21.7	-1.2
JCR	**Jicaral**	**0.65**	**309**⇑	*eP*	Pg	10 51 23.8	+0.2
JCR				*eS*	Sg	10 51 34.2	+2.1
LCR2	**La Lucha 2**	**0.66**	**63**⇓	*iP*	Pg	10 51 24.3	+0.5
SJS	**Escuela Geolog**	**0.73**	**47**⇓	*eP*	Pg	10 51 25.8	+0.7
FORC	**Fortuna**	**1.03**	**356**⇓	*iP*	Pg	10 51 30.7	-0.2
VCR	**Vista de Mar**	**1.23**	**304**⇑	*eP*	Pg	10 51 34.1	-0.5
VCR				*eS*	Sg	10 51 50.1	-0.4
LIM1	**Limonal**	**1.41**	**333**⇑	*iP*	Pn	10 51 36.4	-1.3
LIO	**Limon**	**1.64**	**70**⇑	*eP*	Pn	10 51 40.5	-0.3
LIO				*eS*	Sn	10 52 00.9	-1.6
MADN	**Villa Maderas**	**2.17**	**335**	*eP*	Pn	10 51 49.1	+1.1
SSNN	**San Juan del S**	**2.21**	**326**	*eP*	Pn	10 51 50.1	+1.4
SSNN				*eS*	Sn	10 52 20.2	+3.7
CONN	**Concepcion**	**2.34**	**335**	*eP*	Pn	10 51 51.3	+0.8
COPN	**Copaltepe**	**3.36**	**325**	*eP*	Pn	10 52 05.2	+0.7
COPN				*i*		10 52 51.6	
	comp=Z,39nm,0.6s						

MAN 08 11:13:48.8, 1027N×12584E, h59km, mb2.5, ML4.0, MS3.2, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.59**	**216**⇓	*eP*	Pn	11 14 00.2	-1.5
SCPH				*eS*	Sn	11 14 09.6	-1.6
MSLP	**Maasin**	**0.98**	**262**	*eP*	Pn	11 14 06.6	+0.1
MSLP				*eS*	Sn	11 14 21.8	+2.3
PLP	**Palo**	**1.23**	**317**	*eP*	Pn	11 14 11.8	+2.0
PLP				*i* S	Sn	11 14 27.4	+1.8
BUTP	**Butuan**	**1.31**	**190**	*eP*	Pn	11 14 10.8	0.0
BUTP				*eS*	Sn	11 14 29.8	+2.5
BESP	**Borongan**	**1.39**	**343**	*eP*	Pn	11 14 12.6	+0.7
BESP				*eS*	Sn	11 14 31.3	+2.1
BUKP	**Musuan**	**2.49**	**198**	*eP*	Pn	11 14 28.8	+1.9
BUKP				*eS*	Sn	11 14 58.4	+2.2
GUIM	**Jordan**	**3.22**	**277**	*eP*	Pn	11 14 38.6	+1.8
GUIM				*eS*	Sn	11 15 15.3	+1.4
PVCP	**Virac**	**3.70**	**334**	*eP*	Pn	11 14 44.4	+1.0

IDC ***08*** *11:16:54.6±0.7, 1138S×11689E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/19, mbtmp4.4/11, ML4.5/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/31, Error ellipse: s-maj=35.8km s-min=14.8km az=50.0*

ISCJB ***08*** *11:16:56.2±0.4, 1132S±008×11745E±009, h35km, mb4.7/18, MS3.4/6, Error ellipse: s-maj=16.0km s-min=5.0km az=93.5*

NEIC ***08*** *11:16:59.8±0.4, 1143S×11696E, h35km, mb4.6/8, Error ellipse: s-maj=15.5km s-min=7.6km az=48.0*

ISC 08 11:16:57.7±0.4, 1133S±008×11763E±009, h35km, n41, σ1§11/51, mb4.7/18, MS3.4/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**9.98**	**169**	*ePn*	**Pn**	**11 19 16.0**	**-2.5**
	50nm,0.6s						
MBWA				*eSn*	**Sn**	**11 20 56.4**	**-13**
FITZ	**Fitzroy Crossi**	**10.26**	**132**	*eP*	**Pn**	**11 19 27.3**	**+5.0**
	11nm,0.3s						
FITZ				*eS*	**Sn**	**11 21 13.7**	**-2.4**
FITZ	**Fitzroy Crossi**	**10.26**	**132**	Pn	**Pn**	**11 19 26.8**	**+4.5**
	2.1nm,0.3s,baz=307,slow=8.7,SNR=80						
FITZ				Sn	**Sn**	**11 21 17.9**	**+1.9**
	6.8nm,0.3s,baz=161,slow=15,SNR=15						
FITZ				LR	LR	11 23 28.5	
	comp=Z,192nm,20.3s,baz=300,slow=37						
WRA	**Warramunga Arr**	**18.21**	**120**	P	**Pn**	**11 21 15.0**	**+7.4**
	1.5nm,0.3s,baz=293,slow=13,SNR=69						
WRA				S	**S**	**11 24 28.8**	**-5.4**
	1.1nm,0.3s,baz=288,slow=24,SNR=14						
WRA				LR	LR	11 28 53.7	
	comp=Z,133nm,18.9s,baz=295,slow=38						
WRA	**Warramunga Arr**	**18.21**	**120**	P	**Pn**	**11 21 15.0**	**+7.4**
WRA				S	**S**	**11 24 28.8**	**-5.4**
WRAB	**Tennant Creek**	**18.22**	**120**	*eP*	**Pn**	**11 21 15.9**	**+8.2**
	6.7nm,0.4s						
WRAB				*eS*	**S**	**11 24 26.2**	**-8.0**
WB2	**Warramunga Arr**	**18.22**	**120**	*eP*	**Pn**	**11 21 15.5**	**+7.8**
WB2				*eS*	**S**	**11 24 27.2**	**-7.2**
ASPA	**Alice Springs**	**19.75**	**131**	*eP*	**Pn**	**11 21 32.6**	**+6.5**
ASPA				*eS*	**S**	**11 25 04.3**	**-0.9**
AS31	**Alice Springs**	**19.75**	**131**	*eP*	**Pn**	**11 21 32.6**	**+6.4**
AS31				*eS*	**S**	**11 25 04.3**	**-0.9**
ASAR	**Alice Springs**	**19.75**	**131**	P	**Pn**	**11 21 32.7**	**+6.5**
	8.1nm,0.8s,baz=300,slow=10,SNR=94						
ASAR				S	**S**	**11 25 06.3**	**+1.1**
	8.9nm,0.7s,baz=298,slow=23,SNR=17						
ASAR				LR	LR	11 28 50.7	
	comp=Z,84nm,20.9s,baz=319,slow=35						
ASAR	**Alice Springs**	**19.75**	**131**	P	**Pn**	**11 21 32.7**	**+6.5**
ASAR				S	**S**	**11 25 06.3**	**+1.1**
KLBR	**Kellerberrin**	**20.16**	**180**	*eP*	**P**	**11 21 29.4**	**+0.5**
	21nm,0.8s						
MUN	**Mundaring**	**20.59**	**183**	*eP*	**P**	**11 21 34.5**	**+0.9**
NWAO	**Narrogin (SRO)**	**21.50**	**181**	P	**P**	**11 21 43.8**	**+0.5**
	18nm,0.6s,mb4.6,baz=355,slow=11,SNR=21						
NWAO				S	Sx	11 25 26.1	
	11nm,0.4s,baz=270,slow=19,SNR=8.9						
NWAO				LR	LR	11 30 07.8	
	comp=Z,70nm,19.8s,MS3.1,baz=98,slow=37						
NWAO	**Narrogin (SRO)**	**21.50**	**181**	*eP*	**P**	**11 21 44.3**	**+0.9**
	17nm,0.6s,mb4.5						
NWAO				*eS*	**S**	**11 25 26.1**	**-14**
FORT	**Forrest**	**21.63**	**155**	*eP*	**P**	**11 21 49.3**	**+4.5**
	26nm,0.7s,mb4.8						
FORT				*eS*	**S**	**11 25 39.6**	**-2.8**
PSI	**Prapat**	**23.31**	**306**	P	**P**	**11 21 59.7**	**-2.9**
	6.3nm,0.8s,mb4.1,baz=160,slow=11,SNR=8.7						
PSI				LR	LR	11 32 10.9	
	comp=Z,154nm,19.4s,MS3.5,baz=154,slow=40						
CTA	**Charters Tower**	**28.86**	**111**	P	**P**	**11 23 01.4**	**+8.7**
	3.4nm,0.8s,mb4.1,baz=280,slow=11,SNR=6.1						
CTA				LR	LR	11 33 53.8	
	comp=Z,74nm,19.3s,MS3.3,baz=139,slow=34						
CTAO	**Charters Tower**	**28.86**	**111**	*eP*	**P**	**11 23 02.0**	**+9.3**
	2.8nm,0.7s,mb4.1						
PMG	**Port Moresby**	**29.10**	**89**	LR	LR	11 36 25.4	
	comp=Z,57nm,19.8s,MS3.2,baz=11,slow=39						
STKA	**Stephens Creek**	**30.11**	**136**	P	**P**	**11 23 10.6**	**+6.7**
	3.8nm,0.7s,mb4.2,baz=305,slow=9.3,SNR=6.2						
STKA				LR	LR	11 36 25.8	
	comp=Z,111nm,18.7s,MS3.5,baz=232,slow=38						
STKA	**Stephens Creek**	**30.11**	**136**	*eP*	**P**	**11 23 10.4**	**+6.6**
LSA	**Lhasa**	**48.12**	**329**	*eP*	**P**	**11 25 35.3**	**+1.2**
	4.2nm,0.4s,mb4.8						
JIRN	**Jiri**	**49.30**	**322**	*eP*	**P**	**11 25 43.3**	**+0.2**
GUN	**Gumba**	**49.67**	**322**	*eP*	**P**	**11 25 45.8**	**-0.2**
	57nm,0.8s,mb5.7						
PKI	**Pulchoki**	**49.71**	**322**	*eP*	**P**	**11 25 45.9**	**-0.3**
	26nm,0.8s,mb5.3						
DMN	**Daman**	**49.92**	**321**	*eP*	**P**	**11 25 47.2**	**-0.7**
	62nm,1.0s,mb5.6						
KKN	**Kakani**	**49.95**	**322**	*eP*	**P**	**11 25 47.8**	**-0.2**
GKN	**Gorkha**	**50.49**	**321**	*eP*	**P**	**11 25 51.5**	**-0.7**
	37nm,0.9s,mb5.4						
KOLN	**Koldanda**	**50.97**	**320**	*eP*	**P**	**11 25 54.9**	**-0.9**
	30nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**56.07**	**135**	LR	LR	11 51 37.7	
	comp=Z,124nm,19.4s,MS4.0,baz=184,slow=37						
MKAR	**Makanchi Array**	**65.93**	**334**	P	**P**	**11 27 40.8**	**+0.7**
	4.4nm,0.5s,mb4.8,baz=147,slow=7.4,SNR=62						
ZAL	**Zalesovo**	**70.74**	**340**	P	**P**	**11 28 10.6**	**+0.4**
	2.7nm,0.5s,mb4.4,baz=328,slow=4.1,SNR=8.2						
ZAL	**Zalesovo**	**70.74**	**340**	P	**P**	**11 28 10.6**	**+0.4**
BVAR	**Borovoye Array**	**75.72**	**333**	P	**P**	**11 28 39.8**	**+0.3**
	1.9nm,0.8s,mb4.1,baz=126,slow=7.5,SNR=11						
BRVK	**Borovoye**	**75.79**	**333**	*eP*	**P**	**11 28 39.2**	**-0.7**
	7.0nm,1.0s,mb4.5						
AKTK	**Aktyubinsk**	**80.38**	**326**	P	**P**	**11 29 06.3**	**+0.9**
AKTO	**Aktyubinsk**	**80.38**	**326**	P	**P**	**11 29 06.3**	**+0.9**
	3.5nm,0.6s,mb4.5,baz=95,slow=5.1,SNR=14						
BOSA	**Boshof**	**86.72**	**242**	P	**P**	**11 29 37.5**	**-0.4**
	2.4nm,0.9s,mb4.4,baz=71,slow=8.7,SNR=3.7						
SNAA	**Sanae**	**88.41**	**196**	*eP*	**P**	**11 29 48.2**	**+2.1**
	2.1nm,0.8s,mb4.4						
LPAZ	**La Paz**	**151.97**	**168**	PKPbc	PKPbc	11 36 54.2	+5.3
	0.4nm,0.5s,baz=247,slow=2.9,SNR=4.5						

IDC ***08*** *11:30:51.0±1.0, 3608N×2342E, h0km, mb4.1/8, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, ML3.8/4, Error ellipse: s-maj=20.9km s-min=19.9km az=163.0*

MOS ***08*** *11:30:52.1±1.9, 3590N×2328E, h10km, mb4.1/6, Error ellipse: s-maj=9.8km s-min=5.4km az=95.4*

ISCJB ***08*** *11:30:57.8±0.3, 3610N±002×2326E±003, h85km±4km, mb4.0/10, Error ellipse: s-maj=4.6km s-min=2.6km az=97.7*

CSEM ***08*** *11:30:58.6±0.1, 3614N×2334E, h80km, ML3.7, Error ellipse: s-maj=2.4km s-min=1.6km az=42.0*

NEIC ***08*** *11:30:59.4, 3617N×2338E, h61km, MG3.7(ATH), After ATH.*

ATH ***08*** *11:30:59.4, 3617N×2338E, h61km±3km, ML3.7*

THE ***08*** *11:31:02.2, 3629N×2346E, h60km, ML3.8*

HLW ***08*** *11:31:05.2, 3568N×2399E, h33km, Mb3.4*

ISC 08 11:30:59.2±0.2, 3610N±002×2329E±003, h73km±4km, n124, σ1§29/162, mb4.0/10, 9C-12D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.28**	**311**⇑	*iP*	**Pn**	**11 31 10.0**	**-0.6**
VLI	**Veliai**	**0.68**	**335**⇓	*iP*	**Pn**	**11 31 14.1**	**0.0**
VLI				*eS*	**Sn**	**11 31 24.0**	**-1.1**
VAM	**Vamos**	**1.01**	**133**⇓	*iP*	**Pn**	**11 31 18.5**	**+0.5**
VAM				*eS*	**Sn**	**11 31 32.8**	**+0.9**
GVD	**Gavdhos**	**1.41**	**153**	*eP*	**Pn**	**11 31 24.0**	**+0.9**
IDI	**Anoyia**	**1.53**	**121**	Pn	**Pn**	**11 31 24.8**	**+0.1**
	52nm,0.3s,baz=316,slow=14,SNR=160						
IDI				Sn	**Sn**	**11 31 42.9**	**-1.0**
	223nm,0.3s,baz=91,slow=19,SNR=16						
ITM	**Ithomi**	**1.54**	**315**⇓	*iP*	**Pn**	**11 31 26.4**	**+1.6**
ITM				*eS*	**Sn**	**11 31 44.8**	**+0.7**
SIVA	**Sivas**	**1.64**	**131**	*ePb*	**Pn**	**11 31 28.4**	**+2.3**
SIVA				*eSb*	**Sn**	**11 31 49.5**	**+3.0**
NAIG	**Nisos Aigina**	**1.66**	**5**	*eP*	**Pn**	**11 31 26.5**	**+0.1**
NAIG				*eS*	**Sn**	**11 31 46.7**	**-0.3**
KVR	**Kavouri**	**1.77**	**12**	*eP*	**Pn**	**11 31 27.1**	**-0.7**
KVR				*eS*	**Sn**	**11 31 48.9**	**-0.6**
SANT	**Santorini**	**1.77**	**81**	*ePg*	**Pn**	**11 31 28.1**	**+0.2**
SANT				*eSg*	**Sn**	**11 31 48.5**	**-1.1**
ATH	**Athens Observa**	**1.90**	**10**	*eP*	**Pn**	**11 31 30.5**	**+0.9**
ATH				*eS*	**Sn**	**11 31 51.8**	**-0.8**
PTL	**Penteli**	**2.00**	**13**	*eP*	**Pn**	**11 31 30.7**	**-0.2**
PTL				*eS*	**Sn**	**11 31 54.5**	**-0.5**
APE	**Apeiranthos**	**2.04**	**61**	*ePb*	**Pn**	**11 31 31.5**	**0.0**
APE				*eSb*	**Sn**	**11 31 54.2**	**-1.9**
APE	**Apeiranthos**	**2.04**	**61**⇑	*iP*	**Pn**	**11 31 31.5**	**0.0**
APE				*eS*	**Sn**	**11 31 54.4**	**-1.7**
NPS	**Neapolis**	**2.06**	**113**⇑	*iP*	**Pn**	**11 31 32.4**	**+0.6**
NPS				*eS*	**Sn**	**11 31 56.5**	**-0.1**
XRY	**Khrisi**	**2.31**	**121**	*eP*	**Pn**	**11 31 37.0**	**+1.9**
RLS	**Riolos of Patr**	**2.44**	**324**	*iP*	**Pn**	**11 31 39.0**	**+2.1**
LKR	**Lokris**	**2.56**	**355**	*iP*	**Pn**	**11 31 39.0**	**+0.6**
LKR				*eS*	**Sn**	**11 32 08.1**	**-0.4**
VLS	**Valsamata**	**3.00**	**315**	*eP*	**Pn**	**11 31 44.5**	**+0.1**
VLS				*eS*	**Sn**	**11 32 20.8**	**+1.6**
AGG	**Agios Georgios**	**3.02**	**346**	*ePn*	**Pn**	**11 31 46.5**	**+1.8**
	comp=Z,6.4nm,0.3s						
AGG				*eSn*	**Sn**	**11 32 19.5**	**-0.1**
EVR	**Evrytania**	**3.05**	**338**	*eP*	**Pn**	**11 31 47.5**	**+2.4**
AOS	**Alonnisos**	**3.10**	**8**	*ePn*	**Pn**	**11 31 46.3**	**+0.5**
	comp=Z,10nm,0.3s						
NEO	**Neokhori**	**3.20**	**359**⇓	*iP*	**Pn**	**11 31 48.2**	**+1.0**
NEO				*eS*	**Sn**	**11 32 23.7**	**-0.5**
SMG	**Samos**	**3.26**	**59**⇑	*iP*	**Pn**	**11 31 48.3**	**+0.3**
XOR	**Xorichti**	**3.26**	**359**	*ePn*	**Pn**	**11 31 49.0**	**+1.0**
LKD	**Levkas**	**3.35**	**322**	*ePn*	**Pn**	**11 31 50.6**	**+1.5**
LKD				*eSn*	**Sn**	**11 32 30.1**	**+2.4**
URLA	**Izmir**	**3.47**	**48**	*iP*	**Pn**	**11 31 50.8**	**-0.1**
BDRM	**Kayabasi**	**3.48**	**73**	*iP*	**Pn**	**11 31 51.9**	**+1.0**
DAT	**Datca**	**3.51**	**78**	PN	**Pn**	**11 31 52.8**	**+1.4**
THL	**Klokotos Trika**	**3.60**	**344**	*eP*	**Pn**	**11 31 54.6**	**+1.9**
MLSB	**Milas**	**3.79**	**70**	*ePN*	**Pn**	**11 31 55.0**	**-0.2**
PAIG	**Paliouri**	**3.83**	**4**	*ePn*	**Pn**	**11 31 55.9**	**+0.1**
PAIG				*eSn*	**Sn**	**11 32 38.2**	**-1.4**
ARG	**Arkhangelos**	**3.91**	**87**	*eP*	**Pn**	**11 31 58.9**	**+2.0**
PRK	**Paraskevi**	**3.93**	**36**	*eP*	**Pn**	**11 31 56.9**	**-0.2**
MEV	**Metsovon**	**4.03**	**337**	*ePn*	**Pn**	**11 32 00.8**	**+2.4**
	comp=Z,8.4nm,0.3s						
JAN	**Janina**	**4.04**	**332**	*eP*	**Pn**	**11 32 00.4**	**+1.8**
LIT	**Litokhoron**	**4.04**	**351**	*ePn*	**Pn**	**11 31 59.9**	**+1.2**
LIT				*eSn*	**Sn**	**11 32 44.1**	**-0.7**
LIA	**Limnos Island**	**4.08**	**21**	*eP*	**Pn**	**11 31 59.0**	**+2.1**
YER	**Yerkesik**	**4.14**	**74**	*ePN*	**Pn**	**11 32 00.2**	**+0.2**
PLG	**Polygyros**	**4.27**	**2**	*ePn*	**Pn**	**11 32 02.8**	**+1.1**
PLG				*eSn*	**Sn**	**11 32 48.5**	**-1.8**
PLG	**Polygyros**	**4.27**	**2**	*eP*	**Pn**	**11 32 02.7**	**+1.0**
DALT	**Dalyan (Mudla)**	**4.36**	**80**	*ePN*	**Pn**	**11 32 05.4**	**+2.4**
KZN	**Kozani**	**4.37**	**345**	*eP*	**Pn**	**11 32 03.5**	**+0.4**
HORT	**Hortiatis**	**4.49**	**358**	*ePn*	**Pn**	**11 32 06.3**	**+1.5**
HORT				*eSn*	**Sn**	**11 32 54.8**	**-1.0**
KEK	**Kerkira**	**4.54**	**324**	*eP*	**Pn**	**11 32 05.7**	**+0.2**
FETY	**Fethiye**	**4.70**	**82**	*ePN*	**Pn**	**11 32 10.1**	**+2.4**
GRG	**Griva**	**4.90**	**352**	*ePn*	**Pn**	**11 32 11.5**	**+1.1**
KNT	**Kendrikon**	**5.06**	**357**	*ePn*	**Pn**	**11 32 13.9**	**+1.4**
KNT	**Kendrikon**	**5.06**	**357**	*ePn*	**Pn**	**11 32 13.9**	**+1.3**
BIA	**Bitola**	**5.15**	**343**	*ePn*	**Pn**	**11 32 12.6**	**-1.1**
BIA				*eSg*	**Sn**	**11 33 09.7**	**-2.1**
BIA	**Bitola**	**5.15**	**343**	*ePn*	**Pn**	**11 32 12.6**	**-1.1**
BIA				*eSn*	**Sn**	**11 33 09.6**	**-2.2**
GOLH	**Golhisar**	**5.16**	**75**	*i* P	**Pn**	**11 32 19.4**	**+5.4**
VAY	**Valandovo**	**5.24**	**354**	*ePn*	**Pn**	**11 32 16.6**	**+1.5**
VAY				*eSg*	**Sn**	**11 33 14.9**	**+0.8**
VAY	**Valandovo**	**5.24**	**354**	*ePn*	**Pn**	**11 32 16.5**	**+1.5**
VAY				*eSg*	**Sn**	**11 33 14.9**	**+0.8**
OHR	**Ohrid**	**5.37**	**339**	*ePn*	**Pn**	**11 32 16.8**	**0.0**
OHR				*eSg*	**Sn**	**11 33 14.8**	**-2.4**
OHR	**Ohrid**	**5.37**	**339**	*ePn*	**Pn**	**11 32 16.7**	**-0.1**
OHR				*eSg*	**Sn**	**11 33 14.8**	**-2.5**
ELL	**Elmali**	**5.37**	**81**	*eP*	**Pn**	**11 32 18.5**	**+1.7**
KRUS	**Krusevo**	**5.50**	**344**	*ePn*	**Pn**	**11 32 19.6**	**+1.0**
KRUS				*eSg*	**Sn**	**11 33 19.6**	**-0.8**
HMAT	**Matruh**	**5.91**	**146**	⇓P	**Pn**	**11 32 21.7**	**-2.5**
TIP	**Timpagrande**	**6.03**	**303**	*ePn*	**Pn**	**11 32 25.8**	**+0.1**
TIP				*eSn*	**Sn**	**11 33 29.4**	**-4.0**
TIP	**Timpagrande**	**6.03**	**303**	*ePn*	**Pn**	**11 32 25.8**	**0.0**
SOI	**Samo**	**6.11**	**291**	Pn	**Pn**	**11 32 25.9**	**-1.0**
SOI				Sn	**Sn**	**11 33 28.5**	**-6.9**
VTS	**Vitosha**	**6.48**	**359**	P	**Pn**	**11 32 35.4**	**+3.4**
PE1	**Pezze di Greco**	**6.58**	**317**	*ePn*	**Pn**	**11 32 32.1**	**-1.2**
HAVL	**Avola**	**6.63**	**280**	Pn	**Pn**	**11 32 32.5**	**-1.5**
ORI	**Oriolo Calabro**	**6.69**	**308**	P	**Pn**	**11 32 35.8**	**+1.0**
ORI				pmax	pmax		
	comp=Z,67nm,0.4s						
ORI	**Oriolo Calabro**	**6.69**	**308**	Pn	**Pn**	**11 32 35.8**	**+1.0**
	comp=Z,67nm,0.4s						
SG1	**Sgolgore (BA)**	**7.02**	**314**	*ePn*	**Pn**	**11 32 39.0**	**-0.3**
CUC	**Castrocucco**	**7.07**	**306**	P	**Pn**	**11 32 41.6**	**+1.7**
SWA2		**7.08**	**164**	⇓P	**Pn**	**11 32 39.3**	**-0.8**
SWA1		**7.11**	**163**	⇓P	**Pn**	**11 32 40.2**	**-0.4**
SWA1				S	**Sn**	**11 33 49.1**	**-11**
VAE	**Valguarnera**	**7.26**	**284**	Sn	**Sn**	**11 34 00.7**	**-2.8**
	comp=Z,3.9nm,0.3s,baz=201,slow=1.4,SNR=2.7						
CDT	**Castel del Mon**	**7.41**	**314**	*ePn*	**Pn**	**11 32 43.9**	**-0.8**
MRLC	**Muro Lucano**	**7.69**	**310**	Pn	**Pn**	**11 32 48.4**	**0.0**
	comp=Z,16nm,0.4s						
FGMS	**Monte Sant'Ang**	**8.01**	**317**	Pn	**Pn**	**11 32 52.8**	**0.0**
FGMS				Sn	**Sn**	**11 34 15.8**	**-5.9**
STON	**Ston**	**8.03**	**329**	*i* Pn	**Pn**	**11 32 50.8**	**-2.3**
STON				*i* Sn	**Sn**	**11 34 13.4**	**-8.8**
CSSN	**Cassano Irpino**	**8.04**	**309**	Pn	**Pn**	**11 32 53.6**	**+0.4**
CSSN				Sn	**Sn**	**11 34 20.3**	**-2.3**
FG5	**Orsara di Pugl**	**8.13**	**312**	P	**Pn**	**11 32 55.1**	**+0.6**
FG5				pmax	pmax		
	comp=Z,35nm,0.6s						
FG5	**Orsara di Pugl**	**8.13**	**312**	Pn	**Pn**	**11 32 55.1**	**+0.6**
	comp=Z,35nm,0.6s						
RGNG	**Rignano Grg**	**8.19**	**315**	Pn	**Pn**	**11 32 54.5**	**-0.8**
RGNG				Sn	**Sn**	**11 34 22.1**	**-4.1**
BBLS	**Bajina Basta -**	**8.31**	**340**	*i* Pn	**Pn**	**11 32 55.8**	**-1.2**
DIVS	**Divcibare**	**8.38**	**343**	*i* Pn	**Pn**	**11 32 56.2**	**-1.6**
SGG	**Gregorio Mates**	**8.74**	**310**	Pn	**Pn**	**11 33 04.8**	**+2.0**
	comp=Z,21nm,0.5s						
BR131	**Keskin Array S**	**8.94**	**63**	*ePn*	**Pn**	**11 33 10.8**	**+5.2**
	comp=Z,4.9nm,0.7s						
BR131	**Keskin Array S**	**8.94**	**63**

HHC			Smax				
	comp=E,82nm,0.6s						
WHN	**Wuhan**	**5.60 148**	PG	Pg	11 55 24.3	-3.6	
WHN			SG	Sg	11 56 37.0	-3.3	
WHN			Smax				
	comp=N,235nm,1.0s						
WHN			Smax				
	comp=E,117nm,0.8s						
LZH	**Lanzhou**	**5.78 279**	PG	Pg	11 55 27.5	-3.9	
LZH			S	Sn	11 56 16.6	+4.8	
LZH			SG	Sg	11 56 39.0	-7.2	
LZH			Smax				
	comp=N,102nm,1.1s						
LZH			Smax				
	comp=E,93nm,1.2s						
LZH			LR	LR			
	comp=N,338nm,7.5s						
LZH			LR	LR			
	comp=Z,427nm,9.2s						

*ISCJB **08** 11:57:05.0±0.7, 5727N±004×12093E±004, h14km±5km, mb3.7/8, MS3.4/2, Error ellipse: s-maj=6.2km s-min=3.5km az=163.1*
*IDC **08** 11:57:04.4±1.4, 5762N×12090E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, MS3.4/2, Ms1 3.5/2, ms1mx2.7/38, Error ellipse: s-maj=45.7km s-min=22.8km az=50.0*
*MOS **08** 11:57:05.0±1.4, 5760N×12057E, h10km, mb4.0/8, Error ellipse: s-maj=14.6km s-min=11.3km az=80.2*
*BYKL **08** 11:57:05.9±0.4, 5744N×12072E*
ISC 08 11:57:06.1±0.7, 5732N±004×12088E±004, h12km±5km, n55, σ1§20/73, mb3.7/8, MS3.4/2, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHNR	**Khani**	**0.63**	**231**	*e*Pg		**Pg**	**11 57 18.2**	**-0.1**
KHNR				*i* Sg		**Sg**	**11 57 26.3**	**-0.3**
CRS	**Chara**	**1.48**	**255**	*i*Pg		**Pn**	**11 57 32.6**	**+0.1**
CRS				Pmax			11 57 34.2	
	534nm,0.9s							
CRS				*i* Sg		**Sn**	**11 57 50.7**	**-1.1**
CRS				Smax			11 57 52.4	
	2μm,0.8s							
CRS	**Chara**	**1.48**	**255**	*e*P		**Pn**	**11 57 32.7**	**+0.2**
CRS				*e*			11 57 50.7	
CRS				pmax	pmax			
	comp=Z,529nm,0.6s							
CRS				smax				
	comp=E,1μm,0.5s							
NRGR	**Nerungri**	**2.21**	**106**	*e*P		**Pg**	**11 57 48.8**	**+0.4**
NRGR				S		**Sg**	**11 58 16.4**	**-0.6**
NRGR				smax				
	comp=N,25nm,0.1s							
CLNS	**Chul'man**	**2.25**	**101**	*e*Pn		**Pb**	**11 57 47.1**	**+0.5**
CLNS				*e*Pg		**Pg**	**11 57 49.1**	**0.0**
CLNS				*e*Sg		**Sg**	**11 58 19.7**	**+1.4**
CLNS	**Chul'man**	**2.25**	**101**	*e*P		**Pb**	**11 57 47.2**	**+0.6**
CLNS				*e*S		**Sg**	**11 58 17.2**	**-1.1**
CLNS				pmax	pmax			
	comp=Z,4.0nm,0.3s							
CLNS				pmax	pmax			
	comp=N,1.0nm,0.2s							
CLNS				pmax	pmax			
	comp=E,1.0nm,0.2s							
CLNS				smax				
	comp=N,46nm,0.3s							
CLNS				smax				
	comp=E,53nm,0.3s							
CLNS				smax				
	comp=Z,58nm,0.3s							
CLNS				smax				
	comp=E,516nm,0.3s							
CLNS				smax				
	comp=Z,178nm,0.3s							
CLNS				smax				
	comp=N,875nm,0.5s							
IENR	**Iengra**	**2.45**	**115**	*e*Pg		**Pg**	**11 57 52.9**	**-0.2**
IENR				*e*Sg		**Sg**	**11 58 25.4**	**+0.6**
ALDR	**Aldan**	**2.74**	**60**	*e*Pg		**Pb**	**11 57 54.4**	**-0.6**
ALDR				*e*Sg		**Sb**	**11 58 30.2**	**+1.6**
TUP	**Tupik**	**2.94**	**191**	*e*Pn		**Pn**	**11 57 54.4**	**+1.8**
TUP				*e*Pg		**Pb**	**11 57 59.3**	**+0.9**
TUP				Pmax			11 58 03.7	
	comp=N,524nm,0.7s							
TUP				*e*Sn		**Sb**	**11 58 31.3**	**-3.1**
TUP				*e*Sg		**Sg**	**11 58 38.8**	**-1.8**
TUP				Smax			11 58 40.3	
	comp=N,1μm,0.8s							
TUP	**Tupik**	**2.94**	**191**	*e*P		**Pn**	**11 57 54.5**	**+1.9**
TUP				*e*S		**Sn**	**11 58 30.0**	**+2.1**
TUP				pmax	pmax			
	comp=Z,528nm,0.6s							
TUP				smax				
	comp=E,1μm,0.9s							
NLYR	**Nelyaty**	**2.95**	**256**	*e*Pn		**Pn**	**11 57 53.7**	**+0.9**
NLYR				*e*Pg		**Pb**	**11 57 58.7**	**+0.1**
NLYR				*e*Sn		**Sn**	**11 58 27.3**	**-0.9**
NLYR				*e*Sg		**Sb**	**11 58 35.3**	**+0.6**
TNDR	**Tynda**	**3.06**	**134**	*e*Pn		**Pb**	**11 57 57.7**	**-2.7**
TNDR				*e*Pg		**Pg**	**11 58 03.8**	**-0.8**
TNDR				*e*Sg		**Sg**	**11 58 44.7**	**+0.5**
BOD	**Bodaibo**	**3.73**	**281**	*e*Pn		**Pn**	**11 58 03.3**	**-0.2**
BOD				*e*Pg		**Pb**	**11 58 11.3**	**-0.7**
BOD				Pmax			11 58 12.9	
	comp=E,51nm,0.7s							
BOD				*e*Sn		**Sn**	**11 58 46.4**	**-1.0**
BOD				*e*Sg		**Sb**	**11 58 58.2**	**+1.0**
BOD				Smax			11 59 03.0	
	comp=E,416nm,0.8s							
BOD	**Bodaibo**	**3.73**	**281**	*e*P		**Pn**	**11 58 02.9**	**-0.6**
BOD				*e*S		**Sn**	**11 58 43.2**	**-4.2**
BOD				pmax	pmax			
	comp=Z,70nm,0.4s							
BOD				smax				
	comp=N,424nm,0.7s							
UKT	**Uakit**	**4.42**	**249**	*e*Pg		**Pb**	**11 58 24.9**	**+1.2**
UKT				Pmax			11 58 33.8	
	comp=N,40nm,0.9s							
UKT				*e*Sg		**Sb**	**11 59 20.5**	**+3.5**
UKT				Smax			11 59 27.7	
	comp=N,353nm,0.9s							
KROS	**Kirovskiy**	**4.49**	**128**	*e*Pg		**Pg**	**11 58 27.9**	**-4.1**
KROS				*e*Sg		**Sg**	**11 59 26.9**	**-3.2**
YOA	**Uoyan**	**5.18**	**261**	*e*Sg		**Sb**	**11 59 42.5**	**+3.8**
YOA				Smax			11 59 53.5	
	comp=N,1μm,0.8s							
YOA	**Uoyan**	**5.18**	**261**	*e*P		**Pb**	**11 58 38.9**	**+2.4**
YOA				pmax	pmax			
	comp=Z,150nm,0.3s							
CGD	**Chagda**	**5.37**	**70**	*e*Sg		**Sb**	**11 59 51.6**	**+7.3**
KMO	**Kumora**	**5.53**	**259**	*e*Pn		**Pn**	**11 58 29.1**	**+0.9**
KMO				*e*Pg		Px	11 58 43.9	
KMO				Pmax			11 59 05.5	
	comp=Z,22nm,0.5s							
KMO				*e*Sg		Sx	11 59 53.6	
KMO				Smax			11 59 59.9	
	comp=Z,452nm,1.0s							
KMO	**Kumora**	**5.53**	**259**	*e*P		**Pb**	**11 58 43.1**	**+0.5**
KMO				*e*S		**Sn**	**11 59 30.6**	**-1.2**
KMO				pmax	pmax			
	comp=Z,30nm,0.5s							
KMO				smax				
	comp=N,456nm,1.1s							
YLYR	**Ulyunkhan**	**5.96**	**250**	*e*Pn		**Pn**	**11 58 35.2**	**+1.1**
YLYR				*e*Pg		Px	11 58 52.8	
YLYR				Pmax			11 59 33.0	
	comp=N,27nm,1.2s							
YLYR				*e*Sg		Sx	12 00 08.4	
YLYR				Smax			12 00 22.6	
	comp=N,279nm,1.0s							
YLYR	**Ulyunkhan**	**5.96**	**250**	*e*P		**Pn**	**11 58 35.5**	**+1.4**
YLYR				pmax	pmax			
	comp=Z,29nm,1.3s							
NIZ	**Nizh Angarsk**	**6.46**	**261**	*e*Sg		**Sg**	**12 00 22.8**	**-10**
NIZ				Smax			12 00 32.5	
	comp=Z,160nm,1.1s							
YAK	**Yakutsk**	**6.50**	**40**	*e*P		**Pn**	**11 58 42.4**	**+0.9**
YAK				*e*			11 59 52.5	
YAK				pmax	pmax			
	comp=Z,13nm,0.6s							
YAK				pmax	pmax			
	comp=N,13nm,1.5s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.3s							
YAK				smax				
	comp=E,80nm,0.6s							
YAK				smax				
	comp=N,96nm,0.7s							
YAK				smax				
	comp=Z,47nm,0.7s							
YAK				MLR	MLR			
	comp=Z,22nm,14.0s							
CIT	**Chita**	**6.79**	**222**	*e*Pg		**Pg**	**11 59 08.9**	**-7.2**
CIT				Pmax			11 59 15.1	
	comp=Z,54nm,1.2s							
CIT				*e*Sg		**Sg**	**12 00 37.0**	**-7.1**
CIT				Smax			12 00 39.6	
	comp=Z,470nm,1.7s							
SYVR	**Suvo**	**7.18**	**244**	*e*Pg		**Pg**	**11 59 15.3**	**-8.3**
SYVR				Pmax			11 59 32.0	
	comp=Z,19nm,1.4s							
SYVR				*e*Sg		**Sg**	**12 00 48.5**	**-8.0**
SYVR				Smax			12 00 55.6	
	comp=Z,307nm,1.5s							
OGRR	**Ongureny**	**8.39**	**250**	*e*Sg		Sx	12 01 24.3	
OGRR				Smax			12 01 25.3	
	comp=Z,94nm,1.8s							
KPC	**Khapcheranga**	**9.14**	**217**	*e*Sg		Sx	12 01 47.9	
KPC				Smax			12 02 00.7	
	comp=Z,120nm,0.8s							
TRG	**Tyrgan**	**9.50**	**247**	*e*Sg		Sx	12 02 01.1	
TRG				Smax			12 02 10.8	
	comp=Z,43nm,1.5s							
FFNB	**Fofonovo**	**9.72**	**243**	*e*Sg		Sx	12 02 08.3	
FFNB				Smax			12 02 26.3	
	comp=Z,256nm,1.5s							
HRMR	**Khuramsha**	**9.89**	**241**	*e*Sg		Sx	12 02 12.6	
HRMR				Smax			12 02 15.9	
	comp=Z,372nm,1.3s							
TLY	**Talaya**	**11.48**	**248**	*e*P		**Pn**	**11 59 49.6**	**-0.2**
SONM	**Songino Array**	**12.92**	**229**	Lg			12 03 53.0	
	comp=Z,1.0nm,0.3s,baz=28,slow=29,SNR=7.9							
TIXI	**Tiksi**	**14.77**	**10**	*e*P		**Pn**	**12 00 30.8**	**-4.0**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KRAR	**Krasnoyarsk**	**15.41**	**277**	*e*P		**Pn**	**12 00 43.3**	**+0.1**
KRAR				pmax	pmax			
	comp=Z,22nm,0.4s							
ZAL	**Zalesovo**	**20.49**	**276**	P		**P**	**12 01 44.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=45,slow=13,SNR=5.7							
ZAL	**Zalesovo**	**20.49**	**276**	P		**P**	**12 01 44.2**	**+0.4**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**25.61**	**262**	P		**P**	**12 02 35.5**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.4,baz=54,slow=8.2,SNR=8.3							
MKAR	**Makanchi Array**	**25.61**	**262**	P		**P**	**12 02 35.5**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**28.60**	**283**	P		**P**	**12 03 01.1**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=49,slow=6.5,SNR=3.1							
BVAR	**Borovoye Array**	**28.60**	**283**	P		**P**	**12 03 01.1**	**-1.0**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**44.37**	**317**	P		**P**	**12 05 13.9**	**-2.3**
	comp=Z,1.6nm,0.6s,mb4.0,baz=45,slow=10,SNR=5.4							
FINES	**FINESS Array B**	**44.37**	**317**	P		**P**	**12 05 14.0**	**-2.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GUMO	**Guam**	**47.30**	**147**	LR		LR	12 26 33.7	
	comp=Z,33nm,18.8s,MS3.3,baz=32,slow=37							
NOA	**NORSAR Array B**	**49.84**	**323**	P		**P**	**12 05 56.6**	**-2.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=38,slow=5.7,SNR=2.8							
NOA	**NORSAR Array B**	**49.84**	**323**	P		**P**	**12 05 56.6**	**-2.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**50.33**	**304**	P		**P**	**12 06 01.0**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.1,baz=43,slow=8.9,SNR=5.2							
AKASG	**Malin Array Be**	**50.33**	**304**	P		**P**	**12 06 01.0**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**58.35**	**312**	P		**P**	**12 07 00.0**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=94,slow=4.1,SNR=4.7							
GERES	**GERESS Array B**	**58.35**	**312**	P		**P**	**12 07 00.0**	**-1.0**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ESDC	**Sonseca Array**	**72.85**	**318**	LR		LR	12 40 28.9	
	comp=Z,29nm,21.0s,MS3.5,baz=90,slow=36							
WRA	**Warramunga Arr**	**77.78**	**167**	P		**P**	**12 09 03.5**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=355,slow=6.7,SNR=5.1							
WRA	**Warramunga Arr**	**77.78**	**167**	P		**P**	**12 09 03.5**	**+0.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**81.41**	**168**	P		**P**	**12 09 26.0**	**+3.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=354,slow=4.2,SNR=5.0							

*IDC **08** 12:33:38.8±2.9, 5969N×2453E, h0km, mb1 3.2/3, mb1mx3.1/20, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=40.2km s-min=11.6km az=148.0*
*ISCJB **08** 12:33:39.2±0.8, 5983N±006×24.15E±008, h0km, Error ellipse: s-maj=8.9km s-min=4.4km az=127.5*
*HEL **08** 12:33:40.4±0.2, 5983N×24.16E, h0km, ML1.6, ML2.3(UPP), Explosion*
ISC 08 12:33:40.4±0.8, 5989N±005×2416E±008, h0km, n16, σ0§80/24, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.35**	**20**	*e*P		**Pg**	**12 33 47.4**	**+0.2**
MEF				*e*S		**Sg**	**12 33 52.1**	**+0.3**
PVF	**Pernaja**	**1.08**	**51**	*e*P		**Pg**	**12 34 00.1**	**-0.9**
PVF				*e*S		**Sg**	**12 34 13.5**	**-1.5**
RAF	**Rauma**	**1.65**	**315**	*e*P		**Pn**	**12 34 10.8**	**+0.3**
RAF				*e*S		**Sn**	**12 34 32.9**	**+0.5**
VJF	**Virojoki**	**1.82**	**67**	*e*P		**Pn**	**12 34 13.5**	**+0.6**
VJF				*e*S		**Sn**	**12 34 37.0**	**+0.3**
FIA0	**FINESS Array S**	**1.83**	**30**	*e*P		**Pn**	**12 34 13.3**	**+0.3**
FIA0				*e*S		**Sn**	**12 34 37.6**	**+0.7**
FINES	**FINESS Array B**	**1.83**	**30**	Pn		**Pn**	**12 34 13.7**	**+0.6**
	1.0nm,0.3s,baz=205,slow=15,SNR=30							
FINES				Sn		**Sn**	**12 34 39.3**	**+2.5**
	1.0nm,0.3s,baz=207,slow=26,SNR=12							
AAL	**Aland**	**2.11**	**280**	*e*P		**Pn**	**12 34 16.8**	**-0.1**
KEF	**Keuruu**	**2.32**	**8**	*e*P		**Pn**	**12 34 20.2**	**+0.4**
KEF				*e*SG		**Sg**	**12 34 53.6**	**-1.2**
KEF				MSG			12 34 54.3	
	comp=Z,2.6nm,0.3s							
NRTU	**Norrtaelje**	**2.80**	**268**	*e*P		**Pn**	**12 34 26.0**	**-0.5**
SUF	**Sumiainen**	**3.00**	**18**	*e*P		**Pn**	**12 34 30.9**	**+1.7**
SUF				*e*SB		**Sb**	**12 35 12.2**	**+0.2**
SUF				MSG			12 35 13.2	
	comp=Z,0.8nm,0.2s							
IGGU	**Iggoen**	**3.54**	**289**	*e*P		**Pn**	**12 34 36.5**	**-0.1**
OSTU	**Oestervaala**	**3.54**	**279**	*e*P		**Pn**	**12 34 36.7**	**+0.2**
BACU	**Backbrunna**	**3.55**	**273**	*e*P		**Pn**	**12 34 37.1**	**+0.3**
HFS	**Hagfors**	**5.25**	**277**	Pn		**Pn**	**12 34 60.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=113,slow=17,SNR=4.6							
HFS				Lg			12 36 24.9	
	comp=Z,0.3nm,0.3s,baz=85,slow=32,SNR=5.3							
NOA	**NORSAR Array B**	**6.50**	**286**	Pn		**Pn**	**12 35 16.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=20,SNR=2.3							
ARCES	**ARCESS Array B**	**9.71**	**3**	Pn		**Pn**	**12 36 00.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=5.8							

*ISCJB **08** 12:35:51.0±1.2, 2986N±006×3628E±008, h0km, Error ellipse: s-maj=10.1km s-min=7.9km az=58.8*
*GII **08** 12:35:52.8±0.5, 2992N×3616E, h0km±8km, ML1.9/2*
*CSEM **08** 12:35:53.3±0.2, 2982N×3608E, h2km, ML1.9, Error ellipse: s-maj=5.9km s-min=3.0km az=113.0, Mining explosion.*
*HLW **08** 12:35:57.7, 2948N×3624E, h18km, Mb3.0*
ISC 08 12:35:51.1±1.2, 2986N±006×3633E±008, h0km, n18, σ0§72/22, 3C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AQBJ	**Aqaba**	**1.12**	**263**	Pg		**Pg**	**12 36 12.4**	**-0.1**
HRFI	**Mount Harif**	**1.13**	**279**	Pg		**Pg**	**12 36 12.1**	**-0.8**
HRFI	**Mount Harif**	**1.13**	**279**	Pg		**Pg**	**12 36 12.0**	**-0.8**
ZFRI	**Zfri**	**1.21**	**305**	Pg		**Pg**	**12 36 13.3**	**-0.9**
ZFRI	**Zfri**	**1.21**	**305**	Pg		**Pg**	**12 36 13.3**	**-1.0**
EIL	**Elat**	**1.21**	**261**	Pg		**Pg**	**12 36 14.4**	**+0.1**
EIL				Sg		**Sg**	**12 36 31.6**	**+1.7**
MBH	**Mount Berech**	**1.23**	**267**	Pg		**Pg**	**12 36 14.1**	**-0.6**
PRNI	**Paran**	**1.24**	**293**	Pg		**Pg**	**12 36 13.9**	**-1.1**
PRNI				Sg		**Sg**	**12 36 31.5**	**+0.4**
KMTI	**Karmit**	**1.41**	**280**	Pg		**Pg**	**12 36 17.2**	**-0.9**
HBST	**Basata**	**1.53**	**246**	*e*P		**Pn**	**12 36 20.3**	**+0.6**
MZDA	**Masada**	**1.67**	**330**	Pn		**Pn**	**12 36 21.7**	**+0.2**
YTIR	**Yattir**	**1.82**	**325**	Pn		**Pn**	**12 36 24.1**	**+0.4**
HDHB	**Dhahab**	**1.87**	**233**	*e*P		**Pn**	**12 36 24.2**	**-0.2**
DSI	**Dead Sea**	**1.89**	**335**	Pn		**Pn**	**12 36 25.7**	**+1.1**
DRGI	**Dragot**	**1.90**	**335**	Pn		**Pn**	**12 36 25.2**	**+0.4**
HKAT	**Jabal Katrina**	**2.44**	**237**	*e*P		**Pn**	**12 36 32.1**	**0.0**
HKAT				S		**Sn**	**12 36 57.4**	**-5.3**
TR2		**2.71**	**238**	*i* P		**Pn**	**12 36 35.7**	**-0.2**
TR2				S		**Sn**	**12 37 03.5**	**-5.9**
AMAG	**Maghara**	**2.81**	**287**	P		**Pn**	**12 36 41.5**	**+4.3**

*ISCJB **08** 12:40:29.9±1.2, 5974N±008×24.19E±009, h0km, Error ellipse: s-maj=11.4km s-min=5.9km az=141.7*
*IDC **08** 12:40:30.2±3.3, 5964N×2462E, h0km, mb1 3.2/3, mb1mx3.0/20, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=43.3km s-min=10.5km az=150.0*
*HEL **08** 12:40:33.4±0.4, 5987N×2436E, h0km, ML1.5, Explosion*
ISC 08 12:40:31.8±1.0, 5983N±007×2425E±009, h0km, n9, σ1§26/16, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.40**	**11**	*e*P		**Pg**	**12 40 39.2**	**-0.2**
MEF				*e*S		**Sg**	**12 40 44.5**	**-0.1**
RAF	**Rauma**	**1.72**	**315**	*e*P		**Pn**	**12 41 03.6**	**+0.7**
RAF				*e*S		**Sn**	**12 41 26.5**	**+0.9**
VJF	**Virojoki**	**1.80**	**65**	*e*P		**Pn**	**12 41 04.2**	**+0.1**
VJF				*e*S		**Sn**	**12 41 25.9**	**-1.7**
FINES	**FINESS Array B**	**1.85**	**28**	Pn		**Pn**	**12 41 05.3**	**+0.5**
	1.3nm,0.3s,baz=205,slow=14,SNR=26							
FINES				Sn		**Sn**	**12 41 31.5**	**+2.5**
	1.8nm,0.3s,baz=224,slow=24,SNR=14							
KEF	**Keuruu**	**2.37**	**7**	*e*P		**Pn**	**12 41 13.4**	**+1.6**
KEF				*e*SG		**Sg**	**12 41 45.0**	**-2.9**
SUF	**Sumiainen**	**3.04**	**17**	*e*P		**Pn**	**12 41 22.5**	**+1.4**
SUF				*e*SG		**Sg**	**12 42 04.9**	**-4.6**
SUF				MSG			12 42 08.8	
	comp=Z,1.2nm,0.3s							
HFS	**Hagfors**	**5.31**	**278**	Pn		**Pn**	**12 41 52.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=4.1							
HFS				Sn		**Sn**	**12 42 53.3**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=93,slow=26,SNR=4.4							
HFS				Lg			12 43 18.0	
	comp=Z,0.4nm,0.3s,baz=87,slow=30,SNR=6.2							
NOA	**NORSAR Array B**	**6.57**	**286**	Pn		**Pn**	**12 42 07.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=95,slow=13,SNR=2.3							
ARCES	**ARCESS Array B**	**9.76**	**3**	Pn		**Pn**	**12 42 52.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=7.9							

KRSC 08 12:54:07.5±1.1, 5275N×15988E, h30km±20km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPN	**Mys Shipunski**	**0.36**	**14**	*i* P		Pb	12 54 16.0	+0.2
SPN				*i* S		Sb	12 54 22.3	+0.9
SPN	**Mys Shipunski**	**0.36**	**14**	*i* P		Pb	12 54 16.0	+0.2
SPN				*i* S		Sb	12 54 22.3	+0.9
NLC	**Nalytchevo**	**0.53**	**323**	*i* P		Pb	12 54 18.3	-0.1
NLC				*i* S		Sb	12 54 26.3	+0.4
NLC	**Nalytchevo**	**0.53**	**323**	*i* P		Pb	12 54 18.3	-0.1
NLC				*i* S		Sb	12 54 26.3	+0.4
PET	**Petropavlovsk**	**0.79**	**291**	*i* P		Pn	12 54 21.8	-0.8
PET				*i* S		Sb	12 54 32.7	-0.5
PET	**Petropavlovsk**	**0.79**	**291**	*i* P		Pn	12 54 21.8	-0.8
PET				*i* S		Sb	12 54 32.7	-0.5
AVH	**Avacha**	**0.86**	**307**	*i* P		Pn	12 54 23.4	-0.2
AVH				*i* S		Sb	12 54 34.7	-0.4
AVH	**Avacha**	**0.86**	**307**	*i* P		Pn	12 54 23.4	-0.2
AVH				*i* S		Sb	12 54 34.7	-0.4
RUS	**Russkaya**	**0.89**	**250**	*i* P		Pn	12 54 22.7	-1.3
RUS				*i* S		Sn	12 54 34.4	-1.5
RUS	**Russkaya**	**0.89**	**250**	*i* P		Pn	12 54 22.7	-1.3
RUS				*i* S		Sn	12 54 34.4	-1.5
GRL	**Gorelyy**	**1.12**	**260**	*i* P		Pn	12 54 27.0	-0.1
GRL				*i* S		Sn	12 54 41.3	-0.2
GRL	**Gorelyy**	**1.12**	**260**	*i* P		Pn	12 54 27.0	-0.1
GRL				*i* S		Sn	12 54 41.3	-0.2
GNL	**Ganaly**	**1.50**	**310**	*i* P		Pn	12 54 33.2	+0.8
GNL				*i* S		Sn	12 54 51.8	+0.9
GNL	**Ganaly**	**1.50**	**310**	*i* P		Pn	12 54 33.2	+0.8
GNL				*i* S		Sn	12 54 51.8	+0.9
MKZ	**Mys Kozlova**	**2.12**	**31**	*e*P		Pn	12 54 39.8	-1.0
MKZ				*i* S		Sn	12 55 03.4	-2.7
MKZ	**Mys Kozlova**	**2.12**	**31**	*e*P		Pn	12 54 39.8	-1.0
MKZ				*i* S		Sn	12 55 03.4	-2.7
TUMR	**Tumrok**	**2.54**	**3**	P		Pn	12 54 47.8	+1.1
TUMR				*i* S		Sn	12 55 16.9	+0.3
TUMR	**Tumrok**	**2.54**	**3**	P		Pn	12 54 47.8	+1.1
TUMR				*i* S		Sn	12 55 16.9	+0.3
ZLN	**Zelenaya**	**3.32**	**9**	P		Pn	12 54 59.6	+2.3
ZLN				*i* S		Sn	12 55 37.9	+2.1
ZLN	**Zelenaya**	**3.32**	**9**	P		Pn	12 54 59.6	+2.3
ZLN				*i* S		Sn	12 55 37.9	+2.1
KBTR	**Krutoberegovo**	**3.87**	**25**	*e*P		Pn	12 55 06.0	+1.1
KBTR	**Krutoberegovo**	**3.87**	**25**	*e*P		Pn	12 55 06.0	+1.1

*ISK **08** 13:00:56.2, 3847N×2637E, h2km, MD2.8*
*ISCJB **08** 13:00:59.3±0.9, 3848N±005×2645E±007, h13km±7km, Error ellipse: s-maj=9.1km s-min=7.1km az=119.4*
*CSEM **08** 13:00:59.0, 3848N×2622E, h10km, MD3.1/3, After ATH*
*ATH **08** 13:00:59.0, 3848N×2622E, h10km, MD3.1/3*
ISC 08 13:00:59.1±0.9, 3848N±005×2642E±009, h13km±10km, n11, σ0§89/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.18**	**131**	*i* P		**Pg**	**13 01

Ms1 3.7/1,**ms1mx2.7**/13,**Error ellipse: s-maj=95.7km s-min=57.4km az=134.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20 236**		P	Pn	13 16 09.3	+0.5
	0.9nm,0.3s,baz=27,slow=2.3,SNR=5.7						
PMG				S	Sn	13 17 08.4	+1.0
	1.4nm,0.3s,baz=195,slow=17,SNR=3.9						
WB2	**Warramunga Arr**	**21.37 230**		*eP*	P	13 19 37.1	+0.8
WRA	**Warramunga Arr**	**21.38 230**		P	P	13 19 35.7	-0.7
	1.2nm,0.9s,baz=54,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**24.04 223**		P	P	13 20 04.2	+0.7
	1.1nm,0.9s,baz=57,slow=9.8,SNR=17						
ASPA	**Alice Springs**	**24.04 223**		*eP*	P	13 20 04.1	+0.6
FITZ	**Fitzroy Crossi**	**27.75 243**		*eP*	P	13 20 37.7	+0.7
	2.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.75 243**		P	P	13 20 37.7	+0.6
	0.5nm,0.4s,baz=36,slow=13,SNR=7.0						
RAO	**Raoul Island**	**36.60 132**		LR	LR	13 34 00.4	
	comp=Z,98nm,18.7s,baz=264,slow=31						
TORD	**Torodi Ar. Bea**	**149.60 285**		PKPbc	PKPbc	13 34 37.5	+0.7
	0.4nm,0.7s,baz=83,slow=1.5,SNR=5.5						

*IDC **08** 13:17:22.1±2.3,572S×146.63E,h0km,mb3.9/5,mb1 4.1/8, mb1mx3.9/17,mbtmp3.9/8,ML3.6/3,MS3.3/8,Ms1 3.3/8, ms1mx3.1/29,Error ellipse: s-maj=43.6km s-min=30.3km az=1.0*

*ISCJB **08** 13:17:29.1±3.8,60S±02×1467E±01,h54km±27km, mb4.0/6,MS3.3/3,Error ellipse: s-maj=34.2km s-min=16.7km az=40.0*

*NEIC **08** 13:17:29.4±3.0,590S×14669E,h47km±19km,mb4.5/5, Error ellipse: s-maj=29.0km s-min=12.1km az=187.0*

ISC 08 13:17:30.2±3.8,60S±02×1467E±01,h49km±26km,n21, σ0s68/20,mb4.0/6,MS3.3/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46 172**		Pn	**Pn**	**13 18 20.9**	**-0.6**
	11nm,0.3s,baz=2.9,slow=7.2,SNR=35						
PMG				Sn	**Sn**	**13 19 01.0**	**-0.2**
	17nm,0.3s,baz=108,slow=9.2,SNR=3.4						
PMG				LR	LR	13 20 04.5	
	comp=Z,585nm,18.7s,baz=353,slow=44						
PMG	**Port Moresby**	**3.46 172**		Pn	**Pn**	**13 18 20.9**	**-0.6**
PMG				Sn	**Sn**	**13 19 01.0**	**-0.2**
HNR	**Honiara**	**13.59 106**		LR	LR	13 24 32.8	
	comp=Z,40nm,20.1s,baz=177,slow=31						
CTA	**Charters Tower**	**14.05 182**		Pn	**Pn**	**13 20 47.6**	**+1.1**
	0.3nm,0.3s,baz=358,slow=14,SNR=4.1						
CTA				LR	LR	13 25 57.5	
	comp=Z,125nm,20.9s,baz=173,slow=36						
KAKA	**Kakadu**	**15.57 243**		*eP*	**Pn**	**13 21 07.4**	**+1.1**
	37nm,0.6s						
WRAB	**Tennant Creek**	**18.35 220**		*eP*	**Pn**	**13 21 40.7**	**-0.3**
	3.9nm,0.8s						
WB2	**Warramunga Arr**	**18.35 220**		*eP*	**Pn**	**13 21 40.4**	**-0.6**
WRA	**Warramunga Arr**	**18.36 220**		P	**Pn**	**13 21 40.6**	**-0.5**
	0.3nm,0.3s,baz=47,slow=12,SNR=13						
WRA				LR	LR	13 29 48.1	
	comp=Z,96nm,18.2s,baz=45,slow=40						
GUMO	**Guam**	**19.50 355**		LR	LR	13 27 25.9	
	comp=Z,50nm,21.6s,baz=96,slow=31						
AS31	**Alice Springs**	**21.47 214**		*eP*	**P**	**13 22 14.8**	**+0.3**
ASAR	**Alice Springs**	**21.48 214**		P	**P**	**13 22 14.1**	**-0.4**
	0.9nm,0.5s,mb3.3,baz=57,slow=8.7,SNR=14						
ASAR				LR	LR	13 31 28.5	
	comp=Z,103nm,18.9s,MS3.2,baz=24,slow=39						
ASPA	**Alice Springs**	**21.48 214**		*eP*	**P**	**13 22 14.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.82 238**		*eP*	**P**	**13 22 38.7**	**+0.1**
	17nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.82 238**		P	**P**	**13 22 36.7**	**-1.9**
	11nm,0.7s,mb4.4,baz=67,slow=10,SNR=25						
FITZ				LR	LR	13 32 55.8	
	comp=Z,70nm,18.6s,MS3.2,baz=74,slow=39						
DZM	**Mont Dzumac**	**24.93 132**		P	**P**	**13 22 48.4**	**-0.2**
	1.9nm,0.8s,mb3.7,baz=331,slow=19,SNR=5.6						
STKA	**Stephens Creek**	**26.22 190**		P	**P**	**13 23 01.5**	**+1.1**
	2.3nm,0.9s,mb3.7,baz=3.7,slow=9.8,SNR=4.1						
STKA				LR	LR	13 33 35.1	
	comp=Z,117nm,19.1s,MS3.4,baz=24,slow=37						
STKA	**Stephens Creek**	**26.22 190**		*eP*	**P**	**13 23 01.6**	**+1.2**
KLBR	**Kellerberrin**	**37.19 223**		*eP*	**P**	**13 24 36.3**	**-0.2**
	29nm,1.4s,mb4.9						
VNDA	**Vanda**	**71.97 177**		P	**P**	**13 28 48.5**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=338,slow=6.7,SNR=8.2						
VNDA	**Vanda**	**71.97 177**		*eP*	**P**	**13 28 48.6**	**0.0**
	1.3nm,0.8s,mb3.9						
TORD	**Torodi Ar. Bea**	**144.78 284**		PKP	PKPdf	13 37 02.6	+1.1
	2.2nm,0.7s,baz=74,slow=3.2,SNR=14						

IDC 08 13:33:40.5±8.9,621S×15107E,h55km±65km,mb3.6/4, mb1 3.7/5,mb1mx3.5/15,mbtmp3.6/5,ML1.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.2/25,Error ellipse: s-maj=60.2km s-min=53.9km az=103.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01 230**		P	Pn	13 34 53.6	+0.5
	0.2nm,0.3s,baz=90,slow=13,SNR=2.7						
PMG				S	Sn	13 35 50.8	+1.1
	0.8nm,0.3s,baz=6.7,slow=17,SNR=3.1						
GUMO	**Guam**	**20.61 343**		LR	LR	13 44 15.6	
	comp=Z,46nm,20.0s,baz=125,slow=31						
WB2	**Warramunga Arr**	**21.22 228**		*eP*	P	13 38 22.2	+0.6
WRA	**Warramunga Arr**	**21.23 228**		P	P	13 38 21.8	+0.1
	2.2nm,0.8s,baz=53,slow=11,SNR=19						
ASAR	**Alice Springs**	**23.95 222**		P	P	13 38 49.5	-0.1
	0.6nm,0.4s,baz=58,slow=8.8,SNR=16						
ASPA	**Alice Springs**	**23.96 222**		*eP*	P	13 38 51.5	+1.9
STKA	**Stephens Creek**	**27.03 198**		P	P	13 39 17.4	0.0
	2.1nm,0.7s,baz=28,slow=8.1,SNR=3.7						
FITZ	**Fitzroy Crossi**	**27.48 242**		*eP*	P	13 39 23.2	+1.7
	3.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.48 242**		P	P	13 39 22.1	+0.6
	1.2nm,0.5s,baz=59,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**149.06 285**		PKPbc	PKPbc	13 53 23.3	+0.9
	1.4nm,0.7s,baz=71,slow=2.7,SNR=9.8						

*IDC **08** 13:50:50.8±3.5,644S×14621E,h111km±36km,mb3.4/3, mb1 3.5/5,mb1mx3.2/15,mbtmp3.3/5,Error ellipse: s-maj=46.6km s-min=26.0km az=101.0*

*ISCJB **08** 13:50:51.9±4.9,66S±04×146.1E±02,h109km±26km, mb3.8/2,Error ellipse: s-maj=65.7km s-min=25.4km az=59.7*

ISC 08 13:50:51.2±2.9,64S±02×1461E±02,h101km±21km,n11, σ0s86/12,mb3.8/2,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12 161**		P	**Pn**	**13 51 38.9**	**+0.4**
	16nm,0.3s,baz=338,slow=5.7,SNR=86						
PMG				S	**Sn**	**13 52 14.6**	**-0.3**
	14nm,0.3s,baz=16,slow=11,SNR=6.5						
CTA	**Charters Tower**	**13.56 179**		P	**Pn**	**13 54 04.2**	**+4.9**
	3.2nm,0.3s,baz=358,slow=14,SNR=41						
KAKA	**Kakadu**	**14.86 244**		*eP*	**Pn**	**13 54 16.4**	**+0.4**
	15nm,0.6s						
WB2	**Warramunga Arr**	**17.63 219**		*eP*	**Pn**	**13 54 49.3**	**-1.0**
WRA	**Warramunga Arr**	**17.64 219**		P	**Pn**	**13 54 50.1**	**-0.3**
	0.2nm,0.3s,baz=38,slow=11,SNR=24						
ASAR	**Alice Springs**	**20.77 213**		P	**P**	**13 55 24.1**	**+0.1**
	0.5nm,0.7s,baz=46,slow=8.9,SNR=11						
ASAR				S	**S**	**13 59 10.5**	**+0.3**
	0.9nm,0.8s,baz=30,slow=22,SNR=5.4						
ASPA	**Alice Springs**	**20.77 213**		*eP*	**P**	**13 55 26.6**	**+2.6**
FITZ	**Fitzroy Crossi**	**23.10 238**		*eP*	**P**	**13 55 47.3**	**-0.9**
	6.0nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.10 238**		P	**P**	**13 55 47.4**	**-0.8**
	4.3nm,0.6s,mb4.0,baz=74,slow=9.5,SNR=19						
STKA	**Stephens Creek**	**25.65 189**		P	**P**	**13 56 11.2**	**-0.3**
	1.0nm,0.4s,mb3.6,baz=360,slow=15,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.35 284**		PKP	PKPdf	14 10 13.2	-2.3
	1.6nm,0.8s,baz=63,slow=3.5,SNR=8.0						

*IDC **08** 13:55:48.2±0.7,3503N×7264E,h0km,mb4.1/11, mb1 4.2/14,mb1mx4.0/25,mbtmp4.0/14,ML3.9/3,MS3.3/4, Ms1 3.3/4,ms1mx2.8/34,Error ellipse: s-maj=23.3km s-min=15.7km az=45.0*

*ISCJB **08** 13:55:51.5±0.6,3512N±003×7279E±005,h36km±7km, mb4.0/11,MS3.1/2,Error ellipse: s-maj=7.8km s-min=4.4km az=127.6*

*BJI **08** 13:55:51.6,3504N×7262E,h26km,mb4.2,ML3.9*

*MOS **08** 13:55:52.9±1.5,3520N×7259E,h33km,mb3.9/1,Error ellipse: s-maj=22.3km s-min=11.3km az=88.3*

*NEIC **08** 13:55:52.1±0.9,3521N×7260E,h10km,mb3.7/2,Error ellipse: s-maj=15.5km s-min=13.2km az=139.0*

*NNC **08** 13:55:55.3±6.0,3563N×7201E,h0km,mb3.4,mpv3.5, Error ellipse: s-maj=64.8km s-min=41.6km az=57.0*

ISC 08 13:55:53.2±1.4,3512N±003×7275E±005,h34km±12km, n63,σ1s39/78,mb4.0/11,MS3.1/2,5C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.47 209**		⇑P	**Pn**	**13 56 14.6**	**-2.7**
CHCP	**Chirah Chowk**	**1.52 164**		P	**Pn**	**13 56 18.0**	**0.0**
SRNI	**Srinagar**	**2.01 120**		*ex*	x	13 57 05.0	
THW	**Thamme Wali**	**2.47 200**		P	**Pn**	**13 56 33.0**	**+1.9**
JMU	**Jammu**	**2.99 143**		*eP*	**Pn**	**13 56 42.0**	**+3.8**
JMU				*eS*	**Sn**	**13 57 21.5**	**+8.6**
SARP	**Sargodha**	**3.19 181**		P	**Pn**	**13 56 41.5**	**+0.5**
SBDP	**Sheikh Budin**	**3.25 210**		P	**Pn**	**13 56 42.1**	**+0.3**
THN	**Thein Dam**	**3.64 137**		*eP*	**Pn**	**13 56 49.7**	**+2.5**
THN				*ex*	x	13 57 45.6	
DLH	**Dalhousie**	**3.71 133**		*eP*	**Pn**	**13 56 49.0**	**+0.8**
DLH				*eS*	**Sn**	**13 57 38.0**	**+7.3**
DRP	**Derazinda**	**3.98 213**		P	**Pn**	**13 56 53.0**	**+1.1**
BHK	**Bhakra**	**4.80 139**		*eP*	**Pn**	**13 57 08.6**	**+5.4**
BHK				*eS*	**Sn**	**13 58 06.2**	**+8.6**
SDNR	**Sundarnagar**	**5.05 134**		*eP*	**Pn**	**13 57 07.5**	**+0.9**
SDNR				*eS*	**Sn**	**13 58 05.7**	**+2.0**
KSH	**Kashi**	**5.08 29**		*eP*	**Pn**	**13 57 12.4**	**+5.4**
KSH				S	**Sn**	**13 58 01.8**	**-2.8**
KSH				Smax			
	comp=N,701nm,1.1s						
KSH				Smax			
	comp=E,841nm,1.4s						
SMLA	**Simla**	**5.44 136**		*eP*	**Pn**	**13 57 13.0**	**+1.1**
SMLA				*eS*	**Sn**	**13 58 17.0**	**+3.7**
NDI	**New Delhi**	**7.45 148**		*eP*	**Pn**	**13 57 40.0**	**+0.4**
NDI				*eP*		13 57 40.0	
NDI				*eS*	**Sn**	**13 59 03.0**	**+0.1**
NDI				*eS*	**Sn**	**13 59 03.0**	**+0.1**
KHET	**Khetri**	**7.49 159**		*eP*	**Pn**	**13 57 39.8**	**-0.3**
KHET				*eS*	**Sn**	**13 59 01.9**	**-2.0**
KHET				AML	AML	13 59 54.2	
	comp=N,28nm,0.2s						
KHET				AML	AML	13 59 54.4	
	comp=E,33nm,0.3s						
AAK	**Ala-Archa**	**7.62 10**		*eP*	**Pn**	**13 57 44.8**	**+2.9**
AAK				pmax	pmax		
	comp=Z,13nm,1.1s						
AAK	**Ala-Archa**	**7.62 10**		*ePn*	**Pn**	**13 57 44.8**	**+2.9**
	comp=Z,13nm,1.1s						
SONA	**Sohna**	**7.78 151**		*eP*	**Pn**	**13 57 43.7**	**-0.3**
SONA				*eS*	**Sn**	**13 59 10.7**	**-0.2**
SONA				AML	AML	14 00 03.3	
	comp=E,39nm,0.4s						
SONA				AML	AML	14 00 07.9	
	comp=N,23nm,0.4s						
TKM2	**Tokmak 2**	**8.10 15**		⇑Pn	**Pn**	**13 57 44.9**	**-3.5**
	comp=N,0.7nm,0.8s						
KK31	**Karatay Array**	**8.16 348**		Pn	**Pn**	**13 57 50.4**	**+1.1**
	comp=N,4.5nm,0.5s,baz=175,slow=13,SNR=80						
KK31				⇑Sn	**Sn**	**13 59 20.3**	**0.0**
	comp=N,5.1nm,0.6s,baz=173,slow=24,SNR=5.8						
LGTI	**Lohaghat**	**8.49 130**		*eP*	**Pn**	**13 57 54.3**	**+0.4**
LGTI				*ex*	x	13 59 30.5	
AJM	**Ajmer**	**8.77 169**		*iP*	**Pn**	**13 57 57.0**	**-0.6**
AJM				*iS*	**Sn**	**13 59 32.0**	**-3.2**
AGRA	**Agra**	**9.03 149**		*eP*	**Pn**	**13 58 00.7**	**-0.5**
AGRA				*eS*	**Sn**	**13 59 41.0**	**-0.7**
AGRA				AML	AML	14 00 42.4	
	comp=E,76nm,0.5s						
AGRA				AML	AML	14 00 43.1	
	comp=N,47nm,0.5s						
KOLN	**Koldanda**	**11.80 125**		*eP*	**Pn**	**13 58 37.7**	**-1.5**
	comp=N,32nm,0.5s						
GKN	**Gorkha**	**12.37 122**		*eP*	**Pn**	**13 58 44.8**	**-2.1**
	comp=N,46nm,0.5s						
GKN				*eS*	**Sn**	**14 00 55.7**	**-7.7**
DMN	**Daman**	**12.93 122**		*eP*	**Pn**	**13 58 51.9**	**-2.7**
	comp=N,44nm,0.6s						
KKN	**Kakani**	**12.95 121**		*eP*	**Pn**	**13 58 52.0**	**-2.8**
	comp=N,42nm,0.6s						
PKI	**Pulchoki**	**13.17 121**		*eP*	**Pn**	**13 58 55.4**	**-2.4**
	comp=N,30nm,0.4s						
PKI				*eS*	**Sn**	**14 01 15.5**	**-7.6**
GUN	**Gumba**	**13.30 119**		*eP*	**Pn**	**13 58 56.9**	**-2.7**
JIRN	**Jiri**	**13.67 119**		*eP*	**Pn**	**13 59 02.3**	**-2.3**
	comp=N,36nm,0.3s						
MKAR	**Makanchi Array**	**13.70 29**		Pn	**Pn**	**13 59 06.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=208,slow=12,SNR=4.3						
MKAR				LR	LR	14 04 47.2	
	comp=N,207nm,18.8s,baz=169,slow=39						
LSA	**Lhasa**	**16.44 104**		P	**Pn**	**13 59 43.8**	**+2.4**
LSA	**Lhasa**	**16.44 104**		*eP*	**Pn**	**13 59 45.6**	**+4.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**16.44 104**		*eP*	**Pn**	**13 59 45.6**	**+4.2**
	comp=Z,7.2nm,0.8s						
AB31	**Akbulak array**	**16.98 330**		Pn	**Pn**	**13 59 46.6**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=144,slow=12,SNR=15						
AB31				⇑Sn	**Sn**	**14 02 44.1**	**-12**
	comp=Z,1.2nm,0.6s,baz=142,slow=21,SNR=3.5						
WSAR	**Wadi Sarin**	**17.07 230**		Pn	**Pn**	**13 59 51.8**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=3.7						
BVA0	**Borovoye Array**	**17.98 355**		⇑Pn	**Pn**	**13 59 57.6**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=171,slow=13,SNR=14						
BVAR	**Borovoye Array**	**17.98 355**		P	**Pn**	**14 00 00.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=158,slow=10,SNR=11						
BVAR				LR	LR	14 07 37.3	
	comp=Z,68nm,21.9s,baz=138,slow=39						
BRVK	**Borovoye**	**18.02 355**		*eP*	**Pn**	**14 00 03.1**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**18.02 355**		*eP*	**Pn**	**14 00 03.1**	**+2.1**
	comp=Z,2.9nm,0.8s						
AKTK	**Aktyubinsk**	**18.69 329**		P	**Pn**	**14 00 08.4**	**-0.7**
AKTO	**Aktyubinsk**	**18.69 329**		⇓Pn	**Pn**	**14 00 08.7**	**-0.4**
	comp=Z,0.2nm,1.0s						
AKTO				Sn	**Sn**	**14 03 26.2**	**-11**
	comp=Z,1.1nm,2.6s						
AKTO	**Aktyubinsk**	**18.69 329**		P	**Pn**	**14 00 08.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=136,slow=11,SNR=13						
ZAL	**Zalesovo**	**20.63 21**		P	**P**	**14 00 29.1**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=260,slow=9.9,SNR=17						
ZAL				LR	LR	14 09 45.8	
	comp=Z,74nm,18.4s,MS3.1,baz=148,slow=40						
NVS	**Novosibirsk**	**21.02 17**		*eP*	**P**	**14 00 33.6**	**-0.4**
GTA	**Gaotai**	**21.93 71**		*eP*	**P**	**14 00 44.7**	**+1.0**
GTA				AP		14 00 49.9	
GTA				XP	sP	14 00 53.9	-3.0
GTA				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.2						
SONM	**Songino Array**	**27.99 53**		P	**P**	**14 01 42.3**	**+1.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=251,slow=7.7,SNR=4.3						
BRTR	**Keskin Array B**	**31.23 290**		P	**P**	**14 02 10.9**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=92,slow=8.7,SNR=4.1						
FINES	**FINESS Array B**	**39.42 327**		P	**P**	**14 03 19.0**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.8,baz=135,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**42.96 338**		P	**P**	**14 03 49.2**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.0,baz=118,slow=8.3,SNR=8.2						
ARCES	**ARCESS Array B**	**42.96 338**		P	**P**	**14 03 49.2**	**+0.2**
KSRS	**Korea Array**	**44.00 70**		LR	LR	14 25 01.2	
	comp=Z,22nm,19.1s,MS3.1,baz=45,slow=40						
NOA	**NORSAR Array B**	**46.34 324**		P	**P**	**14 04 15.8**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=96,slow=7.7,SNR=3.4						
DFRA	**Djebel Bou Aff**	**53.22 292**		P	**P**	**14 05 06.0**	**-2.2**
TOAO	**Torodi Ar. Sit**	**67.13 270**		*eP*	**P**	**14 06 42.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**67.13 270**		P	**P**	**14 06 42.7**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.5,baz=42,slow=5.6,SNR=18						
FITZ	**Fitzroy Crossi**	**72.93 127**		P	**P**	**14 07 19.7**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=310,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**80.05 123**		P	**P**	**14 08 00.2**	**+0.7**
	comp=Z,2.3nm,0.5s,mb4.3,baz=324,slow=5.1,SNR=36						
WB2	**Warramunga Arr**	**80.06 123**		*eP*	**P**	**14 08 00.0**	**+0.5**
ASPA	**Alice Springs**	**82.29 126**		*eP*	**P**	**14 08 11.5**	**+0.2**
ASAR	**Alice Springs**	**82.30 126**		P	**P**	**14 08 11.8**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=309,slow=5.2,SNR=47						
CTA	**Charters Tower**	**88.67 116**		P	**P**	**14 08 43.9**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.6,baz=4.9,slow=5.3,SNR=5.5						

MAN 08 13:56:53.0,914N×12618E,h11km,mb2.2,ML3.8,MS1.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.58 253**		*eP*	Pg	13 57 05.0	+0.7
BUTP				*eS*	Sg	13 57 16.9	+5.0
SCPH	**Surigao**	**0.93 313**		⇑*eP*	Pg	13 57 10.0	-1.0
SCPH				*eS*	Sg	13 57 25.4	+2.1
MSLP	**Maasin**	**1.64 307**		*eP*	Pn	13 57 21.6	-0.1
MSLP				*eS*	Sn	13 57 47.4	+4.7
BUKP	**Musuan**	**1.67 222**		*eP*	Pn	13 57 21.4	-0.8
BUKP				*eS*	Sn	13 57 44.3	+0.7

IDC 08 14:02:32.1±8.8,645S×15149E,h47km±63km,mb3.3/3, mb1 3.5/4,mb1mx3.3/15,mbtmp3.4/4,ML2.3/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/6,Error ellipse: s-maj=96.0km s-min=60.0km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21 235**		P	Pn	14 03 47.9	+0.6
	0.7nm,0.3s,baz=49,slow=11,SNR=3.7						
PMG				S	Sn	14 04 47.5	+1.4
	1.4nm,0.3s,baz=45,slow=16,SNR=3.6						
DZM	**Mont Dzumac**	**21.21 139**		LR	LR	14 13 50.7	
	comp=Z,80nm,18.2s,baz=85,slow=32						
WRA	**Warramunga Arr**	**21.39 230**		P	P	14 07 15.1	-0.5
	0.8nm,0.7s,baz=55,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**24.07 223**		P	P	14 07 42.9	0.0
	0.6nm,0.5s,baz=54,slow=9.4,SNR=17						
FITZ	**Fitzroy Crossi**	**27.75 243**		P	P	14 08 16.4	+0.3
	1.2nm,0.7s,baz=51,slow=9.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.53 285**		PKPbc	PKPbc	14 22 17.3	+1.2
	0.7nm,0.7s,baz=74,slow=3.1,SNR=5.9						

IDC 08 14:08:19.2±3.0,620S×15114E,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.5/15,mbtmp3.5/4,ML2.0/1,Error ellipse: s-maj=110.6km s-min=39.4km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07 231**		Pn	Pn	14 09 38.4	+2.0
	0.4nm,0.3s,baz=345,slow=12,SNR=2.6						
PMG				Sn	Sn	14 10 36.4	+0.8
	2.2nm,0.3s,baz=159,slow=20,SNR=7.2						
WB2	**Warramunga Arr**	**21.27 228**		*eP*	P	14 13 06.6	-0.5
WRA	**Warramunga Arr**	**21.28 229**		P	P	14 13 07.8	+0.5
	0.8nm,0.9s,baz=54,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**24.00 222**		P	P	14 13 34.9	-0.7
	0.4nm,0.5s,baz=56,slow=9.0,SNR=13						
FITZ	**Fitzroy Crossi**	**27.54 242**		*eP*	P	14 14 08.1	+0.5
	2.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.54 242**		P	P	14 14 08.2	+0.5
	1.8nm,0.8s,baz=69,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.12 285**		PKPbc	PKPbc	14 28 10.3	+0.9
	0.5nm,0.7s,baz=58,slow=3.3,SNR=3.9						

*NEIC **08** 14:16:08.6,3145S×7169W,h25km,ML2.9(GUC),After GUC.*

GUC 08 14:16:08.6±0.5,3145S×7169W,h25km±2km,MD3.9, ML2.9,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46 160**		⇓*iP*	Pb	14 16 18.0	-0.2
CHNG				*iS*	Sb	14 16 24.9	+0.2
CHNG				AML	AML	14 16 25.3	
	comp=N,507nm,0.4s						
CMCH	**Combarbala**	**0.65 65**		⇑*iP*	Pb	14 16 21.1	-0.2
CMCH				*iS*	Sb	14 16 30.3	+0.5
CMCH				AML	AML	14 16 36.2	
	comp=N,1μm,0.7s						
CMCH	**Combarbala**	**0.65 65**		⇑*iP*	Pb	14 16 21.1	-0.2
CMCH				*iS*	Sb	14 16 30.3	+0.5
OVCH	**Ovalle**	**0.93 27**		*eP*	Pn	14 16 25.4	-0.7
OVCH				*iS*	Sb	14 16 38.1	0.0
OVCH				AML	AML	14 16 41.2	
	comp=N,522nm,0.3s						
OVCH	**Ovalle**	**0.93 27**		*eP*	Pn	14 16 25.4	-0.7
OVCH				*iS*	Sb	14 16 38.1	0.0
PTCH	**Petorca**	**1.04 142**		⇓*iP*	Pn	14 16 27.0	-0.5
PTCH				*iS*	Sb	14 16 40.5	-0.6
PTCH				AML	AML	14 16 44.4	
	comp=N,928nm,0.4s						
PTCH	**Petorca**	**1.04 142**		⇓*iP*	Pn	14 16 27.0	-0.5
PTCH				*iS*	Sb	14 16 40.5	-0.6
PACH	**Papudo**	**1.11 169**		⇑*iP*	Pn	14 16 27.9	-0.6
PACH				*iS*	Sn	14 16 42.7	-0.2
TLL	**Tololo Astrono**	**1.48 31**		*

PID							
PID	**Ribeirinha**	**0.80**	**133**	*e*S	Sg	14 33 36.9	-3.0

GUC 08 14:54:29.1±1.1, 3119S×6881W, h103km±9km, MD3.5, ML2.8, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.37**	**162**	⇓*i*P	Pn	14 54 44.8	+0.4
ZON				*i* S	Sn	14 54 56.5	+0.7
ZON				AML	AML	14 54 57.9	
	comp=N,553nm,0.6s						
CMCH	**Combarbala**	**1.88**	**270**	*e*P	Pn	14 54 52.3	-7.9
CMCH				*i* S	Sn	14 55 24.6	+0.8
TLL	**Tololo Astrono**	**2.00**	**300**	⇑*i*P	Pn	14 55 02.8	+1.1
TLL				*i* S	Sn	14 55 28.1	+1.5
TLL				AML	AML	14 55 31.9	
	comp=E,131nm,0.4s						
FCH	**Farellones**	**2.47**	**210**	*e*P	Pn	14 55 08.7	+0.8
FCH				*i* S	Sn	14 55 39.8	+2.2
FCH				AML	AML	14 55 44.2	
	comp=N,33nm,0.3s						
RCDM	**Rinconada Maip**	**2.84**	**216**	⇓*i*P	Pn	14 55 12.5	-0.3
RCDM				*i* S	Sn	14 55 45.4	-1.1

*ISCJB **08** 14:56:49.3±0.9, 47.18N±003×15399E±004, h2km±5km, mb5.2/203, MS5.4/84, Error ellipse: s-maj=5.9km s-min=3.1km az=117.3*

*BJI **08** 14:56:50.3, 4743N×15436E, h25km, mB5.6, mb5.1, Ms5.6, Msz5.5*

*IDC **08** 14:56:50.1±0.5, 4720N×15401E, h0km, mb4.7/28, mb1 4.9/29, mb1mx4.8/32, mbtmp4.7/29, ML3.9/1, MS5.2/28, Ms1 5.2/28, ms1mx5.1/37, Error ellipse: s-maj=15.2km s-min=12.4km az=144.0*

*NEIC **08** 14:56:52.1±0.2, 47.17N×15396E, h10km, mb5.3/124, MS5.4/19, Error ellipse: s-maj=5.5km s-min=3.8km az=155.0*

*GCMT **08** 14:56:52.2±0.1, 47.16N×15443E, h18km, MW5.6/102, Moment Tensor Solution. s83,c165; s102,c226; Duration: 1§6 Moment tensor: Scale 10^17 Nm; Mrr2.82±.04; Mθθ-0.68±.03; Mϕϕ-2.14±.03; Mrθ0.71±.08; Mθϕ-1.44±.02; Mϕr1.42±.08; Best double couple: M03.32500×10^17 NP1:ϕs214.00000°, δ31.00000°, λ95.00000°. NP2:ϕs29.00000°, δ59.00000°, λ87.00000°. Principal axes: T 3.2260, Plg76.0000°, Azm291.0000°; N 0.1990, Plg2.0000°, Azm30.0000°; P -3.4240, Plg14.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **08** 14:56:53.3±1.3, 47.05N×154.18E, h48km, mb5.5/86, MS5.4/47 Error ellipse: s-maj=9.5km s-min=7.9km az=73.2*

*SKHL **08** 14:56:55.9±0.3, 47.17N×154.00E, h46km±5km, mb6.4/5, mbh6.2/1, Ms5.6/8, msh5.9/4*

*SZGRF **08** 14:57:00.7, 4822N×15305E, h33km, mb5.6, MS5.4, Kuril Islands, Russia*

ISC 08 14:56:54.0±0.9, 4727N±003×15397E±004, h20km±5km, h19km±2.1km: pP-P, n694, σ1§19/703, mb5.2/203, MS5.4/84, 54C-36D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.70**	**22**	*e*P	**Pn**	**14 57 50.0**	**0.0**
SKR				AMB	AMB	14 57 59.5	
	4μm,4.0s						
SKR				AMB	AMB	14 57 59.5	
	480nm,0.5s						
SKR				AMB	AMB	14 57 59.5	
	220nm,0.5s						
SKR				AMB	AMB	14 57 59.5	
	520nm,0.5s						
SKR				pP		14 58 04.8	
SKR				sP		14 58 08.6	
SKR				*e*S	**Sn**	**14 58 30.8**	**-2.2**
SKR				A		14 58 35.1	
	2μm,0.7s						
SKR				A		14 58 35.1	
	390nm,0.7s						
SKR				A		14 58 35.1	
	480nm,0.7s						
SKR				A		14 58 47.0	
	12μm,8.0s						
SKR				A		14 58 47.0	
	50μm,8.0s						
SKR				A		14 58 47.0	
	29μm,8.0s						
SKR				A		14 58 47.0	
	12μm,8.0s						
SKR				A		14 58 47.0	
	51μm,8.0s						
SKR				A		14 58 47.0	
	29μm,8.0s						
SKR				AMS	AMS	14 59 37.0	
	44μm,12.0s						
SKR				AMS	AMS	14 59 37.0	
	32μm,12.0s						
SKR				AMS	AMS	14 59 37.0	
	64μm,12.0s						
SKR				AMS	AMS	14 59 37.0	
	46μm,12.0s						
SKR				AMS	AMS	14 59 37.0	
	30μm,12.0s						
SKR				AMS	AMS	14 59 37.0	
	60μm,12.0s						
KUR	**Kuril'sk**	**4.70**	**247**	⇑*i*P	**Pn**	**14 58 02.5**	**-1.2**
KUR				AMB	AMB	14 58 04.0	
	494nm,0.5s						
KUR				AMB	AMB	14 58 10.0	
	16μm,4.0s						
KUR				*i* S	**Sn**	**14 58 58.0**	**+0.4**
KUR				A		14 59 02.0	
	18μm,6.0s						
KUR				A		14 59 02.0	
	15μm,6.0s						
KUR				A		14 59 25.0	
	2μm,0.8s						
KUR				A		14 59 25.0	
	1μm,0.8s						
KUR				AMS	AMS	14 59 50.0	
	59μm,14.0s						
KUR				AMS	AMS	14 59 50.0	
	38μm,14.0s						
KUR				AMS	AMS	14 59 50.0	
	22μm,14.0s						
KUR				AMS	AMS	14 59 50.0	
	14μm,14.0s						
KUR				AMS	AMS	14 59 50.0	
	30μm,14.0s						
KUR				AMS	AMS	14 59 50.0	
	27μm,14.0s						
KUR	**Kuril'sk**	**4.70**	**247**	⇑*i*PN	**Pn**	**14 58 02.5**	**-1.2**
KUR				*i* S	**Sn**	**14 58 58.0**	**+0.4**
KUR				pmax	pmax		
	comp=Z,490nm,0.5s						
KUR				pmax	pmax		
	comp=Z,16μm,4.0s						
KUR				smax			
	comp=N,18μm,6.0s						
KUR				smax			
	comp=E,15nm,6.0s						
KUR				MLR	MLR		
	comp=N,59μm,14.0s						
KUR				MLR	MLR		
	comp=E,38μm,14.0s						
KUR				MLR	MLR		
	comp=Z,22μm,14.0s						
KUR	**Kuril'sk**	**4.70**	**247**	⇓*i*P	**Pn**	**14 58 00.5**	**-3.2**
PET	**Petropavlovsk**	**6.50**	**26**	*e*PN	**Pn**	**14 58 30.0**	**+1.5**
PET				pmax	pmax		
	comp=Z,314nm,1.5s						
PET				MLR	MLR		
	comp=Z,16μm,14.0s						
PET				MLR	MLR		
	comp=Z,16μm,12.0s						
PET	**Petropavlovsk**	**6.50**	**26**	*e*Pn	**Pn**	**14 58 26.8**	**-1.7**
	comp=Z,622nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**6.54**	**243**	*e*PN	**Pn**	**14 58 30.3**	**+1.3**
YUK				*e*S	**Sn**	**14 59 48.4**	**+5.5**
YUK				pmax	pmax		
	comp=E,230nm,0.5s						
YUK				pmax	pmax		
	comp=Z,400nm,0.5s						
YUK				pmax	pmax		
	comp=N,200nm,0.3s						
YUK				smax			
	comp=N,10μm,4.0s						
YUK				smax			
	comp=E,8μm,3.0s						
YUK				smax			
	comp=N,950nm,0.7s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				MLR	MLR		
	comp=N,43μm,17.0s						
YUK				MLR	MLR		
	comp=E,28μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.66**	**272**	⇑*e*P	**Pn**	**14 58 49.8**	**+5.4**
YSS				pP		14 59 04.5	
YSS				*e*S	**Sn**	**15 00 15.0**	**+4.4**
YSS				*e*LQ		15 00 29.0	
YSS				*e*LR	LR	15 01 11.0	
YSS				AMS	AMS	15 01 52.0	
	comp=E,40μm,15.0s						
YSS				AMS	AMS	15 01 52.0	
	comp=E,8μm,14.0s						
YSS				AMS	AMS	15 01 52.0	
	comp=E,37μm,14.0s						
YSS				AMS	AMS	15 01 52.0	
	comp=E,44μm,15.0s						
YSS				AMS	AMS	15 01 52.0	
	comp=E,8μm,14.0s						
YSS				AMS	AMS	15 01 52.0	
	comp=E,33μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.66**	**272**	*e*Pn	**Pn**	**14 58 49.5**	**+5.2**
	comp=E,253nm,1.1s						
JMP	**Maruseppu**	**8.12**	**250**	P	**Pn**	**14 58 52.7**	**+2.0**
UGL	**Uglegorsk**	**8.16**	**287**	*e*P	**Pn**	**14 58 56.0**	**+4.7**
UGL				AMB	AMB	14 58 59.5	
	comp=E,337nm,1.2s						
UGL				sP		14 59 15.0	
UGL				AMS	AMS	15 02 17.0	
	comp=E,17μm,16.0s						
UGL				AMS	AMS	15 02 17.0	
	comp=E,30μm,16.0s						
UGL				AMS	AMS	15 02 17.0	
	comp=E,57μm,16.0s						
UGL	**Uglegorsk**	**8.16**	**287**	PN	**Pn**	**14 58 56.0**	**+4.7**
UGL				pmax	pmax		
	comp=Z,337nm,1.2s						
UGL				MLR	MLR		
	comp=E,30μm,16.0s						
UGL				MLR	MLR		
	comp=Z,57μm,16.0s						
UGL				MLR	MLR		
	comp=N,17μm,15.0s						
TYV	**Tymovskoe**	**8.26**	**300**	AMS	AMS	14 02 36.0	
	comp=N,17μm,16.0s						
TYV				AMS	AMS	14 02 36.0	
	comp=N,41μm,16.0s						
TYV				*e*P		14 58 56.8	
TYV				AMB	AMB	14 59 02.0	
	comp=N,200nm,1.6s						
TYV				AMB	AMB	14 59 02.0	
	comp=N,120nm,1.0s						
ASAJ	**Asahikawa**	**8.56**	**253**	Pn	**Pn**	**14 58 59.0**	**+2.3**
	comp=N,2.7nm,0.3s,baz=94,slow=11,SNR=27						
ASAJ				LR	LR	15 02 12.5	
	comp=N,9μm,19.5s,baz=73,slow=38						
ASAJ	**Asahikawa**	**8.56**	**253**	P	**Pn**	**14 58 59.5**	**+2.8**
ASAJ	**Asahikawa**	**8.56**	**253**	PN	**Pn**	**14 58 59.1**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,9μm,19.5s						
JWK2	**Keihoku**	**8.59**	**261**	P	**Pn**	**14 59 04.5**	**+7.4**
JEM	**Erimo**	**9.32**	**240**	P	**Pn**	**14 59 05.6**	**-1.6**
ERM	**Erimo**	**9.32**	**240**	Pn	**Pn**	**14 59 08.3**	**+1.1**
	comp=Z,955nm,0.5s,SNR=5.9						
ERM	**Erimo**	**9.32**	**240**	⇑*e*PN	**Pn**	**14 59 08.1**	**+0.9**
ERM	**Erimo**	**9.32**	**240**	*e*Pn	**Pn**	**14 59 06.8**	**-0.4**
	comp=Z,478nm,1.3s						
OKH	**Okha**	**9.44**	**316**	*e*L		14 02 25.8	
OKH				AMS	AMS	14 04 41.8	
	comp=Z,34μm,12.0s						
OKH				AMS	AMS	14 04 41.8	
	comp=Z,25μm,13.0s						
OKH				AMS	AMS	14 04 41.8	
	comp=Z,32μm,13.0s						
OKH				⇑*i*P		14 59 19.4	
OKH				AMB	AMB	14 59 25.8	
	comp=Z,13μm,6.4s						
NKL	**Nikolayevsk**	**10.35**	**310**	*e*P	**Pn**	**14 59 23.0**	**+1.7**
NKL				AMB	AMB	14 59 38.8	
	comp=Z,300nm,1.2s						
NKL				AMB	AMB	14 59 38.8	
	comp=Z,330nm,1.5s						
NKL				AMB	AMB	14 59 38.8	
	comp=Z,580nm,2.0s						
NKL				*e*L		15 01 47.0	
NKL				AMS	AMS	15 03 40.0	
	comp=Z,6μm,16.0s						
NKL				AMS	AMS	15 03 40.0	
	comp=Z,22μm,18.0s						
JSH	**Shimam**	**10.89**	**250**	P	**Pn**	**14 59 30.3**	**+1.6**
JOT	**Ohata**	**10.96**	**242**	P	**Pn**	**14 59 28.0**	**-1.6**
JTM	**Tenmabayashi**	**11.31**	**240**	P	**Pn**	**14 59 31.3**	**-3.2**
JOM	**Ohasama**	**12.06**	**234**	P	**Pn**	**14 59 40.1**	**-4.6**
TEY	**Ternei**	**12.25**	**266**	*e*P	**Pn**	**14 59 50.0**	**+2.7**
TEY				AMB	AMB	15 00 01.0	
	comp=Z,5μm,8.0s						
TEY				AMB	AMB	15 00 01.0	
	comp=Z,4μm,6.0s						
TEY				*e*LR	LR	15 02 50.0	
TEY				AMS	AMS	15 04 43.0	
	comp=Z,16μm,16.0s						
TEY				AMS	AMS	15 04 43.0	
	comp=Z,8μm,15.0s						
TEY				AMS	AMS	15 04 43.0	
	comp=Z,27μm,15.0s						
MA2	**Magadan**	**12.48**	**352**	*e*PN	**Pn**	**14 59 52.4**	**+2.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2				MLR	MLR		
	comp=Z,12μm,20.1s						
MA2	**Magadan**	**12.48**	**352**	P	**Pn**	**14 59 51.5**	**+1.2**
	comp=Z,386nm,1.8s						
JMM	**Marumori**	**13.49**	**231**	P	**Pn**	**15 00 00.3**	**-3.9**
KLR	**Kul'dur**	**14.93**	**286**	*e*P	**Pn**	**15 00 27.8**	**+4.0**
KLR				*e*		15 03 14.0	
KLR				pmax	pmax		
	comp=E,4μm,10.0s						
KLR				pmax	pmax		
	comp=Z,8μm,10.0s						
KLR				MLR	MLR		
	comp=Z,8μm,13.0s						
SEY	**Seymchan**	**15.73**	**357**	⇓*i*P	**Pn**	**15 00 36.7**	**+2.4**
SEY	**Seymchan**	**15.73**	**357**	⇓*i*P	**Pn**	**15 00 36.8**	**+2.5**
MAJO	**Matsushiro**	**15.86**	**233**	*e*P	**Pn**	**15 00 31.9**	**-4.1**
MAJO				pmax	pmax		
	comp=Z,206nm,1.4s						
MAJO	**Matsushiro**	**15.86**	**233**	*e*P	**Pn**	**15 00 31.9**	**-4.1**
	comp=Z,206nm,1.4s						
MAT	**Matsushiro**	**15.86**	**233**	P	**Pn**	**15 00 33.0**	**-3.0**
MAT				S	**Sn**	**15 03 29.0**	**-2.2**
MAT	**Matsushiro**	**15.86**	**233**	P	**Pn**	**15 00 32.2**	**-3.8**
MJAR	**Matsushiro Arr**	**15.86**	**233**	Pn	**Pn**	**15 00 33.4**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=26,slow=11,SNR=27						
JRY	**Ryogami san**	**15.88**	**230**	P	**Pn**	**15 00 34.4**	**-1.9**
VLA	**Vladivostok**	**16.09**	**263**	*e*P	**Pn**	**15 00 48.5**	**+10**
VLA				pmax	pmax		
	comp=Z,188nm,1.3s						
VLA				MLR	MLR		
	comp=Z,10μm,18.7s						
JGF	**Kuroka**	**17.02**	**233**	P	**Pn**	**15 00 48.6**	**-2.1**
MDJ	**Mudanjiang**	**17.14**	**270**	P	**Pn**	**15 00 53.2**	**+0.9**
MDJ				AP	pP	15 00 57.6	-1.9
MDJ				XP	sP	15 00 58.9	-3.2
MDJ				S	**Sn**	**15 04 05.1**	**+2.7**
MDJ				PCS	PcS	15 09 12.6	+0.4
MDJ				AMB	AMB		
	comp=Z,37nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,1μm,7.1s						
MDJ				LR	LR		
	comp=N,5μm,16.2s						
MDJ				LR	LR		
	comp=E,10μm,16.7s						
MDJ				LR	LR		
	comp=Z,15μm,16.7s						
MDJ	**Mudanjiang**	**17.14**	**270**	P	**Pn**	**15 00 51.9**	**-0.4**
	comp=Z,206nm,1.6s						
JHJ	**Hachijo jima 2**	**17.77**	**222**	LR	LR	15 06 59.0	
	comp=Z,511nm,19.2s,baz=322,slow=34						
ZEA	**Zeya**	**18.12**	**301**	*e*P	**Pn**	**15 01 02.1**	**-2.3**
ZEA				AMB	AMB	15 01 12.0	
	comp=Z,5μm,8.0s						
ZEA				AMB	AMB	15 01 12.0	
	comp=Z,4μm,8.0s						
ZEA				sP	sP	15 01 18.8	+5.9
ZEA				A		15 04 51.0	
	comp=Z,2μm,6.0s						
JWT	**Wachi**	**18.33**	**236**	P	**Pn**	**15 01 05.2**	**-1.8**
CLNS	**Chul'man**	**20.14**	**309**	*e*P	**P**	**15 01 27.1**	**+0.3**
NRGR	**Nerungri**	**20.18**	**309**	*e*P	**P**	**15 01 32.8**	**+5.6**
NRGR				S	**S**	**15 05 15.8**	**+2.9**
NRGR				smax			
	comp=E,6.0nm,0.2s						
YAK	**Yakutsk**	**20.21**	**326**	*e*P	**P**	**15 01 28.2**	**+0.6**
YAK				*i* *PP		15 01 41.4	
YAK				*e*		15 01 53.5	
YAK				pmax	pmax		
	comp=Z,105nm,1.3s						
YAK				pmax	pmax		
	comp=N,56nm,1.4s						
YAK				pmax	pmax		
	comp=E,72nm,1.5s						
YAK				pmax	pmax		
	comp=Z,1μm,6.1s						
YAK				pmax	pmax		
	comp=N,2μm,7.2s						
YAK				pmax	pmax		
	comp=E,1μm,4.0s						
YAK				MLR	MLR		
	comp=N,4μm,17.0s,MS5.1						
YAK				MLR	MLR		
	comp=E,6μm,17.0s,MS5.1						
YAK				MLR	MLR		
	comp=Z,9μm,17.0s,MS5.2						
YAK	**Yakutsk**	**20.21**	**326**	*e*P	**P**	**15 01 27.7**	**+0.2**
	comp=Z,73nm,0.8s						
KSRS	**Korea Array**	**21.51**	**252**	P	**P**	**15 01 42.8**	**+1.2**
	comp=Z,14nm,0.8s,mb4.5,baz=62,slow=9.1,SNR=19						
KSRS				LR	LR	15 10 12.2	
	comp=Z,4μm,18.1s,MS4.8,baz=60,slow=37						
BILL	**Bilibino**	**21.76**	**12**	*e*P	**P**	**15 01 44.1**	**-0.2**
BILL				*i* S	**S**	**15 05 43.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,8μm,17.0s,MS5.2						
BILL	**Bilibino**	**21.76**	**12**	P	**P**	**15 01 42.8**	**-1.5**
	comp=Z,45nm,0.9s,mb4.9						
SNY	**Shenyang**	**22.25**	**267**	⇓P	**P**	**15 01 50.4**	**+0.9**
SNY				S	**S**	**15 05 57.1**	**+3.6**
SNY				AMB	AMB		
	comp=Z,29nm,0.6s,mb4.9						
SNY				AMB	AMB		
	comp=Z,2μm,7.6s						
SNY				LR	LR		
	comp=N,8μm,15.6s,MS5.5						
SNY				LR	LR		
	comp=E,14μm,15.6s,MS5.5						
SNY				LR	LR		
	comp=Z,16μm,16.8s,MS5.5						
INCN	**Inchon**	**22.34**	**254**	*e*P	**P**	**15 01 48.4**	**-2.0**
	comp=Z,112nm,1.1s,mb5.2						
JNU	**Nakatsue**	**22.49**	**239**	P	**P**	**15 01 51.6**	**-0.4**
	comp=Z,77nm,0.9s,mb5.1,baz=247,slow=20,SNR=8.6						
JNU				LR	LR	15 10 02.3	
	comp=Z,16μm,20.2s,MS5.5,baz=79,slow=35						
JNU	**Nakatsue**	**22.49**	**239**	P	**P**	**15 01 52.8**	**+0.8**
HIA	**Hailar**	**22.76**	**288**	*e*P	**P**	**15 01 53.5**	**-1.4**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA				MLR	MLR		
	comp=Z,11μm,19.0s						
HIA	**Hailar**	**22.76**	**288**	*e*P	**P**	**15 01 53.5**	**-1.5**
	comp=Z,10nm,0.6s,mb4.4						
HIA				LR	LR		
	comp=Z,11μm,19.0s,MS5.3						
JSU	**Suzuyama**	**23.91**	**237**	P	**P**	**15 02 06.2**	**-0.2**
DL2	**Dalian**	**24.91**	**262**	⇑*i*P	**P**	**15 02 17.0**	**+1.4**
DL2				S	**S**	**15 06 42.8**	**+5.0**
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
DL2				AMB	AMB		
	comp=Z,1μm,6.7s						
DL2				LR	LR		
	comp=N,3μm,15.2s,MS5.0						
DL2				LR	LR		
	comp=E,2μm,16.4s,MS5.0						
DL2				LR	LR		
	comp=Z,2μm,13.9s,MS4.8						
BOD	**Bodaibo**	**26.12**	**309**	*e*P	**P**	**15 02 24.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,35nm,1.6s,mb4.6						
CIT	**Chita**	**26.35**	**295**	*e*P	**P**	**15 02 28.0**	**-0.6**
TIXI	**Tiksi**	**27.14**	**343**	*e*P	**P**	**15 02 32.3**	**-3.5**
TIXI				*e*S	**S**	**15 07 04.9**	**-8.3**
TIXI				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,9μm,16.0s,MS5.4						
TIXI	**Tiksi**	**27.14**	**343**	⇓*i*P	**P**	**15 02 33.9**	**-1.9**
BJI	**Beijing**	**28.07**	**269**	P	**P**	**15 02 46.3**	**+2.2**
BJI				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.6						
BJI				AMB	AMB		
	comp=Z,1μm,9.8s						
BJI				LR	LR		
	comp=N,8μm,14.8s,MS5.7						
BJI				LR	LR		
	comp=E,12μm,16.1s,MS5.7						
BJI				LR	LR		
	comp=Z,9μm,16.2s,MS5.5						
BJI	**Beijing**	**28.07**	**269**	P	**P**	**15 02 46.3**	**+2.2**
	comp=Z,22nm,1.5s,mb4.6						
BJI				PP	PP	15 03 53.3	+5.8
BJI				S	**S**	**15 07 40.5**	**+13**
BJI				SS		15 09 51.9	
BJI				LR	LR		
	comp=Z,9μm,16.2s,MS5.5						
TIA	**Tai'an**	**29.37**	**261**	*e*P	**P**	**15 02 55.8**	**+0.2**
TIA				S	**S**	**15 07 58.0**	**+10**
TIA				LR	LR		
	comp=N,2μm,14.0s,MS5.2						
TIA				LR	LR		
	comp=E,4μm,15.0s,MS5.2						
SSE	**Sheshan**	**29.83**	**249**	⇑P	**P**	**15 02 59.5**	**-0.2**
SSE				AP	pP	15 03 05.4	-0.4
SSE				XP	sP	15 03 08.7	+0.4
SSE				S	**S**	**15 07 56.9**	**+1.5**
SSE				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.9						
SSE				AMB	AMB		
	comp=Z,585nm,10.2s						
SSE				LR	LR		
	comp=N,3μm,21.7s,MS5.0						
SSE				LR	LR		
	comp=E,2μm,21.8s,MS5.0						
SSE				LR	LR		
	comp=Z,3μm,15.6s						
SSE	**Sheshan**	**29.83**	**249**	⇑P	**P**	**15 02 59.5**	**-0.2**
	comp=Z,29nm,1.1s,mb4.9						
SSE				pP	pP	15 03 05.4	-0.4
SSE				sP	sP	15 03 08.7	+0.4
SSE				S	**S**	**15 07 56.9**	**+1.5**
SSE				sS	sS	15 08 05.1	-0.4
SSE				ScS	ScS	15 13 43.2	+4.4
SSE				LR	LR		
	comp=Z,3μm,15.6s,MS5.0						
NJ2	**Nanjing**	**30.71**	**253**	*e*P	**P**	**15 03 08.4**	**+0.9**
NJ2				AP	pP	15 03 12.0	-1.6
NJ2				XP	sP	15 03 15.0	-1.0
NJ2				PP	PP	15 04 07.9	-9.0
NJ2				S	**S**	**15 08 09.5**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,6.4s						
NJ2				LR	LR		
	comp=N,12μm,15.3s,MS5.8						
NJ2				LR	LR		
	comp=E,10μm,14.5s,MS5.8						

NJ2 LR LR
comp=Z,12µm,15.8s,MS5.6
HHC Hu-ho-hao-te 30.84 274 ⇑P **P** **15 03 09.7 +1.0**
HHC AP pP 15 03 14.1 -0.6
HHC XP sP 15 03 16.7 -0.5
HHC PP PP 15 04 11.0 -7.4
HHC S **S** **15 08 13.8 +2.5**
HHC SCP ScP 15 09 48.9 +2.0
HHC SS PcS 15 09 51.3 +2.0
HHC SCS ScS 15 13 43.2 -0.4
HHC AMB AMB
comp=Z,43nm,1.5s,mb5.1
HHC AMB AMB
comp=Z,871nm,7.9s
HHC LR LR
comp=N,3µm,15.7s,MS5.4
HHC LR LR
comp=E,6µm,15.5s,MS5.4
HHC LR LR
comp=Z,7µm,15.2s,MS5.5
SONM Songino Array 31.72 289 P **P** **15 03 16.1 -0.2**
comp=Z,5.7nm,0.6s,mb4.5,baz=62,slow=8.3,SNR=36
SONM LR LR 15 17 09.5
comp=Z,10µm,18.3s,MS5.5,baz=73,slow=38
BTO Baotou 32.00 274 *eP* **P** **15 03 18.2 -0.6**
TLY Talaya 32.47 297 *eP* **P** **15 03 22.9 0.0**
TLY *e* 15 04 31.4
TLY *e*PPP 15 04 48.3
TLY *e*SS SS 15 11 02.0 +5.6
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,10µm,17.0s,MS5.6
TLY Talaya 32.47 297 *i* P **P** **15 03 22.1 -0.8**
ZAK Zakamensk 32.99 295 *eP* **P** **15 03 26.7 -0.9**
ZAK *e* 15 06 07.4
IMA2 Indian Mountai 33.04 36 *eP* **P** **15 03 27.6 -0.4**
KDAK Kodiak Island 33.32 52 P **P** **15 03 30.2 -0.2**
comp=Z,18nm,0.9s,mb5.0,baz=326,slow=4.0,SNR=6.2
KDAK Kodiak Island 33.32 52 *eP* **P** **15 03 30.6 +0.2**
comp=Z,70nm,1.1s,mb5.5
WHN Wuhan 34.63 256 ⇓P **P** **15 03 42.0 +0.2**
PMR Palmer 34.82 45 P **P** **15 03 42.6 -0.8**
PMR pmax pmax
comp=Z,32nm,1.0s,mb5.2
PMR Palmer 34.82 45 *eP* **P** **15 03 41.7 -1.7**
comp=Z,32nm,1.0s,mb5.2
MCK McKinley 34.88 41 P **P** **15 03 43.4 -0.5**
MCK pmax pmax
comp=Z,57nm,1.0s,mb5.5
MCK McKinley 34.88 41 *eP* **P** **15 03 41.7 -2.3**
comp=Z,56nm,1.1s,mb5.4
SML Sawmill 35.19 44 P **P** **15 03 46.5 -0.1**
SML Sawmill 35.19 44 *eP* **P** **15 03 45.9 -0.7**
COLA College 35.37 39 *iP* **P** **15 03 46.4 -1.7**
COLA College 35.37 39 *eP* **P** **15 03 47.5 -0.7**
comp=Z,100nm,0.9s,mb5.7
QZH Quanzhou 35.79 244 ⇑*i*P **P** **15 03 53.6 +1.9**
QZH S **S** **15 09 31.3 +3.3**
QZH AMB AMB
comp=Z,610nm,2.1s,mb6.2
QZH LR LR
comp=N,4µm,17.5s,MS5.5
QZH LR LR
comp=E,5µm,15.8s,MS5.5
QZH LR LR
comp=Z,5µm,16.4s,MS5.3
XAN Xi'an 36.14 265 P **P** **15 03 54.6 -0.2**
XAN AP pP 15 04 01.9 +1.0
XAN S **S** **15 09 40.6 +7.2**
XAN AMB AMB
comp=Z,65nm,1.3s,mb5.4
XAN AMB AMB
comp=Z,690nm,9.6s
XAN LR LR
comp=N,5µm,15.3s,MS5.5
XAN LR LR
comp=E,4µm,15.3s,MS5.5
XAN LR LR
comp=Z,9µm,15.3s,MS5.7
DIV Divide 36.47 45 *eP* **P** **15 03 58.0 +0.4**
comp=Z,281nm,1.1s,mb6.1
KRAR Krasnoyarsk 37.75 307 ⇓*i*P **P** **15 04 06.3 -2.1**
KRAR pmax pmax
comp=Z,16nm,0.4s,mb5.1
KRAR MLR MLR
comp=Z,6µm,16.0s,MS5.5
EGAK Eagle 38.23 39 *eP* **P** **15 04 11.0 -1.5**
comp=Z,99nm,1.0s,mb5.5
LZH Lanzhou 38.46 272 ⇑P **P** **15 04 14.5 +0.1**
LZH AP pP 15 04 23.8 +3.2
LZH XP sP 15 04 27.5 +4.5
LZH PP PP 15 05 45.6 +3.1
LZH S **S** **15 10 06.2 -2.4**
LZH XS sS 15 10 21.5 +2.7
LZH AMB AMB
comp=Z,138nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,689nm,5.2s
LZH LR LR
comp=N,3µm,13.5s
LZH LR LR
comp=Z,6µm,17.2s,MS5.5
LZH Lanzhou 38.46 272 ⇑P **P** **15 04 14.5 +0.1**
LZH *SP sP 15 04 27.5 +4.5
LZH 15 05 45.6
LZH S **S** **15 10 06.2 -2.4**
LZH SS SS 15 12 44.3 -14
LZH pmax pmax
comp=Z,138nm,1.4s,mb5.5
LZH MLR MLR
comp=Z,6µm,17.2s,MS5.5
LZH Lanzhou 38.46 272 ⇑P **P** **15 04 14.5 +0.1**
comp=Z,138nm,1.4s,mb5.5
LZH pP pP 15 04 23.8 +3.2
LZH sP sP 15 04 27.5 +4.5
LZH PP PP 15 05 45.6 +3.1
LZH S **S** **15 10 06.2 -2.4**
LZH sS sS 15 10 21.5 +2.7
LZH SS SS 15 12 44.3 -14
LZH LR LR
comp=Z,6µm,17.2s,MS5.5
DAWY Dawson 39.07 40 *eP* **P** **15 04 18.5 -1.1**
GTA Gaotai 39.47 279 ⇓P **P** **15 04 23.0 +0.1**
GTA AP pP 15 04 27.1 -2.0
GTA XP sP 15 04 30.0 -1.5
GTA PP PP 15 05 57.8 +4.2
GTA PPP 15 06 18.3
GTA S **S** **15 10 24.3 +0.4**
GTA SS SS 15 13 10.9 -7.5
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,832nm,7.2s
GTA LR LR
comp=N,6µm,14.4s,MS5.6
GTA LR LR
comp=E,4µm,16.4s,MS5.6
GTA LR LR
comp=Z,6µm,17.1s,MS5.5
GZH Guangzhou 40.40 248 P **P** **15 04 26.2 -4.4**
GZH S **S** **15 10 29.9 -7.9**
GZH LR LR
comp=N,2µm,14.6s,MS5.3
GZH LR LR
comp=E,3µm,15.8s,MS5.3
GZH LR LR
comp=Z,4µm,16.5s,MS5.4
CD2 Chengdu 41.51 265 ⇑*i*P **P** **15 04 39.6 -0.1**
CD2 AP pP 15 04 44.1 -1.8
CD2 XP sP 15 04 46.8 -1.6
CD2 PP PP 15 06 18.7 +3.0
CD2 PCP PcP 15 06 37.2 +0.1
CD2 S **S** **15 10 53.6 -0.7**
CD2 SS SS 15 13 51.5 -7.5
CD2 SCS ScS 15 14 41.0 -1.3
CD2 AMB AMB
comp=Z,200nm,1.1s,mb5.7
CD2 AMB AMB
comp=Z,1µm,8.6s
CD2 LR LR
comp=N,6µm,16.2s,MS5.6
CD2 LR LR
comp=E,3µm,16.8s,MS5.6
CD2 LR LR
comp=Z,7µm,15.6s,MS5.6
SKAG Skagway 41.88 46 *eP* **P** **15 04 45.8 +3.0**
comp=Z,64nm,1.3s,mb5.1
GYA Guiyang 42.40 258 ⇑*i*P **P** **15 04 47.1 +0.1**
GYA AP pP 15 04 52.6 -0.6
GYA XP sP 15 04 54.6 -1.1
GYA PP PP 15 06 28.3 +3.0
GYA PCP PcP 15 06 41.5 +1.5
GYA SCP ScP 15 10 30.0 +0.4
GYA S **S** **15 11 07.2 -0.2**
GYA SS SS 15 14 09.2 -7.4
GYA SCS ScS 15 14 46.5 -1.3
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,880nm,7.5s
GYA LR LR
comp=N,2µm,16.0s,MS5.2
GYA LR LR
comp=E,2µm,15.0s,MS5.2
GYA LR LR
comp=Z,2µm,15.6s,MS5.2
ZAL Zalesovo 42.80 306 P **P** **15 04 49.0 -1.4**
comp=Z,6.6nm,0.6s,mb4.5,baz=57,slow=5.7,SNR=34
ZAL LR LR 15 24 02.9
comp=Z,5µm,21.0s,MS5.4,baz=43,slow=38
NVS Novosibirsk 43.34 307 *i* P **P** **15 04 52.7 -2.0**
NVS *e*S **S** **15 11 27.4 +6.1**
NVS pmax pmax
comp=Z,74nm,1.6s,mb5.2
NVS pmax pmax
comp=N,29nm,1.5s
NVS pmax pmax
comp=E,24nm,1.1s
NVS smax
comp=N,3.0nm,0.9s
NVS smax
comp=E,27nm,1.8s
WMQ Urumqi 45.29 291 P **P** **15 05 10.1 -0.1**
WMQ AP pP 15 05 14.6 -1.9
WMQ XP sP 15 05 17.1 -1.8
WMQ PCP PcP 15 06 50.6 +0.8
WMQ PP PP 15 06 56.6 +0.4
WMQ PCS PcS 15 10 43.1 -0.6
WMQ S **S** **15 11 48.9 -0.7**
WMQ AMB AMB
comp=Z,278nm,2.4s,mb5.7
WMQ AMB AMB
comp=Z,279nm,6.5s
WMQ LR LR
comp=N,4µm,16.7s,MS5.6
WMQ LR LR
comp=E,4µm,16.8s,MS5.6
WMQ LR LR
comp=Z,6µm,17.6s,MS5.6
QIZ Qiongzhong 45.59 247 ⇑P **P** **15 05 13.3 +0.7**
QIZ AP pP 15 05 18.7 -0.2
QIZ XP sP 15 05 21.6 +0.3
QIZ S **S** **15 11 58.4 +4.4**
QIZ XS sS 15 12 05.6 +1.4
QIZ AMB AMB
comp=Z,709nm,9.8s
QIZ LR LR
comp=N,2µm,20.1s,MS5.2
QIZ LR LR
comp=E,2µm,19.6s,MS5.2
QIZ LR LR
comp=Z,3µm,18.1s,MS5.3
KMI Kunming 45.91 260 P **P** **15 05 15.3 +0.1**
KMI AP pP 15 05 19.1 -2.3
KMI PP PP 15 07 02.4 -0.5
KMI PPP 15 07 44.7
KMI SCP ScP 15 10 45.3 +1.3
KMI S **S** **15 11 56.5 -2.1**
KMI AMB AMB
comp=Z,34nm,1.6s,mb5.0
KMI AMB AMB
comp=Z,1µm,10.4s
KMI LR LR
comp=N,3µm,15.8s,MS5.5
KMI LR LR
comp=E,3µm,17.1s,MS5.5
KMI LR LR
comp=Z,2µm,14.5s,MS5.3
KMI Kunming 45.91 260 P **P** **15 05 15.3 +0.1**
KMI 15 07 02.4
KMI 15 07 44.7
KMI PPP
KMI S **S** **15 11 56.5 -2.1**
KMI SS SS 15 15 10.8 -13
KMI SSS 15 16 13.3
KMI pmax pmax
comp=Z,34nm,1.6s,mb5.0
KMI MLR MLR
comp=Z,2µm,14.5s,MS5.3
KMI Kunming 45.91 260 P **P** **15 05 15.3 +0.1**
comp=Z,34nm,1.6s,mb5.0
KMI pP pP 15 05 19.1 -2.3
KMI PP PP 15 07 02.4 -0.5
KMI PPP 15 07 44.7
KMI ScP ScP 15 10 45.3 +1.3
KMI S **S** **15 11 56.5 -2.1**
KMI SS SS 15 15 10.8 -13
KMI SSS 15 16 13.3
KMI LR LR
comp=Z,2µm,14.5s,MS5.3
MK31 Makanchi Array 47.23 297 *eP* **P** **15 05 23.6 -1.9**
MKAR Makanchi Array 47.23 297 P **P** **15 05 24.4 -1.1**
comp=Z,18nm,0.9s,mb5.0,baz=66,slow=8.0,SNR=66
MKAR LR LR 15 26 22.6
comp=Z,4µm,18.0s,MS5.4,baz=65,slow=38
KURK Kurchatov 47.57 304 P **P** **15 05 26.4 -1.7**
comp=Z,390nm,0.7s,SNR=56
ALE Alert 49.17 6 P **P** **15 05 40.0 -0.5**
comp=Z,135nm,1.2s,mb5.8,SNR=8.1
YKA Yellowknife Ar 50.16 37 P **P** **15 05 47.6 -0.4**
comp=Z,5.1nm,0.7s,mb4.7,baz=293,slow=6.9,SNR=7.1
YKA LR LR 15 30 45.1
comp=Z,1µm,18.3s,MS4.9,baz=265,slow=40
LSA Lhasa 50.83 273 P **P** **15 05 56.0 +2.9**
LSA AP pP 15 06 01.0 +1.6
LSA XP sP 15 06 05.2 +3.4
LSA PCP PcP 15 07 08.2 -1.5
LSA PP PP 15 07 48.2 -1.2
LSA S **S** **15 13 05.2 -2.9**
LSA XS sS 15 13 22.0 +3.6
LSA SCS ScS 15 15 40.3 -2.5
LSA SS SS 15 16 43.5 +0.8
LSA AMB AMB
comp=Z,50nm,0.8s,mb5.5
LSA LR LR
comp=N,630nm,20.4s,MS4.8
LSA LR LR
comp=E,730nm,22.1s,MS4.8
LSA LR LR
comp=Z,600nm,23.8s,MS4.5
LSA Lhasa 50.83 273 *eP* **P** **15 05 54.9 +1.8**
LSA pmax pmax
comp=Z,55nm,0.7s,mb5.6
LSA Lhasa 50.83 273 *eP* **P** **15 05 54.9 +1.8**
comp=Z,54nm,0.7s,mb5.6
BVAR Borovoye Array 50.98 309 P **P** **15 05 53.4 -0.9**
comp=Z,8.8nm,0.8s,mb4.8,baz=54,slow=7.7,SNR=36
BVAR LR LR 15 29 32.2
comp=Z,8µm,18.2s,MS5.8,baz=319,slow=38
BRVK Borovoye 51.02 309 P **P** **15 05 53.4 -1.2**
comp=Z,140nm,0.9s,mb5.9,SNR=8.2
BRVK Borovoye 51.02 309 P **P** **15 05 53.2 -1.4**
BRVK pmax pmax
comp=Z,37nm,1.3s,mb5.2
BRVK Borovoye 51.02 309 *eP* **P** **15 05 52.9 -1.6**
comp=Z,58nm,1.3s,mb5.3
BRVK LR LR
comp=Z,2µm,19.0s,MS5.1
KBS Kingsbay 52.08 351 *eP* **P** **15 06 05.2 +2.8**
KBS *e*S **S** **15 13 26.5 +1.3**
KBS AMS AMS 15 34 04.8
comp=Z,780nm,18.5s,MS4.8
KBS Kingsbay 52.08 351 *eP* **P** **15 06 08.2 +5.7**
KBS LR LR
comp=Z,780nm,18.5s,MS4.8
AAA Alma-Ata 52.28 296 *eP* **P** **15 06 07.1 +3.2**
AAA pmax pmax
comp=Z,800nm,7.1s
AAA MLR MLR
comp=Z,12µm,17.7s,MS6.0
CHTO Chiang Mai 52.81 257 ⇓P **P** **15 06 09.0 +1.2**
SNR=18
CHTO Chiang Mai 52.81 257 *eP* **P** **15 06 08.2 +0.4**
CHTO pmax pmax
comp=Z,59nm,1.4s,mb5.3
CHTO Chiang Mai 52.81 257 *eP* **P** **15 06 08.2 +0.4**
comp=Z,59nm,1.4s,mb5.3
SHL Shillong 52.97 269 *eP* **P** **15 06 11.0 +2.0**
ULHL Ulaihol 53.28 295 P **P** **15 06 11.0 -0.3**
SNR=15
USP Ospenovka 53.77 297 P **P** **15 06 14.5 -0.5**
SNR=15
KBK Karagaybulak 53.84 296 P **P** **15 06 15.5 0.0**
SNR=11
SVE Sverdlovsk 53.85 317 ⇑*e*P **P** **15 06 13.0 -2.5**
SVE *e*S **S** **15 13 46.0 -3.5**
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.5
SVE MLR MLR
comp=Z,5µm,16.0s,MS5.7
SVE MLR MLR
comp=E,2µm,14.0s
FRU Bishkek 53.95 297 *eP* **P** **15 06 15.5 -0.7**
FRU *e* 15 07 20.0
FRU pmax pmax
comp=Z,56nm,1.9s,mb5.2
FRU MLR MLR
comp=Z,8µm,16.0s,MS5.9
KZA Kyzart 53.98 295 P **P** **15 06 17.4 +0.9**
SNR=22
AAK Ala-Archa 54.13 296 P **P** **15 06 16.1 -1.5**
comp=Z,92nm,0.8s,mb5.8,SNR=14
AAK Ala-Archa 54.13 296 P **P** **15 06 17.4 -0.1**
SNR=14
AAK Ala-Archa 54.13 296 ⇓P **P** **15 06 16.4 -1.1**
SNR=11
AAK Ala-Archa 54.13 296 P **P** **15 06 16.3 -1.3**
AAK pmax pmax
comp=Z,19nm,1.0s,mb5.0
AAK Ala-Archa 54.13 296 *eP* **P** **15 06 15.8 -1.8**
comp=Z,19nm,0.9s,mb5.0
EKS2 Erkin-Say 54.55 297 P **P** **15 06 20.3 -0.4**
SNR=16
BJO Bjornoya 54.81 346 AMS AMS 15 39 01.3
comp=Z,3µm,16.0s,MS5.4
AML Almayashu 54.91 296 P **P** **15 06 23.8 +0.6**
SNR=7.6
KSH Kashi 55.00 293 *eP* **P** **15 06 24.9 +1.0**
KSH *e*AP pP 15 06 35.8 +5.6
KSH *e*XP sP 15 06 38.9 +6.3
KSH *e*PCP PcP 15 07 25.2 -0.2
KSH *e*PP PP 15 08 30.0 +3.0
KSH *e*SCP ScP 15 11 21.1 -1.8
KSH *e*S **S** **15 14 03.2 -1.7**
KSH *e*PS 15 14 13.2
KSH *e*XS sS 15 14 20.0 +4.7
KSH *e*SCS ScS 15 16 08.1 -3.9
KSH *e*SS SS 15 17 46.0 -2.6
KSH AMB AMB
comp=Z,808nm,2.7s,mb6.3
ARU Arti 55.03 318 P **P** **15 06 22.5 -1.6**
comp=Z,239nm,1.0s,mb6.2,SNR=14
ARU Arti 55.03 318 ⇑*i*P **P** **15 06 22.4 -1.7**
ARU *e* 15 06 37.3
ARU *e* 15 07 17.9
ARU *e* 15 08 23.6
ARU *e*S **S** **15 14 00.8 -4.5**
ARU *e*SS sS 15 14 27.4 +12
ARU *e* 15 16 09.7
ARU *e*SS SS 15 17 51.4 +2.4
ARU pmax pmax
comp=Z,33nm,0.9s,mb5.4
ARU MLR MLR
comp=Z,4µm,17.0s,MS5.6
ARU MLR MLR
comp=N,3µm,16.0s,MS5.5
ARU MLR MLR
comp=E,2µm,18.0s,MS5.5
ARU Arti 55.03 318 *eP* **P** **15 06 22.1 -2.0**
comp=E,39nm,0.8s,mb5.5
JIRN Jiri 55.49 275 *eP* **P** **15 06 28.8 +1.4**
comp=E,114nm,0.6s,mb6.1
EDM Edmonton 55.53 47 *eP* **P** **15 06 28.6 +0.9**
GUN Gumba 55.54 275 *eP* **P** **15 06 28.6 +0.8**
comp=E,65nm,0.4s,mb6.0
KKN Kakani 56.02 276 *eP* **P** **15 06 32.2 +1.0**
comp=E,276nm,1.0s,mb6.2
PKI Pulchoki 56.08 275 *eP* **P** **15 06 32.4 +0.8**
comp=E,107nm,0.6s,mb6.0
DAG Danmarks Havn 56.15 358 ⇓*i*P **P** **15 06 30.8 -1.4**
comp=E,15nm,1.0s,mb5.0
DAG
comp=Z,2µm,20.0s
DAG Danmarks Havn 56.15 358 ⇓*e*P **P** **15 06 30.8 -1.4**
DAG pmax pmax
comp=Z,15nm,1.0s,mb5.0
DAG MLR MLR
comp=Z,2µm,20.0s,MS5.3
DAG Danmarks Havn 56.15 358 ⇓*e*P **P** **15 06 30.8 -1.4**
comp=Z,15nm,1.0s,mb5.0
DAG LR LR
comp=Z,2µm,20.0s,MS5.3
DMN Daman 56.26 275 *eP* **P** **15 06 34.1 +1.2**
comp=Z,214nm,0.7s,mb6.3
GKN Gorkha 56.32 276 *eP* **P** **15 06 34.2 +0.8**
comp=Z,278nm,0.8s,mb6.3
NEW Newport 56.40 53 LR LR 15 31 03.9
comp=Z,1µm,19.6s,MS5.0,baz=315,slow=36
KEV Kevo 57.05 341 *ep* **P** **15 06 36.5 -2.1**
comp=Z,5.9nm,0.7s,mb4.7
KEV Kevo 57.05 341 *eP* **P** **15 06 36.5 -2.1**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
APA Apatity 57.10 337 ⇓*i*P **P** **15 06 48.0 +9.1**
APA *i* 15 07 26.0
APA *e*S **S** **15 14 40.0 +7.2**
APA pmax pmax
comp=Z,70nm,1.4s,mb5.5
APA MLR MLR
comp=Z,6µm,19.0s,MS5.7
KOLN Koldanda 57.17 277 *eP* **P** **15 06 40.3 +0.9**
comp=Z,308nm,1.1s,mb6.2
CAL Calcutta 57.40 269 *eP* **P** **15 06 42.6 +1.6**
CAL *e*S **S** **15 14 37.1 +0.3**
ARCES ARCESS Array B 57.56 341 P **P** **15 06 41.1 -1.0**
comp=Z,8.2nm,0.8s,mb4.8,baz=28,slow=7.2,SNR=14
ARCES LR LR 15 34 48.3
comp=Z,4µm,20.6s,MS5.5,baz=31,slow=40
TMCR Tamitsa 58.15 332 P **P** **15 06 48.1 +1.8**
TMCR pmax pmax
comp=Z,54nm,1.3s,mb5.4
BOK Bokaro 58.22 272 *eP* **P** **15 06 48.0 +1.2**
BOK AMb AMB 15 06 52.1
comp=Z,100nm,1.7s,mb5.6
LGTI Lohaghat 58.35 280 *i* P **P** **15 06 49.0 +1.3**
KTK1 Kautokeino 58.47 341 *eP* **P** **15 06 48.7 +0.1**
KTK1 AMb AMB 15 06 54.2
comp=Z,57nm,1.8s,mb5.3
KTK1 Kautokeino 58.47 341 *eP* **P** **15 06 48.7 +0.1**
comp=Z,57nm,1.8s,mb5.3
TRO Tromso 58.86 343 *eP* **P** **15 06 52.7 +1.4**
TRO AMb AMB 15 07 03.0
comp=Z,56nm,1.9s,mb5.3
TRO *e*S **S** **15 14 54.2 -1.6**
TRO AMS AMS 15 37 36.9
comp=Z,2µm,17.2s,MS5.3
TRO Tromso 58.86 343 *eP* **P** **15 06 52.7 +1.5**
TRO pmax pmax
comp=Z,56nm,1.9s,mb5.3
TRO MLR MLR
comp=Z,2µm,17.2s,MS5.3
TRO Tromso 58.86 343 *eP* **P** **15 06 52.7 +1.4**
comp=Z,56nm,1.9s,mb5.3
TRO LR LR
comp=Z,2µm,17.2s,MS5.3
MSO Missoula 58.98 53 *eP* **P** **15 06 52.1 0.0**
comp=Z,27nm,1.4s,mb5.1
WVOR Wild Horse Val 58.99 60 *eP* **P** **15 06 53.4 +1.3**
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WVOR Wild Horse Val 58.99 60 *eP* **P** **15 06 53.4 +1.3**
comp=Z,8.2nm,0.9s,mb4.8
KSM Kuching 59.25 233 P **P** **15 06 53.8 -0.1**
CHMT Chamberlain Mo 59.31 53 *eP* **P** **15 06 55.1 +0.7**
THN Thein Dam 59.47 286 *eP* **P** **15 06 54.2 -1.2**
BHK Bhakra 59.65 285 *ex* x 15 07 03.8

ORR Orenburg 59.70 315 *e*P P **15 06 56.4 -0.7**
ORR pmax pmax
comp=Z,50nm,1.3s,mb5.4
ORR MLR MLR
comp=Z,7µm,16.0s,MS5.9
CMB Columbia Colle 60.65 65 P P **15 07 04.0 +0.4**
CMB pmax pmax
comp=Z,15nm,1.4s,mb4.9
CMB Columbia Colle 60.65 65 P P **15 07 04.0 +0.4**
comp=Z,16nm,1.4s,mb4.9
HLID Hailey 60.73 56 *e*P P **15 07 04.9 +0.8**
comp=Z,22nm,1.4s,mb5.1
MCMT McKenzie Canyo 60.82 54 P P **15 07 04.2 -0.5**
NDI New Delhi 60.87 282 *e*P P **15 07 03.0 -2.1**
NDI *e*P 15 07 05.0
BMN Battle Mountai 61.06 61 *e*P P **15 07 06.5 +0.1**
BMN pmax pmax
comp=Z,20nm,1.3s,mb5.1
BMN Battle Mountai 61.06 61 *e*P P **15 07 06.5 +0.1**
comp=Z,20nm,1.3s,mb5.1
LOF Lofoten 61.17 344 *e*P P **15 07 08.6 +1.5**
PECR Pechory 61.38 323 *e*P P **15 07 09.2 +0.7**
PECR *e* 15 07 33.0
PECR *e*S **S** **15 15 43.0 +15**
PECR *e* 15 16 49.0
PECR pmax pmax
comp=Z,10.0nm,2.0s,mb4.6
PECR pmax pmax
comp=Z,700nm,11.0s
PECR MLR MLR
comp=Z,10µm,19.0s,MS6.0
PECR MLR MLR
comp=N,2µm,14.0s,MS5.6
PECR MLR MLR
comp=E,2µm,14.0s,MS5.6
JMIC Jan Mayen 61.39 354 *e* P **15 07 13.5 +5.0**
JMIC AMS AMS 15 39 35.2
comp=Z,797nm,18.4s,MS4.9
QLMT Earthquake Lak 61.60 54 *e*P P **15 07 11.4 +1.4**
NVAR Mina Array Bea 61.68 63 P P **15 07 11.6 +1.1**
comp=Z,3.6nm,0.9s,mb4.5,baz=294,slow=6.7,SNR=10
KULM Kulim 61.82 245 *e*P P **15 07 12.7 +1.1**
RLMT Red Lodge 62.59 52 *e*P P **15 07 18.0 +1.3**
comp=Z,55nm,1.6s,mb5.4
RRI2 Red Ridge 62.61 55 *e*P P **15 07 18.7 +1.9**
comp=Z,28nm,1.0s,mb5.3
JBP Jabalpur 62.66 275⇑ *i*P P **15 07 19.0 +1.9**
JBP *ex* x 15 07 30.1
comp=Z,103nm,1.9s
JBP *i* x x 15 14 58.4
MOR8 Moi Rana 62.71 343 *e*P P **15 07 15.3 -2.2**
MOR8 AMb AMB 15 07 24.9
comp=Z,122nm,2.0s,mb5.7
MOR8 Moi Rana 62.71 343 *e*P P **15 07 15.3 -2.1**
comp=Z,122nm,2.0s,mb5.7
TPAW Teton Pass 62.73 55 *e*P P **15 07 19.2 +1.6**
comp=Z,56nm,1.3s,mb5.5
KAKA Kakadu 62.73 204 *e*P P **15 07 16.8 -0.8**
comp=Z,12nm,0.9s,mb5.0
HVU Hansel Valley 62.80 57 *e*P P **15 07 21.0 +3.0**
HVU pmax pmax
comp=Z,80nm,1.0s,mb5.8
HVU Hansel Valley 62.80 57 *e*P P **15 07 21.0 +2.9**
comp=Z,7.7nm,1.0s,mb4.8
REDW Red Top Meadow 62.86 55 *e*P P **15 07 19.1 +0.6**
comp=Z,32nm,1.0s,mb5.4
HWUT Hardware Ranch 63.60 57 P P **15 07 24.0 +0.6**
comp=Z,47nm,1.6s,mb5.3
DUG Dugway 63.80 58 *e*P P **15 07 24.2 -0.5**
DUG pmax pmax
comp=Z,21nm,1.2s,mb5.0
DUG Dugway 63.80 58 *e*P P **15 07 24.2 -0.5**
comp=Z,21nm,1.2s,mb5.0
FIA1 FINESS Array S 63.82 335 *e*P P **15 07 23.9 -1.0**
FINES FINESS Array B 63.82 335 P P **15 07 23.9 -0.9**
comp=Z,8.1nm,0.6s,mb5.0,baz=36,slow=8.4,SNR=61
FINES LR LR 15 39 52.6
comp=Z,4µm,18.5s,MS5.6,baz=33,slow=40
FINES FINESS Array B 63.82 335 P P **15 07 23.9 -0.9**
FINES LR LR 15 39 52.6
PUL Pulkovo 63.86 332 *e*P P **15 07 24.6 -0.5**
PUL *e* 15 11 27.8
PUL pmax pmax
comp=Z,65nm,0.5s,mb5.9
PUL MLR MLR
comp=N,2µm,15.0s,MS5.6
PUL MLR MLR
comp=Z,2µm,15.0s,MS5.5
PUL MLR MLR
comp=E,3µm,18.0s,MS5.6
BW06 Boulder Array 63.97 55 PFAKE 15 07 40.0 +14
BW06 LR LR
comp=Z,1µm,19.0s,MS5.1
PDAR Pinedale Array 63.97 55 P P **15 07 25.3 -0.5**
comp=Z,5.0nm,0.9s,mb4.5,baz=209,slow=2.7,SNR=14
AJM Ajmer 64.04 282 *e*P P **15 07 26.6 +0.3**
AJM AMb AMB 15 07 29.8
comp=Z,108nm,1.2s,mb5.7
VIS Vishakhapatnam 64.11 268 *e*P P **15 07 27.0 +0.3**
VIS AMb AMB 15 07 35.7
comp=Z,41nm,0.9s,mb5.5
BHPL Bhopal 64.34 277 *e*P P **15 07 28.6 +0.3**
BHPL AMb AMB 15 07 31.8
comp=Z,190nm,1.5s,mb5.9
MOS Moscow 64.35 326 *e*P P **15 07 25.9 -2.4**
MOS *e* 15 07 37.8
MOS *e* 15 07 58.6
MOS *e* 15 09 48.9
MOS pmax pmax
comp=Z,66nm,0.7s,mb5.8
MOS MLR MLR
comp=Z,4µm,17.3s,MS5.6
MOS MLR MLR
comp=N,5µm,19.1s,MS5.8
MOS MLR MLR
comp=E,2µm,19.1s,MS5.8
DAU Daniels Canyon 64.56 57 *e*P P **15 07 30.5 +0.8**
GSC Goldstone 64.61 65 P P **15 07 29.2 -0.8**
NSS Namsos 64.65 343 *e*P P **15 07 28.7 -1.5**
NSS *e*S **S** **15 16 10.2 +1.0**
NSS AMS AMS 15 44 58.2
comp=Z,2µm,13.7s,MS5.5
NGP Nagpur 64.66 274 *e*P P **15 07 28.7 -1.6**
NGP *ex* x 15 07 39.3
comp=Z,86nm,1.8s
NGP *ex* x 15 16 22.2
PSI Prapat 64.83 245 P P **15 07 32.2 +0.8**
comp=Z,2.0nm,0.3s,mb4.6,baz=331,slow=15,SNR=7.0
PSI Prapat 64.83 245 P P **15 07 32.2 +0.7**
ARUT Antelope Range 65.02 61 P P **15 07 32.0 -0.6**
OBN Obninsk 65.22 326*c* *i*P P **15 07 32.9 -1.0**
OBN *i* 15 07 42.7
OBN *e**PP pP 15 07 56.2 +16
OBN *i* 15 08 03.9
OBN *e* 15 09 55.4
OBN *e*S S 15 16 28.9 +13
OBN *e*SS SS 15 20 24.6 -4.2
OBN pmax pmax
comp=Z,42nm,2.5s,mb5.0
OBN Obninsk 65.22 326⇑ *i*P P **15 07 32.0 -1.9**
OBN LR LR
comp=Z,3µm,20.0s,MS5.5
MSU Marysvale 65.28 60 *e*P P **15 07 35.2 +0.8**
SRU San Rafael 65.85 58 *e*P P **15 07 38.5 +0.5**
SRU pmax pmax
comp=Z,25nm,1.0s,mb5.2
SRU San Rafael 65.85 58 *e*P P **15 07 38.5 +0.5**
comp=Z,25nm,1.0s,mb5.2
PFO Pinyon Flat Ob 65.94 66 *e*P P **15 07 40.1 +1.5**
PFO pmax pmax
comp=Z,19nm,1.6s,mb4.9
PFO Pinyon Flat Ob 65.94 66 *e*P P **15 07 40.1 +1.4**
comp=Z,18nm,1.6s,mb4.9
VSU Vasula 66.03 333⇑ *e*P P **15 07 37.1 -2.1**
RSSD Black Hills 66.04 50 *e*P P **15 07 39.3 0.0**
RSSD pmax pmax
comp=Z,25nm,1.2s,mb5.1
RSSD Black Hills 66.04 50 *e*P P **15 07 39.3 +0.1**
comp=Z,25nm,1.2s,mb5.1
VRHR Novokhopersk 66.11 320 *e*P P **15 07 40.1 +0.4**
VRHR pmax pmax
comp=N,2.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR MLR MLR
comp=Z,2µm,18.0s,MS5.4
VRHR MLR MLR
comp=E,860nm,23.0s
VOR Voronezh 66.68 322 P P **15 07 42.0 -1.3**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.6
ABKT Ailbek 66.84 301 P P **15 07 47.3 +2.9**
comp=Z,115nm,0.8s,mb6.0,SNR=5.1
VRSR Storozhevoye 67.06 322 *e*P P **15 07 42.2 -3.6**
VRSR pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,7.0nm,0.9s
VRSR MLR MLR
comp=Z,2µm,18.0s,MS5.4
VRSR MLR MLR
comp=N,2µm,20.0s,MS5.4
VRSR MLR MLR
comp=E,1µm,19.0s,MS5.4
MOL Molde 67.28 344 *e*P P **15 07 47.8 +0.6**
GLA Glamis 67.33 66 P P **15 07 47.7 +0.2**
GLA Glamis 67.33 66 *e*P P **15 07 46.1 -1.3**
HYB Hyderabad 67.57 272 *i* P P **15 07 49.0 0.0**
HYB *e*S S 15 16 48.0 +3.3
HYB *e*ScS ScS 15 17 44.0 -2.3
HYB Hyderabad 67.57 272 *e*P P **15 07 49.0 0.0**
WUAZ Wupatki 67.77 61 *e*P P **15 07 50.4 +0.2**
comp=E,22nm,1.3s,mb5.0
SMCO Snowmass 67.83 56 *e*P P **15 07 50.3 -0.4**
comp=E,13nm,0.9s,mb5.0
NB2 NORSAR Subarra 67.93 341 P P **15 07 50.6 -0.7**
comp=Z,2.7nm,0.6s,mb4.5,baz=29,slow=6.5
NOA NORSAR Array B 67.93 341 P P **15 07 50.4 -0.9**
comp=Z,22nm,0.8s,mb5.2,baz=26,slow=6.3,SNR=55
NOA LR LR 15 42 13.6
comp=Z,3µm,18.0s,MS5.5,baz=20,slow=40
AFI Afiamalu 68.18 144 LR LR 15 32 39.9
comp=Z,1µm,19.7s,MS5.2,baz=1.3,slow=32
NAO01 NORSAR Array S 68.18 342 *e*P P **15 07 51.4 -1.4**
comp=Z,42nm,1.0s,mb5.4
MVCO Mesa Verde 68.31 58 *e*P P **15 07 52.4 -1.2**
comp=Z,26nm,1.2s,mb5.1
MNK Minsk 68.87 330 *e*P P **15 07 53.0 -4.1**
MAK Makhachkala 69.18 311 *d*P P **15 07 59.5 +0.5**
MAK *i* 15 08 22.9
MAK *e*PPP 15 12 14.4
MAK *e*S S 15 17 03.5 -0.3
MAK pmax pmax
comp=Z,365nm,1.3s,mb6.2
MAK pmax pmax
comp=Z,1µm,3.0s
MAK smax
comp=N,366nm,1.1s
MAK smax
comp=E,857nm,2.8s
MAK MLR MLR
comp=Z,9µm,17.0s,MS6.1
MAK MLR MLR
comp=N,12µm,18.0s,MS6.2
MAK MLR MLR
comp=E,8µm,18.0s,MS6.2
WRAB Tennant Creek 69.18 200⇑ *e*P P **15 07 57.8 -1.3**
WB2 Warramunga Arr 69.19 200 *e*P P **15 07 57.5 -1.6**
WRA Warramunga Arr 69.19 200 P P **15 07 57.6 -1.5**
comp=E,7.1nm,1.0s,mb4.5,baz=16,slow=6.7,SNR=15
WRA LR LR 15 38 13.4
comp=E,480nm,18.7s,MS4.8,baz=55,slow=36
MDRS Chennai 69.48 267 *ex* x 15 07 55.2
KONO Kongsberg 69.53 342 *e*P P **15 07 58.4 -2.8**
KONO *e*S S 15 17 05.7 -2.3
KONO *e*SS SS 15 21 43.7 +8.0
KONO Kongsberg 69.53 342 *i* P P **15 08 01.0 -0.3**
KONO Kongsberg 69.53 342 *e*P P **15 08 00.9 -0.4**
comp=E,61nm,1.0s,mb5.5
ASK Askoy 69.65 344 *e*P P **15 08 02.7 +0.7**
ASK AMb AMB 15 08 08.1
comp=Z,227nm,2.2s,mb5.7
ASK Askoy 69.65 344 *e*P P **15 08 02.7 +0.7**
comp=Z,227nm,2.2s,mb5.7
BER Bergen 69.72 344 *e*P P **15 08 03.2 +0.8**
BER AMb AMB 15 08 12.9
comp=Z,216nm,1.6s,mb5.8
BER Bergen 69.72 344 *e*P P **15 08 03.2 +0.8**
comp=Z,216nm,1.5s,mb5.9
EGD Espegrend 69.84 344 *e*P P **15 08 03.8 +0.6**
EGD AMb AMB 15 08 13.3
comp=Z,317nm,1.8s,mb6.0
EGD Espegrend 69.84 344 *e*P P **15 08 03.8 +0.6**
comp=Z,317nm,1.8s,mb6.0
FITZ Fitzroy Crossi 69.88 209 *e*P P **15 08 02.4 -1.0**
comp=Z,14nm,1.1s,mb4.8
FITZ Fitzroy Crossi 69.88 209 P P **15 08 02.6 -0.7**
comp=Z,8.6nm,1.2s,mb4.5,baz=20,slow=6.8,SNR=4.2
ODD1 Odda 69.91 343 *e*P P **15 08 03.3 -0.2**
ODD1 AMb AMB 15 08 12.3
comp=Z,112nm,1.9s,mb5.5
ODD1 Odda 69.91 343 *e*P P **15 08 03.3 -0.2**
comp=Z,112nm,1.9s,mb5.5
DZM Mont Dzumac 69.92 168 LR LR 15 36 20.5
comp=Z,2µm,18.4s,MS5.4,baz=349,slow=34
POO Poona 69.99 276⇓ *i*x P **15 08 01.0 -3.1**
comp=Z,50nm,1.0s,mb5.4
POO *ex* x 15 08 38.1
POO AMb AMB 15 08 43.5
comp=Z,55nm,1.6s,mb5.2
TUC Tucson 70.32 64 P P **15 08 07.8 +1.7**
TUC pmax pmax
comp=Z,11nm,1.1s,mb4.7
TUC Tucson 70.32 64 P P **15 08 07.8 +1.7**
comp=Z,11nm,1.1s,mb4.7
BLS5 Blasjo 70.39 343 *e*P P **15 08 08.4 +1.9**
BLS5 AMb AMB 15 08 10.9
comp=Z,49nm,1.8s,mb5.1
BLS5 Blasjo 70.39 343 *e*P P **15 08 08.4 +1.9**
comp=Z,49nm,1.8s,mb5.1
KAD Karad 70.62 275 *e*P P **15 08 08.6 +0.7**
KAD AMb AMB 15 08 11.3
comp=Z,56nm,1.4s,mb5.3
SUW Suwalki 70.82 332 *e*P P **15 08 08.3 -0.9**
SUW L 15 43 06.1
comp=Z,3.2nm,17.6s
KIV Kislovodsk 70.86 315 P P **15 08 10.2 +0.8**
comp=Z,220nm,1.1s,mb6.0,SNR=5.9
KIV Kislovodsk 70.86 315⇑ P P **15 08 09.5 +0.2**
SNR=6.3
KIV Kislovodsk 70.86 315 *e*P P **15 08 09.3 -0.1**
KIV *e* 15 10 46.7
KIV *e*S S 15 17 18.0 -5.5
KIV pmax pmax
comp=Z,56nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,9µm,19.0s,MS6.0
KIV Kislovodsk 70.86 315 *e*P P **15 08 09.1 -0.2**
comp=Z,31nm,0.8s,mb5.3
ANMO Albuquerque 71.06 59⇑ *i*P P **15 08 09.9 -0.7**
ANMO Albuquerque 71.06 59 *e*P P **15 08 10.5 -0.1**
comp=Z,7.5nm,1.0s,mb4.6
ZEI Tsey 71.14 313 *e*P P **15 08 09.5 -1.6**
ZEI *e**PP pP 15 08 20.8 +3.2
ZEI pmax pmax
comp=Z,20nm,0.8s,mb5.1
AKASG Malin Array Be 71.44 327 P P **15 08 11.2 -1.7**
comp=Z,10nm,0.5s,mb5.0,baz=37,slow=6.7,SNR=60
AKASG LR LR 15 42 11.5
comp=Z,2µm,18.7s,MS5.5,baz=30,slow=38
AKASG Malin Array Be 71.44 327 P P **15 08 11.2 -1.7**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG MLR MLR
comp=Z,2µm,18.7s
AKBB Malin Array Si 71.44 327 *e*P P **15 08 11.5 -1.4**
BNM Barren Site 71.53 60 *e*P P **15 08 16.7 +3.3**
BSD Bornholm Skovb 72.32 337 *i* P P **15 08 16.1 -2.1**
comp=Z,134nm,1.6s,mb5.6
BSD *i* 15 17 54.7
BSD
comp=Z,2µm,18.0s
BSD Bornholm Skovb 72.32 337 *e*P P **15 08 16.1 -2.1**
BSD pmax pmax
comp=Z,134nm,1.6s,mb5.6
BSD Bornholm Skovb 72.32 337 *e*P P **15 08 16.1 -2.1**
comp=Z,134nm,1.6s,mb5.6
BSD *i* 15 17 54.7
COP Copenhagen 72.45 338 *i* P P **15 08 20.2 +1.2**
comp=Z,110nm,1.1s,mb5.7
COP *i* 15 08 32.5
COP *i* 15 18 27.9
COP
comp=Z,870nm,21.0s
COP Copenhagen 72.45 338 *i* P P **15 08 20.2 +1.2**
COP *i* 15 08 32.5
COP *i* 15 18 27.9
COP pmax pmax
comp=Z,110nm,1.1s,mb5.7
COP MLR MLR
comp=Z,870nm,21.0s,MS5.0
MUD Monsted U'grnd 72.54 340 *i* P P **15 08 25.7 +6.2**
comp=Z,95nm,1.4s,mb5.5
MUD *i* S S 15 17 50.6 +7.7
MUD
comp=Z,2µm,18.0s
MUD Monsted U'grnd 72.54 340 *i* P P **15 08 25.7 +6.2**
comp=Z,95nm,1.4s,mb5.5
MUD *i* S S 15 17 50.6 +7.7
SOC Sochi 72.56 316 *e*P P **15 08 17.7 -1.9**
SOC *e*PPP 15 12 46.2
SOC *e*S S 15 17 38.6 -4.5
SOC *e*SSS 15 25 37.9
SOC pmax pmax
comp=Z,77nm,1.1s,mb5.5
SCHQ Schefferville 72.61 23 P P **15 08 19.6 -0.3**
comp=Z,7.1nm,0.8s,mb4.6,baz=307,slow=10,SNR=4.7
SCHQ LR LR 15 42 38.5
comp=Z,844nm,19.2s,MS5.0,baz=156,slow=38
GNI Garni 72.64 311 *e*P P **15 08 21.4 +1.3**
GNI Garni 72.64 311 P P **15 08 20.9 +0.8**
comp=Z,18nm,0.8s,mb5.1,baz=338,slow=6.6,SNR=8.4
GNI Garni 72.64 311⇑ *i*P P **15 08 19.6 -0.5**
GNI pmax pmax
comp=Z,84nm,1.7s
GNI MLR MLR
comp=Z,6µm,18.0s
GNI Garni 72.64 311 *e*P P **15 08 20.9 +0.8**
comp=Z,120nm,1.3s,mb5.7
ANN Anapa 72.69 318 *e*P P **15 08 19.4 -1.0**
ANN *e**PP pP 15 08 35.0 +8.1
ANN *e*S S 15 17 38.0 -6.6
ANN pmax pmax
comp=Z,171nm,1.3s,mb5.8
AS31 Alice Springs 72.88 199 *e*P P **15 08 22.1 +0.6**
ASAR Alice Springs 72.88 199 P P **15 08 20.4 -1.1**
comp=Z,8.8nm,0.8s,mb4.7,baz=14,slow=5.4,SNR=90
ASAR LR LR 15 40 39.9
comp=Z,799nm,18.6s,MS5.0,baz=19,slow=36
ASPA Alice Springs 72.89 199 *e*P P **15 08 22.1 +0.6**
RGN Rugen 73.25 337 *e*P P **15 08 23.9 +0.2**
comp=Z,174nm,1.0s,mb5.9
PALK Pallekele 73.34 263 *e*P P **15 08 24.4 +0.1**
comp=Z,30nm,1.4s,mb5.0
CLDR Caldiran 73.81 310 *e*P P **15 08 28.9 +1.9**
AMTX Amarillo 73.85 56 P P **15 08 26.6 -0.7**
comp=Z,16nm,0.9s,mb5.0
MNTX Cornudas Mount 74.00 61 *e*P P **15 08 26.8 -1.4**
comp=Z,21nm,1.4s,mb4.9
SIM Simferopol' 74.05 320 *e*P P **15 08 28.9 +0.5**
SIM *e* 15 08 44.0
SIM *e*S S 15 17 57.7 -2.3
SIM *e*PS 15 18 39.0
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.0
LVV L'vov 74.06 329 *e*P P **15 08 28.1 -0.4**
LVV *e* 15 08 41.1
LVV *e* 15 11 15.9
LVV *e*S S 15 18 03.5 +3.4
LVV *e*SS SS 15 22 50.5 +5.5
VANB Van 74.50 310 *e*P P **15 08 31.5 +0.5**
ERZM Erzurum 74.54 313 *i* P P **15 08 29.9 -1.4**
EZM Erzurum 74.55 313 *e*P P **15 08 32.8 +1.5**
BSEG Bad Segeberg 74.57 339 *e*P P **15 08 31.8 +0.4**
comp=Z,63nm,1.4s,mb5.3
KIS Kishinev 74.61 325 *e*P P **15 08 28.0 -3.7**
KIS Kishinev 74.61 325 *e*PcP PcP 15 08 42.0 -3.9
KIS Kishinev 74.61 325 *e*PP PP 15 11 22.0 +3.5
KIS *e*S S 15 18 08.0 +1.7
VANT Van 74.61 310 *e*P P **15 08 33.5 +1.9**
KWP Kalwaria 74.68 330 *e*P P **15 08 32.1 0.0**
KWP L 15 44 35.0
comp=Z,2.8nm,20.3s
RUE Ruedersdorf 74.97 336 *e*P P **15 08 33.9 +0.1**
TRD Trivandrum 74.99 266⇓ *ex* P **15 08 30.1 -3.7**
TRD *e*P pP 15 08 34.0 -6.3
TRD AMb AMB 15 08 36.6
comp=Z,30nm,1.7s,mb4.9
HAKT HAKKARI 75.11 310 *i* P P **15 08 31.8 -2.7**
OJC Ojcow 75.15 332 *e*P P **15 08 34.9 +0.1**
OJC *e*PcP PcP 15 08 48.6 +0.3
OJC *e*S S 15 18 10.9 -1.4
OJC L 15 46 14.8
comp=Z,18nm,18.1s
STHS Stebnicka Huta 75.36 330 *e*P P **15 08 36.5 +0.5**
STHS pmax pmax
comp=Z,27nm,0.9s,mb5.2
STHS Stebnicka Huta 75.36 330 *e*P P **15 08 36.5 +0.5**
comp=Z,27nm,0.9s,mb5.2
BNGL BINGOL 75.38 312 *i* P P **15 08 33.7 -2.3**
CUKT Cukurca 75.39 309 *e*P P **15 08 37.4 +1.2**
KELT Kelkit 75.41 314 *i* P P **15 08 34.7 -1.5**
KOLS Kolonicke sedl 75.42 329 *e*P P **15 08 35.8 -0.6**
KOLS Kolonicke sedl 75.42 329 *e*P P **15 08 35.9 -0.5**
BURAR Bucovina Array 75.48 327⇑ *i*P P **15 08 36.2 -0.5**
BURAR Bucovina Array 75.48 327⇑ P P **15 08 36.1 -0.5**
WMOK Wichita Mounta 75.58 54 P P **15 08 36.6 -0.7**
WMOK pmax pmax
comp=Z,14nm,1.1s,mb4.8
WMOK Wichita Mounta 75.58 54 *e*P P **15 08 35.4 -1.8**
comp=Z,14nm,1.1s,mb4.8
NIE Niedzica 75.67 331 *e*P P **15 08 38.0 +0.2**
UZH Uzhgorod 75.67 329 *e*P P **15 08 36.0 -1.8**
UZH *e* 15 08 51.0
UZH *e*S S 15 18 14.0 -4.1
UZH *e*PS 15 19 10.0
UZH MLR MLR
comp=Z,2µm,18.0s,MS5.4
KSP Ksiaz 75.70 334 *e*P P **15 08 38.3 +0.4**
KSP L 15 47 07.4
comp=Z,10nm,18.2s
KSP Ksiaz 75.70 334 *e*P P **15 08 38.2 +0.3**
KSP *e*PcP PcP 15 08 50.0 -0.6
KSP *e*S S 15 18 19.0 +0.6
KSP LR LR
comp=Z,12µm,18.2s,MS6.2
CRVS Cervenica-Dubn 75.73 330 *e*P P **15 08 37.9 -0.2**
OKC Ostrava-Krasne 76.01 332⇓ *e*P P **15 08 40.4 +0.7**
OKC AMS AMS 15 47 50.0
comp=Z,3µm,18.3s
UPC Upice 76.08 334⇓ *e*P P **15 08 40.8 +0.7**
DPC Dobruska-Polom 76.13 334 *e*P P **15 08 40.4 0.0**
DPC *e*S S 15 18 20.9 -2.2
DPC AMS AMS 15 46 50.0
comp=Z,6µm,17.8s
DIKM Dikmen 76.14 317 *e*P P **15 08 41.9 +1.5**
KVT Kavak 76.22 317 *e*P P **15 08 39.3 -1.6**
CLL Collm 76.24 336⇑ *i*P P **15 08 40.1 -0.9**
CLL *e*S S 15 18 29.0 +4.7
CLL pmax pmax
comp=Z,115nm,1.5s,mb5.6
CLL MLR MLR
comp=Z,2µm,20.7s,MS5.5
CLL Collm 76.24 336⇑ *i*P P **15 08 40.1 -0.9**
comp=Z,115nm,1.5s,mb5.6
CLL *e*Plp pP 15 08 46.0 -1.6
CLL *i* x x 15 08 53.8
CLL *e*PP PP 15 11 32.0 -0.2
CLL *e*S S 15 18 29.0 +4.7
CLL *e*SSS 15 26 48.0
CLL LmV 15 45 00.0
comp=Z,2µm,20.7s
MORC Moravsky Berou 76.25 333 *e*P P **15 08 41.2 +0.1**
MORC pmax pmax
comp=Z,54nm,1.1s,mb5.4
MORC Moravsky Berou 76.25 333 *e*P P **15 08 41.1 0.0**

comp=Z,54nm,1.1s,mb5.4
PTK Pertek 76.30 313 *e*P **P 15 08 42.4 +1.1**
BRG Berggiesshubel 76.36 335 *i* P **P 15 08 41.8 +0.1**
comp=Z,26nm,1.4s,mb5.0
BRG *i* 15 08 55.1
comp=Z,24nm,1.2s
BRG S S 15 18 26.0 +0.3
BRG SS SS 15 23 15.0 -5.0
BRG *e*PKPPKP 15 36 01.0
comp=Z,4.4nm,1.4s
BRG
comp=N,1µm,15.6s
BRG
comp=E,1µm,16.0s
BRG
comp=Z,2µm,14.9s
BRG Berggiesshubel 76.36 335 *i* P **P 15 08 41.8 +0.1**
BRG *i* 15 08 55.2
BRG S S 15 18 26.0 +0.3
BRG SS SS 15 23 15.0 -5.0
BRG pmax pmax
comp=Z,26nm,1.4s,mb5.0
BRG MLR MLR
comp=Z,2µm,14.9s,MS5.6
BRG Berggiesshubel 76.36 335 *i* P **P 15 08 41.8 +0.1**
comp=Z,26nm,1.4s,mb5.0
BRG *i* 15 08 55.1
BRG S S 15 18 26.0 +0.3
BRG SS SS 15 23 15.0 -5.0
BRG *e*P'P' 15 36 01.0
BRG LR LR
comp=Z,2µm,14.9s,MS5.6
MSL Mosul 76.39 309 *ex* x 15 08 44.0
MSL *ex* x 15 18 41.0
LIKS Likavka 76.39 331 *i* P **P 15 08 42.7 +0.8**
KECS Kecovo 76.42 330 *e*P **P 15 08 41.4 -0.6**
KECS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KECS Kecovo 76.42 330 *e*P **P 15 08 41.4 -0.6**
comp=Z,9.9nm,0.8s,mb4.8
CLZ Clausthal 76.46 338 *e*P **P 15 08 42.9 +0.6**
CLZ pmax pmax
comp=Z,100nm,1.4s,mb5.5
CLZ Clausthal 76.46 338 *e*P **P 15 08 42.9 +0.6**
comp=Z,100nm,1.4s,mb5.5
BOYT Boyabat 76.48 317 *i* P **P 15 08 38.5 -3.9**
PVCC Panska Ves 76.49 335⇓ *e*P **P 15 08 43.2 +0.8**
PVCC AMS AMS 15 46 10.0
comp=Z,3µm,16.7s
SVSK Karacayir 76.68 315 *e*P **P 15 08 43.2 -0.3**
TXAR Lajitas Array 76.73 61 P **P 15 08 43.0 -0.8**
comp=Z,14nm,0.7s,mb5.0,baz=300,slow=4.4,SNR=58
TXAR LR LR 15 42 36.5
comp=Z,896nm,19.1s,MS5.1,baz=5.0,slow=36
WSAR Wadi Sarin 76.76 290 P **P 15 08 45.3 +1.3**
comp=Z,7.4nm,0.9s,mb4.6,baz=84,slow=9.5,SNR=6.5
MARD Mardin 76.81 311 *i* P **P 15 08 42.4 -1.9**
TIRR Tirgusor 76.85 323⇓ *i* P **P 15 08 44.0 -0.5**
TIRR Tirgusor 76.85 323 *e*P **P 15 08 44.0 -0.5**
TIRR pmax pmax
comp=Z,54nm,1.3s,mb5.3
TIRR Tirgusor 76.85 323 *e*P **P 15 08 44.0 -0.5**
comp=Z,54nm,1.3s,mb5.3
VYHS Vyhne 76.96 331 *i* P **P 15 08 45.7 +0.6**
VYHS pmax pmax
comp=Z,20nm,1.2s,mb4.9
VYHS Vyhne 76.96 331 *i* P **P 15 08 45.7 +0.6**
comp=Z,20nm,1.2s,mb4.9
VRAC Vranov 76.96 333⇓ *i* P **P 15 08 45.5 +0.4**
VRAC Vranov 76.96 333⇓ P **P 15 08 45.5 +0.4**
MLR Muntele Rosu 76.98 325⇑ *i* P **P 15 08 46.1 +0.9**
MLR Muntele Rosu 76.98 325⇑ P **P 15 08 46.1 +0.9**
PRU Pruhonice 76.98 334⇓ *e*P **P 15 08 45.7 +0.5**
PRU *e*S S 15 18 35.1 +2.7
PRU AMS AMS 15 46 20.0
comp=Z,3µm,16.2s
BALT Daday 77.08 318 *i* P **P 15 08 44.3 -1.5**
DRGR 77.09 328⇓ *i* P **P 15 08 45.5 -0.3**
DRGR 77.09 328⇓ P **P 15 08 45.5 -0.3**
SLM Saint Louis 77.10 46 P **P 15 08 46.8 +0.9**
PSZ Piszkesteto 77.11 330 *e*P **P 15 08 46.1 +0.2**
PSZ pmax pmax
comp=Z,21nm,0.8s,mb5.1
PSZ Piszkesteto 77.11 330 *e*P **P 15 08 46.1 +0.2**
comp=Z,21nm,0.8s,mb5.1
PSZ Piszkesteto 77.11 330⇓ *e*P **P 15 08 46.9 +1.0**
CTKT Corum 77.17 317 *i* P **P 15 08 44.3 -2.0**
TOS Tosya 77.19 318 *e*P **P 15 08 47.7 +1.3**
HATD Hatta, Dubai 77.21 293⇑ P **P 15 08 48.2 +1.6**
SNR=12
MOX Moxa 77.22 336 *e*P **P 15 08 47.2 +0.7**
comp=Z,91nm,1.9s,mb5.4
MOX
comp=Z,2µm,22.0s
MOX Moxa 77.22 336 *e*P **P 15 08 47.2 +0.7**
MOX pmax pmax
comp=Z,91nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.3
WTSB Winterswijk 77.22 340⇑ *e*P **P 15 08 47.2 +0.7**
comp=Z,50nm,1.1s,mb5.4
SMDO Samad 77.27 290⇑ P **P 15 08 48.7 +1.9**
SNR=7.7
ARMA Armidale 77.35 182 *e*P **P 15 08 46.7 -0.6**
NKC Novy Kostel 77.36 336⇓ *e*P **P 15 08 48.2 +0.9**
NKC AMS AMS 15 47 30.0
comp=Z,2µm,15.9s
HOQ Hoqain 77.36 291 P **P 15 08 48.0 +0.6**
SNR=9.4
ASHO Ashiyiah 77.36 293⇑ P **P 15 08 49.1 +1.7**
SNR=13
VOIR 77.37 326⇑ *i* P **P 15 08 47.5 +0.1**
CORM Corum 77.59 317 *e*P **P 15 08 49.8 +1.1**
SAFT Safranbolu 77.64 319 *e*P **P 15 08 49.1 +0.2**
URFA Urfa 77.71 312 *e*P **P 15 08 49.8 +0.5**
JMDO Jabal Madar 77.72 290 P **P 15 08 50.4 +1.0**
SNR=13
BUD Budapest 77.78 331⇑ *e*P **P 15 08 51.1 +1.4**
ZST Bratislava 77.78 332 *i* P **P 15 08 50.3 +0.6**
ZST pmax pmax
comp=Z,29nm,1.1s,mb5.1
ZST MLR MLR
comp=Z,4µm,18.8s,MS5.7
ZST Bratislava 77.78 332 *i* P **P 15 08 50.3 +0.6**
comp=Z,28nm,1.1s,mb5.1
ZST LR LR
comp=Z,4µm,18.8s,MS5.7
ELDT Eldivan 77.90 318 *i* P **P 15 08 48.1 -2.2**
BHD Baghdad 77.97 306 *ex* x 15 18 48.0
KHC Kasperske Hory 78.03 335⇓ *i* P **P 15 08 51.4 +0.3**
KHC *e*S S 15 18 49.7 +5.9
KHC AMS AMS 15 49 20.0
comp=Z,3µm,15.5s
BSY Bisya 78.03 290 P **P 15 08 51.9 +0.9**
SNR=15
BNN Bunyan 78.07 315 *e*P **P 15 08 49.7 -1.5**
CDAG Cicekdag 78.15 317 *i* P **P 15 08 46.2 -5.6**
JCT Junction City 78.16 58 *e*P **P 15 08 53.7 +1.9**
JCT pmax pmax
comp=Z,35nm,1.1s,mb5.2
JCT Junction City 78.16 58 *e*P **P 15 08 53.7 +2.0**
comp=Z,35nm,1.1s,mb5.2
GRA1 Grafenberg Arr 78.19 336 *e*P **P 15 08 52.8 +0.9**
comp=Z,98nm,1.2s,mb5.6
GRA1 LR LR
comp=Z,2µm,20.5s,MS5.4
GRF Grafenberg Arr 78.19 336 *e*P **P 15 08 52.8 +0.9**
GRF pmax pmax
comp=Z,98nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2µm,20.5s,MS5.4
GRF Grafenberg Arr 78.19 336 *e*P **P 15 08 52.8 +0.9**
GRF pmax pmax
comp=Z,98nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2µm,20.5s,MS5.4
GRF Grafenberg Arr 78.19 336 *e*P **P 15 08 52.8 +0.9**
comp=Z,98nm,1.2s,mb5.6
GRF LR LR
comp=Z,2µm,20.5s,MS5.4
WET Wettzell 78.22 335 *e*P **P 15 08 52.9 +0.8**
WET pmax pmax
comp=Z,303nm,2.5s,mb5.8
WET Wettzell 78.22 335 *e*P **P 15 08 52.9 +0.8**
comp=Z,303nm,2.5s,mb5.8

GEC2 GERESS Array S 78.25 334 P **P 15 08 52.1 -0.2**
GEC2 GERESS Array S 78.25 334 *e*P **P 15 08 52.6 +0.3**
GERES GERESS Array B 78.25 334 P **P 15 08 51.4 -0.8**
comp=Z,4.8nm,0.8s,mb4.5,baz=32,slow=5.3,SNR=18
GERES LR LR 15 47 29.0
comp=Z,4µm,18.1s,MS5.7,baz=19,slow=39
GZR Gura Zlata 78.26 327⇑ *i* P **P 15 08 50.4 -1.9**
GZR Gura Zlata 78.26 327⇑ P **P 15 08 50.4 -2.0**
SOP Sopron 78.41 332⇓ *e*P **P 15 08 55.0 +1.8**
CONA Conrad Observa 78.41 333 *i* P **P 15 08 54.9 +1.7**
comp=Z,15nm,1.0s,mb4.9,SNR=5.3
BR131 Keskin Array S 78.41 317 *e*P **P 15 08 53.7 +0.5**
comp=Z,14nm,0.9s,mb4.9
BRTR Keskin Array B 78.41 317 P **P 15 08 53.1 -0.1**
comp=Z,8.5nm,0.9s,mb4.7,baz=60,slow=3.0,SNR=21
BRTR LR LR 15 49 14.8
comp=Z,877nm,19.5s,MS5.1,baz=238,slow=40
TNS Taunus Mts 78.43 338 *e*P **P 15 08 53.9 +0.6**
TNS pmax pmax
comp=Z,75nm,1.7s,mb5.3
TNS Taunus Mts 78.43 338 *e*P **P 15 08 53.9 +0.6**
comp=Z,75nm,1.7s,mb5.3
SGKT Sivrigoynuk 78.45 319 *i* P **P 15 08 52.0 -1.5**
BZS Buzias 78.49 328⇓ *i* P **P 15 08 50.8 -2.8**
BZS Buzias 78.49 328⇓ P **P 15 08 50.8 -2.8**
HGN Heimansgroeve 78.54 340⇑ *e*P **P 15 08 54.5 +0.6**
comp=Z,60nm,2.5s,mb5.1
HGN *ex* x 15 15 18.7
HGN *e*S S 15 18 57.1 +7.8
BEBN Eben Emael 78.57 340 P **P 15 08 55.0 +0.9**
AVNT Avonos 78.60 316 *i* P **P 15 08 53.9 -0.3**
KMRS Kahramanmaras 78.61 314 *e*P **P 15 08 54.9 +0.6**
KAMT Kaman 78.66 317 *e*P **P 15 08 51.7 -2.9**
MEM Membach 78.67 340 P **P 15 08 54.4 -0.2**
ANTO Ankara 78.69 318 *e*P **P 15 08 55.5 +0.8**
ANTO Ankara 78.69 318 P **P 15 08 56.8 +2.1**
SNR=9.3
ANTO Ankara 78.69 318 *e*P **P 15 08 54.8 +0.1**
ANTO pmax pmax
comp=Z,19nm,0.8s,mb5.1
ANTO Ankara 78.69 318 *e*P **P 15 08 54.8 +0.1**
comp=Z,19nm,0.8s,mb5.1
GAZ Gaziantep 78.72 313 *e*P **P 15 08 56.2 +1.3**
UMR Umm Al-Rimmam 78.86 302 *e*P **P 15 08 55.9 +0.2**
UMR AMb AMB 15 08 57.7
comp=Z,84nm,0.9s,mb5.7
MIB Mutribah 78.89 302 *e*P **P 15 08 56.0 +0.2**
MIB AMb AMB 15 08 57.9
comp=Z,118nm,1.0s,mb5.8
TOD Tromm 78.91 338 *e*P **P 15 08 55.7 -0.2**
MOA Molln 78.97 334 *i* P **P 15 08 57.6 +1.3**
comp=Z,14nm,0.9s,mb4.9,SNR=7.5
ABH Alteburg 78.97 339 *e*P **P 15 08 56.9 +0.6**
BCLA Clavier 79.01 340 P **P 15 08 58.7 +2.2**
BCLA E 15 09 08.2
ARSA Arzberg 79.12 333 *i* P **P 15 08 58.6 +1.6**
comp=Z,14nm,1.2s,mb4.8,SNR=6.2
KBD Kabd 79.15 301 *e*P **P 15 08 57.9 +0.6**
KBD AMb AMB 15 09 01.1
comp=Z,544nm,1.8s,mb6.2
SNF Seneffe 79.16 341 P **P 15 08 57.9 +0.6**
KOZT Kozan 79.16 314 *e*P **P 15 08 56.2 -1.1**
WCI Wyandotte Cave 79.33 44 *e*P **P 15 08 58.9 +0.7**
WCI pmax pmax
comp=Z,38nm,1.2s,mb5.2
WCI Wyandotte Cave 79.33 44 *e*P **P 15 08 58.9 +0.7**
comp=Z,38nm,1.2s,mb5.2
NAY Al-Naaiem 79.36 302 *e*P **P 15 08 58.4 0.0**
NAY AMb AMB 15 09 00.5
comp=Z,63nm,1.2s,mb5.4
GIVF Givet 79.42 340 *e*P **P 15 08 58.7 0.0**
RDF Al-Radifah 79.42 301 *e*P **P 15 09 59.0 +0.3**
RDF AMb AMB 15 09 01.1
comp=Z,159nm,1.2s,mb5.8
DOU Dourbes 79.47 341 P **P 15 08 59.4 +0.4**
DOU E 15 09 12.6
FUR Furstenfeldbru 79.56 336 *e*P **P 15 09 00.2 +0.7**
FUR pmax pmax
comp=Z,76nm,1.4s,mb5.4
FUR Furstenfeldbru 79.56 336 *e*P **P 15 09 00.2 +0.7**
comp=Z,76nm,1.4s,mb5.4
STKA Stephens Creek 79.56 191 *e*P **P 15 08 58.6 -0.9**
comp=Z,4.7nm,1.0s,mb4.4
STKA Stephens Creek 79.56 191 LR LR 15 44 26.1
comp=Z,1µm,20.0s,MS5.2,baz=21,slow=36
CEYT Ceyhan 79.57 314 *e*P **P 15 09 01.4 +1.8**
BEO Belgrade 79.59 328 *i* P **P 15 08 58.5 -1.1**
ADVT Abdulvahap 79.60 320 *e*P **P 15 08 57.5 -2.1**
BAIF Baives 79.60 341 *e*P **P 15 08 59.4 -0.3**
comp=Z,54nm,1.1s,mb5.1
BAIF Baives 79.60 341 *e*P **P 15 08 59.4 -0.3**
BAIF pmax pmax
comp=Z,27nm,1.1s,mb5.1
BAIF Baives 79.60 341 *e*P **P 15 08 59.4 -0.3**
comp=Z,27nm,1.1s,mb5.1
YLV Yalova 79.65 320 *e*P **P 15 08 58.8 -1.1**
EDRB Edirne 79.70 323 *e*P **P 15 08 58.8 -1.4**
KARA Karaisali 79.71 315 *e*P **P 15 09 01.3 +1.0**
BORA Eskisehir 79.73 319 *i* P **P 15 08 55.8 -4.6**
LANF Langenberg 79.74 338 *e*P **P 15 09 01.0 +0.5**
SVIS Svilajnac 79.77 328 *i* P **P 15 09 00.2 -0.4**
PERS Pernice 79.79 333 *i* P **P 15 09 01.5 +0.7**
GEMT Gemlik 79.83 320 *e*P **P 15 08 58.2 -2.8**
ESKT Eskisehir 79.85 319 *e*P **P 15 09 01.4 +0.4**
ESKT Eskisehir 79.85 319 *i* P **P 15 08 59.6 -1.4**
RAR Rarotonga 79.86 137 LR LR 15 37 28.5
comp=Z,1µm,20.3s,MS5.3,baz=275,slow=31
KBA Koelnbreinsper 79.94 334⇑ *i* P **P 15 09 01.9 +0.4**
comp=Z,59nm,1.4s,mb5.3,SNR=12
KBA Koelnbreinsper 79.94 334⇑ *i* P **P 15 09 01.9 +0.4**
KBA pmax pmax
comp=Z,59nm,1.4s,mb5.3
OBKA Obir 80.08 333⇑ *i* P **P 15 09 05.2 +2.9**
comp=Z,14nm,0.8s,mb4.9
KDHN Kadinhani 80.08 317 *i* P **P 15 08 58.7 -3.7**
NATX Nacogdoches 80.09 54 P **P 15 09 03.4 +1.1**
PGB Panagyurishte 80.14 325 *i* P **P 15 09 03.0 +0.3**
BFO Black Forest 80.20 338 P **P 15 09 02.5 -0.5**
BFO Black Forest 80.20 338 *e*P **P 15 09 03.5 +0.5**
comp=Z,43nm,1.5s,mb5.2
WATA Walderalm 80.23 335⇑ *e*P **P 15 09 04.2 +1.1**
comp=Z,25nm,0.9s,mb5.2
WATA Walderalm 80.23 335⇑ *e*P **P 15 09 04.2 +1.1**
WATA pmax pmax
comp=Z,25nm,0.9s,mb5.1
WTTA Wattenberg 80.27 335 *i* P **P 15 09 03.6 +0.3**
comp=Z,55nm,1.0s,mb5.4,SNR=13
WTTA Wattenberg 80.27 335 *i* P **P 15 09 03.7 +0.4**
WTTA pmax pmax
comp=Z,55nm,1.0s,mb5.4
MERS Mersin 80.28 315 *e*P **P 15 09 02.1 -1.3**
SPAK Spaichingen-Ko 80.30 337 *e*P **P 15 09 04.6 +1.1**
PLD Plovdiv 80.31 324 *i* P **P 15 09 05.0 +1.5**
MOTA Moosalm 80.35 335⇑ *i* P **P 15 09 03.0 -0.8**
comp=Z,33nm,1.0s,mb5.2
MOTA Moosalm 80.35 335⇑ *i* P **P 15 09 03.0 -0.8**
MOTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
MFT Murefte 80.36 322 *e*P **P 15 09 02.7 -1.1**
MRMT Marmara Adasi 80.38 322 *e*P **P 15 09 01.4 -2.5**
WLS Welschbruch 80.38 338 *e*P **P 15 09 04.1 +0.2**
DIVS Divcibare 80.39 328 *i* P **P 15 09 04.3 +0.4**
KDZ Kurdzhali 80.41 324 *i* P **P 15 09 05.0 +0.9**
SQTA Sankt Quirin 80.44 335⇑ *i* P **P 15 09 05.1 +0.9**
comp=Z,26nm,0.9s,mb5.1
SQTA Sankt Quirin 80.44 335⇑ *i* P **P 15 09 05.1 +0.9**
SQTA pmax pmax
comp=Z,26nm,0.9s,mb5.2
KONT Konya--Tatoy 80.44 317 *e*P **P 15 09 06.1 +1.9**
SART Tekirdag 80.48 322 *i* P **P 15 09 02.5 -2.0**
VTS Vitosha 80.48 325⇓ *i* P **P 15 09 04.4 -0.1**
VTS Vitosha 80.48 325 *i* P **P 15 09 05.5 +1.0**
RKY Sarkoy-Tekirda 80.48 322 *e*P **P 15 09 05.2 +0.8**
ECH Echery 80.61 338 *e*P **P 15 09 04.5 -0.7**
TAOE Nuku Hiva Isla 80.62 114 *e*S S 15 19 03.1 -8.2
comp=Z,4µm,33.5s
TAOE *e*LR LR 15 33 47.4
comp=Z,7µm,22.1s,baz=322
VISS Visnje 80.62 332 *i* P **P 15 09 05.5 +0.3**
RZN Rozhen 80.66 324 *i* P **P 15 09 07.0 +1.6**
FELD Feldberg im Sc 80.71 338 *e*P **P 15 09 05.2 -0.5**
DAVA Damuels 80.75 336⇑ *i* P **P 15 09 06.6 +0.7**
comp=Z,39nm,1.3s,mb5.2
BOJS Bojanci 80.76 332 *i* P **P 15 09 06.4 +0.5**

SHUT Suhut-Afyon 80.77 318 *e*P **P 15 09 07.2 +1.2**
RDO Rodhopi 80.78 323 *e*P **P 15 09 07.0 +0.9**
BARS Barje 80.81 326 *i* P **P 15 09 06.8 +0.5**
MEZF Maizieres J'vi 80.86 340 *e*P **P 15 09 06.3 -0.2**
THEF They Montfort 80.89 339 *e*P **P 15 09 06.7 0.0**
HAU Haudompre 81.01 339 *e*P **P 15 09 07.1 -0.2**
comp=Z,34nm,1.0s,mb4.9
HAU *e*R
comp=Z,3µm,22.0s
HAU Haudompre 81.01 339 *e*P **P 15 09 07.1 -0.2**
HAU pmax pmax
comp=Z,17nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,3µm,22.0s,MS5.6
HAU Haudompre 81.01 339 *e*P **P 15 09 07.1 -0.2**
comp=Z,17nm,1.0s,mb4.9
HAU LR LR
comp=Z,3µm,22.0s,MS5.6
HINF Hinteralfeld 81.06 338 *e*P **P 15 09 07.1 -0.4**
comp=Z,43nm,1.1s,mb5.0
HINF Hinteralfeld 81.06 338 *e*P **P 15 09 07.1 -0.4**
HINF pmax pmax
comp=Z,22nm,1.1s,mb5.0
HINF Hinteralfeld 81.06 338 *e*P **P 15 09 07.1 -0.4**
comp=Z,22nm,1.1s,mb5.0
CANB Canakkale 81.09 322 *e*P **P 15 09 08.6 +0.9**
CANB Canakkale 81.09 322 *i* P **P 15 09 04.4 -3.3**
KKB Krupnik 81.15 325 *i* P **P 15 09 09.0 +1.0**
IKL Isikli 81.18 315 *e*P **P 15 09 06.0 -2.2**
BBS Basel-Blauen 81.22 338 *e*P **P 15 09 08.3 -0.1**
NVR Nevrokopi 81.28 324 *e*P **P 15 09 10.3 +1.5**
TKTP Tekketepe 81.30 318 *i* P **P 15 09 00.6 -8.2**
ISP Isparta 81.37 318 *e*P **P 15 09 06.0 -3.2**
LDMF Lomont 81.50 338 *e*P **P 15 09 09.7 -0.2**
TUE Stuetta 81.64 336 P **P 15 09 13.8 +3.2**
STIP Stip 81.64 326 *e*P **P 15 09 07.8 -2.8**
SKO Skopje 81.69 326 *e*P **P 15 09 07.8 -3.1**
MABI Malga Bissina 81.70 335 P **P 15 09 13.4 +2.5**
FLN La Foliniere 81.81 343 *e*P **P 15 09 11.3 -0.2**
comp=Z,154nm,1.6s,mb5.4
FLN *e*R
comp=Z,3µm,18.2s
FLN La Foliniere 81.81 343 *e*P **P 15 09 11.3 -0.2**
FLN pmax pmax
comp=Z,77nm,1.5s,mb5.4
FLN MLR MLR
comp=Z,3µm,18.3s,MS5.7
FLN La Foliniere 81.81 343 *e*P **P 15 09 11.3 -0.2**
comp=Z,77nm,1.5s,mb5.4
FLN LR LR
comp=Z,3µm,18.3s,MS5.7
VAY Valandovo 81.81 325 *e*P **P 15 09 08.8 -2.8**
LDF La Druitiere 81.90 343 *e*P **P 15 09 11.7 -0.3**
SWET Sewanee 81.91 46 *e*P **P 15 09 11.8 -0.3**
LIA Limnos Island 81.98 323 *e*P **P 15 09 11.6 -0.8**
PPT Papeete 81.99 127 *e*S S 15 19 17.6 -7.9
comp=Z,2µm,34.8s
PPT *e*LR LR 15 34 10.6
comp=Z,3µm,22.2s
PPT Papeete 81.99 127 LR LR 15 39 23.3
comp=Z,2µm,18.9s,MS5.5,baz=268,slow=31
GRR Gorron 82.25 343 *e*P **P 15 09 13.5 -0.3**
STON Ston 82.27 329 *i* P **P 15 09 13.5 -0.4**
PLG Polygyros 82.28 324 *e*P **P 15 09 14.6 +0.6**
KRUS Krusevo 82.28 326 *e*P **P 15 09 12.4 -1.6**
LOR Lormes 82.30 340 *e*P **P 15 09 13.6 -0.5**
comp=Z,49nm,1.0s,mb5.1
LOR *e*R
comp=Z,3µm,21.2s
LOR Lormes 82.30 340 *e*P **P 15 09 13.6 -0.5**
LOR pmax pmax
comp=Z,24nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,3µm,21.3s,MS5.6
LOR Lormes 82.30 340 *e*P **P 15 09 13.6 -0.5**
comp=Z,24nm,1.0s,mb5.1
LOR LR LR
comp=Z,3µm,21.3s,MS5.6
GOLH Golhisar 82.30 318 *i* P **P 15 09 09.2 -4.9**
IZM Izmir 82.36 321 *e*P **P 15 09 13.0 -1.4**
CABF La Chapelle 82.37 338 *e*P **P 15 09 14.3 -0.2**
comp=Z,20nm,0.9s,mb4.8
CABF La Chapelle 82.37 338 *e*P **P 15 09 14.3 -0.2**
CABF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CABF La Chapelle 82.37 338 *e*P **P 15 09 14.3 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
CSS Prodhromos 82.38 315 P **P 15 09 13.0 -1.5**
comp=Z,110nm,1.5s,mb5.5
ELL Elmali 82.54 318 *e*P **P 15 09 13.8 -1.6**
BIA Bitola 82.56 326 *e*P **P 15 09 13.7 -1.7**
SSF Saint Saulge 82.57 340 *e*P **P 15 09 15.2 -0.3**
comp=Z,25nm,0.9s,mb5.0
SSF Saint Saulge 82.57 340 *e*P **P 15 09 15.2 -0.3**
SSF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SSF Saint Saulge 82.57 340 *e*P **P 15 09 15.2 -0.3**
comp=Z,12nm,0.9s,mb4.9
URLA Izmir 82.67 321 *i* P **P 15 09 11.1 -4.9**
OHR Ohrid 82.67 326 *e*P **P 15 09 13.7 -2.4**
SGMF Saint Gilles 82.69 344 *e*P **P 15 09 15.7 -0.5**
comp=Z,64nm,1.1s,mb5.2
SGMF Saint Gilles 82.69 344 *e*P **P 15 09 15.7 -0.5**
SGMF pmax pmax
comp=Z,32nm,1.1s,mb5.3
SGMF Saint Gilles 82.69 344 *e*P **P 15 09 15.7 -0.5**
comp=Z,32nm,1.1s,mb5.3
ROSF Rostrenen 82.74 345 *e*P **P 15 09 15.8 -0.6**
comp=Z,66nm,1.1s,mb5.3
ROSF Rostrenen 82.74 345 *e*P **P 15 09 15.8 -0.6**
ROSF pmax pmax
comp=Z,33nm,1.1s,mb5.3
ROSF Rostrenen 82.74 345 *e*P **P 15 09 15.8 -0.6**
comp=Z,33nm,1.1s,mb5.3
ASF Jabal al Asfar 82.81 310 P **P 15 09 17.3 +0.5**
comp=Z,10nm,0.9s,mb4.9,baz=279,slow=2.7,SNR=10
AVF Avril sur Loir 82.86 340 *e*P **P 15 09 16.6 -0.4**
comp=Z,52nm,1.0s,mb5.2
AVF Avril sur Loir 82.86 340 *e*P **P 15 09 16.6 -0.4**
AVF pmax pmax
comp=Z,26nm,1.0s,mb5.2
AVF Avril sur Loir 82.86 340 *e*P **P 15 09 16.6 -0.4**
comp=Z,26nm,1.0s,mb5.2
SMF Signal de Mont 82.89 340 *e*P **P 15 09 16.9 -0.3**
comp=Z,75nm,1.0s,mb5.4
SMF Signal de Mont 82.89 340 *e*P **P 15 09 16.9 -0.3**
SMF pmax pmax
comp=Z,37nm,1.0s,mb5.4
SMF Signal de Mont 82.89 340 *e*P **P 15 09 16.9 -0.3**
comp=Z,37nm,1.0s,mb5.4
MMAI Mount Meron Ar 82.91 312 P **P 15 09 18.2 +0.9**
comp=Z,9.9nm,0.6s,mb5.0,baz=41,slow=6.9,SNR=12
YER Yerkesik 82.96 319 *e*P **P 15 09 16.9 -0.6**
KZN Kozani 83.00 325 *e*P **P 15 09 18.7 +0.9**
FETY Fethiye 83.01 318 *e*P **P 15 09 18.5 +0.7**
AOI Ancona 83.03 332 P **P 15 09 18.7 +0.8**
MLSB Milas 83.05 320 *e*P **P 15 09 18.3 +0.3**
RSL Roselend 83.09 338 *e*P **P 15 09 18.2 0.0**
DALT Dalyan (Mudla) 83.10 319 *e*P **P 15 09 17.7 -0.6**
SMG Samos 83.11 320 *e*P **P 15 09 19.7 +1.4**
QUIF Quistinic 83.13 345 *e*P **P 15 09 18.1 -0.3**
BOB Bobbio (Coli) 83.18 335 P **P 15 09 21.4 +2.7**
BGF Bois d'Agland 83.20 340 *e*P **P 15 09 18.2 -0.6**
LPL La Plagne 83.22 337 *e*P **P 15 09 18.8 -0.1**
comp=Z,81nm,1.2s,mb5.3
LPL La Plagne 83.22 337 *e*P **P 15 09 18.8 -0.1**
LPL pmax pmax
comp=Z,41nm,1.2s,mb5.3
LPL La Plagne 83.22 337 *e*P **P 15 09 18.8 -0.1**
comp=Z,41nm,1.2s,mb5.3
GSCL Gusciola 83.23 334 P **P 15 09 21.5 +2.6**
comp=Z,29nm,0.8s,mb5.3
FNVD Fontana Vidola 83.24 334 P **P 15 09 21.0 +2.0**
LPG La Plagne 83.24 337 *e*P **P 15 09 19.0 0.0**
comp=Z,119nm,1.3s,mb5.5
LPG La Plagne 83.24 337 *e*P **P 15 09 19.0 0.0**
LPG pmax pmax
comp=Z,59nm,1.3s,mb5.5
LPG La Plagne 83.24 337 *e*P **P 15 09 19.0 0.0**
comp=Z,59nm,1.3s,mb5.5
NEO Neokhori 83.28 324 *e*P **P 15 09 17.6 -1.6**
BDRM Kayabasi 83.39 320 *i* P **P 15 09 14.0 -5.7**
PLDF La Plantade 83.58 340 *e*P **P 15 09 20.8 +0.1**
TCF Toulx Ste Croi 83.60 341 *e*P **P 15 09 20.5 -0.3**
comp=Z,43nm,1.2s,mb5.2

TCF	**Toulx Ste Croi**	**83.60**	**341**	*e*P	**P**	**15 09 20.5**	**-0.3**
TCF				pmax	pmax			
	comp=Z,22nm,1.2s,mb5.2							
TCF	**Toulx Ste Croi**	**83.60**	**341**	*e*P	**P**	**15 09 20.5**	**-0.3**
	comp=Z,22nm,1.2s,mb5.2							
DAT	**Datca**	**83.61**	**319**	*e*P	**P**	**15 09 17.0**	**-3.8**
AGO	**Saint Agoulin**	**83.61**	**340**	*e*P	**P**	**15 09 21.0**	**+0.1**
MURB	**Monte Urbino**	**83.63**	**333**	P	**P**	**15 09 24.3**	**+3.3**
BNI	**Bardonecchia**	**83.67**	**337**	*e*P	**P**	**15 09 21.1**	**-0.1**
BNI				pmax	pmax			
	comp=Z,51nm,1.4s,mb5.5							
BNI	**Bardonecchia**	**83.67**	**337**	*e*P	**P**	**15 09 21.1**	**-0.1**
	comp=Z,51nm,1.4s,mb5.5							
GRN	**Grenoble**	**83.73**	**338**	*e*P	**P**	**15 09 22.2**	**+0.7**
GRN	**Grenoble**	**83.73**	**338**	*e*P	**P**	**15 09 22.2**	**+0.7**
ARG	**Arkhangelos**	**83.79**	**319**	*e*P	**P**	**15 09 23.4**	**+1.6**
MFF	**Saint Martin d**	**83.81**	**342**	*e*P	**P**	**15 09 21.5**	**-0.4**
CSNT	**Castellina Chi**	**83.82**	**334**	P	**P**	**15 09 22.9**	**+0.9**
MBDF	**Montbardon**	**83.95**	**337**	*e*P	**P**	**15 09 22.4**	**-0.2**
	comp=Z,44nm,1.0s,mb5.2							
MBDF	**Montbardon**	**83.95**	**337**	*e*P	**P**	**15 09 22.4**	**-0.2**
MBDF				pmax	pmax			
	comp=Z,22nm,1.0s,mb5.2							
MBDF	**Montbardon**	**83.95**	**337**	*e*P	**P**	**15 09 22.4**	**-0.2**
	comp=Z,22nm,1.0s,mb5.2							
ORIF	**Oris-en-Rattie**	**84.00**	**338**	*e*P	**P**	**15 09 22.6**	**-0.3**
	comp=Z,34nm,0.7s,mb5.3							
ORIF				*e*R				
	comp=Z,2µm,20.5s							
ORIF	**Oris-en-Rattie**	**84.00**	**338**	*e*P	**P**	**15 09 22.6**	**-0.3**
ORIF				pmax	pmax			
	comp=Z,17nm,0.7s,mb5.3							
ORIF	**Oris-en-Rattie**	**84.00**	**338**	*e*P	**P**	**15 09 22.6**	**-0.3**
	comp=Z,17nm,0.7s,mb5.3							
SURF	**Saint Ours**	**84.17**	**337**	*e*P	**P**	**15 09 24.4**	**+0.7**
AQU	**L'Aquila**	**84.17**	**332**	P	**P**	**15 09 25.8**	**+2.0**
GRFL	**Gerfalco**	**84.21**	**334**	P	**P**	**15 09 25.0**	**+1.0**
	comp=Z,13nm,0.9s,mb5.0							
APE	**Apeiranthos**	**84.22**	**321**	⇓*i*P	**P**	**15 09 19.0**	**-5.0**
APE	**Apeiranthos**	**84.22**	**321**	⇓P	**P**	**15 09 19.0**	**-5.0**
KEK	**Kerkira**	**84.27**	**326**	*e*P	**P**	**15 09 23.1**	**-1.2**
VIVF	**Saint-Julien-l**	**84.37**	**339**	*e*P	**P**	**15 09 24.4**	**-0.3**
	comp=Z,17nm,0.8s,mb4.9							
VIVF	**Saint-Julien-l**	**84.37**	**339**	*e*P	**P**	**15 09 24.4**	**-0.3**
VIVF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
VIVF	**Saint-Julien-l**	**84.37**	**339**	*e*P	**P**	**15 09 24.4**	**-0.3**
	comp=Z,8.4nm,0.8s,mb4.9							
SAOF	**Saorge**	**84.42**	**336**	*e*P	**P**	**15 09 25.6**	**+0.6**
AUTN	**L'Aution**	**84.45**	**336**	*e*P	**P**	**15 09 25.4**	**+0.2**
OG25	**Le Caire**	**84.46**	**337**	*e*P	**P**	**15 09 25.4**	**+0.2**
TOUF	**Mont Tournerai**	**84.48**	**337**	*e*P	**P**	**15 09 25.1**	**-0.2**
FG5	**Orsara di Pugl**	**84.51**	**330**	P	**P**	**15 09 25.9**	**+0.4**
FG5				pmax	pmax			
	comp=Z,36nm,0.1s							
FG5	**Orsara di Pugl**	**84.51**	**330**	P	**P**	**15 09 25.9**	**+0.4**
	comp=Z,36nm,0.1s							
MIDA	**Miranda**	**84.53**	**331**	P	**P**	**15 09 27.9**	**+2.3**
SBF	**Sospel**	**84.57**	**336**	*e*P	**P**	**15 09 25.2**	**-0.6**
MVIF	**Mont Vial**	**84.62**	**337**	*e*P	**P**	**15 09 25.8**	**-0.2**
RJF	**Les Rejaudoux**	**84.69**	**341**	*e*P	**P**	**15 09 26.0**	**-0.4**
	comp=Z,61nm,1.3s,mb5.3							
RJF				*e*R				
	comp=Z,3µm,21.8s							
RJF	**Les Rejaudoux**	**84.69**	**341**	*e*P	**P**	**15 09 26.0**	**-0.4**
RJF				pmax	pmax			
	comp=Z,31nm,1.3s,mb5.3							
RJF				MLR	MLR			
	comp=Z,2µm,21.8s,MS5.6							
RJF	**Les Rejaudoux**	**84.69**	**341**	*e*P	**P**	**15 09 26.0**	**-0.4**
	comp=Z,30nm,1.3s,mb5.3							
RJF				LR	LR			
	comp=Z,2µm,21.8s,MS5.6							
REVF	**Revere**	**84.70**	**336**	*e*P	**P**	**15 09 24.9**	**-1.5**
TOLF	**Tolfa**	**84.88**	**333**	P	**P**	**15 09 28.4**	**+1.1**
RFI	**Roccamonfina**	**84.93**	**331**	P	**P**	**15 09 27.9**	**+0.3**
	comp=Z,21nm,1.5s,mb5.0							
RDP	**Rocca di Papa**	**84.93**	**332**	P	**P**	**15 09 29.1**	**+1.5**
SMRF	**Simiane la Rot**	**84.96**	**338**	*e*P	**P**	**15 09 27.4**	**-0.3**
	comp=Z,36nm,1.1s,mb5.1							
SMRF	**Simiane la Rot**	**84.96**	**338**	*e*P	**P**	**15 09 27.4**	**-0.3**
	comp=Z,36nm,1.1s,mb5.4							
RLS	**Riolos of Patr**	**85.05**	**324**	*e*P	**P**	**15 09 27.4**	**-0.8**
FRF	**La Foret Royal**	**85.06**	**337**	*e*P	**P**	**15 09 27.7**	**-0.6**
VLS	**Valsamata**	**85.30**	**325**	*e*P	**P**	**15 09 28.4**	**-1.0**
LASF	**Ste Croix**	**85.30**	**339**	*e*P	**P**	**15 09 28.9**	**-0.5**
	comp=Z,22nm,1.0s,mb4.9							
LMR	**La Mourre**	**85.31**	**337**	*e*P	**P**	**15 09 28.8**	**-0.7**
	comp=Z,106nm,1.3s,mb5.5							
LMR	**La Mourre**	**85.31**	**337**	*e*P	**P**	**15 09 28.8**	**-0.7**
LMR				pmax	pmax			
	comp=Z,54nm,1.3s,mb5.5							
LMR	**La Mourre**	**85.31**	**337**	*e*P	**P**	**15 09 28.8**	**-0.7**
	comp=Z,54nm,1.3s,mb5.5							
PGF	**Pioggiola**	**85.34**	**335**	*e*P	**P**	**15 09 29.3**	**-0.4**
	comp=Z,22nm,1.0s,mb4.9							
PGF	**Pioggiola**	**85.34**	**335**	*e*P	**P**	**15 09 29.3**	**-0.4**
PGF				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.9							
PGF	**Pioggiola**	**85.34**	**335**	*e*P	**P**	**15 09 29.3**	**-0.4**
	comp=Z,11nm,1.0s,mb4.9							
VLI	**Velìai**	**85.61**	**323**	*e*P	**P**	**15 09 28.4**	**-2.6**
ITM	**Ithomi**	**85.62**	**323**	*e*P	**P**	**15 09 29.2**	**-1.9**
NPS	**Neapolis**	**85.70**	**320**	*e*P	**P**	**15 09 30.4**	**-1.0**
EIL	**Elat**	**85.81**	**310**	*e*P	**P**	**15 09 32.5**	**+0.5**
	comp=Z,395nm,0.8s							
TIP	**Timpagrande**	**85.86**	**328**	*e*P	**P**	**15 09 31.4**	**-0.8**
GRI	**Girifalco**	**86.30**	**328**	P	**P**	**15 09 33.8**	**-0.6**
MTLF	**Montolieu**	**86.39**	**340**	*e*P	**P**	**15 09 34.6**	**-0.2**
TBI	**Tubuai**	**86.77**	**130**	*e*S	S	**15 20 06.3**	**-7.0**
	comp=Z,697nm,27.5s							
TBI				*e*SS	SS	15 25 47.9	-7.1	
	comp=Z,256nm,27.2s							
TBI				*e*LR	LR	15 35 51.0		
	comp=Z,3µm,34.0s,baz=323							
SOI	**Samo**	**87.09**	**328**	P	**P**	**15 09 37.5**	**-0.8**
SOI				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.3							
SOI	**Samo**	**87.09**	**328**	P	**P**	**15 09 37.5**	**-0.8**
	comp=Z,21nm,1.0s,mb5.3							
EPF	**Esparros**	**87.11**	**341**	*e*P	**P**	**15 09 38.0**	**-0.4**
DGI	**Dorgali Grotta**	**87.21**	**334**	P	**P**	**15 09 39.6**	**+0.7**
ETSF	**Etsaut**	**87.43**	**342**	*e*P	**P**	**15 09 40.8**	**+0.9**
	comp=Z,14nm,0.9s,mb4.9							
ETSF	**Etsaut**	**87.43**	**342**	*e*P	**P**	**15 09 40.8**	**+0.9**
ETSF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.9							
ETSF	**Etsaut**	**87.43**	**342**	*e*P	**P**	**15 09 40.8**	**+0.9**
	comp=Z,6.8nm,0.9s,mb4.9							
USI	**Ustica**	**87.53**	**330**	P	**P**	**15 09 41.1**	**+0.7**
URZ	**Urewera**	**87.62**	**162**	LR	LR	15 46 55.2		
	comp=Z,1µm,18.7s,MS5.4,baz=1.1,slow=34							
VSL	**Villasalto**	**88.03**	**333**	P	**P**	**15 09 45.8**	**+3.0**
HMDC	**Modica**	**88.54**	**328**	P	**P**	**15 09 45.2**	**0.0**
ESDC	**Sonseca Array**	**91.23**	**343**	P	**P**	**15 09 56.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=2.4,slow=5.4,SNR=6.8							
ESDC				LR	LR	15 57 34.7		
	comp=Z,2µm,19.1s,MS5.5,baz=15,slow=40							
KEST	**Kesra**	**91.50**	**332**	P	**P**	**15 09 57.8**	**-1.2**
	comp=Z,4.7nm,1.1s,mb4.7,baz=332,slow=4.2,SNR=5.7							
KEST				LR	LR	15 55 16.3		
	comp=Z,781nm,19.3s,MS5.2,baz=187,slow=38							
RKT	**Rikitea**	**94.72**	**119**	*e*SKSac	SKSac	15 20 41.8	-6.4	
	comp=Z,205nm,28.5s							
RKT				*e*SS	SS	15 27 45.0	-4.9	
	comp=Z,463nm,25.0s							
RKT				*e*LR	LR	15 39 44.2		
	comp=Z,2µm,33.0s,baz=317							
TORD	**Torodi Ar. Bea**	**114.95**	**330**	PKP	PKiKP	15 15 33.9	+0.5	
	comp=Z,0.2nm,0.4s,baz=19,slow=2.4,SNR=4.6							
VNDA	**Vanda**	**124.61**	**178**	PKP	PKPdf	15 15 50.0	-2.0	
	comp=Z,1.8nm,0.9s,baz=322,slow=7.3,SNR=5.8							
LPAZ	**La Paz**	**133.58**	**63**	PKP	PKPdf	15 16 10.3	+1.3	
	comp=Z,2.2nm,0.9s,baz=343,slow=3.0,SNR=6.9							
LPAZ	**La Paz**	**133.58**	**63**	*e*PKPdf	PKPdf	15 16 09.3	+0.3	
QSPA	**South Pole Qui**	**137.00**	**180**	*e*P	PKPdf	15 16 12.9	-2.5	
SYO	**Syowa Base**	**141.66**	**212**	⇑*e*PKPdf	PKPdf	15 16 22.6	-1.3	
SYO	**Syowa Base**	**141.66**	**212**	⇑*e*PKiKP	PKiKP	15 16 26.0	-0.7	
CFAA	**Coronel Fontan**	**144.32**	**79**	PKP	PKPdf	15 16 25.0	-3.6	
	comp=Z,1.2nm,0.7s,baz=278,slow=1.6,SNR=12							
NVL	**N'lazarevskaya**	**150.35**	**204**	*d*iPKiKP	PKPdf	15 16 40.0	+1.4	
NVL				pmax	pmax			
	comp=E,21nm,1.8s							
NVL				pmax	pmax			
	comp=Z,60nm,1.8s							
NVL				pmax	pmax			
	comp=N,42nm,1.7s							
MAIT	**Maitri**	**150.37**	**204**	*e*PKPdf	PKPdf	15 16 41.4	+2.8	
SNAA	**Sanae**	**153.21**	**196**	PKPbc	PKPbc	15 16 46.0	-4.3	
	comp=N,1.7nm,1.0s,baz=124,slow=4.5,SNR=11							
SNAA	**Sanae**	**153.21**	**196**	*e*PKPbc	PKPbc	15 16 46.4	-4.0	

*ISCJB **08** 15:00:17.6±0.9, 146N±0.1×548E±0.1, h10km, mb4.0/10, Error ellipse: s-maj=20.4km s-min=18.8km az=35.3*
*IDC **08** 15:00:17.8±1.0, 1455N×5478E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp4.0/11, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/29, Error ellipse: s-maj=29.3km s-min=21.2km az=34.0*
*NEIC **08** 15:00:19.2±0.7, 1455N×5465E, h10km, Error ellipse: s-maj=16.6km s-min=15.2km az=112.0*

ISC 08 15:00:19.7±0.9, 146N±01×547E±01, h10km, n13, σ1§02/12, mb4.0/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.37**	**23**	Pn		**Pn**	**15 02 35.9**	**+1.1**
	0.2nm,0.3s,baz=262,slow=7.1,SNR=2.4							
WSAR				LR		LR	15 05 52.4	
	comp=Z,179nm,19.9s,baz=189,slow=36							
MMAI	**Mount Meron Ar**	**25.42**	**320**	P		**P**	**15 05 49.3**	**+1.9**
	2.6nm,0.6s,mb3.9,baz=96,slow=12,SNR=4.3							
MKAR	**Makanchi Array**	**39.51**	**30**	P		**P**	**15 07 50.4**	**-0.1**
	1.1nm,0.6s,mb3.8,baz=219,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**41.53**	**336**	P		**P**	**15 08 06.2**	**-1.0**
	0.2nm,0.3s,mb3.2,baz=143,slow=8.1,SNR=6.9							
AKASG	**Malin Array Be**	**41.53**	**336**	P		**P**	**15 08 06.2**	**-1.0**
FINES	**FINESS Array B**	**51.13**	**343**	P		**P**	**15 09 21.4**	**-1.3**
	2.9nm,0.7s,mb4.3,baz=137,slow=14,SNR=2.1							
TORD	**Torodi Ar. Bea**	**51.42**	**275**	P		**P**	**15 09 25.3**	**+0.5**
	0.8nm,0.8s,mb3.7,baz=93,slow=7.5,SNR=5.0							
SONM	**Songino Array**	**53.88**	**41**	P		**P**	**15 09 43.9**	**+0.9**
	1.1nm,0.9s,mb3.8,baz=252,slow=7.4,SNR=4.1							
ARCES	**ARCESS Array B**	**57.91**	**348**	P		**P**	**15 10 10.7**	**-1.2**
	2.2nm,0.7s,mb4.3,baz=134,slow=6.9,SNR=5.0							
KSRS	**Korea Array**	**68.02**	**55**	P		**P**	**15 11 17.8**	**-1.3**
	1.9nm,0.7s,mb4.2,baz=273,slow=8.5,SNR=4.7							
WRA	**Warramunga Arr**	**85.43**	**112**	P		**P**	**15 12 57.8**	**+0.4**
	1.2nm,0.7s,mb4.1,baz=297,slow=4.1,SNR=11							
ASAR	**Alice Springs**	**86.15**	**116**	P		**P**	**15 13 01.2**	**+0.2**
	1.5nm,0.6s,mb4.4,baz=290,slow=4.6,SNR=23							
TXAR	**Lajitas Array**	**131.63**	**335**	PKP		PKPdf	15 19 33.9	+1.2
	0.3nm,0.7s,baz=5.6,slow=3.7,SNR=3.4							

*ISCJB **08** 15:18:58.3±1.6, 473N±0.1×1540E±0.2, h44km±12km, mb4.3/17, Error ellipse: s-maj=26.2km s-min=11.6km az=91.3*
*MOS **08** 15:18:59.2±0.7, 4727N×15389E, h61km, mb4.4/1, Error ellipse: s-maj=17.4km s-min=14.6km az=56.7*
*NEIC **08** 15:19:00.5±3.0, 47.16N×15391E, h54km±25km, mb4.3/1, Error ellipse: s-maj=24.7km s-min=17.6km az=74.0*
*BJI **08** 15:19:00.0, 4708N×15329E, h21km, mb4.7*
*IDC **08** 15:19:02.6±5.4, 4709N×15389E, h75km±48km, mb3.7/11, mb1 3.8/13, mb1mx3.6/25, mbtmp3.7/13, ML3.3/2, Error ellipse: s-maj=30.3km s-min=23.6km az=67.0*

ISC 08 15:18:60.0±1.5, 473N±01×1541E±02, h45km±11km, n27, σ1§14/28, mb4.3/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.69**	**21**	*e*PN		**Pn**	**15 19 55.1**	**+0.6**
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
KUR	**Kuril'sk**	**4.74**	**247**	PN		**Pn**	**15 20 09.0**	**+0.1**
KUR				*i* S		**Sn**	**15 21 06.5**	**+4.0**
KUR				smax				
	comp=E,320nm,0.8s							
KUR				smax				
	comp=Z,240nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.71**	**272**	PN		**Pn**	**15 20 48.6**	**-1.1**
ASAJ	**Asahikawa**	**8.61**	**253**	P		**Pn**	**15 21 03.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=88,slow=14,SNR=2.7							
MJAR	**Matsushiro Arr**	**15.89**	**233**	P		**Pn**	**15 22 39.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=4.1							
KSRS	**Korea Array**	**21.56**	**252**	P		**P**	**15 23 44.0**	**-1.5**
	comp=Z,1.3nm,0.7s,mb3.5,baz=58,slow=11,SNR=4.2							
SONM	**Songino Array**	**31.77**	**289**	P		**P**	**15 25 19.1**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=62,slow=8.3,SNR=8.4							
CD2	**Chengdu**	**41.56**	**265**	P		**P**	**15 26 43.6**	**+0.5**
CD2				AMB		AMB		
	comp=Z,30nm,0.9s,mb4.9							
ZAL	**Zalesovo**	**42.85**	**306**	P		**P**	**15 26 52.1**	**-1.6**
	comp=Z,1.5nm,0.6s,mb3.9,baz=50,slow=8.3,SNR=8.7							
MKAR	**Makanchi Array**	**47.28**	**297**	P		**P**	**15 27 27.6**	**-1.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=67,slow=7.7,SNR=16							
BVAR	**Borovoye Array**	**51.03**	**309**	P		**P**	**15 27 56.6**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=53,slow=8.0,SNR=10							
BRVK	**Borovoye**	**51.07**	**310**	*e*P		**P**	**15 27 56.3**	**-1.5**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
BRVK	**Borovoye**	**51.07**	**310**	*e*P		**P**	**15 27 56.3**	**-1.5**
	comp=Z,2.4nm,0.8s,mb4.2							
JIRN	**Jiri**	**55.54**	**275**	*e*P		**P**	**15 28 32.1**	**+1.5**
	comp=Z,5.6nm,0.2s,mb5.2							
KKN	**Kakani**	**56.08**	**276**	*e*P		**P**	**15 28 35.6**	**+1.2**
	comp=Z,18nm,0.7s,mb5.2							
PKI	**Pulchoki**	**56.13**	**275**	*e*P		**P**	**15 28 36.0**	**+1.2**
DMN	**Daman**	**56.31**	**276**	*e*P		**P**	**15 28 37.5**	**+1.4**
	comp=Z,40nm,0.8s							
GKN	**Gorkha**	**56.38**	**276**	*e*P		**P**	**15 28 37.7**	**+1.1**
	comp=Z,38nm,0.7s							
KOLN	**Koldanda**	**57.23**	**277**	*e*P		**P**	**15 28 43.9**	**+1.3**
	comp=Z,31nm,0.8s,mb5.4							
FINES	**FINESS Array B**	**63.86**	**335**	P		**P**	**15 29 26.9**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=35,slow=10,SNR=11							
NB2	**NORSAR Subarra**	**67.96**	**342**	P		**P**	**15 29 53.8**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.96**	**342**	P		**P**	**15 29 54.1**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=9.3							
AKASG	**Malin Array Be**	**71.48**	**327**	P		**P**	**15 30 14.9**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.5,baz=34,slow=6.1,SNR=10							
ASAR	**Alice Springs**	**72.89**	**199**	P		**P**	**15 30 22.2**	**-2.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=6.8,slow=4.2,SNR=4.3							
CLL	**Collm**	**76.27**	**336**	*i* P		**P**	**15 30 44.7**	**+0.9**
	comp=Z,10.0nm,1.1s,mb4.7							
TXAR	**Lajitas Array**	**76.69**	**61**	P		**P**	**15 30 46.5**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=301,slow=3.5,SNR=6.9							
BRTR	**Keskin Array B**	**78.46**	**317**	P		**P**	**15 30 57.6**	**+1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=106,slow=2.7,SNR=5.4							

IDC 08 15:29:55.4±9.7, 1478S×17536W, h192km±193km, mb3.8/3, mb1 4.0/4, mb1mx3.4/15, mbtmp3.9/4, ML2.4/1, Error ellipse: s-maj=176.0km s-min=127.9km az=95.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.58**	**76**	P		Pn	15 30 51.7	+0.1
	19nm,0.3s,baz=246,slow=22,SNR=38							
AFI				S		Sn	15 31 36.2	+0.6
	3.3nm,0.3s,baz=172,slow=19,SNR=2.9							
STKA	**Stephens Creek**	**42.72**	**239**	P		P	15 37 33.6	+0.2
	2.2nm,0.8s,baz=72,slow=3.2,SNR=2.6							
WB2	**Warramunga Arr**	**48.13**	**256**	*e*P		P	15 38 16.1	+0.2
WRA	**Warramunga Arr**	**48.15**	**256**	P		P	15 38 16.4	+0.4
	0.7nm,0.3s,baz=90,slow=7.7,SNR=39							
ASAR	**Alice Springs**	**48.51**	**251**	P		P	15 38 19.1	+0.4
	12nm,0.5s,baz=87,slow=7.9,SNR=298							
ASPA	**Alice Springs**	**48.51**	**251**	*e*P		P	15 38 19.0	+0.2

*NEIC **08** 15:36:12.6, 3144S×7172W, h15km±4km, MD4.1, ML3.5, 3C-6D, Near coast of central Chile*

GUC 08 15:36:12.6±0.8, 3144S×7172W, h15km±4km, MD4.1, ML3.5, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**157**	⇓*i* P		Pg	15 36 22.1	0.0
CHNG				*i* S		Sg	15 36 29.0	+0.6
CHNG				AML		AML	15 36 30.1	
	comp=E,2µm,0.7s							
CMCH	**Combarbala**	**0.67**	**66**	⇑*i* P		Pg	15 36 25.2	-0.5
CMCH				*i* S		Sg	15 36 34.8	+0.2
CMCH				AML		AML	15 36 36.5	
	comp=E,8µm,0.4s							
CMCH	**Combarbala**	**0.67**	**66**	⇑*i* P		Pg	15 36 25.2	-0.5
CMCH				*i* S		Sg	15 36 34.8	+0.2
OVCH	**Ovalle**	**0.94**	**28**	⇓*e*P		Pb	15 36 29.4	-1.2
OVCH				*i* S		Sb	15 36 42.0	-1.0
OVCH				AML		AML	15 36 45.4	
	comp=E,2µm,0.5s							
OVCH	**Ovalle**	**0.94**	**28**	⇓*e*P		Pb	15 36 29.4	-1.2
OVCH				*i* S		Sb	15 36 42.0	-1.0
PTCH	**Petorca**	**1.06**	**141**	*e*P		Pb	15 36 31.1	-1.5
PTCH				*i* S		Sb	15 36 45.1	-1.1
PTCH				AML		AML	15 36 48.5	
	comp=E,6µm,0.1s							
PTCH	**Petorca**	**1.06**	**141**	*e*P		Pb	15 36 31.1	-1.5
PTCH				*i* S		Sb	15 36 45.1	-1.1
PACH	**Papudo**	**1.12**	**168**	⇓*i* P		Pb	15 36 31.9	-1.7
PACH				*i* S		Sb	15 36 47.2	-0.7
TLL	**Tololo Astrono**	**1.50**	**32**	⇓*e*P		Pn	15 36 38.6	-0.3
TLL				*i* S		Sn	15 36 58.6	+0.4
TLL				AML		AML	15 37 00.3	
	comp=E,2µm,0.3s							
TLL	**Tololo Astrono**	**1.50**	**32**	⇓*e*P		Pn	15 36 38.6	-0.3
TLL				*i* S		Sn	15 36 58.6	+0.4
JACH	**Jahuel**	**1.56**	**143**	*i* S		Sn	15 36 59.8	+0.1
LSCH	**La Serena**	**1.58**	**15**	*e*P		Pn	15 36 39.8	-0.3
LSCH				*i* S		Sn	15 37 00.1	-0.2
ROCH	**El Roble**	**1.64**	**159**	*e*P		Pn	15 36 40.4	-0.4
PEL	**Peldehue**	**1.91**	**153**	*e*P		Pn	15 36 44.2	-0.4
PEL				*i* S		Sn	15 37 08.4	+0.1
PEL				AML		AML	15 37 14.2	
	comp=E,1µm,0.5s							
PEL	**Peldehue**	**1.91**	**153**	*e*P		Pn	15 36 44.2	-0.4
PEL				*i* S		Sn	15 37 08.4	+0.1
RCDM	**Rinconada Maip**	**2.18**	**160**	*e*P		Pn	15 36 47.6	-0.7
CLCH	**Cerro Calan**	**2.19**	**153**	*e*P		Pn	15 36 48.3	-0.1
CLCH				*i* S		Sn	15 37 17.1	+1.9
CLCH				AML		AML	15 37 22.9	
	comp=E,627nm,0.6s							
FCH	**Farellones**	**2.23**	**148**	⇑*i* P		Pn	15 36 49.1	+0.1
FCH				*i* S		Sn	15 37 18.2	+1.9
FCH				AML		AML	15 37 26.1	
	comp=E,341nm,0.3s							
TACH	**Talagante**	**2.30**	**164**	*e*P		Pn	15 36 49.3	-0.7
TACH				*i* S		Sn	15 37 19.0	+1.0
LNV	**Longovilo**	**2.52**	**174**	*e*P		Pn	15 36 51.0	-2.0
ZON	**Zonda**	**2.60**	**93**	*e*P		Pn	15 36 55.3	+1.2
CHCH	**Chadas Angostu**	**2.64**	**160**	*e*P		Pn	15 36 54.2	-0.4
LMEL	**Las Melosas**	**2.72**	**152**	*e*P		Pn	15 36 56.0	+0.4
CACH	**El Canelo**	**2.83**	**161**	*e*P		Pn	15 36 57.5	+0.3
SFDO	**San Fernando**	**3.22**	**170**	*e*P		Pn	15 37 02.0	-0.5

IDC 08 15:46:34.7±3.5, 592S×15052E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=110.5km s-min=48.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**224**	Sn		Sn	15 48 50.0	+5.3
	2.3nm,0.3s,baz=343,slow=20,SNR=4.5							
WRA	**Warramunga Arr**	**21.02**	**227**	P		P	15 51 19.8	-0.1
	1.0nm,0.6s,baz=51,slow=11,SNR=9.0							
ASAR	**Alice Springs**	**23.81**	**221**	P		P	15 51 48.3	-1.0
	0.6nm,0.4s,baz=56,slow=9.1,SNR=18							
FITZ	**Fitzroy Crossi**	**27.14**	**241**	P		P	15 52 21.4	+1.9
	1.5nm,0.6s,baz=63,slow=8.1

3µm,0.9s,SNR=11
HOPE Hope Point 7.75 285 *e*P **Pn** 15 59 19.6 **-0.3**
473nm,0.9s
VNA1 Neumayer--Stat 15.19 160 *e*Pn **Pn** **16 01 01.4 -0.3**
VNA1 *e* 16 01 05.8
VNA1 *e* 16 01 10.1
VNA1 *e* 16 01 25.2
VNA1 *e* 16 01 48.8
VNA1 Neumayer--Stat 15.19 160 *e* PcP 16 06 08.3 +0.1
VNA3 Neumayer Olymp 15.45 163 *e*Pn **Pn** **16 01 06.3 +1.1**
VNA2 Neumayer--Watz 15.58 160 *e*Pn **Pn** **16 01 06.3 -0.5**
VNA2 *e* 16 01 08.5
VNA2 *e* 16 01 12.5
VNA2 *e* 16 01 30.3
VNA2 *e* 16 01 54.3
VNA2 Neumayer--Watz 15.58 160 *e* PcP 16 06 08.5 -0.3
SNAA Sanae 17.08 157 P **Pn** **16 01 26.3 +0.3**
1.1nm,0.3s,baz=329,slow=11,SNR=65
SNAA PcP PcP 16 06 10.2 -0.9
0.1nm,0.3s,baz=315,slow=1.4,SNR=4.6
SNAA Sanae 17.08 157 *e*Pn **Pn** **16 01 26.4 +0.4**
SNAA *e* 16 01 29.4
SNAA *e* 16 01 38.9
SNAA *e* 16 01 50.1
SNAA Sanae 17.08 157 *e* PcP 16 06 10.0 -1.1
SNAA Sanae 17.08 157 *d i*P **Pn** **16 01 26.1 +0.1**
SNAA Sanae 17.08 157 *e*P **Pn** **16 01 25.6 -0.3**
202nm,1.2s
MAIT Maitri 20.35 146 *e*P **P** **16 02 04.6 +0.9**
NVL N'lazarevskaya 20.38 146 *d i*P **P** **16 02 03.1 -0.9**
NVL *i* S **S** **16 05 53.0 +0.4**
NVL *e*SS 16 06 14.2
NVL pmax pmax
comp=Z,60nm,1.0s
NVL pmax pmax
comp=N,31nm,1.2s
NVL pmax pmax
comp=E,39nm,1.1s
NVL MLR MLR
comp=Z,1µm,16.5s,MS4.4
EFI East Falkland 20.59 270 P **P** **16 02 05.2 -1.1**
comp=Z,2µm,0.7s,SNR=40
EFI East Falkland 20.59 270 *c i*P **P** **16 02 05.2 -1.1**
EFI East Falkland 20.59 270 *e*P **P** **16 02 05.1 -1.2**
comp=Z,262nm,0.9s
PMSA Palmer Station 20.77 232 P **P** **16 02 09.3 +1.0**
comp=Z,71nm,0.8s,baz=71,slow=8.4,SNR=6.7
PMSA PcP PcP 16 06 15.2 -2.3
comp=Z,15nm,0.6s,baz=122,slow=6.7,SNR=4.6
PMSA LR LR 16 08 39.9
comp=Z,2µm,21.9s,MS4.5,baz=162,slow=32
PMSA Palmer Station 20.77 232 P **P** **16 02 09.3 +1.0**
PMSA PcP PcP 16 06 15.2 -2.3
PMSA LR LR 16 08 39.9
TRIS Tristan da Cun 21.36 26 *e*P **P** **16 02 16.8 +2.2**
comp=Z,114nm,0.6s,mb5.4
USHA Ushuaia 24.83 256 P **P** **16 02 48.7 -0.9**
comp=Z,46nm,1.0s,mb5.0,baz=106,slow=10,SNR=9.3
SYO Syowa Base 29.59 139‖ *e*P **P** **16 03 31.0 -1.4**
SYO Syowa Base 29.59 139‖ *e*pP pP 16 03 35.0 +0.8
TRQA Tornquist 31.49 291 *e*P **P** **16 03 47.7 -1.5**
comp=Z,20nm,1.1s,mb4.8
QSPA South Pole Qui 33.22 180 *e*P **P** **16 04 04.9 +0.5**
comp=Z,31nm,1.2s,mb5.1
MAW Mawson 38.20 142 *e*P **P** **16 04 46.4 -0.7**
comp=Z,30nm,0.8s,mb5.1
MAW *e*PCP PcP 16 07 01.2 -0.4
MAW Mawson 38.20 142 P **P** **16 04 47.0 0.0**
comp=Z,50nm,1.0s,mb5.2,baz=238,slow=8.1,SNR=81
MAW PcP PcP 16 07 01.4 -0.2
comp=Z,11nm,0.8s,baz=270,slow=6.7,SNR=5.0
MAW LR LR 16 20 16.3
comp=Z,587nm,18.1s,MS4.4,baz=329,slow=36
MAW Mawson 38.20 142 *e*P **P** **16 04 46.4 -0.7**
MAW *e* 16 07 01.2
MAW pmax pmax
comp=Z,30nm,0.8s
SUR Sutherland 39.08 70 P **P** **16 04 55.2 +0.7**
comp=Z,76nm,1.1s,mb5.3,SNR=5.4
CFAA Coronel Fontan 39.73 291 P **P** **16 04 57.5 -2.4**
comp=Z,1.0nm,0.7s,baz=148,slow=9.0,SNR=16
CFAA PcP PcP 16 07 06.7 +0.3
comp=Z,1.3nm,0.9s,baz=239,slow=1.7,SNR=3.6
CFAA Coronel Fontan 39.73 291 P **P** **16 04 57.5 -2.4**
CFAA PcP PcP 16 07 06.7 +0.3
BOSA Boshof 44.38 71 P **P** **16 05 37.4 -0.6**
comp=Z,25nm,0.8s,mb5.0,baz=208,slow=8.1,SNR=40
BOSA LR LR 16 20 46.5
comp=Z,1µm,18.2s,MS4.9,baz=311,slow=32
BOSA Boshof 44.38 71 *e*P **P** **16 05 37.3 -0.6**
BOSA pmax pmax
comp=Z,22nm,0.8s,mb4.9
BOSA MLR MLR
comp=Z,1µm,20.0s,MS4.8
BOSA Boshof 44.38 71 *e*P **P** **16 05 37.3 -0.6**
comp=Z,22nm,0.8s,mb4.9
BOSA LR LR
comp=Z,1µm,20.0s,MS4.8
SBA Scott Base 45.23 183 *e*P **P** **16 05 45.6 +1.0**
SBA pmax pmax
comp=Z,27nm,1.2s,mb5.0
SBA MLR MLR
comp=Z,481nm,20.0s,MS4.4
SBA Scott Base 45.23 183 *e*P **P** **16 05 45.6 +1.0**
comp=Z,27nm,1.2s,mb5.0
SBA LR LR
comp=Z,481nm,20.0s,MS4.4
VNDA Vanda 45.67 182 P **P** **16 05 48.9 +0.7**
comp=Z,11nm,0.8s,mb4.8,baz=188,slow=6.9,SNR=72
VNDA LR LR 16 23 27.2
comp=Z,358nm,18.2s,MS4.3,baz=187,slow=34
VNDA Vanda 45.67 182 *e*P **P** **16 05 48.6 +0.4**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 45.67 182 *e*P **P** **16 05 48.6 +0.4**
comp=Z,17nm,1.0s,mb4.9
LVC Limon Verde 47.47 297 *e*P **P** **16 06 02.7 +0.4**
comp=Z,47nm,0.8s,mb5.5
LBTB Lobatse 47.49 69 *e*P **P** **16 06 01.8 -0.6**
LBTB pmax pmax
comp=Z,18nm,0.7s,mb5.1
LBTB MLR MLR
comp=Z,1µm,20.0s,MS4.8
LBTB Lobatse 47.49 69 *e*P **P** **16 06 01.8 -0.6**
comp=Z,18nm,0.7s,mb5.1
LBTB LR LR
comp=Z,1µm,20.0s,MS4.8
MIR Mirnyy 48.02 151 *d i*P **P** **16 06 07.5 +1.0**
MIR *i* 16 06 18.0
TSUM Tsumeb 48.54 56 *e*P **P** **16 06 10.5 -0.1**
comp=Z,62nm,1.1s,mb5.5
TSUM LR LR
comp=Z,705nm,19.0s,MS4.7
CASY Casey 52.31 159 *e*P **P** **16 06 38.1 -1.0**
LPAZ La Paz 52.53 302 P **P** **16 06 42.4 +1.7**
comp=Z,32nm,0.8s,mb5.3,baz=149,slow=6.3,SNR=138
LPAZ La Paz 52.53 302 *e*P **P** **16 06 42.3 +1.6**
LPAZ pmax pmax
comp=Z,57nm,0.9s
LPAZ La Paz 52.53 302 *e*P **P** **16 06 42.3 +1.5**
comp=Z,57nm,0.9s,mb5.5
ARE Arequipa 53.97 298 *e*P **P** **16 06 54.0 +2.7**
LSZ Lusaka 56.97 65 *e*P **P** **16 07 11.9 -1.0**
LSZ pmax pmax
comp=Z,46nm,1.4s,mb5.3
LSZ MLR MLR
comp=Z,737nm,19.0s,MS4.8
LSZ Lusaka 56.97 65 *e*P **P** **16 07 11.8 -1.1**
comp=Z,46nm,1.4s,mb5.3
LSZ LR LR
comp=Z,737nm,19.0s,MS4.8
NNA Nana 60.42 296 P **P** **16 07 37.7 +0.7**
comp=Z,21nm,1.0s,mb5.1
TOA0 Torodi Ar. Sit 73.02 26 *e*P **P** **16 08 56.8 -0.5**
TORD Torodi Ar. Bea 73.02 26 P **P** **16 08 56.9 -0.5**
comp=Z,108nm,0.7s,mb5.9,baz=194,slow=6.3,SNR=632
TORD LR LR 16 34 41.3
comp=Z,328nm,18.2s,MS4.7,baz=195,slow=31
ROSC El Rosal 74.03 307 P **P** **16 09 04.5 +1.3**
comp=Z,4.7nm,0.3s,mb4.8,baz=105,slow=18,SNR=5.6
ROSC LR LR 16 39 23.3
comp=Z,186nm,19.7s,MS4.4,baz=188,slow=34
ROSC El Rosal 74.03 307 *e*P **P** **16 09 01.9 -1.4**
RPZ Rata Peaks 78.87 191 P **P** **16 09 31.0 +0.3**
comp=Z,20nm,0.9s,mb5.0,baz=190,slow=12,SNR=3.8
RKT Rikitea 81.72 240 *e*S S 16 19 53.4 -5.8
comp=Z,149nm,24.2s
RKT *e*SS SS 16 25 12.4 -4.2
comp=Z,124nm,29.5s
RKT *e*LR LR 16 35 18.0
comp=Z,564nm,31.5s,baz=157
MUN Mundaring 85.08 147 *e*P **P** **16 10 03.0 -0.4**
KLBR Kellerberrin 85.90 148 *e*P **P** **16 10 06.9 -0.5**
comp=Z,30nm,1.1s,mb5.4
TBI Tubuai 87.93 228 *e*S S 16 20 54.4 -6.6
comp=Z,207nm,26.8s
TBI *e*LQ 16 34 23.6
comp=Z,227nm,33.0s
TBI *e*LR LR 16 38 14.4
comp=Z,369nm,34.2s
TGUH Tegucigalpa,Un 88.05 300 P **P** **16 10 17.9 0.0**
FORT Forrest 89.33 156 *e*P **P** **16 10 24.3 +0.4**
comp=Z,30nm,0.8s,mb5.7
STKA Stephens Creek 90.57 168 *e*P **P** **16 10 29.4 -0.3**
comp=Z,8.2nm,0.9s,mb5.1
STKA Stephens Creek 90.57 168 P **P** **16 10 29.6 -0.2**
comp=Z,9.1nm,0.9s,mb5.1,baz=191,slow=7.7,SNR=9.3
STKA LR LR 16 51 04.5
comp=Z,176nm,18.8s,MS4.5,baz=207,slow=36
PPT Papeete 93.13 231 *e*LR LR 16 40 39.2
comp=Z,1µm,25.0s,baz=160
TEIG Tepich 93.86 302 *e*P **P** **16 10 44.9 -0.1**
comp=Z,19nm,0.9s,mb5.5
TEIG LR LR
comp=Z,160nm,20.0s,MS4.5
KEST Kesra 96.53 27 P **P** **16 10 58.1 +1.0**
comp=Z,1.9nm,1.0s,mb4.5,baz=236,slow=5.6,SNR=3.9
KEST LR LR 16 51 59.6
comp=Z,96nm,18.3s,MS4.3,baz=231,slow=34
ASAR Alice Springs 97.43 159 P **P** **16 11 00.3 -0.9**
comp=Z,3.4nm,1.1s,mb4.7,baz=200,slow=4.5,SNR=12
ASAR PP PP 16 14 53.4 -4.7
comp=Z,1.4nm,0.8s,baz=193,slow=5.9,SNR=7.9
ASAR PKKP PKKPbc 16 27 36.9 -1.7
comp=Z,0.9nm,0.8s,baz=3.5,slow=2.2,SNR=12
ASAR LR LR 16 52 13.7
comp=Z,182nm,18.2s,MS4.6,baz=196,slow=34
ASAR Alice Springs 97.43 159 P **P** **16 11 00.3 -0.9**
ASAR 16 14 53.4
AS31 Alice Springs 97.43 159 P **P** **16 11 02.0 +0.8**
WRA Warramunga Arr 101.14 159 P Pdif 16 11 17.1 -0.7
comp=Z,0.6nm,0.8s,baz=197,slow=4.3,SNR=5.1
WRA PP PP 16 15 19.3 -7.1
comp=Z,1.5nm,1.1s,baz=199,slow=6.1,SNR=3.3
WRA PKKP PKKPbc 16 27 27.0 -1.1
comp=Z,1.0nm,0.8s,baz=1.7,slow=3.1,SNR=10.0
BRTR Keskin Array B 107.77 43 PKiKP PKiKP 16 15 53.6 -1.3
comp=Z,0.6nm,0.7s,baz=192,slow=5.6,SNR=2.9
BRTR PP PP 16 16 09.2 -6.5
comp=Z,1.4nm,1.0s,baz=184,slow=6.1,SNR=5.3
PERS Pernice 108.25 27 *i* PKPdf PKiKP 16 15 48.1 -7.6
PERS *e* 16 15 52.5
PERS *e* 16 16 02.0
TXAR Lajitas Array 108.97 295 PKiKP PKiKP 16 15 56.6 -0.5
comp=Z,0.4nm,0.8s,baz=163,slow=1.3,SNR=3.9
TXAR PKKPbc PKKPbc 16 27 03.0 -1.3
comp=Z,0.4nm,1.0s,baz=296,slow=4.9,SNR=2.9
TXAR PKKP PKKPbc 16 27 16.1 +12
comp=Z,0.8nm,0.9s,baz=241,slow=0.9,SNR=4.8
GERES GERESS Array B 109.97 25 PKiKP PKiKP 16 15 57.3 -1.7
comp=Z,0.4nm,0.5s,baz=183,slow=2.3,SNR=3.8
KIV Kislovodsk 114.89 47 ⇑ *i*PKIKP PKiKP 16 16 02.0 -6.3
AKASG Malin Array Be 115.88 34 PKP PKPdf 16 16 08.0 -2.2
comp=Z,2.8nm,0.8s,baz=235,slow=2.1,SNR=7.9
AKASG Malin Array Be 115.88 34 PKP PKPdf 16 16 08.0 -2.2
MSU Marysvale 120.52 294 *e*PKIKP PKPdf 16 16 18.9 -0.3
NB2 NORSAR Subarra1 120.87 19 PKIKP PKPdf 16 16 17.6 -2.3
NB2 NORSAR Subarra2 120.87 19 PKPdf PKPdf 16 16 17.6 -2.3
comp=Z,2.8nm,0.7s,baz=199,slow=1.8
NOA NORSAR Array B 120.87 19 PKP PKPdf 16 16 17.9 -1.9
comp=Z,4.4nm,0.8s,baz=192,slow=1.7,SNR=13
NOA PKKPbc PKKPbc 16 26 22.6 -0.7
comp=Z,1.9nm,0.9s,baz=26,slow=3.3,SNR=3.3
ISA Isabella 121.54 288 *e*PKIKP PKPdf 16 16 20.9 -0.2
VSU Vasula 121.95 29 ⇑ *i*PKIKP PKPdf 16 16 19.2 -2.7
OBN Obninsk 121.96 36 ⇓ *i*PKIKP PKPdf 16 16 19.8 -2.2
OBN pmax pmax
comp=Z,14nm,0.9s
DUG Dugway 122.13 295 *e*PKIKP PKPdf 16 16 21.2 -1.1
KOLN Koldanda 122.14 88 *e*P PKPdf 16 16 20.5 -1.8
comp=Z,58nm,0.8s
ULM Lac du Bonnet 122.31 314 PKP PKPdf 16 16 20.2 -2.4
comp=Z,2.4nm,0.7s,baz=200,slow=4.1,SNR=6.6
ULM PKKPbc PKKPbc 16 26 17.1 -0.8
comp=Z,2.7nm,0.7s,baz=282,slow=5.4,SNR=3.7
PDAR Pinedale Array 122.51 299 PKP PKPdf 16 16 21.3 -1.7
comp=Z,1.7nm,0.7s,baz=145,slow=5.3,SNR=11
HWUT Hardware Ranch 122.59 297 *e*PKPdf PKPdf 16 16 22.1 -1.0
DMN Daman 122.84 89 *e*P PKPdf 16 16 22.4 -1.2
comp=Z,57nm,0.9s
GKN Gorkha 122.89 88 *e*P PKPdf 16 16 22.2 -1.5
comp=Z,50nm,0.8s
CM31 Chiang Mai Arr 122.91 108 *e*PKPdf PKPdf 16 16 23.1 -0.7
PKI Pulchoki 122.97 89 *e*P PKPdf 16 16 22.5 -1.4
comp=Z,48nm,0.9s
KKN Kakani 123.08 89 *e*P PKPdf 16 16 22.7 -1.4
comp=Z,34nm,0.8s
JIRN Jiri 123.47 90 *e*P PKPdf 16 16 24.0 -0.8
comp=Z,44nm,0.6s
GUN Gumba 123.50 90 *e*P PKPdf 16 16 23.9 -1.0
comp=Z,86nm,1.0s
NVAR Mina Array Bea 123.56 290 PKP PKPdf 16 16 25.5 +0.5
comp=Z,2.6nm,0.8s,baz=165,slow=2.0,SNR=16
LOHW Long Hollow 123.65 299 *e*PKPdf PKPdf 16 16 24.3 -0.9
MOOW Mcmse Ponds 123.82 299 *e*PKPdf PKPdf 16 16 24.6 -0.9
FINES FINESS Array B 124.37 26 PKP PKPdf 16 16 24.4 -2.1
comp=Z,16nm,0.7s,baz=111,slow=4.3,SNR=44
FIA1 FINESS Array S 124.37 26 *e*PKPdf PKPdf 16 16 24.4 -2.1
ORR Orenburg 125.89 49 *e*PKIKP PKPdf 16 16 27.6 -1.9
ORR pmax pmax
comp=Z,30nm,1.7s
WVOR Wild Horse Val 126.71 293 *e*PKIKP PKPdf 16 16 31.0 0.0
KSH Kashi 126.98 73 *e*PKP PKPdf 16 16 31.5 -0.1
KSH *e*PP PP 16 18 29.1 -0.4
KSH *e*PKS 16 20 07.0
KSH *e*PPP 16 21 10.1
KSH *e*SKS SKSdf 16 23 39.0 -4.9
MOD Modoc 127.17 291 *e*P PKPdf 16 16 32.2 +0.3
CHMT Chamberlain Mo 127.35 300 *e*P PKPdf 16 16 31.6 -0.7
AML Almayashu 127.72 69 P PKPdf 16 16 32.2 -0.8
SNR=14
LSA Lhasa 127.77 93 *e*PKIKP PKPdf 16 16 32.6 -0.5
EKS2 Erkin-Say 128.15 68 P PKPdf 16 16 32.7 -1.1
SNR=22
UCH Uchtor 128.21 69 P PKPdf 16 16 33.4 -0.5
SNR=17
KZA Kyzart 128.48 70 P PKPdf 16 16 33.9 -0.6
SNR=14
AAK Ala-Archa 128.49 69 P PKPdf 16 16 33.5 -0.9
SNR=13
AAK Ala-Archa 128.49 69 *d i*PKIKP PKPdf 16 16 31.9 -2.5
AAK Ala-Archa 128.49 69 *e*P PKPdf 16 16 32.1 -2.4
FRU Bishkek 128.70 69 *e*PKIKP PKPdf 16 16 33.5 -1.3
FRU pmax pmax
comp=Z,36nm,1.5s
KBK Karagaybulak 128.74 69 P PKPdf 16 16 33.9 -1.0
SNR=8.2
USP Ospenovka 128.95 68 P PKPdf 16 16 33.8 -1.5
SNR=9.8
TMCR Tamitsa 129.72 30 *e*PKIKP PKPdf 16 16 34.1 -2.7
KMI Kunming 130.38 107 PKP PKPdf 16 16 36.9 -1.1
KMI XPKP 16 16 45.4
KMI PP PP 16 18 57.7 +6.0
KMI PP PP
comp=Z,154nm,8.8s
KMI LR LR
comp=N,209nm,18.4s,MS4.9
KMI LR LR
comp=E,91nm,17.4s,MS4.9
KMI LR LR
comp=Z,127nm,15.4s,MS4.7
KMI Kunming 130.38 107 PKP PKPdf 16 16 36.9 -1.1
KMI pPKP pPKPdf 16 16 43.0 +2.9
KMI sPKP 16 16 45.4
KMI PP PP 16 18 57.7 +6.0
KMI SS SS 16 36 36.1 +17
KMI LR LR
comp=Z,130nm,15.4s,MS4.7
ARU Arti 130.93 47 *i* PKIKP PKPdf 16 16 37.2 -1.9
ARU *e* 16 18 55.5
ARU *e*SS SS 16 36 18.6 -7.5
ARU Arti 130.93 47 *e*P PKPdf 16 16 37.5 -1.6
ARCES ARCESS Array B 131.15 21 PKP PKPdf 16 16 36.9 -2.6
comp=Z,7.4nm,0.6s,baz=192,slow=1.6,SNR=42
ARCES PP PP 16 18 56.1 -0.7
comp=Z,2.1nm,0.8s,baz=242,slow=6.7,SNR=4.1
KEV Kevo 131.63 21 *ep* PKPdf 16 16 37.0 -3.4
comp=Z,16nm,1.0s
KEV Kevo 131.63 21 *e*PKIKP PKPdf 16 16 37.0 -3.4
KEV pmax pmax
comp=Z,16nm,1.0s
EDM Edmonton 131.84 306 *e*PKIKP PKPdf 16 16 38.9 -1.9
GYA Guiyang 133.50 110 PDIF Pdif 16 13 41.9 +0.2
GYA PKP PKPdf 16 16 43.1 -0.8
GYA XPKP 16 16 51.2
GYA PP PP 16 19 16.5 +4.7
GYA PKS 16 20 19.2
GYA SKS SKSdf 16 23 52.2 -3.5
GYA SKKS SKKSac 16 26 05.9 -2.4
GYA SS SS 16 36 58.8 +1.4
GYA PP PP
comp=Z,140nm,8.6s
GYA LR LR
comp=N,640nm,20.9s,MS5.5
GYA LR LR
comp=E,680nm,21.7s,MS5.5
GYA LR LR
comp=Z,740nm,21.6s,MS5.4
BRVK Borovoye 133.66 56 *e*PKIKP PKPdf 16 16 42.9 -1.3
BVAR Borovoye Array 133.69 56 PKhKP 16 16 31.2
comp=Z,1.0nm,0.9s,baz=195,slow=2.3,SNR=4.7
BVAR PKP PKPdf 16 16 43.0 -1.3
comp=Z,13nm,0.8s,baz=240,slow=1.5,SNR=36
MK31 Makanchi Array 135.38 70 *e*PKIKP PKPdf 16 16 45.0 -2.4
MKAR Makanchi Array 135.38 70 PKhKP 16 16 33.9
comp=Z,1.2nm,1.0s,baz=219,slow=1.8,SNR=3.5
MKAR PKP PKPdf 16 16 45.4 -2.1
comp=Z,4.5nm,0.9s,baz=268,slow=3.4,SNR=11
CD2 Chengdu 135.54 103 *e*PKP PKPdf 16 16 47.7 0.0
CD2 XPKP 16 16 53.5
CD2 PP PP 16 19 29.2 +4.5
CD2 PKS 16 20 22.6
CD2 SKS SKSdf 16 23 53.2 -6.1
CD2 SKKS SKKSac 16 26 16.1 -4.5
CD2 SS SS 16 37 21.3 -0.6
CD2 PP PP
comp=Z,80nm,9.8s
CD2 LR LR
comp=E,280nm,16.8s
CD2 LR LR
comp=Z,170nm,18.0s,MS4.8
YKA Yellowknife Ar 138.21 316 PKP PKPdf 16 16 50.7 -2.0
comp=Z,12nm,0.9s,baz=132,slow=2.7,SNR=12
YKA Yellowknife Ar 138.21 316 PKP PKPdf 16 16 50.7 -2.0
RES Resolute Bay 139.49 337 *e*PKIKP PKPdf 16 16 53.2 -1.8
LZH Lanzhou 139.53 98 *e*PKP PKPdf 16 16 54.5 -0.6
LZH XPKP 16 17 01.2
LZH PP PP 16 19 53.5 +3.9
LZH PKS 16 20 29.7
LZH SKS SKSdf 16 24 01.6 -4.4
LZH SKKS SKKSac 16 26 41.5 -2.8
LZH PP PP
comp=Z,124nm,8.6s
LZH LR LR
comp=N,289nm,18.1s
LZH LR LR
comp=Z,512nm,20.3s,MS5.3
LZH Lanzhou 139.53 98 *e*PKIKP PKPdf 16 16 54.5 -0.6
LZH 16 17 01.2
LZH 16 19 53.5
LZH 16 24 01.6
LZH MLR MLR
comp=Z,510nm,20.3s,MS5.3
LZH Lanzhou 139.53 98 *e*PKP PKPdf 16 16 54.5 -0.6
LZH pPKP pPKPdf 16 16 59.6 +2.4
LZH sPKP 16 17 01.2
LZH PP PP 16 19 53.5 +3.9
LZH PKS 16 20 29.7
LZH SKS SKSdf 16 24 01.6 -4.4
LZH SKKS SKKSac 16 26 41.5 -2.8
LZH LR LR
comp=Z,510nm,20.3s,MS5.3
NVS Novosibirsk 140.81 61 *i* PKIKP PKPdf 16 16 50.9 -6.5
ZAL Zalesovo 141.05 63 PKhKP 16 16 51.1
comp=Z,1.9nm,0.6s,baz=215,slow=3.6,SNR=13
JOW Kunigami 143.82 135 PKP PKPdf 16 16 60.0 -2.8
comp=Z,32nm,1.0s,baz=148,slow=9.2,SNR=5.1
NJ2 Nanjing 144.17 118 *e*PKP PKPdf 16 17 01.8 -1.6
NJ2 APKP 16 17 11.7
NJ2 XPKP 16 17 15.2
NJ2 PP PP 16 20 19.5 +1.7
NJ2 PKS 16 20 36.5
NJ2 PP PP
comp=Z,260nm,6.4s
NJ2 LR LR
comp=Z,560nm,33.9s,MS5.1
BTO Baotou 146.15 99 *e*PKP PKPdf 16 17 04.9 -1.9
TIA Tai'an 146.64 112 PKP PKPdf 16 17 07.9 +0.3
HHC Hu-ho-hao-te 147.15 100 ⇑ PKP PKPdf 16 17 08.0 -0.5
HHC APKP 16 17 18.6
HHC PP PP 16 20 39.4 +3.9
HHC PKS 16 20 44.4
HHC SKS SKSdf 16 24 11.7 -6.0
HHC SKKS SKKSac 16 27 24.5 -3.6
HHC SS SS 16 39 39.5 +2.3
HHC PP PP
comp=Z,366nm,7.4s
HHC LR LR
comp=N,182nm,22.4s,MS5.1
HHC LR LR
comp=E,294nm,22.2s,MS5.1
HHC LR LR
comp=Z,266nm,21.4s,MS5.0
MOY Mondy 148.08 76 *e*PKIKP PKPdf 16 17 07.9 -2.1
MOY pmax pmax
comp=Z,103nm,2.1s
ZAK Zakamensk 148.62 79 *e*PKIKP PKPdf 16 17 08.6 -2.3
ZAK pmax pmax
comp=Z,23nm,1.1s
SONM Songino Array 148.86 85 PKP PKPdf 16 17 09.5 -1.8
comp=Z,31nm,0.8s,baz=224,slow=2.1,SNR=18
SONM PKPbc PKPbc 16 17 14.0 -1.2
comp=Z,31nm,0.8s,baz=221,slow=2.9,SNR=46
DAWY Dawson 148.90 310 *e*PKPbc PKPbc 16 17 13.1 -2.2
BJT Baijiatuan 149.01 106 *e*PKP2 PKPab 16 17 14.4 -5.3
BJI Beijing 149.03 106 PKP PKPdf 16 17 14.4 +2.8
BJI PP PP 16 20 52.4 +5.9
BJI PP PP
comp=Z,603nm,11.2s
BJI LR LR
comp=Z,282nm,28.0s,MS4.9
TLY Talaya 149.50 77 *i* PKP2 PKPbc 16 17 15.4 -1.4
TLY pmax pmax
comp=Z,51nm,1.2s
TLY Talaya 149.50 77 *e*PKPbc PKPbc 16 17 15.3 -1.5
EGAK Eagle 149.83 311 *e*PKPbc PKPbc 16 17 15.3 -2.4
IRK Irkutsk 150.12 77 *e*PKIKP PKPdf 16 17 09.7 -3.6
IRK pmax pmax
comp=N,93nm,2.1s
JNU Nakatsue 150.43 133 PKPbc PKPbc 16 17 19.1 +0.1
comp=N,29nm,1.0s,baz=209,slow=20,SNR=4.1
EYAK Cordova Ski Ar 150.61 301 *e*PKPbc PKPbc 16 17 18.4 -1.1
DIV Divide 150.81 303 *e*PKPbc PKPbc 16 17 18.9 -1.0
DL2 Dalian 150.99 114 PKP PKPbc 16 17 19.1 -1.3
COLA College 152.65 310 PKIKP PKPdf 16 17 14.6 -2.6
COLA *e* 16 17 21.7
KSRS Korea Array 152.85 124 PKPbc PKPbc 16 17 22.9 -1.8
comp=N,5.6nm,0.8s,baz=233,slow=2.1,SNR=12
KSRS PKPab PKPab 16 17 35.1 -0.5
comp=N,4.2nm,0.8s,baz=234,slow=4.4,SNR=5.7
MCK McKinley 152.90 307 *e*PKIKP PKPbc 16 17 23.0 -1.8
KDAK Kodiak Island 152.99 293 PKPbc PKPbc 16 17 23.0 -2.0
comp=N,8.3nm,0.7s,baz=130,slow=6.7,SNR=6.2
KDAK PKPab PKPab 16 17 34.0 -2.2
comp=N,6.9nm,0.6s,baz=152,slow=5.0,SNR=7.2
IMA2 Indian Mountai 155.20 312 *e*PKPbc PKPdf 16 17 28.2 +7.4
MAJO Matsushiro 156.19 142 *e*PKP2 PKPab 16 17 49.0 -0.9
MAT Matsushiro 156.19 142 PKP PKPdf 16 17 19.9 -2.2
MJAR Matsushiro Arr 156.19 142 PKPab PKPab 16 17 49.2 -0.6
comp=N,7.6nm,0.9s,baz=205,slow=4.4,SNR=10
CN2 Changchun 156.54 111 *e*PKP PKPdf 16 17 20.1 -2.5
HIA Hailar 156.97 94 *e*PKP2 PKPab 16 17 52.0 -1.2
BOD Bodaibo 157.47 70 *e*PKIKP PKPdf 16 17 19.5 -4.2
BOD pmax pmax
comp=Z,13nm,1.8s

*ISCJB **08** 16:09:13.3±2.2, 475.5N×002.2×1538.5E±0.3, h37km±17km, mb4.4/11, Error ellipse: s-maj=40.4km s-min=15.5km az=85.3*
*MOS **08** 16:09:14.1±0.6, 4750N×15370E, h47km, mb4.4/4, Error ellipse: s-maj=41.6km s-min=23.6km az=77.1*
*IDC **08** 16:09:18.3±10.0, 4745N×15356E, h63km±80km, mb3.6/6, mb1 3.7/7, mb1mx3.4/24, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=85.5km s-min=27.8km az=89.0*
ISC 08 16:09:15.4±2.0, 475N±002×1539E±0.3, h40km±14km, n20, σ0§57/20, mb4.4/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.53**	**24**	*e*PN		**Pn**	**16 10 08.0**	**+0.3**
SKR				*e*			16 10 46.4	
ASAJ	**Asahikawa**	**8.56**	**251**	P		**Pn**	**16 11 16.6**	**-0.1**
	0.4nm,0.3s,baz=117,slow=16,SNR=3.3							
KSRS	**Korea Array**	**21.51**	**252**	P		**P**	**16 13 59.7**	**-1.1**
	1.4nm,0.7s,mb3.5,baz=65,slow=9.1,SNR=4.5							
BVAR	**Borovoye Array**	**50.80**	**309**	P		**P**	**16 18 11.0**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=52,slow=7.9,SNR=4.9							
BVAR	**Borovoye Array**	**50.80**	**309**	P		**P**	**16 18 11.0**	**-0.6**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
JIRN	**Jiri**	**55.40**	**275**	*e*P		**P**	**16 18 45.9**	**+0.4**
	comp=Z,3.9nm,0.3s,mb5.0							
GUN	**Gumba**	**55.45**	**275**	*e*P		**P**	**16 18 46.4**	**+0.5**
KKN	**Kakani**	**55.93**	**275**	*e*P		**P**	**16 18 49.5**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.9							
PKI	**Pulchoki**	**55.99**	**275**	*e*P		**P**	**16 18 50.4**	**+0.7**
DMN	**Daman**	**56.17**	**275**	*e*P		**P**	**16 18 51.9**	**+0.9**
	comp=Z,18nm,0.8s,mb5.2							
GKN	**Gorkha**	**56.23**	**276**	*e*P		**P**	**16 18 51.6**	**+0.2**
	comp=Z,18nm,0.8s,mb5.2							
KOLN	**Koldanda**	**57.08**	**276**	*e*P		**P**	**16 18 57.9**	**+0.4**
	comp=Z,12nm,0.8s,mb5.0							
FINES	**FINESS Array B**	**63.60**	**335**	P		**P**	**16 19 41.6**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.3,baz=39,slow=8.1,SNR=9.9							
FINES	**FINESS Array B**	**63.60**	**335**	P		**P**	**16 19 41.6**	**-0.4**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NB2	**NORSAR Subarra**	**67.70**	**341**	P		**P**	**16 20 08.4**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.70**	**341**	P		**P**	**16 20 08.3**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=26,slow=6.3,SNR=5.9							
NOA	**NORSAR Array B**	**67.70**	**341**	P		**P**	**16 20 08.3**	**-0.2**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**71.23**	**326**	P		**P**	**16 20 29.2**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=31,slow=6.1,SNR=5.9							
AKASG	**Malin Array Be**	**71.23**	**326**	P		**P**	**16 20 29.2**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ASAR	**Alice Springs**	**73.06**	**199**	P		**P**	**16 20 41.0**	**-0.2**
	comp=Z,0.4nm,0.9s,mb3.3,baz=13,slow=7.2,SNR=5.6							

*ISCJB **08** 16:19:24.5±1.4, 47.1N±0.1×154.1E±0.2, h45km±10km, mb4.5/24, Error ellipse: s-maj=23.9km s-min=8.3km az=95.8*
*MOS **08** 16:19:24.7±1.5, 47.11N×15398E, h48km, mb4.8/3, Error ellipse: s-maj=13.3km s-min=10.1km az=74.6*
*NEIC **08** 16:19:27.1±1.5, 47.10N×154.05E, h55km±12km, mb4.7/4, Error ellipse: s-maj=22.1km s-min=11.6km az=134.0*
*IDC **08** 16:19:28.0±5.6, 47.15N×15393E, h64km±49km, mb3.8/13, mb1 3.9/15, mb1mx3.8/25, mbtmp3.8/15, ML3.6/2, Error ellipse: s-maj=30.9km s-min=23.6km az=76.0*
ISC 08 16:19:27.0±1.3, 471N±01×1541E±02, h52km±8km, n42, σ1§17/43, mb4.5/24, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**20**	*e*PN		**Pn**	**16 20 23.4**	**+0.6**
SKR				pmax		pmax		
	comp=N,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
KUR	**Kuril'sk**	**4.73**	**249**	*e*PN		**Pn**	**16 20 32.0**	**-3.8**
KUR				*e*S		**Sn**	**16 21 29.5**	**+0.2**
KUR				pmax		pmax		
	comp=Z,140nm,0.9s							
KUR				smax				
	comp=N,230nm,0.6s							
KUR				smax				
	comp=E,380nm,0.6s							
PET	**Petropavlovsk**	**6.58**	**25**	*e*PN		**Pn**	**16 21 01.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.76**	**273**	*e*PN		**Pn**	**16 21 18.8**	**+1.6**
ASAJ	**Asahikawa**	**8.61**	**254**	P		**Pn**	**16 21 29.1**	**+0.1**
	comp=E,0.8nm,0.3s,baz=90,slow=33,SNR=5.2							
ASAJ	**Asahikawa**	**8.61**	**254**	PN		**Pn**	**16 21 29.1**	**+0.2**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**9.34**	**241**	*e*PN		**Pn**	**16 21 37.8**	**-1.1**
MJAR	**Matsushiro Arr**	**15.86**	**234**	P		**Pn**	**16 23 05.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=30,slow=9.9,SNR=4.1							
KSRS	**Korea Array**	**21.56**	**253**	P		**P**	**16 24 12.2**	**+0.3**
	comp=Z,2.6nm,0.9s,mb3.7,baz=60,slow=9.8,SNR=6.8							
SONM	**Songino Array**	**31.85**	**289**	P		**P**	**16 25 45.2**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=70,slow=9.3,SNR=5.2							
ZAL	**Zalesovo**	**42.95**	**306**	P		**P**	**16 27 18.6**	**-2.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=42,slow=8.5,SNR=8.7							
MKAR	**Makanchi Array**	**47.37**	**297**	P		**P**	**16 27 54.2**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=68,slow=8.1,SNR=17							
MKAR	**Makanchi Array**	**47.37**	**297**	P		**P**	**16 27 54.2**	**-1.5**
LSA	**Lhasa**	**50.93**	**274**	*e*P		**P**	**16 28 25.1**	**+2.2**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
LSA	**Lhasa**	**50.93**	**274**	*e*P		**P**	**16 28 25.1**	**+2.2**
	comp=Z,3.9nm,0.5s,mb4.6							
BVAR	**Borovoye Array**	**51.14**	**310**	P		**P**	**16 28 23.1**	**-1.4**
	comp=Z,1.8nm,0.4s,mb4.4,baz=52,slow=6.4,SNR=17							
BRVK	**Borovoye**	**51.18**	**310**	*e*P		**P**	**16 28 23.4**	**-1.4**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**51.18**	**310**	*e*P		**P**	**16 28 23.4**	**-1.4**
	comp=Z,2.0nm,0.5s,mb4.3							
JIRN	**Jiri**	**55.59**	**275**	*e*P		**P**	**16 28 58.3**	**+1.1**
	comp=Z,7.2nm,0.4s,mb5.1							
GUN	**Gumba**	**55.65**	**275**	*e*P		**P**	**16 28 58.8**	**+1.3**
	comp=Z,12nm,0.5s,mb5.2							
KKN	**Kakani**	**56.13**	**276**	*e*P		**P**	**16 29 02.2**	**+1.2**
	comp=Z,19nm,0.7s,mb5.2							
PKI	**Pulchoki**	**56.18**	**275**	*e*P		**P**	**16 29 02.1**	**+0.7**
	comp=Z,16nm,0.7s,mb5.1							
DMN	**Daman**	**56.36**	**276**	*e*P		**P**	**16 29 03.8**	**+1.1**
	comp=Z,48nm,0.9s,mb5.5							
GKN	**Gorkha**	**56.43**	**276**	*e*P		**P**	**16 29 04.0**	**+0.8**
	comp=Z,44nm,0.7s,mb5.6							
KOLN	**Koldanda**	**57.28**	**277**	*e*P		**P**	**16 29 10.1**	**+0.9**
	comp=Z,29nm,0.9s,mb5.3							
ARCES	**ARCESS Array B**	**57.71**	**341**	P		**P**	**16 29 10.5**	**-1.7**
	comp=Z,3.9nm,1.0s,mb4.4,baz=28,slow=8.4,SNR=4.1							
BW06	**Boulder Array**	**63.97**	**55**	*e*P		**P**	**16 29 50.5**	**-4.2**
	comp=Z,3.5nm,0.5s,mb4.7							
FINES	**FINESS Array B**	**63.98**	**335**	P		**P**	**16 29 53.6**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=32,slow=8.3,SNR=16							
NB2	**NORSAR Subarra**	**68.08**	**342**	P		**P**	**16 30 20.4**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.08**	**342**	P		**P**	**16 30 20.7**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.5,baz=26,slow=6.3,SNR=8.5							
AKASG	**Malin Array Be**	**71.60**	**327**	P		**P**	**16 30 41.7**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.5,baz=33,slow=6.1,SNR=14							
AKASG	**Malin Array Be**	**71.60**	**327**	P		**P**	**16 30 41.7**	**-1.0**
ASAR	**Alice Springs**	**72.79**	**199**	P		**P**	**16 30 49.0**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=2.4,slow=6.1,SNR=7.1							
DPC	**Dobruska-Polom**	**76.28**	**334**	*e*P		**P**	**16 31 11.7**	**+1.6**
CLL	**Collm**	**76.39**	**336**	*e*P		**P**	**16 31 11.0**	**+0.3**
CLL				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
CLL	**Collm**	**76.39**	**336**	*e*P		**P**	**16 31 11.0**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.7							
TXAR	**Lajitas Array**	**76.71**	**61**	P		**P**	**16 31 13.1**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=298,slow=4.2,SNR=5.4							
PRU	**Pruhonice**	**77.14**	**335**	*e*P		**P**	**16 31 15.8**	**+0.9**
NKC	**Novy Kostel**	**77.52**	**336**	*e*P		**P**	**16 31 16.1**	**-0.9**
KHC	**Kasperske Hory**	**78.19**	**335**	*e*P		**P**	**16 31 22.2**	**+1.5**
GERES	**GERESS Array B**	**78.41**	**335**	P		**P**	**16 31 21.3**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=27,slow=3.6,SNR=6.1							
BRTR	**Keskin Array B**	**78.57**	**317**	P		**P**	**16 31 23.6**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=57,slow=4.6,SNR=6.9							

*ISCJB **08** 16:28:07.6±3.5, 475N±002×1540E±0.3, h51km±26km, mb4.5/18, Error ellipse: s-maj=39.0km s-min=25.4km az=114.2*
*MOS **08** 16:28:08.4±1.1, 4747N×154.01E, h61km, mb4.3/1, Error ellipse: s-maj=27.2km s-min=18.7km az=27.5*
*IDC **08** 16:28:11.1±6.7, 4724N×15395E, h76km±70km, mb3.6/9, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, ML3.3/1, Error ellipse: s-maj=62.8km s-min=32.2km az=6.0*
*NEIC **08** 16:28:12.3±3.0, 4753N×15399E, h76km±27km, mb4.6/2, Error ellipse: s-maj=50.3km s-min=24.2km az=178.0*
ISC 08 16:28:09.1±3.0, 476N±002×1541E±03, h45km±22km, n24, σ0§87/24, mb4.5/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.74**	**269**	*e*PN		**Pn**	**16 30 01.3**	**+2.2**
ASAJ	**Asahikawa**	**8.74**	**251**	P		**Pn**	**16 30 11.8**	**-1.0**
	0.4nm,0.3s,baz=305,slow=22,SNR=2.8							
KSRS	**Korea Array**	**21.69**	**252**	P		**P**	**16 32 54.4**	**-1.6**
	1.8nm,0.6s,mb3.7,baz=61,slow=9.8,SNR=6.3							
SONM	**Songino Array**	**31.69**	**288**	P		**P**	**16 34 27.3**	**-0.9**
	0.3nm,0.6s,mb3.3,baz=61,slow=10.0,SNR=4.7							
ZAL	**Zalesovo**	**42.68**	**305**	P		**P**	**16 36 00.6**	**-0.7**
	1.2nm,0.5s,mb3.9,baz=34,slow=9.3,SNR=5.5							
ZAL	**Zalesovo**	**42.68**	**305**	P		**P**	**16 36 00.6**	**-0.7**
MKAR	**Makanchi Array**	**47.15**	**297**	P		**P**	**16 36 35.9**	**-0.9**
	1.4nm,0.8s,mb4.0,baz=72,slow=9.1,SNR=8.3							
BVAR	**Borovoye Array**	**50.84**	**309**	P		**P**	**16 37 03.9**	**-1.2**
	0.6nm,0.3s,mb4.0,baz=58,slow=7.3,SNR=8.2							
BRVK	**Borovoye**	**50.88**	**309**	*e*P		**P**	**16 37 05.0**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
BRVK	**Borovoye**	**50.88**	**309**	*e*P		**P**	**16 37 05.0**	**-0.4**
	comp=Z,2.1nm,0.9s,mb4.1							
LSA	**Lhasa**	**50.89**	**273**	*e*P		**P**	**16 37 06.9**	**+1.4**
	comp=Z,11nm,0.7s,mb4.9							
JIRN	**Jiri**	**55.54**	**275**	*e*P		**P**	**16 37 40.3**	**+0.6**
	comp=Z,5.3nm,0.3s,mb5.0							
GUN	**Gumba**	**55.59**	**275**	*e*P		**P**	**16 37 40.3**	**+0.3**
	comp=Z,10nm,0.4s,mb5.2							
KKN	**Kakani**	**56.07**	**275**	*e*P		**P**	**16 37 43.9**	**+0.5**
	comp=Z,16nm,0.6s,mb5.2							
PKI	**Pulchoki**	**56.12**	**275**	*e*P		**P**	**16 37 44.3**	**+0.5**
	comp=Z,9.4nm,0.6s,mb5.0							
DMN	**Daman**	**56.30**	**275**	*e*P		**P**	**16 37 45.9**	**+0.8**
	comp=Z,24nm,0.7s,mb5.4							
GKN	**Gorkha**	**56.37**	**276**	*e*P		**P**	**16 37 45.6**	**+0.1**
	comp=Z,28nm,0.6s,mb5.5							
KOLN	**Koldanda**	**57.21**	**277**	*e*P		**P**	**16 37 51.8**	**+0.2**
	comp=Z,18nm,0.8s,mb5.2							
FINES	**FINESS Array B**	**63.56**	**335**	P		**P**	**16 38 35.1**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=41,slow=8.7,SNR=12							
NB2	**NORSAR Subarra**	**67.64**	**341**	P		**P**	**16 39 01.9**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.64**	**341**	P		**P**	**16 39 02.2**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.4,baz=26,slow=6.4,SNR=7.9							
NOA	**NORSAR Array B**	**67.64**	**341**	P		**P**	**16 39 02.2**	**+0.9**
AKASG	**Malin Array Be**	**71.21**	**327**	P		**P**	**16 39 23.1**	**-0.2**
	comp=Z,1.2nm,0.4s,mb4.2,baz=33,slow=6.3,SNR=6.9							
TXAR	**Lajitas Array**	**76.50**	**61**	P		**P**	**16 39 54.0**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=0.0,slow=1.8,SNR=4.1							

*ISCJB **08** 16:31:42.5±0.7, 172S±0.1×173.3W±0.2, h10km, mb4.0/7, MS3.9/2, Error ellipse: s-maj=24.8km s-min=8.6km az=65.7*
*IDC **08** 16:31:42.7±2.8, 1751S×173.19W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.1/16, mbtmp4.0/5, MS3.9/3, Ms1 3.9/3, ms1mx3.4/33, Error ellipse: s-maj=201.4km s-min=23.4km az=154.0*
*NEIC **08** 16:31:44.7±0.5, 1738S×173.26W, h10km, mb4.1/2, Error ellipse: s-maj=22.8km s-min=12.8km az=145.0*
ISC 08 16:31:44.5±0.7, 172S±01×1732W±0.2, h10km, n21, σ1§02/12, mb4.0/7, MS3.9/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.58**	**23**	*e*Pn		**Pn**	**16 32 38.9**	**-1.2**
AFI				*e*Sn		**Sn**	**16 33 21.8**	**-0.7**
DZM	**Mont Dzumac**	**19.75**	**253**	LR		LR	16 42 26.2	
	comp=Z,266nm,18.6s,baz=274,slow=33							
HNR	**Honiara**	**27.21**	**283**	LR		LR	16 46 53.6	
	comp=Z,236nm,18.2s,MS3.8,baz=178,slow=33							
WB2	**Warramunga Arr**	**49.61**	**258**	*e*P		**P**	**16 40 36.8**	**+0.9**
WRA	**Warramunga Arr**	**49.62**	**258**	P		**P**	**16 40 35.5**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=97,slow=6.1,SNR=10							
AS31	**Alice Springs**	**49.73**	**253**	*e*P		**P**	**16 40 36.7**	**-0.2**
ASAR	**Alice Springs**	**49.73**	**253**	P		**P**	**16 40 37.1**	**+0.2**
	7.1nm,0.8s,mb4.7,baz=85,slow=8.5,SNR=40							
FITZ	**Fitzroy Crossi**	**58.02**	**259**	LR		LR	17 04 44.0	
	comp=Z,105nm,19.1s,MS4.0,baz=118,slow=34							
SBA	**Scott Base**	**61.45**	**185**	*e*P		**P**	**16 42 00.1**	**-1.0**
	1.3nm,0.7s,mb4.2							
VNDA	**Vanda**	**61.58**	**186**	*e*P		**P**	**16 42 00.5**	**-1.5**
	1.2nm,1.1s,mb3.9							
NVAR	**Mina Array Bea**	**75.57**	**42**	P		**P**	**16 43 31.1**	**+1.8**
	1.1nm,0.8s,mb3.9,baz=229,slow=8.6,SNR=6.7							
TXAR	**Lajitas Array**	**81.48**	**56**	P		**P**	**16 44 02.9**	**+1.0**
	2.1nm,1.2s,mb3.9,baz=186,slow=10,SNR=4.7							
TXAR	**Lajitas Array**	**81.48**	**56**	P		**P**	**16 44 02.9**	**+1.0**
PDAR	**Pinedale Array**	**83.51**	**42**	P		**P**	**16 44 13.7**	**+1.2**
	0.6nm,0.8s,mb3.8,baz=198,slow=1.4,SNR=3.6							
CLL	**Collm**	**145.65**	**353**	*e*PKPbc	PKPbc		16 51 25.0	+1.7
	comp=Z,14nm,1.0s							
CLL				*i* PKiKP	PKiKP		16 51 29.0	+1.9
CLL				*ex*	x		16 51 40.0	
STHS	**Stebnicka Huta**	**145.83**	**343**	*e*PKP	PKPdf		16 51 26.7	+3.4
BRG	**Berggiesshubel**	**145.95**	**352**	*e*P	PKPdf		16 51 26.9	+3.3
	comp=Z,8.7nm,1.4s							
KECS	**Kecovo**	**146.88**	**343**	*e*PKP	PKPbc		16 51 31.1	+4.1
VYHS	**Vyhne**	**147.30**	**345**	*e*PKP	PKPbc		16 51 35.0	+6.8
BRTR	**Keskin Array B**	**147.67**	**319**	PKPbc	PKPbc		16 51 29.8	+0.6
	comp=Z,1.7nm,1.0s,baz=108,slow=2.7,SNR=5.4							
GERES	**GERESS Array B**	**147.97**	**351**	PKPbc	PKPbc		16 51 30.0	0.0
	comp=Z,0.2nm,0.2s,baz=60,slow=6.0,SNR=3.6							

MOS 08 16:45:49.5±0.4, 4293N×4557E, h105km, mb3.7/1, Error ellipse: s-maj=82.4km s-min=22.5km az=9.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLKR	**Vladikavkaz**	**0.67**	**280**	*e*P		Pn	16 46 08.1	+1.0
VLKR				*e*S		Sn	16 46 22.9	+2.7
LACR	**Lac**	**0.94**	**264**	*i* P		Pn	16 46 10.5	+0.8
LACR				*i* S		Sn	16 46 27.0	+2.1
ARNR	**Ardon**	**0.98**	**286**	*i* P		Pn	16 46 10.7	+0.6
ARNR				*i* S		Sn	16 46 27.5	+1.9
KMSR	**Komsomolskaya**	**1.03**	**295**	*i* P		Pn	16 46 10.9	+0.3
KMSR				*i* S		Sn	16 46 28.5	+2.0
KORR	**Kora**	**1.11**	**278**	*i* P		Pn	16 46 12.5	+1.0
KORR				*i* S		Sn	16 46 30.9	+2.8
ZEI	**Tsey**	**1.24**	**263**	*i* P		Pn	16 46 13.4	+0.5
ZEI				*i* S		Sn	16 46 32.2	+1.6
DIGR	**Digorskoe uzhe**	**1.46**	**269**	*i* P		Pn	16 46 16.0	+0.5
DIGR				*i* S		Sn	16 46 36.6	+1.3

IDC 08 16:49:56.1±9.7, 617S×15149E, h52km±66km, mb3.5/4, mb1 3.7/5, mb1mx3.4/15, mbtmp3.6/5, ML2.6/1, Error ellipse: s-maj=74.1km s-min=60.6km az=171.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**233**	P		Pn	16 51 13.5	-0.1
	1.2nm,0.3s,baz=66,slow=6.3,SNR=8.2							
PMG				S		Sn	16 52 15.4	+1.4
	3.1nm,0.3s,baz=174,slow=20,SNR=7.7							
WRA	**Warramunga Arr**	**21.57**	**229**	P		P	16 54 40.6	-0.6
	0.7nm,0.6s,baz=56,slow=10,SNR=8.5							
ASAR	**Alice Springs**	**24.27**	**222**	P		P	16 55 08.0	-0.3
	2.2nm,0.8s,baz=54,slow=9.7,SNR=32							
STKA	**Stephens Creek**	**27.20**	**199**	P		P	16 55 36.2	+1.4
	2.7nm,1.0s,baz=30,slow=14,SNR=2.8							
FITZ	**Fitzroy Crossi**	**27.87**	**243**	P		P	16 55 41.5	+0.6
	0.8nm,0.6s,baz=56,slow=12,SNR=7.3							

*IDC **08** 16:50:14.5±1.2, 4708N×154.02E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/26, mbtmp4.0/14, ML2.9/1, Error ellipse: s-maj=29.5km s-min=26.5km az=174.0*
*NEIC **08** 16:50:17.0±0.8, 4706N×15393E, h15km, Error ellipse: s-maj=22.7km s-min=19.6km az=208.0*
*ISCJB **08** 16:50:18.7±1.0, 472N±0.1×154.1E±0.2, h35km, mb3.9/14, Error ellipse: s-maj=24.6km s-min=13.7km az=96.9*
*MOS **08** 16:50:19.0±1.2, 4717N×15392E, h49km, mb3.9/1, Error ellipse: s-maj=26.0km s-min=17.8km az=96.0*
ISC 08 16:50:20.6±1.0, 473N±01×1541E±02, h35km, n24, σ1§14/24, mb3.9/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.69**	**20**	*e*PN		**Pn**	**16 51 14.5**	**-0.5**
SKR				*e*			16 51 56.6	
ASAJ	**Asahikawa**	**8.63**	**253**	Pn		**Pn**	**16 52 20.6**	**-2.4**
	0.1nm,0.3s,baz=38,slow=17,SNR=2.6							
SONM	**Songino Array**	**31.80**	**289**	P		**P**	**16 56 40.6**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=72,slow=9.5,SNR=3.9							
ZAL	**Zalesovo**	**42.88**	**306**	P		**P**	**16 58 14.2**	**-1.2**
	0.5nm,0.4s,mb3.6,baz=106,slow=4.4,SNR=3.6							
MKAR	**Makanchi Array**	**47.30**	**297**	P		**P**	**16 58 49.9**	**-0.8**
	1.3nm,0.7s,mb3.9,baz=69,slow=6.5,SNR=7.8							
BVAR	**Borovoye Array**	**51.06**	**309**	P		**P**	**16 59 16.9**	**-2.5**
	0.9nm,0.3s,mb4.2,baz=53,slow=7.7,SNR=9.1							
JIRN	**Jiri**	**55.57**	**275**	*e*P		**P**	**16 59 53.5**	**+1.0**
	3.4nm,0.3s,mb4.9							
KKN	**Kakani**	**56.10**	**276**	*e*P		**P**	**16 59 57.6**	**+1.3**
PKI	**Pulchoki**	**56.16**	**275**	*e*P		**P**	**16 59 57.7**	**+1.0**
DMN	**Daman**	**56.34**	**276**	*e*P		**P**	**16 59 59.4**	**+1.4**
	20nm,0.9s							
GKN	**Gorkha**	**56.40**	**276**	*e*P		**P**	**16 59 59.6**	**+1.2**
	18nm,0.8s							
KOLN	**Koldanda**	**57.26**	**277**	*e*P		**P**	**17 00 05.7**	**+1.2**
FINES	**FINESS Array B**	**63.87**	**335**	P		**P**	**17 00 49.1**	**-0.5**
	0.6nm,0.4s,mb4.0,baz=42,slow=8.1,SNR=12							
NB2	**NORSAR Subarra**	**67.97**	**342**	P		**P**	**17 01 16.2**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.97**	**342**	P		**P**	**17 01 16.3**	**+0.3**
	comp=Z,2.7nm,0.9s,mb4.2,baz=26,slow=6.3,SNR=4.6							
NOA	**NORSAR Array B**	**67.97**	**342**	P		**P**	**17 01 16.3**	**+0.3**
HFS	**Hagfors**	**68.22**	**340**	P		**P**	**17 01 17.3**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.4,baz=57,slow=5.5,SNR=7.1							
AKASG	**Malin Array Be**	**71.50**	**327**	P		**P**	**17 01 37.1**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=31,slow=5.7,SNR=6.4							
AKASG	**Malin Array Be**	**71.50**	**327**	P		**P**	**17 01 37.1**	**-0.6**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ASAR	**Alice Springs**	**72.90**	**199**	P		**P**	**17 01 44.1**	**-1.9**
	comp=Z,0.3nm,0.8s,mb3.3,baz=26,slow=5.3,SNR=4.4							
TXAR	**Lajitas Array**	**76.67**	**61**	P		**P**	**17 02 07.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=311,slow=3.8,SNR=6.7							
MLR	**Muntele Rosu**	**77.04**	**325**	P		**P**	**17 02 10.4**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.3,baz=211,slow=8.8,SNR=4.5							
GERES	**GERESS Array B**	**78.30**	**335**	P		**P**	**17 02 17.9**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=52,slow=8.6,SNR=3.7							
BRTR	**Keskin Array B**	**78.48**	**317**	P		**P**	**17 02 19.1**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=12,slow=6.3,SNR=3.6							

*ISCJB **08** 16:51:54.8±0.5, 5150N±002×1606E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.6km az=37.8*
*NEIC **08** 16:51:56.5±0.4, 5152N×1604E, h5km, ML2.5(BRA), ML2.9(CLL), Error ellipse: s-maj=5.3km s-min=4.6km az=54.0*
*IPEC **08** 16:51:56.2±0.4, 5153N×1614E, h0km±2

BSD				*e*S		**Sn**	**16 53 36.3**	**-1.1**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn		**Pn**	**16 52 57.3**	**+0.6**
	comp=Z,1.9nm,0.2s							
MOA				⇓*i*Sg		**Sg**	**16 54 00.5**	**+0.2**
	comp=Z,6.9nm,0.4s							
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG		**Pg**	**16 53 13.6**	**+2.3**
STHS				*e*SG		**Sg**	**16 54 05.4**	**+3.2**
ARSA	**Arzberg**	**4.30**	**185**	⇓*e*Pg		**Pg**	**16 53 16.4**	**-2.0**
ARSA				⇓*e*Sg		**Sg**	**16 54 15.9**	**+1.7**
	comp=Z,5.4nm,0.4s							
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**16 54 03.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=6.1							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**16 54 38.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=14							
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn		**Pn**	**16 56 10.7**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=9.5							

WEL 08 17:11:07.1±0.5, 3788S×17604E, h203km±4km, ML3.8/9, 2C, Error ellipse: s-maj=6.0km s-min=5.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.92**	**114**	PN	Pn	17 11 36.5	-0.1
URZ				SN	Sn	17 11 58.1	-1.4
MWZ	**Matawai**	**1.25**	**112**	PN	Pn	17 11 39.1	+0.1
MWZ				SN	Sn	17 12 02.9	-0.9
OTVZ	**Oturere**	**1.31**	**193**	PN	Pn	17 11 40.1	+0.7
OTVZ				SN	Sn	17 12 05.5	+0.9
BKZ	**Black Stump Fm**	**1.33**	**165**	⇑PN	Pn	17 11 39.5	0.0
TUVZ	**Tukino**	**1.42**	**192**	PN	Pn	17 11 40.7	+0.4
WNVZ	**Wahianoa**	**1.48**	**193**	PN	Pn	17 11 41.0	+0.1
PKVZ	**Pokaka**	**1.51**	**201**	PN	Pn	17 11 41.3	+0.2
MOVZ	**Moawhango**	**1.54**	**188**	PN	Pn	17 11 41.1	-0.3
MTVZ	**Mangateitei**	**1.57**	**196**	PN	Pn	17 11 41.0	-0.6
KNZ	**Kokohu**	**1.71**	**132**	PN	Pn	17 11 43.1	+0.2
PUZ	**Puketiti**	**1.76**	**97**	PN	Pn	17 11 43.3	-0.1
MXZ	**Matakaoa Point**	**1.82**	**81**	PN	Pn	17 11 44.3	+0.3
WAZ	**Wanganui**	**2.04**	**204**	PN	Pn	17 11 46.4	+0.2
TSZ	**Takapari Road**	**2.17**	**182**	PN	Pn	17 11 46.9	-0.7
WPHZ	**Waipukurau**	**2.20**	**172**	PN	Pn	17 11 47.5	-0.4
PXZ	**Pawanui**	**2.24**	**164**	PN	Pn	17 11 47.9	-0.4
MRZ	**Mangatainoka R**	**2.80**	**187**	⇑PN	Pn	17 11 52.8	-1.7
TIWZ	**Tintock**	**2.89**	**182**	PN	Pn	17 11 54.0	-1.6
KIW	**Kapiti Island**	**3.10**	**196**	PN	Pn	17 11 55.9	-2.2
MTW	**Mount Morrison**	**3.30**	**187**	PN	Pn	17 11 57.9	-2.5
CAW	**Cannon Point**	**3.31**	**193**	PN	Pn	17 11 58.4	-2.1
DUWZ	**D'Urville Isla**	**3.35**	**209**	PN	Pn	17 11 58.9	-2.1
MRW	**Makara Radio**	**3.50**	**197**	PN	Pn	17 12 00.5	-2.3
TRWZ	**Traveller**	**3.52**	**184**	PN	Pn	17 12 00.6	-2.5
PAWZ	**Paruwai Farm**	**3.53**	**188**	PN	Pn	17 12 00.7	-2.5
WEL	**Wellington**	**3.54**	**196**	PN	Pn	17 12 01.0	-2.3
SNZO	**South Karori**	**3.58**	**196**	PN	Pn	17 12 01.1	-2.7
MSWZ	**Moikau Station**	**3.58**	**190**	PN	Pn	17 12 01.0	-2.8
TCW	**Tory Channel**	**3.59**	**202**	PN	Pn	17 12 01.8	-2.2
NNZ	**Nelson**	**3.92**	**211**	PN	Pn	17 12 06.2	-1.7
QRZ	**Quartz Range**	**4.01**	**222**	PN	Pn	17 12 06.5	-2.6
BSWZ	**Blackbirch Sta**	**4.17**	**203**	PN	Pn	17 12 08.9	-2.3
THZ	**Tophouse**	**4.57**	**211**	PN	Pn	17 12 14.0	-2.0
KHZ	**Kahutara**	**4.92**	**202**	PN	Pn	17 12 16.7	-3.9
LTZ	**Lake Taylor**	**5.68**	**209**	PN	Pn	17 12 27.2	-3.1
MQZ	**McQueen's Vall**	**6.36**	**203**	PN	Pn	17 12 34.6	-4.5

*ISCJB **08** 17:12:02.9±0.7, 1046N±006×6247W±003, h85km±8km, Error ellipse: s-maj=10.4km s-min=4.8km az=155.7*
*FUNV **08** 17:12:04.2, 1059N×6239W, h85km, MW2.8*
*NEIC **08** 17:12:05.7, 1062N×6236W, h82km, MD3.0(TRN), After TRN.*
*TRN **08** 17:12:05.7, 1062N×6236W, h83km, MD3.0*
ISC 08 17:12:03.6±0.7, 1052N±006×6247W±003, h84km±9km, n15, σ0§86/26, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.27**	**63**	*i* P	**Pn**	**17 12 16.3**	**+0.1**
GUIV				*e*S	**Sn**	**17 12 25.3**	**-0.3**
TCE	**Chacachacare**	**0.72**	**76**	*e*P	**Pn**	**17 12 20.4**	**+0.6**
TCE				*e*S	**Sn**	**17 12 31.7**	**-0.3**
CRUV	**Carupano**	**0.77**	**281**	⇓*i*P	**Pn**	**17 12 21.0**	**+0.6**
CRUV				*e*S	**Sn**	**17 12 33.4**	**+0.6**
TPP	**Pointe-a-Pierr**	**1.02**	**101**	*e*P	**Pn**	**17 12 26.1**	**+2.9**
TPP				*e*S	**Sn**	**17 12 38.1**	**+0.4**
TRN	**Trinidad (W)**	**1.05**	**83**	*e*P	**Pn**	**17 12 24.1**	**+0.5**
TRN				*e*S	**Sn**	**17 12 37.2**	**-1.3**
TBH	**Brigand Hill**	**1.38**	**91**	*e*P	**Pn**	**17 12 28.3**	**+0.7**
TBH				*e*S	**Sn**	**17 12 45.2**	**-0.4**
TPR	**Prospect**	**1.79**	**68**	*e*P	**Pn**	**17 12 32.2**	**-0.6**
TPR				*e*S	**Sn**	**17 12 54.2**	**-0.8**
GRW	**Mount Saint Ca**	**1.81**	**26**	*e*P	**Pn**	**17 12 33.3**	**+0.2**
GRW				*e*S	**Sn**	**17 12 54.9**	**-0.7**
PCRV	**Puerto La Cruz**	**2.16**	**261**	*e*P	**Pn**	**17 12 38.8**	**+1.0**
PCRV				*e*S	**Sn**	**17 13 03.9**	**0.0**
CUPV	**Cœpira**	**3.30**	**262**	*e*P	**Pn**	**17 12 53.9**	**+0.9**
CUPV				*e*S	**Sn**	**17 13 30.3**	**-1.0**
MERV	**Las Mercedes**	**3.98**	**252**	*e*S	**Sn**	**17 13 47.2**	**-0.5**
BIM	**Bigot**	**4.20**	**19**	⇑*i*P	**Pn**	**17 13 10.3**	**+5.0**
MVM	**Montagne Vaucl**	**4.29**	**21**	*e*P	**Pn**	**17 13 10.8**	**+4.3**
LUEV	**Luepa**	**4.75**	**168**	*e*P	**Pn**	**17 13 13.1**	**+0.3**
CAOV	**Caicara del Or**	**4.96**	**230**	*e*P	**Pn**	**17 13 15.8**	**+0.2**
CAOV				*e*S	**Sn**	**17 14 09.3**	**-2.3**

*ISCJB **08** 17:12:35.4±0.3, 4989N±002×1844E±002, h0km, Error ellipse: s-maj=3.3km s-min=1.9km az=25.9*
*BGR **08** 17:12:36.2±1.1, 4982N×1860E, h1km, ML3.4, Error ellipse: s-maj=13.3km s-min=11.1km az=23.0*
*IDC **08** 17:12:37.4±1.1, 4975N×1852E, h0km, mb1 3.4/4, mb1mx3.2/18, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=24.4km s-min=9.2km az=156.0*
*NEIC **08** 17:12:37.5±0.4, 4984N×1845E, h5km, ML3.2(BUC), ML3.4(SZGRF), Error ellipse: s-maj=6.5km s-min=3.6km az=199.0*
*IPEC **08** 17:12:37.2±0.1, 4980N×1854E, h0km, ML2.6/4, Error ellipse: s-maj=1.7km s-min=0.7km az=164.0*
*VIE **08** 17:12:37.3±1.3, 4992N×1827E, h0km, mb2.6/4, ML2.8/4, Error ellipse: s-maj=8.1km s-min=7.5km az=70.0 10 km N of Ostrava Supersted Mining induced.*
*CSEM **08** 17:12:37.3±0.1, 4983N×1852E, h1km, ML3.4/6, Error ellipse: s-maj=2.7km s-min=1.7km az=12.0*
*PRU **08** 17:12:38.3, 4982N×1846E, h0km*
ISC 08 17:12:36.9±0.3, 4984N±002×1847E±002, h0km, n68, σ1§17/109, 12C-11D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.21**	**270**	*e*PG	**Pg**	**17 12 42.6**	**+1.7**
OKC				*e*SG	**Sg**	**17 12 46.4**	**+2.8**
	2µm,1.4s						
OKC	**Ostrava-Krasne**	**0.21**	**270**	*e*Pg	**Pg**	**17 12 42.1**	**+1.2**
OKC				*e*Sg	**Sg**	**17 12 46.4**	**+2.8**
RAC	**Raciborz**	**0.30**	**324**	*e*Pg	**Pg**	**17 12 45.0**	**+2.3**
RAC				*e*Sg	**Sg**	**17 12 50.3**	**+3.7**
MORC	**Moravsky Berou**	**0.60**	**264**	⇓*i*P	**Pg**	**17 12 49.7**	**+1.2**
MORC	**Moravsky Berou**	**0.60**	**264**	⇓P	**Pg**	**17 12 49.7**	**+1.2**
MORC	**Moravsky Berou**	**0.60**	**264**	*e*Pg	**Pg**	**17 12 49.5**	**+1.0**
MORC				*e*Sg	**Sg**	**17 12 57.4**	**+1.1**
	161nm,0.7s						
LIKS	**Likavka**	**0.89**	**152**	*e*PN	**Pn**	**17 12 56.3**	**-0.4**
OJC	**Ojcow**	**0.94**	**66**	*e*Pg	**Pg**	**17 12 54.4**	**-0.5**
OJC				*e*Sg	**Sg**	**17 13 07.3**	**+0.3**
OJC	**Ojcow**	**0.94**	**66**	*e*Pg	**Pg**	**17 12 54.4**	**-0.5**
OJC				*e*Sg	**Sg**	**17 13 05.8**	**-1.2**
JAVC	**Velka Javorina**	**1.11**	**208**	*e*Pg	**Pg**	**17 12 58.8**	**+0.6**
JAVC				*e*Sg	**Sg**	**17 13 15.8**	**+3.2**
	62nm,0.6s						
NIE	**Niedzica**	**1.27**	**109**	*e*Pg	**Pg**	**17 13 01.0**	**-0.2**
NIE				*e*Sg	**Sg**	**17 13 19.5**	**+1.8**
VRAC	**Vranov**	**1.33**	**247**	Pg	**Pg**	**17 13 02.2**	**-0.3**
	34nm,0.3s,baz=68,slow=15,SNR=103						
VRAC				Lg		17 13 20.8	
	19nm,0.3s,baz=169,slow=22,SNR=11						
VRAC	**Vranov**	**1.33**	**247**	⇑P	**Pg**	**17 13 02.2**	**-0.2**
VRAC	**Vranov**	**1.33**	**247**	⇑P	**Pg**	**17 13 02.2**	**-0.2**
VRAC	**Vranov**	**1.33**	**247**	*e*Pg	**Pg**	**17 13 02.6**	**+0.2**
VRAC				*e*Sg	**Sg**	**17 13 19.8**	**+0.1**
	135nm,0.5s						
VYHS	**Vyhne**	**1.37**	**170**	*e*PN	**Pn**	**17 13 02.1**	**-1.1**
VYHS				*e*SN	**Sn**	**17 13 20.9**	**-1.1**
VYHS	**Vyhne**	**1.37**	**170**	*e*Pg	**Pg**	**17 13 02.2**	**-0.9**
VYHS				*e*Sn	**Sn**	**17 13 20.9**	**-1.1**
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*PG	**Pg**	**17 13 04.9**	**-0.3**
DPC				*e*SG	**Sg**	**17 13 25.7**	**+1.4**
	44nm,0.4s						
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*Pg	**Pg**	**17 13 05.0**	**-0.2**
DPC				*e*Sg	**Sg**	**17 13 25.1**	**+0.8**
SMOL	**Smolenice**	**1.49**	**208**	*e*PN	**Pn**	**17 13 04.5**	**-0.4**
SMOL				*e*SN	**Sn**	**17 13 25.6**	**+0.5**
KRUC	**Moravsky**	**1.56**	**241**	*e*Pg	**Pg**	**17 13 05.9**	**-0.9**
KRUC				*e*Sg	**Sg**	**17 13 27.0**	**-0.1**
	43nm,0.2s						
UPC	**Upice**	**1.72**	**294**	*e*PG	**Pg**	**17 13 08.9**	**-0.9**
KSP	**Ksiaz**	**1.72**	**307**	*e*Pn	**Pn**	**17 13 08.2**	**+0.1**
KSP				*e*Pg	**Pg**	**17 13 10.2**	**+0.4**
KSP				*e*Sg	**Sg**	**17 13 32.8**	**+0.7**
KSP	**Ksiaz**	**1.72**	**307**	*e*Pg	**Pg**	**17 13 10.2**	**+0.4**
KSP				*e*Sg	**Sg**	**17 13 32.8**	**+0.7**
STHS	**Stebnicka Huta**	**1.85**	**102**	*e*PN	**Pn**	**17 13 11.9**	**+2.0**
STHS				*e*SN	**Sn**	**17 13 38.0**	**+4.0**
ZST	**Bratislava**	**1.88**	**209**	*e*PN	**Pn**	**17 13 10.1**	**-0.1**
ZST				*e*SN	**Sn**	**17 13 34.4**	**-0.1**
KECS	**Kecovo**	**1.90**	**135**	*e*PN	**Pn**	**17 13 09.6**	**-0.9**
KECS				*e*SN	**Sn**	**17 13 34.8**	**-0.3**
PENC	**Penc**	**2.12**	**165**	⇓*e*P	**Pn**	**17 13 13.5**	**-0.1**
PSZ	**Piszkesteto**	**2.14**	**153**	⇓*i*P	**Pn**	**17 13 14.3**	**+0.5**
PSZ	**Piszkesteto**	**2.14**	**153**	⇓P	**Pn**	**17 13 14.3**	**+0.5**
PSZ	**Piszkesteto**	**2.14**	**153**	*e*Pn	**Pn**	**17 13 14.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.17**	**114**	*e*PN	**Pn**	**17 13 16.0**	**+1.8**
CRVS				*e*SG	**Sg**	**17 13 47.4**	**+0.8**
SOP	**Sopron**	**2.50**	**211**	*e*Pn	**Pn**	**17 13 18.6**	**-0.2**
PRU	**Pruhonice**	**2.54**	**275**	*e*PN	**Pn**	**17 13 19.0**	**-0.4**
PRU				*e*PG	**Pg**	**17 13 23.1**	**-2.6**
PRU				*e*SG	**Sg**	**17 13 58.2**	**-0.4**
	28nm,0.6s						
CONA	**Conrad Observa**	**2.57**	**223**	⇓*i*Pn	**Pn**	**17 13 19.2**	**-0.6**
CONA				⇑*i*Sg	**Sg**	**17 14 02.8**	**+3.2**
	9.0nm,0.5s						
PVCC	**Panska Ves**	**2.60**	**287**	*e*PG	**Pg**	**17 13 24.6**	**-2.1**
KOLS	**Kolonicke sedl**	**2.65**	**109**	*e*PN	**Pn**	**17 13 22.9**	**+2.1**
KOLS				*e*PG	**Pg**	**17 13 28.6**	**+0.9**
BRG	**Berggiesshubel**	**3.08**	**291**	*e*Sg	**Sg**	**17 14 15.6**	**-0.2**
ARSA	**Arzberg**	**3.25**	**218**	⇓*i*Pn	**Pn**	**17 13 29.5**	**+0.5**
ARSA				⇓*i*Sg	**Sg**	**17 14 26.3**	**+5.0**
	2.8nm,0.3s						
KHC	**Kasperske Hory**	**3.27**	**259**	*e*PN	**Pn**	**17 13 29.0**	**-0.3**
KHC				*e*PG	**Pg**	**17 13 36.5**	**-3.0**
KHC				*e*SG	**Sg**	**17 14 20.4**	**-1.5**
	21nm,0.5s						
GEC2	**GERESS Array S**	**3.27**	**254**	*e*Pn	**Pn**	**17 13 29.6**	**+0.2**
GEC2				*e*Sg	**Sg**	**17 14 23.3**	**+1.2**
GEC2	**GERESS Array S**	**3.27**	**254**	*e*Pn	**Pn**	**17 13 29.6**	**+0.2**
GEC2				*e*Sg	**Sg**	**17 14 23.3**	**+1.2**
GERES	**GERESS Array B**	**3.27**	**254**	Pn	**Pn**	**17 13 29.7**	**+0.3**
	0.7nm,0.3s,baz=60,slow=14,SNR=9.8						
GERES				Pg	**Pg**	**17 13 37.9**	**-1.7**
	3.5nm,0.3s,baz=71,slow=16,SNR=35						
GERES				Lg		17 14 21.2	
	2.3nm,0.3s,baz=72,slow=30,SNR=5.1						
GERES	**GERESS Array B**	**3.27**	**254**	Pg	**Pg**	**17 13 37.9**	**-1.7**
MOA	**Molln**	**3.42**	**236**	⇓*i*Pn	**Pn**	**17 13 30.4**	**-1.0**
MOA				⇑*i*Sg	**Sg**	**17 14 26.4**	**-0.2**
	8.1nm,0.3s						
PKSM	**Moragy**	**3.63**	**178**	⇑*i*P	**Pn**	**17 13 33.4**	**-1.0**
PKSM	**Moragy**	**3.63**	**178**	⇑P	**Pn**	**17 13 33.4**	**-0.9**
WET	**Wettzell**	**3.71**	**261**	*e*Pn	**Pn**	**17 13 34.7**	**-0.7**
WET				*e*Sg	**Sg**	**17 14 35.2**	**-0.9**
WET	**Wettzell**	**3.71**	**261**	*e*Pn	**Pn**	**17 13 34.7**	**-0.8**
WET				*e*Sg	**Sg**	**17 14 35.2**	**-0.9**
WET	**Wettzell**	**3.71**	**261**	Pn	**Pn**	**17 13 34.7**	**-0.8**
WET				Sg	**Sg**	**17 14 35.2**	**-0.9**
CLL	**Collm**	**3.78**	**295**	*e*Pg	**Pg**	**17 13 47.0**	**-2.4**
CLL				*e*Sg	**Sg**	**17 14 39.7**	**+1.3**
CLL	**Collm**	**3.78**	**295**	*e*Pg	**Pg**	**17 13 47.0**	**-2.4**
CLL				*e*Sg	**Sg**	**17 14 39.0**	**+0.6**
	comp=Z,27nm,1.0s						
NKC	**Novy Kostel**	**3.90**	**278**	*e*PN	**Pn**	**17 13 38.1**	**0.0**
NKC				*e*PG	**Pg**	**17 13 48.9**	**-2.8**
NKC				*e*SG	**Sg**	**17 14 42.9**	**+0.6**
	comp=Z,18nm,0.6s						
WERN	**Wernitzgruen**	**3.95**	**279**	*e*Pn	**Pn**	**17 13 39.3**	**+0.6**
DRGR		**4.16**	**136**	⇑*i*P	**Pn**	**17 13 41.4**	**-0.2**
DRGR		**4.16**	**136**	⇑P	**Pn**	**17 13 41.4**	**-0.2**
MOX	**Moxa**	**4.47**	**283**	*e*Pg	**Pg**	**17 14 01.9**	**-0.7**
MOX				*e*Sg	**Sg**	**17 15 03.5**	**+2.9**
GRF	**Grafenberg Arr**	**4.70**	**271**	*e*Sg	**Sg**	**17 15 08.8**	**+0.9**
BZS	**Buzias**	**4.73**	**152**	⇑*i*P	**Pn**	**17 13 49.3**	**-0.1**
BZS	**Buzias**	**4.73**	**152**	⇑P	**Pn**	**17 13 49.3**	**-0.2**
BURAR	**Bucovina Array**	**4.99**	**114**	⇓*i*P	**Pn**	**17 13 53.3**	**+0.3**
BURAR	**Bucovina Array**	**4.99**	**114**	⇓P	**Pn**	**17 13 53.4**	**+0.3**
GZR	**Gura Zlata**	**5.32**	**145**	⇑*i*P	**Pn**	**17 13 57.5**	**0.0**
GZR	**Gura Zlata**	**5.32**	**145**	⇑P	**Pn**	**17 13 57.5**	**0.0**
DAVOX	**Davos**	**6.50**	**245**	Pn	**Pn**	**17 14 15.9**	**+2.2**
	baz=53,slow=15,SNR=5.4						
AKASG	**Malin Array Be**	**6.95**	**79**	Pn	**Pn**	**17 14 17.6**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=261,slow=13,SNR=4.2						
FINES	**FINESS Array B**	**12.39**	**17**	Pn	**Pn**	**17 15 29.9**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=5.5						
ARCES	**ARCESS Array B**	**20.05**	**7**	P	**P**	**17 17 10.0**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=193,slow=12,SNR=3.5						

*BJI **08** 17:12:56.2, 1392N×5401E, h10km, mB5.3, mb4.9*
*ISCJB **08** 17:13:04.3±0.3, 1476N±005×5463E±004, h10km, mb4.6/71, MS3.9/14, Error ellipse: s-maj=6.8km s-min=5.9km az=16.7*
*IDC **08** 17:13:04.8±0.6, 1474N×5474E, h0km, mb4.2/24, mb1 4.3/25, mb1mx4.3/30, mbtmp4.2/25, ML3.4/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/37, Error ellipse: s-maj=15.9km s-min=13.9km az=106.0*
*GCMT **08** 17:13:06.0±0.4, 1456N×5466E, h14km±1km, MW4.9/68, Moment Tensor Solution. s27,c30; s68,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.49±.18; Mθθ=2.24±.12; Mφφ=0.25±.12; Mrθ=-1.09±.23; Mrφ=-0.96±.08; Mθφ=1.34±.30; Best double couple: Mo=3.03100×10^16 NP1:φs=315.00000°, δ45.00000°, λ=-51.00000°. NP2: φs=86.00000°, δ57.00000°, λ=-122.00000°. Principal axes: T 2.6870, Plg7.0000°, Azm198.0000°; N 0.6870, Plg26.0000°, Azm104.0000°; P -3.3740, Plg63.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 17:13:06.0±0.3, 1476N×5465E, h10km, mb4.8/36 Error ellipse: s-maj=7.1km s-min=6.3km az=79.0*
*CSEM **08** 17:13:07.0±0.1, 1475N×5452E, h30km, mb4.8/36, Ms3.7, Mw4.9, Error ellipse: s-maj=3.9km s-min=2.5km az=45.0*
*MOS **08** 17:13:07.8±0.9, 1479N×5456E, h33km, mb5.0/31, Error ellipse: s-maj=11.2km s-min=5.7km az=118.4*
ISC 08 17:13:06.4±0.3, 1477N±005×5463E±004, h10km, n172, σ0§86/166, mb4.6/71, MS3.9/14, 13C-7D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RBK	**Rabkut**	**2.75**	**351**	⇓P	**Pn**	**17 13 49.7**	**-0.9**
	SNR=11						
ABTO	**Aybut**	**2.87**	**334**	⇓P	**Pn**	**17 13 52.4**	**+0.1**
	SNR=13						
SHAO	**Shalim**	**3.38**	**16**	⇑P	**Pn**	**17 13 59.6**	**+0.5**
	SNR=6.9						
JMDO	**Jabal Madar**	**8.25**	**23**	⇓P	**Pn**	**17 15 05.6**	**-0.5**
WSAR	**Wadi Sarin**	**9.24**	**24**	Pn	**Pn**	**17 15 18.8**	**-0.8**
	0.4nm,0.3s,baz=254,slow=6.6,SNR=5.3						
WSAR				LR	LR	17 18 42.1	
	comp=Z,2µm,20.8s,baz=213,slow=37						
ATD	**Arta Tunnel**	**11.92**	**256**	LR	LR	17 19 28.4	
	comp=Z,1µm,21.2s,baz=282,slow=32						
MSEY	**Mahe Island**	**19.33**	**177**	P	**Pn**	**17 17 32.3**	**-0.5**
	10nm,0.8s						
MSEY	**Mahe Island**	**19.33**	**177**	P	**Pn**	**17 17 32.3**	**-0.6**
	10nm,0.8s						
HYB	**Hyderabad**	**23.13**	**80**	*i* P	**P**	**17 18 13.0**	**+0.3**
KMBO	**Kilima Mbogo**	**23.35**	**229**	*e*P	**P**	**17 18 15.7**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMBO	**Kilima Mbogo**	**23.35**	**229**	*e*P	**P**	**17 18 15.7**	**+0.7**
	comp=Z,8.1nm,1.3s,mb4.0						
KMBO	**Kilima Mbogo**	**23.35**	**229**	*e*P	**P**	**17 18 15.7**	**+0.7**
	comp=Z,8.1nm,1.3s,mb4.0						
ASF	**Jabal al Asfar**	**23.70**	**320**	P	**P**	**17 18 19.0**	**+0.5**
	comp=Z,2.4nm,0.6s,mb3.8,baz=359,slow=9.3,SNR=4.0						
ASF				LR	LR	17 28 41.3	
	comp=Z,121nm,19.8s,MS3.4,baz=238,slow=39						
MMAI	**Mount Meron Ar**	**25.20**	**319**	P	**P**	**17 18 34.5**	**+2.3**
	comp=Z,6.2nm,0.9s,mb4.2,baz=101,slow=15,SNR=5.9						
MMAI				LR	LR	17 28 35.0	
	comp=Z,164nm,19.3s,MS3.6,baz=110,slow=37						
GNI	**Garni**	**26.73**	**343**	P	**P**	**17 18 49.5**	**+3.5**
	comp=Z,3.1nm,0.5s,mb4.1,baz=67,slow=1.5,SNR=4.0						
GNI				LR	LR	17 31 23.0	
	comp=Z,506nm,20.8s,MS4.0,baz=152,slow=41						
GNI	**Garni**	**26.73**	**343**	*e*P	**P**	**17 18 49.0**	**+3.0**
GNI				pmax	pmax		
	comp=Z,16nm,0.8s						
GNI	**Garni**	**26.73**	**343**	*e*P	**P**	**17 18 49.0**	**+3.0**
	comp=Z,16nm,0.8s,mb4.6						
GNI				LR	LR	17 31 23.0	
KOLN	**Koldanda**	**29.85**	**60**	*e*P	**P**	**17 19 14.8**	**+1.0**
	comp=Z,10.0nm,0.5s,mb4.8						
GKN	**Gorkha**	**30.79**	**60**	*e*P	**P**	**17 19 22.2**	**+0.1**
	comp=Z,13nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**30.93**	**327**	P	**P**	**17 19 25.3**	**+1.9**
	comp=Z,0.8nm,0.6s,mb3.7,baz=145,slow=14,SNR=4.0						
DMN	**Daman**	**31.06**	**61**	*e*P	**P**	**17 19 25.4**	**+0.9**
KKN	**Kakani**	**31.26**	**60**	*e*P	**P**	**17 19 26.7**	**+0.4**
	comp=Z,24nm,0.8s,mb5.1						
GUN	**Gumba**	**31.80**	**61**	*e*P	**P**	**17 19 32.0**	**+0.9**
	comp=Z,59nm,1.1s,mb5.3						
JIRN	**Jiri**	**31.99**	**61**	*e*P	**P**	**17 19 33.5**	**+0.8**
	comp=Z,6.0nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**32.61**	**28**	*e*P	**P**	**17 19 39.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**32.61**	**28**	*e*P	**P**	**17 19 39.0**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**32.61**	**28**	*e*P	**P**	**17 19 39.0**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**35.68**	**4**	P	**P**	**17 20 05.6**	**+0.8**
AKTK				LR	LR	17 38 04.3	
AKTO	**Aktyubinsk**	**35.68**	**4**	P	**P**	**17 20 05.6**	**+0.8**
	comp=Z,5.9nm,0.9s,mb4.5,baz=190,slow=8.3,SNR=11						
AKTO				LR	LR	17 38 04.3	
	comp=Z,330nm,19.1s,MS4.1,baz=14,slow=42						
ORR	**Orenburg**	**36.76**	**0**	*e*P	**P**	**17 20 15.2**	**+1.2**
ORR				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
ORR	**Orenburg**	**36.76**	**0**	*e*P	**P**	**17 20 15.2**	**+1.2**
	comp=Z,20nm,1.1s,mb4.9						
TIRR	**Tirgusor**	**37.03**	**328**	⇑*i*P	**P**	**17 20 16.5**	**+0.1**
MLR	**Muntele Rosu**	**39.01**	**328**	P	**P**	**17 20 37.4**	**+4.4**
	comp=Z,6.4nm,0.7s,mb4.5,baz=116,slow=18,SNR=8.6						
MLR	**Muntele Rosu**	**39.01**	**328**	⇑*i*P	**P**	**17 20 38.9**	**+5.8**
MK31	**Makanchi Array**	**39.40**	**30**	*e*P	**P**	**17 20 36.8**	**+0.5**
MKAR	**Makanchi Array**	**39.40**	**30**	P	**P**	**17 20 36.7**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.1,baz=210,slow=9.0,SNR=28						
MKAR				LR	LR	17 38 53.7	
	comp=Z,99nm,20.1s,MS3.6,baz=243,slow=39						
MKAR	**Makanchi Array**	**39.40**	**30**	P	**P**	**17 20 36.7**	**+0.4**
MKAR				LR	LR	17 38 53.7	
LSZ	**Lusaka**	**39.68**	**222**	LR	LR	17 37 32.8	
	comp=Z,373nm,21.5s,MS4.2,baz=346

comp=Z,0.6nm,0.5s,mb3.8,baz=76,slow=7.5,SNR=7.1
CABF La Chapelle 51.32 319 *e*P **P** 17 22 10.6 -0.2
comp=Z,13nm,0.6s,mb4.7
CABF La Chapelle 51.32 319 *e*P **P** 17 22 10.6 -0.2
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CABF La Chapelle 51.32 319 *e*P **P** 17 22 10.6 -0.2
comp=Z,6.5nm,0.6s,mb4.7
VIVF Saint-Julien-l 51.63 316 *e*P **P** 17 22 12.3 -0.8
BOSA Boshof 51.65 213 P **P** 17 22 14.2 +0.9
comp=Z,3.4nm,0.9s,mb4.3,baz=48,slow=11,SNR=5.0
BOSA Boshof 51.65 213 P **P** 17 22 14.1 +0.9
LASF Ste Croix 51.94 315 *e*P **P** 17 22 15.1 -0.3
XAN Xi'an 52.41 58 P **P** 17 22 17.9 -1.0
XAN AP pP 17 22 26.8 +4.7
XAN AMB AMB
comp=Z,14nm,0.9s,mb4.9
MEZF Maizieres J'vi 52.68 320 *e*P **P** 17 22 20.5 -0.4
comp=Z,33nm,0.8s,mb5.0
MEZF Maizieres J'vi 52.68 320 *e*P **P** 17 22 20.5 -0.4
comp=Z,17nm,0.8s,mb5.0
SMF Signal de Mont 52.78 318 *e*P **P** 17 22 20.8 -0.9
comp=Z,6.9nm,0.8s,mb4.4
SMF Signal de Mont 52.78 318 *e*P **P** 17 22 20.8 -0.9
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SMF Signal de Mont 52.78 318 *e*P **P** 17 22 20.8 -0.9
comp=Z,3.5nm,0.8s,mb4.4
MTLF Montolieu 52.86 314 *e*P **P** 17 22 21.6 -0.7
LOR Lormes 52.98 319 *e*P **P** 17 22 22.5 -0.6
comp=Z,23nm,0.8s,mb4.8
LOR *e*R
comp=Z,137nm,21.5s
LOR Lormes 52.98 319 *e*P **P** 17 22 22.5 -0.6
LOR pmax pmax
comp=Z,11nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,140nm,21.5s,MS4.0
LOR Lormes 52.98 319 *e*P **P** 17 22 22.5 -0.6
comp=Z,11nm,0.8s,mb4.8
LOR LR LR
comp=Z,140nm,21.5s,MS4.0
SSF Saint Saulge 53.13 318 *e*P **P** 17 22 23.6 -0.7
comp=Z,15nm,0.7s,mb4.7
SSF Saint Saulge 53.13 318 *e*P **P** 17 22 23.6 -0.7
SSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SSF Saint Saulge 53.13 318 *e*P **P** 17 22 23.6 -0.7
comp=Z,7.6nm,0.7s,mb4.7
AVF Avril sur Loir 53.14 318 *e*P **P** 17 22 23.4 -0.9
comp=Z,12nm,0.9s,mb4.5
AVF Avril sur Loir 53.14 318 *e*P **P** 17 22 23.4 -0.9
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 53.14 318 *e*P **P** 17 22 23.4 -0.9
comp=Z,5.8nm,0.9s,mb4.5
BGF Bois d'Agland 53.40 318 *e*P **P** 17 22 25.8 -0.4
comp=Z,35nm,0.9s,mb5.0
BGF Bois d'Agland 53.40 318 *e*P **P** 17 22 25.8 -0.4
BGF pmax pmax
comp=Z,17nm,0.9s,mb5.0
BGF Bois d'Agland 53.40 318 *e*P **P** 17 22 25.8 -0.4
comp=Z,18nm,0.9s,mb5.0
CAF Calviac 53.42 315 *e*P **P** 17 22 25.8 -0.6
TCF Toulx Ste Croi 53.73 317 *e*P **P** 17 22 28.0 -0.7
comp=Z,12nm,1.0s,mb4.5
TCF Toulx Ste Croi 53.73 317 *e*P **P** 17 22 28.0 -0.7
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 53.73 317 *e*P **P** 17 22 28.0 -0.7
comp=Z,5.8nm,1.0s,mb4.5
BAIF Baives 53.78 322 *e*P **P** 17 22 28.5 -0.5
comp=Z,32nm,0.9s,mb4.9
BAIF Baives 53.78 322 *e*P **P** 17 22 28.5 -0.5
BAIF pmax pmax
comp=Z,16nm,0.9s,mb5.0
BAIF Baives 53.78 322 *e*P **P** 17 22 28.5 -0.5
comp=Z,16nm,0.9s,mb4.9
SONM Songino Array 53.80 41 P **P** 17 22 30.4 +1.2
comp=Z,1.4nm,0.7s,mb4.0,baz=246,slow=7.0,SNR=7.2
EPF Esparros 54.11 313 *e*P **P** 17 22 31.3 -0.1
HFS Hagfors 54.19 336 P **P** 17 22 32.1 +0.1
comp=Z,4.5nm,0.8s,mb4.5,baz=128,slow=9.6,SNR=6.0
LFF La Frestale 54.32 315 *e*P **P** 17 22 31.3 -1.7
comp=Z,48nm,1.3s,mb5.0
LFF La Frestale 54.32 315 *e*P **P** 17 22 31.3 -1.7
LFF pmax pmax
comp=Z,24nm,1.3s,mb5.0
LFF La Frestale 54.32 315 *e*P **P** 17 22 31.3 -1.7
comp=Z,24nm,1.3s,mb5.0
ETSF Etsaut 54.72 312 *e*P **P** 17 22 35.6 -0.3
comp=Z,5.2nm,0.5s,mb4.5
ETSF Etsaut 54.72 312 *e*P **P** 17 22 35.6 -0.3
ETSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ETSF Etsaut 54.72 312 *e*P **P** 17 22 35.6 -0.3
comp=Z,2.6nm,0.5s,mb4.5
SJPF Ste Jean 55.24 312 *e*P **P** 17 22 39.2 -0.5
comp=Z,11nm,0.8s,mb4.7
SJPF Ste Jean 55.24 312 *e*P **P** 17 22 39.2 -0.5
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SJPF Ste Jean 55.24 312 *e*P **P** 17 22 39.2 -0.5
comp=Z,5.5nm,0.8s,mb4.7
NB2 NORSAR Subarra 55.72 336 P **P** 17 22 42.6 -0.5
comp=Z,5.2nm,1.0s,mb4.5,baz=125,slow=7.4
NOA NORSAR Array B 55.72 336 LR LR 17 49 45.9
comp=Z,165nm,18.2s,MS4.2,baz=220,slow=40
LDF La Druitiere 55.94 319 *e*P **P** 17 22 43.7 -1.0
comp=Z,31nm,1.0s,mb5.0
LDF La Druitiere 55.94 319 *e*P **P** 17 22 43.7 -1.0
LDF pmax pmax
comp=Z,16nm,1.0s,mb5.0
LDF La Druitiere 55.94 319 *e*P **P** 17 22 43.7 -1.0
comp=Z,16nm,1.0s,mb5.0
FLN La Foliniere 56.22 319 *e*P **P** 17 22 45.6 -1.1
comp=Z,29nm,0.9s,mb5.0
FLN *e*R
comp=Z,100nm,20.0s
FLN La Foliniere 56.22 319 *e*P **P** 17 22 45.6 -1.1
FLN pmax pmax
comp=Z,15nm,0.9s,mb5.0
FLN MLR MLR
comp=Z,100nm,20.0s,MS3.9
FLN La Foliniere 56.22 319 *e*P **P** 17 22 45.6 -1.1
comp=Z,14nm,0.9s,mb5.0
FLN LR LR
comp=Z,100nm,20.0s,MS3.9
GRR Gorron 56.35 319 *e*P **P** 17 22 47.2 -0.4
comp=Z,75nm,1.4s,mb5.2
GRR Gorron 56.35 319 *e*P **P** 17 22 47.2 -0.4
GRR pmax pmax
comp=Z,38nm,1.4s,mb5.2
GRR Gorron 56.35 319 *e*P **P** 17 22 47.2 -0.4
comp=Z,38nm,1.4s,mb5.2
ESDC Sonseca Array 56.62 308 P **P** 17 22 49.5 -0.1
comp=Z,1.8nm,0.6s,mb4.3,baz=89,slow=6.9,SNR=7.0
SGMF Saint Gilles 57.40 318 *e*P **P** 17 22 54.5 -0.6
comp=Z,23nm,0.8s,mb5.0
SGMF Saint Gilles 57.40 318 *e*P **P** 17 22 54.5 -0.6
SGMF pmax pmax
comp=Z,11nm,0.8s,mb4.9
SGMF Saint Gilles 57.40 318 *e*P **P** 17 22 54.5 -0.6
comp=Z,11nm,0.8s,mb5.0
KEV Kevo 57.60 349 *e*P **P** 17 22 56.0 -0.5
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KEV Kevo 57.60 349 *e*P **P** 17 22 56.0 -0.5
comp=Z,10nm,0.8s,mb4.9
KEV Kevo 57.60 349 *e*P **P** 17 22 56.0 -0.5
comp=Z,10nm,0.8s,mb4.9
ARCES ARCESS Array B 57.70 348 P **P** 17 22 57.0 -0.2
comp=Z,5.9nm,0.7s,mb4.7,baz=145,slow=7.0,SNR=22
ROSF Rostrenen 57.88 318 *e*P **P** 17 22 57.6 -0.9
comp=Z,37nm,1.2s,mb5.0
ROSF Rostrenen 57.88 318 *e*P **P** 17 22 57.6 -0.9
ROSF pmax pmax
comp=Z,19nm,1.2s,mb5.0
ROSF Rostrenen 57.88 318 *e*P **P** 17 22 57.6 -0.9
comp=Z,19nm,1.2s,mb5.0
EKA Eskdalemuir Ar 59.83 326 P **P** 17 23 10.6 -1.4
comp=Z,1.8nm,0.8s,mb4.2,baz=117,slow=7.2,SNR=6.0
CN2 Changchun 66.12 48 *e*P **P** 17 23 54.1 +0.3
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KSRS Korea Array 67.99 55 P **P** 17 24 04.8 -0.9
comp=Z,2.9nm,0.8s,mb4.4,baz=284,slow=6.7,SNR=8.6

TIXI Tiksi 71.12 19 *e*P **P** 17 24 23.5 -1.6
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI Tiksi 71.12 19 *e*P **P** 17 24 23.4 -1.6
comp=Z,5.8nm,1.0s,mb4.5
TIXI Tiksi 71.12 19 *e*P **P** 17 24 23.5 -1.6
comp=Z,5.8nm,1.0s,mb4.5
MAW Mawson 82.36 177 LR LR 17 53 37.3
comp=Z,162nm,19.3s,MS4.4,baz=160,slow=30
WRA Warramunga Arr 85.60 112 P **P** 17 25 44.3 -0.7
comp=Z,3.1nm,0.8s,mb4.6,baz=298,slow=3.9,SNR=22
WRAB Tennant Creek 85.61 112 *e*P **P** 17 25 44.3 -0.8
WRAB pmax pmax
comp=Z,11nm,1.3s,mb4.9
WRAB Tennant Creek 85.61 112 *e*P **P** 17 25 44.3 -0.7
comp=Z,11nm,1.3s,mb4.9
WRAB Tennant Creek 85.61 112 *e*P **P** 17 25 44.3 -0.8
comp=Z,11nm,1.3s,mb4.9
WB2 Warramunga Arr 85.61 112 *e*P **P** 17 25 44.3 -0.8
WB2 Warramunga Arr 85.61 112 *e*P **P** 17 25 44.3 -0.8
ASAR Alice Springs 86.33 115 P **P** 17 25 47.9 -0.8
comp=Z,2.7nm,0.6s,mb4.6,baz=292,slow=4.7,SNR=44
AS31 Alice Springs 86.33 115 *e*P **P** 17 25 47.7 -1.0
AS31 Alice Springs 86.33 115 *e*P **P** 17 25 47.7 -1.0
SNAA Sanae 94.34 196 LR LR 18 02 45.6
comp=Z,31nm,18.5s,MS3.8,baz=23,slow=32
NVAR Mina Array Bea 126.67 353 PKP PKPdf 17 32 12.0 +2.0
comp=Z,1.5nm,0.7s,baz=318,slow=1.2,SNR=11

IDC 08 17:16:50.9±2.5,**1454N**×**5455E**,**h0**km,**mb3.7**/4,**mb1 3.9**/4, **mb1mx3.5**/20,**mbtmp3.7**/4,**Error ellipse: s-maj=88.5km s-min=33.9km az=66.0**,**Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.63**	**30**	P	P	17 24 24.3	+0.1
	0.4nm,0.5s,baz=213,slow=9.2,SNR=6.2						
ARCES	**ARCESS Array B**	**57.91**	**348**	P	P	17 26 44.4	-0.3
	1.6nm,0.9s,baz=152,slow=8.1,SNR=7.7						
WRA	**Warramunga Arr**	**85.59**	**112**	P	P	17 29 31.8	+0.6
	0.6nm,0.8s,baz=300,slow=4.0,SNR=5.1						
ASAR	**Alice Springs**	**86.31**	**115**	P	P	17 29 35.4	+0.7
	0.4nm,0.6s,baz=284,slow=4.8,SNR=6.1						

*SZGRF **08** 17:18:37.4, 1556N×9891W, h33km, mb5.2, MS4.5, Off coast of Guerrero, Mexico*
*MEX **08** 17:18:47.4±0.7, 1603N×9656W, h45km±11km, MD4.9*
*MOS **08** 17:18:47.6±0.7, 1635N×9625W, h45km, mb5.3/72, MS4.5/14, Error ellipse: s-maj=7.1km s-min=4.2km az=92.3*
*BJI **08** 17:18:47.3, 1600N×9660W, h46km, mB5.4, Ms4.9, Msz4.8*
*ISCJB **08** 17:18:47.0±0.2, 1632N±003×9625W±002, h40km, mb5.2/189, MS4.4/43, Error ellipse: s-maj=4.6km s-min=2.1km az=57.5*
*NEIC **08** 17:18:47.3, 1603N×9657W, h46km, mb5.2/154, MS4.5/15, MD4.9(MEX), After MEX.*
NEIC Felt strongly at Oaxaca and lightly at Mexico City.
*GCMT **08** 17:18:47.3±0.4, 1627N×9643W, h38km±1km, MW5.1/67, Moment Tensor Solution. s38,c47; s67,c104; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-4.10±.28; Mθθ0.74±.18; Mϕϕ3.36±.21; Mrθ-3.82±.19; Mθϕ-3.12±.16; Mϕr1.08±.20; Best double couple: Mo6.30900×10^16^ NP1:ϕs352.00000°, δ35.00000°, λ-44.00000°. NP2: ϕs121.00000°, δ66.00000°, λ-117.00000°. Principal axes: T 6.3770, Plg17.0000°, Azm230.0000°; N -0.1410, Plg24.0000°, Azm132.0000°; P -6.2400, Plg60.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **08** 17:18:50.6±2.2, 1628N×9630W, h64km±18km, mb4.6/25, mb1 4.8/27, mb1mx4.7/30, mbtmp4.6/27, MS4.3/25, Ms1 4.3/25, ms1mx4.3/28 Error ellipse: s-maj=19.5km s-min=10.2km az=59.0*
ISC 08 17:18:49.3±0.2,**1636N**±003×**9620W**±002,**h42**km, **h42**km±2.4km:**pP-P**,**n752**,σ0**875**/743,**mb5.2**/189,**MS4.4**/43, **86C-88D**,**Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.59**	**171**	*i* P	**Pn**	**17 18 57.1**	**-4.2**
HUIG				*i* S	**Sn**	**17 19 04.5**	**-5.4**
HUIG	**Huatulco**	**0.59**	**171**	*i* P	**Pn**	**17 18 57.0**	**-4.3**
HUIG				*i* S	**Sn**	**17 19 04.5**	**-5.4**
VHO	**Vista Hermosa**	**0.88**	**324**	*e*P	**Pn**	**17 19 04.0**	**-1.1**
VHO				*i* S	**Sn**	**17 19 17.3**	**+0.6**
OXX	**Oaxaca**	**0.88**	**325**	*i* P	**Pn**	**17 19 04.0**	**-1.1**
OXX				*i* P		17 19 04.5	
OXX	**Oaxaca**	**0.88**	**325**	*i* P	**Pn**	**17 19 04.5**	**-0.7**
CMIG	**Matias Romero**	**1.46**	**60**	P	**Pn**	**17 19 15.1**	**+2.0**
	258nm,0.3s,baz=244,slow=11,SNR=231						
CMIG				S	**Sn**	**17 19 42.6**	**+12**
	2μm,0.3s,baz=188,slow=11,SNR=9.4						
CMIG	**Matias Romero**	**1.46**	**60**	*e*P	**Pn**	**17 19 16.2**	**+3.0**
CMIG				*i* S	**Sn**	**17 19 38.0**	**+7.0**
CMIG	**Matias Romero**	**1.46**	**60**	*e*P	**Pn**	**17 19 16.2**	**+3.0**
CMIG				S	**Sn**	**17 19 42.6**	**+12**
PNIG	**Pinotepa**	**1.85**	**271**	*i* P	**Pn**	**17 19 10.8**	**-7.7**
UTMO	**Huajuapan**	**2.12**	**314**	*e*P	**Pn**	**17 19 20.5**	**-1.7**
UTMO				*i* S	**Sn**	**17 19 45.2**	**-2.1**
TPIG	**Tehuac#an**	**2.33**	**332**	*e*P	**Pn**	**17 19 25.5**	**+0.4**
TPIG				*i* S	**Sn**	**17 19 53.6**	**+1.1**
TUIG	**Tuzandepetl**	**2.38**	**45**	*i* P	**Pn**	**17 19 28.9**	**+3.1**
TUIG				*i* S	**Sn**	**17 20 03.0**	**+9.2**
LVIG	**Laguna Verde**	**3.35**	**357**	*e*P	**Pn**	**17 19 38.5**	**-0.7**
LVIG				*i* S	**Sn**	**17 20 22.8**	**+5.1**
SCX	**San Cristobal**	**3.44**	**83**	*i* P	**Pn**	**17 19 46.2**	**+5.9**
PPM	**Popocatepetl**	**3.55**	**320**	*i* P	**Pn**	**17 19 40.6**	**-1.3**
PPM				*e*P		17 19 41.9	
PPM				*i* S	**Sn**	**17 20 20.0**	**-2.6**
PPM	**Popocatepetl**	**3.55**	**320**	*e*P	**Pn**	**17 19 41.9**	**0.0**
PPM				*i* S	**Sn**	**17 20 20.0**	**-2.6**
ACX	**Acapulco**	**3.60**	**279**	*e*P	**Pn**	**17 19 35.0**	**-7.5**
MEIG	**Mezcala**	**3.62**	**296**	*i* P	**Pn**	**17 19 39.2**	**-3.6**
MEIG				*i* S	**Sn**	**17 20 17.4**	**-6.9**
YAIG	**Yautepec**	**3.70**	**313**	*e*P	**Pn**	**17 19 42.7**	**-1.2**
YAIG				*i* S	**Sn**	**17 20 21.9**	**-4.3**
YAIG	**Yautepec**	**3.70**	**313**	*e*P	**Pn**	**17 19 42.7**	**-1.2**
YAIG				*i* S	**Sn**	**17 20 26.9**	**+0.8**
PLIG	**Platanillo**	**3.75**	**303**	*e*P	**Pn**	**17 19 42.4**	**-2.2**
PLIG				*i* S	**Sn**	**17 20 21.6**	**-5.8**
CCIG	**Comitan**	**3.90**	**91**	*e*P	**Pn**	**17 19 49.2**	**+2.5**
CCIG				*i* S	**Sn**	**17 20 37.9**	**+6.6**
CCIG	**Comitan**	**3.90**	**91**	*e*P	**Pn**	**17 19 51.1**	**+4.4**
CCIG				*i* S	**Sn**	**17 20 40.4**	**+9.1**
CAIG	**El Cayaco**	**3.96**	**281**	*i* P	**Pn**	**17 19 40.8**	**-6.6**
CAIG				*i* S	**Sn**	**17 20 18.4**	**-14**
CAIG	**El Cayaco**	**3.96**	**281**	*i* P	**Pn**	**17 19 40.8**	**-6.6**
CAIG				*i* S	**Sn**	**17 20 17.8**	**-15**
IIO	**Organos**	**4.01**	**324**	*i* P	**Pn**	**17 19 48.0**	**-0.2**
IIO				*i* S	**Sn**	**17 20 36.0**	**+2.0**
UNM	**Universidad Na**	**4.10**	**317**	*e*P	**Pn**	**17 19 47.2**	**-2.1**
UNM				*i* P		17 19 50.5	
UNM				*i* S	**Sn**	**17 20 34.3**	**-1.7**
UNM	**Universidad Na**	**4.10**	**317**	*i* P	**Pn**	**17 19 49.2**	**-0.2**
UNM				*i* S	**Sn**	**17 20 29.5**	**-6.5**
SZVM	**Salazar**	**4.23**	**315**	*i* P	**Pn**	**17 19 51.3**	**+0.2**
SZVM				*i* S	**Sn**	**17 20 39.8**	**+0.6**
ZIIG	**Zihuatanejo**	**5.19**	**285**	*i* P	**Pn**	**17 19 59.3**	**-5.0**
ZIIG				*i* S	**Sn**	**17 20 56.1**	**-6.8**
ZIIG	**Zihuatanejo**	**5.19**	**285**	*i* P	**Pn**	**17 19 59.3**	**-5.0**
ZIIG				*i* S	**Sn**	**17 20 48.8**	**-14**
SCIG	**Sabancuy**	**5.44**	**61**	*i* P	**Pn**	**17 20 09.2**	**+1.4**
SCIG				*i* S	**Sn**	**17 21 19.2**	**+10**
MOIG	**Morelia**	**5.78**	**306**	*e*P	**Pn**	**17 20 09.3**	**-3.2**
MOIG				*i* S	**Sn**	**17 21 14.3**	**-3.2**
MOIG	**Morelia**	**5.78**	**306**	*i* P	**Pn**	**17 20 11.1**	**-1.3**
MOIG				*i* S	**Sn**	**17 21 15.4**	**-2.1**
RTR	**El Retiro**	**6.79**	**110**	*e*P	x	17 20 34.1	
SBLS	**San Blas**	**6.83**	**111**	*e*P	x	17 20 35.3	
MMIG	**Aquila**	**7.09**	**287**	*e*P	**Pn**	**17 20 26.1**	**-4.3**
MMIG				*i* S	**Sn**	**17 21 39.6**	**-10**
SFJM	**Santa Fe**	**7.68**	**303**	*i* P	**Pn**	**17 20 38.1**	**-0.4**
TEIG	**Tepich**	**8.45**	**62**	*e*P	**Pn**	**17 20 48.7**	**-0.4**
TEIG	**Tepich**	**8.45**	**62**	*e*Pn	**Pn**	**17 20 48.8**	**-0.4**
	4.6nm,0.3s						
TEIG				*e*Sn	**Sn**	**17 22 21.5**	**-1.7**
TGUH	**Tegucigalpa,Un**	**8.92**	**104**	*e*P	**Pn**	**17 20 57.7**	**+2.2**
	90nm,0.9s						

CJM Chamela 8.98 292 *e*P **Pn** 17 20 50.5 -5.9
CJM *i* S **Sn** 17 22 29.1 -6.9
CJM Chamela 8.98 292 *e*P **Pn** 17 20 50.5 -5.9
CJM *i* S **Sn** 17 22 25.3 -11
LNIG Linares 9.03 341 *i* P **Pn** 17 20 56.5 -0.5
ANIG Ahuacatlan 9.16 302 *i* P **Pn** 17 20 58.0 -0.8
CAO Cobano 12.67 120 *e*P **Pn** 17 21 49.9 +3.0
EPA Esparza 12.95 118 *e*P **Pn** 17 21 54.4 +3.8
POA2 Poas 2 13.15 116 *e*P **Pn** 17 21 58.5 +5.1
OCM Ochomogo 13.54 117 *e*P **Pn** 17 22 01.0 +2.3
IRZ2 Volcan Irazu 2 13.55 116 *e*P **Pn** 17 22 03.8 +4.9
SOR Soroa 13.98 61 *e*PG **Pn** 17 22 05.1 +0.4
baz=232
SOR *e*SG **Sn** 17 24 40.9 +2.5
comp=N,5μm,0.5s
SOR *e*
comp=E,3μm,0.7s
JCT Junction City 14.44 347 *e*P **Pn** 17 22 09.7 -1.2
JCT pmax pmax
comp=Z,220nm,0.9s
JCT Junction City 14.44 347 *e*Pn **Pn** 17 22 09.7 -1.2
comp=Z,220nm,0.9s
TXAR Lajitas Array 14.63 333 P **Pn** 17 22 14.3 +0.9
comp=Z,0.4nm,0.3s,baz=149,slow=13,SNR=45
TXAR LR LR 17 28 31.4
comp=Z,929nm,21.1s,baz=235,slow=40
CTCR Cotoan 15.06 118 *e*P **Pn** 17 22 22.1 +3.0
LPIG La Paz 15.31 302 P **Pn** 17 22 23.8 +1.4
comp=Z,16nm,0.3s,baz=144,slow=4.9,SNR=15
LPIG La Paz 15.31 302 *i* P **Pn** 17 22 25.1 +2.7
LPIG La Paz 15.31 302 *i* P **Pn** 17 22 25.9 +3.5
NATX Nacogdoches 15.40 5 *e*Pn **Pn** 17 22 24.7 +1.2
comp=Z,1μm,1.9s
MGV Manicaragua 16.35 67 *e*P **Pn** 17 22 42.5 +6.8
MGV *e*S **S** 17 25 31.1 -16
comp=N,603nm,2.3s
MGV *e*
comp=E,784nm,1.4s
MNTX Cornudas Mount 17.41 333 *e*P **Pn** 17 22 48.6 -0.3
comp=E,24nm,1.2s
WMOK Wichita Mounta 18.45 353 *e*P **Pn** 17 23 00.7 -1.0
WMOK pmax pmax
comp=Z,145nm,1.1s
WMOK Wichita Mounta 18.45 353 *e*P **Pn** 17 23 00.7 -1.0
comp=Z,145nm,1.1s
UALR University of 18.66 10 *e*P **Pn** 17 23 05.0 +0.7
comp=Z,250nm,0.9s
OXF Oxford 19.08 17 *e*P **Pn** 17 23 08.4 -0.9
OXF pmax pmax
comp=Z,208nm,0.9s
OXF Oxford 19.08 17 *e*P **Pn** 17 23 08.4 -0.9
comp=Z,208nm,0.9s
AMTX Amarillo 19.09 346 *e*P **Pn** 17 23 07.7 -1.7
comp=Z,146nm,0.8s
HBAR Harrisburg 19.75 13 *e*P **Pn** 17 23 16.9 -0.4
BNM Barren Site 20.05 334 *e*P **P** 17 23 19.9 +1.2
Y22C IRIS PASSCAL I 20.11 333 ⇑P **P** 17 23 21.1 +1.7
baz=20,SNR=12
LPM Los Pinos Moun 20.19 334 *e*P **P** 17 23 21.2 +1.0
LENM Lemitar 20.21 333 *e*P **P** 17 23 21.6 +1.2
HALT Halls 20.41 16 *e*P **P** 17 23 23.5 +0.8
LAZ Ladron 20.48 333 *e*P **P** 17 23 25.0 +1.6
TUC Tucson 20.67 323 *e*P **P** 17 23 26.0 +0.5
TUC pmax pmax
comp=Z,156nm,1.1s
TUC MLR MLR
comp=Z,3μm,21.0s,MS4.7
TUC Tucson 20.67 323 *e*P **P** 17 23 26.0 +0.6
comp=Z,156nm,1.1s
TUC LR LR
comp=Z,3μm,21.0s,MS4.7
ANMO Albuquerque 20.67 336 P **P** 17 23 26.3 +0.8
comp=Z,52nm,0.8s,baz=146,slow=12,SNR=113
ANMO LR LR 17 32 18.1
comp=Z,2μm,18.8s,MS4.4,baz=156,slow=39
ANMO Albuquerque 20.67 336*d* *i*P **P** 17 23 26.1 +0.6
ANMO Albuquerque 20.67 336 *e*P **P** 17 23 26.2 +0.8
comp=Z,53nm,0.8s
ANMO LR LR
comp=Z,2μm,21.0s,MS4.4
GLAT Glass 20.76 16 *e*P **P** 17 23 27.1 +0.6
SWET Sewanee 20.91 24 *e*P **P** 17 23 27.6 -0.4
UTMT University of 20.95 17 *e*P **P** 17 23 28.7 +0.2
comp=Z,320nm,0.9s
PARMO Parma 21.02 15 *e*P **P** 17 23 29.9 +0.7
WVT Waverly 21.06 19 *e*P **P** 17 23 29.4 -0.2
WVT pmax pmax
comp=Z,103nm,0.6s,mb5.3
WVT MLR MLR
comp=Z,1μm,21.0s,MS4.2
WVT Waverly 21.06 19 *e*P **P** 17 23 29.4 -0.2
comp=Z,103nm,0.6s,mb5.3
WVT LR LR
comp=Z,1μm,21.0s,MS4.2
116A Eloy 21.39 322 ⇑P **P** 17 23 33.5 +0.2
baz=21,SNR=28
CPCT Cooper Cave 21.69 27 P **P** 17 23 35.4 -1.0
115A Sonoran Desert 21.80 321 ⇑P **P** 17 23 38.1 +0.4
baz=22,SNR=52
COW Cow Castle Cre 21.98 37 P **P** 17 23 38.8 -0.7
CCM Cathedral Cave 22.05 10 *e*P **P** 17 23 37.0 -3.3
CCM pmax pmax
comp=Z,148nm,1.0s,mb5.4
CCM MLR MLR
comp=Z,844nm,22.0s,MS4.1
CCM Cathedral Cave 22.05 10 *e*P **P** 17 23 37.0 -3.3
comp=Z,148nm,1.0s,mb5.4
CCM LR LR
comp=Z,844nm,22.0s,MS4.1
FVM French Village 22.14 12 *e*P **P** 17 23 40.4 -0.8
FVM pmax pmax
comp=Z,54nm,1.0s,mb4.9
FVM French Village 22.14 12 *e*P **P** 17 23 40.4 -0.9
comp=Z,54nm,1.0s,mb4.9
SIUC Southern Illin 22.15 15 *e*P **P** 17 23 41.5 +0.1
comp=Z,126nm,0.9s,mb5.3
TKL Tuckaleechee C 22.19 28 P **P** 17 23 43.0 +1.2
comp=Z,49nm,0.6s,mb5.1,baz=192,slow=7.9,SNR=18
TKL LR LR 17 33 21.4
comp=Z,452nm,21.7s,MS3.9,baz=218,slow=39
JSC Jenkinsville 22.33 34 *e*P **P** 17 23 42.7 -0.6
CBKS Cedar Bluff 22.59 353 *e*P **P** 17 23 45.2 -0.8
CBKS pmax pmax
comp=Z,437nm,1.0s,mb5.8
CBKS Cedar Bluff 22.59 353 *e*P **P** 17 23 45.2 -0.8
comp=Z,437nm,1.0s,mb5.8
KSU1 Kansas State U 22.66 359 *e*P **P** 17 23 45.3 -1.5
comp=Z,194nm,0.9s,mb5.5
Z14A Wintersburg 22.69 321 ⇓P **P** 17 23 47.1 0.0
baz=23,SNR=23
USIN University of 22.80 18 *e*P **P** 17 23 48.3 0.0
comp=Z,503nm,1.3s,mb5.8
SLM Saint Louis 22.80 12 *e*P **P** 17 23 48.0 -0.3
SLM pmax pmax
comp=Z,58nm,0.7s,mb5.1
SLM Saint Louis 22.80 12 *e*P **P** 17 23 48.0 -0.3
comp=Z,58nm,0.7s,mb5.1
SDCO Great Sand Dun 22.83 341 *e*P **P** 17 23 48.9 +0.3
comp=Z,117nm,1.1s,mb5.2
TZTN Tazewell 23.03 27 *e*P **P** 17 23 49.9 -0.8
comp=Z,110nm,1.0s,mb5.2
X15A Humboldt 23.09 324 P **P** 17 23 51.6 +0.4
baz=23,SNR=42
Y14A Wickenburg 23.13 322 ⇑P **P** 17 23 51.9 +0.1
baz=23,SNR=77
WUAZ Wupatki 23.40 327 *e*P **P** 17 23 54.6 +0.1
comp=Z,220nm,0.9s,mb5.6
WUAZ Wupatki 23.40 327 ⇑P **P** 17 23 55.1 +0.6
baz=24,SNR=109
X14A Yava 23.44 323 P **P** 17 23 55.1 +0.2
baz=24,SNR=19
MVCO Mesa Verde 23.45 335 *e*P **P** 17 23 54.5 -0.4
comp=Z,411nm,1.4s,mb5.7
MVCO Mesa Verde 23.45 335 ⇑P **P** 17 23 55.2 +0.3
baz=24,SNR=105
WCI Wyandotte Cave 23.47 20 *e*P **P** 17 23 54.6 -0.5
WCI pmax pmax
comp=Z,346nm,1.0s,mb5.7
WCI Wyandotte Cave 23.47 20 *e*P **P** 17 23 54.6 -0.5
comp=Z,346nm,1.0s,mb5.7
Y13A Salome 23.54 321 ⇓P **P** 17 23 55.6 -0.1
baz=24,SNR=29
W15A Williams 23.62 326 P **P** 17 23 57.3 +0.9
baz=24,SNR=60
GLA Glamis 23.66 318 *e*P **P** 17 23 56.4 -0.4
GLA Glamis 23.66 318 ⇓P **P** 17 23 56.8 0.0

baz=24,SNR=92
Y12C **Blythe** 23.92 320 ⇓P P 17 23 58.9 -0.3
baz=24,SNR=11
PDMCI **Parker Dam,Lak** 24.06 321 ⇑P P 17 24 00.4 -0.1
baz=24,SNR=30
W14A **Seligman** 24.09 324 ⇓P P 17 24 01.3 +0.5
baz=24,SNR=86
SWSC **Sam W. Stewart** 24.21 317 ⇑P P 17 24 01.9 0.0
baz=24,SNR=16
DVTC **Desert V Tower** 24.25 316 ⇓P P 17 24 02.2 0.0
baz=24,SNR=14
BLO **Bloomington** 24.26 19 eP P 17 24 02.4 +0.1
BLO pmax pmax
comp=Z,379nm,1.3s,mb5.7
BLO **Bloomington** 24.26 19 eP P 17 24 02.4 +0.1
comp=Z,379nm,1.3s,mb5.7
ROSC **El Rosal** 24.31 116 P P 17 24 03.2 +0.4
BC3 **Big Chuckw Mtn** 24.44 318 P P 17 24 04.1 +0.1
baz=24,SNR=120
W13A **Hualapai Mount** 24.47 323 ⇓P P 17 24 04.7 +0.5
baz=24,SNR=35
IRM **Iron Mountain** 24.58 320 P P 17 24 05.5 +0.2
baz=25,SNR=162
MONP **Monument Peak** 24.60 316 P P 17 24 05.5 +0.1
baz=25,SNR=65
SMCO **Snowmass** 24.61 340 eP P 17 24 06.4 +0.9
comp=Z,64nm,1.0s,mb5.1
ELN **Prospectdale** 24.88 30 eP P 17 24 08.1 +0.2
CNNC **Cliffs of the** 24.93 38 eP P 17 24 08.2 -0.2
comp=Z,52nm,0.6s,mb5.2
BELC **Belle Mtn.** 25.01 318 P P 17 24 09.4 +0.2
baz=25,SNR=55
BLA **Blacksburg** 25.03 31 eP P 17 24 09.1 -0.2
BLA pmax pmax
comp=Z,86nm,0.7s,mb5.4
BLA **Blacksburg** 25.03 31 eP P 17 24 09.1 -0.2
comp=Z,86nm,0.7s,mb5.4
109C **Camp Elliot, M** 25.06 315 ⇓P P 17 24 09.2 -0.4
baz=25
PFO **Pinyon Flat Ob** 25.06 317 P P 17 24 09.0 -0.6
comp=Z,289nm,1.0s,mb5.8,SNR=19
PFO **Pinyon Flat Ob** 25.06 317 P P 17 24 09.9 +0.3
comp=Z,40nm,1.1s,mb4.9,baz=127,slow=7.5,SNR=34
PFO LR LR 17 34 32.6
comp=Z,608nm,19.2s,MS4.1,baz=153,slow=38
PFO **Pinyon Flat Ob** 25.06 317 eP P 17 24 09.7 +0.1
PFO pmax pmax
comp=Z,79nm,1.2s,mb5.1
PFO **Pinyon Flat Ob** 25.06 317 eP P 17 24 09.7 0.0
comp=Z,79nm,1.2s,mb5.1
PFO **Pinyon Flat Ob** 25.06 317 P P 17 24 09.9 +0.3
baz=25,SNR=18
FWV **Forest Hill** 25.13 30 eP P 17 24 10.2 0.0
W12A **Cal Nev Ari** 25.18 322 ⇑P P 17 24 10.8 +0.1
baz=25
V12A **Nelson** 25.47 323 P P 17 24 13.7 +0.4
baz=26,SNR=57
MURC **Murrieta** 25.55 316 ⇑P P 17 24 13.8 -0.2
baz=26,SNR=5.5
SCIA **State Center** 25.59 5 eP P 17 24 14.4 0.0
comp=Z,279nm,0.9s,mb5.8
HEC **Hector,Ludlow** 25.75 319 ⇓P P 17 24 16.4 +0.5
baz=26,SNR=64
BBRC **Big Bear Sol-O** 25.77 318 ⇑P P 17 24 16.5 +0.5
baz=26
U12A **Valley of Fire** 25.79 324 ⇑P P 17 24 16.5 +0.3
baz=26,SNR=12
SRU **San Rafael** 25.90 334 eP P 17 24 17.3 +0.1
SRU pmax pmax
comp=Z,78nm,1.0s,mb5.2
SRU **San Rafael** 25.90 334 eP P 17 24 17.3 +0.1
comp=Z,78nm,1.0s,mb5.2
TUQ **Turquoise Mtn.** 25.90 321 ⇑P P 17 24 17.6 +0.3
baz=26,SNR=16
CCUT **Cedar City** 25.98 328 eP P 17 24 18.9 +1.0
SDV **Santo Domingo** 26.01 103 P P 17 24 19.6 +1.4
comp=Z,15nm,0.7s,mb4.6,baz=306,slow=5.4,SNR=4.1
SDV LR LR 17 35 09.7
comp=Z,544nm,21.8s,MS4.0,baz=101,slow=38
SDV **Santo Domingo** 26.01 103 P P 17 24 19.6 +1.4
SDV LR LR 17 35 09.7
SCI **San Clemente I** 26.11 313 ⇓P P 17 24 18.6 -0.5
baz=26
PHWY **Pilot Hill** 26.11 344 eP P 17 24 18.9 -0.2
MSU **Marysvale** 26.15 331 eP P 17 24 20.1 +0.6
ARUT **Antelope Range** 26.20 328 eP P 17 24 20.9 +0.9
RRX **Edison Barstow** 26.21 319 ⇑P P 17 24 20.4 +0.4
baz=26
BFSC **Mount Baldy St** 26.24 317 ⇑P P 17 24 19.5 -0.8
baz=26,SNR=15
CIS **Catalina Islan** 26.25 314 ⇑P P 17 24 19.8 -0.5
baz=26,SNR=9.2
U11A **Corn Creek** 26.26 323 ⇓P P 17 24 20.7 +0.2
baz=26
FMP **Fort Macarthur** 26.35 315 ⇓P P 17 24 20.5 -0.7
baz=26
GSC **Goldstone** 26.36 320 eP P 17 24 21.4 +0.1
GSC **Goldstone** 26.36 320 ⇑P P 17 24 21.5 +0.2
baz=26,SNR=26
SHOC **Shoshone** 26.43 321 ⇑P P 17 24 21.8 -0.2
baz=26
DECC **Green Verdugo** 26.69 316 ⇓P P 17 24 24.6 +0.3
baz=27
U10A **Ash Meadows, A** 26.81 322 P P 17 24 26.2 +0.7
baz=27,SNR=27
EDW2 **Edwards Air Fo** 26.84 317 P P 17 24 25.5 -0.2
baz=27,SNR=12
JFWS **Jewell Farm** 26.95 10 eP P 17 24 25.7 -1.0
JFWS pmax pmax
comp=Z,190nm,0.7s,mb5.7
JFWS **Jewell Farm** 26.95 10 eP P 17 24 25.7 -1.0
comp=Z,190nm,0.7s,mb5.7
RWWY **Rawlins** 26.97 342 eP P 17 24 28.2 +1.4
comp=Z,56nm,0.9s,mb5.1
LRMC **Laurel Mountai** 27.02 319 ⇑P P 17 24 27.5 +0.2
baz=27,SNR=26
BLG **Laguna Peak** 27.10 315 ⇑P P 17 24 27.7 -0.3
baz=27
MPU **Maple Canyon** 27.13 333 eP P 17 24 28.6 +0.2
comp=Z,56nm,1.3s,mb4.9
FURC **Furnace Creek,** 27.16 321 ⇑P P 17 24 28.8 +0.2
baz=27,SNR=9.4
OSI **Osito Adit** 27.17 316 ⇓P P 17 24 28.6 -0.1
baz=27
MCWV **Mont Chateau** 27.25 28 eP P 17 24 29.5 +0.1
comp=Z,89nm,0.8s,mb5.3
MPMC **Manual Prospec** 27.27 320 P P 17 24 29.7 +0.1
baz=27,SNR=67
NLU **North Lily Min** 27.27 333 eP P 17 24 30.2 +0.7
ECSD **EROS,Sioux Fal** 27.29 359 eP P 17 24 28.2 -1.6
comp=Z,46nm,0.9s,mb5.0
DAU **Daniels Canyon** 27.30 334 eP P 17 24 30.4 +0.6
BSC **Santa Cruz Isl** 27.43 314 ⇑P P 17 24 30.7 -0.3
baz=28
ARVC **Arvin** 27.54 317 ⇓P P 17 24 32.0 0.0
baz=28,SNR=5.5
ISA **Isabella** 27.64 318 eP P 17 24 33.0 +0.1
ISA **Isabella** 27.64 318 P P 17 24 33.2 +0.4
baz=28,SNR=14
CTU **Camp Tracy** 27.74 334 eP P 17 24 34.3 +0.5
comp=Z,26nm,1.1s,mb4.8
TRCR **Troy Canyon** 27.75 326 eP P 17 24 34.4 +0.6
DUG **Dugway** 27.80 332 eP P 17 24 35.1 +0.8
DUG pmax pmax
comp=Z,54nm,1.4s,mb5.0
DUG MLR MLR
comp=Z,1μm,20.0s,MS4.5
DUG **Dugway** 27.80 332 eP P 17 24 35.1 +0.8
comp=Z,54nm,1.4s,mb5.0
DUG LR LR
comp=Z,1μm,20.0s,MS4.5
DUG **Dugway** 27.80 332 ⇓P P 17 24 34.8 +0.5
baz=28,SNR=9.4
GRAC **Grapevine Rang** 27.82 322 P P 17 24 35.2 +0.8
baz=28,SNR=51
Q12A **Willow Creek R** 27.86 328 ⇓P P 17 24 35.5 +0.6
baz=28,SNR=9.6
CWC **Cottonwood Cre** 27.88 320 ⇓P P 17 24 35.1 +0.1
baz=28
TCUT **Toone Canyon** 27.96 335 eP P 17 24 36.2 +0.5
PKM **Peak Mountain** 28.06 316 ⇓P P 17 24 36.4 -0.2
baz=28
VES **Vestal, Richgr** 28.14 318 ⇓P P 17 24 37.5 +0.2
baz=28,SNR=5.4
Q11A **Duckwater** 28.15 327 ⇑P P 17 24 38.3 +0.9
baz=28,SNR=27
P12A **McGill** 28.23 328 ⇓P P 17 24 38.6 +0.4
baz=28,SNR=16
TIN **Tinemaha** 28.37 321 ⇑P P 17 24 39.9 +0.5
baz=28
HWUT **Hardware Ranch** 28.43 335 eP P 17 24 39.8 -0.1
comp=Z,55nm,1.3s,mb5.0
RSSD **Black Hills** 28.46 348 eP P 17 24 40.5 +0.3
RSSD pmax pmax
comp=Z,12nm,0.8s,mb4.6
RSSD **Black Hills** 28.46 348 eP P 17 24 40.5 +0.3
comp=Z,12nm,0.8s,mb4.6
TPH **Tonopah** 28.46 324 eP P 17 24 40.8 +0.6
TPH pmax pmax
comp=Z,48nm,1.2s,mb5.0
TPH **Tonopah** 28.46 324 eP P 17 24 40.8 +0.6
comp=Z,48nm,1.2s,mb5.0
BGU **Big Grassy Mou** 28.48 333 eP P 17 24 40.6 +0.2
R09A **Tonopah** 28.49 324 ⇑P P 17 24 40.7 +0.3
baz=29,SNR=27
RCTC **Rector, Farmer** 28.53 319 ⇓P P 17 24 41.1 +0.3
baz=29
SPUT **South Promonto** 28.55 334 eP P 17 24 38.3 -2.7
S08C **White Mtn Res** 28.63 322 ⇓P P 17 24 42.5 +0.8
baz=29,SNR=40
PDAR **Pinedale Array** 28.69 339 P P 17 24 42.3 0.0
comp=Z,14nm,0.8s,mb4.8,baz=141,slow=9.3,SNR=103
PDAR LR LR 17 38 43.4
comp=Z,535nm,18.2s,MS4.2,baz=172,slow=42
P11A **Circle Ranch,** 28.72 327 ⇑P P 17 24 43.0 +0.5
baz=29,SNR=6.4
ALLY **Alegheny Colle** 28.75 26 eP P 17 24 42.9 +0.1
MTUM **Tungsten Hills** 28.77 321 eP P 17 24 43.4 +0.5
SSPA **Standing Stone** 28.93 30 eP P 17 24 44.4 0.0
comp=Z,56nm,1.0s,mb5.2
N13A **Wendover, West** 28.96 331 ⇓P P 17 24 45.2 +0.6
baz=29
Q09A **Carvers** 28.97 325 ⇑P P 17 24 45.7 +1.0
baz=29
HVU **Hansel Valley** 29.07 334 eP P 17 24 46.3 +0.7
HVU pmax pmax
comp=Z,51nm,0.9s,mb5.2
HVU **Hansel Valley** 29.07 334 eP P 17 24 46.3 +0.6
comp=Z,51nm,0.9s,mb5.2
U05C **Westside ANR,** 29.11 318 ⇓P P 17 24 45.9 0.0
baz=29
MLAC **Mammoth Lakes** 29.11 321 ⇓P P 17 24 46.6 +0.6
baz=29
ATAH **Atahualpa** 29.14 141 P P 17 24 48.9 +2.6
comp=Z,4.8nm,0.5s,mb4.5,baz=26,slow=12,SNR=4.2
ATAH LR LR 17 34 11.7
comp=Z,644nm,20.2s,MS4.2,baz=338,slow=32
P10A **Eureka** 29.14 327 ⇓P P 17 24 47.2 +0.9
baz=29
PKD **Parkfield** 29.15 317 ⇓P P 17 24 45.9 -0.5
baz=29,SNR=5.0
V04C **Ramage Ranch,** 29.19 316 ⇑P P 17 24 46.7 0.0
baz=29
KCC **Kaiser Creek** 29.21 320 ⇑P P 17 24 47.0 +0.2
baz=29,SNR=58
AHID **Auburn Hatcher** 29.24 337 eP P 17 24 46.8 -0.3
comp=Z,30nm,0.9s,mb5.0
T06C **Millerton Lake** 29.25 319 ⇓P P 17 24 46.2 -1.0
baz=29
M13A **Montello** 29.34 332 P P 17 24 49.0 +0.9
baz=29,SNR=29
N12A **Clover Valley,** 29.35 330 ⇓P P 17 24 48.9 +0.8
baz=29,SNR=26
ELK **Elko** 29.37 330 eP P 17 24 49.4 +1.2
ELK pmax pmax
comp=Z,23nm,0.8s
ELK **Elko** 29.37 330 eP P 17 24 49.4 +1.1
comp=Z,23nm,0.8s,mb5.0
Q08A **Gabbs** 29.41 324 P P 17 24 49.6 +1.0
baz=30,SNR=15
R07C **Lee Vining** 29.54 322 P P 17 24 50.8 +1.0
baz=30,SNR=16
U04C **Hernandez Rese** 29.55 317 ⇑P P 17 24 49.6 -0.2
baz=30,SNR=8.4
V03C **Hunter Liggett** 29.65 316 ⇑P P 17 24 50.8 +0.1
baz=30,SNR=7.9
N11A **Elko Archery C** 29.66 329 ⇑P P 17 24 51.4 +0.6
baz=30
REDW **Red Top Meadow** 29.67 338 eP P 17 24 51.4 +0.5
comp=Z,123nm,0.9s,mb5.6
M12A **Wells** 29.73 331 P P 17 24 52.0 +0.6
baz=30,SNR=30
LRV **Little Rabbit** 29.74 317 eP P 17 24 52.1 +0.6
LOHW **Long Hollow** 29.80 339 eP P 17 24 52.6 +0.6
comp=Z,109nm,0.9s,mb5.6
TPAW **Teton Pass** 29.82 338 eP P 17 24 52.9 +0.7
comp=Z,194nm,1.3s,mb5.7
S05C **Merced** 29.85 319 ⇑P P 17 24 51.9 -0.7
baz=30,SNR=7.2
S06C **San Francisco** 29.89 320 ⇓P P 17 24 52.6 -0.2
baz=30,SNR=20
O09A **Finch Ranch** 29.93 327 ⇓P P 17 24 53.5 +0.3
baz=30,SNR=24
Q07A **Schurz** 29.96 323 ⇓P P 17 24 54.5 +1.0
baz=30,SNR=5.7
MOOW **Moose Ponds** 29.97 339 eP P 17 24 54.0 +0.4
comp=Z,53nm,0.9s,mb5.3
N10A **Dunphy** 29.98 328 ⇓P P 17 24 54.2 +0.6
baz=30
DCID1 **Drake Creek** 29.99 338 eP P 17 24 54.7 +0.9
R06C **Coleville** 30.06 322 ⇑P P 17 24 55.1 +0.7
baz=30,SNR=22
P08A **Dixie Valley** 30.07 325 ⇑P P 17 24 55.4 +0.9
baz=30,SNR=11
HAST **UC Hastings Re** 30.07 316 ⇓P P 17 24 54.4 -0.1
baz=30,SNR=5.4
BMN **Battle Mountai** 30.13 327 eP P 17 24 55.9 +0.9
BMN pmax pmax
comp=Z,29nm,1.1s,mb4.9
BMN **Battle Mountai** 30.13 327 eP P 17 24 55.9 +0.8
comp=Z,29nm,1.1s,mb4.9
LUPA **Lehigh Univers** 30.16 33 eP P 17 24 55.6 +0.4
M11A **Holland Ranch,** 30.16 330 ⇓P P 17 24 56.0 +0.7
baz=30,SNR=24
IMW **Indian Meadow** 30.17 339 eP P 17 24 55.8 +0.5
comp=Z,29nm,0.8s,mb5.0
FLWY **Flagg Ranch** 30.25 339 eP P 17 24 56.8 +0.8
comp=Z,52nm,0.8s,mb5.3
PACP **Pacheco Peak** 30.26 318 ⇓P P 17 24 55.7 -0.4
baz=30,SNR=5.7
CMB **Columbia Colle** 30.31 320 eP P 17 24 56.3 -0.3
CMB pmax pmax
comp=Z,38nm,1.2s,mb5.0
CMB **Columbia Colle** 30.31 320 eP P 17 24 56.3 -0.3
comp=Z,38nm,1.2s,mb5.0
CMB **Columbia Colle** 30.31 320 ⇑P P 17 24 56.4 -0.2
baz=30,SNR=20
P07A **Fallon** 30.41 324 ⇓P P 17 24 58.1 +0.6
baz=30
R05C **Kirkwood Meado** 30.55 321 P P 17 24 59.7 +1.0
baz=31,SNR=19
M10A **I.L. Ranch, Tu** 30.59 329 ⇓P P 17 24 59.9 +0.8
baz=31
N09A **Rock Creek Ran** 30.60 327 P P 17 24 59.7 +0.6
baz=31,SNR=18
YFT **Old Faithful** 30.62 339 eP P 17 25 01.2 +1.9
RLMT **Red Lodge** 30.71 342 eP P 17 25 00.5 +0.4
comp=Z,128nm,1.0s,mb5.7
WCN **Washoe City** 30.75 323 ⇓P P 17 25 01.4 +1.0
baz=31,SNR=10.0
R04C **Big Horse Ranc** 30.79 320 ⇓P P 17 25 01.6 +0.8
baz=31,SNR=8.1
YNR **Norris Junctio** 30.80 340 eP P 17 25 02.1 +1.3
PAHR **Pah Rah Range** 30.81 324 eP P 17 25 01.4 +0.4
comp=Z,46nm,1.1s,mb5.2
O07A **Toulon** 30.83 325 ⇓P P 17 25 01.5 +0.3
baz=31,SNR=16
YMR **Madison River** 30.85 339 eP P 17 25 02.5 +1.2
comp=Z,112nm,1.1s,mb5.6
N08A **GE Springer Mi** 30.87 326 P P 17 25 01.8 +0.3
baz=31,SNR=15
WENL **Wente Brothers** 30.92 318 ⇓P P 17 25 02.8 +0.8
baz=31
M09A **Marrel Ranch,** 30.98 328 ⇓P P 17 25 02.9 +0.5
baz=31,SNR=16
LAVA **Lava Cap Winer** 30.98 321 P P 17 25 03.0 +0.5
baz=31,SNR=20
BINY **Binghamton** 31.05 30 eP P 17 25 03.1 0.0
comp=Z,88nm,0.9s,mb5.6
P06A **Stead Airport,** 31.08 323 ⇑P P 17 25 04.1 +0.7
baz=31
JRSC **Jasper Ridge** 31.11 317 ⇑P P 17 25 03.8 +0.1
baz=31
QLMT **Earthquake Lak** 31.15 339 eP P 17 25 05.4 +1.4
BDM **Black Diamond** 31.19 319 ⇑P P 17 25 05.0 +0.6
baz=31
HLID **Hailey** 31.23 334 eP P 17 25 05.0 +0.4
comp=Z,57nm,0.9s,mb5.4
HLID LR LR
comp=Z,663nm,19.0s,MS4.3
HLID **Hailey** 31.23 334 P P 17 25 05.3 +0.6
baz=31,SNR=61
P05C **Yuba Gap, Truc** 31.25 322 ⇑P P 17 25 05.7 +0.8
baz=31,SNR=18
PCRV **Puerto La Cruz** 31.30 97 LR LR 17 37 41.3
comp=Z,277nm,18.8s,MS4.0,baz=114,slow=36
N07B **Gerlach** 31.31 326 P P 17 25 05.9 +0.5
baz=31,SNR=23
O06A **Flanigan** 31.37 324 P P 17 25 06.8 +0.9
baz=31,SNR=28
Q04C **Lincoln** 31.42 320 ⇓P P 17 25 07.3 +0.9
baz=32
M08A **Happy Creek Ra** 31.47 327 P P 17 25 07.3 +0.5
baz=32,SNR=6.1
BEKR **Beckwourth** 31.47 323 P P 17 25 07.8 +1.0
baz=32,SNR=18
L09A **Wilkinson Ranc** 31.53 329 ⇑P P 17 25 07.8 +0.5
baz=32
MCMT **McKenzie Canyo** 31.66 337 eP P 17 25 09.8 +1.3
EYMN **Ely** 31.74 6 eP P 17 25 08.3 -0.8
comp=Z,82nm,1.2s,mb5.4
N06A **Buffalo Meadow** 31.77 325 ⇑P P 17 25 09.8 +0.4
baz=32,SNR=55
CVS **Carmenet Viney** 31.80 319 ⇑P P 17 25 09.9 +0.2
baz=32
OHCM **Honcut** 31.80 321 eP P 17 25 10.2 +0.5
AGMN **Agassiz Refuge** 31.85 0 eP P 17 25 09.6 -0.6
comp=Z,101nm,0.9s,mb5.7
O05C **Quincy** 31.86 322 ⇓P P 17 25 11.0 +0.8
baz=32,SNR=5.5
SUTB **Sutter Butte** 31.91 321 ⇑P P 17 25 10.9 +0.2
baz=32
ORV **Oroville** 31.95 321 P P 17 25 11.6 +0.6
baz=32,SNR=16
MCCM **Marconi Confer** 31.95 318 ⇓P P 17 25 11.3 +0.3
baz=32
L08A **Fields** 31.99 328 P P 17 25 11.7 +0.3
baz=32,SNR=60
DLMT **Dillon** 32.03 338 eP P 17 25 12.7 +1.0
comp=Z,213nm,0.8s,mb6.0
K09A **Rome** 32.06 329 P P 17 25 12.5 +0.5
baz=32,SNR=106
MNRC **McLaughlin Nat** 32.11 320 ⇑P P 17 25 13.2 +0.8
baz=32
ELFS **Eagle Lake Fie** 32.18 324 ⇓P P 17 25 13.2 +0.1
baz=32
O04C **Chester** 32.19 323 ⇑P P 17 25 13.7 +0.6
baz=32,SNR=6.9
WVOR **Wild Horse Val** 32.32 328 eP P 17 25 14.2 -0.1
WVOR pmax pmax
comp=Z,69nm,1.1s,mb5.4
WVOR **Wild Horse Val** 32.32 328 eP P 17 25 14.2 -0.1
comp=Z,69nm,1.1s,mb5.4
L07A **Adell** 32.38 327 ⇓P P 17 25 15.2 +0.3
baz=32,SNR=24
F15A **Butte** 32.40 339 ⇓P P 17 25 15.6 +0.6
baz=32,SNR=77
M06C **Likely Place G** 32.43 325 P P 17 25 15.8 +0.6
baz=32,SNR=31
K08A **Mann Creek Ran** 32.46 329 P P 17 25 16.1 +0.7
baz=32,SNR=40
J09A **Fry Pan Ranch,** 32.56 330 ⇑P P 17 25 16.8 +0.4
baz=33,SNR=69
HOPS **Hopland** 32.57 319 ⇑P P 17 25 17.3 +0.8
baz=33
DGMT **Dagmar** 32.69 350 eP P 17 25 17.8 +0.3
comp=Z,60nm,1.1s,mb5.4
F14A **Wisdom** 32.69 338 ⇓P P 17 25 18.1 +0.6
baz=33,SNR=15
HATC **Hat Creek Radi** 32.73 323 ⇓P P 17 25 18.2 +0.3
baz=33,SNR=15
GASB **Alder Springs** 32.74 320 ⇑P P 17 25 18.8 +0.9
baz=33,SNR=11
MOD **Modoc** 32.81 326 eP P 17 25 18.4 -0.2
comp=Z,23nm,0.8s,mb5.2
MOD **Modoc** 32.81 326 ⇓P P 17 25 18.6 0.0
baz=33,SNR=26
K07A **Rock Creek Ran** 32.82 328 P P 17 25 19.0 +0.4
baz=33,SNR=67
H11A **Donnelly** 32.83 334 ⇑P P 17 25 18.9 +0.2
baz=33,SNR=31
M05C **Lookout** 32.91 324 ⇑P P 17 25 19.5 +0.1
baz=33,SNR=14
J08A **Circle Bar Ran** 32.92 329 P P 17 25 20.0 +0.5
baz=33,SNR=45
E15A **Deer Lodge** 32.96 339 P P 17 25 20.2 +0.3
baz=33,SNR=59
P01C **Double 8 Ranch** 33.02 320 ⇑P P 17 25 21.2 +0.9
baz=33
I09A **Lost Marbles R** 33.03 331 P P 17 25 20.7 +0.2
baz=33,SNR=86
F13A **Darby** 33.03 336 P P 17 25 20.8 +0.3
baz=33,SNR=59
ACCN **Adirondack Com** 33.06 31 eP P 17 25 20.7 0.0
O02C **Red Bluff** 33.11 321 ⇑P P 17 25 20.7 -0.4
baz=33
L05A **Lakeview** 33.20 325 ⇑P P 17 25 22.4 +0.4
baz=33,SNR=34
WDC **Whiskeytown Da** 33.21 322 eP P 17 25 20.0 -2.1
WDC pmax pmax
comp=Z,19nm,1.2s,mb4.9
WDC **Whiskeytown Da** 33.21 322 eP P 17 25 20.0 -2.1
comp=Z,19nm,1.2s,mb4.9
WDC **Whiskeytown Da** 33.21 322 ⇓P P 17 25 20.0 -2.1
baz=33
NCB **Newcomb** 33.23 30 eP P 17 25 22.1 -0.2
comp=Z,39nm,0.9s,mb5.3
E14A **Clinton** 33.25 338 P P 17 25 22.7 +0.3
baz=33,SNR=24
KCPM **Cahto Peak** 33.30 320 eP P 17 25 23.7 +0.9
I08A **Drewsey** 33.38 330 ⇑P P 17 25 23.5 0.0
baz=33,SNR=10
M03C **McCloud** 33.41 323 ⇓P P 17 25 23.1 -0.7
baz=34
K06A **Valley Falls** 33.41 327 ⇑P P 17 25 23.4 -0.4
baz=34
D15A **Lincoln** 33.45 340 P P 17 25 24.5 +0.3
baz=34,SNR=18
EGMT **Eagleton** 33.49 343 eP P 17 25 24.9 +0.3
comp=Z,99nm,1.1s,mb5.7
EGMT **Eagleton** 33.49 343 ⇓P P 17 25 24.7 +0.2
baz=34,SNR=6.7
BMO **Blue Mountains** 33.51 332 eP P 17 25 23.9 -0.8
comp=Z,86nm,1.5s,mb5.5
H09A **Durkee** 33.53 332 P P 17 25 24.6 -0.2
baz=34,SNR=80
E13A **Victor** 33.53 337 P P 17 25 25.0 +0.2
baz=34,SNR=47
LONY **Lake Ozonia** 33.56 28 eP P 17 25 25.0 -0.1
comp=Z,62nm,0.9s,mb5.5
LONY e 17 25 40.4
M04C **Macdoel** 33.58 324 P P 17 25 25.4 +0.1
baz=34,SNR=12
CHMT **Chamberlain Mo** 33.59 339 eP P 17 25 25.4 +0.1
J06A **Christmas Vall** 33.68 328 ⇑P P 17 25 25.5 -0.7
baz=34,SNR=8.4
MSNY **Massena** 33.73 28 eP P 17 25 26.6 0.0
MSO **Missoula** 33.77 338 eP P 17 25 26.8 -0.1
comp=Z,53nm,0.9s,mb5.5
ULM **Lac du Bonnet** 33.81 0 P P 17 25 26.2 -1.1
comp=Z,39nm,0.8s,mb5.4,baz=182,slow=9.0,SNR=63
ULM LR LR 17 40 59.6
comp=Z,329nm,18.6s,MS4.1,baz=197,slow=39
N02C **Big Bar** 33.82 322 ⇓P P 17 25 26.6 -0.8
baz=34,SNR=10
D14A **Greenough** 33.83 339 P P 17 25 27.3 -0.1
baz=34,SNR=40
F11A **Grangeville** 33.84 335 P P 17 25 27.0 -0.5
baz=34,SNR=25
L04A **Klamath Falls** 33.87 325 ⇑P P 17 25 27.6 -0.2
baz=34,SNR=5.8
H08A **Prairie City** 33.88 331 P P 17 25 27.9 0.0
baz=34,SNR=71
M02C **Callahan** 33.91 323 ⇓P P 17 25 26.7 -1.4
baz=34
I07A **Izee** 33.96 329 P P 17 25 28.3 -0.2
baz=34,SNR=22
YBH **Yreka Blue Hor** 34.04 323 ⇑P P 17 25 27.7 -1.6
baz=34
NNA **Nana** 34.05 145 LR LR 17 36 35.4
comp=Z,477nm,20.6s,MS4.2,baz=326,slow=31
K04A **Chilquin** 34.08 325 ⇑P P 17 25 29.4 -0.2
baz=34

KHMM **Horse Mountain** 34.10 321 *e*P P 17 25 29.8 0.0
D13A **Huson** 34.18 338 P P 17 25 30.4 -0.1
baz=34,SNR=52
FRNY **Flat Rock** 34.19 29 *e*P P 17 25 30.3 -0.3
I06A **Prineville** 34.21 328 P P 17 25 30.4 -0.3
baz=34,SNR=11
JCC **Jacoby Creek** 34.25 321 ⇓P P 17 25 31.1 +0.1
baz=34
J05A **Fort Rock** 34.27 327 ⇑P P 17 25 31.2 -0.1
baz=34
F10A **Beach Ranch, E** 34.36 334 P P 17 25 31.9 -0.1
baz=34,SNR=68
F09A **S2 Ranch, Elgi** 34.44 333 P P 17 25 32.5 -0.3
baz=34,SNR=55
LBNH **Lisbon** 34.55 31 *e*P P 17 25 33.6 -0.1
LBNH pmax pmax
comp=Z,18nm,0.8s,mb5.0
LBNH **Lisbon** 34.55 31 *e*P P 17 25 33.6 -0.1
comp=Z,18nm,0.8s,mb5.0
G08A **Pilot Rock** 34.60 331 P P 17 25 33.6 -0.5
baz=35,SNR=30
J04A **Umpqua Nationa** 34.70 326 P P 17 25 35.1 +0.1
baz=35,SNR=10
E10A **Myers Farm, Un** 34.72 334 ⇓P P 17 25 34.3 -0.8
baz=35,SNR=9.7
C13A **Hot Springs** 34.72 338 P P 17 25 34.9 -0.2
baz=35,SNR=12
BBOR **Butler Butte** 34.78 325 P P 17 25 34.3 -1.3
VIPM **Ingram Point** 34.81 329 P P 17 25 35.6 -0.4
L02A **Cave Junction** 34.82 323 ⇓P P 17 25 36.0 -0.1
baz=35
H06A **Lindquist Farm** 34.84 329 P P 17 25 35.9 -0.3
baz=35,SNR=18
I05A **Bend** 34.90 328 ⇓P P 17 25 36.7 0.0
baz=35
G07A **Ruggs Ranch, H** 34.91 331 ⇓P P 17 25 36.3 -0.5
baz=35,SNR=16
C12A **Trout Creek** 35.07 337 P P 17 25 37.9 -0.3
baz=35,SNR=19
E09A **Wood Farm, Sta** 35.17 333 P P 17 25 38.0 -1.0
baz=35,SNR=26
I04A **Tendick Farm,** 35.24 326 ⇑P P 17 25 38.7 -1.0
baz=35,SNR=8.8
B13A **Whitefish** 35.27 339 P P 17 25 40.2 +0.3
baz=35,SNR=48
G06A **Carlson Farm,** 35.35 330 P P 17 25 40.4 -0.2
baz=35,SNR=6.4
F07A **Phinny Hill Vi** 35.50 331 ⇓P P 17 25 41.4 -0.5
baz=36
E08A **Dider Farm, El** 35.56 333 ⇓P P 17 25 41.2 -1.2
baz=36
J02A **Umpqua** 35.59 325 ⇓P P 17 25 41.6 -1.0
baz=36
WALA **Waterton Lakes** 35.67 340 *e*P P 17 25 43.0 -0.3
WALA *e* 17 25 57.8
comp=Z,63nm,1.1s,mb5.5
D09A **Jones Farm, Ri** 35.67 334 P P 17 25 42.6 -0.7
baz=36,SNR=41
G05A **Wamic** 35.69 329 ⇑P P 17 25 43.6 +0.2
baz=36
HAWA **Hanford** 35.69 332 *e*P P 17 25 42.4 -1.2
comp=Z,13nm,0.6s,mb5.0
KEBM **Edson Butte** 35.70 324 *e*P P 17 25 44.3 +0.8
H04A **Detroit Lake** 35.73 328 ⇓P P 17 25 43.4 -0.5
baz=36,SNR=34
K01A **Sixes** 35.73 323 ⇓P P 17 25 44.5 +0.6
baz=36
B12A **Libby** 35.75 338 P P 17 25 44.5 +0.5
baz=36,SNR=57
F06A **Goldendale** 35.81 330 ⇓P P 17 25 44.8 +0.3
baz=36
VFP **Flag Point** 35.81 329 P P 17 25 45.5 +0.9
GBL **Gable Mountain** 35.82 332 P P 17 25 43.8 -0.8
I03A **Eugene** 35.82 326 ⇑P P 17 25 44.3 -0.3
baz=36,SNR=6.4
C10A **Spilker Farm,** 35.87 336 ⇑P P 17 25 44.5 -0.5
baz=36
D08A **Wollman Farm,** 35.93 333 P P 17 25 44.7 -0.9
baz=36,SNR=8.3
E07A **Sunnyside** 35.96 332 P P 17 25 45.2 -0.6
baz=36,SNR=10.0
B11A **Sandpoint** 36.01 337 ⇑P P 17 25 46.1 -0.2
baz=36,SNR=7.4
I02A **Mapleton** 36.14 325 ⇑P P 17 25 47.6 +0.2
baz=36
NEW **Newport** 36.16 336 P P 17 25 47.3 -0.2
NEW LR LR 17 43 12.9
comp=Z,28nm,0.9s,mb5.2,baz=145,slow=8.9,SNR=16
NEW **Newport** 36.16 336 *e*P P 17 25 46.9 -0.6
NEW pmax pmax
comp=Z,524nm,18.9s,MS4.3,baz=149,slow=40
NEW **Newport** 36.16 336 *e*P P 17 25 46.9 -0.6
comp=Z,44nm,1.0s
A12A **Yaak River Ran** 36.16 338 P P 17 25 48.1 +0.6
comp=Z,44nm,1.0s,mb5.3
F05A **White Salmon** 36.22 330 P P 17 25 48.6 +0.6
baz=36,SNR=33
B10A **Chitwood Farm,** 36.22 336 ⇑P P 17 25 48.1 +0.1
baz=36,SNR=26
C09A **Chrisman Ranch** 36.24 335 P P 17 25 48.0 -0.2
baz=36
G04A **Mulino** 36.24 328 P P 17 25 48.0 -0.3
baz=36,SNR=20
COR **Corvallis** 36.25 327 *e*P P 17 25 47.7 -0.6
COR pmax pmax
baz=36,SNR=9.1
COR **Corvallis** 36.25 327 *e*P P 17 25 47.7 -0.6
comp=Z,141nm,1.3s,mb5.7
H03A **Soap Creek Ran** 36.30 327 ⇓P P 17 25 48.2 -0.6
comp=Z,141nm,1.3s,mb5.7
A11A **Hall Mountain,** 36.44 338 P P 17 25 50.2 +0.3
baz=36,SNR=9.0
E06A **Yakima** 36.47 331 ⇓P P 17 25 50.7 +0.5
baz=36,SNR=41
D07A **Quincy** 36.50 332 P P 17 25 50.2 -0.2
baz=36,SNR=28
C08A **Higginbotham F** 36.55 334 P P 17 25 50.8 0.0
baz=37,SNR=9.8
EBG **Ellensburg** 36.55 332 P P 17 25 51.4 +0.5
H02A **Toledo** 36.68 326 ⇓P P 17 25 52.0 +0.1
baz=37,SNR=51
B09A **Rice** 36.69 335 ⇑P P 17 25 51.7 -0.3
baz=37
F04A **Amboy** 36.72 329 ⇓P P 17 25 51.6 -0.7
baz=37,SNR=61
G03A **Yamhill** 36.73 328 ⇑P P 17 25 52.3 0.0
baz=37
TBM **Table Mountain** 36.76 332 P P 17 25 53.0 +0.4
E05A **Randle** 36.85 330 P P 17 25 53.6 +0.2
baz=37,SNR=8.1
WTV **Waterville** 36.88 333 P P 17 25 53.8 +0.1
D06A **Cle Elum** 36.89 332 ⇑P P 17 25 53.9 +0.1
baz=37,SNR=16
A10A **Northport** 36.91 336 ⇓P P 17 25 53.7 -0.2
baz=37,SNR=14
C07A **Waterville** 36.91 333 P P 17 25 53.8 -0.1
baz=37
FMW **Mount Fremont** 37.08 331 P P 17 25 56.0 +0.6
F03A **Seaside** 37.29 328 ⇑P P 17 25 57.1 0.0
baz=37,SNR=17
A09A **Danville** 37.30 336 ⇑P P 17 25 57.2 -0.1
baz=37
E04A **Onalaska** 37.34 329 ⇑P P 17 25 57.3 -0.2
baz=37,SNR=10
D05A **Enumclaw** 37.41 331 ⇓P P 17 25 58.0 -0.2
baz=37
B07A **Winthrop** 37.53 334 P P 17 25 58.5 -0.7
baz=38,SNR=6.3
A08A **Turner Farm, O** 37.56 335 ⇓P P 17 25 58.9 -0.5
baz=38,SNR=6.8
C05A **Tolt Reservoir** 37.65 332 P P 17 25 59.8 -0.4
baz=38,SNR=12
E03A **Lebam** 37.72 329 ⇓P P 17 26 00.9 +0.1
baz=38,SNR=5.7
D04A **Dobbs Creek Ra** 37.74 330 ⇓P P 17 26 01.5 +0.5
baz=38,SNR=7.9
A07A **Ashnola River,** 38.09 334 ⇑P P 17 26 03.9 0.0
baz=38
RPW **Rockport** 38.13 333 P P 17 26 03.3 -0.9
B06A **Marblemount** 38.17 333 ⇓P P 17 26 03.5 -1.0
baz=38,SNR=15
D03A **Wishkah Elem.** 38.22 329 ⇓P P 17 26 04.7 -0.3
baz=38
B05A **Bryant** 38.25 332 ⇑P P 17 26 04.1 -1.2
baz=38,SNR=5.6
C04A **Brinnon** 38.26 331 P P 17 26 04.5 -0.9
baz=38,SNR=8.9

NLWA **Neilton Lookou** 38.46 330 ⇑P P 17 26 07.1 +0.1
baz=38,SNR=7.9
MBW **Mount Baker** 38.55 333 P P 17 26 06.7 -1.0
FFC **Flin Flon** 38.55 355 P P 17 26 07.9 +0.1
comp=Z,336nm,0.9s,mb6.1,SNR=12
FFC **Flin Flon** 38.55 355 *e*P P 17 26 07.6 -0.2
FFC pmax pmax
comp=Z,91nm,1.3s,mb5.3
FFC **Flin Flon** 38.55 355 *e*P P 17 26 07.6 -0.2
comp=Z,91nm,1.3s,mb5.3
B04A **Port Angeles** 38.75 331 ⇓P P 17 26 09.6 +0.1
baz=39
A05A **Maple Falls** 38.79 333 ⇓P P 17 26 09.0 -0.8
baz=39
A04A **Legoe Bay, Lum** 38.86 332 ⇓P P 17 26 09.6 -0.8
baz=39,SNR=9.0
MCW **Mount Constitu** 38.89 332 P P 17 26 10.1 -0.5
PGC **Sidney** 39.15 331 *e*P P 17 26 11.7 -1.1
comp=Z,58nm,0.9s,mb5.3
EDM **Edmonton** 39.17 344 *e*P P 17 26 12.4 -0.6
LPAZ **La Paz** 42.65 138 P P 17 26 41.4 -0.2
comp=Z,1.8nm,0.9s,baz=344,slow=11,SNR=6.8
LPAZ LR LR 17 44 24.3
comp=Z,183nm,18.7s,MS4.0,baz=65,slow=36
LPAZ **La Paz** 42.65 138 P P 17 26 41.2 -0.4
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ **La Paz** 42.65 138 P P 17 26 41.2 -0.4
comp=Z,1.3nm,0.9s
BBB **Bella Bella** 43.76 332 P P 17 26 50.2 -0.3
comp=Z,20nm,0.9s,mb4.8,baz=162,slow=10,SNR=3.1
BBB LR LR 17 47 39.8
comp=Z,540nm,19.0s,MS4.5,baz=335,slow=40
BBB **Bella Bella** 43.76 332 P P 17 26 50.2 -0.3
BBB LR LR 17 47 39.8
SCHQ **Schefferville** 44.57 24 P P 17 26 56.7 -0.4
comp=Z,52nm,0.9s,mb5.4,baz=229,slow=7.4,SNR=27
SCHQ LR LR 17 45 33.3
comp=Z,313nm,20.4s,MS4.2,baz=80,slow=36
RPN **Rapa Nui** 45.06 197 LR LR 17 40 53.6
comp=Z,419nm,21.0s,MS4.3,baz=107,slow=29
LVC **Limon Verde** 47.05 145 P P 17 27 17.0 +0.4
comp=Z,3.9nm,0.7s,mb4.5,baz=285,slow=12,SNR=3.3
LVC LR LR 17 43 44.6
comp=Z,181nm,20.6s,MS4.0,baz=3.1,slow=32
SIV **San Ignacio** 47.27 131 P P 17 27 17.3 -1.0
comp=Z,7.1nm,0.8s,mb4.7,baz=307,slow=8.5,SNR=34
YKA **Yellowknife Ar** 47.87 349 P P 17 27 21.8 -1.1
comp=Z,44nm,0.7s,mb5.6,baz=153,slow=7.4,SNR=66
YKA LR LR 17 48 43.2
comp=Z,305nm,19.7s,MS4.3,baz=155,slow=37
YKA **Yellowknife Ar** 47.87 349 P P 17 27 21.8 -1.1
YKA LR LR 17 48 43.2
DLBC **Dease Lake** 48.89 337 *e*P P 17 27 31.7 +0.9
TAOE **Nuku Hiva Isla** 50.19 243 *e*LR LR 17 41 59.0
comp=Z,1µm,25.6s
FRB **Frobisher Bay** 51.03 15 P P 17 27 46.5 -0.6
comp=Z,24nm,0.7s,mb5.2,baz=214,slow=9.0,SNR=5.2
RKT **Rikitea** 54.56 225 *e*S S 17 35 50.9 +1.4
comp=Z,122nm,29.5s
RKT *e*LR LR 17 43 59.1
comp=Z,376nm,29.2s
CFAA **Coronel Fontan** 54.72 151 P P 17 28 13.2 -1.1
comp=Z,0.8nm,0.8s,baz=326,slow=7.6,SNR=16
DAWY **Dawson** 56.00 339 *e*P P 17 28 22.7 -0.8
EGAK **Eagle** 57.05 339 *e*P P 17 28 29.8 -1.1
comp=Z,50nm,0.8s,mb5.6
EGAK *e* 17 28 45.9
PMR **Palmer** 58.50 333 *e*P P 17 28 40.2 -0.9
PMR pmax pmax
comp=Z,32nm,1.2s,mb5.2
PMR **Palmer** 58.50 333 *e*P P 17 28 40.2 -0.9
comp=Z,32nm,1.2s,mb5.2
SFJD **Kangerlussuaq** 58.57 19 *i*P P 17 28 41.3 -0.3
MCK **McKinley** 59.38 336 *e*P P 17 28 46.3 -1.0
MCK pmax pmax
comp=Z,24nm,0.8s,mb5.3
MCK **McKinley** 59.38 336 *e*P P 17 28 46.3 -1.0
comp=Z,24nm,0.8s,mb5.3
COLA **College** 59.51 337 *d*iP P 17 28 46.4 -1.7
COLA **College** 59.51 337 *e*P P 17 28 46.7 -1.5
comp=Z,58nm,0.8s,mb5.7
SVW2 **Sparrevohn** 61.17 331 *e*P P 17 28 58.0 -1.5
IMA2 **Indian Mountai** 62.22 337 *e*P P 17 29 04.6 -2.0
PPT **Papeete** 62.46 240 *e*LR LR 17 47 26.4
comp=Z,515nm,25.2s,baz=57
PPT **Papeete** 62.46 240 LR LR 17 48 16.5
comp=Z,252nm,19.2s,MS4.4,baz=128,slow=28
TBI **Tubuai** 65.32 234 *e*LR LR 17 48 56.4
comp=Z,458nm,27.2s,baz=55
ALE **Alert** 67.53 5 P P 17 29 39.0 -2.1
comp=Z,135nm,0.9s,mb6.0,SNR=8.7
DAG **Danmarks Havn** 71.33 14⇑*i*P P 17 30 03.3 -1.3
comp=Z,26nm,0.8s,mb5.2
DAG **Danmarks Havn** 71.33 14⇑*i*P P 17 30 03.3 -1.3
DAG pmax pmax
comp=Z,26nm,0.8s,mb5.2
STS **Santiago** 77.37 49 P P 17 30 38.0 -1.7
STS pmax pmax
comp=Z,11nm,0.6s,mb5.0
STS **Santiago** 77.37 49 P P 17 30 38.0 -1.7
comp=Z,11nm,0.6s,mb5.0
BILL **Bilibino** 77.76 338 *d*iP P 17 30 40.3 -1.6
BILL *e*SS SS 17 45 27.7 -4.1
BILL pmax pmax
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
BILL **Bilibino** 77.76 338 *e*P P 17 30 40.9 -1.0
comp=Z,20nm,0.8s,mb5.1
PTEO **Sao Teotonio** 78.26 54 *e*P P 17 30 45.4 +0.8
comp=Z,57nm,1.5s,mb5.3
PVIS **Viseu** 78.26 51 *e*P P 17 30 45.1 +0.5
comp=Z,19nm,1.1s,mb4.9
PVIS *e*pP pP 17 30 57.1 -0.2
PVRL **Vila Real** 78.28 50 *e*P P 17 30 45.2 +0.4
comp=Z,22nm,1.5s,mb4.9
EPON **Pontenova** 78.29 48 P P 17 30 43.4 -1.5
comp=Z,264nm,3.6s
ERUA **La Rua** 78.48 49 P P 17 30 44.3 -1.6
ERUA pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
ERUA **La Rua** 78.48 49 P P 17 30 44.3 -1.5
comp=Z,6.5nm,0.4s,mb4.9
EVO **Evora** 78.61 53 *e*P P 17 30 46.1 -0.5
comp=Z,36nm,0.9s,mb5.0
EVO *e*R
comp=Z,528nm,21.5s
PCBR **Castelo Branco** 78.75 52 *e*P P 17 30 47.7 +0.4
comp=Z,37nm,1.3s,mb5.2
PCBR *e*pP pP 17 31 00.0 0.0
PBEJ **Beja** 78.83 54 *e*P P 17 30 48.4 +0.6
comp=Z,14nm,1.4s,mb4.7
PBEJ *e*pP pP 17 31 00.7 +0.3
ECAL **Calabor** 78.87 49 P P 17 30 46.8 -1.2
comp=Z,4.6nm,0.7s,mb4.5
PBRG **Braganca** 78.89 50 *e*P P 17 30 48.5 +0.4
comp=Z,20nm,1.5s,mb4.8
EGRO **El Granado** 79.23 54 P P 17 30 48.6 -1.4
comp=Z,10nm,0.8s,mb4.8
EBAD **Badajoz** 79.33 53 P P 17 30 49.2 -1.3
comp=Z,62nm,2.4s,mb5.1
EARI **Arriondas** 79.68 48 P P 17 30 51.3 -1.1
comp=Z,8.9nm,0.8s,mb4.8
EMIN **Mina Concepcio** 79.81 54 P P 17 30 52.3 -0.8
comp=Z,11nm,0.7s,mb4.9
ROSF **Rostrenen** 79.88 43 *e*P P 17 30 53.2 -0.3
comp=Z,23nm,1.0s,mb4.8
ROSF **Rostrenen** 79.88 43 *e*P P 17 30 53.2 -0.3
ROSF pmax pmax
comp=Z,12nm,1.0s,mb4.8
ROSF **Rostrenen** 79.88 43 *e*P P 17 30 53.2 -0.3
comp=Z,12nm,1.0s,mb4.8
QUIF **Quistinic** 80.05 43 *e*P P 17 30 54.1 -0.3
comp=Z,14nm,0.7s,mb4.7
QUIF **Quistinic** 80.05 43 *e*P P 17 30 54.1 -0.3
QUIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
QUIF **Quistinic** 80.05 43 *e*P P 17 30 54.1 -0.3
comp=Z,7.1nm,0.7s,mb4.7
SGMF **Saint Gilles** 80.36 43 *e*P P 17 30 55.7 -0.4
comp=Z,44nm,1.2s,mb5.0
SGMF **Saint Gilles** 80.36 43 *e*P P 17 30 55.7 -0.4
SGMF pmax pmax
comp=Z,22nm,1.2s,mb5.0
SGMF **Saint Gilles** 80.36 43 *e*P P 17 30 55.7 -0.4
comp=Z,22nm,1.2s,mb5.0

ESPR **Espera** 80.64 54 P P 17 30 57.4 -0.2
comp=Z,9.4nm,0.8s,mb4.8
ELAN **Lanestosa** 80.96 48 P P 17 30 58.9 -0.4
comp=Z,11nm,0.9s,mb4.8
EJIF **Jimena Fronter** 81.05 55 P P 17 30 58.9 -0.8
EJIF pmax pmax
comp=Z,14nm,2.0s,mb4.5
EJIF **Jimena Fronter** 81.05 55 P P 17 30 58.9 -0.8
comp=Z,14nm,2.0s,mb4.5
GUD **Guadarrama** 81.06 50 P P 17 30 58.8 -1.0
GUD pmax pmax
comp=Z,15nm,0.8s,mb5.0
GUD **Guadarrama** 81.06 50 P P 17 30 58.8 -1.0
comp=Z,15nm,0.8s,mb5.0
EADA **Adamuz** 81.33 53 P P 17 31 00.9 -0.3
comp=Z,7.8nm,0.8s,mb4.7
ESDC **Sonseca Array** 81.43 51 P P 17 31 02.6 +0.8
comp=Z,4.9nm,0.6s,mb4.6,baz=292,slow=4.5,SNR=27
ESDC LR LR 18 04 39.5
comp=Z,244nm,19.0s,MS4.6,baz=290,slow=34
ESDC **Sonseca Array** 81.43 51 P P 17 31 01.9 +0.1
comp=Z,5.0nm,0.6s,mb4.6
GRR **Gorron** 81.43 42 *e*P P 17 31 01.7 -0.1
comp=Z,58nm,0.9s,mb5.2
GRR **Gorron** 81.43 42 *e*P P 17 31 01.7 -0.1
GRR pmax pmax
comp=Z,29nm,0.9s,mb5.2
GRR **Gorron** 81.43 42 *e*P P 17 31 01.7 -0.1
comp=Z,29nm,0.9s,mb5.2
ESLA **Sonseca Array** 81.43 51 *e*P P 17 31 02.2 +0.4
comp=Z,9.1nm,1.3s,mb4.5
EMIJ **Mijas** 81.56 54 P P 17 31 02.9 +0.4
comp=Z,85nm,2.9s,mb5.2
FLN **La Foliniere** 81.57 42 *e*P P 17 31 02.5 0.0
comp=Z,43nm,0.8s,mb5.2
FLN *e*R 17 31 02.5 0.0
comp=Z,458nm,19.8s
FLN **La Foliniere** 81.57 42 *e*P P 17 31 02.5 0.0
FLN pmax pmax
comp=Z,21nm,0.8s,mb5.1
FLN MLR MLR
comp=Z,460nm,19.8s,MS4.8
FLN **La Foliniere** 81.57 42 *e*P P 17 31 02.5 0.0
comp=Z,21nm,0.8s,mb5.1
FLN LR LR
comp=Z,460nm,19.8s,MS4.8
LDF **La Druitiere** 81.85 42 *e*P P 17 31 03.9 -0.1
comp=Z,53nm,0.9s,mb5.2
LDF **La Druitiere** 81.85 42 *e*P P 17 31 03.9 -0.1
LDF pmax pmax
comp=Z,27nm,0.9s,mb5.2
LDF **La Druitiere** 81.85 42 *e*P P 17 31 03.9 -0.1
comp=Z,26nm,0.9s,mb5.2
ELOJ **Sierra Loja** 81.90 54 P P 17 31 03.4 -0.9
ELOJ pmax pmax
comp=Z,36nm,1.8s,mb5.0
ELOJ **Sierra Loja** 81.90 54 P P 17 31 03.4 -0.9
comp=Z,36nm,1.8s,mb5.0
EBAN **Banos Encina** 81.93 53 P P 17 31 03.0 -1.4
EBAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EBAN **Banos Encina** 81.93 53 P P 17 31 03.0 -1.4
comp=Z,10nm,0.9s,mb4.8
ERON **Agron** 82.20 54 P P 17 31 04.9 -0.9
comp=Z,6.8nm,0.5s,mb4.8
ECOG **Cogollos-Vega** 82.32 54 P P 17 31 05.7 -0.8
ECOG pmax pmax
comp=Z,20nm,1.6s,mb4.8
ECOG **Cogollos-Vega** 82.32 54 P P 17 31 05.7 -0.7
comp=Z,20nm,1.6s,mb4.8
EALK **Alkurruntz** 82.33 47 P P 17 31 06.9 +0.4
comp=Z,3.5nm,0.3s,mb4.8
MFF **Saint Martin d** 82.36 44 *e*P P 17 31 06.6 -0.1
comp=Z,45nm,1.3s,mb4.9
MFF **Saint Martin d** 82.36 44 *e*P P 17 31 06.6 -0.1
MFF pmax pmax
comp=Z,23nm,1.3s,mb5.0
MFF **Saint Martin d** 82.36 44 *e*P P 17 31 06.6 -0.1
comp=Z,23nm,1.3s,mb4.9
SJPF **Ste Jean** 82.55 47 *e*P P 17 31 07.3 -0.4
comp=Z,40nm,1.3s,mb5.0
SJPF **Ste Jean** 82.55 47 *e*P P 17 31 07.3 -0.4
SJPF pmax pmax
comp=Z,20nm,1.3s,mb5.0
SJPF **Ste Jean** 82.55 47 *e*P P 17 31 07.3 -0.4
comp=Z,20nm,1.3s,mb5.0
ETOR **Torete** 82.56 50 P P 17 31 08.3 +0.6
ETOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ETOR **Torete** 82.56 50 P P 17 31 08.3 +0.6
comp=Z,5.6nm,0.8s,mb4.7
EQES **Quesada** 82.57 53 P P 17 31 08.4 +0.7
comp=Z,9.8nm,0.9s,mb4.8
MDT **Midelt** 82.61 58 P P 17 31 08.8 +0.8
comp=Z,9.7nm,0.8s,mb4.9,baz=285,slow=4.9,SNR=18
EVIA **Vianos** 82.79 52 P P 17 31 07.8 -1.1
EVIA pmax pmax
comp=Z,14nm,0.7s,mb5.1
EVIA **Vianos** 82.79 52 P P 17 31 07.8 -1.1
comp=Z,14nm,0.7s,mb5.1
EBER **Berja** 82.94 54 P P 17 31 10.2 +0.4
comp=Z,49nm,2.4s,mb5.1
ETSF **Etsaut** 83.08 47 *e*P P 17 31 10.8 +0.4
comp=Z,19nm,0.7s,mb4.9
ETSF **Etsaut** 83.08 47 *e*P P 17 31 10.8 +0.4
ETSF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ETSF **Etsaut** 83.08 47 *e*P P 17 31 10.8 +0.4
comp=Z,9.6nm,0.7s,mb4.9
LFF **La Frestale** 83.42 45 *e*P P 17 31 12.0 -0.2
comp=Z,51nm,0.9s,mb5.3
LFF **La Frestale** 83.42 45 *e*P P 17 31 12.0 -0.2
LFF pmax pmax
comp=Z,26nm,0.9s,mb5.3
LFF **La Frestale** 83.42 45 *e*P P 17 31 12.0 -0.2
comp=Z,26nm,0.9s,mb5.3
EBIE **Bielsa** 83.64 48 P P 17 31 13.6 +0.3
comp=Z,6.1nm,0.7s,mb4.8
EPF **Esparros** 83.68 47 *e*P P 17 31 13.5 0.0
comp=Z,28nm,1.1s,mb5.0
EPF **Esparros** 83.68 47 *e*P P 17 31 13.5 0.0
EPF pmax pmax
comp=Z,14nm,1.1s,mb5.0
EPF **Esparros** 83.68 47 *e*P P 17 31 13.5 0.0
comp=Z,14nm,1.1s,mb5.0
KONO **Kongsberg** 83.78 29 *d*iP P 17 31 11.9 -2.1
KONO **Kongsberg** 83.78 29 *e*P P 17 31 14.7 +0.7
comp=Z,92nm,1.3s,mb5.8
RJF **Les Rejaudoux** 83.84 45 *e*P P 17 31 14.0 -0.3
comp=Z,32nm,1.0s,mb5.1
RJF *e*R 17 31 14.0 -0.3
comp=Z,374nm,20.8s
RJF **Les Rejaudoux** 83.84 45 *e*P P 17 31 14.0 -0.3
RJF pmax pmax
comp=Z,16nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,370nm,20.8s,MS4.7
RJF **Les Rejaudoux** 83.84 45 *e*P P 17 31 14.0 -0.3
comp=Z,16nm,1.0s,mb5.1
RJF LR LR
comp=Z,370nm,20.8s,MS4.7
NAO01 **NORSAR Array S** 83.92 28 *e*P P 17 31 15.2 +0.5
comp=Z,48nm,1.2s,mb5.5
NB2 **NORSAR Subarra** 83.99 28 P P 17 31 15.6 +0.5
comp=Z,1.7nm,0.8s,mb4.2,baz=301,slow=5.1
NOA **NORSAR Array B** 83.99 28 P P 17 31 15.6 +0.5
comp=Z,28nm,1.0s,mb5.3,baz=297,slow=4.9,SNR=7.3
TCF **Toulx Ste Croi** 84.02 44 *e*P P 17 31 15.1 -0.1
comp=Z,42nm,1.1s,mb5.2
TCF **Toulx Ste Croi** 84.02 44 *e*P P 17 31 15.1 -0.1
TCF pmax pmax
comp=Z,21nm,1.1s,mb5.2
TCF **Toulx Ste Croi** 84.02 44 *e*P P 17 31 15.1 -0.1
comp=Z,21nm,1.1s,mb5.2
BAIF **Baives** 84.14 40 *e*P P 17 31 15.8 0.0
comp=Z,48nm,1.2s,mb5.2
BAIF **Baives** 84.14 40 *e*P P 17 31 15.8 0.0
BAIF pmax pmax
comp=Z,24nm,1.2s,mb5.2
BAIF **Baives** 84.14 40 *e*P P 17 31 15.8 0.0
comp=Z,24nm,1.2s,mb5.2
CAF **Calviac** 84.32 45 *e*P P 17 31 16.4 -0.4
comp=Z,25nm,1.1s,mb5.0
CAF **Calviac** 84.32 45 *e*P P 17 31 16.4 -0.4
CAF pmax pmax
comp=Z,13nm,1.1s,mb5.0
CAF **Calviac** 84.32 45 *e*P P 17 31 16.4 -0.4

comp=Z,12nm,1.1s,mb5.0
BGF Bois d'Agland 84.35 43 *e*P **P 17 31 16.6 -0.3**
comp=Z,79nm,1.3s,mb5.4
BGF Bois d'Agland 84.35 43 *e*P **P 17 31 16.6 -0.3**
BGF pmax pmax
comp=Z,40nm,1.3s,mb5.4
BGF Bois d'Agland 84.35 43 *e*P **P 17 31 16.6 -0.3**
comp=Z,40nm,1.3s,mb5.4
DOU Dourbes 84.36 39 P **P 17 31 17.2 +0.2**
GIVF Givet 84.50 39 *e*P **P 17 31 17.8 +0.1**
comp=Z,248nm,1.8s,mb5.7
GIVF Givet 84.50 39 *e*P **P 17 31 17.8 +0.1**
GIVF pmax pmax
comp=Z,124nm,1.8s,mb5.7
GIVF Givet 84.50 39 *e*P **P 17 31 17.8 +0.1**
comp=Z,124nm,1.8s,mb5.7
PMSA Palmer Station 84.52 167 LR LR 18 01 11.0
comp=Z,381nm,20.6s,MS4.8,baz=95,slow=30
AVF Avril sur Loir 84.61 43 *e*P **P 17 31 17.5 -0.8**
comp=Z,39nm,1.1s,mb5.1
AVF Avril sur Loir 84.61 43 *e*P **P 17 31 17.5 -0.8**
AVF pmax pmax
comp=Z,20nm,1.1s,mb5.2
AVF Avril sur Loir 84.61 43 *e*P **P 17 31 17.5 -0.8**
comp=Z,20nm,1.1s,mb5.2
SSF Saint Saulge 84.63 43 *e*P **P 17 31 17.8 -0.5**
comp=Z,63nm,1.2s,mb5.3
SSF Saint Saulge 84.63 43 *e*P **P 17 31 17.8 -0.5**
SSF pmax pmax
comp=Z,31nm,1.2s,mb5.3
SSF Saint Saulge 84.63 43 *e*P **P 17 31 17.8 -0.5**
comp=Z,32nm,1.2s,mb5.3
BCLA Clavier 84.69 39 P **P 17 31 19.0 +0.4**
EPOB Poblet 84.69 49 P **P 17 31 18.8 +0.2**
comp=Z,46nm,1.7s,mb5.3
LOR Lormes 84.80 42 *e*P **P 17 31 19.0 -0.2**
comp=Z,92nm,1.1s,mb5.5
LOR *e*R
comp=Z,210nm,19.2s
LOR Lormes 84.80 42 *e*P **P 17 31 19.0 -0.2**
LOR pmax pmax
comp=Z,46nm,1.1s,mb5.5
LOR MLR MLR
comp=Z,210nm,19.3s,MS4.5
LOR Lormes 84.80 42 *e*P **P 17 31 19.0 -0.2**
comp=Z,46nm,1.1s,mb5.5
LOR LR LR
comp=Z,210nm,19.3s,MS4.5
EMIR Miracle 84.84 48 P **P 17 31 19.6 +0.2**
comp=Z,14nm,0.7s,mb5.2
MTLF Montolieu 84.90 46 *e*P **P 17 31 19.5 -0.2**
comp=Z,74nm,1.2s,mb5.4
MTLF Montolieu 84.90 46 *e*P **P 17 31 19.5 -0.2**
MTLF pmax pmax
comp=Z,37nm,1.2s,mb5.4
MTLF Montolieu 84.90 46 *e*P **P 17 31 19.5 -0.2**
comp=Z,37nm,1.2s,mb5.4
SEY Seymchan 84.92 335‖ *e*P **P 17 31 18.7 -1.1**
HGN Heimansgroeve 84.95 39 *e*P **P 17 31 20.0 0.0**
comp=Z,34nm,1.2s,mb5.3
SMF Signal de Mont 84.98 43 *e*P **P 17 31 19.4 -0.7**
comp=Z,38nm,1.2s,mb5.1
SMF Signal de Mont 84.98 43 *e*P **P 17 31 19.4 -0.7**
SMF pmax pmax
comp=Z,19nm,1.2s,mb5.1
SMF Signal de Mont 84.98 43 *e*P **P 17 31 19.4 -0.7**
comp=Z,19nm,1.2s,mb5.1
MEM Membach 85.05 39 P **P 17 31 21.8 +1.4**
WTSB Winterswijk 85.05 37 *e*P **P 17 31 19.9 -0.5**
comp=Z,49nm,1.3s,mb5.5
ARCES ARCESS Array B 85.15 17 P **P 17 31 19.8 -1.1**
comp=Z,15nm,0.9s,mb5.1,baz=305,slow=4.3,SNR=20
MEZF Maizieres J'vi 85.16 41 *e*P **P 17 31 20.9 -0.1**
comp=Z,31nm,0.7s,mb5.2
MEZF Maizieres J'vi 85.16 41 *e*P **P 17 31 20.9 -0.1**
comp=Z,31nm,0.7s,mb5.5
WLF Walferdange 85.45 40 *e*P **P 17 31 22.6 +0.1**
comp=Z,42nm,1.3s,mb5.4
WLF Walferdange 85.45 40 P **P 17 31 22.6 +0.1**
HFS Hagfors 85.48 28 P **P 17 31 22.4 -0.2**
comp=Z,5.7nm,1.0s,mb4.7,baz=347,slow=6.1,SNR=4.1
IBBN Ibbenburen 85.48 37 *e*P **P 17 31 23.3 +0.7**
comp=Z,49nm,1.2s,mb5.5
EJON La Jonquera 85.64 47 P **P 17 31 24.2 +0.8**
comp=Z,19nm,0.9s,mb5.3
LASF Ste Croix 85.81 45 *e*P **P 17 31 24.7 +0.5**
comp=Z,95nm,1.1s,mb5.6
VIVF Saint-Julien-l 86.11 44 *e*P **P 17 31 25.5 -0.2**
HAU Haudompre 86.14 41 *e*P **P 17 31 25.5 -0.4**
comp=Z,28nm,0.8s,mb5.2
HAU *e*R
comp=Z,276nm,21.2s
HAU Haudompre 86.14 41 *e*P **P 17 31 25.5 -0.4**
HAU pmax pmax
comp=Z,14nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,280nm,21.3s,MS4.6
HAU Haudompre 86.14 41 *e*P **P 17 31 25.5 -0.4**
comp=Z,14nm,0.8s,mb5.2
HAU LR LR
comp=Z,280nm,21.3s,MS4.6
BSEG Bad Segeberg 86.31 35 *e*P **P 17 31 26.4 -0.3**
comp=Z,15nm,0.9s,mb5.2
BSEG Bad Segeberg 86.31 35 *e*P **P 17 31 26.4 -0.3**
BSEG pmax pmax
comp=Z,15nm,0.9s,mb5.2
CABF La Chapelle 86.45 42 *e*P **P 17 31 27.1 -0.3**
comp=Z,61nm,1.4s,mb5.3
CABF La Chapelle 86.45 42 *e*P **P 17 31 27.1 -0.3**
CABF pmax pmax
comp=Z,31nm,1.4s,mb5.3
CABF La Chapelle 86.45 42 *e*P **P 17 31 27.1 -0.3**
comp=Z,31nm,1.4s,mb5.3
HINF Hinteralfeld 86.53 41 *e*P **P 17 31 27.3 -0.5**
TNS Taunus Mts 86.64 39 *e*P **P 17 31 28.6 +0.3**
comp=Z,20nm,0.9s,mb5.3
TNS Taunus Mts 86.64 39 *e*P **P 17 31 28.6 +0.3**
TNS pmax pmax
comp=Z,20nm,0.9s,mb5.3
ORIF Oris-en-Rattie 86.89 44 *e*P **P 17 31 29.1 -0.5**
ORIF *e*R
comp=Z,483nm,20.2s
SMRF Simiane la Rot 87.01 45 *e*P **P 17 31 29.9 -0.2**
comp=Z,40nm,1.2s,mb5.2
SMRF Simiane la Rot 87.01 45 *e*P **P 17 31 29.9 -0.2**
comp=Z,40nm,1.2s,mb5.5
CLZ Clausthal 87.16 37 *e*P **P 17 31 31.0 +0.2**
comp=Z,6.0nm,0.9s,mb4.8
CLZ Clausthal 87.16 37 *e*P **P 17 31 31.0 +0.2**
CLZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LPL La Plagne 87.25 43 *e*P **P 17 31 31.3 0.0**
comp=Z,7.7nm,0.8s,mb4.7
LPL La Plagne 87.25 43 *e*P **P 17 31 31.3 0.0**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
LPL La Plagne 87.25 43 *e*P **P 17 31 31.3 0.0**
comp=Z,3.8nm,0.8s,mb4.7
BFO Black Forest 87.27 40 *e*P **P 17 31 31.6 +0.2**
comp=Z,9.0nm,1.2s,mb4.9
BFO Black Forest 87.27 40 *e*P **P 17 31 31.6 +0.2**
BFO pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
LPG La Plagne 87.27 43 *e*P **P 17 31 31.4 0.0**
UBBA Unterbreizbach 87.34 38 *e*P **P 17 31 31.7 0.0**
comp=Z,26nm,1.8s,mb5.2
MBDF Montbardon 87.56 44 *e*P **P 17 31 32.6 -0.2**
STU Stuttgart 87.64 40 *e*P **P 17 31 34.0 +0.9**
comp=Z,15nm,0.9s,mb5.2
LMR La Mourre 87.86 45 *e*P **P 17 31 33.7 -0.5**
comp=Z,34nm,1.2s,mb5.2
LMR La Mourre 87.86 45 *e*P **P 17 31 33.7 -0.5**
LMR pmax pmax
comp=Z,17nm,1.2s,mb5.2
LMR La Mourre 87.86 45 *e*P **P 17 31 33.7 -0.5**
comp=Z,17nm,1.2s,mb5.2
FRF La Foret Royal 87.88 45 *e*P **P 17 31 33.7 -0.6**
SBF Sospel 88.31 45 *e*P **P 17 31 36.0 -0.3**
MOX Moxa 88.35 37 *e*P **P 17 31 36.3 -0.2**
comp=Z,6.0nm,0.9s,mb4.8
MOX Moxa 88.35 37 *e*P **P 17 31 36.6 +0.1**
GRA1 Grafenberg Arr 88.50 38 *e*P **P 17 31 37.9 +0.7**
comp=Z,22nm,1.5s,mb5.3
GRA1 LR LR
comp=Z,200nm,21.8s,MS4.5
GRF Grafenberg Arr 88.50 38 *e*P **P 17 31 37.9 +0.7**
comp=Z,22nm,1.5s,mb5.3
GRF *e*L 18 06 45.7
comp=Z,186nm,21.8s
GRF Grafenberg Arr 88.50 38 *e*P **P 17 31 37.9 +0.7**
GRF pmax pmax
comp=Z,22nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.5
GRF Grafenberg Arr 88.50 38 *e*P **P 17 31 37.9 +0.7**
GRF pmax pmax
comp=Z,22nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.5
WERD Werda 88.83 37 *e*P **P 17 31 38.4 -0.4**
comp=Z,11nm,1.2s,mb5.1
CLL Collm 88.87 36 *e*P **P 17 31 38.8 -0.2**
comp=Z,7.0nm,0.7s,mb5.1
CLL Collm 88.87 36⇑ *i*P **P 17 31 38.8 -0.2**
comp=Z,13nm,1.3s,mb5.1
CLL *e*pP pP 17 31 52.0 +0.2
CLL Collm 88.87 36⇑ *i*P **P 17 31 38.8 -0.2**
comp=Z,13nm,1.3s,mb5.1
CLL *e*pP pP 17 31 52.0 +0.2
CLL LmV 18 11 00.0
comp=Z,200nm,21.5s
GUNZ Gunzen 88.88 37 *e*P **P 17 31 38.8 -0.2**
comp=Z,10.0nm,1.0s,mb5.1
MANZ Manzenberg 88.91 38 *e*P **P 17 31 39.0 -0.2**
comp=Z,7.0nm,1.0s,mb5.0
TANN Tannenbergstha 88.94 37 *e*P **P 17 31 39.4 +0.1**
comp=Z,13nm,1.1s,mb5.2
WERN Wernitzgruen 88.94 37 *e*P **P 17 31 39.4 +0.1**
comp=Z,16nm,1.2s,mb5.2
NKC Novy Kostel 89.00 37 *e*P **P 17 31 39.7 +0.1**
NKC *e*pP pP 17 31 51.4 -1.0
NKC AMS AMS 18 13 20.0
comp=Z,300nm,19.1s
NKC Novy Kostel 89.00 37 *e*P **P 17 31 39.7 +0.1**
NKC *e*pP pP 17 31 51.4 -1.0
ROTZ Rotzenmuhle 89.06 38 *e*P **P 17 31 39.8 -0.1**
comp=Z,10.0nm,1.3s,mb5.0
FBE Freiberg 89.24 37 *e*P **P 17 31 40.3 -0.4**
comp=Z,13nm,1.0s,mb5.2
LIC Lamto 89.39 84 *e*P **P 17 31 41.6 +0.2**
comp=Z,44nm,1.2s,mb5.4
LIC *e*R
comp=Z,134nm,19.2s
LIC Lamto 89.39 84 *e*P **P 17 31 41.6 +0.2**
comp=Z,22nm,1.2s,mb5.4
LIC LR LR
comp=Z,70nm,19.3s,MS4.1
BRG Berggiesshubel 89.60 37 *e*P **P 17 31 42.0 -0.4**
comp=Z,14nm,0.9s,mb5.3
BRG Berggiesshubel 89.60 37 *i* P **P 17 31 42.0 -0.4**
comp=Z,8.6nm,0.9s,mb5.1
BRG *i* pP 17 31 54.2 -1.0
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 89.60 37 *i* P **P 17 31 42.0 -0.4**
BRG *i* pP 17 31 54.2 -1.0
BRG pmax pmax
comp=Z,16nm,1.0s,mb5.3
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
WET Wettzell 89.71 38 *e*P **P 17 31 43.0 +0.1**
comp=Z,10.0nm,1.1s,mb5.1
WET Wettzell 89.71 38 *e*P **P 17 31 43.0 +0.1**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
PGF Pioggiola 89.85 45 *e*P **P 17 31 43.2 -0.4**
FINES FINESS Array B 90.05 24 P **P 17 31 43.3 -1.2**
comp=Z,2.4nm,0.8s,mb4.6,baz=343,slow=6.0,SNR=4.8
FINES LR LR 18 14 04.5
comp=Z,187nm,18.1s,MS4.6,baz=125,slow=37
PVCC Panska Ves 90.11 37 AMS AMS 18 14 40.0
KHC Kasperske Hory 90.14 38 *e*P **P 17 31 44.7 -0.2**
KHC *e*pP pP 17 31 57.3 -0.4
KHC *e*sP sP 17 32 03.1 +0.6
KHC AMS AMS 18 13 00.0
comp=Z,400nm,19.6s
PRU Pruhonice 90.33 37 *e*P **P 17 31 45.8 0.0**
PRU AMS AMS 18 14 10.0
comp=Z,300nm,16.9s
GEC2 GERESS Array S 90.33 38 *e*P **P 17 31 45.3 -0.5**
comp=Z,6.0nm,1.0s,mb4.9
GEC2 GERESS Array S 90.33 38 *e*P **P 17 31 45.3 -0.5**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
GERES GERESS Array B 90.33 38 P **P 17 31 45.9 0.0**
comp=Z,4.2nm,1.0s,mb4.7,baz=316,slow=3.7,SNR=11
GERES LR LR 18 13 42.9
comp=Z,295nm,18.3s,MS4.8,baz=293,slow=36
UPC Upice 90.94 36 *e*P **P 17 31 48.7 +0.1**
UPC *e*pP pP 17 32 05.2 +3.7
DPC Dobruska-Polom 91.19 36 *e*P **P 17 31 49.9 +0.1**
DPC *e*pP pP 17 32 01.8 -0.8
DPC AMS AMS 18 13 50.0
DPC Dobruska-Polom 91.19 36 *e*P **P 17 31 49.9 +0.1**
DPC *e*pP pP 17 32 01.8 -0.8
VRAC Vranov 91.83 37 P **P 17 31 52.1 -0.7**
comp=Z,5.7nm,0.3s,mb5.3,baz=150,slow=16,SNR=6.0
OKC Ostrava-Krasne 92.47 36 *e*P **P 17 31 55.9 +0.2**
OKC *e**PP pP 17 32 05.4 -3.1
OKC MLR MLR
comp=Z,500nm,5.3s
OKC Ostrava-Krasne 92.47 36 *e*P **P 17 31 55.9 +0.2**
OKC *e*pP pP 17 32 05.4 -3.1
ZST Bratislava 92.64 38 *e*P **P 17 31 57.0 +0.5**
ZST pmax pmax
comp=Z,12nm,1.1s,mb5.2
ZST Bratislava 92.64 38 *e*P **P 17 31 57.0 +0.5**
comp=Z,12nm,1.1s,mb5.2
KEST Kesra 92.67 52 P **P 17 31 57.1 +0.4**
comp=Z,2.6nm,1.1s,mb4.6,baz=252,slow=8.4,SNR=4.8
KEST LR LR 18 11 05.0
comp=Z,70nm,20.0s,MS4.1,baz=226,slow=34
VYHS Vyhne 93.51 37 *e*P **P 17 32 00.1 -0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
VYHS Vyhne 93.51 37 *e*P **P 17 32 00.1 -0.4**
comp=Z,6.2nm,1.5s,mb4.8
TORD Torodi Ar. Bea 93.74 75 P **P 17 32 00.3 -1.3**
comp=Z,2.1nm,0.9s,mb4.5,baz=292,slow=3.7,SNR=11
TORD PKKPbc PKKPbc 17 49 03.5 -1.9
comp=Z,1.1nm,1.1s,baz=83,slow=2.1,SNR=4.4
TORD LR LR 18 09 27.6
comp=Z,175nm,21.2s,MS4.5,baz=230,slow=32
YAK Yakutsk 93.92 340‖ *e*P **P 17 32 01.0 -1.4**
YAK pmax pmax
comp=Z,35nm,1.0s,mb5.7
YAK Yakutsk 93.92 340 *e*P **P 17 32 01.0 -1.4**
comp=Z,23nm,0.9s,mb5.6
STHS Stebnicka Huta 94.42 36 *e*P **P 17 32 04.1 -0.6**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
STHS Stebnicka Huta 94.42 36 *e*P **P 17 32 04.1 -0.6**
comp=Z,3.1nm,1.1s,mb4.7
KECS Kecovo 94.47 37 *e*P **P 17 32 04.8 -0.1**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
KECS Kecovo 94.47 37 *e*P **P 17 32 04.8 -0.1**
comp=Z,2.8nm,0.9s,mb4.7
CRVS Cervenica-Dubn 94.81 36 *e*P **P 17 32 06.9 +0.4**
YSS Yuzh-Sakhalins 97.77 324‖ *e*P **P 17 32 19.1 -0.8**
YSS pmax pmax
comp=Z,19nm,1.0s,mb5.6
AKASG Malin Array Be 97.92 32 LR LR 18 19 43.8
comp=Z,134nm,18.0s,MS4.5,baz=215,slow=37
OBN Obninsk 98.37 25⇑ *e*P **P 17 32 18.3 -4.3**
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,200nm,24.0s,MS4.5
BVAR Borovoye Array 109.94 9 PKiKP PKiKP 17 37 14.5 -1.4
comp=Z,0.6nm,0.6s,baz=354,slow=1.4,SNR=4.2
BVAR PP PP 17 37 48.3 -0.7
comp=Z,0.9nm,0.8s,baz=330,slow=8.6,SNR=5.4
SONM Songino Array 112.98 344 PP PP 17 38 09.2 -1.6
comp=Z,0.8nm,0.8s,baz=46,slow=4.3,SNR=4.2
MKAR Makanchi Array 117.13 1 PKP PKPdf 17 37 27.3 -2.4
comp=Z,1.2nm,0.8s,baz=29,slow=2.8,SNR=7.9
MKAR PP PP 17 38 36.6 -3.4
comp=Z,2.0nm,0.9s,baz=12,slow=6.4,SNR=6.2
HHC Hu-ho-hao-te 117.52 337 *e*PKP PKPdf 17 37 30.1 -0.3
HHC XPKP 17 37 44.8
HHC PP PP 17 38 45.6 +2.9
HHC PKS 17 41 05.3
HHC PP PP
comp=Z,183nm,6.6s
HHC LR LR
comp=Z,261nm,21.3s,MS4.8
WMQ Urumqi 120.01 357⇑ PKP PKPdf 17 37 34.0 -1.2
WMQ XPKP 17 37 48.4
WMQ PP PP 17 39 02.6 +2.7
WMQ PP PP
comp=Z,147nm,4.5s
WMQ LR LR
comp=N,142nm,21.8s,MS4.6
WMQ LR LR
comp=E,87nm,21.8s,MS4.6
WMQ LR LR
comp=Z,162nm,21.8s,MS4.6
AAK Ala-Archa 120.68 8⇑ *i*PKIKP PKPdf 17 37 34.8 -1.7
NJ2 Nanjing 121.30 325 *e*PKP PKPdf 17 37 39.6 +1.9
NJ2 XPKP 17 37 52.0
NJ2 PP PP 17 39 15.5 +6.7
NJ2 PKS 17 41 16.0
NJ2 PPP 17 41 51.0
NJ2 PP PP
comp=Z,270nm,5.6s
NJ2 LR LR
comp=Z,300nm,18.9s,MS5.0
GTA Gaotai 122.54 345 PKP PKPdf 17 37 39.0 -1.1
GTA PP PP
comp=Z,236nm,8.0s
XAN Xi'an 124.46 335 PKP PKPdf 17 37 42.0 -1.8
LZH Lanzhou 124.50 340 *e*PKP PKPdf 17 37 42.1 -1.7
LZH XPKP 17 38 04.3
LZH PP PP 17 39 29.5 -0.9
LZH PKS 17 41 17.4
LZH PP PP
comp=Z,149nm,8.4s
LZH LR LR
comp=Z,537nm,20.4s,MS5.2
LZH Lanzhou 124.50 340 *e*PKIKP PKPdf 17 37 42.1 -1.7
LZH 17 37 58.2
LZH 17 39 29.5
LZH 17 44 46.8
LZH MLR MLR
comp=Z,540nm,20.4s,MS5.2
LZH Lanzhou 124.50 340 *e*PKP PKPdf 17 37 42.1 -1.7
LZH pPKP pPKPdf 17 37 58.2 +1.1
LZH sPKP 17 38 04.3
LZH PP PP 17 39 29.5 -0.9
LZH PKS 17 41 17.4
LZH SKS SKSdf 17 44 46.8 -5.5
LZH SKKS SKKSac 17 46 10.5 -15
LZH *e*SS SS 17 56 09.7 -10
LZH LR LR
comp=Z,540nm,20.4s,MS5.2
BOSA Boshof 125.02 114 PKP PKPdf 17 37 43.4 -1.5
comp=Z,6.5nm,0.8s,baz=276,slow=4.5,SNR=7.8
STKA Stephens Creek 125.62 242 *e*P PKPdf 17 37 43.7 -2.3
comp=Z,3.7nm,0.6s
STKA Stephens Creek 125.62 242 PKP PKPdf 17 37 44.5 -1.5
comp=Z,5.0nm,0.7s,baz=82,slow=5.0,SNR=11
LSZ Lusaka 126.63 97 PKP PKPdf 17 37 47.1 -0.8
comp=Z,4.7nm,1.0s,baz=250,slow=0.4,SNR=6.5
MAW Mawson 127.02 170 *e*P PKPdf 17 37 46.3 -2.4
comp=Z,4.9nm,0.9s
MAW Mawson 127.02 170 PKP PKPdf 17 37 46.4 -2.3
comp=Z,3.7nm,0.8s,baz=253,slow=3.5,SNR=8.4
CD2 Chengdu 129.24 338 *e*PKP PKPdf 17 37 51.7 -1.2
CD2 XPKP 17 38 06.1
CD2 PP PP 17 40 04.0 +2.3
CD2 PKS 17 41 26.8
CD2 PP PP
comp=Z,80nm,9.8s
CD2 LR LR
comp=E,150nm,20.4s
CD2 LR LR
comp=Z,270nm,16.8s,MS5.0
WRA Warramunga Arr 131.98 258 PKP PKPdf 17 37 56.5 -1.6
comp=Z,4.1nm,0.9s,baz=86,slow=2.0,SNR=25
GYA Guiyang 131.99 332 PDIF Pdif 17 34 50.6 -1.5
GYA PKP PKPdf 17 37 57.7 -0.4
GYA XPKP 17 38 19.5
GYA PP PP 17 40 21.9 +2.4
GYA PKS 17 41 32.3
GYA SKS SKSdf 17 45 01.2 -4.9
GYA PP PP
comp=Z,140nm,8.9s
ASAR Alice Springs 132.55 253 PKhKP 17 37 50.0
comp=Z,0.3nm,0.6s,baz=96,slow=3.6,SNR=6.5
ASAR PKP PKPdf 17 37 57.5 -1.7
comp=Z,2.2nm,0.8s,baz=109,slow=2.0,SNR=16
WSAR Wadi Sarin 133.59 33 PKP PKPdf 17 38 00.3 -0.8
comp=Z,2.6nm,0.6s,baz=270,slow=2.7,SNR=8.4
KMI Kunming 134.83 335 PKP PKPdf 17 38 03.1 -0.3
KMI PP PP 17 40 41.4 +3.8
KMI LR LR
comp=N,104nm,30.8s
KMI LR LR
comp=E,126nm,20.7s
KMI LR LR
comp=Z,144nm,29.9s,MS4.5
KMI Kunming 134.83 335 PKIKP PKPdf 17 38 03.1 -0.3
KMI 17 38 20.8
KMI 17 40 41.4
KMI SS SS 17 58 23.6 -3.7
KMI SSS 18 03 28.3
KMI MLR MLR
comp=Z,140nm,29.9s,MS4.5
KMI Kunming 134.83 335 PKP PKPdf 17 38 03.1 -0.3
KMI pPKP pPKPdf 17 38 20.8 +4.1
KMI sPKP 17 38 28.9
KMI PP PP 17 40 41.4 +3.8
KMI SS SS 17 58 23.6 -3.7
KMI SSS 18 03 28.3
KMI LR LR
comp=Z,140nm,29.9s,MS4.5
FITZ Fitzroy Crossi 140.06 261 PKP PKPdf 17 38 11.5 -1.6
comp=Z,2.6nm,0.8s,baz=302,slow=20,SNR=3.7
KLBR Kellerberrin 145.63 238 *e*P PKPdf 17 38 20.6 -2.3
comp=Z,33nm,1.2s
HYB Hyderabad 146.04 9 *i* PKP PKPdf 17 38 23.0 -0.6
HYB Hyderabad 146.04 9 *e*P PKPdf 17 38 23.0 -0.6
MUN Mundaring 146.75 236 *e*P PKPdf 17 38 23.7 -1.1
MSEY Mahe Island 149.88 70 *e*PKPbc PKPbc 17 38 34.4 -0.4

IDC ***08*** *17:21:33.4±8.8, 6.41S×151.50E, h60km±63km, mb3.7/4, mb1 3.9/5, mb1mx3.5/15, mbtmp3.8/5, ML2.6/1, Error ellipse: s-maj=59.7km s-min=53.9km az=98.0*
NEIC 08 17:21:24.3±1.6, 6.18S×151.84E, h10km, mb3.6/1, Error ellipse: s-maj=42.3km s-min=25.6km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.64**	**235**	P		Pn 17 22 49.4	+1.3
	1.5nm,0.3s,baz=55,slow=8.6,SNR=12						
PMG				S		Sn 17 23 48.6	-4.3
	4.4nm,0.3s,baz=174,slow=11,SNR=5.3						
PMG	**Port Moresby**	**5.64**	**235**	*e*Pn		Pn 17 22 49.4	+1.3
PMG				S		Sn 17 23 48.6	-4.3
WRAB	**Tennant Creek**	**21.81**	**230**	*e*P		P 17 26 16.1	-0.4
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**21.82**	**230**	P		P 17 26 16.4	-0.3
	1.6nm,0.6s,baz=56,slow=10,SNR=14						
AS31	**Alice Springs**	**24.49**	**223**	*e*P		P 17 26 43.8	+0.2
ASAR	**Alice Springs**	**24.49**	**223**	P		P 17 26 43.7	+0.1
	5.5nm,0.8s,baz=54,slow=9.4,SNR=32						
STKA	**Stephens Creek**	**27.30**	**199**	P		P 17 27 09.8	+0.7
	1.7nm,0.7s,baz=132,slow=21,SNR=3.7						
STKA	**Stephens Creek**	**27.30**	**199**	P		P 17 27 09.8	+0.7
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P		P 17 27 17.0	+0.2
	1.0nm,0.4s,baz=53,slow=8.4,SNR=7.9						
TORD	**Torodi Ar. Bea**	**149.79**	**285**	PKPbc	PKPbc	17 41 16.4	+1.9
	0.9nm,0.6s,baz=74,slow=2.5,SNR=7.2						

MOS ***08*** *17:34:57.7±0.9, 51.26N×178.07W, h33km, mb5.1/37, Error ellipse: s-maj=8.4km s-min=6.1km az=84.5*
IDC ***08*** *17:34:57.5±4.2, 51.36N×178.06W, h21km±26km, mb4.5/27, mb1 4.6/28, mb1mx4.6/33, mbtmp4.5/28, ML5.3/1, MS4.0/16, Ms1 4.0/16, ms1mx3.7/43, Error ellipse: s-maj=15.3km s-min=10.7km az=162.0*
NEIC ***08*** *17:34:58.7, 51.14N×177.98W, h27km, mb5.0/73, ML4.9(AEIC), After AEIC.*
ISCJB ***08*** *17:34:59.4±0.2, 51.33N±0.04×178.10W±0.02, h44km,*

mb4.9/114,MS4.2/26,Error ellipse: s-maj=6.0km s-min=2.2km az=6.3
*BJI **08** 17:34:59.6,5199N×17860W,h22km,mB5.2,mb4.8,Ms4.9, Msz4.5*

ISC 08 17:35:01.1±0.2,5137N±004×17813W±003,h46km, h46km±2.4km:pP-P,n504,σ0673/495,mb4.9/114,MS4.2/26, 86C-72D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.61**	**271**	P	**Pn**	**17 35 26.6**	**-0.4**
AMKA				S	**Sn**	**17 35 47.6**	**+1.1**
ATKA	**Atka Island**	**2.58**	**70**	P	**Pn**	**17 35 38.4**	**-1.9**
ATKA				S	**Sn**	**17 36 11.2**	**+0.7**
SMY	**Shemya**	**4.98**	**289**	P	**Pn**	**17 36 14.8**	**+1.5**
SMY				S	**Sn**	**17 37 14.1**	**+4.5**
SPIA	**Saint Paul Isl**	**7.42**	**35**	P	**Pn**	**17 36 47.4**	**+0.6**
UNV	**Unalaska Valle**	**7.50**	**66**	P	**Pn**	**17 36 46.7**	**-1.1**
AKLV	**Akutan Long Va**	**7.89**	**65**	P	**Pn**	**17 36 52.0**	**-1.2**
AKUT	**Akutan** 150nm,0.7s	**7.99**	**65**	*e*P	**Pn**	**17 36 55.7**	**+1.1**
SDPT	**Sand Point** 98nm,0.3s	**11.27**	**62**	*e*P	**Pn**	**17 37 39.1**	**-0.3**
CHGN	**Chignik**	**12.63**	**59**	*e*P	**Pn**	**17 37 57.6**	**-0.4**
SVW2	**Sparrevohn** 1.4nm,0.6s	**15.79**	**43**	*e*P	**Pn**	**17 38 44.3**	**+4.2**
KDAK	**Kodiak Island** 721nm,0.5s,SNR=41	**16.08**	**57**	Pn	**Pn**	**17 38 39.0**	**-4.8**
KDAK	**Kodiak Island** 11nm,0.3s,baz=266,slow=6.1,SNR=76	**16.08**	**57**	Pn	**Pn**	**17 38 39.4**	**-4.4**
KDAK	**Kodiak Island** 59nm,0.5s	**16.08**	**57**	*e*P	**Pn**	**17 38 39.4**	**-4.4**
SLKM	**Skilak Lake**	**17.98**	**49**	P	**Pn**	**17 39 07.4**	**-0.1**
SLKM	**Skilak Lake**	**17.98**	**49**	*e*Pn	**Pn**	**17 39 06.7**	**-0.7**
BILL	**Bilibino**	**18.37**	**341**	*e*P	**Pn**	**17 39 14.6**	**+2.3**
BILL	comp=Z,57nm,1.0s			pmax	pmax		
BILL	**Bilibino** comp=Z,51nm,0.9s	**18.37**	**341**	*e*P	**Pn**	**17 39 14.0**	**+1.8**
PMR	**Palmer**	**18.83**	**46**	*e*P	**Pn**	**17 39 18.5**	**+0.7**
IMA2	**Indian Mountai**	**19.24**	**31**	*e*P	**Pn**	**17 39 22.4**	**-0.3**
SML	**Sawmill**	**19.26**	**46**	P	**Pn**	**17 39 23.6**	**+0.6**
SML	**Sawmill**	**19.26**	**46**	*e*P	**Pn**	**17 39 22.6**	**-0.3**
MA2	**Magadan**	**19.29**	**307**	⇑*e*P	**Pn**	**17 39 24.0**	**+0.7**
MA2	comp=Z,160nm,2.5s			pmax	pmax		
SEY	**Seymchan**	**19.53**	**318**	⇑*e*P	**Pn**	**17 39 28.1**	**+1.9**
MCK	**McKinley**	**19.73**	**40**	P	**Pn**	**17 39 25.9**	**-2.7**
MCK	comp=Z,13nm,0.6s			pmax	pmax		
MCK	**McKinley** comp=Z,14nm,0.6s	**19.73**	**40**	*e*P	**Pn**	**17 39 25.5**	**-3.1**
EYAK	**Cordova Ski Ar**	**20.12**	**50**	P	**P**	**17 39 30.8**	**-0.2**
DIV	**Divide** comp=Z,89nm,0.6s	**20.24**	**49**	*e*P	**P**	**17 39 33.2**	**+0.9**
COLA	**College**	**20.66**	**38**	⇓*e*P	**P**	**17 39 37.8**	**+1.0**
COLA	**College** comp=Z,37nm,0.9s	**20.66**	**38**	*e*P	**P**	**17 39 37.4**	**+0.6**
EGAK	**Eagle** comp=Z,24nm,0.8s,mb4.7	**23.28**	**41**	*e*P	**P**	**17 40 03.0**	**-1.7**
DAWY	**Dawson**	**23.82**	**43**	*e*P	**P**	**17 40 08.4**	**-1.3**
YSS	**Yuzh-Sakhalins**	**25.74**	**276**	P	**P**	**17 40 28.0**	**+0.8**
YSS				*e*	pP	17 40 41.0	+1.8
ASAJ	**Asahikawa** comp=Z,14nm,0.9s,mb4.5,baz=213,slow=19,SNR=3.8	**27.12**	**270**	P	**P**	**17 40 40.5**	**+0.8**
ASAJ	comp=Z,148nm,19.2s,MS3.6,baz=359,slow=36			LR	LR	17 51 26.6	
ASAJ	**Asahikawa** comp=Z,14nm,0.9s	**27.12**	**270**	P pmax	**P** pmax	**17 40 40.5**	**+0.8**
ASAJ	comp=Z,148nm,19.2s			MLR	MLR		
YAK	**Yakutsk** comp=Z,27nm,2.1s,mb4.6	**29.74**	**311**	⇑*e*P	**P** pmax	**17 41 03.2**	**+0.3**
YAK					pmax		
BBB	**Bella Bella** comp=Z,15nm,0.6s,mb4.9,baz=276,slow=11,SNR=7.0	**30.46**	**69**	P	**P**	**17 41 09.2**	**-0.1**
KLR	**Kul'dur** comp=Z,120nm,1.8s,mb5.4	**31.59**	**286**	*e*P pmax	**P** pmax	**17 41 16.1**	**-3.1**
KLR							
MAT	**Matsushiro**	**34.20**	**262**	P	**P**	**17 41 41.2**	**-0.8**
MJAR	**Matsushiro Arr** comp=Z,2.8nm,0.8s,mb4.3,baz=50,slow=7.1,SNR=7.4	**34.20**	**262**	P PcP	**P** PcP	**17 41 42.9**	**+0.8**
MJAR	comp=Z,3.0nm,1.0s,baz=354,slow=0.5,SNR=4.6					17 44 18.0	0.0
MJAR	comp=Z,196nm,21.3s,MS3.8,baz=330,slow=32			LR	LR	17 53 12.9	
MJAR	**Matsushiro Arr**	**34.20**	**262**	P	**P**	**17 41 42.9**	**+0.9**
MJAR						17 44 18.0	
B04A	**Port Angeles** baz=35	**34.79**	**73**	⇑P	**P**	**17 41 45.9**	**-1.3**
NLWA	**Neilton Lookou** baz=35	**34.87**	**75**	⇑P	**P**	**17 41 47.6**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,3.4nm,0.4s,mb4.6,baz=285,slow=8.8,SNR=9.1	**34.93**	**47**	P	**P**	**17 41 47.1**	**-1.2**
YKA	comp=Z,244nm,19.8s,MS4.0,baz=185,slow=38			LR	LR	17 57 15.1	
MDJ	**Mudanjiang**	**34.99**	**280**	P	**P**	**17 41 47.5**	**-1.4**
MDJ				AP	pP	17 41 58.7	-2.4
MDJ				XP	sP	17 42 03.6	-3.1
MDJ				PP	PP	17 43 06.6	-2.2
MDJ				PCP	PcP	17 44 20.0	-0.3
MDJ				S	**S**	**17 47 15.0**	**-2.5**
MDJ				PCS	PcS	17 48 06.9	-0.2
MDJ	comp=Z,8.0nm,1.4s,mb4.5			AMB	AMB		
MDJ	comp=Z,80nm,3.4s			AMB	AMB		
D03A	**Wishkah Elem.** baz=35	**35.06**	**75**	⇓P	**P**	**17 41 49.4**	**0.0**
A05A	**Maple Falls** baz=35	**35.23**	**71**	⇑P	**P**	**17 41 51.2**	**+0.3**
C04A	**Brinnon** baz=35	**35.26**	**74**	⇓P	**P**	**17 41 51.9**	**+0.7**
E03A	**Lebam** baz=35,SNR=5.4	**35.45**	**76**	⇓P	**P**	**17 41 53.7**	**+0.9**
CMW	**Cultus Mountai**	**35.46**	**72**	P	**P**	**17 41 54.3**	**+1.4**
B05A	**Bryant** baz=35,SNR=9.7	**35.54**	**72**	⇓P	**P**	**17 41 54.3**	**+0.7**
E04A	**Onalaska** baz=36	**35.94**	**75**	⇓P	**P**	**17 41 57.7**	**+0.7**
C05A	**Tolt Reservoir** baz=36	**36.04**	**73**	⇑P	**P**	**17 41 58.1**	**+0.2**
D05A	**Enumclaw** baz=36	**36.10**	**74**	⇓P	**P**	**17 41 59.0**	**+0.6**
A07A	**Ashnola River,** baz=36,SNR=14	**36.21**	**70**	⇓P	**P**	**17 41 59.8**	**+0.4**
G03A	**Yamhill** baz=36	**36.22**	**78**	⇓P	**P**	**17 41 59.5**	**+0.1**
F04A	**Amboy** baz=36,SNR=8.9	**36.44**	**76**	P	**P**	**17 42 01.8**	**+0.4**
H03A	**Soap Creek Ran** baz=36	**36.53**	**78**	⇑P	**P**	**17 42 02.6**	**+0.5**
E05A	**Randle** baz=36,SNR=6.2	**36.53**	**75**	⇑P	**P**	**17 42 02.4**	**+0.2**
B07A	**Winthrop** baz=36,SNR=11	**36.63**	**71**	⇓P	**P**	**17 42 03.2**	**+0.2**
G04A	**Mulino** baz=37,SNR=6.0	**36.77**	**77**	⇓P	**P**	**17 42 04.2**	**+0.1**
D06A	**Cle Elum** baz=37	**36.78**	**73**	⇓P	**P**	**17 42 04.7**	**+0.4**
A08A	**Turner Farm, O** baz=37,SNR=12	**36.91**	**70**	P	**P**	**17 42 05.7**	**+0.4**
E06A	**Yakima** baz=37,SNR=8.6	**37.02**	**74**	⇑P	**P**	**17 42 06.6**	**+0.4**
C07A	**Waterville** baz=37,SNR=8.1	**37.02**	**72**	P	**P**	**17 42 06.3**	**+0.1**
J02A	**Umpqua** baz=37	**37.04**	**81**	⇑P	**P**	**17 42 06.7**	**+0.3**
F05A	**White Salmon** baz=37	**37.05**	**76**	⇓P	**P**	**17 42 06.7**	**+0.2**
EBG	**Ellensburg**	**37.09**	**74**	P	**P**	**17 42 07.5**	**+0.6**
H04A	**Detroit Lake** baz=37,SNR=25	**37.21**	**78**	⇓P	**P**	**17 42 08.1**	**+0.2**
A09A	**Danville** baz=37,SNR=8.8	**37.30**	**70**	P	**P**	**17 42 09.2**	**+0.6**
D07A	**Quincy** baz=37,SNR=5.5	**37.31**	**73**	⇓P	**P**	**17 42 08.7**	**0.0**
K02A	**Glendale** baz=37	**37.41**	**81**	⇑P	**P**	**17 42 09.9**	**+0.3**
J03A	**Ideyld Park** baz=37	**37.41**	**80**	⇑P	**P**	**17 42 10.1**	**+0.5**
G05A	**Wamic** baz=37,SNR=7.7	**37.46**	**76**	⇓P	**P**	**17 42 10.5**	**+0.6**
EPH	**Ephrata**	**37.46**	**72**	P	**P**	**17 42 10.1**	**+0.1**
F06A	**Goldendale**	**37.52**	**75**	⇓P	**P**	**17 42 10.7**	**+0.2**
	baz=37						
I04A	**Tendick Farm,** baz=37,SNR=12	**37.53**	**79**	⇓P	**P**	**17 42 11.1**	**+0.5**
C08A	**Higginbotham F** baz=38	**37.58**	**72**	⇑P	**P**	**17 42 11.3**	**+0.3**
L02A	**Cave Junction** baz=38	**37.68**	**82**	⇑P	**P**	**17 42 11.8**	**0.0**
E07A	**Sunnyside** baz=38	**37.69**	**74**	⇓P	**P**	**17 42 12.0**	**+0.2**
B09A	**Rice** baz=38,SNR=10	**37.81**	**70**	P	**P**	**17 42 13.2**	**+0.2**
HUMO	**Hull Mountain** baz=38	**37.83**	**81**	⇓P	**P**	**17 42 13.7**	**+0.6**
G06A	**Carlson Farm,** baz=38,SNR=6.8	**37.87**	**76**	P	**P**	**17 42 13.9**	**+0.5**
A10A	**Northport** baz=38,SNR=7.1	**37.90**	**69**	P	**P**	**17 42 14.3**	**+0.6**
VTHM	**Trough**	**37.95**	**76**	P	**P**	**17 42 14.6**	**+0.5**
CN2	**Changchun**	**37.96**	**281**	*e*P	**P**	**17 42 14.1**	**-0.1**
HAWA	**Hanford** comp=Z,40nm,0.9s,mb5.2	**37.96**	**74**	*e*P	**P**	**17 42 14.1**	**-0.1**
OD2	**Odessa Site #2**	**37.97**	**72**	P	**P**	**17 42 14.2**	**-0.1**
F07A	**Phinny Hill Vi** baz=38,SNR=9.4	**37.97**	**75**	⇑P	**P**	**17 42 14.7**	**+0.5**
D08A	**Wollman Farm,** baz=38,SNR=8.6	**38.00**	**73**	P	**P**	**17 42 14.7**	**+0.1**
J04A	**Umpqua Nationa** baz=38,SNR=9.6	**38.01**	**80**	⇑P	**P**	**17 42 15.3**	**+0.7**
C09A	**Chrisman Ranch** baz=38	**38.03**	**71**	⇑P	**P**	**17 42 14.6**	**-0.2**
I05A	**Bend** baz=38	**38.04**	**78**	⇓P	**P**	**17 42 15.2**	**+0.3**
E08A	**Dider Farm, El** baz=38	**38.20**	**73**	⇓P	**P**	**17 42 16.2**	**0.0**
VIPM	**Ingram Point**	**38.26**	**77**	P	**P**	**17 42 17.4**	**+0.7**
H06A	**Lindquist Farm** baz=38,SNR=13	**38.31**	**77**	⇓P	**P**	**17 42 17.3**	**+0.1**
D09A	**Jones Farm, Ri** baz=38	**38.37**	**72**	⇓P	**P**	**17 42 17.3**	**-0.3**
B10A	**Chitwood Farm,** baz=38	**38.41**	**70**	⇑P	**P**	**17 42 17.9**	**-0.1**
G07A	**Ruggs Ranch, H** baz=38,SNR=7.7	**38.45**	**75**	P	**P**	**17 42 18.9**	**+0.7**
EDM	**Edmonton**	**38.45**	**61**	P	**P**	**17 42 17.8**	**-0.5**
EDM	**Edmonton**	**38.45**	**61**	*e*P	**P**	**17 42 17.5**	**-0.8**
YBH	**Yreka Blue Hor**	**38.47**	**82**	P	**P**	**17 42 19.5**	**+1.1**
YBH	comp=Z,16nm,1.0s			pmax	pmax		
YBH	**Yreka Blue Hor** comp=Z,16nm,1.0s,mb4.7	**38.47**	**82**	*e*P	**P**	**17 42 19.6**	**+1.1**
YBH	**Yreka Blue Hor** baz=38,SNR=8.5	**38.47**	**82**	⇑P	**P**	**17 42 19.0**	**+0.6**
NEW	**Newport** comp=Z,16nm,0.4s,mb5.1,baz=297,slow=7.6,SNR=13	**38.49**	**70**	P	**P**	**17 42 18.6**	**0.0**
NEW	**Newport**	**38.49**	**70**	P	**P**	**17 42 19.0**	**+0.3**
NEW	comp=Z,36nm,0.9s			pmax	pmax		
NEW	**Newport** comp=Z,35nm,0.9s,mb5.1	**38.49**	**70**	*e*P	**P**	**17 42 18.5**	**-0.2**
J05A	**Fort Rock** baz=38,SNR=17	**38.53**	**79**	⇑P	**P**	**17 42 19.5**	**+0.6**
M02C	**Callahan** baz=38	**38.57**	**83**	⇑P	**P**	**17 42 20.1**	**+0.8**
K04A	**Chilquin** baz=38	**38.59**	**80**	⇑P	**P**	**17 42 20.1**	**+0.6**
C10A	**Spilker Farm,** baz=38	**38.59**	**71**	⇑P	**P**	**17 42 19.8**	**+0.2**
N02C	**Big Bar** baz=38,SNR=5.8	**38.61**	**84**	⇑P	**P**	**17 42 20.3**	**+0.7**
A11A	**Hall Mountain,** baz=38,SNR=23	**38.61**	**69**	⇑P	**P**	**17 42 20.0**	**+0.3**
HIA	**Hailar**	**38.68**	**292**	⇑*i*P	**P**	**17 42 19.7**	**-0.5**
HIA	**Hailar** comp=Z,28nm,1.0s,mb5.0	**38.68**	**292**	*e*P	**P**	**17 42 19.6**	**-0.6**
L04A	**Klamath Falls** baz=39,SNR=7.2	**38.73**	**81**	⇓P	**P**	**17 42 21.2**	**+0.5**
E09A	**Wood Farm, Sta** baz=39,SNR=5.6	**38.73**	**73**	P	**P**	**17 42 20.8**	**+0.1**
I06A	**Prineville** baz=39,SNR=6.0	**38.80**	**78**	⇑P	**P**	**17 42 21.8**	**+0.5**
B11A	**Sandpoint** baz=39,SNR=7.0	**38.85**	**69**	P	**P**	**17 42 21.9**	**+0.2**
G08A	**Pilot Rock** baz=39,SNR=11	**38.86**	**75**	P	**P**	**17 42 21.9**	**+0.1**
M04C	**Macdoel** baz=39,SNR=13	**38.98**	**82**	⇓P	**P**	**17 42 23.3**	**+0.5**
A12A	**Yaak River Ran** baz=39,SNR=5.3	**39.04**	**68**	⇑P	**P**	**17 42 23.4**	**+0.2**
M03C	**McCloud** baz=39	**39.09**	**82**	⇓P	**P**	**17 42 24.3**	**+0.6**
I07A	**Izee** baz=39,SNR=31	**39.16**	**77**	⇓P	**P**	**17 42 24.7**	**+0.4**
J06A	**Christmas Vall** baz=39,SNR=19	**39.21**	**78**	⇓P	**P**	**17 42 25.2**	**+0.6**
WDC	**Whiskeytown Da** baz=39,SNR=6.0	**39.22**	**84**	⇓P	**P**	**17 42 25.1**	**+0.3**
F09A	**S2 Ranch, Elgi** baz=39,SNR=7.5	**39.28**	**74**	P	**P**	**17 42 25.8**	**+0.5**
B12A	**Libby** baz=39	**39.29**	**69**	⇓P	**P**	**17 42 25.9**	**+0.6**
O02C	**Red Bluff** baz=39,SNR=7.3	**39.30**	**84**	P	**P**	**17 42 26.4**	**+1.0**
E10A	**Myers Farm, Un** baz=39,SNR=8.0	**39.37**	**72**	P	**P**	**17 42 25.9**	**0.0**
P01C	**Double 8 Ranch** baz=39	**39.37**	**86**	⇑P	**P**	**17 42 26.3**	**+0.3**
K06A	**Valley Falls** baz=39,SNR=22	**39.40**	**79**	⇑P	**P**	**17 42 26.6**	**+0.4**
H08A	**Prairie City** baz=39,SNR=9.8	**39.44**	**76**	⇑P	**P**	**17 42 26.9**	**+0.3**
L05A	**Lakeview** baz=39,SNR=11	**39.45**	**81**	⇓P	**P**	**17 42 27.4**	**+0.7**
F10A	**Beach Ranch, E** baz=39	**39.56**	**73**	⇓P	**P**	**17 42 27.6**	**+0.1**
M05C	**Lookout** baz=40,SNR=21	**39.65**	**82**	⇑P	**P**	**17 42 28.9**	**+0.6**
GASB	**Alder Springs** baz=40	**39.65**	**85**	⇑P	**P**	**17 42 29.0**	**+0.6**
C12A	**Trout Creek** baz=40	**39.73**	**70**	⇑P	**P**	**17 42 29.5**	**+0.5**
HATC	**Hat Creek Radi** baz=40,SNR=11	**39.76**	**83**	⇓P	**P**	**17 42 29.8**	**+0.6**
HOPS	**Hopland** baz=40	**39.82**	**86**	⇓P	**P**	**17 42 29.7**	**0.0**
I08A	**Drewsey** baz=40,SNR=17	**39.83**	**77**	P	**P**	**17 42 30.4**	**+0.6**
MOD	**Modoc** comp=Z,6.2nm,0.6s,mb4.5	**39.86**	**80**	*e*P	**P**	**17 42 30.4**	**+0.3**
MOD	**Modoc** baz=40,SNR=10	**39.86**	**80**	⇓P	**P**	**17 42 30.4**	**+0.3**
O03C	**Acorn Hollow,** baz=40	**39.88**	**84**	⇓P	**P**	**17 42 30.1**	**-0.1**
H09A	**Durkee** baz=40,SNR=6.3	**39.97**	**75**	⇑P	**P**	**17 42 31.2**	**+0.2**
WALA	**Waterton Lakes** comp=Z,43nm,1.2s,mb5.1	**39.99**	**67**	*e*P	**P**	**17 42 31.1**	**0.0**
B13A	**Whitefish** baz=40,SNR=6.2	**39.99**	**68**	P	**P**	**17 42 31.3**	**+0.1**
KSRS	**Korea Array** comp=Z,3.7nm,0.8s,mb4.2,baz=63,slow=8.3,SNR=7.9	**40.06**	**271**	P	**P**	**17 42 32.5**	**+0.8**
KSRS	comp=Z,97nm,22.0s,MS3.6,baz=251,slow=33			LR	LR	17 56 46.6	
K07A	**Rock Creek Ran** baz=40,SNR=22	**40.07**	**79**	P	**P**	**17 42 32.7**	**+0.8**
BMO	**Blue Mountains** comp=Z,19nm,1.2s,mb4.7	**40.09**	**75**	*e*P	**P**	**17 42 31.8**	**-0.2**
M06C	**Likely Place G** baz=40,SNR=5.4	**40.15**	**81**	⇑P	**P**	**17 42 33.1**	**+0.6**
J08A	**Circle Bar Ran** baz=40,SNR=9.2	**40.18**	**77**	⇑P	**P**	**17 42 33.2**	**+0.5**
F11A	**Grangeville** baz=40,SNR=6.7	**40.24**	**73**	P	**P**	**17 42 32.9**	**-0.4**
C13A	**Hot Springs** baz=40,SNR=7.7	**40.27**	**69**	P	**P**	**17 42 33.3**	**-0.2**
O04C	**Chester** baz=40,SNR=7.2	**40.28**	**83**	⇑P	**P**	**17 42 34.1**	**+0.5**
I09A	**Lost Marbles R** baz=40,SNR=6.9	**40.30**	**76**	⇑P	**P**	**17 42 33.8**	**+0.1**
L07A	**Adell** baz=40,SNR=27	**40.39**	**80**	P	**P**	**17 42 35.4**	**+0.9**
ORV	**Oroville** baz=40	**40.47**	**84**	⇑P	**P**	**17 42 34.8**	**-0.3**
SUTB	**Sutter Butte** baz=40	**40.48**	**85**	⇓P	**P**	**17 42 35.2**	**-0.1**
K08A	**Mann Creek Ran** baz=40,SNR=19	**40.52**	**78**	P	**P**	**17 42 36.2**	**+0.7**
WVOR	**Wild Horse Val**	**40.59**	**79**	*e*P	**P**	**17 42 36.3**	**+0.2**
WVOR	comp=Z,39nm,0.8s,mb5.1			pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,39nm,0.8s,mb5.1	**40.59**	**79**	*e*P	**P**	**17 42 36.3**	**+0.2**
O05C	**Quincy** baz=40	**40.59**	**83**	⇓P	**P**	**17 42 36.6**	**+0.5**
J09A	**Fry Pan Ranch,** baz=40,SNR=12	**40.63**	**77**	P	**P**	**17 42 37.0**	**+0.6**
D13A	**Huson** baz=40,SNR=6.4	**40.63**	**70**	P	**P**	**17 42 36.1**	**-0.4**
N06A	**Buffalo Meadow** baz=41,SNR=19	**40.81**	**82**	P	**P**	**17 42 38.5**	**+0.5**
L08A	**Fields** baz=41,SNR=30	**40.91**	**79**	P	**P**	**17 42 39.4**	**+0.6**
BEKR	**Beckwourth** baz=41	**41.00**	**83**	⇓P	**P**	**17 42 39.4**	**-0.1**
K09A	**Rome** baz=41,SNR=9.2	**41.00**	**78**	P	**P**	**17 42 39.8**	**+0.3**
MSO	**Missoula** comp=Z,33nm,1.3s,mb4.8	**41.08**	**70**	*e*P	**P**	**17 42 39.6**	**-0.5**
O06A	**Flanigan** baz=41,SNR=7.2	**41.15**	**82**	⇑P	**P**	**17 42 41.1**	**+0.4**
P05C	**Yuba Gap, Truc** baz=41,SNR=6.3	**41.18**	**84**	P	**P**	**17 42 41.2**	**+0.3**
D14A	**Greenough** baz=41,SNR=15	**41.20**	**70**	P	**P**	**17 42 40.9**	**-0.3**
M08A	**Happy Creek Ra** baz=41,SNR=14	**41.31**	**80**	⇓P	**P**	**17 42 42.6**	**+0.6**
N07B	**Gerlach** baz=41,SNR=17	**41.33**	**81**	⇑P	**P**	**17 42 42.5**	**+0.4**
F13A	**Darby** baz=41,SNR=10.0	**41.38**	**72**	P	**P**	**17 42 42.3**	**-0.3**
L09A	**Wilkinson Ranc** baz=41,SNR=7.8	**41.42**	**79**	⇓P	**P**	**17 42 43.1**	**+0.2**
LAVA	**Lava Cap Winer** baz=41	**41.42**	**85**	⇑P	**P**	**17 42 42.9**	**-0.1**
CHMT	**Chamberlain Mo**	**41.44**	**70**	*e*P	**P**	**17 42 42.4**	**-0.7**
E14A	**Clinton** baz=41,SNR=9.4	**41.55**	**70**	P	**P**	**17 42 44.0**	**-0.1**
PAHR	**Pah Rah Range** comp=Z,34nm,1.1s,mb4.9	**41.70**	**82**	*e*P	**P**	**17 42 45.5**	**+0.3**
WCN	**Washoe City** baz=42	**41.71**	**83**	⇓P	**P**	**17 42 45.6**	**+0.3**
O07A	**Toulon** baz=42,SNR=13	**41.74**	**82**	⇓P	**P**	**17 42 46.0**	**+0.4**
D15A	**Lincoln** baz=42,SNR=10	**41.80**	**69**	P	**P**	**17 42 45.8**	**-0.3**
N08A	**GE Springer Mi** baz=42,SNR=12	**41.84**	**80**	⇑P	**P**	**17 42 46.6**	**+0.2**
R05C	**Kirkwood Meado** baz=42,SNR=7.3	**41.87**	**84**	⇓P	**P**	**17 42 46.9**	**+0.3**
M09A	**Marrel Ranch,** baz=42,SNR=7.0	**41.89**	**79**	⇑P	**P**	**17 42 47.2**	**+0.4**
F14A	**Wisdom** baz=42	**41.94**	**71**	⇓P	**P**	**17 42 47.2**	**0.0**
E15A	**Deer Lodge** baz=42,SNR=8.3	**42.05**	**70**	P	**P**	**17 42 47.8**	**-0.3**
CMB	**Columbia Colle** baz=42,SNR=5.6	**42.08**	**85**	⇓P	**P**	**17 42 48.3**	**0.0**
PACP	**Pacheco Peak** baz=42	**42.15**	**87**	⇑P	**P**	**17 42 48.9**	**0.0**
N09A	**Rock Creek Ran** baz=42,SNR=8.1	**42.18**	**80**	P	**P**	**17 42 49.2**	**+0.1**
R06C	**Coleville** baz=42,SNR=7.9	**42.37**	**84**	⇑P	**P**	**17 42 50.9**	**+0.2**
HAST	**UC Hastings Re** baz=42	**42.37**	**88**	⇓P	**P**	**17 42 50.6**	**-0.1**
M10A	**I.L. Ranch, Tu** baz=42,SNR=14	**42.40**	**78**	⇓P	**P**	**17 42 51.2**	**+0.3**
F15A	**Butte** baz=42,SNR=5.9	**42.45**	**71**	P	**P**	**17 42 51.9**	**+0.6**
S06C	**San Francisco** baz=42,SNR=14	**42.51**	**85**	P	**P**	**17 42 52.1**	**+0.2**
P08A	**Dixie Valley** baz=42	**42.51**	**82**	⇑P	**P**	**17 42 52.4**	**+0.5**
S05C	**Merced** baz=42	**42.54**	**86**	⇑P	**P**	**17 42 51.6**	**-0.4**
HLID	**Hailey** comp=Z,25nm,0.9s,mb5.0	**42.54**	**75**	*e*P	**P**	**17 42 52.2**	**+0.1**
HLID	**Hailey** baz=42,SNR=24	**42.54**	**75**	P	**P**	**17 42 52.4**	**+0.3**
BMN	**Battle Mountai**	**42.61**	**80**	P	**P**	**17 42 53.0**	**+0.3**
BMN	comp=Z,6.0nm,0.6s,mb4.5			pmax	pmax		
BMN	**Battle Mountai** comp=Z,6.3nm,0.6s,mb4.5	**42.61**	**80**	*e*P	**P**	**17 42 52.7**	**0.0**
MCMT	**McKenzie Canyo**	**42.78**	**72**	*e*P	**P**	**17 42 53.8**	**-0.3**
O09A	**Fish Creek Ran** baz=43,SNR=10	**42.78**	**80**	⇑P	**P**	**17 42 54.4**	**+0.3**
U04C	**Hernandez Rese** baz=43	**42.87**	**87**	⇑P	**P**	**17 42 55.0**	**+0.2**
M11A	**Holland Ranch,** baz=43,SNR=14	**42.91**	**78**	⇑P	**P**	**17 42 55.6**	**+0.5**
NVAR	**Mina Array Bea** comp=Z,7.9nm,0.8s,mb4.5,baz=295,slow=8.9,SNR=41	**43.14**	**83**	P	**P**	**17 42 57.1**	**+0.2**
T06C	**Millerton Lake** baz=43	**43.14**	**86**	⇑P	**P**	**17 42 57.2**	**+0.3**
KCC	**Kaiser Creek** baz=43,SNR=8.0	**43.18**	**85**	P	**P**	**17 42 57.9**	**+0.6**
PKD	**Parkfield** baz=43	**43.28**	**88**	⇓P	**P**	**17 42 57.7**	**-0.4**
N11A	**Elko Archery C** baz=43	**43.30**	**79**	⇑P	**P**	**17 42 58.4**	**+0.2**
M12A	**Wells** baz=43,SNR=23	**43.45**	**77**	P	**P**	**17 43 00.2**	**+0.7**
P10A	**Eureka** baz=43	**43.56**	**81**	⇑P	**P**	**17 43 00.6**	**+0.3**
Q09A	**Carvers** baz=44,SNR=5.3	**43.59**	**82**	⇓P	**P**	**17 43 01.0**	**+0.4**
QLMT	**Earthquake Lak**	**43.62**	**71**	*e*P	**P**	**17 43 00.6**	**-0.2**
MTUM	**Tungsten Hills**	**43.64**	**85**	*e*P	**P**	**17 43 01.5**	**+0.6**
ELK	**Elko**	**43.65**	**78**	P	**P**	**17 43 01.6**	**+0.6**
ELK	comp=Z,28nm,0.8s			pmax	pmax		
ELK	**Elko** comp=Z,28nm,0.8s,mb5.0	**43.65**	**78**	*e*P	**P**	**17 43 01.0**	**0.0**
N12A	**Clover Valley,** baz=44,SNR=25	**43.71**	**78**	⇓P	**P**	**17 43 01.8**	**+0.3**
M13A	**Montello** baz=44	**43.94**	**77**	⇑P	**P**	**17 43 03.6**	**+0.2**
YMR	**Madison River** comp=Z,34nm,1.1s,mb5.0	**43.99**	**71**	*e*P	**P**	**17 43 03.7**	**-0.1**
R09A	**Tonopah** baz=44,SNR=32	**44.02**	**83**	P	**P**	**17 43 04.1**	**+0.1**
TPH	**Tonopah**	**44.03**	**83**	*e*P	**P**	**17 43 04.3**	**+0.2**
TPH	comp=Z,6.0nm,0.6s,mb4.5			pmax	pmax		
TPH	**Tonopah** comp=Z,5.5nm,0.6s,mb4.5	**44.03**	**83**	*e*P	**P**	**17 43 04.3**	**+0.2**
P11A	**Circle Ranch,** baz=44,SNR=10	**44.04**	**80**	⇓P	**P**	**17 43 04.6**	**+0.4**
YFT	**Old Faithful**	**44.19**	**71**	*e*P	**P**	**17 43 06.6**	**+1.3**
N13A	**Wendover, West** baz=44,SNR=9.1	**44.22**	**78**	⇑P	**P**	**17 43 05.7**	**+0.1**
CWC	**Cottonwood Cre** baz=44,SNR=5.6	**44.51**	**85**	P	**P**	**17 43 08.4**	**+0.4**
Q11A	**Duckwater** baz=44,SNR=16	**44.53**	**81**	P	**P**	**17 43 08.2**	**+0.1**
HVU	**Hansel Valley**	**44.55**	**76**	*e*P	**P**	**17 43 08.5**	**+0.3**
HVU	comp=Z,34nm,0.6s,mb5.3			pmax	pmax		
HVU	**Hansel Valley** comp=Z,34nm,0.6s,mb5.3	**44.55**	**76**	*e*P	**P**	**17

baz=45,SNR=35
EDW2 Edwards Air Fo 45.56 87 ⇓P P **17 43 15.7 -0.6**
baz=45
NOQ North Oquirrh 45.61 77 *e*P P **17 43 16.9 +0.3**
comp=Z,32nn,0.8s,mb5.3
U10A Ash Meadows, A 45.62 84 ⇓P P **17 43 16.6 -0.1**
baz=46
FCC Fort Churchill 45.66 46 *e*P P **17 43 15.7 -1.4**
TCUT Toone Canyon 45.77 76 *e*P P **17 43 18.0 +0.1**
BJI Beijing 45.78 283 *e*P P **17 43 20.2 +2.1**
BJI S **S** **17 50 07.2 +8.7**
BJI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BJI MLR MLR
comp=Z,280nm,26.0s,MS4.1
BJI Beijing 45.78 283 *e*P P **17 43 20.2 +2.1**
comp=Z,10.0nm,1.1s,mb4.7
BJI S **S** **17 50 07.2 +8.7**
BJI LR LR
comp=Z,280nm,26.0s,MS4.1
CTU Camp Tracy 45.81 76 *e*P P **17 43 18.3 0.0**
comp=Z,16nm,0.8s,mb5.0
PDAR Pinedale Array 45.91 73 P P **17 43 18.9 -0.1**
comp=Z,32nn,0.7s,mb5.3,baz=302,slow=3.7,SNR=202
PDAR LR LR 17 58 33.1
comp=Z,178nm,20.1s,MS4.0,baz=240,slow=31
PDAR Pinedale Array 45.91 73 P P **17 43 18.9 -0.1**
PDAR LR LR 17 58 33.1
SHOC Shoshone 45.98 85 ⇓P P **17 43 19.2 -0.4**
baz=46
GSC Goldstone 46.03 86 P P **17 43 20.1 +0.1**
GSC Goldstone 46.03 86 *e*P P **17 43 19.7 -0.3**
GSC Goldstone 46.03 86 P P **17 43 19.9 -0.1**
baz=46,SNR=12
NLU North Lily Min 46.06 77 *e*P P **17 43 20.0 -0.2**
BFSC Mount Baldy St 46.19 87 ⇓P P **17 43 20.3 -0.9**
baz=46
DAU Daniels Canyon 46.28 76 *e*P P **17 43 22.7 +0.7**
TUQ Turquoise Mtn. 46.50 85 ⇑P P **17 43 23.3 -0.4**
baz=46
ARUT Antelope Range 46.55 81 P P **17 43 24.4 +0.3**
ARUT Antelope Range 46.55 81 *e*P P **17 43 24.1 0.0**
HEC Hector,Ludlow 46.63 86 ⇑P P **17 43 24.2 -0.5**
baz=46,SNR=6.7
U12A Valley of Fire 46.72 83 ⇓P P **17 43 25.2 -0.2**
baz=47,SNR=5.4
CCUT Cedar City 46.75 81 *e*P P **17 43 25.4 -0.2**
MSU Marysvale 46.88 79 *e*P P **17 43 26.9 +0.3**
V12A Nelson 46.98 84 ⇓P P **17 43 27.0 -0.4**
baz=47
TMUT Trail Mountain 46.99 77 *e*P P **17 43 27.9 +0.4**
SONM Songino Array 47.02 297 P P **17 43 28.2 +0.4**
comp=Z,4.2nm,0.7s,mb4.5,baz=58,slow=9.7,SNR=18
SONM PcP PcP 17 45 01.7 +2.4
comp=Z,2.2nm,0.7s,baz=70,slow=3.7,SNR=3.6
SONM ScP ScP 17 48 51.7 +2.3
comp=Z,3.8nm,1.0s,baz=66,slow=2.4,SNR=9.5
SONM LR LR 18 04 02.8
comp=Z,431nm,20.3s,MS4.4,baz=18,slow=37
SONM Songino Array 47.02 297 P P **17 43 28.2 +0.4**
SONM 17 45 01.7
W12A Cal Nev Ari 47.24 84 ⇑P P **17 43 29.1 -0.4**
baz=47
ZAK Zakamensk 47.32 301 *e*P P **17 43 30.9 +0.8**
ZAK *e* 17 44 57.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
PFO Pinyon Flat Ob 47.35 87 P P **17 43 29.1 -1.3**
comp=Z,1.8nm,0.4s,mb4.3,baz=348,slow=3.1,SNR=5.1
PFO Pinyon Flat Ob 47.35 87 ⇓P P **17 43 29.5 -0.9**
baz=47
BELC Belle Mtn. 47.38 86 ⇑P P **17 43 29.9 -0.7**
baz=47
SRU San Rafael 47.52 77 *e*P P **17 43 31.7 0.0**
SRU pmax pmax
comp=Z,35nm,0.6s,mb5.6
SRU San Rafael 47.52 77 *e*P P **17 43 31.7 +0.1**
comp=Z,35nn,0.6s,mb5.6
IRM Iron Mountain 47.81 86 ⇑P P **17 43 33.2 -0.7**
baz=48,SNR=5.9
MONP Monument Peak 47.85 88 ⇑P P **17 43 33.5 -0.7**
baz=48
BC3 Big Chuckw Mtn 47.95 86 ⇑P P **17 43 34.0 -1.0**
baz=48
W13A Hualapai Mount 47.98 84 ⇑P P **17 43 34.7 -0.6**
baz=48,SNR=11
HHC Hu-ho-hao-te 48.09 286 *e*P P **17 43 35.5 -0.6**
HHC AP pP 17 43 47.9 -0.9
HHC XP sP 17 43 53.2 -0.9
HHC PCP PcP 17 45 02.7 -0.5
HHC PP PP 17 45 26.7 -1.8
HHC SCP ScP 17 48 53.4 -0.5
HHC PCS PcS 17 48 57.7 -1.3
HHC S **S** **17 50 29.4 -2.0**
HHC XS sS 17 50 49.5 -3.1
HHC SCS ScS 17 53 20.0 -5.2
HHC SS SS 17 53 53.9 -6.9
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,219nm,6.9s
HHC LR LR
comp=N,472nm,15.9s,MS4.7
HHC LR LR
comp=E,453nm,18.0s,MS4.7
HHC LR LR
comp=Z,395nm,18.1s,MS4.4
DVTC Desert V Tower 48.21 88 ⇑P P **17 43 36.3 -0.7**
baz=48
SWSC Sam W. Stewart 48.21 87 ⇓P P **17 43 35.9 -1.1**
baz=48
PDMCI Parker Dam,Lak 48.35 85 P P **17 43 37.5 -0.6**
baz=48,SNR=7.6
W14A Seligman 48.41 83 ⇓P P **17 43 38.2 -0.3**
baz=48,SNR=7.9
GLA Glamis 48.74 86 P P **17 43 40.9 -0.2**
GLA Glamis 48.74 86 *e*P P **17 43 40.0 -1.0**
GLA Glamis 48.74 86 ⇑P P **17 43 40.5 -0.5**
baz=49,SNR=7.9
Y13A Salome 48.86 85 ⇑P P **17 43 41.3 -0.7**
baz=49
W15A Williams 48.94 82 ⇓P P **17 43 42.9 +0.3**
baz=49
X14A Yava 49.02 84 P P **17 43 43.1 0.0**
baz=49,SNR=11
BTO Baotou 49.17 287 *e*P P **17 43 45.5 +1.2**
NJ2 Nanjing 49.23 272 *e*P P **17 43 48.9 +4.1**
NJ2 S **S** **17 50 50.0 +2.6**
NJ2 AMB AMB
comp=Z,150nm,1.0s
NJ2 AMB AMB
comp=Z,20nm,5.0s
NJ2 LR LR
comp=N,790nm,24.9s,MS4.7
NJ2 LR LR
comp=E,550nm,27.8s,MS4.7
NJ2 LR LR
comp=Z,300nm,18.9s
WUAZ Wupatki 49.27 82 *e*P P **17 43 45.0 -0.2**
comp=Z,52nn,1.4s,mb5.4
WUAZ Wupatki 49.27 82 P P **17 43 45.4 +0.2**
baz=49,SNR=10
Y14A Wickenburg 49.29 84 ⇓P P **17 43 44.5 -0.8**
baz=49
ULM Lac du Bonnet 49.34 57 P P **17 43 43.5 -2.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=298,slow=8.6,SNR=9.0
X15A Humboldt 49.41 83 ⇑P P **17 43 46.2 0.0**
baz=49,SNR=5.6
SMCO Snowmass 49.64 75 *e*P P **17 43 47.7 -0.2**
comp=Z,16nm,0.6s,mb5.2
Z14A Wintersburg 49.71 85 ⇑P P **17 43 48.9 +0.4**
baz=50
MVCO Mesa Verde 49.96 78 *e*P P **17 43 50.0 -0.4**
comp=Z,15nn,0.8s,mb5.1
MVCO Mesa Verde 49.96 78 P P **17 43 50.1 -0.2**
baz=50,SNR=12
115A Sonoran Desert 50.60 85 ⇑P P **17 43 54.9 -0.3**
baz=50,SNR=6.3
SDCO Great Sand Dun 51.44 75 *e*P P **17 44 01.4 -0.1**
comp=Z,25nn,0.9s,mb5.2
TUC Tucson 51.77 84 P P **17 44 03.7 -0.2**
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TUC Tucson 51.77 84 *e*P P **17 44 03.5 -0.4**
comp=Z,9.2nm,0.9s,mb4.7
LAZ Ladron 52.63 80 *e*P P **17 44 10.8 +0.5**
ANMO Albuquerque 52.68 79 ⇑*i*P P **17 44 10.9 +0.2**
ANMO Albuquerque 52.68 79 *e*P P **17 44 10.5 -0.3**
comp=Z,15nn,1.3s,mb4.8
ECSD EROS,Sioux Fal 52.86 64 *e*P P **17 44 10.5 -1.5**
comp=Z,4.0nm,0.5s,mb4.6
LENM Lemitar 52.88 80 *e*P P **17 44 12.7 +0.4**
LPM Los Pinos Moun 53.00 79 *e*P P **17 44 13.1 0.0**
BNM Barren Site 53.11 80 *e*P P **17 44 13.8 -0.1**
XAN Xi'an 54.07 281 P P **17 44 20.9 0.0**
CBKS Cedar Bluff 54.20 71 P P **17 44 21.8 -0.1**
CBKS pmax pmax
comp=Z,48nn,0.8s,mb5.5
CBKS Cedar Bluff 54.20 71 *e*P P **17 44 21.6 -0.3**
comp=Z,48nn,0.8s,mb5.5
MNTX Cornudas Mount 55.54 81 *e*P P **17 44 31.1 -0.5**
comp=Z,22nn,1.0s,mb5.1
AMTX Amarillo 55.64 75 *e*P P **17 44 32.0 -0.3**
comp=Z,12nn,0.6s,mb5.1
LZH Lanzhou 55.79 287 *e*P P **17 44 34.5 +1.2**
LZH AP pP 17 44 47.3 +1.0
LZH PP PP 17 46 40.7 +2.6
LZH AMB AMB
comp=Z,37nn,1.2s,mb5.3
LZH AMB AMB
comp=Z,98nm,6.7s
LZH LR LR
comp=N,614nm,14.8s
LZH LR LR
comp=Z,837nm,17.7s,MS4.9
LZH Lanzhou 55.79 287 *e*P P **17 44 34.5 +1.2**
comp=Z,37nn,1.2s,mb5.3
LZH pP pP 17 44 47.3 +1.0
LZH sP sP 17 44 52.5 +0.9
LZH PP PP 17 46 40.7 +2.6
LZH *e*S S 17 51 45.4 -32
LZH PS 17 52 33.5
LZH sS sS 17 52 36.7 -1.9
LZH LR LR
comp=Z,840nm,17.7s,MS4.9
KSU1 Kansas State U 55.85 68 *e*P P **17 44 32.6 -1.2**
comp=Z,32nn,0.8s,mb5.4
GTA Gaotai 55.96 292 ⇑P P **17 44 35.5 +0.9**
GTA AP pP 17 44 48.4 +0.9
GTA PP PP 17 46 42.3 +2.7
GTA S **S** **17 52 18.5 -0.7**
GTA SS SS 17 56 03.6 -2.0
GTA AMB AMB
comp=Z,26nn,0.9s,mb5.3
GTA AMB AMB
comp=Z,229nm,7.2s
GTA LR LR
comp=N,324nm,14.8s,MS4.7
GTA LR LR
comp=E,322nm,15.2s,MS4.7
GTA LR LR
comp=Z,390nm,19.8s,MS4.5
WMOK Wichita Mounta 57.49 74 *e*P P **17 44 44.9 -0.6**
WMOK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WMOK Wichita Mounta 57.49 74 *e*P P **17 44 44.9 -0.6**
comp=Z,10.0nm,0.7s,mb5.0
ARCES ARCESS Array B 58.17 350 P P **17 44 49.1 -1.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=24,slow=7.1,SNR=11
TXAR Lajitas Array 58.24 82 P P **17 44 49.8 -0.9**
comp=Z,5.0nm,0.8s,mb4.6,baz=305,slow=4.9,SNR=47
TXAR LR LR 18 09 31.0
comp=Z,86nm,18.5s,MS3.9,baz=0.0,slow=36
CD2 Chengdu 59.39 282 *e*P P **17 44 57.9 -0.7**
CD2 AP pP 17 45 10.6 -1.1
CD2 XP sP 17 45 15.9 -1.1
CD2 PP PP 17 47 10.9 +0.8
CD2 S **S** **17 53 00.6 -3.5**
CD2 XS sS 17 53 22.1 -3.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nn,5.8s
CD2 LR LR
comp=N,240nm,18.0s,MS4.6
CD2 LR LR
comp=E,290nm,14.4s,MS4.6
CD2 LR LR
comp=Z,230nm,12.8s,MS4.5
WMQ Urumqi 59.70 303 ⇑P P **17 45 02.3 +1.5**
WMQ PCP PcP 17 45 48.3 +0.9
WMQ PP PP 17 47 16.5 +3.7
WMQ *e*S **S** **17 53 08.6 +0.5**
WMQ AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,198nm,5.8s
WMQ LR LR
comp=N,159nm,20.6s,MS4.3
WMQ LR LR
comp=E,180nm,23.5s,MS4.3
WMQ LR LR
comp=Z,213nm,22.4s,MS4.2
SCHQ Schefferville 59.75 39 LR LR 18 10 31.8
comp=Z,106nm,19.0s,MS4.0,baz=98,slow=36
JCT Junction City 59.82 78 P P **17 45 00.6 -1.0**
JCT pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
JCT Junction City 59.82 78 P P **17 45 00.3 -1.4**
comp=Z,6.6nm,0.6s,mb4.8
MKAR Makanchi Array 60.37 309 P P **17 45 03.3 -2.0**
comp=Z,3.1nm,0.8s,mb4.4,baz=54,slow=6.2,SNR=15
GYA Guiyang 60.74 277 ⇑*i*P P **17 45 09.1 +1.2**
GYA AP pP 17 45 22.6 +1.6
GYA PCP PcP 17 45 53.3 +1.8
GYA PP PP 17 47 25.5 +3.4
GYA SCP ScP 17 49 49.1 0.0
GYA PCS PcS 17 49 54.2 0.0
GYA S **S** **17 53 20.5 -1.0**
GYA PS 17 53 42.1
GYA SCS ScS 17 54 52.4 -2.6
GYA SS SS 17 57 20.9 +0.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,120nm,5.4s
GYA LR LR
comp=N,460nm,18.7s,MS4.8
GYA LR LR
comp=E,450nm,18.3s,MS4.8
GYA LR LR
comp=Z,430nm,18.2s,MS4.6
BVAR Borovoye Array 61.16 320 P P **17 45 10.6 -0.2**
comp=Z,2.2nm,0.5s,mb4.5,baz=45,slow=6.3,SNR=20
BRVK Borovoye 61.18 320 *e*P P **17 45 10.4 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
BRVK Borovoye 61.18 320 *e*P P **17 45 10.4 -0.5**
comp=Z,2.3nn,0.6s,mb4.5
PARMO Parma 61.48 66 P P **17 45 11.9 -1.0**
USIN University of 61.75 64 *e*P P **17 45 14.0 -0.8**
comp=Z,22nn,0.4s,mb5.6
WCI Wyandotte Cave 62.33 63 P P **17 45 18.0 -0.7**
WCI pmax pmax
comp=Z,15nn,0.9s,mb5.1
WCI Wyandotte Cave 62.33 63 *e*P P **17 45 17.8 -0.9**
comp=Z,15nn,0.9s,mb5.1
ARU Arti 62.83 329 ⇑*i*P P **17 45 21.1 -0.9**
ARU *e* 17 45 57.0
ARU *e* 17 47 36.5
ARU *e*S **S** **17 53 50.5 +2.6**
ARU *e*SS SS 17 57 56.4 +3.0
ARU pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
ARU Arti 62.83 329 *e*P P **17 45 21.2 -0.7**
comp=Z,5.0nm,0.8s,mb4.7
WVT Waverly 62.95 65 P P **17 45 22.4 -0.4**
WVT pmax pmax
comp=Z,36nn,1.4s,mb5.3
WVT Waverly 62.95 65 *e*P P **17 45 22.0 -0.8**
comp=Z,36nn,1.4s,mb5.3
OXF Oxford 63.19 68 *e*P P **17 45 23.6 -0.8**
OXF pmax pmax
comp=Z,89nn,0.9s,mb5.9
OXF Oxford 63.19 68 *e*P P **17 45 23.6 -0.8**
comp=Z,89nn,0.9s,mb5.9
HNR Honiara 63.46 204 LR LR 18 11 35.4
comp=Z,91nn,18.6s,MS4.0,baz=359,slow=35
KMI Kunming 64.14 278 P P **17 45 30.3 -0.3**
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
KMI LR LR
comp=Z,91nn,20.6s,MS4.0
KMI Kunming 64.14 278 P P **17 45 30.3 -0.3**
comp=Z,5.0nm,0.8s,mb4.6
KMI LR LR
comp=Z,90nn,20.6s,MS3.9
SWET Sewanee 64.68 65 *e*P P **17 45 33.1 -1.0**
AFI Afiamalu 65.24 173 LR LR 18 07 34.4
comp=Z,108nm,21.4s,MS4.0,baz=128,slow=30
CPCT Cooper Cave 65.31 64 *e*P P **17 45 37.4 -0.9**
FINES FINESS Array B 65.88 348 P P **17 45 40.5 -1.4**
comp=Z,4.4nm,0.9s,mb4.5,baz=16,slow=7.9,SNR=8.7
AAK Ala-Archa 67.19 310 ⇓*e*P P **17 45 49.9 -0.4**
AAK Ala-Archa 67.19 310 *e*P P **17 45 49.0 -1.3**
comp=Z,2.1nm,0.6s,mb4.3
PMG Port Moresby 67.55 217 LR LR 18 13 44.8
comp=Z,104nn,18.8s,MS4.1,baz=41,slow=34
PMG Port Moresby 67.55 217 ⇑*e*P P **17 45 51.1 -1.4**
NB2 NORSAR Subarra 67.69 355 P P **17 45 52.6 -0.8**
comp=Z,1.2nm,0.7s,mb4.0,baz=5.4,slow=6.2
NOA NORSAR Array B 67.69 355 P P **17 45 52.5 -1.0**
comp=Z,1.7nm,0.9s,mb4.1,baz=4.4,slow=6.3,SNR=5.2
NOA NORSAR Array B 67.69 355 P P **17 45 52.5 -1.0**
LSA Lhasa 67.84 290 P P **17 45 58.0 +3.6**
LSA Lhasa 67.84 290 *e*P P **17 45 56.8 +2.4**
LSA pmax pmax
comp=Z,35nm,0.9s,mb5.4
LSA Lhasa 67.84 290 *e*P P **17 45 56.8 +2.4**
comp=Z,35nn,0.9s,mb5.4
JSC Jenkinsville 67.99 62 P P **17 45 55.5 +0.2**
JSC Jenkinsville 67.99 62 *e*P P **17 45 55.2 -0.1**
TAOE Nuku Hiva Isla 68.34 139 *e*LR LR 18 06 22.5
comp=Z,1µm,28.4s
VSU Vasula 68.66 346 ⇓*e*P P **17 46 00.0 +0.5**
OBN Obninsk 70.02 340 *e*P P **17 46 08.6 +0.7**
OBN pmax pmax
comp=Z,14nn,1.2s,mb4.8
OBN MLR MLR
comp=Z,200nn,20.0s,MS4.4
SHL Shillong 70.45 287 *e*P P **17 46 10.6 0.0**
GUN Gumba 72.25 292 *e*P P **17 46 22.7 +1.3**
comp=Z,128nm,0.6s
JIRN Jiri 72.25 292 *e*P P **17 46 22.8 +1.3**
comp=Z,20nn,0.4s,mb5.4
KKN Kakani 72.69 293 *e*P P **17 46 25.1 +1.1**
comp=Z,43nn,0.7s,mb5.5
PKI Pulchoki 72.78 293 *e*P P **17 46 25.8 +1.3**
GKN Gorkha 72.89 293 *e*P P **17 46 26.0 +0.8**
comp=Z,70nn,0.9s,mb5.6
DMN Daman 72.92 293 *e*P P **17 46 26.6 +1.2**
comp=Z,61nn,1.0s,mb5.5
VRSR Storozhevoye 73.01 337 *e*P P **17 46 26.3 +0.4**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,9.0nm,1.8s
PPT Papeete 73.06 152 *e*LR LR 18 08 38.9
comp=E,192nm,24.0s,baz=343
PPT Papeete 73.06 152 LR LR 18 14 41.7
comp=E,126nm,18.8s,MS4.2,baz=331,slow=33
KOLN Koldanda 73.67 294 *e*P P **17 46 30.4 +0.6**
comp=E,34nn,0.9s,mb5.3
DZM Mont Dzumac 74.37 195 P P **17 46 33.7 -0.3**
comp=E,11nn,1.0s,mb4.7,baz=64,slow=10,SNR=7.5
DZM LR LR 18 11 04.6
comp=E,195nn,21.5s,MS4.4,baz=80,slow=29
BOK Bokaro 75.36 290 *e*P P **17 46 41.3 +1.7**
BOK AMb AMB 17 46 51.8
comp=Z,18nn,1.4s,mb4.8
AKASG Malin Array Be 75.68 342 P P **17 46 40.9 -0.6**
comp=Z,1.7nn,0.5s,mb4.3,baz=17,slow=5.7,SNR=13
AKBB Malin Array Si 75.68 342 *e*P P **17 46 40.4 -1.1**
NDI New Delhi 76.54 299 *ex* x 17 47 58.3
CTA Charters Tower 77.71 214 *e*P P **17 46 52.2 -0.7**
comp=Z,6.0nm,1.1s,mb4.4
CTA Charters Tower 77.71 214 P P **17 46 52.0 -0.9**
comp=Z,3.5nn,0.6s,mb4.5,baz=40,slow=8.1,SNR=7.3
CTA Charters Tower 77.71 214 *e*P P **17 46 52.2 -0.7**
CTA pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 78.24 347 *e*P P **17 46 56.6 +0.8**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 78.24 347 *e*P P **17 46 56.6 +0.8**
comp=Z,4.0nm,1.1s,mb4.3
TBI Tubuai 78.56 153 *e*LR LR 18 11 12.1
comp=Z,258nm,28.2s,baz=338
KOLS Kolonicke sedl 78.56 346 *e*P P **17 46 57.9 +0.3**
KIV Kislovodsk 78.68 331 *e*P P **17 46 58.0 -0.3**
KIV pmax pmax
comp=Z,17nn,0.9s,mb5.0
KIV Kislovodsk 78.68 331 *e*P P **17 46 58.0 -0.2**
comp=Z,17nn,0.9s,mb5.0
CRVS Cervenica-Dubn 78.71 347 *e*P P **17 46 58.8 +0.4**
BAIF Baives 78.93 358 *e*P P **17 46 59.0 -0.6**
KECS Kecovo 79.25 348 *e*P P **17 47 01.7 +0.3**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 79.25 348 *e*P P **17 47 01.7 +0.3**
comp=Z,2.6nm,1.0s,mb4.1
BURAR Bucovina Array 79.38 344 ⇑*i*P P **17 47 02.4 +0.3**
KHC Kasperske Hory 79.38 352 ⇓*i*P P **17 47 02.9 +0.8**
ZEI Tsey 79.38 330 *e*P P **17 47 00.9 -1.2**
ZEI *e**PP pP 17 47 09.5 -6.1
ZEI pmax pmax
comp=Z,22nn,1.0s,mb5.0
VYHS Vyhne 79.46 349 *e*P P **17 47 01.6 -0.9**
GERES GERESS Array B 79.65 352 P P **17 47 04.3 +0.7**
comp=Z,0.9nm,0.6s,mb3.9,baz=82,slow=2.8,SNR=5.2
AJM Ajmer 79.68 300 *e*P P **17 47 03.8 +0.1**
AJM AMb AMB 17 47 07.3
comp=Z,10nn,0.6s,mb5.0
FLN La Foliniere 80.22 2 *e*P P **17 47 06.0 -0.7**
comp=Z,43nn,1.2s,mb5.0
FLN La Foliniere 80.22 2 *e*P P **17 47 06.0 -0.7**
FLN pmax pmax
comp=Z,21nn,1.2s,mb4.9
FLN La Foliniere 80.22 2 *e*P P **17 47 06.0 -0.7**
comp=Z,21nn,1.2s,mb5.0
LDF La Druitiere 80.40 1 *e*P P **17 47 06.3 -1.3**
MEZF Maizieres J'vi 80.47 358 *e*P P **17 47 07.5 -0.5**
ROSF Rostrenen 80.57 3 *e*P P **17 47 07.9 -0.7**
comp=Z,106nn,1.4s,mb5.3
ROSF Rostrenen 80.57 3 *e*P P **17 47 07.9 -0.7**
ROSF pmax pmax
comp=Z,53nn,1.4s,mb5.3
ROSF Rostrenen 80.57 3 *e*P P **17 47 07.9 -0.7**
comp=Z,53nn,1.4s,mb5.3
GRR Gorron 80.59 2 *e*P P **17 47 08.2 -0.5**
SGMF Saint Gilles 80.68 3 *e*P P **17 47 08.4 -0.7**
comp=Z,11nn,0.7s,mb4.6
SGMF Saint Gilles 80.68 3 *e*P P **17 47 08.4 -0.7**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SGMF Saint Gilles 80.68 3 *e*P P **17 47 08.4 -0.7**
comp=Z,5.7nm,0.7s,mb4.6
BHPL Bhopal 80.68 295 *e*P P **17 47 09.1 -0.1**
BHPL AMb AMB 17 47 09.6
comp=Z,23nn,1.4s,mb4.9
HAU Haudompre 80.93 357 *e*P P **17 47 09.4 -1.0**
QUIF Quistinic 81.00 3 *e*P P **17 47 10.3 -0.5**
MLR Muntele Rosu 81.30 343 ⇑*i*P P **17 47 13.4 +1.0**
NGP Nagpur 81.39 293 *e*P P **17 47 12.2 -0.8**
NGP AMb AMB 17 47 13.5
comp=Z,21nn,1.1s,mb5.0
GNI Garni 81.47 328 ⇑*e*P P **17 47 14.9 +1.6**
GNI pmax pmax
comp=Z,19nn,1.7s
VOIR 81.51 344 ⇑*i*P P **17 47 14.7 +1.1**
VIS Vishakhapatnam 81.55 288 *e*P P **17 47 13.7 0.0**
VIS AMb AMB 17 47 23.6
comp=Z,44nn,1.4s,mb5.2
LOR Lormes 81.72 359 *e*P P **17 47 13.9 -0.8**
comp=Z,5.3nn,0.7s,mb4.3
LOR Lormes 81.72 359 *e*P P **17 47 13.9 -0.8**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR Lormes 81.72 359 *e*P P **17 47 13.9 -0.8**
comp=Z,2.7nm,0.7s,mb4.3
TIRR Tirgusor 81.82 341 ⇓*i*P P **17 47 15.2 0.0**

TIRR	**Tirgusor**	**81.82**	**341**	*e*P		**P**	**17 47 14.9**	**-0.3**
TIRR				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
TIRR	**Tirgusor**	**81.82**	**341**	*e*P		**P**	**17 47 14.9**	**-0.2**
	comp=Z,8.4nm,0.9s,mb4.7							
BZS	**Buzias**	**81.90**	**346**⇑	*i*P		**P**	**17 47 15.8**	**+0.2**
GZR	**Gura Zlata**	**81.94**	**345**⇓	*i*P		**P**	**17 47 16.5**	**+0.7**
SSF	**Saint Saulge**	**81.94**	**359**	*e*P		**P**	**17 47 15.0**	**-0.8**
	comp=Z,10nm,1.0s,mb4.4							
SSF	**Saint Saulge**	**81.94**	**359**	*e*P		**P**	**17 47 15.0**	**-0.8**
SSF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
SSF	**Saint Saulge**	**81.94**	**359**	*e*P		**P**	**17 47 15.0**	**-0.8**
	comp=Z,5.2nm,1.0s,mb4.4							
AVF	**Avril sur Loir**	**82.21**	**359**	*e*P		**P**	**17 47 16.3**	**-0.9**
	comp=Z,37nm,1.4s,mb4.8							
AVF	**Avril sur Loir**	**82.21**	**359**	*e*P		**P**	**17 47 16.3**	**-0.9**
AVF				pmax		pmax		
	comp=Z,19nm,1.4s,mb4.8							
AVF	**Avril sur Loir**	**82.21**	**359**	*e*P		**P**	**17 47 16.3**	**-0.9**
	comp=Z,19nm,1.4s,mb4.8							
WRAB	**Tennant Creek**	**82.29**	**224**⇑	*e*P		**P**	**17 47 15.8**	**-1.8**
WB2	**Warramunga Arr**	**82.30**	**224**	*e*P		**P**	**17 47 16.1**	**-1.6**
WRA	**Warramunga Arr**	**82.30**	**224**	P		**P**	**17 47 16.2**	**-1.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=37,slow=6.0,SNR=15							
SMF	**Signal de Mont**	**82.35**	**359**	*e*P		**P**	**17 47 17.3**	**-0.6**
	comp=Z,14nm,0.8s,mb4.6							
SMF	**Signal de Mont**	**82.35**	**359**	*e*P		**P**	**17 47 17.3**	**-0.6**
SMF				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
SMF	**Signal de Mont**	**82.35**	**359**	*e*P		**P**	**17 47 17.3**	**-0.6**
	comp=Z,6.9nm,0.8s,mb4.6							
MFF	**Saint Martin d**	**82.39**	**1**	*e*P		**P**	**17 47 17.6**	**-0.6**
	comp=Z,23nm,1.0s,mb4.7							
MFF	**Saint Martin d**	**82.39**	**1**	*e*P		**P**	**17 47 17.6**	**-0.6**
MFF				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
MFF	**Saint Martin d**	**82.39**	**1**	*e*P		**P**	**17 47 17.6**	**-0.6**
	comp=Z,11nm,1.0s,mb4.8							
BGF	**Bois d'Agland**	**82.45**	**359**	*e*P		**P**	**17 47 17.7**	**-0.8**
TCF	**Toulx Ste Croi**	**82.72**	**360**	*e*P		**P**	**17 47 19.1**	**-0.8**
	comp=Z,16nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**82.72**	**360**	*e*P		**P**	**17 47 19.1**	**-0.8**
TCF				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.8							
TCF	**Toulx Ste Croi**	**82.72**	**360**	*e*P		**P**	**17 47 19.1**	**-0.8**
	comp=Z,7.8nm,0.9s,mb4.7							
RKT	**Rikitea**	**83.30**	**141**	*e*LR		LR	18 13 18.3	
	comp=Z,275nm,23.8s,baz=338							
LPG	**La Plagne**	**83.42**	**357**	*e*P		**P**	**17 47 22.9**	**-0.6**
DIVS	**Divcibare**	**83.62**	**347**	*i*P		**P**	**17 47 25.0**	**+0.5**
GRUS	**Gruza**	**83.72**	**346**	*i*P		**P**	**17 47 25.2**	**+0.2**
BBLS	**Bajina Basta -**	**83.93**	**347**	*i*P		**P**	**17 47 27.6**	**+1.6**
ORIF	**Oris-en-Rattie**	**84.03**	**357**	*e*P		**P**	**17 47 25.8**	**-0.8**
	comp=Z,12nm,1.0s,mb4.7							
ORIF	**Oris-en-Rattie**	**84.03**	**357**	*e*P		**P**	**17 47 25.8**	**-0.8**
ORIF				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
ORIF	**Oris-en-Rattie**	**84.03**	**357**	*e*P		**P**	**17 47 25.8**	**-0.8**
	comp=Z,5.8nm,1.0s,mb4.7							
LFF	**La Frestale**	**84.06**	**1**	*e*P		**P**	**17 47 26.0**	**-0.8**
CAF	**Calviac**	**84.08**	**360**	*e*P		**P**	**17 47 26.0**	**-0.9**
VIVF	**Saint-Julien-l**	**84.12**	**358**	*e*P		**P**	**17 47 26.5**	**-0.6**
MBDF	**Montbardon**	**84.19**	**356**	*e*P		**P**	**17 47 26.9**	**-0.5**
VTS	**Vitosha**	**84.59**	**344**⇓	*i*P		**P**	**17 47 29.2**	**-0.3**
HYB	**Hyderabad**	**84.61**	**291**	*i*P		**P**	**17 47 30.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**84.79**	**233**	*e*P		**P**	**17 47 29.8**	**-0.7**
	comp=Z,13nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**84.79**	**233**	P		**P**	**17 47 30.1**	**-0.4**
	comp=Z,8.1nm,0.7s,mb5.0,baz=12,slow=7.2,SNR=10.0							
LASF	**Ste Croix**	**84.92**	**359**	*e*P		**P**	**17 47 30.3**	**-0.8**
SBF	**Sospel**	**85.02**	**356**	*e*P		**P**	**17 47 30.8**	**-0.8**
BR131	**Keskin Array S**	**85.12**	**336**	*e*P		**P**	**17 47 32.0**	**-0.2**
	comp=Z,7.8nm,0.9s,mb4.8							
BRTR	**Keskin Array B**	**85.12**	**336**	P		**P**	**17 47 32.2**	**+0.1**
	comp=Z,7.4nm,0.8s,mb4.8,baz=54,slow=2.4,SNR=29							
LMR	**La Mourre**	**85.59**	**357**	*e*P		**P**	**17 47 33.7**	**-0.7**
	comp=Z,11nm,0.9s,mb4.8							
LMR	**La Mourre**	**85.59**	**357**	*e*P		**P**	**17 47 33.7**	**-0.7**
LMR				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
LMR	**La Mourre**	**85.59**	**357**	*e*P		**P**	**17 47 33.7**	**-0.7**
	comp=Z,5.4nm,0.9s,mb4.8							
MTLF	**Montolieu**	**85.67**	**360**	*e*P		**P**	**17 47 34.1**	**-0.7**
	comp=Z,24nm,1.2s,mb5.0							
MTLF	**Montolieu**	**85.67**	**360**	*e*P		**P**	**17 47 34.1**	**-0.7**
MTLF				pmax		pmax		
	comp=Z,12nm,1.2s,mb5.0							
MTLF	**Montolieu**	**85.67**	**360**	*e*P		**P**	**17 47 34.1**	**-0.7**
	comp=Z,12nm,1.2s,mb5.0							
AS31	**Alice Springs**	**85.77**	**223**	*e*P		**P**	**17 47 34.5**	**-0.8**
ASAR	**Alice Springs**	**85.77**	**223**	P		**P**	**17 47 34.5**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.9,baz=27,slow=4.8,SNR=30							
ASAR				LR		LR	18 23 41.5	
	comp=Z,68nm,19.9s,MS4.0,baz=32,slow=34							
ASPA	**Alice Springs**	**85.77**	**223**	*e*P		**P**	**17 47 34.5**	**-0.8**
PGF	**Pioggiola**	**86.25**	**355**	*e*P		**P**	**17 47 37.0**	**-0.7**
	comp=Z,38nm,1.1s,mb5.2							
PGF	**Pioggiola**	**86.25**	**355**	*e*P		**P**	**17 47 37.0**	**-0.7**
PGF				pmax		pmax		
	comp=Z,19nm,1.1s,mb5.2							
PGF	**Pioggiola**	**86.25**	**355**	*e*P		**P**	**17 47 37.0**	**-0.7**
	comp=Z,19nm,1.1s,mb5.2							
MDRS	**Chennai**	**87.02**	**287**	*e*P		**P**	**17 47 42.4**	**+0.9**
MDRS				AMb		AMB	17 47 47.8	
	comp=Z,16nm,0.5s,mb5.5							
KAD	**Karad**	**87.22**	**294**	*e*P		**P**	**17 47 42.7**	**+0.3**
KAD				AMb		AMB	17 47 44.0	
	comp=Z,12nm,1.2s,mb5.0							
ESDC	**Sonseca Array**	**89.19**	**4**	P		**P**	**17 47 50.7**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.5,baz=353,slow=4.7,SNR=6.7							
STKA	**Stephens Creek**	**90.15**	**213**	*e*P		**P**	**17 47 55.7**	**-0.6**
	comp=Z,9.8nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**90.15**	**213**	P		**P**	**17 47 55.7**	**-0.6**
	comp=Z,14nm,0.9s,mb5.3,baz=353,slow=5.6,SNR=15							
STKA				LR		LR	18 25 49.2	
	comp=Z,149nm,18.0s,MS4.5,baz=205,slow=34							
RPN	**Rapa Nui**	**98.70**	**123**	LR		LR	18 24 35.6	
	comp=Z,59nm,19.1s,MS4.1,baz=262,slow=30							
TORD	**Torodi Ar. Bea**	**115.75**	**0**	PKP		PKPdf	17 53 37.5	-0.8
	comp=Z,0.3nm,0.5s,baz=346,slow=3.0,SNR=6.5							
TORD				PKKPbc		PKKPbc	18 04 08.2	-2.0
	comp=Z,1.0nm,1.0s,baz=178,slow=1.1,SNR=4.7							
QSPA	**South Pole Qui**	**141.13**	**180**	*e*PKPpre			17 54 17.9	
TSUM	**Tsumeb**	**145.58**	**333**	*e*PKP		PKPdf	17 54 34.3	+0.2
MAW	**Mawson**	**146.74**	**218**	PKPbc		PKPbc	17 54 35.6	-2.3
	comp=Z,13nm,1.0s,baz=76,slow=2.5,SNR=19							
MAW	**Mawson**	**146.74**	**218**	*e*PKPbc		PKPbc	17 54 35.9	-1.9
LBTB	**Lobatse**	**148.02**	**316**	*e*PKP2		PKPab	17 54 41.8	-2.4
BOSA	**Boshof**	**151.29**	**313**	PKPbc		PKPbc	17 54 49.5	+0.1
	comp=Z,7.7nm,0.6s,baz=20,slow=2.3,SNR=16							
BOSA	**Boshof**	**151.29**	**313**	PKIKP		PKPbc	17 54 49.5	+0.1
BOSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BOSA	**Boshof**	**151.29**	**313**	*e*PKPbc		PKPbc	17 54 49.3	-0.1
SNAA	**Sanae**	**159.52**	**176**	*e*PKPdf		PKPdf	17 54 50.7	-3.8
SNAA				*e*			17 55 29.2	
SNAA				*e*			17 55 42.3	
VNA2	**Neumayer--Watz**	**159.93**	**171**	*e*PKPdf		PKPdf	17 54 51.7	-3.3
VNA2				*e*			17 55 31.7	
VNA2				*e*			17 55 44.8	
VNA2				*e*			17 55 49.3	

*ISCJB **08** 17:35:22.6±1.6,242S±02×1800W±02,h520km±14km, mb4.0/15,Error ellipse: s-maj=30.5km s-min=12.9km az=87.8*

*NEIC **08** 17:35:23.0±1.0,2414S×17991W,h515km±10km,mb4.4/7, Error ellipse: s-maj=16.7km s-min=9.4km az=217.0*

*IDC **08** 17:35:23.3±2.1,2415S×17994W,h513km±21km,mb3.5/10, mb1 3.6/12,mb1mx3.5/16,mbtmp3.5/12,Error ellipse: s-maj=23.3km s-min=15.2km az=48.0*

ISC 08 17:35:23.5±1.5,242S±02×1799W±02,h520km±13km,n42, σ0s69/29,mb4.0/15,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**5.29**	**161**	P		**P**	**17 36 54.0**	**-0.1**
	120nm,0.3s,baz=82,slow=24,SNR=6.9							
RAO	**Raoul Island**	**5.29**	**161**	*e*P		**P**	**17 36 54.0**	**-0.2**
	382nm,0.3s							
DZM	**Mont Dzumac**	**12.77**	**277**	P		**P**	**17 38 11.0**	**+1.0**
	1.3nm,0.3s,baz=84,slow=16,SNR=32							
URZ	**Urewera**	**14.21**	**190**	P		**P**	**17 38 24.2**	**-0.9**
	1.4nm,0.3s,baz=147,slow=22,SNR=5.9							
CTA	**Charters Tower**	**31.59**	**271**	*e*P		**P**	**17 41 03.7**	**+0.5**
	13nm,0.4s,mb4.8							
CTA	**Charters Tower**	**31.59**	**271**	P		**P**	**17 41 03.7**	**+0.5**
	12nm,0.4s,mb4.8,baz=92,slow=10,SNR=60							
CTAO	**Charters Tower**	**31.59**	**271**	*e*P		**P**	**17 41 03.5**	**+0.4**
	15nm,0.4s,mb4.9							
MTSU	**Mount Surprise**	**33.87**	**273**	*e*P		**P**	**17 41 23.0**	**+0.5**
	11nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**34.70**	**249**	P		**P**	**17 41 29.7**	**+0.2**
	1.3nm,0.4s,mb3.8,baz=96,slow=13,SNR=5.8							
STKA	**Stephens Creek**	**34.70**	**249**	P		**P**	**17 41 29.7**	**+0.2**
PMG	**Port Moresby**	**34.71**	**289**	P		**P**	**17 41 29.6**	**0.0**
	5.8nm,0.7s,mb4.2,baz=338,slow=19,SNR=5.7							
AS31	**Alice Springs**	**42.09**	**261**	*e*P		**P**	**17 42 29.4**	**-0.1**
ASAR	**Alice Springs**	**42.09**	**261**	P		**P**	**17 42 29.4**	**-0.1**
	2.1nm,0.5s,mb3.9,baz=96,slow=7.3,SNR=89							
ASAR				PcP		PcP	17 44 12.0	-0.1
	0.4nm,0.5s,baz=108,slow=5.2,SNR=4.2							
ASPA	**Alice Springs**	**42.09**	**261**	*e*P		**P**	**17 42 29.2**	**-0.3**
WB2	**Warramunga Arr**	**42.48**	**266**	*e*P		**P**	**17 42 32.0**	**-0.6**
WRAB	**Tennant Creek**	**42.49**	**266**	*e*P		**P**	**17 42 31.9**	**-0.8**
	2.4nm,0.4s,mb4.1							
WRA	**Warramunga Arr**	**42.49**	**266**	P		**P**	**17 42 32.1**	**-0.6**
	4.7nm,0.3s,mb4.4,baz=97,slow=8.4,SNR=218							
KAKA	**Kakadu**	**46.45**	**275**	*e*P		**P**	**17 43 02.4**	**-0.8**
	5.0nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**50.91**	**266**	*e*P		**P**	**17 43 37.0**	**+0.6**
	9.8nm,0.8s,mb4.2							
FITZ	**Fitzroy Crossi**	**50.91**	**266**	P		**P**	**17 43 36.8**	**+0.4**
	5.2nm,0.6s,mb4.0,baz=255,slow=6.4,SNR=21							
SBA	**Scott Base**	**54.05**	**183**	*e*P		**P**	**17 44 00.5**	**+1.6**
	1.0nm,0.7s,mb3.2							
VNDA	**Vanda**	**54.05**	**185**	P		**P**	**17 43 59.7**	**+0.9**
	0.6nm,0.9s,mb2.9,baz=1.2,slow=7.3,SNR=3.4							
VNDA				PcP		PcP	17 44 56.0	+0.3
	0.2nm,0.5s,baz=358,slow=7.0,SNR=7.8							
VNDA	**Vanda**	**54.05**	**185**	*e*P		**P**	**17 43 59.5**	**+0.7**
VNDA				PcP		PcP	17 44 56.0	+0.3
QSPA	**South Pole Qui**	**65.85**	**180**	*e*P		**P**	**17 45 18.0**	**+0.7**
	2.8nm,0.8s,mb3.8							
MJAR	**Matsushiro Art**	**72.23**	**326**	P		**P**	**17 45 55.6**	**-0.1**
	2.3nm,0.8s,mb3.7,baz=152,slow=5.2,SNR=5.9							
MAW	**Mawson**	**77.47**	**200**	P		**P**	**17 46 25.6**	**+0.6**
	1.6nm,0.5s,mb3.8,baz=138,slow=8.2,SNR=8.7							
KSRS	**Korea Array**	**78.57**	**320**	P		**P**	**17 46 31.2**	**+0.3**
	1.2nm,0.6s,mb3.4,baz=125,slow=5.3,SNR=4.5							
SNAA	**Sanae**	**84.33**	**179**	*e*		**P**	**17 46 59.7**	**-0.8**
SNAA				*e*			17 47 05.4	
VNA2	**Neumayer--Watz**	**84.95**	**178**	*e*		**P**	**17 47 02.3**	**-1.3**
	baz=204,slow=3.3							
VNA2				*e*			17 47 07.1	
MKAR	**Makanchi Array**	**112.46**	**313**	PKiKP		PKiKP	17 52 59.2	-1.1
	0.3nm,0.4s,baz=174,slow=0.8,SNR=9.0							
MKAR	**Makanchi Array**	**112.46**	**313**	PKPdf		PKiKP	17 52 59.2	-1.1
ARCES	**ARCESS Array B**	**132.24**	**348**	PKP		PKPdf	17 53 37.1	-1.0
	1.0nm,0.4s,baz=58,slow=1.3,SNR=18							
FINES	**FINESS Array B**	**138.80**	**341**	PKhKP			17 53 41.8	
	0.8nm,0.6s,baz=66,slow=6.5,SNR=8.4							
NOA	**NORSAR Array B**	**142.43**	**351**	PKhKP			17 53 52.1	
	1.1nm,0.8s,baz=18,slow=2.8,SNR=3.7							
AKASG	**Malin Array Be**	**145.31**	**327**	PKPbc		PKPbc	17 54 02.0	-0.9
	2.0nm,0.4s,baz=45,slow=3.8,SNR=22							
AKBB	**Malin Array Si**	**145.31**	**327**	*e*P		PKPdf	17 54 01.9	+0.1
KIEV	**Kiev**	**145.32**	**327**	*e*P		PKPdf	17 54 01.9	0.0
BR131	**Keskin Array S**	**147.87**	**307**	*e*PKPbc		PKPbc	17 54 10.0	+0.2
BR131				*e*PKPab		PKPab	17 54 15.0	+0.8
BRTR	**Keskin Array B**	**147.87**	**307**	PKPbc		PKPbc	17 54 09.9	+0.1
	2.0nm,0.6s,baz=145,slow=5.0,SNR=11							
CLL	**Collm**	**151.21**	**343**⇓	*i*P		PKPbc	17 54 17.7	-0.1
CLL	**Collm**	**151.21**	**343**⇓	*i*PKPbc		PKPbc	17 54 17.7	-0.1
	comp=Z,10.0nm,0.7s							
BRG	**Berggiesshubel**	**151.34**	**342**	*i* P		PKPbc	17 54 18.2	+0.1
	comp=Z,4.9nm,0.5s							
BRG				*e*			18 17 46.4	
	comp=Z,0.5nm,0.7s							

*IDC **08** 17:40:45.9±2.4,571S×15039E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.7/15,mbtmp3.8/5,ML2.1/1,Error ellipse: s-maj=70.7km s-min=34.9km az=118.0*

NEIC 08 17:40:45.7±2.1,556S×15053E,h10km,Error ellipse: s-maj=58.3km s-min=30.8km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**221**	Pn		Pn	17 42 00.8	-1.0
	0.5nm,0.3s,baz=23,slow=7.7,SNR=3.5							
PMG				Sn		Sn	17 43 01.3	+0.7
	2.0nm,0.3s,baz=354,slow=22,SNR=4.3							
PMG	**Port Moresby**	**5.08**	**221**	*e*P		Pn	17 42 03.8	+1.9
	9.2nm,0.6s							
PMG				Sn		Sn	17 43 01.3	+0.7
WRAB	**Tennant Creek**	**21.26**	**226**	*e*P		P	17 45 32.7	+0.7
WB2	**Warramunga Arr**	**21.27**	**226**	*e*P		P	17 45 32.5	+0.5
WRA	**Warramunga Arr**	**21.27**	**226**	P		P	17 45 32.5	+0.3
	1.4nm,0.6s,baz=53,slow=10,SNR=13							
AS31	**Alice Springs**	**24.10**	**220**	*e*P		P	17 45 59.9	-1.4
ASAR	**Alice Springs**	**24.10**	**220**	P		P	17 46 00.1	-1.2
	1.2nm,0.5s,baz=55,slow=9.0,SNR=21							
FITZ	**Fitzroy Crossi**	**27.32**	**241**	P		P	17 46 30.3	-0.3
	2.2nm,0.5s,baz=64,slow=7.3,SNR=9.0							
STKA	**Stephens Creek**	**27.49**	**197**	P		P	17 46 32.8	+0.7
	3.1nm,1.0s,baz=356,slow=13,SNR=3.0							
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc		PKPbc	18 00 35.0	+2.7
	0.8nm,0.5s,baz=56,slow=3.1,SNR=12							
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc		PKPbc	18 00 35.0	+2.7

*ISCJB **08** 18:01:29.4±0.3,4833N±002×658E±003,h13km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=163.1*

*STR **08** 18:01:30.8±0.2,4835N×666E,h10km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **08** 18:01:31.4±0.4,4837N×670E,h5km,ML1.7/2,Error ellipse: s-maj=5.6km s-min=4.4km az=76.0*

*LDG **08** 18:01:31.2±0.1,4832N×667E,h10km,Md2.6/1,Ml2.3/14, Error ellipse: s-maj=1.3km s-min=0.9km az=165.0*

ISC 08 18:01:30.2±0.3,4833N±002×663E±003,h17km±3km,n36, σ0s86/55,France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ECH	**Echery**	**0.37**	**108**	Pg		**Pg**	**18 01 38.3**	**+0.4**
ECH				Sg		**Sg**	**18 01 42.9**	**-0.2**
ECH	**Echery**	**0.37**	**108**	*e*Pg		**Pg**	**18 01 38.4**	**+0.5**
	SNR=9.7							
HAU	**Haudompre**	**0.38**	**211**	*e*Pg		**Pg**	**18 01 39.0**	**+1.0**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**18 01 43.3**	**+0.1**
	30nm,0.2s							
CDF	**Champ du Feu**	**0.44**	**79**	*e*Pg		**Pg**	**18 01 39.4**	**+0.3**
CDF				*e*Sg		**Sg**	**18 01 44.8**	**-0.3**
	21nm,0.3s,SNR=1.0							
THEF	**They Montfort**	**0.44**	**257**	Pg		**Pg**	**18 01 40.0**	**+0.8**
THEF				Sg		**Sg**	**18 01 46.2**	**+0.9**
THEF	**They Montfort**	**0.44**	**257**	*e*Pg		**Pg**	**18 01 40.1**	**+0.8**
	SNR=4.2							
WLS	**Welschbruch**	**0.49**	**80**	Pg		**Pg**	**18 01 40.3**	**+0.3**
WLS				Sg		**Sg**	**18 01 46.7**	**+0.1**
WLS	**Welschbruch**	**0.49**	**80**	*e*Pg		**Pg**	**18 01 40.4**	**+0.3**
	SNR=23							
HINF	**Hinteralfeld**	**0.53**	**164**	*e*Pg		**Pg**	**18 01 41.5**	**+0.7**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**18 01 48.5**	**+0.5**
	24nm,0.2s,SNR=1.0							
HINF				*e*Sn		**Sg**	**18 01 51.2**	**+3.2**
MOF	**Molkenrain**	**0.58**	**145**	Pg		**Pg**	**18 01 43.3**	**+1.5**
MOF	**Molkenrain**	**0.58**	**145**	*e*Pg		**Pg**	**18 01 43.6**	**+1.8**
	SNR=2.5							
RFYF	**Reffroy**	**0.83**	**292**	*e*Pn		**Pn**	**18 01 47.7**	**+0.7**
	baz=109							
RFYF				*e*Sn		**Sn**	**18 01 59.5**	**+0.7**
	19nm,0.2s,baz=114							
LOMF	**Lomont**	**0.99**	**172**	Pg		**Pg**	**18 01 49.7**	**+0.3**
LOMF				Sg		**Sg**	**18 02 03.8**	**+1.5**
LOMF	**Lomont**	**0.99**	**172**	*e*Pg		**Pg**	**18 01 50.3**	**+1.0**
	SNR=2.3							
LANF	**Langenberg**	**1.01**	**50**	Pg		**Pg**	**18 01 49.5**	**-0.4**
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pg		**Pg**	**18 01 51.7**	**+0.8**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**18 02 04.0**	**-0.9**
	7.1nm,0.2s,SNR=1.0							
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn		**Pn**	**18 01 51.4**	**+1.0**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg		**Pg**	**18 01 52.1**	**+1.1**
SFTF				*e*Sg		**Sg**	**18 02 06.0**	**+1.0**
	9.1nm,0.2s							
BFO	**Black Forest**	**1.13**	**89**	*e*Pg		**Pg**	**18 01 51.9**	**-0.2**
	SNR=1.9							
BFO				*e*Sg		**Sg**	**18 02 04.8**	**-2.1**
	SNR=8.9							
WLF	**Walferdange**	**1.37**	**347**	*e*Sg		**Sg**	**18 02 14.5**	**-0.2**
	SNR=1.3							
CABF	**La Chapelle**	**1.76**	**192**	*e*Pn		**Pn**	**18 02 00.5**	**+0.7**
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg		**Pg**	**18 02 03.8**	**-0.2**
CABF				*e*Sg		**Sg**	**18 02 27.1**	**+0.2**
	4.4nm,0.4s,SNR=1.0							
LOR	**Lormes**	**2.15**	**241**	*e*Pn		**Pn**	**18 02 05.6**	**+0.4**
	baz=66,SNR=1.0							
LOR	**Lormes**	**2.15**	**241**	*e*Pg		**Pg**	**18 02 11.2**	**-0.3**
	baz=60,SNR=1.0							
LOR				*e*Sg		**Sg**	**18 02 38.2**	**-1.2**
	5.7nm,0.2s,baz=66,SNR=1.0							
TNS	**Taunus Mts**	**2.24**	**31**	*e*Sg		**Sg**	**18 02 40.8**	**-1.4**
	SNR=1.9							
BAIF	**Baives**	**2.35**	**318**	*e*Sg		**Sg**	**18 02 45.7**	**-0.1**
	1.0nm,0.2s							
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pn		**Pn**	**18 02 09.8**	**+0.3**
	SNR=1.0							
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg		**Pg**	**18 02 17.0**	**-0.5**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**18 02 49.2**	**-0.2**
	2.1nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pn		**Pn**	**18 02 10.5**	**0.0**
	SNR=1.0							
SMF	**Signal de Mont**	**2.53**	**229**	*e*Pg		**Pg**	**18 02 18.0**	**-0.8**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**18 02 51.3**	**-0.4**
	3.7nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn		**Pn**	**18 02 13.0**	**+0.2**
	SNR=1.0							
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg		**Pg**	**18 02 21.4**	**-0.6**
AVF				*e*Sn		**Sn**	**18 02 43.7**	**-1.4**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**18 02 56.4**	**-0.7**
	1.1nm,0.2s,SNR=1.0							
LPL	**La Plagne**	**2.81**	**179**	*e*Sg		**Sg**	**18 02 58.8**	**-1.9**
	1.6nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Pn		**Pn**	**18 02 18.8**	**+0.2**
BGF				*e*Sg		**Sg**	**18 03 09.5**	**-1.0**
	4.2nm,0.3s							
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Sg		**Sg**	**18 03 26.4**	**-0.6**
	2.2nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.73**	**202**	*e*Sg		**Sg**	**18 03 28.0**	**-1.9**
	0.8nm,0.2s							

IDC 08 18:08:14.1±7.6,1801S×17685W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.9/14,mbtmp3.9/5,Error ellipse: s-maj=177.2km s-min=43.0km az=37.0,Fiji Islands region

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

JTJ	**Tarama**	**3.88**	**43**	P	Pn	18 38 52.5	+1.9
JTJ				S	Sn	18 39 39.2	+2.4
JOGS	**Gusukube**	**4.42**	**48**	*eS*	Sn	18 39 53.9	+3.6

MAN 08 18:43:48.6, 1108N×12502E, h61km, mb2.1, ML3.8, MS2.5, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.10**	**337**	*eP*	Pn	18 43 58.4	+0.7
PLP				*i* S	Sn	18 44 04.2	-0.1
OCLP	**Ormoc**	**0.40**	**266**	*eP*	Pn	18 44 01.7	+2.1
BESP	**Borongan**	**0.67**	**38**	*eP*	Pn	18 44 04.5	+2.0
BESP				*eS*	Sn	18 44 15.8	+3.2
MSLP	**Maasin**	**0.95**	**189**	*eP*	Pn	18 44 06.9	+0.9
MSLP				*eS*	Sn	18 44 21.8	+2.9
SCPH	**Surigao**	**1.37**	**160**	*eP*	Pn	18 44 12.6	+1.1

NIED ***08*** *19:00:00, 2670N×12640E, h5km, Mw4.1 Best double couple: M₀1.66000×10¹⁵ NP1:φs284.00000°, δ57.00000°, λ-68.00000°. NP2:φs68.00000°, δ39.00000°, λ-120.00000°.*
BJI ***08*** *19:00:44.5, 2591N×12725E, h10km, mb4.3, ML4.1, Ms4.1, Msz3.8*
IDC ***08*** *19:00:53.5±0.8, 2662N×12637E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, ML3.1/1, MS3.5/12, Ms1 3.5/12, ms1mx3.3/38, Error ellipse: s-maj=22.0km s-min=15.1km az=59.0*
ISCJB ***08*** *19:00:54.8±1.4, 2670N±005×12637E±003, h14km±9km, mb4.0/10, MS3.6/9, Error ellipse: s-maj=7.9km s-min=4.8km az=174.0*
JMA ***08*** *19:00:54.8±0.2, 2672N×12641E, h7km±3km, M4.3*
JMA Felt I J1.
NEIC ***08*** *19:00:55.1±0.4, 2661N×12637E, h10km, mb4.4/2, Error ellipse: s-maj=12.1km s-min=8.6km az=77.0*

ISC 08 19:00:55.8±1.1, 2669N±005×12642E±004, h11km±6km, n37, σ1§04/37, mb4.0/10, MS3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.49**	**138**	P	**Pg**	**19 01 04.8**	**-0.5**
JKE				S	**Sg**	**19 01 11.7**	**+0.2**
JAGN	**Aguni-jima**	**0.74**	**97**	P	**Pg**	**19 01 09.4**	**-0.7**
JAGN				*eS*	**Sg**	**19 01 20.0**	**+0.3**
NAH1	**Naha**	**1.23**	**113**	P	**Pn**	**19 01 17.9**	**-1.1**
NAH1				S	**Sb**	**19 01 35.2**	**+0.1**
JJT2	**Tamagusuku 2**	**1.31**	**114**	P	**Pn**	**19 01 19.2**	**-0.8**
JJT2				S	**Sb**	**19 01 37.9**	**+0.7**
JIH	**Iheya**	**1.42**	**76**	P	**Pn**	**19 01 20.0**	**-1.6**
JIH				S	**Sn**	**19 01 40.6**	**+0.3**
JOW	**Kunigami**	**1.66**	**85**	Pn	**Pn**	**19 01 23.9**	**-0.9**
	38nm,0.3s,baz=278,slow=13,SNR=129						
JOW				Sn	**Sn**	**19 01 48.6**	**+2.4**
	121nm,0.3s,baz=132,slow=27,SNR=11						
JOW	**Kunigami**	**1.66**	**85**	P	**Pn**	**19 01 23.8**	**-1.1**
JOW				*eS*	**Sn**	**19 01 48.2**	**+2.0**
JMJ	**Miyako jima 2**	**2.12**	**209**	P	**Pn**	**19 01 32.2**	**+1.0**
JOGS	**Gusukube**	**2.13**	**206**	P	**Pn**	**19 01 33.0**	**+1.7**
JTK	**Tokunoshima**	**2.50**	**64**	P	**Pn**	**19 01 37.8**	**+1.3**
JTJ	**Tarama**	**2.56**	**218**	P	**Pn**	**19 01 39.0**	**+1.8**
JIJ	**Ishigaki jima**	**3.10**	**222**	P	**Pn**	**19 01 44.8**	**+0.2**
JKRS	**Kuro-shima**	**3.27**	**222**	P	**Pn**	**19 01 47.9**	**+0.9**
JAM	**Amami Oshima**	**3.31**	**58**	P	**Pn**	**19 01 48.8**	**+1.3**
IRIF	**Iriomote-Funai**	**3.38**	**227**	P	**Pn**	**19 01 49.6**	**+1.1**
JNU	**Nakatsue**	**7.49**	**30**	Pn	**Pn**	**19 02 46.9**	**+2.0**
	0.3nm,0.3s,baz=238,slow=12,SNR=2.4						
JNU				LR	LR	19 05 53.6	
	comp=Z,356nm,20.6s,baz=97,slow=40						
KSRS	**Korea Array**	**10.81**	**6**	LR	LR	19 07 55.5	
	comp=Z,223nm,18.6s,baz=190,slow=39						
MJAR	**Matsushiro Arr**	**14.04**	**43**	LR	LR	19 09 46.5	
	comp=Z,266nm,19.6s,baz=250,slow=38						
ASAJ	**Asahikawa**	**21.75**	**33**	LR	LR	19 13 07.6	
	comp=Z,84nm,21.5s,MS3.1,baz=324,slow=34						
GTA	**Gaotai**	**25.55**	**306**	*eP*	**P**	**19 06 24.2**	**-0.4**
GTA				AP	pP	19 06 27.9	0.0
GTA				XP	sP	19 06 30.0	+0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.7						
SONM	**Songino Array**	**26.30**	**329**	P	**P**	**19 06 31.8**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.1,baz=141,slow=10,SNR=11						
SONM				LR	LR	19 18 31.1	
	comp=Z,165nm,18.8s,MS3.6,baz=131,slow=40						
MKAR	**Makanchi Array**	**40.02**	**312**	P	**P**	**19 08 29.9**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.7,baz=100,slow=10,SNR=10						
MKAR				LR	LR	19 27 36.2	
	comp=Z,42nm,18.1s,MS3.3,baz=358,slow=40						
MKAR	**Makanchi Array**	**40.02**	**312**	P	**P**	**19 08 29.9**	**-0.8**
MKAR				LR	LR	19 27 36.2	
ZAL	**Zalesovo**	**40.91**	**323**	P	**P**	**19 08 37.0**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=10,slow=7.5,SNR=6.1						
ZAL				LR	LR	19 26 57.9	
	comp=Z,46nm,21.4s,MS3.3,baz=157,slow=38						
ZAL	**Zalesovo**	**40.91**	**323**	P	**P**	**19 08 37.0**	**-1.1**
ZAL				LR	LR	19 26 57.9	
FITZ	**Fitzroy Crossi**	**44.53**	**181**	*eP*	**P**	**19 09 06.8**	**-0.6**
	comp=Z,3.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.53**	**181**	P	**P**	**19 09 06.0**	**-1.4**
	comp=Z,2.0nm,0.6s,mb4.1,baz=15,slow=6.5,SNR=7.5						
WRAB	**Tennant Creek**	**46.98**	**170**	*eP*	**P**	**19 09 25.6**	**-1.1**
	comp=Z,3.4nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**46.98**	**170**	P	**P**	**19 09 26.1**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=352,slow=8.6,SNR=9.9						
WB2	**Warramunga Arr**	**46.99**	**170**	*eP*	**P**	**19 09 26.1**	**-0.8**
BVAR	**Borovoye Array**	**48.86**	**318**	P	**P**	**19 09 40.5**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=91,slow=6.4,SNR=5.5						
BVAR				LR	LR	19 32 29.1	
	comp=Z,56nm,18.1s,MS3.6,baz=322,slow=39						
ASAR	**Alice Springs**	**50.58**	**171**	P	**P**	**19 09 54.2**	**-0.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=358,slow=14,SNR=7.8						
STKA	**Stephens Creek**	**60.01**	**165**	P	**P**	**19 11 01.1**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=356,slow=16,SNR=5.0						
ARCES	**ARCESS Array B**	**68.99**	**338**	LR	LR	19 49 04.8	
	comp=Z,43nm,20.1s,MS3.7,baz=280,slow=42						
FINES	**FINESS Array B**	**71.67**	**330**	LR	LR	19 46 53.4	
	comp=Z,44nm,20.8s,MS3.7,baz=355,slow=38						
NOA	**NORSAR Array B**	**78.18**	**333**	LR	LR	19 52 05.5	
	comp=Z,40nm,18.2s,MS3.8,baz=45,slow=39						
GERES	**GERESS Array B**	**83.85**	**322**	LR	LR	19 52 02.3	
	comp=Z,51nm,19.6s,MS3.9,baz=310,slow=37						

IDC 08 19:25:40.4±3.3, 3020S×17786W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/11, mbtmp3.7/3, Error ellipse: s-maj=73.2km s-min=21.7km az=112.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**357**	Pn	Pn	19 26 01.7	+0.8
	44nm,0.3s,baz=226,slow=21,SNR=2.3						
RAO				Sn	Sn	19 26 14.9	-0.3
	116nm,0.3s,baz=106,slow=20,SNR=7.8						
STKA	**Stephens Creek**	**34.64**	**257**	P	P	19 32 32.7	+1.4
	1.0nm,0.6s,baz=82,slow=7.1,SNR=3.1						
ASAR	**Alice Springs**	**43.24**	**267**	P	P	19 33 43.4	0.0
	0.3nm,0.5s,baz=100,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**44.21**	**272**	P	P	19 33 50.7	-0.5
	0.4nm,0.4s,baz=111,slow=7.8,SNR=5.6						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPdf	19 45 17.1	-2.5
	3.1nm,1.0s,baz=60,slow=5.5,SNR=6.4						

IDC 08 19:40:58.3±1.9, 1452N×5442E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, MS3.1/3, Ms1 3.1/3, ms1mx2.7/26, Error ellipse: s-maj=59.4km s-min=26.8km az=56.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.54**	**24**	LR	LR	19 46 35.4	
	comp=Z,93nm,20.9s,baz=93,slow=35						
ATD	**Arta Tunnel**	**11.66**	**257**	LR	LR	19 47 30.7	
	comp=Z,64nm,19.7s,baz=92,slow=34						
GNI	**Garni**	**26.91**	**343**	P	P	19 46 39.6	-1.4
	1.8nm,0.3s,baz=180,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**39.72**	**30**	P	P	19 48 32.2	-0.1
	0.7nm,0.7s,baz=217,slow=9.5,SNR=4.7						
AKASG	**Malin Array Be**	**41.45**	**336**	P	P	19 48 48.0	+1.3
	0.1nm,0.3s,baz=139,slow=7.6,SNR=4.0						
SONM	**Songino Array**	**54.12**	**41**	P	P	19 50 25.6	+0.6
	0.3nm,0.7s,baz=253,slow=8.9,SNR=3.0						
ARCES	**ARCESS Array B**	**57.91**	**348**	P	P	19 50 51.6	-0.5
	1.5nm,0.8s,baz=108,slow=4.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**77.31**	**113**	LR	LR	20 21 34.6	
	comp=Z,20nm,18.7s,baz=356,slow=32						
WRA	**Warramunga Arr**	**85.69**	**112**	P	P	19 53 39.4	+0.3
	0.4nm,0.7s,baz=301,slow=4.2,SNR=5.8						
ASAR	**Alice Springs**	**86.41**	**115**	P	P	19 53 43.3	+0.8
	0.5nm,0.7s,baz=292,slow=4.7,SNR=9.6						

IDC ***08*** *19:54:46.3±1.3, 907N×12659E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/19, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=117.5km s-min=16.8km az=71.0*
ISCJB ***08*** *19:54:47.1±1.5, 897N±005×12685E±006, h12km±9km, mb3.8/9, MS3.1/1, Error ellipse: s-maj=9.9km s-min=7.0km az=122.6*
NEIC ***08*** *19:54:47.7±0.9, 906N×12665E, h10km, mb3.8/1, Error ellipse: s-maj=89.1km s-min=12.1km az=71.0*
MAN ***08*** *19:54:55.1, 900N×12631E, h17km, mb4.2, ML5.1, MS2.7*

ISC 08 19:54:48.0±1.5, 902N±005×12676E±006, h4km±8km, n23, σ1§35/31, mb3.8/9, MS3.1/1, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.12**	**268**	*eP*	**Pg**	**19 55 09.0**	**-0.5**
BUTP				*eS*	**Sg**	**19 55 20.6**	**-3.6**
SCPH	**Surigao**	**1.46**	**301**	*eP*	**Pn**	**19 55 14.7**	**-0.4**
SCPH				*eS*	**Sb**	**19 55 29.8**	**-4.8**
BUKP	**Musuan**	**2.02**	**236**	*eP*	**Pn**	**19 55 23.2**	**+0.3**
BUKP				*eS*	**Sn**	**19 55 47.1**	**-1.4**
CGP	**Cagayan de Oro**	**2.12**	**255**	*iP*	**Pn**	**19 55 22.9**	**-1.2**
CGP				*i* S	**Sn**	**19 55 44.1**	**-6.7**
MATI	**Mati**	**2.12**	**194**	*eP*	**Pn**	**19 55 26.4**	**+2.3**
MATI				*eS*	**Sn**	**19 55 55.3**	**+4.5**
MSLP	**Maasin**	**2.18**	**301**	*eP*	**Pn**	**19 55 26.1**	**+1.2**
MSLP				*eS*	**Sn**	**19 55 53.9**	**+1.7**
DMPH	**Davao City--Mi**	**2.29**	**213**	*eP*	**Pn**	**19 55 28.7**	**+2.2**
DMPH				*i* S	**Pg**	**19 55 32.8**	**+1.0**
KCP	**Kidapawan**	**2.59**	**220**	*iP*	**Pn**	**19 55 33.7**	**+3.1**
KCP				*i* S	**Sn**	**19 56 02.6**	**+0.1**
PLP	**Palo**	**2.76**	**321**	*eP*	**Pn**	**19 55 38.0**	**+5.1**
PLP				*i* S	**Sn**	**19 56 08.0**	**+1.3**
DCPH	**Dipolog City**	**3.39**	**263**	*eP*	**Pn**	**19 55 41.0**	**-0.7**
DCPH				*eS*	**Sn**	**19 56 12.6**	**-10**
GUIM	**Jordan**	**4.41**	**292**	*eP*	**Pn**	**19 55 54.6**	**+0.8**
RCP	**Roxas**	**4.69**	**303**	*eP*	**Pn**	**19 56 02.6**	**+3.1**
FITZ	**Fitzroy Crossi**	**26.97**	**182**	P	**P**	**20 00 30.8**	**+0.3**
	1.6nm,0.3s,mb4.0,baz=5.6,slow=7.7,SNR=29						
PSI	**Prapat**	**28.35**	**259**	LR	LR	20 11 46.6	
	comp=Z,49nm,18.2s,MS3.1,baz=171,slow=36						
WRAB	**Tennant Creek**	**29.72**	**165**	*eP*	**P**	**20 00 54.1**	**-1.1**
	1.3nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**29.73**	**166**	P	**P**	**20 00 55.0**	**-0.2**
	0.2nm,0.5s,mb3.1,baz=354,slow=7.8,SNR=8.7						
ASAR	**Alice Springs**	**33.23**	**168**	P	**P**	**20 01 25.9**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=347,slow=6.8,SNR=5.8						
SONM	**Songino Array**	**42.35**	**340**	P	**P**	**20 02 41.4**	**-1.7**
	0.4nm,0.5s,mb3.3,baz=128,slow=6.9,SNR=3.9						
STKA	**Stephens Creek**	**43.07**	**161**	P	**P**	**20 02 48.7**	**-0.2**
	1.1nm,0.4s,mb3.9,baz=1.8,slow=8.8,SNR=4.5						
MKAR	**Makanchi Array**	**53.31**	**323**	P	**P**	**20 04 05.5**	**-2.5**
	1.1nm,0.6s,mb4.0,baz=122,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**87.21**	**332**	P	**P**	**20 07 35.6**	**+0.1**
	1.6nm,0.8s,mb4.3,baz=52,slow=3.4,SNR=3.7						
VNDA	**Vanda**	**88.64**	**173**	P	**P**	**20 07 41.0**	**-1.2**
	0.8nm,0.8s,mb4.1,baz=331,slow=4.2,SNR=6.9						
TORD	**Torodi Ar. Bea**	**121.17**	**291**	PKP	PKPdf	20 13 40.8	-1.3
	0.2nm,0.6s,baz=58,slow=1.4,SNR=5.2						

IDC 08 20:05:03.3±3.8, 573S×15121E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/12, mbtmp3.1/2, Error ellipse: s-maj=156.8km s-min=50.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**228**	P	P	20 09 55.2	+0.1
	0.4nm,0.5s,baz=54,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**24.40**	**221**	P	P	20 10 23.9	+0.6
	0.3nm,0.6s,baz=58,slow=9.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc	PKPbc	20 24 54.0	+0.6
	0.5nm,0.6s,baz=79,slow=1.8,SNR=6.4						

CSEM ***08*** *20:41:50.6±0.1, 5010N×1841E, h2km, ML2.9/4, Error ellipse: s-maj=3.0km s-min=1.6km az=179.0*
IPEC ***08*** *20:41:50.6±0.1, 5007N×1844E, h2km±1km, ML1.8/3, Error ellipse: s-maj=1.9km s-min=0.7km az=161.0*
PRU ***08*** *20:41:51.8, 5014N×1831E, h0km*

WAR 08 20:41:51.2, 5005N×1845E, ML2.4, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**281**	*iP*	Pg	20 41 54.8	+0.4
RAC				*eSg*	Sg	20 41 58.1	+1.5
OKC	**Ostrava-Krasne**	**0.29**	**222**	*ePG*	Pg	20 41 56.7	-0.1
OKC				*eSG*	Sg	20 42 01.3	+0.7
	89nm,0.8s						
OKC	**Ostrava-Krasne**	**0.29**	**222**	*ePg*	Pg	20 41 56.5	-0.3
OKC				*eSg*	Sg	20 42 00.2	-0.4
MORC	**Moravsky Berou**	**0.65**	**245**	*ePg*	Pg	20 42 02.9	-0.7
MORC				*eSg*	Sg	20 42 11.3	-0.7
	21nm,0.2s						
OJC	**Ojcow**	**0.88**	**79**	*ePg*	Pg	20 42 07.4	-0.7
OJC				*eSg*	Sg	20 42 18.7	-0.9
JAVC	**Velka Javorina**	**1.30**	**203**	*ePg*	Pg	20 42 15.9	-0.2
NIE	**Niedzica**	**1.36**	**117**	*ePg*	Pg	20 42 17.2	-0.2
NIE				*eSg*	Sg	20 42 36.2	+1.1
DPC	**Dobruska-Polom**	**1.40**	**283**	*ePG*	Pg	20 42 16.5	-1.5
DPC				*eSG*	Sg	20 42 35.0	-1.2
	28nm,0.4s						
DPC	**Dobruska-Polom**	**1.40**	**283**	*ePg*	Pg	20 42 16.4	-1.6
DPC				*eSg*	Sg	20 42 34.3	-1.9
VRAC	**Vranov**	**1.42**	**239**	*ePg*	Pg	20 42 16.8	-1.6
VRAC				*eSg*	Sg	20 42 35.2	-1.6
	14nm,0.2s						
VYHS	**Vyhne**	**1.58**	**171**	*e*	Pn	20 42 18.9	-1.6
VYHS	**Vyhne**	**1.58**	**171**	*ePG*	Pg	20 42 21.4	-0.1
VYHS				*eSN*	Sn	20 42 41.1	-0.5
VYHS	**Vyhne**	**1.58**	**171**	*ePg*	Pg	20 42 21.4	-0.1
VYHS				*eSn*	Sn	20 42 41.1	-0.5
UPC	**Upice**	**1.63**	**287**	*ePG*	Pg	20 42 20.7	-1.7
KRUC	**Moravsky**	**1.67**	**234**	*ePn*	Pn	20 42 20.5	-1.1
KRUC				*eSg*	Sg	20 42 43.1	-1.6
	6.3nm,0.2s						
SMOL	**Smolenice**	**1.68**	**204**	*ePN*	Pn	20 42 23.0	+1.2
SMOL				*eSN*	Sn	20 42 43.7	-0.3
STHS	**Stebnicka Huta**	**1.92**	**108**	*ePN*	Pn	20 42 27.5	+2.4
STHS				*eSN*	Sn	20 42 55.1	+5.1
KECS	**Kecovo**	**2.06**	**139**	*ePN*	Pn	20 42 32.0	+4.9
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*ePN*	Pn	20 42 34.0	+4.0
CRVS				*eSN*	Sn	20 43 05.0	+6.2
PRU	**Pruhonice**	**2.52**	**270**	*ePG*	Pg	20 42 35.7	-3.8
PRU				*eSG*	Sg	20 43 08.3	-3.9
	7.1nm,0.5s						
KHC	**Kasperske Hory**	**3.30**	**256**	*ePG*	Pg	20 42 50.6	-3.9
KHC				*eSG*	Sg	20 43 34.7	-2.6
	7.7nm,0.8s						
CLL	**Collm**	**3.69**	**292**	*eSg*	Sg	20 43 48.0	-1.6
NKC	**Novy Kostel**	**3.87**	**275**	*eSG*	Sg	20 43 53.0	-2.4

ISCJB ***08*** *20:44:48.0±1.6, 156S±006×17737W±04, h10km, mb4.3/6, MS3.6/2, Error ellipse: s-maj=97.9km s-min=7.6km az=111.4*
IDC ***08*** *20:44:47.9±2.1, 1593S×17345W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/17, mbtmp4.2/7, ML2.8/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/30, Error ellipse: s-maj=139.2km s-min=17.9km az=146.0*
NEIC ***08*** *20:44:49.4±1.6, 1579S×17351W, h10km, mb4.7/1, Error ellipse: s-maj=93.5km s-min=11.4km az=146.0*

ISC 08 20:44:49.8±1.6, 156S±005×1736W±04, h10km, n17, σ0§80/12, mb4.3/6, MS3.6/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.44**	**47**	Pn	**Pn**	**20 45 29.0**	**-0.6**
	21nm,0.3s,baz=192,slow=3.1,SNR=13						
AFI				Sn	**Sn**	**20 45 58.7**	**-0.7**
	77nm,0.3s,baz=60,slow=23,SNR=6.8						
RAR	**Rarotonga**	**14.27**	**115**	LR	LR	20 52 02.2	
	comp=Z,188nm,18.8s,baz=267,slow=31						
DZM	**Mont Dzumac**	**19.94**	**248**	P	**Pn**	**20 49 23.1**	**-0.3**
	0.2nm,0.3s,baz=83,slow=17,SNR=3.7						
DZM				LR	LR	20 54 04.0	
	comp=Z,76nm,20.5s,baz=14,slow=28						
PPT	**Papeete**	**23.11**	**98**	*e*LR	LR	20 55 15.4	
	258nm,24.5s,baz=254						
PPT	**Papeete**	**23.11**	**98**	LR	LR	20 56 46.9	
	comp=Z,178nm,18.1s,MS3.6,baz=290,slow=31						
TBI	**Tubuai**	**24.01**	**113**	*e*LR	LR	20 55 30.1	
	325nm,27.2s,baz=292						
HNR	**Honiara**	**26.52**	**280**	LR	LR	20 59 50.1	
	comp=Z,227nm,19.2s,MS3.7,baz=180,slow=34						
STKA	**Stephens Creek**	**43.77**	**240**	P	**P**	**20 52 54.6**	**-0.9**
	2.8nm,0.5s,mb4.2,baz=106,slow=8.5,SNR=6.5						
WB2	**Warramunga Arr**	**49.59**	**257**	*e*P	**P**	**20 53 40.8**	**-0.3**
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**20 53 41.4**	**+0.2**
	1.4nm,0.5s,mb4.3,baz=95,slow=6.9,SNR=38						
AS31	**Alice Springs**	**49.86**	**252**	*e*P	**P**	**20 53 42.7**	**-0.4**
ASAR	**Alice Springs**	**49.86**	**252**	P	**P**	**20 53 42.8**	**-0.4**
	6.2nm,0.6s,mb4.8,baz=89,slow=7.6,SNR=50						
ASPA	**Alice Springs**	**49.86**	**252**	*e*P	**P**	**20 53 42.7**	**-0.4**
KAKA	**Kakadu**	**52.28**	**266**	*e*P	**P**	**20 54 02.8**	**+1.5**
	5.1nm,0.5s,mb4.7						
NVAR	**Mina Array Bea**	**74.60**	**42**	P	**P**	**20 56 30.7**	**+1.7**
	1.3nm,0.8s,mb3.9,baz=240,slow=9.1,SNR=4.9						
PDAR	**Pinedale Array**	**82.54**	**42**	P	**P**	**20 57 13.6**	**+0.8**
	1.1nm,0.8s,mb3.9,baz=206,slow=2.2,SNR=8.0						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPbc	21 04 32.9	+2.6
	1.5nm,0.8s,baz=94,slow=2.9,SNR=3.7						

NIED ***08*** *20:47:00, 4750N×15390E, h26km, Mw5.3 Best double couple: M₀1.07000×10¹⁷ NP1:φs152.00000°, δ64.00000°, λ38.00000°. NP2:φs43.00000°, δ57.00000°, λ148.00000°.*
BJI ***08*** *20:47:23.4, 4734N×15448E, h25km, mB5.4, mb5.1, Ms5.2, Msz5.1*
ISCJB ***08*** *20:47:25.7±0.2, 4709N±004×15401E±004, h19km, mb5.2/167, MS4.9/144, Error ellipse: s-maj=6.3km s-min=2.4km az=102.5*
NEIC ***08*** *20:47:26.2±0.2, 4719N×15400E, h10km, mb5.3/84, MS4.8/88, Error ellipse: s-maj=6.6km s-min=3.9km az=149.0*
GCMT ***08*** *20:47:26.2±0.2, 4715N×15436E, h17km, MW5.4/96, Moment Tensor Solution. s77,c144; s96,c188; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr1.20±.02; Mθθ-0.29±.02; Mφφ-0.91±.02; Mrθ0.28±.04; Mrφ-0.66±.01; Mθφ0.70±.04; Best double couple: M₀1.47400×10¹⁷ NP1:φs219.00000°, δ30.00000°, λ101.00000°. NP2:φs26.00000°, δ61.00000°, λ84.00000°. Principal axes: T 1.4160, Plg74.0000°, Azm281.0000°; N 0.1130, Plg5.0000°, Azm29.0000°; P -1.5320, Plg15.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
JMA ***08*** *20:47:27.0±0.6, 4747N×15393E, h30km, M5.7*
MOS ***08*** *20:47:27.8±1.4, 4719N×15404E, h42km, mb5.4/61, MS5.1/34, Error ellipse: s-maj=8.5km s-min=6.4km az=96.3*
SKHL ***08*** *20:47:28.6±1.6, 4715N×15406E, h59km±23km, mb6.1/1, mbh6.1/1, Ms5.3/5, msh6.1/3*
IDC ***08*** *20:47:29.0±5.8, 4715N×15407E, h33km±43km, mb4.6/31, mb1 4.6/33, mb1mx4.6/35, mbtmp4.6/33, ML4.3/2, MS4.8/34, Ms1 4.8/34, ms1mx4.7/49, Error ellipse: s-maj=14.6km s-min=13.0km az=115.0*
SZGRF ***08*** *20:47:36.2, 4820N×15276E, h33km, mb5.6, Kuril Islands, Russia*

ISC 08 20:47:27.5±0.2, 4717N×15405E±004, h20km, h20km±1.0km:pP-P, n648, σ1§08/592, mb5.2/167, MS4.9/144, 41C-33D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.77**	**20**	*eP*	**Pn**	**20 48 24.1**	**-0.4**
SKR				AMB	AMB	20 48 28.7	
	150nm,0.5s						
SKR				AMB	AMB	20 48 28.7	
	290nm,0.5s						
SKR				*eS*	**Sn**	**20 49 04.5**	**-3.8**
SKR				A		20 49 17.1	
	990nm,0.5s						
SKR				A		20 49 17.1	
	110nm,0.5s						
SKR				A		20 49 17.1	
	390nm,0.8s						
SKR				A		20 49 26.0	
	12μm,10.0s						
SKR				A		20 49 26.0	
	31μm,10.0s						
SKR				A		20 49 26.0	
	14μm,10.0s						
SKR				A		20 49 26.0	
	12μm,10.0s						
SKR				A		20 49 26.0	
	31μm,10.0s						
SKR				A		20 49 26.0	
	14μm,10.0s						
SKR				AMS	AMS	20 50 14.0	
	16μm,10.0s						
SKR				AMS	AMS	20 50 14.0	
	19μm,10.0s						
SKR				AMS	AMS	20 50 14.0	
	16μm,10.0s						
SKR				AMS	AMS	20 50 14.0	
	20μm,10.0s						
S

comp=E,12μm,17.0s
PET Petropavlovsk 6.57 25 *e*PN **Pn** **20 49 04.2 +1.3**
PET pmax pmax
comp=Z,122nm,0.8s
PET MLR MLR
comp=E,6μm,16.0s
PET Petropavlovsk 6.57 25 *e*P **Pn** **20 49 01.3 -1.6**
comp=Z,72nm,0.5s
NEM2 Nemuro 2 6.99 240 P **Pn** **20 49 07.1 -1.5**
NEM2 *e*S **Sn** **20 50 21.5 -6.0**
JRA Rausu 7.05 246 P **Pn** **20 49 10.8 +1.3**
JRA *e*S **Sn** **20 50 31.0 +1.9**
JNK Nakash 7.48 245 P **Pn** **20 49 15.4 -0.1**
JNK *e*S **Sn** **20 50 39.1 -0.6**
YSS Yuzh-Sakhalins 7.72 273⇓ *i*P **Pn** **20 49 23.8 +5.1**
YSS *e*LQ 20 51 12.0
YSS *e*LR LR 20 51 43.0
YSS AMS AMS 20 52 24.0
comp=Z,4μm,13.0s
YSS AMS AMS 20 52 24.0
comp=Z,14μm,14.0s
YSS AMS AMS 20 52 24.0
comp=Z,17μm,15.0s
YSS AMS AMS 20 52 24.0
comp=Z,19μm,15.0s
YSS AMS AMS 20 52 24.0
comp=Z,5μm,13.0s
YSS AMS AMS 20 52 24.0
comp=Z,12μm,15.0s
YSS Yuzh-Sakhalins 7.72 273⇓ *i*PN **Pn** **20 49 23.8 +5.1**
YSS *e*S **Sn** **20 50 51.4 +5.9**
YSS MLR MLR
comp=Z,17μm,15.0s
YSS MLR MLR
comp=N,4μm,13.0s
YSS MLR MLR
comp=E,14μm,14.0s
YSS Yuzh-Sakhalins 7.72 273 *e*P **Pn** **20 49 22.7 +4.0**
comp=E,163nm,0.9s
JTKR Abashiri--Toko 7.80 250 P **Pn** **20 49 21.1 +1.3**
JAK Akkeshi 7.82 241 P **Pn** **20 49 18.6 -1.5**
JAK *e*S **Sn** **20 50 42.2 -5.9**
JMP Maruseppu 8.14 251 P **Pn** **20 49 26.3 +1.9**
JAR Ashorobuto 8.22 246 P **Pn** **20 49 25.8 +0.2**
JAR *e*S **Sn** **20 50 58.1 +0.2**
UGL Uglegorsk 8.25 288 *e*P **Pn** **20 49 30.5 +4.6**
UGL AMB AMB 20 49 34.0
comp=E,640nm,1.4s
UGL AMS AMS 20 52 55.0
comp=E,8μm,14.0s
UGL AMS AMS 20 52 55.0
comp=E,11μm,14.0s
UGL AMS AMS 20 52 55.0
comp=E,25μm,14.0s
TYV Tymovskoe 8.35 300 *e*P **Pn** **20 49 30.0 +2.6**
TYV AMB AMB 20 49 37.0
comp=E,287nm,1.2s
TYV AMB AMB 20 49 37.0
comp=E,131nm,1.4s
TYV AMS AMS 20 53 15.0
comp=E,7μm,14.0s
TYV AMS AMS 20 53 15.0
comp=E,17μm,14.0s
JOB Onbets 8.40 243 P **Pn** **20 49 27.6 -0.4**
JOB *e*S **Sn** **20 50 58.4 -3.8**
ASAJ Asahikawa 8.59 253 Pn **Pn** **20 49 32.9 +2.3**
comp=E,4.9nm,0.3s,baz=65,slow=11,SNR=22
ASAJ LR LR 20 52 43.8
comp=E,4μm,18.8s,baz=242,slow=37
ASAJ Asahikawa 8.59 253 P **Pn** **20 49 33.1 +2.5**
ASAJ Asahikawa 8.59 253 PN **Pn** **20 49 32.9 +2.3**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,4μm,18.8s
JKK2 Kamakawa 2 8.59 252 P **Pn** **20 49 32.5 +1.8**
JWK2 Keihoku 8.63 262 P **Pn** **20 49 39.3 +8.1**
JCH Churui 8.85 243 P **Pn** **20 49 33.0 -1.2**
JCH *e*S **Sn** **20 51 07.6 -5.6**
JFR Furan 9.03 248 P **Pn** **20 49 38.9 +2.2**
JEM Erimo 9.32 240 P **Pn** **20 49 40.4 -0.3**
ERM Erimo 9.32 240 Pn **Pn** **20 49 41.5 +0.8**
comp=Z,601nm,0.5s,SNR=9.9
ERM Erimo 9.32 240 PN **Pn** **20 49 48.5 +7.8**
ERM Erimo 9.32 240 *e*P **Pn** **20 49 40.9 +0.2**
comp=Z,119nm,0.6s
JBT2 Biratori 2 9.37 246 P **Pn** **20 49 41.1 -0.3**
JNBK Urakawa-nobuka 9.41 243 P **Pn** **20 49 40.0 -1.9**
JNB Noboribetsu 10.37 248 P **Pn** **20 49 54.5 -0.5**
JNB *e*S **Sn** **20 51 46.4 -4.2**
JKB Kayabe 10.69 245 P **Pn** **20 49 57.2 -2.1**
JKB *e*S **Sn** **20 51 50.0 -8.3**
JSH Shimam 10.91 251 P **Pn** **20 50 03.9 +1.4**
JOT Ohata 10.97 243 P **Pn** **20 50 00.1 -3.1**
JYM2 Yakumo 2 10.97 248 P **Pn** **20 50 02.1 -1.2**
JTM Tenmabayashi 11.31 240 P **Pn** **20 50 04.8 -3.2**
JANG Nango 11.32 238 P **Pn** **20 50 03.8 -4.2**
JOM Ohasama 12.05 235 P **Pn** **20 50 11.9 -6.1**
JOM *e*S **Sn** **20 52 20.7 -11**
OFUJ Ofunato 12.12 233 P **Pn** **20 50 14.1 -4.9**
OFUJ *e*S **Sn** **20 52 21.4 -12**
TEY Ternei 12.30 266 *e*rx rx 20 50 30.0
TEY *e*LR LR 20 53 47.0
TEY AMS AMS 20 55 29.0
comp=Z,3μm,14.0s
TEY AMS AMS 20 55 29.0
comp=Z,5μm,14.0s
TEY AMS AMS 20 55 29.0
comp=Z,10μm,14.0s
JRG Rokugo 12.47 236 P **Pn** **20 50 21.2 -2.6**
JRG *e*S **Sn** **20 52 26.5 -16**
MA2 Magadan 12.58 352 *e*PN **Pn** **20 50 26.7 +1.4**
MA2 pmax pmax
comp=Z,20nm,0.6s
MA2 MLR MLR
comp=Z,5μm,15.0s
JIO Ouri 12.74 232 P **Pn** **20 50 22.7 -4.8**
JIO *e*S **Sn** **20 52 34.6 -14**
JFK Kawauchi 13.80 230 P **Pn** **20 50 38.4 -3.6**
JFK *e*S **Sn** **20 53 01.3 -13**
JFY Yanaizu 14.40 233 P **Pn** **20 50 47.7 -2.4**
KLR Kul'dur 15.01 286 *e*P **Pn** **20 51 02.2 +3.8**
KLR pmax pmax
comp=E,2μm,9.0s
KLR pmax pmax
comp=Z,4μm,9.0s
KLR MLR MLR
comp=Z,42μm,13.0s
SEY Seymchan 15.83 357⇑ *e*P **Pn** **20 51 08.2 -0.9**
MJAR Matsushiro Arr 15.84 234 Pn **Pn** **20 51 07.8 -1.5**
comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=23
MAJO Matsushiro 15.85 234 P **Pn** **20 51 07.2 -2.1**
MAJO pmax pmax
comp=Z,63nm,0.9s
MAJO Matsushiro 15.85 234 *e*P **Pn** **20 51 06.4 -2.9**
comp=Z,65nm,0.8s
MAT Matsushiro 15.85 234 P **Pn** **20 51 07.6 -1.7**
MAT S **Sn** **20 54 03.7 -0.6**
MAT Matsushiro 15.85 234 P **Pn** **20 51 06.9 -2.4**
JRY Ryogami san 15.86 231 P **Pn** **20 51 08.2 -1.3**
VLA Vladivostok 16.14 264⇑ *e*P **Pn** **20 51 16.6 +3.5**
VLA pmax pmax
comp=Z,35nm,0.9s
VLA MLR MLR
comp=Z,4μm,17.0s
JGF Kuroka 17.00 233 P **Pn** **20 51 21.1 -2.9**
MDJ Mudanjiang 17.20 270 P **Pn** **20 51 27.2 +0.7**
MDJ AP pP 20 51 31.9 -1.8
MDJ S **Sn** **20 54 38.4 +1.1**
MDJ XS sS 20 54 52.6 -2.6
MDJ PCP PcP 20 56 11.3 +1.6
MDJ AMB AMB
comp=Z,24nm,1.6s
MDJ AMB AMB
comp=Z,603nm,6.5s
MDJ LR LR
comp=N,2μm,14.7s
MDJ LR LR
comp=E,4μm,16.4s
MDJ LR LR
comp=Z,7μm,16.0s
MDJ Mudanjiang 17.20 270 *e*P **Pn** **20 51 27.8 +1.3**
comp=Z,142nm,1.6s
JHJ Hachijo jima 2 17.73 223 LR LR 20 58 20.7
comp=Z,405nm,18.7s,baz=302,slow=37
ZEA Zeya 18.22 301 *e*P **Pn** **20 51 36.5 -2.6**
ZEA AMB AMB 20 51 44.9
comp=Z,130nm,1.4s
ZEA AMB AMB 20 51 44.9
comp=Z,330nm,2.0s
ZEA AMB AMB 20 51 45.0
comp=Z,3μm,6.0s
ZEA AMB AMB 20 51 45.0
comp=Z,3μm,7.0s
JWT Wachi 18.32 236 P **Pn** **20 51 39.3 -1.1**
CLNS Chul'man 20.25 309 *e*P **P** **20 52 01.2 -0.2**
CLNS *e*PPP 20 52 21.4
CLNS *e*S **S** **20 55 38.6 -9.0**
CLNS *e* 20 56 16.5
CLNS *e*SS 20 56 28.8
CLNS pmax pmax
comp=Z,45nm,0.9s
CLNS pmax pmax
comp=N,38nm,1.2s
CLNS pmax pmax
comp=E,33nm,1.0s
CLNS smax
comp=E,644nm,13.9s
CLNS smax
comp=Z,557nm,20.8s
CLNS smax
comp=N,157nm,13.4s
CLNS MLR MLR
comp=Z,7μm,14.0s,MS5.1
CLNS MLR MLR
comp=N,6μm,17.0s,MS5.1
CLNS MLR MLR
comp=E,5μm,15.0s,MS5.1
CN2 Changchun 20.29 271 *e*P **P** **20 52 03.9 +2.1**
CN2 *e*XP sP 20 52 17.0 +6.8
CN2 PP 20 52 25.8
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,600nm,10.0s
CN2 LR LR
comp=N,4μm,16.0s,MS5.1
CN2 LR LR
comp=E,5μm,16.0s,MS5.1
CN2 LR LR
comp=E,6μm,14.0s,MS5.1
NRGR Nerungri 20.29 309 *i*P **P** **20 52 04.6 +2.7**
YAK Yakutsk 20.33 326 *e*P **P** **20 52 00.0 -2.3**
YAK *e* 20 52 19.2
YAK *e*S **S** **20 55 51.5 +2.3**
YAK *i*SS 20 56 06.6
YAK *i*SSS 20 56 19.1
YAK pmax pmax
comp=Z,12nm,0.7s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,18nm,1.5s
YAK pmax pmax
comp=Z,270nm,2.1s
YAK pmax pmax
comp=N,633nm,2.6s
YAK pmax pmax
comp=E,168nm,2.0s
YAK smax
comp=N,585nm,3.5s
YAK smax
comp=E,505nm,4.9s
YAK MLR MLR
comp=Z,4μm,18.0s,MS4.8
YAK MLR MLR
comp=N,2μm,16.0s,MS4.8
YAK MLR MLR
comp=E,3μm,17.0s,MS4.8
YAK Yakutsk 20.33 326 *e*P **P** **20 52 00.4 -1.9**
comp=E,60nm,0.8s
KSRS Korea Array 21.54 253 P **P** **20 52 16.5 +1.2**
comp=E,12nm,0.7s,mb4.5,baz=56,slow=9.8,SNR=19
BILL Bilibino 21.84 12⇑ *i*P **P** **20 52 19.0 +0.3**
BILL *e*S **S** **20 56 09.3 -10**
BILL pmax pmax
comp=Z,51nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,3μm,17.0s,MS4.8
BILL Bilibino 21.84 12 *e*P **P** **20 52 18.4 -0.3**
comp=Z,19nm,0.8s,mb4.6
BILL LR LR
comp=Z,3μm,20.0s,MS4.6
SNY Shenyang 22.30 267⇑ P **P** **20 52 25.4 +1.9**
SNY S **S** **20 56 30.8 +2.8**
SNY AMB AMB
comp=Z,30nm,1.0s,mb4.7
SNY AMB AMB
comp=Z,993nm,7.1s
SNY LR LR
comp=N,3μm,14.7s,MS5.2
SNY LR LR
comp=E,5μm,15.9s,MS5.2
SNY LR LR
comp=Z,7μm,15.6s,MS5.2
INCN Inchon 22.36 254 P **P** **20 52 18.6 -5.6**
comp=Z,70nm,1.1s,mb5.0
INCN LR LR
comp=Z,1μm,19.0s,MS4.3
JNU Nakatsue 22.49 240 P **P** **20 52 27.2 +1.7**
comp=Z,32nm,0.8s,mb4.8,baz=272,slow=24,SNR=4.8
JNU LR LR 21 01 19.8
comp=Z,6μm,20.1s,MS5.0,baz=78,slow=37
HIA Hailar 22.85 288 *e*P **P** **20 52 27.3 -2.0**
HIA pmax pmax
comp=Z,31nm,1.1s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 22.85 288 *e*P **P** **20 52 27.3 -2.0**
comp=Z,31nm,1.1s,mb4.7
HIA LR LR
comp=Z,5μm,19.0s,MS5.0
JSU Suzuyama 23.90 238 P **P** **20 52 40.7 +0.9**
DL2 Dalian 24.96 263⇑ *i*P **P** **20 52 48.8 -0.7**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,490nm,7.4s
DL2 LR LR
comp=N,950nm,13.3s,MS4.6
DL2 LR LR
comp=E,990nm,15.2s,MS4.6
DL2 LR LR
comp=Z,1μm,14.8s,MS4.5
BOD Bodaibo 26.22 309 *e*P **P** **20 52 59.5 -1.5**
BOD pmax pmax
comp=Z,25nm,1.6s,mb4.5
TIXI Tiksi 27.25 343 *e*P **P** **20 53 06.8 -3.5**
TIXI pmax pmax
comp=Z,29nm,1.4s,mb4.6
TIXI Tiksi 27.25 343 *e*P **P** **20 53 06.8 -3.4**
comp=Z,29nm,1.4s,mb4.6
BJI Beijing 28.12 269 *e*P **P** **20 53 18.8 +0.8**
BJI AMB AMB
comp=Z,14nm,1.5s,mb4.4
BJI AMB AMB
comp=Z,664nm,6.4s
BJI LR LR
comp=N,3μm,15.1s,MS5.3
BJI LR LR
comp=E,5μm,17.3s,MS5.3
BJI LR LR
comp=Z,4μm,17.0s,MS5.1
BJI Beijing 28.12 269 *e*P **P** **20 53 18.8 +0.8**
comp=Z,14nm,1.5s,mb4.4
BJI S **S** **20 58 13.7 +12**
BJI SS 21 00 28.0
BJI LR LR
comp=Z,4μm,17.0s,MS5.1
BJT Baijiatuau 28.14 269 PFAKE 20 53 30.0 +12
BJT LR LR
comp=Z,4μm,19.0s,MS5.0
JOW Kunigami 28.69 234 P **P** **20 53 23.3 +0.2**
comp=Z,11nm,0.8s,mb4.7,baz=102,slow=2.2,SNR=3.9
MIDW Midway 29.23 120 PFAKE 20 53 40.0 +12
MIDW LR LR
comp=Z,3μm,20.0s,MS4.9
SSE Sheshan 29.85 249⇑ P **P** **20 53 34.7 +1.4**
SSE AP pP 20 53 41.5 +2.0
SSE XP sP 20 53 43.6 +1.5
SSE S **S** **20 58 31.8 +2.6**
SSE XS sS 20 58 42.6 +3.2
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,353nm,9.5s
SSE LR LR
comp=N,1μm,21.8s,MS4.6
SSE LR LR
comp=E,801nm,21.8s,MS4.6
SSE LR LR
comp=Z,1μm,15.2s
SSE Sheshan 29.85 249⇑ P **P** **20 53 34.7 +1.4**
comp=Z,33nm,0.7s,mb5.2
SSE pP pP 20 53 41.5 +2.0
SSE sP sP 20 53 43.6 +1.5
SSE S **S** **20 58 31.8 +2.6**
SSE sS sS 20 58 42.6 +3.2
SSE ScS ScS 21 04 22.2 +10
SSE LR LR
comp=Z,1μm,15.2s,MS4.6
NJ2 Nanjing 30.73 253 *e*P **P** **20 53 42.2 +1.0**
NJ2 AP pP 20 53 48.6 +1.2
NJ2 XP sP 20 53 50.7 +0.8
NJ2 PP PP 20 54 42.3 -8.3
NJ2 S **S** **20 58 44.0 +1.0**
NJ2 AMB AMB
comp=Z,140nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,420nm,5.9s
NJ2 LR LR
comp=N,1μm,19.7s,MS4.7
NJ2 LR LR
comp=E,1μm,23.7s,MS4.7
NJ2 LR LR
comp=Z,770nm,17.5s
HHC Hu-ho-hao-te 30.91 274⇑ P **P** **20 53 42.9 +0.2**
HHC AP pP 20 53 48.9 0.0
HHC XP sP 20 53 51.9 +0.5
HHC PP PP 20 54 43.2 -9.3
HHC PCP PcP 20 56 39.0 0.0
HHC AMB AMB
comp=Z,28nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,430nm,8.4s
HHC LR LR
comp=N,3μm,16.9s,MS5.2
HHC LR LR
comp=E,3μm,15.5s,MS5.2
HHC LR LR
comp=Z,3μm,16.6s,MS5.0
SONM Songino Array 31.80 289 P **P** **20 53 49.7 -0.9**
comp=Z,5.1nm,0.6s,mb4.5,baz=71,slow=8.1,SNR=38
SONM LR LR 21 07 32.2
comp=Z,3μm,19.2s,MS5.0,baz=71,slow=38
BTO Baotou 32.06 275 *e*P **P** **20 53 52.1 -0.8**
TLY Talaya 32.56 297 *e*P **P** **20 53 57.3 0.0**
TLY *e* 20 55 28.6
TLY *e*S **S** **20 59 10.8 -0.8**
TLY *e*SS SS 21 01 05.0 -27
TLY *e*SSS 21 01 34.4
TLY pmax pmax
comp=Z,30nm,1.8s,mb4.9
TLY MLR MLR
comp=Z,4μm,16.0s,MS5.2
ZAK Zakamensk 33.09 295 *e*P **P** **20 54 00.6 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
IMA2 Indian Mountai 33.09 36 *e*P **P** **20 54 01.6 -0.3**
KDAK Kodiak Island 33.34 51 P **P** **20 54 04.0 -0.1**
comp=Z,14nm,0.8s,mb4.9,baz=312,slow=11,SNR=3.6
KDAK LR LR 21 07 25.4
comp=Z,1μm,21.9s,MS4.6,baz=257,slow=36
GUMO Guam 34.35 196 PFAKE 20 54 30.0 +17
GUMO LR LR
comp=Z,718nm,19.0s,MS4.4
WHN Wuhan 34.66 256⇓ P **P** **20 54 21.0 +5.5**
PMR Palmer 34.85 44 PFAKE 20 54 30.0 +13
PMR LR LR
comp=Z,2μm,21.0s,MS4.8
MCK McKinley 34.92 41 *e*P **P** **20 54 17.0 -0.7**
MCK pmax pmax
comp=Z,33nm,1.5s,mb5.0
MCK MLR MLR
comp=Z,587nm,21.0s,MS4.3
MCK McKinley 34.92 41 *e*P **P** **20 54 17.0 -0.8**
comp=Z,33nm,1.5s,mb5.0
MCK LR LR
comp=Z,587nm,21.0s,MS4.3
SML Sawmill 35.22 44 *e*P **P** **20 54 19.8 -0.6**
COLA College 35.41 39 *c i*P **P** **20 54 22.3 +0.3**
COLA College 35.41 39 *e*P **P** **20 54 21.6 -0.3**
comp=Z,16nm,0.6s,mb5.1
COLA LR LR
comp=Z,1μm,19.0s,MS4.7
QZH Quanzhou 35.79 244⇑ *i*P **P** **20 54 23.8 -1.5**
QZH S **S** **21 00 01.0 -0.5**
QZH AMB AMB
comp=Z,70nm,0.9s,mb5.6
QZH AMB AMB
comp=Z,1μm,7.0s
QZH LR LR
comp=N,1μm,15.4s,MS5.1
QZH LR LR
comp=E,2μm,15.8s,MS5.1
QZH LR LR
comp=Z,2μm,16.0s,MS5.0
XAN Xi'an 36.19 265 P **P** **20 54 28.6 -0.1**
XAN AP pP 20 54 34.2 -0.7
XAN PP PP 20 55 57.8 +6.7
XAN S **S** **21 00 18.4 +11**
XAN AMB AMB
comp=Z,68nm,1.2s,mb5.5
XAN AMB AMB
comp=Z,397nm,9.2s
XAN LR LR
comp=N,2μm,15.5s,MS5.1
XAN LR LR
comp=E,1μm,15.2s,MS5.1
XAN LR LR
comp=Z,4μm,15.2s,MS5.3
DIV Divide 36.50 45 *e*P **P** **20 54 31.1 -0.2**
comp=Z,56nm,0.9s,mb5.5
DIV LR LR
comp=Z,4μm,21.0s,MS5.2
KRAR Krasnoyarsk 37.85 307⇑ *i*P **P** **20 54 42.2 -0.6**
KRAR pmax pmax
comp=Z,40nm,1.3s,mb5.0
EGAK Eagle 38.27 39 *e*P **P** **20 54 45.1 -1.2**
comp=Z,32nm,1.0s,mb5.0
LZH Lanzhou 38.52 272⇑ P **P** **20 54 49.0 +0.6**
LZH AP pP 20 54 55.1 +0.4
LZH XP sP 20 54 58.2 +1.0
LZH PP PP 20 56 20.1 +3.5
LZH AMB AMB
comp=Z,66nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,237nm,5.2s
LZH LR LR
comp=N,1μm,13.2s
LZH LR LR
comp=Z,2μm,17.5s,MS5.1
LZH Lanzhou 38.52 272⇑ P **P** **20 54 49.0 +0.6**
comp=Z,66nm,1.3s,mb5.2
LZH pP pP 20 54 55.1 +0.4
LZH sP sP 20 54 58.2 +1.0
LZH PP PP 20 56 20.1 +3.5
LZH S **S** **21 00 42.2 -0.8**
LZH sS sS 21 00 52.9 -0.4
LZH SS SS 21 03 21.7 -11
LZH LR LR
comp=Z,2μm,17.5s,MS5.1
DAWY Dawson 39.11 40 *e*P **P** **20 54 52.3 -1.1**
GTA Gaotai 39.54 279 *e*P **P** **20 54 57.6 +0.6**
GTA AP pP 20 55 03.2 -0.1
GTA XP sP 20 55 06.6 +0.8
GTA PP PP 20 56 35.1 +7.3
GTA PCP PcP 20 57 06.1 +1.9
GTA AMB AMB
comp=Z,16nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,540nm,8.0s
GTA LR LR
comp=N,3μm,13.7s,MS5.3
GTA LR LR
comp=E,2μm,15.6s,MS5.3

GTA LR LR
comp=Z,3µm,13.7s,MS5.2
GZH Guangzhou 40.42 248 P **P** **20 55 00.0 -4.2**
GZH LR LR
comp=N,757nm,13.1s,MS5.0
GZH LR LR
comp=E,1µm,14.9s,MS5.0
GZH LR LR
comp=Z,1µm,14.0s,MS5.0
CD2 Chengdu 41.55 265 P **P** **20 55 14.3 +0.7**
CD2 AP pP 20 55 18.9 -1.0
CD2 XP sP 20 55 21.3 -1.1
CD2 PP PP 20 56 53.0 +3.3
CD2 PCP PcP 20 57 12.9 +2.2
CD2 AMB AMB
comp=Z,240nm,1.1s,mb5.7
CD2 AMB AMB
comp=Z,730nm,6.5s
CD2 LR LR
comp=N,3µm,15.6s
CD2 LR LR
comp=Z,3µm,15.6s,MS5.2
GYA Guiyang 42.43 258⇑ *i*P **P** **20 55 21.0 +0.2**
GYA AP pP 20 55 27.8 +0.7
GYA XP sP 20 55 30.8 +1.2
GYA PCP PcP 20 57 16.3 +2.7
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,370nm,5.4s
GYA LR LR
comp=N,580nm,18.4s,MS4.6
GYA LR LR
comp=E,540nm,18.7s,MS4.6
GYA LR LR
comp=Z,870nm,18.9s,MS4.7
SIT Sitka 42.61 50 PFAKE 20 55 30.0 +7.8
SIT LR LR
comp=Z,718nm,19.0s,MS4.6
ZAL Zalesovo 42.91 306 P **P** **20 55 22.9 -1.7**
comp=Z,13nm,0.5s,mb4.9,baz=48,slow=7.5,SNR=43
ZAL LR LR 21 14 34.4
comp=Z,2µm,19.5s,MS5.1,baz=42,slow=38
ZAL Zalesovo 42.91 306 P **P** **20 55 22.9 -1.7**
ZAL LR LR 21 14 34.4
NVS Novosibirsk 43.45 307 *e*P **P** **20 55 28.0 -1.0**
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=E,70nm,1.9s
DLBC Dease Lake 44.84 46 *e*P **P** **20 55 42.2 +2.0**
WMQ Urumqi 45.38 291 ⇓P **P** **20 55 44.9 +0.5**
WMQ AP pP 20 55 50.9 +0.1
WMQ XP sP 20 55 53.9 +0.6
WMQ PCP PcP 20 57 25.4 +1.8
WMQ PP PP 20 57 31.3 +0.6
WMQ SCP ScP 21 01 15.4 +0.2
WMQ PCS PcS 21 01 17.9 +0.3
WMQ S **S** **21 02 23.5 -0.8**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,280nm,4.5s
WMQ LR LR
comp=N,2µm,15.6s,MS5.2
WMQ LR LR
comp=E,1µm,16.6s,MS5.2
WMQ LR LR
comp=Z,3µm,16.6s,MS5.2
QIZ Qiongzhong 45.60 247 ⇑P **P** **20 55 47.5 +1.3**
QIZ AP pP 20 55 53.6 +1.0
QIZ XP sP 20 55 54.8 -0.3
QIZ S **S** **21 02 28.6 +1.0**
QIZ SS SS 21 05 45.7 -6.1
QIZ AMB AMB
comp=Z,18nm,1.4s,mb4.8
QIZ AMB AMB
comp=Z,386nm,5.4s
QIZ LR LR
comp=N,823nm,21.3s,MS4.8
QIZ LR LR
comp=E,785nm,20.0s,MS4.8
QIZ LR LR
comp=Z,950nm,17.0s,MS4.8
QIZ Qiongzhong 45.60 247 PFAKE 20 56 00.0 +14
QIZ LR LR
comp=Z,870nm,19.0s,MS4.7
KMI Kunming 45.95 260 P **P** **20 55 49.6 +0.6**
KMI AP pP 20 55 54.1 -1.2
KMI PP PP 20 57 37.2 +0.5
KMI PPP 20 58 16.3
KMI AMB AMB
comp=Z,43nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,535nm,7.2s
KMI LR LR
comp=N,640nm,15.0s,MS5.0
KMI LR LR
comp=E,1µm,14.5s,MS5.0
KMI LR LR
comp=Z,1µm,13.9s,MS5.0
KMI Kunming 45.95 260 P **P** **20 55 49.6 +0.6**
comp=Z,43nm,1.5s,mb5.2
KMI pP pP 20 55 54.1 -1.2
KMI PP PP 20 57 37.2 +0.5
KMI PPP 20 58 16.3
KMI S **S** **21 02 27.5 -5.1**
KMI sS sS 21 02 35.6 -7.5
KMI SS SS 21 05 42.7 -15
KMI LR LR
comp=Z,1µm,13.9s,MS5.0
DAV Davao City (W) 46.79 220 PFAKE 20 56 10.0 +14
DAV LR LR
comp=Z,451nm,20.0s,MS4.4
MK31 Makanchi Array 47.32 297 P **P** **20 55 58.6 -1.1**
MK31 Makanchi Array 47.32 297 *e*P **P** **20 55 58.1 -1.6**
MKAR Makanchi Array 47.32 297 P **P** **20 55 58.5 -1.2**
comp=Z,8.4nm,0.5s,mb4.9,baz=68,slow=6.8,SNR=140
MKAR LR LR 21 16 54.2
comp=Z,2µm,18.2s,MS5.0,baz=63,slow=37
MKAR Makanchi Array 47.32 297 P **P** **20 55 58.5 -1.2**
MKAR LR LR 21 16 54.2
KURK Kurchatov 47.67 304 P **P** **20 56 00.0 -2.4**
comp=Z,450nm,0.7s,SNR=47
YKA Yellowknife Ar 50.20 37 P **P** **20 56 21.9 +0.1**
comp=Z,3.6nm,0.7s,mb4.5,baz=295,slow=7.1,SNR=6.9
YKA LR LR 21 19 25.8
comp=Z,402nm,19.4s,MS4.4,baz=225,slow=38
YKA Yellowknife Ar 50.20 37 P **P** **20 56 21.9 +0.1**
YKA LR LR 21 19 25.8
RES Resolute Bay 50.24 19 *e*P **P** **20 56 21.7 -0.4**
comp=Z,281nm,0.9s,mb6.3
LSA Lhasa 50.89 273 P **P** **20 56 29.4 +2.4**
LSA Lhasa 50.89 273 *e*P **P** **20 56 29.1 +2.1**
LSA pmax pmax
comp=Z,63nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,2µm,21.0s,MS5.0
LSA Lhasa 50.89 273 *e*P **P** **20 56 29.1 +2.0**
comp=Z,63nm,0.8s,mb5.6
LSA LR LR
comp=Z,2µm,21.0s,MS5.0
BVAR Borovoye Array 51.09 310 P **P** **20 56 27.3 -1.2**
comp=Z,14nm,0.3s,mb5.3,baz=54,slow=7.6,SNR=120
BVAR LR LR 21 20 04.0
comp=Z,3µm,18.3s,MS5.4,baz=323,slow=38
BRVK Borovoye 51.13 310 P **P** **20 56 27.3 -1.5**
comp=Z,191nm,0.5s,mb6.3,SNR=16
BRVK Borovoye 51.13 310 P **P** **20 56 27.7 -1.1**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb5.1
BRVK Borovoye 51.13 310 *e*P **P** **20 56 27.3 -1.6**
comp=Z,32nm,0.9s,mb5.3
BRVK LR LR
comp=Z,572nm,19.0s,MS4.6
KBS Kingsbay 52.18 351 *e*P **P** **20 56 36.0 -0.8**
KBS *e*S **S** **21 03 55.5 -4.6**
KBS AMS AMS 21 25 17.3
comp=Z,337nm,17.7s,MS4.4
CHTO Chiang Mai 52.84 257 ⇓P **P** **20 56 43.3 +1.7**
SNR=18
CHTO Chiang Mai 52.84 257 *e*P **P** **20 56 42.9 +1.3**
CHTO pmax pmax
comp=Z,63nm,1.4s,mb5.3
CHTO MLR MLR
comp=Z,704nm,19.0s,MS4.7
CHTO Chiang Mai 52.84 257 *e*P **P** **20 56 42.9 +1.3**
comp=Z,63nm,1.4s,mb5.3
CHTO LR LR
comp=Z,704nm,19.0s,MS4.7
SHL Shillong 53.02 269 *e*P **P** **20 56 42.1 -0.9**
CM31 Chiang Mai Arr 53.09 257 PFAKE 20 57 00.0 +17
CM31 LR LR
comp=Z,649nm,20.0s,MS4.7
ULHL Ulahol 53.37 295 P **P** **20 56 45.2 -0.3**
SNR=24
CHMS Chumysh 53.87 297 P **P** **20 56 49.0 -0.1**
SNR=9.0
USP Ospenovka 53.87 297 P **P** **20 56 49.5 +0.4**
SNR=34
KBK Karagaybulak 53.94 296 P **P** **20 56 50.0 +0.4**
SNR=12
SVE Sverdlovsk 53.96 317⇑ *e*P **P** **20 56 47.0 -2.8**
SVE pmax pmax
comp=Z,100nm,2.5s,mb5.3
SVE MLR MLR
comp=Z,2µm,14.0s,MS5.4
FRU Bishkek 54.04 297 *e*P **P** **20 56 50.0 -0.4**
FRU MLR MLR
comp=Z,4µm,16.0s,MS5.5
KZA Kyzart 54.08 296 P **P** **20 56 51.4 +0.7**
SNR=11
AAK Ala-Archa 54.23 297 P **P** **20 56 50.7 -1.0**
SNR=15
AAK Ala-Archa 54.23 297⇑ P **P** **20 56 50.4 -1.4**
SNR=8.4
AAK Ala-Archa 54.23 297 *ce*P **P** **20 56 50.4 -1.3**
AAK pmax pmax
comp=Z,24nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,2µm,16.0s,MS5.3
AAK Ala-Archa 54.23 297 *e*P **P** **20 56 49.6 -2.1**
comp=Z,16nm,0.9s,mb5.0
AAK LR LR
comp=Z,656nm,19.0s,MS4.7
UCH Uchtor 54.44 296 P **P** **20 56 52.7 -0.6**
SNR=5.3
EKS2 Erkin-Say 54.65 297 P **P** **20 56 54.2 -0.6**
SNR=29
BJO Bjornoya 54.92 347 AMS AMS 21 26 33.6
comp=Z,1µm,18.5s,MS4.9
COR Corvallis 54.98 60 PFAKE 20 57 10.0 +13
COR LR LR
comp=Z,1µm,22.0s,MS4.9
AML Almayashu 55.00 296 P **P** **20 56 58.8 +1.4**
SNR=7.5
KSH Kashi 55.09 293 *e*P **P** **20 56 59.1 +1.1**
KSH *e*AP pP 20 57 05.1 +0.6
KSH *e*XP sP 20 57 09.1 +2.2
KSH *e*PCP PcP 20 58 01.6 +2.3
KSH *e*PP PP 20 59 03.5 +2.2
KSH *e*PPP 21 00 15.4
KSH *e*SCP ScP 21 01 57.1 +0.4
KSH S **S** **21 04 37.3 -2.2**
KSH SCS ScS 21 06 44.1 -2.0
KSH SS SS 21 08 19.3 -4.1
KSH AMB AMB
comp=Z,808nm,2.7s,mb6.3
KSH LR LR
comp=N,4µm,13.1s,MS5.8
KSH LR LR
comp=E,4µm,10.4s,MS5.8
ARU Arti 55.14 318 P **P** **20 56 57.9 -0.5**
comp=E,381nm,0.5s,SNR=18
ARU Arti 55.14 318⇑ *i*P **P** **20 56 57.3 -1.1**
ARU *e* 20 57 14.0
ARU *e* 20 57 57.0
ARU *e* 20 58 58.0
ARU *e*S **S** **21 04 31.0 -9.2**
ARU pmax pmax
comp=Z,60nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,1µm,18.0s,MS5.1
ARU MLR MLR
comp=N,1µm,17.0s,MS5.1
ARU MLR MLR
comp=E,800nm,17.0s,MS5.1
ARU Arti 55.14 318 *e*P **P** **20 56 56.4 -2.0**
comp=E,69nm,1.0s,mb5.6
ARU LR LR
comp=Z,379nm,19.0s,MS4.5
JIRN Jiri 55.55 275 *e*P **P** **20 57 02.4 +1.1**
comp=Z,43nm,0.4s,mb5.8
EDM Edmonton 55.56 47 *e*P **P** **20 57 01.4 0.0**
GUN Gumba 55.60 275 *e*P **P** **20 57 02.6 +0.9**
comp=Z,80nm,0.7s,mb5.9
KKN Kakani 56.09 276 *e*P **P** **20 57 06.1 +0.9**
PKI Pulchoki 56.14 275 *e*P **P** **20 57 06.2 +0.6**
comp=Z,295nm,1.2s,mb6.2
HUMO Hull Mountain 56.32 62 PFAKE 20 57 20.0 +13
HUMO LR LR
comp=Z,731nm,20.0s,MS4.8
DMN Daman 56.32 276 *e*P **P** **20 57 07.9 +1.0**
comp=Z,513nm,1.1s
GKN Gorkha 56.39 276 *e*P **P** **20 57 08.1 +0.8**
comp=Z,460nm,1.0s
NEW Newport 56.41 53 PFAKE 20 57 20.0 +13
NEW LR LR
comp=Z,601nm,19.0s,MS4.7
HNR Honiara 56.59 173 LR LR 21 22 17.1
comp=Z,740nm,18.3s,MS4.8,baz=0.0,slow=37
HNR Honiara 56.59 173 PFAKE 20 57 20.0 +11
HNR LR LR
comp=Z,792nm,19.0s,MS4.8
LVZ Lovozero 56.64 337 *e*P **P** **20 57 05.9 -3.2**
LVZ pmax pmax
comp=Z,113nm,2.2s,mb5.5
LVZ MLR MLR
comp=Z,2µm,20.0s,MS5.2
LVZ MLR MLR
comp=N,767nm,17.0s,MS5.1
LVZ MLR MLR
comp=E,1µm,18.0s,MS5.1
PMG Port Moresby 56.65 188 LR LR 21 16 10.6
comp=E,334nm,21.1s,MS4.4,baz=154,slow=30
PMG Port Moresby 56.65 188 PFAKE 20 57 20.0 +11
PMG LR LR
comp=Z,411nm,19.0s,MS4.5
KEV Kevo 57.16 341 *e*P **P** **20 57 11.6 -1.2**
KEV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KEV MLR MLR
comp=Z,2µm,21.0s,MS5.2
KEV Kevo 57.16 341 *e*P **P** **20 57 11.6 -1.2**
comp=Z,3.5nm,0.5s,mb4.7
KEV LR LR
comp=Z,2µm,21.0s,MS5.2
APA Apatity 57.21 337⇓ *i*P **P** **20 57 10.0 -3.1**
APA pmax pmax
comp=Z,65nm,1.7s,mb5.4
APA MLR MLR
comp=Z,3µm,18.0s,MS5.4
KOLN Koldanda 57.24 277 *e*P **P** **20 57 14.4 +1.0**
comp=Z,383nm,1.2s,mb6.3
CAL Calcutta 57.45 269 *e*P **P** **20 57 14.2 -0.7**
CAL *ex* x 21 19 11.9
ARCES ARCESS Array B 57.67 341 P **P** **20 57 16.3 -0.1**
comp=Z,2.7nm,0.5s,mb4.6,baz=30,slow=6.4,SNR=34
ARCES LR LR 21 25 20.7
comp=Z,2µm,20.8s,MS5.1,baz=30,slow=39
BOK Bokaro 58.28 272 *e*P **P** **20 57 21.4 +0.7**
BOK AMb AMB 20 57 25.2
comp=Z,113nm,1.4s,mb5.7
BMO Blue Mountains 58.31 57 PFAKE 20 57 30.0 +9.1
BMO LR LR
comp=Z,509nm,20.0s,MS4.6
MOD Modoc 58.33 61 PFAKE 20 57 30.0 +9.0
MOD LR LR
comp=Z,399nm,20.0s,MS4.5
LGTI Lohaghat 58.43 281 *e*P **P** **20 57 23.0 +1.3**
LGTI *i*P 21 00 31.5
KTK1 Kautokeino 58.58 341 *e*P **P** **20 57 22.8 0.0**
AKTK Aktyubinsk 58.93 312 P **P** **20 57 24.3 -0.9**
AKTO Aktyubinsk 58.93 312 P **P** **20 57 24.3 -0.9**
comp=Z,6.4nm,0.6s,mb4.8,baz=60,slow=8.3,SNR=17
TRO Tromso 58.97 343 *e*P **P** **20 57 23.2 -2.3**
TRO *e*S **S** **21 05 25.6 -5.2**
TRO *e*SS SS 21 09 25.0 +0.5
TRO AMS AMS 21 28 09.0
comp=Z,806nm,16.5s,MS4.9
WVOR Wild Horse Val 58.99 60 *e*P **P** **20 57 26.0 +0.4**
WVOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
WVOR Wild Horse Val 58.99 60 *e*P **P** **20 57 26.0 +0.4**
comp=Z,10nm,1.1s,mb4.8
MSO Missoula 59.00 53 PFAKE 20 57 40.0 +14
MSO LR LR
comp=Z,304nm,19.0s,MS4.4
CHMT Chamberlain Mo 59.32 53 P **P** **20 57 22.8 -5.1**
ORR Orenburg 59.81 315 *e*P **P** **20 57 30.6 -0.7**
ORR pmax pmax
comp=Z,50nm,2.0s,mb5.2
FFC Flin Flon 60.01 41 PFAKE 20 57 40.0 +7.4
FFC LR LR
comp=Z,273nm,19.0s,MS4.4
NIL Nilore 60.38 289 P **P** **20 57 36.0 +0.8**
comp=Z,63nm,0.6s,mb5.8,SNR=6.0
EGMT Eagleton 60.50 50 PFAKE 20 57 50.0 +14
EGMT LR LR
comp=Z,798nm,19.0s,MS4.9
CMB Columbia Colle 60.64 65 PFAKE 20 57 50.0 +13
CMB LR LR
comp=Z,515nm,19.0s,MS4.7
HLID Hailey 60.74 56 PFAKE 20 57 50.0 +12
HLID LR LR
comp=Z,553nm,19.0s,MS4.7
SAO San Andreas Ge 60.78 66 PFAKE 20 57 50.0 +12
SAO LR LR
comp=Z,520nm,19.0s,MS4.7
NDI New Delhi 60.95 282 *e*P **P** **20 57 38.9 -0.2**
BMN Battle Mountai 61.06 61 PFAKE 20 57 50.0 +10
BMN LR LR
comp=Z,559nm,20.0s,MS4.7
LOF Lofoten 61.28 344 *e*P **P** **20 57 41.9 +0.6**
LOF AMb AMB 20 57 43.3
comp=Z,99nm,1.4s,mb5.8
LOF Lofoten 61.28 344 *e*P **P** **20 57 41.9 +0.6**
comp=Z,99nm,1.4s,mb5.8
PECR Pechory 61.50 323 *e*P **P** **20 57 38.0 -4.8**
QLMT Earthquake Lak 61.62 54 P **P** **20 57 45.0 +1.4**
ELK Elko 62.04 59 PFAKE 20 58 00.0 +14
ELK LR LR
comp=Z,544nm,20.0s,MS4.7
RRI2 Red Ridge 62.62 55 *e*P **P** **20 57 52.0 +1.7**
comp=Z,16nm,0.9s,mb5.2
JBP Jabalpur 62.72 275⇑ *i*P **P** **20 57 53.0 +2.0**
JBP *ex* x 20 57 56.1
comp=Z,113nm,1.3s
JBP ⇑ *i*x x 21 04 37.5
MOR8 Moi Rana 62.82 343 *e*P **P** **20 57 49.6 -2.0**
MOR8 AMb AMB 20 57 52.0
comp=Z,63nm,1.7s,mb5.5
MOR8 Moi Rana 62.82 343 *e*P **P** **20 57 49.6 -2.0**
comp=Z,63nm,1.7s,mb5.5
LOHW Long Hollow 62.85 54 *e*P **P** **20 57 56.7 +4.8**
comp=Z,13nm,0.3s,mb5.5
DGMT Dagmar 63.05 47 PFAKE 20 58 10.0 +17
DGMT LR LR
comp=Z,1µm,19.0s,MS5.0
AHID Auburn Hatcher 63.12 55 PFAKE 20 58 10.0 +16
AHID LR LR
comp=Z,460nm,21.0s,MS4.6
LAO LASA Array 63.20 49 PFAKE 20 58 10.0 +16
LAO LR LR
comp=Z,1µm,20.0s,MS5.1
ISA Isabella 63.33 66 PFAKE 20 58 10.0 +15
ISA LR LR
comp=Z,130nm,20.0s,MS4.1
DAC Darwin (Calif) 63.48 65 PFAKE 20 58 10.0 +14
DAC LR LR
comp=Z,568nm,20.0s,MS4.8
DUG Dugway 63.81 58 P **P** **20 58 00.7 +2.5**
DUG pmax pmax
comp=Z,40nm,1.7s,mb5.2
DUG MLR MLR
comp=Z,452nm,19.0s,MS4.7
DUG Dugway 63.81 58 P **P** **20 58 00.7 +2.5**
comp=Z,40nm,1.7s,mb5.2
DUG LR LR
comp=Z,452nm,19.0s,MS4.7
FIA1 FINESS Array S 63.94 335 *e*P **P** **20 57 58.1 -0.9**
FINES FINESS Array B 63.94 335 P **P** **20 57 57.8 -1.2**
comp=Z,13nm,0.4s,mb5.3,baz=36,slow=7.5,SNR=151
FINES LR LR 21 30 16.5
comp=Z,2µm,18.6s,MS5.2,baz=33,slow=40
BW06 Boulder Array 63.98 55 PFAKE 20 58 10.0 +11
BW06 LR LR
comp=Z,426nm,20.0s,MS4.6
PDAR Pinedale Array 63.98 55 P **P** **20 57 58.2 -1.1**
comp=Z,0.9nm,0.8s,baz=337,slow=3.8,SNR=4.4
PDAR LR LR 21 23 24.7
comp=Z,275nm,19.6s,MS4.5,baz=104,slow=34
AJM Ajmer 64.11 282 *e*P **P** **20 58 00.4 +0.2**
AJM *i*x x 21 01 08.0
VIS Vishakhapatnam 64.16 268 *e*P **P** **20 58 02.3 +1.8**
VIS AMb AMB 20 58 04.8
comp=Z,73nm,1.6s,mb5.5
NLU North Lily Min 64.39 58 P **P** **20 58 04.4 +2.3**
BHPL Bhopal 64.41 277 *e*P **P** **20 58 02.5 +0.4**
FRB Frobisher Bay 64.44 19 P **P** **20 58 00.6 -1.8**
comp=Z,22nm,0.9s,mb5.2,baz=354,slow=1.7,SNR=6.6
FRB Frobisher Bay 64.44 19 P **P** **20 58 00.6 -1.8**
MOS Moscow 64.46 326 *e*P **P** **20 57 59.2 -3.3**
MPU Maple Canyon 64.61 58 PFAKE 20 58 20.0 +17
MPU LR LR
comp=Z,1µm,21.0s,MS5.1
NGP Nagpur 64.72 274 *e*P **P** **20 58 03.1 -1.1**
NGP AMb AMB 20 58 06.1
comp=Z,83nm,1.2s,mb5.6
NSS Namsos 64.76 343 *e*P **P** **20 58 02.8 -1.6**
NSS AMS AMS 21 32 02.2
comp=Z,800nm,17.2s,MS5.0
MVU Marysvale 65.27 60 PFAKE 20 58 20.0 +12
MVU LR LR
comp=Z,564nm,20.0s,MS4.8
MSU Marysvale 65.28 60 P **P** **20 58 07.8 0.0**
OBN Obninsk 65.33 326⇓ *i*P **P** **20 58 07.3 -0.8**
OBN *e**PP pP 20 58 23.6 +8.9
OBN *e* 20 58 40.6
OBN *e*S S 21 06 47.3 -3.6
OBN *e*SS SS 21 11 07.0 +3.0
OBN pmax pmax
comp=Z,60nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,900nm,18.0s,MS5.0
OBN Obninsk 65.33 326 *e*P **P** **20 58 07.0 -1.2**
comp=Z,75nm,1.6s,mb5.5
OBN LR LR
comp=Z,286nm,20.0s,MS4.5
ULM Lac du Bonnet 65.79 41 P **P** **20 58 11.8 +0.8**
comp=Z,2.4nm,0.7s,mb4.3,baz=106,slow=4.8,SNR=3.5
ULM LR LR 21 26 13.3
comp=Z,262nm,19.5s,MS4.5,baz=328,slow=35
SRU San Rafael 65.85 58 *e*P **P** **20 58 10.7 -0.8**
SRU pmax pmax
comp=Z,20nm,1.3s,mb5.0
SRU San Rafael 65.85 58 *e*P **P** **20 58 10.7 -0.8**
comp=Z,20nm,1.3s,mb5.0
PFO Pinyon Flat Ob 65.93 66 PFAKE 20 58 20.0 +8.0
PFO LR LR
comp=Z,128nm,20.0s,MS4.1
VSU Vasula 66.14 333⇓ *e*P **P** **20 58 13.2 -0.2**
CTA Charters Tower 67.31 188 LR LR 21 26 26.5
comp=Z,259nm,18.8s,MS4.5,baz=46,slow=35
CTAO Charters Tower 67.31 188 PFAKE 20 58 30.0 +9.2
CTAO LR LR
comp=Z,293nm,20.0s,MS4.5
HYB Hyderabad 67.63 272 *i* P **P** **20 58 23.0 +0.2**
HYB Hyderabad 67.63 272 *e*P **P** **20 58 23.0 +0.2**
NB2 NORSAR Subarra 68.04 342 P **P** **20 58 24.7 -0.7**
comp=Z,192nm,1.4s,mb5.9,baz=25,slow=6.5
NOA NORSAR Array B 68.04 342 P **P** **20 58 24.6 -0.8**
comp=Z,13nm,0.6s,mb5.1,baz=26,slow=6.3,SNR=42
NOA LR LR 21 32 27.9
comp=Z,857nm,18.5s,MS5.0,baz=10.0,slow=40
AFI Afiamalu 68.06 144 LR LR 21 24 13.0
comp=Z,544nm,19.2s,MS4.8,baz=75,slow=32
AFI Afiamalu 68.06 144 PFAKE 20 58 40.0 +14
AFI LR LR
comp=Z,931nm,19.0s,MS5.0
HFS Hagfors 68.29 340 LR LR 21 33 07.2
comp=Z,1µm,18.1s,MS5.1,baz=152,slow=40
BORG Borgarnes 68.37 358 P **P** **20 58 26.2 -1.3**
comp=Z,18nm,1.0s,mb5.1,baz=63,slow=12,SNR=1.9
MNK Minsk 68.98 330 *e*P **P** **20 58 27.0 -4.3**
WRA Warramunga Arr 69.12 200 P **P** **20 58 30.8 -1.3**
comp=Z,2.5nm,0.6s,mb4.3,baz=17,slow=6.5,SNR=15

MDRS Chennai 69.53 267 *e*P **P** **20 58 36.2 +1.4**
MDRS AMb AMB 20 58 37.3
comp=Z,39nm,1.3s,mb5.2
MDRS *ex* x 20 58 39.2
MDRS *ex* x 21 01 05.2
KONO Kongsberg 69.65 342*d i*P **P** **20 58 35.8 +0.4**
KONO Kongsberg 69.65 342 PFAKE 20 58 50.0 +15
KONO LR LR
comp=Z,2µm,19.0s,MS5.3
SDCO Great Sand Dun 69.66 56 PFAKE 20 58 50.0 +14
SDCO LR LR
comp=Z,504nm,19.0s,MS4.8
DZM Mont Dzumac 69.81 168 P **P** **20 58 35.4 -1.0**
comp=Z,1.0nm,0.4s,baz=144,slow=19,SNR=1.8
FITZ Fitzroy Crossi 69.81 209 *e*P **P** **20 58 37.6 +1.1**
comp=Z,7.0nm,0.8s,mb4.6
ODD1 Odda 70.02 343 *e*P **P** **20 58 37.5 -0.2**
ODD1 AMb AMB 20 58 40.8
comp=Z,98nm,1.6s,mb5.5
ODD1 Odda 70.02 343 *e*P **P** **20 58 37.5 -0.2**
comp=Z,98nm,1.6s,mb5.5
POO Poona 70.06 276⇓ *i*P **P** **20 58 36.0 -2.0**
comp=Z,64nm,1.2s,mb5.4
POO *ex* x 20 59 11.8
POO AMb AMB 20 59 15.7
comp=Z,65nm,1.3s,mb5.4
ECSD EROS,Sioux Fal 70.13 47 *e*P **P** **20 58 39.0 +0.6**
comp=Z,95nm,1.9s,mb5.4
BLS5 Blasjo 70.50 343 *e*P **P** **20 58 42.3 +1.6**
BLS5 AMb AMB 20 58 43.8
comp=Z,38nm,1.5s,mb5.1
BLS5 Blasjo 70.50 343 *e*P **P** **20 58 42.3 +1.6**
comp=Z,38nm,1.5s,mb5.1
KAD Karad 70.68 275 *e*P **P** **20 58 42.8 +1.0**
KAD AMb AMB 20 58 45.1
comp=Z,60nm,0.9s,mb5.5
SUW Suwalki 70.94 332 *e*P **P** **20 58 42.9 -0.4**
KIV Kislovodsk 70.97 315 P **P** **20 58 44.4 +0.9**
comp=Z,235nm,1.7s,mb5.8,SNR=5.8
KIV Kislovodsk 70.97 315⇑ P **P** **20 58 45.0 +1.5**
SNR=6.7
KIV Kislovodsk 70.97 315*c i*P **P** **20 58 43.7 +0.2**
KIV pmax pmax
comp=Z,88nm,1.7s,mb5.4
KIV MLR MLR
comp=Z,3µm,17.0s,MS5.6
KIV Kislovodsk 70.97 315 PFAKE 20 59 00.0 +16
KIV LR LR
comp=Z,412nm,20.0s,MS4.7
ANMO Albuquerque 71.06 59⇓ *e*P **P** **20 58 49.3 +5.2**
ANMO Albuquerque 71.06 59 PFAKE 20 59 00.0 +16
ANMO LR LR
comp=Z,439nm,21.0s,MS4.7
ZEI Tsey 71.25 313 *e*P **P** **20 58 44.5 -0.7**
ZEI *e**PP pP 20 59 00.4 +8.6
AKASG Malin Array Be 71.56 327 P **P** **20 58 45.7 -1.4**
comp=Z,19nm,0.4s,mb5.4,baz=34,slow=6.3,SNR=84
AKASG LR LR 21 32 43.7
comp=Z,1µm,18.4s,MS5.1,baz=40,slow=38
AKBB Malin Array Si 71.56 327 *e*P **P** **20 58 45.5 -1.6**
KIEV Kiev 71.57 327 PFAKE 20 59 00.0 +13
KIEV LR LR
comp=Z,2148µm,21.0s
CBKS Cedar Bluff 72.09 52 PFAKE 20 59 00.0 +10
CBKS LR LR
comp=Z,449nm,20.0s,MS4.7
BSD Bornholm Skovb 72.43 337 *i*P **P** **20 58 55.7 +3.4**
BSD
comp=Z,960nm,18.0s
MUD Monsted U'grnd 72.65 340 *i*P **P** **20 58 57.9 +4.3**
MUD
comp=Z,1µm,18.0s
MUD Monsted U'grnd 72.65 340 *e*P **P** **20 58 57.9 +4.3**
SOC Sochi 72.67 316 *e*P **P** **20 58 53.5 -0.2**
SOC *e**PP pP 20 59 09.6 +9.2
SOC *e*PPP 21 03 16.8
SOC *e*S S 21 08 05.6 -12
SOC *e* 21 08 51.1
SOC *e*SS SS 21 12 59.3 +2.0
SOC *e*SSS 21 16 05.2
SOC pmax pmax
comp=Z,38nm,0.7s,mb5.4
SCHQ Schefferville 72.67 23 P **P** **20 58 53.4 -0.4**
comp=Z,4.2nm,0.8s,mb4.4,baz=320,slow=5.8,SNR=4.0
SCHQ LR LR 21 37 12.7
comp=Z,290nm,18.3s,MS4.6,baz=166,slow=41
GNI Garni 72.75 311 P **P** **20 58 55.2 +0.9**
comp=Z,9.5nm,0.7s,mb4.8,baz=317,slow=4.1,SNR=9.8
GNI LR LR 21 34 36.0
comp=Z,2µm,18.4s,MS5.5,baz=218,slow=39
GNI Garni 72.75 311 P **P** **20 58 56.0 +1.8**
GNI pmax pmax
comp=Z,54nm,1.2s
GNI Garni 72.75 311 *e*P **P** **20 58 55.5 +1.3**
comp=Z,54nm,1.2s,mb5.3
GNI LR LR
comp=Z,2µm,20.0s,MS5.4
ANN Anapa 72.80 318 *e*P **P** **20 58 52.5 -2.0**
ANN *e**PP pP 20 59 11.4 +10
ANN *e*S S 21 08 10.0 -9.3
ANN pmax pmax
comp=Z,184nm,2.2s,mb5.6
AS31 Alice Springs 72.81 199 *e*P **P** **20 58 58.4 +3.8**
ASAR Alice Springs 72.81 199 P **P** **20 58 54.5 -0.1**
comp=Z,3.5nm,0.6s,mb4.5,baz=15,slow=5.4,SNR=21
ASAR LR LR 21 31 20.9
comp=Z,237nm,18.1s,MS4.5,baz=20,slow=36
ASPA Alice Springs 72.81 199 *e*P **P** **20 58 58.4 +3.8**
PALK Pallekele 73.39 263 PFAKE 20 59 10.0 +12
PALK LR LR
comp=Z,98nm,21.0s,MS4.1
GKP Gorka Klasztor 73.40 335 *e*P **P** **20 58 58.5 +0.4**
JFWS Jewell Farm 73.83 44 PFAKE 20 59 10.0 +9.4
JFWS LR LR
comp=Z,617nm,20.0s,MS4.9
AMTX Amarillo 73.86 56 *e*P **P** **20 59 02.2 +1.4**
comp=Z,19nm,1.0s,mb5.0
AMTX LR LR
comp=Z,584nm,21.0s,MS4.8
MNTX Cornudas Mount 74.00 61 PFAKE 20 59 10.0 +8.4
MNTX LR LR
comp=Z,207nm,20.0s,MS4.4
SIM Simferopol' 74.16 320*d i*P **P** **20 59 03.1 +0.6**
SIM pmax pmax
comp=Z,31nm,1.1s,mb5.2
SIM MLR MLR
comp=Z,1µm,16.1s,MS5.2
LVV L'vov 74.17 329 *i*P **P** **20 59 02.9 +0.3**
LVV *e* 20 59 15.1
LVV *e*S S 21 08 35.1 +0.3
LVV *e*SS SS 21 13 18.1 -2.1
VANB Van 74.61 310 *e*P **P** **20 59 03.5 -1.6**
ERZM Erzurum 74.65 313 *i*P **P** **20 59 05.4 0.0**
BSEG Bad Segeberg 74.68 339 *e*P **P** **20 59 05.5 0.0**
comp=Z,141nm,1.7s,mb5.6
KIS Kishinev 74.72 325⇓ *i*P **P** **20 59 04.0 -1.8**
comp=Z,400nm,1.0s,mb6.3
KIS Kishinev 74.72 325 *i* PcP PcP 20 59 10.0 -10
KIS *e*S S 21 08 36.0 -5.0
KIS LRM 21 36 54.0
comp=Z,1µm,13.0s
KWP Kalwaria 74.79 330 *e*P **P** **20 59 07.0 +0.8**
TRD Trivandrum 75.04 266 *e*P **P** **20 59 09.0 +1.4**
TRD AMb AMB 20 59 17.9
comp=Z,40nm,0.9s,mb5.3
IAS Iasi 75.05 325 P **P** **20 59 08.0 +0.3**
RUE Ruedersdorf 75.08 336 *e*P **P** **20 59 07.5 -0.4**
comp=Z,127nm,1.4s,mb5.7
HAKT HAKKARI 75.22 310 *i*P **P** **20 59 03.5 -5.2**
OJC Ojcow 75.27 332 *e*P **P** **20 59 08.9 0.0**
STHS Stebnicka Huta 75.48 330 *e*P **P** **20 59 11.3 +1.2**
STHS pmax pmax
comp=Z,22nm,0.9s,mb5.1
STHS Stebnicka Huta 75.48 330 *e*P **P** **20 59 11.3 +1.2**
comp=Z,22nm,0.9s,mb5.1
CUKT Cukurca 75.50 309 *e*P **P** **20 59 12.0 +1.7**
KELT Kelkit 75.52 314 *i*P **P** **20 59 07.3 -3.1**
KOLS Kolonicke sedl 75.54 329 *e*P **P** **20 59 10.9 +0.4**
WMOK Wichita Mounta 75.59 54 P **P** **20 59 10.8 0.0**
WMOK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WMOK Wichita Mounta 75.59 54 P **P** **20 59 10.8 0.0**
comp=Z,9.6nm,1.1s,mb4.6
BURAR Bucovina Array 75.59 327⇓ *i*P **P** **20 59 10.2 -0.6**
NIE Niedzica 75.79 331 *e*P **P** **20 59 12.5 +0.6**

UZH Uzhgorod 75.79 329*c i*P **P** **20 59 10.6 -1.3**
KSP Ksiaz 75.81 334 *e*P **P** **20 59 13.0 +0.9**
KSP Ksiaz 75.81 334 *e*P **P** **20 59 12.2 +0.1**
KSP LR LR
comp=Z,4µm,18.4s,MS5.8
CRVS Cervenica-Dubn 75.84 330 *e*P **P** **20 59 12.3 +0.1**
EKA Eskdalemuir Ar 76.08 347 P **P** **20 59 14.0 +0.4**
comp=Z,2.6nm,0.5s,mb4.4,baz=17,slow=5.0,SNR=26
OKC Ostrava-Krasne 76.13 332 *e*P **P** **20 59 14.2 +0.4**
OKC AMS AMS 21 38 06.4
comp=Z,2µm,17.5s
UPC Upice 76.20 334 *e*P **P** **20 59 14.2 0.0**
DPC Dobruska-Polom 76.24 334 *e*P **P** **20 59 15.2 +0.7**
DPC AMS AMS 21 37 09.7
comp=Z,2µm,17.6s
CLL Collm 76.35 336 *e*P **P** **20 59 14.2 -0.9**
comp=Z,84nm,1.2s,mb5.5
CLL Collm 76.35 336 *i*P **P** **20 59 14.8 -0.3**
CLL *e*S S 21 09 01.0 +2.0
CLL pmax pmax
comp=Z,136nm,1.5s,mb5.7
CLL MLR MLR
comp=Z,1µm,20.6s,MS5.1
CLL Collm 76.35 336 *i*P **P** **20 59 14.8 -0.3**
comp=Z,136nm,1.5s,mb5.7
CLL *e*S S 21 09 01.0 +2.0
CLL LR LR
comp=Z,1µm,20.6s,MS5.1
CLL Collm 76.35 336 *i*P **P** **20 59 14.8 -0.3**
comp=Z,136nm,1.5s,mb5.7
CLL LmV 20 35 00.0
comp=Z,1µm,20.6s
CLL *e*sP sP 20 59 21.0 -3.2
CLL *e*S S 21 09 01.0 +2.0
MORC Moravsky Berou 76.37 333⇑ *i*P **P** **20 59 15.4 +0.2**
PTK Pertek 76.41 313 *e*P **P** **20 59 18.3 +2.8**
BRG Berggiesshubel 76.48 335 *e*P **P** **20 59 15.2 -0.6**
comp=Z,67nm,1.6s,mb5.3
BRG Berggiesshubel 76.48 335 *i*P **P** **20 59 16.2 +0.4**
comp=Z,40nm,1.6s,mb5.1
BRG Berggiesshubel 76.48 335 *i*P **P** **20 59 16.2 +0.4**
BRG pmax pmax
comp=Z,40nm,1.6s,mb5.1
LIKS Likavka 76.50 331 *e*P **P** **20 59 17.0 +1.0**
KECS Kecovo 76.53 330 *e*P **P** **20 59 16.6 +0.4**
KECS pmax pmax
comp=Z,17nm,1.3s,mb4.8
KECS Kecovo 76.53 330 *e*P **P** **20 59 16.6 +0.4**
comp=Z,16nm,1.3s,mb4.8
CLZ Clausthal 76.57 338 *e*P **P** **20 59 16.5 +0.1**
comp=Z,133nm,1.5s,mb5.7
CLZ Clausthal 76.57 338 *e*P **P** **20 59 16.5 +0.1**
CLZ pmax pmax
comp=Z,133nm,1.5s,mb5.7
BOYT Boyabat 76.59 318 *i*P **P** **20 59 16.9 +0.4**
FBE Freiberg 76.60 336 *e*P **P** **20 59 16.1 -0.4**
comp=Z,99nm,1.5s,mb5.5
PVCC Panska Ves 76.60 335 *e*P **P** **20 59 16.7 +0.1**
PVCC AMS AMS 21 36 39.7
comp=Z,1µm,15.9s
TXAR Lajitas Array 76.73 61 P **P** **20 59 17.2 -0.1**
comp=Z,4.0nm,0.7s,mb4.5,baz=296,slow=4.8,SNR=10
TXAR Lajitas Array 76.73 61 P **P** **20 59 17.2 -0.1**
SVSK Karacayir 76.79 315 *e*P **P** **20 59 16.2 -1.4**
IBBN Ibnbuniren 76.79 340 *e*P **P** **20 59 17.4 -0.2**
comp=Z,72nm,1.3s,mb5.4
ELZG Elazig 76.92 313 *i*P **P** **20 59 18.8 +0.5**
MARD Mardin 76.92 311 *i*P **P** **20 59 14.0 -4.4**
TIRR Tirgusor 76.97 323⇑ *i*P **P** **20 59 18.5 -0.1**
TIRR Tirgusor 76.97 323 P **P** **20 59 19.0 +0.4**
TIRR Tirgusor 76.97 323 *e*P **P** **20 59 18.3 -0.3**
comp=Z,86nm,1.4s,mb5.5
VYHS Vyhne 77.08 331 *e*P **P** **20 59 19.4 +0.2**
VYHS pmax pmax
comp=Z,48nm,1.6s,mb5.2
VYHS Vyhne 77.08 331 *e*P **P** **20 59 19.4 +0.2**
comp=Z,48nm,1.6s,mb5.2
VRAC Vranov 77.08 333 LR LR 21 40 11.4
comp=Z,2µm,18.9s,MS5.4,baz=20,slow=41
VRAC Vranov 77.08 333⇑ *i*P **P** **20 59 18.5 -0.7**
VRAC Vranov 77.08 333 P **P** **20 59 20.1 +0.9**
CCM Cathedral Cave 77.08 47 PFAKE 20 59 30.0 +11
CCM LR LR
comp=Z,692nm,22.0s,MS4.9
MLR Muntele Rosu 77.09 325 P **P** **20 59 19.2 -0.1**
comp=Z,22nm,0.5s,mb5.3,baz=213,slow=2.0,SNR=48
MLR LR LR 21 35 47.9
comp=Z,909nm,19.5s,MS5.1,baz=254,slow=38
MLR Muntele Rosu 77.09 325⇓ *i*P **P** **20 59 19.0 -0.3**
MLR Muntele Rosu 77.09 325 P **P** **20 59 19.2 -0.1**
MLR pmax pmax
comp=Z,22nm,0.5s
MLR MLR MLR
comp=Z,909nm,19.5s
MLR Muntele Rosu 77.09 325 P **P** **20 59 20.0 +0.7**
PRU Pruhonice 77.09 335 *e*P **P** **20 59 19.8 +0.5**
PRU AMS AMS 21 36 44.3
comp=Z,1µm,14.8s
BALT Daday 77.20 319 *i*P **P** **20 59 18.8 -1.1**
DRGR 77.21 328⇑ *i*P **P** **20 59 19.7 -0.2**
PSZ Piszkesteto 77.22 330 P **P** **20 59 21.2 +1.2**
PSZ Piszkesteto 77.22 330⇓ *e*P **P** **20 59 21.0 +1.0**
CTKT Corum 77.28 317 *i*P **P** **20 59 19.7 -0.6**
AAM Ann Arbor 77.31 40 PFAKE 20 59 30.0 +9.5
AAM LR LR
comp=Z,692nm,19.0s,MS5.0
TANN Tannenbergstha 77.31 336 *e*P **P** **20 59 20.4 -0.1**
comp=Z,95nm,1.9s,mb5.4
WERD Werda 77.32 336 *e*P **P** **20 59 20.4 -0.2**
comp=Z,80nm,1.7s,mb5.4
MOX Moxa 77.33 337 *e*P **P** **20 59 20.4 -0.2**
comp=Z,71nm,1.6s,mb5.3
MOX Moxa 77.33 337 *e*P **P** **20 59 20.9 +0.3**
comp=Z,101nm,1.8s,mb5.5
MOX
comp=Z,800nm,22.0s
MOX Moxa 77.33 337 *e*P **P** **20 59 20.9 +0.3**
MOX pmax pmax
comp=Z,101nm,1.8s,mb5.5
MOX MLR MLR
comp=Z,800nm,22.0s,MS5.0
WTSB Winterswijk 77.33 340⇑ *e*P **P** **20 59 20.1 -0.6**
comp=Z,56nm,2.3s,mb5.1
SMDO Samad 77.35 290⇑ P **P** **20 59 22.2 +1.4**
SNR=7.0
GUNZ Gunzen 77.39 336 *e*P **P** **20 59 20.9 -0.1**
comp=Z,87nm,1.7s,mb5.4
WERN Wernitzgruen 77.44 336 *e*P **P** **20 59 21.2 -0.1**
comp=Z,50nm,1.3s,mb5.3
ASHO Ashiyiah 77.45 293⇑ P **P** **20 59 21.7 +0.4**
SNR=11
NKC Novy Kostel 77.47 336 *e*P **P** **20 59 21.8 +0.4**
NKC AMS AMS 21 39 48.1
comp=Z,1µm,17.0s
VOIR 77.48 326⇓ *i*P **P** **20 59 21.8 +0.3**
SMOL Smolenice 77.51 332 *e*P **P** **20 59 23.1 +1.4**
UBBA Unterbreizbach 77.60 338 *e*P **P** **20 59 21.9 -0.3**
comp=Z,117nm,2.0s,mb5.5
MTUR Matau 77.65 326⇑ *i*P **P** **20 59 24.8 +2.3**
CORM Corum 77.70 317 *e*P **P** **20 59 25.1 +2.4**
BUG Bochum--Univer 77.71 339 *e*P **P** **20 59 22.5 -0.3**
comp=Z,123nm,1.9s,mb5.5
MANZ Manzenberg 77.79 336 *e*P **P** **20 59 23.2 0.0**
comp=Z,50nm,1.6s,mb5.2
URFA Urfa 77.82 313 *e*P **P** **20 59 22.1 -1.2**
BUD Budapest 77.89 331⇓ *e*P **P** **20 59 25.3 +1.5**
ZST Bratislava 77.90 332 *e*P **P** **20 59 23.5 -0.3**
ZST pmax pmax
comp=Z,30nm,1.4s,mb5.0
ZST MLR MLR
comp=Z,1µm,18.4s,MS5.2
ZST Bratislava 77.90 332 *e*P **P** **20 59 23.5 -0.3**
comp=Z,30nm,1.4s,mb5.0
ZST LR LR
comp=Z,1µm,18.4s,MS5.2
ROTZ Rotzenmuhle 77.96 336 *e*P **P** **20 59 24.3 +0.1**
comp=Z,69nm,1.5s,mb5.4
ELDT Eldivan 78.01 318 *i*P **P** **20 59 23.6 -0.9**
BUC1 Bucharest 78.01 325 P **P** **20 59 25.3 +0.8**
BHD Baghdad 78.07 306 *ex* x 20 59 19.5
BSY Bisya 78.12 291⇓ P **P** **20 59 26.3 +1.3**
SNR=16
ARQ Araqi 78.13 291⇑ P **P** **20 59 26.6 +1.6**
SNR=6.7
KHC Kasperske Hory 78.14 335 *e*P **P** **20 59 25.1 -0.1**

KHC AMS AMS 21 39 41.6
comp=Z,2µm,16.0s
KHC Kasperske Hory 78.14 335*c i*P **P** **20 59 25.3 +0.1**
JCT Junction City 78.16 58 PFAKE 20 59 40.0 +15
JCT LR LR
comp=Z,515nm,21.0s,MS4.8
CDAG Cicekdag 78.27 317 *i*P **P** **20 59 20.7 -5.2**
GRA1 Grafenberg Arr 78.30 336 *e*P **P** **20 59 26.3 +0.3**
comp=Z,133nm,1.5s,mb5.7
GRF Grafenberg Arr 78.30 336 *e*P **P** **20 59 26.3 +0.3**
comp=Z,133nm,1.5s,mb5.7
GRF Grafenberg Arr 78.30 336 *e*P **P** **20 59 26.3 +0.3**
GRF pmax pmax
comp=Z,133nm,1.5s,mb5.7
GRF Grafenberg Arr 78.30 336 *e*P **P** **20 59 26.3 +0.3**
GRF pmax pmax
comp=Z,133nm,1.5s,mb5.7
GRFO Grafenberg 78.30 336 PFAKE 20 59 40.0 +14
GRFO LR LR
comp=Z,870nm,19.0s,MS5.1
WET Wettzell 78.33 335 *e*P **P** **20 59 26.5 +0.3**
comp=Z,78nm,1.5s,mb5.4
WET Wettzell 78.33 335 *e*P **P** **20 59 26.5 +0.3**
WET pmax pmax
comp=Z,78nm,1.5s,mb5.4
GEC2 GERESS Array S 78.36 335 *e*P **P** **20 59 26.2 -0.2**
comp=Z,53nm,1.8s,mb5.2
GEC2 GERESS Array S 78.36 335 *e*P **P** **20 59 26.2 -0.2**
GEC2 pmax pmax
comp=Z,53nm,1.8s,mb5.2
GERES GERESS Array B 78.36 335 P **P** **20 59 26.1 -0.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=32,slow=5.9,SNR=19
GERES LR LR 21 38 09.9
comp=Z,2µm,18.1s,MS5.4,baz=223,slow=39
GZR Gura Zlata 78.37 327⇑ *i*P **P** **20 59 26.6 +0.2**
PRD Provadia 78.42 323 *i*P **P** **20 59 26.0 -0.7**
SOP Sopron 78.52 332⇓ *e*P **P** **20 59 28.5 +1.2**
BR131 Keskin Array S 78.53 317 *e*P **P** **20 59 25.9 -1.3**
comp=Z,48nm,1.3s,mb5.3
BR131 LR LR
comp=Z,466nm,19.0s,MS4.8
BRTR Keskin Array B 78.53 317 P **P** **20 59 28.1 +0.9**
comp=Z,9.4nm,0.7s,mb4.8,baz=62,slow=2.9,SNR=48
BRTR LR LR 21 39 46.4
comp=Z,342nm,20.0s,MS4.7,baz=110,slow=40
CONA Conrad Observa 78.53 333 *i*P **P** **20 59 28.4 +1.1**
comp=Z,20nm,1.1s,mb5.0,SNR=13
TNS Taunus Mts 78.55 338 *e*P **P** **20 59 27.4 0.0**
comp=Z,98nm,1.8s,mb5.4
TNS Taunus Mts 78.55 338 *e*P **P** **20 59 27.4 0.0**
TNS pmax pmax
comp=Z,98nm,1.8s,mb5.4
BZS Buzias 78.61 328⇑ *i*P **P** **20 59 27.8 +0.1**
BZS Buzias 78.61 328 P **P** **20 59 28.1 +0.3**
HGN Heimansgroeve 78.66 340⇑ *e*P **P** **20 59 27.5 -0.5**
comp=Z,48nm,2.3s,mb5.0
AVNT Avonos 78.71 316 *i*P **P** **20 59 27.4 -0.9**
KMRS Kahramanmaras 78.72 314 *e*P **P** **20 59 30.8 +2.4**
MEM Membach 78.78 340 P **P** **20 59 28.2 -0.5**
ANTO Ankara 78.80 318 *e*P **P** **20 59 30.9 +2.1**
ANTO Ankara 78.80 318 P **P** **20 59 30.5 +1.7**
SNR=14
ANTO Ankara 78.80 318 *e*P **P** **20 59 29.5 +0.7**
ANTO pmax pmax
comp=Z,27nm,0.8s,mb5.2
ANTO MLR MLR
comp=Z,538nm,20.0s,MS4.9
ANTO Ankara 78.80 318 *e*P **P** **20 59 29.5 +0.7**
comp=Z,27nm,0.8s,mb5.2
ANTO LR LR
comp=Z,538nm,20.0s,MS4.9
ZIMR 78.85 325⇑ *i*P **P** **20 59 28.0 -1.1**
ZIMR 78.85 325 P **P** **20 59 29.3 +0.2**
UMR Umm Al-Rimmam 78.96 302 *e*P **P** **20 59 30.3 +0.6**
UMR AMb AMB 20 59 32.5
comp=Z,214nm,1.2s,mb5.9
MIB Mutribah 78.99 302 *e*P **P** **20 59 30.5 +0.7**
MIB AMb AMB 20 59 33.8
comp=Z,175nm,1.1s,mb5.9
TOD Tromm 79.02 338 *e*P **P** **20 59 29.5 -0.5**
ABH Alteburg 79.08 339 *e*P **P** **20 59 29.2 -1.2**
MOA Molln 79.08 334⇓ *e*P **P** **20 59 31.8 +1.4**
comp=Z,16nm,1.5s,mb4.7
MOA Molln 79.08 334⇓ **P** **20 59 31.8 +1.4**
comp=Z,16nm,1.5s,mb4.7
BCLA Clavier 79.12 340 P **P** **20 59 30.4 -0.2**
BCLA XP sP 20 59 38.1 -1.6
PKSM Moragy 79.13 330⇓ *i*P **P** **20 59 30.0 -0.6**
PKSM Moragy 79.13 330 P **P** **20 59 30.7 +0.1**
ARSA Arzberg 79.23 333⇓ *i*P **P** **20 59 32.1 +0.9**
comp=Z,18nm,1.2s,mb4.9
PVL Pavlikeni 79.24 325 *i*P **P** **20 59 30.6 -0.6**
SNF Seneffe 79.27 341 P **P** **20 59 31.1 -0.2**
QRN Al-Qurain 79.44 301 *e*P **P** **20 59 33.1 +0.8**
QRN AMb AMB 20 59 34.8
comp=Z,148nm,0.8s,mb6.0
NAY Al-Naaiem 79.46 302 *e*P **P** **20 59 33.0 +0.6**
NAY AMb AMB 20 59 36.4
comp=Z,112nm,1.2s,mb5.7
STKA Stephens Creek 79.47 191 LR LR 21 34 38.0
comp=Z,419nm,19.8s,MS4.8,baz=129,slow=36
RDF Al-Radifah 79.52 301 *e*P **P** **20 59 33.6 +0.8**
RDF AMb AMB 20 59 37.2
comp=Z,267nm,1.5s,mb6.0
GIVF Givet 79.53 340 *e*P **P** **20 59 32.7 -0.1**
DOU Dourbes 79.59 341 P **P** **20 59 34.1 +1.0**
DOU AP pP 20 59 38.5 -1.3
DOU XP sP 20 59 40.5 -1.8
WLF Walferdange 79.63 339 *e*P **P** **20 59 33.9 +0.6**
comp=Z,62nm,1.6s,mb5.3
WLF Walferdange 79.63 339 P **P** **20 59 34.0 +0.7**
FUR Furstenfeldbru 79.67 336 *e*P **P** **20 59 33.8 +0.2**
comp=Z,157nm,2.0s,mb5.6
FUR Furstenfeldbru 79.67 336 *e*P **P** **20 59 33.8 +0.2**
FUR pmax pmax
comp=Z,157nm,2.0s,mb5.6
CEYT Ceyhan 79.68 314 *e*P **P** **20 59 33.1 -0.5**
STU Stuttgart 79.69 337 *e*P **P** **20 59 33.5 -0.1**
comp=Z,65nm,1.7s,mb5.3
BEO Belgrade 79.71 328 *i*P **P** **20 59 33.5 -0.2**
ADVT Abdulvahap 79.71 320 *e*P **P** **20 59 37.4 +3.6**
BAIF Baives 79.71 341 *e*P **P** **20 59 33.7 -0.1**
RAR Rarotonga 79.75 137 LR LR 21 28 12.6
comp=Z,643nm,19.4s,MS5.0,baz=308,slow=31
NCB Newcomb 79.75 33 PFAKE 20 59 50.0 +16
NCB LR LR
comp=Z,502nm,20.0s,MS4.9
COBT Iskenderun 79.82 314 *i*P **P** **20 59 34.1 -0.2**
KARA Karaisali 79.82 315 *e*P **P** **20 59 35.5 +1.1**
BORA Eskisehir 79.85 319 *i*P **P** **20 59 30.3 -4.2**
LANF Langenberg 79.85 338 *e*P **P** **20 59 34.4 -0.1**
SVIS Svilajnac 79.88 328 *i*P **P** **20 59 34.2 -0.5**
PERS Pernice 79.91 333 *i*P **P** **20 59 36.0 +1.2**
ESKT Eskisehir 79.96 319 *i*P **P** **20 59 32.2 -2.9**
KBA Koelnbreinsper 80.05 334 *i*P **P** **20 59 36.2 +0.6**
comp=Z,59nm,1.1s,mb5.4,SNR=14
KBA Koelnbreinsper 80.05 334 *i*P **P** **20 59 36.2 +0.6**
KBA pmax pmax
comp=Z,59nm,1.1s,mb5.4
NATX Nacogdoches 80.10 54 PFAKE 20 59 50.0 +14
NATX LR LR
comp=Z,696nm,19.0s,MS5.0
DIM Dimitrovgrad 80.14 324 *i*P **P** **20 59 38.0 +1.9**
OBKA Obir 80.20 333⇓ *i*P **P** **20 59 37.1 +0.7**
comp=Z,7.2nm,0.6s,mb4.8,SNR=6.6
BFO Black Forest 80.32 338 *e*P **P** **20 59 36.9 -0.2**
comp=Z,58nm,1.8s,mb5.2
BFO Black Forest 80.32 338 *e*P **P** **20 59 36.9 -0.2**
BFO pmax pmax
comp=Z,58nm,1.8s,mb5.2
WATA Walderalm 80.34 335⇑ *i*P **P** **20 59 37.7 +0.5**
comp=Z,13nm,0.5s,mb5.1
WATA Walderalm 80.34 335⇑ *i*P **P** **20 59 37.7 +0.5**
WATA pmax pmax
comp=Z,13nm,0.5s,mb5.1
MERS Mersin 80.39 315 *e*P **P** **20 59 36.5 -0.9**
WTTA Wattenberg 80.39 335⇓ *i*P **P** **20 59 38.2 +0.8**
comp=Z,35nm,0.7s,mb5.4,SNR=17
WTTA Wattenberg 80.39 335⇓ *i*P **P** **20 59 38.2 +0.8**
WTTA pmax pmax
comp=Z,35nm,0.7s,mb5.4
MOTA Moosalm 80.47 335⇓ *i*P **P** **20 59 38.8 +0.9**
comp=Z,56nm,1.4s,mb5.3,SNR=15
MOTA Moosalm 80.47 335⇓ *i*P **P** **20 59 38.8 +0.9**
MOTA pmax pmax

	comp=Z,56nm,1.4s,mb5.3						
WLS	**Welschbruch**	**80.49**	**338**	*e*P	**P**	**20 59 37.9**	**-0.1**
DIVS	**Divcibare**	**80.50**	**328**	*i* P	**P**	**20 59 37.0**	**-1.1**
CDF	**Champ du Feu**	**80.51**	**338**	*e*P	**P**	**20 59 38.2**	**+0.1**
TAOE	**Nuku Hiva Isla**	**80.52**	**114**	*e*LR	LR	21 00 12.3	
	comp=Z,700nm,28.5s						
TAOE	**Nuku Hiva Isla**	**80.52**	**114**	*e*LR	LR	21 24 40.5	
	comp=Z,3µm,22.8s,baz=321						
KONT	**Konya--Tatoy**	**80.55**	**317**	*e*P	**P**	**20 59 37.4**	**-0.9**
SQTA	**Sankt Quirin**	**80.55**	**335**⇓	*i*P	**P**	**20 59 39.5**	**+1.2**
	comp=Z,16nm,0.9s,mb5.0,SNR=8.7						
SQTA	**Sankt Quirin**	**80.55**	**335**⇓	*i*P	**P**	**20 59 39.5**	**+1.2**
SQTA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SART	**Tekirdag**	**80.59**	**322**	*i* P	**P**	**20 59 34.1**	**-4.4**
VTS	**Vitosha**	**80.60**	**326**⇑	*i*P	**P**	**20 59 38.2**	**-0.4**
VTS	**Vitosha**	**80.60**	**326**	*i* P	**P**	**20 59 38.3**	**-0.3**
ECH	**Echery**	**80.72**	**338**	*e*P	**P**	**20 59 39.3**	**+0.1**
ROBS	**Robic**	**80.75**	**333**	*i* P	**P**	**20 59 38.8**	**-0.6**
OXF	**Oxford**	**80.76**	**48**	PFAKE		20 59 50.0	+11
OXF				LR	LR		
	comp=Z,655nm,22.0s,MS4.9						
GMNA	**Gemona**	**80.81**	**334**	P	**P**	**20 59 39.0**	**-0.7**
	comp=Z,70nm,0.9s,mb5.6						
FELD	**Feldberg im Sc**	**80.82**	**338**	*e*P	**P**	**20 59 39.3**	**-0.5**
HKT	**Hockley**	**80.82**	**56**	PFAKE		20 59 50.0	+10
HKT				LR	LR		
	comp=Z,544nm,21.0s,MS4.9						
DAVA	**Damuels**	**80.86**	**336**⇓	*i*P	**P**	**20 59 41.0**	**+1.1**
	comp=Z,13nm,0.9s,mb4.9						
BOJS	**Bojanci**	**80.87**	**332**	*i* P	**P**	**20 59 40.1**	**0.0**
SHUT	**Suhut-Afyon**	**80.89**	**319**	*e*P	**P**	**20 59 40.8**	**+0.7**
MEZF	**Maizieres J'vi**	**80.97**	**340**	*e*P	**P**	**20 59 40.8**	**+0.2**
	comp=Z,24nm,0.9s,mb4.8						
MEZF	**Maizieres J'vi**	**80.97**	**340**	*e*P	**P**	**20 59 40.8**	**+0.2**
	comp=Z,24nm,0.9s,mb5.1						
ENEZ	**Enez**	**80.98**	**323**	*e*P	**P**	**20 59 39.1**	**-1.6**
THEF	**They Montfort**	**81.00**	**339**	*e*P	**P**	**20 59 40.3**	**-0.4**
HAU	**Haudompre**	**81.12**	**339**	*e*P	**P**	**20 59 41.2**	**-0.2**
HAU				*e*R			
	comp=Z,1µm,19.8s						
HAU	**Haudompre**	**81.12**	**339**	*e*P	**P**	**20 59 41.2**	**-0.2**
HAU				LR	LR		
	comp=Z,1µm,19.8s,MS5.2						
HINF	**Hinteralfeld**	**81.17**	**338**	*e*P	**P**	**20 59 41.3**	**-0.3**
CANB	**Canakkale**	**81.20**	**322**	*i* P	**P**	**20 59 38.9**	**-2.9**
APPI	**Appiano**	**81.22**	**335**	P	**P**	**20 59 42.1**	**+0.2**
KKB	**Krupnik**	**81.26**	**325**	*i* P	**P**	**20 59 41.8**	**-0.3**
DAVOX	**Davos**	**81.33**	**336**	LR	LR	21 38 27.4	
	comp=Z,969nm,20.5s,MS5.2,baz=13,slow=38						
BBS	**Basel-Blauen**	**81.33**	**338**	*e*P	**P**	**20 59 42.3**	**-0.2**
TKTP	**Tekketepe**	**81.41**	**318**	*i* P	**P**	**20 59 41.8**	**-1.1**
BRMO	**Bormio**	**81.47**	**336**	P	**P**	**20 59 43.9**	**+0.7**
ISP	**Isparta**	**81.48**	**318**	*e*P	**P**	**20 59 41.6**	**-1.7**
LOMF	**Lomont**	**81.61**	**338**	*e*P	**P**	**20 59 43.3**	**-0.6**
STIP	**Stip**	**81.76**	**326**	*e*P	**P**	**20 59 38.2**	**-6.5**
BOZC	**Bozcaada**	**81.78**	**322**	*i* P	**P**	**20 59 37.0**	**-7.8**
SKO	**Skopje**	**81.80**	**326**	*e*P	**P**	**20 59 40.8**	**-4.1**
MABI	**Malga Bissina**	**81.81**	**335**	P	**P**	**20 59 45.9**	**+0.9**
PPT	**Papeete**	**81.88**	**127**	*e*S	S	21 09 55.8	-2.1
	comp=Z,302nm,26.8s						
PPT				*e*LR	LR	21 25 04.0	
	comp=Z,1µm,22.5s,baz=327						
FLN	**La Foliniere**	**81.92**	**343**	*e*P	**P**	**20 59 45.3**	**-0.3**
	comp=Z,54nm,1.2s,mb5.0						
FLN				*e*R			
	comp=Z,1µm,18.5s						
FLN	**La Foliniere**	**81.92**	**343**	*e*P	**P**	**20 59 45.3**	**-0.3**
FLN				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
FLN				MLR	MLR		
	comp=Z,1µm,18.5s,MS5.3						
FLN	**La Foliniere**	**81.92**	**343**	*e*P	**P**	**20 59 45.3**	**-0.3**
	comp=Z,27nm,1.2s,mb5.0						
FLN				LR	LR		
	comp=Z,1µm,18.5s,MS5.3						
VAY	**Valandovo**	**81.93**	**325**	*e*P	**P**	**20 59 40.6**	**-5.0**
LDF	**La Druitiere**	**82.02**	**343**	*e*P	**P**	**20 59 45.7**	**-0.4**
BHL	**Bhannes**	**82.19**	**312**	*e*P	**P**	**20 59 46.5**	**-0.4**
GRR	**Gorron**	**82.36**	**343**	*e*P	**P**	**20 59 47.9**	**0.0**
GOLH	**Golhisar**	**82.41**	**318**	*i* P	**P**	**20 59 41.8**	**-6.4**
LOR	**Lormes**	**82.41**	**340**	*e*P	**P**	**20 59 48.1**	**-0.1**
	comp=Z,16nm,0.8s,mb4.7						
LOR				*e*R			
	comp=Z,1µm,21.0s						
LOR	**Lormes**	**82.41**	**340**	*e*P	**P**	**20 59 48.1**	**-0.1**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LOR				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.3						
LOR	**Lormes**	**82.41**	**340**	*e*P	**P**	**20 59 48.1**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.7						
LOR				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
CABF	**La Chapelle**	**82.48**	**338**	*e*P	**P**	**20 59 48.8**	**+0.3**
CSS	**Prodhromos**	**82.49**	**315**	*e*P	**P**	**20 59 48.3**	**-0.3**
	comp=Z,31nm,0.8s,mb5.3						
ELL	**Elmali**	**82.65**	**318**	*e*P	**P**	**20 59 47.5**	**-1.9**
SSF	**Saint Saulge**	**82.69**	**340**	*e*P	**P**	**20 59 49.5**	**-0.1**
	comp=Z,15nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**82.69**	**340**	*e*P	**P**	**20 59 49.5**	**-0.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**82.69**	**340**	*e*P	**P**	**20 59 49.5**	**-0.1**
	comp=Z,7.3nm,1.0s,mb4.7						
HYF	**Humbligny**	**82.69**	**341**	*e*P	**P**	**20 59 50.0**	**+0.4**
URLA	**Izmir**	**82.79**	**321**	*i* P	**P**	**20 59 43.7**	**-6.4**
OHR	**Ohrid**	**82.79**	**326**	*e*P	**P**	**20 59 47.2**	**-2.9**
SGMF	**Saint Gilles**	**82.81**	**344**	*e*P	**P**	**20 59 49.9**	**-0.3**
	comp=Z,18nm,0.7s,mb5.0						
SGMF	**Saint Gilles**	**82.81**	**344**	*e*P	**P**	**20 59 49.9**	**-0.3**
SGMF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
SGMF	**Saint Gilles**	**82.81**	**344**	*e*P	**P**	**20 59 49.9**	**-0.3**
	comp=Z,9.3nm,0.7s,mb4.9						
ROSF	**Rostrenen**	**82.86**	**345**	*e*P	**P**	**20 59 50.2**	**-0.3**
	comp=Z,20nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**82.86**	**345**	*e*P	**P**	**20 59 50.2**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ROSF	**Rostrenen**	**82.86**	**345**	*e*P	**P**	**20 59 50.2**	**-0.3**
	comp=Z,10nm,0.8s,mb4.9						
ASF	**Jabal al Asfar**	**82.92**	**311**	P	**P**	**20 59 51.2**	**+0.4**
	comp=Z,8.2nm,1.1s,mb4.7,baz=210,slow=1.7,SNR=10						
AVF	**Avril sur Loir**	**82.98**	**340**	*e*P	**P**	**20 59 50.8**	**-0.3**
	comp=Z,47nm,1.1s,mb5.1						
AVF	**Avril sur Loir**	**82.98**	**340**	*e*P	**P**	**20 59 50.8**	**-0.3**
AVF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
AVF	**Avril sur Loir**	**82.98**	**340**	*e*P	**P**	**20 59 50.8**	**-0.3**
	comp=Z,24nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.00**	**340**	*e*P	**P**	**20 59 51.1**	**-0.1**
	comp=Z,128nm,1.3s,mb5.5						
SMF	**Signal de Mont**	**83.00**	**340**	*e*P	**P**	**20 59 51.1**	**-0.1**
SMF				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.5						
SMF	**Signal de Mont**	**83.00**	**340**	*e*P	**P**	**20 59 51.1**	**-0.1**
	comp=Z,64nm,1.3s,mb5.5						
MMAI	**Mount Meron Ar**	**83.02**	**312**	P	**P**	**20 59 52.1**	**+0.8**
	comp=Z,5.5nm,0.4s,mb4.9,baz=50,slow=6.7,SNR=33						
DALT	**Dalyan (Mudla)**	**83.21**	**319**	*e*P	**P**	**20 59 52.6**	**+0.3**
QUIF	**Quistinic**	**83.24**	**345**	*e*P	**P**	**20 59 52.2**	**-0.3**
	comp=Z,42nm,1.2s,mb5.0						
QUIF	**Quistinic**	**83.24**	**345**	*e*P	**P**	**20 59 52.2**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
QUIF	**Quistinic**	**83.24**	**345**	*e*P	**P**	**20 59 52.2**	**-0.3**
	comp=Z,21nm,1.3s,mb5.0						
BGF	**Bois d'Agland**	**83.31**	**340**	*e*P	**P**	**20 59 53.0**	**+0.2**
LPL	**La Plagne**	**83.34**	**338**	*e*P	**P**	**20 59 54.0**	**+1.0**
	comp=Z,20nm,0.8s,mb4.9						
LPL	**La Plagne**	**83.34**	**338**	*e*P	**P**	**20 59 54.0**	**+1.0**
LPL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
LPL	**La Plagne**	**83.34**	**338**	*e*P	**P**	**20 59 54.0**	**+1.0**
	comp=Z,9.9nm,0.8s,mb4.9						
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**20 59 54.1**	**+1.1**
	comp=Z,57nm,1.1s,mb5.2						
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**20 59 54.1**	**+1.1**
LPG				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**20 59 54.1**	**+1.1**
	comp=Z,28nm,1.1s,mb5.2						
FNVD	**Fontana Vidola**	**83.35**	**334**	P	**P**	**20 59 54.8**	**+1.8**
CBN	**Corbin**	**83.39**	**38**	PFAKE		21 00 00.0	+6.8
CBN				LR	LR		
	comp=Z,805nm,20.0s,MS5.1						
CING	**Cingoli**	**83.43**	**332**	P	**P**	**20 59 53.2**	**-0.2**
VLC	**Villacollemand**	**83.58**	**335**	P	**P**	**20 59 55.8**	**+1.6**
PLDF	**La Plantade**	**83.69**	**340**	*e*P	**P**	**20 59 55.4**	**+0.6**
TCF	**Toulx Ste Croi**	**83.71**	**341**	*e*P	**P**	**20 59 54.8**	**-0.1**
DAT	**Datca**	**83.72**	**319**	*e*P	**P**	**20 59 56.9**	**+1.9**
AGO	**Saint Agoulin**	**83.72**	**340**	*e*P	**P**	**20 59 55.9**	**+1.0**
MURB	**Monte Urbino**	**83.74**	**333**	P	**P**	**20 59 55.9**	**+0.8**
BNI	**Bardonecchia**	**83.78**	**337**	*e*P	**P**	**20 59 53.6**	**-1.6**
BNI				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.3						
BNI	**Bardonecchia**	**83.78**	**337**	*e*P	**P**	**20 59 53.6**	**-1.6**
	comp=Z,36nm,1.5s,mb5.3						
GRN	**Grenoble**	**83.85**	**338**	*e*P	**P**	**20 59 56.5**	**+0.9**
MFF	**Saint Martin d**	**83.92**	**342**	*e*P	**P**	**20 59 55.7**	**-0.3**
MBDF	**Montbardon**	**84.06**	**337**	*e*P	**P**	**20 59 57.0**	**+0.3**
	comp=Z,12nm,0.7s,mb4.8						
MBDF	**Montbardon**	**84.06**	**337**	*e*P	**P**	**20 59 57.0**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
MBDF	**Montbardon**	**84.06**	**337**	*e*P	**P**	**20 59 57.0**	**+0.3**
	comp=Z,6.2nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.11**	**338**	*e*P	**P**	**20 59 57.4**	**+0.5**
	comp=Z,33nm,0.9s,mb5.2						
ORIF				*e*R			
	comp=Z,673nm,20.2s						
ORIF	**Oris-en-Rattie**	**84.11**	**338**	*e*P	**P**	**20 59 57.4**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
ORIF	**Oris-en-Rattie**	**84.11**	**338**	*e*P	**P**	**20 59 57.4**	**+0.5**
	comp=Z,16nm,0.9s,mb5.2						
AQU	**L'Aquila**	**84.29**	**332**⇑	*i*P	**P**	**20 59 58.4**	**+0.6**
AQU	**L'Aquila**	**84.29**	**332**	P	**P**	**20 59 59.4**	**+1.6**
APE	**Apeiranthos**	**84.33**	**321**⇓	*i*P	**P**	**20 59 55.2**	**-2.8**
LBL	**Lubilhac**	**84.47**	**340**	*e*P	**P**	**20 59 57.5**	**-1.2**
VIVF	**Saint-Julien-l**	**84.48**	**339**	*e*P	**P**	**20 59 59.0**	**+0.2**
	comp=Z,127nm,1.7s,mb5.5						
VIVF	**Saint-Julien-l**	**84.48**	**339**	*e*P	**P**	**20 59 59.0**	**+0.2**
VIVF				pmax	pmax		
	comp=Z,63nm,1.7s,mb5.5						
VIVF	**Saint-Julien-l**	**84.48**	**339**	*e*P	**P**	**20 59 59.0**	**+0.2**
	comp=Z,63nm,1.7s,mb5.5						
MNS	**Montasola**	**84.49**	**332**	P	**P**	**20 59 58.5**	**-0.3**
OG25	**Le Caire**	**84.58**	**338**	*e*P	**P**	**21 00 00.7**	**+1.4**
MIDA	**Miranda**	**84.65**	**331**	P	**P**	**21 00 00.0**	**+0.4**
SBF	**Sospel**	**84.68**	**336**	*e*P	**P**	**20 59 59.5**	**-0.3**
RJF	**Les Rejaudoux**	**84.80**	**341**	*e*P	**P**	**21 00 00.2**	**-0.2**
RJF				*e*R			
	comp=Z,1µm,21.8s						
RJF	**Les Rejaudoux**	**84.80**	**341**	*e*P	**P**	**21 00 00.2**	**-0.2**
RJF				LR	LR		
	comp=Z,1µm,21.8s,MS5.2						
CAF	**Calviac**	**85.03**	**340**	*e*P	**P**	**21 00 01.7**	**+0.1**
	comp=Z,27nm,1.0s,mb5.0						
CAF	**Calviac**	**85.03**	**340**	*e*P	**P**	**21 00 01.7**	**+0.1**
CAF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
CAF	**Calviac**	**85.03**	**340**	*e*P	**P**	**21 00 01.7**	**+0.1**
	comp=Z,14nm,1.0s,mb5.0						
RFI	**Roccamonfina**	**85.04**	**331**	P	**P**	**21 00 02.5**	**+0.9**
	comp=Z,19nm,1.8s,mb4.9						
SMRF	**Simiane la Rot**	**85.07**	**338**	*e*P	**P**	**21 00 02.4**	**+0.6**
FRF	**La Foret Royal**	**85.18**	**337**	*e*P	**P**	**21 00 01.8**	**-0.5**
LFF	**La Frestale**	**85.32**	**341**	*e*P	**P**	**21 00 02.6**	**-0.4**
LMR	**La Mourre**	**85.42**	**337**	*e*P	**P**	**21 00 03.4**	**-0.1**
	comp=Z,75nm,1.2s,mb5.4						
LMR	**La Mourre**	**85.42**	**337**	*e*P	**P**	**21 00 03.4**	**-0.1**
LMR				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.4						
LMR	**La Mourre**	**85.42**	**337**	*e*P	**P**	**21 00 03.4**	**-0.1**
	comp=Z,38nm,1.2s,mb5.4						
PGF	**Pioggiola**	**85.46**	**335**	*e*P	**P**	**21 00 03.6**	**-0.1**
EIL	**Elat**	**85.92**	**310**	*e*P	**P**	**21 00 05.2**	**-0.8**
	comp=Z,2µm,1.4s						
TIP	**Timpagrande**	**85.97**	**328**	P	**P**	**21 00 06.3**	**0.0**
IDI	**Anoyia**	**86.11**	**321**	P	**P**	**21 00 05.9**	**-1.0**
	comp=Z,8.5nm,0.5s,mb5.3,baz=27,slow=9.5,SNR=24						
TBI	**Tubuai**	**86.67**	**130**	*e*S	S	21 10 42.6	-3.1
	comp=Z,229nm,27.2s						
TBI				*e*SS	SS	21 16 25.2	-1.7
	comp=Z,120nm,27.2s						
TBI				*e*LR	LR	21 27 05.6	
	comp=Z,1µm,34.2s,baz=324						
EPF	**Esparros**	**87.22**	**341**	*e*P	**P**	**21 00 12.7**	**+0.3**
VAE	**Valguarnera**	**88.32**	**329**	LR	LR	21 44 17.1	
	comp=Z,166nm,18.1s,MS5.2,baz=83,slow=39						
ESDC	**Sonseca Array**	**91.35**	**343**	P	**P**	**21 00 31.0**	**-0.7**
	comp=Z,0.7nm,0.6s,mb4.2,baz=8.7,slow=5.3,SNR=7.4						
ESDC				LR	LR	21 48 16.8	
	comp=Z,852nm,19.2s,MS5.2,baz=15,slow=40						
ESLA	**Sonseca Array**	**91.35**	**343**	PFAKE		21 00 40.0	+8.2
ESLA				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
PAB	**San Pablo**	**91.55**	**343**	PFAKE		21 00 40.0	+7.3
PAB				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
KEST	**Kesra**	**91.61**	**332**	P	**P**	**21 00 33.5**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.6,baz=256,slow=3.4,SNR=6.7						
KEST				LR	LR	21 45 48.4	
	comp=Z,308nm,19.3s,MS4.8,baz=328,slow=38						
RKT	**Rikitea**	**94.62**	**119**	*e*LR	LR	21 01 34.4	
	comp=Z,162nm,27.5s						
RKT	**Rikitea**	**94.62**	**119**	*e*SP	SP	21 13 11.6	-2.6
	comp=Z,296nm,28.8s						
RKT				*e*SS	SS	21 18 20.1	-1.8
	comp=Z,215nm,26.2s						
RKT				*e*LR	LR	21 30 55.4	
	comp=Z,973nm,33.5s,baz=320						
MDT	**Midelt**	**98.10**	**342**	LR	LR	21 51 57.0	
	comp=Z,366nm,18.5s,MS4.9,baz=257,slow=39						
MSEY	**Mahe Island**	**99.24**	**273**	PFAKE		21 01 20.0	+12
MSEY				LR	LR		
	comp=Z,97nm,19.0s,MS4.3						
KMBO	**Kilima Mbogo**	**108.78**	**290**	PFAKE		21 06 10.0	+15
KMBO				LR	LR		
	comp=Z,465nm,21.0s,MS5.0						
OTAV	**Otavalo**	**114.35**	**61**	PFAKE		21 06 20.0	+14
OTAV				LR	LR		
	comp=Z,159nm,22.0s,MS4.6						
TORD	**Torodi Ar. Bea**	**115.06**	**330**	PKP	PKiKP	21 06 05.7	-1.4
	comp=Z,0.4nm,0.5s,baz=12,slow=2.0,SNR=11						
MSKU	**Masuku**	**123.15**	**311**	PFAKE		21 06 30.0	+7.4
MSKU				LR	LR		
	comp=Z,13nm,22.0s						
NNA	**Nana**	**124.89**	**68**	PFAKE		21 06 40.0	+14
NNA				LR	LR		
	comp=Z,51nm,21.0s,MS4.2						
SBA	**Scott Base**	**124.99**	**177**	PFAKE		21 06 40.0	+14
SBA				LR	LR		
	comp=Z,212nm,19.0s,MS4.8						
LSZ	**Lusaka**	**125.26**	**287**	PFAKE		21 06 40.0	+13
LSZ				LR	LR		
	comp=Z,647nm,19.0s,MS5.3						
MAW	**Mawson**	**132.89**	**212**	PFAKE		21 06 50.0	+8.8
MAW				LR	LR		
	comp=Z,251nm,21.0s,MS4.9						
LPAZ	**La Paz**	**133.58**	**63**	PKIKP	PKPdf	21 06 44.7	+2.2
LPAZ	**La Paz**	**133.58**	**63**	PFAKE		21 07 00.0	+18
LPAZ				LR	LR		
	comp=Z,241nm,21.0s,MS4.9						
LBTB	**Lobatse**	**133.82**	**280**	PFAKE		21 07 00.0	+17
LBTB				LR	LR		
	comp=Z,331nm,20.0s,MS5.0						
QSPA	**South Pole Qui**	**136.90**	**180**	PFAKE		21 07 00.0	+11
QSPA				LR	LR		
	comp=Z,289nm,19.0s,MS5.0						
CFAA	**Coronel Fontan**	**144.28**	**80**	PKP	PKPdf	21 06 59.1	-2.8
	comp=Z,0.8nm,0.6s,baz=290,slow=2.8,SNR=13						
MAIT	**Maitri**	**150.30**	**204**	*e*PKPdf	PKPbc	21 07 16.0	-1.2
SNAA	**Sanae**	**153.13**	**196**	*e*PKPdf	PKPbc	21 07 20.2	-3.4
SNAA				*e*		21 07 32.5	
SNAA				*e*		21 07 39.0	
SNAA				*e*		21 07 44.9	
SNAA				*e*		21 07 52.7	
SNAA	**Sanae**	**153.13**	**196**	PKP2	PKPab	21 07 34.8	-0.4
SNAA	**Sanae**	**153.13**	**196**	*e*PKPdf	PKPdf	21 07 16.7	+0.4
VNA2	**Neumayer--Watz**	**154.56**	**194**	*e*PKPdf	PKPbc	21 07 24.9	-1.8
	baz=153,slow=1.7						
VNA2				*e*		21 07 42.9	
VNA2				*e*		21 07 47.0	
VNA2				*e*		21 08 14.7	
VNA2				*e*		21 08 20.9	

IDC ***08*** *20:50:32.0±0.6, 4707N×154.05E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.7/32, mbtmp4.7/27, ML3.8/1, Error ellipse: s-maj=16.6km s-min=14.1km az=117.0*

ISCJB ***08*** *20:50:32.9±1.8, 4711N±006×15392E±008, h11km±11km, mb5.0/134, MS5.0/7, Error ellipse: s-maj=12.1km s-min=4.9km az=98.1*

BJI ***08*** *20:50:32.1, 47.17N×154.15E, h16km, mB5.2, mb4.9, Ms5.1, Msz5.0*

NEIC ***08*** *20:50:33.8±0.3, 4706N×15397E, h10km, mb5.1/68, Error ellipse: s-maj=7.7km s-min=4.8km az=125.0*

SKHL ***08*** *20:50:33.2±1.9, 4680N×15448E, h49km±17km*

MOS ***08*** *20:50:35.6±1.1, 47.14N×15387E, h36km, mb5.3/66, Error ellipse: s-maj=11.9km s-min=9.2km az=77.6*

SZGRF ***08*** *20:50:48.1, 4866N×15194E, h33km, mb5.3, Kuril Islands, Russia*

ISC 08 20:50:35.8±2.0, 4716N±005×15401E±008, h21km±13km, n340, σ0°87/345, mb5.0/134, MS5.0/7, 100C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.79**	**21**	*e*P	**Pn**	**20 51 33.7**	**+0.8**
SKR				AMB	AMB	20 51 35.0	
	270nm,1.0s						
SKR				AMB	AMB	20 51 35.0	
	220nm,1.0s						
SKR				AMB	AMB	20 51 35.0	
	450nm,1.0s						
SKR				*e*S	**Sn**	**20 52 15.0**	**-1.9**
SKR				A		20 52 24.8	
	630nm,1.0s						
SKR				A		20 52 24.8	
	420nm,0.5s						
SKR				A		20 52 24.8	
	150nm,0.5s						
KUR	**Kuril'sk**	**4.68**	**248**	*e*P	**Pn**	**20 51 44.0**	**-1.1**
KUR				AMB	AMB	20 51 47.3	
	129nm,0.6s						
KUR				AMB	AMB	20 51 47.3	
	380nm,0.6s						
KUR				*i* S	**Sn**	**20 52 38.5**	**-0.3**
KUR				A		20 52 57.3	
	2µm,0.8s						
KUR				A		20 52 57.3	
	1µm,0.8s						
KUR	**Kuril'sk**	**4.68**	**248**	*e*PN	**Pn**	**20 51 44.0**	**-1.1**
KUR				*e*S	**Sn**	**20 52 38.5**	**-0.3**
KUR				pmax	pmax		
	comp=N,130nm,0.6s						
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
KUR				smax			
	comp=N,2µm,0.8s						
KUR				smax			
	comp=E,1µm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.51**	**244**	*e*P	**Pn**	**20 52 11.3**	**+1.0**
YUK				AMB	AMB	20 52 23.2	
	comp=E,250nm,0.5s						
YUK				*e*S	**Sn**	**20 53 23.5**	**-0.5**
YUK				A		20 53 46.5	
	comp=E,2µm,0.7s						
YUK				A		20 53 46.5	
	comp=E,540nm,0.7s						
YUK				A		20 53 47.3	
	comp=E,3µm,1.0s						
PET	**Petropavlovsk**	**6.59**	**25**	*e*PN	**Pn**	**20 52 13.8**	**+2.4**
PET				MLR	MLR		
	comp=Z,4µm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.69**	**273**	*e*PN	**Pn**	**20 52 34.0**	**+7.5**
YSS				*e*		20 54 02.0	
YSS	**Yuzh-Sakhalins**	**7.69**	**273**	*e*P	**Pn**	**20 52 30.9**	**+4.4**
UGL	**Uglegorsk**	**8.22**	**288**	*e*P	**Pn**	**20 52 40.0**	**+6.2**
MAJO	**Matsushiro**	**15.82**	**234**	*e*P	**Pn**	**20 54 14.1**	**-3.0**
MAT	**Matsushiro**	**15.82**	**234**	P	**Pn**	**20 54 16.0**	**-1.1**
MJAR	**Matsushiro Arr**	**15.82**	**234**	Pn	**Pn**	**20 54 14.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=25,slow=11,SNR=5.4						
SEY	**Seymchan**	**15.84**	**357**⇑	*e*P	**Pn**	**20 54 23.0**	**+5.6**
ZEA	**Zeya**	**18.20**	**301**	*e*P	**Pn**	**20 54 47.9**	**+0.9**
ZEA				AMB	AMB	20 54 51.3	
	comp=Z,35nm,1.0s						
ZEA				AMS	AMS	20 59 12.0	
	comp=Z,6µm,16.0s						
ZEA				AMS	AMS	20 59 12.0	
	comp=Z,2µm,15.0s						
ZEA				AMS	AMS	20 59 12.0	
	comp=Z,9µm,16.0s						
CLNS	**Chul'man**	**20.23**	**309**	*e*P	**P**	**20 55 07.2**	**-2.2**
CLNS				pmax	pmax		
	comp=Z,40nm,0.8s						
CLNS				pmax	pmax		
	comp=N,23

LZH sP sP 20 58 06.2 +0.9
LZH ePP PP 20 59 27.8 +3.3
LZH LR LR
comp=Z,1µm,17.4s,MS4.9
GTA Gaotai 39.51 279 P **P** **20 58 05.8 +0.9**
GTA AP pP 20 58 09.7 -1.6
GTA XP sP 20 58 12.9 -1.0
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.5
GZH Guangzhou 40.39 248 P **P** **20 58 07.4 -4.8**
GZH LR LR
comp=N,1µm,16.5s,MS4.9
GZH LR LR
comp=E,601nm,18.3s,MS4.9
GZH LR LR
comp=Z,2µm,14.6s,MS5.1
CD2 Chengdu 41.52 265 P **P** **20 58 22.4 +0.9**
CD2 AMB AMB
comp=Z,180nm,0.9s,mb5.7
GYA Guiyang 42.40 258 P **P** **20 58 29.5 +0.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
ZAL Zalesovo 42.88 306 P **P** **20 58 31.3 -1.3**
comp=Z,10nm,0.8s,mb4.6,baz=45,slow=9.0,SNR=15
ZAL PcP PcP 21 00 23.1 -0.2
comp=Z,1.6nm,0.8s,baz=176,slow=3.2,SNR=3.0
NVS Novosibirsk 43.43 307 *i* P **P** **20 58 35.3 -1.7**
KMI Kunming 45.92 260 P **P** **20 58 57.4 +0.5**
KMI AMB AMB
comp=Z,20nm,1.5s,mb4.8
KMI Kunming 45.92 260 P **P** **20 58 57.4 +0.5**
comp=Z,20nm,1.5s,mb4.8
MK31 Makanchi Array 47.30 297 *e*P **P** **20 59 06.7 -1.0**
MKAR Makanchi Array 47.30 297 P **P** **20 59 06.8 -0.9**
comp=Z,16nm,0.8s,mb5.0,baz=64,slow=8.2,SNR=24
YKA Yellowknife Ar 50.23 37 P **P** **20 59 29.0 -1.2**
comp=Z,1.0nm,0.7s,baz=296,slow=7.2,SNR=2.6
RES Resolute Bay 50.25 19 *e*P **P** **20 59 30.1 -0.3**
LSA Lhasa 50.86 273 P **P** **20 59 38.0 +3.0**
LSA Lhasa 50.86 273 *e*P **P** **20 59 37.1 +2.1**
BVAR Borovoye Array 51.07 309 P **P** **20 59 35.7 -0.9**
comp=Z,6.2nm,0.4s,mb4.9,baz=54,slow=7.7,SNR=16
BVAR PcP PcP 21 00 50.6 -1.7
comp=Z,3.3nm,0.8s,baz=101,slow=6.2,SNR=3.5
BRVK Borovoye 51.11 310 *e*P **P** **20 59 35.7 -1.2**
CHTO Chiang Mai 52.81 257 *e*P **P** **20 59 49.7 +0.2**
ULHL Ulahol 53.35 295 P **P** **20 59 53.6 +0.1**
SNR=12
CHMS Chumysh 53.84 297 P **P** **20 59 56.9 -0.2**
SNR=5.2
USP Ospenovka 53.84 297 P **P** **20 59 56.6 -0.5**
SNR=20
KBK Karagaybulak 53.91 296 P **P** **20 59 57.6 0.0**
SNR=6.6
KZA Kyzart 54.05 296 P **P** **20 59 59.7 +1.1**
SNR=8.1
AAK Ala-Archa 54.20 297 P **P** **20 59 59.9 +0.1**
SNR=16
AAK Ala-Archa 54.20 297⇓ *e*P **P** **20 59 58.6 -1.1**
AAK pmax pmax
comp=Z,14nm,0.7s,mb5.0
AAK Ala-Archa 54.20 297 *e*P **P** **20 59 58.3 -1.5**
EKS2 Erkin-Say 54.62 297 P **P** **21 00 02.8 0.0**
SNR=15
AML Almayashu 54.98 296 P **P** **21 00 05.9 +0.5**
SNR=6.7
ARU Arti 55.12 318⇑ *i* P **P** **21 00 05.0 -1.4**
ARU *e*S **S** **21 07 43.6 -4.5**
ARU pmax pmax
comp=Z,45nm,0.8s,mb5.5
ARU Arti 55.12 318 *e*P **P** **21 00 04.7 -1.7**
JIRN Jiri 55.52 275 *e*P **P** **21 00 10.7 +1.4**
comp=Z,60nm,0.8s,mb5.5
GUN Gumba 55.57 275 *e*P **P** **21 00 10.8 +1.1**
comp=Z,84nm,0.8s,mb5.8
KKN Kakani 56.06 276 *e*P **P** **21 00 14.4 +1.3**
comp=Z,133nm,0.9s,mb6.0
PKI Pulchoki 56.11 275 *e*P **P** **21 00 14.5 +1.0**
comp=Z,150nm,1.1s,mb5.9
DMN Daman 56.29 276 *e*P **P** **21 00 16.4 +1.6**
comp=Z,268nm,0.9s
GKN Gorkha 56.36 276 *e*P **P** **21 00 16.5 +1.2**
comp=Z,253nm,0.9s
PMG Port Moresby 56.64 188 P **P** **21 00 15.3 -2.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=256,slow=12,SNR=2.9
KEV Kevo 57.16 341 *ep* **P** **21 00 20.0 -1.0**
comp=Z,6.5nm,0.9s,mb4.7
KEV Kevo 57.16 341 *e*P **P** **21 00 20.0 -1.0**
KEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KOLN Koldanda 57.21 277 *e*P **P** **21 00 22.7 +1.4**
comp=Z,188nm,0.9s,mb5.1
ARCES ARCESS Array B 57.67 341 P **P** **21 00 23.8 -0.8**
comp=Z,3.8nm,0.7s,mb4.5,baz=26,slow=7.7,SNR=10.0
AKTK Aktyubinsk 58.91 312 P **P** **21 00 32.4 -0.9**
AKTO Aktyubinsk 58.91 312 P **P** **21 00 32.4 -0.9**
comp=Z,8.7nm,0.9s,mb4.8,baz=83,slow=8.6,SNR=7.8
ORR Orenburg 59.80 315 *e*P **P** **21 00 38.5 -0.9**
ORR pmax pmax
comp=Z,30nm,1.3s,mb5.2
ORR MLR MLR
comp=Z,3µm,14.0s,MS5.5
FIA1 FINESS Array S 63.93 335 *e*P **P** **21 01 06.1 -1.1**
FINES FINESS Array B 63.93 335 P **P** **21 01 06.3 -0.9**
comp=Z,4.4nm,0.4s,mb4.9,baz=32,slow=7.9,SNR=22
OBN Obninsk 65.32 326⇑ *e*P **P** **21 01 15.1 -1.1**
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.0
PFO Pinyon Flat Ob 65.96 66 P **P** **21 01 20.7 +0.3**
comp=Z,2.7nm,0.6s,mb4.5,baz=270,slow=1.0,SNR=3.8
VSU Vasula 66.13 333⇑ *e*P **P** **21 01 20.8 -0.7**
CTA Charters Tower 67.30 188 P **P** **21 01 26.4 -2.6**
comp=Z,2.8nm,0.8s,mb4.4,baz=29,slow=9.1,SNR=2.8
NB2 NORSAR Subarra 68.04 341 P **P** **21 01 33.2 -0.4**
comp=Z,55nm,0.9s,mb5.6,baz=26,slow=6.5
NOA NORSAR Array B 68.04 341 P **P** **21 01 33.1 -0.5**
comp=Z,34nm,0.9s,mb5.4,baz=27,slow=6.3,SNR=37
WRAB Tennant Creek 69.09 200⇑ *e*P **P** **21 01 38.5 -1.7**
KONO Kongsberg 69.64 342⇑ *i*P **P** **21 01 44.1 +0.5**
KONO Kongsberg 69.64 342 *e*P **P** **21 01 44.2 +0.6**
comp=Z,14nm,0.9s,mb4.9
ECSD EROS,Sioux Fal 70.16 47 P **P** **21 01 50.5 +3.8**
SUW Suwalki 70.93 332 *e*P **P** **21 01 50.6 -0.8**
KIV Kislovodsk 70.95 315⇓ *e*P **P** **21 01 51.7 +0.1**
KIV pmax pmax
comp=Z,36nm,1.0s,mb5.3
KIV Kislovodsk 70.95 315 *e*P **P** **21 01 51.2 -0.4**
comp=Z,28nm,0.8s,mb5.2
ZEI Tsey 71.23 313 *e*P **P** **21 01 51.8 -1.5**
ZEI *e**PP pP 21 02 09.3 +9.2
ZEI *e* 21 04 29.6
ZEI pmax pmax
comp=Z,17nm,0.9s,mb5.0
AKASG Malin Array Be 71.55 327 P **P** **21 01 54.1 -1.1**
comp=Z,31nm,0.7s,mb5.3,baz=34,slow=6.1,SNR=36
AKBB Malin Array Si 71.55 327 *e*P **P** **21 01 54.1 -1.1**
SCHQ Schefferville 72.69 23 P **P** **21 02 03.5 +1.4**
comp=Z,5.6nm,0.9s,mb4.5,baz=308,slow=6.1,SNR=3.2
GNI Garni 72.73 311 P **P** **21 02 03.7 +1.4**
comp=Z,12nm,0.7s,mb5.0,baz=309,slow=5.7,SNR=7.8
GNI Garni 72.73 311⇑ *e*P **P** **21 02 02.6 +0.3**
GNI pmax pmax
comp=Z,16nm,0.7s
GNI Garni 72.73 311 *e*P **P** **21 02 03.8 +1.5**
ANN Anapa 72.78 318 *e*P **P** **21 01 59.4 -3.2**
ANN pmax pmax
comp=Z,112nm,1.2s,mb5.7
ASAR Alice Springs 72.79 199 P **P** **21 02 02.3 -0.3**
comp=Z,4.7nm,1.1s,mb4.3,baz=9.5,slow=4.1,SNR=5.0
GKP Gorka Klasztor 73.40 335 *e*P **P** **21 02 06.6 +0.4**
SIM Simferopol' 74.15 320 *e*P **P** **21 02 11.4 +0.8**
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,1µm,16.9s,MS5.3
LVV L'vov 74.16 329 *e*P **P** **21 02 09.9 -0.8**
BSEG Bad Segeberg 74.67 339 *e*P **P** **21 02 13.9 +0.2**
comp=Z,25nm,1.0s,mb5.1
KWP Kalwaria 74.78 330 *e*P **P** **21 02 15.1 +0.8**
RUE Ruedersdorf 75.08 336 *e*P **P** **21 02 15.9 -0.1**
comp=Z,43nm,0.9s,mb5.4
OJC Ojcow 75.25 332 *e*P **P** **21 02 17.5 +0.5**
STHS Stebnicka Huta 75.47 330 *e*P **P** **21 02 18.7 +0.4**
STHS pmax pmax
comp=Z,15nm,0.8s,mb5.0
STHS Stebnicka Huta 75.47 330 *e*P **P** **21 02 18.7 +0.4**
comp=Z,15nm,0.8s,mb5.0
KOLS Kolonicke sedl 75.53 329 *e*P **P** **21 02 18.5 -0.1**
BURAR Bucovina Array 75.58 327⇑ *i*P **P** **21 02 18.7 -0.2**
BURAR Bucovina Array 75.58 327⇑ P **P** **21 02 18.7 -0.2**
NIE Niedzica 75.78 331 *e*P **P** **21 02 20.7 +0.7**
UZH Uzhgorod 75.78 329 *d i*P **P** **21 02 18.0 -2.0**
KSP Ksiaz 75.81 334 *e*P **P** **21 02 19.9 -0.3**
CRVS Cervenica-Dubn 75.83 330 *e*P **P** **21 02 20.5 +0.1**
OKC Ostrava-Krasne 76.12 332 *e*P **P** **21 02 22.7 +0.7**
UPC Upice 76.19 334 *e*P **P** **21 02 23.1 +0.7**
DPC Dobruska-Polom 76.23 334 *e*P **P** **21 02 23.0 +0.4**
DPC pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
DPC Dobruska-Polom 76.23 334 *e*P **P** **21 02 23.0 +0.4**
comp=Z,2.1nm,0.3s,mb4.5
CLL Collm 76.34 336 *e*P **P** **21 02 22.7 -0.6**
comp=Z,60nm,0.9s,mb5.5
CLL Collm 76.34 336 *i* P **P** **21 02 22.6 -0.7**
comp=Z,60nm,0.9s,mb5.5
CLL *e*sP sP 21 02 27.0 -5.6
MORC Moravsky Berou 76.36 333⇑ *i*P **P** **21 02 23.2 -0.2**
BRG Berggiesshubel 76.47 335 *e*P **P** **21 02 23.5 -0.5**
comp=Z,1nm,1.0s,mb5.0
BRG Berggiesshubel 76.47 335 *i* P **P** **21 02 24.2 +0.3**
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 76.47 335 *i* P **P** **21 02 24.2 +0.2**
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 76.53 330 *e*P **P** **21 02 24.0 -0.3**
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KECS Kecovo 76.53 330 *e*P **P** **21 02 24.0 -0.3**
comp=Z,8.8nm,0.9s,mb4.7
CLZ Clausthal 76.56 338 *e*P **P** **21 02 25.1 +0.6**
comp=Z,38nm,1.0s,mb5.3
CLZ Clausthal 76.56 338 *e*P **P** **21 02 25.1 +0.6**
CLZ pmax pmax
comp=Z,38nm,1.0s,mb5.3
FBE Freiberg 76.59 336 *e*P **P** **21 02 24.5 -0.2**
comp=Z,34nm,0.9s,mb5.3
PVCC Panska Ves 76.60 335 *e*P **P** **21 02 25.3 +0.6**
PVCC pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
PVCC Panska Ves 76.60 335 *e*P **P** **21 02 25.3 +0.6**
comp=Z,7.4nm,0.4s,mb5.0
TXAR Lajitas Array 76.76 61 P **P** **21 02 25.7 +0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=302,slow=4.3,SNR=5.1
IBBN Ibbenburen 76.79 339 *e*P **P** **21 02 26.0 +0.2**
comp=Z,42nm,1.1s,mb5.3
TIRR Tirgusor 76.95 323⇓ *i*P **P** **21 02 27.4 +0.7**
TIRR Tirgusor 76.95 323 *e*P **P** **21 02 26.5 -0.2**
TIRR pmax pmax
comp=Z,19nm,0.9s,mb5.0
TIRR Tirgusor 76.95 323 *e*P **P** **21 02 26.4 -0.3**
comp=Z,19nm,0.9s,mb5.0
VYHS Vyhne 77.07 331 *e*P **P** **21 02 27.6 +0.3**
VYHS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VYHS Vyhne 77.07 331 *e*P **P** **21 02 27.6 +0.3**
comp=Z,10nm,0.9s,mb4.8
VRAC Vranov 77.07 333⇓ *i*P **P** **21 02 27.8 +0.4**
VRAC Vranov 77.07 333 P **P** **21 02 29.3 +2.0**
MLR Muntele Rosu 77.08 325 P **P** **21 02 28.2 +0.8**
comp=Z,11nm,0.6s,mb5.3,baz=180,slow=2.2,SNR=23
MLR Muntele Rosu 77.08 325⇑ *i*P **P** **21 02 27.9 +0.5**
MLR Muntele Rosu 77.08 325 P **P** **21 02 28.4 +1.0**
PRU Pruhonice 77.08 335 *e*P **P** **21 02 27.8 +0.4**
PSZ Piszkesteto 77.21 330 P **P** **21 02 29.9 +1.7**
TANN Tannenbergstha 77.30 336 *e*P **P** **21 02 28.6 0.0**
comp=Z,10.0nm,0.9s,mb4.8
WERD Werda 77.31 336 *e*P **P** **21 02 28.7 0.0**
comp=Z,20nm,1.0s,mb5.0
MOX Moxa 77.32 337 *e*P **P** **21 02 28.9 +0.1**
comp=Z,25nm,1.0s,mb5.1
MOX Moxa 77.32 337 *e*P **P** **21 02 28.8 0.0**
GUNZ Gunzen 77.38 336 *e*P **P** **21 02 29.3 +0.2**
comp=Z,25nm,0.9s,mb5.1
WERN Wernitzgruen 77.44 336 *e*P **P** **21 02 29.6 +0.2**
comp=Z,31nm,0.8s,mb5.3
NKC Novy Kostel 77.47 336 *e*P **P** **21 02 30.5 +0.9**
VOIR 77.47 326⇑ *i*P **P** **21 02 30.6 +1.0**
VOIR 77.47 326⇑ P **P** **21 02 30.6 +1.0**
SMOL Smolenice 77.50 332 *e*P **P** **21 02 30.9 +1.1**
UBBA Unterbreizbach 77.59 338 *e*P **P** **21 02 30.2 -0.1**
comp=Z,11nm,1.0s,mb4.7
BUG Bochum–Univer 77.71 339 *e*P **P** **21 02 31.0 +0.1**
comp=Z,25nm,1.0s,mb5.1
MANZ Manzenberg 77.78 336 *e*P **P** **21 02 31.5 +0.2**
comp=Z,15nm,0.9s,mb4.9
ZST Bratislava 77.89 332 *e*P **P** **21 02 33.4 +1.5**
ZST Bratislava 77.89 332 *e*P **P** **21 02 33.8 +1.9**
comp=Z,14nm,0.9s,mb4.9
ROTZ Rotzenmuhle 77.95 336 *e*P **P** **21 02 32.9 +0.6**
comp=Z,25nm,0.9s,mb5.1
KHC Kasperske Hory 78.13 335 *e*P **P** **21 02 33.8 +0.5**
KHC Kasperske Hory 78.13 335⇓ *e*P **P** **21 02 33.7 +0.4**
GRA1 Grafenberg Arr 78.29 336 *e*P **P** **21 02 34.8 +0.6**
comp=Z,54nm,0.9s,mb5.5
GRF Grafenberg Arr 78.29 336 *e*P **P** **21 02 34.8 +0.6**
comp=Z,54nm,0.9s,mb5.5
GRF Grafenberg Arr 78.29 336 *e*P **P** **21 02 34.8 +0.6**
GRF pmax pmax
comp=Z,54nm,0.9s,mb5.5
GRF Grafenberg Arr 78.29 336 *e*P **P** **21 02 34.8 +0.6**
GRF pmax pmax
comp=Z,54nm,0.9s,mb5.5
GRFO Grafenberg 78.30 336 *e*P **P** **21 02 33.8 -0.4**
GRFO pmax pmax
comp=Z,46nm,0.8s,mb5.5
GRFO Grafenberg 78.30 336 *e*P **P** **21 02 33.8 -0.4**
comp=Z,46nm,0.8s,mb5.5
WET Wettzell 78.33 335 *e*P **P** **21 02 35.0 +0.6**
comp=Z,26nm,0.9s,mb5.2
WET Wettzell 78.33 335 *e*P **P** **21 02 35.0 +0.6**
WET pmax pmax
comp=Z,26nm,0.9s,mb5.2
GEC2 GERESS Array S 78.35 334 *e*P **P** **21 02 34.4 -0.1**
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 78.35 334 *e*P **P** **21 02 34.4 -0.1**
GEC2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
GERES GERESS Array B 78.35 334 P **P** **21 02 34.6 +0.1**
comp=Z,7.0nm,0.8s,mb4.7,baz=33,slow=4.5,SNR=24
GZR Gura Zlata 78.36 327⇓ *i*P **P** **21 02 34.1 -0.5**
GZR Gura Zlata 78.36 327⇓ P **P** **21 02 34.1 -0.4**
BR131 Keskin Array S 78.51 317 *e*P **P** **21 02 35.2 -0.1**
comp=Z,15nm,0.9s,mb4.9
BRTR Keskin Array B 78.51 317 P **P** **21 02 36.1 +0.7**
comp=Z,14nm,0.9s,mb4.9,baz=67,slow=3.4,SNR=26
CONA Conrad Observa 78.52 333⇑ *i*P **P** **21 02 36.2 +0.8**
comp=Z,10nm,0.8s,mb4.8
TNS Taunus Mts 78.54 338 *e*P **P** **21 02 36.1 +0.6**
comp=Z,25nm,0.9s,mb5.1
TNS Taunus Mts 78.54 338 *e*P **P** **21 02 36.1 +0.6**
TNS pmax pmax
comp=Z,25nm,0.9s,mb5.1
BZS Buzias 78.59 328⇓ *i*P **P** **21 02 35.5 -0.3**
BZS Buzias 78.59 328 P **P** **21 02 35.6 -0.2**
MEM Membach 78.78 340 P **P** **21 02 37.1 +0.3**
comp=Z,24nm,0.8s,mb5.2
ANTO Ankara 78.78 318 *e*P **P** **21 02 37.4 +0.5**
ANTO pmax pmax
comp=Z,19nm,0.7s,mb5.1
ANTO Ankara 78.78 318 *e*P **P** **21 02 37.4 +0.5**
comp=Z,19nm,0.7s,mb5.1
ZIMR 78.84 325⇓ *i*P **P** **21 02 37.1 -0.1**
ZIMR 78.84 325⇓ P **P** **21 02 37.1 -0.1**
UMR Umm Al-Rimmam 78.94 302 *e*P **P** **21 02 38.4 +0.7**
UMR AMb AMB 21 02 40.1
comp=Z,133nm,1.0s,mb5.8
MIB Mutribah 78.97 302 *e*P **P** **21 02 38.4 +0.5**
MIB AMb AMB 21 02 40.2
comp=Z,125nm,0.8s,mb5.9
TOD Tromm 79.02 338 *e*P **P** **21 02 38.1 -0.1**
MOA Molln 79.08 334⇑ *i*P **P** **21 02 38.7 +0.2**
comp=Z,13nm,0.8s,mb4.9,SNR=11
ABH Alteburg 79.08 339 *e*P **P** **21 02 39.8 +1.3**
BCLA Clavier 79.12 340 P **P** **21 02 37.2 -1.5**
comp=Z,11nm,0.9s,mb4.8
PKSM Moragy 79.12 330⇑ *i*P **P** **21 02 38.6 -0.1**
PKSM Moragy 79.12 330 P **P** **21 02 39.1 +0.4**
ARSA Arzberg 79.22 333⇑ *i*P **P** **21 02 39.5 +0.2**
comp=Z,11nm,1.1s,mb4.7
KBD Kabd 79.23 301 *e*P **P** **21 02 40.2 +0.9**
KBD AMb AMB 21 02 42.4
comp=Z,258nm,1.0s
SNF Seneffe 79.27 341 P **P** **21 02 39.0 -0.5**
SNF E 21 02 41.0
comp=Z,8.5nm,0.8s
QRN Al-Qurain 79.42 301 *e*P **P** **21 02 41.0 +0.7**
QRN AMb AMB 21 02 42.8
comp=Z,113nm,0.8s,mb5.8
NAY Al-Naaiem 79.44 302 *e*P **P** **21 02 41.0 +0.6**
NAY AMb AMB 21 02 42.9
comp=Z,42nm,1.0s,mb5.3
RDF Al-Radifah 79.50 301 *e*P **P** **21 02 41.6 +0.8**
RDF AMb AMB 21 02 44.6
comp=Z,137nm,1.1s,mb5.8
GIVF Givet 79.53 340⇑ *i*P **P** **21 02 40.6 -0.3**
comp=Z,27nm,0.9s,mb4.9
GIVF Givet 79.53 340⇑ *i*P **P** **21 02 40.6 -0.3**
GIVF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GIVF Givet 79.53 340⇑ *i*P **P** **21 02 40.6 -0.3**
comp=Z,13nm,0.9s,mb4.9
DOU Dourbes 79.58 341 E 21 02 42.7
comp=Z,4.6nm,1.0s
FUR Furstenfeldbru 79.67 336 *e*P **P** **21 02 42.3 +0.6**
comp=Z,41nm,1.0s,mb5.3
FUR Furstenfeldbru 79.67 336 *e*P **P** **21 02 42.3 +0.6**
FUR pmax pmax
comp=Z,41nm,1.0s,mb5.3
STU Stuttgart 79.68 337 *e*P **P** **21 02 42.2 +0.4**
comp=Z,22nm,0.9s,mb5.1
BAIF Baives 79.70 341⇑ *i*P **P** **21 02 41.6 -0.3**
comp=Z,22nm,1.0s,mb4.7
BAIF Baives 79.70 341⇑ *i*P **P** **21 02 41.6 -0.3**
BAIF pmax pmax
comp=Z,11nm,1.0s,mb4.7
BAIF Baives 79.70 341⇑ *i*P **P** **21 02 41.6 -0.3**
comp=Z,11nm,1.0s,mb4.8
PERS Pernice 79.90 333 *i* P **P** **21 02 44.2 +1.3**
KBA Koelnbreinsper 80.05 334⇑ *i*P **P** **21 02 44.5 +0.7**
comp=Z,37nm,0.8s,mb5.4,SNR=12
KBA Koelnbreinsper 80.05 334⇑ *i*P **P** **21 02 44.5 +0.7**
KBA pmax pmax
comp=Z,37nm,0.8s,mb5.4
OBKA Obir 80.19 333⇑ *i*P **P** **21 02 45.8 +1.2**
comp=Z,10nm,0.8s,mb4.8
BFO Black Forest 80.31 338 *e*P **P** **21 02 45.5 +0.3**
comp=Z,23nm,1.0s,mb5.1
BFO Black Forest 80.31 338 *e*P **P** **21 02 45.5 +0.3**
BFO pmax pmax
comp=Z,23nm,1.0s,mb5.1
WATA Walderalm 80.33 335⇑ *i*P **P** **21 02 45.9 +0.6**
comp=Z,20nm,0.7s,mb5.2,SNR=8.7
WATA Walderalm 80.33 335⇑ *i*P **P** **21 02 45.9 +0.6**
WATA pmax pmax
comp=Z,20nm,0.7s,mb5.2
WTTA Wattenberg 80.38 335⇓ *i*P **P** **21 02 45.9 +0.4**
comp=Z,36nm,0.7s,mb5.4,SNR=21
WTTA Wattenberg 80.38 335⇓ *i*P **P** **21 02 45.9 +0.3**
WTTA pmax pmax
comp=Z,36nm,0.7s,mb5.4
MOTA Moosalm 80.46 335⇓ *i*P **P** **21 02 46.4 +0.4**
comp=Z,40nm,0.9s,mb5.3
MOTA Moosalm 80.46 335⇓ *i*P **P** **21 02 46.4 +0.4**
MOTA pmax pmax
comp=Z,40nm,0.9s,mb5.3
DIVS Divcibare 80.49 328 *i* P **P** **21 02 45.7 -0.4**
CDF Champ du Feu 80.51 338⇑ *i*P **P** **21 02 46.0 -0.2**
comp=Z,30nm,0.9s,mb4.9
CDF Champ du Feu 80.51 338⇑ *i*P **P** **21 02 46.0 -0.2**
CDF pmax pmax
comp=Z,15nm,0.9s,mb4.9
CDF Champ du Feu 80.51 338⇑ *i*P **P** **21 02 46.0 -0.2**
comp=Z,15nm,0.9s,mb4.9
SQTA Sankt Quirin 80.54 335⇑ *i*P **P** **21 02 47.2 +0.7**
comp=Z,19nm,0.8s,mb5.1
SQTA Sankt Quirin 80.54 335⇑ *i*P **P** **21 02 47.2 +0.8**
SQTA pmax pmax
comp=Z,19nm,0.8s,mb5.1
VTS Vitosha 80.58 325⇑ *i*P **P** **21 02 46.7 0.0**
VTS Vitosha 80.58 325 ⇑P **P** **21 02 46.7 0.0**
ROBS Robic 80.75 333 *i* P **P** **21 02 47.5 0.0**
FELD Feldberg im Sc 80.82 338 *e*P **P** **21 02 47.8 -0.1**
DAVA Damuels 80.86 336⇑ *i*P **P** **21 02 45.2 -2.9**
comp=Z,28nm,0.9s,mb5.2
BOJS Bojanci 80.86 332 *e*P **P** **21 02 47.3 -0.9**
MEZF Maizieres J'vi 80.97 340⇑ *i*P **P** **21 02 48.6 -0.1**
comp=Z,36nm,0.8s,mb5.0
MEZF Maizieres J'vi 80.97 340⇑ *i*P **P** **21 02 48.6 -0.1**
comp=Z,36nm,0.8s,mb5.3
HAU Haudompre 81.12 339⇑ *i*P **P** **21 02 49.1 -0.4**
comp=Z,26nm,0.9s,mb4.9
HAU Haudompre 81.12 339⇑ *i*P **P** **21 02 49.1 -0.4**
HAU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HAU Haudompre 81.12 339⇑ *i*P **P** **21 02 49.1 -0.4**
comp=Z,13nm,0.9s,mb4.9
HINF Hinteralfeld 81.17 338⇑ *i*P **P** **21 02 49.0 -0.8**
comp=Z,21nm,1.0s,mb4.7
HINF Hinteralfeld 81.17 338⇑ *i*P **P** **21 02 49.0 -0.8**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 81.17 338⇑ *i*P **P** **21 02 49.0 -0.8**
comp=Z,10nm,1.0s,mb4.7
VAY Valandovo 81.92 325 *e*P **P** **21 02 52.2 -1.6**
FLN La Foliniere 81.92 343 *e*P **P** **21 02 53.1 -0.7**
comp=Z,46nm,1.2s,mb5.0
FLN La Foliniere 81.92 343 *e*P **P** **21 02 53.1 -0.7**
FLN pmax pmax
comp=Z,23nm,1.2s,mb5.0
FLN La Foliniere 81.92 343 *e*P **P** **21 02 53.1 -0.7**
comp=Z,23nm,1.2s,mb5.0
LDF La Druitiere 82.01 343⇑ *i*P **P** **21 02 53.6 -0.6**
comp=Z,15nm,1.0s,mb4.6
LDF La Druitiere 82.01 343⇑ *i*P **P** **21 02 53.6 -0.6**
LDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LDF La Druitiere 82.01 343⇑ *i*P **P** **21 02 53.6 -0.6**
comp=Z,7.4nm,1.0s,mb4.6
GRR Gorron 82.35 343⇑ *i*P **P** **21 02 55.7 -0.3**
comp=Z,25nm,1.0s,mb4.8
GRR Gorron 82.35 343⇑ *i*P **P** **21 02 55.7 -0.3**
GRR pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRR Gorron 82.35 343⇑ *i*P **P** **21 02 55.7 -0.3**
comp=Z,13nm,1.0s,mb4.8
LOR Lormes 82.41 340⇑ *i*P **P** **21 02 55.9 -0.4**
comp=Z,26nm,0.8s,mb4.9
LOR Lormes 82.41 340⇑ *i*P **P** **21 02 55.9 -0.4**
LOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
LOR Lormes 82.41 340⇑ *i*P **P** **21 02 55.9 -0.4**
comp=Z,13nm,0.8s,mb4.9
CSS Prodhromos 82.47 315 *e*P **P** **21 02 55.9 -0.8**
comp=Z,24nm,0.8s,mb5.2
CABF La Chapelle 82.48 338 *e*P **P** **21 02 56.6 -0.1**
comp=Z,11nm,0.9s,mb4.5
CABF La Chapelle 82.48 338 *e*P **P** **21 02 56.6 -0.1**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CABF La Chapelle 82.48 338 *e*P **P** **21 02 56.6 -0.1**
comp=Z,5.6nm,0.9s,mb4.5
SSF Saint Saulge 82.68 340⇑ *i*P **P** **21 02 57.4 -0.3**
comp=Z,17nm,0.8s,mb4.8
SSF Saint Saulge 82.68 340⇑ *i*P **P** **21 02 57.4 -0.3**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SSF Saint Saulge 82.68 340⇑ *i*P **P** **21 02 57.4 -0.3**
comp=Z,8.4nm,0.8s,mb4.8
HYF Humbligny 82.69 341 *e*P **P** **21 02 57.8 0.0**
SGMF Saint Gilles 82.80 344⇑ *i*P **P** **21 02 58.1 -0.3**
comp=Z,30nm,0.9s,mb5.0
SGMF Saint Gilles 82.80 344⇑ *i*P **P** **21 02 58.1 -0.3**
SGMF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SGMF Saint Gilles 82.80 344⇑ *i*P **P** **21 02 58.1 -0.3**
comp=Z,15nm,0.9s,mb5.0
ROSF Rostrenen 82.85 345⇑ *i*P **P** **21 02 58.4 -0.2**
comp=Z,65nm,1.1s,mb5.3
ROSF Rostrenen 82.85 345⇑ *i*P **P** **21 02 58.4 -0.2**
ROSF pmax pmax
comp=Z,32nm,1.1s,mb5.3
ROSF Rostrenen 82.85 345⇑ *i*P **P** **21 02 58.4 -0.2**
comp=Z,32nm,1.1s,mb5.3
ASF Jabal al Asfar 82.90 310 P **P** **21 02 58.9 0.0**
comp=Z,11nm,0.9s,mb4.9,baz=322,slow=2.0,SNR=14
AVF Avril sur Loir 82.97 340⇑ *i*P **P** **21 02 59.1 -0.2**
comp=Z,25nm,1.0s,mb4.9
AVF Avril sur Loir 82.97 340⇑ *i*P **P** **21 02 59.1 -0.2**

AVF pmax pmax
comp=Z,13nm,1.0s,mb4.9
AVF Avril sur Loir 82.97 340⇑ *iP* **P 21 02 59.1 -0.2**
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 83.00 340⇑ *iP* **P 21 02 59.2 -0.2**
comp=Z,85nm,1.1s,mb5.4
SMF Signal de Mont 83.00 340⇑ *iP* **P 21 02 59.2 -0.2**
SMF pmax pmax
comp=Z,43nm,1.1s,mb5.4
SMF Signal de Mont 83.00 340⇑ *iP* **P 21 02 59.2 -0.2**
comp=Z,43nm,1.1s,mb5.4
MMAI Mount Meron Ar 83.00 312 P **P 21 03 00.4 +1.0**
comp=Z,30nm,0.9s,mb5.3,baz=36,slow=7.6,SNR=20
QUIF Quistinic 83.24 345 *eP* **P 21 03 00.1 -0.5**
comp=Z,76nm,1.6s,mb5.2
QUIF Quistinic 83.24 345 *eP* **P 21 03 00.1 -0.5**
QUIF pmax pmax
comp=Z,38nm,1.6s,mb5.2
QUIF Quistinic 83.24 345 *eP* **P 21 03 00.1 -0.5**
comp=Z,38nm,1.6s,mb5.2
BGF Bois d'Agland 83.31 340 *eP* **P 21 03 00.8 -0.2**
LPL La Plagne 83.33 338⇑ *iP* **P 21 03 01.8 +0.7**
comp=Z,24nm,0.9s,mb4.9
LPL La Plagne 83.33 338⇑ *iP* **P 21 03 01.8 +0.7**
LPL pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPL La Plagne 83.33 338⇑ *iP* **P 21 03 01.8 +0.7**
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 83.34 337⇑ *iP* **P 21 03 01.9 +0.7**
comp=Z,30nm,0.8s,mb5.1
LPG La Plagne 83.34 337⇑ *iP* **P 21 03 01.9 +0.7**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 83.34 337⇑ *iP* **P 21 03 01.9 +0.7**
comp=Z,15nm,0.8s,mb5.1
TCF Toulx Ste Croi 83.71 341 *eP* **P 21 03 02.8 -0.2**
comp=Z,48nm,1.3s,mb5.2
TCF Toulx Ste Croi 83.71 341 *eP* **P 21 03 02.8 -0.2**
TCF pmax pmax
comp=Z,24nm,1.3s,mb5.2
TCF Toulx Ste Croi 83.71 341 *eP* **P 21 03 02.8 -0.2**
comp=Z,24nm,1.3s,mb5.2
BNI Bardonecchia 83.78 337 *eP* **P 21 03 03.4 0.0**
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BNI Bardonecchia 83.78 337 *eP* **P 21 03 03.4 0.0**
comp=Z,8.4nm,0.9s,mb4.9
MFF Saint Martin d 83.92 342 *eP* **P 21 03 03.9 -0.2**
comp=Z,13nm,0.9s,mb4.7
MFF Saint Martin d 83.92 342 *eP* **P 21 03 03.9 -0.2**
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MFF Saint Martin d 83.92 342 *eP* **P 21 03 03.9 -0.2**
comp=Z,6.4nm,0.9s,mb4.8
MBDF Montbardon 84.06 337⇑ *iP* **P 21 03 04.8 0.0**
comp=Z,16nm,0.8s,mb4.9
MBDF Montbardon 84.06 337⇑ *iP* **P 21 03 04.8 0.0**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MBDF Montbardon 84.06 337⇑ *iP* **P 21 03 04.8 0.0**
comp=Z,8.1nm,0.8s,mb4.9
ORIF Oris-en-Rattie 84.11 338⇑ *iP* **P 21 03 05.6 +0.5**
comp=Z,29nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.11 338⇑ *iP* **P 21 03 05.6 +0.5**
ORIF pmax pmax
comp=Z,14nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.11 338⇑ *iP* **P 21 03 05.6 +0.5**
comp=Z,14nm,0.9s,mb5.1
VIVF Saint-Julien-l 84.47 339⇑ *iP* **P 21 03 07.2 +0.3**
comp=Z,19nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.47 339⇑ *iP* **P 21 03 07.2 +0.3**
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.47 339⇑ *iP* **P 21 03 07.2 +0.3**
comp=Z,9.6nm,1.0s,mb4.9
SBF Sospel 84.68 336 *eP* **P 21 03 07.4 -0.6**
comp=Z,122nm,1.4s,mb5.5
SBF Sospel 84.68 336 *eP* **P 21 03 07.4 -0.6**
SBF pmax pmax
comp=Z,61nm,1.4s,mb5.5
SBF Sospel 84.68 336 *eP* **P 21 03 07.4 -0.6**
comp=Z,61nm,1.4s,mb5.5
RJF Les Rejaudoux 84.80 341 *eP* **P 21 03 08.4 -0.2**
comp=Z,14nm,1.0s,mb4.7
RJF Les Rejaudoux 84.80 341 *eP* **P 21 03 08.4 -0.2**
RJF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
RJF Les Rejaudoux 84.80 341 *eP* **P 21 03 08.4 -0.2**
comp=Z,6.8nm,1.0s,mb4.7
CAF Calviac 85.03 340⇑ *iP* **P 21 03 10.0 +0.3**
comp=Z,20nm,1.1s,mb4.8
CAF Calviac 85.03 340⇑ *iP* **P 21 03 10.0 +0.3**
CAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
CAF Calviac 85.03 340⇑ *iP* **P 21 03 10.0 +0.3**
comp=Z,10nm,1.1s,mb4.9
SMRF Simiane la Rot 85.07 338 *eP* **P 21 03 10.5 +0.6**
comp=Z,13nm,0.9s,mb4.7
SMRF Simiane la Rot 85.07 338 *eP* **P 21 03 10.5 +0.6**
comp=Z,13nm,0.9s,mb5.1
FRF La Foret Royal 85.17 337 *eP* **P 21 03 10.0 -0.4**
comp=Z,68nm,1.5s,mb5.2
FRF La Foret Royal 85.17 337 *eP* **P 21 03 10.0 -0.4**
FRF pmax pmax
comp=Z,34nm,1.5s,mb5.3
FRF La Foret Royal 85.17 337 *eP* **P 21 03 10.0 -0.4**
comp=Z,34nm,1.5s,mb5.3
LFF La Frestale 85.31 341 *eP* **P 21 03 11.1 -0.1**
comp=Z,16nm,0.8s,mb4.9
LFF La Frestale 85.31 341 *eP* **P 21 03 11.1 -0.1**
LFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LFF La Frestale 85.31 341 *eP* **P 21 03 11.1 -0.1**
comp=Z,8.3nm,0.8s,mb4.9
LASF Ste Croix 85.41 339 *eP* **P 21 03 11.1 -0.5**
comp=Z,9.9nm,0.9s,mb4.6
LMR La Mourre 85.42 337 *eP* **P 21 03 11.5 -0.2**
comp=Z,51nm,1.1s,mb5.3
LMR La Mourre 85.42 337 *eP* **P 21 03 11.5 -0.2**
LMR pmax pmax
comp=Z,26nm,1.1s,mb5.3
LMR La Mourre 85.42 337 *eP* **P 21 03 11.5 -0.2**
comp=Z,26nm,1.1s,mb5.3
PGF Pioggiola 85.45 335⇑ *iP* **P 21 03 12.5 +0.7**
comp=Z,43nm,1.2s,mb5.2
PGF Pioggiola 85.45 335⇑ *iP* **P 21 03 12.5 +0.7**
PGF pmax pmax
comp=Z,22nm,1.2s,mb5.2
PGF Pioggiola 85.45 335⇑ *iP* **P 21 03 12.5 +0.7**
comp=Z,22nm,1.2s,mb5.2
EIL Elat 85.90 310 *eP* **P 21 03 14.3 +0.2**
comp=Z,233nm,0.8s
MTLF Montolieu 86.49 340⇑ *iP* **P 21 03 16.3 -0.7**
comp=Z,17nm,1.1s,mb4.9
MTLF Montolieu 86.49 340⇑ *iP* **P 21 03 16.3 -0.7**
MTLF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
MTLF Montolieu 86.49 340⇑ *iP* **P 21 03 16.3 -0.7**
comp=Z,8.3nm,1.1s,mb4.9
EPF Esparros 87.22 341 *eP* **P 21 03 20.9 +0.4**
ESDC Sonseca Array 91.34 343 P **P 21 03 38.9 -1.0**
comp=Z,1.2nm,0.9s,mb4.2,baz=12,slow=2.6,SNR=5.1
KEST Kesra 91.60 332 P **P 21 03 41.0 -0.2**
comp=Z,2.5nm,0.9s,mb4.5,baz=320,slow=5.3,SNR=6.5

NEIC ***08*** *20:53:13.6,3771N×1560W,h0km,MN2.9(MDD),After MDD.*

MDD 08 20:53:11.5±6.6,3765N×1570W,h0km,mb3.6/2,Error ellipse: s-maj=48.5km s-min=36.3km az=87.0,PRXIMO SIN SOLUCIN,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**5.21**	**74**	*e*Sn	Sn	20 55 28.4	-3.0
PTEO	**Sao Teotonio**	**5.54**	**89**	*e*Sn	Sn	20 55 30.6	-8.9
PTEO	4.6nm,0.6s						
PTEO	**Sao Teotonio**	**5.54**	**89**	S	Sn	20 55 30.6	-8.9
	2.3nm,0.6s						
PESTR	**Estremoz**	**6.49**	**77**	*e*Sn	Sn	20 55 56.8	-6.3
PESTR	2.2nm,0.3s						
EGRO	**El Granado**	**6.52**	**89**	P	Pn	20 54 48.2	-0.5
	0.5nm,0.2s,SNR=4.0						
EGRO				S	Sn	20 55 56.5	-7.3
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.92**	**78**	P	Pn	20 54 54.4	+0.1
EBAD				S	Sn	20 56 06.2	-7.5
EBAD	**Badajoz**	**6.92**	**78**	S	Sn	20 56 06.2	-7.5
	0.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.92**	**78**	S	Sn	20 56 06.2	-7.5
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.15**	**86**	P	Pn	20 54 57.1	-0.2
EMIN				S	Sn	20 56 13.7	-5.7
EMIN	**Mina Concepcio**	**7.15**	**86**	S	Sn	20 56 11.8	-7.5
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.15**	**86**	S	Sn	20 56 11.8	-7.6
	0.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.37**	**42**	P	Pn	20 54 59.7	-0.6
EMAZ				S	Sn	20 56 17.2	-7.5
EMAZ	**Mazaricos**	**7.37**	**42**	S	Sn	20 56 17.2	-7.5
	1.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.37**	**42**	S	Sn	20 56 17.2	-7.5
	1.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**7.88**	**93**	P	Pn	20 55 07.8	+0.4
ESPR				S	Sn	20 56 31.4	-5.9
ESPR	**Espera**	**7.88**	**93**	S	Sn	20 56 31.4	-5.9
	0.7nm,0.2s,SNR=4.0						
ESPR	**Espera**	**7.88**	**93**	S	Sn	20 56 31.4	-6.0
	0.7nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**8.12**	**55**	P	Pn	20 55 10.5	0.0
ECAL				S	Sn	20 56 36.3	-6.7
ECAL	**Calabor**	**8.12**	**55**	S	Sn	20 56 36.3	-6.8
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**8.12**	**55**	S	Sn	20 56 36.3	-6.7
	1.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**8.63**	**46**	P	Pn	20 55 17.4	-0.2
EPON				S	Sn	20 56 48.5	-7.2
EPON	**Pontenova**	**8.63**	**46**	S	Sn	20 56 48.5	-7.2
	0.7nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**8.63**	**46**	S	Sn	20 56 48.5	-7.1
	0.7nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**8.80**	**83**	P	Pn	20 55 18.0	-2.0
	0.2nm,0.1s,SNR=4.0						
EADA				S	Sn	20 56 53.3	-6.6
	1.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**8.80**	**83**	P	Pn	20 55 18.0	-2.0
	0.2nm,0.1s,SNR=4.0						
EADA				S	Sn	20 56 53.3	-6.6
	1.5nm,0.3s,SNR=7.9						

ISCJB ***08*** *20:58:45.7±0.7,2384S±005×17985W±005,h529km±9km, mb4.7/34,Error ellipse: s-maj=9.0km s-min=6.4km az=99.3*

NEIC ***08*** *20:58:46.9±0.7,2377S×17980W,h534km±8km, mb4.9/23, Error ellipse: s-maj=8.9km s-min=6.1km az=149.0*

IDC ***08*** *20:58:47.1±1.0,2382S×17980W,h535km±11km,mb4.1/17, mb1 4.2/20,mb1mx4.2/22,mbtmp4.1/20,Error ellipse: s-maj=11.0km s-min=10.0km az=180.0*

ISC 08 20:58:46.6±0.7,2392S±005×17974W±005,h530km±8km, n140,σ0°88/96,mb4.7/34,4C-12D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.55**	**163**	P	**P**	**21 00 20.7**	**+0.7**
	192nm,0.3s,baz=53,slow=22,SNR=12						
RAO				S	**S**	**21 01 36.5**	**-0.1**
	141nm,0.3s,baz=101,slow=23,SNR=6.1						
RAO	**Raoul Island**	**5.55**	**163**	*e*P	**P**	**21 00 20.2**	**+0.1**
RAO				*e*S	**S**	**21 01 35.9**	**-0.6**
AFI	**Afiamalu**	**12.48**	**38**	P	**P**	**21 01 25.1**	**-4.9**
	13nm,0.3s,baz=39,slow=21,SNR=15						
AFI				S	**S**	**21 03 33.4**	**-11**
	3.2nm,0.3s,baz=14,slow=23,SNR=6.9						
DZM	**Mont Dzumac**	**12.86**	**276**	*e*P	**P**	**21 01 35.6**	**+1.6**
DZM	**Mont Dzumac**	**12.86**	**276**	P	**P**	**21 01 35.3**	**+1.3**
	0.8nm,0.3s,baz=96,slow=14,SNR=20						
URZ	**Urewera**	**14.54**	**190**	P	**P**	**21 01 52.0**	**+0.5**
	5.0nm,0.3s,baz=172,slow=17,SNR=18						
URZ				S	**S**	**21 04 23.4**	**-0.5**
	3.9nm,0.3s,baz=243,slow=23,SNR=9.7						
URZ	**Urewera**	**14.54**	**190**	PN	**P**	**21 01 51.2**	**-0.3**
FUNA	**Funafuti**	**15.34**	**356**	*e*P	**P**	**21 01 57.4**	**-2.4**
	121nm,0.9s						
PXZ	**Pawanui**	**16.32**	**189**	PN	**P**	**21 02 08.8**	**-1.0**
MRZ	**Mangatainoka R**	**17.15**	**192**	PN	**P**	**21 02 15.7**	**-1.9**
KIW	**Kapiti Island**	**17.48**	**194**	PN	**P**	**21 02 19.1**	**-1.4**
TCW	**Tory Channel**	**17.96**	**195**	PN	**P**	**21 02 24.9**	**0.0**
QRZ	**Quartz Range**	**18.06**	**199**	PN	**P**	**21 02 26.8**	**+0.8**
NNZ	**Nelson**	**18.18**	**197**	PN	**P**	**21 02 26.7**	**-0.4**
THZ	**Tophouse**	**18.82**	**197**	PN	**P**	**21 02 32.9**	**+0.1**
DSZ	**Denniston Nort**	**19.12**	**200**	PN	**P**	**21 02 36.0**	**+0.4**
LTZ	**Lake Taylor**	**19.94**	**197**	PN	**P**	**21 02 41.6**	**-1.4**
WVZ	**Waitaha Valley**	**20.66**	**200**	PN	**P**	**21 02 48.7**	**-0.9**
RPZ	**Rata Peaks**	**21.15**	**199**	P	**P**	**21 02 55.1**	**+1.2**
	22nm,0.4s,mb5.1,baz=5.5,slow=4.0,SNR=24						
WKZ	**Wanaka**	**22.78**	**201**	PN	**P**	**21 03 08.5**	**-0.1**
ARMA	**Armidale**	**26.24**	**249**	*e*P	**P**	**21 03 41.1**	**+1.9**
CNB	**Canberra Magne**	**29.05**	**240⇓**	*i*P	**P**	**21 04 05.8**	**+2.0**
	56nm,0.7s,mb5.3						
CTA	**Charters Tower**	**31.71**	**270⇓**	*i*P	**P**	**21 04 27.6**	**+0.8**
	43nm,0.8s,mb5.0						
CTA	**Charters Tower**	**31.71**	**270**	P	**P**	**21 04 27.1**	**+0.4**
	52nm,0.7s,mb5.2,baz=97,slow=11,SNR=80						
CTAO	**Charters Tower**	**31.71**	**270**	*e*P	**P**	**21 04 27.4**	**+0.7**
	59nm,0.8s,mb5.2						
PMG	**Port Moresby**	**34.72**	**289**	P	**P**	**21 04 52.3**	**+0.1**
	33nm,0.8s,mb4.9,baz=91,slow=6.0,SNR=17						
STKA	**Stephens Creek**	**34.93**	**248⇓**	*i*P	**P**	**21 04 54.9**	**+1.0**
	19nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**21 04 54.9**	**+0.9**
	30nm,0.7s,mb4.9,baz=89,slow=9.3,SNR=45						
AS31	**Alice Springs**	**42.26**	**261⇓**	*i*P	**P**	**21 05 53.7**	**+0.4**
AS31				*e*S	**S**	**21 11 34.7**	**-0.8**
ASAR	**Alice Springs**	**42.26**	**261**	P	**P**	**21 05 53.6**	**+0.3**
	37nm,0.8s,mb4.9,baz=93,slow=8.2,SNR=212						
ASAR				S	**S**	**21 11 35.1**	**-0.4**
	1.5nm,0.7s,baz=94,slow=16,SNR=4.9						
ASPA	**Alice Springs**	**42.27**	**261⇓**	*i*P	**P**	**21 05 53.7**	**+0.3**
ASPA				*e*S	**S**	**21 11 34.7**	**-0.8**
WB2	**Warramunga Arr**	**42.63**	**266⇓**	*i*P	**P**	**21 05 55.9**	**-0.3**
WB2				*e*SCP	ScP	21 10 39.5	+3.0
WB2				*e*S	**S**	**21 11 37.2**	**-3.5**
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**21 05 56.0**	**-0.3**
	29nm,0.7s,mb5.0,baz=97,slow=8.4,SNR=226						
WRA				ScP	ScP	21 10 39.8	+3.3
	3.8nm,0.9s,baz=101,slow=4.7,SNR=8.2						
WRA				S	**S**	**21 11 37.7**	**-3.2**
	1.8nm,0.8s,baz=99,slow=13,SNR=6.4						
FORT	**Forrest**	**46.52**	**250**	*e*P	**P**	**21 06 25.7**	**-0.5**
	186nm,0.6s,mb5.8						
KAKA	**Kakadu**	**46.55**	**275⇓**	*i*P	**P**	**21 06 25.8**	**-0.6**
	19nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	*e*P	**P**	**21 07 00.1**	**+0.3**
	41nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	P	**P**	**21 07 00.2**	**+0.4**
	27nm,0.9s,mb4.6,baz=108,slow=7.7,SNR=44						
SBA	**Scott Base**	**54.37**	**183**	*e*P	**P**	**21 07 25.9**	**+2.4**
	40nm,0.9s,mb4.8						
VNDA	**Vanda**	**54.38**	**185**	P	**P**	**21 07 24.9**	**+1.4**
	7.9nm,0.6s,mb4.2,baz=357,slow=7.6,SNR=60						
VNDA				ScP	ScP	21 11 26.4	-0.1
	2.9nm,0.8s,baz=335,slow=3.3,SNR=8.7						
KLBR	**Kellerberrin**	**55.20**	**247⇓**	*i*P	**P**	**21 07 29.1**	**-0.2**
	69nm,0.9s,mb4.9						
MBWA	**Marble Bar**	**55.60**	**260**	*e*P	**P**	**21 07 31.8**	**-0.3**
MUN	**Mundaring**	**56.44**	**246⇓**	*i*P	**P**	**21 07 37.8**	**-0.1**
CASY	**Casey**	**60.20**	**206⇓**	*i*P	**P**	**21 08 02.8**	**-0.4**
QSPA	**South Pole Qui**	**66.16**	**180**	*e*P	**P**	**21 08 42.6**	**+1.1**
	49nm,0.8s,mb5.1						
JOW	**Kunigami**	**71.18**	**312**	P	**P**	**21 09 11.5**	**-0.3**
	6.8nm,0.5s,mb4.5,baz=66,slow=5.4,SNR=6.5						
ASAJ	**Asahikawa**	**75.99**	**333**	P	**P**	**21 09 40.1**	**+0.9**
	15nm,0.7s,mb4.5,baz=202,slow=11,SNR=5.1						
MAW	**Mawson**	**77.81**	**200⇓**	*i*P	**P**	**21 09 49.6**	**+0.4**
	12nm,0.7s,mb4.3						
MAW	**Mawson**	**77.81**	**200**	P	**P**	**21 09 50.0**	**+0.8**
	16nm,0.7s,mb4.4,baz=126,slow=7.2,SNR=26						
KSRS	**Korea Array**	**78.41**	**320**	P	**P**	**21 09 51.4**	**-1.0**
	6.0nm,0.8s,mb4.0,baz=123,slow=38,SNR=7.3						
ISA	**Isabella**	**82.87**	**46**	*e*P	**P**	**21 10 15.7**	**+0.2**
SYO	**Syowa Base**	**83.05**	**193⇓**	*e*P	**P**	**21 10 15.2**	**-1.2**
CMB	**Columbia Colle**	**83.05**	**43**	*e*P	**P**	**21 10 16.3**	**-0.1**
	27nm,1.1s,mb4.7						
OHCM	**Honcut**	**83.18**	**42**	*e*P	**P**	**21 10 16.7**	**-0.3**
GSC	**Goldstone**	**83.77**	**47**	*e*P	**P**	**21 10 20.0**	**+0.1**

MTUM	**Tungsten Hills**	**83.80**	**45**	*e*P	**P**	**21 10 20.5**	**+0.3**
GLA	**Glamis**	**83.86**	**50**	*e*P	**P**	**21 10 21.4**	**+1.0**
LTIM	**Timbered Crate**	**84.32**	**40**	P	**P**	**21 10 23.2**	**+0.5**
KDAK	**Kodiak Island**	**84.51**	**14**	P	**P**	**21 10 22.2**	**-1.4**
	4.7nm,0.7s,mb4.1,baz=308,slow=21,SNR=4.6						
NVAR	**Mina Array Bea**	**84.60**	**44**	P	**P**	**21 10 24.3**	**+0.2**
	4.8nm,0.8s,mb4.1,baz=234,slow=7.7,SNR=7.3						
SNAA	**Sanae**	**84.64**	**179**	P	**P**	**21 10 23.4**	**-0.9**
	1.5nm,0.6s,mb3.7,baz=210,slow=6.0,SNR=14						
SNAA	**Sanae**	**84.64**	**179**	*e*PKPdf	**P**	**21 10 23.1**	**-1.2**
SNAA				*e*		21 10 25.5	
VNA3	**Neumayer Olymp**	**84.84**	**177**	*e*PKPdf	**P**	**21 10 26.6**	**+1.4**
VNA3				*e*		21 10 29.2	
VNA2	**Neumayer--Watz**	**85.26**	**177**	*e*PKPdf	**P**	**21 10 26.3**	**-1.0**
	baz=185,slow=2.8						
VNA2				*e*		21 10 29.3	
VNA2				*e*		21 10 31.8	
MOD	**Modoc**	**85.47**	**40**	*e*P	**P**	**21 10 28.5**	**+0.2**
	14nm,1.2s,mb4.4						
VNA1	**Neumayer--Stat**	**85.50**	**177**	*e*PKPdf	**P**	**21 10 28.0**	**-0.4**
VNA1				*e*		21 10 30.4	
BMN	**Battle Mountai**	**86.45**	**43**	*e*P	**P**	**21 10 33.0**	**0.0**
	4.7nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	**86.77**	**40**	*e*P	**P**	**21 10 34.5**	**0.0**
	27nm,1.4s,mb4.7						
VTHM	**Trough**	**87.33**	**37**	P	**P**	**21 10 37.5**	**+0.4**
PGC	**Sidney**	**87.99**	**34**	*e*P	**P**	**21 10 39.9**	**-0.3**
EBG	**Ellensburg**	**88.40**	**36**	P	**P**	**21 10 42.5**	**+0.4**
MSU	**Marysvale**	**88.63**	**46**	*e*P	**P**	**21 10 43.9**	**+0.7**
HAWA	**Hanford**	**88.64**	**37**	*e*P	**P**	**21 10 43.0**	**-0.2**
	19nm,1.0s,mb4.9						
PMR	**Palmer**	**88.71**	**14**	*e*P	**P**	**21 10 41.7**	**-1.8**
	11nm,1.0s,mb4.6						
RPW	**Rockport**	**88.86**	**34**	P	**P**	**21 10 43.9**	**-0.3**
WTV	**Waterville**	**89.21**	**36**	P	**P**	**21 10 45.6**	**-0.2**
TMUT	**Trail Mountain**	**89.68**	**46**	*e*P	**P**	**21 10 49.1**	**+1.0**
HLID	**Hailey**	**89.95**	**41**	*e*P	**P**	**21 10 49.5**	**+0.1**
	13nm,1.1s,mb4.7						
HVU	**Hansel Valley**	**89.99**	**43**	*e*P	**P**	**21 10 49.4**	**0.0**
	29nm,1.2s,mb5.0						
LAZ	**Ladron**	**90.03**	**52**	*e*P	**P**	**21 10 50.4**	**+0.7**
SRU	**San Rafael**	**90.04**	**47**	*e*P	**P**	**21 10 49.2**	**-0.5**
	21nm,1.0s,mb4.9						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**21 10 51.9**	**+1.3**
	5.3nm,0.7s,mb4.5,baz=209,slow=7.2,SNR=58						
BNM	**Barren Site**	**90.28**	**53**	*e*P	**P**	**21 10 51.2**	**+0.4**
LPM	**Los Pinos Moun**	**90.35**	**52**	*e*P	**P**	**21 10 51.8**	**+0.7**
HWUT	**Hardware Ranch**	**90.67**	**44**	*e*P	**P**	**21 10 52.4**	**-0.2**
	5.5nm,0.7s,mb4.6						
ANMO	**Albuquerque**	**90.78**	**52**	*e*P	**P**	**21 10 51.4**	**-1.8**
	5.4nm,1.1s,mb4.4						
MCMT	**McKenzie Canyo**	**91.59**	**41**	*e*P	**P**	**21 10 56.7**	**-0.1**
PDAR	**Pinedale Array**	**92.54**	**44**	P	**P**	**21 11 00.8**	**-0.5**
	3.6nm,0.8s,mb4.5,baz=212,slow=2.9,SNR=21						
PDAR				PP	PP	21 14 50.3	-1.4
	0.7nm,1.0s,baz=243,slow=6.0,SNR=4.5						
SONM	**Songino Array**	**97.27**	**319**	PP	PP	21 15 25.6	-2.2
	0.6nm,0.6s,baz=148,slow=4.1,SNR=4.7						
FWV	**Forest Hill**	**110.96**	**57**	*e*P	Pdif	21 12 24.0	+0.5
MKAR	**Makanchi Array**	**112.34**	**313**	PKiKP	PKiKP	21 16 20.5	-1.7
	0.5nm,0.7s,baz=146,slow=1.3,SNR=5.1						
MKAR	**Makanchi Array**	**112.34**	**313**	PKPdf	PKiKP	21 16 20.5	-1.7
BVAR	**Borovoye Array**	**120.61**	**319**	PKP	PKPdf	21 16 36.3	-1.8
	0.9nm,0.4s,baz=176,slow=2.2,SNR=5.3						
BOSA	**Boshof**	**122.49**	**206**	PKP	PKPdf	21 16 42.2	+0.6
	1.9nm,0.8s,baz=329,slow=7.4,SNR=3.6						
AKTK	**Aktyubinsk**	**128.48**	**316**	PKP	PKPdf	21 16 52.5	-0.6
AKTO	**Aktyubinsk**	**128.48**	**316**	PKP	PKPdf	21 16 52.5	-0.6
	0.8nm,0.6s,baz=49,slow=8.8,SNR=3.2						
ARCES	**ARCESS Array B**	**131.96**	**348**	PKP	PKPdf	21 16 57.8	-2.0
	3.3nm,0.7s,baz=348,slow=1.7,SNR=7.8						
ARCES				SKPab		21 19 35.4	
	8.8nm,0.9s,baz=24,slow=4.4,SNR=11						
FINES	**FINESS Array B**	**138.54**	**342**	SKPbc	SKPbc	21 19 54.8	-1.9
	4.6nm,0.8s,baz=83,slow=7.9,SNR=9.6						
NB2	**NORSAR Subarra**	**142.14**	**351**	PKPab	PKPdf	21 17 13.2	-5.2
NB2	**NORSAR Subarra**	**142.14**	**351**	PKP	PKPdf	21 17 13.2	-5.2
	comp=Z,1.9nm,0.7s,baz=12,slow=3.1						
NOA	**NORSAR Array B**	**142.14**	**351**	PKhKP		21 17 13.5	
	comp=Z,4.7nm,0.9s,baz=16,slow=4.6,SNR=11						
NOA				SKPbc	SKPbc	21 20 04.9	-1.2
	comp=Z,3.0nm,1.0s,baz=12,slow=4.1,SNR=3.3						
HFS	**Hagfors**	**142.61**	**349**	PKhKP		21 17 14.5	
	comp=Z,7.6nm,0.5s,baz=0.0,slow=1.5,SNR=7.5						
HFS				SKPbc	SKPbc	21 20 04.9	-2.3
	comp=Z,3.3nm,0.8s,baz=100,slow=3.6,SNR=4.1						
KONO	**Kongsberg**	**143.70**	**352**	*e*PKPpre		21 17 18.1	
AKASG	**Malin Array Be**	**145.12**	**327**	PKPbc	PKPbc	21 17 22.9	-1.6
	comp=Z,4.5nm,0.6s,baz=44,slow=4.2,SNR=32						
AKASG				SKPbc	SKPbc	21 20 13.0	-0.1
	comp=Z,2.7nm,0.6s,baz=44,slow=1.8,SNR=9.8						
AKBB	**Malin Array Si**	**145.12**	**327**	*e*PKPdf	PKPdf	21 17 22.2	-1.4
SUW	**Suwalki**	**145.38**	**336**	*e*PKPdf	PKPdf	21 17 23.3	-0.7
BRTR	**Keskin Array B**	**147.78**	**307**	PKPbc	PKPbc	21 17 31.3	-0.5
	comp=Z,1.3nm,0.6s,baz=138,slow=4.5,SNR=6.9						
EKA	**Eskdalemuir Ar**	**148.53**	**4**	PKPbc	PKPbc	21 17 30.5	-3.1
	comp=Z,4.2nm,0.8s,baz=344,slow=3.1,SNR=6.4						
KWP	**Kalwaria**	**148.90**	**331**	*e*PKPbc	PKPbc	21 17 33.9	-0.7

comp=Z,5.1nm,0.7s,baz=175,slow=3.8,SNR=33
TORD pPKPab pPKPab 21 21 09.2 +2.6
comp=Z,1.2nm,1.0s,baz=199,slow=3.1,SNR=19
TORD PP PP 21 22 58.7 -0.7
comp=Z,2.7nm,1.0s,baz=170,slow=3.7,SNR=8.3

IDC 08 21:04:26.8±2.6, 704S×15316E, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=71.2km s-min=40.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.39**	**248**	Pn	Pn	21 05 57.5	-4.7
	2.7nm,0.3s,baz=57,slow=8.6,SNR=7.2						
PMG				Sn	Sn	21 06 59.2	-17
	6.2nm,0.3s,baz=186,slow=20,SNR=7.3						
CTA	**Charters Tower**	**14.60**	**207**	Pn	Pn	21 07 53.1	-1.5
	0.2nm,0.3s,baz=63,slow=6.8,SNR=2.5						
WRA	**Warramunga Arr**	**22.31**	**233**	P	P	21 09 24.9	-1.0
	2.0nm,0.7s,baz=55,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.80**	**226**	P	P	21 09 51.8	+1.3
	3.2nm,0.8s,baz=59,slow=8.4,SNR=9.3						
STKA	**Stephens Creek**	**26.96**	**202**	P	P	21 10 09.1	-1.0
	4.4nm,0.9s,baz=90,slow=10,SNR=3.4						
FITZ	**Fitzroy Crossi**	**28.98**	**245**	P	P	21 10 29.6	+1.6
	3.0nm,0.4s,baz=60,slow=10,SNR=14						
TORD	**Torodi Ar. Bea**	**151.28**	**284**	PKPbc	PKPbc	21 24 23.1	+0.8
	1.6nm,0.7s,baz=71,slow=1.9,SNR=15						

*ISCJB **08** 21:06:41.7±0.6, 3614N±004×14013E±006, h61km±6km, mb3.7/2, Error ellipse: s-maj=8.5km s-min=5.9km az=34.7*
*JMA **08** 21:06:42.9±0.1, 3615N×14009E, h51km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φ=224.00000°, δ18.00000°, λ90.00000°. NP2: φ=44.00000°, δ72.00000°, λ90.00000°. Principal axes: T Plg63.0000°, Azm314.0000°; N Plg0.0000°, Azm44.0000°; P Plg27.0000°, Azm134.0000°;*
JMA Felt II J1.
*IDC **08** 21:06:43.8±6.2, 3610N×14001E, h67km±36km, mb3.3/2, mb1 3.6/3, mb1mx3.2/21, mbtmp3.6/3, ML3.9/1 Error ellipse: s-maj=97.9km s-min=13.4km az=68.0*
ISC 08 21:06:42.8±0.6, 3615N±004×14011E±006, h54km±6km, n15, σ0°53/23, mb3.7/2, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.10**	**42**	↑P	**Pn**	**21 06 51.0**	**-0.1**
JYT				S	**Sn**	**21 06 56.5**	**-0.6**
JAG	**Ashikaga**	**0.60**	**298**	↓P	**Pn**	**21 06 55.3**	**-0.1**
JKT	**Katashina**	**0.93**	**312**	↓P	**Pn**	**21 06 59.5**	**-0.1**
JKT				S	**Sn**	**21 07 11.6**	**-0.4**
JRY	**Ryogami san**	**0.99**	**263**	↓P	**Pn**	**21 07 00.3**	**-0.1**
JRY				S	**Sn**	**21 07 12.6**	**-0.8**
JOD2	**Odawara 2**	**1.21**	**223**	P	**Pn**	**21 07 04.1**	**+0.6**
JOD2				S	**Sn**	**21 07 18.6**	**-0.3**
JFY	**Yanaizu**	**1.30**	**346**	↓P	**Pn**	**21 07 05.1**	**+0.5**
JFY				S	**Sn**	**21 07 21.5**	**+0.6**
JFK	**Kawauchi**	**1.36**	**27**	P	**Pn**	**21 07 05.5**	**0.0**
JFK				S	**Sn**	**21 07 22.2**	**-0.3**
JFT	**Otama**	**1.38**	**8**	↓P	**Pn**	**21 07 05.9**	**+0.2**
JHK	**Hiroka**	**1.40**	**322**	↓P	**Pn**	**21 07 06.5**	**+0.5**
JYN	**Shimodo**	**1.43**	**243**	P	**Pn**	**21 07 07.8**	**+1.4**
MJAR	**Matsushiro Arr**	**1.58**	**285**	P	**Pn**	**21 07 08.6**	**+0.2**
	31nm,0.3s,baz=90,slow=9.3,SNR=298						
MAT	**Matsushiro**	**1.58**	**285**	P	**Pn**	**21 07 08.1**	**-0.4**
MAT				S	**Sn**	**21 07 28.3**	**+0.4**
JHJ	**Hachijo jima 2**	**3.04**	**185**	P	**Pn**	**21 07 28.7**	**+0.4**
	42nm,0.3s,baz=341,slow=11,SNR=11						
JHJ				S	**Sn**	**21 08 03.5**	**0.0**
	16nm,0.3s,baz=68,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**43.70**	**303**	P	**P**	**21 14 41.4**	**-1.1**
	0.8nm,0.6s,mb3.6,baz=69,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**56.05**	**187**	P	**P**	**21 16 15.7**	**-0.5**
	0.3nm,0.3s,mb3.8,baz=2.3,slow=7.6,SNR=12						

*NEIC **08** 21:19:42.1±0.5, 3338S×17920W, h10km, mb4.9/6, Error ellipse: s-maj=14.2km s-min=12.7km az=122.0*
*ISCJB **08** 21:19:45.5±2.1, 3373S±005×1795W±0.1, h30km±15km, mb4.6/12, MS4.0/3, Error ellipse: s-maj=15.0km s-min=7.4km az=26.6*
*IDC **08** 21:19:46.7±1.9, 3341S×17928W, h40km±16km, mb4.2/8, mb1 4.4/10, mb1mx4.2/16, mbtmp4.3/10, ML4.6/3, MS4.0/4, Ms1 4.0/4, ms1mx3.7/22, Error ellipse: s-maj=17.8km s-min=10.4km az=116.0*
ISC 08 21:19:45.8±2.1, 3366S±005×17938W±009, h23km±15km, n65, σ1°57/63, mb4.6/12, MS4.0/3, 1C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.33**	**205**	PN	**Pn**	**21 20 53.2**	**+3.0**
RAO	**Raoul Island**	**4.57**	**16**	P	**Pn**	**21 20 48.8**	**-4.7**
	114nm,0.3s,baz=67,slow=22,SNR=5.5						
RAO				S	**Sn**	**21 21 39.5**	**-6.3**
	150nm,0.3s,baz=171,slow=23,SNR=3.5						
RAO				LR	LR	21 22 22.0	
	comp=Z,1μm,20.9s,baz=324,slow=36						
PUZ	**Puketiti**	**4.80**	**203**	PN	**Pn**	**21 20 59.4**	**+2.7**
PUZ				SN	**Sn**	**21 21 59.6**	**+8.0**
KUZ	**Kuaotunu**	**5.06**	**231**	PN	**Pn**	**21 21 04.6**	**+4.4**
MWZ	**Matawai**	**5.30**	**207**	PN	**Pn**	**21 21 05.0**	**+1.5**
URZ	**Urewera**	**5.40**	**211**	P	**Pn**	**21 21 08.1**	**+3.2**
	59nm,0.3s,baz=271,slow=3.4,SNR=88						
URZ				S	**Sn**	**21 22 11.4**	**+5.0**
	7.7nm,0.3s,baz=301,slow=22,SNR=3.9						
URZ	**Urewera**	**5.40**	**211**	PN	**Pn**	**21 21 07.5**	**+2.5**
URZ				SN	**Sn**	**21 22 11.1**	**+4.7**
WCZ	**Waipu Caves**	**5.64**	**244**	PN	**Pn**	**21 21 11.4**	**+3.2**
KNZ	**Kokohu**	**5.86**	**203**	PN	**Pn**	**21 21 11.8**	**+0.6**
OUZ	**Omahuta**	**6.01**	**253**	PN	**Pn**	**21 21 14.8**	**+1.6**
BKZ	**Black Stump Fm**	**6.42**	**210**	PN	**Pn**	**21 21 20.9**	**+1.9**
HIZ	**Hauiti**	**6.73**	**222**	PN	**Pn**	**21 21 27.8**	**+4.7**
PXZ	**Pawanui**	**7.04**	**204**	PN	**Pn**	**21 21 26.0**	**-1.4**
PXZ				SN	**Sn**	**21 22 46.7**	**0.0**
BFZ	**Birch Farm**	**7.83**	**205**	PN	**Pn**	**21 21 38.2**	**-0.1**
MRZ	**Mangatainoka R**	**8.06**	**208**	PN	**Pn**	**21 21 40.1**	**-1.4**
KIW	**Kapiti Island**	**8.51**	**211**	PN	**Pn**	**21 21 46.4**	**-1.2**
KIW				SN	**Sn**	**21 23 21.4**	**-1.5**
MRW	**Makara Radio**	**8.90**	**210**	SN	**Sn**	**21 23 31.3**	**-1.2**
QRZ	**Quartz Range**	**9.63**	**220**	PN	**Pn**	**21 22 02.5**	**-0.5**
QRZ				SN	**Sn**	**21 23 52.1**	**+1.7**
THZ	**Tophouse**	**10.13**	**215**	PN	**Pn**	**21 22 08.0**	**-1.8**
THZ				SN	**Sn**	**21 24 01.6**	**-1.2**
KHZ	**Kahutara**	**10.37**	**210**	PN	**Pn**	**21 22 10.6**	**-2.5**
KHZ				SN	**Sn**	**21 24 04.3**	**-4.3**
LTZ	**Lake Taylor**	**11.22**	**213**	PN	**Pn**	**21 22 22.3**	**-2.5**
LTZ				SN	**Sn**	**21 24 24.3**	**-5.2**
MQZ	**McQueen's Vall**	**11.80**	**209**	SN	**Sn**	**21 24 36.7**	**-6.9**
RPZ	**Rata Peaks**	**12.51**	**214**	P	**Pn**	**21 22 38.5**	**-3.8**
	3.9nm,0.3s,baz=68,slow=16,SNR=21						
RPZ				S	**Sn**	**21 24 54.5**	**-6.4**
	1.5nm,0.3s,baz=332,slow=21,SNR=6.3						
RPZ	**Rata Peaks**	**12.51**	**214**	P	**Pn**	**21 22 38.5**	**-3.8**
RPZ				S	**Sn**	**21 24 54.5**	**-6.4**
DZM	**Mont Dzumac**	**17.02**	**309**	*eP*	**Pn**	**21 23 41.3**	**-0.9**
DZM	**Mont Dzumac**	**17.02**	**309**	P	**Pn**	**21 23 41.2**	**-1.0**
	0.2nm,0.3s,baz=114,slow=14,SNR=18						
STKA	**Stephens Creek**	**32.73**	**262**	P	**P**	**21 26 17.6**	**+0.9**
	2.1nm,0.9s,mb4.1,baz=132,slow=14,SNR=2.6						
CTA	**Charters Tower**	**33.34**	**285**	P	**P**	**21 26 21.5**	**-0.5**
	6.1nm,0.5s,mb4.8,baz=115,slow=11,SNR=4.9						
CTA				LR	LR	21 38 21.5	
	comp=Z,232nm,19.1s,MS3.9,baz=47,slow=33						
CTA	**Charters Tower**	**33.34**	**285**	P	**P**	**21 26 21.5**	**-0.5**
CTA				LR	LR	21 38 21.4	
CTAO	**Charters Tower**	**33.34**	**285**	*eP*	**P**	**21 26 24.8**	**+2.8**
	5.9nm,0.6s,mb4.7						
PMG	**Port Moresby**	**39.09**	**300**	LR	LR	21 41 25.3	
	comp=Z,315nm,18.6s,MS4.2,baz=114,slow=33						
AS31	**Alice Springs**	**41.88**	**271**	*eP*	**P**	**21 27 35.1**	**+0.9**
ASAR	**Alice Springs**	**41.88**	**271**	P	**P**	**21 27 35.0**	**+0.8**
	7.5nm,0.5s,mb4.6,baz=109,slow=7.4,SNR=73						
ASPA	**Alice Springs**	**41.88**	**271**	*eP*	**P**	**21 27 35.1**	**+0.8**
WB2	**Warramunga Arr**	**43.16**	**276**	*eP*	**P**	**21 27 42.0**	**-2.6**
WRA	**Warramunga Arr**	**43.17**	**276**	P	**P**	**21 27 42.3**	**-2.4**
	3.1nm,0.3s,mb4.5,baz=117,slow=7.6,SNR=42						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORT	**Forrest**	**44.17**	**259**	*eP*	**P**	**21 27 52.8**	**0.0**
	18nm,0.7s,mb4.9						
VNDA	**Vanda**	**44.74**	**186**	P	**P**	**21 27 59.1**	**+1.8**
	0.6nm,0.6s,mb3.6,baz=17,slow=7.4,SNR=5.3						
VNDA				PcP	PcP	21 29 39.3	-0.1
	0.9nm,0.7s,baz=317,slow=3.0,SNR=4.2						
FITZ	**Fitzroy Crossi**	**51.27**	**273**	*eP*	**P**	**21 28 47.5**	**-0.4**
	13nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.27**	**273**	P	**P**	**21 28 48.0**	**+0.1**
	6.4nm,0.6s,mb4.7,baz=156,slow=8.5,SNR=24						
FITZ				LR	LR	21 50 40.0	
	comp=Z,141nm,20.3s,MS4.0,baz=120,slow=36						
QSPA	**South Pole Qui**	**56.46**	**180**	*i P*	**P**	**21 29 29.7**	**+3.9**
	23nm,0.7s,mb5.3						
RPN	**Rapa Nui**	**59.74**	**104**	P	**P**	**21 29 46.1**	**-2.6**
	30nm,0.4s,mb5.6,baz=11,slow=10,SNR=2.8						
MAW	**Mawson**	**68.86**	**201**	*eP*	**P**	**21 30 47.7**	**-0.8**
	8.3nm,1.2s,mb4.5						
MAW	**Mawson**	**68.86**	**201**	P	**P**	**21 30 47.9**	**-0.6**
	4.7nm,0.6s,mb4.6,baz=136,slow=7.7,SNR=8.7						
SYO	**Syowa Base**	**73.68**	**194**	*eP*	**P**	**21 31 17.0**	**-0.7**
SYO	**Syowa Base**	**73.68**	**194**	*eP*	**P**	**21 31 20.3**	**+2.6**
SNAA	**Sanae**	**74.94**	**179**	*e*	**P**	**21 31 26.2**	**+1.2**
SNAA				*e*		21 31 30.3	
SNAA	**Sanae**	**74.94**	**179**	*eP*	**P**	**21 31 25.7**	**+0.8**
	8.4nm,1.0s,mb4.6						
VNA2	**Neumayer--Watz**	**75.56**	**177**	*e*	**P**	**21 31 30.1**	**+1.6**
	baz=179,slow=4.8						
VNA2				*e*		21 31 31.2	
VNA2				*e*		21 31 40.1	
VNA1	**Neumayer--Stat**	**75.79**	**177**	*e*	**P**	**21 31 31.8**	**+1.9**
NVAR	**Mina Array Bea**	**91.41**	**43**	P	**P**	**21 32 49.2**	**-0.8**
	0.6nm,0.5s,mb4.2,baz=238,slow=5.2,SNR=3.0						
NVAR	**Mina Array Bea**	**91.41**	**43**	P	**P**	**21 32 49.2**	**-0.8**
BOSA	**Boshof**	**113.81**	**204**	PKP	PKiKP	21 38 22.2	-0.4
	1.2nm,0.6s,baz=287,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**118.94**	**309**	PKP	PKPdf	21 38 28.9	-3.5
	0.4nm,0.5s,baz=162,slow=0.7,SNR=12						
BVAR	**Borovoye Array**	**127.87**	**314**	PKP	PKPdf	21 38 46.4	-3.1
	1.2nm,0.5s,baz=141,slow=1.8,SNR=13						
ARCES	**ARCESS Array B**	**141.49**	**346**	PKhKP		21 39 07.4	
	4.3nm,1.1s,baz=41,slow=2.4,SNR=15						
FINES	**FINESS Array B**	**147.74**	**337**	PKPbc	PKPbc	21 39 25.1	-3.6
	7.4nm,0.7s,baz=43,slow=4.9,SNR=27						
NB2	**NORSAR Subarra**	**151.75**	**349**	PKP	PKPdf	21 39 35.5	+3.4
	comp=Z,3.3nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.75**	**349**	PKPbc	PKPbc	21 39 36.2	-2.3
	comp=Z,2.1nm,0.7s,baz=22,slow=4.7,SNR=18						
NOA	**NORSAR Array B**	**151.75**	**349**	PKPbc	PKPbc	21 39 36.2	-2.3
HFS	**Hagfors**	**152.16**	**346**	PKPbc	PKPbc	21 39 36.0	-3.4
	comp=Z,4.3nm,0.6s,baz=190,slow=4.5,SNR=22						
BRTR	**Keskin Array B**	**152.94**	**293**	PKPbc	PKPbc	21 39 38.2	-2.9
	comp=Z,1.1nm,0.5s,baz=142,slow=3.9,SNR=9.0						
AKASG	**Malin Array Be**	**153.05**	**318**	PKPbc	PKPbc	21 39 37.1	-4.2
	comp=Z,1.0nm,0.4s,baz=52,slow=2.4,SNR=8.4						
TORD	**Torodi Ar. Bea**	**159.56**	**183**	PKP	PKPdf	21 39 42.2	-0.3
	comp=Z,1.1nm,1.0s,baz=242,slow=0.5,SNR=5.1						
TORD				PKPab	PKPab	21 40 21.5	+0.8
	comp=Z,2.1nm,0.4s,baz=163,slow=4.7,SNR=23						
TORD	**Torodi Ar. Bea**	**159.56**	**183**	PKP	PKPdf	21 39 42.2	-0.3
TORD				PKPab	PKPab	21 40 21.5	+0.8

IDC 08 21:29:36.0±7.8, 622S×15077E, h103km±54km, mb3.8/4, mb1 3.9/5, mb1mx3.6/12, mbtmp3.8/5, Error ellipse: s-maj=62.2km s-min=50.1km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**228**	P	Pn	21 30 44.5	-1.2
	1.2nm,0.3s,baz=40,slow=12,SNR=5.6						
PMG				S	Sn	21 31 41.7	+1.9
	3.6nm,0.3s,baz=200,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**21.00**	**228**	P	P	21 34 10.7	-0.4
	5.9nm,0.9s,baz=53,slow=11,SNR=34						
ASAR	**Alice Springs**	**23.75**	**221**	P	P	21 34 39.1	+0.4
	6.8nm,0.8s,baz=54,slow=9.4,SNR=63						
STKA	**Stephens Creek**	**26.93**	**197**	P	P	21 35 07.3	-0.3
	0.9nm,0.4s,baz=330,slow=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.21**	**242**	P	P	21 35 10.4	+0.4
	2.6nm,0.8s,baz=143,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**66.46**	**329**	pP	pP	21 40 40.6	+0.5
	0.1nm,0.4s,baz=148,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**80.07**	**320**	pP	pP	21 41 58.6	-2.2
	1.0nm,0.6s,baz=96,slow=7.9,SNR=10						
TORD	**Torodi Ar. Bea**	**148.77**	**285**	PKPbc	PKPbc	21 49 12.4	+1.1
	0.5nm,0.4s,baz=88,slow=2.4,SNR=19						

IDC 08 21:49:58.4±2.7, 654S×15210E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=107.5km s-min=39.5km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.66**	**239**	Pn	Pn	21 51 25.1	+1.3
	1.0nm,0.3s,baz=49,slow=10.0,SNR=2.6						
PMG				Sn	Sn	21 52 28.6	-0.8
	1.9nm,0.3s,baz=11,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**21.79**	**231**	P	P	21 54 51.5	-0.4
	0.5nm,0.5s,baz=58,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**24.41**	**224**	P	P	21 55 19.6	+1.1
	2.4nm,0.8s,baz=51,slow=9.3,SNR=20						
TORD	**Torodi Ar. Bea**	**150.13**	**285**	PKPbc	PKPbc	22 09 51.5	+0.4
	0.2nm,0.4s,baz=106,slow=2.7,SNR=5.4						

*CSEM **08** 21:52:46.9±0.0, 4307N×021W, h6km, ML2.7/11, Error ellipse: s-maj=1.0km s-min=0.7km az=175.0*
*NEIC **08** 21:52:46.6, 4306N×021W, h5km, ML2.4(STR), ML2.6(LDG), MN2.0(MDD), After STR.*
*LDG **08** 21:52:46.9±0.0, 4307N×022W, h6km, Md2.8/2, Ml2.6/10, Error ellipse: s-maj=1.0km s-min=0.8km az=6.0*
*STR **08** 21:52:46.6±0.1, 4306N×021W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 08 21:52:47.0±0.2, 4307N×021W, h9km±2km, mbLg1.9/26, Error ellipse: s-maj=2.4km s-min=1.1km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.13**	**270**	Pg	Pg	21 52 49.6	-0.4
REYF				Sg	Sg	21 52 51.9	-0.2
REYF	**Montagne du Re**	**0.13**	**270**	Pg	Pg	21 52 49.7	-0.3
REYF				Lg		21 52 51.8	
LABF	**Labassere**	**0.21**	**96**	Pg	Pg	21 52 50.8	-0.6
LABF				Sg	Sg	21 52 54.1	-0.2
LABF	**Labassere**	**0.21**	**96**	Pg	Pg	21 52 50.9	-0.5
LABF				Lg		21 52 54.1	
VIEF	**Viey**	**0.26**	**137**	Pg	Pg	21 52 51.7	-0.5
VIEF				Sg	Sg	21 52 55.1	-0.5
VIEF	**Viey**	**0.26**	**137**	Pg	Pg	21 52 51.8	-0.4
VIEF				Lg		21 52 55.3	
ETSF	**Etsaut**	**0.31**	**236**	*e*Pg	Pg	21 52 52.8	-0.3
	SNR=1.0						
ETSF				*e*Sg	Sg	21 52 56.6	-0.6
	168nm,0.2s						
ETSF	**Etsaut**	**0.31**	**236**	*e*Pg	Pg	21 52 52.8	-0.3
	SNR=1.0						
ETSF				*e*Sg	Sg	21 52 56.6	-0.6
	84nm,0.2s						
ATE	**Arette**	**0.36**	**273**	Pg	Pg	21 52 53.8	-0.2
ATE				Sg	Sg	21 52 59.1	+0.3
FDAF	**Les Forges d'A**	**0.36**	**226**	Pg	Pg	21 52 53.8	-0.4
FDAF				Lg		21 52 58.9	
EPF	**Esparros**	**0.41**	**95**	*e*Pg	Pg	21 52 54.8	-0.2
	SNR=1.0						
EPF				*e*Sg	Sg	21 53 00.7	+0.3
	48nm,0.3s						
EPF	**Esparros**	**0.41**	**95**	*e*Pg	Pg	21 52 54.8	-0.2
	SNR=1.0						
EPF				*e*Sg	Sg	21 53 00.7	+0.3
	24nm,0.3s						
EBIE	**Bielsa**	**0.47**	**146**	Pg	Pg	21 52 55.5	-0.5
	0.6nm,0.1s,SNR=44						
EBIE				Lg		21 53 01.9	
	31nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.47**	**146**	Pg	Pg	21 52 55.5	-0.6
	0.6nm,0.1s,SNR=44						
RESF	**Ens**	**0.48**	**123**	Pg	Pg	21 52 56.0	-0.4
RESF				Sg	Sg	21 53 02.7	-0.1
RESF	**Ens**	**0.48**	**123**	Pg	Pg	21 52 56.1	-0.3
RESF				Lg		21 53 02.9	

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.55**	**285**	Pg	Pg	21 52 57.6	0.0
ORDF				Sg	Sg	21 53 05.3	+0.5
ORDF	**Ordiarp**	**0.55**	**285**	Pg	Pg	21 52 57.7	0.0
ORDF				Lg		21 53 05.7	
LARF	**Larrau**	**0.57**	**267**	Pg	Pg	21 52 57.6	-0.4
LARF				Sg	Sg	21 53 05.9	+0.4
LARF	**Larrau**	**0.57**	**267**	Pg	Pg	21 52 57.7	-0.4
LARF				Lg		21 53 06.0	
MELF	**Melles**	**0.74**	**105**	Pg	Pg	21 53 00.5	-0.8
MELF				Sg	Sg	21 53 11.5	+0.6
MELF	**Melles**	**0.74**	**105**	Pg	Pg	21 53 00.8	-0.5
MELF				Lg		21 53 11.2	
SJPF	**Ste Jean**	**0.74**	**274**	*e*Pn	Pn	21 53 02.2	-1.4
SJPF				*e*Sg	Sg	21 53 10.4	-0.6
	16nm,0.2s						
SJPF	**Ste Jean**	**0.74**	**274**	*e*Pg	Pg	21 53 00.8	-0.5
SJPF				*e*Pn	Pn	21 53 02.2	-1.4
SJPF				*e*Sg	Sg	21 53 10.4	-0.6
SJPF	**Ste Jean**	**0.74**	**274**	Pg	Pg	21 53 00.8	-0.5
SJPF				Pn	Pn	21 53 02.2	-1.4
SJPF				Lg		21 53 10.4	
	7.9nm,0.2s						
SJPF	**Ste Jean**	**0.74**	**274**	*e*Pn	Pn	21 53 02.2	-1.4
SJPF				*e*Sg	Sg	21 53 10.4	-0.6
	7.9nm,0.2s						
OSSF	**Osses**	**0.79**	**284**	Pg	Pg	21 53 01.1	-1.1
OSSF	**Osses**	**0.79**	**284**	Pg	Pg	21 53 01.5	-0.8
OSSF				Lg		21 53 12.0	
IPRE	**Itoiz**	**0.88**	**253**	Pg	Pg	21 53 04.1	+0.2
	0.7nm,0.1s,SNR=4.0						
IPRE				Lg		21 53 15.9	
	6.8nm,0.2s,SNR=12						
IPRE	**Itoiz**	**0.88**	**253**	Pg	Pg	21 53 04.1	+0.1
	0.7nm,0.1s,SNR=4.0						
ELIZ	**Elizondo**	**0.97**	**276**	Pg	Pg	21 53 04.4	-1.2
ELIZ				Lg		21 53 16.9	
ELIZ	**Elizondo**	**0.97**	**276**	Pg	Pg	21 53 04.4	-1.2
	1.6nm,0.2s,SNR=12						
ELIZ				Lg		21 53 16.9	
	7.6nm,0.2s,SNR=12						
IUSE	**Utxeti**	**0.99**	**263**	Pg	Pg	21 53 05.5	-0.5
	0.7nm,0.1s,SNR=4.0						
IUSE				Lg		21 53 19.0	
	9.4nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.99**	**263**	Pg	Pg	21 53 05.5	-0.5
	0.7nm,0.1s,SNR=4.0						
SALF	**Salau**	**1.08**	**106**	Pn	Pn	21 53 06.8	-1.4
SALF	**Salau**	**1.08**	**106**	Pg	Pg	21 53 07.1	-0.6
SALF				Lg		21 53 21.1	
CSOR	**Sort**	**1.21**	**125**	Pg	Pg	21 53 09.9	-0.4
CSOR				Lg		21 53 26.5	
	5.3nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**188**	Pg	Pg	21 53 13.4	+0.3
	9.5nm,0.2s,SNR=15						
ESAC				Lg		21 53 31.2	
	44nm,0.1s,SNR=16						
ESAC	**San Caprasio**	**1.36**	**188**	Pg	Pg	21 53 13.4	+0.3
	9.5nm,0.2s,SNR=15						
CAVN	**Les Avellanes**	**1.39**	**149**	Pg	Pg	21 53 13.2	-0.4
CAVN				Lg		21 53 32.4	
	22nm,0.1s						
CORG	**Organya**	**1.41**	**126**	Pg	Pg	21 53 13.3	-0.7
CORG				Lg		21 53 32.4	
	1.4nm,0.3s						
EMIR	**Miracle**	**1.73**	**131**	Pg	Pg	21 53 19.3	-0.8
	1.4nm,0.1s,SNR=7.3						
EMIR				Lg		21 53 42.7	
	4.8nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**1.73**	**131**	Pg	Pg	21 53 19.3	-0.9
	1.4nm,0.1s,SNR=7.3						
ECRI	**Cripan**	**1.75**	**256**	Pg	Pg	21 53 18.0	-2.6
	1.6nm,0.2s,SNR=7.9						
ECRI				Lg		21 53 42.2	
	6.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.80**	**81**	*e*P	Pn	21 53 19.1	+1.0
	SNR=1.0						
MTLF	**Montolieu**	**1.80**	**81**	*e*Pg	Pg	21 53 20.4	-1.1
	SNR=1.0						
MTLF				*e*Sn	Sn	21 53 38.6	-2.4
MTLF				*e*Sg	Sg	21 53 43.7	-1.1
	4.6nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.80**	**81**	*e*Pn	Pn	21 53 16.9	-1.2
MTLF				*e*P		21 53 19.1	
MTLF				*e*Pg	Pg	21 53 20.4	-1.1
MTLF				*e*Sn	Sn	21 53 38.6	-2.4
MTLF				*e

RJF	**Les Rejaudoux**	**2.56**	**29**	*e*Pn		Pn		21 53 27.4	-1.2
RJF				*e*Pg		Pg		21 53 34.0	-2.0
RJF				*e*Sn		Sn		21 53 55.6	-4.2
RJF				*e*Sg		Sg		21 54 07.3	-1.8
RJF	**Les Rejaudoux**	**2.56**	**29**	Pn		Pn		21 53 27.4	-1.2
RJF				Pg		Pg		21 53 34.0	-2.0
RJF				Sn		Sn		21 53 55.6	-4.2
RJF				Lg				21 54 07.3	
	3.0nm,0.2s								
RJF	**Les Rejaudoux**	**2.56**	**29**	*e*Pn		Pn		21 53 27.4	-1.2
RJF	**Les Rejaudoux**	**2.56**	**29**	*e*Pg		Pg		21 53 34.0	-2.0
	SNR=1.0								
RJF				*e*Sn		Sn		21 53 55.6	-4.2
	SNR=1.0								
RJF				*e*Sg		Sg		21 54 07.3	-1.8
	3.0nm,0.2s								
ETOR	**Torete**	**2.64**	**212**	Pn		Pn		21 53 29.4	-0.3
	1.3nm,0.2s,SNR=7.9								
ETOR				Sn		Sn		21 53 59.6	-2.1
	2.6nm,0.3s,SNR=7.9								
ETOR				Lg				21 54 09.8	
	5.8nm,0.4s,SNR=7.9								
ETOR	**Torete**	**2.64**	**212**	Pn		Pn		21 53 29.4	-0.3
ETOR				Sn		Sn		21 53 59.6	-2.1
	2.6nm,0.3s,SNR=7.9								
ETOR				Sn		Sn		21 53 59.6	-2.1
EMOS	**Mosqueruela**	**2.71**	**184**	Pg		Pg		21 53 35.7	-3.2
	0.2nm,0.1s,SNR=7.9								
EMOS				Sn		Sn		21 53 58.4	-5.2
	5.5nm,0.6s,SNR=7.9								
EMOS				Lg				21 54 10.7	
	2.2nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**2.71**	**184**	Pg		Pg		21 53 35.7	-3.3
	0.2nm,0.1s,SNR=7.9								
EMOS				Sn		Sn		21 53 58.4	-5.2
LASF	**Ste Croix**	**3.12**	**70**	*e*Pg		Pg		21 53 45.0	-1.9
	SNR=1.0								
LASF				*e*Sg		Sg		21 54 25.7	-1.6
	2.4nm,0.3s,SNR=1.0								
LASF	**Ste Croix**	**3.12**	**70**	*e*Pn		Pn		21 53 35.2	-1.2
LASF				*e*Pg		Pg		21 53 45.0	-1.9
LASF				*e*Sg		Sg		21 54 25.7	-1.6
LASF	**Ste Croix**	**3.12**	**70**	Pn		Pn		21 53 35.2	-1.2
LASF				Pg		Pg		21 53 45.0	-1.9
LASF				Lg				21 54 25.7	
	1.2nm,0.3s								
LASF	**Ste Croix**	**3.12**	**70**	*e*Pg		Pg		21 53 45.0	-1.9
	SNR=1.0								
LASF				*e*Sg		Sg		21 54 25.7	-1.6
	1.2nm,0.3s,SNR=1.0								
MFF	**Saint Martin d**	**3.53**	**1**	*e*Pg		Pg		21 53 52.3	-2.4
	SNR=1.0								
MFF				*e*Sg		Sg		21 54 38.3	-2.1
	2.1nm,0.2s,SNR=1.0								
MFF	**Saint Martin d**	**3.53**	**1**	*e*Pn		Pn		21 53 40.5	-1.5
MFF				*e*Pg		Pg		21 53 52.3	-2.4
MFF				*e*Sg		Sg		21 54 38.3	-2.1
MFF	**Saint Martin d**	**3.53**	**1**	Pn		Pn		21 53 40.5	-1.5
MFF				Pg		Pg		21 53 52.3	-2.4
MFF				Lg				21 54 38.3	
	1.1nm,0.2s								
MFF	**Saint Martin d**	**3.53**	**1**	*e*Pg		Pg		21 53 52.3	-2.4
	SNR=1.0								
MFF				*e*Sg		Sg		21 54 38.3	-2.1
	1.0nm,0.2s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.65**	**27**	*e*Pn		Pn		21 53 41.9	-1.7
TCF				*e*Sn		Sn		21 54 23.1	-3.7
TCF				*e*Sg		Sg		21 54 41.8	-2.5
	2.4nm,0.2s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.65**	**27**	*e*Pn		Pn		21 53 41.9	-1.7
TCF				*e*Sn		Sn		21 54 23.1	-3.7
TCF				*e*Sg		Sg		21 54 41.8	-2.5
	1.2nm,0.2s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.95**	**61**	*e*Pg		Pg		21 54 00.1	-2.6
VIVF				*e*Sg		Sg		21 54 50.9	-3.1
	1.9nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.95**	**61**	*e*Pg		Pg		21 54 00.1	-2.6
VIVF				*e*Sg		Sg		21 54 50.9	-3.1
	0.9nm,0.3s,SNR=1.0								
BGF	**Bois d'Agland**	**4.11**	**31**	*e*Pn		Pn		21 53 48.0	-1.9
BGF				*e*Sg		Sg		21 54 56.3	-2.7
	8.9nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**	**4.11**	**31**	*e*Pn		Pn		21 53 48.0	-1.9
BGF				*e*Sg		Sg		21 54 56.3	-2.7
	4.4nm,0.4s,SNR=1.0								
QUIF	**Quistinic**	**5.27**	**338**	*e*Pn		Pn		21 54 04.0	-1.9
GRR	**Gorron**	**5.34**	**355**	*e*Pn		Pn		21 54 05.7	-1.1
	SNR=1.0								

*IDC **08** 22:05:19.9±3.0, 4699N×15386E, h0km, mb4.0/11, mb1 4.2/11, mb1mx3.9/25, mbtmp4.0/11, Error ellipse: s-maj=87.2km s-min=30.6km az=0.0*

*ISCJB **08** 22:05:26.7±3.8, 474N±03×1538E±03, h45km±26km, mb4.1/14, Error ellipse: s-maj=52.4km s-min=22.5km az=132.0*

*MOS **08** 22:05:26.4±1.3, 4728N×15372E, h49km, mb4.1/10, Error ellipse: s-maj=33.6km s-min=17.3km az=101.5*

ISC 08 22:05:30.4±3.5, 475N±03×1539E±03, h59km±24km, n28, σ0§84/28, mb4.1/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.50**	**24**	*e*PN	**Pn**	**22 06 22.6**	**+0.3**
SONM	**Songino Array**	**31.56**	**288**	P	**P**	**22 11 44.3**	**-2.8**
	0.5nm,0.7s,mb3.4,baz=56,slow=11,SNR=5.0						
SONM	**Songino Array**	**31.56**	**288**	P	**P**	**22 11 44.3**	**-2.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**22 13 55.0**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=66,slow=7.9,SNR=9.5						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**22 13 55.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**22 14 24.2**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=55,slow=7.9,SNR=7.3						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**22 14 24.2**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKN	**Kakani**	**55.92**	**275**	*e*P	**P**	**22 15 02.9**	**+0.7**
	comp=Z,11nm,0.8s,mb4.9						
DMN	**Daman**	**56.15**	**275**	*e*P	**P**	**22 15 04.6**	**+0.7**
	comp=Z,18nm,0.8s,mb5.2						
GKN	**Gorkha**	**56.22**	**276**	*e*P	**P**	**22 15 04.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.1						
KOLN	**Koldanda**	**57.06**	**276**	*e*P	**P**	**22 15 10.6**	**+0.2**
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**22 15 54.2**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=38,slow=8.9,SNR=7.3						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**22 15 54.3**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**67.67**	**341**	P	**P**	**22 16 21.2**	**0.0**
	comp=Z,0.3nm,0.8s,mb3.4,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**341**	P	**P**	**22 16 21.6**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=27,slow=6.5,SNR=7.4						
NOA	**NORSAR Array B**	**67.67**	**341**	P	**P**	**22 16 21.6**	**+0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**67.92**	**340**	P	**P**	**22 16 22.9**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=58,slow=4.9,SNR=7.5						
HFS	**Hagfors**	**67.92**	**340**	P	**P**	**22 16 22.9**	**+0.1**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**22 16 42.1**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=33,slow=5.9,SNR=7.1						
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**22 16 42.2**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.68**	**61**	P	**P**	**22 17 14.1**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=276,slow=4.8,SNR=5.1						
TXAR	**Lajitas Array**	**76.68**	**61**	P	**P**	**22 17 14.1**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**76.73**	**325**	P	**P**	**22 17 15.7**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=184,slow=6.2,SNR=6.2						
MLR	**Muntele Rosu**	**76.73**	**325**	P	**P**	**22 17 15.7**	**+0.4**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**77.99**	**334**	P	**P**	**22 17 23.0**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=36,slow=8.6,SNR=2.8						
GERES	**GERESS Array B**	**77.99**	**334**	P	**P**	**22 17 23.0**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.18**	**317**	P	**P**	**22 17 24.9**	**+1.6**
	comp=Z,1.0nm,0.9s,mb3.7,baz=76,slow=5.2,SNR=4.4						
BRTR	**Keskin Array B**	**78.18**	**317**	P	**P**	**22 17 25.0**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*NEIC **08** 22:06:51.9, 4194S×17429E, h10km, ML3.8(WEL), After WEL.*

WEL 08 22:06:50.7±0.4, 4200S×17427E, h12km, ML3.7/31, 2D, Error ellipse: s-maj=3.0km s-min=1.7km az=0.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.26**	**351**	P	Pg	22 06 56.1	+0.1
CMWZ				S	Sg	22 07 01.2	+1.6
CMWZ	**Cape Campbell**	**0.26**	**351**	⇓PG	Pg	22 06 56.1	0.0
CMWZ				SG	Sg	22 07 00.8	+1.2
BSWZ	**Blackbirch Sta**	**0.41**	**314**	P	Pg	22 06 59.2	+0.4
BSWZ	**Blackbirch Sta**	**0.41**	**314**	⇓PG	Pg	22 06 59.2	+0.3
BSWZ				SG	Sg	22 07 05.3	+1.0
KHZ	**Kahutara**	**0.68**	**232**	P	Pg	22 07 06.1	+2.1
KHZ	**Kahutara**	**0.68**	**232**	SG	Sg	22 07 14.7	+1.7
BHW	**Baring Head**	**0.74**	**38**	P	Pg	22 07 05.5	+0.4
BHW	**Baring Head**	**0.74**	**38**	P*	Pb	22 07 05.5	0.0
BHW				SG	Sg	22 07 16.3	+1.4
SNZO	**South Karori**	**0.76**	**25**	P	Pg	22 07 05.5	0.0
SNZO	**South Karori**	**0.76**	**25**	P*	Pb	22 07 05.4	-0.6
TCW	**Tory Channel**	**0.79**	**0**	P*	Pb	22 07 05.5	-0.8
TCW				SG	Sg	22 07 16.1	-0.1
WEL	**Wellington**	**0.81**	**28**	P	Pg	22 07 06.3	0.0
WEL	**Wellington**	**0.81**	**28**	P*	Pb	22 07 06.3	-0.4
MRW	**Makara Radio**	**0.83**	**23**	P	Pg	22 07 06.6	-0.3
MRW				S	Sg	22 07 19.3	+1.5
MRW	**Makara Radio**	**0.83**	**23**	P*	Pb	22 07 06.6	-0.5
MRW				SG	Sg	22 07 18.6	+0.8
MSWZ	**Moikau Station**	**0.94**	**52**	P	Pg	22 07 08.7	-0.1
MSWZ				S	Sg	22 07 22.1	+1.0
MSWZ	**Moikau Station**	**0.94**	**52**	P*	Pb	22 07 08.7	-0.3
MSWZ				SG	Sg	22 07 21.6	+0.5
THZ	**Tophouse**	**1.05**	**283**	P	Pb	22 07 11.9	+1.1
THZ	**Tophouse**	**1.05**	**283**	P*	Pb	22 07 11.7	+0.9
PAWZ	**Paruwai Farm**	**1.06**	**55**	P	Pb	22 07 10.2	-0.9
PAWZ	**Paruwai Farm**	**1.06**	**55**	P*	Pb	22 07 10.2	-0.8
CAW	**Cannon Point**	**1.07**	**34**	P	Pb	22 07 10.8	-0.4
CAW	**Cannon Point**	**1.07**	**34**	P*	Pb	22 07 10.7	-0.6
DUWZ	**D'Urville Isla**	**1.22**	**348**	P*	Pb	22 07 13.1	-0.7
DUWZ				S*	Sb	22 07 30.0	+0.5
KIW	**Kapiti Island**	**1.23**	**23**	P	Pn	22 07 13.3	-0.5
KIW	**Kapiti Island**	**1.23**	**23**	P*	Pb	22 07 13.3	-0.7
MTW	**Mount Morrison**	**1.25**	**48**	P	Pn	22 07 12.7	-1.3
MTW	**Mount Morrison**	**1.25**	**48**	P*	Pb	22 07 12.7	-1.5
LTZ	**Lake Taylor**	**1.68**	**242**	P	Pn	22 07 21.0	+1.1
LTZ	**Lake Taylor**	**1.68**	**242**	PN	Pn	22 07 21.0	+1.1
DSZ	**Denniston Nort**	**1.86**	**277**	*e*P	Pn	22 07 23.9	+1.5
RPZ	**Rata Peaks**	**2.92**	**233**	*e*P	Pn	22 07 37.5	+0.5
RPZ	**Rata Peaks**	**2.92**	**233**	PN	Pn	22 07 37.5	+0.6

*ISCJB **08** 22:10:29.9±1.9, 474N±0.1×1539E±02, h51km±15km, mb4.3/18, Error ellipse: s-maj=28.5km s-min=14.3km az=99.6*

*MOS **08** 22:10:30.2±0.8, 4739N×15380E, h56km, mb4.3/10, Error ellipse: s-maj=23.1km s-min=15.3km az=97.9*

*IDC **08** 22:10:32.5±5.9, 4734N×15383E, h60km±51km, mb3.7/13, mb1 3.9/14, mb1mx3.7/25, mbtmp3.7/14, ML3.3/1, Error ellipse: s-maj=34.4km s-min=24.7km az=75.0*

ISC 08 22:10:32.1±1.7, 474N±01×1539E±02, h55km±13km, n33, σ0§71/33, mb4.3/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.55**	**23**	*e*PN	**Pn**	**22 11 25.0**	**+0.4**
SKR				*e*		22 12 05.0	
ASAJ	**Asahikawa**	**8.59**	**251**	P	**Pn**	**22 12 33.5**	**-0.2**
	0.4nm,0.3s,baz=98,slow=13,SNR=2.4						
SONM	**Songino Array**	**31.63**	**289**	P	**P**	**22 16 48.4**	**-1.3**
	0.5nm,0.6s,mb3.5,baz=70,slow=6.8,SNR=4.5						
SONM	**Songino Array**	**31.63**	**289**	P	**P**	**22 16 48.4**	**-1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**42.67**	**305**	P	**P**	**22 18 21.7**	**-1.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=46,slow=8.6,SNR=5.7						
ZAL	**Zalesovo**	**42.67**	**305**	P	**P**	**22 18 21.7**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**22 18 57.7**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=66,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**22 18 57.7**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**22 19 26.6**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.1,baz=55,slow=7.5,SNR=14						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**22 19 26.6**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JIRN	**Jiri**	**55.44**	**275**	*e*P	**P**	**22 20 02.0**	**+1.1**
KKN	**Kakani**	**55.98**	**275**	*e*P	**P**	**22 20 05.4**	**+0.7**
	comp=Z,9.3nm,0.8s,mb4.9						
PKI	**Pulchoki**	**56.03**	**275**	*e*P	**P**	**22 20 05.6**	**+0.5**
	comp=Z,14nm,0.7s,mb5.1						
DMN	**Daman**	**56.21**	**275**	*e*P	**P**	**22 20 07.3**	**+0.9**
	comp=Z,26nm,0.9s,mb5.2						
GKN	**Gorkha**	**56.27**	**276**	*e*P	**P**	**22 20 07.4**	**+0.5**
	comp=Z,27nm,0.9s,mb5.3						
KOLN	**Koldanda**	**57.12**	**277**	*e*P	**P**	**22 20 13.5**	**+0.6**
	comp=Z,21nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**57.38**	**341**	P	**P**	**22 20 15.4**	**+0.7**
	comp=Z,2.7nm,1.0s,mb4.2,baz=45,slow=9.0,SNR=2.9						
ARCES	**ARCESS Array B**	**57.38**	**341**	P	**P**	**22 20 15.4**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**22 20 57.3**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=30,slow=8.9,SNR=17						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**22 20 57.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.75**	**341**	P	**P**	**22 21 24.0**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.75**	**341**	P	**P**	**22 21 24.4**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=27,slow=6.2,SNR=8.1						
NOA	**NORSAR Array B**	**67.75**	**341**	P	**P**	**22 21 24.4**	**+0.6**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**22 21 45.2**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=33,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**22 21 45.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**73.04**	**199**	P	**P**	**22 21 55.6**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=19,slow=5.9,SNR=3.5						
TXAR	**Lajitas Array**	**76.67**	**61**	P	**P**	**22 22 16.4**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.2,baz=317,slow=5.3,SNR=3.5						
MLR	**Muntele Rosu**	**76.81**	**325**	P	**P**	**22 22 18.3**	**+0.4**
	comp=Z,2.3nm,0.5s,mb4.3,baz=281,slow=2.6,SNR=6.8						
MLR	**Muntele Rosu**	**76.81**	**325**	P	**P**	**22 22 18.3**	**+0.4**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**78.07**	**334**	P	**P**	**22 22 24.7**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=34,slow=6.3,SNR=2.4						
GERES	**GERESS Array B**	**78.07**	**334**	P	**P**	**22 22 24.7**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.26**	**317**	P	**P**	**22 22 26.1**	**+0.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=51,slow=4.1,SNR=5.8						
BRTR	**Keskin Array B**	**78.26**	**317**	P	**P**	**22 22 26.2**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*ISCJB **08** 22:25:12.5±0.2, 4741N±001×1099E±002, h10km, Error ellipse: s-maj=1.9km s-min=1.5km az=172.0*

*VIE **08** 22:25:14.1±0.3, 4732N×1100E, h12km±3km, mb1.8/4, ML2.8/9, Error ellipse: s-maj=3.7km s-min=1.7km az=172.0 5 km W of Telfs felt 4 EMS98 at Mieminger Plateau / TYROL*

*BGR **08** 22:25:14.9±0.3, 4735N×1101E, h10km, ML2.4/5, Error ellipse: s-maj=3.3km s-min=2.2km az=23.0*

*CSEM **08** 22:25:14.3±0.1, 4730N×1101E, h12km, ML2.9/13, Error ellipse: s-maj=1.8km s-min=1.3km az=5.0*

*ZUR **08** 22:25:14.2, 4728N×1098E, h10km, ML2.2/8*

*ROM **08** 22:25:15.5±0.4, 4728N×1093E, h10km, Md2.7/9, Ml1.9/4, Error ellipse: s-maj=5.7km s-min=3.1km az=171.0*

*PRU **08** 22:25:15.3, 4738N×1100E, h0km*

*NEIC **08** 22:25:16.6, 4737N×1103E, h10km, ML2.5(LDG), ML2.5(SZGRF), After LDG.*

*LDG **08** 22:25:16.6±0.1, 4737N×1103E, h10km, Ml2.8/11, Error ellipse: s-maj=3.5km s-min=2.4km az=166.0*

*STR **08** 22:25:28.2±1.5, 4742N×1028E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 08 22:25:14.2±0.2, 4736N±001×1100E±002, h8km±2km, n101, σ1§07/159, 18C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOTA	**Moosalm**	**0.07**	**104**	⇑*i*Pg	**Pg**	**22 25 16.8**	**+0.6**
	comp=Z,146nm,0.1s,SNR=2064						
MOTA				⇑*i*Sg	**Sg**	**22 25 18.4**	**+0.8**
	comp=Z,622nm,0.1s						
SQTA	**Sankt Quirin**	**0.20**	**135**	⇓*i*Pg	**Pg**	**22 25 18.5**	**+0.2**
	comp=Z,501nm,0.2s,SNR=879						
SQTA				⇓*i*Sg	**Sg**	**22 25 21.4**	**+0.4**
	comp=Z,214nm,0.1s						
WATA	**Walderalm**	**0.39**	**94**	⇓*e*Pg	**Pg**	**22 25 21.9**	**0.0**
	SNR=25						
WATA				⇑*i*Sg	**Sg**	**22 25 28.6**	**+1.5**
	45nm,0.1s						
WTTA	**Wattenberg**	**0.45**	**103**	*e*Pg	**Pg**	**22 25 22.8**	**0.0**
	SNR=12						
WTTA				*e*Sg	**Sg**	**22 25 29.5**	**+0.8**
	SNR=14						
WTTA	**Wattenberg**	**0.45**	**103**	⇑*i*Pg	**Pg**	**22 25 22.8**	**0.0**
	5.1nm,0.1s,SNR=12						
WTTA				⇑*i*Sg	**Sg**	**22 25 30.3**	**+1.6**
	38nm,0.2s						
WTTA	**Wattenberg**	**0.45**	**103**	⇑*i*Pg	**Pg**	**22 25 22.8**	**0.0**
WTTA				*i* Sg	**Sg**	**22 25 30.3**	**+1.6**
WTTA	**Wattenberg**	**0.45**	**103**	Pg	**Pg**	**22 25 22.8**	**0.0**
	5.1nm,0.1s,SNR=12						
WTTA				Sg	**Sg**	**22 25 29.5**	**+0.8**
	SNR=14						
OBER	**Oberstdorf**	**0.48**	**275**	⇑*i*Pg	**Pg**	**22 25 23.7**	**+0.2**
OBER				*i* Sg	**Sg**	**22 25 31.7**	**+1.9**
SCE	**Schlegeis**	**0.58**	**124**	⇓*i*Pg	**Pg**	**22 25 25.2**	**-0.3**
SCE				*i* Sg	**Sg**	**22 25 33.9**	**+0.8**
DAVA	**Damuels**	**0.76**	**265**	*e*Pg	**Pg**	**22 25 28.6**	**-0.2**
	SNR=14						
DAVA				*e*Sg	**Sg**	**22 25 40.3**	**+1.5**
	SNR=12						
DAVA	**Damuels**	**0.76**	**265**	⇑*e*Pg	**Pg**	**22 25 28.5**	**-0.4**
	4.8nm,0.1s,SNR=30						
DAVA				⇑*i*Sg	**Sg**	**22 25 40.5**	**+1.6**
	159nm,0.4s						
FUR	**Furstenfeldbru**	**0.82**	**13**	*e*Pg	**Pg**	**22 25 31.7**	**+1.7**
	SNR=4.2						
FUR				*e*Sg	**Sg**	**22 25 43.8**	**+3.1**
	SNR=16						
FUR	**Furstenfeldbru**	**0.82**	**13**	*e*Pg	**Pg**	**22 25 31.6**	**+1.6**
FUR				*e*Sg	**Sg**	**22 25 43.8**	**+3.0**
FUR	**Furstenfeldbru**	**0.82**	**13**	*e*Pg	**Pg**	**22 25 31.6**	**+1.6**
FUR				Sg	**Sg**	**22 25 43.8**	**+3.0**
	SNR=16						
FUORN	**Ofenpass**	**0.90**	**214**	⇑*i*Pg	**Pg**	**22 25 22.8**	**-8.6**
	71nm,0.3s						
FUORN	**Ofenpass**	**0.90**	**214**	⇑*i*P	**Pg**	**22 25 30.5**	**-0.9**
APPI	**Appiano**	**0.90**	**170**	Pg	**Pg**	**22 25 31.1**	**-0.3**
APPI				Sg	**Sg**	**22 25 42.4**	**-0.7**
	40nm,0.4s						
DAVOX	**Davos**	**0.96**	**233**	*e*Pg	**Pg**	**22 25 30.3**	**-2.3**
	163nm,0.3s						
DAVOX	**Davos**	**0.96**	**233**	*e*P	**Pg**	**22 25 31.6**	**-1.0**
DAVOX	**Davos**	**0.96**	**233**	Pg	**Pg**	**22 25 31.8**	**-0.8**
BRMO	**Bormio**	**0.98**	**206**	Pg	**Pg**	**22 25 32.0**	**-1.1**
BRMO				Sg	**Sg**	**22 25 44.7**	**-1.2**
	16nm,0.6s						
LIENZ	**Alp Oberkamor**	**1.02**	**267**	*e*Pg	**Pg**	**22 25 28.5**	**-5.4**
	219nm,0.6s						
LIENZ	**Alp Oberkamor**	**1.02**	**267**	*e*P	**Pg**	**22 25 34.4**	**+0.5**
SEST	**Monte Rota**	**1.03**	**126**	Pg	**Pg**	**22 25 33.9**	**-0.2**
	40nm,0.3s						
PLONS	**Plons**	**1.15**	**255**	*e*Pg	**Pg**	**22 25 31.6**	**-4.6**
	277nm,0.3s						
PLONS	**Plons**	**1.15**	**255**	*e*P	**Pg**	**22 25 35.9**	**-0.3**
BERNI	**Berninapass**	**1.16**	**216**	*e*Pg	**Pg**	**22 25 30.5**	**-6.0**
	45nm,0.2s						
BERNI	**Berninapass**	**1.16**	**216**	*e*P	**Pg**	**22 25 34.9**	**-1.6**
RJOB	**Jochberg**	**1.27**	**72**

OBKA	**Obir**	**2.58**	**108**	Pg		**Pg**	**22 26 01.8**	**-1.8**
	0.9nm,0.2s								
OBKA				*e*Sg		**Sg**	**22 26 38.0**	**+1.0**
WLS	**Welschbruch**	**2.67**	**295**	Pn		**Pn**	**22 26 04.7**	**+7.3**
WLS				Sg		**Sg**	**22 26 40.3**	**+0.4**
CDF	**Champ du Feu**	**2.72**	**294**	*e*Pg		**Pg**	**22 26 07.6**	**+1.4**
CDF				*e*Sg		**Sg**	**22 26 41.6**	**+0.2**
	7.2nm,0.2s								
CDF	**Champ du Feu**	**2.72**	**294**	*e*Pn		**Pn**	**22 25 58.4**	**+0.3**
CDF				*e*Pg		**Pg**	**22 26 07.6**	**+1.4**
CDF				*e*Sg		**Sg**	**22 26 41.6**	**+0.2**
CDF	**Champ du Feu**	**2.72**	**294**	*e*Pg		**Pg**	**22 26 07.6**	**+1.4**
CDF				*e*Sg		**Sg**	**22 26 41.6**	**+0.2**
	3.6nm,0.2s								
HINF	**Hinteralfeld**	**2.84**	**281**	*e*Pn		**Pn**	**22 26 00.3**	**+0.5**
HINF				*e*Sg		**Sg**	**22 26 45.3**	**-0.2**
	16nm,0.3s								
HINF	**Hinteralfeld**	**2.84**	**281**	*e*Pn		**Pn**	**22 26 00.3**	**+0.5**
HINF				*e*Sg		**Sg**	**22 26 45.3**	**-0.2**
	7.8nm,0.3s								
NKC	**Novy Kostel**	**3.03**	**18**	*e*PG		**Pg**	**22 26 09.9**	**-2.3**
NKC				*e*SG		**Sg**	**22 26 51.0**	**-0.4**
	18nm,0.3s								
ARSA	**Arzberg**	**3.08**	**90⇑**	*i*Pg		**Pg**	**22 26 12.8**	**-0.4**
	0.4nm,0.2s								
ARSA				⇓*i*Sg		**Sg**	**22 26 53.5**	**+0.3**
	1.8nm,0.4s								
GUNZ	**Gunzen**	**3.13**	**16**	*e*Sn		**Sn**	**22 26 39.7**	**-1.7**
	SNR=5.7								
TANN	**Tannenbergstha**	**3.20**	**17**	*e*Sn		**Sn**	**22 26 41.5**	**-1.7**
	SNR=2.6								
WERD	**Werda**	**3.21**	**15**	*e*Sg		**Sg**	**22 26 56.1**	**-1.1**
	SNR=4.6								
HAU	**Haudompre**	**3.21**	**283**	*e*Pn		**Pn**	**22 26 05.9**	**+1.1**
HAU				*e*Sg		**Sg**	**22 26 57.2**	**0.0**
	8.3nm,0.2s								
HAU	**Haudompre**	**3.21**	**283**	*e*Pn		**Pn**	**22 26 05.9**	**+1.1**
HAU				*e*Sg		**Sg**	**22 26 57.2**	**0.0**
	4.2nm,0.2s								
MOX	**Moxa**	**3.31**	**7**	*e*Sn		**Sn**	**22 26 45.5**	**-0.3**
MOX				*e*Sg		**Sg**	**22 26 59.8**	**-0.6**
	SNR=3.8								
MOX	**Moxa**	**3.31**	**7**	*e*SN		**Sn**	**22 26 45.5**	**-0.3**
MOX				*e*SG		**Sg**	**22 27 00.3**	**-0.2**
TNS	**Taunus Mts**	**3.32**	**330**	*e*Sg		**Sg**	**22 27 00.5**	**-0.4**
	SNR=2.0								
CONA	**Conrad Observa**	**3.34**	**78⇓**	*i*Pg		**Pg**	**22 26 16.2**	**-1.9**
	0.5nm,0.1s								
CONA				⇓*i*Sg		**Sg**	**22 27 00.6**	**-0.7**
	3.0nm,0.3s								
CABF	**La Chapelle**	**3.44**	**259**	*e*Pn		**Pn**	**22 26 08.5**	**+0.4**
CABF				*e*Sg		**Sg**	**22 27 03.4**	**-1.4**
	3.8nm,0.3s								
CABF	**La Chapelle**	**3.44**	**259**	*e*Pn		**Pn**	**22 26 08.5**	**+0.4**
CABF				*e*Sg		**Sg**	**22 27 03.4**	**-1.4**
	1.9nm,0.3s								
LPG	**La Plagne**	**3.48**	**239**	*e*Pn		**Pn**	**22 26 11.2**	**+2.6**
LPG				*e*Sn		**Sn**	**22 26 48.9**	**-1.1**
LPG				*e*Sg		**Sg**	**22 27 07.2**	**+1.3**
	2.9nm,0.5s								
LPL	**La Plagne**	**3.48**	**240**	*e*Pn		**Pn**	**22 26 10.2**	**+1.6**
PRU	**Pruhonice**	**3.52**	**40**	*e*SG		**Sg**	**22 27 06.3**	**-1.0**
	2.3nm,0.4s								
MBDF	**Montbardon**	**3.95**	**230**	*e*Pn		**Pn**	**22 26 16.3**	**+1.2**
BRG	**Berggiesshubel**	**4.01**	**28**	*e*Sg		**Sg**	**22 27 21.9**	**-1.0**
	SNR=2.3								
BRG	**Berggiesshubel**	**4.01**	**28**	SG		**Sg**	**22 27 21.8**	**-1.2**
	3.0nm,0.4s								
SFTF	**Sexfontaines**	**4.11**	**284**	*e*Sg		**Sg**	**22 27 26.2**	**+0.2**
	3.9nm,0.2s								
SFTF	**Sexfontaines**	**4.11**	**284**	*e*Sg		**Sg**	**22 27 26.2**	**+0.2**
	2.0nm,0.2s								
MEZF	**Maizieres J'vi**	**4.16**	**288**	*e*Sg		**Sg**	**22 27 27.8**	**+0.1**
	4.3nm,0.3s								
MEZF	**Maizieres J'vi**	**4.16**	**288**	*e*Sg		**Sg**	**22 27 27.8**	**+0.1**
	2.2nm,0.3s								
CLL	**Collm**	**4.16**	**18**	*e*Sg		**Sg**	**22 27 26.6**	**-1.2**
	SNR=4.6								
CLL	**Collm**	**4.16**	**18**	*i* Sg		**Sg**	**22 27 28.1**	**+0.3**
	comp=Z,9.0nm,0.9s								
ORIF	**Oris-en-Rattie**	**4.32**	**237**	*e*Pn		**Pn**	**22 26 21.2**	**+1.1**
ORIF				*e*Sn		**Sn**	**22 27 08.8**	**-1.8**
	comp=Z,1.0nm,0.3s								
ORIF	**Oris-en-Rattie**	**4.32**	**237**	*e*Pn		**Pn**	**22 26 21.2**	**+1.1**
ORIF				*e*Sn		**Sn**	**22 27 08.8**	**-1.8**
	comp=Z,0.5nm,0.3s								
CLZ	**Clausthal**	**4.50**	**355**	*e*Sg		**Sg**	**22 27 37.3**	**-1.4**
	SNR=2.0								
LOR	**Lormes**	**4.86**	**272**	*e*Sg		**Sg**	**22 27 47.3**	**-2.8**
	comp=Z,3.7nm,0.3s								
LOR	**Lormes**	**4.86**	**272**	*e*Sg		**Sg**	**22 27 47.3**	**-2.8**
	comp=Z,1.9nm,0.3s								
FRF	**La Foret Royal**	**4.88**	**220**	*e*Pn		**Pn**	**22 26 28.6**	**+0.7**
VIVF	**Saint-Julien-l**	**5.06**	**243**	*e*Pn		**Pn**	**22 26 30.3**	**-0.1**
SMRF	**Simiane la Rot**	**5.09**	**230**	*e*Pn		**Pn**	**22 26 31.9**	**+1.2**
LASF	**Ste Croix**	**5.98**	**239**	*e*Pn		**Pn**	**22 26 43.5**	**+0.5**

*STR **08** 22:25:26.8±0.6, 46°24'N×150E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 08 22:25:26.8±0.0, 46°33'N×152E, h5km, Md2.3/2, Ml2.2/14, Error ellipse: s-maj=0.9km s-min=0.6km az=131.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.48**	**94**	*e*Pg	Pg	22 25 36.4	+0.4
	SNR=1.0						
TCF				*e*Sg	Sg	22 25 41.7	-0.6
	10.0nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**0.95**	**75**	*e*Pg	Pg	22 25 45.2	+0.2
BGF				*e*Sg	Sg	22 25 57.0	-0.2
	25nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.02**	**180**	*e*Pg	Pg	22 25 45.4	-1.0
	SNR=1.0						
RJF				*e*Sg	Sg	22 25 58.5	-1.2
	7.6nm,0.2s,SNR=1.0						
AGO	**Saint Agoulin**	**1.15**	**103**	Pg	Pg	22 25 48.6	-0.3
AGO				Sg	Sg	22 26 03.8	-0.1
MFF	**Saint Martin d**	**1.18**	**284**	*e*Pn	Pn	22 25 48.2	-1.8
	SNR=1.0						
MFF	**Saint Martin d**	**1.18**	**284**	*e*Pg	Pg	22 25 49.0	-0.5
MFF				*e*Sn	Sn	22 26 03.8	-2.7
	7.2nm,0.2s,SNR=1.0						
PYM	**Petit Puy Mans**	**1.19**	**119**	Pg	Pg	22 25 49.1	-0.4
HYF	**Humbligny**	**1.22**	**39**	*e*Pg	Pg	22 25 49.6	-0.5
HYF				*e*Sg	Sg	22 26 05.2	-0.7
AVF	**Avril sur Loir**	**1.35**	**69**	*e*Pn	Pn	22 25 50.4	-1.9
	SNR=1.0						
AVF	**Avril sur Loir**	**1.35**	**69**	*e*Pg	Pg	22 25 51.8	-0.8
AVF				*e*Sn	Sn	22 26 07.3	-3.2
	SNR=1.0						
AVF				*e*Sg	Sg	22 26 09.4	-0.7
	2.3nm,0.2s						
CHIF	**Chize**	**1.35**	**262**	Pg	Pg	22 25 52.7	0.0
CHIF				Sg	Sg	22 26 09.4	-0.9
CAF	**Calviac**	**1.45**	**165**	*e*Pn	Pn	22 25 52.1	-1.6
	SNR=1.0						
CAF	**Calviac**	**1.45**	**165**	*e*Pg	Pg	22 25 54.0	-0.6
CAF				*e*Sn	Sn	22 26 10.5	-2.6
CAF				*e*Sg	Sg	22 26 12.6	-0.9
	4.9nm,0.3s						
LFF	**La Frestale**	**1.49**	**202**	*e*Pn	Pn	22 25 52.6	-1.6
	SNR=1.0						
LFF	**La Frestale**	**1.49**	**202**	*e*Pg	Pg	22 25 54.3	-1.1
LFF				*e*Sn	Sn	22 26 11.3	-2.8
	SNR=1.0						
LFF				*e*Sg	Sg	22 26 13.9	-0.8
	3.4nm,0.2s						
SSF	**Saint Saulge**	**1.55**	**61**	*e*Pn	Pn	22 25 53.3	-1.8
	SNR=1.0						
SSF	**Saint Saulge**	**1.55**	**61**	*e*Pg	Pg	22 25 55.9	-0.7
	SNR=1.0						
SSF				*e*Sn	Sn	22 26 12.6	-3.0
SSF				*e*Sg	Sg	22 26 15.6	-1.1
	4.5nm,0.3s						
LBL	**Lubilhac**	**1.63**	**132**	Pg	Pg	22 25 57.2	-0.9
SMF	**Signal de Mont**	**1.64**	**78**	*e*Pg	Pg	22 25 57.1	-1.1
SMF				*e*Sn	Sn	22 26 15.0	-2.6
	SNR=1.0						
SMF				*e*Sg	Sg	22 26 18.3	-1.1
	3.1nm,0.2s,SNR=1.0						
LOR	**Lormes**	**1.86**	**59**	*e*Pg	Pg	22 26 01.7	-0.8
	baz=242,SNR=1.0						
LOR				*e*Sg	Sg	22 26 25.1	-1.6
	3.0nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.53**	**334**	*e*Sg	Sg	22 26 45.8	-2.2
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**2.66**	**122**	*e*Pn	Pn	22 26 08.5	-1.8
VIVF	**Saint-Julien-l**	**2.66**	**122**	*e*Pg	Pg	22 26 15.8	-1.9
LASF	**Ste Croix**	**2.79**	**143**	*e*P	Pn	22 26 13.1	+1.0
LASF	**Ste Croix**	**2.79**	**143**	*e*Pg	Pg	22 26 18.6	-1.7
LASF				*e*Sn	Sn	22 26 42.7	-3.5
	4.4nm,0.9s,SNR=1.0						
MTLF	**Montolieu**	**3.03**	**170**	*e*Pg	Pg	22 26 22.8	-2.0
MTLF				*e*Sg	Sg	22 27 01.8	-2.2
	1.3nm,0.3s						
EPF	**Esparros**	**3.40**	**195**	*e*Sg	Sg	22 27 13.7	-2.3
	2.2nm,0.6s,SNR=1.0						

*NEIC **08** 22:36:00.8, 16.11N×96°41'W, h58km, MD4.0(MEX), After MEX.*

MEX 08 22:36:00.9±0.6, 16°11'N×96°41'W, h58km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.44**	**139**	*i* P	Pn	22 36 10.7	-1.4
HUIG				*i* S	Sn	22 36 18.6	-1.6
HUIG	**Huatulco**	**0.44**	**139**	*i* P	Pn	22 36 10.6	-1.5
HUIG				*i* S	Sn	22 36 18.6	-1.6
VHO	**Vista Hermosa**	**1.01**	**342**	*i* P	Pn	22 36 17.6	-1.4
VHO				*i* S	Sn	22 36 30.7	-1.7
PNIG	**Pinotepa**	**1.68**	**280**	*i* P	Pn	22 36 24.6	-3.2
PNIG				*i* S	Sn	22 36 47.2	-1.1
UTMO	**Huajuapan**	**2.17**	**322**	*i* P	Pn	22 36 33.8	-0.8
UTMO				*i* S	Sn	22 36 59.7	-0.7
TPIG	**Tehuac#an**	**2.47**	**339**	*e*P	Pn	22 36 38.6	-0.1
TPIG				*i* S	Sn	22 37 08.1	+0.3
IIO	**Organos**	**4.11**	**328**	*i* P	Pn	22 37 02.6	+1.5
IIO				*i* S	Sn	22 37 48.3	+0.4

MOS 08 22:53:44.7±1.7, 50°11'N×97°50E, h10km, mb4.4/1, 1C, Error ellipse: s-maj=20.5km s-min=12.8km az=117.3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**4.20**	**66**	*i* PN	Pn	22 54 51.2	+2.4
KRAR	**Krasnoyarsk**	**6.54**	**337**	*i* PN	Pn	22 55 24.2	+3.3
HIA	**Hailar**	**14.42**	**85**	*i* P	Pn	22 57 10.7	+1.9
AAK	**Ala-Archa**	**17.50**	**254**	*e*P	Pn	22 57 51.8	+3.0
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
YAK	**Yakutsk**	**21.30**	**44⇑**	*i*P	P	22 58 31.6	+0.1
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						

*NEIC **08** 22:55:17.6±1.4, 62°75'S×151°91'E, h10km, mb3.9/1, Error ellipse: s-maj=32.5km s-min=13.2km az=106.0*

*IDC **08** 22:55:17.4±3.5, 62°35'S×151°68'E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=110.3km s-min=31.1km az=112.0*

*ISCJB **08** 22:55:23.8±4.3, 63°S±02°×151°4E±02, h48km±34km, mb3.5/5, Error ellipse: s-maj=37.1km s-min=28.9km az=55.0*

ISC 08 22:55:25.1±4.0, 64°S±02°×151°5E±02, h45km±32km, n10, σ0§84/10, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**235**	*e*Pn	**Pn**	**22 56 42.7**	**+1.5**
	13nm,0.6s						
PMG				*e*Sn	**Sn**	**22 57 39.5**	**-1.1**
CTAO	**Charters Tower**	**14.56**	**200**	*e*P	**Pn**	**22 58 47.0**	**-1.3**
	1.5nm,0.7s						
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**	**23 00 09.9**	**+0.5**
	4.7nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**	**23 00 09.5**	**+0.1**
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**	**23 00 10.0**	**+0.4**
	1.0nm,0.8s,mb3.2,baz=55,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**24.14**	**223**	P	**P**	**23 00 37.4**	**+0.6**
	2.0nm,0.8s,mb3.6,baz=53,slow=9.0,SNR=24						
FITZ	**Fitzroy Crossi**	**27.80**	**243**	P	**P**	**23 01 10.5**	**+0.6**
	1.2nm,0.7s,mb3.6,baz=77,slow=6.9,SNR=4.7						
KULM	**Kulim**	**52.08**	**282**	P	**P**	**23 04 30.1**	**-0.3**
SONM	**Songino Array**	**66.98**	**329**	P	**P**	**23 06 12.2**	**-1.0**
	0.2nm,0.7s,mb3.3,baz=136,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.53**	**285**	PKPbc	PKPbc	23 15 09.6	+0.1
	0.8nm,0.6s,baz=76,slow=2.9,SNR=8.3						

*IDC **08** 23:13:45.3±3.8, 46°83'N×153°93'E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=122.5km s-min=36.0km az=10.0*

*ISCJB **08** 23:13:50.5±10.0, 46°9'N±08°×153°8E±03, h46km±68km, mb3.9/4, Error ellipse: s-maj=125.6km s-min=37.5km az=4.4*

*MOS **08** 23:13:50.3±0.3, 46°90'N×153°67'E, h49km, mb4.1/4, Error ellipse: s-maj=81.2km s-min=35.5km az=84.8*

ISC 08 23:13:52.7±9.4, 46°9N±07°×153°8E±03, h50km±59km, n11, σ0§27/10, mb3.9/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.04**	**21**	*e*PN	**Pn**	**23 14 52.0**	**0.0**
GUMO	**Guam**	**34.09**	**196**	LR	LR	23 33 45.3	
	comp=Z,42nm,18.1s,baz=47,slow=35						
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**23 22 21.1**	**0.0**
	0.7nm,1.0s,mb3.5,baz=68,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**23 22 21.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**64.07**	**335**	P	**P**	**23 24 21.1**	**-0.3**
	comp=Z,3.8nm,1.0s,mb4.4,baz=40,slow=8.5,SNR=8.7						
FINES	**FINESS Array B**	**64.07**	**335**	P	**P**	**23 24 21.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**68.20**	**341**	P	**P**	**23 24 47.6**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**23 24 48.5**	**+0.6**
	comp=Z,1.3nm,0.9s,mb4.0,baz=26,slow=6.2,SNR=3.7						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**23 24 48.5**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**76.97**	**61**	P	**P**	**23 25 40.0**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=302,slow=4.4,SNR=7.7						
TXAR	**Lajitas Array**	**76.97**	**61**	P	**P**	**23 25 40.0**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*SZGRF **08** 23:15:50.4, 16°55'S×27°35'W, h33km, mb4.4, MS4.0, South Atlantic Ocean*

*ISCJB **08** 23:15:58.0±0.3, 0°88'N±006°×28°23'W±006, h10km, mb4.5/40, MS4.2/21, Error ellipse: s-maj=9.8km s-min=7.0km az=85.3*

*IDC **08** 23:15:57.9±0.5, 0°79'N×28°24'W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/23, mbtmp4.3/15, MS4.2/18, Ms1 4.2/18, ms1mx4.1/22, Error ellipse: s-maj=21.2km s-min=12.7km az=151.0*

*NEIC **08** 23:15:59.6±0.2, 0°83'N×28°26'W, h10km, mb4.7/29, MS3.9/4, Error ellipse: s-maj=6.0km s-min=4.3km az=138.0*

*GCMT **08** 23:15:59.6±0.2, 1°12'N×28°25'W, h16km±1km, MW5.0/78, Moment Tensor Solution. s41,c55; s78,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.28±.12; Mθθ0.90±.12; Mϕϕ-1.18±.12; Mrθ-1.97±.34; Mrϕ-3.85±.11; Mθϕ-0.38±.32; Best double couple: Mo4.46400×10^16 NP1:ϕs352.00000°, δ63.00000°, λ1.00000° NP2: ϕs262.00000°, δ89.00000°, λ153.00000°. Principal axes: T 4.3190, Plg19.0000°, Azm214.0000°; N 0.2900, Plg63.0000°, Azm80.0000°; P -4.6090, Plg18.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 23:16:00.2±0.3, 0°88'N±006°×28°24'W±006, h10km, n91, σ0§68/82, mb4.5/40, MS4.2/21, 14C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**16.37**	**123**	*e*Pn	**Pn**	**23 19 50.0**	**0.0**
	24nm,0.6s						
LIC	**Lamto**	**23.76**	**77⇑**	*i*P	**P**	**23 21 11.8**	**-1.0**
	35nm,1.0s,mb4.5						
LIC				*e*R			
	323nm,18.5s						
LIC	**Lamto**	**23.76**	**77⇑**	*i*P	**P**	**23 21 11.8**	**-1.0**
	18nm,1.0s,mb4.5						
LIC				LR	LR		
	comp=Z,160nm,18.5s,MS3.5						
TOA0	**Torodi Ar. Sit**	**32.06**	**66**	*e*P	**P**	**23 22 27.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**32.06**	**66**	P	**P**	**23 22 26.7**	**-0.3**
	comp=Z,9.7nm,0.9s,mb4.7,baz=255,slow=9.1,SNR=95						
TORD				LR	LR	23 33 27.4	
	comp=Z,398nm,20.1s,MS4.1,baz=230,slow=33						
SIV	**San Ignacio**	**36.50**	**241**	P	**P**	**23 03 04.9**	**-0.6**
	comp=Z,7.5nm,1.1s,mb4.5,baz=84,slow=9.9,SNR=13						
LPAZ	**La Paz**	**42.90**	**245**	P	**P**	**23 23 59.6**	**+0.7**
	comp=Z,10nm,1.1s,mb4.5,baz=78,slow=8.7,SNR=14						
LPAZ				LR	LR	23 41 16.3	
	comp=Z,377nm,19.7s,MS4.3,baz=309,slow=35						
LPAZ	**La Paz**	**42.90**	**245**	*e*P	**P**	**23 23 59.5**	**+0.6**
	comp=Z,12nm,1.1s,mb4.5						
SDV	**Santo Domingo**	**42.94**	**282**	P	**P**	**23 23 59.9**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.5,baz=16,slow=2.4,SNR=4.0						
SDV	**Santo Domingo**	**42.94**	**282**	*e*P	**P**	**23 23 59.9**	**+0.7**
	comp=Z,9.5nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**44.51**	**27**	P	**P**	**23 24 12.1**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.2,baz=224,slow=8.8,SNR=20						
ESDC				LR	LR	23 39 57.2	
	comp=Z,176nm,19.3s,MS4.0,baz=210,slow=32						
ESLA	**Sonseca Array**	**44.51**	**27**	*e*P	**P**	**23 24 11.6**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.8						
LVC	**Limon Verde**	**45.98**	**237**	P	**P**	**23 24 22.5**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.5,baz=56,slow=5.5,SNR=4.9						
ROSC	**El Rosal**	**46.19**	**276**	P	**P**	**23 24 25.9**	**+0.8**
	comp=Z,3.9nm,0.3s,mb4.8,baz=104,slow=19,SNR=4.2						
ROSC				LR	LR	23 42 17.0	
	comp=Z,307nm,19.2s,MS4.3,baz=137,slow=34						
SJPF	**Ste Jean**	**48.49**	**26⇑**	*i*P	**P**	**23 24 43.8**	**+0.7**
	comp=Z,13nm,0.8s,mb4.7						
SJPF	**Ste Jean**	**48.49**	**26⇑**	*i*P	**P**	**23 24 43.8**	**+0.7**
	comp=Z,6.6nm,0.8s,mb4.7						
ETSF	**Etsaut**	**48.62**	**27⇑**	*i*P	**P**	**23 24 45.0**	**+0.9**
	comp=Z,17nm,1.0s,mb4.7						
ETSF	**Etsaut**	**48.62**	**27⇑**	*i*P	**P**	**23 24 45.0**	**+0.9**
	comp=Z,8.6nm,1.0s,mb4.7						
EPF	**Esparros**	**49.14**	**28**	*e*P	**P**	**23 24 48.9**	**+0.9**
	comp=Z,16nm,1.1s,mb4.7						
EPF	**Esparros**	**49.14**	**28**	*e*P	**P**	**23 24 48.9**	**+0.9**
	comp=Z,7.9nm,1.1s,mb4.7						
TSUM	**Tsumeb**	**49.19**	**116**	P	**P**	**23 24 49.0**	**+0.5**
	comp=Z,3.4nm,1.0s,mb4.3,baz=270,slow=18,SNR=2.3						
KEST	**Kesra**	**49.19**	**41**	P	**P**	**23 24 49.4**	**+0.9**
	comp=Z,3.1nm,1.1s,mb4.3,baz=335,slow=5.6,SNR=5.0						
KEST				LR	LR	23 45 07.7	
	comp=Z,183nm,19.4s,MS4.1,baz=213,slow=36						
TRQA	**Tornquist**	**49.68**	**215**	*e*P	**P**	**23 24 51.3**	**-0.9**
	comp=Z,20nm,1.4s,mb5.0						
CFAA	**Coronel Fontan**	**49.79**	**226**	P	**P**	**23 24 51.4**	**-1.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=74,slow=12,SNR=4.2						
CFAA	**Coronel Fontan**	**49.79**	**226**	P	**P**	**23 24 51.4**	**-1.6**
OTAV	**Otavalo**	**50.21**	**270**	*e*P	**P**	**23 24 56.8**	**+0.6**
	comp=Z,7.4nm,1.2s,mb4.6						
MTLF	**Montolieu**	**50.27**	**29**	*e*P	**P**	**23 24 56.2**	**-0.4**
	comp=Z,44nm,1.6s,mb4.9						
MTLF	**Montolieu**	**50.27**	**29**	*e*P	**P**	**23 24 56.2**	**-0.4**
	comp=Z,22nm,1.6s,mb4.9						
LFF	**La Frestale**	**50.81**	**26⇑**	*i*P	**P**	**23 25 00.9**	**+0.2**
	comp=Z,32nm,1.2s,mb4.8						
LFF	**La Frestale**	**50.81**	**26⇑**	*i*P	**P**	**23 25 00.9**	**+0.2**
	comp=Z,16nm,1.2s,mb4.8						
CAF	**Calviac**	**51.39**	**27⇑**	*i*P	**P**	**23 25 05.2**	**+0.1**
	comp=Z,21nm,1.3s,mb4.6						
CAF	**Calviac**	**51.39**	**27⇑**	*i*P	**P**	**23 25 05.2**	**+0.1**
	comp=Z,11nm,1.3s,mb4.6						
LASF	**Ste Croix**	**51.61**	**29**	*e*P	**P**	**23 25 06.7**	**0.0**
MFF	**Saint Martin d**	**51.74**	**24**	*e*P	**P**	**23 25 07.4**	**-0.3**
	comp=Z,35nm,1.4s,mb4.8						
MFF	**Saint Martin d**	**51.74**	**24**	*e*P	**P**	**23 25 07.4**	**-0.3**
	comp=Z,18nm,1.4s,mb4.8						
ROSF	**Rostrenen**	**51.96**	**21**	*e*P	**P**	**23 25 09.4**	**0.0**
TCF	**Toulx Ste Croi**	**52.50**	**26**	*e*P	**P**	**23 25 13.4**	**0.0**
VIVF	**Saint-Julien-l**	**52.58**	**29**	*e*P	**P**	**23 25 14.1**	**+0.2**
	comp=Z,19nm,1.1s,mb4.6						
VIVF	**Saint-Julien-l**	**52.58**	**29**	*e*P	**P**	**23 25 14.1**	**+0.2**
	comp=Z,9.4nm,1.1s,mb4.6						
BGF	**Bois d'Agland**	**52.99**	**26**	*e*P	**P**	**23 25 17.4**	**+0.4**
SMF	**Signal de Mont**	**53.51**	**27**	*e*P	**P**	**23 25 19.9**	**-0.9**
MBDF	**Montbardon**	**53.53**	**31⇑**	*i*P	**P**	**23 25 20.8**	**-0.1**
	comp=Z,31nm,1.3s,mb4.8						
MBDF	**Montbardon**	**53.53**	**31⇑**	*i*P

FINES	**FINESS Array B**	**72.93**	**24**	P	**P**	**23 27 29.4**	**-0.2**
FINES				LR	LR	23 56 22.7	
VNA2	**Neumayer--Watz**	**72.97**	**173**	*e*	**P**	**23 27 29.5**	**-0.4**
	baz=320,slow=5.7						
VNA2				*e*	pP	23 27 32.8	-0.4
VNA2				*e*		23 27 37.7	
SNAA	**Sanae**	**74.26**	**172**	*e*	**P**	**23 27 38.6**	**+1.2**
SNAA				*e*	pP	23 27 41.3	+0.6
SNAA				*e*		23 27 47.4	
ULM	**Lac du Bonnet**	**75.17**	**322**	LR	LR	23 55 32.3	
	comp=Z,100nm,18.5s,MS4.2,baz=44,slow=32						
TXAR	**Lajitas Array**	**76.88**	**300**	P	**P**	**23 27 52.1**	**-0.3**
	comp=Z,1.7nm,1.0s,mb3.9,baz=126,slow=7.9,SNR=7.7						
ARCES	**ARCESS Array B**	**77.16**	**17**	LR	LR	23 57 15.6	
	comp=Z,154nm,18.5s,MS4.3,baz=231,slow=32						
PDAR	**Pinedale Array**	**83.03**	**313**	LR	LR	00 00 21.8	
	comp=Z,132nm,18.8s,MS4.3,baz=100,slow=32						
DLMT	**Dillon**	**85.41**	**315**	*eP*	**P**	**23 28 38.2**	**+0.4**
EDM	**Edmonton**	**86.36**	**323**	*eP*	**P**	**23 28 43.6**	**+1.0**
YKA	**Yellowknife Ar**	**87.54**	**332**	LR	LR	00 02 10.4	
	comp=Z,119nm,19.6s,MS4.3,baz=155,slow=32						
NEW	**Newport**	**88.61**	**318**	LR	LR	00 02 27.5	
	comp=Z,223nm,20.7s,MS4.6,baz=104,slow=32						
MAW	**Mawson**	**91.23**	**157**	LR	LR	00 01 01.0	
	comp=Z,102nm,18.4s,MS4.3,baz=62,slow=30						
BBB	**Bella Bella**	**95.37**	**322**	LR	LR	00 06 28.6	
	comp=Z,108nm,18.8s,MS4.3,baz=200,slow=32						
ASAR	**Alice Springs**	**151.48**	**144**	PKPbc	PKPbc	23 35 54.1	-0.2
	comp=Z,1.1nm,0.8s,baz=216,slow=2.5,SNR=9.9						
ASAR				PKPab	PKPab	23 36 02.3	-0.4
	comp=Z,1.9nm,0.8s,baz=210,slow=1.8,SNR=9.8						

CSEM ***08*** *23:18:07.0, 67.19N×2068E, h0km, ML3.1, Mining explosion. After UPP*

UPP ***08*** *23:18:07.0, 67.19N×2068E, h0km, ML3.1, Mining explosion.*

HEL 08 23:18:07.6±0.0, 6719N×2067E, h0km, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**212**	*i* P	Pg	23 18 08.9	-0.2
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	23 18 21.7	-0.9
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	23 18 23.2	-0.9
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	23 18 23.2	-1.0
	baz=106						
NIKU	**Nikkaluokta**	**0.93**	**318**	*eP*	Pg	23 18 24.2	-1.2
PAJU	**Pajala**	**0.97**	**99**	*eP*	Pg	23 18 25.0	-1.1
LANU	**Lannavaara**	**1.00**	**30**	*eP*	Pg	23 18 25.6	-1.2
HARU	**Harads**	**1.03**	**173**	*eP*	Pg	23 18 26.4	-1.1
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	23 18 38.2	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	23 18 40.3	0.0
KIF				*e*SG	Sg	23 19 06.0	-0.3
LILU	**Lilltraesk**	**1.94**	**190**	*eP*	Pn	23 18 41.8	0.0
LILU	**Lilltraesk**	**1.94**	**190**	P	Pn	23 18 41.8	0.0
	baz=5.6						
SGF	**Sodankyl**	**2.28**	**81**	*eP*	Pn	23 18 47.5	+1.0

ISK ***08*** *23:26:54.7, 3741N×2671E, h14km, MD3.0*

NEIC ***08*** *23:26:55.1, 3734N×2684E, h8km, MD3.1(ATH), After ATH.*

ATH ***08*** *23:26:55.1, 3734N×2684E, h8km±3km, MD3.1/4*

ISCJB ***08*** *23:26:56.8±0.6, 3739N±003×2678E±005, h18km±8km, Error ellipse: s-maj=6.7km s-min=4.7km az=126.7*

CSEM ***08*** *23:26:56.2±0.2, 3741N×2681E, h25km, MD3.1, Error ellipse: s-maj=5.8km s-min=4.5km az=45.0*

ISC 08 23:26:56.4±0.7, 3739N±003×2678E±005, h15km±6km, n12, σ0§99/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.33**	**9**	⇑*i* PB	**Pg**	**23 27 02.5**	**-0.6**
SMG				*e*SB	**Sg**	**23 27 07.6**	**0.0**
BDRM	**Kayabasi**	**0.62**	**121**	*i* P	**Pg**	**23 27 07.7**	**-0.9**
BDRM				*i* S	**Sg**	**23 27 17.2**	**+0.3**
MLSB	**Milas**	**0.80**	**96**	*e*PG	**Pg**	**23 27 11.4**	**-0.6**
MLSB				*e*SG	**Sg**	**23 27 24.1**	**+1.6**
DAT	**Datca**	**0.92**	**135**	*e*PG	**Pg**	**23 27 14.0**	**-0.2**
DAT				*e*SG	**Sg**	**23 27 27.5**	**+1.3**
URLA	**Izmir**	**0.98**	**352**	*i* P	**Pb**	**23 27 14.6**	**-0.5**
URLA				*i* S	**Sb**	**23 27 29.9**	**+2.0**
APE	**Apeiranthos**	**1.04**	**253**	*e*PN	**Pn**	**23 27 15.9**	**-0.6**
APE				*e*SB	**Sb**	**23 27 30.3**	**+0.7**
IZM	**Izmir**	**1.08**	**21**	*e*PN	**Pn**	**23 27 15.8**	**-1.2**
IZM				*e*SN	**Sn**	**23 27 31.6**	**-0.1**
KDAG	**Bornova**	**1.09**	**21**	*i* P	**Pb**	**23 27 15.9**	**-0.9**
KDAG				*i* S	**Sb**	**23 27 30.5**	**-0.4**
YER	**Yerkesik**	**1.23**	**101**	*e*PN	**Pn**	**23 27 18.9**	**-0.1**
ARG	**Arkhangelos**	**1.59**	**137**	*e*PB	**Pb**	**23 27 23.9**	**-1.6**
PRK	**Paraskevi**	**1.90**	**348**	*e*PN	**Pn**	**23 27 30.5**	**+2.3**
PRK				*e*SB	**Sb**	**23 27 58.8**	**+4.6**
FETY	**Fethiye**	**1.99**	**111**	*e*PN	**Pn**	**23 27 29.8**	**+0.3**

IDC ***08*** *23:29:14.6±2.0, 2482N×12270E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, Error ellipse: s-maj=160.0km s-min=21.7km az=65.0*

ISCJB ***08*** *23:29:16.6±1.2, 2484N±008×12285E±006, h28km±9km, mb3.6/5, Error ellipse: s-maj=14.2km s-min=8.1km az=34.3*

JMA ***08*** *23:29:16.6±0.1, 2473N×12276E, h42km±2km, M2.4*

NEIC ***08*** *23:29:19.8±1.0, 2484N×12267E, h37km±10km, mb4.0/1, Error ellipse: s-maj=10.9km s-min=8.6km az=74.0*

ISC 08 23:29:16.4±1.3, 2484N±008×12286E±006, h16km±8km, n17, σ1§08/22, mb3.6/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.40**	**160**	P	**Pg**	**23 29 25.5**	**+0.9**
YOJ				*e*S	**Sg**	**23 29 31.8**	**+1.7**
IRIF	**Iriomote-Funau**	**0.94**	**122**	P	**Pg**	**23 29 33.9**	**-0.7**
IRIF				*e*S	**Sg**	**23 29 46.4**	**-0.5**
HATJ	**Hateruma jima**	**1.16**	**132**	P	**Pb**	**23 29 37.0**	**-1.1**
HATJ				*e*S	**Sb**	**23 29 51.7**	**-1.3**
JKRS	**Kuro-shima**	**1.21**	**120**	P	**Pn**	**23 29 37.8**	**-0.8**
TATO	**Taipei**	**1.25**	**276**	*eP*	**Pn**	**23 29 37.8**	**-1.5**
JIJ	**Ishigaki jima**	**1.26**	**112**	P	**Pn**	**23 29 38.8**	**-0.6**
NACB	**Ninganchiao**	**1.33**	**240**	*eP*	**Pn**	**23 29 40.3**	**-0.1**
NACB				*e*S	**Sb**	**23 29 46.0**	**-12**
YHNB	**Yeheng**	**1.36**	**263**	*e*Pn	**Pn**	**23 29 40.1**	**-0.7**
YHNB				*e*S	**Sb**	**23 29 46.5**	**-12**
MAJO	**Matsushiro**	**17.58**	**45**	Pn	**Pn**	**23 33 23.5**	**+2.8**
SONM	**Songino Array**	**26.39**	**335**	P	**P**	**23 34 52.9**	**+0.8**
	0.8nm,1.0s,mb3.2,baz=140,slow=7.0,SNR=3.4						
LSA	**Lhasa**	**28.55**	**287**	P	**P**	**23 35 11.2**	**-0.2**
MKAR	**Makanchi Array**	**38.95**	**315**	P	**P**	**23 36 41.0**	**-0.7**
	0.6nm,0.8s,mb3.4,baz=95,slow=11,SNR=4.6						
WRAB	**Tennant Creek**	**45.89**	**165**	*eP*	**P**	**23 37 39.1**	**+1.0**
	1.9nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**45.90**	**165**	P	**P**	**23 37 39.0**	**+0.8**
	0.8nm,0.7s,mb3.8,baz=348,slow=8.9,SNR=3.7						
WB2	**Warramunga Arr**	**45.90**	**165**	*eP*	**P**	**23 37 39.1**	**+1.0**
BRVK	**Borovoye**	**48.21**	**320**	P	**P**	**23 37 55.6**	**-0.6**
ASAR	**Alice Springs**	**49.40**	**167**	P	**P**	**23 38 06.3**	**+1.0**
	0.3nm,0.7s,mb3.4,baz=348,slow=8.7,SNR=3.6						

IDC ***08*** *23:30:51.0±1.3, 1324N×14443E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=32.4km s-min=18.9km az=141.0*

ISCJB ***08*** *23:30:55.3±1.3, 133N±01×1446E±03, h55km±19km, mb3.7/5, Error ellipse: s-maj=50.0km s-min=24.6km az=167.7*

NEIC ***08*** *23:30:55.5±0.9, 1331N×14447E, h35km, mb4.1/2, Error ellipse: s-maj=19.2km s-min=15.6km az=150.0*

NEIC Felt at Dededo, Inarajan and Santa Rita.

ISC 08 23:30:56.4±1.7, 133N±01×1446E±03, h47km±25km, n11, σ0§78/12, mb3.7/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.38**	**48**	Pn	**Pn**	**23 31 06.1**	**0.0**
	586nm,0.3s,baz=150,slow=2.2,SNR=107						
GUMO				Sn	**Sn**	**23 31 12.9**	**0.0**
	2µm,0.3s,baz=336,slow=19,SNR=276						
MAJO	**Matsushiro**	**23.81**	**347**	*eP*	**P**	**23 36 05.5**	**+0.6**
	3.2nm,0.3s,mb4.2						
NACB	**Ninganchiao**	**24.25**	**300**	P	**P**	**23 36 08.7**	**-0.2**
YHNB	**Yeheng**	**24.62**	**301**	P	**P**	**23 36 12.2**	**-0.1**
MDJ	**Mudanjiang**	**33.70**	**341**	P	**P**	**23 37 31.6**	**-1.5**
ASAR	**Alice Springs**	**38.22**	**196**	P	**P**	**23 38 11.8**	**0.0**
	0.6nm,0.6s,mb3.5,baz=20,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**38.22**	**196**	P	**P**	**23 38 11.8**	**0.0**
SONM	**Songino Array**	**46.78**	**325**	P	**P**	**23 39 23.0**	**+1.8**
	0.1nm,0.3s,mb3.2,baz=126,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**61.48**	**316**	P	**P**	**23 41 08.5**	**+0.3**
	0.2nm,0.4s,mb3.6,baz=95,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**61.48**	**316**	P	**P**	**23 41 08.5**	**+0.3**
BRVK	**Borovoye**	**70.02**	**322**	*eP*	**P**	**23 42 02.5**	**-0.7**
	0.5nm,0.4s,mb3.8						

MAN 08 23:37:54.2, 1250N×12564E, h96km, mb2.4, ML3.9, MS6.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.92**	**192**	*eP*	Pn	23 38 14.8	+1.4
BESP				*e*S	Sn	23 38 28.5	+0.7
PLP	**Palo**	**1.48**	**206**	*eP*	Pn	23 38 20.9	+1.0
PLP				*i* S	Sn	23 38 40.1	+0.7
PVCP	**Virac**	**1.81**	**307**	*eP*	Pn	23 38 23.3	-0.9
PVCP				*e*S	Sn	23 38 47.9	+0.9
LUBP	**Lubang**	**5.40**	**284**	*eP*	Pn	23 38 39.4	-33

MEX 08 23:51:55.5±0.6, 1789N×9975W, h2km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.13**	**73**	*i* P	Pg	23 51 58.0	0.0
MEIG				*i* S	Sg	23 51 59.5	0.0
PLIG	**Platanillo**	**0.55**	**25**	*i* P	Pg	23 52 05.7	-0.4
PLIG				*i* S	Sg	23 52 13.9	+0.7
PPM	**Popocatepetl**	**1.58**	**42**	*i* P	Pn	23 52 21.8	-2.8
PPM				*i* S	Sn	23 52 45.3	-0.3
UTMO	**Huajuapan**	**1.85**	**91**	*i* P	Pn	23 52 25.8	-2.5
UTMO				*i* S	Sn	23 52 48.5	-3.8

ISCJB ***08*** *23:55:41.5±4.5, 4756N±010×1535E±02, h2km±28km, mb4.4/19, Error ellipse: s-maj=23.1km s-min=12.0km az=71.7*

IDC ***08*** *23:55:41.3±3.8, 4737N×15372E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/25, mbtmp4.0/13, ML3.3/2, Error ellipse: s-maj=86.2km s-min=25.2km az=135.0*

NEIC ***08*** *23:55:44.5±0.8, 4755N×15348E, h10km, mb4.0/2, Error ellipse: s-maj=19.6km s-min=12.5km az=107.0*

MOS ***08*** *23:55:47.0±1.2, 4749N×15349E, h51km, mb4.4/1, Error ellipse: s-maj=18.8km s-min=13.3km az=95.0*

ISC 08 23:55:45.8±5.0, 476N±01×1536E±02, h18km±31km, n34, σ0§77/34, mb4.4/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.49**	**28**	*e*PN	**Pn**	**23 56 39.5**	**+0.4**
SKR				*e*		23 57 21.5	
ASAJ	**Asahikawa**	**8.42**	**249**	Pn	**Pn**	**23 57 46.8**	**-0.1**
	0.3nm,0.3s,baz=82,slow=19,SNR=2.8						
MJAR	**Matsushiro Arr**	**15.86**	**231**	Pn	**Pn**	**23 59 24.4**	**-3.6**
	0.2nm,0.3s,baz=52,slow=13,SNR=3.7						
MJAR	**Matsushiro Arr**	**15.86**	**231**	Pn	**Pn**	**23 59 24.4**	**-3.6**
MDJ	**Mudanjiang**	**16.87**	**269**	*e*Pn	**Pn**	**23 59 42.4**	**+1.4**
	3.4nm,0.3s						
KSRS	**Korea Array**	**21.36**	**251**	P	**P**	**00 00 29.9**	**-2.1**
	2.1nm,0.7s,mb3.6,baz=60,slow=9.7,SNR=4.2						
SONM	**Songino Array**	**31.34**	**288**	P	**P**	**00 02 05.2**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=61,slow=8.7,SNR=5.6						
NACB	**Ninganchiao**	**34.51**	**239**	*eP*	**P**	**00 02 32.1**	**-0.7**
ZAL	**Zalesovo**	**42.37**	**305**	P	**P**	**00 03 37.7**	**-1.1**
	1.6nm,0.5s,mb4.0,baz=41,slow=12,SNR=3.9						
ZAL	**Zalesovo**	**42.37**	**305**	P	**P**	**00 03 37.7**	**-1.1**
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**00 04 13.8**	**-0.6**
	1.4nm,0.7s,mb4.0,baz=68,slow=7.6,SNR=11						
LSA	**Lhasa**	**50.53**	**273**	P	**P**	**00 04 42.9**	**-0.1**
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**00 04 42.9**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=49,slow=7.4,SNR=12						
BRVK	**Borovoye**	**50.58**	**309**	*eP*	**P**	**00 04 42.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**50.58**	**309**	*eP*	**P**	**00 04 42.8**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.2						
ARU	**Arti**	**54.58**	**317**	*eP*	**P**	**00 05 12.1**	**-0.8**
JIRN	**Jiri**	**55.19**	**274**	*eP*	**P**	**00 05 18.1**	**+0.8**
	comp=Z,1.9nm,0.3s,mb4.6						
GUN	**Gumba**	**55.23**	**275**	*eP*	**P**	**00 05 18.4**	**+0.8**
	comp=Z,17nm,0.9s,mb5.1						
KKN	**Kakani**	**55.71**	**275**	*eP*	**P**	**00 05 21.9**	**+0.8**
	comp=Z,11nm,0.7s,mb5.0						
PKI	**Pulchoki**	**55.77**	**275**	*eP*	**P**	**00 05 22.1**	**+0.6**
DMN	**Daman**	**55.95**	**275**	*eP*	**P**	**00 05 23.9**	**+1.1**
	comp=Z,20nm,0.8s,mb5.2						
GKN	**Gorkha**	**56.01**	**276**	*eP*	**P**	**00 05 23.5**	**+0.3**
	comp=Z,25nm,0.9s,mb5.3						
KOLN	**Koldanda**	**56.86**	**276**	*eP*	**P**	**00 05 29.9**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**57.13**	**341**	P	**P**	**00 05 31.9**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.2,baz=37,slow=9.1,SNR=3.8						
FINES	**FINESS Array B**	**63.38**	**335**	P	**P**	**00 06 13.6**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.2,baz=33,slow=8.9,SNR=11						
FINES	**FINESS Array B**	**63.38**	**335**	P	**P**	**00 06 13.6**	**-0.4**
NB2	**NORSAR Subarra**	**67.50**	**341**	P	**P**	**00 06 40.3**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.50**	**341**	P	**P**	**00 06 40.5**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.5,baz=27,slow=6.3,SNR=11						
CTAO	**Charters Tower**	**67.72**	**187**	P	**P**	**00 06 41.7**	**-0.3**
HFS	**Hagfors**	**67.74**	**340**	P	**P**	**00 06 41.7**	**-0.5**
	comp=Z,6.4nm,0.7s,mb4.8,baz=64,slow=6.8,SNR=11						
AKASG	**Malin Array Be**	**70.99**	**326**	P	**P**	**00 07 01.6**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.3,baz=32,slow=6.0,SNR=13						
GERES	**GERESS Array B**	**77.80**	**334**	P	**P**	**00 07 41.8**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=27,slow=6.3,SNR=4.2						
BRTR	**Keskin Array B**	**77.96**	**317**	P	**P**	**00 07 42.7**	**-0.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=47,slow=5.3,SNR=6.9						
STKA	**Stephens Creek**	**79.87**	**190**	*eP*	**P**	**00 07 54.0**	**+0.7**

IDC 08 23:56:10.3±4.0, 552S×15123E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/13, mbtmp3.0/2, Error ellipse: s-maj=167.4km s-min=50.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**227**	P	P	00 01 04.4	+0.5
	0.2nm,0.4s,baz=53,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.57**	**221**	P	P	00 01 32.1	+0.3
	0.3nm,0.6s,baz=58,slow=8.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.02**	**286**	PKPbc	PKPbc	00 16 00.9	+0.7
	0.1nm,0.4s,baz=90,slow=2.2,SNR=5.9						

IDC ***09*** *00:01:11.4±1.7, 4738N×15399E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/27, mbtmp4.1/16, ML3.4/2, Error ellipse: s-maj=42.5km s-min=22.5km az=152.0*

NEIC ***09*** *00:01:12.8±0.7, 4734N×15399E, h10km, mb4.3/9, Error ellipse: s-maj=14.7km s-min=9.2km az=130.0*

ISCJB ***09*** *00:01:17.0±1.7, 474N±0.1×1536E±02, h41km±12km, mb4.2/23, Error ellipse: s-maj=27.6km s-min=11.2km az=94.0*

MOS ***09*** *00:01:21.9±1.0, 4799N×15298E, h46km, mb4.6/8, Error ellipse: s-maj=14.0km s-min=8.4km az=105.0*

ISC 09 00:01:18.2±1.5, 474N±01×1538E±02, h43km±10km, n62, σ0§99/62, mb4.2/23, 7C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.64**	**24**	*eP*	**Pn**	**00 02 13.5**	**+1.4**
SKR				AMB	AMB	00 02 14.5	
	80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.51**	**271**	PN	**Pn**	**00 03 05.5**	**+0.4**
ASAJ	**Asahikawa**	**8.46**	**251**	Pn	**Pn**	**00 03 18.9**	**+0.8**
	0.3nm,0.3s,baz=108,slow=31,SNR=2.9						
MA2	**Magadan**	**12.33**	**353**	PN	**Pn**	**00 04 07.9**	**-3.3**
MJAR	**Matsushiro Arr**	**15.81**	**232**	Pn	**Pn**	**00 04 56.7**	**-1.1**
	0.5nm,0.3s,baz=24,slow=13,SNR=4.3						
MDJ	**Mudanjiang**	**17.00**	**270**	*eP*	**Pn**	**00 05 12.8**	**+0.1**
	3.9nm,0.5s						
YAK	**Yakutsk**	**20.03**	**326**	P	**P**	**00 05 46.0**	**-1.4**
KSRS	**Korea Array**	**21.41**	**252**	P	**P**	**00 06 02.6**	**+0.3**
	1.9nm,0.7s,mb3.6,baz=59,slow=10,SNR=5.3						
SONM	**Songino Array**	**31.54**	**289**	P	**P**	**00 07 36.4**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=60,slow=8.6,SNR=5.2						
ZAL	**Zalesovo**	**42.61**	**305**	P	**P**	**00 09 09.4**	**-0.7**
	2.0nm,0.6s,mb4.0,baz=62,slow=4.2,SNR=4.6						
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**00 09 44.7**	**-0.6**
	2.0nm,0.7s,mb4.1,baz=66,slow=6.7,SNR=16						
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**00 09 44.7**	**-0.6**
LSA	**Lhasa**	**50.67**	**273**	P	**P**	**00 10 13.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**50.67**	**273**	P	**P**	**00 10 13.9**	**+0.6**
	comp=Z,4.2nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**00 10 13.7**	**-0.4**
	comp=Z,1.2nm,0.3s,mb4.3,baz=55,slow=7.4,SNR=16						
BRVK	**Borovoye**	**50.83**	**309**	*eP*	**P**	**00 10 14.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**50.83**	**309**	*eP*	**P**	**00 10 14.0**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**52.69**	**257**	*eP*	**P**	**00 10 29.4**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHTO	**Chiang Mai**	**52.69**	**257**	*eP*	**P**	**00 10 29.4**	**+1.1**
	comp=Z,1.3nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**53.94**	**296**	*eP*	**P**	**00 10 36.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**53.94**	**296**	*eP*	**P**	**00 10 36.6**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.0						
ARU	**Arti**	**54.83**	**317**	*eP*	**P**	**00 10 43.2**	**-0.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARU	**Arti**	**54.83**	**317**	*eP*	**P**	**00 10 43.1**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.7						
KEV	**Kevo**	**56.88**	**341**	*ep*	**P**	**00 10 57.3**	**-1.3**
	comp=Z,15nm,1.2s,mb4.9						
KEV	**Kevo**	**56.88**	**341**	*eP*	**P**	**00 10 57.3**	**-1.3**
KEV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
ARCES	**ARCESS Array B**	**57.39**	**341**	P	**P**	**00 11 01.5**	**-0.7**
	comp=Z,2.5nm,0.9s,mb4.3,baz=42,slow=5.6,SNR=5.1						
ARCES	**ARCESS Array B**	**57.39**	**341**	P	**P**	**00 11 01.5**	**-0.7**
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**00 11 44.4**	**-0.5**
	comp=Z,1.1nm,0.3s,mb4.3,baz=38,slow=8.0,SNR=22						
NB2	**NORSAR Subarra**	**67.76**	**341**	P	**P**	**00 12 11.1**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**00 12 11.4**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.4,baz=26,slow=6.2,SNR=8.8						
HFS	**Hagfors**	**68.01**	**340**	P	**P**	**00 12 12.8**	**-0.2**
	comp=Z,6.5nm,0.7s,mb4.8,baz=72,slow=6.4,SNR=17						
WB2	**Warramunga Arr**	**69.26**	**200**	*eP*	**P**	**00 12 18.0**	**-2.8**
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**00 12 32.4**	**-0.5**
	comp=Z,1.9nm,0.4s,mb4.3,baz=33,slow=6.0,SNR=12						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**00 12 32.4**	**-0.5**
AKBB	**Malin Array Si**	**71.26**	**326**	*eP*	**P**	**00 12 32.1**	**-0.9**
KIEV	**Kiev**	**71.27**	**326**	*eP*	**P**	**00 12 31.9**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KIEV	**Kiev**	**71.27**	**326**	*eP*	**P**	**00 12 31.9**	**-1.1**
	comp=Z,3.1nm,0.6s,mb4.4						
BURAR	**Bucovina Array**	**75.29**	**327**	⇓*i* P	**P**	**00 12 57.0**	**+0.2**
UPC	**Upice**	**75.90**	**334**	*eP*	**P**	**00 13 01.8**	**+1.6**
DPC	**Dobruska-Polom**	**75.95**	**333**	*eP*	**P**	**00 13 01.1**	**+0.6**
MORC	**Moravsky Berou**	**76.08**	**332**	⇑*i* P	**P**	**00 13 02.5**	**+1.3**
MORC	**Moravsky Berou**	**76.08**	**332**	*eP*	**P**	**00 13 02.3**	**+1.1**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MORC	**Moravsky Berou**	**76.08**	**332**	*eP*	**P**	**00 13 02.3**	**+1.1**
	comp=Z,2.0nm,0.7s,mb4.2						
TIRR	**Tirgusor**	**76.66**	**323**	⇑*i* P	**P**	**00 13 04.5**	**-0.1**
TIRR	**Tirgusor**	**76.66**	**323**	*eP*	**P**	**00 13 04.1**	**-0.5**
TIRR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
TIRR	**Tirgusor**	**76.66**	**323**	*eP*	**P**	**00 13 04.1**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.0						
MLR	**Muntele Rosu**	**76.79**	**325**	⇑*i* P	**P**	**00 13 06.4**	**+1.1**
TXAR	**Lajitas Array**

YUK smax
comp=N,190nm,0.5s
YUK smax
comp=E,180nm,0.5s
YUK smax
comp=N,3µm,2.0s
YUK smax
comp=E,2µm,2.0s
YSS Yuzh-Sakhalins 7.76 273 *e*P **Pn 00 03 23.0 +4.1**
YSS *e*S **Sn 00 04 48.5 +1.6**
YSS eLQ 00 05 30.0
YSS AMS AMS 00 06 23.0
comp=E,600nm,14.0s
YSS AMS AMS 00 06 23.0
comp=E,700nm,14.0s
YSS Yuzh-Sakhalins 7.76 273 *e*PN **Pn 00 03 23.0 +4.1**
YSS *e*S **Sn 00 04 48.5 +1.6**
YSS MLR MLR
comp=E,600nm,14.0s
YSS MLR MLR
comp=E,700nm,14.0s
UGL Uglegorsk 8.29 288 *e*rx rx 00 03 44.5
UGL AMB AMB 00 03 46.5
comp=Z,67nm,0.6s
UGL AMS AMS 00 07 02.0
comp=Z,2µm,15.0s
UGL AMS AMS 00 07 02.0
comp=Z,2µm,15.0s
UGL AMS AMS 00 07 02.0
comp=Z,3µm,15.0s
ASAJ Asahikawa 8.63 253 Pn **Pn 00 03 31.4 +0.6**
comp=Z,1.8nm,0.3s,baz=94,slow=17,SNR=7.9
ASAJ Asahikawa 8.63 253 PN **Pn 00 03 31.4 +0.6**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
MAJO Matsushiro 15.88 234 *e*P **Pn 00 05 04.5 -5.0**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 15.88 234 *e*Pn **Pn 00 05 04.5 -5.1**
comp=Z,11nm,0.7s
MAT Matsushiro 15.88 234 P **Pn 00 05 08.6 -0.9**
MJAR Matsushiro Arr 15.88 234 Pn **Pn 00 05 08.6 -0.9**
comp=Z,0.5nm,0.3s,baz=26,slow=14,SNR=8.2
MJAR LR LR 00 12 03.2
comp=Z,233nm,18.9s,baz=40,slow=40
VLA Vladivostok 16.18 264 *e*P **Pn 00 05 17.8 +4.5**
VLA MLR MLR
comp=Z,700nm,16.8s
JHJ Hachijo jima 2 17.77 223 P **Pn 00 05 30.8 -2.5**
comp=Z,11nm,0.3s,baz=47,slow=14,SNR=3.0
CLNS Chul'man 20.27 309 *e*P **P 00 06 07.6 +6.0**
CLNS pmax pmax
comp=Z,24nm,1.8s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS MLR MLR
comp=E,300nm,13.0s,MS3.9
CLNS MLR MLR
comp=Z,700nm,13.0s,MS4.2
CLNS MLR MLR
comp=N,200nm,12.0s,MS3.9
YAK Yakutsk 20.34 326⇓ *e*P **P 00 06 02.4 +0.1**
YAK pmax pmax
comp=Z,24nm,0.6s
KSRS Korea Array 21.58 253 P **P 00 06 16.6 +1.0**
comp=Z,6.0nm,0.6s,mb4.2,baz=62,slow=9.2,SNR=18
BILL Bilibino 21.83 12⇑ *e*P **P 00 06 16.5 -1.8**
BILL Bilibino 21.83 12⇑ *e*P **P 00 06 19.3 +1.0**
BILL *e* 00 06 34.2
BILL *e* 00 06 51.0
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
BILL MLR MLR
comp=Z,200nm,15.0s,MS3.6
BILL Bilibino 21.83 12 P **P 00 06 19.5 +1.2**
HIA Hailar 22.88 288⇑ *e*P **P 00 06 32.7 +3.1**
SONM Songino Array 31.84 289 P **P 00 07 50.0 -1.0**
comp=Z,3.2nm,0.7s,mb4.2,baz=64,slow=8.7,SNR=17
SML Sawmill 35.19 44 *e*P **P 00 08 19.1 -1.0**
COLA College 35.38 39 *e*P **P 00 08 21.1 -0.6**
COLA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
COLA College 35.38 39 *e*P **P 00 08 21.1 -0.6**
comp=Z,5.0nm,0.6s,mb4.6
CD2 Chengdu 41.60 265 P **P 00 09 14.6 +0.6**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.2
CD2 LR LR
comp=N,280nm,3.9s
CD2 LR LR
comp=Z,310nm,13.2s,MS4.4
ZAL Zalesovo 42.94 306 P **P 00 09 23.4 -1.5**
comp=Z,5.2nm,0.6s,mb4.4,baz=43,slow=8.7,SNR=19
ZAL PcP PcP 00 11 14.6 -0.9
comp=Z,1.4nm,0.5s,baz=82,slow=5.0,SNR=4.7
NVS Novosibirsk 43.48 307 *i* P **P 00 09 27.7 -1.5**
MKAR Makanchi Array 47.35 297 P **P 00 09 58.9 -1.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=66,slow=8.0,SNR=36
MKAR PcP PcP 00 11 30.1 -0.7
comp=Z,1.6nm,0.7s,baz=59,slow=5.6,SNR=4.6
LSA Lhasa 50.94 273 P **P 00 10 29.0 +1.6**
LSA Lhasa 50.94 273 *e*P **P 00 10 29.2 +1.8**
LSA pmax pmax
comp=Z,17nm,0.7s,mb5.1
LSA Lhasa 50.94 273 *e*P **P 00 10 29.2 +1.7**
comp=Z,17nm,0.7s,mb5.1
BVAR Borovoye Array 51.12 310 P **P 00 10 27.6 -1.2**
comp=Z,2.7nm,0.4s,mb4.6,baz=47,slow=8.7,SNR=26
BVAR PcP PcP 00 11 43.8 -0.6
comp=Z,2.7nm,0.6s,baz=64,slow=4.0,SNR=6.3
BRVK Borovoye 51.16 310 *e*P **P 00 10 27.4 -1.7**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 51.16 310 *e*P **P 00 10 27.4 -1.7**
comp=Z,8.2nm,0.8s,mb4.7
CHTO Chiang Mai 52.88 257 *e*P **P 00 10 41.9 0.0**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CHTO Chiang Mai 52.88 257 *e*P **P 00 10 41.9 -0.1**
comp=Z,5.5nm,0.8s,mb4.5
AAK Ala-Archa 54.26 297 *e*P **P 00 10 50.1 -1.9**
AAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
AAK Ala-Archa 54.26 297 *e*P **P 00 10 50.1 -1.9**
comp=Z,5.9nm,0.6s,mb4.7
ARU Arti 55.16 318 *ce*P **P 00 10 56.9 -1.7**
ARU pmax pmax
comp=Z,17nm,0.7s,mb5.2
ARU Arti 55.16 318 *e*P **P 00 10 56.8 -1.8**
comp=Z,16nm,0.7s,mb5.2
JIRN Jiri 55.59 275 *e*P **P 00 11 03.0 +1.3**
comp=Z,14nm,0.5s,mb5.2
GUN Gumba 55.65 275 *e*P **P 00 11 02.9 +0.8**
comp=Z,31nm,0.8s,mb5.4
KKN Kakani 56.13 276 *e*P **P 00 11 06.8 +1.3**
comp=Z,43nm,0.7s,mb5.6
PKI Pulchoki 56.18 275 *e*P **P 00 11 06.9 +1.0**
comp=Z,33nm,0.8s,mb5.4
DMN Daman 56.36 276 *e*P **P 00 11 08.6 +1.4**
comp=Z,100nm,0.8s,mb5.9
GKN Gorkha 56.43 276 *e*P **P 00 11 08.6 +0.9**
comp=Z,92nm,0.7s,mb5.9
KOLN Koldanda 57.28 277 *e*P **P 00 11 14.8 +1.1**
comp=Z,72nm,0.8s,mb5.7
ARCES ARCESS Array B 57.67 341 P **P 00 11 15.9 -0.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=31,slow=6.4,SNR=6.5
BOK Bokaro 58.33 272 *e*P **P 00 11 22.6 +1.6**
BOK AMb AMB 00 11 25.1
comp=Z,11nm,1.2s,mb4.8
NDI New Delhi 60.99 282 *e*P **P 00 11 38.0 -1.4**
FINES FINESS Array B 63.95 335 P **P 00 11 58.5 -0.7**
comp=Z,3.3nm,0.5s,mb4.7,baz=37,slow=8.9,SNR=22
AJM Ajmer 64.15 282 *e*P **P 00 12 00.9 +0.3**
AJM AMb AMB 00 12 01.7
comp=Z,22nm,0.7s,mb5.3
VIS Vishakhapatnam 64.20 269 *e*P **P 00 12 00.8 0.0**
VIS AMb AMB 00 12 05.2
comp=Z,20nm,1.3s,mb5.0
BHPL Bhopal 64.45 277 *e*P **P 00 12 02.8 +0.4**
BHPL AMb AMB 00 12 03.9
comp=Z,30nm,1.4s,mb5.1
OBN Obninsk 65.34 326 P **P 00 12 12.0 +3.7**
OBN *e* 00 12 25.3
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
NOA NORSAR Array B 68.05 342 P **P 00 12 25.3 -0.2**
comp=Z,14nm,0.8s,mb5.1,baz=26,slow=6.3,SNR=31
HFS Hagfors 68.30 340 P **P 00 12 26.9 -0.2**
comp=Z,28nm,0.7s,mb5.4,baz=52,slow=5.8,SNR=33
WB2 Warramunga Arr 69.14 200 *e*P **P 00 12 32.5 +0.2**
MDRS Chennai 69.58 267 *e*P **P 00 12 34.9 -0.2**
GOF Gofitskoye 70.01 315 *e*P **P 00 12 39.2 +1.4**
KAD Karad 70.72 275 *e*P **P 00 12 42.5 +0.3**
KAD AMb AMB 00 12 43.4
comp=Z,16nm,1.9s,mb4.6
SUW Suwalki 70.95 332 *e*P **P 00 12 42.7 -0.8**
KIV Kislovodsk 70.99 315 *e*P **P 00 12 43.5 -0.3**
KIV pmax pmax
comp=Z,11nm,0.7s,mb4.9
KIV Kislovodsk 70.99 315 *e*P **P 00 12 43.5 -0.2**
comp=Z,11nm,0.7s,mb4.9
AKASG Malin Array Be 71.57 327 P **P 00 12 46.3 -1.0**
comp=Z,12nm,0.6s,mb5.0,baz=34,slow=6.2,SNR=45
AKBB Malin Array Si 71.57 327 *e*P **P 00 12 45.7 -1.6**
KIEV Kiev 71.58 327 *e*P **P 00 12 45.7 -1.6**
KIEV pmax pmax
comp=Z,14nm,0.6s,mb5.1
KIEV Kiev 71.58 327 *e*P **P 00 12 45.7 -1.6**
comp=Z,14nm,0.6s,mb5.1
GNI Garni 72.78 311⇑ *e*P **P 00 12 56.1 +1.6**
GNI pmax pmax
comp=Z,10.0nm,0.7s
ANN Anapa 72.82 318 *e*P **P 00 12 52.5 -2.2**
ANN pmax pmax
comp=Z,17nm,1.7s,mb4.7
ANN Anapa 72.82 318 *e*P **P 00 12 52.5 -2.2**
ANN pmax pmax
comp=Z,167nm,1.7s,mb5.7
ASAR Alice Springs 72.83 199 P **P 00 12 54.8 -0.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=9.1,slow=5.7,SNR=12
GKP Gorka Klasztor 73.41 335 *e*P **P 00 12 58.5 +0.3**
KWP Kalwaria 74.81 330 *e*P **P 00 13 07.2 +0.8**
OJC Ojcow 75.28 332 *e*P **P 00 13 08.8 -0.3**
STHS Stebnicka Huta 75.49 330 *e*P **P 00 13 11.2 +0.9**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.49 330 *e*P **P 00 13 11.2 +0.9**
comp=Z,7.2nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.55 330 *e*P **P 00 13 10.7 0.0**
CRVS Cervenica-Dubn 75.86 330 *e*P **P 00 13 12.2 -0.2**
EKA Eskdalemuir Ar 76.08 347 P **P 00 13 13.6 -0.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=20,slow=6.2,SNR=4.8
OKC Ostrava-Krasne 76.14 332 *e*P **P 00 13 14.7 +0.7**
UPC Upice 76.20 334 *e*P **P 00 13 15.3 +0.9**
DPC Dobruska-Polom 76.25 334 *e*P **P 00 13 15.7 +1.0**
CLL Collm 76.36 336 *i* P **P 00 13 14.6 -0.7**
comp=Z,26nm,0.8s,mb5.2
CLL *e*(sP) sP 00 13 23.0 +3.2
MORC Moravsky Berou 76.38 333 *e*P **P 00 13 15.4 0.0**
MORC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MORC Moravsky Berou 76.38 333 *e*P **P 00 13 15.4 0.0**
comp=Z,9.6nm,0.7s,mb4.8
BRG Berggiesshubel 76.48 335 *i* P **P 00 13 16.4 +0.4**
comp=Z,3.7nm,0.8s,mb4.4
BRG Berggiesshubel 76.48 335 *i* P **P 00 13 16.4 +0.4**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 76.55 330 *e*P **P 00 13 15.9 -0.4**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 76.55 330 *e*P **P 00 13 15.9 -0.4**
comp=Z,3.0nm,0.8s,mb4.3
PVCC Panska Ves 76.61 335 *e*P **P 00 13 16.9 +0.2**
TXAR Lajitas Array 76.69 61 P **P 00 13 18.2 +1.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=304,slow=4.1,SNR=11
TIRR Tirgusor 76.98 323 *e*P **P 00 13 18.7 -0.1**
VRAC Vranov 77.09 333 P **P 00 13 19.7 +0.3**
comp=Z,8.9nm,0.7s,mb4.8,baz=48,slow=4.8,SNR=11
VYHS Vyhne 77.09 331 *e*P **P 00 13 19.4 0.0**
VYHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VYHS Vyhne 77.09 331 *e*P **P 00 13 19.4 0.0**
comp=Z,4.6nm,0.8s,mb4.5
PRU Pruhonice 77.10 335 *e*P **P 00 13 19.4 -0.1**
NKC Novy Kostel 77.48 336 *e*P **P 00 13 22.1 +0.5**
KHC Kasperske Hory 78.15 335 *e*P **P 00 13 25.5 +0.2**
KHC Kasperske Hory 78.15 335⇑ *e*P **P 00 13 25.6 +0.3**
GRA1 Grafenberg Arr 78.31 336 *e*P **P 00 13 27.0 +0.8**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.31 336 *e*P **P 00 13 27.0 +0.8**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.31 336 *e*P **P 00 13 27.0 +0.8**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.31 336 *e*P **P 00 13 27.0 +0.8**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GEC2 GERESS Array S 78.37 335 *e*P **P 00 13 25.9 -0.6**
GERES GERESS Array B 78.37 335 P **P 00 13 26.4 -0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=35,slow=4.6,SNR=15
CONA Conrad Observa 78.53 333⇓ *i* P **P 00 13 28.4 +1.0**
comp=Z,5.6nm,0.7s,mb4.6
BRTR Keskin Array B 78.55 317 P **P 00 13 28.1 +0.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=67,slow=3.6,SNR=21
ANTO Ankara 78.82 318⇓ *i* P **P 00 13 25.8 -3.2**
MOA Molln 79.09 334⇓ *i* P **P 00 13 31.2 +0.7**
comp=Z,6.5nm,0.8s,mb4.6
ARSA Arzberg 79.24 333⇓ *i* P **P 00 13 32.2 +0.8**
comp=Z,3.1nm,0.6s,mb4.4
PERS Pernice 79.92 333 *i* P **P 00 13 35.8 +0.8**
KBA Koelnbreinsper 80.06 334⇓ *i* P **P 00 13 36.9 +1.1**
comp=Z,11nm,0.9s,mb4.8
KBA Koelnbreinsper 80.06 334⇓ *i* P **P 00 13 36.9 +1.1**
KBA pmax pmax
comp=Z,11nm,0.9s,mb4.8
GOLS Golise 80.31 332 *e*P **P 00 13 38.0 +0.8**
WATA Walderalm 80.35 335⇓ *i* P **P 00 13 38.2 +0.8**
comp=Z,6.8nm,0.7s,mb4.7
WATA Walderalm 80.35 335⇓ *i* P **P 00 13 38.2 +0.9**
WATA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
WTTA Wattenberg 80.40 335⇓ *i* P **P 00 13 37.9 +0.3**
comp=Z,14nm,0.7s,mb5.0
WTTA Wattenberg 80.40 335⇓ *i* P **P 00 13 37.9 +0.3**
WTTA pmax pmax
comp=Z,14nm,0.7s,mb5.0
GCIS Gornji Cirnik 80.44 332 *e*P **P 00 13 38.7 +0.8**
MOTA Moosalm 80.47 335⇓ *i* P **P 00 13 38.8 +0.8**
comp=Z,8.1nm,0.8s,mb4.7
MOTA Moosalm 80.47 335⇓ *i* P **P 00 13 38.8 +0.8**
MOTA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 80.52 338 *e*P **P 00 13 37.9 -0.4**
comp=Z,12nm,0.8s,mb4.6
CDF Champ du Feu 80.52 338 *e*P **P 00 13 37.9 -0.4**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CDF Champ du Feu 80.52 338 *e*P **P 00 13 37.9 -0.4**
comp=Z,5.8nm,0.8s,mb4.6
SQTA Sankt Quirin 80.56 335⇓ *i* P **P 00 13 39.3 +0.9**
comp=Z,6.7nm,0.8s,mb4.6
SQTA Sankt Quirin 80.56 335⇓ *i* P **P 00 13 39.3 +0.8**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PMOR Pomariorio Ree 80.71 124 *e*T 01 42 11.7
comp=Z,1.3nm,0.2s
DAVA Damuels 80.87 336⇓ *i* P **P 00 13 40.8 +0.6**
comp=Z,11nm,0.8s,mb4.8
HAU Haudompre 81.13 339 *e*P **P 00 13 40.8 -0.7**
HAU *e*R
comp=Z,120nm,20.2s
HAU Haudompre 81.13 339 *e*P **P 00 13 40.8 -0.7**
HAU LR LR
comp=Z,120nm,20.3s,MS4.2
HINF Hinteralfeld 81.18 338 *e*P **P 00 13 41.1 -0.7**
DAVOX Davos 81.33 336 P **P 00 13 43.3 +0.7**
comp=Z,6.7nm,0.7s,mb4.7,baz=358,slow=3.4,SNR=9.2
PPT Papeete 81.86 127 *e*LR LR 00 39 19.3
comp=Z,104nm,21.0s
FLN La Foliniere 81.93 343 *e*P **P 00 13 44.7 -1.0**
FLN *e*R
comp=Z,88nm,17.8s
FLN La Foliniere 81.93 343 *e*P **P 00 13 44.7 -1.0**
FLN LR LR
comp=Z,90nm,17.8s,MS4.2
LDF La Druitiere 82.02 343 *e*P **P 00 13 45.4 -0.8**
GRR Gorron 82.36 343 *e*P **P 00 13 47.6 -0.4**
LOR Lormes 82.42 340 *e*P **P 00 13 47.9 -0.4**
comp=Z,17nm,1.1s,mb4.6
LOR *e*R
comp=Z,120nm,20.5s
LOR Lormes 82.42 340 *e*P **P 00 13 47.9 -0.4**
LOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,120nm,20.5s,MS4.2
LOR Lormes 82.42 340 *e*P **P 00 13 47.9 -0.4**
comp=Z,8.6nm,1.1s,mb4.6
LOR LR LR
comp=Z,120nm,20.5s,MS4.2
CABF La Chapelle 82.49 338 *e*P **P 00 13 48.5 -0.2**
comp=Z,6.6nm,0.7s,mb4.4
CABF La Chapelle 82.49 338 *e*P **P 00 13 48.5 -0.2**
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CABF La Chapelle 82.49 338 *e*P **P 00 13 48.5 -0.2**
comp=Z,3.0nm,0.7s,mb4.4
CSS Prodhromos 82.51 315 *e*P **P 00 13 48.6 -0.2**
comp=Z,12nm,0.8s,mb5.0
SSF Saint Saulge 82.69 340 *e*P **P 00 13 49.3 -0.4**
comp=Z,10nm,0.8s,mb4.6
SSF Saint Saulge 82.69 340 *e*P **P 00 13 49.3 -0.4**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SSF Saint Saulge 82.69 340 *e*P **P 00 13 49.3 -0.4**
comp=Z,5.1nm,0.8s,mb4.6
SGMF Saint Gilles 82.81 345 *e*P **P 00 13 50.0 -0.3**
comp=Z,6.9nm,0.6s,mb4.6
SGMF Saint Gilles 82.81 345 *e*P **P 00 13 50.0 -0.3**
SGMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SGMF Saint Gilles 82.81 345 *e*P **P 00 13 50.0 -0.3**
comp=Z,3.5nm,0.6s,mb4.6
ROSF Rostrenen 82.86 345 *e*P **P 00 13 50.3 -0.3**
comp=Z,14nm,0.7s,mb4.8
ROSF Rostrenen 82.86 345 *e*P **P 00 13 50.3 -0.3**
ROSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ROSF Rostrenen 82.86 345 *e*P **P 00 13 50.3 -0.3**
comp=Z,7.1nm,0.7s,mb4.8
AVF Avril sur Loir 82.98 340 *e*P **P 00 13 51.0 -0.2**
comp=Z,12nm,0.9s,mb4.6
AVF Avril sur Loir 82.98 340 *e*P **P 00 13 51.0 -0.2**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AVF Avril sur Loir 82.98 340 *e*P **P 00 13 51.0 -0.2**
comp=Z,6.3nm,0.9s,mb4.7
SMF Signal de Mont 83.00 340 *e*P **P 00 13 51.4 0.0**
comp=Z,15nm,0.7s,mb4.8
SMF Signal de Mont 83.00 340 *e*P **P 00 13 51.4 0.0**
SMF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
SMF Signal de Mont 83.00 340 *e*P **P 00 13 51.4 0.0**
comp=Z,7.7nm,0.7s,mb4.8
BGF Bois d'Agland 83.32 340 *e*P **P 00 13 52.7 -0.3**
LPL La Plagne 83.34 338 *e*P **P 00 13 53.8 +0.7**
comp=Z,8.9nm,0.8s,mb4.5
LPL La Plagne 83.34 338 *e*P **P 00 13 53.8 +0.7**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LPL La Plagne 83.34 338 *e*P **P 00 13 53.8 +0.7**
comp=Z,4.4nm,0.8s,mb4.5
LPG La Plagne 83.36 338 *e*P **P 00 13 53.9 +0.7**
comp=Z,10nm,0.8s,mb4.6
LPG La Plagne 83.36 338 *e*P **P 00 13 53.9 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LPG La Plagne 83.36 338 *e*P **P 00 13 53.9 +0.7**
comp=Z,5.3nm,0.8s,mb4.6
TCF Toulx Ste Croi 83.72 341 *e*P **P 00 13 54.9 -0.1**
comp=Z,9.7nm,0.9s,mb4.6
TCF Toulx Ste Croi 83.72 341 *e*P **P 00 13 54.9 -0.1**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 83.72 341 *e*P **P 00 13 54.9 -0.1**
comp=Z,4.6nm,0.9s,mb4.6
MFF Saint Martin d 83.92 342 *e*P **P 00 13 55.9 -0.2**
comp=Z,11nm,1.0s,mb4.6
MFF Saint Martin d 83.92 342 *e*P **P 00 13 55.9 -0.2**
MFF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MFF Saint Martin d 83.92 342 *e*P **P 00 13 55.9 -0.2**
comp=Z,5.3nm,1.0s,mb4.6
MBDF Montbardon 84.07 337 *e*P **P 00 13 56.7 -0.1**
comp=Z,12nm,1.0s,mb4.7
MBDF Montbardon 84.07 337 *e*P **P 00 13 56.7 -0.1**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MBDF Montbardon 84.07 337 *e*P **P 00 13 56.7 -0.1**
comp=Z,5.8nm,1.0s,mb4.7
ORIF Oris-en-Rattie 84.12 338 *e*P **P 00 13 57.5 +0.4**
comp=Z,15nm,0.7s,mb4.9
ORIF *e*R
comp=Z,81nm,21.0s
ORIF Oris-en-Rattie 84.12 338 *e*P **P 00 13 57.5 +0.4**
ORIF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 84.12 338 *e*P **P 00 13 57.5 +0.4**
comp=Z,7.6nm,0.7s,mb4.9
VIVF Saint-Julien-l 84.48 339 *e*P **P 00 13 59.1 +0.2**
comp=Z,6.6nm,0.8s,mb4.5
VIVF Saint-Julien-l 84.48 339 *e*P **P 00 13 59.1 +0.2**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 84.48 339 *e*P **P 00 13 59.1 +0.2**
comp=Z,3.3nm,0.8s,mb4.5
CAF Calviac 85.04 340 *e*P **P 00 14 02.0 +0.3**
comp=Z,4.1nm,0.7s,mb4.3
CAF Calviac 85.04 340 *e*P **P 00 14 02.0 +0.3**
comp=Z,2.0nm,0.7s,mb4.4
SMRF Simiane la Rot 85.08 338 *e*P **P 00 14 02.5 +0.6**
comp=Z,11nm,1.0s,mb4.6
SMRF Simiane la Rot 85.08 338 *e*P **P 00 14 02.5 +0.6**
comp=Z,11nm,1.0s,mb5.0
LFF La Frestale 85.32 341 *e*P **P 00 14 03.1 -0.1**
comp=Z,7.5nm,0.7s,mb4.6
LFF La Frestale 85.32 341 *e*P **P 00 14 03.1 -0.1**
comp=Z,3.8nm,0.7s,mb4.6
LASF Ste Croix 85.42 339 *e*P **P 00 14 03.3 -0.3**
comp=Z,11nm,1.1s,mb4.6
LMR La Mourre 85.43 337 *e*P **P 00 14 03.5 -0.2**
comp=Z,24nm,1.0s,mb5.0
LMR La Mourre 85.43 337 *e*P **P 00 14 03.5 -0.2**
comp=Z,12nm,1.0s,mb5.0
EIL Elat 85.94 310 *e*P **P 00 14 07.2 +0.9**
comp=Z,55nm,0.7s
TBI Tubuai 86.64 130 *e*LR LR 00 41 32.4
comp=Z,143nm,28.8s
KEST Kesra 91.62 332 P **P 00 14 33.5 +0.3**
comp=Z,1.0nm,0.7s,mb4.3,baz=31,slow=3.3,SNR=4.9
CFAA Coronel Fontan 144.24 80 PKP PKPdf 00 20 59.7 -2.4
comp=Z,0.4nm,0.5s,baz=306,slow=3.2,SNR=9.5
CFAA Coronel Fontan 144.24 80 PKP PKPdf 00 20 59.7 -2.4
VNA2 Neumayer--Watz 154.59 194 *e*PKPdf PKPbc 00 21 28.4 +1.4
baz=31,slow=0.6
VNA2 *e* 00 21 42.1
VNA2 *e* 00 21 47.2
VNA2 *e* 00 21 59.3
VNA2 *e* 00 22 10.6

*CSEM **09** 00:19:29.8, 6782N×20.19E, h2km, ML3.8, Mining explosion. After UPP*
*UPP **09** 00:19:29.8, 6782N×20.19E, h2km, ML3.8, Mining explosion.*

HEL 09 00:19:31.5±1.3, 6775N×2009E, h0km, ML3.8(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.22**	**25**	*i* P	Pg	00 19 32.4	-3.4
KUA				*i* S	Sg	00 19 34.4	-4.3
NIKU	**Nikkaluokta**	**0.41**	**286**	*i* P	Pg	00 19 37.9	-1.6
DUNU	**Dundret**	**0.66**	**163**	*i* P	Pg	00 19 42.9	-1.3
SALU	**Saltoluokta**	**0.71**	**239**	*i* P	Pg	00 19 44.3	-0.9
SALU	**Saltoluokta** baz=51	**0.71**	**239**	P	Pg	00 19 44.3	-0.9
LANU	**Lannavaara**	**0.78**	**67**	*i* P	Pg	00 19 43.2	-3.2
KIF	**Kilpisjarvi**	**1.28**	**12**	*e*P	Pg	00 20 03.3	+7.2
KIF				*e*S	Sg	00 20 18.6	+5.9
PAJU	**Pajala**	**1.38**	**121**	*e*P	Pg	00 19 54.7	-3.3
HARU	**Harads**	**1.64**	**167**	*e*P	Pn	00 20 00.6	-0.9
SGF	**Sodankyl**	**2.49**	**94**	*e*P	Pn	00 20 23.8	+11
KEV	**Kevo**	**3.22**	**48**	*e*P	Pn	00 20 32.0	+8.6

*IDC **09** 00:43:07.2±1.6, 0.89N×12639E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=115.7km s-min=20.3km az=68.0*
*ISCJB **09** 00:43:09.9±0.9, 1.0N±0.1×1267E±0.3, h35km, mb3.8/5, Error ellipse: s-maj=42.1km s-min=12.9km az=133.6*
*NEIC **09** 00:43:11.7±0.8, 0.99N×12680E, h35km, mb4.2/1, Error ellipse: s-maj=33.9km s-min=11.7km az=66.0*
ISC 09 00:43:12.0±0.9, 10N±01×1267E±03, h35km, n11, σ0§65/11, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.96**	**183**	P	**Pn**	**00 47 30.2**	**-0.8**
	0.1nm,0.3s,baz=15,slow=12,SNR=3.5						
WRAB	**Tennant Creek**	**22.07**	**161**	*e*P	**P**	**00 48 04.2**	**+0.4**
	2.7nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**22.07**	**161**	P	**P**	**00 48 03.6**	**-0.2**
	1.2nm,0.4s,mb3.7,baz=337,slow=11,SNR=17						
WB2	**Warramunga Arr**	**22.07**	**161**	*e*P	**P**	**00 48 03.6**	**-0.3**
ASAR	**Alice Springs**	**25.45**	**165**	P	**P**	**00 48 37.6**	**+1.0**
	1.1nm,0.4s,mb3.8,baz=344,slow=11,SNR=23						
CTAO	**Charters Tower**	**28.36**	**139**	P	**P**	**00 49 01.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**34.87**	**194**	P	**P**	**00 49 59.9**	**0.0**
TAU	**Tasmania Unive**	**47.44**	**159**	*e*P	**P**	**00 51 44.3**	**+1.2**
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	**00 53 13.6**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=120,slow=7.5,SNR=10						
AKTK	**Aktyubinsk**	**75.82**	**322**	P	**P**	**00 54 54.5**	**0.0**
AKTO	**Aktyubinsk**	**75.82**	**322**	P	**P**	**00 54 54.5**	**0.0**
	0.4nm,0.4s,mb3.7,baz=85,slow=9.8,SNR=3.6						

*NEIC **09** 00:44:57.5, 3143S×7170W, h19km, ML2.6(GUC), After GUC.*
GUC 09 00:44:57.5±0.6, 3143S×7170W, h19km±5km, MD3.7, ML2.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.48**	**160**	*e*P		Pg	00 45 06.9	-0.4
CHNG				*i* S		Sg	00 45 13.8	-0.1
CHNG				AML	AML	00 45 14.7	
	comp=N,154nm,0.6s						
CMCH	**Combarbala**	**0.65**	**67**⇑	*i*P		Pb	00 45 09.7	-0.4
CMCH				*i* S		Sb	00 45 19.0	+0.2
CMCH				AML	AML	00 45 20.7	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**0.65**	**67**⇑	*i*P		Pb	00 45 09.7	-0.4
CMCH				*i* S		Sb	00 45 19.0	+0.2
PTCH	**Petorca**	**1.06**	**142**⇓	*i*P		Pb	00 45 16.2	-1.0
PTCH				*i* S		Sb	00 45 30.2	-0.5
PTCH				AML	AML	00 45 33.4	
	comp=N,506nm,0.2s						
PTCH	**Petorca**	**1.06**	**142**⇓	*i*P		Pb	00 45 16.2	-1.0
PTCH				*i* S		Sb	00 45 30.2	-0.5
TLL	**Tololo Astrono**	**1.47**	**32**	*e*P		Pn	00 45 23.5	+0.4
TLL				*i* S		Sn	00 45 42.5	+0.8
TLL				AML	AML	00 45 45.5	
	comp=N,164nm,0.4s						
TLL	**Tololo Astrono**	**1.47**	**32**	*e*P		Pn	00 45 23.5	+0.4
TLL				*i* S		Sn	00 45 42.5	+0.8
PEL	**Peldehue**	**1.91**	**154**	*i* S		Sn	00 45 54.2	+1.6
PEL				AML	AML	00 45 58.5	
	comp=E,172nm,0.3s						
RCDM	**Rinconada Maip**	**2.19**	**160**	*e*P		Pn	00 45 34.0	+1.1
FCH	**Farellones**	**2.24**	**148**	*e*P		Pn	00 45 34.3	+0.8
FCH				*i* S		Sn	00 46 03.2	+2.6
FCH				AML	AML	00 46 07.4	
	comp=E,39nm,0.5s						

*CSEM **09** 00:46:01.3, 6782N×2021E, h2km, ML3.4, Mining explosion. After UPP*
*UPP **09** 00:46:01.3, 6782N×2021E, h2km, ML3.4, Mining explosion.*
HEL 09 00:46:01.8±0.0, 6784N×2020E, h0km, ML1.3, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**25**	*i* P		Pg	00 46 03.9	-0.3
KUA				*i* S		Sg	00 46 05.6	-0.2
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P		Pg	00 46 09.6	-0.7
NIKU				*i* S		Sg	00 46 15.7	-0.3
LANU	**Lannavaara**	**0.71**	**72**	*i* P		Pg	00 46 14.5	-0.9
LANU				*i* S		Sg	00 46 24.0	-0.6
DUNU	**Dundret**	**0.74**	**169**	*i* P		Pg	00 46 14.4	-1.5
DUNU				*i* S		Sg	00 46 24.4	-1.1
SALU	**Saltoluokta**	**0.80**	**235**	*i* P		Pg	00 46 16.0	-1.1
SALU	**Saltoluokta**	**0.80**	**235**	P		Pg	00 46 16.0	-1.1
	baz=82						
PAJU	**Pajala**	**1.39**	**125**	*e*P		Pn	00 46 26.5	-2.0
PAJU				*e*S		Sg	00 46 44.7	-1.8
PAJU	**Pajala**	**1.39**	**125**	P		Pn	00 46 26.5	-2.0
	baz=336						
PAJU				S		Sg	00 46 44.7	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P		Pn	00 46 31.9	-0.9
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P		Pn	00 46 42.7	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*PB		Pb	00 46 44.2	-2.6
SGF				*e*SG		Sg	00 47 17.2	-3.4
KEV	**Kevo**	**3.13**	**49**	*e*SB		Sb	00 47 35.4	-1.8

*IDC **09** 00:54:10.0±2.1, 0.16N×9784E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML2.7/1, Error ellipse: s-maj=69.7km s-min=22.7km az=62.0*
*NEIC **09** 00:54:14.8±0.9, 0.19N×9795E, h30km, mb3.6/1, Error ellipse: s-maj=21.3km s-min=10.0km az=74.0*
*ISCJB **09** 00:54:15.5±4.9, 0.3N±02×98.1E±03, h49km±36km, mb3.7/6, Error ellipse: s-maj=58.4km s-min=18.6km az=111.3*
ISC 09 00:54:17.3±5.2, 03N±02×981E±03, h44km±39km, n10, σ0§82/10, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.60**	**18**	Pn	**Pn**	**00 54 55.6**	**-1.1**
	1.3nm,0.3s,baz=194,slow=8.1,SNR=5.4						
KULM	**Kulim**	**5.55**	**27**	*e*Pn	**Pn**	**00 55 39.0**	**+1.6**
KKM	**Kota Kinabalu**	**18.95**	**72**	*e*P	**Pn**	**00 58 34.7**	**-0.9**
WRA	**Warramunga Arr**	**40.81**	**122**	P	**P**	**01 01 54.6**	**+0.3**
	0.4nm,0.6s,mb3.3,baz=301,slow=9.0,SNR=3.0						
WRAB	**Tennant Creek**	**40.81**	**122**	*e*P	**P**	**01 01 55.0**	**+0.7**
	0.5nm,0.3s,mb3.6						
ASAR	**Alice Springs**	**42.15**	**127**	P	**P**	**01 02 05.5**	**+0.2**
	0.5nm,0.6s,mb3.3,baz=306,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**47.87**	**8**	P	**P**	**01 02 51.5**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=186,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**48.31**	**345**	P	**P**	**01 02 54.1**	**0.0**
	0.9nm,0.5s,mb4.0,baz=161,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**52.10**	**132**	*e*P	**P**	**01 03 22.1**	**-0.7**
ZAL	**Zalesovo**	**54.56**	**350**	P	**P**	**01 03 40.1**	**-0.7**
	1.1nm,0.7s,mb4.0,baz=282,slow=5.5,SNR=6.9						

*NEIC **09** 00:55:13.5±1.4, 621S×15138E, h10km, mb3.9/2, Error ellipse: s-maj=30.9km s-min=15.8km az=101.0*
*ISCJB **09** 00:55:21.6±4.3, 64S±02×151.1E±02, h75km±32km, mb3.6/6, Error ellipse: s-maj=33.8km s-min=28.1km az=152.8*
*IDC **09** 00:55:23.1±8.6, 646S×15107E, h71km±61km, mb3.5/4, mb1 3.7/5, mb1mx3.4/15, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=61.5km s-min=54.5km az=99.0*
ISC 09 00:55:22.2±4.0, 64S±02×1511E±02, h67km±30km, n12, σ0§20/12, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.94**	**233**	P	**Pn**	**00 56 33.9**	**+0.1**
	1.0nm,0.3s,baz=226,slow=16,SNR=3.6						
PMG				S	**Sn**	**00 57 29.5**	**-0.1**
	1.2nm,0.3s,baz=155,slow=15,SNR=4.4						
CTAO	**Charters Tower**	**14.40**	**199**	Pn	**Pn**	**00 58 42.5**	**+0.1**
WRAB	**Tennant Creek**	**21.13**	**229**	*e*P	**P**	**01 00 01.4**	**-0.1**
	2.5nm,0.7s,mb3.6						
WB2	**Warramunga Arr**	**21.14**	**229**	*e*P	**P**	**01 00 01.6**	**+0.1**
WRA	**Warramunga Arr**	**21.15**	**229**	P	**P**	**01 00 01.3**	**-0.3**
	1.5nm,0.6s,mb3.5,baz=53,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**23.85**	**222**	P	**P**	**01 00 29.6**	**+0.3**
	0.9nm,0.5s,mb3.4,baz=54,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**26.86**	**198**	P	**P**	**01 00 56.4**	**0.0**
	1.5nm,0.7s,mb3.7,baz=354,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**26.86**	**198**	P	**P**	**01 00 56.4**	**0.0**
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P	**P**	**01 01 01.8**	**+0.1**
	2.4nm,0.7s,mb3.9,baz=69,slow=9.7,SNR=8.6						
KKM	**Kota Kinabalu**	**36.99**	**289**	*e*P	**P**	**01 02 25.4**	**+0.3**
BRVK	**Borovoye**	**89.61**	**323**	*e*P	**P**	**01 08 12.1**	**-0.3**
	0.4nm,0.5s,mb3.8						
TORD	**Torodi Ar. Bea**	**149.18**	**285**	PKPbc	PKPbc	01 15 04.2	+1.2
	0.6nm,0.6s,baz=70,slow=2.1,SNR=8.8						

*ISCJB **09** 01:16:01.2±1.2, 3813N±004×2661E±006, h1km±9km, Error ellipse: s-maj=8.7km s-min=6.0km az=134.3*
*ATH **09** 01:16:01.8, 3818N×2649E, h10km, MD3.1/3*
*CSEM **09** 01:16:02.2±0.2, 3819N×2670E, h10km, MD3.1, Error ellipse: s-maj=4.9km s-min=3.9km az=112.0*
*ISK **09** 01:16:04.0, 3816N×2682E, h16km, MD2.9*
ISC 09 01:16:01.8±0.9, 3815N±004×2659E±006, h8km±8km, n11, σ1§01/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**0**	*i* P	**Pg**	**01 16 05.3**	**-0.7**
URLA				*i* S	**Sg**	**01 16 08.8**	**0.0**
SMG	**Samos**	**0.48**	**156**	*e*PB	**Pg**	**01 16 12.3**	**+1.1**
IZM	**Izmir**	**0.58**	**65**	*e*PG	**Pg**	**01 16 12.6**	**-0.4**
IZM				*e*SG	**Sg**	**01 16 19.7**	**-0.9**
KDAG	**Bornova**	**0.58**	**64**	*i* P	**Pg**	**01 16 12.0**	**-1.1**
KDAG				*i* S	**Sg**	**01 16 22.2**	**+1.5**
PRK	**Paraskevi**	**1.12**	**347**	*e*PB	**Pb**	**01 16 22.2**	**-1.2**
AYVA	**Ayvalik**	**1.16**	**4**	*i* P	**Pg**	**01 16 23.1**	**-0.9**
AYVA				*i* S	**Sg**	**01 16 40.4**	**+1.4**
MLSB	**Milas**	**1.27**	**132**	*e*PN	**Pn**	**01 16 26.1**	**+0.3**
MLSB				*e*SN	**Sn**	**01 16 41.7**	**-1.4**
APE	**Apeiranthos**	**1.37**	**218**	*e*PB	**Pb**	**01 16 27.3**	**-0.4**
DAT	**Datca**	**1.62**	**151**	*e*PN	**Pn**	**01 16 31.9**	**+1.2**
YER	**Yerkesik**	**1.68**	**127**	*e*PN	**Pn**	**01 16 31.5**	**0.0**
CANB	**Canakkale**	**1.90**	**11**	*e*PN	**Pn**	**01 16 36.1**	**+1.6**

*IDC **09** 01:34:06.6±0.9, 142N×12860E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=38.4km s-min=16.0km az=75.0*
*ISCJB **09** 01:34:08.0±8.1, 14N±01×1285E±02, h24km±61km, mb4.0/11, MS3.2/2, Error ellipse: s-maj=30.4km s-min=11.3km az=124.6*
*NEIC **09** 01:34:11.4±0.5, 142N×12856E, h35km, mb4.0/5, Error ellipse: s-maj=15.1km s-min=6.9km az=64.0*
ISC 09 01:34:10.8±6.9, 14N±01×1286E±02, h29km±52km, n17, σ0§61/16, mb4.0/11, MS3.2/2, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**13.14**	**291**	*e*Pn	**Pn**	**01 37 15.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.60**	**188**	*e*P	**Pn**	**01 38 37.9**	**-0.3**
	3.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.60**	**188**	P	**Pn**	**01 38 37.8**	**-0.4**
	0.1nm,0.3s,baz=68,slow=13,SNR=3.4						
GUMO	**Guam**	**20.18**	**52**	LR	LR	01 44 39.0	
	comp=Z,73nm,20.7s,MS3.0,baz=110,slow=31						
WRAB	**Tennant Creek**	**21.96**	**165**	*e*P	**P**	**01 39 03.2**	**+1.0**
	6.0nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**21.97**	**165**	P	**P**	**01 39 02.7**	**+0.4**
	4.4nm,0.8s,mb4.0,baz=343,slow=11,SNR=29						
WB2	**Warramunga Arr**	**21.97**	**165**	*e*P	**P**	**01 39 02.7**	**+0.4**
AS31	**Alice Springs**	**25.46**	**169**	*e*P	**P**	**01 39 35.8**	**-0.5**
ASAR	**Alice Springs**	**25.47**	**169**	P	**P**	**01 39 36.9**	**+0.6**
	1.1nm,0.7s,mb3.5,baz=348,slow=9.3,SNR=13						
CTAO	**Charters Tower**	**27.53**	**142**	*e*P	**P**	**01 39 54.3**	**-0.7**
	2.1nm,0.8s,mb3.8						
PSI	**Prapat**	**29.64**	**273**	P	**P**	**01 40 14.2**	**+0.5**
	4.7nm,0.7s,mb4.3,baz=114,slow=10.0,SNR=6.0						
STKA	**Stephens Creek**	**35.34**	**161**	P	**P**	**01 41 02.6**	**-0.9**
	1.6nm,0.7s,mb4.0,baz=356,slow=13,SNR=2.5						
NWAO	**Narrogin (SRO)**	**35.79**	**196**	*e*P	**P**	**01 41 07.2**	**-0.2**
	16nm,1.2s,mb4.8						
MJAR	**Matsushiro Anr**	**36.08**	**13**	P	**P**	**01 41 09.9**	**0.0**
	1.5nm,0.6s,mb4.1,baz=186,slow=9.0,SNR=5.1						
MJAR				LR	LR	01 54 49.7	
	comp=Z,62nm,19.4s,MS3.4,baz=165,slow=34						
SONM	**Songino Array**	**50.06**	**341**	P	**P**	**01 43 03.7**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=153,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**60.48**	**325**	P	**P**	**01 44 18.5**	**+0.5**
	1.0nm,0.5s,mb4.1,baz=114,slow=8.0,SNR=17						
BRVK	**Borovoye**	**70.31**	**327**	*e*P	**P**	**01 45 20.6**	**-1.0**
	0.7nm,0.5s,mb3.9						

*NEIC **09** 01:58:03.8±1.3, 623S×15134E, h10km, mb4.1/3, Error ellipse: s-maj=25.9km s-min=14.5km az=100.0*
*ISCJB **09** 01:58:09.8±4.3, 64S±02×1512E±02, h64km±32km, mb3.8/5, Error ellipse: s-maj=32.3km s-min=27.6km az=140.6*
*IDC **09** 01:58:11.3±8.8, 643S×15118E, h58km±64km, mb3.7/4, mb1 3.9/5, mb1mx3.6/14, mbtmp3.8/5, ML2.6/1, Error ellipse: s-maj=57.2km s-min=51.0km az=76.0*
ISC 09 01:58:10.5±4.0, 64S±02×1512E±02, h56km±30km, n13, σ0§57/13, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.03**	**233**	P	**Pn**	**01 59 23.4**	**+0.1**
	1.5nm,0.3s,baz=325,slow=8.2,SNR=2.9						
PMG				S	**Sn**	**02 00 20.6**	**+0.6**
	4.6nm,0.3s,baz=180,slow=12,SNR=4.4						
CTAO	**Charters Tower**	**14.47**	**199**	Pn	**Pn**	**02 01 32.2**	**+0.1**
KAKA	**Kakadu**	**19.55**	**250**	*e*P	**Pn**	**02 02 33.6**	**-1.6**
	5.1nm,0.5s						
WRAB	**Tennant Creek**	**21.22**	**229**	*e*P	**P**	**02 02 51.8**	**+0.3**
	2.8nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**21.22**	**229**	*e*P	**P**	**02 02 51.1**	**-0.5**
WRA	**Warramunga Arr**	**21.23**	**229**	P	**P**	**02 02 51.3**	**-0.4**
	2.3nm,0.6s,mb3.7,baz=53,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.94**	**222**	P	**P**	**02 03 19.4**	**+0.2**
	1.8nm,0.5s,mb3.8,baz=57,slow=8.7,SNR=22						
STKA	**Stephens Creek**	**26.93**	**198**	P	**P**	**02 03 46.1**	**-0.2**
	1.2nm,0.6s,mb3.6,baz=14,slow=8.3,SNR=2.5						
FITZ	**Fitzroy Crossi**	**27.53**	**243**	*e*P	**P**	**02 03 52.3**	**+0.5**
	5.4nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.53**	**243**	P	**P**	**02 03 52.6**	**+0.8**
	3.3nm,0.5s,mb4.2,baz=51,slow=9.7,SNR=15						
KKM	**Kota Kinabalu**	**37.04**	**289**	P	**P**	**02 05 15.1**	**+0.3**
BRVK	**Borovoye**	**89.61**	**323**	P	**P**	**02 11 02.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**149.23**	**285**	PKPbc	PKPbc	02 17 54.3	+1.6
	0.9nm,0.6s,baz=71,slow=1.9,SNR=15						

*ATH **09** 01:58:09.1, 4020N×1982E, h5km±4km, MD3.0/3*
*NEIC **09** 01:58:09.1, 4020N×1982E, h5km, MD3.0(ATH), After ATH.*
*ISCJB **09** 01:58:11.9±0.5, 4011N±003×1992E±004, h5km, Error ellipse: s-maj=5.2km s-min=4.0km az=64.1*
*CSEM **09** 01:58:12.3±0.3, 4021N×1987E, h12km, MD3.0, Error ellipse: s-maj=8.1km s-min=6.8km az=157.0*
*SKO **09** 01:58:14.3, 4006N×2017E, h0km*
ISC 09 01:58:12.3±0.7, 4009N±003×1993E±005, h1km±7km, n13, σ1§07/22, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.39**	**195**	*i* PB	**Pg**	**01 58 18.4**	**-1.4**
KEK				*e*SB	**Sg**	**01 58 25.3**	**+0.4**
JAN	**Janina**	**0.83**	**121**	*e*PB	**Pg**	**01 58 26.1**	**-1.7**
JAN				*e*SB	**Sg**	**01 58 40.1**	**+1.1**
OHR	**Ohrid**	**1.21**	**33**	*e*Pg	**Pg**	**01 58 34.8**	**-0.7**
OHR				*e*Sg	**Sg**	**01 58 51.4**	**+0.1**
OHR	**Ohrid**	**1.21**	**33**	*e*Pg	**Pn**	**01 58 34.8**	**-1.6**
OHR				*e*Sg	**Sg**	**01 58 51.3**	**0.0**
BIA	**Bitola**	**1.41**	**49**	*e*Pn	**Pn**	**01 58 38.1**	**-0.9**
BIA				*e*Sn	**Sn**	**01 58 58.0**	**-0.2**
BIA	**Bitola**	**1.41**	**49**	*e*Pn	**Pn**	**01 58 38.1**	**-0.9**
BIA				*e*Sn	**Sn**	**01 58 58.0**	**-0.2**
LCI	**Lecce**	**1.41**	**280**	Pg	**Pn**	**01 58 37.7**	**-1.4**
LCI				Sg	**Sg**	**01 58 59.1**	**+1.5**
KRUS	**Krusevo**	**1.62**	**38**	*e*Pn	**Pn**	**01 58 42.5**	**+0.5**
KRUS				*e*Sn	**Sg**	**01 59 05.1**	**+0.7**
KRUS	**Krusevo**	**1.62**	**38**	*e*Pn	**Pn**	**01 58 42.4**	**+0.4**
KRUS				*e*Sn	**Sg**	**01 59 05.0**	**+0.6**
THL	**Klokotos Trika**	**1.69**	**108**	*e*PN	**Pn**	**01 58 43.9**	**+1.0**
EVR	**Evrytania**	**1.87**	**128**	*e*PN	**Pn**	**01 58 45.5**	**+0.1**
VLS	**Valsamata**	**1.98**	**165**	*e*PN	**Pn**	**01 58 47.5**	**+0.6**
STIP	**Stip**	**2.34**	**46**	*e*Pn	**Pn**	**01 58 53.9**	**+2.1**

*CSEM **09** 01:59:10.3±0.1, 3947N×3655E, h2km, MD3.5, Error ellipse: s-maj=2.8km s-min=2.2km az=110.0*
*ISK **09** 01:59:10.1, 3947N×3655E, h5km, MD3.5*
*ISCJB **09** 01:59:11.3±0.5, 3946N±003×3655E±004, h2km, Error ellipse: s-maj=4.2km s-min=3.9km az=131.9*
ISC 09 01:59:12.2±0.7, 3946N±003×3655E±004, h3km±7km, n14, σ1§08/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVSK	**Karacayir**	**0.58**	**37**	PG	**Pg**	**01 59 21.8**	**-1.4**
SVSK				SG	**Sg**	**01 59 30.9**	**+0.2**
BNN	**Bunyan**	**0.81**	**223**	PG	**Pg**	**01 59 26.6**	**-1.2**
BNN				SG	**Sg**	**01 59 39.4**	**+1.1**
TOKT	**Tokat**	**0.86**	**360**	PG	**Pg**	**01 59 27.1**	**-1.6**
TOKT				SG	**Sg**	**01 59 40.4**	**+0.5**
YOZ	**Yozgat**	**0.97**	**281**	PG	**Pg**	**01 59 29.7**	**-1.0**
CORM	**Corum**	**1.65**	**297**	PN	**Pn**	**01 59 41.6**	**-0.4**
KVT	**Kavak**	**1.67**	**347**	PN	**Pn**	**01 59 41.6**	**-0.7**
CDAG	**Cicekdag**	**1.69**	**276**	*i* P	**Pn**	**01 59 40.8**	**-1.8**
CDAG				*i* S	**Sn**	**02 00 05.8**	**+1.0**
CTKT	**Corum**	**1.79**	**311**	*i* P	**Pn**	**01 59 42.7**	**-1.1**
CTKT				*i* S	**Sg**	**02 00 11.0**	**+1.5**
MYA	**Malataya**	**1.85**	**127**	PN	**Pn**	**01 59 44.5**	**-0.2**
KMRS	**Kahramanmaras**	**1.97**	**172**	PN	**Pn**	**01 59 46.3**	**0.0**
KOZT	**Kozan**	**2.05**	**196**	PN	**Pn**	**01 59 47.4**	**-0.1**
ELZG	**Elazig**	**2.12**	**116**	*i* P	**Pn**	**01 59 49.5**	**+0.9**
ELZG				*i* S	**Sg**	**02 00 21.8**	**+1.4**
KAMT	**Kaman**	**2.20**	**269**	PN	**Pn**	**01 59 49.4**	**-0.2**
BOYT	**Boyabat**	**2.33**	**328**	*i* P	**Pn**	**01 59 53.3**	**+1.9**
BOYT				*i* S	**Sg**	**02 00 28.3**	**+1.3**

*CSEM **09** 02:02:16.7±0.1, 3524N×2789E, h30km, Mw3.3, Error ellipse: s-maj=3.0km s-min=2.2km az=89.0*
*ISCJB **09** 02:02:17.4±0.4, 3526N±003×2797E±004, h35km, Error ellipse: s-maj=4.9km s-min=4.0km az=164.7*
*ATH **09** 02:02:19.8, 3591N×2796E, h97km±1km*
*NIC **09** 02:02:20.9±0.3, 3574N×2824E, h71km, mb4.1, ML3.7, MW3.3*
*ISK **09** 02:02:20.5, 3558N×2786E, h53km, MD3.5*
*HLW **09** 02:02:20.8, 35.17N×2809E, h46km, Mb3.5*
ISC 09 02:02:19.1±0.4, 3535N±003×2795E±004, h35km, n33, σ0§95/43, 5C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.88**	**9**	*e*P	**Pn**	**02 02 34.8**	**-0.2**
ARG				*e*S	**Sn**	**02 02 45.6**	**-0.9**
DAT	**Datca**	**1.41**	**348**	PN	**Pn**	**02 02 41.2**	**-1.1**
DAT				SN	**Sn**	**02 02 56.8**	**-2.9**
DALT	**Dalyan (Mudla)**	**1.53**	**21**	PN	**Pn**	**02 02 43.9**	**+0.1**
KSL	**Kastellorizon**	**1.55**	**58**	*e*P	**Pn**	**02 02 44.7**	**+0.5**
FETY	**Fethiye**	**1.58**	**35**	PN	**Pn**	**02 02 45.1**	**+0.5**
FETY				SN	**Sn**	**02 03 03.1**	**-0.7**
BDRM	**Kayabasi**	**1.76**	**347**	*i* P	**Pn**	**02 02 48.8**	**+1.6**
BDRM				*i* S	**Sn**	**02 03 05.0**	**-3.4**
YER	**Yerkesik**	**1.81**	**9**	PN	**Pn**	**02 02 47.8**	**+0.1**
XRY	**Khrisi**	**1.91**	**256**	*e*P	**Pn**	**02 02 55.0**	**+5.9**
NPS	**Neapolis**	**1.91**	**268**	*e*P	**Pn**	**02 02 53.0**	**+3.9**
MLSB	**Milas**	**1.95**	**356**	PN	**Pn**	**02 02 48.7**	**-1.0**
ELL	**Elmali**	**2.12**	**48**	PN	**Pn**	**02 02 53.5**	**+1.5**
GOLH	**Golhisar**	**2.29**	**34**	*i* P	**Pn**	**02 02 55.3**	**+0.9**
GOLH				*i* S	**Sn**	**02 03 22.9**	**+1.5**
DNZL	**Cakiroluk**	**2.50**	**20**	*i* P	**Pn**	**02 03 04.9**	**+7.7**
DNZL				*i* S	**Sn**	**02 03 31.6**	**+5.0**
APE	**Apeiranthos**	**2.60**	**312**	*e*P	**Pn**	**02 02 57.3**	**-1.4**
BCK	**Bucak**	**3.00**	**44**	PN	**Pn**	**02 03 05.7**	**+1.6**
VAM	**Vamos**	**3.06**	**272**	*e*P	**Pn**	**02 03 07.3**	**+2.3**
AKMC	**Akamas**	**3.60**	**94**⇓	*i*P	**Pn**	**02 03 12.6**	**+0.2**
PPCY	**Paphos**	**3.63**	**96**	P	**Pn**	**02 03 13.0**	**+0.2**
ALFC	**Alevga**	**3.81**	**91**	P	**Pn**	**02 03 15.2**	**-0.1**
	13nm,0.1s						
ALFC				S	**Sn**	**02 03 57.6**	**-1.2**
SZAC	**Souni-Zanaja**	**4.09**	**97**	P	**Pn**	**02 03 19.4**	**+0.3**
	7.9nm,0.2s						
SZAC				S	**Sn**	**02 04 06.0**	**+0.2**
VLI	**Veliai**	**4.29**	**290**	*e*P	**Pn**	**02 03 21.3**	**-0.5**
MAMC	**Mammari**	**4.32**	**91**	P	**Pn**	**02 03 22.8**	**+0.6**
CSS	**Prodhromos**	**4.43**	**93**	P	**Pn**	**02 03 23.8**	**+0.1**
	1.6nm,0.3s						
CSS				S	**Sn**	**02 04 13.3**	**-0.7**
KOT	**Kottamia**	**6.32**	**148**⇑	*i*P	**Pn**	**02 03 49.0**	**-0.7**
SWA1		**6.35**	**198**	P	**Pn**	**02 03 50.7**	**+0.5**
SWA1				S	**Sn**	**02 04 56.3**	**-5.2**
**SWA2

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.67**	**20**	*e*PN		**Pn**	**02 17 44.3**	**-0.3**
ASAJ	**Asahikawa**	**8.66**	**253**	P		**Pn**	**02 18 53.4**	**+0.4**
	0.8nm,0.3s,baz=72,slow=19,SNR=2.7							
ASAJ	**Asahikawa**	**8.66**	**253**	PN		**Pn**	**02 18 53.4**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**31.82**	**289**	P		**P**	**02 23 09.8**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.4,baz=71,slow=8.2,SNR=3.6							
ZAL	**Zalesovo**	**42.89**	**306**	P		**P**	**02 24 42.1**	**-1.3**
	comp=Z,1.0nm,0.4s,mb3.9,baz=13,slow=4.0,SNR=3.5							
MKAR	**Makanchi Array**	**47.32**	**297**	P		**P**	**02 25 18.4**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=64,slow=6.1,SNR=4.8							
BVAR	**Borovoye Array**	**51.07**	**309**	P		**P**	**02 25 47.4**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=51,slow=8.1,SNR=4.6							
AAK	**Ala-Archa**	**54.23**	**297**	P		**P**	**02 26 10.4**	**-0.1**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
AAK	**Ala-Archa**	**54.23**	**297**	P		**P**	**02 26 10.4**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9							
ARU	**Arti**	**55.10**	**318**	*e*P		**P**	**02 26 17.1**	**+0.3**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.3							
ARU	**Arti**	**55.10**	**318**	*e*P		**P**	**02 26 17.1**	**+0.3**
	comp=Z,1.3nm,0.3s,mb4.4							
FINES	**FINESS Array B**	**63.87**	**335**	P		**P**	**02 27 17.4**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=39,slow=10,SNR=7.1							
NOA	**NORSAR Array B**	**67.97**	**342**	P		**P**	**02 27 44.0**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=26,slow=6.5,SNR=3.8							
NOA	**NORSAR Array B**	**67.97**	**342**	P		**P**	**02 27 44.0**	**+0.5**
AKASG	**Malin Array Be**	**71.51**	**327**	P		**P**	**02 28 05.3**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=31,slow=5.9,SNR=5.6							
ASAR	**Alice Springs**	**72.91**	**199**	P		**P**	**02 28 13.1**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=8.9,slow=6.6,SNR=2.6							
TXAR	**Lajitas Array**	**76.64**	**61**	P		**P**	**02 28 35.7**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=4.3,SNR=7.4							
TXAR	**Lajitas Array**	**76.64**	**61**	P		**P**	**02 28 35.7**	**+0.5**

IDC 09 02:17:06.5±3.3, 652S×15147E, h32km±9km, mb3.3/3, mb1 3.6/3, mb1mx3.3/13, mbtmp3.4/3, Error ellipse: s-maj=86.8km s-min=45.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**21.32**	**230**	P		P	02 21 50.9	+0.2
	1.3nm,1.0s,baz=56,slow=11,SNR=9.1							
WRA				pP		pP	02 21 59.9	+0.7
	0.7nm,0.6s,baz=55,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**23.99**	**223**	P		P	02 22 18.4	+0.3
	0.7nm,0.5s,baz=57,slow=8.8,SNR=14							
ASAR				pP		pP	02 22 27.6	+0.4
	1.2nm,0.6s,baz=56,slow=9.0,SNR=10							
FITZ	**Fitzroy Crossi**	**27.69**	**243**	P		P	02 22 51.6	+0.1
	0.6nm,0.5s,baz=74,slow=7.4,SNR=6.4							
FITZ				pP		pP	02 23 01.0	+0.2
	1.4nm,0.8s,baz=60,slow=6.5,SNR=2.3							
TORD	**Torodi Ar. Bea**	**149.52**	**285**	PKPbc		PKPbc	02 36 53.4	+0.9
	0.4nm,0.6s,baz=69,slow=2.4,SNR=6.3							

NIED ***09*** *02:26:00, 47.60N×15.370E, h29km, Mw4.9 Best double couple: M₀2.89000×10¹⁶ NP1:ϕ=38.00000°, δ62.00000°, λ146.00000°. NP2:ϕ=146.00000°, δ60.00000°, λ33.00000°.*

ISCJB ***09*** *02:26:18.8±0.8, 47.10N±0.004×15.395E±0.005, h13km±5km, mb4.9/146, MS4.4/71, Error ellipse: s-maj=8.8km s-min=3.1km az=103.2*

BJI ***09*** *02:26:18.4, 47.29N×154.17E, h21km, mB5.1, mb4.9, Ms4.8, Msz4.6*

NEIC ***09*** *02:26:19.9±0.2, 47.13N×15.392E, h10km, mb5.0/84, Error ellipse: s-maj=6.8km s-min=4.5km az=139.0*

GCMT ***09*** *02:26:19.9±0.3, 47.19N×15.429E, h20km, MW5.0/70, Moment Tensor Solution. s41,c61; s70,c120; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.14±.15; Mθθ-0.46±.10; Mϕϕ-2.68±.10; Mrθ0.43±.23; Mθϕ-1.94±.07; Mϕr1.54±.18; Best double couple: M₀3.82900×10¹⁶ NP1:ϕ=219.00000°, δ34.00000°, λ104.00000°. NP2: ϕ=23.00000°, δ57.00000°, λ81.00000°. Principal axes: T 3.5230, Plg76.0000°, Azm266.0000°; N 0.6120, Plg7.0000°, Azm27.0000°; P -4.1350, Plg12.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***09*** *02:26:23.5±1.0, 47.21N×15396E, h44km, mb5.2/65, MS4.5/25 Error ellipse: s-maj=8.7km s-min=4.3km az=104.0*

SKHL ***09*** *02:26:23.1±1.4, 47.18N×154.04E, h75km±43km, Ms4.7/6*

SZGRF ***09*** *02:26:25.2, 47.08N×15385E, h33km, mb5.1, MS4.4, Kuril Islands, Russia*

IDC ***09*** *02:26:27.0±3.6, 47.19N×15388E, h67km±32km, mb4.3/21, mb1 4.4/22, mb1mx4.4/26, mbtmp4.3/22, ML4.1/1, MS4.2/39, Ms1 4.2/39, ms1mx4.1/56, Error ellipse: s-maj=16.2km s-min=13.5km az=117.0*

ISC 09 02:26:22.1±0.8, 47.18N±004×15.398E±005, h24km±6km, h15km±1.3km: pP-P, n474, σ0.99/477, mb4.9/146, MS4.4/71, 92C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**21**	*e*P		**Pn**	**02 27 18.0**	**-0.8**
SKR				AMB		AMB	02 27 25.5	
	80nm,0.5s							
SKR				AMB		AMB	02 27 25.5	
	150nm,0.5s							
SKR				AMB		AMB	02 27 25.5	
	310nm,0.5s							
SKR				*e*S		**Sn**	**02 27 58.9**	**-3.6**
SKR				A			02 28 03.6	
	690nm,0.5s							
SKR				A			02 28 03.6	
	540nm,0.5s							
SKR				A			02 28 03.6	
	290nm,0.5s							
SKR				A			02 28 14.0	
	10μm,10.0s							
SKR				A			02 28 14.0	
	3μm,2.0s							
SKR				A			02 28 14.0	
	2μm,2.0s							
SKR				A			02 28 14.0	
	9μm,10.0s							
SKR				A			02 28 14.0	
	6μm,10.0s							
SKR				AMS		AMS	02 29 14.0	
	10μm,12.0s							
SKR				AMS		AMS	02 29 14.0	
	10μm,12.0s							
SKR				AMS		AMS	02 29 14.0	
	10μm,12.0s							
SKR				AMS		AMS	02 29 14.0	
	5μm,12.0s							
KUR	**Kuril'sk**	**4.67**	**248**	*e*P		**Pn**	**02 27 29.0**	**-2.2**
KUR				AMB		AMB	02 27 31.2	
	155nm,0.7s							
KUR				AMB		AMB	02 27 31.2	
	387nm,0.7s							
KUR				*i* S		**Sn**	**02 28 23.8**	**-0.8**
KUR				A			02 28 28.6	
	5μm,2.0s							
KUR				A			02 28 28.6	
	3μm,2.0s							
KUR				A			02 28 50.5	
	2μm,0.7s							
KUR				A			02 28 50.5	
	877nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**6.51**	**244**	*e*P		**Pn**	**02 27 59.0**	**+2.6**
YUK				AMB		AMB	02 27 59.7	
	350nm,0.4s							
YUK				*e*S		**Sn**	**02 29 10.1**	**+0.3**
YUK				A			02 29 21.0	
	2μm,2.0s							
YUK				A			02 29 21.0	
	3μm,2.0s							
YUK				A			02 29 38.0	
	2μm,0.7s							
YUK				A			02 29 38.0	
	840nm,0.6s							
YUK				AMS		AMS	02 30 14.0	
	6μm,8.0s							
YUK				AMS		AMS	02 30 14.0	
	15μm,10.0s							
PET	**Petropavlovsk**	**6.57**	**25**	*e*PN		**Pn**	**02 28 00.4**	**+3.2**
PET				pmax		pmax		
	comp=Z,94nm,0.6s							
PET				MLR		MLR		
	comp=Z,2μm,16.0s							
PET	**Petropavlovsk**	**6.57**	**25**	*e*Pn		**Pn**	**02 28 00.6**	**+3.3**
	comp=Z,51nm,0.5s							
PET				*e*Sn		**Sn**	**02 29 08.9**	**-2.5**
NEM2	**Nemuro 2**	**6.95**	**240**	P		**Pn**	**02 28 01.1**	**-1.4**
NEM2				*e*S		**Sn**	**02 29 15.1**	**-5.7**
JRA	**Rausu**	**7.01**	**246**	P		**Pn**	**02 28 04.9**	**+1.6**
JNK	**Nakash**	**7.45**	**244**	P		**Pn**	**02 28 09.9**	**+0.6**
JNK				*e*S		**Sn**	**02 29 32.5**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.67**	**272**	⇑*e*P		**Pn**	**02 28 17.8**	**+5.4**
YSS				AMB		AMB	02 28 18.9	
	comp=Z,50nm,0.7s							
YSS				*e*S		**Sn**	**02 29 45.0**	**+6.5**
YSS				A			02 29 47.5	
	comp=Z,70nm,0.6s							
YSS				*e*LQ			02 29 55.0	
YSS				*e*LR		LR	02 30 30.0	
YSS				AMS		AMS	02 31 18.0	
	comp=Z,2μm,15.0s							
YSS				AMS		AMS	02 31 18.0	
	comp=Z,2μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.67**	**272**	⇑*e*PN		**Pn**	**02 28 17.8**	**+5.4**
YSS				*e*S		**Sn**	**02 29 45.0**	**+6.5**
YSS				pmax		pmax		
	comp=Z,50nm,0.7s							
YSS				smax				
	comp=N,70nm,0.6s							
YSS				MLR		MLR		
	comp=Z,2μm,15.0s							
YSS				MLR		MLR		
	comp=E,2μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.67**	**272**	*e*Pn		**Pn**	**02 28 17.6**	**+5.2**
	comp=E,89nm,0.7s							
JTKR	**Abashiri--Toko**	**7.76**	**249**	P		**Pn**	**02 28 14.6**	**+1.0**
JAK	**Akkeshi**	**7.79**	**241**	P		**Pn**	**02 28 13.1**	**-0.9**
JAK				*e*S		**Sn**	**02 29 34.4**	**-7.0**
JMP	**Maruseppu**	**8.10**	**251**	P		**Pn**	**02 28 19.9**	**+1.7**
JAR	**Ashorobuto**	**8.19**	**245**	P		**Pn**	**02 28 20.2**	**+0.8**
JAR				*e*S		**Sn**	**02 29 50.6**	**-0.6**
UGL	**Uglegorsk**	**8.20**	**288**	*e*P		**Pn**	**02 28 25.0**	**+5.5**
UGL				AMB		AMB	02 28 31.0	
	comp=E,80nm,0.6s							
UGL				*e*L			02 30 52.0	
UGL				AMS		AMS	02 31 56.0	
	comp=E,6μm,14.0s							
UGL				AMS		AMS	02 31 56.0	
	comp=E,3μm,14.0s							
UGL				AMS		AMS	02 31 56.0	
	comp=E,3μm,14.0s							
UGL	**Uglegorsk**	**8.20**	**288**	*e*PN		**Pn**	**02 28 25.0**	**+5.5**
UGL				pmax		pmax		
	comp=Z,80nm,0.6s							
UGL				MLR		MLR		
	comp=N,3μm,14.0s							
UGL				MLR		MLR		
	comp=E,3μm,14.0s							
UGL				MLR		MLR		
	comp=E,6μm,14.0s							
TYV	**Tymovskoe**	**8.30**	**300**	*e*P		**Pn**	**02 28 24.0**	**+3.0**
TYV				AMB		AMB	02 28 29.5	
	comp=Z,22nm,0.8s							
TYV				AMB		AMB	02 28 29.5	
	comp=Z,55nm,0.8s							
TYV				AMS		AMS	02 31 42.0	
	comp=Z,2μm,16.0s							
TYV				AMS		AMS	02 31 42.0	
	comp=Z,3μm,18.0s							
JOB	**Onbets**	**8.36**	**243**	P		**Pn**	**02 28 21.7**	**-0.1**
ASAJ	**Asahikawa**	**8.55**	**253**	P		**Pn**	**02 28 26.6**	**+2.3**
	comp=Z,2.6nm,0.3s,baz=100,slow=19,SNR=18							
ASAJ				LR		LR	02 31 36.8	
	comp=Z,1μm,19.1s,baz=28,slow=36							
ASAJ	**Asahikawa**	**8.55**	**253**	P		**Pn**	**02 28 27.0**	**+2.7**
ASAJ	**Asahikawa**	**8.55**	**253**	PN		**Pn**	**02 28 26.6**	**+2.3**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,1μm,19.1s							
JKK2	**Kamakawa 2**	**8.55**	**251**	P		**Pn**	**02 28 26.3**	**+1.9**
JWK2	**Keihoku**	**8.58**	**262**	P		**Pn**	**02 28 33.2**	**+8.4**
JCH	**Churui**	**8.81**	**243**	P		**Pn**	**02 28 26.8**	**-1.2**
JCH				*e*S		**Sn**	**02 30 01.9**	**-4.6**
JFR	**Furan**	**8.99**	**248**	P		**Pn**	**02 28 32.3**	**+1.8**
JAB	**Ashibetsu**	**9.06**	**250**	P		**Pn**	**02 28 34.2**	**+2.8**
JEM	**Erimo**	**9.29**	**240**	P		**Pn**	**02 28 34.7**	**+0.2**
ERM	**Erimo**	**9.29**	**240**	Pn		**Pn**	**02 28 35.8**	**+1.3**
	comp=Z,609nm,0.6s,SNR=8.6							
ERM	**Erimo**	**9.29**	**240**	*e*PN		**Pn**	**02 28 37.9**	**+3.4**
ERM				pmax		pmax		
	comp=Z,84nm,0.6s							
ERM	**Erimo**	**9.29**	**240**	*e*Pn		**Pn**	**02 28 37.9**	**+3.4**
	comp=Z,84nm,0.6s							
JBT2	**Biratori 2**	**9.34**	**246**	P		**Pn**	**02 28 35.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**9.37**	**243**	P		**Pn**	**02 28 34.4**	**-1.3**
JNBK				*e*S		**Sn**	**02 30 15.5**	**-4.8**
JNB	**Noboribetsu**	**10.33**	**248**	P		**Pn**	**02 28 49.0**	**+0.2**
NKL	**Nikolayevsk**	**10.41**	**310**	*e*L			02 32 00.5	
NKL				AMS		AMS	02 33 22.0	
	comp=Z,2μm,16.0s							
NKL				AMS		AMS	02 33 22.0	
	comp=Z,3μm,16.0s							
JKB	**Kayabe**	**10.65**	**245**	P		**Pn**	**02 28 51.3**	**-1.9**
JYM2	**Yakumo 2**	**10.94**	**247**	P		**Pn**	**02 28 56.2**	**-0.9**
JTM	**Tenmabayashi**	**11.28**	**240**	P		**Pn**	**02 28 58.7**	**-3.1**
JTM				*e*S		**Sn**	**02 30 57.1**	**-10**
JANG	**Nango**	**11.29**	**237**	P		**Pn**	**02 28 58.1**	**-3.8**
JTH	**Tanohata**	**11.38**	**235**	P		**Pn**	**02 28 59.8**	**-3.4**
JTH				*e*S		**Sn**	**02 30 57.3**	**-12**
JOM	**Ohasama**	**12.02**	**235**	P		**Pn**	**02 29 07.6**	**-4.3**
OFUJ	**Ofunato**	**12.09**	**232**	P		**Pn**	**02 29 08.3**	**-4.6**
OFUJ				*e*S		**Sn**	**02 31 14.5**	**-12**
TEY	**Ternei**	**12.25**	**266**	*e*L			02 32 50.0	
TEY				*e*rx		rx	02 32 50.0	
TEY				AMS		AMS	02 34 24.0	
	comp=Z,1μm,14.0s							
TEY				AMS		AMS	02 34 24.0	
	comp=Z,3μm,14.0s							
JRG	**Rokugo**	**12.45**	**236**	P		**Pn**	**02 29 14.4**	**-3.3**
MA2	**Magadan**	**12.56**	**352**	*e*PN		**Pn**	**02 29 19.4**	**+0.1**
KLR	**Kul'dur**	**14.96**	**286**	*e*P		**Pn**	**02 29 57.3**	**+5.3**
KLR				MLR		MLR		
	comp=N,2μm,17.0s							
KLR				MLR		MLR		
	comp=E,2μm,17.0s							
KLR				MLR		MLR		
	comp=Z,2μm,12.0s							
MAJO	**Matsushiro**	**15.82**	**233**	*e*P		**Pn**	**02 29 59.8**	**-3.4**
MAJO				pmax		pmax		
	comp=Z,32nm,0.8s							
MAJO	**Matsushiro**	**15.82**	**233**	*e*Pn		**Pn**	**02 29 59.8**	**-3.4**
	comp=Z,32nm,0.8s							
MAT	**Matsushiro**	**15.82**	**233**	P		**Pn**	**02 29 59.7**	**-3.5**
MAT				S		**Sn**	**02 33 10.0**	**+12**
MAT	**Matsushiro**	**15.82**	**233**	P		**Pn**	**02 30 00.0**	**-3.2**
MJAR	**Matsushiro Arr**	**15.82**	**233**	P		**Pn**	**02 29 59.9**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=30,slow=11,SNR=15							
MJAR	**Matsushiro Arr**	**15.82**	**233**	P		**Pn**	**02 29 59.9**	**-3.3**
JRY	**Ryogami san**	**15.84**	**231**	P		**Pn**	**02 30 01.3**	**-2.1**
VLA	**Vladivostok**	**16.09**	**263**	*i* P		**Pn**	**02 30 08.6**	**+1.9**
JGF	**Kuroka**	**16.98**	**233**	P		**Pn**	**02 30 16.5**	**-1.4**
MDJ	**Mudanjiang**	**17.15**	**270**	P		**Pn**	**02 30 21.5**	**+1.3**
MDJ				AP		pP	02 30 26.7	-1.5
MDJ				XP		sP	02 30 28.4	-2.9
MDJ				S		**Sn**	**02 33 28.4**	**-1.8**
MDJ				AMB		AMB		
	comp=Z,22nm,0.9s							
MDJ				AMB		AMB		
	comp=Z,228nm,3.3s							
MDJ				LR		LR		
	comp=N,588nm,19.1s							
MDJ				LR		LR		
	comp=E,345nm,20.9s							
MDJ				LR		LR		
	comp=Z,946nm,17.7s							
JHJ	**Hachijo jima 2**	**17.71**	**223**	LR		LR	02 36 19.4	
	comp=Z,138nm,19.9s,baz=37,slow=34							
JWT	**Wachi**	**18.30**	**236**	P		**Pn**	**02 30 34.1**	**-0.2**
JHS	**Saijyo**	**19.82**	**240**	P		**Pn**	**02 30 52.0**	**-0.6**
CLNS	**Chul'man**	**20.20**	**309**	*e*P		**P**	**02 30 57.9**	**+2.8**
CLNS				*e*			02 31 27.1	
CLNS				*e*S		S	02 35 08.7	+28
CLNS				pmax		pmax		
	comp=Z,53nm,0.8s							
CLNS				pmax		pmax		
	comp=N,22nm,0.7s							
CLNS				pmax		pmax		
	comp=E,16nm,0.7s							
CLNS				MLR		MLR		
	comp=Z,2μm,13.0s,MS4.6							
CLNS				MLR		MLR		
	comp=N,500nm,12.0s,MS4.4							
CLNS				MLR		MLR		
	comp=E,1μm,12.0s,MS4.4							
CN2	**Changchun**	**20.24**	**271**	*e*P		**P**	**02 30 56.2**	**+0.7**
CN2				*e*XP		sP	02 31 03.0	-2.2
CN2				*e*S		**S**	**02 34 35.1**	**-6.3**
CN2				AMB		AMB		
	comp=Z,20nm,0.8s							
CN2				AMB		AMB		
	comp=Z,500nm,5.0s							
CN2				LR		LR		
	comp=N,2μm,17.0s,MS4.7							
CN2				LR		LR		
	comp=E,2μm,17.0s,MS4.7							
CN2				LR		LR		
	comp=Z,2μm,16.0s,MS4.4							
YAK	**Yakutsk**	**20.29**	**326**	*e*P		**P**	**02 30 57.5**	**+1.4**
YAK				pmax		pmax		
	comp=Z,18nm,0.6s							
YAK				MLR		MLR		
	comp=Z,1μm,13.0s,MS4.4							
YAK				MLR		MLR		
	comp=N,747nm,14.0s,MS4.4							
YAK				MLR		MLR		
	comp=E,857nm,12.0s,MS4.4							
YAK	**Yakutsk**	**20.29**	**326**	*e*P		**P**	**02 30 56.7**	**+0.6**
	comp=E,39nm,0.7s							
KSRS	**Korea Array**	**21.50**	**253**	P		**P**	**02 31 09.9**	**+0.8**
	comp=E,13nm,0.7s,mb4.4,baz=64,slow=9.7,SNR=35							
KSRS				LR		LR	02 39 27.6	
	comp=E,414nm,18.8s,MS3.9,baz=60,slow=36							
BILL	**Bilibino**	**21.84**	**12**	⇑*e*P		**P**	**02 31 14.7**	**+1.9**
BILL				*e*			02 31 32.9	
BILL				SS			02 35 42.0	
BILL				pmax		pmax		
	comp=Z,31nm,2.5s,mb4.3							
BILL				MLR		MLR		
	comp=Z,700nm,17.0s,MS4.1							
SNY	**Shenyang**	**22.25**	**267**	⇓P		**P**	**02 31 12.6**	**-4.6**
SNY				AP			02 31 20.5	
SNY				XP		sP	02 31 24.8	-2.1
SNY				S		**S**	**02 35 08.5**	**-13**
SNY				AMB		AMB		
	comp=Z,30nm,2.5s,mb4.3							
SNY				AMB		AMB		
	comp=Z,258nm,12.0s							
SNY				LR		LR		
	comp=N,1μm,14.7s,MS4.5							
SNY				LR		LR		
	comp=E,1μm,16.8s,MS4.5							
SNY				LR		LR		
	comp=Z,2μm,14.7s,MS4.6							
JNU	**Nakatsue**	**22.45**	**240**	P		**P**	**02 31 21.1**	**+1.8**
	comp=Z,60nm,0.9s,mb5.0,baz=269,slow=24,SNR=8.6							
JNU				LR		LR	02 39 28.5	
	comp=Z,1μm,21.0s,MS4.4,baz=78,slow=35							
JNU	**Nakatsue**	**22.45**	**240**	P		**P**	**02 31 21.0**	**+1.6**
JNU	**Nakatsue**	**22.45**	**240**	P		**P**	**02 31 21.1**	**+1.8**
JNU				LR		LR	02 39 28.5	
BOD	**Bodaibo**	**26.18**	**309**	*e*P		**P**	**02 31 52.2**	**-2.5**
BOD				pmax		pmax		
	comp=Z,12nm,1.8s,mb4.1							
TIXI	**Tiksi**	**27.22**	**343**	*e*P		**P**	**02 32 02.4**	**-1.7**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.0							
TIXI	**Tiksi**	**27.22**	**343**	*e*P		**P**	**02 32 02.4**	**-1.7**
	comp=Z,3.4nm,0.6s,mb4.0							
BJI	**Beijing**	**28.08**	**269**	*e*P		**P**	**02 32 15.3**	**+3.5**
BJI				S		**S**	**02 37 02.0**	**+6.8**
BJI				AMB		AMB		
	comp=Z,7.0nm,0.6s,mb4.5							
BJI				LR		LR		
	comp=N,913nm,14.5s,MS4.7							
BJI				LR		LR		
	comp=E,1μm,18.2s,MS4.7							
BJI				LR		LR		
	comp=Z,941nm,17.1s,MS4.4							
BJI	**Beijing**	**28.08**	**269**	*e*P		**P**	**02 32 15.3**	**+3.5**
	comp=Z,7.0nm,0.6s,mb4.5							
BJI				S		**S**	**02 37 02.0**	**+6.8**
BJI				LR		LR		
	comp=Z,940nm,17.1s,MS4.4							
SSE	**Sheshan**	**29.81**	**249**	P		**P**	**02 32 26.5**	**-0.7**
SSE				S		**S**	**02 37 21.1**	**-1.3**
SSE				AMB		AMB		
	comp=Z,33nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,43nm,3.9s							
SSE				LR		LR		
	comp=N,309nm,17.9s,MS4.0							
SSE				LR		LR		
	comp=E,116nm,18.0s,MS4.0							
SSE				LR		LR		
	comp=Z,154nm,15.4s,MS3.8							
SSE	**Sheshan**	**29.81**	**249**	P		**P**	**02 32 26.5**	**-0.7**
	comp=Z,33nm,0.7s,mb5.2							
SSE				pP		pP	02 32 29.6	-4.7
SSE				S		**S**	**02 37 21.1**	**-1.3**
SSE				sS		sS	02 37 25.5	-8.7
SSE				LR		LR		
	comp=Z,150nm,15.4s,MS3.7							
NJ2	**Nanjing**	**30.69**	**253**	*e*P		**P**	**02 32 35.4**	**+0.4**
NJ2				AP		pP	02 32 39.2	-2.9
NJ2				XP		sP	02 32 41.6	-3.5
NJ2				PP		PP	02 33 34.9	-9.5
NJ2				S		**S**	**02 37 36.0**	**-0.3**
NJ2				XS		sS	02 37 45.0	-3.0
NJ2				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,340nm,4.8s							
NJ2				LR		LR		
	comp=N,2μm,20.5s,MS4.8							
NJ2				LR		LR		
	comp=E,1μm,20.2s,MS4.8							
NJ2				LR		LR		
	comp=Z,1μm,15.3s,MS4.7							
HHC	**Hu-ho-hao-te**	**30.86**	**274**	*e*P		**P**	**02 32 36.1**	**-0.3**
HHC				AP		pP	02 32 40.3	-3.3
HHC				XP		sP	02 32 43.1	-3.4
HHC				PP		PP	02 33 35.2	-11
HHC				PCP		PcP	02 35 33.7	+0.7
HHC				S		**S**	**02 37 37.8**	**-1.0**
HHC				SCP		ScP	02 39 13.9	-0.2
HHC				SS		SS	02 39 20.5	-30
HHC				SCS		ScS	02 43 08.1	-2.8
HHC				AMB		AMB		
	comp=Z,14nm,1.3s,mb4.6							
HHC				AMB		AMB		
	comp=Z,133nm,4.9s							
HHC				LR		LR		
	comp=N,873nm,16.1s,MS4.6							
HHC				LR		LR		
	comp=E,626nm,14.3s,MS4.6							
HHC				LR		LR		
	comp=Z,769nm,14.7s,MS4.5							
SONM	**Songino Array**	**31.75**	**289**	P		**P**	**02 32 43.5**	**-0.8**
	comp=Z,6.9nm,0.6s,mb4.7,baz=65,slow=8.6,SNR=65				

comp=Z,455nm,21.6s,MS4.2,baz=258,slow=36
KDAK Kodiak Island 33.37 51 P **P** **02 32 59.0 +0.5**
KDAK LR LR 02 46 42.6
WHN Wuhan 34.62 256 ⇓P **P** **02 33 10.0 +0.7**
WHN LR LR
comp=Z,900nm,12.1s,MS4.7
MCK McKinley 34.93 41 *e*P **P** **02 33 11.4 -0.6**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MCK McKinley 34.93 41 *e*P **P** **02 33 11.4 -0.6**
comp=Z,4.5nm,0.9s,mb4.4
SML Sawmill 35.24 44 *e*P **P** **02 33 14.5 -0.2**
COLA College 35.43 39 *e*P **P** **02 33 16.3 0.0**
COLA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
COLA College 35.43 39 *e*P **P** **02 33 16.3 0.0**
comp=Z,10.0nm,0.6s,mb4.9
XAN Xi'an 36.15 265 P **P** **02 33 22.7 +0.3**
XAN AMB AMB
comp=Z,30nm,0.7s,mb5.3
XAN LR LR
comp=N,519nm,14.9s,MS4.5
XAN LR LR
comp=E,393nm,15.3s,MS4.5
XAN LR LR
comp=Z,978nm,14.9s,MS4.7
EGAK Eagle 38.29 39 *e*P **P** **02 33 39.7 -1.0**
comp=Z,9.0nm,0.8s,mb4.5
LZH Lanzhou 38.47 272 ⇑P **P** **02 33 42.5 +0.4**
LZH AP pP 02 33 45.8 -3.6
LZH *e*PP PP 02 35 13.5 +3.2
LZH *e*S **S** **02 39 36.1 0.0**
LZH *e*SS SS 02 42 15.3 -10
LZH AMB AMB
comp=Z,37nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,168nm,5.4s
LZH LR LR
comp=N,957nm,13.5s
LZH LR LR
comp=Z,1μm,17.6s,MS4.9
LZH Lanzhou 38.47 272 ⇑P **P** **02 33 42.5 +0.4**
comp=Z,37nm,1.2s,mb5.0
LZH pP pP 02 33 45.8 -3.6
LZH sP sP 02 33 47.2 -5.1
LZH *e*PP PP 02 35 13.5 +3.2
LZH *e*S **S** **02 39 36.1 0.0**
LZH sS sS 02 39 43.2 -4.8
LZH *e*SS SS 02 42 15.3 -10
LZH LR LR
comp=Z,1μm,17.6s,MS4.9
GTA Gaotai 39.49 279 *e*P **P** **02 33 51.5 +0.8**
GTA AP pP 02 33 55.5 -2.4
GTA XP sP 02 33 58.3 -2.6
GTA PP PP 02 35 27.0 +5.5
GTA PCP PcP 02 36 01.2 +3.1
GTA S **S** **02 39 53.1 +1.6**
GTA XS sS 02 40 00.8 -2.6
GTA SS SS 02 42 39.3 -6.9
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,71nm,4.6s
GTA LR LR
comp=N,661nm,13.7s,MS4.7
GTA LR LR
comp=E,533nm,16.4s,MS4.7
GTA LR LR
comp=Z,659nm,12.9s,MS4.7
CD2 Chengdu 41.51 265 P **P** **02 34 08.0 +0.6**
CD2 AP pP 02 34 12.5 -2.2
CD2 XP sP 02 34 15.3 -2.3
CD2 PP PP 02 35 47.2 +3.8
CD2 PCP PcP 02 36 06.6 +2.0
CD2 S **S** **02 40 22.8 +1.2**
CD2 XS sS 02 40 30.8 -2.7
CD2 SS SS 02 43 21.9 -4.6
CD2 SCS ScS 02 44 09.4 -0.1
CD2 AMB AMB
comp=Z,100nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,150nm,5.6s
CD2 LR LR
comp=N,770nm,16.2s,MS4.7
CD2 LR LR
comp=E,360nm,14.4s,MS4.7
CD2 LR LR
comp=Z,730nm,15.6s,MS4.7
GYA Guiyang 42.39 258 ⇑*i*P **P** **02 34 15.2 +0.6**
GYA AP pP 02 34 18.2 -3.7
GYA XP sP 02 34 22.6 -2.2
GYA PP PP 02 35 56.0 +3.1
GYA PCP PcP 02 36 09.6 +2.0
GYA SCP ScP 02 39 59.0 +2.3
GYA S **S** **02 40 35.5 +0.9**
GYA SS SS 02 43 37.2 -6.6
GYA SCS ScS 02 44 15.3 +0.4
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,340nm,5.2s
GYA LR LR
comp=N,590nm,17.9s,MS4.6
GYA LR LR
comp=E,470nm,18.0s,MS4.6
GYA LR LR
comp=Z,480nm,18.2s,MS4.4
ZAL Zalesovo 42.86 306 P **P** **02 34 16.7 -1.7**
comp=Z,13nm,0.6s,mb4.9,baz=50,slow=7.6,SNR=54
ZAL PcP PcP 02 36 08.0 -1.1
comp=Z,2.2nm,0.7s,baz=29,slow=7.5,SNR=4.1
ZAL LR LR 02 53 27.6
comp=Z,577nm,20.7s,MS4.5,baz=45,slow=38
ZAL Zalesovo 42.86 306 P **P** **02 34 16.7 -1.7**
ZAL 02 36 08.0
ZAL Zalesovo 42.86 306 P **P** **02 34 16.7 -1.7**
ZAL PcP PcP 02 36 08.0 -1.1
ZAL LR LR 02 53 27.6
NVS Novosibirsk 43.40 307 *i*P **P** **02 34 21.4 -1.4**
NVS pmax pmax
comp=Z,14nm,0.6s,mb4.9
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,8.0nm,0.3s
WMQ Urumqi 45.33 291 ⇓P **P** **02 34 38.5 +0.3**
WMQ AP pP 02 34 43.0 -2.5
WMQ XP sP 02 34 45.5 -2.9
WMQ PCP PcP 02 36 19.0 +1.5
WMQ PP PP 02 36 24.9 +0.6
WMQ SCP ScP 02 40 10.0 +1.3
WMQ PCS PcS 02 40 11.5 +0.1
WMQ S **S** **02 41 17.3 -0.1**
WMQ AMB AMB
comp=Z,6.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,83nm,4.0s
WMQ LR LR
comp=N,406nm,16.0s,MS4.5
WMQ LR LR
comp=E,258nm,16.0s,MS4.5
WMQ LR LR
comp=Z,626nm,16.8s,MS4.6
QIZ Qiongzhong 45.57 247 P **P** **02 34 38.5 -1.6**
QIZ XP sP 02 34 50.4 +0.1
QIZ PP PP 02 36 24.2 -2.7
QIZ S **S** **02 41 22.3 +1.4**
QIZ XS sS 02 41 34.3 +1.3
QIZ SS SS 02 44 40.4 -4.6
QIZ AMB AMB
comp=Z,354nm,4.3s
QIZ LR LR
comp=N,367nm,19.7s,MS4.4
QIZ LR LR
comp=E,296nm,19.2s,MS4.4
QIZ LR LR
comp=Z,316nm,16.3s,MS4.3

KMI Kunming 45.91 260 P **P** **02 34 42.7 -0.1**
KMI AP pP 02 34 47.1 -3.0
KMI PP PP 02 36 28.6 -1.9
KMI S **S** **02 41 27.3 +1.5**
KMI SS SS 02 44 43.0 -7.6
KMI AMB AMB
comp=Z,17nm,0.7s,mb5.1
KMI AMB AMB
comp=Z,211nm,5.5s
KMI LR LR
comp=N,229nm,17.4s,MS4.4
KMI LR LR
comp=E,260nm,13.6s,MS4.4
KMI LR LR
comp=Z,360nm,13.6s,MS4.5
KMI Kunming 45.91 260 P **P** **02 34 42.7 -0.1**
comp=Z,17nm,0.7s,mb5.1
KMI pP pP 02 34 47.1 -3.0
KMI sP sP 02 34 48.6 -4.4
KMI PP PP 02 36 28.6 -1.9
KMI S **S** **02 41 27.3 +1.5**
KMI SS SS 02 44 43.0 -7.6
KMI LR LR
comp=Z,360nm,13.6s,MS4.5
MK31 Makanchi Array 47.27 297 *e*P **P** **02 34 52.4 -1.1**
MKAR Makanchi Array 47.27 297 P **P** **02 34 52.6 -0.8**
comp=Z,13nm,0.6s,mb5.0,baz=67,slow=8.0,SNR=92
MKAR PcP PcP 02 36 23.4 -1.0
comp=Z,1.7nm,0.6s,baz=69,slow=6.6,SNR=3.5
MKAR LR LR 02 54 41.7
comp=Z,224nm,20.3s,MS4.1,baz=250,slow=36
MKAR Makanchi Array 47.27 297 P **P** **02 34 52.6 -0.9**
MKAR 02 36 23.4
KURK Kurchatov 47.62 304 P **P** **02 34 54.1 -2.1**
comp=Z,544nm,0.6s,SNR=31
YKA Yellowknife Ar 50.22 37 P **P** **02 35 15.9 -0.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=293,slow=6.8,SNR=4.4
YKA LR LR 02 58 19.7
comp=Z,94nm,18.5s,MS3.8,baz=250,slow=38
RES Resolute Bay 50.23 19 *e*P **P** **02 35 16.2 0.0**
comp=Z,120nm,0.8s,mb6.0
LSA Lhasa 50.84 273 P **P** **02 35 23.0 +2.2**
BVAR Borovoye Array 51.04 309 P **P** **02 35 20.5 -1.8**
comp=Z,9.8nm,0.4s,mb5.1,baz=51,slow=7.6,SNR=62
BVAR PcP PcP 02 36 37.7 -0.4
comp=Z,4.9nm,0.6s,baz=64,slow=4.3,SNR=7.0
BVAR LR LR 02 58 57.0
comp=Z,704nm,18.3s,MS4.7,baz=305,slow=38
BVAR Borovoye Array 51.04 309 P **P** **02 35 20.5 -1.8**
BVAR 02 36 37.7
BRVK Borovoye 51.08 310 P **P** **02 35 21.9 -0.7**
comp=Z,169nm,0.6s,SNR=19
BRVK Borovoye 51.08 310 ⇓P **P** **02 35 21.9 -0.7**
SNR=6.3
BRVK Borovoye 51.08 310 *e*P **P** **02 35 21.4 -1.2**
BRVK pmax pmax
comp=Z,18nm,0.6s,mb5.2
BRVK Borovoye 51.08 310 *e*P **P** **02 35 21.4 -1.3**
comp=Z,18nm,0.6s,mb5.2
CHTO Chiang Mai 52.80 257 ⇓P **P** **02 35 37.0 +1.6**
SNR=6.0
CHTO Chiang Mai 52.80 257 *e*P **P** **02 35 36.8 +1.4**
CHTO pmax pmax
comp=Z,19nm,0.8s,mb5.1
CHTO Chiang Mai 52.80 257 *e*P **P** **02 35 36.8 +1.4**
comp=Z,19nm,0.8s,mb5.1
SHL Shillong 52.98 269 *e*P **P** **02 35 36.7 0.0**
ULHL Ulahol 53.32 295 P **P** **02 35 39.3 +0.1**
SNR=25
TKM2 Tokmak 2 53.34 296 P **P** **02 35 39.7 +0.3**
SNR=5.8
USP Ospenovka 53.82 297 P **P** **02 35 42.8 -0.1**
SNR=21
KZA Kyzart 54.02 296 P **P** **02 35 45.1 +0.7**
SNR=19
AAK Ala-Archa 54.18 297 P **P** **02 35 44.1 -1.4**
comp=Z,120nm,0.6s,mb6.0,SNR=17
AAK Ala-Archa 54.18 297 P **P** **02 35 45.2 -0.3**
SNR=26
AAK Ala-Archa 54.18 297 ⇓P **P** **02 35 44.5 -1.0**
SNR=6.3
AAK Ala-Archa 54.18 297 *c i*P **P** **02 35 44.0 -1.5**
AAK pmax pmax
comp=Z,13nm,0.7s,mb5.0
AAK Ala-Archa 54.18 297 *e*P **P** **02 35 43.8 -1.7**
comp=Z,13nm,0.7s,mb5.0
EKS2 Erkin-Say 54.60 297 P **P** **02 35 48.4 -0.1**
SNR=13
AML Almayashu 54.95 296 P **P** **02 35 51.9 +0.8**
SNR=8.4
KSH Kashi 55.04 293 *e*P **P** **02 35 51.2 -0.6**
KSH *e*AP pP 02 35 56.2 -3.0
KSH *e*XP sP 02 35 59.7 -2.4
KSH *e*PCP PcP 02 36 53.4 +0.2
KSH *e*PP PP 02 37 55.1 +0.1
KSH *e*PPP 02 39 06.9
KSH *e*SCP ScP 02 40 50.6 +0.4
KSH *e*PCS PcS 02 40 52.5 -0.5
KSH *e*S **S** **02 43 29.5 -3.2**
KSH *e*PS 02 43 46.5
KSH *e*SCS ScS 02 45 36.0 -3.5
KSH *e*SS SS 02 47 11.4 -5.1
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=N,608nm,5.7s
KSH LR LR
comp=E,775nm,5.0s
ARU Arti 55.09 318 P **P** **02 35 51.4 -0.8**
comp=E,318nm,0.6s,SNR=14
ARU Arti 55.09 318 ⇑*i*P **P** **02 35 50.6 -1.6**
ARU *e* 02 37 52.7
ARU *e*S **S** **02 43 32.9 -0.5**
ARU *e*SS SS 02 47 17.0 -0.4
ARU pmax pmax
comp=Z,26nm,0.6s,mb5.4
ARU MLR MLR
comp=E,200nm,15.0s,MS4.5
ARU MLR MLR
comp=Z,300nm,15.0s,MS4.5
ARU MLR MLR
comp=N,200nm,16.0s,MS4.5
ARU Arti 55.09 318 *e*P **P** **02 35 50.3 -1.9**
comp=N,30nm,0.6s,mb5.5
JIRN Jiri 55.51 275 *e*P **P** **02 35 56.8 +1.7**
comp=N,9.0nm,0.2s,mb5.5
GUN Gumba 55.55 275 *e*P **P** **02 35 56.6 +1.1**
comp=N,48nm,0.5s,mb5.8
EDM Edmonton 55.58 47 *e*P **P** **02 35 57.9 +2.2**
KKN Kakani 56.04 276 *e*P **P** **02 36 00.0 +1.0**
comp=N,106nm,0.7s,mb6.0
PKI Pulchoki 56.09 275 *e*P **P** **02 36 00.4 +1.1**
comp=N,62nm,0.7s,mb5.7
DMN Daman 56.27 276 *e*P **P** **02 36 02.1 +1.5**
comp=N,193nm,0.8s
GKN Gorkha 56.34 276 *e*P **P** **02 36 02.3 +1.2**
comp=N,159nm,0.6s
NEW Newport 56.44 53 P **P** **02 36 04.3 +2.5**
comp=N,0.6nm,0.3s,mb4.1,baz=305,slow=11,SNR=3.4
NEW LR LR 03 00 23.2
comp=N,134nm,20.3s,MS4.0,baz=234,slow=36
NEW Newport 56.44 53 P **P** **02 36 04.3 +2.5**
NEW LR LR 03 00 23.2
HNR Honiara 56.61 173 LR LR 03 01 11.2
comp=N,172nm,18.6s,MS4.2,baz=359,slow=37
PMG Port Moresby 56.66 188 LR LR 02 56 39.2
comp=N,77nm,19.2s,MS3.8,baz=224,slow=32
DANN Dangsing 56.71 277 *e*P **P** **02 36 05.5 +1.7**
comp=N,24nm,0.6s,mb4.4
KEV Kevo 57.13 341 *ep* **P** **02 36 04.7 -2.0**
KOLN Koldanda 57.19 277 *e*P **P** **02 36 08.5 +1.4**
comp=N,117nm,0.7s,mb6.0
ARCES ARCESS Array B 57.64 341 P **P** **02 36 09.7 -0.7**
comp=N,3.3nm,0.6s,mb4.5,baz=27,slow=7.5,SNR=21
ARCES LR LR 03 04 03.0
comp=N,464nm,18.6s,MS4.6,baz=32,slow=39
BOK Bokaro 58.23 272 *e*P **P** **02 36 14.1 -0.4**
BOK AMb AMB 02 36 18.8
comp=Z,28nm,1.2s,mb5.2
LGTI Lohaghat 58.38 280 *ex* x 02 36 22.0
SUMG Summit 60.23 4 *e*P **P** **02 36 28.4 +0.1**
comp=Z,23nm,0.9s,mb5.2
NDI New Delhi 60.90 282 *e*P **P** **02 36 32.0 -0.8**
NDI *e*P 02 36 33.1
KULM Kulim 61.80 245 *e*P **P** **02 36 40.8 +1.8**
RRI2 Red Ridge 62.65 55 *e*P **P** **02 36 46.0 +1.3**

comp=Z,3.9nm,0.8s,mb4.6
TPAW Teton Pass 62.77 55 *e*P **P** **02 36 46.8 +1.4**
comp=Z,2.7nm,0.8s,mb4.4
FIA1 FINESS Array S 63.90 335 *e*P **P** **02 36 51.9 -1.0**
FINES FINESS Array B 63.90 335 P **P** **02 36 52.0 -0.9**
comp=Z,8.3nm,0.5s,mb5.1,baz=37,slow=8.5,SNR=97
FINES LR LR 03 09 19.4
comp=Z,381nm,18.0s,MS4.6,baz=20,slow=40
PDAR Pinedale Array 64.01 54 P **P** **02 36 53.5 -0.2**
comp=Z,0.7nm,0.7s,baz=316,slow=4.1,SNR=5.0
PDAR LR LR 03 06 18.1
comp=Z,83nm,19.2s,MS3.9,baz=104,slow=37
AJM Ajmer 64.06 282 *e*P **P** **02 36 54.2 +0.2**
VIS Vishakhapatnam 64.11 268 *e*P **P** **02 36 55.7 +1.4**
VIS AMb AMB 02 37 01.6
comp=Z,30nm,1.8s,mb5.0
BHPL Bhopal 64.36 277 *e*P **P** **02 36 56.6 +0.7**
BHPL AMb AMB 02 36 59.4
comp=Z,50nm,1.0s,mb5.5
NGP Nagpur 64.67 274 *e*P **P** **02 36 56.5 -1.4**
NGP AMb AMB 02 36 58.3
comp=Z,30nm,1.2s,mb5.2
PSI Prapat 64.81 245 LR LR 03 06 21.4
comp=Z,99nm,18.8s,MS4.0,baz=25,slow=37
OBN Obninsk 65.29 326 ⇑P **P** **02 37 00.0 -2.0**
OBN *e* 02 37 32.0
OBN 02 45 47.2
OBN pmax pmax
comp=Z,22nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.5
ULM Lac du Bonnet 65.80 41 LR LR 03 09 40.5
comp=Z,77nm,18.5s,MS3.9,baz=16,slow=39
SRU San Rafael 65.88 58 *e*P **P** **02 37 06.0 +0.2**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SRU San Rafael 65.88 58 *e*P **P** **02 37 06.0 +0.1**
comp=Z,2.3nm,0.8s,mb4.3
VSU Vasula 66.11 333 ⇑*e*P **P** **02 37 06.3 -1.0**
CTA Charters Tower 67.32 188 LR LR 03 05 39.1
comp=Z,60nm,19.0s,MS3.8,baz=229,slow=35
NB2 NORSAR Subarra 68.01 341 P **P** **02 37 19.0 -0.4**
comp=Z,23nm,0.7s,mb5.3,baz=26,slow=6.5
NOA NORSAR Array B 68.01 341 P **P** **02 37 19.0 -0.4**
comp=Z,17nm,0.6s,mb5.2,baz=26,slow=6.4,SNR=78
NOA LR LR 03 11 39.0
comp=Z,248nm,18.0s,MS4.5,baz=40,slow=40
NAO01 NORSAR Array S 68.26 342 *e*P **P** **02 37 20.4 -0.5**
comp=Z,9.0nm,0.7s,mb4.9
HFS Hagfors 68.26 340 LR LR 03 12 10.2
comp=Z,316nm,18.6s,MS4.6,baz=70,slow=40
BORG Borgarnes 68.35 358 LR LR 03 12 04.2
comp=Z,179nm,18.5s,MS4.3,baz=318,slow=40
WRAB Tennant Creek 69.11 200 ⇑*e*P **P** **02 37 25.1 -1.1**
WRA Warramunga Arr 69.12 200 P **P** **02 37 25.7 -0.5**
comp=Z,0.8nm,0.7s,baz=27,slow=5.6,SNR=9.0
MAK Makhachkala 69.24 311 *e*P **P** **02 37 24.3 -2.7**
MAK MLR MLR
comp=Z,201nm,17.0s,MS4.4
MDRS Chennai 69.49 267 *e*P **P** **02 37 28.0 -0.6**
KONO Kongsberg 69.61 342 ⇑*e*P **P** **02 37 28.9 -0.5**
FITZ Fitzroy Crossi 69.81 209 P **P** **02 37 29.6 -0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=320,slow=7.9,SNR=3.9
DZM Mont Dzumac 69.84 168 LR LR 03 04 20.8
comp=Z,247nm,19.0s,MS4.5,baz=16,slow=32
POO Poona 70.01 276 *e*P **P** **02 37 30.0 -1.8**
KAD Karad 70.63 275 *e*P **P** **02 37 36.6 +1.0**
KAD AMb AMB 02 37 38.7
comp=Z,34nm,0.8s,mb5.3
SUW Suwalki 70.90 332 *e*P **P** **02 37 36.3 -0.9**
KIV Kislovodsk 70.92 315 P **P** **02 37 38.3 +0.9**
comp=Z,175nm,0.9s,mb6.0,SNR=6.3
KIV Kislovodsk 70.92 315 *e*P **P** **02 37 38.5 +1.1**
KIV *e*S S 02 46 52.4 +0.9
KIV pmax pmax
comp=Z,24nm,0.7s,mb5.2
KIV MLR MLR
comp=Z,526nm,16.0s,MS4.9
KIV Kislovodsk 70.92 315 *e*P **P** **02 37 37.6 +0.3**
comp=Z,22nm,0.8s,mb5.1
ZEI Tsey 71.20 313 *e*P **P** **02 37 37.6 -1.4**
ZEI *e**PP pP 02 37 47.5 +0.8
ZEI pmax pmax
comp=Z,11nm,0.8s,mb4.8
AKASG Malin Array Be 71.52 327 P **P** **02 37 39.7 -1.3**
comp=Z,24nm,0.6s,mb5.3,baz=33,slow=6.2,SNR=101
AKASG LR LR 03 11 36.7
comp=Z,233nm,18.1s,MS4.5,baz=50,slow=38
AKASG Malin Array Be 71.52 327 P **P** **02 37 39.7 -1.3**
AKASG LR LR 03 11 36.7
AKBB Malin Array Si 71.52 327 P **P** **02 37 40.0 -0.9**
AKBB Malin Array Si 71.52 327 *e*P **P** **02 37 39.6 -1.3**
KIEV Kiev 71.53 327 P **P** **02 37 40.0 -1.0**
KIEV pmax pmax
comp=Z,26nm,0.6s,mb5.3
KIEV Kiev 71.53 327 *e*P **P** **02 37 39.5 -1.5**
comp=Z,26nm,0.6s,mb5.3
SOC Sochi 72.62 316 *e*P **P** **02 37 46.5 -1.1**
SOC *e*S S 02 47 10.1 -1.0
SOC pmax pmax
comp=Z,92nm,1.2s,mb5.6
SCHQ Schefferville 72.68 23 P **P** **02 37 47.4 -0.5**
comp=Z,4.2nm,0.8s,mb4.4,baz=329,slow=12,SNR=3.4
GNI Garni 72.70 311 *d i*P **P** **02 37 48.7 +0.7**
GNI pmax pmax
comp=Z,34nm,1.3s
GNI Garni 72.70 311 *e*P **P** **02 37 49.2 +1.1**
comp=Z,20nm,0.7s,mb5.2
ANN Anapa 72.76 318 *e*P **P** **02 37 47.4 -1.0**
ANN *e*S S 02 47 10.2 -2.4
ANN pmax pmax
comp=Z,156nm,1.3s,mb5.8
AS31 Alice Springs 72.81 199 *e*P **P** **02 37 48.5 -0.2**
ASAR Alice Springs 72.81 199 P **P** **02 37 48.7 0.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=11,slow=5.1,SNR=51
ASAR LR LR 03 05 53.2
comp=Z,86nm,20.7s,MS4.0,baz=250,slow=32
PALK Pallekele 73.34 263 *e*P **P** **02 37 51.9 0.0**
comp=Z,11nm,1.0s,mb4.7
GKP Gorka Klasztor 73.37 335 *e*P **P** **02 37 51.6 -0.4**
SIM Simferopol' 74.12 320 *ce*P **P** **02 37 56.4 0.0**
SIM pmax pmax
comp=Z,13nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,330nm,15.0s,MS4.8
LVV L'vov 74.13 329 *e*P **P** **02 37 55.3 -1.2**
KIS Kishinev 74.68 325 *e*P **P** **02 37 58.0 -1.7**
KIS LRM 03 45 48.0
comp=Z,500nm,16.0s
KWP Kalwaria 74.75 330 *e*P **P** **02 38 00.6 +0.5**
IAS Iasi 75.01 325 P **P** **02 38 01.8 +0.2**
OJC Ojcow 75.23 332 *e*P **P** **02 38 03.4 +0.6**
STHS Stebnicka Huta 75.44 330 *e*P **P** **02 38 04.5 +0.5**
STHS pmax pmax
comp=Z,12nm,0.7s,mb4.9
STHS Stebnicka Huta 75.44 330 *e*P **P** **02 38 04.5 +0.5**
comp=Z,12nm,0.7s,mb4.9
KOLS Kolonicke sedl 75.50 329 *e*P **P** **02 38 04.2 -0.2**
BURAR Bucovina Array 75.55 327 ⇓*i*P **P** **02 38 04.8 +0.1**
NIE Niedzica 75.75 331 *e*P **P** **02 38 06.8 +1.0**
UZH Uzhgorod 75.75 329 *e*P **P** **02 38 04.0 -1.8**
UZH *e*S S 02 47 45.0 -1.1
KSP Ksiaz 75.78 334 *e*P **P** **02 38 06.5 +0.5**
KSP Ksiaz 75.78 334 *e*P **P** **02 38 06.3 +0.3**
KSP LR LR
comp=Z,1μm,18.5s,MS5.2
CRVS Cervenica-Dubn 75.80 330 *e*P **P** **02 38 05.9 -0.2**
OKC Ostrava-Krasne 76.09 332 *e*P **P** **02 38 08.0 +0.3**
UPC Upice 76.16 334 *e*P **P** **02 38 08.4 +0.3**
DPC Dobruska-Polom 76.20 334 *e*P **P** **02 38 08.5 +0.1**
DPC AMS AMS 03 16 30.0
comp=Z,600nm,17.1s
CLL Collm 76.31 336 *e*P **P** **02 38 08.3 -0.7**
comp=Z,43nm,0.8s,mb5.4
CLL Collm 76.31 336 ⇑*i*P **P** **02 38 08.5 -0.5**
comp=Z,43nm,0.8s,mb5.4
CLL LmV 03 14 00.0
comp=Z,200nm,20.0s
MORC Moravsky Berou 76.33 333 ⇓*i*P **P** **02 38 09.7 +0.6**
MORC Moravsky Berou 76.33 333 *e*P **P** **02 38 08.6 -0.5**
MORC pmax pmax
comp=Z,13nm,0.7s,mb5.0
MORC Moravsky Berou 76.33 333 *e*P **P** **02 38 08.6 -0.5**
comp=Z,13nm,0.7s,mb5.0
BRG Berggiesshubel 76.44 335 *e*P **P** **02 38 09.5 -0.2**

comp=Z,12nm,0.9s,mb4.8
BRG Berggiesshubel 76.44 335 *i* P **P 02 38 09.9 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
BRG
comp=N,186nm,19.9s
BRG
comp=E,122nm,16.8s
BRG
comp=Z,216nm,17.6s
BRG Berggiesshubel 76.44 335 *i* P **P 02 38 09.9 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRG MLR MLR
comp=N,7µm,19.9s
BRG MLR MLR
comp=E,186nm,16.8s
BRG MLR MLR
comp=Z,122nm,17.6s,MS4.3
KECS Kecovo 76.50 330 *e*P **P 02 38 09.3 -0.8**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 76.50 330 *e*P **P 02 38 09.3 -0.8**
comp=Z,6.1nm,0.9s,mb4.5
CLZ Clausthal 76.54 338 *e*P **P 02 38 10.4 +0.1**
comp=Z,27nm,1.1s,mb5.1
CLZ Clausthal 76.54 338 *e*P **P 02 38 10.4 +0.1**
CLZ pmax pmax
comp=Z,27nm,1.1s,mb5.1
FBE Freiberg 76.56 336 *e*P **P 02 38 11.0 +0.6**
comp=Z,26nm,0.9s,mb5.2
PVCC Panska Ves 76.57 335 *e*P **P 02 38 10.4 -0.1**
PVCC AMS AMS 03 15 30.0
comp=Z,400nm,18.2s
IBBN Ibbenburen 76.76 339 *e*P **P 02 38 12.0 +0.5**
comp=Z,43nm,1.3s,mb5.2
TXAR Lajitas Array 76.76 61 P **P 02 38 11.6 0.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=308,slow=4.4,SNR=28
TXAR LR LR 03 12 25.7
comp=Z,127nm,18.7s,MS4.3,baz=0.0,slow=36
WSAR Wadi Sarin 76.80 290 LR LR 03 16 10.4
comp=Z,231nm,18.3s,MS4.5,baz=35,slow=39
TIRR Tirgusor 76.92 323⇑*i*P **P 02 38 12.4 -0.1**
TIRR Tirgusor 76.92 323 P **P 02 38 13.1 +0.6**
TIRR Tirgusor 76.92 323 *e*P **P 02 38 12.4 -0.1**
comp=Z,11nm,0.8s,mb4.8
VYHS Vyhne 77.04 331 *e*P **P 02 38 13.2 +0.1**
VYHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VYHS Vyhne 77.04 331 *e*P **P 02 38 13.2 +0.1**
comp=Z,6.4nm,0.8s,mb4.6
VRAC Vranov 77.04 333 LR LR 03 16 53.2
comp=Z,506nm,18.1s,MS4.9,baz=22,slow=39
VRAC Vranov 77.04 333⇑*i*P **P 02 38 14.0 +0.9**
VRAC Vranov 77.04 333 P **P 02 38 13.4 +0.3**
MLR Muntele Rosu 77.05 325 LR LR 03 14 41.5
comp=Z,243nm,20.4s,MS4.5,baz=301,slow=38
MLR Muntele Rosu 77.05 325⇑*i*P **P 02 38 14.1 +0.9**
MLR Muntele Rosu 77.05 325 P **P 02 38 14.3 +1.1**
PRU Pruhonice 77.06 334 *e*P **P 02 38 13.0 -0.2**
PRU LR LR
comp=Z,300nm,20.5s,MS4.6
DRGR 77.17 328⇑*i*P **P 02 38 14.2 +0.4**
PSZ Piszkesteto 77.18 330 *e*P **P 02 38 13.9 0.0**
PSZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
PSZ Piszkesteto 77.18 330 *e*P **P 02 38 13.9 -0.1**
comp=Z,12nm,0.9s,mb4.8
TANN Tannenbergstha 77.27 336 *e*P **P 02 38 15.2 +0.8**
comp=Z,8.0nm,0.9s,mb4.7
WERD Werda 77.28 336 *e*P **P 02 38 14.7 +0.2**
comp=Z,14nm,0.9s,mb4.9
MOX Moxa 77.29 337 *e*P **P 02 38 14.5 -0.1**
comp=Z,17nm,0.9s,mb5.0
MOX Moxa 77.29 337 *e*P **P 02 38 14.3 -0.2**
MOX
comp=Z,200nm,21.0s
GUNZ Gunzen 77.35 336 *e*P **P 02 38 15.0 +0.1**
comp=Z,17nm,0.8s,mb5.0
WERN Wernitzgruen 77.41 336 *e*P **P 02 38 15.4 +0.2**
comp=Z,22nm,0.8s,mb5.1
NKC Novy Kostel 77.44 336 *e*P **P 02 38 14.7 -0.6**
VOIR 77.44 326⇓*i*P **P 02 38 16.1 +0.7**
SMOL Smolenice 77.47 332 *e*P **P 02 38 16.6 +1.0**
UBBA Unterbreizbach 77.57 338 *e*P **P 02 38 15.9 -0.2**
comp=Z,9.0nm,0.8s,mb4.8
MANZ Manzenberg 77.75 336 *e*P **P 02 38 17.0 -0.1**
comp=Z,12nm,1.0s,mb4.8
ZST Bratislava 77.86 332 *e*P **P 02 38 19.2 +1.5**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZST MLR MLR
comp=Z,300nm,18.3s,MS4.7
ZST Bratislava 77.86 332 *e*P **P 02 38 19.2 +1.5**
comp=Z,9.1nm,1.0s,mb4.7
ZST LR LR
comp=Z,300nm,18.3s,MS4.7
ROTZ Rotzenmuhle 77.92 336 *e*P **P 02 38 18.0 -0.1**
comp=Z,14nm,0.8s,mb4.9
KHC Kasperske Hory 78.11 335*c i*P **P 02 38 19.1 0.0**
KHC Kasperske Hory 78.11 335 *e*P **P 02 38 19.2 +0.1**
KHC LR LR
comp=Z,400nm,14.0s,MS4.9
GRA1 Grafenberg Arr 78.27 336 *e*P **P 02 38 20.6 +0.6**
comp=Z,41nm,0.9s,mb5.4
GRA1 LR LR
comp=Z,200nm,21.3s,MS4.4
GRF Grafenberg Arr 78.27 336 *e*P **P 02 38 20.6 +0.6**
comp=Z,41nm,0.9s,mb5.4
GRF *e*L 03 15 24.5
comp=Z,210nm,21.3s
GRF Grafenberg Arr 78.27 336 *e*P **P 02 38 20.6 +0.6**
GRF pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.3s,MS4.4
GRF Grafenberg Arr 78.27 336 *e*P **P 02 38 20.6 +0.6**
GRF pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.3s,MS4.4
GRFO Grafenberg 78.27 336 *e*P **P 02 38 20.4 +0.4**
GRFO pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRFO Grafenberg 78.27 336 *e*P **P 02 38 20.4 +0.5**
comp=Z,27nm,0.8s,mb5.2
WET Wettzell 78.30 335 *e*P **P 02 38 20.6 +0.5**
comp=Z,21nm,0.9s,mb5.1
WET Wettzell 78.30 335 *e*P **P 02 38 20.6 +0.5**
WET pmax pmax
comp=Z,21nm,0.9s,mb5.1
GEC2 GERESS Array S 78.33 334 *e*P **P 02 38 20.3 0.0**
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.33 334 *e*P **P 02 38 20.3 0.0**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 78.33 334 P **P 02 38 19.6 -0.7**
comp=Z,5.9nm,0.7s,mb4.7,baz=29,slow=4.7,SNR=38
GERES LR LR 03 17 03.2
comp=Z,390nm,18.2s,MS4.8,baz=113,slow=39
GZR Gura Zlata 78.33 327⇑*i*P **P 02 38 20.6 +0.3**
BRTR Keskin Array B 78.48 317 P **P 02 38 21.1 0.0**
comp=Z,5.5nm,0.6s,mb4.6,baz=68,slow=3.5,SNR=41
BRTR PP PP 02 41 19.5 +0.8
comp=Z,0.6nm,0.7s,baz=57,slow=9.5,SNR=3.6
CONA Conrad Observa 78.49 333⇑*i*P **P 02 38 21.8 +0.6**
comp=Z,8.9nm,0.7s,mb4.8,SNR=10
TNS Taunus Mts 78.51 338 *e*P **P 02 38 21.8 +0.5**
comp=Z,22nm,1.3s,mb4.9
TNS Taunus Mts 78.51 338 *e*P **P 02 38 21.8 +0.5**
TNS pmax pmax
comp=Z,22nm,1.3s,mb4.9
BZS Buzias 78.56 328⇓*i*P **P 02 38 21.9 +0.3**
BZS Buzias 78.56 328 P **P 02 38 21.4 -0.3**
MEM Membach 78.75 340 P **P 02 38 22.4 -0.3**
comp=Z,14nm,0.7s,mb5.0
ANTO Ankara 78.75 318 P **P 02 38 23.7 +1.0**
SNR=5.4
ANTO Ankara 78.75 318⇑*i*P **P 02 38 23.3 +0.6**
ANTO Ankara 78.75 318 *e*P **P 02 38 23.1 +0.4**
ANTO pmax pmax
comp=Z,18nm,0.6s,mb5.2
ANTO Ankara 78.75 318 *e*P **P 02 38 23.1 +0.4**
comp=Z,18nm,0.6s,mb5.2
UMR Umm Al-Rimmam 78.91 302 *e*P **P 02 38 24.3 +0.8**
UMR AMb AMB 02 38 25.7
comp=Z,126nm,0.7s,mb6.0
SZH Strazhica 78.91 324 *e*P **P 02 38 24.0 +0.5**
MIB Mutribah 78.94 302 *e*P **P 02 38 24.5 +0.8**
MIB AMb AMB 02 38 25.6
comp=Z,115nm,0.6s,mb6.0
TOD Tromm 78.99 338 *e*P **P 02 38 24.2 +0.3**
MOA Molln 79.05 334⇑*i*P **P 02 38 24.5 +0.2**
comp=Z,8.8nm,0.8s,mb4.7
BCLA Clavier 79.09 340 P **P 02 38 23.6 -0.9**
comp=Z,6.0nm,0.7s,mb4.6
PKSM Moragy 79.09 330⇑*i*P **P 02 38 24.1 -0.4**
PKSM Moragy 79.09 330 P **P 02 38 23.9 -0.6**
ARSA Arzberg 79.19 333⇑*i*P **P 02 38 25.4 +0.3**
comp=Z,6.3nm,1.0s,mb4.5
JMB Yambol 79.32 323 *e*P **P 02 38 27.0 +1.2**
NAY Al-Naaiem 79.41 302 *e*P **P 02 38 26.9 +0.7**
NAY AMb AMB 02 38 28.5
comp=Z,44nm,0.8s,mb5.5
RDF Al-Radifah 79.47 301 *e*P **P 02 38 27.6 +1.0**
RDF AMb AMB 02 38 29.1
comp=Z,154nm,0.9s,mb6.0
STKA Stephens Creek 79.48 191 LR LR 03 12 22.2
comp=Z,74nm,18.8s,MS4.0,baz=205,slow=35
GIVF Givet 79.50 340 *e*P **P 02 38 26.8 +0.1**
DOU Dourbes 79.55 341 P **P 02 38 26.6 -0.5**
WLF Walferdange 79.59 339 *e*P **P 02 38 27.7 +0.5**
comp=Z,79nm,1.9s,mb5.3
WLF Walferdange 79.59 339 *e*P **P 02 38 28.6 +1.4**
WLF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
WLF Walferdange 79.59 339 *e*P **P 02 38 28.6 +1.3**
comp=Z,7.9nm,0.7s,mb4.8
FUR Furstenfeldbru 79.64 336 *e*P **P 02 38 28.4 +0.9**
comp=Z,32nm,1.2s,mb5.1
FUR Furstenfeldbru 79.64 336 *e*P **P 02 38 28.4 +0.9**
FUR pmax pmax
comp=Z,32nm,1.2s,mb5.1
STU Stuttgart 79.65 337 *e*P **P 02 38 28.4 +0.8**
comp=Z,14nm,1.1s,mb4.8
STU Stuttgart 79.65 337 *e*P **P 02 38 28.0 +0.4**
STU pmax pmax
comp=Z,18nm,0.7s,mb5.1
STU Stuttgart 79.65 337 *e*P **P 02 38 28.0 +0.4**
comp=Z,18nm,0.7s,mb5.1
BAIF Baives 79.68 341 *e*P **P 02 38 27.5 -0.2**
PERS Pernice 79.87 333 *i*P **P 02 38 28.8 0.0**
KBA Koelnbreinsper 80.02 334⇑*i*P **P 02 38 30.1 +0.5**
comp=Z,25nm,0.8s,mb5.2,SNR=17
KBA Koelnbreinsper 80.02 334⇑*i*P **P 02 38 30.1 +0.6**
KBA pmax pmax
comp=Z,25nm,0.8s,mb5.2
OBKA Obir 80.16 333⇑*i*P **P 02 38 31.5 +1.2**
comp=Z,7.5nm,0.7s,mb4.8,SNR=7.2
GOLS Golise 80.26 332 *i*P **P 02 38 31.9 +1.0**
BFO Black Forest 80.28 338 *e*P **P 02 38 30.9 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
BFO Black Forest 80.28 338 *e*P **P 02 38 30.9 -0.1**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WATA Walderalm 80.30 335⇑*i*P **P 02 38 31.6 +0.5**
comp=Z,13nm,0.8s,mb4.9
WATA Walderalm 80.30 335⇑*i*P **P 02 38 31.6 +0.5**
WATA pmax pmax
comp=Z,13nm,0.8s,mb4.9
WTTA Wattenberg 80.35 335⇑*i*P **P 02 38 32.2 +0.9**
comp=Z,21nm,0.7s,mb5.2
WTTA Wattenberg 80.35 335⇑*i*P **P 02 38 32.2 +0.9**
WTTA pmax pmax
comp=Z,21nm,0.7s,mb5.2
GRUS Gruza 80.38 328 *i*P **P 02 38 30.9 -0.6**
LEGS Legarje 80.42 332 *i*P **P 02 38 32.2 +0.6**
MOTA Moosalm 80.43 335⇑*i*P **P 02 38 32.1 +0.4**
comp=Z,13nm,0.8s,mb4.9,SNR=13
MOTA Moosalm 80.43 335⇑*i*P **P 02 38 32.1 +0.3**
MOTA pmax pmax
comp=Z,13nm,0.8s,mb4.9
DIVS Divcibare 80.46 328 *i*P **P 02 38 31.2 -0.7**
CDF Champ du Feu 80.48 338⇑*i*P **P 02 38 31.8 -0.2**
comp=Z,19nm,0.9s,mb4.7
CDF Champ du Feu 80.48 338⇑*i*P **P 02 38 31.8 -0.2**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 80.48 338⇑*i*P **P 02 38 31.8 -0.2**
comp=Z,9.5nm,0.9s,mb4.7
SQTA Sankt Quirin 80.51 335⇑*i*P **P 02 38 32.7 +0.5**
comp=Z,6.3nm,0.7s,mb4.7
SQTA Sankt Quirin 80.51 335⇑*i*P **P 02 38 32.7 +0.5**
SQTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SQTA Sankt Quirin 80.51 335⇑*i*P **P 02 38 32.7 +0.5**
comp=Z,6.3nm,0.7s,mb4.7
VTS Vitosha 80.56 325⇑*i*P **P 02 38 32.6 +0.2**
VTS Vitosha 80.56 325 *e*P **P 02 38 33.0 +0.6**
TAOE Nuku Hiva Isla 80.57 114 *e*LR LR 03 03 17.3
comp=Z,918nm,23.6s
ECH Echery 80.69 338 *e*P **P 02 38 33.0 -0.2**
ROBS Robic 80.72 333 *i*P **P 02 38 33.6 +0.3**
FELD Feldberg im Sc 80.79 338 *e*P **P 02 38 33.5 -0.2**
DAVA Damuels 80.83 336⇑*i*P **P 02 38 34.4 +0.5**
comp=Z,13nm,0.8s,mb4.9
BOJS Bojanci 80.83 332 *i*P **P 02 38 33.4 -0.5**
BBLS Bajina Basta - 80.87 329 *i*P **P 02 38 34.7 +0.6**
THEF They Montfort 80.97 339 *e*P **P 02 38 34.7 0.0**
MOF Molkenrain 81.03 338 *e*P **P 02 38 34.7 -0.3**
HAU Haudompre 81.09 339 *e*P **P 02 38 34.9 -0.4**
HAU *e*R
comp=Z,295nm,23.0s
HAU Haudompre 81.09 339 *e*P **P 02 38 34.9 -0.4**
HAU LR LR
comp=Z,290nm,23.0s,MS4.6
HINF Hinteralfeld 81.14 338 *e*P **P 02 38 35.1 -0.4**
MMB Musomiste 81.20 325 *e*P **P 02 38 36.0 +0.1**
DAVOX Davos 81.29 336 LR LR 03 17 31.1
comp=Z,242nm,20.2s,MS4.5,baz=206,slow=38
STIP Stip 81.72 326 *e*P **P 02 38 35.8 -2.8**
VAY Valandovo 81.89 325 *e*P **P 02 38 38.6 -0.9**
FLN La Foliniere 81.89 343 *e*P **P 02 38 39.0 -0.5**
comp=Z,11nm,0.7s,mb4.6
FLN *e*R
comp=Z,285nm,18.2s
FLN La Foliniere 81.89 343 *e*P **P 02 38 39.0 -0.5**
FLN pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FLN MLR MLR
comp=Z,290nm,18.3s,MS4.7
FLN La Foliniere 81.89 343 *e*P **P 02 38 39.0 -0.5**
comp=Z,5.5nm,0.7s,mb4.6
FLN LR LR
comp=Z,290nm,18.3s,MS4.7
PPT Papeete 81.93 127 *e*S S 02 48 27.1 -25
comp=Z,41nm,23.5s
PPT *e*LR LR 03 03 55.5
comp=Z,317nm,21.8s,baz=331
PPT Papeete 81.93 127 LR LR 03 07 49.1
comp=Z,265nm,19.6s,MS4.6,baz=320,slow=30
LDF La Druitiere 81.98 343⇑*i*P **P 02 38 39.5 -0.5**
GRR Gorron 82.33 343⇑*i*P **P 02 38 41.6 -0.2**
comp=Z,18nm,0.8s,mb4.8
GRR Gorron 82.33 343⇑*i*P **P 02 38 41.6 -0.2**
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRR Gorron 82.33 343⇑*i*P **P 02 38 41.6 -0.2**
comp=Z,9.1nm,0.8s,mb4.8
KRUS Krusevo 82.36 326 *e*P **P 02 38 41.8 -0.2**
LOR Lormes 82.38 340⇑*i*P **P 02 38 41.7 -0.4**
comp=Z,14nm,0.7s,mb4.7
LOR *e*R
comp=Z,300nm,21.5s
LOR Lormes 82.38 340⇑*i*P **P 02 38 41.7 -0.4**
LOR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LOR MLR MLR
comp=Z,300nm,21.5s,MS4.6
LOR Lormes 82.38 340⇑*i*P **P 02 38 41.7 -0.4**
comp=Z,6.8nm,0.7s,mb4.7
LOR LR LR
comp=Z,300nm,21.5s,MS4.6
CSS Prodhromos 82.44 315 *e*P **P 02 38 42.1 -0.4**
comp=Z,24nm,0.7s,mb5.2
CABF La Chapelle 82.45 338 *e*P **P 02 38 42.6 +0.1**
comp=Z,12nm,0.8s,mb4.6
CABF La Chapelle 82.45 338 *e*P **P 02 38 42.6 +0.1**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CABF La Chapelle 82.45 338 *e*P **P 02 38 42.6 +0.1**
comp=Z,6.0nm,0.8s,mb4.6
BIA Bitola 82.63 326 *e*P **P 02 38 42.8 -0.6**
SSF Saint Saulge 82.65 340⇑*i*P **P 02 38 43.2 -0.3**
comp=Z,16nm,0.9s,mb4.8
SSF Saint Saulge 82.65 340⇑*i*P **P 02 38 43.2 -0.3**
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SSF Saint Saulge 82.65 340⇑*i*P **P 02 38 43.2 -0.3**
comp=Z,8.1nm,0.9s,mb4.8
HYF Humbligny 82.66 341 *e*P **P 02 38 43.7 +0.2**
OHR Ohrid 82.75 326 *e*P **P 02 38 43.2 -0.8**
SGMF Saint Gilles 82.78 344⇑*i*P **P 02 38 44.0 -0.2**
comp=Z,19nm,0.7s,mb5.0
SGMF Saint Gilles 82.78 344⇑*i*P **P 02 38 44.0 -0.2**
SGMF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SGMF Saint Gilles 82.78 344⇑*i*P **P 02 38 44.0 -0.2**
comp=Z,9.5nm,0.7s,mb4.9
ROSF Rostrenen 82.83 345⇑*i*P **P 02 38 44.4 0.0**
comp=Z,31nm,0.9s,mb5.0
ROSF Rostrenen 82.83 345⇑*i*P **P 02 38 44.4 0.0**
ROSF pmax pmax
comp=Z,15nm,0.9s,mb5.0
ROSF Rostrenen 82.83 345⇑*i*P **P 02 38 44.4 0.0**
comp=Z,15nm,0.9s,mb5.0
ASF Jabal al Asfar 82.87 310 LR LR 03 20 03.2
comp=Z,116nm,19.4s,MS4.3,baz=252,slow=39
AVF Avril sur Loir 82.94 340⇑*i*P **P 02 38 44.9 -0.1**
comp=Z,24nm,1.0s,mb4.9
AVF Avril sur Loir 82.94 340⇑*i*P **P 02 38 44.9 -0.1**
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
AVF Avril sur Loir 82.94 340⇑*i*P **P 02 38 44.9 -0.1**
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 82.97 340⇑*i*P **P 02 38 45.1 -0.1**
comp=Z,44nm,1.0s,mb5.1
SMF Signal de Mont 82.97 340⇑*i*P **P 02 38 45.1 -0.1**
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.1
SMF Signal de Mont 82.97 340⇑*i*P **P 02 38 45.1 -0.1**
comp=Z,22nm,1.0s,mb5.2
MMAI Mount Meron Ar 82.97 312 LR LR 03 21 20.5
comp=Z,265nm,18.1s,MS4.7,baz=20,slow=40
QUIF Quistinic 83.21 345 *e*P **P 02 38 46.1 -0.3**
BGF Bois d'Agland 83.28 340⇑*i*P **P 02 38 46.6 -0.2**
comp=Z,12nm,0.8s,mb4.7
BGF Bois d'Agland 83.28 340⇑*i*P **P 02 38 46.6 -0.2**
BGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BGF Bois d'Agland 83.28 340⇑*i*P **P 02 38 46.6 -0.2**
comp=Z,6.2nm,0.8s,mb4.7
LPL La Plagne 83.30 337⇑*i*P **P 02 38 47.6 +0.7**
comp=Z,12nm,0.7s,mb4.8
LPL La Plagne 83.30 337⇑*i*P **P 02 38 47.6 +0.7**
LPL pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LPL La Plagne 83.30 337⇑*i*P **P 02 38 47.6 +0.7**
comp=Z,6.2nm,0.7s,mb4.8
LPG La Plagne 83.32 337⇑*i*P **P 02 38 47.8 +0.8**
comp=Z,15nm,0.7s,mb4.8
LPG La Plagne 83.32 337⇑*i*P **P 02 38 47.8 +0.8**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LPG La Plagne 83.32 337⇑*i*P **P 02 38 47.8 +0.8**
comp=Z,7.5nm,0.7s,mb4.8
PLDF La Plantade 83.65 340 *e*P **P 02 38 48.3 -0.4**
TCF Toulx Ste Croi 83.68 341⇑*i*P **P 02 38 48.8 0.0**
comp=Z,15nm,1.0s,mb4.8
TCF Toulx Ste Croi 83.68 341⇑*i*P **P 02 38 48.8 0.0**
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
TCF Toulx Ste Croi 83.68 341⇑*i*P **P 02 38 48.8 0.0**
comp=Z,7.5nm,1.0s,mb4.8
AGO Saint Agoulin 83.69 340 *e*P **P 02 38 49.2 +0.3**
BNI Bardonecchia 83.75 337 *e*P **P 02 38 49.7 +0.5**
BNI pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BNI Bardonecchia 83.75 337 *e*P **P 02 38 49.7 +0.6**
comp=Z,4.3nm,0.7s,mb4.7
MFF Saint Martin d 83.89 342⇑*i*P **P 02 38 49.9 0.0**
comp=Z,7.2nm,0.7s,mb4.6
MFF Saint Martin d 83.89 342⇑*i*P **P 02 38 49.9 0.0**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MFF Saint Martin d 83.89 342⇑*i*P **P 02 38 49.9 0.0**
comp=Z,3.6nm,0.7s,mb4.6
MBDF Montbardon 84.03 337 *e*P **P 02 38 50.6 0.0**
comp=Z,11nm,0.7s,mb4.8
MBDF Montbardon 84.03 337 *e*P **P 02 38 50.6 0.0**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MBDF Montbardon 84.03 337 *e*P **P 02 38 50.6 0.0**
comp=Z,5.6nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.08 338⇑*i*P **P 02 38 51.5 +0.6**
comp=Z,27nm,0.7s,mb5.2
ORIF *e*R
comp=Z,216nm,22.8s
ORIF Oris-en-Rattie 84.08 338⇑*i*P **P 02 38 51.5 +0.6**
ORIF pmax pmax
comp=Z,13nm,0.7s,mb5.2
ORIF Oris-en-Rattie 84.08 338⇑*i*P **P 02 38 51.5 +0.6**
comp=Z,13nm,0.7s,mb5.2
APE Apeiranthos 84.28 321⇑*i*P **P 02 38 49.2 -2.7**
VIVF Saint-Julien-l 84.44 339⇑*i*P **P 02 38 53.0 +0.3**
comp=Z,23nm,1.0s,mb5.0
VIVF Saint-Julien-l 84.44 339⇑*i*P **P 02 38 53.0 +0.3**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.9
VIVF Saint-Julien-l 84.44 339⇑*i*P **P 02 38 53.0 +0.3**
comp=Z,11nm,1.0s,mb5.0
SBF Sospel 84.65 336 *e*P **P 02 38 53.0 -0.7**
comp=Z,31nm,0.7s,mb5.2
SBF Sospel 84.65 336 *e*P **P 02 38 53.0 -0.7**
SBF pmax pmax
comp=Z,16nm,0.7s,mb5.3
SBF Sospel 84.65 336 *e*P **P 02 38 53.0 -0.7**
comp=Z,16nm,0.7s,mb5.2
RJF Les Rejaudoux 84.77 341 *e*P **P 02 38 54.3 0.0**
comp=Z,8.7nm,0.7s,mb4.7
RJF *e*R
comp=Z,252nm,20.8s
RJF Les Rejaudoux 84.77 341 *e*P **P 02 38 54.3 0.0**
RJF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
RJF MLR MLR
comp=Z,250nm,20.8s,MS4.6
RJF Les Rejaudoux 84.77 341 *e*P **P 02 38 54.3 0.0**
comp=Z,4.3nm,0.7s,mb4.7
RJF LR LR
comp=Z,250nm,20.8s,MS4.6
CAF Calviac 85.00 340 *e*P **P 02 38 55.9 +0.4**
comp=Z,12nm,0.8s,mb4.8
CAF Calviac 85.00 340 *e*P **P 02 38 55.9 +0.4**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CAF Calviac 85.00 340 *e*P **P 02 38 55.9 +0.4**
comp=Z,5.8nm,0.8s,mb4.8
SMRF Simiane la Rot 85.04 338⇑*i*P **P 02 38 56.2 +0.5**
comp=Z,11nm,0.8s,mb4.7
SMRF Simiane la Rot 85.04 338⇑*i*P **P 02 38 56.2 +0.5**
comp=Z,11nm,0.8s,mb5.0
FRF La Foret Royal 85.14 337 *e*P **P 02 38 55.7 -0.5**
LFF La Frestale 85.29 341 *e*P **P 02 38 56.4 -0.5**
comp=Z,9.3nm,0.6s,mb4.8
LFF La Frestale 85.29 341 *e*P **P 02 38 56.4 -0.5**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LFF La Frestale 85.29 341 *e*P **P 02 38 56.4 -0.5**
comp=Z,4.7nm,0.6s,mb4.8
LMR La Mourre 85.39 337 *e*P **P 02 38 57.5 0.0**
comp=Z,11nm,0.6s,mb4.8
LMR La Mourre 85.39 337 *e*P **P 02 38 57.5 0.0**
LMR pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LMR La Mourre 85.39 337 *e*P **P 02 38 57.5 0.0**
comp=Z,5.4nm,0.6s,mb4.8
PGF Pioggiola 85.42 335⇑*i*P **P 02 38 57.3 -0.3**
comp=Z,13nm,0.8s,mb4.8
PGF Pioggiola 85.42 335⇑*i*P **P 02 38 57.3 -0.3**
PGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
PGF Pioggiola 85.42 335⇑*i*P **P 02 38 57.3 -0.3**
comp=Z,6.3nm,0.8s,mb4.8
EIL Elat 85.87 310 *e*P **P 02 39 00.8 +0.9**
comp=Z,226nm,0.7s
TIP Timpagrande 85.93 328 *e*P **P 02 38 59.8 -0.4**
MTLF Montolieu 86.47 340 *e*P **P 02 39 01.9 -0.9**
comp=Z,3.8nm,0.7s,mb4.4
MTLF Montolieu 86.47 340 *e*P **P 02 39 01.9 -0.9**
MTLF pmax pmax

comp=Z,2.0nm,0.7s,mb4.5
MTLF Montolieu 86.47 340 *e*P **P 02 39 01.9 -0.9**
comp=Z,1.9nm,0.7s,mb4.4
TBI Tubuai 86.71 130 *e*LR LR 03 05 59.1
comp=Z,297nm,34.8s,baz=322
SJPF Ste Jean 87.45 342 *e*P **P 02 39 07.9 +0.3**
comp=Z,8.3nm,0.8s,mb4.7
SJPF Ste Jean 87.45 342 *e*P **P 02 39 07.9 +0.3**
SJPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
SJPF Ste Jean 87.45 342 *e*P **P 02 39 07.9 +0.3**
comp=Z,4.2nm,0.8s,mb4.7
ETSF Etsaut 87.51 342 *e*P **P 02 39 07.7 -0.2**
comp=Z,6.7nm,0.8s,mb4.6
ETSF Etsaut 87.51 342 *e*P **P 02 39 07.7 -0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
ETSF Etsaut 87.51 342 *e*P **P 02 39 07.7 -0.2**
comp=Z,3.3nm,0.8s,mb4.6
VAE Valguarnera 88.28 329 LR LR 03 22 19.5
comp=Z,162nm,18.1s,MS4.5,baz=96,slow=38
ESDC Sonseca Array 91.32 343 LR LR 03 27 10.0
comp=Z,194nm,18.6s,MS4.6,baz=35,slow=40
KEST Kesra 91.57 332 P **P 02 39 26.4 -0.6**
KEST LR LR 03 26 29.3
comp=Z,2.2nm,0.9s,mb4.5,baz=324,slow=3.3,SNR=7.7
comp=Z,75nm,18.1s,MS4.2,baz=316,slow=39
RKT Rikitea 94.67 119 *e*SP SP 02 51 44.9 -24
RKT *e*LR LR 03 09 49.3
comp=Z,244nm,33.5s
MDT Midelt 98.07 342 LR LR 03 27 58.7
comp=Z,60nm,20.4s,MS4.1,baz=38,slow=38
TORD Torodi Ar. Bea 115.02 330 PKP PKiKP 02 44 59.5 -1.5
comp=Z,0.2nm,0.5s,baz=25,slow=2.1,SNR=7.2
TORD PP PP 02 45 52.7 -7.7
comp=Z,0.5nm,0.7s,baz=14,slow=8.1,SNR=3.8
TORD Torodi Ar. Bea 115.02 330 PKP PKiKP 02 44 59.5 -1.5
TORD PP PP 02 45 52.7 -7.7
CFAA Coronel Fontan 144.33 79 PKP PKPdf 02 45 53.4 -2.7
comp=Z,0.4nm,0.5s,baz=281,slow=4.2,SNR=9.1
CFAA Coronel Fontan 144.33 79 PKP PKPdf 02 45 53.4 -2.7
SNAA Sanae 153.13 196 PKPbc PKPbc 02 46 14.1 -3.7
comp=Z,0.4nm,0.8s,baz=189,slow=5.6,SNR=9.1
SNAA Sanae 153.13 196 *e*PKPdf PKPdf 02 46 14.1 +3.8
SNAA *e* 02 46 21.9
SNAA *e* 02 46 26.4
SNAA *e* 02 46 33.3
SNAA *e* 02 46 36.5
SNAA *e* 02 46 39.0
SNAA *e* 02 46 46.8
SNAA Sanae 153.13 196 *e*PKPbc PKPbc 02 46 14.3 -3.4
VNA2 Neumayer--Watz 154.57 194 *e*PKPdf PKPbc 02 46 19.0 -1.8
baz=106,slow=0.5
VNA2 *e* 02 46 25.7
VNA2 *e* 02 46 30.5
VNA2 *e* 02 46 35.2
VNA2 *e* 02 46 39.3
VNA2 *e* 02 46 43.3
VNA2 *e* 02 46 45.9
VNA2 *e* 02 46 56.0

NEIC ***09*** *02:35:45.0±1.2, 6.63S×151.54E, h10km, mb4.5/1, Error ellipse: s-maj=46.8km s-min=16.7km az=129.0*
ISCJB ***09*** *02:35:48.8±5.2, 6.66S±02×151.4E±0.3, h49km±38km, mb3.8/4, Error ellipse: s-maj=63.9km s-min=28.9km az=61.7*
IDC ***09*** *02:35:50.1±8.0, 6.71S×151.49E, h48km±59km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=77.6km s-min=34.5km az=106.0*
ISC 09 02:35:49.7±5.1, 67S±02×1516E±03, h45km±37km, n10, σ0§33/9, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.11**	**238**	P		**Pn**		**02 37 03.5**	**-0.1**
	3.1nm,0.3s,baz=45,slow=20,SNR=7.2								
PMG				S		**Sn**		**02 38 01.5**	**+0.2**
	3.5nm,0.3s,baz=168,slow=23,SNR=9.5								
WB2	**Warramunga Arr**	**21.25**	**230**	*e*P		**P**		**02 40 32.3**	**+0.4**
WRA	**Warramunga Arr**	**21.26**	**230**	P		**P**		**02 40 31.7**	**-0.4**
	1.1nm,0.4s,mb3.5,baz=56,slow=11,SNR=15								
AS31	**Alice Springs**	**23.91**	**223**	*e*P		**P**		**02 40 59.3**	**+0.1**
ASAR	**Alice Springs**	**23.91**	**223**	P		**P**		**02 40 59.5**	**+0.2**
	1.5nm,0.5s,mb3.7,baz=56,slow=8.9,SNR=30								
FITZ	**Fitzroy Crossi**	**27.68**	**244**	*e*P		**P**		**02 41 32.6**	**-0.7**
	4.6nm,0.5s,mb4.4								
FITZ	**Fitzroy Crossi**	**27.68**	**244**	P		**P**		**02 41 32.8**	**-0.5**
	2.6nm,0.5s,mb4.1,baz=58,slow=8.4,SNR=16								
SONM	**Songino Array**	**67.30**	**329**	P		**P**		**02 46 39.9**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=134,slow=4.2,SNR=2.5								
TORD	**Torodi Ar. Bea**	**149.66**	**285**	PKPbc	PKPbc			02 55 34.9	+0.7
	0.8nm,0.5s,baz=73,slow=2.6,SNR=16								
TORD	**Torodi Ar. Bea**	**149.66**	**285**	PKPbc	PKPbc			02 55 34.9	+0.7

IDC 09 02:38:47.8±3.8, 586S×15108E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=124.6km s-min=52.4km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.46**	**228**	P		P		02 43 38.1	+0.4
	0.5nm,0.5s,baz=53,slow=10,SNR=6.8								
ASAR	**Alice Springs**	**24.22**	**221**	P		P		02 44 05.7	-0.5
	0.3nm,0.5s,baz=57,slow=9.0,SNR=4.8								
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P		P		02 44 38.3	+1.1
	0.9nm,0.4s,baz=48,slow=12,SNR=5.0								
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc	PKPbc			02 58 38.2	+0.6
	0.5nm,0.7s,baz=65,slow=2.0,SNR=4.1								

NEIC ***09*** *02:40:52.7, 1621N×9578W, h55km, MD3.9(MEX), After MEX.*
MEX 09 02:40:52.7±0.4, 1620N×9577W, h56km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.54**	**217**	*i* P		Pn		02 41 03.3	-1.5
HUIG				*i* S		Sn		02 41 11.8	-1.7
HUIG	**Huatulco**	**0.54**	**217**	*i* P		Pn		02 41 03.2	-1.5
HUIG				*i* S		Sn		02 41 11.8	-1.7
CMIG	**Matias Romero**	**1.23**	**44**	*i* P		Pn		02 41 12.2	-1.5
CMIG				*i* S		Sn		02 41 27.3	-1.9
CMIG	**Matias Romero**	**1.23**	**44**	*i* P		Pn		02 41 12.1	-1.5
CMIG				*i* S		Sn		02 41 27.3	-1.9
OXX	**Oaxaca**	**1.26**	**314**	*i* P		Pn		02 41 13.0	-1.1
OXX				*i* S		Sn		02 41 28.5	-1.6
VHO	**Vista Hermosa**	**1.27**	**313**	*i* P		Pn		02 41 12.7	-1.4
VHO				*i* S		Sn		02 41 28.0	-2.1
UTMO	**Huajuapan**	**2.53**	**310**	*e*P		Pn		02 41 30.7	-0.6
UTMO				*i* S		Sn		02 41 59.9	-1.0
TPIG	**Tehuac#an**	**2.68**	**326**	*i* S		Sn		02 41 59.2	-5.4
CCIG	**Comitan**	**3.49**	**88**	*i* P		Pn		02 41 43.5	-1.0
CCIG				*i* S		Sn		02 42 23.6	-1.0

IDC ***09*** *02:42:18.7±1.1, 47.17N×154.02E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/23, mbtmp4.0/11, Error ellipse: s-maj=32.0km s-min=27.1km az=59.0*
NEIC ***09*** *02:42:20.7±0.7, 47.18N×153.84E, h10km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=14.9km az=194.0*
MOS ***09*** *02:42:23.4±0.9, 47.12N×153.77E, h46km, mb4.3/3, Error ellipse: s-maj=21.3km s-min=14.4km az=95.3*
ISCJB ***09*** *02:42:26.1±1.9, 47.3N±0.1×154.0E±0.2, h62km±14km, mb4.2/17, Error ellipse: s-maj=26.0km s-min=10.7km az=109.6*
ISC 09 02:42:28.0±1.7, 473N±01×1540E±02, h63km±13km, n27, σ1§00/28, mb4.2/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.65**	**22**	*e*PN		**Pn**		**02 43 22.5**	**+0.5**
KUR	**Kuril'sk**	**4.71**	**246**	*e*PN		**Pn**		**02 43 30.5**	**-6.0**
KUR				*e*S		**Sn**		**02 44 29.5**	**-0.3**
KUR				smax					
	comp=N,150nm,0.8s								
SONM	**Songino Array**	**31.69**	**289**	P		**P**		**02 48 44.5**	**-1.0**
	comp=N,0.5nm,0.6s,mb3.5,baz=70,slow=6.7,SNR=3.7								
ZAL	**Zalesovo**	**42.76**	**306**	P		**P**		**02 50 17.8**	**-1.3**
	comp=N,1.2nm,0.4s,mb3.9,baz=128,slow=4.4,SNR=4.0								
MKAR	**Makanchi Array**	**47.19**	**297**	P		**P**		**02 50 53.0**	**-1.3**
	comp=N,0.8nm,0.5s,mb3.9,baz=66,slow=6.6,SNR=7.7								
BVAR	**Borovoye Array**	**50.94**	**309**	P		**P**		**02 51 22.3**	**-0.7**
	comp=N,1.3nm,0.3s,mb4.3,baz=56,slow=7.7,SNR=13								
BRVK	**Borovoye**	**50.98**	**309**	*e*P		**P**		**02 51 22.1**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
BRVK	**Borovoye**	**50.98**	**309**	*e*P		**P**		**02 51 22.1**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.2								
GUN	**Gumba**	**55.52**	**275**	*e*P		**P**		**02 51 59.1**	**+2.5**
	comp=Z,4.4nm,0.3s,mb5.0								
KKN	**Kakani**	**56.01**	**275**	*e*P		**P**		**02 52 01.4**	**+1.3**
	comp=Z,7.1nm,0.4s,mb5.0								
PKI	**Pulchoki**	**56.06**	**275**	*e*P		**P**		**02 52 01.2**	**+0.7**
DMN	**Daman**	**56.24**	**275**	*e*P		**P**		**02 52 02.7**	**+0.9**
GKN	**Gorkha**	**56.30**	**276**	*e*P		**P**		**02 52 03.2**	**+1.0**
	comp=Z,14nm,0.6s,mb5.1								
KOLN	**Koldanda**	**57.16**	**277**	*e*P		**P**		**02 52 09.2**	**+1.0**
	comp=Z,10.0nm,0.8s,mb4.9								
ARCES	**ARCESS Array B**	**57.50**	**341**	P		**P**		**02 52 10.0**	**-0.6**
	comp=Z,3.0nm,1.0s,mb4.3,baz=29,slow=8.3,SNR=5.4								
ARCES	**ARCESS Array B**	**57.50**	**341**	P		**P**		**02 52 10.0**	**-0.6**
FINES	**FINESS Array B**	**63.76**	**335**	P		**P**		**02 52 52.9**	**-0.4**
	comp=Z,1.0nm,0.4s,mb4.2,baz=37,slow=9.1,SNR=22								
DUG	**Dugway**	**63.78**	**58**	*e*P		**P**		**02 52 53.9**	**+0.5**
DUG				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
DUG	**Dugway**	**63.78**	**58**	*e*P		**P**		**02 52 53.9**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1								
NB2	**NORSAR Subarra**	**67.87**	**341**	P		**P**		**02 53 19.5**	**-0.2**
	comp=Z,0.2nm,0.7s,mb3.3,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**		**02 53 19.8**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=26,slow=6.4,SNR=5.2								
AKASG	**Malin Array Be**	**71.39**	**327**	P		**P**		**02 53 40.9**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.3,baz=33,slow=6.1,SNR=6.7								
ASAR	**Alice Springs**	**72.94**	**199**	P		**P**		**02 53 49.0**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=12,slow=4.9,SNR=4.4								
CLL	**Collm**	**76.17**	**336**	*e*P		**P**		**02 54 10.0**	**+0.6**
TXAR	**Lajitas Array**	**76.71**	**61**	P		**P**		**02 54 11.6**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=278,slow=4.2,SNR=4.6								
BRTR	**Keskin Array B**	**78.36**	**317**	P		**P**		**02 54 22.8**	**+1.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=77,slow=5.3,SNR=4.8								
BRTR	**Keskin Array B**	**78.36**	**317**	P		**P**		**02 54 22.8**	**+1.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

IDC ***09*** *02:42:48.3±8.8, 6.49S×151.38E, h49km±64km, mb3.6/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=92.8km s-min=59.1km az=128.0*
NEIC 09 02:42:40.3±1.4, 650S×15187E, h10km, mb4.4/1, Error ellipse: s-maj=68.5km s-min=19.5km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**238**	P		Pn		02 44 03.0	+0.9
	1.9nm,0.3s,baz=39,slow=6.5,SNR=4.7								
PMG				S		Sn		02 45 00.4	-4.9
	2.4nm,0.3s,baz=7.1,slow=22,SNR=6.0								
WB2	**Warramunga Arr**	**21.63**	**230**	*e*P		P		02 47 30.9	+0.2
WRA	**Warramunga Arr**	**21.64**	**230**	P		P		02 47 30.5	-0.3
	1.0nm,0.6s,baz=55,slow=12,SNR=20								
AS31	**Alice Springs**	**24.28**	**223**	*e*P		P		02 47 58.2	+0.5
ASAR	**Alice Springs**	**24.28**	**223**	P		P		02 47 58.3	+0.6
	1.2nm,0.5s,baz=55,slow=9.3,SNR=27								
FITZ	**Fitzroy Crossi**	**28.06**	**243**	*e*P		P		02 48 31.3	-0.5
	3.1nm,0.4s								
FITZ	**Fitzroy Crossi**	**28.06**	**243**	P		P		02 48 31.2	-0.7
	2.0nm,0.5s,baz=56,slow=8.7,SNR=15								
TOA0	**Torodi Ar. Sit**	**149.90**	**285**	*e*PKPbc	PKPbc			03 02 32.3	+1.5
TORD	**Torodi Ar. Bea**	**149.90**	**285**	PKPbc	PKPbc			03 02 32.8	+2.0
	1.1nm,0.6s,baz=64,slow=2.4,SNR=14								

ISCJB ***09*** *02:45:42.9±2.9, 47.1N±0.1×153.8E±0.2, h18km±21km, mb4.4/23, MS3.8/4, Error ellipse: s-maj=25.0km s-min=7.3km az=95.8*
NEIC ***09*** *02:45:43.2±0.8, 4720N×15380E, h10km, mb4.3/4, Error ellipse: s-maj=19.6km s-min=9.8km az=153.0*
MOS ***09*** *02:45:45.1±0.8, 47.16N×153.77E, h38km, mb4.3/6, Error ellipse: s-maj=17.1km s-min=13.0km az=68.8*
IDC ***09*** *02:45:48.1±6.7, 4701N×15383E, h53km±69km, mb3.7/11, mb1 3.9/13, mb1mx3.8/25, mbtmp3.8/13, ML3.8/2, MS3.9/4, Ms1 3.9/4, ms1mx3.2/49, Error ellipse: s-maj=56.7km s-min=27.0km az=11.0*
ISC 09 02:45:45.0±3.1, 471N±01×1539E±02, h21km±22km, n39, σ1§17/40, mb4.4/23, MS3.8/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.85**	**22**	*e*PN		**Pn**		**02 46 43.4**	**+0.4**
SKR				*e*S		**Sn**		**02 47 29.0**	**+1.4**
SKR				pmax		pmax			
	comp=Z,50nm,0.5s								
SKR				smax					
	comp=N,60nm,0.5s								
KUR	**Kuril'sk**	**4.59**	**248**	*e*PN		**Pn**		**02 46 52.0**	**-1.2**
KUR				*e*S		**Sn**		**02 47 45.7**	**-0.2**
KUR				pmax		pmax			
	comp=Z,170nm,0.7s								
KUR				smax					
	comp=N,540nm,0.8s								
KUR				smax					
	comp=E,750nm,0.8s								
YUK	**Yuzh-Kuril'sk**	**6.43**	**244**	PN		**Pn**		**02 47 26.0**	**+7.6**
YUK				*e*S		**Sn**		**02 48 41.8**	**+11**
YUK				smax					
	comp=E,210nm,0.6s								
YUK				smax					
	comp=E,350nm,0.4s								
YUK				smax					
	comp=N,3μm,3.0s								
YUK				smax					
	comp=E,2μm,2.0s								
ASAJ	**Asahikawa**	**8.47**	**253**	P		**Pn**		**02 47 48.2**	**+1.8**
	comp=E,1.0nm,0.3s,baz=73,slow=18,SNR=2.6								
ASAJ	**Asahikawa**	**8.47**	**253**	PN		**Pn**		**02 47 48.2**	**+1.8**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**15.73**	**233**	*e*P		**Pn**		**02 49 32.7**	**+7.4**
MJAR	**Matsushiro Arr**	**15.73**	**233**	P		**Pn**		**02 49 25.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=34,slow=12,SNR=4.1								
KSRS	**Korea Array**	**21.42**	**253**	P		**P**		**02 50 30.4**	**-1.1**
	comp=Z,1.9nm,0.7s,mb3.5,baz=61,slow=7.9,SNR=6.5								
JNU	**Nakatsue**	**22.37**	**240**	LR		LR		02 59 22.7	
	comp=Z,205nm,18.9s,MS3.6,baz=268,slow=37								
SONM	**Songino Array**	**31.71**	**289**	P		**P**		**02 52 05.4**	**-1.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=50,slow=9.7,SNR=5.0								
MCK	**McKinley**	**35.02**	**41**	*e*P		**P**		**02 52 35.6**	**-0.4**
MCK				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.8								
MCK	**McKinley**	**35.02**	**41**	*e*P		**P**		**02 52 35.6**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.9								
COLA	**College**	**35.51**	**39**	*e*P		**P**		**02 52 39.8**	**-0.5**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
COLA	**College**	**35.51**	**39**	*e*P		**P**		**02 52 39.8**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.5								
ZAL	**Zalesovo**	**42.84**	**306**	P		**P**		**02 53 40.2**	**-1.3**
	comp=Z,1.5nm,0.4s,mb4.1,baz=143,slow=4.6,SNR=4.4								
ZAL				LR		LR		03 13 23.5	
	comp=Z,226nm,18.4s,MS4.1,baz=76,slow=39								
MKAR	**Makanchi Array**	**47.24**	**297**	P		**P**		**02 54 16.1**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=68,slow=7.7,SNR=11								
MKAR				LR		LR		03 14 14.4	
	comp=Z,80nm,18.3s,MS3.7,baz=186,slow=36								
BVAR	**Borovoye Array**	**51.03**	**309**	P		**P**		**02 54 44.0**	**-1.5**
	comp=Z,0.9nm,0.3s,mb4.1,baz=54,slow=10.0,SNR=8.0								
BRVK	**Borovoye**	**51.07**	**310**	*e*P		**P**		**02 54 45.0**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
BRVK	**Borovoye**	**51.07**	**310**	*e*P		**P**		**02 54 45.0**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.3								
AAK	**Ala-Archa**	**54.15**	**296**	*e*P		**P**		**02 55 07.6**	**-1.0**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
AAK	**Ala-Archa**	**54.15**	**296**	*e*P		**P**		**02 55 07.5**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.2								
GUN	**Gumba**	**55.50**	**275**	*e*P		**P**		**02 55 20.3**	**+1.9**
	comp=Z,34nm,1.2s,mb5.3								
KKN	**Kakani**	**55.98**	**276**	*e*P		**P**		**02 55 23.8**	**+2.0**
	comp=Z,14nm,0.6s,mb5.2								
PKI	**Pulchoki**	**56.04**	**275**	*e*P		**P**		**02 55 23.9**	**+1.7**
	comp=Z,14nm,0.8s,mb5.1								
DMN	**Daman**	**56.22**	**276**	*e*P		**P**		**02 55 25.6**	**+2.1**
	comp=Z,29nm,0.7s,mb5.4								
GKN	**Gorkha**	**56.28**	**276**	*e*P		**P**		**02 55 25.5**	**+1.5**
	comp=Z,33nm,0.9s,mb5.3								
KOLN	**Koldanda**	**57.14**	**277**	*e*P		**P**		**02 55 31.7**	**+1.6**
	comp=Z,23nm,0.9s,mb5.2								
AB31	**Akbulak array**	**58.60**	**310**	⇑P		**P**		**02 55 39.6**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=69,slow=6.6,SNR=21								
AKTO	**Aktyubinsk**	**58.87**	**312**	LR		LR		03 21 28.6	
	comp=Z,100nm,18.7s,MS4.0,baz=290,slow=36								
FINES	**FINESS Array B**	**63.93**	**335**	P		**P**		**02 56 15.5**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.2,baz=36,slow=8.4,SNR=17								
NB2	**NORSAR Subarra**	**68.05**	**341**	P		**P**		**02 56 42.3**	**-0.6**
	comp=Z,6.8nm,1.0s,mb4.6,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.05**	**341**	P		**P**		**02 56 42.3**	**-0.6**
	comp=Z,4.0nm,0.9s,mb4.5,baz=27,slow=6.2,SNR=8.5								
AKASG	**Malin Array Be**	**71.53**	**327**	P		**P**		**02 57 03.1**	**-1.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=36,slow=6.2,SNR=6.5								
CLL	**Collm**	**76.34**	**336**	*e*P		**P**		**02 57 33.0**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.5								
TXAR	**Lajitas Array**	**76.84**	**61**	P		**P**		**02 57 34.7**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=298,slow=4.4,SNR=23								
GERES	**GERESS Array B**	**78.35**	**334**	P		**P**		**02 57 43.7**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=72,slow=4.3,SNR=3.9								
GERES	**GERESS Array B**	**78.35**	**334**	P		**P**		**02 57 43.7**	**0.0**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**78.48**	**317**	P		**P**		**02 57 45.0**	**+0.5**
	comp=Z,1.3nm,0.9s,mb3.9,baz=82,slow=2.6,SNR=7.5								
BRTR	**Keskin Array B**	**78.48**	**317**	P		**P**		**02 57 45.0**	**+0.5**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

IDC ***09*** *02:51:40.1±2.2, 625S×151.22E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, ML2.7/1, Error ellipse: s-maj=60.2km s-min=35.4km az=125.0*
NEIC 09 02:51:40.7±1.2, 625S×15135E, h10km, mb4.3/2, Error ellipse: s-maj=31.5km s-min=18.1km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**233**	Pn		Pn		02 52 59.8	+1.2
	2.1nm,0.3s,baz=51,slow=6.5,SNR=5.7								
PMG				Sn		Sn		02 53 58.1	-0.6
	3.1nm,0.3s,baz=185,slow=23,SNR=3.3								
KAKA	**Kakadu**	**19.72**	**250**	*e*P		Pn		02 56 10.6	-1.2
	5.3nm,0.6s								
WB2	**Warramunga Arr**	**21.40**	**229**	*e*P		P		02 56 28.4	-0.2
WB2	**Warramunga Arr**	**21.40**	**229**	*e*P		P		02 56 29.1	+0.5
WRA	**Warramunga Arr**	**21.41**	**229**	P		P		02 56 28.4	-0.3
	3.7nm,0.8s,baz=54,slow=11,SNR=22								
AS31	**Alice Springs**	**24.11**	**222**	*e*P		P		02 56 56.3	-0.3
ASAR	**Alice Springs**	**24.11**	**222**	P		P		02 56 56.5	-0.1
	2.6nm,0.7s,baz=56,slow=8.9,SNR=47								
ASPA	**Alice Springs**	**24.12**	**222**	*e*P		P		02 56 56.6	0.0
STKA	**Stephens Creek**	**27.08**	**198**	P		P		02 57 24.0	+0.5
	0.8nm,0.3s,baz=20,slow=12,SNR=2.4								
FITZ	**Fitzroy Crossi**	**27.71**	**243**	*e*P		P		02 57 29.5	+0.4
	5.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.71**	**243**	P		P		02 57 29.6	+0.4
	3.1nm,0.6s,baz=76,slow=8.0,SNR=15								
TOA0	**Torodi Ar. Sit**	**149.34**	**285**	*e*PKPbc	PKPbc			03 11 31.8	+2.0
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc			03 11 31.4	+1.6
	1.1nm,0.6s,baz=63,slow=3.1,SNR=15								

IDC 09 03:06:19.0±3.5, 618S×15104E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=123.5km s-min=48.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**230**	Sn		Sn		03 08 37.7	+3.7
	1.2nm,0.3s,baz=342,slow=20,SNR=3.4								
WRA	**Warramunga Arr**	**21.23**	**228**	P		P		03 11 06.9	+0.5
	0.6nm,0.6s,baz=54,slow=10,SNR=10.0								
ASAR	**Alice Springs**	**23.96**	**222**	P		P		03 11 34.9	-0.1
	0.5nm,0.4s,baz=57,slow=8.7,SNR=11								
FITZ	**Fitzroy Crossi**	**27.47**	**242**	P		P		03 12 07.2	+0.4
	1.9nm,0.8s,baz=81,slow=9.0,SNR=7.1								
FITZ				LR		LR		03 23 16.0	
	comp=Z,33nm,20.7s,baz=218,slow=37								
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	PKPbc			03 26 09.8	+0.9
	0.4nm,0.6s,baz=62,slow=2.8,SNR=5.8								

MAN 09 03:12:12.1, 1748N×12054E, h1km, MS5.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.23**	**43**	*e*P		Pg		03 12 16.9	+0.3
BCPH	**Baguio City Da**	**1.09**	**178**	⇓*i*P		Pg		03 12 30.3	-2.7
BCPH				*i* S		Sg		03 12 34.

comp=Z,4.2nm,0.5s
GKN Gorkha 16.72 125 *e*P **Pn** 03 16 09.4 **+0.5**
comp=Z,25nm,0.7s
DMN Daman 17.29 125 *e*P **Pn** 03 16 15.5 **-0.4**
comp=Z,9.1nm,0.5s
PKI Pulchoki 17.51 124 *e*P **Pn** 03 16 17.5 **-1.2**
GUN Gumba 17.59 122 *e*P **Pn** 03 16 20.3 **+0.7**
comp=Z,38nm,1.1s
ZAL Zalesovo 18.69 30 P **Pn** 03 16 28.7 **-4.2**
comp=Z,0.6nm,0.3s,baz=276,slow=1.7,SNR=4.4
ARU Arti 19.15 342 *e*P **Pn** 03 16 36.8 **-1.6**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 19.15 342 *e*P **Pn** 03 16 36.8 **-1.7**
comp=Z,3.3nm,0.6s
HFS Hagfors 40.48 321 P **P** 03 19 51.7 **+0.1**
comp=Z,1.3nm,0.5s,mb3.9,baz=93,slow=13,SNR=7.0
NOA NORSAR Array B 41.79 322 P **P** 03 20 02.3 **0.0**
comp=Z,0.7nm,0.6s,mb3.5,baz=98,slow=8.2,SNR=2.4
TORD Torodi Ar. Bea 64.32 266 P **P** 03 22 49.5 **+1.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=50,slow=6.0,SNR=13
WRA Warramunga Arr 84.37 121 P **P** 03 24 44.1 **-0.3**
comp=Z,0.3nm,0.9s,mb3.4,baz=328,slow=4.9,SNR=3.1

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*BJI **09** 03:12:59.2, 5293N×172.95W, h110km, mB5.1, mb4.7*
*ISCJB **09** 03:13:01.0±0.2, 5271N±005×173.28W±004, h109km, mb4.5/65, Error ellipse: s-maj=6.8km s-min=3.3km az=179.7*
*IDC **09** 03:13:01.7±0.5, 5265N×173.30W, h107km±4km, mb3.9/22, mb1 4.1/22, mb1mx4.0/29, mbtmp3.9/22, MS3.3/1, Ms1 3.2/1, ms1mx2.7/45, Error ellipse: s-maj=14.2km s-min=10.1km az=169.0*
*MOS **09** 03:13:02.6±0.8, 5270N×173.26W, h129km, mb4.5/18, Error ellipse: s-maj=13.1km s-min=9.8km az=64.1*
*NEIC **09** 03:13:02.0±0.2, 5257N×173.24W, mb4.6/42, Error ellipse: s-maj=6.9km s-min=3.7km az=171.0*
NEIC Felt on Atka.

ISC 09 03:13:02.4±0.2, 5268N±005×17330W±004, h111km, h111km±.9km:pP-P,n310,σ0.970/303, mb4.5/65, 79C-73D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.72**	**229**	P		**Pn**	**03 13 20.5**	**-0.6**
ATKA				S		**Sn**	**03 13 34.0**	**-1.2**
UNV	**Unalaska Valle**	**4.25**	**71**	P		**Pn**	**03 14 05.1**	**0.0**
AKUT	**Akutan**	**4.74**	**69**	P		**Pn**	**03 14 12.5**	**+0.8**
AMKA	**Amchitka**	**4.75**	**257**	P		**Pn**	**03 14 12.9**	**+1.1**
SPIA	**Saint Paul Isl**	**4.84**	**20**	P		**Pn**	**03 14 17.3**	**+4.2**
SDPT	**Sand Point**	**8.02**	**65**	P		**Pn**	**03 14 55.2**	**-0.9**
FX1	**Attu Island--F**	**8.21**	**277**	P		**Pn**	**03 15 01.6**	**+2.9**
SVW2	**Sparrevohn**	**12.81**	**42**	*e*Pn		**Pn**	**03 16 03.1**	**+2.7**
KDAK	**Kodiak Island**	**12.86**	**58**	P		**Pn**	**03 15 57.2**	**-3.8**
	1.6nm,0.3s,baz=278,slow=10,SNR=30							
KDAK				S		**Sn**	**03 18 12.3**	**-10**
	1.2nm,0.3s,baz=308,slow=18,SNR=3.0							
SLKM	**Skilak Lake**	**14.87**	**49**	*e*P		**Pn**	**03 16 27.6**	**+0.7**
IMA2	**Indian Mountai**	**16.62**	**29**	*e*Pn		**Pn**	**03 16 50.8**	**+2.2**
MCK	**McKinley**	**16.82**	**39**	*e*Pn		**Pn**	**03 16 51.4**	**+0.2**
DIV	**Divide**	**17.14**	**50**	*e*Pn		**Pn**	**03 16 53.8**	**-1.2**
COLA	**College**	**17.81**	**37**	*e*P		**Pn**	**03 17 02.3**	**-0.8**
COLA				pmax		pmax		
	comp=Z,12nm,0.9s							
COLA	**College**	**17.81**	**37**	*e*P		**Pn**	**03 17 02.3**	**-0.8**
	comp=Z,12nm,0.9s							
BILL	**Bilibino**	**18.26**	**335**	*i*P		**P**	**03 17 11.6**	**+4.3**
BILL				pmax		pmax		
	comp=Z,90nm,1.0s							
BILL	**Bilibino**	**18.26**	**335**	*e*P		**P**	**03 17 10.7**	**+3.4**
	comp=Z,66nm,0.8s							
EGAK	**Eagle**	**20.34**	**41**	*e*P		**P**	**03 17 30.4**	**+0.6**
	comp=Z,87nm,0.8s							
SEY	**Seymchan**	**20.70**	**313**	‖*e*P		**P**	**03 17 33.4**	**-0.3**
DAWY	**Dawson**	**20.83**	**44**	*e*P		**P**	**03 17 34.7**	**-0.4**
B04A	**Port Angeles**	**31.58**	**78**	⇑P		**P**	**03 19 12.6**	**-1.7**
	baz=31							
NLWA	**Neilton Lookou**	**31.67**	**79**	⇑P		**P**	**03 19 14.4**	**-0.8**
	baz=32							
YKA	**Yellowknife Ar**	**31.85**	**49**	P		**P**	**03 19 15.0**	**-1.7**
	comp=Z,1.6nm,0.4s,mb4.1,baz=273,slow=9.4,SNR=20							
YKA				PcP		PcP	03 22 04.5	-0.4
	comp=Z,1.5nm,0.4s,baz=283,slow=3.0,SNR=8.4							
YKA				ScP		ScP	03 25 36.6	-1.4
	comp=Z,1.6nm,0.9s,baz=282,slow=3.6,SNR=5.1							
YKA				LR		LR	03 31 44.2	
	comp=Z,44nm,18.7s,baz=205,slow=35							
YKA	**Yellowknife Ar**	**31.85**	**49**	P		**P**	**03 19 15.0**	**-1.7**
YKA							03 22 04.5	
YKA	**Yellowknife Ar**	**31.85**	**49**	P		**P**	**03 19 15.0**	**-1.7**
YKA				PcP		PcP	03 22 04.5	-0.4
YKA				ScP		ScP	03 25 36.6	-1.4
YKA				LR		LR	03 31 44.2	
A05A	**Maple Falls**	**32.00**	**76**	⇓P		**P**	**03 19 17.7**	**-0.3**
	baz=32							
B05A	**Bryant**	**32.32**	**77**	⇑P		**P**	**03 19 20.7**	**-0.1**
	baz=32							
B07A	**Winthrop**	**33.40**	**75**	⇓P		**P**	**03 19 29.6**	**-0.6**
	baz=33							
A08A	**Turner Farm, O**	**33.67**	**74**	⇓P		**P**	**03 19 32.0**	**-0.6**
	baz=34							
C07A	**Waterville**	**33.80**	**77**	⇓P		**P**	**03 19 33.0**	**-0.7**
	baz=34							
E06A	**Yakima**	**33.81**	**79**	⇓P		**P**	**03 19 34.6**	**+0.7**
	baz=34							
H04A	**Detroit Lake**	**34.05**	**83**	⇑P		**P**	**03 19 36.3**	**+0.4**
	baz=34							
A09A	**Danville**	**34.06**	**74**	⇓P		**P**	**03 19 36.3**	**+0.3**
	baz=34							
D07A	**Quincy**	**34.09**	**77**	⇓P		**P**	**03 19 35.8**	**-0.4**
	baz=34							
C08A	**Higginbotham F**	**34.35**	**76**	⇓P		**P**	**03 19 36.8**	**-1.7**
	baz=34							
I04A	**Tendick Farm,**	**34.39**	**84**	⇑P		**P**	**03 19 38.9**	**0.0**
	baz=34							
M01C	**Crescent City**	**34.45**	**88**	⇓P		**P**	**03 19 39.0**	**-0.4**
	baz=34							
E07A	**Sunnyside**	**34.48**	**78**	⇑P		**P**	**03 19 39.3**	**-0.2**
	baz=34							
B09A	**Rice**	**34.58**	**74**	⇑P		**P**	**03 19 40.6**	**+0.2**
	baz=34							
L02A	**Cave Junction**	**34.59**	**87**	⇓P		**P**	**03 19 40.0**	**-0.6**
	baz=34							
HAWA	**Hanford**	**34.75**	**78**	*e*P		**P**	**03 19 41.6**	**-0.3**
	comp=Z,6.5nm,0.7s,mb4.6							
HAWA				*e*pP		pP	03 20 06.9	+0.1
D08A	**Wollman Farm,**	**34.78**	**77**	⇓P		**P**	**03 19 42.1**	**-0.1**
	baz=35							
I05A	**Bend**	**34.88**	**83**	⇓P		**P**	**03 19 43.6**	**+0.5**
	baz=35							
H06A	**Lindquist Farm**	**35.14**	**81**	⇓P		**P**	**03 19 45.4**	**+0.2**
	baz=35							
NEW	**Newport**	**35.25**	**74**	*e*P		**P**	**03 19 45.8**	**-0.4**
NEW				*e**PP		pP	03 20 10.9	-0.2
NEW				*e*			03 22 14.6	
NEW				pmax		pmax		
	comp=Z,10.0nm,0.9s							
NEW	**Newport**	**35.25**	**74**	*e*P		**P**	**03 19 45.8**	**-0.4**
	comp=Z,10nm,0.9s,mb4.7							
NEW				*e*pP		pP	03 20 10.9	-0.1
NEW				*e*PcP		PcP	03 22 14.6	+0.1
A11A	**Hall Mountain,**	**35.37**	**73**	⇓P		**P**	**03 19 47.8**	**+0.6**
	baz=35							
YBH	**Yreka Blue Hor**	**35.38**	**87**	⇓P		**P**	**03 19 48.3**	**+1.0**
	baz=35							
J05A	**Fort Rock**	**35.39**	**84**	⇓P		**P**	**03 19 47.9**	**+0.6**
	baz=35							
M02C	**Callahan**	**35.49**	**88**	⇓P		**P**	**03 19 48.4**	**+0.2**
	baz=35							
E09A	**Wood Farm, Sta**	**35.52**	**77**	⇑P		**P**	**03 19 47.7**	**-0.8**
	baz=35							
N02C	**Big Bar**	**35.55**	**89**	⇑P		**P**	**03 19 49.3**	**+0.6**
	baz=35							
B11A	**Sandpoint**	**35.61**	**73**	⇑P		**P**	**03 19 48.7**	**-0.6**
	baz=35							
L04A	**Klamath Falls**	**35.62**	**86**	⇓P		**P**	**03 19 49.5**	**+0.1**
	baz=35							
O01C	**Eel River Cons**	**35.65**	**90**	⇓P		**P**	**03 19 50.3**	**+0.7**
	baz=36							
G08A	**Pilot Rock**	**35.67**	**80**	⇑P		**P**	**03 19 49.0**	**-0.8**
	baz=36							
H07A	**Lands Inn, Kim**	**35.68**	**81**	⇑P		**P**	**03 19 49.8**	**-0.1**
	baz=36							
A12A	**Yaak River Ran**	**35.79**	**72**	⇑P		**P**	**03 19 51.1**	**+0.3**
	baz=36							
M04C	**Macdoel**	**35.88**	**87**	⇓P		**P**	**03 19 51.7**	**+0.1**
	baz=36							
K05A	**Summer Lake**	**35.91**	**85**	⇓P		**P**	**03 19 52.6**	**+0.8**
	baz=36							
I07A	**Izee**	**35.99**	**82**	⇑P		**P**	**03 19 52.7**	**+0.1**
	baz=36							
M03C	**McCloud**	**36.00**	**88**	⇑P		**P**	**03 19 52.9**	**+0.3**
	baz=36							
J06A	**Christmas Vall**	**36.06**	**83**	⇑P		**P**	**03 19 53.5**	**+0.4**
	baz=36,SNR=6.5							
F09A	**S2 Ranch, Elgi**	**36.07**	**78**	P		**P**	**03 19 53.8**	**+0.6**
	baz=36,SNR=5.6							
E10A	**Myers Farm, Un**	**36.15**	**77**	⇑P		**P**	**03 19 53.7**	**-0.2**
	baz=36							
WDC	**Whiskeytown Da**	**36.16**	**89**	⇓P		**P**	**03 19 53.9**	**-0.1**
	baz=36							
H08A	**Prairie City**	**36.25**	**81**	⇑P		**P**	**03 19 55.1**	**+0.3**
	baz=36							
O02C	**Red Bluff**	**36.25**	**90**	⇓P		**P**	**03 19 55.3**	**+0.5**
	baz=36							
K06A	**Valley Falls**	**36.26**	**84**	⇑P		**P**	**03 19 55.7**	**+0.9**
	baz=36,SNR=6.6							
L05A	**Lakeview**	**36.33**	**86**	⇓P		**P**	**03 19 55.2**	**-0.3**
	baz=36							
F10A	**Beach Ranch, E**	**36.34**	**78**	⇑P		**P**	**03 19 55.5**	**0.0**
	baz=36							
P01C	**Double 8 Ranch**	**36.35**	**91**	⇑P		**P**	**03 19 55.8**	**+0.2**
	baz=36							
C12A	**Trout Creek**	**36.49**	**74**	⇑P		**P**	**03 19 56.4**	**-0.4**
	baz=36							
J07A	**Hines**	**36.50**	**83**	⇑P		**P**	**03 19 57.0**	**+0.1**
	baz=36							
M05C	**Lookout**	**36.55**	**87**	⇓P		**P**	**03 19 57.5**	**+0.2**
	baz=36							
GASB	**Alder Springs**	**36.62**	**90**	⇑P		**P**	**03 19 58.2**	**+0.3**
	baz=36							
I08A	**Drewsey**	**36.65**	**81**	⇑P		**P**	**03 19 58.5**	**+0.4**
	baz=36							
HATC	**Hat Creek Radi**	**36.68**	**88**	⇑P		**P**	**03 19 58.8**	**+0.4**
	baz=36							
MOD	**Modoc**	**36.74**	**85**	*e*P		**P**	**03 19 59.1**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3							
MOD				*e*PcP		PcP	03 22 19.2	+0.2
MOD	**Modoc**	**36.74**	**85**	⇑P		**P**	**03 19 59.3**	**+0.4**
	baz=37,SNR=5.5							
H09A	**Durkee**	**36.78**	**80**	⇓P		**P**	**03 19 59.4**	**+0.2**
	baz=37							
O03C	**Acorn Hollow,**	**36.82**	**89**	⇑P		**P**	**03 19 59.5**	**-0.1**
	baz=37							
K07A	**Rock Creek Ran**	**36.92**	**83**	⇓P		**P**	**03 20 00.5**	**0.0**
	baz=37							
J08A	**Circle Bar Ran**	**37.01**	**82**	⇑P		**P**	**03 20 01.5**	**+0.3**
	baz=37,SNR=6.8							
F11A	**Grygeville**	**37.02**	**77**	⇑P		**P**	**03 20 00.9**	**-0.4**
	baz=37							
C13A	**Hot Springs**	**37.03**	**74**	⇑P		**P**	**03 20 01.2**	**-0.2**
	baz=37							
M06C	**Likely Place G**	**37.04**	**86**	⇓P		**P**	**03 20 01.1**	**-0.4**
	baz=37							
RES	**Resolute Bay**	**37.13**	**26**	*e*P		**P**	**03 20 01.8**	**-0.4**
L07A	**Adell**	**37.26**	**84**	⇑P		**P**	**03 20 04.0**	**+0.8**
	baz=37,SNR=6.1							
MAJO	**Matsushiro**	**37.32**	**264**	*e*P		**P**	**03 20 04.5**	**+0.7**
MAJO				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8							
MAJO	**Matsushiro**	**37.32**	**264**	*e*P		**P**	**03 20 04.5**	**+0.7**
	comp=Z,14nm,1.0s,mb4.8							
MAT	**Matsushiro**	**37.32**	**264**	P		**P**	**03 20 04.3**	**+0.5**
MJAR	**Matsushiro Arr**	**37.32**	**264**	P		**P**	**03 20 03.6**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=33,slow=7.0,SNR=5.8							
MJAR				PcP		PcP	03 22 21.0	+0.2
	comp=Z,5.5nm,0.8s,baz=51,slow=2.5,SNR=12							
K08A	**Mann Creek Ran**	**37.36**	**83**	⇓P		**P**	**03 20 04.4**	**+0.3**
	baz=37							
ORV	**Oroville**	**37.42**	**89**	⇓P		**P**	**03 20 03.8**	**-0.9**
	baz=37							
WVOR	**Wild Horse Val**	**37.44**	**83**	*e*P		**P**	**03 20 05.2**	**+0.4**
WVOR				*e**PP		pP	03 20 29.7	-0.2
WVOR				*e*			03 22 21.5	
WVOR				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
WVOR	**Wild Horse Val**	**37.44**	**83**	*e*P		**P**	**03 20 05.2**	**+0.4**
	comp=Z,6.7nm,0.9s,mb4.6							
WVOR				*e*pP		pP	03 20 29.7	-0.2
WVOR				*e*PcP		PcP	03 22 21.5	+0.4
J09A	**Fry Pan Ranch,**	**37.45**	**82**	⇑P		**P**	**03 20 05.2**	**+0.2**
	baz=37							
O05C	**Quincy**	**37.52**	**88**	⇓P		**P**	**03 20 05.9**	**+0.4**
	baz=37,SNR=5.2							
F12A	**Elk City**	**37.63**	**77**	⇓P		**P**	**03 20 06.2**	**-0.2**
	baz=37,SNR=5.4							
MDJ	**Mudanjiang**	**37.68**	**281**	P		**P**	**03 20 03.5**	**-3.4**
MDJ				AP		pP	03 20 28.2	-3.7
MDJ				XP		sP	03 20 41.1	-3.5
MDJ				PCP		PcP	03 22 20.0	-1.9
MDJ				S		**S**	**03 25 48.0**	**-0.7**
MDJ				SCP		ScP	03 25 55.2	-3.8
MDJ				PCS		PcS	03 26 08.1	-2.6
MDJ				SS		SS	03 28 30.4	-8.1
MDJ				SCS		ScS	03 30 04.1	-3.9
MDJ				AMB		AMB		
	comp=Z,12nm,2.5s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,307nm,5.6s							
MDJ				LR		LR		
	comp=N,94nm,17.6s							
MDJ				LR		LR		
	comp=E,83nm,20.5s							
MDJ				LR		LR		
	comp=Z,135nm,18.9s							
N06A	**Buffalo Meadow**	**37.71**	**87**	⇓P		**P**	**03 20 07.6**	**+0.6**
	baz=38,SNR=7.8							
M07A	**Soldier Meadow**	**37.73**	**85**	⇑P		**P**	**03 20 08.1**	**+0.9**
	baz=38							
H11A	**Donnelly**	**37.74**	**79**	⇓P		**P**	**03 20 07.4**	**0.0**
	baz=38							
L08A	**Fields**	**37.76**	**84**	P		**P**	**03 20 08.2**	**+0.7**
	baz=38,SNR=12							
K09A	**Rome**	**37.84**	**82**	⇑P		**P**	**03 20 08.3**	**+0.1**
	baz=38							
E13A	**Victor**	**37.89**	**75**	⇑P		**P**	**03 20 08.2**	**-0.4**
	baz=38							
BEKR	**Beckwourth**	**37.92**	**88**	⇓P		**P**	**03 20 09.1**	**+0.2**
	baz=38,SNR=6.8							
D14A	**Greenough**	**37.96**	**74**	P		**P**	**03 20 08.8**	**-0.5**
	baz=38,SNR=6.5							
O06A	**Flanigan**	**38.06**	**87**	⇓P		**P**	**03 20 10.2**	**+0.2**
	baz=38							
P05C	**Yuba Gap, Truc**	**38.12**	**89**	⇑P		**P**	**03 20 09.3**	**-1.2**
	baz=38							
F13A	**Darby**	**38.16**	**76**	⇑P		**P**	**03 20 11.1**	**+0.3**
	baz=38,SNR=5.3							
M08A	**Happy Creek Ra**	**38.17**	**85**	⇓P		**P**	**03 20 11.4**	**+0.4**
	baz=38							
N07B	**Gerlach**	**38.21**	**86**	P		**P**	**03 20 12.1**	**+0.8**
	baz=38,SNR=9.2							
L09A	**Wilkinson Ranc**	**38.27**	**83**	⇑P		**P**	**03 20 12.2**	**+0.4**
	baz=38							
E14A	**Clinton**	**38.32**	**75**	P		**P**	**03 20 12.3**	**+0.1**
	baz=38,SNR=8.7							
LAVA	**Lava Cap Winer**	**38.38**	**90**	⇑P		**P**	**03 20 12.7**	**-0.1**
	baz=38							
PAHR	**Pah Rah Range**	**38.61**	**88**	*e*P		**P**	**03 20 14.7**	**+0.1**
	comp=Z,16nm,1.1s,mb4.8							
WCN	**Washoe City**	**38.64**	**88**	⇑P		**P**	**03 20 15.2**	**+0.4**
	baz=38							
O07A	**Toulon**	**38.64**	**87**	⇓P		**P**	**03 20 15.6**	**+0.7**
	baz=38,SNR=7.0							
F14A	**Wisdom**	**38.71**	**75**	⇓P		**P**	**03 20 15.5**	**0.0**
	baz=38							
N08A	**GE Springer Mi**	**38.72**	**85**	⇑P		**P**	**03 20 16.0**	**+0.4**
	baz=38							
M09A	**Marrel Ranch,**	**38.75**	**84**	⇑P		**P**	**03 20 16.1**	**+0.2**
	baz=39							
E15A	**Deer Lodge**	**38.81**	**74**	⇑P		**P**	**03 20 15.9**	**-0.5**
	baz=39							
R05C	**Kirkwood Meado**	**38.81**	**89**	⇓P		**P**	**03 20 16.6**	**+0.2**
	baz=39							
O08A	**Rochester Mine**	**39.00**	**86**	⇓P		**P**	**03 20 18.8**	**+0.9**
	baz=39							
P07A	**Fallon**	**39.02**	**87**	⇓P		**P**	**03 20 18.8**	**+0.8**
	baz=39							
CMB	**Columbia Colle**	**39.05**	**90**	⇓P		**P**	**03 20 18.9**	**+0.6**
	baz=39							
N09A	**Rock Creek Ran**	**39.05**	**85**	P		**P**	**03 20 18.8**	**+0.5**
	baz=39,SNR=6.2							
F15A	**Butte**	**39.21**	**75**	⇓P		**P**	**03 20 20.5**	**+0.8**
	baz=39							
M10A	**I.L. Ranch, Tu**	**39.24**	**83**	⇑P		**P**	**03 20 20.2**	**+0.3**
	baz=39							
R06C	**Coleville**	**39.31**	**89**	⇑P		**P**	**03 20 21.2**	**+0.7**
	baz=39,SNR=6.6							
HLID	**Hailey**	**39.34**	**79**	*e*P		**P**	**03 20 20.5**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.0							
HLID	**Hailey**	**39.34**	**79**	⇓P		**P**	**03 20 20.8**	**+0.1**
	baz=39							
HAST	**UC Hastings Re**	**39.40**	**93**	⇑P		**P**	**03 20 21.2**	**0.0**
	baz=39							
S06C	**San Francisco**	**39.47**	**90**	⇓P		**P**	**03 20 22.2**	**+0.4**
	baz=39,SNR=6.5							
S05C	**Merced**	**39.52**	**91**	⇑P		**P**	**03 20 22.3**	**+0.1**
	baz=39							
MCMT	**McKenzie Canyo**	**39.56**	**76**	*e*P		**P**	**03 20 22.1**	**-0.4**
MCMT				*e*pP		pP	03 20 49.3	+1.6
EGMT	**Eagleton**	**39.65**	**70**	*e*P		**P**	**03 20 22.5**	**-0.7**
	comp=Z,8.7nm,0.7s,mb4.7							
EGMT				*e*pP		pP	03 20 48.8	+0.3
EGMT				*e*PcP		PcP	03 22 28.5	+0.5
EGMT	**Eagleton**	**39.65**	**70**	⇓P		**P**	**03 20 24.4**	**+1.2**
	baz=40							
O09A	**Fish Creek Ran**	**39.66**	**85**	P		**P**	**03 20 24.1**	**+0.7**
	baz=40,SNR=5.6							
M11A	**Holland Ranch,**	**39.75**	**83**	⇓P		**P**	**03 20 24.6**	**+0.5**
	baz=40							
Q08A	**Gabbs**	**40.02**	**87**	P		**P**	**03 20 26.9**	**+0.6**
	baz=40,SNR=6.1							
NVAR	**Mina Array Bea**	**40.06**	**88**	P		**P**	**03 20 27.1**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.4,baz=299,slow=9.2,SNR=31							
NVAR				pP		pP	03 20 52.0	-0.1
	comp=Z,1.1nm,0.7s,baz=112,slow=16,SNR=2.7							
NVAR				PcP		PcP	03 22 29.3	-0.1
	comp=Z,1.4nm,0.7s,baz=323,slow=3.0,SNR=5.3							
P09A	**Austin**	**40.07**	**86**	⇑P		**P**	**03 20 27.4**	**+0.6**
	baz=40							
T06C	**Millerton Lake**	**40.12**	**91**	⇑P		**P**	**03 20 27.2**	**0.0**
	baz=40,SNR=8.0							
N11A	**Elko Archery C**	**40.15**	**83**	⇑P		**P**	**03 20 27.8**	**+0.3**
	baz=40							
KCC	**Kaiser Creek**	**40.15**	**90**	⇑P		**P**	**03 20 27.8**	**+0.4**
	baz=40							
M12A	**Wells**	**40.29**	**82**	⇑P		**P**	**03 20 29.0**	**+0.4**
	baz=40							
P10A	**Eureka**	**40.44**	**85**	⇑P		**P**	**03 20 30.3**	**+0.5**
	baz=40							
Q09A	**Carvers**	**40.49**	**87**	⇑P		**P**	**03 20 30.8**	**+0.6**
	baz=40							
N12A	**Clover Valley,**	**40.55**	**83**	⇓P		**P**	**03 20 31.2**	**+0.5**
	baz=40,SNR=5.1							
FFC	**Flin Flon**	**40.60**	**58**	*e*P		**P**	**03 20 30.2**	**-1.0**
FFC				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.4							
FFC	**Flin Flon**	**40.60**	**58**	*e*P		**P**	**03 20 30.2**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.5							
CN2	**Changchun**	**40.61**	**283**	*e*P		**P**	**03 20 34.7**	**+3.5**
S08C	**White Mtn Res**	**40.74**	**89**	⇓P		**P**	**03 20 33.1**	**+0.9**
	baz=40,SNR=5.6							
RCTC	**Rector, Farmer**	**40.86**	**91**	⇓P		**P**	**03 20 33.9**	**+0.6**
	baz=41							
P11A	**Circle Ranch,**	**40.91**	**85**	⇑P		**P**	**03 20 34.2**	**+0.5**
	baz=41							
R09A	**Tonopah**	**40.94**	**88**	P		**P**	**03 20 34.2**	**+0.4**
	baz=41,SNR=15							
TIN	**Tinemaha**	**40.99**	**90**	⇑P		**P**	**03 20 34.8**	**+0.5**
	baz=41							
SMMC	**Simmler**	**41.06**	**93**	⇑P		**P**	**03 20 35.2**	**+0.3**
	baz=41							
VES	**Vestal, Richgr**	**41.27**	**92**	⇑P		**P**	**03 20 36.2**	**-0.4**
	baz=41							
RRI2	**Red Ridge**	**41.30**	**77**	*e*P		**P**	**03 20 37.9**	**+1.0**
	comp=Z,4.8nm,0.7s,mb4.4							
RRI2				*e*pP		pP	03 21 03.0	+0.7
RRI2				*e*PcP		PcP	03 22 33.9	+0.5
MOOW	**Moose Ponds**	**41.41**	**76**	*e*P		**P**	**03 20 37.8**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.9							
Q11A	**Duckwater**	**41.41**	**86**	P		**P**	**03 20 38.1**	**+0.3**
	baz=41,SNR=11							
P12A	**McGill**	**41.48**	**84**	P		**P**	**03 20 38.7**	**+0.4**
	baz=41,SNR=12							
CWC	**Cottonwood Cre**	**41.48**	**90**	⇑P		**P**	**03 20 38.5**	**+0.2**
	baz=41							
RLMT	**Red Lodge**	**41.50**	**74**	*e*P		**P**	**03 20 38.5**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.5							
RLMT				*e*PcP		PcP	03 22 34.6	+0.6
ISA	**Isabella**	**41.75**	**92**	⇑P		**P**	**03 20 40.1**	**-0.5**
	baz=42							
TRCR	**Troy Canyon**	**41.77**	**86**	*e*P		**P**	**03 20 41.1**	**+0.4**
Q12A	**Willow Creek R**	**41.79**	**85**	⇓P		**P**	**03 20 41.2**	**+0.3**
	baz=42,SNR=7.8							
DAC	**Darwin (Calif)**	**41.88**	**90**	*e*P		**P**	**03 20 41.6**	**0.0**
DAC				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.5							
DAC	**Darwin (Calif)**	**41.88**	**90**	*e*P		**P**	**03 20 41.6**	**0.0**
	comp=Z,7.9nm,0.9s,mb4.4							
MPMC	**Manual Prospec**	**42.09**	**90**	⇑P		**P**	**03 20 43.4**	**+0.1**
	baz=42,SNR=6.4							
FURC	**Furnace Creek,**	**42.20**	**89**	⇓P		**P**	**03 20 44.5**	**+0.3

baz=44,SNR=5.4
109C Camp Elliot, M 44.46 93 ⇓P P 03 21 02.3 -0.1
baz=44
IRM Iron Mountain 44.78 91 ⇑P P 03 21 04.7 -0.3
baz=45
MONP Monument Peak 44.88 93 ⇑P P 03 21 05.7 0.0
baz=45
W13A Hualapai Mount 44.92 89 P P 03 21 06.1 +0.1
baz=45,SNR=16
BC3 Big Chuckw Mtn 44.94 91 ⇓P P 03 21 05.7 -0.5
baz=45
SWSC Sam W. Stewart 45.22 92 ⇑P P 03 21 07.7 -0.7
baz=45
PDMCI Parker Dam,Lak 45.30 90 P P 03 21 08.6 -0.4
baz=45,SNR=9.1
W14A Seligman 45.33 88 ⇑P P 03 21 09.5 +0.2
baz=45,SNR=9.3
Y12C Blythe 45.44 90 ⇓P P 03 21 09.9 -0.2
baz=45,SNR=6.3
GLA Glamis 45.74 91 *e*P P 03 21 12.3 -0.1
GLA Glamis 45.74 91 ⇑P P 03 21 12.1 -0.3
baz=46,SNR=6.0
Y13A Salome 45.82 90 ⇑P P 03 21 12.8 -0.3
baz=46
W15A Williams 45.85 87 ⇓P P 03 21 13.8 +0.5
baz=46,SNR=7.2
X14A Yava 45.95 88 ⇓P P 03 21 14.4 +0.2
baz=46,SNR=14
ULM Lac du Bonnet 46.11 60 P P 03 21 14.0 -1.4
comp=Z,6.7nm,0.4s,mb4.7,baz=310,slow=8.6,SNR=17
ULM PcP PcP 03 22 48.4 -1.3
comp=Z,3.4nm,0.6s,baz=268,slow=2.2,SNR=3.7
ULM Lac du Bonnet 46.11 60 *e*P P 03 21 14.0 -1.4
comp=Z,8.3nm,0.5s,mb4.7
WUAZ Wupatki 46.17 86 *e*P P 03 21 16.1 +0.3
comp=Z,19nm,0.8s,mb4.9
WUAZ Wupatki 46.17 86 ⇓P P 03 21 16.2 +0.3
baz=46,SNR=14
Y14A Wickenburg 46.24 89 ⇓P P 03 21 16.0 -0.4
baz=46,SNR=8.1
X15A Humboldt 46.34 88 P P 03 21 17.4 +0.2
baz=46,SNR=8.8
SMCO Snowmass 46.44 79 *e*P P 03 21 17.6 -0.4
comp=Z,2.2nm,0.6s,mb4.1
SMCO *e*PcP PcP 03 22 51.5 +0.6
Z14A Wintersburg 46.67 90 ⇑P P 03 21 19.4 -0.3
baz=46
MVCO Mesa Verde 46.80 82 *e*P P 03 21 21.0 +0.2
comp=Z,2.7nm,0.5s,mb4.2
MVCO Mesa Verde 46.80 82 ⇓P P 03 21 21.2 +0.4
baz=47
115A Sonoran Desert 47.56 90 ⇓P P 03 21 26.8 +0.1
baz=47,SNR=5.7
116A Eloy 47.98 89 ⇑P P 03 21 29.6 -0.2
baz=48
SDCO Great Sand Dun 48.25 80 *e*P P 03 21 31.9 -0.1
comp=Z,3.9nm,0.8s,mb4.3
SDCO *e*pP pP 03 21 58.1 +0.1
TUC Tucson 48.71 89 *e*P P 03 21 35.3 -0.2
TUC pmax pmax
comp=Z,11nm,1.1s,mb4.7
TUC Tucson 48.71 89 *e*P P 03 21 35.3 -0.2
comp=Z,11nm,1.1s,mb4.7
SONM Songino Array 49.06 298 P P 03 21 38.2 0.0
comp=Z,0.6nm,0.6s,mb3.7,baz=46,slow=7.2,SNR=5.8
LAZ Ladron 49.49 84 *e*P P 03 21 41.8 +0.3
ANMO Albuquerque 49.53 83 *e*P P 03 21 42.0 +0.3
ANMO *e* 03 23 02.6
ANMO pmax pmax
comp=Z,7.0nm,1.5s
ANMO Albuquerque 49.53 83 *e*P P 03 21 42.0 +0.3
comp=Z,7.1nm,1.5s,mb4.4
ANMO *e*PcP PcP 03 23 02.6 +0.6
ECSD EROS,Sioux Fal 49.60 68 *e*P P 03 21 40.2 -2.1
comp=Z,3.2nm,0.6s,mb4.4
LENM Lemitar 49.75 84 *e*P P 03 21 43.9 +0.4
EYMN Ely 49.79 61 *e*P P 03 21 42.6 -1.2
comp=Z,17nm,0.9s,mb5.0
Y22C IRIS PASSCAL I 49.84 84 ⇑P P 03 21 45.1 +0.9
baz=50
LPM Los Pinos Moun 49.86 84 *e*P P 03 21 44.4 +0.1
FRB Frobisher Bay 50.10 34 P P 03 21 45.0 -1.1
comp=Z,14nm,0.8s,mb5.0,baz=325,slow=17,SNR=18
FRB Frobisher Bay 50.10 34 P P 03 21 45.0 -1.1
HHC Hu-ho-hao-te 50.55 288 *e*P P 03 21 51.0 +1.5
HHC AP pP 03 22 17.3 +1.6
HHC XP sP 03 22 30.8 +2.7
HHC PCP PcP 03 23 07.8 +2.1
HHC PP PP 03 23 49.2 +2.9
HHC SCP ScP 03 26 51.8 +0.3
HHC PCS PcS 03 27 03.5 +0.3
HHC S S 03 28 55.3 0.0
HHC XS sS 03 29 41.1 +0.7
HHC SCS ScS 03 31 28.5 -0.8
HHC SS SS 03 32 28.9 -1.7
HHC AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,205nm,7.6s
HHC LR LR
comp=N,399nm,19.6s
HHC LR LR
comp=E,264nm,19.2s
HHC LR LR
comp=Z,207nm,19.0s
CBKS Cedar Bluff 50.97 75 *e*P P 03 21 52.0 -0.6
CBKS pmax pmax
comp=Z,12nm,0.6s,mb5.1
CBKS Cedar Bluff 50.97 75 *e*P P 03 21 52.0 -0.6
comp=Z,12nm,0.6s,mb5.1
SUMG Summit 51.17 16 *e*P P 03 21 55.1 +1.0
comp=Z,12nm,0.8s,mb5.0
NJ2 Nanjing 52.13 275 *e*P P 03 22 04.1 +2.9
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
MNTX Cornudas Mount 52.42 85 *e*P P 03 22 03.2 -0.2
comp=Z,13nm,0.7s,mb5.1
MNTX *e*pP pP 03 22 29.3 -0.5
MNTX *e*PcP PcP 03 23 12.4 -0.4
WMOK Wichita Mounta 54.28 78 *e*P P 03 22 16.3 -0.7
WMOK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WMOK Wichita Mounta 54.28 78 *e*P P 03 22 16.3 -0.7
comp=Z,3.8nm,0.8s,mb4.5
TXAR Lajitas Array 55.14 86 P P 03 22 22.8 -0.4
comp=Z,23nm,0.8s,mb5.2,baz=299,slow=5.1,SNR=229
TXAR pP pP 03 22 49.1 -0.7
comp=Z,3.2nm,0.7s,baz=286,slow=4.6,SNR=3.8
TXAR PcP PcP 03 23 23.3 +0.3
comp=Z,3.2nm,0.6s,baz=239,slow=1.2,SNR=11
TXAR ScP ScP 03 27 10.3 -1.1
comp=Z,0.8nm,0.8s,baz=286,slow=3.2,SNR=8.7
TXAR Lajitas Array 55.14 86 P P 03 22 22.8 -0.4
TXAR *PP pP 03 22 49.1 -0.7
TXAR 03 23 23.3
JCT Junction City 56.66 82 *e*P P 03 22 32.6 -1.4
JCT *e* 03 23 28.5
JCT pmax pmax
comp=Z,11nm,0.7s,mb5.0
JCT Junction City 56.66 82 *e*P P 03 22 32.6 -1.4
comp=Z,11nm,0.7s,mb5.0
JCT *e*PcP PcP 03 23 28.5 -0.5
SCHQ Schefferville 56.83 42 P P 03 22 34.1 -1.1
comp=Z,3.5nm,0.8s,mb4.5,baz=278,slow=14,SNR=5.8
SCHQ PcP PcP 03 23 28.4 -1.3
comp=Z,5.2nm,0.9s,baz=72,slow=7.8,SNR=4.3
ARCES ARCESS Array B 57.33 352 P P 03 22 38.2 -0.5
comp=Z,1.7nm,0.5s,mb4.3,baz=9.5,slow=8.4,SNR=16
ARCES PcP PcP 03 23 30.4 -1.3
comp=Z,1.2nm,0.4s,baz=16,slow=4.8,SNR=10
LZH Lanzhou 58.23 289 *e*P P 03 22 45.7 +0.7
LZH AP pP 03 23 12.6 +0.7
LZH XP sP 03 23 25.2 +1.0
LZH *e*PP PP 03 24 57.8 +2.8
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,59nm,7.2s
LZH LR LR
comp=E,275nm,15.3s
LZH LR LR
comp=Z,402nm,17.9s
LZH Lanzhou 58.23 289 *e*P P 03 22 45.7 +0.7
LZH *PP pP 03 23 12.6 +0.7
LZH *e* 03 24 57.8
LZH pmax pmax
comp=Z,22nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,400nm,17.9s
LZH Lanzhou 58.23 289 *e*P P 03 22 45.7 +0.7
comp=Z,22nm,1.4s,mb5.0
LZH pP pP 03 23 12.6 +0.7
LZH sP sP 03 23 25.2 +1.0
LZH *e*PP PP 03 24 57.8 +2.8
LZH LR LR
comp=Z,400nm,17.9s
WCI Wyandotte Cave 59.08 66 *e*P P 03 22 49.5 -1.4
WCI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WCI Wyandotte Cave 59.08 66 *e*P P 03 22 49.5 -1.4
comp=Z,8.7nm,0.8s,mb4.8
WVT Waverly 59.70 69 *e*P P 03 22 54.3 -0.9
WVT pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
WVT Waverly 59.70 69 *e*P P 03 22 54.3 -0.9
comp=Z,5.3nm,0.7s,mb4.7
OXF Oxford 59.94 72 *e*P P 03 22 55.5 -1.4
OXF pmax pmax
comp=Z,14nm,0.6s,mb5.2
OXF Oxford 59.94 72 *e*P P 03 22 55.5 -1.3
comp=Z,14nm,0.6s,mb5.2
WMQ Urumqi 61.42 306 ⇑P P 03 23 10.0 +3.1
WMQ AP pP 03 23 37.0 +3.0
WMQ XP sP 03 23 49.5 +3.3
WMQ PCP PcP 03 23 51.0 +3.1
WMQ PP PP 03 25 29.0 +5.7
WMQ SCP ScP 03 27 40.5 +1.3
WMQ S S 03 31 21.0 +1.8
WMQ PS 03 31 54.0
WMQ AMB AMB
comp=Z,9.0nm,0.4s,mb5.2
WMQ AMB AMB
comp=Z,125nm,4.0s
WMQ LR LR
comp=N,78nm,17.8s
WMQ LR LR
comp=E,59nm,16.5s
WMQ LR LR
comp=Z,113nm,18.7s
MKAR Makanchi Array 61.82 311 P P 03 23 08.9 -0.6
comp=Z,0.4nm,0.3s,mb4.0,baz=54,slow=5.7,SNR=8.7
SSPA Standing Stone 61.91 59 *e*P P 03 23 09.2 -1.0
comp=Z,14nm,0.6s,mb5.2
CD2 Chengdu 61.98 285 *e*P P 03 23 11.0 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,6.2s
BVAR Borovoye Array 62.02 322 P P 03 23 11.5 +0.6
comp=Z,2.8nm,0.4s,mb4.6,baz=53,slow=6.1,SNR=23
BRVK Borovoye 62.03 322 *e*P P 03 23 12.3 +1.3
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 62.03 322 *e*P P 03 23 12.2 +1.3
comp=Z,1.6nm,0.6s,mb4.2
FWV Forest Hill 62.57 63 *e*P P 03 23 13.9 -0.6
LUPA Lehigh Univers 63.24 58 *e*P P 03 23 18.3 -0.7
FINES FINESS Array B 65.19 350 P P 03 23 30.8 -0.9
comp=Z,0.9nm,0.5s,mb3.8,baz=11,slow=9.0,SNR=8.7
FINES PcP PcP 03 24 01.8 -1.6
comp=Z,0.5nm,0.3s,baz=46,slow=5.5,SNR=4.7
NB2 NORSAR Subarra 66.58 358 P P 03 23 40.0 -0.6
comp=Z,0.9nm,0.6s,mb3.8,baz=2.8,slow=6.5
NOA NORSAR Array B 66.58 358 P P 03 23 38.9 -1.7
comp=Z,0.8nm,0.5s,mb3.8,baz=2.4,slow=6.5,SNR=5.8
KMI Kunming 66.86 281 P P 03 23 43.3 +0.9
KMI AP pP 03 24 09.9 0.0
KMI XP sP 03 24 21.1 -0.9
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
KMI LR LR
comp=Z,20nm,18.4s
KMI Kunming 66.86 281 P P 03 23 43.3 +0.9
KMI *PP pP 03 24 09.9 0.0
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
KMI MLR MLR
comp=Z,20nm,18.4s
KMI Kunming 66.86 281 P P 03 23 43.3 +0.9
comp=Z,10.0nm,0.9s,mb4.7
KMI pP pP 03 24 09.9 0.0
KMI sP sP 03 24 21.1 -0.9
KMI LR LR
comp=Z,20nm,18.4s
HFS Hagfors 67.40 356 P P 03 23 44.6 -1.2
comp=Z,2.5nm,0.4s,mb4.4,baz=354,slow=3.0,SNR=28
AKTK Aktyubinsk 68.50 328 P P 03 23 52.0 -0.7
AKTO Aktyubinsk 68.50 328 P P 03 23 52.0 -0.7
comp=Z,2.3nm,0.6s,mb4.2,baz=59,slow=7.3,SNR=7.6
AAK Ala-Archa 68.56 313 *e*P P 03 23 52.8 -0.3
OBN Obninsk 69.76 342 P P 03 23 57.0 -3.5
GOF Gofitskoye 77.77 335 *e*P P 03 24 49.2 +2.0
GERES GERESS Array B 78.68 355 P P 03 24 52.0 -0.2
comp=Z,0.7nm,0.6s,mb3.7,baz=12,slow=6.8,SNR=6.9
CTA Charters Tower 80.52 218 P P 03 25 01.2 -1.0
comp=Z,4.3nm,1.0s,mb4.2,baz=18,slow=8.7,SNR=4.0
BRTR Keskin Array B 85.05 339 P P 03 25 26.1 +0.5
comp=Z,0.9nm,0.5s,mb3.9,baz=18,slow=3.5,SNR=6.6
WB2 Warramunga Arr 85.36 228 *e*P P 03 25 25.4 -1.7
WRA Warramunga Arr 85.36 228 P P 03 25 25.9 -1.3
comp=Z,1.3nm,0.7s,mb4.0,baz=32,slow=5.6,SNR=13
WRA pP pP 03 25 53.2 -2.6
comp=Z,0.5nm,0.5s,baz=32,slow=5.8,SNR=4.6
ESDC Sonseca Array 87.56 8 P P 03 25 37.2 -0.7
comp=Z,0.4nm,0.5s,mb3.7,baz=351,slow=6.2,SNR=4.1
FITZ Fitzroy Crossi 87.98 236 *e*P P 03 25 38.9 -1.0
comp=Z,3.4nm,0.6s,mb4.5
FITZ Fitzroy Crossi 87.98 236 P P 03 25 39.0 -0.8
comp=Z,1.1nm,0.7s,mb4.0,baz=116,slow=13,SNR=6.9
AS31 Alice Springs 88.80 227 *e*P P 03 25 43.3 -0.4
ASAR Alice Springs 88.80 227 P P 03 25 43.2 -0.5
comp=Z,3.7nm,0.7s,mb4.5,baz=29,slow=4.9,SNR=46
ASAR pP pP 03 26 10.7 -2.0
comp=Z,1.7nm,0.7s,baz=36,slow=4.4,SNR=4.9
ASPA Alice Springs 88.80 227 *e*P P 03 25 43.3 -0.4
SDV Santo Domingo 90.59 75 *e*P P 03 25 52.0 -0.1
comp=Z,3.7nm,0.5s,mb4.8
TORD Torodi Ar. Bea 114.31 5 PKP PKiKP 03 31 27.6 -1.3
comp=Z,0.8nm,0.8s,baz=344,slow=2.3,SNR=14
TORD PKKPbc PKKPbc 03 42 06.0 -2.7
comp=Z,0.2nm,0.7s,baz=166,slow=2.4,SNR=6.8
TORD Torodi Ar. Bea 114.31 5 PKP PKiKP 03 31 27.6 -1.3
TORD PKKPbc PKKPbc 03 42 06.0 -2.7
VNDA Vanda 130.85 187 PKP PKPdf 03 31 58.5 -2.1
comp=Z,0.3nm,0.6s,baz=57,slow=5.8,SNR=3.2
TSUM Tsumeb 145.53 342 *e*PKPbc PKPbc 03 32 27.4 -0.3
LBTB Lobatse 148.90 325 *e*PKP2 PKPab 03 32 36.9 -4.5
MAW Mawson 149.61 219 *e*P PKPdf 03 32 37.2 +3.1
comp=Z,6.9nm,0.7s
MAW Mawson 149.61 219 PKPbc PKPbc 03 32 37.3 -1.6
comp=Z,10.0nm,0.8s,baz=82,slow=3.8,SNR=12
MAW pPKPbc pPKPbc 03 33 04.1 -4.8
comp=Z,3.6nm,0.6s,baz=45,slow=2.9,SNR=3.5
BOSA Boshof 152.31 323 PKPbc PKPbc 03 32 44.0 -1.1
comp=Z,2.2nm,0.7s,baz=22,slow=6.2,SNR=4.3
BOSA pPKPbc pPKPbc 03 33 14.8 -0.5
comp=Z,2.7nm,1.0s,baz=97,slow=8.1,SNR=1.7
BOSA Boshof 152.31 323 PKPbc PKPbc 03 32 44.0 -1.1
BOSA pPKPbc pPKPbc 03 33 14.8 -0.5
SNAA Sanae 160.47 171 *e*PKPdf PKPdf 03 32 45.4 -3.5
SNAA *e* 03 32 49.0
SNAA *e* 03 33 28.1
VNA2 Neumayer--Watz 160.62 166 *e*PKPdf PKPdf 03 32 46.8 -2.2
VNA2 *e* 03 32 50.0
VNA2 *e* 03 33 00.9
VNA2 *e* 03 33 16.8
VNA2 *e* 03 33 28.6
VNA1 Neumayer--Stat 160.73 165 *e*PKPdf PKPdf 03 32 47.2 -2.0
VNA1 *e* 03 32 50.5
VNA1 *e* 03 33 00.0
VNA1 *e* 03 33 17.3

GUC 09 03:19:47.5±0.6, 3145S×7158W, h13km±5km, MD3.9, ML2.4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.43**	**171**	⇑*i*P	Pg	03 19 56.3	+0.1
CHNG				*i* S	Sg	03 20 02.7	+0.7
CHNG				AML	AML	03 20 03.4	

comp=E,359nm,0.2s
CMCH Combarbala 0.57 61 ⇑*i*P Pg 03 19 58.4 -0.2
CMCH *i* S Sg 03 20 07.1 +0.9
CMCH AML AML 03 20 08.4
comp=N,425nm,0.3s
PTCH Petorca 0.98 146 ⇓*i*P Pb 03 20 05.0 -1.2
PTCH *i* S Sb 03 20 18.2 -0.9
PTCH AML AML 03 20 19.5
comp=E,486nm,0.1s
TLL Tololo Astrono 1.44 28 *e*P Pn 03 20 12.7 -0.6
TLL *i* S Sn 03 20 32.5 +0.4
TLL AML AML 03 20 35.6
comp=E,64nm,0.4s
PEL Peldehue 1.85 156 *e*P Pn 03 20 19.2 +0.3
PEL *i* S Sn 03 20 42.7 +0.7
PEL AML AML 03 20 46.3
comp=E,113nm,0.3s
CLCH Cerro Calan 2.13 156 *e*P Pn 03 20 22.8 0.0
FCH Farellones 2.17 150 *e*P Pn 03 20 23.1 -0.1
FCH *i* S Sn 03 20 51.3 +1.5
FCH AML AML 03 20 54.7
comp=E,41nm,0.2s

*NEIC **09** 03:22:44.2±1.1, 4709N×15401E, h10km, Error ellipse: s-maj=26.9km s-min=16.5km az=133.0*
*ISCJB **09** 03:22:47.3±1.7, 472N×02×1538E±02, h34km±12km, mb4.3/15, MS3.8/10, Error ellipse: s-maj=34.0km s-min=10.3km az=98.3*
*MOS **09** 03:22:48.0±1.2, 47.12N×15383E, h48km, mb4.1/1, Error ellipse: s-maj=18.1km s-min=13.0km az=65.6*
*IDC **09** 03:22:50.4±6.0, 47.11N×15394E, h55km±60km, mb3.7/10, mb1 3.9/12, mb1mx3.6/25, mbtmp3.7/12, ML3.6/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/38, Error ellipse: s-maj=53.8km s-min=28.5km az=18.0*

ISC 09 03:22:49.3±1.6, 472N×02×1539E±02, h36km±11km, n31, σ1§39/28, mb4.3/15, MS3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.80**	**22**	*e*PN	**Pn**	**03 23 46.5**	**+1.1**
SKR				pmax	pmax		
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR	**Kuril's'k**	**4.61**	**247**	*e*PN	**Pn**	**03 23 55.0**	**-1.5**
KUR				*e*S	**Sn**	**03 24 47.5**	**-1.3**
KUR				pmax	pmax		
	comp=Z,110nm,0.7s						
KUR				smax			
	comp=N,430nm,0.8s						
KUR				smax			
	comp=E,470nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.45**	**244**	PN	**Pn**	**03 24 21.5**	**-0.2**
YUK				S	**Sn**	**03 25 40.0**	**+5.9**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
ASAJ	**Asahikawa**	**8.48**	**253**	P	**Pn**	**03 24 52.0**	**+2.4**
	baz=95,slow=19,SNR=3.1						
ASAJ				LR	LR	03 27 32.2	
	comp=E,172nm,20.9s,baz=15,slow=33						
MJAR	**Matsushiro Arr**	**15.76**	**233**	P	**Pn**	**03 26 26.9**	**-1.6**
	comp=E,0.2nm,0.3s,baz=22,slow=8.2,SNR=2.7						
JNU	**Nakatsue**	**22.40**	**239**	LR	LR	03 36 29.2	
	comp=E,206nm,19.3s,MS3.6,baz=82,slow=37						
SONM	**Songino Array**	**31.70**	**289**	LR	LR	03 42 41.8	
	comp=E,131nm,19.1s,MS3.6,baz=177,slow=38						
ZAL	**Zalesovo**	**42.81**	**306**	P	**P**	**03 30 42.6**	**-0.9**
	comp=E,1.1nm,0.3s,mb4.0,baz=45,slow=10.0,SNR=3.2						
ZAL				LR	LR	03 49 42.5	
	comp=E,121nm,20.0s,MS3.8,baz=64,slow=38						
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**03 31 17.2**	**-1.4**
	comp=E,0.5nm,0.5s,mb3.7,baz=64,slow=8.9,SNR=4.9						
MKAR				LR	LR	03 50 36.4	
	comp=E,45nm,20.2s,MS3.4,baz=181,slow=35						
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**03 31 17.2**	**-1.4**
MKAR				LR	LR	03 50 36.4	
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	**03 31 46.6**	**-0.9**
	comp=E,0.7nm,0.3s,mb4.0,baz=51,slow=7.8,SNR=6.3						
BVAR				LR	LR	03 55 13.2	
	comp=E,132nm,18.4s,MS4.0,baz=139,slow=38						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	**03 31 46.6**	**-0.9**
BVAR				LR	LR	03 55 13.2	
GUN	**Gumba**	**55.49**	**275**	*e*P	**P**	**03 32 22.9**	**+2.3**
	comp=E,4.5nm,0.4s,mb4.9						
KKN	**Kakani**	**55.98**	**276**	*e*P	**P**	**03 32 25.7**	**+1.7**
DMN	**Daman**	**56.21**	**276**	*e*P	**P**	**03 32 27.4**	**+1.7**
	comp=E,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**56.28**	**276**	*e*P	**P**	**03 32 27.5**	**+1.3**
	comp=E,22nm,0.9s,mb5.2						
KEV	**Kevo**	**57.12**	**341**	*e*p	**P**	**03 32 32.4**	**+0.3**
	comp=E,13nm,1.0s,mb4.9						
KEV	**Kevo**	**57.12**	**341**	*e*P	**P**	**03 32 32.4**	**+0.3**
KEV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KOLN	**Koldanda**	**57.13**	**277**	*e*P	**P**	**03 32 33.6**	**+1.4**
	comp=Z,10.0nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**57.62**	**341**	P	**P**	**03 32 33.8**	**-1.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=36,slow=7.9,SNR=2.9						
AKTO	**Aktyubinsk**	**58.84**	**312**	LR	LR	04 00 33.5	
	comp=Z,111nm,18.2s,MS4.0,baz=21,slow=38						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**03 33 16.9**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.3,baz=36,slow=8.0,SNR=27						
FINES				LR	LR	04 05 35.7	
	comp=Z,74nm,19.3s,MS3.9,baz=155,slow=40						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**03 33 16.9**	**-1.3**
FINES				LR	LR	04 05 35.7	
NB2	**NORSAR Subarra**	**67.99**	**341**	P	**P**	**03 33 44.1**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.99**	**341**	P	**P**	**03 33 44.0**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=29,slow=6.1,SNR=4.8						
NOA				LR	LR	04 07 48.0	
	comp=Z,36nm,18.8s,MS3.6,baz=180,slow=40						
AKASG	**Malin Array Be**	**71.48**	**327**	P	**P**	**03 34 05.1**	**-1.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=34,slow=6.1,SNR=4.8						
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**	**03 34 36.5**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=295,slow=4.2,SNR=17						
GERES	**GERESS Array B**	**78.30**	**334**	P	**P**	**03 34 45.9**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=41,slow=9.1,SNR=3.6						
GERES				LR	LR	04 11 35.3	
	comp=Z,51nm,20.6s,MS3.8,baz=306,slow=37						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**03 34 47.2**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=5.2,slow=2.7,SNR=5.7						
PPT	**Papeete**	**81.98**	**127**	LR	LR	04 06 26.6	
	comp=Z,112nm,18.6s,MS4.3,baz=335,slow=32						
TORD	**Torodi Ar. Bea**	**115.00**	**330**	PKP	PKiKP	03 41 24.4	-2.0
	comp=Z,1.4nm,1.3s,baz=23,slow=3.2,SNR=5.2						

IDC 09 03:23:04.7±3.4, 643S×15139E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=117.9km s-min=47.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**235**	Sn	Sn	03 25 23.2	+0.7
	1.5nm,0.3s,baz=165,slow=20,SNR=4.2						
WB2	**Warramunga Arr**	**21.31**	**229**	*e*P	P	03 27 54.4	+1.4
WRA	**Warramunga Arr**	**21.32**	**229**	P	P	03 27 53.5	+0.4
	1.2nm,0.6s,baz=55,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.00**	**223**	P	P	03 28 21.3	+0.2
	1.0nm,0.5s,baz=56,slow=8.7,SNR=16						
ASPA	**Alice Springs**	**24.01**	**223**	*e*P	P	03 28 22.0	+0.9
FITZ	**Fitzroy Crossi**	**27.66**	**243**	*e*P	P	03 28 54.1	-0.1
	3.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.66**	**243**	P	P	03 28 54.4	+0.3
	2.8nm,0.8s,baz=61,slow=8.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKiKP	03 42 56.5	+0.9
	0.4nm,0.6s,baz=61,slow=2.6,SNR=5.9						

*NEIC **09** 03:28:25.3±1.0, 622S×15131E, h10km, mb4.1/1, Error ellipse: s-maj=33.4km s-min=14.3km az=122.0*
*ISCJB **09** 03:28:34.9±3.9, 63S±02×151.1E±0.3, h99km±31km, mb3.7/6, Error ellipse: s-maj=45.0km s-min=24.7km az=55.2*
*IDC **09** 03:28:36.8±7.1, 6.31S×151.04E, h93km±52km, mb3.5/5, mb1 3.6/6, mb1mx3.5/15, mbtmp3.5/6, Error ellipse: s-maj=61.1km s-min=33.0km az=94.0*

ISC 09 03:28:35.7±3.7, 63S±02×1511E±0.3, h92km±29km, n12, σ0§85/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**231**	P	**Pn**	**03 29 48.2**	**0.0**
	1.6nm,0.3s,baz=68,slow=14,SNR=4.0						
PMG				S	**Sn**	**03 30 45.3**	**+0.6**
	2.8nm,0.3s,baz=310,slow=24,SNR=5.2						
KAKA	**Kakadu**	**19.48**	**249**	*e*P	**Pn**	**03 32 56.2**	**-1.1**
	9.4nm,0.8s						
WB2	**Warramunga Arr**	**21.20**	**229**	*e*P	**P**	**03 33 12.1**	**-1.7**
WRA	**Warramunga Arr**	**21.21**	**229**	P	**P**	**03 33 13.7**	**-0.2**
	1.3nm,0.5s,mb3.5,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.93**	**222**	P	**P**	**03 33 41.5**	**+0.4**
	0.8nm,0.7s,mb3.2,baz=56,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**26.98**	**198**	P	**P**	**03 34 09.4**	**+0.6**
	2.8nm,0.8s,mb3.8,baz=23,slow=15,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.48**	**242**	*e*P	**P**	**03 34 13.4**	**+0.2**
	2.3nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.48**	**242**	P	**P**	**03 34 14.3**	**+1.1**
	1.7nm,0.7s,mb3.7,baz=77,slow=10,SNR=8.4						
SONM	**Songino Array**	**66.68**	**329**	P	**P**	**03 39 17.8**	**+1.2**
	0.3nm,0.6s,mb3.3,baz=130,slow=5.8,SNR=2.7						
MCK	**McKinley**	**82.86**	**23**	*e*P	**P**	**03 40 49.5**	**-0.6**
	4.6nm,1.1s,mb4.2						
TOA0	**Torodi Ar. Sit**	**149.10**	**285**	*e*PKPbc	PKPbc	03 48 15.1	+1.8
TORD	**Torodi Ar. Bea**	**149.10**	**285**	PKPbc	PKPbc	03 48 14.8	+1.5
	0.9nm,0.7s,baz=93,slow=2.7,SNR=12						

IDC 09 03:52:54.8±3.6, 649S×15168E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/12, mbtmp3.4/2, Error ellipse: s-maj=147.4km s-min=49.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**237**	Sn	Sn	03 55 17.7	0.0
	0.7nm,0.3s,baz=51,slow=20,SNR=3.2						
WB2	**Warramunga Arr**	**21.49**	**230**	*e*P	P	03 57 45.3	+0.3
WRA	**Warramunga Arr**	**21.50**	**230**	P	P	03 57 45.4	+0.2
	0.9nm,0.8s,baz=56,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.16**	**223**	P	P	03 58 13.1	+0.6
	0.6nm,0.5s,baz=56,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**27.89**	**243**	*e*P	P	03 58 45.7	-0.6
	5.6nm,1.9s						
TORD	**Torodi Ar. Bea**	**149.71**	**285**	PKPbc	PKPbc	04 12 47.1	+0.7
	0.3nm,0.8s,baz=85,slow=1.8,SNR=6.1						

*NEIC **09** 04:01:41.7, 1566N×9256W, h200km, MD4.1(MEX), After MEX.*

MEX 09 04:01:42.7±0.7, 1571N×9256W, h191km±11km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.70**	**35**	*i* P	Pn	04 02 08.8	-0.8
CCIG				*i* S	Sn	04 02 28.6	-1.8
CCIG	**Comitan**	**0.70**	**35**	*i* P	Pn	04 02 08.8	-0.8
CCIG				*i* S	Sn	04 02 30.1	-0.3
CMIG	**Matias Romero**	**2.62**	**302**	*i* P	Pn	04 02 25.8	-1.6
CMIG				*i* S	Sn	04 03 00.1	-2.1
CMIG	**Matias Romero**	**2.62**	**302**	*i* P	Pn	04 02 25.1	-2.3
CMIG				*i* S	Sn	04 03 00.1	-2.1
HUIG	**Huatulco**	**3.42**	**271**	*i* P	Pn	04 02 35.4	-1.5
HUIG				*i* S	Sn	04 03 17.1	-2.3
HUIG	**Huatulco**	**3.42**	**271**	*i* P	Pn	04 02 34.9	-2.1
HUIG				*i* S	Sn	04 03 17.1	-2.3
OXX	**Oaxaca**	**4.23**	**289**	*i* P	Pn	04 02 47.7	+0.7
OXX				*i* S	Sn	04 03 37.0	-0.4
VHO	**Vista Hermosa**	**4.23**	**289**	*i* P	Pn	04 02 47.1	+0.1
VHO				*i* S	Sn	04 03 36.2	-1.3
VHO	**Vista Hermosa**	**4.23**	**289**	*i* P	Pn	04 02 47.1	+0.1
VHO				*i* S	Sn	04 03 37.5	0.0

*NEIC **09** 04:04:42.0, 1588N×9692W, h16km, MD3.8(MEX), After MEX.*

MEX 09 04:04:42.0±0.8, 1588N×9692W, h16km±999km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.79**	**98**	*i* P	Pb	04 04 54.7	-2.5
HUIG				*i* S	Sb	04 05 04.0	-3.6
VHO	**Vista Hermosa**	**1.20**	**8**	*i* P	Pn	04 05 00.9	-3.1
VHO				*i* S	Sb	04 05 14.7	-4.8
OXX	**Oaxaca**	**1.21**	**9**	*i* P	Pn	04 05 01.2	-3.0
OXX				*i* S	Sb	04 05 14.8	-5.0
UTMO	**Huajuapan**	**2.12**	**336**	*i* P	Pn	04 05 13.8	-2.8
UTMO				*i* S	Sn	04 05 39.1	-3.4
CMIG	**Matias Romero**	**2.29**	**58**	*i* P	Pn	04 05 15.3	-3.8
CMIG				*i* S	Sn	04 05 43.6	-3.3
TPIG	**Tehuac#an**	**2.56**	**350**	*i* S	Sn	04 05 49.8	-3.7

*NEIC **09** 04:06:04.0±3.4, 3217S×17977E, h336km±30km, mb3.9/5, Error ellipse: s-maj=30.9km s-min=16.9km az=222.0*
*ISCJB **09** 04:06:07.5±1.0, 3249S±007×1794E±01, h368km±8km, mb3.9/8, Error ellipse: s-maj=15.6km s-min=11.6km az=163.4*
*IDC **09** 04:06:09.7±2.6, 3200S×17954E, h382km±26km, mb3.9/4, mb1 4.2/4, mb1mx3.6/12, mbtmp3.9/4, Error ellipse: s-maj=37.8km s-min=15.6km az=171.0*

ISC 09 04:06:10.0±1.0, 3265S±007×1794E±01, h373km±8km, n58, σ0§99/59, mb3.9/8, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.98**	**190**	SN	**S**	**04 08 35.6**	**0.0**
PUZ	**Puketiti**	**5.49**	**189**	PN	**Pn**	**04 07 36.7**	**+0.9**
PUZ				SN	**S**	**04 08 45.7**	**+0.1**
MWZ	**Matawai**	**5.87**	**194**	PN	**Pn**	**04 07 40.0**	**-0.1**
MWZ				SN	**S**	**04 08 54.1**	**+0.8**
URZ	**Urewera**	**5.89**	**198**	*e*PN	**Pn**	**04 07 38.9**	**-1.4**
URZ				SN	**S**	**04 08 54.5**	**+0.7**
KNZ	**Kokohu**	**6.50**	**192**	*e*PN	**Pn**	**04 07 46.1**	**-1.1**
KNZ				SN	**S**	**04 09 05.7**	**-0.7**
BKZ	**Black Stump Fm**	**6.91**	**199**	PN	**Pn**	**04 07 52.2**	**+0.4**
FWVZ	**Far West T-bar**	**7.28**	**204**	PN	**Pn**	**04 07 57.6**	**+1.5**
WNVZ	**Wahianoa**	**7.33**	**204**	*e*PN	**Pn**	**04 07 56.4**	**-0.2**
MOVZ	**Moawhango**	**7.35**	**202**	PN	**Pn**	**04 07 57.6**	**+0.8**
PXZ	**Pawanui**	**7.64**	**195**	PN	**Pn**	**04 08 01.1**	**+0.8**
WPHZ	**Waipukurau**	**7.76**	**197**	SN	**S**	**04 09 33.2**	**+0.3**
TSZ	**Takapari Road**	**7.88**	**199**	PN	**Pn**	**04 08 02.1**	**-1.0**
WAZ	**Wanganui**	**7.92**	**205**	PN	**Pn**	**04 08 05.4**	**+1.9**
BFZ	**Birch Farm**	**8.39**	**196**	PN	**Pn**	**04 08 10.3**	**+1.2**
MRZ	**Mangatainoka R**	**8.55**	**200**	PN	**Pn**	**04 08 10.7**	**-0.2**
TIWZ	**Tintock**	**8.58**	**198**	SN	**S**	**04 09 49.8**	**-0.6**
KIW	**Kapiti Island**	**8.94**	**202**	PN	**Pn**	**04 08 16.1**	**+0.7**
MTW	**Mount Morrison**	**9.04**	**199**	PN	**Pn**	**04 08 16.3**	**-0.2**
CAW	**Cannon Point**	**9.11**	**201**	PN	**Pn**	**04 08 17.1**	**-0.3**
TRWZ	**Traveller**	**9.21**	**198**	PN	**Pn**	**04 08 19.1**	**+0.5**
DUWZ	**D'Urville Isla**	**9.23**	**207**	PN	**Pn**	**04 08 18.7**	**-0.1**
PAWZ	**Paruwai Farm**	**9.26**	**199**	SN	**S**	**04 10 01.8**	**-3.4**
MRW	**Makara Radio**	**9.34**	**202**	PN	**Pn**	**04 08 20.1**	**0.0**
MSWZ	**Moikau Station**	**9.34**	**199**	PN	**Pn**	**04 08 20.0**	**-0.2**
SNZO	**South Karori**	**9.41**	**202**	*e*Pn	**Pn**	**04 08 20.6**	**-0.4**
TCW	**Tory Channel**	**9.46**	**204**	PN	**Pn**	**04 08 21.7**	**+0.2**
NNZ	**Nelson**	**9.80**	**208**	*e*PN	**Pn**	**04 08 23.1**	**-2.4**
THZ	**Tophouse**	**10.45**	**208**	PN	**Pn**	**04 08 32.3**	**-0.8**
KHZ	**Kahutara**	**10.79**	**204**	PN	**Pn**	**04 08 36.4**	**-0.8**
DSZ	**Denniston Nort**	**10.89**	**211**	*e*PN	**Pn**	**04 08 38.5**	**+0.1**
LTZ	**Lake Taylor**	**11.56**	**207**	PN	**Pn**	**04 08 45.5**	**-0.7**
MQZ	**McQueen's Vall**	**12.23**	**204**	SN	**S**	**04 11 05.4**	**-2.7**
JCZ	**Jackson Bay**	**14.10**	**213**	PN	**P**	**04 09 14.5**	**+0.8**
DZM	**Mont Dzumac**	**15.56**	**309**	*e*P	**P**	**04 09 28.2**	**-1.4**
STKA	**Stephens Creek**	**31.83**	**261**	⇑*i*P	**P**	**04 12 03.5**	**+2.0**
	3.8nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**31.83**	**261**	P	**P**	**04 12 03.8**	**+2.3**
	7.2nm,0.8s,mb3.9,baz=89,slow=10,SNR=13						
STKA	**Stephens Creek**	**31.83**	**261**	*e*P	**P**	**04 12 03.4**	**+1.9**
CTA	**Charters Tower**	**32.05**	**285**	⇑*i*P	**P**	**04 12 03.9**	**+0.5**
	3.5nm,0.4s,mb3.9						
CTAO	**Charters Tower**	**32.05**	**285**	*e*P	**P**	**04 12 03.7**	**+0.2**
	4.9nm,0.6s,mb3.9						
AS31	**Alice Springs**	**40.81**	**271**	*e*P	**P**	**04 13 16.6**	**0.0**
ASAR	**Alice Springs**	**40.81**	**271**	P	**P**	**04 13 16.6**	**+0.1**
	5.0nm,0.5s,mb4.0,baz=105,slow=7.6,SNR=86						
ASAR				S	**S**	**04 19 01.1**	**+2.0**
	2.2nm,1.0s,baz=111,slow=15,SNR=11						
ASPA	**Alice Springs**	**40.81**	**271**	*e*P	**P**	**04 13 16.5**	**-0.1**
WB2	**Warramunga Arr**	**42.00**	**276**	⇑*i*P	**P**	**04 13 25.6**	**-0.5**
WRA	**Warramunga Arr**	**42.01**	**276**	P	**P**	**04 13 25.4**	**-0.8**
	16nm,0.3s,mb4.6,baz=112,slow=8.0,SNR=831						
WRA				S	**S**	**04 19 16.7**	**+0.2**
	0.7nm,0.8s,baz=114,slow=14,SNR=5.1						
FITZ	**Fitzroy Crossi**	**50.16**	**273**	*e*P	**P**	**04 14 28.8**	**-0.2**
	3.2nm,0.8s,mb3.6						
CASY	**Casey**	**52.10**	**209**	*e*P	**P**	**04 14 44.2**	**+1.0**
	2.8nm,0.6s,mb3.8						
QSPA	**South Pole Qui**	**57.47**	**180**	*e*P	**P**	**04 15 23.7**	**+2.5**
SNAA	**Sanae**	**75.96**	**179**	*e*	**P**	**04 17 17.5**	**+0.7**
SNAA				*e*		04 17 20.9	
SNAA				*e*		04 17 23.8	
SNAA	**Sanae**	**75.96**	**179**	*e*P	**P**	**04 17 16.9**	**+0.1**
	1.0nm,0.7s,mb3.6						
VNA2	**Neumayer--Watz**	**76.61**	**178**	*e*	**P**	**04 17 21.0**	**+0.6**
	baz=192,slow=4.9						
VNA2				*e*		04 17 24.2	
VNA2				*e*		04 17 27.3	
VNA1	**Neumayer--Stat**	**76.85**	**177**	*e*	**P**	**04 17 20.3**	**-1.4**
VNA1				*e*		04 17 24.6	
VNA1				*e*		04 17 27.4	
NVAR	**Mina Array Bea**	**91.42**	**44**	P	**P**	**04 18 31.5**	**-3.0**
	0.7nm,0.7s,mb3.7,baz=237,slow=8.1,SNR=4.9						
NVAR	**Mina Array Bea**	**91.42**	**44**	P	**P**	**04 18 31.5**	**-3.0**
FINES	**FINESS Array B**	**146.41**	**337**	PKPbc	PKPbc	04 25 03.7	-3.9
	1.7nm,0.6s,baz=42,slow=5.1,SNR=18						
EIL	**Elat**	**149.48**	**274**	*e*PKPbc	PKPbc	04 25 12.6	-3.0
NOA	**NORSAR Array B**	**150.56**	**348**	PKPbc	PKPbc	04 25 12.9	-5.3
	0.3nm,0.6s,baz=26,slow=3.7,SNR=2.8						
NOA				PKPab	PKPab	04 25 21.6	-4.8
	1.5nm,0.8s,baz=23,slow=3.3,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**160.47**	**187**	*e*PKPab	PKPab	04 26 10.3	+1.3
TORD	**Torodi Ar. Bea**	**160.47**	**187**	PKPab	PKPab	04 26 10.3	+1.4
	0.4nm,0.5s,baz=178,slow=3.3,SNR=15						

*NEIC **09** 04:14:42.1±1.2, 608S×15145E, h10km, mb4.0/1, Error ellipse: s-maj=33.5km s-min=19.0km az=130.0*
*ISCJB **09** 04:14:46.5±5.3, 6.1S±0.3×1512E±0.3, h52km±37km, mb3.6/4, Error ellipse: s-maj=54.1km s-min=38.9km az=109.0*
*IDC **09** 04:14:48.6±8.6, 621S×15130E, h47km±63km, mb3.5/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.6/5, ML2.6/1, Error ellipse: s-maj=62.7km s-min=52.9km az=76.0*

ISC 09 04:14:47.3±5.2, 60S±03×1512E±03, h49km±35km, n11, σ0§50/10, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**230**	P	**Pn**	**04 16 04.0**	**+0.3**
	1.5nm,0.3s,baz=63,slow=18,SNR=4.7						
PMG				S	**Sn**	**04 17 03.5**	**+0.1**
	2.4nm,0.3s,baz=178,slow=18,SNR=5.2						
KAKA	**Kakadu**	**19.71**	**249**	*e*P	**Pn**	**04 19 13.6**	**-0.9**
	3.1nm,0.4s						
WB2	**Warramunga Arr**	**21.50**	**228**	*e*P	**P**	**04 19 31.9**	**0.0**
WRA	**Warramunga Arr**	**21.51**	**228**	P	**P**	**04 19 31.9**	**-0.1**
	0.8nm,0.4s,mb3.5,baz=54,slow=11,SNR=13						
AS31	**Alice Springs**	**24.24**	**222**	*e*P	**P**	**04 19 59.4**	**-0.1**
ASAR	**Alice Springs**	**24.24**	**222**	P	**P**	**04 19 59.4**	**-0.2**
	0.6nm,0.4s,mb3.4,baz=56,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**27.30**	**198**	P	**P**	**04 20 27.1**	**-0.1**
	1.2nm,0.5s,mb3.7,baz=8.7,slow=13,SNR=2.6						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	*e*P	**P**	**04 20 32.2**	**+1.0**
	2.5nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	P	**P**	**04 20 32.5**	**+1.3**
	1.2nm,0.5s,mb3.8,baz=47,slow=12,SNR=12						
TOA0	**Torodi Ar. Sit**	**149.16**	**286**	*e*PKPbc	PKPbc	04 34 33.1	+2.9
TORD	**Torodi Ar. Bea**	**149.16**	**286**	PKPbc	PKPbc	04 34 33.1	+2.9
	0.5nm,0.6s,baz=67,slow=3.0,SNR=8.8						

IDC 09 04:16:48.5±1.2, 4707N×15410E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=35.6km s-min=30.5km az=19.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.86**	**289**	P	P	04 23 15.4	+0.2
	0.4nm,0.8s,baz=64,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**47.39**	**298**	P	P	04 25 23.5	-0.9
	0.8nm,0.8s,baz=39,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**64.03**	**335**	P	P	04 27 22.8	-1.1
	3.0nm,0.9s,baz=54,slow=9.7,SNR=4.1						
NOA	**NORSAR Array B**	**68.14**	**342**	P	P	04 27 50.4	+0.1
	1.4nm,0.8s,baz=26,slow=6.6,SNR=4.4						
ASAR	**Alice Springs**	**72.73**	**199**	P	P	04 28 18.3	-0.1
	0.2nm,0.7s,baz=19,slow=6.0,SNR=4.2						
TXAR	**Lajitas Array**	**76.75**	**61**	P	P	04 28 41.8	+0.1
	0.8nm,0.8s,baz=300,slow=3.5,SNR=7.0						
BRTR	**Keskin Array B**	**78.61**	**317**	P	P	04 28 52.6	+0.5
	0.3nm,0.6s,baz=45,slow=6.3,SNR=3.2						

*SKHL **09** 04:20:42.9±2.3, 4663N×15492E, h73km±30km, Ms4.6/2*
*ISCJB **09** 04:20:45.9±0.4, 4709N±006×15392E±008, h38km, mb4.7/98, MS4.1/34, Error ellipse: s-maj=11.0km s-min=4.5km az=100.0*
*IDC **09** 04:20:46.5±0.5, 4710N×15408E, h36km±4km, mb4.1/19, mb1 4.3/19, mb1mx4.2/24, mbtmp4.1/19, MS4.0/17, Ms1 4.0/17, ms1mx3.6/45, Error ellipse: s-maj=17.0km s-min=13.8km az=128.0*
*NEIC **09** 04:20:47.9±2.4, 4709N×15298E, h26km±16km, mb4.8/58, Error ellipse: s-maj=11.4km s-min=7.4km az=137.0*
*MOS **09** 04:20:47.0±1.2, 4706N×15383E, h47km, mb5.0/50, MS4.2/10, Error ellipse: s-maj=9.8km s-min=5.2km az=102.9*
*BJI **09** 04:20:48.2, 4678N×15263E, h8km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*SZGRF **09** 04:20:51.1, 4760N×15367E, h33km, mb5.1, Kuril Islands, Russia*

ISC 09 04:20:47.4±0.4, 4712N±006×15404E±008, h40km, h40km±2.7km: pP-P, n275, σ1§16/288, mb4.7/98, MS4.1/34, 27C-30D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.82**	**20**	*e*P	**Pn**	**04 21 41.5**	**-2.2**
SKR				AMB	AMB	04 21 47.6	
	80nm,0.5s						
SKR				AMB	AMB	04 21 47.6	
	220nm,1.0s						
SKR				AMB	AMB	04 21 47.6	
	270nm,1.0s						
SKR				*e*rx	rx	04 21 54.5	
SKR				*e*S	**Sn**	**04 22 23.7**	**-3.6**
SKR				A		04 22 44.0	
	280nm,0.5s						
SKR				A		04 22 44.0	
	150nm,0.5s						
SKR				A		04 22 44.0	
	80nm,0.5s						
SKR				AMS	AMS	04 23 30.0	
	7µm,12.0s						
SKR				AMS	AMS	04 23 30.0	
	3µm,16.0s						
KUR	**Kuril'sk**	**4.69**	**249**	⇓*i*P	**Pn**	**04 21 53.4**	**-2.2**
KUR				AMB	AMB	04 22 10.2	
	183nm,0.8s						
KUR				AMB	AMB	04 22 10.2	
	129nm,0.8s						
KUR				AMB	AMB	04 22 10.2	
	323nm,0.8s						
KUR				*i* S	**Sn**	**04 22 48.0**	**-0.7**
KUR				A		04 23 02.4	
	8µm,4.0s						
KUR				A		04 23 11.7	
	2µm,1.0s						
KUR				A		04 23 11.7	
	754nm,1.0s						
KUR	**Kuril'sk**	**4.69**	**249**	⇓*i*PN	**Pn**	**04 21 53.4**	**-2.2**
KUR				*i* S	**Sn**	**04 22 48.0**	**-0.7**
KUR				pmax	pmax		
	comp=N,180nm,0.8s						
KUR				pmax	pmax		
	comp=E,130nm,0.8s						
KUR				pmax	pmax		
	comp=Z,320nm,0.8s						
KUR				smax			
	comp=E,8µm,4.0s						
KUR				smax			
	comp=N,2µm,1.0s						
KUR				smax			
	comp=E,750nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.52**	**245**	*e*P	**Pn**	**04 22 22.0**	**+1.3**
YUK				*e*S	**Sn**	**04 23 34.5**	**+0.7**
YUK				A		04 23 39.0	
	comp=E,2µm,2.0s						
YUK				A		04 23 40.5	
	comp=E,460nm,0.5s						
YUK				A		04 23 40.5	
	comp=E,190nm,0.5s						
PET	**Petropavlovsk**	**6.61**	**25**	⇑*e*PN	**Pn**	**04 22 19.5**	**-2.5**
PET				*e*S	**Sn**	**04 23 31.8**	**-4.3**
PET	**Petropavlovsk**	**6.61**	**25**	*e*P	**Pn**	**04 22 28.6**	**+6.6**
	comp=E,217nm,1.4s						
YSS	**Yuzh-Sakhalins**	**7.72**	**273**	*e*P	**Pn**	**04 22 42.8**	**+5.6**
YSS				*e*S	**Sn**	**04 24 11.0**	**+7.7**
YSS				A		04 24 14.5	
	comp=E,50nm,0.5s						
YSS				*e*LQ		04 24 37.0	
YSS				AMS	AMS	04 25 37.0	
	comp=E,1µm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.72**	**273**	*e*PN	**Pn**	**04 22 42.8**	**+5.6**
YSS				*e*S	**Sn**	**04 24 11.0**	**+7.7**
YSS				smax			
	comp=E,50nm,0.5s						
YSS				MLR	MLR		
	comp=Z,1µm,16.0s						
UGL	**Uglegorsk**	**8.26**	**288**	*e*P	**Pn**	**04 22 56.0**	**+11**
UGL				AMB	AMB	04 22 57.0	
	comp=Z,59nm,0.6s						
UGL				AMS	AMS	04 26 16.0	
	comp=Z,1µm,15.0s						
UGL				AMS	AMS	04 26 16.0	
	comp=Z,2µm,15.0s						
UGL				AMS	AMS	04 26 16.0	
	comp=Z,3µm,15.0s						
ASAJ	**Asahikawa**	**8.57**	**254**	Pn	**Pn**	**04 22 51.2**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=60,slow=12,SNR=8.9						
ASAJ				LR	LR	04 26 12.6	
	comp=Z,330nm,18.5s,baz=328,slow=38						
ERM	**Erimo**	**9.29**	**241**	⇑PN	**Pn**	**04 23 00.0**	**+1.2**
TEY	**Ternei**	**12.29**	**267**	eL		04 27 37.0	
TEY				AMS	AMS	04 28 42.0	
	comp=Z,1µm,14.0s						
TEY				AMS	AMS	04 28 42.0	
	comp=Z,2µm,14.0s						
MA2	**Magadan**	**12.63**	**352**	*e*PN	**Pn**	**04 23 44.6**	**+0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,5.0s						
MA2	**Magadan**	**12.63**	**352**	*e*Pn	**Pn**	**04 23 44.5**	**+0.1**
KLR	**Kul'dur**	**15.02**	**286**	*e*P	**Pn**	**04 24 20.8**	**+4.1**
KLR				MLR	MLR		
	comp=E,1µm,17.0s						
KLR				MLR	MLR		
	comp=Z,4µm,13.0s						
MAJO	**Matsushiro**	**15.81**	**234**	*e*P	**Pn**	**04 24 20.6**	**-6.5**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**15.81**	**234**	*e*Pn	**Pn**	**04 24 20.6**	**-6.5**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**15.81**	**234**	P	**Pn**	**04 24 20.0**	**-7.1**
MJAR	**Matsushiro Arr**	**15.81**	**234**	Pn	**Pn**	**04 24 23.7**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=27,slow=13,SNR=6.5						
MDJ	**Mudanjiang**	**17.20**	**271**	P	**Pn**	**04 24 36.7**	**-7.8**
MDJ				AP	pP	04 24 42.6	-13
MDJ				XP	sP	04 24 44.1	-17
MDJ				S	S	04 27 35.5	-27
MDJ				PCP	PcP	04 29 28.7	+2.0
MDJ				SCP	ScP	04 33 03.4	+5.0
MDJ				PCS	PcS	04 33 05.2	+2.4
MDJ				SCS	ScS	04 36 44.0	+5.8
MDJ				AMB	AMB		
	comp=Z,15nm,2.3s						
MDJ				AMB	AMB		
	comp=Z,251nm,4.8s						
MDJ				LR	LR		
	comp=N,199nm,16.9s						
MDJ				LR	LR		
	comp=E,139nm,22.3s						
MDJ				LR	LR		
	comp=Z,357nm,17.3s						
CLNS	**Chul'man**	**20.27**	**309**	*e*P	**P**	**04 25 21.2**	**+1.7**
CLNS				*e*		04 25 39.6	
CLNS				*e*PPP		04 25 52.2	
CLNS				*e*S	**S**	**04 29 07.6**	**+3.0**
CLNS				pmax	pmax		
	comp=Z,32nm,1.1s						
CLNS				pmax	pmax		
	comp=N,14nm,0.7s						
CLNS				pmax	pmax		
	comp=E,14nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s						
CLNS				pmax	pmax		
	comp=N,17nm,1.1s						
CLNS				pmax	pmax		
	comp=E,21nm,0.9s						
CLNS				smax			
	comp=N,53nm,14.0s						
CLNS				smax			
	comp=E,146nm,13.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,600nm,14.0s,MS4.1						
CN2	**Changchun**	**20.28**	**271**	*e*P	**P**	**04 25 16.4**	**-3.2**
CN2				*e*AP		04 25 20.1	
CN2				*e*S	**S**	**04 28 46.9**	**-18**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,800nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=Z,700nm,19.0s,MS4.0						
YAK	**Yakutsk**	**20.36**	**326**	⇑*e*P	**P**	**04 25 22.7**	**+2.2**
YAK				pmax	pmax		
	comp=Z,34nm,0.8s						
KSRS	**Korea Array**	**21.52**	**253**	P	**P**	**04 25 34.4**	**+1.5**
	comp=Z,17nm,1.1s,mb4.4,baz=62,slow=8.7,SNR=9.6						
KSRS				LR	LR	04 34 04.5	
	comp=Z,111nm,18.7s,MS3.3,baz=182,slow=37						
BILL	**Bilibino**	**21.89**	**12**	⇑*e*P	**P**	**04 25 36.8**	**-0.1**
BILL

NJ2	**Nanjing**	**30.71**	**253**	*e*P	**P**	**04 26 55.0**	**-3.5**
NJ2				S	**S**	**04 31 48.5**	**-10**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,100nm,10.4s						
NJ2				LR	LR		
	comp=N,610nm,21.1s,MS4.4						
NJ2				LR	LR		
	comp=E,670nm,23.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,500nm,15.2s						
HHC	**Hu-ho-hao-te**	**30.90**	**274**	*e*P	**P**	**04 26 57.0**	**-3.1**
HHC				AP	pP	04 27 01.6	-10
HHC				XP	sP	04 27 04.0	-12
HHC				PP	PP	04 27 55.8	-15
HHC				PCP	PcP	04 30 00.0	+4.0
HHC				S	**S**	**04 31 53.3**	**-8.2**
HHC				SCP	ScP	04 33 39.5	+3.9
HHC				PCS	PcS	04 33 41.3	+1.3
HHC				SCS	ScS	04 37 32.0	-0.4
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,112nm,4.8s						
HHC				LR	LR		
	comp=N,384nm,15.1s,MS4.4						
HHC				LR	LR		
	comp=E,462nm,15.3s,MS4.4						
HHC				LR	LR		
	comp=Z,476nm,14.3s,MS4.3						
SONM	**Songino Array**	**31.81**	**289**	P	**P**	**04 27 07.7**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.1,baz=64,slow=8.5,SNR=18						
SONM				LR	LR	04 41 01.1	
	comp=Z,354nm,18.5s,MS4.1,baz=182,slow=38						
TLY	**Talaya**	**32.58**	**297**	*e*P	**P**	**04 27 20.3**	**+5.4**
TLY				*e*		04 28 27.2	
TLY				*e*		04 30 06.9	
TLY				*e*SS	SS	04 34 47.0	-1.7
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TLY				MLR	MLR		
	comp=Z,378nm,16.0s,MS4.2						
ZAK	**Zakamensk**	**33.10**	**295**⇑	*i*P	**P**	**04 27 18.7**	**-0.7**
MCK	**McKinley**	**34.96**	**41**	*e*P	**P**	**04 27 43.6**	**+8.1**
MCK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
MCK	**McKinley**	**34.96**	**41**	*e*P	**P**	**04 27 43.6**	**+8.1**
	comp=Z,12nm,1.1s,mb4.7						
SML	**Sawmill**	**35.26**	**44**	*e*P	**P**	**04 27 44.9**	**+6.7**
COLA	**College**	**35.45**	**39**⇑	*e*P	**P**	**04 27 39.3**	**-0.5**
COLA	**College**	**35.45**	**39**	*e*P	**P**	**04 27 47.1**	**+7.3**
	comp=Z,29nm,0.9s,mb5.2						
EGAK	**Eagle**	**38.31**	**39**	*e*P	**P**	**04 28 13.8**	**+10**
	comp=Z,28nm,1.0s,mb5.0						
LZH	**Lanzhou**	**38.51**	**272**	⇑P	**P**	**04 28 06.7**	**+0.9**
LZH				AP	pP	04 28 10.2	-6.8
LZH				XP	sP	04 28 11.5	-10
LZH				*e*PP	PP	04 29 34.3	-0.1
LZH				*e*S	**S**	**04 33 54.7**	**-4.0**
LZH				XS	sS	04 34 01.8	-15
LZH				*e*SS	SS	04 36 28.4	-21
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,106nm,5.1s						
LZH				LR	LR		
	comp=N,648nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.8						
LZH	**Lanzhou**	**38.51**	**272**	⇑P	**P**	**04 28 06.7**	**+0.9**
LZH				*e*		04 29 34.3	
LZH				*e*S	**S**	**04 33 54.7**	**-4.0**
LZH				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,17.6s,MS4.8						
LZH	**Lanzhou**	**38.51**	**272**	⇑P	**P**	**04 28 06.7**	**+0.9**
	comp=Z,32nm,1.3s,mb4.9						
LZH				pP	pP	04 28 10.2	-6.8
LZH				sP	sP	04 28 11.5	-10
LZH				*e*PP	PP	04 29 34.3	-0.1
LZH				*e*S	**S**	**04 33 54.7**	**-4.0**
LZH				sS	sS	04 34 01.8	-15
LZH				*e*SS	SS	04 36 28.4	-21
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.8						
DAWY	**Dawson**	**39.15**	**40**	*e*P	**P**	**04 28 21.1**	**+10**
GTA	**Gaotai**	**39.54**	**279**	⇓P	**P**	**04 28 15.7**	**+1.3**
GTA				AP	pP	04 28 19.8	-5.8
GTA				XP	sP	04 28 22.4	-7.9
GTA				PP	PP	04 29 50.9	+5.3
GTA				S	**S**	**04 34 18.2**	**+4.1**
GTA				XS	sS	04 34 25.4	-7.3
GTA				SCS	ScS	04 38 22.5	+3.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,123nm,5.0s						
GTA				LR	LR		
	comp=N,267nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=E,256nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,287nm,16.0s,MS4.2						
CD2	**Chengdu**	**41.55**	**265**	P	**P**	**04 28 31.4**	**+0.5**
CD2				AP	pP	04 28 35.9	-6.3
CD2				XP	sP	04 28 38.9	-8.0
CD2				PP	PP	04 30 08.7	+1.3
CD2				S	**S**	**04 34 40.3**	**-3.7**
CD2				XS	sS	04 34 47.7	-15
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,6.2s						
CD2				LR	LR		
	comp=N,320nm,14.4s,MS4.4						
CD2				LR	LR		
	comp=E,230nm,14.4s,MS4.4						
CD2				LR	LR		
	comp=Z,250nm,16.2s,MS4.2						
GYA	**Guiyang**	**42.42**	**258**	P	**P**	**04 28 35.5**	**-2.5**
GYA				AP	pP	04 28 38.4	-11
GYA				XP	sP	04 28 42.6	-11
GYA				PP	PP	04 30 14.5	-2.3
GYA				PCP	PcP	04 30 34.0	+3.4
GYA				SCP	ScP	04 34 22.8	+4.7
GYA				S	**S**	**04 34 50.4**	**-6.5**
GYA				SCS	ScS	04 38 37.4	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,280nm,18.4s,MS4.4						
GYA				LR	LR		
	comp=E,340nm,17.8s,MS4.4						
GYA				LR	LR		
	comp=Z,310nm,18.0s,MS4.2						
ZAL	**Zalesovo**	**42.93**	**306**	P	**P**	**04 28 40.6**	**-1.6**
	comp=Z,5.2nm,0.5s,mb4.5,baz=52,slow=6.7,SNR=22						
ZAL				LR	LR	04 48 18.1	
	comp=Z,209nm,21.1s,MS4.0,baz=56,slow=38						
NVS	**Novosibirsk**	**43.47**	**307**	*e*P	**P**	**04 28 38.3**	**-8.3**
WMQ	**Urumqi**	**45.39**	**291**	⇓P	**P**	**04 29 00.5**	**-1.4**
WMQ				AP	pP	04 29 05.0	-8.2
WMQ				XP	sP	04 29 07.5	-10
WMQ				PCP	PcP	04 30 44.0	+3.3
WMQ				PP	PP	04 30 45.7	-2.8
WMQ				SCP	ScP	04 34 34.5	+4.3
WMQ				PCS	PcS	04 34 36.5	+1.8
WMQ				S	**S**	**04 35 34.7**	**-5.5**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,116nm,4.5s						
WMQ				LR	LR		
	comp=N,176nm,17.1s,MS4.2						
WMQ				LR	LR		
	comp=E,126nm,17.1s,MS4.2						
WMQ				LR	LR		
	comp=Z,210nm,17.0s,MS4.1						
KMI	**Kunming**	**45.94**	**260**	P	**P**	**04 29 04.0**	**-2.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
KMI				MLR	MLR		
	comp=Z,40nm,18.2s,MS3.4						
KMI	**Kunming**	**45.94**	**260**	P	**P**	**04 29 04.0**	**-2.2**
	comp=Z,8.0nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=Z,40nm,18.2s,MS3.4						
MK31	**Makanchi Array**	**47.34**	**297**	*e*P	**P**	**04 29 15.9**	**-1.3**
MKAR	**Makanchi Array**	**47.34**	**297**	P	**P**	**04 29 16.4**	**-0.8**
	comp=Z,8.8nm,0.8s,mb4.7,baz=63,slow=7.5,SNR=41						
MKAR				LR	LR	04 49 17.4	
	comp=Z,107nm,19.4s,MS3.8,baz=266,slow=36						
YKA	**Yellowknife Ar**	**50.25**	**37**	P	**P**	**04 29 40.0**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=298,slow=7.0,SNR=3.3						
YKA				pP	pP	04 29 50.3	-0.7
	comp=Z,4.3nm,0.7s,baz=294,slow=7.1,SNR=7.7						
YKA				LR	LR	04 52 19.1	
	comp=Z,65nm,18.7s,MS3.7,baz=200,slow=38						
YKA	**Yellowknife Ar**	**50.25**	**37**	P	**P**	**04 29 40.0**	**+0.5**
YKA				*PP	pP	04 29 50.4	-0.6
YKA	**Yellowknife Ar**	**50.25**	**37**	P	**P**	**04 29 40.0**	**+0.5**
YKA				pP	pP	04 29 50.4	-0.6
YKA				LR	LR	04 52 19.1	
RES	**Resolute Bay**	**50.28**	**19**	*e*P	**P**	**04 29 39.4**	**-0.4**
	comp=Z,218nm,0.9s						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**04 29 45.1**	**-0.9**
	comp=Z,2.9nm,0.3s,mb4.6,baz=52,slow=8.3,SNR=18						
BVAR				LR	LR	04 53 23.9	
	comp=Z,334nm,18.1s,MS4.4,baz=316,slow=38						
BRVK	**Borovoye**	**51.16**	**310**	*e*P	**P**	**04 29 45.0**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
BRVK	**Borovoye**	**51.16**	**310**	*e*P	**P**	**04 29 45.0**	**-1.3**
	comp=Z,13nm,0.9s,mb4.8						
CHTO	**Chiang Mai**	**52.82**	**257**	*e*P	**P**	**04 29 59.9**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**52.82**	**257**	*e*P	**P**	**04 29 59.9**	**+1.1**
	comp=Z,6.0nm,0.8s,mb4.6						
SHL	**Shillong**	**53.02**	**269**	*e*P	**P**	**04 29 58.6**	**-1.6**
ULHL	**Ulaho**l	**53.39**	**295**	P	**P**	**04 30 03.2**	**+0.3**
	SNR=8.4						
USP	**Ospenovka**	**53.89**	**297**	P	**P**	**04 30 06.5**	**0.0**
	SNR=11						
KZA	**Kyzart**	**54.09**	**296**	P	**P**	**04 30 08.9**	**+0.8**
	SNR=6.4						
AAK	**Ala-Archa**	**54.24**	**297**	P	**P**	**04 30 09.4**	**+0.3**
	SNR=8.3						
AAK	**Ala-Archa**	**54.24**	**297**	*c i*P	**P**	**04 30 07.7**	**-1.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**54.24**	**297**	*e*P	**P**	**04 30 08.0**	**-1.1**
	comp=Z,8.8nm,0.9s,mb4.7						
EKS2	**Erkin-Say**	**54.66**	**297**	P	**P**	**04 30 12.1**	**-0.2**
	SNR=7.0						
KSH	**Kashi**	**55.10**	**293**	*e*P	**P**	**04 30 22.1**	**+6.7**
KSH				*e*AP	pP	04 30 27.1	+0.1
KSH				*e*XP	sP	04 30 29.9	-1.7
KSH				*e*PCP	PcP	04 31 21.5	+5.1
KSH				*e*SCP	ScP	04 35 19.7	+7.9
KSH				*e*S	**S**	**04 38 03.6**	**+8.3**
KSH				AMB	AMB		
	comp=Z,447nm,4.8s						
ARU	**Arti**	**55.17**	**318**⇑	*i*P	**P**	**04 30 14.4**	**-1.5**
ARU				*e*		04 32 17.7	
ARU				*e*PPP		04 33 31.3	
ARU				*e*S	**S**	**04 37 54.4**	**-1.8**
ARU				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ARU	**Arti**	**55.17**	**318**	*e*P	**P**	**04 30 14.4**	**-1.5**
	comp=Z,24nm,0.9s,mb5.2						
JIRN	**Jiri**	**55.55**	**275**	*e*P	**P**	**04 30 20.7**	**+2.1**
	comp=Z,4.7nm,0.3s,mb5.0						
GUN	**Gumba**	**55.60**	**275**	*e*P	**P**	**04 30 20.6**	**+1.6**
	comp=Z,33nm,0.6s,mb5.5						
KKN	**Kakani**	**56.09**	**276**	*e*P	**P**	**04 30 24.2**	**+1.7**
	comp=Z,73nm,1.0s,mb5.7						
PKI	**Pulchoki**	**56.14**	**275**	*e*P	**P**	**04 30 24.4**	**+1.5**
	comp=Z,50nm,0.9s,mb5.5						
DMN	**Daman**	**56.32**	**276**	*e*P	**P**	**04 30 26.2**	**+2.1**
	comp=Z,105nm,0.9s						
GKN	**Gorkha**	**56.39**	**276**	*e*P	**P**	**04 30 26.0**	**+1.4**
	comp=Z,108nm,0.9s						
LVZ	**Lovozero**	**56.68**	**337**	*d i*P	**P**	**04 30 26.8**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
KEV	**Kevo**	**57.21**	**341**	*e*p	**P**	**04 30 25.7**	**-4.7**
	comp=Z,8.9nm,0.8s,mb4.8						
KEV	**Kevo**	**57.21**	**341**	*e*P	**P**	**04 30 25.7**	**-4.7**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KOLN	**Koldanda**	**57.24**	**277**	*e*P	**P**	**04 30 32.3**	**+1.6**
	comp=Z,76nm,0.9s,mb5.7						
ARCES	**ARCESS Array B**	**57.71**	**341**	P	**P**	**04 30 32.4**	**-1.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=27,slow=6.9,SNR=7.2						
ARCES				LR	LR	04 58 50.5	
	comp=Z,154nm,20.1s,MS4.1,baz=98,slow=40						
BOK	**Bokaro**	**58.28**	**272**	*e*P	**P**	**04 30 35.1**	**-2.9**
BOK				AMb	AMB	04 30 44.3	
	comp=Z,12nm,1.3s,mb4.8						
LGTI	**Lohaghat**	**58.43**	**281**	*ex*	x	04 30 41.0	
AKTK	**Aktyubinsk**	**58.95**	**312**	P	**P**	**04 30 42.4**	**-0.3**
AKTK				LR	LR	04 58 34.9	
AKTO	**Aktyubinsk**	**58.95**	**312**	P	**P**	**04 30 42.4**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.4,baz=34,slow=7.2,SNR=8.9						
AKTO				LR	LR	04 58 34.9	
	comp=Z,205nm,18.8s,MS4.3,baz=45,slow=38						
NDI	**New Delhi**	**60.95**	**282**	*e*P	**P**	**04 30 54.8**	**-1.6**
NDI				*e*P		04 30 57.0	
TPAW	**Teton Pass**	**62.77**	**55**	*e*P	**P**	**04 31 15.7**	**+7.2**
	comp=Z,7.5nm,1.1s,mb4.7						
FIA1	**FINESS Array S**	**63.98**	**335**	*e*P	**P**	**04 31 16.1**	**-0.4**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**04 31 15.9**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.7,baz=34,slow=8.3,SNR=33						
FINES				LR	LR	05 03 34.1	
	comp=Z,124nm,18.1s,MS4.1,baz=158,slow=40						
PDAR	**Pinedale Array**	**64.01**	**55**	P	**P**	**04 31 16.1**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=276,slow=3.5,SNR=2.7						
AJM	**Ajmer**	**64.12**	**282**	*e*P	**P**	**04 31 16.2**	**-1.2**
AJM				AMb	AMB	04 31 22.4	
	comp=Z,20nm,0.8s,mb5.2						
VIS	**Vishakhapatnam**	**64.15**	**269**	*e*P	**P**	**04 31 15.4**	**-2.3**
VIS				AMb	AMB	04 31 20.3	
	comp=Z,29nm,1.2s,mb5.2						
BHPL	**Bhopal**	**64.41**	**277**	*e*P	**P**	**04 31 17.5**	**-1.9**
BHPL				AMb	AMB	04 31 22.6	
	comp=Z,29nm,0.6s,mb5.5						
NGP	**Nagpur**	**64.72**	**274**	*e*P	**P**	**04 31 21.7**	**+0.3**
NGP				AMb	AMB	04 31 32.5	
	comp=Z,15nm,1.0s,mb5.0						
OBN	**Obninsk**	**65.36**	**326**	⇑P	**P**	**04 31 25.0**	**-0.6**
OBN				pmax	pmax		
	comp=Z,37nm,2.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
SRU	**San Rafael**	**65.88**	**58**	*e*P	**P**	**04 31 35.1**	**+6.2**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SRU	**San Rafael**	**65.88**	**58**	*e*P	**P**	**04 31 35.0**	**+6.1**
	comp=Z,4.2nm,0.9s,mb4.5						
RSSD	**Black Hills**	**66.10**	**50**	*e*P	**P**	**04 31 38.4**	**+8.1**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RSSD	**Black Hills**	**66.10**	**50**	*e*P	**P**	**04 31 38.4**	**+8.1**
	comp=Z,3.3nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**68.08**	**342**	P	**P**	**04 31 42.5**	**-0.4**
	comp=Z,17nm,0.8s,mb5.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**04 31 42.7**	**-0.2**
	comp=Z,14nm,0.9s,mb5.0,baz=26,slow=6.4,SNR=24						
NOA				LR	LR	05 06 14.5	
	comp=Z,97nm,21.0s,MS4.0,baz=35,slow=40						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**04 31 42.7**	**-0.2**
NOA				LR	LR	05 06 14.5	
WRA	**Warramunga Arr**	**69.07**	**200**	P	**P**	**04 31 48.1**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=19,slow=6.5,SNR=5.6						
WRA				pP	pP	04 31 58.9	-2.1
	comp=Z,3.9nm,1.0s,baz=18,slow=6.6,SNR=14						
KAD	**Karad**	**70.68**	**275**	*e*P	**P**	**04 31 57.8**	**-1.1**
KAD				AMb	AMB	04 32 02.6	
	comp=Z,13nm,0.9s,mb4.9						
SUW	**Suwalki**	**70.98**	**332**	*e*P	**P**	**04 31 59.9**	**-0.9**
KIV	**Kislovodsk**	**71.00**	**315**	*c i*P	**P**	**04 32 01.1**	**+0.2**
KIV				*i* *PP	pP	04 32 13.2	+0.3
KIV				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**71.00**	**315**	*e*P	**P**	**04 32 02.0**	**+1.1**
	comp=Z,12nm,0.8s,mb4.9						
ZEI	**Tsey**	**71.28**	**313**	*e*P	**P**	**04 32 01.8**	**-0.8**
ZEI				*e*		04 34 39.3	
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
AKASG	**Malin Array Be**	**71.59**	**327**	P	**P**	**04 32 03.2**	**-1.3**
	comp=Z,8.0nm,0.6s,mb4.8,baz=33,slow=6.3,SNR=34						
AKASG				LR	LR	05 05 54.2	
	comp=Z,78nm,20.6s,MS4.0,baz=25,slow=38						
AKASG	**Malin Array Be**	**71.59**	**327**	P	**P**	**04 32 03.2**	**-1.3**
AKASG				LR	LR	05 05 54.1	
AKBB	**Malin Array Si**	**71.59**	**327**	*e*P	**P**	**04 32 03.4**	**-1.1**
KIEV	**Kiev**	**71.61**	**327**	*e*P	**P**	**04 32 03.2**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
KIEV	**Kiev**	**71.61**	**327**	*e*P	**P**	**04 32 03.2**	**-1.4**
	comp=Z,13nm,0.8s,mb4.9						
SCHQ	**Schefferville**	**72.72**	**23**	P	**P**	**04 32 09.8**	**-1.5**
	comp=Z,4.5nm,0.9s,mb4.4,baz=340,slow=7.9,SNR=7.3						
AS31	**Alice Springs**	**72.76**	**199**	*e*P	**P**	**04 32 11.6**	**+0.1**
ASAR	**Alice Springs**	**72.76**	**199**	P	**P**	**04 32 11.4**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=13,slow=5.4,SNR=17						
ASAR				pP	pP	04 32 22.9	-0.5
	comp=Z,5.5nm,0.9s,baz=13,slow=5.8,SNR=20						
GNI	**Garni**	**72.78**	**311**	LR	LR	05 07 55.7	
	comp=Z,227nm,18.4s,MS4.5,baz=234,slow=39						
GNI	**Garni**	**72.78**	**311**	*c i*P	**P**	**04 32 12.3**	**+0.7**
GNI				pmax	pmax		
	comp=Z,16nm,1.3s						
GNI	**Garni**	**72.78**	**311**	*e*P	**P**	**04 32 13.1**	**+1.5**
	comp=Z,19nm,0.9s,mb5.0						
KWP	**Kalwaria**	**74.83**	**330**	*e*P	**P**	**04 32 24.0**	**+0.4**
TRD	**Trivandrum**	**75.03**	**266**	*e*P	**P**	**04 32 24.1**	**-0.7**
TRD				AMb	AMB	04 32 30.8	
	comp=Z,7.1nm,0.4s,mb5.0						
OJC	**Ojcow**	**75.30**	**332**	*e*P	**P**	**04 32 27.2**	**+0.9**
STHS	**Stebnicka Huta**	**75.52**	**330**	*e*P	**P**	**04 32 28.7**	**+1.2**
STHS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
STHS	**Stebnicka Huta**	**75.52**	**330**	*e*P	**P**	**04 32 28.7**	**+1.2**
	comp=Z,7.8nm,0.9s,mb4.6						
KOLS	**Kolonicke sedl**	**75.58**	**329**	*e*P	**P**	**04 32 27.6**	**-0.3**
BURAR	**Bucovina Array**	**75.63**	**327**⇓	*i*P	**P**	**04 32 28.5**	**+0.3**
BURAR	**Bucovina Array**	**75.63**	**327**⇓	P	**P**	**04 32 28.5**	**+0.3**
CRVS	**Cervenica-Dubn**	**75.88**	**330**	*e*P	**P**	**04 32 28.6**	**-1.0**
OKC	**Ostrava-Krasne**	**76.17**	**332**	*e*P	**P**	**04 32 31.8**	**+0.5**
OKC				*e*pP	pP	04 32 43.0	-0.3
UPC	**Upice**	**76.24**	**334**	*e*P	**P**	**04 32 31.7**	**0.0**
DPC	**Dobruska-Polom**	**76.28**	**334**	*e*P	**P**	**04 32 32.6**	**+0.7**
DPC				*e*pP	pP	04 32 44.2	+0.2
DPC				AMS	AMS	05 10 40.0	
	comp=Z,300nm,18.6s						
CLL	**Collm**	**76.39**	**336**	*e*P	**P**	**04 32 32.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
CLL	**Collm**	**76.39**	**336**	*e*P	**P**	**04 32 32.0**	**-0.5**
	comp=Z,29nm,1.1s,mb5.1						
CLL	**Collm**	**76.39**	**336**	*i* P	**P**	**04 32 32.4**	**-0.1**
	comp=Z,29nm,1.1s,mb5.1						
CLL				*i* sP	sP	04 32 45.0	-4.1
CLL				LmV		05 09 00.0	
	comp=Z,100nm,19.0s						
MORC	**Moravsky Berou**	**76.41**	**333**⇑	*i*P	**P**	**04 32 32.9**	**+0.3**
MORC	**Moravsky Berou**	**76.41**	**333**	*e*P	**P**	**04 32 32.3**	**-0.4**
	comp=Z,11nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**76.52**	**335**	*e*P	**P**	**04 32 33.6**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**76.52**	**335**	*e*P	**P**	**04 32 33.6**	**+0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KECS	**Kecovo**	**76.57**	**330**	*e*P	**P**	**04 32 32.4**	**-1.2**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KECS	**Kecovo**	**76.57**	**330**	*e*P	**P**	**04 32 32.4**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.3						
PVCC	**Panska Ves**	**76.64**	**335**	*e*P	**P**	**04 32 33.6**	**-0.4**
TXAR	**Lajitas Array**	**76.76**	**61**	P	**P**	**04 32 34.2**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=301,slow=4.1,SNR=25						
TXAR				pP	pP	04 32 45.2	-1.5
	comp=Z,4.9nm,0.9s,baz=299,slow=3.0,SNR=17						
TXAR	**Lajitas Array**	**76.76**	**61**	P	**P**	**04 32 34.2**	**-0.4**
TXAR				pP	pP	04 32 45.2	-1.5
TIRR	**Tirgusor**	**77.00**	**323**⇑	*i*P	**P**	**04 32 37.2**	**+1.2**
TIRR	**Tirgusor**	**77.00**	**323**	*e*P	**P**	**04 32 36.8**	**+0.8**
TIRR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TIRR	**Tirgusor**	**77.00**	**323**	*e*P	**P**	**04 32 36.8**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.5						
VYHS	**Vyhne**	**77.11**	**331**	*e*P	**P**	**04 32 36.9**	**+0.3**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
VYHS	**Vyhne**	**77.11**	**331**	*e*P	**P**	**04 32 36.9**	**+0.3**
	comp=Z,5.4nm,1.1s,mb4.4						
VRAC	**Vranov**	**77.12**	**333**⇓	*i*P	**P**	**04 32 36.9**	**+0.3**
VRAC	**Vranov**	**77.12**	**333**⇓	P	**P**	**04 32 36.9**	**+0.3**
MLR	**Muntele Rosu**	**77.13**	**325**⇑	*i*P	**P**	**04 32 38.1**	**+1.4**
PRU	**Pruhonice**	**77.13**	**335**	*e*P	**P**	**04 32 34.4**	**-2.3**
PRU				*e*pP	pP	04 32 48.9	+0.1
PRU				AMS	AMS	05 10 00.0	
	comp=Z,200nm,19.9s						
DRGR		**77.24**	**328**⇑	*i*P	**P**	**04 32 37.8**	**+0.5**
DRGR		**77.24**	**328**⇑	P	**P**	**04 32 37.8**	**+0.5**
PSZ	**Piszkesteto**	**77.26**	**330**⇑	*i*P	**P**	**04 32 37.4**	**0.0**
PSZ	**Piszkesteto**	**77.26**	**330**	*e*P	**P**	**04 32 39.0**	**+1.5**
	comp=Z,5.8nm,0.9s,mb4.5						
MOX	**Moxa**	**77.37**	**337**	*e*(P)	**P**	**04 32 32.0**	**-6.1**
	comp=Z,11nm,1.1s,mb4.7						
**

comp=Z,7.5nm,1.2s,mb4.5
GIVF Givet 79.57 340 *e*P **P 04 32 50.1 -0.1**
BAIF Baives 79.75 341 *e*P **P 04 32 51.2 0.0**
PERS Pernice 79.95 333 *e*P **P 04 32 52.3 0.0**
KBA Koelnbreinsper 80.09 334⇓*i*P **P 04 32 55.0 +1.9**
comp=Z,27nm,0.8s,mb5.2
KBA Koelnbreinsper 80.09 334⇓*i*P **P 04 32 55.0 +2.0**
KBA pmax pmax
comp=Z,27nm,0.8s,mb5.2
OBKA Obir 80.24 333⇓*e*P **P 04 32 56.7 +2.9**
comp=Z,10nm,1.4s,mb4.6
BFO Black Forest 80.36 338 *e*P **P 04 32 55.9 +1.4**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BFO Black Forest 80.36 338 *e*P **P 04 32 55.9 +1.4**
comp=Z,9.3nm,1.1s,mb4.6
WATA Walderalm 80.38 335⇓*e*P **P 04 32 57.3 +2.7**
comp=Z,9.9nm,0.7s,mb4.9
WATA Walderalm 80.38 335⇓*e*P **P 04 32 57.3 +2.7**
WATA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
WTTA Wattenberg 80.43 335⇓*i*P **P 04 32 55.9 +1.1**
comp=Z,15nm,0.9s,mb4.9
WTTA Wattenberg 80.43 335⇓*i*P **P 04 32 56.0 +1.2**
WTTA pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRUS Gruza 80.46 328 *i* P **P 04 32 54.1 -0.9**
GCIS Gornji Cirnik 80.47 332 *e*P **P 04 32 55.6 +0.5**
MOTA Moosalm 80.51 335⇓*i*P **P 04 32 56.1 +0.9**
comp=Z,2.7nm,1.6s,mb3.9
MOTA Moosalm 80.51 335⇓*i*P **P 04 32 56.1 +0.9**
MOTA pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
DIVS Divcibare 80.54 328 *i* P **P 04 32 54.8 -0.6**
CDF Champ du Feu 80.56 338 *e*P **P 04 32 55.6 +0.1**
comp=Z,24nm,1.1s,mb4.7
CDF Champ du Feu 80.56 338 *e*P **P 04 32 55.6 +0.1**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CDF Champ du Feu 80.56 338 *e*P **P 04 32 55.6 +0.1**
comp=Z,12nm,1.1s,mb4.7
CRES Cresnjev 80.56 332 *e*P **P 04 32 56.0 +0.5**
SQTA Sankt Quirin 80.59 335⇓*i*P **P 04 32 56.5 +0.8**
comp=Z,9.5nm,0.9s,mb4.7
SQTA Sankt Quirin 80.59 335⇓*i*P **P 04 32 56.5 +0.8**
SQTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VTS Vitosha 80.63 326⇓*i*P **P 04 32 56.5 +0.6**
VTS Vitosha 80.63 326 ⇓P **P 04 32 56.5 +0.6**
DAVA Damuels 80.90 336⇓*i*P **P 04 32 56.1 -1.2**
comp=Z,7.4nm,0.9s,mb4.6
HAU Haudompre 81.16 339 *e*P **P 04 32 58.5 -0.3**
HAU eR
comp=Z,124nm,19.8s
HAU Haudompre 81.16 339 *e*P **P 04 32 58.5 -0.3**
HAU LR LR
comp=Z,120nm,19.8s,MS4.2
PPT Papeete 81.86 127 LR LR 05 02 28.3
comp=Z,155nm,19.2s,MS4.4,baz=336,slow=31
LOR Lormes 82.45 340 *e*P **P 04 33 05.5 0.0**
comp=Z,28nm,1.2s,mb4.8
LOR eR
comp=Z,114nm,21.5s
LOR Lormes 82.45 340 *e*P **P 04 33 05.5 0.0**
LOR pmax pmax
comp=Z,14nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,110nm,21.5s,MS4.2
LOR Lormes 82.45 340 *e*P **P 04 33 05.5 0.0**
comp=Z,14nm,1.2s,mb4.8
LOR LR LR
comp=Z,110nm,21.5s,MS4.2
CABF La Chapelle 82.53 338 *e*P **P 04 33 06.3 +0.4**
comp=Z,16nm,1.0s,mb4.7
CABF La Chapelle 82.53 338 *e*P **P 04 33 06.3 +0.4**
CABF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CABF La Chapelle 82.53 338 *e*P **P 04 33 06.3 +0.4**
comp=Z,8.3nm,1.0s,mb4.7
SSF Saint Saulge 82.73 340 *e*P **P 04 33 06.9 -0.1**
comp=Z,14nm,1.1s,mb4.6
SSF Saint Saulge 82.73 340 *e*P **P 04 33 06.9 -0.1**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
SSF Saint Saulge 82.73 340 *e*P **P 04 33 06.9 -0.1**
comp=Z,6.8nm,1.1s,mb4.6
SGMF Saint Gilles 82.85 344 *e*P **P 04 33 08.5 +0.9**
ROSF Rostrenen 82.90 345 *e*P **P 04 33 08.7 +0.8**
AVF Avril sur Loir 83.02 340 *e*P **P 04 33 08.7 +0.2**
comp=Z,11nm,0.9s,mb4.6
AVF Avril sur Loir 83.02 340 *e*P **P 04 33 08.7 +0.2**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AVF Avril sur Loir 83.02 340 *e*P **P 04 33 08.7 +0.2**
comp=Z,5.3nm,0.9s,mb4.6
SMF Signal de Mont 83.04 340 *e*P **P 04 33 08.9 +0.3**
comp=Z,34nm,1.2s,mb5.0
SMF Signal de Mont 83.04 340 *e*P **P 04 33 08.9 +0.3**
SMF pmax pmax
comp=Z,17nm,1.2s,mb5.0
SMF Signal de Mont 83.04 340 *e*P **P 04 33 08.9 +0.3**
comp=Z,17nm,1.2s,mb5.0
BGF Bois d'Agland 83.36 340 *e*P **P 04 33 11.2 +1.0**
LPL La Plagne 83.38 338 *e*P **P 04 33 11.4 +1.1**
comp=Z,12nm,0.9s,mb4.6
LPL La Plagne 83.38 338 *e*P **P 04 33 11.4 +1.1**
LPL pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LPL La Plagne 83.38 338 *e*P **P 04 33 11.4 +1.1**
comp=Z,6.1nm,0.9s,mb4.6
LPG La Plagne 83.39 338 *e*P **P 04 33 11.6 +1.2**
comp=Z,13nm,0.8s,mb4.7
LPG La Plagne 83.39 338 *e*P **P 04 33 11.6 +1.2**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LPG La Plagne 83.39 338 *e*P **P 04 33 11.6 +1.2**
comp=Z,6.4nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.75 341 *e*P **P 04 33 12.4 +0.1**
BNI Bardonecchia 83.83 337 *e*P **P 04 33 13.7 +1.1**
BNI pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
BNI Bardonecchia 83.83 337 *e*P **P 04 33 13.7 +1.1**
comp=Z,5.4nm,1.0s,mb4.6
MFF Saint Martin d 83.96 342 *e*P **P 04 33 13.4 +0.1**
MBDF Montbardon 84.10 337 *e*P **P 04 33 14.7 +0.7**
ORIF Oris-en-Rattie 84.16 338 *e*P **P 04 33 15.1 +0.8**
comp=Z,17nm,1.0s,mb4.8
ORIF eR
comp=Z,110nm,18.2s
ORIF Oris-en-Rattie 84.16 338 *e*P **P 04 33 15.1 +0.8**
ORIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 84.16 338 *e*P **P 04 33 15.1 +0.8**
comp=Z,8.6nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.52 339 *e*P **P 04 33 16.7 +0.5**
comp=Z,13nm,1.1s,mb4.7
VIVF Saint-Julien-l 84.52 339 *e*P **P 04 33 16.7 +0.5**
VIVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
VIVF Saint-Julien-l 84.52 339 *e*P **P 04 33 16.7 +0.5**
comp=Z,6.7nm,1.1s,mb4.7
RJF Les Rejaudoux 84.84 341 *e*P **P 04 33 17.0 -0.8**
RJF eR
comp=Z,106nm,22.8s
RJF Les Rejaudoux 84.84 341 *e*P **P 04 33 17.0 -0.8**
RJF LR LR
comp=Z,110nm,22.8s,MS4.2
CAF Calviac 85.08 340 *e*P **P 04 33 19.9 +0.9**
comp=Z,41nm,1.5s,mb5.0
CAF Calviac 85.08 340 *e*P **P 04 33 19.9 +0.9**
CAF pmax pmax
comp=Z,20nm,1.5s,mb5.0
CAF Calviac 85.08 340 *e*P **P 04 33 19.9 +0.9**
comp=Z,20nm,1.5s,mb5.0
FRF La Foret Royal 85.22 337 *e*P **P 04 33 19.6 -0.1**
comp=Z,42nm,1.4s,mb5.1
FRF La Foret Royal 85.22 337 *e*P **P 04 33 19.6 -0.1**
FRF pmax pmax
comp=Z,21nm,1.4s,mb5.1
FRF La Foret Royal 85.22 337 *e*P **P 04 33 19.6 -0.1**
comp=Z,21nm,1.4s,mb5.1
LMR La Mourre 85.47 337 *e*P **P 04 33 21.1 +0.2**
comp=Z,14nm,0.9s,mb4.8
LMR La Mourre 85.47 337 *e*P **P 04 33 21.1 +0.2**
LMR pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LMR La Mourre 85.47 337 *e*P **P 04 33 21.1 +0.2**
comp=Z,6.8nm,0.9s,mb4.8
EIL Elat 85.94 310 *e*P **P 04 33 24.3 +1.0**
comp=Z,272nm,1.1s
ESDC Sonseca Array 91.39 343 LR LR 05 22 52.2
comp=Z,74nm,18.6s,MS4.2,baz=330,slow=41
KEST Kesra 91.65 332 P **P 04 33 51.0 +0.7**
comp=Z,1.0nm,0.8s,mb4.2,baz=334,slow=11,SNR=4.4
CFAA Coronel Fontan 144.30 80 PKP PKPdf 04 40 17.9 -1.1
comp=Z,0.3nm,0.6s,baz=9.6,slow=0.3,SNR=5.2
CFAA pPKP pPKPdf 04 40 28.1 -3.6
comp=Z,1.4nm,0.8s,baz=293,slow=2.7,SNR=13
SNAA Sanae 153.08 196 PKPbc PKPbc 04 40 37.8 -2.7
comp=Z,0.4nm,0.9s,baz=180,slow=3.0,SNR=4.3
SNAA Sanae 153.08 196 *e*PKPdf PKPdf 04 40 35.3 +2.1
SNAA *e* 04 40 50.6
SNAA *e* 04 41 06.5
VNA2 Neumayer--Watz 154.52 194 *e*PKPdf PKPdf 04 40 36.7 +1.5
VNA2 *e* 04 40 53.5
VNA2 *e* 04 41 08.3

IDC 09 04:31:17.5±7.9, 547S×15027E, h97km±57km, mb3.0/3, mb1 3.2/4, mb1mx3.0/15, mbtmp3.0/4, ML2.5/1, Error ellipse: s-maj=111.7km s-min=56.3km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.98**	**218**	P	Pn	04 32 30.9	+1.0
	1.2nm,0.3s,baz=54,slow=8.7,SNR=3.4						
PMG				S	Sn	04 33 26.0	-0.3
	5.0nm,0.3s,baz=224,slow=16,SNR=8.0						
WRA	**Warramunga Arr**	**21.14**	**226**	P	P	04 35 55.3	+0.7
	0.2nm,0.4s,baz=52,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**24.00**	**219**	P	P	04 36 24.0	+0.9
	0.3nm,0.5s,baz=55,slow=8.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.14**	**240**	P	P	04 36 52.5	+1.0
	1.4nm,1.0s,baz=49,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.10**	**286**	PKPbc	PKPbc	04 50 51.1	-0.7
	0.3nm,0.8s,baz=59,slow=2.3,SNR=4.2						

*NEIC **09** 05:01:37.3, 32.10S×71.69W, h55km, MD3.6(GUC), After GUC.*

GUC 09 05:01:37.3±0.8, 32.10S×71.69W, h55km±5km, MD3.6, ML2.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.27**	**37**	*i*P	Pn	05 01 47.0	+0.4
CHNG				*i* S	Sn	05 01 53.6	+0.3
CHNG				AML	AML	05 01 54.4	
	comp=N,1μm,0.4s						
PTCH	**Petorca**	**0.67**	**104**	⇑*i*P	Pn	05 01 51.6	+0.8
PTCH				*i* S	Sn	05 02 01.6	+1.0
PTCH				AML	AML	05 02 02.4	
	comp=E,1μm,0.1s						
PTCH	**Petorca**	**0.67**	**104**	⇑*i*P	Pn	05 01 51.6	+0.8
PTCH				*i* S	Sn	05 02 01.6	+1.0
CMCH	**Combarbala**	**1.10**	**33**	⇑*i*P	Pn	05 01 57.1	+0.6
CMCH				*i* S	Sn	05 02 11.8	+1.2
CMCH				AML	AML	05 02 12.8	
	comp=N,545nm,0.5s						
CMCH	**Combarbala**	**1.10**	**33**	⇑*i*P	Pn	05 01 57.1	+0.6
CMCH				*i* S	Sn	05 02 11.8	+1.2
JACH	**Jahuel**	**1.10**	**122**	⇓*i*P	Pn	05 01 57.1	+0.7
JACH				*i* S	Sn	05 02 12.1	+1.5
PEL	**Peldehue**	**1.34**	**141**	*e*P	Pn	05 02 00.5	+0.8
PEL				*i* S	Sn	05 02 17.4	+0.8
PEL				AML	AML	05 02 18.5	
	comp=E,184nm,0.4s						
PEL	**Peldehue**	**1.34**	**141**	*e*P	Pn	05 02 00.5	+0.8
PEL				S	Sn	05 02 17.4	+0.8
LCCH	**Las Cruces**	**1.37**	**176**	*e*P	Pn	05 02 00.4	+0.2
RCDM	**Rinconada Maip**	**1.57**	**152**	*e*P	Pn	05 02 03.2	+0.3
RCDM				*i* S	Sn	05 02 22.3	+0.2
RCDM				AML	AML	05 02 27.7	
	comp=N,159nm,0.1s						
RCDM	**Rinconada Maip**	**1.57**	**152**	*e*P	Pn	05 02 03.2	+0.3
RCDM				S	Sn	05 02 22.3	+0.2
CLCH	**Cerro Calan**	**1.62**	**143**	⇑*i*P	Pn	05 02 04.5	+1.0
CLCH				*i* S	Sn	05 02 24.4	+1.2
CLCH				AML	AML	05 02 25.6	
	comp=E,83nm,0.4s						
TACH	**Talagante**	**1.67**	**158**	⇓*e*P	Pn	05 02 04.7	+0.5
TACH				*i* S	Sn	05 02 25.6	+1.1
FCH	**Farellones**	**1.70**	**136**	*e*P	Pn	05 02 05.7	+1.1
FCH				*i* S	Sn	05 02 26.6	+1.3
FCH				AML	AML	05 02 28.2	
	comp=E,63nm,0.2s						

*ISCJB **09** 05:05:49.8±1.1, 8.11N±005×9386E±005, h43km±10km, mb4.4/33, MS3.8/12, Error ellipse: s-maj=8.4km s-min=7.4km az=57.7*

*NEIC **09** 05:05:51.5±1.3, 8.25N×93.94E, h38km±12km, mb4.5/9, Error ellipse: s-maj=13.8km s-min=7.6km az=218.0*

*BJI **09** 05:05:51.3, 8.53N×93.71E, h16km, mB4.5, mb4.5, Ms4.1, Msz3.8*

*IDC **09** 05:05:53.7±4.2, 8.26N×93.97E, h60km±39km, mb3.8/17, mb1 4.0/18, mb1mx3.9/23, mbtmp3.8/18, ML3.7/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/41, Error ellipse: s-maj=36.0km s-min=13.0km az=54.0*

ISC 09 05:05:54.4±0.8, 8.23N±005×93.97E±005, h63km±8km, h34km±.5km: pP-P, n62, σ1$18/61, mb4.4/33, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.61**	**341**	*e*P	x	05 06 46.7	
PBA				*e*S	x	05 07 22.7	
PBA				*ex*	x	05 07 38.3	
	comp=E,828nm,0.8s						
PBA				*ex*	x	05 07 40.3	
	comp=N,674nm,0.8s						
SNG	**Songkhla**	**6.67**	**99**	P	**Pn**	**05 07 29.0**	**-0.8**
KULM	**Kulim**	**7.25**	**113**	*e*Pn	**Pn**	**05 07 35.6**	**-2.1**
PSI	**Prapat**	**7.31**	**137**	P	**Pn**	**05 07 40.8**	**+2.2**
	comp=N,1.1nm,0.3s,baz=308,slow=7.7,SNR=20						
PSI				LR	LR	05 10 45.0	
	comp=N,445nm,19.4s,baz=312,slow=39						
CHG	**Chiang Mai**	**11.57**	**24**	⇓P	**Pn**	**05 08 38.3**	**+1.6**
	comp=N,12nm,0.6s						
CHTO	**Chiang Mai**	**11.57**	**24**	*e*Pn	**Pn**	**05 08 38.1**	**+1.4**
	comp=N,7.8nm,0.8s						
NANT	**Nan**	**12.37**	**31**	P	**Pn**	**05 08 48.0**	**+0.4**
PALK	**Pallekele**	**13.18**	**267**	*e*Pn	**Pn**	**05 08 55.6**	**-3.0**
	comp=N,14nm,0.8s						
VIS	**Vishakhapatnam**	**14.01**	**313**	*i* P	**Pn**	**05 09 06.2**	**-3.5**
VIS				*i* S	**Sn**	**05 11 31.4**	**-12**
HYB	**Hyderabad**	**17.57**	**303**	*i* P	**Pn**	**05 09 56.0**	**+1.1**
HYB	**Hyderabad**	**17.57**	**303**	*e*P	**Pn**	**05 09 56.0**	**+1.1**
KMI	**Kunming**	**18.77**	**25**	P	**Pn**	**05 10 11.4**	**+2.0**
KMI				AP	pP	05 10 17.3	-4.4
KMI				XP	sP	05 10 20.9	-8.8
KMI				PP		05 10 23.6	
KMI				PPP		05 10 35.3	
KMI				S	**S**	**05 13 36.6**	**-1.9**
KMI				XS	sS	05 13 46.6	-14
KMI				SS		05 13 56.1	
KMI				SSS		05 14 10.2	
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
KMI				AMB	AMB		
	comp=Z,62nm,5.1s						
KMI				LR	LR		
	comp=N,225nm,17.9s						
KMI				LR	LR		
	comp=E,329nm,16.6s						
KMI				LR	LR		
	comp=Z,248nm,13.5s						
KMI	**Kunming**	**18.77**	**25**	P	**Pn**	**05 10 11.4**	**+2.0**
	comp=Z,6.0nm,0.8s						
KMI				pP	pP	05 10 17.3	-4.4
KMI				sP	sP	05 10 20.9	-8.8
KMI				PP		05 10 23.6	
KMI				PPP		05 10 35.3	
KMI				S	**S**	**05 13 36.6**	**-1.9**
KMI				sS	sS	05 13 46.6	-14
KMI				SS		05 13 56.1	
KMI				SSS		05 14 10.2	
QIZ	**Qiongzhong**	**18.77**	**54**	*e*P	**Pn**	**05 10 10.1**	**+0.6**
QIZ				S	**S**	**05 13 36.6**	**-2.0**
QIZ				XS	sS	05 13 49.4	-11
QIZ				AMB	AMB		
	comp=Z,13nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,100nm,4.5s						
QIZ				LR	LR		
	comp=N,1μm,13.6s						
QIZ				LR	LR		
	comp=E,289nm,14.2s						
JIRN	**Jiri**	**20.68**	**340**	*e*P	**P**	**05 10 29.5**	**+0.4**
	comp=E,5.4nm,0.2s						
PKI	**Pulchoki**	**20.87**	**338**	*e*P	**P**	**05 10 31.7**	**+0.6**
	comp=E,65nm,0.7s						
GUN	**Gumba**	**21.01**	**340**	*e*P	**P**	**05 10 32.5**	**-0.2**
	comp=E,98nm,0.8s,mb5.2						
DMN	**Daman**	**21.02**	**338**	*e*P	**P**	**05 10 32.5**	**-0.2**
	comp=E,98nm,1.0s,mb5.1						
KKN	**Kakani**	**21.11**	**338**	*e*P	**P**	**05 10 33.4**	**-0.4**
	comp=E,71nm,0.9s,mb5.0						
LSA	**Lhasa**	**21.52**	**353**	P	**P**	**05 10 38.0**	**-0.1**
GKN	**Gorkha**	**21.55**	**337**	*e*P	**P**	**05 10 38.1**	**-0.3**
	comp=E,68nm,0.6s,mb5.2						
KOLN	**Koldanda**	**21.76**	**335**	*e*P	**P**	**05 10 40.5**	**-0.2**
	comp=E,46nm,0.7s,mb5.0						
CD2	**Chengdu**	**24.34**	**21**	*e*P	**P**	**05 11 05.5**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
LZH	**Lanzhou**	**29.15**	**17**	*e*P	**P**	**05 11 51.0**	**+1.5**
LZH				AP	pP	05 12 00.3	-4.6
LZH				XP	sP	05 12 04.2	-8.2
LZH				*e*PP	PP	05 12 45.6	-11
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,45nm,4.6s						
LZH				LR	LR		
	comp=E,215nm,11.6s						
LZH				LR	LR		
	comp=Z,293nm,15.8s						
LZH	**Lanzhou**	**29.15**	**17**	*e*P	**P**	**05 11 51.0**	**+1.5**
	comp=Z,19nm,1.3s,mb4.7						
LZH				pP	pP	05 12 00.3	-4.6
LZH				sP	sP	05 12 04.2	-8.2
LZH				*e*PP	PP	05 12 45.6	-11
LZH				LR	LR		
	comp=Z,290nm,15.8s						
NJ2	**Nanjing**	**33.11**	**41**	*e*P	**P**	**05 12 26.6**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
WMQ	**Urumqi**	**35.87**	**352**	P	**P**	**05 12 49.2**	**+1.1**
WMQ				AP	pP	05 12 58.7	-5.1
WMQ				XP	sP	05 13 02.8	-8.4
WMQ				PP	PP	05 14 09.7	-0.9
WMQ				PPP		05 14 29.2	
WMQ				*e*S	**S**	**05 18 22.2**	**+0.8**
WMQ				XS	sS	05 18 38.2	-10
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,15nm,5.0s						
WMQ				LR	LR		
	comp=N,58nm,22.9s						
WMQ				LR	LR		
	comp=E,92nm,22.9s						
WMQ				LR	LR		
	comp=Z,56nm,19.5s						
HHC	**Hu-ho-hao-te**	**36.05**	**23**	*e*P	**P**	**05 12 49.7**	**0.0**
HHC				AP	pP	05 12 59.5	-5.9
HHC				XP	sP	05 13 04.8	-8.0
HHC				PP	PP	05 14 11.9	-0.8
HHC				PCP	PcP	05 15 17.3	+2.6
HHC				S	**S**	**05 18 25.6**	**+1.4**
HHC				XS	sS	05 18 42.5	-8.4
HHC				PCS	PcS	05 19 01.7	-0.6
HHC				SS	SS	05 20 48.2	-15
HHC				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,135nm,7.5s						
HHC				LR	LR		
	comp=N,210nm,12.4s						
HHC				LR	LR		
	comp=E,216nm,12.0s						
HHC				LR	LR		
	comp=Z,166nm,13.5s						
AAK	**Ala-Archa**	**38.31**	**337**	*e*P	**P**	**05 13 08.7**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**39.70**	**347**	*e*P	**P**	**05 13 20.0**	**-0.4**
MKAR	**Makanchi Array**	**39.70**	**347**	P	**P**	**05 13 20.0**	**-0.4**
	comp=Z,1.0nm,0.5s,mb3.8,baz=175,slow=8.1,SNR=8.1						
FITZ	**Fitzroy Crossi**	**40.77**	**130**	P	**P**	**05 13 28.3**	**-1.0**
	comp=Z,1.5nm,0.8s,mb3.7,baz=315,slow=17,SNR=3.3						
FITZ				LR	LR	05 31 39.3	
	comp=Z,78nm,18.4s,baz=212,slow=38						
SONM	**Songino Array**	**40.85**	**13**	P	**P**	**05 13 29.9**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.4,baz=183,slow=5.9,SNR=4.7						
SONM				LR	LR	05 31 52.3	
	comp=Z,95nm,18.7s,baz=37,slow=38						
KSRS	**Korea Array**	**42.31**	**41**	LR	LR	05 33 30.5	
	comp=Z,68nm,18.4s,baz=202,slow=39						
ZAL	**Zalesovo**	**46.17**	**352**	P	**P**	**05 14 12.8**	**+0.1**
	comp=Z,6.1nm,0.3s,mb5.0,baz=303,slow=3.8,SNR=24						
BVAR	**Borovoye Array**	**48.59**	**341**	P	**P**	**05 14 29.7**	**-1.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=139,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	**48.61**	**126**	P	**P**	**05 14 31.6**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=304,slow=8.5,SNR=24						
WRA				LR	LR	05 38 25.4	
	comp=Z,53nm,18.8s,baz=180,slow=40						
WRAB	**Tennant Creek**	**48.61**	**126**	*e*P	**P**	**05 14 31.9**	**+0.2**
	comp=Z,6.3nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**48.62**	**126**	*e*P	**P**	**05 14 31.5**	**-0.2**
BRVK	**Borovoye**	**48.66**	**341**	*e*P	**P**	**05 14 28.4**	**-3.6**
	comp=Z,3.4nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**50.28**	**130**	P	**P**	**05 14 44.5**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=303,slow=7.3,SNR=19						
ASAR				LR	LR	05 37 55.9	
	comp=Z,102nm,18.4s,baz=66,slow=38						
KMBO	**Kilima Mbogo**	**57.29**	**263**	*e*P	**P**	**05 15 38.9**	**+3.3**
	comp=Z,2.4nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**60.48**	**134**	*e*P	**P**	**05 15 58.9**	**+1.3**
	comp=Z,4.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**60.48**	**134**	P	**P**	**05 15 57.0**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.3,baz=40,slow=6.6,SNR=3.7						
STKA				LR	LR	05 46 48.7	
	comp=Z,79nm,18.9s,baz=2.5,slow=41						
BR131	**Keskin Array S**	**62.06**	**311**	*e*P	**P**	**05 16 07.2**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**62.06**	**311**	P	**P**	**05 16 07.3**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.3,baz=124,slow=8.3,SNR=9.1						
AKASG	**Malin Array Be**	**67.77**	**322**	P	**P**	**05 16 44.1**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=5.0,SNR=4.4						
FINES	**FINESS Array B**	**72.31**	**332**	P	**P**	**05 17 11.9**	**-1.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=114,slow=6.4,SNR=9.0						
KEV	**Kevo**	**74.44**	**341**	*ep*	**P**	**05 17 28.5**	**+2.8**
	comp=Z,17nm,1.2s,mb4.8						
ARCES	**ARCESS Array B**	**74.87**	**340**	P	**P**	**05 17 27.1**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=99,slow=7.5,SNR=11						
VAE	**Valguarnera**	**76.76**	**307**	LR	LR	05 57 11.2	
	comp=Z,64nm,19.1s,baz=121,slow=40						
GERES	**GERESS Array B**	**77.44**	**318**	P	**P**	**05 17 42.9**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=157,slow=4.4,SNR=4.7						
MAW	**Mawson**	**78.85**	**192**	LR	LR	05 47 49.4	
	comp=Z,56nm,18.1s,baz=71,slow=32						
NB2	**NORSAR Subarra**	**79.33**	**331**	P	**P**	**05 17 52.5**	**-0.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**79.33**	**331**	P	**P**	**05 17 52.6**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=94,slow=5.7,SNR=4.9						
KEST	**Kesra**	**80.90**	**305**	P	**P**	**05 18 02.5**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=217,slow=5.1,SNR=3.4						
LPG	**La Plagne**	**82.24**	**315**	*e*P	**P**	**05 18 09.2**	**+0.4**
	comp=Z,14nm,0.9s,mb4.6						
TORD	**Torodi Ar. Bea**	**90.35**	**283**	P	**P**	**05 18 50.3**	**+1.7**
	comp=Z,0.7nm,0.8s,mb4.0,baz=87,slow=4.0,SNR=5.8						
ESDC	**Sonseca Array**	**90.86**	**310**	P	**P**	**05 18 51.9**	**+1.0**
	comp=Z,0.3nm,0.4s,mb4.0,baz=54,slow=4.7,SNR=5.8						
MDT	**Midelt**	**92.73**	**304**	LR	LR	06 03 15.1	
	comp=Z,35nm,18.9s,baz=9.2,slow=37						
PDAR	**Pinedale Array**	**124.90**	**21**	PKP	PKPdf	05 24 48.8	+1.7
	comp=Z,0.3nm,0.6s,baz=182,slow=2.7,SNR=2.3						
TXAR	**Lajitas Array**	**138.97**	**24**	PKP	PKPdf	05 25 14.6	+1.0
	comp=Z,0.1nm,0.5s,baz

*CSEM **09** 05:06:31.8±0.1, 3979N×2080E, h8km, ML2.4, Error ellipse: s-maj=2.3km s-min=2.1km az=139.0*
*ATH **09** 05:06:32.4, 3964N×2075E, h8km±7km, MD3.1/4*
*THE **09** 05:06:32.3, 3979N×2083E, h4km, ML2.4*
*SKO **09** 05:06:33.5, 3982N×2088E, h0km*

ISC 09 05:06:32.1±0.5, 3978N±003×2082E±004, h5km±6km, n18, σ1§02/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.13**	**171**	*e*Pg	**Pg**	**05 06 33.8**	**-0.9**
JAN				*e*Sg	**Sg**	**05 06 36.1**	**-0.3**
MEV	**Metsovon**	**0.31**	**89**	*e*Pg	**Pg**	**05 06 37.0**	**-1.2**
MEV				*e*Sg	**Sg**	**05 06 43.2**	**+0.9**
IGT	**Igoumenitsa**	**0.45**	**237**	*e*Pg	**Pg**	**05 06 40.3**	**-0.5**
IGT				*e*Sg	**Sg**	**05 06 48.3**	**+1.6**
KEK	**Kerkira**	**0.79**	**265**	*e*PB	**Pg**	**05 06 46.5**	**-0.8**
THL	**Klokotos Trika**	**0.94**	**103**	*e*PB	**Pg**	**05 06 51.1**	**+0.9**
LKD	**Levkas**	**1.08**	**187**	*e*Pg	**Pg**	**05 06 52.9**	**+0.1**
LKD				*e*Sg	**Sg**	**05 07 09.0**	**+2.1**
FNA	**Florina**	**1.09**	**23**	*e*Pg	**Pg**	**05 06 51.9**	**-1.1**
FNA				*e*Sg	**Sg**	**05 07 08.8**	**+1.8**
FNA	**Florina**	**1.09**	**23**	*e*Pg	**Pg**	**05 06 51.8**	**-1.2**
FNA				*e*Sg	**Sg**	**05 07 08.9**	**+1.8**
EVR	**Evrytania**	**1.15**	**138**	*e*PB	**Pg**	**05 06 53.0**	**-1.2**
BIA	**Bitola**	**1.29**	**17**	*e*Pg	**Pn**	**05 06 56.1**	**-0.8**
BIA				*e*Sg	**Sg**	**05 07 12.8**	**-0.9**
BIA	**Bitola**	**1.29**	**17**	*e*Pg	**Pn**	**05 06 56.1**	**-0.8**
BIA				*e*Sg	**Sg**	**05 07 12.8**	**-0.9**
LIT	**Litokhoron**	**1.32**	**75**	*e*Pg	**Pn**	**05 06 56.4**	**-0.9**
LIT				*e*Sg	**Sg**	**05 07 15.3**	**+0.8**
OHR	**Ohrid**	**1.33**	**359**	*e*Pg	**Pn**	**05 06 57.0**	**-0.3**
OHR	**Ohrid**	**1.33**	**359**	*e*Pg	**Pn**	**05 06 57.0**	**-0.4**
AGG	**Agios Georgios**	**1.39**	**123**	*e*Pg	**Pn**	**05 06 57.0**	**-1.2**
AGG				*e*Sg	**Sg**	**05 07 17.1**	**+0.2**
KRUS	**Krusevo**	**1.62**	**11**	*e*Pn	**Pn**	**05 07 02.2**	**+0.9**
KRUS				*e*Sn	**Sn**	**05 07 24.0**	**+1.4**
KRUS	**Krusevo**	**1.62**	**11**	*e*Pn	**Pn**	**05 07 02.2**	**+0.9**
KRUS				*e*Sn	**Sn**	**05 07 23.9**	**+1.3**
XOR	**Xorichti**	**1.88**	**102**	*e*Pb	**Pn**	**05 07 05.1**	**+0.2**

*NEIC **09** 05:10:17.1±1.1, 6.25S×151.17E, h10km, mb4.2/2, Error ellipse: s-maj=38.1km s-min=13.4km az=118.0*
*ISCJB **09** 05:10:18.3±6.7, 6.3S±02×151.1E±02, h25km±48km, mb3.9/6, MS3.7/3, Error ellipse: s-maj=39.0km s-min=16.0km az=80.3*
*IDC **09** 05:10:21.3±8.1, 6.57S×151.29E, h48km±59km, mb3.7/4, mb1 3.9/5, mb1mx3.6/14, mbtmp3.7/5, ML2.3/1, MS3.6/4, Ms1 3.5/4, ms1mx2.9/23, Error ellipse: s-maj=83.0km s-min=38.1km az=108.0*

ISC 09 05:10:20.6±6.7, 6.3S±02×151.1E±02, h29km±49km, n19, σ0§96/13, mb3.9/6, MS3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.99**	**232**	P	**Pn**	**05 11 33.1**	**-0.4**
	0.8nm,0.3s,baz=261,slow=19,SNR=2.2						
PMG				S	**Sn**	**05 12 30.3**	**+0.1**
	1.1nm,0.3s,baz=336,slow=20,SNR=3.3						
CTA	**Charters Tower**	**14.49**	**199**	LR	LR	05 18 28.8	
	comp=Z,52nm,19.5s,baz=233,slow=34						
WRAB	**Tennant Creek**	**21.19**	**229**	*e*P	**P**	**05 15 05.5**	**+1.9**
	5.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**21.20**	**229**	P	**P**	**05 15 03.8**	**0.0**
	2.3nm,0.6s,mb3.7,baz=53,slow=9.9,SNR=22						
AS31	**Alice Springs**	**23.92**	**222**	*e*P	**P**	**05 15 31.4**	**-0.6**
ASAR	**Alice Springs**	**23.92**	**222**	P	**P**	**05 15 29.2**	**-2.7**
	1.7nm,0.5s,mb3.7,baz=56,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**26.95**	**198**	LR	LR	05 26 54.0	
	comp=Z,43nm,18.5s,MS3.0,baz=19,slow=37						
STKA	**Stephens Creek**	**26.95**	**198**	*e*P	**P**	**05 16 00.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.48**	**242**	*e*P	**P**	**05 16 03.7**	**-0.5**
	5.7nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.48**	**242**	P	**P**	**05 16 03.9**	**-0.3**
	4.2nm,0.7s,mb4.1,baz=51,slow=9.0,SNR=12						
RPZ	**Rata Peaks**	**41.16**	**158**	LR	LR	05 32 20.6	
	comp=Z,225nm,18.7s,MS4.1,baz=359,slow=32						
PPT	**Papeete**	**58.87**	**107**	LR	LR	05 40 28.9	
	comp=Z,137nm,18.3s,MS4.1,baz=129,slow=31						
SONM	**Songino Array**	**66.73**	**329**	P	**P**	**05 21 09.6**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=149,slow=3.5,SNR=3.5						
MK31	**Makanchi Array**	**80.37**	**319**	*e*P	**P**	**05 22 28.4**	**-0.7**
SML	**Sawmill**	**82.18**	**25**	*e*P	**P**	**05 22 38.4**	**-0.3**
AAK	**Ala-Archa**	**84.50**	**314**	*e*P	**P**	**05 22 51.4**	**+0.7**
	1.5nm,0.7s,mb4.2						
TOA0	**Torodi Ar. Sit**	**149.14**	**285**	*e*PKPbc	PKPbc	05 30 06.1	0.0
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc	PKPbc	05 30 05.5	-0.6
	1.5nm,0.6s,baz=88,slow=2.7,SNR=14						
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc	PKPbc	05 30 05.5	-0.6

IDC 09 05:18:25.9±3.9, 6.08S×151.14E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=125.6km s-min=52.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**230**	Sn	Sn	05 20 44.1	-0.1
	1.1nm,0.3s,baz=209,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**21.36**	**228**	P	P	05 23 15.0	+0.3
	0.3nm,0.4s,baz=53,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**24.10**	**222**	P	P	05 23 42.8	-0.3
	0.6nm,0.6s,baz=56,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**27.60**	**242**	P	P	05 24 15.9	+1.1
	1.1nm,0.6s,baz=66,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.09**	**285**	PKPbc	PKPbc	05 38 16.8	+0.7
	0.3nm,0.6s,baz=74,slow=3.0,SNR=2.2						

IDC 09 05:18:56.8±2.9, 3292S×17816W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=63.9km s-min=36.0km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.66**	**3**	LR	LR	05 20 33.8	
	comp=Z,192nm,21.2s,baz=260,slow=26						
URZ	**Urewera**	**6.58**	**215**	Pn	Pn	05 20 35.3	+0.6
	1.8nm,0.3s,baz=262,slow=10,SNR=6.2						
URZ				Sn	Sn	05 21 49.1	-1.3
	4.3nm,0.3s,baz=120,slow=22,SNR=8.0						
CTA	**Charters Tower**	**34.15**	**283**	P	P	05 25 45.0	+1.5
	2.2nm,0.6s,baz=114,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**42.90**	**270**	P	P	05 26 56.9	-0.1
	1.0nm,0.7s,baz=123,slow=7.5,SNR=9.9						
WRA	**Warramunga Arr**	**44.12**	**275**	P	P	05 27 06.6	-0.2
	1.4nm,0.5s,baz=114,slow=7.7,SNR=44						
FINES	**FINESS Array B**	**147.44**	**338**	PKPbc	PKPbc	05 38 41.0	-1.6
	0.9nm,0.5s,baz=46,slow=5.5,SNR=7.8						

*CSEM **09** 05:29:20.4±0.1, 7428N×8.12E, h10km, ML2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=114.0*
*ISCJB **09** 05:29:21.3±0.5, 7451N±004×90E±02, h10km, mb4.1/19, MS3.6/15, Error ellipse: s-maj=9.1km s-min=5.1km az=17.0*
*MOS **09** 05:29:21.9±1.4, 7450N×9.12E, h10km, mb4.5/4, Error ellipse: s-maj=43.1km s-min=6.5km az=95.0*
*NEIC **09** 05:29:21.9±0.3, 7452N×821E, h10km, mb4.2/5, Error ellipse: s-maj=6.3km s-min=5.8km az=84.0*
*IDC **09** 05:29:21.1±0.8, 7448N×856E, h0km, mb4.0/12, mb1 4.0/16, mb1mx4.0/25, mbtmp3.9/16, ML3.5/3, MS3.5/19, Ms1 3.5/19, ms1mx3.3/33, Error ellipse: s-maj=17.6km s-min=14.5km az=43.0*
*BER **09** 05:29:23.1±4.5, 7455N×879E, h10km, MD2.7, ML2.8, ML2.9(NAO)*
*NAO **09** 05:29:31.4±5.7, 7471N×1235E, h26km±61km, ML2.9*

ISC 09 05:29:21.9±0.3, 7452N±004×84E±02, h10km, n105, σ1§27/110, mb4.1/19, MS3.6/15, 1C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.85**	**85**	*e*P	**Pn**	**05 30 05.5**	**-1.9**
BJO1				*e*S	**Sn**	**05 30 34.7**	**-7.1**
BJO1	**Bjornoya**	**2.85**	**85**	*e*P	**Pn**	**05 30 05.6**	**-1.8**
BJO	**Bjornoya**	**2.90**	**85**	*e*P	**Pn**	**05 30 04.8**	**-3.3**
BJO				*e*S	**Sn**	**05 30 34.7**	**-8.4**
BJO				AML	AML	05 30 35.6	
	comp=Z,160nm,0.2s						
SPB4	**Spitsbergen Ar**	**4.13**	**23**	*e*Pn	**Pn**	**05 30 25.1**	**+0.1**
SPB4	**Spitsbergen Ar**	**4.13**	**23**	*e*Pn	**Pn**	**05 30 25.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**4.13**	**23**	Pn	**Pn**	**05 30 25.1**	**+0.2**
	baz=204,slow=16						
SPA0	**Spitsbergen Ar**	**4.13**	**23**	Pn	**Pn**	**05 30 25.1**	**+0.1**
	SNR=50						
KBS	**Kingsbay**	**4.50**	**9**	Pn	**Pn**	**05 30 29.3**	**-0.8**
KBS				Sn	**Sn**	**05 31 17.2**	**-5.4**
KBS	**Kingsbay**	**4.50**	**9**	*e*P	**Pn**	**05 30 29.7**	**-0.4**
KBS	**Kingsbay**	**4.50**	**9**	*e*Pn	**Pn**	**05 30 29.8**	**-0.3**
KBS				*e*Sn	**Sn**	**05 31 21.9**	**-0.6**
KBS	**Kingsbay**	**4.50**	**9**	*e*Pn	**Pn**	**05 30 29.8**	**-0.3**
KBS				*e*Sn	**Sn**	**05 31 21.9**	**-0.7**
HOPEN	**Hopen**	**4.62**	**57**	*e*P	**Pn**	**05 30 29.9**	**-1.8**
HOPEN				*e*S	**Sn**	**05 31 16.9**	**-8.5**
HOPEN				AML	AML	05 31 22.9	
	comp=N,292nm,0.2s						
TRO	**Tromso**	**5.88**	**141**	*e*P	**Pn**	**05 30 46.6**	**-2.4**
TRO				*e*S	**Sn**	**05 31 47.6**	**-8.9**
TRO				AML	AML	05 31 51.5	
	comp=Z,14nm,0.5s						
TRO	**Tromso**	**5.88**	**141**	*e*P	**Pn**	**05 30 46.6**	**-2.4**
TRO				*e*S	**Sn**	**05 31 47.6**	**-8.9**
JNE	**Jan Mayen East**	**6.08**	**243**	*e*P	**Pn**	**05 30 50.2**	**-1.5**
JNE	**Jan Mayen East**	**6.08**	**243**	*e*P	**Pn**	**05 30 50.3**	**-1.4**
JNW	**Jan Mayen West**	**6.08**	**243**	*e*P	**Pn**	**05 30 50.2**	**-1.6**
JMIC	**Jan Mayen**	**6.13**	**243**	Pn	**Pn**	**05 30 51.0**	**-1.4**
	comp=Z,34nm,0.3s,baz=39,slow=6.5,SNR=4.0						
JMIC				LR	LR	05 31 57.8	
	comp=Z,192nm,20.2s,baz=76,slow=26						
JMI	**Jan Mayen**	**6.22**	**243**	*e*P	**Pn**	**05 30 52.3**	**-1.4**
LOF	**Lofoten**	**6.63**	**163**	*e*P	**Pn**	**05 30 59.1**	**-0.2**
LOF				*e*S	**Sn**	**05 32 07.1**	**-7.9**
LOF				AML	AML	05 32 09.2	
	comp=Z,10nm,0.5s						
LOF				*e*		05 36 45.7	
LOF	**Lofoten**	**6.63**	**163**	*e*P	**Pn**	**05 30 59.1**	**-0.2**
LOF				*e*S	**Sn**	**05 32 07.1**	**-7.9**
LOF				*e*		05 36 45.7	
DAG	**Danmarks Havn**	**7.04**	**301**	*i* P	**Pn**	**05 31 02.0**	**-2.9**
DAG	**Danmarks Havn**	**7.04**	**301**	*e*P	**Pn**	**05 31 02.0**	**-2.9**
KTK1	**Kautokeino**	**7.21**	**133**	*e*P	**Pn**	**05 31 07.0**	**-0.3**
KTK1				*e*S	**Sn**	**05 32 20.7**	**-8.6**
KTK1				AML	AML	05 32 29.1	
	comp=Z,9.3nm,0.4s						
KTK1	**Kautokeino**	**7.21**	**133**	*e*P	**Pn**	**05 31 07.0**	**-0.3**
KTK1				*e*S	**Sn**	**05 32 20.7**	**-8.6**
ARA0	**ARCESS Array S**	**7.26**	**125**	Pn	**Pn**	**05 31 04.7**	**-3.3**
	baz=329,slow=12						
ARA0				Sn	**Sn**	**05 32 18.0**	**-12**
	baz=332,slow=22						
ARCES	**ARCESS Array B**	**7.26**	**125**	Pn	**Pn**	**05 31 04.5**	**-3.5**
	comp=Z,3.4nm,0.3s,baz=322,slow=9.7,SNR=54						
ARCES				Sn	**Sn**	**05 32 19.1**	**-11**
	comp=Z,4.7nm,0.3s,baz=338,slow=20,SNR=10						
ARCES				LR	LR	05 34 15.6	
	comp=Z,419nm,18.2s,baz=289,slow=41						
ARCES	**ARCESS Array B**	**7.26**	**125**	Pn	**Pn**	**05 31 04.5**	**-3.5**
ARCES				Sn	**Sn**	**05 32 19.1**	**-11**
ARCES				LR	LR	05 34 15.6	
ARCES	**ARCESS Array B**	**7.26**	**125**	Pn	**Pn**	**05 31 04.5**	**-3.5**
ARCES				Sn	**Sn**	**05 32 19.1**	**-11**
KEV	**Kevo**	**7.43**	**121**	*e*p	**Pn**	**05 31 08.6**	**-1.7**
	comp=Z,25nm,0.5s						
KEV	**Kevo**	**7.43**	**121**	*e*P	**Pn**	**05 31 08.6**	**-1.7**
KEV				pmax	pmax		
	comp=Z,25nm,0.5s						
STOK	**Stokkvaagen**	**8.37**	**167**	*e*P	**Pn**	**05 31 23.4**	**+0.2**
STOK				*e*S	**Sn**	**05 32 46.6**	**-11**
MOR8	**Moi Rana**	**8.63**	**163**	*e*P	**Pn**	**05 31 25.8**	**-1.0**
MOR8				*e*S	**Sn**	**05 32 52.9**	**-11**
MOR8				AML	AML	05 32 58.3	
	comp=Z,4.6nm,0.3s						
MOR8	**Moi Rana**	**8.63**	**163**	*e*P	**Pn**	**05 31 25.8**	**-1.0**
MOR8				*e*S	**Sn**	**05 32 52.9**	**-11**
APA0	**Apatity Array**	**10.49**	**119**	Pn	**Pn**	**05 31 48.0**	**-4.2**
	baz=304,slow=16						
APA0				Sn	**Sn**	**05 33 34.5**	**-15**
	baz=318,slow=37						
APA0	**Apatity Array**	**10.49**	**119**	Pn	**Pn**	**05 31 48.0**	**-4.2**
	SNR=5.3						
APA	**Apatity**	**10.62**	**118**	*e*P	**Pn**	**05 31 47.0**	**-7.0**
NOA	**NORSAR Array B**	**13.59**	**174**	Pn	**Pn**	**05 32 35.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=2.7						
NOA				LR	LR	05 37 27.3	
	comp=Z,61nm,18.6s,baz=355,slow=36						
HFS	**Hagfors**	**14.59**	**169**	Pn	**Pn**	**05 32 48.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=12,slow=16,SNR=2.7						
HFS				LR	LR	05 37 27.8	
	comp=Z,151nm,21.1s,baz=251,slow=34						
HFS	**Hagfors**	**14.59**	**169**	Pn	**Pn**	**05 32 55.3**	**+7.0**
	slow=10						
FIA0	**FINESS Array S**	**14.60**	**145**	Pn	**Pn**	**05 32 47.0**	**-1.5**
	baz=354,slow=16						
FINES	**FINESS Array B**	**14.60**	**145**	Pn	**Pn**	**05 32 46.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=359,slow=12,SNR=8.1						
FINES				LR	LR	05 39 19.2	
	comp=Z,78nm,18.0s,baz=334,slow=41						
FINES	**FINESS Array B**	**14.60**	**145**	Pn	**Pn**	**05 32 46.9**	**-1.5**
FINES				LR	LR	05 39 19.2	
MNK	**Minsk**	**21.55**	**148**	*e*P	**P**	**05 34 14.0**	**+2.7**
MOS	**Moscow**	**22.04**	**133**	*e*P	**P**	**05 34 20.7**	**+4.1**
MOS				pmax	pmax		
	comp=Z,82nm,1.2s,mb5.0						
OBN	**Obninsk**	**22.42**	**135**	*e*P	**P**	**05 34 27.1**	**+6.5**
OBN				*e*		05 34 32.1	
OBN				pmax	pmax		
	comp=Z,53nm,1.3s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS3.5						
CLL	**Collm**	**23.38**	**173**	*e*P	**P**	**05 34 31.0**	**+0.2**
BRG	**Berggiesshubel**	**23.85**	**171**	*e*P	**P**	**05 34 38.3**	**+3.0**
	comp=Z,4.0nm,1.2s,mb3.7						
BRG	**Berggiesshubel**	**23.85**	**171**	*e*P	**P**	**05 34 38.3**	**+3.0**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.7						
NKC	**Novy Kostel**	**24.44**	**174**	*e*P	**P**	**05 34 41.5**	**+0.8**
DPC	**Dobruska-Polom**	**24.49**	**168**	*e*P	**P**	**05 34 41.1**	**0.0**
PRU	**Pruhonice**	**24.76**	**170**	*e*P	**P**	**05 34 44.2**	**+0.6**
OKC	**Ostrava-Krasne**	**25.12**	**165**	*e*P	**P**	**05 34 46.2**	**-0.6**
MORC	**Moravsky Berou**	**25.14**	**166**	*e*P	**P**	**05 34 46.9**	**-0.1**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
MORC	**Moravsky Berou**	**25.14**	**166**	*e*P	**P**	**05 34 46.9**	**-0.1**
	comp=Z,3.8nm,0.9s,mb3.9						
AKASG	**Malin Array Be**	**25.45**	**148**	P	**P**	**05 34 49.0**	**-0.8**
	comp=Z,3.3nm,0.5s,mb4.1,baz=346,slow=9.4,SNR=8.4						
VRAC	**Vranov**	**25.55**	**167**	P	**P**	**05 34 51.8**	**+1.1**
	comp=Z,13nm,0.8s,mb4.5,baz=339,slow=7.7,SNR=11						
KHC	**Kasperske Hory**	**25.58**	**172**	*e*P	**P**	**05 34 51.5**	**+0.5**
STHS	**Stebnicka Huta**	**25.78**	**160**	*e*P	**P**	**05 34 54.2**	**+1.3**
GEC2	**GERESS Array S**	**25.87**	**172**	*e*P	**P**	**05 34 54.6**	**+0.9**
GERES	**GERESS Array B**	**25.87**	**172**	P	**P**	**05 34 54.9**	**+1.2**
	comp=Z,3.3nm,0.7s,mb4.0,baz=10,slow=8.1,SNR=17						
GERES				LR	LR	05 44 13.3	
	comp=Z,63nm,20.6s,MS3.1,baz=306,slow=34						
ARU	**Arti**	**26.30**	**106**	*e*P	**P**	**05 35 04.1**	**+6.5**
ARU	**Arti**	**26.30**	**106**	*e*P	**P**	**05 35 04.5**	**+6.9**
	comp=Z,10nm,0.4s,mb4.7						
KOLS	**Kolonicke sedl**	**26.36**	**159**	*e*P	**P**	**05 34 58.7**	**+0.6**
SVE	**Sverdlovsk**	**26.49**	**103**	*e*P	**P**	**05 35 04.0**	**+4.7**
VYHS	**Vyhne**	**26.50**	**164**	*e*P	**P**	**05 35 02.2**	**+2.8**
DAVOX	**Davos**	**27.84**	**178**	LR	LR	05 45 27.8	
	comp=Z,25nm,18.3s,MS2.8,baz=85,slow=35						
AKTK	**Aktyubinsk**	**31.60**	**112**	P	**P**	**05 35 45.0**	**+0.3**
AKTK				LR	LR	05 49 17.9	
AKTO	**Aktyubinsk**	**31.60**	**112**	P	**P**	**05 35 45.0**	**+0.3**
	comp=Z,0.9nm,0.5s,mb3.8,baz=324,slow=9.5,SNR=3.8						
AKTO				LR	LR	05 49 17.9	
	comp=Z,131nm,19.3s,MS3.6,baz=345,slow=38						
BRVK	**Borovoye**	**32.40**	**96**	*e*P	**P**	**05 35 52.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**32.40**	**96**	*e*P	**P**	**05 35 52.6**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**32.46**	**96**	P	**P**	**05 35 52.6**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.9,baz=324,slow=9.9,SNR=8.2						
BVAR				PcP	PcP	05 38 39.6	+0.3
	comp=Z,0.9nm,0.6s,baz=288,slow=0.5,SNR=3.6						
BVAR				LR	LR	05 50 39.8	
	comp=Z,103nm,18.8s,MS3.5,baz=330,slow=40						
BVAR	**Borovoye Array**	**32.46**	**96**	P	**P**	**05 35 52.6**	**+0.3**
BVAR						05 38 39.6	
SCHQ	**Schefferville**	**34.38**	**278**	LR	LR	05 48 34.9	
	comp=Z,138nm,19.8s,MS3.7,baz=36,slow=34						
ZAL	**Zalesovo**	**35.50**	**82**	P	**P**	**05 36 19.4**	**+0.7**
	comp=Z,0.9nm,0.3s,mb4.1,baz=102,slow=2.3,SNR=3.6						
BRTR	**Keskin Array B**	**36.83**	**147**	P	**P**	**05 36 31.1**	**+1.1**
	comp=Z,1.4nm,0.9s,mb3.8,baz=348,slow=7.7,SNR=5.2						
YKA	**Yellowknife Ar**	**38.25**	**321**	LR	LR	05 52 21.0	
	comp=Z,51nm,18.0s,MS3.4,baz=185,slow=36						
GNI	**Garni**	**38.34**	**133**	LR	LR	05 53 21.1	
	comp=Z,86nm,20.6s,MS3.5,baz=175,slow=38						
MK31	**Makanchi Array**	**41.32**	**89**	*e*P	**P**	**05 37 08.2**	**+0.5**
MKAR	**Makanchi Array**	**41.32**	**89**	P	**P**	**05 37 07.8**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=8.4,slow=7.3,SNR=6.9						
AAK	**Ala-Archa**	**43.09**	**99**	*e*P	**P**	**05 37 29.3**	**+7.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.1						
AAK	**Ala-Archa**	**43.09**	**99**	*e*P	**P**	**05 37 29.3**	**+7.3**
	comp=Z,6.2nm,1.4s,mb4.2						
ULM	**Lac du Bonnet**	**45.88**	**300**	LR	LR	05 56 49.1	
	comp=Z,99nm,19.1s,MS3.8,baz=28,slow=36						
SONM	**Songino Array**	**46.64**	**67**	P	**P**	**05 37 51.2**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=307,slow=7.6,SNR=5.6						
SONM				LR	LR	05 58 37.4	
	comp=Z,47nm,21.7s,MS3.4,baz=358,slow=38						
PDAR	**Pinedale Array**	**56.01**	**308**	P	**P**	**05 39 01.4**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=36,slow=6.3,SNR=3.8						
PDAR				LR	LR	06 02 49.1	
	comp=Z,87nm,19.1s,MS3.9,baz=219,slow=36						
PDAR	**Pinedale Array**	**56.01**	**308**	P	**P**	**05 39 01.4**	**+0.8**
PDAR				LR	LR	06 02 49.1	
KOLN	**Koldanda**	**59.53**	**96**	*e*P	**P**	**05 39 25.9**	**+0.6**
GKN	**Gorkha**	**59.59**	**95**	*e*P	**P**	**05 39 26.2**	**+0.5**
KKN	**Kakani**	**59.96**	**95**	*e*P	**P**	**05 39 29.3**	**+1.0**
GUN	**Gumba**	**60.01**	**94**	*e*P	**P**	**05 39 29.9**	**+1.3**
DMN	**Daman**	**60.09**	**95**	*e*P	**P**	**05 39 30.9**	**+1.7**
PKI	**Pulchoki**	**60.20**	**95**	*e*P	**P**	**05 39 32.4**	**+2.4**
KSRS	**Korea Array**	**61.45**	**52**	LR	LR	06 09 00.3	
	comp=Z,45nm,19.2s,MS3.6,baz=3.0,slow=39						
TORD	**Torodi Ar. Bea**	**61.48**	**187**	P	**P**	**05 39 38.2**	**-0.4**
	comp=Z,1.2nm,0.9s,mb4.0,baz=353,slow=5.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**61.48**	**187**	P	**P**	**05 39 38.2**	**-0.4**
MJAR	**Matsushiro Arr**	**64.38**	**43**	LR	LR	06 08 35.2	
	comp=Z,60nm,19.5s,MS3.8,baz=155,slow=37						
TXAR	**Lajitas Array**	**67.57**	**299**	P	**P**	**05 40 18.8**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.5,baz=57,slow=3.3,SNR=2.8						
TXAR				LR	LR	06 10 09.4	
	comp=Z,73nm,19.5s,MS3.9,baz=185,slow=36						
PSI	**Prapat**	**87.47**	**89**	LR	LR	06 26 56.5	
	comp=Z,51nm,19.3s,MS4.0,baz=14,slow=40						
ASAR	**Alice Springs**	**121.84**	**61**	PKP	PKPdf	05 48 14.9	-1.3
	comp=Z,0.7nm,0.6s,baz=353,slow=2.3,SNR=9.8						
SYO	**Syowa Base**	**144.67**	**161**	*e*P	PKPdf	05 49 02.2	+3.5
VNA1	**Neumayer--Stat**	**145.33**	**190**	*e*	PKPbc	05 48 58.7	-1.0
VNA1				*e*		05 49 03.2	
VNA1				*e*		05 49 06.6	
VNA2	**Neumayer--Watz**	**145.56**	**189**	*e*	PKPdf	05 48 59.3	-1.0
	baz=355,slow=4.2						
VNA2				*e*		05 49 03.4	
VNA2				*e*		05 49 06.8	
VNA2				*e*		05 49 11.7	
VNA2				*e*		05 49 18.3	
MAW	**Mawson**	**146.10**	**146**	PKPbc	PKPbc	05 49 00.9	-1.2
	comp=Z,1.9nm,0.8s,baz=321,slow=6.5,SNR=3.3						
SNAA	**Sanae**	**146.14**	**186**	*e*	PKPbc	05 49 06.9	+4.7
SNAA	**Sanae**	**146.14**	**186**	*e*PKPbc	PKPbc	05 49 00.1	-2.1

**IDC 09 05:30:02.4±3.7,

ML1.7, Error ellipse: s-maj=5.6km s-min=4.4km az=157.0
SVSA 09 05:48:36.6±0.9, 3879N×2855W, h2km±12km, MD2.9, ML1.7, Error ellipse: s-maj=5.6km s-min=4.4km az=157.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.20**	**216**	*i* P	Pg	05 48 40.4	0.0
PCED				*i* S	Sg	05 48 42.5	-0.4
PCED	27nm,0.2s						
PCED	**Cedros**	**0.20**	**216**	*i* S	Sg	05 48 42.5	-0.4
CALA	**Caldeira**	**0.24**	**209**	*eP*	Pg	05 48 41.0	-0.1
CALA				*eS*	Sg	05 48 44.0	-0.2
ROSA	**Rosais**	**0.25**	**105**	*eS*	Sg	05 48 44.3	-0.5
PICO	**Pico**	**0.30**	**161**	*eP*	Pg	05 48 41.9	-0.5
PICO				*eS*	Sg	05 48 46.0	-0.4
PCND	**Candelaria**	**0.33**	**167**	*eS*	Sg	05 48 47.1	0.0
SRBC	**Serra Branca**	**0.47**	**58**	*eP*	Pg	05 48 42.4	-3.2

IDC 09 05:51:47.1±3.5, 604S×15095E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=114.9km s-min=48.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.03**	**228**	Sn	Sn	05 54 06.8	+4.3
	2.3nm,0.3s,baz=195,slow=22,SNR=6.8						
KAKA	**Kakadu**	**19.42**	**249**	*eP*	Pn	05 56 17.8	+1.9
	3.1nm,0.6s						
WB2	**Warramunga Arr**	**21.24**	**228**	*eP*	P	05 56 35.3	+0.7
WRA	**Warramunga Arr**	**21.25**	**228**	P	P	05 56 34.7	-0.1
	1.0nm,0.6s,baz=52,slow=10,SNR=18						
ASAR	**Alice Springs**	**24.00**	**221**	P	P	05 57 03.0	-0.4
	0.9nm,0.5s,baz=57,slow=8.7,SNR=18						
FITZ	**Fitzroy Crossi**	**27.45**	**242**	*eP*	P	05 57 36.1	+1.4
	2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.45**	**242**	P	P	05 57 36.0	+1.3
	1.3nm,0.5s,baz=76,slow=8.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**148.90**	**285**	PKPbc	PKPbc	06 11 37.4	+0.7
	0.3nm,0.5s,baz=64,slow=3.4,SNR=4.6						

*NEIC **09** 05:57:03.2±0.7, 6.17S×151.60E, h10km, mb4.6/5, Error ellipse: s-maj=33.7km s-min=10.5km az=129.0*
*ISCJB **09** 05:57:10.1±3.5, 62S±02×1513E±02, h74km±30km, mb4.0/8, Error ellipse: s-maj=41.7km s-min=18.7km az=65.8*
*IDC **09** 05:57:13.7±7.2, 6.22S×151.16E, h84km±53km, mb3.6/5, mb1 3.8/6, mb1mx3.6/15, mbtmp3.6/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/24, Error ellipse: s-maj=59.2km s-min=31.6km az=93.0*
ISC 09 05:57:04.5±6.4, 61S±02×1515E±02, h16km±40km, n20, σ0s78/15, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.39**	**232**	P	**Pn**	**05 58 27.3**	**+3.1**
	1.6nm,0.3s,baz=36,slow=9.6,SNR=4.4						
PMG				S	**Sn**	**05 59 26.0**	**+0.1**
	8.4nm,0.3s,baz=174,slow=20,SNR=5.2						
HNR	**Honiara**	**9.01**	**112**	LR	LR	06 02 10.5	
	comp=Z,70nm,19.4s,baz=360,slow=32						
CTA	**Charters Tower**	**14.79**	**200**	LR	LR	06 05 53.4	
	comp=Z,45nm,19.1s,baz=58,slow=36						
KAKA	**Kakadu**	**19.89**	**249**	*eP*	**Pn**	**06 01 35.8**	**-1.0**
	10nm,0.8s						
WB2	**Warramunga Arr**	**21.59**	**229**	*eP*	**P**	**06 01 53.2**	**-0.3**
WRA	**Warramunga Arr**	**21.60**	**229**	P	**P**	**06 01 52.7**	**-0.9**
	2.2nm,0.9s,mb3.6,baz=54,slow=10,SNR=12						
AS31	**Alice Springs**	**24.30**	**222**	*eP*	**P**	**06 02 21.3**	**+0.2**
ASAR	**Alice Springs**	**24.30**	**222**	P	**P**	**06 02 21.2**	**+0.1**
	4.8nm,0.8s,mb4.0,baz=53,slow=9.1,SNR=46						
STKA	**Stephens Creek**	**27.25**	**199**	P	**P**	**06 02 48.0**	**+0.2**
	4.0nm,0.9s,mb3.9,baz=6.0,slow=11,SNR=6.1						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	*eP*	**P**	**06 02 54.3**	**+0.7**
	4.4nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	**P**	**06 02 52.8**	**-0.8**
	0.8nm,0.3s,mb3.8,baz=76,slow=11,SNR=8.8						
TBI	**Tubuai**	**59.23**	**113**	*eT*		06 07 51.7	
	9.1nm,0.3s						
SONM	**Songino Array**	**66.75**	**329**	P	**P**	**06 07 55.7**	**+0.8**
	0.5nm,0.6s,mb3.7,baz=145,slow=5.4,SNR=3.8						
SONM				pP	pP	06 08 07.2	+7.1
	0.5nm,0.6s,baz=141,slow=5.0,SNR=4.3						
SML	**Sawmill**	**81.86**	**25**	*eP*	**P**	**06 09 22.1**	**-0.8**
MCK	**McKinley**	**82.57**	**23**	*eP*	**P**	**06 09 26.9**	**+0.2**
	5.2nm,1.1s,mb4.5						
COLA	**College**	**83.55**	**22**	*eP*	**P**	**06 09 31.3**	**-0.5**
	3.9nm,0.8s,mb4.6						
EGAK	**Eagle**	**86.08**	**23**	*eP*	**P**	**06 09 45.3**	**+0.8**
	5.4nm,1.0s,mb4.7						
TOA0	**Torodi Ar. Sit**	**149.43**	**285**	*e*PKPbc	PKPbc	06 16 53.5	+0.7
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc	PKPbc	06 16 53.2	+0.4
	1.1nm,0.6s,baz=96,slow=2.6,SNR=12						
TORD				pPKPbc	pPKPbc	06 17 04.3	+6.1
	1.6nm,0.7s,baz=68,slow=3.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc	PKPbc	06 16 53.2	+0.4
TORD				pPKPbc	pPKPbc	06 17 04.3	+6.1

*ISCJB **09** 06:05:48.8±1.9, 4.84S±008×1452E±01, h92km±19km, mb3.9/6, Error ellipse: s-maj=18.7km s-min=13.8km az=23.8*
*IDC **09** 06:05:50.1±4.0, 4.88S×145.17E, h89km±40km, mb3.7/6, mb1 3.9/9, mb1mx3.8/16, mbtmp3.8/9, MS2.8/2, Ms1 2.8/2, ms1mx2.2/27, Error ellipse: s-maj=35.4km s-min=24.7km az=88.0*
*NEIC **09** 06:05:51.2±1.9, 4.82S×145.10E, h98km±18km, mb4.0/3, Error ellipse: s-maj=16.7km s-min=15.3km az=111.0*
ISC 09 06:05:50.8±1.8, 487S±009×1452E±01, h95km±18km, n17, σ0s88/21, mb3.9/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.91**	**157**	P	**Pn**	**06 07 03.2**	**+1.0**
	19nm,0.3s,baz=343,slow=7.2,SNR=47						
PMG				S	**Sn**	**06 07 56.3**	**-1.4**
	20nm,0.3s,baz=325,slow=22,SNR=13						
PMG				LR	LR	06 09 03.7	
	comp=Z,67nm,18.7s,baz=58,slow=39						
KAKA	**Kakadu**	**14.81**	**237**	*eP*	**Pn**	**06 09 15.5**	**+0.1**
	28nm,0.4s						
CTA	**Charters Tower**	**15.16**	**176**	*eP*	**Pn**	**06 09 21.9**	**+2.1**
	4.9nm,0.6s						
CTA	**Charters Tower**	**15.16**	**176**	P	**Pn**	**06 09 20.8**	**+1.0**
	0.2nm,0.3s,baz=349,slow=12,SNR=4.7						
WRAB	**Tennant Creek**	**18.32**	**214**	*eP*	**Pn**	**06 09 58.5**	**-0.1**
	2.9nm,0.6s						
WRAB				*eS*	**S**	**06 13 22.5**	**+0.5**
WB2	**Warramunga Arr**	**18.33**	**214**	*eP*	**Pn**	**06 09 57.8**	**-0.9**
WRA	**Warramunga Arr**	**18.34**	**214**	P	**Pn**	**06 09 58.0**	**-0.8**
	0.6nm,0.3s,baz=32,slow=10,SNR=63						
WRA				S	**S**	**06 13 17.1**	**-5.2**
	baz=34,slow=18,SNR=4.8						
AS31	**Alice Springs**	**21.63**	**209**	*eP*	**P**	**06 10 34.1**	**+0.8**
ASAR	**Alice Springs**	**21.63**	**209**	P	**P**	**06 10 34.0**	**+0.8**
	4.7nm,0.8s,mb3.9,baz=38,slow=7.2,SNR=14						
ASAR				S	**S**	**06 14 23.4**	**-3.9**
	3.2nm,1.2s,baz=28,slow=20,SNR=8.1						
ASPA	**Alice Springs**	**21.63**	**209**	*eP*	**P**	**06 10 34.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.21**	**234**	*eP*	**P**	**06 10 47.8**	**-1.6**
	16nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.21**	**234**	P	**P**	**06 10 48.2**	**-1.2**
	8.6nm,0.6s,mb4.2,baz=63,slow=7.9,SNR=31						
STKA	**Stephens Creek**	**27.08**	**187**	P	**P**	**06 11 24.1**	**-0.3**
	1.6nm,0.7s,mb3.6,baz=14,slow=12,SNR=3.5						
STKA				LR	LR	06 22 21.5	
	comp=Z,29nm,18.4s,baz=24,slow=37						
SONM	**Songino Array**	**62.56**	**332**	P	**P**	**06 16 05.0**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=154,slow=5.2,SNR=4.1						
VNDA	**Vanda**	**73.14**	**176**	P	**P**	**06 17 11.2**	**+0.1**
	0.4nm,0.5s,mb3.5,baz=327,slow=6.2,SNR=4.6						
ZAL	**Zalesovo**	**77.12**	**328**	P	**P**	**06 17 33.2**	**-0.7**
	2.2nm,0.2s,mb4.4,baz=122,slow=2.3,SNR=4.0						
ZAL	**Zalesovo**	**77.12**	**328**	P	**P**	**06 17 33.2**	**-0.7**

*NEIC **09** 06:11:35.0±1.7, 6.03S×151.42E, h10km, mb4.4/2, Error ellipse: s-maj=37.3km s-min=26.5km az=134.0*
*ISCJB **09** 06:11:40.0±5.3, 6.1S±03×1512E±03, h54km±36km, mb4.0/4, Error ellipse: s-maj=53.3km s-min=39.0km az=104.9*
*IDC **09** 06:11:42.8±8.9, 6.10S×151.10E, h56km±64km, mb3.9/4, mb1 4.1/5, mb1mx3.7/15, mbtmp4.0/5, ML2.8/1, Error ellipse: s-maj=58.3km s-min=52.6km az=86.0*
ISC 09 06:11:41.2±5.2, 60S±03×1512E±03, h53km±35km, n11, σ0s52/11, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**229**	P	**Pn**	**06 12 56.9**	**+0.2**
	2.4nm,0.3s,baz=56,slow=8.1,SNR=8.7						
PMG				S	**Sn**	**06 13 55.8**	**+0.1**
	3.4nm,0.3s,baz=177,slow=17,SNR=3.2						
KAKA	**Kakadu**	**19.64**	**249**	*eP*	**Pn**	**06 16 06.7**	**-0.4**
	12nm,0.6s						
WB2	**Warramunga Arr**	**21.44**	**228**	*eP*	**P**	**06 16 24.1**	**-0.7**
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**06 16 24.5**	**-0.4**
	5.1nm,0.7s,mb3.9,baz=52,slow=10,SNR=24						
AS31	**Alice Springs**	**24.18**	**222**	*eP*	**P**	**06 16 52.2**	**-0.3**
ASAR	**Alice Springs**	**24.19**	**222**	P	**P**	**06 16 53.5**	**+1.0**
	2.3nm,0.6s,mb3.8,baz=57,slow=10,SNR=32						
ASPA	**Alice Springs**	**24.19**	**222**	*eP*	**P**	**06 16 52.2**	**-0.3**
STKA	**Stephens Creek**	**27.27**	**198**	P	**P**	**06 17 20.4**	**-0.1**
	3.5nm,0.7s,mb4.0,baz=2.4,slow=11,SNR=8.0						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	*eP*	**P**	**06 17 25.2**	**+1.2**
	5.4nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	**P**	**06 17 24.4**	**+0.5**
	2.6nm,0.6s,mb4.1,baz=88,slow=8.2,SNR=12						
TORD	**Torodi Ar. Bea**	**149.09**	**286**	PKPbc	PKPbc	06 31 26.0	+2.6
	0.3nm,0.5s,baz=52,slow=2.2,SNR=6.4						

*IDC **09** 06:46:51.2±4.0, 6.32S×151.37E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=163.6km s-min=49.1km az=124.0*
NEIC 09 06:46:51.1±1.9, 653S×15173E, h10km, mb3.3/1, Error ellipse: s-maj=81.6km s-min=24.8km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**237**	Sn	Sn	06 49 12.2	-0.4
	0.9nm,0.3s,baz=324,slow=19,SNR=2.7						
PMG	**Port Moresby**	**5.35**	**237**	Pn	Pn	06 48 11.3	+0.4
WRAB	**Tennant Creek**	**21.50**	**230**	*eP*	P	06 51 39.4	-0.6
	0.9nm,0.7s						
WB2	**Warramunga Arr**	**21.50**	**230**	*eP*	P	06 51 40.0	0.0
WRA	**Warramunga Arr**	**21.51**	**230**	P	P	06 51 40.8	+0.6
	0.3nm,0.4s,baz=39,slow=9.0,SNR=8.1						
ASAR	**Alice Springs**	**24.16**	**223**	P	P	06 52 08.2	+0.9
	0.4nm,0.5s,baz=56,slow=9.4,SNR=12						
FITZ	**Fitzroy Crossi**	**27.91**	**243**	P	P	06 52 41.7	+0.4
	2.2nm,1.0s,baz=79,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.77**	**285**	PKPbc	PKPbc	07 06 42.8	+1.6
	0.3nm,0.6s,baz=61,slow=2.9,SNR=5.4						

*CSEM **09** 06:47:31.5±0.4, 35.19N×2261E, h10km, ML3.0, Error ellipse: s-maj=9.6km s-min=3.8km az=51.0*
*ISCJB **09** 06:47:34.9±1.7, 353N±02×227E±02, h69km±10km, mb3.6/6, Error ellipse: s-maj=31.5km s-min=10.2km az=75.3*
*IDC **09** 06:47:34.9±2.9, 36.14N×2324E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=71.7km s-min=21.4km az=44.0*
*NEIC **09** 06:47:35.0, 3543N×2277E, h10km, ML3.0(ATH), After ATH.*
*NAO **09** 06:48:12.2, 4013N×2534E, h33km, mb3.3*
ISC 09 06:47:34.8±2.1, 352N±02×226E±02, h64km±11km, n23, σ1s18/25, mb3.7/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.24**	**105**	*e*Pn	**Pn**	**06 47 55.3**	**-0.8**
GVD	**Gavdhos**	**1.24**	**105**	*e*Pn	**Pn**	**06 47 55.3**	**-0.9**
VAM	**Vamos**	**1.31**	**79**	P	**Pn**	**06 47 56.0**	**-1.1**
VLI	**Veliai**	**1.57**	**9**	P	**Pn**	**06 47 57.0**	**-3.5**
IDI	**Anoyia**	**1.86**	**86**	Pn	**Pn**	**06 48 04.4**	**0.0**
	18nm,0.3s,baz=279,slow=15,SNR=128						
ITM	**Ithomi**	**2.09**	**345**	P	**Pn**	**06 48 07.8**	**+0.3**
NPS	**Neapolis**	**2.45**	**87**	P	**Pn**	**06 48 14.7**	**+2.3**
SANT	**Santorini**	**2.60**	**62**	*e*Pn	**Pn**	**06 48 12.2**	**-2.3**
SANT				*e*Pb	**Pn**	**06 48 16.0**	**+1.5**
SANT				*e*Pg	**Pn**	**06 48 21.2**	**+6.8**
SANT	**Santorini**	**2.60**	**62**	*e*Pn	**Pn**	**06 48 12.2**	**-2.3**
SANT	**Santorini**	**2.60**	**62**	*e*Pb	**Pn**	**06 48 16.0**	**+1.5**
VLS	**Valsamata**	**3.42**	**332**	P	**Pn**	**06 48 25.0**	**-0.7**
LKR	**Lokris**	**3.49**	**5**	P	**Pn**	**06 48 26.8**	**+0.1**
EVR	**Evrytania**	**3.80**	**350**	P	**Pn**	**06 48 33.9**	**+3.0**
NEO	**Neokhori**	**4.16**	**6**	P	**Pn**	**06 48 35.6**	**-0.2**
DIVS	**Divcibare**	**9.15**	**348**	*i* P	**Pn**	**06 49 39.8**	**-4.3**
BRTR	**Keskin Array B**	**9.87**	**59**	Pn	**Pn**	**06 49 54.6**	**+0.8**
	0.2nm,0.3s,baz=233,slow=14,SNR=8.5						
HFS	**Hagfors**	**23.90**	**223**	P	**P**	**06 52 58.1**	**-0.4**
	1.8nm,0.5s,mb3.9,baz=158,slow=12,SNR=9.5						
FINES	**FINESS Array B**	**26.39**	**4**	P	**P**	**06 53 04.1**	**-1.1**
	0.4nm,0.3s,mb3.5,baz=166,slow=9.3,SNR=6.6						
EKA	**Eskdalemuir Ar**	**26.86**	**327**	P	**P**	**06 53 12.1**	**+2.7**
	1.7nm,0.8s,mb3.6,baz=120,slow=8.5,SNR=3.7						
NB2	**NORSAR Subarra**	**26.91**	**348**	P	**P**	**06 53 09.9**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.5,baz=151,slow=10						
NOA	**NORSAR Array B**	**26.91**	**348**	P	**P**	**06 53 10.1**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.4,baz=164,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**34.46**	**2**	P	**P**	**06 54 15.4**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=180,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**45.50**	**56**	P	**P**	**06 55 48.0**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=269,slow=7.2,SNR=7.2						

IDC 09 06:58:46.1±9.8, 673S×15154E, h52km±70km, mb3.2/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=90.2km s-min=61.0km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09**	**238**	P	Pn	06 59 59.9	+0.1
	0.6nm,0.3s,baz=129,slow=6.5,SNR=3.3						
PMG				S	Sn	07 00 58.7	+1.3
	1.0nm,0.3s,baz=179,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**21.25**	**230**	P	P	07 03 27.6	-0.3
	0.6nm,0.5s,baz=56,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.93**	**223**	P	P	07 03 55.9	+0.9
	0.4nm,0.6s,baz=61,slow=8.7,SNR=9.1						
FITZ	**Fitzroy Crossi**	**27.66**	**243**	P	P	07 04 28.9	-0.1
	1.0nm,0.7s,baz=55,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.64**	**284**	PKPbc	PKPbc	07 18 31.0	+1.1
	0.5nm,0.6s,baz=55,slow=2.5,SNR=3.7						

IDC 09 06:59:31.7±28.0, 1825S×17367W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/16, mbtmp4.2/4, Error ellipse: s-maj=514.7km s-min=161.5km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.84**	**261**	P	P	07 06 51.5	+1.5
	2.6nm,0.4s,baz=72,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**42.45**	**243**	P	P	07 07 28.5	+0.3
	3.0nm,0.8s,baz=95,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**49.00**	**259**	P	P	07 08 19.1	-0.9
	0.6nm,0.7s,baz=97,slow=7.8,SNR=6.3						
ASAR	**Alice Springs**	**49.04**	**254**	P	P	07 08 20.8	+0.5
	2.9nm,0.8s,baz=87,slow=8.5,SNR=32						

IDC 09 07:03:09.5±2.9, 656S×15176E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=105.0km s-min=41.3km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**238**	Pn	Pn	07 04 32.7	+2.0
	0.7nm,0.3s,baz=3.4,slow=18,SNR=3.1						
PMG				Sn	Sn	07 05 32.4	-0.7
	1.6nm,0.3s,baz=148,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**21.52**	**230**	P	P	07 08 00.3	+0.3
	1.0nm,0.8s,baz=56,slow=12,SNR=10						
ASAR	**Alice Springs**	**24.16**	**223**	P	P	07 08 27.5	+0.2
	0.6nm,0.5s,baz=57,slow=8.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.93**	**243**	P	P	07 09 01.4	+0.1
	0.5nm,0.5s,baz=76,slow=7.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.81**	**285**	PKPbc	PKPbc	07 23 02.2	+0.8
	0.5nm,0.6s,baz=66,slow=3.7,SNR=3.4						

*NEIC **09** 07:03:35.2, 3784S×17780E, h68km, ML4.0(WEL), After WEL.*
WEL 09 07:03:35.0±0.2, 3785S×17781E, h71km±2km, ML3.9/11, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.42**	**123**	P	Pn	07 03 46.8	-0.4
PUZ	**Puketiti**	**0.42**	**123**	PN	Pn	07 03 46.8	-0.4
PUZ				SN	Sn	07 03 55.7	-0.4
MXZ	**Matakaoa Point**	**0.48**	**54**	P	Pn	07 03 47.7	-0.1
MXZ	**Matakaoa Point**	**0.48**	**54**	PN	Pn	07 03 47.7	-0.1
MXZ				SN	Sn	07 03 57.5	+0.4
MWZ	**Matawai**	**0.54**	**205**	P	Pn	07 03 48.4	+0.1
MWZ	**Matawai**	**0.54**	**205**	PN	Pn	07 03 48.4	+0.1
MWZ				SN	Sn	07 03 58.2	+0.1
URZ	**Urewera**	**0.69**	**233**	P	Pn	07 03 49.7	-0.2
URZ	**Urewera**	**0.69**	**233**	PN	Pn	07 03 49.7	-0.2
URZ				SN	Sn	07 04 00.2	-0.7
EDRZ	**Edgecumbe**	**0.89**	**253**	P	Pn	07 03 52.3	+0.1
EDRZ	**Edgecumbe**	**0.89**	**253**	PN	Pn	07 03 52.3	+0.1
EDRZ				SN	Sn	07 04 04.6	-0.2
KNZ	**Kokohu**	**1.18**	**185**	*eP*	Pn	07 03 55.8	0.0
KNZ	**Kokohu**	**1.18**	**185**	PN	Pn	07 03 55.8	0.0
TGRZ	**Tauranga**	**1.23**	**275**	PN	Pn	07 03 56.1	-0.4
KARZ	**Kaharoa**	**1.25**	**261**	P	Pn	07 03 56.8	+0.1
KARZ	**Kaharoa**	**1.25**	**261**	PN	Pn	07 03 56.8	0.0
BKZ	**Black Stump Fm**	**1.68**	**218**	*eP*	Pn	07 04 03.4	+1.1
KUZ	**Kuaotunu**	**2.00**	**303**	PN	Pn	07 04 06.0	-0.6
KUZ				SN	Sn	07 04 29.4	-1.2
OTVZ	**Oturere**	**2.14**	**231**	PN	Pn	07 04 10.1	+1.6
MOVZ	**Moawhango**	**2.24**	**225**	P	Pn	07 04 10.7	+0.8
MOVZ	**Moawhango**	**2.24**	**225**	PN	Pn	07 04 10.7	+0.8
WNVZ	**Wahianoa**	**2.28**	**229**	P	Pn	07 04 11.7	+1.3
WNVZ	**Wahianoa**	**2.28**	**229**	PN	Pn	07 04 11.7	+1.2
TSZ	**Takapari Road**	**2.64**	**213**	P	Pn	07 04 14.7	-0.6
TSZ	**Takapari Road**	**2.64**	**213**	PN	Pn	07 04 14.7	-0.6
WAZ	**Wanganui**	**2.92**	**228**	*eP*	Pn	07 04 20.9	+1.8
RAEZ	**Rainy Point**	**3.04**	**241**	P	Pn	07 04 23.7	+2.9
NEZ	**North Egmont**	**3.24**	**243**	P	Pn	07 04 27.9	+4.4
WCZ	**Waipu Caves**	**3.37**	**303**	*eP*	Pn	07 04 25.9	+0.7
SNZO	**South Karori**	**4.21**	**214**	*e*Pn	Pn	07 04 34.3	-2.4
SNZO				*e*Sn	Sn	07 05 22.2	-2.4

*ISCJB **09** 07:07:29.6±2.3, 867S±009×1150E±01, h58km±21km, mb4.6/17, Error ellipse: s-maj=20.9km s-min=8.6km az=104.2*
*IDC **09** 07:07:36.0±1.1, 861S×11527E, h109km±8km, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, Error ellipse: s-maj=22.8km s-min=12.3km az=50.0*
*NEIC **09** 07:07:36.4, 883S×11506E, h80km, mb4.5/2, After DJA.*
NEIC Felt [III] at Denpasar.
ISC 09 07:07:31.2±2.0, 875S±009×1149E±01, h55km±20km, n36, σ0s80/34, mb4.6/17, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**13.18**	**160**	*e*Pn	**Pn**	**07 10 34.6**	**-1.0**
	32nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.96**	**133**	*eP*	**Pn**	**07 10 46.1**	**-0.1**
	20nm,0.6s						
FITZ				*eS*	**Sn**	**07 13 10.3**	**-9.2**
FITZ	**Fitzroy Crossi**	**13.96**	**133**	P	**Pn**	**07 10 46.6**	**+0.5**
	2.3nm,0.3s,baz=324,slow=7.3,SNR=48						
FITZ				S	**Sn**	**07 13 12.1**	**-7.4**
	2.0nm,0.3s,baz=188,slow=19,SNR=7.9						
FITZ				ScP	ScP	07 19 25.0	-7.8
	0.1nm,0.3s,baz=297,slow=2.3,SNR=3.7						
KAKA	**Kakadu**	**17.66**	**104**	*eP*	**Pn**	**07 11 35.4**	**+2.2**
	3.2nm,0.3s						
WRA	**Warramunga Arr**	**21.83**	**123**	P	**P**	**07 12 18.3**	**-0.6**
	7.6nm,0.5s,mb4.4,baz=295,slow=12,SNR=77						
WRA				pP		07 12 39.2	
	2.1nm,0.6s,baz=302,slow=12,SNR=4.6						
WRA				S	**S**	**07 16 09.8**	**-7.1**
	0.8nm,0.8s,baz=288,slow=24,SNR=4.0						
WRA				ScP	ScP	07 19 40.7	-8.6
	1.6nm,0.8s,baz=299,slow=2.1,SNR=9.0						
WRAB	**Tennant Creek**	**21.83**	**123**	*eP*	**P**	**07 12 20.4**	**+1.4**
	686nm,4.3s						
WB2	**Warramunga Arr**	**21.84**	**123**	*eP*	**P**	**07 12 18.6**	**-0.4**
ASPA	**Alice Springs**	**23.45**	**131**	*eP*	**P**	**07 12 35.5**	**-0.2**
AS31	**Alice Springs**	**23.45**	**131**	*eP*	**P**	**07 12 35.5**	**-0.2**
ASAR	**Alice Springs**	**23.45**	**131**	P	**P**	**07 12 35.5**	**-0.2**
	5.7nm,0.4s,mb4.3,baz=304,slow=8.8,SNR=104						
ASAR				pP		07 12 54.6	
	4.5nm,0.6s,baz=311,slow=13,SNR=12						
ASAR				PcP	PcP	07 16 19.2	-1.0
	1.0nm,0.6s,baz=307,slow=1.6,SNR=5.7						
ASAR				ScP	ScP	07 19

ISC 09 07:09:44.8±0.5, 4194N±003×2310E±004, h4km, n20, σ0§48/38, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.59**	**126**	*e*Pg	**Pg**	**07 09 56.1**	**0.0**
MMB				*e*Sg	**Sg**	**07 10 04.3**	**+0.6**
MMB	**Musomiste**	**0.59**	**126**	P	**Pg**	**07 09 56.5**	**+0.4**
VTS	**Vitosha**	**0.66**	**7**	*e*Pg	**Pg**	**07 09 57.4**	**0.0**
VTS				*e*Sg	**Sg**	**07 10 06.2**	**+0.2**
VTS	**Vitosha**	**0.66**	**7**	P	**Pg**	**07 09 57.6**	**+0.1**
VTS				S	**Sg**	**07 10 06.2**	**+0.2**
STIP	**Stip**	**0.72**	**250**	*e*Pg	**Pg**	**07 09 58.8**	**+0.1**
STIP				*e*Sg	**Sg**	**07 10 09.4**	**+1.3**
STIP	**Stip**	**0.72**	**250**	*i* Pg	**Pg**	**07 09 58.4**	**-0.3**
STIP				*i* Sg	**Sg**	**07 10 08.2**	**+0.2**
VAY	**Valandovo**	**0.73**	**213**	*e*Pg	**Pg**	**07 09 59.1**	**+0.2**
VAY				*e*Sg	**Sg**	**07 10 08.9**	**+0.5**
VAY	**Valandovo**	**0.73**	**213**	*i* Pg	**Pg**	**07 09 59.1**	**+0.2**
VAY				*i* Sg	**Sg**	**07 10 08.6**	**+0.2**
VAY	**Valandovo**	**0.73**	**213**	P	**Pg**	**07 09 59.0**	**+0.1**
VAY				S	**Sg**	**07 10 08.8**	**+0.4**
VAY	**Valandovo**	**0.73**	**213**	*e*Pg	**Pg**	**07 09 59.1**	**+0.2**
VAY				*i* Sg	**Sg**	**07 10 08.6**	**+0.2**
KNT	**Kendrikon**	**0.79**	**191**	*e*Pg	**Pg**	**07 09 59.8**	**-0.2**
KNT				*e*Sg	**Sg**	**07 10 10.2**	**-0.1**
KNT	**Kendrikon**	**0.79**	**191**	P	**Pg**	**07 09 59.8**	**-0.2**
KNT				S	**Sg**	**07 10 10.5**	**+0.2**
SRS	**Serrai**	**0.90**	**155**	*e*Pg	**Pg**	**07 10 01.6**	**-0.6**
SRS				*e*Sg	**Sg**	**07 10 14.6**	**+0.8**
SRS	**Serrai**	**0.90**	**155**	*e*Pg	**Pg**	**07 10 01.5**	**-0.6**
SRS				*e*Sg	**Sg**	**07 10 14.6**	**+0.8**
GRG	**Griva**	**1.11**	**208**	*e*Pg	**Pg**	**07 10 06.0**	**-0.1**
GRG				*e*Sg	**Sg**	**07 10 21.1**	**+0.6**
SOH	**Sokhos**	**1.13**	**170**	*e*Pg	**Pg**	**07 10 05.8**	**-0.8**
SOH				*e*Sg	**Sg**	**07 10 20.9**	**-0.3**
PLD	**Plovdiv**	**1.21**	**82**	*e*Pg	**Pg**	**07 10 07.6**	**-0.4**
PLD				*e*Sg	**Sg**	**07 10 24.3**	**+0.6**
THE	**Thessaloniki**	**1.31**	**184**	*e*Pg	**Pg**	**07 10 09.3**	**-0.6**
THE				*e*Sg	**Sg**	**07 10 27.3**	**+0.4**
HORT	**Hortiatis**	**1.34**	**180**	*e*Pg	**Pg**	**07 10 09.8**	**-0.7**
HORT				*e*Sg	**Sg**	**07 10 27.7**	**-0.2**
KRUS	**Krusevo**	**1.50**	**248**	*i* Pg	**Pg**	**07 10 13.1**	**-0.4**

*IDC **09** 07:46:12.1±3.8, 573S×15095E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/13, mbtmp3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=125.0km s-min=52.0km az=120.0*

NEIC 09 07:46:11.3±2.0, 582S×15135E, h10km, mb3.2/1, Error ellipse: s-maj=55.1km s-min=30.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**229**	Pn	Pn	07 47 34.6	+1.7
WRAB	**Tennant Creek**	**21.68**	**228**	P	P	07 51 01.5	-0.7
	0.7nm,0.8s						
WB2	**Warramunga Arr**	**21.68**	**228**	*e*P	P	07 51 02.1	-0.1
WRA	**Warramunga Arr**	**21.69**	**228**	P	P	07 51 03.0	+0.6
	0.5nm,0.8s,baz=50,slow=10,SNR=6.5						
WRA				LR	LR	07 59 31.6	
	comp=Z,28nm,20.1s,baz=220,slow=37						
AS31	**Alice Springs**	**24.43**	**222**	P	P	07 51 28.6	-1.4
ASAR	**Alice Springs**	**24.43**	**222**	P	P	07 51 29.4	-0.7
	0.8nm,0.7s,baz=59,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**27.48**	**198**	*e*P	P	07 51 59.2	+1.5
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	P	07 52 02.4	+0.9
	1.4nm,0.7s,baz=54,slow=8.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	08 06 02.2	+2.1
	0.4nm,0.6s,baz=62,slow=2.6,SNR=3.7						

*IDC **09** 07:51:41.8±6.3, 743S×12844E, h125km±60km, mb3.5/2, mb1 3.9/5, mb1mx3.6/13, mbtmp3.7/5, Error ellipse: s-maj=90.6km s-min=24.4km az=63.0*
*ISCJB **09** 07:51:43.1±1.5, 751S±007×1286E±0.1, h169km±18km, mb4.1/3, Error ellipse: s-maj=19.8km s-min=8.8km az=124.6*
*NEIC **09** 07:51:43.6±1.7, 749S×12851E, h149km±19km, mb3.8/1, Error ellipse: s-maj=20.0km s-min=11.5km az=225.0*

ISC 09 07:51:46.0±1.0, 782S±006×12848E±009, h182km±11km, n17, σ1§50/24, mb4.1/3, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.23**	**142**	⇓*i*P	**Pn**	**07 53 17.7**	**+1.7**
	57nm,0.6s						
KAKA				*e*S	**Sn**	**07 54 25.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.59**	**195**	*e*P	**Pn**	**07 54 15.4**	**+2.3**
	16nm,0.6s						
FITZ				*e*S	**Sn**	**07 56 08.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**10.59**	**195**	P	**Pn**	**07 54 15.5**	**+2.4**
	2.7nm,0.3s,baz=31,slow=10,SNR=86						
FITZ				S	**Sn**	**07 56 09.6**	**-1.2**
	0.7nm,0.3s,baz=76,slow=19,SNR=3.4						
WRAB	**Tennant Creek**	**13.32**	**155**	*e*Pn	**Pn**	**07 54 49.2**	**+1.2**
WRAB				*e*Sn	**Sn**	**07 57 13.1**	**-3.1**
WRA	**Warramunga Arr**	**13.32**	**155**	P	**Pn**	**07 54 49.3**	**+1.3**
	1.5nm,0.3s,baz=330,slow=14,SNR=58						
WRA				S	**Sn**	**07 57 12.2**	**-4.0**
	1.8nm,0.3s,baz=329,slow=22,SNR=8.9						
WB2	**Warramunga Arr**	**13.33**	**155**	*e*P	**Pn**	**07 54 49.4**	**+1.3**
WB2				*e*S	**Sn**	**07 57 12.8**	**-3.6**
AS31	**Alice Springs**	**16.59**	**162**	*e*P	**Pn**	**07 55 33.0**	**+4.8**
AS31				*e*S	**S**	**07 58 32.2**	**+0.6**
ASAR	**Alice Springs**	**16.60**	**162**	P	**Pn**	**07 55 32.8**	**+4.6**
	1.2nm,0.3s,baz=335,slow=11,SNR=75						
ASAR				S	**S**	**07 58 29.6**	**-2.1**
	0.3nm,0.3s,baz=331,slow=18,SNR=4.8						
ASPA	**Alice Springs**	**16.60**	**162**	*e*P	**Pn**	**07 55 33.0**	**+4.8**
ASPA				*e*S	**S**	**07 58 32.2**	**+0.6**
KKM	**Kota Kinabalu**	**18.42**	**318**	*e*P	**P**	**07 55 45.5**	**-2.0**
PMG	**Port Moresby**	**18.54**	**96**	*e*P	**P**	**07 55 48.5**	**-0.2**
	2.3nm,0.5s						
KSM	**Kuching**	**20.34**	**296**	*e*P	**P**	**07 56 06.9**	**-1.2**
COCO	**West Island**	**31.45**	**259**	*e*P	**P**	**07 57 51.9**	**+1.7**
	17nm,0.6s,mb5.0						
SONM	**Songino Array**	**58.75**	**343**	P	**P**	**08 01 24.1**	**-0.6**
	0.6nm,0.8s,mb3.5,baz=173,slow=4.2,SNR=4.3						
MKAR	**Makanchi Array**	**68.09**	**328**	P	**P**	**08 02 26.1**	**+0.1**
	1.1nm,0.6s,mb3.7,baz=110,slow=7.9,SNR=11						
TRQA	**Tornquist**	**133.33**	**169**	*e*PKPdf	PKPdf	08 10 41.7	+1.6
LPAZ	**La Paz**	**150.95**	**146**	PKPbc	PKPbc	08 11 21.5	+4.5
	0.4nm,0.4s,baz=45,slow=1.4,SNR=3.7						
LPAZ				PKPab	PKPab	08 11 31.0	+5.9
	0.5nm,0.5s,baz=191,slow=5.2,SNR=4.4						

*NEIC **09** 08:10:19.2, 3072S×7132W, h48km, MD4.2(GUC), After GUC.*

GUC 09 08:10:19.2±1.1, 3072S×7132W, h48km±5km, MD4.2, ML3.8, 5C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.15**	**43**	⇑*i*P	Pn	08 10 27.4	+0.4
OVCH				*i* S	Sn	08 10 33.2	+0.8
OVCH				AML	AML	08 10 33.7	
	comp=N,27µm,0.2s						
CMCH	**Combarbala**	**0.53**	**149**	⇑*i*P	Pn	08 10 31.0	+0.3
CMCH				*i* S	Sn	08 10 39.7	+0.9
CMCH				AML	AML	08 10 40.8	
	comp=E,29µm,0.6s						
CMCH	**Combarbala**	**0.53**	**149**	⇑*i*P	Pn	08 10 31.0	+0.3
CMCH				*i* S	Sn	08 10 39.7	+0.9
TLL	**Tololo Astrono**	**0.71**	**39**	⇓*i*P	Pn	08 10 34.2	+1.2
TLL				*i* S	Sn	08 10 45.1	+2.2
TLL				AML	AML	08 10 46.6	
	comp=N,1µm,0.4s						
TLL	**Tololo Astrono**	**0.71**	**39**	⇓*i*P	Pn	08 10 34.2	+1.2
TLL				*i* S	Sn	08 10 45.1	+2.2
LSCH	**La Serena**	**0.81**	**5**	*e*P	Pn	08 10 34.6	+0.3
LSCH				*i* S	Sn	08 10 46.0	+0.7
CHNG	**Los Chungos**	**1.17**	**187**	⇓*i*P	Pn	08 10 39.5	+0.3
CHNG				*i* S	Sn	08 10 54.9	+0.9
CHNG				AML	AML	08 10 58.6	
	comp=N,620nm,0.7s						
PTCH	**Petorca**	**1.57**	**168**	⇑*i*P	Pn	08 10 45.5	+0.9
PTCH				*i* S	Sn	08 11 05.0	+1.2
PTCH				AML	AML	08 11 09.9	
	comp=E,3µm,0.2s						
PTCH	**Petorca**	**1.57**	**168**	⇑*i*P	Pn	08 10 45.5	+0.9
PTCH				*i* S	Sn	08 11 05.0	+1.2
PACH	**Papudo**	**1.81**	**183**	*e*P	Pn	08 10 48.0	+0.1
PACH				*i* S	Sn	08 11 10.6	+0.9
JACH	**Jahuel**	**2.05**	**163**	⇓*i*P	Pn	08 10 52.3	+1.1
VACH	**Vallenar**	**2.19**	**13**	*e*P	Pn	08 10 54.1	+0.9
VACH				*i* S	Sn	08 11 20.0	+1.0
VACH				AML	AML	08 11 24.4	
	comp=N,2µm,0.1s						
VACH	**Vallenar**	**2.19**	**13**	*e*P	Pn	08 10 54.1	+0.9
VACH				*i* S	Sn	08 11 20.0	+1.0
IHA	**Instituto Hidr**	**2.31**	**187**	*e*P	Pn	08 10 53.0	-1.9
ZON	**Zonda**	**2.41**	**111**	⇓*i*P	Pn	08 11 00.2	+4.1
PEL	**Peldehue**	**2.48**	**168**	*e*P	Pn	08 10 59.0	+2.0
PEL				*i* S	Sn	08 11 29.9	+3.8
PEL				AML	AML	08 11 40.7	
	comp=N,650nm,0.4s						
PEL	**Peldehue**	**2.48**	**168**	P	Pn	08 10 59.0	+2.0
PEL				S	Sn	08 11 29.9	+3.8
FCH	**Farellones**	**2.74**	**162**	*e*P	Pn	08 11 03.1	+2.4
FCH				*i* S	Sn	08 11 36.5	+3.9
FCH				AML	AML	08 11 44.7	
	comp=E,317nm,0.2s						
CLCH	**Cerro Calan**	**2.75**	**166**	*e*P	Pn	08 11 02.9	+2.1
CLCH				*e*S	Sn	08 11 34.6	+1.9
CLCH				AML	AML	08 11 47.0	
	comp=E,470nm,0.5s						
LCCH	**Las Cruces**	**2.75**	**184**	⇓*i*P	Pn	08 11 00.8	0.0
TACH	**Talagante**	**2.94**	**174**	*i* P	Pn	08 11 04.7	+1.3
PCH	**Pirque**	**2.97**	**167**	*i* P	Pn	08 11 05.8	+2.0
LNV	**Longovilo**	**3.23**	**181**	*i* P	Pn	08 11 06.1	-1.3
CHCH	**Chadas Angostu**	**3.25**	**170**	⇓*i*P	Pn	08 11 08.3	+0.6

*ISCJB **09** 08:15:47.5±1.4, 795S±02×1183E±03, h35km, mb3.7/3, Error ellipse: s-maj=50.7km s-min=10.1km az=116.4*
*NEIC **09** 08:15:48.4±4.7, 794S×11822E, h24km±34km, mb3.5/1, Error ellipse: s-maj=70.0km s-min=8.7km az=64.0*
*IDC **09** 08:15:50.4±7.4, 812S×11802E, h44km±71km, mb3.5/3, mb1 3.6/5, mb1mx3.4/16, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=194.8km s-min=32.8km az=60.0*

ISC 09 08:15:51.5±1.4, 78S±02×1188E±03, h35km, n9, σ0§75/11, mb3.7/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.27**	**148**	P	**Pn**	**08 18 44.0**	**+0.3**
	0.1nm,0.3s,baz=339,slow=13,SNR=3.6						
FITZ				S	**Sn**	**08 20 57.7**	**-1.5**
	0.2nm,0.3s,baz=160,slow=16,SNR=3.6						
KKM	**Kota Kinabalu**	**13.94**	**349**	*e*Pn	**Pn**	**08 19 05.8**	**-0.7**
WRA	**Warramunga Arr**	**19.35**	**130**	P	**Pn**	**08 20 15.7**	**+0.5**
	0.2nm,0.3s,baz=301,slow=12,SNR=12						
WRA				S	**S**	**08 23 50.3**	**-0.7**
	baz=296,slow=35,SNR=2.8						
WRAB	**Tennant Creek**	**19.35**	**130**	*e*P	**Pn**	**08 20 15.9**	**+0.7**
	3.1nm,1.1s						
WB2	**Warramunga Arr**	**19.36**	**130**	*e*P	**Pn**	**08 20 16.2**	**+0.9**
WB2	**Warramunga Arr**	**19.36**	**130**	*e*P	**Pn**	**08 20 15.9**	**+0.6**
ASAR	**Alice Springs**	**21.47**	**139**	P	**P**	**08 20 38.0**	**+1.1**
	2.2nm,0.6s,mb3.7,baz=310,slow=8.4,SNR=34						
STKA	**Stephens Creek**	**32.06**	**142**	P	**P**	**08 22 14.8**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=302,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**56.41**	**350**	P	**P**	**08 25 29.1**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=170,slow=8.5,SNR=4.1						

*IDC **09** 08:23:11.9±9.1, 635S×15131E, h71km±65km, mb3.3/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=62.2km s-min=55.9km az=88.0*

NEIC 09 08:23:01.4±2.2, 612S×15175E, h10km, Error ellipse: s-maj=56.4km s-min=34.0km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**234**	P	Pn	08 24 26.0	+1.4
	1.2nm,0.3s,baz=61,slow=9.3,SNR=2.8						
PMG				S	Sn	08 25 24.8	-4.3
	2.4nm,0.3s,baz=41,slow=21,SNR=5.9						
PMG	**Port Moresby**	**5.60**	**234**	*e*Pn	Pn	08 24 26.5	+1.8
PMG				*e*Sn	Sn	08 25 25.7	-3.3
WRA	**Warramunga Arr**	**21.79**	**229**	P	P	08 27 52.1	-1.3
	0.6nm,0.6s,baz=54,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**24.48**	**223**	P	P	08 28 20.1	-0.4
	0.8nm,0.6s,baz=60,slow=10,SNR=11						
STKA	**Stephens Creek**	**27.32**	**199**	P	P	08 28 47.2	+0.9
	1.1nm,0.7s,baz=48,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**27.32**	**199**	P	P	08 28 47.2	+0.8
FITZ	**Fitzroy Crossi**	**28.12**	**243**	P	P	08 28 53.3	-0.1
	0.6nm,0.4s,baz=76,slow=9.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.69**	**286**	PKPbc	PKPbc	08 42 53.5	+2.1
	0.7nm,0.6s,baz=73,slow=3.0,SNR=5.2						

*BJI **09** 08:38:11.0, 3940N×12330W, h7km, mB4.9, mb4.5, Ms4.6, Msz4.2*
*ISCJB **09** 08:38:12.6±0.5, 3932N±002×12335W±0.04, h14km±3km, mb5.1/2, MS4.5/2, Error ellipse: s-maj=4.9km s-min=2.6km az=149.9*
*NEIC **09** 08:38:13.0, 3936N×12329W, h8km, MW4.1(BRK), After NCEDC.*
NEIC Felt [IV] at Redwood Valley, Ukiah and Willits; [III] at Novato and Potter Valley. Also felt at Elk, Eureka, Fort Bragg and Laytonville.

ISC 09 08:38:13.4±0.5, 3930N±002×12336W±004, h13km±3km, n84, σ1§01/104, mb5.1/2, MS4.5/2, 32C-33D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P01C	**Double 8 Ranch**	**0.17**	**4**	⇓P	**Pg**	**08 38 16.0**	**-1.4**
	baz=0.1,SNR=1000						
P01C				⇓S	**Sg**	**08 38 17.9**	**-2.2**
	baz=0.1						
HOPS	**Hopland**	**0.38**	**144**	⇓P	**Pg**	**08 38 21.7**	**+0.8**
	baz=0.4,SNR=1000						
HOPS				⇑S	**Sg**	**08 38 28.1**	**+2.0**
	baz=0.4						
GASB	**Alder Springs**	**0.60**	**54**	⇑P	**Pg**	**08 38 24.5**	**-0.7**
	baz=0.5,SNR=1000						
GASB				⇓S	**Sg**	**08 38 32.9**	**-0.3**
	baz=0.5						
MNRC	**McLaughlin Nat**	**0.82**	**120**	⇓P	**Pg**	**08 38 29.6**	**+0.2**
	baz=0.8,SNR=793						
O01C	**Eel River Cons**	**0.91**	**337**	⇓P	**Pg**	**08 38 30.7**	**-0.3**
	baz=0.9,SNR=162						
O01C				⇑S	**Sg**	**08 38 44.4**	**+1.4**
	baz=0.9						
O02C	**Red Bluff**	**0.98**	**26**	⇑P	**Pb**	**08 38 31.7**	**-0.4**
	baz=0.9,SNR=1000						
O02C				⇓S	**Sb**	**08 38 45.5**	**+0.6**
	baz=0.9						
CVS	**Carmenet Viney**	**1.18**	**143**	⇑P	**Pn**	**08 38 34.3**	**-1.3**
	baz=1.2,SNR=60						
SUTB	**Sutter Butte**	**1.22**	**93**	⇑P	**Pn**	**08 38 34.2**	**-1.8**
	baz=1.2,SNR=132						
SUTB				⇑S	**Sb**	**08 38 51.9**	**0.0**
	baz=1.2						
O03C	**Acorn Hollow,**	**1.24**	**55**	P	**Pn**	**08 38 34.7**	**-1.6**
	baz=1.2,SNR=102						
Q03C	**Winters**	**1.24**	**122**	⇓P	**Pn**	**08 38 35.8**	**-0.6**
	baz=1.2						
WDC	**Whiskeytown Da**	**1.42**	**26**	*e*P	**Pn**	**08 38 38.0**	**-0.8**
WDC				*e*Sg	**Sg**	**08 38 59.9**	**+0.7**
WDC	**Whiskeytown Da**	**1.42**	**26**	P	**Pn**	**08 38 38.0**	**-0.8**
	baz=1.3,SNR=553						
WDC				⇑S	**Sn**	**08 38 57.3**	**-0.1**
	baz=1.3						
OHCM	**Honcut**	**1.45**	**88**	*e*Pn	**Pn**	**08 38 37.2**	**-2.0**
OHCM				*e*Sg	**Sg**	**08 39 00.4**	**+0.2**
ORV	**Oroville**	**1.46**	**79**	⇑P	**Pn**	**08 38 37.1**	**-2.3**
	baz=1.4						
ORV				⇑S	**Sn**	**08 38 58.2**	**-0.1**
	baz=1.4						
N02C	**Big Bar**	**1.52**	**1**	⇑P	**Pn**	**08 38 39.3**	**-0.9**
	baz=1.5,SNR=120						
KHMM	**Horse Mountain**	**1.60**	**350**	*e*Pn	**Pn**	**08 38 40.6**	**-0.7**
KHMM				*e*Sn	**Sn**	**08 39 05.4**	**+3.7**
JCC	**Jacoby Creek**	**1.60**	**341**	⇓P	**Pn**	**08 38 40.1**	**-1.2**
	baz=1.6,SNR=17						
Q04C	**Lincoln**	**1.61**	**106**	⇓P	**Pn**	**08 38 40.1**	**-1.2**
	baz=1.6,SNR=46						
FARB	**Farallon Islan**	**1.62**	**170**	⇓P	**Pn**	**08 38 41.4**	**-0.2**
	baz=1.7,SNR=21						
SAC	**San Andreas**	**1.87**	**156**	*e*Pn	**Pn**	**08 38 44.2**	**-0.8**
O05C	**Quincy**	**2.00**	**70**	⇓P	**Pn**	**08 38 46.1**	**-0.7**
	baz=1.9,SNR=16						
O04C	**Chester**	**2.02**	**59**	⇓P	**Pn**	**08 38 46.4**	**-0.7**
	baz=1.9,SNR=74						
JRSC	**Jasper Ridge**	**2.09**	**155**	⇓P	**Pn**	**08 38 47.4**	**-0.6**
	baz=2.1,SNR=31						
WENL	**Wente Brothers**	**2.09**	**143**	⇑P	**Pn**	**08 38 48.2**	**+0.1**
	baz=2.1						
LAVA	**Lava Cap Winer**	**2.11**	**104**	⇑P	**Pn**	**08 38 48.2**	**-0.1**
	baz=2.1,SNR=20						
M02C	**Callahan**	**2.12**	**10**	⇑P	**Pn**	**08 38 48.0**	**-0.5**
	baz=2.1,SNR=60						
P05C	**Yuba Gap, Truc**	**2.13**	**89**	⇓P	**Pn**	**08 38 48.4**	**-0.2**
	baz=2.1,SNR=31						
P05C				⇑S	**Sn**	**08 39 13.6**	**-1.3**
	baz=2.1						
R04C	**Big Horse Ranc**	**2.16**	**118**	⇑P	**Pn**	**08 38 50.0**	**+1.1**
	baz=2.1,SNR=12						
BNLO	**Ben Lomond (Sa**	**2.36**	**156**	P	**Pn**	**08 38 50.7**	**-1.0**
	baz=2.4,SNR=11						
BEKR	**Beckwourth**	**2.38**	**75**	⇑P	**Pn**	**08 38 52.4**	**+0.3**
	baz=2.3,SNR=128						
YBH	**Yreka Blue Hor**	**2.48**	**11**	*e*Pn	**Pn**	**08 38 53.8**	**+0.4**
YBH				*e*Sg	**Sg**	**08 39 35.2**	**+2.2**
YBH	**Yreka Blue Hor**	**2.48**	**11**	⇑P	**Pn**	**08 38 53.7**	**+0.3**
	baz=2.4,SNR=65						
M01C	**Crescent City**	**2.61**	**347**	⇑P	**Pn**	**08 38 54.7**	**-0.5**
	baz=2.6,SNR=78						
R05C	**Kirkwood Meado**	**2.62**	**102**	⇓P	**Pn**	**08 38 55.9**	**+0.5**
	baz=2.6,SNR=80						
CMB	**Columbia Colle**	**2.65**	**118**	*e*Pn	**Pn**	**08 38 56.0**	**+0.3**
CMB	**Columbia Colle**	**2.65**	**118**	⇓P	**Pn**	**08 38 55.9**	**+0.3**
	baz=2.6						
M05C	**Lookout**	**2.66**	**39**	⇑P	**Pn**	**08 38 55.6**	**-0.3**
	baz=2.6						
PACP	**Pacheco Peak**	**2.81**	**144**	⇑P	**Pn**	**08 38 58.0**	**+0.1**
	baz=2.8						
L02A	**Cave Junction**	**2.86**	**356**	P	**Pn**	**08 38 58.8**	**+0.2**
	baz=2.8,SNR=18						
M06C	**Likely Place G**	**2.91**	**48**	⇓P	**Pn**	**08 38 59.3**	**0.0**
	baz=2.8,SNR=11						
SAO	**San Andreas Ge**	**2.94**	**149**	*e*Pn	**Pn**	**08 39 00.6**	**+0.8**
SAO				*e*Sg	**Sg**	**08 39 52.8**	**+4.8**
KBO	**Bosley Butte**	**2.98**	**347**	*e*Pn	**Pn**	**08 39 00.1**	**-0.2**
N06A	**Buffalo Meadow**	**3.07**	**61**	⇓P	**Pn**	**08 39 01.5**	**+0.1**
	baz=3.0,SNR=11						
L04A	**Klamath Falls**	**3.08**	**21**	⇑P	**Pn**	**08 39 01.8**	**+0.1**
	baz=3.0						
L04A				⇑S	**Sn**	**08 39 37.4**	**-0.9**
	baz=3.0						
S06C	**San Francisco**	**3.09**	**116**	⇓P	**Pn**	**08 39 02.5**	**+0.7**
	baz=3.1						
S06C				⇓S	**Sn**	**08 39 39.2**	**+0.6**
	baz=3.1						
PAHR	**Pah Rah Range**	**3.10**	**81**	*e*Pn	**Pn**	**08 39 04.7**	**+2.8**
PAHR				*e*Sn	**Sn**	**08 39 43.9**	**+5.2**
R06C	**Coleville**	**3.14**	**103**	⇓P	**Pn**	**08 39 03.3**	**+0.8**
	baz=3.1						
HAST	**UC Hastings Re**	**3.24**	**153**	⇓P	**Pn**	**08 39 02.7**	**-1.1**
	baz=3.3,SNR=16						
HAST				⇓S	**Sn**	**08 39 42.7**	**+0.5**
	baz=3.3						
HUMO	**Hull Mountain**	**3.32**	**5**	*e*Pn	**Pn**	**08 39 02.6**	**-2.3**
HUMO				*e*Sg	**Sg**	**08 40 01.4**	**+1.5**
L05A	**Lakeview**	**3.35**	**34**	⇓P	**Pn**	**08 39 05.7**	**+0.4**
	baz=3.3						
LRV	**Little Rabbit**	**3.41**	**146**	*e*Pn	**Pn**	**08 39 00.9**	**-5.4**
LRV				*e*Sg	**Sg**	**08 40 02.3**	**-0.8**
K02A	**Glendale**	**3.46**	**358**	P	**Pn**	**08 39 07.6**	**+0.6**
	baz=3.4,SNR=8.6						
MOD	**Modoc**	**3.49**	**41**	*e*Pn	**Pn**	**08 39 06.5**	**-0.8**
MOD	**Modoc**	**3.49**	**41**	⇓P	**Pn**	**08 39 06.8**	**-0.4**
	baz=3.4						
O07A	**Toulon**	**3.56**	**75**	⇓P	**Pn**	**08 39 08.0**	**-0.2**
	baz=3.5						
V03C	**Hunter Liggett**	**3.68**	**152**	⇓P	**Pn**	**08 39 09.5**	**-0.4**
	baz=3.7						
M07A	**Soldier Meadow**	**3.82**	**56**	⇑P	**Pn**	**08 39 11.8**	**0.0**
	baz=3.7						
K05A	**Summer Lake**	**3.90**	**28**	⇑P	**Pn**	**08 39 13.7**	**+0.8**
	baz=3.8						
L07A	**Adell**	**4.09**	**47**	⇑P	**Pn**	**08 39 15.5**	**0.0**
	baz=4.0						
K06A	**Valley Falls**	**4.21**	**33**	⇑P	**Pn**	**08 39 17.8**	**+0.6**
	baz=4.1						
J05A	**Fort Rock**	**4.29**	**21**	⇑P	**Pn**	**08 39 19.4**	**+1.1**
	baz=4.2						
M08A	**Happy Creek Ra**	**4.36**	**59**	⇓P	**Pn**	**08 39 20.3**	**+1.0**
	baz=4.3						
K07A	**Rock Creek Ran**	**4.60**	**41**	⇓P	**Pn**	**08 39 23.4**	**+0.9**
	baz=4.5						
J06A	**Christmas Vall**	**4.63**	**30**	⇓P	**Pn**	**08 39 24.1**	**+1.2**
	baz=4.5						
N09A	**Rock Creek Ran**	**4.73**	**69**	⇑P	**Pn**	**08 39 24.8**	**+0.4**

σ0941/14, **mb3.9**/6, **MS3.6**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.38**	**233**	Pn	**Pn**	**08 41 04.8**	**-0.1**
	0.8nm,0.3s,baz=302,slow=5.6,SNR=3.9						
PMG				Sn	**Sn**	**08 42 05.7**	**+0.2**
	5.7nm,0.3s,baz=28,slow=17,SNR=7.1						
WRAB	**Tennant Creek**	**21.57**	**229**	*e*P	**P**	**08 44 33.2**	**0.0**
	4.6nm,0.9s,mb3.9						
WRAB				*e*		08 44 42.7	
WB2	**Warramunga Arr**	**21.57**	**229**	*e*P	**P**	**08 44 33.2**	**0.0**
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**08 44 33.1**	**-0.2**
	1.0nm,0.5s,mb3.5,baz=56,slow=11,SNR=24						
WRA				PcP	PcP	08 48 36.8	+2.6
	0.3nm,0.9s,baz=59,slow=2.0,SNR=4.9						
WRA				LR	LR	08 52 29.6	
	comp=Z,19nm,20.2s,MS2.5,baz=215,slow=36						
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**08 44 33.1**	**-0.2**
WRA				PcP	PcP	08 48 36.8	+2.6
WRA				LR	LR	08 52 29.6	
AS31	**Alice Springs**	**24.27**	**222**	*e*P	**P**	**08 44 59.8**	**-0.7**
ASAR	**Alice Springs**	**24.27**	**222**	P	**P**	**08 45 00.8**	**+0.3**
	2.4nm,0.6s,mb3.8,baz=59,slow=9.2,SNR=46						
ASPA	**Alice Springs**	**24.28**	**222**	*e*P	**P**	**08 44 59.8**	**-0.7**
STKA	**Stephens Creek**	**27.19**	**199**	P	**P**	**08 45 27.3**	**+0.4**
	3.1nm,0.8s,mb3.9,baz=17,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**27.89**	**243**	*e*P	**P**	**08 45 33.9**	**+0.7**
	4.6nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.89**	**243**	P	**P**	**08 45 33.8**	**+0.6**
	2.9nm,0.5s,mb4.1,baz=54,slow=8.6,SNR=9.8						
PPT	**Papeete**	**58.53**	**107**	LR	LR	09 10 31.0	
	comp=Z,52nm,21.7s,MS3.6,baz=118,slow=32						
VNDA	**Vanda**	**71.50**	**178**	P	**P**	**08 51 04.0**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=331,slow=6.2,SNR=8.7						
VNDA	**Vanda**	**71.50**	**178**	P	**P**	**08 51 04.0**	**+0.3**
BVAR	**Borovoye Array**	**89.59**	**323**	LR	LR	09 30 11.7	
	comp=Z,30nm,18.3s,MS3.8,baz=16,slow=34						
RPN	**Rapa Nui**	**95.29**	**118**	LR	LR	09 25 05.3	
	comp=Z,192nm,20.3s,MS4.6,baz=251,slow=29						
TORD	**Torodi Ar. Bea**	**149.49**	**285**	PKPbc	PKPbc	08 59 35.2	+3.2
	1.3nm,0.6s,baz=74,slow=2.2,SNR=10.0						
TORD	**Torodi Ar. Bea**	**149.49**	**285**	PKPbc	PKPbc	08 59 35.2	+3.2

IDC ***09*** *08:56:51.5±3.0, 623S×151.33E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML2.2/1, Error ellipse: s-maj=107.8km s-min=39.9km az=130.0*

NEIC 09 08:56:50.7±1.8, 683S×152.01E, h10km, Error ellipse: s-maj=66.7km s-min=26.9km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**242**	Pn	Pn	08 58 12.4	+0.5
	0.6nm,0.3s,baz=282,slow=12,SNR=2.0						
PMG				Sn	Sn	08 59 13.3	-1.3
	1.9nm,0.3s,baz=182,slow=20,SNR=3.3						
WB2	**Warramunga Arr**	**21.54**	**231**	*e*P	P	09 01 39.3	-0.7
WRA	**Warramunga Arr**	**21.55**	**231**	P	P	09 01 40.1	0.0
	0.8nm,0.8s,baz=53,slow=10,SNR=7.2						
AS31	**Alice Springs**	**24.14**	**224**	*e*P	P	09 02 07.1	+0.3
ASAR	**Alice Springs**	**24.15**	**224**	P	P	09 02 08.2	+1.4
	0.6nm,0.6s,baz=56,slow=9.2,SNR=10						
FITZ	**Fitzroy Crossi**	**28.04**	**244**	P	P	09 02 42.5	+0.5
	1.5nm,0.8s,baz=63,slow=8.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**150.12**	**284**	PKPbc	PKPbc	09 16 43.1	+1.5
	0.5nm,0.7s,baz=99,slow=2.4,SNR=3.8						

IDC ***09*** *09:20:38.0±1.1, 266S×140.46E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/14, mbtmp4.0/8, ML3.6/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/18, Error ellipse: s-maj=32.0km s-min=11.5km az=95.0*

ISCJB ***09*** *09:20:40.9±0.8, 277S±008×140.48E±009, h33km, mb3.9/6, MS3.4/3, Error ellipse: s-maj=14.4km s-min=9.7km az=94.5*

NEIC ***09*** *09:20:45.1±2.0, 286S×140.58E, h56km±19km, mb4.1/1, Error ellipse: s-maj=17.7km s-min=15.3km az=135.0*

ISC 09 09:20:45.7±1.7, 283S±008×14045E±010, h60km±17km, n15, σ0991/17, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.34**	**135**	Pn	**Pn**	**09 22 55.8**	**-1.7**
	0.7nm,0.3s,baz=297,slow=9.0,SNR=3.3						
PMG				Sn	**Sn**	**09 24 42.8**	**+2.0**
	1.1nm,0.3s,baz=198,slow=6.4,SNR=2.7						
KAKA	**Kakadu**	**12.61**	**218**	*e*P	**Pn**	**09 23 42.6**	**+0.4**
	17nm,0.5s						
KAKA				*e*S	**Sn**	**09 25 54.7**	**-6.2**
WB2	**Warramunga Arr**	**18.02**	**199**	*e*P	**Pn**	**09 24 51.2**	**-0.6**
WRA	**Warramunga Arr**	**18.02**	**199**	P	**Pn**	**09 24 51.4**	**-0.4**
	0.6nm,0.3s,baz=19,slow=12,SNR=29						
WRA				S	**S**	**09 28 14.8**	**-0.2**
	0.1nm,0.3s,baz=13,slow=26,SNR=3.9						
WRA				LR	LR	09 32 17.7	
	comp=Z,217nm,18.2s,baz=30,slow=38						
CTA	**Charters Tower**	**18.06**	**162**	LR	LR	09 32 07.3	
	comp=Z,75nm,18.8s,baz=232,slow=38						
FITZ	**Fitzroy Crossi**	**21.00**	**223**	*e*P	**P**	**09 25 26.2**	**+2.2**
	5.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.00**	**223**	P	**P**	**09 25 25.7**	**+1.7**
	3.7nm,0.8s,baz=82,slow=12,SNR=7.4						
FITZ				LR	LR	09 34 47.8	
	comp=Z,152nm,18.7s,baz=56,slow=40						
AS31	**Alice Springs**	**21.65**	**196**	*e*P	**P**	**09 25 30.8**	**-0.2**
ASAR	**Alice Springs**	**21.66**	**196**	P	**P**	**09 25 30.8**	**-0.3**
	2.2nm,0.8s,mb3.6,baz=28,slow=11,SNR=28						
ASAR				S	**S**	**09 29 38.6**	**+11**
	2.2nm,1.0s,baz=12,slow=28,SNR=5.2						
ASAR				LR	LR	09 34 23.2	
	comp=Z,169nm,18.1s,baz=15,slow=38						
ASPA	**Alice Springs**	**21.66**	**196**	*e*P	**P**	**09 25 30.8**	**-0.3**
STKA	**Stephens Creek**	**28.91**	**178**	LR	LR	09 39 37.5	
	comp=Z,88nm,18.3s,baz=204,slow=39						
MKAR	**Makanchi Array**	**70.85**	**322**	P	**P**	**09 31 57.6**	**+1.0**
	2.8nm,0.9s,mb4.2,baz=103,slow=7.0,SNR=12						
ZAL	**Zalesovo**	**72.92**	**329**	P	**P**	**09 32 08.1**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=69,slow=4.6,SNR=5.4						
VNDA	**Vanda**	**75.51**	**175**	P	**P**	**09 32 23.1**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=319,slow=6.4,SNR=4.4						
BVAR	**Borovoye Array**	**80.41**	**325**	P	**P**	**09 32 50.5**	**-0.2**
	1.9nm,0.8s,mb4.1,baz=104,slow=6.3,SNR=8.3						

ISCJB ***09*** *09:23:16.1±1.2, 555S±005×76.92W±004, h33km±10km, mb4.9/84, MS4.1/15, Error ellipse: s-maj=9.1km s-min=4.8km az=71.2*

NEIC ***09*** *09:23:18.5±0.2, 562S×76.91W, mb5.0/74, Error ellipse: s-maj=8.0km s-min=4.9km az=53.0*

NEIC Felt [III] at Moyobamba and Rioja.

BJI ***09*** *09:23:19.9, 560S×76.90W, h43km, mB5.1, Ms5.0, Msz4.7*

IDC ***09*** *09:23:19.8±1.4, 552S×76.90W, h50km±12km, mb4.2/12, mb1 4.4/20, mb1mx4.4/24, mbtmp4.3/20, ML4.6/5, MS3.8/15, Ms1 3.8/15, ms1mx3.7/26, Error ellipse: s-maj=14.8km s-min=9.6km az=112.0*

ISC 09 09:23:20.0±0.8, 553S±004×7681W±004, h49km±7km, h46km±3.3km; pP-P, n352, σ0972/318, mb4.9/84, MS4.1/15, 62C-76D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.15**	**227**	P	**Pn**	**09 23 53.8**	**+0.4**
	314nm,0.3s,baz=34,slow=9.4,SNR=882						
ATAH				S	**Sn**	**09 24 21.1**	**+2.3**
	396nm,0.3s,baz=175,slow=14,SNR=19						
ATAH				LR	LR	09 24 58.4	
	comp=Z,5μm,18.4s,baz=88,slow=45						
OTAV	**Otavalo**	**5.96**	**344**	*e*Pn	**Pn**	**09 24 47.5**	**+1.8**
	65nm,0.7s						
NNA	**Nana**	**6.42**	**180**	Pn	**Pn**	**09 24 49.9**	**-2.0**
	2um,0.4s,SNR=61						
NNA	**Nana**	**6.42**	**180**	P	**Pn**	**09 24 50.1**	**-1.8**
	59nm,0.3s,baz=350,slow=10,SNR=102						
NNA				S	**Sn**	**09 25 55.0**	**-8.9**
	27nm,0.3s,baz=310,slow=12,SNR=4.9						
NNA				LR	LR	09 26 51.6	
	comp=Z,357nm,19.9s,baz=340,slow=33						
NNA	**Nana**	**6.42**	**180**	*e*Pn	**Pn**	**09 24 49.9**	**-2.0**
	177nm,0.6s						
NNA				*e*Sn	**Sn**	**09 25 54.9**	**-8.9**
ROSC	**El Rosal**	**10.61**	**14**	P	**Pn**	**09 25 50.1**	**+0.7**
	1.4nm,0.3s,baz=74,slow=24,SNR=3.1						
ROSC	**El Rosal**	**10.61**	**14**	*e*Pn	**Pn**	**09 25 51.2**	**+1.8**
LPAZ	**La Paz**	**13.66**	**142**	P	**Pn**	**09 26 31.9**	**+0.8**
	0.6nm,0.3s,baz=331,slow=15,SNR=9.8						
LPAZ				LR	LR	09 32 45.5	
	comp=Z,325nm,20.6s,baz=310,slow=41						
LPAZ	**La Paz**	**13.66**	**142**	*e*Pn	**Pn**	**09 26 28.1**	**-3.0**
	0.6nm,1.0s						
SDV	**Santo Domingo**	**15.59**	**23**	P	**Pn**	**09 26 56.3**	**-0.2**
	2.1nm,0.3s,baz=0.4,slow=1.8,SNR=5.6						
SDV				S	**S**	**09 29 43.0**	**-18**
	baz=279,slow=22,SNR=2.6						
SDV	**Santo Domingo**	**15.59**	**23**	*e*Pn	**Pn**	**09 26 56.2**	**-0.3**
	28nm,0.7s						
SDV				*e*Sn	**Sn**	**09 29 42.1**	**-5.9**
JTS	**JuntasAbangare**	**17.68**	**333**	P	**Pn**	**09 27 21.2**	**-1.5**
	0.1nm,0.3s,baz=154,slow=22,SNR=3.6						
JTS				LR	LR	09 33 24.7	
	comp=Z,133nm,19.1s,baz=350,slow=34						
JTS	**JuntasAbangare**	**17.68**	**333**	P	**Pn**	**09 27 21.2**	**-1.6**
JTS				LR	LR	09 33 24.7	
SIV	**San Ignacio**	**18.61**	**125**	P	**Pn**	**09 27 31.6**	**-2.4**
	0.7nm,0.3s,baz=296,slow=10,SNR=19						
SIV				S	**S**	**09 30 56.3**	**-6.1**
	0.5nm,0.3s,baz=220,slow=16,SNR=4.1						
LVC	**Limon Verde**	**18.62**	**157**	P	**Pn**	**09 27 33.7**	**-0.5**
	0.3nm,0.3s,baz=318,slow=9.8,SNR=9.5						
LVC				LR	LR	09 35 49.7	
	comp=Z,482nm,18.1s,baz=326,slow=40						
LVC	**Limon Verde**	**18.62**	**157**	*e*P	**Pn**	**09 27 30.7**	**-3.5**
	15nm,0.9s						
PCRV	**Puerto La Cruz**	**19.76**	**38**	P	**Pn**	**09 27 47.7**	**-0.1**
	1.7nm,0.3s,baz=341,slow=16,SNR=3.5						
PCRV				LR	LR	09 36 41.4	
	comp=Z,656nm,21.1s,baz=234,slow=40						
TGUH	**Tegucigalpa,Un**	**22.05**	**332**	*e*P	**P**	**09 28 11.4**	**+0.7**
	20nm,0.9s,mb4.6						
TGUH				*e*		09 32 07.5	
CFAA	**Coronel Fontan**	**27.16**	**164**	P	**P**	**09 28 59.5**	**+0.8**
	0.3nm,0.5s,baz=334,slow=6.1,SNR=6.4						
CFAA				LR	LR	09 39 43.5	
	comp=Z,24nm,18.3s,baz=347,slow=36						
CFAA	**Coronel Fontan**	**27.16**	**164**	P	**P**	**09 28 59.5**	**+0.8**
CFAA				LR	LR	09 39 43.5	
CMIG	**Matias Romero**	**28.71**	**322**	P	**P**	**09 29 12.0**	**-0.6**
	1.8nm,0.5s,mb4.1,baz=107,slow=9.5,SNR=7.2						
CMIG				LR	LR	09 39 13.8	
	comp=Z,100nm,19.9s,MS3.4,baz=135,slow=33						
JCT	**Junction City**	**42.03**	**330**	*e*P	**P**	**09 31 06.0**	**-0.7**
	7.8nm,0.9s,mb4.3						
UALR	**University of**	**42.68**	**341**	*e*P	**P**	**09 31 10.4**	**-1.6**
	14nm,1.1s,mb4.6						
WVT	**Waverly**	**42.71**	**347**	*e*P	**P**	**09 31 10.1**	**-2.1**
	4.2nm,0.5s,mb4.4						
TXAR	**Lajitas Array**	**43.22**	**325**	P	**P**	**09 31 16.2**	**-0.1**
	2.0nm,0.5s,mb4.1,baz=146,slow=8.6,SNR=59						
TXAR	**Lajitas Array**	**43.22**	**325**	P	**P**	**09 31 16.2**	**-0.1**
WMOK	**Wichita Mounta**	**45.09**	**334**	*e*P	**P**	**09 31 31.1**	**-0.3**
	11nm,0.9s,mb4.7						
FVM	**Frnch Village**	**45.11**	**345**	*e*P	**P**	**09 31 29.8**	**-1.7**
	11nm,0.9s,mb4.7						
CCM	**Cathedral Cave**	**45.39**	**344**	*e*P	**P**	**09 31 30.6**	**-3.1**
	6.6nm,0.6s,mb4.6						
CCM				*e*PcP	PcP	09 33 10.8	-1.5
MNTX	**Cornudas Mount**	**45.96**	**325**	*e*P	**P**	**09 31 37.8**	**-0.5**
	4.2nm,0.6s,mb4.5						
AMTX	**Amarillo**	**46.53**	**332**	*e*P	**P**	**09 31 42.7**	**0.0**
	19nm,0.8s,mb5.1						
KSU1	**Kansas State U**	**48.04**	**339**	*e*P	**P**	**09 31 53.5**	**-0.9**
	38nm,1.1s,mb5.3						
BNM	**Barren Site**	**48.49**	**327**	*e*P	**P**	**09 31 58.1**	**+0.2**
LAZ	**Ladron**	**48.96**	**326**	*e*P	**P**	**09 32 01.8**	**+0.3**
ANMO	**Albuquerque**	**49.00**	**327**	*e*P	**P**	**09 32 02.2**	**+0.4**
	17nm,0.9s,mb5.1						
TUC	**Tucson**	**49.60**	**322**	P	**P**	**09 32 06.3**	**-0.1**
	3.4nm,0.8s,mb4.4						
116A	**Eloy**	**50.34**	**321**	P	**P**	**09 32 12.4**	**+0.4**
	baz=50,SNR=7.5						
SDCO	**Great Sand Dun**	**50.66**	**331**	*e*P	**P**	**09 32 15.0**	**+0.5**
	22nm,1.1s,mb5.0						
115A	**Sonoran Desert**	**50.76**	**321**	⇓P	**P**	**09 32 15.2**	**+0.1**
	baz=51						
PKME	**Peaks-Kenny Pk**	**51.01**	**7**	*e*P	**P**	**09 32 18.2**	**+1.2**
	8.4nm,0.6s,mb4.8						
Z14A	**Wintersburg**	**51.65**	**321**	⇓P	**P**	**09 32 22.2**	**+0.3**
	baz=52						
MVCO	**Mesa Verde**	**51.79**	**328**	⇓P	**P**	**09 32 22.9**	**0.0**
	baz=52						
X15A	**Humboldt**	**51.97**	**323**	P	**P**	**09 32 24.9**	**+0.7**
	baz=52,SNR=10						
Y14A	**Wickenburg**	**52.07**	**322**	⇓P	**P**	**09 32 25.2**	**+0.2**
	baz=52						
WUAZ	**Wupatki**	**52.17**	**324**	*e*P	**P**	**09 32 25.4**	**-0.3**
	23nm,1.0s,mb5.1						
WUAZ				*e*pP	pP	09 32 37.9	-1.1
WUAZ	**Wupatki**	**52.17**	**324**	⇓P	**P**	**09 32 26.3**	**+0.6**
	baz=52,SNR=9.8						
ECSD	**EROS,Sioux Fal**	**52.20**	**342**	*e*P	**P**	**09 32 24.5**	**-1.4**
	16nm,1.2s,mb4.8						
X14A	**Yava**	**52.36**	**322**	⇓P	**P**	**09 32 27.5**	**+0.4**
	baz=53,SNR=8.1						
W15A	**Williams**	**52.46**	**323**	⇑P	**P**	**09 32 28.7**	**+0.9**
	baz=53						
Y13A	**Salome**	**52.51**	**321**	⇓P	**P**	**09 32 28.5**	**+0.3**
	baz=53						
GLA	**Glamis**	**52.65**	**319**	⇓P	**P**	**09 32 29.4**	**+0.1**
	baz=53						
Y12C	**Blythe**	**52.90**	**320**	⇓P	**P**	**09 32 31.1**	**0.0**
	baz=53						
W14A	**Seligman**	**52.97**	**323**	⇑P	**P**	**09 32 31.9**	**+0.3**
	baz=53						
PDMCI	**Parker Dam,Lak**	**53.02**	**321**	⇑P	**P**	**09 32 31.9**	**-0.1**
	baz=53						
W13A	**Hualapai Mount**	**53.39**	**322**	⇑P	**P**	**09 32 35.5**	**+0.8**
	baz=54,SNR=6.5						
BC3	**Big Chuckw Mtn**	**53.44**	**320**	⇓P	**P**	**09 32 35.0**	**0.0**
	baz=54						
IRM	**Iron Mountain**	**53.56**	**320**	⇑P	**P**	**09 32 35.5**	**-0.5**
	baz=54						
BELC	**Belle Mtn.**	**54.01**	**320**	⇑P	**P**	**09 32 39.2**	**0.0**
	baz=54						
109C	**Camp Elliot, M**	**54.05**	**318**	⇓P	**P**	**09 32 39.4**	**-0.1**
	baz=54						
V12A	**Nelson**	**54.39**	**322**	⇓P	**P**	**09 32 42.5**	**+0.5**
	baz=55						
CCUT	**Cedar City**	**54.73**	**325**	*e*P	**P**	**09 32 45.5**	**+1.0**
MSU	**Marysvale**	**54.73**	**326**	*e*P	**P**	**09 32 43.2**	**-1.3**
MSU				*e*pP	pP	09 32 56.4	-1.5
TUQ	**Turquoise Mtn.**	**54.87**	**321**	⇑P	**P**	**09 32 45.2**	**-0.3**
	baz=55						
ARUT	**Antelope Range**	**54.94**	**325**	*e*P	**P**	**09 32 46.6**	**+0.6**
RSSD	**Black Hills**	**55.17**	**336**	*e*P	**P**	**09 32 47.2**	**-0.5**
	17nm,1.4s,mb4.9						
RSSD				*e*pP	pP	09 32 59.8	-1.3
GSC	**Goldstone**	**55.34**	**320**	⇓P	**P**	**09 32 49.0**	**+0.1**
	baz=56						
SHOC	**Shoshone**	**55.39**	**321**	⇓P	**P**	**09 32 49.5**	**+0.3**
	baz=56						
U10A	**Ash Meadows, A**	**55.75**	**322**	⇑P	**P**	**09 32 52.0**	**+0.2**
	baz=56						
EDW2	**Edwards Air Fo**	**55.84**	**319**	⇑P	**P**	**09 32 52.0**	**-0.5**
	baz=56						
FURC	**Furnace Creek,**	**56.11**	**321**	⇓P	**P**	**09 32 54.6**	**+0.2**
	baz=56						
MPMC	**Manual Prospec**	**56.25**	**321**	⇓P	**P**	**09 32 55.4**	**0.0**
	baz=56						
DUG	**Dugway**	**56.27**	**327**	*e*P	**P**	**09 32 54.4**	**-1.1**
	12nm,1.2s,mb4.8						
DUG	**Dugway**	**56.27**	**327**	P	**P**	**09 32 56.3**	**+0.8**
	baz=56,SNR=9.2						
PDAR	**Pinedale Array**	**56.51**	**331**	P	**P**	**09 32 56.5**	**-0.8**
	1.7nm,0.7s,mb4.2,baz=134,slow=7.3,SNR=17						
PDAR				PcP	PcP	09 33 53.0	-0.5
	0.5nm,0.5s,baz=123,slow=6.6,SNR=4.1						
ARVC	**Arvin**	**56.54**	**319**	⇑P	**P**	**09 32 58.4**	**+0.9**
	baz=57						
Q12A	**Willow Creek R**	**56.59**	**325**	⇑P	**P**	**09 32 58.1**	**+0.3**
	baz=57						
HWUT	**Hardware Ranch**	**56.63**	**329**	*e*P	**P**	**09 32 56.1**	**-2.0**
	6.3nm,0.8s,mb4.7						
ISA	**Isabella**	**56.63**	**320**	⇓P	**P**	**09 32 57.8**	**-0.3**
	baz=57						
GRAC	**Grapevine Rang**	**56.77**	**322**	⇓P	**P**	**09 32 58.9**	**-0.2**
	baz=57						
CWC	**Cottonwood Cre**	**56.86**	**321**	⇑P	**P**	**09 32 59.3**	**-0.4**
	baz=57						
P12A	**McGill**	**56.93**	**325**	⇑P	**P**	**09 33 00.6**	**+0.4**
	baz=57,SNR=6.4						
Q11A	**Duckwater**	**56.93**	**324**	P	**P**	**09 33 00.9**	**+0.7**
	baz=57,SNR=12						
VES	**Vestal, Richgr**	**57.13**	**319**	⇑P	**P**	**09 33 01.7**	**+0.1**
	baz=57						
R09A	**Tonopah**	**57.37**	**323**	⇑P	**P**	**09 33 03.6**	**+0.2**
	baz=58						
N13A	**Wendover, West**	**57.49**	**327**	⇑P	**P**	**09 33 04.8**	**+0.6**
	baz=58						
RCTC	**Rector, Farmer**	**57.52**	**320**	⇓P	**P**	**09 33 04.5**	**+0.1**
	baz=58						
S08C	**White Mtn Res**	**57.58**	**321**	⇓P	**P**	**09 33 05.1**	**+0.3**
	baz=58						
LOHW	**Long Hollow**	**57.65**	**331**	*e*P	**P**	**09 33 04.6**	**-0.7**
	2.9nm,0.7s,mb4.4						
RRI2	**Red Ridge**	**57.80**	**331**	*e*P	**P**	**09 33 05.7**	**-0.6**
	9.4nm,0.8s,mb4.9						
P10A	**Eureka**	**57.92**	**324**	⇓P	**P**	**09 33 07.7**	**+0.5**
	baz=58						
ULM	**Lac du Bonnet**	**57.95**	**346**	P	**P**	**09 33 05.8**	**-1.6**
	6.9nm,0.6s,mb4.9,baz=167,slow=7.3,SNR=11						
KCC	**Kaiser Creek**	**58.19**	**321**	⇓P	**P**	**09 33 08.6**	**-0.5**
	baz=58						
T06C	**Millerton Lake**	**58.24**	**320**	⇓P	**P**	**09 33 08.9**	**-0.5**
	baz=58						
NVAR	**Mina Array Bea**	**58.24**	**322**	P	**P**	**09 33 09.6**	**+0.2**
	2.0nm,0.6s,mb4.3,baz=139,slow=5.9,SNR=23						
M12A	**Wells**	**58.26**	**327**	P	**P**	**09 33 09.5**	**-0.1**
	baz=58,SNR=5.1						
P09A	**Austin**	**58.27**	**324**	⇑P	**P**	**09 33 09.8**	**+0.2**
	baz=58						
Q08A	**Gabbs**	**58.29**	**323**	P	**P**	**09 33 10.3**	**+0.5**
	baz=58,SNR=6.1						
N11A	**Elko Archery C**	**58.30**	**326**	⇑P	**P**	**09 33 10.5**	**+0.6**
	baz=58						
U04C	**Hernandez Rese**	**58.55**	**319**	⇓P	**P**	**09 33 11.8**	**+0.2**
	baz=59						
RKT	**Rikitea**	**58.62**	**246**	*e*LR	LR	09 50 48.3	
	203nm,27.8s						
N10A	**Dunphy**	**58.67**	**325**	⇓P	**P**	**09 33 12.4**	**0.0**
	baz=59						
O09A	**Fish Creek Ran**	**58.70**	**324**	⇓P	**P**	**09 33 12.9**	**+0.3**
	baz=59						
M11A	**Holland Ranch,**	**58.75**	**326**	⇓P	**P**	**09 33 12.9**	**-0.1**
	baz=59						
S05C	**Merced**	**58.84**	**320**	⇓P	**P**	**09 33 13.7**	**+0.1**
	baz=59						
S06C	**San Francisco**	**58.86**	**321**	⇓P	**P**	**09 33 13.3**	**-0.5**
	baz=59						
P08A	**Dixie Valley**	**58.91**	**324**	⇓P	**P**	**09 33 14.0**	**-0.1**
	baz=59						
R06C	**Coleville**	**59.00**	**322**	⇑P	**P**	**09 33 15.2**	**+0.4**
	baz=59						
HAST	**UC Hastings Re**	**59.07**	**319**	⇑P	**P**	**09 33 15.1**	**-0.1**
	baz=59						
P07A	**Fallon**	**59.30**	**323**	⇓P	**P**	**09 33 16.9**	**+0.2**
	baz=60						
N09A	**Rock Creek Ran**	**59.34**	**325**	⇓P	**P**	**09 33 16.9**	**-0.2**
	baz=60						
HLID	**Hailey**	**59.50**	**329**	*e*P	**P**	**09 33 17.2**	**-1.0**
	8.1nm,1.1s,mb4.7						
HLID	**Hailey**	**59.50**	**329**	P	**P**	**09 33 18.4**	**+0.2**
	baz=60,SNR=8.9						
R05C	**Kirkwood Meado**	**59.50**	**322**	⇓P	**P**	**09 33 18.1**	**0.0**
	baz=60						
MCMT	**McKenzie Canyo**	**59.63**	**331**	*e*P	**P**	**09 33 19.5**	**+0.5**
N08A	**GE Springer Mi**	**59.64**	**324**	⇓P	**P**	**09 33 18.7**	**-0.5**
	baz=60						
M09A	**Marrel Ranch,**	**59.67**	**325**	⇑P	**P**	**09 33 19.0**	**-0.3**
	baz=60						
O07A	**Toulon**	**59.68**	**324**	⇓P	**P**	**09 33 19.0**	**-0.4**
	baz=60						
R04C	**Big Horse Ranc**	**59.77**	**321**	⇓P	**P**	**09 33 20.7**	**+0.7**
	baz=60						
N07B	**Gerlach**	**60.13**	**324**	⇑P	**P**	**09 33 22.6**	**+0.1**
	baz=60						
L09A	**Wilkinson Ranc**	**60.19**	**326**	P	**P**	**09 33 23.1**	**+0.2**
	baz=60,SNR=8.1						
P05C	**Yuba Gap, Truc**	**60.19**	**322**	⇓P	**P**	**09 33 23.2**	**+0.3**
	baz=60						
F15A	**Butte**	**60.21**	**332**	⇑P	**P**	**09 33 23.2**	**+0.2**
	baz=60						
M08A	**Happy Creek Ra**	**60.22**	**325**	⇓P	**P**	**09 33 23.2**	**+0.1**
	baz=60						
O06A	**Flanigan**	**60.25**	**323**	⇑P	**P**	**09 33 23.2**	**-0.1**
	baz=60						
BEKR	**Beckwourth**	**60.38**	**322**	P	**P**	**09 33 24.7**	**+0.5**
	baz=61,SNR=7.9						
Q04C	**Lincoln**	**60.39**	**321**	⇓P	**P**	**09 33 24.2**	**0.0**
	baz=61						
F14A	**Wisdom**	**60.61**	**331**	⇑P	**P**	**09 33 25.9**	**+0.2**
	baz=61						
N06A	**Buffalo Meadow**

M03C	McCloud baz=62	62.31	323	⇑P		P	09 33 36.5	-0.7
J06A	Christmas Vall baz=63	62.38	326	⇑P		P	09 33 37.9	+0.2
H08A	Prairie City baz=63,SNR=5.4	62.39	327	P		P	09 33 38.5	+0.7
M04C	Macdoel baz=63	62.44	323	⇑P		P	09 33 38.1	0.0
K05A	Summer Lake baz=63	62.47	325	⇓P		P	09 33 38.2	-0.1
C13A	Hot Springs baz=63	62.53	332	⇓P		P	09 33 38.7	0.0
I07A	Izee baz=63,SNR=7.4	62.55	327	P		P	09 33 39.4	+0.6
F10A	Beach Ranch, E baz=63,SNR=5.5	62.62	329	P		P	09 33 39.7	+0.4
L04A	Klamath Falls baz=63	62.71	324	⇓P		P	09 33 39.4	-0.5
N02C	Big Bar baz=63	62.76	322	⇓P		P	09 33 39.9	-0.3
F09A	S2 Ranch, Elgi baz=63,SNR=7.7	62.78	329	P		P	09 33 40.7	+0.3
I06A	Prineville baz=63,SNR=11	62.85	326	P		P	09 33 41.5	+0.7
TAOE	Nuku Hiva Isla 289nm,25.2s	62.87	263	*e*LR		LR	09 52 46.1	
K04A	Chiloquin baz=63	62.89	324	⇑P		P	09 33 40.8	-0.2
E10A	Myers Farm, Un baz=63	62.91	330	⇑P		P	09 33 40.9	-0.4
H07A	Lands Inn, Kim baz=63,SNR=5.8	62.92	327	P		P	09 33 41.9	+0.6
YBH	Yreka Blue Hor baz=63	62.93	323	⇓P		P	09 33 40.4	-1.0
C12A	Trout Creek baz=63,SNR=7.4	62.98	332	P		P	09 33 41.9	+0.2
B13A	Whitefish baz=63	62.99	333	⇓P		P	09 33 41.9	+0.2
J05A	Fort Rock baz=63	63.02	325	⇑P		P	09 33 41.9	-0.1
G08A	Pilot Rock baz=63,SNR=5.6	63.05	328	P		P	09 33 42.6	+0.5
F08A	Pendleton baz=64	63.29	328	⇓P		P	09 33 43.8	0.0
H06A	Lindquist Farm baz=64	63.43	327	⇑P		P	09 33 44.9	+0.3
E09A	Wood Farm, Sta baz=64	63.45	329	⇓P		P	09 33 44.4	-0.4
J04A	Umpqua Nationa baz=64	63.49	325	⇑P		P	09 33 45.3	+0.2
B12A	Libby baz=64	63.58	332	⇑P		P	09 33 45.8	+0.1
I05A	Bend baz=64	63.58	326	⇑P		P	09 33 46.1	+0.4
D09A	Jones Farm, Ri baz=64	63.91	330	⇑P		P	09 33 48.0	+0.2
G06A	Carlson Farm, baz=64	63.91	327	⇑P		P	09 33 48.4	+0.5
B11A	Sandpoint baz=64,SNR=5.2	63.92	332	P		P	09 33 48.2	+0.3
C10A	Spilker Farm, baz=64	63.93	331	⇑P		P	09 33 47.9	-0.1
A12A	Yaak River Ran baz=64	63.94	333	⇑P		P	09 33 48.3	+0.3
F07A	Phinny Hill Vi baz=64	63.96	328	⇓P		P	09 33 48.5	+0.3
K02A	Glendale baz=64	64.01	323	⇑P		P	09 33 48.2	-0.3
NEW	Newport 28nm,1.5s,mb5.1	64.15	331	*e*P		P	09 33 48.7	-0.7
B10A	Chitwood Farm, baz=64	64.23	331	⇑P		P	09 33 49.7	-0.2
A11A	Hall Mountain, baz=64,SNR=6.0	64.28	332	P		P	09 33 50.9	+0.6
G05A	Wamic baz=64	64.29	327	⇑P		P	09 33 50.6	+0.2
F06A	Goldendale baz=64	64.33	327	⇓P		P	09 33 50.9	+0.3
E07A	Sunnyside baz=65	64.36	329	⇓P		P	09 33 51.2	+0.4
J02A	Umpqua baz=65	64.42	324	⇑P		P	09 33 51.3	+0.1
B09A	Rice baz=65,SNR=7.3	64.76	331	P		P	09 33 53.5	+0.1
C08A	Higginbotham F baz=65	64.76	330	⇓P		P	09 33 52.9	-0.5
D07A	Quincy baz=65,SNR=7.0	64.84	329	P		P	09 33 54.5	+0.6
A10A	Northport baz=65	64.86	332	⇑P		P	09 33 54.0	-0.1
E06A	Yakima baz=65	64.94	328	⇑P		P	09 33 55.0	+0.4
H03A	Soap Creek Ran baz=65	65.04	325	⇓P		P	09 33 55.4	+0.2
C07A	Waterville baz=65,SNR=5.9	65.21	329	P		P	09 33 56.6	+0.3
D06A	Cle Elum baz=66	65.29	329	⇑P		P	09 33 57.0	+0.1
F04A	Amboy baz=66	65.33	327	⇑P		P	09 33 56.3	-0.8
A09A	Danville baz=66	65.35	331	⇑P		P	09 33 57.1	-0.1
E05A	Randle baz=66	65.37	328	⇓P		P	09 33 57.1	-0.2
A08A	Turner Farm, O baz=66	65.66	331	⇓P		P	09 33 59.0	-0.2
B07A	Winthrop baz=66	65.75	330	⇓P		P	09 33 59.7	-0.1
EDM	Edmonton	66.14	337	*e*P		P	09 34 00.8	-1.5
A07A	Ashmola River, baz=66,SNR=6.5	66.27	330	P		P	09 34 03.8	+0.7
B05A	Bryant baz=67	66.62	329	⇑P		P	09 34 05.0	-0.5
A05A	Maple Falls baz=67	67.09	329	⇑P		P	09 34 07.9	-0.5
TBI	Tubuai 121nm,30.8s	71.91	247	*e*LR		LR	09 56 57.5	
PPT	Papeete 189nm,26.2s	71.94	253	*e*LR		LR	09 56 58.4	
PPT	Papeete comp=Z,81nm,22.0s,MS4.0,baz=117,slow=30	71.94	253	LR		LR	09 58 38.2	
LIC	Lamto 41nm,1.2s,mb4.9	72.60	82	⇑*i*P		P	09 34 43.3	+1.1
LIC	207nm,20.5s			*e*R				
LIC	Lamto 20nm,1.2s,mb4.9	72.60	82	⇑*i*P		P	09 34 43.3	+1.1
LIC	comp=Z,100nm,20.5s,MS4.1			LR		LR		
YKA	Yellowknife Ar comp=Z,3.9nm,0.6s,mb4.5,baz=139,slow=6.1,SNR=18	73.71	343	P		P	09 34 47.7	-1.1
YKA	Yellowknife Ar	73.71	343	P		P	09 34 47.7	-1.1
DLBC	Dease Lake	76.58	334	P		P	09 35 05.6	+0.3
EVO	Evora comp=Z,5.9nm,0.6s,mb4.4	77.12	49	*e*P		P	09 35 07.7	-0.6
EVO	comp=Z,114nm,23.0s			*e*R				
EGRO	El Granado comp=Z,46nm,1.4s,mb5.2	77.21	50	P		P	09 35 08.2	-0.6
VNA1	Neumayer--Stat	77.78	161	⇓*i*P		P	09 35 12.4	+0.4
VNA1				*e*			09 35 19.3	
VNA1				*e*		pP	09 35 22.9	-3.2
VNA1				*e*		pP	09 35 28.3	+2.2
VNA1				*e*			09 35 36.3	
VNA2	Neumayer--Watz baz=299,slow=6.7	78.14	162	⇓*i*P		P	09 35 13.8	-0.2
VNA2				*e*			09 35 20.2	
VNA2				*e*		pP	09 35 25.8	-2.3
VNA2				*e*		pP	09 35 30.6	+2.5
VNA2				*e*			09 35 41.2	
ESPR	Espera comp=Z,38nm,1.5s,mb5.1	78.27	51	P		P	09 35 13.4	-1.3
EMIJ	Mijas comp=Z,75nm,2.2s,mb5.2	79.03	51	P		P	09 35 19.8	+1.0
ECAL	Calabor comp=Z,23nm,1.2s,mb5.0	79.08	46	P		P	09 35 18.5	-0.7
EPON	Pontenova comp=Z,54nm,1.7s,mb5.2	79.22	44	P		P	09 35 19.2	-0.8
ELOJ	Sierra Loja comp=Z,15nm,1.0s,mb4.9	79.66	51	P		P	09 35 21.6	-0.7
SNAA	Sanae	79.76	162	⇓*i*P		P	09 35 22.6	-0.3
SNAA				*e*			09 35 28.4	
SNAA				*e*		pP	09 35 34.4	-2.6
SNAA				*e*		pP	09 35 38.4	+1.4
SNAA	Sanae comp=Z,10nm,0.9s,mb4.8	79.76	162	*e*P		P	09 35 22.3	-0.6
ERON	Agron comp=Z,16nm,0.6s,mb5.1	79.89	51	P		P	09 35 21.9	-1.7
TOA0	Torodi Ar. Sit	80.12	76	*e*P		P	09 35 25.6	+0.8
TOA0				*e*pP		pP	09 35 38.2	-0.8
TORD	Torodi Ar. Bea comp=Z,7.5nm,0.4s,mb5.0,baz=278,slow=5.8,SNR=186	80.12	76	P		P	09 35 25.8	+0.9
TORD				LR		LR	10 08 30.1	
TORD	comp=Z,138nm,21.9s,MS4.3,baz=255,slow=34	80.12	76	P		P	09 35 25.8	+0.9
TORD				LR		LR	10 08 30.1	
ESDC	Sonseca Array comp=Z,1.0nm,0.5s,mb4.0,baz=259,slow=6.3,SNR=9.8	80.46	48	P		P	09 35 27.6	+0.9
ESDC				LR		LR	10 06 35.5	
ESDC	comp=Z,60nm,20.4s,MS3.9,baz=250,slow=32	80.46	48	P		P	09 35 25.8	-0.8
EARI	Arriondas comp=Z,8.4nm,1.1s,mb4.6	80.56	45	P		P	09 35 25.9	-1.3
EBER	Berja comp=Z,57nm,1.7s,mb5.2	80.57	51	P		P	09 35 27.2	-0.1
GUD	Guadarrama comp=Z,77nm,2.0s,mb5.3	80.58	47	P		P	09 35 26.1	-1.2
EQES	Quesada comp=Z,2.9nm,0.6s,mb4.4	80.66	50	P		P	09 35 28.1	+0.4
EVIA	Vianos comp=Z,20nm,1.0s,mb5.0	81.30	50	P		P	09 35 28.8	-2.3
ELAN	Lanestosa comp=Z,9.5nm,0.7s,mb4.8	81.79	45	P		P	09 35 31.0	-2.7
ETOB	Tobarra comp=Z,20nm,1.3s,mb4.9	82.02	50	P		P	09 35 35.4	+0.5
ETOR	Torete comp=Z,58nm,2.1s,mb5.1	82.16	48	P		P	09 35 36.9	+1.2
ECRI	Cripan comp=Z,9.8nm,0.6s,mb4.9	82.28	46	P		P	09 35 34.8	-1.5
EMOS	Mosqueruela comp=Z,8.4nm,0.8s,mb4.7	83.23	48	P		P	09 35 42.4	+1.2
QUIF	Quistinic comp=Z,4.4nm,0.8s,mb4.5	83.24	41	*e*P		P	09 35 41.8	+0.5
QUIF	Quistinic comp=Z,47nm,1.3s,mb5.1	83.24	41	*e*P		P	09 35 41.8	+0.5
QUIF	Quistinic comp=Z,24nm,1.3s,mb5.1	83.24	41	*e*P		P	09 35 41.8	+0.5
ROSF	Rostrenen comp=Z,19nm,0.8s,mb4.9	83.28	40	*e*P		P	09 35 42.1	+0.6
ROSF	Rostrenen comp=Z,9.7nm,0.8s,mb4.9	83.28	40	*e*P		P	09 35 42.1	+0.6
SJPF	Ste Jean comp=Z,15nm,0.8s,mb4.8	83.32	46	*e*P		P	09 35 42.9	+1.2
SJPF	Ste Jean comp=Z,7.4nm,0.8s,mb4.8	83.32	46	*e*P		P	09 35 42.9	+1.2
ESAC	San Caprasio comp=Z,75nm,1.4s,mb5.6	83.54	47	P		P	09 35 43.9	+1.1
SGMF	Saint Gilles	83.72	40	*e*P		P	09 35 44.3	+0.5
ETSF	Etsaut	83.75	46	*e*P		P	09 35 45.2	+1.3
EBIE	Bielsa comp=Z,20nm,1.1s,mb5.2	84.20	46	P		P	09 35 46.1	-0.1
EGAK	Eagle comp=Z,20nm,1.3s,mb5.1	84.37	337	*e*P		P	09 35 46.3	-0.7
EGAK				*e*pP		pP	09 35 57.4	-3.8
EPF	Esparros comp=Z,78nm,1.4s,mb5.3	84.42	46	*e*P		P	09 35 48.6	+1.3
EPF	Esparros comp=Z,39nm,1.4s,mb5.3	84.42	46	*e*P		P	09 35 48.6	+1.3
QSPA	South Pole Qui comp=Z,9.2nm,1.1s,mb4.8	84.56	180	⇑*i*P		P	09 35 47.5	-0.5
GRR	Gorron comp=Z,38nm,1.1s,mb5.1	84.85	40	*e*P		P	09 35 49.9	+0.4
GRR	Gorron comp=Z,19nm,1.1s,mb5.1	84.85	40	*e*P		P	09 35 49.9	+0.4
MFF	Saint Martin d comp=Z,33nm,0.9s,mb5.2	84.89	42	*e*P		P	09 35 50.3	+0.6
MFF	Saint Martin d comp=Z,16nm,0.9s,mb5.2	84.89	42	*e*P		P	09 35 50.3	+0.6
LFF	La Frestale comp=Z,34nm,0.7s,mb5.3	85.12	44	*e*P		P	09 35 51.5	+0.7
LFF	La Frestale comp=Z,17nm,0.7s,mb5.3	85.12	44	*e*P		P	09 35 51.5	+0.7
FLN	La Foliniere comp=Z,35nm,0.9s,mb5.2	85.19	40	*e*P		P	09 35 51.8	+0.6
FLN	comp=Z,87nm,21.8s			*e*R				
FLN	La Foliniere comp=Z,17nm,0.9s,mb5.2	85.19	40	*e*P		P	09 35 51.8	+0.6
FLN	comp=Z,90nm,21.8s,MS4.1			LR		LR		
LDF	La Druitiere comp=Z,32nm,1.0s,mb5.1	85.38	40	*e*P		P	09 35 52.6	+0.5
LDF	La Druitiere comp=Z,16nm,1.0s,mb5.1	85.38	40	*e*P		P	09 35 52.6	+0.5
RJF	Les Rejaudoux comp=Z,22nm,0.9s,mb5.1	85.74	44	*e*P		P	09 35 54.4	+0.5
RJF	Les Rejaudoux comp=Z,11nm,0.9s,mb5.1	85.74	44	*e*P		P	09 35 54.4	+0.5
MTLF	Montolieu comp=Z,52nm,1.5s,mb5.2	85.83	46	*e*P		P	09 35 54.8	+0.5
MTLF	Montolieu comp=Z,26nm,1.5s,mb5.2	85.83	46	*e*P		P	09 35 54.8	+0.5
CAF	Caniac	86.04	44	*e*P		P	09 35 56.0	+0.6
TCF	Toul-Ste Croi	86.42	43	*e*P		P	09 35 58.4	+1.2
LASF	Ste Croix	87.13	45	*e*P		P	09 36 01.3	+0.6
AVF	Avril sur Loir comp=Z,13nm,0.9s,mb4.9	87.29	43	*e*P		P	09 36 01.1	-0.4
AVF	Avril sur Loir comp=Z,6.4nm,0.9s,mb4.8	87.29	43	*e*P		P	09 36 01.1	-0.4
SSF	Saint Saulge	87.44	42	*e*P		P	09 36 01.7	-0.5
SMF	Signal de Mont comp=Z,16nm,0.9s,mb5.0	87.59	43	*e*P		P	09 36 03.7	+0.7
SMF	Signal de Mont comp=Z,8.1nm,0.9s,mb5.0	87.59	43	*e*P		P	09 36 03.7	+0.7
LOR	Lormes comp=Z,23nm,1.1s,mb5.0	87.72	42	*e*P		P	09 36 03.2	-0.4
LOR	comp=Z,84nm,22.5s			*e*R				
LOR	Lormes comp=Z,12nm,1.1s,mb5.0	87.72	42	*e*P		P	09 36 03.2	-0.4
LOR	comp=Z,80nm,22.5s,MS4.1			LR		LR		
VIVF	Saint-Julien-l	87.85	45	*e*P		P	09 36 04.8	+0.6
DAG	Danmarks Havn comp=Z,6.8nm,0.7s,mb5.0	88.41	11	⇑*i*P		P	09 36 06.7	-0.1
ORIF	Oris-en-Rattie comp=Z,14nm,0.8s,mb5.0	88.70	45	*e*P		P	09 36 09.2	+1.0
ORIF	comp=Z,128nm,23.0s			*e*R				
ORIF	Oris-en-Rattie comp=Z,6.8nm,0.8s,mb5.0	88.70	45	*e*P		P	09 36 09.2	+1.0
GIVF	Givet	88.85	40	*e*P		P	09 36 09.1	+0.2
FRF	La Foret Royal comp=Z,34nm,0.9s,mb5.4	89.04	46	*e*P		P	09 36 10.1	+0.3
FRF	La Foret Royal comp=Z,17nm,0.9s,mb5.4	89.04	46	*e*P		P	09 36 10.1	+0.3
CABF	La Chapelle comp=Z,22nm,0.8s,mb5.2	89.11	43	*e*P		P	09 36 10.5	+0.4
CABF	La Chapelle comp=Z,11nm,0.8s,mb5.2	89.11	43	*e*P		P	09 36 10.5	+0.4
MBDF	Montbardon comp=Z,10nm,0.8s,mb4.9	89.30	45	*e*P		P	09 36 11.7	+0.7
MBDF	Montbardon comp=Z,5.3nm,0.8s,mb4.9	89.30	45	*e*P		P	09 36 11.7	+0.7
LPL	La Plagne comp=Z,10nm,0.9s,mb4.8	89.39	44	*e*P		P	09 36 12.5	+1.1
LPL	La Plagne comp=Z,5.1nm,0.9s,mb4.8	89.39	44	*e*P		P	09 36 12.5	+1.1
LPG	La Plagne comp=Z,15nm,0.9s,mb5.0	89.40	44	*e*P		P	09 36 12.7	+1.2
LPG	La Plagne comp=Z,7.3nm,0.9s,mb5.0	89.40	44	*e*P		P	09 36 12.7	+1.2
HAU	Haudompre	89.50	42	*e*P		P	09 36 11.8	-0.2
HAU	comp=Z,65nm,19.5s			*e*R				
HAU	Haudompre comp=Z,60nm,19.5s,MS4.0	89.50	42	*e*P		P	09 36 11.8	-0.2
HAU				LR		LR		
SBF	Sospel	89.65	46	*e*P		P	09 36 12.9	+0.2
KEST	Kesra comp=Z,1.4nm,0.7s,mb4.4,baz=310,slow=6.2,SNR=4.1	90.08	54	P		P	09 36 15.4	+0.8
PGF	Pioggiola	90.61	47	*e*P		P	09 36 17.5	+0.3
VNDA	Vanda comp=Z,1.6nm,0.9s,mb4.4,baz=140,slow=3.2,SNR=10	91.10	191	P		P	09 36 18.7	-0.7
AFI	Afiamalu comp=Z,52nm,19.1s,MS4.0,baz=293,slow=30	93.49	256	LR		LR	10 10 51.6	
NOA	NORSAR Array B comp=Z,41nm,18.4s,MS3.9,baz=280,slow=32	93.84	29	LR		LR	10 14 09.4	
BRG	Berggiesshubel comp=Z,3.2nm,1.0s,mb4.7	94.72	39	*e*P		P	09 36 37.1	+0.9
BRG	comp=Z,2.5nm,0.7s			*e*			09 38 00.6	
BOSA	Boshof comp=Z,72nm,19.3s,MS4.2,baz=97,slow=34	97.89	120	LR		LR	10 18 17.4	
ARCES	ARCESS Array B comp=Z,2.3nm,1.0s,mb4.7,baz=285,slow=3.5,SNR=7.7	99.45	20	P		P	09 36 55.6	-1.9
AKTK	Aktyubinsk	121.49	32	PKP		PKPdf	09 42 06.9	-1.2
AKTO	Aktyubinsk comp=Z,0.8nm,0.3s,baz=316,slow=1.4,SNR=4.4	121.49	32	PKP		PKPdf	09 42 06.9	-1.2
STKA	Stephens Creek comp=Z,1.5nm,0.9s,baz=45,slow=1.4,SNR=5.6	127.83	222	PKP		PKPdf	09 42 20.1	-0.1
ZAL	Zalesovo comp=Z,6.0nm,0.8s,baz=177,slow=2.0,SNR=21	129.47	14	PKP		PKPdf	09 42 23.4	+0.1
ZAL	Zalesovo	129.47	14	PKP		PKPdf	09 42 23.4	+0.1
WSAR	Wadi Sarin comp=Z,5.4nm,0.7s,baz=341,slow=2.4,SNR=7.5	133.62	63	PKP		PKPdf	09 42 32.0	+0.8
MKAR	Makanchi Array comp=Z,2.6nm,0.8s,baz=343,slow=1.8,SNR=7.5	135.11	20	PKP		PKPdf	09 42 33.2	-0.7
AAK	Ala-Archa	135.15	30	*e*PKPdf		PKPdf	09 42 35.0	+1.0
SONM	Songino Array comp=Z,2.6nm,0.6s,baz=302,slow=1.6,SNR=17	137.76	357	PKP		PKPdf	09 42 38.6	-0.3
ASAR	Alice Springs comp=Z,1.4nm,0.8s,baz=130,slow=3.2,SNR=10	138.28	225	SKPbc	SKPbc		09 46 09.1	-1.0
WMQ	Urumqi	139.50	17	PKP		PKPdf	09 42 39.5	-2.5
WMQ				XPKP			09 42 58.5	
WMQ				PP		PP	09 45 38.7	+1.9
WMQ	comp=Z,178nm,5.5s			PP		PP		
WMQ	comp=N,41nm,21.8s,MS4.3			LR		LR		
WMQ	comp=E,42nm,22.4s,MS4.3			LR		LR		
WMQ	comp=Z,37nm,21.1s,MS4.1			LR		LR		
WRA	Warramunga Arr comp=Z,0.5nm,0.8s,baz=126,slow=2.9,SNR=5.3	140.26	230	PKhKP			09 42 31.3	
WRA	comp=Z,1.4nm,0.5s,baz=119,slow=2.0,SNR=24			PKP		PKPdf	09 42 42.4	-1.1
WRA	comp=Z,1.8nm,0.8s,baz=131,slow=2.4,SNR=7.4			SKPbc	SKPbc		09 46 15.0	-0.5
KSRS	Korea Array comp=Z,2.2nm,0.7s,baz=12,slow=1.0,SNR=8.0	141.03	328	PKP		PKPdf	09 42 43.8	-1.0
HHC	Hu-ho-hao-te	144.04	349	*e*PKP		PKPdf	09 42 50.0	-0.2
HHC				APKP			09 43 00.6	
HHC				XPKP			09 43 04.8	
HHC				PP		PP	09 46 08.7	+4.3
HHC				SKS		SKSdf	09 49 54.9	-0.7
HHC				SKKS		SKKSac	09 52 52.7	-0.4
HHC				SS		SS	10 04 48.8	+3.7
HHC	comp=Z,78nm,6.6s			PP		PP		
HHC	comp=N,109nm,21.3s,MS5.0			LR		LR		
HHC	comp=E,270nm,21.8s,MS5.0			LR		LR		
HHC	comp=Z,136nm,18.0s,MS4.8			LR		LR		
KAKA	Kakadu comp=Z,15nm,0.9s	145.75	238	*e*P		PKPdf	09 42 52.6	-0.5
GTA	Gaotai	146.13	5	⇓PKP		PKPdf	09 42 55.4	+1.6
GTA				APKP			09 43 04.3	
GTA				XPKP			09 43 08.7	
NDI	New Delhi	146.30	44	*ex*		x	09 42 55.0	
FITZ	Fitzroy Crossi comp=Z,13nm,0.9s	147.72	223	*e*P		PKPdf	09 42 58.5	+2.1
FITZ	Fitzroy Crossi comp=Z,6.8nm,0.8s,baz=170,slow=6.2,SNR=10	147.72	223	PKPbc	PKPbc		09 42 58.9	-0.4
POO	Poona	148.60	63	*ex*		x	09 43 00.0	
MBWA	Marble Bar	148.91	211	*e*PKPdf		PKPdf	09 42 57.0	-1.3
MBWA				*e*PKPbc		PKPbc	09 43 02.0	-0.4
LZH	Lanzhou	149.58	359	*e*PKP		PKPbc	09 43 04.8	+0.7
LZH				*e*SS		SS	10 05 52.7	+4.9
LZH	comp=Z,78nm,8.9s			PP		PP		
LZH	comp=E,137nm,18.2s			LR		LR		
LZH	comp=Z,205nm,20.3s,MS4.9			LR		LR		
DANN	Dangsing	150.76	37	*e*P		PKPbc	09 43 08.4	+1.5
KOLN	Koldanda comp=Z,38nm,0.9s	151.09	38	*e*P		PKPbc	09 43 08.3	+0.6
XAN	Xi'an	151.14	350	PKP		PKPbc	09 43 08.0	+0.2
XAN				APKP			09 43 15.6	
GKN	Gorkha comp=Z,92nm,0.8s	151.54	36	*e*P		PKPbc	09 43 09.6	+0.9
KKN	Kakani comp=Z,26nm,0.6s	152.07	36	*e*P		PKPbc	09 43 11.1	+1.2
DMN	Daman comp=Z,29nm,0.7s	152.11	36	*e*P		PKPbc	09 43 10.9	+0.9
PKI	Pulchoki comp=Z,22nm,0.7s	152.31	36	*e*P		PKPbc	09 43 10.8	+0.3
GUN	Gumba comp=Z,58nm,1.0s	152.32	35	*e*P		PKPbc	09 43 11.7	+1.2
GYA	Guiyang	158.93	351	*e*PKP		PKPdf	09 43 10.8	-1.7
GYA				APKP			09 43 24.4	
GYA				XPKP			09 43 29.4	
GYA				PKP2		PKPab	09 43 49.5	+0.7
GYA				PKS			09 46 43.0	
GYA				PP		PP	09 47 31.2	+1.7
GYA	comp=Z,110nm,7.9s			PP		PP		
KMI	Kunming	160.51	1	PKP		PKPdf	09 43 12.0	-2.3
KMI				APKP			09 43 24.2	
KMI				XPKP			09 43 30.6	
KMI	comp=Z,24nm,23.1s			LR		LR		

*CASC **09** 09:30:54.1±168.0, 937N×98.76W, h20km±999km, MD4.4, ML5.0*
*ISCJB **09** 09:32:48.6±2.3, 138N±02×913W±01, h114km±21km, Error ellipse: s-maj=32.8km s-min=14.1km az=56.7*
*NEIC **09** 09:32:49.9, 1369N×9131W, h93km, MD4.6(MEX), After MEX.*

ISC 09 09:32:50.0±2.6, 138N±02×913W±01, h97km±28km, n15, σ0±59/9, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TER	Terranova	0.83	50	⇑	*e*P	Pn	09 33 08.3	-0.2
FUG	Fuego 3	0.84	35	⇓*i*P		Pn	09 33 07.9	-0.6
PCG	Pacaya	0.95	48	*e*P		Pn	09 33 10.3	+0.6
RBDL	Robledal	1.65	78	*e*P	x		09 33 33.2	
RBDL				*e*S	x		09 33 55.3	
RTR	El Retiro	1.65	85	*e*P	x		09 33 34.2	
RTR				*e*S	x		09 33 56.1	
SBLS	San Blas	1.67	87	*e*P	x		09 33 34.5	
SBLS				*e*S	x		09 33 56.3	
BOQS	Boqueron	2.00	91	*e*P	x		09 33 39.2	
SNET	Serv Nac Est T	2.05	92	*e*P	x		09 33 19.7	
SNET				*e*S	x		09 33 45.6	
SNET	comp=Z,511nm,0.3s			*i*			09 34 04.6	
LFRS	El Faro	2.22	93	*e*P	x		09 33 42.3	
LFRS				*e*S	x		09 34 09.8	
LBRS	Las Brisas	2.23	90	*e*P	x		09 33 42.1	
LCBS	La Ceiba	2.30	92	*e*P	x		09 33 43.3	
LCBS				*e*S	x		09 34 10.8	
CCIG	Comitan	2.62	343	*i* P		Pn	09 33 30.4	-0.2
CCIG				*i* S		Sn	09 34 02.4	+0.6
CMIG	Matias Romero	4.76	315	*i* P		Pn	09 34 00.3	+0.9
CMIG				*i* S		Sn	09 34 52.5	-0.8
OXX	Oaxaca	6.15	303	*i* P		Pn	09 34 25.5	+7.2
TEIG	Tepich	7.07	24	*i* P		Pn	09 34 30.4	-0.3

*ISCJB **09** 09:36:42.9±0.5, 4007N±002×2079E±004, h5km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=42.2*
*ATH **09** 09:36:43.6, 4004N×2088E, h17km±6km, MD3.3/5*
*NEIC **09** 09:36:43.9, 4006N×2079E, h0km, MD3.3(ATH), ML2.9(THE), After THE.*
*THE **09** 09:36:43.9, 4006N×2079E, h10km, ML2.9*
*SKO **09** 09:36:44.9, 4009N×2085E, h15km*
*CSEM **09** 09:36:44.0±0.2, 4006N×2082E, h9km±2km, MD3.3, Error ellipse

IGT	**Igoumenitsa**	**0.63**	**212**	*e*Pg		**Pg**	**09 36 56.4**	**+0.7**
IGT				*e*Sg		**Sg**	**09 37 05.5**	**+1.6**
KZN	**Kozani**	**0.81**	**72**	*e*PN		**Pg**	**09 36 57.8**	**-1.3**
KEK	**Kerkira**	**0.82**	**245**	*e*PB		**Pb**	**09 36 59.9**	**-0.2**
KEK				*e*SN		**Sn**	**09 37 14.2**	**+0.5**
FNA	**Florina**	**0.85**	**33**	*e*Pg		**Pg**	**09 36 59.5**	**-0.5**
FNA				*e*Sg		**Sg**	**09 37 12.4**	**+1.3**
BIA	**Bitola**	**1.04**	**24**	*e*Pg		**Pg**	**09 37 02.2**	**-1.4**
BIA				*e*Sg		**Sg**	**09 37 20.1**	**+3.0**
BIA	**Bitola**	**1.04**	**24**	*e*Pg		**Pg**	**09 37 02.2**	**-1.5**
OHR	**Ohrid**	**1.04**	**1**	*e*Pg		**Pg**	**09 37 03.7**	**+0.1**
OHR				*e*Sg		**Sg**	**09 37 17.6**	**+0.4**
THL	**Klokotos Trika**	**1.08**	**117**	*e*PN		**Pn**	**09 37 03.5**	**-1.5**
LIT	**Litokhoron**	**1.32**	**88**	*e*Pg		**Pg**	**09 37 08.4**	**-0.6**
LIT				*e*Sg		**Sg**	**09 37 28.2**	**+2.0**
KRUS	**Krusevo**	**1.35**	**16**	*e*Pg		**Pg**	**09 37 08.9**	**-0.6**
KRUS	**Krusevo**	**1.35**	**16**	*e*Pg		**Pg**	**09 37 08.9**	**-0.6**
LKD	**Levkas**	**1.36**	**184**	*e*Pg		**Pg**	**09 37 09.1**	**-0.6**
EVR	**Evrytania**	**1.40**	**145**	*e*PN		**Pn**	**09 37 08.7**	**-0.7**
GRG	**Griva**	**1.53**	**54**	*e*Pg		**Pg**	**09 37 12.1**	**-0.9**
GRG				*e*Sg		**Sg**	**09 37 33.0**	**+0.2**
AGG	**Agios Georgios**	**1.60**	**130**	*e*Pg		**Pn**	**09 37 12.4**	**+0.4**
AGG				*e*Sg		**Sg**	**09 37 35.3**	**+0.3**
VLS	**Valsamata**	**1.89**	**184**	*e*PN		**Pn**	**09 37 17.2**	**+1.1**
XOR	**Xorichti**	**2.00**	**110**	*e*Pn		**Pn**	**09 37 17.5**	**-0.1**
PAIG	**Paliouri**	**2.24**	**93**	*e*Pn		**Pn**	**09 37 20.6**	**-0.4**
PAIG				*e*Sn		**Sn**	**09 37 49.6**	**+0.8**

IDC 09 09:53:30.7±9.0, 650S×15109E, h57km±65km, mb3.4/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.5/4, ML2.2/1, Error ellipse: s-maj=94.8km s-min=57.4km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**233**	P	Pn	09 54 41.5	+0.5
	0.7nm,0.3s,baz=104,slow=8.3,SNR=1.8						
PMG				S	Sn	09 55 37.1	+1.3
	1.0nm,0.3s,baz=321,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**21.05**	**229**	P	P	09 58 09.5	-0.4
	0.8nm,0.5s,baz=54,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**23.75**	**222**	P	P	09 58 37.5	-0.2
	0.8nm,0.5s,baz=54,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**27.37**	**243**	P	P	09 59 11.0	+0.6
	1.6nm,0.6s,baz=40,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.16**	**285**	PKPbc	PKPbc	10 13 13.7	+1.1
	0.6nm,0.7s,baz=68,slow=2.7,SNR=4.4						

*IDC **09** 10:00:52.5±0.9, 277S×141.13E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.2/16, mbtmp4.1/10, ML4.3/2, MS3.8/13, Ms1 3.8/13, ms1mx3.5/28, Error ellipse: s-maj=28.0km s-min=17.4km az=78.0*
*BJI **09** 10:00:53.0, 290S×141.51E, h31km, mb4.9*
*ISCJB **09** 10:00:56.1±0.6, 286S±005×1409E±0.1, h30km, mb4.2/12, MS3.8/10, Error ellipse: s-maj=15.4km s-min=7.8km az=4.1*
*NEIC **09** 10:00:57.7±0.6, 282S×141.01E, h30km, mb4.5/7, Error ellipse: s-maj=14.9km s-min=11.6km az=87.0*
ISC 09 10:00:57.4±3.1, 284S±006×1410E±01, h27km±22km, n34, σ1$16/31, mb4.2/12, MS3.8/10, 3C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.94**	**137**	Pn	**Pn**	**10 03 07.1**	**+2.3**
	0.4nm,0.3s,baz=47,slow=19,SNR=4.0						
PMG				Sn	**Sn**	**10 04 38.4**	**-6.2**
	0.9nm,0.3s,baz=130,slow=19,SNR=2.8						
KAKA	**Kakadu**	**12.96**	**220**	*e*P	**Pn**	**10 03 58.9**	**-0.9**
	26nm,0.6s						
GUMO	**Guam**	**16.77**	**13**	LR	LR	10 09 50.1	
	comp=Z,184nm,18.8s,baz=101,slow=32						
CTA	**Charters Tower**	**17.89**	**164**	LR	LR	10 11 57.3	
	comp=Z,174nm,18.5s,baz=223,slow=37						
WB2	**Warramunga Arr**	**18.20**	**200**	*e*P	**Pn**	**10 05 08.0**	**-0.1**
WRA	**Warramunga Arr**	**18.20**	**200**	P	**Pn**	**10 05 07.1**	**-1.1**
	0.6nm,0.3s,baz=14,slow=12,SNR=26						
WRA				S	**Sn**	**10 08 24.6**	**-5.9**
	baz=19,slow=21,SNR=5.6						
WRA				LR	LR	10 13 01.4	
	comp=Z,168nm,20.3s,baz=25,slow=40						
HNR	**Honiara**	**19.93**	**110**	P	**Pn**	**10 05 23.7**	**-5.2**
	1.9nm,0.3s,baz=297,slow=3.6,SNR=4.5						
HNR	**Honiara**	**19.93**	**110**	*e*P	**Pn**	**10 05 24.3**	**-4.6**
	38nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.38**	**224**	*e*P	**P**	**10 05 42.9**	**+0.1**
	9.1nm,0.8s,mb4.2						
FITZ				*e*S	**S**	**10 09 39.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.38**	**224**	P	**P**	**10 05 41.9**	**-0.9**
	4.2nm,0.6s,mb4.0,baz=48,slow=10.0,SNR=14						
FITZ				S	**S**	**10 09 37.0**	**-1.7**
	5.2nm,1.0s,baz=195,slow=23,SNR=3.1						
FITZ				LR	LR	10 14 48.7	
	comp=Z,482nm,19.1s,MS3.9,baz=43,slow=39						
AS31	**Alice Springs**	**21.81**	**198**	*e*P	**P**	**10 05 48.2**	**+0.7**
ASAR	**Alice Springs**	**21.81**	**198**	P	**P**	**10 05 49.1**	**+1.7**
	4.0nm,0.6s,mb4.0,baz=31,slow=10.0,SNR=62						
ASAR				S	**S**	**10 09 46.2**	**-1.1**
	2.6nm,1.2s,baz=15,slow=21,SNR=5.2						
ASAR				LR	LR	10 14 40.9	
	comp=Z,567nm,18.9s,MS4.0,baz=17,slow=38						
ASAR	**Alice Springs**	**21.81**	**198**	P	**P**	**10 05 49.1**	**+1.7**
ASAR				S	**S**	**10 09 46.2**	**-1.1**
ASAR				LR	LR	10 14 40.9	
STKA	**Stephens Creek**	**28.89**	**179**	*e*P	**P**	**10 06 55.0**	**+1.1**
	2.3nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**28.89**	**179**	P	**P**	**10 06 53.3**	**-0.6**
	2.4nm,0.6s,mb4.1,baz=10,slow=11,SNR=6.1						
STKA				LR	LR	10 18 09.1	
	comp=Z,133nm,20.0s,MS3.5,baz=22,slow=36						
JHJ	**Hachijo jima 2**	**35.78**	**358**	LR	LR	10 19 07.7	
	comp=Z,184nm,20.1s,MS3.8,baz=178,slow=31						
JNU	**Nakatsue**	**37.03**	**346**	LR	LR	10 20 16.7	
	comp=Z,182nm,19.2s,MS3.9,baz=66,slow=32						
KSRS	**Korea Array**	**41.89**	**344**	P	**P**	**10 08 43.6**	**-1.8**
	2.0nm,0.8s,mb3.8,baz=173,slow=11,SNR=4.6						
KSRS				LR	LR	10 26 51.4	
	comp=Z,57nm,18.1s,MS3.5,baz=48,slow=37						
PSI	**Prapat**	**42.44**	**277**	P	**P**	**10 08 50.4**	**+0.5**
	2.9nm,0.6s,mb4.1,baz=119,slow=13,SNR=6.0						
ASAJ	**Asahikawa**	**46.77**	**2**	LR	LR	10 26 08.7	
	comp=Z,73nm,19.5s,MS3.6,baz=339,slow=32						
RPZ	**Rata Peaks**	**48.64**	**151**	LR	LR	10 28 16.8	
	comp=Z,155nm,18.8s,MS4.0,baz=215,slow=34						
LZH	**Lanzhou**	**51.98**	**322**	⇑P	**P**	**10 10 05.5**	**+1.2**
LZH				AP	pP	10 10 09.6	-2.9
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
LZH	**Lanzhou**	**51.98**	**322**	⇑P	**P**	**10 10 05.5**	**+1.2**
	comp=Z,30nm,1.5s,mb5.0						
LZH				pP	pP	10 10 09.6	-2.9
LZH				sP	sP	10 10 12.3	-3.3
GTA	**Gaotai**	**56.55**	**322**	⇑P	**P**	**10 10 38.5**	**+1.0**
GTA				AP	pP	10 10 42.9	-2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
SONM	**Songino Array**	**58.84**	**333**	P	**P**	**10 10 53.8**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=167,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**71.30**	**322**	P	**P**	**10 12 13.9**	**-0.6**
	comp=Z,3.2nm,0.9s,mb4.3,baz=112,slow=8.0,SNR=14						
VNDA	**Vanda**	**75.46**	**175**	P	**P**	**10 12 38.6**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=330,slow=7.0,SNR=12						
VNDA				LR	LR	10 42 14.8	
	comp=Z,81nm,21.7s,MS4.0,baz=343,slow=33						
VNDA	**Vanda**	**75.46**	**175**	*e*P	**P**	**10 12 39.8**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.0						
BRVK	**Borovoye**	**80.81**	**325**	*e*P	**P**	**10 13 08.8**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**87.11**	**180**	*e*P	**P**	**10 13 42.5**	**+1.7**
	comp=Z,4.4nm,0.7s,mb4.8						
DAWY	**Dawson**	**87.99**	**26**	*e*P	**P**	**10 13 43.7**	**-1.3**
YKA	**Yellowknife Ar**	**99.14**	**27**	LR	LR	10 54 50.7	
	comp=Z,50nm,19.6s,MS4.0,baz=215,slow=33						
LPAZ	**La Paz**	**145.50**	**124**	PKPbc	PKPbc	10 20 34.4	+1.3
	comp=Z,3.0nm,1.1s,baz=6.4,slow=2.0,SNR=7.1						
LPAZ	**La Paz**	**145.50**	**124**	*e*PKPdf	PKPdf	10 20 34.2	+1.2

*NEIC **09** 10:03:38.7, 1602N×98.17W, h1km, MD3.5(MEX), After MEX.*
MEX 09 10:03:38.8±0.5, 1602N×9818W, h2km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**8**	*i* P	Pg	10 03 45.5	-0.4
PNIG				*i* S	Sg	10 03 51.2	+0.4
VHO	**Vista Hermosa**	**1.74**	**53**	*i* P	Pn	10 04 07.3	-2.7
VHO				*i* S	Sn	10 04 28.2	-4.5
VHO	**Vista Hermosa**	**1.74**	**53**	*i* P	Pn	10 04 07.6	-2.4
VHO				*i* S	Sn	10 04 28.2	-4.5
OXX	**Oaxaca**	**1.75**	**53**	*i* P	Pn	10 04 08.0	-2.1
OXX				*i* S	Sn	10 04 27.7	-5.3
OXX	**Oaxaca**	**1.75**	**53**	*i* P	Pn	10 04 13.2	+3.1
OXX				*i* S	Sn	10 04 27.7	-5.3
UTMO	**Huajuapan**	**1.83**	**11**	*i* P	Pn	10 04 08.0	-3.3
UTMO				*i* S	Sn	10 04 31.3	-3.7
MEIG	**Mezcala**	**2.34**	**324**	*i* P	Pn	10 04 15.5	-2.7
MEIG				*i* S	Sn	10 04 43.0	-4.5
TPIG	**Tehuac#an**	**2.51**	**18**	*i* P	Pn	10 04 18.1	-2.4
TPIG				*i* S	Sn	10 04 47.3	-4.4
IIO	**Organos**	**3.59**	**352**	*i* P	Pn	10 04 37.8	+2.4
IIO				*i* S	Sn	10 05 17.4	-0.9

NNC 09 10:06:32.9±2.6, 3879N×7323E, h158km±54km, mb2.1, mpv2.7, 1C-3D, Error ellipse: s-maj=32.5km s-min=12.2km az=3.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.50**	**23**	⇑P	Pn	10 07 39.7	-0.1
	0.1nm,0.7s						
TKM2				⇓S	Sn	10 08 33.0	+1.1
	0.7nm,0.8s						
KK31	**Karatay Array**	**4.77**	**335**	P	Pn	10 07 43.6	+0.2
	5.0nm,0.5s,baz=153,slow=12,SNR=43						
KK31				⇓S	Sn	10 08 38.8	+0.4
	1.8nm,0.3s,baz=148,slow=21						
AB31	**Akbulak array**	**14.14**	**322**	⇓P	Pn	10 09 46.2	0.0
	0.7nm,0.5s,baz=128,slow=13,SNR=9.9						

*IDC **09** 10:18:55.1±1.1, 4726N×154.41E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/22, mbtmp3.8/11, ML3.3/1, Error ellipse: s-maj=29.5km s-min=23.7km az=127.0*
*ISCJB **09** 10:19:00.2±2.1, 473N±0.1×1542E±02, h47km±16km, mb3.8/10, Error ellipse: s-maj=31.3km s-min=15.1km az=93.6*
*MOS **09** 10:19:00.5±1.0, 4726N×154.11E, h52km, mb4.3/6, Error ellipse: s-maj=27.3km s-min=18.0km az=86.9*
ISC 09 10:19:02.4±1.9, 473N±01×1542E±02, h52km±15km, n20, σ0$60/20, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.63**	**19**	*e*PN	**Pn**	**10 19 56.1**	**+0.1**
ASAJ	**Asahikawa**	**8.73**	**253**	Pn	**Pn**	**10 21 05.8**	**-0.2**
	0.4nm,0.3s,baz=299,slow=19,SNR=2.8						
KSRS	**Korea Array**	**21.68**	**253**	P	**P**	**10 23 49.6**	**+0.9**
	1.1nm,0.6s,mb3.5,baz=61,slow=11,SNR=4.0						
SONM	**Songino Array**	**31.88**	**289**	P	**P**	**10 25 21.9**	**-0.7**
	0.5nm,0.8s,mb3.4,baz=69,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**31.88**	**289**	P	**P**	**10 25 21.9**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**10 27 30.3**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=73,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**10 27 30.3**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	**P**	**10 28 47.0**	**0.0**
	comp=Z,3.8nm,1.1s,mb4.3,baz=25,slow=9.0,SNR=3.2						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	**P**	**10 28 47.0**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**10 29 29.6**	**-0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=38,slow=8.8,SNR=10						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**10 29 29.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.97**	**342**	P	**P**	**10 29 56.6**	**+0.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.97**	**342**	P	**P**	**10 29 56.3**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=25,slow=6.4,SNR=5.6						
NOA	**NORSAR Array B**	**67.97**	**342**	P	**P**	**10 29 56.3**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.53**	**327**	P	**P**	**10 30 17.5**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.3,baz=32,slow=6.2,SNR=7.2						
AKASG	**Malin Array Be**	**71.53**	**327**	P	**P**	**10 30 17.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.96**	**199**	P	**P**	**10 30 26.1**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=11,slow=5.9,SNR=7.8						
TXAR	**Lajitas Array**	**76.57**	**61**	P	**P**	**10 30 46.8**	**-0.4**
	comp=Z,0.2nm,0.7s,mb3.1,baz=292,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**78.52**	**317**	P	**P**	**10 30 59.4**	**+1.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=57,slow=5.3,SNR=3.5						
BRTR	**Keskin Array B**	**78.52**	**317**	P	**P**	**10 30 59.4**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 09 10:25:32.1±3.9, 234N×12836E, h176km±34km, mb3.6/6, mb1 3.8/6, mb1mx3.5/16, mbtmp3.6/6, Error ellipse: s-maj=72.8km s-min=14.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.49**	**187**	*e*P	P	10 29 57.6	+1.3
	1.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.49**	**187**	P	P	10 29 56.6	+0.3
	1.5nm,0.6s,baz=16,slow=7.5,SNR=9.2						
WRA	**Warramunga Arr**	**22.91**	**165**	P	P	10 30 20.8	+0.2
	5.0nm,0.5s,baz=344,slow=10,SNR=51						
WRA				S	S	10 34 19.0	+2.1
	0.3nm,0.8s,baz=352,slow=17,SNR=2.7						
WB2	**Warramunga Arr**	**22.91**	**165**	*e*P	P	10 30 20.8	+0.2
ASAR	**Alice Springs**	**26.41**	**169**	P	P	10 30 52.7	+0.5
	2.0nm,0.5s,baz=353,slow=7.7,SNR=74						
ASAR				PcP	PcP	10 34 12.2	-0.7
	0.5nm,0.4s,baz=348,slow=2.5,SNR=6.9						
ASPA	**Alice Springs**	**26.41**	**169**	*e*P	P	10 30 52.6	+0.4
STKA	**Stephens Creek**	**36.27**	**161**	*e*P	P	10 32 18.4	-0.1
	1.4nm,0.3s						
STKA	**Stephens Creek**	**36.27**	**161**	P	P	10 32 18.6	+0.1
	2.0nm,0.3s,baz=331,slow=7.8,SNR=9.2						
MKAR	**Makanchi Array**	**59.62**	**325**	P	P	10 35 17.9	+0.5
	1.1nm,0.5s,baz=113,slow=8.7,SNR=13						
VNDA	**Vanda**	**81.85**	**173**	P	P	10 37 30.7	-0.9
	1.1nm,0.7s,baz=312,slow=7.5,SNR=8.5						

IDC 09 10:32:33.1±1.6, 127N×12714E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=107.2km s-min=22.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.30**	**184**	P	Pn	10 36 59.6	-1.0
	0.1nm,0.3s,baz=20,slow=15,SNR=4.9						
WRA	**Warramunga Arr**	**22.23**	**162**	P	P	10 37 32.3	+1.0
	1.5nm,0.3s,baz=340,slow=11,SNR=65						
WB2	**Warramunga Arr**	**22.23**	**162**	*e*P	P	10 37 32.3	+1.0
ASPA	**Alice Springs**	**25.64**	**166**	*e*P	P	10 38 05.3	+0.9
ASAR	**Alice Springs**	**25.64**	**166**	P	P	10 38 04.7	+0.4
	1.7nm,0.3s,baz=346,slow=12,SNR=31						
ASAR				PcP	PcP	10 41 34.5	-0.6
	0.3nm,0.5s,baz=355,slow=2.1,SNR=7.6						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	10 42 40.5	+0.4
	1.3nm,0.6s,baz=121,slow=7.4,SNR=9.9						

*ISCJB **09** 10:33:35.0±2.2, 200S±0.1×176.1W±0.1, h171km±22km, mb4.0/11, Error ellipse: s-maj=17.5km s-min=14.9km az=102.7*
*NEIC **09** 10:33:37.5±1.7, 1983S×17608W, h185km±17km, mb4.5/5, Error ellipse: s-maj=18.3km s-min=11.8km az=146.0*
*IDC **09** 10:33:37.4±2.8, 1980S×176.12W, h180km±27km, mb3.7/9, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=24.5km s-min=14.1km az=149.0*
ISC 09 10:33:36.9±1.9, 199S±01×1761W±01, h175km±20km, n28, σ0$77/28, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**35**	P	**Pn**	**10 35 19.9**	**-0.2**
	3.8nm,0.3s,baz=27,slow=21,SNR=7.4						
AFI				S	**Sn**	**10 36 33.9**	**-7.8**
	5.2nm,0.3s,baz=93,slow=20,SNR=6.0						
DZM	**Mont Dzumac**	**16.49**	**259**	*e*P	**Pn**	**10 37 22.2**	**+4.1**
DZM	**Mont Dzumac**	**16.49**	**259**	P	**Pn**	**10 37 22.8**	**+4.6**
	3.6nm,0.3s,baz=78,slow=17,SNR=46						
URZ	**Urewera**	**19.21**	**197**	P	**P**	**10 37 47.6**	**+0.1**
	1.0nm,0.3s,baz=7.8,slow=18,SNR=4.9						
URZ				S	**S**	**10 41 09.5**	**-6.1**
	0.4nm,0.3s,baz=108,slow=19,SNR=4.2						
CTA	**Charters Tower**	**35.37**	**263**	*e*P	**P**	**10 40 16.1**	**+0.5**
	11nm,0.9s,mb4.5						
CTA	**Charters Tower**	**35.37**	**263**	P	**P**	**10 40 16.3**	**+0.7**
	8.4nm,0.5s,mb4.6,baz=90,slow=9.9,SNR=18						
CTAO	**Charters Tower**	**35.37**	**263**	*e*P	**P**	**10 40 16.1**	**+0.5**
	14nm,0.8s,mb4.6						
PMG	**Port Moresby**	**37.01**	**281**	P	**P**	**10 40 29.4**	**-0.2**
	4.2nm,0.8s,mb4.1,baz=38,slow=4.8,SNR=4.2						
PMG	**Port Moresby**	**37.01**	**281**	*e*P	**P**	**10 40 30.0**	**+0.5**
	15nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**39.69**	**244**	P	**P**	**10 40 53.0**	**+1.1**
	2.2nm,0.7s,mb3.9,baz=75,slow=7.8,SNR=3.1						
AS31	**Alice Springs**	**46.43**	**256**	*e*P	**P**	**10 41 46.2**	**+0.3**
ASAR	**Alice Springs**	**46.43**	**256**	P	**P**	**10 41 45.9**	**-0.1**
	8.3nm,0.8s,mb4.4,baz=102,slow=8.5,SNR=106						
ASPA	**Alice Springs**	**46.44**	**256**	*e*P	**P**	**10 41 46.2**	**+0.2**
WB2	**Warramunga Arr**	**46.48**	**261**	*e*P	**P**	**10 41 45.1**	**-1.2**
WRA	**Warramunga Arr**	**46.49**	**261**	P	**P**	**10 41 45.3**	**-1.1**
	2.7nm,0.5s,mb4.1,baz=101,slow=7.8,SNR=51						
KAKA	**Kakadu**	**49.80**	**270**	*e*P	**P**	**10 42 10.7**	**-1.0**
	6.5nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**54.92**	**261**	P	**P**	**10 42 50.7**	**+1.3**
	1.0nm,0.5s,mb3.8,baz=126,slow=19,SNR=3.4						
VNDA	**Vanda**	**58.65**	**185**	P	**P**	**10 43 16.4**	**+0.8**
	0.7nm,0.9s,mb3.5,baz=8.6,slow=6.5,SNR=5.1						
VNDA	**Vanda**	**58.65**	**185**	P	**P**	**10 43 16.4**	**+0.8**
NVAR	**Mina Array Bea**	**79.36**	**43**	P	**P**	**10 45 23.6**	**+0.4**
	0.6nm,0.6s,mb3.4,baz=224,slow=8.8,SNR=5.2						
TXAR	**Lajitas Array**	**85.21**	**57**	P	**P**	**10 45 54.2**	**+0.6**
	0.9nm,0.9s,mb3.5,baz=219,slow=7.6,SNR=9.4						
TXAR	**Lajitas Array**	**85.21**	**57**	P	**P**	**10 45 54.2**	**+0.6**
SNAA	**Sanae**	**88.53**	**178**	*e*	**P**	**10 46 08.3**	**-1.2**
SNAA				*e*		10 46 11.2	
SNAA				*e*		10 46 16.2	
SNAA				*e*		10 46 26.6	
SNAA	**Sanae**	**88.53**	**178**	*e*P	**P**	**10 46 08.3**	**-1.3**
	1.6nm,0.8s,mb4.0						
VNA2	**Neumayer--Watz**	**89.05**	**176**	*e*	**P**	**10 46 11.3**	**-0.7**
VNA2				*e*		10 46 14.1	
VNA2				*e*		10 46 18.7	
VNA2				*e*		10 46 28.6	
VNA2				*e*		10 46 41.3	
VNA1	**Neumayer--Stat**	**89.27**	**176**	*e*	**P**	**10 46 13.0**	**0.0**
VNA1				*e*		10 46 16.0	
VNA1				*e*		10 46 19.4	
VNA1				*e*		10 46 30.3	
VNA1				*e*		10 46 43.5	
BRTR	**Keskin Array B**	**147.78**	**314**	PKPbc	PKPbc	10 52 58.6	-2.3
	0.4nm,0.6s,baz=36,slow=2.7,SNR=4.1						
GERES	**GERESS Array B**	**150.10**	**347**	PKPbc	PKPbc	10 53 05.7	-1.0
	1.0nm,0.8s,baz=29,slow=2.2,SNR=1.7						

MAN 09 10:37:24.5, 1377N×11976E, h25km, mb1.7, ML3.5, MS2.7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.19**	**103**	⇑*i*P	Pn	10 37 42.6	-3.0

IDC 09 10:43:45.8±4.1, 2589S×12967E, h0km, mb1 3.4/4, mb1mx3.3/13, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=47.5km s-min=31.4km az=38.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**4.44**	**61**	Pn	Pn	10 44 55.6	+1.3
	0.4nm,0.3s,baz=244,slow=12,SNR=27						
ASAR				Pg	Pg	10 45 06.2	-4.7
	0.9nm,0.3s,baz=239,slow=17,SNR=16						
ASAR				Sn	Sn	10 45 47.1	+0.3
	2.0nm,0.3s,baz=245,slow=21,SNR=9.9						
ASAR				Lg		10 46 02.1	
	2.5nm,0.3s,baz=244,slow=26,SNR=10						
WRA	**Warramunga Arr**	**7.32**	**37**	Pn	Pn	10 45 34.5	+0.6
	0.3nm,0.3s,baz=213,slow=14,SNR=18						
WRA				Sn	Sn	10 46 54.9	-2.8
	0.6nm,

comp=Z,0.7nm,0.9s,baz=337,slow=3.4,SNR=2.9
WRA Warramunga Arr 71.33 200 P P 10 57 16.3 -1.1
comp=Z,0.4nm,0.7s,mb3.4,baz=16,slow=6.2,SNR=5.3
WRA pP pP 10 57 33.0 -5.7
comp=Z,0.6nm,0.7s,baz=14,slow=5.3,SNR=4.1
WRA Warramunga Arr 71.33 200 P P 10 57 16.3 -1.1
WRA *PP pP 10 57 33.0 -5.7
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 75.03 200 P P 10 57 38.4 -0.8
comp=Z,0.4nm,0.7s,mb3.3,baz=11,slow=5.3,SNR=9.6
TXAR Lajitas Array 75.19 62 P P 10 57 40.9 +0.8
comp=Z,0.4nm,0.6s,mb3.3,baz=295,slow=5.4,SNR=8.4
TXAR pP pP 10 57 57.3 -4.3
comp=Z,0.4nm,0.7s,baz=304,slow=5.3,SNR=4.7

BJI 09 10:54:58.5,724S×15177E,h35km,mB4.8,mb4.8,Ms4.6, Msz4.2
IDC 09 10:55:00.4±1.0,652S×15120E,h0km,mb4.3/9,mb1 4.6/9, mb1mx4.4/14,mbtmp4.3/9,MS3.4/9,Ms1 3.4/9, ms1mx3.2/25,Error ellipse: s-maj=34.0km s-min=16.5km az=112.0
NEIC 09 10:55:01.7±0.5,644S×15129E,h10km,mb4.8/8,Error ellipse: s-maj=15.1km s-min=8.2km az=120.0
ISCJB 09 10:55:03.0±3.5,652S±008×15130E±0.10,h27km±24km, mb4.5/19,MS3.7/12,Error ellipse: s-maj=17.7km s-min=11.9km az=58.8
MOS 09 10:55:03.3±1.2,651S×15136E,h33km,mb4.8/5,Error ellipse: s-maj=22.1km s-min=18.1km az=45.3
ISC 09 10:55:04.0±2.8,654S±007×1514E±01,h24km±19km, h44km±1.7km:pP-P,n45,σ1§00/42,mb4.5/19,MS3.7/12, 1C-1D,New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.06 235 Pn Pn 10 56 19.4 +1.1
2.8nm,0.3s,baz=63,slow=9.4,SNR=16
PMG Sn **Sn 10 57 16.4 +0.4**
11nm,0.3s,baz=145,slow=18,SNR=8.0
PMG Port Moresby 5.06 235 eP Pn 10 56 18.8 +0.5
PMG e 10 57 19.1
PMG pmax pmax
comp=Z,40nm,0.5s
PMG Port Moresby 5.06 235 ePn Pn 10 56 18.8 +0.5
comp=Z,40nm,0.5s
PMG eSn **Sn 10 57 19.1 +3.1**
HNR Honiara 8.96 109 LR LR 11 00 11.4
comp=Z,125nm,20.4s,baz=359,slow=34
CTA Charters Tower 14.36 200 LR LR 11 03 13.5
comp=Z,123nm,21.6s,baz=128,slow=34
KAKA Kakadu 19.65 250 eP Pn 10 59 30.8 -1.6
comp=Z,24nm,0.6s
GUMO Guam 21.01 342 LR LR 11 06 00.7
comp=Z,164nm,21.4s,MS3.4,baz=74,slow=32
DZM Mont Dzumac 21.22 138 LR LR 11 06 53.7
comp=Z,216nm,19.3s,MS3.5,baz=30,slow=33
WB2 Warramunga Arr 21.23 230 eP P 10 59 47.5 -0.7
WRA Warramunga Arr 21.24 230 P P 10 59 47.9 -0.4
comp=Z,9.9nm,0.7s,mb4.3,baz=36,slow=8.4,SNR=34
AS31 Alice Springs 23.92 223 eP P 11 00 15.8 -0.3
ASAR Alice Springs 23.92 223 P P 11 00 15.9 -0.1
comp=Z,8.3nm,0.7s,mb4.3,baz=57,slow=8.6,SNR=178
ASAR S **S 11 04 32.4 +1.2**
comp=Z,0.9nm,0.9s,baz=44,slow=20,SNR=4.8
ASPA Alice Springs 23.92 223 eP P 11 00 15.8 -0.3
STKA Stephens Creek 26.82 199 eP P 11 00 43.9 +1.5
comp=Z,6.9nm,1.0s,mb4.1
STKA e 11 00 53.1
STKA Stephens Creek 26.82 199 P P 11 00 42.0 -0.3
comp=Z,11nm,1.0s,mb4.3,baz=14,slow=10,SNR=12
STKA LR LR 11 09 55.0
comp=Z,94nm,19.5s,MS3.4,baz=205,slow=33
FITZ Fitzroy Crossi 27.60 243⇑iP P 11 00 49.1 -0.3
comp=Z,22nm,0.6s,mb5.0
FITZ Fitzroy Crossi 27.60 243 P P 11 00 49.2 -0.2
comp=Z,11nm,0.6s,mb4.7,baz=60,slow=7.7,SNR=36
FITZ LR LR 11 11 44.7
comp=Z,40nm,19.9s,MS3.0,baz=82,slow=37
RPZ Rata Peaks 40.87 158 LR LR 11 15 54.7
comp=Z,806nm,18.4s,MS4.6,baz=199,slow=31
MJAR Matsushiro Arr 44.59 345 LR LR 11 19 35.6
comp=Z,39nm,20.6s,MS3.3,baz=185,slow=33
KSRS Korea Array 48.94 335 LR LR 11 22 44.2
comp=Z,37nm,19.4s,MS3.4,baz=140,slow=34
NJ2 Nanjing 49.33 323 eP P 11 03 53.2 +2.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
KMI Kunming 56.81 306 P P 11 04 49.6 +3.3
KMI AP pP 11 05 02.2 +8.5
KMI XP sP 11 05 06.6 +10
KMI PP PP 11 06 56.2 +3.5
KMI PPP 11 08 15.2
KMI S **S 11 12 33.0 -5.2**
KMI XS sS 11 12 58.9 +8.6
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,45nm,4.4s
KMI LR LR
comp=N,85nm,28.8s,MS3.8
KMI LR LR
comp=E,91nm,29.4s,MS3.8
KMI LR LR
comp=Z,91nm,15.5s
KMI Kunming 56.81 306 P P 11 04 49.6 +3.3
KMI *PP pP 11 05 02.2 +8.5
KMI 11 06 56.2
KMI PPP 11 08 15.2
KMI S **S 11 12 33.0 -5.2**
KMI *SS sS 11 12 58.9 +8.6
KMI SS SS 11 16 21.8 -4.5
KMI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KMI Kunming 56.81 306 P P 11 04 49.6 +3.3
comp=Z,8.0nm,1.0s,mb4.7
KMI pP pP 11 05 02.2 +8.5
KMI sP sP 11 05 06.6 +10
KMI PP PP 11 06 56.2 +3.5
KMI PPP 11 08 15.2
KMI S **S 11 12 33.0 -5.2**
KMI sS sS 11 12 58.9 +8.6
KMI SS SS 11 16 21.8 -4.5
CD2 Chengdu 58.81 312 eP P 11 05 00.5 +0.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.8s
HHC Hu-ho-hao-te 59.65 326 eP P 11 05 08.3 +2.1
HHC AP pP 11 05 21.8 +8.2
HHC XP sP 11 05 27.2 +11
HHC PCP PcP 11 05 56.2 +3.1
HHC PP PP 11 07 23.0 +5.1
HHC SCP ScP 11 09 51.2 -1.3
HHC PCS PcS 11 09 56.1 +0.8
HHC S **S 11 13 13.6 -1.6**
HHC XS sS 11 13 34.6 +7.1
HHC SCS ScS 11 14 54.1 -0.9
HHC AMB AMB
comp=Z,14nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,144nm,5.9s
HHC LR LR
comp=N,186nm,17.7s,MS4.4
HHC LR LR
comp=E,143nm,18.4s,MS4.4
HHC LR LR
comp=Z,104nm,15.7s,MS4.1
LZH Lanzhou 61.51 317 eP P 11 05 17.6 -1.3
LZH AP pP 11 05 30.3 +4.0
LZH XP sP 11 05 35.6 +6.5
LZH ePP PP 11 07 35.2 +0.9
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,51nm,7.3s
LZH LR LR
comp=E,315nm,15.3s
LZH LR LR
comp=Z,442nm,18.1s,MS4.7
LZH Lanzhou 61.51 317 eP P 11 05 17.6 -1.3
LZH *PP pP 11 05 30.3 +4.0
LZH e 11 07 35.2
LZH pmax pmax
comp=Z,20nm,1.5s,mb5.0
LZH Lanzhou 61.51 317 eP P 11 05 17.6 -1.3
comp=Z,20nm,1.5s,mb5.0
LZH pP pP 11 05 30.3 +4.0
LZH sP sP 11 05 35.6 +6.5
LZH ePP PP 11 07 35.2 +0.9
SONM Songino Array 67.05 329 P P 11 05 54.6 -0.6
comp=Z,1.8nm,0.9s,mb4.1,baz=151,slow=4.4,SNR=10
ZAK Zakamensk 70.25 330 eP P 11 06 14.5 -0.6
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VNDA Vanda 71.16 178 P P 11 06 20.6 -0.1
comp=Z,1.2nm,0.9s,mb3.8,baz=338,slow=6.2,SNR=6.4
WMQ Urumqi 76.06 318 P P 11 06 50.0 +0.5
WMQ PCP PcP 11 07 02.5 +0.8
WMQ AP pP 11 07 03.0 +5.9
WMQ XP sP 11 07 08.5 +8.6
WMQ PP PP 11 09 42.5 +2.2
WMQ PPP 11 11 29.5
WMQ S S 11 16 28.0 -3.6
WMQ XS sS 11 16 50.5 +6.4
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,59nm,3.8s
WMQ LR LR
comp=N,34nm,23.8s,MS3.8
WMQ LR LR
comp=E,51nm,23.8s,MS3.8
WMQ LR LR
comp=Z,25nm,20.0s,MS3.5
MKAR Makanchi Array 80.70 319 P P 11 07 14.9 -0.2
comp=Z,1.1nm,0.8s,mb3.8,baz=90,slow=9.0,SNR=5.2
MKAR LR LR 11 43 31.0
comp=Z,20nm,19.1s,MS3.5,baz=176,slow=36
ZAL Zalesovo 81.82 327 P P 11 07 20.6 -0.5
comp=Z,1.2nm,0.5s,mb4.1,baz=58,slow=6.9,SNR=5.1
QSPA South Pole Qui 83.44 180 eP P 11 07 29.4 -0.1
comp=Z,7.0nm,0.9s,mb4.7
COLA College 83.98 22 eP P 11 07 31.5 -0.8
COLA pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
COLA College 83.98 22 eP P 11 07 31.4 -0.8
comp=Z,7.2nm,1.1s,mb4.7
AAK Ala-Archa 84.83 314 eP P 11 07 36.9 +0.3
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
AAK Ala-Archa 84.83 314 eP P 11 07 36.9 +0.3
comp=Z,3.2nm,0.7s,mb4.6
SYO Syowa Base 91.57 200⇓eP P 11 08 08.0 -0.8
NVAR Mina Array Bea 94.26 52 P P 11 08 22.9 +1.6
comp=Z,1.3nm,1.0s,mb4.3,baz=270,slow=8.4,SNR=5.0
ESDC Sonseca Array 140.25 330 PKP PKPdf 11 14 32.3 +1.6
comp=Z,0.6nm,0.3s,baz=53,slow=3.1,SNR=4.4
TOA0 Torodi Ar. Sit 149.44 285 ePKPbc PKPbc 11 14 51.4 +0.3
TORD Torodi Ar. Bea 149.44 285 PKPbc PKPbc 11 14 51.6 +0.6
comp=Z,4.6nm,0.7s,baz=70,slow=2.8,SNR=31

GUC 09 11:12:47.0±0.9,3142S×6844W,h92km±5km,MD3.6, ML2.9,1D,San Juan Province
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZON Zonda 0.24 239⇓iP Pn 11 13 01.1 +0.8
ZON iS Sn 11 13 10.8 +0.5
ZON AML AML 11 13 12.5
comp=N,463nm,0.6s
TLL Tololo Astrono 2.39 301 eP Pn 11 13 25.4 +1.1
TLL iS Sn 11 13 54.6 +1.7
TLL AML AML 11 14 06.3
comp=E,78nm,0.6s
FCH Farellones 2.46 219 eP Pn 11 13 26.3 +1.0
FCH iS Sn 11 13 57.1 +2.4
FCH AML AML 11 14 03.3
comp=E,42nm,0.2s
PEL Peldehue 2.56 227 eP Pn 11 13 27.4 +0.8
PEL iS Sn 11 13 57.7 +0.6
PEL AML AML 11 14 00.5
comp=N,122nm,0.4s
RCDM Rinconada Maip 2.87 223 eP Pn 11 13 31.3 +0.5

IDC 09 11:18:07.3±6.7,766S×11648E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=318.5km s-min=28.3km az=58.0,Bali Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 21.18 127 P P 11 22 54.9 +0.7
0.2nm,0.3s,baz=305,slow=11,SNR=9.1
ASAR Alice Springs 23.08 136 P P 11 23 14.6 +0.1
0.3nm,0.5s,baz=314,slow=8.9,SNR=8.1
SONM Songino Array 55.97 352 P P 11 27 47.5 +0.1
0.4nm,0.4s,baz=166,slow=8.8,SNR=4.1

IDC 09 11:18:26.5±1.2,3322S×17932W,h0km,mb4.1/5, mb1 4.4/8,mb1mx4.1/16,mbtmp4.2/8,ML4.1/3,MS3.7/9, Ms1 3.7/9,ms1mx3.4/31,Error ellipse: s-maj=31.4km s-min=22.9km az=138.0
ISCJB 09 11:18:27.7±1.0,3342S±006×179.1W±02,h35km,mb4.3/7, MS3.6/8,Error ellipse: s-maj=19.5km s-min=6.0km az=38.6
NEIC 09 11:18:27.9±0.6,3327S×17926W,h10km,mb4.6/4,Error ellipse: s-maj=13.5km s-min=9.1km az=113.0
ISC 09 11:18:30.5±0.8,3343S±005×1792W±01,h35km,n49, σ1§66/40,mb4.3/7,MS3.6/8,1D,South of Kermadec Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 4.30 15 Pn Pn 11 19 30.5 -2.9
45nm,0.3s,baz=342,slow=20,SNR=2.4
RAO Sn **Sn 11 20 21.0 -1.3**
157nm,0.3s,baz=105,slow=20,SNR=4.0
MWZ Matawai 5.58 208 eP Pn 11 19 51.3 +0.4
MWZ Matawai 5.58 208 PN Pn 11 19 51.3 +0.4
URZ Urewera 5.69 211 Pn Pn 11 19 54.1 +1.7
5.4nm,0.3s,baz=32,slow=6.0,SNR=41
URZ Sn **Sn 11 20 57.0 +0.5**
4.4nm,0.3s,baz=287,slow=19,SNR=3.0
URZ Urewera 5.69 211 eP Pn 11 19 53.3 +0.9
URZ Urewera 5.69 211 PN Pn 11 19 53.3 +0.9
URZ SN **Sn 11 20 56.2 -0.3**
WCZ Waipu Caves 5.90 243 eP Pn 11 19 57.1 +1.8
WCZ Waipu Caves 5.90 243 PN Pn 11 19 55.6 +0.3
KNZ Kokohu 6.13 204 PN Pn 11 19 58.9 +0.4
OUZ Omahuta 6.24 251 eP Pn 11 20 00.0 -0.1
OUZ Omahuta 6.24 251 PN Pn 11 20 00.0 0.0
BKZ Black Stump Fm 6.71 210 eP Pn 11 20 05.9 -0.6
BKZ Black Stump Fm 6.71 210 PN Pn 11 20 06.9 +0.4
MRZ Mangatainoka R 8.35 209 SN Sn 11 21 58.9 -3.1
CAW Cannon Point 8.93 209 PN Pn 11 20 33.6 -3.4
SNZO South Karori 9.25 210 PN Pn 11 20 37.7 -3.6
NNZ Nelson 9.78 215 ePN Pn 11 20 44.9 -3.6
QRZ Quartz Range 9.92 219 ePN Pn 11 20 47.0 -3.4
THZ Tophouse 10.42 215 ePN Pn 11 20 53.3 -4.1
KHZ Kahutara 10.65 211 eP Pn 11 20 56.2 -4.4
KHZ Kahutara 10.65 211 ePN Pn 11 20 56.1 -4.5
RPZ Rata Peaks 12.79 214 Pn Pn 11 21 22.4 -7.4
0.4nm,0.3s,baz=260,slow=15,SNR=4.5
RPZ Sn **Sn 11 23 41.0 -10**
0.6nm,0.3s,baz=61,slow=19,SNR=3.3
DZM Mont Dzumac 17.01 308 Pn Pn 11 22 23.3 -2.2
0.1nm,0.3s,baz=114,slow=19,SNR=4.7
DZM LR LR 11 27 42.7
comp=Z,494nm,18.4s,baz=25,slow=33
TBI Tubuai 27.92 77 eLQ 11 29 59.9
218nm,27.2s
TBI eLR LR 11 31 25.6
164nm,30.2s,baz=242
HNR Honiara 30.66 316 LR LR 11 35 14.1
comp=Z,70nm,19.9s,MS3.3,baz=179,slow=33
PPT Papeete 30.89 67 eLQ 11 31 21.4
204nm,23.2s
PPT eLR LR 11 32 42.0
166nm,29.8s
STKA Stephens Creek 32.94 262 LR LR 11 35 49.1
comp=Z,127nm,19.4s,MS3.6,baz=27,slow=32
CTA Charters Tower 33.44 285 P P 11 25 06.4 +0.5
1.3nm,0.5s,mb4.1,baz=228,slow=11,SNR=2.6
CTA LR LR 11 37 35.2
comp=Z,72nm,19.7s,MS3.4,baz=55,slow=34
CTAO Charters Tower 33.44 285 eP P 11 25 07.3 +1.4
6.7nm,1.0s,mb4.5
PMG Port Moresby 39.12 300 LR LR 11 39 50.5
comp=Z,166nm,18.5s,MS3.9,baz=61,slow=33
RKT Rikitea 40.00 87 eLR LR 11 37 04.7
156nm,30.0s
AS31 Alice Springs 42.05 271 eP P 11 26 20.4 +1.8
ASAR Alice Springs 42.05 271 P P 11 26 19.4 +0.8
1.9nm,0.5s,mb4.0,baz=110,slow=7.5,SNR=29
ASAR LR LR 11 44 03.2
comp=Z,94nm,18.2s,MS3.7,baz=283,slow=37
ASPA Alice Springs 42.05 271 eP P 11 26 20.4 +1.7
WB2 Warramunga Arr 43.30 276 eP P 11 26 28.5 -0.3
WB2 Warramunga Arr 43.30 276 eP P 11 26 30.1 +1.3
WRA Warramunga Arr 43.31 276 P P 11 26 28.3 -0.6
1.5nm,0.5s,mb4.0,baz=117,slow=7.9,SNR=31
WRA LR LR 11 45 07.3
comp=Z,54nm,18.6s,MS3.5,baz=90,slow=37
FITZ Fitzroy Crossi 51.43 273 eP P 11 27 32.9 +0.9
7.0nm,0.9s,mb4.6
FITZ Fitzroy Crossi 51.43 273 P P 11 27 32.8 +0.8
1.2nm,0.5s,mb4.0,baz=142,slow=15,SNR=3.8
FITZ LR LR 11 49 41.8
comp=Z,85nm,19.2s,MS3.8,baz=303,slow=37
QSPA South Pole Qui 56.69 180⇓iP P 11 28 14.8 +4.4
19nm,1.2s,mb5.0
GUMO Guam 57.98 318 LR LR 11 50 24.5
comp=Z,54nm,20.9s,MS3.6,baz=88,slow=33
SNAA Sanae 75.16 179 eP P 11 30 11.5 +2.3
9.4nm,1.3s,mb4.6
TXAR Lajitas Array 94.85 58 P P 11 31 50.9 +2.2
0.4nm,1.0s,mb3.8,baz=201,slow=4.8,SNR=3.0
ARCES ARCESS Array B 141.31 346 PKP PKPdf 11 37 57.7 +0.3
1.2nm,0.8s,baz=61,slow=4.1,SNR=3.1
FINES FINESS Array B 147.60 338 PKPbc PKPbc 11 38 10.4 -0.6
2.3nm,0.8s,baz=46,slow=4.5,SNR=11
NB2 NORSAR Subarra151.56 349 PKP PKPdf 11 38 21.2 +6.6
comp=Z,7.6nm,1.2s,baz=18,slow=4.1
NOA NORSAR Array B151.56 349 PKPbc PKPbc 11 38 21.4 +0.6
comp=Z,1.7nm,0.7s,baz=13,slow=4.0,SNR=5.0
TORD Torodi Ar. Bea 159.80 182 PKPab PKPab 11 39 06.8 +2.2
comp=Z,0.9nm,0.8s,baz=166,slow=3.8,SNR=5.1
CLL Collm 160.04 337 epPKPab pPKPab 11 39 11.0 -5.9

IDC 09 11:32:16.2±1.9,6080S×3403W,h0km,mb4.1/3, mb1 4.1/3,mb1mx3.9/10,mbtmp4.1/3,MS4.0/9,Ms1 3.9/9, ms1mx3.8/19,Error ellipse: s-maj=82.9km s-min=33.2km az=114.0,Scotia Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMSA Palmer Station 14.21 241 LR LR 11 40 04.4
comp=Z,434nm,19.7s,baz=172,slow=33
MAW Mawson 38.52 142 LR LR 11 53 55.6
comp=Z,156nm,18.4s,baz=213,slow=34
VNDA Vanda 41.58 185 P P 11 40 05.7 0.0
1.0nm,0.9s,baz=204,slow=5.6,SNR=4.7
BOSA Boshof 50.55 78 P P 11 41 16.9 +0.5
4.6nm,0.8s,baz=203,slow=6.9,SNR=5.6
BOSA LR LR 11 58 45.5
comp=Z,81nm,19.2s,baz=219,slow=31
ROSC El Rosal 72.58 318 LR LR 12 14 54.9
comp=Z,61nm,18.3s,baz=184,slow=35
TORD Torodi Ar. Bea 79.00 35 P P 11 44 22.5 +0.5
1.8nm,0.7s,baz=197,slow=6.6,SNR=11
TORD LR LR 12 12 30.3
comp=Z,68nm,19.2s,baz=260,slow=31
PPT Papeete 86.58 240 LR LR 12 17 50.6
comp=Z,139nm,18.1s,baz=136,slow=32
ASAR Alice Springs 95.27 169 LR LR 12 27 45.3
comp=Z,66nm,18.9s,baz=357,slow=35
WRA Warramunga Arr 99.00 169 LR LR 12 29 01.0
comp=Z,54nm,18.6s,baz=225,slow=34
FITZ Fitzroy Crossi 99.69 160 LR LR 12 28 43.3
comp=Z,96nm,21.1s,baz=218,slow=34
ZAL Zalesovo 147.42 74 PKPbc PKPbc 11 51 58.5 -3.5
0.8nm,0.3s,baz=14,slow=2.2,SNR=4.5
SONM Songino Array 153.99 102 PKPbc PKPbc 11 52 15.7 -2.0
0.4nm,0.9s,baz=321,slow=1.8,SNR=3.8
SONM PKPab PKPab 11 52 28.8 -2.2
0.9nm,1.0s,baz=224,slow=4.1,SNR=5.3

ISCJB 09 11:32:49.3±0.4,6279N±003×14963W±009,h94km±5km, mb3.9/4,Error ellipse: s-maj=6.8km s-min=5.3km az=156.4
NEIC 09 11:32:50.6,6278N×14961W,h75km,MG3.6(AEIC),After AEIC.
IDC 09 11:32:50.9±3.0,6252N×14920W,h110km±51km,mb3.5/4, mb1 3.6/7,mb1mx3.3/23,mbtmp3.5/7,MS3.2/3,Ms1 3.3/2, ms1mx2.5/42,Error ellipse: s-maj=67.2km s-min=17.8km az=129.0
ISC 09 11:32:50.4±0.4,6278N±003×14964W±009,h88km±5km, n36,σ0§65/40,mb3.9/4,Central Alaska
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRF Thorofare Moun 0.74 337 P Pn 11 33 06.7 -0.3
TRF S **Sn 11 33 19.1 -0.3**
KTH Kantishna Hill 0.97 324 P Pn 11 33 09.5 -0.1
KTH S **Sn 11 33 23.6 -0.4**
MCK McKinley 1.01 18 P Pn 11 33 09.8 -0.2
MCK S **Sn 11 33 24.2 -0.5**
GHO Glory Hole Cre 1.06 161 P Pn 11 33 10.4 -0.2
SML Sawmill 1.15 147 P Pn 11 33 11.4 -0.2
PMR Palmer 1.21 168 P Pn 11 33 12.3 -0.2
FIB Fire Island 1.64 189 P Pn 11 33 18.2 +0.4
RC01 Rabbit Creek A 1.69 182 P Pn 11 33 18.6 +0.1
COLA College 2.25 20 P Pn 11 33 25.8 0.0
SLKM Skilak Lake 2.29 187 P Pn 11 33 27.2 +0.8
IL1 Eielson Array 2.35 30 P Pn 11 33 26.9 -0.2
DIV Divide 2.47 130 P Pn 11 33 28.0 -0.7
DOT Dot Lake 2.67 68 P Pn 11 33 32.1 +0.6
SEW Seward 2.69 178 P Pn 11 33 32.4 +0.8
MENT Mentasta 2.72 84 eP Pn 11 33 33.0 +0.9
EYAK Cordova Ski Ar 2.91 139 P Pn 11 33 35.0 +0.5
TT01 Tatalina 2.93 275 P Pn 11 33 34.5 -0.3
BMRM Bremner River 3.00 125 P Pn 11 33 35.7 -0.1
SVW2 Sparrevohn 3.27 242 P Pn 11 33 39.6 +0.1
BCA3 Beaver Creek A 3.60 82 P Pn 11 33 44.1 +0.1
IMA2 Indian Mountai 3.74 334 eP Pn 11 33 46.4 +0.6
GCSA Galena City Sc 3.77 305 P Pn 11 33 47.2 +0.9
EGAK Eagle 4.27 58 P Pn 11 33 53.3 +0.3
COLD Coldfoot 4.47 357 P Pn 11 33 56.5 +0.7
DAWY Dawson 4.78 70 P Pn 11 34 00.2 +0.2
KDAK Kodiak Island 5.22 198 P Pn 11 34 05.0 -0.9
1.9nm,0.3s,baz=120,slow=22,SNR=55
KDAK S **Sn 11 35 01.2 -3.6**
3.9nm,0.3s,baz=172,slow=20,SNR=6.4
KDAK Kodiak Island 5.22 198 P Pn 11 34 04.8 -1.2
INK Inuvik 8.67 43 P Pn 11 34 53.3 +0.4
0.5nm,0.3s,baz=232,slow=17,SNR=52
INK S **Sn 11 36 24.1 -4.8**
1.3nm,0.3s,baz=158,slow=29,SNR=6.0
INK LR LR 11 38 16.8
comp=Z,44nm,18.5s,baz=144,slow=37
INK Inuvik 8.67 43 P Pn 11 34 53.3 +0.4
INK S **Sn 11 36 24.1 -4.8**
YKA Yellowknife Ar 15.99 75 P Pn 11 36 28.0 -2.1
0.1nm,0.3s,baz=284,slow=13,SNR=3.8
PDAR Pinedale Array 30.70 112 pP pP 11 39 17.1 +0.2
0.5nm,0.8s,baz=310,slow=7.4,SNR=4.4
ASAJ Asahikawa 42.15 277 LR LR 11 59 35.2
comp=Z,150nm,18.2s,baz=144,slow=38
ARCES ARCESS Array B 47.93 2 P P 11 41 19.8 -0.1
0.6nm,0.5s,mb3.7,baz=354,slow=8.5,SNR=6.2
SONM Songino Array 54.45 307 P P 11 42 09.7 +1.1
0.7nm,0.7s,mb3.8,baz=18,slow=6.2,SNR=6.2
BVAR Borovoye Array 60.33 333 P P 11 42 49.4 -0.6
1.4nm,0.6s,mb4.2,baz=38,slow=5.6,SNR=5.9
MKAR Makanchi Array 63.23 323 P P 11 43 08.6 -0.9
1.1nm,0.6s,mb4.0,baz=39,slow=6.0,SNR=13

NEIC 09 11:33:02.3±0.8,646S×15133E,h10km,mb4.3/5,Error ellipse: s-maj=26.7km s-min=9.8km az=119.0
ISCJB 09 11:33:08.7±4.0,65S±0.1×1510E±02,h60km±31km, mb4.0/8,Error ellipse: s-maj=38.8km s-min=20.4km az=37.0
IDC 09 11:33:10.2±6.0,647S×15103E,h62km±48km,mb3.8/8, mb1 4.0/9,mb1mx3.8/17,mbtmp3.8/9,ML3.1/1,Error

ellipse: s-maj=46.6km s-min=26.0km az=100.0

ISC 09 11:33:09.8±3.9, 65S×01×1511E±02, h58km±30km, n22, σ0$58/21, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**233**	P	**Pn**	**11 34 20.7**	**+0.7**
	5.2nm,0.3s,baz=38,slow=11,SNR=20						
PMG				S	**Sn**	**11 35 15.3**	**+0.6**
	5.9nm,0.3s,baz=144,slow=23,SNR=3.0						
PMG	**Port Moresby**	**4.83**	**233**	*e*Pn	**Pn**	**11 34 19.8**	**-0.2**
PMG				*e*Sn	**Sn**	**11 35 13.3**	**-1.4**
KAKA	**Kakadu**	**19.36**	**250**	*e*P	**Pn**	**11 37 31.9**	**-0.3**
	11nm,0.6s						
WRAB	**Tennant Creek**	**21.03**	**229**	*e*P	**P**	**11 37 48.7**	**+0.1**
	5.4nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	**P**	**11 37 49.1**	**+0.4**
WRA	**Warramunga Arr**	**21.04**	**229**	P	**P**	**11 37 49.0**	**+0.2**
	5.5nm,0.9s,mb3.9,baz=55,slow=10,SNR=17						
AS31	**Alice Springs**	**23.75**	**222**	*e*P	**P**	**11 38 15.6**	**-1.1**
ASAR	**Alice Springs**	**23.75**	**222**	P	**P**	**11 38 16.9**	**+0.2**
	2.0nm,0.6s,mb3.7,baz=55,slow=8.7,SNR=32						
ASPA	**Alice Springs**	**23.75**	**222**	*e*P	**P**	**11 38 17.3**	**+0.5**
STKA	**Stephens Creek**	**26.77**	**198**	*e*P	**P**	**11 38 44.3**	**+0.1**
	4.2nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**26.77**	**198**	P	**P**	**11 38 44.4**	**+0.3**
	3.9nm,0.5s,mb4.2,baz=11,slow=8.1,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	*e*P	**P**	**11 38 49.2**	**-0.1**
	9.6nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	P	**P**	**11 38 49.5**	**+0.2**
	4.3nm,0.6s,mb4.2,baz=55,slow=9.0,SNR=14						
SONM	**Songino Array**	**66.83**	**329**	P	**P**	**11 43 56.1**	**+0.6**
	0.7nm,0.6s,mb3.9,baz=145,slow=7.6,SNR=6.9						
MKAR	**Makanchi Array**	**80.45**	**320**	P	**P**	**11 45 15.3**	**0.0**
	0.8nm,0.8s,mb3.7,baz=95,slow=6.7,SNR=3.9						
AAK	**Ala-Archa**	**84.56**	**314**	*e*P	**P**	**11 45 37.4**	**+0.7**
	1.5nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**89.54**	**323**	P	**P**	**11 45 59.9**	**-0.9**
	0.2nm,0.3s,mb3.9,baz=81,slow=12,SNR=2.4						
INK	**Inuvik**	**90.63**	**21**	P	**P**	**11 46 05.2**	**-0.7**
	1.6nm,0.6s,mb4.5,baz=195,slow=5.1,SNR=11						
INK	**Inuvik**	**90.63**	**21**	P	**P**	**11 46 05.2**	**-0.7**
TOA0	**Torodi Ar. Sit**	**149.11**	**285**	*e*PKPbc	PKPbc	11 52 52.3	+0.8
TORD	**Torodi Ar. Bea**	**149.11**	**285**	PKPbc	PKPbc	11 52 52.5	+1.0
	2.0nm,0.6s,baz=64,slow=2.9,SNR=14						
TORD	**Torodi Ar. Bea**	**149.11**	**285**	PKPbc	PKPbc	11 52 52.5	+1.0

*NEIC **09** 11:33:44.6, 1861N×6860W, h152km, MD3.5(RSPR), After RSPR.*

RSPR 09 11:33:44.6, 1861N×6860W, h152km±2km, MD3.5/9, MD3.5/9, 7C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.42**	**95**	*e*P	Pn	11 34 13.7	+0.2
AGPR				*e*S	Sn	11 34 36.1	+0.6
LSP	**Las Mesas**	**1.50**	**106**	*e*P	Pn	11 34 14.3	+0.1
LSP				*e*S	Sn	11 34 37.1	+0.1
CRPR	**Cabo Rojo, PR**	**1.53**	**113**	*e*P	Pn	11 34 13.7	-1.0
CRPR				*e*S	Sn	11 34 38.2	+0.5
LRS	**Lares**	**1.69**	**100**	*e*P	Pn	11 34 16.1	-0.2
AOPR	**Arecibo Observ**	**1.77**	**98**	*e*P	Pn	11 34 16.9	-0.3
AOPR				*e*S	Sn	11 34 42.2	0.0
OBIP	**Obispado Ponce**	**1.97**	**106**	*e*P	Pn	11 34 19.5	0.0
OBIP				*e*S	Sn	11 34 47.1	+0.8
CELP	**Cerrillos**	**1.99**	**105**	*e*P	Pn	11 34 19.8	0.0
CELP				*e*S	Sn	11 34 47.2	+0.5
CBYP	**Canovanas**	**2.62**	**97**	*e*P	Pn	11 34 27.8	+0.5
CBYP				*e*S	Sn	11 35 01.1	+0.9
MTP	**Monte Pirata**	**2.94**	**99**	*e*P	Pn	11 34 31.8	+0.5
MTP				*e*S	Sn	11 35 08.1	+0.8

*NEIC **09** 11:34:22.4, 1580N×9403W, h35km, MD4.3(MEX), After MEX.*

MEX 09 11:34:22.4±0.7, 1580N×9405W, h16km±43km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.51**	**328**	*i* P	Pn	11 34 45.5	-3.4
CMIG				*i* S	Sn	11 35 03.0	-5.2
CCIG	**Comitan**	**1.91**	**75**	*i* P	Pn	11 34 51.3	-2.9
CCIG				*i* S	Sn	11 35 12.8	-5.1
CCIG	**Comitan**	**1.91**	**75**	*i* P	Pn	11 34 51.3	-2.9
CCIG				*i* S	Sn	11 35 11.8	-6.1
HUIG	**Huatulco**	**1.98**	**269**	*i* P	Pn	11 34 51.6	-3.6
HUIG				*i* S	Sn	11 35 14.8	-4.8
TUIG	**Tuzandepetl**	**2.25**	**351**	*i* P	Pn	11 34 55.1	-3.9
TUIG				*i* S	Sn	11 35 20.8	-5.7
TUIG	**Tuzandepetl**	**2.25**	**351**	*i* P	Pn	11 34 55.1	-3.9
TUIG				*i* S	Sn	11 35 19.5	-6.9
OXX	**Oaxaca**	**2.86**	**297**	*i* P	Pn	11 35 06.0	-1.4
OXX				*i* S	Sn	11 35 37.5	-4.0
OXX	**Oaxaca**	**2.86**	**297**	*i* P	Pn	11 35 06.8	-0.6
OXX				*i* S	Sn	11 35 30.5	-11
VHO	**Vista Hermosa**	**2.87**	**297**	*i* P	Pn	11 35 06.2	-1.2
VHO				*i* S	Sn	11 35 38.4	-3.2
TPIG	**Tehuac#an**	**4.10**	**310**	*i* P	Pn	11 35 23.5	-0.9
TPIG				*i* S	Sn	11 36 08.5	-3.5
UTMO	**Huajuapan**	**4.12**	**300**	*i* P	Pn	11 35 23.3	-1.4
UTMO				*i* S	Sn	11 36 07.9	-4.6
TEIG	**Tepich**	**7.04**	**50**	*i* P	Pn	11 35 59.1	-5.8
TEIG				*i* S	Sn	11 37 17.9	-6.7

*NEIC **09** 11:46:05.3, 4558N×2654E, h123km, MD2.5(SOF), MD3.6(BUC), After BUC.*
*ISCJB **09** 11:46:08.9±0.7, 4554N±003×2650E±005, h119km±6km, Error ellipse: s-maj=5.7km s-min=4.7km az=76.9*
*SOF **09** 11:46:08.6, 4541N×2635E, h10km, MD2.5*
*BUC **09** 11:46:09.1±0.7, 4554N×2649E, h120km±7km, MD4.0/2, Error ellipse: s-maj=5.3km s-min=4.0km az=353.0*
*CSEM **09** 11:46:09.2±0.2, 4557N×2646E, h109km±2km, MD3.8/2, Error ellipse: s-maj=3.6km s-min=2.6km az=14.0*

ISC 09 11:46:09.6±0.7, 4555N±003×2650E±005, h117km±6km, n31, σ0$82/52, 15C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.35**	**26**	*i* P	**Pn**	**11 46 26.7**	**+0.3**
VRI				*i* S	**Sn**	**11 46 39.3**	**+0.3**
VRI	**Vrincioaia**	**0.35**	**26**	*i* P	**Pn**	**11 46 26.8**	**+0.4**
VRI				*i* S	**Sn**	**11 46 39.3**	**+0.3**
MLR	**Muntele Rosu**	**0.40**	**262**	*i* P	**Pn**	**11 46 26.8**	**+0.2**
MLR				*i* S	**Sn**	**11 46 39.5**	**+0.1**
MLR	**Muntele Rosu**	**0.40**	**262**	*i* P	**Pn**	**11 46 26.5**	**+0.2**
MLR				*i* S	**Sn**	**11 46 39.5**	**+0.1**
SECR		**0.60**	**211**	*i* P	**Pn**	**11 46 28.5**	**+0.7**
SECR				*i* S	**Sn**	**11 46 42.5**	**+0.9**
GHRR		**0.81**	**51**	*i* P	**Pn**	**11 46 30.3**	**+0.7**
GHRR				*i* S	**Sn**	**11 46 45.4**	**+0.7**
TUDR		**0.82**	**86**	*i* P	**Pn**	**11 46 29.6**	**0.0**
TUDR				*i* S	**Sn**	**11 46 44.8**	**0.0**
VARR		**1.00**	**70**	*i* P	**Pn**	**11 46 32.0**	**+0.6**
VARR				*i* S	**Sn**	**11 46 48.3**	**+0.4**
VOIR		**1.03**	**264**	*i* P	**Pn**	**11 46 31.3**	**-0.3**
VOIR				*i* S	**Sn**	**11 46 47.2**	**-1.1**
ONCR	**Oncesti**	**1.06**	**30**	*i* P	**Pn**	**11 46 31.9**	**0.0**
MTUR	**Matau**	**1.06**	**253**	*i* P	**Pn**	**11 46 32.3**	**+0.3**
CFR	**Carcaliu**	**1.21**	**107**	*i* P	**Pn**	**11 46 33.6**	**+0.1**
CFR				*i* S	**Sn**	**11 46 50.8**	**-0.9**
BUC1	**Bucharest**	**1.25**	**196**	*i* P	**Pn**	**11 46 34.2**	**+0.3**
BUC1				*i* S	**Sn**	**11 46 52.0**	**-0.4**
BUC1	**Bucharest**	**1.25**	**196**	*i* P	**Pn**	**11 46 34.2**	**+0.3**
BUC1				*i* S	**Sn**	**11 46 52.0**	**-0.4**
TIRR	**Tirgusor**	**1.74**	**128**	*e*Pn	**Pn**	**11 46 39.7**	**+0.1**
TIRR				*e*Sn	**Sn**	**11 47 01.2**	**-1.4**
TIRR	**Tirgusor**	**1.74**	**128**	*e*Pn	**Pn**	**11 46 39.7**	**0.0**
TIRR	**Tirgusor**	**1.74**	**128**	*i* P	**Pn**	**11 46 40.0**	**+0.3**
TIRR				*e*Sn	**Sn**	**11 47 01.2**	**-1.4**
TIRR				*i* S	**Sn**	**11 47 02.0**	**-0.6**
IAS	**Iasi**	**1.80**	**24**	*i* S	**Sn**	**11 47 02.5**	**-1.4**
KIS	**Kishinev**	**2.16**	**47**	*i* S	**Sn**	**11 47 10.0**	**-2.0**
	400nm,1.0s						
PSN	**Preselentsi**	**2.22**	**147**	*e*P	**Pn**	**11 46 46.7**	**+1.1**
BURAR	**Bucovina Array**	**2.25**	**337**	*i* P	**Pn**	**11 46 47.3**	**+1.3**
BURAR	**Bucovina Array**	**2.25**	**337**	*i* P	**Pn**	**11 46 47.2**	**+1.2**
SZH	**Strazhica**	**2.32**	**190**	P	**Pn**	**11 46 46.6**	**-0.3**
SZH				S	**Sn**	**11 47 14.1**	**-1.4**
PRD	**Provadia**	**2.44**	**164**	P	**Pn**	**11 46 49.2**	**+0.8**
PRD				*e*S	**Sn**	**11 47 19.2**	**+1.0**
PVL	**Pavlikeni**	**2.48**	**200**	P	**Pn**	**11 46 50.0**	**+1.0**
PVL				S	**Sn**	**11 47 19.7**	**+0.5**
GZR	**Gura Zlata**	**2.63**	**268**	*i* P	**Pn**	**11 46 50.6**	**-0.3**
GZR				*i* S	**Sn**	**11 47 21.6**	**-1.0**
GZR	**Gura Zlata**	**2.63**	**268**	P	**Pn**	**11 46 50.6**	**-0.3**
GZR				S	**Sn**	**11 47 21.6**	**-1.1**
DRGR		**2.91**	**297**	*i* P	**Pn**	**11 46 54.7**	**+0.1**
DRGR		**2.91**	**297**	P	**Pn**	**11 46 54.7**	**+0.1**
JMB	**Yambol**	**3.08**	**179**	S	**Sn**	**11 47 30.8**	**-2.5**
RZN	**Rozhen**	**4.07**	**199**	*e*P	**Pn**	**11 47 10.2**	**+0.2**
RZN				*e*S	**Sn**	**11 47 56.7**	**-0.1**

*NIED **09** 11:51:00, 4660N×15340E, h11km, Mw4.3 Best double couple: M0 3.47000×10^15 NP1:φs=254.00000°, δ89.00000°, λ93.00000°. NP2:φs=357.00000°, δ3.00000°, λ13.00000°.*
*ISCJB **09** 11:51:53.5±2.0, 4629N±009×1532E±01, h22km±15km, mb4.1/19, Error ellipse: s-maj=18.2km s-min=7.5km az=111.9*
*MOS **09** 11:51:55.7±0.8, 4637N×15318E, h41km, mb4.2/13, Error ellipse: s-maj=16.8km s-min=13.0km az=73.9*
*IDC **09** 11:51:59.1±4.2, 4635N×15324E, h53km±38km, mb3.7/15, mb1 3.8/17, mb1mx3.7/27, mbtmp3.7/17, ML3.8/2, Error ellipse: s-maj=20.8km s-min=18.1km az=114.0*

ISC 09 11:51:56.5±2.1, 4633N±009×1533E±01, h30km±15km, n55, σ1$31/63, mb4.1/19, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**256**	*i*P	**Pn**	**11 52 53.0**	**-1.6**
KUR				*e*S	**Sn**	**11 53 38.5**	**-1.1**
KUR				pmax	pmax		
	comp=N,130nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,210nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.76**	**23**	*e*PN	**Pn**	**11 53 06.1**	**0.0**
NEM2	**Nemuro 2**	**6.10**	**244**	P	**Pn**	**11 53 23.0**	**-1.6**
NEM2				*e*S	**Sn**	**11 54 29.3**	**-4.1**
JRA	**Rausu**	**6.23**	**250**	P	**Pn**	**11 53 27.2**	**+0.9**
JNK	**Nakash**	**6.64**	**249**	P	**Pn**	**11 53 32.4**	**+0.4**
JAK	**Akkeshi**	**6.95**	**244**	P	**Pn**	**11 53 34.6**	**-1.6**
JAK				*e*S	**Sn**	**11 54 50.8**	**-3.4**
JTKR	**Abashiri--Toko**	**7.01**	**254**	P	**Pn**	**11 53 38.7**	**+1.6**
JMP	**Maruseppu**	**7.37**	**255**	P	**Pn**	**11 53 44.2**	**+2.3**
JAR	**Ashorobuto**	**7.39**	**249**	P	**Pn**	**11 53 42.7**	**+0.5**
JAR				*e*S	**Sn**	**11 55 05.8**	**+0.7**
JKK2	**Kamakawa 2**	**7.83**	**255**	P	**Pn**	**11 53 50.2**	**+2.0**
ASAJ	**Asahikawa**	**7.84**	**257**	P	**Pn**	**11 53 51.0**	**+2.6**
	comp=E,13nm,0.3s,baz=239,slow=13,SNR=9.5						
ASAJ	**Asahikawa**	**7.84**	**257**	P	**Pn**	**11 53 51.3**	**+2.9**
ASAJ	**Asahikawa**	**7.84**	**257**	PN	**Pn**	**11 53 51.0**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.99**	**246**	P	**Pn**	**11 53 49.7**	**-0.7**
JCH				*e*S	**Sn**	**11 55 14.6**	**-5.1**
JNBK	**Urakawa-nobuka**	**8.54**	**245**	P	**Pn**	**11 53 57.2**	**-0.9**
JNBK				*e*S	**Sn**	**11 55 27.0**	**-6.4**
JKB	**Kayabe**	**9.84**	**248**	P	**Pn**	**11 54 14.5**	**-1.4**
JANG	**Nango**	**10.41**	**239**	P	**Pn**	**11 54 19.4**	**-4.2**
JANG				*e*S	**Sn**	**11 56 08.8**	**-10**
JTM	**Tenmabayashi**	**10.43**	**242**	P	**Pn**	**11 54 21.6**	**-2.3**
JTM				*e*S	**Sn**	**11 56 11.1**	**-8.6**
OFUJ	**Ofunato**	**11.18**	**234**	*e*S	**Sn**	**11 56 27.6**	**-10**
JIO	**Ouri**	**11.79**	**232**	*e*S	**Sn**	**11 56 40.5**	**-13**
MJAR	**Matsushiro Arr**	**14.90**	**234**	P	**Pn**	**11 55 25.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=43,slow=9.3,SNR=4.7						
KSRS	**Korea Array**	**20.77**	**254**	P	**P**	**11 56 36.8**	**+2.0**
	comp=Z,1.7nm,0.6s,baz=54,slow=10,SNR=5.4						
SONM	**Songino Array**	**31.56**	**290**	P	**P**	**11 58 15.7**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=83,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**31.56**	**290**	P	**P**	**11 58 15.7**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**32.94**	**296**	*e*P	**P**	**11 58 28.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
INK	**Inuvik**	**41.96**	**32**	P	**P**	**11 59 44.2**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=174,slow=32,SNR=13						
INK	**Inuvik**	**41.96**	**32**	P	**P**	**11 59 44.2**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**	**11 59 50.9**	**-1.7**
	comp=Z,0.8nm,0.4s,mb3.8,baz=77,slow=7.9,SNR=3.5						
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**	**11 59 50.9**	**-1.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**12 00 26.2**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=70,slow=7.2,SNR=12						
MKAR				PcP	PcP	12 01 58.2	+0.7
	comp=Z,0.5nm,0.7s,baz=82,slow=2.3,SNR=3.5						
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**12 00 26.3**	**-0.2**
MKAR						12 01 58.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.20**	**310**	P	**P**	**12 00 56.2**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=54,slow=6.5,SNR=8.3						
BVAR	**Borovoye Array**	**51.20**	**310**	P	**P**	**12 00 56.2**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GUN	**Gumba**	**55.13**	**275**	*e*P	**P**	**12 01 28.3**	**+2.4**
	comp=Z,5.1nm,0.3s,mb5.1						
KKN	**Kakani**	**55.62**	**276**	*e*P	**P**	**12 01 31.7**	**+2.3**
	comp=Z,4.9nm,0.3s,mb5.0						
GKN	**Gorkha**	**55.93**	**276**	*e*P	**P**	**12 01 33.8**	**+2.2**
	comp=Z,12nm,0.6s,mb5.1						
KOLN	**Koldanda**	**56.79**	**277**	*e*P	**P**	**12 01 39.7**	**+1.9**
	comp=Z,16nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**58.28**	**341**	P	**P**	**12 01 48.0**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=22,slow=7.1,SNR=6.8						
ARCES	**ARCESS Array B**	**58.28**	**341**	P	**P**	**12 01 48.0**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.46**	**335**	P	**P**	**12 02 29.3**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.4,baz=33,slow=8.2,SNR=12						
FINES	**FINESS Array B**	**64.46**	**335**	P	**P**	**12 02 29.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**64.92**	**54**	P	**P**	**12 02 33.6**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.4,baz=305,slow=5.2,SNR=3.7						
WRA	**Warramunga Arr**	**68.14**	**199**	P	**P**	**12 02 53.9**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.4,baz=25,slow=7.0,SNR=3.5						
WRA	**Warramunga Arr**	**68.14**	**199**	P	**P**	**12 02 53.9**	**+0.3**
NB2	**NORSAR Subarra**	**68.66**	**341**	P	**P**	**12 02 56.7**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**12 02 56.1**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=27,slow=6.5,SNR=5.7						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**12 02 56.1**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**68.89**	**340**	P	**P**	**12 02 57.7**	**-0.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=46,slow=4.9,SNR=10						
HFS	**Hagfors**	**68.89**	**340**	P	**P**	**12 02 57.7**	**-0.6**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**71.84**	**199**	P	**P**	**12 03 15.7**	**-0.6**
	comp=Z,0.9nm,1.1s,mb3.6,baz=12,slow=5.8,SNR=4.4						
ASAR	**Alice Springs**	**71.84**	**199**	P	**P**	**12 03 15.7**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**12 03 16.6**	**-0.4**
	comp=Z,1.5nm,0.4s,mb4.3,baz=33,slow=6.2,SNR=7.6						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**12 03 16.6**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TXAR	**Lajitas Array**	**77.62**	**61**	P	**P**	**12 03 49.1**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=296,slow=4.4,SNR=9.7						
TXAR	**Lajitas Array**	**77.62**	**61**	P	**P**	**12 03 49.2**	**-0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **09** 11:52:38.6, 1639N×9461W, h85km, MD4.0(MEX), After MEX.*

MEX 09 11:52:38.6±1.4, 1639N×9461W, h85km±20km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.75**	**339**	*e*P	Pn	11 52 54.1	-1.0
CMIG				*i* S	Sn	11 53 06.2	-1.2
HUIG	**Huatulco**	**1.57**	**247**	*i* P	Pn	11 53 03.0	-2.0
HUIG				*i* S	Sn	11 53 23.5	-1.4
TUIG	**Tuzandepetl**	**1.64**	**6**	*i* P	Pn	11 53 04.2	-1.7
TUIG				*i* S	Sn	11 53 24.5	-2.2
OXX	**Oaxaca**	**2.14**	**289**	*i* P	Pn	11 53 12.7	+0.2
OXX				*i* S	Sn	11 53 36.0	-2.4
VHO	**Vista Hermosa**	**2.15**	**289**	*i* P	Pn	11 53 12.7	+0.1
VHO				*i* S	Sn	11 53 38.0	-0.5
CCIG	**Comitan**	**2.37**	**92**	*i* P	Pn	11 53 16.5	+0.9
CCIG				*i* S	Sn	11 53 41.9	-2.1
UTMO	**Huajuapan**	**3.38**	**296**	*i* P	Pn	11 53 28.6	-0.4
UTMO				*i* S	Sn	11 54 06.0	-2.1
TEIG	**Tepich**	**7.12**	**57**	*i* P	Pn	11 54 19.9	-0.1
TEIG				*i* S	Sn	11 55 35.5	-3.9

*ISCJB **09** 12:01:21.5±2.3, 4734N±002×1542E±03, h49km±17km, mb3.9/7, Error ellipse: s-maj=40.5km s-min=16.4km az=80.0*
*MOS **09** 12:01:22.4±1.1, 4736N×15397E, h55km, mb4.1/6, Error ellipse: s-maj=32.2km s-min=20.5km az=80.6*
*IDC **09** 12:01:27.0±6.0, 4724N×15396E, h79km±53km, mb3.5/8, mb1 3.6/9, mb1mx3.4/24, mbtmp3.5/9, ML3.4/1, Error ellipse: s-maj=36.3km s-min=28.6km az=79.0*

ISC 09 12:01:23.6±2.1, 4734N±002×1542E±03, h54km±15km, n16, σ0$77/16, mb3.9/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.58**	**20**	*e*PN	**Pn**	**12 02 16.5**	**-0.1**
SKR				*e*		12 02 57.5	
ASAJ	**Asahikawa**	**8.75**	**253**	P	**Pn**	**12 03 27.4**	**0.0**
	0.5nm,0.3s,baz=75,slow=16,SNR=4.5						
ASAJ	**Asahikawa**	**8.75**	**253**	PN	**Pn**	**12 03 27.4**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.70**	**253**	P	**P**	**12 06 10.8**	**+0.9**
	comp=Z,2.8nm,1.0s,mb3.6,baz=50,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**47.35**	**297**	P	**P**	**12 09 50.6**	**-1.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=72,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**47.35**	**297**	P	**P**	**12 09 50.6**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**12 10 19.9**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=28,slow=5.9,SNR=5.8						
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**12 10 19.9**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**12 11 50.3**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=41,slow=8.8,SNR=9.6						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**12 11 50.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.93**	**342**	P	**P**	**12 12 17.9**	**+1.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=6.3,SNR=4.0						
NOA	**NORSAR Array B**	**67.93**	**342**	P	**P**	**12 12 17.9**	**+1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.49**	**327**	P	**P**	**12 12 38.9**	**+0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=32,slow=6.3,SNR=5.5						
AKASG	**Malin Array Be**	**71.49**	**327**	P	**P**	**12 12 38.9**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.00**	**199**	P	**P**	**12 12 47.0**	**-0.5**
	comp=Z,0.5nm,0.9s,mb3.4,baz=19,slow=3.8,SNR=4.2						
ASAR	**Alice Springs**	**73.00**	**199**	P	**P**	**12 12 47.0**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC 09 12:03:01.0±2.9, 624S×15109E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=110.5km s-min=37.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**231**	P	Pn	12 04 19.3	+1.9
	1.4nm,0.3s,baz=51,slow=2.1,SNR=8.1						
PMG				S	Sn	12 05 17.0	+1.1
	2.5nm,0.3s,baz=356,slow=18,SNR=7.9						
KAKA	**Kakadu**	**19.48**	**249**	*e*P	Pn	12 07 31.7	+1.2
	5.6nm,0.6s						
**WB2

PMG				S		**Sn**	**12 25 15.6**	**+0.7**
	6.7nm,0.3s,baz=166,slow=19,SNR=7.6							
HNR	**Honiara**	**9.15**	**109**	LR	LR		12 28 11.8	
	comp=Z,101nm,20.0s,baz=358,slow=33							
CTA	**Charters Tower**	**14.34**	**199**	LR	LR		12 31 24.1	
	comp=Z,53nm,19.3s,baz=34,slow=35							
KAKA	**Kakadu**	**19.49**	**250**	*eP*	**Pn**		**12 27 30.6**	**-1.2**
	8.4nm,0.6s							
GUMO	**Guam**	**20.91**	**343**	LR	LR		12 33 46.1	
	comp=Z,61nm,19.8s,MS3.0,baz=94,slow=30							
WRAB	**Tennant Creek**	**21.12**	**229**	*eP*	**P**		**12 27 47.4**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.2							
WRAB	**Tennant Creek**	**21.12**	**229**	*eP*	**P**		**12 27 47.4**	**-0.5**
	comp=Z,14nm,1.1s,mb4.2							
WB2	**Warramunga Arr**	**21.12**	**229**	*eP*	**P**		**12 27 47.3**	**-0.6**
WB2	**Warramunga Arr**	**21.12**	**229**	*eP*	**P**		**12 27 48.1**	**+0.2**
WRA	**Warramunga Arr**	**21.13**	**229**	P	**P**		**12 27 47.4**	**-0.6**
	comp=Z,5.6nm,0.9s,mb3.9,baz=53,slow=10,SNR=22							
DZM	**Mont Dzumac**	**21.38**	**138**	LR	LR		12 34 31.4	
	comp=Z,166nm,19.0s,MS3.5,baz=209,slow=32							
AS31	**Alice Springs**	**23.83**	**222**	*eP*	**P**		**12 28 15.8**	**+0.1**
ASAR	**Alice Springs**	**23.83**	**222**	P	**P**		**12 28 15.7**	**-0.1**
	comp=Z,3.2nm,0.7s,mb3.9,baz=55,slow=9.2,SNR=48							
ASPA	**Alice Springs**	**23.83**	**222**	*eP*	**P**		**12 28 15.6**	**-0.1**
STKA	**Stephens Creek**	**26.80**	**198**	P	**P**		**12 28 43.7**	**+1.0**
	comp=Z,3.0nm,0.8s,mb3.9,baz=15,slow=14,SNR=6.4							
STKA	**Stephens Creek**	**26.80**	**198**	*eP*	**P**		**12 28 43.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.46**	**243**	*eP*	**P**		**12 28 48.5**	**-0.1**
	comp=Z,9.2nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	P	**P**		**12 28 48.2**	**-0.3**
	comp=Z,6.0nm,0.7s,mb4.2,baz=97,slow=8.9,SNR=12							
KSRS	**Korea Array**	**48.81**	**335**	LR	LR		12 50 53.0	
	comp=Z,32nm,20.4s,MS3.3,baz=152,slow=34							
SONM	**Songino Array**	**66.91**	**329**	P	**P**		**12 33 55.3**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=146,slow=3.5,SNR=5.9							
ZAK	**Zakamensk**	**70.11**	**330**	*eP*	**P**		**12 34 14.3**	**0.0**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.0							
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**		**12 35 15.2**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=91,slow=5.9,SNR=5.0							
ZAL	**Zalesovo**	**81.68**	**327**	P	**P**		**12 35 19.9**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=26,slow=4.7,SNR=3.3							
QSPA	**South Pole Qui**	**83.48**	**180**	*eP*	**P**		**12 35 29.8**	**+0.2**
	comp=Z,3.7nm,0.2s,mb5.1							
COLA	**College**	**84.00**	**22**	*eP*	**P**		**12 35 29.0**	**-3.3**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.7							
COLA	**College**	**84.00**	**22**	*eP*	**P**		**12 35 29.0**	**-3.3**
	comp=Z,2.7nm,0.5s,mb4.6							
AAK	**Ala-Archa**	**84.66**	**314**	*eP*	**P**		**12 35 35.7**	**+0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**84.66**	**314**	*eP*	**P**		**12 35 35.7**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.2							
TORD	**Torodi Ar. Bea**	**149.25**	**285**	PKPbc	PKPbc		12 42 51.5	+1.2
	comp=Z,1.6nm,0.7s,baz=61,slow=2.4,SNR=12							
TORD	**Torodi Ar. Bea**	**149.25**	**285**	PKPbc	PKPbc		12 42 51.5	+1.2

*ISCJB **09** 13:03:36.5±0.6, 643S±0.10×1513E±0.1, h10km, mb4.3/14, MS3.2/6, Error ellipse: s-maj=18.7km s-min=8.6km az=79.9*
*IDC **09** 13:03:36.5±1.0, 644S×15130E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, ML3.0/1, MS3.2/8, Ms1 3.2/8, ms1mx3.1/20, Error ellipse: s-maj=32.6km s-min=18.2km az=110.0*
*NEIC **09** 13:03:37.8±0.5, 642S×15132E, h10km, mb4.7/7, Error ellipse: s-maj=16.3km s-min=8.6km az=123.0*
*MOS **09** 13:03:39.7±0.5, 647S×15133E, h33km, mb4.5/5, Error ellipse: s-maj=29.9km s-min=24.0km az=64.9*

ISC 09 13:03:36.8±5.2, 645S±010×1514E±01, h3km±32km, n35, σ0§71/31, mb4.3/14, MS3.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.09**	**235**	Pn	**Pn**	**13 04 55.3**	**+1.3**
	3.9nm,0.3s,baz=53,slow=6.3,SNR=21						
PMG				Sn	**Sn**	**13 05 53.7**	**+0.4**
	12nm,0.3s,baz=4.5,slow=19,SNR=8.7						
PMG				LR	LR	13 06 42.8	
	comp=Z,107nm,20.3s,baz=310,slow=37						
PMG	**Port Moresby**	**5.09**	**235**	Pn	**Pn**	**13 04 55.3**	**+1.3**
PMG				Sn	**Sn**	**13 05 53.8**	**+0.4**
CTA	**Charters Tower**	**14.44**	**200**	LR	LR	13 10 31.5	
	comp=Z,20nm,22.0s,baz=177,slow=29						
KAKA	**Kakadu**	**19.66**	**250**	*eP*	**Pn**	**13 08 06.7**	**-1.4**
	24nm,0.6s						
GUMO	**Guam**	**20.93**	**342**	LR	LR	13 14 47.5	
	comp=Z,63nm,21.2s,MS3.0,baz=152,slow=32						
WRAB	**Tennant Creek**	**21.27**	**229**	*eP*	**P**	**13 08 24.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**21.27**	**229**	*eP*	**P**	**13 08 24.3**	**0.0**
	comp=Z,15nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**21.28**	**229**	*eP*	**P**	**13 08 24.2**	**-0.1**
WRA	**Warramunga Arr**	**21.29**	**229**	P	**P**	**13 08 24.0**	**-0.4**
	comp=Z,10nm,0.6s,mb4.3,baz=53,slow=10,SNR=35						
DZM	**Mont Dzumac**	**21.29**	**138**	LR	LR	13 15 18.5	
	comp=Z,130nm,19.8s,MS3.3,baz=238,slow=33						
AS31	**Alice Springs**	**23.97**	**223**	*eP*	**P**	**13 08 52.1**	**-0.3**
ASAR	**Alice Springs**	**23.97**	**223**	P	**P**	**13 08 52.2**	**-0.2**
	comp=Z,6.7nm,0.5s,mb4.3,baz=57,slow=8.7,SNR=160						
ASAR				LR	LR	13 19 11.7	
	comp=Z,52nm,18.4s,MS3.0,baz=260,slow=39						
ASPA	**Alice Springs**	**23.98**	**223**	*eP*	**P**	**13 08 52.1**	**-0.3**
STKA	**Stephens Creek**	**26.89**	**199**	*eP*	**P**	**13 09 20.9**	**+2.0**
	comp=Z,5.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**26.89**	**199**	P	**P**	**13 09 20.1**	**+1.2**
	comp=Z,8.9nm,0.8s,mb4.4,baz=8.3,slow=10,SNR=16						
STKA				LR	LR	13 18 54.6	
	comp=Z,71nm,19.4s,MS3.2,baz=205,slow=34						
STKA	**Stephens Creek**	**26.89**	**199**	*eP*	**P**	**13 09 21.3**	**+2.4**
FITZ	**Fitzroy Crossi**	**27.63**	**243**	*eP*	**P**	**13 09 25.4**	**-0.1**
	comp=Z,20nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.63**	**243**	P	**P**	**13 09 25.1**	**-0.4**
	comp=Z,12nm,0.7s,mb4.7,baz=56,slow=8.0,SNR=48						
FITZ				LR	LR	13 22 00.2	
	comp=Z,39nm,18.0s,MS3.0,baz=147,slow=40						
RPZ	**Rata Peaks**	**40.95**	**158**	LR	LR	13 25 40.8	
	comp=Z,138nm,20.6s,MS3.8,baz=347,slow=32						
SONM	**Songino Array**	**66.97**	**329**	P	**P**	**13 14 31.6**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=146,slow=4.2,SNR=13						
ZAK	**Zakamensk**	**70.17**	**330**	*eP*	**P**	**13 14 50.9**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
VNDA	**Vanda**	**71.25**	**178**	P	**P**	**13 14 56.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=347,slow=5.6,SNR=7.1						
VNDA	**Vanda**	**71.25**	**178**	*eP*	**P**	**13 14 56.8**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**71.25**	**178**	*eP*	**P**	**13 14 56.8**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**13 15 50.8**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=102,slow=7.9,SNR=5.9						
ZAL	**Zalesovo**	**81.74**	**327**	P	**P**	**13 15 56.6**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=327,slow=6.3,SNR=4.9						
MAW	**Mawson**	**83.51**	**203**	*eP*	**P**	**13 16 05.4**	**-0.6**
QSPA	**South Pole Qui**	**83.52**	**180**	*eP*	**P**	**13 16 05.7**	**-0.4**
	comp=Z,2.8nm,0.4s,mb4.8						
COLA	**College**	**83.91**	**22**	*eP*	**P**	**13 16 07.3**	**-0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
COLA	**College**	**83.91**	**22**	*eP*	**P**	**13 16 07.3**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**84.76**	**314**	*eP*	**P**	**13 16 12.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**84.76**	**314**	*eP*	**P**	**13 16 12.8**	**+0.4**
	comp=Z,3.2nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**94.22**	**52**	P	**P**	**13 16 58.2**	**+1.0**
	comp=Z,0.5nm,0.6s,mb4.1,baz=264,slow=4.0,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**149.40**	**285**	PKPbc	PKPbc	13 23 27.6	+0.4
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKPbc	PKPbc	13 23 27.6	+0.4
	comp=Z,4.5nm,0.6s,baz=68,slow=2.8,SNR=29						

IDC 09 13:15:28.3±2.8, 650S×15147E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML2.1/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/18, Error ellipse: s-maj=107.0km s-min=38.2km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**236**	Pn	Pn	13 16 49.0	+2.3
	0.5nm,0.3s,baz=59,slow=7.1,SNR=5.3						
PMG				Sn	Sn	13 17 46.2	-0.7
	2.2nm,0.3s,baz=319,slow=19,SNR=4.5						
KAKA	**Kakadu**	**19.75**	**250**	*eP*	Pn	13 20 00.5	-0.6
	12nm,1.5s						
WB2	**Warramunga Arr**	**21.33**	**230**	*eP*	P	13 20 17.2	+0.4
WRA	**Warramunga Arr**	**21.34**	**230**	P	P	13 20 16.8	-0.1
	1.7nm,0.7s,baz=55,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.01**	**223**	P	P	13 20 45.1	+0.3
	1.3nm,0.5s,baz=56,slow=8.8,SNR=48						
ASPA	**Alice Springs**	**24.01**	**223**	*eP*	P	13 20 44.9	+0.1
FITZ	**Fitzroy Crossi**	**27.70**	**243**	*eP*	P	13 21 18.1	-0.1
	3.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.70**	**243**	P	P	13 21 18.2	+0.1
	2.3nm,0.6s,baz=54,slow=4.8,SNR=9.7						
AFI	**Afiamalu**	**36.87**	**104**	LR	LR	13 34 15.9	
	comp=Z,235nm,18.6s,baz=176,slow=31						
TORD	**Torodi Ar. Bea**	**149.52**	**285**	PKPbc	PKPbc	13 35 20.4	+0.9
	0.4nm,0.3s,baz=65,slow=3.3,SNR=5.8						

GUC 09 13:20:36.7±0.4, 3450S×7009W, h21km±2km, MD3.6, ML1.5,1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.33**	**303**	⇓*iP*	Pb	13 20 43.9	-0.1
CICH				*iS*	Sb	13 20 48.9	+0.1
CACH	**El Canelo**	**0.57**	**312**	⇑*iP*	Pb	13 20 47.6	-0.4
CACH				*iS*	Sb	13 20 55.8	+0.1
LMEL	**Las Melosas**	**0.66**	**351**	*eP*	Pb	13 20 49.6	+0.1
LMEL				*iS*	Sb	13 20 58.9	+0.8
LMEL				AML	AML	13 21 07.6	
	comp=N,53nm,0.1s						
CHCH	**Chadas Angostu**	**0.73**	**320**	*eP*	Pb	13 20 50.5	-0.3
CHCH				*iS*	Sb	13 21 01.3	+0.9
LNV	**Longovilo**	**1.22**	**296**	⇓*iP*	Pn	13 20 58.6	+0.1
LNV				*iS*	Sb	13 21 15.6	+1.1

*STR **09** 13:30:00.0±1.0, 4256N×246W, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM 09 13:30:02.5±0.2, 4285N×252W, h15km, mb4.1/1, Error ellipse: s-maj=5.4km s-min=3.0km az=173.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECRI	**Cripan**	**0.24**	**178**	Pg	Pg	13 30 01.6	-6.2
	36nm,0.4s,SNR=7.9						
ECRI				Lg		13 30 05.3	
	86nm,0.4s,SNR=7.9						
EARA	**Aranguren**	**0.70**	**96**	Pg	Pg	13 30 16.6	+0.5
	8.5nm,0.3s,SNR=5.1						
EARA				Lg		13 30 26.9	
	124nm,0.6s,SNR=12						
IUSE	**Utxeti**	**0.72**	**82**	Pg	Pg	13 30 15.3	-1.3
	3.0nm,0.3s,SNR=7.9						
IUSE				Lg		13 30 27.3	
	45nm,0.6s,SNR=7.9						
ELAN	**Lanestosa**	**0.77**	**300**	Pg	Pg	13 30 17.5	0.0
	24nm,0.5s,SNR=6.8						
ELAN				Lg		13 30 29.5	
	82nm,0.5s,SNR=9.9						
ELIZ	**Elizondo**	**0.79**	**66**	Pg	Pg	13 30 17.7	-0.2
	7.4nm,0.3s,SNR=7.9						
ELIZ				Lg		13 30 29.5	
	39nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**0.83**	**63**	Pg	Pg	13 30 16.8	-1.8
	28nm,0.5s,SNR=7.6						
EALK				Lg		13 30 30.0	
	70nm,0.7s,SNR=11						
IPRE	**Itoiz**	**0.86**	**93**	Pg	Pg	13 30 18.3	-0.9
	9.4nm,0.7s,SNR=9.0						
IPRE				Lg		13 30 30.8	
	12nm,0.4s,SNR=7.9						
OSSF	**Osses**	**1.01**	**66**	Pg	Pg	13 30 20.2	-1.8
OSSF				Sg	Sg	13 30 35.8	+0.6
LARF	**Larrau**	**1.14**	**80**	Pg	Pg	13 30 22.4	-2.1
LARF				Sg	Sg	13 30 40.9	+1.4
ORDF	**Ordiarp**	**1.22**	**72**	Pg	Pg	13 30 24.3	-1.7
ORDF				Sg	Sg	13 30 43.2	+1.3
ATE	**Arette**	**1.36**	**79**	Pg	Pg	13 30 26.5	-2.1
ATE				Sg	Sg	13 30 46.1	-0.2
REYF	**Montagne du Re**	**1.58**	**81**	Pg	Pg	13 30 30.3	-2.5
REYF				Sg	Sg	13 30 52.9	-0.5
VIEF	**Viey**	**1.87**	**88**	Pg	Pg	13 30 34.4	-4.0
VIEF				Sg	Sg	13 30 59.5	-3.2
ESAC	**San Caprasio**	**1.90**	**126**	Pn	Pn	13 30 34.0	-0.3
	33nm,0.4s,SNR=7.9						
ESAC				Lg		13 30 59.6	
	127nm,0.8s,SNR=7.9						
LABF	**Labassere**	**1.92**	**83**	Pg	Pg	13 30 35.0	-4.3
LABF				Sg	Sg	13 31 03.1	-1.1
EBIE	**Bielsa**	**1.97**	**94**	Pg	Pg	13 30 35.6	-4.7
	7.5nm,0.5s,SNR=11						
EBIE				Lg		13 31 03.7	
	18nm,0.4s						
EARI	**Arriondas**	**2.02**	**284**	Pg	Pg	13 30 38.0	-3.3
	2.9nm,0.6s,SNR=7.9						
EARI				Lg		13 31 05.7	
	34nm,0.6s,SNR=7.9						
ETOR	**Torete**	**2.06**	**170**	Pg	Pg	13 30 37.9	-4.1
	0.8nm,0.1s,SNR=7.9						
ETOR				Lg		13 31 04.0	
	40nm,0.4s,SNR=7.9						
MELF	**Melles**	**2.41**	**88**	Pg	Pg	13 30 45.9	-2.9
MELF				Sg	Sg	13 31 16.9	-3.2
GUD	**Guadarrama**	**2.52**	**210**	Lg		13 31 18.6	
	31nm,0.6s,SNR=7.9						
SALF	**Salau**	**2.73**	**91**	Pg	Pg	13 30 53.0	-1.9
ERTA	**Horta de San J**	**2.85**	**131**	Pg	Pg	13 30 54.2	-2.9
	18nm,0.5s,SNR=13						
ERTA				Lg		13 31 30.6	
	14nm,0.5s,SNR=5.0						
EMOS	**Mosqueruela**	**2.92**	**148**	Pg	Pg	13 30 54.3	-4.2
	10nm,0.5s,SNR=16						
EMOS				Lg		13 31 32.4	
	7.8nm,0.6s,SNR=5.0						
EPOB	**Poblet**	**3.07**	**118**	Pg	Pg	13 30 57.7	-3.6
	6.5nm,0.5s,SNR=7.9						
EPOB				Lg		13 31 38.2	
	9.4nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**3.14**	**106**	Pg	Pg	13 30 59.9	-2.8
	16nm,0.1s,SNR=7.9						
EMIR				Lg		13 31 40.3	
	18nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.25**	**255**	Pg	Pg	13 30 59.9	-4.9
	1.2nm,0.3s,SNR=7.9						
ECAL				Lg		13 31 43.8	
	40nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**3.35**	**199**	Pg	Pg	13 30 59.3	-7.5
	1.6nm,0.5s,SNR=7.9						
ESDC				Lg		13 31 43.5	
	6.3nm,0.6s,SNR=7.9						
EPON	**Pontenova**	**3.42**	**280**	Lg		13 31 50.3	
	24nm,1.0s,SNR=7.9						

KRSC 09 13:37:56.8±0.2, 5460N×15932E, h205km±25km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.83**	**35**	*eP*	Pn	13 38 28.0	+2.0
TUMR				*iS*	Sn	13 38 50.0	+1.3
TUMR	**Tumrok**	**0.83**	**35**	*eP*	Pn	13 38 28.0	+2.0
TUMR				*iS*	Sn	13 38 50.0	+1.3
GNL	**Ganaly**	**1.22**	**222**	*iP*	Pn	13 38 30.0	+1.4
GNL	**Ganaly**	**1.22**	**222**	*iP*	Pn	13 38 30.0	+1.4
KMNR	**Kamenistaya**	**1.27**	**24**	*eP*	Pn	13 38 30.8	+1.8
KMNR	**Kamenistaya**	**1.27**	**24**	*eP*	Pn	13 38 30.8	+1.8
AVH	**Avacha**	**1.38**	**195**	*eP*	Pn	13 38 31.4	+1.5
AVH	**Avacha**	**1.38**	**195**	*eP*	Pn	13 38 31.4	+1.5
MKZ	**Mys Kozlova**	**1.40**	**91**	*iP*	Pn	13 38 31.1	+1.0
MKZ				*eS*	Sn	13 38 55.5	-0.5
MKZ	**Mys Kozlova**	**1.40**	**91**	*iP*	Pn	13 38 31.1	+1.0
MKZ				*eS*	Sn	13 38 55.5	-0.5
NLC	**Nalytchevo**	**1.43**	**179**	*iP*	Pn	13 38 31.6	+1.3
NLC				*iS*	Sn	13 38 56.5	+0.1
NLC	**Nalytchevo**	**1.43**	**179**	*iP*	Pn	13 38 31.6	+1.3
NLC				*iS*	Sn	13 38 56.5	+0.1
KPT	**Kopyto**	**1.46**	**20**	P	Pn	13 38 31.8	+1.2
KPT				*iS*	Sn	13 38 56.7	-0.2
KPT	**Kopyto**	**1.46**	**20**	P	Pn	13 38 31.8	+1.2
KPT				*iS*	Sn	13 38 56.7	-0.2
KOZ	**Kozyrevsk**	**1.50**	**12**	*eP*	Pn	13 38 31.9	+1.0
KOZ				*eS*	Sn	13 38 56.7	-0.7
KOZ	**Kozyrevsk**	**1.50**	**12**	*eP*	Pn	13 38 31.9	+1.0
KOZ				*eS*	Sn	13 38 56.7	-0.7
SPN	**Mys Shipunski**	**1.56**	**164**	*iP*	Pn	13 38 32.3	+0.9
SPN				*iS*	Sn	13 38 57.5	-0.9
SPN	**Mys Shipunski**	**1.56**	**164**	*iP*	Pn	13 38 32.3	+0.9
SPN				*iS*	Sn	13 38 57.5	-0.9
PET	**Petropavlovsk**	**1.63**	**194**	*iP*	Pn	13 38 33.6	+1.6
PET				*eS*	Sn	13 38 59.6	+0.1
PET	**Petropavlovsk**	**1.63**	**194**	*iP*	Pn	13 38 33.6	+1.6
PET				*eS*	Sn	13 38 59.6	+0.1
ZLN	**Zelenaya**	**1.65**	**30**	*eP*	Pn	13 38 34.4	+2.1
ZLN	**Zelenaya**	**1.65**	**30**	*eP*	Pn	13 38 34.4	+2.1
SRDR	**Sredinnyy**	**1.74**	**7**	*eP*	Pn	13 38 33.9	+0.8
SRDR				*eS*	Sn	13 39 01.9	+0.6
SRDR	**Sredinnyy**	**1.74**	**7**	*eP*	Pn	13 38 33.9	+0.8
SRDR				*eS*	Sn	13 39 01.9	+0.6
KRSR	**Krestovskiy**	**1.77**	**23**	P	Pn	13 38 34.9	+1.5
KRSR				*iS*	Sn	13 39 02.3	+0.4
KRSR	**Krestovskiy**	**1.77**	**23**	P	Pn	13 38 34.9	+1.5
KRSR				*iS*	Sn	13 39 02.3	+0.4
KLY	**Klyuchi**	**1.88**	**23**	P	Pn	13 38 37.0	+2.6
KLY	**Klyuchi**	**1.88**	**23**	P	Pn	13 38 37.0	+2.6
GRL	**Gorelyy**	**2.18**	**200**	*iP*	Pn	13 38 39.5	+2.0
GRL	**Gorelyy**	**2.18**	**200**	*iP*	Pn	13 38 39.5	+2.0
RUS	**Russkaya**	**2.22**	**193**	*eP*	Pn	13 38 38.6	+0.6
RUS				*iS*	Sn	13 39 09.0	-1.1
RUS	**Russkaya**	**2.22**	**193**	*eP*	Pn	13 38 38.6	+0.6
RUS				*iS*	Sn	13 39 09.0	-1.1
SRKR	**Sorokina**	**2.31**	**26**	*eP*	Pn	13 38 40.7	+1.8
SRKR				*eS*	Sn	13 39 12.4	+0.6
SRKR	**Sorokina**	**2.31**	**26**	*eP*	Pn	13 38 40.7	+1.8
SRKR				*eS*	Sn	13 39 12.4	+0.6
KBTR	**Krutoberegovo**	**2.56**	**50**	*eP*	Pn	13 38 42.8	+1.1
KBTR				*iS*	Sn	13 39 16.0	-0.8
KBTR	**Krutoberegovo**	**2.56**	**50**	*eP*	Pn	13 38 42.8	+1.1
KBTR				*iS*	Sn	13 39 16.0	-0.8

*ISCJB **09** 13:40:01.6±1.7, 3716N±007×205E±0.1, h5km, Error ellipse: s-maj=16.6km s-min=7.4km az=119.4*
*THE **09** 13:40:04.0, 3715N×2057E, h7km, ML3.6*
*CSEM **09** 13:40:04.3±0.8, 3721N×2061E, h2km, MD3.9, Error ellipse: s-maj=18.5km s-min=4.4km az=51.0*
*NEIC **09** 13:40:06.7, 3740N×2087E, h5km, MD3.9(ATH), After ATH.*
*ATH **09** 13:40:06.7, 3740N×2087E, h5km, MD3.9/5*
ISC 09 13:40:02.3±1.9, 3718N±008×206E±01, h1km±10km, n14, σ1§07/18, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**1.00**	**2**	*e*PB	**Pb**	**13 40 21.3**	**-1.1**
VLS				*e*SB	**Sb**	**13 40 34.3**	**-1.8**
ITM	**Ithomi**	**1.10**	**89**	*e*PB	**Pb**	**13 40 23.9**	**-0.2**
RLS	**Riolos of Patr**	**1.14**	**39**	*e*PB	**Pb**	**13 40 22.4**	**-2.5**
LKD	**Levkas**	**1.53**	**3**	*e*Pg	**Pn**	**13 40 30.4**	**-0.3**
LKD				*e*Sg	**Sg**	**13 40 53.0**	**+1.6**
LKD	**Levkas**	**1.53**	**3**	*e*Pg	**Pn**	**13 40 30.4**	**-0.4**
LKD				*e*Sg	**Sg**	**13 40 53.0**	**+1.5**
VLI	**Veliai**	**1.97**	**103**	*e*PG	**Pg**	**13 40 40.0**	**0.0**
EVR	**Evrytania**	**2.00**	**29**	*e*PB	**Pb**	**13 40 40.0**	**+0.5**
AGG	**Agios Georgios**	**2.32**	**37**	*e*Pn	**Pb**	**13 40 43.9**	**-1.0**
AGG				*e*Sn	**Sn**	**13 41 11.2**	**+0.4**
KEK	**Kerkira**	**2.60**	**347**	*e*PG	**Pg**	**13 40 52.0**	**-0.1**
THL	**Klokotos Trika**	**2.65**	**25**	*e*PN	**Pn**	**13 40 48.0**	**+1.9**
MEV	**Metsovon**	**2.66**	**11**	*e*Pn	**Pn**	**13 40 46.1**	**-0.2**
XOR	**Xorichti**	**3.02**	**43**	*e*Pn	**Pn**	**13 40 52.0**	**+0.8**
AOS	**Alonnisos**	**3.29**	**52**	*e*Pn	**Pn**	**13 40 55.2**	**+0.2**
FNA	**Florina**	**3.66**	**10**	*e*Pn	**Pn**	**13 41 01.4**	**+1.4**

*ISCJB **09** 13:44:23.2±4.6, 65S±02×151.1E±0.3, h64km±34km, mb3.9/6, Error ellipse: s-maj=43.9km s-min=25.2km az=31.0*
*IDC **09** 13:44:25.4±7.4, 651S×15109E, h66km±56km, mb3.6/6, mb1 3.8/7, m

s-min=5.0km az=137.7
*NEIC **09** 14:11:52.9±3.1, 665S×1328.2E, h9km±20km, mb4.9/20, Error ellipse: s-maj=7.2km s-min=6.0km az=56.0*
*IDC **09** 14:11:52.2±0.6, 657S×1327.4E, h0km, mb4.6/12, mb1 4.6/15, mb1mx4.6/17, mbtmp4.6/15, ML4.8/5, MS3.9/11, Ms1 3.9/11, ms1mx3.7/19, Error ellipse: s-maj=24.5km s-min=13.2km az=76.0*
*MOS **09** 14:11:54.4±1.3, 663S×1327.8E, h33km, mb5.2/9, Error ellipse: s-maj=14.8km s-min=7.4km az=117.5*

ISC 09 14:11:53.0±2.6, 662S±003×13296E±005, h8km±16km, n120, σ1^{9}00/126, mb4.9/38, MS3.8/10, 3C-4D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAI	**Ambon**	**5.57**	**301**	P		**Pn**	**14 13 16.5**	**+0.3**
	535nm,0.5s							
SWI	**Sorong**	**5.97**	**343**	P		**Pn**	**14 13 21.2**	**-0.4**
	241nm,0.4s							
KAKA	**Kakadu**	**6.07**	**185**	⇓*i* P		**Pn**	**14 13 26.8**	**+3.7**
	145nm,0.2s							
KAKA				*e*S		**Sn**	**14 14 32.2**	**-0.5**
MMPI	**Merauke**	**7.58**	**104**	P		**Sn**	**14 15 09.1**	**-0.8**
	2μm,0.6s							
WRAB	**Tennant Creek**	**13.30**	**174**	*e*P		**Pn**	**14 15 01.5**	**-0.6**
WRAB	**Tennant Creek**	**13.30**	**174**	*e*Pn		**Pn**	**14 15 01.4**	**-0.7**
WRAB				*e*Sn		**Sn**	**14 17 19.5**	**-11**
WRA	**Warramunga Arr**	**13.31**	**174**	Pn		**Pn**	**14 15 02.0**	**-0.2**
	3.4nm,0.3s,baz=353,slow=13,SNR=26							
WRA				Sn		**Sn**	**14 17 20.0**	**-10**
	17nm,0.3s,baz=2.8,slow=21,SNR=5.6							
WRA				Lg			14 19 02.3	
	baz=352,slow=28,SNR=2.3							
WB2	**Warramunga Arr**	**13.31**	**174**	*e*P		**Pn**	**14 15 01.9**	**-0.3**
WB2				*e*S		**Sn**	**14 17 23.4**	**-6.9**
FITZ	**Fitzroy Crossi**	**13.46**	**211**	⇓*i* P		**Pn**	**14 15 02.6**	**-1.7**
	104nm,0.2s							
FITZ				*e*S		**Sn**	**14 17 22.3**	**-12**
FITZ	**Fitzroy Crossi**	**13.46**	**211**	Pn		**Pn**	**14 15 03.1**	**-1.2**
	33nm,0.3s,baz=42,slow=12,SNR=2.8							
FITZ				Sn		**Sn**	**14 17 22.2**	**-12**
	38nm,0.3s,baz=145,slow=10.0,SNR=9.3							
FITZ				LR		LR	14 21 14.7	
	comp=Z,568nm,18.4s,baz=34,slow=42							
PMG	**Port Moresby**	**14.33**	**102**	Pn		**Pn**	**14 15 19.3**	**+3.2**
	3.2nm,0.3s,baz=321,slow=4.5,SNR=20							
PMG				Sn		**Sn**	**14 17 48.7**	**-6.5**
	4.4nm,0.3s,baz=201,slow=20,SNR=5.7							
PMG				Lg			14 19 44.4	
	0.8nm,0.3s,baz=317,slow=19,SNR=2.8							
PMG				LR		LR	14 21 46.8	
	comp=Z,720nm,18.9s,baz=93,slow=41							
PMG	**Port Moresby**	**14.33**	**102**	*e*Pn		**Pn**	**14 15 18.9**	**+2.8**
PMG				*e*Sn		**Sn**	**14 17 47.6**	**-7.6**
PMG				Sn		**Sn**	**14 17 48.7**	**-6.5**
PMG				Lg			14 19 44.5	
AS31	**Alice Springs**	**16.97**	**177**	*e*P		**Pn**	**14 15 49.7**	**-1.0**
AS31				*e*S		**Sn**	**14 18 50.2**	**-9.2**
ASAR	**Alice Springs**	**16.97**	**177**	Pn		**Pn**	**14 15 50.5**	**-0.3**
	8.3nm,0.3s,baz=352,slow=14,SNR=326							
ASAR				Sn		**Sn**	**14 18 48.4**	**-11**
	2.6nm,0.3s,baz=5.1,slow=27,SNR=4.4							
ASPA	**Alice Springs**	**16.97**	**177**	*e*P		**Pn**	**14 15 49.7**	**-1.0**
ASPA				*e*S		**Sn**	**14 18 50.2**	**-9.3**
TSM	**Tawau**	**18.56**	**305**	P		**Pn**	**14 16 11.4**	**+1.1**
CTA	**Charters Tower**	**18.59**	**137**	*e*P		**Pn**	**14 16 15.0**	**+4.2**
	14nm,0.9s							
CTA	**Charters Tower**	**18.59**	**137**	P		**Pn**	**14 16 14.2**	**+3.4**
	1.0nm,0.3s,baz=310,slow=14,SNR=8.5							
CTA				S		**Sn**	**14 19 47.9**	**+9.2**
	0.9nm,0.3s,baz=39,slow=21,SNR=3.3							
CTA				Lg			14 21 59.0	
	0.5nm,0.3s,baz=66,slow=16,SNR=3.4							
CTA				LR		LR	14 23 55.2	
	comp=Z,513nm,19.4s,baz=319,slow=38							
CTA	**Charters Tower**	**18.59**	**137**	*e*P		**Pn**	**14 16 15.0**	**+4.2**
CTA				pmax		pmax		
	comp=Z,14nm,0.9s							
CTAO	**Charters Tower**	**18.59**	**137**	*e*P		**Pn**	**14 16 14.4**	**+3.6**
CTAO				pmax		pmax		
	comp=Z,31nm,1.0s							
CTAO	**Charters Tower**	**18.59**	**137**	*e*P		**Pn**	**14 16 14.4**	**+3.6**
	comp=Z,31nm,1.0s							
KMMI	**Kalianget**	**18.86**	**268**	P		**Pn**	**14 16 16.6**	**+2.5**
	comp=Z,279nm,0.9s							
MBWA	**Marble Bar**	**19.31**	**220**	*e*P		**Pn**	**14 16 18.4**	**-1.0**
	comp=Z,25nm,0.8s							
MBWA				*e*S		**Sn**	**14 19 35.4**	**-21**
KKM	**Kota Kinabalu**	**20.92**	**307**	P		**P**	**14 16 36.2**	**+0.2**
KKM	**Kota Kinabalu**	**20.92**	**307**	*e*P		**P**	**14 16 35.6**	**-0.4**
GUMO	**Guam**	**23.30**	**30**	LR		LR	14 26 34.3	
	comp=Z,150nm,18.0s,MS3.5,baz=236,slow=38							
KSM	**Kuching**	**24.00**	**289**	*e*P		**P**	**14 17 07.5**	**-0.6**
FORT	**Forrest**	**24.47**	**190**	*e*P		**P**	**14 17 14.0**	**+1.6**
	comp=Z,32nm,0.7s,mb4.9							
FORT				*e*			14 17 23.7	
FORT				*e*S		**S**	**14 21 42.2**	**+10**
STKA	**Stephens Creek**	**26.39**	**163**	*e*P		**P**	**14 17 31.8**	**+2.0**
	comp=Z,9.7nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**26.39**	**163**	P		**P**	**14 17 31.8**	**+1.9**
	comp=Z,2.2nm,0.3s,mb4.1,baz=11,slow=7.9,SNR=12							
STKA				LR		LR	14 29 00.9	
	comp=Z,311nm,18.4s,MS3.9,baz=162,slow=39							
STKA	**Stephens Creek**	**26.39**	**163**	*e*P		**P**	**14 17 31.0**	**+1.2**
STKA				*e*S		**S**	**14 22 15.2**	**+12**
HNR	**Honiara**	**26.86**	**98**	LR		LR	14 28 08.3	
	comp=Z,379nm,21.4s,MS3.9,baz=357,slow=36							
HNR	**Honiara**	**26.86**	**98**	P		**P**	**14 17 35.3**	**+1.2**
HNR				pmax		pmax		
	comp=Z,33nm,0.9s,mb4.9							
HNR	**Honiara**	**26.86**	**98**	P		**P**	**14 17 35.3**	**+1.2**
	comp=Z,33nm,0.9s,mb4.9							
KLI	**Kotabumi**	**28.02**	**272**	P		**P**	**14 17 47.4**	**+3.0**
	comp=Z,187nm,0.7s,mb5.8							
KLBR	**Kellerberrin**	**28.62**	**208**	*e*P		**P**	**14 17 50.6**	**+0.8**
	comp=Z,64nm,1.4s,mb5.2							
NWAO	**Narrogin (SRO)**	**29.98**	**207**	P		**P**	**14 18 03.0**	**+1.1**
	comp=Z,12nm,0.9s,mb4.6,baz=53,slow=9.2,SNR=5.9							
NWAO				LR		LR	14 31 15.7	
	comp=Z,461nm,18.9s,MS4.1,baz=207,slow=39							
KGM	**Kluang**	**30.81**	**285**	P		**P**	**14 18 09.4**	**+0.2**
IPM	**Ipoh**	**33.73**	**288**	P		**P**	**14 18 35.4**	**+0.5**
QIZ	**Qiongzhong**	**34.19**	**319**	P		**P**	**14 18 37.8**	**-1.0**
	comp=Z,19nm,1.0s,mb5.0							
KULM	**Kulim**	**34.35**	**289**	*e*P		**P**	**14 18 39.5**	**-0.7**
CBIJ	**Chichi jima**	**34.69**	**15**	P		**P**	**14 18 42.0**	**-1.1**
	comp=Z,54nm,0.9s,mb5.5,baz=294,slow=20,SNR=4.6							
CBIJ				LR		LR	14 31 38.1	
	comp=Z,128nm,18.4s,MS3.7,baz=172,slow=34							
PSI	**Prapat**	**35.25**	**284**	P		**P**	**14 18 46.2**	**-1.7**
	comp=Z,57nm,0.9s,mb5.5,baz=136,slow=4.9,SNR=57							
DZM	**Mont Dzumac**	**35.77**	**119**	LR		LR	14 32 29.7	
	comp=Z,162nm,19.3s,MS3.8,baz=22,slow=34							
KKTK	**Khon Kaen**	**37.55**	**308**	P		**P**	**14 19 07.5**	**-0.1**
NANT	**Nan**	**40.62**	**309**	P		**P**	**14 19 31.0**	**-2.3**
	comp=Z,412nm,0.9s							
WHN	**Wuhan**	**41.03**	**335**	⇓P		**P**	**14 19 37.6**	**+0.9**
CHG	**Chiang Mai**	**41.99**	**308**	⇑P		**P**	**14 19 44.7**	**+0.1**
	comp=Z,32nm,0.7s,mb5.1							
CHTO	**Chiang Mai**	**41.99**	**308**	*e*P		**P**	**14 19 44.4**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,33nm,1.1s,mb4.9							
CHTO	**Chiang Mai**	**41.99**	**308**	*e*P		**P**	**14 19 44.4**	**-0.2**
	comp=Z,32nm,1.1s,mb4.9							
KMI	**Kunming**	**43.13**	**318**	P		**P**	**14 19 54.5**	**+0.6**
KMI				AMB		AMB		
	comp=Z,26nm,1.1s,mb4.9							
KMI	**Kunming**	**43.13**	**318**	P		**P**	**14 19 54.5**	**+0.6**
	comp=Z,26nm,1.1s,mb4.9							
MJAR	**Matsushiro Arr**	**43.22**	**6**	P		**P**	**14 19 54.5**	**-0.1**
	comp=Z,0.8nm,0.4s,mb3.8,baz=197,slow=7.9,SNR=4.7							
MJAR				LR		LR	14 37 05.5	
	comp=Z,113nm,19.1s,MS3.8,baz=205,slow=35							
KSRS	**Korea Array**	**44.10**	**354**	P		**P**	**14 20 02.4**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=142,slow=49,SNR=3.8							
KSRS				LR		LR	14 39 05.8	
	comp=Z,50nm,18.6s,MS3.5,baz=0.5,slow=37							
XAN	**Xi'an**	**46.41**	**332**	P		**P**	**14 20 19.3**	**-0.7**
XAN				AP		pP	14 20 26.6	+4.0
XAN				AMB		AMB		
	comp=Z,19nm,1.3s,mb4.9							
CD2	**Chengdu**	**46.63**	**325**	P		**P**	**14 20 20.4**	**-1.3**
CD2				AMB		AMB		
	comp=Z,30nm,0.4s,mb5.6							
BJI	**Beijing**	**48.95**	**343**	*e*P		**P**	**14 20 39.4**	**-0.3**
BJI				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0							
BJI				MLR		MLR		
	comp=Z,60nm,27.8s,MS3.4							
BJI	**Beijing**	**48.95**	**343**	*e*P		**P**	**14 20 39.4**	**-0.3**
	comp=Z,14nm,1.0s,mb5.0							
BJI				LR		LR		
	comp=Z,60nm,27.8s,MS3.4							
LZH	**Lanzhou**	**50.52**	**329**	*e*P		**P**	**14 20 52.0**	**+0.3**
LZH				AMB		AMB		
	comp=Z,39nm,1.4s,mb5.1							
LZH				AMB		AMB		
	comp=Z,63nm,6.5s							
LZH				LR		LR		
	comp=E,312nm,14.8s							
LZH				LR		LR		
	comp=Z,445nm,17.9s,MS4.5							
LZH	**Lanzhou**	**50.52**	**329**	*e*P		**P**	**14 20 52.0**	**+0.3**
	comp=Z,39nm,1.4s,mb5.1							
LZH				pP		pP	14 21 10.5	+16
LZH				sP		sP	14 21 18.2	+23
LZH				LR		LR		
	comp=Z,450nm,17.9s,MS4.5							
HHC	**Hu-ho-hao-te**	**51.17**	**339**	*e*P		**P**	**14 20 56.3**	**-0.3**
HHC				AP		pP	14 21 06.5	+7.3
HHC				XP		sP	14 21 09.2	+9.0
HHC				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
HHC				AMB		AMB		
	comp=Z,140nm,6.7s							
PALK	**Pallekele**	**53.93**	**284**	*e*P		**P**	**14 21 16.4**	**-0.6**
	comp=Z,21nm,1.0s,mb5.0							
LSA	**Lhasa**	**54.00**	**314**	P		**P**	**14 21 14.2**	**-3.4**
LSA	**Lhasa**	**54.00**	**314**	*e*P		**P**	**14 21 18.5**	**+0.9**
LSA				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.1							
LSA	**Lhasa**	**54.00**	**314**	*e*P		**P**	**14 21 18.5**	**+0.9**
	comp=Z,19nm,0.8s,mb5.1							
YSS	**Yuzh-Sakhalins**	**54.04**	**8**	*e*P		**P**	**14 21 17.5**	**-0.4**
YSS				pmax		pmax		
	comp=Z,7.0nm,0.5s,mb4.8							
YSS	**Yuzh-Sakhalins**	**54.04**	**8**	*e*P		**P**	**14 21 17.5**	**-0.4**
	comp=Z,7.1nm,0.5s,mb4.8							
GTA	**Gaotai**	**55.12**	**329**	⇑*i* P		**P**	**14 21 26.4**	**+0.8**
GTA				PCP		PcP	14 22 27.5	+0.6
GTA				AMB		AMB		
	comp=Z,26nm,1.0s,mb5.2							
JIRN	**Jiri**	**56.59**	**309**	*e*P		**P**	**14 21 36.6**	**+0.4**
	comp=Z,4.5nm,0.2s,mb5.1							
HIA	**Hailar**	**56.84**	**350**	*e*P		**P**	**14 21 36.4**	**-1.6**
GUN	**Gumba**	**56.95**	**309**	*e*P		**P**	**14 21 39.0**	**+0.2**
	comp=Z,140nm,0.8s							
PKI	**Pulchoki**	**57.15**	**309**	*e*P		**P**	**14 21 40.0**	**-0.2**
	comp=Z,68nm,1.0s,mb5.6							
KKN	**Kakani**	**57.36**	**309**	*e*P		**P**	**14 21 41.6**	**0.0**
	comp=Z,87nm,0.9s,mb5.8							
DMN	**Daman**	**57.40**	**309**	*e*P		**P**	**14 21 42.2**	**+0.2**
GKN	**Gorkha**	**57.96**	**309**	*e*P		**P**	**14 21 45.9**	**0.0**
KOLN	**Koldanda**	**58.65**	**308**	*e*P		**P**	**14 21 51.1**	**+0.4**
	comp=Z,129nm,1.0s,mb5.9							
HYB	**Hyderabad**	**58.81**	**295**	*i* P		**P**	**14 21 51.0**	**-0.8**
HYB	**Hyderabad**	**58.81**	**295**	*e*P		**P**	**14 21 51.0**	**-0.8**
SONM	**Songino Array**	**59.07**	**339**	P		**P**	**14 21 54.0**	**+0.3**
	comp=Z,5.2nm,1.0s,mb4.5,baz=158,slow=5.8,SNR=26							
CASY	**Casey**	**61.56**	**190**	*e*P		**P**	**14 22 11.1**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.6							
ZAK	**Zakamensk**	**62.32**	**339**	*e*P		**P**	**14 22 15.9**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.4							
WMQ	**Urumqi**	**64.72**	**325**	P		**P**	**14 22 32.0**	**+0.3**
BOD	**Bodaibo**	**66.04**	**349**	*e*P		**P**	**14 22 38.4**	**-1.8**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.7							
THN	**Thein Dam**	**66.83**	**309**	*e*P		**P**	**14 22 44.6**	**-0.7**
MK31	**Makanchi Array**	**69.55**	**325**	*e*P		**P**	**14 23 02.3**	**0.0**
MKAR	**Makanchi Array**	**69.55**	**325**	P		**P**	**14 23 02.5**	**+0.1**
	comp=Z,10nm,0.7s,mb4.8,baz=115,slow=7.0,SNR=53							
MKAR	**Makanchi Array**	**69.55**	**325**	P		**P**	**14 23 02.5**	**+0.1**
KZA	**Kyzart**	**71.42**	**318**	P		**P**	**14 23 15.5**	**+1.7**
	SNR=10							
TKM2	**Tokmak 2**	**71.59**	**319**	P		**P**	**14 23 15.3**	**+0.6**
	SNR=13							
UCH	**Uchtor**	**71.98**	**318**	P		**P**	**14 23 18.6**	**+1.5**
	SNR=27							
AAK	**Ala-Archa**	**72.17**	**319**	P		**P**	**14 23 19.6**	**+1.3**
	SNR=14							
AAK	**Ala-Archa**	**72.17**	**319**	⇑*e*P		**P**	**14 23 17.3**	**-1.0**
AAK	**Ala-Archa**	**72.17**	**319**	*e*P		**P**	**14 23 17.9**	**-0.4**
	comp=Z,15nm,1.0s,mb4.9							
USP	**Ospenovka**	**72.46**	**319**	P		**P**	**14 23 20.4**	**+0.4**
	SNR=18							
AML	**Almayashu**	**72.48**	**318**	P		**P**	**14 23 21.6**	**+1.5**
	SNR=13							
VNDA	**Vanda**	**72.48**	**174**	P		**P**	**14 23 19.9**	**-0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=306,slow=6.4,SNR=9.1							
VNDA	**Vanda**	**72.48**	**174**	*e*P		**P**	**14 23 18.6**	**-1.5**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
VNDA	**Vanda**	**72.48**	**174**	*e*P		**P**	**14 23 18.6**	**-1.6**
	comp=Z,4.2nm,1.1s,mb4.3							
ZAL	**Zalesovo**	**72.58**	**333**	P		**P**	**14 23 19.8**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.5,baz=355,slow=4.9,SNR=20							
EKS2	**Erkin-Say**	**72.66**	**318**	P		**P**	**14 23 22.0**	**+0.8**
	SNR=19							
SBA	**Scott Base**	**73.33**	**173**	*e*P		**P**	**14 23 26.3**	**+1.1**
SBA				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
SBA	**Scott Base**	**73.33**	**173**	*e*P		**P**	**14 23 26.3**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.2							
NVS	**Novosibirsk**	**73.86**	**333**	*e*P		**P**	**14 23 25.7**	**-2.6**
NVS				*e*			14 23 44.9	
TBI	**Tubuai**	**76.02**	**112**	*e*LR		LR	14 47 36.2	
	comp=Z,96nm,26.8s							
PPT	**Papeete**	**76.11**	**106**	*e*S		S	14 33 30.5	+5.4
	comp=Z,211nm,29.0s							
PPT				*e*LR		LR	14 47 40.2	
	comp=Z,99nm,24.5s							
BILL	**Bilibino**	**78.10**	**12**	P		**P**	**14 23 47.4**	**-5.1**
BILL	**Bilibino**	**78.10**	**12**	P		**P**	**14 23 47.4**	**-5.1**
WSAR	**Wadi Sarin**	**78.36**	**295**	P		**P**	**14 23 54.5**	**+0.6**
	comp=Z,9.5nm,1.0s,mb4.7,baz=111,slow=6.9,SNR=5.6							
WSAR	**Wadi Sarin**	**78.36**	**295**	P		**P**	**14 23 54.5**	**+0.6**
BVAR	**Borovoye Array**	**79.33**	**327**	P		**P**	**14 23 58.6**	**-0.7**
	comp=Z,5.9nm,1.0s,mb4.5,baz=123,slow=5.5,SNR=15							
BVAR	**Borovoye Array**	**79.33**	**327**	P		**P**	**14 23 58.6**	**-0.7**
BRVK	**Borovoye**	**79.40**	**327**	*e*P		**P**	**14 23 55.7**	**-3.9**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
BRVK	**Borovoye**	**79.40**	**327**	*e*P		**P**	**14 23 55.7**	**-3.9**
	comp=Z,5.5nm,0.8s,mb4.5							
QSPA	**South Pole Qui**	**83.35**	**180**	*e*P		**P**	**14 24 20.6**	**+0.1**
	comp=Z,9.9nm,1.5s,mb4.6							
SYO	**Syowa Base**	**85.08**	**201**	⇓*e*P		**P**	**14 24 29.4**	**+0.1**
RKT	**Rikitea**	**89.33**	**113**	*e*LR		LR	14 53 44.1	
	comp=Z,67nm,37.8s							
ULM	**Lac du Bonnet**	**120.50**	**34**	PKP		PKPdf	14 30 47.2	+2.1
	comp=Z,3.2nm,0.8s,baz=315,slow=4.3,SNR=3.3							
ULM	**Lac du Bonnet**	**120.50**	**34**	PKP		PKPdf	14 30 47.2	+2.1
TORD	**Torodi Ar. Bea**	**131.62**	**282**	PKP		PKPdf	14 31 07.5	+1.2
	comp=Z,0.8nm,0.4s,baz=75,slow=2.1,SNR=12							
LPAZ	**La Paz**	**149.12**	**138**	PKPbc		PKPbc	14 31 45.3	+3.5
	comp=Z,0.7nm,0.5s,baz=204,slow=4.9,SNR=4.7							

IDC 09 14:27:08.8±8.1, 643S×15115E, h78km±57km, mb3.2/4, mb1 3.4/5, mb1mx3.3/15, mbtmp3.3/5, ML2.2/1, Error ellipse: s-maj=82.7km s-min=37.0km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.94**	**233**	P		Pn	14 28 21.2	+0.7
	0.7nm,0.3s,baz=16,slow=9.8,SNR=8.2							
PMG				S		Sn	14 29 17.0	+0.6
	1.0nm,0.3s,baz=186,slow=15,SNR=5.5							
WRA	**Warramunga Arr**	**21.15**	**229**	P		P	14 31 47.5	+0.1
	0.8nm,0.7s,baz=55,slow=11,SNR=7.2							
ASAR	**Alice Springs**	**23.85**	**222**	P		P	14 32 15.1	+0.2
	0.6nm,0.6s,baz=60,slow=8.5,SNR=8.4							
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P		P	14 32 48.2	+0.8
	1.1nm,0.6s,baz=61,slow=10,SNR=4.3							
SONM	**Songino Array**	**66.84**	**329**	P		P	14 37 52.3	-0.1
	0.3nm,0.7s,baz=141,slow=4.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc		PKPbc	14 46 49.2	+0.9
	0.6nm,0.6s,baz=60,slow=3.5,SNR=4.8							

IDC 09 14:29:58.6±8.8, 600S×15080E, h82km±61km, mb3.0/3, mb1 3.2/4, mb1mx3.1/15, mbtmp3.1/4, ML2.2/1, Error ellipse: s-maj=103.9km s-min=58.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.95**	**227**	P		Pn	14 31 11.0	+0.5
	0.6nm,0.3s,baz=90,slow=5.1,SNR=4.0							
PMG				S		Sn	14 32 07.6	+1.2
	2.3nm,0.3s,baz=179,slow=15,SNR=4.3							
WRA	**Warramunga Arr**	**21.17**	**228**	P		P	14 34 36.7	-0.5
	0.3nm,0.4s,baz=52,slow=10.0,SNR=6.1							
ASAR	**Alice Springs**	**23.94**	**221**	P		P	14 35 04.3	-0.8
	0.6nm,0.9s,baz=56,slow=8.8,SNR=7.1							
FITZ	**Fitzroy Crossi**	**27.35**	**242**	P		P	14 35 37.3	+1.5
	0.6nm,0.5s,baz=203,slow=23,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc		PKPbc	14 49 37.5	+1.1
	0.5nm,0.6s,baz=61,slow=4.3,SNR=3.7							

*NAO **09** 14:32:08.8±2.1, 7802N×841E, ML2.4*
BER 09 14:32:11.4±5.6, 7797N×856E, h0km±57km, MD2.7, ML2.2, ML2.4(NAO), **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBS	**Kingsbay**	**1.18**	**34**	Pg		Pg	14 32 31.3	-2.7
KBS				Lg			14 32 46.3	
KBS	**Kingsbay**	**1.18**	**34**	*e*P		Pg	14 32 31.3	-2.6
KBS				*e*			14 32 31.6	
	baz=209,slow=5.9							
KBS				*e*S		Sg	14 32 46.5	-2.7
SPA0	**Spitsbergen Ar**	**1.64**	**79**	P		Pn	14 32 39.6	-1.8
	baz=247,slow=14							
SPA0				S		Sn	14 33 01.1	-2.0
	baz=260,slow=28							
ARA0	**ARCESS Array S**	**9.65**	**142**	Pn		Pn	14 34 27.5	-4.0
	baz=323,slow=12							

IDC 09 14:33:42.9±3.5, 683S×15446E, h111km±26km, mb3.3/3, mb1 3.3/5, mb1mx3.2/16, mbtmp3.3/5, MS2.9/3, Ms1 2.9/3, ms1mx2.6/15, Error ellipse: s-maj=50.2km s-min=15.6km az=179.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.02**	**116**	P		Pn	14 35 09.0	-0.4
	2.0nm,0.3s,baz=259,slow=16,SNR=2.3							
HNR				S		Sn	14 36 17.9	+1.0
	2.1nm,0.3s,baz=0.1,slow=1.2,SNR=3.8							
HNR				LR		LR	14 37 14.8	
	comp=Z,121nm,20.2s,baz=180,slow=35							
PMG	**Port Moresby**	**7.67**	**250**	P		Pn	14 35 32.1	+0.3
	0.3nm,0.3s,baz=348,slow=9.9,SNR=2.8							
PMG				S		Sn	14 36 59.2	+2.3
	0.2nm,0.3s,baz=94,slow=19,SNR=3.1							
PMG				LR		LR	14 38 24.3	
	comp=Z,57nm,21.7s,baz=263,slow=37							
CTA	**Charters Tower**	**15.40**	**210**	LR		LR	14 42 36.5	
	comp=Z,49nm,19.7s,baz=214,slow=35							
WRA	**Warramunga Arr**	**23.48**	**234**	P		P	14 38 42.2	-0.2
	0.6nm,0.5s,baz=58,slow=8.8,SNR=13							
WRA				PcP		PcP	14 42 25.9	+0.8
	0.2nm,0.7s,baz=58,slow=2.4,SNR=5.9							
ASAR	**Alice Springs**	**25.89**	**228**	P		P	14 39 03.6	-0.7
	0.3nm,0.6s,baz=60,slow=9.3,SNR=6.9							
STKA	**Stephens Creek**	**27.66**	**204**	P		P	14 39 21.3	+1.1
	0.9nm,0.3s,baz=44,slow=14,SNR=2.9							
TORD	**Torodi Ar. Bea**	**152.47**	**285**	PKPbc		PKPbc	14 53 27.5	+1.5
	0.8nm,0.9s,baz=62,slow=3.2,SNR=4.0							

*ISCJB **09** 14:36:43.6±0.5, 1789N±005×10148W±003, h58km±7km, mb4.0/4, Error ellipse: s-maj=7.7km s-min=4.2km az=30.0*
*MEX **09** 14:36:45.9±0.6, 1791N×10147W, h53km±6km, MD4.2*
*NEIC **09** 14:36:46.5, 1799N×10144W, h12km, MD4.2(MEX), After MEX.*
*IDC **09** 14:36:51.9±4.0, 1836N×10089W, h95km±38km, mb3.8/4, mb1 4.0/6, mb1mx3.7/19, mbtmp3.6/6, MS3

0.5nm,0.3s,baz=356,slow=9.6,SNR=4.6
PMG S Sn 14 42 17.0 +1.5
1.4nm,0.3s,baz=219,slow=12,SNR=5.6
WRA Warramunga Arr 21.27 227 P P 14 44 47.1 -0.3
0.6nm,0.8s,baz=51,slow=10,SNR=6.1
ASAR Alice Springs 24.05 221 P P 14 45 14.8 -1.0
0.3nm,0.7s,baz=55,slow=9.0,SNR=8.3
FITZ Fitzroy Crossi 27.39 241 P P 14 45 47.6 +1.6
2.3nm,1.0s,baz=64,slow=14,SNR=2.5
TORD Torodi Ar. Bea 148.62 286 PKPbc PKPbc 14 59 48.0 +1.2
0.4nm,0.6s,baz=60,slow=2.9,SNR=2.7

*CSEM **09** 14:45:05.7, 3765N×2044E, h16km, MD3.5/3, After ATH*
*NEIC **09** 14:45:05.7, 3765N×2044E, h16km, MD3.5(ATH), After ATH.*
ATH 09 14:45:05.7, 3765N×2044E, h16km±3km**, MD3.5/3, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.54**	**13**	*e*PN	Pg	14 45 16.5	+0.1
RLS	**Riolos of Patr**	**0.91**	**63**	*e*PB	Pb	14 45 22.5	-0.6
RLS				SN	Sn	14 45 35.8	-0.8
ITM	**Ithomi**	**1.27**	**111**	*e*PN	Pn	14 45 29.9	+1.1
LKR	**Lokris**	**2.25**	**63**	*e*PN	Pn	14 45 44.6	+2.3

*NEIC **09** 14:46:12.1, 3135S×6907W, h114km, mb4.0/4, MD4.2(GUC), After GUC.*
GUC 09 14:46:12.1±0.8, 3135S×6907W, h114km±4km**, MD4.2, ML3.9, 6C-8D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.38**	**120**	⇓*i*P	Pn	14 46 29.1	+0.4
ZON				*i* S	Sn	14 46 41.6	+0.5
CMCH	**Combarbala**	**1.67**	**276**	⇓*i*P	Pn	14 46 41.8	+0.7
CMCH				*i* S	Sn	14 47 04.4	+1.2
CMCH				AML	AML	14 47 06.7	
	comp=E,10μm,0.6s						
CMCH	**Combarbala**	**1.67**	**276**	⇓*i*P	Pn	14 46 41.8	+0.7
CMCH				*i* S	Sn	14 47 04.4	+1.2
PTCH	**Petorca**	**1.83**	**240**	⇑*i*P	Pn	14 46 43.2	+0.1
PTCH				*i* S	Sn	14 47 07.4	+0.6
JACH	**Jahuel**	**1.85**	**224**	⇓*i*P	Pn	14 46 44.3	+0.9
JACH				*i* S	Sn	14 47 09.5	+2.2
TLL	**Tololo Astrono**	**1.91**	**308**	*i* P	Pn	14 46 45.3	+1.2
TLL				*i* S	Sn	14 47 10.1	+1.6
TLL				AML	AML	14 47 14.7	
	comp=E,385nm,0.3s						
TLL	**Tololo Astrono**	**1.91**	**308**	*i* P	Pn	14 46 45.3	+1.2
TLL				*i* S	Sn	14 47 10.1	+1.6
OVCH	**Ovalle**	**1.98**	**291**	⇑*i*P	Pn	14 46 45.4	+0.4
OVCH				*i* S	Sn	14 47 10.3	+0.2
OVCH				AML	AML	14 47 11.5	
	comp=E,1μm,0.4s						
OVCH	**Ovalle**	**1.98**	**291**	⇑*i*P	Pn	14 46 45.4	+0.4
OVCH				*i* S	Sn	14 47 10.3	+0.2
CHNG	**Los Chungos**	**2.14**	**255**	*i* P	Pn	14 46 46.7	-0.3
CHNG				*i* S	Sn	14 47 12.5	-1.3
CHNG				AML	AML	14 47 21.2	
	comp=E,702nm,0.7s						
FCH	**Farellones**	**2.23**	**207**	⇓*i*P	Pn	14 46 49.2	+1.1
FCH				*i* S	Sn	14 47 17.7	+2.0
FCH				AML	AML	14 47 24.6	
	comp=E,424nm,0.2s						
PEL	**Peldehue**	**2.25**	**217**	⇑*i*P	Pn	14 46 48.5	+0.1
PEL				*i* S	Sn	14 47 16.5	+0.2
PEL				AML	AML	14 47 19.2	
	comp=E,587nm,0.4s						
PEL	**Peldehue**	**2.25**	**217**	⇑*i*P	Pn	14 46 48.5	+0.1
PEL				*i* S	Sn	14 47 16.5	+0.2
PACH	**Papudo**	**2.34**	**239**	*i* P	Pn	14 46 48.9	-0.6
LSCH	**La Serena**	**2.37**	**307**	⇑*i*P	Pn	14 46 50.3	+0.4
LSCH				*i* S	Sn	14 47 18.9	0.0
CLCH	**Cerro Calan**	**2.39**	**211**	⇓*i*P	Pn	14 46 50.6	+0.4
CLCH				*i* S	Sn	14 47 20.0	+0.6
CLCH				AML	AML	14 47 21.2	
	comp=N,427nm,0.4s						
RCDM	**Rinconada Maip**	**2.59**	**214**	⇓*i*P	Pn	14 46 52.6	-0.2
RCDM				*i* S	Sn	14 47 24.0	-0.1
RCDM				AML	AML	14 47 29.3	
	comp=E,805nm,0.1s						
RCDM	**Rinconada Maip**	**2.59**	**214**	⇓*i*P	Pn	14 46 52.6	-0.2
RCDM				*i* S	Sn	14 47 24.0	-0.1
LMEL	**Las Melosas**	**2.67**	**201**	*i* P	Pn	14 46 54.7	+0.9
LMEL				*i* S	Sn	14 47 30.4	+4.6
LMEL				AML	AML	14 47 38.1	
	comp=N,231nm,0.3s						
LMEL	**Las Melosas**	**2.67**	**201**	*i* P	Pn	14 46 54.7	+0.9
LMEL				S	Sn	14 47 30.4	+4.6
TACH	**Talagante**	**2.79**	**214**	*i* P	Pn	14 46 54.6	-0.8
LVC	**Limon Verde**	**8.71**	**1**	*e*Pn	Pn	14 48 13.2	-1.9
TRQA	**Tornquist**	**8.87**	**141**	*e*P	Pn	14 48 15.2	-2.2
	comp=N,16nm,0.7s						
LPAZ	**La Paz**	**15.02**	**3**	*e*P	Pn	14 49 40.7	+2.4
	comp=N,2.2nm,0.9s						
NNA	**Nana**	**20.57**	**338**	P	P	14 50 45.3	+3.6
	comp=N,28nm,1.3s						
SAML	**Samuel**	**22.95**	**15**	P	P	14 51 06.5	-0.1
	comp=N,1.7nm,0.7s						

*IGIL **09** 14:47:24.5, 3960N×1290W, h10km, ML3.4*
*NEIC **09** 14:47:24.8, 3965N×1279W, h22km, MG3.0(MDD), After MDD.*
*ISCJB **09** 14:47:25.2±0.8, 3980N±003°×1237W±007, h10km, Error ellipse: s-maj=7.4km s-min=4.5km az=156.0*
*MDD **09** 14:47:26.2±1.6, 3966N×1281W, h86km±53km, mb3.8/13, Error ellipse: s-maj=16.5km s-min=9.5km az=86.0, PRXIMO*
*INMG **09** 14:47:26.0±1.2, 3956N×1314W, h10km, Mb4.2, ML2.9, Error ellipse: s-maj=12.9km s-min=6.4km az=63.0*
*LDG **09** 14:47:26.8±0.3, 3963N×1278W, h30km, Ml3.5/3, Error ellipse: s-maj=7.2km s-min=3.9km az=76.0*
*CSEM **09** 14:47:27.5±0.4, 3980N×1228W, h30km, ML2.9, Error ellipse: s-maj=7.8km s-min=3.2km az=89.0*
ISC 09 14:47:28.3±0.8, 3977N±003×1224W±006, h10km**, n55,** σ**1°40/95, 3C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**2.43**	**109**	*e*Pn	**Pn**	**14 48 08.9**	**+0.8**
PMAFR				*e*Sn	**Sn**	**14 48 39.8**	**+2.0**
PMAFR							
	86nm,0.2s						
PLOU	**Loures**	**2.55**	**109**	*e*Pn	**Pn**	**14 48 10.6**	**+0.9**
PLOU				*e*Sn	**Sn**	**14 48 43.2**	**+2.4**
PLOU							
	36nm,0.2s						
ALMR	**Almeirim**	**2.90**	**101**	*e*P	**Pn**	**14 48 15.7**	**+1.2**
ALMR				*e*S	**Sn**	**14 48 52.7**	**+3.3**
ALMR				*e*S	**Sn**	**14 48 52.7**	**+3.3**
ALMR				AML	AML	14 48 55.9	
	comp=N,116nm,0.3s						
ALMR	**Almeirim**	**2.90**	**101**	*e*P	**Pn**	**14 48 15.7**	**+1.2**
ALMR				*e*S	**Sn**	**14 48 52.7**	**+3.3**
PTO	**Porto**	**3.09**	**63**	*e*Pn	**Pn**	**14 48 18.6**	**+1.4**
PTO				*e*Sn	**Sn**	**14 48 56.7**	**+2.6**
MOE	**Montemor**	**3.27**	**111**	*e*Pn	**Pn**	**14 48 19.9**	**+0.3**
MOE				*e*Sn	**Sn**	**14 48 59.5**	**+1.0**
PVIS	**Viseu**	**3.45**	**73**	*e*Pn	**Pn**	**14 48 23.6**	**+1.5**
PVIS				*e*Sn	**Sn**	**14 49 05.5**	**+2.4**
PVIS							
	comp=N,33nm,0.1s						
EVO	**Evora**	**3.51**	**109**	*e*Pn	**Pn**	**14 48 21.5**	**-1.4**
EVO				*e*Sn	**Sn**	**14 49 03.2**	**-1.3**
	comp=N,58nm,0.4s						
PTEO	**Sao Teotonio**	**3.54**	**128**	*e*Pn	**Pn**	**14 48 20.7**	**-2.6**
PTEO				*e*Sn	**Sn**	**14 49 00.0**	**-5.1**
PTEO							
	comp=N,35nm,0.2s						
EZAM	**Zamans**	**3.58**	**47**	Pn	**Pn**	**14 48 22.5**	**-1.4**
	comp=N,10.0nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**14 49 05.9**	**-0.4**
	comp=N,5.2nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.67**	**87**	*e*Pn	**Pn**	**14 48 26.1**	**+1.0**
PCBR				*e*Sn	**Sn**	**14 49 09.5**	**+1.2**
PCBR							
	comp=N,13nm,0.1s						
PESTR	**Estremoz**	**3.71**	**103**	*e*Pn	**Pn**	**14 48 26.0**	**+0.3**
PESTR				*e*Sn	**Sn**	**14 49 09.8**	**+0.3**
PESTR							
	comp=N,12nm,0.2s						
PCAB	**Cabril**	**3.74**	**57**	*e*Pn	**Pn**	**14 48 27.5**	**+1.4**
PCAB				*e*Sn	**Sn**	**14 49 11.7**	**+1.6**
PCAB							
	comp=N,18nm,0.1s						
PVRL	**Vila Real**	**3.76**	**65**	*e*Pn	**Pn**	**14 48 28.6**	**+2.3**
PVRL				*e*Sn	**Sn**	**14 49 13.4**	**+2.8**
PVRL							
	comp=N,20nm,0.2s						
PBEJ	**Beja**	**3.83**	**116**	*e*Pn	**Pn**	**14 48 27.3**	**0.0**
PBEJ				*e*Sn	**Sn**	**14 49 11.3**	**-1.1**
PBEJ							
	comp=N,9.3nm,0.1s						
EMAZ	**Mazaricos**	**4.01**	**37**	Pn	**Pn**	**14 48 29.8**	**0.0**
	comp=N,7.5nm,0.1s,SNR=15						
EMAZ				Sn	**Sn**	**14 49 15.1**	**-1.7**
	comp=N,7.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**4.01**	**37**	P	**Pn**	**14 48 29.8**	**0.0**
	comp=N,7.5nm,0.1s,SNR=15						
EMAZ				S	**Sn**	**14 49 15.1**	**-1.8**
	comp=N,7.0nm,0.1s,SNR=7.9						
STS	**Santiago**	**4.17**	**41**	Pn	**Pn**	**14 48 30.9**	**-1.0**
	comp=N,19nm,0.2s,SNR=7.4						
STS				Sn	**Sn**	**14 49 19.3**	**-1.4**
	comp=N,10nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.18**	**102**	⇑Pn	**Pn**	**14 48 31.9**	**-0.2**
	comp=N,1.1nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**14 49 20.4**	**-0.6**
	comp=N,8.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.18**	**102**	⇑P	**Pn**	**14 48 32.0**	**-0.1**
EBAD				S	**Sn**	**14 49 20.4**	**-0.6**
	comp=N,8.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.34**	**119**	Pn	**Pn**	**14 48 33.2**	**-1.1**
	comp=N,2.0nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**14 49 22.4**	**-2.5**
	comp=N,4.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.34**	**119**	P	**Pn**	**14 48 33.2**	**-1.1**
	comp=N,2.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 49 22.4**	**-2.6**
	comp=N,4.5nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**4.64**	**62**	*e*Pn	**Pn**	**14 48 40.3**	**+1.9**
PBRG				*e*Sn	**Sn**	**14 49 34.9**	**+2.6**
PBRG							
	comp=N,4.8nm,0.2s						
ECAL	**Calabor**	**4.70**	**61**	Pn	**Pn**	**14 48 40.3**	**+1.0**
	comp=N,7.5nm,0.2s,SNR=29						
ECAL				Sn	**Sn**	**14 49 33.6**	**-0.2**
	comp=N,3.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.70**	**61**	P	**Pn**	**14 48 40.3**	**+1.0**
	comp=N,7.5nm,0.2s,SNR=29						
ECAL				S	**Sn**	**14 49 33.6**	**-0.2**
	comp=N,3.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.79**	**113**	Pn	**Pn**	**14 48 40.0**	**-0.5**
	comp=N,0.6nm,0.1s,SNR=10.0						
EMIN				Sn	**Sn**	**14 49 33.0**	**-3.0**
	comp=N,1.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.79**	**113**	P	**Pn**	**14 48 40.0**	**-0.5**
	comp=N,0.6nm,0.1s,SNR=10.0						
EMIN				S	**Sn**	**14 49 33.0**	**-3.0**
	comp=N,1.7nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.21**	**45**	Pn	**Pn**	**14 48 46.7**	**+0.4**
	comp=N,1.5nm,0.1s,SNR=5.6						
EPON				Sn	**Sn**	**14 49 45.1**	**-1.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.21**	**45**	P	**Pn**	**14 48 46.7**	**+0.4**
	comp=N,1.5nm,0.1s,SNR=5.6						
EPON				S	**Sn**	**14 49 45.1**	**-1.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
ESPR	**Espera**	**5.79**	**118**	Pn	**Pn**	**14 48 54.6**	**+0.3**
	comp=N,1.7nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**14 49 58.7**	**-2.1**
	comp=N,2.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.79**	**118**	P	**Pn**	**14 48 54.6**	**+0.3**
	comp=N,1.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**14 49 58.7**	**-2.1**
	comp=N,2.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.18**	**103**	Pn	**Pn**	**14 48 59.4**	**-0.2**
	comp=N,1.5nm,0.1s,SNR=24						
EADA				Sn	**Sn**	**14 50 08.4**	**-1.9**
	comp=N,0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.18**	**103**	P	**Pn**	**14 48 59.5**	**-0.1**
GUD	**Guadarrama**	**6.25**	**79**	Pn	**Pn**	**14 49 00.0**	**-0.5**
	comp=N,2.8nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**14 50 10.6**	**-1.4**
	comp=N,1.1nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.34**	**54**	Pn	**Pn**	**14 49 04.0**	**+2.1**
	comp=N,2.9nm,0.1s,SNR=21						
EARI				Sn	**Sn**	**14 50 12.0**	**-2.3**
	comp=N,0.1nm,0.0s,SNR=7.9						
EARI	**Arriondas**	**6.34**	**54**	P	**Pn**	**14 49 04.0**	**+2.2**
	comp=N,2.9nm,0.1s,SNR=21						
ESDC	**Sonseca Array**	**6.38**	**88**	⇑Pn	**Pn**	**14 49 03.1**	**+0.8**
	comp=N,36nm,0.2s,baz=269,slow=13,SNR=18						
ESDC				Sn	**Sn**	**14 50 14.0**	**-1.2**
	comp=N,0.7nm,0.1s,baz=268,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**6.38**	**88**	P	**Pn**	**14 49 03.1**	**+0.8**
	comp=N,36nm,0.2s,SNR=18						
ELAN	**Lanestosa**	**7.46**	**60**	P	**Pn**	**14 49 16.3**	**-0.8**
ELAN	**Lanestosa**	**7.46**	**60**	P	**Pn**	**14 49 16.3**	**-0.8**
ETOB	**Tobarra**	**8.38**	**94**	Pn	**Pn**	**14 49 30.5**	**+0.8**
	comp=N,2.9nm,0.2s,SNR=8.4						
ETOB	**Tobarra**	**8.38**	**94**	P	**Pn**	**14 49 30.5**	**+0.8**
ELIZ	**Elizondo**	**8.72**	**64**	P	**Pn**	**14 49 33.0**	**-1.5**
ELIZ	**Elizondo**	**8.72**	**64**	P	**Pn**	**14 49 33.0**	**-1.5**
SJPF	**Ste Jean**	**8.92**	**64**	*e*Pn	**Pn**	**14 49 38.0**	**+0.8**
SJPF				*e*Sn	**Sn**	**14 51 15.9**	**-1.8**
	comp=N,2.3nm,0.3s						
SJPF	**Ste Jean**	**8.92**	**64**	Pn	**Pn**	**14 49 38.0**	**+0.8**
SJPF				Sn	**Sn**	**14 51 15.9**	**-1.8**
	comp=N,1.1nm,0.3s						
ETSF	**Etsaut**	**9.32**	**67**	*e*Pn	**Pn**	**14 49 43.1**	**+0.4**
ETSF				*e*Sn	**Sn**	**14 51 25.4**	**-2.2**
	comp=N,1.4nm,0.3s						
ETSF	**Etsaut**	**9.32**	**67**	Pn	**Pn**	**14 49 43.1**	**+0.4**
ETSF				Sn	**Sn**	**14 51 25.4**	**-2.2**
	comp=N,0.7nm,0.3s						
EBIE	**Bielsa**	**9.77**	**69**	Pn	**Pn**	**14 49 51.6**	**+2.8**
	comp=N,1.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**9.77**	**69**	P	**Pn**	**14 49 51.7**	**+2.8**
EPF	**Esparros**	**9.99**	**67**	*e*Pn	**Pn**	**14 49 52.1**	**+0.2**
QUIF	**Quistinic**	**10.44**	**36**	*e*Pn	**Pn**	**14 49 56.8**	**-1.3**
ROSF	**Rostrenen**	**10.71**	**34**	*e*Pn	**Pn**	**14 50 00.7**	**-1.1**
MFF	**Saint Martin d**	**11.15**	**48**	*e*Pn	**Pn**	**14 50 07.0**	**-0.8**
GRR	**Gorron**	**11.87**	**40**	*e*Pn	**Pn**	**14 50 16.8**	**-0.8**

IDC 09 15:07:57.5±8.2, 2999S×17707W, h0km**, mb3.5/2, mb1 3.8/2, mb1mx3.5/12, mbtmp3.5/2, Error ellipse: s-maj=352.0km s-min=56.3km az=154.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.94**	**266**	P	P	15 16 06.0	0.0
	0.5nm,0.8s,baz=102,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**44.89**	**271**	P	P	15 16 14.2	+0.5
	0.8nm,0.9s,baz=110,slow=8.1,SNR=5.7						
FINES	**FINESS Array B**	**145.03**	**341**	PKPbc	PKPbc	15 27 34.5	-1.5
	1.5nm,0.7s,baz=62,slow=3.8,SNR=7.9						

*ISCJB **09** 15:30:36.5±0.7, 5070N±010×1565E±02, h137km±5km, mb3.5/7, Error ellipse: s-maj=24.1km s-min=8.0km az=77.7*
*MOS **09** 15:30:36.4±1.3, 5084N×15625E, h142km, mb4.3/3, Error ellipse: s-maj=31.8km s-min=9.4km az=69.5*
*KRSC **09** 15:30:39.0±0.1, 5071N×15742E, h120km±99km, ML4.5*
*IDC **09** 15:30:55.1±23.0, 5103N×15601E, h302km±227km, mb3.1/7, mb1 3.3/7, mb1mx3.1/21, mbtmp3.1/7, Error ellipse: s-maj=51.8km s-min=20.3km az=113.0*
ISC 09 15:30:37.7±0.7, 5073N±010×1565E±02, h135km±5km**, n47,** σ**1°24/63, mb3.5/7, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.24**	**260**	⇓*i*PN	**Pn**	**15 30 56.5**	**+0.2**
SKR				*i* S	**Sn**	**15 31 10.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,0.2s						
SKR				pmax	pmax		
	comp=E,830nm,0.2s						
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax			
	comp=N,5μm,0.2s						
SKR				smax			
	comp=E,6μm,0.2s						
SKR				smax			
	comp=N,5μm,2.0s						
SKR				smax			
	comp=E,5μm,0.4s						
GRL	**Gorelyy**	**2.08**	**28**	*i* P	**Pn**	**15 31 13.6**	**+0.8**
GRL				*i* S	**Sn**	**15 31 39.6**	**-0.2**
GRL	**Gorelyy**	**2.08**	**28**	*i* P	**Pn**	**15 31 13.6**	**+0.8**
GRL				*i* S	**Sn**	**15 31 39.6**	**-0.2**
RUS	**Russkaya**	**2.12**	**36**	*i* P	**Pn**	**15 31 12.9**	**-0.5**
RUS				*i* S	**Sn**	**15 31 38.6**	**-2.2**
RUS	**Russkaya**	**2.12**	**36**	*i* P	**Pn**	**15 31 12.9**	**-0.5**
RUS				*i* S	**Sn**	**15 31 38.6**	**-2.2**
PET	**Petropavlovsk**	**2.66**	**29**	⇓*i*PN	**Pn**	**15 31 20.3**	**+0.2**
PET				*e*S	**Sn**	**15 31 52.5**	**-0.3**
PET				pmax	pmax		
	comp=Z,58nm,0.4s						
PET				smax			
	comp=N,359nm,0.8s						
PET	**Petropavlovsk**	**2.66**	**29**	*i* P	**Pn**	**15 31 20.1**	**0.0**
PET				*i* S	**Sn**	**15 31 50.7**	**-2.1**
PET	**Petropavlovsk**	**2.66**	**29**	*i* P	**Pn**	**15 31 20.1**	**0.0**
PET				*i* S	**Sn**	**15 31 50.7**	**-2.1**
SDLR	**Sedlovina**	**2.95**	**29**	*i* P	**Pn**	**15 31 24.4**	**+0.6**
SDLR				*i* S	**Sn**	**15 31 56.3**	**-3.2**
SDLR	**Sedlovina**	**2.95**	**29**	*i* P	**Pn**	**15 31 24.4**	**+0.6**
SDLR				*i* S	**Sn**	**15 31 56.3**	**-3.2**
NLC	**Nalytchevo**	**3.02**	**35**	*i* P	**Pn**	**15 31 23.5**	**-1.2**
NLC				*i* S	**Sn**	**15 31 55.7**	**-5.3**
NLC	**Nalytchevo**	**3.02**	**35**	*i* P	**Pn**	**15 31 23.5**	**-1.2**
NLC				*i* S	**Sn**	**15 31 55.7**	**-5.3**
GNL	**Ganaly**	**3.10**	**16**	*i* P	**Pn**	**15 31 26.6**	**+0.8**
GNL	**Ganaly**	**3.10**	**16**	*i* P	**Pn**	**15 31 26.6**	**+0.8**
SPN	**Mys Shipunski**	**3.23**	**41**	*e*P	**Pn**	**15 31 26.5**	**-0.9**
SPN				*i* S	**Sn**	**15 32 01.5**	**-4.3**
SPN	**Mys Shipunski**	**3.23**	**41**	*e*P	**Pn**	**15 31 26.5**	**-0.9**
SPN				*i* S	**Sn**	**15 32 01.5**	**-4.3**
MKZ	**Mys Kozlova**	**4.99**	**38**	P	**Pn**	**15 31 49.2**	**-1.5**
MKZ				*i* S	**Sn**	**15 32 41.5**	**-6.0**
MKZ	**Mys Kozlova**	**4.99**	**38**	P	**Pn**	**15 31 49.2**	**-1.5**
MKZ				*i* S	**Sn**	**15 32 41.5**	**-6.0**
TUMR	**Tumrok**	**5.07**	**24**	P	**Pn**	**15 31 52.9**	**+1.2**
TUMR	**Tumrok**	**5.07**	**24**	P	**Pn**	**15 31 52.9**	**+1.2**
KMNR	**Kamenistaya**	**5.52**	**23**	P	**Pn**	**15 31 58.9**	**+1.2**
KMNR	**Kamenistaya**	**5.52**	**23**	P	**Pn**	**15 31 58.9**	**+1.2**
KPT	**Kopyto**	**5.70**	**22**	P	**Pn**	**15 32 00.7**	**+0.5**
KPT	**Kopyto**	**5.70**	**22**	P	**Pn**	**15 32 00.7**	**+0.5**
KOZ	**Kozyrevsk**	**5.71**	**19**	P	**Pn**	**15 32 02.5**	**+2.2**
KOZR	**Kozyr**	**5.72**	**20**	PN	**Pn**	**15 32 02.5**	**+2.0**
ZLN	**Zelenaya**	**5.89**	**24**	P	**Pn**	**15 32 03.9**	**+1.1**
ZLN	**Zelenaya**	**5.89**	**24**	P	**Pn**	**15 32 03.9**	**+1.1**
SRDR	**Sredinnyy**	**5.92**	**18**	P	**Pn**	**15 32 04.2**	**+1.0**
SRDR	**Sredinnyy**	**5.92**	**18**	P	**Pn**	**15 32 04.2**	**+1.0**
KRSR	**Krestovskiy**	**6.01**	**22**	P	**Pn**	**15 32 05.8**	**+1.4**
KRSR	**Krestovskiy**	**6.01**	**22**	P	**Pn**	**15 32 05.8**	**+1.4**
KLY	**Klyuchi**	**6.12**	**22**	P	**Pn**	**15 32 07.0**	**+1.2**
SRKR	**Sorokina**	**6.55**	**23**	P	**Pn**	**15 32 12.0**	**+0.3**
SRKR	**Sorokina**	**6.55**	**23**	P	**Pn**	**15 32 12.0**	**+0.3**
KBTR	**Krutoberegovo**	**6.66**	**32**	*e*P	**Pn**	**15 32 12.4**	**-0.7**
KBTR	**Krutoberegovo**	**6.66**	**32**	*e*P	**Pn**	**15 32 12.4**	**-0.7**
SONM	**Songino Array**	**32.31**	**285**	P	**P**	**15 36 52.8**	**-0.9**
	comp=N,0.4nm,0.5s,mb3.4,baz=74,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**47.17**	**296**	P	**P**	**15 38 55.2**	**-1.2**
	comp=N,0.5nm,0.3s,mb3.6,baz=58,slow=6.9,SNR=6.7						
MKAR	**Makanchi Array**	**47.17**	**296**	P	**P**	**15 38 55.2**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**54.82**	**341**	P	**P**	**15 39 50.6**	**-3.0**
	comp=Z,2.8nm,1.1s,mb3.9,baz=39,slow=7.8,SNR=9.7						
ARCES	**ARCESS Array B**	**54.82**	**341**	P	**P**	**15 39 50.7**	**-2.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**61.38**	**335**	P	**P**	**15 40 36.1**	**-3.1**
	comp=Z,1.6nm,0.9s,mb3.9,baz=41,slow=6.1,SNR=5.9						
FINES	**FINESS Array B**	**61.38**	**335**	P	**P**	**15 40 36.1**	**-3.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**73.02**	**202**	P	**P**	**15 41 52.3**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=17,slow=5.9,SNR=5.5						
TXAR	**Lajitas Array**	**73.66**	**64**	P	**P**	**15 41 57.3**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=291,slow=5.2,SNR=4.4						
ASAR	**Alice Springs**	**76.71**	**201**	P	**P**	**15 42 14.5**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.2,baz=15,slow=5.2,SNR=16						

IGQ 09 15:32:54.7, 007N×7743W, h20km±1km**, Mb4.3, Ms4.1, 4C-15D, Error ellipse: s-maj=2.3km s-min=1.9km az=24.9, Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONE	**Cono NE Rev Vo**	**0.25**	**237**	⇓P	Pg	15 33 00.8	+0.2
LAV3	**Lava3-Reventad**	**0.26**	**231**	⇓P	Pg	15 33 00.8	0.0
CAYA	**Cayambe**

PEL				*i* S	Sn	15 40 04.4	+0.6
FCH	**Farellones**	**1.62**	**195**	*e*P	Pn	15 39 44.5	+1.3
FCH				*i* S	Sn	15 40 07.0	+2.3
FCH				AML	AML	15 40 10.2	
	comp=N,102nm,0.1s						
TLL	**Tololo Astrono**	**1.82**	**331**	⇑*i*P	Pn	15 39 46.8	+1.2
TLL				*i* S	Sn	15 40 10.2	+1.2
TLL				AML	AML	15 40 12.3	
	comp=N,146nm,0.5s						
TLL	**Tololo Astrono**	**1.82**	**331**	⇑*i*P	Pn	15 39 46.8	+1.2
TLL				*i* S	Sn	15 40 10.2	+1.2
RCDM	**Rinconada Maip**	**1.93**	**206**	*e*P	Pn	15 39 47.1	+0.2
RCDM				*i* S	Sn	15 40 12.3	+0.8
RCDM				AML	AML	15 40 15.1	
	comp=E,130nm,0.1s						
RCDM	**Rinconada Maip**	**1.93**	**206**	*e*P	Pn	15 39 47.1	+0.2
RCDM				*i* S	Sn	15 40 12.3	+0.8
PCH	**Pirque**	**1.95**	**198**	*i* S	Sn	15 40 13.2	+1.1
CHCH	**Chadas Angostu**	**2.29**	**199**	*e*P	Pn	15 39 52.0	+0.5
CHCH				*i* S	Sn	15 40 20.2	+0.5
CACH	**El Canelo**	**2.45**	**196**	*i* S	Sn	15 40 25.3	+1.9

BJI ***09*** *15:43:47.6, 5.19N× 126.13E, h122km, mB5.2, mb5.1*
IDC ***09*** *15:43:51.8± 1.3, 590N× 12599E, h100km± 10km, mb4.5/25, mb1 4.6/25, mb1mx4.5/28, mbtmp4.5/25, Error ellipse: s-maj=17.5km s-min=8.8km az=74.0*
ISCJB ***09*** *15:43:52.4± 0.2, 587N× 002× 126.14E± 003, h118km, mb4.9/81, Error ellipse: s-maj=4.6km s-min=2.7km az=129.7*
MAN ***09*** *15:43:52, 575N× 12608E, h104km, mb5.3, ML5.8, MS2.5*
MAN F INTENSITY II - GEN SANTOS DAVAO CITY.
MOS ***09*** *15:43:53.6± 1.2, 591N× 12604E, h131km, mb5.0/25, Error ellipse: s-maj=11.9km s-min=6.2km az=104.5*
NEIC ***09*** *15:43:54.4± 0.8, 591N× 12605E, h122km± 7km, mb5.0/42, Error ellipse: s-maj=7.9km s-min=4.6km az=75.0*
NEIC Felt [II PIVS] at Davao and General Santos.

ISC 09 15:43:54.3± 0.2, 589N× 002× 12612E± 003, h120km, h120km± 3.8km: pP-P, n203, σ1ⁿ17/234, mb4.9/81, 42C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.06**	**7**	*e*P		**Pn**		**15 44 14.6**	**-2.4**
GSPH	**General Santos**	**1.18**	**280**	⇑*e*P		**Pn**		**15 44 13.9**	**-4.3**
GSPH				*i* S		**Sn**		**15 44 30.9**	**-5.4**
DAV	**Davao City (W)**	**1.29**	**335**	⇑*i*P		**Pn**		**15 44 17.5**	**-1.9**
DAV	**Davao City (W)**	**1.29**	**335**	*i*Pn		**Pn**		**15 44 17.6**	**-1.8**
DAV				*e*Sn		**Sn**		**15 44 34.2**	**-4.3**
DMPH	**Davao City--Mi**	**1.34**	**333**	⇑*i*P		**Pn**		**15 44 18.0**	**-1.9**
DMPH				*i* S		**Sn**		**15 44 38.3**	**-1.0**
KCP	**Kidapawan**	**1.52**	**317**	⇓*i*P		**Pn**		**15 44 20.2**	**-1.7**
KCP				*i* S		**Sn**		**15 44 41.0**	**-1.9**
BUKP	**Musuan**	**2.24**	**332**	*e*P		**Pn**		**15 44 30.1**	**-0.7**
BUKP				*e*S		**Sn**		**15 44 58.9**	**+0.2**
CGP	**Cagayan de Oro**	**2.92**	**331**	⇑*i*P		**Pn**		**15 44 39.5**	**0.0**
CGP				*i* S		**Sn**		**15 45 14.6**	**+0.2**
DCPH	**Dipolog City**	**3.84**	**314**	⇑*e*P		**Pn**		**15 44 51.7**	**+0.1**
SCPH	**Surigao**	**3.92**	**351**	⇑*e*P		**Pn**		**15 44 52.0**	**-0.8**
IPIL	**Ipil**	**4.00**	**298**	⇑*e*P		**Pn**		**15 44 52.7**	**-1.1**
IPIL				*e*S		**Sn**		**15 45 41.5**	**+1.5**
IPIL	**Ipil**	**4.00**	**298**	*e*P		**Pn**		**15 44 52.9**	**-0.9**
IPIL				*e*S		**Sn**		**15 45 38.8**	**-1.2**
ZMPH	**Zamboanga City**	**4.17**	**285**	⇓*i*P		**Pn**		**15 44 54.6**	**-1.5**
ZMPH				*i* S		**Sn**		**15 45 41.1**	**-2.9**
TBP	**Tagbilaran**	**4.39**	**330**	*e*P		**Pn**		**15 44 58.4**	**-0.7**
TBP				*e*S		**Sn**		**15 45 51.0**	**+1.7**
MSLP	**Maasin**	**4.40**	**344**	*e*P		**Pn**		**15 44 58.2**	**-1.0**
MSLP				*e*S		**Sn**		**15 45 52.7**	**+3.1**
LLP	**Lapu-Lapu**	**4.89**	**334**	⇑*i*P		**Pn**		**15 45 05.6**	**-0.1**
LLP				*e*S		**Sn**		**15 45 55.4**	**-6.0**
OCLP	**Ormoc**	**5.35**	**344**	*e*P		**Pn**		**15 45 11.7**	**-0.2**
PLP	**Palo**	**5.37**	**348**	*e*P		**Pn**		**15 45 13.2**	**+1.1**
BESP	**Borongan**	**5.72**	**353**	*e*P		**Pn**		**15 45 19.0**	**+2.1**
BESP				*e*S		**Sn**		**15 46 27.4**	**+6.1**
GUIM	**Jordan**	**5.87**	**324**	*e*P		**Pn**		**15 45 18.6**	**-0.3**
RCP	**Roxas**	**6.55**	**330**	⇓*e*P		**Pn**		**15 45 29.4**	**+1.3**
CUYO	**Cuyo Island**	**7.06**	**315**	*e*P		**Pn**		**15 45 35.4**	**+0.4**
OTRP	**Odiongan**	**7.60**	**328**	*e*P		**Pn**		**15 45 44.5**	**+2.2**
TSM	**Tawau**	**8.37**	**259**	P		**Pn**		**15 45 54.5**	**+1.8**
TGY	**Tagaytay City**	**9.63**	**328**	P		**Pn**		**15 46 12.2**	**+2.5**
	24nm,0.3s,baz=144,slow=17,SNR=3.0								
KKM	**Kota Kinabalu**	**9.86**	**271**	P		**Pn**		**15 46 15.3**	**+2.5**
KKM	**Kota Kinabalu**	**9.86**	**271**	⇓*e*Pn		**Pn**		**15 46 14.1**	**+1.3**
KKM				*e*Sn		**Sn**		**15 48 02.9**	**+1.4**
CAUP	**Cauayan**	**11.77**	**339**	*e*P		**Pn**		**15 46 38.5**	**+0.2**
KAPI	**Kappang**	**12.56**	**211**	Pn		**Pn**		**15 46 47.7**	**-0.9**
	670nm,0.9s,SNR=12								
APYP	**Conner**	**12.82**	**339**	*e*P		**Pn**		**15 46 58.6**	**+6.5**
KSM	**Kuching**	**16.38**	**255**	⇓*e*Pn		**Pn**		**15 47 38.3**	**+1.2**
KSM				*e*S		**S**		**15 50 45.1**	**+5.4**
YHNB	**Yeheng**	**19.23**	**347**	*e*P		**P**		**15 48 09.0**	**0.0**
KAKA	**Kakadu**	**19.51**	**161**	*e*P		**P**		**15 48 11.8**	**-0.3**
	91nm,0.6s								
KAKA				*e*S		**S**		**15 51 53.7**	**+7.7**
KAKA				*e*SCP		ScP		15 55 54.8	+2.3
GUMO	**Guam**	**19.99**	**66**	P		**P**		**15 48 18.0**	**+0.8**
GUMO				pmax		pmax			
	comp=Z,102nm,0.9s								
GUMO	**Guam**	**19.99**	**66**	P		**P**		**15 48 17.9**	**+0.7**
	comp=Z,102nm,0.9s								
QIZ	**Qiongzhong**	**20.55**	**311**	⇑P		**P**		**15 48 23.3**	**+0.1**
QIZ				S		**S**		**15 52 09.2**	**+2.8**
QIZ	**Qiongzhong**	**20.55**	**311**	*e*P		**P**		**15 48 24.5**	**+1.3**
	comp=Z,34nm,1.0s								
JOW	**Kunigami**	**20.93**	**5**	P		**P**		**15 48 29.7**	**+2.4**
	comp=Z,26nm,0.7s,baz=167,slow=5.8,SNR=12								
KGM	**Kluang**	**23.07**	**261**	P		**P**		**15 48 50.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.84**	**181**	*e*P		**P**		**15 48 56.7**	**+0.4**
	comp=Z,39nm,0.4s,mb5.1								
FITZ				*e*S		**S**		**15 53 01.7**	**-1.7**
FITZ				*e*SCP		ScP		15 56 05.5	+2.1
FITZ	**Fitzroy Crossi**	**23.84**	**181**	P		**P**		**15 48 56.8**	**+0.5**
	comp=Z,22nm,0.5s,mb4.8,baz=9.8,slow=8.4,SNR=57								
FITZ				S		**S**		**15 53 02.6**	**-0.8**
	comp=Z,7.1nm,1.1s,baz=216,slow=6.4,SNR=3.8								
FITZ				ScP		ScP		15 56 05.6	+2.2
	comp=Z,4.2nm,0.8s,baz=301,slow=6.2,SNR=3.7								
IPM	**Ipoh**	**25.03**	**268**	P		**P**		**15 49 08.5**	**+1.4**
KULM	**Kulim**	**25.36**	**270**	*e*P		**P**		**15 49 11.0**	**+0.9**
SSE	**Sheshan**	**25.50**	**350**	P		**P**		**15 49 13.1**	**+1.7**
SSE				AMB		AMB			
	comp=Z,44nm,0.9s,mb4.9								
SSE	**Sheshan**	**25.50**	**350**	P		**P**		**15 49 13.1**	**+1.7**
	comp=Z,44nm,0.9s,mb4.9								
PMG	**Port Moresby**	**25.89**	**126**	P		**P**		**15 49 15.1**	**+0.3**
	comp=Z,64nm,0.8s,mb5.1,baz=330,slow=6.2,SNR=83								
PMG	**Port Moresby**	**25.89**	**126**	*c i*P		**P**		**15 49 15.1**	**+0.2**
PMG	**Port Moresby**	**25.89**	**126**	⇑*i*P		**P**		**15 49 14.9**	**0.0**
	comp=Z,74nm,0.8s,mb5.2								
CBIJ	**Chichi jima**	**26.05**	**34**	P		**P**		**15 49 15.0**	**-1.4**
	comp=Z,65nm,0.4s,mb5.4,baz=277,slow=5.9,SNR=15								
WRAB	**Tennant Creek**	**26.90**	**163**	P		**P**		**15 49 23.0**	**-1.0**
	comp=Z,231nm,0.5s,mb6.0,SNR=19								
WRAB	**Tennant Creek**	**26.90**	**163**	⇑*i*P		**P**		**15 49 23.8**	**-0.2**
NJ2	**Nanjing**	**26.91**	**346**	*e*P		**P**		**15 49 24.7**	**+0.7**
NJ2				AP		pP		15 49 52.2	+2.3
NJ2				XP		sP		15 50 05.8	+1.9
NJ2				PP		PP		15 50 13.7	-13
NJ2				S		**S**		**15 53 49.0**	**-2.9**
NJ2				AMB		AMB			
	comp=Z,80nm,0.8s,mb5.3								
NJ2				AMB		AMB			
	comp=Z,330nm,4.8s								
NJ2				LR		LR			
	comp=N,890nm,24.2s								
NJ2				LR		LR			
	comp=E,280nm,21.4s								
NJ2				LR		LR			
	comp=Z,200nm,16.6s								
WRA	**Warramunga Arr**	**26.91**	**163**	P		**P**		**15 49 23.7**	**-0.3**
	comp=Z,9.7nm,0.5s,mb4.6,baz=343,slow=10.0,SNR=53								
WRA				S		**S**		**15 53 50.8**	**-1.2**
	comp=Z,5.4nm,1.0s,baz=336,slow=15,SNR=6.8								
WRA				ScP		ScP		15 56 14.6	+2.5
	comp=Z,2.4nm,0.7s,baz=343,slow=3.1,SNR=8.0								
WRA	**Warramunga Arr**	**26.91**	**163**	P		**P**		**15 49 23.7**	**-0.3**
WRA				S		**S**		**15 53 50.8**	**-1.2**
WB2	**Warramunga Arr**	**26.91**	**163**	⇑*i*P		**P**		**15 49 23.7**	**-0.4**
WB2				*e*S		**S**		**15 53 50.8**	**-1.2**
WB2				*e*SCP		ScP		15 56 13.3	+1.1
PSI	**Prapat**	**27.29**	**265**	P		**P**		**15 49 30.1**	**+2.7**
	comp=Z,4.7nm,0.5s,mb4.3,baz=68,slow=5.4,SNR=4.9								
JNU	**Nakatsue**	**27.46**	**9**	P		**P**		**15 49 29.9**	**+1.0**
	comp=Z,27nm,1.0s,mb4.7,baz=188,slow=13,SNR=5.5								
MBWA	**Marble Bar**	**27.60**	**193**	*e*P		**P**		**15 49 29.5**	**-0.7**
	comp=Z,30nm,0.9s,mb4.8								
GYA	**Guiyang**	**27.63**	**320**	P		**P**		**15 49 32.8**	**+2.4**
GYA				AP		pP		15 49 58.9	+2.5
GYA				XP		sP		15 50 13.2	+2.8
GYA				PP		PP		15 50 26.1	-8.9
GYA				S		**S**		**15 54 04.7**	**+1.4**
GYA				XS		sS		15 54 50.3	+1.4
GYA				SCS		ScS		16 00 06.3	-0.1
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.6								
GYA				AMB		AMB			
	comp=Z,130nm,4.9s								
GYA				LR		LR			
	comp=N,460nm,16.4s								
GYA				LR		LR			
	comp=E,490nm,16.8s								
GYA				LR		LR			
	comp=Z,370nm,17.0s								
KMI	**Kunming**	**29.46**	**313**	P		**P**		**15 49 48.1**	**+1.4**
KMI				*PP		pP		15 50 19.1	+6.3
KMI				S		**S**		**15 54 34.6**	**+2.5**
KMI				pmax		pmax			
	comp=Z,11nm,0.7s,mb4.6								
KMI	**Kunming**	**29.46**	**313**	P		**P**		**15 49 48.1**	**+1.4**
	comp=Z,11nm,0.7s,mb4.6								
KMI				pP		pP		15 50 19.1	+6.3
KMI				S		**S**		**15 54 34.6**	**+2.5**
KMI				ScP		ScP		15 56 21.6	+1.5
KMI				LR		LR			
	comp=Z,80nm,35.6s								
AS31	**Alice Springs**	**30.34**	**166**	*e*P		**P**		**15 49 54.6**	**+0.2**
AS31				*e*S		**S**		**15 54 44.5**	**-1.3**
AS31				*e*ScP		ScP		15 56 25.3	+2.4
ASAR	**Alice Springs**	**30.34**	**166**	P		**P**		**15 49 54.6**	**+0.2**
	comp=Z,10nm,0.6s,mb4.7,baz=345,slow=7.2,SNR=217								
ASAR				S		**S**		**15 54 45.7**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=345,slow=24,SNR=8.0								
ASAR				ScP		ScP		15 56 25.1	+2.2
	comp=Z,4.3nm,0.8s,baz=351,slow=2.7,SNR=11								
ASAR	**Alice Springs**	**30.34**	**166**	P		**P**		**15 49 54.7**	**+0.3**
ASAR				S		**S**		**15 54 45.7**	**-0.1**
ASPA	**Alice Springs**	**30.34**	**166**	*e*P		**P**		**15 49 54.6**	**+0.2**
ASPA				*e*S		**S**		**15 54 44.5**	**-1.3**
ASPA				*e*SCP		ScP		15 56 25.3	+2.4
KSRS	**Korea Array**	**31.46**	**3**	P		**P**		**15 50 05.7**	**+1.3**
	comp=Z,9.5nm,0.8s,mb4.6,baz=184,slow=9.3,SNR=19								
KSRS				PcP		PcP		15 52 55.4	+0.7
	comp=Z,1.6nm,0.6s,baz=178,slow=3.0,SNR=4.4								
KSRS				ScP		ScP		15 56 31.6	+4.9
	comp=Z,1.7nm,0.7s,baz=178,slow=2.5,SNR=5.4								
XAN	**Xi'an**	**32.23**	**333**	P		**P**		**15 50 09.6**	**-1.5**
XAN				AMB		AMB			
	comp=Z,9.0nm,0.9s,mb4.5								
XAN				AMB		AMB			
	comp=Z,26nm,4.5s								
XAN				LR		LR			
	comp=N,766nm,13.8s								
XAN				LR		LR			
	comp=E,3μm,14.6s								
XAN				LR		LR			
	comp=Z,2μm,14.6s								
MAJO	**Matsushiro**	**32.46**	**18**	P		**P**		**15 50 11.1**	**-2.0**
MAJO				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.4								
MAJO	**Matsushiro**	**32.46**	**18**	P		**P**		**15 50 11.1**	**-2.0**
	comp=Z,6.2nm,0.7s,mb4.5								
MAT	**Matsushiro**	**32.46**	**18**	P		**P**		**15 50 11.9**	**-1.2**
MJAR	**Matsushiro Arr**	**32.46**	**18**	P		**P**		**15 50 11.9**	**-1.2**
	comp=Z,3.9nm,0.9s,mb4.1,baz=191,slow=8.6,SNR=6.8								
MJAR				ScP		ScP		15 56 33.6	+3.6
	comp=Z,1.6nm,0.8s,baz=254,slow=4.7,SNR=4.1								
CTA	**Charters Tower**	**32.53**	**143**	⇑*i*P		**P**		**15 50 15.3**	**+1.6**
	comp=Z,11nm,0.6s,mb4.9								
CTA				*e*SCP		ScP		15 56 34.2	+3.9
CTA	**Charters Tower**	**32.53**	**143**	⇑*i*P		**P**		**15 50 15.3**	**+1.6**
CTA				pmax		pmax			
	comp=Z,11nm,0.6s								
CTAO	**Charters Tower**	**32.53**	**143**	⇑*i*P		**P**		**15 50 15.2**	**+1.5**
CTAO				pmax		pmax			
	comp=Z,19nm,0.9s,mb4.9								
CTAO	**Charters Tower**	**32.53**	**143**	⇑*i*P		**P**		**15 50 15.2**	**+1.5**
	comp=Z,19nm,0.9s,mb4.9								
CD2	**Chengdu**	**32.57**	**323**	P		**P**		**15 50 13.6**	**-0.4**
CD2				AP		pP		15 50 38.1	-2.2
CD2				PP		PP		15 51 26.4	-3.5
CD2				S		**S**		**15 55 20.1**	**-0.5**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
CD2				AMB		AMB			
	comp=Z,30nm,5.8s								
DL2	**Dalian**	**33.12**	**354**	P		**P**		**15 50 20.2**	**+1.3**
DL2				AMB		AMB			
	comp=Z,50nm,0.7s,mb5.5								
BJT	**Baijiatuan**	**35.14**	**347**	*e*P		**P**		**15 50 36.7**	**+0.4**
BJT				pmax		pmax			
	comp=Z,55nm,0.9s								
BJT	**Baijiatuan**	**35.14**	**347**	*e*P		**P**		**15 50 36.7**	**+0.4**
	comp=Z,55nm,0.9s,mb5.4								
BJI	**Beijing**	**35.16**	**347**	*e*P		**P**		**15 50 36.6**	**+0.1**
BJI				AMB		AMB			
	comp=Z,51nm,0.8s,mb5.4								
BJI	**Beijing**	**35.16**	**347**	*e*P		**P**		**15 50 36.6**	**+0.1**
	comp=Z,51nm,0.8s,mb5.4								
SNY	**Shenyang**	**35.86**	**357**	⇑*i*P		**P**		**15 50 43.7**	**+1.3**
SNY				AMB		AMB			
	comp=Z,75nm,0.8s,mb5.7								
LZH	**Lanzhou**	**36.35**	**329**	⇑P		**P**		**15 50 46.5**	**-0.1**
LZH				AP		pP		15 51 14.8	+1.5
LZH				XP		sP		15 51 28.6	+1.6
LZH				PP		PP		15 52 13.1	+1.4
LZH				*e*S		**S**		**15 56 18.5**	**-0.3**
LZH				XS		sS		15 57 06.3	+1.1
LZH				AMB		AMB			
	comp=Z,24nm,1.3s,mb5.0								
LZH				AMB		AMB			
	comp=Z,135nm,5.4s								
LZH				LR		LR			
	comp=N,574nm,13.2s								
LZH				LR		LR			
	comp=Z,986nm,17.6s								
LZH	**Lanzhou**	**36.35**	**329**	⇑P		**P**		**15 50 46.5**	**-0.1**
LZH				*PP		pP		15 51 14.8	+1.5
LZH				*SP		sP		15 51 28.6	+1.6
LZH								15 52 13.1	
LZH				*e*S		**S**		**15 56 18.5**	**-0.3**
LZH				*SS		sS		15 57 06.3	+1.1
LZH				SS		SS		15 58 51.4	-10
LZH				pmax		pmax			
	comp=Z,24nm,1.3s,mb5.0								
LZH				MLR		MLR			
	comp=Z,990nm,17.6s								
LZH	**Lanzhou**	**36.35**	**329**	⇑P		**P**		**15 50 46.5**	**-0.1**
	comp=Z,24nm,1.3s,mb5.0								
LZH				pP		pP		15 51 14.8	+1.5
LZH				sP		sP		15 51 28.6	+1.6
LZH				PP		PP		15 52 13.1	+1.4
LZH				*e*S		**S**		**15 56 18.5**	**-0.3**
LZH				sS		sS		15 57 06.3	+1.1
LZH				SS		SS		15 58 51.4	-10
LZH				LR		LR			
	comp=Z,990nm,17.6s								
FORT	**Forrest**	**36.50**	**177**	*e*P		**P**		**15 50 47.0**	**-0.9**
	comp=Z,22nm,0.6s,mb5.3								
FORT				*e*SCP		ScP		15 56 46.8	+2.3
HNR	**Honiara**	**36.98**	**114**	P		**P**		**15 50 51.6**	**-0.4**
	comp=Z,46nm,0.6s,mb5.6,baz=281,slow=2.3,SNR=8.7								
HNR	**Honiara**	**36.98**	**114**	*e*P		**P**		**15 50 51.2**	**-0.8**
HNR				pmax		pmax			
	comp=Z,38nm,0.8s,mb5.4								
HNR	**Honiara**	**36.98**	**114**	*e*P		**P**		**15 50 51.2**	**-0.8**
	comp=Z,38nm,0.8s,mb5.4								
HHC	**Hu-ho-hao-te**	**37.17**	**342**	⇑P		**P**		**15 50 58.6**	**+5.0**
HHC				AP		pP		15 51 27.0	+6.7
HHC				XP		sP		15 51 41.2	+7.1
HHC				S		**S**		**15 56 37.4**	**+6.1**
HHC				XS		sS		15 57 24.3	+6.5
HHC				AMB		AMB			
	comp=Z,17nm,1.2s,mb4.8								
HHC				AMB		AMB			
	comp=Z,117nm,8.1s								
HHC				LR		LR			
	comp=N,425nm,13.3s								
HHC				LR		LR			
	comp=E,323nm,15.3s								
HHC				LR		LR			
	comp=Z,220nm,14.3s								
CN2	**Changchun**	**37.77**	**359**	*e*P		**P**		**15 50 59.2**	**+0.6**
CN2				*e*XP		sP		15 51 40.0	+0.9
CN2				*e*S		**S**		**15 56 40.4**	**+0.1**
CN2				AMB		AMB			
	comp=Z,20nm,0.6s,mb5.1								
CN2				AMB		AMB			
	comp=Z,400nm,3.0s								
KLBR	**Kellerberrin**	**38.11**	**192**	*e*P		**P**		**15 51 01.6**	**+0.1**
	comp=Z,7.9nm,0.4s,mb4.9								
MDJ	**Mudanjiang**	**38.70**	**4**	P		**P**		**15 51 08.1**	**+1.7**
MDJ				AP		pP		15 51 32.9	-0.4
MDJ				XP		sP		15 51 47.1	+0.1
MDJ				S		**S**		**15 56 59.0**	**+4.7**
MDJ				PCS		PcS		15 57 06.3	+1.0
MDJ				AMB		AMB			
	comp=Z,56nm,1.0s,mb5.3								
MDJ				AMB		AMB			
	comp=Z,159nm,4.0s								
MDJ	**Mudanjiang**	**38.70**	**4**	⇑*i*P		**P**		**15 51 07.7**	**+1.3**
	comp=Z,66nm,1.1s,mb5.4								
MUN	**Mundaring**	**38.82**	**193**	⇑*i*P		**P**		**15 51 07.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**39.51**	**192**	P		**P**		**15 51 13.1**	**0.0**
	comp=Z,11nm,0.4s,mb5.0,baz=5.3,slow=12,SNR=17								
NWAO	**Narrogin (SRO)**	**39.51**	**192**	*e*P		**P**		**15 51 13.5**	**+0.4**
NWAO				pmax		pmax			
	comp=Z,12nm,0.6s								
NWAO	**Narrogin (SRO)**	**39.51**	**192**	*e*P		**P**		**15 51 13.5**	**+0.4**
	comp=Z,12nm,0.6s,mb4.9								
STKA	**Stephens Creek**	**40.35**	**159**	⇑*i*P		**P**		**15 51 20.9**	**+0.9**
	comp=Z,25nm,0.9s,mb5.0								
STKA				*e*SCP		ScP		15 57 01.6	+2.4
STKA				*e*S		**S**		**15 57 19.6**	**+0.7**
STKA	**Stephens Creek**	**40.35**	**159**	P		**P**		**15 51 20.9**	**+0.9**
	comp=Z,30nm,0.7s,mb5.2,baz=342,slow=9.5,SNR=66								
STKA				ScP		ScP		15 57 01.9	+2.7
	comp=Z,1.9nm,0.8s,baz=330,slow=6.3,SNR=3.9								
LSA	**Lhasa**	**40.58**	**310**	*e*P		**P**		**15 51 20.1**	**-1.9**
LSA				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
LSA	**Lhasa**	**40.58**	**310**	*e*P		**P**		**15 51 20.1**	**-1.9**
	comp=Z,2.9nm,0.6s,mb4.3								
GTA	**Gaotai**	**40.95**	**328**	⇓P		**P**		**15 51 24.8**	**-0.2**
GTA				AP		pP		15 51 50.4	-1.7
GTA				PP		PP		15 53 04.5	+2.7
GTA				PCP		PcP		15 53 24.3	+1.3
GTA				SCP		ScP		15 57 02.7	+1.1
GTA				S		**S**		**15 57 26.9**	**-1.0**
GTA				SCS		ScS		16 01 15.9	-1.2
GTA				AMB		AMB			
	comp=Z,4.0nm,0.8s,mb4.3								
GTA				AMB		AMB			
	comp=Z,100nm,6.1s								
GTA				LR		LR			
	comp=N,267nm,14.1s								
GTA				LR		LR			
	comp=E,143nm,12.2s								
GTA				LR		LR			
	comp=Z,147nm,12.9s								
YSS	**Yuzh-Sakhalins**	**43.35**	**17**	*e*P		**P**		**15 51 45.2**	**+0.7**
YSS				pmax		pmax			
	comp=Z,54nm,1.4s,mb5.1								
YSS	**Yuzh-Sakhalins**	**43.35**	**17**	*e*P		**P**		**15 51 43.7**	**-0.8**
	comp=Z,17nm,0.6s,mb5.0								
KLR	**Kul'dur**	**43.46**	**5**	*e*P		**P**		**15 51 43.2**	**-2.1**
KLR				pmax		pmax			
	comp=E,70nm,1.8s								
KLR				pmax		pmax			
	comp=Z,100nm,1.8s,mb5.2								
HIA	**Hailar**	**43.57**	**354**	*e*P		**P**		**15 51 46.7**	**+0.5**
HIA				*e*				15 53 31.6	
HIA				pmax		pmax			
	comp=Z,16nm,0.8s								
HIA	**Hailar**	**43.57**	**354**	*e*P		**P**		**15 51 46.7**	**+0.5**
	comp=Z,16nm,0.8s,mb4.8								
HIA				*e*PcP		PcP		15 53 31.6	-0.1
ARMA	**Armidale**	**43.59**	**147**	*e*P		**P**		**15 51 48.2**	**+1.8**
JIRN	**Jiri**	**43.64**	**304**	*e*P		**P**		**15 51 47.1**	**+0.3**
	comp=Z,5.1nm,0.2s,mb4.9								
GUN	**Gumba**	**43.99**	**305**	*e*P		**P**		**15 51 50.2**	**+0.6**
	comp=Z,17nm,0.4s,mb5.1								
KKN	**Kakani**	**44.44**	**304**

KSH					*e*XP	sP	15 54 05.1	+2.2
KSH					*e*PCP	PcP	15 54 16.6	-1.0
KSH					*e*PP	PP	15 55 28.8	+1.6
KSH					*e*PPP		15 56 47.2	
KSH					*e*SCP	ScP	15 58 03.7	-1.9
KSH					*e*PCS	PcS	15 58 13.6	-4.6
KSH					*e*S	**S**	**16 00 55.4**	**-5.2**
KSH					*e*XS	sS	16 01 48.5	-1.4
KSH					*e*SCS	ScS	16 02 53.9	-4.5
KSH					AMB	AMB		
	comp=Z,808nm,2.7s							
KSH					LR	LR		
	comp=N,1μm,4.9s							
KSH					LR	LR		
	comp=E,838nm,5.1s							
KSH					LR	LR		
	comp=Z,812nm,11.2s							
MA2	**Magadan**	**56.78**	**15**	*e*P	**P**		**15 53 26.9**	**+1.1**
MA2				*e*			16 00 57.6	
MA2				pmax	pmax			
	comp=Z,20nm,0.6s,mb5.3							
MA2	**Magadan**	**56.78**	**15**	*e*P	**P**		**15 53 26.8**	**+1.0**
	comp=Z,33nm,0.6s,mb5.5							
AAK	**Ala-Archa**	**58.37**	**317**	*e*P	**P**		**15 53 35.9**	**-1.0**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**58.37**	**317**	*e*P	**P**		**15 53 35.3**	**-1.6**
	comp=Z,2.5nm,0.7s,mb4.3							
ZAL	**Zalesovo**	**58.41**	**333**	P	**P**		**15 53 35.5**	**-1.7**
	comp=Z,1.7nm,0.4s,mb4.5,baz=2.3,slow=5.6,SNR=6.8							
KURK	**Kurchatov**	**59.61**	**327**	P	**P**		**15 53 44.9**	**-0.6**
	comp=Z,106nm,0.6s,mb6.0,SNR=12							
KURK	**Kurchatov**	**59.61**	**327**	*c i*P	**P**		**15 53 44.4**	**-1.1**
KURK	**Kurchatov**	**59.61**	**327**	⇑ *i*P	**P**		**15 53 44.3**	**-1.2**
	comp=Z,16nm,0.8s,mb5.1							
KURK				*e*			15 54 02.2	
NVS	**Novosibirsk**	**59.69**	**333**	*e*P	**P**		**15 53 43.8**	**-2.2**
NVS				pmax	pmax			
	comp=Z,15nm,1.0s,mb5.0							
NVS				pmax	pmax			
	comp=N,14nm,1.2s							
NVS				pmax	pmax			
	comp=E,9.0nm,1.0s							
SEY	**Seymchan**	**60.09**	**14**	*e*P	**P**		**15 53 49.1**	**+0.4**
BVAR	**Borovoye Array**	**65.20**	**327**	P	**P**		**15 54 22.1**	**-0.6**
	comp=E,5.7nm,0.7s,mb4.5,baz=131,slow=8.6,SNR=14							
BRVK	**Borovoye**	**65.27**	**327**	P	**P**		**15 54 22.4**	**-0.7**
	comp=E,92nm,0.7s,mb5.7,SNR=8.0							
BRVK	**Borovoye**	**65.27**	**327**	*e*P	**P**		**15 54 21.9**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.9							
BRVK	**Borovoye**	**65.27**	**327**	*e*P	**P**		**15 54 21.9**	**-1.3**
	comp=Z,15nm,0.8s,mb4.9							
BRVK				*e*			15 54 39.7	
TIXI	**Tiksi**	**65.71**	**1**	*e*P	**P**		**15 54 25.6**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,41nm,1.3s,mb5.1							
TIXI	**Tiksi**	**65.71**	**1**	*e*P	**P**		**15 54 25.6**	**-0.4**
	comp=Z,41nm,1.3s,mb5.1							
WSAR	**Wadi Sarin**	**67.03**	**293**	P	**P**		**15 54 34.3**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.0,baz=159,slow=6.5,SNR=4.9							
BILL	**Bilibino**	**67.64**	**15**	⇓ *e*P	**P**		**15 54 38.9**	**+0.7**
BILL				*PP	pP		15 55 05.0	-2.8
BILL				pmax	pmax			
	comp=Z,24nm,1.4s,mb4.8							
BILL	**Bilibino**	**67.64**	**15**	*e*P	**P**		**15 54 38.1**	**-0.1**
	comp=Z,22nm,1.1s,mb4.9							
UNV	**Unalaska Valle**	**72.01**	**35**	*e*P	**P**		**15 55 05.5**	**+0.5**
	comp=Z,111nm,0.8s,mb5.7							
ARU	**Arti**	**72.80**	**327**	P	**P**		**15 55 08.1**	**-1.6**
	comp=Z,163nm,0.6s,mb6.0,SNR=9.1							
ARU	**Arti**	**72.80**	**327**	⇑ *e*P	**P**		**15 55 07.6**	**-2.1**
ARU				*e*			15 55 25.1	
ARU				pmax	pmax			
	comp=Z,17nm,0.6s,mb5.0							
ARU	**Arti**	**72.80**	**327**	⇑ *e*P	**P**		**15 55 07.6**	**-2.1**
	comp=Z,17nm,0.6s,mb5.0							
ARU				*e*PcP	PcP		15 55 25.1	-1.2
CASY	**Casey**	**72.87**	**187**	*e*P	**P**		**15 55 09.8**	**-0.3**
	comp=Z,11nm,0.9s,mb4.7							
ZEI	**Tsey**	**80.33**	**312**	*e*P	**P**		**15 55 50.4**	**-1.6**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
KDAK	**Kodiak Island**	**80.41**	**32**	P	**P**		**15 55 53.0**	**+0.6**
	comp=Z,195nm,0.6s,SNR=17							
KDAK	**Kodiak Island**	**80.41**	**32**	P	**P**		**15 55 53.4**	**+1.0**
	comp=Z,21nm,0.6s,mb5.2,baz=265,slow=4.6,SNR=33							
KDAK	**Kodiak Island**	**80.41**	**32**	*e*P	**P**		**15 55 53.3**	**+0.9**
	comp=Z,16nm,0.6s,mb5.0							
SLKM	**Skilak Lake**	**81.78**	**30**	*e*P	**P**		**15 55 59.9**	**+0.2**
PMR	**Palmer**	**82.36**	**29**	⇑ *e*P	**P**		**15 56 02.8**	**+0.1**
PMR				pmax	pmax			
	comp=Z,29nm,1.0s,mb5.1							
PMR	**Palmer**	**82.36**	**29**	⇑ *e*P	**P**		**15 56 02.8**	**+0.1**
	comp=Z,30nm,1.0s,mb5.1							
MCK	**McKinley**	**82.52**	**27**	⇑ *i*P	**P**		**15 56 03.7**	**+0.1**
MCK				pmax	pmax			
	comp=Z,34nm,0.9s,mb5.2							
MCK	**McKinley**	**82.52**	**27**	⇑ *i*P	**P**		**15 56 03.7**	**+0.1**
	comp=Z,34nm,0.9s,mb5.2							
SML	**Sawmill**	**82.74**	**29**	*e*P	**P**		**15 56 05.4**	**+0.7**
COLA	**College**	**83.02**	**25**	*c i*P	**P**		**15 56 06.4**	**+0.2**
COLA	**College**	**83.02**	**25**	⇑ *i*P	**P**		**15 56 06.0**	**-0.2**
	comp=Z,22nm,0.8s,mb5.0							
TMCR	**Tamitsa**	**83.91**	**334**	*e*P	**P**		**15 56 09.8**	**-0.9**
TMCR				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.0							
DIV	**Divide**	**83.97**	**29**	⇑ *i*P	**P**		**15 56 12.0**	**+1.0**
	comp=Z,238nm,1.0s,mb6.0							
OBN	**Obninsk**	**84.96**	**325**	P	**P**		**15 56 16.0**	**0.0**
OBN							16 06 26.2	
OBN				pmax	pmax			
	comp=Z,14nm,0.5s,mb5.2							
VNDA	**Vanda**	**85.63**	**173**	P	**P**		**15 56 19.1**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=320,slow=4.9,SNR=12							
VNDA	**Vanda**	**85.63**	**173**	*e*P	**P**		**15 56 18.7**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**85.63**	**173**	*e*P	**P**		**15 56 18.7**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.0							
EGAK	**Eagle**	**85.88**	**25**	⇓ *e*P	**P**		**15 56 21.4**	**+0.8**
	comp=Z,10.0nm,0.6s,mb4.9							
DAWY	**Dawson**	**86.72**	**26**	*e*P	**P**		**15 56 25.7**	**+1.1**
KEV	**Kevo**	**87.67**	**340**	*ep*	**P**		**15 56 24.2**	**-5.1**
	comp=Z,5.9nm,0.7s,mb4.7							
KEV	**Kevo**	**87.67**	**340**	*e*P	**P**		**15 56 24.2**	**-5.1**
KEV				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.7							
BRTR	**Keskin Array B**	**88.19**	**310**	P	**P**		**15 56 29.9**	**-1.8**
	comp=Z,1.5nm,0.8s,mb4.1,baz=114,slow=5.6,SNR=5.8							
ARCES	**ARCESS Array B**	**88.23**	**340**	P	**P**		**15 56 30.9**	**-1.0**
	comp=Z,7.8nm,0.8s,mb4.8,baz=76,slow=5.8,SNR=25							
ARE0	**ARCESS Array S**	**88.23**	**340**	*e*P	**P**		**15 56 30.6**	**-1.3**
INK	**Inuvik**	**88.39**	**21**	*e*P	**P**		**15 56 32.5**	**-0.2**
FINES	**FINESS Array B**	**89.66**	**332**	P	**P**		**15 56 37.2**	**-1.4**
	comp=Z,1.4nm,0.5s,mb4.4,baz=58,slow=5.3,SNR=14							
AKASG	**Malin Array Be**	**89.85**	**321**	P	**P**		**15 56 37.9**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.3,baz=69,slow=4.4,SNR=4.7							
SYO	**Syowa Base**	**94.20**	**201**	*e*P	**P**		**15 57 00.8**	**+1.2**
SYO	**Syowa Base**	**94.20**	**201**	⇑ *ep*P	pP		15 57 28.4	-2.3
DAG	**Danmarks Havn**	**95.05**	**352**	⇑ *i*P	**P**		**15 57 02.8**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.8							
DAG	**Danmarks Havn**	**95.05**	**352**	*i*P	**P**		**15 57 02.8**	**-0.7**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.8							
RES	**Resolute Bay**	**95.81**	**10**	*e*P	**P**		**15 57 07.0**	**+0.1**
	comp=Z,93nm,0.7s							
HFS	**Hagfors**	**95.84**	**332**	P	**P**		**15 57 05.6**	**-1.4**
	comp=Z,3.6nm,0.8s,mb4.8,baz=95,slow=7.4,SNR=6.5							
NB2	**NORSAR Subarra**	**96.60**	**334**	P	**P**		**15 57 08.3**	**-2.2**
	comp=Z,2.7nm,0.7s,mb4.8,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**96.60**	**334**	P	**P**		**15 57 09.0**	**-1.5**
	comp=Z,2.1nm,0.7s,mb4.7,baz=65,slow=4.6,SNR=6.6							
YKA	**Yellowknife Ar**	**97.80**	**24**	P	**P**		**15 57 16.1**	**+0.2**
	comp=Z,5.5nm,0.7s,mb5.2,baz=300,slow=4.3,SNR=17							
TXAR	**Lajitas Array**	**120.74**	**51**	PKP	PKPdf		16 02 34.3	+2.2
	comp=Z,0.6nm,0.7s,baz=270,slow=0.8,SNR=8.5							
TOA0	**Torodi Ar. Sit**	**121.66**	**289**	*e*PKPdf	PKPdf		16 02 34.0	+0.2
TORD	**Torodi Ar. Bea**	**121.66**	**289**	PKP	PKPdf		16 02 34.5	+0.7
	comp=Z,4.1nm,0.7s,baz=52,slow=2.0,SNR=30							
TORD				SKP			16 05 59.8	
	comp=Z,1.0nm,0.7s,baz=58,slow=1.4,SNR=5.6							
TORD				PKKPbc	PKKPbc		16 12 35.1	+2.0
	comp=Z,0.4nm,0.7s,baz=292,slow=3.7,SNR=5.5							
TORD	**Torodi Ar. Bea**	**121.66**	**289**	PKP	PKPdf		16 02 34.5	+0.7
TORD				SKP			16 05 59.8	
TORD				PKKPbc	PKKPbc		16 12 35.1	+2.0
JCT	**Junction City**	**123.09**	**48**	*e*PKIKP	PKPdf		16 02 37.4	+0.8
JTS	**JuntasAbangare**	**145.13**	**63**	*e*PKIKP	PKPdf		16 03 18.7	+1.2
TRQA	**Tornquist**	**147.14**	**168**	*e*PKPdf	PKPdf		16 03 21.4	+0.5
TRQA				*e*PKPbc	PKPbc		16 03 24.3	+1.0
OTAV	**Otavalo**	**154.73**	**77**	*e*PKPab	PKPab		16 04 00.5	+3.9
LPAZ	**La Paz**	**162.62**	**128**	PKP	PKPdf		16 03 45.5	+3.6
	comp=Z,1.5nm,0.8s,baz=312,slow=1.4,SNR=5.9							
LPAZ				PKPab	PKPab		16 04 35.6	+4.8
	comp=Z,2.8nm,0.8s,baz=232,slow=5.4,SNR=6.0							

*ISCJB **09** 15:49:48.1±0.5, 4556N±002×2652E±004, h124km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=67.8*
*BUC **09** 15:49:48.8±0.7, 4555N×2649E, h122km±7km, MD4.4/2, Error ellipse: s-maj=4.4km s-min=3.8km az=334.0*
*CSEM **09** 15:49:48.5±0.2, 4556N×2649E, h111km±2km, mb2.9, Error ellipse: s-maj=3.5km s-min=3.1km az=141.0*
*NEIC **09** 15:49:49.6, 4557N×2644E, h112km, MD2.7(SOF), After BUC.*
*SOF **09** 15:49:49.5, 4532N×2636E, h13km, MD2.7*
ISC 09 15:49:48.7±0.6, 4556N±002×2652E±004, h122km±5km, n46, σ0°92/85, 22C-7D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.34**	**25**	*i*P		**Pn**		**15 50 06.5**	**+0.5**
VRI				*i*S		**Sn**		**15 50 18.9**	**-0.2**
VRI	**Vrincioaia**	**0.34**	**25**	⇑P		**Pn**		**15 50 06.5**	**+0.5**
VRI				S		**Sn**		**15 50 19.1**	**0.0**
VRI	**Vrincioaia**	**0.34**	**25**	⇑ *i*P		**Pn**		**15 50 06.5**	**+0.5**
VRI				*i*S		**Sn**		**15 50 19.1**	**0.0**
MLR	**Muntele Rosu**	**0.41**	**261**	⇑ *i*P		**Pn**		**15 50 06.6**	**+0.2**
MLR				*i*S		**Sn**		**15 50 19.3**	**-0.4**
MLR	**Muntele Rosu**	**0.41**	**261**	⇑P		**Pn**		**15 50 06.5**	**+0.2**
MLR				S		**Sn**		**15 50 19.3**	**-0.4**
PETR		**0.52**	**72**	⇓ *i*P		**Pn**		**15 50 08.0**	**+1.0**
PETR				*i*S		**Sn**		**15 50 21.8**	**+1.0**
SECR		**0.62**	**212**	⇑ *i*P		**Pn**		**15 50 08.3**	**+0.7**
SECR				*i*S		**Sn**		**15 50 22.3**	**+0.4**
GHRR		**0.80**	**51**	⇑ *i*P		**Pn**		**15 50 10.0**	**+1.0**
GHRR				*i*S		**Sn**		**15 50 25.1**	**+0.7**
TUDR		**0.81**	**87**	⇓ *i*P		**Pn**		**15 50 09.4**	**+0.3**
TUDR				*i*S		**Sn**		**15 50 24.3**	**-0.2**
SULR		**0.90**	**192**	⇑ *i*P		**Pn**		**15 50 10.5**	**+0.5**
SULR				*i*S		**Sn**		**15 50 26.7**	**+0.6**
TESR		**0.96**	**5**	⇑ *i*P		**Pn**		**15 50 10.6**	**+0.1**
TESR				*i*S		**Sn**		**15 50 25.7**	**-1.2**
VARR		**0.99**	**71**	⇓ *i*P		**Pn**		**15 50 11.8**	**+1.0**
VARR				*i*S		**Sn**		**15 50 27.9**	**+0.4**
ONCR	**Oncesti**	**1.04**	**30**	⇑ *i*P		**Pn**		**15 50 11.7**	**+0.4**
ONCR				*i*S		**Sn**		**15 50 28.3**	**-0.1**
VOIR		**1.04**	**264**	⇑ *i*P		**Pn**		**15 50 11.0**	**-0.3**
VOIR				*i*S		**Sn**		**15 50 26.7**	**-1.8**
VOIR		**1.04**	**264**	⇑P		**Pn**		**15 50 11.0**	**-0.3**
VOIR				S		**Sn**		**15 50 26.7**	**-1.8**
MTUR	**Matau**	**1.08**	**253**	⇑ *i*P		**Pn**		**15 50 11.9**	**+0.2**
MTUR	**Matau**	**1.08**	**253**	⇑P		**Pn**		**15 50 11.9**	**+0.2**
CFR	**Carcaliu**	**1.20**	**108**	⇑ *i*P		**Pn**		**15 50 13.4**	**+0.5**
CFR				*i*S		**Sn**		**15 50 31.0**	**-0.3**
KGL	**Cahul**	**1.22**	**73**	*e*P		**Pn**		**15 50 13.3**	**+0.1**
KGL				*i*S		**Sn**		**15 50 31.3**	**-0.5**
	1μm,0.6s								
BUC1	**Bucharest**	**1.26**	**196**	⇓ *i*P		**Pn**		**15 50 13.9**	**+0.3**
BUC1				*i*S		**Sn**		**15 50 31.7**	**-0.8**
BUC1	**Bucharest**	**1.26**	**196**	⇓P		**Pn**		**15 50 13.9**	**+0.4**
BUC1				S		**Sn**		**15 50 31.7**	**-0.8**
LEOM	**Leova**	**1.51**	**52**	*i*P		**Pn**		**15 50 15.8**	**-0.5**
LEOM				*i*S		**Sn**		**15 50 36.7**	**-0.7**
	2μm,0.8s								
TIRR	**Tirgusor**	**1.73**	**129**	⇓ *i*P		**Pn**		**15 50 19.8**	**+0.8**
TIRR				*i*S		**Sn**		**15 50 41.9**	**-0.2**
TIRR	**Tirgusor**	**1.73**	**129**	*e*Pn		**Pn**		**15 50 19.6**	**+0.6**
TIRR				*e*Sn		**Sn**		**15 50 40.8**	**-1.3**
TIRR	**Tirgusor**	**1.73**	**129**	*e*Pn		**Pn**		**15 50 19.6**	**+0.6**
TIRR				*e*Sn		**Sn**		**15 50 40.8**	**-1.3**
IAS	**Iasi**	**1.78**	**23**	⇓ *i*P		**Pn**		**15 50 19.9**	**+0.3**
IAS				*i*S		**Sn**		**15 50 42.2**	**-1.0**
IAS	**Iasi**	**1.78**	**23**	⇑P		**Pn**		**15 50 19.9**	**+0.3**
IAS				S		**Sn**		**15 50 42.2**	**-1.0**
KIS	**Kishinev**	**2.15**	**47**	*i*S		**Sn**		**15 50 49.0**	**-2.1**
	800nm,0.8s								
PSN	**Preselentsi**	**2.22**	**147**	P		**Pn**		**15 50 26.4**	**+1.4**
PSN				S		**Sn**		**15 50 53.2**	**+0.4**
BURAR	**Bucovina Array**	**2.24**	**337**	⇑ *i*P		**Pn**		**15 50 26.9**	**+1.6**
BURAR				*i*S		**Sn**		**15 50 54.3**	**+1.0**
BURAR	**Bucovina Array**	**2.24**	**337**	⇑P		**Pn**		**15 50 26.9**	**+1.6**
BURAR				S		**Sn**		**15 50 54.3**	**+0.9**
SZH	**Strazhica**	**2.33**	**191**	P		**Pn**		**15 50 26.8**	**+0.4**
SZH				S		**Sn**		**15 50 53.5**	**-1.8**
SZH	**Strazhica**	**2.33**	**191**	P		**Pn**		**15 50 26.8**	**+0.4**
SZH				S		**Sn**		**15 50 53.8**	**-1.5**
PRD	**Provadia**	**2.44**	**165**	P		**Pn**		**15 50 28.8**	**+1.0**
PRD				S		**Sn**		**15 50 58.1**	**+0.3**
PVL	**Pavlikeni**	**2.49**	**200**	P		**Pn**		**15 50 29.8**	**+1.3**
PVL				S		**Sn**		**15 50 59.6**	**+0.6**
GZR	**Gura Zlata**	**2.64**	**268**	⇑ *i*P		**Pn**		**15 50 30.4**	**0.0**
GZR				*i*S		**Sn**		**15 51 01.2**	**-1.2**
GZR	**Gura Zlata**	**2.64**	**268**	⇑P		**Pn**		**15 50 30.4**	**0.0**
GZR				S		**Sn**		**15 51 01.2**	**-1.2**
DRGR		**2.92**	**296**	⇑ *i*P		**Pn**		**15 50 34.2**	**+0.2**
DRGR		**2.92**	**296**	⇑P		**Pn**		**15 50 34.2**	**+0.2**
JMB	**Yambol**	**3.09**	**179**	P		**Pn**		**15 50 36.2**	**0.0**
JMB				S		**Sn**		**15 51 10.4**	**-2.5**
JMB	**Yambol**	**3.09**	**179**	P		**Pn**		**15 50 36.3**	**+0.1**
JMB				S		**Sn**		**15 51 10.2**	**-2.7**
VTS	**Vitosha**	**3.81**	**220**	P		**Pn**		**15 50 46.0**	**+0.3**
GRUS	**Gruza**	**4.46**	**250**	*i* Pn		**Pn**		**15 50 51.8**	**-2.7**
GRUS				Sn		**Sn**		**15 51 38.5**	**-7.0**
DIVS	**Divcibare**	**4.87**	**255**	*i* Pn		**Pn**		**15 50 59.3**	**-0.6**
DIVS				Sn		**Sn**		**15 51 48.8**	**-6.5**
SEV	**Sevastopol'**	**5.16**	**99**	P		**Pn**		**15 51 04.0**	**+0.2**
SEV				S		**Sn**		**15 52 01.0**	**-1.3**
SUDU	**Sudak**	**6.03**	**93**	S		**Sn**		**15 52 20.0**	**-3.1**

*BJI **09** 15:55:46.5, 083N×9734E, h27km, mB5.4, mb5.1, Ms5.2, Ms2.5.1*
*ISCJB **09** 15:55:46.7±0.1, 091N±002×9726E±002, h24km, mb5.1/164, MS4.8/60, Error ellipse: s-maj=3.7km s-min=3.3km az=80.5*
*SZGRF **09** 15:55:47.8, 056N×9749E, h33km, mb5.0, Northern Sumatera, Indonesia*
*GCMT **09** 15:55:48.4±0.2, 103N×97.19E, h18km, MW5.2/80, Moment Tensor Solution. s53,c78; s80,c144; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.66±.17; Mθθ4.36±.12; Mφφ0.29±.11; Mr6.77±.35; Mθφ0.79±.08; Mθr=0.41±.27; Best double couple: Mo7.37600×10^16 NP1:φ=70.00000°, δ20.00000°, λ=-109.00000°. NP2: φ=271.00000°, δ71.00000°, λ=-83.00000°. Principal axes: T 7.2140, Plg26.0000°, Azm355.0000°; N 0.3220, Plg7.0000°, Azm88.0000°; P -7.5380, Plg63.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 15:55:48.1±0.9, 096N×9724E, h33km, mb5.4/80, MS4.7/13 Error ellipse: s-maj=8.1km s-min=4.5km az=115.1*
*NEIC **09** 15:55:48.4±0.1, 091N×9721E, mb5.2/86, MS4.5/1, Error ellipse: s-maj=4.5km s-min=3.6km az=224.0*
NEIC Felt [III] at Gunungsitoli.
*IDC **09** 15:55:49.2±3.9, 092N×9724E, h28km±26km, mb4.8/35, mb1 4.8/36, mb1mx4.8/37, mbtmp4.8/36, ML4.3/1, MS4.6/25, Ms1 4.6/25, ms1mx4.4/36, Error ellipse: s-maj=12.2km s-min=8.9km az=46.0*
ISC 09 15:55:48.8±0.1, 089N±002×9724E±002, h26km, h26km±.8km: pP-P, n420, σ1°02/443, mb5.1/164, MS4.8/60, 45C-30D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.54**	**42**	Pn		**Pn**		**15 56 27.7**	**-0.7**
	66nm,0.3s,baz=311,slow=6.7,SNR=102								
PSI				Sn		**Sn**		**15 57 04.5**	**+6.0**
	38nm,0.3s,baz=150,slow=14,SNR=4.6								
PSI				LR		LR		15 57 30.7	
	comp=Z,6μm,20.6s,baz=97,slow=42								
PSI	**Prapat**	**2.54**	**42**	Pn		**Pn**		**15 56 27.7**	**-0.7**

PSI					Sn	**Sn**		**15 57 04.5**	**+6.0**
PSI					LR	LR		15 57 30.7	
PPI	**Padang Panjang**	**3.43**	**113**		P	**Pn**		**15 56 40.7**	**0.0**
	778nm,0.9s								
BSI	**Banda Aceh**	**4.97**	**337**		P	**Pn**		**15 56 58.1**	**-3.7**
	380nm,0.8s								
IPM	**Ipoh**	**5.20**	**47**		P	**Pn**		**15 57 06.4**	**+1.5**
KULM	**Kulim**	**5.54**	**38**	⇑ *i*Pn		**Pn**		**15 57 09.6**	**0.0**
KULM				*e*Sn		**Sn**		**15 58 13.5**	**+0.9**
KGM	**Kluang**	**6.18**	**80**		P	**Pn**		**15 57 19.7**	**+1.2**
SNG	**Songkhla**	**7.10**	**28**		P	**Pn**		**15 57 30.0**	**-1.0**
	556nm,1.0s								
NNT	**Nongplab**	**11.88**	**12**		P	**Pn**		**15 58 36.0**	**-0.6**
COCO	**West Island**	**13.00**	**182**	*e*Pn		**Pn**		**15 58 49.9**	**-2.0**
	33nm,0.5s								
KSM	**Kuching**	**13.08**	**87**	*e*Pn		**Pn**		**15 58 54.6**	**+1.6**
BJII	**Banjamegara**	**14.88**	**123**		P	**Pn**		**15 59 20.9**	**+3.3**
	46nm,0.9s								
NST	**Nakhon Sawan**	**14.96**	**11**		P	**Pn**		**15 59 17.7**	**-0.9**
	50nm,0.7s								
KKTK	**Khon Kaen**	**16.31**	**19**		P	**Pn**		**15 59 38.0**	**+2.0**
CM31	**Chiang Mai Arr**	**17.54**	**5**	⇑ *e*Pn		**Pn**		**15 59 49.6**	**-1.9**
	21nm,0.6s								
PALK	**Pallekele**	**17.66**	**291**		Pn	**Pn**		**15 59 55.6**	**+2.6**
	193nm,1.3s,SNR=5.3								
PALK	**Pallekele**	**17.66**	**291**		P	**Pn**		**15 59 55.3**	**+2.3**
	SNR=7.2								
PALK	**Pallekele**	**17.66**	**291**		*e*Pn	**Pn**		**15 59 53.7**	**+0.7**
	51nm,1.0s								
PALK					*e*Sn	**Sn**		**16 02 50.4**	**-19**
CHTO	**Chiang Mai**	**17.89**	**5**		P	**Pn**		**15 59 54.6**	**-1.3**
	SNR=12								
CHTO	**Chiang Mai**	**17.89**	**5**	⇑ *i*P		**Pn**		**15 59 53.8**	**-2.0**
CHTO				pmax		pmax			
	comp=Z,20nm,0.6s								
CHTO	**Chiang Mai**	**17.89**	**5**	⇑ *i*Pn		**Pn**		**15 59 53.8**	**-2.1**
	comp=Z,20nm,0.6s								
KMMI	**Kalianget**	**18.46**	**116**		P	**Pn**		**16 00 02.1**	**-0.7**
	comp=Z,124nm,0.8s								
KKM	**Kota Kinabalu**	**19.62**	**74**		P	**Pn**		**16 00 17.0**	**+0.2**
KKM	**Kota Kinabalu**	**19.62**	**74**	*e*P		**Pn**		**16 00 16.2**	**-0.5**
MDRS	**Chennai**	**20.73**	**306**	*e*P		**P**		**16 00 27.0**	**-0.3**
MDRS				AMb		AMB		16 00 34.4	
	comp=Z,94nm,2.0s								
MDRS				*ex*		x		16 01 49.7	
TSM	**Tawau**	**20.89**	**80**		P	**P**		**16 00 30.9**	**+1.9**
TRD	**Trivandrum**	**21.57**	**291**	*e*P		**P**		**16 00 37.3**	**+0.9**
TRD				AMb		AMB		16 00 40.3	
	comp=Z,76nm,1.2s,mb5.0								
TRD				AMS		AMS		16 08 26.7	
	comp=Z,2μm,16.3s,MS4.6								
VIS	**Vishakhapatnam**	**21.60**	**322**	⇑ *i*P		**P**		**16 00 37.6**	**+0.8**
VIS				AMb		AMB		16 00 41.2	
	comp=Z,191nm,1.6s,mb5.3								
VIS				*e*S		**S**		**16 04 39.8**	**+5.1**
QIZ	**Qiongzhong**	**21.86**	**34**	⇓P		**P**		**16 00 39.7**	**+0.2**
QIZ				S		**S**		**16 04 41.5**	**+1.8**
QIZ				AMB		AMB			
	comp=Z,26nm,0.9s,mb4.7								
QIZ				LR		LR			
	comp=N,2μm,15.5s,MS4.9								
QIZ				LR		LR			
	comp=E,3μm,15.5s,MS4.9								
QIZ				LR		LR			
	comp=Z,3μm,13.3s,MS4.8								
QIZ	**Qiongzhong**	**21.86**	**34**	*e*P		**P**		**16 00 39.2**

LSA LR LR
comp=E,800nm,21.6s,MS4.4
LSA LR LR
comp=Z,1µm,21.6s,MS4.4
LSA Lhasa 29.23 349⇑ iP P 16 01 49.8 +1.3
LSA pmax pmax
comp=Z,32nm,0.8s,mb5.1
LSA Lhasa 29.23 349⇑ iP P 16 01 49.8 +1.3
comp=Z,32nm,0.8s,mb5.1
BHPL Bhopal 29.39 321 eP P 16 01 51.8 +1.9
BHPL AMb AMB 16 02 01.8
comp=Z,36nm,1.3s,mb4.9
GKN Gorkha 29.54 337 eP P 16 01 52.3 +1.1
comp=Z,154nm,0.8s,mb5.8
KOLN Koldanda 29.75 335 eP P 16 01 54.4 +1.3
comp=Z,133nm,0.7s,mb5.8
CD2 Chengdu 30.49 11 P P 16 01 58.9 -0.8
CD2 AP pP 16 02 06.4 -0.8
CD2 XP sP 16 02 11.8 +1.4
CD2 S **S 16 06 53.2 -6.2**
CD2 XS sS 16 07 10.6 -1.3
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,220nm,3.9s
CD2 LR LR
comp=N,6µm,15.0s
CD2 LR LR
comp=Z,8µm,14.4s,MS5.5
MBWA Marble Bar 31.05 136 eP P 16 02 05.2 +0.6
comp=Z,41nm,1.2s,mb5.1
AAI Ambon 31.27 99 P P 16 02 05.4 -1.2
comp=Z,37nm,0.8s,mb5.3
QZH Quanzhou 31.59 39⇑ iP P 16 02 08.4 -0.9
QZH S **S 16 07 13.0 -3.6**
QZH AMB AMB
comp=Z,580nm,3.3s
QZH LR LR
comp=N,5µm,13.5s,MS5.4
QZH LR LR
comp=E,3µm,15.3s,MS5.4
QZH LR LR
comp=Z,6µm,13.2s,MS5.5
LGTI Lohaghat 32.69 332 eP P 16 02 19.5 +0.5
AJM Ajmer 33.46 321 eP P 16 02 26.4 +0.6
AJM AMb AMB 16 02 29.4
comp=Z,48nm,1.6s,mb5.2
NDI New Delhi 33.61 327 eP P 16 02 24.9 -2.1
NDI eS **S 16 07 49.0 +0.9**
WHN Wuhan 33.67 27 ⇓P P 16 02 28.1 +0.5
WHN S **S 16 07 51.0 +2.0**
WHN LR LR
comp=Z,5µm,13.2s,MS5.4
FITZ Fitzroy Crossi 33.72 125 eP P 16 02 26.9 -1.1
comp=Z,18nm,0.7s,mb5.1
FITZ Fitzroy Crossi 33.72 125 P P 16 02 27.4 -0.6
comp=Z,10nm,0.8s,mb4.8,baz=259,slow=4.3,SNR=20
FITZ LR LR 16 17 24.1
comp=Z,868nm,19.3s,MS4.5,baz=314,slow=38
SWI Sorong 34.07 93 P P 16 02 29.2 -1.8
comp=Z,17nm,0.8s,mb5.0
LZH Lanzhou 35.55 9 ⇑P P 16 02 48.5 +4.7
LZH AP pP 16 02 55.8 +4.3
LZH XP sP 16 02 59.3 +4.7
LZH ePP PP 16 04 09.5 +4.8
LZH eS **S 16 08 24.1 +6.1**
LZH XS sS 16 08 35.6 +5.0
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,163nm,5.4s
LZH LR LR
comp=N,1µm,13.3s
LZH LR LR
comp=Z,2µm,17.4s,MS4.9
LZH Lanzhou 35.55 9 ⇑P P 16 02 48.5 +4.7
LZH *SP sP 16 02 59.3 +4.7
LZH e 16 04 09.5
LZH eS **S 16 08 24.1 +6.1**
LZH *SS sS 16 08 35.6 +5.0
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,2µm,17.4s,MS4.9
LZH Lanzhou 35.55 9 ⇑P P 16 02 48.5 +4.7
comp=Z,56nm,1.5s,mb5.3
LZH pP pP 16 02 55.8 +4.3
LZH sP sP 16 02 59.3 +4.7
LZH ePP PP 16 04 09.5 +4.8
LZH eS **S 16 08 24.1 +6.1**
LZH sS sS 16 08 35.6 +5.0
LZH eSS SS 16 10 44.5 -8.6
LZH LR LR
comp=Z,2µm,17.4s,MS4.9
NJ2 Nanjing 37.11 31 eP P 16 02 57.9 +0.8
NJ2 AP pP 16 03 04.6 -0.2
NJ2 XP sP 16 03 07.4 -0.5
NJ2 PP PP 16 04 24.9 +3.0
NJ2 S **S 16 08 43.5 +1.7**
NJ2 XS sS 16 08 55.5 +1.1
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,390nm,4.3s
NJ2 LR LR
comp=Z,4µm,15.4s,MS5.3
MUN Mundaring 37.30 153 eP P 16 03 00.6 +1.8
THN Thein Dam 37.36 329 eP P 16 02 58.6 -0.7
KAKA Kakadu 37.45 112 eP P 16 02 57.9 -2.1
comp=Z,8.2nm,0.6s,mb4.7
SSE Sheshan 37.64 35 P P 16 03 02.1 +0.4
SSE AP pP 16 03 11.0 +1.7
SSE XP sP 16 03 15.4 +3.0
SSE PP PP 16 04 28.6 +0.8
SSE S **S 16 08 51.3 +1.4**
SSE XS sS 16 09 05.5 +2.9
SSE SCS ScS 16 13 12.5 -0.6
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,183nm,4.3s
SSE LR LR
comp=N,1µm,16.0s,MS5.0
SSE LR LR
comp=E,2µm,15.9s,MS5.0
SSE LR LR
comp=Z,3µm,14.5s,MS5.2
SSE Sheshan 37.64 35 P P 16 03 02.1 +0.4
comp=Z,41nm,0.8s,mb5.2
SSE pP pP 16 03 11.0 +1.7
SSE sP sP 16 03 15.4 +3.0
SSE PP PP 16 04 28.6 +0.8
SSE S **S 16 08 51.3 +1.4**
SSE sS sS 16 09 05.5 +2.9
SSE SS SS 16 11 36.9 +1.4
SSE ScS ScS 16 13 12.5 -0.6
SSE LR LR
comp=Z,3µm,14.5s,MS5.3
GTA Gaotai 38.41 3 ⇑P P 16 03 08.3 +0.2
GTA AP pP 16 03 15.3 -0.5
GTA XP sP 16 03 17.7 -1.2
GTA PP PP 16 04 39.3 +3.1
GTA PCP PcP 16 05 21.9 +0.7
GTA S **S 16 09 02.0 +0.5**
GTA SCP ScP 16 09 05.2 -2.2
GTA PCS PcS 16 09 09.6 -0.7
GTA XS sS 16 09 15.0 +0.8
GTA SS SS 16 11 43.6 -7.1
GTA SCS ScS 16 13 15.6 -1.8
GTA AMB AMB
comp=Z,35nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,351nm,5.7s
GTA LR LR
comp=N,2µm,16.4s,MS5.1
GTA LR LR
comp=E,2µm,13.7s,MS5.1
GTA LR LR
comp=Z,2µm,15.2s,MS5.0
NWAO Narrogin (SRO) 38.57 153 P P 16 03 11.0 +1.6
comp=Z,50nm,0.8s,mb5.3,baz=332,slow=9.0,SNR=17
JOW Kunigami 39.42 47 P P 16 03 17.2 +0.6
comp=Z,19nm,0.5s,mb5.1,baz=216,slow=9.1,SNR=12
JOW LR LR 16 18 24.1
comp=Z,479nm,21.4s,MS4.3,baz=256,slow=34

TIA Tai'an 39.69 26 P P 16 03 18.3 -0.5
TIA S **S 16 09 13.0 -7.8**
TIA LR LR
comp=N,513nm,12.0s,MS4.9
TIA LR LR
comp=E,940nm,12.0s,MS4.9
BTO Baotou 41.20 15 eP P 16 03 30.3 -1.0
HHC Hu-ho-hao-te 41.84 16 eP P 16 03 37.5 +0.9
HHC AP pP 16 03 47.4 +3.1
HHC XP sP 16 03 51.2 +3.8
HHC PP PP 16 05 18.3 +4.8
HHC PCP PcP 16 05 33.2 +1.0
HHC SCP ScP 16 09 19.5 -1.3
HHC PCS PcS 16 09 24.4 +0.7
HHC S **S 16 09 53.6 +0.8**
HHC XS sS 16 10 08.6 +3.0
HHC SS SS 16 12 56.1 -3.3
HHC SCS ScS 16 13 35.3 -2.5
HHC AMB AMB
comp=Z,41nm,1.7s,mb4.8
HHC AMB AMB
comp=Z,298nm,6.1s
HHC LR LR
comp=N,3µm,16.7s,MS5.3
HHC LR LR
comp=E,2µm,15.9s,MS5.3
HHC LR LR
comp=Z,2µm,15.9s,MS5.2
WRA Warramunga Arr 41.84 122 P P 16 03 35.9 -0.7
comp=Z,21nm,0.8s,mb4.8,baz=301,slow=9.0,SNR=103
WRA PcP PcP 16 05 31.8 -0.4
comp=Z,3.1nm,0.8s,baz=305,slow=2.6,SNR=5.0
WRA S **S 16 09 49.9 -2.9**
comp=Z,0.6nm,0.8s,baz=284,slow=15,SNR=2.7
WRA LR LR 16 21 48.1
comp=Z,726nm,20.4s,MS4.5,baz=290,slow=37
WRA Warramunga Arr 41.84 122 P P 16 03 35.9 -0.7
WRA 16 05 31.8
WRA S **S 16 09 49.9 -2.9**
WRAB Tennant Creek 41.85 122 P P 16 03 36.6 0.0
comp=Z,162nm,0.7s,mb5.8,SNR=15
WRAB Tennant Creek 41.85 122 eP P 16 03 35.9 -0.7
WB2 Warramunga Arr 41.85 122 eP P 16 03 35.7 -1.0
WB2 ePCP PcP 16 05 31.8 -0.4
BJT Baijiatuau 42.59 22⇑ iP P 16 03 43.6 +0.9
BJT e*PP pP 16 03 49.8 -0.6
BJT pmax pmax
comp=Z,46nm,0.6s
BJT Baijiatuau 42.59 22⇑ iP P 16 03 43.6 +0.9
comp=Z,46nm,0.6s,mb5.4
BJT epP pP 16 03 49.8 -0.6
BJI Beijing 42.61 22 P P 16 03 43.7 +0.9
BJI AP pP 16 03 50.5 -0.1
BJI XP sP 16 03 55.0 +1.3
BJI PP PP 16 05 23.9 +2.1
BJI S **S 16 10 06.9 +2.7**
BJI XS sS 16 10 21.9 +5.0
BJI AMB AMB
comp=Z,73nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,440nm,4.0s
BJI LR LR
comp=N,1µm,15.1s,MS5.0
BJI LR LR
comp=E,768nm,15.3s,MS5.0
BJI LR LR
comp=Z,768nm,15.3s,MS4.7
BJI Beijing 42.61 22 P P 16 03 43.7 +0.9
BJI *SP sP 16 03 55.0 +1.3
BJI 16 05 23.9
BJI S **S 16 10 06.9 +2.7**
BJI *SS sS 16 10 21.9 +5.0
BJI pmax pmax
comp=Z,73nm,0.7s,mb5.5
BJI MLR MLR
comp=Z,770nm,15.3s,MS4.7
BJI Beijing 42.61 22 P P 16 03 43.7 +0.9
comp=Z,73nm,0.7s,mb5.5
BJI pP pP 16 03 50.5 -0.1
BJI sP sP 16 03 55.0 +1.3
BJI PP PP 16 05 23.9 +2.1
BJI S **S 16 10 06.9 +2.7**
BJI sS sS 16 10 21.9 +5.0
BJI SS SS 16 13 26.5 +12
BJI LR LR
comp=Z,770nm,15.3s,MS4.7
FORT Forrest 43.02 140⇓ iP P 16 03 47.2 +1.1
comp=Z,93nm,0.7s,mb5.6
KSH Kashi 43.06 336 eP P 16 03 48.2 +1.7
KSH eAP pP 16 03 55.0 +0.7
KSH eXP sP 16 03 59.6 +2.2
KSH ePP PP 16 05 31.4 +4.7
KSH ePCP PcP 16 05 39.5 +3.2
KSH ePPP 16 06 05.4
KSH eSCP ScP 16 09 27.8 +2.1
KSH eS **S 16 10 12.1 +1.3**
KSH eXS sS 16 10 25.5 +1.9
KSH eSS SS 16 13 18.4 -5.1
KSH eSCS ScS 16 13 44.6 -0.7
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=Z,3µm,8.6s
ASPA Alice Springs 43.18 127 eP P 16 03 47.4 -0.1
ASPA ePCP PcP 16 05 37.2 +0.6
AS31 Alice Springs 43.18 127 eP P 16 03 47.4 -0.1
AS31 ePCP PcP 16 05 37.2 +0.5
ASAR Alice Springs 43.18 127 P P 16 03 47.5 0.0
comp=Z,30nm,0.9s,mb5.0,baz=305,slow=7.8,SNR=219
ASAR PcP PcP 16 05 37.3 +0.6
comp=Z,4.5nm,0.8s,baz=300,slow=3.5,SNR=6.6
ASAR ScP ScP 16 09 26.6 +0.4
comp=Z,1.1nm,0.9s,baz=309,slow=3.0,SNR=4.2
ASAR S **S 16 10 10.1 -2.5**
comp=Z,0.6nm,1.0s,baz=290,slow=14,SNR=4.2
ASAR LR LR 16 23 37.9
comp=Z,1µm,20.1s,MS4.7,baz=311,slow=39
ASAR Alice Springs 43.18 127 P P 16 03 47.5 0.0
ASAR 16 05 37.3
ASAR S **S 16 10 10.1 -2.4**
WSAR Wadi Sarin 43.55 304 P P 16 03 51.6 +1.1
comp=Z,8.6nm,1.0s,mb4.4,baz=150,slow=7.5,SNR=5.3
WMQ Urumqi 43.58 350⇑ iP P 16 03 51.6 +0.9
WMQ AP pP 16 04 00.1 +1.6
WMQ XP sP 16 04 03.6 +2.0
WMQ PP PP 16 05 35.0 +2.7
WMQ PCP PcP 16 05 39.7 +1.7
WMQ SCP ScP 16 09 27.6 -0.2
WMQ PCS PcS 16 09 31.3 +0.5
WMQ S **S 16 10 17.8 -0.6**
WMQ XS sS 16 10 32.1 +0.9
WMQ AMB AMB
comp=Z,44nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,94nm,8.5s
WMQ LR LR
comp=N,428nm,23.7s,MS4.5
WMQ LR LR
comp=E,600nm,22.9s,MS4.5
WMQ LR LR
comp=Z,500nm,23.7s,MS4.3
DL2 Dalian 43.93 28 ⇑P P 16 03 54.2 +0.7
DL2 AP pP 16 04 01.0 -0.3
DL2 XP sP 16 04 06.2 +1.8
DL2 S **S 16 10 25.4 +1.9**
DL2 XS sS 16 10 41.0 +4.7
DL2 AMB AMB
comp=Z,60nm,0.7s,mb5.4
DL2 AMB AMB
comp=Z,130nm,3.9s
DL2 LR LR
comp=N,470nm,15.3s,MS4.8
DL2 LR LR
comp=E,830nm,16.9s,MS4.8
DL2 LR LR
comp=Z,730nm,14.6s,MS4.7
JNU Nakatsue 45.01 41 LR LR 16 23 26.6
comp=Z,3µm,18.1s,MS5.3,baz=102,slow=37
RBK Rabkut 45.41 294 ⇑P P 16 04 06.9 +1.6
SNR=5.6
KZA Kyzart 45.53 337 P P 16 04 07.7 +1.5
SNR=6.7
WHFO Wadi Hawf 45.92 294 ⇓P P 16 04 10.1 +0.8
SNR=6.9

UCH Uchtor 45.95 336 P P 16 04 11.1 +1.5
SNR=22
KS15 Wonju Array Si 46.05 34 eP P 16 04 10.5 +0.1
KSRS Korea Array 46.08 34 P P 16 04 10.3 -0.3
comp=Z,10nm,0.6s,mb4.9,baz=219,slow=9.2,SNR=41
KSRS LR LR 16 23 49.4
comp=Z,549nm,19.6s,MS4.5,baz=218,slow=36
TKM2 Tokmak 2 46.12 338 P P 16 04 12.0 +1.1
SNR=11
KBK Karagaybulak 46.14 337 P P 16 04 12.7 +1.6
SNR=31
AML Almayashu 46.20 336 P P 16 04 13.1 +1.6
SNR=12
AAK Ala-Archa 46.30 337 P P 16 04 12.2 -0.1
comp=Z,83nm,1.7s,mb5.4,SNR=6.3
AAK Ala-Archa 46.30 337 P P 16 04 13.2 +0.9
SNR=11
AAK Ala-Archa 46.30 337 P P 16 04 12.9 +0.6
SNR=18
AAK Ala-Archa 46.30 337 c iP P 16 04 12.2 -0.1
AAK pmax pmax
comp=Z,34nm,1.6s,mb5.0
AAK Ala-Archa 46.30 337⇑ iP P 16 04 12.1 -0.2
comp=Z,30nm,1.1s,mb5.1
FRU Bishkek 46.42 337 eP P 16 04 13.0 -0.2
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,700nm,16.0s,MS4.7
CHMS Chumysh 46.51 337 P P 16 04 14.6 +0.7
SNR=7.4
EKS2 Erkin-Say 46.61 336 P P 16 04 16.1 +1.4
SNR=6.0
USP Ospenovka 46.83 337 P P 16 04 17.3 +0.8
SNR=15
SNY Shenyang 47.16 27 ⇑P P 16 04 17.8 -1.3
SNY AP pP 16 04 25.2 -1.7
SNY XP sP 16 04 28.8 -1.2
SNY PP PP 16 06 10.0 0.0
SNY S **S 16 11 09.6 -0.5**
SNY AMB AMB
comp=Z,25nm,2.2s,mb4.8
SNY AMB AMB
comp=Z,324nm,3.5s
SNY LR LR
comp=N,1µm,13.5s
SNY LR LR
comp=Z,2µm,14.1s,MS5.1
SONM Songino Array 47.43 8 P P 16 04 21.6 +0.4
comp=Z,8.5nm,0.5s,mb4.9,baz=192,slow=9.2,SNR=110
SONM PcP PcP 16 05 51.8 +0.4
comp=Z,10nm,0.8s,baz=185,slow=3.8,SNR=7.4
SONM LR LR 16 27 02.7
comp=Z,3µm,18.2s,MS5.2,baz=193,slow=40
SONM Songino Array 47.43 8 P P 16 04 21.6 +0.4
SONM 16 05 51.8
MK31 Makanchi Array 47.55 346⇑ iP P 16 04 22.2 +0.1
MK31 *PP pP 16 04 29.6 -0.3
MK31 e 16 06 13.6
MKAR Makanchi Array 47.55 346 P P 16 04 22.3 +0.2
comp=Z,29nm,0.5s,mb5.5,baz=159,slow=8.0,SNR=202
MKAR LR LR 16 28 27.3
comp=Z,530nm,19.7s,MS4.5,baz=161,slow=41
KKAR Karatay Array 48.35 334 P P 16 04 28.2 -0.1
KKAR pmax pmax
comp=Z,31nm,1.0s,mb5.3
GUMO Guam 48.79 73 LR LR 16 24 40.4
comp=Z,339nm,21.1s,MS4.3,baz=326,slow=36
CN2 Changchun 49.56 27 ⇑P P 16 04 37.0 -0.6
CN2 eAP pP 16 04 44.5 -0.9
CN2 eXP sP 16 04 47.8 -0.7
CN2 eS **S 16 11 42.1 -1.9**
CN2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,1µm,15.0s,MS5.2
CN2 LR LR
comp=E,1µm,15.0s,MS5.2
CN2 LR LR
comp=Z,2µm,16.0s,MS5.1
ZAK Zakamensk 49.58 5 eP P 16 04 37.5 -0.2
ZAK e 16 05 59.6
ZAK e 16 06 32.6
MOY Mondy 50.69 3 eP P 16 04 46.0 -0.2
MOY pmax pmax
comp=Z,43nm,2.9s,mb4.9
PMG Port Moresby 50.75 103 P P 16 04 46.9 +0.3
comp=Z,28nm,0.8s,mb5.2,baz=298,slow=7.0,SNR=24
PMG Port Moresby 50.75 103 eP P 16 04 46.5 -0.1
PMG Port Moresby 50.75 103⇓ iP P 16 04 46.5 -0.1
comp=Z,26nm,0.8s,mb5.2
TLY Talaya 50.90 5 eP P 16 04 47.9 +0.2
TLY pmax pmax
comp=Z,12nm,0.7s,mb4.9
TLY MLR MLR
comp=Z,2µm,17.0s,MS5.2
TLY Talaya 50.90 5 eP P 16 04 48.0 +0.3
comp=Z,17nm,0.7s,mb5.1
IRK Irkutsk 51.51 6 eP P 16 04 51.6 -0.7
IRK e 16 06 11.2
IRK pmax pmax
comp=Z,46nm,2.2s,mb5.0
MAJO Matsushiro 51.89 42 P P 16 04 57.2 +2.1
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAJO Matsushiro 51.89 42 P P 16 04 57.2 +2.0
comp=Z,9.6nm,0.8s,mb4.8
MAT Matsushiro 51.89 42 P P 16 04 54.3 -0.8
MAT S **S 16 12 15.0 -1.3**
MJAR Matsushiro Arr 51.89 42 P P 16 04 55.2 0.0
comp=Z,2.4nm,0.6s,mb4.3,baz=229,slow=6.5,SNR=6.4
MJAR LR LR 16 30 07.2
comp=Z,339nm,18.4s,MS4.4,baz=240,slow=40
HIA Hailar 51.92 19⇑ iP P 16 04 55.4 +0.1
HIA e*PP pP 16 05 01.7 -1.5
HIA pmax pmax
comp=Z,23nm,0.8s
HIA Hailar 51.92 19⇑ iP P 16 04 55.4 +0.1
comp=Z,23nm,0.8s,mb5.2
HIA epP pP 16 05 01.7 -1.5
KURK Kurchatov 52.10 345 P P 16 04 56.1 -0.6
comp=Z,169nm,0.8s,mb6.0,SNR=20
KURK Kurchatov 52.10 345 P P 16 04 57.1 +0.4
SNR=12
KURK Kurchatov 52.10 345 d iP P 16 04 56.5 -0.2
KURK Kurchatov 52.10 345⇑ iP P 16 04 56.6 -0.1
comp=Z,15nm,0.6s,mb5.1
MDJ Mudanjiang 52.12 29 P P 16 04 57.1 +0.3
MDJ AP pP 16 05 03.4 -1.3
MDJ XP sP 16 05 06.3 -1.5
MDJ PCP PcP 16 06 08.0 -0.5
MDJ PP PP 16 06 54.4 -0.8
MDJ SCP ScP 16 10 01.2 -2.6
MDJ PCS PcS 16 10 07.7 +1.0
MDJ S **S 16 12 19.9 +0.5**
MDJ SS SS 16 15 57.7 +1.0
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,238nm,5.0s
MDJ LR LR
comp=N,415nm,19.1s,MS4.8
MDJ LR LR
comp=E,695nm,19.8s,MS4.8
MDJ LR LR
comp=Z,971nm,17.2s,MS4.9
MDJ Mudanjiang 52.12 29 P P 16 04 54.4 -2.5
comp=Z,13nm,0.8s,mb4.9
VLA Vladivostok 52.21 32 P P 16 05 02.0 +4.5
VLA pmax pmax
comp=Z,54nm,1.4s,mb5.3
VLA MLR MLR
comp=Z,1µm,13.1s,MS5.1
CTA Charters Tower 52.33 116 eP P 16 04 58.7 +0.3
comp=Z,11nm,0.9s,mb4.8
CTA Charters Tower 52.33 116 P P 16 04 58.8 +0.4
comp=Z,16nm,0.9s,mb5.0,baz=298,slow=9.3,SNR=14
CTA LR LR 16 27 04.8
comp=Z,720nm,22.0s,MS4.7,baz=289,slow=36
CTA Charters Tower 52.33 116 eP P 16 04 58.7 +0.3
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 52.33 116⇓ eP P 16 04 58.7 +0.3
CTAO pmax pmax

comp=Z,17nm,0.9s,mb5.0
CTAO Charters Tower 52.33 116⇓ *e*P P **16 04 58.7 +0.2**
comp=Z,17nm,0.9s,mb5.0
CIT Chita 52.76 13 *e*P P **16 05 02.6 +1.0**
CIT pmax pmax
comp=Z,100nm,1.8s,mb5.4
OPO Ambohidratompo 52.83 246 P P **16 05 03.4 +1.3**
comp=Z,19nm,0.9s,mb5.0,baz=54,slow=7.5,SNR=18
STKA Stephens Creek 53.12 132⇓ *i*P P **16 05 04.8 +0.5**
comp=Z,46nm,0.8s,mb5.5
STKA Stephens Creek 53.12 132 P P **16 05 05.1 +0.8**
comp=Z,55nm,0.8s,mb5.5,baz=309,slow=6.9,SNR=118
STKA LR LR 16 29 27.7
comp=Z,810nm,21.3s,MS4.7,baz=111,slow=38
ZAL Zalesovo 53.86 351 P P **16 05 09.8 +0.1**
comp=Z,60nm,0.5s,mb5.8,baz=312,slow=5.7,SNR=252
ZAL LR LR 16 32 29.8
comp=Z,704nm,18.2s,MS4.8,baz=301,slow=41
ZAL Zalesovo 53.86 351 P P **16 05 09.8 +0.1**
ZAL LR LR 16 32 29.8
RDF Al-Radifah 54.94 305 *e*P P **16 05 16.3 -1.2**
RDF AMb AMB 16 05 19.6
comp=Z,78nm,0.9s,mb5.8
NVS Novosibirsk 54.98 350⇓ *i*P P **16 05 16.7 -1.1**
NVS *e*S S **16 12 55.3 -3.0**
NVS pmax pmax
comp=Z,39nm,1.3s,mb5.3
NVS pmax pmax
comp=N,40nm,1.4s
NVS pmax pmax
comp=E,23nm,1.0s
NVS smax
comp=N,18nm,1.6s
NVS smax
comp=E,51nm,1.8s
UMR Umm Al-Rimmam 55.03 306 *e*P P **16 05 17.8 -0.4**
UMR AMb AMB 16 05 19.4
comp=Z,73nm,1.2s,mb5.6
KRAR Krasnoyarsk 55.06 357 *e*P P **16 05 18.5 +0.1**
KRAR pmax pmax
comp=Z,26nm,0.6s,mb5.4
NAY Al-Naaiem 55.30 305 *e*P P **16 05 19.9 -0.3**
NAY AMb AMB 16 05 21.1
comp=Z,29nm,0.7s,mb5.4
MIB Mutribah 55.43 306 *e*P P **16 05 21.1 0.0**
MIB AMb AMB 16 05 23.6
comp=Z,69nm,1.3s,mb5.5
VOSK Vostochnaya 56.10 341 P P **16 05 24.6 -1.3**
VOSK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KLR Kul'dur 56.51 26 *e*P P **16 05 25.6 -3.2**
KLR *e*S S **16 13 13.0 -5.6**
KLR pmax pmax
comp=Z,56nm,1.8s,mb5.3
BVA0 Borovoye Array 56.55 341 *i* P P **16 05 27.8 -1.3**
BVA0 pmax pmax
comp=Z,24nm,2.1s,mb4.9
BVAR Borovoye Array 56.55 341 P P **16 05 28.3 -0.8**
comp=Z,8.8nm,0.5s,mb5.0,baz=143,slow=9.3,SNR=96
BRVK Borovoye 56.61 341 P P **16 05 28.9 -0.6**
comp=Z,124nm,0.5s,mb6.2,SNR=14
BRVK Borovoye 56.61 341⇑ *i*P P **16 05 28.7 -0.8**
BRVK pmax pmax
comp=Z,11nm,0.5s,mb5.1
BRVK Borovoye 56.61 341⇑ *i*P P **16 05 28.7 -0.9**
comp=Z,11nm,0.5s,mb5.1
BOD Bodaibo 58.30 10 *e*P P **16 05 41.0 -0.4**
BOD *e* pP 16 05 47.1 -2.3
BOD pmax pmax
comp=Z,23nm,1.2s,mb5.1
TOO Toolangi 58.69 136 *e*P P **16 05 46.0 +1.8**
comp=Z,11nm,0.9s,mb4.9
TOO Toolangi 58.69 136 *e*P P **16 05 46.0 +1.8**
TOO pmax pmax
comp=Z,11nm,0.9s,mb4.9
ASAJ Asahikawa 58.89 37 LR LR 16 30 15.8
comp=Z,357nm,18.8s,MS4.5,baz=265,slow=35
AKTK Aktyubinsk 59.52 332 P P **16 05 48.5 -1.4**
AKTO Aktyubinsk 59.52 332 P P **16 05 48.5 -1.4**
comp=Z,2.7nm,0.5s,mb4.5,baz=133,slow=6.8,SNR=16
KMBO Kilima Mbogo 60.01 268⇓ *e*P P **16 05 54.6 +1.3**
KMBO pmax pmax
comp=Z,11nm,0.8s
KMBO Kilima Mbogo 60.01 268⇓ *e*P P **16 05 54.6 +1.3**
comp=Z,11nm,0.8s,mb4.9
CLNS Chul'man 60.02 17 *e*P P **16 05 51.8 -1.5**
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,14nm,0.8s,mb5.0
CLNS MLR MLR
comp=E,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.3
CLNS MLR MLR
comp=N,300nm,13.0s,MS5.2
ARMA Armidale 60.32 126⇓ *i*P P **16 05 57.7 +2.3**
CNB Canberra Magne 60.45 132 *e*P P **16 05 57.1 +0.8**
comp=N,14nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 60.58 34 *e*P P **16 05 57.2 0.0**
YSS *e**PP pP 16 06 04.7 -0.5
YSS pmax pmax
comp=Z,29nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 60.58 34 *e*P P **16 05 57.2 0.0**
comp=Z,29nm,0.9s,mb5.4
YSS *e*pP pP 16 06 04.7 -0.5
GNI Garni 61.54 316⇈ *e*P P **16 06 03.7 0.0**
GNI pmax pmax
comp=Z,56nm,1.4s
GNI Garni 61.54 316⇈ *e*P P **16 06 03.7 0.0**
comp=Z,56nm,1.4s,mb5.5
TAU Tasmania Unive 62.55 141 *e*P P **16 06 11.6 +1.1**
TAU pmax pmax
comp=Z,28nm,0.9s,mb5.4
TAU Tasmania Unive 62.55 141 *e*P P **16 06 11.6 +1.1**
comp=Z,28nm,0.9s,mb5.4
SVE Sverdlovsk 62.99 338⇈ *e*P P **16 06 12.0 -1.4**
SVE pmax pmax
comp=Z,80nm,1.6s,mb5.6
SVE MLR MLR
comp=Z,500nm,20.0s,MS4.7
ZEI Tsey 63.25 319 *e*P P **16 06 14.6 -0.5**
ZEI *e**PP pP 16 06 22.0 -1.1
ZEI *e* 16 06 50.4
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
HNR Honiara 63.27 101 P P **16 06 15.4 +0.2**
comp=Z,86nm,0.8s,mb5.9,baz=262,slow=3.1,SNR=19
HNR Honiara 63.27 101 *e*P P **16 06 15.1 -0.1**
comp=Z,90nm,0.9s,mb5.9
ARU Arti 63.48 337 P P **16 06 15.3 -1.3**
comp=Z,72nm,1.2s,mb5.7,SNR=5.7
ARU Arti 63.48 337⇑ *i*P P **16 06 15.5 -1.1**
ARU *e* 16 08 34.6
ARU *e*S S **16 14 46.4 -1.8**
ARU *e*SS SS 16 18 55.2 -0.2
ARU pmax pmax
comp=Z,34nm,1.5s,mb5.3
ARU Arti 63.48 337 *e*P P **16 06 15.2 -1.5**
comp=Z,46nm,1.3s,mb5.5
ARU *e*pP pP 16 06 24.1 -0.6
KIV Kislovodsk 64.56 319 *e*P P **16 06 23.3 -0.4**
KIV pmax pmax
comp=Z,25nm,1.3s,mb5.1
KIV Kislovodsk 64.56 319⇓ *e*P P **16 06 22.9 -0.8**
comp=Z,22nm,0.8s,mb5.2
ASF Jabal al Asfar 64.67 305 P P **16 06 25.7 +1.3**
comp=Z,3.3nm,0.7s,mb4.5,baz=346,slow=3.0,SNR=9.6
EIL Elat 65.65 302 *e*P P **16 06 31.2 +0.5**
comp=Z,368nm,0.9s
EIL *e*pP pP 16 06 38.8 0.0
YAK Yakutsk 65.70 16 *e*P P **16 06 30.3 -0.8**
YAK *e*S S 16 15 10.1 -5.5
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.2
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,19nm,1.6s
YAK smax
comp=N,280nm,3.2s
YAK smax
comp=E,346nm,3.4s
YAK MLR MLR
comp=Z,3μm,20.0s,MS5.5
YAK MLR MLR
comp=N,2μm,17.0s,MS5.4
YAK MLR MLR
comp=E,1μm,16.0s,MS5.4
YAK Yakutsk 65.70 16 *e*P P **16 06 29.7 -1.5**
comp=E,33nm,0.7s,mb5.5
SOC Sochi 66.37 318 *e*P P **16 06 33.4 -2.0**
SOC *e* 16 07 10.7
SOC *e* 16 08 59.1
SOC *e*S S 16 15 15.6 -8.2
SOC pmax pmax
comp=Z,37nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,411nm,20.0s,MS4.6
CASY Casey 67.69 174 *e*P P **16 06 43.1 -0.7**
comp=Z,80nm,2.0s,mb5.4
VRHR Novokhopersk 68.40 326 *e*P P **16 06 46.7 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,1.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.7s
BR131 Keskin Array S 69.34 312 *e*P P **16 06 52.9 -1.3**
comp=E,4.0nm,0.7s,mb4.5
BRTR Keskin Array B 69.34 312 P P **16 06 53.1 -1.0**
comp=E,5.4nm,0.9s,mb4.5,baz=136,slow=7.7,SNR=21
LSZ Lusaka 70.06 253 P P **16 06 59.5 +0.9**
comp=E,6.6nm,0.7s,mb4.7,baz=80,slow=5.3,SNR=19
LSZ Lusaka 70.06 253⇓ *e*P P **16 06 58.8 +0.2**
LSZ pmax pmax
comp=Z,38nm,1.5s,mb5.1
LSZ Lusaka 70.06 253⇓ *e*P P **16 06 58.8 +0.3**
comp=Z,38nm,1.5s,mb5.1
MATP Matopo 70.44 248 P P **16 07 01.8 +0.9**
comp=Z,33nm,0.7s,mb5.3,baz=80,slow=6.2,SNR=77
DZM Mont Dzumac 71.13 114 LR LR 16 41 30.1
comp=Z,371nm,18.5s,MS4.7,baz=226,slow=38
MA2 Magadan 71.59 26 *e*P P **16 07 07.4 -0.5**
MA2 pmax pmax
comp=Z,15nm,0.7s,mb5.0
MA2 Magadan 71.59 26 *e*P P **16 07 07.4 -0.5**
comp=Z,15nm,0.7s,mb5.0
MAW Mawson 72.42 193⇓ *i*P P **16 07 13.3 +0.5**
comp=Z,21nm,0.8s,mb5.1
MAW Mawson 72.42 193 P P **16 07 13.3 +0.5**
comp=Z,24nm,0.8s,mb5.2,baz=9.8,slow=6.1,SNR=31
MAW LR LR 16 35 36.3
comp=Z,321nm,18.7s,MS4.6,baz=347,slow=33
MAW Mawson 72.42 193⇓ *i*P P **16 07 13.3 +0.5**
MAW pmax pmax
comp=Z,21nm,0.8s
PET Petropavlovsk 72.47 34 *e*P P **16 07 12.5 -0.6**
PET *e*S S 16 16 27.2 -8.4
PET pmax pmax
comp=Z,32nm,1.2s,mb5.1
PET MLR MLR
comp=Z,400nm,17.0s,MS4.8
MOS Moscow 72.61 329 *e*P P **16 07 12.2 -1.8**
MOS *e* pP 16 07 20.3 -1.8
MOS *e* 16 09 53.9
MOS pmax pmax
comp=Z,86nm,1.4s,mb5.5
OBN Obninsk 72.90 328⇓ *e*P P **16 07 15.4 -0.3**
OBN *e* pP 16 07 23.5 -0.3
OBN *e*S S 16 16 42.6 +2.1
OBN *e* 16 17 32.3
OBN pmax pmax
comp=Z,42nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.4
OBN Obninsk 72.90 328 *e*P P **16 07 14.9 -0.8**
TIXI Tiksi 73.48 10 *e*P P **16 07 17.7 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
TIXI Tiksi 73.48 10 *e*P P **16 07 17.6 -1.5**
comp=Z,9.0nm,0.6s,mb4.9
LBTB Lobatse 73.78 244⇓ *i*P P **16 07 21.4 +0.5**
LBTB pmax pmax
comp=Z,14nm,0.7s,mb5.0
LBTB Lobatse 73.78 244⇓ *i*P P **16 07 21.4 +0.5**
comp=Z,14nm,0.7s,mb5.0
DRV Dumont d'Urvil 73.85 164 P P **16 07 22.0 +0.7**
DRV S S 16 16 54.0 +2.8
TIRR Tirgusor 74.37 316⇑ *i*P P **16 07 23.7 -0.6**
TIRR Tirgusor 74.37 316⇑ P P **16 07 23.7 -0.6**
BOSA Boshof 74.66 240 P P **16 07 25.8 -0.2**
comp=Z,10nm,0.7s,mb4.9,baz=80,slow=6.2,SNR=25
BOSA LR LR 16 36 09.8
comp=Z,335nm,19.1s,MS4.7,baz=76,slow=32
BOSA Boshof 74.66 240 *e*P P **16 07 26.0 0.0**
BOSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BOSA Boshof 74.66 240 *e*P P **16 07 26.0 0.0**
comp=Z,7.5nm,0.6s,mb4.8
IDI Anoyia 75.11 306 P P **16 07 28.8 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=91,slow=8.9,SNR=5.3
AKASG Malin Array Be 75.52 322 P P **16 07 29.6 -1.4**
comp=Z,3.4nm,0.5s,mb4.5,baz=90,slow=4.7,SNR=25
AKASG LR LR 16 44 12.9
comp=Z,147nm,21.4s,MS4.3,baz=140,slow=38
AKBB Malin Array Si 75.52 322 *e*P P **16 07 28.5 -2.5**
KIEV Kiev 75.53 322 *e*P P **16 07 29.3 -1.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 75.53 322 *e*P P **16 07 29.3 -1.7**
comp=Z,9.7nm,0.8s,mb4.8
VRI Vrincioaia 75.87 317⇑ *i*P P **16 07 33.3 +0.4**
VRI Vrincioaia 75.87 317⇑ P P **16 07 33.3 +0.3**
TMCR Tamitsa 76.22 337 *e*P P **16 07 33.7 -1.2**
TMCR pmax pmax
comp=Z,48nm,1.7s,mb5.2
MLR Muntele Rosu 76.32 317 P P **16 07 35.8 +0.3**
comp=Z,14nm,1.0s,mb4.8,baz=117,slow=6.0,SNR=11
MLR Muntele Rosu 76.32 317⇑ *i*P P **16 07 36.0 +0.5**
MLR Muntele Rosu 76.32 317⇑ P P **16 07 36.0 +0.5**
BURAR Bucovina Array 77.28 319⇓ *i*P P **16 07 41.4 +0.5**
BURAR Bucovina Array 77.28 319⇓ P P **16 07 41.4 +0.5**
LVV L'vov 78.53 321 *e*P P **16 07 47.1 -0.8**
SUR Sutherland 79.03 237 P P **16 07 52.7 +2.1**
comp=Z,287nm,0.9s,mb6.2,SNR=5.7
SUR Sutherland 79.03 237 *e*P P **16 07 52.3 +1.7**
comp=Z,47nm,0.9s,mb5.4
BZS Buzias 79.32 316⇑ *i*P P **16 07 51.9 -0.3**
BZS Buzias 79.32 316⇑ P P **16 07 51.9 -0.3**
KOLS Kolonicke sedl 79.47 320 *e*P P **16 07 53.0 -0.1**
SYO Syowa Base 79.72 198⇑ *e*P P **16 07 49.2 -5.2**
SYO Syowa Base 79.72 198⇑ *e*P P **16 07 54.4 0.0**
CRVS Cervenica-Dubn 80.00 319 *e*P P **16 07 55.0 -0.9**
STHS Stebnicka Huta 80.23 320 *i* P P **16 07 57.5 +0.4**
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
STHS Stebnicka Huta 80.23 320 *i* P P **16 07 57.5 +0.4**
comp=Z,8.4nm,0.9s,mb4.7
FINES FINESS Array B 80.29 333 P P **16 07 56.7 -0.8**
comp=Z,2.9nm,0.5s,mb4.5,baz=96,slow=6.7,SNR=41
FINES LR LR 16 49 55.9
comp=Z,251nm,18.5s,MS4.6,baz=307,slow=40
TSUM Tsumeb 80.52 250⇓ *i*P P **16 08 00.1 +1.4**
comp=Z,18nm,1.0s,mb5.0
KECS Kecovo 80.56 319 *e*P P **16 07 58.8 -0.1**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 80.56 319 *e*P P **16 07 58.8 -0.1**
comp=Z,3.8nm,1.1s,mb4.2
PSZ Piszkesteto 80.86 318⇓ *i*P P **16 07 59.8 -0.7**
PSZ Piszkesteto 80.86 318 *e*P P **16 08 00.2 -0.3**
PSZ pmax pmax
comp=Z,31nm,1.4s,mb5.0
PSZ Piszkesteto 80.86 318 *e*P P **16 08 00.2 -0.3**
comp=Z,31nm,1.4s,mb5.0
PSZ Piszkesteto 80.86 318⇑ *e*P P **16 08 00.9 +0.4**
OJC Ojcow 81.28 321 *e*P P **16 08 00.5 -2.3**
OJC Ojcow 81.28 321 *e*P P **16 08 00.0 -2.8**
BILL Bilibino 81.44 21 P P **16 08 02.0 -1.6**
BILL *e* 16 08 12.2
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.7
BILL MLR MLR
comp=Z,700nm,14.0s,MS5.2
BILL Bilibino 81.44 21 *e*P P **16 08 02.0 -1.6**
comp=Z,2.7nm,0.6s,mb4.3
PKSM Moragy 81.47 317⇓ *i*P P **16 08 03.3 -0.4**
PKSM Moragy 81.47 317⇓ P P **16 08 03.3 -0.4**
VYHS Vyhne 81.65 319 *e*P P **16 08 04.4 -0.3**
VYHS pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
VYHS Vyhne 81.65 319 *e*P P **16 08 04.4 -0.3**
comp=Z,8.1nm,1.4s,mb4.5
TIP Timpagrande 82.05 309⇓ *e*P P **16 08 06.8 0.0**
OKC Ostrava-Krasne 82.28 320 *e*P P **16 08 07.2 -0.8**
KEV Kevo 82.40 341 *e*p P **16 08 07.2 -1.5**
comp=Z,7.5nm,0.8s,mb4.7
KEV Kevo 82.40 341 *e*P P **16 08 07.2 -1.5**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
URZ Urewera 82.59 129 LR LR 16 46 06.7
comp=Z,754nm,19.0s,MS5.1,baz=279,slow=36
MORC Moravsky Berou 82.66 320⇑ *i*P P **16 08 09.9 -0.1**
MORC Moravsky Berou 82.66 320 *e*P P **16 08 10.0 0.0**
comp=Z,11nm,1.0s,mb4.8
MORC *e*pP pP 16 08 17.6 -0.7
ZST Bratislava 82.75 318 *e*P P **16 08 10.5 0.0**
comp=Z,11nm,0.8s,mb4.9
ZST LR LR
comp=Z,100nm,17.3s,MS4.2
ARCES ARCESS Array B 82.84 340 P P **16 08 10.6 -0.4**
comp=Z,2.9nm,0.5s,mb4.6,baz=105,slow=4.2,SNR=54
ARCES LR LR 16 49 35.7
comp=Z,426nm,19.9s,MS4.8,baz=110,slow=39
ARCES ARCESS Array B 82.84 340 P P **16 08 10.6 -0.4**
ARCES LR LR 16 49 35.7
SOP Sopron 83.06 318⇑ *e*P P **16 08 12.2 +0.1**
KOGS Kog 83.14 317 *e*P P **16 08 12.8 +0.3**
DPC Dobruska-Polom 83.58 321 *e*P P **16 08 14.7 +0.3**
KSP Ksiaz 83.58 321 *e*P P **16 08 14.1 -0.7**
UPC Upice 83.73 321 *e*P P **16 08 15.8 +0.3**
BOJS Bojanci 83.74 316 *e*P P **16 08 14.6 -1.0**
PERS Pernice 83.94 317 *e*P P **16 08 16.4 -0.2**
LJU Ljubljana 84.29 316 *e*P P **16 08 18.5 +0.1**
PRU Pruhonice 84.61 320 *e*P P **16 08 19.9 -0.1**
PVCC Panska Ves 84.64 321 *e*P P **16 08 20.4 +0.2**
VOY Vojsko 84.73 316 *e*P P **16 08 20.0 -0.6**
GEC2 GERESS Array S 85.07 319 *e*P P **16 08 22.2 -0.1**
comp=Z,27nm,1.3s,mb5.2
GEC2 GERESS Array S 85.07 319 *e*P P **16 08 22.2 -0.1**
GEC2 pmax pmax
comp=Z,27nm,1.3s,mb5.2
GERES GERESS Array B 85.07 319 P P **16 08 22.2 -0.1**
comp=Z,6.0nm,0.9s,mb4.7,baz=101,slow=5.6,SNR=28
BRG Berggiesshubel 85.07 321 *e*P P **16 08 22.1 -0.2**
comp=Z,15nm,1.2s,mb5.0
BRG Berggiesshubel 85.07 321 *e*P P **16 08 22.2 -0.1**
comp=Z,9.0nm,1.2s,mb4.8
BRG *e* 16 08 32.5
comp=Z,26nm,2.0s
BRG Berggiesshubel 85.07 321 *e*P P **16 08 22.2 -0.1**
BRG *e* 16 08 32.5
BRG pmax pmax
comp=Z,2.0nm,1.2s,mb4.1
BRG pmax pmax
comp=Z,9.0nm,2.0s,mb4.5
KHC Kasperske Hory 85.17 319 *e*P P **16 08 22.3 -0.5**
KHC Kasperske Hory 85.17 319 *e*P P **16 08 22.7 -0.1**
FBE Freiberg 85.45 321 *e*P P **16 08 24.3 +0.1**
comp=Z,24nm,1.4s,mb5.1
VNDA Vanda 85.52 169 P P **16 08 24.1 -0.5**
comp=Z,4.2nm,0.9s,mb4.7,baz=302,slow=4.7,SNR=21
VNDA LR LR 16 43 52.5
comp=Z,277nm,19.0s,MS4.7,baz=324,slow=34
VNDA Vanda 85.52 169 *e*P P **16 08 23.2 -1.4**
VNDA pmax pmax
comp=Z,31nm,1.8s
VNDA Vanda 85.52 169 *e*P P **16 08 23.2 -1.4**
comp=Z,31nm,1.8s,mb5.2
WET Wettzell 85.63 319 *e*P P **16 08 24.9 -0.2**
comp=Z,15nm,1.2s,mb5.1
WET Wettzell 85.63 319 *e*P P **16 08 24.9 -0.2**
WET pmax pmax
comp=Z,15nm,1.2s,mb5.1
CLL Collm 85.69 321 *e*P P **16 08 25.0 -0.4**
comp=Z,19nm,1.4s,mb5.1
CLL *e*S S 16 18 58.0 +1.7
CLL Collm 85.69 321 *e*P P **16 08 25.0 -0.4**
comp=Z,19nm,1.4s,mb5.1
CLL *e*S S 16 18 58.0 +1.7
CLL LmV 16 51 00.0
comp=Z,200nm,20.5s
NKC Novy Kostel 85.98 320 *e*P P **16 08 24.9 -1.9**
HFS Hagfors 86.01 330 P P **16 08 26.8 -0.2**
comp=Z,4.1nm,0.5s,mb4.9,baz=138,slow=5.1,SNR=36
GUNZ Gunzen 86.06 320 *e*P P **16 08 27.5 +0.3**
comp=Z,21nm,1.3s,mb5.2
ROTZ Rotzenmuhle 86.11 320 *e*P P **16 08 27.6 +0.1**
comp=Z,14nm,1.2s,mb5.1
MANZ Manzenberg 86.18 320 *e*P P **16 08 28.5 +0.6**
comp=Z,21nm,1.1s,mb5.3
MOX Moxa 86.53 321 *e*P P **16 08 29.7 +0.1**
comp=Z,14nm,1.5s,mb5.0
SBA Scott Base 86.62 169 *e*P P **16 08 30.4 +0.4**
SBA pmax pmax
comp=Z,14nm,1.0s,mb5.2
SBA Scott Base 86.62 169 *e*P P **16 08 30.4 +0.4**
comp=Z,14nm,1.0s,mb5.1
GRA1 Grafenberg Arr 86.74 320 *e*P P **16 08 30.9 +0.3**
comp=Z,23nm,1.3s,mb5.2
GRF Grafenberg Arr 86.74 320 *e*P P **16 08 30.9 +0.3**
comp=Z,23nm,1.3s,mb5.2
GRF Grafenberg Arr 86.74 320 *e*P P **16 08 30.9 +0.3**
GRF pmax pmax
comp=Z,23nm,1.3s,mb5.2
GRF Grafenberg Arr 86.74 320 *e*P P **16 08 30.9 +0.3**
GRF pmax pmax
comp=Z,23nm,1.3s,mb5.2
NB2 NORSAR Subarra 87.29 331 P P **16 08 32.3 -1.0**
comp=Z,5.8nm,0.8s,mb4.9,baz=96,slow=4.8
NOA NORSAR Array B 87.29 331 P P **16 08 32.6 -0.7**
comp=Z,6.5nm,0.9s,mb4.8,baz=93,slow=5.1,SNR=9.0
NOA LR LR 16 52 19.2
comp=Z,244nm,19.6s,MS4.6,baz=40,slow=39
CLZ Clausthal 87.36 322 *e*P P **16 08 34.0 +0.4**
comp=Z,36nm,1.6s,mb5.3
CLZ Clausthal 87.36 322 *e*P P **16 08 34.0 +0.4**
CLZ pmax pmax
comp=Z,36nm,1.6s,mb5.3
KEST Kesra 87.77 306 P P **16 08 36.9 +1.3**
comp=Z,4.0nm,0.8s,mb4.7,baz=227,slow=0.7,SNR=13
PGF Pioggiola 88.10 312 *e*P P **16 08 36.6 -0.6**
comp=Z,42nm,1.3s,mb5.2
PGF Pioggiola 88.10 312 *e*P P **16 08 36.6 -0.6**
PGF pmax pmax
comp=Z,21nm,1.3s,mb5.2
PGF Pioggiola 88.10 312 *e*P P **16 08 36.6 -0.6**
comp=Z,21nm,1.3s,mb5.2
TNS Taunus Mts 88.54 320 *e*P P **16 08 39.7 +0.5**
comp=Z,19nm,1.4s,mb5.2
TNS Taunus Mts 88.54 320 *e*P P **16 08 39.7 +0.5**
TNS pmax pmax
comp=Z,19nm,1.4s,mb5.2
BFO Black Forest 88.61 318 *e*P P **16 08 39.4 -0.2**
comp=Z,41nm,2.0s,mb5.4
BFO Black Forest 88.61 318 *e*P P **16 08 39.4 -0.2**
BFO pmax pmax
comp=Z,41nm,2.0s,mb5.4
SBF Sospel 89.25 314 *e*P P **16 08 41.8 -0.7**
BUG Bochum--Univer 89.29 321 *e*P P **16 08 43.1 +0.3**
comp=Z,50nm,1.4s,mb5.7
NVL N'lazarevskaya 89.31 199 *d i*P P **16 08 43.4 +0.5**
NVL *e*S SKSac 16 19 03.9 -7.3
NVL pmax pmax
comp=Z,40nm,0.9s,mb5.8
NVL MLR MLR
comp=Z,386nm,17.9s,MS4.9
MAIT Maitri 89.35 199 *e*P P **16 08 44.9 +1.9**
MBDF Montbardon 89.71 315 *e*P P **16 08 44.4 -0.3**
LPG La Plagne 89.71 315 *e*P P **16 08 44.5 -0.2**
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 89.71 315 *e*P P **16 08 44.5 -0.2**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPG La Plagne 89.71 315 *e*P P **16 08 44.5 -0.2**
comp=Z,9.3nm,0.9s,mb5.1
LPL La Plagne 89.72 315 *e*P P **16 08 44.4 -0.4**
comp=Z,32nm,1.0s,mb5.3
LPL La Plagne 89.72 315 *e*P P **16 08 44.4 -0.4**
LPL pmax pmax
comp=Z,16nm,1.0s,mb5.3
LPL La Plagne 89.72 315 *e*P P **16 08 44.4 -0.4**
comp=Z,16nm,1.0s,mb5.3
FRF La Foret Royal 89.82 313 *e*P P **16 08 44.8 -0.4**

comp=Z,37nm,1.2s,mb5.3
FRF La Foret Royal 89.82 313 *e*P **P 16 08 44.8 -0.4**
FRF pmax pmax
comp=Z,19nm,1.2s,mb5.3
FRF La Foret Royal 89.82 313 *e*P **P 16 08 44.8 -0.4**
comp=Z,18nm,1.2s,mb5.3
LMR La Mourre 89.93 313 *e*P **P 16 08 45.2 -0.5**
comp=Z,53nm,1.3s,mb5.4
LMR La Mourre 89.93 313 *e*P **P 16 08 45.2 -0.5**
LMR pmax pmax
comp=Z,26nm,1.3s,mb5.4
LMR La Mourre 89.93 313 *e*P **P 16 08 45.2 -0.5**
comp=Z,26nm,1.3s,mb5.4
HAU Haudompre 89.94 318 *e*P **P 16 08 44.8 -1.0**
comp=Z,91nm,1.6s,mb5.5
HAU *e*R
comp=Z,198nm,22.8s
HAU Haudompre 89.94 318 *e*P **P 16 08 44.8 -1.0**
HAU pmax pmax
comp=Z,46nm,1.6s,mb5.6
HAU MLR MLR
comp=Z,200nm,22.8s,MS4.5
HAU Haudompre 89.94 318 *e*P **P 16 08 44.8 -1.0**
comp=Z,46nm,1.6s,mb5.5
HAU LR LR
comp=Z,200nm,22.8s,MS4.5
CABF La Chapelle 90.15 316 *e*P **P 16 08 46.4 -0.4**
comp=Z,36nm,1.2s,mb5.3
CABF La Chapelle 90.15 316 *e*P **P 16 08 46.4 -0.4**
CABF pmax pmax
comp=Z,18nm,1.2s,mb5.3
CABF La Chapelle 90.15 316 *e*P **P 16 08 46.4 -0.4**
comp=Z,18nm,1.2s,mb5.3
ORIF Oris-en-Rattie 90.34 315 *e*P **P 16 08 47.4 -0.3**
comp=Z,23nm,1.1s,mb5.1
ORIF *e*R
comp=Z,177nm,21.5s
ORIF Oris-en-Rattie 90.34 315 *e*P **P 16 08 47.4 -0.3**
ORIF pmax pmax
comp=Z,11nm,1.0s,mb5.1
ORIF Oris-en-Rattie 90.34 315 *e*P **P 16 08 47.4 -0.3**
comp=Z,11nm,1.0s,mb5.2
SMRF Simiane la Rot 90.59 314 *e*P **P 16 08 48.1 -0.7**
comp=Z,35nm,1.2s,mb5.2
SMRF Simiane la Rot 90.59 314 *e*P **P 16 08 48.1 -0.7**
comp=Z,35nm,1.2s,mb5.6
QSPA South Pole Qui 90.84 180⇓ *i*P **P 16 08 50.1 +0.1**
comp=Z,6.4nm,0.8s,mb5.0
GIVF Givet 90.88 320 *e*P **P 16 08 49.7 -0.5**
VIVF Saint-Julien-l 91.20 315 *e*P **P 16 08 51.3 -0.4**
comp=Z,18nm,1.0s,mb5.0
VIVF Saint-Julien-l 91.20 315 *e*P **P 16 08 51.3 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
VIVF Saint-Julien-l 91.20 315 *e*P **P 16 08 51.3 -0.4**
comp=Z,8.9nm,1.0s,mb5.0
BAIF Baives 91.28 320 *e*P **P 16 08 51.7 -0.3**
comp=Z,46nm,1.0s,mb5.4
BAIF Baives 91.28 320 *e*P **P 16 08 51.7 -0.3**
BAIF pmax pmax
comp=Z,23nm,1.0s,mb5.5
BAIF Baives 91.28 320 *e*P **P 16 08 51.7 -0.3**
comp=Z,23nm,1.0s,mb5.5
LOR Lormes 91.65 317 *e*P **P 16 08 53.1 -0.6**
comp=Z,67nm,1.3s,mb5.5
LOR *e*R
comp=Z,165nm,23.0s
LOR Lormes 91.65 317 *e*P **P 16 08 53.1 -0.6**
LOR pmax pmax
comp=Z,33nm,1.3s,mb5.5
LOR MLR MLR
comp=Z,160nm,23.0s,MS4.4
LOR Lormes 91.65 317 *e*P **P 16 08 53.1 -0.6**
comp=Z,33nm,1.3s,mb5.5
LOR LR LR
comp=Z,160nm,23.0s,MS4.4
SMF Signal de Mont 91.70 317 *e*P **P 16 08 53.2 -0.8**
comp=Z,38nm,1.1s,mb5.3
SMF Signal de Mont 91.70 317 *e*P **P 16 08 53.2 -0.8**
SMF pmax pmax
comp=Z,19nm,1.1s,mb5.3
SMF Signal de Mont 91.70 317 *e*P **P 16 08 53.2 -0.8**
comp=Z,19nm,1.1s,mb5.3
LASF Ste Croix 91.82 314 *e*P **P 16 08 54.5 0.0**
SSF Saint Saulge 91.90 317 *e*P **P 16 08 54.3 -0.6**
comp=Z,50nm,1.6s,mb5.3
SSF Saint Saulge 91.90 317 *e*P **P 16 08 54.3 -0.6**
SSF pmax pmax
comp=Z,25nm,1.6s,mb5.3
SSF Saint Saulge 91.90 317 *e*P **P 16 08 54.3 -0.6**
comp=Z,25nm,1.6s,mb5.3
AVF Avril sur Loir 92.02 317 *e*P **P 16 08 54.8 -0.7**
comp=Z,41nm,1.2s,mb5.3
AVF Avril sur Loir 92.02 317 *e*P **P 16 08 54.8 -0.7**
AVF pmax pmax
comp=Z,20nm,1.2s,mb5.3
AVF Avril sur Loir 92.02 317 *e*P **P 16 08 54.8 -0.7**
comp=Z,20nm,1.2s,mb5.3
BGF Bois d'Agland 92.39 316 *e*P **P 16 08 57.0 -0.1**
comp=Z,55nm,1.2s,mb5.5
BGF Bois d'Agland 92.39 316 *e*P **P 16 08 57.0 -0.1**
BGF pmax pmax
comp=Z,28nm,1.2s,mb5.5
BGF Bois d'Agland 92.39 316 *e*P **P 16 08 57.0 -0.1**
comp=Z,28nm,1.2s,mb5.5
TCF Toulx Ste Croi 92.84 316 *e*P **P 16 08 58.8 -0.5**
comp=Z,26nm,1.4s,mb5.2
TCF Toulx Ste Croi 92.84 316 *e*P **P 16 08 58.8 -0.5**
TCF pmax pmax
comp=Z,13nm,1.4s,mb5.2
TCF Toulx Ste Croi 92.84 316 *e*P **P 16 08 58.8 -0.5**
comp=Z,13nm,1.4s,mb5.2
MTLF Montolieu 93.05 313 *e*P **P 16 09 00.0 -0.2**
comp=Z,38nm,1.4s,mb5.3
MTLF Montolieu 93.05 313 *e*P **P 16 09 00.0 -0.2**
MTLF pmax pmax
comp=Z,19nm,1.4s,mb5.3
MTLF Montolieu 93.05 313 *e*P **P 16 09 00.0 -0.2**
comp=Z,19nm,1.4s,mb5.3
RJF Les Rejaudoux 93.41 315 *e*P **P 16 09 01.9 +0.1**
RJF *e*R
comp=Z,184nm,22.0s
RJF Les Rejaudoux 93.41 315 *e*P **P 16 09 01.9 +0.1**
RJF LR LR
comp=Z,180nm,22.0s,MS4.5
LFF La Frestale 93.98 315 *e*P **P 16 09 04.5 0.0**
SNAA Sanae 94.01 198 *e*P **P 16 09 03.8 -0.8**
SNAA *e* 16 09 04.4
SNAA *e* pP 16 09 11.0 -2.0
SNAA *e* 16 09 14.7
SNAA Sanae 94.01 198 *e*P **P 16 09 04.8 +0.2**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
SNAA Sanae 94.01 198 *e*P **P 16 09 04.8 +0.2**
comp=Z,8.7nm,1.2s,mb5.1
LDF La Druitiere 94.21 319 *e*P **P 16 09 03.8 -1.8**
EPF Esparros 94.45 313 *e*P **P 16 09 05.6 -1.0**
GRR Gorron 94.72 319 *e*P **P 16 09 07.1 -0.8**
comp=Z,81nm,1.5s,mb5.6
GRR Gorron 94.72 319 *e*P **P 16 09 07.1 -0.8**
GRR pmax pmax
comp=Z,41nm,1.5s,mb5.6
GRR Gorron 94.72 319 *e*P **P 16 09 07.1 -0.8**
comp=Z,40nm,1.5s,mb5.6
TORD Torodi Ar. Bea 95.20 283 P **P 16 09 10.6 +0.6**
comp=Z,1.5nm,0.9s,mb4.4,baz=73,slow=4.8,SNR=8.6
TORD LR LR 16 52 50.2
comp=Z,181nm,19.2s,MS4.6,baz=115,slow=36
VNA2 Neumayer--Watz 95.60 199 *e*P **P 16 09 12.6 +0.7**
baz=81,slow=2.6
VNA2 *e* 16 09 12.9
VNA2 *e* pP 16 09 19.5 -0.8
VNA2 *e* pP 16 09 21.5 +1.2
TBI Tubuai 111.69 115 *e*SS SS 16 30 41.0 +3.7
comp=Z,298nm,26.5s
TBI *e*LR LR 16 47 36.2
comp=Z,326nm,24.5s
PPT Papeete 112.35 109 *e*LR LR 16 47 53.9
comp=Z,205nm,23.5s
RKT Rikitea 124.76 118 *e*LR LR 16 53 33.4
comp=Z,193nm,22.8s
NVAR Mina Array Bea 129.01 36 PKP PKPdf 16 14 56.7 +2.4
comp=Z,1.6nm,0.8s,baz=297,slow=2.8,SNR=8.3
PDAR Pinedale Array 130.30 26 PKP PKPdf 16 14 55.5 -1.3
comp=Z,0.7nm,0.6s,baz=164,slow=1.9,SNR=5.8
MSU Marysvale 132.36 31 *e*PKIKP PKPdf 16 15 02.3 +1.6
SRU San Rafael 132.74 30 *e*PKIKP PKPdf 16 15 02.6 +1.2

MVL Millersville 138.89 353 *e*PKPdf PKPdf 16 15 12.5 -0.3
TXAR Lajitas Array 143.91 32 PKP PKPdf 16 15 20.6 -1.2
comp=Z,2.2nm,0.8s,baz=290,slow=0.9,SNR=17
JCT Junction City 144.84 26 *e*PKIKP PKPdf 16 15 22.9 -0.6
COW Cow Castle Cre 145.86 357 *e*PKPdf PKPdf 16 15 26.2 +1.0
LVC Limon Verde 154.55 211 *e*PKPdf PKPdf 16 15 38.8 0.0
LVC *e*PKPbc PKPbc 16 15 48.2 +1.0
LVC *e*PKPab PKPab 16 16 03.8 +1.9
SAML Samuel 158.93 247 *e*PKPdf PKPdf 16 15 44.8 +0.4
SAML *e*PKPab PKPab 16 16 21.7 +1.0
LPAZ La Paz 158.97 223 PKP PKPdf 16 15 46.0 +1.5
comp=Z,1.7nm,0.8s,baz=72,slow=1.8,SNR=8.7
LPAZ PKPab PKPab 16 16 22.7 +1.8
comp=Z,1.7nm,0.8s,baz=126,slow=8.3,SNR=5.4
LPAZ PP PP 16 20 01.8 +0.3
comp=Z,0.5nm,0.7s,baz=104,slow=6.0,SNR=3.5
LPAZ La Paz 158.97 223 PKP PKPdf 16 15 46.0 +1.5
LPAZ PKPab PKPab 16 16 22.7 +1.8
LPAZ PP PP 16 20 01.8 +0.3

IDC 09 16:06:28.5±2.4, 032N×9651E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/21, mbtmp3.2/4, ML2.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/18, Error ellipse: s-maj=62.6km s-min=30.0km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.45**	**44**	Pn	Pn	16 07 23.1	-0.5
	0.8nm,0.3s,baz=153,slow=6.9,SNR=6.0						
PSI				LR	LR	16 08 20.1	
	comp=Z,622nm,19.9s,baz=360,slow=33						
WRA	**Warramunga Arr**	**42.17**	**121**	P	P	16 14 22.8	-0.1
	0.3nm,0.8s,baz=301,slow=6.9,SNR=2.9						
ASAR	**Alice Springs**	**43.43**	**126**	P	P	16 14 33.7	+0.7
	0.2nm,0.5s,baz=298,slow=7.7,SNR=7.1						
MKAR	**Makanchi Array**	**47.93**	**347**	P	P	16 15 08.7	0.0
	0.2nm,0.5s,baz=156,slow=6.8,SNR=4.1						

IDC 09 16:08:15.6±2.0, 197N×12461E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=206.0km s-min=26.1km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**157**	P	P	16 13 29.3	-0.5
	0.4nm,0.5s,baz=334,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**27.04**	**161**	P	P	16 14 00.7	+1.2
	0.1nm,0.5s,baz=349,slow=7.5,SNR=7.9						
MKAR	**Makanchi Array**	**57.83**	**327**	P	P	16 18 08.7	-0.1
	0.4nm,0.8s,baz=111,slow=8.6,SNR=4.9						

*IDC **09** 16:08:27.1±0.9, 1502S×17370W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.1/15, mbtmp4.1/6, MS3.7/2, Ms1 3.7/2, ms1mx3.1/29, Error ellipse: s-maj=42.0km s-min=19.8km az=146.0*
*NEIC **09** 16:08:28.0±0.5, 1492S×17370W, h10km, mb4.3/4, Error ellipse: s-maj=23.5km s-min=11.8km az=145.0*
*ISCJB **09** 16:08:29.6±0.6, 149S±02×1737W±0.1, h35km, mb4.2/8, MS3.6/2, Error ellipse: s-maj=25.3km s-min=12.9km az=115.1*

ISC 09 16:08:30.8±0.6, 149S±02×1736W±01, h35km, n17, σ0$79/16, mb4.2/8, MS3.6/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**61**	Pn	Pn	16 09 02.5	+0.9
	83nm,0.3s,baz=38,slow=0.3,SNR=172						
AFI				Sn	Sn	16 09 23.0	-2.1
	108nm,0.3s,baz=50,slow=24,SNR=22						
AFI	**Afiamalu**	**1.97**	**61**	Pn	Pn	16 09 02.5	+0.9
AFI				eSn	Sn	16 09 20.9	-4.2
URZ	**Urewera**	**24.73**	**198**	LR	LR	16 22 24.8	
	comp=Z,125nm,19.9s,MS3.4,baz=145,slow=34						
RPZ	**Rata Peaks**	**31.62**	**202**	LR	LR	16 25 56.1	
	comp=Z,185nm,19.7s,MS3.8,baz=41,slow=33						
STKA	**Stephens Creek**	**44.18**	**239**	P	P	16 16 35.6	-0.6
	1.4nm,0.5s,mb3.9,baz=83,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**49.82**	**256**	P	P	16 17 20.6	+0.3
	0.6nm,0.4s,mb3.9,baz=97,slow=7.9,SNR=12						
AS31	**Alice Springs**	**50.13**	**251**	*e*P	P	16 17 22.1	-0.5
ASAR	**Alice Springs**	**50.13**	**251**	P	P	16 17 22.4	-0.3
	6.0nm,0.6s,mb4.8,baz=86,slow=8.1,SNR=73						
SBA	**Scott Base**	**63.77**	**185**	*e*P	P	16 18 59.9	+0.7
	3.5nm,0.8s,mb4.4						
VNDA	**Vanda**	**63.89**	**186**	P	P	16 19 00.5	+0.5
	1.7nm,0.8s,mb4.1,baz=12,slow=6.0,SNR=14						
VNDA	**Vanda**	**63.89**	**186**	P	P	16 19 00.5	+0.5
	1.0nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**74.03**	**42**	P	P	16 20 06.8	+3.8
	1.2nm,0.8s,mb3.9,baz=243,slow=10.0,SNR=5.9						
QSPA	**South Pole Qui**	**75.18**	**180**	*e*P	P	16 20 09.7	+0.1
	7.7nm,0.8s,mb4.7						
MCK	**McKinley**	**80.62**	**11**	*e*P	P	16 20 40.3	+0.4
	1.8nm,0.9s,mb4.0						
SNAA	**Sanae**	**93.45**	**177**	*e*	P	16 21 41.4	-1.2
VNA2	**Neumayer--Watz**	**93.90**	**175**	*e*	P	16 21 44.8	+0.1
	baz=196,slow=2.9						
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	PKPbc	16 28 08.8	+3.1
	2.5nm,0.7s,baz=124,slow=2.7,SNR=15						

*NEIC **09** 16:10:01.3±2.7, 6.14S×154.92E, h230km±24km, mb3.9/1, Error ellipse: s-maj=22.9km s-min=16.8km az=224.0*
*ISCJB **09** 16:10:02.0±3.4, 63S±02×154.9E±02, h252km±30km, mb3.5/5, Error ellipse: s-maj=33.7km s-min=23.8km az=82.0*
*IDC **09** 16:10:02.8±3.7, 6.22S×154.94E, h247km±36km, mb3.1/5, mb1 3.3/8, mb1mx3.2/18, mbtmp3.2/8, Error ellipse: s-maj=28.0km s-min=17.2km az=22.0*

ISC 09 16:10:02.3±3.3, 62S±02×1550E±01, h243km±29km, n12, σ0$87/15, mb3.5/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.41**	**247**	P	Pn	16 11 59.7	-1.1
	1.7nm,0.3s,baz=56,slow=8.6,SNR=13						
PMG				S	S	16 13 37.2	+1.0
	0.7nm,0.3s,baz=309,slow=13,SNR=6.1						
PMG	**Port Moresby**	**8.41**	**247**	*e*Pn	Pn	16 11 58.8	-2.0
PMG				P		16 11 59.7	
PMG				S	S	16 13 37.2	+1.0
PMG				*e*S	S	16 13 37.8	+1.6
CTA	**Charters Tower**	**16.25**	**211**	P	P	16 13 36.9	+0.8
	0.2nm,0.3s,baz=34,slow=13,SNR=3.8						
CTA	**Charters Tower**	**16.25**	**211**	P	P	16 13 36.9	+0.8
CTAO	**Charters Tower**	**16.25**	**211**	*e*P	P	16 13 36.1	0.0
	4.1nm,0.8s						
DZM	**Mont Dzumac**	**19.30**	**146**	P	P	16 14 09.6	+0.4
	1.7nm,0.3s,baz=287,slow=11,SNR=18						
WRA	**Warramunga Arr**	**24.31**	**234**	P	P	16 14 57.9	+0.2
	1.0nm,0.3s,mb4.0,baz=68,slow=10,SNR=27						
ASAR	**Alice Springs**	**26.74**	**227**	P	P	16 15 19.0	-0.5
	0.4nm,0.5s,mb3.3,baz=58,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**31.01**	**245**	P	P	16 15 55.9	-1.3
	1.6nm,0.8s,mb3.7,baz=63,slow=9.0,SNR=2.4						
SONM	**Songino Array**	**68.64**	**327**	P	P	16 20 40.0	+0.7
	0.2nm,0.4s,mb3.1,baz=129,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**82.78**	**319**	P	P	16 21 59.5	+0.3
	0.5nm,0.6s,mb3.4,baz=89,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**82.78**	**319**	P	P	16 21 59.5	+0.3

*BJI **09** 16:17:56.1, 46.48N×153.64E, h12km, mB4.8, mb4.4, Ms4.7, Ms2.4.2*
*JMA **09** 16:17:57.5±0.9, 46.51N×153.86E, h30km, M4.7*
*NEIC **09** 16:17:58.0±0.4, 46.50N×153.59E, h10km, mb4.6/15, Error ellipse: s-maj=10.6km s-min=6.6km az=133.0*
*ISCJB **09** 16:17:57.7±1.6, 46.44N±006×153.49E±008, h21km±11km, mb4.3/33, MS4.0/4, Error ellipse: s-maj=12.2km s-min=5.5km az=102.9*
*SKHL **09** 16:17:58.3±1.8, 46.21N×153.90E, h80km±39km*
*MOS **09** 16:18:01.5±1.5, 46.53N×153.45E, h52km, mb4.8/10, Error ellipse: s-maj=11.4km s-min=8.8km az=69.1*
*IDC **09** 16:18:03.5±3.9, 46.47N×153.52E, h52km±35km, mb3.9/17, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, ML4.0/2, Error ellipse: s-maj=18.5km s-min=14.3km az=113.0*

ISC 09 16:18:00.7±1.5, 4647N±006×15351E±007, h29km±11km, h16km±3.1km; pP-P, n99, σ1§36/120, mb4.3/33, MS4.0/4, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.13**	**255**	*e*P	**Pn**	**16 19 00.5**	**-1.2**
KUR				AMB	AMB	16 19 01.7	
	456nm,0.5s						
KUR				AMB	AMB	16 19 01.7	
	137nm,0.5s						
KUR				AMB	AMB	16 19 01.7	
	1μm,0.5s						
KUR				*i* S	**Sn**	**16 19 48.3**	**-0.7**
KUR				A		16 19 53.0	
	654nm,0.7s						
KUR				A		16 19 53.0	
	258nm,0.7s						
KUR	**Kuril'sk**	**4.13**	**255**	PN	**Pn**	**16 19 00.5**	**-1.2**
KUR				*i* S	**Sn**	**16 19 48.3**	**-0.7**
KUR				pmax	pmax		
	comp=N,460nm,0.5s						
KUR				pmax	pmax		
	comp=E,140nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				smax			
	comp=N,650nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.56**	**21**	*e*P	**Pn**	**16 19 06.6**	**-1.0**
SKR				AMB	AMB	16 19 10.1	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	16 19 10.1	
	comp=E,20nm,0.5s						
SKR				AMB	AMB	16 19 10.1	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**16 19 56.0**	**-3.6**
SKR				A		16 20 02.4	
	comp=E,150nm,0.2s						
SKR				A		16 20 02.4	
	comp=E,20nm,0.4s						
SKR				A		16 20 02.4	
	comp=E,130nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.92**	**248**	*e*P	**Pn**	**16 19 27.8**	**+1.5**
YUK				AMB	AMB	16 19 28.0	
	comp=E,150nm,0.5s						
YUK				AMB	AMB	16 19 28.0	
	comp=E,180nm,0.5s						
YUK				*e*S	**Sn**	**16 20 34.8**	**+1.6**
YUK				A		16 20 41.2	
	comp=E,210nm,0.6s						
YUK				A		16 20 41.2	
	comp=E,230nm,0.6s						
YUK				A		16 20 49.0	
	comp=E,2μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**5.92**	**248**	*e*PN	**Pn**	**16 19 27.8**	**+1.5**
YUK				*e*S	**Sn**	**16 20 34.8**	**+1.6**
YUK				pmax	pmax		
	comp=Z,180nm,0.5s						
YUK				pmax	pmax		
	comp=N,150nm,0.5s						
YUK				smax			
	comp=N,210nm,0.6s						
YUK				smax			
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
NEM2	**Nemuro 2**	**6.33**	**243**	P	**Pn**	**16 19 31.0**	**-0.9**
NEM2				*e*S	**Sn**	**16 20 40.3**	**-2.8**
JRA	**Rausu**	**6.44**	**250**	P	**Pn**	**16 19 35.3**	**+1.8**
JNK	**Nakash**	**6.86**	**248**	P	**Pn**	**16 19 40.5**	**+1.2**
JAK	**Akkeshi**	**7.17**	**244**	P	**Pn**	**16 19 42.7**	**-0.8**
JAK				*e*S	**Sn**	**16 21 00.8**	**-3.1**
JTKR	**Abashiri--Toko**	**7.22**	**253**	P	**Pn**	**16 19 46.3**	**+2.1**
PET	**Petropavlovsk**	**7.36**	**25**	*e*PN	**Pn**	**16 19 43.6**	**-2.5**
PET	**Petropavlovsk**	**7.36**	**25**	*e*Pn	**Pn**	**16 19 42.9**	**-3.1**
PET				*e*Sn	**Sn**	**16 20 58.4**	**-10**
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*e*P	**Pn**	**16 19 52.0**	**+5.2**
YSS				*e*S	**Sn**	**16 21 18.0**	**+8.2**
YSS				AMS	AMS	16 22 34.0	
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.41**	**278**	*e*Pn	**Pn**	**16 19 51.3**	**+4.6**
YSS				*e*Sn	**Sn**	**16 21 16.6**	**+6.8**
JMP	**Maruseppu**	**7.57**	**255**	P	**Pn**	**16 19 51.5**	**+2.5**
JAR	**Ashorobuto**	**7.61**	**249**	P	**Pn**	**16 19 50.8**	**+1.3**
JAR				*e*S	**Sn**	**16 21 14.8**	**+0.1**
JOB	**Onbets**	**7.76**	**246**	P	**Pn**	**16 19 51.7**	**+0.1**
JOB				*e*S	**Sn**	**16 21 15.6**	**-2.8**
JKK2	**Kamakawa 2**	**8.03**	**255**	P	**Pn**	**16 19 57.6**	**+2.3**
ASAJ	**Asahikawa**	**8.04**	**257**	P	**Pn**	**16 19 58.9**	**+3.4**
	comp=E,2.9nm,0.3s,baz=104,slow=14,SNR=16						
ASAJ	**Asahikawa**	**8.04**	**257**	P	**Pn**	**16 19 58.6**	**+3.1**
ASAJ	**Asahikawa**	**8.04**	**257**	PN	**Pn**	**16 19 58.9**	**+3.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JCH	**Churui**	**8.21**	**246**	P	**Pn**	**16 19 57.5**	**-0.2**
JCH				*e*S	**Sn**	**16 21 25.9**	**-3.5**
TYV	**Tymovskoe**	**8.42**	**305**	*e*P	**Pn**	**16 20 10.0**	**+9.4**
JFR	**Furan**	**8.43**	**251**	P	**Pn**	**16 20 02.6**	**+1.8**
JBT2	**Biratori 2**	**8.76**	**249**	P	**Pn**	**16 20 06.1**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.77**	**245**	P	**Pn**	**16 20 04.5**	**-0.9**
JNB	**Noboribetsu**	**9.77**	**250**	P	**Pn**	**16 20 19.3**	**+0.2**
JKB	**Kayabe**	**10.06**	**247**	P	**Pn**	**16 20 22.3**	**-0.8**
JKB				*e*S	**Sn**	**16 22 09.1**	**-5.5**
JYM2	**Yakumo 2**	**10.37**	**250**	P	**Pn**	**16 20 27.5**	**+0.1**
JANG	**Nango**	**10.63**	**239**	P	**Pn**	**16 20 27.5**	**-3.5**
JANG				*e*S	**Sn**	**16 22 19.3**	**-10**
JTM	**Tenmabayashi**	**10.65**	**242**	P	**Pn**	**16 20 29.2**	**-2.0**
JTM				*e*S	**Sn**	**16 22 21.9**	**-7.5**
JTH	**Tanohata**	**10.71**	**237**	P	**Pn**	**16 20 28.6**	**-3.4**
JTH				*e*S	**Sn**	**16 22 19.9**	**-11**
OFUJ	**Ofunato**	**11.40**	**234**	P	**Pn**	**16 20 38.3**	**-3.2**
OFUJ				*e*S	**Sn**	**16 22 37.9**	**-10**
JRG	**Rokugo**	**11.78**	**238**	P	**Pn**	**16 20 44.1**	**-2.6**
JRG				*e*S	**Sn**	**16 22 48.1**	**-9.0**
JIO	**Ouri**	**12.02**	**233**	P	**Pn**	**16 20 46.4**	**-3.6**
JIO				*e*S	**Sn**	**16 22 49.1**	**-14**
JFK	**Kawauchi**	**13.07**	**230**	*e*S	**Sn**	**16 23 17.9**	**-11**
MA2	**Magadan**	**13.23**	**354**	PN	**Pn**	**16 21 06.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,107nm,1.5s						
MA2	**Magadan**	**13.23**	**354**	Pn	**Pn**	**16 21 06.4**	**0.0**
	comp=Z,107nm,1.5s						
MJAR	**Matsushiro Arr**	**15.13**	**234**	P	**Pn**	**16 21 32.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=6.8						
MAJO	**Matsushiro**	**15.13**	**234**	P	**Pn**	**16 21 31.2**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,22nm,0.9s						
MAJO	**Matsushiro**	**15.13**	**234**	P	**Pn**	**16 21 31.2**	**-1.1**
	comp=Z,22nm,0.9s						
MAJO				*e*		16 21 39.1	
MAT	**Matsushiro**	**15.13**	**234**	P	**Pn**	**16 21 32.5**	**+0.2**
MDJ	**Mudanjiang**	**16.84**	**272**	P	**Pn**	**16 21 53.9**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,249nm,3.8s						
MDJ	**Mudanjiang**	**16.84**	**272**	*e*P	**Pn**	**16 21 54.9**	**+0.6**
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**20.97**	**254**	P	**P**	**16 22 43.6**	**+2.3**
	comp=Z,3.4nm,0.5s,baz=59,slow=10.0,SNR=21						
BILL	**Bilibino**	**22.61**	**12**	*e*P	**P**	**16 22 58.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**22.61**	**12**	*e*P	**P**	**16 22 58.9**	**+0.1**
	comp=Z,3.8nm,0.6s,mb4.0						
NJ2	**Nanjing**	**30.18**	**254**	*e*P	**P**	**16 24 09.2**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**30.58**	**275**	*e*P	**P**	**16 24 14.1**	**+2.3**
HHC				AP	pP	16 24 18.5	-1.9
HHC				XP	sP	16 24 21.2	-2.8
HHC				PP	PP	16 25 14.6	-6.5
HHC				PCP	PcP	16 27 12.5	+2.6
HHC				S	**S**	**16 29 15.2**	**+3.3**
HHC				XS	sS	16 29 21.6	-4.5
HHC				SCP	ScP	16 30 51.4	+1.1
HHC				SS	SS	16 30 55.5	-27
HHC				SCS	ScS	16 34 48.2	+1.6
HHC				AMB	AMB		

comp=Z,22nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,1μm,10.6s
HHC LR LR
comp=N,253nm,14.7s,MS4.2
HHC LR LR
comp=E,227nm,12.6s,MS4.2
HHC LR LR
comp=Z,206nm,14.8s,MS3.9
SONM Songino Array 31.68 290 P P 16 24 21.3 -0.2
comp=Z,0.5nm,0.4s,mb3.7,baz=74,slow=11,SNR=5.4
KDAK Kodiak Island 34.07 51 P P 16 24 41.0 -1.4
comp=Z,7.1nm,0.7s,mb4.7,baz=72,slow=6.9,SNR=4.9
SML Sawmill 35.99 43 P P 16 24 58.3 -0.6
COLA College 36.19 38 *eP* P 16 25 00.7 +0.1
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
COLA College 36.19 38 *eP* P 16 25 00.7 +0.1
comp=Z,4.3nm,0.8s,mb4.4
LZH Lanzhou 38.17 272 *eP* P 16 25 18.6 +1.2
LZH AP pP 16 25 21.9 -4.2
LZH XP sP 16 25 23.3 -6.4
LZH *e*PP PP 16 26 49.2 +4.3
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,47nm,5.3s
LZH LR LR
comp=E,319nm,13.1s
LZH LR LR
comp=Z,448nm,17.5s,MS4.3
LZH Lanzhou 38.17 272 *eP* P 16 25 18.6 +1.2
LZH *e* 16 26 49.2
LZH pmax pmax
comp=Z,20nm,1.2s,mb4.7
LZH MLR MLR
comp=Z,450nm,17.5s,MS4.3
LZH Lanzhou 38.17 272 *eP* P 16 25 18.6 +1.2
comp=Z,20nm,1.2s,mb4.7
LZH pP pP 16 25 21.9 -4.2
LZH sP sP 16 25 23.3 -6.4
LZH *e*PP PP 16 26 49.2 +4.3
LZH LR LR
comp=Z,450nm,17.5s,MS4.3
GTA Gaotai 39.28 280 *eP* P 16 25 28.7 +1.9
GTA AP pP 16 25 32.2 -3.3
GTA XP sP 16 25 35.3 -3.7
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.0
CD2 Chengdu 41.13 266 *eP* P 16 25 42.4 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,30nm,5.8s
INK Inuvik 41.74 32 P P 16 25 47.9 +0.8
comp=Z,0.8nm,0.6s,mb3.5,baz=44,slow=6.7,SNR=7.0
ZAL Zalesovo 43.01 306 P P 16 25 56.2 -1.1
comp=Z,1.8nm,0.4s,mb4.2,baz=28,slow=4.5,SNR=6.0
WMQ Urumqi 45.28 292 μ *i*P P 16 26 16.6 +1.0
WMQ AP pP 16 26 25.1 +0.7
WMQ XP sP 16 26 28.6 +0.6
WMQ PP PP 16 28 00.0 -1.7
WMQ AMB AMB
comp=Z,3.0nm,0.8s,mb4.2
WMQ AMB AMB
comp=Z,211nm,7.6s
WMQ LR LR
comp=N,103nm,18.5s,MS4.1
WMQ LR LR
comp=E,147nm,16.3s,MS4.1
WMQ LR LR
comp=Z,72nm,19.6s,MS3.6
KMI Kunming 45.46 260 P P 16 26 19.3 +2.3
KMI AP pP 16 26 23.5 -2.3
KMI XP sP 16 26 25.6 -3.8
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
KMI LR LR
comp=Z,82nm,24.0s,MS3.6
KMI Kunming 45.46 260 P P 16 26 19.3 +2.3
comp=Z,9.0nm,1.0s,mb4.5
KMI pP pP 16 26 23.5 -2.3
KMI sP sP 16 26 25.6 -3.8
KMI LR LR
comp=Z,80nm,24.0s,MS3.6
MKAR Makanchi Array 47.31 298 P P 16 26 30.7 -0.8
comp=Z,2.2nm,0.6s,mb4.2,baz=66,slow=6.2,SNR=18
KURK Kurchatov 47.74 304 *eP* P 16 26 33.7 -1.2
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KURK Kurchatov 47.74 304 *eP* P 16 26 33.7 -1.2
comp=Z,3.4nm,0.8s,mb4.4
LSA Lhasa 50.56 274 *eP* P 16 26 59.6 +3.1
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LSA Lhasa 50.56 274 *eP* P 16 26 59.6 +3.2
comp=Z,7.2nm,0.7s,mb4.7
BRVK Borovoye 51.29 310 *eP* P 16 27 01.2 -0.7
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 51.29 310 *eP* P 16 27 01.2 -0.7
comp=Z,3.0nm,0.6s,mb4.4
CHTO Chiang Mai 52.32 257 *eP* P 16 27 10.4 +0.8
CHTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 52.32 257 *eP* P 16 27 10.4 +0.8
comp=Z,8.7nm,0.8s,mb4.7
CM31 Chiang Mai Arr 52.57 257 *eP* P 16 27 13.8 +2.4
comp=Z,5.4nm,0.6s,mb4.7
AAK Ala-Archa 54.20 297 *eP* P 16 27 20.9 -2.6
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AAK Ala-Archa 54.20 297 *eP* P 16 27 20.9 -2.6
comp=Z,2.6nm,0.9s,mb4.2
ARU Arti 55.40 318 P P 16 27 30.8 -1.4
ARU pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ARU Arti 55.40 318 P P 16 27 30.8 -1.3
comp=Z,3.3nm,0.4s,mb4.7
KEV Kevo 57.70 341 *ep* P 16 27 47.1 -1.4
comp=Z,5.4nm,0.8s,mb4.6
KEV Kevo 57.70 341 *eP* P 16 27 47.1 -1.4
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARCES ARCESS Array B 58.21 341 P P 16 27 51.9 -0.1
comp=Z,1.9nm,0.8s,mb4.2,baz=30,slow=7.4,SNR=5.4
ARCES ARCESS Array B 58.21 341 P P 16 27 51.9 -0.1
FINES FINESS Array B 64.41 335 P P 16 28 33.7 -0.3
comp=Z,2.8nm,0.4s,mb4.7,baz=37,slow=8.3,SNR=52
FINES FINESS Array B 64.41 335 P P 16 28 33.7 -0.3
PDAR Pinedale Array 64.69 54 P P 16 28 36.0 +0.2
comp=Z,0.7nm,0.9s,mb3.7,baz=323,slow=3.7,SNR=4.9
WB2 Warramunga Arr 68.33 199 *eP* P 16 28 58.6 -0.5
WRA Warramunga Arr 68.34 199 P P 16 28 58.7 -0.5
comp=Z,2.8nm,0.8s,mb4.3,baz=18,slow=6.8,SNR=22
NB2 NORSAR Subarra 68.58 341 P P 16 29 00.4 -0.3
comp=Z,2.0nm,0.6s,mb4.2,baz=28,slow=6.5
NOA NORSAR Array B 68.58 341 P P 16 29 00.8 +0.1
comp=Z,3.0nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=9.2
NOA NORSAR Array B 68.58 341 P P 16 29 00.8 +0.1
FITZ Fitzroy Crossi 69.02 208 *eP* P 16 29 03.6 +0.2
comp=Z,5.5nm,0.6s,mb4.7
FITZ Fitzroy Crossi 69.02 208 P P 16 29 03.7 +0.2
comp=Z,4.1nm,0.8s,mb4.4,baz=22,slow=7.6,SNR=9.7
AKASG Malin Array Be 71.93 326 P P 16 29 21.1 -0.1
comp=Z,1.5nm,0.3s,mb4.3,baz=34,slow=6.3,SNR=11
AS31 Alice Springs 72.03 199 *eP* P 16 29 22.1 +0.3
ASAR Alice Springs 72.03 199 P P 16 29 22.4 +0.7
comp=Z,3.2nm,0.7s,mb4.4,baz=11,slow=5.1,SNR=81
ASPA Alice Springs 72.03 199 *eP* P 16 29 22.0 +0.2
TXAR Lajitas Array 77.39 61 P P 16 29 53.1 +0.2
comp=Z,0.9nm,0.6s,mb3.9,baz=301,slow=4.1,SNR=9.6
BRTR Keskin Array B 78.78 317 P P 16 30 01.9 +1.4
comp=Z,1.3nm,0.7s,mb4.0,baz=36,slow=7.2,SNR=5.8
GERES GERESS Array B 78.83 334 P P 16 30 01.1 +0.3
comp=Z,0.7nm,0.6s,mb3.8,baz=46,slow=7.4,SNR=3.8

*NEIC **09** 16:45:32.9±1.6, 632S×151.42E, h10km, mb4.2/2, Error ellipse: s-maj=34.8km s-min=25.3km az=138.0*
*ISCJB **09** 16:45:37.2±5.1, 63S±0.3×151.2E±0.3, h48km±35km, mb3.7/4, Error ellipse: s-maj=56.9km s-min=37.8km az=108.2*
*IDC **09** 16:45:40.5±9.0, 637S×151.11E, h54km±66km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.6/5, ML2.4/1, Error ellipse: s-maj=59.4km s-min=55.7km az=106.0*

ISC 09 16:45:38.5±5.1, 63S±0.3×151.2E±0.3, h48km±35km, n14, σ0836/13, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**232**	P	**Pn**	**16 46 52.1**	**+0.1**
	1.0nm,0.3s,baz=73,slow=5.2,SNR=6.7						
PMG				S	**Sn**	**16 47 49.6**	**+0.1**
	4.8nm,0.3s,baz=23,slow=22,SNR=9.2						
KAKA	**Kakadu**	**19.58**	**250**	*eP*	**Pn**	**16 50 04.0**	**-0.1**
	3.3nm,0.4s						
WB2	**Warramunga Arr**	**21.28**	**229**	*eP*	**P**	**16 50 20.5**	**-0.3**
WRA	**Warramunga Arr**	**21.29**	**229**	P	**P**	**16 50 20.5**	**-0.5**
	2.0nm,0.6s,mb3.6,baz=53,slow=10,SNR=11						
AS31	**Alice Springs**	**24.00**	**222**	*eP*	**P**	**16 50 48.4**	**-0.3**
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**16 50 48.5**	**-0.1**
	1.3nm,0.5s,mb3.6,baz=55,slow=9.1,SNR=60						
ASPA	**Alice Springs**	**24.00**	**222**	*eP*	**P**	**16 50 48.6**	**-0.1**
STKA	**Stephens Creek**	**27.01**	**198**	*eP*	**P**	**16 51 25.9**	**+10**
	0.9nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**16 51 16.6**	**+0.7**
	0.6nm,0.4s,mb3.5,baz=27,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**16 51 16.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.58**	**242**	*eP*	**P**	**16 51 21.7**	**+0.7**
	5.6nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.58**	**242**	P	**P**	**16 51 21.8**	**+0.8**
	2.3nm,0.5s,mb4.0,baz=86,slow=8.5,SNR=12						
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc	PKPbc	17 05 24.0	+2.4
	0.7nm,0.7s,baz=66,slow=2.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc	PKPbc	17 05 24.0	+2.4

*IDC **09** 16:55:23.7±1.3, 359N×129.65E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=98.0km s-min=18.3km az=73.0*

NEIC 09 16:55:25.1±0.9, 358N×129.71E, h10km, Error ellipse: s-maj=61.0km s-min=12.6km az=75.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.91**	**190**	P	P	17 00 18.9	+0.5
	1.2nm,0.7s,baz=0.0,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**23.81**	**169**	P	P	17 00 39.0	+0.9
	6.2nm,0.8s,baz=347,slow=11,SNR=58						
AS31	**Alice Springs**	**27.38**	**172**	*eP*	P	17 01 09.3	-1.2
ASAR	**Alice Springs**	**27.38**	**172**	P	P	17 01 11.4	+0.9
	0.3nm,0.6s,baz=360,slow=8.8,SNR=18						
ASAR				PcP	PcP	17 04 30.4	+1.0
	0.1nm,0.4s,baz=6.4,slow=2.3,SNR=4.8						
STKA	**Stephens Creek**	**37.02**	**163**	P	P	17 02 35.1	+0.2
	1.5nm,0.7s,baz=328,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**48.45**	**339**	P	P	17 04 08.1	+0.5
	0.4nm,0.4s,baz=153,slow=9.2,SNR=2.2						
MKAR	**Makanchi Array**	**59.40**	**324**	P	P	17 05 27.6	-0.1
	0.7nm,0.3s,baz=111,slow=7.9,SNR=14						
VNDA	**Vanda**	**82.91**	**173**	P	P	17 07 49.9	-0.1
	1.1nm,0.7s,baz=326,slow=6.1,SNR=15						

*CSEM **09** 16:59:24.3±0.9, 3866N×2932W, h0km±13km, ML2.5, Error ellipse: s-maj=16.6km s-min=13.2km az=91.0, After PDA*
*PDA **09** 16:59:24.3±0.9, 3866N×2932W, h0km±13km, MD3.3, ML2.5, Error ellipse: s-maj=16.6km s-min=13.2km az=91.0*

SVSA 09 16:59:24.3±0.9, 3866N×2932W, h0km±13km, MD3.3, ML2.5, Error ellipse: s-maj=16.6km s-min=13.2km az=91.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.48**	**93**	*eP*	Pg	16 59 32.4	-1.2
PCED				*eS*	Sg	16 59 39.0	-0.8
PCED							
	192nm,0.2s						
PCED	**Cedros**	**0.48**	**93**	*eP*	Pg	16 59 32.4	-1.2
PCED				*eS*	Sg	16 59 39.0	-0.8
CALA	**Caldeira**	**0.49**	**99**	*eP*	Pg	16 59 33.7	0.0
CALA				*eS*	Sg	16 59 39.8	-0.2
HOR	**Horta**	**0.55**	**104**	*eS*	Sg	16 59 41.6	-0.5
PCND	**Candelaria**	**0.70**	**106**	*eS*	Sg	16 59 45.6	-1.1
PCND							
	59nm,0.1s						
PICO	**Pico**	**0.72**	**102**	*eP*	Pg	16 59 36.6	-1.4
PICO				*eS*	Sg	16 59 46.1	-1.2
PTEI	**Pico do Teixo**	**0.77**	**102**	*eS*	Sg	16 59 47.6	-1.5
PTEI							
	138nm,0.3s						
PBOI	**Pico dos Bois**	**0.77**	**106**	*eS*	Sg	16 59 47.5	-1.6
PBOI							
	46nm,0.2s						
ROSA	**Rosais**	**0.84**	**86**	*i* P	Pg	16 59 38.4	-2.1
PAMA	**Santo Amaro**	**0.89**	**88**	*eS*	Sg	16 59 50.3	-2.6
PAMA							
	60nm,0.2s						
PID	**Ribeirinha**	**0.96**	**103**	*eP*	Pg	16 59 40.0	-2.8
PIED	**Piedade**	**1.02**	**103**	*eP*	Pg	16 59 54.6	+11

*STR **09** 17:02:22.0±0.2, 4318N×122W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 09 17:02:21.9±0.1, 4318N×122W, h4km, Md1.8/2, Ml1.2/1, Error ellipse: s-maj=2.9km s-min=2.0km az=44.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.07**	**182**	*e*Pg	Pg	17 02 23.6	+0.2
SJPF				*e*Sg	Sg	17 02 24.9	+0.5
	45nm,0.2s						
OSSF	**Osses**	**0.08**	**338**	Pg	Pg	17 02 23.8	+0.2
OSSF				Sg	Sg	17 02 25.4	+0.7
ORDF	**Ordiarp**	**0.21**	**81**	Pg	Pg	17 02 25.8	-0.2
ORDF				Sg	Sg	17 02 29.4	+0.6
LARF	**Larrau**	**0.22**	**130**	Pg	Pg	17 02 26.3	0.0
LARF				Sg	Sg	17 02 29.9	+0.7
ETSF	**Etsaut**	**0.56**	**120**	*e*Pg	Pg	17 02 33.1	+0.4
ETSF				*e*Sg	Sg	17 02 39.8	-0.2
	1.5nm,0.2s						
EPF	**Esparros**	**1.15**	**97**	*e*Sg	Sg	17 02 58.4	-0.6
	0.5nm,0.2s						

*ISCJB **09** 17:14:02.3±0.5, 3316N±0.006×9753E±0.006, h10km, mb4.0/6, MS3.3/2, Error ellipse: s-maj=9.8km s-min=5.5km az=109.5*
*IDC **09** 17:14:03.3±1.0, 3324N×9787E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, ML3.4/2, MS3.4/3, Ms1 3.4/3, ms1mx2.7/37, Error ellipse: s-maj=77.1km s-min=17.8km az=60.0*
*MOS **09** 17:14:05.9±1.7, 3328N×9759E, h33km, mb4.0/2, Error ellipse: s-maj=18.6km s-min=13.6km az=102.3*
*BJI **09** 17:14:05.4, 3337N×9757E, h16km, mb4.2, ML3.9, Ms3.5, Msz3.3*
*NEIC **09** 17:14:08.7±1.6, 3329N×9762E, h39km±19km, mb3.8/2, Error ellipse: s-maj=15.8km s-min=15.1km az=199.0*

ISC 09 17:14:04.9±0.5, 3324N±0.006×9753E±0.006, h10km, n28, σ1821/28, mb4.0/6, MS3.3/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**5.93**	**60**	P	**Pn**	**17 15 34.5**	**+1.8**
LZH				S	**Sn**	**17 16 41.0**	**+0.3**
LZH				SG	**Sg**	**17 17 09.1**	**-6.2**
LZH				Smax			
	comp=N,51nm,1.2s						
LZH				Smax			
	comp=E,48nm,1.1s						
LZH				LR	LR		
	comp=E,175nm,5.6s						
LZH				LR	LR		
	comp=Z,223nm,7.9s						
LSA	**Lhasa**	**6.49**	**239**	P	**Pn**	**17 15 44.0**	**+3.6**
LSA	**Lhasa**	**6.49**	**239**	*eP*	**Pn**	**17 15 43.8**	**+3.4**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**6.49**	**239**	*e*Pn	**Pn**	**17 15 43.8**	**+3.4**
	comp=Z,8.4nm,0.6s						
SHL	**Shillong**	**9.09**	**214**	*eP*	x	17 16 39.0	
SHL				*eS*	**Sn**	**17 18 00.5**	**+2.1**
JIRN	**Jiri**	**11.25**	**243**	*eP*	**Pn**	**17 16 46.1**	**+0.5**
	comp=Z,4.6nm,0.2s						
GUN	**Gumba**	**11.35**	**245**	*eP*	**Pn**	**17 16 47.4**	**+0.3**
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**11.87**	**246**	*eP*	**Pn**	**17 16 53.8**	**-0.4**
PKI	**Pulchoki**	**11.88**	**245**	*eP*	**Pn**	**17 16 53.7**	**-0.6**
	comp=Z,14nm,0.4s						
DMN	**Daman**	**12.09**	**246**	*eP*	**Pn**	**17 16 56.5**	**-0.7**
	comp=Z,15nm,0.7s						
GKN	**Gorkha**	**12.26**	**248**	*eP*	**Pn**	**17 16 57.6**	**-1.9**
	comp=Z,11nm,0.4s						
KOLN	**Koldanda**	**13.18**	**249**	*eP*	**Pn**	**17 17 09.1**	**-3.0**
	comp=Z,9.0nm,0.6s						
SONM	**Songino Array**	**16.05**	**22**	Pn	**Pn**	**17 17 47.8**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=206,slow=13,SNR=5.3						
MK31	**Makanchi Array**	**17.83**	**324**	*eP*	**Pn**	**17 18 13.3**	**+0.2**
MKAR	**Makanchi Array**	**17.83**	**324**	P	**Pn**	**17 18 13.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=137,slow=14,SNR=19						
MKAR				LR	LR	17 25 57.5	
	comp=Z,96nm,18.3s,baz=104,slow=40						
NJ2	**Nanjing**	**18.00**	**88**	*eP*	**Pn**	**17 18 14.6**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**20.39**	**304**	*eP*	**P**	**17 18 41.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**20.39**	**304**	*eP*	**P**	**17 18 41.1**	**-0.7**
	comp=Z,5.4nm,0.9s						
KURK	**Kurchatov**	**22.31**	**327**	*eP*	**P**	**17 19 02.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**22.31**	**327**	*eP*	**P**	**17 19 02.6**	**+0.1**
	comp=Z,2.7nm,0.8s,mb3.7						
ZAL	**Zalesovo**	**22.59**	**340**	P	**P**	**17 19 07.0**	**+1.6**
	comp=Z,1.4nm,0.6s,mb3.6,baz=321,slow=9.3,SNR=8.7						
JOW	**Kunigami**	**27.31**	**95**	LR	LR	17 31 36.3	
	comp=Z,51nm,19.7s,MS3.1,baz=198,slow=39						
BVAR	**Borovoye Array**	**27.72**	**324**	LR	LR	17 31 41.5	
	comp=Z,101nm,18.8s,MS3.4,baz=43,slow=38						
ARCES	**ARCESS Array B**	**53.01**	**335**	P	**P**	**17 23 22.8**	**+0.9**
	comp=Z,4.1nm,1.0s,mb4.3,baz=83,slow=9.9,SNR=4.1						
ARCES	**ARCESS Array B**	**53.01**	**335**	P	**P**	**17 23 22.8**	**+0.9**
NOA	**NORSAR Array B**	**59.82**	**326**	P	**P**	**17 24 11.0**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=71,slow=6.9,SNR=3.2						
WRA	**Warramunga Arr**	**63.49**	**141**	P	**P**	**17 24 34.3**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.5,baz=336,slow=7.0,SNR=35						
ASAR	**Alice Springs**	**66.36**	**144**	P	**P**	**17 24 53.0**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=326,slow=6.6,SNR=66						

*ISCJB **09** 17:30:15.4±0.4, 1027S±0.006×161.07E±0.007, h80km, mb4.4/29, Error ellipse: s-maj=9.8km s-min=8.2km az=161.2*
*BJI **09** 17:30:15.0, 1020S×161.10E, h80km, mB5.0, mb4.6, Ms4.6, Msz4.2*
*IDC **09** 17:30:16.9±0.9, 1023S×161.09E, h80km±6km, mb4.1/14, mb1 4.2/15, mb1mx4.2/20, mbtmp4.1/15, MS3.5/11, Ms1 3.5/11, ms1mx3.2/28, Error ellipse: s-maj=15.1km s-min=8.9km az=58.0*
*NEIC **09** 17:30:17.0±0.3, 1023S×161.07E, mb4.5/14, Error ellipse: s-maj=7.9km s-min=6.8km az=110.0*

ISC 09 17:30:17.5±0.4, 1023S±0.006×161.08E±0.007, h82km, h82km±2.3km:pP-P, n52, σ0988/52, mb4.4/29, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.37**	**305**	P	**Pn**	**17 30 40.4**	**-0.8**
	395nm,0.3s,baz=110,slow=1.0,SNR=269						
HNR				S	**Sn**	**17 30 58.6**	**-0.6**
	2μm,0.3s,baz=282,slow=22,SNR=26						
HNR	**Honiara**	**1.37**	**305**	*e*Pn	**Pn**	**17 30 40.2**	**-1.1**
HNR				*e*Sn	**Sn**	**17 30 59.4**	**+0.2**
DZM	**Mont Dzumac**	**12.85**	**157**	*eP*	**Pn**	**17 33 16.3**	**-0.5**
DZM				*eS*	**Sn**	**17 35 30.2**	**-7.7**
DZM	**Mont Dzumac**	**12.85**	**157**	P	**Pn**	**17 33 17.0**	**+0.2**
	2.7nm,0.3s,baz=2.9,slow=20,SNR=48						
DZM				S	**Sn**	**17 35 31.6**	**-6.3**
	1.3nm,0.3s,baz=267,slow=22,SNR=6.2						
DZM				LR	LR	17 37 17.8	
	comp=Z,121nm,21.9s,baz=301,slow=33						
PMG	**Port Moresby**	**13.75**	**272**	P	**Pn**	**17 33 33.4**	**+4.7**
	0.2nm,0.3s,baz=108,slow=4.4,SNR=5.2						
PMG	**Port Moresby**	**13.75**	**272**	*eP*n	**Pn**	**17 33 29.9**	**+1.3**
	8.3nm,0.9s						
CTA	**Charters Tower**	**17.33**	**234**	*eP*	**Pn**	**17 34 18.0**	**+4.0**
	3.3nm,0.4s						
CTA	**Charters Tower**	**17.33**	**234**	P	**Pn**	**17 34 17.4**	**+3.4**
	1.4nm,0.3s,baz=66,slow=15,SNR=20						
CTA				LR	LR	17 40 08.5	
	comp=Z,116nm,18.0s,baz=69,slow=34						
CTAO	**Charters Tower**	**17.33**	**234**	*eP*	**Pn**	**17 34 16.4**	**+2.4**
	31nm,1.3s						
WRAB	**Tennant Creek**	**27.52**	**246**	*eP*	**P**	**17 35 55.8**	**-0.3**
	9.5nm,0.7s,mb4.4						
WRAB				*ep*P	pP	17 36 14.5	-0.6
WRAB				*e*		17 36 37.5	
WB2	**Warramunga Arr**	**27.52**	**246**	*eP*	**P**	**17 35 56.0**	**-0.2**
WB2				*ep*P	pP	17 36 15.0	-0.2
WRA	**Warramunga Arr**	**27.53**	**246**	P	**P**	**17 35 56.5**	**+0.2**
	3.5nm,0.7s,mb4.0,baz=75,slow=9.2,SNR=39						
WRA				pP	pP	17 36 15.4	+0.2
	8.5nm,0.6s,baz=76,slow=9.2,SNR=20						
WRA				PcP	PcP	17 39 12.2	-0.2
	1.0nm,1.1s,baz=72,slow=2.6,SNR=5.5						
STKA	**Stephens Creek**	**28.09**	**217**	*eP*	**P**	**17 36 01.5**	**+0.2**
	1.9nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**28.09**	**217**	P	**P**	**17 36 01.6**	**+0.3**
	3.0nm,0.8s,mb3.9,baz=43,slow=15,SNR=6.7						
STKA				LR	LR	17 45 57.4	
	comp=Z,123nm,21.3s,baz=27,slow=34						
KAKA	**Kakadu**	**28.17**	**262**	*eP*	**P**	**17 36 02.6**	**+0.6**
	6.1nm,0.6s,mb4.3						
GUMO	**Guam**	**28.62**	**325**	LR	LR	17 46 24.2	
	comp=Z,113nm,19.3s,baz=114,slow=34						
AS31	**Alice Springs**	**29.16**	**239**	*eP*	**P**	**17 36 10.7**	**-0.1**
ASAR	**Alice Springs**	**29.16**	**239**	P	**P**	**17 36 09.9**	**-0.8**
	1.7nm,0.7s,mb3.8,baz=62,slow=10,SNR=24						
ASAR				pP	pP	17 36 29.9	+0.1
	3.5nm,0.6s,baz=63,slow=9.8,SNR=15						
ASAR				LR	LR	17 47 36.1	
	comp=Z,67nm,21.5s,baz=28,slow=36						
ASPA	**Alice Springs**	**29.16**	**239**	*eP*	**P**	**17 36 10.7**	**-0.1**
RPZ	**Rata Peaks**	**34.47**	**167**	LR	LR	17 47 43.5	
	comp=Z,124nm,18.7s,baz=337,slow=30						
FITZ	**Fitzroy Crossi**	**35.20**	**253**	*eP*	**P**	**17 37 03.4**	**-0.2**
	5.5nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.20**	**253**	P	**P**	**17 37 03.5**	**0.0**
	3.5nm,0.6s,mb4.3,baz=78,slow=14,SNR=12						
FITZ				pP	pP	17 37 23.4	+0.5
	3.5nm,0.6s,baz=83,slow=6.4,SNR=4.8						
FITZ				LR	LR	17 51 47.2	
	comp=Z,38nm,18.8s,baz=202,slow=37						
MBWA	**Marble Bar**	**41.15**	**250**	*eP*	**P**	**17 37 54.1**	**+0.6**
	13nm,1.1s,mb4.7						
JOW	**Kunigami**	**48.70**	**320**	P	**P**	**17 38 53.6**	**+0.2**
	18nm,0.9s,mb5.0,baz=82,slow=5.9,SNR=5.1						
MJAR	**Matsushiro Arr**	**51.26**	**336**	P	**P**	**17 39 11.9**	**-0.9**
	3.3nm,0.6s,mb4.5,baz=167,slow=8.4,SNR=10						
MAJO	**Matsushiro**	**51.26**	**336**	*eP*	**P**	**17 39 11.5**	**-1.3**
	6.2nm,0.6s,mb4.8						
ASAJ	**Asahikawa**	**56.63**	**344**	P	**P**	**17 39 52.2**	**+0.3**
	11nm,0.8s,mb5.0,baz=356,slow=33,SNR=12						
KSRS	**Korea Array**	**56.71**	**329**	P	**P**	**17 39 51.3**	**-1.2**
	2.4nm,0.7s,mb4.3,baz=137,slow=7.4,SNR=8.5						
KSRS				LR	LR	18 00 47.9	
	comp=Z,45nm,19.0s,baz=135,slow=32						
MDJ	**Mudanjiang**	**61.58**	**335**	P	**P**	**17 40 27.6**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,16nm,2.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,167nm,3.5s						
CN2	**Changchun**	**62.77**	**332**	*eP*	**P**	**17 40 34.3**	**+0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
KMI	**Kunming**	**66.81**	**303**	P	**P**	**17 41 05.0**	**+4.7**
KMI				AP	pP	17 41 23.2	+1.7
KMI				XP

KMI	**Kunming**	**66.81**	**303**	P	**P**	**17 41 05.0**	**+4.7**
	comp=E,6.0nm,1.2s,mb4.3							
KMI				pP	pP	17 41 23.2	+1.7
KMI				sP	sP	17 41 33.3	+2.7
KMI				PP	PP	17 43 35.5	+7.2
KMI				S	S	17 49 46.2	-0.1
KMI				sS	sS	17 50 29.7	+7.3
KMI				SSS		17 57 03.2	
KMI				LR	LR		
	comp=Z,20nm,29.0s							
VNDA	**Vanda**	**67.27**	**180**	P	**P**	**17 41 02.6**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.6,baz=338,slow=8.2,SNR=12							
VNDA	**Vanda**	**67.27**	**180**	*e*P	**P**	**17 41 01.9**	**-1.4**
	comp=Z,1.1nm,0.7s,mb3.8							
HHC	**Hu-ho-hao-te**	**68.30**	**322**	*e*P	**P**	**17 41 11.8**	**+2.1**
HHC				AP	pP	17 41 36.5	+5.5
HHC				PP	PP	17 43 46.0	+4.8
HHC				SCP		17 45 29.5	
HHC				PCS		17 45 41.5	
HHC				S	S	17 50 05.7	+1.6
HHC				SCS	ScS	17 50 59.3	-2.4
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7							
HHC				AMB	AMB		
	comp=Z,99nm,4.9s							
HHC				LR	LR		
	comp=N,121nm,24.1s							
HHC				LR	LR		
	comp=E,386nm,21.2s							
HHC				LR	LR		
	comp=Z,101nm,24.9s							
CD2	**Chengdu**	**68.50**	**309**	*e*P	**P**	**17 41 10.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
CD2				AMB	AMB		
	comp=Z,30nm,6.2s							
HIA	**Hailar**	**69.47**	**332**	*e*P	**P**	**17 41 16.9**	**0.0**
	comp=Z,5.7nm,0.6s,mb4.6							
GTA	**Gaotai**	**75.23**	**315**	*e*P	**P**	**17 41 52.8**	**+1.6**
GTA				AP	pP	17 42 14.0	+1.2
GTA				XP	sP	17 42 23.0	+1.2
GTA				PP	PP	17 44 47.0	+6.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0							
SONM	**Songino Array**	**75.35**	**325**	P	**P**	**17 41 52.4**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.2,baz=139,slow=5.2,SNR=24							
SONM				pP	pP	17 42 12.1	-1.4
	comp=Z,1.7nm,0.8s,baz=138,slow=5.1,SNR=4.8							
SONM				LR	LR	18 11 46.0	
	comp=Z,39nm,19.8s,baz=24,slow=33							
YAK	**Yakutsk**	**76.08**	**345**	*e*P	**P**	**17 41 55.1**	**-1.0**
	comp=Z,22nm,0.7s,mb5.0							
YAK				*e*pP	pP	17 42 16.4	-1.4
KDAK	**Kodiak Island**	**77.58**	**23**	P	**P**	**17 42 04.3**	**-0.2**
	comp=Z,13nm,0.9s,mb4.6,baz=9.1,slow=1.9,SNR=4.0							
KDAK	**Kodiak Island**	**77.58**	**23**	P	**P**	**17 42 04.3**	**-0.2**
BILL	**Bilibino**	**78.16**	**2**	*e*P	**P**	**17 42 06.9**	**-0.7**
	comp=Z,6.4nm,0.8s,mb4.4							
BILL				*e*pP	pP	17 42 28.7	-0.7
QSPA	**South Pole Qui**	**79.77**	**180**	*e*P	**P**	**17 42 15.6**	**-0.9**
	comp=Z,4.9nm,1.0s,mb4.3							
WMQ	**Urumqi**	**85.30**	**316⇑**	*i*P	**P**	**17 42 41.5**	**-3.7**
WMQ				AP	pP	17 43 04.3	-3.0
WMQ				XP	sP	17 43 12.7	-3.5
WMQ				PP	PP	17 46 01.8	-2.2
WMQ				PPP		17 47 58.8	
WMQ				SKS		17 52 54.8	
WMQ				*e*S	S	17 53 04.2	-4.9
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.6							
WMQ				AMB	AMB		
	comp=Z,78nm,5.4s							
WMQ				LR	LR		
	comp=N,19nm,15.4s							
WMQ				LR	LR		
	comp=E,15nm,19.0s							
WMQ				LR	LR		
	comp=Z,17nm,16.3s							
DAWY	**Dawson**	**86.50**	**22**	*e*P	**P**	**17 42 51.1**	**-0.1**
NVAR	**Mina Array Bea**	**89.03**	**51**	P	**P**	**17 43 04.2**	**+1.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=245,slow=7.5,SNR=4.9							
MKAR	**Makanchi Array**	**89.81**	**318**	P	**P**	**17 43 06.4**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=105,slow=5.1,SNR=8.5							
MKAR				pP	pP	17 43 26.8	-2.3
	comp=Z,1.4nm,0.9s,baz=101,slow=6.3,SNR=3.7							
MKAR	**Makanchi Array**	**89.81**	**318**	P	**P**	**17 43 06.4**	**-0.5**
MKAR				pP	pP	17 43 26.8	-2.3
ZAL	**Zalesovo**	**90.25**	**325**	LR	LR	18 19 24.7	
	comp=Z,41nm,21.0s,baz=258,slow=33							
YKA	**Yellowknife Ar**	**96.37**	**28**	LR	LR	18 27 37.5	
	comp=Z,19nm,18.4s,baz=225,slow=36							
PDAR	**Pinedale Array**	**96.39**	**48**	P	**P**	**17 43 38.7**	**+1.5**
	comp=Z,0.2nm,0.5s,mb3.8,baz=241,slow=5.6,SNR=2.4							

*NIED **09** 17:41:00,41.10N×139.20E,h8km,Mw3.7 Best double couple: M₀4.09000×10¹⁴ NP1:φ₈157.00000°,δ53.00000°, λ112.00000°. NP2:φ₈303.00000°,δ42.00000°,λ64.00000°.*
*ISCJB **09** 17:41:17.0±0.8,41.12N±003×139.18E±005,h24km±6km, mb3.9/5,Error ellipse: s-maj=6.4km s-min=4.7km az=36.8*
*JMA **09** 17:41:17.1±0.1,41.14N×139.15E,h33km±1km,M4.2*
JMA Felt I J1.
*IDC **09** 17:41:22.0±2.1,41.00N×139.24E,h43km±21km,mb3.6/5, mb1 3.9/8,mb1mx3.6/25,mbtmp3.6/8,ML2.9/3,MS2.6/2, Ms1 2.6/2,ms1mx2.3/30,Error ellipse: s-maj=30.5km s-min=14.4km az=111.0*
ISC 09 17:41:17.6±1.1,4115N±003×13928E±005,h16km±7km, n21,σ0♀95/31,mb3.9/5,5C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.78**	**135**	⇑P	**Pg**	**17 41 32.6**	**-0.3**
JIW				S	**Sg**	**17 41 43.5**	**+0.3**
JSI2	**Shiura 2**	**0.86**	**96**	⇑P	**Pb**	**17 41 34.3**	**+0.1**
JSI2				S	**Sb**	**17 41 46.5**	**+0.9**
JSR	**Shiriuchi**	**0.94**	**66**	⇑P	**Pb**	**17 41 35.9**	**+0.3**
JSR				*e*S	**Sb**	**17 41 49.4**	**+1.6**
JOSM	**Okushiri--Mats**	**0.95**	**9**	P	**Pb**	**17 41 34.4**	**-1.3**
JOSM				*e*S	**Sb**	**17 41 46.9**	**-1.1**
JYM2	**Yakumo 2**	**1.27**	**40**	P	**Pn**	**17 41 40.4**	**-0.3**
JYM2				*e*S	**Sb**	**17 41 57.0**	**-0.3**
JOT	**Ohata**	**1.36**	**79**	⇑P	**Pn**	**17 41 41.6**	**-0.3**
JOT				*e*S	**Sn**	**17 41 59.4**	**-0.2**
JTM	**Tenmabayashi**	**1.40**	**104**	P	**Pn**	**17 41 41.8**	**-0.8**
JAH	**Hinai**	**1.41**	**132**	⇑P	**Pn**	**17 41 42.1**	**-0.6**
JAH				S	**Sn**	**17 42 00.6**	**-0.3**
JKB	**Kayabe**	**1.51**	**60**	P	**Pn**	**17 41 44.5**	**+0.4**
JSH	**Shimam**	**1.60**	**21**	P	**Pn**	**17 41 44.7**	**-0.6**
JSH				S	**Sn**	**17 42 04.5**	**-1.2**
ASAJ	**Asahikawa**	**3.85**	**38**	P	**Pn**	**17 42 20.8**	**+4.6**
	0.2nm,0.3s,baz=350,slow=33,SNR=3.1							
MAT	**Matsushiro**	**4.67**	**191**	P	**Pn**	**17 42 27.4**	**-0.1**
MAT				S	**Sn**	**17 43 18.6**	**-2.8**
MJAR	**Matsushiro Arr**	**4.67**	**191**	P	**Pn**	**17 42 27.7**	**+0.2**
	2.4nm,0.3s,baz=14,slow=14,SNR=15							
MJAR				S	**Sn**	**17 43 20.2**	**-1.2**
	baz=10,slow=26,SNR=3.2							
JHJ	**Hachijo jima 2**	**8.02**	**177**	LR	LR	17 46 24.8	
	comp=Z,55nm,19.3s,baz=161,slow=38							
KSRS	**Korea Array**	**9.54**	**251**	P	**Pn**	**17 43 35.9**	**+1.5**
	baz=63,slow=14,SNR=7.0							
KSRS				S	**Sn**	**17 45 22.5**	**+1.2**
	baz=60,slow=23,SNR=7.1							
KSRS				LR	LR	17 47 04.5	
	comp=Z,26nm,19.0s,baz=25,slow=36							
INK	**Inuvik**	**51.52**	**28**	P	**P**	**17 50 23.8**	**+1.1**
	1.3nm,1.1s,mb3.8,baz=294,slow=4.5,SNR=4.9							
WRA	**Warramunga Arr**	**60.95**	**185**	P	**P**	**17 51 29.5**	**-0.4**
	1.4nm,0.5s,mb4.3,baz=2.4,slow=7.1,SNR=16							
ASAR	**Alice Springs**	**64.67**	**185**	P	**P**	**17 51 54.6**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=6.2,slow=6.1,SNR=7.8							
ASPA	**Alice Springs**	**64.67**	**185**	*e*P	**P**	**17 52 01.8**	**+7.1**
PDAR	**Pinedale Array**	**75.96**	**45**	P	**P**	**17 53 05.1**	**+1.3**
	1.6nm,0.8s,mb4.0,baz=268,slow=1.2,SNR=11							
TXAR	**Lajitas Array**	**88.88**	**51**	P	**P**	**17 54 13.1**	**+1.9**
	0.4nm,0.6s,mb4.0,baz=335,slow=5.5,SNR=4.3							

*LDG **09** 17:51:09.0±0.1,4307N×062W,h2km,Md1.4/2,Error ellipse: s-maj=2.0km s-min=0.9km az=13.0*
STR 09 17:51:09.1±0.1,4306N×062W,h2km±1km,MI2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.06**	**294**	Pg	Pg	17 51 10.7	+0.3
ATE				Sg	Sg	17 51 12.3	+1.1
ETSF	**Etsaut**	**0.17**	**165**	*e*Pg	Pg	17 51 12.7	+0.4
ETSF				*e*Sg	Sg	17 51 15.0	+0.5
	7.2nm,0.3s						
REYF	**Montagne du Re**	**0.17**	**87**	Pg	Pg	17 51 12.4	+0.1
REYF				Sg	Sg	17 51 15.2	+0.7
LARF	**Larrau**	**0.27**	**265**	Pg	Pg	17 51 14.2	-0.1
LARF				Sg	Sg	17 51 18.3	+0.5
ORDF	**Ordiarp**	**0.28**	**304**	Pg	Pg	17 51 14.2	-0.2
ORDF				Sg	Sg	17 51 18.3	+0.3
SJPF	**Ste Jean**	**0.45**	**277**	*e*Pg	Pg	17 51 17.6	-0.1
SJPF				*e*Sg	Sg	17 51 23.1	-0.4
	2.1nm,0.3s						
EPF	**Esparros**	**0.70**	**92**	*e*Pg	Pg	17 51 22.4	-0.2
EPF				*e*Sg	Sg	17 51 31.8	+0.1
	1.4nm,0.3s						

*NEIC **09** 18:08:40.9,3998N×004E,h11km,ML2.9(LDG), MN2.5(MDD),After MDD.*
NEIC Felt [II] at Castellon de la Plana.
*CSEM **09** 18:08:40.7±0.1,3997N×006E,h10km,ML2.8/13,Error ellipse: s-maj=1.8km s-min=1.5km az=122.0*
*LDG **09** 18:08:41.3±0.2,4003N×000E,h10km,MI2.9/5,Error ellipse: s-maj=4.7km s-min=3.8km az=153.0*
MDD 09 18:08:40.7±0.4,3998N×005E,h11km,mbLg2.4/19,Error ellipse: s-maj=3.7km s-min=2.9km az=115.0,PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.55**	**314**	Pg	Pg	18 08 51.1	-0.3
	6.8nm,0.1s,SNR=140						
EMOS				Lg		18 08 57.7	
	113nm,0.2s						
EMOS	**Mosqueruela**	**0.55**	**314**	Pg	Pg	18 08 51.2	-0.3
EMOS				Lg		18 08 57.7	
	113nm,0.2s						
ERTA	**Horta de San J**	**1.00**	**13**	Pg	Pg	18 08 59.0	-0.9
	13nm,0.1s,SNR=86						
ERTA				Lg		18 09 11.6	
	48nm,0.1s						
ERTA	**Horta de San J**	**1.00**	**13**	Pg	Pg	18 08 59.0	-1.0
	13nm,0.1s,SNR=86						
ERTA				Lg		18 09 11.6	
	48nm,0.1s						
EBEN	**Beniarda**	**1.29**	**189**	Pg	Pg	18 09 04.6	-1.0
	1.5nm,0.1s,SNR=15						
EBEN				Lg		18 09 21.2	
	1.5nm,0.2s						
EBEN	**Beniarda**	**1.29**	**189**	Pg	Pg	18 09 04.6	-1.0
	1.5nm,0.1s,SNR=15						
EBEN				Lg		18 09 21.2	
	1.5nm,0.2s						
EIBI	**Ibiza**	**1.38**	**133**	Pg	Pg	18 09 05.1	-2.1
	0.2nm,0.1s,SNR=7.9						
EIBI				Lg		18 09 22.4	
	16nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**1.38**	**133**	Pg	Pg	18 09 05.2	-2.1
EIBI				Lg		18 09 22.4	
	16nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.58**	**29**	Pn	Pn	18 09 07.8	-0.9
	1.0nm,0.1s,SNR=6.9						
EPOB				Pg	Pg	18 09 10.0	-1.0
	4.8nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	18 09 27.1	-2.0
	14nm,0.1s						
EPOB				Lg		18 09 29.1	
	14nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.58**	**29**	Pn	Pn	18 09 07.8	-0.9
	1.0nm,0.1s,SNR=6.9						
EPOB	**Poblet**	**1.58**	**29**	Pg	Pg	18 09 10.0	-1.0
	4.8nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	18 09 27.1	-2.0
	14nm,0.1s						
EPOB				Lg		18 09 29.1	
	14nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.78**	**347**	Pg	Pg	18 09 13.6	-1.3
	28nm,0.2s,SNR=7.9						
ESAC				Lg		18 09 35.9	
	154nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.78**	**347**	Pg	Pg	18 09 13.6	-1.3
	28nm,0.2s,SNR=7.9						
ESAC				Lg		18 09 35.9	
	154nm,0.3s,SNR=7.9						
ETOR	**Torete**	**1.81**	**298**	Pg	Pg	18 09 14.5	-1.0
	21nm,0.2s,SNR=7.9						
ETOR				Lg		18 09 37.1	
	111nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**1.82**	**223**	Pg	Pg	18 09 12.3	-3.4
	0.8nm,0.2s,SNR=12						
ETOB				Sn	Sn	18 09 33.9	-1.2
	16nm,0.3s,SNR=6.1						
ETOB				Lg		18 09 38.4	
	16nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**1.82**	**223**	Pg	Pg	18 09 12.3	-3.3
	0.8nm,0.2s,SNR=12						
ETOB				Sn	Sn	18 09 33.9	-1.2
	16nm,0.3s,SNR=6.1						
ETOS	**Mallorca**	**2.14**	**95**	Pn	Pn	18 09 15.3	-1.1
	1.2nm,0.2s,SNR=8.2						
ETOS				Sn	Sn	18 09 39.5	-3.5
	2.5nm,0.2s						
ETOS	**Mallorca**	**2.14**	**95**	Pn	Pn	18 09 15.3	-1.1
	1.2nm,0.2s,SNR=8.2						
ETOS				Sn	Sn	18 09 39.5	-3.5
	2.5nm,0.2s						
EMIR	**Miracle**	**2.23**	**30**	Pn	Pn	18 09 17.2	-0.5
	0.6nm,0.1s,SNR=7.9						
EMIR				Pg	Pg	18 09 21.3	-2.3
	3.6nm,0.2s,SNR=7.9						
EMIR				Sn	Sn	18 09 44.0	-1.3
	1.1nm,0.1s,SNR=7.9						
EMIR				Lg		18 09 50.5	
	26nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.23**	**30**	Pn	Pn	18 09 17.2	-0.5
	0.6nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.23**	**30**	Pg	Pg	18 09 21.3	-2.2
	3.6nm,0.2s,SNR=7.9						
EMIR				Sn	Sn	18 09 44.0	-1.3
	1.1nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.39**	**237**	Pn	Pn	18 09 17.3	-2.6
	0.7nm,0.2s,SNR=4.0						
EVIA				Pg	Pg	18 09 25.4	-1.1
	1.7nm,0.2s,SNR=7.9						
EVIA				Sn	Sn	18 09 45.8	-3.3
	1.5nm,0.2s,SNR=7.9						
EVIA				Lg		18 09 56.2	
	8.0nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**2.39**	**237**	Pg	Pg	18 09 25.4	-1.1
	1.7nm,0.2s,SNR=7.9						
EVIA				Sn	Sn	18 09 45.8	-3.3
	1.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.70**	**1**	Pg	Pg	18 09 30.6	-1.9
	0.6nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	18 09 56.3	-0.6
	0.4nm,0.2s,SNR=7.9						
EBIE				Lg		18 10 05.2	
	4.0nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.70**	**1**	Pg	Pg	18 09 30.6	-2.0
	0.6nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	18 09 56.3	-0.6
	0.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.95**	**351**	*e*Pg	Pg	18 09 35.4	-1.9
ETSF				*e*Sg	Sg	18 10 12.3	-3.2
	6.1nm,0.3s						
ETSF	**Etsaut**	**2.95**	**351**	*e*Pn	Pn	18 09 26.1	-1.5
ETSF				*e*Pg	Pg	18 09 35.4	-1.9
ETSF				*e*Sg	Sg	18 10 12.3	-3.2
ETSF	**Etsaut**	**2.95**	**351**	Pn	Pn	18 09 26.1	-1.5
ETSF				Pg	Pg	18 09 35.4	-1.9
ETSF				Lg		18 10 12.3	
	3.0nm,0.3s						
ETSF	**Etsaut**	**2.95**	**351**	*e*Pg	Pg	18 09 35.4	-1.9
ETSF				*e*Sg	Sg	18 10 12.3	-3.2
	3.0nm,0.3s						
EHUE	**Huescar**	**2.99**	**224**	Sn	Sn	18 10 01.5	-2.4
	1.0nm,0.2s,SNR=7.9						
EHUE				Lg		18 10 14.7	
	0.8nm,0.1s,SNR=7.9						
EPF	**Esparros**	**3.06**	**4**	*e*Pg	Pg	18 09 36.9	-2.4
EPF				*e*Sn	Sn	18 10 01.3	-4.3
EPF				*e*Sg	Sg	18 10 16.5	-2.4
	18nm,0.3s						
EPF	**Esparros**	**3.06**	**4**	*e*Pn	Pn	18 09 27.2	-1.8
EPF				*e*Pg	Pg	18 09 36.9	-2.4
EPF				*e*Sn	Sn	18 10 01.3	-4.3
EPF				*e*Sg	Sg	18 10 16.5	-2.4
EPF	**Esparros**	**3.06**	**4**	Pn	Pn	18 09 27.2	-1.8
EPF				Pg	Pg	18 09 36.9	-2.4
EPF				Sn	Sn	18 10 01.3	-4.3
EPF				Lg		18 10 16.5	
	8.9nm,0.3s						
EPF	**Esparros**	**3.06**	**4**	*e*Pn	Pn	18 09 27.2	-1.8
EPF	**Esparros**	**3.06**	**4**	*e*Pg	Pg	18 09 36.9	-2.4
EPF				*e*Sn	Sn	18 10 01.3	-4.3
EPF				*e*Sg	Sg	18 10 16.5	-2.4
	8.9nm,0.3s						
ESDC	**Sonseca Array**	**3.10**	**266**	Pn	Pn	18 09 29.7	+0.1
	4.0nm,0.2s,baz=83,slow=14,SNR=7.9						
ESDC				Pg	Pg	18 09 38.6	-1.6
	0.6nm,0.1s,baz=85,slow=17,SNR=7.9						
ESDC				Sn	Sn	18 10 03.2	-3.6
	0.7nm,0.2s,baz=359,slow=10,SNR=7.9						
ESDC				Lg		18 10 17.3	
	1.3nm,0.2s,baz=84,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**3.10**	**266**	Pn	Pn	18 09 29.7	0.0
	4.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.10**	**266**	Pg	Pg	18 09 38.6	-1.6
	0.6nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	18 10 03.2	-3.6
	0.7nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**3.26**	**325**	Lg		18 10 21.6	
	3.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.26**	**229**	Lg		18 10 23.7	
	3.4nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.27**	**40**	Lg		18 10 22.5	
	1.6nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**3.27**	**343**	*e*Pg	Pg	18 09 40.9	-2.5
SJPF				*e*Sg	Sg	18 10 21.6	-4.3
	7.7nm,0.4s						
SJPF	**Ste Jean**	**3.27**	**343**	*e*P	Pn	18 09 33.6	+1.6
SJPF				*e*Pg	Pg	18 09 40.9	-2.5
SJPF				*e*Sg	Sg	18 10 21.6	-4.3
SJPF	**Ste Jean**	**3.27**	**343**	Pn	Pn	18 09 33.6	+1.6
SJPF				Pg	Pg	18 09 40.9	-2.5
SJPF				Lg		18 10 21.6	
	3.8nm,0.4s						
SJPF	**Ste Jean**	**3.27**	**343**	*e*Pg	Pg	18 09 40.9	-2.5
SJPF				*e*Sg	Sg	18 10 21.6	-4.3
	3.8nm,0.4s						
GUD	**Guadarrama**	**3.28**	**283**	Pn	Pn	18 09 30.4	-1.7
	0.3nm,0.2s,SNR=7.9						
GUD				Pg	Pg	18 09 40.2	-3.4
	3.3nm,0.3s,SNR=7.9						
GUD				Sn	Sn	18 10 09.0	-2.1
	3.7nm,0.3s,SNR=7.9						
GUD				Lg		18 10 21.8	
	2.4nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**3.39**	**340**	Pn	Pn	18 09 33.1	-0.6
	0.5nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**3.44**	**341**	Pn	Pn	18 09 35.0	+0.7
	1.0nm,0.2s,SNR=4.0						
EALK				Pg	Pg	18 09 44.7	-2.0
	1.6nm,0.2s,SNR=4.0						
EALK				Lg		18 10 27.5	
	16nm,0.5s,SNR=7.9						
EBAN	**Banos Encina**	**3.49**	**240**	Lg		18 10 30.2	
	2.1nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**3.73**	**25**	*e*Pg	Pg	18 09 49.5	-2.7
MTLF				*e*Sg	Sg	18 10 36.2	-4.3
	6.7nm,0.4s						
MTLF	**Montolieu**	**3.73**	**25**	*e*Pn	Pn	18 09 36.7	-1.6
MTLF				*e*Pg	Pg	18 09 49.5	-2.7
MTLF				*e*Sg	Sg	18 10 36.2	-4.3
MTLF	**Montolieu**	**3.73**	**25**	Pn	Pn	18 09 36.7	-1.6
MTLF				Pg	Pg	18 09 49.5	-2.7
MTLF				Lg		18 10 36.2	
	3.3nm,0.4s						
MTLF	**Montolieu**	**3.73**	**25**	*e*Pg	Pg	18 09 49.5	-2.7
MTLF				*e*Sg	Sg	18 10 36.2	-4.3
	3.3nm,0.4s						
EQUE	**Quentar**	**3.89**	**226**	Lg		18 10 42.6	
	2.4nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**4.03**	**245**	Pn	Pn	18 09 42.9	+0.5
	0.1nm,0.1s,SNR=7.9						
EADA				Pg	Pg	18 09 53.7	-4.2
	0.4nm,0.1s,SNR=7.9						
EADA				Sn	Sn	18 10 26.4	-3.2
	6.8nm,0.1s,SNR=7.9						
EADA				Lg		18 10 46.6	
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.03**	**245**	Pn	Pn	18 09 42.9	+0.5
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.03**	**245**	Pg	Pg	18 09 53.7	-4.2
	0.4nm,0.1s,SNR=7.9						
EADA				Sn	Sn	18 10 26.4	-3.2
	6.8nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**4.17**	**322**	Pg	Pg	18 09 57.2	-3.4
	1.1nm,0.2s,SNR=4.0						
ELAN				Lg		18 10 53.0	
	7.8nm,0.6s,SNR=7.9						
ELAN	**Lanestosa**	**4.17**	**322**	Pg	Pg	18 09 57.2	-3.4
	1.1nm,0.2s,SNR=4.0						
LASF	**Ste Croix**	**4.98**	**33**	*e*Pn	Pn	18 09 53.8	-1.7
LFF	**La Frestale**	**4.98**	**6**	*e*Pn	Pn	18 09 53.2	-2.3
EARI	**Arriondas**	**5.15**	**312**	Lg		18 11 24.1	
	24nm,1.2s,SNR=7.9						
CAF	**Calviac**	**5.16**	**16**	*e*Pn	Pn	18 09 55.0	-3.0
ECAL	**Calabor**	**5.50**	**293**	Pn	Pn	18 10 02.5	-0.1
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	18 11 02.3	-3.5
	1.9nm,0.2s,SNR=4.0						
ECAL				Lg		18 11 32.7	
	0.7nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**5.50**	**293**	Pn	Pn	18 10 02.5	-0.1
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	18 11 02.3	-3.5
	1.9nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**5.61**	**260**	Sn	Sn	18 11 04.1	-4.4
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.69**	**249**	Lg		18 11 40.5	
	0.1nm,0.2

1.7nm,1.0s,mb3.6,baz=177,slow=9.8,SNR=7.5
VNDA LR LR 18 33 04.5
comp=Z,117nm,21.2s,MS3.7,baz=180,slow=33
VNDA Vanda 42.01 182 P **P** **18 17 38.5 +0.1**
VNDA LR LR 18 33 04.5
BOSA Boshof 46.53 70 P **P** **18 18 15.1 +0.6**
2.3nm,0.8s,mb4.2,baz=219,slow=6.5,SNR=4.3
BOSA LR LR 18 33 12.3
comp=Z,118nm,19.6s,MS3.9,baz=207,slow=30
LBTB Lobatse 49.76 68 P **P** **18 18 40.7 +1.2**
2.6nm,0.8s,mb4.3,baz=204,slow=10.0,SNR=3.3
LPAZ La Paz 53.75 306 P **P** **18 19 09.0 -0.3**
1.9nm,0.5s,mb4.3,baz=151,slow=8.1,SNR=11
LPAZ La Paz 53.75 306 P **P** **18 19 09.0 -0.3**
RPZ Rata Peaks 75.11 192 LR LR 18 48 33.0
comp=Z,89nm,19.9s,MS4.1,baz=39,slow=31
ROSC El Rosal 75.48 309 LR LR 18 54 35.0
comp=Z,72nm,21.3s,MS4.0,baz=164,slow=36
TOA0 Torodi Ar. Sit 76.71 27 *eP* **P** **18 21 38.3 0.0**
TORD Torodi Ar. Bea 76.71 27 P **P** **18 21 38.5 +0.2**
6.5nm,0.6s,mb4.7,baz=194,slow=6.2,SNR=29
TORD LR LR 18 50 23.0
comp=Z,67nm,19.7s,MS4.0,baz=160,slow=32
TORD Torodi Ar. Bea 76.71 27 P **P** **18 21 38.5 +0.2**
TORD LR LR 18 50 23.0
STKA Stephens Creek 87.22 169 P **P** **18 22 32.5 -1.0**
1.2nm,0.9s,mb4.1,baz=158,slow=5.4,SNR=2.4
STKA LR LR 18 59 32.7
comp=Z,126nm,18.1s,MS4.4,baz=205,slow=34
PPT Papeete 90.09 232 LR LR 18 56 32.4
comp=Z,87nm,19.9s,MS4.2,baz=303,slow=31
ASAR Alice Springs 94.35 161 P **P** **18 23 05.5 -1.3**
0.5nm,0.6s,mb4.1,baz=180,slow=4.2,SNR=13
ASAR LR LR 19 01 27.7
comp=Z,300nm,20.0s,MS4.8,baz=191,slow=33
WRA Warramunga Arr 98.07 161 P **P** **18 23 24.5 +0.8**
0.4nm,0.9s,mb3.9,baz=190,slow=8.6,SNR=2.5
WRA LR LR 19 04 24.6
comp=Z,213nm,21.1s,MS4.6,baz=160,slow=33
CTA Charters Tower 99.29 172 LR LR 19 07 52.4
comp=Z,209nm,19.4s,MS4.7,baz=210,slow=35
FINES FINESS Array B 128.05 29 PKP PKPdf 18 28 50.8 -2.3
0.6nm,0.5s,baz=212,slow=6.8,SNR=3.6
SONM Songino Array 149.90 93 PKPbc PKPbc 18 29 34.4 -3.0
2.1nm,0.9s,baz=230,slow=1.5,SNR=5.7
DAWY Dawson 150.33 306 *e*PKPbc PKPbc 18 29 35.9 -2.5

*ISCJB **09** 18:32:13.8±0.5, 3921N±003×2172E±003, h12km±4km, Error ellipse: s-maj=4.8km s-min=4.2km az=87.9*
*NEIC **09** 18:32:13.9, 3918N×2175E, h22km, MD3.3(ATH), After ATH.*
*ATH **09** 18:32:13.9, 3918N×2175E, h22km×3km, MD3.3/7*
*THE **09** 18:32:14.6, 3922N×2169E, h12km, ML2.4*
*CSEM **09** 18:32:14.3±0.2, 3921N×2170E, h12km, MD3.3, Error ellipse: s-maj=4.1km s-min=3.4km az=130.0*
ISC 09 18:32:14.5±0.4, 3921N±003×2171E±003, h15km±4km, n18, σ1§00/29, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.30**	**164**	*e*PB		**Pg**	**18 32 19.8**	**-1.0**
EVR				SB		**Sg**	**18 32 25.2**	**+0.2**
THL	**Klokotos Trika**	**0.43**	**34**	*e*PB		**Pg**	**18 32 22.2**	**-0.9**
THL				SB		**Sg**	**18 32 29.8**	**+0.8**
AGG	**Agios Georgios**	**0.52**	**110**	*e*Pg		**Pg**	**18 32 24.4**	**-0.3**
AGG				*e*Sg		**Sg**	**18 32 34.0**	**+2.3**
MEV	**Metsovon**	**0.69**	**328**	*e*Pg		**Pg**	**18 32 26.6**	**-1.3**
MEV				*e*Sg		**Sg**	**18 32 37.2**	**+0.2**
MEV	**Metsovon**	**0.69**	**328**	*e*Pg		**Pg**	**18 32 26.5**	**-1.4**
MEV				*e*Sg		**Sg**	**18 32 37.2**	**+0.2**
JAN	**Janina**	**0.80**	**305**	*e*PN		**Pg**	**18 32 30.0**	**0.0**
LKD	**Levkas**	**0.96**	**239**	*e*Pg		**Pg**	**18 32 31.5**	**-1.6**
LKD				*e*Sg		**Sg**	**18 32 47.1**	**+1.5**
LIT	**Litokhoron**	**1.08**	**34**	*e*Pg		**Pg**	**18 32 33.9**	**-1.4**
LIT				*e*Sg		**Sg**	**18 32 50.8**	**+1.3**
RLS	**Riolos of Patr**	**1.16**	**189**	*e*PN		**Pn**	**18 32 36.6**	**+0.4**
XOR	**Xorichti**	**1.16**	**82**	*e*Pg		**Pg**	**18 32 35.8**	**-1.1**
XOR				*e*Sg		**Sg**	**18 32 53.3**	**+1.1**
NEO	**Neokhori**	**1.18**	**85**	*e*PN		**Pn**	**18 32 35.9**	**-0.6**
VLS	**Valsamata**	**1.35**	**221**	*e*PB		**Pn**	**18 32 38.8**	**+0.1**
KEK	**Kerkira**	**1.56**	**290**	*e*PN		**Pn**	**18 32 44.1**	**+2.4**
FNA	**Florina**	**1.60**	**351**	*e*Pg		**Pn**	**18 32 42.2**	**0.0**
FNA				*e*Sg		**Sn**	**18 33 03.6**	**+1.1**
PAIG	**Paliouri**	**1.69**	**64**	*e*Pb		**Pn**	**18 32 42.6**	**-0.8**
PAIG				*e*Sb		**Sn**	**18 33 04.0**	**-0.8**
GRG	**Griva**	**1.83**	**17**	*e*Pb		**Pn**	**18 32 45.0**	**-0.4**
SOH	**Sokhos**	**2.05**	**38**	*e*Pn		**Pn**	**18 32 48.5**	**+0.1**
SOH				*e*Sn		**Sn**	**18 33 13.8**	**0.0**
OUR	**Ouranopolis**	**2.08**	**57**	*e*Pn		**Pn**	**18 32 48.7**	**-0.2**

*NEIC **09** 18:33:13.9±4.2, 2324S×17976W, h470km±41km, mb4.3/1, Error ellipse: s-maj=37.5km s-min=15.0km az=218.0*
*ISCJB **09** 18:33:18.9±2.9, 236S±02×1799E±02, h517km±35km, mb3.7/6, Error ellipse: s-maj=38.0km s-min=16.5km az=120.0*
*IDC **09** 18:33:19.5±3.2, 2347S×17997E, h519km±33km, mb2.9/5, mb1 3.1/6, mb1mx3.0/15, mbtmp3.0/6, Error ellipse: s-maj=25.4km s-min=18.9km az=4.0*
ISC 09 18:33:20.8±2.8, 238S±02×1798E±02, h507km±31km, n20, σ0§54/14, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.60**	**188**	P		**P**	**18 36 27.0**	**+0.4**
URZ	1.9nm,0.3s,baz=332,slow=3.3,SNR=8.3			S		**S**	**18 38 59.3**	**-0.4**
RPZ	1.9nm,0.3s,baz=82,slow=22,SNR=11 **Rata Peaks**	**21.13**	**198**	P		**P**	**18 37 29.1**	**-0.1**
CTAO	16nm,1.1s,mb4.5,baz=70,slow=22,SNR=2.9 **Charters Tower**	**31.30**	**270**	*e*P		**P**	**18 38 58.3**	**-0.5**
STKA	**Stephens Creek**	**34.60**	**248**	P		**P**	**18 39 27.8**	**+1.0**
AS31	0.7nm,0.3s,mb3.5,baz=62,slow=12,SNR=5.7 **Alice Springs**	**41.88**	**261**	*e*P		**P**	**18 40 26.6**	**+0.5**
ASAR	**Alice Springs**	**41.88**	**261**	P		**P**	**18 40 26.1**	**0.0**
ASAR	0.7nm,0.6s,mb3.3,baz=99,slow=10,SNR=13			S		**S**	**18 46 07.3**	**+0.3**
ASPA	0.3nm,0.6s,baz=99,slow=14,SNR=4.5 **Alice Springs**	**41.88**	**261**	*e*P		**P**	**18 40 26.6**	**+0.5**
WB2	**Warramunga Arr**	**42.23**	**266**	*e*P		**P**	**18 40 28.2**	**-0.6**
WRA	**Warramunga Arr**	**42.24**	**266**	P		**P**	**18 40 27.9**	**-1.0**
VNDA	0.4nm,0.2s,mb3.4,baz=90,slow=5.9,SNR=38 **Vanda**	**54.46**	**185**	P		**P**	**18 42 00.3**	**+0.3**
VNDA	0.3nm,0.5s,mb2.8,baz=304,slow=5.5,SNR=6.4 **Vanda**	**54.46**	**185**	P		**P**	**18 42 00.3**	**+0.3**
QSPA	**South Pole Qui**	**66.28**	**180**	*e*P		**P**	**18 43 18.1**	**-0.2**
ARCES	9.7nm,1.1s,mb4.3 **ARCESS Array B**	**131.76**	**348**	PKP		PKPdf	18 51 30.7	-5.1
HFS	1.1nm,0.9s,baz=46,slow=3.9,SNR=5.5 **Hagfors**	**142.42**	**349**	PKhKP			18 51 46.7	
AKASG	1.7nm,0.3s,baz=54,slow=2.6,SNR=19 **Malin Array Be**	**144.80**	**327**	PKP		PKPdf	18 51 55.2	-4.4
AKASG	1.1nm,0.4s,baz=46,slow=3.9,SNR=8.1 **Malin Array Be**	**144.80**	**327**	PKP		PKPdf	18 51 55.2	-4.4
BRTR	**Keskin Array B**	**147.38**	**307**	PKPbc		PKPbc	18 52 03.9	-3.4
BRTR	0.5nm,0.6s,baz=136,slow=5.4,SNR=3.0			PKPab		PKPab	18 52 07.7	-3.2
MMAI	0.5nm,0.6s,baz=92,slow=3.7,SNR=3.8 **Mount Meron Ar**	**147.50**	**294**	PKPbc		PKPbc	18 52 06.0	-1.6
EKA	2.1nm,0.5s,baz=85,slow=6.1,SNR=11 **Eskdalemuir Ar**	**148.43**	**3**	PKP		PKPdf	18 52 02.5	-3.1
EKA	1.2nm,0.7s,baz=343,slow=2.2,SNR=4.1			PKPbc		PKPbc	18 52 05.0	-4.9
TORD	1.1nm,0.7s,baz=343,slow=2.2,SNR=5.0 **Torodi Ar. Bea**	**169.25**	**190**	PKPab		PKPab	18 53 44.3	-1.1
	0.7nm,1.0s,baz=159,slow=3.9,SNR=5.0							

IGQ 09 18:34:48.8, 116N×8049W, h12km±13km, Mb4.3, Ms4.1, 2C-6D, Error ellipse: s-maj=16.3km s-min=8.2km az=170.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YANA	**Yana**	**2.30**	**123**	⇓P		Pn	18 35 28.7	+2.2
YANA				S		Sn	18 35 55.2	+0.5
COTA	**Cotacachi**	**2.30**	**111**	⇑P		Pn	18 35 29.3	+2.8
GGP	**Refugio Guagua**	**2.31**	**125**	⇓P		Pn	18 35 28.7	+2.1
JUA2	**San Juan 2**	**2.33**	**126**	⇓P		Pn	18 35 29.0	+2.2
CAMI	**Rancho Maria**	**2.70**	**133**	P		Pn	18 35 35.6	+3.7
CAYA	**Cayambe**	**2.72**	**113**	⇑P		Pn	18 35 36.5	+4.2
CAYA				S		Sn	18 36 07.8	+2.6
VC1	**Cotopaxi 1**	**2.75**	**131**	⇓P		Pn	18 35 36.0	+3.4
TAMB	**Tambo**	**2.81**	**131**	⇓P		Pn	18 35 37.0	+3.6
ANTI	**Antisana**	**2.82**	**124**	⇓P		Pn	18 35 37.6	+4.0
ANTI				S		Sn	18 36 11.7	+4.1
CONE	**Cono NE Rev Vo**	**3.10**	**113**	P		Pn	18 35 43.4	+5.9
LAV3	**Lava3-Reventad**	**3.12**	**114**	P		Pn	18 35 43.1	+5.4
ULBA	**Ulba**	**3.33**	**141**	P		Pn	18 35 43.7	+3.1

IDC 09 18:59:58.8±10.0, 591S×15024E, h79km±69km, mb2.7/2, mb1 3.0/3, mb1mx2.9/13, mbtmp2.8/3, ML2.0/1, Error ellipse: s-maj=164.7km s-min=74.7km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**221**	P		Pn	19 01 06.1	0.0
	0.5nm,0.3s,baz=177,slow=14,SNR=3.8							
WB2	**Warramunga Arr**	**20.80**	**226**	*e*P		P	19 04 35.2	+1.6
WRA	**Warramunga Arr**	**20.81**	**226**	P		P	19 04 34.9	+1.2
	0.4nm,0.4s,baz=52,slow=10,SNR=8.2							
ASAR	**Alice Springs**	**23.63**	**220**	P		P	19 05 02.0	-0.7
	0.2nm,0.5s,baz=56,slow=9.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**148.18**	**285**	PKPbc		PKPbc	19 19 36.2	+0.7
	0.4nm,0.4s,baz=72,slow=2.3,SNR=11							

*NEIC **09** 19:00:18.6±0.7, 647S×15135E, h10km, mb4.7/2, Error ellipse: s-maj=25.1km s-min=10.6km az=118.0*
*ISCJB **09** 19:00:26.0±3.7, 665S±01×1511E±02, h77km±29km, mb4.0/11, Error ellipse: s-maj=32.9km s-min=18.4km az=28.3*
*IDC **09** 19:00:26.6±5.6, 652S×15114E, h68km±46km, mb3.9/10, mb1 4.1/11, mb1mx4.0/16, mbtmp3.9/11, ML2.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/20, Error ellipse: s-maj=38.5km s-min=21.0km az=88.0*
ISC 09 19:00:26.8±3.4, 665S±01×1512E±02, h72km±27km, n26, σ0§55/22, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**235**	P		**Pn**	**19 01 37.7**	**-0.1**
	1.5nm,0.3s,baz=17,slow=4.3,SNR=9.6							
PMG				S		**Sn**	**19 02 33.5**	**+0.4**
	6.2nm,0.3s,baz=345,slow=21,SNR=11							
GUMO	**Guam**	**20.99**	**343**	LR		LR	19 11 17.9	
	comp=Z,132nm,20.4s,baz=113,slow=31							
WRAB	**Tennant Creek**	**21.07**	**229**	*e*P		**P**	**19 05 04.5**	**-0.6**
WB2	**Warramunga Arr**	**21.08**	**229**	*e*P		**P**	**19 05 04.6**	**-0.5**
WRA	**Warramunga Arr**	**21.09**	**229**	P		**P**	**19 05 04.9**	**-0.3**
	11nm,0.8s,mb4.2,baz=53,slow=10.0,SNR=14							
AS31	**Alice Springs**	**23.78**	**223**	*e*P		**P**	**19 05 32.0**	**-0.6**
ASAR	**Alice Springs**	**23.78**	**223**	P		**P**	**19 05 32.8**	**+0.2**
	5.4nm,0.7s,mb4.0,baz=58,slow=9.0,SNR=54							
ASPA	**Alice Springs**	**23.78**	**223**	*e*P		**P**	**19 05 32.0**	**-0.6**
STKA	**Stephens Creek**	**26.73**	**198**	P		**P**	**19 06 00.9**	**+1.5**
	6.7nm,1.0s,mb4.1,baz=13,slow=11.1,SNR=9.4							
FITZ	**Fitzroy Crossi**	**27.43**	**243**	*e*P		**P**	**19 06 05.9**	**+0.2**
	13nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.43**	**243**	P		**P**	**19 06 06.0**	**+0.3**
	6.2nm,0.6s,mb4.3,baz=62,slow=7.4,SNR=25							
AFI	**Afiamalu**	**37.12**	**104**	LR		LR	19 20 22.2	
	comp=Z,53nm,19.0s,baz=51,slow=32							
KSRS	**Korea Array**	**48.89**	**335**	LR		LR	19 26 28.5	
	comp=Z,23nm,21.4s,baz=161,slow=32							
SONM	**Songino Array**	**66.99**	**329**	P		**P**	**19 11 11.9**	**+0.1**
	0.9nm,0.6s,mb3.8,baz=152,slow=4.5,SNR=20							
VNDA	**Vanda**	**71.14**	**178**	P		**P**	**19 11 37.5**	**-0.1**
	0.4nm,0.7s,mb3.4,baz=338,slow=7.5,SNR=5.0							
VNDA	**Vanda**	**71.14**	**178**	P		**P**	**19 11 37.5**	**-0.1**
MKAR	**Makanchi Array**	**80.62**	**319**	P		**P**	**19 12 31.6**	**+0.1**
	2.7nm,1.1s,mb4.0,baz=112,slow=5.4,SNR=6.1							
ZAL	**Zalesovo**	**81.75**	**327**	P		**P**	**19 12 37.5**	**-0.1**
	0.7nm,0.3s,mb3.9,baz=282,slow=5.2,SNR=3.4							
ZAL	**Zalesovo**	**81.75**	**327**	P		**P**	**19 12 37.5**	**-0.1**
KURK	**Kurchatov**	**84.18**	**322**	*e*P		**P**	**19 12 50.1**	**0.0**
AAK	**Ala-Archa**	**84.73**	**314**	*e*P		**P**	**19 12 53.7**	**+0.9**
	2.0nm,0.6s,mb4.2							
INK	**Inuvik**	**90.67**	**21**	P		**P**	**19 13 20.6**	**-0.8**
	1.7nm,0.9s,mb4.2,baz=249,slow=6.7,SNR=4.1							
YKA	**Yellowknife Ar**	**97.72**	**28**	P		**P**	**19 13 53.9**	**+0.3**
	0.6nm,0.6s,mb4.3,baz=266,slow=4.3,SNR=4.7							
YKA	**Yellowknife Ar**	**97.72**	**28**	P		**P**	**19 13 53.9**	**+0.2**
CLL	**Collm**	**123.60**	**330**	*e*PKPdf		PKPdf	19 19 17.0	+1.1
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc		PKPbc	19 20 08.3	+1.2
	2.9nm,0.7s,baz=68,slow=3.0,SNR=20							

GUC 09 19:03:29.9±0.6, 3383S×7258W, h40km±5km, MD3.7, ML2.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.98**	**98**	⇓*i*P		Pn	19 03 47.4	+0.2
LNV				*i* S		Sn	19 04 01.6	+1.7
CACH	**El Canelo**	**1.67**	**100**	*e*P		Pn	19 03 58.6	+1.9
PEL	**Peldehue**	**1.73**	**67**	*e*P		Pn	19 03 59.0	+1.6
PEL				*i* S		Sn	19 04 20.6	+2.4
PEL				AML	AML		19 04 32.0	
	comp=E,138nm,0.3s							
CICH	**Cipreses**	**1.86**	**106**	*e*P		Pn	19 04 00.9	+1.6
FCH	**Farellones**	**1.98**	**76**	*e*P		Pn	19 04 02.7	+1.9
FCH				*i* S		Sn	19 04 27.6	+3.2
FCH				AML	AML		19 04 42.3	
	comp=N,35nm,0.6s							

*NEIC **09** 19:04:13.7±1.6, 641S×15147E, h10km, mb4.3/2, Error ellipse: s-maj=45.5km s-min=21.4km az=118.0*
*ISCJB **09** 19:04:21.8±4.9, 655S±02×1511E±03, h73km±35km, mb3.7/6, Error ellipse: s-maj=49.2km s-min=31.9km az=46.0*
*IDC **09** 19:04:24.4±7.5, 646S×15099E, h79km±55km, mb3.6/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=58.0km s-min=34.5km az=91.0*
ISC 09 19:04:23.0±4.7, 655S±02×1511E±03, h71km±33km, n12, σ0§54/12, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**234**	P		**Pn**	**19 05 34.0**	**-0.1**
	1.0nm,0.3s,baz=67,slow=2.2,SNR=4.8							
PMG				S		**Sn**	**19 06 29.8**	**+0.5**
	3.1nm,0.3s,baz=133,slow=23,SNR=4.4							
WRAB	**Tennant Creek**	**21.08**	**229**	*e*P		**P**	**19 09 00.8**	**-0.7**
	7.9nm,1.0s,mb4.0							
WB2	**Warramunga Arr**	**21.09**	**229**	*e*P		**P**	**19 09 01.1**	**-0.4**
WRA	**Warramunga Arr**	**21.09**	**229**	P		**P**	**19 09 00.4**	**-1.2**
	2.1nm,0.6s,mb3.6,baz=52,slow=10,SNR=5.2							
AS31	**Alice Springs**	**23.79**	**222**	*e*P		**P**	**19 09 29.7**	**+0.5**
ASAR	**Alice Springs**	**23.79**	**222**	P		**P**	**19 09 29.1**	**-0.1**
	1.6nm,0.5s,mb3.6,baz=55,slow=9.0,SNR=21							
ASPA	**Alice Springs**	**23.80**	**222**	*e*P		**P**	**19 09 29.7**	**+0.5**
STKA	**Stephens Creek**	**26.78**	**198**	P		**P**	**19 09 56.8**	**+0.5**
	1.9nm,0.8s,mb3.6,baz=18,slow=7.0,SNR=4.6							
FITZ	**Fitzroy Crossi**	**27.41**	**243**	*e*P		**P**	**19 10 02.0**	**0.0**
	5.3nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P		**P**	**19 10 02.2**	**+0.3**
	2.6nm,0.5s,mb4.0,baz=66,slow=7.2,SNR=9.7							
MKAR	**Makanchi Array**	**80.52**	**319**	P		**P**	**19 16 27.8**	**+0.3**
	0.7nm,1.0s,mb3.5,baz=104,slow=6.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**149.20**	**285**	PKPbc		PKPbc	19 24 04.3	+0.8
	0.8nm,0.6s,baz=92,slow=2.1,SNR=10							

IDC 09 19:09:31.7±8.8, 634S×15100E, h57km±64km, mb3.6/4, mb1 3.7/5, mb1mx3.4/15, mbtmp3.6/5, ML2.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/23, Error ellipse: s-maj=60.2km s-min=54.5km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**231**	P		Pn	19 10 42.3	-0.1
	0.9nm,0.3s,baz=89,slow=7.2,SNR=5.9							
PMG				S		Sn	19 11 39.1	+1.6
	0.8nm,0.3s,baz=147,slow=21,SNR=3.4							
WB2	**Warramunga Arr**	**21.08**	**229**	*e*P		P	19 14 11.7	+0.5
WRA	**Warramunga Arr**	**21.09**	**229**	P		P	19 14 11.2	0.0
	1.5nm,0.7s,baz=52,slow=10,SNR=9.5							
ASAR	**Alice Springs**	**23.81**	**222**	P		P	19 14 39.0	-0.3
	1.4nm,0.5s,baz=56,slow=8.8,SNR=28							
ASPA	**Alice Springs**	**23.81**	**222**	*e*P		P	19 14 39.5	+0.2
STKA	**Stephens Creek**	**26.88**	**198**	P		P	19 15 06.8	-0.3
	1.9nm,1.1s,baz=11,slow=9.6,SNR=3.4							
FITZ	**Fitzroy Crossi**	**27.36**	**242**	P		P	19 15 11.9	+0.5
	2.6nm,0.5s,baz=60,slow=9.1,SNR=7.8							
RAO	**Raoul Island**	**37.13**	**132**	LR		LR	19 27 08.0	
	comp=Z,99nm,21.2s,baz=263,slow=28							
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc		PKPbc	19 29 14.6	+1.3
	0.5nm,0.6s,baz=63,slow=3.2,SNR=7.8							

*IDC **09** 19:16:18.3±9.7, 648S×15100E, h63km±65km, mb3.6/4, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, ML2.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=81.5km s-min=54.3km az=72.0*
NEIC 09 19:16:08.6±2.1, 635S×15145E, h10km, mb4.3/2, Error ellipse: s-maj=43.7km s-min=31.4km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**234**	P		Pn	19 17 28.5	+1.9
	0.7nm,0.3s,baz=294,slow=4.2,SNR=4.0							
KAKA	**Kakadu**	**19.77**	**250**	*e*P		Pn	19 20 39.9	-0.4
	4.5nm,0.5s							
GUMO	**Guam**	**20.86**	**342**	LR		LR	19 28 00.4	
	comp=Z,70nm,20.3s,baz=132,slow=34							
WRAB	**Tennant Creek**	**21.40**	**229**	*e*P		P	19 20 54.2	-2.2
WB2	**Warramunga Arr**	**21.41**	**229**	*e*P		P	19 20 57.5	+1.0
WRA	**Warramunga Arr**	**21.41**	**229**	P		P	19 20 56.2	-0.4
	1.8nm,0.6s,baz=52,slow=9.8,SNR=12							
AS31	**Alice Springs**	**24.10**	**223**	*e*P		P	19 21 24.2	-0.1
ASAR	**Alice Springs**	**24.10**	**223**	P		P	19 21 24.4	+0.1
	1.4nm,0.5s,baz=55,slow=9.0,SNR=35							
ASPA	**Alice Springs**	**24.10**	**223**	*e*P		P	19 21 24.2	-0.1
STKA	**Stephens Creek**	**27.01**	**199**	P		P	19 21 52.0	+1.3
	1.7nm,0.8s,baz=2.4,slow=5.5,SNR=5.3							
FITZ	**Fitzroy Crossi**	**27.75**	**243**	*e*P		P	19 21 57.5	+0.2
	5.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.75**	**243**	P		P	19 21 57.7	+0.3
	3.0nm,0.6s,baz=65,slow=7.2,SNR=12							
TORD	**Torodi Ar. Bea**	**149.46**	**285**	PKPbc		PKPbc	19 35 59.9	+1.9
	0.4nm,0.5s,baz=89,slow=2.1,SNR=7.0							

*NEIC **09** 19:16:50.5±0.7, 641S×15132E, h10km, mb4.5/3, Error ellipse: s-maj=20.4km s-min=10.0km az=119.0*
*MOS **09** 19:16:51.9±0.7, 640S×15138E, h33km, mb4.5/3, Error ellipse: s-maj=31.4km s-min=23.3km az=53.8*
*ISCJB **09** 19:16:55.4±3.8, 655S±01×1512E±02, h56km±30km, mb4.1/12, MS3.5/1, Error ellipse: s-maj=30.1km s-min=18.2km az=21.4*
*IDC **09** 19:16:56.7±6.2, 646S×15120E, h53km±50km, mb3.9/9, mb1 4.1/10, mb1mx4.0/15, mbtmp3.9/10, ML2.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=39.8km s-min=23.5km az=85.0*
ISC 09 19:16:57.2±3.6, 655S±01×1512E±02, h58km±28km, n25, σ0§81/24, mb4.1/12, MS3.5/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.94**	**234**	P		**Pn**	**19 18 08.6**	**-0.3**
	2.7nm,0.3s,baz=16,slow=8.6,SNR=9.2							
PMG				S		**Sn**	**19 19 05.9**	**+1.2**
	7.3nm,0.3s,baz=351,slow=20,SNR=7.8							
PMG				LR		LR	19 19 55.2	
	comp=Z,107nm,18.4s,baz=58,slow=36							
PMG	**Port Moresby**	**4.94**	**234**	P		**Pn**	**19 18 08.6**	**-0.3**
PMG				S		**Sn**	**19 19 05.9**	**+1.2**
CTA	**Charters Tower**	**14.36**	**199**	LR		LR	19 25 03.1	
	comp=Z,69nm,20.7s,baz=227,slow=34							
KAKA	**Kakadu**	**19.49**	**250**	*e*P		**Pn**	**19 21 19.7**	**-1.4**
	18nm,0.6s							
WRAB	**Tennant Creek**	**21.13**	**229**	*e*P		**P**	**19 21 36.6**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**21.13**	**229**	*e*P		**P**	**19 21 36.6**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**21.14**	**229**	*e*P		**P**	**19 21 36.8**	**-0.4**
WRA	**Warramunga Arr**	**21.14**	**229**	P		**P**	**19 21 37.0**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.2,baz=54,slow=10,SNR=15							
DZM	**Mont Dzumac**	**21.39**	**138**	LR		LR	19 28 41.2	
	comp=Z,168nm,18.7s,MS3.5,baz=202,slow=33							
AS31	**Alice Springs**	**23.84**	**222**	*e*P		**P**	**19 22 05.1**	**+0.1**
ASAR	**Alice Springs**	**23.84**	**222**	P		**P**	**19 22 05.0**	**0.0**
	comp=Z,5.7nm,0.7s,mb4.1,baz=58,slow=8.6,SNR=35							
ASPA	**Alice Springs**	**23.84**	**222**	*e*P		**P**	**19 22 05.1**	**+0.1**
STKA	**Stephens Creek**	**26.82**	**198**	P		**P**	**19 22 32.7**	**+0.7**
	comp=Z,7.1nm,0.8s,mb4.2,baz=9.3,slow=8.5,SNR=14							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	P		**P**	**19 22 38.2**	**+0.4**
	comp=Z,8.0nm,0.6s,mb4.5,baz=51,slow=7.3,SNR=16							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	*e*		**P**	**19 22 38.1**	**+0.3**

NEIC ***09*** *19:42:16.7±5.3, 791S×124.59E, h2km±33km, mb4.7/10, Error ellipse: s-maj=13.2km s-min=9.4km az=70.0*
IDC ***09*** *19:42:16.5±0.6, 783S×124.61E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.2/18, mbtmp4.3/12, ML4.1/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/28, Error ellipse: s-maj=25.9km s-min=14.8km az=60.0*
ISCJB ***09*** *19:42:19.4±0.5, 795S±007×125.1E±0.1, h35km, mb4.4/20, MS3.5/4, Error ellipse: s-maj=17.8km s-min=6.3km az=125.2*

ISC 09 19:42:21.1±0.4, 790S±007×1250E±01, h35km, (h30km±9km:pP-P), n48, σ1♀18/50, mb4.4/20, MS3.5/4, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.75**	**124**	*eP*	**Pn**	**19 44 28.7**	**+3.6**
	37nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.16**	**176**	*eP*	**Pn**	**19 44 43.6**	**-0.8**
	19nm,0.4s						
FITZ				*eS*	**Sn**	**19 46 29.6**	**-7.4**
FITZ	**Fitzroy Crossi**	**10.16**	**176**	Pn	**Pn**	**19 44 44.0**	**-0.4**
	1.3nm,0.3s,baz=14,slow=10,SNR=54						
FITZ				Sn	**Sn**	**19 46 29.1**	**-7.9**
	2.5nm,0.3s,baz=19,slow=10,SNR=3.8						
FITZ				LR	LR	19 49 23.5	
	comp=Z,94nm,21.9s,baz=11,slow=42						
WRAB	**Tennant Creek**	**15.01**	**144**	*eP*	**Pn**	**19 45 48.5**	**-2.1**
WRA	**Warramunga Arr**	**15.01**	**144**	Pn	**Pn**	**19 45 49.1**	**-1.5**
	2.0nm,0.3s,baz=317,slow=13,SNR=114						
WRA				Sn	**Sn**	**19 48 25.1**	**-11**
	0.5nm,0.3s,baz=320,slow=25,SNR=3.6						
WB2	**Warramunga Arr**	**15.02**	**144**	*iP*	**Pn**	**19 45 49.1**	**-1.6**
WB2				*eS*	**Sn**	**19 48 27.3**	**-8.5**
ASPA	**Alice Springs**	**17.86**	**152**	*eP*	**Pn**	**19 46 27.3**	**+0.6**
ASPA				*eS*	**S**	**19 49 37.4**	**-13**
AS31	**Alice Springs**	**17.86**	**152**	*eP*	**Pn**	**19 46 27.3**	**+0.6**
AS31				*eS*	**S**	**19 49 37.4**	**-13**
ASAR	**Alice Springs**	**17.86**	**152**	P	**Pn**	**19 46 26.8**	**+0.2**
	1.1nm,0.3s,baz=325,slow=11,SNR=62						
ASAR				S	**S**	**19 49 36.8**	**-14**
	0.4nm,0.3s,baz=328,slow=24,SNR=4.8						
ASAR				LR	LR	19 53 48.6	
	comp=Z,165nm,18.8s,baz=332,slow=38						
PMG	**Port Moresby**	**21.97**	**96**	P	**P**	**19 47 17.2**	**+5.4**
	5.3nm,0.7s,mb4.1,baz=212,slow=10,SNR=2.7						
FORT	**Forrest**	**22.94**	**173**	*eP*	**P**	**19 47 22.8**	**+0.7**
	18nm,0.5s,mb4.8						
CTA	**Charters Tower**	**23.89**	**123**	P	**P**	**19 47 36.2**	**+4.8**
	4.0nm,0.5s,mb4.1,baz=303,slow=9.5,SNR=7.0						
CTAO	**Charters Tower**	**23.89**	**123**	*eP*	**P**	**19 47 36.5**	**+5.1**
	10nm,1.0s,mb4.2						
KLBR	**Kellerberrin**	**24.52**	**195**	*eP*	**P**	**19 47 36.5**	**-0.6**
	133nm,1.8s,mb5.2						
MUN	**Mundaring**	**25.31**	**198**	*eP*	**P**	**19 47 43.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**25.92**	**195**	P	**P**	**19 47 50.5**	**+0.6**
	10nm,1.0s,mb4.3,baz=113,slow=3.4,SNR=4.7						
PSI	**Prapat**	**28.09**	**291**	P	**P**	**19 48 07.8**	**-1.5**
	8.4nm,0.8s,mb4.4,baz=119,slow=4.3,SNR=16						
PSI	**Prapat**	**28.09**	**291**	P	**P**	**19 48 07.8**	**-1.5**
STKA	**Stephens Creek**	**28.43**	**149**	*eP*	**P**	**19 48 15.6**	**+3.2**
	3.2nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**28.43**	**149**	P	**P**	**19 48 15.7**	**+3.3**
	6.5nm,0.7s,mb4.4,baz=319,slow=9.5,SNR=24						
STKA				LR	LR	20 01 24.6	
	comp=Z,135nm,21.0s,MS3.5,baz=25,slow=40						
TOO	**Toolangi**	**34.90**	**151**	*eP*	**P**	**19 49 14.2**	**+5.0**
	6.1nm,0.9s,mb4.5						
JHJ	**Hachijo jima 2**	**43.16**	**18**	LR	LR	20 06 13.6	
	comp=Z,52nm,22.0s,MS3.4,baz=91,slow=33						
KSRS	**Korea Array**	**45.20**	**3**	LR	LR	20 10 04.9	
	comp=Z,399nm,20.4s,MS3.3,baz=148,slow=37						
MJAR	**Matsushiro Arr**	**45.92**	**15**	P	**P**	**19 50 42.0**	**+1.7**
	1.3nm,0.7s,mb4.0,baz=192,slow=8.0,SNR=3.1						
LSA	**Lhasa**	**49.56**	**320**	*eP*	**P**	**19 51 09.7**	**+1.2**
	3.3nm,0.8s,mb4.4						
GUN	**Gumba**	**51.92**	**315**	*eP*	**P**	**19 51 34.9**	**+8.6**
	16nm,0.7s,mb5.0						
PKI	**Pulchoki**	**52.05**	**314**	*eP*	**P**	**19 51 35.4**	**+8.1**
KKN	**Kakani**	**52.27**	**314**	*eP*	**P**	**19 51 36.9**	**+8.0**
DMN	**Daman**	**52.29**	**314**	*eP*	**P**	**19 51 37.0**	**+8.0**
GKN	**Gorkha**	**52.86**	**314**	*eP*	**P**	**19 51 40.6**	**+7.4**
KOLN	**Koldanda**	**53.46**	**313**	*eP*	**P**	**19 51 45.4**	**+7.7**
	8.5nm,0.8s,mb4.7						
SONM	**Songino Array**	**57.88**	**345**	P	**P**	**19 52 09.2**	**-0.2**
	1.4nm,1.1s,mb3.9,baz=161,slow=8.3,SNR=6.3						
MK31	**Makanchi Array**	**66.36**	**329**	*eP*	**P**	**19 53 05.0**	**-1.2**
MKAR	**Makanchi Array**	**66.36**	**329**	P	**P**	**19 53 05.8**	**-0.4**
	2.6nm,0.7s,mb4.3,baz=131,slow=7.7,SNR=22						
AAK	**Ala-Archa**	**68.10**	**322**	*eP*	**P**	**19 53 16.3**	**-1.0**
	3.7nm,0.8s,mb4.5						
AAK				*e*	*pP*	19 53 25.6	-2.5
ZAL	**Zalesovo**	**70.28**	**336**	P	**P**	**19 53 28.8**	**-2.1**
	1.6nm,0.3s,mb4.4,baz=310,slow=3.5,SNR=3.7						
KURK	**Kurchatov**	**70.78**	**331**	*eP*	**P**	**19 53 33.9**	**0.0**
	5.7nm,0.8s,mb4.5						
KURK				*e*	*pP*	19 53 43.5	-1.2
WSAR	**Wadi Sarin**	**71.83**	**298**	P	**P**	**19 53 40.5**	**+0.4**
	3.7nm,0.8s,mb4.4,baz=141,slow=6.5,SNR=3.0						
VNDA	**Vanda**	**72.20**	**172**	P	**P**	**19 53 43.7**	**+1.3**
	1.1nm,0.6s,mb4.0,baz=324,slow=5.8,SNR=18						
VNDA				LR	LR	20 23 51.3	
	comp=Z,50nm,18.3s,MS3.8,baz=347,slow=34						
VNDA	**Vanda**	**72.20**	**172**	P	**P**	**19 53 43.7**	**+1.3**
VNDA				LR	LR	20 23 51.3	
SBA	**Scott Base**	**73.14**	**172**	*eP*	**P**	**19 53 49.7**	**+1.7**
QSPA	**South Pole Qui**	**82.08**	**180**	*eP*	**P**	**19 54 39.0**	**+1.1**
SNAA	**Sanae**	**93.59**	**195**	*e*	**P**	**19 55 34.2**	**+0.7**
SNAA				*e*		19 55 35.7	
SNAA				*e*	*pP*	19 55 43.7	-1.0
SNAA	**Sanae**	**93.59**	**195**	*eP*	**P**	**19 55 34.2**	**+0.6**
	2.3nm,0.5s,mb4.9						
SNAA				*e*	*pP*	19 55 43.7	-1.0
VNA2	**Neumayer--Watz**	**95.19**	**194**	*e*	**P**	**19 55 41.6**	**+0.7**
	baz=140,slow=4.8						
VNA2				*e*		19 55 43.4	
VNA2				*e*	*pP*	19 55 50.7	-1.3
PDAR	**Pinedale Array**	**121.04**	**44**	PKP	PKPdf	20 01 10.4	+0.5
	0.3nm,0.5s,baz=33,slow=1.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**124.09**	**280**	PKP	PKPdf	20 01 15.7	-0.1
	1.2nm,0.7s,baz=98,slow=1.9,SNR=12						
LPAZ	**La Paz**	**152.69**	**152**	PKPbc	PKPbc	20 02 16.8	+2.8
	0.5nm,0.6s,baz=244,slow=4.6,SNR=3.5						

IDC 09 19:58:03.5±2.9, 2175N×14369E, h201km±22km, mb3.3/6, mb1 3.4/8, mb1mx3.2/23, mbtmp3.3/8, Error ellipse: s-maj=72.5km s-min=19.9km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.49**	**346**	P	Pn	19 59 25.1	+0.9
	8.5nm,0.3s,baz=337,slow=21,SNR=9.0						
CBIJ				S	Sn	20 00 27.4	-0.5
	10nm,0.3s,baz=297,slow=22,SNR=4.9						
MJAR	**Matsushiro Arr**	**15.49**	**343**	P	Pn	20 01 32.2	+0.7
	0.5nm,0.3s,baz=166,slow=8.2,SNR=5.6						
SONM	**Songino Array**	**39.60**	**320**	P	P	20 05 15.6	+0.3
	0.3nm,0.4s,baz=136,slow=9.0,SNR=3.3						
WRA	**Warramunga Arr**	**42.44**	**193**	P	P	20 05 38.5	0.0
	0.1nm,0.2s,baz=16,slow=9.5,SNR=5.7						
ZAL	**Zalesovo**	**54.47**	**322**	P	P	20 07 09.6	-0.6
	0.8nm,0.4s,baz=72,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**55.01**	**313**	P	P	20 07 14.2	+0.2
	0.7nm,0.7s,baz=87,slow=8.8,SNR=6.9						
MKAR				PcP	PcP	20 08 12.8	-0.3
	0.5nm,0.6s,baz=79,slow=3.6,SNR=5.9						
ARCES	**ARCESS Array B**	**79.02**	**342**	P	P	20 09 45.3	+0.2
	1.9nm,0.9s,baz=79,slow=9.3,SNR=4.4						
FINES	**FINESS Array B**	**83.33**	**335**	P	P	20 10 06.7	-1.1
	2.7nm,0.8s,baz=74,slow=7.8,SNR=6.0						

IDC 09 20:05:06.6±4.1, 605S×15070E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, Error ellipse: s-maj=151.2km s-min=50.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**226**	Sn	Sn	20 07 20.7	+3.3
	0.7nm,0.3s,baz=350,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**21.06**	**228**	P	P	20 09 53.5	+1.3
	0.5nm,0.8s,baz=51,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**23.83**	**221**	P	P	20 10 20.9	-0.5
	0.2nm,0.5s,baz=57,slow=9.0,SNR=6.3						
FITZ	**Fitzroy Crossi**	**27.23**	**242**	P	P	20 10 52.4	+0.2
	1.5nm,0.8s,baz=90,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.66**	**285**	PKPbc	PKPbc	20 24 56.5	+0.8
	0.5nm,1.0s,baz=74,slow=2.2,SNR=4.4						

NEIC ***09*** *20:33:29.6±1.2, 647S×151.39E, h10km, mb4.5/4, Error ellipse: s-maj=34.6km s-min=12.0km az=114.0*
ISCJB ***09*** *20:33:38.0±4.3, 655S±01×1510E±03, h79km±32km, mb4.0/8, Error ellipse: s-maj=43.0km s-min=20.6km az=22.4*
IDC ***09*** *20:33:38.8±7.2, 650S×151.04E, h71km±54km, mb3.8/7, mb1 4.0/8, mb1mx3.8/14, mbtmp3.9/8, ML2.8/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/17, Error ellipse: s-maj=57.0km s-min=24.8km az=91.0*

ISC 09 20:33:39.4±4.2, 65S±01×1511E±03, h78km±30km, n21, σ0♀69/17, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.80**	**233**	P	**Pn**	**20 34 49.0**	**-0.2**
	3.1nm,0.3s,baz=341,slow=3.6,SNR=6.9						
PMG				S	**Sn**	**20 35 44.5**	**+1.1**
	10nm,0.3s,baz=178,slow=23,SNR=11						
HNR	**Honiara**	**9.28**	**109**	LR	LR	20 39 12.3	
	comp=Z,102nm,18.4s,baz=180,slow=36						
CTA	**Charters Tower**	**14.26**	**199**	LR	LR	20 41 30.6	
	comp=Z,88nm,19.9s,baz=231,slow=33						
KAKA	**Kakadu**	**19.34**	**250**	*eP*	**Pn**	**20 37 58.7**	**-1.6**
	13nm,0.6s						
WRAB	**Tennant Creek**	**20.99**	**229**	*eP*	**P**	**20 38 15.7**	**-0.7**
WB2	**Warramunga Arr**	**20.99**	**229**	*eP*	**P**	**20 38 15.9**	**-0.5**
WRA	**Warramunga Arr**	**21.00**	**229**	P	**P**	**20 38 16.1**	**-0.4**
	7.1nm,0.8s,mb4.1,baz=54,slow=10,SNR=20						
WRA				PcP	PcP	20 42 22.0	+1.3
	0.5nm,1.0s,baz=48,slow=2.5,SNR=5.1						
DZM	**Mont Dzumac**	**21.45**	**138**	LR	LR	20 45 40.0	
	comp=Z,118nm,19.1s,baz=356,slow=34						
AS31	**Alice Springs**	**23.71**	**222**	*eP*	**P**	**20 38 44.1**	**0.0**
ASAR	**Alice Springs**	**23.71**	**222**	P	**P**	**20 38 44.0**	**0.0**
	2.3nm,0.6s,mb3.7,baz=55,slow=8.6,SNR=44						
ASAR				LR	LR	20 48 11.4	
	comp=Z,44nm,19.0s,baz=342,slow=37						
ASPA	**Alice Springs**	**23.71**	**222**	*eP*	**P**	**20 38 44.1**	**0.0**
STKA	**Stephens Creek**	**26.73**	**198**	P	**P**	**20 39 12.0**	**+0.5**
	3.5nm,0.7s,mb4.0,baz=353,slow=9.4,SNR=11						
STKA				LR	LR	20 48 21.2	
	comp=Z,59nm,21.2s,baz=24,slow=33						
FITZ	**Fitzroy Crossi**	**27.32**	**243**	*eP*	**P**	**20 39 17.2**	**+0.5**
	12nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.32**	**243**	P	**P**	**20 39 17.3**	**+0.5**
	6.9nm,0.6s,mb4.3,baz=68,slow=6.2,SNR=23						
KSRS	**Korea Array**	**48.79**	**335**	LR	LR	20 58 37.7	
	comp=Z,22nm,21.7s,baz=160,slow=31						
SONM	**Songino Array**	**66.87**	**329**	P	**P**	**20 44 23.6**	**+0.6**
	0.8nm,0.6s,mb3.7,baz=145,slow=4.1,SNR=10						
MKAR	**Makanchi Array**	**80.48**	**320**	P	**P**	**20 45 43.1**	**+0.3**
	0.9nm,0.9s,mb3.6,baz=98,slow=6.7,SNR=5.7						
ZAL	**Zalesovo**	**81.63**	**327**	P	**P**	**20 45 48.0**	**-0.9**
	0.9nm,0.5s,mb3.9,baz=287,slow=3.2,SNR=4.1						
KURK	**Kurchatov**	**84.05**	**322**	*eP*	**P**	**20 46 01.2**	**-0.2**
	3.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**84.58**	**314**	*eP*	**P**	**20 46 05.4**	**+1.3**
	1.8nm,0.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	PKPbc	20 53 20.1	+1.5
	2.9nm,0.7s,baz=36,slow=2.4,SNR=25						

IDC 09 20:47:03.4±1.3, 016N×12174E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/16, Error ellipse: s-maj=153.5km s-min=21.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.48**	**149**	P	P	20 52 14.5	-0.3
	0.7nm,0.5s,baz=326,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.47**	**154**	P	P	20 52 42.9	+0.8
	0.2nm,0.6s,baz=341,slow=14,SNR=3.9						
PSI	**Prapat**	**27.03**	**111**	LR	LR	21 03 26.5	
	comp=Z,66nm,20.4s,baz=256,slow=36						
SONM	**Songino Array**	**49.32**	**346**	P	P	20 55 54.7	+0.5
	0.3nm,0.5s,baz=156,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**57.82**	**329**	P	P	20 56 56.4	-0.1
	0.4nm,0.4s,baz=124,slow=8.6,SNR=8.4						

IDC 09 20:47:38.9±4.8, 782N×9095E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx1.9/14, Error ellipse: s-maj=170.5km s-min=34.2km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.37**	**122**	LR	LR	20 54 15.4	
	comp=Z,84nm,19.7s,baz=138,slow=42						
MKAR	**Makanchi Array**	**39.53**	**351**	P	P	20 55 11.5	0.0
	0.3nm,0.8s,baz=176,slow=6.5,SNR=3.9						
SONM	**Songino Array**	**41.98**	**16**	P	P	20 55 31.6	0.0
	0.3nm,0.6s,baz=198,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**50.83**	**124**	P	P	20 56 41.8	+0.5
	0.7nm,1.0s,baz=300,slow=9.4,SNR=3.7						

WEL 09 21:05:36.5±0.8, 3389S×17610E, h33km, ML4.3/12, Error ellipse: s-maj=19.9km s-min=6.2km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.43**	**170**	PN	Pn	21 06 40.1	-1.2
URZ				SN	Sn	21 07 29.5	-2.3
BKZ	**Black Stump Fm**	**5.27**	**177**	PN	Pn	21 06 52.3	-0.6
WPHZ	**Waipukurau**	**6.17**	**178**	SN	Sn	21 08 09.0	-5.6
MRZ	**Mangatainoka R**	**6.77**	**183**	SN	Sn	21 08 25.1	-4.3
KIW	**Kapiti Island**	**7.02**	**187**	PN	Pn	21 07 17.1	+0.2
DUWZ	**D'Urville Isla**	**7.11**	**193**	*e*PN	Pn	21 07 21.3	+3.1
CAW	**Cannon Point**	**7.25**	**186**	PN	Pn	21 07 18.7	-1.3
MTW	**Mount Morrison**	**7.27**	**184**	PN	Pn	21 07 17.8	-2.5
MRW	**Makara Radio**	**7.41**	**188**	PN	Pn	21 07 21.9	-0.3
TCW	**Tory Channel**	**7.45**	**191**	PN	Pn	21 07 23.4	+0.6
NNZ	**Nelson**	**7.62**	**196**	*e*PN	Pn	21 07 27.5	+2.3
MQZ	**McQueen's Vall**	**10.16**	**194**	PN	Pn	21 07 57.7	-2.3
MQZ				SN	Sn	21 09 47.4	-5.3

NEIC ***09*** *21:22:49.2±1.2, 639S×151.33E, h10km, mb4.2/3, Error ellipse: s-maj=34.1km s-min=12.6km az=113.0*
ISCJB ***09*** *21:22:54.3±4.6, 64S±01×151.1E±03, h55km±34km, mb3.8/7, MS2.8/1, Error ellipse: s-maj=42.8km s-min=21.6km az=26.9*
IDC ***09*** *21:22:56.9±7.7, 651S×151.12E, h63km±58km, mb3.7/7, mb1 3.8/8, mb1mx3.7/14, mbtmp3.7/8, ML2.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=59.1km s-min=27.1km az=92.0*

ISC 09 21:22:56.0±4.5, 65S±01×1512E±03, h56km±33km, n17, σ0♀62/16, mb3.8/7, MS2.8/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**233**	P	**Pn**	**21 24 07.1**	**-0.3**
	1.6nm,0.3s,baz=54,slow=13,SNR=4.0						
PMG				S	**Sn**	**21 25 03.9**	**+0.8**
	4.6nm,0.3s,baz=3.6,slow=18,SNR=8.2						
KAKA	**Kakadu**	**19.46**	**250**	*eP*	**Pn**	**21 27 18.8**	**-0.9**
	8.9nm,0.6s						
GUMO	**Guam**	**20.86**	**343**	LR	LR	21 34 51.0	
	comp=Z,36nm,18.4s,MS2.8,baz=106,slow=34						
WB2	**Warramunga Arr**	**21.12**	**229**	*eP*	**P**	**21 27 36.3**	**+0.3**
WRA	**Warramunga Arr**	**21.13**	**229**	P	**P**	**21 27 35.3**	**-0.7**
	2.7nm,0.6s,mb3.7,baz=42,slow=8.9,SNR=24						
AS31	**Alice Springs**	**23.83**	**222**	*eP*	**P**	**21 28 03.5**	**-0.3**
ASAR	**Alice Springs**	**23.83**	**222**	P	**P**	**21 28 03.5**	**-0.3**
	1.7nm,0.5s,mb3.7,baz=57,slow=8.6,SNR=36						
ASPA	**Alice Springs**	**23.83**	**222**	*eP*	**P**	**21 28 03.5**	**-0.3**
STKA	**Stephens Creek**	**26.83**	**198**	*eP*	**P**	**21 28 32.4**	**+1.4**
	2.2nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**26.83**	**198**	P	**P**	**21 28 31.3**	**+0.3**
	2.6nm,0.8s,mb3.8,baz=12,slow=6.1,SNR=8.1						
FITZ	**Fitzroy Crossi**	**27.44**	**243**	*eP*	**P**	**21 28 36.6**	**+0.1**
	5.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.44**	**243**	P	**P**	**21 28 36.5**	**0.0**
	3.2nm,0.6s,mb4.1,baz=60,slow=9.5,SNR=14						
SONM	**Songino Array**	**66.86**	**329**	P	**P**	**21 33 43.0**	**+1.0**
	0.6nm,0.7s,mb3.8,baz=139,slow=3.7,SNR=5.7						
MKAR	**Makanchi Array**	**80.49**	**319**	P	**P**	**21 35 02.5**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=91,slow=8.6,SNR=3.8						
ZAL	**Zalesovo**	**81.62**	**327**	P	**P**	**21 35 07.8**	**-0.1**
	0.6nm,0.3s,mb4.0,baz=143,slow=17,SNR=7.1						
KURK	**Kurchatov**	**84.06**	**322**	*eP*	**P**	**21 35 19.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	21 42 38.6	+0.5
	1.3nm,0.6s,baz=41,slow=2.0,SNR=19						

IDC 09 21:26:28.0±4.1, 678S×15194E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/12, mbtmp3.1/2, Error ellipse: s-maj=164.8km s-min=54.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**231**	P	P	21 31 18.3	-0.2
	0.4nm,0.5s,baz=57,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.12**	**224**	P	P	21 31 46.0	+0.6
	0.3nm,0.6s,baz=54,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**150.03**	**285**	PKPbc	PKPbc	21 46 21.5	+1.0
	0.3nm,1.0s,baz=77,slow=3.2,SNR=2.0						

ISCJB ***09*** *21:37:30.4±1.5, 430S±007×1282E±0.1, h203km±15km, mb4.2/14, Error ellipse: s-maj=24.3km s-min=6.9km az=135.0*
NEIC ***09*** *21:37:34.5±1.7, 434S×128.19E, h232km±17km, mb4.5/5, Error ellipse: s-maj=19.9km s-min=10.3km az=82.0*
IDC ***09*** *21:37:34.7±2.4, 440S×128.12E, h230km±23km, mb3.8/6, mb1 3.9/9, mb1mx3.8/16, mbtmp3.8/9, Error ellipse: s-maj=44.4km s-min=11.3km az=77.0*

ISC 09 21:37:36.4±1.4, 441S±005×1283E±01, h251km±14km, n28, σ0♀80/34, mb4.2/14, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.22**	**154**	*eP*	**Pn**	**21 39 43.6**	**-1.5**
	19nm,0.6s						
KAKA				*eS*	**S**	**21 41 22.9**	**-6.3**
FITZ	**Fitzroy Crossi**	**13.85**	**190**	*iP*	**Pn**	**21 40 42.4**	**-0.1**
	9.5nm,0.3s						
FITZ				*eS*	**S**	**21 43 16.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.85**	**190**	P	**Pn**	**21 40 41.6**	**-1.0**
	2.6nm,0.3s,baz=32,slow=10,SNR=82						
WRA	**Warramunga Arr**	**16.53**	**160**	P	**P**	**21 41 13.2**	**+0.3**
	2.0nm,0.3s,baz=340,slow=11,SNR=79						
WRA				S	**S**	**21 44 11.4**	**-1.4**
	0.4nm,0.3s,baz=334,slow=21,SNR=5.6						
WB2	**Warramunga Arr**	**16.54**	**159**	*iP*	**P**	**21 41 13.9**	**+0.9**
WB2				*eS*	**S**	**21 44 11.0**	**-1.9**
MBWA	**Marble Bar**	**18.59**	**206**	*eP*	**P**	**21 41 34.6**	**-0.7**
	23nm,0.3s						
AS31	**Alice Springs**	**19.90**	**165**	*eP*	**P**	**21 41 50.2**	**+1.0**
AS31				*eS*	**S**	**21 45 19.5**	**+0.4**
ASPA	**Alice Springs**	**19.90**	**165**	*eP*	**P**	**21 41 50.2**	**+1.0**
ASPA				*eS*	**S**	**21 45 19.5**	**+0.4**
ASAR	**Alice Springs**	**19.90**	**165**	P	**P**	**21 41 50.3**	**+1.1**
	1.6nm,0.3s,baz=346,slow=12,SNR=119						
ASAR				S	**S**	**21 45 19.9**	**+0.8**
	0.6nm,0.3s,baz=344,slow=22,SNR=29						
ASAR				PcP	PcP	21 45 55.8	+1.1
	0.1nm,0.3s,baz=334,slow=1.6,SNR=7.5						
ASAR				ScP	ScP	21 49 11.3	+4.6
	0.1nm,0.3s,baz=351,slow=2.3,SNR=7.2						
FORT	**Forrest**	**26.23**	**180**	*eP*	**P**	**21 42 49.0**	**+0.6**
	8.0nm,0.8s,mb4.4						
MUN	**Mundaring**	**29.66**	**201**	*eP*	**P**	**21 43 25.1**	**+6.3**
STKA	**Stephens Creek**	**30.05**	**157**	*eP*	**P**	**21 43 23.1**	**+0.8**
	2.9nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**30.05**	**157**	P	**P**	**21 43 23.1**	**+0.8**
	2.2nm,0.3s,mb4.3,baz=344,slow=7.7,SNR=25						
KSRS	**Korea Array**	**41.65**	**360**	P	**P**	**21 45 01.4**	**+1.0**
	3.1nm,0.6s,mb3.9,baz=178,slow=9.6,SNR=9.1						
MJAR	**Matsushiro Arr**	**41.79**	**12**	P	**P**	**21 45 00.6**	**-0.8**
	1.4nm,0.6s,mb3.6,baz=186,slow=8.0,SNR=4.1						
JIRN	**Jiri**	**51.59**	**311**	*eP*	**P**	**21 46 17.4**	**+0.2**
	4.4nm,0.2s,mb4.5						
GUN	**Gumba**	**51.96**	**311**	*eP*	**P**	**21 46 20.1**	**+0.2**
	13nm,0.5s,mb4.6						
PKI	**Pulchoki**	**52.14**	**310**	*

ellipse: s-maj=2.2km s-min=1.5km az=167.0
*THE **09** 21:51:05.7, 37.71N 20.79E, h3km, ML3.9*
*SKO **09** 21:51:14.0, 38.34N 21.22E, h3km*
ISC 09 21:51:04.2±0.8,**3767N**±003×**2037E**±003,**h16**km±4km,**n44,** σ1§**08**/64,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**19**	*e*PB			**Pg**	**21 51 13.5**	**-1.3**
VLS				*e*SB			**Sg**	**21 51 21.0**	**-0.9**
RLS	**Riolos of Patr**	**0.95**	**66**	*e*PN			**Pb**	**21 51 19.3**	**-2.9**
LKD	**Levkas**	**1.06**	**12**	*e*Pg			**Pg**	**21 51 22.8**	**-1.8**
LKD				*e*Sg			**Sg**	**21 51 40.0**	**+1.5**
ITM	**Ithomi**	**1.33**	**111**	*e*PN			**Pn**	**21 51 26.8**	**-1.3**
ITM				*e*SN			**Sn**	**21 51 44.2**	**-1.3**
EVR	**Evrytania**	**1.68**	**42**	*e*PN			**Pn**	**21 51 34.4**	**+1.5**
EVR				*e*SN			**Sn**	**21 51 54.5**	**+0.5**
IGT	**Igoumenitsa**	**1.86**	**359**	*e*Pb			**Pn**	**21 51 34.8**	**-0.6**
IGT				*e*Sb			**Sg**	**21 52 04.2**	**+0.2**
JAN	**Janina**	**2.02**	**11**	*e*PN			**Pn**	**21 51 39.0**	**+1.5**
AGG	**Agios Georgios**	**2.04**	**48**	*e*Pb			**Pn**	**21 51 38.7**	**+0.8**
KEK	**Kerkira**	**2.09**	**348**	*e*PN			**Pb**	**21 51 42.0**	**+0.3**
MEV	**Metsovon**	**2.21**	**17**	*e*Pn			**Pn**	**21 51 43.0**	**+2.7**
VLI	**Veliai**	**2.26**	**114**	*e*PN			**Pn**	**21 51 41.8**	**+0.9**
VLI				*e*SN			**Sn**	**21 52 09.4**	**+1.1**
LKR	**Lokris**	**2.29**	**64**	*e*PB			**Pn**	**21 51 41.0**	**-0.3**
LKR				*e*SN			**Sn**	**21 52 08.9**	**-0.2**
KYTH	**Kithira**	**2.54**	**122**	*e*PN			**Pn**	**21 51 47.0**	**+2.2**
ATH	**Athens Observa**	**2.67**	**83**	*e*PN			**Pn**	**21 51 46.1**	**-0.3**
ATH				*e*SN			**Sn**	**21 52 18.0**	**-0.4**
NEO	**Neokhori**	**2.77**	**53**	*e*PN			**Pn**	**21 51 47.2**	**-0.7**
NEO				*e*SN			**Sn**	**21 52 19.9**	**-1.0**
XOR	**Xorichti**	**2.78**	**52**	*e*Pn			**Pn**	**21 51 47.6**	**-0.4**
KZN	**Kozani**	**2.85**	**22**	*e*PN			**Pn**	**21 51 50.3**	**+1.4**
LIT	**Litokhoron**	**2.93**	**34**	*e*Pn			**Pn**	**21 51 50.2**	**0.0**
LIT				*e*Sn			**Sn**	**21 52 24.1**	**-0.9**
AOS	**Alonnisos**	**3.13**	**60**	*e*Pn			**Pn**	**21 51 51.8**	**-1.1**
FNA	**Florina**	**3.20**	**14**	*e*Pn			**Pn**	**21 51 54.9**	**+1.1**
FNA				*e*Sn			**Sn**	**21 52 33.9**	**+2.2**
BIA	**Bitola**	**3.42**	**12**	*e*Pn			**Pn**	**21 51 56.5**	**-0.4**
BIA				*e*Sg			**Sn**	**21 52 38.8**	**+1.7**
BIA	**Bitola**	**3.42**	**12**	*e*Pn			**Pn**	**21 51 56.4**	**-0.5**
SOI	**Samo**	**3.44**	**278**	Pn			**Pn**	**21 51 58.4**	**+1.3**
PLG	**Polygyros**	**3.61**	**41**	*e*Pn			**Pn**	**21 51 59.3**	**-0.1**
PLG				*e*Sn			**Sn**	**21 52 40.2**	**-1.4**
PLG	**Polygyros**	**3.61**	**41**	*e*PN			**Pn**	**21 51 59.5**	**+0.1**
GRG	**Griva**	**3.64**	**25**	*e*Pn			**Pn**	**21 52 00.1**	**+0.3**
KRUS	**Krusevo**	**3.75**	**10**	*e*Pn			**Pn**	**21 52 02.1**	**+0.7**
OUR	**Ouranopolis**	**3.87**	**45**	*e*Pn			**Pn**	**21 52 02.1**	**-0.9**
SOH	**Sokhos**	**3.90**	**35**	*e*Pn			**Pn**	**21 52 03.8**	**+0.3**
SOH				*e*Sn			**Sn**	**21 52 47.7**	**-1.2**
KNT	**Kendrikon**	**4.00**	**29**	*e*Pn			**Pn**	**21 52 05.0**	**+0.3**
APE	**Apeiranthos**	**4.15**	**97**	*e*PN			**Pn**	**21 52 08.4**	**+1.5**
HAVL	**Avola**	**4.24**	**262**	Pn			**Pn**	**21 52 07.8**	**-0.4**
HAVL				Sn			**Sn**	**21 52 53.7**	**-3.6**
SRS	**Serrai**	**4.25**	**35**	*e*Pn			**Pn**	**21 52 08.0**	**-0.2**
SRS				*e*Sn			**Sn**	**21 52 56.1**	**-1.3**
SSY	**Sortino**	**4.25**	**265**	Pn			**Pn**	**21 52 07.6**	**-0.7**
SSY				Sn			**Sn**	**21 52 56.8**	**-0.7**
STIP	**Stip**	**4.25**	**19**	*e*Pn			**Pn**	**21 52 08.3**	**+0.1**
LIA	**Limnos Island**	**4.37**	**58**	*e*PN			**Pn**	**21 52 10.1**	**+0.3**
HVZN	**Vizzini**	**4.53**	**265**	Pn			**Pn**	**21 52 11.7**	**-0.4**
NVR	**Nevrokopi**	**4.56**	**35**	*e*PN			**Pn**	**21 52 13.4**	**+0.9**
SLCN	**Sala Consilina**	**4.58**	**308**	Pn			**Pn**	**21 52 16.7**	**+3.9**
MMB	**Musomiste**	**4.69**	**32**	*e*Pn			**Pn**	**21 52 14.3**	**0.0**
RAFF	**Raffo Rosso**	**4.80**	**266**	Pn			**Pn**	**21 52 15.9**	**0.0**
RAFF				Sn			**Sn**	**21 53 10.3**	**-0.9**
RDO	**Rodhopi**	**5.29**	**47**	*e*PN			**Pn**	**21 52 23.7**	**+1.1**
STON	**Ston**	**5.58**	**339**	*i* Pn			**Pn**	**21 52 21.1**	**-5.4**
STON				*i* Sn			**Sn**	**21 53 25.3**	**-5.0**
DIVS	**Divcibare**	**6.42**	**358**	*i* Pn			**Pn**	**21 52 37.5**	**-0.7**
DIVS				Sn			**Sn**	**21 53 47.6**	**-3.5**

*NIED **09** 22:07:00, 43.00N 147.00E, h26km, Mw4.6 Best double couple: M07.77000×10^15 NP1:φs42.00000°, δ72.00000°, λ85.00000°. NP2:φs238.00000°, δ18.00000°, λ105.00000°.*
*BJI **09** 22:07:26.1, 43.10N 147.06E, h13km, mB5.0, mb4.7, Ms4.2, Msz4.0*
*NEIC **09** 22:07:27.8±2.9, 43.04N 146.89E, h6km±17km, mb4.8/63, MS4.1/2, Error ellipse: s-maj=7.5km s-min=5.3km az=125.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*JMA **09** 22:07:30.5±0.2, 43.03N 147.02E, h51km±4km, M4.8*
JMA Felt II J1.
*ISCJB **09** 22:07:31.1±0.7, 42.97N 146.03W 146.92E±005, h39km±4km, mb4.7/106, MS4.0/31, Error ellipse: s-maj=6.6km s-min=4.6km az=65.6*
*MOS **09** 22:07:32.7±0.9, 43.00N 146.73E, h48km, mb4.9/55, Error ellipse: s-maj=9.3km s-min=4.8km az=116.4*
*SKHL **09** 22:07:32.3±3.2, 43.42N 146.91E, h56km±23km, Ms4.3/3*
*IDC **09** 22:07:35.1±3.1, 43.11N 146.71E, h57km±27km, mb4.2/22, mb1 4.4/25, mb1mx4.4/27, mbtmp4.3/25, ML4.0/3, MS3.9/22, Ms1 3.9/22, ms1mx3.7/45, Error ellipse: s-maj=15.4km s-min=11.9km az=109.0*
ISC 09 22:07:30.8±1.0,**4307N**±003×**14699E**±004,**h26**km±6km, **h29**km±4.5km:**pP-P, n355,** σ1§**06**/360,**mb4.7**/106,**MS4.0**/31, **66C-18D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.96**	**289**	P			**Pn**	**22 07 48.4**	**-0.2**
NEM2				*e*S			**Sb**	**22 08 01.4**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.27**	**320**	*e*P			**Pn**	**22 07 52.5**	**-0.4**
YUK				AMB			AMB	22 07 57.1	
	38μm,1.0s								
YUK				*e*S			**Sn**	**22 08 08.0**	**-1.1**
YUK				A				22 08 09.0	
	131μm,0.7s								
YUK				A				22 08 09.0	
	158μm,0.7s								
YUK	**Yuzh-Kuril'sk**	**1.27**	**320**	*e*PN			**Pn**	**22 07 52.5**	**-0.4**
YUK				*e*S			**Sn**	**22 08 08.0**	**-1.1**
YUK				pmax	pmax				
	comp=Z,38μm,1.0s								
YUK				smax					
	comp=N,131μm,0.6s								
YUK				smax					
	comp=E,158nm,0.8s								
JRA	**Rausu**	**1.61**	**303**	P			**Pn**	**22 07 57.8**	**+0.2**
JRA				*e*S			**Sn**	**22 08 17.9**	**+0.3**
JAK	**Akkeshi**	**1.68**	**268**	P			**Pn**	**22 07 58.3**	**-0.3**
JNK	**Nakash**	**1.74**	**288**	P			**Pn**	**22 07 59.1**	**-0.2**
JNK				*e*S			**Sn**	**22 08 20.3**	**-0.3**
KUR	**Kuril'sk**	**2.26**	**16**	⇓*i* P			**Pn**	**22 08 04.3**	**-2.2**
KUR				AMB			AMB	22 08 23.0	
	comp=E,4μm,1.6s								
KUR				*e*S			**Sn**	**22 08 26.0**	**-7.5**
KUR				A				22 08 42.0	
	comp=E,8μm,2.0s								
KUR				A				22 08 42.0	
	comp=E,10μm,2.0s								
KUR	**Kuril'sk**	**2.26**	**16**	⇓*i* PN			**Pn**	**22 08 04.3**	**-2.2**
KUR				pmax	pmax				
	comp=N,300nm,0.5s								
KUR				pmax	pmax				
	comp=E,190nm,0.5s								
KUR				pmax	pmax				
	comp=Z,680nm,0.5s								
JOB	**Onbets**	**2.32**	**267**	P			**Pn**	**22 08 07.2**	**-0.2**
JAR	**Ashorobuto**	**2.37**	**277**	P			**Pn**	**22 08 08.6**	**+0.6**
JAR				*e*S			**Sn**	**22 08 37.7**	**+1.5**
JTKR	**Abashiri--Toko**	**2.42**	**293**	P			**Pn**	**22 08 09.5**	**+0.8**
JCH	**Churui**	**2.71**	**262**	P			**Pn**	**22 08 12.2**	**-0.4**
JMP	**Maruseppu**	**2.80**	**291**	P			**Pn**	**22 08 15.0**	**+1.0**
ERM	**Erimo**	**3.02**	**251**	*e*Pn			**Pn**	**22 08 18.6**	**+1.6**
ERM				*e*Sn			**Sn**	**22 08 54.6**	**+2.3**
JEM	**Erimo**	**3.02**	**251**	P			**Pn**	**22 08 18.6**	**+1.6**
JKK2	**Kamakawa 2**	**3.19**	**286**	P			**Pn**	**22 08 20.6**	**+1.3**
JFR	**Furan**	**3.22**	**273**	P			**Pn**	**22 08 20.3**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.22**	**257**	P			**Pn**	**22 08 19.7**	**0.0**
ASAJ	**Asahikawa**	**3.36**	**290**	P			**Pn**	**22 08 23.2**	**+1.6**
	comp=Z,27nm,0.3s,baz=127,slow=12,SNR=60								
ASAJ				S			**Sn**	**22 09 08.0**	**+7.3**
	comp=Z,50nm,0.3s,baz=42,slow=27,SNR=5.2								
ASAJ				LR			LR	22 09 42.2	
	comp=Z,2μm,21.6s,baz=171,slow=40								
ASAJ	**Asahikawa**	**3.36**	**290**	P			**Pn**	**22 08 23.1**	**+1.5**
JBT2	**Biratori 2**	**3.41**	**267**	P			**Pn**	**22 08 22.3**	**0.0**
JAB	**Ashibetsu**	**3.51**	**279**	P			**Pn**	**22 08 25.8**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.91**	**324**	⇑*i* P			**Pn**	**22 08 44.0**	**+1.0**
YSS				AMB			AMB	22 08 45.0	
	comp=Z,100nm,0.8s								
YSS				*e*S			**Sn**	**22 09 36.5**	**-2.5**
YSS				A				22 09 39.0	
	comp=Z,90nm,0.6s								
YSS				*e*LQ				22 10 05.0	
YSS				*e*LR			LR	22 10 23.0	
YSS				AMS			AMS	22 10 46.0	
	comp=Z,2μm,15.0s								
YSS				AMS			AMS	22 10 46.0	
	comp=Z,2μm,14.0s								
YSS				AMS			AMS	22 10 46.0	
	comp=Z,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**4.91**	**324**	⇑*i* PN			**Pn**	**22 08 44.0**	**+1.0**
YSS				pmax	pmax				
	comp=Z,100nm,0.8s								
YSS				MLR	MLR				
	comp=Z,2μm,15.0s								
YSS				MLR	MLR				
	comp=N,2μm,14.0s								
YSS				MLR	MLR				
	comp=E,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**4.91**	**324**	*e*Pn			**Pn**	**22 08 44.8**	**+1.8**
YSS				*e*Sn			**Sn**	**22 09 41.7**	**+2.7**
UGL	**Uglegorsk**	**6.92**	**332**	*e*P			**Pn**	**22 09 14.5**	**+4.0**
UGL				AMB			AMB	22 09 15.0	
	comp=E,100nm,0.8s								
UGL				AMS			AMS	22 12 20.0	
	comp=E,1μm,15.0s								
UGL				AMS			AMS	22 12 20.0	
	comp=E,1μm,15.0s								
UGL				AMS			AMS	22 12 20.0	
	comp=E,1μm,15.0s								
TEY	**Ternei**	**7.74**	**288**	*e*P			**Pn**	**22 09 20.0**	**-1.8**
TEY				AMS			AMS	22 12 42.0	
	comp=E,1μm,14.0s								
TEY				AMS			AMS	22 12 42.0	
	comp=E,2μm,14.0s								
TYV	**Tymovskoe**	**8.34**	**341**	*e*P			**Pn**	**22 09 35.0**	**+4.9**
TYV				AMB			AMB	22 09 44.0	
	comp=E,22nm,0.8s								
TYV				AMB			AMB	22 09 44.0	
	comp=E,36nm,0.8s								
MAJO	**Matsushiro**	**9.38**	**229**	*e*PN			**Pn**	**22 09 43.6**	**-0.7**
MAJO				pmax	pmax				
	comp=Z,30nm,0.6s								
MAJO	**Matsushiro**	**9.38**	**229**	*e*Pn			**Pn**	**22 09 43.6**	**-0.7**
	comp=Z,30nm,0.6s								
MAT	**Matsushiro**	**9.38**	**229**	P			**Pn**	**22 09 43.1**	**-1.2**
MAT				S			**Sn**	**22 11 30.6**	**+1.6**
MJAR	**Matsushiro Arr**	**9.38**	**229**	P			**Pn**	**22 09 42.8**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=27,slow=14,SNR=23								
MJAR				LR			LR	22 13 41.4	
	comp=Z,319nm,21.3s,baz=25,slow=40								
SKR	**Severo-Kuril's**	**9.85**	**36**	*e*P			**Pn**	**22 09 52.0**	**+1.3**
SKR				AMB			AMB	22 09 52.9	
	comp=Z,80nm,0.5s								
SKR				A				22 11 42.6	
	comp=Z,130nm,0.9s								
SKR				AMS			AMS	22 13 40.0	
	comp=Z,3μm,14.0s								
VLA	**Vladivostok**	**11.04**	**275**	PN			**Pn**	**22 10 09.0**	**+1.9**
VLA				MLR	MLR				
	comp=Z,500nm,18.0s								
JHJ	**Hachijo jima 2**	**11.43**	**212**	LR			LR	22 14 50.3	
	comp=Z,103nm,18.8s,baz=107,slow=38								
KLR	**Kul'dur**	**12.23**	**306**	*e*PN			**Pn**	**22 10 25.2**	**+1.9**
KLR				pmax	pmax				
	comp=Z,62nm,1.6s								
KLR				MLR	MLR				
	comp=N,800nm,12.0s								
KLR				MLR	MLR				
	comp=Z,3μm,12.0s								
PET	**Petropavlovsk**	**12.64**	**34**	⇑*e*PN			**Pn**	**22 10 27.7**	**-1.2**
MDJ	**Mudanjiang**	**12.66**	**283**	P			**Pn**	**22 10 29.8**	**+0.6**
MDJ				S			**Sn**	**22 12 59.1**	**+10**
MDJ				AMB			AMB		
	comp=Z,18nm,1.0s								
MDJ				AMB			AMB		
	comp=Z,176nm,3.6s								
MDJ				LR			LR		
	comp=Z,326nm,16.7s								
MDJ	**Mudanjiang**	**12.66**	**283**	*e*Pn			**Pn**	**22 10 30.3**	**+1.1**
	comp=Z,15nm,0.9s								
KSRS	**Korea Array**	**15.59**	**255**	P			**Pn**	**22 11 07.5**	**-1.2**
	baz=58,slow=13,SNR=5.7								
KSRS				S			**Sn**	**22 13 52.9**	**-7.8**
	baz=194,slow=39,SNR=4.5								
KSRS				LR			LR	22 17 37.0	
	comp=Z,351nm,18.7s,baz=60,slow=39								
CN2	**Changchun**	**15.67**	**280**	*e*P			**Pn**	**22 11 07.0**	**-2.8**
CN2				AMB			AMB		
	comp=Z,10.0nm,0.9s								
CN2				LR			LR		
	comp=N,300nm,15.0s								
CN2				LR			LR		
	comp=E,600nm,15.0s								
CN2				LR			LR		
	comp=Z,400nm,14.0s								
JNU	**Nakatsue**	**16.08**	**237**	P			**Pn**	**22 11 14.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=219,slow=19,SNR=2.4								
JNU				LR			LR	22 18 05.3	
	comp=Z,1μm,18.4s,baz=260,slow=40								
MA2	**Magadan**	**16.70**	**7**	P			**Pn**	**22 11 21.9**	**-1.0**
ZEA	**Zeya**	**16.85**	**316**	*e*P			**Pn**	**22 11 23.4**	**-1.4**
ZEA				AMB			AMB	22 11 29.5	
	comp=Z,41nm,1.4s								
SNY	**Shenyang**	**17.32**	**274**	*e*P			**Pn**	**22 11 29.4**	**-1.3**
SNY				S			**Sn**	**22 14 34.8**	**-7.8**
SNY				AMB			AMB		
	comp=Z,15nm,0.5s								
SNY				LR			LR		
	comp=E,330nm,12.8s								
SNY				LR			LR		
	comp=Z,278nm,13.2s								
HIA	**Hailar**	**19.80**	**298**	*i* P			**Pn**	**22 11 57.9**	**-3.0**
HIA	**Hailar**	**19.80**	**298**	*e*P			**Pn**	**22 11 57.8**	**-3.1**
	comp=Z,8.8nm,0.6s								
SEY	**Seymchan**	**20.15**	**7**	⇑*e*P			**P**	**22 12 03.1**	**0.0**
YAK	**Yakutsk**	**21.58**	**338**	*i* P			**P**	**22 12 20.0**	**+1.5**
YAK				pmax	pmax				
	comp=Z,16nm,0.6s,mb4.6								
YAK	**Yakutsk**	**21.58**	**338**	*e*P			**P**	**22 12 15.8**	**-2.7**
	comp=Z,16nm,0.6s,mb4.6								
JOW	**Kunigami**	**22.23**	**229**	P			**P**	**22 12 26.2**	**+0.8**
	comp=Z,29nm,0.9s,mb4.7,baz=54,slow=6.4,SNR=4.7								
BJI	**Beijing**	**23.19**	**273**	*e*P			**P**	**22 12 34.0**	**-1.6**
BJI				AMB			AMB		
	comp=Z,28nm,1.0s,mb4.7								
BJI				LR			LR		
	comp=N,173nm,18.1s,MS3.9								
BJI				LR			LR		
	comp=E,298nm,17.7s,MS3.9								
BJI				LR			LR		
	comp=Z,214nm,25.6s								
BJI	**Beijing**	**23.19**	**273**	*e*P			**P**	**22 12 34.0**	**-1.6**
	comp=Z,28nm,1.0s,mb4.7								
BJI				LR			LR		
	comp=Z,210nm,25.6s,MS3.5								
BJT	**Baijiatuau**	**23.21**	**273**	*e*P			**P**	**22 12 34.0**	**-1.8**
BJT				pmax	pmax				
	comp=Z,21nm,0.8s								
BJT	**Baijiatuau**	**23.21**	**273**	*e*P			**P**	**22 12 34.0**	**-1.8**
	comp=Z,21nm,0.8s,mb4.6								
SSE	**Sheshan**	**23.70**	**248**	P			**P**	**22 12 37.5**	**-3.1**
SSE				AP				22 12 49.8	
SSE				S			**S**	**22 16 42.7**	**-11**
SSE				XS			sS	22 17 03.3	-3.0
SSE				AMB			AMB		
	comp=Z,23nm,0.7s,mb4.7								
SSE				AMB			AMB		
	comp=Z,36nm,3.4s								
SSE				LR			LR		
	comp=N,128nm,14.5s,MS3.6								
SSE				LR			LR		
	comp=E,101nm,14.6s,MS3.6								
SSE				LR			LR		
	comp=Z,197nm,16.3s,MS3.7								
SSE	**Sheshan**	**23.70**	**248**	P			**P**	**22 12 37.5**	**-3.1**
	comp=Z,23nm,0.7s,mb4.7								
SSE				pP				22 12 49.8	
SSE				S			**S**	**22 16 42.7**	**-11**
SSE				sS			sS	22 17 03.3	-3.0
SSE				LR			LR		
	comp=Z,200nm,16.3s,MS3.7								
TIA	**Tai'an**	**23.91**	**263**	⇑P			**P**	**22 12 42.0**	**-0.6**
TIA				AMB			AMB		
	comp=Z,26nm,0.8s,mb4.7								
NJ2	**Nanjing**	**24.76**	**253**	*e*P			**P**	**22 12 50.0**	**-0.3**
NJ2				PP				22 13 29.3	
NJ2				S			**S**	**22 17 03.0**	**-7.9**
NJ2				XS			sS	22 17 23.0	-0.4
NJ2				AMB			AMB		
	comp=Z,20nm,0.5s,mb4.9								
NJ2				AMB			AMB		
	comp=Z,290nm,6.0s								
NJ2				LR			LR		
	comp=N,1μm,30.5s,MS4.4								
NJ2				LR			LR		
	comp=E,1μm,27.2s,MS4.4								
NJ2				LR			LR		
	comp=Z,850nm,21.2s								
BOD	**Bodaibo**	**25.35**	**317**	*e*P			**P**	**22 12 51.0**	**-4.6**
BOD				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb3.9								
HHC	**Hu-ho-hao-te**	**26.32**	**277**	*e*P			**P**	**22 13 04.9**	**+0.4**
HHC				AP			pP	22 13 14.5	+2.5
HHC				PP				22 13 51.1	
HHC				AMB			AMB		
	comp=Z,32nm,1.1s,mb4.8								
HHC				AMB			AMB		
	comp=Z,84nm,4.3s								
BILL	**Bilibino**	**27.05**	**16**	P			**P**	**22 13 12.0**	**+1.0**
BILL				*e*				22 13 30.2	
BILL				MLR	MLR				
	comp=Z,200nm,14.0s,MS3.8								
BILL	**Bilibino**	**27.05**	**16**	P			**P**	**22 13 09.0**	**-2.1**
BTO	**Baotou**	**27.51**	**278**	*e*P			**P**	**22 13 14.4**	**-0.8**
TATO	**Taipei**	**27.62**	**237**	*e*P			**P**	**22 13 12.5**	**-3.6**
YHNB	**Yeheng**	**27.92**	**237**	P			**P**	**22 13 16.3**	**-2.5**
NACB	**Ninganchiao**	**28.15**	**236**	P			**P**	**22 13 18.4**	**-2.5**
SONM	**Songino Array**	**28.63**	**294**	P			**P**	**22 13 25.2**	**0.0**
	comp=Z,8.2nm,0.5s,mb4.7,baz=87,slow=8.3,SNR=165								
SONM				PcP			PcP	22 16 36.0	+0.4
	comp=Z,1.1nm,0.6s,baz=130,slow=3.1,SNR=5.3								
SONM				LR			LR	22 25 53.8	
	comp=Z,649nm,18.9s,MS4.2,baz=281,slow=39								
SONM	**Songino Array**	**28.63**	**294**	P			**P**	**22 13 25.2**	**0.0**
SONM								22 16 36.0	
WHN	**Wuhan**	**28.78**	**255**	⇑P			**P**	**22 13 26.9**	**+0.4**
WHN				LR			LR		
	comp=Z,610nm,19.5s,MS4.2								
ZAK	**Zakamensk**	**30.48**	**299**	*e*P			**P**	**22 13 41.3**	**-0.2**
ZAK				*e*				22 16 41.2	
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb3.8								
XAN	**Xi'an**	**30.89**	**266**	P			**P**	**22 13 45.3**	**+0.2**
XAN				AP			pP	22 13 50.5	-2.2
XAN				AMB			AMB		
	comp=Z,8.0nm,1.3s,mb4.4								
ENH	**Enshi**	**32.41**	**259**	P			**P**	**22 13 55.9**	**-2.6**
LZH	**Lanzhou**	**33.69**	**273**	⇑P			**P**	**22 14 09.7**	**0.0**
LZH				AP			pP	22 14 18.5	+1.2
LZH				XP			sP	22 14 21.5	+1.1
LZH				AMB			AMB		
	comp=Z,24nm,1.4s,mb4.9								
LZH				AMB			AMB		
	comp=Z,49nm,5.3s								
LZH				LR			LR		
	comp=E,232nm,13.4s								
LZH				LR			LR		
	comp=Z,347nm,17.3s,MS4.1								
LZH	**Lanzhou**	**33.69**	**273**	⇑P			**P**	**22 14 09.7**	**0.0**
LZH				*SP			sP	22 14 21.5	+1.1
LZH				*e*				22 15 40.5	
LZH				pmax	pmax				
	comp=Z,24nm,1.4s,mb4.9								
LZH				MLR	MLR				
	comp=Z,350nm,17.3s,MS4.1								
LZH	**Lanzhou**	**33.69**	**273**	⇑P			**P**	**22 14 09.7**	**0.0**
	comp=Z,24nm,1.4s,mb4.9								
LZH				pP			pP	22 14 18.5	+1.2
LZH				sP			sP	22 14 21.5	+1.1
LZH				*e*PP			PP	22 15 40.5	+14
LZH				LR			LR		
	comp=Z,350nm,17.3s,MS4.1								
GTA	**Gaotai**	**35.30**	**280**	⇑P			**P**	**22 14 24.1**	**+0.5**
GTA				AP			pP	22 14 32.6	+1.3
GTA				XP			sP	22 14 36.2	+1.8
GTA				PP			PP	22 15 42.6	-1.3
GTA				PCP			PcP	22 16 55.7	+1.9
GTA				S			**S**	**22 19 56.9**	**+0.8**
GTA				XS			sS	22 20 08.0	-0.7
GTA				SS			SS	22 22 14.2	-16
GTA				AMB			AMB		
	comp=Z,9.0nm,0.7s,mb4.8								
GTA				AMB			AMB		
	comp=Z,72nm,3.8s								
GTA				LR			LR		
	comp=N,137nm,13.3s,MS4.1								
GTA				LR			LR		
	comp=E,203nm,16.3s,MS4.1								
GTA				LR			LR		
	comp=Z,296nm,14.1s,MS4.2								
CD2	**Chengdu**	**36.23**	**265**	P			**P**	**22 14 31.6**	**0.0**
CD2				AMB			AMB		
	comp=Z,30nm,0.7s,mb5.3								
QIZ	**Qiongzhong**	**39.36**	**244**	P			**P**	**22 14 56.6**	**-1.5**
QIZ				S			**S**	**22 20 49.4**	**-8.5**
QIZ				AMB			AMB		

KURK Kurchatov 45.82 305⇑ eP P 22 15 49.3 -1.2
KURK Kurchatov 45.82 305 eP P 22 15 49.5 -1.0
comp=Z,21nm,0.6s,mb5.2
LSA Lhasa 46.10 272 P P 22 15 53.0 +0.3
LSA Lhasa 46.10 272 P P 22 15 49.4 -3.3
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LSA Lhasa 46.10 272 P P 22 15 49.4 -3.3
comp=Z,7.0nm,0.8s,mb4.6
CHTO Chiang Mai 46.99 254 P P 22 16 00.3 +0.6
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.8
CHTO Chiang Mai 46.99 254 P P 22 16 00.3 +0.6
comp=Z,11nm,0.8s,mb4.8
INK Inuvik 47.05 30 P P 22 16 01.5 +1.3
comp=Z,13nm,0.6s,mb5.0,baz=296,slow=6.3,SNR=87
INK Inuvik 47.05 30 P P 22 16 01.5 +1.3
INK pmax pmax
comp=Z,13nm,0.6s
INK Inuvik 47.05 30 eP P 22 16 01.6 +1.4
VOSK Vostochnaya 49.62 309 P P 22 16 19.3 -0.7
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BVAR Borovoye Array 49.85 310 LR LR 22 39 04.2
comp=Z,182nm,19.6s,MS4.1,baz=317,slow=38
BRVK Borovoye 49.90 310 eP P 22 16 20.6 -1.5
TKM2 Tokmak 2 50.70 296 P P 22 16 28.9 +0.8
SNR=20
GUN Gumba 50.94 274 eP P 22 16 30.6 +0.6
comp=Z,40nm,0.5s,mb5.6
KBK Karagaybulak 51.24 296 P P 22 16 32.9 +0.6
SNR=20
DLBC Dease Lake 51.26 42 P P 22 16 34.2 +1.8
USP Ospenovka 51.27 297 P P 22 16 32.7 +0.3
SNR=13
KZA Kyzart 51.30 295 P P 22 16 34.2 +1.5
SNR=6.0
KKN Kakani 51.45 274 eP P 22 16 34.2 +0.4
comp=Z,39nm,0.8s,mb5.4
PKI Pulchoki 51.48 274 eP P 22 16 34.2 +0.2
comp=Z,38nm,0.9s,mb5.3
AAK Ala-Archa 51.55 296 P P 22 16 34.9 +0.3
SNR=7.2
AAK Ala-Archa 51.55 296 eP P 22 16 33.7 -0.9
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 51.55 296 eP P 22 16 33.7 -0.9
comp=Z,5.4nm,0.7s,mb4.6
DMN Daman 51.67 274 eP P 22 16 36.1 +0.6
comp=Z,39nm,0.8s,mb5.4
GKN Gorkha 51.80 275 eP P 22 16 36.7 +0.3
comp=Z,18nm,0.5s,mb5.2
EKS2 Erkin-Say 52.01 296 P P 22 16 38.4 +0.4
SNR=6.4
PMG Port Moresby 52.22 180 LR LR 22 37 11.9
comp=Z,44nm,18.4s,MS3.5,baz=21,slow=34
PMG Port Moresby 52.22 180 P P 22 16 35.2 -4.3
AML Almayashu 52.31 296 P P 22 16 41.0 +0.8
SNR=5.8
KOLN Koldanda 52.69 275 eP P 22 16 43.7 +0.7
comp=Z,47nm,0.8s,mb5.5
SVE Sverdlovsk 53.56 317 eP P 22 16 53.0 +3.5
KKAR Karatay Array 53.93 298 i P P 22 16 51.7 -0.5
KKAR pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
ARU Arti 54.77 317⇑ iP P 22 16 57.1 -1.1
ARU e 22 18 57.1
ARU eS S **22 24 35.2 -2.1**
ARU eSS SS 22 28 18.2 -2.3
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
RES Resolute Bay 55.66 16 eP P 22 17 04.5 -0.1
comp=Z,854nm,0.9s
YKA Yellowknife Ar 56.44 33 P P 22 17 10.8 +0.6
comp=Z,2.0nm,0.6s,mb4.3,baz=304,slow=7.2,SNR=10
YKA LR LR 22 43 02.6
comp=Z,55nm,18.7s,MS3.7,baz=220,slow=38
KAKA Kakadu 57.08 197 eP P 22 17 15.4 +0.6
comp=Z,5.5nm,0.6s,mb4.8
AB31 Akbulak array 57.40 309 i P P 22 17 16.6 -0.5
AB31 pmax pmax
comp=Z,12nm,0.4s,mb5.3
AKTO Aktyubinsk 57.90 311 LR LR 22 44 03.0
comp=Z,128nm,18.3s,MS4.1,baz=260,slow=38
AKTO Aktyubinsk 57.90 311 P P 22 17 19.6 -0.9
KEV Kevo 59.31 339 ep P 22 17 28.8 -1.6
comp=Z,8.6nm,0.8s,mb4.8
KEV Kevo 59.31 339 eP P 22 17 28.8 -1.6
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARCES ARCESS Array B 59.85 340 P P 22 17 31.6 -2.5
comp=Z,2.0nm,0.7s,mb4.3,baz=42,slow=6.3,SNR=11
ARCES LR LR 22 48 58.1
comp=Z,112nm,18.0s,MS4.0,baz=236,slow=42
KTK1 Kautokeino 60.79 340 eP P 22 17 39.7 -0.9
KTK1 AMb AMB 22 17 48.3
comp=Z,34nm,1.8s,mb5.2
KTK1 Kautokeino 60.79 340 eP P 22 17 39.7 -0.9
comp=Z,34nm,1.8s,mb5.2
TRO Tromso 61.37 342 eP P 22 17 42.4 -2.1
HYB Hyderabad 62.64 269 i P P 22 17 53.0 0.0
HYB Hyderabad 62.64 269 eP P 22 17 53.0 0.0
CTAO Charters Tower 62.84 181 P P 22 17 50.2 -4.1
NEW Newport 62.87 48 eP P 22 17 49.6 -5.0
NEW pmax pmax
comp=Z,3.0nm,0.5s
NEW Newport 62.87 48 eP P 22 17 49.6 -4.9
comp=Z,2.6nm,0.5s,mb4.6
WRAB Tennant Creek 63.76 193⇓ eP P 22 18 00.2 -0.2
WB2 Warramunga Arr 63.76 193 eP P 22 18 00.8 +0.3
WB2 Warramunga Arr 63.76 193 eP P 22 18 00.5 +0.1
WRA Warramunga Arr 63.77 193 P P 22 17 59.8 -0.6
comp=Z,6.0nm,0.8s,mb4.7,baz=14,slow=6.9,SNR=22
FITZ Fitzroy Crossi 63.95 203 eP P 22 18 02.8 +1.1
comp=Z,6.4nm,0.9s,mb4.7
FITZ Fitzroy Crossi 63.95 203 P P 22 18 02.1 +0.4
comp=Z,3.4nm,0.9s,mb4.4,baz=3.3,slow=2.7,SNR=5.2
WALA Waterton Lakes 64.14 46 P P 22 18 00.7 -2.2
MOR8 Moi Rana 65.14 341 eP P 22 18 07.2 -2.2
FIA1 FINESS Array S 65.43 333 eP P 22 18 10.6 -0.7
FINES FINESS Array B 65.43 333 P P 22 18 10.0 -1.3
comp=Z,7.0nm,0.7s,mb4.8,baz=51,slow=8.6,SNR=23
FINES LR LR 22 50 50.9
comp=Z,75nm,19.1s,MS3.9,baz=345,slow=40
FINES FINESS Array B 65.43 333 P P 22 18 10.0 -1.3
FINES LR LR 22 50 50.9
OBN Obninsk 65.80 324⇓ eP P 22 18 13.2 -0.5
OBN e 22 18 28.6
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
OBN Obninsk 65.80 324 eP P 22 18 09.9 -3.8
comp=Z,12nm,0.5s,mb5.2
CMB Columbia Colle 66.98 59 P P 22 18 16.6 -4.7
VRSR Storozhevoye 67.17 319 eP P 22 18 22.1 -0.4
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.6s
VRSR pmax pmax
comp=E,8.0nm,0.5s
HLID Hailey 67.19 51 P P 22 18 20.7 -2.0
ASAR Alice Springs 67.48 193 P P 22 18 25.4 +0.9
comp=E,1.5nm,0.8s,mb4.1,baz=10,slow=5.2,SNR=11
ASAR LR LR 22 48 01.1
comp=E,50nm,19.8s,MS3.7,baz=171,slow=36
NVAR Mina Array Bea 68.04 58 P P 22 18 30.3 +2.3
comp=E,1.4nm,0.5s,mb4.2,baz=294,slow=6.8,SNR=8.8
MBWA Marble Bar 68.66 207 eP P 22 18 27.9 -4.0
comp=E,9.7nm,0.9s,mb4.7
MOOW Moose Ponds 69.15 49 eP P 22 18 36.7 +1.8
comp=E,4.4nm,1.1s,mb4.3
ISA Isabella 69.65 60 P P 22 18 34.9 -3.1
KIV Kislovodsk 70.13 312 eP P 22 18 42.1 +1.1
KIV pmax pmax
comp=Z,51nm,0.9s,mb5.5
KIV MLR MLR
comp=Z,284nm,19.0s,MS4.5
KIV Kislovodsk 70.13 312 eP P 22 18 42.6 +1.7
comp=Z,34nm,0.8s,mb5.3
NB2 NORSAR Subarra 70.20 339 P P 22 18 40.4 -1.0
comp=Z,4.8nm,0.6s,mb4.6,baz=32,slow=6.5
NOA NORSAR Array B 70.20 339 P P 22 18 40.0 -1.4
comp=Z,6.9nm,0.7s,mb4.7,baz=33,slow=6.2,SNR=21
NOA LR LR 22 54 12.8
comp=Z,66nm,19.7s,MS3.9,baz=15,slow=40
NOA NORSAR Array B 70.20 339 P P 22 18 40.0 -1.4
NOA LR LR 22 54 12.8
ZEI Tsey 70.24 310 eP P 22 18 41.3 -0.3
ZEI e*PP pP 22 18 53.6 +3.8
ZEI e 22 21 14.6
ZEI pmax pmax
comp=Z,14nm,0.8s,mb4.9
DUG Dugway 70.25 53 P P 22 18 39.6 -2.1
DUG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DUG Dugway 70.25 53 P P 22 18 39.6 -2.1
comp=Z,2.6nm,0.9s,mb4.2
PDAR Pinedale Array 70.44 49 P P 22 18 44.5 +1.6
comp=Z,0.9nm,0.6s,mb3.9,baz=228,slow=0.3,SNR=7.4
DAU Daniels Canyon 71.01 52 P P 22 18 47.6 +1.3
GNI Garni 71.47 308 LR LR 22 53 13.8
comp=Z,88nm,18.6s,MS4.0,baz=245,slow=38
GNI Garni 71.47 308 i P P 22 18 51.9 +2.8
AKASG Malin Array Be 72.06 324 P P 22 18 52.0 -0.6
comp=Z,12nm,0.6s,mb5.0,baz=39,slow=5.9,SNR=59
RSSD Black Hills 72.52 46 eP P 22 18 52.2 -3.2
RSSD pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RSSD Black Hills 72.52 46 eP P 22 18 52.2 -3.2
comp=Z,3.7nm,0.9s,mb4.3
STKA Stephens Creek 74.74 185 eP P 22 19 09.5 +1.1
comp=Z,2.3nm,0.9s,mb4.1
STKA Stephens Creek 74.74 185 P P 22 19 08.4 -0.1
comp=Z,3.5nm,0.9s,mb4.3,baz=357,slow=6.7,SNR=7.4
STKA Stephens Creek 74.74 185 P P 22 19 08.1 -0.3
LVV L'vov 74.92 326 eP P 22 19 09.9 +0.4
KWP Kalwaria 75.61 326 eP P 22 19 14.1 +0.6
BURAR Bucovina Array 76.12 324⇑ iP P 22 19 16.8 +0.5
OJC Ojcow 76.30 328 eP P 22 19 17.8 +0.4
KOLS Kolonicke sedl 76.34 326 eP P 22 19 17.8 +0.2
STHS Stebnicka Huta 76.37 327 eP P 22 19 18.4 +0.6
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.37 327 eP P 22 19 18.4 +0.6
comp=Z,6.4nm,0.8s,mb4.6
CRVS Cervenica-Dubn 76.69 327 eP P 22 19 19.8 +0.2
MIB Mutribah 76.72 298 eP P 22 19 18.9 -0.9
MIB AMb AMB 22 19 20.4
comp=Z,19nm,0.7s,mb5.1
VRI Vrincioaia 76.78 322⇑ iP P 22 19 20.8 +0.7
VRI Vrincioaia 76.78 322 ⇑P P 22 19 20.8 +0.7
QRN Al-Qurain 77.06 297 eP P 22 19 20.2 -1.5
QRN AMb AMB 22 19 22.2
comp=Z,92nm,0.7s,mb5.8
NAY Al-Naaiem 77.16 298 eP P 22 19 20.7 -1.5
NAY AMb AMB 22 19 22.7
comp=Z,30nm,1.1s,mb5.2
RDF Al-Radifah 77.17 298 eP P 22 19 20.6 -1.7
RDF AMb AMB 22 19 24.0
comp=Z,56nm,1.1s,mb5.4
KECS Kecovo 77.42 327 eP P 22 19 23.7 0.0
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 77.42 327 eP P 22 19 23.7 0.0
comp=Z,2.4nm,0.8s,mb4.2
MLR Muntele Rosu 77.42 322⇓ iP P 22 19 24.3 +0.6
UPC Upice 77.48 330 eP P 22 19 24.5 +0.5
DPC Dobruska-Polom 77.50 330 eP P 22 19 24.7 +0.6
MORC Moravsky Berou 77.52 329⇓ iP P 22 19 24.5 +0.3
MORC Moravsky Berou 77.52 329 ⇓P P 22 19 24.4 +0.2
DRGR 77.84 324⇓ iP P 22 19 26.5 +0.5
DRGR 77.84 324 ⇓P P 22 19 26.5 +0.5
CLL Collm 77.87 332⇑ iP P 22 19 25.4 -0.8
CLL pmax pmax
comp=Z,14nm,0.6s,mb5.1
CLL Collm 77.87 332⇑ iP P 22 19 25.4 -0.8
comp=Z,14nm,0.6s,mb5.1
CLL i (sP) sP 22 19 31.6 -5.8
CLL i (sPcP) 22 19 42.1
VOIR 77.87 322⇓ iP P 22 19 27.2 +1.0
VOIR 77.87 322 ⇓P P 22 19 27.2 +1.0
BRG Berggiesshubel 77.91 332 eP P 22 19 26.8 +0.4
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 77.91 332 eP P 22 19 26.8 +0.4
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BR131 Keskin Array S 77.93 314 eP P 22 19 27.0 +0.4
comp=Z,1.9nm,0.6s,mb4.2
BRTR Keskin Array B 77.93 314 P P 22 19 27.1 +0.6
comp=Z,3.1nm,0.7s,mb4.3,baz=76,slow=3.3,SNR=20
PVCC Panska Ves 77.98 331 eP P 22 19 27.2 +0.4
VYHS Vyhne 78.06 328 eP P 22 19 27.7 +0.4
VYHS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VYHS Vyhne 78.06 328 eP P 22 19 27.7 +0.4
comp=Z,2.3nm,0.6s,mb4.3
PSZ Piszkesteto 78.11 327⇑ iP P 22 19 27.0 -0.5
PSZ Piszkesteto 78.11 327 ⇑P P 22 19 27.0 -0.5
ANTO Ankara 78.28 314⇓ iP P 22 19 29.6 +1.2
ANTO Ankara 78.28 314 eP P 22 19 29.6 +1.2
ANTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ANTO Ankara 78.28 314 eP P 22 19 29.6 +1.1
comp=Z,6.1nm,0.7s,mb4.6
CLZ Clausthal 78.28 334 eP P 22 19 28.8 +0.3
CLZ pmax pmax
comp=Z,17nm,0.7s,mb5.1
CLZ Clausthal 78.28 334 eP P 22 19 28.8 +0.3
comp=Z,17nm,0.7s,mb5.1
SCHQ Schefferville 78.31 19 P P 22 19 29.1 +0.5
comp=Z,1.5nm,0.6s,mb4.1,baz=319,slow=5.9,SNR=5.7
PRU Pruhonice 78.44 331 eP P 22 19 29.6 +0.2
GZR Gura Zlata 78.91 324⇓ iP P 22 19 32.2 +0.3
GZR Gura Zlata 78.91 324 ⇓P P 22 19 32.2 +0.3
BZS Buzias 79.23 324⇑ iP P 22 19 33.7 0.0
BZS Buzias 79.23 324 ⇑P P 22 19 33.6 0.0
KHC Kasperske Hory 79.50 331 eP P 22 19 35.4 +0.2
KHC Kasperske Hory 79.50 331⇑ eP P 22 19 35.1 -0.1
GEC2 GERESS Array S 79.70 331 eP P 22 19 35.9 -0.3
GEC2 pmax pmax
comp=Z,11nm,1.6s,mb4.5
GEC2 GERESS Array S 79.70 331 eP P 22 19 35.9 -0.3
comp=Z,11nm,1.6s,mb4.5
GERES GERESS Array B 79.70 331 P P 22 19 35.7 -0.5
comp=Z,2.2nm,0.5s,mb4.3,baz=32,slow=5.1,SNR=23
GERES LR LR 22 59 04.2
comp=Z,106nm,18.4s,MS4.2,baz=52,slow=39
WET Wettzell 79.74 331 eP P 22 19 36.6 +0.1
WET pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
WET Wettzell 79.74 331 eP P 22 19 36.6 +0.1
comp=Z,5.0nm,0.7s,mb4.5
GRA1 Grafenberg Arr 79.84 333 eP P 22 19 37.3 +0.3
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 79.84 333 eP P 22 19 37.3 +0.3
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 79.84 333 eP P 22 19 37.3 +0.3
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 79.84 333 eP P 22 19 37.3 +0.3
comp=Z,15nm,1.0s,mb4.9
PKSM Moragy 79.99 326⇓ iP P 22 19 37.5 -0.3
PKSM Moragy 79.99 326 ⇓P P 22 19 37.5 -0.3
NWAO Narrogin (SRO) 80.39 205 eP P 22 19 37.9 -2.1
NWAO pmax pmax
comp=Z,9.0nm,0.9s
NWAO Narrogin (SRO) 80.39 205 eP P 22 19 37.9 -2.1
comp=Z,9.5nm,0.9s,mb4.7
VTS Vitosha 80.92 322⇑ iP P 22 19 43.4 +0.6
VTS Vitosha 80.92 322 ⇑P P 22 19 43.4 +0.6
GROS Grobnik 81.03 328 i P P 22 19 43.4 0.0
DIVS Divcibare 81.14 324 i P P 22 19 43.9 -0.1
GIVF Givet 81.50 336 eP P 22 19 45.6 -0.3
ASF Jabal al Asfar 81.55 306 LR LR 23 02 52.1
comp=Z,64nm,19.0s,MS4.0,baz=70,slow=41
MMAI Mount Meron Ar 81.81 308 LR LR 23 00 35.2
comp=Z,50nm,19.4s,MS3.9,baz=155,slow=39
VISS Visnje 81.83 328 i P P 22 19 47.1 -0.5
BOJS Bojanci 81.92 328 eP P 22 19 47.7 -0.4
CEY Cerknica 82.04 329 i P P 22 19 48.1 -0.6
CDF Champ du Feu 82.25 334 eP P 22 19 49.7 -0.1
comp=Z,13nm,0.8s,mb4.6
CDF Champ du Feu 82.25 334 eP P 22 19 49.7 -0.1
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 82.25 334 eP P 22 19 49.7 -0.1
comp=Z,6.6nm,0.8s,mb4.6
MEZF Maizieres J'vi 82.86 336⇑ iP P 22 19 53.1 +0.1
comp=Z,14nm,0.6s,mb4.8
MEZF Maizieres J'vi 82.86 336⇑ iP P 22 19 53.1 +0.1
comp=Z,14nm,0.6s,mb5.2
HINF Hinteralfeld 82.91 334 eP P 22 19 52.8 -0.5
TXAR Lajitas Array 83.13 56 P P 22 19 56.5 +2.0
comp=Z,1.1nm,0.5s,mb4.2,baz=294,slow=3.4,SNR=24
PPT Papeete 83.77 121 eLR LR 22 46 06.8
comp=Z,110nm,23.2s
PPT Papeete 83.77 121 LR LR 22 49 11.1
comp=Z,188nm,21.3s,MS4.4,baz=290,slow=30
APE Apeiranthos 84.12 317⇓ iP P 22 19 58.8 -0.7
APE Apeiranthos 84.12 317 ⇓P P 22 19 58.8 -0.8
FLN La Foliniere 84.19 339⇑ iP P 22 19 59.7 -0.1
comp=Z,16nm,0.9s,mb4.9
FLN eR
comp=Z,61nm,19.0s
FLN La Foliniere 84.19 339⇑ iP P 22 19 59.7 -0.1
FLN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FLN MLR MLR
comp=Z,60nm,19.0s,MS4.0
FLN La Foliniere 84.19 339⇑ iP P 22 19 59.7 -0.1
comp=Z,8.1nm,0.9s,mb4.8
FLN LR LR
comp=Z,60nm,19.0s,MS4.0
CABF La Chapelle 84.22 334 eP P 22 20 00.7 +0.7
LDF La Druitiere 84.25 339 eP P 22 19 59.9 -0.2
comp=Z,12nm,0.8s,mb4.8
LDF La Druitiere 84.25 339 eP P 22 19 59.9 -0.2
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LDF La Druitiere 84.25 339 eP P 22 19 59.9 -0.2
comp=Z,6.1nm,0.8s,mb4.8
LOR Lormes 84.32 336⇑ iP P 22 20 00.4 -0.1
comp=Z,11nm,0.7s,mb4.8
LOR eR
comp=Z,104nm,17.8s
LOR Lormes 84.32 336⇑ iP P 22 20 00.4 -0.1
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
LOR MLR MLR
comp=Z,100nm,17.8s,MS4.2
LOR Lormes 84.32 336⇑ iP P 22 20 00.4 -0.1
comp=Z,5.6nm,0.7s,mb4.8
LOR LR LR
comp=Z,100nm,17.8s,MS4.2
SSF Saint Saulge 84.61 336 eP P 22 20 01.9 -0.1
comp=Z,3.9nm,0.7s,mb4.7
SSF Saint Saulge 84.61 336 eP P 22 20 01.9 -0.1
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SSF Saint Saulge 84.61 336 eP P 22 20 01.9 -0.1
comp=Z,4.7nm,0.7s,mb4.7
GRR Gorron 84.63 339 eP P 22 20 01.8 -0.3
comp=Z,13nm,0.7s,mb4.9
GRR Gorron 84.63 339 eP P 22 20 01.8 -0.3
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
GRR Gorron 84.63 339 eP P 22 20 01.8 -0.3
comp=Z,6.6nm,0.7s,mb4.9
HYF Humbligny 84.69 337 eP P 22 20 03.3 +0.9
SMF Signal de Mont 84.89 335⇑ iP P 22 20 03.5 +0.1
comp=Z,19nm,0.7s,mb5.0
SMF Signal de Mont 84.89 335⇑ iP P 22 20 03.5 +0.1
SMF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SMF Signal de Mont 84.89 335⇑ iP P 22 20 03.5 +0.1
comp=Z,9.5nm,0.7s,mb5.0
AVF Avril sur Loir 84.91 336⇑ iP P 22 20 03.6 +0.1
comp=Z,13nm,0.7s,mb4.9
AVF Avril sur Loir 84.91 336⇑ iP P 22 20 03.6 +0.1
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
AVF Avril sur Loir 84.91 336⇑ iP P 22 20 03.6 +0.1
comp=Z,6.4nm,0.7s,mb4.9
LPL La Plagne 84.97 333⇑ iP P 22 20 04.4 +0.6
comp=Z,9.6nm,0.7s,mb4.7
LPL La Plagne 84.97 333⇑ iP P 22 20 04.4 +0.6
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LPL La Plagne 84.97 333⇑ iP P 22 20 04.4 +0.6
comp=Z,4.8nm,0.7s,mb4.7
LPG La Plagne 84.99 333⇑ iP P 22 20 04.6 +0.7
comp=Z,10nm,0.6s,mb4.8
LPG La Plagne 84.99 333⇑ iP P 22 20 04.6 +0.7
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPG La Plagne 84.99 333⇑ iP P 22 20 04.6 +0.7
comp=Z,5.2nm,0.6s,mb4.8
SGMF Saint Gilles 85.19 340⇑ iP P 22 20 05.4 +0.5
comp=Z,27nm,0.9s,mb5.1
SGMF Saint Gilles 85.19 340⇑ iP P 22 20 05.4 +0.5
SGMF pmax pmax
comp=Z,14nm,0.9s,mb5.1
SGMF Saint Gilles 85.19 340⇑ iP P 22 20 05.4 +0.5
comp=Z,14nm,0.9s,mb5.1
ROSF Rostrenen 85.29 341⇑ iP P 22 20 06.0 +0.6
comp=Z,16nm,0.8s,mb4.9
ROSF Rostrenen 85.29 341⇑ iP P 22 20 06.0 +0.6
ROSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ROSF Rostrenen 85.29 341⇑ iP P 22 20 06.0 +0.6
comp=Z,8.2nm,0.8s,mb4.9
QUIF Quistinic 85.65 340⇑ iP P 22 20 07.4 +0.2
comp=Z,16nm,0.8s,mb5.0
QUIF Quistinic 85.65 340⇑ iP P 22 20 07.4 +0.2
QUIF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
QUIF Quistinic 85.65 340⇑ iP P 22 20 07.4 +0.2
comp=Z,7.9nm,0.8s,mb5.0
MBDF Montbardon 85.66 333 eP P 22 20 07.2 0.0
comp=Z,5.0nm,0.6s,mb4.6
MBDF Montbardon 85.66 333 eP P 22 20 07.2 0.0
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
MBDF Montbardon 85.66 333 eP P 22 20 07.2 0.0
comp=Z,5.6nm,0.6s,mb4.6
TCF Toulx Ste Croi 85.70 336 eP P 22 20 07.9 +0.5
comp=Z,4.1nm,0.6s,mb4.6
TCF Toulx Ste Croi 85.70 336 eP P 22 20 07.9 +0.5
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 85.70 336 eP P 22 20 07.9 +0.5
comp=Z,2.0nm,0.6s,mb4.5
ORIF Oris-en-Rattie 85.78 333⇑ iP P 22 20 08.4 +0.5
comp=Z,8.8nm,0.8s,mb4.8
ORIF eR
comp=Z,102nm,21.5s
ORIF Oris-en-Rattie 85.78 333⇑ iP P 22 20 08.4 +0.5
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 85.78 333⇑ iP P 22 20 08.4 +0.5
comp=Z,4.4nm,0.8s,mb4.7
MFF Saint Martin d 86.08 338 eP P 22 20 09.9 +0.6
comp=Z,12nm,0.6s,mb5.0
MFF Saint Martin d 86.08 338 eP P 22 20 09.9 +0.6
MFF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
MFF Saint Martin d 86.08 338 eP P 22 20 09.9 +0.6
comp=Z,6.2nm,0.6s,mb5.0
SBF Sospel 86.19 332 eP P 22 20 10.2 +0.3
VIVF Saint-Julien-l 86.23 334 eP P 22 20 10.6 +0.5
FRF La Foret Royal 86.73 332 eP P 22 20 13.5 +1.0
PGF Pioggiola 86.79 330 eP P 22 20 13.2 +0.4
RJF Les Rejaudoux 86.80 336 eP P 22 20 13.3 +0.5
comp=Z,11nm,0.8s,mb4.9
RJF eR
comp=Z,104nm,20.0s
RJF Les Rejaudoux 86.80 336 eP P 22 20 13.3 +0.5
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RJF MLR MLR
comp=Z,100nm,20.0s,MS4.2
RJF Les Rejaudoux 86.80 336 eP P 22 20 13.3 +0.5
comp=Z,5.7nm,0.8s,mb4.8
RJF LR LR
comp=Z,100nm,20.0s,MS4.2
CAF Calviac 86.98 336⇑ iP P 22 20 14.7 +1.0
comp=Z,22nm,0.9s,mb5.1
CAF Calviac 86.98 336⇑ iP P 22 20 14.7 +1.0
CAF pmax pmax
comp=Z,11nm,0.9s,mb5.1
CAF Calviac 86.98 336⇑ iP P 22 20 14.7 +1.0
comp=Z,11nm,0.9s,mb5.1
LMR La Mourre 86.98 332⇑ iP P 22 20 13.7 0.0
comp=Z,16nm,0.7s,mb5.1
LMR La Mourre 86.98 332⇑ iP P 22 20 13.7 0.0

LMR					pmax	pmax				
	comp=Z,8.0nm,0.7s,mb5.1									
LMR	**La Mourre**	**86.98**	**332**	⇑*i*P		**P**	**22 20 13.7**	**0.0**		
	comp=Z,7.9nm,0.7s,mb5.0									
LASF	**Ste Croix**	**87.19**	**334**	*e*P		**P**	**22 20 15.6**	**+0.8**		
	comp=Z,7.8nm,0.8s,mb4.7									
LFF	**La Frestale**	**87.35**	**337**	*e*P		**P**	**22 20 15.5**	**0.0**		
	comp=Z,6.4nm,0.6s,mb4.8									
LFF	**La Frestale**	**87.35**	**337**	*e*P		**P**	**22 20 15.5**	**0.0**		
LFF					pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.7									
LFF	**La Frestale**	**87.35**	**337**	*e*P		**P**	**22 20 15.5**	**0.0**		
	comp=Z,3.2nm,0.6s,mb4.7									
TBI	**Tubuai**	**88.17**	**125**	*e*T			23 58 27.7			
	comp=Z,4.0nm,0.2s									
MTLF	**Montolieu**	**88.36**	**335**	*e*P		**P**	**22 20 21.3**	**+0.9**		
	comp=Z,4.7nm,0.7s,mb4.5									
MTLF	**Montolieu**	**88.36**	**335**	*e*P		**P**	**22 20 21.3**	**+0.9**		
MTLF					pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.5									
MTLF	**Montolieu**	**88.36**	**335**	*e*P		**P**	**22 20 21.3**	**+0.9**		
	comp=Z,2.3nm,0.7s,mb4.5									
EPF	**Esparros**	**89.22**	**336**	⇑*i*P		**P**	**22 20 25.0**	**+0.6**		
	comp=Z,6.7nm,0.8s,mb4.7									
EPF	**Esparros**	**89.22**	**336**	⇑*i*P		**P**	**22 20 25.0**	**+0.6**		
EPF					pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.7									
EPF	**Esparros**	**89.22**	**336**	⇑*i*P		**P**	**22 20 25.0**	**+0.6**		
	comp=Z,3.3nm,0.8s,mb4.7									
ETSF	**Etsaut**	**89.60**	**337**	*e*P		**P**	**22 20 26.9**	**+0.7**		
	comp=Z,5.5nm,0.7s,mb4.7									
ETSF	**Etsaut**	**89.60**	**337**	*e*P		**P**	**22 20 26.9**	**+0.7**		
ETSF					pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.7									
ETSF	**Etsaut**	**89.60**	**337**	*e*P		**P**	**22 20 26.9**	**+0.7**		
	comp=Z,2.8nm,0.7s,mb4.7									
ATD	**Arta Tunnel**	**92.31**	**288**	LR		LR	23 08 12.9			
	comp=Z,82nm,18.0s,MS4.2,baz=76,slow=40									
ESDC	**Sonseca Array**	**93.55**	**338**	P		**P**	**22 20 43.6**	**-0.9**		
	comp=Z,0.9nm,0.6s,mb4.4,baz=12,slow=4.4,SNR=6.7									
TORD	**Torodi Ar. Bea**	**115.67**	**322**	PKP		PKPdf	22 26 10.6	-0.1		
	comp=Z,0.5nm,0.4s,baz=20,slow=1.9,SNR=22									
TORD				PP		PP	22 27 04.1	-9.3		
	comp=Z,0.5nm,0.7s,baz=20,slow=9.2,SNR=3.4									
TORD	**Torodi Ar. Bea**	**115.67**	**322**	PKP		PKPdf	22 26 10.6	-0.1		
TORD				PP		PP	22 27 04.1	-9.3		
LIC	**Lamto**	**124.76**	**325**	*e*PKIKP		PKPdf	22 26 27.0	-1.2		
SNAA	**Sanae**	**147.77**	**197**	PKPbc		PKPbc	22 27 12.1	-1.2		
	comp=Z,2.1nm,0.8s,baz=165,slow=1.8,SNR=19									
SNAA	**Sanae**	**147.77**	**197**	*e*PKPdf		PKPdf	22 27 12.9	+2.5		
SNAA				*e*			22 27 14.2			
SNAA				*e*			22 27 16.9			
SNAA				*e*			22 27 22.2			
SNAA				*e*			22 27 32.8			
VNA2	**Neumayer--Watz**	**149.30**	**196**	*e*PKPdf		PKPbc	22 27 17.3	+0.1		
	baz=140,slow=2.7									
VNA2				*e*			22 27 18.3			
VNA2				*e*			22 27 21.7			
VNA2				*e*			22 27 25.1			
VNA2				*e*			22 27 26.8			
VNA2				*e*			22 27 30.2			
VNA2				*e*			22 27 37.5			
VNA2				*e*			22 27 43.6			
VNA1	**Neumayer--Stat**	**149.69**	**196**	*e*PKPdf		PKPbc	22 27 18.4	+0.2		
VNA1				*e*			22 27 20.4			

*IDC **09** 22:11:43.4±12.0, 054N×12722E, h75km±128km, mb3.7/6, mb1 3.8/7, mb1mx3.6/16, mbtmp3.6/7, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/32, Error ellipse: s-maj=63.5km s-min=26.0km az=86.0*

*ISCJB **09** 22:11:53.7±3.2, 04N±01×1272E±02, h203km±32km, mb3.8/9, Error ellipse: s-maj=33.1km s-min=12.6km az=133.0*

*NEIC **09** 22:11:53.3±2.7, 031N×12726E, h187km±28km, mb4.1/5, Error ellipse: s-maj=24.7km s-min=10.2km az=66.0*

ISC 09 22:11:52.9±2.9, 03N±01×1273E±02, h181km±30km, n17, σ1$04/16, mb3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**12.43**	**297**	*e*Pn		**Pn**	**22 14 44.2**	**+0.5**
KAKA	**Kakadu**	**13.93**	**159**	*e*P		**Pn**	**22 14 59.2**	**-3.5**
	2.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**18.40**	**185**	*e*P		**P**	**22 15 53.1**	**-1.1**
	4.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.40**	**185**	P		**P**	**22 15 53.9**	**-0.4**
	0.1nm,0.3s,baz=45,slow=7.1,SNR=5.3							
WRA	**Warramunga Arr**	**21.31**	**161**	P		**P**	**22 16 25.7**	**+0.3**
	1.5nm,0.4s,mb3.7,baz=340,slow=11,SNR=4.6							
WB2	**Warramunga Arr**	**21.31**	**161**	*e*P		**P**	**22 16 26.6**	**+1.2**
GUMO	**Guam**	**21.82**	**52**	LR		LR	22 22 56.0	
	comp=Z,97nm,20.7s,baz=92,slow=31							
MBWA	**Marble Bar**	**22.61**	**199**	*e*P		**P**	**22 16 37.7**	**-0.5**
	7.1nm,0.9s,mb4.1							
ASAR	**Alice Springs**	**24.71**	**165**	P		**P**	**22 17 00.6**	**+3.2**
	0.6nm,0.3s,mb3.6,baz=344,slow=12,SNR=14							
KULM	**Kulim**	**27.06**	**281**	*e*P		**P**	**22 17 17.9**	**-0.5**
MJAR	**Matsushiro Arr**	**37.41**	**15**	P		**P**	**22 18 47.3**	**-1.1**
	1.4nm,0.5s,mb3.9,baz=198,slow=7.9,SNR=4.8							
SONM	**Songino Array**	**50.67**	**342**	P		**P**	**22 20 34.9**	**+1.1**
	0.3nm,0.5s,mb3.2,baz=156,slow=7.2,SNR=8.0							
MKAR	**Makanchi Array**	**60.66**	**326**	P		**P**	**22 21 45.1**	**+0.3**
	0.4nm,0.3s,mb3.7,baz=115,slow=7.8,SNR=17							
KURK	**Kurchatov**	**64.89**	**328**	*e*P		**P**	**22 22 13.6**	**+0.9**
	1.3nm,0.4s,mb4.1							
BRVK	**Borovoye**	**70.53**	**328**	P		**P**	**22 22 46.7**	**-1.3**
	2.1nm,0.5s,mb4.1							
ARCES	**ARCESS Array B**	**93.80**	**340**	P		**P**	**22 24 49.2**	**-0.2**
	2.7nm,1.0s,mb4.3,baz=79,slow=6.3,SNR=4.1							
ARCES	**ARCESS Array B**	**93.80**	**340**	P		**P**	**22 24 49.2**	**-0.2**

*ISCJB **09** 22:26:07.6±0.3, 4206N±002×2076E±002, h10km, Error ellipse: s-maj=3.3km s-min=1.9km az=70.2*

*TIR **09** 22:26:07.8, 4208N×2059E, h5km, Ml2.5*

*CSEM **09** 22:26:07.7±0.1, 4205N×2071E, h2km, ML2.4, Error ellipse: s-maj=3.7km s-min=2.3km az=36.0*

*SKO **09** 22:26:08.7, 4200N×2077E, h15km, M2.1, ML2.4*

*PDG **09** 22:26:08.5±0.2, 4206N×2069E, h7km*

*NEIC **09** 22:26:08.5, 4206N×2069E, h7km, MD2.6(PDG), ML2.9(THE), After PDG.*

*THE **09** 22:26:10.0, 4202N×2085E, h10km, ML2.7*

ISC 09 22:26:08.6±0.3, 4207N±002×2077E±002, h10km, n38, σ1$32/73, 11C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PHP	**Peshkopia**	**0.45**	**213**	*i* Pg		**Pg**	**22 26 16.2**	**-1.2**
PHP				*i* Sg		**Sg**	**22 26 23.1**	**-0.3**
SKO	**Skopje**	**0.51**	**100**	*e*Pg		**Pg**	**22 26 19.5**	**+0.9**
SKO				*e*Sg		**Sg**	**22 26 27.6**	**+2.3**
SKO	**Skopje**	**0.51**	**100**	⇑*i*Pg		**Pg**	**22 26 19.3**	**+0.8**
SKO				*e*Sg		**Sg**	**22 26 27.2**	**+1.9**
SKO				*e*Lg			22 26 27.6	
	comp=E,159nm,0.2s							
SKO				*e*Lg			22 26 27.8	
	comp=N,294nm,0.3s							
SKO	**Skopje**	**0.51**	**100**	⇑*i*Pg		**Pg**	**22 26 19.3**	**+0.8**
SKO				*e*Sg		**Sg**	**22 26 27.1**	**+1.8**
BCI	**Bajram Curri**	**0.60**	**300**	*i* Pg		**Pg**	**22 26 18.1**	**-2.1**
BCI				*i* Sg		**Sg**	**22 26 29.6**	**+1.5**
PUK	**Puka**	**0.65**	**268**	*i* Pg		**Pg**	**22 26 19.3**	**-1.9**
PUK				*i* Sg		**Sg**	**22 26 28.5**	**-1.2**
KRUS	**Krusevo**	**0.78**	**152**	⇑*i*Pg		**Pg**	**22 26 23.9**	**+0.2**
KRUS				*e*Sg		**Sg**	**22 26 34.9**	**+0.9**
KRUS	**Krusevo**	**0.78**	**152**	⇑*i*Pg		**Pg**	**22 26 23.9**	**+0.2**
KRUS				*e*Sg		**Sg**	**22 26 34.8**	**+0.8**
PVY	**Plav**	**0.79**	**312**	⇓*i*Pg		**Pg**	**22 26 22.2**	**-1.6**
PVY				*e*Sg		**Sg**	**22 26 34.3**	**+0.1**
OHR	**Ohrid**	**0.95**	**178**	*e*Pg		**Pg**	**22 26 26.0**	**-1.0**
OHR				*e*Sg		**Sg**	**22 26 40.1**	**+0.8**
OHR				*e*Lg			22 26 40.6	
	comp=E,527nm,1.9s							
OHR				*e*Lg			22 26 41.5	
	comp=N,121nm,0.7s							
OHR	**Ohrid**	**0.95**	**178**	*e*Pg		**Pg**	**22 26 25.9**	**-1.0**
OHR				*e*Sg		**Sg**	**22 26 40.1**	**+0.8**
IVA	**Berane**	**1.03**	**322**	⇑*i*Pg		**Pg**	**22 26 27.1**	**-1.3**
IVA				*e*Sg		**Sg**	**22 26 42.5**	**+0.7**
IVA	**Berane**	**1.03**	**322**	⇑*i*Pg		**Pg**	**22 26 27.1**	**-1.3**
IVA				*e*Sg		**Sg**	**22 26 42.5**	**+0.7**
BARS	**Barje**	**1.09**	**46**	*i* Pg		**Pg**	**22 26 28.3**	**-1.2**
BARS				*i* Sg		**Sg**	**22 26 44.4**	**+0.8**
STIP	**Stip**	**1.12**	**109**	*e*Pg		**Pg**	**22 26 29.1**	**-1.0**
STIP	**Stip**	**1.12**	**109**	*i* Pg		**Pg**	**22 26 29.1**	**-1.1**
STIP				*e*Sg		**Sg**	**22 26 44.5**	**-0.3**
STIP				*e*Lg			22 26 45.4	
	comp=N,40nm,0.3s							
STIP				*e*Lg			22 26 45.5	
	comp=E,16nm,0.5s							
STIP	**Stip**	**1.12**	**109**	*e*Pg		**Pg**	**22 26 29.1**	**-1.1**
STIP				*e*Sg		**Sg**	**22 26 44.5**	**-0.3**
BIA	**Bitola**	**1.13**	**158**	*e*Pg		**Pg**	**22 26 29.4**	**-0.9**
BIA	**Bitola**	**1.13**	**158**	*i* Pg		**Pg**	**22 26 29.2**	**-1.0**
BIA				*e*Sg		**Sg**	**22 26 46.4**	**+1.5**
BIA				*e*Lg			22 26 47.2	
	comp=N,34nm,0.3s							
BIA				*e*Lg			22 26 47.4	
	comp=E,62nm,0.6s							
BIA	**Bitola**	**1.13**	**158**	*i* Pg		**Pg**	**22 26 29.2**	**-1.0**
BIA				*e*Sg		**Sg**	**22 26 46.3**	**+1.4**
ULC	**Ulcinj**	**1.13**	**265**	⇓*i*Pg		**Pg**	**22 26 28.4**	**-2.0**
ULC				*e*Sg		**Sg**	**22 26 45.7**	**+0.5**
TTG	**Podgorica**	**1.18**	**289**	⇓*i*Pg		**Pg**	**22 26 28.4**	**-2.7**
TTG				*e*Sg		**Sg**	**22 26 47.0**	**+0.6**
FNA	**Florina**	**1.36**	**160**	*e*Pg		**Pg**	**22 26 34.0**	**-0.7**
FNA				*e*Sg		**Sg**	**22 26 53.8**	**+1.4**
FNA	**Florina**	**1.36**	**160**	*e*Pg		**Pg**	**22 26 34.0**	**-0.7**
FNA				*e*Sg		**Sg**	**22 26 53.8**	**+1.4**
BUM	**Brajici-Budva**	**1.41**	**280**	⇓*i*Pg		**Pg**	**22 26 33.3**	**-2.3**
BUM				*e*Sg		**Sg**	**22 26 54.5**	**+0.7**
KBN	**Korca**	**1.44**	**179**	*i* Pn		**Pn**	**22 26 37.1**	**+2.4**
KBN				*i* Sn		**Sn**	**22 26 57.2**	**+3.5**
NKY	**Niksic**	**1.51**	**300**	⇑*i*Pg		**Pg**	**22 26 34.8**	**-2.8**
NKY				*e*Sg		**Sg**	**22 26 58.4**	**+1.4**
VAY	**Valandovo**	**1.54**	**118**	*i* Pg		**Pg**	**22 26 36.9**	**-1.3**
VAY				*e*Sg		**Sg**	**22 26 57.8**	**-0.4**
VAY				*e*Lg			22 26 58.8	
	comp=N,31nm,0.6s							
VAY				*e*Lg			22 26 58.8	
	comp=E,39nm,0.4s							
VAY	**Valandovo**	**1.54**	**118**	*i* Pg		**Pg**	**22 26 36.8**	**-1.4**
VAY				*e*Sg		**Sg**	**22 26 57.8**	**-0.4**
PLE	**Pljevlja**	**1.62**	**322**	⇓*i*Pn		**Pn**	**22 26 38.1**	**+0.9**
PLE				*e*Sn		**Sn**	**22 27 01.3**	**+3.2**
GRG	**Griva**	**1.65**	**131**	*e*Pg		**Pg**	**22 26 39.4**	**-0.9**
HCY	**Herceg Novi**	**1.73**	**284**	⇑*i*Pn		**Pn**	**22 26 39.1**	**+0.5**
HCY				*e*Sn		**Sn**	**22 27 04.0**	**+3.3**
UPM	**Unac-Piva**	**1.78**	**310**	⇑*i*Pn		**Pn**	**22 26 40.8**	**+1.4**
UPM				*e*Sn		**Sn**	**22 27 05.2**	**+3.2**
UPM	**Unac-Piva**	**1.78**	**310**	⇑*i*Pn		**Pn**	**22 26 40.8**	**+1.4**
UPM				*e*Sn		**Sn**	**22 27 05.2**	**+3.1**
KNT	**Kendrikon**	**1.84**	**119**	*e*Pb		**Pb**	**22 26 41.5**	**-0.7**
KNT				*e*Sb		**Sb**	**22 27 04.9**	**-0.3**
BRY	**Bratogost**	**1.84**	**298**	⇑*i*Pn		**Pn**	**22 26 41.0**	**+0.8**
BRY				*e*Sn		**Sg**	**22 27 07.0**	**-0.9**
DIVS	**Divcibare**	**2.11**	**345**	*i* Pn		**Pn**	**22 26 44.2**	**+0.3**
DIVS				*e*Sn		**Sn**	**22 27 09.5**	**-0.7**
STON	**Ston**	**2.41**	**291**	*i* Pn		**Pn**	**22 26 49.9**	**+1.9**
STON				*i* Sn		**Sb**	**22 27 22.9**	**+1.2**

*LDG **09** 22:28:50.2±0.1, 3597N×7595E, h10km, Mb4.5/12, Ms3.4/6, Error ellipse: s-maj=3.4km s-min=2.6km az=2.0*

*ISCJB **09** 22:28:51.5±0.2, 3611N±002×7598E±004, h10km, mb4.2/27, MS3.6/6, Error ellipse: s-maj=4.4km s-min=2.9km az=164.2*

*IDC **09** 22:28:51.6±0.7, 3599N×7599E, h0km, mb4.2/13, mb1 4.2/18, mb1mx4.1/26, mbtmp4.1/18, ML3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/30, Error ellipse: s-maj=17.7km s-min=14.5km az=22.0*

*BJI **09** 22:28:52.6, 3610N×7606E, h14km, mB4.7, mb4.5, ML4.4, Ms3.9, Msz3.6*

*MOS **09** 22:28:54.8±0.9, 3607N×7593E, h33km, mb4.7/11, Error ellipse: s-maj=10.1km s-min=6.4km az=115.9*

*NEIC **09** 22:28:57.6±0.9, 3606N×7595E, h42km±9km, mb4.5/15, MS3.8/2, Error ellipse: s-maj=8.0km s-min=5.0km az=208.0*

*NNC **09** 22:28:58.3±4.1, 3635N×7592E, h12km±21km, mb4.0, mpv4.5, Error ellipse: s-maj=33.1km s-min=24.0km az=150.0*

ISC 09 22:28:53.4±0.2, 3605N±002×7595E±004, h10km, n140, σ1$17/157, mb4.2/27, MS3.6/6, 6C-1D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRNI	**Srinagar**	**2.15**	**205**	*e*P		**Pg**	**22 29 35.5**	**+1.0**
SRNI				*e*S		**Sg**	**22 30 06.0**	**+3.6**
CHCP	**Chirah Chowk**	**3.25**	**224**	P		**Pb**	**22 29 52.3**	**+1.1**
JMU	**Jammu**	**3.44**	**195**	*e*P		**Pg**	**22 30 03.0**	**+3.7**
JMU				*e*S		**Sg**	**22 30 44.5**	**+0.6**
KSH	**Kashi**	**3.46**	**0**	*e*PG		**Pg**	**22 29 53.6**	**-6.0**
KSH				SG		**Sg**	**22 30 34.9**	**-10**
KSH				Smax				
	comp=N,2μm,0.7s							
KSH				Smax				
	comp=E,3μm,1.0s							
DLH	**Dalhousie**	**3.50**	**180**	*e*P		**Pn**	**22 29 52.0**	**+4.1**
DLH				*ex*		x	22 30 40.0	
THN	**Thein Dam**	**3.62**	**183**	*e*P		**Pn**	**22 29 55.3**	**+5.9**
THN				*ex*		x	22 30 52.4	
CEP	**Cherat**	**4.00**	**237**	P		**Pn**	**22 29 59.6**	**+5.0**
SDNR	**Sundarnagar**	**4.62**	**169**	*e*P		**Pn**	**22 30 07.5**	**+4.3**
SDNR				*ex*		x	22 31 17.1	
BHK	**Bhakra**	**4.64**	**175**	*ex*		x	22 30 12.0	
BHK				*ex*		x	22 31 27.0	
THW	**Thamme Wali**	**4.76**	**228**	P		**Pn**	**22 30 11.5**	**+6.4**
KLP	**Kalpa**	**4.90**	**156**	*e*P		**Pn**	**22 30 11.4**	**+4.3**
KLP				*e*S		**Sn**	**22 31 07.0**	**+3.2**
KLP				AML		AML	22 31 39.5	
	comp=E,508nm,0.7s							
KLP				AML		AML	22 31 53.0	
	comp=N,366nm,0.4s							
DDI	**Dehra Dun**	**5.98**	**162**	*e*P		**Pn**	**22 30 29.0**	**+7.1**
KZA	**Kyzart**	**6.04**	**355**	P		**Pn**	**22 30 31.0**	**+8.2**
	SNR=7.1							
UCH	**Uchtor**	**6.26**	**350**	P		**Pn**	**22 30 30.7**	**+4.8**
	SNR=5.5							
KBK	**Karagaybulak**	**6.64**	**354**	P		**Pn**	**22 30 37.6**	**+6.6**
	SNR=12							
AAK	**Ala-Archa**	**6.67**	**351**	P		**Pn**	**22 30 39.6**	**+8.3**
	SNR=8.2							
AAK	**Ala-Archa**	**6.67**	**351**	*e*PN		**Pn**	**22 30 34.7**	**+3.4**
AAK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
AAK	**Ala-Archa**	**6.67**	**351**	*e*Pn		**Pn**	**22 30 33.9**	**+2.5**
	comp=Z,35nm,0.8s							
AAK				*e*Sn		**Sn**	**22 31 53.2**	**+5.9**
EKS2	**Erkin-Say**	**6.81**	**346**	P		**Pn**	**22 30 42.5**	**+9.2**
	SNR=7.6							
FRU	**Bishkek**	**6.85**	**352**	*e*PN		**Pn**	**22 30 42.0**	**+8.2**
FRU				*e*S		**Sg**	**22 32 24.0**	**-9.2**
FRU				pmax		pmax		
	comp=Z,120nm,1.8s							
FRU				smax				
	comp=N,320nm,1.8s							
TKM2	**Tokmak 2**	**6.86**	**358**	P		**Pn**	**22 30 39.4**	**+5.3**
	SNR=9.9							
CHMS	**Chumysh**	**7.00**	**353**	P		**Pn**	**22 30 44.3**	**+8.4**
	SNR=5.9							
NDI	**New Delhi**	**7.43**	**171**	*e*P		**Pn**	**22 30 46.0**	**+4.2**
NDI				*e*S		**Sn**	**22 32 06.7**	**+0.6**
LGTI	**Lohaghat**	**7.51**	**150**	*e*P		**Pn**	**22 30 46.3**	**+3.3**
LGTI				*ex*		x	22 32 11.0	
AYAN	**Aya Nagar**	**7.62**	**172**	*e*P		**Pn**	**22 30 48.2**	**+3.8**
AYAN				*e*S		**Sn**	**22 32 08.8**	**-1.9**
SONA	**Sohna**	**7.84**	**173**	*e*P		**Pn**	**22 30 51.2**	**+3.8**
SONA				*e*S		**Sn**	**22 32 14.3**	**-1.9**
KHET	**Khetri**	**7.96**	**181**	*e*P		**Pn**	**22 30 52.9**	**+3.8**
KHET				*e*S		**Sn**	**22 32 18.2**	**-0.9**
KK31	**Karatay Array**	**8.20**	**331**	⇑Pn		**Pn**	**22 30 54.6**	**+2.3**
	comp=N,9.3nm,0.7s,baz=144,slow=13,SNR=38							
KK31				⇑Sn		**Sn**	**22 32 23.9**	**-1.1**
	comp=N,8.4nm,0.5s,baz=154,slow=22							
AGRA	**Agra**	**8.96**	**169**	*e*P		**Pn**	**22 31 07.4**	**+4.6**
AGRA				*e*S		**Sn**	**22 32 41.2**	**-2.5**
AGRA				AML		AML	22 34 17.6	
	comp=N,116nm,0.3s							
AGRA				AML		AML	22 34 19.4	
	comp=E,110nm,0.2s							
AJM	**Ajmer**	**9.61**	**187**	*e*P		**Pn**	**22 31 15.3**	**+3.6**
AJM				*e*S		**Sn**	**22 32 56.4**	**-3.4**
KOLN	**Koldanda**	**10.51**	**140**	*e*P		**Pn**	**22 31 25.3**	**+1.3**
	comp=E,36nm,0.5s							
KOLN				*e*S		**Sn**	**22 33 19.1**	**-2.6**
GKN	**Gorkha**	**10.89**	**135**	*e*P		**Pn**	**22 31 29.4**	**+0.1**
	comp=E,47nm,0.4s							
GKN				*e*S		**Sn**	**22 33 26.3**	**-4.9**
KKN	**Kakani**	**11.43**	**134**	*e*P		**Pn**	**22 31 35.7**	**-0.9**
	comp=E,60nm,0.6s							
KKN				*e*S		**Sn**	**22 33 39.6**	**-4.7**
DMN	**Daman**	**11.46**	**135**	*e*P		**Pn**	**22 31 36.8**	**-0.3**
	comp=E,60nm,0.7s							
DMN				*e*S		**Sn**	**22 33 41.7**	**-3.4**
PKI	**Pulchoki**	**11.67**	**134**	*e*P		**Pn**	**22 31 39.8**	**-0.1**
	comp=E,50nm,0.6s							
GUN	**Gumba**	**11.70**	**131**	*e*P		**Pn**	**22 31 40.0**	**-0.3**
	comp=E,47nm,0.6s							
MK31	**Makanchi Array**	**11.73**	**22**	⇑Pn		**Pn**	**22 31 42.1**	**+1.3**
	comp=E,3.0nm,0.7s,baz=202,slow=12,SNR=57							
MK31				⇑Sn		**Sn**	**22 33 51.0**	**-0.7**
	comp=E,5.4nm,0.8s							
MK31	**Makanchi Array**	**11.73**	**22**	*e*Pn		**Pn**	**22 31 42.1**	**+1.4**
MK31				*e*Sn		**Sn**	**22 33 51.3**	**-0.5**
MKAR	**Makanchi Array**	**11.73**	**22**	Pn		**Pn**	**22 31 41.9**	**+1.1**
	comp=E,0.8nm,0.3s,baz=196,slow=12,SNR=56							
MKAR				Sn		**Sn**	**22 33 51.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=190,slow=16,SNR=3.4							
MKAR	**Makanchi Array**	**11.73**	**22**	Pn		**Pn**	**22 31 41.9**	**+1.1**
MKAR				Sn		**Sn**	**22 33 51.9**	**+0.1**
WMQ	**Urumqi**	**11.88**	**46**	P		**Pn**	**22 31 42.0**	**-0.9**
JIRN	**Jiri**	**12.07**	**131**	*e*P		**Pn**	**22 31 45.7**	**+0.3**
	comp=E,14nm,0.2s							
BHPL	**Bhopal**	**12.83**	**174**	*ex*		x	22 31 56.8	
LSA	**Lhasa**	**14.25**	**112**	P		**Pn**	**22 32 15.0**	**-0.2**
LSA	**Lhasa**	**14.25**	**112**	*e*P		**Pn**	**22 32 16.3**	**+1.1**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
LSA	**Lhasa**	**14.25**	**112**	*e*Pn		**Pn**	**22 32 16.3**	**+1.2**
	comp=Z,4.5nm,0.6s							
KURK	**Kurchatov**	**14.78**	**7**	*e*P		**Pn**	**22 32 21.4**	**-1.0**
KURK				pmax		pmax		
	comp=Z,13nm,0.8s							
KURK	**Kurchatov**	**14.78**	**7**	*e*Pn		**Pn**	**22 32 21.4**	**-1.0**
	comp=Z,13nm,0.8s							
VOSK	**Vostochnaya**	**17.03**	**350**	⇓P		**Pn**	**22 32 54.8**	**+3.2**
	comp=Z,8.4nm,0.7s							
BVA0	**Borovoye Array**	**17.41**	**349**	P		**Pn**	**22 32 58.4**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=155,slow=12,SNR=76							
BVAR	**Borovoye Array**	**17.41**	**349**	P		**Pn**	**22 32 58.1**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=154,slow=11,SNR=14							
BRVK	**Borovoye**	**17.46**	**349**	*e*P		**Pn**	**22 32 59.8**	**+2.8**
BRVK				pmax		pmax		
	comp=Z,19nm,0.6s							
BRVK	**Borovoye**	**17.46**	**349**	*e*Pn		**Pn**	**22 32 59.8**	**+2.8**
	comp=Z,19nm,0.6s							
AB31	**Akbulak array**	**17.63**	**323**	⇑P		**Pn**	**22 32 58.0**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=139,slow=15,SNR=20							
ZAL	**Zalesovo**	**18.92**	**16**	P		**Pn**	**22 33 13.5**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=272,slow=10,SNR=14							
GTA	**Gaotai**	**19.16**	**73**	*e*P		**Pn**	**22 33 19.1**	**+1.4**
GTA				AP		pP	22 33 23.6	+3.9
GTA				XP		sP	22 33 26.1	+5.1
GTA				AMB		AMB		
	comp=Z,5.0nm,1.0s							
AKTK	**Aktyubinsk**	**19.35**	**324**	P		**Pn**	**22 33 19.9**	**-0.1**
AKTO	**Aktyubinsk**	**19.35**	**324**	⇑P		**Pn**	**22 33 19.7**	**-0.3**
	comp=Z,0.2nm,0.9s							
AKTO	**Aktyubinsk**	**19.35**	**324**	P		**Pn**	**22 33 19.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=107,slow=13,SNR=11							
NVS	**Novosibirsk**	**19.45**	**13**	*e*P		**Pn**	**22 33 19.0**	**-2.2**
NVS				*e*			22 36 59.4	
WSAR	**Wadi Sarin**	**19.70**	**234**	P		**Pn**	**22 33

SMF	**Signal de Mont**	**53.40**	**305**	*eP*	**P**	**22 38 13.1**	**-0.1**
	comp=Z,12nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**53.40**	**305**	*eP*	**P**	**22 38 13.1**	**-0.1**
SMF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**53.40**	**305**	*eP*	**P**	**22 38 13.1**	**-0.1**
	comp=Z,5.8nm,0.9s,mb4.5							
SSF	**Saint Saulge**	**53.51**	**306**	*eP*	**P**	**22 38 13.2**	**-0.8**
	comp=Z,4.3nm,0.7s,mb4.2							
SSF	**Saint Saulge**	**53.51**	**306**	*eP*	**P**	**22 38 13.2**	**-0.8**
SSF				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
SSF	**Saint Saulge**	**53.51**	**306**	*eP*	**P**	**22 38 13.2**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.2							
AVF	**Avril sur Loir**	**53.68**	**306**	*eP*	**P**	**22 38 14.7**	**-0.6**
	comp=Z,9.2nm,0.7s,mb4.5							
AVF	**Avril sur Loir**	**53.68**	**306**	*eP*	**P**	**22 38 14.7**	**-0.6**
AVF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
AVF	**Avril sur Loir**	**53.68**	**306**	*eP*	**P**	**22 38 14.7**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5							
TCF	**Toulx Ste Croi**	**54.58**	**305**	*eP*	**P**	**22 38 21.4**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.3							
TCF	**Toulx Ste Croi**	**54.58**	**305**	*eP*	**P**	**22 38 21.4**	**-0.4**
TCF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
TCF	**Toulx Ste Croi**	**54.58**	**305**	*eP*	**P**	**22 38 21.4**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.4							
CAF	**Calviac**	**55.10**	**304**	*eP*	**P**	**22 38 25.2**	**-0.4**
RJF	**Les Rejaudoux**	**55.35**	**304**	*eP*	**P**	**22 38 27.0**	**-0.4**
RJF				*eR*				
	comp=Z,104nm,20.0s							
RJF	**Les Rejaudoux**	**55.35**	**304**	*eP*	**P**	**22 38 27.0**	**-0.4**
RJF				LR	LR			
	comp=Z,100nm,20.0s,MS3.9							
LDF	**La Druitiere**	**55.41**	**308**	*eP*	**P**	**22 38 27.4**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.5							
LDF	**La Druitiere**	**55.41**	**308**	*eP*	**P**	**22 38 27.4**	**-0.4**
LDF				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
LDF	**La Druitiere**	**55.41**	**308**	*eP*	**P**	**22 38 27.4**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5							
FLN	**La Foliniere**	**55.59**	**309**	*eP*	**P**	**22 38 29.0**	**-0.1**
FLN				*eR*				
	comp=Z,64nm,21.0s							
FLN	**La Foliniere**	**55.59**	**309**	*eP*	**P**	**22 38 29.0**	**-0.1**
FLN				LR	LR			
	comp=Z,60nm,21.0s,MS3.6							
GRR	**Gorron**	**55.94**	**308**	*eP*	**P**	**22 38 31.2**	**-0.4**
	comp=Z,68nm,1.5s,mb5.2							
GRR	**Gorron**	**55.94**	**308**	*eP*	**P**	**22 38 31.2**	**-0.4**
GRR				pmax	pmax			
	comp=Z,34nm,1.5s,mb5.2							
GRR	**Gorron**	**55.94**	**308**	*eP*	**P**	**22 38 31.2**	**-0.4**
	comp=Z,34nm,1.5s,mb5.2							
MFF	**Saint Martin d**	**56.04**	**306**	*eP*	**P**	**22 38 31.9**	**-0.4**
EPF	**Esparros**	**56.90**	**302**	*eP*	**P**	**22 38 37.9**	**-0.6**
ROSF	**Rostrenen**	**57.48**	**309**	*eP*	**P**	**22 38 42.3**	**-0.3**
ETSF	**Etsaut**	**57.56**	**302**	*eP*	**P**	**22 38 43.2**	**0.0**
	comp=Z,22nm,1.4s,mb4.7							
ETSF	**Etsaut**	**57.56**	**302**	*eP*	**P**	**22 38 43.2**	**0.0**
ETSF				pmax	pmax			
	comp=Z,11nm,1.4s,mb4.7							
ETSF	**Etsaut**	**57.56**	**302**	*eP*	**P**	**22 38 43.2**	**0.0**
	comp=Z,11nm,1.4s,mb4.7							
SFS	**San Fernando**	**64.16**	**297**	P	**P**	**22 39 27.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**69.72**	**272**	P	**P**	**22 40 02.4**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=48,slow=5.6,SNR=44							
COLA	**College**	**73.73**	**18**	*eP*	**P**	**22 40 26.0**	**-1.6**
WRA	**Warramunga Arr**	**78.41**	**125**	P	**P**	**22 40 53.8**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=323,slow=4.8,SNR=13							
ASAR	**Alice Springs**	**80.77**	**128**	P	**P**	**22 41 07.3**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=318,slow=6.0,SNR=25							
YKA	**Yellowknife Ar**	**81.43**	**5**	P	**P**	**22 41 09.7**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.2,baz=344,slow=5.4,SNR=9.1							
YKA	**Yellowknife Ar**	**81.43**	**5**	P	**P**	**22 41 09.7**	**-0.8**
CTA	**Charters Tower**	**86.75**	**118**	P	**P**	**22 41 38.0**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.6,baz=319,slow=7.6,SNR=2.8							

*ISCJB **09** 22:31:51.7±7.9, 236S±08×1767W±05, h416km±75km, mb3.6/4, Error ellipse: s-maj=138.0km s-min=19.3km az=125.7*
*NEIC **09** 22:31:51.5±4.6, 2386S×17658W, h403km±38km, mb4.1/1, Error ellipse: s-maj=77.3km s-min=11.1km az=150.0*
*IDC **09** 22:31:54.1±70.0, 2363S×17673W, h426km±334km, mb3.3/4, mb1 3.4/5, mb1mx3.1/16, mbtmp3.3/5, Error ellipse: s-maj=792.7km s-min=105.1km az=79.0*
ISC 09 22:31:53.1±6.8, 237S±08×1766W±05, h417km±64km, n12, σ0§11/10, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.80**	**26**	P	**P**	**22 34 19.1**	**0.0**
DZM	**Mont Dzumac**	**15.68**	**273**	P	**P**	**22 35 12.3**	**0.0**
	0.3nm,0.3s,baz=103,slow=19,SNR=3.5						
CTA	**Charters Tower**	**34.56**	**269**	P	**P**	**22 38 04.8**	**+0.1**
	3.9nm,0.4s,mb4.0,baz=91,slow=13,SNR=7.1						
CTA	**Charters Tower**	**34.56**	**269**	P	**P**	**22 38 04.8**	**+0.1**
CTAO	**Charters Tower**	**34.56**	**269**	*eP*	**P**	**22 38 04.8**	**+0.2**
	3.3nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**37.64**	**248**	P	**P**	**22 38 30.4**	**0.0**
	1.1nm,0.5s,mb3.5,baz=95,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**45.10**	**260**	P	**P**	**22 39 30.1**	**+0.1**
	0.4nm,0.4s,mb3.1,baz=94,slow=7.4,SNR=9.1						
WB2	**Warramunga Arr**	**45.48**	**265**	*eP*	**P**	**22 39 32.8**	**-0.2**
WRA	**Warramunga Arr**	**45.49**	**265**	P	**P**	**22 39 33.1**	**-0.1**
	2.3nm,0.5s,mb3.7,baz=103,slow=8.1,SNR=8.5						
BNM	**Barren Site**	**87.93**	**51**	P	**P**	**22 43 57.1**	**+0.1**
KURK	**Kurchatov**	**117.21**	**316**	*e*PKPdf	PKPdf	22 49 49.1	-0.6
BRVK	**Borovoye**	**122.41**	**319**	*e*PKPdf	PKPdf	22 50 00.7	+1.0

*CSEM **09** 23:00:47.5, 67.18N×2070E, h0km, ML3.3, Mining explosion. After UPP*
*UPP **09** 23:00:47.5, 67.18N×2070E, h0km, ML3.3, Mining explosion.*
HEL 09 23:00:48.1±0.1, 6718N×2068E, h0km, ML1.4, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**216**	*i* P	Pg	23 00 49.2	-0.3
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	23 00 58.5	-0.8
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	23 01 02.4	-0.8
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	23 01 03.9	-0.9
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	23 01 03.8	-0.9
	baz=90						
NIKU	**Nikkaluokta**	**0.94**	**318**	*eP*	Pg	23 01 04.7	-1.3
PAJU	**Pajala**	**0.96**	**98**	*eP*	Pg	23 01 05.1	-1.5
PAJU	**Pajala**	**0.96**	**98**	P	Pg	23 01 05.1	-1.5
	baz=38						
LANU	**Lannavaara**	**1.01**	**29**	*eP*	Pg	23 01 06.0	-1.4
HARU	**Harads**	**1.03**	**173**	*eP*	Pg	23 01 06.4	-1.5
HARU	**Harads**	**1.03**	**173**	P	Pg	23 01 06.4	-1.4
	baz=357						
SJUU	**Sjulsmark**	**1.72**	**167**	*eP*	Pn	23 01 18.5	-0.8
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	23 01 20.8	0.0
KIF				*eS*	Sn	23 01 45.1	+0.4
KIF				MSG		23 01 48.6	
	comp=Z,1.5nm,0.2s						
LILU	**Lilltraesk**	**1.93**	**190**	*eP*	Pn	23 01 22.2	0.0
SGF	**Sodankyl**	**2.28**	**81**	*eP*	Pn	23 01 27.8	+0.8
SGF				*eS*	Sn	23 01 56.1	+0.3
SGF				MSG		23 01 59.9	
	comp=Z,1.8nm,0.2s						
OUL	**Oulu**	**2.99**	**132**	*e*SG	Sg	23 02 21.3	-2.8
KEV	**Kevo**	**3.48**	**39**	*eP*	Pn	23 01 42.8	-0.7
KEV				*eS*	Sn	23 02 23.1	-2.3
MSF	**Maaselka**	**3.58**	**107**	*e*SG	Sg	23 02 38.7	-4.4

*ISCJB **09** 23:04:35.2±2.3, 224S±0.1×179.1W±0.2, h368km±38km, mb4.0/11, Error ellipse: s-maj=30.1km s-min=20.3km az=116.6*
*NEIC **09** 23:04:37.1±1.9, 2229S×179.12W, h377km±26km, mb4.1/8, Error ellipse: s-maj=14.7km s-min=12.3km az=98.0*
*IDC **09** 23:04:40.0±15.0, 2240S×179.19W, h402km±120km, mb3.6/5, mb1 3.8/6, mb1mx3.5/14, mbtmp3.6/6, Error ellipse: s-maj=150.4km s-min=24.3km az=43.0*
ISC 09 23:04:37.7±2.0, 223S±01×1790W±02, h387km±33km, n19, σ0§84/19, mb4.0/11, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.84**	**41**	*e*P	**Pn**	**23 07 05.2**	**-0.2**
URZ	**Urewera**	**16.22**	**191**	P	**P**	**23 08 04.1**	**+0.3**
	1.3nm,0.3s,baz=76,slow=2.7,SNR=9.2						
RPZ	**Rata Peaks**	**22.86**	**199**	P	**P**	**23 09 09.3**	**+0.3**
	9.6nm,0.6s,mb4.4,baz=11,slow=15,SNR=8.1						
CTA	**Charters Tower**	**32.42**	**267**	*i*P	**P**	**23 10 35.7**	**+2.4**
	13nm,0.4s,mb4.6						
CTAO	**Charters Tower**	**32.42**	**267**	*e*P	**P**	**23 10 35.7**	**+2.4**
	16nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**36.17**	**246**	*i*P	**P**	**23 11 04.3**	**-0.8**
	3.4nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**36.17**	**246**	P	**P**	**23 11 04.5**	**-0.6**
	5.0nm,0.7s,mb4.0,baz=96,slow=9.8,SNR=12						
AS31	**Alice Springs**	**43.21**	**259**	*e*P	**P**	**23 12 02.0**	**-0.3**
ASAR	**Alice Springs**	**43.21**	**259**	P	**P**	**23 12 02.3**	**-0.1**
	7.1nm,0.8s,mb4.1,baz=95,slow=8.1,SNR=67						
ASPA	**Alice Springs**	**43.21**	**259**	*e*P	**P**	**23 12 02.2**	**-0.2**
WB2	**Warramunga Arr**	**43.44**	**264**	*i*P	**P**	**23 12 04.1**	**0.0**
WRAB	**Tennant Creek**	**43.44**	**264**	*e*P	**P**	**23 12 04.2**	**+0.1**
	5.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**43.45**	**264**	P	**P**	**23 12 04.2**	**0.0**
	7.8nm,0.6s,mb4.2,baz=101,slow=8.1,SNR=31						
KAKA	**Kakadu**	**47.10**	**273**	*e*P	**P**	**23 12 33.4**	**+0.8**
	4.7nm,0.6s,mb4.0						
FORT	**Forrest**	**47.72**	**248**	*e*P	**P**	**23 12 35.2**	**-2.1**
	12nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.88**	**264**	*e*P	**P**	**23 13 08.9**	**+0.7**
	3.3nm,0.4s,mb3.9						
VNDA	**Vanda**	**56.01**	**185**	P	**P**	**23 13 37.3**	**-0.3**
	0.6nm,0.7s,mb3.0,baz=0.1,slow=6.4,SNR=5.7						
MBWA	**Marble Bar**	**56.55**	**259**	*e*P	**P**	**23 13 40.4**	**-1.1**
	4.1nm,0.5s,mb4.0						
SNAA	**Sanae**	**86.21**	**179**	P	**P**	**23 16 37.3**	**+0.8**

*NEIC **09** 23:29:49.6±1.5, 659S×152.12E, h10km, mb3.9/2, Error ellipse: s-maj=34.0km s-min=18.8km az=110.0*
*IDC **09** 23:29:50.2±3.0, 663S×151.92E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=106.9km s-min=44.1km az=130.0*
*ISCJB **09** 23:29:55.8±4.5, 67.5S±02×1518E±02, h56km±34km, mb3.5/5, Error ellipse: s-maj=34.2km s-min=32.1km az=6.0*
ISC 09 23:29:56.0±4.2, 67S±02×1518E±02, h45km±31km, n11, σ1§14/11, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**239**	Pn	**Pn**	**23 31 15.0**	**+1.5**
	0.6nm,0.3s,baz=96,slow=5.9,SNR=2.9						
PMG				Sn	**Sn**	23 32 12.8	-1.3
	0.8nm,0.3s,baz=39,slow=20,SNR=3.0						
CTAO	**Charters Tower**	**14.41**	**202**	*e*Pn	**Pn**	**23 33 15.4**	**-1.8**
	1.5nm,0.7s						
WRAB	**Tennant Creek**	**21.50**	**230**	*e*P	**P**	**23 34 42.2**	**+1.2**
	1.1nm,0.6s,mb3.4						
WB2	**Warramunga Arr**	**21.50**	**230**	*e*P	**P**	**23 34 41.7**	**+0.7**
WRA	**Warramunga Arr**	**21.51**	**230**	P	**P**	**23 34 41.7**	**+0.6**
	0.7nm,0.7s,mb3.2,baz=57,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**24.14**	**224**	P	**P**	**23 35 09.4**	**+1.7**
	0.5nm,0.5s,mb3.2,baz=55,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**26.85**	**200**	P	**P**	**23 35 32.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.95**	**244**	P	**P**	**23 35 41.8**	**-0.4**
	1.3nm,0.7s,mb3.6,baz=65,slow=14,SNR=2.9						
MBWA	**Marble Bar**	**34.23**	**242**	P	**P**	**23 36 36.6**	**-0.9**
KURK	**Kurchatov**	**84.63**	**322**	*e*P	**P**	**23 42 23.6**	**-1.2**
	1.2nm,0.7s,mb4.1						
TORD	**Torodi Ar. Bea**	**149.90**	**285**	PKPbc	PKPbc	23 49 43.6	+2.3
	0.4nm,0.6s,baz=61,slow=2.8,SNR=6.6						

*IDC **09** 23:31:01.4±4.3, 682N×9162E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=165.3km s-min=25.7km az=63.0*
*ISCJB **09** 23:31:07.7±2.1, 7.1N±04×923E±05, h35km, mb3.9/7, Error ellipse: s-maj=91.0km s-min=14.7km az=114.0*
ISC 09 23:31:10.2±2.2, 72N±04×924E±06, h35km, n9, σ1§02/9, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**21.35**	**343**	*e*P	**P**	**23 35 54.5**	**+0.2**
GUN	**Gumba**	**21.54**	**344**	*e*P	**P**	**23 35 55.1**	**-1.2**
	18nm,0.7s,mb4.6						
KKN	**Kakani**	**21.60**	**343**	*e*P	**P**	**23 35 56.9**	**0.0**
GKN	**Gorkha**	**21.99**	**341**	*e*P	**P**	**23 36 01.9**	**+0.8**
	7.3nm,0.4s,mb4.5						
KOLN	**Koldanda**	**22.12**	**339**	*e*P	**P**	**23 36 04.0**	**+1.4**
	6.4nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**40.43**	**349**	P	**P**	**23 38 43.1**	**-2.0**
	1.0nm,0.7s,mb3.6,baz=176,slow=9.4,SNR=7.4						
SONM	**Songino Array**	**42.26**	**14**	P	**P**	**23 39 00.5**	**+0.4**
	0.4nm,0.6s,mb3.2,baz=186,slow=5.2,SNR=4.4						
WRA	**Warramunga Arr**	**49.29**	**124**	P	**P**	**23 39 56.5**	**+1.0**
	0.4nm,0.4s,mb3.8,baz=301,slow=7.4,SNR=5.3						
ASAR	**Alice Springs**	**50.82**	**128**	P	**P**	**23 40 06.3**	**-0.8**
	0.4nm,0.9s,mb3.4,baz=297,slow=8.1,SNR=5.5						

*IDC **09** 23:36:26.2±0.7, 634S×151.17E, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/18, mbtmp4.4/14, ML3.5/1, MS3.6/15, Ms1 3.6/15, ms1mx3.4/22, Error ellipse: s-maj=23.2km s-min=13.7km az=114.0*
*ISCJB **09** 23:36:28.0±3.5, 633S±007×151.13E±007, h19km±25km, mb4.5/26, MS3.6/13, Error ellipse: s-maj=14.2km s-min=8.9km az=77.4*
*NEIC **09** 23:36:28.0±0.3, 629S×151.18E, h10km, mb4.7/15, Error ellipse: s-maj=10.6km s-min=6.5km az=115.0*
*MOS **09** 23:36:29.6±0.9, 636S×151.21E, h33km, mb4.7/11, Error ellipse: s-maj=18.5km s-min=10.0km az=63.7*
ISC 09 23:36:33.4±1.8, 638S±007×1511.3E±008, h49km±16km, n74, σ0§81/66, mb4.5/26, MS3.6/13, 3C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**232**	Pn	**Pn**	**23 37 46.1**	**+0.9**
	4.1nm,0.3s,baz=46,slow=6.5,SNR=14						
PMG				Sn	**Sn**	23 38 40.9	-0.3
	2.9nm,0.3s,baz=222,slow=13,SNR=3.8						
PMG				LR	LR	23 38 50.2	
	comp=Z,85nm,20.4s,baz=230,slow=29						
PMG	**Port Moresby**	**4.96**	**232**	P	**Pn**	**23 37 46.1**	**+0.9**
PMG						23 38 41.0	
HNR	**Honiara**	**9.24**	**110**	LR	LR	23 41 39.2	
	comp=Z,160nm,21.4s,baz=358,slow=34						
CTA	**Charters Tower**	**14.43**	**199**	*e*P	**Pn**	**23 39 53.6**	**-1.1**
	4.4nm,1.1s						
CTA	**Charters Tower**	**14.43**	**199**	Pn	**Pn**	**23 39 53.1**	**-1.6**
	0.1nm,0.3s,baz=355,slow=13,SNR=4.1						
CTA	**Charters Tower**	**14.43**	**199**	*e*P	**Pn**	**23 39 53.6**	**-1.1**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CTAO	**Charters Tower**	**14.43**	**199**	*e*P	**Pn**	**23 39 52.6**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTAO	**Charters Tower**	**14.43**	**199**	*e*P	**Pn**	**23 39 52.6**	**-2.1**
	comp=Z,2.9nm,0.8s						
KAKA	**Kakadu**	**19.47**	**250**	*e*P	**Pn**	**23 40 56.9**	**-0.7**
	comp=Z,14nm,0.6s						
GUMO	**Guam**	**20.79**	**343**	LR	LR	23 46 28.4	
	comp=Z,62nm,21.4s,MS3.0,baz=108,slow=29						
WRAB	**Tennant Creek**	**21.15**	**229**	*e*P	**P**	**23 41 14.6**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**21.15**	**229**	*e*P	**P**	**23 41 14.6**	**+0.4**
	comp=Z,16nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**21.16**	**229**	*i*P	**P**	**23 41 14.4**	**+0.1**
WRA	**Warramunga Arr**	**21.16**	**229**	P	**P**	**23 41 14.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.2,baz=52,slow=8.9,SNR=24						
WRA				S	**S**	**23 45 06.5**	**-0.4**
	comp=Z,2.0nm,1.1s,baz=53,slow=18,SNR=4.9						
WRA				LR	LR	23 49 08.7	
	comp=Z,79nm,19.4s,MS3.1,baz=35,slow=36						
WRA	**Warramunga Arr**	**21.16**	**229**	P	**P**	**23 41 14.5**	**+0.1**
WRA				S	**S**	**23 45 06.5**	**-0.5**
DZM	**Mont Dzumac**	**21.50**	**138**	P	**P**	**23 41 17.7**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.2,baz=301,slow=18,SNR=4.9						
DZM				LR	LR	23 48 09.3	
	comp=Z,423nm,18.4s,MS3.9,baz=204,slow=33						
DZM	**Mont Dzumac**	**21.50**	**138**	P	**P**	**23 41 17.7**	**-0.2**

DZM				LR	LR	23 48 09.3		
AS31	**Alice Springs**	**23.87**	**222**	*e*P	**P**	**23 41 42.8**	**+0.6**
ASAR	**Alice Springs**	**23.88**	**222**	P	**P**	**23 41 42.8**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.1,baz=62,slow=9.9,SNR=61							
ASAR				S	**S**	**23 46 00.6**	**+5.7**
	comp=Z,0.7nm,1.0s,baz=30,slow=13,SNR=5.6							
ASAR				LR	LR	23 51 09.5		
	comp=Z,68nm,21.4s,MS3.1,baz=218,slow=37							
ASAR	**Alice Springs**	**23.88**	**222**	P	**P**	**23 41 42.8**	**+0.6**
ASAR				S	**S**	**23 46 00.6**	**+5.7**
ASAR	**Alice Springs**	**23.88**	**222**	P	**P**	**23 41 42.8**	**+0.5**
ASAR				S	**S**	**23 46 00.6**	**+5.7**
ASAR				LR	LR	23 51 09.5		
ASPA	**Alice Springs**	**23.88**	**222**	*e*P	**P**	**23 41 42.8**	**+0.5**
ARMA	**Armidale**	**23.92**	**179**	*e*P	**P**	**23 41 49.9**	**+7.2**
STKA	**Stephens Creek**	**26.89**	**198**	*i*P	**P**	**23 42 10.3**	**+0.7**
	comp=Z,17nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**26.89**	**198**	P	**P**	**23 42 09.3**	**-0.3**
	comp=Z,14nm,0.8s,mb4.6,baz=20,slow=11,SNR=23							
STKA				LR	LR	23 52 23.7		
	comp=Z,134nm,21.6s,MS3.5,baz=25,slow=36							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	*e*P	**P**	**23 42 15.1**	**+0.4**
	comp=Z,23nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	P	**P**	**23 42 15.2**	**+0.5**
	comp=Z,13nm,0.7s,mb4.5,baz=61,slow=9.0,SNR=29							
MBWA	**Marble Bar**	**33.76**	**241**	*e*P	**P**	**23 43 11.3**	**+1.1**
	comp=Z,5.9nm,0.5s,mb4.8							
URZ	**Urewera**	**39.52**	**147**	LR	LR	23 56 15.0		
	comp=Z,236nm,19.8s,MS4.0,baz=140,slow=30							
JOW	**Kunigami**	**39.75**	**327**	LR	LR	23 56 59.2		
	comp=Z,84nm,19.3s,MS3.6,baz=131,slow=31							
RPZ	**Rata Peaks**	**41.10**	**158**	LR	LR	23 59 03.6		
	comp=Z,298nm,18.2s,MS4.2,baz=350,slow=33							
NWAO	**Narrogin (SRO)**	**41.11**	**226**	*e*P	**P**	**23 44 13.1**	**+0.7**
NWAO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**41.11**	**226**	*e*P	**P**	**23 44 13.1**	**+0.7**
	comp=Z,4.6nm,0.8s,mb4.2							
MJAR	**Matsushiro Arr**	**44.38**	**345**	PcP	PcP	23 46 22.8	+0.6
	comp=Z,1.5nm,0.6s,baz=171,slow=3.5,SNR=4.6							
MJAR				LR	LR	00 00 08.8		
	comp=Z,121nm,20.5s,MS3.8,baz=185,slow=32							
QIZ	**Qiongzhong**	**47.88**	**303**	P	**P**	**23 45 05.7**	**-0.7**
KSRS	**Korea Array**	**48.69**	**335**	LR	LR	00 01 59.8		
	comp=Z,56nm,20.5s,MS3.5,baz=292,slow=32							
KULM	**Kulim**	**51.71**	**282**	*e*P	**P**	**23 45 34.2**	**-1.3**
PPT	**Papeete**	**58.85**	**107**	LR	LR	00 08 48.8		
	comp=Z,76nm,18.3s,MS3.9,baz=117,slow=33							
LZH	**Lanzhou**	**61.22**	**317**	*e*P	**P**	**23 46 44.5**	**+1.3**
LZH				*e*SP	sP	23 46 50.1	-13	
LZH				pmax	pmax			
	comp=Z,18nm,1.4s,mb5.0							
LZH	**Lanzhou**	**61.22**	**317**	*e*P	**P**	**23 46 44.5**	**+1.3**
	comp=Z,18nm,1.4s,mb5.0							
LZH				pP	pP	23 46 48.5	-8.5	
LZH				sP	sP	23 46 50.1	-13	
CASY	**Casey**	**66.03**	**197**	P	**P**	**23 47 14.5**	**-0.4**
SONM	**Songino Array**	**66.79**	**329**	P	**P**	**23 47 20.9**	**+1.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=133,slow=5.4,SNR=11							
SONM				LR	LR	00 16 30.4		
	comp=Z,58nm,18.7s,MS3.8,baz=141,slow=36							
ZAK	**Zakamensk**	**69.98**	**330**	*e*P	**P**	**23 47 39.5**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
VNDA	**Vanda**	**71.33**	**178**	P	**P**	**23 47 47.0**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=327,slow=6.7,SNR=14							
VNDA	**Vanda**	**71.33**	**178**	*e*P	**P**	**23 47 47.3**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	**71.33**	**178**	*e*P	**P**	**23 47 47.3**	**-0.6**
	comp=Z,2.1nm,1.0s,mb4.0							
SBA	**Scott Base**	**71.91**	**177**	*e*P	**P**	**23 47 51.6**	**+0.3**
SBA				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
SBA	**Scott Base**	**71.91**	**177**	*e*P	**P**	**23 47 51.6**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.1							
BILL	**Bilibino**	**75.01**	**6**	*e*P	**P**	**23 48 10.3**	**+0.7**
BILL				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**23 48 39.9**	**+0.1**
	comp=Z,0.5nm,0.5s,m

JOW	**Kunigami**	**11.12 260**	LR	LR	23 47 26.7			
	comp=Z,140nm,21.9s,baz=184,slow=31							
YHNB	**Yeheng**	**17.70 259**	*e*P	**Pn**	**23 45 52.5**	**+8.4**		
YAK	**Yakutsk**	**33.47 351**	P	**P**	**23 48 17.1**	**+1.4**		
WRA	**Warramunga Arr**	**49.36 188**	P	**P**	**23 50 25.5**	**-0.3**		
	1.6nm,0.6s,mb4.3,baz=6.3,slow=8.0,SNR=12							
ASAR	**Alice Springs**	**53.08 188**	P	**P**	**23 50 53.3**	**-0.4**		
	0.8nm,0.9s,mb3.7,baz=17,slow=1.2,SNR=6.1							
YKA	**Yellowknife Ar**	**70.86 28**	P	**P**	**23 52 52.4**	**-0.7**		
	0.8nm,0.6s,mb3.8,baz=296,slow=6.6,SNR=4.2							
NVAR	**Mina Array Bea**	**80.27 51**	P	**P**	**23 53 46.4**	**-0.6**		
	0.9nm,0.9s,mb3.7,baz=293,slow=2.8,SNR=3.7							
CLL	**Collm**	**87.39 330**	*i* (P)	**P**	**23 54 27.8**	**+4.5**		
TXAR	**Lajitas Array**	**95.40 52**	P	**P**	**23 55 01.2**	**+0.7**		
	0.6nm,0.7s,mb4.2,baz=306,slow=2.4,SNR=8.2							
TXAR	**Lajitas Array**	**95.40 52**	P	**P**	**23 55 01.2**	**+0.7**		
TXAR			pmax	pmax				
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**150.64 70**	PKPbc	PKPbc	00 01 28.8	+0.8		
	comp=Z,2.1nm,0.8s,baz=339,slow=3.8,SNR=10.0							
LPAZ	**La Paz**	**150.64 70**	PKPbc	PKPbc	00 01 28.8	+0.8		

*NEIC **09** 23:47:11.5±1.0, 6.38S×151.36E, h10km, mb4.0/4, Error ellipse: s-maj=23.9km s-min=14.0km az=116.0*
*ISCJB **09** 23:47:17.4±4.4, 6.45S±0.1×151.1E±0.2, h61km±33km, mb3.7/8, Error ellipse: s-maj=36.7km s-min=23.6km az=18.6*
*IDC **09** 23:47:19.8±7.4, 6.49S×151.08E, h66km±57km, mb3.6/7, mb1 3.8/8, mb1mx3.7/15, mbtmp3.6/8, ML2.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.6/18, Error ellipse: s-maj=51.6km s-min=26.1km az=81.0*

ISC 09 23:47:19.0±4.3, 6.5S±0.1×151.1E±0.2, h60km±32km, n18, σ0.9 60/16, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**233**	P	**Pn**	**23 48 30.1**	**0.0**
	1.3nm,0.3s,baz=53,slow=11,SNR=4.3						
PMG				S	**Sn**	**23 49 25.8**	**+0.3**
	2.8nm,0.3s,baz=169,slow=12,SNR=5.0						
KAKA	**Kakadu**	**19.43**	**250**	*e*P	**Pn**	**23 51 40.7**	**-1.5**
	5.6nm,0.6s						
WRAB	**Tennant Creek**	**21.09**	**229**	*e*P	**P**	**23 51 58.7**	**+0.3**
	4.3nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**21.10**	**229**	*e*P	**P**	**23 51 58.4**	**0.0**
WRA	**Warramunga Arr**	**21.11**	**229**	P	**P**	**23 51 58.7**	**+0.1**
	3.3nm,0.7s,mb3.8,baz=52,slow=9.6,SNR=12						
DZM	**Mont Dzumac**	**21.45**	**138**	LR	LR	23 59 10.1	
	comp=Z,85nm,18.8s,baz=341,slow=33						
AS31	**Alice Springs**	**23.81**	**222**	*e*P	**P**	**23 52 26.5**	**+0.2**
ASAR	**Alice Springs**	**23.81**	**222**	P	**P**	**23 52 26.1**	**-0.2**
	2.2nm,0.6s,mb3.7,baz=52,slow=8.8,SNR=18						
ASPA	**Alice Springs**	**23.81**	**222**	*e*P	**P**	**23 52 26.5**	**+0.2**
STKA	**Stephens Creek**	**26.81**	**198**	*e*P	**P**	**23 52 54.4**	**+0.9**
	1.8nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**26.81**	**198**	P	**P**	**23 52 54.1**	**+0.6**
	1.7nm,0.6s,mb3.8,baz=4.2,slow=8.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	**27.41**	**243**	*e*P	**P**	**23 52 59.1**	**+0.2**
	7.2nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P	**P**	**23 52 58.8**	**-0.1**
	3.9nm,0.6s,mb4.1,baz=70,slow=8.0,SNR=10						
AFI	**Afiamalu**	**37.22**	**104**	LR	LR	00 05 35.8	
	comp=Z,169nm,20.1s,baz=123,slow=29						
SONM	**Songino Array**	**66.85**	**329**	P	**P**	**23 58 05.5**	**+1.0**
	0.1nm,0.4s,mb3.2,baz=149,slow=5.3,SNR=4.1						
VNDA	**Vanda**	**71.25**	**178**	P	**P**	**23 58 30.9**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=303,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**23 59 24.1**	**-0.3**
	0.3nm,0.6s,mb3.4,baz=107,slow=7.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc	PKPbc	00 07 01.4	+0.8
	1.2nm,0.6s,baz=69,slow=2.9,SNR=13						

*CSEM **10** 00:18:52.1, 6783N×2019E, h4km, ML3.1, Mining explosion. After UPP*
*UPP **10** 00:18:52.1, 6783N×2019E, h4km, ML3.1, Mining explosion.*

HEL 10 00:18:52.5±0.0, 6783N×2019E, h0km, ML3.1(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	00 18 54.8	-0.3
KUA				*i* S	Sg	00 18 56.8	-0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	00 19 00.3	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 19 05.3	-0.9
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 19 05.3	-0.9
	baz=306						
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 19 05.3	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 19 05.3	-1.1
	baz=79						
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 19 06.7	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 19 06.7	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 19 14.7	-0.9
KIF				*e*S	Sg	00 19 30.7	-0.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 19 17.1	-2.0
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 19 22.6	-0.8

*CSEM **10** 00:20:29.4, 6784N×2019E, h6km, ML3.3, Mining explosion. After UPP*
*UPP **10** 00:20:29.4, 6784N×2019E, h6km, ML3.3, Mining explosion.*

HEL 10 00:20:29.9±0.0, 6784N×2018E, h0km, ML1.8, ML3.3(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	00 20 32.0	-0.4
KUA				*i* S	Sg	00 20 34.0	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 20 37.7	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	00 20 42.6	-1.0
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 20 42.9	-1.0
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 20 42.9	-1.0
	baz=57						
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 20 44.0	-1.0
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 20 44.1	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 20 52.2	-0.7
KIF				*e*S	Sg	00 21 08.0	-0.4
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 20 54.6	-2.0
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 21 00.1	-0.8
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 21 11.3	+0.1
SGF				*e*SG	Sg	00 21 45.0	-3.9
SGF				MSG		00 21 47.3	
	comp=Z,3.7nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 21 20.9	+0.3
KEV				*e*S	Sn	00 21 58.1	-0.8
OUL	**Oulu**	**3.59**	**138**	*e*SG	Sg	00 22 20.4	-4.8
OUL				MSG		00 22 25.8	
	comp=Z,1.5nm,0.3s						
VAF	**Ylistaro**	**4.92**	**167**	*e*SG	Sg	00 23 01.5	-6.6

*NEIC **10** 00:20:25.7±1.5, 6.11S×151.12E, h10km, mb4.1/2, Error ellipse: s-maj=42.4km s-min=18.3km az=116.0*
*ISCJB **10** 00:20:30.8±5.0, 6.62S±0.2×150.9E±0.3, h56km±36km, mb3.6/6, Error ellipse: s-maj=51.9km s-min=32.0km az=52.8*
*IDC **10** 00:20:32.1±7.6, 6.20S×150.96E, h50km±58km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.6/6, ML2.1/1, Error ellipse: s-maj=63.6km s-min=37.1km az=92.0*

ISC 10 00:20:20:31.9±4.8, 6.2S±0.2×151.0E±0.3, h51km±35km, n11, σ0.5 52/11, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**230**	P	**Pn**	**00 21 43.8**	**-0.1**
	0.5nm,0.3s,baz=35,slow=4.5,SNR=2.0						
PMG				S	**Sn**	**00 22 40.5**	**+0.4**
	1.1nm,0.3s,baz=266,slow=12,SNR=3.3						
WRAB	**Tennant Creek**	**21.17**	**228**	*e*P	**P**	**00 25 12.2**	**-0.6**
	3.3nm,0.8s,mb3.7						
WB2	**Warramunga Arr**	**21.18**	**228**	*e*P	**P**	**00 25 12.6**	**-0.3**
WRA	**Warramunga Arr**	**21.19**	**228**	P	**P**	**00 25 12.8**	**-0.2**
	2.4nm,0.9s,mb3.5,baz=54,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.93**	**222**	P	**P**	**00 25 40.3**	**-0.8**
	1.2nm,0.6s,mb3.5,baz=57,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**27.03**	**198**	P	**P**	**00 26 10.1**	**+0.9**
	1.1nm,0.5s,mb3.6,baz=4.1,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**27.03**	**198**	P	**P**	**00 26 10.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.43**	**242**	*e*P	**P**	**00 26 13.3**	**+0.5**
	3.9nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.43**	**242**	P	**P**	**00 26 13.2**	**+0.4**
	2.5nm,0.5s,mb4.0,baz=53,slow=11,SNR=12						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**00 32 37.1**	**+0.3**
	0.2nm,0.5s,mb3.3,baz=113,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.98**	**285**	PKPbc	PKPbc	00 40 15.4	+1.3
	0.6nm,0.6s,baz=66,slow=1.2,SNR=8.6						

*NEIC **10** 00:28:27.8±0.9, 6.43S×151.61E, h10km, mb4.1/3, Error ellipse: s-maj=21.6km s-min=14.1km az=116.0*
*IDC **10** 00:28:27.2±1.9, 6.47S×151.47E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.0/6, ML2.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/18, Error ellipse: s-maj=46.2km s-min=33.3km az=147.0*
*ISCJB **10** 00:28:29.0±6.0, 6.65S±0.2×151.5E±0.1, h27km±42km, mb3.9/7, MS3.3/1, Error ellipse: s-maj=33.2km s-min=18.6km az=124.1*

ISC 10 00:28:30.0±5.7, 6.4S±0.2×151.6E±0.1, h23km±40km, n18, σ0.9 53/14, mb3.9/7, MS3.3/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.27**	**236**	P	**Pn**	**00 29 48.1**	**+0.8**
	2.9nm,0.3s,baz=71,slow=4.9,SNR=10						
PMG				S	**Sn**	**00 30 47.1**	**-0.2**
	4.1nm,0.3s,baz=28,slow=20,SNR=7.9						
HNR	**Honiara**	**8.81**	**110**	LR	LR	00 33 05.3	
	comp=Z,32nm,21.3s,baz=279,slow=31						
CTA	**Charters Tower**	**14.51**	**200**	LR	LR	00 35 38.6	
	comp=Z,64nm,18.8s,baz=39,slow=30						
CTAO	**Charters Tower**	**14.51**	**200**	Pn	**Pn**	**00 31 52.9**	**-1.0**
DZM	**Mont Dzumac**	**21.16**	**139**	LR	LR	00 40 11.8	
	comp=Z,127nm,18.6s,MS3.3,baz=114,slow=33						
WRAB	**Tennant Creek**	**21.44**	**230**	*e*P	**P**	**00 33 16.6**	**+0.1**
	4.8nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**21.44**	**230**	*e*P	**P**	**00 33 17.1**	**+0.6**
WRA	**Warramunga Arr**	**21.45**	**230**	P	**P**	**00 33 16.5**	**-0.2**
	3.8nm,0.8s,mb3.8,baz=56,slow=12,SNR=15						
AS31	**Alice Springs**	**24.12**	**223**	*e*P	**P**	**00 33 43.9**	**-0.2**
ASAR	**Alice Springs**	**24.12**	**223**	P	**P**	**00 33 44.5**	**+0.4**
	1.9nm,0.5s,mb3.8,baz=57,slow=10.0,SNR=29						
STKA	**Stephens Creek**	**26.97**	**199**	P	**P**	**00 34 09.9**	**0.0**
	2.4nm,0.9s,mb3.7,baz=0.5,slow=12,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	*e*P	**P**	**00 34 17.7**	**+0.2**
	4.9nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	**P**	**00 34 16.6**	**-0.9**
	2.9nm,0.6s,mb4.1,baz=59,slow=11,SNR=14						
VNDA	**Vanda**	**71.24**	**178**	P	**P**	**00 39 48.0**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=340,slow=4.9,SNR=4.9						
VNDA	**Vanda**	**71.24**	**178**	P	**P**	**00 39 48.0**	**+0.6**
BRVK	**Borovoye**	**89.89**	**323**	*e*P	**P**	**00 41 26.5**	**-0.6**
	1.1nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**149.60**	**285**	PKPbc	PKPbc	00 48 19.2	+1.6
	1.7nm,0.6s,baz=64,slow=2.9,SNR=20						
TORD	**Torodi Ar. Bea**	**149.60**	**285**	PKPbc	PKPbc	00 48 19.2	+1.6

*ISCJB **10** 01:12:47.4±1.3, 6.1S±0.2×151.0E±0.2, h10km, mb3.5/6, Error ellipse: s-maj=31.2km s-min=15.2km az=77.3*
*IDC **10** 01:12:48.0±2.4, 6.07S×150.96E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.5/5, ML1.6/1, Error ellipse: s-maj=63.4km s-min=36.8km az=123.0*
*NEIC **10** 01:12:48.0±1.3, 6.03S×151.16E, h10km, mb4.0/3, Error ellipse: s-maj=32.0km s-min=15.6km az=107.0*

ISC 10 01:12:50.0±6.2, 6.1S±0.2×151.1E±0.2, h17km±43km, n11, σ0.8 83/11, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.09**	**229**	Pn	**Pn**	**01 14 04.7**	**-0.9**
	0.2nm,0.3s,baz=321,slow=18,SNR=2.6						
PMG				Sn	**Sn**	**01 15 03.4**	**-0.5**
	0.5nm,0.3s,baz=14,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**14.71**	**198**	Pn	**Pn**	**01 16 16.4**	**-0.8**
WRAB	**Tennant Creek**	**21.30**	**228**	*e*P	**P**	**01 17 36.5**	**+0.7**
	1.6nm,0.6s,mb3.5						
WB2	**Warramunga Arr**	**21.30**	**228**	*e*P	**P**	**01 17 37.3**	**+1.5**
WRA	**Warramunga Arr**	**21.31**	**228**	P	**P**	**01 17 35.7**	**-0.2**
	1.1nm,0.8s,mb3.2,baz=52,slow=9.8,SNR=8.8						
ASAR	**Alice Springs**	**24.06**	**222**	P	**P**	**01 18 04.8**	**+0.6**
	0.6nm,0.7s,mb3.1,baz=52,slow=9.6,SNR=7.7						
STKA	**Stephens Creek**	**27.17**	**198**	P	**P**	**01 18 32.5**	**0.0**
	0.9nm,0.7s,mb3.4,baz=332,slow=16,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	*e*P	**P**	**01 18 36.9**	**+1.1**
	2.6nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	**P**	**01 18 36.2**	**+0.5**
	1.1nm,0.6s,mb3.7,baz=73,slow=9.3,SNR=5.3						
KURK	**Kurchatov**	**83.68**	**322**	*e*P	**P**	**01 25 16.6**	**-1.2**
	1.0nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**148.99**	**285**	PKPbc	PKPbc	01 32 38.1	+1.1
	0.5nm,0.7s,baz=71,slow=2.8,SNR=3.7						

*ISCJB **10** 01:32:52.4±0.5, 5.499S×151.007W×129.1±0.2, h10km, mb4.3/13, MS4.4/15, Error ellipse: s-maj=14.5km s-min=10.5km az=159.1*
*IDC **10** 01:32:52.9±0.6, 5.511S×151.129W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/15, mbtmp4.1/10, MS4.4/15, Ms1 4.4/15, ms1mx4.1/28, Error ellipse: s-maj=27.2km s-min=17.4km az=156.0*
*NEIC **10** 01:32:54.5±0.5, 5.508S×151.905W, h10km, mb4.5/3, Error ellipse: s-maj=17.6km s-min=13.6km az=143.0*
*GCMT **10** 01:32:54.5±0.2, 5.534S×151.905W, h17km±1km, MW5.1/75, Moment Tensor Solution. s40,c61; s75,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.17±.18; Mθθ=4.98±..23; Mϕϕ=-2.81±.15; Mrθ=-0.31±.39; Mrϕ=4.74±.13; Mθϕ=-0.32±..34; Best double couple: Mo=6.14800×10^16 NP1:ϕs=290.00000°, δ86.00000°, λ0.00000°. NP2: ϕs=20.00000°, δ90.00000°, λ-176.00000°. Principal axes: T 7.2380, Plg3.0000°, Azm155.0000°; N -2.1800, Plg86.0000°, Azm25.0000°; P -5.0580, Plg3.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 01:32:54.3±0.5, 5507S±0.009×1291W±0.02, h10km, n48, σ1.9 08/25, mb4.3/13, MS4.4/15, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.42**	**35**	LR	LR	01 48 49.6	
	comp=Z,315nm,19.1s,MS4.0,baz=193,slow=30						
SBA	**Scott Base**	**31.50**	**201**	*e*P	**P**	**01 39 16.1**	**-0.2**
	9.6nm,1.3s,mb4.5						
RKT	**Rikitea**	**32.21**	**350**	*e*S	**S**	**01 44 31.3**	**-4.1**
	158nm,29.8s						
RKT				*e*LR	LR	01 47 45.9	
	2μm,29.2s,baz=169						
VNDA	**Vanda**	**32.52**	**202**	P	**P**	**01 39 26.4**	**+1.2**
	1.4nm,0.9s,mb3.9,baz=88,slow=7.7,SNR=6.7						
VNDA	**Vanda**	**32.52**	**202**	P	**P**	**01 39 26.4**	**+1.2**
USHA	**Ushuaia**	**33.88**	**115**	LR	LR	01 50 08.3	
	comp=Z,549nm,20.1s,MS4.3,baz=291,slow=31						
QSPA	**South Pole Qui**	**35.11**	**180**	*e*P	**P**	**01 39 48.4**	**+0.7**
	6.5nm,0.7s,mb4.7						
TBI	**Tubuai**	**35.12**	**326**	*e*LR	LR	01 48 58.3	
	1μm,29.5s,baz=167						
RPZ	**Rata Peaks**	**39.39**	**261**	LR	LR	01 52 00.0	
	comp=Z,766nm,21.0s,MS4.5,baz=288,slow=29						
PPT	**Papeete**	**40.59**	**329**	*e*S	**S**	**01 46 40.9**	**-2.5**
	254nm,26.2s						
PPT				*e*LQ		01 50 00.6	
	331nm,24.2s						
PPT				*e*LR	LR	01 51 45.3	
	2μm,26.8s						
PPT	**Papeete**	**40.59**	**329**	LR	LR	01 52 37.0	
	comp=Z,589nm,19.1s,MS4.5,baz=164,slow=29						
RAR	**Rarotonga**	**40.90**	**313**	LR	LR	01 52 59.3	
	comp=Z,239nm,19.8s,MS4.1,baz=278,slow=30						
RAO	**Raoul Island**	**43.23**	**286**	LR	LR	01 52 48.5	
	comp=Z,1μm,20.3s,MS4.9,baz=245,slow=28						
TAOE	**Nuku Hiva Isla**	**46.92**	**345**	*e*S	**S**	**01 48 12.2**	**-3.8**
	573nm,26.0s						
TAOE				*e*LR	LR	01 54 37.0	
	3μm,25.5s,baz=173						
VNA2	**Neumayer--Watz**	**47.69**	**158**	*e*	**P**	**01 41 30.0**	**-0.9**
	baz=222,slow=7.3						
VNA2				*e*	pP	01 41 32.7	-1.4
VNA2				*e*		01 41 39.4	
VNA2				*e*		01 41 53.7	
VNA1	**Neumayer--Stat**	**47.70**	**157**	*e*	**P**	**01 41 30.8**	**-0.2**
VNA1				*e*	pP	01 41 33.2	-1.0
VNA1				*e*		01 41 42.3	
SNAA	**Sanae**	**48.06**	**160**	P	**P**	**01 41 32.3**	**-1.5**
	1.1nm,0.9s,mb3.9,baz=229,slow=6.3,SNR=13						
SNAA	**Sanae**	**48.06**	**160**	*e*	**P**	**01 41 32.1**	**-1.7**
SNAA				*e*		01 41 41.9	
SNAA	**Sanae**	**48.06**	**160**	*e*P	**P**	**01 41 32.2**	**-1.5**
	3.2nm,0.9s,mb4.3						
CFAA	**Coronel Fontan**	**48.27**	**87**	P	**P**	**01 41 34.6**	**-0.8**
	0.3nm,0.3s,mb3.9,baz=250,slow=15,SNR=34						
CASY	**Casey**	**50.91**	**207**	P	**P**	**01 41 59.2**	**+3.6**
MAW	**Mawson**	**57.32**	**185**	P	**P**	**01 42 41.7**	**-0.6**
	2.6nm,0.8s,mb4.3,baz=191,slow=12,SNR=3.4						
MAW				LR	LR	02 04 43.6	
	comp=Z,258nm,19.8s,MS4.3,baz=170,slow=33						
LPAZ	**La Paz**	**60.26**	**75**	P	**P**	**01 43 03.5**	**+0.7**
	3.6nm,1.0s,mb4.4,baz=216,slow=3.7,SNR=12						
STKA	**Stephens Creek**	**64.16**	**251**	LR	LR	02 05 47.4	
	comp=Z,292nm,18.1s,MS4.5,baz=204,slow=31						
HNR	**Honiara**	**71.44**	**280**	*e*P	**P**	**01 44 15.5**	**+0.7**
	23nm,0.3s,mb5.6						
ASAR	**Alice Springs**	**74.79**	**251**	P	**P**	**01 44 33.6**	**-1.0**
	3.7nm,1.1s,mb4.2,baz=143,slow=5.7,SNR=17						
ASAR				LR	LR	02 13 22.7	
	comp=Z,282nm,19.0s,MS4.6,baz=139,slow=32						
ROSC	**El Rosal**	**74.82**	**57**	P	**P**	**01 44 35.8**	**+1.0**
	2.3nm,0.4s,mb4.5,baz=84,slow=22,SNR=3.6						
JTS	**JuntasAbangare**	**74.87**	**45**	LR	LR	02 09 47.8	
	comp=Z,131nm,19.6s,MS4.2,baz=34,slow=30						
WB2	**Warramunga Arr**	**77.55**	**253**	*e*P	**P**	**01 44 50.2**	**-0.1**
WRA	**Warramunga Arr**	**77.55**	**253**	P	**P**	**01 44 49.4**	**-0.9**
	3.2nm,1.1s,mb4.2,baz=142,slow=5.3,SNR=12						
WRA				LR	LR	02 15 28.7	
	comp=Z,167nm,19.0s,MS4.4,baz=175,slow=33						
PMG	**Port Moresby**	**78.77**	**270**	P	**P**	**01 44 57.2**	**+0.1**
SDV	**Santo Domingo**	**80.11**	**59**	LR	LR	02 15 49.6	
	comp=Z,86nm,20.5s,MS4.1,baz=186,slow=32						
FITZ	**Fitzroy Crossi**	**83.76**	**247**	P	**P**	**01 45 25.7**	**+2.1**
	5.2nm,1.1s,mb4.6,baz=97,slow=5.0,SNR=4.5						
PCRV	**Puerto La Cruz**	**84.23**	**63**	LR	LR	02 18 10.3	
	comp=Z,311nm,18.6s,MS4.7,baz=14,slow=32						
TXAR	**Lajitas Array**	**86.86**	**22**	P	**P**	**01 45 40.2**	**+1.2**
	0.4nm,0.8s,mb3.7,baz=198,slow=7.8,SNR=4.2						
TXAR	**Lajitas Array**	**86.86**	**22**	P	**P**	**01 45 40.2**	**+1.2**
PFO	**Pinyon Flat Ob**	**88.99**	**11**	LR	LR	02 15 40.9	
	comp=Z,205nm,19.5s,MS4.6,baz=145,slow=29						
BOSA	**Boshof**	**93.79**	**158**	LR	LR	02 25 33.4	
	comp=Z,237nm,18.6s,MS4.7,baz=210,slow=34						
TORD	**Torodi Ar. Bea**	**123.43**	**118**	PKP	PKPdf	01 51 50.0	-1.7
	0.8nm,1.1s,baz=228,slow=3.7,SNR=2.6						
SJPF	**Ste Jean**	**144.65**	**88**	*e*PKIKP	PKPdf	01 52 27.0	-4.1
ETSF	**Etsaut**	**144.90**	**88**	*e*PKIKP	PKPdf	01 52 29.3	-2.3
	16nm,1.2s						
SONM	**Songino Array**	**145.49**	**281**	PKPbc	PKPbc	01 52 31.7	-1.0
	2.0nm,0.9s,baz=146,slow=4.1,SNR=9.0						
EPF	**Esparros**	**145.50**	**89**	*e*PKIKP	PKPdf	01 52 28.8	-3.8
	31nm,1.4s						
KEST	**Kesra**	**145.67**	**107**	PKPbc	PKPbc	01 52 32.8	-0.4
	1.1nm,0.9s,baz=138,slow=13,SNR=2.6						
EKA	**Eskdalemuir Ar**	**149.80**	**67**	PKPbc	PKPbc	01 52 44.6	+0.1
	3.4nm,1.0s,baz=243,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**158.70**	**260**	PKPab	PKPab	01 53 27.9	+0.3
	1.3nm,1.0s,baz=98,slow=5.1,SNR=4.2						
KURK	**Kurchatov**	**162.77**	**267**	*e*PKPdf	PKPdf	01 52 56.0	-0.6
BVAR	**Borovoye Array**	**168.37**	**268**	PKPab	PKPab	01 54 09.1	-0.9
	0.3nm,0.3s,baz=119,slow=1.8,SNR=3.7						

*NEIC **10** 01:49:42.3, 3747N×2053E, h0km, MD3.8(PDG), ML4.0(ATH), ML4.5(THE), After THE.*
*THE **10** 01:49:42.3, 3747N×2053E, h10km, ML3.7*
*ISCJB **10** 01:49:43.6±0.3, 3776N±0.002×2035E±0.002, h10km, mb3.6/9, MS3.7/1, Error ellipse: s-maj=3.4km s-min=2.6km az=13.0*
*CSEM **10** 01:49:43.9±0.1, 3760N×2045E, h5km, ML4.0, Error ellipse: s-maj=1.8km s-min=1.4km az=11.0*
*HLW **10** 01:49:43.4, 3781N×2100E, h33km, Mb3.7*
*ATH **10** 01:49:44.1, 3768N×2042E, h13km±1km, MD4.0/18, ML4.0*
*SOF **10** 01:49:45.4, 3784N×2068E, h2km, MD3.5*
*MOS **10** 01:49:45.0±1.2, 3770N×2043E, h26km, mb4.5/1, Error ellipse: s-maj=8.2km s-min=4.0km az=82.1*
*PDG **10** 01:49:46.4±0.4, 3791N×2041E, h15km±3km*
*IDC **10** 01:49:47.5±1.3, 3774N×2052E, h42km±18km, mb3.5/10, mb1

IDI				S		**Sn**	**01 51 39.0**	**-2.5**
NVR	**Nevrokopi**	**4.52**	**35**	*e*PN		**Pn**	**01 50 54.7**	**+1.5**
HMDC	**Modica**	**4.54**	**262**	Pn		**Pn**	**01 50 52.9**	**-0.6**
HVZN	**Vizzini**	**4.56**	**265**	Pn		**Pn**	**01 50 53.1**	**-0.6**
SLCN	**Sala Consilina**	**4.58**	**307**	Pn		**Pn**	**01 50 57.3**	**+3.3**
KKB	**Krupnik**	**4.64**	**26**	P		**Pn**	**01 50 55.4**	**+0.5**
KKB				S		**Sn**	**01 51 47.4**	**-1.4**
MMB	**Musomiste**	**4.65**	**32**	P		**Pn**	**01 50 55.0**	**0.0**
MMB				S		**Sn**	**01 51 47.4**	**-1.6**
MMB	**Musomiste**	**4.65**	**32**	*e*Pn		**Pn**	**01 50 55.2**	**+0.2**
BUM	**Brajici-Budva**	**4.73**	**346**	⇑*i*Pn		**Pn**	**01 50 56.3**	**+0.2**
BUM				*e*Sn		**Sn**	**01 51 48.6**	**-2.5**
VAE	**Valguarnera**	**4.76**	**269**	P		**Pn**	**01 51 00.0**	**+3.5**
	0.8nm,0.3s,baz=284,slow=17,SNR=6.8							
VAE				S		**Sn**	**01 51 54.1**	**+2.3**
	4.2nm,0.3s,baz=27,slow=17,SNR=4.0							
VAE	**Valguarnera**	**4.76**	**269**	P		**Pn**	**01 51 00.0**	**+3.5**
VAE				S		**Sn**	**01 51 54.1**	**+2.3**
TTG	**Podgorica**	**4.80**	**350**	⇓*i*Pn		**Pn**	**01 50 56.9**	**-0.1**
TTG				*e*Sn		**Sn**	**01 51 50.1**	**-2.6**
RAFF	**Raffo Rosso**	**4.83**	**266**	Pn		**Pn**	**01 50 57.1**	**-0.4**
MRLC	**Muro Lucano**	**4.88**	**310**	Pn		**Pn**	**01 51 01.8**	**+3.6**
	20nm,0.5s							
PVY	**Plav**	**4.89**	**356**	⇓*i*Pn		**Pn**	**01 50 58.6**	**+0.3**
PVY				*e*Sn		**Sn**	**01 51 53.1**	**-1.9**
HCY	**Herceg Novi**	**4.96**	**343**	⇓*i*Pn		**Pn**	**01 50 58.6**	**-0.6**
HCY				*e*Sn		**Sn**	**01 51 53.9**	**-2.7**
IVA	**Berane**	**5.17**	**356**	⇑*i*Pn		**Pn**	**01 51 01.8**	**-0.4**
IVA				*e*Sn		**Sn**	**01 51 59.2**	**-2.8**
RZN	**Rozhen**	**5.18**	**39**	P		**Pn**	**01 51 02.3**	**-0.1**
NKY	**Niksic**	**5.21**	**349**	⇑*i*Pn		**Pn**	**01 51 02.2**	**-0.5**
NKY				*e*Sn		**Sn**	**01 52 00.3**	**-2.6**
RDO	**Rodhopi**	**5.25**	**48**	*e*PN		**Pn**	**01 51 04.9**	**+1.6**
FGMS	**Monte Sant'Ang**	**5.27**	**321**	Pn		**Pn**	**01 51 04.7**	**+1.2**
	26nm,0.5s							
VTS	**Vitosha**	**5.33**	**23**	⇓*i*P		**Pn**	**01 51 05.3**	**+0.9**
VTS	**Vitosha**	**5.33**	**23**	⇓P		**Pn**	**01 51 05.3**	**+1.0**
VTS	**Vitosha**	**5.33**	**23**	P		**Pn**	**01 51 05.4**	**+1.0**
FG5	**Orsara di Pugl**	**5.34**	**314**	P		**Pn**	**01 51 08.1**	**+3.6**
FG5				pmax	pmax			
	comp=Z,21nm,0.5s							
FG5	**Orsara di Pugl**	**5.34**	**314**	Pn		**Pn**	**01 51 08.1**	**+3.6**
	comp=Z,21nm,0.5s							
BRY	**Bratogost**	**5.38**	**345**	⇓*i*Pn		**Pn**	**01 51 04.8**	**-0.3**
BRY				*e*Sn		**Sn**	**01 52 04.0**	**-3.1**
RGNG	**Rignano Grg**	**5.43**	**318**	Pn		**Pn**	**01 51 07.8**	**+2.1**
KDZ	**Kurdzhali**	**5.52**	**43**	P		**Pn**	**01 51 06.5**	**-0.5**
STON	**Ston**	**5.56**	**339**	*i* Pn		**Pn**	**01 51 06.5**	**-1.0**
STON				*i* Sn		**Sn**	**01 52 06.4**	**-5.0**
STON	**Ston**	**5.56**	**339**	*i* Pn		**Pn**	**01 51 06.4**	**-1.1**
UPM	**Unac-Piva**	**5.61**	**349**	⇓*i*Pn		**Pn**	**01 51 07.5**	**-0.6**
UPM				*e*Sn		**Sn**	**01 52 10.3**	**-2.3**
PLE	**Pljevlja**	**5.67**	**353**	⇓*i*Pn		**Pn**	**01 51 09.4**	**+0.4**
PLE				*e*Sn		**Sn**	**01 52 11.0**	**-3.1**
FG2	**Serracapriola**	**5.75**	**317**	Pn		**Pn**	**01 51 11.8**	**+1.7**
	comp=Z,47nm,0.3s							
SGG	**Gregorio Mates**	**5.93**	**310**	Pn		**Pn**	**01 51 15.9**	**+3.3**
	comp=Z,20nm,0.6s							
DIVS	**Divcibare**	**6.39**	**357**	*i* Pn		**Pn**	**01 51 18.1**	**-0.9**
DIVS				Sn		**Sn**	**01 52 19.1**	**-13**
AQU	**L'Aquila**	**7.10**	**313**	⇑*i*P		**Pn**	**01 51 37.9**	**+9.3**
AQU	**L'Aquila**	**7.10**	**313**	⇑P		**Pn**	**01 51 37.9**	**+9.3**
BZS	**Buzias**	**7.96**	**6**	⇑*i*Pn		**Pn**	**01 51 41.1**	**+0.7**
BZS	**Buzias**	**7.96**	**6**	⇑P		**Pn**	**01 51 41.1**	**+0.7**
NVLJ	**Novalja**	**8.02**	**330**	*i* Pn		**Pn**	**01 51 41.3**	**0.0**
NVLJ				*i* Sn		**Sn**	**01 53 06.8**	**-5.2**
NVLJ	**Novalja**	**8.02**	**330**	*i* Pn		**Pn**	**01 51 41.2**	**-0.1**
PKSM	**Moragy**	**8.60**	**352**	⇑*i*P		**Pn**	**01 51 50.0**	**+0.8**
PKSM	**Moragy**	**8.60**	**352**	⇑P		**Pn**	**01 51 50.0**	**+0.8**
HMAT	**Matruh**	**8.61**	**138**	⇓*e*P		**Pn**	**01 51 43.3**	**-6.0**
BOJS	**Bojanci**	**8.69**	**335**	*i* Pn		**Pn**	**01 51 50.4**	**-0.2**
BOJS				*i* Sn		**Sn**	**01 53 24.7**	**-3.9**
BOJS	**Bojanci**	**8.69**	**335**	*i* Pn		**Pn**	**01 51 50.3**	**-0.2**
BOJS				*i* Sn		**Sn**	**01 53 24.7**	**-3.9**
MLR	**Muntele Rosu**	**8.81**	**26**	P		**Pn**	**01 51 52.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=107,slow=23,SNR=2.5							
MLR	**Muntele Rosu**	**8.81**	**26**	⇓*i*P		**Pn**	**01 51 51.8**	**-0.4**
MLR	**Muntele Rosu**	**8.81**	**26**	P		**Pn**	**01 51 52.7**	**+0.5**
MLR	**Muntele Rosu**	**8.81**	**26**	⇓P		**Pn**	**01 51 51.8**	**-0.4**
KEST	**Kesra**	**9.09**	**261**	P		**Pn**	**01 51 57.4**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=34,slow=11,SNR=4.1							
KEST				S		**Sn**	**01 53 36.4**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=13,slow=19,SNR=2.7							
VISS	**Visnje**	**9.09**	**335**	*e*Pn		**Pn**	**01 51 56.3**	**+0.3**
VISS				*e*Sn		**Sn**	**01 53 33.5**	**-4.9**
PLOR	**Plostina**	**9.38**	**28**	⇓*i*P		**Pn**	**01 52 02.9**	**+3.0**
VRI	**Vrincioaia**	**9.42**	**28**	⇓*i*P		**Pn**	**01 52 02.6**	**+2.1**
VRI	**Vrincioaia**	**9.42**	**28**	⇓P		**Pn**	**01 52 02.6**	**+2.1**
SWA2		**9.43**	**152**	⇓*e*P		**Pn**	**01 51 56.1**	**-4.6**
SWA1		**9.51**	**151**	P		**Pn**	**01 51 57.5**	**-4.2**
SWA1				S		Sx	01 53 35.2	
VOY	**Vojsko**	**9.63**	**332**	*e*Pn		**Pn**	**01 52 03.7**	**+0.4**
VOY				*e*			01 52 08.4	
VOY				*e*Sn		**Sn**	**01 53 46.2**	**-5.3**
PERS	**Pernice**	**9.74**	**338**	*i* Pn		**Pn**	**01 52 03.9**	**-1.0**
PERS				*i* Sn		**Sn**	**01 53 49.3**	**-5.1**
BRTR	**Keskin Array B**	**10.54**	**75**	P		**Pn**	**01 52 14.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=316,slow=6.9,SNR=3.0							
DAVOX	**Davos**	**11.95**	**323**	S		**Sn**	**01 54 44.9**	**-3.6**
	baz=309,slow=22,SNR=3.9							
GERES	**GERESS Array B**	**12.15**	**339**	P		**Pn**	**01 52 37.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=4.1							
GERES				S		**Sn**	**01 54 46.4**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=160,slow=27,SNR=4.8							
GERES				LR		LR	01 58 23.5	
	comp=Z,47nm,18.3s,baz=355,slow=42							
GERES	**GERESS Array B**	**12.15**	**339**	P		**Pn**	**01 52 37.5**	**-0.4**
GERES				S		**Sn**	**01 54 46.4**	**-7.0**
HFRF	**Wahat Farafira**	**12.46**	**145**	⇓*e*P		**Pn**	**01 52 37.7**	**-4.4**
AKASG	**Malin Array Be**	**14.44**	**23**	P		**Pn**	**01 53 08.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=212,slow=13,SNR=3.1							
GNI	**Garni**	**19.08**	**75**	LR		LR	02 01 03.9	
	comp=Z,19nm,18.5s,baz=343,slow=36							
MDT	**Midelt**	**20.98**	**264**	P		**P**	**01 54 30.1**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=66,slow=12,SNR=3.4							
HFS	**Hagfors**	**22.85**	**351**	P		**P**	**01 54 46.5**	**-1.6**
	comp=Z,2.4nm,0.5s,mb3.9,baz=165,slow=12,SNR=9.9							
EKA	**Eskdalemuir Ar**	**23.76**	**325**	P		**P**	**01 54 56.3**	**-1.0**
	comp=Z,1.3nm,0.7s,mb3.5,baz=122,slow=14,SNR=5.4							
FINES	**FINESS Array B**	**24.03**	**7**	P		**P**	**01 54 57.5**	**-2.3**
	comp=Z,1.8nm,0.5s,mb3.7,baz=159,slow=9.0,SNR=16							
NOA	**NORSAR Array B**	**24.06**	**349**	P		**P**	**01 54 59.0**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.4,baz=159,slow=9.2,SNR=3.9							
AKTK	**Aktyubinsk**	**29.54**	**52**	P		**P**	**01 55 46.3**	**-3.1**
AKTO	**Aktyubinsk**	**29.54**	**52**	P		**P**	**01 55 46.3**	**-3.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=251,slow=10.0,SNR=3.9							
TORD	**Torodi Ar. Bea**	**29.60**	**219**	P		**P**	**01 55 49.7**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.3,baz=36,slow=8.1,SNR=3.8							
TORD	**Torodi Ar. Bea**	**29.60**	**219**	P		**P**	**01 55 49.7**	**-0.3**
ARCES	**ARCESS Array B**	**32.01**	**3**	P		**P**	**01 56 08.8**	**-2.4**
	comp=Z,1.8nm,0.9s,mb3.9,baz=186,slow=9.8,SNR=9.2							
MKAR	**Makanchi Array**	**45.63**	**58**	P		**P**	**01 58 02.0**	**-3.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=278,slow=7.4,SNR=6.4							
SONM	**Songino Array**	**60.83**	**50**	P		**P**	**01 59 54.8**	**-2.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=267,slow=5.8,SNR=3.4							
YKA	**Yellowknife Ar**	**73.80**	**340**	LR		LR	02 34 44.4	
	comp=Z,42nm,19.6s,MS3.7,baz=195,slow=36							

NIED ***10*** *01:51:00,2580N×12930E,h5km,Mw4.4 Best double couple: M₀3.95000×10¹⁵ NP1:φs42.00000°,δ48.00000°, λ-95.00000°. NP2:φs229.00000°,δ42.00000°, λ-85.00000°.*

BJI ***10*** *01:51:01.3,2578N×12926E,h9km,mB4.6,mb4.4,Ms4.1, Msz3.8*

IDC ***10*** *01:51:02.2±0.6,2574N×12925E,h0km,mb4.2/16, mb1 4.4/18,mb1mx4.3/23,mbtmp4.2/18,ML4.5/2,MS3.6/7, Ms1 3.6/7,ms1mx3.4/22,Error ellipse: s-maj=33.7km s-min=12.0km az=70.0*

NEIC ***10*** *01:51:03.6±0.3,2574N×12918E,h10km,mb4.5/7, MW4.3(NIED),Error ellipse: s-maj=8.5km s-min=6.4km az=79.0*

JMA ***10*** *01:51:03.7±0.1,2579N×12927E,h50km,M4.5*

ISCJB ***10*** *01:51:04.8±0.3,2581N±003×12919E±003,h35km, mb4.4/29,MS3.9/7,Error ellipse: s-maj=4.2km s-min=3.9km az=110.8*

MOS ***10*** *01:51:05.0±1.2,2581N×12932E,h33km,mb4.7/7,Error ellipse: s-maj=17.1km s-min=9.1km az=111.3*

ISC 10 01:51:07.0±0.3,2585N±003×12913E±003,h35km,n81, σ1§19/94,mb4.4/29,MS3.9/7,1C,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.24**	**322**	Pn	**Pn**	**01 51 27.1**	**-0.6**
	2μm,0.3s,baz=141,slow=14,SNR=2686						
JOW				Sn	**Sn**	**01 51 42.5**	**-0.7**
	386nm,0.3s,baz=65,slow=25,SNR=13						
JOW	**Kunigami**	**1.24**	**322**	P	**Pn**	**01 51 27.0**	**-0.8**
JOW				S	**Sn**	**01 51 43.5**	**+0.2**
JJT2	**Tamagusuku 2**	**1.27**	**283**	P	**Pn**	**01 51 27.7**	**-0.6**
JJT2				S	**Sn**	**01 51 44.3**	**+0.2**
NAH1	**Naha**	**1.34**	**285**	P	**Pn**	**01 51 28.4**	**-0.8**
NAH1				S	**Sn**	**01 51 46.4**	**+0.6**
JIH	**Iheya**	**1.57**	**319**	P	**Pn**	**01 51 32.0**	**-0.3**
JIH				S	**Sn**	**01 51 51.8**	**+0.4**
JAGN	**Aguni-jima**	**1.85**	**294**	P	**Pn**	**01 51 35.7**	**-0.4**
JAGN				S	**Sn**	**01 51 58.7**	**+0.5**
JMZ	**Minamidaito 2**	**1.89**	**91**	P	**Pn**	**01 51 32.4**	**-4.3**
JMZ				S	**Sn**	**01 51 52.5**	**-6.7**
JTK	**Tokunoshima**	**1.93**	**355**	P	**Pn**	**01 51 36.1**	**-1.2**
JTK				S	**Sn**	**01 51 58.8**	**-1.5**
JKE	**Kume jima 2**	**2.16**	**283**	P	**Pn**	**01 51 39.2**	**-1.2**
JKE				S	**Sn**	**01 52 04.9**	**-1.1**
JZK	**Kikaishima**	**2.56**	**17**	S	**Sn**	**01 52 15.6**	**-0.3**
JAM	**Amami Oshima**	**2.58**	**9**	P	**Pn**	**01 51 44.9**	**-1.4**
JAM				S	**Sn**	**01 52 14.7**	**-1.7**
JMJ	**Miyako jima 2**	**3.62**	**254**	P	**Pn**	**01 51 59.0**	**-1.5**
JMJ				S	**Sn**	**01 52 40.1**	**-2.0**
JNN	**Nakanoshima**	**4.03**	**9**	P	**Pn**	**01 52 05.2**	**-0.9**
JNN				S	**Sn**	**01 52 49.6**	**-2.4**
JTJ	**Tarama**	**4.19**	**254**	P	**Pn**	**01 52 06.6**	**-1.7**
JTJ				S	**Sn**	**01 52 52.4**	**-3.6**
JIJ	**Ishigaki jima**	**4.76**	**253**	P	**Pn**	**01 52 13.6**	**-2.6**
JKRS	**Kuro-shima**	**4.91**	**252**	P	**Pn**	**01 52 16.4**	**-1.9**
JKRS				S	**Sn**	**01 53 15.3**	**+1.4**
TATO	**Taipei**	**6.96**	**264**	*e*Pn	**Pn**	**01 52 46.8**	**+0.3**
NACB	**Ninganchiao**	**7.04**	**258**	*e*Pn	**Pn**	**01 52 44.2**	**-3.2**
YHNB	**Yeheng**	**7.12**	**262**	*e*P	**Pn**	**01 52 48.3**	**-0.3**
JNU	**Nakatsue**	**7.40**	**11**	Pn	**Pn**	**01 52 53.0**	**+0.5**
	15nm,0.3s,baz=211,slow=19,SNR=31						
JNU				Sn	**Sn**	**01 54 10.1**	**-5.1**
	1.1nm,0.3s,baz=210,slow=20,SNR=1.4						
JNU				LR	LR	01 55 39.2	
	comp=Z,449nm,21.1s,baz=231,slow=37						
KSRS	**Korea Array**	**11.61**	**355**	Pn	**Pn**	**01 53 50.9**	**+0.7**
	baz=173,slow=13,SNR=13						
KSRS				LR	LR	01 58 23.7	
	comp=Z,115nm,20.4s,baz=172,slow=38						
CBIJ	**Chichi jima**	**11.76**	**81**	LR	LR	01 58 10.4	
	comp=Z,58nm,18.5s,baz=127,slow=37						
INCN	**Inchon**	**11.79**	**350**	Pn	**Pn**	**01 53 53.6**	**+1.1**
MAJO	**Matsushiro**	**13.18**	**34**	P	**Pn**	**01 54 10.8**	**-0.8**
BJT	**Baijiatuan**	**17.80**	**326**	*e*P	**Pn**	**01 55 13.2**	**+1.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuan**	**17.80**	**326**	*e*P	**Pn**	**01 55 13.2**	**+1.4**
	comp=Z,10.0nm,0.6s						
BJI	**Beijing**	**17.81**	**326**	*e*P	**Pn**	**01 55 13.3**	**+1.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJI				LR	LR		
	comp=N,437nm,11.6s						
BJI				LR	LR		
	comp=E,265nm,14.2s						
BJI				LR	LR		
	comp=Z,210nm,14.6s						
BJI	**Beijing**	**17.81**	**326**	*e*P	**Pn**	**01 55 13.3**	**+1.3**
	comp=Z,10.0nm,0.8s						
GUMO	**Guam**	**19.17**	**127**	LR	LR	02 00 56.1	
	comp=Z,188nm,18.9s,baz=122,slow=31						
XAN	**Xi'an**	**19.30**	**300**	P	**Pn**	**01 55 28.9**	**-1.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s						
GYA	**Guiyang**	**20.17**	**277**	⇑*i*P	**P**	**01 55 42.5**	**+4.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CD2	**Chengdu**	**22.86**	**289**	P	**P**	**01 56 06.8**	**-0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
CD2				LR	LR		
	comp=N,520nm,15.0s						
CD2				LR	LR		
	comp=Z,410nm,13.8s,MS4.0						
KMI	**Kunming**	**23.82**	**274**	P	**P**	**01 56 20.1**	**+3.4**
KMI				AP		01 56 27.8	
KMI				XP	sP	01 56 30.9	0.0
KMI				PP		01 56 53.9	
KMI				PPP		01 57 04.4	
KMI				S	**S**	**02 00 30.6**	**+0.6**
KMI				XS	sS	02 00 42.8	-3.6
KMI				SS		02 01 19.6	
KMI				SSS		02 01 35.2	
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,126nm,4.6s						
KMI				LR	LR		
	comp=N,125nm,13.0s,MS3.8						
KMI				LR	LR		
	comp=E,178nm,14.4s,MS3.8						
KMI				LR	LR		
	comp=Z,184nm,15.6s,MS3.7						
KMI	**Kunming**	**23.82**	**274**	P	**P**	**01 56 20.1**	**+3.4**
KMI				*PP		01 56 27.8	
KMI				*SP	sP	01 56 30.9	0.0
KMI						01 56 53.9	
KMI				PPP		01 57 04.4	
KMI				S	**S**	**02 00 30.6**	**+0.6**
KMI				*SS	sS	02 00 42.8	-3.6
KMI				SS		02 01 19.6	
KMI				SSS		02 01 35.2	
KMI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
KMI				MLR	MLR		
	comp=Z,180nm,15.6s,MS3.6						
KMI	**Kunming**	**23.82**	**274**	P	**P**	**01 56 20.1**	**+3.4**
	comp=Z,12nm,1.0s,mb4.3						
KMI				pP		01 56 27.8	
KMI				sP	sP	01 56 30.9	0.0
KMI				PP		01 56 53.9	
KMI				PPP		01 57 04.4	
KMI				S	**S**	**02 00 30.6**	**+0.6**
KMI				sS	sS	02 00 42.8	-3.6
KMI				SS		02 01 19.6	
KMI				SSS		02 01 35.2	
KMI				LR	LR		
	comp=Z,180nm,15.6s,MS3.6						
LZH	**Lanzhou**	**23.90**	**301**	*e*P	**P**	**01 56 16.5**	**-0.9**
LZH				AP		01 56 25.4	
LZH				XP	sP	01 56 30.1	-1.5
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,44nm,4.1s						
LZH				LR	LR		
	comp=E,245nm,10.3s						
LZH				LR	LR		
	comp=Z,329nm,14.6s,MS3.9						
LZH	**Lanzhou**	**23.90**	**301**	*e*P	**P**	**01 56 16.5**	**-0.9**
LZH				*PP		01 56 25.4	
LZH				*SP	sP	01 56 30.1	-1.5
LZH						01 56 47.6	
LZH				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.5						
LZH				MLR	MLR		
	comp=Z,330nm,14.6s,MS3.9						
LZH	**Lanzhou**	**23.90**	**301**	*e*P	**P**	**01 56 16.5**	**-0.9**
	comp=Z,27nm,1.5s,mb4.5						
LZH				pP		01 56 25.4	
LZH				sP	sP	01 56 30.1	-1.5
LZH				PP		01 56 47.6	
LZH				LR	LR		
	comp=Z,330nm,14.6s,MS3.9						
GTA	**Gaotai**	**28.00**	**306**	*e*P	**P**	**01 56 54.6**	**+0.1**
GTA				AP	pP	01 57 02.9	-1.6
GTA				XP	sP	01 57 07.1	-1.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,86nm,3.9s						
GTA				LR	LR		
	comp=N,156nm,13.3s,MS3.9						
GTA				LR	LR		
	comp=E,180nm,14.4s,MS3.9						
GTA				LR	LR		
	comp=Z,319nm,17.1s,MS4.0						
SONM	**Songino Array**	**28.31**	**327**	P	**P**	**01 57 00.3**	**+3.1**
	comp=Z,3.4nm,1.0s,mb3.9,baz=133,slow=10,SNR=14						
SONM				LR	LR	02 09 37.0	
	comp=Z,153nm,18.7s,MS3.6,baz=358,slow=39						
PET	**Petropavlovsk**	**34.99**	**31**	P	**P**	**01 57 55.3**	**-0.6**
GUN	**Gumba**	**38.49**	**283**	*e*P	**P**	**01 58 27.9**	**+2.3**
PKI	**Pulchoki**	**38.94**	**283**	*e*P	**P**	**01 58 31.0**	**+1.5**
	comp=Z,41nm,1.1s,mb5.1						
KKN	**Kakani**	**39.03**	**283**	*e*P	**P**	**01 58 32.0**	**+1.8**
	comp=Z,38nm,0.8s,mb5.2						
DMN	**Daman**	**39.20**	**283**	*e*P	**P**	**01 58 33.2**	**+1.5**
	comp=Z,48nm,1.1s,mb5.2						
GKN	**Gorkha**	**39.56**	**283**	*e*P	**P**	**01 58 36.1**	**+1.4**
	comp=Z,60nm,1.1s,mb5.2						
KOLN	**Koldanda**	**40.51**	**283**	*e*P	**P**	**01 58 44.2**	**+1.7**
	comp=Z,41nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**01 58 59.0**	**+1.2**
	comp=Z,2.1nm,0.6s,mb3.9,baz=101,slow=11,SNR=6.9						
FITZ	**Fitzroy Crossi**	**43.82**	**185**	P	**P**	**01 59 08.8**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.1,baz=4.1,slow=10,SNR=5.9						
KURK	**Kurchatov**	**45.65**	**317**	P	**P**	**01 59 24.3**	**+0.3**
WRAB	**Tennant Creek**	**45.79**	**173**	*e*P	**P**	**01 59 24.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**45.79**	**173**	*e*P	**P**	**01 59 24.6**	**-0.6**
	comp=Z,5.3nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**45.80**	**173**	P	**P**	**01 59 24.3**	**-0.9**
	comp=Z,6.3nm,0.8s,mb4.6,baz=352,slow=8.4,SNR=41						
WB2	**Warramunga Arr**	**45.80**	**173**	*e*P	**P**	**01 59 24.3**	**-1.0**
BILL	**Bilibino**	**47.78**	**18**	*e*P	**P**	**01 59 41.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CTA	**Charters Tower**	**48.60**	**158**	P	**P**	**01 59 47.0**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.4,baz=344,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**48.60**	**158**	*e*P	**P**	**01 59 46.9**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**48.60**	**158**	*e*P	**P**	**01 59 46.9**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.5						
AS31	**Alice Springs**	**49.44**	**174**	*e*P	**P**	**01 59 53.0**	**-0.5**
ASAR	**Alice Springs**	**49.44**	**174**	P	**P**	**01 59 53.4**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.2,baz=4.6,slow=8.9,SNR=29						
PALK	**Pallekele**	**49.63**	**257**	*e*P	**P**	**01 59 55.2**	**+0.2**
BVAR	**Borovoye Array**	**51.09**	**318**	P	**P**	**02 00 07.1**	**+1.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=92,slow=7.2						
BRVK	**Borovoye**	**51.16**	**318**	*e*P	**P**	**02 00 07.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**51.16**	**318**	*e*P	**P**	**02 00 07.7**	**+1.2**
	comp=Z,10nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**58.63**	**168**	P	**P**	**02 00 59.6**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.3,baz=335,slow=5.2,SNR=6.3						
AKTK	**Aktyubinsk**	**58.67**	**315**	P	**P**	**02 01 01.8**	**+1.0**
AKTO	**Aktyubinsk**	**58.67**	**315**	P	**P**	**02 01 01.8**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.2,baz=43,slow=3.1,SNR=3.5						
MCK	**McKinley**	**63.60**	**29**	P	**P**	**02 01 35.5**	**+1.3**
OBN	**Obninsk**	**70.62**	**323**	*e*P	pP	02 02 30.3	+0.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**70.65**	**339**	P	**P**	**02 02 20.5**	**+1.6**
	comp=Z,2.8nm,0.9s,mb4.2,baz=255,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**70.65**	**339**	P	**P**	**02 02 20.5**	**+1.6**
FINES	**FINESS Array B**	**73.59**	**331**	P	**P**	**02 02 37.4**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=142,slow=28,SNR=14						
AKASG	**Malin Array Be**	**76.34**	**320**	LR	LR	02 39 03.1	
	comp=Z,143nm,20.1s,MS4.3,baz=40,slow=38						
BRTR	**Keskin Array B**	**77.90**	**308**	P	**P**	**02 03 04.5**	**+3.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=45,slow=4.3,SNR=6.2						
YKA	**Yellowknife Ar**	**78.52**	**25**	P	**P**	**02 03 04.

USHA	**Ushuaia**	**24.80**	**143**	P		**P**	**02 05 45.9**	**+0.6**
	12nm,0.9s,mb4.4,baz=263,slow=8.3,SNR=3.8							
USHA				LR		LR	02 13 23.4	
	comp=Z,1μm,20.5s,MS4.4,baz=276,slow=32							
TRQA	**Tornquist**	**25.50**	**101**	*eP*		**P**	**02 05 58.5**	**+6.8**
	8.1nm,0.9s,mb4.2							
LVC	**Limon Verde**	**26.33**	**63**	P		**P**	**02 05 59.8**	**+0.7**
	14nm,1.0s,mb4.5,baz=255,slow=9.7,SNR=10.0							
LVC				LR		LR	02 13 50.2	
	comp=Z,792nm,18.4s,MS4.3,baz=226,slow=31							
LVC	**Limon Verde**	**26.33**	**63**	*eP*		**P**	**02 05 59.9**	**+0.7**
	46nm,1.3s,mb4.8							
LVC				LR		LR	02 13 50.2	
NNA	**Nana**	**29.72**	**36**	LR		LR	02 15 15.8	
	comp=Z,1μm,20.7s,MS4.5,baz=240,slow=30							
NNA	**Nana**	**29.72**	**36**	*eP*		**P**	**02 06 29.1**	**-0.3**
	32nm,1.3s,mb4.9							
LPAZ	**La Paz**	**31.21**	**55**	P		**P**	**02 06 42.3**	**-0.3**
	7.5nm,0.7s,mb4.6,baz=208,slow=6.7,SNR=18							
LPAZ				LR		LR	02 16 43.6	
	comp=Z,156nm,18.7s,MS3.7,baz=47,slow=32							
LPAZ	**La Paz**	**31.21**	**55**	*eP*		**P**	**02 06 43.0**	**+0.4**
	21nm,1.0s,mb4.9							
LPAZ				LR		LR	02 16 43.6	
PMSA	**Palmer Station**	**32.75**	**156**	LR		LR	02 16 38.8	
	comp=Z,344nm,19.9s,MS4.0,baz=69,slow=30							
ATAH	**Atahualpa**	**33.51**	**29**	P		**P**	**02 07 03.0**	**+0.3**
	8.5nm,0.8s,mb4.8,baz=216,slow=4.8,SNR=8.1							
ATAH				LR		LR	02 17 18.9	
	comp=Z,1μm,20.5s,MS4.5,baz=212,slow=30							
SIV	**San Ignacio**	**36.24**	**63**	P		**P**	**02 07 24.5**	**-1.8**
	4.6nm,1.1s,mb4.3,baz=223,slow=7.6,SNR=8.5							
RKT	**Rikitea**	**37.62**	**280**	*eLQ*			02 16 08.6	
	1μm,28.0s							
RKT				*e*LR		LR	02 17 43.4	
	666nm,27.5s							
SAML	**Samuel**	**39.88**	**53**	*eP*		**P**	**02 07 56.2**	**-0.8**
	14nm,1.4s,mb4.5							
OTAV	**Otavalo**	**40.18**	**25**	*eP*		**P**	**02 07 58.9**	**-0.6**
	16nm,1.4s,mb4.6							
ROSC	**El Rosal**	**45.94**	**28**	P		**P**	**02 08 47.7**	**+1.6**
	2.3nm,0.4s,mb4.5,baz=99,slow=22,SNR=3.9							
ROSC				LR		LR	02 26 04.7	
	comp=Z,408nm,18.0s,MS4.4,baz=192,slow=34							
TBI	**Tubuai**	**48.98**	**270**	*eS*		**S**	**02 16 08.7**	**-5.3**
	372nm,28.2s							
TBI				*e*LQ			02 21 27.0	
	455nm,29.2s							
TBI				*e*LR		LR	02 22 40.0	
	300nm,28.8s							
PPT	**Papeete**	**52.12**	**276**	*eS*		**S**	**02 16 50.8**	**-6.8**
	420nm,26.5s							
PPT				*e*LQ			02 22 28.8	
	617nm,28.5s							
PPT				*e*LR		LR	02 24 30.6	
	437nm,24.8s,baz=117							
PPT	**Papeete**	**52.12**	**276**	LR		LR	02 24 58.3	
	comp=Z,289nm,18.1s,MS4.3,baz=111,slow=28							
VNA1	**Neumayer--Stat**	**53.97**	**156**	*e*		**P**	**02 09 47.4**	**+0.3**
VNA1				*e*			02 09 55.9	
VNA1				*e*			02 09 59.8	
VNA1				*e*			02 10 08.8	
CMIG	**Matias Romero**	**54.17**	**359**	LR		LR	02 26 30.5	
	comp=Z,163nm,20.3s,MS4.1,baz=169,slow=29							
VNA2	**Neumayer--Watz**	**54.20**	**156**	*e*		**P**	**02 09 48.3**	**-0.5**
	baz=286,slow=7.6							
VNA2				*e*			02 09 56.7	
VNA2				*e*			02 10 01.0	
VNA2				*e*			02 10 10.6	
SNAA	**Sanae**	**55.46**	**157**	P		**P**	**02 09 56.0**	**-1.9**
	1.2nm,0.7s,mb4.0,baz=268,slow=4.9,SNR=19							
SNAA	**Sanae**	**55.46**	**157**	*e*		**P**	**02 09 58.7**	**+0.7**
SNAA				*e*			02 10 04.3	
SNAA				*e*			02 10 10.1	
SNAA				*e*			02 10 15.8	
SNAA	**Sanae**	**55.46**	**157**	*eP*		**P**	**02 09 58.5**	**+0.5**
	7.6nm,0.9s,mb4.7							
SBA	**Scott Base**	**55.64**	**195**	*eP*		**P**	**02 09 59.3**	**0.0**
	8.8nm,0.8s,mb4.8							
VNDA	**Vanda**	**56.74**	**195**	P		**P**	**02 10 06.1**	**-1.1**
	2.5nm,0.8s,mb4.3,baz=89,slow=4.2,SNR=13							
VNDA				LR		LR	02 29 37.1	
	comp=Z,244nm,19.1s,MS4.3,baz=114,slow=31							
VNDA	**Vanda**	**56.74**	**195**	*eP*		**P**	**02 10 06.8**	**-0.4**
	8.7nm,1.3s,mb4.6							
VNDA				LR		LR	02 29 37.1	
TXAR	**Lajitas Array**	**66.93**	**351**	P		**P**	**02 11 14.8**	**-1.0**
	1.3nm,0.8s,mb4.0,baz=169,slow=8.2,SNR=14							
TXAR				LR		LR	02 35 21.9	
	comp=Z,170nm,18.1s,MS4.3,baz=185,slow=31							
MNTX	**Cornudas Mount**	**69.49**	**350**	*eP*		**P**	**02 11 31.4**	**-0.3**
	1.8nm,0.9s,mb4.0							
WMOK	**Wichita Mounta**	**71.86**	**356**	*eP*		**P**	**02 11 47.4**	**+1.2**
	1.8nm,0.9s,mb4.0							
AMTX	**Amarillo**	**72.21**	**354**	*eP*		**P**	**02 11 48.2**	**-0.2**
	6.9nm,0.8s,mb4.6							
JSC	**Jenkinsville**	**72.31**	**11**	*eP*		**P**	**02 11 48.9**	**0.0**
ANMO	**Albuquerque**	**72.84**	**350**	P		**P**	**02 11 53.8**	**+1.7**
	1.2nm,0.8s,mb3.9,baz=164,slow=11,SNR=4.4							
ANMO	**Albuquerque**	**72.84**	**350**	*eP*		**P**	**02 11 54.1**	**+2.0**
	3.6nm,1.2s,mb4.2							
TKL	**Tuckaleechee C**	**73.31**	**9**	P		**P**	**02 11 55.6**	**+0.8**
	5.5nm,0.8s,mb4.5,baz=180,slow=10,SNR=5.4							
MAW	**Mawson**	**73.93**	**171**	P		**P**	**02 11 59.2**	**+0.8**
	6.4nm,0.8s,mb4.6,baz=204,slow=6.3,SNR=3.8							
MAW				LR		LR	02 42 03.9	
	comp=Z,160nm,18.8s,MS4.3,baz=208,slow=34							
SDCO	**Great Sand Dun**	**75.46**	**351**	*eP*		**P**	**02 12 06.3**	**-1.1**
	3.7nm,1.1s,mb4.2							
WCI	**Wyandotte Cave**	**75.58**	**6**	*eP*		**P**	**02 12 07.5**	**-0.6**
	6.6nm,0.8s,mb4.6							
SMCO	**Snowmass**	**77.06**	**350**	*eP*		**P**	**02 12 18.2**	**+1.7**
	5.3nm,1.0s,mb4.4							
NVAR	**Mina Array Bea**	**78.61**	**341**	P		**P**	**02 12 24.3**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=168,slow=14,SNR=3.0							
DAU	**Daniels Canyon**	**78.96**	**347**	*eP*		**P**	**02 12 28.6**	**+1.5**
DUG	**Dugway**	**79.04**	**346**	*eP*		**P**	**02 12 27.1**	**-0.4**
	6.2nm,1.2s,mb4.4							
BW06	**Boulder Array**	**80.96**	**349**	*eP*		**P**	**02 12 36.5**	**-1.4**
	2.9nm,0.9s,mb4.2							
PDAR	**Pinedale Array**	**80.96**	**349**	P		**P**	**02 12 36.1**	**-1.8**
	2.7nm,0.9s,mb4.2,baz=158,slow=5.3,SNR=13							
PDAR				LR		LR	02 45 21.1	
	comp=Z,80nm,19.6s,MS4.1,baz=354,slow=33							
RSSD	**Black Hills**	**81.59**	**353**	*eP*		**P**	**02 12 41.5**	**+0.3**
	4.3nm,1.2s,mb4.2							
TPAW	**Teton Pass**	**81.89**	**348**	*eP*		**P**	**02 12 46.5**	**+3.7**
	13nm,1.1s,mb4.8							
LOHW	**Long Hollow**	**81.95**	**348**	*eP*		**P**	**02 12 43.0**	**-0.1**
	2.1nm,0.8s,mb4.1							
HLID	**Hailey**	**82.60**	**345**	*eP*		**P**	**02 12 46.9**	**+0.4**
	6.4nm,1.2s,mb4.5							
DZM	**Mont Dzumac**	**83.88**	**247**	LR		LR	02 40 46.3	
	comp=Z,311nm,18.4s,MS4.7,baz=188,slow=29							
ULM	**Lac du Bonnet**	**87.25**	**359**	LR		LR	02 49 02.6	
	comp=Z,105nm,19.2s,MS4.3,baz=62,slow=34							
BOSA	**Boshof**	**93.29**	**130**	LR		LR	02 49 32.0	
	comp=Z,129nm,20.0s,MS4.4,baz=234,slow=32							
STKA	**Stephens Creek**	**93.59**	**225**	LR		LR	02 48 41.2	
	comp=Z,142nm,19.2s,MS4.4,baz=206,slow=31							
SCHQ	**Schefferville**	**94.81**	**16**	LR		LR	02 53 09.3	
	comp=Z,153nm,18.6s,MS4.5,baz=132,slow=33							
CTA	**Charters Tower**	**99.32**	**236**	LR		LR	02 50 32.1	
	comp=Z,186nm,21.2s,MS4.6,baz=102,slow=30							
KULM	**Kulim**	**145.28**	**207**	*e*PKPbc		PKPbc	02 20 02.2	+1.3
MDJ	**Mudanjiang**	**146.43**	**296**	PKP		PKPdf	02 20 03.3	+0.2
MDJ	**Mudanjiang**	**146.43**	**296**	*e*PKPbc		PKPbc	02 20 02.8	-1.6
KSRS	**Korea Array**	**146.68**	**283**	PKPbc		PKPbc	02 20 04.2	-1.0
	1.1nm,0.7s,baz=265,slow=25,SNR=3.6							
SONM	**Songino Array**	**161.59**	**311**	PKPab		PKPab	02 21 08.8	-0.3
	1.1nm,0.9s,baz=42,slow=2.4,SNR=5.3							

CASC 10 02:13:31.9±2.6, 1261N×8863W, h35km±999km, MD3.7, ML3.8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.02**	**50**	*eP*	x	02 13 44.0	
CNCH				*eS*	x	02 13 59.0	
LFRS	**El Faro**	**1.09**	**337**	*eP*	x	02 13 44.0	
SNET	**Serv Nac Est T**	**1.22**	**331**	*eP*	x	02 13 48.4	
SNET				*eS*	x	02 14 03.4	
BOQS	**Boqueron**	**1.28**	**330**	*eP*	x	02 13 47.0	
MIRN	**Miramar**	**1.88**	**95**	*eP*	Pn	02 14 01.2	-0.3
MIRN				*eS*	Sn	02 14 26.0	+2.0
COPN	**Copaltepe**	**2.04**	**102**	*eP*	Pn	02 14 03.1	-0.5
COPN				*eS*	Sn	02 14 28.2	+0.4
MOMJ	**Momotombo**	**2.05**	**95**	*eP*	Pn	02 14 03.6	-0.2
XAVN	**Gruta Xavier**	**2.30**	**101**	*eP*	Pn	02 14 07.3	+0.1
XAVN				*eS*	Sn	02 14 34.8	+0.6
MGAN	**Managua**	**2.37**	**101**	*eP*	Pn	02 14 07.6	-0.7
MGAN				*eS*	Sn	02 14 36.9	+0.8
MGAN				*i*		02 14 37.8	
	comp=N,729nm,0.3s						
JCR	**Jicaral**	**4.41**	**128**	*eP*	Pn	02 14 37.1	+0.8
PRS1	**Puriscal**	**4.97**	**121**	*eP*	Pn	02 14 46.3	+2.2
LCR2	**La Lucha 2**	**5.36**	**122**	*eP*	Pn	02 14 51.2	+1.9
LCR2				*eS*	Sn	02 15 49.7	-0.2
LIO	**Limon**	**6.07**	**115**	*eP*	Pn	02 15 01.3	+2.3

*NEIC **10** 02:27:43.6, 3270S×6996W, h111km, MD3.7(GUC), After GUC.*

GUC 10 02:27:43.6±0.6, 3270S×6996W, h111km±3km, MD3.3, ML3.1, 7C-10D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.54**	**272**	⇓*iP*	Pn	02 28 01.1	+0.3
JACH				*iS*	Sn	02 28 14.6	+0.9
FCH	**Farellones**	**0.69**	**204**	⇑*iP*	Pn	02 28 02.6	+0.6
FCH				*iS*	Sn	02 28 17.2	+1.5
FCH				AML	AML	02 28 17.8	
	comp=N,587nm,0.1s						
PEL	**Peldehue**	**0.76**	**234**	⇓*iP*	Pn	02 28 02.7	+0.2
PEL				*iS*	Sn	02 28 17.3	+0.5
PEL				AML	AML	02 28 18.3	
	comp=N,537nm,0.2s						
PEL	**Peldehue**	**0.76**	**234**	⇓*iP*	Pn	02 28 02.7	+0.2
PEL				*iS*	Sn	02 28 17.3	+0.5
CLCH	**Cerro Calan**	**0.85**	**215**	⇑*iP*	Pn	02 28 03.7	+0.4
CLCH				*iS*	Sn	02 28 19.3	+1.0
CLCH				AML	AML	02 28 21.2	
	comp=N,555nm,0.5s						
ROCH	**El Roble**	**0.93**	**253**	⇓*iP*	Pn	02 28 04.5	+0.4
ROCH				*iS*	Sn	02 28 21.1	+1.4
PTCH	**Petorca**	**0.93**	**298**	⇑*iP*	Pn	02 28 04.3	+0.2
PTCH				*iS*	Sn	02 28 20.4	+0.8
PTCH				AML	AML	02 28 23.0	
	comp=N,628nm,0.3s						
PTCH	**Petorca**	**0.93**	**298**	⇑*iP*	Pn	02 28 04.3	+0.2
PTCH				*iS*	Sn	02 28 20.4	+0.8
PCH	**Pirque**	**1.03**	**207**	*eP*	Pn	02 28 05.7	+0.5
PCH				*iS*	Sn	02 28 22.5	+1.0
ANTU	**Antumapu**	**1.04**	**213**	⇓*iP*	Pn	02 28 05.7	+0.4
ANTU				*iS*	Sn	02 28 22.3	+0.7
ANTU				AML	AML	02 28 23.1	
	comp=N,270nm,0.7s						
ANTU	**Antumapu**	**1.04**	**213**	⇓*iP*	Pn	02 28 05.7	+0.4
ANTU				*iS*	Sn	02 28 22.3	+0.7
RCDM	**Rinconada Maip**	**1.06**	**222**	*eP*	Pn	02 28 05.8	+0.3
RCDM				*iS*	Sn	02 28 22.8	+0.7
RCDM				AML	AML	02 28 25.6	
	comp=N,610nm,0.1s						
RCDM	**Rinconada Maip**	**1.06**	**222**	*eP*	Pn	02 28 05.8	+0.3
RCDM				*iS*	Sn	02 28 22.8	+0.7
TACH	**Talagante**	**1.26**	**221**	⇓*iP*	Pn	02 28 07.8	+0.2
TACH				*iS*	Sn	02 28 26.3	+0.5
PACH	**Papudo**	**1.26**	**277**	⇑*iP*	Pn	02 28 07.6	0.0
PACH				*iS*	Sn	02 28 26.4	+0.5
CHCH	**Chadas Angostu**	**1.36**	**205**	⇑*iP*	Pn	02 28 09.5	+0.6
CHCH				*iS*	Sn	02 28 29.1	+1.1
CACH	**El Canelo**	**1.51**	**201**	*iP*	Pn	02 28 11.5	+0.9
CACH				*iS*	Sn	02 28 33.2	+2.1
CHNG	**Los Chungos**	**1.54**	**302**	*eP*	Pn	02 28 11.1	+0.2
CHNG				*iS*	Sn	02 28 32.2	+0.5
ZON	**Zonda**	**1.58**	**44**	⇑*iP*	Pn	02 28 11.9	+0.4
LNV	**Longovilo**	**1.75**	**224**	⇓*iP*	Pn	02 28 12.8	-0.6
LNV				*iS*	Sn	02 28 35.9	-0.3
CMCH	**Combarbala**	**1.76**	**329**	⇓*eP*	Pn	02 28 14.2	+0.5
CMCH				*iS*	Sn	02 28 37.5	+1.0
CMCH				AML	AML	02 28 39.4	
	comp=E,544nm,0.7s						
CMCH	**Combarbala**	**1.76**	**329**	⇓*eP*	Pn	02 28 14.2	+0.5
CMCH				*iS*	Sn	02 28 37.5	+1.0

MAN 10 02:31:58.4, 1341N×12155E, h8km, mb2.7, ML4.1, MS1.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.29**	**79**	*eP*	Pg	02 32 04.9	+0.8
BOAC				*eS*	Sg	02 32 10.5	+2.5
PGP	**Puerto Galera**	**0.59**	**279**	*eP*	Pg	02 32 10.0	+0.3
PGP				*eS*	Sg	02 32 18.1	+0.6
GQP	**Guinayangan**	**1.00**	**60**	⇑*eP*	Pg	02 32 17.5	-0.1
GQP				*eS*	Sg	02 32 32.8	+2.1
AUQP	**San Andres**	**1.10**	**94**	*eP*	Pg	02 32 21.4	+2.0
OTRP	**Odiongan**	**1.13**	**156**	*eP*	Pg	02 32 19.1	-1.1
OTRP				*eS*	Sg	02 32 36.8	+1.9
LUBP	**Lubang**	**1.31**	**285**	*eP*	Pn	02 32 21.4	-1.5
POLP	**Polilio Island**	**1.37**	**16**	*eP*	Pn	02 32 23.3	-0.4
BUSP	**Coron**	**1.92**	**224**	*eP*	Pn	02 32 31.8	+0.4
BALP	**Baler**	**2.32**	**1**	*eP*	Pn	02 32 37.7	+0.9
PVCP	**Virac**	**2.54**	**85**	*eP*	Pn	02 32 44.1	+4.3

IDC 10 02:33:40.5±8.2, 648S×15100E, h92km±56km, mb3.3/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=92.9km s-min=56.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.79**	**232**	P	Pn	02 34 50.0	-0.2
	1.1nm,0.3s,baz=228,slow=15,SNR=3.2						
PMG				S	Sn	02 35 45.9	+1.4
	1.4nm,0.3s,baz=204,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**21.00**	**229**	P	P	02 38 15.8	-0.7
	1.0nm,0.7s,baz=54,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**23.71**	**222**	P	P	02 38 44.0	+0.1
	0.7nm,0.5s,baz=56,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**27.30**	**243**	P	P	02 39 17.0	+0.7
	1.5nm,0.5s,baz=84,slow=8.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.06**	**285**	PKPbc	PKPbc	02 53 18.9	+1.0
	0.3nm,0.6s,baz=57,slow=2.4,SNR=4.4						

GUC 10 02:41:47.8±0.8, 2542S×7057W, h42km±4km, MD3.9, ML2.4, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.81**	**11**	*eP*	Pn	02 42 04.1	+1.3
CPN1				*iS*	Sn	02 42 15.7	+2.1
CPN1				AML	AML	02 42 17.8	
	comp=E,391nm,0.7s						
CDCH	**Caldera**	**1.66**	**188**	*iP*	Pn	02 42 15.0	+0.6
CDCH				*iS*	Sn	02 42 36.2	+1.7
ANCH	**Antofagasta**	**1.74**	**5**	*eP*	Pn	02 42 17.1	+1.6
ANCH				*iS*	Sn	02 42 38.5	+2.1
CPCH	**Copiapo**	**1.94**	**174**	*eP*	Pn	02 42 19.6	+1.3
CPCH				*iS*	Sn	02 42 42.8	+1.5
CEN1	**Los Morros**	**2.05**	**10**	*eP*	Pn	02 42 17.8	-2.0
CEN1				*iS*	Sn	02 42 41.1	-3.0
CEN1				AML	AML	02 42 50.5	
	comp=E,34nm,0.6s						

*NEIC **10** 02:46:24.5, 3474S×7205W, h29km, ML3.1(GUC), After GUC.*

GUC 10 02:46:24.5±0.8, 3474S×7205W, h29km±4km, MD4.0, ML3.1, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.72**	**112**	⇓*iP*	Pb	02 46 38.5	-0.1
NICH				*iS*	Sb	02 46 48.4	+0.2
TALC	**Talca**	**0.74**	**153**	⇓*iP*	Pb	02 46 38.5	-0.4
TALC				*iS*	Sb	02 46 48.4	-0.2
TALC				AML	AML	02 46 48.9	
	comp=E,37μm,0.1s						
LNV	**Longovilo**	**0.94**	**34**	⇑*iP*	Pn	02 46 41.1	-0.6
CNCO	**Chanco**	**1.07**	**202**	*eP*	Pn	02 46 43.6	+0.2
CNCO				*iS*	Sn	02 46 57.8	+0.5
CNCO				AML	AML	02 47 00.9	
	comp=N,367nm,0.2s						
CNCO	**Chanco**	**1.07**	**202**	*eP*	Pn	02 46 43.6	+0.2
CNCO				*iS*	Sn	02 46 57.8	+0.5
CACH	**El Canelo**	**1.35**	**63**	⇑*iP*	Pn	02 46 48.4	+1.1
CACH				*iS*	Sn	02 47 06.5	+2.2
CHCH	**Chadas Angostu**	**1.41**	**56**	⇓*iP*	Pn	02 46 49.1	+1.0
CHCH				*iS*	Sn	02 47 07.2	+1.4
CICH	**Cipreses**	**1.41**	**73**	⇑*iP*	Pn	02 46 48.9	+0.7
CICH				*iS*	Sn	02 47 07.3	+1.6
COCH	**Cobquecura**	**1.51**	**203**	⇑*iP*	Pn	02 46 49.9	+0.3
COCH				*iS*	Sn	02 47 09.7	+1.4
COCH				AML	AML	02 47 17.8	
	comp=E,64nm,0.6s						
COCH	**Cobquecura**	**1.51**	**203**	⇑*iP*	Pn	02 46 49.9	+0.3
COCH				*iS*	Sn	02 47 09.7	+1.4
PEL	**Peldehue**	**1.95**	**36**	*eP*	Pn	02 46 57.0	+1.3
PEL				*iS*	Sn	02 47 22.3	+3.1
PEL				AML	AML	02 47 31.7	
	comp=N,217nm,0.3s						
PEL	**Peldehue**	**1.95**	**36**	*eP*	Pn	02 46 57.0	+1.3
PEL				*iS*	Sn	02 47 22.3	+3.1
FCH	**Farellones**	**2.03**	**47**	⇑*iP*	Pn	02 46 58.7	+2.0
FCH				*iS*	Sn	02 47 24.6	+3.6
FCH				AML	AML	02 47 30.7	
	comp=E,169nm,0.1s						

IDC 10 02:57:07.9±57.0, 2305S×17587W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=1055.0km s-min=176.8km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.55**	**247**	P	P	03 04 32.0	-0.2
	0.4nm,0.4s,baz=114,slow=10.0,SNR=3.3						
ASAR	**Alice Springs**	**45.92**	**259**	P	P	03 05 32.9	+0.6
	0.2nm,0.4s,baz=83,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**46.26**	**264**	P	P	03 05 35.4	+0.4
	0.7nm,0.4s,baz=103,slow=8.1,SNR=12						

*NEIC **10** 03:04:15.5, 3255S×7168W, h29km, ML3.8(GUC), After GUC.*
NEIC Felt [II] at Puchuncavi, Quintero and Zapallar.

GUC 10 03:04:15.5±0.7, 3255S×7168W, h29km±2km, MD4.2, ML3.8, 5C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.21**	**85**	⇓*iP*	Pb	03 04 22.2	+0.5
PACH				*iS*	Sb	03 04 26.8	+0.9
IHA	**Instituto Hidr**	**0.47**	**176**	⇑*iP*	Pb	03 04 24.9	-0.5
IHA				*iS*	Sb	03 04 32.0	-0.2
CHNG	**Los Chungos**	**0.69**	**13**	⇓*iP*	Pb	03 04 28.4	-0.6
CHNG				*iS*	Sb	03 04 38.0	-0.1
PTCH	**Petorca**	**0.70**	**66**	⇓*iP*	Pb	03 04 29.1	0.0
PTCH				*iS*	Sb	03 04 38.9	+0.4
PTCH				AML	AML	03 04 40.4	
	comp=E,8μm,0.2s						
PTCH	**Petorca**	**0.70**	**66**	⇓*iP*	Pb	03 04 29.1	0.0
PTCH				*iS*	Sb	03 04 38.9	+0.4
ROCH	**El Roble**	**0.70**	**127**	⇑*iP*	Pb	03 04 29.0	-0.3
ROCH				*iS*	Sb	03 04 38.6	0.0
JACH	**Jahuel**	**0.93**	**98**	⇑*iP*	Pn	03 04 32.3	-0.2
JACH				*iS*	Sn	03 04 44.9	0.0
PEL	**Peldehue**	**1.02**	**125**	⇑*iP*	Pn	03 04 34.0	+0.1
PEL				*iS*	Sn	03 04 47.6	+0.3
PEL				AML	AML	03 04 48.9	
	comp=E,5μm,0.3s						
PEL	**Peldehue**	**1.02**	**125**	⇑*iP*	Pn	03 04 34.0	+0.1
PEL				*iS*	Sn	03 04 47.6	+0.3
RCDM	**Rinconada Maip**	**1.19**	**142**	*eP*	Pn	03 04 36.4	+0.2
RCDM				*iS*	Sn	03 04 51.9	+0.6
RCDM				AML	AML	03 04 53.8	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.19**	**142**	*eP*	Pn	03 04 36.4	+0.2
RCDM				*iS*	Sn	03 04 51.9	+0.6
SAN	**Santiago**	**1.24**	**137**	*eP*	Pn	03 04 37.1	+0.2
SAN				*iS*	Sn	03 04 53.7	+1.1
DSCH	**Colegio Aleman**	**1.26**	**132**	*eP*	Pn	03 04 36.9	-0.2
DSCH				*iS*	Sn	03 04 53.4	+0.3
TACH	**Talagante**	**1.26**	**150**	*eP*	Pn	03 04 37.6	+0.4
TACH				*iS*	Sn	03 04 54.1	+0.9
CLCH	**Cerro Calan**	**1.28**	**131**	⇓*iP*	Pn	03 04 37.8	+0.4
CLCH				*iS*	Sn	03 04 54.8	+1.3
CLCH				AML	AML	03 05 01.4	
	comp=N,2μm,0.5s						
ANTU	**Antumapu**	**1.34**	**139**	*iP*	Pn	03 04 39.0	+0.8
ANTU				*iS*	Sn	03 04 56.5	+1.4
ANTU				AML	AML	03 05 02.2	
	comp=N,2μm,0.5s						
ANTU	**Antumapu**	**1.34**	**139**	*iP*	Pn	03 04 39.0	+0.8
ANTU				*iS*	Sn	03 04 56.5	+1.4
FCH	**Farellones**	**1.40**	**124**	⇓*iP*	Pn	03 04 39.7	+0.6
FCH				*iS*	Sn	03 04

NIED ***10*** *03:30:00,20.10N×12160E,h44km,Mw5.1 Best double couple: M₀4.67000×10¹⁶ NP1:ϕ200.00000°, δ72.00000°, λ94.00000°. NP2:ϕ9.00000°, δ18.00000°, λ79.00000°.*

MAN ***10*** *03:30:52.1,2031N×12129E,h88km,mb4.0,ML4.9,MS5.8*

BJI ***10*** *03:30:54.2,2004N×12129E,h20km,mB5.0,mb4.7,ML4.1, Ms4.7,Msz4.7*

MOS ***10*** *03:30:55.1±0.9,1984N×12130E,h33km,mb5.1/24, MS4.7/5, Error ellipse: s-maj=13.3km s-min=6.3km az=116.0*

ISCJB ***10*** *03:30:55.7±0.2,1995N±002×12134E±004,h35km, mb4.6/57,MS4.4/32, Error ellipse: s-maj=6.1km s-min=2.8km az=170.1*

GCMT ***10*** *03:30:56.6±0.2,1997N×121.14E,h29km,MW5.2/75, Moment Tensor Solution. s43,c59; s75,c132; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr4.89±.22; Mθθ0.82±.14; Mϕϕ-5.71±.16; Mrθ-3.27±.24; Mϕθ-2.80±.10; Mϕr-4.13±.26; Best double couple: M₀7.91300×10¹⁶ NP1:ϕ8.00000°, δ27.00000°, λ58.00000°. NP2: ϕ215.00000°, δ67.00000°, λ105.00000°. Principal axes: T 7.1900, Plg65.0000°, Azm151.0000°; N 1.4470, Plg14.0000°, Azm29.0000°; P -8.6360, Plg21.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *03:30:56.6±0.2,1978N×12127E,mb4.9/32 Error ellipse: s-maj=6.9km s-min=4.6km az=82.0*

IDC ***10*** *03:30:59.7±2.1,1984N×12132E,h63km±18km,mb4.1/23, mb1 4.1/23,mb1mx4.1/26,mbtmp4.1/23,MS4.3/27, Ms1 4.3/27,ms1mx4.3/33,Error ellipse: s-maj=17.0km s-min=8.7km az=73.0*

ISC 10 03:30:57.8±0.2,1995N±002×12133E±004,h37km, h37km±1.6km:pP-P,n200,σ1s19/192,mb4.6/57,MS4.4/32, 13C-13D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.75**	**203**	*i*P	**Pn**	**03 31 23.5**	**-2.1**
PIP				*e*S	**Sn**	**03 31 54.0**	**+7.3**
SGCP	**Mt. Cagua**	**1.83**	**158**	*e*P	**Pn**	**03 31 23.3**	**-3.4**
APYP	**Conner**	**2.08**	**182**	*e*P	**Pn**	**03 31 30.1**	**-0.1**
APYP				*e*S	**Sn**	**03 31 55.8**	**+1.0**
CVP	**Callao Caves**	**2.29**	**168**	*e*P	**Pn**	**03 31 33.0**	**+0.1**
CVP				*e*S	**Sn**	**03 32 05.0**	**+5.1**
ABRA	**Dolores**	**2.36**	**194**	*e*P	**Pn**	**03 31 34.8**	**+0.8**
CAUP	**Cauayan**	**3.03**	**171**	*e*P	**Pn**	**03 31 45.3**	**+2.1**
PALP	**Palanan**	**3.06**	**160**	*e*P	**Pn**	**03 31 44.8**	**+1.2**
PALP	**Palanan**	**3.06**	**160**	*e*P	**Pn**	**03 31 44.8**	**+1.3**
PALP				*e*S	**Sn**	**03 32 24.0**	**+5.1**
BCPH	**Baguio City Da**	**3.62**	**191**	*e*P	**Pn**	**03 31 51.8**	**+0.5**
BCPH				*e*S	**Sn**	**03 32 40.4**	**+7.6**
BOLP	**Bolinao**	**3.80**	**201**	*e*P	**Pn**	**03 31 54.2**	**+0.5**
BALP	**Baler**	**4.20**	**177**	*e*P	**Pn**	**03 31 59.6**	**+0.4**
NACB	**Ninganchiao**	**4.21**	**3**	*e*Pn	**Pn**	**03 32 00.5**	**+1.1**
NACB				*e*Sn	**Sn**	**03 32 47.1**	**-0.2**
YHNB	**Yeheng**	**4.70**	**1**	*e*Pn	**Pn**	**03 32 07.4**	**+1.3**
YHNB				*e*Pg	Pn	03 32 27.5	+21
TATO	**Taipei** 325nm,1.3s	**5.00**	**2**	*e*Pn	**Pn**	**03 32 12.5**	**+2.2**
TATO				*e*Sn	**Sn**	**03 33 14.9**	**+8.1**
POLP	**Polillo Island**	**5.23**	**174**	*e*P	**Pn**	**03 32 14.6**	**+1.2**
QZH	**Quanzhou**	**5.58**	**333**	P	**Pn**	**03 32 13.9**	**-4.3**
QZH				S	**Sn**	**03 33 13.7**	**-7.3**
QZH	comp=N,160nm,1.0s			Smax			
QZH	comp=E,220nm,1.0s			Smax			
QZH	comp=N,14μm,18.0s			LR	LR		
QZH	comp=E,2μm,12.9s			LR	LR		
QZH	comp=Z,10μm,14.7s			LR	LR		
TGY	**Tagaytay City** baz=127,slow=22,SNR=4.4	**5.83**	**184**	P	**Pn**	**03 32 23.6**	**+1.9**
GQP	**Guinayangan**	**6.11**	**170**	*e*P	**Pn**	**03 32 27.2**	**+1.7**
LUBP	**Lubang**	**6.27**	**190**	*e*P	**Pn**	**03 32 29.2**	**+1.5**
PVCP	**Virac**	**6.88**	**156**	*e*P	**Pn**	**03 32 45.8**	**+10**
BUSP	**Coron**	**7.98**	**188**	*e*P	**Pn**	**03 32 51.1**	**0.0**
ENPP	**El Nido**	**8.89**	**192**	*e*P	**Pn**	**03 33 03.6**	**0.0**
JOW	**Kunigami** comp=Z,5.2nm,0.3s,baz=225,slow=14,SNR=12	**9.36**	**42**	P	**Pn**	**03 33 09.6**	**-0.5**
JOW				S	**Sn**	**03 34 52.2**	**-1.7**
JOW	comp=Z,1.5nm,0.3s,baz=332,slow=28,SNR=2.8 comp=Z,1μm,21.6s,baz=303,slow=37			LR	LR	03 36 49.3	
QIZ	**Qiongzhong**	**10.87**	**267**	*i*P	**Pn**	**03 33 28.0**	**-2.8**
QIZ	comp=Z,30nm,0.9s			AMB	AMB		
QIZ	comp=N,2μm,14.7s			LR	LR		
QIZ	comp=E,3μm,15.0s			LR	LR		
QIZ	comp=Z,4μm,15.0s			LR	LR		
QIZ	**Qiongzhong** comp=Z,65nm,1.0s	**10.87**	**267**	*e*Pn	**Pn**	**03 33 27.7**	**-3.1**
QIZ				*e*Sn	**Sn**	**03 35 22.2**	**-9.0**
WHN	**Wuhan**	**12.29**	**330**	P	**Pn**	**03 33 51.7**	**+1.6**
WHN	comp=Z,8μm,16.6s			LR	LR		
KKM	**Kota Kinabalu**	**14.69**	**200**	*e*P	**Pn**	**03 34 23.9**	**+1.0**
GYA	**Guiyang**	**14.95**	**298**	*i*P	**Pn**	**03 34 24.4**	**-2.0**
GYA				S	**Sn**	**03 37 06.6**	**-4.1**
GYA	comp=Z,20nm,1.0s			AMB	AMB		
GYA	comp=Z,420nm,8.1s			AMB	AMB		
GYA	comp=N,2μm,14.1s			LR	LR		
GYA	comp=E,3μm,16.5s			LR	LR		
GYA	comp=Z,3μm,15.3s			LR	LR		
JNU	**Nakatsue** comp=Z,0.6nm,0.3s,baz=209,slow=20,SNR=9.7	**15.64**	**31**	P	**Pn**	**03 34 40.8**	**+5.4**
JNU	comp=Z,2μm,20.1s,baz=264,slow=36			LR	LR	03 40 31.1	
TIA	**Tai'an**	**16.61**	**348**	*e*P	**Pn**	**03 34 50.2**	**+2.4**
TIA				S	**S**	**03 37 53.0**	**-8.5**
TIA	comp=N,922nm,16.0s			LR	LR		
TIA	comp=E,944nm,15.0s			LR	LR		
XAN	**Xi'an**	**17.84**	**324**	P	**Pn**	**03 35 01.6**	**-1.4**
XAN				S	**S**	**03 38 21.3**	**-5.2**
XAN	comp=Z,31nm,1.5s			AMB	AMB		
XAN	comp=Z,658nm,9.1s			AMB	AMB		
XAN	comp=N,2μm,14.0s			LR	LR		
XAN	comp=E,736nm,14.1s			LR	LR		
XAN	comp=Z,3μm,14.6s			LR	LR		
KMI	**Kunming**	**17.92**	**290**	P	**Pn**	**03 35 03.8**	**-0.2**
KMI				AP	pP	03 35 12.9	-0.9
KMI				XP	sP	03 35 17.4	-1.1
KMI				PP		03 35 22.6	
KMI				PPP		03 35 27.2	
KMI				S	**S**	**03 38 24.1**	**-4.0**
KMI	comp=Z,24nm,1.6s			AMB	AMB		
KMI	comp=Z,486nm,4.5s			AMB	AMB		
KMI	comp=N,1μm,14.3s			LR	LR		
KMI	comp=E,2μm,14.7s			LR	LR		
KMI	comp=Z,3μm,14.7s			LR	LR		
KMI	**Kunming** comp=Z,24nm,1.6s	**17.92**	**290**	P	**Pn**	**03 35 03.8**	**-0.2**
KMI				pP	pP	03 35 12.9	-0.9
KMI				sP	sP	03 35 17.4	-1.1
KMI				PP		03 35 22.6	
KMI				PPP		03 35 27.2	
KMI				S	**S**	**03 38 24.1**	**-4.0**
KMI				SS		03 38 47.8	
KSRS	**Korea Array** baz=198,slow=11,SNR=15	**18.36**	**17**	P	**Pn**	**03 35 07.6**	**-1.8**
KSRS				LR	LR	03 43 12.5	
	comp=Z,626nm,18.3s,baz=202,slow=40						
DL2	**Dalian**	**18.89**	**1**	P	**Pn**	**03 35 12.2**	**-3.6**
DL2				S	**S**	**03 38 41.2**	**-6.2**
DL2	comp=Z,20nm,1.0s			AMB	AMB		
DL2	comp=Z,140nm,6.2s			AMB	AMB		
DL2	comp=N,850nm,15.0s			LR	LR		
DL2	comp=E,880nm,14.8s			LR	LR		
DL2	comp=Z,850nm,16.4s			LR	LR		
CD2	**Chengdu**	**19.23**	**308**	P	**Pn**	**03 35 19.1**	**-0.8**
CD2				XP	sP	03 35 30.6	-2.3
CD2				PP		03 35 39.0	
CD2				S	**S**	**03 38 54.7**	**+0.1**
CD2	comp=Z,70nm,0.9s			AMB	AMB		
CD2	comp=Z,990nm,7.3s			AMB	AMB		
CD2	comp=N,3μm,14.4s			LR	LR		
CD2	comp=Z,4μm,16.2s			LR	LR		
NANT	**Nan** comp=Z,88nm,1.0s	**19.50**	**270**	P	**Pn**	**03 35 20.0**	**-3.1**
CBIJ	**Chichi jima** comp=Z,54nm,0.8s,baz=294,slow=19,SNR=2.9	**20.39**	**66**	P	**P**	**03 35 33.0**	**+1.8**
BJT	**Baijiatuao**	**20.48**	**349**	*e*P	**P**	**03 35 33.0**	**+0.6**
BJT	comp=Z,80nm,1.0s			pmax	pmax		
BJT	**Baijiatuao** comp=Z,80nm,1.0s	**20.48**	**349**	*e*P	**P**	**03 35 33.0**	**+0.6**
BJI	**Beijing**	**20.50**	**349**	*e*P	**P**	**03 35 32.9**	**+0.3**
BJI				XP	sP	03 35 42.8	-4.0
BJI				S	**S**	**03 39 18.4**	**-1.6**
BJI	comp=Z,49nm,0.9s			AMB	AMB		
BJI	comp=Z,282μm,3.0s			AMB	AMB		
BJI	comp=N,1μm,18.7s,MS4.4			LR	LR		
BJI	comp=E,793nm,16.9s,MS4.4			LR	LR		
BJI	comp=Z,2μm,20.2s,MS4.3			LR	LR		
BJI	**Beijing** comp=Z,49nm,0.9s	**20.50**	**349**	*e*P	**P**	**03 35 32.9**	**+0.3**
BJI				sP	sP	03 35 42.8	-4.0
BJI				S	**S**	**03 39 18.4**	**-1.6**
BJI				sS	sS	03 39 36.5	+1.3
BJI	comp=Z,2μm,20.2s,MS4.3			LR	LR		
NST	**Nakhon Sawan**	**20.62**	**261**	P	**P**	**03 35 35.0**	**+1.2**
JHJ	**Hachijo jima 2** comp=Z,504nm,19.2s,MS3.9,baz=136,slow=32	**21.04**	**48**	LR	LR	03 42 21.2	
CHG	**Chiang Mai** comp=Z,9.8nm,1.0s,mb4.1	**21.15**	**271**	*i*P	**P**	**03 35 39.9**	**+0.4**
CHTO	**Chiang Mai**	**21.15**	**271**	*e*P	**P**	**03 35 38.8**	**-0.7**
CHTO	comp=Z,32nm,1.1s,mb4.6			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,32nm,1.1s,mb4.6	**21.15**	**271**	*e*P	**P**	**03 35 38.8**	**-0.7**
KSM	**Kuching**	**21.30**	**212**	*e*P	**P**	**03 35 36.6**	**-4.5**
MAJO	**Matsushiro**	**22.17**	**38**	*e*P	**P**	**03 35 54.2**	**+3.7**
MAJO	comp=Z,16nm,1.1s,mb4.4			pmax	pmax		
MAJO	**Matsushiro** comp=Z,16nm,1.1s,mb4.4	**22.17**	**38**	*e*P	**P**	**03 35 54.2**	**+3.7**
MJAR	**Matsushiro Arr** comp=Z,4.8nm,1.0s,mb3.9,baz=226,slow=8.0,SNR=10	**22.18**	**38**	P	**P**	**03 35 51.5**	**+1.0**
LZH	**Lanzhou**	**22.23**	**320**	*i*P	**P**	**03 35 52.0**	**+0.9**
LZH				AP		03 35 58.5	
LZH				XP	sP	03 36 02.9	-2.4
LZH				PP		03 36 20.1	
LZH				S	**S**	**03 39 52.3**	**-1.4**
LZH				XS	sS	03 40 05.1	-4.1
LZH	comp=Z,109nm,1.4s,mb5.1			AMB	AMB		
LZH	comp=Z,258nm,4.5s			AMB	AMB		
LZH	comp=N,2μm,13.7s			LR	LR		
LZH	comp=Z,3μm,16.2s,MS4.7			LR	LR		
LZH	**Lanzhou** comp=Z,109nm,1.4s,mb5.1	**22.23**	**320**	*i*P	**P**	**03 35 52.0**	**+0.9**
LZH				pP		03 35 58.5	
LZH				sP	sP	03 36 02.9	-2.4
LZH				PP		03 36 20.1	
LZH				S	**S**	**03 39 52.3**	**-1.4**
LZH				SS		03 40 34.2	
LZH	comp=Z,3μm,16.2s,MS4.7			LR	LR		
HHC	**Hu-ho-hao-te**	**22.44**	**340**	*e*P	**P**	**03 35 53.4**	**+0.1**
HHC				AP		03 36 03.0	
HHC				XP	sP	03 36 06.8	-0.8
HHC	comp=Z,21nm,1.2s,mb4.4			AMB	AMB		
HHC	comp=Z,276nm,5.2s			AMB	AMB		
HHC	comp=N,2μm,14.9s,MS4.8			LR	LR		
HHC	comp=E,1μm,14.3s,MS4.8			LR	LR		
HHC	comp=Z,2μm,15.5s,MS4.7			LR	LR		
BTO	**Baotou**	**22.74**	**337**	*e*P	**P**	**03 35 56.0**	**-0.6**
GUMO	**Guam** comp=Z,1μm,18.6s,MS4.3,baz=102,slow=36	**23.39**	**102**	LR	LR	03 44 59.3	
MDJ	**Mudanjiang**	**25.54**	**14**	P	**P**	**03 36 19.5**	**-3.4**
MDJ	comp=Z,5.0nm,0.7s,mb4.2			AMB	AMB		
MDJ	comp=Z,77nm,3.5s			AMB	AMB		
MDJ	comp=N,859nm,16.5s,MS4.6			LR	LR		
MDJ	comp=E,1μm,18.1s,MS4.6			LR	LR		
MDJ	comp=Z,791nm,17.3s,MS4.3			LR	LR		
GTA	**Gaotai**	**26.81**	**321**	*e*P	**P**	**03 36 35.6**	**+1.2**
GTA				S	**S**	**03 41 13.8**	**+5.7**
GTA	comp=Z,7.0nm,1.6s,mb3.9			AMB	AMB		
GTA	comp=Z,150nm,5.3s			AMB	AMB		
GTA	comp=N,934nm,14.1s,MS4.6			LR	LR		
GTA	comp=E,878nm,14.8s,MS4.6			LR	LR		
GTA	comp=Z,1μm,15.2s,MS4.6			LR	LR		
PSI	**Prapat** comp=Z,6.2nm,0.9s,mb4.2,baz=180,slow=12,SNR=7.4	**27.73**	**235**	P	**P**	**03 36 43.2**	**+0.5**
PSI				LR	LR	03 47 35.9	
	comp=Z,302nm,19.0s,MS3.9,baz=45,slow=36						
LSA	**Lhasa**	**28.98**	**295**	P	**P**	**03 36 54.0**	**+0.2**
HIA	**Hailar**	**29.27**	**358**	*i*P	pP	03 37 06.4	-0.4
ASAJ	**Asahikawa** comp=Z,13nm,1.1s,mb4.6,baz=240,slow=8.1,SNR=2.8	**29.92**	**32**	P	**P**	**03 37 02.5**	**+0.3**
ASAJ				LR	LR	03 49 31.9	
	comp=Z,488nm,21.1s,MS4.1,baz=201,slow=37						
SONM	**Songino Array** comp=Z,2.7nm,0.8s,mb4.1,baz=159,slow=9.0,SNR=14	**30.34**	**340**	P	**P**	**03 37 05.5**	**-0.3**
SONM				LR	LR	03 51 30.3	
	comp=Z,1μm,18.3s,MS4.5,baz=252,slow=40						
KLR	**Kul'dur**	**30.38**	**14**	*e*P	**P**	**03 37 04.1**	**-2.1**
KLR	comp=E,2μm,20.0s			MLR	MLR		
KLR	comp=N,800nm,14.0s			MLR	MLR		
KLR	comp=E,900nm,14.0s			MLR	MLR		
KLR	comp=Z,2μm,14.0s			MLR	MLR		
CIT	**Chita**	**32.58**	**351**	*e*P	**P**	**03 37 26.1**	**+0.6**
GUN	**Gumba**	**33.27**	**291**	*e*P	**P**	**03 37 31.6**	**+0.1**
ZAK	**Zakamensk**	**33.57**	**339**	*e*P	**P**	**03 37 34.7**	**+0.5**
PKI	**Pulchoki** comp=Z,17nm,0.8s,mb5.0	**33.65**	**290**	*e*P	**P**	**03 37 35.5**	**+0.6**
KKN	**Kakani**	**33.78**	**290**	*e*P	**P**	**03 37 36.4**	**+0.4**
DMN	**Daman**	**33.92**	**290**	*e*P	**P**	**03 37 37.6**	**+0.4**
KAKA	**Kakadu** comp=Z,4.7nm,0.6s,mb4.6	**34.25**	**160**	*e*P	**P**	**03 37 36.8**	**-3.3**
GKN	**Gorkha**	**34.37**	**291**	*e*P	**P**	**03 37 40.7**	**-0.4**
KOLN	**Koldanda** comp=Z,35nm,1.2s,mb5.2	**35.26**	**290**	*e*P	**P**	**03 37 48.4**	**-0.4**
MOY	**Mondy**	**35.44**	**338**	*e*P	**P**	**03 37 51.4**	**+1.1**
MOY	comp=Z,28nm,2.7s,mb4.7			pmax	pmax		
WMQ	**Urumqi**	**36.78**	**318**	P	**P**	**03 38 03.5**	**+1.7**
FITZ	**Fitzroy Crossi** comp=Z,5.5nm,0.6s,mb4.5	**38.05**	**173**	*e*P	**P**	**03 38 09.8**	**-2.8**
FITZ	**Fitzroy Crossi** comp=Z,3.8nm,0.7s,mb4.2,baz=216,slow=3.2,SNR=13	**38.05**	**173**	P	**P**	**03 38 09.7**	**-2.9**
FITZ				LR	LR	03 55 02.5	
PMG	**Port Moresby** comp=Z,246nm,18.7s,MS4.0,baz=203,slow=34	**38.70**	**137**	LR	LR	03 53 12.5	
MBWA	**Marble Bar** comp=Z,23nm,1.0s,mb4.8	**40.89**	**182**	*e*P	**P**	**03 38 34.0**	**-2.2**
MKAR	**Makanchi Array** comp=Z,4.1nm,0.8s,mb4.1,baz=119,slow=9.8,SNR=21	**41.54**	**319**	P	**P**	**03 38 41.8**	**+0.3**
MKAR				LR	LR	03 59 10.8	
	comp=Z,580nm,18.4s,MS4.5,baz=15,slow=41						
WRAB	**Tennant Creek**	**41.64**	**161**	*i*eP	**P**	**03 38 39.6**	**-2.8**
WRA	**Warramunga Arr** comp=Z,16nm,0.5s,mb4.9,baz=343,slow=9.2,SNR=117	**41.65**	**161**	P	**P**	**03 38 40.2**	**-2.2**
WRA				S	**S**	**03 44 51.1**	**-5.2**
WRA	comp=Z,1.6nm,0.7s,baz=342,slow=14,SNR=5.2			LR	LR	03 56 07.6	
WRA	**Warramunga Arr** comp=Z,201nm,21.9s,MS4.0,baz=345,slow=36	**41.65**	**161**	P	**P**	**03 38 40.2**	**-2.2**
WRA				S	**S**	**03 44 51.1**	**-5.3**
WB2	**Warramunga Arr**	**41.65**	**161**	*e*P	**P**	**03 38 39.4**	**-3.1**
PET	**Petropavlovsk**	**43.76**	**32**	*e*P	pP	03 39 12.6	+2.3
PET	comp=Z,100nm,15.5s			pmax	pmax		
ZAL	**Zalesovo** comp=Z,2.7nm,0.8s,mb4.1,baz=355,slow=7.9,SNR=18	**43.90**	**330**	P	**P**	**03 39 01.1**	**+0.4**
AS31	**Alice Springs**	**45.05**	**164**	*e*P	**P**	**03 39 08.4**	**-1.5**
ASPA	**Alice Springs**	**45.05**	**164**	*e*P	**P**	**03 39 08.4**	**-1.5**
ASAR	**Alice Springs** comp=Z,3.7nm,0.2s,mb4.8,baz=346,slow=6.6,SNR=107	**45.05**	**164**	P	**P**	**03 39 08.7**	**-1.3**
ASAR				S	**S**	**03 45 45.2**	**-1.0**
ASAR	comp=Z,1.3nm,1.0s,baz=351,slow=22,SNR=7.8 comp=Z,235nm,21.0s,MS4.1,baz=346,slow=34			LR	LR	03 56 33.8	
ASAR	**Alice Springs**	**45.05**	**164**	P	**P**	**03 39 08.7**	**-1.2**
ASAR				S	**S**	**03 45 45.2**	**-1.1**
NVS	**Novosibirsk**	**45.17**	**330**	*i*P	**P**	**03 39 10.9**	**0.0**
NVS	comp=N,32nm,2.2s			pmax	pmax		
NVS	comp=Z,52nm,2.2s,mb5.0			pmax	pmax		
NVS	comp=E,36nm,2.3s			pmax	pmax		
KURK	**Kurchatov**	**45.47**	**323**	*e*P	**P**	**03 39 13.2**	**0.0**
KURK				*e*	pP	03 39 25.6	+1.6
KURK	comp=Z,27nm,1.3s,mb4.9			pmax	pmax		
KURK	**Kurchatov**	**45.47**	**323**	*ce*P	**P**	**03 39 14.5**	**+1.3**
KURK	**Kurchatov** comp=Z,27nm,1.3s,mb4.9	**45.47**	**323**	*e*P	**P**	**03 39 13.2**	**0.0**
KURK				*e*	pP	03 39 25.6	+1.6
CTA	**Charters Tower** comp=Z,8.6nm,1.4s,mb4.5	**46.69**	**147**	*e*P	**P**	**03 39 22.2**	**-0.6**
CTA	**Charters Tower** comp=Z,2.5nm,0.4s,mb4.5,baz=327,slow=7.6,SNR=3.4	**46.69**	**147**	P	**P**	**03 39 23.0**	**+0.2**
CTA	**Charters Tower** comp=Z,9.0nm,1.4s	**46.69**	**147**	*e*P	**P**	**03 39 22.2**	**-0.6**
CTA				pmax	pmax		
CTAO	**Charters Tower** comp=Z,40nm,1.5s,mb5.1	**46.69**	**147**	*e*P	**P**	**03 39 22.9**	**+0.1**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,40nm,1.5s,mb5.1	**46.69**	**147**	*e*P	**P**	**03 39 22.9**	**+0.1**
HNR	**Honiara** comp=Z,487nm,21.6s,MS4.4,baz=358,slow=32	**47.94**	**124**	LR	LR	03 56 31.6	
FORT	**Forrest** comp=Z,24nm,0.6s,mb5.3	**50.85**	**173**	*e*P	**P**	**03 39 53.8**	**-1.0**
BVAR	**Borovoye Array** comp=Z,1.7nm,0.8s,mb4.0,baz=108,slow=9.5,SNR=9.1	**51.07**	**323**	P	**P**	**03 39 55.6**	**-0.8**
BRVK	**Borovoye**	**51.14**	**323**	*e*P	**P**	**03 39 57.8**	**+0.9**
BRVK				*e**PP	pP	03 40 08.5	+0.7
BRVK	comp=Z,18nm,1.1s,mb4.9			pmax	pmax		
BRVK	**Borovoye** comp=Z,18nm,1.1s,mb4.9	**51.14**	**323**	*e*P	**P**	**03 39 57.8**	**+0.9**
BRVK				*ep*P	pP	03 40 08.5	+0.7
KLBR	**Kellerberrin** comp=Z,15nm,0.9s,mb4.9	**51.36**	**184**	*e*P	**P**	**03 39 57.3**	**-1.3**
NWAO	**Narrogin (SRO)** comp=Z,17nm,1.0s,mb4.9,baz=341,slow=7.9,SNR=3.4	**52.73**	**184**	P	**P**	**03 40 07.6**	**-1.1**
STKA	**Stephens Creek** comp=Z,2.9nm,0.6s,mb4.5	**55.07**	**159**	*e*P	**P**	**03 40 24.3**	**-1.6**
STKA	**Stephens Creek** comp=Z,4.2nm,0.7s,mb4.6,baz=337,slow=7.8,SNR=11	**55.07**	**159**	P	**P**	**03 40 24.3**	**-1.6**
STKA	comp=Z,231nm,21.5s,MS4.2,baz=13,slow=37			LR	LR	04 05 13.5	
BILL	**Bilibino**	**55.62**	**19**	*e*P	**P**	**03 40 29.8**	**0.0**
BILL				*e**PP	pP	03 40 40.2	-0.6
BILL	comp=Z,15nm,0.8s,mb5.1			pmax	pmax		
BILL	**Bilibino** comp=Z,15nm,0.8s,mb5.1	**55.62**	**19**	*e*P	**P**	**03 40 29.8**	**0.0**
BILL				*ep*P	pP	03 40 40.2	-0.6
SVE	**Sverdlovsk**	**57.55**	**325**	*e*P	**P**	**03 40 50.0**	**+6.4**
AKTK	**Aktyubinsk**	**57.93**	**318**	P	**P**	**03 40 46.6**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.6s,mb4.1,baz=94,slow=5.9,SNR=5.3	**57.93**	**318**	P	**P**	**03 40 46.6**	**+0.4**
ARU	**Arti**	**58.59**	**325**	*i*P	**P**	**03 40 58.1**	**+7.3**
ARU				*e*		03 41 44.5	
ARU				*e*		03 43 08.8	
ARU				*e*S		03 49 07.0	
ARU	comp=Z,13nm,0.9s,mb5.0			pmax	pmax		
ARU	comp=E,600nm,17.0s,MS4.8			MLR	MLR		
ARU	comp=Z,700nm,17.0s,MS4.8			MLR	MLR		
ARU	comp=N,200nm,15.0s,MS4.8			MLR	MLR		
CNB	**Canberra Magne** comp=N,30nm,1.2s,mb5.3	**61.06**	**154**	*e*P	**P**	**03 41 04.1**	**-3.7**
TOO	**Toolangi** comp=N,10.0nm,0.5s,mb5.2	**61.57**	**158**	*e*P	**P**	**03 41 11.6**	**+0.3**
TOO	**Toolangi** comp=Z,10.0nm,0.5s,mb5.2	**61.57**	**158**	*e*P	**P**	**03 41 11.6**	**+0.3**
TOO				pmax	pmax		
ZEI	**Tsey**	**67.65**	**309**	*e*P	**P**	**03 41 51.3**	**+0.4**
ZEI				*e**PP	pP	03 42 01.9	-0.2
ZEI				*e*		03 42 18.5	
ZEI	comp=Z,6.0nm,0.8s,mb4.7			pmax	pmax		
KIV	**Kislovodsk** comp=Z,22nm,0.8s,mb5.2	**68.38**	**310**	*e*P	**P**	**03 41 56.6**	**+1.1**
KIV				*e**PP	pP	03 42 07.3	+0.5
KIV	comp=Z,22nm,0.8s,mb5.2			pmax	pmax		
KIV	**Kislovodsk** comp=Z,22nm,0.8s,mb5.2	**68.38**	**310**	*e*P	**P**	**03 41 56.6**	**+1.1**
KIV				*ep*P	pP	03 42 07.3	+0.5
MOS	**Moscow**	**70.24**	**323**	*e*P	**P**	**03 42 06.5**	**-0.5**
MOS				*e*	pP	03 42 17.5	-0.8
OBN	**Obninsk**	**70.91**	**323**	*e*P	**P**	**03 42 14.1**	**+3.0**
OBN				*e*	pP	03 42 24.4	+2.0
OBN	comp=Z,6.0nm,1.3s,mb4.4			pmax	pmax		
KDAK	**Kodiak Island** comp=Z,4.3nm,0.7s,mb4.5,baz=99,slow=23,SNR=4.3	**71.29**	**34**	P	**P**	**03 42 13.1**	**-0.3**
MCK	**McKinley**	**72.20**	**28**	*e*P	**P**	**03 42 19.7**	**+0.9**
MCK				*e**PP	pP	03 42 29.7	-0.5
MCK	comp=Z,11nm,1.1s,mb4.7			pmax	pmax		
MCK	**McKinley** comp=Z,11nm,1.1s,mb4.7	**72.20**	**28**	*e*P	**P**	**03 42 19.7**	**+0.8**
MCK				*ep*P	pP	03 42 29.7	-0.5
COLA	**College**	**72.48**	**27**	*i*P	pP	03 42 31.4	-0.5

SML	**Sawmill**	**72.79**	**30**	*e*P	**P**	**03 42 22.9 +0.5**
SML				*e**PP	pP	03 42 33.2 -0.5
KEV	**Kevo**	**72.94**	**339**	*ep*	**P**	**03 42 21.0 -2.3**
ARCES	**ARCESS Array B**	**73.50**	**339**	P	**P**	**03 42 25.7 -0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=82,slow=8.7,SNR=5.9					
ARCES				LR	LR	04 19 07.0
	comp=Z,304nm,18.2s,MS4.6,baz=74,slow=39					
AFI	**Afiamalu**	**73.89**	**112**	LR	LR	04 08 19.7
	comp=Z,168nm,20.0s,MS4.3,baz=177,slow=30					
DIV	**Divide**	**74.13**	**30**	*e*P	**P**	**03 42 31.6 +1.3**
	comp=Z,117nm,1.3s,mb5.7					
DIV				*ep*P	pP	03 42 39.9 -1.6
FINES	**FINESS Array B**	**75.16**	**330**	P	**P**	**03 42 36.3 +0.1**
	comp=Z,3.5nm,0.9s,mb4.3,baz=76,slow=8.0,SNR=6.1					
FINES				LR	LR	04 18 11.7
	comp=Z,385nm,18.3s,MS4.7,baz=62,slow=38					
BR131	**Keskin Array S**	**75.81**	**307**	*e*P	**P**	**03 42 36.3 -3.6**
	comp=Z,3.8nm,1.0s,mb4.3					
BRTR	**Keskin Array B**	**75.81**	**307**	P	**P**	**03 42 40.4 +0.5**
	comp=Z,0.2nm,0.3s,baz=199,slow=28,SNR=3.2					
AKASG	**Malin Array Be**	**76.12**	**319**	P	**P**	**03 42 40.0 -1.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=60,slow=6.1,SNR=5.1					
AKASG				LR	LR	04 19 21.0
	comp=Z,270nm,21.0s,MS4.5,baz=75,slow=38					
AKBB	**Malin Array Si**	**76.12**	**319**	*e*P	**P**	**03 42 40.9 -0.8**
DAWY	**Dawson**	**76.23**	**27**	*e*P	**P**	**03 42 42.7 +0.3**
INK	**Inuvik**	**77.09**	**22**	*e*P	**P**	**03 42 46.5 -0.7**
	comp=Z,198nm,1.1s					
INK				*ep*P	pP	03 42 58.3 -0.3
CSS	**Prodhromos**	**77.26**	**303**	*e*P	**P**	**03 42 49.0 +0.8**
	comp=Z,18nm,0.9s,mb5.0					
CSS				*ep*P	pP	03 43 00.9 +1.3
RPZ	**Rata Peaks**	**78.03**	**146**	LR	LR	04 16 49.2
	comp=Z,248nm,19.4s,MS4.5,baz=187,slow=35					
URZ	**Urewera**	**78.04**	**138**	LR	LR	04 10 48.9
	comp=Z,279nm,20.5s,MS4.6,baz=169,slow=31					
SUW	**Suwalki**	**78.75**	**323**	*e*P	**P**	**03 42 56.8 +0.4**
SUW				pmax	pmax	
	comp=Z,41nm,1.0s,mb5.3					
SUW	**Suwalki**	**78.75**	**323**	*e*P	**P**	**03 42 56.8 +0.4**
	comp=Z,41nm,1.0s,mb5.3					
PLOR	**Plostina**	**79.11**	**315**⇑	*i*P	pP	03 43 11.7 +1.9
BURAR	**Bucovina Array**	**79.51**	**317**⇓	*i*P	**P**	**03 43 05.4 +4.8**
BURAR	**Bucovina Array**	**79.51**	**317**	⇓P	**P**	**03 43 05.4 +4.8**
MLR	**Muntele Rosu**	**79.69**	**315**⇑	*i*P	pP	03 43 17.2 +4.2
KWP	**Kalwaria**	**80.44**	**319**	*e*P	**P**	**03 43 06.2 +0.6**
KWP				pmax	pmax	
	comp=Z,17nm,0.9s,mb5.0					
KWP	**Kalwaria**	**80.44**	**319**	*e*P	**P**	**03 43 06.2 +0.6**
	comp=Z,17nm,0.9s,mb5.0					
DAG	**Danmarks Havn**	**80.55**	**351**⇑	*i*P	**P**	**03 43 05.3 -0.9**
	comp=Z,5.2nm,0.8s,mb4.5					
DAG	**Danmarks Havn**	**80.55**	**351**⇑	*i*P	**P**	**03 43 05.3 -0.9**
DAG				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.5					
KOLS	**Kolonicke sedl**	**80.95**	**319**	*e*PP	PP	03 46 18.6 +5.5
DRGR		**81.40**	**317**⇓	*i*P	**P**	**03 43 11.9 +1.2**
DRGR		**81.40**	**317**	⇓P	**P**	**03 43 11.9 +1.2**
STHS	**Stebnicka Huta**	**81.41**	**319**	*e*P	pP	03 43 21.9 -0.4
CRVS	**Cervenica-Dubn**	**81.46**	**319**	*e*P	pP	03 43 23.5 +1.0
NB2	**NORSAR Subarra**	**82.02**	**333**	P	**P**	**03 43 13.3 -0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=62,slow=5.3					
NOA	**NORSAR Array B**	**82.02**	**333**	P	**P**	**03 43 12.7 -1.3**
	comp=Z,2.7nm,0.9s,mb4.2,baz=63,slow=5.1,SNR=4.6					
NOA				LR	LR	04 23 38.8
	comp=Z,660nm,19.0s,MS5.0,baz=70,slow=38					
KECS	**Kecovo**	**82.21**	**319**	*e*P	pP	03 43 28.1 +1.6
KECS				*e*		03 55 36.9
VTS	**Vitosha**	**82.50**	**312**⇓	*i*P	pP	03 43 31.2 +3.2
VTS	**Vitosha**	**82.50**	**312**	⇓P	pP	03 43 31.2 +3.3
RES	**Resolute Bay**	**82.80**	**9**	*e*P	**P**	**03 43 19.4 +1.4**
	comp=Z,202nm,0.9s					
VYHS	**Vyhne**	**83.23**	**319**	*e*P	pP	03 43 29.3 -2.5
DPC	**Dobruska-Polom**	**84.01**	**322**	*e*P	**P**	**03 43 29.3 +5.0**
UPC	**Upice**	**84.12**	**322**	*e*P	**P**	**03 43 24.9 0.0**
PKSM	**Moragy**	**84.23**	**317**⇑	*i*P	pP	03 43 34.3 -2.6
PKSM	**Moragy**	**84.23**	**317**	⇑P	pP	03 43 34.3 -2.6
VRAC	**Vranov**	**84.27**	**320**	P	**P**	**03 43 25.7 +0.1**
	comp=Z,2.0nm,0.7s,mb4.4,baz=145,slow=22,SNR=3.9					
KMBO	**Kilima Mbogo**	**84.81**	**267**	*e*P	**P**	**03 43 29.4 +1.1**
KMBO				pmax	pmax	
	comp=Z,13nm,1.3s					
KMBO	**Kilima Mbogo**	**84.81**	**267**	*e*P	**P**	**03 43 29.4 +1.1**
	comp=Z,13nm,1.3s,mb4.9					
PVCC	**Panska Ves**	**84.95**	**322**	*e*P	**P**	**03 43 27.9 -1.1**
BRG	**Berggiesshubel**	**85.16**	**323**	*e*P	**P**	**03 43 33.7 +3.6**
	comp=Z,14nm,1.7s,mb4.8					
BRG						
	comp=N,162nm,17.5s					
BRG						
	comp=E,169nm,19.6s					
BRG						
	comp=Z,356nm,16.2s					
BRG	**Berggiesshubel**	**85.16**	**323**	*e*P	**P**	**03 43 33.7 +3.6**
BRG				pmax	pmax	
	comp=Z,14nm,1.7s,mb4.8					
BRG				MLR	MLR	
	comp=N,162nm,17.5s,MS4.6					
BRG				MLR	MLR	
	comp=E,169nm,19.6s,MS4.6					
BRG				MLR	MLR	
	comp=Z,356nm,16.2s,MS4.8					
PRU	**Pruhonice**	**85.20**	**322**	*e*P	**P**	**03 43 29.8 -0.5**
CLL	**Collm**	**85.50**	**323**	*e*P	**P**	**03 43 32.0 +0.2**
CLL				pmax	pmax	
	comp=Z,52nm,2.5s,mb5.3					
CLL	**Collm**	**85.50**	**323**	*e*P	**P**	**03 43 32.0 +0.2**
	comp=Z,52nm,2.5s,mb5.3					
KHC	**Kasperske Hory**	**86.14**	**321**	*e*P	**P**	**03 43 35.8 +0.9**
GERES	**GERESS Array B**	**86.19**	**321**	P	**P**	**03 43 33.7 -1.5**
	comp=Z,0.4nm,0.5s,mb3.9,baz=70,slow=5.8,SNR=4.7					
GERES				LR	LR	04 26 04.3
	comp=Z,264nm,18.8s,MS4.7,baz=276,slow=38					
YKA	**Yellowknife Ar**	**86.80**	**23**	P	**P**	**03 43 37.1 -1.1**
	comp=Z,2.0nm,0.6s,mb4.5,baz=309,slow=4.6,SNR=17					
YKA				LR	LR	04 25 32.6
	comp=Z,82nm,20.8s,MS4.1,baz=230,slow=38					
RAR	**Rarotonga**	**87.31**	**114**	LR	LR	04 15 04.9
	comp=Z,155nm,19.9s,MS4.4,baz=285,slow=30					
LPG	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.8 +0.4**
	comp=Z,7.6nm,0.9s,mb4.7					
LPG	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.8 +0.4**
LPG				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.8					
LPG	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.8 +0.4**
	comp=Z,3.8nm,0.9s,mb4.7					
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.7 +0.3**
	comp=Z,6.4nm,0.8s,mb4.7					
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.7 +0.3**
LPL				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.7					
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**03 44 02.7 +0.3**
	comp=Z,3.2nm,0.8s,mb4.7					
PPT	**Papeete**	**95.03**	**107**	*e*PS	PS	03 56 52.8 +3.2
	comp=Z,171nm,28.2s					
PPT	**Papeete**	**95.03**	**107**	*e*S	S	03 55 27.5 -0.9
	comp=Z,429nm,34.0s					
PPT				*e*LR	LR	04 14 54.3
	comp=Z,386nm,26.0s,baz=297					
PPT	**Papeete**	**95.03**	**107**	LR	LR	04 23 53.4
	comp=Z,106nm,19.4s,MS4.3,baz=280,slow=33					
KEST	**Kesra**	**95.12**	**311**	LR	LR	04 34 56.1
	comp=Z,62nm,19.0s,MS4.1,baz=310,slow=40					
TBI	**Tubuai**	**96.99**	**112**	*e*LR	LR	04 15 48.6
	comp=Z,222nm,30.2s,baz=282					
MAW	**Mawson**	**97.17**	**199**	LR	LR	04 26 34.0
	comp=Z,100nm,19.9s,MS4.3,baz=131,slow=34					
TAOE	**Nuku Hiva Isla**	**100.93**	**96**	*e*SP	SP	03 57 52.0 +3.0
	comp=Z,1μm,38.0s					
TAOE				*e*SS	SS	04 03 09.8 -7.4
	comp=Z,2μm,33.0s					
TAOE				*e*LR	LR	04 17 38.3
	comp=Z,804nm,23.5s					
RKT	**Rikitea**	**109.73**	**108**	*e*LR	LR	04 21 32.5
	comp=Z,211nm,28.0s					
TXAR	**Lajitas Array**	**114.55**	**43**	PKP	PKiKP	03 49 34.5 +0.6
	comp=Z,0.2nm,0.7s,baz=167,slow=1.0,SNR=4.2					
TXAR	**Lajitas Array**	**114.55**	**43**	PKP	PKiKP	03 49 34.5 +0.6
VNA2	**Neumayer--Watz**	**120.92**	**197**	*e*PKPdf	PKPdf	03 49 45.3 -0.8
	baz=136,slow=1.0					
VNA2				*e*		03 49 48.1
VNA2				*e*		03 50 00.5
VNA2				*e*		03 50 05.0
VNA2				*e*		03 50 12.6
VNA2				*e*		03 50 16.9
SDV	**Santo Domingo**	**149.02**	**23**	*e*PKPdf	PKPdf	03 50 39.2 +1.5
SDV				*e*PKPbc	PKPbc	03 50 45.4 +3.6
ROSC	**El Rosal**	**150.93**	**34**	PKPbc	PKPbc	03 50 47.7 +1.3
	comp=Z,1.1nm,0.3s,baz=89,slow=23,SNR=4.9					

ISCJB ***10*** *03:36:05.2±0.5, 3072S±0.005×1795W±0.1, h269km±6km, mb3.8/11, Error ellipse: s-maj=16.2km s-min=6.5km az=27.4*

NEIC ***10*** *03:36:06.7±0.6, 3054S×17928W, h284km±5km, mb4.2/3, Error ellipse: s-maj=10.0km s-min=8.2km az=98.0*

IDC ***10*** *03:36:06.8±0.7, 3051S×17928W, h282km±7km, mb3.5/8, mb1 3.7/11, mb1mx3.6/16, mbtmp3.6/11, Error ellipse: s-maj=18.8km s-min=14.5km az=123.0*

ISC 10 03:36:05.9±0.5, 3078S±0.005×1795W±0.1, h263km±6km, n56, σ1°24/41, mb3.8/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.02**	**42**	P		**Pn**		**03 36 50.3**	**+0.7**
	277nm,0.3s,baz=48,slow=23,SNR=18								
RAO				S		**S**		**03 37 24.0**	**-0.1**
	487nm,0.3s,baz=66,slow=21,SNR=6.2								
MXZ	**Matakaoa Point**	**7.02**	**195**	SN		**S**		**03 39 08.1**	**-0.1**
PUZ	**Puketiti**	**7.52**	**194**	PN		**Pn**		**03 37 57.2**	**+4.0**
PUZ				SN		**S**		**03 39 17.2**	**-2.5**
MWZ	**Matawai**	**7.94**	**197**	PN		**Pn**		**03 38 02.4**	**+4.0**
MWZ				SN		**S**		**03 39 29.0**	**-0.3**
URZ	**Urewera**	**7.99**	**200**	P		**Pn**		**03 38 02.4**	**+3.3**
	5.7nm,0.3s,baz=268,slow=3.1,SNR=23								
URZ				S		**S**		**03 39 32.4**	**+2.0**
	10nm,0.3s,baz=336,slow=22,SNR=18								
URZ	**Urewera**	**7.99**	**200**	PN		**Pn**		**03 38 02.1**	**+3.1**
KNZ	**Kokohu**	**8.56**	**195**	PN		**Pn**		**03 38 08.2**	**+2.0**
BKZ	**Black Stump Fm**	**9.01**	**201**	PN		**Pn**		**03 38 14.8**	**+3.0**
PXZ	**Pawanui**	**9.71**	**197**	SN				03 40 05.1	
MRZ	**Mangatainoka R**	**10.66**	**201**	PN		**Pn**		**03 38 31.6**	**-0.9**
KIW	**Kapiti Island**	**11.05**	**203**	PN		**Pn**		**03 38 36.0**	**-1.5**
CAW	**Cannon Point**	**11.22**	**202**	PN		**Pn**		**03 38 38.2**	**-1.3**
MRW	**Makara Radio**	**11.45**	**203**	PN		**Pn**		**03 38 40.6**	**-1.8**
TCW	**Tory Channel**	**11.58**	**204**	PN		**Pn**		**03 38 43.8**	**-0.2**
NNZ	**Nelson**	**11.92**	**207**	PN		**Pn**		**03 38 46.8**	**-1.4**
THZ	**Tophouse**	**12.57**	**207**	PN		**Pn**		**03 38 55.4**	**-0.8**
MQZ	**McQueen's Val**	**14.35**	**204**	SN		**S**		**03 41 45.9**	**-10**
RPZ	**Rata Peaks**	**14.95**	**208**	P		**Pn**		**03 39 26.3**	**+1.3**
	1.3nm,0.3s,baz=44,slow=3.5,SNR=4.6								
DZM	**Mont Dumac**	**15.31**	**301**	P		**Pn**		**03 39 29.0**	**-0.2**
	0.3nm,0.3s,baz=103,slow=21,SNR=2.6								
TAU	**Tasmania Unive**	**29.03**	**236**	*e*P		**P**		**03 41 42.8**	**+1.0**
	11nm,0.6s,mb4.5								
CTA	**Charters Tower**	**32.63**	**281**	P		**P**		**03 42 15.0**	**+1.7**
	4.0nm,0.6s,mb4.2,baz=110,slow=12,SNR=4.3								
CTAO	**Charters Tower**	**32.63**	**281**	*e*P		**P**		**03 42 13.7**	**+0.4**
	6.2nm,0.7s,mb4.2								
STKA	**Stephens Creek**	**33.17**	**258**	P		**P**		**03 42 19.4**	**+1.4**
	2.6nm,0.8s,mb3.8,baz=115,slow=17,SNR=3.4								
STKA	**Stephens Creek**	**33.17**	**258**	P		**P**		**03 42 19.4**	**+1.4**
ASAR	**Alice Springs**	**41.84**	**268**	P		**P**		**03 43 30.2**	**-0.1**
	0.9nm,0.5s,mb3.2,baz=105,slow=7.6,SNR=6.4								
ASAR				ScP		ScP		03 48 42.1	-3.6
	1.4nm,0.9s,baz=110,slow=3.9,SNR=7.6								
WB2	**Warramunga Arr**	**42.85**	**273**	*e*P		**P**		**03 43 37.9**	**-0.6**
WRA	**Warramunga Arr**	**42.86**	**273**	P		**P**		**03 43 38.6**	**+0.1**
	3.1nm,0.5s,mb3.8,baz=112,slow=7.7,SNR=29								
WRA				ScP		ScP		03 48 45.7	-4.1
	0.4nm,0.7s,baz=110,slow=3.8,SNR=5.2								
VNDA	**Vanda**	**47.60**	**185**	P		**P**		**03 44 17.4**	**+1.8**
	0.5nm,0.6s,mb3.0,baz=329,slow=3.9,SNR=5.6								
VNDA	**Vanda**	**47.60**	**185**	*e*P		**P**		**03 44 17.0**	**+1.4**
	0.4nm,0.6s,mb2.9								
FITZ	**Fitzroy Crossi**	**51.11**	**271**	P		**P**		**03 44 42.4**	**+0.4**
	2.1nm,0.8s,mb3.5,baz=251,slow=9.7,SNR=3.7								
QSPA	**South Pole Qui**	**59.34**	**180**	*e*P		**P**		**03 45 42.1**	**+1.6**
	5.5nm,0.5s,mb4.2								
SNAA	**Sanae**	**77.81**	**179**	*e*Pdiff		**P**		**03 47 33.9**	**-0.4**
SNAA				*e*				03 47 36.1	
SNAA	**Sanae**	**77.81**	**179**	*e*P		**P**		**03 47 34.0**	**-0.3**
	0.6nm,0.3s,mb3.8								
MJAR	**Matsushiro Arr**	**77.85**	**326**	P		**P**		**03 47 32.2**	**-2.2**
	2.9nm,0.8s,mb4.1,baz=165,slow=4.8,SNR=6.8								
VNA2	**Neumayer--Watz**	**78.43**	**177**	*e*Pdiff		**P**		**03 47 37.5**	**-0.2**
	baz=185,slow=5.0								
VNA2				*e*				03 47 39.5	
VNA2				*e*				03 47 41.7	
VNA1	**Neumayer--Stat**	**78.67**	**177**	*e*Pdiff		**P**		**03 47 38.2**	**-0.8**
VNA1				*e*				03 47 40.1	
KSRS	**Korea Array**	**83.83**	**320**	P		**P**		**03 48 05.2**	**-0.9**
	2.8nm,0.8s,mb4.1,baz=145,slow=5.5,SNR=8.1								
KULM	**Kulim**	**84.05**	**280**	*e*P		**P**		**03 48 06.8**	**-0.2**
BVAR	**Borovoye Array**	**125.80**	**316**	PKP	PKPdf			03 54 33.6	-2.7
	0.8nm,0.5s,baz=135,slow=0.6,SNR=5.7								
AKTK	**Aktyubinsk**	**133.43**	**312**	PKP	PKPdf			03 54 48.2	-2.5
AKTO	**Aktyubinsk**	**133.43**	**312**	PKP	PKPdf			03 54 48.2	-2.5
	1.1nm,0.9s,baz=108,slow=6.4,SNR=4.2								
ARCES	**ARCESS Array B**	**138.68**	**347**	PKhKP				03 54 48.5	
	2.2nm,0.9s,baz=27,slow=1.4,SNR=5.5								
FIA1	**FINESS Array S**	**145.05**	**339**	PKP	PKPdf			03 55 08.9	-2.9
FINES	**FINESS Array B**	**145.05**	**339**	PKP	PKPdf			03 55 09.0	-2.9
	4.0nm,0.4s,baz=52,slow=5.5,SNR=55								
NB2	**NORSAR Subarra**	**148.92**	**350**	PKP	PKPdf			03 55 19.6	+1.3
	comp=Z,1.0nm,0.5s,baz=15,slow=4.1								
NOA	**NORSAR Array B**	**148.92**	**350**	PKPbc	PKPbc			03 55 19.5	-3.1
	comp=Z,1.5nm,0.6s,baz=16,slow=4.1,SNR=6.0								
NOA	**NORSAR Array B**	**148.92**	**350**	PKPbc	PKPbc			03 55 19.5	-3.1
NAO01	**NORSAR Array S**	**149.15**	**350**	*e*PKPab	PKPab			03 55 25.1	-3.3
EIL	**Elat**	**150.32**	**277**	*e*PKPbc	PKPbc			03 55 24.9	-1.1
AKASG	**Malin Array Be**	**150.82**	**321**	PKPbc	PKPbc			03 55 23.9	-3.2
	comp=Z,2.3nm,0.5s,baz=48,slow=2.7,SNR=12								
AKASG				PKPab	PKPab			03 55 33.1	-2.3
	comp=Z,3.5nm,0.6s,baz=50,slow=4.7,SNR=16								
BR131	**Keskin Array S**	**151.67**	**297**	*e*PKPbc	PKPbc			03 55 27.8	-1.3
BRTR	**Keskin Array B**	**151.67**	**297**	PKPbc	PKPbc			03 55 27.8	-1.3
	comp=Z,1.6nm,0.5s,baz=139,slow=4.7,SNR=15								
CRVS	**Cervenica-Dubn**	**155.93**	**325**	*e*PKP	PKPab			03 55 55.5	-1.5
VYHS	**Vyhne**	**157.48**	**327**	*e*PKP	PKPab			03 56 02.4	-1.3
GERES	**GERESS Array B**	**159.37**	**335**	PKPab	PKPab			03 56 10.2	-1.8
	comp=Z,0.9nm,0.8s,baz=59,slow=8.0,SNR=5.8								
TORD	**Torodi Ar. Bea**	**162.42**	**184**	PKPab	PKPab			03 56 25.6	+0.3
	comp=Z,0.4nm,0.4s,baz=173,slow=2.9,SNR=14								

IDC 10 03:36:54.3±3.3, 2999S×17793W, h109km±74km, mb3.6/3, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, Error ellipse: s-maj=190.3km s-min=42.6km az=26.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.74**	**1**	P		Pn		03 37 14.4	+1.6
	396nm,0.3s,baz=98,slow=15,SNR=9.4								
RAO				S		Sn		03 37 27.7	+0.9
	2μm,0.3s,baz=78,slow=20,SNR=11								
ASAR	**Alice Springs**	**43.19**	**266**	P		P		03 44 43.5	-0.8
	1.1nm,0.8s,baz=108,slow=7.6,SNR=4.1								
WRA	**Warramunga Arr**	**44.14**	**272**	P		P		03 44 53.0	+1.0
	1.6nm,0.7s,baz=113,slow=7.8,SNR=5.4								
FITZ	**Fitzroy Crossi**	**52.42**	**270**	P		P		03 45 56.0	+0.5
	1.7nm,0.7s,baz=185,slow=4.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**163.24**	**179**	PKPab	PKPab			03 57 34.4	-0.5
	0.7nm,0.9s,baz=182,slow=3.7,SNR=3.8								

IDC ***10*** *04:25:27.7±1.5, 638S×15157E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, ML3.0/1, MS3.0/5, Ms1 3.0/5, ms1mx2.9/23, Error ellipse: s-maj=70.4km s-min=28.3km az=131.0*

NEIC ***10*** *04:25:28.9±0.7, 635S×15156E, h10km, mb4.4/4, Error ellipse: s-maj=35.9km s-min=12.2km az=133.0*

ISCJB ***10*** *04:25:31.4±0.9, 63S±02×1514E±02, h35km, mb4.1/5, MS3.0/3, Error ellipse: s-maj=38.1km s-min=10.9km az=94.5*

ISC 10 04:25:32.8±0.9, 62S±02×1514E±02, h35km, n20, σ0°8/78, mb4.1/5, MS3.0/3, New British region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**233**	Pn		**Pn**		**04 26 49.6**	**+0.5**
	3.1nm,0.3s,baz=70,slow=8.7,SNR=10								
PMG				Sn		**Sn**		**04 27 50.0**	**+1.4**
	4.3nm,0.3s,baz=14,slow=18,SNR=8.2								
PMG				LR		LR		04 28 43.8	
	comp=Z,69nm,19.9s,baz=343,slow=37								
HNR	**Honiara**	**9.03**	**111**	LR		LR		04 30 34.0	
	comp=Z,64nm,20.8s,baz=1.4,slow=35								
KAKA	**Kakadu**	**19.79**	**250**	*e*P		**Pn**		**04 30 00.3**	**-1.4**
	7.5nm,0.8s								
GUMO	**Guam**	**20.73**	**342**	LR		LR		04 36 22.6	
	comp=Z,65nm,20.1s,MS3.0,baz=254,slow=31								
DZM	**Mont Dzumac**	**21.43**	**139**	LR		LR		04 35 55.1	
	comp=Z,74nm,18.4s,MS3.1,baz=206,slow=30								
WB2	**Warramunga Arr**	**21.47**	**229**	*e*P		**P**		**04 30 18.0**	**-0.2**
WB2	**Warramunga Arr**	**21.47**	**229**	*e*P		**P**		**04 30 17.6**	**-0.5**
WRA	**Warramunga Arr**	**21.48**	**229**	P		**P**		**04 30 17.8**	**-0.4**
	3.0nm,0.8s,mb3.7,baz=54,slow=11,SNR=32								
WRA				LR		LR		04 38 03.0	
	comp=Z,50nm,18.8s,MS2.9,baz=45,slow=35								
AS31	**Alice Springs**	**24.18**	**222**	*e*P		**P**		**04 30 45.1**	**-0.7**
ASAR	**Alice Springs**	**24.18**	**222**	P		**P**		**04 30 45.2**	**-0.5**
	2.6nm,0.6s,mb3.9,baz=58,slow=9.5,SNR=41								
ASPA	**Alice Springs**	**24.18**	**222**	*e*P		**P**		**04 30 45.4**	**-0.4**
STKA	**Stephens Creek**	**27.13**	**199**	*e*P		**P**		**04 31 13.0**	**+0.5**
	2.6nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**27.13**	**199**	P		**P**		**04 31 12.8**	**+0.3**
	2.7nm,0.8s,mb3.8,baz=7.2,slow=9.8,SNR=3.4								
MCK	**McKinley**	**82.69**	**23**	*e*P		**P**		**04 37 53.8**	**+1.0**
	4.6nm,0.9s,mb4.5								
COLA	**College**	**83.67**	**22**	*e*P		**P**		**04 37 58.2**	**+0.4**
	3.5nm,0.7s,mb4.6								
GERES	**GERESS Array B**	**124.52**	**327**	PKP		PKPdf		04 44 30.7	+2.5
	0.3nm,0.5s,baz=354,slow=1.3,SNR=3.7								
LPAZ	**La Paz**	**134.93**	**120**	PKP		PKPdf		04 44 48.0	0.0
	0.6nm,0.3s,baz=266,slow=7.7,SNR=6.2								
LPAZ	**La Paz**	**134.93**	**120**	PKP		PKPdf		04 44 48.0	0.0
TOA0	**Torodi Ar. Sit**	**149.40**	**285**	*e*PKPbc		PKPbc		04 45 19.4	+1.4
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKPbc		PKPbc		04 45 19.6	+1.6
	2.4nm,0.6s,baz=29,slow=2.6,SNR=24								

ISCJB ***10*** *04:26:26.2±0.9, 43N±02×1258E±06, h150km, mb3.9/7, Error ellipse: s-maj=85.2km s-min=12.1km az=139.2*

IDC ***10*** *04:26:27.5±11.0, 418N×12563E, h142km±116km, mb3.6/6, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=86.9km s-min=19.9km az=67.0*

NEIC ***10*** *04:26:28.3±0.7, 4.19N×12563E, h150km, mb4.1/3, Error ellipse: s-maj=63.6km s-min=9.9km az=70.0*

ISC 10 04:26:28.5±0.9, 42N±02×1256E±05, h150km, n12, σ0°48/12, mb3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.15**	**180**	*e*P		**P**		**04 31 12.4**	**+0.3**
	6.3nm,0.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**22.15**	**180**	P		**P**		**04 31 12.3**	**+0.2**
	2.4nm,0.3s,mb4.1,baz=15,slow=9.5,SNR=31								
WRA	**Warramunga Arr**	**25.47**	**161**	P		**P**		**04 31 42.1**	**-0.4**
	3.7nm,0.3s,mb4.4,baz=339,slow=10.0,SNR=38								
WB2	**Warramunga Arr**	**25.47**	**161**	*e*P		**P**		**04 31 43.8**	**+1.2**
AS31	**Alice Springs**	**28.84**	**164**	*e*P		**P**		**04 32 11.9**	**-0.7**
ASAR	**Alice Springs**	**28.84**	**164**	P		**P**		**04 32 12.4**	**-0.2**
	1.4nm,0.4s,mb4.0,baz=341,slow=7.1,SNR=18								
ASPA	**Alice Springs**	**28.84**	**164**	*e*P		**P**		**04 32 12.5**	**-0.1**
**STK

15nm,0.3s,baz=94,slow=8.5,SNR=3.2
HNR S Sn 05 08 13.9 -4.4
4.1nm,0.3s,baz=88,slow=22,SNR=4.3
HNR LR LR 05 08 55.7
comp=Z,102nm,19.6s,baz=2.2,slow=31
DZM Mont Dzumac 8.97 182 *eP* **Pn 05 07 11.4 0.0**
DZM *eS* **Sn 05 08 46.1 -4.8**
DZM Mont Dzumac 8.97 182 P **Pn 05 07 11.6 +0.1**
24nm,0.3s,baz=218,slow=22,SNR=162
DZM S Sn 05 08 46.6 -4.3
2.5nm,0.3s,baz=326,slow=20,SNR=4.0
AFI Afiamalu 20.86 95 P **P 05 09 36.7 +1.2**
29nm,0.8s,baz=281,slow=11,SNR=5.6
AFI LR LR 05 15 59.2
comp=Z,55nm,20.5s,baz=250,slow=31
CTA Charters Tower 20.87 248 *eP* **P 05 09 35.9 +0.3**
5.8nm,0.7s
CTA Charters Tower 20.87 248 P **P 05 09 36.1 +0.5**
7.9nm,0.7s,baz=79,slow=13,SNR=10
CTA pP 05 09 58.6
5.8nm,0.7s,baz=72,slow=12,SNR=3.0
CTA LR LR 05 16 49.3
comp=Z,112nm,18.5s,baz=50,slow=34
CTAO Charters Tower 20.87 248 *eP* **P 05 09 35.6 0.0**
9.1nm,0.9s
STKA Stephens Creek 29.75 227 *eP* **P 05 10 57.7 0.0**
1.5nm,0.4s,mb4.1
STKA Stephens Creek 29.75 227 P **P 05 10 57.7 0.0**
1.9nm,0.4s,mb4.2,baz=50,slow=8.9,SNR=7.0
STKA PcP PcP 05 13 58.5 +0.7
8.2nm,0.7s,baz=49,slow=2.5,SNR=15
STKA LR LR 05 21 58.3
comp=Z,93nm,21.1s,baz=28,slow=34
RPZ Rata Peaks 30.77 174 P **P 05 11 06.8 +0.1**
12nm,0.6s,mb4.8,baz=34,slow=6.5,SNR=6.8
WB2 Warramunga Arr 31.80 253 *eP* **P 05 11 14.8 -1.0**
WRAB Tennant Creek 31.80 253 *eP* **P 05 11 15.0 -0.7**
0.9nm,0.5s,mb3.8
WRA Warramunga Arr 31.82 253 P **P 05 11 14.7 -1.2**
1.3nm,0.6s,mb3.9,baz=85,slow=9.2,SNR=8.7
WRA pP pP 05 11 41.6 -5.3
1.7nm,0.9s,baz=84,slow=8.7,SNR=3.9
WRA PcP PcP 05 14 04.1 +0.8
1.9nm,0.7s,baz=76,slow=2.8,SNR=10
AS31 Alice Springs 32.87 247 *eP* **P 05 11 24.3 -0.7**
ASAR Alice Springs 32.87 247 P **P 05 11 24.4 -0.6**
2.3nm,0.6s,mb4.1,baz=69,slow=10.0,SNR=34
ASAR pP pP 05 11 50.5 -5.8
1.5nm,0.6s,baz=73,slow=9.3,SNR=3.9
ASAR PcP PcP 05 14 06.6 +0.4
2.2nm,0.6s,baz=80,slow=2.6,SNR=14
ASAR LR LR 05 23 44.2
comp=Z,88nm,21.2s,baz=160,slow=34
KAKA Kakadu 33.47 267 *eP* **P 05 11 30.2 -0.1**
8.9nm,0.6s,mb4.7
FITZ Fitzroy Crossi 39.89 257 *eP* **P 05 12 26.4 +1.8**
4.5nm,0.8s,mb4.2
TBI Tubuai 42.66 110 *e*T 05 13 19.9
14nm,0.2s
MBWA Marble Bar 45.55 253 *eP* **P 05 13 10.9 +0.7**
8.3nm,0.7s,mb4.5
MJAR Matsushiro Arr 56.21 332 P **P 05 14 28.4 -1.5**
5.8nm,0.9s,mb4.4,baz=162,slow=7.7,SNR=11
MAJO Matsushiro 56.22 332 *eP* **P 05 14 29.1 -0.8**
5.1nm,0.5s,mb4.6
JNU Nakatsu 57.30 324 P **P 05 14 38.1 +0.6**
6.0nm,0.5s,mb4.7,baz=218,slow=19,SNR=2.4
ASAJ Asahikawa 61.02 340 P **P 05 15 03.6 +0.5**
14nm,0.6s,mb5.0,baz=241,slow=11,SNR=8.4
KSRS Korea Array 62.10 326 P **P 05 15 08.7 -1.7**
1.7nm,0.6s,mb4.1,baz=138,slow=7.4,SNR=5.5
VNDA Vanda 64.51 181 P **P 05 15 26.1 -0.2**
1.9nm,0.8s,mb4.0,baz=1.2,slow=5.8,SNR=19
VNDA Vanda 64.51 181 *eP* **P 05 15 26.6 +0.4**
11nm,1.6s,mb4.4
CASY Casey 64.89 202 *eP* **P 05 15 28.1 -0.6**
3.9nm,0.6s,mb4.4
CN2 Changchun 67.98 329 *eP* **P 05 15 48.9 +0.6**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
KMI Kunming 73.03 302 P **P 05 16 20.6 +1.6**
KMI AMB AMB
comp=Z,17nm,1.2s,mb4.7
KMI Kunming 73.03 302 P **P 05 16 20.6 +1.6**
comp=Z,17nm,1.2s,mb4.7
CHTO Chiang Mai 73.97 294 *eP* **P 05 16 25.3 +0.8**
comp=Z,6.8nm,1.1s,mb4.3
HIA Hailar 74.61 330 *eP* **P 05 16 28.0 -0.2**
comp=Z,6.8nm,0.5s,mb4.5
LZH Lanzhou 76.86 312 ⇑P **P 05 16 42.1 +1.2**
LZH AMB AMB
comp=Z,21nm,1.2s,mb4.6
LZH AMB AMB
comp=Z,53nm,8.7s
QSPA South Pole Qui 76.96 180 *eP* **P 05 16 42.0 +0.5**
comp=Z,26nm,1.0s,mb4.8
BILL Bilibino 80.88 360 *eP* **P 05 17 02.2 -0.7**
comp=Z,4.0nm,0.6s,mb4.2
SONM Songino Array 80.88 324 P **P 05 17 03.0 +0.1**
comp=Z,3.2nm,0.9s,mb3.9,baz=115,slow=3.6,SNR=12
GTA Gaotai 81.18 314 *eP* **P 05 17 06.0 +1.6**
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.5
MAW Mawson 83.25 202 P **P 05 17 15.4 +0.2**
comp=Z,2.0nm,0.5s,mb4.1,baz=145,slow=6.5,SNR=8.1
MCK McKinley 83.72 18 *eP* **P 05 17 16.8 -0.8**
comp=Z,3.0nm,1.0s,mb4.0
LSA Lhasa 84.28 302 *eP* **P 05 17 22.2 +1.8**
comp=Z,6.1nm,0.6s,mb4.5
COLA College 84.87 18 *eP* **P 05 17 21.7 -1.7**
comp=Z,5.1nm,0.8s,mb4.3
NVAR Mina Array Bea 86.54 49 P **P 05 17 31.9 +0.2**
comp=Z,0.7nm,0.8s,mb3.6,baz=244,slow=10.0,SNR=5.3
EGAK Eagle 86.91 20 *eP* **P 05 17 32.8 -0.7**
comp=Z,9.6nm,1.0s,mb4.6
GUN Gumba 88.18 299 *eP* **P 05 17 40.3 +0.8**
comp=Z,20nm,0.8s,mb5.0
PKI Pulchoki 88.49 299 *eP* **P 05 17 41.0 0.0**
comp=Z,13nm,0.6s,mb4.9
KKN Kakani 88.66 299 *eP* **P 05 17 42.3 +0.6**
comp=Z,21nm,0.8s,mb5.1
DMN Daman 88.76 299 *eP* **P 05 17 43.1 +0.9**
GKN Gorkha 89.26 299 *eP* **P 05 17 44.3 -0.3**
DANN Dangsing 90.10 299 *eP* **P 05 17 44.5 -4.0**
SYO Syowa Base 90.16 197⇑*eP* **P 05 17 48.2 -0.6**
SNAA Sanae 95.18 183 *e* **P 05 18 11.9 0.0**
SNAA *e* 05 18 16.7
SNAA *e* 05 18 25.1
SNAA Sanae 95.18 183 *eP* **P 05 18 10.8 -1.1**
comp=Z,3.2nm,1.1s,mb4.5
MK31 Makanchi Array 95.68 317 *eP* **P 05 18 14.0 -0.1**
MKAR Makanchi Array 95.68 317 P **P 05 18 14.2 +0.1**
comp=Z,5.4nm,0.7s,mb5.0,baz=95,slow=6.7,SNR=27
ZAL Zalesovo 95.78 324 P **P 05 18 13.2 -1.4**
comp=Z,2.3nm,0.8s,mb4.6,baz=347,slow=3.4,SNR=9.1
VNA2 Neumayer--Watz 96.13 182 *e* **P 05 18 16.0 -0.2**
baz=183,slow=5.3
VNA2 *e* 05 18 19.1
VNA2 *e* 05 18 24.3
VNA2 *e* 05 18 28.5
VNA2 *e* 05 18 32.4
ARCES ARCESS Array B 118.53 345 PKP PKPdf 05 23 34.3 -1.1
comp=Z,2.0nm,0.6s,baz=92,slow=1.0,SNR=17
BOSA Boshof 124.32 221 PKP PKPdf 05 23 47.8 +1.2
comp=Z,1.2nm,0.4s,baz=137,slow=8.9,SNR=8.4
SIV San Ignacio 124.57 120 PKP PKPdf 05 23 48.1 +1.0
comp=Z,0.3nm,0.4s,baz=264,slow=18,SNR=2.8
NOA NORSAR Array B 128.90 345 PKP PKPdf 05 23 55.3 0.0
comp=Z,1.0nm,0.7s,baz=31,slow=2.0,SNR=3.6
CABF La Chapelle 142.81 338⇑*i*PKP1 PKPdf 05 24 18.4 -2.7
comp=Z,9.9nm,0.8s
SSF Saint Saulge 143.31 341 *e*PKP1 PKPdf 05 24 19.1 -2.9
comp=Z,3.4nm,0.6s
HYF Humbligny 143.40 342 *e*PKP1 PKPdf 05 24 21.5 -0.6
LPL La Plagne 143.48 336⇑*i*PKP1 PKPdf 05 24 20.5 -1.8
comp=Z,9.5nm,0.8s
LPG La Plagne 143.49 336⇑*i*PKP1 PKPdf 05 24 20.6 -1.7
comp=Z,8.1nm,0.8s
SMF Signal de Mont 143.57 340 *e*PKP1 PKPdf 05 24 19.9 -2.5
AVF Avril sur Loir 143.60 341 *e*PKP1 PKPdf 05 24 19.9 -2.6
SGMF Saint Gilles 143.81 348 *e*PKP1 PKPdf 05 24 20.7 -2.1
comp=Z,27nm,0.7s
ROSF Rostrenen 143.87 349 *e*PKP1 PKPdf 05 24 20.9 -2.1
comp=Z,14nm,0.8s
BGF Bois d'Agland 143.97 341⇑*i*PKP1 PKPdf 05 24 21.5 -1.6
comp=Z,13nm,0.7s
MBDF Montbardon 144.12 335⇑*i*PKP1 PKPdf 05 24 22.1 -1.3
comp=Z,12nm,0.7s
QUIF Quistinic 144.25 348 *e*PKP1 PKPdf 05 24 21.9 -1.7
comp=Z,21nm,0.8s
ORIF Oris-en-Rattie 144.32 337⇑*i*PKP1 PKPdf 05 24 23.2 -0.5
comp=Z,37nm,0.7s
TCF Toulx Ste Croi 144.41 342⇑*i*PKP1 PKPdf 05 24 23.0 -0.9
comp=Z,21nm,0.8s
SBF Sospel 144.55 334⇑*i*PKP1 PKPdf 05 24 23.2 -0.9
comp=Z,73nm,0.8s
MFF Saint Martin d 144.79 344⇑*i*PKP1 PKPdf 05 24 24.2 -0.4
comp=Z,51nm,0.7s
VIVF Saint-Julien-l 144.83 338⇑*i*PKP1 PKPdf 05 24 24.9 +0.3
comp=Z,22nm,0.7s
PGF Pioggiola 144.88 331⇑*i*PKP1 PKPdf 05 24 24.6 -0.1
comp=Z,55nm,1.1s
FRF La Foret Royal 145.13 334⇑*i*PKP1 PKPbc 05 24 25.2 +0.2
comp=Z,30nm,0.8s
SMRF Simiane la Rot 145.22 336⇑*i*PKP1 PKPbc 05 24 26.1 +0.8
comp=Z,13nm,0.7s
LMR La Mourre 145.37 334⇑*i*PKP1 PKPbc 05 24 26.0 +0.3
comp=Z,19nm,0.7s
RJF Les Rejaudoux 145.50 342 *e*PKP1 PKPbc 05 24 27.1 +0.9
comp=Z,52nm,1.3s
CAF Calviac 145.67 341 *e*PKP1 PKPbc 05 24 27.4 +0.7
comp=Z,14nm,0.9s
LASF Ste Croix 145.79 338 *e*PKP1 PKPbc 05 24 27.8 +0.8
comp=Z,11nm,0.7s
LFF La Frestale 146.07 342 *e*PKP1 PKPbc 05 24 28.3 +0.4
comp=Z,21nm,0.8s
MTLF Montolieu 147.02 339⇑*i*PKP1 PKPbc 05 24 31.3 +0.7
comp=Z,16nm,0.9s
KEST Kesra 149.62 322 PKPbc PKPbc 05 24 38.7 +1.4
comp=Z,2.4nm,0.8s,baz=158,slow=4.2,SNR=8.8
ESDC Sonseca Array 152.26 345 PKPbc PKPbc 05 24 43.9 +0.4
comp=Z,1.1nm,0.6s,baz=21,slow=4.3,SNR=5.4
ESDC PKPab PKPab 05 24 54.9 +1.0
comp=Z,3.7nm,0.6s,baz=14,slow=3.9,SNR=18
TORD Torodi Ar. Bea 165.48 272 PKP PKPdf 05 24 53.1 +1.0
comp=Z,1.3nm,0.9s,baz=324,slow=1.4,SNR=6.2
TORD PKPab PKPab 05 25 52.4 +1.2
comp=Z,2.7nm,0.8s,baz=85,slow=5.0,SNR=14
TORD Torodi Ar. Bea 165.48 272 PKP PKPdf 05 24 53.1 +1.0
TORD PKPab PKPab 05 25 52.4 +1.2

ISCJB ***10*** *05:05:55.4±0.5, 39.34N±0.002×123.30W±0.04, h7km±4km, Error ellipse: s-maj=5.8km s-min=2.8km az=130.1*
NEIC ***10*** *05:05:56.3, 39.36N×123.28W, h3km, MW3.7(BRK), After NCEDC.*
NEIC Felt [IV] at Redwood Valley and Willits; [III] at Potter Valley and Ukiah; [II] at Comptche, El Cerrito, Fort Bragg, Little River and Mendocino.

ISC 10 05:05:56.3±0.4, 3935N±0.02×12329W±0.04, h10km±3km, n59, σ0s97/87, 25C-21D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
P01C	**Double 8 Ranch**	**0.13**	**342**	⇓P		**Pg**		**05 05 58.8**	**-0.5**
	baz=0.1,SNR=1000								
P01C				⇑S		**Sg**		**05 06 01.0**	**-0.3**
	baz=0.1								
HOPS	**Hopland**	**0.39**	**155**	*e*Pg		**Pg**		**05 06 04.4**	**+0.4**
HOPS				*e*Sg		**Sg**		**05 06 11.1**	**+1.8**
HOPS	**Hopland**	**0.39**	**155**	⇓P		**Pg**		**05 06 04.5**	**+0.5**
	baz=0.4,SNR=1000								
HOPS				⇓S		**Sg**		**05 06 10.9**	**+1.6**
	baz=0.4								
KCPM	**Cahto Peak**	**0.41**	**326**	*e*Pg		**Pg**		**05 06 04.7**	**+0.4**
KCPM				*e*Sg		**Sg**		**05 06 11.6**	**+1.9**
KIPM	**Iron Peak**	**0.48**	**342**	*e*Pg		**Pg**		**05 06 05.9**	**+0.1**
GASB	**Alder Springs**	**0.53**	**55**	⇑P		**Pg**		**05 06 07.4**	**+0.7**
	baz=0.5,SNR=1000								
GASB				⇓S		**Sg**		**05 06 15.8**	**+2.2**
	baz=0.5								
MNRC	**McLaughlin Nat**	**0.81**	**125**	⇓P		**Pg**		**05 06 12.3**	**+0.4**
	baz=0.8,SNR=233								
O01C	**Eel River Cons**	**0.89**	**333**	⇑P		**Pg**		**05 06 13.5**	**+0.1**
	baz=0.9								
O01C				⇑S		**Sg**		**05 06 26.8**	**+1.8**
	baz=0.9								
O02C	**Red Bluff**	**0.91**	**25**	⇓P		**Pg**		**05 06 14.5**	**+0.6**
	baz=0.9,SNR=785								
O02C				⇓S		**Sg**		**05 06 28.1**	**+2.3**
	baz=0.9								
NSHM	**Saint Helena R**	**0.98**	**147**	*e*Pg		**Pg**		**05 06 14.5**	**-0.8**
NSHM				*e*Pn		**Pn**		**05 06 16.2**	**0.0**
O03C	**Acorn Hollow,**	**1.17**	**56**	⇑P		**Pb**		**05 06 17.4**	**-1.2**
	baz=1.2,SNR=12								
SUTB	**Sutter Butte**	**1.17**	**95**	⇓P		**Pb**		**05 06 17.0**	**-1.7**
	baz=1.2,SNR=19								
SUTB				⇓S		**Sg**		**05 06 35.0**	**+0.9**
	baz=1.2								
CVS	**Carmenet Viney**	**1.19**	**147**	⇓P		**Pb**		**05 06 18.3**	**-0.7**
	baz=1.2,SNR=19								
Q03C	**Winters**	**1.22**	**125**	⇑P		**Pb**		**05 06 18.9**	**-0.6**
	baz=1.2								
Q03C				⇑S		**Sb**		**05 06 36.6**	**+1.2**
	baz=1.2								
WDC	**Whiskeytown Da**	**1.36**	**25**	*e*Pn		**Pn**		**05 06 20.8**	**-0.6**
WDC	**Whiskeytown Da**	**1.36**	**25**	P		**Pn**		**05 06 20.9**	**-0.4**
	baz=1.3,SNR=183								
WDC				⇑S		**Sb**		**05 06 40.1**	**+0.9**
	baz=1.3								
OHCM	**Honcut**	**1.40**	**90**	*e*Pn		**Pn**		**05 06 20.2**	**-1.7**
OHCM				*e*Sn		**Sn**		**05 06 37.7**	**-2.7**
ORV	**Oroville**	**1.40**	**81**	⇓P		**Pn**		**05 06 21.1**	**-0.8**
	baz=1.4								
ORV				⇑S		**Sb**		**05 06 40.8**	**+0.3**
	baz=1.4								
N02C	**Big Bar**	**1.47**	**359**	P		**Pn**		**05 06 22.3**	**-0.6**
	baz=1.5,SNR=188								
KHMM	**Horse Mountain**	**1.56**	**348**	*e*Pn		**Pn**		**05 06 23.7**	**-0.4**
KHMM				*e*Pg		**Pg**		**05 06 26.4**	**+0.1**
Q04C	**Lincoln**	**1.57**	**108**	⇓P		**Pn**		**05 06 23.6**	**-0.7**
	baz=1.6								
JCC	**Jacoby Creek**	**1.57**	**339**	⇑P		**Pn**		**05 06 23.1**	**-1.2**
	baz=1.6,SNR=13								
SAC	**San Andreas**	**1.89**	**159**	*e*Pn		**Pn**		**05 06 27.9**	**-0.8**
SAC				*e*Pg		**Pg**		**05 06 33.1**	**+0.5**
O05C	**Quincy**	**1.93**	**71**	⇑P		**Pn**		**05 06 29.4**	**+0.1**
	baz=1.9								
O04C	**Chester**	**1.95**	**60**	⇓P		**Pn**		**05 06 29.7**	**+0.1**
	baz=1.9,SNR=38								
HATC	**Hat Creek Radi**	**2.03**	**43**	⇑P		**Pn**		**05 06 30.4**	**-0.1**
	baz=2.0,SNR=12								
M02C	**Callahan**	**2.07**	**9**	P		**Pn**		**05 06 31.4**	**+0.3**
	baz=2.1,SNR=60								
LAVA	**Lava Cap Winer**	**2.07**	**106**	⇑P		**Pn**		**05 06 31.6**	**+0.4**
	baz=2.1,SNR=6.9								
P05C	**Yuba Gap, Truc**	**2.08**	**90**	⇑P		**Pn**		**05 06 31.4**	**+0.1**
	baz=2.1								
JRSC	**Jasper Ridge**	**2.11**	**157**	⇓P		**Pn**		**05 06 31.5**	**-0.2**
	baz=2.1,SNR=5.0								
M03C	**McCloud**	**2.12**	**24**	⇑P		**Pn**		**05 06 32.0**	**+0.2**
	baz=2.1								
R04C	**Big Horse Ranc**	**2.14**	**120**	⇑P		**Pn**		**05 06 32.6**	**+0.5**
	baz=2.1								
KRMB	**Red Mountain**	**2.22**	**348**	*e*Pn		**Pn**		**05 06 33.1**	**-0.1**
KRMB				*e*Pg		**Pg**		**05 06 37.7**	**-1.2**
BEKR	**Beckwourth**	**2.32**	**76**	⇓P		**Pn**		**05 06 35.2**	**+0.6**
	baz=2.3,SNR=74								
ELFS	**Eagle Lake Fie**	**2.34**	**56**	⇑P		**Pn**		**05 06 35.4**	**+0.5**
	baz=2.3,SNR=17								
BNLO	**Ben Lomond (Sa**	**2.38**	**158**	⇑S		**Sn**		**05 07 05.4**	**+0.7**
	baz=2.4								
YBH	**Yreka Blue Hor**	**2.42**	**10**	*e*Pn		**Pn**		**05 06 36.4**	**+0.4**
YBH				*e*Pg		**Pg**		**05 06 41.0**	**-1.8**
YBH				*e*Sg		**Sg**		**05 07 12.3**	**-1.8**
YBH	**Yreka Blue Hor**	**2.42**	**10**	⇓P		**Pn**		**05 06 36.4**	**+0.4**
	baz=2.4,SNR=110								
M01C	**Crescent City**	**2.58**	**346**	⇑P		**Pn**		**05 06 37.6**	**-0.5**
	baz=2.6,SNR=83								
R05C	**Kirkwood Meado**	**2.58**	**103**	⇓P		**Pn**		**05 06 38.6**	**+0.4**
	baz=2.6								
M05C	**Lookout**	**2.59**	**38**	⇑P		**Pn**		**05 06 38.4**	**+0.1**
	baz=2.6								
CMB	**Columbia Colle**	**2.62**	**119**	*e*Pn		**Pn**		**05 06 38.5**	**-0.2**
CMB				*e*Pb		**Pb**		**05 06 42.4**	**-1.0**
CMB				*e*Pg		**Pg**		**05 06 44.8**	**-1.8**
CMB	**Columbia Colle**	**2.62**	**119**	⇓P		**Pn**		**05 06 38.8**	**0.0**
	baz=2.6,SNR=18								
CMB				⇓S		**Sn**		**05 07 11.1**	**+0.5**
	baz=2.6								
M06C	**Likely Place G**	**2.84**	**48**	⇑P		**Pn**		**05 06 42.4**	**+0.6**
	baz=2.8,SNR=8.2								
SAO	**San Andreas Ge**	**2.96**	**150**	*e*Pn		**Pn**		**05 06 43.2**	**-0.2**
PAHR	**Pah Rah Range**	**3.04**	**82**	*e*Pn		**Pn**		**05 06 43.8**	**-0.7**
PAHR				*e*Pg		**Pg**		**05 06 52.6**	**-2.0**
PAHR				*e*Sg		**Sg**		**05 07 29.6**	**-4.4**
S06C	**San Francisco**	**3.07**	**117**	⇓P		**Pn**		**05 06 45.8**	**+0.9**
	baz=3.1,SNR=33								
S06C				⇑S		**Sn**		**05 07 22.9**	**+1.3**
	baz=3.1								
HUMO	**Hull Mountain**	**3.26**	**4**	*e*Pn		**Pn**		**05 06 47.7**	**+0.1**
HUMO				*e*Pg		**Pg**		**05 06 58.1**	**-0.8**
L05A	**Lakeview**	**3.28**	**34**	⇓P		**Pn**		**05 06 48.5**	**+0.7**
	baz=3.3								
MOD	**Modoc**	**3.42**	**41**	*e*Pn		**Pn**		**05 06 50.4**	**+0.7**
MOD				*e*Pg		**Pg**		**05 06 58.8**	**-2.9**
K02A	**Glendale**	**3.42**	**358**	⇑P		**Pn**		**05 06 50.3**	**+0.6**
	baz=3.4,SNR=6.8								
O07A	**Toulon**	**3.50**	**75**	⇑P		**Pn**		**05 06 50.9**	**+0.2**
	baz=3.5								
KEBM	**Edson Butte**	**3.61**	**348**	*e*Pg		**Pg**		**05 07 05.5**	**0.0**
M07A	**Soldier Meadow**	**3.75**	**56**	⇑P		**Pn**		**05 06 54.5**	**+0.3**
	baz=3.7								
MTUM	**Tungsten Hills**	**4.21**	**117**	*e*Pn		**Pn**		**05 07 01.3**	**+0.7**
MTUM				*e*Pg		**Pg**		**05 07 10.2**	**-6.8**
WVOR	**Wild Horse Val**	**4.68**	**47**	*e*Pn		**Pn**		**05 07 08.8**	**+1.8**
BMN	**Battle Mountai**	**4.79**	**75**	*e*Pg		**Pg**		**05 07 23.7**	**-4.4**
ISA	**Isabella**	**5.31**	**132**	*e*Pn		**Pn**		**05 07 15.6**	**-0.1**
ISA				*e*Sg		**Sg**		**05 08 35.4**	**-11**
DAC	**Darwin (Calif)**	**5.45**	**122**	*e*Pg		**Pg**		**05 07 30.9**	**-10**
	3.9nm,0.9s								

ISCJB ***10*** *05:15:44.2±1.4, 21.96N±0.008×143.2E±0.3, h247km±14km, mb3.5/11, Error ellipse: s-maj=41.7km s-min=12.6km az=165.2*
IDC ***10*** *05:15:45.4±1.8, 22.00N×143.17E, h240km±17km, mb3.3/11, mb1 3.4/12, mb1mx3.3/23, mbtmp3.3/12, Error ellipse: s-maj=25.5km s-min=11.0km az=86.0*
NEIC ***10*** *05:15:46.3±0.6, 21.98N×143.13E, h250km, mb3.7/1, Error ellipse: s-maj=25.5km s-min=9.7km az=83.0*

ISC 10 05:15:45.2±1.4, 2202N±0.09×1433E±0.03, h243km±14km, n18, σ0s75/18, mb3.5/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.16**	**349**	P		**Pn**		**05 17 02.6**	**-0.1**
	17nm,0.3s,baz=323,slow=22,SNR=12								
CBIJ				S		**S**		**05 18 04.3**	**-0.2**
	26nm,0.3s,baz=295,slow=22,SNR=10								
KSRS	**Korea Array**	**20.34**	**323**	P		**P**		**05 20 04.7**	**+1.5**
	0.5nm,0.4s,baz=144,slow=8.8,SNR=5.0								
SONM	**Songino Array**	**39.18**	**320**	P		**P**		**05 22 49.3**	**-0.4**
	0.3nm,0.4s,mb3.1,baz=131,slow=8.8,SNR=3.8								
WRAB	**Tennant Creek**	**42.60**	**193**	*e*P		**P**		**05 23 17.4**	**-0.2**
	1.9nm,0.6s,mb3.7								
WB2	**Warramunga Arr**	**42.61**	**193**	*e*P		**P**		**05 23 17.5**	**-0.1**
WRA	**Warramunga Arr**	**42.62**	**193**	P		**P**		**05 23 17.4**	**-0.3**
	0.8nm,0.4s,mb3.5,baz=16,slow=9.2,SNR=21								
FITZ	**Fitzroy Crossi**	**43.46**	**205**	P		**P**		**05 23 26.3**	**+1.9**
	1.5nm,0.9s,mb3.4,baz=41,slow=9.2,SNR=3.6								
ASAR	**Alice Springs**	**46.32**	**192**	P		**P**		**05 23 46.0**	**-1.0**
	0.3nm,0.5s,mb2.9,baz=15,slow=11,SNR=7.3								
STKA	**Stephens Creek**	**53.61**	**182**	P		**P**		**05 24 41.3**	**-0.2**
	1.0nm,0.4s,mb3.7,baz=32,slow=9.5,SNR=3.5								
STKA	**Stephens Creek**	**53.61**	**182**	*e*P		**P**		**05 24 41.7**	**+0.1**
MK31	**Makanchi Array**	**54.58**	**312**	*e*P		**P**		**05 24 48.7**	**+0.2**
MKAR	**Makanchi Array**	**54.58**	**312**	P		**P**		**05 24 48.2**	**-0.3**
	0.3nm,0.3s,mb3.2,baz=92,slow=8.0,SNR=7.5								
BVAR	**Borovoye Array**	**62.52**	**319**	P		**P**		**05 25 42.5**	**-0.6**
	1.8nm,0.4s,mb4.0,baz=90,slow=6.6,SNR=8.7								
YKA	**Yellowknife Ar**	**76.12**	**28**	P		**P**		**05 27 07.4**	**+1.1**
	0.5nm,0.4s,mb3.5,baz=291,slow=6.0,SNR=8.8								
YKA	**Yellowknife Ar**	**76.12**	**28**	P		**P**		**05 27 07.4**	**+1.1**
ARCES	**ARCESS Array B**	**78.66**	**342**	P		**P**		**05 27 20.0**	**-0.4**
	0.7nm,0.6s,mb3.5,baz=57,slow=7.6,SNR=5.2								
FINES	**FINESS Array B**	**82.95**	**335**	P		**P**		**05 27 42.3**	**-0.7**
	1.2nm,0.6s,mb3.8,baz=63,slow=6.9,SNR=7.2								
LPAZ	**La Paz**	**149.78**	**85**	PKPbc		PKPbc		05 35 09.1	+2.7
	1.9nm,0.6s,baz=318,slow=4.2,SNR=13								

IDC ***10*** *05:22:04.8±2.4, 5.04S×102.50E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, Error ellipse: s-maj=115.9km s-min=16.2km az=53.0*
ISCJB ***10*** *05:22:07.4±1.9, 5.15S±0.3×102.45E±0.05, h35km, mb4.0/11, Error ellipse: s-maj=82.4km s-min=10.7km az=106.3*
NEIC ***10*** *05:22:09.5±1.2, 4.98S×102.59E, h30km, mb4.2/3, Error ellipse: s-maj=58.0km s-min=7.1km az=53.0*

ISC 10 05:22:10.3±1.9, 50S±0.4×1025E±0.05, h35km, n15, σ0s41/13, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**23.93**	**352**	*e*P		**P**		**05 27 20.9**	**-0.1**
	1.9nm,0.6s,mb3.7								
FITZ	**Fitzroy Crossi**	**26.07**	**122**	P		**P**		**05 27 40.4**	**0.0**
	2.8nm,1.0s,mb3.7,baz=309,slow=9.5,SNR=4.5								
WRA	**Warramunga Arr**	**34.33**	**118**	P		**P**		**05 28 52.8**	**-0.7**
	0.7nm,0.3s,mb4.0,baz=300,slow=11,SNR=25								
WRAB	**Tennant Creek**	**34.34**	**118**	*e*P		**P**		**05 28 53.5**	**0.0**
	1.6nm,0.4s,mb4.3								
WB2	**Warramunga Arr**	**34.34**	**118**	*e*P		**P**		**05 28 53.6**	**0.0**
ASAR	**Alice Springs**	**35.47**	**125**	P		**P**		**05 29 03.2**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=298,slow=8.0,SNR=6.5								
STKA	**Stephens Creek**	**45.29**	**131**	P		**P**		**05 30 25.2**	**+0.8**
	1.9nm,0.7s,mb4.0,baz=291,slow=5.1,SNR=6.3								
SONM	**Songino Array**	**52.72**	**3**	P		**P**		**05 31 21.8**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=186,slow=8.9,SNR=9.3								
MK31	**Makanchi Array**	**54.60**	**343**	*e*P		**P**		**05 31 35.1**	**-0.1**
MKAR	**Makanchi Array**	**54.60**	**343**	P		**P**		**05 31 35.6**	**+0.5**
	2.0nm,0.5s,mb4.4,baz=154,slow=8.5,SNR=29								
KURK	**Kurchatov**	**59.19**	**343**	*e*P		**P**		**05 32 07.7**	**0.0**
	1.6nm,0.7s,mb4.2								
**ZA

NEIC ***10*** *05:27:20.6±1.0,2652N×5387E,h10km,MN3.0(TEH), Error ellipse: s-maj=20.4km s-min=13.1km az=63.0*
CSEM ***10*** *05:27:20.6,2652N×5387E,h10km,mb3.0,After NEIC*
ISCJB ***10*** *05:27:22.9±1.4,2654N±0.010×540E±0.01,h43km±13km, mb3.8/6,Error ellipse: s-maj=24.3km s-min=9.3km az=107.9*

ISC 10 05:27:25.0±1.3,2659N±010×540E±01,h44km±13km,n14, σ0§83/16,mb3.8/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMOK	**Mook**	**2.69**	**336**	Pn		**Pn**	**05 28 07.0**	**+1.3**
IPAR	**Pars**	**3.34**	**346**	Pn		**Pn**	**05 28 14.7**	**+0.1**
IMEH	**Mehriz**	**4.82**	**7**	Pn		**Pn**	**05 28 33.2**	**-1.7**
IBAF	**Bafgh**	**5.18**	**15**	Pn		**Pn**	**05 28 40.1**	**+0.2**
WSAR	**Wadi Sarin**	**5.39**	**127**	Pn		**Pn**	**05 28 42.3**	**-0.5**
	1.0nm,0.3s,baz=320,slow=3.4,SNR=5.1							
WSAR				Sn		**Sn**	**05 29 44.0**	**+0.4**
	0.6nm,0.3s,baz=203,slow=17,SNR=2.5							
WSAR	**Wadi Sarin**	**5.39**	**127**	Pn		**Pn**	**05 28 42.3**	**-0.5**
WSAR				Sn		**Sn**	**05 29 44.0**	**+0.3**
AKTK	**Aktyubinsk**	**24.01**	**6**	P		**P**	**05 32 35.9**	**+0.3**
AKTK	**Aktyubinsk**	**24.01**	**6**	P		**P**	**05 32 35.9**	**+0.3**
AKTO	**Aktyubinsk**	**24.01**	**6**	P		**P**	**05 32 35.9**	**+0.4**
	0.9nm,0.4s,mb3.5,baz=158,slow=8.6,SNR=5.4							
BVAR	**Borovoye Array**	**29.12**	**21**	P		**P**	**05 33 23.0**	**+1.5**
	0.9nm,0.8s,mb3.6,baz=188,slow=9.0,SNR=3.9							
ZAL	**Zalesovo**	**35.55**	**31**	P		**P**	**05 34 17.6**	**-0.2**
	1.3nm,0.3s,mb4.3,baz=246,slow=5.6,SNR=4.6							
FINES	**FINESS Array B**	**39.58**	**339**	P		**P**	**05 34 50.9**	**-1.0**
	1.3nm,0.8s,mb3.7,baz=154,slow=10,SNR=6.1							
ARCES	**ARCESS Array B**	**46.08**	**347**	P		**P**	**05 35 43.8**	**-0.8**
	1.9nm,0.9s,mb4.0,baz=155,slow=8.3,SNR=7.9							
TORD	**Torodi Ar. Bea**	**50.62**	**265**	P		**P**	**05 36 19.6**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=63,slow=7.6,SNR=5.1							

IDC 10 05:30:37.6±8.9,552S×14990E,h54km±68km,mb3.1/3, mb1 3.4/4,mb1mx3.2/15,mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=104.0km s-min=56.4km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.72**	**215**	P		Pn	05 31 46.3	0.0
	1.1nm,0.3s,baz=31,slow=8.4,SNR=3.1							
PMG				S		Sn	05 32 40.3	+0.6
	3.5nm,0.3s,baz=228,slow=22,SNR=5.2							
WRA	**Warramunga Arr**	**20.85**	**225**	P		P	05 35 15.2	+0.3
	2.4nm,0.9s,baz=50,slow=10,SNR=14							
ASAR	**Alice Springs**	**23.73**	**219**	P		P	05 35 45.0	+0.3
	0.3nm,0.6s,baz=61,slow=8.6,SNR=3.8							
FITZ	**Fitzroy Crossi**	**26.79**	**240**	P		P	05 36 13.4	+0.9
	1.3nm,0.8s,baz=103,slow=14,SNR=4.6							
TORD	**Torodi Ar. Bea**	**147.76**	**286**	PKPbc		PKPbc	05 50 16.4	+0.1
	0.5nm,0.4s,baz=85,slow=2.3,SNR=7.1							

IDC ***10*** *05:33:51.9±10.0, 646S×15114E,h63km±67km,mb3.6/4, mb1 3.8/5,mb1mx3.5/15,mbtmp3.6/5,ML2.4/1,Error ellipse: s-maj=85.0km s-min=54.1km az=70.0*

NEIC 10 05:33:41.6±2.0,647S×15175E,h10km,mb4.1/3,Error ellipse: s-maj=42.8km s-min=30.8km az=143.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**237**	P		Pn	05 35 03.7	+1.5
	1.0nm,0.3s,baz=141,slow=24,SNR=2.8							
KAKA	**Kakadu**	**20.02**	**251**	*e*P		P	05 38 13.5	-1.0
	3.3nm,0.4s							
WB2	**Warramunga Arr**	**21.56**	**230**	*e*P		P	05 38 31.7	+0.5
WRA	**Warramunga Arr**	**21.57**	**230**	P		P	05 38 30.4	-0.9
	2.1nm,0.7s,baz=55,slow=11,SNR=14							
ASAR	**Alice Springs**	**24.22**	**223**	P		P	05 38 58.7	+0.3
	1.4nm,0.7s,baz=59,slow=9.5,SNR=15							
STKA	**Stephens Creek**	**27.00**	**199**	*e*P		P	05 39 23.7	+0.1
	2.0nm,0.9s							
STKA	**Stephens Creek**	**27.00**	**199**	P		P	05 39 27.0	+3.4
	1.9nm,0.8s,baz=355,slow=9.8,SNR=6.1							
FITZ	**Fitzroy Crossi**	**27.96**	**243**	*e*P		P	05 39 33.9	+1.6
	4.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.96**	**243**	P		P	05 39 32.6	+0.3
	2.8nm,0.7s,baz=102,slow=8.4,SNR=6.7							
TORD	**Torodi Ar. Bea**	**149.78**	**285**	PKPbc		PKPbc	05 53 33.6	+1.9
	0.6nm,0.6s,baz=74,slow=2.1,SNR=4.7							

NEIC ***10*** *05:34:18.7±0.7,630S×15127E,h10km,mb4.3/2,Error ellipse: s-maj=29.8km s-min=9.7km az=124.0*
ISCJB ***10*** *05:34:21.1±1.0,63S±02×1512E±02,h35km,mb4.1/7, Error ellipse: s-maj=41.6km s-min=13.8km az=68.2*
IDC ***10*** *05:34:26.1±7.8,631S×15089E,h52km±58km,mb3.9/5, mb1 4.1/6,mb1mx3.8/15,mbtmp3.9/6,ML2.6/1,Error ellipse: s-maj=71.9km s-min=31.6km az=90.0*

ISC 10 05:34:22.6±1.0,63S±02×1513E±02,h35km,n12,σ0§52/11, mb4.1/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**233**	P		**Pn**	**05 35 36.2**	**-0.1**
	2.0nm,0.3s,baz=45,slow=8.6,SNR=4.5							
PMG	**Port Moresby**	**5.08**	**233**	*e*Pn		**Pn**	**05 35 35.4**	**-0.9**
	24nm,0.7s							
WRAB	**Tennant Creek**	**21.28**	**229**	*e*P		**P**	**05 39 06.5**	**+0.6**
	7.0nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**21.29**	**229**	P		**P**	**05 39 05.9**	**-0.1**
	5.2nm,0.7s,mb4.0,baz=52,slow=10.0,SNR=9.9							
AS31	**Alice Springs**	**23.99**	**222**	*e*P		**P**	**05 39 33.5**	**-0.4**
ASAR	**Alice Springs**	**24.00**	**222**	P		**P**	**05 39 33.8**	**-0.1**
	3.0nm,0.7s,mb3.9,baz=54,slow=8.8,SNR=20							
STKA	**Stephens Creek**	**26.98**	**198**	P		**P**	**05 40 01.7**	**+0.7**
	3.4nm,0.6s,mb4.1,baz=1.0,slow=9.7,SNR=9.0							
FITZ	**Fitzroy Crossi**	**27.59**	**243**	P		**P**	**05 40 06.1**	**-0.3**
	5.8nm,0.6s,mb4.4,baz=86,slow=7.4,SNR=14							
SONM	**Songino Array**	**66.80**	**329**	P		**P**	**05 45 11.5**	**+0.9**
	0.5nm,0.6s,mb3.7,baz=143,slow=3.1,SNR=5.3							
SML	**Sawmill**	**82.14**	**25**	*e*P		**P**	**05 46 39.3**	**-0.3**
MCK	**McKinley**	**82.85**	**23**	*e*P		**P**	**05 46 42.9**	**-0.5**
	4.3nm,1.2s,mb4.3							
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc		PKPbc	05 54 08.7	+1.2
	1.3nm,0.6s,baz=61,slow=2.4,SNR=8.8							

SZGRF ***10*** *05:35:15.1,2476S×17985W,h33km,South of Fiji Islands*
BJI ***10*** *05:36:05.8,2420S×17990E,h450km,mB4.8,mb4.6*
ISCJB ***10*** *05:36:10.7±1.2,2426S±004×17983E±004,h507km±13km, mb4.7/57,Error ellipse: s-maj=7.4km s-min=5.3km az=105.7*
IDC ***10*** *05:36:10.6±1.1,2419S×17994E,h500km±11km,mb4.3/14, mb1 4.4/15,mb1mx4.3/18,mbtmp4.3/15,Error ellipse: s-maj=12.9km s-min=10.2km az=151.0*
MOS ***10*** *05:36:12.7±2.1,2411S×17980E,h526km,mb4.8/17,Error ellipse: s-maj=14.2km s-min=10.1km az=147.2*
NEIC ***10*** *05:36:13.8±0.8,2424S×17985E,h536km±9km,mb4.8/44, Error ellipse: s-maj=7.6km s-min=4.7km az=154.0*
BGS ***10*** *05:36:18.3,2424S×17985E,h536km,mb4.8(NEIC)*

ISC 10 05:36:12.4±0.9,2442S±004×17995E±004,h520km±11km, n505,σ0§65/363,mb4.7/56,118C-109D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.64**	**278**	*e*P		**P**	**05 38 58.7**	**+1.1**
DZM	**Mont Dzumac**	**12.64**	**278**	P		**P**	**05 38 58.8**	**+1.3**
	4.1nm,0.3s,baz=90,slow=14,SNR=32							
DZM				ScP		ScP	05 46 36.4	+2.5
	0.6nm,0.3s,baz=111,slow=22,SNR=5.9							
AFI	**Afiamalu**	**13.05**	**38**	P		**P**	**05 38 54.7**	**-7.1**
	8.0nm,0.3s,baz=37,slow=3.1,SNR=18							
AFI				S		**S**	**05 41 05.9**	**-16**
	5.2nm,0.3s,baz=26,slow=21,SNR=11							
AFI	**Afiamalu**	**13.05**	**38**	*e*P		**P**	**05 38 54.5**	**-7.3**
AFI				*e*S		**S**	**05 41 06.8**	**-15**
AFI				pmax		pmax		
	comp=Z,111nm,0.8s							
AFI	**Afiamalu**	**13.05**	**38**	*e*P		**P**	**05 38 54.5**	**-7.3**
	comp=Z,111nm,0.8s							
AFI				*e*S		**S**	**05 41 06.8**	**-15**
URZ	**Urewera**	**14.01**	**189**	P		**P**	**05 39 12.3**	**+0.4**
	comp=Z,6.7nm,0.3s,baz=1.6,slow=2.8,SNR=18							
URZ				S		**S**	**05 41 38.5**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=219,slow=21,SNR=6.3							
URZ	**Urewera**	**14.01**	**189**	*e*PN		**P**	**05 39 09.6**	**-2.3**
PXZ	**Pawanui**	**15.78**	**189**	SN		**S**	**05 42 12.9**	**-0.5**
FUNA	**Funafuti**	**15.82**	**357**	*e*P		**P**	**05 39 23.7**	**-7.0**
	comp=Z,11nm,0.3s							
MRZ	**Mangatainoka R**	**16.61**	**192**	PN		**P**	**05 39 36.3**	**-2.6**
SNZO	**South Karori**	**17.40**	**193**	*e*P		**P**	**05 39 44.3**	**-1.9**
	comp=Z,62nm,0.8s							
SNZO				*e*S		**S**	**05 42 41.2**	**+0.6**
TCW	**Tory Channel**	**17.41**	**194**	PN		**P**	**05 39 44.8**	**-1.4**
NNZ	**Nelson**	**17.63**	**197**	PN		**P**	**05 39 47.6**	**-0.6**
THZ	**Tophouse**	**18.26**	**197**	PN		**P**	**05 39 53.9**	**-0.2**
DSZ	**Denniston Nort**	**18.56**	**199**	PN		**P**	**05 39 57.6**	**+0.8**
KHZ	**Kahutara**	**18.72**	**195**	PN		**P**	**05 39 57.9**	**-0.4**
KHZ				SN		**S**	**05 43 01.5**	**-0.6**
RPZ	**Rata Peaks**	**20.59**	**199**	P		**P**	**05 40 16.2**	**+0.9**
	comp=Z,42nm,0.6s,baz=348,slow=0.7,SNR=23							
RPZ				ScP		ScP	05 46 51.5	+1.5
	comp=Z,5.4nm,0.5s,baz=218,slow=18,SNR=4.7							
JCZ	**Jackson Bay**	**21.64**	**202**	PN		**P**	**05 40 25.1**	**+0.4**
HNR	**Honiara**	**24.20**	**305**	P		**P**	**05 40 44.8**	**-2.9**
	comp=Z,77nm,0.6s,mb5.5,baz=247,slow=1.7,SNR=6.5							
HNR	**Honiara**	**24.20**	**305**	*e*P		**P**	**05 40 45.8**	**-1.8**
HNR				pmax		pmax		
	comp=Z,71nm,0.9s,mb5.3							
HNR	**Honiara**	**24.20**	**305**	*e*P		**P**	**05 40 45.8**	**-1.9**
	comp=Z,71nm,0.9s,mb5.3							
ARMA	**Armidale**	**25.80**	**250**	⇓*i*P		**P**	**05 41 03.9**	**+2.1**
CNB	**Canberra Magne**	**28.56**	**241**	*e*P		**P**	**05 41 27.9**	**+1.9**
	comp=Z,70nm,0.7s,mb5.4							
CTA	**Charters Tower**	**31.44**	**271**	⇓*i*P		**P**	**05 41 51.6**	**+0.8**
	comp=Z,131nm,0.3s							
CTA	**Charters Tower**	**31.44**	**271**	P		**P**	**05 41 51.8**	**+0.9**
	comp=Z,172nm,0.4s,baz=94,slow=11,SNR=321							
CTA				ScP		ScP	05 47 24.9	+2.9
	comp=Z,4.9nm,0.8s,baz=127,slow=4.6,SNR=4.9							
CTA	**Charters Tower**	**31.44**	**271**	⇓*i*P		**P**	**05 41 51.6**	**+0.8**
CTA				pmax		pmax		
	comp=Z,131nm,0.3s							
CTAO	**Charters Tower**	**31.44**	**271**	⇓*i*P		**P**	**05 41 51.5**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,167nm,0.4s							
CTAO	**Charters Tower**	**31.44**	**271**	⇓*i*P		**P**	**05 41 51.5**	**+0.7**
	comp=Z,166nm,0.4s							
TOO	**Toolangi**	**32.13**	**238**	⇓*i*P		**P**	**05 41 58.4**	**+1.6**
	comp=Z,30nm,0.6s,mb5.0							
TOO	**Toolangi**	**32.13**	**238**	⇓*i*P		**P**	**05 41 58.4**	**+1.6**
TOO				pmax		pmax		
	comp=Z,30nm,0.6s,mb5.0							
TAU	**Tasmania Unive**	**32.55**	**227**	*e*P		**P**	**05 42 01.4**	**+1.1**
TAU				pmax		pmax		
	comp=Z,36nm,0.6s,mb5.1							
TAU	**Tasmania Unive**	**32.55**	**227**	*e*P		**P**	**05 42 01.4**	**+1.1**
	comp=Z,36nm,0.6s,mb5.1							
STKA	**Stephens Creek**	**34.49**	**249**	⇓*i*P		**P**	**05 42 17.7**	**+1.0**
	comp=Z,29nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**34.49**	**249**	P		**P**	**05 42 17.9**	**+1.2**
	comp=Z,34nm,0.6s,mb5.1,baz=92,slow=9.5,SNR=107							
STKA				ScP		ScP	05 47 36.1	+3.4
	comp=Z,13nm,1.1s,baz=49,slow=5.9,SNR=5.1							
PMG	**Port Moresby**	**34.62**	**290**	P		**P**	**05 42 16.3**	**-1.5**
	comp=Z,58nm,0.7s,mb5.2,baz=93,slow=9.6,SNR=10							
PMG	**Port Moresby**	**34.62**	**290**	*e*P		**P**	**05 42 16.7**	**-1.1**
PMG	**Port Moresby**	**34.62**	**290**	*e*P		**P**	**05 42 16.4**	**-1.4**
	comp=Z,51nm,0.7s,mb5.2							
AS31	**Alice Springs**	**41.91**	**261**	*e*P		**P**	**05 43 17.4**	**+0.4**
AS31				*e*S		**S**	**05 48 56.6**	**-0.8**
ASAR	**Alice Springs**	**41.91**	**261**	P		**P**	**05 43 17.5**	**+0.5**
	comp=Z,31nm,0.6s,mb5.0,baz=93,slow=8.3,SNR=214							
ASAR				ScP		ScP	05 48 04.9	+3.7
	comp=Z,13nm,0.9s,baz=102,slow=4.0,SNR=12							
ASAR				S		**S**	**05 48 57.2**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=100,slow=15,SNR=4.4							
ASPA	**Alice Springs**	**41.91**	**261**	*e*P		**P**	**05 43 17.4**	**+0.3**
ASPA				*e*S		**S**	**05 48 56.6**	**-0.9**
WB2	**Warramunga Arr**	**42.32**	**267**	⇓*i*P		**P**	**05 43 19.9**	**-0.4**
WB2				*e*ScP		ScP	05 48 07.3	+4.4
WB2				*e*S		**S**	**05 49 00.6**	**-2.7**
WRAB	**Tennant Creek**	**42.32**	**267**	*e*P		**P**	**05 43 20.3**	**0.0**
WRAB				pmax		pmax		
	comp=Z,26nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**42.32**	**267**	*e*P		**P**	**05 43 20.2**	**-0.1**
	comp=Z,26nm,0.8s,mb4.8							
WRAB				*e*ScP		ScP	05 48 07.6	+4.8
WRA	**Warramunga Arr**	**42.33**	**267**	P		**P**	**05 43 20.0**	**-0.4**
	comp=Z,72nm,0.5s,mb5.4,baz=104,slow=8.1,SNR=421							
WRA				ScP		ScP	05 48 07.4	+4.4
	comp=Z,21nm,0.9s,baz=102,slow=4.3,SNR=16							
WRA				S		**S**	**05 49 01.5**	**-2.0**
	comp=Z,8.7nm,1.2s,baz=102,slow=14,SNR=4.9							
FORT	**Forrest**	**46.09**	**250**	⇓*i*P		**P**	**05 43 49.2**	**-0.2**
	comp=Z,197nm,0.6s							
KAKA	**Kakadu**	**46.31**	**276**	*e*P		**P**	**05 43 50.4**	**-0.7**
	comp=Z,33nm,0.4s,mb5.2							
FITZ	**Fitzroy Crossi**	**50.75**	**266**	*e*P		**P**	**05 44 24.4**	**+0.3**
	comp=Z,89nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**50.75**	**266**	P		**P**	**05 44 24.4**	**+0.3**
	comp=Z,50nm,0.6s,mb5.0,baz=137,slow=6.8,SNR=94							
FITZ				ScP		ScP	05 48 42.5	+4.2
	comp=Z,12nm,1.0s,baz=104,slow=6.7,SNR=3.2							
VNDA	**Vanda**	**53.86**	**185**	P		**P**	**05 44 47.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=1.4,slow=7.3,SNR=7.1							
VNDA	**Vanda**	**53.86**	**185**	*e*P		**P**	**05 44 48.4**	**+1.9**
	comp=Z,1.7nm,1.0s							
VNDA				*e*PcP		PcP	05 45 44.5	+0.6
KLBR	**Kellerberrin**	**54.75**	**248**	*e*P		**P**	**05 44 52.8**	**+0.1**
	comp=Z,48nm,0.7s,mb4.8							
NWAO	**Narrogin (SRO)**	**54.98**	**246**	P		**P**	**05 44 54.4**	**0.0**
	comp=Z,8.6nm,0.5s,mb4.2,baz=106,slow=0.5,SNR=15							
MBWA	**Marble Bar**	**55.24**	**260**	*e*P		**P**	**05 44 55.7**	**-0.5**
	comp=Z,29nm,0.7s,mb4.6							
MUN	**Mundaring**	**55.99**	**247**	*e*P		**P**	**05 45 01.6**	**+0.3**
CASY	**Casey**	**59.63**	**206**	*e*P		**P**	**05 45 26.4**	**+0.3**
QSPA	**South Pole Qui**	**65.67**	**180**	*e*P		**P**	**05 46 07.2**	**+2.1**
	comp=Z,18nm,0.8s,mb4.7							
KKM	**Kota Kinabalu**	**69.01**	**287**	*e*P		**P**	**05 46 25.6**	**-0.1**
KSM	**Kuching**	**72.15**	**280**	*e*P		**P**	**05 46 44.5**	**+0.3**
MJAR	**Matsushiro Arr**	**72.30**	**326**	P		**P**	**05 46 43.4**	**-1.7**
	comp=Z,2.6nm,0.7s,mb3.8,baz=163,slow=4.4,SNR=7.9							
KSRS	**Korea Array**	**78.61**	**320**	P		**P**	**05 47 19.9**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=134,slow=6.0,SNR=4.4							
NJ2	**Nanjing**	**80.97**	**311**	*e*P		**P**	**05 47 32.9**	**+0.4**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb4.8							
SCI	**San Clemente I**	**81.79**	**48**	⇓P		**P**	**05 47 36.9**	**+0.2**
	baz=82							
HAST	**UC Hastings Re**	**81.86**	**44**	⇓P		**P**	**05 47 37.2**	**+0.1**
	baz=82							
BNLO	**Ben Lomond (Sa**	**81.93**	**43**	⇑P		**P**	**05 47 37.5**	**0.0**
	baz=82							
PKM	**Peak Mountain**	**82.07**	**46**	⇑P		**P**	**05 47 38.2**	**0.0**
	baz=82							
SMMC	**Simmler**	**82.20**	**46**	⇓P		**P**	**05 47 39.1**	**+0.2**
	baz=82							
PKD	**Parkfield**	**82.23**	**45**	⇓P		**P**	**05 47 39.2**	**+0.2**
	baz=82							
U04C	**Hernandez Rese**	**82.33**	**44**	⇑P		**P**	**05 47 40.2**	**+0.7**
	baz=82							
PACP	**Pacheco Peak**	**82.41**	**44**	⇑P		**P**	**05 47 40.0**	**+0.1**
	baz=82,SNR=5.5							
KULM	**Kulim**	**82.48**	**279**	*e*P		**P**	**05 47 40.9**	**+0.6**
SYO	**Syowa Base**	**82.50**	**193**	⇓*e*P		**P**	**05 47 39.8**	**-0.6**
SYO	**Syowa Base**	**82.50**	**193**	⇓*e*PcP		PcP	05 47 43.0	-1.0
WENL	**Wente Brothers**	**82.50**	**43**	⇓P		**P**	**05 47 40.5**	**+0.1**
	baz=82							
CVS	**Carmenet Viney**	**82.52**	**42**	⇓P		**P**	**05 47 40.4**	**-0.1**
	baz=83							
HOPS	**Hopland**	**82.56**	**41**	⇓P		**P**	**05 47 41.1**	**+0.4**
	baz=83							
OSI	**Osito Adit**	**82.63**	**47**	⇓P		**P**	**05 47 41.0**	**0.0**
	baz=83							
BDM	**Black Diamond**	**82.64**	**43**	⇑P		**P**	**05 47 41.2**	**+0.1**
	baz=83							
MDJ	**Mudanjiang**	**82.67**	**326**	P		**P**	**05 47 41.5**	**+0.3**
MDJ				AP		pP	05 49 21.7	-12
MDJ				XP		sP	05 50 11.4	-16
MDJ				PP		PP	05 50 58.9	-1.4
MDJ				S		S	05 57 16.3	+0.7
MDJ				XS		sS	06 00 21.6	-15
MDJ				SS		SS	06 02 53.1	+0.7
MDJ				AMB		AMB		
	comp=Z,9.0nm,1.8s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,103nm,4.7s							
P01C	**Double 8 Ranch**	**82.70**	**41**	⇑P		**P**	**05 47 41.7**	**+0.3**
	baz=83							
109C	**Camp Elliot, M**	**82.72**	**49**	⇑P		**P**	**05 47 41.4**	**-0.1**
	baz=83							
O01C	**Eel River Cons**	**82.85**	**40**	⇓P		**P**	**05 47 42.7**	**+0.5**
	baz=83							
ARVC	**Arvin**	**82.86**	**46**	⇑P		**P**	**05 47 42.3**	**+0.1**
	baz=83							
MNRC	**McLaughlin Nat**	**82.86**	**42**	⇑P		**P**	**05 47 43.0**	**+0.8**
	baz=83,SNR=7.1							
Q03C	**Winters**	**82.97**	**42**	⇓P		**P**	**05 47 43.4**	**+0.6**
	baz=83							
MURC	**Murrieta**	**83.06**	**48**	⇑P		**P**	**05 47 43.4**	**+0.2**
	baz=83							
VES	**Vestal, Richgr**	**83.12**	**46**	⇓P		**P**	**05 47 42.9**	**-0.5**
	baz=83,SNR=6.6							
BFSC	**Mount Baldy St**	**83.12**	**48**	⇓P		**P**	**05 47 43.1**	**-0.4**
	baz=83,SNR=5.6							
GASB	**Alder Springs**	**83.19**	**41**	⇓P		**P**	**05 47 44.7**	**+0.9**
	baz=83,SNR=11							
MONP	**Monument Peak**	**83.19**	**49**	⇓P		**P**	**05 47 44.5**	**+0.7**
	baz=83,SNR=6.0							
S05C	**Merced**	**83.22**	**44**	⇑P		**P**	**05 47 44.4**	**+0.4**
	baz=83,SNR=6.5							
EDW2	**Edwards Air Fo**	**83.27**	**47**	⇓P		**P**	**05 47 44.4**	**+0.2**
	baz=83,SNR=6.2							
DVTC	**Desert V Tower**	**83.28**	**50**	⇓P		**P**	**05 47 44.7**	**+0.4**
	baz=83							
RCTC	**Rector, Farmer**	**83.30**	**45**	⇑P		**P**	**05 47 44.5**	**+0.2**
	baz=83							
KHMM	**Horse Mountain**	**83.37**	**39**	*e*P		**P**	**05 47 45.7**	**+1.0**
ISA	**Isabella**	**83.41**	**46**	⇑*i*P		**P**	**05 47 45.0**	**+0.1**
ISA	**Isabella**	**83.41**	**46**	⇓P		**P**	**05 47 45.1**	**+0.2**
	baz=84,SNR=10							
T06C	**Milleton Lake**	**83.41**	**44**	⇑P		**P**	**05 47 44.4**	**-0.5**
	baz=84,SNR=18							
O02C	**Red Bluff**	**83.48**	**40**	⇓P		**P**	**05 47 45.9**	**+0.7**
	baz=84,SNR=10							
SUTB	**Sutter Butte**	**83.48**	**42**	⇑P		**P**	**05 47 44.8**	**-0.5**
	baz=84,SNR=5.6							
Q04C	**Lincoln**	**83.49**	**42**	⇑P		**P**	**05 47 44.9**	**-0.5**
	baz=84							
PFO	**Pinyon Flat Ob**	**83.58**	**49**	P		**P**	**05 47 45.5**	**-0.3**
	comp=Z,7.7nm,1.0s,mb4.2,baz=344,slow=3.3,SNR=5.7							
PFO	**Pinyon Flat Ob**	**83.58**	**49**	⇓P		**P**	**05 47 45.9**	**+0.2**
	baz=84							
N02C	**Big Bar**	**83.59**	**40**	⇑P		**P**	**05 47 45.9**	**+0.1**
	baz=84							
CMB	**Columbia Colle**	**83.61**	**43**	⇑*i*P		**P**	**05 47 45.6**	**-0.3**
CMB				pmax		pmax		
	comp=Z,17nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**83.61**	**43**	⇑*i*P		**P**	**05 47 45.6**	**-0.3**
	comp=Z,17nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**83.61**	**43**	P		**P**	**05 47 45.8**	**-0.1**
	baz=84,SNR=16							
SWSC	**Sam W. Stewart**	**83.66**	**50**	⇑P		**P**	**05 47 46.6**	**+0.4**
	baz=84							
HELL	**Mitchell Peak,**	**83.66**	**45**	⇑P		**P**	**05 47 45.8**	**-0.4**
	baz=84,SNR=9.4							
OHCM	**Honcut**	**83.73**	**42**	*e*P		**P**	**05 47 45.8**	**-0.7**
O03C	**Acorn Hollow,**	**83.81**	**41**	⇓P		**P**	**05 47 46.5**	**-0.4**
	baz=84,SNR=5.9							
LRMC	**Laurel Mountai**	**83.82**	**47**	⇑P		**P**	**05 47 46.8**	**-0.1**
	baz=84,SNR=6.9							
LAVA	**Lava Cap Winer**	**83.83**	**43**	⇑P		**P**	**05 47 46.7**	**-0.3**
	baz=84,SNR=6.5							
KCC	**Kaiser Creek**	**83.85**	**44**	P		**P**	**05 47 47.2**	**+0.1**
	baz=84,SNR=7.3							
S06C	**San Francisco**	**83.85**	**44**	⇓P		**P**	**05 47 46.6**	**-0.5**
	baz=84,SNR=7.8							
ORV	**Oroville**	**83.86**	**42**	⇓P		**P**	**05 47 46.7**	**-0.4**
	baz=84,SNR=8.3							

baz=85,SNR=11
PAHR Pah Rah Range 85.24 42 *e*P P 05 47 53.9 0.0
O06A Flanigan 85.25 42 P P 05 47 54.2 +0.3
baz=85,SNR=6.4
U10A Ash Meadows, A 85.26 47 ⇑P P 05 47 54.3 +0.2
baz=85
L04A Klamath Falls 85.27 39 ⇑P P 05 47 54.0 0.0
baz=85
I02A Mapleton 85.34 37 ⇓P P 05 47 54.5 +0.1
baz=85
J03A Ideyld Park 85.42 38 ⇓P P 05 47 54.9 +0.1
baz=86
P07A Fallon 85.45 43 ⇑P P 05 47 54.9 0.0
baz=86
M06C Likely Place G 85.49 41 ⇑P P 05 47 54.9 -0.3
baz=86,SNR=5.8
Y13A Salome 85.51 50 ⇑P P 05 47 55.7 +0.5
baz=86,SNR=6.1
PDMCI Parker Dam,Lak 85.56 49 ⇑P P 05 47 55.3 -0.1
baz=86,SNR=13
N06A Buffalo Meadow 85.60 41 ⇓P P 05 47 55.5 -0.2
baz=86
W12A Cal Nev Ari 85.61 48 ⇑P P 05 47 55.8 +0.1
baz=86
I03A Eugene 85.63 37 ⇑P P 05 47 55.9 +0.1
baz=86
K04A Chiluqin 85.64 39 ⇑P P 05 47 55.9 +0.1
baz=86
TPH Tonopah 85.64 45 *e*P P
TPH pmax pmax 05 47 56.0 +0.2
comp=Z,8.0nm,0.8s,mb4.4
TPH Tonopah 85.64 45 *e*P P 05 47 56.0 +0.2
comp=Z,7.9nm,0.8s,mb4.4
Q08A Gabbs 85.64 44 ⇑P P 05 47 55.4 -0.4
baz=86,SNR=8.6
L05A Lakeview 85.80 40 ⇓P P 05 47 57.0 +0.3
baz=86,SNR=5.2
J04A Umpqua Nationa 85.81 38 ⇑P P 05 47 56.7 0.0
baz=86,SNR=5.3
O07A Toulon 85.83 42 ⇓P P 05 47 56.6 -0.2
baz=86,SNR=9.2
R09A Tonopah 85.83 45 ⇑P P 05 47 56.5 -0.2
baz=86,SNR=8.2
V12A Nelson 85.86 48 ⇑P P 05 47 57.0 +0.1
baz=86
Z14A Wintersburg 85.88 51 ⇓P P 05 47 57.6 +0.6
baz=86
U11A Corn Creek 85.89 47 ⇑P P 05 47 57.1 0.0
baz=86
I04A Tendick Farm, 86.00 38 ⇑P P 05 47 57.3 -0.2
baz=86
MOD Modoc 86.02 40 *e*P P 05 47 57.5 -0.1
MOD Modoc 86.02 40 P P 05 47 57.6 -0.1
baz=86,SNR=7.8
115A Sonoran Desert 86.04 52 P P 05 47 58.5 +0.8
baz=86,SNR=6.7
H03A Soap Creek Ran 86.07 37 ⇑P P 05 47 58.2 +0.3
baz=86
SHPR Sheep Range 86.09 47 *e*P P 05 47 58.4 +0.5
Y14A Wickenburg 86.15 50 ⇑P P 05 47 58.6 +0.3
baz=86
W13A Hualapai Mount 86.17 49 ⇓P P 05 47 58.9 +0.5
baz=86,SNR=5.4
K05A Summer Lake 86.19 39 ⇑P P 05 47 58.8 +0.4
baz=86,SNR=6.7
116A Eloy 86.34 52 ⇑P P 05 47 60.0 +0.8
baz=86,SNR=11
J05A Fort Rock 86.34 39 P P 05 47 59.6 +0.4
baz=86,SNR=15
M07A Soldier Meadow 86.39 41 ⇑P P 05 47 59.5 +0.1
baz=86,SNR=6.4
U12A Valley of Fire 86.46 47 ⇓P P 05 48 00.4 +0.6
baz=86,SNR=7.1
X14A Yava 86.52 50 ⇓P P 05 48 00.6 +0.6
baz=87,SNR=7.7
P09A Austin 86.55 44 ⇑P P 05 47 59.8 -0.3
baz=87
K06A Valley Falls 86.61 40 ⇓P P 05 48 00.4 0.0
baz=87,SNR=9.4
N08A GE Springer Mi 86.65 42 ⇑P P 05 48 00.3 -0.3
baz=87,SNR=11
L07A Adell 86.66 41 P P 05 48 01.1 +0.4
baz=87,SNR=10
H04A Detroit Lake 86.69 37 ⇑P P 05 48 01.3 +0.5
baz=87
W14A Seligman 86.78 49 ⇑P P 05 48 01.8 +0.5
baz=87,SNR=7.4
I05A Bend 86.87 38 ⇑P P 05 48 01.5 -0.1
baz=87,SNR=5.9
O09A Fish Creek Ran 86.88 43 ⇑P P 05 48 01.6 -0.1
baz=87
M08A Happy Creek Ra 86.90 42 ⇓P P 05 48 01.6 -0.2
baz=87,SNR=6.6
J06A Christmas Vall 86.94 39 P P 05 48 01.9 -0.1
baz=87,SNR=15
GYA Guiyang 86.97 301 P P
GYA AMB AMB 05 48 03.3 +1.1
comp=Z,10.0nm,0.8s,mb4.5
X15A Humboldt 86.98 50 ⇓P P 05 48 02.4 +0.2
baz=87,SNR=9.0
BMN Battle Mountai 87.01 43 *e*P P 05 48 02.2 -0.1
BMN pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
BMN Battle Mountai 87.01 43 *e*P P 05 48 02.2 -0.2
comp=Z,9.6nm,0.9s,mb4.4
P10A Eureka 87.01 44 ⇓P P 05 48 02.3 -0.1
baz=87
N09A Rock Creek Ran 87.07 42 P P 05 48 02.7 +0.1
baz=87,SNR=6.2
Q11A Duckwater 87.08 45 ⇓P P 05 48 02.5 -0.2
baz=87
K07A Rock Creek Ran 87.12 40 ⇑P P 05 48 03.0 +0.1
baz=87,SNR=16
E03A Lebam 87.14 35 ⇑P P 05 48 02.8 -0.1
baz=87
W15A Williams 87.33 49 ⇓P P 05 48 03.8 0.0
baz=87
I06A Prineville 87.33 39 ⇑P P 05 48 04.1 +0.2
baz=87,SNR=20
WVOR Wild Horse Val 87.33 41 *e*P P 05 48 03.5 -0.3
WVOR pmax pmax
comp=Z,27nm,1.4s,mb4.7
WVOR Wild Horse Val 87.33 41 *e*P P 05 48 03.5 -0.3
comp=Z,27nm,1.4s,mb4.7
F04A Amboy 87.35 36 ⇑P P 05 48 03.6 -0.3
baz=87,SNR=5.0
L08A Fields 87.36 41 ⇓P P 05 48 03.8 -0.2
baz=87,SNR=15
P11A Circle Ranch, 87.42 44 ⇑P P 05 48 04.3 0.0
baz=88
M09A Marrel Ranch, 87.45 42 ⇑P P 05 48 04.5 +0.1
baz=88
J07A Hines 87.50 40 P P 05 48 04.9 +0.2
baz=88,SNR=9.6
G05A Wamic 87.52 37 ⇓P P 05 48 05.0 +0.3
baz=88
NLWA Neilton Lookou 87.53 34 ⇓P P 05 48 05.0 +0.3
baz=88
K08A Mann Creek Ran 87.60 40 ⇓P P 05 48 05.2 +0.1
baz=88,SNR=22
E04A Onalaska 87.61 36 ⇑P P 05 48 05.7 +0.5
baz=88
N10A Dunphy 87.62 43 ⇓P P 05 48 05.4 +0.2
baz=88
L09A Wilkinson Ranc 87.67 41 ⇓P P 05 48 05.8 +0.4
baz=88
Q12A Willow Creek R 87.72 45 ⇓P P 05 48 05.8 +0.2
baz=88,SNR=5.7
H06A Lindquist Farm 87.75 38 P P 05 48 05.8 0.0
baz=88,SNR=19
I07A Izee 87.82 39 ⇑P P 05 48 06.1 0.0
baz=88,SNR=21
F05A White Salmon 87.84 37 ⇓P P 05 48 06.3 +0.1
baz=88
G06A Carlson Farm, 87.89 37 ⇓P P 05 48 06.3 -0.1
baz=88,SNR=7.6
D04A Dobbs Creek Ra 87.90 35 ⇓P P 05 48 07.0 +0.5
baz=88
P12A McGill 87.92 45 ⇑P P 05 48 06.8 +0.2
baz=88
J08A Circle Bar Ran 87.98 40 ⇓P P 05 48 06.7 -0.1
baz=88,SNR=18
K09A Rome 88.03 41 P P 05 48 07.3 +0.2
baz=88,SNR=24
M10A I.L. Ranch, Tu 88.06 42 ⇓P P 05 48 07.6 +0.3
baz=88,SNR=16
H07A Lands Inn, Kim 88.09 38 P P 05 48 07.5 +0.1
baz=88,SNR=28

WUAZ Wupatki 88.13 49 *e*P P 05 48 08.2 +0.6
comp=Z,14nm,1.3s,mb4.5
WUAZ Wupatki 88.13 49 ⇓P P 05 48 08.0 +0.5
baz=88
F06A Goldendale 88.14 37 ⇓P P 05 48 07.9 +0.2
baz=88
B04A Port Angeles 88.15 34 ⇓P P 05 48 08.1 +0.4
baz=88
N11A Elko Archery C 88.15 43 ⇑P P 05 48 07.9 +0.2
baz=88
GNW Green Mountain 88.18 35 *e*P P 05 48 07.1 -0.7
C04A Brinnon 88.20 35 ⇓P P 05 48 07.8 -0.1
baz=88
I08A Drewsey 88.25 39 ⇓P P 05 48 08.1 0.0
baz=88,SNR=20
D05A Enumclaw 88.38 35 ⇑P P 05 48 09.3 +0.5
baz=88
J09A Fry Pan Ranch, 88.39 40 ⇓P P 05 48 08.8 0.0
baz=88,SNR=31
G07A Ruggs Ranch, H 88.45 38 P P 05 48 09.0 -0.1
baz=88,SNR=12
M11A Holland Ranch, 88.47 43 ⇓P P 05 48 09.5 +0.3
baz=88,SNR=12
E06A Yakima 88.51 36 ⇓P P 05 48 09.0 -0.4
baz=88,SNR=5.7
H08A Prairie City 88.56 39 ⇓P P 05 48 09.3 -0.3
baz=89,SNR=8.2
N12A Clover Valley, 88.61 43 ⇑P P 05 48 09.9 +0.1
baz=89,SNR=9.0
F07A Phinny Hill Vi 88.69 37 P P 05 48 10.1 -0.1
baz=89,SNR=6.0
I09A Lost Marbles R 88.77 40 ⇓P P 05 48 10.2 -0.4
baz=89,SNR=9.7
C05A Tolt Reservoir 88.86 35 ⇑P P 05 48 10.2 -0.7
baz=89
G08A Pilot Rock 88.86 38 P P 05 48 11.0 0.0
baz=89,SNR=22
EBG Ellensburg 88.96 36 P P 05 48 11.3 -0.1
A04A Legoe Bay, Lum 88.98 34 ⇓P P 05 48 12.2 +0.6
baz=89
D06A Cle Elum 88.99 36 ⇑P P 05 48 11.2 -0.4
baz=89,SNR=7.6
M12A Wells 89.00 43 ⇑P P 05 48 11.7 +0.1
baz=89,SNR=9.8
B05A Bryant 89.00 35 ⇓P P 05 48 11.4 -0.2
baz=89
TBM Table Mountain 89.11 36 P P 05 48 12.1 0.0
E07A Sunnyside 89.13 37 ⇓P P 05 48 12.1 -0.1
baz=89,SNR=7.5
N13A Wendover, West 89.14 44 ⇓P P 05 48 12.6 +0.3
baz=89,SNR=5.6
MSU Marysvale 89.17 47 *e*P P 05 48 13.3 +0.9
RSW Rattlesnake Hi 89.18 37 P P 05 48 12.8 +0.4
SNIWA Snively Ranch 89.18 37 P P 05 48 12.7 +0.2
HAWA Hanford 89.21 37 *e*P P 05 48 12.1 -0.5
comp=Z,32nm,1.3s,mb5.0
H09A Durkee 89.22 39 ⇓P P 05 48 12.4 -0.3
baz=89
PMR Palmer 89.26 14 *e*P P 05 48 10.4 -2.4
F08A Pendleton 89.27 38 ⇑P P 05 48 12.6 -0.2
baz=89
M13A Montello 89.44 43 ⇑P P 05 48 13.5 -0.2
baz=90,SNR=20
D07A Quincy 89.46 36 ⇓P P 05 48 13.5 -0.2
baz=90
KMI Kunming 89.47 298 P P
KMI AMB AMB 05 48 14.6 +0.8
comp=Z,8.0nm,1.0s,mb4.5
KMI Kunming 89.47 298 P P 05 48 14.6 +0.8
comp=Z,8.0nm,1.0s,mb4.5
B06A Marblemount 89.48 35 ⇑P P 05 48 13.7 -0.2
baz=90
E08A Dider Farm, El 89.53 37 ⇓P P 05 48 13.7 -0.4
baz=90,SNR=6.7
BMO Blue Mountains 89.54 39 *e*P P 05 48 13.4 -0.7
comp=Z,12nm,1.3s,mb4.6
DUG Dugway 89.66 45 *e*P P 05 48 14.5 -0.2
DUG pmax pmax 05 48 14.5 -0.2
comp=Z,5.0nm,1.1s,mb4.3
DUG Dugway 89.66 45 *e*P P 05 48 14.5 -0.2
comp=Z,5.1nm,1.1s,mb4.3
DUG Dugway 89.66 45 ⇓P P 05 48 14.7 0.0
baz=90
F09A S2 Ranch, Elgi 89.70 38 ⇑P P 05 48 14.6 -0.3
baz=90,SNR=5.2
C07A Waterville 89.72 36 ⇓P P 05 48 14.3 -0.6
baz=90
SEY Seymchan 89.77 348 *e*P P 05 48 12.4 -2.8
D08A Wollman Farm, 89.94 37 ⇑P P 05 48 15.3 -0.7
baz=90,SNR=6.3
NLU North Lily Min 90.01 45 *e*P P 05 48 16.4 +0.1
E09A Wood Farm, Sta 90.05 38 ⇑P P 05 48 16.3 -0.2
baz=90
B07A Winthrop 90.16 35 ⇓P P 05 48 16.4 -0.6
baz=90
H11A Donnelly 90.21 40 ⇑P P 05 48 16.9 -0.3
baz=90,SNR=18
TMUT Trail Mountain 90.23 46 *e*P P 05 48 17.9 +0.6
F10A Beach Ranch, E 90.24 38 ⇓P P 05 48 16.4 -1.0
baz=90,SNR=10
D09A Jones Farm, Ri 90.28 37 ⇑P P 05 48 17.1 -0.5
baz=90
MPU Maple Canyon 90.33 46⇑ *e*P P 05 48 17.8 +0.1
comp=Z,15nm,0.9s,mb4.8
A07A Ashnola River, 90.38 35 P P 05 48 17.8 -0.3
baz=90,SNR=5.2
HLID Hailey 90.51 41 *e*P P 05 48 18.8 +0.2
comp=Z,8.6nm,1.0s,mb4.6
HLID Hailey 90.51 41 ⇓P P 05 48 18.8 +0.2
baz=90,SNR=13
MNTX Cornudas Mount 90.54 55 *e*P P 05 48 19.3 +0.5
comp=Z,2.3nm,1.0s,mb4.1
SRU San Rafael 90.58 47⇑ *e*P P 05 48 18.9 -0.1
SRU pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SRU San Rafael 90.58 47⇑ *e*P P 05 48 18.9 0.0
comp=Z,4.0nm,0.5s,mb4.6
CTU Camp Tracy 90.61 45 *e*P P 05 48 19.1 0.0
comp=Z,18nm,0.9s,mb5.0
TXAR Lajitas Array 90.74 58 P P 05 48 20.4 +0.7
comp=Z,11nm,0.7s,mb4.9,baz=214,slow=6.4,SNR=156
HHC Hu-ho-hao-te 90.75 315 *e*P P 05 48 21.0 +1.3
HHC AP pP 05 50 02.7 -12
HHC XP sP 05 50 46.8 -21
HHC PP PP 05 52 04.2 -0.2
HHC SKS 05 58 09.0
HHC S S 05 58 37.2 +5.6
HHC XS sS 06 01 37.0 -20
HHC SS SS 06 04 56.2 +7.0
HHC AMB AMB
comp=Z,19nm,1.5s,mb4.8
DAU Daniels Canyon 90.78 45 *e*P P 05 48 20.6 +0.7
BNM Barren Site 90.80 53 *e*P P 05 48 20.4 +0.4
F11A Grangeville 90.80 39 ⇑P P 05 48 19.3 -0.7
baz=91
LPM Los Pinos Moun 90.88 53 *e*P P 05 48 21.1 +0.8
A08A Turner Farm, O 90.90 35 ⇑P P 05 48 19.6 -0.9
baz=91
B09A Rice 91.18 36 ⇓P P 05 48 21.0 -0.8
baz=91
MCK McKinley 91.20 13 *e*P P 05 48 19.5 -2.3
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MCK McKinley 91.20 13 *e*P P 05 48 19.5 -2.3
comp=Z,2.6nm,0.7s,mb4.3
HWUT Hardware Ranch 91.22 44 *e*P P 05 48 21.5 -0.4
comp=Z,5.0nm,0.6s,mb4.6
ANMO Albuquerque 91.31 52 *e*P P 05 48 22.3 0.0
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 91.31 52 *e*P P 05 48 22.3 0.0
comp=Z,10nm,1.3s,mb4.6
CD2 Chengdu 91.33 303 *e*P P
CD2 AMB AMB 05 48 22.5 +0.1
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,8.2s
GDL2 Guadalupe Moun 91.54 55 *e*P P 05 48 24.3 +0.9
F13A Darby 91.80 40 P P 05 48 23.6 -1.0
baz=92,SNR=6.8
C12A Trout Creek 92.22 38 ⇓P P 05 48 25.4 -1.1
baz=92
E13A Victor 92.24 39 ⇑P P 05 48 25.8 -0.8
baz=92
COLA College 92.43 13 *e*P P 05 48 24.7 -2.8
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5

COLA College 92.43 13 *e*P P 05 48 24.7 -2.7
comp=Z,3.9nm,0.8s,mb4.5
D13A Huson 92.45 39 ⇓P P 05 48 27.5 0.0
baz=92
A11A Hall Mountain, 92.45 36 ⇑P P 05 48 27.2 -0.4
baz=92
REDW Red Top Meadow 92.59 43 *e*P P 05 48 28.3 +0.1
B12A Libby 92.59 37 ⇓P P 05 48 27.7 -0.5
baz=93
E14A Clinton 92.63 39 ⇑P P 05 48 27.4 -1.0
baz=93
CMIG Matias Romero 92.67 73 P P 05 48 28.9 +0.4
comp=Z,2.8nm,0.7s,mb4.4,baz=267,slow=6.3,SNR=5.6
BILL Bilibino 92.74 355 *e*P P 05 48 25.8 -3.1
BILL *e**PP pP 05 50 20.4 -3.7
BILL pmax pmax
comp=Z,15nm,1.8s,mb4.7
A12A Yaak River Ran 92.82 37 ⇓P P 05 48 28.5 -0.8
baz=93
MOOW Moose Ponds 92.85 43 *e*P P 05 48 28.9 -0.5
LOHW Long Hollow 92.87 43 *e*P P 05 48 29.0 -0.5
comp=Z,12nm,1.4s,mb4.7
F15A Butte 92.90 40 ⇓P P 05 48 29.3 -0.3
baz=93
D14A Greenough 92.99 39 ⇑P P 05 48 28.4 -1.6
baz=93
SMCO Snowmass 93.00 48 *e*P P 05 48 29.8 -0.3
comp=Z,5.6nm,0.8s,mb4.7
BW06 Boulder Array 93.09 44 *e*P P 05 48 29.9 -0.6
comp=Z,5.1nm,0.9s,mb4.5
PDAR Pinedale Array 93.09 44 P P 05 48 29.9 -0.5
comp=Z,3.4nm,0.8s,mb4.5,baz=220,slow=3.3,SNR=24
E15A Deer Lodge 93.13 40 ⇓P P 05 48 29.7 -1.0
baz=93
SDCO Great Sand Dun 93.33 50 *e*P P 05 48 31.3 -0.3
comp=Z,5.3nm,0.9s,mb4.6
D15A Lincoln 93.53 39 ⇓P P 05 48 31.3 -1.2
baz=94
LZH Lanzhou 93.66 308 ⇑P P 05 48 34.5 +1.4
LZH AP pP 05 50 21.6 -6.8
LZH AMB AMB
comp=Z,22nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,49nm,9.1s
LZH Lanzhou 93.66 308 ⇑P P 05 48 34.5 +1.4
comp=Z,22nm,1.2s,mb5.2
LZH pP pP 05 50 21.6 -6.8
LZH sP sP 05 51 09.3 -11
LZH PP PP 05 52 29.5 +2.7
EGAK Eagle 93.87 16 *e*P P 05 48 32.2 -1.9
comp=Z,6.1nm,0.8s,mb4.8
EGMT Eagleton 95.64 39 ⇑P P 05 48 41.6 -0.5
baz=96
INK Inuvik 98.54 16 *e*P Pdif 05 48 52.6 -2.4
comp=Z,106nm,0.9s
WMQ Urumqi 108.04 310 ⇓PDIF Pdif 05 49 37.3 0.0
WMQ PP PP 05 54 15.8 +2.1
WMQ PP PP
comp=Z,123nm,4.8s
ZAL Zalesovo 112.33 320 PKiKP PKiKP 05 53 47.4 -1.6
comp=Z,1.1nm,0.3s,baz=65,slow=2.3,SNR=3.0
MKAR Makanchi Array 112.47 313 PKiKP PKiKP 05 53 47.8 -1.5
comp=Z,1.3nm,0.6s,baz=197,slow=0.8,SNR=17
KURK Kurchatov 115.54 316 *e*PKIKP PKPdf 05 53 53.4 -1.8
SUR Sutherland 120.11 200 *e*PKPdf PKPdf 05 54 05.3 +1.4
BVAR Borovoye Array 120.80 318 PKP PKPdf 05 54 04.0 -1.3
comp=Z,4.8nm,0.6s,baz=72,slow=1.6,SNR=26
BRVK Borovoye 120.86 319 *e*PKIKP PKPdf 05 54 03.7 -1.7
BOSA Boshof 121.92 206 PKP PKPdf 05 54 07.7 +0.3
comp=Z,2.9nm,0.8s,baz=212,slow=12,SNR=4.8
BOSA Boshof 121.92 206 PKP PKPdf 05 54 07.7 +0.3
ARU Arti 127.27 323 *e*PKIKP PKPdf 05 54 16.7 -1.0
AKTK Aktyubinsk 128.64 316 PKP PKPdf 05 54 18.9 -1.3
AKTK SKPbc 05 56 52.4
AKTO Aktyubinsk 128.64 316 PKP PKPdf 05 54 18.9 -1.3
comp=Z,3.7nm,0.6s,baz=106,slow=2.6,SNR=13
AKTO SKPbc 05 56 52.4
comp=Z,1.6nm,0.6s,baz=118,slow=3.6,SNR=5.2
ARCES ARCESS Array B 132.38 348 PKP PKPdf 05 54 25.6 -1.8
comp=Z,8.1nm,0.7s,baz=32,slow=1.3,SNR=28
ARCES SKPbc SKPbc 05 57 04.8 -0.6
comp=Z,5.8nm,0.8s,baz=36,slow=4.5,SNR=6.8
ARE0 ARCESS Array S 132.38 348 *e*PKPdf PKPdf 05 54 25.5 -1.9
TSUM Tsumeb 133.36 203 *e*PKPdf PKPdf 05 54 31.4 +2.2
FINES FINESS Array B 138.92 341 PKhKP 05 54 28.4
comp=Z,1.4nm,0.6s,baz=37,slow=4.8,SNR=11
FINES SKPbc SKPbc 05 57 25.5 +0.1
comp=Z,4.0nm,0.5s,baz=57,slow=4.5,SNR=18
FINES FINESS Array B 138.92 341 PKP 05 54 28.4
FINES SKPbc SKPbc 05 57 25.5 +0.1
NB2 NORSAR Subarra 142.59 351 PKP 05 54 41.0
comp=Z,7.0nm,0.8s,baz=9.8,slow=3.0
NOA NORSAR Array B 142.59 351 PKhKP 05 54 40.9
comp=Z,6.2nm,0.9s,baz=16,slow=4.6,SNR=13
NOA SKPbc SKPbc 05 57 35.2 +0.4
comp=Z,1.6nm,0.7s,baz=16,slow=4.2,SNR=4.3
NOA NORSAR Array B 142.59 351 PKP 05 54 40.9
NOA SKPbc SKPbc 05 57 35.2 +0.4
NAO01 NORSAR Array S 142.82 351 *e*PKPpre 05 54 42.0
HFS Hagfors 143.04 349 PKhKP 05 54 42.6
comp=Z,25nm,0.4s,baz=66,slow=3.6,SNR=167
AKASG Malin Array Be 145.38 327 PKPbc PKPbc 05 54 50.0 -2.0
comp=Z,13nm,0.6s,baz=44,slow=3.9,SNR=40
AKASG SKPbc SKPbc 05 57 41.7 +0.3
comp=Z,4.7nm,0.6s,baz=44,slow=2.7,SNR=12
AKBB Malin Array Si 145.38 327 *e*PKIKP PKPdf 05 54 50.5 -0.4
AKBB *e* 05 57 42.4
KIEV Kiev 145.39 327 *e*PKIKP PKPdf 05 54 50.5 -0.4
KIEV *e* 05 57 42.5
SUW Suwalki 145.72 336 *e*PKP PKPdf 05 54 51.8 +0.3
MVH1 Achvaich 146.39 4 *e*P PKPdf 05 54 53.7 +1.1
ASF Jabal al Asfar 146.69 292 PKPbc PKPbc 05 54 56.9 +1.2
comp=Z,4.2nm,0.8s,baz=0.6,slow=2.6,SNR=8.5
KAC Achnashellach 146.73 5 *e*P PKPdf 05 54 54.6 +1.4
MCD Coleburn Disti 146.79 3 *e*P PKPdf 05 54 53.8 +0.6
MDO Dochfour 146.86 4 *e*P PKPdf 05 54 54.2 +0.8
KPL Plockton 146.86 6 *e*P PKPdf 05 54 54.2 +0.8
KAR1 Arisaig 147.26 6 *e*P PKPdf 05 54 55.8 +1.8
BR131 Keskin Array S 147.85 306 *e*PKPbc PKPbc 05 54 58.2 -0.5
BRTR Keskin Array B 147.85 306 PKPbc PKPbc 05 54 58.9 +0.1
comp=Z,4.6nm,0.7s,baz=141,slow=4.2,SNR=25
EAB Aberfoyle 148.11 5 *e*P PKPdf 05 54 57.9 +2.5
ANTO Ankara 148.42 307⇑ *e*P PKPbc 05 55 00.4 +0.2
ANTO Ankara 148.42 307 *e*PKPbc PKPbc 05 55 00.6 +0.4
ANTO *e*PKPab PKPab 05 55 06.6 +1.1
EDI Edinburgh 148.45 3 *e*P PKPdf 05 54 58.6 +2.7
LVV L'vov 148.46 330 *e*PKIKP PKPdf 05 54 50.9 -5.1
EIL Elat 148.47 287 *e*PKPbc PKPbc 05 55 00.7 +0.4
PGBU Glenifferbraes 148.47 5 *e*P PKPdf 05 54 58.7 +2.7
ESY Stoneypath 148.48 3 *e*P PKPdf 05 54 58.9 +2.8
EAU Auchincon 148.51 4 *e*P PKPdf 05 54 59.3 +3.2
EBL Broad Law 148.60 3 *e*P PKPdf 05 54 59.2 +3.0
XSO Sourhope Farm 148.92 2 *e*P PKPbc 05 55 00.1 -1.3
EKA Eskdalemuir Ar 149.04 3 PKP PKPdf 05 54 54.5 -2.5
comp=Z,0.9nm,0.6s,baz=338,slow=2.0,SNR=4.2
EKA PKPbc PKPbc 05 55 00.3 -1.4
comp=Z,6.7nm,0.6s,baz=328,slow=2.6,SNR=38
ESK Eskdalemuir 149.05 4 *e*P PKPdf 05 54 58.7 +1.7
ESK Eskdalemuir 149.05 4 *e*PKPbc PKPbc 05 54 59.3 -2.5
ECK Cauldkaine Hil 149.19 3 *e*P PKPdf 05 55 00.2 +3.1
KWP Kalwaria 149.20 331 *e*PKP PKPbc 05 55 01.8 -0.3
CSS Prodhromos 149.29 298 *e*PKPbc PKPbc 05 55 02.1 -0.2
BURAR Bucovina Array 149.37 325⇑ *e*P PKPbc 05 55 03.6 +1.1
BURAR Bucovina Array 149.37 325 ⇑P PKPbc 05 55 03.6 +1.1
GAL1 Galloway 149.39 5 *e*P PKPdf 05 54 60.0 +2.5
TIRR Tirgusor 149.41 318⇑ *e*P PKPbc 05 55 02.3 -0.3
TIRR Tirgusor 149.41 318 ⇑P PKPbc 05 55 02.3 -0.3
XAL Allendale 149.55 2 *e*P PKPdf 05 55 01.4 +3.7
VRI Vrincioaia 149.63 321⇑ *e*P PKPbc 05 55 03.1 0.0
VRI Vrincioaia 149.63 321 ⇑P PKPbc 05 55 03.1 0.0
KOLS Kolonicke sedl 149.90 330 *e*PKP PKPbc 05 55 03.8 0.0
OJC Ojcow 149.98 334 *e*PKP PKPbc 05 55 03.3 -0.7
STHS Stebnicka Huta 150.00 332 *e*PKP PKPbc 05 55 04.0 0.0
RUE Ruedersdorf 150.07 343 *e*PKPbc PKPbc 05 55 03.5 -0.7
CRVS Cervenica-Dubn 150.29 331 *e*PKP PKPbc 05 55 04.5 -0.2
MLR Muntele Rosu 150.29 322 PKPbc PKPbc 05 55 03.5 -1.2
comp=Z,5.5nm,0.5s,baz=353,slow=3.0,SNR=6.9
MLR Muntele Rosu 150.29 322⇑ *e*P PKPbc 05 55 04.0 -0.7
MLR Muntele Rosu 150.29 322 ⇑P PKPbc 05 55 04.0 -0.7
NIE Niedzica 150.40 333 *e*PKP PKPbc 05 55 05.1 +0.2
KSP Ksiaz 150.75 339 *e*PKP PKPbc 05 55 05.6 -0.2
KSP Ksiaz 150.75 339⇑ *e*PKPdf PKPbc 05 55 05.5 -0.3
KSP *e*PKPab PKPab 05 55 14.7 -0.5
KSP *ep*PKP pPKPdf 05 57 09.0 +6.5

WCB1	**Church Bay**	**150.88**	**6**	*e*P		PKPbc	05 55 04.5	-1.6
OKC	**Ostrava-Krasne**	**150.93**	**335**	*e*PKPbc		PKPbc	05 55 05.5	-0.7
UPC	**Upice**	**151.13**	**339**	*e*PKPbc		PKPbc	05 55 06.2	-0.4
DPC	**Dobruska-Polom**	**151.16**	**338**	*e*PKPbc		PKPbc	05 55 06.4	-0.3
DPC				*e*PKPab		PKPab	05 55 16.2	-0.7
KBI1	**Birley Grange**	**151.18**	**2**	*e*P		PKPdf	05 55 04.2	+3.9
DRGR		**151.20**	**327**	⇑*i*P		PKPbc	05 55 06.2	-0.6
DRGR		**151.20**	**327**	⇑P		PKPbc	05 55 06.2	-0.6
MORC	**Moravsky Berou**	**151.21**	**336**	⇑*i*P		PKPbc	05 55 06.5	-0.3
MORC	**Moravsky Berou**	**151.21**	**336**	*e*PKPbc		PKPbc	05 55 05.7	-1.1
CLL	**Collm**	**151.34**	**343**	*e*PKPbc		PKPbc	05 55 06.1	-1.0
CLL	**Collm**	**151.34**	**343**	⇑*i*PKIKP		PKPbc	05 55 06.3	-0.8
CLL				*e*			05 57 10.0	
CLL				pmax		pmax		
	comp=Z,14nm,0.8s							
CLL	**Collm**	**151.34**	**343**	⇑*i*PKPbc		PKPbc	05 55 06.3	-0.8
	comp=Z,46nm,0.8s							
CLL				*e*PKPab		PKPab	05 55 16.0	-1.6
	comp=Z,6.0nm,0.5s							
CLL				*e*pPKPbc		pPKPbc	05 57 10.0	+1.2
KWE	**Weaver Farm**	**151.41**	**2**	*e*P		PKPbc	05 55 05.9	-1.3
SBD1	**Bryn Du**	**151.45**	**4**	*e*P		PKPbc	05 55 06.1	-1.2
BRG	**Berggiesshubel**	**151.46**	**341**	*e*PKPbc		PKPbc	05 55 06.7	-0.7
BRG	**Berggiesshubel**	**151.46**	**341**	⇑*i*PKP		PKPbc	05 55 06.8	-0.5
	comp=Z,16nm,0.6s							
BRG				*e*pPKP		pPKPdf	05 57 10.7	+7.0
	comp=Z,7.8nm,1.2s							
BRG				*e*PP		PP	05 58 55.8	+3.8
	comp=Z,18nm,2.0s							
CLZ	**Clausthal**	**151.48**	**346**	*e*PKPbc		PKPbc	05 55 06.9	-0.5
IBBN	**Ibbenburen**	**151.53**	**350**	*e*PKPbc		PKPbc	05 55 07.6	+0.1
PVCC	**Panska Ves**	**151.58**	**340**	*e*PKPbc		PKPbc	05 55 07.2	-0.4
FBE	**Freiberg**	**151.59**	**342**	*e*PKPbc		PKPbc	05 55 07.2	-0.4
FBE				*e*PKPab		PKPab	05 55 16.5	-2.2
PSZ	**Piszkesteto**	**151.72**	**331**	*e*PKIKP		PKPbc	05 55 06.7	-1.2
VYHS	**Vyhne**	**151.73**	**333**	*i* PKP		PKPbc	05 55 07.3	-0.7
HLM1	**Long Mynd**	**151.86**	**4**	*e*P		PKPbc	05 55 06.8	-1.5
PRU	**Pruhonice**	**152.06**	**340**	*e*PKPbc		PKPbc	05 55 07.7	-1.0
GZR	**Gura Zlata**	**152.10**	**324**	⇓*i*P		PKPbc	05 55 08.1	-0.7
GZR	**Gura Zlata**	**152.10**	**324**	⇓P		PKPbc	05 55 08.1	-0.7
TANN	**Tannenbergstha**	**152.29**	**343**	*e*PKPbc		PKPbc	05 55 08.5	-0.7
MOX	**Moxa**	**152.30**	**344**	*e*PKPbc		PKPbc	05 55 08.4	-0.8
MOX	**Moxa**	**152.30**	**344**	*e*PKP		PKPbc	05 55 08.5	-0.7
WERD	**Werda**	**152.30**	**343**	*e*PKPbc		PKPbc	05 55 08.4	-0.8
MCH1	**Michaelchurch**	**152.37**	**4**	P		PKPbc	05 55 07.8	-1.5
MCH1	**Michaelchurch**	**152.37**	**4**	*e*P		PKPbc	05 55 07.4	-2.0
MCH1				*e*P			05 55 07.8	
GUNZ	**Gunzen**	**152.37**	**343**	*e*PKPab		PKPab	05 55 21.0	-1.0
WERN	**Wernitzgruen**	**152.43**	**343**	*e*PKPab		PKPab	05 55 21.6	-0.7
NKC	**Novy Kostel**	**152.46**	**343**	*e*PKPbc		PKPbc	05 55 08.9	-0.7
NKC				*e*PKPab		PKPab	05 55 21.6	-0.8
BZS	**Buzias**	**152.55**	**326**	⇑*i*P		PKPbc	05 55 09.1	-0.7
BZS	**Buzias**	**152.55**	**326**	⇑P		PKPbc	05 55 09.1	-0.7
HGH	**Gray Hill**	**152.74**	**4**	*e*P		PKPbc	05 55 08.3	-1.9
MANZ	**Manzenberg**	**152.78**	**343**	*e*PKPbc		PKPbc	05 55 09.6	-0.7
ROTZ	**Rotzenmuhle**	**152.95**	**342**	*e*PKPbc		PKPbc	05 55 09.9	-0.7
KHC	**Kasperske Hory**	**153.11**	**340**	*e*PKPbc		PKPbc	05 55 10.2	-0.8
KHC				*e*PKPab		PKPab	05 55 22.9	-2.3
HEX	**Exmoor**	**153.24**	**5**	*e*P		PKPbc	05 55 09.9	-1.3
GRA1	**Grafenberg Arr**	**153.28**	**344**	*e*PKPbc		PKPbc	05 55 10.7	-0.6
GRF	**Grafenberg Arr**	**153.28**	**344**	*e*PKPbc		PKPbc	05 55 10.7	-0.6
GERES	**GERESS Array B**	**153.33**	**340**	PKP		PKPdf	05 55 01.7	-1.7
	comp=Z,0.2nm,0.4s,baz=8.5,slow=2.0,SNR=3.4							
GERES				PKPbc		PKPbc	05 55 10.4	-1.1
	comp=Z,3.5nm,0.8s,baz=73,slow=1.8,SNR=15							
GERES				PKPab		PKPab	05 55 25.2	-0.9
	comp=Z,1.3nm,0.6s,baz=26,slow=3.4,SNR=5.9							
TNS	**Taunus Mts**	**153.41**	**348**	*e*PKPbc		PKPbc	05 55 10.7	-0.9
PKSM	**Moragy**	**153.57**	**330**	⇑*i*P		PKPbc	05 55 11.1	-0.9
PKSM	**Moragy**	**153.57**	**330**	⇑P		PKPbc	05 55 11.1	-0.8
BCLA	**Clavier**	**153.71**	**352**	PKPab		PKPab	05 55 25.8	-2.0
BAIF	**Baives**	**154.19**	**354**	*e*PKP2		PKPab	05 55 28.2	-1.6
	comp=Z,17nm,1.1s							
WLF	**Walferdange**	**154.34**	**351**	*e*PKPab		PKPab	05 55 28.8	-1.6
WLF	**Walferdange**	**154.34**	**351**	*e*PKIKP		PKPbc	05 55 13.5	-0.1
STU	**Stuttgart**	**154.63**	**346**	*e*PKPbc		PKPbc	05 55 13.7	-0.5
CDF	**Champ du Feu**	**155.36**	**348**	*e*PKP2		PKPab	05 55 33.2	-1.6
	comp=Z,7.5nm,0.6s							
MEZF	**Maizieres J'vi**	**155.63**	**352**	*e*PKP2		PKPab	05 55 34.4	-1.6
HAU	**Haudompre**	**155.92**	**349**	*e*PKP2		PKPab	05 55 35.6	-1.6
	comp=Z,18nm,0.8s							
HINF	**Hinterlafeld**	**156.01**	**349**	*e*PKP2		PKPab	05 55 35.8	-1.9
DAVOX	**Davos**	**156.31**	**343**	PKPab		PKPab	05 55 38.6	-0.3
	comp=Z,6.2nm,0.6s,baz=107,slow=2.8,SNR=8.9							
LOR	**Lormes**	**156.99**	**353**	*e*PKP2		PKPab	05 55 39.9	-2.0
	comp=Z,18nm,1.1s							
SSF	**Saint Saulge**	**157.23**	**354**	*e*PKP2		PKPab	05 55 41.3	-1.6
	comp=Z,18nm,0.9s							
CABF	**La Chapelle**	**157.31**	**349**	*e*PKP2		PKPab	05 55 42.0	-1.3
	comp=Z,22nm,1.1s							
AVF	**Avril sur Loir**	**157.51**	**354**	*e*PKP2		PKPab	05 55 42.2	-1.9
	comp=Z,17nm,1.2s							
SMF	**Signal de Mont**	**157.60**	**353**	*e*PKP2		PKPab	05 55 42.9	-1.6
	comp=Z,39nm,1.1s							
BGF	**Bois d'Agland**	**157.79**	**355**	*e*PKP2		PKPab	05 55 41.6	-3.7
TCF	**Toulx Ste Croi**	**158.10**	**356**	*e*PKP2		PKPab	05 55 44.9	-1.8
LPL	**La Plagne**	**158.25**	**347**	*e*PKP2		PKPab	05 55 46.7	-0.6
	comp=Z,12nm,0.9s							
LPG	**La Plagne**	**158.26**	**347**	*e*PKP2		PKPab	05 55 47.0	-0.4
ORIF	**Oris-en-Rattie**	**158.99**	**348**	*e*PKP2		PKPab	05 55 49.6	-1.0
	comp=Z,8.7nm,0.8s							
MBDF	**Montbardon**	**158.99**	**346**	*e*PKP2		PKPab	05 55 49.4	-1.2
	comp=Z,5.6nm,0.6s							
RJF	**Les Rejaudoux**	**159.12**	**357**	*e*PKP2		PKPab	05 55 49.1	-2.1
VIVF	**Saint-Julien-l**	**159.25**	**350**	*e*PKP2		PKPab	05 55 50.6	-1.1
LFF	**La Frestale**	**159.52**	**358**	*e*PKP2		PKPab	05 55 51.1	-1.8
	comp=Z,18nm,0.8s							
SBF	**Sospel**	**159.66**	**344**	*e*PKP2		PKPab	05 55 51.9	-1.6
	comp=Z,42nm,0.8s							
SMRF	**Simiane la Rot**	**159.96**	**348**	*e*PKP2		PKPab	05 55 53.9	-0.9
	comp=Z,18nm,1.1s							
LASF	**Ste Croix**	**160.13**	**352**	*e*PKP2		PKPab	05 55 54.8	-0.8
	comp=Z,24nm,1.2s							
LIC	**Lamto**	**161.29**	**164**	*e*PKIKP		PKPdf	05 55 11.6	-1.6
	comp=Z,33nm,1.2s							
ETSF	**Etsaut**	**161.56**	**1**	*e*PKP2		PKPab	05 55 59.6	-2.3
	comp=Z,12nm,1.0s							
ESDC	**Sonseca Array**	**164.44**	**11**	PKPab		PKPab	05 56 13.1	-1.4
	comp=Z,2.2nm,0.7s,baz=340,slow=4.0,SNR=9.8							
TORD	**Torodi Ar. Bea**	**168.67**	**189**	PKP		PKPdf	05 55 19.6	+0.2
	comp=Z,4.7nm,1.1s,baz=341,slow=0.9,SNR=9.4							
TORD				PKPab		PKPab	05 56 34.1	+0.9
	comp=Z,3.8nm,0.7s,baz=184,slow=3.0,SNR=16							
MDT	**Midelt**	**170.72**	**25**	PKP		PKPdf	05 55 21.3	+0.7
	comp=Z,3.2nm,0.9s,baz=127,slow=2.8,SNR=5.1							

*BJI **10** 05:42:00.5,652S×15108E,h18km,mB5.2,mb4.9,Ms4.5, Msz4.3*
*NEIC **10** 05:42:01.0±0.5,633S×151.16E,h10km,mb4.9/10,Error ellipse: s-maj=14.6km s-min=9.5km az=121.0*
*MOS **10** 05:42:02.8±0.9,642S×15123E,h33km,mb4.9/9,Error ellipse: s-maj=20.5km s-min=13.3km az=54.6*
*ISCJB **10** 05:42:06.8±2.7,645S±009×1510E±01,h64km±23km, mb4.5/21,Error ellipse: s-maj=17.5km s-min=14.2km az=8.2*
*IDC **10** 05:42:09.2±3.9,647S×15102E,h73km±33km,mb4.2/11, mb1 4.4/12,mb1mx4.3/16,mbtmp4.2/12,ML3.0/1,MS3.7/13, Ms1 3.7/13,ms1mx3.5/27,Error ellipse: s-maj=23.5km s-min=19.8km az=64.0*

ISC 10 05:42:08.7±2.3,648S±009×1511E±01,h68km±20km,n49, σ0s83/40,mb4.4/21,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**233**	P		**Pn**	**05 43 18.5**	**-0.5**
	4.8nm,0.3s,baz=42,slow=12,SNR=4.7							
PMG				S		**Sn**	**05 44 14.9**	**+1.3**
	10nm,0.3s,baz=166,slow=12,SNR=8.2							
PMG	**Port Moresby**	**4.84**	**233**	*e*Pn		**Pn**	**05 43 19.2**	**+0.2**
PMG				*e*Sn		**Sn**	**05 44 13.1**	**-0.6**
HNR	**Honiara**	**9.28**	**109**	LR		LR	05 47 35.4	
	comp=Z,231nm,18.3s,baz=180,slow=35							
CTA	**Charters Tower**	**14.31**	**199**	LR		LR	05 50 27.2	
	comp=Z,198nm,19.6s,baz=37,slow=35							
KAKA	**Kakadu**	**19.37**	**250**	*e*P		**Pn**	**05 46 28.8**	**-1.8**
	30nm,0.6s							
GUMO	**Guam**	**20.86**	**343**	LR		LR	05 53 09.6	
	comp=Z,186nm,19.2s,baz=151,slow=32							
WRAB	**Tennant Creek**	**21.03**	**229**	*e*P		**P**	**05 46 47.4**	**+0.5**
WRAB				pmax		pmax		
	comp=Z,26nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**21.03**	**229**	*e*P		**P**	**05 46 47.4**	**+0.5**
	comp=Z,26nm,0.7s,mb4.7							
WB2	**Warramunga Arr**	**21.04**	**229**	*e*P		**P**	**05 46 46.1**	**-0.8**
WRA	**Warramunga Arr**	**21.04**	**229**	P		**P**	**05 46 46.7**	**-0.3**
	comp=Z,21nm,0.8s,mb4.5,baz=52,slow=9.8,SNR=17							
DZM	**Mont Dzumac**	**21.47**	**138**	P		**P**	**05 46 52.8**	**+1.2**
	comp=Z,5.4nm,0.6s,mb4.1,baz=272,slow=20,SNR=4.9							
DZM				LR		LR	05 54 11.4	
	comp=Z,374nm,18.4s,baz=12,slow=34							
AS31	**Alice Springs**	**23.75**	**222**	*e*P		**P**	**05 47 15.0**	**+0.3**
ASAR	**Alice Springs**	**23.75**	**222**	P		**P**	**05 47 15.0**	**+0.2**
	comp=Z,11nm,0.8s,mb4.3,baz=60,slow=9.8,SNR=14							
ASAR				LR		LR	05 56 08.3	
	comp=Z,85nm,19.2s,baz=138,slow=35							
ASPA	**Alice Springs**	**23.75**	**222**	*e*P		**P**	**05 47 15.0**	**+0.2**
STKA	**Stephens Creek**	**26.77**	**198**	P		**P**	**05 47 42.7**	**+0.5**
	comp=Z,19nm,0.9s,mb4.6,baz=22,slow=11,SNR=9.5							
STKA				LR		LR	05 57 44.9	
	comp=Z,140nm,19.2s,baz=24,slow=35							
STKA	**Stephens Creek**	**26.77**	**198**	*e*P		**P**	**05 47 42.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.35**	**243**	*e*P		**P**	**05 47 47.5**	**+0.2**
	comp=Z,41nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**27.35**	**243**	P		**P**	**05 47 47.4**	**+0.1**
	comp=Z,21nm,0.7s,mb4.8,baz=108,slow=7.4,SNR=16							
JOW	**Kunigami**	**39.80**	**327**	LR		LR	06 04 02.8	
	comp=Z,91nm,18.6s,baz=13,slow=33							
JHJ	**Hachijo jima 2**	**40.81**	**345**	LR		LR	06 02 44.9	
	comp=Z,114nm,21.4s,baz=329,slow=30							
RPZ	**Rata Peaks**	**41.04**	**158**	LR		LR	06 05 17.3	
	comp=Z,347nm,18.8s,baz=147,slow=34							
KSRS	**Korea Array**	**48.75**	**335**	LR		LR	06 07 19.1	
	comp=Z,51nm,20.8s,baz=302,slow=31							
LZH	**Lanzhou**	**61.25**	**317**	*e*P		**P**	**05 52 18.0**	**+1.3**
LZH				AP		pP	05 52 23.1	-11
LZH				XP		sP	05 52 26.0	-16
LZH				AMB		AMB		
	comp=Z,18nm,1.2s,mb5.0							
LZH	**Lanzhou**	**61.25**	**317**	*e*P		**P**	**05 52 18.0**	**+1.3**
	comp=Z,18nm,1.2s,mb5.0							
LZH				pP		pP	05 52 23.1	-11
LZH				sP		sP	05 52 26.0	-16
GTA	**Gaotai**	**65.73**	**318**	*e*P		**P**	**05 52 47.5**	**+1.2**
GTA				AP		pP	05 52 52.3	-12
GTA				XP		sP	05 52 54.5	-17
GTA				AMB		AMB		
	comp=Z,4.0nm,0.6s,mb4.4							
SONM	**Songino Array**	**66.84**	**329**	P		**P**	**05 52 52.9**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.0,baz=150,slow=4.5,SNR=12							
SONM				LR		LR	06 22 12.9	
	comp=Z,58nm,18.1s,baz=120,slow=36							
ZAK	**Zakamensk**	**70.04**	**330**	*e*P		**P**	**05 53 13.1**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.0							
VNDA	**Vanda**	**71.23**	**178**	P		**P**	**05 53 19.7**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.9,baz=332,slow=4.9,SNR=9.7							
VNDA	**Vanda**	**71.23**	**178**	*e*P		**P**	**05 53 20.0**	**-0.6**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
VNDA	**Vanda**	**71.23**	**178**	*e*P		**P**	**05 53 20.0**	**-0.5**
	comp=Z,3.4nm,1.2s,mb4.0							
BILL	**Bilibino**	**75.12**	**6**	*e*P		**P**	**05 53 43.8**	**+0.3**
BILL				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.3							
MK31	**Makanchi Array**	**80.46**	**320**	*e*P		**P**	**05 54 13.6**	**+0.5**
MKAR	**Makanchi Array**	**80.46**	**320**	P		**P**	**05 54 13.4**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=102,slow=7.0,SNR=7.4							
MKAR				LR		LR	06 32 02.8	
	comp=Z,31nm,18.0s,baz=172,slow=37							
MCK	**McKinley**	**83.07**	**23**	*e*P		**P**	**05 54 25.5**	**-1.4**
MCK				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.6							
MCK	**McKinley**	**83.07**	**23**	*e*P		**P**	**05 54 25.5**	**-1.4**
	comp=Z,9.3nm,0.9s,mb4.6							
MAW	**Mawson**	**83.36**	**203**	P		**P**	**05 54 28.0**	**-0.4**
	comp=Z,5.4nm,1.1s,mb4.3,baz=62,slow=13,SNR=4.2							
MAW				LR		LR	06 27 35.0	
	comp=Z,86nm,21.4s,baz=141,slow=33							
QSPA	**South Pole Qui**	**83.49**	**180**	*e*P		**P**	**05 54 28.5**	**-0.6**
	comp=Z,13nm,1.1s,mb4.7							
QSPA				*e*			05 54 39.5	
KURK	**Kurchatov**	**84.03**	**322**	*e*P		**P**	**05 54 31.7**	**-0.1**
KURK				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.4							
KURK	**Kurchatov**	**84.03**	**322**	*e*P		**P**	**05 54 31.7**	**0.0**
	comp=Z,8.0nm,1.2s,mb4.4							
COLA	**College**	**84.04**	**22**	*e*P		**P**	**05 54 29.6**	**-2.3**
COLA				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.6							
COLA	**College**	**84.04**	**22**	*e*P		**P**	**05 54 29.6**	**-2.3**
	comp=Z,7.7nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**84.56**	**314**	*e*P		**P**	**05 54 35.7**	**+1.2**
AAK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**84.56**	**314**	*e*P		**P**	**05 54 35.7**	**+1.2**
	comp=Z,6.0nm,0.8s,mb4.6							
NVAR	**Mina Array Bea**	**94.47**	**52**	P		**P**	**05 55 21.5**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.4,baz=268,slow=10,SNR=8.1							
YKA	**Yellowknife Ar**	**97.71**	**28**	P		**P**	**05 55 36.3**	**+0.2**
	comp=Z,1.1nm,0.7s,mb4.5,baz=277,slow=4.9,SNR=5.8							
GERES	**GERESS Array B**	**124.54**	**327**	PKP		PKPdf	06 00 59.8	-0.5
	comp=Z,1.1nm,0.6s,baz=103,slow=1.8,SNR=8.9							
MDT	**Midelt**	**145.38**	**322**	PKPbc		PKPbc	06 01 39.8	+1.0
	comp=Z,5.1nm,0.8s,baz=64,slow=5.1,SNR=11							
TOA0	**Torodi Ar. Sit**	**149.12**	**285**	*e*PKPbc		PKPbc	06 01 50.0	+0.7
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc		PKPbc	06 01 49.5	+0.2
	comp=Z,7.2nm,0.7s,baz=70,slow=2.9,SNR=29							

*BJI **10** 05:44:35.3,623S×15128E,h9km,mB5.1,mb4.8,Ms4.6, Msz4.4*
*NEIC **10** 05:44:37.0±0.3,635S×15120E,h10km,mb4.8/12,Error ellipse: s-maj=13.6km s-min=6.6km az=123.0*
*MOS **10** 05:44:38.7±0.8,636S×151.17E,h33km,mb4.9/7,Error ellipse: s-maj=22.2km s-min=14.1km az=52.8*
*ISCJB **10** 05:44:40.7±3.3,636S±009×1511E±01,h45km±28km, mb4.4/21,Error ellipse: s-maj=23.4km s-min=14.6km az=26.3*
*IDC **10** 05:44:44.6±5.3,644S×15108E,h67km±44km,mb4.1/10, mb1 4.2/11,mb1mx4.1/15,mbtmp4.1/11,ML2.5/1,Error ellipse: s-maj=36.7km s-min=20.4km az=88.0*

ISC 10 05:44:41.7±3.0,638S±009×1512E±01,h42km±26km,n42, σ0s72/39,mb4.4/21,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**233**	P		**Pn**	**05 45 54.6**	**+0.4**
	1.3nm,0.3s,baz=31,slow=12,SNR=2.4							
PMG				S		**Sn**	**05 46 52.4**	**+1.8**
	6.4nm,0.3s,baz=188,slow=23,SNR=5.6							
PMG	**Port Moresby**	**5.00**	**233**	*e*Pn		**Pn**	**05 45 53.1**	**-1.0**
PMG				*e*Sn		**Sn**	**05 46 50.6**	**0.0**
KAKA	**Kakadu**	**19.52**	**250**	*e*P		**Pn**	**05 49 05.6**	**-1.4**
	20nm,0.6s							
WRAB	**Tennant Creek**	**21.19**	**229**	*e*P		**P**	**05 49 24.3**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,18nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**21.19**	**229**	*e*P		**P**	**05 49 24.3**	**+0.8**
	comp=Z,18nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**21.20**	**229**	P		**P**	**05 49 23.3**	**-0.4**
	comp=Z,9.8nm,1.0s,mb4.1,baz=54,slow=11,SNR=10							
AS31	**Alice Springs**	**23.91**	**222**	*e*P		**P**	**05 49 51.6**	**+0.1**
ASAR	**Alice Springs**	**23.91**	**222**	P		**P**	**05 49 51.3**	**-0.2**
	comp=Z,4.1nm,0.6s,mb4.1,baz=54,slow=9.3,SNR=7.6							
STKA	**Stephens Creek**	**26.90**	**198**	*e*P		**P**	**05 50 18.9**	**+0.2**
	comp=Z,9.6nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**26.90**	**198**	P		**P**	**05 50 18.5**	**-0.2**
	comp=Z,13nm,1.0s,mb4.4,baz=14,slow=11,SNR=7.1							
FITZ	**Fitzroy Crossi**	**27.50**	**243**	*e*P		**P**	**05 50 23.8**	**-0.3**
	comp=Z,21nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**27.50**	**243**	P		**P**	**05 50 23.7**	**-0.4**
	comp=Z,8.3nm,0.8s,mb4.4,baz=108,slow=8.6,SNR=7.9							
JOW	**Kunigami**	**39.78**	**327**	P		**P**	**05 52 11.6**	**+1.1**
	comp=Z,4.2nm,0.4s,mb4.6,baz=315,slow=17,SNR=4.0							
MJAR	**Matsushiro Arr**	**44.40**	**345**	PcP		PcP	05 54 31.3	-0.1
	comp=Z,1.7nm,0.7s,baz=164,slow=3.8,SNR=4.3							
LZH	**Lanzhou**	**61.26**	**317**	*e*P		**P**	**05 54 52.5**	**0.0**
LZH				AP		pP	05 55 05.1	+0.3
LZH				AMB		AMB		
	comp=Z,18nm,1.3s,mb5.0							
LZH	**Lanzhou**	**61.26**	**317**	*e*P		**P**	**05 54 52.5**	**0.0**
	comp=Z,18nm,1.3s,mb5.0							
LZH				pP		pP	05 55 05.1	+0.3
LZH				sP		sP	05 55 09.0	-0.7
GTA	**Gaotai**	**65.74**	**318**	*e*P		**P**	**05 55 22.4**	**+0.3**
GTA				AP		pP	05 55 32.4	-2.1
GTA				XP		sP	05 55 36.3	-3.0
GTA				AMB		AMB		
	comp=Z,3.0nm,0.9s,mb4.3							
SONM	**Songino Array**	**66.82**	**329**	P		**P**	**05 55 28.9**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=151,slow=5.7,SNR=8.1							
ZAK	**Zakamensk**	**70.02**	**330**	*e*P		**P**	**05 55 48.9**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.0							
VNDA	**Vanda**	**71.32**	**178**	P		**P**	**05 55 56.2**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=333,slow=4.7,SNR=5.2							
VNDA	**Vanda**	**71.32**	**178**	*e*P		**P**	**05 55 55.7**	**-1.2**
VNDA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	**71.32**	**178**	*e*P		**P**	**05 55 55.7**	**-1.2**
	comp=Z,1.9nm,1.0s,mb4.0							
BILL	**Bilibino**	**75.01**	**6**	*e*P		**P**	**05 56 18.5**	**-0.2**
BILL				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**80.47**	**319**	P		**P**	**05 56 48.5**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=101,slow=6.6,SNR=6.4							
MCK	**McKinley**	**82.93**	**23**	*e*P		**P**	**05 57 01.2**	**-0.9**
MCK				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
MCK	**McKinley**	**82.93**	**23**	*e*P		**P**	**05 57 01.2**	**-0.9**
	comp=Z,10nm,1.0s,mb4.8							
QSPA	**South Pole Qui**	**83.59**	**180**	*e*P		**P**	**05 57 06.4**	**+1.0**
	comp=Z,6.8nm,1.0s,mb4.7							
COLA	**College**	**83.91**	**22**	*e*P		**P**	**05 57 05.7**	**-1.4**
COLA				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.9							
COLA	**College**	**83.91**	**22**	*e*P		**P**	**05 57 05.7**	**-1.4**
	comp=Z,9.9nm,1.0s,mb4.9							
KURK	**Kurchatov**	**84.03**	**322**	*e*P		**P**	**05 57 07.7**	**0.0**
KURK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.5							
KURK	**Kurchatov**	**84.03**	**322**	*e*P		**P**	**05 57 07.7**	**0.0**
	comp=Z,4.4nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**84.59**	**314**	*e*P		**P**	**05 57 10.8**	**+0.3**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.6							
AAK	**Ala-Archa**	**84.59**	**314**	*e*P		**P**	**05 57 10.8**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.7							
EGAK	**Eagle**	**86.44**	**23**	*e*P		**P**	**05 57 20.1**	**+0.4**
	comp=Z,14nm,1.3s,mb5.0							
DAWY	**Dawson**	**86.88**	**24**	*e*P		**P**	**05 57 22.6**	**+0.7**
**INK

BILL	**Bilibino**	**75.04**	**6**	*e*P		**P**	**06 11 11.6**	**-1.1**
BILL					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
MK31	**Makanchi Array**	**80.45**	**319**	*e*P		**P**	**06 11 43.1**	**+0.3**
MKAR	**Makanchi Array**	**80.45**	**319**	P		**P**	**06 11 42.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=103,slow=6.4,SNR=11								
ZAL	**Zalesovo**	**81.58**	**327**	P		**P**	**06 11 48.4**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=41,slow=2.4,SNR=3.4								
MCK	**McKinley**	**82.97**	**23**	*e*P		**P**	**06 11 55.4**	**-0.6**
MCK					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
MCK	**McKinley**	**82.97**	**23**	*e*P		**P**	**06 11 55.4**	**-0.6**
	comp=Z,6.7nm,1.0s,mb4.6								
MAW	**Mawson**	**83.46**	**203**	P		**P**	**06 11 58.7**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.4,baz=77,slow=20,SNR=3.6								
QSPA	**South Pole Qui**	**83.57**	**180**	*e*P		**P**	**06 11 58.4**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.6								
COLA	**College**	**83.95**	**22**	*e*P		**P**	**06 12 00.2**	**-0.9**
COLA					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.6								
COLA	**College**	**83.95**	**22**	*e*P		**P**	**06 12 00.2**	**-0.8**
	comp=Z,5.5nm,0.9s,mb4.7								
KURK	**Kurchatov**	**84.01**	**322**	*e*P		**P**	**06 12 00.3**	**-1.1**
KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4								
KURK	**Kurchatov**	**84.01**	**322**	*e*P		**P**	**06 12 00.3**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.4								
AAK	**Ala-Archa**	**84.57**	**314**	*e*P		**P**	**06 12 05.7**	**+1.5**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**84.57**	**314**	*e*P		**P**	**06 12 05.7**	**+1.5**
	comp=Z,3.4nm,0.8s,mb4.5								
BVAR	**Borovoye Array**	**89.53**	**323**	P		**P**	**06 12 27.9**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.4,baz=233,slow=39,SNR=3.4								
INK	**Inuvik**	**90.54**	**21**	*e*P		**P**	**06 12 32.6**	**-0.3**
	comp=Z,52nm,0.6s								
NVAR	**Mina Array Bea**	**94.37**	**52**	P		**P**	**06 12 51.8**	**+1.2**
	comp=Z,0.6nm,0.7s,mb4.2,baz=248,slow=8.2,SNR=5.0								
YKA	**Yellowknife A**	**97.61**	**28**	P		**P**	**06 13 06.7**	**+1.4**
	comp=Z,0.7nm,0.7s,mb4.3,baz=275,slow=4.9,SNR=4.1								
YKA	**Yellowknife Ar**	**97.61**	**28**	P		**P**	**06 13 06.7**	**+1.4**
GERES	**GERESS Array B**	**124.52**	**327**	PKP		PKPdf	06 18 30.0	+0.1	
	comp=Z,0.4nm,0.2s,baz=64,slow=3.1,SNR=4.7								
TOA0	**Torodi Ar. Sit**	**149.17**	**285**	*e*PKPbc		PKPbc	06 19 20.5	+1.4	
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc		PKPbc	06 19 20.4	+1.3	
	comp=Z,4.9nm,0.7s,baz=66,slow=3.0,SNR=33								
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc		PKPbc	06 19 20.4	+1.3	

IDC 10 06:01:35.3±4.8, 3033S×17933W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/12, mbtmp3.9/2, Error ellipse: s-maj=236.9km s-min=74.8km az=167.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**41.96**	**267**	P		P	06 09 27.7	-0.1
	0.6nm,0.6s,baz=103,slow=7.4,SNR=6.1							
WRA	**Warramunga Arr**	**42.94**	**273**	P		P	06 09 36.4	+0.6
	1.2nm,0.5s,baz=113,slow=8.0,SNR=10							
FINES	**FINESS Array B**	**144.67**	**339**	PKP		PKPdf	06 21 12.5	-1.4
	2.1nm,0.9s,baz=53,slow=5.6,SNR=4.0							

*ISCJB **10** 06:14:39.4±0.4, 2923S×002E×6944W±006, h107km±4km, mb4.2/23, Error ellipse: s-maj=8.0km s-min=3.8km az=165.3*

*NEIC **10** 06:14:39.7, 2922S×6953W, h121km, mb4.3/17, MD4.3(GUC), After GUC.*

*GUC **10** 06:14:39.7±1.0, 2922S×6953W, h121km±10km, MD4.3, ML4.4*

*IDC **10** 06:14:39.7±1.3, 2916S×6939W, h93km±10km, mb3.9/11, mb1 4.0/15, mb1mx3.9/22, mbtmp3.8/15, Error ellipse: s-maj=24.4km s-min=8.9km az=76.0*

ISC 10 06:14:40.4±0.4, 2922S±002×6943W±005, h100km±4km, n68, σ0°89/84, mb4.2/23, 6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.52**	**231**	↑*i*P		**Pn**	**06 15 08.2**	**+1.3**
TLL				*i* S		**Sn**	**06 15 29.0**	**+2.0**
TLL				AML		AML	06 15 33.2	
	comp=N,3μm,0.7s							
TLL	**Tololo Astrono**	**1.52**	**231**	↑*i*P		**Pn**	**06 15 08.2**	**+1.3**
TLL				*i* S		**Sn**	**06 15 29.0**	**+2.0**
LSCH	**La Serena**	**1.72**	**246**	*e*P		**Pn**	**06 15 09.3**	**-0.1**
LSCH				*i* S		**Sn**	**06 15 31.1**	**-0.3**
LSCH				AML		AML	06 15 33.1	
	comp=N,367nm,0.3s							
LSCH	**La Serena**	**1.72**	**246**	*e*P		**Pn**	**06 15 09.3**	**-0.1**
LSCH				*i* S		**Sn**	**06 15 31.1**	**-0.3**
CPCH	**Copiapo**	**2.02**	**336**	*e*P		**Pn**	**06 15 13.3**	**+0.1**
CPCH				*i* S		**Sn**	**06 15 38.9**	**+0.6**
CPCH				AML		AML	06 15 41.9	
	comp=E,7μm,0.2s							
CPCH	**Copiapo**	**2.02**	**336**	*e*P		**Pn**	**06 15 13.3**	**+0.1**
CPCH				*i* S		**Sn**	**06 15 38.9**	**+0.6**
OVCH	**Ovalle**	**2.07**	**228**	↑*i*P		**Pn**	**06 15 13.6**	**-0.2**
OVCH				*i* S		**Sn**	**06 15 39.1**	**-0.2**
OVCH				AML		AML	06 15 40.2	
	comp=E,3μm,0.7s							
OVCH	**Ovalle**	**2.07**	**228**	↑*i*P		**Pn**	**06 15 13.6**	**-0.2**
OVCH				*i* S		**Sn**	**06 15 39.1**	**-0.2**
CMCH	**Combarbala**	**2.38**	**215**	↓*i*P		**Pn**	**06 15 17.7**	**-0.1**
CMCH				*i* S		**Sn**	**06 15 46.4**	**-0.1**
CMCH				AML		AML	06 15 47.0	
	comp=N,14μm,0.7s							
CMCH	**Combarbala**	**2.38**	**215**	↓*i*P		**Pn**	**06 15 17.7**	**-0.1**
CMCH				S		**Sn**	**06 15 46.4**	**-0.1**
ZON	**Zonda**	**2.41**	**165**	↑*i*P		**Pn**	**06 15 19.6**	**+1.3**
ZON				*i* S		**Sn**	**06 15 49.1**	**+1.8**
CDCH	**Caldera**	**2.47**	**330**	*e*P		**Pn**	**06 15 19.4**	**+0.3**
CDCH				*i* S		**Sn**	**06 15 48.1**	**-0.6**
CFAA	**Coronel Fontan**	**2.59**	**157**	P		**Pn**	**06 15 21.7**	**+1.0**
	comp=N,2.5nm,0.3s,baz=328,slow=12,SNR=224							
CFAA				S		**Sn**	**06 15 52.2**	**+0.6**
	comp=N,8.0nm,0.3s,baz=18,slow=12,SNR=26							
CFAA	**Coronel Fontan**	**2.59**	**157**	P		**Pn**	**06 15 21.7**	**+1.0**
CFAA				S		**Sn**	**06 15 52.2**	**+0.6**
CHNG	**Los Chungos**	**3.20**	**213**	↓*i*P		**Pn**	**06 15 28.6**	**-0.2**
CHNG				*i* S		**Sn**	**06 16 04.8**	**-1.3**
CHNG				AML		AML	06 16 08.9	
	comp=E,760nm,0.5s							
PTCH	**Petorca**	**3.30**	**203**	*e*P		**Pn**	**06 15 29.7**	**-0.3**
PTCH				*i* S		**Sn**	**06 16 08.3**	**-0.1**
PTCH				AML		AML	06 16 09.8	
	comp=N,1μm,0.5s							
PTCH	**Petorca**	**3.30**	**203**	*e*P		**Pn**	**06 15 29.7**	**-0.3**
PTCH				*i* S		**Sn**	**06 16 08.3**	**-0.1**
JACH	**Jahuel**	**3.59**	**196**	↓*i*P		**Pn**	**06 15 34.1**	**+0.1**
PACH	**Papudo**	**3.73**	**207**	*i* P		**Pn**	**06 15 34.4**	**-1.5**
ROCH	**El Roble**	**3.98**	**200**	*e*P		**Pn**	**06 15 38.3**	**-1.0**
PEL	**Peldehue**	**4.06**	**195**	↓*e*P		**Pn**	**06 15 39.6**	**-0.6**
PEL				*i* S		**Sn**	**06 16 26.5**	**-0.3**
FCH	**Farellones**	**4.16**	**190**	↑*e*P		**Pn**	**06 15 42.7**	**+1.0**
FCH				*i* S		**Sn**	**06 16 30.3**	**+1.0**
CLCH	**Cerro Calan**	**4.27**	**193**	↓*e*P		**Pn**	**06 15 43.3**	**+0.1**
RCDM	**Rinconada Maip**	**4.42**	**195**	*e*P		**Pn**	**06 15 44.2**	**-1.0**
CPN1	**Cerro Paranal**	**4.66**	**349**	*e*P		**Pn**	**06 15 47.3**	**-1.1**
LMEL	**Las Melosas**	**4.66**	**188**	*e*P		**Pn**	**06 15 48.5**	**0.0**
LVC	**Limon Verde**	**6.59**	**4**	P		**Pn**	**06 16 14.1**	**-0.6**
	comp=N,3.8nm,0.3s,baz=173,slow=9.3,SNR=36							
LVC				S		**Sn**	**06 17 24.8**	**-3.5**
	comp=N,3.6nm,0.3s,baz=35,slow=24,SNR=11							
LVC	**Limon Verde**	**6.59**	**4**	*e*Pn		**Pn**	**06 16 14.0**	**-0.7**
	comp=N,39nm,0.9s							
LVC				*e*Sn		**Sn**	**06 17 21.2**	**-7.1**
TRQA	**Tornquist**	**10.78**	**147**	*e*Pn		**Pn**	**06 17 09.3**	**-2.2**
TRQA				*e*Sn		**Sn**	**06 19 07.6**	**-2.6**
LPAZ	**La Paz**	**12.93**	**6**	P		**Pn**	**06 17 40.5**	**+0.2**
	comp=N,0.2nm,0.3s,baz=203,slow=7.7,SNR=4.0							
LPAZ	**La Paz**	**12.93**	**6**	*e*Pn		**Pn**	**06 17 40.7**	**+0.5**
	comp=N,2.2nm,0.7s							
SIV	**San Ignacio**	**15.25**	**32**	P		**Pn**	**06 18 09.4**	**-0.7**
	comp=N,0.2nm,0.3s,baz=266,slow=22,SNR=3.6							
SAML	**Samuel**	**21.00**	**17**	*e*P		**P**	**06 19 16.6**	**+0.8**
	comp=N,4.0nm,1.0s,mb3.7							
ATAH	**Atahualpa**	**23.66**	**337**	P		**P**	**06 19 41.9**	**-0.8**
	comp=N,1.8nm,0.5s,mb3.6,baz=52,slow=17,SNR=2.0							
SDV	**Santo Domingo**	**37.90**	**358**	*e*P		**P**	**06 21 47.5**	**-0.3**
	comp=N,4.8nm,0.6s,mb4.5							
TEIG	**Tepich**	**52.41**	**337**	*e*P		**P**	**06 23 43.3**	**+0.9**
	comp=N,16nm,0.5s,mb5.3							
VNA2	**Neumayer--Watz**	**53.60**	**159**	*e*		**P**	**06 23 50.8**	**-0.4**
	baz=286,slow=8.8							
VNA2				*e*			06 23 52.1	
VNA2				*e*			06 23 53.7	
VNA2				*e*			06 23 58.1	
VNA2				*e*		pP	06 24 17.5	+2.2
SNAA	**Sanae**	**55.21**	**159**	P		**P**	**06 24 02.3**	**-0.5**
	comp=N,0.8nm,0.5s,mb4.0,baz=279,slow=8.4,SNR=54							
SNAA				PcP		PcP	06 25 01.7	-1.0
	comp=N,0.6nm,0.8s,baz=248,slow=6.6,SNR=4.0							
SNAA	**Sanae**	**55.21**	**159**	*e*		**P**	**06 24 01.9**	**-1.0**
SNAA				*e*			06 24 02.6	
SNAA				*e*			06 24 04.7	
SNAA	**Sanae**	**55.21**	**159**	*e*P		**P**	**06 24 02.1**	**-0.7**
	comp=N,1.4nm,0.5s,mb4.2							
TXAR	**Lajitas Array**	**66.78**	**328**	P		**P**	**06 25 21.8**	**+0.7**
	comp=N,0.6nm,0.7s,mb3.6,baz=152,slow=8.1,SNR=8.8							
WVT	**Waverly**	**67.27**	**344**	*e*P		**P**	**06 25 24.0**	**-0.2**
	comp=N,5.8nm,0.7s,mb4.5							
VNDA	**Vanda**	**69.20**	**190**	P		**P**	**06 25 36.5**	**+0.3**
	comp=N,0.2nm,0.6s,mb3.2,baz=180,slow=1.9,SNR=4.2							
SYO	**Syowa Base**	**69.49**	**159**	↓*e*P		**P**	**06 25 37.0**	**-1.1**
FVM	**French Village**	**69.68**	**342**	*e*P		**P**	**06 25 39.2**	**0.0**
	comp=N,9.8nm,0.6s,mb4.8							
ANMO	**Albuquerque**	**72.76**	**329**	*e*P		**P**	**06 25 56.6**	**-1.2**
	comp=N,1.0nm,0.9s,mb3.6							
SDCO	**Great Sand Dun**	**74.69**	**331**	*e*P		**P**	**06 26 09.4**	**+0.3**
	comp=N,17nm,1.9s,mb4.5							
SUR	**Sutherland**	**75.19**	**119**	P		**P**	**06 26 13.2**	**+1.3**
	comp=N,7.6nm,0.8s,mb4.5,baz=194,slow=7.7,SNR=4.0							
TSUM	**Tsumeb**	**78.36**	**106**	P		**P**	**06 26 30.7**	**+1.0**
	comp=N,1.8nm,0.7s,mb3.9,baz=223,slow=15,SNR=6.9							
TSUM	**Tsumeb**	**78.36**	**106**	*e*P		**P**	**06 26 29.8**	**+0.1**
	comp=N,3.5nm,1.0s,mb4.0							
RSSD	**Black Hills**	**79.56**	**335**	*e*P		**P**	**06 26 36.6**	**+0.4**
	comp=N,1.5nm,0.5s,mb4.1							
BOSA	**Boshof**	**80.30**	**117**	P		**P**	**06 26 40.4**	**+0.2**
	comp=N,2.6nm,0.4s,mb4.4,baz=216,slow=2.8,SNR=8.2							
TOA0	**Torodi Ar. Sit**	**80.46**	**69**	*e*P		**P**	**06 26 41.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**80.46**	**69**	P		**P**	**06 26 41.5**	**+0.4**
	comp=N,6.2nm,0.6s,mb4.6,baz=271,slow=5.4,SNR=74							
HWUT	**Hardware Ranch**	**80.51**	**329**	*e*P		**P**	**06 26 42.5**	**+1.1**
	comp=N,1.3nm,0.6s,mb3.9							
HWUT				*e*pP		pP	06 27 06.7	-0.5
PDAR	**Pinedale Array**	**80.58**	**331**	P		**P**	**06 26 42.6**	**+0.8**
	comp=N,0.7nm,0.6s,mb3.7,baz=131,slow=5.4,SNR=6.5							
LBTB	**Lobatse**	**82.26**	**114**	P		**P**	**06 26 50.6**	**0.0**
	comp=N,3.9nm,0.6s,mb4.5,baz=263,slow=5.4,SNR=10							
LBTB	**Lobatse**	**82.26**	**114**	*e*P		**P**	**06 26 50.4**	**-0.3**
	comp=N,2.8nm,0.5s,mb4.3							
RLMT	**Red Lodge**	**82.40**	**333**	*e*P		**P**	**06 26 51.4**	**0.0**
	comp=N,3.4nm,0.4s,mb4.5							
ULM	**Lac du Bonnet**	**82.52**	**343**	P		**P**	**06 26 50.2**	**-1.8**
	comp=N,3.4nm,0.8s,mb4.2,baz=212,slow=4.5,SNR=3.7							
HLID	**Hailey**	**83.34**	**329**	P		**P**	**06 26 57.7**	**+1.5**
	comp=N,0.6nm,0.6s,mb3.6							
WALA	**Waterton Lakes**	**87.45**	**333**	*e*P		**P**	**06 27 16.4**	**-0.2**
	comp=N,4.2nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**122.83**	**206**	PKP		PKPdf	06 33 24.1	-0.5	
	comp=N,0.4nm,0.5s,baz=134,slow=2.0,SNR=6.8								
WRA	**Warramunga Arr**	**126.01**	**208**	PKP		PKPdf	06 33 31.0	+0.3	
	comp=N,0.7nm,0.5s,baz=158,slow=1.8,SNR=21								
AAK	**Ala-Archa**	**148.12**	**55**	*e*PKPdf		PKPdf	06 34 12.1	+1.0	
AAK				*e*PKPbc		PKPbc	06 34 14.8	+0.3	
AAK				*e*PKPab		PKPab	06 34 17.6	0.0	
ZAL	**Zalesovo**	**148.99**	**30**	PKPbc		PKPbc	06 34 16.8	+0.1	
	comp=N,6.6nm,0.5s,baz=156,slow=1.6,SNR=19								
MKAR	**Makanchi Array**	**151.86**	**44**	PKPbc		PKPbc	06 34 23.2	-0.3	
	comp=N,2.7nm,0.6s,baz=319,slow=2.5,SNR=16								
MKAR				PKPab		PKPab	06 34 33.6	+0.7	
	comp=N,2.0nm,0.6s,baz=287,slow=3.9,SNR=7.7								
SONM	**Songino Array**	**161.13**	**9**	PKPab		PKPab	06 35 12.9	+0.1	
	comp=N,0.3nm,0.7s,baz=20,slow=4.7,SNR=3.7								

IDC 10 06:15:50.2±7.5, 1670S×17531W, h269km±205km, mb3.7/4, mb1 3.9/5, mb1mx3.5/15, mbtmp3.8/5, 1C, Error ellipse: s-maj=251.6km s-min=86.1km az=104.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.39**	**51**	P		Pn	06 17 00.9	+1.5
	21nm,0.3s,baz=24,slow=3.8,SNR=25							
AFI				S		S	06 17 54.6	0.0
	32nm,0.3s,baz=340,slow=24,SNR=9.7							
STKA	**Stephens Creek**	**41.80**	**241**	↑*i*P		P	06 23 13.6	-0.2
	3.1nm,0.8s							
STKA	**Stephens Creek**	**41.80**	**241**	P		P	06 23 13.6	-0.1
	3.6nm,0.8s,baz=102,slow=9.7,SNR=10.0							
WB2	**Warramunga Arr**	**47.76**	**258**	*e*P		P	06 24 00.4	-0.1
WRA	**Warramunga Arr**	**47.77**	**258**	P		P	06 24 00.8	+0.2
	1.9nm,0.4s,baz=94,slow=7.2,SNR=105							
ASAR	**Alice Springs**	**47.97**	**253**	P		P	06 24 02.5	+0.4
	14nm,0.6s,baz=87,slow=8.6,SNR=324							
ASPA	**Alice Springs**	**47.97**	**253**	*e*P		P	06 24 02.4	+0.2
FITZ	**Fitzroy Crossi**	**56.15**	**259**	P		P	06 25 03.2	+1.1
	0.8nm,0.6s,baz=83,slow=8.1,SNR=3.1							

*GCMT **10** 06:33:07.2±0.7, 1592N×9706W, h13km±1km, MW4.8/54, Moment Tensor Solution. s17,c18; s54,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.65±.16; $M_{\theta\theta}$-1.19±.10; $M_{\phi\phi}$-0.46±.11; $M_{r\theta}$0.40±.23; $M_{\theta\phi}$0.78±.07; $M_{\phi r}$0.02±.33; Best double couple: $M_0$1.71600×10^{16} NP1:ϕ_s115.00000°, δ51.00000°, λ80.00000°. NP2: ϕ_s115.00000°, δ51.00000°, λ80.00000°. Principal axes: T 1.7140, Plg80.0000°, Azm337.0000°; N 0.0000, Plg8.0000°, Azm121.0000°; P -1.7170, Plg6.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MEX **10** 06:33:07.4±0.6, 1548N×9749W, h23km±14km, MD4.8*

*BJI **10** 06:33:07.2, 1550N×9750W, h21km, mB5.5, Ms4.9, Msz4.4*

*ISCJB **10** 06:33:07.3±1.2, 1580N±003×9721W±002, h9km±7km, mb4.7/64, MS3.9/22, Error ellipse: s-maj=6.0km s-min=3.5km az=40.1*

*NEIC **10** 06:33:07.2, 1546N×9748W, h21km, mb4.8/62, MD4.8(MEX), After MEX.*

NEIC Felt at Puerto Escondido.

*IDC **10** 06:33:11.8±2.7, 1576N×9726W, h34km±19km, mb4.2/16, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, ML3.8/3, MS3.7/21, Ms1 3.7/21, ms1mx3.6/33, Error ellipse: s-maj=16.9km s-min=11.0km az=35.0*

ISC 10 06:33:08.5±0.9, 1586N±003×9717W±003, h1km±5km, n368, σ0°83/380, mb4.8/64, MS3.9/22, 81C-91D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.03**	**95**	*i* P		**Pg**	**06 33 28.0**	**-0.2**
HUIG				*i* S		**Sg**	**06 33 44.5**	**+2.9**
HUIG	**Huatulco**	**1.03**	**95**	*i* P		**Pg**	**06 33 28.0**	**-0.2**
HUIG				*i* S		**Sg**	**06 33 46.6**	**+5.1**
PNIG	**Pinotepa**	**1.06**	**300**	*i* P		**Pg**	**06 33 24.4**	**-4.4**
PNIG				*i* S		**Sg**	**06 33 37.7**	**-4.8**
VHO	**Vista Hermosa**	**1.28**	**19**	*i* P		**Pg**	**06 33 33.6**	**+0.6**
VHO				*i* S		**Sg**	**06 33 54.2**	**+4.6**
VHO	**Vista Hermosa**	**1.28**	**19**	*i* P		**Pg**	**06 33 33.9**	**+0.9**
VHO				*i* S		**Sg**	**06 33 54.5**	**+4.9**
OXX	**Oaxaca**	**1.29**	**19**	*i* P		**Pg**	**06 33 34.2**	**+1.0**
OXX				*i* S		**Sg**	**06 33 55.5**	**+5.5**
UTMO	**Huajuapan**	**2.05**	**343**	*e*P		**Pn**	**06 33 43.7**	**-0.4**
UTMO				*i* S		**Sn**	**06 34 10.2**	**-0.1**
CMIG	**Matias Romero**	**2.52**	**61**	Pn		**Pn**	**06 33 50.0**	**-0.4**
	19nm,0.3s,baz=240,slow=11,SNR=116							
CMIG				Sn		**Sn**	**06 34 24.3**	**+2.5**
	121nm,0.3s,baz=290,slow=7.1,SNR=8.1							
CMIG				Lg			06 34 36.8	
	777nm,0.3s,baz=322,slow=8.3,SNR=12							
CMIG				LR		LR	06 34 55.6	
	comp=Z,2μm,18.6s,baz=69,slow=40							
CMIG	**Matias Romero**	**2.52**	**61**	*i* P		**Pn**	**06 33 49.9**	**-0.6**
CMIG				*i* S		**Sn**	**06 34 24.7**	**+3.0**
CMIG	**Matias Romero**	**2.52**	**61**	Pn		**Pn**	**06 33 50.0**	**-0.4**
CMIG				Sn		**Sn**	**06 34 24.3**	**+2.5**
CMIG				*i* S		**Sn**	**06 34 24.7**	**+3.0**
CMIG				Lg			06 34 36.8	
CMIG				LR		LR	06 34 55.6	
TPIG	**Tehuac#an**	**2.55**	**356**	*i* P		**Pn**	**06 33 52.0**	**+1.0**
TPIG				*i* S		**Sn**	**06 34 24.3**	**+1.6**
ACX	**Acapulco**	**2.82**	**291**	*i* P		**Pn**	**06 33 47.0**	**-7.6**
ACX				*i* S		**Sn**	**06 34 17.0**	**-12**
ACX	**Acapulco**	**2.82**	**291**	*i* P		**Pn**	**06 33 47.0**	**-7.6**
ACX				*i* S		**Sn**	**06 34 31.8**	**+2.6**
MEIG	**Mezcala**	**3.12**	**312**	*i* P		**Pn**	**06 33 53.1**	**-5.7**
MEIG				*i* S		**Sn**	**06 34 28.9**	**-7.7**
CAIG	**El Cayaco**	**3.20**	**292**	*i* P		**Pn**	**06 33 54.3**	**-5.5**
CAIG				*e*S		**Sn**	**06 34 26.4**	**-12**
CAIG	**El Cayaco**	**3.20**	**292**	*i* P		**Pn**	**06 33 54.7**	**-5.1**
CAIG				*e*S		**Sn**	**06 34 26.4**	**-12**
PLIG	**Platanillo**	**3.36**	**319**	*i* P		**Pn**	**06 33 59.5**	**-2.6**
PLIG				*i* S		**Sn**	**06 34 38.3**	**-4.4**
PLIG	**Platanillo**	**3.36**	**319**	*i* P		**Pn**	**06 34 00.5**	**-1.6**
PLIG				*i* S		**Sn**	**06 34 38.3**	**-4.4**
TUIG	**Tuzandepetl**	**3.41**	**50**	*e*P		**Pn**	**06 34 02.0**	**-0.7**
TUIG				*i* S		**Sn**	**06 34 48.3**	**+4.5**
PPM	**Popocatepetl**	**3.48**	**337**	*e*P		**Pn**	**06 34 02.7**	**-1.0**
PPM				*i* S		**Sn**	**06 34 45.6**	**+0.1**
YAIG	**Yautepec**	**3.49**	**329**	*e*P		**Pn**	**06 34 02.5**	**-1.4**
YAIG				*i* S		**Sn**	**06 34 42.6**	**-3.2**
UNM	**Universidad Na**	**3.95**	**331**	*e*P		**Pn**	**06 34 09.7**	**-0.4**
UNM				*i* P			06 34 10.0	
UNM				*i* S		**Sn**	**06 34 54.0**	**-3.0**
UNM				*i* S		**Sn**	**06 34 55.5**	**-1.5**
UNM	**Universidad Na**	**3.95**	**331**	*e*P		**Pn**	**06 34 09.7**	**-0.4**
UNM				*i* S		**Sn**	**06 34 55.5**	**-1.5**
UNM				*i* S		**Sg**	**06 35 13.5**	**-1.8**
SZVM	**Salazar**	**4.04**	**329**	*e*P		**Pn**	**06 34 06.3**	**-5.1**
SZVM				*i* S		**Sn**	**06 34 55.4**	**-3.9**
ZIIG	**Zihuatanejo**	**4.46**	**294**	*i* S		**Sn**	**06 35 01.4**	**-8.5**
CCIG	**Comitan**	**4.86**	**84**	*i* P		**Pn**	**06 34 23.0**	**+0.3**
CCIG				*i* S		**Sn**	**06 35 20.4**	**+0.8**
CCIG	**Comitan**	**4.86**	**84**	*i* P		**Pn**	**06 34 23.6**	**+0.9**
CCIG				*i* S		**Sn**	**06 35 23.1**	**+3.5**
MOIG	**Morelia**	**5.39**	**315**	*e*P		**Pn**	**06 34 27.1**	**-2.9**
MOIG				*i* S		**Sn**	**06 35 25.0**	**-7.7**
MOIG	**Morelia**	**5.39**	**315**	*e*P		**Pn**	**06 34 27.1**	**-2.9**
MOIG				*i* S		**Sn**	**06 35 29.8**	**-2.9**
SFJM	**Santa Fe**	**7.23**	**310**	*i* P		**Pn**	**06 34 55.5**	**+0.3**
ZAIG	**Zacatecas**	**8.55**	**324**	*i* P		**Pn**	**06 35 11.0**	**-2.4**
ZAIG				*i* S		**Sn**	**06 36 51.3**	**+0.7**
ANIG	**Ahuacatlan**	**8.68**	**308**	*i* P		**Pn**	**06 35 12.7**	**-2.4**
ANIG				*i* S		**Sn**	**06 36 45.8**	**-7.8**
LNIG	**Linares**	**9.25**	**347**	*e*P		**Pn**	**06 35 19.3**	**-3.6**
LNIG				*i* S		**Sn**	**06 37 15.4**	**+7.8**
TEIG	**Tepich**	**9.51**	**62**	*i* P		**Pn**	**06 35 26.6**	**0.0**
TEIG				*e*Sn		**Sn**	**06 37 02.4**	**-12**
TEIG				*i* S		**Sn**	**06 37 16.2**	**+2.1**
TGUH	**Tegucigalpa,Un**	**9.73**	**99**	*e*Pn		**Pn**	**06 35 29.3**	**-0.3**
MAIG	**Mazatlaan**	**11.36**	**311**	*i* P		**Pn**	**06 35 49.0**	**-2.9**
JTS	**JuntasAbangare**	**13.12**	**113**	Pn		**Pn**	**06 36 17.7**	**+1.7**
	2.1nm,0.3s,baz=295,slow=9.9,SNR=14							
JTS	**JuntasAbangare**	**13.12**	**113**	*e*Pn		**Pn**	**06 36 16.7**	**+0.8**
	68nm,1.4s							

baz=24,SNR=12
MONP **Monument Peak** 24.32 318 ⇓P P 06 38 27.9 +0.3
baz=24
BAR **Barrett** 24.35 317 eP P 06 38 27.8 -0.1
IRM **Iron Mountain** 24.37 322 P P 06 38 28.2 +0.2
baz=24,SNR=20
109C **Camp Elliot, M** 24.77 317 ⇓P P 06 38 31.6 0.0
baz=25
SMCO **Snowmass** 24.77 342 eP P 06 38 33.0 +1.3
comp=E,69nm,1.3s,mb5.2
BELC **Belle Mtn.** 24.78 320 ⇓P P 06 38 31.5 -0.2
baz=25,SNR=12
PFO **Pinyon Flat Ob** 24.80 319 P P 06 38 30.4 -1.6
comp=E,11nm,1.1s,mb4.5,baz=110,slow=4.2,SNR=5.7
PFO LR LR 06 48 52.4
comp=E,148nm,18.2s,MS3.5,baz=106,slow=38
PFO **Pinyon Flat Ob** 24.80 319 eP P 06 38 32.3 +0.3
comp=E,121nm,2.7s,mb5.2
PFO **Pinyon Flat Ob** 24.80 319 ⇑P P 06 38 31.9 0.0
baz=25,SNR=5.3
ROSC **El Rosal** 24.96 114 P P 06 38 33.6 +0.3
comp=E,6.9nm,0.8s,mb4.4,baz=98,slow=19,SNR=8.6
ROSC **El Rosal** 24.96 114 eP P 06 38 33.8 +0.4
W12A **Cal Nev Ari** 25.02 324 ⇑P P 06 38 34.0 +0.1
baz=25
BLO **Bloomington** 25.03 20 eP P 06 38 33.6 -0.4
comp=E,28nm,0.8s,mb5.0
MURC **Murrieta** 25.27 318 ⇑P P 06 38 36.3 0.0
baz=25,SNR=6.8
V12A **Nelson** 25.31 325 ⇑P P 06 38 36.7 +0.1
baz=25,SNR=14
BBRC **Big Bear Sol-O** 25.52 320 ⇑P P 06 38 39.0 +0.5
baz=26
HEC **Hector,Ludlow** 25.54 321 ⇑P P 06 38 39.2 +0.5
baz=26
U12A **Valley of Fire** 25.66 326 ⇑P P 06 38 40.0 +0.3
baz=26,SNR=9.6
TUQ **Turquoise Mtn.** 25.72 323 ⇓P P 06 38 40.4 +0.1
baz=26,SNR=21
ELN **Prospectdale** 25.78 31 eP P 06 38 40.9 +0.1
BLA **Blacksburg** 25.94 32 eP P 06 38 41.9 -0.3
comp=E,46nm,0.9s,mb5.1
SRU **San Rafael** 25.95 336 eP P 06 38 42.8 +0.3
comp=E,19nm,1.1s,mb4.6
SRU ePcP PcP 06 42 09.5 -1.5
BFSC **Mount Baldy St** 25.97 319 ⇓P P 06 38 42.7 +0.1
baz=26
FWV **Forest Hill** 26.03 31 eP P 06 38 43.1 0.0
SHPR **Sheep Range** 26.05 325 eP P 06 38 43.9 +0.6
U11A **Corn Creek** 26.12 325 ⇓P P 06 38 44.0 +0.2
baz=26
GSC **Goldstone** 26.15 321 eP P 06 38 44.7 +0.5
GSC **Goldstone** 26.15 321 ⇑P P 06 38 44.1 0.0
baz=26
SCIA **State Center** 26.18 7 eP P 06 38 44.0 -0.5
comp=E,32nm,0.8s,mb5.0
SHOC **Shoshone** 26.25 323 ⇓P P 06 38 45.1 0.0
baz=26
PHWY **Pilot Hill** 26.35 346 eP P 06 38 46.6 +0.6
DECC **Green Verdugo** 26.41 318 ⇓P P 06 38 46.4 -0.1
baz=26
EDW2 **Edwards Air Fo** 26.59 319 ⇑P P 06 38 47.8 -0.4
baz=27
U10A **Ash Meadows, A** 26.64 324 ⇓P P 06 38 49.0 +0.4
baz=27
LRMC **Laurel Mountai** 26.80 321 ⇑P P 06 38 50.1 0.0
baz=27,SNR=5.3
SDV **Santo Domingo** 26.81 102 P P 06 38 50.1 0.0
comp=E,6.2nm,0.6s,mb4.5,baz=301,slow=3.4,SNR=6.9
SDV PcP PcP 06 42 10.5 -2.5
comp=E,6.6nm,0.6s,baz=354,slow=3.3,SNR=5.5
SDV S S 06 43 25.1 -2.1
comp=E,7.4nm,0.7s,baz=4.9,slow=3.5,SNR=6.5
SDV LR LR 06 49 01.4
comp=E,115nm,21.0s,MS3.4,baz=6.2,slow=35
SDV **Santo Domingo** 26.81 102 eP P 06 38 50.0 -0.2
comp=E,9.6nm,0.7s,mb4.6
SDV ePcP PcP 06 42 11.0 -2.0
OSI **Osito Adit** 26.89 318 ⇑P P 06 38 50.8 -0.1
baz=27
FURC **Furnace Creek,** 26.98 323 ⇓P P 06 38 51.9 +0.2
baz=27
MPMC **Manual Prospec** 27.07 322 ⇓P P 06 38 52.4 -0.1
baz=27,SNR=8.4
DAC **Darwin (Calif)** 27.28 322 eP P 06 38 54.7 +0.4
comp=E,8.0nm,1.2s,mb4.3
DAU **Daniels Canyon** 27.36 336 eP P 06 38 59.4 +4.3
ISA **Isabella** 27.40 320 eP P 06 38 55.5 0.0
JFWS **Jewell Farm** 27.61 11 eP P 06 38 56.5 -0.8
comp=E,18nm,0.7s,mb5.0
GRAC **Grapevine Rang** 27.64 323 ⇓P P 06 38 58.1 +0.4
baz=28
Q12A **Willow Creek R** 27.80 330 ⇓P P 06 38 59.7 +0.6
baz=28,SNR=9.5
DUG **Dugway** 27.81 334 eP P 06 38 59.9 +0.8
DUG **Dugway** 27.81 334 ⇓P P 06 38 59.8 +0.6
baz=28
VES **Vestal, Richgr** 27.89 320 ⇑P P 06 39 00.2 +0.4
baz=28
Q11A **Duckwater** 28.06 328 ⇓P P 06 39 02.2 +0.9
baz=28,SNR=17
MCWV **Mont Chateau** 28.13 29 eP P 06 39 02.5 +0.5
comp=E,57nm,0.5s,mb5.7
P12A **McGill** 28.18 330 ⇓P P 06 39 03.1 +0.7
baz=28,SNR=9.2
RCTC **Rector, Farmer** 28.29 320 ⇓P P 06 39 03.6 +0.1
baz=28
TPH **Tonopah** 28.32 325 eP P 06 39 03.2 -0.5
comp=E,9.4nm,1.0s,mb4.6
R09A **Tonopah** 28.36 326 ⇓P P 06 39 04.4 +0.3
baz=28,SNR=7.1
HELL **Mitchell Peak,** 28.40 321 ⇓P P 06 39 04.8 +0.4
baz=28,SNR=5.6
S08C **White Mtn Res** 28.45 323 ⇓P P 06 39 05.4 +0.6
baz=29,SNR=5.5
HWUT **Hardware Ranch** 28.51 337 eP P 06 39 04.5 -0.8
comp=E,3.3nm,0.7s,mb4.3
HWUT ePcP PcP 06 42 16.4 -0.7
P11A **Circle Ranch,** 28.65 329 ⇑P P 06 39 07.4 +0.7
baz=29
RSSD **Black Hills** 28.77 350 eP P 06 39 07.9 +0.2
comp=E,1.7nm,0.6s,mb4.0
RSSD ePcP PcP 06 42 15.9 -1.9
BW06 **Boulder Array** 28.84 341 eP P 06 39 08.6 +0.3
PDAR **Pinedale Array** 28.84 341 P P 06 39 08.4 +0.1
comp=E,1.7nm,0.7s,mb4.0,baz=136,slow=12,SNR=17
PDAR PcP PcP 06 42 15.8 -2.1
comp=E,1.4nm,0.9s,baz=129,slow=4.0,SNR=4.0
PDAR LR LR 06 50 34.9
comp=E,66nm,20.7s,MS3.2,baz=0.0,slow=36
N13A **Wendover, West** 28.96 333 ⇑P P 06 39 09.9 +0.6
baz=29
KCC **Kaiser Creek** 29.00 322 ⇓P P 06 39 10.3 +0.5
baz=29,SNR=7.7
T06C **Millerton Lake** 29.03 321 ⇑P P 06 39 10.6 +0.6
baz=29
P10A **Eureka** 29.06 328 ⇓P P 06 39 11.2 +1.0
baz=29,SNR=5.9
NVAR **Mina Array Bea** 29.17 324 P P 06 39 12.4 +1.1
comp=E,9.4nm,0.9s,mb4.6,baz=153,slow=8.1,SNR=48
NVAR PcP PcP 06 42 18.0 -0.8
comp=E,1.1nm,0.7s,baz=145,slow=3.3,SNR=4.3
Q08A **Gabbs** 29.27 326 ⇓P P 06 39 12.8 +0.6
baz=29,SNR=14
U04C **Hernandez Rese** 29.29 319 ⇑P P 06 39 12.6 +0.2
baz=29
N12A **Clover Valley,** 29.33 332 ⇑P P 06 39 13.3 +0.6
baz=29,SNR=9.3
M13A **Montello** 29.35 333 ⇓P P 06 39 13.4 +0.6
baz=30
P09A **Austin** 29.36 327 ⇓P P 06 39 13.5 +0.6
baz=30
V03C **Hunter Liggett** 29.38 318 ⇓P P 06 39 12.9 -0.2
baz=30
N11A **Elko Archery C** 29.63 331 ⇑P P 06 39 15.8 +0.6
baz=30,SNR=6.2
S05C **Merced** 29.63 321 ⇑P P 06 39 15.7 +0.4
baz=30
S06C **San Francisco** 29.69 322 ⇑P P 06 39 16.1 +0.2
baz=30
M12A **Wells** 29.73 332 ⇑P P 06 39 16.5 +0.4
baz=30,SNR=8.2
REDW **Red Top Meadow** 29.80 340 eP P 06 39 16.7 -0.1
comp=E,21nm,1.3s,mb4.8
HAST **UC Hastings Re** 29.80 318 ⇑P P 06 39 17.0 +0.2
baz=30
SSPA **Standing Stone** 29.83 30 eP P 06 39 16.4 -0.7
comp=E,20nm,1.0s,mb4.9
O09A **Fish Creek Ran** 29.84 328 ⇑P P 06 39 17.9 +0.7
baz=30,SNR=17
R06C **Coleville** 29.89 323 ⇓P P 06 39 18.2 +0.6
baz=30
N10A **Dunphy** 29.92 330 ⇑P P 06 39 18.3 +0.5
baz=30
LOHW **Long Hollow** 29.94 340 eP P 06 39 18.6 +0.6
comp=E,14nm,1.2s,mb4.7
TPAW **Teton Pass** 29.94 340 eP P 06 39 18.4 +0.4
comp=E,19nm,1.4s,mb4.7
P08A **Dixie Valley** 29.95 327 ⇓P P 06 39 18.5 +0.3
baz=30
BMN **Battle Mountai** 30.05 328 eP P 06 39 19.7 +0.6
comp=E,22nm,1.1s,mb4.9
BMN epP 06 39 27.1
MOOW **Moose Ponds** 30.10 340 eP P 06 39 19.9 +0.4
MOOW ePcP PcP 06 42 20.2 -0.9
CMB **Columbia Colle** 30.11 322 eP P 06 39 16.4 -3.1
comp=E,7.9nm,1.3s,mb4.4
CMB **Columbia Colle** 30.11 322 ⇓P P 06 39 19.5 0.0
baz=30
M11A **Holland Ranch,** 30.14 331 ⇓P P 06 39 20.4 +0.6
baz=30,SNR=15
R05C **Kirkwood Meado** 30.37 323 ⇑P P 06 39 22.5 +0.6
baz=30
N09A **Rock Creek Ran** 30.52 329 ⇑P P 06 39 23.7 +0.5
baz=31,SNR=17
M10A **I.L. Ranch, Tu** 30.55 331 ⇓P P 06 39 24.2 +0.8
baz=31,SNR=6.1
R04C **Big Horse Ranc** 30.58 321 ⇓P P 06 39 24.3 +0.6
baz=31
WCN **Washoe City** 30.59 324 ⇑P P 06 39 24.6 +0.7
baz=31
O07A **Toulon** 30.71 326 ⇓P P 06 39 25.3 +0.4
baz=31,SNR=14
N08A **GE Springer Mi** 30.78 328 ⇑P P 06 39 25.7 +0.3
baz=31,SNR=13
LAVA **Lava Cap Winer** 30.79 322 ⇑P P 06 39 26.1 +0.5
baz=31
RLMT **Red Lodge** 30.90 343 eP P 06 39 26.9 +0.4
comp=E,17nm,1.0s,mb4.9
M09A **Marrel Ranch,** 30.92 330 ⇑P P 06 39 27.6 +0.9
baz=31,SNR=7.6
P06A **Stead Airport,** 30.93 325 ⇓P P 06 39 27.6 +0.8
baz=31
P05C **Yuba Gap, Truc** 31.08 323 ⇓P P 06 39 28.9 +0.7
baz=31
N07B **Gerlach** 31.21 327 ⇑P P 06 39 29.8 +0.5
baz=31
O06A **Flanigan** 31.23 325 ⇓P P 06 39 30.1 +0.7
baz=31,SNR=6.8
HLID **Hailey** 31.28 335 eP P 06 39 30.4 +0.6
comp=E,6.6nm,1.0s,mb4.5
HLID **Hailey** 31.28 335 ⇑P P 06 39 30.2 +0.3
baz=31,SNR=8.1
QLMT **Earthquake Lak** 31.29 340 eP P 06 39 31.7 +1.7
BEKR **Beckwourth** 31.32 324 ⇓P P 06 39 30.8 +0.6
baz=31,SNR=12
Q03C **Winters** 31.47 321 ⇓P P 06 39 32.6 +1.0
baz=32
L09A **Wilkinson Ranc** 31.48 330 ⇓P P 06 39 32.0 +0.4
baz=32,SNR=8.0
BRNJ **Basking Ridge** 31.57 34 eP P 06 39 32.6 +0.1
OHCM **Honcut** 31.61 322 eP P 06 39 32.6 -0.1
OHCM ePcP PcP 06 42 23.1 -2.0
N06A **Buffalo Meadow** 31.64 326 P P 06 39 33.9 +0.8
baz=32,SNR=16
LAO **LASA Array** 31.65 348 eP P 06 39 31.6 -1.5
comp=E,23nm,1.1s,mb5.0
O05C **Quincy** 31.70 324 ⇑P P 06 39 34.5 +0.9
baz=32
SUTB **Sutter Butte** 31.72 322 ⇑P P 06 39 34.2 +0.5
baz=32
M07A **Soldier Meadow** 31.75 328 ⇑P P 06 39 34.7 +0.6
baz=32
ORV **Oroville** 31.76 323 ⇓P P 06 39 34.5 +0.3
baz=32
MCMT **McKenzie Canyo** 31.77 339 P P 06 39 34.5 +0.3
L08A **Fields** 31.93 330 ⇓P P 06 39 35.8 +0.2
baz=32,SNR=24
K09A **Rome** 32.02 331 ⇓P P 06 39 36.9 +0.5
baz=32,SNR=18
O04C **Chester** 32.04 324 P P 06 39 37.5 +1.0
baz=32,SNR=8.3
ELFS **Eagle Lake Fie** 32.04 325 ⇑P P 06 39 37.6 +1.0
baz=32,SNR=6.1
DLMT **Dillon** 32.15 339 eP P 06 39 38.4 +0.9
comp=E,39nm,1.1s,mb5.2
PCRV **Puerto La Cruz** 32.17 96 LR LR 06 53 29.4
comp=E,108nm,18.3s,MS3.6,baz=286,slow=38
WVOR **Wild Horse Val** 32.26 330 eP P 06 39 38.4 -0.1
comp=E,38nm,1.1s,mb5.2
L07A **Adell** 32.30 328 P P 06 39 39.5 +0.6
baz=32,SNR=18
M06C **Lilly Place G** 32.31 326 ⇑P P 06 39 39.4 +0.4
baz=32,SNR=19
K08A **Mann Creek Ran** 32.41 330 ⇓P P 06 39 40.4 +0.6
baz=32,SNR=24
LRM **Limekiln Ridge** 32.50 340 eP P 06 39 41.5 +0.8
F15A **Butte** 32.53 340 ⇑P P 06 39 41.3 +0.4
baz=33,SNR=9.0
J09A **Fry Pan Ranch,** 32.54 332 ⇓P P 06 39 41.4 +0.4
baz=33,SNR=7.3
GASB **Alder Springs** 32.54 322 ⇑P P 06 39 41.9 +0.9
baz=33
MOD **Modoc** 32.71 327 eP P 06 39 42.5 +0.1
comp=E,12nm,0.9s,mb4.8
MOD **Modoc** 32.71 327 ⇓P P 06 39 42.7 +0.2
baz=33,SNR=10
K07A **Rock Creek Ran** 32.75 329 ⇑P P 06 39 43.1 +0.3
baz=33,SNR=22
M05C **Lookout** 32.78 326 ⇓P P 06 39 43.4 +0.3
baz=33
P01C **Double 8 Ranch** 32.80 321 ⇓P P 06 39 43.7 +0.4
baz=33
H11A **Donnelly** 32.87 335 ⇓P P 06 39 43.9 +0.1
baz=33,SNR=20
J08A **Circle Bar Ran** 32.88 331 ⇑P P 06 39 44.1 +0.2
baz=33,SNR=9.8
I09A **Lost Marbles R** 33.02 332 ⇑P P 06 39 45.4 +0.2
baz=33
DGMT **Dagmar** 33.03 351 eP P 06 39 44.3 -1.0
comp=E,14nm,1.0s,mb4.8
L05A **Lakeview** 33.09 327 ⇓P P 06 39 46.3 +0.5
baz=33,SNR=23
HRY **Holter Researc** 33.10 341 ePcP PcP 06 42 27.5 -1.7
E15A **Deer Lodge** 33.10 340 ⇑P P 06 39 45.7 -0.1
baz=33,SNR=9.3
F13A **Darby** 33.13 338 P P 06 39 46.0 -0.1
baz=33,SNR=12
M03C **McCloud** 33.26 325 ⇓P P 06 39 46.3 -1.0
baz=33
J07A **Hines** 33.29 330 ⇓P P 06 39 47.2 -0.3
baz=33,SNR=5.6
K06A **Valley Falls** 33.33 328 ⇑P P 06 39 47.5 -0.4
baz=33
I08A **Drewsey** 33.35 331 ⇑P P 06 39 47.9 -0.2
baz=34,SNR=6.8
E14A **Clinton** 33.37 339 ⇓P P 06 39 48.2 0.0
baz=34,SNR=5.3
M04C **Macdoel** 33.45 326 ⇓P P 06 39 48.7 -0.2
baz=34
H09A **Durkee** 33.53 333 P P 06 39 49.4 -0.2
baz=34,SNR=11
D15A **Lincoln** 33.61 341 ⇓P P 06 39 50.2 -0.1
baz=34,SNR=6.1
K05A **Summer Lake** 33.61 328 ⇓P P 06 39 50.1 -0.1
baz=34
J06A **Christmas Vall** 33.61 329 ⇓P P 06 39 49.9 -0.5
baz=34
N02C **Big Bar** 33.64 323 ⇓P P 06 39 50.1 -0.4
baz=34
E13A **Victor** 33.64 339 ⇑P P 06 39 50.4 -0.2
baz=34,SNR=13
EGMT **Eagleton** 33.71 345 eP P 06 39 50.9 -0.3
comp=E,23nm,1.2s,mb5.0
EGMT **Eagleton** 33.71 345 ⇓P P 06 39 51.1 -0.1
baz=34,SNR=5.5
CHMT **Chamberlain Mo** 33.73 340 eP P 06 39 51.2 -0.2
L04A **Klamath Falls** 33.75 326 ⇑P P 06 39 51.0 -0.5
baz=34
H08A **Prairie City** 33.87 332 ⇓P P 06 39 52.3 -0.2
baz=34,SNR=15
MSO **Missoula** 33.89 339 eP P 06 39 52.2 -0.5
comp=E,6.8nm,0.9s,mb4.6
F11A **Grangeville** 33.90 336 ⇑P P 06 39 52.2 -0.7
baz=34
I07A **Izee** 33.92 331 ⇑P P 06 39 52.5 -0.5
baz=34
D14A **Greenough** 33.96 340 ⇑P P 06 39 52.9 -0.5
baz=34,SNR=7.3
K04A **Chilquin** 33.96 327 ⇑P P 06 39 52.9 -0.5
baz=34
D13A **Huson** 34.29 339 ⇓P P 06 39 56.3 +0.1
baz=34,SNR=6.8
ULM **Lac du Bonnet** 34.32 1 P P 06 39 54.0 -2.5
comp=E,5.7nm,1.1s,mb4.4,baz=160,slow=13,SNR=3.0
ULM LR LR 06 56 48.2
comp=E,3.7nm,20.2s,baz=297,slow=41
H07A **Lands Inn, Kim** 34.33 331 ⇓P P 06 39 56.1 -0.4
baz=34,SNR=15
F10A **Beach Ranch, E** 34.40 335 ⇓P P 06 39 56.7 -0.5
baz=34,SNR=15
F09A **S2 Ranch, Elgi** 34.47 334 ⇓P P 06 39 57.1 -0.7
baz=35,SNR=12
G08A **Pilot Rock** 34.59 333 ⇓P P 06 39 58.3 -0.6
baz=35,SNR=7.4
J04A **Umpqua Nationa** 34.60 327 ⇓P P 06 39 58.3 -0.7
baz=35
E10A **Myers Farm, Un** 34.77 336 ⇑P P 06 39 59.4 -0.9
baz=35
H06A **Lindquist Farm** 34.80 331 ⇑P P 06 40 00.0 -0.6
baz=35,SNR=5.3
I05A **Bend** 34.83 329 ⇑P P 06 40 00.7 -0.2
baz=35
C13A **Hot Springs** 34.84 339 ⇓P P 06 40 00.1 -0.9
baz=35
G07A **Ruggs Ranch, H** 34.89 332 P P 06 40 01.3 -0.1
baz=35,SNR=5.1
F08A **Pendleton** 34.91 333 ⇑P P 06 40 01.1 -0.5
baz=35
K02A **Glendale** 35.02 325 ⇓P P 06 40 02.1 -0.4
baz=35
I04A **Tendick Farm,** 35.15 328 ⇑P P 06 40 02.7 -0.9
baz=35
C12A **Trout Creek** 35.17 338 ⇑P P 06 40 03.0 -0.9
baz=35
E09A **Wood Farm, Sta** 35.21 335 ⇓P P 06 40 03.3 -0.9
baz=35
G06A **Carlson Farm,** 35.32 331 ⇑P P 06 40 04.3 -0.7
baz=35
B13A **Whitefish** 35.41 340 ⇑P P 06 40 05.7 -0.1
baz=36,SNR=8.1
G05A **Wamic** 35.64 330 ⇓P P 06 40 08.3 +0.4
baz=36
H04A **Detroit Lake** 35.66 329 ⇑P P 06 40 07.6 -0.4
baz=36
D09A **Jones Farm, Ri** 35.72 335 ⇓P P 06 40 07.8 -0.8
baz=36,SNR=7.5
I03A **Eugene** 35.72 327 ⇓P P 06 40 08.1 -0.4
baz=36
F06A **Goldendale** 35.78 331 ⇓P P 06 40 09.2 +0.1
baz=36
WALA **Waterton Lakes** 35.83 341 eP P 06 40 09.2 -0.3
comp=E,12nm,1.0s,mb4.7
B12A **Libby** 35.87 339 ⇓P P 06 40 09.5 -0.3
baz=36,SNR=7.6
D08A **Wollman Farm,** 35.97 334 ⇑P P 06 40 09.6 -1.1
baz=36
E07A **Sunnyside** 35.97 333 ⇑P P 06 40 10.7 0.0
baz=36
B11A **Sandpoint** 36.11 338 ⇑P P 06 40 12.1 +0.1
baz=36
F05A **White Salmon** 36.19 331 ⇑P P 06 40 13.0 +0.4
baz=36,SNR=6.8
NEW **Newport** 36.24 337 eP P 06 40 12.4 -0.6
comp=E,11nm,1.1s,mb4.6
NEW ePcP PcP 06 42 36.1 -2.1
A12A **Yaak River Ran** 36.28 339 ⇓P P 06 40 13.3 -0.1
baz=36,SNR=11
B10A **Chitwood Farm,** 36.31 337 ⇓P P 06 40 13.6 0.0
baz=36
E06A **Yakima** 36.46 332 ⇓P P 06 40 14.9 +0.1
baz=37,SNR=6.5
D07A **Quincy** 36.52 334 ⇑P P 06 40 15.2 -0.2
baz=37
A11A **Hall Mountain,** 36.55 339 ⇑P P 06 40 15.2 -0.5
baz=37,SNR=5.8
C08A **Higginbotham F** 36.60 335 ⇓P P 06 40 15.8 -0.2
baz=37,SNR=11
G03A **Yamhill** 36.66 329 ⇓P P 06 40 16.2 -0.4
baz=37
B09A **Rice** 36.76 337 ⇑P P 06 40 17.0 -0.4
baz=37,SNR=13
D06A **Cle Elum** 36.90 333 P P 06 40 19.1 +0.6
baz=37,SNR=5.4
C07A **Waterville** 36.94 334 P P 06 40 19.1 +0.1
baz=37,SNR=5.2
A10A **Northport** 37.00 338 ⇓P P 06 40 19.5 0.0
baz=37
A09A **Danville** 37.38 337 ⇓P P 06 40 22.7 0.0
baz=38
D05A **Enumclaw** 37.40 332 ⇑P P 06 40 22.7 -0.2
baz=38
A08A **Turner Farm, O** 37.63 336 ⇑P P 06 40 24.7 -0.1
baz=38
C05A **Tolt Reservoir** 37.65 333 ⇓P P 06 40 24.7 -0.3
baz=38
GNW **Green Mountain** 38.06 332 eP P 06 40 27.7 -0.8
A07A **Ashnola River,** 38.14 335 ⇓P P 06 40 29.3 +0.1
baz=38
B06A **Marblemount** 38.19 334 ⇓P P 06 40 29.1 -0.5
baz=38
C04A **Brinnon** 38.24 332 ⇓P P 06 40 29.8 -0.2
baz=38
A05A **Maple Falls** 38.81 334 ⇑P P 06 40 33.6 -1.1
baz=39
FFC **Flin Flon** 38.97 356 eP P 06 40 35.5 -0.6
comp=E,17nm,0.9s,mb4.7
FFC ePcP PcP 06 42 43.4 -3.3
EDM **Edmonton** 39.40 345 eP P 06 40 39.0 -0.7
FCC **Fort Churchill** 42.90 2 eP P 06 41 07.9 -0.6
comp=E,5.0nm,0.6s,mb4.4
LPAZ **La Paz** 42.91 137 P P 06 41 08.2 -0.5
comp=E,3.7nm,1.0s,mb4.1,baz=338,slow=10.0,SNR=12
LPAZ LR LR 06 57 51.0
comp=E,74nm,18.0s,MS3.6,baz=271,slow=34
LPAZ **La Paz** 42.91 137 eP P 06 41 08.0 -0.6
comp=E,6.5nm,1.3s,mb4.2
LPAZ epP 06 41 15.7
LPAZ esP sP 06 41 18.2 +9.1
SCHQ **Schefferville** 45.41 24 P P 06 41 27.4 -1.3
comp=E,6.2nm,0.9s,mb4.5,baz=155,slow=5.3,SNR=3.9
SCHQ LR LR 07 00 36.7
comp=E,158nm,21.5s,MS3.9,baz=65,slow=36
SCHQ **Schefferville** 45.41 24 eP P 06 41 25.6 -3.1
comp=E,156nm,2.0s,mb5.6
LVC **Limon Verde** 47.20 143 P P 06 41 42.1 -0.6
comp=E,6.4nm,1.1s,mb4.7,baz=306,slow=2.5,SNR=5.1
LVC **Limon Verde** 47.20 143 eP P 06 41 41.9 -0.8
comp=E,16nm,1.4s,mb5.0
LVC epP 06 41 50.4
LVC ePcP PcP 06 43 13.9 -0.3
YKA **Yellowknife Ar** 48.18 349 P P 06 41 48.4 -1.9
comp=E,2.4nm,0.7s,mb4.4,baz=155,slow=7.6,SNR=8.8
YKA LR LR 07 02 59.2
comp=E,72nm,18.5s,MS3.7,baz=230,slow=37
YKA **Yellowknife Ar** 48.18 349 P P 06 41 48.4 -1.9
YKA LR LR 07 02 59.2
DLBC **Dease Lake** 48.99 338 eP P 06 41 58.0 +1.4
RKT **Rikitea** 53.55 225 eLR LR 06 57 58.1
comp=E,130nm,28.2s
CFAA **Coronel Fontan** 54.76 150 P P 06 42 37.9 -1.7
comp=E,0.5nm,0.9s,baz=330,slow=6.1,SNR=8.9
CFAA LR LR 06 59 22.4
comp=E,7.4nm,21.0s,baz=118,slow=29
DAWY **Dawson** 56.13 339 eP P 06 42 47.6 -1.9
EGAK **Eagle** 57.17 339 eP P 06 42 55.0 -1.9
comp=E,9.2nm,0.8s,mb4.9
INK **Inuvik** 57.30 345 eP P 06 42 56.0 -1.8
comp=E,698nm,1.0s
KDAK **Kodiak Island** 58.53 329 LR LR 07 06 32.2
comp=E,100nm,19.1s,MS4.0,baz=102,slow=34
RES **Resolute Bay** 58.84 1 eP P 06 43 06.6 -2.1
comp=E,26nm,0.6s,mb5.4
MCK **McKinley** 59.45 336 eP P 06 43 12.0 -0.8
comp=E,8.6nm,1.1s,mb4.7
COLA **College** 59.61 337 eP P 06 43 12.2 -1.8
comp=E,9.3nm,0.9s,mb4.8
PPT **Papeete** 61.40 239 eLR LR 07 01 24.9
comp=E,122nm,27.2s
PPT **Papeete** 61.40 239 LR LR 07 02 58.0
comp=E,102nm,20.7s,MS4.0,baz=108,slow=29
TRQA **Tornquist** 62.99 149 P P 06 43 33.4 -3.4
comp=E,12nm,1.3s,mb4.9
ESDC **Sonseca Array** 82.47 51 P P 06 45 31.2 -1.4

comp=E,2.6nm,0.8s,mb4.4,baz=300,slow=5.0,SNR=8.3
ESDC LR LR 07 20 34.3
comp=E,78nm,18.2s,MS4.1,baz=245,slow=34
ESLA Sonseca Array 82.47 51 P **P 06 45 31.1 -1.5**
MDT Midelt 83.67 58 P **P 06 45 37.8 -1.0**
comp=E,2.1nm,0.8s,mb4.4,baz=288,slow=8.5,SNR=4.4
MDT LR LR 07 22 03.7
comp=E,45nm,18.7s,MS3.9,baz=302,slow=35
NOA NORSAR Array B 84.87 28 P **P 06 45 45.1 +0.2**
comp=E,1.6nm,0.9s,mb4.3,baz=296,slow=5.3,SNR=3.3
ARCES ARCESS Array B 85.90 17 LR LR 07 26 41.7
comp=E,28nm,18.3s,MS3.7,baz=156,slow=37
TIXI Tiksi 87.37 347 *eP* **P 06 46 00.1 +2.8**
CLL Collm 89.83 36 *e*(P) **P 06 46 11.0 +2.1**
FINES FINESS Array B 90.88 24 LR LR 07 27 07.0
comp=E,56nm,18.6s,MS4.0,baz=343,slow=36
GERES GERESS Array B 91.30 38 P **P 06 46 15.0 -0.7**
comp=E,0.3nm,0.4s,mb4.0,baz=316,slow=3.7,SNR=7.1
GERES LR LR 07 25 34.8
comp=E,64nm,20.0s,MS4.1,baz=274,slow=34
KEST Kesra 93.71 51 LR LR 07 25 20.9
comp=E,29nm,19.2s,MS3.8,baz=245,slow=33
TORD Torodi Ar. Bea 94.77 75 LR LR 07 24 49.9
comp=E,47nm,18.3s,MS4.0,baz=245,slow=33
AKASG Malin Array Be 98.84 31 LR LR 07 34 31.9
comp=E,22nm,18.6s,MS3.7,baz=270,slow=37
HHC Hu-ho-hao-te 117.60 336 *e*PKPdf PKPdf 06 51 53.4 -2.8
HHC XPKP 06 52 06.8
HHC PP PP 06 53 10.2 +1.8
HHC PKS 06 55 28.9
HHC SKS SKSdf 06 59 00.6 -8.8
HHC SKKS SKKSac 06 59 59.2 -11
HHC SS SS 07 09 18.5 -2.4
HHC PP PP
comp=Z,96nm,5.7s
HHC LR LR
comp=N,163nm,20.5s,MS4.8
HHC LR LR
comp=E,219nm,21.4s,MS4.8
HHC LR LR
comp=Z,101nm,21.2s,MS4.4
WMQ Urumqi 120.45 356 ⇑PKP PKPdf 06 51 58.9 -2.8
WMQ XPKP 06 52 10.3
WMQ PP PP 06 53 29.9 +1.8
WMQ PP PP
comp=Z,104nm,4.6s
WMQ LR LR
comp=N,40nm,25.0s,MS4.0
WMQ LR LR
comp=E,22nm,22.6s,MS4.0
WMQ LR LR
comp=Z,37nm,20.2s,MS4.0
NJ2 Nanjing 121.17 324 *e*PKP PKPdf 06 52 01.2 -1.9
STKA Stephens Creek 124.56 242 *e*P PKPdf 06 52 07.2 -2.4
comp=Z,2.5nm,1.1s
STKA Stephens Creek 124.56 242 PKP PKPdf 06 52 07.0 -2.5
comp=Z,2.1nm,0.9s,baz=67,slow=5.9,SNR=7.0
BOSA Boshof 125.67 114 PKP PKPdf 06 52 10.5 -1.2
comp=Z,5.3nm,0.9s,baz=324,slow=3.8,SNR=5.2
LSZ Lusaka 127.49 97 *e*PKPdf PKPdf 06 52 14.6 -0.6
CD2 Chengdu 129.33 337 *e*PKP PKPdf 06 52 14.9 -3.8
WB2 Warramunga Arr 130.95 257 *e*P PKPdf 06 52 19.5 -2.2
WRA Warramunga Arr 130.96 257 PKP PKPdf 06 52 19.7 -2.0
comp=Z,2.6nm,0.9s,baz=86,slow=2.5,SNR=24
ASAR Alice Springs 131.51 252 PKP PKPdf 06 52 20.9 -2.0
comp=Z,1.4nm,0.8s,baz=93,slow=2.2,SNR=12
GYA Guiyang 131.98 331 *e*PDIF Pdif 06 49 15.2 -2.3
GYA PKP PKPdf 06 52 22.0 -1.7
GYA XPKP 06 52 34.0
GYA PP PP 06 54 46.6 +2.0
GYA PKS 06 55 57.0
GYA SKS SKSdf 06 59 28.9 -7.3
GYA SKKS SKKSac 07 01 34.7 -7.5
GYA PP PP
comp=Z,110nm,7.9s
GYA LR LR
comp=N,120nm,20.8s,MS4.7
GYA LR LR
comp=E,110nm,21.4s,MS4.7
GYA LR LR
comp=Z,100nm,21.2s,MS4.5
WSAR Wadi Sarin 134.50 32 PKP PKPdf 06 52 27.0 -1.5
comp=Z,6.1nm,1.1s,baz=109,slow=8.1,SNR=2.6
KMI Kunming 134.88 334 PKP PKPdf 06 52 28.4 -0.7
KMI LR LR
comp=Z,25nm,18.5s,MS4.0
HYB Hyderabad 146.67 7 *i* P PKPdf 06 52 50.0 -0.3

IDC 10 06:37:45.5±12.0, 563S×15194E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=195.8km s-min=72.9km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.26**	**229**	P	P	06 42 43.7	-0.3
	0.7nm,0.5s,baz=54,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**24.96**	**222**	P	P	06 43 11.8	+1.2
	1.3nm,0.6s,baz=55,slow=8.7,SNR=29						
STKA	**Stephens Creek**	**27.85**	**199**	P	P	06 43 35.9	-0.8
	1.1nm,0.6s,baz=27,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**28.52**	**242**	P	P	06 43 43.2	+0.6
	1.6nm,0.5s,baz=57,slow=8.6,SNR=8.0						

*ISCJB **10** 07:06:22.3±0.8, 1155N±005×6486W±005, h54km±11km, Error ellipse: s-maj=10.2km s-min=6.7km az=105.9*
*FUNV **10** 07:06:22.2, 1166N×6492W, h58km, MW3.5*
ISC 10 07:06:23.6±0.8, 1151N±005×6487W±005, h39km±24km, n10, σ0§91/17, 1C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAV	**Isla La Blanqu**	**0.42**	**42**	*e*P	**Pn**	**07 06 32.3**	**-1.0**
IBAV				*e*S	**Sn**	**07 06 40.4**	**+0.4**
PCRV	**Puerto La Cruz**	**1.34**	**170**	*e*P	**Pn**	**07 06 46.4**	**+0.6**
CUPV	**Cœpira**	**1.70**	**212**	*e*P	**Pn**	**07 06 50.4**	**-0.4**
CUPV				*e*S	**Sn**	**07 07 11.8**	**+0.4**
ITEV	**Isla Los Testi**	**1.71**	**95**	*e*P	**Pn**	**07 06 49.6**	**-1.2**
ITEV				*e*S	**Sn**	**07 07 10.5**	**-0.9**
BIRV	**Birongo**	**1.72**	**233**	*e*P	**Pn**	**07 06 50.1**	**-0.9**
CRUV	**Carupano**	**1.80**	**117**	*e*P	**Pn**	**07 06 52.8**	**+0.6**
CRUV				*e*P		07 06 53.1	
CRUV				*e*S	**Sn**	**07 07 15.9**	**+2.2**
GUNV	**Guanoco**	**2.31**	**125**	*e*P	**Pn**	**07 06 59.1**	**-0.1**
GUNV				*e*S	**Sn**	**07 07 25.9**	**-0.6**
GUIV	**Guiria**	**2.73**	**108**	*e*P	**Pn**	**07 07 05.1**	**+0.2**
GUIV				*e*S	**Sn**	**07 07 35.8**	**-0.9**
BIM	**Bigot**	**4.75**	**51**	*e*P	**Pn**	**07 07 34.1**	**+1.3**
FDF	**Fort de France**	**4.83**	**48⇑**	*e*P	**Pn**	**07 07 35.1**	**+1.3**
FDF				*e*S	**Sn**	**07 08 27.9**	**-0.6**

*ISCJB **10** 07:54:26.3±0.3, 754N±003×78.10W±003, h10km, mb4.3/32, MS3.6/9, Error ellipse: s-maj=5.1km s-min=3.9km az=65.3*
*CASC **10** 07:54:26.3±1.6, 754N×7809W, h2km±9km, mb4.5(NEIC)*
*IDC **10** 07:54:26.3±0.6, 743N×78.16W, h0km, mb4.0/14, mb1 4.3/18, mb1mx4.2/23, mbtmp4.1/18, ML3.6/4, MS3.6/13, Ms1 3.6/13, ms1mx3.4/31, Error ellipse: s-maj=22.0km s-min=13.1km az=61.0*
*NEIC **10** 07:54:29.9±0.4, 751N×7803W, h25km, mb4.5/19, Error ellipse: s-maj=10.7km s-min=6.8km az=48.0*
ISC 10 07:54:28.3±0.3, 753N±003×7812W±003, h10km, n76, σ1§16/80, mb4.3/32, MS3.6/9, 4C-4D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD1	**Univ de Panama**	**1.02**	**6**	*e*S	**Sg**	**07 54 59.6**	**-1.6**
UPA	**Univ. de Panam**	**2.01**	**316**	*e*P	**Pn**	**07 55 01.8**	**-0.5**
UPA				*e*S	**Sn**	**07 55 28.9**	**+1.5**
ACH	**Altos**	**2.12**	**302**	*i*P	**Pn**	**07 55 02.4**	**-1.4**
AZU	**Azuero**	**2.15**	**277**	*e*P	**Pn**	**07 55 02.4**	**-1.8**
DVD	**David**	**4.38**	**282**	*e*P	**Pn**	**07 55 34.4**	**-0.5**
ROSC	**El Rosal**	**4.61**	**125**	Pn	**Pn**	**07 55 39.3**	**+1.3**
	37nm,0.3s,baz=95,slow=2.7,SNR=110						
ROSC				LR	LR	07 57 22.1	
	comp=Z,374nm,20.0s,baz=332,slow=38						
CNI	**Changuinola**	**4.74**	**294**	*e*P	**Pn**	**07 55 38.3**	**-1.5**
OCAC	**Ocana**	**4.81**	**81⇑**	*i*P	**Pn**	**07 55 40.8**	**0.0**
OCAC				*e*S	**Sn**	**07 56 36.6**	**0.0**
BARC	**Barichara**	**4.99**	**100⇑**	*i*P	**Pn**	**07 55 44.6**	**+1.4**
BARC				*e*S	**Sn**	**07 56 42.3**	**+1.4**
OTAV	**Otavalo**	**7.25**	**183**	*e*Pn	**Pn**	**07 56 13.7**	**-0.6**
	35nm,0.8s						
OTAV				*e*Sn	**Sn**	**07 57 35.2**	**-1.4**
JTS	**JuntasAbangare**	**7.29**	**293**	Pn	**Pn**	**07 56 13.5**	**-1.2**
	1.1nm,0.3s,baz=342,slow=12,SNR=9.3						
JTS				LR	LR	07 59 08.2	
	comp=Z,869nm,19.0s,baz=113,slow=39						
SDV	**Santo Domingo**	**7.54**	**79**	*e*Pn	**Pn**	**07 56 17.6**	**-0.7**
	338nm,0.6s						
SDV				*e*Sn	**Sn**	**07 57 41.5**	**-2.2**
PCJ	**Portland Cotta**	**10.20**	**5**	*e*P	**Pn**	**07 56 54.8**	**+0.1**
PCJ				*e*S	**Sn**	**07 58 43.9**	**-5.2**
MCJ	**Malvern**	**10.35**	**2⇓**	*e*P	**Pn**	**07 56 56.9**	**+0.1**
STH	**Stony Hill**	**10.56**	**7⇓**	*e*P	**Pn**	**07 57 00.2**	**+0.5**
CVJ	**Coleyville**	**10.65**	**3⇓**	*e*P	**Pn**	**07 57 00.3**	**-0.6**
CMJ	**Castle Mountai**	**10.68**	**9⇑**	*e*P	**Pn**	**07 57 04.7**	**+3.4**
BBJ	**Bamboo Saint A**	**10.82**	**4⇑**	*e*P	**Pn**	**07 57 03.8**	**+0.5**
TGUH	**Tegucigalpa,Un**	**11.08**	**307**	*e*Pn	**Pn**	**07 57 06.6**	**-0.3**
	65nm,1.0s						
LMGC	**Las Mercedes**	**12.51**	**5**	*e*P	**Pn**	**07 57 23.9**	**-2.5**
RCC	**Rio Carpintero**	**12.62**	**11**	*e*PG	**Pn**	**07 57 26.0**	**-1.8**
	baz=167						
RCC				*e*SG	**Sn**	**07 59 33.8**	**-15**
	comp=N,1μm,3.3s						
RCC				*e*			
	comp=E,1μm,0.8s						
MASC	**Masc**	**13.13**	**16**	*e*P	**Pn**	**07 57 36.5**	**+1.7**
HLGC	**Holguin**	**13.43**	**8**	*e*P	**Pn**	**07 57 38.9**	**-0.1**
PCRV	**Puerto La Cruz**	**13.58**	**78**	Pn	**Pn**	**07 57 38.7**	**-2.3**
	comp=E,8.5nm,0.3s,baz=255,slow=3.1,SNR=34						
PCRV				Sn	**Sn**		
	comp=E,1.1nm,0.3s,baz=157,slow=18,SNR=4.9						
ATAH	**Atahualpa**	**14.43**	**181**	Pn	**Pn**	**07 57 53.9**	**+1.2**
	comp=E,0.8nm,0.3s,baz=345,slow=7.9,SNR=9.0						
ATAH				LR	LR	08 04 15.6	
	comp=E,146nm,18.3s,baz=141,slow=41						
CPD	**Cerro la Pandu**	**15.83**	**48**	*e*Pn	**Pn**	**07 58 05.2**	**-6.0**
CPD				*e*Sn	**Sn**	**08 00 52.3**	**-14**
MTP	**Monte Pirata**	**16.13**	**48**	*e*Pn	**Pn**	**07 58 09.7**	**-5.4**
MTP				*e*Sn	**Sn**	**08 01 04.2**	**-10**
CMIG	**Matias Romero**	**18.92**	**302**	P	**Pn**	**07 58 48.4**	**-1.4**
	comp=E,0.2nm,0.3s,baz=12,slow=4.8,SNR=3.8						
CMIG				LR	LR	08 06 19.5	
	comp=E,273nm,19.8s,baz=110,slow=38						
SAML	**Samuel**	**22.12**	**137**	*e*P	**P**	**07 59 20.5**	**-3.4**
	comp=E,6.9nm,0.7s,mb4.2						
ARE	**Arequipa**	**24.72**	**165**	*e*P	**P**	**07 59 51.0**	**+1.3**
LPAZ	**La Paz**	**25.64**	**157**	P	**P**	**07 59 58.1**	**0.0**
	comp=E,4.7nm,0.8s,mb4.1,baz=323,slow=8.4,SNR=14						
LPAZ				LR	LR	08 10 53.8	
	comp=E,183nm,20.3s,MS3.6,baz=316,slow=39						
TKL	**Tuckaleechee C**	**28.47**	**350**	P	**P**	**08 00 25.7**	**+2.2**
	comp=E,2.6nm,0.7s,mb4.0,baz=194,slow=22,SNR=2.3						
TKL				LR	LR	08 10 01.7	
	comp=E,134nm,20.8s,MS3.5,baz=217,slow=33						
TKL	**Tuckaleechee C**	**28.47**	**350**	P	**P**	**08 00 25.7**	**+2.1**
TKL				LR	LR	08 10 01.7	
ELN	**Prospectdale**	**29.66**	**356**	*e*P	**P**	**08 00 34.0**	**-0.1**
WVT	**Waverly**	**29.82**	**344**	*e*P	**P**	**08 00 35.4**	**-0.1**
	comp=E,6.3nm,0.8s,mb4.4						
WCI	**Wyandotte Cave**	**31.45**	**348**	*e*P	**P**	**08 00 49.7**	**-0.2**
	comp=E,9.2nm,0.8s,mb4.7						
USIN	**University of**	**31.51**	**345**	*e*P	**P**	**08 00 50.6**	**+0.2**
	comp=E,56nm,0.8s						
FVM	**French Village**	**32.30**	**342**	*e*P	**P**	**08 00 57.9**	**+0.5**
	comp=E,13nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**32.38**	**315**	P	**P**	**08 00 59.0**	**+1.1**
	comp=E,1.3nm,0.7s,mb3.9,baz=136,slow=8.6,SNR=17						
BLO	**Bloomington**	**32.40**	**348**	*e*P	**P**	**08 00 58.7**	**+0.5**
	comp=E,29nm,0.8s,mb5.2						
CCM	**Cathedral Cave**	**32.63**	**341**	*e*P	**P**	**08 00 58.9**	**-1.4**
	comp=E,23nm,0.8s,mb5.2						
LPIG	**La Paz**	**34.95**	**302**	LR	LR	08 17 03.8	
	comp=E,71nm,18.4s,MS3.5,baz=167,slow=39						
MNTX	**Cornudas Mount**	**34.98**	**317**	*e*P	**P**	**08 01 21.1**	**+0.5**
	comp=E,2.9nm,0.8s,mb4.3						
JFWS	**Jewell Farm**	**36.83**	**345**	*e*P	**P**	**08 01 36.8**	**+0.3**
	comp=E,8.3nm,0.6s,mb4.7						
ANMO	**Albuquerque**	**37.71**	**320**	*e*P	**P**	**08 01 45.7**	**+1.7**
	comp=E,3.5nm,0.8s,mb4.1						
LAZ	**Ladron**	**37.80**	**319**	*e*P	**P**	**08 01 46.0**	**+1.2**
SDCO	**Great Sand Dun**	**38.99**	**325**	*e*P	**P**	**08 01 55.6**	**+0.9**
	comp=E,7.8nm,1.1s,mb4.3						
ECSD	**EROS,Sioux Fal**	**39.53**	**339**	*e*P	**P**	**08 01 57.8**	**-1.6**
	comp=E,2.3nm,0.6s,mb4.1						
CFAA	**Coronel Fontan**	**40.04**	**167**	P	**P**	**08 02 03.6**	**+0.1**
	comp=E,0.4nm,0.7s,mb3.3,baz=342,slow=7.4,SNR=10.0						
CFAA				LR	LR	08 19 53.3	
	comp=E,18nm,18.9s,MS2.9,baz=12,slow=38						
WUAZ	**Wupatki**	**41.26**	**317**	P	**P**	**08 02 14.7**	**+1.1**
PDAR	**Pinedale Array**	**44.68**	**327**	P	**P**	**08 02 41.5**	**+0.1**
	comp=E,1.6nm,0.8s,mb3.9,baz=126,slow=11,SNR=8.1						
PDAR				LR	LR	08 22 24.8	
	comp=E,90nm,19.3s,MS3.7,baz=358,slow=38						
DUG	**Dugway**	**44.92**	**322**	P	**P**	**08 02 43.3**	**+0.1**
	comp=E,2.9nm,0.9s,mb4.1						
ULM	**Lac du Bonnet**	**45.09**	**344**	P	**P**	**08 02 43.5**	**-1.0**
	comp=E,3.5nm,0.6s,mb4.3,baz=146,slow=8.5,SNR=7.7						
ULM				LR	LR	08 23 31.7	
	comp=E,63nm,19.7s,MS3.5,baz=320,slow=39						
REDW	**Red Top Meadow**	**45.79**	**327**	*e*P	**P**	**08 02 50.5**	**+0.4**
	comp=E,11nm,1.1s,mb4.7						
LOHW	**Long Hollow**	**45.82**	**327**	*e*P	**P**	**08 02 51.9**	**+1.6**
	comp=E,8.0nm,1.1s,mb4.6						
TPAW	**Teton Pass**	**45.92**	**327**	P	**P**	**08 02 51.3**	**+0.1**
	comp=E,4.9nm,0.9s,mb4.4						
MOOW	**Moose Ponds**	**45.98**	**327**	*e*P	**P**	**08 02 52.8**	**+1.2**
	comp=E,4.4nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**47.51**	**317**	P	**P**	**08 03 05.7**	**+2.1**
	comp=E,0.5nm,0.6s,mb3.8,baz=107,slow=7.9,SNR=4.2						
HLID	**Hailey**	**47.91**	**325**	*e*P	**P**	**08 03 07.8**	**+1.2**
	comp=E,3.4nm,0.8s,mb4.4						
SCHQ	**Schefferville**	**48.03**	**9**	P	**P**	**08 03 08.3**	**+0.7**
	comp=E,3.0nm,0.5s,mb4.5,baz=202,slow=11,SNR=9.2						
SCHQ				LR	LR	08 24 11.7	
	comp=E,85nm,19.8s,MS3.7,baz=175,slow=37						
SCHQ	**Schefferville**	**48.03**	**9**	P	**P**	**08 03 08.3**	**+0.7**
SCHQ				LR	LR	08 24 11.8	
WVOR	**Wild Horse Val**	**49.80**	**321**	*e*P	**P**	**08 03 21.4**	**+0.2**
	comp=E,5.0nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**60.96**	**342**	P	**P**	**08 04 40.6**	**-1.0**
	comp=E,1.9nm,0.7s,mb4.4,baz=131,slow=7.1,SNR=10						
MDT	**Midelt**	**72.11**	**58**	LR	LR	08 35 39.1	
	comp=E,39nm,18.1s,MS3.7,baz=310,slow=34						
ESDC	**Sonseca Array**	**73.05**	**51**	P	**P**	**08 05 59.3**	**+0.9**
	comp=E,0.3nm,0.3s,mb3.7,baz=150,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.45**	**78**	P	**P**	**08 06 28.9**	**-0.5**
	comp=E,1.3nm,0.5s,mb4.1,baz=282,slow=6.1,SNR=17						
GERES	**GERESS Array B**	**85.59**	**41**	P	**P**	**08 07 08.7**	**+1.8**
	comp=E,0.5nm,0.4s,mb4.1,baz=191,slow=41,SNR=4.6						
ARCES	**ARCESS Array B**	**87.73**	**20**	P	**P**	**08 07 16.4**	**-0.9**
	comp=E,2.3nm,0.8s,mb4.5,baz=282,slow=6.1,SNR=7.7						
ARCES				LR	LR	08 40 01.9	
	comp=E,40nm,20.4s,MS3.8,baz=65,slow=31						
ARCES	**ARCESS Array B**	**87.73**	**20**	P	**P**	**08 07 16.4**	**-0.9**
ARCES				LR	LR	08 40 01.9	
VNA2	**Neumayer--Watz**	**90.88**	**162**	*e*	**P**	**08 07 30.6**	**-1.5**
	baz=311,slow=4.9						
VNA2				*e*		08 07 36.1	
SNAA	**Sanae**	**92.51**	**162**	P	**P**	**08 07 37.4**	**-2.3**
	comp=E,0.4nm,0.5s,mb4.1,baz=290,slow=6.6,SNR=15						
SNAA	**Sanae**	**92.51**	**162**	*e*	**P**	**08 07 38.3**	**-1.4**
SNAA				*e*	pP	08 07 42.3	-0.7
AS31	**Alice Springs**	**145.35**	**239**	*e*PKPdf	PKPdf	08 14 07.0	+0.6
ASAR	**Alice Springs**	**145.35**	**239**	PKPbc	PKPbc	08 14 05.6	-0.6
	comp=E,1.5nm,0.6s,baz=119,slow=3.8,SNR=20						
WB2	**Warramunga Arr**	**146.21**	**245**	*e*PKPdf	PKPdf	08 14 08.8	+0.9
WRA	**Warramunga Arr**	**146.22**	**245**	PKPbc	PKPbc	08 14 08.2	-0.8
	comp=E,0.9nm,0.5s,baz=104,slow=3.4,SNR=20						

*GII **10** 08:03:21.8±0.6, 3248N×3558E, h0km±1km, ML2.8/7, Mw2.5/9*
*ISCJB **10** 08:03:22.6±0.4, 3248N±002×3562E±005, h10km, Error ellipse: s-maj=6.8km s-min=2.9km az=30.4*
*GRAL **10** 08:03:22.3±2.1, 3238N×3566E, h0km±11km, MD3.0*
*CSEM **10** 08:03:22.7±0.1, 3253N×3556E, h2km, Mw2.5, Error ellipse: s-maj=1.8km s-min=0.8km az=109.0*
ISC 10 08:03:23.3±0.4, 3248N±002×3559E±006, h10km, n23, σ0§92/31, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMLI	**Mount Malkishu**	**0.15**	**253**	Pg	**Pg**	**08 03 26.0**	**-0.7**
MMLI				Sg	**Sg**	**08 03 28.9**	**0.0**
HMDT	**Nahal Hemdat**	**0.24**	**194**	Pg	**Pg**	**08 03 27.4**	**-0.7**
SLTI	**Sal'it**	**0.53**	**243**	Pg	**Pg**	**08 03 32.7**	**-0.8**
SLTI				Sg	**Sg**	**08 03 41.4**	**+0.9**
KSHT	**Keshet**	**0.53**	**20**	Pg	**Pg**	**08 03 33.4**	**-0.2**
OFRI	**'Ofer**	**0.53**	**285**	Pg	**Pg**	**08 03 33.1**	**-0.5**
MMA0	**Mount Meron ar**	**0.56**	**343**	Pg	**Pg**	**08 03 33.4**	**-0.6**
HNTI	**Hanita**	**0.69**	**330**	Pg	**Pg**	**08 03 36.6**	**-0.1**
KSDI	**Kefar Szold**	**0.71**	**4**	Pg	**Pg**	**08 03 36.3**	**-0.7**
HRI	**Mount Hermon**	**0.79**	**9**	Pg	**Pg**	**08 03 37.9**	**-0.6**
DRGI	**Dragot**	**0.90**	**191**	Pg	**Pg**	**08 03 39.4**	**-1.3**
DRGI	**Dragot**	**0.90**	**191**	Pg	**Pg**	**08 03 39.3**	**-1.4**
RCY	**Rachaya**	**1.02**	**11**	*e*Pg	**Pg**	**08 03 41.4**	**-1.5**
RCY				*e*Sg	**Sg**	**08 03 56.5**	**+0.4**
MATL	**Matirih**	**1.03**	**348**	*e*P	**Pg**	**08 03 42.5**	**-0.6**
MZDA	**Masada**	**1.19**	**190**	Pg	**Pg**	**08 03 44.9**	**-1.1**
MZDA				Sg	**Sg**	**08 04 00.9**	**-0.5**
YTIR	**Yattir**	**1.19**	**200**	Pg	**Pg**	**08 03 45.1**	**-1.0**
BHL	**Bhannes**	**1.42**	**2**	*e*P	**Pn**	**08 03 49.0**	**-0.1**
BHL				*e*S	**Sn**	**08 04 10.5**	**+2.7**
HWQ	**Hawqa**	**1.81**	**9**	*e*P	**Pn**	**08 03 55.7**	**+1.1**
HWQ				*e*S	**Sn**	**08 04 18.9**	**+1.3**
KZIT	**Kziot**	**1.87**	**213**	Pn	**Pn**	**08 03 55.6**	**+0.3**
KZIT				Sn	**Sn**	**08 04 20.6**	**+1.6**
ZFRI	**Zfri**	**1.96**	**191**	Pn	**Pn**	**08 03 56.9**	**+0.5**
PRNI	**Paran**	**2.18**	**193**	Pn	**Pn**	**08 04 00.0**	**+0.4**
PRNI				Sn	**Sn**	**08 04 28.8**	**+2.1**
KMTI	**Karmit**	**2.48**	**198**	Pn	**Pn**	**08 04 04.2**	**+0.4**
HRFI	**Mount Harif**	**2.48**	**191**	Pn	**Pn**	**08 04 04.0**	**+0.3**
EIL	**Elat**	**2.86**	**191**	Pn	**Pn**	**08 04 09.5**	**+0.6**

*NEIC **10** 08:48:04.0±1.1, 593S×15134E, h10km, mb4.1/4, Error ellipse: s-maj=29.6km s-min=16.6km az=118.0*
*IDC **10** 08:48:03.5±1.5, 591S×15102E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/13, mbtmp3.8/6, Error ellipse: s-maj=55.8km s-min=24.1km az=93.0*
*ISCJB **10** 08:48:07.4±4.6, 60S±02×1514E±02, h52km±35km, mb3.9/8, Error ellipse: s-maj=39.8km s-min=24.5km az=27.1*
ISC 10 08:48:09.6±4.4, 60S±02×1513E±03, h55km±33km, n16, σ1§15/16, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**230**	*e*Pn	**Pn**	**08 49 26.5**	**-0.6**
	22nm,0.4s						
PMG				*e*Sn	**Sn**	**08 50 30.2**	**+2.7**
KAKA	**Kakadu**	**19.80**	**249**	*e*P	**Pn**	**08 52 35.9**	**-1.5**
	4.4nm,0.4s						
WRAB	**Tennant Creek**	**21.57**	**228**	P	**P**	**08 52 50.4**	**-4.0**
	8.9nm,1.4s,mb4.0						
WB2	**Warramunga Arr**	**21.57**	**228**	*e*P	**P**	**08 52 53.7**	**-0.8**
WRA	**Warramunga Arr**	**21.58**	**228**	P	**P**	**08 52 53.8**	**-0.8**
	1.4nm,0.8s,mb3.5,baz=51,slow=9.7,SNR=10.0						
AS31	**Alice Springs**	**24.31**	**222**	*e*P	**P**	**08 53 21.4**	**-0.5**
AS31				*e*S	**S**	**08 57 54.7**	**+18**
ASAR	**Alice Springs**	**24.31**	**222**	P	**P**	**08 53 21.4**	**-0.5**
	2.4nm,0.5s,mb3.9,baz=57,slow=8.8,SNR=56						
ASPA	**Alice Springs**	**24.31**	**222**	*e*P	**P**	**08 53 21.4**	**-0.5**
STKA	**Stephens Creek**	**27.34**	**198**	P	**P**	**08 53 49.1**	**-0.1**
	0.5nm,0.4s,mb3.4,baz=14,slow=15,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.82**	**242**	*e*P	**P**	**08 53 54.0**	**+0.4**
	6.3nm,0.4s,mb4.6						
SONM	**Songino Array**	**66.55**	**329**	P	**P**	**08 58 55.4**	**+1.6**
	1.4nm,0.8s,mb4.1,baz=138,slow=6.5,SNR=3.6						
VNDA	**Vanda**	**71.72**	**178**	P	**P**	**08 59 28.3**	**+2.5**
	0.2nm,0.4s,mb3.4,baz=351,slow=5.4,SNR=4.3						
VNDA	**Vanda**	**71.72**	**178**	*e*P	**P**	**08 59 27.7**	**+1.9**
	0.8nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**89.30**	**323**	P	**P**	**09 00 59.7**	**-0.2**
	0.5nm,0.4s,mb4.2,baz=108,slow=4.7,SNR=3.6						
BOSA	**Boshof**	**117.76**	**233**	*e*PKPdf	PKPdf	09 06 52.7	+3.1
TORD	**Torodi Ar. Bea**	**149.25**	**286**	PKPbc	PKPbc	09 07 52.5	+0.5
	2.1nm,0.6s,baz=50,slow=2.4,SNR=15						

IDC 10 08:50:42.4±3.0, 351S×10156E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=140.8km s-min=20.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.90**	**120**	P	P	08 57 44.5	+0.4
	1.0nm,0.3s,baz=308,slow=9.1,SNR=23						
WB2	**Warramunga Arr**	**35.91**	**120**	*e*P	P	08 57 44.1	-0.1
ASAR	**Alice Springs**	**37.11**	**126**	P	P	08 57 54.8	+0.2
	1.2nm,0.4s,baz=301,slow=8.1,SNR=29						
STKA	**Stephens Creek**	**46.99**	**132**	P	P	08 59 15.9	+0.7
	0.7nm,0.4s,baz=322,slow=12,SNR=5.3						
SONM	**Songino Array**	**51.31**	**4**	P	P	08 59 48.4	+0.1
	1.2nm,0.7s,baz=176,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**52.90**	**343**	P	P	09 00 00.3	+0.

comp=N,9μm,7.0s
TYV Tymovskoe 1.79 182 *e*Pg **Pn** **08 54 16.5 -2.2**
TYV AMB AMB 08 54 20.0
comp=N,600nm,2.0s
TYV AMB AMB 08 54 24.0
comp=N,890nm,0.8s
TYV *e*Sg **Sn** **08 54 39.2 -2.5**
TYV A 08 54 51.0
comp=N,6μm,5.0s
TYV A 08 54 51.0
comp=N,7μm,5.0s
TYV AMS AMS 08 55 43.0
comp=N,5μm,6.0s
TYV AMS AMS 08 55 43.0
comp=N,10μm,6.0s
TYV AMS AMS 08 55 43.0
comp=N,6μm,6.0s
UGL Uglegorsk 3.60 187 *e*Pg **Pb** **08 54 51.8 +0.5**
UGL AMB AMB 08 55 06.5
comp=N,160nm,0.7s
UGL AMB AMB 08 55 06.5
comp=N,190nm,0.7s
UGL AMB AMB 08 55 06.5
comp=N,360nm,0.7s
UGL AMB AMB 08 55 10.0
comp=N,600nm,3.0s
UGL *e*Sg **Sg** **08 55 43.7 +0.8**
UGL A 08 56 06.0
comp=N,500nm,0.7s
UGL A 08 56 06.0
comp=N,540nm,0.7s
UGL A 08 56 06.0
comp=N,320nm,0.7s
UGL Uglegorsk 3.60 187 PN **Pb** **08 54 54.0 +2.7**
UGL pmax pmax
comp=Z,359nm,0.7s
UGL pmax pmax
comp=N,159nm,0.6s
UGL pmax pmax
comp=E,191nm,0.6s
UGL pmax pmax
comp=Z,600nm,3.0s
GRNR Gornyy 4.37 247 *e*P **Pn** **08 54 50.5 -3.6**
GRNR AMB AMB 08 54 54.2
comp=Z,84nm,1.0s
GRNR *e*Pg **Pg** **08 55 08.5 -2.4**
GRNR *e*S **Sn** **08 55 40.5 -4.8**
GRNR *e*Sb **Sb** **08 55 46.0 -11**
GRNR *e*Sg **Sg** **08 56 08.0 +0.5**
GRNR A 08 56 09.0
comp=Z,1μm,1.0s
GRNR A 08 56 09.0
comp=Z,977nm,1.0s
GRNR A 08 56 09.0
comp=Z,945nm,1.0s
YSS Yuzh-Sakhalins 5.70 180 *e*P **Pn** **08 55 12.0 -0.4**
YSS AMB AMB 08 55 13.2
comp=Z,50nm,0.7s
YSS *e*Sb **Sn** **08 56 27.5 +9.3**
YSS AMS AMS 08 59 40.0
comp=Z,500nm,10.0s
YSS Yuzh-Sakhalins 5.70 180⇓ *e*PN **Pn** **08 55 12.0 -0.4**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=Z,700nm,10.0s
YSS Yuzh-Sakhalins 5.70 180 *e*Pn **Pn** **08 55 12.1 -0.3**
comp=Z,38nm,0.6s
EKMR Ekimchan 5.96 278 *e*P **Pn** **08 55 13.5 -2.5**
EKMR AMB AMB 08 55 24.5
comp=Z,20nm,0.5s
EKMR *e*Pg **Pg** **08 55 39.0 -2.3**
EKMR AMB AMB 08 55 44.5
comp=Z,12nm,0.5s
EKMR AMB AMB 08 55 44.5
comp=Z,38nm,0.5s
EKMR AMB AMB 08 55 44.5
comp=Z,59nm,0.5s
EKMR *e*S **Sn** **08 56 21.0 -3.5**
EKMR *e*Sg **Sg** **08 57 01.8 +3.3**
EKMR A 08 57 05.1
comp=Z,420nm,0.6s
EKMR A 08 57 05.1
comp=Z,230nm,0.6s
EKMR A 08 57 05.1
comp=Z,310nm,0.6s
KLR Kul'dur 7.75 248 *e*P **Pn** **08 55 40.9 +0.3**
KLR AMS AMS 08 58 41.8
comp=Z,2μm,9.0s
KLR AMS AMS 08 58 41.8
comp=Z,2μm,9.0s
KLR AMS AMS 08 58 41.8
comp=Z,4μm,9.0s
KLR Kul'dur 7.75 248 *e*PN **Pn** **08 55 40.8 +0.2**
KLR MLR MLR
comp=N,2μm,9.0s
KLR MLR MLR
comp=E,2μm,9.0s
KLR MLR MLR
comp=Z,4μm,9.0s
MA2 Magadan 8.25 30 *e*PN **Pn** **08 55 48.4 +0.9**
BMKR Bomnak 8.52 290 *e*P **Pn** **08 55 48.4 -2.7**
BMKR *e*Pg **Pn** **08 56 05.8 +15**
BMKR AMB AMB 08 56 06.9
comp=Z,10.0nm,0.5s
BMKR *e*S **Sn** **08 57 30.5 +3.0**
BMKR *e*Sg Sn 08 58 17.7 +50
BMKR A 08 58 24.6
comp=Z,94nm,0.9s
TEY Ternei 8.63 210 *e*S **Sn** **08 57 25.0 -5.3**
ZEA Zeya 9.38 283 *e*P **Pn** **08 56 02.3 -0.6**
ZEA AMB AMB 08 56 03.5
comp=Z,26nm,0.8s
ZEA AMS AMS 08 59 54.0
comp=Z,1μm,7.0s
ZEA AMS AMS 08 59 54.0
comp=Z,2μm,7.0s
ZEA AMS AMS 08 59 54.0
comp=Z,2μm,7.0s
KROS Kirovskiy 9.57 287 *e*P **Pn** **08 56 03.5 -2.0**
KROS AMB AMB 08 56 06.0
comp=Z,22nm,1.0s
KROS *e*S **Sn** **08 57 57.0 +3.6**
KROS *e*Sg Sn 08 58 49.9 +57
KROS A 08 58 58.7
comp=Z,140nm,1.0s
PET Petropavlovsk 9.63 81 *e*P **Pn** **08 56 06.8 +0.5**
PET AMB AMB 08 56 07.5
comp=Z,80nm,0.5s
PET *e*S **Sn** **08 57 54.3 -0.6**
PET A 08 57 58.6
comp=Z,88nm,1.4s
PET AMS AMS 09 00 51.3
comp=Z,260nm,13.0s
PET Petropavlovsk 9.63 81⇓ *i* PN **Pn** **08 56 06.8 +0.5**
PET pmax pmax
comp=Z,79nm,0.5s
PET MLR MLR
comp=Z,300nm,13.0s
PET Petropavlovsk 9.63 81 *e*Pn **Pn** **08 56 06.1 -0.2**
PET *e*Sn **Sn** **08 57 54.0 -0.9**
SEY Seymchan 11.50 23 *i* PN **Pn** **08 56 35.0 +3.0**
YAK Yakutsk 11.73 328 *e*PN **Pn** **08 56 34.3 -0.9**
YAK pmax pmax
comp=Z,57nm,1.2s
YAK pmax pmax
comp=N,51nm,1.4s
YAK pmax pmax
comp=E,37nm,1.6s
YAK MLR MLR
comp=Z,354nm,13.0s
YAK MLR MLR
comp=N,440nm,14.0s
YAK MLR MLR
comp=E,173nm,8.0s
YAK Yakutsk 11.73 328 *e*Pn **Pn** **08 56 35.0 -0.1**
comp=E,46nm,0.9s
MDJ Mudanjiang 11.84 232 P **Pn** **08 56 38.5 +1.9**
MDJ AP 08 56 43.8
MDJ XP 08 56 46.4
MDJ S **Sn** **08 58 52.0 +3.0**
MDJ PCP PcP 09 02 19.2 -5.4
MDJ SCP ScP 09 05 54.6 -3.3
MDJ SCS ScS 09 09 30.0 -3.6
MDJ AMB AMB
comp=Z,13nm,2.1s
MDJ AMB AMB
comp=Z,103nm,4.6s
MDJ LR LR
comp=N,1μm,8.2s
MDJ LR LR
comp=E,401nm,8.0s
MDJ LR LR
comp=Z,1μm,8.9s
MDJ Mudanjiang 11.84 232 *e*Pn **Pn** **08 56 35.0 -1.5**
CN2 Changchun 14.51 239 *e*P **Pn** **08 57 13.6 +0.5**
CN2 *e*XP sP 08 57 20.0 -2.3
CN2 *e*S **Sn** **08 59 54.0 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.5s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,10.0s
CN2 LR LR
comp=E,1μm,10.0s
CN2 LR LR
comp=Z,1μm,11.0s
HIA Hailar 14.88 266 *e*P **Pn** **08 57 15.9 -2.2**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 14.88 266 *e*Pn **Pn** **08 57 15.9 -2.2**
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 16.42 193 Pn **Pn** **08 57 40.0 +1.8**
comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=5.3
MJAR LR LR 09 03 04.4
comp=Z,227nm,19.6s,baz=15,slow=34
SNY Shenyang 16.88 238 ⇑P **Pn** **08 57 42.8 -1.3**
SNY AMB AMB
comp=Z,17nm,0.6s
SNY AMB AMB
comp=Z,103nm,7.1s
SNY LR LR
comp=N,680nm,7.2s
SNY LR LR
comp=E,559nm,9.9s
SNY LR LR
comp=Z,717nm,9.1s
CIT Chita 17.81 280 *e*P **Pn** **08 57 57.3 +1.6**
CIT pmax pmax
comp=Z,61nm,2.3s
KSRS Korea Array 18.40 220 P **Pn** **08 58 04.8 +1.9**
baz=32,slow=11,SNR=23
KSRS LR LR 09 05 02.2
comp=Z,232nm,19.2s,baz=17,slow=37
BILL Bilibino 19.11 27⇓ *e*P **Pn** **08 58 11.1 -0.5**
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL MLR MLR
comp=Z,200nm,13.0s
BILL Bilibino 19.11 27 *e*Pn **Pn** **08 58 09.7 -1.9**
comp=Z,6.9nm,0.7s
TIXI Tiksi 20.04 347 *e*P **P** **08 58 20.1 -0.8**
TIXI *e*S **S** **09 02 02.9 -3.5**
TIXI pmax pmax
comp=Z,36nm,1.0s
TIXI Tiksi 20.04 347 *e*P **P** **08 58 21.0 +0.1**
comp=Z,36nm,1.0s
DL2 Dalian 20.05 235 P **P** **08 58 16.8 -4.2**
DL2 *e*S **S** **09 02 00.8 -5.9**
DL2 AMB AMB
comp=Z,20nm,1.1s
DL2 AMB AMB
comp=Z,140nm,4.7s
DL2 LR LR
comp=N,400nm,10.1s,MS4.1
DL2 LR LR
comp=E,300nm,10.9s,MS4.1
DL2 LR LR
comp=Z,420nm,13.6s,MS4.0
JNU Nakatsue 21.32 208 P **P** **08 58 35.0 +0.2**
comp=Z,40nm,0.9s,mb4.8,baz=242,slow=20,SNR=7.9
JNU LR LR 09 06 54.8
comp=Z,274nm,18.3s,MS3.7,baz=130,slow=37
BJI Beijing 22.12 246 *e*P **P** **08 58 43.9 +0.6**
BJI S **S** **09 02 42.7 -4.7**
BJI AMB AMB
comp=Z,19nm,1.0s,mb4.5
BJI LR LR
comp=N,960nm,15.4s
BJI LR LR
comp=E,986nm,10.2s
BJI LR LR
comp=Z,347nm,17.3s,MS3.8
BJI Beijing 22.12 246 *e*P **P** **08 58 43.9 +0.6**
comp=Z,19nm,1.0s,mb4.5
BJI S **S** **09 02 42.7 -4.7**
BJI LR LR
comp=Z,350nm,17.3s,MS3.8
IRK Irkutsk 23.28 284 *e*P **P** **08 58 57.5 +1.8**
IRK *e*S 09 03 47.3
IRK pmax pmax
comp=Z,71nm,0.6s,mb5.3
SONM Songino Array 23.58 273 P **P** **08 58 59.4 +0.6**
comp=Z,1.6nm,0.8s,baz=58,slow=8.7,SNR=3.6
SONM PcP PcP 09 02 43.1 -0.6
comp=Z,1.4nm,0.8s,baz=140,slow=0.8,SNR=6.7
SONM LR LR 09 07 01.5
comp=Z,72nm,20.6s,MS3.1,baz=49,slow=34
SONM Songino Array 23.58 273 P **P** **08 58 59.4 +0.6**
SONM 09 02 43.1
SONM Songino Array 23.58 273 P **P** **08 58 59.4 +0.6**
SONM PcP PcP 09 02 43.1 -0.6
SONM LR LR 09 07 01.5
TLY Talaya 23.82 283 *e*P **P** **08 59 02.4 +1.4**
TLY *e*S **S** **09 03 15.0 -1.9**
TLY pmax pmax
comp=Z,66nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,286nm,13.0s,MS3.9
TLY Talaya 23.82 283 *e*P **P** **08 59 02.0 +1.1**
comp=Z,74nm,1.2s,mb5.0
HHC Hu-ho-hao-te 24.21 253 *e*P **P** **08 59 03.5 -1.1**
HHC AP 08 59 08.1
HHC XP sP 08 59 11.1 +4.0
HHC PP 08 59 38.7
HHC PCP PcP 09 02 45.2 +0.2
HHC S **S** **09 03 18.8 -4.6**
HHC SS 09 04 11.0
HHC SCP ScP 09 06 21.0 -3.1
HHC PCS PcS 09 06 24.3 -0.5
HHC AMB AMB
comp=Z,15nm,1.3s,mb4.3
HHC AMB AMB
comp=Z,98nm,5.3s
HHC LR LR
comp=N,641nm,10.3s,MS4.5
HHC LR LR
comp=E,599nm,11.1s,MS4.5
HHC LR LR
comp=Z,975nm,10.4s,MS4.6
ZAK Zakamensk 24.46 281 *e*P **P** **08 59 07.9 +1.0**
ZAK pmax pmax
comp=Z,22nm,1.1s,mb4.5
MOY Mondy 25.39 285 *e*P **P** **08 59 16.9 +1.6**
MOY pmax pmax
comp=Z,50nm,1.1s,mb5.0
SSE Sheshan 26.68 225 P **P** **08 59 26.8 -0.1**
SSE XP sP 08 59 31.2 +1.8
SSE S **S** **09 03 59.2 -3.4**
SSE XS sS 09 04 04.8 -0.7
SSE AMB AMB
comp=Z,33nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,55nm,3.8s
SSE Sheshan 26.68 225 P **P** **08 59 26.8 -0.1**
comp=Z,33nm,0.9s,mb4.9
SSE sP sP 08 59 31.2 +1.8
SSE S **S** **09 03 59.2 -3.4**
SSE sS sS 09 04 04.8 -0.7
SSE LR LR
comp=Z,70nm,15.9s,MS3.3
NJ2 Nanjing 26.90 230 *e*P **P** **08 59 23.8 -5.2**
NJ2 PP 09 00 08.2
NJ2 S **S** **09 03 56.2 -10**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,160nm,4.4s
NJ2 LR LR
comp=N,710nm,19.6s
NJ2 LR LR
comp=E,500nm,10.2s
NJ2 LR LR
comp=Z,800nm,12.2s
LZH Lanzhou 31.90 254 *e*P **P** **09 00 17.5 +4.2**
LZH AP pP 09 00 20.7 +5.6
LZH XP sP 09 00 22.5 +6.7
LZH *e*PP PP 09 01 23.4 -1.9
LZH *e*S **S** **09 05 26.8 +2.2**
LZH XS sS 09 05 32.5 +5.0
LZH *e*SS SS 09 07 17.6 -24
LZH AMB AMB
comp=Z,23nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,83nm,5.4s
LZH LR LR
comp=N,546nm,13.2s
LZH LR LR
comp=Z,989nm,17.5s,MS4.5
LZH Lanzhou 31.90 254 *e*P **P** **09 00 17.5 +4.2**
LZH *PP pP 09 00 20.7 +5.6
LZH *SP sP 09 00 22.5 +6.7
LZH *e* 09 01 23.4
LZH *e*S **S** **09 05 26.8 +2.2**
LZH *SS sS 09 05 32.5 +5.0
LZH *e*SS SS 09 07 17.6 -24
LZH pmax pmax
comp=Z,23nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,990nm,17.5s,MS4.5
LZH Lanzhou 31.90 254 *e*P **P** **09 00 17.5 +4.2**
comp=Z,23nm,1.5s,mb4.8
LZH pP pP 09 00 20.7 +5.6
LZH sP sP 09 00 22.5 +6.7
LZH *e*PP PP 09 01 23.4 -1.9
LZH *e*S **S** **09 05 26.8 +2.2**
LZH sS sS 09 05 32.5 +5.0
LZH *e*SS SS 09 07 17.6 -24
LZH LR LR
comp=Z,990nm,17.5s,MS4.5
GTA Gaotai 32.12 263 *e*P **P** **09 00 17.2 +1.9**
GTA AP pP 09 00 21.6 +4.5
GTA XP sP 09 00 23.7 +5.9
GTA PP PP 09 01 23.3 -4.5
GTA S **S** **09 05 28.9 +0.8**
GTA XS sS 09 05 36.1 +5.1
GTA SS SS 09 07 21.8 -24
GTA AMB AMB
comp=Z,11nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,118nm,4.9s
GTA LR LR
comp=N,518nm,16.3s,MS4.4
GTA LR LR
comp=E,359nm,16.0s,MS4.4
GTA LR LR
comp=Z,354nm,11.0s,MS4.3
YHNB Yeheng 32.30 218 *e*P **P** **09 00 15.9 -0.9**
ZAL Zalesovo 33.84 296 P **P** **09 00 29.8 -0.6**
comp=Z,1.0nm,0.4s,mb4.1,baz=57,slow=9.8,SNR=4.0
ZAL PcP PcP 09 03 09.1 -0.1
comp=Z,1.4nm,0.7s,baz=27,slow=7.8,SNR=5.0
ZAL LR LR 09 15 56.7
comp=Z,93nm,19.4s,MS3.5,baz=265,slow=39
ZAL Zalesovo 33.84 296 P **P** **09 00 29.8 -0.5**
ZAL 09 03 09.1
ZAL Zalesovo 33.84 296 P **P** **09 00 29.8 -0.6**
ZAL PcP PcP 09 03 09.1 -0.1
ZAL LR LR 09 15 56.7
NVS Novosibirsk 34.35 298 *e*P **P** **09 00 33.0 -1.8**
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=Z,23nm,1.4s,mb4.9
NVS pmax pmax
comp=E,21nm,1.5s
CD2 Chengdu 35.68 248 *e*P **P** **09 00 45.6 -0.6**
CD2 AP pP 09 00 50.0 +2.0
CD2 XP sP 09 00 52.8 +4.0
CD2 PP PP 09 02 06.0 -1.2
CD2 S **S** **09 06 20.4 -2.8**
CD2 SS SS 09 08 39.7 -19
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,8.8s
CD2 LR LR
comp=N,360nm,17.8s,MS4.3
CD2 LR LR
comp=E,320nm,15.6s,MS4.3
CD2 LR LR
comp=Z,210nm,14.6s,MS4.0
MCK McKinley 35.87 45 *e*P **P** **09 00 47.7 -0.2**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MCK McKinley 35.87 45 *e*P **P** **09 00 47.7 -0.2**
comp=Z,4.7nm,0.9s,mb4.4
COLA College 36.04 43 *e*P **P** **09 00 47.1 -2.2**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
COLA College 36.04 43 *e*P **P** **09 00 47.1 -2.2**
comp=Z,3.2nm,0.7s,mb4.4
WMQ Urumqi 36.90 279 ⇑P **P** **09 00 57.0 +0.3**
WMQ AP pP 09 01 01.5 +3.0
WMQ XP sP 09 01 04.0 +4.8
WMQ PP PP 09 02 23.0 +2.4
WMQ PPP 09 02 43.0
WMQ *e*S **S** **09 06 41.0 -0.8**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.7
WMQ LR LR
comp=N,214nm,16.0s,MS4.0
WMQ LR LR
comp=E,66nm,17.0s,MS4.0
WMQ LR LR
comp=Z,100nm,15.0s,MS3.7
GYA Guiyang 37.56 240⇑ *i* P **P** **09 01 02.8 +0.6**
GYA XP sP 09 01 09.8 +5.0
GYA PP PP 09 02 30.6 +2.8
GYA PCP PcP 09 03 22.4 +2.2
GYA S **S** **09 06 52.3 +0.5**
GYA SCP ScP 09 07 08.7 +0.7
GYA SCS ScS 09 11 15.5 -0.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,410nm,17.6s,MS4.5
GYA LR LR
comp=E,450nm,17.2s,MS4.5
GYA LR LR
comp=Z,430nm,17.0s,MS4.3
MK31 Makanchi Array 38.51 286 *e*P **P** **09 01 10.6 +0.3**
MKAR Makanchi Array 38.51 286 P **P** **09 01 10.9 +0.6**
comp=Z,7.1nm,0.8s,mb4.5,baz=61,slow=8.2,SNR=38
MKAR PcP PcP 09 03 22.6 -0.6
comp=Z,1.5nm,0.8s,baz=57,slow=4.5,SNR=4.0
MKAR LR LR 09 19 17.2
comp=Z,24nm,20.8s,MS3.0,baz=13,slow=40
MKAR Makanchi Array 38.51 286 *i* P **P** **09 01 10.6 +0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 38.64 294*c* *i* P **P** **09 01 11.8 +0.4**
KURK Kurchatov 38.64 294 *e*P **P** **09 01 11.3 -0.1**
comp=Z,14nm,0.8s,mb4.8
EGAK Eagle 38.81 42 *e*P **P** **09 01 11.9 -0.8**
comp=Z,13nm,0.9s,mb4.7
INK Inuvik 40.46 35 *e*P **P** **09 01 25.1 -1.4**
comp=Z,169nm,1.0s,mb5.7
KMI Kunming 40.73 243 P **P** **09 01 28.9 +0.1**
KMI AP pP 09 01 32.1 +1.5
KMI XP sP 09 01 34.7 +3.4
KMI PP PP 09 03 09.2 +6.7
KMI S **S** **09 07 39.8 +0.2**
KMI SS SS 09 10 34.1 -5.9
KMI SSS 09 11 09.7
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.6
KMI AMB AMB
comp=Z,65nm,3.5s
KMI LR LR
comp=N,216nm,15.8s,MS4.3
KMI LR LR
comp=E,202nm,14.6s,MS4.3
KMI LR LR

comp=Z,156nm,12.3s,MS4.1
KMI Kunming 40.73 243 P P 09 01 28.9 +0.1
KMI *PP pP 09 01 32.1 +1.5
KMI *SP sP 09 01 34.7 +3.4
KMI 09 03 09.2
KMI S S 09 07 39.8 +0.2
KMI SS SS 09 10 34.1 -5.9
KMI SSS 09 11 09.7
KMI pmax pmax
comp=Z,12nm,0.7s,mb4.6
KMI MLR MLR
comp=Z,160nm,12.3s,MS4.1
KMI Kunming 40.73 243 P P 09 01 28.9 +0.1
comp=Z,12nm,0.7s,mb4.6
KMI pP pP 09 01 32.1 +1.5
KMI sP sP 09 01 34.7 +3.4
KMI PP PP 09 03 09.2 +6.7
KMI S S 09 07 39.8 +0.2
KMI SS SS 09 10 34.1 -5.9
KMI SSS 09 11 09.7
KMI LR LR
comp=Z,160nm,12.3s,MS4.1
CHKZ Chkalovo 41.54 301 *eP* P 09 01 34.9 -0.5
CHKZ pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
CHKZ Chkalovo 41.54 301 *eP* P 09 01 34.9 -0.5
comp=Z,3.6nm,0.4s,mb4.3
VOSK Vostochnaya 41.82 300 P P 09 01 37.6 -0.1
VOSK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
BVA0 Borovoye Array 41.98 301 *i* P P 09 01 39.1 +0.1
BVA0 pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
BVAR Borovoye Array 41.98 301 P P 09 01 39.5 +0.5
comp=Z,3.7nm,0.7s,mb4.2,baz=52,slow=7.2,SNR=18
BVAR PcP PcP 09 03 34.1 -0.1
comp=Z,3.7nm,0.7s,baz=57,slow=5.5,SNR=8.1
BRVK Borovoye 42.02 301 *eP* P 09 01 39.0 -0.3
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BRVK Borovoye 42.02 301 *eP* P 09 01 39.0 -0.4
comp=Z,3.3nm,0.6s,mb4.1
LSA Lhasa 43.94 259 *eP* P 09 01 54.9 0.0
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LSA Lhasa 43.94 259 *eP* P 09 01 54.9 0.0
comp=Z,5.9nm,0.6s,mb4.5
AAK Ala-Archa 45.44 286 *eP* P 09 02 05.9 -1.0
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 45.44 286 *eP* P 09 02 05.9 -1.0
comp=Z,4.7nm,0.7s,mb4.4
ARU Arti 46.09 310⇓ *iP* P 09 02 11.7 -0.3
ARU *e* 09 03 58.9
ARU *eS* S 09 08 58.3 +0.3
ARU *eSS* SS 09 12 21.4 -1.6
ARU pmax pmax
comp=Z,18nm,1.7s,mb4.7
RES Resolute Bay 47.33 18 *eP* P 09 02 19.8 -2.0
comp=Z,382nm,0.9s
KK31 Karatay Array 47.47 289 *i* P P 09 02 23.2 +0.3
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KKAR Karatay Array 47.47 289 P P 09 02 23.2 +0.3
CHTO Chiang Mai 47.88 242 *eP* P 09 02 26.2 +0.1
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHTO Chiang Mai 47.88 242 *eP* P 09 02 26.2 +0.2
comp=Z,4.0nm,0.8s,mb4.5
GUN Gumba 48.41 262 *eP* P 09 02 30.9 +0.8
KKN Kakani 48.86 263 *eP* P 09 02 34.6 +1.0
PKI Pulchoki 48.94 262 *eP* P 09 02 35.2 +1.0
GKN Gorkha 49.09 263 *eP* P 09 02 36.1 +0.7
comp=Z,24nm,0.6s,mb5.4
DMN Daman 49.09 263 *eP* P 09 02 36.5 +1.1
comp=Z,11nm,0.7s,mb5.0
KEV Kevo 49.37 336 *ep* P 09 02 34.5 -3.0
comp=Z,10nm,0.7s,mb5.0
KEV Kevo 49.37 336 *eP* P 09 02 34.5 -3.0
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
AB31 Akbulak array 49.54 301 P P 09 02 38.7 -0.1
AB31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KOLN Koldanda 49.89 264 *eP* P 09 02 42.1 +0.7
comp=Z,9.6nm,0.7s,mb4.9
ARCES ARCESS Array B 49.90 336 P P 09 02 40.7 -0.8
comp=Z,4.8nm,0.8s,mb4.6,baz=48,slow=3.6,SNR=8.9
ARCES PcP PcP 09 03 58.5 -3.4
comp=Z,2.4nm,0.8s,baz=162,slow=9.8,SNR=7.9
ARCES LR LR 09 29 02.9
comp=Z,56nm,19.1s,MS3.6,baz=216,slow=42
ARCES ARCESS Array B 49.90 336 P P 09 02 40.7 -0.8
ARCES 09 03 58.5
ARCES ARCESS Array B 49.90 336 P P 09 02 40.7 -0.8
ARCES PcP PcP 09 03 58.5 -3.4
ARCES LR LR 09 29 02.9
YKA Yellowknife Ar 50.18 36 P P 09 02 43.2 -0.4
comp=Z,2.1nm,1.0s,mb4.1,baz=306,slow=6.7,SNR=4.8
YKA LR LR 09 26 32.0
comp=Z,48nm,20.4s,MS3.5,baz=210,slow=39
YKA Yellowknife Ar 50.18 36 P P 09 02 43.2 -0.4
YKA LR LR 09 26 32.0
FINES FINESS Array B 55.67 329 P P 09 03 24.2 0.0
comp=Z,7.2nm,0.7s,mb4.8,baz=40,slow=9.9,SNR=16
FINES LR LR 09 30 08.3
comp=Z,58nm,18.4s,MS3.7,baz=338,slow=39
FINES FINESS Array B 55.67 329 P P 09 03 24.2 0.0
FINES LR LR 09 30 08.3
OBN Obninsk 56.54 319 *i* P P 09 03 29.0 -1.4
OBN *eS* S 09 11 18.2 -4.1
OBN pmax pmax
comp=Z,15nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.9
POHA Pohakuloa 57.42 100 *eP* P 09 03 36.1 -0.5
comp=Z,89nm,1.0s,mb5.8
NEW Newport 58.77 50 *eP* P 09 03 46.1 0.0
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 58.77 50 *eP* P 09 03 46.1 -0.1
comp=Z,4.6nm,1.1s,mb4.4
WALA Waterton Lakes 59.68 48 *eP* P 09 03 50.1 -2.3
comp=Z,3.7nm,0.7s,mb4.5
NB2 NORSAR Subarra 60.26 335 P P 09 03 56.1 -0.3
comp=Z,9.5nm,0.7s,mb4.9,baz=32,slow=6.9
NOA NORSAR Array B 60.26 335 P P 09 03 56.3 -0.1
comp=Z,7.4nm,0.7s,mb4.8,baz=32,slow=6.7,SNR=17
NOA LR LR 09 35 58.7
comp=Z,13nm,20.8s,MS3.0,baz=310,slow=42
KIV Kislovodsk 61.87 306 *i* P P 09 04 08.5 +1.2
KIV *i* 09 04 42.5
KIV *e* 09 06 23.1
KIV pmax pmax
comp=Z,14nm,0.5s,mb5.3
KIV Kislovodsk 61.87 306 *eP* P 09 04 05.4 -1.9
comp=Z,34nm,1.0s,mb5.4
EGMT Eagleton 62.30 46 *eP* P 09 04 10.2 -0.1
comp=Z,5.9nm,0.7s,mb4.8
AKASG Malin Array Be 62.79 319 P P 09 04 12.9 -0.6
comp=Z,11nm,0.7s,mb5.1,baz=36,slow=7.3,SNR=33
KIEV Kiev 62.80 319 *eP* P 09 04 12.2 -1.4
KIEV pmax pmax
comp=Z,16nm,1.1s,mb5.1
KIEV Kiev 62.80 319 *eP* P 09 04 12.2 -1.3
comp=Z,16nm,1.1s,mb5.1
DLMT Dillon 63.02 50 *eP* P 09 04 15.7 +0.7
comp=Z,11nm,0.8s,mb5.0
MCMT McKenzie Canyo 63.30 50 *eP* P 09 04 16.8 0.0
HLID Hailey 63.50 52 *eP* P 09 04 18.8 +0.6
ANN Anapa 63.76 310 *eP* P 09 04 22.8 +2.9
ANN *e*PP pP 09 04 29.4 +7.6
ANN *e* 09 04 58.1
ANN *e* 09 06 44.1
ANN *eS* S 09 13 00.4 +5.3
ANN pmax pmax
comp=Z,119nm,0.9s
QLMT Earthquake Lak 63.96 50 *eP* P 09 04 21.1 -0.2
RLMT Red Lodge 64.73 48 *eP* P 09 04 27.2 +0.9
comp=Z,5.6nm,0.6s,mb4.8
FLWY Flagg Ranch 64.87 50 *eP* P 09 04 30.2 +3.0
MOOW Moose Ponds 65.10 50 *eP* P 09 04 30.1 +1.4
comp=Z,3.8nm,0.9s,mb4.4
RRI2 Red Ridge 65.14 51 *eP* P 09 04 29.4 +0.5
comp=Z,7.6nm,0.7s,mb4.8

TPAW Teton Pass 65.20 50 *eP* P 09 04 30.5 +1.2
comp=Z,6.3nm,0.9s,mb4.7
LOHW Long Hollow 65.27 50 *eP* P 09 04 30.9 +1.1
comp=Z,5.6nm,0.8s,mb4.7
LVV L'vov 65.52 321 *eP* P 09 04 30.9 -0.5
LVV *e* 09 05 09.1
ULM Lac du Bonnet 66.15 37 P P 09 04 34.6 -0.8
comp=Z,7.6nm,0.7s,mb4.8,baz=311,slow=6.5,SNR=10
KWP Kalwaria 66.17 322 *eP* P 09 04 36.3 +0.7
HWUT Hardwe Ranch 66.35 52 *eP* P 09 04 36.6 -0.2
comp=Z,5.5nm,0.7s,mb4.7
BW06 Boulder Array 66.41 50 *eP* P 09 04 37.5 +0.4
comp=Z,3.8nm,0.6s,mb4.6
PDAR Pinedale Array 66.41 50 P P 09 04 37.5 +0.3
comp=Z,4.2nm,0.6s,mb4.7,baz=6.7,slow=2.1,SNR=35
PDAR LR LR 09 33 29.5
comp=Z,46nm,19.4s,MS3.7,baz=174,slow=36
OJC Ojcow 66.75 324 *eP* P 09 04 39.6 +0.3
BURAR Bucovina Array 66.84 319⇑ *iP* P 09 04 40.3 +0.4
BURAR Bucovina Array 66.84 319⇑ *iP* P 09 04 40.2 +0.3
RUE Ruedersdorf 66.86 329 *eP* P 09 04 40.5 +0.5
comp=Z,20nm,0.9s,mb5.2
STHS Stebnicka Huta 66.89 323 *eP* P 09 04 41.5 +1.3
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
STHS Stebnicka Huta 66.89 323 *eP* P 09 04 41.5 +1.3
comp=Z,8.1nm,1.0s,mb4.7
KOLS Kolonicke sedl 66.91 322 *eP* P 09 04 39.9 -0.4
NIE Niedzica 67.23 323 *eP* P 09 04 43.0 +0.6
CRVS Cervenica-Dubn 67.23 322 *eP* P 09 04 41.9 -0.5
OKC Ostrava-Krasne 67.65 325 *eP* P 09 04 45.4 +0.3
UPC Upice 67.82 326 *eP* P 09 04 46.6 +0.5
RSSD Black Hills 67.84 46 *eP* P 09 04 45.8 -0.4
RSSD pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
RSSD Black Hills 67.84 46 *eP* P 09 04 45.8 -0.5
comp=Z,1.3nm,0.6s,mb4.1
DPC Dobruska-Polom 67.85 326 *eP* P 09 04 47.0 +0.7
MORC Moravsky Berou 67.92 325⇑ *iP* P 09 04 47.6 +0.9
MORC Moravsky Berou 67.92 325 *eP* P 09 04 46.7 0.0
MORC pmax pmax
comp=Z,18nm,0.9s,mb5.1
MORC Moravsky Berou 67.92 325 *eP* P 09 04 46.7 0.0
comp=Z,16nm,0.9s,mb5.1
KECS Kecovo 67.94 323 *eP* P 09 04 47.2 +0.3
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KECS Kecovo 67.94 323 *eP* P 09 04 47.2 +0.3
comp=Z,3.0nm,0.8s,mb4.4
LIKS Likavka 67.97 324 *eP* P 09 04 47.7 +0.6
LIKS pmax pmax
comp=Z,36nm,0.9s,mb5.4
LIKS Likavka 67.97 324 *eP* P 09 04 47.7 +0.6
comp=Z,36nm,0.9s,mb5.4
CLL Collm 68.12 329 *eP* P 09 04 47.3 -0.7
comp=Z,27nm,0.8s,mb5.3
CLL Collm 68.12 329⇓ *iP* P 09 04 47.6 -0.4
CLL pmax pmax
comp=Z,27nm,0.8s,mb5.3
CLL Collm 68.12 329⇓ *iP* P 09 04 47.6 -0.4
comp=Z,27nm,0.8s,mb5.3
BRG Berggiesshubel 68.19 328 *eP* P 09 04 48.3 -0.1
comp=Z,33nm,1.9s,mb5.0
BRG Berggiesshubel 68.19 328 *eP* P 09 04 48.3 -0.1
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MLR Muntele Rosu 68.27 317 P P 09 04 49.8 +0.8
comp=Z,6.1nm,0.7s,mb4.7,baz=273,slow=16,SNR=8.9
MLR Muntele Rosu 68.27 317⇓ *iP* P 09 04 50.4 +1.5
MLR Muntele Rosu 68.27 317 P P 09 04 49.8 +0.9
MLR pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 68.27 317⇓ P P 09 04 50.4 +1.5
PVCC Panska Ves 68.28 327 *eP* P 09 04 49.6 +0.6
FBE Freiberg 68.34 328 *eP* P 09 04 49.5 +0.1
comp=Z,15nm,1.0s,mb5.0
CLZ Clausthal 68.47 330 *eP* P 09 04 50.3 +0.1
comp=Z,33nm,1.5s,mb5.1
CLZ Clausthal 68.47 330 *eP* P 09 04 50.3 +0.1
CLZ pmax pmax
comp=Z,33nm,1.5s,mb5.1
DRGR 68.50 320⇓ *iP* P 09 04 51.0 +0.6
DRGR 68.50 320⇓ P P 09 04 51.0 +0.7
VYHS Vyhne 68.54 324 *eP* P 09 04 51.2 +0.6
VYHS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
VYHS Vyhne 68.54 324 *eP* P 09 04 51.2 +0.6
comp=Z,7.8nm,1.3s,mb4.5
PSZ Piszkesteto 68.63 323 *eP* P 09 04 50.4 -0.8
PSZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PSZ Piszkesteto 68.63 323 *eP* P 09 04 50.4 -0.8
comp=Z,5.7nm,0.6s,mb4.7
VRAC Vranov 68.64 325⇓ *iP* P 09 04 52.5 +1.2
VRAC Vranov 68.64 325 ⇓P P 09 04 52.5 +1.2
VOIR 68.68 318⇓ *iP* P 09 04 52.6 +1.1
VOIR 68.68 318 ⇓P P 09 04 52.6 +1.2
PRU Pruhonice 68.76 327 *eP* P 09 04 52.7 +0.7
WERD Werda 69.08 329 *eP* P 09 04 54.0 0.0
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 69.13 329 *eP* P 09 04 54.3 0.0
comp=Z,10.0nm,1.2s,mb4.6
GUNZ Gunzen 69.15 329 *eP* P 09 04 54.9 +0.5
comp=Z,36nm,2.0s,mb5.0
WERN Wernitzgruen 69.20 328 *eP* P 09 04 55.1 +0.4
comp=Z,9.0nm,0.8s,mb4.8
NKC Novy Kostel 69.23 328 *eP* P 09 04 55.0 +0.1
BR131 Keskin Array S 69.46 309 *eP* P 09 04 56.4 0.0
comp=Z,5.7nm,0.9s,mb4.5
BRTR Keskin Array B 69.46 309 P P 09 04 57.1 +0.8
comp=Z,4.9nm,0.9s,mb4.4,baz=37,slow=5.0,SNR=13
GZR Gura Zlata 69.63 319⇓ *iP* P 09 04 57.7 +0.3
ROTZ Rotzenmuhle 69.71 328 *eP* P 09 04 58.2 +0.3
comp=Z,14nm,1.2s,mb4.8
KHC Kasperske Hory 69.81 327 *eP* P 09 04 59.1 +0.6
KHC Kasperske Hory 69.81 327⇑ *eP* P 09 04 59.0 +0.5
GEC2 GERESS Array S 70.02 327 *eP* P 09 04 59.5 -0.3
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 70.02 327 *eP* P 09 04 59.5 -0.3
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 70.02 327 P P 09 05 00.3 +0.5
comp=Z,2.6nm,0.6s,mb4.3,baz=34,slow=5.0,SNR=19
WET Wettzell 70.03 328 *eP* P 09 05 00.5 +0.6
comp=Z,20nm,1.2s,mb4.9
WET Wettzell 70.03 328 *eP* P 09 05 00.5 +0.6
WET pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRA1 Grafenberg Arr 70.09 329 *eP* P 09 05 00.6 +0.4
comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 70.09 329 *eP* P 09 05 00.6 +0.4
comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 70.09 329 *eP* P 09 05 00.6 +0.4
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 70.09 329 *eP* P 09 05 00.6 +0.4
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRFO Grafenberg 70.09 329 *eP* P 09 04 52.6 -7.6
GRFO pmax pmax
comp=Z,16nm,0.6s,mb5.1
GRFO Grafenberg 70.09 329 *eP* P 09 04 52.6 -7.6
comp=Z,16nm,0.6s,mb5.1
SMCO Snowmass 70.44 51 *eP* P 09 05 02.9 +0.5
comp=Z,4.7nm,0.7s,mb4.5
PERS Pernice 71.44 325 *i* P P 09 05 09.0 +0.6
PERS *i* 09 05 16.0
GIVF Givet 71.62 333 *eP* P 09 05 09.1 -0.4
GRUS Gruza 71.69 320 *i* P P 09 05 09.4 -0.6
VTS Vitosha 71.77 317⇓ *iP* P 09 05 11.4 +0.9
VTS Vitosha 71.77 317 ⇓P P 09 05 11.4 +0.9
DIVS Divcibare 71.80 320 *i* P P 09 05 10.5 -0.1
BAIF Baives 71.83 333 *eP* P 09 05 10.3 -0.5
FITZ Fitzroy Crossi 72.00 197 *eP* P 09 05 12.2 +0.4
comp=Z,12nm,0.9s,mb4.8
BFO Black Forest 72.19 330 *eP* P 09 05 12.4 -0.5
comp=Z,19nm,1.4s,mb4.8
BFO Black Forest 72.19 330 *eP* P 09 05 12.4 -0.5
BFO pmax pmax
comp=Z,19nm,1.4s,mb4.8
BBLS Bajina Basta - 72.22 321 *i* P P 09 05 14.1 +0.9
SDCO Great Sand Dun 72.27 51 *eP* P 09 05 14.3 +0.9
ROBS Robic 72.34 326 *i* P P 09 05 12.9 -0.9
ROBS *i* 09 05 22.9
BOJS Bojanci 72.37 324 *eP* P 09 05 14.2 +0.2
BOJS *e* 09 05 23.1
CDF Champ du Feu 72.43 331⇑ *iP* P 09 05 14.2 -0.2
comp=Z,15nm,0.8s,mb4.7
CDF Champ du Feu 72.43 331⇑ *iP* P 09 05 14.2 -0.2
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 72.43 331⇑ *iP* P 09 05 14.2 -0.2
comp=Z,7.3nm,0.8s,mb4.7
CTAO Charters Tower 72.49 177 *eP* P 09 05 14.1 -0.6
CTAO pmax pmax
comp=Z,12nm,1.1s,mb4.7
CTAO Charters Tower 72.49 177 *eP* P 09 05 14.1 -0.7
comp=Z,12nm,1.1s,mb4.8
WRAB Tennant Creek 72.64 188*c iP* P 09 05 15.2 -0.5
WB2 Warramunga Arr 72.65 188⇑ *iP* P 09 05 15.0 -0.7
WRA Warramunga Arr 72.65 188 P P 09 05 15.1 -0.6
comp=Z,5.4nm,0.7s,mb4.6,baz=5.5,slow=6.3,SNR=51
MEZF Maizieres J'vi 73.00 332 *eP* P 09 05 18.0 +0.2
HAU Haudompre 73.07 331 *eP* P 09 05 17.8 -0.4
HAU *eR*
comp=Z,65nm,19.2s
HAU Haudompre 73.07 331 *eP* P 09 05 17.8 -0.4
HAU LR LR
comp=Z,70nm,19.3s,MS4.0
HINF Hinteralfeld 73.09 331 *eP* P 09 05 17.6 -0.7
ANMO Albuquerque 74.06 53 *eP* P 09 05 24.5 +0.5
comp=Z,0.7nm,0.5s,mb3.9
FLN La Foliniere 74.24 336 *eP* P 09 05 24.4 -0.7
FLN *eR*
comp=Z,52nm,18.2s
FLN La Foliniere 74.24 336 *eP* P 09 05 24.4 -0.7
FLN LR LR
comp=Z,50nm,18.3s,MS3.8
LDF La Druitiere 74.31 335 *eP* P 09 05 24.8 -0.7
CABF La Chapelle 74.40 331 *eP* P 09 05 25.8 -0.2
comp=Z,7.6nm,0.8s,mb4.4
CABF La Chapelle 74.40 331 *eP* P 09 05 25.8 -0.2
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CABF La Chapelle 74.40 331 *eP* P 09 05 25.8 -0.2
comp=Z,3.8nm,0.8s,mb4.4
LENM Lemitar 74.44 54 *eP* P 09 05 21.3 -5.0
LOR Lormes 74.46 332⇑ *iP* P 09 05 25.6 -0.7
comp=Z,15nm,0.7s,mb4.8
LOR *eR*
comp=Z,67nm,21.0s
LOR Lormes 74.46 332⇑ *iP* P 09 05 25.6 -0.7
LOR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LOR MLR MLR
comp=Z,70nm,21.0s,MS3.9
LOR Lormes 74.46 332⇑ *iP* P 09 05 25.6 -0.7
comp=Z,7.5nm,0.7s,mb4.7
LOR LR LR
comp=Z,70nm,21.0s,MS3.9
GRR Gorron 74.69 336 *eP* P 09 05 27.3 -0.4
SSF Saint Saulge 74.75 332⇑ *iP* P 09 05 27.3 -0.7
comp=Z,12nm,0.8s,mb4.6
SSF Saint Saulge 74.75 332⇑ *iP* P 09 05 27.3 -0.7
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 74.75 332⇑ *iP* P 09 05 27.3 -0.7
comp=Z,5.9nm,0.8s,mb4.6
SMF Signal de Mont 75.03 332⇑ *iP* P 09 05 29.1 -0.5
comp=Z,17nm,0.8s,mb4.7
SMF Signal de Mont 75.03 332⇑ *iP* P 09 05 29.1 -0.5
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SMF Signal de Mont 75.03 332⇑ *iP* P 09 05 29.1 -0.5
comp=Z,8.6nm,0.8s,mb4.7
AVF Avril sur Loir 75.03 332⇑ *iP* P 09 05 29.2 -0.5
comp=Z,14nm,0.8s,mb4.7
AVF Avril sur Loir 75.03 332⇑ *iP* P 09 05 29.2 -0.5
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 75.03 332⇑ *iP* P 09 05 29.2 -0.5
comp=Z,7.2nm,0.8s,mb4.7
LPL La Plagne 75.19 330⇑ *iP* P 09 05 31.1 +0.5
comp=Z,14nm,0.8s,mb4.7
LPL La Plagne 75.19 330⇑ *iP* P 09 05 31.1 +0.5
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPL La Plagne 75.19 330⇑ *iP* P 09 05 31.1 +0.5
comp=Z,7.2nm,0.8s,mb4.7
LPG La Plagne 75.20 330⇑ *iP* P 09 05 31.3 +0.6
comp=Z,15nm,0.8s,mb4.7
LPG La Plagne 75.20 330⇑ *iP* P 09 05 31.3 +0.6
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 75.20 330⇑ *iP* P 09 05 31.3 +0.6
comp=Z,7.3nm,0.8s,mb4.7
SGMF Saint Gilles 75.22 337 *eP* P 09 05 30.7 -0.1
ROSF Rostrenen 75.32 337 *eP* P 09 05 31.3 0.0
comp=Z,83nm,1.2s,mb5.2
ROSF Rostrenen 75.32 337 *eP* P 09 05 31.3 0.0
ROSF pmax pmax
comp=Z,42nm,1.2s,mb5.2
ROSF Rostrenen 75.32 337 *eP* P 09 05 31.3 0.0
comp=Z,42nm,1.2s,mb5.2
BGF Bois d'Agland 75.39 333 *eP* P 09 05 31.2 -0.5
QUIF Quistinic 75.69 337 *eP* P 09 05 33.3 -0.1
TCF Toulx Ste Croi 75.81 333⇑ *iP* P 09 05 33.9 -0.3
comp=Z,12nm,0.9s,mb4.5
TCF Toulx Ste Croi 75.81 333⇑ *iP* P 09 05 33.9 -0.3
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 75.81 333⇑ *iP* P 09 05 33.9 -0.3
comp=Z,6.3nm,0.9s,mb4.5
MBDF Montbardon 75.89 329 *eP* P 09 05 34.3 -0.3
comp=Z,13nm,0.7s,mb4.7
MBDF Montbardon 75.89 329 *eP* P 09 05 34.3 -0.3
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MBDF Montbardon 75.89 329 *eP* P 09 05 34.3 -0.3
comp=Z,6.4nm,0.7s,mb4.7
ORIF Oris-en-Rattie 75.99 330 *eP* P 09 05 35.4 +0.2
comp=Z,22nm,0.8s,mb4.8
ORIF *eR*
comp=Z,48nm,21.5s
ORIF Oris-en-Rattie 75.99 330 *eP* P 09 05 35.4 +0.2
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.8
ORIF Oris-en-Rattie 75.99 330 *eP* P 09 05 35.4 +0.2
comp=Z,11nm,0.8s,mb4.8
MFF Saint Martin d 76.16 335 *eP* P 09 05 36.2 +0.1
comp=Z,15nm,0.8s,mb4.7
MFF Saint Martin d 76.16 335 *eP* P 09 05 36.2 +0.1
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MFF Saint Martin d 76.16 335 *eP* P 09 05 36.2 +0.1
comp=Z,7.6nm,0.8s,mb4.7
AS31 Alice Springs 76.38 188 *eP* P 09 05 37.4 0.0
ASAR Alice Springs 76.38 188 P P 09 05 37.5 +0.1
comp=Z,5.3nm,0.7s,mb4.6,baz=2.3,slow=5.8,SNR=84
ASPA Alice Springs 76.38 188 *eP* P 09 05 37.4 0.0
VIVF Saint-Julien-l 76.41 331 *eP* P 09 05 37.6 0.0
comp=Z,28nm,1.0s,mb4.8
VIVF Saint-Julien-l 76.41 331 *eP* P 09 05 37.6 0.0
VIVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
VIVF Saint-Julien-l 76.41 331 *eP* P 09 05 37.6 0.0
comp=Z,14nm,1.0s,mb4.8
PGF Pioggiola 77.12 327 *eP* P 09 05 41.0 -0.6
comp=Z,19nm,1.0s,mb4.7
PGF Pioggiola 77.12 327 *eP* P 09 05 41.0 -0.6
PGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
PGF Pioggiola 77.12 327 *eP* P 09 05 41.0 -0.6
comp=Z,9.3nm,1.0s,mb4.7
MNTX Cornudas Mount 77.22 54 *eP* P 09 05 42.3 +0.2
LASF Ste Croix 77.36 331 *eP* P 09 05 43.2 +0.3
LFF La Frestale 77.46 333 *eP* P 09 05 43.7 +0.2
MTLF Montolieu 78.52 332 *eP* P 09 05 48.9 -0.4
comp=Z,9.1nm,1.0s,mb4.4
MTLF Montolieu 78.52 332 *eP* P 09 05 48.9 -0.4
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MTLF Montolieu 78.52 332 *eP* P 09 05 48.9 -0.4
comp=Z,4.6nm,1.0s,mb4.4
MIV Mineville/With 78.72 26 P P 09 05 48.4 -2.0
EPF Esparros 79.33 333 *eP* P 09 05 53.5 -0.3
ETSF Etsaut 79.70 334 *eP* P 09 05 55.8 0.0
comp=Z,12nm,0.9s,mb4.5
ETSF Etsaut 79.70 334 *eP* P 09 05 55.8 0.0
ETSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5

ETSF	**Etsaut**	**79.70**	**334**	*eP*	**P**		09 05 55.8	**0.0**
	comp=Z,6.3nm,0.9s,mb4.5							
TXAR	**Lajitas Array**	**80.00**	**54**	P	**P**		09 05 58.4	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=296,slow=5.0,SNR=25							
ESDC	**Sonseca Array**	**83.62**	**335**	P	**P**		09 06 16.3	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.5,baz=16,slow=5.5,SNR=6.0							
STKA	**Stephens Creek**	**84.17**	**181**	P	**P**		09 06 18.8	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.2,baz=358,slow=8.2,SNR=3.5							
NNA	**Nana**	**128.53**	**53**	*e*PKPdf	PKPdf		09 12 53.6	-1.5
LPAZ	**La Paz**	**136.32**	**46**	*e*PKIKP	PKPdf		09 13 10.9	+1.1
LVC	**Limon Verde**	**141.47**	**51**	*e*PKPdf	PKPdf		09 13 16.3	-2.9
SNAA	**Sanae**	**155.68**	**206**	*e*PKPdf	PKPab		09 14 06.8	-1.4
SNAA				*e*			09 14 09.4	
SNAA				*e*			09 14 11.1	
SNAA	**Sanae**	**155.68**	**206**	*e*PKPab	PKPab		09 14 06.5	-1.8
VNA2	**Neumayer--Watz**	**157.31**	**205**	*e*PKPdf	PKPab		09 14 13.8	-1.4
VNA2				*e*			09 14 16.8	
VNA2				*e*			09 14 18.0	

IDC ***10*** *09:03:20.7±2.8, 634S×151 35E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/13, mbtmp4.1/3, Error ellipse: s-maj=84.6km s-min=43.6km az=107.0*

ISCJB ***10*** *09:03:21.7±1.7, 6.1S±03×1515E±02, h35km, mb4.2/5, Error ellipse: s-maj=45.1km s-min=18.8km az=118.7*

NEIC ***10*** *09:03:21.1±1.6, 628S×151 52E, h10km, mb4.5/3, Error ellipse: s-maj=34.5km s-min=25.1km az=138.0*

ISC 10 09:03:22.9±1.8, 60S±03×1515E±02, h35km, n12, σ0s81/11, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.48**	**232**	*eP*		**Pn**	09 04 41.2	**-0.7**
	13nm,0.6s							
PMG				*e*Sn		**Sn**	09 05 44.2	**+0.5**
KAKA	**Kakadu**	**19.95**	**249**	*eP*		**Pn**	09 07 53.3	**-0.4**
	8.4nm,0.7s							
WB2	**Warramunga Arr**	**21.68**	**229**	*eP*		**P**	09 08 10.2	**-0.3**
WRA	**Warramunga Arr**	**21.69**	**229**	P		**P**	09 08 09.0	**-1.6**
	2.6nm,0.6s,mb3.8,baz=56,slow=11,SNR=16							
AS31	**Alice Springs**	**24.40**	**222**	*eP*		**P**	09 08 38.1	**+0.2**
ASAR	**Alice Springs**	**24.40**	**222**	P		**P**	09 08 38.0	**+0.2**
	3.2nm,0.8s,mb3.8,baz=60,slow=9.8,SNR=31							
ASPA	**Alice Springs**	**24.40**	**222**	*eP*		**P**	09 08 38.1	**+0.2**
STKA	**Stephens Creek**	**27.36**	**199**	P		**P**	09 09 04.9	**+0.2**
	5.1nm,0.9s,mb4.0,baz=5.5,slow=8.2,SNR=9.2							
FITZ	**Fitzroy Crossi**	**27.96**	**242**	*eP*		**P**	09 09 11.8	**+1.7**
	5.7nm,0.7s,mb4.3							
MBWA	**Marble Bar**	**34.26**	**241**	*eP*		**P**	09 10 15.5	**+10**
	21nm,1.5s,mb4.8							
TORD	**Torodi Ar. Bea**	**149.43**	**286**	PKPbc		PKPbc	09 23 12.0	+3.8
	1.5nm,0.7s,baz=67,slow=2.9,SNR=10							
TORD	**Torodi Ar. Bea**	**149.43**	**286**	PKPbc		PKPbc	09 23 12.0	+3.8

NEIC ***10*** *09:14:48.3, 19.11N×6534W, h21km, MD3.5(RSPR), After RSPR.*

RSPR 10 09:14:48.3, 1911N×6534W, h21km±31km, MD3.5/16, MD3.5/16, 6C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STVI	**Saint Thomas**	**0.84**	**154↑**	*eP*		Pb	09 15 02.3	-1.9
STVI				*e*S		Sb	09 15 13.2	-1.8
CBYP	**Canovanas**	**0.97**	**211↓**	*iP*		Pb	09 15 03.6	-2.7
CBYP				*e*S		Sb	09 15 14.2	-4.5
TBVI	**Tortola**	**0.97**	**135↑**	*eP*		Pb	09 15 03.7	-2.7
TBVI				*e*S		Sb	09 15 16.3	-2.4
MTP	**Monte Pirata**	**1.03**	**192↓**	*eP*		Pb	09 15 05.1	-2.3
MTP				*e*S		Sb	09 15 17.0	-3.4
HUMP	**Col San Antoni**	**1.08**	**207↓**	*eP*		Pn	09 15 05.3	-2.9
HUMP				*e*S		Sb	09 15 19.3	-2.6
CPD	**Cerro la Pandu**	**1.20**	**207↓**	*eP*		Pn	09 15 07.1	-2.7
CPD				*e*S		Sb	09 15 22.7	-2.7
SJG	**San Juan**	**1.26**	**218↓**	*eP*		Pn	09 15 07.7	-2.9
SJG				*e*S		Sn	09 15 23.6	-3.3
AOPR	**Arecibo Observ**	**1.54**	**241**	*iP*		Pn	09 15 11.9	-2.7
AOPR				*e*S		Sn	09 15 30.2	-3.7
CELP	**Cerrillos**	**1.56**	**229**	*iP*		Pn	09 15 12.5	-2.4
CELP				*e*S		Sn	09 15 31.1	-3.4
OBIP	**Obispado Ponce**	**1.60**	**229**	*eP*		Pn	09 15 13.1	-2.3
OBIP				*e*S		Sn	09 15 32.3	-3.2
LRS	**Lares**	**1.65**	**241↑**	*eP*		Pn	09 15 13.4	-2.6
LRS				*e*S		Sn	09 15 33.4	-3.1
ICM	**Isla Caja Muer**	**1.65**	**223**	*iP*		Pn	09 15 14.2	-1.9
ICM				*e*S		Sn	09 15 33.1	-3.6
AGPR	**Aguadilla, PR**	**1.80**	**249↑**	*eP*		Pn	09 15 16.1	-2.0
AGPR				*e*S		Sn	09 15 36.8	-3.5
GBPR	**Guanica, Bosqu**	**1.85**	**233↑**	*eP*		Pn	09 15 17.2	-1.6
GBPR	**Guanica, Bosqu**	**1.85**	**233**	*e*S		Sn	09 15 38.6	-2.9
LSP	**Las Mesas**	**1.90**	**241↑**	*eP*		Pn	09 15 17.1	-2.4
LSP				*e*S		Sn	09 15 39.2	-3.6
CRPR	**Cabo Rojo, PR**	**2.01**	**237↓**	*eP*		Pn	09 15 18.6	-2.4
CRPR				*e*S		Sn	09 15 43.2	-2.3

IDC 10 09:15:28.5±5.3, 2850S×17759W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=171.4km s-min=83.7km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.29**	**254**	P		P	09 22 24.7	-0.4
	1.7nm,0.8s,baz=106,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**43.60**	**265**	P		P	09 23 35.0	+0.6
	0.3nm,0.4s,baz=102,slow=8.1,SNR=12							
WRA	**Warramunga Arr**	**44.42**	**270**	P		P	09 23 41.2	+0.3
	1.3nm,0.5s,baz=110,slow=7.8,SNR=26							
FINES	**FINESS Array B**	**143.48**	**341**	PKP		PKPdf	09 35 03.6	-1.5
	2.3nm,0.5s,baz=72,slow=4.5,SNR=17							

NEIC ***10*** *09:28:29.7±0.7, 2334S×17998W, h522km±8km, mb4.8/10, Error ellipse: s-maj=9.3km s-min=8.2km az=125.0*

ISCJB ***10*** *09:28:30.5±0.9, 2348S±006×17991E±008, h543km±12km, mb4.4/17, Error ellipse: s-maj=11.4km s-min=10.0km az=174.2*

IDC ***10*** *09:28:32.0±1.4, 2352S×17992E, h544km±14km, mb3.7/8, mb1 3.9/9, mb1mx3.7/13, mbtmp3.7/9, Error ellipse: s-maj=16.6km s-min=11.5km az=166.0*

ISC 10 09:28:31.0±0.9, 2346S±008×17998E±008, h536km±12km, n50, σ0s95/38, mb4.4/17, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**6.07**	**162**	*eP*		**P**	09 30 09.5	**0.0**
AFI	**Afiamalu**	**12.29**	**41**	*eP*		**P**	09 31 08.6	**-3.9**
FUNA	**Funafuti**	**14.87**	**357**	*eP*		**P**	09 31 37.9	**-1.3**
URZ	**Urewera**	**14.96**	**189**	P		**P**	09 31 38.3	**-1.8**
	5.4nm,0.3s,baz=28,slow=4.1,SNR=24							
URZ				S		**S**	09 34 10.2	**-5.7**
	0.4nm,0.3s,baz=202,slow=22,SNR=7.1							
SNZO	**South Karori**	**18.34**	**193**	*eP*		**P**	09 32 13.7	**+1.2**
	33nm,0.8s							
HNR	**Honiara**	**23.70**	**303**	*eP*		**P**	09 33 00.5	**-0.4**
	35nm,0.9s,mb5.0							
PPT	**Papeete**	**29.07**	**84**	P		**P**	09 33 47.6	**-0.4**
	20nm,0.8s,mb4.8,baz=196,slow=7.1,SNR=4.5							
CTA	**Charters Tower**	**31.46**	**270**	*iP*		**P**	09 34 10.0	**+1.4**
	30nm,0.4s,mb5.2							
PMG	**Port Moresby**	**34.34**	**289**	*eP*		**P**	09 34 33.6	**+0.7**
	55nm,0.9s,mb5.1							
STKA	**Stephens Creek**	**34.87**	**248**	*iP*		**P**	09 34 38.2	**+0.8**
	2.0nm,0.4s,mb4.0							
STKA	**Stephens Creek**	**34.87**	**248**	P		**P**	09 34 38.3	**+0.8**
	2.5nm,0.4s,mb4.1,baz=93,slow=10.0,SNR=16							
STKA	**Stephens Creek**	**34.87**	**248**	*eP*		**P**	09 34 37.4	**0.0**
AS31	**Alice Springs**	**42.09**	**260**	*eP*		**P**	09 35 36.3	**+0.4**
AS31				*e*ScP		ScP	09 40 20.9	+3.4
AS31				*e*S		**S**	09 41 15.9	**-0.7**
ASAR	**Alice Springs**	**42.09**	**260**	P		**P**	09 35 36.5	**+0.5**
	15nm,0.8s,mb4.6,baz=102,slow=7.0,SNR=136							
ASAR				PcP		PcP	09 37 15.4	-2.7
	1.7nm,0.8s,baz=89,slow=4.7,SNR=5.2							
ASAR				ScP		ScP	09 40 21.0	+3.5
	3.3nm,0.9s,baz=112,slow=4.2,SNR=14							
ASAR				S		**S**	09 41 16.1	**-0.5**
	1.0nm,0.9s,baz=99,slow=15,SNR=7.2							
ASPA	**Alice Springs**	**42.09**	**260**	*iP*		**P**	09 35 36.4	**+0.4**
ASPA				*e*SCP		ScP	09 40 20.9	+3.4
ASPA				*e*S		**S**	09 41 15.9	**-0.7**

WB2	**Warramunga Arr**	**42.41**	**266**	*iP*		**P**	09 35 38.5	**+0.1**
WB2				*e*S		**S**	09 41 18.8	**-2.4**
WRA	**Warramunga Arr**	**42.42**	**266**	P		**P**	09 35 38.6	**+0.1**
	9.8nm,0.4s,mb4.7,baz=92,slow=8.5,SNR=264							
WRA				ScP		ScP	09 40 21.9	+3.1
	2.5nm,1.0s,baz=99,slow=4.1,SNR=8.6							
WRA				S		**S**	09 41 19.2	**-2.1**
	1.4nm,0.8s,baz=111,slow=12,SNR=6.6							
KAKA	**Kakadu**	**46.26**	**275**	*iP*		**P**	09 36 08.1	**0.0**
	20nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**50.85**	**265**	*eP*		**P**	09 36 42.9	**+0.7**
	14nm,0.6s,mb4.5							
SBA	**Scott Base**	**54.81**	**183**	*eP*		**P**	09 37 12.0	**+1.6**
	7.0nm,1.0s,mb3.9							
VNDA	**Vanda**	**54.81**	**185**	P		**P**	09 37 10.6	**+0.2**
	1.1nm,0.7s,mb3.2,baz=2.9,slow=7.5,SNR=11							
VNDA				ScP		ScP	09 41 09.9	-1.7
	0.8nm,0.8s,baz=348,slow=4.0,SNR=7.2							
MBWA	**Marble Bar**	**55.43**	**260**	*eP*		**P**	09 37 14.4	**-0.4**
	5.9nm,0.6s,mb4.0							
QSPA	**South Pole Qui**	**66.62**	**180**	*eP*		**P**	09 38 28.4	**+0.2**
	39nm,0.6s,mb5.1							
MJAR	**Matsushiro Arr**	**71.53**	**326**	P		**P**	09 38 57.8	**+0.1**
	5.8nm,0.8s,mb4.1,baz=160,slow=5.4,SNR=21							
MAJO	**Matsushiro**	**71.53**	**326**	*eP*		**P**	09 38 57.5	**-0.2**
	4.4nm,0.7s,mb4.0							
MAT	**Matsushiro**	**71.53**	**326**	P		**P**	09 38 57.6	**-0.1**
KSRS	**Korea Array**	**77.90**	**320**	P		**P**	09 39 35.0	**+1.5**
	2.3nm,0.7s,mb3.6,baz=134,slow=5.5,SNR=8.3							
SNAA	**Sanae**	**85.11**	**179**	*e*		**P**	09 40 08.6	**-1.7**
SNAA				*e*			09 40 09.5	
SNAA				*e*			09 40 12.4	
VNA2	**Neumayer--Watz**	**85.73**	**178**	*e*		**P**	09 40 11.9	**-1.4**
	baz=191,slow=4.0							
VNA2				*e*			09 40 15.7	
TXAR	**Lajitas Array**	**90.21**	**58**	P		**P**	09 40 35.7	**+1.4**
	1.4nm,0.7s,mb3.9,baz=210,slow=6.4,SNR=13							
TXAR	**Lajitas Array**	**90.21**	**58**	P		**P**	09 40 35.7	**+1.4**
DAWY	**Dawson**	**92.81**	**17**	*eP*		**P**	09 40 46.0	**-0.2**
ARCES	**ARCESS Array B**	**131.46**	**348**	PKP	PKPdf		09 46 41.0	-1.5
	2.0nm,0.8s,baz=20,slow=3.9,SNR=5.8							
ARCES	**ARCESS Array B**	**131.46**	**348**	PKP	PKPdf		09 46 41.0	-1.5
FINES	**FINESS Array B**	**138.03**	**342**	PKhKP			09 46 45.8	
	2.6nm,0.8s,baz=242,slow=4.1,SNR=4.9							
FINES				PKP	PKPdf		09 46 54.3	-0.5
	1.6nm,0.7s,baz=147,slow=3.9,SNR=4.4							
FINES				SKP			09 49 36.9	
	3.9nm,1.1s,baz=304,slow=4.4,SNR=3.9							
NB2	**NORSAR Subarra**	**141.65**	**351**	PKP	PKPdf		09 46 56.0	-5.3
	comp=Z,1.7nm,0.7s,baz=14,slow=3.1							
NOA	**NORSAR Array B**	**141.65**	**351**	PKhKP			09 46 56.0	
	comp=Z,2.2nm,0.7s,baz=16,slow=4.7,SNR=6.4							
HFS	**Hagfors**	**142.11**	**349**	PKhKP			09 46 57.4	
	comp=Z,6.5nm,0.4s,baz=66,slow=3.7,SNR=47							
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	PKPdf		09 47 05.7	-0.7
	comp=Z,4.8nm,0.5s,baz=43,slow=4.0,SNR=34							
AKASG				SKPbc	SKPbc		09 49 55.4	+0.3
	comp=Z,1.8nm,0.6s,baz=42,slow=2.4,SNR=7.0							
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	PKPdf		09 47 05.7	-0.7
AKASG				SKPbc	SKPbc		09 49 55.4	+0.3
KIEV	**Kiev**	**144.61**	**328**	*e*PKPdf	PKPdf		09 47 05.4	-1.1
BR131	**Keskin Array S**	**147.30**	**308**	*e*PKPbc	PKPbc		09 47 14.4	+0.1
BR131				*e*PKPab	PKPab		09 47 18.5	+0.6
MMAI	**Mount Meron Ar**	**147.50**	**295**	PKPbc	PKPbc		09 47 16.4	+1.6
	comp=Z,5.1nm,0.5s,baz=75,slow=4.4,SNR=16							
EKA	**Eskdalemuir Ar**	**148.08**	**3**	PKPbc	PKPbc		09 47 15.4	-0.8
	comp=Z,1.5nm,0.7s,baz=336,slow=1.8,SNR=4.2							
MLR	**Muntele Rosu**	**149.56**	**323**	PKP	PKPdf		09 47 15.3	+0.6
	comp=Z,2.4nm,0.6s,baz=120,slow=16,SNR=2.2							
CLL	**Collm**	**150.43**	**343**	*i* PKPbc	PKPbc		09 47 21.8	-0.1
	comp=Z,11nm,0.8s							
CLL				*i* PKPab	PKPab		09 47 30.3	-0.6
BRG	**Berggiesshubel**	**150.57**	**342**	*i* P	PKPbc		09 47 22.2	0.0
	comp=Z,4.0nm,0.7s							
VYHS	**Vyhne**	**150.89**	**334**	*e*PKP	PKPab		09 47 33.2	+0.4
GERES	**GERESS Array B**	**152.44**	**340**	PKPbc	PKPbc		09 47 25.6	-0.8
	comp=Z,0.3nm,0.2s,baz=288,slow=1.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**169.62**	**189**	PKPab	PKPab		09 48 54.6	+0.1
	comp=Z,1.1nm,0.9s,baz=176,slow=3.9,SNR=5.7							

ISCJB ***10*** *09:40:36.1±1.1, 5144N±005×1600E±005, h0km, Error ellipse: s-maj=8.2km s-min=4.0km az=48.0*

PRU ***10*** *09:40:37.6, 5142N×1610E, h0km*

WAR ***10*** *09:40:37.6, 5146N×1608E, ML2.5, Mining Induced*

NEIC ***10*** *09:40:38.2±2.3, 5140N×1597E, h5km, MG2.5(WAR), Error ellipse: s-maj=25.7km s-min=8.0km az=210.0*

ISC 10 09:40:36.1±1.1, 5146N±005×1611E±005, h0km, n12, σ0s99/25, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg		**Pg**	09 40 49.1	**+0.8**
KSP				*e*Sg		**Sg**	09 40 57.7	**+1.2**
UPC	**Upice**	**0.96**	**184**	*e*PG		**Pg**	09 40 55.3	**+0.8**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG		**Pg**	09 40 57.9	**+0.2**
DPC				*e*SG		**Sg**	09 41 12.0	**-0.2**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG		**Pg**	09 41 02.4	**+0.4**
PVCC				*e*SG		**Sg**	09 41 20.5	**+1.0**
	80nm,0.2s							
BRG	**Berggiesshubel**	**1.48**	**247**	PN		**Pn**	09 41 03.3	**-0.8**
BRG				PG		**Pg**	09 41 04.5	**0.0**
BRG				SG		**Sg**	09 41 24.4	**+0.5**
	19nm,0.4s							
PRU	**Pruhonice**	**1.78**	**215**	*e*PG		**Pg**	09 41 09.8	**-0.5**
PRU				*e*SG		**Sg**	09 41 33.1	**-0.3**
	13nm,0.4s							
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn		**Pn**	09 41 12.2	**+2.1**
MORC				*e*Sn		**Sn**	09 41 35.1	**+0.2**
CLL	**Collm**	**1.95**	**267**	*e*Pg		**Pg**	09 41 13.0	**-0.5**
CLL				*e*Sg		**Sg**	09 41 39.0	**+0.2**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*SG		**Sg**	09 41 41.6	**-1.5**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN		**Pn**	09 41 20.7	**+0.9**
NKC				*e*PG		**Pg**	09 41 25.1	**-1.4**
NKC				*e*SG		**Sg**	09 42 00.9	**+0.4**
	18nm,0.3s							
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN		**Pn**	09 41 22.0	**-0.7**
KHC				*e*PG		**Pg**	09 41 28.3	**-2.3**
KHC				*e*SG		**Sg**	09 42 05.7	**-1.8**
	6.5nm,0.4s							
MOX	**Moxa**	**2.95**	**256**	*e*PG		**Pg**	09 41 32.1	**-0.6**
MOX				*e*SG		**Sg**	09 42 12.4	**+1.5**

IDC 10 09:46:19.3±16.0, 485S×15163E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, Error ellipse: s-maj=272.2km s-min=99.0km az=21.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.54**	**227**	P		P	09 51 20.8	0.0
	1.4nm,0.8s,baz=52,slow=9.7,SNR=13							
ASAR	**Alice Springs**	**25.34**	**221**	P		P	09 51 48.4	+0.6
	0.7nm,0.6s,baz=54,slow=8.8,SNR=17							
STKA	**Stephens Creek**	**28.48**	**198**	P		P	09 52 16.3	+0.2
	0.8nm,0.6s,baz=4.8,slow=12,SNR=3.0							

IDC 10 09:47:29.4±2.9, 638S×15126E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/13, mbtmp4.0/3, Error ellipse: s-maj=83.1km s-min=46.3km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WB2	**Warramunga Arr**	**21.24**	**229**	*eP*		P	09 52 17.8	+0.8
WRA	**Warramunga Arr**	**21.25**	**229**	P		P	09 52 17.2	+0.1
	2.6nm,0.6s,baz=56,slow=11,SNR=9.2							
ASAR	**Alice Springs**	**23.95**	**222**	P		P	09 52 45.3	0.0
	2.0nm,0.7s,baz=54,slow=9.2,SNR=15							
ASPA	**Alice Springs**	**23.96**	**222**	*eP*		P	09 52 45.9	+0.6
STKA	**Stephens Creek**	**26.93**	**198**	P		P	09 53 13.2	+0.9
	2.2nm,0.5s,baz=7.7,slow=11,SNR=7.1							
FITZ	**Fitzroy Crossi**	**27.57**	**243**	*eP*		P	09 53 17.9	-0.1
	6.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc		PKPbc	10 07 20.5	+0.5
	0.8nm,0.6s,baz=68,slow=2.4,SNR=5.2							

NEIC ***10*** *09:49:30.9, 1836N×9962W, h20km, MD3.6(MEX), After MEX.*

MEX 10 09:49:30.6±0.7, 1837N×9958W, h28km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLIG	**Platanillo**	**0.08**	**75**	*i* P		Pb	09 49 34.3	-1.2
PLIG				*i* S		Sb	09 49 37.7	-1.2
PLIG	**Platanillo**	**0.08**	**75**	*i* P		Pb	09 49 33.6	-1.9
PLIG				*i* S		Sb	09 49 37.7	-1.3
MEIG	**Mezcala**	**0.45**	**184**	*i* P		Pb	09 49 38.3	-1.7
MEIG				*i* S		Sb	09 49 44.6	-1.9
CAIG	**El Cayaco**	**1.47**	**206**	*i* P		Pn	09 49 52.9	-2.3
CAIG				*i* S		Sn	09 50 09.5	-4.0
ACX	**Acapulco**	**1.53**	**192**	*i* P		Pn	09 49 57.0	+1.0
ACX				*i* S		Sn	09 50 14.5	-0.5
UTMO	**Huajuapan**	**1.78**	**107**	*i* P		Pn	09 49 57.4	-2.0
UTMO				*i* S		Sn	09 50 18.1	-3.0
TPIG	**Tehuac#an**	**2.11**	**88**	*i* P		Pn	09 50 03.8	-0.2
TPIG				*i* S		Sn	09 50 26.7	-2.6
VHO	**Vista Hermosa**	**3.01**	**115**	*i* P		Pn	09 50 16.4	0.0
VHO				*i* S		Sn	09 50 50.2	-1.3
VHO	**Vista Hermosa**	**3.01**	**115**	*i* P		Pn	09 50 16.4	0.0
VHO				*i* S		Sn	09 50 51.2	-0.3

IDC ***10*** *10:05:29.2±0.8, 469N×9501E, h0km, mb4.4/15, mb1 4.5/15, mb1mx4.3/22, mbtmp4.4/15, MS3.5/9, Ms1 3.5/9, ms1mx3.3/23, Error ellipse: s-maj=35.1km s-min=15.4km az=48.0*

ISCJB ***10*** *10:05:32.9±2.0, 458N±008×9499E±009, h38km±17km, mb4.5/30, MS3.5/11, Error ellipse: s-maj=17.1km s-min=8.7km az=102.9*

MOS ***10*** *10:05:32.3±0.8, 463N×9498E, h33km, mb5.1/7, Error ellipse: s-maj=21.1km s-min=8.2km az=112.6*

BJI ***10*** *10:05:33.5, 460N×9490E, h46km, mB4.4, mb4.7, Ms4.6, Msz4.2*

NEIC ***10*** *10:05:35.6±2.8, 457N×9494E, h46km±24km, mb4.7/7, Error ellipse: s-maj=22.3km s-min=8.5km az=55.0*

ISC 10 10:05:37.0±1.9, 468N±007×9506E±009, h54km±17km, n73, σ0s77/71, mb4.5/30, MS3.5/11, 10C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.60**	**84**	*eP*		**Pn**	10 06 57.4	**-0.3**
CHTO	**Chiang Mai**	**14.55**	**15**	*eP*		**Pn**	10 09 05.0	**+5.3**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CHTO	**Chiang Mai**	**14.55**	**15**	*eP*		**Pn**	10 09 05.0	**+5.2**
	comp=Z,7.5nm,0.8s							
KMI	**Kunming**	**21.62**	**19**	P		**P**	10 10 26.6	**+4.0**
KMI				AP			10 10 32.3	
KMI				PP			10 10 51.8	
KMI				S		**S**	10 14 18.9	**0.0**
KMI				SS			10 14 53.7	
KMI				SSS			10 15 08.4	
KMI				AMB		AMB		
	comp=Z,11nm,1.2s,mb4.2							
KMI				AMB		AMB		
	comp=Z,56nm,3.8s							
KMI	**Kunming**	**21.62**	**19**	P		**P**	10 10 26.6	**+4.0**
KMI				*SP		sP	10 10 35.0	-6.5
KMI							10 10 51.8	
KMI				S		**S**	10 14 18.9	**0.0**
KMI				*SS		sS	10 14 29.0	-10
KMI				SS			10 14 53.7	
KMI				SSS			10 15 08.4	
KMI				pmax		pmax		
	comp=Z,110nm,1.2s,mb5.2							
KMI				MLR		MLR		
	comp=Z,150nm,22.1s,MS3.4							
KMI	**Kunming**	**21.62**	**19**	P		**P**	10 10 26.6	**+4.0**
	comp=Z,11nm,1.2s,mb4.2							
KMI				pP			10 10 32.3	
KMI				sP		sP	10 10 35.0	-6.5
KMI				PP			10 10 51.8	
KMI				S		**S**	10 14 18.9	**0.0**
KMI				sS		sS	10 14 29.0	-10
KMI				SS			10 14 53.7	
KMI				SSS			10 15 08.4	
KMI				LR		LR		
	comp=Z,150nm,22.1s,MS3.4							
GYA	**Guiyang**	**24.33**	**26**	P		**P**	10 10 49.6	**0.0**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.3							
JIRN	**Jiri**	**24.36**	**341**	*eP*		**P**	10 10 51.0	**+1.1**
PKI	**Pulchoki**	**24.55**	**339**	*eP*		**P**	10 10 52.1	**+0.5**
**DM

comp=Z,23nm,0.7s,mb5.2
CHKZ Chkalovo 52.77 342 *e*P **P 10 14 46.3 -0.3**
comp=Z,23nm,0.7s,mb5.2
AB31 Akbulak array 53.46 332 P **P 10 14 51.8 +0.2**
AKTO Aktyubinsk 55.18 332 LR LR 10 39 24.8
comp=Z,18nm,20.6s,MS3.1,baz=0.4,slow=37
STKA Stephens Creek 57.26 133 P **P 10 15 19.4 +0.4**
comp=Z,0.9nm,0.4s,mb4.1,baz=297,slow=16,SNR=3.2
STKA Stephens Creek 57.26 133 P **P 10 15 19.4 +0.4**
ARU Arti 59.17 337⇓ *i*P **P 10 15 30.8 -1.5**
ARU *e*S **S 10 23 37.5 +1.6**
ARU *e*SS SS 10 27 26.8 -3.9
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YAK Yakutsk 62.73 18 *i* P **P 10 15 57.9 +1.5**
BR131 Keskin Array S 65.21 312 *e*P **P 10 16 12.1 -0.7**
comp=Z,1.7nm,0.7s,mb4.2
BRTR Keskin Array B 65.21 312 P **P 10 16 12.7 0.0**
comp=Z,2.8nm,0.7s,mb4.4,baz=126,slow=7.4,SNR=13
OBN Obninsk 68.56 328 *e*P **P 10 16 33.1 -0.9**
OBN *e* 10 16 58.0
OBN *e* 10 19 03.5
OBN *e*SS SS 10 29 59.7 +2.6
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
AKASG Malin Array Be 71.22 322 P **P 10 16 49.2 -1.1**
comp=Z,2.7nm,0.6s,mb4.4,baz=92,slow=5.2,SNR=15
VRI Vrincioaia 71.63 317⇑ *i*P **P 10 16 53.6 +0.8**
VRI Vrincioaia 71.63 317⇑ P **P 10 16 53.6 +0.8**
MLR Muntele Rosu 72.09 316 P **P 10 16 56.7 +1.1**
comp=Z,6.1nm,0.7s,mb4.6,baz=138,slow=12,SNR=4.8
MLR Muntele Rosu 72.09 316⇑ *i*P **P 10 16 54.0 -1.6**
MLR Muntele Rosu 72.09 316⇑ P **P 10 16 54.0 -1.5**
BURAR Bucovina Array 73.02 318⇑ *i*P **P 10 17 02.0 +0.9**
BURAR Bucovina Array 73.02 318⇑ P **P 10 17 02.0 +0.9**
DRGR 74.54 317⇓ *i*P **P 10 17 10.9 +0.9**
DRGR 74.54 317⇓ P **P 10 17 10.9 +0.8**
BOSA Boshof 74.70 239 LR LR 10 45 10.9
comp=Z,68nm,18.4s,MS4.0,baz=260,slow=32
APA Apatity 75.14 340⇑ *i*P **P 10 17 12.7 -0.8**
APA *i* 10 17 18.2
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
FINES FINESS Array B 75.95 332 P **P 10 17 17.6 -0.5**
comp=Z,2.6nm,0.4s,mb4.5,baz=91,slow=5.7,SNR=23
OJC Ojcow 77.00 320 *e*P **P 10 17 24.0 0.0**
ARCES ARCESS Array B 78.56 340 P **P 10 17 32.3 -0.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=99,slow=6.7,SNR=34
GERES GERESS Array B 80.81 319 P **P 10 17 44.5 -0.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=91,slow=6.7,SNR=15
NOA NORSAR Array B 82.95 331 P **P 10 17 55.2 -0.9**
comp=Z,1.9nm,0.9s,mb4.1,baz=97,slow=5.1,SNR=3.4
NOA LR LR 11 03 05.0
comp=Z,19nm,18.2s,MS3.5,baz=205,slow=42
NOA NORSAR Array B 82.95 331 P **P 10 17 55.2 -0.9**
NOA LR LR 11 03 05.0
VNDA Vanda 89.64 168 LR LR 10 55 59.3
comp=Z,60nm,18.1s,MS4.1,baz=63,slow=34
PDAR Pinedale Array 127.76 23 PKP PKPdf 10 24 36.4 -0.1
comp=Z,0.7nm,0.9s,baz=40,slow=7.8,SNR=4.1
TXAR Lajitas Array 141.69 27 PKP PKPdf 10 25 00.7 -1.7
comp=Z,0.1nm,0.3s,baz=260,slow=1.0,SNR=6.0

*ATH **10** 10:11:47.7, 4075N×2073E, h5km, MD3.2/4*
*ISCJB **10** 10:11:48.6±0.7, 4071N±003×2072E±006, h10km, Error ellipse: s-maj=6.4km s-min=3.8km az=19.3*
*SKO **10** 10:11:48.7, 4072N×2078E, h15km, M1.9, ML2.3*
*CSEM **10** 10:11:49.0±0.1, 4074N×2074E, h2km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.3km az=98.0*
*THE **10** 10:11:49.4, 4071N×2074E, h10km, ML3.1*
ISC 10 10:11:48.8±0.8, 4069N±003×2070E±006, h7km±7km, n21, σ0s95/35, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.43**	**10**	*e*Pg	**Pg**	**10 11 56.9**	**-0.1**
OHR				*e*Sg	**Sg**	**10 12 03.9**	**+1.3**
OHR	**Ohrid**	**0.43**	**10**	*e*Pg	**Pg**	**10 11 56.8**	**-0.2**
OHR				*e*Sg	**Sg**	**10 12 03.6**	**+1.0**
	comp=E,258nm,0.5s						
OHR				*e*Lg		10 12 05.3	
OHR				*e*Lg		10 12 05.3	
OHR	**Ohrid**	**0.43**	**10**	*e*Pg	**Pg**	**10 11 56.7**	**-0.3**
OHR				*e*Sg	**Sg**	**10 12 03.6**	**+1.0**
	comp=E,258nm,0.5s						
OHR				*e*Lg		10 12 05.2	
FNA	**Florina**	**0.52**	**80**	*e*Pg	**Pg**	**10 11 58.4**	**-0.4**
FNA				*e*Sg	**Sg**	**10 12 06.9**	**+1.2**
BIA	**Bitola**	**0.57**	**55**	*e*Pg	**Pg**	**10 11 58.6**	**-1.2**
BIA				*e*Sg	**Sg**	**10 12 07.9**	**+0.6**
	comp=N,262nm,0.3s						
BIA				*e*Lg		10 12 08.9	
BIA				*e*Lg		10 12 08.9	
BIA	**Bitola**	**0.57**	**55**	*e*Pg	**Pg**	**10 11 58.8**	**-1.0**
BIA				*e*Sg	**Sg**	**10 12 08.0**	**+0.7**
KRUS	**Krusevo**	**0.79**	**31**	*e*Pg	**Pg**	**10 12 03.7**	**-0.3**
KRUS				*e*Sg	**Sg**	**10 12 15.0**	**+0.7**
KRUS	**Krusevo**	**0.79**	**31**	*e*Pg	**Pg**	**10 12 03.6**	**-0.4**
KRUS				*e*Sg	**Sg**	**10 12 15.0**	**+0.7**
KZN	**Kozani**	**0.90**	**115**	*e*PB	**Pg**	**10 12 05.4**	**-0.7**
KZN				*e*SB	**Sg**	**10 12 18.4**	**+0.6**
MEV	**Metsovon**	**0.99**	**156**	*e*Pg	**Pg**	**10 12 08.1**	**+0.3**
KEK	**Kerkira**	**1.20**	**216**	*e*PB	**Pb**	**10 12 11.7**	**-0.1**
GRG	**Griva**	**1.32**	**78**	*e*Pg	**Pg**	**10 12 12.9**	**-1.1**
SKO	**Skopje**	**1.40**	**23**	*e*Pg	**Pg**	**10 12 14.7**	**-0.8**
SKO				*e*Sg	**Sg**	**10 12 36.2**	**+2.6**
	comp=E,62nm,0.6s						
SKO				*e*Lg		10 12 37.7	
SKO				*e*Lg		10 12 38.0	
SKO	**Skopje**	**1.40**	**23**	*e*Pg	**Pg**	**10 12 14.6**	**-0.9**
SKO				*e*Sg	**Sg**	**10 12 36.2**	**+2.6**
LIT	**Litokhoron**	**1.49**	**113**	*e*Pg	**Pg**	**10 12 16.7**	**-0.6**
STIP	**Stip**	**1.50**	**48**	*e*Pg	**Pg**	**10 12 16.1**	**-1.5**
STIP				*e*Sg	**Sg**	**10 12 36.4**	**-0.7**
	comp=N,18nm,0.7s						
STIP				*e*Lg		10 12 38.4	
STIP				*e*Lg		10 12 38.7	
THL	**Klokotos Trika**	**1.51**	**138**	*e*PB	**Pb**	**10 12 16.9**	**-0.2**
VAY	**Valandovo**	**1.55**	**65**	*e*Pg	**Pn**	**10 12 15.8**	**-0.9**
VAY				*e*Sg	**Sn**	**10 12 36.8**	**-0.3**
	comp=E,66nm,1.2s						
VAY				*e*Lg		10 12 39.1	
VAY				*e*Lg		10 12 39.2	
VAY	**Valandovo**	**1.55**	**65**	*e*Pg	**Pn**	**10 12 15.7**	**-1.0**
VAY				*e*Sg	**Sn**	**10 12 36.7**	**-0.4**
EVR	**Evrytania**	**1.97**	**154**	*e*PN	**Pb**	**10 12 26.1**	**+1.2**
AGG	**Agios Georgios**	**2.09**	**143**	*e*Pn	**Pn**	**10 12 25.8**	**+1.7**

WEL 10 10:14:54.6±0.3, 3783S×17617E, h244km±2km, ML3.8/6, Error ellipse: s-maj=5.0km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.86**	**120**	PN	Pn	10 15 28.3	0.0
URZ				SN	S	10 15 54.4	-0.3
MWZ	**Matawai**	**1.18**	**116**	PN	Pn	10 15 30.4	+0.3
MWZ				SN	S	10 15 57.6	-0.4
BKZ	**Black Stump Fm**	**1.36**	**169**	PN	Pn	10 15 31.6	+0.3
BKZ				SN	S	10 15 59.8	-0.3
TUVZ	**Tukino**	**1.49**	**196**	PN	Pn	10 15 32.7	+0.4
TUVZ				SN	S	10 16 02.6	+0.7
WNVZ	**Wahianoa**	**1.56**	**197**	PN	Pn	10 15 33.2	+0.3
MOVZ	**Moawhango**	**1.61**	**192**	PN	Pn	10 15 33.1	-0.1
PUZ	**Puketiti**	**1.67**	**99**	PN	Pn	10 15 33.7	0.0
KNZ	**Kokohu**	**1.68**	**136**	PN	Pn	10 15 33.8	0.0
MXZ	**Matakaoa Point**	**1.71**	**82**	PN	Pn	10 15 34.3	+0.2
TSZ	**Takapari Road**	**2.23**	**184**	PN	Pn	10 15 38.1	-0.7
PXZ	**Pawanui**	**2.26**	**166**	PN	Pn	10 15 38.6	-0.5
PXZ				SN	S	10 16 13.4	-0.8
BFZ	**Birch Farm**	**2.85**	**179**	PN	Pn	10 15 43.8	-1.3
MRZ	**Mangatainoka R**	**2.87**	**189**	PN	Pn	10 15 43.6	-1.6
MRZ				SN	S	10 16 22.7	-2.6
KIW	**Kapiti Island**	**3.18**	**198**	PN	Pn	10 15 47.0	-1.7
MTW	**Mount Morrison**	**3.37**	**189**	PN	Pn	10 15 48.4	-2.3
CAW	**Cannon Point**	**3.38**	**194**	PN	Pn	10 15 48.9	-2.1
MRW	**Makara Radio**	**3.58**	**198**	PN	Pn	10 15 51.3	-2.0
SNZO	**South Karori**	**3.66**	**198**	PN	Pn	10 15 52.0	-2.1
TCW	**Tory Channel**	**3.68**	**203**	PN	Pn	10 15 52.3	-2.1

IDC 10 10:16:04.6±12.0, 1881S×17782W, h565km±135km, mb2.7/3, mb1 3.0/3, mb1mx2.7/14, mbtmp2.7/3, Error ellipse: s-maj=253.0km s-min=42.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.03**	**260**	P	P	10 23 30.6	+0.2
	0.6nm,0.7s,baz=97,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**45.09**	**255**	P	P	10 23 31.2	+0.4
	0.7nm,0.7s,baz=92,slow=7.6,SNR=15						
ASAR				PcP	PcP	10 24 59.5	+0.1
	0.6nm,0.7s,baz=97,slow=3.8,SNR=6.8						
TXAR	**Lajitas Array**	**86.00**	**57**	P	P	10 27 46.0	+0.4
	0.3nm,0.7s,baz=216,slow=6.2,SNR=4.1						

MEX 10 10:35:28.6±1.1, 1724N×10003W, h42km±19km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.30**	**230**	*i* P	Pn	10 35 35.2	-1.8
CAIG				*i* S	Sn	10 35 41.4	-1.5
ACX	**Acapulco**	**0.39**	**164**	*i* P	Pn	10 35 36.2	-1.8
ACX				*i* S	Sn	10 35 43.1	-1.5
MEIG	**Mezcala**	**0.78**	**30**	*i* P	Pn	10 35 42.3	-0.9
MEIG				*i* S	Sn	10 35 51.2	-2.5

IDC 10 10:45:43.5±1.4, 063N×9696E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML2.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/41, Error ellipse: s-maj=40.2km s-min=18.7km az=65.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.91**	**42**	Pn	Pn	10 46 31.1	0.0
	0.8nm,0.3s,baz=300,slow=7.1,SNR=5.6						
PSI				Sn	Sn	10 47 06.4	-0.5
	3.1nm,0.3s,baz=164,slow=19,SNR=5.8						
FITZ	**Fitzroy Crossi**	**33.80**	**125**	LR	LR	11 05 51.8	
	comp=Z,43nm,19.3s,baz=313,slow=36						
WRA	**Warramunga Arr**	**41.94**	**121**	P	P	10 53 35.0	-1.0
	0.5nm,0.5s,baz=299,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**43.25**	**126**	P	P	10 53 47.1	+0.5
	0.9nm,0.7s,baz=296,slow=8.0,SNR=20						
SONM	**Songino Array**	**47.72**	**9**	P	P	10 54 21.8	-0.3
	0.2nm,0.3s,baz=194,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**47.73**	**346**	P	P	10 54 22.4	+0.2
	1.1nm,0.5s,baz=161,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**53.16**	**132**	P	P	10 55 04.9	+1.7
	1.9nm,0.7s,baz=317,slow=7.4,SNR=5.2						
ZAL	**Zalesovo**	**54.07**	**351**	P	P	10 55 09.6	-0.3
	1.9nm,0.5s,baz=290,slow=3.0,SNR=6.7						
IDI	**Anoyia**	**75.04**	**306**	LR		11 28 32.4	
	comp=Z,20nm,21.3s,baz=164,slow=34						
MLR	**Muntele Rosu**	**76.31**	**317**	LR	LR	11 35 24.7	
	comp=Z,30nm,19.4s,baz=311,slow=39						

*CSEM **10** 11:01:14.2±1.0, 3809N×2668W, h1km±4km, ML2.7, Error ellipse: s-maj=12.1km s-min=1.1km az=45.0, After PDA*
*PDA **10** 11:01:14.2±1.0, 3809N×2668W, h1km±4km, MD2.6, ML2.7, Error ellipse: s-maj=12.1km s-min=1.1km az=45.0*
SVSA 10 11:01:14.2±1.0, 3809N×2668W, h1km±4km, MD2.6, ML2.7, Error ellipse: s-maj=12.1km s-min=1.1km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.70**	**333**	*e*P	Pg	11 01 26.2	-1.4
PFAV				*e*S	Sg	11 01 35.2	-1.5
PFAV							
	58nm,0.1s						
PFAV	**Pico das Favas**	**0.70**	**333**	*e*P	Pg	11 01 26.2	-1.4
PFAV				*e*S	Sg	11 01 35.2	-1.5
RIB2	**Ribeirinha**	**0.70**	**327**	*e*P	Pg	11 01 26.7	-0.9
RIB2				*e*S	Sg	11 01 35.2	-1.5
RIB2							
	65nm,0.1s						
RIB2	**Ribeirinha**	**0.70**	**327**	*e*P	Pg	11 01 26.7	-0.9
RIB2				*e*S	Sg	11 01 35.2	-1.5
ADH	**Angra Heroismo**	**0.71**	**323**	*e*P	Pg	11 01 25.7	-2.2
ADH				*e*S	Sg	11 01 34.9	-2.3
SET4	**Mosteiros**	**0.73**	**107**	*e*S	Sg	11 01 35.8	-1.8
SET2	**Ginetes**	**0.73**	**109**	*e*P	Pg	11 01 26.9	-1.3
SET2				*e*S	Sg	11 01 36.0	-1.7
PFET	**Feteiras**	**0.75**	**111**	*e*S	Sg	11 01 37.2	-1.2
PVNV	**Vila Nova**	**0.77**	**331**	*e*P	Pg	11 01 27.0	-2.0
PVNV				*e*S	Sg	11 01 36.9	-2.1
PVNV							
	110nm,0.1s						
PVNV	**Vila Nova**	**0.77**	**331**	*e*P	Pg	11 01 27.0	-2.0
PVNV				*e*S	Sg	11 01 36.9	-2.1
PPAD	**Pico dos Padre**	**0.78**	**322**	*e*P	Pg	11 01 27.6	-1.5
PPAD				*e*S	Sg	11 01 37.4	-1.8
PPAD							
	151nm,0.3s						
PPAD	**Pico dos Padre**	**0.78**	**322**	*e*P	Pg	11 01 27.6	-1.5
PPAD				*e*S	Sg	11 01 37.4	-1.8
PSAN	**Santo Antonio**	**0.79**	**107**	*e*S	Sg	11 01 37.4	-2.2
PSET	**Sete Cidades**	**0.80**	**109**	*e*S	Sg	11 01 37.2	-2.8
PSET							
	186nm,0.4s						
ASBA	**Santa Barbara**	**0.81**	**321**	*e*P	Pg	11 01 28.3	-1.4
ASBA				*e*S	Sg	11 01 38.1	-2.1
PBIS	**Biscoitos**	**0.81**	**326**	*e*P	Pg	11 01 27.8	-1.9
PBIS				*e*S	Sg	11 01 38.1	-2.1
PBIS							
	83nm,0.2s						
PBIS	**Biscoitos**	**0.81**	**326**	*e*P	Pg	11 01 27.8	-1.9
PBIS				*e*S	Sg	11 01 38.1	-2.1
FAC	**Faja de Cima**	**0.87**	**111**	*e*S	Sg	11 01 39.6	-2.6
CML	**Cha da Maceia**	**0.95**	**109**	*e*S	Sg	11 01 41.8	-3.0
PVER	**Pico Vermelho**	**0.97**	**107**	*e*S	Sg	11 01 41.9	-3.4
PVER							
	93nm,0.3s						
PMAT	**Coroa da Mata**	**0.99**	**105**	*e*P	Pg	11 01 30.1	-3.1
PMAT				*e*S	Sg	11 01 42.7	-3.4
PMAT							
	49nm,0.3s						
PMAT	**Coroa da Mata**	**0.99**	**105**	*e*P	Pg	11 01 30.1	-3.1
PMAT				*e*S	Sg	11 01 42.7	-3.4
LFA	**Lagoa do Fogo**	**1.00**	**108**	*e*P	Pg	11 01 30.7	-2.6
PRCH	**Ribeira Ch**	**1.01**	**110**	*e*P	Pg	11 01 30.4	-3.3
PRCH				*e*S	Sg	11 01 42.8	-4.0
PRCH							
	67nm,0.2s						
PRCH	**Ribeira Ch**	**1.01**	**110**	*e*P	Pg	11 01 30.4	-3.3
PRCH				*e*S	Sg	11 01 42.8	-4.0
MESC	**Monte Escuro**	**1.02**	**106**	*e*P	Pg	11 01 30.4	-3.3
MESC				*e*S	Sg	11 01 43.4	-3.5
VIF	**Vila Franca**	**1.04**	**109**	*e*S	Sg	11 01 43.7	-3.9
VIF							
	22nm,0.2s						
FRA1	**Furnas**	**1.10**	**108**	*e*S	Sg	11 01 45.4	-4.2
PFAD	**Fenais da Ajud**	**1.10**	**103**	*e*S	Sg	11 01 44.9	-4.7
PSMN	**Pico do Norte,**	**1.68**	**130**	*e*S	Sn	11 01 58.8	-8.1

*IDC **10** 11:01:37.9±4.0, 3601N×7299E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/21, mbtmp3.8/4, ML3.8/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/38, Error ellipse: s-maj=124.8km s-min=36.0km az=132.0*
*ISCJB **10** 11:02:00.9±0.9, 3719N±005×720E±0.1, h158km±13km, mb3.5/2, Error ellipse: s-maj=18.4km s-min=5.4km az=136.5*
ISC 10 11:02:01.8±0.8, 3720N±005×720E±01, h151km±12km, n28, σ0s86/36, mb3.5/2, 2C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.38**	**20**	P	**Pn**	**11 03 20.3**	**+0.1**
	SNR=34						
KZA	**Kyzart**	**5.48**	**26**	P	**Pn**	**11 03 20.9**	**-0.6**
	SNR=8.2						
EKS2	**Erkin-Say**	**5.62**	**13**	P	**Pn**	**11 03 23.9**	**+0.5**
	SNR=25						
THN	**Thein Dam**	**5.64**	**146**	*e*P	**Pn**	**11 03 26.0**	**+2.3**
THN				*ex*	x	11 04 30.2	

DLH Dalhousie 5.67 144 *e*P **Pn 11 03 23.0 -1.0**
DLH *e*S **Sn 11 04 27.0 -1.3**
AAK Ala-Archa 5.76 19 P **Pn 11 03 25.3 +0.1**
SNR=6.1
CHMS Chumysh 6.16 19 P **Pn 11 03 30.4 -0.2**
SNR=6.4
SDNR Sundarnagar 7.00 143 *e*P **Pn 11 03 43.6 +1.8**
SDNR *e*S **Sn 11 05 00.0 -0.3**
KLP Kalpa 7.65 136 *e*P **Pn 11 03 52.5 +2.1**
KLP *e*S **Sn 11 05 14.3 -1.4**
KLP AML AML 11 05 21.4
comp=E,176nm,0.5s
KLP AML AML 11 05 23.8
comp=N,117nm,0.4s
NDI New Delhi 9.55 151 *e*S **Sn 11 05 55.0 -6.4**
KHET Khetri 9.64 160 *e*P **Pn 11 04 16.4 -0.5**
KHET *e*S **Sn 11 05 57.2 -6.5**
KHET AML AML 11 06 03.1
comp=N,16nm,0.2s
KHET AML AML 11 06 04.2
comp=E,27nm,0.6s
SONA Sohna 9.89 153 *e*P **Pn 11 04 20.1 -0.1**
SONA *e*S **Sn 11 06 02.7 -7.0**
SONA AML AML 11 06 09.5
comp=E,38nm,0.3s
SONA AML AML 11 06 09.8
comp=N,15nm,0.3s
KOLN Koldanda 13.55 131 *e*P **Pn 11 05 07.9 0.0**
comp=N,15nm,0.3s
GKN Gorkha 14.03 127 *e*P **Pn 11 05 14.3 +0.3**
comp=N,35nm,0.3s
KKN Kakani 14.59 126 *e*P **Pn 11 05 20.8 -0.2**
comp=N,15nm,0.4s
DMN Daman 14.60 127 *e*P **Pn 11 05 21.0 -0.1**
comp=N,16nm,0.3s
PKI Pulchoki 14.82 127 *e*P **Pn 11 05 24.2 +0.3**
AB31 Akbulak array 14.90 328⇓ P **Pn 11 05 23.6 -1.2**
comp=N,1.5nm,0.3s,baz=161,slow=10,SNR=68
AB31 ⇑S **Sn 11 07 53.8 -16**
comp=N,7.2nm,0.7s,baz=160,slow=9.8,SNR=12
AB31 Akbulak array 14.90 328⇓ P **Pn 11 05 23.6 -1.2**
comp=N,1.5nm,0.3s,baz=161,slow=10,SNR=68
AB31 ⇑S **Sn 11 07 53.8 -16**
comp=N,7.2nm,0.7s,baz=160,slow=9.8,SNR=12
GUN Gumba 14.90 124 *e*P **Pn 11 05 24.2 -0.6**
comp=N,13nm,0.3s
JIRN Jiri 15.27 124 *e*P **Pn 11 05 30.4 +1.0**
comp=N,18nm,0.2s
BVAR Borovoye Array 15.87 356 P **Pn 11 05 37.5 +0.8**
comp=N,0.2nm,0.3s,baz=154,slow=14,SNR=3.7
AKTO Aktyubinsk 16.61 327⇓ P **Pn 11 05 45.6 -0.2**
comp=N,0.1nm,1.1s
AKTO ⇓S **S 11 08 38.9 -12**
comp=N,0.1nm,0.8s
AKTO Aktyubinsk 16.61 327⇓ P **Pn 11 05 45.6 -0.2**
comp=N,0.1nm,1.1s
AKTO ⇓S **S 11 08 38.9 -12**
comp=N,0.1nm,0.8s
ZAL Zalesovo 18.93 24 P **P 11 06 10.7 -0.3**
comp=N,0.9nm,0.3s,baz=16,slow=2.0,SNR=5.0
TGY Tagaytay City 49.09 105 LR LR 11 33 54.9
comp=N,2.7nm,18.3s,baz=334,slow=40
TORD Torodi Ar. Bea 66.55 269 P **P 11 12 35.4 0.0**
comp=N,0.3nm,0.4s,mb3.5,baz=48,slow=6.4,SNR=5.7
YKA Yellowknife Ar 80.51 3 P **P 11 13 56.6 -0.4**
comp=N,0.8nm,0.5s,mb3.6,baz=352,slow=5.3,SNR=7.2

IDC 10 11:14:19.2±1.6, 127N×11828E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=183.7km s-min=20.1km az=63.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.32**	**144**	P	P	11 19 57.6	+1.0
	1.1nm,0.9s,baz=340,slow=10,SNR=16						
ASAR	**Alice Springs**	**29.07**	**149**	P	P	11 20 20.2	-1.1
	0.3nm,0.9s,baz=335,slow=6.5,SNR=4.6						
STKA	**Stephens Creek**	**39.69**	**148**	P	P	11 21 53.9	+0.8
	2.1nm,0.8s,baz=333,slow=9.0,SNR=4.8						
SONM	**Songino Array**	**47.51**	**349**	P	P	11 22 56.0	-0.1
	0.5nm,0.4s,baz=184,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**55.12**	**331**	P	P	11 23 53.5	+0.3
	0.8nm,0.5s,baz=124,slow=7.9,SNR=7.3						

GUC 10 11:21:07.3±0.7, 3150S×7167W, h30km±2km, MD3.9, ML2.9, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.41**	**160**	*e*P	Pb	11 21 16.2	-0.2
CHNG				*i* S	Sb	11 21 22.5	-0.1
CHNG				AML	AML	11 21 23.1	
	comp=E,696nm,0.4s						
CMCH	**Combarbala**	**0.66**	**61**⇑	*i*P	Pb	11 21 20.0	-0.3
CMCH				*i* S	Sb	11 21 29.5	+0.4
CMCH				AML	AML	11 21 29.8	
	comp=N,2μm,0.1s						
OVCH	**Ovalle**	**0.97**	**25**⇓	*i*P	Pn	11 21 24.8	-0.1
OVCH				*i* S	Sn	11 21 38.1	+0.5
OVCH				AML	AML	11 21 40.8	
	comp=E,622nm,0.3s						
PTCH	**Petorca**	**0.99**	**141**	*i* P	Pn	11 21 25.2	+0.1
PTCH				*i* S	Sn	11 21 38.3	+0.3
PTCH				AML	AML	11 21 41.0	
	comp=E,1μm,0.2s						
TLL	**Tololo Astrono**	**1.52**	**30**⇑	*i*P	Pn	11 21 33.7	+1.3
TLL				*i* S	Sn	11 21 54.2	+3.1
TLL				AML	AML	11 21 57.0	
	comp=N,185nm,0.5s						
PEL	**Peldehue**	**1.84**	**153**⇑	*i*P	Pn	11 21 38.3	+1.5
PEL				*i* S	Sn	11 22 01.8	+2.7
PEL				AML	AML	11 22 05.7	
	comp=E,387nm,0.4s						
RCDM	**Rinconada Maip**	**2.12**	**160**	*e*P	Pn	11 21 41.9	+1.3
RCDM				*i* S	Sn	11 22 08.8	+2.9
RCDM				AML	AML	11 22 15.8	
	comp=E,118nm,0.4s						
FCH	**Farellones**	**2.17**	**148**	*e*P	Pn	11 21 42.8	+1.5
FCH				*i* S	Sn	11 22 10.7	+3.6
FCH				AML	AML	11 22 14.4	
	comp=E,96nm,0.2s						
LMEL	**Las Melosas**	**2.65**	**153**	*e*P	Pn	11 21 50.0	+2.1
LMEL				*e*S	Sn	11 22 22.0	+3.0
LMEL				AML	AML	11 22 31.7	
	comp=N,86nm,0.1s						

IDC 10 11:23:21.5±2.3, 520N×12568E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=202.0km s-min=27.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**25.86**	**124**	LR	LR	11 38 42.1	
	comp=Z,97nm,21.7s,baz=272,slow=36						
WRA	**Warramunga Arr**	**26.39**	**161**	P	P	11 29 00.7	+1.1
	0.6nm,0.5s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.79**	**165**	P	P	11 29 29.2	-0.6
	0.1nm,0.4s,baz=342,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	**55.76**	**325**	P	P	11 33 00.2	+0.1
	0.6nm,0.5s,baz=117,slow=7.6,SNR=4.5						

*NAO **10** 11:29:27.3±1.7, 6752N×3404E, ML2.1*
**HEL 10 11:29:27.7±0.2, 6768N×3409E, h0km, ML2.5, ML2.1(BER), ML2.1(NAO

SGF				*e*SG	Sg	11 30 57.1	-4.2
SGF				MSG		11 31 01.1	
	comp=Z,23nm,0.2s						
KEV	**Kevo**	**3.32**	**312**	*e*P	Pn	11 30 21.4	+0.5
KEV				*e*S	Sn	11 30 59.5	-1.5
ARA0	**ARCESS Array S**	**3.65**	**305**	Pn	Pn	11 30 25.3	-0.2
	baz=123,slow=16						
ARA0				Sn	Sn	11 31 08.0	-1.3
	baz=122,slow=28						
ARA0				Lg		11 31 21.8	
	baz=129,slow=37						
ARA0	**ARCESS Array S**	**3.65**	**305**	*e*P	Pn	11 30 25.3	-0.2
ARA0				*e*S	Sn	11 31 08.0	-1.3
ARA0				*e*SG	Sg	11 31 21.8	-3.3
OUL	**Oulu**	**4.20**	**235**	*e*SB	Sb	11 31 32.8	-1.0
OUL				*e*SG	Sg	11 31 37.5	-5.2
OUL				MSG		11 31 42.5	
	comp=Z,6.0nm,0.3s						
KTK1	**Kautokeino**	**4.24**	**293**	*e*P	Pn	11 30 34.0	+0.6
KTK1				AML	AML	11 31 42.6	
	comp=Z,8.2nm,0.5s						
KJN	**Kajaani**	**4.46**	**219**	*e*SG	Sg	11 31 44.3	-6.6
KIF	**Kilpisjarvi**	**5.10**	**291**	*e*S	Sn	11 31 42.0	-2.9
FIA0	**FINESS Array S**	**7.14**	**213**	Lg		11 33 07.3	
	baz=24,slow=37						
FIA0	**FINESS Array S**	**7.14**	**213**	Lg		11 33 07.3	
	baz=24,slow=37						
FIA0	**FINESS Array S**	**7.14**	**213**	*e*SG		11 33 07.3	
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn	Pn	11 32 14.4	-1.0
	baz=150,slow=14						
SPA0	**Spitsbergen Ar**	**11.66**	**342**	*e*P	Pn	11 32 14.4	-1.0

NAO ***10*** *11:30:23.6, 36.10N×2432E, h33km, mb3.8*
IDC ***10*** *11:30:44.0±1.4, 3835N×2160E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.1/1, Error ellipse: s-maj=31.4km s-min=24.7km az=126.0*
ATH ***10*** *11:30:45.4, 3830N×2177E, h16km±3km, MD3.6/11, ML3.3*
ISCJB ***10*** *11:30:45.2±0.7, 3832N±003×2179E±003, h5km±5km, mb3.9/6, Error ellipse: s-maj=4.4km s-min=4.3km az=158.6*
THE ***10*** *11:30:45.2, 3826N×2178E, h10km, ML3.3*
NEIC ***10*** *11:30:45.2, 3826N×2178E, h0km, ML3.1(ATH), ML3.7(THE), After THE.*
CSEM ***10*** *11:30:46.1±0.1, 3830N×2171E, h10km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.8km az=62.0*
SKO ***10*** *11:30:52.5, 3877N×2236E, h0km*
SOF ***10*** *11:30:56.3, 3908N×2237E, h5km, MD2.9*

ISC 10 11:30:45.6±0.7, 3831N±003×2180E±004, h2km±5km, n50, σ1f25/60, mb3.9/6, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.61**	**1**	⇓*i*PB	**Pg**	**11 30 56.5**	**-0.8**
EVR				*e*SN	**Sg**	**11 31 06.5**	**+1.3**
AGG	**Agios Georgios**	**0.83**	**30**	*e*Pg	**Pg**	**11 31 00.8**	**-0.7**
AGG				*e*Sg	**Sg**	**11 31 14.4**	**+2.2**
VLS	**Valsamata**	**0.96**	**263**	*e*PB	**Pg**	**11 31 02.3**	**-1.8**
VLS				*e*SN	**Sg**	**11 31 17.6**	**+1.0**
LKD	**Levkas**	**0.99**	**294**	*e*Pg	**Pg**	**11 31 02.9**	**-1.6**
LKD				*e*Sg	**Sg**	**11 31 18.6**	**+1.3**
LKR	**Lokris**	**1.00**	**70**	*e*PB	**Pb**	**11 31 04.3**	**-1.4**
LKR				*e*SN	**Sn**	**11 31 19.7**	**-1.7**
ITM	**Ithomi**	**1.13**	**175**	⇓*i*PN	**Pn**	**11 31 07.2**	**-1.3**
THL	**Klokotos Trika**	**1.27**	**7**	*e*PN	**Pn**	**11 31 09.3**	**-1.1**
THL				*e*SN	**Sn**	**11 31 27.5**	**-0.4**
NEO	**Neokhori**	**1.49**	**48**	P	**Pn**	**11 31 13.7**	**+0.2**
XOR	**Xorichti**	**1.52**	**45**	*e*Pg	**Pg**	**11 31 13.6**	**-1.2**
JAN	**Janina**	**1.54**	**332**	*e*PN	**Pn**	**11 31 13.9**	**-0.2**
MEV	**Metsovon**	**1.54**	**343**	*e*Pg	**Pg**	**11 31 14.1**	**-1.1**
ATH	**Athens Observa**	**1.55**	**102**	*e*PN	**Pn**	**11 31 14.6**	**+0.4**
KVR	**Kavouri**	**1.63**	**106**	*e*PN	**Pn**	**11 31 17.0**	**+1.7**
PTL	**Penteli**	**1.65**	**98**	*e*PN	**Pn**	**11 31 16.3**	**+0.7**
VLI	**Veliai**	**1.82**	**150**	*e*PN	**Pn**	**11 31 18.1**	**+0.1**
VLI				*e*SN	**Sn**	**11 31 42.0**	**+0.3**
AOS	**Alonnisos**	**1.84**	**61**	*e*Pb	**Pb**	**11 31 17.6**	**-2.4**
LIT	**Litokhoron**	**1.87**	**16**	*e*Pb	**Pb**	**11 31 18.3**	**-2.2**
LIT				*e*Sb	**Sb**	**11 31 44.3**	**-0.1**
KZN	**Kozani**	**2.00**	**359**	*e*PN	**Pn**	**11 31 21.6**	**+1.2**
KEK	**Kerkira**	**2.10**	**313**	*e*PN	**Pn**	**11 31 21.8**	**0.0**
KYTH	**Kithira**	**2.25**	**154**	*e*PN	**Pn**	**11 31 25.5**	**+1.6**
PLG	**Polygyros**	**2.43**	**31**	*e*PN	**Pn**	**11 31 26.0**	**-0.3**
FNA	**Florina**	**2.50**	**353**	*e*Pn	**Pn**	**11 31 28.3**	**+1.0**
GRG	**Griva**	**2.69**	**10**	*e*Pn	**Pn**	**11 31 30.3**	**+0.4**
BIA	**Bitola**	**2.73**	**352**	*e*Pn	**Pn**	**11 31 33.4**	**+2.9**
SOH	**Sokhos**	**2.78**	**25**	*e*Pn	**Pn**	**11 31 31.5**	**+0.3**
KRUS	**Krusevo**	**3.09**	**355**	*e*Pn	**Pn**	**11 31 37.7**	**+2.3**
KRUS	**Krusevo**	**3.09**	**352**	*e*Pn	**Pn**	**11 31 37.6**	**+2.2**
APE	**Apeiranthos**	**3.21**	**112**	*e*PN	**Pn**	**11 31 37.6**	**+0.6**
NVR	**Nevrokopi**	**3.43**	**27**	*e*PN	**Pn**	**11 31 41.0**	**+0.9**
VAM	**Vamos**	**3.48**	**146**	*e*PB	**Pb**	**11 31 44.0**	**-3.9**
MMB	**Musomiste**	**3.60**	**24**	P	**Pn**	**11 31 42.0**	**-0.4**
MMB				*i* Sg	**Sn**	**11 32 25.0**	**-0.5**
KKB	**Krupnik**	**3.69**	**15**	P	**Pn**	**11 31 43.9**	**+0.2**
SMG	**Samos**	**4.02**	**97**	P	**Pn**	**11 31 50.3**	**+2.1**
TIP	**Timpagrande**	**4.04**	**284**	P	**Pn**	**11 31 49.2**	**+0.7**
RDO	**Rodhopi**	**4.04**	**44**	*e*PN	**Pn**	**11 31 49.7**	**+1.2**
RZN	**Rozhen**	**4.05**	**33**	*i* P	**Pn**	**11 31 48.7**	**+0.1**
VTS	**Vitosha**	**4.41**	**14**	P	**Pn**	**11 31 54.0**	**+0.4**
VTS				Sg	**Sn**	**11 32 45.2**	**-0.4**
VTS				*i* P		04 33 29.8	
VTS	**Vitosha**	**4.41**	**14**	P	**Pn**	**11 31 55.3**	**+1.7**
BBLS	**Bajina Basta -**	**5.84**	**343**	*i* Pn	**Pn**	**11 32 14.6**	**+1.3**
DIVS	**Divcibare**	**5.95**	**347**	*i* Pn	**Pn**	**11 32 14.6**	**-0.1**
MLR	**Muntele Rosu**	**7.81**	**22**	Pn	**Pn**	**11 32 44.6**	**+4.3**
	0.6nm,0.3s,baz=204,slow=8.1,SNR=4.2						
MLR				Lg		11 34 53.6	
	0.6nm,0.3s,baz=57,slow=9.5,SNR=3.4						
BRTR	**Keskin Array B**	**9.32**	**78**	Pn	**Pn**	**11 33 03.5**	**+2.4**
	0.2nm,0.3s,baz=259,slow=12,SNR=3.2						
BRTR				Lg		11 35 42.0	
	0.7nm,0.3s,baz=287,slow=17,SNR=8.4						
HFS	**Hagfors**	**22.45**	**349**	P	**P**	**11 35 42.8**	**-3.0**
	12nm,1.2s,mb4.2,baz=168,slow=11,SNR=6.9						
FINES	**FINESS Array B**	**23.32**	**5**	P	**P**	**11 35 54.2**	**-0.9**
	3.3nm,1.0s,mb3.7,baz=110,slow=16,SNR=2.9						
NB2	**NORSAR Subarra**	**23.70**	**347**	P	**P**	**11 35 55.8**	**-3.1**
	comp=Z,1.0nm,0.5s,mb3.5,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**23.70**	**347**	P	**P**	**11 35 56.8**	**-2.1**
	comp=Z,2.0nm,0.9s,mb3.6,baz=154,slow=9.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**30.77**	**221**	P	**P**	**11 37 00.8**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.7,baz=30,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**44.38**	**59**	P	**P**	**11 38 56.5**	**-0.9**
	comp=Z,2.0nm,0.4s,mb4.2,baz=276,slow=7.5,SNR=17						
ZAL	**Zalesovo**	**44.84**	**48**	P	**P**	**11 38 59.7**	**-1.5**
	comp=Z,1.9nm,0.4s,mb4.3,baz=213,slow=6.4,SNR=3.6						
ZAL	**Zalesovo**	**44.84**	**48**	P	**P**	**11 38 59.7**	**-1.5**

ISCJB ***10*** *11:33:13.9±0.8, 2405S±004×6682W±009, h190km±9km, mb3.7/6, Error ellipse: s-maj=13.3km s-min=6.9km az=10.2*
IDC ***10*** *11:33:14.7±1.2, 2400S×6673W, h180km±11km, mb3.6/6, mb1 3.8/11, mb1mx3.7/19, mbtmp3.6/11, Error ellipse: s-maj=20.6km s-min=11.7km az=76.0*
NEIC ***10*** *11:33:15.4±0.7, 2395S×6668W, h186km±7km, mb3.9/1, Error ellipse: s-maj=13.6km s-min=8.8km az=91.0*
GUC ***10*** *11:33:17.6±0.5, 2414S×6712W, h180km, ML4.4*

ISC 10 11:33:14.9±0.8, 2404S±005×6680W±009, h183km±8km, n21, σ1f21/30, mb3.7/6, 1C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.40**	**306**	P	**Pn**	**11 33 58.4**	**+1.9**
	80nm,0.3s,baz=131,slow=6.0,SNR=528						
LVC				S	**Sn**	**11 34 30.0**	**+1.0**
	122nm,0.3s,baz=88,slow=6.7,SNR=37						
CEN1	**Los Morros**	**3.18**	**281**	⇓*i*P	**Pn**	**11 34 07.7**	**+1.9**
CEN1				*i* S	**Sn**	**11 34 45.7**	**+0.1**
CEN1				AML	AML	11 34 49.4	
	comp=E,452nm,0.5s						
ANCH	**Antofagasta**	**3.32**	**275**	⇑*i*P	**Pn**	**11 34 08.5**	**+0.9**
ANCH				*i* S	**Sn**	**11 34 46.8**	**-1.9**
ANCH				AML	AML	11 34 50.4	
	comp=N,1μm,0.5s						
CPN1	**Cerro Paranal**	**3.34**	**259**	*e*P	**Pn**	**11 34 08.6**	**+0.9**
CPN1				*i* S	**Sn**	**11 34 47.9**	**-1.1**
CPN1				AML	AML	11 34 51.6	
	comp=E,500nm,0.5s						
CDCH	**Caldera**	**4.73**	**229**	*e*P	**Pn**	**11 34 24.3**	**-1.1**
CDCH				*i* S	**Sn**	**11 35 16.8**	**-3.8**
CFAA	**Coronel Fontan**	**7.64**	**189**	P	**Pn**	**11 35 04.8**	**+1.4**
	comp=E,0.6nm,0.3s,baz=5.9,slow=12,SNR=44						
CFAA				S	**Sn**	**11 36 26.9**	**-2.5**
	comp=E,1.8nm,0.3s,baz=247,slow=20,SNR=15						
CFAA	**Coronel Fontan**	**7.64**	**189**	P	**Pn**	**11 35 04.8**	**+1.4**
CFAA				S	**Sn**	**11 36 26.9**	**-2.5**
LPAZ	**La Paz**	**7.81**	**351**	P	**Pn**	**11 35 06.3**	**+0.7**
	comp=E,2.2nm,0.3s,baz=161,slow=12,SNR=70						
LPAZ				S	**Sn**	**11 36 32.6**	**-0.7**
	comp=E,0.5nm,0.3s,baz=113,slow=23,SNR=3.7						
ARE	**Arequipa**	**8.72**	**329**	*e*P	**Pn**	**11 35 15.0**	**-2.6**
ARE				*e*S	**Sn**	**11 36 48.0**	**-7.1**
SIV	**San Ignacio**	**9.65**	**35**	P	**Pn**	**11 35 28.8**	**-0.8**
	comp=E,1.3nm,0.3s,baz=218,slow=12,SNR=28						
SIV				S	**Sn**	**11 37 06.6**	**-11**
	comp=E,0.3nm,0.3s,baz=215,slow=14,SNR=3.0						
NNA	**Nana**	**15.31**	**320**	P	**Pn**	**11 36 42.5**	**+0.9**
	comp=E,0.9nm,0.3s,baz=198,slow=5.2,SNR=4.7						
SAML	**Samuel**	**15.40**	**14**	*e*P	**Pn**	**11 36 41.1**	**-1.4**
	comp=E,3.1nm,0.5s						
VNA2	**Neumayer--Watz**	**57.62**	**160**	*e*	**P**	**11 42 46.7**	**+1.0**
	baz=287,slow=8.7						
VNA2				*e*		11 42 48.8	
VNA2				*e*		11 42 52.3	
VNA2				*e*		13 40 15.4	
VNA2				*e*		13 40 20.1	
VNA2				*e*		15 58 27.5	
VNA2				*e*		15 58 32.1	
SNAA	**Sanae**	**59.26**	**161**	P	**P**	**11 42 57.9**	**+0.9**
	comp=E,0.3nm,0.8s,mb3.2,baz=317,slow=3.3,SNR=6.6						
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**11 43 27.9**	**+0.5**
	comp=E,0.7nm,0.7s,mb3.6,baz=154,slow=7.6,SNR=10						
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**11 43 27.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**11 44 43.8**	**-0.2**
	comp=E,1.8nm,0.6s,mb3.9,baz=258,slow=6.0,SNR=16						
PDAR	**Pinedale Array**	**77.27**	**329**	P	**P**	**11 44 49.0**	**+0.2**
	comp=E,0.5nm,0.5s,mb3.4,baz=129,slow=7.3,SNR=5.6						
ULM	**Lac du Bonnet**	**78.32**	**341**	P	**P**	**11 44 53.9**	**-0.7**
	comp=E,2.1nm,0.5s,mb4.0,baz=154,slow=6.9,SNR=5.1						
YKA	**Yellowknife Ar**	**94.22**	**340**	P	**P**	**11 46 12.3**	**-0.6**
	comp=E,0.6nm,0.5s,mb4.0,baz=135,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**146.44**	**40**	PKPbc	PKPbc	11 52 35.5	+1.3
	comp=E,1.1nm,0.9s,baz=349,slow=2.1,SNR=4.8						

NEIC ***10*** *11:33:38.0±1.5, 6.12S×153.85E, h10km, mb4.3/1, Error ellipse: s-maj=46.2km s-min=13.2km az=120.0*
ISCJB ***10*** *11:33:44.2±5.3, 6.0S±02×153.4E±03, h53km±39km, mb3.8/6, MS3.0/2, Error ellipse: s-maj=49.6km s-min=23.9km az=48.1*
IDC ***10*** *11:33:53.3±8.7, 5.83S×152.62E, h90km±60km, mb3.6/6, mb1 3.7/7, mb1mx3.5/15, mbtmp3.6/7, ML3.1/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/18, Error ellipse: s-maj=89.7km s-min=26.7km az=100.0*

ISC 10 11:33:45.6±4.9, 61S±02×1535E±03, h55km±36km, n14, σ0f48/13, mb3.8/6, MS3.0/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.09**	**242**	P	**Pn**	**11 35 26.8**	**+0.1**
	2.6nm,0.3s,baz=40,slow=10,SNR=9.9						
PMG				S	**Sn**	**11 36 45.8**	**0.0**
	2.7nm,0.3s,baz=84,slow=15,SNR=3.5						
CTA	**Charters Tower**	**15.62**	**206**	LR	LR	11 41 55.0	
	comp=Z,67nm,19.4s,baz=233,slow=31						
WB2	**Warramunga Arr**	**23.15**	**232**	*e*P	**P**	**11 38 47.0**	**-0.3**
WRA	**Warramunga Arr**	**23.16**	**232**	P	**P**	**11 38 46.7**	**-0.7**
	0.7nm,0.6s,mb3.3,baz=61,slow=8.9,SNR=16						
WRA				PcP	PcP	11 42 37.4	+3.3
	0.3nm,0.5s,baz=54,slow=2.5,SNR=8.0						
WRA				LR	LR	11 47 56.2	
	comp=Z,60nm,18.1s,MS3.1,baz=105,slow=37						
AS31	**Alice Springs**	**25.71**	**225**	*e*P	**P**	**11 39 11.0**	**+0.3**
ASAR	**Alice Springs**	**25.71**	**225**	P	**P**	**11 39 10.8**	**+0.1**
	0.5nm,0.4s,mb3.4,baz=57,slow=8.5,SNR=28						
ASAR				PcP	PcP	11 42 42.6	+3.0
	0.2nm,0.5s,baz=58,slow=2.5,SNR=5.0						
ASAR				LR	LR	11 48 17.5	
	comp=Z,52nm,21.9s,MS3.0,baz=255,slow=34						
ASAR	**Alice Springs**	**25.71**	**225**	P	**P**	**11 39 10.8**	**+0.1**
ASAR				PcP	PcP	11 42 42.6	+3.0
ASAR				LR	LR	11 48 17.5	
ASPA	**Alice Springs**	**25.72**	**225**	*e*P	**P**	**11 39 11.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**29.68**	**244**	*e*P	**P**	**11 39 46.5**	**+0.3**
	3.1nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.68**	**244**	P	**P**	**11 39 45.9**	**-0.3**
	1.7nm,0.7s,mb3.9,baz=137,slow=4.7,SNR=6.0						
SONM	**Songino Array**	**67.73**	**328**	P	**P**	**11 44 37.2**	**-0.1**
	0.4nm,0.4s,mb3.9,baz=141,slow=5.5,SNR=7.2						
MKAR	**Makanchi Array**	**81.70**	**319**	P	**P**	**11 45 59.1**	**+1.0**
	0.9nm,0.6s,mb3.9,baz=104,slow=6.7,SNR=8.8						
ZAL	**Zalesovo**	**82.56**	**326**	P	**P**	**11 46 01.8**	**-0.9**
	1.2nm,0.4s,mb4.2,baz=13,slow=7.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**151.31**	**286**	PKPbc	PKPbc	11 53 35.0	+2.1
	1.2nm,0.6s,baz=54,slow=2.3,SNR=7.0						

IDC ***10*** *11:49:49.6±6.6, 7263N×420W, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.4/21, mbtmp3.6/4, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=104.9km s-min=77.5km az=39.0*
ISCJB ***10*** *11:49:51.8±0.6, 7106N±009×759W±007, h10km, mb3.2/1, MS3.1/1, Error ellipse: s-maj=13.5km s-min=3.4km az=174.3*
NEIC ***10*** *11:49:52.9±1.0, 7123N×805W, h10km, Error ellipse: s-maj=13.6km s-min=8.4km az=149.0*
NAO ***10*** *11:49:52.9±1.4, 7104N×765W*
CSEM ***10*** *11:49:53.6±0.1, 7090N×792W, h5km, ML4.5/3, Error ellipse: s-maj=5.3km s-min=2.5km az=21.0*
BER ***10*** *11:49:53.7±0.6, 7122N×815W, h10km, MD3.6, ML3.4*

ISC 10 11:49:53.8±0.6, 7105N±009×780W±008, h10km, n36, σ0f74/50, mb3.2/1, MS3.1/1, 1C-3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.17**	**251**	*e*P	**Pg**	**11 49 58.1**	**+0.6**
JNW	**Jan Mayen West**	**0.20**	**265**	⇓*i*P	**Pg**	**11 49 58.0**	**-0.1**
JNW				*e*S	**Sg**	**11 50 01.0**	**0.0**
JNW				AML	AML	11 50 04.0	
	comp=Z,21μm,0.5s						
JMIC	**Jan Mayen**	**0.24**	**256**	Pg	**Pg**	**11 49 58.6**	**-0.2**
JMIC				Lg		11 50 02.1	
JMIC	**Jan Mayen**	**0.24**	**256**	⇓*i*P	**Pg**	**11 49 58.5**	**-0.2**
JMIC				*e*S	**Sg**	**11 50 02.0**	**-0.1**
JMIC				AML	AML	11 50 03.2	
	comp=Z,15μm,0.6s						
JMIC	**Jan Mayen**	**0.24**	**256**	⇓*i*P	**Pg**	**11 49 58.5**	**-0.2**
JMIC				*e*S	**Sg**	**11 50 02.0**	**-0.1**
JMI	**Jan Mayen**	**0.33**	**249**	*i* P	**Pg**	**11 50 00.0**	**-0.3**
JMI				*e*S	**Sg**	**11 50 04.7**	**+0.1**
JMI				AML	AML	11 50 06.4	
	comp=Z,6μm,0.2s						
JMI	**Jan Mayen**	**0.33**	**249**	*i* P	**Pg**	**11 50 00.0**	**-0.3**
JMI				*e*S	**Sg**	**11 50 04.7**	**+0.1**
DAG	**Danmarks Havn**	**6.48**	**337**	⇑*i*P	**Pn**	**11 51 25.0**	**-4.2**
	comp=Z,18nm,0.5s						
DAG				*i*		11 52 31.5	
LOF	**Lofoten**	**7.99**	**101**	*e*Pn	**Pn**	**11 51 49.7**	**-0.2**
LOF				*e*Sn	**Sn**	**11 51 23.0**	**+4.1**
LOF	**Lofoten**	**7.99**	**101**	*e*P	**Pn**	**11 51 51.8**	**+1.9**
LOF				*e*S	**Sn**	**11 51 23.0**	**+4.1**
LOF	**Lofoten**	**7.99**	**101**	*e*P	**Pn**	**11 51 51.8**	**+1.9**
STOK1	**Konsvik**	**8.82**	**111**	*e*Pn	**Pn**	**11 52 00.8**	**-0.5**
STOK1	**Konsvik**	**8.82**	**111**	*e*Sn	**Sn**	**11 53 34.7**	**-6.0**
STOK1	**Konsvik**	**8.82**	**111**	AML	AML	11 53 40.4	
	comp=Z,10nm,0.5s						
STOK	**Stokkvaagen**	**8.90**	**112**	*e*Sn	**Sn**	**11 53 36.0**	**-6.7**
STOK				AML	AML	11 53 39.8	
	comp=Z,11nm,0.4s						
STOK	**Stokkvaagen**	**8.90**	**112**	*e*P	**Pn**	**11 52 02.4**	**0.0**
STOK				*e*S	**Sn**	**11 53 36.0**	**-6.7**
STOK	**Stokkvaagen**	**8.90**	**112**	*e*Pn	**Pn**	**11 52 02.4**	**0.0**
	SNR=53						
STOK				*e*Sn	**Sn**	**11 53 36.0**	**-6.6**
	comp=Z,11nm,0.4s,SNR=53						
STOK2	**Flostrand**	**9.00**	**111**	*e*Pn	**Pn**	**11 52 03.9**	**+0.2**
MOR8	**Moi Rana**	**9.44**	**110**	*e*Pn	**Pn**	**11 52 10.5**	**+0.8**
MOR8				*e*Sn	**Sn**	**11 53 51.2**	**-4.7**
MOR8				AML	AML	11 53 58.5	
	comp=Z,14nm,0.4s						
MOR8	**Moi Rana**	**9.44**	**110**	*e*P	**Pn**	**11 52 10.5**	**+0.8**
MOR8				*e*S	**Sn**	**11 53 53.7**	**-2.2**
MOR8	**Moi Rana**	**9.44**	**110**	*e*Pn	**Pn**	**11 52 10.5**	**+0.7**
	SNR=53						
MOR8				*e*Sn	**Sn**	**11 53 51.2**	**-4.7**
	comp=Z,14nm,0.4s,SNR=53						
SPA0	**Spitsbergen Ar**	**9.51**	**31**	Pn	**Pn**	**11 52 10.4**	**-0.3**
	baz=232,slow=14						
SPA0	**Spitsbergen Ar**	**9.51**	**31**	*e*P	**Pn**	**11 52 10.4**	**-0.3**
	SNR=282						
NSS	**Namsos**	**9.89**	**122**	*e*Pn	**Pn**	**11 52 14.9**	**-1.0**
NSS				*e*Sn	**Sn**	**11 53 57.8**	**-9.1**
NSS				AML	AML	11 54 06.2	
	comp=Z,15nm,0.3s						
NSS	**Namsos**	**9.89**	**122**	*e*P	**Pn**	**11 52 14.9**	**-1.0**
NSS				*e*S	**Sn**	**11 53 57.8**	**-9.1**
NSS	**Namsos**	**9.89**	**122**	*e*Pn	**Pn**	**11 52 14.9**	**-1.0**
	SNR=53						
NSS				*e*Sn	**Sn**	**11 53 57.8**	**-9.2**
	comp=Z,15nm,0.3s,SNR=53						
KTK1	**Kautokeino**	**10.73**	**86**	*e*Pn	**Pn**	**11 52 27.9**	**+0.4**
ARA0	**ARCESS Array S**	**11.26**	**82**	Pn	**Pn**	**11 52 34.4**	**-0.3**
	baz=288,slow=12						
NB2	**NORSAR Subarra**	**12.59**	**133**	Pn	**Pn**	**11 52 53.0**	**+0.1**
NOA	**NORSAR Array B**	**12.59**	**133**	Pn	**Pn**	**11 52 59.3**	**+6.4**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=2.6						
NOA				Sn	**Sn**	**11 55 20.0**	**+6.9**
	comp=Z,0.3nm,0.3s,baz=188,slow=19,SNR=2.4						
HFS	**Hagfors**	**13.98**	**131**	Pn	**Pn**	**11 53 10.0**	**-1.9**
	baz=335,slow=14						
HFS	**Hagfors**	**13.98**	**131**	Pn	**Pn**	**11 53 12.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=8.3						
FIA0	**FINESS Array S**	**16.42**	**109**	P	**Pn**	**11 53 45.5**	**+1.2**
	baz=335,slow=11						
FINES	**FINESS Array B**	**16.42**	**109**	Pn	**Pn**	**11 53 35.8**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=325,slow=14,SNR=6.4						
GERES	**GERESS Array B**	**24.45**	**144**	P	**P**	**11 55 16.4**	**+3.8**
	comp=Z,0.4nm,0.4s,mb3.2,baz=331,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**46.66**	**71**	LR	LR	12 20 02.9	
	comp=Z,21nm,19.8s,MS3.1,baz=169,slow=40						

IDC 10 12:10:45.0±1.6, 5321S×14017E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.8/9, mbtmp3.6/4, MS3.6/8, Ms1 3.6/8, ms1mx3.4/16, Error ellipse: s-maj=177.8km s-min=25.1km az=82.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.34**	**3**	P	P	12 15 34.5	+0.9
	3.1nm,0.8s,baz=172,slow=9.7,SNR=6.5						
RPZ	**Rata Peaks**	**22.42**	**77**	LR	LR	12 22 48.5	
	comp=Z,200nm,18.8s,baz=215,slow=32						
VNDA	**Vanda**	**25.67**	**169**	P	P	12 16 16.0	-0.4
	0.8nm,0.9s,baz=325,slow=10,SNR=3.8						
VNDA				LR	LR	12 25 25.2	
	comp=Z,55nm,19.6s,baz=147,slow=34						
ASAR	**Alice Springs**	**29.88**	**348**	P	P	12 16 54.2	0.0
	0.2nm,0.5s,baz=210,slow=37,SNR=3.8						
CTA	**Charters Tower**	**33.39**	**10**	LR	LR	12 29 24.8	
	comp=Z,72nm,18.6s,baz=306,slow=34						
WRA	**Warramunga Arr**	**33.51**	**350**	P	P	12 17 25.3	-0.8
	0.7nm,0.9s,baz=171,slow=7.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**36.82**	**337**	LR	LR	12 32 47.8	
	comp=Z,48nm,19.6s,baz=176,slow=36						
DZM	**Mont Dzumac**	**36.99**	**43**	LR	LR	12 31 16.6	
	comp=Z,294nm,19.5s,baz=198,slow=33						
MAW	**Mawson**	**37.95**	**217**	LR		12 31 30.8	
	comp=Z,28nm,20.4s,baz=142,slow=33						
HNR	**Honiara**	**46.49**	**27**	LR	LR	12 35 09.5	
	comp=Z,63nm,19.2s,baz=358,slow=32						
BOSA	**Boshof**	**80.92**	**234**	LR	LR	12 54 48.9	
	comp=Z,38nm,18.3s,baz=10,slow=33			

KKN eSn Sn 13 24 22.0 -2.5
comp=Z,920nm,0.5s
DMN Daman 7.13 297 ePn Pn 13 23 06.6 +0.2
DMN eSn Sn 13 24 23.6 -2.5
comp=Z,1μm,0.6s
GKN Gorkha 7.67 298 ePn Pn 13 23 14.2 +0.4
GKN eSn Sn 13 24 36.3 -3.1
GKN Gorkha 7.67 298 eSn Sn 13 24 36.3 -3.1
comp=Z,2μm,0.4s
VLK Valmikinagar 8.05 292 i P Pn 13 23 20.0 +0.9
VLK ex Sn 13 24 48.0 -0.8
CHG Chiang Mai 8.42 131 ⇓P Pn 13 23 22.3 -1.8
comp=Z,36nm,0.7s
CHTO Chiang Mai 8.42 131 P Pn 13 23 23.4 -0.7
SNR=9.3
CHTO Chiang Mai 8.42 131⇑ eP Pn 13 23 21.7 -2.4
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO Chiang Mai 8.42 131⇑ ePn Pn 13 23 21.7 -2.4
comp=Z,24nm,0.8s
KOLN Koldanda 8.43 294 ePn Pn 13 23 24.0 -0.2
KOLN eSn Sn 13 24 53.4 -4.6
comp=Z,592nm,0.4s
CM31 Chiang Mai Arr 8.67 133 ePn Pn 13 23 25.6 -1.9
comp=Z,15nm,0.8s
ALBI Allahabad 9.53 277 eP Pn 13 23 36.5 -2.8
ALBI ex Sn 13 25 19.5 -5.5
KMI Kunming 9.53 84 P Pn 13 23 40.1 +0.8
KMI AP 13 23 44.9
KMI XP 13 23 49.9
KMI PPP 13 23 54.7
KMI S Sn 13 25 25.7 +0.7
KMI XS 13 25 34.6
KMI SS 13 25 37.3
KMI SSS 13 25 49.7
KMI AMB AMB
comp=Z,24nm,1.0s
KMI AMB AMB
comp=Z,153nm,3.4s
KMI LR LR
comp=N,1μm,17.0s
KMI LR LR
comp=E,636nm,8.6s
KMI LR LR
comp=Z,1μm,18.7s
KMI Kunming 9.53 84 P Pn 13 23 40.1 +0.8
comp=Z,24nm,1.0s
KMI pP 13 23 44.9
KMI sP 13 23 49.9
KMI PPP 13 23 54.7
KMI S Sn 13 25 25.7 +0.7
KMI sS 13 25 34.6
KMI SS 13 25 37.3
KMI SSS 13 25 49.7
BDT Bhumibol Dam 9.60 138 P Pn 13 23 39.5 -0.8
comp=Z,13nm,0.8s
NANT Nan 9.69 124 ⇑P Pn 13 23 39.0 -2.5
comp=Z,174nm,1.0s
VIS Vishakhapatnam 10.75 233 eP Pn 13 23 56.0 0.0
VIS AMb AMB 13 23 59.5
comp=Z,21nm,0.5s
VIS eS Sn 13 25 44.4 -10
JBP Jabalpur 11.33 266 eP Pn 13 24 03.6 -0.3
JBP AMb AMB 13 24 07.9
comp=Z,74nm,0.9s
JBP i x Sn 13 26 06.3 -2.8
NST Nakhon Sawan 11.50 139 P Pn 13 24 05.0 -1.2
comp=Z,58nm,0.6s
LGTI Lohaghat 11.78 297 eP Pn 13 24 09.0 -1.1
LGTI ex Sn 13 26 16.3 -3.9
PTH Pithoragarh 11.84 298 eP Pn 13 24 09.8 -1.1
PTH ex Sn 13 26 18.9 -2.8
CD2 Chengdu 11.99 55 P Pn 13 24 09.0 -3.9
CD2 PP 13 24 19.0
CD2 XP 13 24 25.5
CD2 S Sn 13 26 16.4 -8.9
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,1μm,12.0s
CD2 LR LR
comp=Z,2μm,19.2s
NGP Nagpur 12.65 257⇓ eP Pn 13 24 19.9 -1.9
NGP AMb AMB 13 24 30.4
comp=Z,60nm,1.0s
NGP eS Sn 13 26 31.5 -10
KKTK Khon Kaen 12.81 128 P Pn 13 24 35.0 +11
comp=Z,247nm,0.5s
GYA Guiyang 13.14 79 P Pn 13 24 25.8 -2.9
GYA PP 13 24 36.3
GYA S Sn 13 26 54.6 +1.2
GYA XS 13 27 07.4
GYA SS 13 27 10.5
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,220nm,4.0s
GYA LR LR
comp=N,940nm,16.7s
GYA LR LR
comp=E,870nm,16.4s
GYA LR LR
comp=Z,910nm,16.0s
BHPL Bhopal 13.64 268 eP Pn 13 24 33.1 -2.4
BHPL AMb AMB 13 24 34.6
comp=Z,94nm,0.7s
BHPL eS Sn 13 26 52.1 -13
NNT Nongplab 13.82 148 P Pn 13 24 45.0 +7.0
DDI Dehra Dun 13.87 298 eP Pn 13 24 40.0 +1.4
DDI eS Sn 13 27 01.0 -10
NDI New Delhi 14.08 290 eP Pn 13 24 39.4 -2.1
NDI AMb AMB 13 24 41.8
comp=Z,36nm,1.4s
NDI eS Sn 13 27 03.0 -13
HYB Hyderabad 14.63 244 i P Pn 13 24 47.0 -1.9
HYB eS Sn 13 27 16.5 -13
HYB Hyderabad 14.63 244 eP Pn 13 24 47.0 -1.9
HYB pmax pmax
comp=Z,150nm,1.0s
HYB Hyderabad 14.63 244 eP Pn 13 24 47.0 -1.9
comp=Z,150nm,1.0s
HYB eS Sn 13 27 16.5 -13
SDNR Sundarnagar 15.18 301 eP Pn 13 24 56.6 +0.5
SDNR eS S 13 27 30.0 -28
LZH Lanzhou 15.23 38 ⇓P Pn 13 24 54.0 -2.7
LZH AP pP 13 25 02.8 -8.6
LZH PP 13 25 07.2
LZH XP sP 13 25 09.5 -7.4
LZH S S 13 27 41.5 -18
LZH XS sS 13 27 55.1 -21
LZH SS 13 28 00.2
LZH AMB AMB
comp=Z,58nm,1.3s
LZH AMB AMB
comp=Z,263nm,4.1s
LZH LR LR
comp=E,965nm,6.3s
LZH LR LR
comp=Z,2μm,10.7s
LZH Lanzhou 15.23 38 ⇓P Pn 13 24 54.0 -2.7
comp=Z,58nm,1.3s
LZH pP pP 13 25 02.8 -8.6
LZH PP 13 25 07.2
LZH sP sP 13 25 09.5 -7.4
LZH S S 13 27 41.5 -18
LZH sS sS 13 27 55.1 -21
LZH SS 13 28 00.2
BHK Bhakra 15.58 300 ex x 13 25 11.0
LATR Latur 15.83 250 eP Pn 13 24 59.3 -5.2
LATR eS Sn 13 27 39.3 -20
AJM Ajmer 16.03 281 eP Pn 13 25 03.8 -3.3
AJM AMb AMB 13 25 13.8
comp=Z,109nm,0.8s
AJM i S Sn 13 27 49.0 -15
GTA Gaotai 16.14 21 ⇓P Pn 13 25 03.7 -4.7
GTA AP pP 13 25 14.6 -6.9
GTA PP 13 25 17.2
GTA XP sP 13 25 20.6 -6.4
GTA S S 13 27 59.1 -19
GTA XS sS 13 28 12.1 -22
GTA SS 13 28 18.2
GTA AMB AMB
comp=Z,12nm,1.5s
GTA AMB AMB
comp=Z,121nm,3.8s
GTA LR LR
comp=N,1μm,17.1s
GTA LR LR
comp=E,624nm,14.8s
GTA LR LR
comp=Z,1μm,19.4s
DLH Dalhousie 16.38 303 eP Pn 13 25 12.0 +0.5
DLH eS S 13 28 00.0 -23
THN Thein Dam 16.53 302 ex Pn 13 25 09.2 -4.1
THN ex S 13 28 12.6 -13
QIZ Qiongzhong 17.21 105 ⇑P Pn 13 25 22.2 +0.4
QIZ S S 13 28 34.1 -5.7
QIZ AMB AMB
comp=Z,50nm,1.5s
QIZ AMB AMB
comp=Z,105nm,10.7s
QIZ LR LR
comp=N,323nm,13.0s
QIZ LR LR
comp=E,441nm,13.0s
QIZ LR LR
comp=Z,632nm,13.8s
QIZ Qiongzhong 17.21 105 eP Pn 13 25 22.0 +0.2
comp=Z,36nm,0.9s
XAN Xi'an 17.32 53 P Pn 13 25 19.9 -3.3
XAN AP pP 13 25 33.1 -1.5
XAN S S 13 28 34.8 -7.2
XAN SS 13 28 56.4
XAN AMB AMB
comp=Z,25nm,1.0s
XAN LR LR
comp=N,466nm,17.9s
XAN LR LR
comp=E,300nm,19.7s
XAN LR LR
comp=Z,767nm,22.0s
POO Poona 18.14 254⇓ iP Pn 13 25 33.0 -0.3
comp=Z,250nm,1.8s
POO AMb AMB 13 26 17.6
comp=Z,34nm,1.4s
POO i x x 13 28 35.0
POO i x Sn 13 28 54.0 -0.8
KAD Karad 18.35 250 eP Pn 13 25 36.3 +0.5
KAD AMb AMB 13 25 40.8
comp=Z,42nm,0.9s
KAD eS S 13 28 42.5 -20
CHCP Chirah Chowk 18.91 303 P Pn 13 25 43.7 +1.1
BOM Bombay 18.92 257 eP Pn 13 25 43.9 +1.2
BOM ex x 13 26 11.5
comp=Z,157nm,0.7s
BOM ex Sn 13 29 04.7 -8.9
SNG Songkhla 19.02 154 P Pn 13 25 43.0 -0.9
comp=Z,170nm,1.0s
GZH Guangzhou 19.34 90 P Pn 13 25 47.4 -0.3
GZH S S 13 29 20.7 -2.1
GZH LR LR
comp=N,274nm,6.8s
GZH LR LR
comp=E,630nm,12.4s
GZH LR LR
comp=Z,951nm,17.1s
WMQ Urumqi 19.60 350⇓ iP Pn 13 25 49.5 -1.3
WMQ AP pP 13 25 59.5 -0.2
WMQ PP 13 26 08.7
WMQ S S 13 29 22.5 -5.5
WMQ XS sS 13 29 38.0 -6.9
WMQ SS 13 29 51.0
WMQ PCP PcP 13 30 07.7 +0.1
WMQ AMB AMB
comp=Z,43nm,0.8s
WMQ AMB AMB
comp=Z,379nm,4.1s
WMQ LR LR
comp=N,445nm,23.6s
WMQ LR LR
comp=E,336nm,19.3s
WMQ LR LR
comp=Z,678nm,21.0s
THW Thamme Wali 19.78 299 P Pn 13 25 51.0 -1.9
CEP Cherat 20.01 302 P P 13 25 57.7 +4.0
CEP S S 13 29 24.0 -12
MNGI Mangalore 20.12 238 i x x 13 26 16.6
MNGI AMb AMB 13 26 25.9
comp=Z,30nm,1.4s
MNGI eS S 13 29 24.4 -14
KSH Kashi 20.30 321 eP P 13 26 01.7 +4.9
KSH eS S 13 29 41.8 -0.1
KSH ePCP PcP 13 30 11.2 +2.3
KSH eSCS ScS 13 37 24.1 -0.4
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=N,803nm,4.4s
KSH LR LR
comp=E,1μm,5.2s
KSH LR LR
comp=Z,812nm,11.2s,MS4.3
SBDP Sheikh Budin 20.38 297 P P 13 25 56.7 -0.9
PALK Pallekele 20.43 215 eP P 13 25 57.9 -0.3
comp=Z,28nm,1.0s
PALK eS S 13 29 29.9 -15
WHN Wuhan 20.46 68 ⇑P P 13 25 58.8 +0.3
WHN S S 13 29 47.0 +1.9
WHN LR LR
comp=Z,2μm,17.8s,MS4.6
DRP Derazinda 20.72 295 P P 13 26 02.4 +1.1
KULM Kulim 20.76 156 eP P 13 26 02.0 +0.3
TRD Trivandrum 21.63 225 eP pP 13 26 22.1 +0.3
TRD AMb AMB 13 26 23.4
comp=Z,34nm,1.6s,mb4.5
TRD ex x 13 30 24.1
IPM Ipoh 21.65 156 P P 13 26 10.2 -1.1
PSI Prapat 22.54 162 P P 13 26 22.5 +1.7
comp=Z,18nm,0.9s,mb4.5,baz=332,slow=7.8,SNR=14
PSI LR LR 13 37 20.2
comp=Z,337nm,18.5s,MS3.8,baz=334,slow=42
PSI Prapat 22.54 162 P P 13 26 22.5 +1.7
PSI LR LR 13 37 20.2
HHC Hu-ho-hao-te 22.90 40 eP P 13 26 25.3 +0.6
HHC AP 13 26 36.5
HHC PP 13 26 57.3
HHC PCP PcP 13 30 16.3 +2.3
HHC S S 13 30 29.9 -1.5
HHC SS 13 31 10.8
HHC PCS PcS 13 33 55.3 +2.3
HHC AMB AMB
comp=Z,21nm,1.2s,mb4.4
HHC LR LR
comp=N,697nm,18.4s,MS4.3
HHC LR LR
comp=E,708nm,14.3s,MS4.3
HHC LR LR
comp=Z,957nm,15.1s,MS4.4
AAK Ala-Archa 23.26 325 dP P 13 26 29.0 +0.6
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.3
AAK MLR MLR
comp=Z,1μm,30.0s,MS4.1
AAK Ala-Archa 23.26 325 eP P 13 26 28.1 -0.4
comp=Z,48nm,1.1s,mb4.8
MK31 Makanchi Array 23.60 343 i P P 13 26 30.3 -1.3
MK31 pmax pmax
comp=Z,39nm,0.8s,mb4.9
MK31 Makanchi Array 23.60 343 eP P 13 26 30.5 -1.1
MKAR Makanchi Array 23.60 343 P P 13 26 30.6 -1.1
comp=Z,9.4nm,0.6s,mb4.4,baz=166,slow=6.6,SNR=57
MKAR PcP PcP 13 30 15.8 +0.3
comp=Z,0.7nm,0.4s,baz=153,slow=2.8,SNR=5.1
MKAR LR LR 13 37 40.8
comp=Z,809nm,19.3s,MS4.2,baz=158,slow=41
MKAR Makanchi Array 23.60 343 i P P 13 26 30.3 -1.3
MKAR pmax pmax
comp=Z,31nm,0.8s
QZH Quanzhou 23.90 83 P P 13 26 32.4 -1.9
QZH S S 13 30 41.0 -6.6
QZH AMB AMB
comp=Z,40nm,0.8s,mb4.9
QZH AMB AMB
comp=Z,480nm,4.3s
QZH LR LR
comp=N,420nm,11.8s
QZH LR LR
comp=E,560nm,8.5s
QZH LR LR
comp=Z,2μm,16.7s,MS4.6
TIA Tai'an 24.32 56 eP P 13 26 37.2 -1.0
TIA AMB AMB
comp=Z,33nm,1.0s,mb4.7
NJ2 Nanjing 24.54 66 eP P 13 26 39.6 -0.5
NJ2 AP 13 26 48.4
NJ2 XP sP 13 26 53.2 -3.7
NJ2 PP 13 27 14.4
NJ2 S S 13 30 52.0 -5.8
NJ2 XS sS 13 31 08.0 -9.2
NJ2 AMB AMB
comp=Z,170nm,1.1s,mb5.5
NJ2 AMB AMB
comp=Z,210nm,7.8s
NJ2 LR LR
comp=N,2μm,20.8s,MS4.8
NJ2 LR LR
comp=E,2μm,16.7s,MS4.8
NJ2 LR LR
comp=Z,2μm,18.4s,MS4.7
KGM Kluang 24.80 153 P P 13 26 42.9 +0.3
BJT Baijiatuau 25.32 47 eP P 13 26 44.9 -2.3
BJT pmax pmax
comp=Z,62nm,1.3s
BJT Baijiatuau 25.32 47 eP P 13 26 44.9 -2.3
comp=Z,62nm,1.3s,mb5.0
BJI Beijing 25.33 47 eP P 13 26 47.7 +0.3
BJI S S 13 31 10.4 -0.1
BJI AMB AMB
comp=Z,11nm,1.7s,mb4.1
BJI LR LR
comp=N,449nm,9.8s
BJI LR LR
comp=E,358nm,8.8s
BJI LR LR
comp=Z,406nm,22.5s,MS3.9
BJI Beijing 25.33 47 eP P 13 26 47.7 +0.3
comp=Z,11nm,1.7s,mb4.1
BJI sP sP 13 27 05.1 +0.9
BJI S S 13 31 10.4 -0.1
BJI sS sS 13 31 36.1 +6.1
BJI LR LR
comp=Z,410nm,22.5s,MS3.9
KK31 Karatay Array 25.75 321 i P P 13 26 51.9 +0.7
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.4
KKAR Karatay Array 25.75 321 i P P 13 26 51.9 +0.7
KKAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
SONM Songino Array 25.81 22 P P 13 26 51.9 +0.2
comp=Z,14nm,0.7s,mb4.6,baz=204,slow=9.6,SNR=85
SONM PcP PcP 13 30 20.6 +0.2
comp=Z,2.0nm,1.0s,baz=202,slow=3.3,SNR=4.3
SONM ScP ScP 13 33 56.8 +0.5
comp=Z,1.4nm,1.0s,baz=183,slow=3.0,SNR=4.2
SONM Songino Array 25.81 22 P P 13 26 51.9 +0.2
SONM 13 30 20.6
SSE Sheshan 26.35 69 P P 13 26 57.3 +0.7
SSE S S 13 31 24.9 -1.7
SSE AMB AMB
comp=Z,34nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,24nm,3.7s
SSE LR LR
comp=N,486nm,17.7s,MS4.1
SSE LR LR
comp=E,78nm,17.8s,MS4.1
SSE LR LR
comp=Z,390nm,15.2s,MS4.1
SSE Sheshan 26.35 69 P P 13 26 57.3 +0.7
comp=Z,34nm,0.9s,mb4.9
SSE pP pP 13 27 10.2 +2.0
SSE sP sP 13 27 16.4 +3.0
SSE S S 13 31 24.9 -1.7
SSE sS sS 13 31 47.0 +0.8
SSE LR LR
comp=Z,390nm,15.2s,MS4.1
YHNB Yeheng 26.45 84 eP P 13 26 56.8 -0.6
NACB Ninganchiao 26.70 85 eP P 13 27 00.0 +0.3
ZAK Zakamensk 27.18 16 eP P 13 27 04.3 +0.3
ZAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
KURK Kurchatov 28.19 341⇑ eP P 13 27 12.8 -0.3
KURK Kurchatov 28.19 341 eP P 13 27 12.1 -1.0
comp=Z,7.2nm,0.8s,mb4.3
KKM Kota Kinabalu 29.43 125 P P 13 27 25.9 +1.8
ZAL Zalesovo 29.89 351 P P 13 27 27.6 -0.5
comp=Z,2.1nm,0.4s,mb4.3,baz=295,slow=8.2,SNR=8.5
ZAL LR LR 13 41 47.0
comp=Z,602nm,20.9s,MS4.2,baz=271,slow=41
ZAL Zalesovo 29.89 351 i P P 13 27 30.5 +2.3
ZAL pmax pmax
comp=Z,2.0nm,0.4s
WBK Wadi Bani Khal 30.54 273 ⇓P P 13 27 36.1 +2.2
BIDO Bidbid 31.16 275 ⇓P P 13 27 41.2 +1.8
SMDO Samad 31.30 274 ⇓P P 13 27 42.7 +2.1
SNR=5.9
TSM Tawau 31.81 125 P P 13 27 44.7 -0.4
JOW Kunigami 32.46 78 P P 13 27 49.3 -1.5
comp=Z,6.2nm,0.3s,mb5.0,baz=176,slow=26,SNR=14
JOW LR LR 13 42 49.2
comp=Z,654nm,19.8s,MS4.3,baz=141,slow=40
HIA Hailar 32.72 34 eP P 13 27 52.9 -0.1
HIA e*PP pP 13 28 05.4 +0.6
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 32.72 34 eP P 13 27 52.9 -0.2
comp=Z,5.3nm,0.7s,mb4.6
HIA epP pP 13 28 05.4 +0.6
BVAR Borovoye Array 32.90 336 P P 13 27 54.4 -0.3
comp=Z,1.0nm,0.6s,mb3.9,baz=131,slow=16,SNR=6.2
BVAR ScP ScP 13 34 18.9 +0.1
comp=Z,5.3nm,0.8s,baz=130,slow=4.6,SNR=17
BVAR LR LR 13 43 19.0
comp=Z,968nm,19.9s,MS4.5,baz=139,slow=40
KSRS Korea Array 32.97 58 P P 13 27 53.5 -1.7
comp=Z,1.1nm,0.5s,mb4.0,baz=246,slow=9.2,SNR=5.1
KSRS PcP PcP 13 30 38.4 -0.1
comp=Z,1.6nm,0.7s,baz=260,slow=3.2,SNR=5.4
KSRS LR LR 13 43 24.1
comp=Z,620nm,18.7s,MS4.3,baz=259,slow=40
BRVK Borovoye 32.97 335 eP P 13 27 51.8 -3.4
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRVK Borovoye 32.97 335 eP P 13 27 51.8 -3.5
comp=Z,6.8nm,1.0s,mb4.5
CN2 Changchun 33.20 46 eP P 13 27 57.6 +0.3
CN2 eS S 13 33 12.5 -1.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,300nm,13.0s,MS4.3
CN2 LR LR
comp=E,200nm,13.0s,MS4.3
CN2 LR LR
comp=Z,400nm,12.0s,MS4.3
CHKZ Chkalovo 33.33 336 eP P 13 27 58.1 -0.3
CHKZ eS S 13 33 15.8 -0.2
CHKZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
CHKZ Chkalovo 33.33 336 eP P 13 27 58.1 -0.3
comp=Z,17nm,1.1s,mb4.9
CHKZ eS S 13 33 15.8 -0.2
JNU Nakatsue 34.73 67 P P 13 28 10.3 -0.3
comp=Z,23nm,0.7s,mb5.2,baz=182,slow=23,SNR=5.9
AB31 Akbulak array 35.29 323 i P P 13 28 16.1 +0.7
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
AKTK Aktyubinsk 36.98 323 P P 13 28 30.4 +0.7
AKTK LR LR 13 45 37.2
AKTO Aktyubinsk 36.98 323 P P 13 28 30.4 +0.7
comp=Z,4.0nm,0.6s,mb4.4,baz=118,slow=8.7,SNR=18
AKTO LR LR 13 45 37.2
comp=Z,415nm,18.7s,MS4.2,baz=266,slow=39
VLA Vladivostok 37.35 50 eP pP 13 28 44.0 -0.8
VLA pmax pmax
comp=Z,56nm,1.3s,mb5.2
KLR Kul'dur 39.41 41 eP P 13 28 51.3 +1.1
KLR MLR MLR
comp=Z,800nm,13.0s,MS4.7
CLNS Chul'man 39.95 27 eP P 13 28 54.8 0.0
CLNS pmax pmax
comp=Z,11nm,1.1s,mb4.5

CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,0.9s
ARU Arti 40.16 331⇑ *eP* **P 13 28 56.6 +0.1**
ARU pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
ARU MLR MLR
comp=Z,700nm,31.0s,MS4.3
ARU Arti 40.16 331 *eP* **P 13 28 55.9 -0.6**
comp=Z,8.7nm,0.7s,mb4.6
MAJO Matsushiro 40.98 62 *eP* **P 13 29 01.8 -1.5**
MAJO *e**PP pP 13 29 12.6 -2.7
MAJO pmax pmax
comp=Z,29nm,1.2s,mb4.8
MAJO Matsushiro 40.98 62 *eP* **P 13 29 01.8 -1.5**
comp=Z,29nm,1.2s,mb4.8
MAJO *e*pP pP 13 29 12.6 -2.7
MAT Matsushiro 40.98 62 P **P 13 29 01.8 -1.5**
MAT S **S 13 35 07.0 -5.3**
MJAR Matsushiro Arr 40.99 62 P **P 13 29 02.3 -1.0**
comp=Z,8.7nm,1.1s,mb4.3,baz=277,slow=10.0,SNR=22
MJAR pP pP 13 29 13.6 -1.6
comp=Z,10.0nm,1.0s,baz=276,slow=9.5,SNR=10
MJAR LR LR 13 47 57.7
comp=Z,283nm,20.3s,MS4.1,baz=260,slow=39
MJAR Matsushiro Arr 40.99 62 P **P 13 29 02.3 -1.0**
MJAR *PP pP 13 29 13.6 -1.7
JHJ Hachijo jima 2 42.20 67 LR LR 13 46 40.3
comp=Z,227nm,21.2s,MS4.0,baz=257,slow=36
GNI Garni 42.56 303 LR LR 13 49 59.0
comp=Z,87nm,19.7s,MS3.6,baz=101,slow=40
GNI Garni 42.56 303 *i* P **P 13 29 17.4 +1.3**
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI MLR MLR
comp=Z,100nm,20.0s
GNI Garni 42.56 303 *eP* **P 13 29 17.0 +0.8**
comp=Z,26nm,1.1s,mb4.9
ZEI Tsey 43.54 307 *eP* **P 13 29 25.7 +1.6**
ZEI *e**PP pP 13 29 36.5 +0.4
ZEI pmax pmax
comp=Z,19nm,1.0s,mb4.8
KIV Kislovodsk 44.60 308⇑ *eP* **P 13 29 34.7 +2.2**
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.8
KIV MLR MLR
comp=Z,200nm,23.0s,MS4.0
ASAJ Asahikawa 45.15 51 LR LR 13 48 48.5
comp=Z,144nm,21.2s,MS3.9,baz=138,slow=36
YAK Yakutsk 45.15 24⇓ *eP* **P 13 29 36.8 -0.2**
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
YAK MLR MLR
comp=Z,1μm,29.0s,MS4.6
YSS Yuzh-Sakhalins 45.75 48 *i* P **P 13 29 41.7 0.0**
YSS pmax pmax
comp=Z,44nm,2.1s,mb5.0
YSS MLR MLR
comp=Z,100nm,15.0s,MS3.9
ANN Anapa 48.44 309 *eP* **P 13 29 54.9 -7.8**
MOS Moscow 50.31 323 *eP* pP 13 30 27.6 -1.6
OBN Obninsk 50.74 322⇓ *eP* **P 13 30 20.4 +0.2**
OBN *e* pP 13 30 33.0 +0.6
OBN *e* 13 31 37.2
OBN *e* 13 32 14.5
OBN pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.2
BR131 Keskin Array S 51.06 302 P **P 13 30 20.2 -2.3**
comp=Z,1.0nm,0.5s,mb4.0
BRTR Keskin Array B 51.06 302 P **P 13 30 23.1 +0.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=3.7,SNR=5.7
BRTR Keskin Array B 51.06 302⇑ *eP* **P 13 30 23.1 +0.5**
TIXI Tiksi 51.44 14⇑ *eP* **P 13 30 24.0 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TIXI Tiksi 51.44 14 *eP* **P 13 30 23.9 -1.6**
comp=Z,12nm,0.9s,mb4.8
FITZ Fitzroy Crossi 53.42 139⇑ *iP* **P 13 30 39.6 -0.5**
comp=Z,17nm,1.0s,mb4.9
FITZ ePCP PcP 13 31 47.2 +0.4
FITZ Fitzroy Crossi 53.42 139 LR LR 13 57 06.8
comp=Z,107nm,21.2s,MS3.9,baz=331,slow=40
KAKA Kakadu 53.93 129 *eP* **P 13 30 42.0 -1.8**
comp=Z,16nm,1.1s,mb4.9
AKASG Malin Array Be 54.46 316 P **P 13 30 46.8 -1.0**
comp=Z,3.6nm,0.5s,mb4.5,baz=81,slow=6.4,SNR=14
AKASG pP pP 13 30 59.3 -0.8
comp=Z,1.5nm,0.4s,baz=82,slow=6.6,SNR=5.2
AKASG LR LR 13 57 21.6
comp=Z,349nm,21.6s,MS4.4,baz=85,slow=40
AKASG Malin Array Be 54.46 316 *iP* **P 13 30 47.4 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 54.46 316 *eP* **P 13 30 46.4 -1.3**
AKBB *e**PP pP 13 30 59.6 -0.5
KIEV Kiev 54.47 316 *eP* **P 13 30 46.5 -1.3**
KIEV *e**PP pP 13 30 59.9 -0.3
KIEV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIEV Kiev 54.47 316 *eP* **P 13 30 46.5 -1.3**
comp=Z,10.0nm,0.9s,mb4.8
KIEV *e*pP pP 13 30 59.9 -0.3
SEY Seymchan 54.91 29 *i* P **P 13 30 53.3 +2.3**
VRI Vrincioaia 56.02 310⇓ *iP* **P 13 30 59.0 +0.1**
MLR Muntele Rosu 56.58 309 LR LR 13 59 54.0
comp=Z,286nm,20.4s,MS4.4,baz=116,slow=41
MLR Muntele Rosu 56.58 309⇓ *iP* **P 13 31 04.8 +1.9**
PET Petropavlovsk 56.67 41 *eP* **P 13 31 05.8 +2.3**
PET *e*S **S 13 38 53.4 +0.7**
PET MLR MLR
comp=Z,400nm,17.0s,MS4.6
BURAR Bucovina Array 57.02 312⇑ *iP* **P 13 31 06.1 +0.1**
FINES FINESS Array B 57.40 329 P **P 13 31 08.8 +0.1**
comp=Z,2.0nm,0.5s,mb4.4,baz=100,slow=8.4,SNR=18
FINES LR LR 14 00 18.1
comp=Z,146nm,18.3s,MS4.1,baz=351,slow=41
FINES FINESS Array B 57.40 329 *i* P **P 13 31 08.8 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
LVV L'vov 57.77 315 *eP* **P 13 31 03.5 -7.8**
LVV *e* 13 33 21.3
LVV *e*S **S 13 39 16.3 +9.1**
LVV MLR MLR
comp=Z,100nm,17.0s,MS4.0
LVV MLR MLR
comp=N,300nm,16.0s,MS4.5
LVV MLR MLR
comp=E,100nm,16.0s,MS4.5
IDI Anoyia 58.40 298 LR LR 14 02 48.7
comp=E,51nm,21.6s,MS3.6,baz=242,slow=42
KWP Kalwaria 58.63 314 *eP* **P 13 31 17.6 +0.3**
KWP pmax pmax
comp=Z,14nm,0.8s,mb5.0
KWP Kalwaria 58.63 314 *eP* **P 13 31 17.6 +0.3**
comp=Z,14nm,0.8s,mb5.0
KEV Kevo 58.68 338 *ep* **P 13 31 16.4 -1.3**
comp=Z,13nm,1.0s,mb4.9
KEV Kevo 58.68 338 *eP* **P 13 31 16.4 -1.3**
KEV pmax pmax
comp=Z,13nm,1.0s,mb4.9
VTS Vitosha 58.75 306⇑ *iP* **P 13 31 18.9 +0.8**
DRGR 58.76 311⇑ *iP* **P 13 31 19.0 +0.8**
KMBO Kilima Mbogo 59.07 253 *eP* **P 13 31 21.7 +1.3**
KMBO *e**PP pP 13 31 33.6 +0.7
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 59.07 253 *eP* **P 13 31 21.7 +1.4**
comp=Z,1.7nm,0.7s,mb4.2
KMBO *e*pP pP 13 31 33.6 +0.7
ARCES ARCESS Array B 59.14 338 P **P 13 31 20.9 0.0**
comp=Z,4.1nm,0.7s,mb4.6,baz=97,slow=6.8,SNR=27
ARCES LR LR 13 59 28.9
comp=Z,394nm,18.8s,MS4.6,baz=107,slow=39
WRA Warramunga Arr 60.26 133 P **P 13 31 28.4 -0.2**
comp=Z,34nm,0.7s,mb5.5,baz=322,slow=7.3,SNR=392
WRAB Tennant Creek 60.26 133*c iP* **P 13 31 28.4 -0.2**
WRAB Tennant Creek 60.26 133 *e*PcP PcP 13 32 08.0 -5.5
WB2 Warramunga Arr 60.27 133⇑ *iP* **P 13 31 28.2 -0.4**
WB2 *e*PCP PcP 13 32 13.7 +0.1
MUN Mundaring 60.67 157⇑ *iP* **P 13 31 30.7 -0.7**
KLBR Kellerberrin 60.90 155 *eP* **P 13 31 31.8 -1.1**
comp=Z,24nm,0.9s,mb5.3
BILL Bilibino 61.51 24⇓ *eP* **P 13 31 37.3 +0.3**
BILL *e* pP 13 31 49.8 +0.2
BILL pmax pmax
comp=Z,34nm,1.8s,mb5.2
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.4
BILL Bilibino 61.51 24 *eP* **P 13 31 36.9 -0.2**
comp=Z,23nm,1.0s,mb5.3
BILL *e*pP pP 13 31 48.0 -1.6
NWAO Narrogin (SRO) 61.90 156 LR LR 13 59 39.4
comp=Z,180nm,21.7s,MS4.2,baz=343,slow=37
MORC Moravsky Berou 61.97 315⇓ *iP* **P 13 31 40.6 +0.5**
MORC Moravsky Berou 61.97 315 *eP* **P 13 31 40.6 +0.5**
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
MORC Moravsky Berou 61.97 315 *eP* **P 13 31 40.6 +0.4**
comp=Z,4.7nm,1.1s,mb4.5
ASPA Alice Springs 62.66 137 *eP* **P 13 31 44.9 +0.2**
AS31 Alice Springs 62.66 137 *eP* **P 13 31 44.9 +0.1**
ASAR Alice Springs 62.66 137 P **P 13 31 44.7 -0.1**
comp=Z,37nm,0.8s,mb5.6,baz=321,slow=6.9,SNR=472
ASAR pP pP 13 31 56.4 -1.0
comp=Z,7.9nm,0.7s,baz=321,slow=6.0,SNR=6.7
ASAR LR LR 14 02 28.2
comp=Z,176nm,19.4s,MS4.2,baz=316,slow=39
ASAR Alice Springs 62.66 137 P **P 13 31 44.7 -0.1**
ASAR *PP pP 13 31 56.4 -0.9
PMG Port Moresby 63.27 115*c iP* **P 13 31 48.8 0.0**
PMG Port Moresby 63.27 115 *eP* **P 13 31 48.6 -0.1**
comp=Z,22nm,0.9s,mb5.3
HFS Hagfors 63.40 327 P **P 13 31 49.8 +0.1**
comp=Z,11nm,0.4s,mb5.3,baz=101,slow=6.2,SNR=12
HFS LR LR 14 02 37.9
comp=Z,231nm,18.9s,MS4.4,baz=70,slow=39
BRG Berggiesshubel 64.14 316 *eP* **P 13 31 55.1 +0.6**
comp=Z,15nm,1.4s,mb4.8
BRG *e* pP 13 32 07.1 0.0
BRG
comp=Z,7.0nm,1.0s
BRG
comp=N,127nm,19.2s
BRG
comp=E,144nm,18.9s
BRG
comp=Z,216nm,16.4s
BRG Berggiesshubel 64.14 316 *eP* **P 13 31 55.1 +0.6**
BRG *e* pP 13 32 07.1 0.0
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
BRG MLR MLR
comp=N,7μm,19.2s
BRG MLR MLR
comp=E,127nm,18.9s
BRG MLR MLR
comp=Z,144nm,16.4s,MS4.2
BRG Berggiesshubel 64.14 316 *eP* **P 13 31 55.1 +0.6**
comp=Z,15nm,1.4s,mb4.8
BRG *e* pP 13 32 07.1 0.0
BRG LR LR
comp=Z,220nm,16.4s,MS4.4
FBE Freiberg 64.50 317 *eP* **P 13 31 57.5 +0.6**
comp=Z,26nm,1.3s,mb5.1
FBE *e*pP pP 13 32 09.0 -0.5
NB2 NORSAR Subarra 64.55 328 P **P 13 31 56.8 -0.5**
comp=Z,4.8nm,0.6s,mb4.7,baz=84,slow=6.5
NOA NORSAR Array B 64.55 328 P **P 13 31 56.8 -0.5**
comp=Z,8.7nm,0.8s,mb4.8,baz=86,slow=6.5,SNR=23
NOA LR LR 14 01 22.4
comp=Z,99nm,18.1s,MS4.0,baz=75,slow=37
GEC2 GERESS Array S 64.58 314 *eP* **P 13 31 57.6 +0.2**
comp=Z,28nm,1.4s,mb5.1
GEC2 GERESS Array S 64.58 314 *eP* **P 13 31 57.6 +0.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
GERES GERESS Array B 64.58 314 P **P 13 31 58.0 +0.5**
comp=Z,6.3nm,0.6s,mb4.8,baz=78,slow=6.2,SNR=37
GERES LR LR 14 03 32.2
comp=Z,127nm,19.9s,MS4.1,baz=88,slow=39
KHC Kasperske Hory 64.62 315⇓ *eP* **P 13 31 58.6 +0.9**
CLL Collm 64.66 317 *eP* **P 13 31 58.3 +0.3**
comp=Z,12nm,1.2s,mb4.8
CLL Collm 64.66 317 *eP* **P 13 31 58.0 0.0**
CLL LmV 14 03 00.0
comp=Z,300nm,22.0s
NAO01 NORSAR Array S 64.73 328 *eP* **P 13 31 57.4 -1.0**
WET Wettzell 65.07 315 *eP* **P 13 32 00.9 +0.3**
comp=Z,9.0nm,1.0s,mb4.8
WET Wettzell 65.07 315 *eP* **P 13 32 00.9 +0.3**
WET pmax pmax
comp=Z,20nm,1.0s,mb5.1
TANN Tannenbergstha 65.14 316 *eP* **P 13 32 00.9 -0.1**
comp=Z,18nm,1.4s,mb4.9
TANN *e*pP pP 13 32 13.2 -0.5
WERN Wernitzgruen 65.21 316 *eP* **P 13 32 02.2 +0.7**
comp=Z,6.0nm,0.9s,mb4.6
GUNZ Gunzen 65.22 316 *eP* **P 13 32 02.2 +0.6**
comp=Z,16nm,1.1s,mb5.0
WERD Werda 65.23 316 *eP* **P 13 32 02.0 +0.4**
comp=Z,17nm,1.3s,mb4.9
ROTZ Rotzenmuhle 65.40 315 *eP* **P 13 32 03.8 +1.0**
comp=Z,15nm,0.9s,mb5.0
ROTZ *e*pP pP 13 32 15.4 0.0
MANZ Manzenberg 65.43 316 *eP* **P 13 32 03.9 +1.0**
comp=Z,15nm,1.4s,mb4.8
MOX Moxa 65.63 316 *eP* **P 13 32 04.7 +0.5**
comp=Z,15nm,1.2s,mb4.9
MOX Moxa 65.63 316 *eP* **P 13 32 04.9 +0.7**
comp=Z,18nm,1.3s,mb4.9
MOX Moxa 65.63 316 *eP* **P 13 32 04.9 +0.7**
MOX pmax pmax
comp=Z,27nm,1.3s,mb5.1
GRA1 Grafenberg Arr 66.04 315 *eP* **P 13 32 07.8 +0.9**
comp=Z,16nm,1.2s,mb4.9
GRF Grafenberg Arr 66.04 315 *eP* **P 13 32 07.8 +0.9**
comp=Z,16nm,1.2s,mb4.9
GRF Grafenberg Arr 66.04 315 *eP* **P 13 32 07.8 +0.9**
GRF pmax pmax
comp=Z,19nm,1.2s,mb5.0
GRF Grafenberg Arr 66.04 315 *eP* **P 13 32 07.8 +0.9**
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.9
CLZ Clausthal 66.20 318 *eP* **P 13 32 08.5 +0.6**
comp=Z,21nm,1.0s,mb5.1
CLZ Clausthal 66.20 318 *eP* **P 13 32 08.5 +0.6**
CLZ pmax pmax
comp=Z,33nm,1.0s,mb5.3
CTA Charters Tower 68.75 125⇑ *iP* **P 13 32 24.0 0.0**
comp=Z,14nm,1.2s,mb4.8
CTA Charters Tower 68.75 125⇑ *iP* **P 13 32 24.0 0.0**
CTA pmax pmax
comp=Z,14nm,1.2s
CTAO Charters Tower 68.75 125 *eP* **P 13 32 23.6 -0.4**
CTAO pmax pmax
comp=Z,36nm,1.3s,mb5.1
CTAO Charters Tower 68.75 125 *eP* **P 13 32 23.6 -0.4**
comp=Z,36nm,1.3s,mb5.1
CDF Champ du Feu 68.84 315 *eP* **P 13 32 24.6 0.0**
comp=Z,17nm,1.0s,mb4.6
CDF Champ du Feu 68.84 315 *eP* **P 13 32 24.6 0.0**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 68.84 315 *eP* **P 13 32 24.6 0.0**
comp=Z,8.4nm,1.0s,mb4.6
PGF Pioggiola 69.08 308 *eP* **P 13 32 26.2 +0.1**
comp=Z,15nm,0.6s,mb4.8
PGF Pioggiola 69.08 308 *eP* **P 13 32 26.2 +0.1**
PGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
PGF Pioggiola 69.08 308 *eP* **P 13 32 26.2 +0.1**
comp=Z,7.3nm,0.6s,mb4.8
HINF Hinteralfeld 69.26 314 *eP* **P 13 32 27.2 0.0**
WLF Walferdange 69.27 316 *eP* **P 13 32 28.1 +0.9**
comp=Z,34nm,1.1s,mb5.2
HAU Haudompre 69.55 314 *eP* **P 13 32 28.9 0.0**
comp=Z,26nm,1.0s,mb4.8
HAU *e*R
comp=Z,187nm,23.0s
HAU Haudompre 69.55 314 *eP* **P 13 32 28.9 0.0**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,190nm,23.0s,MS4.3
HAU Haudompre 69.55 314 *eP* **P 13 32 28.9 0.0**
comp=Z,13nm,1.0s,mb4.8
HAU LR LR
comp=Z,190nm,23.0s,MS4.3
SBF Sospel 69.85 310 *eP* **P 13 32 30.9 +0.1**
comp=Z,27nm,0.8s,mb4.9
SBF Sospel 69.85 310 *eP* **P 13 32 30.9 +0.1**
SBF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SBF Sospel 69.85 310 *eP* **P 13 32 30.9 +0.1**
comp=Z,13nm,0.8s,mb4.9
LPG La Plagne 69.90 312 *eP* **P 13 32 31.9 +0.8**
comp=Z,18nm,0.8s,mb4.8
LPG La Plagne 69.90 312 *eP* **P 13 32 31.9 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 69.90 312 *eP* **P 13 32 31.9 +0.8**
comp=Z,8.9nm,0.8s,mb4.8
LPL La Plagne 69.91 312 *eP* **P 13 32 31.9 +0.7**
comp=Z,13nm,0.5s,mb4.8
LPL La Plagne 69.91 312 *eP* **P 13 32 31.9 +0.7**
LPL pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LPL La Plagne 69.91 312 *eP* **P 13 32 31.9 +0.7**
comp=Z,6.6nm,0.5s,mb4.8
GIVF Givet 70.00 317 *eP* **P 13 32 32.1 +0.4**
comp=Z,30nm,1.0s,mb4.9
GIVF Givet 70.00 317 *eP* **P 13 32 32.1 +0.4**
GIVF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GIVF Givet 70.00 317 *eP* **P 13 32 32.1 +0.4**
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 70.07 313 *eP* **P 13 32 32.4 +0.3**
BNI Bardonecchia 70.07 311 *eP* **P 13 32 30.7 -1.4**
BNI pmax pmax
comp=Z,15nm,1.3s,mb4.8
BNI Bardonecchia 70.07 311 *eP* **P 13 32 30.7 -1.5**
comp=Z,15nm,1.3s,mb4.8
MBDF Montbardon 70.09 311 *eP* **P 13 32 31.7 -0.6**
comp=Z,11nm,0.5s,mb4.7
MBDF Montbardon 70.09 311 *eP* **P 13 32 31.7 -0.6**
MBDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
MBDF Montbardon 70.09 311 *eP* **P 13 32 31.7 -0.6**
comp=Z,5.3nm,0.5s,mb4.7
MEZF Maizieres J'vi 70.26 315 *eP* **P 13 32 33.6 +0.3**
comp=Z,44nm,0.7s,mb5.2
MEZF Maizieres J'vi 70.26 315 *eP* **P 13 32 33.6 +0.3**
comp=Z,44nm,0.7s,mb5.5
BAIF Baives 70.39 317 *eP* **P 13 32 34.6 +0.5**
FRF La Foret Royal 70.48 310 *eP* **P 13 32 34.8 +0.1**
LMR La Mourre 70.64 310 *eP* **P 13 32 35.8 +0.2**
comp=Z,18nm,0.8s,mb4.7
LMR La Mourre 70.64 310 *eP* **P 13 32 35.8 +0.2**
LMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LMR La Mourre 70.64 310 *eP* **P 13 32 35.8 +0.2**
comp=Z,8.9nm,0.8s,mb4.8
KEST Kesra 70.65 301 P **P 13 32 36.8 +1.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=313,slow=3.6,SNR=24
KEST pP pP 13 32 48.5 +0.1
comp=Z,4.2nm,0.8s,baz=286,slow=11,SNR=4.5
KEST LR LR 14 11 41.2
comp=Z,39nm,18.0s,MS3.7,baz=333,slow=43
ORIF Oris-en-Rattie 70.65 311 *eP* **P 13 32 35.5 -0.2**
ORIF *e*R
comp=Z,139nm,20.0s
SMRF Simiane la Rot 71.12 310 *eP* **P 13 32 39.1 +0.6**
LOR Lormes 71.36 314⇑ *iP* **P 13 32 39.8 -0.2**
comp=Z,8.0nm,0.7s,mb4.5
LOR *e*R
comp=Z,96nm,18.2s
LOR Lormes 71.36 314⇑ *iP* **P 13 32 39.8 -0.2**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,100nm,18.3s,MS4.1
LOR Lormes 71.36 314⇑ *iP* **P 13 32 39.8 -0.2**
comp=Z,4.0nm,0.7s,mb4.5
LOR LR LR
comp=Z,100nm,18.3s,MS4.1
VIVF Saint-Julien-l 71.49 311 *eP* **P 13 32 40.3 -0.5**
comp=Z,18nm,0.9s,mb4.7
VIVF Saint-Julien-l 71.49 311 *eP* **P 13 32 40.3 -0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 71.49 311 *eP* **P 13 32 40.3 -0.5**
comp=Z,8.9nm,0.9s,mb4.7
SMF Signal de Mont 71.55 313⇑ *iP* **P 13 32 41.1 0.0**
comp=Z,25nm,0.7s,mb4.9
SMF Signal de Mont 71.55 313⇑ *iP* **P 13 32 41.1 0.0**
SMF pmax pmax
comp=Z,13nm,0.7s,mb5.0
SMF Signal de Mont 71.55 313⇑ *iP* **P 13 32 41.1 0.0**
comp=Z,12nm,0.7s,mb5.0
SSF Saint Saulge 71.65 314⇑ *iP* **P 13 32 41.8 0.0**
comp=Z,30nm,0.9s,mb5.0
SSF Saint Saulge 71.65 314⇑ *iP* **P 13 32 41.8 0.0**
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
SSF Saint Saulge 71.65 314⇑ *iP* **P 13 32 41.8 0.0**
comp=Z,15nm,0.9s,mb4.9
AVF Avril sur Loir 71.83 314 *eP* **P 13 32 42.8 0.0**
comp=Z,51nm,1.1s,mb5.1
AVF Avril sur Loir 71.83 314 *eP* **P 13 32 42.8 0.0**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.1
AVF Avril sur Loir 71.83 314 *eP* **P 13 32 42.8 0.0**
comp=Z,26nm,1.1s,mb5.1
BGF Bois d'Agland 72.23 314 *eP* **P 13 32 45.3 +0.1**
LASF Ste Croix 72.28 311 *eP* **P 13 32 46.0 +0.5**
comp=Z,48nm,1.1s,mb5.0
TCF Toulx Ste Croi 72.73 313⇑ *iP* **P 13 32 48.7 +0.5**
comp=Z,56nm,1.1s,mb5.1
TCF Toulx Ste Croi 72.73 313⇑ *iP* **P 13 32 48.7 +0.5**
TCF pmax pmax
comp=Z,28nm,1.1s,mb5.1
TCF Toulx Ste Croi 72.73 313⇑ *iP* **P 13 32 48.7 +0.5**
comp=Z,28nm,1.1s,mb5.1
CAF Calviac 73.24 312 *eP* **P 13 32 51.9 +0.7**
comp=Z,18nm,0.7s,mb4.8
CAF Calviac 73.24 312 *eP* **P 13 32 51.9 +0.7**
CAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CAF Calviac 73.24 312 *eP* **P 13 32 51.9 +0.7**
comp=Z,8.9nm,0.7s,mb4.8
STKA Stephens Creek 73.26 138⇑ *iP* **P 13 32 50.9 -0.5**
comp=Z,17nm,0.9s,mb5.0
STKA Stephens Creek 73.26 138 P **P 13 32 50.9 -0.4**
comp=Z,16nm,0.7s,mb5.0,baz=321,slow=5.6,SNR=40
STKA LR LR 14 10 05.3
comp=Z,92nm,19.6s,MS4.1,baz=208,slow=40
RJF Les Rejaudoux 73.49 313 *eP* **P 13 32 53.6 +0.9**
comp=Z,21nm,0.7s,mb4.9
RJF *e*R
comp=Z,102nm,20.0s
RJF Les Rejaudoux 73.49 313 *eP* **P 13 32 53.6 +0.9**
RJF pmax pmax
comp=Z,11nm,0.7s,mb4.9
RJF MLR MLR
comp=Z,100nm,20.0s,MS4.1
RJF Les Rejaudoux 73.49 313 *eP* **P 13 32 53.6 +0.9**
comp=Z,10nm,0.7s,mb4.9
RJF LR LR
comp=Z,100nm,20.0s,MS4.1
LDF La Druitiere 73.53 316 *eP* **P 13 32 52.9 0.0**
comp=Z,22nm,0.9s,mb4.8
LDF La Druitiere 73.53 316 *eP* **P 13 32 52.9 0.0**
LDF pmax pmax
comp=Z,11nm,0.9s,mb4.8
LDF La Druitiere 73.53 316 *eP* **P 13 32 52.9 0.0**
comp=Z,11nm,0.9s,mb4.8
MTLF Montolieu 73.63 310 *eP* **P 13 32 54.0 +0.5**
comp=Z,34nm,1.1s,mb4.9
MTLF Montolieu 73.63 310 *eP* **P 13 32 54.0 +0.5**
MTLF pmax pmax
comp=Z,17nm,1.1s,mb4.9
MTLF Montolieu 73.63 310 *eP* **P 13 32 54.0 +0.5**
comp=Z,17nm,1.1s,mb4.9
FLN La Foliniere 73.70 316 *eP* **P 13 32 53.9 0.0**
FLN *e*R
comp=Z,277nm,22.2s
FLN La Foliniere 73.70 316 *eP* **P 13 32 53.9 0.0**
FLN LR LR
comp=Z,280nm,22.3s,MS4.5
LSZ Lusaka 73.97 245 P **P 13 32 57.5 +2.0**
SNR=5.9
LSZ Lusaka 73.97 245 *eP* **P 13 32 56.8 +1.3**
LSZ pmax pmax
comp=Z,24nm,0.8s,mb5.2
LSZ Lusaka 73.97 245 *eP* **P 13 32 56.8 +1.3**
comp=Z,24nm,0.8s,mb5.2
LFF La Frestale 74.13 312 *eP* **P 13 32 57.2 +0.8**

comp=Z,34nm,0.7s,mb5.1
LFF La Frestale 74.13 312 *e*P **P** 13 32 57.2 +0.8
LFF pmax pmax
comp=Z,17nm,0.7s,mb5.1
LFF La Frestale 74.13 312 *e*P **P** 13 32 57.2 +0.8
comp=Z,17nm,0.7s,mb5.1
MFF Saint Martin d 74.18 314 *e*P **P** 13 32 56.7 0.0
comp=Z,32nm,1.1s,mb4.9
MFF Saint Martin d 74.18 314 *e*P **P** 13 32 56.7 0.0
MFF pmax pmax
comp=Z,16nm,1.1s,mb4.9
MFF Saint Martin d 74.18 314 *e*P **P** 13 32 56.7 0.0
comp=Z,16nm,1.1s,mb4.9
EPF Esparros 75.03 311 *e*P **P** 13 33 01.2 -0.5
comp=Z,4.1nm,0.6s,mb4.2
EPF Esparros 75.03 311 *e*P **P** 13 33 01.2 -0.5
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
EPF Esparros 75.03 311 *e*P **P** 13 33 01.2 -0.5
comp=Z,2.0nm,0.6s,mb4.2
SGMF Saint Gilles 75.17 316 *e*P **P** 13 33 02.8 +0.3
EMHD Djebel Mahouad 75.43 303 P **P** 13 33 06.0 +2.1
ROSF Rostrenen 75.59 317 *e*P **P** 13 33 05.2 +0.3
comp=Z,28nm,0.8s,mb4.9
ROSF Rostrenen 75.59 317 *e*P **P** 13 33 05.2 +0.3
ROSF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ROSF Rostrenen 75.59 317 *e*P **P** 13 33 05.2 +0.3
comp=Z,14nm,0.8s,mb4.8
ETSF Etsaut 75.70 311 *e*P **P** 13 33 06.3 +0.8
comp=Z,15nm,0.6s,mb4.8
ETSF Etsaut 75.70 311 *e*P **P** 13 33 06.3 +0.8
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ETSF Etsaut 75.70 311 *e*P **P** 13 33 06.3 +0.8
comp=Z,7.4nm,0.6s,mb4.8
SJPF Ste Jean 76.08 311 *e*P **P** 13 33 08.2 +0.5
comp=Z,8.4nm,0.6s,mb4.6
SJPF Ste Jean 76.08 311 *e*P **P** 13 33 08.2 +0.5
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SJPF Ste Jean 76.08 311 *e*P **P** 13 33 08.2 +0.5
comp=Z,4.2nm,0.6s,mb4.5
EBNR Beni Rached 76.48 304 P **P** 13 33 11.0 +1.1
ECHA Ech Chlef 76.65 304 P **P** 13 33 13.2 +2.3
EANR 'Ain N'Sour 76.92 304 P **P** 13 33 14.0 +1.6
ETRT Tiaret 76.97 303 P **P** 13 33 15.5 +2.8
ARMA Armidale 78.88 131 *e*P **P** 13 33 24.6 +1.3
ESDC Sonseca Array 79.27 309 P **P** 13 33 26.0 +0.5
comp=Z,4.3nm,0.9s,mb4.4,baz=70,slow=4.7,SNR=9.3
ESDC LR LR 14 15 53.5
comp=Z,59nm,18.4s,MS4.0,baz=320,slow=41
TOO Toolangi 79.48 140 *e*P **P** 13 33 27.1 +0.5
comp=Z,16nm,0.8s,mb5.0
TOO Toolangi 79.48 140 *e*P **P** 13 33 27.1 +0.5
TOO pmax pmax
comp=Z,16nm,0.8s,mb5.0
COLA College 79.65 22⇓ *e*P **P** 13 33 28.0 +0.5
COLA College 79.65 22 *e*P **P** 13 33 27.5 0.0
comp=Z,24nm,0.9s,mb5.1
COLA *e*pP pP 13 33 39.6 -0.8
MCK McKinley 79.94 23 *e*P **P** 13 33 28.6 -0.6
comp=Z,6μm,0.8s
MCK *e*pP pP 13 33 41.4 -0.7
CNB Canberra Magne 80.39 136 *e*P **P** 13 33 31.0 -0.5
comp=Z,20nm,0.8s,mb5.1
LBTB Lobatse 81.17 237⇑ *i*P **P** 13 33 37.0 +1.3
LBTB pmax pmax
comp=Z,41nm,0.7s,mb5.5
LBTB Lobatse 81.17 237⇑ *i*P **P** 13 33 37.0 +1.3
comp=Z,41nm,0.7s,mb5.5
INK Inuvik 81.53 16 P **P** 13 33 37.4 -0.2
comp=Z,2.9nm,0.3s,mb4.6,baz=339,slow=5.0,SNR=46
INK Inuvik 81.53 16 *e*P **P** 13 33 36.9 -0.7
comp=Z,555nm,1.1s
INK *e*pP pP 13 33 49.6 -1.0
KDAK Kodiak Island 81.87 29 P **P** 13 33 39.2 -0.2
comp=Z,8.9nm,0.8s,mb4.8,baz=141,slow=14,SNR=8.8
KDAK Kodiak Island 81.87 29 P **P** 13 33 39.2 -0.2
EVO Evora 82.61 309 *e*P **P** 13 33 44.8 +1.6
comp=Z,7.4nm,0.7s,mb4.5
EVO *e*R
comp=Z,74nm,17.5s
DAWY Dawson 82.97 20 *e*P **P** 13 33 44.7 -0.4
DAWY *e*pP pP 13 33 57.6 -0.5
BOSA Boshof 83.34 235 P **P** 13 33 48.2 +1.2
comp=Z,24nm,0.7s,mb5.4,baz=67,slow=4.5,SNR=56
BOSA LR LR 14 09 16.3
comp=Z,238nm,20.2s,MS4.6,baz=58,slow=34
BOSA Boshof 83.34 235 *e*P **P** 13 33 47.9 +0.9
BOSA pmax pmax
comp=Z,30nm,0.8s,mb5.4
BOSA Boshof 83.34 235 *e*P **P** 13 33 47.9 +0.9
comp=Z,30nm,0.8s,mb5.4
TOA0 Torodi Ar. Sit 85.16 282⇑ *i*P **P** 13 33 57.8 +1.5
TOA0 *e*pP pP 13 34 09.7 +0.4
TORD Torodi Ar. Bea 85.16 282 P **P** 13 33 57.8 +1.6
comp=Z,11nm,0.9s,mb5.0,baz=63,slow=4.1,SNR=55
TORD pP pP 13 34 09.0 -0.3
comp=Z,6.1nm,0.8s,baz=61,slow=4.6,SNR=10
YKA Yellowknife Ar 90.66 12 LR LR 14 18 09.6
comp=Z,102nm,20.2s,MS4.2,baz=295,slow=38
CASY Casey 91.59 173 *e*P **P** 13 34 26.7 -0.2
LIC Lamto 94.05 279 *e*P **P** 13 34 39.1 +0.9
LIC *e*R
comp=Z,26nm,1.1s,mb5.3
comp=Z,237nm,21.0s
LIC Lamto 94.05 279 *e*P **P** 13 34 39.1 +0.9
comp=Z,13nm,1.1s,mb5.3
LIC LR LR
comp=Z,120nm,21.0s,MS4.3
MAW Mawson 94.44 191 *e*P pP 13 34 50.2 -3.0
comp=Z,2.7nm,0.3s
MAW Mawson 94.44 191 LR LR 14 09 02.7
comp=Z,113nm,20.0s,MS4.3,baz=113,slow=30
MAW Mawson 94.44 191 *e*P **P** 13 34 39.1 -0.9
MAW pmax pmax
comp=Z,13nm,1.3s
MAW Mawson 94.44 191 *e*P **P** 13 34 39.1 -0.9
comp=Z,13nm,1.3s,mb5.2
SCHQ Schefferville 98.94 348 LR LR 14 23 07.0
comp=Z,174nm,20.1s,MS4.5,baz=333,slow=37
VNDA Vanda 109.51 168 PKiKP PKiKP 13 39 48.9 -1.5
comp=Z,0.6nm,0.8s,baz=285,slow=5.2,SNR=4.8
PDAR Pinedale Array 110.07 17 PKiKP PKiKP 13 39 51.4 -0.1
comp=Z,0.6nm,0.6s,baz=0.0,slow=1.8,SNR=5.4
NVAR Mina Array Bea 111.12 25 PKiKP PKiKP 13 39 54.7 +1.3
comp=Z,0.7nm,0.7s,baz=333,slow=3.0,SNR=6.2
MNTX Cornudas Mount 121.59 18 *e*PKPdf PKPdf 13 40 13.7 +0.2
MNTX *ep*PKPdf pPKPdf 13 40 26.8 -0.3
JCT Junction City 124.09 13 *e*PKiKP PKPdf 13 40 18.5 +0.2
JCT *e* 13 40 31.8
TXAR Lajitas Array 124.29 17 PKP PKPdf 13 40 19.7 +1.0
comp=Z,1.8nm,0.6s,baz=256,slow=1.0,SNR=27
TXAR pPKP pPKPdf 13 40 32.1 -0.2
comp=Z,3.0nm,0.9s,baz=280,slow=2.2,SNR=12
TXAR Lajitas Array 124.29 17 PKP PKPdf 13 40 19.7 +1.0
TXAR pPKP pPKPdf 13 40 32.1 -0.2
CMIG Matias Romero 138.04 10 PKP PKPdf 13 40 45.9 +1.3
comp=Z,1.4nm,0.7s,baz=17,slow=1.1,SNR=3.6
CMIG Matias Romero 138.04 10 PKP PKPdf 13 40 45.9 +1.3
SDV Santo Domingo 142.83 331 *e*PKPdf PKPdf 13 40 51.1 -2.2
ROSC El Rosal 148.00 334 PKPbc PKPbc 13 41 08.3 +3.0
comp=Z,34nm,1.0s,baz=106,slow=22,SNR=10
ROSC El Rosal 148.00 334 *e*PKPdf PKPdf 13 41 03.4 +1.3
ROSC *e*PKPbc PKPbc 13 41 07.4 +2.1
ROSC *ep*PKPdf pPKPdf 13 41 17.7 +1.9
LPAZ La Paz 159.90 290 PKP PKPdf 13 41 20.8 +1.9
comp=Z,0.8nm,0.6s,baz=50,slow=4.4,SNR=4.9
LPAZ PKPab PKPab 13 41 58.6 +0.3
comp=Z,2.1nm,0.7s,baz=61,slow=4.5,SNR=7.3
LVC Limon Verde 162.64 272 PKPab PKPab 13 42 11.6 +1.3
comp=Z,3.0nm,0.6s,baz=67,slow=6.2,SNR=3.7

MAN 10 13:47:44.7, 821N×12735E, h86km, mb3.1, ML4.4, MS6.6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MATI	**Mati**	**1.66**	**221**	*e*P			Pn	13 48 12.6	+0.3
BUKP	**Musuan**	**2.29**	**262**	*e*P			Pn	13 48 23.0	+2.4
BUKP							eS	13 48 48.8	+0.7
CGP	**Cagayan de Oro**	**2.64**	**275**⇑	*e*P			Pn	13 48 23.9	-1.4
CGP							Sn	13 48 53.2	-3.2
MSLP	**Maasin**	**3.11**	**308**	*e*P			Pn	13 48 33.2	+1.6
PLP	**Palo**	**3.75**	**322**	*e*P			Pn	13 48 42.9	+2.6
PLP				*i* S			Sn	13 49 24.6	+1.3
GUIM	**Jordan**	**5.27**	**297**	*e*P			Pn	13 49 02.5	+1.5
PVCP	**Virac**	**6.20**	**330**	*e*P			Pn	13 49 14.2	+0.5

IDC 10 13:48:58.9±1.9, 314S×12817E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/29, Error ellipse: s-maj=131.7km s-min=26.0km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**17.76**	**161**	P			Pn	13 53 05.9	-1.5
	0.2nm,0.3s,baz=339,slow=11,SNR=16								
WB2	**Warramunga Arr**	**17.76**	**161**	*e*P			Pn	13 53 07.1	-0.4
ASAR	**Alice Springs**	**21.15**	**165**	P			P	13 53 45.8	+0.4
	6.3nm,0.6s,baz=343,slow=11,SNR=98								
ASPA	**Alice Springs**	**21.15**	**165**	*e*P			P	13 53 46.1	+0.7
GUMO	**Guam**	**23.47**	**45**	LR		LR		14 00 59.7	
	comp=Z,70nm,19.8s,baz=60,slow=31								
MKAR	**Makanchi Array**	**64.02**	**327**	P			P	13 59 34.8	+0.5
	0.2nm,0.5s,baz=143,slow=11,SNR=3.4								

*NEIC **10** 13:57:07.4, 3263S×7151W, h18km, ML2.8(GUC), After GUC.*

GUC 10 13:57:07.4±0.8, 3263S×7151W, h18km±13km, MD3.8, ML2.8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PTCH	**Petorca**	**0.61**	**53**	*e*P			Pg	13 57 19.3	-0.2
PTCH				*e*S			Sg	13 57 28.4	+0.7
PTCH				AML		AML		13 57 29.5	
	comp=E,2μm,0.3s								
PTCH	**Petorca**	**0.61**	**53**	*e*P			Pg	13 57 19.3	-0.2
PTCH				*e*S			Sg	13 57 28.4	+0.7
CHNG	**Los Chungos**	**0.75**	**0**⇓	*i*P			Pb	13 57 20.9	-1.0
CHNG				*i* S			Sb	13 57 30.8	-0.9
PEL	**Peldehue**	**0.86**	**127**	*e*P			Pb	13 57 23.2	-0.5
PEL				*i* S			Sb	13 57 34.7	-0.2
PEL				AML		AML		13 57 36.4	
	comp=E,779nm,0.4s								
PEL	**Peldehue**	**0.86**	**127**	*e*P			Pb	13 57 23.2	-0.5
PEL				*i* S			Sb	13 57 34.7	-0.2
RCDM	**Rinconada Maip**	**1.04**	**146**	*e*P			Pb	13 57 25.7	-1.1
RCDM				*i* S			Sb	13 57 39.4	-0.6
RCDM				AML		AML		13 57 40.5	
	comp=E,607nm,0.2s								
RCDM	**Rinconada Maip**	**1.04**	**146**	*e*P			Pb	13 57 25.7	-1.1
RCDM				*i* S			Sb	13 57 39.4	-0.6
CLCH	**Cerro Calan**	**1.11**	**133**	*e*P			Pn	13 57 27.2	-0.9
CLCH				*i* S			Sb	13 57 41.8	-0.5
CLCH				AML		AML		13 57 49.1	
	comp=E,172nm,0.6s								
ANTU	**Antumapu**	**1.19**	**142**	*e*P			Pn	13 57 28.1	-0.9
ANTU				*i* S			Sb	13 57 43.8	-0.5
ANTU				AML		AML		13 57 50.4	
	comp=N,256nm,0.4s								
ANTU	**Antumapu**	**1.19**	**142**	*e*P			Pn	13 57 28.1	-0.9
ANTU				*i* S			Sb	13 57 43.8	-0.5
FCH	**Farellones**	**1.23**	**124**⇓	*i*P			Pn	13 57 29.2	-0.5
FCH				*i* S			Sb	13 57 45.6	-0.1
FCH				AML		AML		13 57 49.9	
	comp=E,177nm,0.2s								
LNV	**Longovilo**	**1.32**	**177**	*e*P			Pn	13 57 29.9	-0.9
CHCH	**Chadas Angostu**	**1.48**	**151**	*e*P			Pn	13 57 32.9	-0.2
CHCH				*i* S			Sn	13 57 52.4	+0.5
CMCH	**Combarbala**	**1.52**	**17**	*e*P			Pn	13 57 34.0	+0.4
CMCH				*e*S			Sn	13 57 53.1	+0.2
CMCH				AML		AML		13 57 57.6	
	comp=N,633nm,0.7s								
CMCH	**Combarbala**	**1.52**	**17**	*e*P			Pn	13 57 34.0	+0.4
CMCH				*e*S			Sn	13 57 53.1	+0.2
LMEL	**Las Melosas**	**1.63**	**138**⇑	*i*P			Pn	13 57 35.5	+0.4
LMEL				*i* S			Sn	13 57 56.2	+0.6
LMEL				AML		AML		13 58 01.1	
	comp=N,274nm,0.3s								
LMEL	**Las Melosas**	**1.63**	**138**⇑	*i*P			Pn	13 57 35.5	+0.4
LMEL				*i* S			Sn	13 57 56.2	+0.6
CACH	**El Canelo**	**1.66**	**153**	*e*P			Pn	13 57 36.3	+0.7
CACH				*i* S			Sn	13 57 59.0	+2.5
CICH	**Cipreses**	**1.91**	**152**⇑	*i*P			Pn	13 57 40.1	+1.1
CICH				*i* S			Sn	13 58 04.6	+2.0
TLL	**Tololo Astrono**	**2.53**	**14**	*e*P			Pn	13 57 49.1	+1.5
TLL				AML		AML		13 58 32.2	
	comp=N,50nm,0.6s								

*ISCJB **10** 14:18:43.1±0.8, 720S±008×1191E±0.1, h649km±20km, mb3.8/7, Error ellipse: s-maj=18.4km s-min=8.7km az=110.2*
*NEIC **10** 14:18:43.0±0.8, 7.15S×11906E, h617km±15km, mb4.1/5, Error ellipse: s-maj=12.4km s-min=6.4km az=57.0*
*IDC **10** 14:18:46.9±2.4, 728S×119.14E, h680km±42km, mb3.1/6, mb1 3.3/8, mb1mx3.0/18, mbtmp3.1/8, Error ellipse: s-maj=37.1km s-min=11.6km az=53.0*

ISC 10 14:18:43.7±1.0, 717S±009×1191E±0.1, h629km±19km, n23, σ0°69/25, mb3.9/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KSM	**Kuching**	**12.26**	**314**	*e*P			P	**14 21 25.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.61**	**150**	*e*P			P	**14 21 27.9**	**-0.7**
	6.8nm,0.4s								
FITZ	**Fitzroy Crossi**	**12.61**	**150**	P			P	**14 21 27.9**	**-0.6**
	1.1nm,0.3s,baz=344,slow=7.8,SNR=31								
KKM	**Kota Kinabalu**	**13.43**	**348**	*e*P			P	**14 21 35.2**	**-1.0**
MBWA	**Marble Bar**	**13.92**	**177**	*e*P			P	**14 21 40.5**	**-0.2**
	7.2nm,0.6s								
KAKA	**Kakadu**	**14.27**	**114**	*e*P			P	**14 21 43.4**	**-0.5**
	20nm,0.6s								
DAV	**Davao City (W)**	**15.56**	**25**	P			P	**14 21 55.6**	**-0.2**
WRA	**Warramunga Arr**	**19.50**	**132**	P			P	**14 22 32.1**	**+0.5**
	0.8nm,0.3s,baz=306,slow=10,SNR=72								
WRA				S			S	**14 25 35.0**	**-0.7**
	0.0nm,0.3s,baz=309,slow=16,SNR=2.7								
WRAB	**Tennant Creek**	**19.51**	**132**	*e*P			P	**14 22 32.0**	**+0.3**
	3.6nm,0.6s								
WB2	**Warramunga Arr**	**19.51**	**132**	*e*P			P	**14 22 31.8**	**+0.1**
ASPA	**Alice Springs**	**21.72**	**141**	*e*P			P	**14 22 52.0**	**+0.6**
AS31	**Alice Springs**	**21.72**	**141**	*e*P			P	**14 22 50.5**	**-0.9**
ASAR	**Alice Springs**	**21.72**	**141**	P			P	**14 22 52.1**	**+0.7**
	3.4nm,0.4s,mb4.4,baz=317,slow=8.5,SNR=125								
ASAR				S			S	**14 26 08.5**	**-2.1**
	0.3nm,0.7s,baz=319,slow=12,SNR=3.0								
COCO	**West Island**	**22.48**	**255**	P			P	**14 22 57.8**	**-0.4**
	229nm,1.2s								
NWAO	**Narrogin (SRO)**	**25.68**	**184**	P			P	**14 23 26.8**	**+0.4**
	12nm,1.0s,mb4.5,baz=170,slow=14,SNR=4.4								
CTAO	**Charters Tower**	**29.31**	**119**	P			P	**14 23 59.0**	**+1.2**
	3.8nm,0.8s,mb4.1								
STKA	**Stephens Creek**	**32.33**	**142**	*e*P			P	**14 24 24.5**	**+0.9**
	3.3nm,0.3s,mb4.4								
STKA	**Stephens Creek**	**32.33**	**142**	P			P	**14 24 24.6**	**+1.0**
	4.0nm,0.3s,mb4.5,baz=324,slow=7.8,SNR=37								
STKA	**Stephens Creek**	**32.33**	**142**	*e*P			P	**14 24 24.4**	**+0.8**
SONM	**Songino Array**	**55.90**	**350**	P			P	**14 27 24.7**	**+0.8**
	0.6nm,0.5s,mb3.1,baz=169,slow=8.2,SNR=5.4								
MKAR	**Makanchi Array**	**62.88**	**332**	P			P	**14 28 10.5**	**+0.4**
	0.6nm,0.5s,mb3.2,baz=138,slow=6.6,SNR=8.9								
MKAR	**Makanchi Array**	**62.88**	**332**	P			P	**14 28 10.5**	**+0.4**
ZAL	**Zalesovo**	**67.37**	**339**	P			P	**14 28 37.5**	**-0.5**
	1.3nm,0.6s,mb3.6,baz=311,slow=4.8,SNR=3.9								

IDC 10 14:22:58.0±9.6, 610S×15104E, h60km±65km, mb3.3/4, mb1 3.5/5, mb1mx3.3/14, mbtmp3.3/5, ML2.1/1, Error ellipse: s-maj=69.7km s-min=59.8km az=180.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**5.06**	**229**	P			Pn	14 24 11.4	+0.2
	0.5nm,0.3s,baz=66,slow=4.0,SNR=4.0								
PMG				S			Sn	14 25 09.6	+1.2
	1.3nm,0.3s,baz=347,slow=18,SNR=2.3								
WRA	**Warramunga Arr**	**21.28**	**228**	P			P	14 27 38.8	-0.6
	0.5nm,0.6s,baz=55,slow=11,SNR=5.6								
ASAR	**Alice Springs**	**24.02**	**222**	P			P	14 28 06.9	-0.3
	0.2nm,0.5s,baz=57,slow=9.2,SNR=5.6								
STKA	**Stephens Creek**	**27.13**	**198**	*e*P			P	14 28 36.1	+0.8
	1.3nm,0.5s								
STKA	**Stephens Creek**	**27.13**	**198**	P			P	14 28 36.1	+0.8
	1.4nm,0.5s,baz=113,slow=7.7,SNR=9.4								
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P			P	14 28 39.5	+0.7
	3.5nm,1.2s,baz=66,slow=10,SNR=5.6								

IDC 10 14:23:12.5±8.1, 634S×15080E, h87km±56km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.7/1, Error ellipse: s-maj=58.3km s-min=52.1km az=85.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**4.72**	**230**	P			Pn	14 24 20.5	-0.7
	2.2nm,0.3s,baz=46,slow=7.3,SNR=8.7								
PMG				S			Sn	14 25 17.0	+2.3
	3.5nm,0.3s,baz=191,slow=20,SNR=5.0								
WB2	**Warramunga Arr**	**20.93**	**228**	*e*P			P	14 27 48.1	0.0
WRA	**Warramunga Arr**	**20.94**	**228**	P			P	14 27 47.6	-0.5
	3.3nm,0.8s,baz=52,slow=10,SNR=11								
ASAR	**Alice Springs**	**23.68**	**222**	P			P	14 28 16.4	+0.3
	1.7nm,0.6s,baz=54,slow=8.8,SNR=33								
ASPA	**Alice Springs**	**23.68**	**222**	*e*P			P	14 28 16.0	-0.1
STKA	**Stephens Creek**	**26.82**	**198**	P			P	14 28 44.3	-0.2
	1.0nm,0.5s,baz=24,slow=12,SNR=5.9								
FITZ	**Fitzroy Crossi**	**27.18**	**242**	*e*P			P	14 28 47.5	-0.3
	6.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.18**	**242**	P			P	14 28 47.2	-0.6
	3.3nm,0.6s,baz=50,slow=12,SNR=12								
TORD	**Torodi Ar. Bea**	**148.83**	**285**	PKPbc		PKPbc		14 42 52.2	+2.3
	0.7nm,0.6s,baz=69,slow=2.6,SNR=4.7								

IDC 10 14:38:30.1±2.5, 2385N×14195E, h90km±24km, mb3.3/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/17, Error ellipse: s-maj=34.6km s-min=17.4km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CBIJ	**Chichi jima**	**3.24**	**4**	P			Pn	14 39 19.5	+0.7
	5.5nm,0.3s,baz=280,slow=23,SNR=10								
CBIJ				S			Sn	14 39 56.9	+0.5
	26nm,0.3s,baz=281,slow=22,SNR=5.7								
JOW	**Kunigami**	**12.72**	**286**	LR			LR	14 45 05.2	
	comp=Z,44nm,18.8s,baz=190,slow=31								
SONM	**Songino Array**	**36.97**	**319**	P			P	14 45 30.0	-0.5
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.3								
WRA	**Warramunga Arr**	**44.16**	**190**	P			P	14 46 29.5	-0.2
	1.6nm,0.4s,baz=8.7,slow=8.2,SNR=57								
WRA				PcP			PcP	14 48 13.6	+0.4
	0.7nm,0.8s,baz=5.2,slow=3.7,SNR=6.5								
ASAR	**Alice Springs**	**47.88**	**190**	P			P	14 46 59.1	+0.2
	0.3nm,0.6s,baz=14,slow=14,SNR=11								
MKAR	**Makanchi Array**	**52.41**	**312**	P			P	14 47 33.7	+0.5
	0.2nm,0.4s,baz=88,slow=8.6,SNR=9.3								
YKA	**Yellowknife Ar**	**75.09**	**28**	P			P	14 50 01.8	-0.4
	0.6nm,0.4s,baz=296,slow=6.1,SNR=5.7								
LPAZ	**La Paz**	**150.81**	**81**	PKPbc		PKPbc		14 58 13.4	+1.5
	0.8nm,0.6s,baz=243,slow=4.5,SNR=4.9								

*MOS **10** 14:52:25.8±1.8, 5324N×10853E, h2km, mb4.3/1, Error ellipse: s-maj=38.4km s-min=13.9km az=48.9*

BYKL 10 14:52:26.0±0.2, 5330N×10851E, h13km±4km, 6C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MXMB	**Maximikha**	**0.15**	**105**⇑	*i*Pg			Pg	14 52 29.2	-0.4
MXMB				*i* Sg			Sg	14 52 31.4	-0.7
MXMB				Pmax					
	2μm,0.2s								
MXMB				Smax					
	12μm,0.5s								
OGRR	**Ongureny**	**0.65**	**303**⇑	*i*Pg			Pg	14 52 38.4	-0.2
	179nm,0.1s								
OGRR				⇓ *i*Pg			Pg	14 52 38.4	-0.2
	149nm,0.1s								
OGRR				⇑ *i*Pg			Pg	14 52 38.4	-0.2
	339nm,0.1s								
OGRR				*e*Sg			Sg	14 52 47.5	+0.4
OGRR				Pmax					
	261nm,0.2s								
OGRR				Smax					
	335nm,0.1s								
SYVR	**Suvo**	**0.96**	**67**⇑	*i*Pg			Pg	14 52 43.3	-1.2
SYVR				*i* Sg			Sg	14 52 56.3	-0.8
SYVR				Pmax					
	25nm,0.1s								
SYVR				Smax					
	279nm,0.3s								
TRTB	**Turuntaevo**	**1.20**	**207**⇑	*i*Pg			Pg	14 52 47.5	-1.6
	46nm,0.4s								
TRTB				⇑ *i*Pg			Pg	14 52 47.5	-1.6
	37nm,0.4s								
TRTB				⇓ *i*Pg			Pg	14 52 47.5	-1.6
	49nm,0.4s								
TRTB				*e*Sg			Sg	14 53 03.9	-0.8
TRTB				Pmax					
	67nm,0.2s								
TRTB				Smax					
	262nm,0.2s								
TRG	**Tyrgan**	**1.41**	**248**	*e*Pg			Pg	14 52 51.0	-2.2
TRG				*e*Pb			Pb	14 52 52.2	0.0
TRG				*e*Sg			Sg	14 53 10.5	-1.0
TRG				max					
	58nm,0.2s								
TRG				Smax					
	416nm,0.3s								
TRG	**Tyrgan**	**1.41**	**248**	*e*PG			Pg	14 52 51.1	-2.1
TRG				*e*				14 53 09.9	
TRG				pmax		pmax			
	comp=Z,68nm,0.2s								
TRG				smax					
	comp=N,450nm,0.2s								
FFNB	**Fofonovo**	**1.65**	**221**	*e*Pg			Pg	14 52 55.8	-1.8
FFNB				*e*Sg			Sg	14 53 18.0	-0.9
FFNB				Smax					
	comp=N,1μm,0.3s								
KAB	**Kabansk**	**1.69**	**223**	*e*Pg			Pg	14 52 56.9	-1.5
KAB				*e*Sg			Sg	14 53 19.5	-0.8
KAB				Pmax					
	comp=N,88nm,0.3s								
KAB				Smax					
	comp=N,1μm,0.4s								
STDB	**Stepnoy Dvoret**	**1.73**	**230**	*e*Pn			Pn	14 52 57.6	+1.9
STDB				*e*Pg			Pg	14 52 58.9	-0.3
STDB				*e*Sn			Sn	14 53 21.0	+3.4
STDB				*e*Sg			Sg	14 53 22.5	+0.9
STDB				Pmax					
	comp=N,63nm,0.2s								
STDB				Smax					
	comp=N,761nm,0.5s								
YLYR	**Ulyunkhan**	**2.22**	**44**⇓	*i*Pn			Pn	14 53 03.2	+0.7
	comp=N,19nm,0.3s								
YLYR				⇓ *i*Pn			Pn	14 53 03.2	+0.7
	comp=N,14nm,0.3s	

LSTR					*e*Pg	Pg	14 53 13.2	-3.8		
LSTR					*e*Sn	Sn	14 53 41.3	+0.6		
LSTR					*e*Sg	Sg	14 53 47.1	-4.5		
LSTR					Pmax					
	comp=N,10.0nm,0.3s									
LSTR					Smax					
	comp=N,90nm,0.7s									
IRK	**Irkutsk**	**2.78**	**249**		*e*Sg	Sg	14 53 51.9	-3.6		
IRK					Smax					
	comp=N,328nm,0.4s									
IRK	**Irkutsk**	**2.78**	**249**		*e*PN	Pn	14 53 15.8	+5.5		
IRK					*e*		14 53 52.0			
IRK					pmax	pmax				
	comp=Z,58nm,0.2s									
IRK					smax					
	comp=N,456nm,0.4s									
KMO	**Kumora**	**3.03**	**30**		*e*Pn	Pn	14 53 14.4	+0.8		
KMO					*e*Pg	Pg	14 53 19.6	-4.4		
KMO					*e*Sg	Sg	14 54 00.0	-3.3		
KMO					Pmax					
	comp=N,66nm,0.4s									
KMO					Smax					
	comp=N,75nm,1.7s									
KMO	**Kumora**	**3.03**	**30**		*e*PN	Pn	14 53 19.1	+5.5		
KMO					*e*S	Sn	14 53 49.8	+0.1		
KMO					*e*		14 53 58.7			
KMO					pmax	pmax				
	comp=Z,66nm,0.4s									
KMO					smax					
	comp=E,75nm,0.6s									
CIT	**Chita**	**3.33**	**111**		*e*Pn	Pn	14 53 17.5	-0.2		
CIT					*e*Pg	Pg	14 53 24.7	-5.0		
CIT					*e*Sg	Sg	14 54 08.6	-4.3		
CIT					Pmax					
	comp=E,24nm,0.2s									
CIT					Smax					
	comp=E,68nm,0.4s									
TLY	**Talaya**	**3.39**	**243**		*e*Pg	Pg	14 53 26.2	-4.7		
TLY					*e*Sn	Sn	14 54 00.0	+1.4		
TLY					*e*Sg	Sg	14 54 09.1	-5.7		
TLY					Pmax					
	comp=E,7.0nm,0.3s									
TLY					Smax					
	comp=E,59nm,0.4s									
YOA	**Uoyan**	**3.40**	**32**		*e*Sg	Sg	14 54 13.7	-1.4		
YOA					Smax					
	comp=E,133nm,0.8s									
YOA	**Uoyan**	**3.40**	**32**		*e*PN	Pn	14 53 28.9	+10		
YOA					*i*		14 54 13.4			
YOA					pmax	pmax				
	comp=Z,57nm,0.2s									
YOA					smax					
	comp=E,277nm,0.6s									
UKT	**Uakit**	**3.71**	**52**		*e*Pn	Pn	14 53 23.4	+0.4		
UKT					*e*Pg	Pg	14 53 32.4	-4.7		
UKT					*e*Sg	Sg	14 54 20.9	-4.2		
UKT					Pmax					
	comp=E,9.0nm,0.5s									
UKT					Smax					
	comp=E,56nm,1.7s									
UKT	**Uakit**	**3.71**	**52**		*e*PN	Pn	14 53 32.4	+9.4		
UKT					*e*		14 54 19.8			
UKT					pmax	pmax				
	comp=Z,12nm,0.5s									
UKT					smax					
	comp=N,66nm,0.3s									
ARS	**Arshan**	**3.96**	**252**		*e*Pg	Pg	14 53 35.9	-5.9		
ARS					*e*Sg	Sg	14 54 26.0	-7.1		
ARS					Pmax					
	comp=N,10.0nm,0.2s									
ARS					Smax					
	comp=N,156nm,0.5s									
ARS	**Arshan**	**3.96**	**252**		*e*PN	Pn	14 53 28.2	+1.8		
ARS					*e*		14 53 36.7			
SVKR	**Severomuysk**	**4.07**	**44**		*e*Sg	Sg	14 54 34.7	-1.9		
SVKR					Smax					
	comp=N,114nm,0.5s									
KPC	**Khapcheranga**	**4.34**	**145**		*e*Pn	Pn	14 53 30.9	-0.7		
KPC					*e*Pg	Pg	14 53 42.8	-6.3		
KPC					*e*Sg	Sg	14 54 38.4	-6.8		
KPC					Pmax					
	comp=N,6.0nm,1.4s									
KPC					Smax					
	comp=N,49nm,1.0s									
ZAK	**Zakamensk**	**4.37**	**230**		*e*Pg	Pg	14 53 44.2	-5.4		
ZAK					*e*Sg	Sg	14 54 42.3	-3.8		
ZAK					Pmax					
	comp=N,3.0nm,0.3s									
ZAK					Smax					
	comp=N,36nm,0.5s									
MOY	**Mondy**	**4.88**	**253**		*e*Pn	Pn	14 53 39.5	+0.5		
MOY					*e*Pg	Pg	14 53 52.7	-6.7		
MOY					*e*		14 54 38.1			
MOY					*e*Sg	Sg	14 54 55.9	-6.7		
MOY					Pmax					
	comp=N,6.0nm,0.4s									
MOY					Smax					
	comp=N,56nm,1.5s									
NLYR	**Nelyaty**	**5.24**	**50**		*e*Sg	Sg	14 55 08.1	-6.1		
NLYR					Smax					
	comp=N,11nm,1.4s									
ORL	**Orlik**	**5.32**	**265**		*e*Pn	Pn	14 53 46.9	+1.8		
ORL					*e*Pg	Pg	14 54 01.8	-6.1		
ORL					*e*		14 54 48.1			
ORL					*e*Sg	Sg	14 55 10.0	-6.8		
ORL					Pmax					
	comp=N,2.0nm,0.5s									
ORL					Smax					
	comp=N,45nm,0.7s									
ORL	**Orlik**	**5.32**	**265**		*e*PN	Pn	14 53 47.3	+2.2		
ORL					*e*		14 54 02.5			
ORL					*e*		14 55 10.0			
ORL					pmax	pmax				
	comp=Z,16nm,0.9s									
ORL					smax					
	comp=N,61nm,1.5s									
CRS	**Chara**	**6.66**	**53**		*e*Sg	Sg	14 55 52.3	-7.4		
CRS	**Chara**	**6.66**	**53**		*e*PG	Pg	14 54 26.9	-6.6		
CRS					*e*		14 55 54.8			
CRS					pmax	pmax				
	comp=Z,53nm,3.4s									
CRS					smax					
	comp=N,188nm,3.9s									
TUP	**Tupik**	**6.86**	**76**		*e*Pg	Pg	14 54 28.5	-8.9		
TUP					*e*Sg	Sg	14 55 58.2	-8.1		
TUP					Smax					
	comp=N,112nm,1.9s									
TUP	**Tupik**	**6.86**	**76**		*e*PN	Pn	14 54 07.3	+1.0		
TUP					*e*		14 54 29.1			
TUP					*e*S	Sn	14 55 22.9	-1.4		
TUP					*e*		14 55 56.8			
TUP					pmax	pmax				
	comp=Z,15nm,0.5s									
TUP					smax					
	comp=N,54nm,1.1s									
TDJR	**Todzha**	**7.57**	**268**		*e*Sg	Sn	14 56 20.5	+39		

NDI ***10*** *15:28:54.3±2.8, 2381N×70.42E, h20km, ML3.5*
ISCJB ***10*** *15:28:55.3±1.5, 2375N±005×71.1E±0.1, h10km, Error ellipse: s-maj=15.6km s-min=6.4km az=27.0*

ISC 10 15:28:56.6±1.5, 2374N±004×710E±01, h10km, n19, σ1§27/23, Southern India

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**2.23**	**152**		*e*P	**Pn**	**15 29 34.0**	**+0.4**
BHV					*e*S	**Sn**	**15 30 06.0**	**+4.8**
AJM	**Ajmer**	**4.27**	**50**		*e*P	**Pn**	**15 30 03.4**	**+1.7**
AJM					*e*S	**Sn**	**15 30 52.7**	**+1.1**
AJM					AML	AML	15 31 23.2	
	comp=N,126nm,0.5s							
AJM					AML	AML	15 31 23.8	
	comp=E,105nm,0.3s							
POO	**Poona**	**5.81**	**152**		*ex*	x	15 31 04.8	
POO					*ex*	x	15 32 02.5	
POO					AML	AML	15 32 42.3	
	comp=N,36nm,0.2s							
POO					AML	AML	15 32 42.7	
	comp=E,47nm,0.4s							
BHPL	**Bhopal**	**5.90**	**94**		*e*P	**Pn**	**15 30 28.9**	**+4.8**
BHPL					*e*S	**Sn**	**15 31 37.0**	**+5.2**
BHPL					AML	AML	15 32 12.3	
	comp=N,62nm,0.5s							
BHPL					AML	AML	15 32 12.9	
	comp=E,55nm,0.5s							
KHET	**Khetri**	**6.10**	**44**		*e*P	**Pn**	**15 30 27.7**	**+0.8**
KHET					*e*S	**Sn**	**15 31 36.8**	**+0.1**
KHET					AML	AML	15 32 22.6	
	comp=E,31nm,0.8s							
KHET					AML	AML	15 32 22.7	
	comp=N,31nm,0.4s							
KAD	**Karad**	**7.05**	**155**		*e*P	**Pn**	**15 30 40.7**	**+0.9**
KAD					*e*S	**Sn**	**15 31 58.5**	**-1.4**
SONA	**Sohna**	**7.07**	**49**		*e*S	**Sn**	**15 31 59.3**	**-1.2**
SONA					AML	AML	15 32 55.6	
	comp=E,56nm,0.5s							
SONA					AML	AML	15 32 55.8	
	comp=N,46nm,0.7s							
AGRA	**Agra**	**7.16**	**59**		AML	AML	15 32 02.0	
	comp=Z,62nm,0.3s							
AGRA					*e*S	**Sn**	**15 32 03.5**	**+0.8**
AGRA					AML	AML	15 33 00.8	
	comp=N,76nm,0.4s							
AGRA					AML	AML	15 33 02.8	
	comp=E,74nm,0.3s							
LATR	**Latur**	**7.40**	**135**		*e*S	**Sn**	**15 32 07.4**	**-1.2**
NDI	**New Delhi**	**7.43**	**47**		*e*S	**Sn**	**15 32 07.6**	**-1.8**
NDI					AML	AML	15 44 11.5	
	comp=N,12nm,0.5s							
NDI					AML	AML	15 44 11.7	
	comp=E,15nm,0.3s							
NGP	**Nagpur**	**7.86**	**108**		*e*S	**Sn**	**15 32 21.8**	**+1.8**
NGP					AML	AML	15 33 16.7	
	comp=N,26nm,0.5s							
NGP					AML	AML	15 33 20.3	
	comp=E,18nm,0.8s							
KLP	**Kalpa**	**10.07**	**38**		*e*S	**Sn**	**15 33 08.4**	**-5.9**
KOLN	**Koldanda**	**12.03**	**68**		*e*P	**Pn**	**15 31 49.4**	**+1.3**
GKN	**Gorkha**	**12.98**	**68**		*e*P	**Pn**	**15 32 01.5**	**+0.5**
DMN	**Daman**	**13.28**	**70**		*e*P	**Pn**	**15 32 04.0**	**-1.1**
KKN	**Kakani**	**13.47**	**70**		*e*P	**Pn**	**15 32 07.1**	**-0.6**
PKI	**Pulchoki**	**13.53**	**71**		*e*P	**Pn**	**15 32 08.7**	**+0.1**
GUN	**Gumba**	**14.01**	**70**		*e*P	**Pn**	**15 32 13.0**	**-2.2**
	comp=E,43nm,0.9s							
JIRN	**Jiri**	**14.22**	**71**		*e*P	**Pn**	**15 32 16.9**	**-1.1**

PRU 10 15:38:51.4, 5142N×1609E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**0.92**	**183**		*e*PG	Pg	15 39 08.4	-0.5
DPC	**Dobruska-Polom**	**1.08**	**172**		*e*PG	Pg	15 39 11.1	-1.0
DPC					*e*SG	Sg	15 39 26.7	+0.6
	6.2nm,0.3s							
PVCC	**Panska Ves**	**1.31**	**228**		*e*PG	Pg	15 39 15.6	-1.0
PVCC					*e*SG	Sg	15 39 34.0	+0.4
	32nm,0.2s							
BRG	**Berggiesshubel**	**1.46**	**249**		PG	Pg	15 39 17.7	-1.7
BRG					SG	Sg	15 39 37.5	-0.8
	6.2nm,0.5s							
PRU	**Pruhonice**	**1.74**	**215**		*e*PG	Pg	15 39 23.9	-0.8
PRU					*e*SG	Sg	15 39 46.2	-1.1
CLL	**Collm**	**1.94**	**268**		*e*(Pg)	Pg	15 39 28.0	-0.6
CLL					*e*Sg	Sg	15 39 52.0	-1.7
OKC	**Ostrava-Krasne**	**2.06**	**140**		*e*SG	Sg	15 39 57.0	-0.5
NKC	**Novy Kostel**	**2.60**	**244**		*e*SG	Sg	15 40 15.2	+0.3
	11nm,0.3s							
KHC	**Kasperske Hory**	**2.80**	**216**		*e*PG	Pg	15 39 43.1	-2.0
KHC					*e*SG	Sg	15 40 20.0	-1.4
MOX	**Moxa**	**2.93**	**256**		*e*PG	Pg	15 39 46.1	-1.5
MOX					*e*SG	Sg	15 40 25.9	+0.4

ISCJB ***10*** *15:40:00.4±0.3, 7701S±005×15593E±005, h51km, mb4.8/43, MS3.8/20, Error ellipse: s-maj=7.8km s-min=6.5km az=167.1*
BJI ***10*** *15:40:01.1, 6665S×15553E, h28km, mB5.0, mb4.7, Ms4.6, Msz4.4*
NEIC ***10*** *15:40:02.6±1.6, 7005S×15587E, h57km±14km, mb4.8/21, Error ellipse: s-maj=10.0km s-min=9.3km az=170.0*
MOS ***10*** *15:40:03.1±1.4, 6965S×15591E, h67km, mb4.9/16, Error ellipse: s-maj=10.5km s-min=9.6km az=126.5*
IDC ***10*** *15:40:03.4±0.6, 7.11S×15591E, h62km±4km, mb4.4/13, mb1 4.4/16, mb1mx4.3/20, mbtmp4.4/16, MS3.6/17, Ms1 3.6/17, ms1mx3.5/29, Error ellipse: s-maj=21.0km s-min=11.5km az=79.0*

ISC 10 15:40:02.6±0.3, 7704S±005×15592E±007, h53km, h53km±1.9km: pP-P, n145, σ1§25/97, mb4.8/43, MS3.8/20, 7C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.64**	**121**		P	**Pn**	**15 41 09.9**	**-0.2**
	3.3nm,0.3s,baz=267,slow=2.3,SNR=2.3							
HNR					LR	LR	15 43 00.4	
	comp=Z,415nm,19.5s,baz=358,slow=38							
HNR	**Honiara**	**4.64**	**121**		*e*Pn	**Pn**	**15 41 11.2**	**+1.0**
PMG	**Port Moresby**	**8.99**	**254**		P	**Pn**	**15 42 17.1**	**+7.5**
	2.4nm,0.3s,baz=54,slow=8.3,SNR=16							
PMG					S	**Sn**	**15 43 53.2**	**+3.9**
	1.2nm,0.3s,baz=156,slow=17,SNR=1.9							
PMG	**Port Moresby**	**8.99**	**254**		*e*P	**Pn**	**15 42 15.3**	**+5.7**
PMG					pmax	pmax		
	comp=Z,19nm,0.7s							
PMG	**Port Moresby**	**8.99**	**254**		*e*Pn	**Pn**	**15 42 15.3**	**+5.7**
	comp=Z,19nm,0.7s							
CTA	**Charters Tower**	**16.01**	**215**		*e*P	**Pn**	**15 43 45.6**	**+1.4**
	comp=Z,25nm,0.8s							
CTA	**Charters Tower**	**16.01**	**215**		P	**Pn**	**15 43 45.4**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=37,slow=12,SNR=31							
CTA					LR	LR	15 47 37.5	
	comp=Z,131nm,21.5s,baz=58,slow=28							
CTA	**Charters Tower**	**16.01**	**215**		*e*P	**Pn**	**15 43 45.6**	**+1.4**
CTA					pmax	pmax		
	comp=Z,25nm,0.8s							
CTAO	**Charters Tower**	**16.01**	**215**		*e*P	**Pn**	**15 43 47.2**	**+3.0**
CTAO					pmax	pmax		
	comp=Z,35nm,0.8s							
CTAO	**Charters Tower**	**16.01**	**215**		*e*Pn	**Pn**	**15 43 47.2**	**+3.0**
	comp=Z,35nm,0.8s							
DZM	**Mont Dzumac**	**18.07**	**147**		P	**Pn**	**15 44 09.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=313,slow=18,SNR=2.4							
DZM					LR	LR	15 49 00.1	
	comp=Z,218nm,18.3s,baz=208,slow=30							
GUMO	**Guam**	**23.24**	**332**		LR	LR	15 52 19.9	
	comp=Z,134nm,21.7s,MS3.4,baz=142,slow=32							
ARMA	**Armidale**	**23.61**	**189**		*e*P	**P**	**15 45 08.0**	**-0.7**
KAKA	**Kakadu**	**23.80**	**254**		*e*P	**P**	**15 45 10.7**	**+0.2**
	comp=Z,13nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**24.54**	**236**	*c i*	P	**P**	**15 45 17.4**	**+0.2**
WB2	**Warramunga Arr**	**24.55**	**236**		*e*P	**P**	**15 45 17.1**	**-0.1**
WRA	**Warramunga Arr**	**24.55**	**236**		P	**P**	**15 45 17.4**	**+0.1**
	comp=Z,34nm,0.7s,mb5.0,baz=60,slow=9.4,SNR=212							
WRA					pP		15 45 33.0	
	comp=Z,4.6nm,0.5s,baz=61,slow=9.6,SNR=3.9							
WRA					PcP	PcP	15 48 54.3	0.0
	comp=Z,0.4nm,0.3s,baz=63,slow=3.0,SNR=5.3							
WRA					ScP	ScP	15 52 28.3	-0.2
	comp=Z,2.6nm,0.9s,baz=63,slow=3.3,SNR=14							
WRA					LR	LR	15 54 22.1	
	comp=Z,124nm,18.5s,MS3.4,baz=200,slow=35							
WRA	**Warramunga Arr**	**24.55**	**236**		P	**P**	**15 45 17.4**	**+0.1**
WRA					*PP		15 45 33.0	
WRA							15 48 54.3	
AS31	**Alice Springs**	**26.84**	**230**	↓ *i*	P	**P**	**15 45 37.0**	**-1.0**
AS31					*e*	pP	15 45 47.4	-3.9
ASAR	**Alice Springs**	**26.84**	**230**		P	**P**	**15 45 37.1**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.2,baz=60,slow=9.6,SNR=136							
ASAR					PcP	PcP	15 48 59.2	-0.3
	comp=Z,0.6nm,0.5s,baz=68,slow=2.3,SNR=5.2							
ASAR					ScP	ScP	15 52 34.5	-0.6
	comp=Z,1.0nm,0.7s,baz=64,slow=2.7,SNR=9.0							
ASAR					LR	LR	15 55 35.2	
	comp=Z,120nm,20.6s,MS3.4,baz=65,slow=35							
ASAR	**Alice Springs**	**26.84**	**230**		P	**P**	**15 45 37.1**	**-0.9**
ASAR							15 48 59.2	
ASPA	**Alice Springs**	**26.84**	**230**	↓ *i*	P	**P**	**15 45 37.0**	**-1.0**
ASPA					*e*	pP	15 45 47.4	-3.9
STKA	**Stephens Creek**	**28.10**	**207**		*e*P	**P**	**15 45 47.9**	**-1.4**
	comp=Z,5.0nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**28.10**	**207**		P	**P**	**15 45 47.8**	**-1.5**
	comp=Z,4.3nm,0.6s,mb4.3,baz=38,slow=14,SNR=13							
STKA					ScP	ScP	15 52 38.2	-0.8
	comp=Z,1.1nm,0.6s,baz=225,slow=8.6,SNR=4.1							
STKA					LR	LR	15 57 16.4	
	comp=Z,103nm,19.4s,MS3.4,baz=26,slow=37							
FITZ	**Fitzroy Crossi**	**31.48**	**247**		*e*P	**P**	**15 46 18.9**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.5							
FITZ					*e*		15 46 25.3	
AFI	**Afiamalu**	**32.46**	**105**		LR	LR	15 57 23.3	
	comp=Z,59nm,19.7s,MS3.3,baz=140,slow=32							
MBWA	**Marble Bar**	**37.69**	**244**		*e*P	**P**	**15 47 12.2**	**-0.6**
	comp=Z,6.8nm,0.6s,mb4.5							
RPZ	**Rata Peaks**	**38.87**	**162**		P	**P**	**15 47 23.2**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.5,baz=12,slow=9.6,SNR=2.9							
RPZ					LR	LR	16 01 09.3	
	comp=Z,159nm,18.3s,MS3.9,baz=357,slow=33							
KKM	**Kota Kinabalu**	**41.70**	**287**		*e*P	**P**	**15 47 46.0**	**-0.1**
JOW	**Kunigami**	**43.03**	**323**		P	**P**	**15 47 59.0**	**+2.0**
	comp=Z,4.9nm,0.6s,mb4.4,baz=137,slow=15,SNR=4.9							
JOW					LR	LR	16 03 18.0	
	comp=Z,29nm,21.1s,MS3.1,baz=162,slow=32							
KLBR	**Kellerberrin**	**43.17**	**230**		*e*P	**P**	**15 47 56.9**	**-1.1**
	comp=Z,25nm,0.9s,mb5.0							
RAR	**Rarotonga**	**45.05**	**113**		LR	LR	16 03 06.9	
	comp=Z,118nm,20.9s,MS3.8,baz=280,slow=31							
YHNB	**Yeheng**	**46.11**	**314**		*e*P	**P**	**15 48 17.9**	**-3.6**
KSM	**Kuching**	**46.29**	**279**		*e*P	**P**	**15 48 22.9**	**0.0**
MJAR	**Matsushiro Arr**	**46.42**	**340**		P	**P**	**15 48 24.1**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=168,slow=1.6,SNR=5.9							
MJAR					PcP	PcP	15 49 58.5	+0.5
	comp=Z,1.4nm,0.8s,baz=158,slow=3.9,SNR=3.5							
MAT	**Matsushiro**	**46.42**	**340**		P	**P**	**15 48 21.6**	**-2.3**
JNU	**Nakatsue**	**46.49**	**331**		P	**P**	**15 48 25.7**	**+1.2**
	comp=Z,18nm,0.7s,mb5.1,baz=241,slow=19,SNR=6.5							
KSRS	**Korea Array**	**51.41**	**331**		P	**P**	**15 49 03.0**	**+0.9**
	comp=Z,4.7nm,0.6s,mb4.6,baz=144,slow=7.1,SNR=26							
KSRS					LR	LR	16 08 36.9	
	comp=Z,28nm,19.6s,MS3.3,baz=130,slow=33							
ASAJ	**Asahikawa**	**52.32**	**348**		LR	LR	16 12 19.4	
	comp=Z,48nm,18.1s,MS3.6,baz=350,slow=37							
NJ2	**Nanjing**	**52.53**	**320**		*e*P	**P**	**15 49 12.6**	**+2.1**
NJ2					AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4							
WHN	**Wuhan**	**54.61**	**315**		P	**P**	**15 49 23.2**	**-2.5**
KULM	**Kulim**	**56.50**	**281**		P	**P**	**15 49 37.7**	**-1.6**
CN2	**Changchun**	**57.62**	**334**		*e*P	**P**	**15 49 49.7**	**+2.5**
GYA	**Guiyang**	**58.21**	**307**		P	**P**	**15 49 53.0**	**+1.7**
GYA					PCP	PcP	15 50 43.7	+1.5
GYA					SCP	ScP	15 54 38.2	+0.3
GYA					S	**S**	**15 57 48.8**	**-0.4**
GYA					SCS	ScS	15 59 34.3	-2.1
GYA					SS	SS	16 01 42.1	+0.7
GYA					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
GYA					AMB	AMB		
	comp=Z,90nm,4.9s							
GYA					LR	LR		
	comp=N,280nm,18.9s,MS4.5							
GYA					LR	LR		
	comp=E,270nm,18.7s,MS4.5							
GYA					LR	LR		
	comp=Z,310nm,19.0s,MS4.4							
NANT	**Nan**	**60.17**	**296**		P	**P**	**15 50 04.0**	**-0.9**
KMI	**Kunming**	**60.80**	**304**		P	**P**	**15 50 10.8**	**+1.6**
KMI					*SP	sP	15 50 30.7	+1.1
KMI					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6							
KMI					MLR	MLR		
	comp=Z,30nm,27.1s,MS3.3							
KMI	**Kunming**	**60.80**	**304**		P	**P**	**15 50 10.8**	**+1.6**
	comp=Z,4.0nm,0.8s,mb4.6							
KMI					pP	pP	15 50 25.5	+1.9
KMI					sP	sP	15 50 30.7	+1.1
KMI					LR	LR		
	comp=Z,30nm,27.1s,MS3.3							
CM31	**Chiang Mai Arr**	**61.63**	**295**		*e*P	**P**	**15 50 15.6**	**+0.8**
	comp=Z,10nm,0.8s,mb5.0							
CHG	**Chiang Mai**	**61.75**	**296**		P	**P**	**15 50 16.6**	**+1.1**
CD2	**Chengdu**	**62.54**	**310**		*e*P	**P**	**15 50 21.2**	**+0.3**
CD2					AP	pP	15 50 34.1	-1.3
CD2					XP	sP	15 50 39.1	-2.2
CD2					PP	PP	15 52 40.5	+1.7
CD2					S	**S**	**15 58 43.2**	**-1.4**
CD2					AMB	AMB		
	comp=Z,20nm,0.5s,mb5.5							
CD2					AMB	AMB		
	comp=Z,50nm,6.2s							
CD2					LR	LR		
	comp=N,160nm,11.9s							
CD2					LR	LR		
	comp=Z,150nm,14.3s,MS4.3							
HHC	**Hu-ho-hao-te**	**62.67**	**323**		*e*P	**P**	**15 50 22.1**	**+0.4**
HHC					AP	pP	15 50 35.1	-1.2
HHC					XP	sP	15 50 40.7	-1.5
HHC					PCP	PcP	15 51 00.1	0.0
HHC					PP	PP	15 52 42.5	+2.5
HHC					SCP	ScP	15 54 56.4	-1.3
HHC					PCS	PcS	15 55 02.7	-0.8
HHC					S	**S**	**15 58 45.1**	**-1.1**
HHC					XS	sS	15 59 05.9	-4.7
HHC					SCS	ScS	16 00 06.0	-3.7
HHC					SS	SS	16 02 51.3	-0.1
HHC					AMB	AMB		
	comp=Z,17nm,1.3s,mb5.0							
HHC					AMB	AMB		
	comp=Z,132nm,6.5s							
HHC					LR	LR		
	comp=N,146nm,19.6s,MS4.3							
HHC					LR	LR		
	comp=E,176nm,19.8s,MS4.3							
HHC					LR	LR		
	comp=Z,110nm,16.6s,MS4.1							
LZH	**Lanzhou**	**64.99**	**315**		*e*P	**P**	**15 50 36.5**	**-0.5**
LZH					AP	pP	15 50 50.6	-1.0
LZH					XP	sP	15 50 55.7	-1.8
LZH					PP	PP	15 53 01.5	+1.1
LZH					AMB	AMB		
	comp=Z,21nm,1.5s,mb5.0							
LZH					AMB	AMB		
	comp=Z,53nm,7.1s							
LZH					LR	LR		
	comp=E,739nm,15.3s							
LZH					LR	LR		
	comp=Z,998nm,18.2s,MS5.0							
LZH	**Lanzhou**	**64.99**	**315**		*e*P	**P**	**15 50 36.5**	**-0.5**
	comp=Z,21nm,1.5s,mb5.0							
LZH					pP	pP	15 50 50.6	-1.0
LZH					sP	sP	15 50 55.7	-1.8
LZH					PP	PP	15 53 01.5	+1.1
LZH					LR	LR		
	comp=Z,1μm,18.2s,MS5.0							
CASY	**Casey**	**66.84**	**198**		P	**P**	**15 50 54.0**	**+5.1**
	comp=Z,43nm,1.7s,mb5.2							
GTA	**Gaotai**	**69.40**	**317**		*e

BILL					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
BILL	**Bilibino**	**75.25**	**4**	*e*P	**P**		**15 51 36.0**	**-3.8**
	comp=Z,12nm,1.2s,mb4.7							
JIRN	**Jiri**	**75.59**	**301**	*e*P	**P**		**15 51 42.9**	**+1.2**
GUN	**Gumba**	**75.93**	**301**	*e*P	**P**		**15 51 44.7**	**+1.1**
	comp=Z,45nm,0.7s,mb5.5							
PKI	**Pulchoki**	**76.24**	**301**	*e*P	**P**		**15 51 46.1**	**+0.7**
	comp=Z,18nm,0.7s,mb5.1							
KKN	**Kakani**	**76.40**	**301**	*e*P	**P**		**15 51 47.0**	**+0.6**
	comp=Z,24nm,0.7s,mb5.2							
DMN	**Daman**	**76.50**	**300**	*e*P	**P**		**15 51 47.9**	**+1.0**
GKN	**Gorkha**	**77.01**	**301**	*e*P	**P**		**15 51 50.3**	**+0.5**
	comp=Z,39nm,0.7s,mb5.5							
KOLN	**Koldanda**	**77.84**	**300**	*e*P	**P**		**15 51 54.8**	**+0.4**
WMQ	**Urumqi**	**79.48**	**317**	⇓*e*P	**P**		**15 52 04.0**	**+0.6**
WMQ				PCP	PcP		15 52 12.4	+1.1
WMQ				AP	pP		15 52 18.5	+0.1
WMQ				PP	PP		15 55 06.0	+1.8
WMQ				PPP			15 56 56.0	
WMQ				S	S		16 01 59.5	-1.2
WMQ				SKS			16 02 11.0	
WMQ				SCS	ScS		16 02 19.8	-2.7
WMQ				XS	sS		16 02 22.0	-4.0
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.5s,mb4.9							
WMQ				AMB	AMB			
	comp=Z,128nm,4.5s							
WMQ				LR	LR			
	comp=N,26nm,20.3s,MS3.8							
WMQ				LR	LR			
	comp=E,48nm,25.0s,MS3.8							
WMQ				LR	LR			
	comp=Z,25nm,24.0s,MS3.5							
QSPA	**South Pole Qui**	**82.94**	**180**	*e*P	**P**		**15 52 23.0**	**+1.2**
	comp=Z,14nm,0.9s,mb5.0							
QSPA				*e*pP	pP		15 52 37.6	+0.7
MK31	**Makanchi Array**	**84.04**	**318**	⇑*i*P	**P**		**15 52 27.5**	**+0.1**
MK31				*e**PP	pP		15 52 43.6	+1.1
MKAR	**Makanchi Array**	**84.04**	**318**	P	**P**		**15 52 27.8**	**+0.3**
	comp=Z,20nm,0.7s,mb5.4,baz=99,slow=6.4,SNR=109							
MKAR				pP	pP		15 52 44.5	+2.0
	comp=Z,10nm,0.8s,baz=102,slow=5.6,SNR=10							
MKAR	**Makanchi Array**	**84.04**	**318**	*i* P	**P**		**15 52 27.8**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MKAR	**Makanchi Array**	**84.04**	**318**	P	**P**		**15 52 27.8**	**+0.3**
MKAR				pP	pP		15 52 44.5	+2.0
MAW	**Mawson**	**84.71**	**203**	pP	pP		15 52 48.1	+2.1
	comp=Z,6.8nm,1.0s,baz=39,slow=4.0,SNR=3.6							
MAW	**Mawson**	**84.71**	**203**	P	**P**		**15 52 34.7**	**+3.9**
MAW				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MAW	**Mawson**	**84.71**	**203**	P	**P**		**15 52 34.7**	**+3.9**
	comp=Z,9.4nm,1.0s,mb4.9							
MAW				*e*pP	pP		15 52 47.9	+2.0
ZAL	**Zalesovo**	**84.73**	**326**	P	**P**		**15 52 29.9**	**-1.1**
	comp=Z,6.0nm,0.5s,mb5.0,baz=357,slow=6.2,SNR=27							
ZAL				pP	pP		15 52 48.8	+2.8
	comp=Z,2.5nm,0.4s,baz=16,slow=4.6,SNR=3.3							
KSH	**Kashi**	**86.74**	**310**	*e*P	**P**		**15 52 43.1**	**+2.2**
KSH				*e*AP	pP		15 52 56.1	+0.1
KSH				*e*PPP			15 58 07.3	
KSH				*e*SKS			16 03 04.4	
KSH				*e*S	S		16 03 15.9	+1.6
KSH				AMB	AMB			
	comp=Z,808nm,2.7s							
KSH				LR	LR			
	comp=Z,812nm,11.2s							
KHMM	**Horse Mountain**	**87.31**	**48**	P	**P**		**15 52 42.0**	**-1.7**
KURK	**Kurchatov**	**87.43**	**322**	*c i*P	**P**		**15 52 43.4**	**-0.8**
KURK	**Kurchatov**	**87.43**	**322**	⇑*i*P	**P**		**15 52 43.1**	**-1.1**
	comp=Z,4.1nm,0.4s,mb5.0							
AAK	**Ala-Archa**	**88.45**	**313**	*c i*P	**P**		**15 52 48.2**	**-0.9**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.8							
AAK	**Ala-Archa**	**88.45**	**313**	⇑*i*P	**P**		**15 52 47.9**	**-1.2**
	comp=Z,3.4nm,0.9s,mb4.6							
INK	**Inuvik**	**89.43**	**21**	LR	LR		16 31 16.1	
	comp=Z,65nm,20.0s,MS4.0,baz=116,slow=34							
KK31	**Karatay Array**	**91.41**	**313**	*i* P	**P**		**15 53 02.3**	**-0.6**
KKAR	**Karatay Array**	**91.41**	**313**	*i* P	**P**		**15 53 02.3**	**-0.6**
CHKZ	**Chkalovo**	**92.83**	**324**	P	**P**		**15 53 07.6**	**-1.9**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.8							
CHKZ	**Chkalovo**	**92.83**	**324**	⇑*e*P	**P**		**15 53 07.3**	**-2.2**
	comp=Z,5.8nm,0.6s,mb5.2							
BVA0	**Borovoye Array**	**92.88**	**323**	*i* P	**P**		**15 53 08.1**	**-1.6**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**92.88**	**323**	P	**P**		**15 53 08.1**	**-1.6**
	comp=Z,5.8nm,0.6s,mb5.2,baz=108,slow=6.7							
BRVK	**Borovoye**	**92.95**	**323**	*e*P	**P**		**15 53 07.4**	**-2.6**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb5.1							
BRVK	**Borovoye**	**92.95**	**323**	*e*P	**P**		**15 53 07.4**	**-2.6**
	comp=Z,5.6nm,0.7s,mb5.1							
NEW	**Newport**	**93.17**	**42**	LR	LR		16 28 13.4	
	comp=Z,86nm,19.3s,MS4.2,baz=221,slow=31							
LPIG	**La Paz**	**96.26**	**67**	LR	LR		16 28 47.9	
	comp=Z,46nm,18.4s,MS4.0,baz=228,slow=30							
AB31	**Akbulak array**	**99.19**	**319**	P	**P**		**15 53 35.9**	**-2.4**
ARU	**Arti**	**99.89**	**326**	*e*P	Pdif		15 53 39.3	-2.2
ARU				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.8							
ARU	**Arti**	**99.89**	**326**	*e*P	Pdif		15 53 39.3	-2.2
	comp=Z,2.7nm,0.7s							
ARCES	**ARCESS Array B**	**109.89**	**343**	PKiKP	PKiKP		15 58 26.3	-1.6
	comp=Z,3.8nm,0.9s,baz=86,slow=2.8,SNR=7.1							
ARCES	**ARCESS Array B**	**109.89**	**343**	PKPdf	PKiKP		15 58 26.3	-1.6
FINES	**FINESS Array B**	**114.35**	**336**	PKP	PKiKP		15 58 34.9	-1.5
	comp=Z,2.0nm,0.8s,baz=81,slow=3.3,SNR=7.9							
AKASG	**Malin Array Be**	**118.11**	**325**	PKP	PKPdf		15 58 42.2	-1.3
	comp=Z,1.5nm,0.4s,baz=46,slow=2.5,SNR=10							
NB2	**NORSAR Subarra**	**120.04**	**341**	PKPdf	PKPdf		15 58 45.2	-2.1
	comp=Z,1.4nm,0.8s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**120.04**	**341**	PKP	PKPdf		15 58 45.6	-1.7
	comp=Z,1.0nm,0.8s,baz=26,slow=5.5,SNR=3.6							
LVV	**L'vov**	**121.47**	**326**	*e*PKIKP	PKPdf		15 58 49.3	-0.7
GERES	**GERESS Array B**	**127.56**	**329**	PKP	PKPdf		15 59 01.8	+0.1
	comp=Z,1.8nm,0.5s,baz=66,slow=1.8,SNR=17							
LPAZ	**La Paz**	**130.63**	**118**	PKP	PKPdf		15 59 08.3	+0.7
	comp=Z,0.8nm,0.3s,baz=243,slow=2.3,SNR=5.9							
LPAZ				pPKP	pPKPdf		15 59 27.6	+4.2
	comp=Z,1.0nm,0.7s,baz=102,slow=4.0,SNR=2.8							
LPAZ	**La Paz**	**130.63**	**118**	PKP	PKPdf		15 59 08.3	+0.7
LPAZ				pPKP	pPKPdf		15 59 27.6	+4.2
HINF	**Hinteralfeld**	**131.58**	**332**	*e*PKIKP	PKPdf		15 59 09.9	+0.6
HAU	**Haudompre**	**131.68**	**333**	*e*PKIKP	PKPdf		15 59 10.0	+0.5
CABF	**La Chapelle**	**132.82**	**332**	*e*PKIKP	PKPdf		15 59 12.3	+0.6
	comp=Z,6.1nm,0.6s							
LPL	**La Plagne**	**133.31**	**330**	*e*PKIKP	PKPdf		15 59 12.8	+0.2
	comp=Z,3.6nm,0.5s							
LPG	**La Plagne**	**133.31**	**330**	*e*PKIKP	PKPdf		15 59 13.4	+0.8
	comp=Z,3.7nm,0.5s							
LOR	**Lormes**	**133.34**	**334**	*e*PKIKP	PKPdf		15 59 12.9	+0.2
SSF	**Saint Saulge**	**133.65**	**334**	*e*PKIKP	PKPdf		15 59 13.6	+0.4
	comp=Z,3.4nm,0.6s							
SMF	**Signal de Mont**	**133.82**	**333**	*e*PKIKP	PKPdf		15 59 14.8	+1.2
	comp=Z,1.4nm,0.3s							
AVF	**Avril sur Loir**	**133.93**	**334**	*e*PKIKP	PKPdf		15 59 14.6	+0.8
	comp=Z,1.9nm,0.5s							
PGF	**Pioggiola**	**134.15**	**326**	*e*PKIKP	PKPdf		15 59 14.6	+0.4
	comp=Z,18nm,0.8s							
ORIF	**Oris-en-Rattie**	**134.16**	**330**	*e*PKIKP	PKPdf		15 59 14.7	+0.5
	comp=Z,5.4nm,0.5s							
TCF	**Toulx Ste Croi**	**134.81**	**334**	*e*PKIKP	PKPdf		15 59 15.9	+0.5
LMR	**La Mourre**	**134.96**	**328**	*e*PKIKP	PKPdf		15 59 16.1	+0.4
	comp=Z,5.6nm,0.6s							
SMRF	**Simiane la Rot**	**134.99**	**330**	*e*PKIKP	PKPdf		15 59 16.3	+0.6
SGMF	**Saint Gilles**	**135.04**	**340**	*e*PKIKP	PKPdf		15 59 16.7	+0.9
LASF	**Ste Croix**	**135.76**	**331**	*e*PKIKP	PKPdf		15 59 18.0	+0.8
	comp=Z,6.9nm,0.7s							
ETSF	**Etsaut**	**138.70**	**334**	*e*PKIKP	PKPdf		15 59 24.7	+2.1
	comp=Z,7.6nm,0.7s							
EQES	**Quesada**	**143.92**	**331**	P	PKPdf		15 59 28.7	-3.3
EBER	**Berja**	**144.55**	**330**	P	PKPdf		15 59 32.9	-0.2
EBAD	**Badajoz**	**144.86**	**337**	P	PKPdf		15 59 32.5	-1.1
ERON	**Agron**	**144.90**	**331**	P	PKPdf		15 59 32.3	-1.4
EGUA	**Guajares**	**144.93**	**331**	PKIKP	PKPdf		15 59 32.6	-0.9
ELOJ	**Sierra Loja**	**144.96**	**332**	PKIKP	PKPdf		15 59 32.3	-1.5
EALB	**Alboran**	**145.37**	**329**	P	PKPbc		15 59 34.2	-0.3
EVO	**Evora**	**145.44**	**338**	*e*PKIKP	PKPdf		15 59 35.2	+0.6
	comp=Z,13nm,0.6s							
EMIN	**Mina Concepcio**	**145.57**	**335**	P	PKPdf		15 59 36.0	+1.1
EMIJ	**Mijas**	**145.72**	**332**	P	PKPdf		15 59 35.9	+0.8
ESPR	**Espera**	**145.97**	**333**	P	PKPdf		15 59 37.6	+2.0
EGRO	**El Granado**	**146.10**	**336**	P	PKPdf		15 59 35.6	-0.1
MDT	**Midelt**	**148.61**	**327**	PKPbc	PKPbc		15 59 44.6	+0.9
TORD	**Torodi Ar. Bea**	**153.92**	**286**	PKP	PKPdf		15 59 47.4	-0.6
	comp=Z,0.7nm,0.8s,baz=3.4,slow=2.1,SNR=2.9							
TORD				PKPbc	PKPbc		15 59 55.5	-0.5
	comp=Z,1.3nm,0.6s,baz=47,slow=2.1,SNR=4.1							
TORD				PKPab	PKPab		16 00 08.4	-1.0
	comp=Z,0.9nm,0.7s,baz=65,slow=4.0,SNR=4.2							
TORD	**Torodi Ar. Bea**	**153.92**	**286**	PKP	PKPdf		15 59 47.4	-0.6
TORD				PKPbc	PKPbc		15 59 55.5	-0.5
TORD				PKPab	PKPab		16 00 08.4	-1.0

IDC 10 15:55:48.5±18.0, 30555S×17999E, h382km±194km, mb2.8/2, mb1 3.2/3, mb1mx2.9/12, mbtmp3.1/3, Error ellipse: s-maj=251.1km s-min=49.5km az=13.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.05**	**196**	P	Pn	15 57 43.6	-0.1
	4.6nm,0.3s,baz=260,slow=1.2,SNR=38						
URZ				S	S	15 59 07.0	-11
ASAR	**Alice Springs**	**41.37**	**268**	P	P	16 02 59.0	0.0
	0.2nm,0.4s,baz=105,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**42.38**	**273**	P	P	16 03 07.2	+0.3
	0.5nm,0.3s,baz=111,slow=8.1,SNR=29						
FINES	**FINESS Array B**	**144.67**	**339**	PKP	PKPdf	16 14 38.9	-1.3
	4.0nm,1.1s,baz=45,slow=6.3,SNR=5.2						

*NIED **10** 16:00:00,4280N×145.40E,h32km,Mw3.5 Best double couple: M0 1.87000×10^14 NP1:ϕ=235.00000°,δ=87.00000°, λ=-94.00000°. NP2:ϕ=110.00000°,δ=5.00000°,λ=-35.00000°.*
*ISCJB **10** 16:00:37.4±0.8,4264N±005×14557E±007,h35km, mb3.7/6, Error ellipse: s-maj=7.9km s-min=6.3km az=50.4*
*MOS **10** 16:00:37.0±1.2,4253N×14558E,h41km,mb4.0/5, Error ellipse: s-maj=26.1km s-min=16.9km az=96.8*
*JMA **10** 16:00:39.6±0.1,4276N×14543E,h46km±1km, M3.5*
*IDC **10** 16:00:40.6±3.7,4260N×14550E,h50km±30km,mb3.5/6, mb1 3.6/8,mb1mx3.4/23,mbtmp3.4/8, ML3.3/2, Error ellipse: s-maj=31.2km s-min=19.7km az=73.0*

ISC 10 16:00:39.2±0.8, 4271N±005×14550E±008, h35km, n23, σ0 69/31, mb3.7/6, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.66**	**296**	P	**Pn**	**16 00 51.8**	**-0.1**
JAK				*e*S	**Sn**	**16 01 01.1**	**+0.1**
NEM2	**Nemuro 2**	**0.68**	**15**	P	**Pn**	**16 00 52.5**	**+0.2**
NEM2				*e*S	**Sn**	**16 01 01.8**	**+0.1**
JNK	**Nakash**	**1.05**	**327**	P	**Pn**	**16 00 57.0**	**-0.3**
JNK				*e*S	**Sn**	**16 01 09.4**	**-1.3**
JOB	**Onbets**	**1.24**	**280**	P	**Pn**	**16 01 00.0**	**0.0**
JRA	**Rausu**	**1.26**	**348**	P	**Pn**	**16 01 00.6**	**+0.3**
JRA				*e*S	**Sn**	**16 01 15.6**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.35**	**11**	⇑*i*PN	**Pn**	**16 01 01.6**	**+0.1**
YUK				*i* S	**Sn**	**16 01 18.0**	**-0.3**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,2μm,0.9s						
YUK				smax			
	comp=E,3μm,0.9s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
JAR	**Ashorobuto**	**1.40**	**296**	P	**Pn**	**16 01 02.0**	**-0.1**
JCH	**Churui**	**1.58**	**267**	P	**Pn**	**16 01 04.8**	**+0.2**
JTKR	**Abashiri--Toko**	**1.71**	**318**	P	**Pn**	**16 01 07.2**	**+0.7**
JTKR				*e*S	**Sn**	**16 01 27.0**	**-0.2**
ASAJ	**Asahikawa**	**2.54**	**305**	P	**Pn**	**16 01 20.3**	**+2.4**
	comp=E,4.9nm,0.3s,baz=137,slow=10,SNR=32						
ASAJ				S	**Sn**	**16 01 51.5**	**+3.9**
	comp=E,7.6nm,0.3s,baz=24,slow=26,SNR=20						
ASAJ	**Asahikawa**	**2.54**	**305**	PN	**Pn**	**16 01 20.3**	**+2.4**
ASAJ				S	**Sn**	**16 01 51.5**	**+4.0**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
MJAR	**Matsushiro Arr**	**8.34**	**225**	P	**Pn**	**16 02 36.1**	**-1.3**
	comp=N,0.2nm,0.3s,baz=26,slow=14,SNR=3.8						
SONM	**Songino Array**	**27.78**	**294**	P	**P**	**16 06 25.2**	**+0.6**
	comp=N,0.5nm,0.6s,mb3.3,baz=82,slow=8.4,SNR=5.4						
SONM	**Songino Array**	**27.78**	**294**	P	**P**	**16 06 25.2**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**40.69**	**308**	P	**P**	**16 08 16.6**	**+0.5**
	comp=Z,0.8nm,0.3s,mb3.8,baz=341,slow=15,SNR=3.1						
ZAL	**Zalesovo**	**40.69**	**308**	P	**P**	**16 08 16.7**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**44.00**	**298**	P	**P**	**16 08 43.0**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=84,slow=8.6,SNR=7.9						
INK	**Inuvik**	**47.91**	**30**	P	**P**	**16 09 14.1**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=318,slow=7.2,SNR=7.9						
INK	**Inuvik**	**47.91**	**30**	P	**P**	**16 09 14.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**63.18**	**192**	P	**P**	**16 11 03.5**	**-0.1**
	comp=Z,0.5nm,1.0s,mb3.6,baz=8.0,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**63.18**	**192**	P	**P**	**16 11 03.5**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**65.25**	**333**	P	**P**	**16 11 16.4**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=36,slow=7.5,SNR=6.9						
FINES	**FINESS Array B**	**65.25**	**333**	P	**P**	**16 11 16.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*ISK **10** 16:10:41.4,3638N×2695E,h9km,MD3.0*
*ATH **10** 16:10:44.9,3641N×2707E,h12km±7km,MD3.1/6*
*NEIC **10** 16:10:44.9,3641N×2707E,h12km,MD3.1(ATH), After ATH.*
*ISCJB **10** 16:10:45.3±0.6,3643N±004×27.10E±005,h19km±8km, Error ellipse: s-maj=6.5km s-min=5.9km az=87.4*
*CSEM **10** 16:10:45.4±0.1,3643N×27.17E,h20km,MD3.1, Error ellipse: s-maj=2.6km s-min=1.8km az=129.0*

ISC 10 16:10:44.8±0.7, 3642N±003×2708E±005, h12km±7km, n13, σ0 95/19, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.20**	**11**	⇓*i*PG	**Pg**	**16 10 48.7**	**-0.4**
DAT	**Datca**	**0.51**	**52**	PG	**Pg**	**16 10 53.5**	**-1.2**
DAT				SG	**Sg**	**16 11 02.7**	**+1.3**
BODT	**Bodrum**	**0.67**	**16**	PG	**Pg**	**16 10 56.2**	**-1.5**
ARG	**Arkhangelos**	**0.87**	**103**	*e*PB	**Pg**	**16 11 02.0**	**+0.5**
ARG				*e*SB	**Sg**	**16 11 14.2**	**+1.4**
KARP	**Karpathos**	**0.87**	**176**	*e*PG	**Pg**	**16 11 01.0**	**-0.6**
KARP				*e*SB	**Sg**	**16 11 13.1**	**+0.1**
YER	**Yerkesik**	**1.20**	**53**	*e*PN	**Pn**	**16 11 05.9**	**-1.4**
DALT	**Dalyan (Mudla)**	**1.30**	**74**	*e*PN	**Pn**	**16 11 08.0**	**-0.7**
SMG	**Samos**	**1.30**	**351**	*e*PB	**Pn**	**16 11 08.0**	**-0.7**
SMG				*e*SB	**Sb**	**16 11 27.3**	**+1.5**
SANT	**Santorini**	**1.31**	**268**	*e*Pn	**Pn**	**16 11 09.9**	**+1.0**
SANT				*e*Sn	**Sn**	**16 11 26.2**	**0.0**
SANT	**Santorini**	**1.31**	**268**	*e*Pn	**Pn**	**16 11 09.9**	**+1.1**
SANT				*e*Sn	**Sn**	**16 11 26.2**	**0.0**
APE	**Apeiranthos**	**1.41**	**298**	*e*PB	**Pb**	**16 11 11.9**	**+1.0**
FETY	**Fethiye**	**1.63**	**82**	*e*PN	**Pn**	**16 11 13.0**	**-0.2**
NPS	**Neapolis**	**1.66**	**226**	*e*PB	**Pb**	**16 11 15.0**	**-0.2**

*STR **10** 16:21:31.9±1.2,4513N×991E,h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **10** 16:21:32.4±0.1,4517N×1027E,h12km,ML3.1/28, Error ellipse: s-maj=1.7km s-min=1.2km az=138.0*
*GEN **10** 16:21:32.3,4525N×1044E,h8km,ML2.0*
*ROM **10** 16:21:33.1±0.4,4524N×1019E,h4km±4km, Md2.9/24, Ml2.7/16, Error ellipse: s-maj=2.9km s-min=2.1km az=77.0*
*NEIC **10** 16:21:33.1,4524N×1019E,h4km,ML2.7(ROM), ML2.9(STR),ML3.0(LDG),After ROM.*
*LDG **10** 16:21:33.6±0.1,4522N×1022E,h10km,Ml3.0/20, Error ellipse: s-maj=2.5km s-min=2.1km az=93.0*

*ISCJB **10** 16:21:33.9±0.3,4521N±001×10.10E±002,h26km±3km, Error ellipse: s-maj=2.9km s-min=1.9km az=92.6*

ISC 10 16:21:33.4±0.3, 4521N±001×1009E±002, h16km±2km, n117, σ1 19/213, 13C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	**Salr**	**0.51**	**37**	Pg	**Pg**	**16 21 43.0**	**-0.5**
SALO				Sg	**Sg**	**16 21 51.5**	**+1.2**
	1μm,0.4s						
MDI	**Monti di Nese**	**0.62**	**335**	Pg	**Pg**	**16 21 46.7**	**+1.0**
MDI				Sg	**Sg**	**16 21 57.1**	**+3.0**
	678nm,0.4s						
BOB	**Bobbio (Coli)**	**0.64**	**226**	Pg	**Pg**	**16 21 47.3**	**+1.3**
BOB				Sg	**Sg**	**16 21 59.0**	**+4.5**
	209nm,0.9s						
MAGA	**Magasa**	**0.68**	**34**	Pg	**Pg**	**16 21 45.5**	**-1.2**
MAGA				Sg	**Sg**	**16 21 55.4**	**-0.3**
	2μm,0.2s						
GRAM		**0.72**	**182**	P	**Pg**	**16 21 46.8**	**-0.8**
GRAM				S	**Sg**	**16 21 57.1**	**0.0**
ERBM	**Eremo**	**0.83**	**164**	Pg	**Pg**	**16 21 49.3**	**-0.2**
	323nm,1.2s						
VALM		**0.87**	**173**	P	**Pb**	**16 21 48.8**	**-1.4**
MABI	**Malga Bissina**	**0.89**	**19**	Pg	**Pg**	**16 21 50.5**	**-0.3**
	137nm,0.5s						
SC2M	**Scurtabr**	**0.90**	**206**	P	**Pb**	**16 21 51.5**	**+0.8**
GSCL	**Gusciola**	**0.93**	**158**	Pg	**Pg**	**16 21 52.4**	**+0.9**
	89nm,1.0s						
BACM		**0.94**	**181**	P	**Pb**	**16 21 50.8**	**-0.4**
MUGIO	**Muggio**	**1.02**	**314**	Pg	**Pg**	**16 21 53.4**	**+0.1**
SARO	**Sassorosso**	**1.05**	**168**	P	**Pb**	**16 21 51.8**	**-1.4**
ZCCA	**Zocca**	**1.07**	**144**	Pg	**Pg**	**16 21 54.6**	**+0.5**
	16nm,0.8s						
VINC	**Vinca**	**1.07**	**178**	P	**Pb**	**16 21 53.0**	**-0.6**
VLC	**Villacollemand**	**1.07**	**169**	Pg	**Pg**	**16 21 54.4**	**+0.2**
	159nm,1.3s						
VLC	**Villacollemand**	**1.07**	**169**	*e*Pg	**Pb**	**16 21 53.8**	**+0.1**
VLC				Pg	**Pg**	**16 21 54.4**	**+0.2**
VLC	**Villacollemand**	**1.07**	**169**	*e*Pg	**Pg**	**16 21 53.8**	**-0.4**
TEOL	**Teolo**	**1.12**	**82**	⇓*i*Pg	**Pb**	**16 21 52.3**	**-2.1**
TEOL				*i* Sg	**Sb**	**16 22 07.4**	**-1.4**
GENL	**Genova Univers**	**1.14**	**225**	P	**Pn**	**16 21 55.2**	**+0.6**
BDI	**Bagni Di Lucca**	**1.21**	**162**	Pg	**Pg**	**16 21 57.3**	**+0.6**
	145nm,0.4s						
PZZT	**Monte Pizzetto**	**1.21**	**153**	Pg	**Pn**	**16 21 56.4**	**+0.7**
PZZT				Sg	**Sb**	**16 22 13.7**	**+2.3**
	101nm,0.5s						
BRMO	**Bormio**	**1.28**	**9**	Pg	**Pn**	**16 21 57.8**	**+1.2**
BRMO				Sg	**Sb**	**16 22 14.5**	**+1.3**
	45nm,0.4s						
FNVD	**Fontana Vidola**	**1.28**	**145**	Pg	**Pn**	**16 21 57.1**	**+0.5**
PCP	**Pian Castagno**	**1.29**	**239**	Pg	**Pg**	**16 21 58.5**	**+0.2**
PCP				Sg	**Sg**	**16 22 19.2**	**+4.1**
	141nm,0.9s						
PCP	**Pian Castagno**	**1.29**	**239**	P	**Pn**	**16 21 58.3**	**+1.6**
PCP	**Pian Castagno**	**1.29**	**239**	Pg	**Pg**	**16 21 58.5**	**+0.2**
PCP				Sg	**Sg**	**16 22 19.2**	**+4.1**
	141nm,0.9s						
MAIM		**1.33**	**168**	Pg	**Pn**	**16 21 58.3**	**+1.0**
MAIM				Sg	**Sn**	**16 22 16.2**	**+1.6**
	160nm,0.5s						
TUE	**Stuetta**	**1.36**	**338**	Pg	**Pn**	**16 21 59.1**	**+1.4**
TUE				Sg	**Sn**	**16 22 18.1**	**+2.7**
	115nm,0.3s						
CGRP	**Cima Grappa**	**1.37**	**60**	⇓*i*Pg	**Pn**	**16 21 56.3**	**-1.6**
CGRP				*i* Sg	**Sn**	**16 22 15.6**	**0.0**
CTI	**Castel Tesino**	**1.37**	**52**	Pg	**Pn**	**16 21 56.7**	**-1.2**
CTI				Sg	**Sn**	**16 22 15.2**	**-0.5**
	441nm,0.4s						
APPI	**Appiano**	**1.49**	**32**	Pg	**Pn**	**16 21 59.6**	**+0.1**
APPI				Sg	**Sn**	**16 22 19.5**	**+0.8**
PII	**Pisa**	**1.52**	**168**	Pg	**Pn**	**16 22 00.5**	**+0.5**
	55nm,0.3s						
MTLO	**Montello**	**1.53**	**66**	⇓*i*Pg	**Pn**	**16 21 59.2**	**-0.9**
MTLO				*i* Sg	**Sn**	**16 22 20.1**	**+0.5**
ORO	**Oropa**	**1

JAVS				*i*			16 22 21.1	
JAVS				*i* Sn		**Sn**	**16 22 50.8**	**-1.9**
JAVS				*e*Sg		**Sg**	**16 23 00.7**	**-5.0**
KBA	**Koelnbreinsper**	**2.93**	**49**⇑	*e*Pn		**Pn**	**16 22 20.2**	**+0.9**
KBA			⇑	*i* Sn		**Sn**	**16 22 55.6**	**+1.5**
	6.7nm,0.4s							
FRF	**La Foret Royal**	**2.97**	**237**	*e*Pg		**Pg**	**16 22 29.7**	**-0.7**
FRF				*e*Sn		**Sn**	**16 22 54.3**	**-0.9**
FRF				*e*Sg		**Sg**	**16 23 09.0**	**0.0**
	8.2nm,0.4s,SNR=1.0							
FRF	**La Foret Royal**	**2.97**	**237**	*e*Pn		**Pn**	**16 22 20.4**	**+0.5**
FRF				*e*Pg		**Pg**	**16 22 29.7**	**-0.7**
FRF				*e*Sn		**Sn**	**16 22 54.3**	**-0.9**
FRF				*e*Sg		**Sg**	**16 23 09.0**	**0.0**
FRF	**La Foret Royal**	**2.97**	**237**	*e*Pg		**Pg**	**16 22 29.7**	**-0.7**
FRF				*e*Sg		**Sg**	**16 23 09.0**	**0.0**
	4.1nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**3.00**	**266**	*e*P		**Pn**	**16 22 22.9**	**+2.6**
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**3.00**	**266**	*e*Pg		**Pg**	**16 22 29.0**	**-2.0**
ORIF				*e*Sn		**Sn**	**16 22 54.3**	**-1.6**
	16nm,0.5s							
ORIF	**Oris-en-Rattie**	**3.00**	**266**	*e*Pn		**Pn**	**16 22 20.5**	**+0.2**
ORIF				*e*P			16 22 22.9	
ORIF				*e*Pg		**Pg**	**16 22 29.0**	**-2.0**
ORIF				*e*Sn		**Sn**	**16 22 54.3**	**-1.6**
ORIF	**Oris-en-Rattie**	**3.00**	**266**	*e*Pg		**Pg**	**16 22 29.0**	**-2.0**
CABF	**La Chapelle**	**3.13**	**298**	*e*Pg		**Pg**	**16 22 29.4**	**-4.0**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**16 22 58.4**	**-0.6**
	7.2nm,0.4s,SNR=1.0							
CABF	**La Chapelle**	**3.13**	**298**	*e*Pn		**Pn**	**16 22 22.9**	**+0.9**
CABF				*e*Pg		**Pg**	**16 22 29.4**	**-4.0**
CABF				*e*Sn		**Sn**	**16 22 58.4**	**-0.6**
CABF	**La Chapelle**	**3.13**	**298**	*e*Pn		**Pn**	**16 22 22.9**	**+0.9**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**16 22 58.4**	**-0.6**
	3.6nm,0.4s,SNR=1.0							
LMR	**La Mourre**	**3.19**	**235**	*e*Pg		**Pg**	**16 22 33.7**	**-0.8**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**16 22 59.1**	**-1.4**
	SNR=1.0							
LMR				*e*Sg		**Sg**	**16 23 15.7**	**-0.1**
	11nm,0.4s,SNR=1.0							
LMR	**La Mourre**	**3.19**	**235**	*e*Pn		**Pn**	**16 22 23.9**	**+1.1**
LMR				*e*Pg		**Pg**	**16 22 33.7**	**-0.8**
LMR				*e*Sn		**Sn**	**16 22 59.1**	**-1.4**
LMR				*e*Sg		**Sg**	**16 23 15.7**	**-0.1**
LMR	**La Mourre**	**3.19**	**235**	*e*Pg		**Pg**	**16 22 33.7**	**-0.8**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**16 22 59.1**	**-1.4**
	SNR=1.0							
LMR				*e*Sg		**Sg**	**16 23 15.7**	**-0.1**
	5.7nm,0.4s,SNR=1.0							
OBKA	**Obir**	**3.37**	**66**⇑	*i* Pn		**Pn**	**16 22 24.6**	**-0.8**
OBKA			⇓	*i* Sn		**Sn**	**16 23 05.5**	**+0.5**
	16nm,0.3s							
HINF	**Hinteralfeld**	**3.43**	**320**	*e*Pg		**Pg**	**16 22 38.3**	**-0.9**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**16 23 04.1**	**-2.4**
	14nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**3.43**	**320**	*e*Pn		**Pn**	**16 22 25.4**	**-0.8**
HINF				*e*Pg		**Pg**	**16 22 38.3**	**-0.9**
HINF				*e*Sn		**Sn**	**16 23 04.1**	**-2.4**
HINF	**Hinteralfeld**	**3.43**	**320**	*e*Pg		**Pg**	**16 22 38.3**	**-0.9**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**16 23 04.1**	**-2.4**
	6.9nm,0.2s,SNR=1.0							
NVLJ	**Novalja**	**3.46**	**99**	*i* Pn		**Pn**	**16 22 24.4**	**-2.2**
NVLJ				*i* Sn		**Sn**	**16 23 02.5**	**-4.6**
NVLJ	**Novalja**	**3.46**	**99**	*i* Pn		**Pn**	**16 22 24.3**	**-2.2**
NVLJ				*i* Sn		**Sn**	**16 23 02.5**	**-4.6**
SMRF	**Simiane la Rot**	**3.46**	**251**	*e*Pg		**Pg**	**16 22 37.3**	**-2.4**
SMRF				*e*Sn		**Sn**	**16 23 05.6**	**-1.5**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**16 23 24.2**	**-0.3**
	5.0nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**3.46**	**251**	*e*Pn		**Pn**	**16 22 26.1**	**-0.4**
SMRF				*e*Pg		**Pg**	**16 22 37.3**	**-2.4**
SMRF				*e*Sn		**Sn**	**16 23 05.6**	**-1.5**
SMRF				*e*Sg		**Sg**	**16 23 24.2**	**-0.3**
SMRF	**Simiane la Rot**	**3.46**	**251**	*e*Pg		**Pg**	**16 22 37.3**	**-2.4**
SMRF				*e*Sn		**Sn**	**16 23 05.6**	**-1.5**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**16 23 24.2**	**-0.3**
	2.5nm,0.5s,SNR=1.0							
BOJS	**Bojanci**	**3.65**	**84**	*i* Pn		**Pn**	**16 22 29.3**	**+0.1**
BOJS				*i*			16 22 31.8	
BOJS				*i* Sn		**Sn**	**16 23 09.8**	**-2.0**
CDF	**Champ du Feu**	**3.74**	**330**	*e*Pg		**Pg**	**16 22 43.5**	**-1.6**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**16 23 11.6**	**-2.5**
	4.1nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**3.74**	**330**	*e*Pn		**Pn**	**16 22 30.9**	**+0.5**
CDF				*e*Pg		**Pg**	**16 22 43.5**	**-1.6**
CDF				*e*Sn		**Sn**	**16 23 11.6**	**-2.5**
CDF	**Champ du Feu**	**3.74**	**330**	*e*Pg		**Pg**	**16 22 43.5**	**-1.6**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**16 23 11.6**	**-2.5**
	2.0nm,0.2s,SNR=1.0							
PERS	**Pernice**	**3.78**	**66**	*e*Pn		**Pb**	**16 22 41.7**	**+1.9**
HAU	**Haudompre**	**3.80**	**319**	*e*Pg		**Pg**	**16 22 45.3**	**-1.0**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**16 23 14.2**	**-1.5**
	28nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**3.80**	**319**	*e*Pn		**Pn**	**16 22 31.4**	**+0.1**
HAU				*e*Pg		**Pg**	**16 22 45.3**	**-1.0**
HAU				*e*Sn		**Sn**	**16 23 14.2**	**-1.5**
HAU	**Haudompre**	**3.80**	**319**	*e*Pg		**Pg**	**16 22 45.3**	**-1.0**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**16 23 14.2**	**-1.5**
	14nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.86**	**267**	*e*Pn		**Pn**	**16 22 32.4**	**+0.3**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**16 23 16.0**	**-1.1**
	3.8nm,0.3s,SNR=1.0							
MOA	**Molln**	**3.90**	**46**⇓	*i* Pn		**Pn**	**16 22 33.0**	**+0.3**
MOA			⇑	*i* Sn		**Sn**	**16 23 19.9**	**+1.8**
	0.7nm,0.1s							
MOA	**Molln**	**3.90**	**46**	Pn		**Pn**	**16 22 33.0**	**+0.3**
MOA				Sn		**Sn**	**16 23 19.9**	**+1.7**
	0.7nm,0.1s							
SMF	**Signal de Mont**	**4.59**	**290**	*e*Pn		**Pn**	**16 22 43.2**	**+1.1**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**16 23 33.3**	**-1.8**
	6.1nm,0.4s,SNR=1.0							
LASF	**Ste Croix**	**4.59**	**258**	*e*Pn		**Pn**	**16 22 42.2**	**0.0**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 23 33.4**	**-1.8**
	3.0nm,0.3s							
LASF	**Ste Croix**	**4.59**	**258**	*e*Pn		**Pn**	**16 22 42.2**	**0.0**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 23 33.4**	**-1.8**
	1.5nm,0.3s							
MEZF	**Maizieres J'vi**	**4.77**	**315**	*e*Sn		**Sn**	**16 23 37.4**	**-2.2**
	8.4nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**4.77**	**315**	*e*Sn		**Sn**	**16 23 37.4**	**-2.2**
	4.2nm,0.4s,SNR=1.0							
LOR	**Lormes**	**4.79**	**298**	*e*Pn		**Pn**	**16 22 46.0**	**+1.1**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**16 23 40.8**	**+0.8**
	6.9nm,0.2s,SNR=1.0							
SSF	**Saint Saulge**	**4.94**	**294**	*e*Pn		**Pn**	**16 22 47.3**	**+0.4**
AVF	**Avril sur Loir**	**4.96**	**291**	*e*Pn		**Pn**	**16 22 46.9**	**-0.2**
AVF				*e*Pg		**Pg**	**16 23 04.4**	**-3.9**
BGF	**Bois d'Agland**	**5.24**	**287**	*e*Pn		**Pn**	**16 22 51.5**	**+0.5**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**16 23 49.3**	**-1.7**
	20nm,0.6s,SNR=1.0							
LDF	**La Druitiere**	**7.77**	**299**	*e*Pn		**Pn**	**16 23 26.2**	**+0.4**
	SNR=1.0							

*BJI **10** 16:47:57.4, 132N×97.22E, h33km, mb4.5, Ms3.9, Msz3.8*
*ISCJB **10** 16:47:59.7±0.8, 15N±01×97.1E±0.1, h35km, mb4.1/16, MS3.4/4, Error ellipse: s-maj=18.7km s-min=12.8km az=81.2*
*NEIC **10** 16:48:00.1±0.7, 145N×96.83E, h30km, mb4.4/4, Error ellipse: s-maj=16.1km s-min=12.2km az=209.0*
*IDC **10** 16:48:04.1±5.1, 150N×96.96E, h61km±42km, mb3.7/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.6/11, ML2.8/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/33, Error ellipse: s-maj=44.5km s-min=18.0km az=54.0*

ISC 10 16:48:01.6±0.8, 15N±01×970E±01, h35km, n28, σ1$00/28, mb4.1/16, MS3.4/4, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**56**	P	**Pn**	**16 48 39.9**	**+2.7**
	2.3nm,0.3s,baz=250,slow=7.2,SNR=21						
PSI	**Prapat**	**2.32**	**56**	P	**Pn**	**16 48 39.9**	**+2.7**
KULM	**Kulim**	**5.24**	**44**	*e*Pn	**Pn**	**16 49 17.1**	**-0.3**
TRD	**Trivandrum**	**21.13**	**290**	⇓*e*P	**P**	**16 52 48.1**	**+4.8**
KMI	**Kunming**	**24.13**	**13**	P	**P**	**16 53 14.2**	**+0.1**
KMI				AP		16 53 21.4	
KMI				XP	sP	16 53 24.4	-3.9
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb3.8						
KMI				LR	LR		
	comp=N,136nm,11.6s,MS3.8						
KMI				LR	LR		
	comp=E,144nm,14.6s,MS3.8						
KMI				LR	LR		
	comp=Z,140nm,14.6s,MS3.6						
PKI	**Pulchoki**	**28.20**	**338**	*e*P	**P**	**16 53 53.2**	**+2.3**
GUN	**Gumba**	**28.34**	**339**	*e*P	**P**	**16 53 52.0**	**-0.1**
DMN	**Daman**	**28.35**	**337**	*e*P	**P**	**16 53 54.9**	**+2.7**
KKN	**Kakani**	**28.45**	**338**	*e*P	**P**	**16 53 53.9**	**+0.8**
GKN	**Gorkha**	**28.89**	**337**	*e*P	**P**	**16 53 57.2**	**+0.2**
	comp=Z,19nm,1.0s,mb4.8						
KOLN	**Koldanda**	**29.10**	**335**	*e*P	**P**	**16 53 59.4**	**+0.5**
GTA	**Gaotai**	**37.82**	**4**	*e*P	**P**	**16 55 13.8**	**-0.8**
GTA				AP	pP	16 55 22.0	-2.8
GTA				XP	sP	16 55 25.4	-3.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**42.36**	**122**	P	**P**	**16 55 52.6**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=303,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**43.73**	**127**	P	**P**	**16 56 04.0**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.3,baz=298,slow=7.6,SNR=13						
ASAR				LR	LR	17 15 43.8	
	comp=Z,51nm,18.7s,MS3.5,baz=340,slow=38						
AAK	**Ala-Archa**	**45.65**	**337**	*e*P	**P**	**16 56 23.1**	**+4.5**
	comp=Z,4.5nm,1.1s,mb4.3						
KSRS	**Korea Array**	**45.72**	**35**	P	**P**	**16 56 18.4**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.0,baz=234,slow=8.6,SNR=5.8						
KSRS				LR	LR	17 16 34.5	
	comp=Z,28nm,18.7s,MS3.2,baz=210,slow=37						
SONM	**Songino Array**	**46.87**	**9**	P	**P**	**16 56 28.2**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.4,baz=189,slow=8.1,SNR=33						
SONM				PcP	PcP	16 58 00.6	-0.1
	comp=Z,0.4nm,0.4s,baz=199,slow=3.9,SNR=4.1						
MK31	**Makanchi Array**	**46.90**	**346**	*e*P	**P**	**16 56 28.1**	**-0.4**
MKAR	**Makanchi Array**	**46.90**	**346**	P	**P**	**16 56 28.3**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.5,baz=158,slow=7.8,SNR=39						
MKAR				LR	LR	17 19 33.2	
	comp=Z,26nm,19.6s,MS3.2,baz=352,slow=40						
KURK	**Kurchatov**	**51.45**	**345**	*e*P	**P**	**16 57 03.5**	**+0.2**
ZAL	**Zalesovo**	**53.22**	**351**	P	**P**	**16 57 16.4**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.5,baz=316,slow=6.4,SNR=10						
CHKZ	**Chkalovo**	**56.38**	**341**	*e*P	**P**	**16 57 37.8**	**-1.4**
	comp=Z,3.0nm,0.7s,mb4.4						
EIL	**Elat**	**65.13**	**302**	*e*P	**P**	**16 58 43.8**	**+4.9**
	comp=Z,223nm,1.3s						
YAK	**Yakutsk**	**65.19**	**16**	*e*P	**P**	**16 58 37.6**	**-1.6**
	comp=Z,10nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**68.76**	**312**	P	**P**	**16 59 01.2**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=111,slow=3.2,SNR=2.8						
FINES	**FINESS Array B**	**79.64**	**333**	P	**P**	**17 00 04.2**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=101,slow=3.9,SNR=3.4						
ARCES	**ARCESS Array B**	**82.19**	**340**	P	**P**	**17 00 18.2**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=93,slow=6.1,SNR=3.9						
GERES	**GERESS Array B**	**84.46**	**319**	P	**P**	**17 00 31.1**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.6,baz=131,slow=12,SNR=3.3						

*ISCJB **10** 16:51:02.0±0.7, 3690N±004×2782E±006, h23km±10km, Error ellipse: s-maj=7.9km s-min=7.2km az=149.9*
*ISK **10** 16:51:01.2, 3694N×2778E, h25km, MD2.6*
*CSEM **10** 16:51:01.6±0.3, 3689N×2784E, h15km, MD2.6, Error ellipse: s-maj=8.2km s-min=6.1km az=9.0*
*ATH **10** 16:51:04.8, 3672N×2671E, h5km, MD2.9/3*

ISC 10 16:51:02.0±0.7, 3690N±004×2781E±006, h22km±10km, n9, σ0$86/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.25**	**228**	PG	**Pb**	**16 51 08.0**	**-0.1**
DAT				SG	**Sb**	**16 51 13.2**	**+1.0**
MLSB	**Milas**	**0.40**	**356**	PG	**Pb**	**16 51 09.6**	**-0.8**
MLSB				SG	**Sb**	**16 51 15.5**	**-0.6**
BODT	**Bodrum**	**0.43**	**292**	PG	**Pb**	**16 51 10.5**	**-0.5**
BODT				SG	**Sb**	**16 51 16.8**	**-0.3**
YER	**Yerkesik**	**0.44**	**58**	PG	**Pb**	**16 51 11.8**	**+0.7**
NISR	**Nisiros**	**0.62**	**243**	*e*PB	**Pb**	**16 51 12.0**	**-2.1**
DALT	**Dalyan (Mudla)**	**0.67**	**101**	*e*PG	**Pb**	**16 51 15.1**	**+0.1**
FETY	**Fethiye**	**1.05**	**104**	*e*PN	**Pn**	**16 51 21.1**	**-0.3**
SMG	**Samos**	**1.12**	**316**	*e*PG	**Pn**	**16 51 23.1**	**+0.8**
SMG				*e*SB	**Sb**	**16 51 38.3**	**+1.4**
KARP	**Karpathos**	**1.45**	**202**	*e*PB	**Pb**	**16 51 28.6**	**+0.4**

LJU 10 16:56:20.0, 4605N×1505E, h5km, ML0.6, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDKS	**Podkum**	**0.04**	**290**	⇑*i* Pg	Pg	16 56 21.3	+0.1
PDKS				*i* Sg	Sg	16 56 22.3	+0.2
PDKS							
	comp=Z,31nm,0.1s						
LEGS	**Legarje**	**0.21**	**118**	*i* Pg	Pg	16 56 24.2	+0.1
LEGS				*i* Sg	Sg	16 56 27.2	+0.3
VISS	**Visnje**	**0.29**	**212**	*i* Pg	Pg	16 56 25.7	+0.1
PERS	**Pernice**	**0.59**	**4**	*i* Pg	Pg	16 56 30.9	-0.5
PERS				*i* Sg	Sg	16 56 38.2	-0.9
PERS							
	comp=Z,2.0nm,0.1s						

*NEIC **10** 17:03:25.1±1.7, 629S×151.60E, h10km, mb4.2/3, Error ellipse: s-maj=35.2km s-min=25.2km az=139.0*
*ISCJB **10** 17:03:30.6±5.5, 63S±03×1513E±03, h56km±36km, mb3.8/5, Error ellipse: s-maj=53.4km s-min=43.6km az=132.7*
*IDC **10** 17:03:33.5±8.7, 644S×151.39E, h61km±63km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/25, Error ellipse: s-maj=58.5km s-min=53.8km az=91.0*

ISC 10 17:03:32.0±5.4, 63S±03×1513E±03, h56km±35km, n13, σ0$84/14, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.18**	**233**	P	**Pn**	**17 04 48.1**	**+1.1**
	1.3nm,0.3s,baz=71,slow=10,SNR=12						
PMG				S	**Sn**	**17 05 46.5**	**+1.2**
	1.8nm,0.3s,baz=142,slow=20,SNR=6.6						
PMG				LR	LR	17 07 05.8	
	comp=Z,77nm,18.8s,baz=67,slow=41						
PMG	**Port Moresby**	**5.18**	**233**	*e*Pn	**Pn**	**17 04 46.6**	**-0.3**
PMG				*e*Sn	**Sn**	**17 05 42.5**	**-2.8**
KAKA	**Kakadu**	**19.69**	**250**	*e*P	**Pn**	**17 07 57.7**	**-0.8**
	16nm,1.2s						
WRAB	**Tennant Creek**	**21.37**	**229**	*e*P	**P**	**17 08 13.7**	**-1.1**
	10nm,1.3s,mb4.0						
WB2	**Warramunga Arr**	**21.38**	**229**	*e*P	**P**	**17 08 14.0**	**-0.8**
WRA	**Warramunga Arr**	**21.39**	**229**	P	**P**	**17 08 14.9**	**-0.1**
	2.9nm,0.8s,mb3.6,baz=54,slow=11,SNR=21						
AS31	**Alice Springs**	**24.09**	**222**	*e*P	**P**	**17 08 42.2**	**-0.1**
ASAR	**Alice Springs**	**24.09**	**222**	P	**P**	**17 08 42.6**	**+0.4**
	1.3nm,0.7s,mb3.5,baz=54,slow=9.1,SNR=29						
ASPA	**Alice Springs**	**24.09**	**222**	*e*P	**P**	**17 08 42.9**	**+0.6**
STKA	**Stephens Creek**	**27.06**	**198**	P	**P**	**17 09 09.1**	**-0.1**
	2.3nm,0.9s,mb3.7,baz=24,slow=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	*e*P	**P**	**17 09 16.4**	**+1.6**
	9.0nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	P	**P**	**17 09 16.0**	**+1.2**
	1.7nm,0.6s,mb3.9,baz=72,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**149.32**	**285**	PKPbc	PKPbc	17 23 16.4	+1.9
	1.0nm,0.6s,baz=59,slow=2.0,SNR=6.5						

*ISCJB **10** 17:15:54.6±1.2, 254S±02×1789W±02, h500km, mb3.5/5, Error ellipse: s-maj=26.5km s-min=16.8km az=85.7*

*NEIC **10** 17:15:54.9±1.1, 2532S×178.81W, h500km, mb3.7/2, Error ellipse: s-maj=27.4km s-min=16.9km az=131.0*
*IDC **10** 17:15:55.8±3.1, 2536S×178.93W, h499km±45km, mb2.8/3, mb1 3.1/4, mb1mx2.9/12, mbtmp3.0/4, Error ellipse: s-maj=37.5km s-min=32.2km az=174.0*

ISC 10 17:15:55.6±1.2, 254S±02×1788W±02, h500km, n13, σ0$78/12, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**13.20**	**32**	P	**P**	**17 18 47.7**	**+1.0**
	8.9nm,0.3s,baz=136,slow=8.0,SNR=11						
AFI	**Afiamalu**	**13.20**	**32**	P	**P**	**17 18 45.6**	**-1.2**
URZ	**Urewera**	**13.29**	**194**	P	**P**	**17 18 48.1**	**+0.3**
	1.4nm,0.3s,baz=310,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**32.56**	**272**	*e*P	**P**	**17 21 45.5**	**+0.7**
	1.9nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**35.19**	**250**	P	**P**	**17 22 04.9**	**-2.0**
	0.8nm,0.5s,mb3.4,baz=104,slow=8.3,SNR=2.8						
STKA	**Stephens Creek**	**35.19**	**250**	*e*P	**P**	**17 22 04.3**	**-2.6**
AS31	**Alice Springs**	**42.86**	**262**	*e*P	**P**	**17 23 09.2**	**+0.2**
ASAR	**Alice Springs**	**42.86**	**262**	P	**P**	**17 23 09.3**	**+0.3**
	0.6nm,0.5s,mb3.3,baz=92,slow=7.4,SNR=32						
ASPA	**Alice Springs**	**42.86**	**262**	*e*P	**P**	**17 23 09.2**	**+0.1**
WB2	**Warramunga Arr**	**43.37**	**267**	*e*P	**P**	**17 23 13.1**	**+0.1**
WRAB	**Tennant Creek**	**43.37**	**267**	*e*P	**P**	**17 23 12.8**	**-0.2**
	1.0nm,0.6s,mb3.4						
WRA	**Warramunga Arr**	**43.38**	**267**	P	**P**	**17 23 13.4**	**+0.3**
	0.4nm,0.3s,mb3.4,baz=101,slow=8.4,SNR=22						
TORD	**Torodi Ar. Bea**	**167.82**	**182**	PKPab	PKPab	17 36 14.8	+0.3
	1.0nm,1.0s,baz=182,slow=3.4,SNR=4.4						

*NEIC **10** 17:16:04.6, 1639N×98.61W, h10km, MD3.6(MEX), After MEX.*

MEX 10 17:16:05.3±1.0, 1637N×9862W, h16km±14km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.47**	**87**	*i* P	Pg	17 16 13.4	-1.2
PNIG				*i* S	Sg	17 16 20.0	-1.1
PNIG	**Pinotepa**	**0.47**	**87**	*i* P	Pg	17 16 13.2	-1.4
PNIG				*i* S	Sg	17 16 19.9	-1.2
ACX	**Acapulco**	**1.34**	**292**	*i* P	Pn	17 16 25.5	-3.9
ACX				*i* S	Sn	17 16 41.5	-5.4
UTMO	**Huajuapan**	**1.65**	**28**	*e*P	Pn	17 16 29.8	-3.9
UTMO				*i* S	Sn	17 16 49.8	-4.6
MEIG	**Mezcala**	**1.82**	**328**	*e*P	Pn	17 16 34.1	-1.9
MEIG				*i* S	Sn	17 16 53.7	-5.1
VHO	**Vista Hermosa**	**1.94**	**69**	*e*P	Pn	17 16 32.7	-4.9
VHO				*i* S	Sn	17 16 58.0	-3.5
OXX	**Oaxaca**	**1.95**	**68**	*e*P	Pn	17 16 40.0	+2.3
OXX				*i* S	Sn	17 16 58.0	-3.9
PPM	**Popocatepetl**	**2.68**	**360**	*i* P	Pn	17 16 47.3	-0.5
PPM				*i* S	Sn	17 17 18.0	-2.0
CMIG	**Matias Romero**	**3.65**	**78**	*i* P	Pn	17 16 57.0	-4.1
CMIG				*i* S	Sn	17 17 38.9	-5.0

*NEIC **10** 17:19:21.6±3.7, 3618N×7067E, h163km±32km, mb4.0/2, Error ellipse: s-maj=36.4km s-min=24.3km az=166.0*
*ISCJB **10** 17:19:24.4±1.4, 3648N×7057E, h185km, mb4.0/1, Error ellipse: s-maj=38.6km s-min=13.6km az=77.4*
*MOS **10** 17:19:24.4±1.4, 3648N×7057E, h185km, mb4.0/1, Error ellipse: s-maj=38.6km s-min=13.6km az=77.4*
*IDC **10** 17:19:26.6±10.0, 3630N×7086E, h218km±114km, mb3.4/3, mb1 3.3/6, mb1mx3.0/23, mbtmp3.3/6, MS3.4/1, Ms1 3.4/1, ms1mx2.4/26, Error ellipse: s-maj=57.3km s-min=47.6km az=171.0*

ISC 10 17:19:25.3±0.6, 3643N±005×707E±01, h192km±13km, n29, σ0$75/33, mb3.6/2, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.78**	**159**	⇑P	**Pn**	**17 20 12.4**	**+0.6**
CHCP	**Chirah Chowk**	**3.47**	**142**	P	**Pn**	**17 20 22.0**	**+1.9**
THW	**Thamme Wali**	**3.72**	**166**	⇓P	**Pn**	**17 20 23.4**	**+0.1**
SBDP	**Sheikh Budin**	**4.12**	**179**	P	**Pn**	**17 20 27.6**	**-0.6**
THN	**Thein Dam**	**5.74**	**132**	*e*P	**Pn**	**17 20 49.1**	**+0.1**
THN				*e*S	**Sn**	**17 21 53.7**	**-1.4**
AML	**Almayashu**	**6.15**	**21**	P	**Pn**	**17 20 54.4**	**+0.2**
	SNR=83						
UCH	**Uchtor**	**6.50**	**26**	P	**Pn**	**17 20 59.1**	**+0.2**
	SNR=36						
KZA	**Kyzart**	**6.65**	**31**	P	**Pn**	**17 21 00.5**	**-0.4**

mb4.7/43,MS3.9/16,Error ellipse: s-maj=10.7km s-min=8.9km az=72.6

GCMT ***10*** *17:39:54.3±0.3,651S×15165E,h20km±1km,MW4.8/48, Moment Tensor Solution. s22,c31; s48,c69; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68±.13; $M_{\theta\theta}$1.09±.10; $M_{\phi\phi}$0.59±.10; $M_{r\theta}$-0.36±.16; $M_{\theta\phi}$1.34±.07; $M_{\phi r}$-0.71±.20; Best double couple: Mo2.11100×10^{16} NP1:*ϕ_s*38.00000°,*δ*57.00000°,*λ*-105.00000°. NP2:*ϕ_s*244.00000°,*δ*36.00000°,*λ*-69.00000°. Principal axes: T 2.3390, Plg10.0000°, Azm139.0000°; N -0.4510, Plg12.0000°, Azm47.0000°; P -1.8840, Plg74.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***10*** *17:39:56.0±0.9,637S×15143E,h33km,mb4.8/15 Error ellipse: s-maj=12.0km s-min=9.9km az=83.8*

IDC ***10*** *17:40:02.4±3.8,645S×15137E,h74km±32km, mb4.1/13, mb1 4.3/14,mb1mx4.3/16,mbtmp4.2/14,MS3.8/15, Ms1 3.8/15,ms1mx3.6/27,Error ellipse: s-maj=23.2km s-min=16.4km az=74.0*

ISC 10 17:39:59.2±1.3,644S±006×15142E±006,h45km±12km, h46km±5.4km;pP-P,n112,σ0.983/97,mb4.7/43,MS3.9/16, 2C-6D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**235**	P			**Pn**	**17 41 15.0**	**+1.3**
	28nm,0.3s,baz=49,slow=4.7,SNR=71								
PMG				S			**Sn**	**17 42 16.6**	**+4.9**
	78nm,0.3s,baz=214,slow=12,SNR=10								
PMG	**Port Moresby**	**5.15**	**235**	*e*P			**Pn**	**17 41 14.7**	**+1.0**
PMG				*e*				17 42 08.0	
PMG				pmax		pmax			
	comp=Z,100nm,0.4s								
PMG	**Port Moresby**	**5.15**	**235**	*e*Pn			**Pn**	**17 41 14.7**	**+1.0**
	comp=Z,100nm,0.4s								
PMG				*e*Sn			**Sn**	**17 42 08.0**	**-3.8**
HNR	**Honiara**	**8.95**	**110**	P			**Pn**	**17 42 06.4**	**+0.5**
	comp=Z,8.3nm,0.3s,baz=267,slow=3.0,SNR=13								
HNR				LR		LR		17 44 57.4	
	comp=Z,606nm,19.3s,baz=359,slow=33								
HNR	**Honiara**	**8.95**	**110**	*e*P			**Pn**	**17 42 04.9**	**-0.9**
HNR				pmax		pmax			
	comp=Z,108nm,0.7s								
HNR	**Honiara**	**8.95**	**110**	*e*Pn			**Pn**	**17 42 04.9**	**-0.9**
	comp=Z,108nm,0.7s								
CTA	**Charters Tower**	**14.46**	**200**	LR		LR		17 48 19.7	
	comp=Z,170nm,20.7s,baz=20,slow=34								
CTAO	**Charters Tower**	**14.46**	**200**	P			**Pn**	**17 43 20.5**	**-0.6**
CTAO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CTAO	**Charters Tower**	**14.46**	**200**	Pn			**Pn**	**17 43 20.5**	**-0.6**
	comp=Z,9.9nm,1.0s								
KAKA	**Kakadu**	**19.72**	**250**	⇓*i*P			**Pn**	**17 44 25.3**	**-1.3**
	comp=Z,23nm,0.4s								
GUMO	**Guam**	**20.93**	**342**	P			**P**	**17 44 32.3**	**-5.7**
GUMO				pmax		pmax			
	comp=Z,127nm,1.0s								
GUMO	**Guam**	**20.93**	**342**	P			**P**	**17 44 32.3**	**-5.7**
	comp=Z,127nm,1.0s								
DZM	**Mont Dzumac**	**21.26**	**138**	P			**P**	**17 44 43.4**	**+1.9**
	comp=Z,20nm,0.9s,mb4.5,baz=357,slow=12,SNR=5.7								
DZM				LR		LR		17 52 01.7	
	comp=Z,434nm,19.1s,MS3.9,baz=22,slow=34								
WRAB	**Tennant Creek**	**21.32**	**229**	*d*P			**P**	**17 44 42.3**	**+0.1**
WRAB	**Tennant Creek**	**21.32**	**229**	*e*P			**P**	**17 44 41.8**	**-0.4**
	comp=Z,25nm,0.9s,mb4.5								
WB2	**Warramunga Arr**	**21.33**	**229**	⇓*i*P			**P**	**17 44 42.3**	**0.0**
WRA	**Warramunga Arr**	**21.34**	**229**	P			**P**	**17 44 42.5**	**+0.1**
	comp=Z,18nm,0.9s,mb4.4,baz=55,slow=11,SNR=52								
WRA				PcP		PcP		17 48 46.2	+1.0
	comp=Z,3.6nm,0.9s,baz=41,slow=2.0,SNR=7.5								
WRA				pScP				17 52 31.5	
	comp=Z,2.3nm,1.0s,baz=37,slow=2.8,SNR=9.1								
WRA				LR		LR		17 53 33.0	
	comp=Z,227nm,19.7s,MS3.6,baz=45,slow=38								
WRA	**Warramunga Arr**	**21.34**	**229**	*i* P			**P**	**17 44 42.5**	**+0.1**
WRA				pmax		pmax			
	comp=Z,18nm,0.9s								
AS31	**Alice Springs**	**24.02**	**223**	⇓*i*P			**P**	**17 45 10.2**	**+0.4**
ASAR	**Alice Springs**	**24.02**	**223**	P			**P**	**17 45 10.2**	**+0.4**
	comp=Z,17nm,0.8s,mb4.5,baz=58,slow=8.9,SNR=99								
ASAR				pScP				17 52 39.7	
	comp=Z,1.3nm,0.8s,baz=51,slow=3.0,SNR=9.3								
ASAR				LR		LR		17 54 16.3	
	comp=Z,209nm,19.3s,MS3.6,baz=57,slow=36								
ASPA	**Alice Springs**	**24.02**	**223**	⇓*i*P			**P**	**17 45 10.2**	**+0.4**
STKA	**Stephens Creek**	**26.92**	**199**	*e*P			**P**	**17 45 35.8**	**-0.3**
	comp=Z,9.4nm,1.0s,mb4.3								
STKA	**Stephens Creek**	**26.92**	**199**	P			**P**	**17 45 36.0**	**-0.1**
	comp=Z,7.1nm,0.8s,mb4.2,baz=10,slow=10,SNR=12								
FITZ	**Fitzroy Crossi**	**27.68**	**243**	*e*P			**P**	**17 45 43.1**	**+0.2**
	comp=Z,17nm,0.3s,mb5.2								
FITZ	**Fitzroy Crossi**	**27.68**	**243**	P			**P**	**17 45 43.1**	**+0.2**
	comp=Z,4.9nm,0.3s,mb4.5,baz=58,slow=8.9,SNR=58								
MBWA	**Marble Bar**	**33.98**	**241**	*e*P			**P**	**17 46 38.2**	**-0.2**
RAO	**Raoul Island**	**36.76**	**132**	LR		LR		17 58 00.9	
	comp=Z,169nm,21.1s,MS3.8,baz=302,slow=29								
JOW	**Kunigami**	**39.96**	**327**	LR		LR		18 02 56.0	
	comp=Z,108nm,18.9s,MS3.7,baz=325,slow=34								
KLBR	**Kellerberrin**	**40.19**	**227**	*e*P			**P**	**17 47 30.7**	**-0.4**
	comp=Z,10nm,0.9s,mb4.6								
NWAO	**Narrogin (SRO)**	**41.27**	**226**	LR		LR		18 05 05.6	
	comp=Z,263nm,20.1s,MS4.1,baz=219,slow=36								
KSM	**Kuching**	**41.78**	**279**	*e*P			**P**	**17 47 43.8**	**-0.3**
YHNB	**Yeheng**	**42.57**	**318**	*e*P			**P**	**17 47 51.8**	**+1.2**
MJAR	**Matsushiro Arr**	**44.51**	**345**	PP			PP	17 49 49.5	-1.1
	comp=Z,2.7nm,0.7s,baz=168,slow=4.0,SNR=7.9								
MJAR				LR		LR		18 02 04.0	
	comp=Z,140nm,21.7s,MS3.9,baz=185,slow=30								
MAJO	**Matsushiro**	**44.51**	**345**	P			**P**	**17 48 05.7**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.2								
MAT	**Matsushiro**	**44.51**	**345**	PCP			PcP	17 49 49.5	+0.6
QIZ	**Qiongzhong**	**48.15**	**303**	*e*P			**P**	**17 48 35.4**	**+0.6**
QIZ				S			**S**	**17 55 35.9**	**+5.4**
QIZ				AMB		AMB			
	comp=Z,10.0nm,1.5s,mb4.6								
QIZ				LR		LR			
	comp=Z,156nm,28.9s,MS3.8								
KSRS	**Korea Array**	**48.87**	**335**	P			**P**	**17 48 40.8**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.1,baz=156,slow=7.6,SNR=4.8								
KSRS				LR		LR		18 05 12.8	
	comp=Z,64nm,21.6s,MS3.6,baz=135,slow=31								
NJ2	**Nanjing**	**49.28**	**323**	*e*P			**P**	**17 48 44.0**	**+0.6**
NJ2				PP		PP		17 50 39.6	+2.0
NJ2				S		S		**17 55 46.0**	**-0.4**
NJ2				AMB		AMB			
	comp=Z,140nm,9.0s								
NJ2				LR		LR			
	comp=N,2μm,20.5s								
NJ2				LR		LR			
	comp=E,2μm,27.4s								
NJ2				LR		LR			
	comp=Z,470nm,30.6s								
KULM	**Kulim**	**52.00**	**282**	*e*P			**P**	**17 49 01.6**	**-2.3**
YSS	**Yuzh-Sakhalins**	**53.71**	**353**	P			**P**	**17 49 16.6**	**0.0**
YSS				pmax		pmax			
	comp=Z,37nm,1.4s,mb5.1								
YSS	**Yuzh-Sakhalins**	**53.71**	**353**	P			**P**	**17 49 16.6**	**0.0**
	comp=Z,37nm,1.4s,mb5.1								
KMI	**Kunming**	**56.79**	**306**	P			**P**	**17 49 40.2**	**+1.5**
KMI				AP		pP		17 49 44.7	-6.7
KMI				XP		sP		17 49 46.8	-10
KMI				S		S		**17 57 30.6**	**+2.0**
KMI				AMB		AMB			
	comp=Z,4.0nm,0.8s,mb4.5								
KMI				AMB		AMB			
	comp=Z,92nm,3.8s								
KMI				LR		LR			
	comp=N,92nm,22.5s,MS4.0								
KMI				LR		LR			
	comp=E,84nm,21.6s,MS4.0								
KMI				LR		LR			
	comp=Z,99nm,30.6s								
KMI	**Kunming**	**56.79**	**306**	P			**P**	**17 49 40.2**	**+1.5**
	comp=Z,4.0nm,0.8s,mb4.5								
KMI				pP		pP		17 49 44.7	-6.7
KMI				sP		sP		17 49 46.8	-10
KMI				LR		LR			
	comp=Z,100nm,30.6s,MS3.7								
XAN	**Xi'an**	**56.88**	**318**	P			**P**	**17 49 39.0**	**-0.4**
XAN				AMB		AMB			
	comp=Z,7.0nm,1.3s,mb4.5								
PPT	**Papeete**	**58.56**	**107**	LR		LR		18 12 56.8	
	comp=Z,94nm,18.9s,MS3.9,baz=241,slow=34								
HHC	**Hu-ho-hao-te**	**59.59**	**326**	*e*P			**P**	**17 49 54.9**	**-3.4**
HHC				AMB		AMB			
	comp=Z,16nm,0.9s,mb5.0								
HHC				AMB		AMB			
	comp=Z,80nm,6.8s								
LZH	**Lanzhou**	**61.46**	**317**	*e*P			**P**	**17 50 11.4**	**+0.3**
LZH				AP		pP		17 50 17.5	-6.4
LZH				XP		sP		17 50 20.7	-8.3
LZH				AMB		AMB			
	comp=Z,25nm,1.3s,mb5.2								
LZH				AMB		AMB			
	comp=Z,46nm,4.8s								
LZH				LR		LR			
	comp=E,236nm,10.5s								
LZH				LR		LR			
	comp=Z,409nm,13.9s,MS4.7								
LZH	**Lanzhou**	**61.46**	**317**	*e*P			**P**	**17 50 11.4**	**+0.3**
	comp=Z,25nm,1.3s,mb5.2								
LZH				pP		pP		17 50 17.5	-6.4
LZH				sP		sP		17 50 20.7	-8.3
LZH				PP		PcP		17 50 50.1	-2.6
LZH				LR		LR			
	comp=Z,410nm,13.9s,MS4.7								
HIA	**Hailar**	**61.98**	**337**	*e*P			**P**	**17 50 12.8**	**-1.7**
HIA				pmax		pmax			
	comp=Z,9.0nm,1.0s								
HIA	**Hailar**	**61.98**	**337**	*e*P			**P**	**17 50 12.8**	**-1.8**
	comp=Z,9.0nm,1.0s,mb4.8								
GTA	**Gaotai**	**65.94**	**318**	*e*P			**P**	**17 50 41.7**	**+1.1**
GTA				AP		pP		17 50 45.1	-8.4
GTA				XP		sP		17 50 48.4	-10
GTA				PCP		PcP		17 51 13.0	+1.9
GTA				AMB		AMB			
	comp=Z,5.0nm,0.8s,mb4.6								
SONM	**Songino Array**	**66.99**	**329**	P			**P**	**17 50 48.1**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=148,slow=4.3,SNR=13								
SONM				sP		sP		17 51 14.8	+9.5
	comp=Z,3.3nm,0.8s,baz=145,slow=4.3,SNR=10								
SONM				LR		LR		18 18 54.2	
	comp=Z,56nm,18.2s,MS3.8,baz=103,slow=35								
SONM	**Songino Array**	**66.99**	**329**	P			**P**	**17 50 48.1**	**+0.8**
SONM				*SP		sP		17 51 14.8	+10
LSA	**Lhasa**	**68.05**	**305**	*e*P			**P**	**17 50 52.9**	**-1.0**
LSA				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.7								
LSA	**Lhasa**	**68.05**	**305**	*e*P			**P**	**17 50 52.9**	**-1.1**
	comp=Z,7.5nm,1.1s,mb4.6								
ZAK	**Zakamensk**	**70.19**	**330**	*e*P			**P**	**17 51 06.0**	**-1.2**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
YAK	**Yakutsk**	**70.31**	**349**	P			**P**	**17 51 08.1**	**+0.1**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
YAK	**Yakutsk**	**70.31**	**349**	P			**P**	**17 51 08.1**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.7								
TLY	**Talaya**	**70.81**	**331**	P			**P**	**17 51 05.8**	**-5.2**
TLY				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
TLY	**Talaya**	**70.81**	**331**	P			**P**	**17 51 05.8**	**-5.3**
	comp=Z,4.1nm,0.9s,mb4.4								
VNDA	**Vanda**	**71.25**	**178**	P			**P**	**17 51 13.2**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=325,slow=6.6,SNR=18								
VNDA				LR		LR		18 20 58.9	
	comp=Z,46nm,18.7s,MS3.8,baz=337,slow=34								
VNDA	**Vanda**	**71.25**	**178**	*e*P			**P**	**17 51 13.2**	**-0.5**
VNDA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
VNDA	**Vanda**	**71.25**	**178**	*e*P			**P**	**17 51 13.2**	**-0.5**
	comp=Z,3.6nm,0.9s,mb4.3								
GUN	**Gumba**	**71.80**	**302**	*e*P			**P**	**17 51 17.5**	**+0.5**
	comp=Z,22nm,0.7s,mb5.2								
SBA	**Scott Base**	**71.83**	**177**	*e*P			**P**	**17 51 17.3**	**+0.2**
SBA				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
SBA	**Scott Base**	**71.83**	**177**	*e*P			**P**	**17 51 17.3**	**+0.1**
	comp=Z,2.8nm,1.0s,mb4.2								
PALK	**Pallekele**	**71.85**	**280**	*e*P			**P**	**17 51 18.7**	**+1.4**
	comp=Z,12nm,0.9s,mb4.8								
PKI	**Pulchoki**	**72.10**	**302**	*e*P			**P**	**17 51 19.1**	**+0.3**
KKN	**Kakani**	**72.27**	**302**	*e*P			**P**	**17 51 20.2**	**+0.4**
	comp=Z,14nm,0.9s,mb4.9								
DMN	**Daman**	**72.37**	**301**	*e*P			**P**	**17 51 21.0**	**+0.6**
	comp=Z,28nm,0.9s,mb5.2								
GKN	**Gorkha**	**72.88**	**302**	*e*P			**P**	**17 51 23.6**	**+0.2**
	comp=Z,50nm,1.2s,mb5.3								
KOLN	**Koldanda**	**73.69**	**301**	*e*P			**P**	**17 51 28.4**	**+0.2**
	comp=Z,28nm,0.9s,mb5.2								
BILL	**Bilibino**	**75.04**	**6**	⇑*e*P			**P**	**17 51 36.7**	**+0.6**
BILL				*e*		pP		17 51 49.3	+0.1
BILL				*e*				17 54 25.9	
BILL				pmax		pmax			
	comp=Z,39nm,1.0s,mb5.3								
BILL	**Bilibino**	**75.04**	**6**	*e*P			**P**	**17 51 36.1**	**0.0**
	comp=Z,34nm,1.0s,mb5.2								
SVW2	**Sparrevohn**	**78.86**	**23**	*e*P			**P**	**17 51 58.1**	**+0.5**
MK31	**Makanchi Array**	**80.66**	**319**	*e*P			**P**	**17 52 07.4**	**+0.1**
MKAR	**Makanchi Array**	**80.66**	**319**	P			**P**	**17 52 06.9**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=114,slow=5.4,SNR=21								
MKAR				PKKPbc		PKKPbc		18 10 47.9	+1.3
	comp=Z,0.4nm,0.7s,baz=294,slow=1.2,SNR=4.2								
MKAR	**Makanchi Array**	**80.66**	**319**	P			**P**	**17 52 06.9**	**-0.4**
MKAR				PKKPbc		PKKPbc		18 10 47.9	+1.3
SLKM	**Skilak Lake**	**80.73**	**25**	*e*P			**P**	**17 52 07.9**	**+0.3**
ZAL	**Zalesovo**	**81.76**	**327**	P			**P**	**17 52 12.4**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=354,slow=2.9,SNR=11								
ZAL				LR		LR		18 28 37.2	
	comp=Z,50nm,20.3s,MS3.9,baz=73,slow=36								
MCK	**McKinley**	**82.89**	**23**	*e*P			**P**	**17 52 18.5**	**-0.5**
MCK				*e*		pP		17 52 31.4	-0.9
MCK				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.0								
MCK	**McKinley**	**82.89**	**23**	*e*P			**P**	**17 52 18.4**	**-0.6**
	comp=Z,17nm,1.0s,mb5.0								
MCK				*e*		pP		17 52 31.4	-0.9
QSPA	**South Pole Qui**	**83.53**	**180**	*e*P			**P**	**17 52 21.8**	**-0.5**
	comp=Z,16nm,1.3s,mb5.0								
MAW	**Mawson**	**83.54**	**203**	P			**P**	**17 52 21.8**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.3,baz=115,slow=22,SNR=3.6								
MAW	**Mawson**	**83.54**	**203**	P			**P**	**17 52 22.3**	**-0.1**
MAW				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MAW	**Mawson**	**83.54**	**203**	P			**P**	**17 52 22.2**	**-0.1**
	comp=Z,8.7nm,1.1s,mb4.8								
COLA	**College**	**83.87**	**22**	*e*P			**P**	**17 52 22.9**	**-1.2**
COLA				pmax		pmax			
	comp=Z,17nm,0.9s,mb5.2								
COLA	**College**	**83.87**	**22**	*e*P			**P**	**17 52 22.9**	**-1.2**
	comp=Z,17nm,0.9s,mb5.2								
KURK	**Kurchatov**	**84.21**	**322**	*d*P			**P**	**17 52 25.4**	**-0.4**
KURK	**Kurchatov**	**84.21**	**322**	*e*P			**P**	**17 52 25.5**	**-0.3**
	comp=Z,7.1nm,0.9s,mb4.8								
AAK	**Ala-Archa**	**84.80**	**314**	*e*P			**P**	**17 52 28.7**	**-0.1**
AAK				pmax		pmax			
	comp=Z,12nm,1.3s,mb4.9								
AAK	**Ala-Archa**	**84.80**	**314**	*e*P			**P**	**17 52 28.7**	**-0.1**
	comp=Z,12nm,1.3s,mb4.9								
EGAK	**Eagle**	**86.40**	**23**	*e*P			**P**	**17 52 36.9**	**+0.2**
	comp=Z,19nm,1.0s,mb5.3								
EGAK				*e*		pP		17 52 50.3	+0.3
DAWY	**Dawson**	**86.83**	**24**	*e*P			**P**	**17 52 39.4**	**+0.5**
DAWY				*e*		pP		17 52 54.5	+2.3
BVAR	**Borovoye Array**	**89.72**	**323**	P			**P**	**17 52 51.1**	**-1.5**
	comp=Z,1.0nm,0.7s,mb4.2,baz=98,slow=5.0,SNR=7.5								
BVAR				LR		LR		18 31 15.8	
	comp=Z,42nm,18.6s,MS3.9,baz=315,slow=34								
BRVK	**Borovoye**	**89.79**	**323**	P			**P**	**17 52 51.8**	**-1.1**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**89.79**	**323**	P			**P**	**17 52 51.8**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.5								
SYO	**Syowa Base**	**91.67**	**200**	⇑*e*P			**P**	**17 53 01.2**	**-0.4**
NVAR	**Mina Array Bea**	**94.17**	**52**	P			**P**	**17 53 14.1**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.8,baz=268,slow=8.8,SNR=13								
PDAR	**Pinedale Array**	**100.96**	**48**	P			Pdif	17 53 44.1	+0.4
	comp=Z,0.7nm,0.8s,baz=222,slow=3.6,SNR=4.7								
OBN	**Obninsk**	**109.34**	**326**	*e*P			Pdif	17 54 19.9	-1.1
OBN				*e*				17 58 54.3	
OBN				pmax		pmax			
	comp=Z,3.0nm,0.8s								
FINES	**FINESS Array B**	**111.96**	**335**	pPKiKP				17 58 49.4	
	comp=Z,1.8nm,0.6s,baz=57,slow=5.1,SNR=12								
AKASG	**Malin Array Be**	**115.00**	**324**	sPKP				17 59 07.3	
	comp=Z,1.1nm,0.3s,baz=47,slow=3.2,SNR=7.3								
BRTR	**Keskin Array B**	**115.35**	**311**	PP			PP	17 59 22.4	-15
	comp=Z,0.7nm,0.6s,baz=75,slow=4.2,SNR=3.5								
NB2	**NORSAR Subarra**	**117.97**	**339**	PKP			pPKPdf	17 59 00.2	+5.5
	comp=Z,1.3nm,0.7s,baz=16,slow=3.2								
NOA	**NORSAR Array B**	**117.97**	**339**	pPKP			pPKPdf	17 59 00.5	+5.8
	comp=Z,1.4nm,0.6s,baz=15,slow=4.6,SNR=4.0								
CLL	**Collm**	**123.59**	**330**	*e*PKPdf			PKPdf	17 58 52.0	+0.3
GERES	**GERESS Array B**	**124.70**	**327**	PKP			PKPdf	17 58 54.1	+0.3
	comp=Z,0.9nm,0.7s,baz=79,slow=2.9,SNR=6.9								
LPAZ	**La Paz**	**134.82**	**120**	PKP			PKPdf	17 59 15.5	+2.5
	comp=Z,2.4nm,0.8s,baz=211,slow=0.9,SNR=9.0								
CPD	**Cerro la Pandu**	**141.82**	**69**	*e*PKPdf			PKPdf	17 59 26.9	+1.1
TOA0	**Torodi Ar. Sit**	**149.45**	**285**	*e*PKPbc			PKPbc	17 59 43.8	+0.5
TORD	**Torodi Ar. Bea**	**149.45**	**285**	PKPbc			PKPbc	17 59 44.1	+0.8
	comp=Z,14nm,0.7s,baz=72,slow=2.9,SNR=64								

IDC ***10*** *18:14:11.9±2.1,5482N×112.10E,h0km,mb3.3/3, mb1 3.7/5,mb1mx3.4/23,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=36.2km s-min=26.7km az=40.0*

ISCJB ***10*** *18:14:12.6±0.5,5506N×002×11166E×004,h10km±4km, mb3.9/4,Error ellipse: s-maj=4.8km s-min=2.8km az=94.7*

MOS ***10*** *18:14:12.6±1.0,5500N×11162E,h18km,mb4.7/2,Error ellipse: s-maj=11.9km s-min=7.5km az=71.1*

MOS Felt (II-III) at Ulyunkhan.

BYKL ***10*** *18:14:13.4±0.2,5502N×11166E,h12km±4km,FELT I=III MSK at Ulyunkhan*

NEIC ***10*** *18:14:16.8±1.4,5495N×111.18E,h10km,mb3.9/2,Error ellipse: s-maj=23.9km s-min=17.8km az=132.0*

NEIC Felt [III] at Ulyunkhan.

ISC 10 18:14:13.3±0.5,5505N±002×11167E±004,h4km±4km,n67, σ1.920/107,mb3.9/4,13C-7D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.34**	**240**	⇓*i*Pg			**Pg**	**18 14 19.9**	**0.0**
	2μm,0.2s								
YLYR				⇓*i*Pg			**Pg**	**18 14 19.9**	**0.0**
	2μm,0.2s								
YLYR				⇑*i*Pg			**Pg**	**18 14 19.9**	**0.0**
	3μm,0.2s								
YLYR				Pmax				18 14 20.0	
	1μm,0.1s								
YLYR				*i* Sg			**Sg**	**18 14 24.7**	**+0.4**
YLYR				Smax				18 14 24.8	
	29μm,0.1s								
YLYR	**Ulyunkhan**	**0.34**	**240**	⇑*i*PG			**Pg**	**18 14 19.9**	**0.0**
YLYR				*e*				18 14 24.8	
YLYR				pmax		pmax			
	comp=Z,2μm,0.1s								
YLYR				smax					
	comp=N,30μm,0.2s								
KMO	**Kumora**	**0.88**	**343**	⇑*i*Pg			**Pg**	**18 14 29.5**	**-0.8**
KMO				Pmax				18 14 34.0	
	comp=N,724nm,0.3s								
KMO				*e*Sg			**Sg**	**18 14 41.8**	**+0.1**
KMO				Smax				18 14 44.0	
	comp=N,2μm,1.0s								
KMO	**Kumora**	**0.88**	**343**	*e*PG			**Pg**	**18 14 29.5**	**-0.8**
KMO				*e*				18 14 41.5	
KMO				pmax		pmax			
	comp=Z,554nm,0.3s								
KMO				smax					
	comp=E,2μm,1.0s								
YOA	**Uoyan**	**1.09**	**2**	⇓*i*Pg			**Pg**	**18 14 33.8**	**-0.4**
YOA				Pmax				18 14 36.8	
	comp=E,929nm,0.2s								
YOA				*e*Sg			**Sg**	**18 14 49.3**	**+1.0**
YOA				*e*				18 14 54.1	
YOA				Smax				18 14 55.5	
	comp=E,8μm,0.4s								
YOA	**Uoyan**	**1.09**	**2**	⇓*i*PG			**Pg**	**18 14 33.8**	**-0.4**
YOA				*e*				18 14 49.3	
YOA				pmax		pmax			
	comp=Z,953nm,0.2s								
YOA				smax					
	comp=N,9μm,0.4s								
UKT	**Uakit**	**1.20**	**68**	⇑*i*Pg			**Pg**	**18 14 35.2**	**-1.2**
	comp=N,121nm,0.6s								
UKT				⇑*i*Pg				18 14 35.2	
	comp=N,551nm,0.6s								
UKT				⇑*i*Pg				18 14 35.2	
	comp=N,484nm,0.6s								
UKT				Pmax				18 14 35.6	
	comp=N,654nm,0.3s								
UKT				*e*Pb			**Pb**	**18 14 37.1**	**+0.5**
UKT				*i* Sg			**Sg**

comp=N,717nm,0.6s
BOD Bodaibo 3.06 24 *e*Pn **Pn** **18 15 01.7 -0.8**
BOD *e*Pg **Pb** **18 15 07.7 -0.7**
BOD Pmax 18 15 11.1
comp=N,83nm,0.7s
BOD *e*Sn **Sn** **18 15 39.2 -0.3**
BOD *e*Sg **Sb** **18 15 47.1 +1.0**
BOD Smax 18 15 50.1
comp=N,445nm,0.5s
BOD Bodaibo 3.06 24 *e*PN **Pn** **18 15 01.5 -1.0**
BOD *e* 18 15 07.2
CIT Chita 3.23 159 *e*Pn **Pn** **18 15 03.8 -1.0**
CIT *e*Pg **Pb** **18 15 10.6 -0.6**
CIT Pmax 18 15 19.9
comp=N,104nm,0.6s
CIT *e*Sg **Sb** **18 15 52.8 +1.9**
CIT Smax 18 15 59.0
comp=N,816nm,0.7s
CIT Chita 3.23 159 *e*PN **Pn** **18 15 03.8 -1.0**
CIT *e* 18 15 10.0
CIT *e* 18 15 52.5
CIT pmax pmax
comp=Z,111nm,0.5s
CIT smax
comp=E,842nm,0.6s
TRTB Turuntaevo 3.71 222 *e*Pn **Pn** **18 15 11.0 -0.3**
TRTB *e*Pg **Pb** **18 15 19.1 -0.2**
TRTB Pmax 18 15 26.2
comp=E,100nm,0.8s
TRTB *e*Sg **Sb** **18 16 08.1 +3.5**
TRTB Smax 18 16 14.5
comp=E,505nm,1.1s
TRG Tyrgan 3.89 236 *e*Pn **Pn** **18 15 13.8 -0.1**
TRG *e*Pg **Pb** **18 15 22.1 -0.4**
TRG Pmax 18 15 27.7
comp=E,37nm,0.3s
TRG *e*Sn **Sn** **18 15 54.9 -5.1**
TRG *e*Sg **Sb** **18 16 12.2 +2.2**
TRG Smax 18 16 17.1
comp=E,280nm,0.5s
TRG Tyrgan 3.89 236 *e*PN **Pb** **18 15 22.9 +0.4**
TRG *e* 18 16 12.0
TRG pmax pmax
comp=Z,41nm,0.3s
TRG smax
comp=N,290nm,0.3s
CRS Chara 4.14 61 *e*Pn **Pn** **18 15 17.1 -0.2**
CRS *e*Pg **Pb** **18 15 28.7 +1.9**
CRS Pmax 18 15 36.3
comp=N,128nm,0.8s
CRS *e*Sg Sx 18 16 22.6
CRS Smax 18 16 25.6
comp=N,1µm,1.0s
CRS Chara 4.14 61 *e*PN **Pn** **18 15 17.4 +0.1**
CRS *e* 18 15 28.2
CRS *e* 18 16 22.4
CRS pmax pmax
comp=Z,123nm,0.8s
CRS smax
comp=E,1µm,1.4s
FFNB Fofonovo 4.20 226 *e*Pn **Pn** **18 15 19.9 +1.9**
FFNB *e*Pg **Pg** **18 15 29.8 -3.9**
FFNB *e*Sg **Sg** **18 16 22.8 -5.3**
FFNB Smax 18 16 27.8
comp=E,662nm,0.4s
KAB Kabansk 4.24 227 *e*Sg **Sg** **18 16 24.5 -5.0**
KAB Smax 18 16 44.4
comp=E,1µm,1.4s
STDB Stepnoy Dvoret 4.28 230 *e*Sg **Sg** **18 16 27.6 -3.1**
STDB Smax 18 16 33.1
comp=E,887nm,0.8s
HRMR Khuramsha 4.44 221 *e*Sg **Sg** **18 16 31.0 -4.9**
HRMR Smax 18 16 36.3
comp=E,1µm,0.4s
TUP Tupik 4.84 94 *e*Pn **Pn** **18 15 26.0 -0.9**
TUP *e*Pg Px 18 15 40.2
TUP Pmax 18 15 41.2
comp=E,74nm,0.5s
TUP *e*Sg Sx 18 16 43.2
TUP Smax 18 16 49.0
comp=E,466nm,0.6s
TUP Tupik 4.84 94 *e*PN **Pn** **18 15 26.4 -0.5**
TUP *e* 18 15 40.3
TUP *e* 18 16 43.0
TUP pmax pmax
comp=Z,67nm,0.6s
TUP smax
comp=N,469nm,0.8s
BTMB Babushkin 4.84 229 *e*Pn **Pn** **18 15 27.6 +0.7**
BTMB *e*Pg Px 18 15 40.7
BTMB Pmax 18 15 45.2
comp=N,47nm,0.5s
BTMB *e* 18 16 24.2
BTMB *e*Sg Sx 18 16 43.7
BTMB Smax 18 16 51.9
comp=N,274nm,0.8s
KHNR Khani 5.03 65 *e*Sg **Sg** **18 16 50.8 -4.0**
LSTR Listvyanka 5.18 235 *e*Pn **Pn** **18 15 31.3 -0.2**
LSTR *e*Pg Px 18 15 45.2
LSTR Pmax 18 15 56.2
comp=N,29nm,0.8s
LSTR *e*Sg Sx 18 16 51.1
LSTR Smax 18 17 00.4
comp=N,147nm,1.1s
IRK Irkutsk 5.22 240 *e*Pg Px 18 15 46.7
IRK Pmax 18 15 52.6
comp=N,57nm,0.4s
IRK *e*Sg Sx 18 16 53.5
IRK Smax 18 17 04.4
comp=N,725nm,0.4s
IRK Irkutsk 5.22 240 *e*PN **Pb** **18 15 46.5 +1.4**
IRK *e* 18 16 53.2
IRK pmax pmax
comp=Z,52nm,0.4s
IRK smax
comp=N,751nm,0.8s
KPC Khapcheranga 5.37 175 *e*Pn **Pn** **18 15 32.7 -1.4**
KPC *e*Pg Px 18 15 48.7
KPC Pmax 18 15 59.4
comp=N,17nm,0.6s
KPC *e*Sg Sx 18 16 58.6
KPC Smax 18 17 04.2
comp=N,256nm,1.1s
TLY Talaya 5.87 238 *e*Pn **Pn** **18 15 40.9 -0.1**
TLY *e*Pg Px 18 15 58.2
TLY Pmax 18 16 02.3
comp=N,24nm,0.5s
TLY *e*Sn **Sn** **18 16 46.0 -2.7**
TLY *e*Sg Sx 18 17 12.7
TLY Smax 18 17 23.2
comp=N,165nm,1.3s
TLY Talaya 5.87 238 *e*PN **Pn** **18 15 38.9 -2.1**
TLY *e* 18 15 56.7
TLY *e*S **Sn** **18 16 45.4 -3.3**
TLY *e* 18 17 12.5
TLY pmax pmax
comp=Z,26nm,0.6s
TLY smax
comp=N,191nm,1.5s
TLY Talaya 5.87 238 *e*P **Pn** **18 15 40.6 -0.4**
comp=N,24nm,0.4s
TLY *e*S **Sb** **18 17 09.6 +2.8**
ARS Arshan 6.35 244 *e*Pn **Pn** **18 15 46.9 -0.7**
ARS *e*Pg **Pb** **18 16 06.2 +1.9**
ARS Pmax 18 16 10.3
comp=N,63nm,0.7s
ARS *e*Sg Sx 18 17 27.2
ARS Smax 18 17 31.9
comp=N,509nm,1.0s
ARS Arshan 6.35 244 *e*PN **Pn** **18 15 46.8 -0.8**
ARS *e* 18 16 07.7
ARS *e* 18 17 26.9
ARS pmax pmax
comp=Z,64nm,0.5s
ARS smax
comp=E,526nm,0.5s
ZAK Zakamensk 6.91 231 *e*Pn **Pn** **18 15 56.2 +0.9**
ZAK *e*Pg **Pb** **18 16 16.9 +3.0**
ZAK Pmax 18 16 28.7
comp=E,9.0nm,0.4s
ZAK *e*Sg Sx 18 17 47.1
ZAK Smax 18 18 03.4
comp=E,186nm,1.6s
ZAK Zakamensk 6.91 231 *e*PN **Pn** **18 15 57.9 +2.6**
ZAK *e* 18 16 19.2
ZAK *e* 18 17 48.9
ZAK pmax pmax
comp=Z,10.0nm,0.5s
ZAK smax
comp=N,190nm,1.6s
MOY Mondy 7.23 246 *e*Pn **Pn** **18 15 59.6 -0.1**
MOY *e*Pg **Pb** **18 16 22.1 +2.7**
MOY Pmax 18 16 30.6
comp=N,26nm,0.5s
MOY *e*Sn **Sn** **18 17 18.4 -3.8**
MOY *e*Sg Sx 18 17 54.4
MOY Smax 18 18 08.1
comp=N,219nm,1.5s
MOY Mondy 7.23 246 *e*PN **Pn** **18 16 00.2 +0.5**
MOY *e* 18 16 24.0
MOY *e*S **Sn** **18 17 21.5 -0.7**
MOY *e* 18 17 57.1
MOY pmax pmax
comp=Z,28nm,0.5s
MOY smax
comp=N,224nm,1.6s
ORL Orlik 7.46 255 *e*PN **Pn** **18 16 03.3 +0.4**
ORL *e*S Sx 18 18 03.9
ORL smax
comp=N,312nm,1.3s
NRGR Nerungri 7.52 72 *e*PG **Pg** **18 16 31.3 -6.1**
HIA Hailar 7.62 136 *i* PN **Pn** **18 16 05.5 +0.4**
SONM Songino Array 7.94 207 Pn **Pn** **18 16 09.2 -0.2**
comp=N,1.7nm,0.3s,baz=23,slow=13,SNR=29
SONM Lg 18 18 20.7
comp=N,2.9nm,0.3s,baz=24,slow=26,SNR=6.1
SONM Songino Array 7.94 207 Pn **Pn** **18 16 09.2 -0.2**
SONM Lg 18 18 20.7
TDJR Todzha 9.60 260 *e*Pn **Pn** **18 16 32.7 +0.5**
TDJR *e*Sg Sx 18 19 11.3
ZAL Zalesovo 15.62 277 Pn **Pn** **18 17 53.3 -0.9**
comp=N,0.3nm,0.3s,baz=31,slow=12,SNR=7.3
MK31 Makanchi Array 20.16 258 *e*P **P** **18 18 46.4 -2.1**
MKAR Makanchi Array 20.16 258 P **P** **18 18 47.7 -0.8**
comp=N,0.4nm,0.6s,baz=49,slow=8.5,SNR=5.5
MKAR Makanchi Array 20.16 258 *i* P **P** **18 18 49.2 +0.7**
MKAR Makanchi Array 20.16 258 P **P** **18 18 47.7 -0.8**
KURK Kurchatov 20.29 271 *i* P **P** **18 18 49.2 -0.8**
CHKZ Chkalovo 23.72 284 *e*P **P** **18 19 24.8 -1.6**
CHKZ pmax pmax
comp=Z,20nm,0.6s,mb4.7
CHKZ Chkalovo 23.72 284 *e*P **P** **18 19 24.8 -1.6**
comp=Z,2.1nm,0.6s,mb3.7
BVAR Borovoye Array 24.08 282 P **P** **18 19 32.1 +2.4**
comp=Z,1.0nm,0.6s,mb3.4,baz=64,slow=10,SNR=8.2
BRVK Borovoye 24.13 283 *e*P **P** **18 19 33.9 +3.8**
BRVK pmax pmax
comp=Z,30nm,0.7s,mb4.8
BRVK Borovoye 24.13 283 *e*P **P** **18 19 33.9 +3.8**
comp=Z,2.9nm,0.7s,mb3.8
SLKM Skilak Lake 47.89 41 *e*P **P** **18 22 56.5 +4.0**
WRA Warramunga Arr 77.16 158 P **P** **18 26 05.4 -2.6**
comp=Z,1.2nm,1.3s,mb3.7,baz=350,slow=6.4,SNR=5.2

IDC 10 18:34:28.4±7.9, 2104S×6633W, h253km±50km, mb3.6/3, mb1 3.6/4, mb1mx3.3/15, mbtmp3.5/4, Error ellipse: s-maj=109.9km s-min=35.0km az=26.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.02**	**340**	P		Pn		18 35 45.3	+0.8
	0.7nm,0.3s,baz=176,slow=8.8,SNR=13								
LPAZ				S		S		18 36 47.0	+1.7
	0.2nm,0.3s,baz=10,slow=25,SNR=4.4								
TORD	**Torodi Ar. Bea**	**74.94**	**69**	P		P		18 45 42.3	+0.6
	0.9nm,0.5s,baz=252,slow=5.5,SNR=28								
ULM	**Lac du Bonnet**	**75.64**	**341**	P		P		18 45 45.3	-0.3
	1.9nm,1.0s,baz=166,slow=8.3,SNR=4.0								
YKA	**Yellowknife Ar**	**91.57**	**340**	P		P		18 47 06.3	-0.2
	0.5nm,0.5s,baz=132,slow=4.8,SNR=4.7								
MKAR	**Makanchi Array**	**143.83**	**37**	PKP		PKPdf		18 53 32.6	-0.7
	0.7nm,0.8s,baz=341,slow=3.5,SNR=4.6								

IDC 10 18:37:30.2±4.0, 142N×9852E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=164.7km s-min=24.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.04**	**123**	P		P	P	18 45 16.5	+1.2
	0.1nm,0.5s,baz=306,slow=8.8,SNR=2.9								
ASAR	**Alice Springs**	**42.48**	**128**	P		P	P	18 45 26.2	-0.8
	0.2nm,0.6s,baz=292,slow=7.1,SNR=4.1								
SONM	**Songino Array**	**46.74**	**7**	P		P	P	18 46 01.6	+0.5
	0.4nm,0.6s,baz=191,slow=8.8,SNR=4.6								
MKAR	**Makanchi Array**	**47.36**	**345**	P		P	P	18 46 05.7	-0.2
	0.5nm,0.6s,baz=156,slow=8.2,SNR=9.6								

*NEIC **10** 18:53:37.0±3.0, 3633N×7128E, h142km±26km, mb4.3/2, Error ellipse: s-maj=24.7km s-min=15.6km az=207.0*
*IDC **10** 18:53:36.8±9.4, 3634N×7126E, h140km±87km, mb3.4/4, mb1 3.6/8, mb1mx3.3/23, mbtmp3.5/8, Error ellipse: s-maj=46.3km s-min=25.9km az=22.0*
*MOS **10** 18:53:39.9±1.2, 3653N×7134E, h185km, mb4.3/1, Error ellipse: s-maj=25.9km s-min=8.6km az=86.3*
*ISCJB **10** 18:53:41.8±0.4, 3666N±003×7127E±008, h193km±7km, mb3.4/4, Error ellipse: s-maj=10.0km s-min=4.8km az=158.0*
*NDI **10** 18:55:51.6±3.4, 3209N×7586E, h33km, ML2.6*
ISC 10 18:53:42.7±0.4, 3667N±003×7129E±008, h186km±7km, n48, σ0s85/52, mb3.5/4, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.88**	**170**	⇓P		P	P	18 54 30.6	+0.4
CEP				S		S	S	18 55 07.0	-0.2
CHCP	**Chirah Chowk**	**3.41**	**151**	⇑P		P	P	18 54 38.7	+2.0
THW	**Thamme Wali**	**3.88**	**174**	⇑P		P	P	18 54 42.6	+0.1
SBDP	**Sheikh Budin**	**4.38**	**185**	⇑P		P	P	18 54 48.5	-0.3
SARP	**Sargodha**	**4.87**	**166**	⇑P		P	P	18 54 54.3	-0.8
DRP	**Derazinda**	**4.99**	**191**	⇑P		P	P	18 54 56.7	0.0
THN	**Thein Dam**	**5.59**	**138**	*e*P		P	P	18 55 04.9	+0.5
THN				*e*S		S	S	18 56 07.2	-1.5
DLH	**Dalhousie**	**5.64**	**135**	*e*P		P	P	18 55 05.0	-0.1
DLH				*e*S		S	S	18 56 08.0	-2.0
AML	**Almayashu**	**5.76**	**18**	P		P	P	18 55 06.7	0.0
	SNR=81								
UCH	**Uchtor**	**6.09**	**23**	P		P	P	18 55 11.0	+0.1
	SNR=29								
KZA	**Kyzart**	**6.21**	**28**	P		P	P	18 55 12.3	-0.2
	SNR=19								
EKS2	**Erkin-Say**	**6.29**	**17**	P		P	P	18 55 13.6	+0.1
	SNR=26								
AAK	**Ala-Archa**	**6.45**	**22**	P		P	P	18 55 16.1	+0.5
	SNR=28								
AAK	**Ala-Archa**	**6.45**	**22**	*e*PN		P	P	18 55 13.8	-1.8
AAK				pmax	pmax				
	comp=Z,24nm,0.5s								
AAK	**Ala-Archa**	**6.45**	**22**	*e*P		P	P	18 55 13.8	-1.9
	comp=Z,24nm,0.5s								
KKAR	**Karatay Array**	**6.45**	**355**	*e*PN		P	P	18 55 15.3	-0.4
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.2s								
KBK	**Karagaybulak**	**6.61**	**24**	P		P	P	18 55 18.4	+0.6
	SNR=13								
ULHL	**Ulahol**	**6.76**	**33**	P		P	P	18 55 19.8	+0.1
	SNR=9.3								
CHMS	**Chumysh**	**6.86**	**22**	P		P	P	18 55 21.2	+0.2
	SNR=6.3								
USP	**Ospenovka**	**7.04**	**20**	P		P	P	18 55 23.5	+0.2
	SNR=7.0								
TKM2	**Tokmak 2**	**7.07**	**27**	P		P	P	18 55 24.3	+0.5
	SNR=8.7								
KLP	**Kalpa**	**7.72**	**130**	*e*P		P	P	18 55 24.5	-7.8
KLP				*e*S		S	S	18 56 50.1	-9.0
KLP				AML		AML	AML	18 56 57.9	
	comp=N,96nm,0.4s								
KLP				AML		AML	AML	18 57 00.0	
	comp=E,67nm,0.6s								
KHET	**Khetri**	**9.38**	**155**	*e*S		S	S	18 57 32.3	-6.5
KHET				AML		AML	AML	18 57 34.8	
	comp=N,14nm,0.1s								
KHET				AML		AML	AML	18 57 34.9	
	comp=E,7.4nm,0.1s								
SONA	**Sohna**	**9.72**	**148**	*e*S		S	S	18 57 34.7	-12
SONA				AML		AML	AML	18 57 40.0	
	comp=N,7.6nm,0.3s								
SONA				AML		AML	AML	18 57 41.9	
	comp=E,17nm,0.2s								
MK31	**Makanchi Array**	**13.02**	**36**	*e*P		P	P	18 56 40.5	-0.4
MKAR	**Makanchi Array**	**13.02**	**36**	P		P	P	18 56 40.0	-0.8
	comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=18								
MKAR	**Makanchi Array**	**13.02**	**36**	*e*P		P	P	18 56 40.4	-0.5
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KOLN	**Koldanda**	**13.68**	**127**	*e*P		P	P	18 56 52.9	+3.8
	comp=Z,3.0nm,0.2s								
GKN	**Gorkha**	**14.20**	**124**	*e*P		P	P	18 56 55.9	+0.3
	comp=Z,9.8nm,0.3s								
KKN	**Kakani**	**14.77**	**123**	*e*P		P	P	18 57 03.6	+0.9
	comp=Z,14nm,0.8s								
DMN	**Daman**	**14.77**	**124**	*e*P		P	P	18 57 04.6	+1.9
	comp=Z,6.1nm,0.3s								
PKI	**Pulchoki**	**15.00**	**123**	*e*P		P	P	18 57 06.5	+1.0
GUN	**Gumba**	**15.11**	**121**	*e*P		P	P	18 57 07.0	+0.2
JIRN	**Jiri**	**15.48**	**121**	*e*P		P	P	18 57 12.3	+1.0
	comp=Z,6.9nm,0.3s								
VOSK	**Vostochnaya**	**16.05**	**359**	P		P	P	18 57 17.6	-0.7
VOSK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
BVA0	**Borovoye Array**	**16.37**	**358**	*i* P		P	P	18 57 22.5	+0.4
BVAR	**Borovoye Array**	**16.37**	**358**	P		P	P	18 57 22.8	+0.7
	comp=Z,0.9nm,0.3s,baz=167,slow=12,SNR=17								
BRVK	**Borovoye**	**16.40**	**358**	*e*P		P	P	18 57 22.6	+0.1
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BRVK	**Borovoye**	**16.40**	**358**	*e*P		P	P	18 57 22.6	0.0
	comp=Z,2.6nm,0.6s								
AKTK	**Aktyubinsk**	**16.75**	**329**	P		P	P	18 57 27.0	+0.3
AKTO	**Aktyubinsk**	**16.75**	**329**	P		P	P	18 57 27.0	+0.3
	comp=Z,1.3nm,0.3s,baz=136,slow=9.8,SNR=25								
CHKZ	**Chkalovo**	**17.01**	**359**	P		P	P	18 57 28.4	-1.4
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ZAL	**Zalesovo**	**19.65**	**24**	P		P	P	18 57 57.1	-0.1
	comp=Z,2.4nm,0.3s,baz=246,slow=6.1,SNR=14								
ARCES	**ARCESS Array B**	**41.08**	**337**	P		P	P	19 01 08.8	+0.7
	comp=Z,2.6nm,0.9s,mb3.8,baz=112,slow=8.4,SNR=8.4								
NOA	**NORSAR Array B**	**44.38**	**323**	P		P	P	19 01 34.7	0.0
	comp=Z,1.2nm,0.8s,mb3.6,baz=111,slow=7.7,SNR=2.3								
KLR	**Kul'dur**	**44.86**	**54**	*e*P		P	P	19 01 35.3	-3.1
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P		P	P	19 04 07.8	-1.0
	comp=Z,0.7nm,0.6s,mb3.7,baz=49,slow=5.6,SNR=14								
WRA	**Warramunga Arr**	**81.89**	**122**	P		P	P	19 05 40.3	-1.0
	comp=Z,0.2nm,0.5s,mb3.0,baz=323,slow=4.4,SNR=4.4								

*ISCJB **10** 19:04:45.0±0.4, 4374N±003×10502W±005, h0km, mb4.3/2, Error ellipse: s-maj=5.2km s-min=4.4km az=41.5*
*NEIC **10** 19:04:47.8±0.4, 4376N×105.17W, h0km, ML3.6, Error ellipse: s-maj=5.4km s-min=4.4km az=139.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **10** 19:04:48.3±0.9, 4386N×10550W, h0km, mb4.3/2, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, ML3.7/5, Error ellipse: s-maj=23.2km s-min=8.7km az=147.0*
ISC 10 19:04:47.4±0.4, 4376N±003×10510W±005, h0km, n56, σ1s05/62, mb4.3/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.85**	**64**	*e*Pg		**Pg**		**19 05 06.6**	**+2.9**
PHWY	**Pilot Hill**	**2.47**	**186**	*e*Pn		**Pn**		**19 05 29.7**	**+0.8**
PHWY				*e*Sn		**Sn**		**19 05 59.4**	**-0.4**
RWWY	**Rawlins**	**2.59**	**218**	*e*Pn		**Pn**		**19 05 31.7**	**+1.1**
RWWY				*e*Sn		**Sn**		**19 06 03.0**	**+0.3**
LAO	**LASA Array**	**3.03**	**345**	*e*Pn		**Pn**		**19 05 36.7**	**0.0**
RLMT	**Red Lodge**	**3.28**	**296**	*e*Pn		**Pn**		**19 05 39.8**	**-0.3**
BW06	**Boulder Array**	**3.40**	**255**	*e*Pn		**Pn**		**19 05 41.9**	**+0.1**
PDAR	**Pinedale Array**	**3.40**	**255**	Pn		**Pn**		**19 05 43.0**	**+1.2**
	6.3nm,0.3s,baz=70,slow=16,SNR=72								
PDAR				Lg				19 06 26.4	
	13nm,0.3s,baz=73,slow=31,SNR=5.7								
GCMT	**Greycliff**	**3.83**	**304**	*e*Pn		**Pn**		**19 05 47.7**	**0.0**
LOHW	**Long Hollow**	**4.00**	**270**	*e*Pn		**Pn**		**19 05 50.0**	**+0.1**
MOOW	**Moose Ponds**	**4.09**	**272**	*e*Pn		**Pn**		**19 05 51.5**	**+0.3**
SNOW	**Snow King Moun**	**4.12**	**268**	*e*Pn		**Pn**		**19 05 51.7**	**+0.1**
YNR	**Norris Junctio**	**4.12**	**285**	*e*Pn		**Pn**		**19 05 50.6**	**-1.0**
YFT	**Old Faithful**	**4.19**	**281**	*e*Pn		**Pn**		**19 05 54.5**	**+1.9**
REDW	**Red Top Meadow**	**4.20**	**267**	*e*Pn		**Pn**		**19 05 52.5**	**-0.2**
TPAW	**Teton Pass**	**4.26**	**268**	*e*Pn		**Pn**		**19 05 53.4**	**-0.1**
YMR	**Madison River**	**4.31**	**284**	*e*Pn		**Pn**		**19 05 52.6**	**-1.7**
DCID1	**Drake Creek**	**4.42**	**270**	*e*Pn		**Pn**		**19 05 56.6**	**+0.9**
AHID	**Auburn Hatcher**	**4.49**	**259**	Pn		**Pn**		**19 05 54.0**	**-2.7**
RRI2	**Red Ridge**	**4.54**	**267**	*e*Pn		**Pn**		**19 05 57.3**	**-0.1**
QLMT	**Earthquake Lak**	**4.67**	**285**	*e*Pn		**Pn**		**19 06 02.0**	**+2.9**
DGMT	**Dagmar**	**4.75**	**7**	*e*Pn		**Pn**		**19 06 02.6**	**+2.2**
SMCO	**Snowmass**	**4.79**	**198**	*e*Pn		**Pn**		**19 05 58.2**	**-2.7**
HWUT	**Hardware Ranch**	**5.23**	**248**	*e*Pn		**Pn**		**19 06 06.4**	**-0.4**
EGMT	**Eagleton**	**5.36**	**324**	*e*Pn		**Pn**		**19 06 08.0**	**-0.7**
	36nm,0.5s								
DLMT	**Dillon**	**5.59**	**289**	*e*Pn		**Pn**		**19 06 11.9**	**+0.1**
	9.3nm,0.5s								
HRY	**Holter Researc**	**5.59**	**304**	*e*Pn		**Pn**		**19 06 11.5**	**-0.4**
MCMT	**McKenzie Canyo**	**5.66**	**284**	*e*Pn		**Pn**		**19 06 14.8**	**+2.0**
DAU	**Daniels Canyon**	**5.67**	**236**	*e*Pn		**Pn**		**19 06 12.5**	**-0.4**
JLU	**Jordanelle**	**5.67**	**238**	*e*Pn		**Pn**		**19 06 11.8**	**-1.1**
CTU	**Camp Tracy**	**5.81**	**240**	*e*Pn		**Pn**		**19 06 14.6**	**-0.3**
	11nm,0.4s								
CTU				*e*				19 06 24.6	
SPUT	**South Promonto**	**5.96**	**248**	*e*Pn		**Pn**		**19 06 13.5**	**-3.4**
HVU	**Hansel Valley**	**5.99**	**253**	*e*Pn		**Pn**		**19 06 17.1**	**-0.1**
	9.9nm,0.5s								
SDCO	**Great Sand Dun**	**6.02**	**183**	*e*Pn		**Pn**		**19 06 18.6**	**+0.9**
	3.7nm,0.5s								
SDCO				*e*Sg		**Sg**		**19 07 55.7**	**-5.0**
MPU	**Maple Canyon**	**6.14**	**235**	*e*Pn		**Pn**		**19 06 19.6**	**+0.2**
	14nm,0.6s								
SRU	**San Rafael**	**6.18**	**223**	*e*Pn		**Pn**		**19 06 18.8**	**-1.1**
	1.9nm,0.5s								
CBKS	**Cedar Bluff**	**6.38**	**139**	*e*Pn		**Pn**		**19 06 22.2**	**-0.5**
	21nm,0.5s								
CBKS				*e*Pg		**Pg**		**19 06 49.0**	**-0.7**
TMUT	**Trail Mountain**	**6.39**	**228**	*e*Pn		**Pn**		**19 06 23.8**	**+0.9**
NLU	**North Lily Min**	**6.45**	**236**	*e*Pn		**Pn**		**19 06 23.3**	**-0.3**
BGU	**Big Grassy Mou**	**6.52**	**247**	*e*Pn		**Pn**		**19 06 24.1**	**-0.5**
CHMT	**Chamberlain Mo**	**6.55**	**302**	*e*Pn		**Pn**		**19 06 24.7**	**-0.4**
HLID	**Hailey**	**6.76**	**272**	*e*Pn		**Pn**		**19 06 28.9**	**+1.0**
	3.2nm,0.6s								
DUG	**Dugway**	**6.76**	**241**	*e*Pn		**Pn**		**19 06 27.3**	**-0.6**
	6.2nm,0.5s								
MSU	**Marysvale**	**7.48**	**228**	*e*Pn		**Pn**		**19 06 37.8**	**-0.1**
AGMN	**Agassiz Refuge**	**7.87**	**52**	*e*P		**Pn**		**19 06 42.6**	**-0.5**
	28nm,0.5s								
ARUT	**Antelope Range**	**8.69**	**229**	*e*Pn		**Pn**		**19 06 55.2**	**+0.7**
CCUT	**Cedar City**	**8.82**	**228**	*e*Pn		**Pn**		**19 06 56.8**	**+0.6**
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn		**Pn**		**19 06 60.0**	**+0.7**
	2.8nm,0.3s,baz=234,slow=11,SNR=23								
ULM				Pg		**Pg**		**19 07 34.5**	**-6.1**
	1.3nm,0.3s,baz=227,slow=17,SNR=5.6								
ULM	**Lac du Bonnet**	**9.04**	**41**	*e*Pn		**Pn**		**19 06 59.0**	**-0.2**
	9.0nm,0.4s								
WUAZ	**Wupatki**	**9.54**	**213**	*e*Pn		**Pn**		**19 07 06.1**	**0.0**
	9.0nm,0.5s								
EYMN	**Ely**	**10.37**	**61**	*e*Pn		**Pn**		**19 07 17.3**	**-0.1**
EDM	**Edmonton**	**10.93**	**333**	*e*Pn		**Pn**		**19 07 22.1**	**-3.0**
EDM				*e*Sn		**Sn**		**19 09 40.9**	**+13**
NVAR	**Mina Array Bea**	**11.29**	**246**	Pn		**Pn**		**19 07 31.2**	**+1.2**
	0.3nm,0.3s,baz=321,slow=21,SNR=4.2								
TXAR	**Lajitas Array**	**14.44**	**175**	Pn		**Pn**		**19 08 16.4**	**+3.3**
	0.2nm,0.3s,baz=275,slow=14,SNR=5.1								
TXAR				Pg				19 09 23.4	
	0.1nm,0.3s,baz=24,slow=14,SNR=5.1								
YKA	**Yellowknife Ar**	**19.57**	**347**	P		**Pn**		**19 09 14.8**	**-3.3**
	0.2nm,0.3s,baz=153,slow=14,SNR=4.6								
ARCES	**ARCESS Array B**	**61.36**	**18**	P		**P**		**19 15 04.2**	**-0.9**
	8.3nm,1.2s,mb4.8,baz=339,slow=5.6,SNR=8.3								
MKAR	**Makanchi Array**	**89.60**	**355**	P		**P**		**19 17 46.7**	**-0.2**
	0.5nm,0.7s,mb3.9,baz=18,slow=3.7,SNR=6.2								

*NEIC **10** 19:19:37.2, 3609N×2222E, h5km, MD3.6(ATH), After ATH.*
*CSEM **10** 19:19:37.2, 3609N×2222E, h5km, MD3.6/11, After ATH*
ATH 10 19:19:37.2, 3609N×2222E, h5km, MD3.6/11, 1C,

Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.69**	**74**	*i* P	Pb	19 19 50.7	-1.0
VLI	**Veliai**	**0.85**	**42**	*e*PB	Pb	19 19 54.1	-0.4
VLI				*e*SB	Sb	19 20 06.1	-0.1
ITM	**Ithomi**	**1.11**	**348**	*e*PN	Pn	19 19 58.3	-1.1
ITM				*e*SB	Sb	19 20 14.4	+0.7
VAM	**Vamos**	**1.75**	**112**	*e*PG	Pg	19 20 09.5	-1.2
VAM				*e*SN	Sn	19 20 34.7	+3.9
GVD	**Gavdhos**	**1.97**	**129**	*e*PN	Pn	19 20 14.7	+3.5
RLS	**Riolos of Patr**	**2.05**	**343**	*e*PN	Pn	19 20 15.2	+2.8
KVR	**Kavouri**	**2.13**	**35**	*e*PG	Pg	19 20 16.8	-1.3
IDI	**Anoyia**	**2.32**	**109**	P	Pn	19 20 18.4	+2.4
SANT	**Santorini**	**2.63**	**83**	*e*P	Pn	19 20 21.5	+1.1
APE	**Apeiranthos**	**2.84**	**69**	*e*PB	Pb	19 20 25.5	-2.8
EVR	**Evrytania**	**2.84**	**354**	*e*PN	Pn	19 20 26.7	+3.5
NPS	**Neapolis**	**2.88**	**106**	*e*PN	Pn	19 20 26.8	+3.0
JAN	**Janina**	**3.72**	**343**	*e*PN	Pn	19 20 37.5	+2.2
TIP	**Timpagrande**	**5.32**	**307**	P	Pn	19 20 57.3	0.0

*NEIC **10** 19:36:51.0, 3507S×7063W, h7km, ML2.9(GUC), After GUC.*

GUC 10 19:36:51.0±0.3, 3507S×7063W, h7km±8km, MD3.5, ML2.9, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.77**	**13**	*i* iP	Pg	19 37 05.4	-0.4
CICH				*i* S	Sg	19 37 16.4	+0.6
CACH	**El Canelo**	**0.95**	**1**	*e*P	Pg	19 37 08.5	-0.8
CACH				*i* S	Sg	19 37 21.8	+0.2
CHCH	**Chadas Angostu**	**1.13**	**359**	*e*P	Pg	19 37 12.1	-0.6
CHCH				*i* S	Sg	19 37 27.9	+0.4
LNV	**Longovilo**	**1.29**	**330**	*i* iP	Pn	19 37 14.6	-0.8
LNV				*i* S	Sb	19 37 32.2	0.0
RCDM	**Rinconada Maip**	**1.58**	**355**	*i* iP	Pn	19 37 19.7	+0.2
RCDM				*i* S	Sn	19 37 41.7	+1.5
RCDM	comp=E,281nm,0.1s			AML	AML	19 37 46.1	
RCDM	**Rinconada Maip**	**1.58**	**355**	*i* P	Pn	19 37 19.7	+0.2
RCDM				*i* S	Sn	19 37 41.7	+1.5
PEL	**Peldehue**	**1.92**	**359**	*e*P	Pn	19 37 25.8	+1.7
PEL				*i* S	Sn	19 37 52.2	+3.6
PEL	comp=E,141nm,0.7s			AML	AML	19 37 56.5	
PEL	**Peldehue**	**1.92**	**359**	*e*P	Pn	19 37 25.8	+1.7
PEL				*i* S	Sn	19 37 52.2	+3.6

*CNRM **10** 19:45:23.0, 3339N×293W, h1km, MD3.5*
*MDD **10** 19:45:23.3±1.2, 3347N×306W, h0km, mb3.7/3, Error ellipse: s-maj=16.9km s-min=5.9km az=117.0, PRXIMO SOLUCIN POBRE*
*ISCJB **10** 19:45:24.6±1.6, 3361N±004×338W±008, h10km±11km, Error ellipse: s-maj=12.8km s-min=4.5km az=53.7*
*CSEM **10** 19:45:24.4±0.5, 3364N×335W, h12km, MD3.5, Error ellipse: s-maj=12.1km s-min=4.9km az=117.0*

ISC 10 19:45:24.5±1.9, 3356N±004×325W±008, h9km±13km, n23, σ1°21/40, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**1.46**	**343**	*e*P	**Pn**	**19 45 50.0**	**+1.9**
TOU				*i* S	**Sn**	**19 46 15.0**	**+4.7**
ZAI	**Zaio**	**1.47**	**16**	*e*P	**Pn**	**19 45 50.0**	**-1.1**
ZAI				*i* S	**Sn**	**19 46 10.0**	**-0.5**
CZD	**Col de Zad**	**1.59**	**251**	*i* P	**Pn**	**19 45 54.0**	**+1.2**
CZD				*i* S	**Sn**	**19 46 18.0**	**+4.5**
MIF	**Mishlifen**	**1.66**	**265**	*i* P	**Pn**	**19 45 54.0**	**+0.2**
MIF				*i* S	**Sn**	**19 46 18.0**	**+2.7**
EMEL	**Melilla**	**1.76**	**8**	S	**Sn**	**19 46 19.0**	**+1.5**
	30nm,0.1s,SNR=4.0						
EMLI	**Melilla**	**1.76**	**8**	S	**Sn**	**19 46 19.0**	**+1.4**
	30nm,0.1s,SNR=4.0						
ZFT	**Errachidia**	**1.78**	**212**	*i* P	**Pn**	**19 45 54.0**	**-1.4**
ZFT				*i* S	**Sn**	**19 46 17.0**	**-1.2**
KIB	**El Ksiba**	**2.54**	**248**	*i* P	**Pn**	**19 45 54.0**	**+1.2**
KIB				*i* S	**Sn**	**19 46 39.0**	**+2.1**
TZC	**Tazercounte**	**3.07**	**244**	*e*P	**Pn**	**19 46 14.5**	**+1.3**
TZC				*i* S	**Sn**	**19 46 48.0**	**-2.0**
EMIJ	**Mijas**	**3.25**	**338**	P	**Pn**	**19 46 14.9**	**-0.7**
	0.7nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**19 46 53.4**	**-1.1**
	0.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.25**	**338**	P	**Pn**	**19 46 14.9**	**-0.8**
	0.7nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**19 46 53.3**	**-1.2**
	0.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**3.28**	**356**	S	**Sn**	**19 46 54.8**	**-0.4**
	0.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.35**	**5**	S	**Sn**	**19 46 58.0**	**+1.2**
	6.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.35**	**5**	S	**Sn**	**19 46 58.0**	**+1.2**
	6.5nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**3.64**	**358**	P	**Pn**	**19 46 21.2**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.24**	**2**	P	**Pn**	**19 46 29.4**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 47 18.5**	**-0.3**
	0.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.24**	**2**	P	**Pn**	**19 46 29.4**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 47 18.5**	**-0.3**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.04**	**327**	P	**Pn**	**19 46 40.2**	**-0.1**
	1.1nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**19 47 38.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.04**	**327**	P	**Pn**	**19 46 40.2**	**-0.1**
	1.1nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**19 47 38.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.26**	**320**	P	**Pn**	**19 46 42.4**	**-0.8**
	2.1nm,0.2s,SNR=8.0						
EGRO				S	**Sn**	**19 47 42.4**	**-1.6**
	3.7nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.26**	**320**	P	**Pn**	**19 46 42.4**	**-0.9**
	2.1nm,0.2s,SNR=8.0						
EGRO				S	**Sn**	**19 47 42.4**	**-1.6**
	3.7nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.02**	**331**	P	**Pn**	**19 46 53.5**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 48 00.9**	**-1.8**
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.02**	**331**	P	**Pn**	**19 46 53.5**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 48 00.9**	**-1.7**
	0.3nm,0.1s,SNR=7.9						

*IDC **10** 19:54:05.3±7.4, 2010S×17778W, h455km±85km, mb3.3/4, mb1 3.5/6, mb1mx3.2/15, mbtmp3.3/6, Error ellipse: s-maj=50.4km s-min=30.3km az=10.0*
*ISCJB **10** 19:54:06.4±5.1, 2015S±03×17791W±02, h480km±57km, mb3.7/5, Error ellipse: s-maj=46.5km s-min=28.6km az=29.7*
*NEIC **10** 19:54:06.1±3.4, 2011S×17784W, h468km±37km, mb3.7/2, Error ellipse: s-maj=31.7km s-min=22.7km az=194.0*

ISC 10 19:54:06.1±4.3, 202S±03×1778W±02, h463km±46km, n12, σ0°60/12, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.81**	**260**	P	**P**	**19 57 15.0**	**+0.1**
	0.5nm,0.3s,baz=90,slow=20,SNR=4.4						
URZ	**Urewera**	**18.57**	**193**	P	**P**	**19 57 53.3**	**-0.4**
	1.2nm,0.3s,baz=278,slow=2.2,SNR=5.2						
CTAO	**Charters Tower**	**33.69**	**264**	*e*P	**P**	**20 00 07.1**	**-0.3**
STKA	**Stephens Creek**	**38.09**	**244**	*e*P	**P**	**20 00 45.1**	**+1.1**
	3.7nm,1.5s,mb3.6						
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	**20 00 44.9**	**+0.9**
	1.4nm,0.4s,mb3.7,baz=80,slow=6.1,SNR=12						
AS31	**Alice Springs**	**44.76**	**256**	*e*P	**P**	**20 01 37.6**	**+0.5**
ASAR	**Alice Springs**	**44.76**	**256**	P	**P**	**20 01 37.5**	**+0.4**
	5.6nm,0.6s,mb4.2,baz=92,slow=8.3,SNR=160						
ASPA	**Alice Springs**	**44.77**	**256**	*e*P	**P**	**20 01 37.6**	**+0.5**
WB2	**Warramunga Arr**	**44.80**	**262**	*e*P	**P**	**20 01 36.4**	**-1.0**
WRAB	**Tennant Creek**	**44.81**	**262**	*e*P	**P**	**20 01 36.5**	**-0.9**
	2.4nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**44.81**	**262**	P	**P**	**20 01 37.3**	**-0.2**
	2.6nm,0.5s,mb3.9,baz=99,slow=5.9,SNR=76						
TXAR	**Lajitas Array**	**86.73**	**57**	P	**P**	**20 06 00.2**	**+0.2**
	0.1nm,0.5s,mb2.8,baz=212,slow=8.5,SNR=3.9						

KRSC 10 20:01:50.8±0.2, 5372N×16081E, h26km±26km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**217**	*e*P	Pb	20 02 05.9	+0.1
SPN				*i* S	Sb	20 02 16.3	+0.3
SPN	**Mys Shipunski**	**0.78**	**217**	*e*P	Pb	20 02 05.9	+0.1
SPN				*i* S	Sb	20 02 16.3	+0.3
KII	**Karymskiy**	**0.87**	**292**	*e*P	Pb	20 02 07.5	+0.3
KII				*i* S	Sb	20 02 19.4	+1.0
KII	**Karymskiy**	**0.87**	**292**	*e*P	Pb	20 02 07.5	+0.3
KII				*i* S	Sb	20 02 19.4	+1.0
MKZ	**Mys Kozlova**	**1.00**	**32**	*e*P	Pn	20 02 08.5	-0.6
MKZ				*i* S	Sb	20 02 21.3	-0.8
MKZ	**Mys Kozlova**	**1.00**	**32**	*e*P	Pn	20 02 08.5	-0.6
MKZ				*i* S	Sb	20 02 21.3	-0.8
NLC	**Nalytchevo**	**1.03**	**238**	*e*P	Pn	20 02 10.2	+0.6
NLC				*i* S	Sb	20 02 23.2	0.0
NLC	**Nalytchevo**	**1.03**	**238**	*e*P	Pn	20 02 10.2	+0.6
NLC				*i* S	Sb	20 02 23.2	0.0
AVH	**Avacha**	**1.32**	**251**	*e*P	Pn	20 02 14.7	+1.2
AVH				*i* S	Sn	20 02 31.9	+1.6
AVH	**Avacha**	**1.32**	**251**	*e*P	Pn	20 02 14.7	+1.2
AVH				*i* S	Sn	20 02 31.9	+1.6
PET	**Petropavlovsk**	**1.47**	**243**	*e*P	Pn	20 02 16.3	+0.7
PET				*i* S	Sn	20 02 34.4	+0.5
PET	**Petropavlovsk**	**1.47**	**243**	*e*P	Pn	20 02 16.3	+0.7
PET				*i* S	Sn	20 02 34.4	+0.5
TUMR	**Tumrok**	**1.61**	**346**	*e*P	Pn	20 02 18.6	+1.0
TUMR				*i* S	Sn	20 02 38.6	+1.1
TUMR	**Tumrok**	**1.61**	**346**	*e*P	Pn	20 02 18.6	+1.0
TUMR				*i* S	Sn	20 02 38.6	+1.1
GNL	**Ganaly**	**1.71**	**270**	*e*P	Pn	20 02 20.1	+1.3
GNL				*i* S	Sn	20 02 41.2	+1.4
GNL	**Ganaly**	**1.71**	**270**	*e*P	Pn	20 02 20.1	+1.3
GNL				*i* S	Sn	20 02 41.2	+1.4
RUS	**Russkaya**	**1.89**	**228**	*e*P	Pn	20 02 21.7	+0.3
RUS				*i* S	Sn	20 02 44.4	0.0
RUS	**Russkaya**	**1.89**	**228**	*e*P	Pn	20 02 21.7	+0.3
RUS				*i* S	Sn	20 02 44.4	0.0
GRL	**Gorelyy**	**2.02**	**236**	*e*P	Pn	20 02 24.6	+1.4
GRL				*i* S	Sn	20 02 49.3	+1.7
GRL	**Gorelyy**	**2.02**	**236**	*e*P	Pn	20 02 24.6	+1.4
GRL				*i* S	Sn	20 02 49.3	+1.7
KMNR	**Kamenistaya**	**2.07**	**351**	*e*P	Pn	20 02 25.6	+1.8
KMNR				*i* S	Sn	20 02 52.0	+3.3
KMNR	**Kamenistaya**	**2.07**	**351**	*e*P	Pn	20 02 25.6	+1.8
KMNR				*i* S	Sn	20 02 52.0	+3.3
KPT	**Kopyto**	**2.28**	**352**	*e*P	Pn	20 02 28.3	+1.6
KPT				*i* S	Sn	20 02 55.8	+1.9
KPT	**Kopyto**	**2.28**	**352**	*e*P	Pn	20 02 28.3	+1.6
KPT				*i* S	Sn	20 02 55.8	+1.9
ZLN	**Zelenaya**	**2.30**	**360**	*e*P	Pn	20 02 29.0	+2.0
ZLN				*i* S	Sn	20 02 57.5	+3.0
ZLN	**Zelenaya**	**2.30**	**360**	*e*P	Pn	20 02 29.0	+2.0
ZLN				*i* S	Sn	20 02 57.5	+3.0
KOZ	**Kozyrevsk**	**2.41**	**347**	*e*P	Pn	20 02 29.5	+1.0
KOZ				*i* S	Sn	20 02 58.4	+1.4
KOZ	**Kozyrevsk**	**2.41**	**347**	*e*P	Pn	20 02 29.5	+1.0
KOZ				*i* S	Sn	20 02 58.4	+1.4
KRSR	**Krestovskiy**	**2.51**	**357**	*e*P	Pn	20 02 31.6	+1.8
KRSR				*i* S	Sn	20 03 01.2	+1.6
KRSR	**Krestovskiy**	**2.51**	**357**	*e*P	Pn	20 02 31.6	+1.8
KRSR				*i* S	Sn	20 03 01.2	+1.6
KLY	**Klyuchi**	**2.60**	**358**	*e*P	Pn	20 02 31.9	+0.8
KLY				*i* S	Sn	20 03 02.5	+0.6
KLY	**Klyuchi**	**2.60**	**358**	*e*P	Pn	20 02 31.9	+0.8
KLY				*i* S	Sn	20 03 02.5	+0.6
SRDR	**Sredinnyy**	**2.68**	**347**	*e*P	Pn	20 02 32.7	+0.5
SRDR				*i* S	Sn	20 03 03.2	-0.6
SRDR	**Sredinnyy**	**2.68**	**347**	*e*P	Pn	20 02 32.7	+0.5
SRDR				*i* S	Sn	20 03 03.2	-0.6
KBTR	**Krutoberegovo**	**2.75**	**24**	*e*P	Pn	20 02 34.2	+1.0
KBTR				*i* S	Sn	20 03 06.1	+0.6
KBTR	**Krutoberegovo**	**2.75**	**24**	*e*P	Pn	20 02 34.2	+1.0
KBTR				*i* S	Sn	20 03 06.1	+0.6
SRKR	**Sorokina**	**2.95**	**4**	*e*P	Pn	20 02 37.3	+1.4
SRKR				*i* S	Sn	20 03 11.2	+0.8
SRKR	**Sorokina**	**2.95**	**4**	*e*P	Pn	20 02 37.3	+1.4
SRKR				*i* S	Sn	20 03 11.2	+0.8

*NEIC **10** 20:03:56.2, 3769S×17626E, h293km, MG3.7(WEL), After WEL.*

WEL 10 20:03:56.2±0.3, 3751S×17611E, h281km±4km, ML3.7/12, Error ellipse: s-maj=7.6km s-min=6.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.09**	**134**	P	Pn	20 04 35.0	0.0
URZ	**Urewera**	**1.09**	**134**	PN	Pn	20 04 35.0	0.0
URZ				SN	S	20 05 05.1	-0.6
MWZ	**Matawai**	**1.39**	**127**	P	Pn	20 04 36.9	+0.1
MWZ	**Matawai**	**1.39**	**127**	PN	Pn	20 04 36.9	+0.1
MWZ				SN	S	20 05 08.8	-0.1
BKZ	**Black Stump Fm**	**1.69**	**170**	P	Pn	20 04 38.9	+0.1
BKZ				S	S	20 05 12.0	-0.6
BKZ	**Black Stump Fm**	**1.69**	**170**	PN	Pn	20 04 38.9	+0.1
BKZ				SN	S	20 05 12.0	-0.7
TUVZ	**Tukino**	**1.80**	**191**	P	Pn	20 04 40.3	+0.6
TUVZ	**Tukino**	**1.80**	**191**	PN	Pn	20 04 40.3	+0.7
MOVZ	**Moawhango**	**1.92**	**188**	P	Pn	20 04 40.6	-0.1
MOVZ	**Moawhango**	**1.92**	**188**	PN	Pn	20 04 40.6	-0.1
KNZ	**Kokohu**	**1.95**	**141**	PN	Pn	20 04 40.8	-0.1
KNZ				SN	S	20 05 15.2	-1.2
TSZ	**Takapari Road**	**2.55**	**183**	P	Pn	20 04 45.5	-0.8
TSZ	**Takapari Road**	**2.55**	**183**	PN	Pn	20 04 45.5	-0.8
PXZ	**Pawanui**	**2.59**	**167**	PN	Pn	20 04 45.9	-0.7
MRZ	**Mangatainoka R**	**3.18**	**187**	*e*P	Pn	20 04 50.9	-1.6
MRZ	**Mangatainoka R**	**3.18**	**187**	PN	Pn	20 04 50.9	-1.6
KIW	**Kapiti Island**	**3.48**	**195**	P	Pn	20 04 54.1	-1.6
KIW	**Kapiti Island**	**3.48**	**195**	PN	Pn	20 04 54.1	-1.6
MTW	**Mount Morrison**	**3.68**	**187**	PN	Pn	20 04 55.7	-2.2
CAW	**Cannon Point**	**3.69**	**192**	P	Pn	20 04 56.1	-1.9
CAW	**Cannon Point**	**3.69**	**192**	PN	Pn	20 04 56.1	-1.9
DUWZ	**D'Urville Isla**	**3.71**	**207**	PN	Pn	20 04 56.8	-1.3
MRW	**Makara Radio**	**3.88**	**196**	PN	Pn	20 04 59.3	-1.8
TCW	**Tory Channel**	**3.96**	**200**	PN	Pn	20 04 59.4	-1.6
NNZ	**Nelson**	**4.27**	**209**	P	Pn	20 05 02.1	-2.4
NNZ	**Nelson**	**4.27**	**209**	PN	Pn	20 05 02.1	-2.4
THZ	**Tophouse**	**4.92**	**209**	*e*P	Pn	20 05 09.7	-2.4
THZ	**Tophouse**	**4.92**	**209**	PN	Pn	20 05 09.7	-2.4
KHZ	**Kahutara**	**5.29**	**201**	*e*P	Pn	20 05 13.9	-2.5
KHZ	**Kahutara**	**5.29**	**201**	PN	Pn	20 05 13.9	-2.5

*ISCJB **10** 20:05:43.0±0.7, 3859N±003×2651E±007, h26km±5km, Error ellipse: s-maj=9.7km s-min=4.2km az=157.5*
*NEIC **10** 20:05:42.4, 3858N×2641E, h28km, MD3.2(ATH), After ATH.*
*ISK **10** 20:05:42.1, 3856N×2655E, h24km, MD3.0*
*ATH **10** 20:05:42.4, 3858N×2641E, h28km±3km, MD3.2/4*
*CSEM **10** 20:05:42.9±0.1, 3859N×2660E, h25km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.0km az=66.0*

ISC 10 20:05:43.2±0.7, 3860N±003×2651E±007, h23km±6km, n15, σ0°69/25, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**164**	*i* P	**Pb**	**20 05 48.8**	**-0.4**
URLA				*i* S	**Sb**	**20 05 53.5**	**+0.3**
IZM	**Izmir**	**0.62**	**108**	PG	**Pb**	**20 05 54.8**	**-0.5**
IZM				SG	**Sb**	**20 06 03.2**	**-0.4**
KDAG	**Bornova**	**0.62**	**108**	*i* P	**Pb**	**20 05 55.3**	**-0.1**
KDAG				*i* S	**Sb**	**20 06 03.8**	**+0.1**
PRK	**Paraskevi**	**0.68**	**344**	*i* iPN	**Pn**	**20 05 56.4**	**-0.9**
PRK				*e*SN	**Sn**	**20 06 05.7**	**-1.4**
AYVA	**Ayvalik**	**0.73**	**11**	*i* P	**Pb**	**20 05 57.3**	**+0.2**
AYVA				*i* S	**Sb**	**20 06 07.7**	**+1.1**
SMG	**Samos**	**0.92**	**164**	*e*PN	**Pn**	**20 06 00.3**	**-0.4**
SMG				*e*SN	**Sn**	**20 06 13.9**	**+0.7**
EZN	**Ezine**	**1.24**	**353**	PN	**Pn**	**20 06 05.0**	**0.0**
EZN				SN	**Sn**	**20 06 21.3**	**+0.3**
CANB	**Canakkale**	**1.48**	**17**	PN	**Pn**	**20 06 08.1**	**-0.3**
CANB				SN	**Sn**	**20 06 27.4**	**+0.4**
CANB	**Canakkale**	**1.48**	**17**	*i* P	**Pn**	**20 06 08.4**	**0.0**
CANB				*i* S	**Sn**	**20 06 26.7**	**-0.3**
MLSB	**Milas**	**1.64**	**142**	*e*PN	**Pn**	**20 06 09.4**	**-1.1**
BODT	**Bodrum**	**1.66**	**157**	*e*PN	**Pn**	**20 06 09.9**	**-0.9**
BDRM	**Kayabasi**	**1.70**	**154**	*i* P	**Pn**	**20 06 11.7**	**+0.4**
BDRM				*i* S	**Sn**	**20 06 33.3**	**+1.0**
APE	**Apeiranthos**	**1.71**	**207**	*e*PN	**Pn**	**20 06 11.8**	**+0.3**
KCT	**Karacabey**	**2.20**	**40**	*e*PN	**Pn**	**20 06 18.6**	**+0.4**
RDO	**Rodhopi**	**2.66**	**344**	*e*PN	**Pn**	**20 06 25.9**	**+1.4**

MEX 10 20:38:20.1±0.9, 1840N×9472W, h27km±176km, MD3.6, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.31**	**187**	*i* P	Pn	20 38 40.7	-1.9
CMIG				*i* S	Sn	20 38 55.3	-3.8
OXX	**Oaxaca**	**2.31**	**236**	*i* P	Pn	20 38 54.0	-2.4
OXX				*i* S	Sn	20 39 22.0	-2.0
VHO	**Vista Hermosa**	**2.33**	**236**	*i* P	Pn	20 38 54.5	-2.1
VHO				*i* S	Sn	20 39 21.8	-2.5
UTMO	**Huajuapan**	**2.99**	**260**	*i* P	Pn	20 39 05.2	-0.4
UTMO				*i* S	Sn	20 39 37.6	-2.9

*ISCJB **10** 20:57:08.7±1.3, 429N±0.1×021W±003, h5km, Error ellipse: s-maj=19.8km s-min=3.5km az=2.6*
*LDG **10** 20:57:08.8±0.2, 4281N×021W, h2km, Md2.0/2, Ml1.3/1, Error ellipse: s-maj=6.2km s-min=1.1km az=178.0*
*STR **10** 20:57:09.1±0.4, 4288N±0.19W, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 20:57:08.3±2.1, 428N±02×021W±004, h13km±14km, n7, σ0°29/12, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.19**	**66**	Pg	**Pg**	**20 57 12.7**	**+0.2**
VIEF				Sg	**Sg**	**20 57 15.4**	**-0.1**
ETSF	**Etsaut**	**0.27**	**290**	*e*Pg	**Pg**	**20 57 14.0**	**0.0**
ETSF				*e*Sg	**Sg**	**20 57 17.6**	**-0.3**
	9.4nm,0.2s						
LABF	**Labassere**	**0.32**	**41**	Pg	**Pg**	**20 57 14.7**	**-0.1**
ATE	**Arette**	**0.46**	**308**	Pg	**Pg**	**20 57 17.7**	**+0.4**
ATE				Sg	**Sg**	**20 57 23.2**	**-0.2**
EPF	**Esparros**	**0.46**	**61**	*e*Pg	**Pg**	**20 57 17.5**	**+0.1**
EPF				*e*Sg	**Sg**	**20 57 24.0**	**+0.5**
	1.6nm,0.2s						
SJPF	**Ste Jean**	**0.81**	**293**	*e*Pg	**Pg**	**20 57 24.0**	**+0.1**
SJPF				*e*Sg	**Sg**	**20 57 34.5**	**0.0**
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.86**	**72**	*e*Sg	**Sg**	**20 58 07.3**	**-0.7**
	0.4nm,0.3s						

*IDC **10** 21:17:04.7±0.7, 3853N×10203E, h0km, mb4.0/14, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, ML3.9/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/38, Error ellipse: s-maj=24.0km s-min=14.2km az=51.0*
*MOS **10** 21:17:07.7±0.8, 3859N×10205E, h33km, mb4.4/3, Error ellipse: s-maj=19.3km s-min=7.8km az=110.3*
*BJI **10** 21:17:07.0, 3864N×10216E, h31km, mb4.1, ML4.1, Ms4.0*
*ISCJB **10** 21:17:09.2±0.8, 3867N±005×10216E±006, h46km±9km, mb4.0/15, MS3.2/3, Error ellipse: s-maj=7.7km s-min=7.5km az=12.2*
*NEIC **10** 21:17:09.5±1.9, 3855N×10206E, h32km±14km, mb4.2/3, Error ellipse: s-maj=10.0km s-min=5.5km az=52.0*

ISC 10 21:17:08.1±1.3, 3861N±004×10209E±005, h18km±9km, n46, σ1°03/57, mb4.0/15, MS3.2/3, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.94**	**295**	PG	**Pn**	**21 17 41.2**	**+1.1**
GTA				SG	**Sg**	**21 18 09.3**	**-1.3**
GTA				Smax			
	comp=N,3μm,0.6s						
GTA				Smax			
	comp=E,4μm,0.5s						
LZH	**Lanzhou**	**2.88**	**150**	P	**Pn**	**21 17 52.9**	**-0.2**
LZH				PG	**Pb**	**21 17 57.1**	**-1.9**
LZH				S	**Sn**	**21 18 27.8**	**+0.5**
LZH				SG	**Sb**	**21 18 34.0**	**+0.1**
LZH				Smax			
	comp=N,1μm,0.7s						
LZH				Smax			
	comp=E,1μm,0.8s						
LZH	**Lanzhou**	**2.88**	**150**	Pn	**Pn**	**21 17 52.9**	**-0.2**
LZH				Pg	**Pb**	**21 17 57.1**	**-1.9**
LZH				Sn	**Sn**	**21 18 27.8**	**+0.5**
LZH				Sg	**Sb**	**21 18 34.0**	**+0.1**
BTO	**Baotou**	**6.44**	**70**	*e*P	**Pn**	**21 18 42.3**	**+0.3**
BTO				SG	**Sb**	**21 20 22.6**	**+6.3**
BTO				Smax			
	comp=N,45nm,0.6s						
BTO				Smax			
	comp=E,18nm,0.5s						
XAN	**Xi'an**	**7.16**	**128**	P	**Pn**	**21 18 48.7**	**-3.1**
XAN				PG	**Pb**	**21 19 12.4**	**+0.6**
XAN				S	**Sn**	**21 20 05.8**	**-6.8**
XAN				SG	**Sn**	**21 20 47.8**	**+35**
XAN				Smax			
	comp

AKTK	**Aktyubinsk**	**33.10 305**	P	**P**	**21 23 42.9**	**+0.1**
AKTO	**Aktyubinsk**	**33.10 305**	P	**P**	**21 23 42.9**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=58,slow=6.3,SNR=4.7					
ARU	**Arti**	**33.66 316**	*e*P	**P**	**21 23 47.7**	**0.0**
ARU			pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7					
ARU	**Arti**	**33.66 316**	*e*P	**P**	**21 23 47.6**	**-0.1**
	comp=Z,4.3nm,0.4s,mb4.7					
ARCES	**ARCESS Array B**	**49.78 333**	P	**P**	**21 25 59.2**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=73,slow=8.2,SNR=9.2					
FINES	**FINESS Array B**	**50.50 323**	P	**P**	**21 26 04.2**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1,baz=74,slow=8.6,SNR=14					
AKASG	**Malin Array Be**	**51.21 309**	P	**P**	**21 26 10.2**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=65,slow=8.0,SNR=5.2					
BRTR	**Keskin Array B**	**51.86 294**	P	**P**	**21 26 14.2**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=103,slow=10,SNR=3.8					
NB2	**NORSAR Subarra**	**57.51 325**	P	**P**	**21 26 55.3**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.1,baz=61,slow=6.2					
NOA	**NORSAR Array B**	**57.51 325**	P	**P**	**21 26 54.8**	**-1.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=68,slow=7.1,SNR=3.1					
WRA	**Warramunga Arr**	**65.63 147**	P	**P**	**21 27 50.1**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=348,slow=6.3,SNR=11					
INK	**Inuvik**	**65.65 20**	P	**P**	**21 27 50.6**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=337,slow=8.7,SNR=8.4					
ASAR	**Alice Springs**	**68.76 149**	P	**P**	**21 28 09.8**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=336,slow=6.5,SNR=11					
YKA	**Yellowknife Ar**	**75.01 17**	P	**P**	**21 28 47.8**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=332,slow=5.4,SNR=4.6					
ESDC	**Sonseca Array**	**76.82 310**	P	**P**	**21 28 58.8**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=43,slow=5.6,SNR=5.9					
STKA	**Stephens Creek**	**79.19 147**	P	**P**	**21 29 11.0**	**-0.8**
	comp=Z,1.2nm,0.3s,mb4.2,baz=4.7,slow=6.7,SNR=2.9					

IDC 10 21:32:13.8±5.9, 2214N×14470E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx2.4/33, Error ellipse: s-maj=231.7km s-min=21.4km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.51**	**179**	LR	LR	21 37 18.5	
	comp=Z,53nm,21.3s,baz=8.1,slow=36						
SONM	**Songino Array**	**39.91**	**319**	P	P	21 39 49.2	-0.2
	0.7nm,0.5s,baz=130,slow=7.9,SNR=10						
WRA	**Warramunga Arr**	**43.04**	**194**	P	P	21 40 15.2	+0.1
	0.7nm,0.7s,baz=17,slow=9.2,SNR=8.7						
ASAR	**Alice Springs**	**46.73**	**194**	P	P	21 40 44.8	+0.3
	0.5nm,0.5s,baz=17,slow=10,SNR=16						
MKAR	**Makanchi Array**	**55.44**	**312**	P	P	21 41 49.5	-0.5
	0.5nm,0.6s,baz=92,slow=8.9,SNR=7.3						
BVAR	**Borovoye Array**	**63.25**	**319**	P	P	21 42 44.7	+0.6
	2.2nm,0.8s,baz=86,slow=7.7,SNR=10						
BVAR				pP		21 42 53.8	
	1.2nm,0.5s,baz=88,slow=6.7,SNR=7.9						

*NEIC **10** 21:40:29.3±0.8, 630S×1570E, h10km, mb4.4/2, Error ellipse: s-maj=20.3km s-min=12.2km az=115.0*
*ISCJB **10** 21:40:33.1±4.6, 63S±0.1×1515E±0.2, h44km±35km, mb3.9/7, Error ellipse: s-maj=36.1km s-min=23.7km az=22.8*
*IDC **10** 21:40:35.5±6.9, 637S×1514 9E, h50km±55km, mb3.7/7, mb1 3.9/8, mb1mx3.8/15, mbtmp3.8/8, ML2.7/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/23, Error ellipse: s-maj=51.5km s-min=24.1km az=82.0*
ISC 10 21:40:34.7±4.5, 63S±01×1515E±02, h44km±34km, n15, σ0§62/14, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.31**	**235**	P	**Pn**	**21 41 51.6**	**+0.2**
	1.7nm,0.3s,baz=76,slow=9.1,SNR=3.2						
PMG				S	**Sn**	**21 42 51.4**	**+0.2**
	4.5nm,0.3s,baz=354,slow=18,SNR=8.6						
HNR	**Honiara**	**8.88**	**111**	LR	LR	21 45 54.3	
	comp=Z,30nm,19.4s,baz=1.2,slow=36						
KAKA	**Kakadu**	**19.87**	**250**	*e*P	**Pn**	**21 45 02.2**	**-1.8**
	6.6nm,0.4s						
WB2	**Warramunga Arr**	**21.49**	**229**	*e*P	**P**	**21 45 20.4**	**+0.8**
WRA	**Warramunga Arr**	**21.50**	**229**	P	**P**	**21 45 19.6**	**-0.1**
	2.4nm,0.6s,mb3.7,baz=56,slow=11,SNR=25						
WRA				PcP	PcP	21 49 21.8	+0.7
	0.3nm,0.8s,baz=46,slow=2.1,SNR=4.8						
AS31	**Alice Springs**	**24.18**	**223**	*e*P	**P**	**21 45 46.9**	**+0.1**
ASAR	**Alice Springs**	**24.18**	**223**	P	**P**	**21 45 47.0**	**+0.1**
	4.0nm,0.8s,mb3.9,baz=58,slow=9.1,SNR=47						
ASPA	**Alice Springs**	**24.18**	**223**	*e*P	**P**	**21 45 46.9**	**0.0**
STKA	**Stephens Creek**	**27.06**	**199**	P	**P**	**21 46 13.2**	**+0.3**
	3.1nm,0.5s,mb4.1,baz=23,slow=9.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**27.84**	**243**	*e*P	**P**	**21 46 20.8**	**+0.9**
	7.3nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.84**	**243**	P	**P**	**21 46 19.7**	**-0.2**
	2.5nm,0.5s,mb4.1,baz=88,slow=9.6,SNR=14						
SONM	**Songino Array**	**66.96**	**329**	P	**P**	**21 51 23.3**	**+0.6**
	0.8nm,0.5s,mb4.0,baz=147,slow=5.4,SNR=11						
VNDA	**Vanda**	**71.35**	**178**	P	**P**	**21 51 49.2**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=345,slow=7.5,SNR=6.5						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**21 52 42.9**	**-0.1**
	0.6nm,1.0s,mb3.5,baz=104,slow=5.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.54**	**285**	PKPbc	PKPbc	22 00 20.2	+1.1
	1.7nm,0.6s,baz=20,slow=3.7,SNR=27						

IDC 10 21:50:11.5±3.5, 587S×15109E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=126.8km s-min=48.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.46**	**228**	P	P	21 55 02.3	+0.9
	0.4nm,0.7s,baz=52,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**24.22**	**221**	P	P	21 55 28.7	-1.1
	0.5nm,0.6s,baz=51,slow=9.4,SNR=7.0						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	P	21 56 02.1	+1.2
	5.1nm,1.1s,baz=57,slow=9.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.98**	**286**	PKPbc	PKPbc	22 10 02.0	+0.7
	0.4nm,0.6s,baz=68,slow=2.3,SNR=7.7						

*MOS **10** 22:02:42.0±0.9, 6069N×16696E, h10km, mb4.3/2, Error ellipse: s-maj=99.9km s-min=48.1km az=42.0*
*ISCJB **10** 22:02:47.1±0.9, 607N±02×1657E±02, h10km, mb4.0/8, Error ellipse: s-maj=22.8km s-min=12.7km az=145.8*
*IDC **10** 22:02:47.2±1.2, 6071N×16570E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.7/5, Error ellipse: s-maj=47.8km s-min=22.7km az=165.0*
*NEIC **10** 22:02:52.4±0.6, 6071N×16569E, h35km, mb4.4/4, Error ellipse: s-maj=14.8km s-min=8.9km az=157.0*
ISC 10 22:02:48.4±0.9, 607N±02×1658E±02, h10km, n16, σ0§73/16, mb4.0/8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.40**	**1**	*i* PN	**Pn**	**22 04 42.1**	**+5.6**
BILL	**Bilibino**	**7.40**	**1**	*e*Pn	**Pn**	**22 04 37.6**	**+1.1**
	4.8nm,0.4s						
MA2	**Magadan**	**7.58**	**268**	*e*PN	**Pn**	**22 04 39.1**	**+0.2**
MA2				pmax	pmax		
	comp=Z,24nm,0.5s						
MA2	**Magadan**	**7.58**	**268**	*e*Pn	**Pn**	**22 04 39.1**	**+0.2**
	comp=Z,24nm,0.5s						
YAK	**Yakutsk**	**17.23**	**290**	*i* P	**Pn**	**22 06 50.7**	**+1.6**
YAK	**Yakutsk**	**17.23**	**290**	*e*Pn	**Pn**	**22 06 49.5**	**+0.4**
	comp=Z,19nm,0.8s						
INK	**Inuvik**	**26.16**	**47**	P	**P**	**22 08 22.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.4,baz=281,slow=6.4,SNR=4.0						
MDJ	**Mudanjiang**	**26.75**	**250**	P	**P**	**22 08 28.6**	**+0.5**
	comp=Z,53nm,2.1s,mb4.7						
SONM	**Songino Array**	**35.70**	**276**	P	**P**	**22 09 47.5**	**+0.5**
	comp=Z,0.9nm,1.1s,mb3.6,baz=58,slow=7.9,SNR=4.6						
KURK	**Kurchatov**	**46.58**	**299**	*e*P	**P**	**22 11 15.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**46.58**	**299**	*e*P	**P**	**22 11 15.6**	**-0.9**
	comp=Z,7.9nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**47.69**	**307**	*e*P	**P**	**22 11 24.0**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**47.69**	**307**	*e*P	**P**	**22 11 24.0**	**-1.0**
	comp=Z,1.7nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**47.88**	**293**	P	**P**	**22 11 25.4**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=44,slow=7.2,SNR=12						
PDAR	**Pinedale Array**	**51.49**	**70**	P	**P**	**22 11 54.3**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=315,slow=4.6,SNR=7.7						
WRA	**Warramunga Arr**	**84.26**	**210**	P	**P**	**22 15 20.3**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.7,baz=11,slow=5.1,SNR=7.4						

*ISCJB **10** 22:18:10.8±1.6, 762S±007×1174E±0.1, h307km±18km, mb3.9/13, Error ellipse: s-maj=20.5km s-min=9.6km az=134.8*
*IDC **10** 22:18:12.3±5.7, 764S×1174 0E, h306km±60km, mb3.6/13, mb1 3.7/14, mb1mx3.6/22, mbtmp3.6/14, Error ellipse: s-maj=24.7km s-min=12.6km az=87.0*
*NEIC **10** 22:18:15.2±1.1, 766S×1175 4E, h341km±13km, mb4.2/6, Error ellipse: s-maj=13.9km s-min=6.0km az=61.0*
ISC 10 22:18:12.3±1.7, 761S±006×1175E±01, h304km±19km, n28, σ0§69/29, mb3.9/13, 2C, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**11.50**	**321**	*e*Pn	**Pn**	**22 20 53.5**	**+4.8**
FITZ	**Fitzroy Crossi**	**13.12**	**143**	⇑*i*P	**Pn**	**22 21 08.1**	**-0.1**
	8.5nm,0.3s						
FITZ				*e*S	**S**	**22 23 39.3**	**+5.9**
FITZ	**Fitzroy Crossi**	**13.12**	**143**	P	**Pn**	**22 21 08.2**	**-0.1**
	1.6nm,0.3s,baz=345,slow=6.6,SNR=45						
KKM	**Kota Kinabalu**	**13.62**	**355**	P	**Pn**	**22 21 15.2**	**+1.1**
MBWA	**Marble Bar**	**13.65**	**171**	*e*P	**Pn**	**22 21 13.8**	**-0.8**
	7.6nm,0.6s						
MBWA				*e*S	**S**	**22 23 46.4**	**+1.3**
KAKA	**Kakadu**	**15.59**	**110**	*e*P	**P**	**22 21 35.3**	**-0.2**
	4.2nm,0.3s						
WRA	**Warramunga Arr**	**20.44**	**129**	P	**P**	**22 22 26.8**	**-0.7**
	4.6nm,0.4s,baz=302,slow=12,SNR=128						
WB2	**Warramunga Arr**	**20.45**	**129**	*e*P	**P**	**22 22 26.6**	**-1.0**
ASPA	**Alice Springs**	**22.44**	**137**	*e*P	**P**	**22 22 46.5**	**+0.5**
AS31	**Alice Springs**	**22.44**	**137**	*e*P	**P**	**22 22 46.5**	**+0.5**
ASAR	**Alice Springs**	**22.44**	**137**	P	**P**	**22 22 46.4**	**+0.4**
	9.9nm,0.4s,mb4.5,baz=313,slow=9.2,SNR=212						
NWAO	**Narrogin (SRO)**	**25.20**	**180**	P	**P**	**22 23 10.5**	**-0.3**
	9.3nm,0.8s,mb4.3,baz=14,slow=9.6,SNR=5.0						
NWAO	**Narrogin (SRO)**	**25.20**	**180**	*e*P	**P**	**22 23 10.4**	**-0.5**
	16nm,1.0s,mb4.4						
QIZ	**Qiongzhong**	**27.51**	**344**	P	**P**	**22 23 32.0**	**+0.6**
	1.9nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**32.99**	**140**	*e*P	**P**	**22 24 19.7**	**+0.4**
	1.9nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**32.99**	**140**	P	**P**	**22 24 20.0**	**+0.7**
	2.6nm,0.4s,mb4.1,baz=311,slow=8.7,SNR=6.4						
MJAR	**Matsushiro Arr**	**48.04**	**23**	P	**P**	**22 26 22.0**	**+0.4**
	1.7nm,0.9s,mb3.4,baz=286,slow=14,SNR=3.6						
SONM	**Songino Array**	**56.06**	**351**	P	**P**	**22 27 20.9**	**+0.7**
	5.1nm,0.6s,mb4.2,baz=168,slow=8.4,SNR=54						
ASAJ	**Asahikawa**	**56.27**	**22**	P	**P**	**22 27 22.1**	**+0.3**
	6.3nm,1.0s,mb4.0,baz=266,slow=27,SNR=2.5						
MK31	**Makanchi Array**	**62.53**	**334**	⇑*e*P	**P**	**22 28 04.0**	**-0.3**
MKAR	**Makanchi Array**	**62.53**	**334**	P	**P**	**22 28 04.2**	**-0.1**
	2.5nm,0.6s,mb4.0,baz=145,slow=7.6,SNR=35						
ZAL	**Zalesovo**	**67.21**	**340**	P	**P**	**22 28 33.3**	**-1.0**
	2.2nm,0.4s,mb4.3,baz=7.0,slow=3.7,SNR=7.1						
OPO	**Ambohidratompo**	**68.97**	**253**	P	**P**	**22 28 45.3**	**+0.2**
	1.3nm,0.9s,mb3.7,baz=89,slow=4.5,SNR=5.0						
VNDA	**Vanda**	**73.59**	**171**	P	**P**	**22 29 12.4**	**-0.3**
	1.7nm,1.3s,mb3.5,baz=296,slow=8.1,SNR=5.6						
AKTK	**Aktyubinsk**	**77.22**	**326**	P	**P**	**22 29 32.0**	**-1.1**
AKTO	**Aktyubinsk**	**77.22**	**326**	P	**P**	**22 29 32.0**	**-1.1**
	1.0nm,0.7s,mb3.6,baz=3.7,slow=8.9,SNR=3.6						
KMBO	**Kilima Mbogo**	**80.15**	**270**	P	**P**	**22 29 49.8**	**+0.8**
	0.4nm,0.4s,mb3.5,baz=39,slow=22,SNR=4.1						
TORD	**Torodi Ar. Bea**	**116.72**	**281**	PKP	PKPdf	22 36 20.1	-0.4
	0.2nm,0.5s,baz=51,slow=2.5,SNR=8.2						

*ISCJB **10** 23:01:40.1±1.2, 63S±03×1513E±02, h10km, mb3.8/3, Error ellipse: s-maj=44.5km s-min=13.5km az=108.6*
*NEIC **10** 23:01:41.4±0.9, 631S×15140E, h10km, mb4.0/3, Error ellipse: s-maj=33.1km s-min=13.8km az=141.0*
*IDC **10** 23:01:42.0±2.4, 632S×151.14E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML2.5/1, Error ellipse: s-maj=64.7km s-min=37.2km az=127.0*
ISC 10 23:01:44.4±6.7, 62S±03×1513E±02, h29km±49km, n11, σ0§33/11, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**232**	Pn	**Pn**	**23 02 59.5**	**-0.1**
	1.4nm,0.3s,baz=76,slow=8.3,SNR=5.9						
PMG				Sn	**Sn**	**23 03 57.8**	**-0.3**
	2.4nm,0.3s,baz=201,slow=17,SNR=3.6						
KAKA	**Kakadu**	**19.64**	**249**	*e*P	**Pn**	**23 06 12.4**	**+0.1**
	5.0nm,0.6s						
WRAB	**Tennant Creek**	**21.35**	**229**	*e*P	**P**	**23 06 29.2**	**-0.1**
	2.5nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**21.35**	**229**	*e*P	**P**	**23 06 29.3**	**0.0**
WRA	**Warramunga Arr**	**21.36**	**229**	P	**P**	**23 06 29.0**	**-0.4**
	1.8nm,0.7s,baz=52,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**24.08**	**222**	P	**P**	**23 06 57.5**	**+0.2**
	1.8nm,0.8s,mb3.7,baz=55,slow=8.7,SNR=27						
STKA	**Stephens Creek**	**27.08**	**198**	P	**P**	**23 07 24.8**	**+0.3**
	1.0nm,0.6s,baz=24,slow=9.8,SNR=3.3						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	*e*P	**P**	**23 07 30.2**	**+0.6**
	3.8nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P	**P**	**23 07 30.4**	**+0.8**
	1.8nm,0.5s,mb4.0,baz=70,slow=10,SNR=10						
ARUT	**Antelope Range**	**97.95**	**53**	*e*P	**P**	**23 15 17.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.24**	**285**	PKPbc	PKPbc	23 21 33.2	+3.0
	0.3nm,0.5s,baz=92,slow=2.5,SNR=6.9						

IDC 10 23:03:08.7±3.7, 610S×15084E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=141.0km s-min=47.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.13**	**228**	P	P	23 07 55.2	+0.2
	0.9nm,0.6s,baz=51,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**23.89**	**221**	P	P	23 08 23.2	-0.7
	0.9nm,0.6s,baz=56,slow=8.9,SNR=6.3						
FITZ	**Fitzroy Crossi**	**27.33**	**242**	P	P	23 08 56.3	+1.2
	1.5nm,0.6s,baz=46,slow=8.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.81**	**285**	PKPbc	PKPbc	23 22 58.9	+0.8
	0.3nm,0.6s,baz=65,slow=3.2,SNR=5.3						

*IDC **10** 23:03:33.5±2.8, 627S×1043 1E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=139.9km s-min=22.5km az=55.0*
NEIC 10 23:03:38.3±2.3, 622S×10442E, h30km, mb3.7/1, Error ellipse: s-maj=103.0km s-min=14.2km az=53.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.10**	**118**	P	P	23 10 02.6	-0.1
	0.4nm,0.6s,baz=291,slow=9.8,SNR=4.4						
WRAB	**Tennant Creek**	**32.10**	**118**	*e*P	P	23 10 03.1	+0.3
	0.4nm,0.4s						
STKA	**Stephens Creek**	**43.07**	**131**	P	P	23 11 36.5	+1.0
	1.2nm,0.5s,baz=303,slow=9.4,SNR=5.5						
SONM	**Songino Array**	**53.85**	**2**	P	P	23 12 59.3	+0.9
	0.5nm,0.5s,baz=181,slow=9.6,SNR=6.7						
SONM				PcP	PcP	23 14 03.9	0.0
	0.4nm,0.5s,baz=195,slow=3.3,SNR=4.4						
MKAR	**Makanchi Array**	**56.32**	**342**	P	P	23 13 16.1	-0.3
	0.9nm,0.5s,baz=153,slow=8.7,SNR=14						
ZAL	**Zalesovo**	**62.17**	**347**	P	P	23 13 56.4	-0.4
	1.2nm,0.5s,baz=300,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**144.92**	**46**	PKP	PKPdf	23 23 13.3	+0.9
	0.3nm,0.6s,baz=254,slow=1.4,SNR=4.1						

*IDC **10** 23:16:58.5±8.7, 645S×15087E, h60km±63km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.7/1, Error ellipse: s-maj=57.2km s-min=51.2km az=74.0*
NEIC 10 23:16:49.4±1.8, 633S×15129E, h10km, mb4.1/3, 1C, Error ellipse: s-maj=39.1km s-min=27.5km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**233**	P	Pn	23 18 07.3	+1.3
	2.6nm,0.3s,baz=34,slow=3.6,SNR=6.2						
PMG				S	Sn	23 19 01.0	-4.0
	1.6nm,0.3s,baz=265,slow=11,SNR=2.1						

KAKA	**Kakadu**	**19.64**	**250**	*e*P	Pn	23 21 19.4	-0.1
	6.6nm,0.6s						
WRAB	**Tennant Creek**	**21.30**	**229**	*e*P	P	23 21 34.8	-1.4
	2.6nm,0.6s						
WB2	**Warramunga Arr**	**21.30**	**229**	*e*P	P	23 21 36.0	-0.2
WRA	**Warramunga Arr**	**21.31**	**229**	P	P	23 21 36.6	+0.3
	2.3nm,0.7s,baz=54,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.02**	**222**	P	P	23 22 04.2	-0.2
	1.8nm,0.5s,baz=55,slow=8.7,SNR=32						
STKA	**Stephens Creek**	**26.99**	**198**	P	P	23 22 32.5	+1.2
	0.8nm,0.5s,baz=8.7,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**26.99**	**198**	P	P	23 22 32.5	+1.2
FITZ	**Fitzroy Crossi**	**27.62**	**243**	⇑*i*P	P	23 22 37.3	+0.3
	4.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P	P	23 22 37.4	+0.4
	2.6nm,0.5s,baz=53,slow=9.5,SNR=14						
TORD	**Torodi Ar. Bea**	**149.30**	**285**	PKPbc	PKPbc	23 36 40.1	+1.7
	1.0nm,0.6s,baz=89,slow=2.6,SNR=12						

*MOS **10** 23:19:37.0±0.8, 3639N×7105E, h145km, mb4.2/23, Error ellipse: s-maj=7.9km s-min=4.7km az=104.8*
*ISCJB **10** 23:19:38.6±0.3, 3645N±002×7105E±003, h157km±4km, mb4.3/58, Error ellipse: s-maj=4.7km s-min=3.1km az=150.7*
*NEIC **10** 23:19:39.3±1.1, 3643N×7110E, h152km±10km, mb4.3/27, Error ellipse: s-maj=7.1km s-min=4.3km az=207.0*
*BJI **10** 23:19:39.6, 3665N×7096E, h160km, mB5.1, mb4.7*
*IDC **10** 23:19:41.6±3.0, 3642N×7108E, h175km±28km, mb4.0/27, mb1 4.1/31, mb1mx4.1/34, mbtmp4.0/31, MS3.4/3, Ms1 3.4/3, ms1mx2.7/32, Error ellipse: s-maj=10.2km s-min=8.5km az=6.0*
ISC 10 23:19:39.7±0.3, 3646N±002×7109E±004, h155km±4km, n204, σ0§87/231, mb4.3/58, 10C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.72**	**165**	⇓P	**Pn**	**23 20 24.5**	**+0.8**
CHCP	**Chirah Chowk**	**3.32**	**147**	P	**Pn**	**23 20 33.7**	**+2.4**
THW	**Thamme Wali**	**3.70**	**171**	⇑P	**Pn**	**23 20 36.4**	**+0.2**
SBDP	**Sheikh Budin**	**4.16**	**183**	⇑P	**Pn**	**23 20 41.6**	**-0.5**
SARP	**Sargodha**	**4.72**	**163**	P	**Pn**	**23 20 49.0**	**-0.4**
DRP	**Derazinda**	**4.76**	**189**	⇑P	**Pn**	**23 20 50.3**	**+0.2**
JMU	**Jammu**	**4.88**	**139**	*e*P	**Pn**	**23 20 51.0**	**-0.7**
KSH	**Kashi**	**4.92**	**50**	P	**Pn**	**23 20 55.3**	**+3.2**
KSH				S	**Sn**	**23 21 48.6**	**0.0**
KSH				Smax			
	comp=N,2μm,0.3s						
KSH				Smax			
	comp=E,3μm,0.6s						
THN	**Thein Dam**	**5.55**	**135**	*e*P	**Pn**	**23 21 01.1**	**+0.7**
THN				*ex*	x	23 22 02.8	
DLH	**Dalhousie**	**5.62**	**133**	*e*P	**Pn**	**23 20 58.0**	**-3.3**
DLH				*e*S	**Sn**	**23 22 04.0**	**-1.1**
AML	**Almayashu**	**6.01**	**19**	P	**Pn**	**23 21 07.1**	**+0.6**
	SNR=735						
UCH	**Uchtor**	**6.34**	**24**	P	**Pn**	**23 21 11.7**	**+0.7**
	SNR=140						
KZA	**Kyzart**	**6.47**	**29**	P	**Pn**	**23 21 13.0**	**+0.3**
	SNR=49						
EKS2	**Erkin-Say**	**6.53**	**18**	P	**Pn**	**23 21 14.2**	**+0.7**
	SNR=82						
KKAR	**Karatay Array**	**6.65**	**356**	*e*PN	**Pn**	**23 21 15.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,80nm,0.3s						
AAK	**Ala-Archa**	**6.70**	**22**	P	**Pn**	**23 21 16.6**	**+0.9**
	SNR=110						
AAK	**Ala-Archa**	**6.70**	**22**	⇓*i*PN	**Pn**	**23 21 15.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,72nm,0.4s						
AAK	**Ala-Archa**	**6.70**	**22**	⇓*i*Pn	**Pn**	**23 21 15.5**	**-0.2**
	comp=Z,72nm,0.4s						
AAK				*e*Sn	**Sn**	**23 22 29.5**	**-1.5**
BHK	**Bhakra**	**6.71**	**137**	*e*P	**Pn**	**23 21 18.4**	**+2.6**
BHK				*e*S	**Sn**	**23 22 31.8**	**+0.7**
KBK	**Karagaybulak**	**6.87**	**25**	P	**Pn**	**23 21 18.6**	**+0.6**
	SNR=65						
FRU	**Bishkek**	**6.92**	**22**	*e*PN	**Pn**	**23 21 19.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,90nm,1.5s						
SDNR	**Sundarnagar**	**6.96**	**134**	*e*P	**Pn**	**23 21 19.0**	**-0.1**
SDNR				*e*S	**Sn**	**23 22 33.0**	**-4.2**
ULHL	**Ulahol**	**7.02**	**33**	P	**Pn**	**23 21 20.8**	**+0.8**
	SNR=20						
CHMS	**Chumysh**	**7.11**	**22**	P	**Pn**	**23 21 21.3**	**+0.1**
	SNR=60						
USP	**Ospenovka**	**7.28**	**20**	P	**Pn**	**23 21 23.3**	**-0.2**
	SNR=26						
TKM2	**Tokmak 2**	**7.33**	**27**	P	**Pn**	**23 21 24.6**	**+0.5**
	SNR=

comp=Z,4.0nm,1.1s
BVAR Borovoye Array 16.57 359 P **Pn** **23 23 22.0 -1.0**
comp=Z,2.4nm,0.3s,baz=167,slow=12,SNR=40
BVAR S **S** **23 26 20.3 -6.9**
comp=Z,1.3nm,0.3s,baz=160,slow=22,SNR=6.0
BVAR LR LR 23 30 53.0
comp=Z,18nm,19.8s,baz=222,slow=40
BVAR Borovoye Array 16.57 359 P **Pn** **23 23 22.0 -1.0**
BVAR S **S** **23 26 20.3 -6.9**
BRVK Borovoye 16.60 358 *e*P **Pn** **23 23 22.4 -1.1**
BRVK *e*S **S** **23 26 23.5 -4.5**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 16.60 358 *e*P **Pn** **23 23 22.4 -1.1**
comp=Z,20nm,0.6s
BRVK *e*S **S** **23 26 23.5 -4.5**
AKTK Aktyubinsk 16.85 330 P **Pn** **23 23 25.8 -0.6**
AKTK S **S** **23 26 25.4 -8.2**
AKTO Aktyubinsk 16.85 330 P **Pn** **23 23 25.8 -0.6**
comp=Z,4.6nm,0.3s,baz=131,slow=12,SNR=107
AKTO S **S** **23 26 25.4 -8.2**
comp=Z,0.5nm,0.3s,baz=342,slow=19,SNR=5.1
CHKZ Chkalovo 17.22 359 *e*P **Pn** **23 23 29.5 -1.3**
CHKZ *e*S **S** **23 26 36.2 -5.0**
CHKZ pmax pmax
comp=Z,8.0nm,0.4s
CHKZ Chkalovo 17.22 359 P **Pn** **23 23 29.7 -1.1**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s
CHKZ Chkalovo 17.22 359 *e*P **Pn** **23 23 29.5 -1.4**
comp=Z,7.7nm,0.4s
CHKZ *e*S **S** **23 26 36.2 -5.0**
BOK Bokaro 17.95 131 *ex* x 23 23 40.5
BOK *ex* x 23 26 48.6
BOK AML AML 23 26 58.0
comp=N,5.5nm,0.5s
BOK AML AML 23 26 58.7
comp=E,6.8nm,0.5s
LSA Lhasa 18.10 106 P **P** **23 23 44.0 +4.3**
LSA Lhasa 18.10 106 *e*P **P** **23 23 43.7 +4.0**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 18.10 106 *e*P **P** **23 23 43.7 +4.0**
comp=Z,11nm,0.7s
ZAL Zalesovo 19.90 24 P **P** **23 23 59.7 +0.5**
comp=Z,12nm,0.3s,baz=252,slow=7.5,SNR=86
ZAL S **S** **23 27 32.4 -2.3**
comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=4.0
HYB Hyderabad 20.09 159 *i* P **P** **23 24 03.0 +1.8**
HYB Hyderabad 20.09 159 *e*P **P** **23 24 03.0 +1.8**
NVS Novosibirsk 20.19 21 *e*P **P** **23 24 02.2 -0.1**
NVS *e*S **S** **23 27 28.5 -12**
NVS pmax pmax
comp=N,15nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS pmax pmax
comp=Z,18nm,0.5s
NVS smax
comp=N,73nm,2.4s
NVS smax
comp=E,35nm,2.4s
UMR Umm Al-Rimmam 20.75 257 *e*P **P** **23 24 08.6 +0.4**
UMR AMb AMB 23 24 12.0
comp=Z,64nm,0.6s
SHL Shillong 20.83 116 *e*P **P** **23 24 12.0 +2.9**
SHL *ex* x 23 27 55.0
KBD Kabd 20.93 256 *e*P **P** **23 24 10.2 0.0**
KBD AMb AMB 23 24 11.2
comp=Z,107nm,0.9s
MIB Mutribah 20.94 258 *e*P **P** **23 24 10.0 -0.2**
MIB AMb AMB 23 24 12.8
comp=Z,33nm,0.8s
QRN Al-Qurain 20.95 255 *e*P **P** **23 24 10.2 -0.2**
QRN AMb AMB 23 24 11.4
comp=Z,25nm,0.3s
GNI Garni 20.97 288 P **P** **23 24 11.2 +0.6**
comp=Z,4.6nm,0.5s,baz=324,slow=3.4,SNR=11
GNI Garni 20.97 288 *i* P **P** **23 24 13.4 +2.8**
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 20.97 288 *e*P **P** **23 24 12.2 +1.6**
RDF Al-Radifah 21.15 256 *e*P **P** **23 24 12.7 +0.2**
RDF AMb AMB 23 24 15.0
comp=Z,67nm,0.7s,mb5.1
NAY Al-Naaiem 21.25 257 *e*P **P** **23 24 13.4 -0.1**
NAY AMb AMB 23 24 16.6
comp=Z,22nm,0.7s,mb4.6
SVE Sverdlovsk 21.55 344 *e*P **P** **23 24 15.0 -1.7**
ARU Arti 21.69 341 ⇓*i*P **P** **23 24 18.6 +0.4**
ARU *e* 23 24 47.7
ARU *e*PPP 23 24 59.6
ARU *e*S **S** **23 28 13.8 +5.5**
ARU pmax pmax
comp=Z,17nm,0.9s,mb4.5
ARU Arti 21.69 341 *e*P **P** **23 24 18.5 +0.3**
comp=Z,18nm,0.9s,mb4.5
ARU *e*S **S** **23 27 56.5 -12**
ZEI Tsey 21.82 295 *e*P **P** **23 24 20.3 +0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
GTA Gaotai 22.81 74 ⇑P **P** **23 24 31.9 +2.7**
GTA AMB AMB
comp=Z,20nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,131nm,4.6s
GTA LR LR
comp=N,92nm,13.3s
GTA LR LR
comp=E,69nm,14.1s
GTA LR LR
comp=Z,80nm,13.3s
KIV Kislovodsk 22.87 298 *e*P **P** **23 24 30.0 +0.3**
KIV pmax pmax
comp=Z,18nm,0.8s,mb4.5
KIV Kislovodsk 22.87 298 *e*P **P** **23 24 30.0 +0.3**
comp=Z,18nm,0.8s,mb4.6
ANN Anapa 26.71 299 *e*P **P** **23 25 13.9 +9.4**
ZAK Zakamensk 26.96 49 *e*P **P** **23 25 07.4 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
SONM Songino Array 28.30 55 P **P** **23 25 20.0 +1.4**
comp=Z,3.3nm,0.9s,mb4.1,baz=261,slow=9.2,SNR=27
SONM PcP PcP 23 28 26.9 -0.8
comp=Z,0.7nm,0.8s,baz=249,slow=4.8,SNR=3.6
MMAI Mount Meron Ar 29.42 274 P **P** **23 25 29.0 +0.4**
comp=Z,0.4nm,0.6s,mb3.4,baz=55,slow=13,SNR=2.3
BR131 Keskin Array S 29.51 288 *e*P **P** **23 25 29.6 +0.2**
comp=Z,0.7nm,0.5s,mb3.6
BRTR Keskin Array B 29.51 288 P **P** **23 25 30.1 +0.7**
comp=Z,0.5nm,0.6s,mb3.4,baz=69,slow=7.8,SNR=3.2
OBN Obninsk 30.01 319 *i* P **P** **23 25 34.5 +0.7**
OBN *e* 23 28 33.3
OBN *e*SS PcS 23 32 13.0 -2.6
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
AKASG Malin Array Be 33.02 309 P **P** **23 26 00.0 -0.1**
comp=Z,8.9nm,0.6s,mb4.7,baz=81,slow=7.3,SNR=31
AKBB Malin Array Si 33.02 309 *e*P **P** **23 26 00.0 -0.2**
KIEV Kiev 33.03 309 *e*P **P** **23 26 00.4 +0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
KIEV Kiev 33.03 309 *e*P **P** **23 26 00.4 +0.1**
comp=Z,5.2nm,0.5s,mb4.5
PLOR Plostina 34.36 300 ⇓*i*P **P** **23 26 14.1 +2.4**
MLR Muntele Rosu 34.86 299 P **P** **23 26 17.6 +1.6**
comp=Z,5.3nm,0.8s,mb4.2,baz=106,slow=13,SNR=4.8
MLR Muntele Rosu 34.86 299 ⇑*i*P **P** **23 26 18.9 +2.9**
BURAR Bucovina Array 35.36 303 ⇓*i*P **P** **23 26 20.3 0.0**
KWP Kalwaria 37.09 306 *e*P **P** **23 26 36.1 +1.1**
KWP pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
KWP Kalwaria 37.09 306 *e*P **P** **23 26 36.0 +1.1**
comp=Z,4.7nm,0.4s,mb4.5
IDI Anoyia 37.17 282 P **P** **23 26 34.8 -0.9**
comp=Z,3.4nm,0.7s,mb4.1,baz=185,slow=15,SNR=6.0
FINES FINESS Array B 37.55 326 P **P** **23 26 39.2 +0.4**
comp=Z,1.7nm,0.3s,mb4.1,baz=116,slow=10,SNR=35
NJ2 Nanjing 39.41 82 *e*P **P** **23 26 56.8 +2.4**
NJ2 AMB AMB
comp=Z,50nm,0.6s,mb5.3
MORC Moravsky Berou 40.44 306 *e*P **P** **23 27 01.1 -1.8**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
MORC Moravsky Berou 40.44 306 *e*P **P** **23 27 01.1 -1.8**
comp=Z,2.6nm,0.7s,mb4.0

KEV Kevo 40.86 338 *ep* **P** **23 27 05.9 -0.4**
VRAC Vranov 41.08 306 P **P** **23 27 08.4 +0.3**
comp=Z,2.7nm,0.7s,mb4.0,baz=90,slow=9.5,SNR=4.9
ARCES ARCESS Array B 41.20 338 P **P** **23 27 09.9 +0.8**
comp=Z,6.9nm,0.5s,mb4.5,baz=116,slow=8.4,SNR=106
ARCES LR LR 23 46 13.6
comp=Z,49nm,19.2s,baz=308,slow=39
ARE0 ARCESS Array S 41.20 338 *e*P **P** **23 27 09.6 +0.5**
KTK1 Kautokeino 41.68 336 *e*P **P** **23 27 13.2 +0.2**
KTK1 AMb AMB 23 27 22.4
comp=Z,54nm,2.1s,mb4.8
KTK1 Kautokeino 41.68 336 *e*P **P** **23 27 13.2 +0.2**
comp=Z,54nm,2.1s,mb4.8
PSI Prapat 42.21 136 P **P** **23 27 17.0 -0.2**
comp=Z,3.5nm,0.5s,mb4.2,baz=175,slow=15,SNR=5.6
PSI Prapat 42.21 136 P **P** **23 27 17.0 -0.2**
BRG Berggiesshubel 42.70 308 *e*P **P** **23 27 22.4 +1.2**
comp=Z,2.6nm,0.7s,mb4.0
BRG Berggiesshubel 42.70 308 *e*P **P** **23 27 22.4 +1.2**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
GERES GERESS Array B 43.01 305 P **P** **23 27 24.1 +0.4**
comp=Z,0.3nm,0.5s,baz=89,slow=7.2,SNR=4.6
HFS Hagfors 43.14 322 P **P** **23 27 24.8 0.0**
comp=Z,15nm,0.5s,mb4.8,baz=98,slow=11,SNR=60
CLL Collm 43.27 309 *e*P **P** **23 27 26.0 +0.2**
comp=Z,7.0nm,1.0s,mb4.2
TRO Tromso 43.33 336 *e*P **P** **23 27 25.7 -0.6**
MOR8 Moi Rana 43.88 331 *e*P **P** **23 27 30.5 -0.2**
MOR8 AMb AMB 23 27 34.0
comp=Z,51nm,1.8s,mb4.8
MOR8 *ep*P pP 23 28 04.5 -0.5
MOR8 Moi Rana 43.88 331 *e*P **P** **23 27 30.5 -0.2**
comp=Z,51nm,1.8s,mb4.8
YAK Yakutsk 43.96 35 *i* P **P** **23 27 31.3 0.0**
YAK pmax pmax
comp=Z,17nm,0.6s,mb4.8
NB2 NORSAR Subarra 44.45 323 P **P** **23 27 34.9 -0.3**
comp=Z,15nm,0.7s,mb4.7,baz=97,slow=7.9
NOA NORSAR Array B 44.45 323 P **P** **23 27 35.0 -0.2**
comp=Z,10.0nm,0.6s,mb4.7,baz=96,slow=7.7,SNR=34
NSS Namsos 44.56 328 *e*P **P** **23 27 35.3 -0.8**
NAO01 NORSAR Array S 44.59 323 *e*P **P** **23 27 35.8 -0.6**
comp=Z,2.1nm,0.3s,mb4.2
LOF Lofoten 44.71 333 *e*P **P** **23 27 39.4 +2.1**
KSRS Korea Array 44.83 71 P **P** **23 27 38.6 +0.4**
comp=Z,1.5nm,0.5s,mb3.9,baz=272,slow=6.4,SNR=4.7
TIXI Tiksi 45.78 22 *c* *i*P **P** **23 27 45.8 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.3s,mb4.4
TIXI Tiksi 45.78 22 *e*P **P** **23 27 45.1 -0.6**
comp=Z,8.7nm,0.3s,mb4.9
DAVOX Davos 45.84 303 P **P** **23 27 46.1 -0.1**
comp=Z,1.7nm,0.3s,mb4.1,baz=196,slow=3.8,SNR=7.6
HAU Haudompre 47.97 305 *e*P **P** **23 28 02.9 +0.2**
LPG La Plagne 48.23 302 *e*P **P** **23 28 05.1 +0.4**
LPL La Plagne 48.23 302 *e*P **P** **23 28 04.9 +0.2**
MBDF Montbardon 48.39 301 *e*P **P** **23 28 06.2 +0.3**
comp=Z,4.3nm,0.6s,mb4.0
MBDF Montbardon 48.39 301 *e*P **P** **23 28 06.2 +0.3**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
MBDF Montbardon 48.39 301 *e*P **P** **23 28 06.2 +0.3**
comp=Z,2.2nm,0.6s,mb4.0
CABF La Chapelle 48.43 303 *e*P **P** **23 28 06.3 +0.1**
comp=Z,3.5nm,0.6s,mb3.9
CABF La Chapelle 48.43 303 *e*P **P** **23 28 06.3 +0.1**
CABF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
CABF La Chapelle 48.43 303 *e*P **P** **23 28 06.3 +0.1**
comp=Z,1.8nm,0.6s,mb3.9
KMBO Kilima Mbogo 48.86 228 P **P** **23 28 09.6 +0.1**
comp=Z,1.0nm,0.6s,mb3.6,baz=34,slow=12,SNR=4.0
KMBO Kilima Mbogo 48.86 228 P **P** **23 28 09.6 +0.1**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
ORIF Oris-en-Rattie 48.96 301 *e*P **P** **23 28 10.0 -0.3**
BAIF Baives 48.97 308 *e*P **P** **23 28 10.7 +0.3**
KEST Kesra 49.11 289 P **P** **23 28 12.2 +0.8**
comp=Z,0.8nm,0.7s,mb3.5,baz=275,slow=20,SNR=5.0
LOR Lormes 49.77 305 *e*P **P** **23 28 16.7 +0.2**
VIVF Saint-Julien-l 49.81 301 *e*P **P** **23 28 16.9 +0.2**
comp=Z,4.1nm,0.6s,mb4.0
VIVF Saint-Julien-l 49.81 301 *e*P **P** **23 28 16.9 +0.2**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
VIVF Saint-Julien-l 49.81 301 *e*P **P** **23 28 16.9 +0.2**
comp=Z,2.0nm,0.6s,mb3.9
SMF Signal de Mont 49.93 304 *e*P **P** **23 28 17.1 -0.5**
comp=Z,4.2nm,0.6s,mb3.9
SMF Signal de Mont 49.93 304 *e*P **P** **23 28 17.1 -0.5**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
SMF Signal de Mont 49.93 304 *e*P **P** **23 28 17.1 -0.5**
comp=Z,2.1nm,0.6s,mb3.9
SSF Saint Saulge 50.06 304 *e*P **P** **23 28 18.9 +0.3**
AVF Avril sur Loir 50.22 304 *e*P **P** **23 28 19.3 -0.5**
comp=Z,5.5nm,0.6s,mb4.0
AVF Avril sur Loir 50.22 304 *e*P **P** **23 28 19.3 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
AVF Avril sur Loir 50.22 304 *e*P **P** **23 28 19.3 -0.5**
comp=Z,2.8nm,0.6s,mb4.1
TCF Toulx Ste Croi 51.11 304 *e*P **P** **23 28 26.3 -0.2**
comp=Z,2.7nm,0.6s,mb3.8
TCF Toulx Ste Croi 51.11 304 *e*P **P** **23 28 26.3 -0.2**
TCF pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
TCF Toulx Ste Croi 51.11 304 *e*P **P** **23 28 26.3 -0.2**
comp=Z,1.4nm,0.6s,mb3.8
CAF Calviac 51.58 302 *e*P **P** **23 28 30.0 +0.1**
LDF La Druitiere 52.05 307 *e*P **P** **23 28 33.6 +0.1**
FLN La Foliniere 52.24 307 *e*P **P** **23 28 34.5 -0.4**
EKA Eskdalemuir Ar 52.36 316 P **P** **23 28 35.9 +0.1**
comp=Z,4.8nm,0.9s,mb4.1,baz=98,slow=7.4,SNR=7.4
EKA Eskdalemuir Ar 52.36 316 P **P** **23 28 35.9 +0.2**
EKA pmax pmax
comp=Z,5.0nm,0.9s
MFF Saint Martin d 52.60 305 *e*P **P** **23 28 37.5 0.0**
MJAR Matsushiro Arr 52.90 68 P **P** **23 28 40.5 +0.8**
comp=Z,0.7nm,0.5s,mb3.7,baz=288,slow=8.8,SNR=5.4
MJAR Matsushiro Arr 52.90 68 P **P** **23 28 40.5 +0.8**
MJAR pmax pmax
comp=Z,1.0nm,0.5s
EPF Esparros 53.33 300 *e*P **P** **23 28 42.7 -0.1**
comp=Z,3.8nm,0.7s,mb3.9
EPF Esparros 53.33 300 *e*P **P** **23 28 42.7 -0.1**
EPF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
EPF Esparros 53.33 300 *e*P **P** **23 28 42.7 -0.1**
comp=Z,1.9nm,0.7s,mb3.9
ETSF Etsaut 53.99 300 *e*P **P** **23 28 47.4 -0.3**
comp=Z,5.4nm,0.6s,mb4.2
ETSF Etsaut 53.99 300 *e*P **P** **23 28 47.4 -0.3**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ETSF Etsaut 53.99 300 *e*P **P** **23 28 47.4 -0.3**
comp=Z,2.7nm,0.6s,mb4.2
ESDC Sonseca Array 57.53 298 P **P** **23 29 12.6 -0.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=56,slow=7.5,SNR=4.5
BILL Bilibino 58.61 26 *e*P **P** **23 29 21.0 +0.6**
BILL *e* 23 30 08.7
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
EVO Evora 60.88 298 *e*P **P** **23 29 34.9 -1.0**
comp=Z,20nm,1.2s,mb4.5
TOA0 Torodi Ar. Sit 65.79 269 *e*P **P** **23 30 05.4 -2.7**
TORD Torodi Ar. Bea 65.79 269 P **P** **23 30 06.3 -1.8**
comp=Z,5.1nm,0.7s,mb4.5,baz=52,slow=5.6,SNR=59
INK Inuvik 73.93 9 *e*P **P** **23 30 58.0 +0.2**
comp=Z,256nm,0.6s
FITZ Fitzroy Crossi 74.81 127 ⇑*i*P **P** **23 31 03.5 +0.5**
comp=Z,11nm,1.1s,mb4.4
FITZ Fitzroy Crossi 74.81 127 P **P** **23 31 03.5 +0.6**
comp=Z,3.5nm,0.7s,mb4.1,baz=265,slow=3.8,SNR=8.3
KAKA Kakadu 75.66 118 *e*P **P** **23 31 07.8 0.0**
comp=Z,8.8nm,0.6s,mb4.6
BOSA Boshof 77.76 220 P **P** **23 31 19.2 -0.3**
comp=Z,5.2nm,0.7s,mb4.2,baz=35,slow=7.2,SNR=12
BOSA Boshof 77.76 220 P **P** **23 31 19.3 -0.3**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
YKA Yellowknife Ar 81.28 3 P **P** **23 31 38.8 +0.2**
comp=Z,8.9nm,0.3s,mb4.3,baz=349,slow=5.4,SNR=34
YKA Yellowknife Ar 81.28 3 P **P** **23 31 38.8 +0.2**
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 81.28 3 P **P** **23 31 38.8 +0.2**
NWAO Narrogin (SRO) 81.40 142 P **P** **23 31 38.2 -1.0**
comp=Z,13nm,1.0s,mb4.5,baz=270,slow=3.0,SNR=2.5
NWAO Narrogin (SRO) 81.40 142 P **P** **23 31 38.2 -1.0**
NWAO pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 81.91 122 P **P** **23 31 41.6 -0.3**
comp=Z,7.6nm,0.5s,mb4.6,baz=323,slow=5.1,SNR=74
WRA Warramunga Arr 81.91 122 P **P** **23 31 41.6 -0.3**
WRA pmax pmax
comp=Z,8.0nm,0.5s
WRAB Tennant Creek 81.91 122 *c* *i*P **P** **23 31 41.5 -0.4**
WRAB Tennant Creek 81.91 122 *e*P **P** **23 31 41.5 -0.4**
comp=Z,17nm,0.9s,mb4.7
WB2 Warramunga Arr 81.92 122 ⇑*i*P **P** **23 31 41.5 -0.5**
SCHQ Schefferville 82.16 337 LR LR 00 12 10.1
comp=Z,112nm,19.7s,baz=129,slow=38
ASPA Alice Springs 84.17 125 *e*P **P** **23 31 53.1 -0.4**
AS31 Alice Springs 84.18 125 *e*P **P** **23 31 53.1 -0.4**
ASAR Alice Springs 84.18 125 P **P** **23 31 53.2 -0.3**
comp=Z,9.0nm,0.6s,mb4.7,baz=310,slow=4.9,SNR=76
ASAR Alice Springs 84.18 125 P **P** **23 31 53.2 -0.3**
ASAR pmax pmax
comp=Z,9.0nm,0.6s
CTA Charters Tower 90.46 115 ⇑*i*P **P** **23 32 23.5 -0.3**
comp=Z,5.4nm,0.6s,mb4.7
CTA Charters Tower 90.46 115 P **P** **23 32 23.5 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=324,slow=5.5,SNR=13
CTA Charters Tower 90.46 115 P **P** **23 32 23.5 -0.3**
CTA pmax pmax
comp=Z,11nm,0.8s
QSPA South Pole Qui 126.26 180 *e*PKPdf PKPdf 23 38 21.9 -2.0

MAN 10 23:22:48.2, 981N×12393E, h23km, mb2.4, ML4.0, MS2.0, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.13**	**211**	*e*P		Pb	23 22 54.4	+1.5
TBP				*e*S		Sb	23 23 00.1	+4.0
LLP	**Lapu-Lapu**	**0.51**	**4**	⇓*i*P		Pb	23 22 59.4	+0.8
LLP				*i* S		Sb	23 23 09.5	+4.0
DCPH	**Dipolog City**	**1.34**	**205**	⇑*e*P		Pn	23 23 11.4	-0.2
DCPH				*i* S		Sn	23 23 29.8	+1.1
PLP	**Palo**	**1.70**	**37**	*e*P		Pn	23 23 15.9	-0.5
PLP				*i* S		Sn	23 23 38.5	+1.1

IDC ***10*** *23:26:00.7±2.4, 330S×12931E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=141.5km s-min=25.7km az=72.0*

NEIC 10 23:26:05.6±1.4, 328S×12944E, h35km, mb3.4/1, Error ellipse: s-maj=47.7km s-min=16.0km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.19**	**194**	Pn		Pn	23 29 37.7	+0.3
	0.5nm,0.3s,baz=23,slow=13,SNR=16						
WRAB	**Tennant Creek**	**17.23**	**164**	*e*Pn		Pn	23 30 04.0	+0.6
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**17.23**	**164**	P		Pn	23 30 04.1	+0.6
	0.6nm,0.3s,baz=334,slow=13,SNR=28						
ASAR	**Alice Springs**	**20.72**	**168**	P		P	23 30 42.2	-0.7
	4.5nm,0.6s,baz=346,slow=11,SNR=75						
MKAR	**Makanchi Array**	**64.84**	**326**	P		P	23 36 41.2	+0.3
	0.2nm,0.4s,baz=117,slow=7.8,SNR=7.9						
MKAR	**Makanchi Array**	**64.84**	**326**	P		P	23 36 41.2	+0.3

CSEM ***11*** *00:19:47.2, 6785N×2020E, h0km, ML3.0, Mining explosion. After UPP*

UPP ***11*** *00:19:47.2, 6785N×2020E, h0km, ML3.0, Mining explosion.*

HEL 11 00:19:47.8±0.0, 6785N×2020E, h0km, ML1.8, ML3.0 (UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**27**	*i* P		Pg	00 19 49.7	-0.3
KUA				*i* S		Sg	00 19 51.3	-0.1
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P		Pg	00 19 55.7	-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P		Pg	00 20 00.5	-0.8
LANU	**Lannavaara**	**0.70**	**73**	P		Pg	00 20 00.5	-0.8
	baz=302						
DUNU	**Dundret**	**0.75**	**169**	*i* P		Pg	00 20 01.2	-1.0
DUNU	**Dundret**	**0.75**	**169**	P		Pg	00 20 01.2	-1.0
	baz=71						
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P		Pg	00 20 02.2	-0.8
SALU	**Saltoluokta**	**0.81**	**235**	*i* P		Pg	00 20 02.4	-0.9
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	00 20 09.8	-0.6
KIF				*e*S		Sg	00 20 25.3	-0.4
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pn	00 20 12.7	-1.8
HARU	**Harads**	**1.73**	**170**	*e*P		Pn	00 20 19.3	+0.3
HARU	**Harads**	**1.73**	**170**	P		Pn	00 20 19.3	+0.3
	baz=337						
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P		Pn	00 20 29.1	+0.5
SGF	**Sodankyl**	**2.45**	**97**	*e*P		Pn	00 20 29.5	+0.4
SGF				*e*S		Sn	00 20 59.0	-0.7
SGF				MSG			00 21 04.8	
	comp=Z,6.5nm,0.2s						
KEV	**Kevo**	**3.12**	**49**	*e*S		Sn	00 21 15.1	-1.2
KEV				MSG			00 21 23.5	
	comp=Z,1.5nm,0.2s						
OUL	**Oulu**	**3.60**	**138**	*e*PG		Pg	00 20 51.8	-5.0
OUL				*e*SG		Sg	00 21 38.2	-5.2
OUL				MSG			00 21 39.6	
	comp=Z,1.4nm,0.2s						
KU4	**Liikasenvaara**	**3.96**	**108**	*e*P		Pn	00 20 49.7	-0.1
KU4				*e*S		Sn	00 21 35.9	-1.0
KJN	**Kajaani**	**4.87**	**137**	*e*S		Sn	00 21 57.0	-2.4

MOS ***11*** *00:25:32.7±1.4, 2023S×17790W, h464km, mb5.1/25, Error ellipse: s-maj=10.1km s-min=7.8km az=45.8*

BJI ***11*** *00:25:34.4, 2003S×17742W, h489km, mB4.9, mb4.7*

ISCJB ***11*** *00:25:34.1±0.1, 2038S±004×17786W±004, h481km, mb4.9/72, Error ellipse: s-maj=5.9km s-min=3.3km az=105.4*

GCMT ***11*** *00:25:35.3±0.4, 2041S×17764W, h512km±2km, MW5.3/56, Moment Tensor Solution. s56,c75; Duration: 1ś1 Moment tensor: Scale 10^17 Nm; Mrr~0.65±.03; Mθθ 0.73±.06; Mϕϕ~0.07±.06; Mrθ 0.66±.06; Mrϕ~0.19±.05; Mθϕ~0.38±.06; Best double couple: M=1.04400×10^17 NP1:ϕ=87.00000°, δ=24.00000°, λ=-117.00000°. NP2: ϕ=296.00000°, δ=69.00000°, λ=-79.00000°. Principal axes: T 1.0790, Plg23.0000°, Azm17.0000°; N -0.0720, Plg11.0000°, Azm112.0000°; P -1.0080, Plg64.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***11*** *00:25:35.3±0.6, 2033S×17784W, h488km±6km, mb4.9/47 Error ellipse: s-maj=7.6km s-min=4.4km az=150.0*

IDC ***11*** *00:25:36.0±0.5, 2026S×17785W, h493km±5km, mb4.2/19, mb1 4.4/20, mb1mx4.4/21, mbtmp4.2/20, Error ellipse: s-maj=11.7km s-min=7.5km az=157.0*

BGS ***11*** *00:25:36.8, 2033S×17784W, h488km, mb4.9(NEIC)*

SZGRF ***11*** *00:25:36.4, 2052S×17736W, h505km, Fiji Islands region*

ISC 11 00:25:35.4±0.1, 2037S±004×17782W±004, h483km, h483km±2.7km: pP-P, n677, σ0=95/420, mb4.9/72, 121C-163D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.63**	**43**	P		P	**00 27 35.4**	**-2.6**
	53nm,0.3s,baz=38,slow=2.4,SNR=46						
AFI				S		**S**	**00 29 08.9**	**-10**
	130nm,0.3s,baz=208,slow=21,SNR=11						
AFI	**Afiamalu**	**8.63**	**43**	⇓*i*P		P	**00 27 35.3**	**-2.7**
AFI				*e*S		**S**	**00 29 10.1**	**-8.7**
AFI				pmax	pmax			
	comp=Z,209nm,0.6s						
AFI	**Afiamalu**	**8.63**	**43**	⇓*i*P		P	**00 27 35.3**	**-2.7**
	comp=Z,209nm,0.6s						
AFI				*e*S		**S**	**00 29 10.1**	**-8.7**
RAO	**Raoul Island**	**8.85**	**181**	P		P	**00 27 40.2**	**0.0**
	comp=Z,842nm,0.3s,baz=103,slow=6.4,SNR=18						
RAO				S		**S**	**00 29 19.1**	**-3.8**
	comp=Z,169nm,0.3s,baz=257,slow=24,SNR=3.5						
RAO	**Raoul Island**	**8.85**	**181**	P		P	**00 27 40.2**	**-0.1**
RAO				S		**S**	**00 29 19.1**	**-3.8**
RAO				pmax	pmax			

comp=Z,842nm,0.3s
RAO smax
comp=N,169nm,0.3s
RAO Raoul Island 8.85 181 ⇑*i*P **P 00 27 40.1 -0.2**
comp=N,2µm,0.4s
FUNA Funafuti 12.12 346 *e*P **P 00 28 15.4 +0.2**
comp=N,448nm,1.0s
DZM Mont Dzumac 14.77 261 P **P 00 28 43.0 -0.4**
comp=N,2.2nm,0.3s,baz=77,slow=18,SNR=20
RAR Rarotonga 16.90 96 P **P 00 29 05.2 -0.5**
comp=N,1.6nm,0.3s,baz=310,slow=7.6,SNR=3.0
RAR Rarotonga 16.90 96 P **P 00 29 05.2 -0.5**
RAR pmax pmax
comp=Z,2.0nm,0.3s
URZ Urewera 18.37 193 P **P 00 29 17.7 -2.2**
comp=Z,4.3nm,0.3s,baz=353,slow=4.3,SNR=20
URZ S **S 00 32 16.6 -6.5**
comp=Z,1.7nm,0.3s,baz=344,slow=20,SNR=3.0
RPZ Rata Peaks 25.07 199 P **P 00 30 20.9 +0.5**
comp=Z,11nm,0.6s,mb4.5,baz=339,slow=13,SNR=4.1
PPT Papeete 26.84 89 *e*P **P 00 30 35.4 -0.6**
comp=Z,71nm,1.4s,mb4.9
PPT *e*pP 00 31 53.2
comp=Z,92nm,1.5s
PPT Papeete 26.84 89 P **P 00 30 35.9 -0.2**
comp=Z,25nm,0.3s,mb5.1,baz=155,slow=16,SNR=3.8
PPT Papeete 26.84 89 P **P 00 30 35.9 -0.1**
PPT pmax pmax
comp=Z,25nm,0.3s
PMOR Pomariorio Ree 28.98 84 *e*P **P 00 30 53.8 -1.0**
comp=Z,56nm,1.0s,mb5.0
VAH Vaihoa 29.17 85 *e*P **P 00 30 55.3 -1.1**
comp=Z,41nm,0.9s,mb4.9
ARMA Armidale 29.28 244 *e*P **P 00 30 58.8 +1.4**
CNB Canberra Magne 32.44 236 *e*P **P 00 31 25.6 +1.0**
comp=Z,263nm,0.7s,mb5.8
CTA Charters Tower 33.67 264 *e*P **P 00 31 34.9 -0.2**
comp=Z,51nm,0.3s,mb5.4
CTA Charters Tower 33.67 264 P **P 00 31 35.7 +0.6**
comp=Z,78nm,0.4s,mb5.5,baz=94,slow=10,SNR=139
CTA PcP PcP 00 34 01.3 +0.1
comp=Z,15nm,0.7s,baz=122,slow=1.8,SNR=5.1
CTA S **S 00 36 23.6 +0.6**
comp=Z,2.0nm,0.6s,baz=227,slow=22,SNR=3.5
CTA ScP ScP 00 36 59.6 0.0
comp=Z,16nm,1.1s,baz=35,slow=4.3,SNR=5.3
CTA Charters Tower 33.67 264 P **P 00 31 35.7 +0.6**
CTA 00 34 01.3
CTA S **S 00 36 23.6 +0.6**
CTA pmax pmax
comp=Z,78nm,0.4s
CTA smax
comp=N,2.0nm,0.6s
CTAO Charters Tower 33.67 264 *e*P **P 00 31 35.3 +0.2**
CTAO *e* 00 34 01.3
PMG Port Moresby 35.48 283 P **P 00 31 50.7 +0.5**
comp=N,130nm,0.8s,mb5.4,baz=81,slow=5.1,SNR=104
PMG PcP PcP 00 34 06.4 -0.1
comp=N,15nm,0.7s,baz=17,slow=4.2,SNR=4.1
PMG Port Moresby 35.48 283 P **P 00 31 50.7 +0.5**
PMG 00 34 06.4
PMG pmax pmax
comp=Z,130nm,0.8s
PMG Port Moresby 35.48 283 *e*P **P 00 31 50.5 +0.3**
PMG *e*PcP PcP 00 34 06.7 +0.1
TOO Toolangi 36.11 234 *e*P **P 00 31 56.1 +0.6**
comp=Z,116nm,0.6s,mb5.5
TOO Toolangi 36.11 234 *e*P **P 00 31 56.1 +0.6**
TOO pmax pmax
comp=Z,116nm,0.6s,mb5.5
TAU Tasmania Unive 36.84 224 P **P 00 32 02.7 +1.2**
comp=Z,812nm,0.7s,SNR=17
TAU Tasmania Unive 36.84 224 *e*P **P 00 32 02.1 +0.6**
TAU pmax pmax
comp=Z,83nm,0.7s,mb5.3
TAU Tasmania Unive 36.84 224 *e*P **P 00 32 02.1 +0.5**
comp=Z,83nm,0.7s,mb5.3
STKA Stephens Creek 38.00 244 *e*P **P 00 32 11.7 +0.6**
comp=Z,49nm,0.9s,mb4.9
STKA *e*PCP PcP 00 34 14.6 +0.2
STKA Stephens Creek 38.00 244 P **P 00 32 11.9 +0.9**
comp=Z,48nm,0.8s,mb5.0,baz=88,slow=9.1,SNR=47
STKA PcP PcP 00 34 14.8 +0.4
comp=Z,17nm,0.6s,baz=66,slow=5.3,SNR=6.3
STKA ScP ScP 00 37 16.4 +0.7
comp=Z,11nm,0.8s,baz=67,slow=2.5,SNR=6.2
STKA PKiKP PKiKP 00 41 26.2 -1.9
comp=Z,1.8nm,0.6s,baz=157,slow=15,SNR=2.4
AS31 Alice Springs 44.71 257 ⇓*i*P **P 00 33 04.8 +0.4**
AS31 *e* pP 00 34 36.7 +1.8
ASAR Alice Springs 44.71 257 P **P 00 33 04.7 +0.2**
comp=Z,146nm,0.7s,mb5.5,baz=100,slow=8.0,SNR=1203
ASAR PcP PcP 00 34 36.7 0.0
comp=Z,31nm,0.6s,baz=104,slow=3.7,SNR=17
ASAR ScP ScP 00 37 42.8 +0.4
comp=Z,2.5nm,0.6s,baz=94,slow=4.9,SNR=5.9
ASAR S **S 00 39 03.0 -2.1**
comp=Z,3.8nm,0.8s,baz=92,slow=15,SNR=8.8
ASAR PKiKP PKiKP 00 41 32.5 -1.6
comp=Z,0.7nm,0.5s,baz=102,slow=1.4,SNR=6.4
ASAR Alice Springs 44.71 257 P **P 00 33 04.7 +0.2**
ASAR pP 00 34 36.7 +1.8
ASAR S **S 00 39 03.0 -2.2**
ASAR pmax pmax
comp=Z,146nm,0.7s
ASAR smax
comp=N,4.0nm,0.8s
ASAR Alice Springs 44.71 257 P **P 00 33 04.7 +0.2**
ASAR PcP PcP 00 34 36.7 0.0
ASAR ScP ScP 00 37 42.8 +0.4
ASAR S **S 00 39 03.0 -2.1**
ASPA Alice Springs 44.72 257 *e*P **P 00 33 04.7 +0.2**
WB2 Warramunga Arr 44.77 262 *e*P **P 00 33 04.4 -0.6**
WB2 *e*PCP PcP 00 34 37.2 +0.3
WB2 Warramunga Arr 44.77 262 ⇓*i*P **P 00 33 04.6 -0.3**
WB2 *e* pP 00 34 36.9 +1.4
WRAB Tennant Creek 44.78 262 P **P 00 33 04.0 -1.0**
comp=N,596nm,0.9s,mb6.0,SNR=49
WRAB Tennant Creek 44.78 262 *e*P **P 00 33 03.8 -1.1**
WRAB *e*PcP PcP 00 34 37.1 +0.2
WRA Warramunga Arr 44.79 262 P **P 00 33 04.6 -0.5**
comp=N,76nm,1.0s,mb5.1,baz=95,slow=7.5,SNR=118
WRA PcP PcP 00 34 37.1 +0.1
comp=N,27nm,0.9s,baz=95,slow=4.0,SNR=12
WRA ScP ScP 00 37 43.5 +0.7
comp=N,4.5nm,1.0s,baz=88,slow=4.1,SNR=5.5
WRA S **S 00 39 03.5 -2.7**
comp=N,3.0nm,1.0s,baz=97,slow=13,SNR=5.3
WRA PKiKP PKiKP 00 41 32.7 -1.5
comp=N,1.0nm,0.6s,baz=84,slow=0.5,SNR=5.7
WRA Warramunga Arr 44.79 262 P **P 00 33 04.6 -0.4**
WRA pP 00 34 37.1 +1.6
WRA S **S 00 39 03.5 -2.7**
WRA pmax pmax
comp=Z,76nm,1.0s
WRA smax
comp=N,3.0nm,1.0s
WRA Warramunga Arr 44.79 262 P **P 00 33 04.6 -0.5**
WRA PcP PcP 00 34 37.1 +0.1
WRA ScP ScP 00 37 43.5 +0.7
WRA S **S 00 39 03.5 -2.7**
KAKA Kakadu 48.14 271 *e*P **P 00 33 30.4 -0.1**
comp=N,73nm,0.9s,mb5.0
KAKA *e*PCP PcP 00 34 48.8 -0.1
FORT Forrest 49.50 246 *e*P **P 00 33 40.2 -0.5**
comp=N,226nm,0.8s,mb5.5
FITZ Fitzroy Crossi 53.21 262 *e*P **P 00 34 07.6 0.0**
comp=N,40nm,0.6s,mb4.9
FITZ *e*PCP PcP 00 35 08.1 +0.2
SBA Scott Base 58.02 184 *e*P **P 00 34 43.1 +2.0**
SBA pmax pmax
comp=Z,90nm,0.9s,mb5.1
SBA Scott Base 58.02 184 *e*P **P 00 34 43.1 +2.0**
comp=Z,90nm,0.9s,mb5.1
MBWA Marble Bar 58.05 257 *e*P **P 00 34 41.1 -0.2**
comp=Z,133nm,0.9s,mb5.3
MBWA *e*PcP PcP 00 35 26.9 +0.1
VNDA Vanda 58.06 185 P **P 00 34 42.4 +1.0**
comp=Z,24nm,0.9s,mb4.5,baz=355,slow=7.7,SNR=150
VNDA Vanda 58.06 185 P **P 00 34 42.4 +1.0**
VNDA pmax pmax
comp=Z,24nm,0.9s
VNDA Vanda 58.06 185 P **P 00 34 42.4 +1.0**
KLBR Kellerberrin 58.27 245 *e*P **P 00 34 42.2 -0.6**
comp=Z,331nm,0.9s,mb5.7
NWAO Narrogin (SRO) 58.58 243 *e*P **P 00 34 45.1 +0.2**
NWAO pmax pmax
comp=Z,135nm,1.1s
NWAO Narrogin (SRO) 58.58 243 *e*P **P 00 34 45.1 +0.2**
comp=Z,135nm,1.1s,mb5.2
MUN Mundaring 59.54 244 *e*P **P 00 34 51.1 -0.3**
CASY Casey 64.16 205 *e*P **P 00 35 21.3 -0.3**
TSM Tawau 67.67 284 P **P 00 35 44.7 +1.1**
QSPA South Pole Qui 69.70 180 ⇓*i*P **P 00 35 56.5 +0.6**
comp=Z,121nm,0.7s,mb5.5
KKM Kinabalu 69.89 285 P **P 00 35 57.8 +0.8**
MJAR Matsushiro Arr 70.20 324 P **P 00 35 58.4 -0.5**
comp=Z,4.1nm,0.7s,mb4.1,baz=155,slow=5.3,SNR=16
MJAR Matsushiro Arr 70.20 324 P **P 00 35 58.4 -0.4**
MJAR pmax pmax
comp=Z,40nm,0.7s
MAJO Matsushiro 70.20 324 P **P 00 35 58.3 -0.6**
MAJO pmax pmax
comp=Z,40nm,0.4s,mb5.3
MAJO Matsushiro 70.20 324 P **P 00 35 58.3 -0.6**
comp=Z,3.9nm,0.4s,mb4.3
MIR Mirnyy 71.19 205 *d*iP **P 00 36 06.0 +1.3**
MIR *i* 00 36 22.0
MIR pmax pmax
comp=Z,450nm,1.0s,mb6.0
KSM Kuching 73.56 278 *e*P **P 00 36 18.9 +0.5**
YHNB Yeheng 74.17 304 *e*P **P 00 36 21.4 -0.5**
YSS Yuzh-Sakhalins 75.85 333 ⇑*i*P **P 00 36 31.6 +0.3**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.8
KSRS Korea Array 76.90 318 P **P 00 36 36.1 -1.1**
comp=Z,2.2nm,0.8s,baz=120,slow=7.2,SNR=4.1
BSC Santa Cruz Isl 77.39 46 ⇑P **P 00 36 40.0 +0.2**
baz=78
FARB Farallon Islan 77.40 42 ⇓P **P 00 36 39.8 -0.1**
baz=78
V03C Hunter Liggett 77.51 44 ⇓P **P 00 36 41.0 +0.5**
baz=78
V04C Ramage Ranch, 77.52 44 ⇑P **P 00 36 40.9 +0.4**
baz=78,SNR=5.2
HAST UC Hastings Re 77.52 43 ⇓P **P 00 36 40.9 +0.4**
baz=78,SNR=15
BNLO Ben Lomond (Sa 77.57 43 ⇑P **P 00 36 40.9 +0.1**
baz=78
SBC Santa Barbara 77.59 46 ⇑P **P 00 36 40.3 -0.6**
baz=78
JRSC Jasper Ridge 77.70 42 ⇑P **P 00 36 41.4 0.0**
baz=78
PKM Peak Mountain 77.78 46 ⇑P **P 00 36 42.2 +0.3**
baz=78,SNR=6.0
SAO San Andreas Ge 77.81 43 *e*P **P 00 36 42.8 +0.7**
SAO pmax pmax
comp=Z,26nm,0.8s,mb4.7
SAO San Andreas Ge 77.81 43 *e*P **P 00 36 42.8 +0.6**
comp=Z,26nm,0.8s,mb4.7
LRV Little Rabbit 77.89 44 *e*P **P 00 36 42.4 -0.1**
CIS Catalina Islan 77.89 47 ⇑P **P 00 36 42.4 -0.1**
baz=78
SMMC Simmler 77.90 45 ⇑P **P 00 36 43.0 +0.4**
baz=78
PKD Parkfield 77.91 44 ⇑P **P 00 36 42.9 +0.2**
baz=78,SNR=6.2
U04C Hernandez Rese 78.00 44 ⇑P **P 00 36 43.7 +0.5**
baz=78,SNR=9.9
PACP Pacheco Peak 78.06 43 ⇓P **P 00 36 43.9 +0.4**
baz=78,SNR=16
WENL Wente Brothers 78.13 42 ⇑P **P 00 36 44.1 +0.2**
baz=78
CVS Carmenet Viney 78.14 41 ⇓P **P 00 36 43.7 -0.1**
baz=78,SNR=6.1
NSHM Saint Helena R 78.15 41 *e*P **P 00 36 43.2 -0.7**
HOPS Hopland 78.16 41 *e*P **P 00 36 44.5 +0.5**
comp=Z,48nm,1.1s,mb4.8
HOPS Hopland 78.16 41 ⇓P **P 00 36 44.1 +0.1**
baz=78
P01C Double 8 Ranch 78.29 40 ⇓P **P 00 36 44.7 0.0**
baz=78
DECC Green Verdugo 78.42 47 ⇓P **P 00 36 45.0 -0.3**
baz=79
O01C Eel River Cons 78.43 39 ⇑P **P 00 36 45.6 +0.2**
baz=79,SNR=5.4
MNRC McLaughlin Nat 78.47 41 ⇑P **P 00 36 46.1 +0.4**
baz=79,SNR=13
109C Camp Elliot, M 78.51 48 ⇑P **P 00 36 45.7 -0.2**
baz=79
ARVC Arvin 78.58 46 ⇓P **P 00 36 46.1 -0.1**
baz=79
Q03C Winters 78.59 41 ⇑P **P 00 36 46.8 +0.5**
baz=79
MWC Mount Wilson 78.59 47 *e*P **P 00 36 46.3 0.0**
BAR Barrett 78.70 49 *e*P **P 00 36 47.2 +0.3**
GASB Alder Springs 78.78 40 ⇓P **P 00 36 48.2 +0.8**
baz=79,SNR=12
VES Vestal, Richgr 78.82 45 ⇑P **P 00 36 47.1 -0.4**
baz=79
MURC Murrieta 78.83 48 ⇓P **P 00 36 47.5 -0.1**
baz=79
BFSC Mount Baldy St 78.87 47 ⇑P **P 00 36 47.0 -0.8**
baz=79,SNR=6.8
S05C Merced 78.88 43 ⇑P **P 00 36 47.5 -0.3**
baz=79
MONP Monument Peak 78.99 49 ⇓P **P 00 36 48.8 +0.3**
baz=79,SNR=14
EDW2 Edwards Air Fo 79.00 46 P **P 00 36 48.7 +0.2**
baz=79,SNR=27
O02C Red Bluff 79.06 40 ⇑P **P 00 36 49.6 +0.7**
baz=79,SNR=14
T06C Milerton Lake 79.08 44 ⇑P **P 00 36 48.6 -0.3**
baz=79,SNR=7.4
SUTB Sutter Butte 79.09 41 ⇑P **P 00 36 48.5 -0.5**
baz=79
Q04C Lincoln 79.11 42 ⇑P **P 00 36 48.8 -0.2**
baz=79
ISA Isabella 79.12 46 *e*P **P 00 36 52.6 +3.5**
ISA Isabella 79.12 46 P **P 00 36 49.3 +0.2**
baz=79,SNR=18
N02C Big Bar 79.16 39 ⇑P **P 00 36 49.7 +0.3**
baz=79
CMB Columbia Colle 79.25 43 *e*P **P 00 36 49.5 -0.3**
CMB pmax pmax
comp=Z,19nm,0.9s,mb4.6
CMB Columbia Colle 79.25 43 *e*P **P 00 36 49.5 -0.3**
comp=Z,19nm,0.9s,mb4.6
CMB Columbia Colle 79.25 43 P **P 00 36 49.6 -0.2**
baz=79,SNR=17
M01C Crescent City 79.33 38 ⇓P **P 00 36 50.4 +0.2**
baz=80
OHCM Honcut 79.34 41 *e*P **P 00 36 50.3 0.0**
PFO Pinyon Flat Ob 79.36 48 P **P 00 36 50.5 +0.1**
comp=Z,8.0nm,0.9s,mb4.2,baz=314,slow=2.6,SNR=8.7
PFO Pinyon Flat Ob 79.36 48 P **P 00 36 50.5 +0.1**
PFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
PFO Pinyon Flat Ob 79.36 48 *e*P **P 00 36 50.5 +0.1**
PFO Pinyon Flat Ob 79.36 48 P **P 00 36 50.7 +0.3**
baz=80,SNR=5.2
O03C Acorn Hollow, 79.41 40 ⇓P **P 00 36 50.4 -0.2**
baz=80
LAVA Lava Cap Winer 79.45 42 ⇑P **P 00 36 50.5 -0.4**
baz=80
SWSC Sam W. Stewart 79.46 49 ⇓P **P 00 36 51.0 +0.1**
baz=80,SNR=5.1
WDC Whiskeytown Da 79.46 40 *e*P **P 00 36 51.1 +0.2**
WDC Whiskeytown Da 79.46 40 ⇑P **P 00 36 51.0 0.0**
baz=80,SNR=6.2
ORV Oroville 79.46 41 P **P 00 36 50.8 -0.1**
baz=80,SNR=16
S06C San Francisco 79.50 43 ⇑P **P 00 36 51.0 -0.2**
baz=80,SNR=8.9
KCC Kaiser Creek 79.52 44 ⇑P **P 00 36 51.3 +0.1**
baz=80,SNR=11
LRMC Laurel Mountai 79.54 46 ⇓P **P 00 36 51.4 0.0**
baz=80,SNR=8.7
RRX Edison Barstow 79.68 47 ⇓P **P 00 36 52.2 +0.1**
baz=80
M02C Callahan 79.78 39 ⇓P **P 00 36 53.2 +0.5**
baz=80,SNR=8.1
CWC Cottonwood Cre 79.82 45 ⇑P **P 00 36 52.9 0.0**
baz=80
R05C Kirkwood Meado 79.84 42 ⇑P **P 00 36 53.0 +0.1**
baz=80,SNR=18
P05C Yuba Gap, Truc 79.86 42 P **P 00 36 53.3 +0.2**
baz=80,SNR=12
BELC Belle Mtn. 79.89 48 ⇓P **P 00 36 53.4 +0.2**
baz=80,SNR=14
NJ2 Nanjing 79.92 310 *e*P **P 00 36 53.9 +0.5**
NJ2 AP pP 00 38 37.4 -1.2
NJ2 XP sP 00 39 26.5 -2.0
NJ2 PP PP 00 40 03.9 +0.5
NJ2 S S 00 46 15.0 -1.8
NJ2 XS sS 00 49 24.5 +0.2
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,7.4s
MPMC Manual Prospec 80.00 46 P **P 00 36 54.1 +0.3**
baz=80,SNR=11
MLAC Mammoth Lakes 80.01 44 ⇓P **P 00 36 54.2 +0.4**
baz=80
MTUM Tungsten Hills 80.03 44 *e*P **P 00 36 54.7 +0.8**
GSC Goldstone 80.05 47 *e*P **P 00 36 54.5 +0.5**
GSC Goldstone 80.05 47 ⇑P **P 00 36 53.8 -0.2**
baz=80
DAC Darwin (Calif) 80.06 45 *e*P **P 00 36 54.0 -0.1**
O05C Quincy 80.07 41 ⇓P **P 00 36 54.1 0.0**
baz=80
TIN Tinemaha 80.08 44 ⇓P **P 00 36 54.2 0.0**
baz=80
YBH Yreka Blue Hor 80.08 39 *e*P **P 00 36 54.8 +0.6**
YBH pmax pmax
comp=Z,25nm,0.8s
YBH Yreka Blue Hor 80.08 39 *e*P **P 00 36 54.8 +0.6**
comp=Z,25nm,0.8s,mb4.8
YBH Yreka Blue Hor 80.08 39 ⇑P **P 00 36 54.4 +0.2**
baz=80,SNR=9.2
BC3 Big Chuckw Mtn 80.09 49 ⇓P **P 00 36 54.7 +0.4**
baz=80,SNR=7.1
HEC Hector,Ludlow 80.11 47 ⇑P **P 00 36 54.3 0.0**
baz=80,SNR=7.8
WAKR Walker 80.13 43 *e*P **P 00 36 54.8 +0.4**
R06C Coleville 80.13 43 ⇓P **P 00 36 54.8 +0.3**
baz=80,SNR=15
R07C Lee Vining 80.14 43 P **P 00 36 55.0 +0.5**
baz=80,SNR=14
M03C McCloud 80.14 39 ⇓P **P 00 36 54.6 +0.1**
baz=80,SNR=7.6
O04C Chester 80.18 40 ⇑P **P 00 36 54.9 +0.2**
baz=80,SNR=5.7
GLA Glamis 80.21 49 *e*P **P 00 36 56.0 +1.1**
GLA Glamis 80.21 49 ⇑P **P 00 36 55.5 +0.6**
baz=80,SNR=8.7
HATC Hat Creek Radi 80.25 40 ⇓P **P 00 36 55.3 +0.2**
baz=80,SNR=6.2
KGM Kluang 80.27 276 P **P 00 36 56.7 +1.5**
K02A Glendale 80.28 37 ⇑P **P 00 36 55.5 +0.3**
baz=80
BEKR Beckwourth 80.36 41 P **P 00 36 55.6 0.0**
baz=80,SNR=19
S08C White Mtn Res 80.36 44 ⇑P **P 00 36 56.2 +0.5**
baz=80,SNR=26
WCN Washoe City 80.39 42 ⇑P **P 00 36 56.4 +0.6**
baz=81
HUMO Hull Mountain 80.48 38 *e*P **P 00 36 55.9 -0.4**
comp=Z,15nm,0.9s,mb4.5
HUMO Hull Mountain 80.48 38 ⇑P **P 00 36 57.0 +0.7**
baz=81
MDJ Mudanjiang 80.50 325 P **P 00 36 57.0 +0.6**
MDJ AP pP 00 38 40.1 -1.7
MDJ XP sP 00 39 28.8 -2.9
MDJ AMB AMB
comp=Z,20nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,44nm,4.5s
MDJ Mudanjiang 80.50 325 *e*P **P 00 36 56.4 0.0**
comp=Z,21nm,1.0s,mb4.6
P06A Stead Airport, 80.53 42 ⇓P **P 00 36 56.9 +0.4**
baz=81
IRM Iron Mountain 80.57 48 P **P 00 36 57.3 +0.5**
baz=81,SNR=14
GRAC Grapevine Rang 80.61 45 ⇓P **P 00 36 57.1 +0.1**
baz=81,SNR=11
M04C Macdoel 80.62 39 ⇑P **P 00 36 57.4 +0.3**
baz=81
FURC Furnace Creek, 80.65 46 ⇑P **P 00 36 57.0 -0.2**
baz=81
TUQ Turquoise Mtn. 80.72 47 ⇓P **P 00 36 57.7 +0.1**
baz=81,SNR=12
SHOC Shoshone 80.73 46 ⇑P **P 00 36 57.7 +0.1**
baz=81
Y12C Blythe 80.79 49 ⇑P **P 00 36 58.3 +0.4**
baz=81,SNR=9.1
NVAR Mina Array Bea 80.81 43 P **P 00 36 58.4 +0.4**
comp=Z,11nm,0.8s,mb4.4,baz=233,slow=9.1,SNR=43
NVAR pP pP 00 38 45.0 +1.5
comp=Z,0.8nm,0.5s,baz=243,slow=7.9,SNR=2.6
L04A Klamath Falls 80.83 39 ⇑P **P 00 36 58.4 +0.3**
baz=81,SNR=5.3
O06A Flanigan 80.86 41 ⇓P **P 00 36 58.3 +0.1**
baz=81,SNR=11
PAHR Pah Rah Range 80.86 42 ⇑*i*P **P 00 36 58.4 +0.1**
comp=Z,48nm,1.4s,mb4.8
QIZ Qiongzhong 80.95 294 P **P 00 36 59.8 +1.0**
QIZ S S 00 46 31.0 +3.7
QIZ XS sS 00 49 34.2 -1.2
QIZ AMB AMB
comp=Z,13nm,1.6s,mb4.2
QIZ AMB AMB
comp=Z,157nm,3.7s
U10A Ash Meadows, A 80.98 46 ⇓P **P 00 36 59.4 +0.5**
baz=81
M06C Likely Place G 81.08 40 ⇓P **P 00 36 59.7 +0.3**
baz=81,SNR=7.1
I03A Eugene 81.16 37 ⇑P **P 00 37 00.2 +0.3**
baz=81
N06A Buffalo Meadow 81.20 41 P **P 00 37 00.1 +0.1**
baz=81,SNR=12
Q08A Gabbs 81.30 43 P **P 00 37 00.7 +0.1**
baz=82,SNR=11
TPH Tonopah 81.31 44 *e*P **P 00 37 01.2 +0.6**
TPH pmax pmax
comp=Z,24nm,1.0s,mb4.7
TPH Tonopah 81.31 44 *e*P **P 00 37 01.2 +0.6**
comp=Z,24nm,1.0s,mb4.7
Y13A Salome 81.32 49 ⇓P **P 00 37 01.3 +0.6**
baz=82,SNR=14
PMSA Palmer Station 81.34 157 *e*P **P 00 37 00.4 -0.4**
comp=Z,38nm,0.6s,mb5.1
PDMCI Parker Dam,Lak 81.35 49 ⇓P **P 00 37 01.3 +0.5**
baz=82,SNR=5.5
J04A Umpqua Nationa 81.36 38 ⇓P **P 00 37 01.5 +0.6**
baz=82
W12A Cal Nev Ari 81.37 47 ⇑P **P 00 37 01.2 +0.3**
baz=82
L05A Lakeview 81.38 39 ⇓P **P 00 37 01.5 +0.6**
baz=82,SNR=6.0
O07A Toulon 81.45 42 P **P 00 37 01.4 +0.1**
baz=82,SNR=22
R09A Tonopah 81.50 44 P **P 00 37 01.6 +0.1**
baz=82,SNR=19
I04A Tendick Farm, 81.54 37 ⇓P **P 00 37 01.5 -0.3**
baz=82
H03A Soap Creek Ran 81.60 36 ⇑P **P 00 37 02.5 +0.4**
baz=82
MOD Modoc 81.61 40 *e*P **P 00 37 02.4 +0.2**
comp=Z,27nm,1.0s,mb4.7
MOD Modoc 81.61 40 ⇓P **P 00 37 02.4 +0.2**
baz=82
V12A Nelson 81.61 47 P **P 00 37 02.5 +0.3**
baz=82,SNR=6.0
Z14A Wintersburg 81.72 50 ⇑P **P 00 37 03.3 +0.6**
baz=82,SNR=11
X13A Yucca 81.72 49 P **P 00 37 03.2 +0.5**
baz=82,SNR=8.4
MAW Mawson 81.75 200 *e*P **P 00 37 02.2 -0.6**
comp=Z,21nm,0.6s,mb4.8
MAW Mawson 81.75 200 P **P 00 37 02.4 -0.5**
comp=Z,24nm,0.5s,mb4.9,baz=127,slow=6.6,SNR=38
MAW Mawson 81.75 200 *e*P **P 00 37 02.2 -0.6**
MAW pmax pmax
comp=Z,21nm,0.6s
N07B Gerlach 81.75 41 ⇓P **P 00 37 03.1 +0.3**
baz=82
K05A Summer Lake 81.75 39 ⇑P **P 00 37 03.4 +0.5**
baz=82,SNR=9.0
Q09A Carvers 81.76 43 ⇑P **P 00 37 03.2 +0.3**
baz=82
SHPR Sheep Range 81.82 46 *e*P **P 00 37 03.6 +0.3**
J05A Fort Rock 81.89 38 P **P 00 37 04.3 +0.7**
baz=82,SNR=15
115A Sonoran Desert 81.90 51 ⇓P **P 00 37 04.2 +0.6**
baz=82,SNR=5.7
W13A Hualapai Mount 81.95 48 ⇓P **P 00 37 04.4 +0.5**
baz=82
Y14A Wickenburg 81.97 49 ⇓P **P 00 37 04.5 +0.5**
baz=82,SNR=13

O08A Rochester Mine 81.97 42 ⇓P P 00 37 04.2 +0.2
baz=82
M07A Soldier Meadow 81.98 40 ⇓P P 00 37 04.2 +0.2
baz=82,SNR=10
K06A Valley Falls 82.17 39 P P 00 37 05.4 +0.4
baz=82,SNR=12
U12A Valley of Fire 82.20 47 ⇑P P 00 37 05.7 +0.5
baz=82
116A Eloy 82.21 51 ⇓P P 00 37 06.1 +0.9
baz=82
H04A Detroit Lake 82.22 36 ⇑P P 00 37 05.0 -0.2
baz=82
L07A Adell 82.25 40 P P 00 37 06.0 +0.5
baz=82,SNR=10
N08A GE Springer Mi 82.27 41 P P 00 37 05.6 +0.1
baz=82,SNR=20
CN2 Changchun 82.30 322 *eP* **P 00 37 05.8 +0.2**
CN2 *eAP* pP 00 38 49.8 -1.8
CN2 *eS* S 00 46 41.5 +0.7
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
X14A Yava 82.32 49 P P 00 37 06.6 +0.8
baz=82,SNR=14
I05A Bend 82.41 37 ⇑P P 00 37 06.5 +0.3
baz=83
KLR Kul'dur 82.50 329 *eP* **P 00 37 02.0 -4.7**
M08A Happy Creek Ra 82.50 41 P P 00 37 07.2 +0.5
baz=83,SNR=8.2
J06A Christmas Vall 82.50 39 ⇑P P 00 37 06.6 -0.1
baz=83
O09A Fish Creek Ran 82.51 42 P P 00 37 06.8 +0.1
baz=83,SNR=7.2
W14A Seligman 82.57 48 ⇓P P 00 37 08.1 +1.0
baz=83,SNR=14
BMN Battle Mountai 82.64 42 *eP* **P 00 37 07.1 -0.3**
BMN pmax pmax
comp=Z,44nm,1.3s,mb4.8
BMN Battle Mountai 82.64 42 *eP* **P 00 37 07.1 -0.3**
comp=Z,44nm,1.3s,mb4.8
E03A Lebam 82.65 34 ⇓P P 00 37 07.7 +0.3
baz=83
P10A Eureka 82.67 43 ⇑P P 00 37 07.7 +0.2
baz=83
N09A Rock Creek Ran 82.69 42 P P 00 37 07.9 +0.2
baz=83,SNR=10.0
K07A Rock Creek Ran 82.70 39 ⇑P P 00 37 08.1 +0.4
baz=83
H05A Madras 82.73 37 ⇓P P 00 37 07.9 0.0
baz=83
Q11A Duckwater 82.76 44 ⇑P P 00 37 08.1 +0.1
baz=83
TUC Tucson 82.76 52 *eP* **P 00 37 08.7 +0.7**
TUC *e*PP pP 00 38 54.6 +0.5
TUC pmax pmax
comp=Z,27nm,1.4s,mb4.6
TUC Tucson 82.76 52 *eP* **P 00 37 08.7 +0.7**
comp=Z,27nm,1.4s,mb4.6
TUC *e*pP pP 00 38 54.5 +0.4
X15A Humboldt 82.80 49 P P 00 37 09.0 +0.9
baz=83,SNR=16
TDH Tom, Dick, Har 82.82 36 P P 00 37 08.2 -0.1
F04A Amboy 82.87 35 ⇑P P 00 37 08.3 -0.3
baz=83
I06A Prineville 82.89 38 ⇑P P 00 37 09.2 +0.6
baz=83
WVOR Wild Horse Val 82.92 40 *eP* **P 00 37 08.6 -0.2**
WVOR pmax pmax
comp=Z,35nm,1.3s,mb4.7
WVOR Wild Horse Val 82.92 40 *eP* **P 00 37 08.6 -0.2**
comp=Z,35nm,1.3s,mb4.7
L08A Fields 82.95 40 ⇑P P 00 37 09.2 +0.2
baz=83
VIPM Ingram Point 82.99 37 P P 00 37 09.3 +0.1
C03A Quillayute Air 83.03 33 ⇓P P 00 37 10.0 +0.7
baz=83
M09A Marrel Ranch, 83.06 41 ⇑P P 00 37 10.0 +0.5
baz=83
J07A Hines 83.07 39 ⇓P P 00 37 09.5 -0.1
baz=83
P11A Circle Ranch, 83.08 43 ⇓P P 00 37 09.7 +0.1
baz=83
W15A Williams 83.13 49 ⇓P P 00 37 10.6 +0.8
baz=83
K08A Mann Creek Ran 83.18 40 ⇓P P 00 37 10.4 +0.3
baz=83
N10A Dunphy 83.25 42 ⇑P P 00 37 10.6 +0.2
baz=83
L09A Wilkinson Ranc 83.27 41 ⇓P P 00 37 10.7 +0.2
baz=83
IPM Ipoh 83.28 277 P P 00 37 11.9 +1.2
H06A Lindquist Farm 83.29 37 ⇑P P 00 37 10.5 -0.1
baz=84
F05A White Salmon 83.37 36 ⇓P P 00 37 11.0 0.0
baz=84
I07A Izee 83.38 38 ⇑P P 00 37 11.5 +0.4
baz=84
Q12A Willow Creek R 83.41 44 ⇓P P 00 37 11.2 -0.1
baz=84,SNR=7.5
D04A Dobbs Creek Ra 83.41 34 ⇓P P 00 37 11.6 +0.4
baz=84
G06A Carlson Farm, 83.43 37 ⇑P P 00 37 11.1 -0.2
baz=84
J08A Circle Bar Ran 83.56 39 ⇑P P 00 37 12.0 0.0
baz=84
P12A McGill 83.59 44 ⇓P P 00 37 12.1 0.0
baz=84
CCUT Cedar City 83.59 46⇑ *eP* **P 00 37 12.7 +0.5**
K09A Rome 83.62 40 ⇑P P 00 37 12.5 +0.2
baz=84
SLKM Skilak Lake 83.64 13 *eP* **P 00 37 10.5 -1.9**
ARUT Antelope Range 83.67 46 *eP* **P 00 37 11.1 -1.4**
M10A I.L. Ranch, Tu 83.68 41 ⇑P P 00 37 13.0 +0.4
baz=84
C04A Brinnon 83.71 34 ⇑P P 00 37 12.9 +0.2
baz=84
I08A Drewsey 83.82 39 ⇓P P 00 37 13.3 0.0
baz=84
WPW White Pass 83.82 35 P P 00 37 13.1 -0.2
D05A Enumclaw 83.89 35 ⇓P P 00 37 13.9 +0.3
baz=84
KULM Kulim 83.92 278 *eP* **P 00 37 14.2 +0.4**
WUAZ Wupatki 83.93 49 *eP* **P 00 37 12.9 -1.0**
comp=Z,15nm,1.1s,mb4.5
WUAZ Wupatki 83.93 49 ⇑P P 00 37 14.3 +0.5
baz=84
J09A Fry Pan Ranch, 83.98 39 ⇑P P 00 37 13.8 -0.2
baz=84
G07A Ruggs Ranch, H 83.99 37 ⇓P P 00 37 13.9 -0.3
baz=84
E06A Yakima 84.03 36 ⇓P P 00 37 14.2 -0.2
baz=84
M11A Holland Ranch, 84.10 42 ⇑P P 00 37 15.0 +0.4
baz=84
H08A Prairie City 84.12 38 ⇑P P 00 37 14.5 -0.3
baz=84
F07A Phinny Hill Vi 84.22 36 ⇓P P 00 37 14.9 -0.4
baz=84
N12A Clover Valley, 84.25 43 P P 00 37 15.6 +0.2
baz=84,SNR=6.3
I09A Lost Marbles R 84.34 39 ⇓P P 00 37 15.5 -0.4
baz=84
C05A Tolt Reservoir 84.37 34 ⇑P P 00 37 15.7 -0.3
baz=84
G08A Pilot Rock 84.41 37 ⇓P P 00 37 16.1 -0.1
baz=85
A04A Legoe Bay, Lum 84.48 33 ⇑P P 00 37 16.5 0.0
baz=85
D06A Cle Elum 84.51 35 ⇑P P 00 37 16.5 -0.2
baz=85
B05A Bryant 84.51 34 ⇓P P 00 37 16.5 -0.2
baz=85
M12A Wells 84.64 42 ⇓P P 00 37 16.9 -0.4
baz=85
E07A Sunnyside 84.66 36 ⇑P P 00 37 17.5 0.0
baz=85
H09A Durkee 84.79 38 ⇓P P 00 37 17.8 -0.2
baz=85,SNR=9.2
N13A Wendover, West 84.79 43 ⇓P P 00 37 17.8 -0.3
baz=85
F08A Pendleton 84.81 37 ⇑P P 00 37 17.9 -0.2
baz=85
MSU Marysvale 84.89 46 *eP* **P 00 37 19.5 +0.9**
RPW Rockport 84.93 34 P P 00 37 18.1 -0.6
A05A Maple Falls 84.97 33 ⇓P P 00 37 18.6 -0.4
baz=85
D07A Quincy 84.98 35 ⇓P P 00 37 18.6 -0.4
baz=85
B06A Marblemount 84.99 34 ⇑P P 00 37 18.6 -0.4
baz=85
E08A Dider Farm, El 85.06 36 ⇓P P 00 37 19.0 -0.4
baz=85
M13A Montello 85.08 43 ⇑P P 00 37 19.3 -0.3
baz=85
DIV Divide 85.21 15 *eP* **P 00 37 18.8 -1.3**
C07A Waterville 85.23 35 ⇑P P 00 37 19.4 -0.8
baz=85
F09A S2 Ranch, Elgi 85.25 37 ⇑P P 00 37 19.8 -0.5
baz=85
DUG Dugway 85.34 44 ⇓P P 00 37 20.0 -0.7
baz=86
D08A Wollman Farm, 85.47 36 ⇑P P 00 37 21.0 -0.4
baz=86
E09A Wood Farm, Sta 85.58 37 ⇓P P 00 37 21.3 -0.7
baz=86
B07A Winthrop 85.67 34 ⇓P P 00 37 21.7 -0.7
baz=86
H11A Donnelly 85.78 39 ⇑P P 00 37 22.3 -0.6
baz=86
F10A Beach Ranch, E 85.79 38 ⇓P P 00 37 22.2 -0.8
baz=86
D09A Jones Farm, Ri 85.81 36 ⇓P P 00 37 22.6 -0.5
baz=86
C08A Higginbotham F 85.84 35 ⇑P P 00 37 22.5 -0.6
baz=86
BJT Baijiatuau 85.91 315 *eP* **P 00 37 23.3 -0.2**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 85.91 315 *eP* **P 00 37 23.3 -0.2**
comp=Z,12nm,0.6s,mb4.7
BJI Beijing 85.91 315 *eP* **P 00 37 23.3 -0.2**
BJI XP sP 00 39 58.6 -1.5
BJI S S 00 47 19.0 +2.9
BJI AMB AMB
comp=Z,20nm,1.4s,mb4.5
BJI Beijing 85.91 315 *eP* **P 00 37 23.3 -0.2**
comp=Z,20nm,1.4s,mb4.5
BJI sP sP 00 39 58.6 -1.5
BJI S S 00 47 19.0 +2.9
BJI sS sS 00 51 00.8 +34
TMUT Trail Mountain 85.94 46 *eP* **P 00 37 23.0 -0.7**
HLID Hailey 86.11 41 *eP* **P 00 37 28.9 +4.5**
HLID Hailey 86.11 41 ⇓P P 00 37 24.2 -0.3
baz=86
E10A Myers Farm, Un 86.15 37 ⇓P P 00 37 24.4 -0.2
baz=86
SEY Seymchan 86.28 347⇓ *eP* **P 00 37 24.1 -1.2**
SRU San Rafael 86.31 46 *eP* **P 00 37 25.6 +0.2**
F11A Grangeville 86.36 38 ⇓P P 00 37 24.1 -1.5
baz=86
A08A Turner Farm, O 86.41 34 ⇑P P 00 37 25.5 -0.4
baz=87
LAZ Ladron 86.44 51 *eP* **P 00 37 26.2 +0.2**
MNTX Cornudas Mount 86.53 55 *eP* **P 00 37 26.7 +0.2**
comp=Z,8.9nm,1.0s,mb4.5
GYA Guiyang 86.73 300⇓ *iP* **P 00 37 28.2 +0.8**
GYA AP pP 00 39 14.4 -0.4
GYA XP sP 00 40 01.8 -2.4
GYA PP PP 00 41 00.9 +2.7
GYA SKS 00 47 09.0
GYA S S 00 47 31.6 +7.7
GYA PS 00 49 35.7
GYA XS sS 00 50 35.7 +0.5
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.9s
A09A Danville 86.79 35 ⇑P P 00 37 27.3 -0.3
baz=87
C10A Spilker Farm, 86.81 36 ⇑P P 00 37 27.5 -0.3
baz=87
TXAR Lajitas Array 86.84 57 P P 00 37 28.5 +0.6
comp=Z,4.5nm,0.6s,mb4.4,baz=219,slow=6.8,SNR=88
TXAR pP pP 00 39 17.8 +2.4
comp=Z,5.2nm,1.0s,baz=216,slow=7.5,SNR=5.2
TXAR PKKPbc PKKPbc 00 55 18.6 +0.2
comp=Z,1.4nm,0.8s,baz=111,slow=2.3,SNR=12
TXAR Lajitas Array 86.84 57 P P 00 37 28.5 +0.6
TXAR pP pP 00 39 17.8 +2.4
TXAR PKKPbc PKKPbc 00 55 18.6 +0.2
SYO Syowa Base 86.89 193⇑ *iP* **P 00 37 26.2 -2.0**
SYO Syowa Base 86.89 193⇓ *i*PcP PcP 00 37 29.8 0.0
B10A Chitwood Farm, 87.13 36 ⇓P P 00 37 29.0 -0.3
baz=87
NEW Newport 87.17 36 P P 00 37 27.1 -2.4
comp=Z,4.9nm,0.8s,mb4.3,baz=237,slow=3.0,SNR=6.2
ANMO Albuquerque 87.19 51 *eP* **P 00 37 29.6 0.0**
A10A Northport 87.34 35 ⇓P P 00 37 29.7 -0.6
baz=88
F13A Darby 87.37 39 ⇓P P 00 37 29.9 -0.5
baz=88
GDL2 Guadalupe Moun 87.53 54 *eP* **P 00 37 32.1 +1.0**
B11A Sandpoint 87.68 36 ⇑P P 00 37 31.4 -0.5
baz=88
C12A Trout Creek 87.76 37 ⇓P P 00 37 31.8 -0.4
baz=88
E13A Victor 87.81 38 ⇑P P 00 37 31.8 -0.7
baz=88
RRI2 Red Ridge 87.92 42 *eP* **P 00 37 33.5 +0.5**
F14A Wisdom 87.95 39 ⇓P P 00 37 32.5 -0.7
baz=88
A11A Hall Mountain, 87.97 35 ⇑P P 00 37 33.2 0.0
baz=88
D13A Huson 88.00 38 ⇓P P 00 37 33.1 -0.3
baz=88
COLA College 88.04 12 *c iP* **P 00 37 31.3 -2.2**
COLA College 88.04 12 *eP* **P 00 37 31.2 -2.3**
comp=Z,18nm,0.6s,mb5.0
B12A Libby 88.12 36 ⇓P P 00 37 33.6 -0.3
baz=88
SNAA Sanae 88.14 178⇓ *iP* **P 00 37 32.5 -1.5**
SNAA *e* 00 37 33.5
SNAA *e* 00 37 49.3
SNAA *e* 00 42 31.7
SNAA Sanae 88.14 178⇓ *eP* **P 00 37 32.1 -1.9**
SNAA pmax pmax
comp=Z,27nm,1.0s
SNAA Sanae 88.14 178⇓ *eP* **P 00 37 32.0 -2.0**
comp=Z,27nm,1.0s,mb4.9
DLMT Dillon 88.17 40 *eP* **P 00 37 34.5 +0.3**
comp=Z,20nm,1.1s,mb4.8
XAN Xi'an 88.18 307 P P 00 37 34.8 +0.6
XAN AMB AMB
comp=Z,47nm,1.0s,mb5.2
E14A Clinton 88.20 39 ⇓P P 00 37 34.1 -0.2
baz=88
C13A Hot Springs 88.26 37 ⇓P P 00 37 34.0 -0.5
baz=88
VNA3 Neumayer Olymp 88.27 176⇓ *iP* **P 00 37 35.1 +0.5**
VNA3 *e* 00 37 36.2
VNA3 *e* 00 37 51.0
A12A Yaak River Ran 88.35 36 ⇓P P 00 37 34.7 -0.2
baz=89
F15A Butte 88.49 39 ⇓P P 00 37 35.4 -0.2
baz=89
LRM Limekiln Ridge 88.50 39 *eP* **P 00 37 36.3 +0.6**
LOHW Long Hollow 88.50 42 *eP* **P 00 37 35.7 0.0**
comp=Z,5.7nm,0.7s,mb4.5
D14A Greenough 88.55 38 ⇑P P 00 37 34.9 -1.0
baz=89
CHMT Chamberlain Mo 88.60 38 *eP* **P 00 37 35.7 -0.4**
QLMT Earthquake Lak 88.61 41 *eP* **P 00 37 37.1 +0.9**
FLWY Flagg Ranch 88.68 42 *eP* **P 00 37 35.8 -0.8**
comp=Z,36nm,1.4s,mb5.0
HIA Hailar 88.68 324 *eP* **P 00 37 35.9 -0.6**
HIA pmax pmax
comp=Z,5.0nm,0.3s
HIA Hailar 88.68 324 *eP* **P 00 37 35.9 -0.7**
comp=Z,4.6nm,0.3s,mb4.8
B13A Whitefish 88.70 37 ⇓P P 00 37 35.3 -1.3
baz=89
VNA2 Neumayer--Watz 88.71 177⇓ *iP* **P 00 37 35.7 -1.0**
baz=196,slow=3.6
VNA2 *e* 00 37 37.0
VNA2 *e* 00 37 52.1
VNA2 *e* 00 39 31.2
VNA2 *e* 00 39 42.2
VNA2 *e* 00 40 01.7
VNA2 *e* 00 40 11.1
VNA2 *e* 00 40 17.6
VNA2 *e* 00 40 30.2
VNA2 *e* 00 42 31.4
VNA2 *e* 00 42 41.0
VNA2 *e* 00 43 01.8
PDAR Pinedale Array 88.75 43 P P 00 37 36.4 -0.4
comp=Z,4.3nm,0.6s,mb4.5,baz=212,slow=3.4,SNR=39
PDAR pP pP 00 39 27.0 +2.2
comp=Z,0.6nm,0.8s,baz=203,slow=3.9,SNR=3.0
PDAR PP PP 00 41 09.5 -4.7
comp=Z,0.9nm,0.9s,baz=255,slow=2.7,SNR=4.0
PDAR PKKPbc PKKPbc 00 55 13.0 -0.8
comp=Z,1.3nm,0.8s,baz=73,slow=4.8,SNR=8.7
YFT Old Faithful 88.78 41 *eP* **P 00 37 38.8 +1.8**
NANT Nan 88.80 290 ⇓P P 00 37 36.0 -1.1
comp=Z,340nm,1.0s
YMR Madison River 88.81 41 *eP* **P 00 37 37.2 +0.1**
comp=Z,8.1nm,0.9s,mb4.5
LCCM Lewis and Clar 88.85 40 P P 00 37 37.3 0.0
MAIT Maitri 88.86 183 *eP* **P 00 37 36.5 -0.9**
NVL N'lazarevskaya 88.86 183 *d iP* **P 00 37 34.0 -3.4**
NVL pmax pmax
comp=Z,114nm,1.1s,mb5.6
NVL pmax pmax
comp=N,25nm,1.2s
NVL pmax pmax
comp=E,17nm,1.4s
BILL Bilibino 88.92 354 *eP* **P 00 37 35.6 -2.0**
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BILL Bilibino 88.92 354 *eP* **P 00 37 35.6 -2.1**
comp=Z,8.4nm,0.9s,mb4.6
VNA1 Neumayer--Stat 88.94 177⇓ *iP* **P 00 37 37.1 -0.6**
VNA1 *e* 00 37 38.3
VNA1 *e* 00 37 53.3
VNA1 *e* 00 39 32.5
D15A Lincoln 89.10 38 ⇓P P 00 37 37.8 -0.7
baz=89
DAWY Dawson 89.28 16 *eP* **P 00 37 38.2 -1.1**
HHC Hu-ho-hao-te 89.38 314 *eP* **P 00 37 40.3 +0.5**
HHC AP pP 00 39 29.1 +1.2
HHC XP sP 00 40 15.9 -1.1
HHC PP PP 00 41 21.3 +2.1
HHC SKS 00 47 24.0
HHC S S 00 47 48.5 +0.1
HHC XS sS 00 50 58.5 -2.7
HHC SS SS 00 54 03.2 +5.9
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,85nm,5.0s
KMI Kunming 89.44 297 P P 00 37 41.2 +1.1
KMI S S 00 47 52.5 +3.5
KMI SS SS 00 54 03.2 +5.1
KMI AMB AMB
comp=Z,35nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,88nm,3.6s
KMI Kunming 89.44 297 P P 00 37 41.2 +1.1
KMI S S 00 47 52.5 +3.5
KMI SS SS 00 54 03.2 +5.1
KMI pmax pmax
comp=Z,35nm,1.2s,mb5.1
KMI Kunming 89.44 297 P P 00 37 41.2 +1.1
comp=Z,35nm,1.2s,mb5.1
KMI S S 00 47 52.5 +3.5
KMI sS sS 00 50 53.8 -7.9
KMI SS SS 00 54 03.2 +5.1
CMIG Matias Romero 89.47 72 P P 00 37 40.2 0.0
comp=Z,2.9nm,0.7s,mb4.2,baz=270,slow=3.4,SNR=8.4
CMIG Matias Romero 89.47 72 P P 00 37 40.2 0.0
CHG Chiang Mai 90.36 290 ⇓P P 00 37 45.5 +1.2
comp=Z,52nm,0.8s,mb5.4
CHTO Chiang Mai 90.36 290⇓ *iP* **P 00 37 45.3 +1.0**
CHTO *e*PP pP 00 39 34.1 +1.6
CHTO pmax pmax
comp=Z,39nm,0.8s,mb5.3
CHTO Chiang Mai 90.36 290⇓ *iP* **P 00 37 45.3 +1.0**
comp=Z,39nm,0.8s,mb5.3
CHTO *e*pP pP 00 39 34.1 +1.6
CD2 Chengdu 90.86 303 *eP* **P 00 37 45.8 -0.8**
CD2 XP sP 00 40 21.3 -2.7
CD2 PP PP 00 41 31.8 +1.1
CD2 SKS 00 47 31.0
CD2 S S 00 47 59.8 -1.9
CD2 XS sS 00 51 10.8 -4.4
CD2 SS SS 00 54 21.4 +3.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,8.6s
EFI East Falkland 91.11 147 P P 00 37 47.9 +0.1
comp=Z,345nm,0.6s,SNR=6.5
EGMT Eagleton 91.21 39 ⇑P P 00 37 48.3 +0.1
baz=91
YAK Yakutsk 92.05 338⇓ *eP* **P 00 37 50.5 -1.6**
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.1
LZH Lanzhou 92.82 307 *eP* **P 00 37 56.5 +0.8**
LZH AP pP 00 39 45.5 +1.5
LZH XP sP 00 40 33.0 -0.1
LZH PP PP 00 41 49.5 +3.5
LZH *eS* S 00 48 17.0 -2.0
LZH XS sS 00 51 29.0 -4.5
LZH SS SS 00 54 50.5 +4.2
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,110nm,5.7s
LZH Lanzhou 92.82 307 *eP* **P 00 37 56.5 +0.8**
LZH *PP pP 00 39 45.5 +1.5
LZH *SP sP 00 40 33.0 -0.1
LZH 00 41 49.5
LZH *eS* S 00 48 17.0 -2.0
LZH SS SS 00 54 50.5 +4.2
LZH pmax pmax
comp=Z,28nm,1.0s,mb5.2
LZH Lanzhou 92.82 307 *eP* **P 00 37 56.5 +0.8**
comp=Z,28nm,1.0s,mb5.2
LZH pP pP 00 39 45.5 +1.5
LZH sP sP 00 40 33.0 -0.1
LZH PP PP 00 41 49.5 +3.5
LZH *eS* S 00 48 17.0 -2.0
LZH sS sS 00 51 29.0 -4.5
LZH SS SS 00 54 50.5 +4.2
INK Inuvik 94.10 15 P P 00 37 59.1 -2.4
comp=Z,2.6nm,1.0s,mb4.2,baz=254,slow=3.9,SNR=9.2
INK pP pP 00 39 50.0 0.0
comp=Z,2.3nm,1.1s,baz=176,slow=5.1,SNR=2.6
INK PP PP 00 41 49.0 -6.9
comp=Z,4.5nm,1.1s,baz=216,slow=10.3,SNR=3.8
INK Inuvik 94.10 15 P P 00 37 59.1 -2.4
INK pP pP 00 39 50.0 0.0
INK PP PP 00 41 49.0 -6.9
SONM Songino Array 95.76 319 P P 00 38 07.4 -1.6
comp=Z,0.5nm,0.7s,baz=137,slow=4.8,SNR=5.0
SONM pP pP 00 39 59.1 +1.4
comp=Z,0.3nm,0.8s,baz=68,slow=13,SNR=1.6
SONM PKiKP PKiKP 00 42 43.8 -1.5
comp=Z,0.4nm,0.6s,baz=75,slow=1.1,SNR=3.7
SONM S SKSac 00 47 55.2 -3.0
comp=Z,0.3nm,0.6s,baz=165,slow=6.2,SNR=3.7
SONM PKKPbc PKKPbc 00 54 55.6 -0.4
comp=Z,0.8nm,0.6s,baz=247,slow=2.7,SNR=6.6
SONM PKKPab 00 55 30.6
comp=Z,0.9nm,0.9s,baz=272,slow=4.8,SNR=5.4
SONM Songino Array 95.76 319 P P 00 38 07.4 -1.6
SONM S SKSac 00 47 55.2 -3.0
SONM 00 55 30.6
SONM Songino Array 95.76 319 P P 00 38 07.4 -1.6
SONM pP pP 00 39 59.1 +1.4
GTA Gaotai 97.02 309 *eP* **P 00 38 14.7 0.0**
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.6
LPAZ La Paz 101.96 112 P Pdif 00 38 40.4 +3.8
comp=Z,1.5nm,0.7s,baz=272,slow=4.3,SNR=7.6
LPAZ PKKPbc PKKPbc 00 54 38.6 -0.2
comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=5.6
LPAZ La Paz 101.96 112 P Pdif 00 38 40.4 +3.8
LPAZ PKKPbc PKKPbc 00 54 38.6 -0.2
WMQ Urumqi 106.97 311 PDIF Pdif 00 38 58.0 -0.9
WMQ PP PP 00 43 33.7 +1.9
WMQ PP PP
comp=Z,5.0nm,6.6s
ZAL Zalesovo 110.50 321 PKiKP PKiKP 00 43 09.8 -2.5
comp=Z,3.8nm,0.6s,baz=329,slow=2.5,SNR=24

ZAL PKKPbc PKKPbc 00 54 11.8 -1.1
comp=Z,0.6nm,0.5s,baz=310,slow=10,SNR=3.9
ZAL PKKPab PKKPab 00 54 23.3 -2.0
comp=Z,0.6nm,0.4s,baz=152,slow=0.5,SNR=4.3
ZAL Zalesovo 110.50 321 *i* PKIKP PKiKP 00 43 09.8 -2.5
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 110.50 321 PKPdf PKiKP 00 43 09.8 -2.5
ZAL PKKPbc PKKPbc 00 54 11.8 -1.1
ZAL PKKPab PKKPab 00 54 23.3 -2.0
MK31 Makanchi Array 111.23 313 ⇓*i*PKIKP PKiKP 00 43 11.5 -2.1
MKAR Makanchi Array 111.23 313 Pdiff Pdif 00 39 16.8 -1.0
comp=Z,0.4nm,0.7s,baz=97,slow=6.2,SNR=4.6
MKAR PKiKP PKiKP 00 43 11.6 -2.1
comp=Z,6.7nm,0.6s,baz=227,slow=1.2,SNR=90
MKAR PKKPbc PKKPbc 00 54 10.0 -0.6
comp=Z,1.4nm,0.5s,baz=258,slow=3.7,SNR=19
MKAR PKKPab PKKPab 00 54 21.4 -0.8
comp=Z,0.9nm,0.8s,baz=244,slow=3.4,SNR=4.0
MKAR Makanchi Array 111.23 313 *i* PKIKP PKiKP 00 43 11.5 -2.1
MKAR pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 114.01 317⇓*e*PKIKP PKiKP 00 43 16.5 -2.4
KSH Kashi 114.95 305 *e*PKP PKPdf 00 43 20.9 +0.2
KSH *e*PKS 00 46 56.6
KSH *e*PPP 00 49 42.6
KSH PP PP
comp=Z,394nm,3.2s
TKM2 Tokmak 2 115.56 309 P PKPdf 00 43 20.5 -1.4
SNR=7.3
KBK Karagaybulak 116.01 308 P PKPdf 00 43 21.7 -1.1
SNR=6.9
CHMS Chumysh 116.18 309 P PKPdf 00 43 21.7 -1.4
SNR=5.5
UCH Uchtor 116.30 308 P PKPdf 00 43 23.1 -0.2
SNR=7.0
AAK Ala-Archa 116.35 308*d i*PKIKP PKPdf 00 43 21.1 -2.3
USP Ospenovka 116.39 309 P PKPdf 00 43 21.8 -1.7
SNR=10
FRB Frobisher Bay 116.59 28 PKP PKPdf 00 43 20.9 -3.0
comp=Z,7.8nm,0.7s,baz=315,slow=1.4,SNR=3.1
FRB Frobisher Bay 116.59 28 PKIKP PKPdf 00 43 20.9 -3.0
FRB pmax pmax
comp=Z,8.0nm,0.7s
FRB Frobisher Bay 116.59 28 PKP PKPdf 00 43 20.9 -3.0
AML Almayashu 116.90 308 P PKPdf 00 43 24.0 -0.5
SNR=9.0
VOSK Vostochnaya 118.75 320 PKIKP PKPdf 00 43 25.8 -2.3
VOSK pmax pmax
comp=Z,14nm,0.7s
CHKZ Chkalovo 118.90 321 *i* PKIKP PKPdf 00 43 25.8 -2.5
CHKZ pmax pmax
comp=Z,25nm,1.1s
CHKZ Chkalovo 118.90 321⇓*e*PKPdf PKPdf 00 43 25.6 -2.7
BVA2 Borovoye Array 119.08 320 PKIKP PKPdf 00 43 26.6 -2.1
BVA2 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 119.08 320 PKP PKPdf 00 43 27.1 -1.6
comp=Z,22nm,0.6s,baz=132,slow=1.7,SNR=15
BVAR PKKPab PKKPab 00 53 47.0 -0.4
comp=Z,2.0nm,0.5s,baz=263,slow=3.5,SNR=12
BRVK Borovoye 119.14 320 *e*PKIKP PKPdf 00 43 26.6 -2.2
KK31 Karatay Array 119.29 309 *i* PKIKP PKPdf 00 43 27.4 -1.7
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 119.29 309 *i* PKIKP PKPdf 00 43 27.4 -1.7
KKAR pmax pmax
comp=Z,6.0nm,0.6s
ZRNK Zerenda 119.92 320⇓*e*PKIKP PKPdf 00 43 28.1 -2.2
SUR Sutherland 124.61 199 *e*PKPdf PKPdf 00 43 39.4 +0.1
SOKR Solikamsk 125.05 330 *e*PKIKP PKPdf 00 43 38.5 -1.7
SOKR pmax pmax
comp=Z,30nm,0.9s
ARU Arti 125.19 326 *i* PKIKP PKPdf 00 43 38.4 -2.0
ARU *e* 00 45 35.6
ARU Arti 125.19 326 *e*PKPdf PKPdf 00 43 38.3 -2.1
BOSA Boshof 126.45 205 PKP PKPdf 00 43 42.7 -0.1
comp=Z,9.3nm,0.6s,baz=141,slow=2.8,SNR=32
BOSA Boshof 126.45 205 PKIKP PKPdf 00 43 42.7 -0.1
BOSA pmax pmax
comp=Z,9.0nm,0.6s
BOSA Boshof 126.45 205 PKP PKPdf 00 43 42.7 -0.1
AKTK Aktyubinsk 127.08 318 PKP PKPdf 00 43 42.5 -1.6
AKTO Aktyubinsk 127.08 318 PKP PKPdf 00 43 42.5 -1.6
comp=Z,12nm,0.8s,baz=83,slow=3.5,SNR=55
AKTO Aktyubinsk 127.08 318 PKIKP PKPdf 00 43 42.5 -1.5
AKTO pmax pmax
comp=Z,12nm,0.8s
ORR Orenburg 128.75 321 *e*PKIKP PKPdf 00 43 46.7 -0.5
ORR pmax pmax
comp=Z,20nm,0.7s
ARCES ARCESS Array B 128.82 350 PKHKP 00 43 31.9
comp=Z,2.7nm,0.9s,baz=345,slow=3.2,SNR=5.2
ARCES PKP PKPdf 00 43 45.6 -1.8
comp=Z,8.1nm,0.7s,baz=22,slow=1.2,SNR=24
ARCES ARCESS Array B 128.82 350 PKHKP 00 43 31.9
ARCES 00 43 45.6
ARCES pmax pmax
comp=Z,3.0nm,0.9s
APA Apatity 128.86 345⇑*i*PKIKP PKPdf 00 43 45.4 -2.0
FIA1 FINESS Array S 135.69 344 *e*PKPdf PKPdf 00 43 56.9 -3.4
FIA1 *e*SKPbc SKPbc 00 46 44.8 -1.2
FINES FINESS Array B 135.69 344 PKHKP 00 43 44.9
comp=Z,1.5nm,0.7s,baz=50,slow=3.9,SNR=12
FINES PKP PKPdf 00 43 56.8 -3.5
comp=Z,4.9nm,0.8s,baz=79,slow=3.9,SNR=16
FINES SKPbc SKPbc 00 46 44.3 -1.7
comp=Z,1.9nm,0.6s,baz=66,slow=4.7,SNR=5.5
FINES FINESS Array B 135.69 344 PKHKP 00 43 44.9
FINES 00 43 56.8
FINES 00 46 44.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 135.69 344 PKP 00 43 44.9
FINES PKP PKPdf 00 43 56.8 -3.5
FINES SKPbc SKPbc 00 46 44.3 -1.6
LSZ Lusaka 136.32 218 *e*PKIKP PKPdf 00 44 02.0 +0.6
OBN Obninsk 136.72 332⇑*i*PKIKP PKPdf 00 44 00.5 -1.7
OBN *e* 00 45 49.2
OBN *i* 00 46 47.7
OBN pmax pmax
comp=Z,23nm,1.2s
GNI Garni 138.75 308 PKP PKPdf 00 44 04.5 -1.4
comp=Z,5.5nm,0.8s,baz=316,slow=18,SNR=6.3
GNI Garni 138.75 308 PKIKP PKPdf 00 44 04.5 -1.4
GNI pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra138.87 353 PKP 00 43 55.2
comp=Z,9.1nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 138.87 353 PKhKP 00 43 54.5
comp=Z,3.0nm,0.6s,baz=16,slow=2.4,SNR=8.1
NOA PKP PKPdf 00 44 02.9 -3.2
comp=Z,2.8nm,0.8s,baz=30,slow=1.9,SNR=5.6
NOA SKPbc SKPbc 00 46 53.3 -1.8
comp=Z,6.1nm,0.9s,baz=13,slow=4.5,SNR=7.2
NOA NORSAR Array B 138.87 353 PKP 00 43 54.5
NOA PKP PKPdf 00 44 02.9 -3.2
NOA SKPbc SKPbc 00 46 53.3 -1.8
KIV Kislovodsk 138.98 314 *e*PKIKP PKPdf 00 44 04.2 -2.1
KIV Kislovodsk 138.98 314 *e*PKPdf PKPdf 00 44 04.2 -2.1
HFS Hagfors 139.43 351 PKHKP 00 43 56.8
comp=Z,8.9nm,0.5s,baz=79,slow=7.7,SNR=42
HFS SKPbc SKPbc 00 46 55.1 -1.6
comp=Z,9.5nm,0.8s,baz=46,slow=6.2,SNR=6.7
HFS Hagfors 139.43 351 PKHKP 00 43 56.8
HFS pmax pmax
comp=Z,9.0nm,0.5s
HFS pmax pmax
comp=N,10.0nm,0.8s
KMBO Kilima Mbogo 139.55 242 PKhKP 00 44 00.1
comp=N,4.3nm,0.8s,baz=77,slow=4.8,SNR=18
KMBO PKP PKPdf 00 44 10.1 +2.7
comp=N,12nm,1.0s,baz=49,slow=4.2,SNR=10
KMBO SKPbc SKPbc 00 46 56.9 -0.1
comp=N,4.8nm,0.9s,baz=118,slow=0.6,SNR=7.3
HAKT HAKKARI 140.19 305 *i* P PKPdf 00 44 03.1 -5.4
ERZM Erzurum 141.30 309 *i* P PKPdf 00 44 05.6 -4.9
BNGL BINGOL 141.76 308 *i* P PKPdf 00 44 07.2 -4.1
MARD Mardin 142.51 305 *i* P PKPdf 00 44 08.8 -3.9
SUW Suwalki 142.77 340 *e*PKP PKPdf 00 44 09.5 -3.6
AKASG Malin Array Be 142.98 331 PKhKP 00 44 09.1
comp=N,55nm,0.7s,baz=43,slow=4.5,SNR=269
AKASG SKPbc SKPbc 00 47 04.1 -1.6
comp=N,4.1nm,0.7s,baz=34,slow=2.4,SNR=7.9
AKBB Malin Array Si 142.98 331⇓*e*PKPdf PKPdf 00 44 09.0 -4.5
AKBB *e*SKPbc SKPbc 00 47 04.2 -1.5
KIEV Kiev 142.99 331⇓*e*PKPdf PKPdf 00 44 08.8 -4.7
KIEV *e*SKPbc SKPbc 00 47 04.1 -1.6
SHEL Horse Pasture 143.07 167⇓*i*PKPdf PKPdf 00 44 12.6 -1.0
ELZG Elazig 143.51 308 *i* P PKPdf 00 44 13.3 -1.1
MUD Monsted U'grnd 143.59 353 *i* P PKPdf 00 44 11.7 -2.8
comp=N,38nm,0.7s
EAB Aberfoyle 143.90 6 *e*P PKPdf 00 44 12.3 -2.8
COP Copenhagen 143.90 350 *i* P PKPdf 00 44 12.5 -2.6
comp=N,48nm,0.6s
MALT Malatya 143.98 308 PKIKP PKPdf 00 44 15.1 -0.1
BSD Bornholm Skovb 143.99 348 *i* P PKPdf 00 44 12.4 -2.8
comp=N,60nm,0.7s
SIM Simferopol' 144.00 320*de*PKIKP PKPdf 00 44 14.2 -1.1
SIM pmax pmax
comp=Z,121nm,0.9s
PGBU Glenifferbraes 144.25 6 *e*P PKPdf 00 44 13.1 -2.6
ESY Stoneypath 144.32 5 *e*P PKPdf 00 44 13.8 -2.0
EAU Auchinoon 144.32 5 *e*P PKPdf 00 44 14.9 -0.9
EBL Broad Law 144.43 5 *e*P PKPdf 00 44 14.0 -2.0
EKA Eskdalemuir Ar 144.85 5 PKP PKPdf 00 44 15.2 -1.5
comp=Z,9.7nm,0.7s,baz=340,slow=2.8,SNR=27
EKA SKPbc SKPbc 00 47 07.9 -2.2
comp=Z,1.9nm,0.7s,baz=336,slow=2.6,SNR=4.3
GZT Gaziantep 144.94 307 *i* P PKPdf 00 44 17.0 +0.1
GAL1 Galloway 145.16 7 *e*P PKPdf 00 44 16.3 -0.9
GKP Gorka Klasztor 145.16 344 *e*PKP PKPdf 00 44 17.0 -0.3
BOYT Boyabat 145.25 314 *i* P PKPdf 00 44 16.2 -1.2
KIS Kishinev 145.72 327⇑*i*PKIKP PKPdf 00 44 17.0 -1.2
KIS pmax pmax
comp=Z,200nm,1.0s
KIS Kishinev 145.72 327⇑*i*P PKPdf 00 44 17.0 -1.2
comp=Z,200nm,1.0s
LVV L'vov 145.86 335 *e*PKIKP PKPdf 00 44 17.6 -0.8
WIM Isle of Man 145.87 7 *e*P PKPdf 00 44 18.3 -0.2
BALT Daday 146.20 316 *i* P PKPdf 00 44 19.6 +0.6
IAS Iasi 146.21 328 PKP2 PKPab 00 44 20.2 -2.8
DCN Croghan 146.28 10⇓*i*P PKPdf 00 44 19.8 +0.6
DLF Lyons Farm 146.45 9⇓*i*P PKPdf 00 44 20.2 +0.8
KWP Kalwaria 146.53 336 *e*PKP PKPdf 00 44 21.3 +1.7
WCB1 Church Bay 146.64 7 *e*P PKPdf 00 44 20.1 +0.3
ELDT Eldivan 146.67 314 *i* P PKPdf 00 44 21.6 +1.8
RUE Ruedersdorf 146.70 347 *e*PKPbc PKPbc 00 44 21.5 -0.9
WLF1 Llynfaes 146.75 7 *e*P PKPdf 00 44 20.6 +0.6
ASF Jabal al Asfar 146.86 298 PKPbc PKPbc 00 44 23.0 +0.2
comp=Z,46nm,0.8s,baz=330,slow=1.9,SNR=63
ASF PKPab PKPab 00 44 25.5 -0.1
comp=Z,42nm,0.9s,baz=270,slow=2.8,SNR=25
BR131 Keskin Array S 146.87 313⇓*i*PKPbc PKPbc 00 44 21.9 -1.0
BRTR Keskin Array B 146.87 313 PKPbc PKPbc 00 44 22.1 -0.8
comp=Z,29nm,0.7s,baz=136,slow=4.5,SNR=111
BRTR Keskin Array B 146.87 313 PKIKP PKPdf 00 44 22.1 +2.0
BRTR pmax pmax
comp=Z,29nm,0.7s
BURAR Bucovina Array 147.03 331⇓*i*P PKPdf 00 44 22.6 +2.2
OJC Ojcow 147.10 339 *e*PKP PKPdf 00 44 22.5 +2.0
SBD1 Bryn Du 147.25 6 *e*P PKPdf 00 44 22.6 +1.9
STHS Stebnicka Huta 147.26 337 *i* PKP PKPdf 00 44 23.5 +2.7
STHS *e* 00 44 27.9
STHS *e* 00 46 23.9
KOLS Kolonicke sedl 147.26 335 *e*PKP PKPdf 00 44 20.3 -0.5
KOLS *e* 00 44 23.3
KOLS *e* 00 44 26.8
CFR Carcaliu 147.27 325 PKP2 PKPab 00 44 24.2 -3.1
ANTO Ankara 147.39 313⇓*i*P PKPbc 00 44 23.9 -0.3
ANTO Ankara 147.39 313 P PKPbc 00 44 24.3 0.0
RCY Rachaya 147.44 301 *e*P PKPbc 00 44 24.4 +0.1
BHL Bhannes 147.46 301 *e*P PKPbc 00 44 24.3 -0.1
UZH Uzhgorod 147.50 335⇑*i*PKIKP PKPdf 00 44 22.4 +1.2
VRI Vrincioaia 147.55 327⇑*i*P PKPdf 00 44 23.4 +2.1
VRI Vrincioaia 147.55 327 P PKPdf 00 44 23.6 +2.3
SGKT Sivrigoynuk 147.55 315 *i* P PKPdf 00 44 23.5 +2.2
NIE Niedzica 147.59 338 *e*PKP PKPbc 00 44 24.5 -0.3
CRVS Cervenica-Dubn 147.60 336 *e*PKP PKPbc 00 44 24.2 -0.6
KSP Ksiaz 147.61 343 *e*PKP PKPbc 00 44 24.4 -0.4
KSP Ksiaz 147.61 343⇓*i*PKP PKPbc 00 44 24.3 -0.5
KSP *e*pPKP pPKPdf 00 46 22.6 +6.0
HLM1 Long Mynd 147.67 6 *e*P PKPdf 00 44 23.4 +2.0
HARR Harsova 147.70 325⇓*i*P PKPbc 00 44 25.6 +0.6
IBBN Ibbenburen 147.82 354 *e*PKPbc PKPbc 00 44 24.4 -1.0
MMAI Mount Meron Ar 147.89 300 PKPbc PKPbc 00 44 25.8 +0.3
comp=Z,74nm,0.6s,baz=72,slow=6.6,SNR=338
CLZ Clausthal 147.94 350 *e*PKPdf PKPdf 00 44 20.7 -1.2
CLZ *e*PKPbc PKPbc 00 44 24.6 -1.1
OKC Ostrava-Krasne 147.96 340⇑*e*PKP PKPdf 00 44 24.8 +2.9
OKC *e*pPKP pPKPdf 00 46 26.5 +9.3
CLL Collm 147.97 347 *e*PKPdf PKPdf 00 44 20.6 -1.3
CLL *e*PKPbc PKPbc 00 44 24.8 -0.9
CLL *e*PKPab PKPab 00 44 28.8 -1.3
CLL *e*pPKPbc pPKPbc 00 46 22.8 +3.4
CLL Collm 147.97 347 *e*PKIKP PKPdf 00 44 21.0 -0.9
CLL *i* 00 44 28.9
CLL Collm 147.97 347 *e*PKPdf PKPdf 00 44 21.0 -0.9
CLL ⇓*i*PKPbc PKPbc 00 44 24.8 -0.9
comp=Z,103nm,0.8s
CLL *i*PKPab PKPab 00 44 28.9 -1.2
comp=Z,22nm,0.8s
CLL *i*pPKPbc pPKPbc 00 46 23.2 +3.8
UPC Upice 147.99 343 *e*PKPDF PKPdf 00 44 21.2 -0.8
UPC ⇑*e*PKP PKPdf 00 44 25.2 +3.2
UPC *e*pPKP pPKPdf 00 46 23.5 +6.2
DPC Dobruska-Polom 148.05 343 *e*PKPDF PKPdf 00 44 21.4 -0.7
DPC ⇑*e*PKP PKPdf 00 44 25.6 +3.5
DPC *e*PKPAB PKPab 00 44 30.3 -0.1
DPC *e*pPKP pPKPdf 00 46 23.5 +6.1
DPC Dobruska-Polom 148.05 343 *e*PKIKP PKPdf 00 44 21.4 -0.7
DPC *e* 00 44 30.3
MCH1 Michaelchurch 148.17 6 *e*P PKPdf 00 44 24.2 +1.9
MCH1 *e*P 00 44 24.2
BRG Berggiesshubel 148.17 346 *e*PKPbc PKPbc 00 44 25.2 -1.0
BRG Berggiesshubel 148.17 346 *e*PKP PKPdf 00 44 21.4 -0.8
comp=Z,7.7nm,1.2s
BRG Berggiesshubel 148.17 346 *i* PKP PKPbc 00 44 25.5 -0.7
comp=Z,27nm,0.7s
BRG *e*pPKP pPKPdf 00 46 23.5 +5.9
comp=Z,8.9nm,1.2s
BRG *e* 00 47 15.6
BRG *e* 00 56 03.0
comp=Z,17nm,2.0s
BRG *e*PKP PKPdf 00 44 21.4 -0.8
BRG *i* PKP PKPdf 00 44 25.5 +3.2
BRG *e*pPKP pPKPdf 00 46 23.5 +5.9
BRG *e* 00 47 15.6
BRG *e* 00 56 03.0
MLR Muntele Rosu 148.20 327 PKPbc PKPbc 00 44 25.5 -0.8
comp=Z,21nm,0.6s,baz=312,slow=3.8,SNR=4.8
MLR Muntele Rosu 148.20 327⇓*i*P PKPbc 00 44 25.4 -0.9
MLR Muntele Rosu 148.20 327 P PKPbc 00 44 25.6 -0.7
MORC Moravsky Berou 148.20 341⇑*i*P PKPbc 00 44 25.3 -1.0
MORC Moravsky Berou 148.20 341 P PKPbc 00 44 25.8 -0.6
WTSB Winterswijk 148.25 355⇓*e*PKiKP PKiKP 00 44 25.4 -2.3
comp=Z,85nm,0.7s
FBE Freiberg 148.26 347 *e*PKPbc PKPbc 00 44 25.7 -0.8
FBE *e*PKPab PKPab 00 44 30.3 -1.0
KECS Kecovo 148.31 337 *e*PKP PKPdf 00 44 21.2 -1.3
KECS *i* 00 44 26.1
KECS *e* 00 44 30.6
KECS *e* 00 46 26.6
KECS Kecovo 148.31 337 *e*PKIKP PKPdf 00 44 21.2 -1.3
KECS *e* 00 44 30.6
PVCC Panska Ves 148.34 345 *e*PKPDF PKPdf 00 44 21.8 -0.8
PVCC ⇑*e*PKP PKPdf 00 44 26.2 +3.6
PVCC *e*pPKP pPKPdf 00 46 24.6 +6.8
SNX Sinaia 148.51 328⇑*i*P PKPbc 00 44 26.8 -0.3
HGH Gray Hill 148.55 6 *e*P PKPbc 00 44 25.7 -1.5
BUG Bochum--Univer 148.73 354 *e*PKPbc PKPbc 00 44 26.3 -1.3
DRGR 148.77 332⇑*i*P PKPdf 00 44 22.3 -0.9
DRGR 148.77 332 P PKPbc 00 44 26.9 -0.9
PRU Pruhonice 148.85 345⇑*e*PKP PKPbc 00 44 27.2 -0.7
PRU *e*pPKP pPKPdf 00 46 27.1 +8.4
ESKT Eskisehir 148.87 314 *i* P PKPbc 00 44 26.8 -1.2
MOX Moxa 148.88 348 *e*PKPdf PKPdf 00 44 22.1 -1.3
MOX *e*PKPbc PKPbc 00 44 26.8 -1.2
MOX Moxa 148.88 348 *e*PKP PKPdf 00 44 22.4 -1.0
MOX *e* 00 44 27.0
comp=Z,71nm,1.3s
VYHS Vyhne 148.90 338 *e*PKP PKPdf 00 44 27.5 +4.1
VYHS *e* 00 44 33.4
VYHS *e* 00 46 26.1
VRAC Vranov 148.91 342 PKPbc PKPbc 00 44 27.4 -0.6
comp=Z,16nm,0.8s,baz=5.9,slow=1.5,SNR=19
VRAC PKPab PKPab 00 44 33.7 -0.3
comp=Z,11nm,0.6s,baz=51,slow=7.9,SNR=9.5
VRAC Vranov 148.91 342⇓*i*P PKPbc 00 44 27.4 -0.7
VRAC Vranov 148.91 342 P PKPbc 00 44 27.6 -0.5
WERD Werda 148.93 347 *e*PKPdf PKPdf 00 44 22.1 -1.4
WERD *e*PKPbc PKPbc 00 44 27.5 -0.6
CSS Prodhromos 148.96 305 P PKPbc 00 44 27.7 -0.5
comp=Z,0.7nm,0.5s
CSS Prodhromos 148.96 305⇓*i*PKPbc PKPbc 00 44 27.4 -0.8
EIL Elat 148.98 294 PKPdf PKPdf 00 44 24.4 +0.9
EIL *e*PKPbc PKPbc 00 44 28.0 0.0
MAMC Mammari 148.98 305 P PKPbc 00 44 27.6 -0.6
GUNZ Gunzen 149.00 347 *e*PKPbc PKPbc 00 44 27.4 -0.9
GUNZ *e*PKPab PKPab 00 44 33.0 -1.4
PSZ Piszkesteto 149.00 337 PKHKP PKPbc 00 44 27.8 -0.5
PSZ Piszkesteto 149.00 337⇑*e*PKP PKPbc 00 44 27.9 -0.4
WERN Wernitzgruen 149.07 347 *e*PKPbc PKPbc 00 44 27.5 -1.0
WERN *e*PKPab PKPab 00 44 33.7 -0.9
NKC Novy Kostel 149.10 347⇑*e*PKP PKPbc 00 44 27.9 -0.6
NKC *e*pPKP pPKPdf 00 46 26.2 +7.1
SMOL Smolenice 149.35 340 *e*PKP PKPbc 00 44 28.7 -0.4
SZAC Souni-Zanaja 149.38 304 P PKPbc 00 44 28.4 -0.8
MANZ Manzenberg 149.41 347 *e*PKPdf PKPdf 00 44 23.3 -1.0
MANZ *e*PKPbc PKPbc 00 44 28.7 -0.6
ALFC Alevga 149.46 305⇓P PKPbc 00 44 28.3 -1.1
comp=Z,0.7nm,0.3s
ALFC Alevga 149.46 305⇓*e*P PKPbc 00 44 28.3 -1.1
BEBN Eben Emael 149.51 356 PKPbc PKPbc 00 44 28.8 -0.7
BEBN PKPab PKPab 00 44 35.1 -1.4
HGN Heimansgroeve 149.52 355⇓*e*PKiKP PKiKP 00 44 28.5 -1.8
comp=Z,30nm,0.9s
UCC Uccle 149.58 357 PKPbc PKPbc 00 44 28.6 -1.1
ROTZ Rotzenmuhle 149.59 347 *e*PKPbc PKPbc 00 44 29.1 -0.6
MEM Membach 149.67 355 PKP PKPdf 00 44 24.3 -0.4
MEM PKPbc PKPbc 00 44 29.0 -0.9
BUD Budapest 149.69 337⇑*e*PKP PKPbc 00 44 29.6 -0.4
ZST Bratislava 149.73 340 *e*PKP PKPbc 00 44 29.7 -0.4
ZST *e* 00 46 30.1
PPCY Paphos 149.75 305 P PKPbc 00 44 28.7 -1.4
TNS Taunus Mts 149.79 352 *e*PKPbc PKPbc 00 44 29.3 -0.9
GZR Gura Zlata 149.81 330⇑*i*P PKPbc 00 44 29.1 -1.1
GZR Gura Zlata 149.81 330 P PKPbc 00 44 29.2 -1.1
GRF Grafenberg Arr 149.86 348 *e*PKPbc PKPbc 00 44 29.5 -0.9
GRF *e*pPKPbc pPKPbc 00 46 28.7 +4.2
SNF Seneffe 149.87 357 PKP PKPdf 00 44 24.8 -0.2
SNF PKPbc PKPbc 00 44 29.5 -0.9
KHC Kasperske Hory 149.88 345 *e*PKPDF PKPdf 00 44 24.1 -0.9
KHC ⇑*e*PKP PKPdf 00 44 29.7 +4.7
KHC *e*PKPAB PKPab 00 44 37.3 -0.7
KHC *e*pPKP pPKPdf 00 46 30.6 +10
KHC Kasperske Hory 149.88 345 *e*PKIKP PKPdf 00 44 24.1 -0.9
KHC *e* 00 44 37.3
ISP Isparta 149.90 311⇑*i*P PKPbc 00 44 29.4 -1.1
BCLA Clavier 149.91 356 PKPbc PKPbc 00 44 29.2 -1.2
BCLA PKPab PKPab 00 44 36.5 -1.6
TKTP Tekketepe 149.95 312 *i* P PKPbc 00 44 29.3 -1.2
WET Wettzell 150.03 346 *e*PKPbc PKPbc 00 44 29.7 -1.1
GEC2 GERESS Array S 150.12 345 *e*PKPbc PKPbc 00 44 30.0 -1.0
GEC2 GERESS Array S 150.12 345 *e*PKPdf PKPdf 00 44 24.3 -1.0
GEC2 *e*PKPbc PKPbc 00 44 30.0 -1.0
GEC2 *e*PKPbc PKPbc 00 44 30.2 -0.8
GERES GERESS Array B 150.12 345 PKP PKPdf 00 44 24.5 -0.9
comp=Z,1.6nm,0.7s,baz=54,slow=2.3,SNR=17
GERES PKPbc PKPbc 00 44 30.0 -0.9
comp=Z,20nm,0.8s,baz=45,slow=2.1,SNR=109
GERES pPKPbc pPKPbc 00 46 26.7 +1.6
comp=Z,1.6nm,0.9s,baz=36,slow=3.7,SNR=3.4
BZS Buzias 150.16 332⇓*i*P PKPbc 00 44 30.2 -0.9
BZS Buzias 150.16 332 P PKPbc 00 44 30.1 -0.9
GIVF Givet 150.25 357⇓*i*PKP1 PKPbc 00 44 30.3 -1.0
comp=Z,115nm,0.8s
DOU Dourbes 150.27 357 PKPbc PKPbc 00 44 30.4 -0.9
BAIF Baives 150.33 357⇓*i*PKP1 PKPbc 00 44 30.6 -0.9
comp=Z,95nm,0.9s
CONA Conrad Observa 150.36 341⇓*i*PKiKP PKiKP 00 44 30.9 -1.2
comp=Z,24nm,0.6s,SNR=23
SOP Sopron 150.36 340⇓*e*PKP PKPbc 00 44 30.9 -0.6
WLF Walferdange 150.59 355 *e*PKPbc PKPbc 00 44 31.5 -0.6
WLF *e*PKPab PKPab 00 44 40.3 -0.7
WLF Walferdange 150.59 355 PKPbc PKPbc 00 44 31.4 -0.7
WLF Walferdange 150.59 355 *e*PKPbc PKPbc 00 44 31.8 -0.3
MOA Molln 150.89 343⇓*i*P PKPbc 00 44 31.2 -1.6
comp=Z,13nm,0.6s
PKSM Moragy 150.90 336⇓*i*P PKPbc 00 44 31.3 -1.5
PKSM Moragy 150.90 336 P PKPbc 00 44 31.9 -0.9
DNZL Cakiroluk 151.00 312 *i* P PKPab 00 44 39.6 -3.1
ARSA Arzberg 151.07 341⇓*i*P PKPbc 00 44 32.0 -1.1
comp=Z,6.4nm,0.7s
STU Stuttgart 151.10 350 *e*PKPdf PKPdf 00 44 26.0 -0.9
STU *e*PKPbc PKPbc 00 44 32.1 -1.1
BEO Belgrade 151.29 332 *i* P PKPdf 00 44 26.2 -0.9
FUR Furstenfeldbru 151.31 347 *e*PKPbc PKPbc 00 44 32.8 -0.9
SVIS Svilajnac 151.36 331 *i* P PKPbc 00 44 32.5 -1.3
KOGS Kog 151.55 339 *i* PKPbc PKPbc 00 44 32.8 -1.4
FLN La Foliniere 151.59 4 *e*PKP1 PKPbc 00 44 32.9 -1.4
comp=Z,52nm,0.6s
VTS Vitosha 151.64 326⇑*i*P PKPbc 00 44 33.7 -0.8
VTS Vitosha 151.64 326 *i* P PKPbc 00 44 34.0 -0.5
VTS Vitosha 151.64 326 PKIKP PKPbc 00 44 33.9 -0.6
BFO Black Forest 151.66 351 *e*PKPbc PKPbc 00 44 33.5 -1.0
CDF Champ du Feu 151.72 353 *e*PKP1 PKPbc 00 44 33.5 -1.1
comp=Z,31nm,0.8s
PERS Pernice 151.74 341 *i* PKPbc PKPbc 00 44 33.1 -1.5
ROSF Rostrenen 151.75 8⇓*i*PKP1 PKPbc 00 44 33.0 -1.7
comp=Z,31nm,0.8s
LDF La Druitiere 151.78 3⇓*i*PKP1 PKPbc 00 44 33.2 -1.6
comp=Z,35nm,0.7s
MEZF Maizieres J'vi 151.83 356⇓*i*PKP1 PKPbc 00 44 34.1 -0.8
comp=Z,69nm,1.0s
KBA Koelnbreinsper 151.84 344 *i* P PKPbc 00 44 33.4 -1.5
comp=Z,13nm,0.7s,SNR=6.8
GRUS Gruza 151.91 331 *i* P PKPdf 00 44 26.7 -1.4
SGMF Saint Gilles 151.91 7 *e*PKP1 PKPbc 00 44 33.4 -1.7
comp=Z,62nm,0.8s
GRR Gorron 151.94 4⇓*i*PKP1 PKPbc 00 44 33.8 -1.3
comp=Z,47nm,0.6s
WATA Walderalm 152.03 346⇓*i*P PKPbc 00 44 34.3 -1.0
comp=Z,7.4nm,0.5s
MMB Musomiste 152.06 324 *i* P PKPbc 00 44 34.3 -1.1
DIVS Divcibare 152.07 332 *i* P PKPdf 00 44 28.5 +0.1
WTTA Wattenberg 152.09 346⇓*i*P PKPbc 00 44 34.5 -0.9
comp=Z,36nm,0.9s
MOTA Moosalm 152.12 347⇑*i*P PKPbc 00 44 34.5 -1.0
comp=Z,13nm,0.8s
QUIF Quistinic 152.18 8⇓*i*PKP1 PKPbc 00 44 33.9 -1.7
comp=Z,63nm,1.2s
HAU Haudompre 152.22 354⇓*i*PKP1 PKPbc 00 44 34.5 -1.2
comp=Z,21nm,0.6s
SQTA Sankt Quirin 152.22 347⇑*i*P PKPbc 00 44 35.0 -0.7
comp=Z,15nm,0.7s
GCIS Gornji Cirnik 152.26 340 *i* PKPbc PKPbc 00 44 34.9 -1.0
HINF Hinteralfeld 152.35 353 *e*PKP1 PKPbc 00 44 34.6 -1.4
comp=Z,15nm,0.7s
DAVA Damuels 152.42 349⇓*i*P PKPbc 00 44 35.9 -0.3
comp=Z,20nm,1.0s
LJU Ljubljana 152.45 341 *i* PKPbc PKPbc 00 44 35.1 -1.1
VOY Vojsko 152.65 342 *e*PKPdf PKPdf 00 44 27.3 -1.9
VOY *e*PKPbc PKPbc 00 44 34.7 -2.0
VOY *e*PKPab PKPab 00 44 41.9 -7.8
BOJS Bojanci 152.71 340 *i* PKPbc PKPbc 00 44 36.0 -0.8
STIP Stip 152.81 326 *e*PKP PKPdf 00 44 29.1 -0.3
STIP *e*PKP PKPbc 00 44 36.1 -0.9
VAY Valandovo 152.87 325 *e*PKP PKPdf 00 44 29.3 -0.2
DAVOX Davos 152.91 348 PKP PKPdf 00 44 28.6 -0.9
comp=Z,5.8nm,0.7s,baz=2.1,slow=1.5,SNR=6.2
DAVOX PKPbc PKPbc 00 44 36.6 -0.6
comp=Z,16nm,0.7s,baz=304,slow=1.8,SNR=25
SKO Skopje 153.00 327 *e*PKP PKPdf 00 44 29.4 -0.3
SKO *e*PKP PKPbc 00 44 36.5 -1.0
LOR Lormes 153.13 357⇓*i*PKP1 PKPbc 00 44 36.6 -1.1
comp=Z,18nm,0.8s
HYF Humbligny 153.16 359 *e*PKP1 PKPbc 00 44 37.0 -0.8
SSF Saint Saulge 153.35 358⇓*i*PKP1 PKPbc 00 44 37.1 -1.1
comp=Z,14nm,0.9s
KRUS Krusevo 153.54 327 *e*PKP PKPdf 00 44 30.3 -0.1
KRUS *e*PKP PKPbc 00 44 37.6 -1.0
AVF Avril sur Loir 153.62 358⇓*i*PKP1 PKPbc 00 44 38.2 -0.6
CLA Le Chapelle 153.63 354 *e*PKP1 PKPbc 00 44 38.3 -0.5
BIA Bitola 153.75 326 *e*PKP PKPdf 00 44 30.6 -0.1
BIA *e*PKP PKPbc 00 44 37.5 -1.5
MFF Saint Martin d 153.76 4⇓*i*PKP1 PKPbc 00 44 37.7 -1.4
comp=Z,13nm,0

OHR	**Ohrid**	**153.96**	**327**	*e*PKP	PKPdf	00 44 30.9	-0.1
OHR				*e*PKP	PKPbc	00 44 38.4	-1.1
TCF	**Toulx Ste Croi**	**154.14**	**360**	*i*PKP1	PKPbc	00 44 38.5	-1.4
	comp=Z,18nm,1.0s						
LPL	**La Plagne**	**154.64**	**353**	*e*PKP1	PKPbc	00 44 40.5	-0.4
LPG	**La Plagne**	**154.65**	**352**	*e*PKP1	PKPbc	00 44 40.7	-0.2
IDI	**Anoyia**	**155.10**	**311**	PKPbc	PKPdf	00 44 40.7	+8.2
	comp=Z,5.8nm,0.5s,baz=236,slow=7.7,SNR=8.2						
MBDF	**Montbardon**	**155.41**	**352**	*i*PKP1	PKPdf	00 44 42.3	+9.3
	comp=Z,12nm,0.7s						
ESDC	**Sonseca Array**	**160.04**	**14**	PKP	PKPdf	00 44 37.7	-0.9
	comp=Z,1.0nm,0.8s,baz=344,slow=2.4,SNR=5.1						
ESDC				PKPab	PKPab	00 45 18.7	-2.9
	comp=Z,0.4nm,0.5s,baz=358,slow=6.3,SNR=4.0						
KEST	**Kesra**	**163.45**	**339**	PKPab	PKPab	00 45 36.1	-0.5
	comp=Z,1.4nm,0.8s,baz=53,slow=17,SNR=4.1						
LIC	**Lamto**	**164.30**	**153**	*e*PKIKP	PKPdf	00 44 42.0	-0.9
	comp=Z,60nm,1.0s						
MDT	**Midelt**	**166.20**	**25**	PKP	PKPdf	00 44 44.7	+0.2
	comp=Z,4.0nm,0.8s,baz=149,slow=1.0,SNR=7.0						
TOA0	**Torodi Ar. Sit**	**172.81**	**176**	*e*PKPdf	PKPdf	00 44 46.9	-1.5
TORD	**Torodi Ar. Bea**	**172.81**	**176**	PKP	PKPdf	00 44 47.0	-1.3
	comp=Z,14nm,0.9s,baz=327,slow=0.8,SNR=67						
TORD				PKPab	PKPab	00 46 18.1	0.0
	comp=Z,6.8nm,0.8s,baz=164,slow=4.2,SNR=19						
TORD				PP	PP	00 50 05.0	-5.2
	comp=Z,7.4nm,1.0s,baz=183,slow=4.5,SNR=11						

NEIC ***11*** *01:05:25.8, 3926S×17507E, h196km, MG3.9(WEL), After WEL.*

WEL 11 01:05:26.6±0.4, 3932S×17501E, h191km±2km, ML3.5/6, 1C, Error ellipse: s-maj=7.4km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.26**	**85**	⇑P	N		Pn	01 05 51.5	-0.4
PKVZ					S		Sn	01 06 10.6	-0.8
FWVZ	**Far West T-bar**	**0.42**	**82**	*e*P	N		Pn	01 05 52.3	-0.1
FWVZ					S		Sn	01 06 11.6	-0.6
FWVZ	**Far West T-bar**	**0.42**	**82**	PN	N		Pn	01 05 52.3	0.0
FWVZ					SN		Sn	01 06 11.5	-0.7
FWVZ					SN		Sn	01 06 11.6	-0.6
WAZ	**Wanganui**	**0.44**	**182**	P	N		Pn	01 05 52.6	+0.2
WAZ	**Wanganui**	**0.44**	**182**	PN	N		Pn	01 05 52.5	+0.1
WAZ					SN		Sn	01 06 12.3	0.0
MOVZ	**Moawhango**	**0.58**	**99**	P	N		Pn	01 05 52.8	-0.2
MOVZ					S		Sn	01 06 12.0	-1.3
MOVZ	**Moawhango**	**0.58**	**99**	PN	N		Pn	01 05 52.8	-0.2
MOVZ					SN		Sn	01 06 12.0	-1.4
MRZ	**Mangatainoka R**	**1.42**	**162**	P	N		Pn	01 05 59.1	+0.4
MRZ	**Mangatainoka R**	**1.42**	**162**	PN	N		Pn	01 05 58.9	+0.2
KIW	**Kapiti Island**	**1.55**	**183**	PN	N		Pn	01 05 59.8	-0.1
DUWZ	**D'Urville Isla**	**1.71**	**209**	PN	N		Pn	01 06 00.7	-0.7
MRW	**Makara Radio**	**1.93**	**187**	P	N		Pn	01 06 03.4	-0.3
MRW	**Makara Radio**	**1.93**	**187**	PN	N		Pn	01 06 03.4	-0.2
URZ	**Urewera**	**1.95**	**58**	P	N		Pn	01 06 02.2	-1.7
URZ	**Urewera**	**1.95**	**58**	PN	N		Pn	01 06 02.2	-1.7
TCW	**Tory Channel**	**1.98**	**196**	P	N		Pn	01 06 03.9	-0.3
TCW	**Tory Channel**	**1.98**	**196**	PN	N		Pn	01 06 03.9	-0.3
SNZO	**South Karori**	**2.01**	**187**	P	N		Pn	01 06 04.0	-0.5
SNZO	**South Karori**	**2.01**	**187**	PN	N		Pn	01 06 04.0	-0.4
KNZ	**Kokohu**	**2.09**	**83**	*e*P	N		Pn	01 06 05.2	-0.2
KNZ	**Kokohu**	**2.09**	**83**	PN	N		Pn	01 06 05.2	-0.2
MWZ	**Matawai**	**2.20**	**64**	PN	N		Pn	01 06 05.4	-1.1

KRSC 11 01:19:11.8±0.3, 5087N×15809E, h5km±5km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.59**	**9**	*i*P	N		Pn	01 19 40.8	+0.2
RUS				*i*S	N		Sn	01 20 01.3	-0.1
RUS	**Russkaya**	**1.59**	**9**	*i*P	N		Pn	01 19 40.8	+0.2
RUS				*i*S	N		Sn	01 20 01.3	-0.1
GRL	**Gorelyy**	**1.69**	**360**	*e*P	N		Pn	01 19 42.7	+0.8
GRL				*i*S	N		Sn	01 20 05.3	+1.5
GRL	**Gorelyy**	**1.69**	**360**	*e*P	N		Pn	01 19 42.7	+0.8
GRL				*i*S	N		Sn	01 20 05.3	+1.5
PET	**Petropavlovsk**	**2.19**	**9**	*e*P	N		Pn	01 19 49.8	+1.0
PET				*i*S	N		Sn	01 20 17.4	+1.2
PET	**Petropavlovsk**	**2.19**	**9**	*e*P	N		Pn	01 19 49.8	+1.0
PET				*i*S	N		Sn	01 20 17.4	+1.2
NLC	**Nalytchevo**	**2.43**	**18**	P	N		Pn	01 19 52.1	-0.1
NLC				*i*S	N		Sn	01 20 21.4	-0.9
NLC	**Nalytchevo**	**2.43**	**18**	P	N		Pn	01 19 52.1	-0.1
NLC				*i*S	N		Sn	01 20 21.4	-0.9
SDLR	**Sedlovina**	**2.46**	**11**	*e*P	N		Pn	01 19 53.7	+1.1
SDLR				*i*S	N		Sn	01 20 23.7	+0.7
SDLR	**Sedlovina**	**2.46**	**11**	*e*P	N		Pn	01 19 53.7	+1.1
SDLR				*i*S	N		Sn	01 20 23.7	+0.7
SPN	**Mys Shipunski**	**2.53**	**27**	*e*P	N		Pn	01 19 55.4	+1.9
SPN				*i*S	N		Sn	01 20 27.2	+2.5
SPN	**Mys Shipunski**	**2.53**	**27**	*e*P	N		Pn	01 19 55.4	+1.9
SPN				*i*S	N		Sn	01 20 27.2	+2.5
GNL	**Ganaly**	**2.83**	**358**	*e*P	N		Pn	01 19 59.1	+1.4
GNL				*e*S	N		Sn	01 20 34.8	+2.7
GNL	**Ganaly**	**2.83**	**358**	*e*P	N		Pn	01 19 59.1	+1.4
GNL				*e*S	N		Sn	01 20 34.8	+2.7
MKZ	**Mys Kozlova**	**4.30**	**30**	*e*P	N		Pn	01 20 19.2	+1.3
MKZ				*i*S	N		Sn	01 21 09.3	+0.8
MKZ	**Mys Kozlova**	**4.30**	**30**	*e*P	N		Pn	01 20 19.2	+1.3
MKZ				*i*S	N		Sn	01 21 09.3	+0.8
KBTR	**Krutoberegovo**	**6.04**	**26**	*e*P	N		Pn	01 20 44.0	+2.2
KBTR	**Krutoberegovo**	**6.04**	**26**	*e*P	N		Pn	01 20 44.0	+2.2

IDC 11 01:26:13.5±4.2, 5755S×15097E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/12, mbtmp3.5/2, Error ellipse: s-maj=175.6km s-min=50.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**226**	Sn	Sn		Sn	01 28 31.6	-2.6
	1.2nm,0.3s,baz=280,slow=15,SNR=2.5								
WRA	**Warramunga Arr**	**21.46**	**227**	P	P		P	01 31 03.6	+0.1
	1.0nm,0.5s,baz=53,slow=10,SNR=9.2								
ASAR	**Alice Springs**	**24.23**	**221**	P	P		P	01 31 32.5	+0.5
	1.3nm,0.7s,baz=58,slow=8.9,SNR=20								
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc		PKPbc	01 46 03.7	+0.6
	0.3nm,0.6s,baz=62,slow=2.7,SNR=4.9								

CSEM ***11*** *02:19:29.2±0.1, 3223N×4967E, h14km, mb4.5/30, Ms3.8, Error ellipse: s-maj=2.2km s-min=1.3km az=178.0*
BJI ***11*** *02:19:31.8, 3265N×4986E, h9km, mB5.3, mb4.7, Ms4.3, Msz4.3*
MOS ***11*** *02:19:32.3±1.1, 3229N×4974E, h36km, mb4.7/25, Error ellipse: s-maj=8.4km s-min=4.6km az=123.7*
THR ***11*** *02:19:33.9±0.5, 3243N×4985E, h18km±3km, ML4.0*
IDC ***11*** *02:19:33.9±2.0, 3237N×4970E, h36km±15km, mb3.9/15, mb1 4.0/21, mb1mx3.9/29, mbtmp3.9/21, ML3.2/6, MS3.5/12, Ms1 3.5/12, ms1mx3.3/43, Error ellipse: s-maj=16.8km s-min=15.0km az=163.0*
NEIC ***11*** *02:19:33.0, 3237N×4967E, h9km, mb4.5/28, ML4.3(THR), MN4.4(TEH), After TEH.*
TEH ***11*** *02:19:33.0, 3237N×4967E, h9km, Mn4.4*
ISCJB ***11*** *02:19:34.6±0.3, 3240N±002×4973E±002, h52km±3km, mb4.4/50, MS3.8/11, Error ellipse: s-maj=4.0km s-min=3.0km az=169.7*

ISC 11 02:19:36.2±0.3, 3240N±002×4971E±002, h49km±3km, n260, σ1°10/412, mb4.4/50, MS3.8/11, 21C-8D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.82**	**249**	*e*Pg	N		**Pn**	**02 19 51.6**	**+0.1**
SHGR				AML	AML		AML	02 20 10.0	
	comp=E,4μm,0.3s								
SHGR				AML	AML		AML	02 20 13.8	
	comp=N,8μm,0.8s								
SHGR	**Shooshtar-Gavs**	**0.82**	**249**	Pg			**Pn**	**02 19 50.0**	**-1.5**
IPIR	**Pirpir**	**1.04**	**74**	*e*Pn			**Pn**	**02 19 49.7**	**-4.7**
IKLH	**Kalahroud**	**1.82**	**59**	*e*Pn			**Pn**	**02 20 00.5**	**-4.5**
IKLH				*e*Pn			**Pn**	**02 20 03.5**	**-1.5**
IKLH				*e*Pn			**Pn**	**02 20 04.8**	**-0.2**
IKLH				*e*Sn			**Sn**	**02 20 28.7**	**+1.8**
IKLH				*e*Sn			**Sn**	**02 20 29.3**	**+2.4**
IKLH	**Kalahroud**	**1.82**	**59**	*e*Pn			**Pn**	**02 20 00.5**	**-4.5**
IKLH				*e*Pn			**Pn**	**02 20 03.4**	**-1.6**
IKLH				Pn			**Pn**	**02 20 04.8**	**-0.2**
IKLH				Sn			**Sn**	**02 20 28.6**	**+1.7**
IKLH				Sn			**Sn**	**02 20 29.2**	**+2.3**
IKLH	**Kalahroud**	**1.82**	**59**	*e*Pn			**Pn**	**02 20 03.5**	**-1.5**
IKLH				*e*Sn			**Sn**	**02 20 28.7**	**+1.8**
IGAR	**Garneh**	**2.11**	**94**	*e*Pn			**Pn**	**02 20 05.0**	**-4.0**
IGAR				*e*Pn			**Pn**	**02 20 07.3**	**-1.7**
IGAR				*e*Pn			**Pn**	**02 20 07.5**	**-1.5**
IGAR				*e*Sn			**Sn**	**02 20 32.8**	**-1.3**
IGAR				*e*Sn			**Sn**	**02 20 33.0**	**-1.1**
IGAR	**Garneh**	**2.11**	**94**	*e*Pn			**Pn**	**02 20 07.3**	**-1.7**
IGAR				*e*Sn			**Sn**	**02 20 33.0**	**-1.1**
ASAO	**Ashtian**	**2.16**	**7**	*e*Pn			**Pn**	**02 20 10.9**	**+1.3**
ASAO	**Ashtian**	**2.16**	**7**	*e*Pn			**Pn**	**02 20 10.9**	**+1.3**
	SNR=52								
ASAO				Sg			**Sn**	**02 20 41.0**	**+5.9**
IZEF	**Zefreh**	**2.26**	**77**	*e*Pn			**Pn**	**02 20 09.4**	**-1.7**
IZEF				*e*Pn			**Pn**	**02 20 10.9**	**-0.2**
IZEF				*e*Pn			**Pn**	**02 20 11.0**	**-0.1**
IZEF				*e*Sn			**Sn**	**02 20 39.2**	**+1.4**
IZEF				*e*Sn			**Sn**	**02 20 39.6**	**+1.8**
IZEF	**Zefreh**	**2.26**	**77**	Pn			**Pn**	**02 20 09.4**	**-1.7**
IZEF				Pn			**Pn**	**02 20 11.0**	**-0.1**
IZEF				Sn			**Sn**	**02 20 39.2**	**+1.4**
IZEF				Sn			**Sn**	**02 20 39.5**	**+1.7**
IKOM	**Komasi**	**2.55**	**314**	*e*Pn			**Pn**	**02 20 12.4**	**-2.6**
IKOM				*e*Pn			**Pn**	**02 20 13.9**	**-1.1**
IKOM				*e*Pn			**Pn**	**02 20 15.7**	**+0.7**
IKOM				*e*Sn			**Sn**	**02 20 45.3**	**+0.4**
IKOM				*e*Sn			**Sn**	**02 20 46.1**	**+1.2**
IKOM	**Komasi**	**2.55**	**314**	Pn			**Pn**	**02 20 12.4**	**-2.6**
IKOM				Pn			**Pn**	**02 20 13.8**	**-1.2**
IKOM				Pn			**Pn**	**02 20 15.6**	**+0.6**
IKOM				Sn			**Sn**	**02 20 45.2**	**+0.3**
IKOM				Sn			**Sn**	**02 20 46.1**	**+1.2**
IKOM	**Komasi**	**2.55**	**314**	*e*Pn			**Pn**	**02 20 13.9**	**-1.1**
IKOM				*e*Sn			**Sn**	**02 20 46.1**	**+1.2**
NASN	**Na'in**	**2.65**	**81**	*e*Pn			**Pn**	**02 20 16.6**	**+0.3**
NASN				*e*Sg			**Sn**	**02 20 53.2**	**+6.0**
NASN	**Na'in**	**2.65**	**81**	Pn			**Pn**	**02 20 16.0**	**-0.3**
ISFB	**Sefidab**	**2.87**	**47**	*e*Pn			**Pn**	**02 20 16.8**	**-2.7**
ISFB				*e*Pn			**Pn**	**02 20 18.3**	**-1.2**
ISFB				*e*Pn			**Pn**	**02 20 19.3**	**-0.2**
ISFB				*e*Sn			**Sn**	**02 20 53.8**	**+1.0**
ISFB				*e*Sn			**Sn**	**02 20 53.9**	**+1.1**
ISFB	**Sefidab**	**2.87**	**47**	Pn			**Pn**	**02 20 16.8**	**-2.7**
ISFB				Pn			**Pn**	**02 20 18.3**	**-1.2**
ISFB				Pn			**Pn**	**02 20 19.2**	**-0.3**
ISFB				Sn			**Sn**	**02 20 53.7**	**+0.9**
ISFB				Sn			**Sn**	**02 20 53.9**	**+1.1**
ISFB	**Sefidab**	**2.87**	**47**	*e*Pn			**Pn**	**02 20 18.3**	**-1.2**
ISFB				*e*Sn			**Sn**	**02 20 53.9**	**+1.1**
IRAZ	**Razeghan**	**3.00**	**3**	*e*Pn			**Pn**	**02 20 19.8**	**-1.4**
IRAZ				*e*Pn			**Pn**	**02 20 22.7**	**+1.5**
IRAZ				*e*Pn			**Pn**	**02 20 22.8**	**+1.6**
IRAZ				*e*Sn			**Sn**	**02 20 56.9**	**+1.0**
IRAZ				*e*Sn			**Sn**	**02 20 58.0**	**+2.1**
IRAZ	**Razeghan**	**3.00**	**3**	Pn			**Pn**	**02 20 19.8**	**-1.4**
IRAZ				Pn			**Pn**	**02 20 22.7**	**+1.5**
IRAZ				Sn			**Sn**	**02 20 56.8**	**+0.9**
IRAZ				Sn			**Sn**	**02 20 58.0**	**+2.1**
IVRN	**Varamin**	**3.09**	**32**	*e*Pn			**Pn**	**02 20 21.3**	**-1.1**
IVRN				*e*Pn			**Pn**	**02 20 22.4**	**0.0**
IVRN				*e*Pn			**Pn**	**02 20 22.8**	**+0.4**
IVRN				*e*Sn			**Sn**	**02 20 58.8**	**+0.8**
IVRN				*e*Sn			**Sn**	**02 20 59.2**	**+1.2**
IVRN	**Varamin**	**3.09**	**32**	Pn			**Pn**	**02 20 21.3**	**-1.1**
IVRN				Pn			**Pn**	**02 20 22.4**	**0.0**
IVRN				Pn			**Pn**	**02 20 22.7**	**+0.3**
IVRN				Sn			**Sn**	**02 20 58.7**	**+0.7**
IVRN				Sn			**Sn**	**02 20 59.1**	**+1.1**
IVRN	**Varamin**	**3.09**	**32**	*e*Pn			**Pn**	**02 20 22.4**	**0.0**
IVRN				*e*Sn			**Sn**	**02 20 59.2**	**+1.2**
IVIS	**Veys**	**3.19**	**312**	*e*Pn			**Pn**	**02 20 22.5**	**-1.3**
IVIS				*e*Pn			**Pn**	**02 20 22.8**	**-1.0**
IVIS				*e*Pn			**Pn**	**02 20 22.8**	**-1.0**
IVIS				*e*Sn			**Sn**	**02 21 00.1**	**-0.5**
IVIS				*e*Sn			**Sn**	**02 21 00.3**	**-0.3**
IVIS	**Veys**	**3.19**	**312**	Pn			**Pn**	**02 20 22.5**	**-1.3**
IVIS				Pn			**Pn**	**02 20 22.7**	**-1.1**
IVIS				Sn			**Sn**	**02 21 00.1**	**-0.5**
IVIS				Sn			**Sn**	**02 21 00.3**	**-0.3**
IVIS	**Veys**	**3.19**	**312**	*e*Pn			**Pn**	**02 20 22.5**	**-1.3**
IVIS				*e*Sn			**Sn**	**02 21 00.3**	**-0.3**
IGHG	**Ghaleghazi**	**3.26**	**307**	*e*Pn			**Pn**	**02 20 24.2**	**-0.5**
IGHG				*e*Pn			**Pn**	**02 20 27.2**	**+2.5**
IGHG				*e*Pn			**Pn**	**02 20 27.2**	**+2.5**
IGHG				*e*Sn			**Sn**	**02 21 01.8**	**-0.4**
IGHG				*e*Sn			**Sn**	**02 21 03.2**	**+1.0**
IGHG	**Ghaleghazi**	**3.26**	**307**	Pn			**Pn**	**02 20 24.2**	**-0.5**
IGHG				Pn			**Pn**	**02 20 27.2**	**+2.5**
IGHG				Sn			**Sn**	**02 21 01.7**	**-0.5**
IGHG				Sn			**Sn**	**02 21 03.1**	**+0.9**
IGHG	**Ghaleghazi**	**3.26**	**307**	*e*Pn			**Pn**	**02 20 24.2**	**-0.5**
IGHG				*e*Sn			**Sn**	**02 21 01.8**	**-0.4**
MIB	**Mutribah**	**3.29**	**219**	*e*P			**Pn**	**02 20 26.9**	**+1.7**
MIB						AML	AML	02 21 12.7	
	comp=Z,281nm,0.5s								
UMR	**Umm Al-Rimmam**	**3.32**	**212**	*e*P			**Pn**	**02 20 26.5**	**+1.0**
UMR						AML	AML	02 21 12.1	
	comp=Z,231nm,0.5s								
SNGE	**Sanandaj**	**3.33**	**324**	Pn			**Pn**	**02 20 26.0**	**+0.3**
IMHD	**Mahdasht**	**3.37**	**13**	*e*Pn			**Pn**	**02 20 26.6**	**+0.3**
THKV	**Tehran--Karaj**	**3.64**	**15**	*e*Pn			**Pn**	**02 20 30.8**	**+0.9**
THKV				*e*Sg			**Sn**	**02 21 25.4**	**+14**
THKV	**Tehran--Karaj**	**3.64**	**15**	Pn			**Pn**	**02 20 30.0**	**+0.1**
KBD	**Kabd**	**3.66**	**209**	*e*P			**Pn**	**02 20 31.3**	**+1.1**
KBD						AML	AML	02 21 20.5	
	comp=Z,650nm,0.3s								
CHTH	**Charan**	**3.69**	**18**	*e*Pn			**Pn**	**02 20 31.3**	**+0.6**
CHTH				*e*Sg			**Sn**	**02 21 26.3**	**+14**
CHTH						AML	AML	02 21 36.3	
	comp=E,196nm,0.7s								
CHTH	**Charan**	**3.69**	**18**	Pn			**Pn**	**02 20 30.0**	**-0.6**
DAMV	**Damavand**	**3.73**	**30**	*e*Pn			**Pn**	**02 20 31.6**	**+0.5**
DAMV				*e*Sg			**Sn**	**02 21 27.4**	**+14**
DAMV	**Damavand**	**3.73**	**30**	Pn			**Pn**	**02 20 31.0**	**-0.2**
NAY	**Al-Naaiem**	**3.79**	**215**	*e*P			**Pn**	**02 20 33.1**	**+1.0**
NAY						AML	AML	02 21 24.5	
	comp=Z,73nm,0.4s								
IAFJ	**Afjeh**	**3.82**	**25**	*e*Pn			**Pn**	**02 20 31.7**	**-0.8**
IAFJ				*e*Pn			**Pn**	**02 20 31.7**	**-0.8**
IAFJ				*e*Pn			**Pn**	**02 20 32.8**	**+0.3**
IAFJ				*e*Sn			**Sn**	**02 21 11.1**	**-5.1**
IAFJ				*e*Sn			**Sn**	**02 21 19.4**	**+3.2**
IAFJ	**Afjeh**	**3.82**	**25**	Pn			**Pn**	**02 20 31.6**	**-0.9**
IAFJ				Pn			**Pn**	**02 20 32.8**	**+0.3**
IAFJ				Sn			**Sn**	**02 21 11.1**	**-5.1**
IAFJ				Sn			**Sn**	**02 21 19.3**	**+3.1**
IAFJ	**Afjeh**	**3.82**	**25**	*e*Pn			**Pn**	**02 20 32.8**	**+0.3**
IAFJ				*e*Sn			**Sn**	**02 21 19.4**	**+3.2**
RDF	**Al-Radifah**	**3.93**	**209**	*e*P			**Pn**	**02 20 35.2**	**+1.2**
RDF						AML	AML	02 21 25.7	
	comp=Z,165nm,0.3s								
ICHK	**Chekchek**	**3.98**	**91**	*e*Pn			**Pn**	**02 20 30.2**	**-4.4**
ICHK				*e*Pn			**Pn**	**02 20 34.2**	**-0.4**
ICHK				*e*Pn			**Pn**	**02 20 34.6**	**0.0**
ICHK				*e*Sn			**Sn**	**02 21 20.2**	**+0.2**
ICHK				*e*Sn			**Sn**	**02 21 20.5**	**+0.5**
ICHK	**Chekchek**	**3.98**	**91**	Pn			**Pn**	**02 20 30.1**	**-4.5**
ICHK				Pn			**Pn**	**02 20 34.2**	**-0.4**
ICHK				Pn			**Pn**	**02 20 34.6**	**0.0**
ICHK				Sn			**Sn**	**02 21 20.2**	**+0.2**
ICHK				Sn			**Sn**	**02 21 20.5**	**+0.5**
ICHK	**Chekchek**	**3.98**	**91**	*e*Pn			**Pn**	**02 20 34.2**	**-0.4**
ICHK				*e*Sn			**Sn**	**02 21 20.2**	**+0.2**
ILAS	**Lasjerd**	**4.02**	**41**	*e*Pn			**Pn**	**02 20 30.2**	**-4.9**
ILAS				*e*Pn			**Pn**	**02 20 34.6**	**-0.5**
ILAS				*e*Pn			**Pn**	**02 20 34.7**	**-0.4**
ILAS				*e*Sn			**Sn**	**02 21 21.6**	**+0.7**
ILAS				*e*Sn			**Sn**	**02 21 21.8**	**+0.9**
ILAS	**Lasjerd**	**4.02**	**41**	Pn			**Pn**	**02 20 30.1**	**-5.0**
ILAS				Pn			**Pn**	**02 20 34.7**	**-0.4**
ILAS				Sn			**Sn**	**02 21 21.5**	**+0.6**
ILAS				Sn			**Sn**	**02 21 21.7**	**+0.8**
ILAS	**Lasjerd**	**4.02**	**41**	*e*Pn			**Pn**	**02 20 34.6**	**-0.5**
ILAS				*e*Sn			**Sn**	**02 21 21.8**	**+0.9**
IFIR	**Firoozkooh**	**4.10**	**37**	*e*Pn			**Pn**	**02 20 33.2**	**-3.1**
IFIR						*e*Pn	**Pn**	**02 20 36.6**	**+0.3**
IFIR						*e*Pn	**Pn**	**02 20 36.9**	**+0.6**
IFIR						*e*Sn	**Sn**	**02 21 24.9**	**+1.9**
IFIR						*e*Sn	**Sn**	**02 21 25.9**	**+2.9**
IFIR	**Firoozkooh**	**4.10**	**37**			Pn	**Pn**	**02 20 33.1**	**-3.2**
IFIR						Pn	**Pn**	**02 20 36.6**	**+0.3**
IFIR						Pn	**Pn**	**02 20 36.8**	**+0.5**
IFIR						Sn	**Sn**	**02 21 24.8**	**+1.8**
IFIR						Sn	**Sn**	**02 21 25.8**	**+2.8**
IFIR	**Firoozkooh**	**4.10**	**37**			*e*Pn	**Pn**	**02 20 36.6**	**+0.3**
IFIR						*e*Sn	**Sn**	**02 21 24.9**	**+1.9**
IPRN	**Paran-Amol**	**4.37**	**28**			*e*Pn	**Pn**	**02 20 39.1**	**-0.8**
IPRN						*e*Pn	**Pn**	**02 20 41.8**	**+1.9**
IPRN						*e*Pn	**Pn**	**02 20 42.1**	**+2.2**
IPRN						*e*Sn	**Sn**	**02 21 27.9**	**-1.6**
IPRN						*e*Sn	**Sn**	**02 21 29.2**	**-0.3**
IPRN	**Paran-Amol**	**4.37**	**28**			Pn	**Pn**	**02 20 39.0**	**-0.9**
IPRN						Pn	**Pn**	**02 20 41.7**	**+1.8**
IPRN						Pn	**Pn**	**02 20 42.0**	**+2.1**
IPRN						Sn	**Sn**	**02 21 27.9**	**-1.6**
IPRN						Sn	**Sn**	**02 21 29.1**	**-0.4**
ISHM	**Shahmirzad**	**4.51**	**40**			*e*Pn	**Pn**	**02 20 39.1**	**-2.8**
ISHM						*e*Pn	**Pn**	**02 20 42.1**	**+0.2**
ISHM						*e*Pn	**Pn**	**02 20 43.5**	**+1.6**
ISHM						*e*Sn	**Sn**	**02 21 33.0**	**-0.1**
ISHM						*e*Sn	**Sn**	**02 21 33.0**	**-0.1**
ISHM	**Shahmirzad**	**4.51**	**40**			Pn	**Pn**	**02 20 39.0**	**-2.9**
ISHM						Pn	**Pn**	**02 20 42.0**	**+0.1**
ISHM						Pn	**Pn**	**02 20 43.5**	**+1.6**
ISHM						Sn	**Sn**	**02 21 32.9**	**-0.2**
ISHM	**Shahmirzad**	**4.51**	**40**	*e*Pn			**Pn**	**02 20 42.1**	**+0.2**
ISHM				*e*Sn			**Sn**	**02 21 33.0**	**-0.1**
BHD	**Baghdad**	**4.57**	**282**	*ex*			x	02 20 42.6	
BHD				*ex*			x	02 21 34.6	
IANJ	**Anjiloo**	**4.64**	**48**	*e*Pn			**Pn**	**02 20 42.9**	**-0.8**
IANJ	**Anjiloo**	**4.64**	**48**	Pn			**Pn**	**02 20 42.8**	**-0.9**
GHIR	**Ghir-Karzin**	**4.99**	**145**	Pn			**Pn**	**02 20 48.0**	**-0.4**
IKIA	**Kiasar**	**5.02**	**40**	*e*Pn			**Pn**	**02 20 47.3**	**-1.6**
IKIA				*e*Pn			**Pn**	**02 20 48.8**	**-0.1**
IKIA				*e*Sn			**Sn**	**02 21 45.4**	**-0.2**
IKIA	**Kiasar**	**5.02**	**40**	Pn			**Pn**	**02 20 47.2**	**-1.7**
IKIA				Pn			**Pn**	**02 20 48.8**	**-0.1**
IKIA				Sn			**Sn**	**02 21 45.4**	**-0.2**
IKIA	**Kiasar**	**5.02**	**40**	*e*Pn			**Pn**	**02 20 48.8**	**-0.1**
IKIA				*e*Sn			**Sn**	**02 21 45.4**	**-0.2**
IBAF	**Bafgh**	**5.04**	**98**	*e*Pn			**Pn**	**02 20 46.5**	**-2.7**
IBAF				*e*Pn			**Pn**	**02 20 48.6**	**-0.6**
IBAF				*e*Pn			**Pn**	**02 20 48.9**	**-0.3**
IBAF				*e*Sn			**Sn**	**02 21 45.6**	**-0.5**
IB

comp=Z,19nm,1.4s,mb4.3
AAK Ala-Archa 22.08 55 *e*P **P 02 24 26.5 -0.5**
comp=Z,19nm,1.4s,mb4.3
AAK Ala-Archa 22.08 55 *e*P **P 02 24 26.5 -0.5**
comp=Z,19nm,1.4s,mb4.3
MLR Muntele Rosu 22.54 312 P **P 02 24 30.6 -1.2**
comp=Z,3.8nm,0.7s,mb4.0,baz=124,slow=22,SNR=2.1
MLR Muntele Rosu 22.54 312 ⇓*i*P **P 02 24 39.9 +8.1**
MLR Muntele Rosu 22.54 312 P **P 02 24 30.6 -1.2**
MLR ⇓P 02 24 39.9
VOIR 23.08 311 ⇑*i*P **P 02 24 38.6 +1.1**
AKASG Malin Array Be 23.72 326 P **P 02 24 41.8 -1.9**
comp=Z,0.9nm,0.3s,mb3.6,baz=134,slow=8.7,SNR=16
AKASG S **S 02 28 51.9 -3.4**
comp=Z,0.1nm,0.2s,baz=254,slow=38,SNR=3.2
AKASG ScP ScP 02 32 01.7 +1.1
comp=Z,0.5nm,0.4s,baz=113,slow=1.7,SNR=5.2
AKASG Malin Array Be 23.72 326 P **P 02 24 41.8 -1.9**
AKASG S **S 02 28 51.9 -3.3**
AKBB Malin Array Si 23.72 326 *e*P **P 02 24 42.1 -1.6**
KIEV Kiev 23.73 326 *e*P **P 02 24 42.1 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
KIEV Kiev 23.73 326 *e*P **P 02 24 42.1 -1.6**
comp=Z,4.4nm,0.6s,mb4.1
KIEV Kiev 23.73 326 *e*P **P 02 24 42.1 -1.6**
comp=Z,4.0nm,0.6s,mb4.0
BURAR Bucovina Array 24.00 316 ⇑*i*P **P 02 24 47.0 +0.8**
BURAR Bucovina Array 24.00 316 ⇑P **P 02 24 47.0 +0.9**
GZR Gura Zlata 24.52 310 ⇑*i*P **P 02 24 51.3 +0.4**
GZR Gura Zlata 24.52 310 ⇑P **P 02 24 51.3 +0.4**
OBN Obninsk 24.52 342 ⇑*e*P **P 02 24 50.5 -0.5**
OBN *e*S **S 02 29 00.6 -7.5**
OBN pmax pmax
comp=Z,13nm,0.6s,mb4.6
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.4
OBN Obninsk 24.52 342 *e*P **P 02 24 50.5 -0.5**
comp=Z,13nm,0.6s,mb4.6
ARU Arti 24.80 12 ⇑*i*P **P 02 24 53.9 +0.4**
ARU *e*S **S 02 29 14.8 +2.2**
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.4
ARU Arti 24.80 12 *e*P **P 02 24 53.3 -0.2**
comp=Z,14nm,0.9s,mb4.5
ARU Arti 24.80 12 *i*P **P 02 24 53.9 +0.4**
comp=Z,12nm,1.0s,mb4.4
ZRNK Zerenda 24.81 28 *e*P **P 02 24 53.5 -0.1**
ZRNK pmax pmax
comp=Z,26nm,0.3s,mb5.2
ZRNK Zerenda 24.81 28 *e*P **P 02 24 53.5 0.0**
comp=Z,26nm,0.3s,mb5.2
ZRNK Zerenda 24.81 28 *e*P **P 02 24 53.5 -0.1**
comp=Z,26nm,0.3s,mb5.2
DRGR 25.13 313 ⇓*i*P **P 02 24 57.9 +1.5**
DRGR 25.13 313 ⇓P **P 02 24 57.9 +1.4**
BZS Buzias 25.36 309 ⇑*i*P **P 02 24 59.6 +1.1**
BZS Buzias 25.36 309 ⇑P **P 02 24 59.6 +1.1**
BRVK Borovoye 25.41 30 *e*P **P 02 24 58.9 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
BRVK Borovoye 25.41 30 *e*P **P 02 24 58.9 -0.2**
comp=Z,5.0nm,0.8s,mb4.1
BVAR Borovoye Array 25.43 30 P **P 02 24 59.2 -0.1**
comp=Z,9.5nm,1.1s,mb4.2,baz=230,slow=7.8,SNR=22
BVAR ScP ScP 02 32 05.5 +0.1
comp=Z,1.0nm,0.6s,baz=207,slow=3.0,SNR=6.9
BVAR LR LR 02 36 57.7
comp=Z,168nm,18.4s,MS3.6,baz=136,slow=41
CHKZ Chkalovo 26.00 29 *e*P **P 02 25 06.5 +2.1**
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
CHKZ Chkalovo 26.00 29 *e*P **P 02 25 06.5 +2.2**
comp=Z,2.1nm,0.7s,mb3.8
CHKZ Chkalovo 26.00 29 *e*P **P 02 25 06.5 +2.1**
comp=Z,2.0nm,0.7s,mb3.8
KOLS Kolonicke sedl 26.36 317 *e*P **P 02 25 09.1 +1.5**
KWP Kalwaria 26.46 319 *e*P **P 02 25 08.8 +0.3**
CRVS Cervenica-Dubn 26.82 316 *e*P **P 02 25 13.1 +1.3**
STHS Stebnicka Huta 27.19 317 *e*P **P 02 25 16.3 +1.3**
KECS Kecovo 27.21 315 *e*P **P 02 25 22.0 +6.7**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
KECS Kecovo 27.21 315 *e*P **P 02 25 22.0 +6.7**
comp=Z,2.4nm,0.9s,mb3.7
PSZ Piszkesteto 27.34 313 ⇑*i*P **P 02 25 11.2 -5.2**
PSZ Piszkesteto 27.34 313 ⇑P **P 02 25 11.2 -5.2**
KURK Kurchatov 28.07 41 *e*P **P 02 25 23.1 +0.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
KURK Kurchatov 28.07 41 *e*P **P 02 25 23.1 +0.2**
comp=Z,3.1nm,0.9s,mb3.9
KURK Kurchatov 28.07 41 *e*P **P 02 25 23.1 +0.2**
comp=Z,3.0nm,0.9s,mb3.9
MK31 Makanchi Array 28.69 50 *e*P **P 02 25 28.5 +0.1**
MKAR Makanchi Array 28.69 50 P **P 02 25 29.0 +0.5**
comp=Z,0.8nm,0.6s,mb3.6,baz=242,slow=8.8,SNR=13
MKAR PcP PcP 02 28 37.4 -0.6
comp=Z,0.5nm,0.7s,baz=232,slow=4.1,SNR=3.6
MKAR LR LR 02 38 26.8
comp=Z,178nm,18.3s,MS3.7,baz=265,slow=40
MKAR Makanchi Array 28.69 50 P **P 02 25 29.0 +0.6**
MKAR 02 28 37.4
MKAR Makanchi Array 28.69 50 PcP PcP 02 28 37.4 -0.6
MOA Molln 30.87 310 ⇑*i*P **P 02 25 48.4 +0.7**
comp=Z,6.2nm,0.6s,mb4.6
MOA Molln 30.87 310 P **P 02 25 48.4 +0.7**
comp=Z,6.2nm,0.7s,mb4.6
KBA Koelnbreinsper 31.25 309 ⇑*i*P **P 02 25 52.1 +1.0**
KBA pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
KBA Koelnbreinsper 31.25 309 ⇑*i*P **P 02 25 52.1 +1.0**
comp=Z,4.7nm,0.9s,mb4.3
KBA Koelnbreinsper 31.25 309 P **P 02 25 52.1 +1.0**
comp=Z,4.7nm,0.9s,mb4.3
GERES GERESS Array B 31.52 312 P **P 02 25 52.7 -0.8**
comp=Z,0.8nm,0.6s,mb3.8,baz=116,slow=9.2,SNR=10.0
GERES ScP ScP 02 32 25.2 +0.8
comp=Z,0.5nm,0.8s,baz=151,slow=3.0,SNR=5.5
WMQ Urumqi 31.73 58 ⇑P **P 02 25 59.5 +4.2**
WMQ AP pP 02 26 04.0 -4.1
WMQ XP sP 02 26 06.5 -7.5
WMQ PP PP 02 27 04.9 -2.7
WMQ PPP 02 27 20.0
WMQ PCP PcP 02 28 50.5 +4.6
WMQ S **S 02 31 08.0 +6.4**
WMQ XS sS 02 31 15.5 -7.7
WMQ SCP ScP 02 32 32.2 +7.2
WMQ PCS PcS 02 32 34.0 +3.6
WMQ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,202nm,4.9s
WMQ LR LR
comp=N,49nm,16.1s
WMQ LR LR
comp=E,106nm,21.4s
WMQ LR LR
comp=Z,96nm,18.7s,MS3.5
SQTA Sankt Quirin 32.70 308 ⇑*i*P **P 02 26 03.9 0.0**
comp=Z,4.5nm,0.4s,mb4.7
SQTA Sankt Quirin 32.70 308 ⇑*i*P **P 02 26 03.9 0.0**
SQTA pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
CLL Collm 32.77 316 *e*P **P 02 26 08.0 +3.6**
MOTA Moosalm 32.80 308 ⇑*i*P **P 02 26 05.4 +0.6**
comp=Z,5.4nm,0.8s,mb4.5
MOTA Moosalm 32.80 308 ⇑*i*P **P 02 26 05.4 +0.7**
MOTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FINES FINESS Array B 32.85 339 P **P 02 26 03.7 -1.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=141,slow=11,SNR=12
FINES FINESS Array B 32.85 339 P **P 02 26 03.7 -1.4**
ZAL Zalesovo 32.93 39 P **P 02 26 04.9 -0.9**
comp=Z,1.7nm,0.3s,mb4.4,baz=61,slow=11,SNR=7.0
BSD Bornholm Skovb 33.32 323 ⇓*i*P **P 02 26 08.0 -1.2**
comp=Z,29nm,0.9s,mb5.2
BSD *i* 02 26 41.9
BSD Bornholm Skovb 33.32 323 ⇓*i*P **P 02 26 08.0 -1.2**
BSD pmax pmax
comp=Z,29nm,0.9s,mb5.2
PGF Pioggiola 33.58 299 *e*P **P 02 26 12.0 +0.5**
DAVA Damuels 33.60 308 ⇑*i*P **P 02 26 11.9 +0.2**
comp=Z,4.7nm,0.6s,mb4.6
DAVA Damuels 33.60 308 P **P 02 26 11.9 +0.2**
comp=Z,4.7nm,0.6s,mb4.6
FRF La Foret Royal 35.36 301 *e*P **P 02 26 25.1 -1.8**
comp=Z,12nm,0.9s,mb4.5
FRF La Foret Royal 35.36 301 *e*P **P 02 26 25.1 -1.8**
FRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
FRF La Foret Royal 35.36 301 *e*P **P 02 26 25.1 -1.8**
comp=Z,6.0nm,0.9s,mb4.5
MBDF Montbardon 35.37 303 *e*P **P 02 26 27.2 +0.3**
comp=Z,3.5nm,0.4s,mb4.3
MBDF Montbardon 35.37 303 *e*P **P 02 26 27.2 +0.3**
comp=Z,1.8nm,0.4s,mb4.3
KMBO Kilima Mbogo 35.37 202 LR LR 02 41 13.0
comp=Z,85nm,21.1s,MS3.5,baz=77,slow=37
LMR La Mourre 35.45 301 *e*P **P 02 26 27.9 +0.2**
comp=Z,21nm,1.2s,mb4.7
LMR La Mourre 35.45 301 *e*P **P 02 26 27.9 +0.2**
LMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
LMR La Mourre 35.45 301 *e*P **P 02 26 27.9 +0.2**
comp=Z,10nm,1.2s,mb4.7
LPG La Plagne 35.46 304 *e*P **P 02 26 28.3 +0.6**
comp=Z,12nm,0.8s,mb4.6
LPG La Plagne 35.46 304 *e*P **P 02 26 28.3 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LPG La Plagne 35.46 304 *e*P **P 02 26 28.3 +0.6**
comp=Z,6.1nm,0.8s,mb4.6
BNI Bardonecchia 35.46 304 *e*P **P 02 26 30.3 +2.5**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BNI Bardonecchia 35.46 304 *e*P **P 02 26 30.3 +2.5**
comp=Z,7.0nm,0.8s,mb4.6
LPL La Plagne 35.48 304 *e*P **P 02 26 28.2 +0.3**
comp=Z,16nm,0.9s,mb4.7
LPL La Plagne 35.48 304 *e*P **P 02 26 28.2 +0.3**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPL La Plagne 35.48 304 *e*P **P 02 26 28.2 +0.3**
comp=Z,8.2nm,0.9s,mb4.7
CDF Champ du Feu 35.54 309 *e*P **P 02 26 28.6 +0.1**
ORIF Oris-en-Rattie 36.02 303 *e*P **P 02 26 32.8 +0.3**
CABF La Chapelle 36.05 306 *e*P **P 02 26 33.1 +0.3**
comp=Z,11nm,0.8s,mb4.5
CABF La Chapelle 36.05 306 *e*P **P 02 26 33.1 +0.3**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CABF La Chapelle 36.05 306 *e*P **P 02 26 33.1 +0.3**
comp=Z,5.4nm,0.8s,mb4.5
SMRF Simiane la Rot 36.16 302 *e*P **P 02 26 34.3 +0.5**
comp=Z,30nm,1.2s,mb4.8
SMRF Simiane la Rot 36.16 302 *e*P **P 02 26 34.3 +0.5**
comp=Z,15nm,1.2s,mb4.8
VIVF Saint-Julien-l 36.87 303 *e*P **P 02 26 39.6 -0.1**
MEZF Maizieres J'vi 37.02 309 *e*P **P 02 26 40.9 -0.1**
SMF Signal de Mont 37.59 306 *e*P **P 02 26 45.7 -0.2**
comp=Z,14nm,0.9s,mb4.4
SMF Signal de Mont 37.59 306 *e*P **P 02 26 45.7 -0.2**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SMF Signal de Mont 37.59 306 *e*P **P 02 26 45.7 -0.2**
comp=Z,7.1nm,0.9s,mb4.4
LOR Lormes 37.65 307 *e*P **P 02 26 46.2 -0.2**
SSF Saint Saulge 37.87 306 *e*P **P 02 26 48.2 0.0**
comp=Z,8.7nm,1.0s,mb4.2
SSF Saint Saulge 37.87 306 *e*P **P 02 26 48.2 0.0**
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
SSF Saint Saulge 37.87 306 *e*P **P 02 26 48.2 0.0**
comp=Z,4.3nm,1.0s,mb4.2
AVF Avril sur Loir 37.94 306 *e*P **P 02 26 48.9 0.0**
comp=Z,16nm,1.2s,mb4.3
AVF Avril sur Loir 37.94 306 *e*P **P 02 26 48.9 0.0**
AVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
AVF Avril sur Loir 37.94 306 *e*P **P 02 26 48.9 0.0**
comp=Z,7.9nm,1.2s,mb4.3
NB2 NORSAR Subarra 37.99 331 P **P 02 26 47.5 -1.8**
comp=Z,1.3nm,0.6s,mb3.8,baz=121,slow=8.6
NB2 NORSAR Subarra 37.99 331 P **P 02 26 47.5 -1.8**
comp=Z,1.3nm,0.6s,mb3.8,baz=121,slow=8.3,SNR=5.9
NOA NORSAR Array B 37.99 331 P **P 02 26 47.9 -1.3**
comp=Z,1.6nm,0.7s,mb3.9,baz=122,slow=8.3,SNR=5.7
NOA NORSAR Array B 37.99 331 P **P 02 26 47.9 -1.4**
BGF Bois d'Agland 38.27 306 *e*P **P 02 26 51.2 -0.4**
MTLF Montolieu 38.58 300 *e*P **P 02 26 54.4 +0.2**
TCF Toulx Ste Croi 38.69 305 *e*P **P 02 26 55.0 -0.1**
RJF Les Rejaudoux 39.12 304 *e*P **P 02 26 58.7 -0.1**
ARCES ARCESS Array B 39.59 347 P **P 02 27 01.3 -1.4**
comp=Z,4.5nm,1.0s,mb4.1,baz=162,slow=8.8,SNR=11
ARCES ARCESS Array B 39.59 347 P **P 02 27 01.3 -1.4**
MFF Saint Martin d 40.33 305 *e*P **P 02 27 08.9 +0.1**
LDF La Druitiere 40.44 309 *e*P **P 02 27 09.5 -0.2**
FLN La Foliniere 40.69 309 *e*P **P 02 27 11.4 -0.4**
GTA Gaotai 40.75 66 P **P 02 27 13.1 +0.8**
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GRR Gorron 40.91 308 *e*P **P 02 27 13.4 -0.2**
SGMF Saint Gilles 42.04 308 *e*P **P 02 27 22.5 -0.3**
comp=Z,34nm,1.0s,mb4.6
SGMF Saint Gilles 42.04 308 *e*P **P 02 27 22.5 -0.3**
SGMF pmax pmax
comp=Z,17nm,1.0s,mb4.6
SGMF Saint Gilles 42.04 308 *e*P **P 02 27 22.5 -0.3**
comp=Z,17nm,1.0s,mb4.6
QUIF Quistinic 42.44 307 *e*P **P 02 27 25.6 -0.4**
ROSF Rostrenen 42.52 308 *e*P **P 02 27 26.4 -0.3**
SONM Songino Array 45.00 53 LR LR 02 48 22.5
comp=Z,119nm,18.0s,MS3.9,baz=36,slow=38
CD2 Chengdu 45.62 77 *e*P **P 02 27 54.0 +2.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CHTO Chiang Mai 46.04 95 *e*P **P 02 27 55.0 +0.1**
KMI Kunming 46.66 85 P **P 02 27 58.9 -0.8**
KMI AP pP 02 28 03.0 -10
KMI XP sP 02 28 05.4 -13
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
KMI Kunming 46.66 85 P **P 02 27 58.9 -0.8**
comp=Z,9.0nm,0.7s,mb4.8
KMI pP pP 02 28 03.0 -10
KMI sP sP 02 28 05.4 -13
KMI Kunming 46.66 85 P **P 02 27 58.9 -0.8**
comp=Z,9.0nm,0.7s,mb4.8
KMI pP pP 02 28 03.0 -10
TOA0 Torodi Ar. Sit 47.80 258 *e*P **P 02 28 09.2 +0.6**
TORD Torodi Ar. Bea 47.80 258 P **P 02 28 08.8 +0.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=45,slow=7.9,SNR=12
TORD Torodi Ar. Bea 47.80 258 P **P 02 28 08.8 +0.2**
HIA Hailar 53.69 50 *e*P **P 02 28 53.0 +0.1**
LIC Lamto 57.11 255 *e*P **P 02 29 19.5 +1.9**
comp=Z,3.1nm,0.4s,mb4.3
LIC *e*R
comp=Z,253nm,17.2s
LIC Lamto 57.11 255 *e*P **P 02 29 19.5 +1.9**
comp=Z,1.5nm,0.4s,mb4.3
NJ2 Nanjing 57.49 70 *e*P **P 02 29 21.6 +1.4**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.6
LBTB Lobatse 61.56 205 *e*P **P 02 29 50.0 +1.8**
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LBTB Lobatse 61.56 205 *e*P **P 02 29 50.0 +1.7**
comp=Z,3.3nm,0.6s,mb4.6
KSRS Korea Array 62.58 61 LR LR 03 00 35.6
comp=Z,56nm,19.2s,MS3.8,baz=292,slow=39
BOSA Boshof 64.98 204 P **P 02 30 09.6 -1.2**
comp=Z,2.4nm,0.9s,mb4.2,baz=4.0,slow=4.5,SNR=3.0
BOSA LR LR 02 59 45.3
comp=Z,143nm,18.1s,MS4.2,baz=62,slow=37
BOSA Boshof 64.98 204 P **P 02 30 09.6 -1.2**
BOSA LR LR 02 59 45.3
SEY Seymchan 67.09 29 *i*P **P 02 30 32.0 +7.6**
YSS Yuzh-Sakhalins 69.04 47 ⇓*e*P **P 02 30 36.2 -0.5**
YSS pmax pmax
comp=Z,15nm,1.2s,mb4.8
YSS MLR MLR
comp=Z,100nm,18.0s,MS4.1
YSS Yuzh-Sakhalins 69.04 47 *e*P **P 02 30 36.2 -0.5**
comp=Z,100nm,18.0s
BILL Bilibino 69.40 21 ⇓*e*P **P 02 30 44.1 +5.2**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
SCHQ Schefferville 77.51 328 P **P 02 31 25.4 -1.1**
comp=Z,5.0nm,1.1s,mb4.3,baz=253,slow=17,SNR=3.0
YKA Yellowknife Ar 84.60 353 P **P 02 32 02.3 -2.0**
comp=Z,2.5nm,0.8s,mb4.4,baz=9.3,slow=4.7,SNR=3.3
WRA Warramunga Arr 96.10 110 P **P 02 32 56.4 -2.1**
comp=Z,0.2nm,0.7s,mb3.7,baz=321,slow=4.0,SNR=3.0

ISCJB ***11*** *02:27:27.4± 0.8, 4398N± 003× 872E± 005, h10km, Error ellipse: s-maj=5.6km s-min=4.2km az=8.5*
ROM ***11*** *02:27:29.5± 0.5, 4408N× 870E, h10km, Md2.4/1, Ml1.5/1, Error ellipse: s-maj=5.2km s-min=2.6km az=62.0*
LDG ***11*** *02:27:29.0± 0.1, 4405N× 877E, h15km, Md2.3/1, Ml2.3/6, Error ellipse: s-maj=2.4km s-min=1.8km az=58.0*
ISC 11 02:27:27.4± 0.8, 4400N± 003× 878E± 006, h10km, n19, σ0 s 97/32, Corsica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QLNO	**Quiliano**	**0.45**	**316**	Pg	**Pg**	**02 27 36.8**	**+0.5**
QLNO				Sg	**Sg**	**02 27 42.7**	**+0.4**
	42nm,0.2s						
FIN	**Finale Ligure**	**0.47**	**297**	Pg	**Pg**	**02 27 37.1**	**+0.6**
FIN				Sg	**Sg**	**02 27 43.0**	**+0.4**
PCP	**Pian Castagno**	**0.57**	**343**	Pg	**Pg**	**02 27 39.0**	**+0.5**
PCP				Sg	**Sg**	**02 27 46.2**	**+0.2**
IMI	**Imperia**	**0.65**	**263**	Pg	**Pg**	**02 27 41.3**	**+1.3**
IMI				Sg	**Sg**	**02 27 49.9**	**+1.4**
	21nm,0.4s						
ROB	**Roburent**	**0.72**	**295**		**Pg**	**02 27 41.5**	**+0.2**
SBF	**Sospel**	**0.98**	**263**	*e*Pg	**Pg**	**02 27 47.6**	**+1.3**
SBF				*e*Sn	**Sn**	**02 27 59.5**	**-1.7**
	30nm,0.2s						
ENR	**Entracque**	**1.01**	**284**		**Pg**	**02 27 47.5**	**+0.7**
DOI	**San Damiano**	**1.21**	**295**	Pg	**Pg**	**02 27 51.1**	**+0.4**
	11nm,0.4s						
PZZ	**Prazzo**	**1.31**	**293**		**Pn**	**02 27 52.3**	**+0.5**
PGF	**Pioggiola**	**1.46**	**174**	*e*Pn	**Pn**	**02 27 53.8**	**0.0**
PGF				*e*Sn	**Sn**	**02 28 12.7**	**-0.2**
FRF	**La Foret Royal**	**1.61**	**255**	*e*Pn	**Pn**	**02 27 55.8**	**0.0**
FRF	**La Foret Royal**	**1.61**	**255**	*e*Pg	**Pg**	**02 27 59.0**	**+0.8**
FRF				*e*Sn	**Sn**	**02 28 14.6**	**-2.0**
FRF				*e*Sg	**Sg**	**02 28 19.7**	**+0.6**
	2.7nm,0.2s						
MBDF	**Montbardon**	**1.62**	**298**	*e*Pn	**Pn**	**02 27 55.2**	**-0.8**
MBDF				*e*Sn	**Sn**	**02 28 14.3**	**-2.5**
	5.6nm,0.3s						
LMR	**La Mourre**	**1.78**	**249**	*e*Pn	**Pn**	**02 27 57.5**	**-0.7**
LMR				*e*Sn	**Sn**	**02 28 18.8**	**-2.0**
LMR				*e*Sg	**Sg**	**02 28 25.2**	**+0.7**
	1.9nm,0.2s						
LPL	**La Plagne**	**2.11**	**317**	*e*Pn	**Pn**	**02 28 01.8**	**-0.9**
LPL				*e*Sg	**Sg**	**02 28 33.5**	**-1.6**
	1.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.27**	**295**	*e*P	**Pn**	**02 28 06.4**	**+1.4**
ORIF	**Oris-en-Rattie**	**2.27**	**295**	*e*Pg	**Pg**	**02 28 10.7**	**-0.3**
SMRF	**Simiane la Rot**	**2.31**	**271**	*e*Pn	**Pn**	**02 28 04.8**	**-0.8**
SMRF	**Simiane la Rot**	**2.31**	**271**	*e*Pg	**Pg**	**02 28 12.0**	**+0.2**
SMRF				*e*Sg	**Sg**	**02 28 41.7**	**-0.1**
	3.3nm,0.3s						

MOS ***11*** *02:29:22.6± 0.8, 2079S× 17857W, h530km, mb5.1/39, Error ellipse: s-maj=9.2km s-min=7.3km az=136.9*
SZGRF ***11*** *02:29:26.3, 2104S× 17849W, h573km, Fiji Islands region*
ISCJB ***11*** *02:29:27.1± 0.2, 2096S± 005× 17865W± 003, h588km, mb5.0/108, Error ellipse: s-maj=7.2km s-min=3.2km az=133.8*
IDC ***11*** *02:29:27.0± 1.0, 2091S× 17857W, h577km± 10km, mb4.4/22, mb1 4.5/24, mb1mx4.5/24, mbtmp4.4/24, Error ellipse: s-maj=11.2km s-min=7.1km az=161.0*
BJI ***11*** *02:29:30.6, 2100S× 17870W, h621km, mB5.0, mb5.1*
GCMT ***11*** *02:29:30.7± 0.5, 2076S× 17839W, h571km± 3km, MW5.3/51, Moment Tensor Solution. s51,c58; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.57±.04; Mθθ=0.09±.08; Mφφ=0.48±.07; Mrθ=-0.75±.07; Mφθ=-0.28±.06; Mφr=0.22±.08; Best double couple: M=0.97600×10^17 NP1: φs=353.00000°, δ=27.00000°, λ=-40.00000°. NP2: φs=120.00000°, δ=73.00000°, λ=-111.00000°. Principal axes: T 0.8900, Plg25.0000°, Azm226.0000°; N 0.1720, Plg20.0000°, Azm126.0000°; P -1.0620, Plg57.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***11*** *02:29:30.7± 0.8, 2097S× 17866W, h621km± 8km, mb5.1/80 Error ellipse: s-maj=7.7km s-min=4.1km az=148.0*
BGS ***11*** *02:29:32.8, 2097S× 17866W, h621km, mb5.1(NEIC)*
ISC 11 02:29:28.4± 0.2, 2099S± 005× 17859W± 003, h589km, h589km± 6.3km: pP-P, n915, σ0 s 68/522, mb5.0/108, 117C-197D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.25**	**176**	S	**S**	**02 32 59.5**	**-10**
	41nm,0.3s,baz=262,slow=23,SNR=2.6						
AFI	**Afiamalu**	**9.57**	**44**	P	**P**	**02 31 35.8**	**-6.8**
	195nm,0.3s,baz=49,slow=1.8,SNR=184						
AFI				S	**S**	**02 33 18.9**	**-14**
	14nm,0.3s,baz=4.2,slow=22,SNR=3.2						
AFI	**Afiamalu**	**9.57**	**44**	P	**P**	**02 31 35.8**	**-6.8**
AFI				S	**S**	**02 33 18.9**	**-14**
AFI				pmax	pmax		
	comp=Z,195nm,0.3s						
AFI				smax			
	comp=N,15nm,0.3s						
AFI	**Afiamalu**	**9.57**	**44**	*i*Pn	**P**	**02 31 35.8**	**-6.8**
AFI				*e*S	**S**	**02 33 21.6**	**-11**
DZM	**Mont Dzumac**	**13.97**	**263**	P	**P**	**02 32 25.5**	**-1.5**
	comp=N,6.2nm,0.3s,baz=88,slow=13,SNR=42						
RAR	**Rarotonga**	**17.56**	**94**	P	**P**	**02 32 57.7**	**-2.6**
	comp=N,3.2nm,0.3s,baz=253,slow=7.0,SNR=9.1						
RAR	**Rarotonga**	**17.56**	**94**	P	**P**	**02 32 57.7**	**-2.6**
RAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
URZ	**Urewera**	**17.61**	**191**	P	**P**	**02 32 56.4**	**-4.5**
	comp=Z,5.9nm,0.3s,baz=358,slow=5.6,SNR=22						
URZ				S	**S**	**02 35 45.9**	**-7.7**
	comp=Z,1.9nm,0.3s,baz=53,slow=22,SNR=5.6						
URZ				ScP	ScP	02 39 47.1	+0.8
	comp=Z,0.4nm,0.3s,baz=330,slow=2.0,SNR=3.6						
RPZ	**Rata Peaks**	**24.26**	**199**	P	**P**	**02 34 00.5**	**+0.1**
	comp=Z,28nm,0.6s,mb5.1,baz=354,slow=2.3,SNR=8.1						
PAE	**Paea**	**27.55**	**88**	*e*P	**P**	**02 34 26.7**	**-2.7**
	comp=Z,219nm,1.5s,mb5.6						
PAE	**Paea**	**27.55**	**88**	*e*P	**P**	**02 34 26.7**	**-2.7**
PAE				pmax	pmax		
	comp=Z,219nm,1.5s,mb5.6						
PPT	**Papeete**	**27.57**	**88**	*e*P	**P**	**02 34 27.2**	**-2.4**
	comp=Z,65nm,1.3s,mb5.1						
PPT	**Papeete**	**27.57**	**88**	P	**P**	**02 34 26.9**	**-2.7**
	comp=Z,35nm,0.8s,mb5.0,baz=82,slow=4.4,SNR=4.1						
PPT	**Papeete**	**27.57**	**88**	P	**P**	**02 34 26.9**	**-2.7**
PPT				pmax	pmax		
	comp=Z,35nm,0.8s						
ARMA	**Armidale**	**28.36**	**245**	*e*P	**P**	**02 34 37.0**	**+0.5**
ARMA				*e*SCP	ScP	02 40 21.0	+5.9
PMOR	**Pomariorio Ree**	**29.76**	**84**	*e*P	**P**	**02 34 46.0**	**-2.5**
	comp=Z,36nm,0.8s,mb5.0						
VAH	**Vaihoa**	**29.94**	**84**	*e*P	**P**	**02 34 47.1**	**-3.0**
	comp=Z,38nm,0.8s,mb5.1						
CNB	**Canberra Magne**	**31.50**	**236**	*e*P	**P**	**02 35 03.5**	**+0.1**
	comp=Z,167nm,0.7s,mb5.8						
CNB				*e*SCP	ScP	02 40 30.9	+5.4
CTA	**Charters Tower**	**32.90**	**265**	*e*P	**P**	**02 35 15.3**	**+0.1**
	comp=Z,33nm,0.4s,mb5.3						
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**02 35 15.4**	**+0.2**
	comp=Z,47nm,0.4s,mb5.5,baz=90,slow=11,SNR=148						
CTA				PcP	PcP	02 37 41.6	0.0
	comp=Z,6.2nm,0.6s,baz=100,slow=3.8,SNR=2.8						
CTA				S	**S**	**02 39 51.5**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=296,slow=18,SNR=3.2						
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**02 35 15.4**	**+0.2**
CTA						02 37 41.6	
CTA				S	**S**	**02 39 51.5**	**-0.8**
CTA				pmax	pmax		
	comp=Z,47nm,0.4s						
CTA				smax			
	comp=N,3.0nm,0.9s						
CTAO	**Charters Tower**	**32.90**	**265**	⇑*i*P	**P**	**02 35 15.1**	**-0.1**
CTAO				*e*		02 37 42.3	
CTAO				pmax	pmax		
	comp=Z,45nm,0.3s,mb5.6						
CTAO	**Charters Tower**	**32.90**	**265**	⇑*i*P	**P**	**02 35 15.1**	**-0.1**
	comp=Z,45nm,0.3s,mb5.6						

CTAO ePcP PcP 02 37 42.3 +0.7
PMG Port Moresby 34.92 284 S S 02 40 22.5 -0.3
comp=Z,3.3nm,0.6s,baz=332,slow=22,SNR=8.3
PMG Port Moresby 34.92 284 *d* **iP P 02 35 32.3 +0.2**
PMG Port Moresby 34.92 284 *eP* **P 02 35 31.3 -0.8**
comp=Z,32nm,0.8s,mb5.0
TOO Toolangi 35.17 234 *eP* **P 02 35 33.3 -0.8**
comp=Z,58nm,0.7s,mb5.3
TOO eSCP ScP 02 40 43.0 +4.5
TOO Toolangi 35.17 234 *eP* **P 02 35 33.3 -0.8**
TOO pmax pmax
comp=Z,58nm,0.7s,mb5.3
TAU Tasmania Unive 35.90 225 P **P 02 35 40.9 +0.8**
comp=Z,512nm,0.6s,SNR=11
TAU Tasmania Unive 35.90 225 *eP* **P 02 35 40.4 +0.3**
TAU pmax pmax
comp=Z,52nm,0.7s,mb5.2
TAU Tasmania Unive 35.90 225 *eP* **P 02 35 40.4 +0.3**
comp=Z,52nm,0.7s,mb5.2
STKA Stephens Creek 37.09 245 *eP* **P 02 35 50.1 +0.2**
comp=Z,41nm,0.6s,mb5.1
STKA eSCP ScP 02 40 50.6 +4.9
STKA Stephens Creek 37.09 245 P **P 02 35 50.2 +0.3**
comp=Z,78nm,0.9s,mb5.2,baz=92,slow=9.5,SNR=103
STKA ScP ScP 02 40 48.9 +3.2
comp=Z,7.9nm,0.9s,baz=85,slow=1.5,SNR=5.7
STKA PKiKP PKiKP 02 45 08.2 -1.3
comp=Z,0.6nm,0.3s,baz=272,slow=19,SNR=2.9
AS31 Alice Springs 43.88 257 *eP* **P 02 36 43.6 -0.1**
AS31 ePcP PcP 02 38 16.6 0.0
AS31 eS **S 02 42 32.9 -0.1**
ASAR Alice Springs 43.88 257 P **P 02 36 43.6 -0.1**
comp=Z,80nm,0.8s,mb5.3,baz=99,slow=7.7,SNR=875
ASAR PcP PcP 02 38 16.6 0.0
comp=Z,13nm,0.6s,baz=100,slow=4.3,SNR=11
ASAR ScP ScP 02 41 16.5 +3.9
comp=Z,3.4nm,0.8s,baz=85,slow=4.6,SNR=5.2
ASAR S **S 02 42 32.9 -0.1**
comp=Z,15nm,0.8s,baz=95,slow=15,SNR=34
ASAR PKiKP PKiKP 02 45 14.2 -1.2
comp=Z,0.4nm,0.4s,baz=88,slow=1.6,SNR=4.7
ASAR Alice Springs 43.88 257 P **P 02 36 43.7 0.0**
ASAR 02 38 16.6
ASAR S **S 02 42 32.9 -0.1**
ASAR pmax pmax
comp=Z,80nm,0.8s
ASAR smax
comp=N,15nm,0.9s
ASAR Alice Springs 43.88 257 P **P 02 36 43.6 -0.1**
ASAR PcP PcP 02 38 16.6 0.0
ASAR ScP ScP 02 41 16.5 +3.9
ASAR S **S 02 42 32.9 -0.1**
WB2 Warramunga Arr 43.98 263 *eP* **P 02 36 43.9 -0.6**
WB2 *eS* **S 02 42 32.3 -2.2**
WRAB Tennant Creek 43.98 263 P **P 02 36 44.3 -0.3**
comp=N,241nm,0.6s,mb5.9,SNR=38
WRAB Tennant Creek 43.98 263 ⇑ *iP* **P 02 36 44.0 -0.6**
WRAB pmax pmax
comp=Z,68nm,1.1s,mb5.1
WRAB Tennant Creek 43.98 263 ⇑ *iP* **P 02 36 44.0 -0.5**
comp=Z,68nm,1.1s,mb5.1
WRA Warramunga Arr 43.99 263 P **P 02 36 44.0 -0.6**
comp=Z,13nm,0.4s,mb4.8,baz=96,slow=7.5,SNR=654
WRA PcP PcP 02 38 16.1 -0.8
comp=Z,5.7nm,0.7s,baz=94,slow=5.8,SNR=5.9
WRA S **S 02 42 33.1 -1.5**
comp=Z,10nm,0.8s,baz=99,slow=12,SNR=12
WRA PKiKP PKiKP 02 45 14.4 -1.2
comp=Z,1.4nm,0.9s,baz=76,slow=0.7,SNR=5.7
WRA Warramunga Arr 43.99 263 P **P 02 36 44.0 -0.6**
WRA 02 38 16.1
WRA S **S 02 42 33.1 -1.6**
WRA pmax pmax
comp=Z,13nm,0.4s
WRA smax
comp=N,10.0nm,0.8s
WRA Warramunga Arr 43.99 263 P **P 02 36 44.0 -0.6**
WRA PcP PcP 02 38 16.1 -0.8
WRA S **S 02 42 33.1 -1.5**
KAKA Kakadu 47.44 272 *eP* **P 02 37 10.8 +0.1**
comp=N,6.8nm,0.3s,mb4.7
KAKA *eS* **S 02 43 23.4 +0.8**
FORT Forrest 48.60 247 *eP* **P 02 37 18.7 -0.7**
comp=N,68nm,0.5s,mb5.3
GUMO Guam 49.69 311 P **P 02 37 27.7 +0.3**
comp=N,130nm,0.5s,mb5.6,baz=202,slow=23,SNR=4.9
GUMO Guam 49.69 311 P **P 02 37 27.7 +0.3**
GUMO pmax pmax
comp=Z,130nm,0.5s,mb5.6
FITZ Fitzroy Crossi 52.42 263 *eP* **P 02 37 47.6 +0.5**
comp=Z,11nm,0.5s,mb4.5
FITZ *i* S **S 02 44 32.2 +2.3**
FITZ Fitzroy Crossi 52.42 263 P **P 02 37 47.7 +0.6**
comp=Z,5.2nm,0.5s,mb4.2,baz=120,slow=4.9,SNR=67
FITZ S **S 02 44 31.8 +1.9**
comp=Z,3.2nm,0.9s,baz=276,slow=22,SNR=10
MBWA Marble Bar 57.21 258 *eP* **P 02 38 20.4 -0.1**
comp=Z,22nm,0.6s,mb4.6
SBA Scott Base 57.35 184 ⇑ *eP* **P 02 38 22.6 +1.2**
SBA pmax pmax
comp=Z,15nm,0.8s,mb4.3
SBA Scott Base 57.35 184 ⇑ *eP* **P 02 38 22.6 +1.2**
comp=Z,15nm,0.8s,mb4.3
KLBR Kellerberrin 57.35 245 *eP* **P 02 38 21.0 -0.4**
comp=Z,49nm,0.8s,mb4.8
VNDA Vanda 57.38 185 P **P 02 38 22.1 +0.6**
comp=Z,4.4nm,0.7s,baz=357,slow=7.4,SNR=67
VNDA ScP ScP 02 42 11.6 +0.8
comp=Z,12nm,0.8s,baz=350,slow=4.6,SNR=28
VNDA Vanda 57.38 185 ⇑ *iP* **P 02 38 22.1 +0.5**
comp=Z,4.4nm,0.8s
MUN Mundaring 58.62 245 *eP* **P 02 38 30.4 +0.5**
CBIJ Chichi jima 61.05 320 P **P 02 38 45.5 -0.5**
comp=Z,62nm,0.5s,mb5.1,baz=272,slow=14,SNR=6.0
CASY Casey 63.29 205 *eP* **P 02 39 00.2 -0.3**
TGY Tagaytay City 68.86 295 P **P 02 39 35.7 +0.7**
comp=Z,235nm,0.3s,baz=102,slow=7.1,SNR=3.4
TGY Tagaytay City 68.86 295 P **P 02 39 35.7 +0.7**
TGY pmax pmax
comp=Z,235nm,0.3s
QSPA South Pole Qui 69.08 180 ⇑ *iP* **P 02 39 36.6 +0.3**
comp=Z,9.3nm,0.8s,mb4.3
KKM Kota Kinabalu 69.36 285 *eP* **P 02 39 38.9 +1.0**
MJAR Matsushiro Arr 70.28 324 P **P 02 39 42.6 -0.8**
comp=Z,40nm,0.6s,mb5.0,baz=155,slow=5.4,SNR=115
MJAR Matsushiro Arr 70.28 324 P **P 02 39 42.6 -0.8**
MJAR pmax pmax
comp=Z,40nm,0.6s
MAJO Matsushiro 70.28 324 ⇓ *iP* **P 02 39 42.7 -0.7**
MAJO pmax pmax
comp=Z,51nm,0.6s,mb5.1
MAJO Matsushiro 70.28 324 ⇓ *iP* **P 02 39 42.7 -0.7**
comp=Z,51nm,0.6s,mb5.1
MAT Matsushiro 70.28 324 P **P 02 39 42.6 -0.8**
KSM Kuching 72.94 278 *eP* **P 02 39 59.3 +0.5**
NACB Ninganchiao 73.50 305 ⇓ *iP* **P 02 40 01.2 +0.8**
SMY Shemya 73.68 355 *eP* **P 02 40 01.5 -1.5**
YHNB Yeheng 73.93 305 *eP* **P 02 40 04.5 +0.1**
UNV Unalaska Valle 75.25 7 ⇑ *iP* **P 02 40 09.5 -2.3**
comp=Z,192nm,0.6s,mb5.8
YSS Yuzh-Sakhalins 76.08 334 ⇓ *eP* **P 02 40 16.7 +0.3**
YSS pmax pmax
comp=Z,57nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 76.08 334 *eP* **P 02 40 17.1 +0.7**
comp=Z,31nm,0.4s,mb5.1
QZH Quanzhou 76.22 304 ⇑ *iP* **P 02 40 17.9 +0.7**
QZH AMB AMB
comp=Z,130nm,0.9s,mb5.4
PET Petropavlovsk 76.30 346 ⇓ *iP* **P 02 40 16.1 -1.5**
PET pmax pmax
comp=Z,29nm,0.6s,mb4.9
PET Petropavlovsk 76.30 346 ⇓ *iP* **P 02 40 16.1 -1.6**
comp=Z,29nm,0.6s,mb4.9
KSRS Korea Array 76.89 319 P **P 02 40 21.4 +0.5**
comp=Z,17nm,0.7s,mb4.6,baz=129,slow=6.1,SNR=39
KS15 Wonju Array Si 76.90 319 *eP* **P 02 40 21.7 +0.8**
SDPT Sand Point 77.58 10 *eP* **P 02 40 22.5 -2.0**
BSC Santa Cruz Isl 78.33 47 ⇓ **P P 02 40 28.8 +0.2**
baz=78
FARB Farallon Islan 78.34 42 ⇑ **P P 02 40 28.7 +0.1**
baz=78,SNR=5.4
VLA Vladivostok 78.36 325 *i* **P P 02 40 28.2 -0.6**
VLA pmax pmax
comp=Z,51nm,0.9s,mb5.0
V03C Hunter Liggett 78.45 44 ⇓ **P P 02 40 29.8 +0.6**
baz=79
V04C Ramage Ranch, 78.46 45 ⇓ **P P 02 40 29.5 +0.2**
baz=79,SNR=5.9
HAST UC Hastings Re 78.46 44 ⇑ **P P 02 40 29.7 +0.4**
baz=79,SNR=18
SCI San Clemente I 78.50 48 ⇑ **P P 02 40 29.4 0.0**
baz=79
BNLO Ben Lomond (Sa 78.51 43 ⇑ **P P 02 40 29.6 +0.1**
baz=79
SBC Santa Barbara 78.53 46 ⇓ **P P 02 40 30.0 +0.4**
baz=79
JRSC Jasper Ridge 78.64 43 ⇑ **P P 02 40 30.4 +0.2**
baz=79
PKM Peak Mountain 78.72 46 ⇓ **P P 02 40 31.1 +0.4**
baz=79
SAO San Andreas Ge 78.75 43 ⇓ *iP* **P 02 40 30.7 -0.1**
LRV Little Rabbit 78.83 44 ⇑ *iP* **P 02 40 32.0 +0.8**
CIS Catalina Islan 78.84 48 ⇑ **P P 02 40 31.1 -0.1**
baz=79
SMMC Simmler 78.84 45 ⇓ **P P 02 40 31.6 +0.3**
baz=79
PKD Parkfield 78.86 45 ⇓ **P P 02 40 31.4 0.0**
baz=79,SNR=6.1
U04C Hernandez Rese 78.94 44 ⇓ **P P 02 40 32.6 +0.7**
baz=79,SNR=7.8
PACP Pacheco Peak 79.00 43 ⇓ **P P 02 40 32.6 +0.4**
baz=79,SNR=15
CVS Carmenet Viney 79.07 42 ⇑ **P P 02 40 32.3 -0.2**
baz=79,SNR=8.4
WENL Wente Brothers 79.07 43 ⇓ **P P 02 40 32.9 +0.4**
baz=79
NSHM Saint Helena R 79.09 41 ⇓ *iP* **P 02 40 32.6 +0.1**
HOPS Hopland 79.09 41 ⇓ *iP* **P 02 40 32.8 +0.2**
comp=Z,54nm,0.8s,mb4.9
HOPS Hopland 79.09 41 ⇑ **P P 02 40 32.9 +0.3**
baz=79,SNR=15
BDM Black Diamond 79.20 42 ⇓ **P P 02 40 33.6 +0.4**
baz=79
KCPM Cahto Peak 79.22 40 ⇓ *iP* **P 02 40 33.9 +0.6**
P01C Double 8 Ranch 79.23 40 P **P 02 40 33.5 +0.1**
baz=79,SNR=5.8
V05C Boulder Hill, 79.23 45 ⇑ **P P 02 40 33.9 +0.5**
baz=79
OSI Osito Adit 79.30 47 ⇑ **P P 02 40 33.6 -0.1**
baz=79
T05C Eagle Field, D 79.33 44 ⇑ **P P 02 40 34.6 +0.7**
baz=80
KIPM Iron Peak 79.35 40 ⇓ *iP* **P 02 40 34.5 +0.5**
O01C Eel River Cons 79.36 40 P **P 02 40 34.9 +0.9**
baz=80,SNR=17
DECC Green Verdugo 79.36 47 ⇓ **P P 02 40 33.7 -0.4**
baz=80
MNRC McLaughlin Nat 79.41 41 ⇑ **P P 02 40 34.8 +0.6**
baz=80,SNR=19
109C Camp Elliot, M 79.46 49 ⇑ **P P 02 40 34.4 -0.1**
baz=80
GZH Guangzhou 79.48 300 P **P 02 40 35.7 +1.0**
ARVC Arvin 79.52 46 ⇓ **P P 02 40 34.6 -0.2**
baz=80
Q03C Winters 79.52 42 ⇓ **P P 02 40 35.7 +0.8**
baz=80,SNR=7.1
MWC Mount Wilson 79.53 47 *eP* **P 02 40 35.0 +0.1**
BAR Barrett 79.65 49 *eP* **P 02 40 35.5 -0.1**
GASB Alder Springs 79.71 41 P **P 02 40 37.1 +1.2**
baz=80,SNR=15
VES Vestal, Richgr 79.76 45 ⇑ **P P 02 40 35.5 -0.6**
baz=80,SNR=9.2
MURC Murrieta 79.78 48 P **P 02 40 36.4 +0.1**
baz=80,SNR=6.3
BFSC Mount Baldy St 79.82 47 P **P 02 40 35.6 -0.8**
baz=80,SNR=8.0
S05C Merced 79.82 44 ⇑ **P P 02 40 36.1 -0.3**
baz=80,SNR=7.6
KHMM Horse Mountain 79.87 39 *eP* **P 02 40 37.9 +1.2**
RCTC Rector, Farmer 79.92 45 ⇑ **P P 02 40 36.3 -0.7**
baz=80
MONP Monument Peak 79.94 49 P **P 02 40 37.6 +0.5**
baz=80,SNR=24
EDW2 Edwards Air Fo 79.95 47 P **P 02 40 37.2 +0.1**
baz=80,SNR=25
O02C Red Bluff 80.00 40 P **P 02 40 38.2 +0.8**
baz=80,SNR=23
T06C Millerton Lake 80.02 44 P **P 02 40 37.2 -0.2**
baz=80,SNR=22
SUTB Sutter Butte 80.03 41 ⇑ **P P 02 40 37.0 -0.5**
baz=80,SNR=5.5
DVTC Desert V Tower 80.04 49 P **P 02 40 38.1 +0.5**
baz=80,SNR=13
Q04C Lincoln 80.05 42 ⇓ **P P 02 40 37.4 -0.2**
baz=80
ISA Isabella 80.06 46 ⇓ *iP* **P 02 40 37.8 +0.1**
ISA Isabella 80.06 46 P **P 02 40 37.8 +0.1**
baz=80,SNR=26
N02C Big Bar 80.09 39 P **P 02 40 38.3 +0.5**
baz=80,SNR=7.8
CMB Columbia Colle 80.19 43 ⇓ *iP* **P 02 40 38.1 -0.3**
CMB pmax pmax
comp=Z,46nm,1.2s,mb4.7
CMB Columbia Colle 80.19 43 ⇓ *iP* **P 02 40 38.1 -0.3**
comp=Z,46nm,1.2s,mb4.7
CMB Columbia Colle 80.19 43 P **P 02 40 38.3 -0.1**
baz=80,SNR=32
M01C Crescent City 80.26 38 ⇑ **P P 02 40 39.5 +0.7**
baz=80
OHCM Honcut 80.28 41 *eP* **P 02 40 38.7 -0.1**
HELL Mitchell Peak, 80.28 45 ⇑ **P P 02 40 38.5 -0.3**
baz=80
PFO Pinyon Flat Ob 80.31 48 P **P 02 40 39.3 +0.3**
comp=Z,3.8nm,0.7s,baz=261,slow=5.5,SNR=12
PFO Pinyon Flat Ob 80.31 48 *eP* **P 02 40 34.6 -4.4**
comp=Z,16nm,0.2s,mb5.0
PFO Pinyon Flat Ob 80.31 48 ⇑ **P P 02 40 39.0 0.0**
baz=80
BBRC Big Bear Sol-O 80.34 48 ⇑ **P P 02 40 39.3 +0.1**
baz=80
O03C Acorn Hollow, 80.34 41 P **P 02 40 39.3 +0.1**
baz=80,SNR=5.9
LAVA Lava Cap Winer 80.39 42 P **P 02 40 39.1 -0.3**
baz=80,SNR=8.8
WDC Whiskeytown Da 80.39 40 ⇓ *iP* **P 02 40 39.4 0.0**
WDC pmax pmax
comp=Z,57nm,1.0s,mb4.9
WDC Whiskeytown Da 80.39 40 ⇓ *iP* **P 02 40 39.4 0.0**
comp=Z,57nm,1.0s,mb4.9
WDC Whiskeytown Da 80.39 40 P **P 02 40 39.6 +0.2**
baz=80,SNR=13
ORV Oroville 80.40 41 P **P 02 40 39.4 -0.1**
baz=80,SNR=26
SWSC Sam W. Stewart 80.41 49 ⇑ **P P 02 40 39.7 +0.2**
baz=80,SNR=9.5
S06C San Francisco 80.44 43 P **P 02 40 39.5 -0.1**
baz=81,SNR=23
KCC Kaiser Creek 80.46 44 P **P 02 40 39.7 0.0**
baz=81,SNR=25
LRMC Laurel Mountai 80.49 46 P **P 02 40 40.0 +0.1**
baz=81,SNR=13
QIZ Qiongzhong 80.56 295 *eP* **P 02 40 41.5 +1.2**
QIZ S S 02 50 00.6 +1.2
QIZ XS sS 02 53 43.4 +2.9
QIZ SS SS 02 55 36.3 +7.0
MDJ Mudanjiang 80.60 325 P **P 02 40 41.0 +0.5**
MDJ XP sP 02 43 53.0 +8.7
MDJ PP PP 02 43 56.4 +1.3
MDJ AMB AMB
comp=Z,74nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,68nm,3.3s
MDJ Mudanjiang 80.60 325 ⇓ *iP* **P 02 40 40.9 +0.4**
comp=Z,82nm,1.0s,mb5.1
M02C Callahan 80.71 39 ⇑ **P P 02 40 41.9 +0.9**
baz=81,SNR=20
L02A Cave Junction 80.76 38 ⇑ **P P 02 40 42.0 +0.7**
baz=81
CWC Cottonwood Cre 80.77 45 P **P 02 40 41.7 +0.3**
baz=81,SNR=11
R05C Kirkwood Meado 80.78 43 P **P 02 40 41.7 +0.3**
baz=81,SNR=19
P05C Yuba Gap, Truc 80.80 42 P **P 02 40 41.9 +0.3**
baz=81,SNR=19
BELC Belle Mtn. 80.84 48 P **P 02 40 42.0 +0.3**
baz=81,SNR=26
MAW Mawson 80.92 200 P **P 02 40 43.2 +1.0**
comp=Z,1.8nm,0.6s,baz=90,slow=6.1,SNR=3.3
MPMC Manual Prospec 80.95 46 P **P 02 40 42.6 +0.3**
baz=81,SNR=30
MLAC Mammoth Lakes 80.95 44 ⇓ **P P 02 40 43.0 +0.7**
baz=81
MTUM Tungsten Hills 80.97 44 ⇓ *iP* **P 02 40 42.7 +0.3**
GSC Goldstone 80.99 47 ⇑ *iP* **P 02 40 42.4 -0.1**
GSC Goldstone 80.99 47 P **P 02 40 42.5 0.0**
baz=81,SNR=16
DAC Darwin (Calif) 81.00 46 ⇓ *iP* **P 02 40 42.4 -0.1**
DAC pmax pmax
comp=Z,13nm,0.8s,mb4.4
DAC Darwin (Calif) 81.00 46 ⇓ *iP* **P 02 40 42.4 -0.1**
comp=Z,13nm,0.8s,mb4.4
O05C Quincy 81.00 41 P **P 02 40 42.8 +0.2**
baz=81,SNR=9.3
YBH Yreka Blue Hor 81.01 39 ⇓ *iP* **P 02 40 43.3 +0.7**
YBH pmax pmax
comp=Z,53nm,0.8s
YBH Yreka Blue Hor 81.01 39 ⇓ *iP* **P 02 40 43.2 +0.7**
comp=Z,53nm,0.8s,mb5.0
YBH Yreka Blue Hor 81.01 39 P **P 02 40 43.3 +0.7**
baz=81,SNR=20
TIN Tinemaha 81.02 45 ⇑ **P P 02 40 43.0 +0.4**
baz=81
BC3 Big Chuckw Mtn 81.03 49 P **P 02 40 43.2 +0.5**
baz=81,SNR=14
HEC Hector,Ludlow 81.06 47 P **P 02 40 42.9 0.0**
baz=81,SNR=35
WAKR Walker 81.07 43 *eP* **P 02 40 43.4 +0.5**
R06C Coleville 81.07 43 P **P 02 40 43.2 +0.3**
baz=81,SNR=32
M03C McCloud 81.07 39 ⇑ **P P 02 40 43.2 +0.3**
baz=81,SNR=20
R07C Lee Vining 81.08 44 P **P 02 40 43.3 +0.3**
baz=81,SNR=30
O04C Chester 81.12 41 ⇓ **P P 02 40 43.3 +0.1**
baz=81,SNR=12
GLA Glamis 81.16 50 ⇓ *iP* **P 02 40 43.9 +0.6**
GLA Glamis 81.16 50 P **P 02 40 44.1 +0.7**
baz=81,SNR=19
HATC Hat Creek Radi 81.19 40 ⇑ **P P 02 40 44.0 +0.5**
baz=81,SNR=11
K02A Glendale 81.20 38 ⇑ **P P 02 40 44.1 +0.5**
baz=81
LBCM Butte Creek Ri 81.27 40 P **P 02 40 44.1 +0.2**
BEKR Beckwourth 81.29 41 P **P 02 40 44.0 0.0**
baz=81,SNR=7.4
S08C White Mtn Res 81.31 44 P **P 02 40 44.8 +0.7**
baz=82,SNR=76
WCN Washoe City 81.33 42 P **P 02 40 44.7 +0.4**
baz=82,SNR=21
HUMO Hull Mountain 81.41 38 ⇓ *iP* **P 02 40 45.3 +0.7**
comp=Z,68nm,1.1s,mb5.0
HUMO Hull Mountain 81.41 38 ⇑ **P P 02 40 45.2 +0.6**
baz=82,SNR=9.5
KDAK Kodiak Island 81.41 14 *eP* **P 02 40 42.2 -2.4**
comp=Z,6.4nm,0.6s,mb4.2
P06A Stead Airport, 81.47 42 ⇓ **P P 02 40 45.4 +0.5**
baz=82,SNR=5.9
IRM Iron Mountain 81.52 49 P **P 02 40 45.6 +0.5**
baz=82,SNR=17
J02A Umpqua 81.53 37 ⇓ **P P 02 40 45.6 +0.3**
baz=82
M04C Macdoel 81.55 39 P **P 02 40 45.9 +0.5**
baz=82,SNR=7.7
GRAC Grapevine Rang 81.55 45 P **P 02 40 45.7 +0.3**
baz=82,SNR=38
FURC Furnace Creek, 81.60 46 P **P 02 40 45.5 -0.1**
baz=82,SNR=9.6
TUQ Turquoise Mtn. 81.67 47 P **P 02 40 46.1 +0.2**
baz=82,SNR=33
SHOC Shoshone 81.68 47 P **P 02 40 45.9 -0.1**
baz=82,SNR=11
M05C Lookout 81.71 40 P **P 02 40 46.5 +0.3**
baz=82,SNR=18
Q07A Schurz 81.72 43 ⇑ **P P 02 40 46.4 +0.2**
baz=82
Y12C Blythe 81.74 49 P **P 02 40 46.7 +0.4**
baz=82,SNR=17
L04A Klamath Falls 81.76 39 P **P 02 40 46.9 +0.4**
baz=82,SNR=17
I02A Mapleton 81.80 37 ⇓ **P P 02 40 47.0 +0.4**
baz=82
O06A Flanigan 81.80 41 P **P 02 40 46.8 +0.2**
baz=82,SNR=17
PAHR Pah Rah Range 81.80 42 ⇓ *iP* **P 02 40 46.9 +0.2**
comp=Z,45nm,0.9s,mb5.0
J03A Ideyld Park 81.89 37 ⇑ **P P 02 40 47.6 +0.5**
baz=82
HOG Hogback Mounta 81.91 39 P **P 02 40 47.6 +0.4**
U10A Ash Meadows, A 81.93 46 P **P 02 40 47.7 +0.4**
baz=82,SNR=20
M06C Likely Place G 82.02 40 P **P 02 40 48.1 +0.4**
baz=82,SNR=15
P07A Fallon 82.02 42 ⇓ **P P 02 40 48.1 +0.3**
baz=82
I03A Eugene 82.09 37 ⇓ **P P 02 40 48.4 +0.3**
baz=82
K04A Chilguin 82.12 39 ⇓ **P P 02 40 48.5 +0.2**
baz=82
N06A Buffalo Meadow 82.14 41 P **P 02 40 48.5 +0.1**
baz=82,SNR=30
SNY Shenyang 82.23 320 ⇑ **P P 02 40 48.3 -0.5**
SNY AMB AMB
comp=Z,53nm,0.7s,mb5.2
Q08A Gabbs 82.24 43 ⇓ **P P 02 40 48.8 -0.1**
baz=82,SNR=11
TPH Tonopah 82.25 44 ⇓ *iP* **P 02 40 49.0 +0.1**
TPH pmax pmax
comp=Z,41nm,0.8s,mb5.0
TPH Tonopah 82.25 44 ⇓ *iP* **P 02 40 49.0 0.0**
comp=Z,41nm,0.8s,mb5.0
Y13A Salome 82.27 49 P **P 02 40 49.6 +0.6**
baz=82,SNR=47
WHN Wuhan 82.29 307 ⇓ **P P 02 40 49.2 +0.1**
J04A Umpqua Nationa 82.29 38 ⇓ **P P 02 40 49.6 +0.5**
baz=82,SNR=8.1
PDMCI Parker Dam,Lak 82.30 49 P **P 02 40 49.5 +0.4**
baz=82,SNR=14
L05A Lakeview 82.31 39 ⇓ **P P 02 40 49.9 +0.7**
baz=82,SNR=9.3
W12A Cal Nev Ari 82.32 48 ⇑ **P P 02 40 49.7 +0.4**
baz=82
CN2 Changchun 82.35 323 ⇓ **P P 02 40 49.4 0.0**
CN2 *eS* S 02 50 16.3 -1.1
CN2 AMB AMB
comp=Z,60nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
O07A Toulon 82.39 42 P **P 02 40 49.7 +0.1**
baz=82,SNR=45
R09A Tonopah 82.44 44 P **P 02 40 49.9 0.0**
baz=83,SNR=44
I04A Tendick Farm, 82.46 37 ⇓ **P P 02 40 49.9 0.0**
baz=83,SNR=6.6
H03A Soap Creek Ran 82.52 36 ⇓ **P P 02 40 50.4 +0.1**
baz=83
MOD Modoc 82.54 40 ⇑ *iP* **P 02 40 50.5 +0.1**
comp=Z,29nm,0.8s,mb4.9
MOD Modoc 82.54 40 P **P 02 40 50.5 +0.2**
baz=83,SNR=23
V12A Nelson 82.56 47 P **P 02 40 50.6 +0.2**
baz=83,SNR=16
U11A Corn Creek 82.57 47 ⇓ **P P 02 40 50.8 +0.3**
baz=83,SNR=6.2
Z14A Wintersburg 82.66 50 ⇑ **P P 02 40 51.6 +0.6**
baz=83,SNR=9.3
KLR Kul'dur 82.67 330 *eP* **P 02 40 47.2 -3.8**
KLR pmax pmax
comp=E,28nm,1.0s
KLR pmax pmax
comp=Z,52nm,1.0s,mb5.0
X13A Yucca 82.67 49 P **P 02 40 51.4 +0.4**
baz=83,SNR=39
K05A Summer Lake 82.68 39 ⇑ **P P 02 40 51.7 +0.6**
baz=83,SNR=13
N07B Gerlach 82.69 41 P **P 02 40 51.1 +0.1**
baz=83,SNR=16
Q09A Carvers 82.70 44 ⇓ **P P 02 40 51.2 +0.1**
baz=83,SNR=9.1
SHPR Sheep Range 82.76 47 *eP* **P 02 40 51.7 +0.2**
J05A Fort Rock 82.82 38 P **P 02 40 52.4 +0.6**
baz=83,SNR=21
115A Sonoran Desert 82.84 51 ⇑ **P P 02 40 52.4 +0.5**
baz=83,SNR=14
W13A Hualapai Mount 82.90 48 P **P 02 40 52.6 +0.5**
baz=83,SNR=21
O08A Rochester Mine 82.91 42 ⇑ **P P 02 40 52.7 +0.4**
baz=83
Y14A Wickenburg 82.92 50 P **P 02 40 52.6 +0.4**
baz=83,SNR=33
M07A Soldier Meadow 82.92 41 P **P 02 40 52.6 +0.3**
baz=83,SNR=23

SSOR **Sweet Springs** 83.10 37 P P 02 40 52.9 -0.2
K06A **Valley Falls** 83.11 39 ⇓P P 02 40 53.6 +0.4
baz=83,SNR=18
P09A **Austin** 83.13 43 ⇓P P 02 40 53.3 0.0
baz=83
H04A **Detroit Lake** 83.14 37 P P 02 40 53.2 -0.2
baz=83,SNR=9.4
U12A **Valley of Fire** 83.15 47 P P 02 40 53.9 +0.4
baz=83,SNR=14
116A **Eloy** 83.16 51 ⇑P P 02 40 54.0 +0.6
baz=83,SNR=25
F03A **Seaside** 83.17 35 ⇓P P 02 40 53.6 0.0
baz=83
L07A **Adell** 83.19 40 P P 02 40 54.2 +0.6
baz=83,SNR=5.7
N08A **GE Springer Mi** 83.20 42 P P 02 40 53.8 +0.1
baz=83,SNR=23
X14A **Yava** 83.27 49 P P 02 40 54.6 +0.6
baz=83,SNR=48
KULM **Kulim** 83.30 278 ⇓*i*P P 02 40 55.4 +1.2
G04A **Mulino** 83.31 36 P P 02 40 54.2 0.0
baz=84,SNR=7.3
I05A **Bend** 83.34 38 P P 02 40 54.8 +0.4
baz=84,SNR=12
J06A **Christmas Vall** 83.43 39 P P 02 40 54.8 0.0
baz=84,SNR=14
M08A **Happy Creek Ra** 83.44 41 P P 02 40 55.3 +0.4
baz=84,SNR=12
O09A **Fish Creek Ran** 83.45 43 P P 02 40 54.9 0.0
baz=84,SNR=16
TRCR **Troy Canyon** 83.48 45 ⇓*i*P P 02 40 54.8 -0.3
TRCR *ep*P pP 02 42 57.2 -3.1
W14A **Seligman** 83.52 49 P P 02 40 56.0 +0.8
baz=84,SNR=38
E03A **Lebam** 83.56 35 ⇑P P 02 40 55.5 +0.1
baz=84
BMN **Battle Mountai** 83.58 42 ⇓*i*P P 02 40 55.3 -0.2
BMN pmax pmax
comp=Z,35nm,0.8s,mb4.9
BMN **Battle Mountai** 83.58 42 ⇓*i*P P 02 40 55.3 -0.2
comp=Z,35nm,0.8s,mb4.9
P10A **Eureka** 83.61 43 P P 02 40 55.7 0.0
baz=84,SNR=6.8
N09A **Rock Creek Ran** 83.63 42 P P 02 40 56.0 +0.2
baz=84,SNR=12
K07A **Rock Creek Ran** 83.64 40 P P 02 40 56.1 +0.3
baz=84,SNR=16
H05A **Madras** 83.66 37 P P 02 40 56.0 +0.1
baz=84,SNR=6.4
Q11A **Duckwater** 83.70 44 P P 02 40 56.0 -0.1
baz=84,SNR=21
TUC **Tucson** 83.71 52 ⇓*i*P P 02 40 56.9 +0.7
TUC pmax pmax
comp=Z,29nm,0.9s,mb4.8
TUC **Tucson** 83.71 52 ⇓*i*P P 02 40 56.9 +0.7
comp=Z,29nm,0.9s,mb4.8
X15A **Humboldt** 83.74 50 ⇓P P 02 40 57.0 +0.7
baz=84,SNR=38
F04A **Amboy** 83.79 36 ⇓P P 02 40 56.3 -0.3
baz=84,SNR=6.3
I06A **Prineville** 83.81 38 P P 02 40 57.4 +0.7
baz=84,SNR=20
D03A **Wishkah Elem.** 83.82 34 ⇓P P 02 40 57.0 +0.2
baz=84
WVOR **Wild Horse Val** 83.85 40 ⇓*i*P P 02 40 57.0 +0.1
WVOR pmax pmax
comp=Z,42nm,1.0s,mb4.9
WVOR **Wild Horse Val** 83.85 40 ⇓*i*P P 02 40 57.0 +0.1
comp=Z,42nm,1.0s,mb4.9
L08A **Fields** 83.89 40 P P 02 40 57.4 +0.3
baz=84,SNR=11
VIPM **Ingram Point** 83.92 38 P P 02 40 57.3 +0.1
NLWA **Neilton Lookou** 83.94 34 ⇑P P 02 40 57.6 +0.3
baz=84
G05A **Wamic** 83.97 37 ⇑P P 02 40 57.4 -0.1
baz=84
PSI **Prapat** 83.99 275 P P 02 40 57.5 0.0
comp=Z,24nm,0.8s,mb4.8,baz=143,slow=4.5,SNR=8.6
PSI **Prapat** 83.99 275 P P 02 40 57.5 -0.1
PSI pmax pmax
comp=Z,24nm,0.8s,mb4.8
M09A **Marrel Ranch,** 84.00 41 ⇑P P 02 40 57.8 +0.2
baz=84,SNR=12
OOW **Octopus West** 84.00 33 P P 02 40 58.4 +0.7
J07A **Hines** 84.00 39 P P 02 40 57.8 +0.2
baz=84,SNR=9.0
P11A **Circle Ranch,** 84.03 44 ⇓P P 02 40 57.7 -0.1
baz=84,SNR=6.2
W15A **Williams** 84.07 49 ⇓P P 02 40 58.6 +0.6
baz=84
MA2 **Magadan** 84.11 345 *i*P P 02 40 56.4 -1.7
MA2 pmax pmax
comp=Z,45nm,1.2s,mb4.9
MA2 **Magadan** 84.11 345 ⇓*i*P P 02 40 56.5 -1.7
K08A **Mann Creek Ran** 84.11 40 P P 02 40 58.5 +0.3
baz=84,SNR=21
N10A **Dunphy** 84.19 42 P P 02 40 58.8 +0.3
baz=84,SNR=7.7
L09A **Wilkinson Ranc** 84.20 41 ⇑P P 02 40 58.8 +0.2
baz=84,SNR=13
H06A **Lindquist Farm** 84.22 38 P P 02 40 58.7 0.0
baz=84,SNR=31
F05A **White Salmon** 84.29 36 ⇓P P 02 40 58.7 -0.3
baz=84
I07A **Izee** 84.31 38 P P 02 40 59.4 +0.3
baz=84,SNR=18
D04A **Dobbs Creek Ra** 84.32 35 ⇓P P 02 41 00.0 +0.8
baz=84
Q12A **Willow Creek R** 84.35 45 P P 02 40 59.3 0.0
baz=84,SNR=18
G06A **Carlson Farm,** 84.35 37 P P 02 40 59.2 -0.2
baz=84,SNR=6.5
J08A **Circle Bar Ran** 84.49 39 P P 02 41 00.1 +0.1
baz=85,SNR=12
P12A **McGill** 84.53 44 P P 02 41 00.2 0.0
baz=85,SNR=17
CCUT **Cedar City** 84.54 46 ⇓*i*P P 02 41 00.6 +0.3
E05A **Randle** 84.54 35 ⇓P P 02 40 59.7 -0.5
baz=85
K09A **Rome** 84.56 40 P P 02 41 00.5 +0.1
baz=85,SNR=21
B04A **Port Angeles** 84.56 34 ⇑P P 02 41 00.5 +0.2
baz=85
F06A **Goldendale** 84.59 37 P P 02 41 00.5 0.0
baz=85,SNR=5.6
GNW **Green Mountain** 84.60 34 *e*P P 02 41 00.7 +0.1
ARUT **Antelope Range** 84.61 46 *e*P P 02 41 00.5 -0.1
M10A **I.L. Ranch, Tu** 84.62 42 P P 02 41 01.1 +0.4
baz=85,SNR=21
C04A **Brinnon** 84.62 34 P P 02 41 00.8 +0.1
baz=85,SNR=5.4
N11A **Elko Archery C** 84.73 43 ⇓P P 02 41 01.0 -0.2
baz=85
I08A **Drewsey** 84.75 39 P P 02 41 01.4 +0.1
baz=85,SNR=23
D05A **Enumclaw** 84.81 35 ⇑P P 02 41 02.0 +0.4
baz=85
WUAZ **Wupatki** 84.87 49 ⇓*i*P P 02 41 02.0 +0.1
comp=Z,20nm,1.0s,mb4.7
WUAZ **Wupatki** 84.87 49 P P 02 41 02.2 +0.3
baz=85,SNR=15
J09A **Fry Pan Ranch,** 84.91 40 P P 02 41 02.1 +0.1
baz=85,SNR=16
G07A **Ruggs Ranch, H** 84.91 37 P P 02 41 02.0 -0.1
baz=85,SNR=12
E06A **Yakima** 84.95 36 ⇑P P 02 41 02.2 0.0
baz=85,SNR=6.7
M11A **Holland Ranch,** 85.03 42 P P 02 41 03.0 +0.4
baz=85,SNR=13
H08A **Prairie City** 85.05 38 P P 02 41 02.5 -0.2
baz=85,SNR=11
BBB **Bella Bella** 85.09 28 P P 02 41 02.3 -0.6
comp=Z,22nm,0.9s,mb4.8,baz=204,slow=7.2,SNR=4.3
F07A **Phinny Hill Vi** 85.14 37 P P 02 41 03.1 -0.1
baz=85,SNR=6.2
N12A **Clover Valley,** 85.19 43 ⇓P P 02 41 03.4 -0.1
baz=85,SNR=22
I09A **Lost Marbles R** 85.28 39 P P 02 41 03.5 -0.3
baz=85,SNR=12
C05A **Tolt Reservoir** 85.28 35 ⇓P P 02 41 03.4 -0.4
baz=85,SNR=6.6
G08A **Pilot Rock** 85.33 38 P P 02 41 04.2 +0.1
baz=86,SNR=15
A04A **Legoe Bay, Lum** 85.39 33 ⇓P P 02 41 04.4 +0.1
baz=86
B05A **Bryant** 85.42 34 P P 02 41 04.4 -0.1
baz=86,SNR=7.9
D06A **Cle Elum** 85.42 35 ⇑P P 02 41 04.4 -0.1
baz=86,SNR=7.7
EYAK **Cordova Ski Ar** 85.50 16 ⇓*i*P P 02 41 03.1 -1.7
M12A **Wells** 85.58 43 P P 02 41 05.3 0.0
baz=86,SNR=14
E07A **Sunnyside** 85.58 36 P P 02 41 05.4 +0.1
baz=86,SNR=19
PMR **Palmer** 85.61 14 ⇓*i*P P 02 41 03.8 -1.6
PMR pmax pmax
comp=Z,22nm,0.6s,mb5.0
PMR **Palmer** 85.61 14 ⇓*i*P P 02 41 03.8 -1.7
comp=Z,22nm,0.6s,mb5.0
HAWA **Hanford** 85.66 37 ⇓*i*P P 02 41 05.6 -0.1
comp=Z,56nm,0.9s,mb5.2
MDW **Midway** 85.67 36 P P 02 41 05.6 -0.1
H09A **Durkee** 85.72 39 P P 02 41 06.0 0.0
baz=86,SNR=30
N13A **Wendover, West** 85.73 43 P P 02 41 06.0 +0.1
baz=86,SNR=10
F08A **Pendleton** 85.73 37 P P 02 41 05.8 -0.2
baz=86,SNR=16
MSU **Marysvale** 85.83 46 ⇓*i*P P 02 41 07.1 +0.6
BJT **Baijiatuau** 85.84 316 ⇓*i*P P 02 41 06.8 +0.3
BJT pmax pmax
comp=Z,13nm,0.6s
BJT **Baijiatuau** 85.84 316 ⇓*i*P P 02 41 06.8 +0.2
comp=Z,13nm,0.6s,mb4.7
BJI **Beijing** 85.85 316 *e*P P 02 41 06.8 +0.2
BJI AP pP 02 43 16.4 +3.6
BJI AMB AMB
comp=Z,35nm,0.7s,mb5.1
BJI AMB AMB
comp=Z,174nm,2.8s,mb5.2
A05A **Maple Falls** 85.88 33 ⇓P P 02 41 06.1 -0.7
baz=86
D07A **Quincy** 85.90 36 P P 02 41 06.7 -0.1
baz=86,SNR=10
E08A **Dider Farm, El** 85.98 37 P P 02 41 07.1 -0.1
baz=86,SNR=15
DIV **Divide** 85.99 15 ⇓*i*P P 02 41 05.8 -1.4
comp=Z,161nm,0.9s,mb5.7
M13A **Montello** 86.02 43 ⇑P P 02 41 07.3 -0.1
baz=86
SYO **Syowa Base** 86.14 193 ⇑*e*P P 02 41 06.2 -1.7
SYO **Syowa Base** 86.14 193 ⇓*e*P pP 02 43 10.2 -4.0
C07A **Waterville** 86.15 35 P P 02 41 07.4 -0.5
baz=86,SNR=18
F09A **S2 Ranch, Elgi** 86.18 38 P P 02 41 08.1 0.0
baz=86,SNR=11
WTV **Waterville** 86.21 35 P P 02 41 07.8 -0.5
A06A **Chilliwack** 86.26 34 ⇓P P 02 41 07.9 -0.5
baz=86
DUG **Dugway** 86.28 44 *e*P P 02 41 08.4 -0.2
DUG **Dugway** 86.28 44 ⇓P P 02 41 08.2 -0.3
baz=86
D08A **Wollman Farm,** 86.39 36 P P 02 41 09.1 0.0
baz=86,SNR=24
GYA **Guiyang** 86.41 300 ⇓*i*P P 02 41 10.3 +1.1
GYA AP pP 02 43 20.0 +4.3
GYA XP sP 02 44 19.2 +4.4
GYA PP PP 02 44 45.7 +4.0
GYA SKS 02 50 38.9
GYA S S 02 50 56.1 -0.5
GYA PS 02 53 23.2
GYA XS sS 02 54 44.6 +2.7
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,130nm,5.2s
E09A **Wood Farm, Sta** 86.51 37 P P 02 41 09.3 -0.4
baz=87,SNR=17
BGU **Big Grassy Mou** 86.52 44 *e*P P 02 41 09.1 -0.6
B07A **Winthrop** 86.58 35 ⇓P P 02 41 09.7 -0.3
baz=87,SNR=24
NLU **North Lily Min** 86.64 45 *e*P P 02 41 10.5 +0.2
OD2 **Odessa Site #2** 86.71 36 P P 02 41 10.3 -0.3
H11A **Donnelly** 86.71 39 P P 02 41 10.5 -0.1
baz=87,SNR=49
F10A **Beach Ranch, E** 86.72 38 ⇑P P 02 41 10.1 -0.5
baz=87,SNR=21
SEY **Seymchan** 86.72 347 ⇑*e*P P 02 41 09.6 -1.1
D09A **Jones Farm, Ri** 86.74 36 P P 02 41 10.6 -0.2
baz=87,SNR=44
C08A **Higginbotham F** 86.76 36 P P 02 41 10.4 -0.4
baz=87,SNR=12
A07A **Ashnola River,** 86.80 34 ⇑P P 02 41 11.0 -0.1
baz=87
TMUT **Trail Mountain** 86.88 46 ⇓*i*P P 02 41 12.1 +0.6
MPU **Maple Canyon** 86.97 45 *e*P P 02 41 11.9 +0.1
HLID **Hailey** 87.05 41 ⇓*i*P P 02 41 12.4 +0.2
comp=Z,34nm,1.0s,mb5.0
HLID **Hailey** 87.05 41 P P 02 41 12.6 +0.4
baz=87,SNR=36
E10A **Myers Farm, Un** 87.08 37 ⇑P P 02 41 11.7 -0.6
baz=87
HVU **Hansel Valley** 87.13 43 ⇓*i*P P 02 41 12.2 -0.4
HVU pmax pmax
comp=Z,26nm,1.2s,mb4.8
HVU **Hansel Valley** 87.13 43 ⇓*i*P P 02 41 12.2 -0.4
comp=Z,26nm,1.2s,mb4.8
C09A **Chrisman Ranch** 87.19 36 P P 02 41 12.5 -0.3
baz=87,SNR=21
SRU **San Rafael** 87.25 46 ⇓*i*P P 02 41 13.2 +0.1
SRU pmax pmax
comp=Z,29nm,0.8s,mb5.1
SRU **San Rafael** 87.25 46 ⇓*i*P P 02 41 13.2 0.0
comp=Z,29nm,0.8s,mb5.1
F11A **Grangeville** 87.29 38 P P 02 41 11.9 -1.4
baz=87,SNR=21
A08A **Turner Farm, O** 87.33 35 ⇑P P 02 41 13.4 -0.1
baz=88,SNR=35
JLU **Jordanelle** 87.38 45 ⇓*i*P P 02 41 13.6 -0.1
LAZ **Ladron** 87.39 52 *e*P P 02 41 14.2 +0.5
LENM **Lemitar** 87.40 52 *e*P P 02 41 14.2 +0.3
MNTX **Cornudas Mount** 87.48 55 ⇓*i*P P 02 41 14.5 +0.3
comp=Z,32nm,1.0s,mb5.0
SNAA **Sanae** 87.54 179 *e*P P 02 41 14.1 -0.4
SNAA *e* 02 41 15.3
SNAA *e* 02 41 22.8
SNAA *e* 02 41 33.0
SNAA *e* pP 02 43 18.8 -2.6
SNAA *e* 02 43 38.8
SNAA *e* 02 46 12.4
MCK **McKinley** 87.56 13 ⇓*i*P P 02 41 12.5 -2.1
MCK pmax pmax
comp=Z,26nm,0.7s,mb5.1
MCK **McKinley** 87.56 13 ⇓*i*P P 02 41 12.5 -2.1
comp=Z,26nm,0.7s,mb5.1
B09A **Rice** 87.62 35 ⇑P P 02 41 14.3 -0.5
baz=88
BNM **Barren Site** 87.64 52 ⇓*i*P P 02 41 15.4 +0.5
VNA3 **Neumayer Olymp** 87.69 176 ⇓*i*P P 02 41 13.9 -1.3
VNA3 *e* 02 41 15.1
VNA3 *e* 02 41 23.2
VNA3 *e* 02 41 33.1
A09A **Danville** 87.70 35 ⇓P P 02 41 15.2 -0.1
baz=88,SNR=23
LPM **Los Pinos Moun** 87.72 52 *e*P P 02 41 15.5 +0.2
C10A **Spilker Farm,** 87.73 36 P P 02 41 15.2 -0.1
baz=88,SNR=6.1
LTX **Lajitas** 87.78 58 ⇓*i*P P 02 41 16.3 +0.7
LTX pmax pmax
comp=Z,31nm,1.0s,mb5.0
LTX **Lajitas** 87.78 58 ⇓*i*P P 02 41 16.3 +0.7
comp=Z,31nm,1.0s,mb5.0
TXAR **Lajitas Array** 87.78 58 P P 02 41 16.2 +0.6
comp=Z,21nm,0.9s,mb4.9,baz=218,slow=6.1,SNR=146
TXAR pP pP 02 43 19.9 -2.7
comp=Z,0.1nm,0.3s,baz=160,slow=41,SNR=2.3
TXAR PKKPbc PKKPbc 02 58 59.6 +1.1
comp=Z,0.8nm,0.7s,baz=93,slow=2.2,SNR=8.3
TXAR **Lajitas Array** 87.78 58 P P 02 41 16.2 +0.6
TXAR pP pP 02 43 19.9 -2.6
TXAR PKKPbc PKKPbc 02 58 59.6 +1.1
HWUT **Hardware Ranch** 87.82 44 ⇓*i*P P 02 41 15.2 -0.6
comp=Z,5.4nm,0.5s,mb4.5
XAN **Xi'an** 87.99 308 P P 02 41 17.4 +0.8
XAN AMB AMB
comp=Z,67nm,0.9s,mb5.4
B10A **Chitwood Farm,** 88.05 36 ⇓P P 02 41 16.2 -0.6
baz=88
NEW **Newport** 88.08 36 P P 02 41 16.0 -1.0
comp=Z,14nm,0.8s,mb4.7,baz=245,slow=2.7,SNR=22
NEW **Newport** 88.08 36 ⇓*i*P P 02 41 16.2 -0.8
NEW pmax pmax
comp=Z,19nm,1.0s
NEW **Newport** 88.08 36 ⇓*i*P P 02 41 16.1 -0.9
comp=Z,19nm,1.0s,mb4.8
VNA2 **Neumayer--Watz** 88.13 177 ⇓*i*P P 02 41 16.0 -1.2
baz=210,slow=5.1
VNA2 *e* 02 41 17.0
VNA2 *e* 02 41 25.2
VNA2 *e* 02 41 36.0
VNA2 *e* pP 02 43 22.3 -2.0
VNA2 *e* 02 43 37.0
VNA2 *e* 02 43 42.8
VNA2 *e* 02 46 13.1
VNA2 *e* 02 46 24.6
VNA2 *e* 02 46 32.2
VNA2 *e* 02 46 48.9
VNA2 *e* 02 46 54.2
ANMO **Albuquerque** 88.13 51 P P 02 41 17.2 0.0
comp=Z,17nm,1.0s,mb4.7,baz=232,slow=5.5,SNR=25
ANMO pP pP 02 43 20.9 -3.5
comp=Z,0.7nm,0.6s,baz=20,slow=11,SNR=1.8
ANMO **Albuquerque** 88.13 51 *d*iP P 02 41 17.2 -0.1
ANMO **Albuquerque** 88.13 51 ⇓*i*P P 02 41 17.3 +0.1
comp=Z,22nm,1.1s,mb4.8
A10A **Northport** 88.26 35 ⇑P P 02 41 17.3 -0.5
baz=88
F13A **Darby** 88.30 39 P P 02 41 17.6 -0.5
baz=88,SNR=38
NANT **Nan** 88.35 291 ⇓P P 02 41 18.0 -0.3
comp=Z,245nm,1.0s,mb5.9
VNA1 **Neumayer--Stat** 88.36 177 ⇓*i*P P 02 41 17.9 -0.4
VNA1 *e* 02 41 19.0
VNA1 *e* 02 41 37.0
VNA1 *e* pP 02 43 24.2 -1.3
VNA1 *e* 02 43 39.4
VNA1 *e* 02 43 44.9
GDL2 **Guadalupe Moun** 88.47 55 *e*P P 02 41 19.4 +0.6
B11A **Sandpoint** 88.60 36 ⇓P P 02 41 18.9 -0.5
baz=89,SNR=14
MCMT **McKenzie Canyo** 88.67 40 *e*P P 02 41 19.8 +0.1
C12A **Trout Creek** 88.68 37 P P 02 41 19.2 -0.6
baz=89,SNR=26
AHID **Auburn Hatcher** 88.70 43 *e*P P 02 41 20.2 +0.3
comp=Z,24nm,0.8s,mb5.1
E13A **Victor** 88.74 39 ⇑P P 02 41 19.1 -1.0
baz=89,SNR=6.7
HIA **Hailar** 88.77 325 *d*iP P 02 41 19.8 -0.4
HIA **Hailar** 88.77 325 *e*P P 02 41 19.9 -0.4
comp=Z,31nm,1.0s,mb5.1
COLA **College** 88.80 13 *d*iP P 02 41 18.3 -2.0
COLA **College** 88.80 13 ⇓*i*P P 02 41 18.2 -2.2
comp=Z,59nm,0.8s,mb5.5
IMA2 **Indian Mountai** 88.81 10 ⇓*i*P P 02 41 19.0 -1.4
RRI2 **Red Ridge** 88.86 42 ⇓*i*P P 02 41 20.9 +0.2
comp=Z,60nm,0.7s,mb5.5
F14A **Wisdom** 88.88 39 ⇑P P 02 41 20.5 -0.3
baz=89,SNR=6.2
A11A **Hall Mountain,** 88.89 36 P P 02 41 20.9 +0.1
baz=89,SNR=22
D13A **Huson** 88.93 38 P P 02 41 20.9 0.0
baz=89,SNR=8.0
B12A **Libby** 89.05 36 P P 02 41 21.4 -0.1
baz=89,SNR=17
KMI **Kunming** 89.08 297 P P 02 41 23.7 +2.0
KMI AMB AMB
comp=Z,48nm,0.8s,mb5.4
KMI AMB AMB
comp=Z,137nm,3.1s
KMI **Kunming** 89.08 297 P P 02 41 23.7 +2.0
comp=Z,48nm,0.8s,mb5.4
DLMT **Dillon** 89.11 40 ⇓*i*P P 02 41 21.9 +0.1
comp=Z,27nm,0.9s,mb5.1
E14A **Clinton** 89.13 39 P P 02 41 21.4 -0.5
baz=89,SNR=10
BSMT **Bassoo Peak** 89.16 37 *e*P P 02 41 21.5 -0.5
REDW **Red Top Meadow** 89.16 42 ⇓*i*P P 02 41 22.2 +0.1
comp=Z,63nm,1.0s,mb5.4
TPAW **Teton Pass** 89.16 42 ⇓*i*P P 02 41 22.4 +0.3
comp=Z,34nm,0.8s,mb5.2
C13A **Hot Springs** 89.18 37 ⇑P P 02 41 21.7 -0.5
baz=89,SNR=5.1
BDT **Bhumibol Dam** 89.25 289 P P 02 41 24.5 +2.0
comp=Z,13nm,0.9s,mb4.8
A12A **Yaak River Ran** 89.27 36 ⇓P P 02 41 22.4 -0.2
baz=89
SNOW **Snow King Moun** 89.27 42 ⇓*i*P P 02 41 22.9 +0.3
comp=Z,72nm,0.8s,mb5.5
HHC **Hu-ho-hao-te** 89.30 315 *e*P P 02 41 23.0 +0.3
HHC AP pP 02 43 33.8 +3.7
HHC XP sP 02 44 32.6 +3.7
HHC PP PP 02 45 08.0 +3.6
HHC SKS 02 50 55.7
HHC S S 02 51 21.2 -2.0
HHC XS sS 02 55 12.5 +2.0
HHC SS SS 02 57 39.1 +3.1
HHC AMB AMB
comp=Z,23nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,150nm,5.2s
F15A **Butte** 89.42 40 P P 02 41 23.3 0.0
baz=90,SNR=12
MOOW **Moose Ponds** 89.42 42 ⇓*i*P P 02 41 23.2 -0.1
comp=Z,14nm,0.8s,mb4.8
LRM **Limekiln Ridge** 89.43 40 *e*P P 02 41 23.4 +0.1
LOHW **Long Hollow** 89.44 42 ⇓*i*P P 02 41 23.4 +0.1
comp=Z,30nm,0.6s,mb5.3
BILL **Bilibino** 89.46 354 *d*iP P 02 41 22.0 -1.4
BILL pmax pmax
comp=Z,34nm,1.3s,mb5.0
BILL **Bilibino** 89.46 354 ⇓*i*P P 02 41 22.2 -1.2
comp=Z,15nm,0.6s,mb5.0
D14A **Greenough** 89.47 38 P P 02 41 22.3 -1.2
baz=90,SNR=9.8
CHMT **Chamberlain Mo** 89.53 39 ⇓*i*P P 02 41 22.8 -1.0
QLMT **Earthquake Lak** 89.54 41 ⇓*i*P P 02 41 24.4 +0.6
FLWY **Flagg Ranch** 89.62 42 ⇓*i*P P 02 41 24.3 +0.2
comp=Z,53nm,0.9s,mb5.4
B13A **Whitefish** 89.62 37 P P 02 41 23.1 -1.0
baz=90,SNR=7.6
E15A **Deer Lodge** 89.63 39 P P 02 41 23.7 -0.5
baz=90,SNR=5.8
BW06 **Boulder Array** 89.69 43 *e*P P 02 41 23.8 -0.6
PDAR **Pinedale Array** 89.69 43 P P 02 41 23.8 -0.7
comp=Z,31nm,0.6s,mb5.3,baz=211,slow=3.3,SNR=252
PDAR PKKPbc PKKPbc 02 58 53.5 -0.3
comp=Z,0.8nm,0.7s,baz=81,slow=3.8,SNR=5.8
SMCO **Snowmass** 89.71 48 ⇓*i*P P 02 41 24.7 +0.1
comp=Z,25nm,1.0s,mb5.0
YFT **Old Faithful** 89.72 42 ⇓*i*P P 02 41 26.1 +1.5
YMR **Madison River** 89.75 41 ⇓*i*P P 02 41 25.4 +0.6
comp=Z,19nm,0.8s,mb5.0
CM31 **Chiang Mai Arr** 89.76 290 ⇓*i*P P 02 41 26.9 +2.1
comp=Z,48nm,1.1s,mb5.2
CHG **Chiang Mai** 89.89 290 ⇓P P 02 41 27.2 +1.8
comp=Z,47nm,0.6s,mb5.5
CHTO **Chiang Mai** 89.89 290 ⇓*i*P P 02 41 27.3 +1.9
CHTO pmax pmax
comp=Z,25nm,0.6s,mb5.2
CHTO **Chiang Mai** 89.89 290 ⇓*i*P P 02 41 27.3 +1.9
comp=Z,25nm,0.6s,mb5.2
YNR **Norris Junctio** 89.94 41 *e*P P 02 41 27.0 +1.3
D15A **Lincoln** 90.03 39 P P 02 41 25.7 -0.3
baz=90,SNR=11
DAWY **Dawson** 90.07 16 ⇓*i*P P 02 41 25.2 -1.1
SDCO **Great Sand Dun** 90.08 49 *e*P P 02 41 25.7 -0.7
comp=Z,12nm,0.8s,mb4.8
EGAK **Eagle** 90.21 15 ⇓*i*P P 02 41 25.7 -1.2
comp=Z,38nm,0.8s,mb5.3
BTO **Baotou** 90.22 314 *e*P P 02 41 26.7 -0.2
WALA **Waterton Lakes** 90.30 36 ⇓*i*P P 02 41 26.6 -0.6
comp=Z,22nm,1.0s,mb5.0
CMIG **Matias Romero** 90.34 72 P P 02 41 27.1 -0.4
comp=Z,10nm,0.8s,mb4.7,baz=268,slow=4.3,SNR=24
CD2 **Chengdu** 90.59 303 *e*P P 02 41 29.8 +1.2
CD2 AP pP 02 43 40.5 +4.2
CD2 XP sP 02 44 39.3 +4.3
CD2 PP PP 02 45 18.5 +4.1
CD2 SKS 02 51 04.0
CD2 S S 02 51 33.2 -1.5
CD2 XS sS 02 55 24.9 +1.9
CD2 SS SS 02 57 58.0 +3.6
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,30nm,9.2s
RWWY **Rawlins** 90.71 45 ⇓*i*P P 02 41 28.8 -0.4
comp=Z,18nm,0.5s,mb5.3
CLNS **Chul'man** 90.81 333 *e*P P 02 41 22.1 -7.6

CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
GCMT Greycliff 91.10 41 *e*P **P 02 41 29.4 -1.6**
JCT Junction City 91.30 58⇓*i*P **P 02 41 31.2 -0.7**
JCT pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
JCT Junction City 91.30 58⇓*i*P **P 02 41 31.2 -0.8**
comp=Z,9.4nm,0.6s,mb4.9
AMTX Amarillo 91.64 53 *e*P **P 02 41 33.1 -0.4**
PHWY Pilot Hill 91.70 46 *e*P **P 02 41 33.6 -0.2**
EGMT Eagleton 92.14 39 *e*P **P 02 41 35.0 -0.8**
comp=Z,17nm,1.2s,mb5.0
EGMT Eagleton 92.14 39 ⇑P **P 02 41 35.1 -0.7**
baz=92
YAK Yakutsk 92.36 338⇑*e*P **P 02 41 35.3 -1.5**
YAK pmax pmax
comp=Z,75nm,1.1s,mb5.6
YAK Yakutsk 92.36 338 *e*P **P 02 41 35.0 -1.8**
comp=Z,58nm,0.8s,mb5.7
LZH Lanzhou 92.63 308 *e*P **P 02 41 39.3 +1.3**
LZH AP pP 02 43 50.6 +4.7
LZH XP sP 02 44 49.5 +5.0
LZH *e*PP PP 02 45 34.8 +4.6
LZH *e*S S 02 51 44.0 -8.6
LZH XS sS 02 55 44.0 +1.9
LZH SS SS 02 58 24.0 +0.8
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,130nm,5.8s
LZH Lanzhou 92.63 308 *e*P **P 02 41 39.3 +1.3**
LZH *e* 02 45 34.8
LZH SS SS 02 58 24.0 +0.8
LZH pmax pmax
comp=Z,38nm,1.0s,mb5.4
LZH Lanzhou 92.63 308 *e*P **P 02 41 39.3 +1.3**
comp=Z,38nm,1.0s,mb5.4
LZH pP pP 02 43 50.6 +4.7
LZH sP sP 02 44 49.5 +5.0
LZH *e*PP PP 02 45 34.8 +4.6
LZH *e*S S 02 51 44.0 -8.6
LZH sS sS 02 55 44.0 +1.9
LZH SS SS 02 58 24.0 +0.8
EDM Edmonton 92.81 33⇓*i*P **P 02 41 37.4 -1.5**
WMOK Wichita Mounta 93.77 54 *e*P **P 02 41 43.5 +0.3**
RSSD Black Hills 93.88 44⇓*i*P **P 02 41 42.9 -0.8**
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
RSSD Black Hills 93.88 44⇓*i*P **P 02 41 42.9 -0.8**
comp=Z,5.9nm,0.6s,mb4.9
CBKS Cedar Bluff 94.65 50 *e*P **P 02 41 46.7 -0.5**
CBKS pmax pmax
comp=Z,20nm,1.0s,mb5.2
CBKS Cedar Bluff 94.65 50 *e*P **P 02 41 46.7 -0.5**
comp=Z,20nm,1.0s,mb5.2
INK Inuvik 94.88 15⇓*i*P **P 02 41 45.8 -2.5**
comp=Z,346nm,0.9s
DGMT Dagmar 95.65 40 *e*P **P 02 41 51.3 -0.4**
comp=Z,18nm,0.6s,mb5.5
SONM Songino Array 95.76 319 P **P 02 41 50.9 -1.3**
comp=Z,2.0nm,0.9s,mb4.3,baz=105,slow=3.1,SNR=9.1
SONM PP PP 02 45 49.8 -4.3
comp=Z,1.2nm,0.8s,baz=112,slow=8.2,SNR=5.0
GTA Gaotai 96.86 309 *e*P **P 02 41 57.9 +0.8**
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.8
YKA Yellowknife Ar 97.18 25 P **P 02 41 56.0 -2.6**
comp=Z,3.1nm,0.8s,mb4.6,baz=237,slow=4.2,SNR=6.0
YKA Yellowknife Ar 97.18 25 P **P 02 41 56.0 -2.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 97.18 25 P **P 02 41 56.0 -2.6**
TIXI Tiksi 99.07 345⇓*e*P Pdif 02 42 05.4 -1.6
ULM Lac du Bonnet 101.35 41 P Pdif 02 42 15.4 -1.7
comp=Z,0.8nm,0.6s,baz=262,slow=7.1,SNR=3.1
LPAZ La Paz 102.38 113 P Pdif 02 42 23.1 +1.4
comp=Z,1.0nm,0.7s,baz=236,slow=5.6,SNR=4.4
LPAZ PKKPbc PKKPbc 02 58 20.6 +0.4
comp=Z,0.6nm,0.6s,baz=299,slow=10,SNR=3.3
LPAZ La Paz 102.38 113 *e*Pdif Pdif 02 42 25.7 +4.0
WMQ Urumqi 106.83 311 PDIF Pdif 02 42 42.0 +0.5
WMQ PP PP 02 47 19.8 +3.8
WMQ PP PP
comp=Z,83nm,5.3s
SAML Samuel 109.94 108 *e*PKPdf PKiKP 02 46 51.7 -1.8
MK31 Makanchi Array 111.13 313 *e*PKIKP PKiKP 02 46 54.1 -1.7
MKAR Makanchi Array 111.13 313 Pdiff Pdif 02 43 01.4 +0.8
comp=Z,1.3nm,0.7s,baz=98,slow=7.4,SNR=14
MKAR PKiKP PKiKP 02 46 54.2 -1.6
comp=Z,3.5nm,0.4s,baz=133,slow=0.8,SNR=48
MKAR PKKPbc PKKPbc 02 57 53.5 -0.1
comp=Z,1.5nm,0.6s,baz=268,slow=4.0,SNR=14
MKAR Makanchi Array 111.13 313 *i* PKIKP PKiKP 02 46 53.9 -1.9
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 111.13 313 Pdif Pdif 02 43 01.4 +0.8
MKAR PKPdf PKiKP 02 46 54.2 -1.6
MKAR PKKPbc PKKPbc 02 57 53.5 -0.1
NVS Novosibirsk 111.55 322 *e*PKIKP PKiKP 02 46 53.9 -2.7
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 113.98 317 *e*PKPdf PKiKP 02 46 59.5 -1.7
KURK *e*SKPdf SKPdf 02 49 40.6 -0.7
TKM2 Tokmak 2 115.38 309 *i* PKIKP PKPdf 02 47 02.3 -1.6
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 116.17 308⇑*i*PKIKP PKPdf 02 47 04.0 -1.4
AAK Ala-Archa 116.17 308 *e*PKPdf PKPdf 02 47 03.7 -1.7
MTP Monte Pirata 117.24 80 *e*PKPdf PKPdf 02 47 06.2 -1.3
FRB Frobisher Bay 117.47 28 PKhKP 02 47 03.2
comp=Z,8.4nm,0.5s,baz=263,slow=1.9,SNR=8.2
FRB Frobisher Bay 117.47 28 PKIKP PKPdf 02 47 03.2 -4.7
FRB pmax pmax
comp=Z,8.0nm,0.5s
VOSK Vostochnaya 118.75 319 PKIKP PKPdf 02 47 08.3 -2.1
VOSK pmax pmax
comp=Z,8.0nm,0.6s
CHKZ Chkalovo 118.92 321 *i* PKIKP PKPdf 02 47 08.9 -1.8
BVA0 Borovoye Array 119.09 320 *i* PKIKP PKPdf 02 47 09.3 -1.7
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
KK31 Karatay Array 119.12 308 *i* PKIKP PKPdf 02 47 09.7 -1.4
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 119.12 308 *i* PKIKP PKPdf 02 47 09.7 -1.4
KKAR pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 119.16 320 *e*PKIKP PKPdf 02 47 09.7 -1.5
SCHQ Schefferville 119.39 38 PKP PKPdf 02 47 09.2 -2.4
comp=Z,3.6nm,0.6s,baz=249,slow=5.0,SNR=6.0
KBS Kingsbay 121.80 358⇑*i*PKIKP PKPdf 02 47 16.2 0.0
SPB4 Spitsbergen Ar 122.31 356 *e*PKPdf PKPdf 02 47 15.5 -1.7
DAG Danmarks Havn 123.27 5⇑*i*P PKPdf 02 47 16.0 -3.1
comp=Z,9.9nm,0.5s
SUR Sutherland 123.78 200 *i* PKPdf PKPdf 02 47 20.5 +0.5
SOKR Solikamsk 125.22 329 *e*PKIKP PKPdf 02 47 21.5 -1.3
SOKR pmax pmax
comp=Z,50nm,0.9s
ARU Arti 125.29 325 *i* PKIKP PKPdf 02 47 22.0 -0.9
ARU *e* 02 49 20.6
ARU Arti 125.29 325 *e*PKPdf PKPdf 02 47 21.7 -1.2
BOSA Boshof 125.58 206 PKP PKPdf 02 47 24.1 +0.7
comp=Z,4.0nm,0.6s,baz=126,slow=3.2,SNR=12
BOSA PKKPbc PKKPbc 02 57 01.6 -0.7
comp=Z,1.8nm,0.6s,baz=349,slow=8.3,SNR=7.4
BOSA Boshof 125.58 206 *e*PKPdf PKPdf 02 47 24.6 +1.1
AKTK Aktyubinsk 127.06 318 PKP PKPdf 02 47 25.6 -0.7
AKTO Aktyubinsk 127.06 318 PKP PKPdf 02 47 25.6 -0.7
comp=Z,14nm,0.6s,baz=84,slow=4.4,SNR=63
AKTO Aktyubinsk 127.06 318 PKIKP PKPdf 02 47 25.6 -0.7
AKTO pmax pmax
comp=Z,14nm,0.6s
LBTB Lobatse 128.59 208 *e*PKIKP PKPdf 02 47 30.1 +0.9
ORR Orenburg 128.77 320 *e*PKIKP PKPdf 02 47 29.3 -0.3
ORR pmax pmax
comp=Z,50nm,0.9s
KEV Kevo 128.84 349 *e*p PKPdf 02 47 26.6 -3.1
comp=Z,11nm,0.7s
KEV Kevo 128.84 349 *e*PKIKP PKPdf 02 47 26.6 -3.1
KEV pmax pmax
comp=Z,11nm,0.7s
ARCES ARCESS Array B 129.29 349 PKhKP 02 47 16.8
comp=Z,1.2nm,0.6s,baz=43,slow=1.2,SNR=10
ARCES PKP PKPdf 02 47 28.9 -1.6
comp=Z,20nm,0.6s,baz=21,slow=0.8,SNR=69
ARCES ARCESS Array B 129.29 349 PKHKP 02 47 16.8
ARCES 02 47 29.0
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 129.29 349 PKP 02 47 16.8
ARCES PKP PKPdf 02 47 28.9 -1.6
comp=Z,8.3nm,0.6s,baz=52,slow=4.7,SNR=16
FINES SKP 02 50 22.5
comp=Z,9.1nm,0.6s,baz=52,slow=4.4,SNR=15
FINES pmax pmax
comp=Z,8.3nm,0.6s,baz=52,slow=4.7,SNR=16
VRHR Novokhopersk 136.58 324 *e*PKIKP PKPdf 02 47 45.2 +1.0
VRHR pmax pmax
comp=Z,30nm,0.5s
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
OBN Obninsk 136.92 331⇑*i*PKIKP PKPdf 02 47 43.5 -1.3
OBN *i* 02 50 30.3
OBN *e* 02 54 04.2
OBN *e*SS SS 03 08 28.6 +33
OBN pmax pmax
comp=Z,28nm,0.7s
OBN Obninsk 136.92 331 *e*PKPdf PKPdf 02 47 43.3 -1.5
TSUM Tsumeb 137.04 203 *e*PKPdf PKPdf 02 47 45.9 +0.8
VRSR Storozhevoye 137.85 325 *e*PKIKP PKPdf 02 47 45.7 -0.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 138.45 311 *e*PKIKP PKPdf 02 47 48.5 +0.9
ZEI *e* 02 50 43.9
GNI Garni 138.57 307 PKP PKPdf 02 47 45.2 -2.6
comp=Z,7.4nm,0.7s,baz=214,slow=6.2,SNR=7.5
GNI Garni 138.57 307 PKIKP PKPdf 02 47 45.2 -2.7
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 138.57 307 PKP PKPdf 02 47 45.2 -2.6
GNI *e*PKPdf PKPdf 02 47 48.2 +0.4
KMBO Kilima Mbogo 138.63 242 PKhKP 02 47 41.8
comp=Z,1.3nm,0.8s,baz=235,slow=23,SNR=6.1
KMBO PKP PKPdf 02 47 49.4 +1.4
comp=Z,4.3nm,0.8s,baz=39,slow=3.2,SNR=11
KMBO SKPbc SKPbc 02 50 32.5 +4.7
comp=Z,4.6nm,1.0s,baz=348,slow=1.6,SNR=9.4
KMBO SKPab 02 50 42.0
comp=Z,1.4nm,0.7s,baz=50,slow=23,SNR=3.8
KMBO Kilima Mbogo 138.63 242 PKHKP 02 47 41.8
KMBO 02 47 49.4
KMBO 02 50 42.1
KMBO pmax pmax
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 138.63 242 PKP 02 47 41.8
KMBO *e*PKPdf PKPdf 02 47 49.3 +1.4
KIV Kislovodsk 138.89 314 *i* PKIKP PKPdf 02 47 49.9 +1.4
NB2 NORSAR Subarra 139.39 353 PKP 02 47 40.1
comp=Z,2.0nm,0.4s,baz=10,slow=3.2
NOA NORSAR Array B 139.39 353 PKhKP 02 47 39.9
comp=Z,11nm,0.7s,baz=12,slow=2.3,SNR=29
NOA SKPbc SKPbc 02 50 31.1 +1.2
comp=Z,2.7nm,0.8s,baz=14,slow=4.3,SNR=4.1
HFS Hagfors 139.93 350 PKhKP 02 47 41.3
comp=Z,14nm,0.3s,baz=44,slow=4.1,SNR=96
HFS SKPbc SKPbc 02 50 32.8 +1.5
comp=Z,4.8nm,0.7s,baz=126,slow=2.6,SNR=4.1
SOC Sochi 141.03 314 *i* PKIKP PKPdf 02 47 59.5 +7.2
ERZM Erzurum 141.13 308 *i* P PKPdf 02 47 47.8 -4.7
BNGL BINGOL 141.56 307 *i* P PKPdf 02 47 49.6 -3.6
GRSN GIRESUNGRSN 143.03 311 *i* P PKPdf 02 47 51.6 -4.2
SUW Suwalki 143.09 339 *e*PKPdf PKPdf 02 47 53.1 -2.9
SUW *e* 02 47 57.4
AKASG Malin Array Be 143.17 330 PKP PKPdf 02 47 52.8 -3.3
comp=Z,91nm,0.5s,baz=42,slow=4.2,SNR=538
AKASG SKPbc SKPbc 02 50 39.9 +0.5
comp=Z,3.1nm,0.7s,baz=40,slow=2.6,SNR=7.8
AKASG Malin Array Be 143.17 330 PKP PKPdf 02 47 52.8 -3.3
AKASG SKPbc SKPbc 02 50 39.9 +0.5
AKBB Malin Array Si 143.17 330 *e*PKHKP 02 47 52.8
KIEV Kiev 143.18 330 *e*PKHKP 02 47 52.8
KAC Achnashellach 143.20 6 *e*P PKPdf 02 47 52.8 -3.3
ELZG Elazig 143.31 307 *i* P PKPdf 02 47 56.1 -0.2
KPL Plockton 143.32 6 *e*P PKPdf 02 47 53.3 -3.0
KSB Sheil Bridge 143.47 6 *e*P PKPdf 02 47 52.6 -4.0
MALT Malatya 143.78 307 PKIKP PKPdf 02 47 57.5 +0.3
MALT Malatya 143.78 307 *e*PKPdf PKPdf 02 47 57.2 +0.1
SIM Simferopol' 144.01 319⇓*d*PKIKP PKPdf 02 47 57.2 -0.3
SIM pmax pmax
comp=Z,163nm,0.8s
MUD Monsted U'grnd 144.11 353⇓*i*P PKPdf 02 47 56.3 -1.4
comp=Z,166nm,1.1s
COP Copenhagen 144.38 349 *i* P PKPdf 02 47 57.1 -1.1
comp=Z,73nm,0.9s
BSD Bornholm Skovb 144.44 347 *i* P PKPdf 02 47 56.9 -1.4
EAB Aberfoyle 144.59 6 *e*P PKPdf 02 47 57.3 -1.3
GZT Gaziantep 144.72 306 *i* P PKPdf 02 47 59.1 +0.3
EDI Edinburgh 144.94 5 *e*P PKPdf 02 47 58.2 -0.9
PGBU Glenifferbraes 144.94 6 *e*P PKPdf 02 47 58.2 -0.9
ESY Stoneypath 144.99 4 *e*P PKPdf 02 47 58.4 -0.8
EBL Broad Law 145.10 4 *e*P PKPdf 02 47 59.0 -0.5
GMK Mull of Kintyr 145.29 7 *e*P PKPdf 02 47 59.4 -0.3
WAR Warsaw 145.29 339 *e*PKP PKPdf 02 48 00.9 +1.1
GCL Cushendall 145.49 8 *e*P PKPdf 02 48 00.4 +0.3
EKA Eskdalemuir Ar 145.53 5 PKPbc PKPbc 02 48 00.1 -1.6
comp=Z,26nm,0.7s,baz=340,slow=2.0,SNR=40
EKA Eskdalemuir Ar 145.53 5 PKIKP PKPdf 02 48 00.1 -0.1
EKA pmax pmax
comp=Z,26nm,0.7s
ESK Eskdalemuir 145.54 5 *e*P PKPdf 02 48 00.2 0.0
ESK Eskdalemuir 145.54 5 *e*PKPdf PKPdf 02 47 58.8 -1.4
ESK *e*PKPbc PKPbc 02 48 00.2 -1.5
ESK *e*PKPab PKPab 02 48 02.2 -1.1
GKP Gorka Klasztor 145.56 343 *e*PKPdf PKPdf 02 48 01.0 +0.8
CTKT Corum 145.58 312 *i* P PKPdf 02 48 01.6 +1.4
KIS Kishinev 145.83 326 *e*PKIKP PKPdf 02 48 00.0 -0.7
KIS pmax pmax
comp=Z,150nm,1.0s
KIS Kishinev 145.83 326 *e*P PKPdf 02 48 00.0 -0.7
comp=Z,200nm,1.0s
GAL1 Galloway 145.86 6 P PKPdf 02 48 01.4 +0.7
GAL1 Galloway 145.86 6 *e*P PKPdf 02 48 00.8 +0.1
GAL1 *e*P 02 48 01.4
GCD Castle Douglas 145.93 6 *e*P PKPdf 02 48 01.1 +0.3
LVV L'vov 146.10 333 *i* PKIKP PKPdf 02 48 02.2 +1.1
BALT Daday 146.13 314 *i* P PKPdf 02 47 59.2 -2.0
AVNT Avonos 146.26 309 *i* P PKPdf 02 47 59.1 -2.2
GMM Mts of Mourne 146.33 8 *e*P PKPdf 02 48 03.3 +1.8
IAS Iasi 146.35 327 PKIKP PKPdf 02 48 03.5 +2.0
GIM North Isle of 146.45 6 *e*P PKPdf 02 48 02.6 +0.9
ASF Jabal al Asfar 146.51 297 PKPbc PKPbc 02 48 05.2 +0.8
comp=Z,26nm,0.7s,baz=342,slow=2.0,SNR=67
ASF Jabal al Asfar 146.51 297 PKP2 PKPab 02 48 05.2 -2.0
ASF pmax pmax
comp=Z,26nm,0.7s
WIM Isle of Man 146.57 7 *e*P PKPdf 02 48 02.8 +0.9
ELDT Eldivan 146.57 313 *i* P PKPdf 02 48 04.2 +2.3
BR131 Keskin Array S 146.75 311 *e*PKPdf PKPdf 02 48 01.9 -0.3
BR131 *e*PKPbc PKPbc 02 48 04.7 -0.3
BRTR Keskin Array B 146.75 311 PKPbc PKPbc 02 48 04.9 -0.1
comp=Z,27nm,0.7s,baz=128,slow=1.9,SNR=130
BRTR Keskin Array B 146.75 311 PKIKP PKPdf 02 48 04.9 +2.7
BRTR pmax pmax
comp=Z,27nm,0.7s
KWP Kalwaria 146.79 334 *e*PKPdf PKPdf 02 48 04.8 +2.5
KWP *e* 02 48 08.4
KWP Kalwaria 146.79 334 *e*PKPdf PKPdf 02 48 01.4 -0.9
KWP *e*PKPbc PKPbc 02 48 04.3 -0.8
KWP ⇓*e*PKP PKPdf 02 48 04.8 +2.5
KWP *e*PKPab PKPab 02 48 07.8 -0.6
KWP *e* 02 48 08.4
DCN Croghan 147.01 10⇓*i*P PKPdf 02 48 04.1 +1.5
RCY Rachaya 147.13 300 *e*P PKPbc 02 48 06.6 +0.6
RUE Ruedersdorf 147.14 346 *e*PKPbc PKPbc 02 48 05.3 -0.8
BHL Bhannes 147.16 300 *e*P PKPbc 02 48 06.3 +0.2
DLF Lyons Farm 147.17 9⇓*i*P PKPdf 02 48 04.3 +1.4
BURAR Bucovina Array 147.21 330⇑*i*P PKPbc 02 48 06.1 -0.1
DSB Dublin 147.24 9 *e*PKPdf PKPdf 02 48 01.8 -1.2
DSB *e*PKPbc PKPbc 02 48 04.6 -1.7
DSB *e*PKPab PKPab 02 48 08.9 -1.3
ANTO Ankara 147.28 312⇓*i*P PKPbc 02 48 06.4 0.0
ANTO Ankara 147.28 312 PKP2 PKPbc 02 48 06.6 +0.2
ANTO Ankara 147.28 312 *e*PKPdf PKPdf 02 48 02.8 -0.3
ANTO *e*PKPbc PKPbc 02 48 06.4 0.0
WCB1 Church Bay 147.34 7 *e*P PKPdf 02 48 04.9 +1.7
CFR Carcaliu 147.36 324 PKP2 PKPbc 02 48 07.2 +0.6
OJC Ojcow 147.41 338 *e*PKP PKPdf 02 48 06.2 +2.9
WLF1 Llynfaes 147.44 6 *e*P PKPdf 02 48 05.3 +1.9
YRC Rhoscolyn 147.46 7 *e*P PKPdf 02 48 04.6 +1.2
SGKT Sivrigoynuk 147.47 314 *i* P PKPdf 02 48 02.4 -1.0
KOLS Kolonicke sedl 147.51 334 *e*PKP PKPbc 02 48 06.8 -0.2
STHS Stebnicka Huta 147.53 336 *i* PKP PKPbc 02 48 07.2 +0.1
STHS *e* 02 48 11.6
STHS Stebnicka Huta 147.53 336 *i* PKP PKPbc 02 48 07.2 +0.1
STHS *e* 02 48 11.7
TIRR Tirgusor 147.65 323⇑*i*P PKPbc 02 48 06.9 -0.5
VRI Vrincioaia 147.67 326⇓*i*P PKPdf 02 48 06.7 +3.0
VRI Vrincioaia 147.67 326 P PKPbc 02 48 06.9 -0.5
UZH Uzhgorod 147.74 334⇑*i*PKIKP PKPdf 02 48 05.4 +1.6
HARR Harsova 147.78 323⇑*i*P PKPbc 02 48 08.7 +1.0
CRVS Cervenica-Dubn 147.86 335 *e*PKP PKPbc 02 48 07.3 -0.6
NIE Niedzica 147.89 337 *e*PKP PKPbc 02 48 08.0 0.0
SBE1 Bryn Du 147.93 5 *e*P PKPdf 02 48 07.0 +2.8
KSP Ksiaz 147.99 342 *e*PKPdf PKPbc 02 48 08.1 -0.1
KSP *e* 02 48 13.3
KSP Ksiaz 147.99 342⇓*i*PKP2 PKPbc 02 48 08.0 -0.2
KSP Ksiaz 147.99 342 *e*PKPdf PKPdf 02 48 03.8 -0.4
KSP ⇓*i*PKPdf PKPbc 02 48 08.0 -0.2
KSP *e*PKPab PKPab 02 48 12.9 -0.3
HENT Hendek 148.12 315 *i* P PKPbc 02 48 07.6 -1.0
OKC Ostrava-Krasne 148.29 339 *e*PKPDF PKPdf 02 48 04.1 -0.6
OKC ⇑*e*PKP PKPbc 02 48 08.6 -0.4
OKC *e*PKPAB PKPab 02 48 14.3 -0.2
MLR Muntele Rosu 148.33 326 PKPbc PKPbc 02 48 08.5 -0.5
comp=Z,40nm,0.6s,baz=338,slow=7.0,SNR=37
MLR Muntele Rosu 148.33 326⇓*i*P PKPbc 02 48 08.3 -0.8
MLR Muntele Rosu 148.33 326 P PKPbc 02 48 09.2 +0.1
KDHN Kadinhani 148.33 310 *i* P PKPbc 02 48 09.1 0.0
HLM1 Long Mynd 148.35 5 *e*P PKPdf 02 48 03.6 -1.2
IBBN Ibbenburen 148.35 353 *e*PKPbc PKPbc 02 48 08.5 -0.6
UPC Upice 148.37 342⇑*e*PKP PKPbc 02 48 08.9 -0.3
UPC *e*PKPAB PKPab 02 48 14.3 -0.5
CLL Collm 148.41 346 *e*PKPbc PKPbc 02 48 08.5 -0.8
CLL *e*PKPab PKPab 02 48 14.0 -0.9
CLL Collm 148.41 346 *e*PKP PKPdf 02 48 05.0 +0.1
CLL ⇓*i*PKP PKPbc 02 48 08.7 -0.6
CLL ⇑*i*PKP PKPab 02 48 14.0 -0.9
CLL Collm 148.41 346 *e*PKPdf PKPdf 02 48 05.0 +0.1
CLL ⇓*i*PKPbc PKPbc 02 48 08.7 -0.6
comp=Z,108nm,0.9s
CLL ⇑*i*PKPab PKPab 02 48 14.0 -0.9
comp=Z,73nm,0.7s
CLL *e*(pPKPbc) 02 50 23.0
DPC Dobruska-Polom 148.42 342 *e*PKPDF PKPdf 02 48 04.5 -0.4
DPC ⇑*e*PKP PKPbc 02 48 09.2 -0.1
DPC *e*PKPAB PKPab 02 48 15.2 +0.2
CLZ Clausthal 148.42 349 *e*PKPdf PKPdf 02 48 04.3 -0.6
CLZ *e*PKPbc PKPbc 02 48 08.8 -0.5
CLZ Clausthal 148.42 349 *e*PKHKP 02 48 08.8
AEU East Anglia Un 148.42 0 *e*P PKPdf 02 48 07.9 +3.0
MORC Moravsky Berou 148.54 340⇓*i*P PKPbc 02 48 09.4 -0.2
MORC Moravsky Berou 148.54 340 PKP2 PKPbc 02 48 09.7 +0.1
MORC Moravsky Berou 148.54 340 *e*PKPdf PKPdf 02 48 04.6 -0.5
MORC *e*PKPbc PKPbc 02 48 09.1 -0.5
MORC *e*PKPab PKPab 02 48 15.4 -0.1
EIL Elat 148.57 293 *e*PKPdf PKPdf 02 48 04.6 -0.5
EIL *e*PKPbc PKPbc 02 48 09.8 +0.1
EIL *e*PKPab PKPab 02 48 17.0 +1.4
KECS Kecovo 148.59 335 *i* PKP PKPbc 02 48 09.4 -0.3
KECS *e* 02 48 15.1
BRG Berggiesshubel 148.59 345 *e*PKPbc PKPbc 02 48 09.3 -0.4
BRG *e*PKPab PKPab 02 48 14.6 -1.1
BRG *e*pPKPbc pPKPbc 02 50 22.8 -1.8
BRG Berggiesshubel 148.59 345 *e*PKP PKPdf 02 48 04.8 -0.4
comp=Z,12nm,1.6s
BRG Berggiesshubel 148.59 345 *i* PKP PKPbc 02 48 09.2 -0.6
comp=Z,29nm,0.7s
BRG *i* 02 48 14.6
comp=Z,24nm,0.7s
BRG *e*pPKP pPKPdf 02 50 23.0 +1.0
comp=Z,6.9nm,1.3s
BRG Berggiesshubel 148.59 345 *e*PKHKP PKPdf 02 48 04.8 -0.4
BRG *i* 02 48 14.6
BRG Berggiesshubel 148.59 345 *e*PKP PKPdf 02 48 04.8 -0.4
BRG *i* PKP PKPbc 02 48 09.2 -0.6
BRG *i* 02 48 14.6
BRG *e*pPKP pPKPdf 02 50 23.0 +1.0
FBE Freiberg 148.68 345 *e*PKPbc PKPbc 02 48 09.5 -0.5
FBE *e*PKPab PKPab 02 48 15.3 -0.8
CSS Prodhromos 148.71 303 P PKPbc 02 48 09.9 -0.1
comp=Z,1.0nm,0.3s
CSS Prodhromos 148.71 303 *e*PKPdf PKPdf 02 48 05.0 -0.4
CSS *e*PKPbc PKPbc 02 48 09.9 -0.1
CSS *e*PKPab PKPab 02 48 16.4 +0.2
MAMC Mammari 148.74 304⇓P PKPbc 02 48 10.1 0.0
PVCC Panska Ves 148.74 344 *e*PKPDF PKPbc 02 48 04.1 -1.0
PVCC ⇑*e*PKP PKPbc 02 48 09.9 -0.2
WTSB Winterswijk 148.79 354⇓*e*PKiKP PKiKP 02 48 09.3 -1.9
comp=Z,136nm,0.8s
VOIR 148.82 327⇑*i*P PKPbc 02 48 10.2 -0.1
MCH1 Michaelchurch 148.86 5 P PKPdf 02 48 09.0 +3.4
MCH1 Michaelchurch 148.86 5 *e*P PKPdf 02 48 08.6 +3.0
MCH1 *e*P 02 48 09.0
DRGR 148.97 331⇓*i*P PKPdf 02 48 05.6 -0.2
DRGR 148.97 331 P PKPbc 02 48 10.4 -0.2
SZAC Souni-Zanaja 149.13 303 P PKPbc 02 48 10.9 -0.1
VYHS Vyhne 149.20 337 *i* PKP PKPbc 02 48 10.7 -0.5
VYHS *e* 02 48 17.8
ALFC Alevga 149.22 304⇓P PKPbc 02 48 10.5 -0.8
comp=Z,2.9nm,0.8s
ALFC Alevga 149.22 304⇓*e*P PKPbc 02 48 10.5 -0.8
HGH Gray Hill 149.23 5 *e*P PKPbc 02 48 10.1 -1.2
PRU Pruhonice 149.24 343⇑*e*PKP PKPbc 02 48 10.9 -0.4
PRU *e*PKPAB PKPab 02 48 17.5 -0.9
VRAC Vranov 149.26 340 PKPbc PKPbc 02 48 11.0 -0.4
comp=Z,18nm,0.8s,baz=6.6,slow=2.1,SNR=17
VRAC PKPab PKPab 02 48 18.2 -0.2
comp=Z,31nm,0.8s,baz=40,slow=2.8,SNR=14
VRAC Vranov 149.26 340⇓*i*P PKPbc 02 48 11.1 -0.2
VRAC Vranov 149.26 340 PKHKP PKPbc 02 48 11.0 -0.3
VRAC 02 48 18.2
VRAC pmax pmax
comp=Z,18nm,0.8s
VRAC Vranov 149.26 340 P PKPbc 02 48 11.2 -0.1
BUG Bochum--Univer 149.26 353 *e*PKPbc PKPbc 02 48 10.6 -0.8
PSZ Piszkesteto 149.27 335⇑*i*P PKPbc 02 48 10.9 -0.5
PSZ Piszkesteto 149.27 335 PKHKP PKPbc 02 48 11.1 -0.3
PSZ Piszkesteto 149.27 335 *e*PKPdf PKPdf 02 48 05.6 -0.7
PSZ *e*PKPbc PKPbc 02 48 10.9 -0.5
PSZ *e*PKPab PKPab 02 48 17.8 -0.7
PSZ Piszkesteto 149.27 335⇓*e*PKP PKPbc 02 48 10.9 -0.5
MOX Moxa 149.33 347 *e*PKPdf PKPdf 02 48 05.8 -0.6
MOX *e*PKPbc PKPbc 02 48 10.8 -0.7
MOX *e*PKPab PKPab 02 48 17.7 -1.0
MOX Moxa 149.33 347 *e*PKP PKPbc 02 48 10.8 -0.7
comp=Z,78nm,1.3s
MOX *e* 02 48 17.7
WERD Werda 149.37 346 *e*PKPdf PKPdf 02 48 05.8 -0.6
WERD *e*PKPbc PKPbc 02 48 11.3 -0.3
WERD *e*PKPab PKPab 02 48 18.0 -0.9
GUNZ Gunzen 149.44 346 *e*PKPbc PKPbc 02 48 11.6 -0.2
GUNZ *e*PKPab PKPab 02 48 18.6 -0.6
WERN Wernitzgruen 149.50 346 *e*PKPbc PKPbc 02 48 11.6 -0.3
WERN *e*PKPab PKPab 02 48 19.1 -0.4
PPCY Paphos 149.51 304⇓P PKPbc 02 48 11.1 -0.8
PPCY Paphos 149.51 304⇓*e*P PKPbc 02 48 11.1 -0.8
NKC Novy Kostel 149.54 346 *e*PKPDF PKPdf 02 48 06.8 +0.1
NKC ⇑*e*PKP PKPbc 02 48 11.4 -0.2
SMOL Smolenice 149.68 339 *i* PKP PKPbc 02 48 12.4 +0.1
SMOL *e* 02 48 20.4
ISP Isparta 149.76 310⇑*i*P PKPbc 02 48 11.7 -0.8
ISP Isparta 149.76 310 *e*PKPdf PKPdf 02 48 06.5 -0.6

ISP				*e*PKPbc	PKPbc	02 48 11.7	-0.8
ISP				*e*PKPab	PKPab	02 48 20.4	-0.1
TKTP	**Tekketepe**	**149.81 311**	*i* P	PKPbc	PKPbc	02 48 11.2	-1.4
MANZ	**Manzenberg**	**149.84 346**	*e*PKPbc	PKPbc	PKPbc	02 48 12.4	-0.3
ZIMR		**149.85 324**	PKHKP	PKPbc	PKPbc	02 48 12.6	-0.2
GDZ	**Gediz**	**149.92 313**	*i* P	PKPbc	PKPbc	02 48 11.8	-1.1
BUD	**Budapest**	**149.97 336**⇓	*e*PKP	PKPbc	PKPbc	02 48 12.5	-0.5
GZR	**Gura Zlata**	**149.98 329**⇑	*i*P	PKPbc	PKPbc	02 48 12.1	-1.0
GZR	**Gura Zlata**	**149.98 329**	P	PKPbc	PKPbc	02 48 12.5	-0.6
ROTZ	**Rotzenmuhle**	**150.03 346**	*e*PKPbc	PKPbc	PKPbc	02 48 12.5	-0.7
ROTZ			*e*PKPab	PKPab	PKPbc	02 48 20.6	-1.1
ZST	**Bratislava**	**150.06 339**	*i* PKP	PKPbc	PKPbc	02 48 13.1	-0.1
ZST			*e*			02 48 22.0	
BEBN	**Eben Emael**	**150.06 355**	PKPbc	PKPbc	PKPbc	02 48 12.8	-0.4
BEBN			PKPab	PKPab	PKPbc	02 48 20.6	-1.3
HGN	**Heimansgroeve** comp=Z,42nm,0.9s	**150.07 354**⇓	*e*PKiKP	PKiKP	PKiKP	02 48 12.5	-1.3
HGN			*ex*	x		02 48 20.7	
UCC	**Uccle**	**150.16 356**	PKP	PKPdf	PKPdf	02 48 04.6	-3.1
UCC			PKPbc	PKPbc	PKPbc	02 48 12.6	-0.8
UCC			PKPab	PKPab	PKPab	02 48 20.8	-1.4
MEM	**Membach**	**150.22 354**	PKP	PKPdf	PKPdf	02 48 07.3	-0.4
MEM			PKPbc	PKPbc	PKPbc	02 48 12.9	-0.7
MEM			E			02 48 18.9	
MEM			PKPab	PKPab	PKPab	02 48 21.2	-1.2
CRAR	**CRAIOVA**	**150.24 327**	PKIKP	PKPbc	PKPbc	02 48 14.3	+0.7
KHC	**Kasperske Hory**	**150.28 344**	*e*PKPDF	PKPdf	PKPdf	02 48 07.4	-0.5
KHC			⇑*e*PKP	PKPbc	PKPbc	02 48 13.5	-0.3
KHC			*e*PKPAB	PKPab	PKPab	02 48 22.4	-0.3
KHC	**Kasperske Hory**	**150.28 344**⇑	PKIKP	PKPab	PKPab	02 48 23.4	+0.7
TNS	**Taunus Mts**	**150.30 351**	*e*PKPbc	PKPbc	PKPbc	02 48 13.1	-0.7
TNS			*e*PKPab	PKPab	PKPab	02 48 21.9	-0.9
TNS			*ep*PKPbc	pPKPbc	02 50 25.0	-4.1	
TNS	**Taunus Mts**	**150.30 351**	*e*PKIKP	PKPbc	PKPbc	02 48 13.1	-0.7
TNS			*e*			02 48 21.9	
DYA	**Yadsworthy**	**150.31 7**	*e*P	PKPbc	PKPbc	02 48 12.1	-1.7
GRA1	**Grafenberg Arr**	**150.31 347**	*e*PKPbc	PKPbc	PKPbc	02 48 13.0	-0.8
GRA1			*e*PKPab	PKPab	PKPab	02 48 22.3	-0.6
GRF	**Grafenberg Arr**	**150.31 347**	*e*PKPbc	PKPbc	PKPbc	02 48 13.0	-0.8
GRF			*e*PKPab	PKPab	PKPab	02 48 22.3	-0.6
GRFO	**Grafenberg**	**150.31 347**	*e*PKIKP	PKPbc	PKPbc	02 48 13.6	-0.2
GRFO			*e*			02 48 22.2	
BZS	**Buzias**	**150.36 331**⇓	*i*P	PKPbc	PKPbc	02 48 13.2	-0.7
BZS	**Buzias**	**150.36 331**	P	PKPbc	PKPbc	02 48 13.3	-0.6
WET	**Wettzell**	**150.45 345**	*e*PKPbc	PKPbc	PKPbc	02 48 13.7	-0.4
WET			*e*PKPab	PKPab	PKPab	02 48 23.0	-0.4
WET			*ep*PKPbc	pPKPbc	PKPbc	02 50 24.8	-4.7
WET	**Wettzell**	**150.45 345**	*e*PKIKP	PKPbc	PKPbc	02 48 13.7	-0.4
WET			*e*			02 48 23.0	
SNF	**Seneffe**	**150.45 356**	PKPbc	PKPbc	PKPbc	02 48 13.5	-0.7
SNF			PKPab	PKPab	PKPab	02 48 22.1	-1.3
BCLA	**Clavier**	**150.47 355**	PKPbc	PKPbc	PKPbc	02 48 13.1	-1.1
BCLA			PKPab	PKPab	PKPab	02 48 22.3	-1.2
MENF	**Mencas**	**150.48 359**	PKP	PKPbc	PKPbc	02 48 13.5	-0.7
GEC2	**GERESS Array S**	**150.51 343**	*e*PKPbc	PKPbc	PKPbc	02 48 13.6	-0.7
GEC2			*e*PKPab	PKPab	PKPab	02 48 23.0	-0.7
GEC2	**GERESS Array S**	**150.51 343**	*e*PKPdf	PKPdf	PKPdf	02 48 08.0	-0.3
GEC2			*e*PKPbc	PKPbc	PKPbc	02 48 13.6	-0.7
GEC2			*e*PKPab	PKPab	PKPab	02 48 23.1	-0.6
GERES	**GERESS Array B** comp=Z,1.5nm,0.8s,baz=96,slow=1.3,SNR=14	**150.51 343**	PKP	PKPdf	PKPdf	02 48 07.5	-0.7
GERES				PKPbc	PKPbc	02 48 13.8	-0.5
	comp=Z,32nm,0.8s,baz=30,slow=2.2,SNR=154						
GERES				PKPab	PKPab	02 48 22.8	-0.9
	comp=Z,8.9nm,0.8s,baz=24,slow=3.6,SNR=9.0						
GERES	**GERESS Array B**	**150.51 343**		PKIKP	PKPdf	02 48 07.5	-0.7
GERES						02 48 22.8	
GERES	comp=Z,2.0nm,0.8s			pmax	pmax		
SOP	**Sopron**	**150.69 339**⇓	*e*PKP		PKPbc	02 48 14.3	-0.4
CONA	**Conrad Observa** comp=Z,6.8nm,1.6s	**150.70 340**⇑	*i*PKPdf		PKPdf	02 48 06.8	-1.7
CONA			⇓*i*PKiKP		PKiKP	02 48 14.6	-0.5
	comp=Z,36nm,0.6s,SNR=30						
CONA			⇓*i*PKPab		PKPab	02 48 25.3	+0.8
	comp=Z,23nm,0.7s						
ABH	**Alteburg**	**150.76 352**	PKP		PKPbc	02 48 14.1	-0.7
GIVF	**Givet**	**150.82 355**	*e*PKIKP		PKPdf	02 48 08.4	-0.3
DOU	**Dourbes**	**150.84 356**	PKPbc		PKPbc	02 48 14.2	-0.8
DOU			E			02 48 18.5	
DOU			PKPab		PKPab	02 48 23.9	-1.2
TOD	**Tromm**	**150.84 350**	PKIKP		PKPbc	02 48 14.1	-0.9
BAIF	**Baives**	**150.90 356**	*e*PKIKP		PKPdf	02 48 08.3	-0.5
RUP	**Ruppelstein**	**151.00 352**	PKIKP		PKPbc	02 48 15.2	-0.2
WLF	**Walferdange**	**151.13 354**	*e*PKPbc		PKPbc	02 48 15.5	-0.2
WLF			*e*PKPab		PKPab	02 48 25.4	-0.9
WLF	**Walferdange**	**151.13 354**	PKPbc		PKPbc	02 48 15.4	-0.3
WLF			PKPab		PKPab	02 48 25.3	-1.0
WLF	**Walferdange**	**151.13 354**	*e*PKPbc		PKPbc	02 48 15.5	-0.2
WLF			*e*PKPab		PKPab	02 48 25.5	-0.8
PKSM	**Moragy**	**151.16 335**⇑	*i*P		PKPdf	02 48 08.4	-0.8
PKSM	**Moragy**	**151.16 335**	P		PKPbc	02 48 15.2	-0.6
MOA	**Molln** comp=Z,19nm,0.5s,SNR=18	**151.26 342**⇓	*i*		PKPbc	02 48 14.4	-1.6
ARSA	**Arzberg** comp=Z,9.5nm,0.7s	**151.41 340**⇑	*i*		PKPbc	02 48 15.8	-0.6
ARSA	**Arzberg** comp=Z,1.3nm,0.7s	**151.41 340**⇑	*i*PKPdf		PKPdf	02 48 07.1	-2.4
ARSA			⇑*i*PKiKP		PKiKP	02 48 15.8	-0.8
	comp=Z,9.5nm,0.7s						
BEO	**Belgrade**	**151.50 331**	*i* P		PKPbc	02 48 14.8	-1.7
SVIS	**Svilajnac**	**151.54 329**	*i* P		PKPbc	02 48 15.7	-0.9
STU	**Stuttgart**	**151.58 349**	*e*PKPdf		PKPdf	02 48 09.3	-0.5
STU			*e*PKPbc		PKPbc	02 48 16.3	-0.4
STU			*e*PKPab		PKPab	02 48 26.9	-1.3
STU	**Stuttgart**	**151.58 349**	*e*PKPdf		PKPdf	02 48 09.7	-0.2
STU			*e*PKPbc		PKPbc	02 48 16.2	-0.5
STU			*e*PKPab		PKPab	02 48 27.1	-1.1
LANF	**Langenberg**	**151.60 351**	PKP		PKPbc	02 48 15.9	-0.8
VTS	**Vitosha**	**151.74 325**⇑	*i*P		PKPbc	02 48 16.4	-0.7
VTS	**Vitosha**	**151.74 325**	P		PKPbc	02 48 16.9	-0.2
FUR	**Furstenfeldbru**	**151.74 346**	*e*PKPbc		PKPbc	02 48 16.3	-0.8
FUR			*e*PKPab		PKPab	02 48 28.2	-0.7
KOGS	**Kog**	**151.86 338**	*i* PKPbc		PKPbc	02 48 16.2	-1.1
KOGS			*e*PKPab		PKPab	02 48 28.6	-0.8
PERS	**Pernice**	**152.08 340**	*i* PKPbc		PKPbc	02 48 16.7	-1.1
PERS			*e*PKPab		PKPab	02 48 29.7	-0.6
GRUS	**Gruza**	**152.08 329**	*i* P		PKPdf	02 48 09.5	-1.1
BFO	**Black Forest**	**152.16 350**	*e*PKPbc		PKPbc	02 48 17.0	-1.0
WLS	**Welschbruch**	**152.22 351**	PKP		PKPbc	02 48 17.4	-0.7
KBA	**Koelnbreinsper** comp=Z,20nm,0.6s,SNR=14	**152.22 342**⇓	*i*		PKPbc	02 48 17.0	-1.2
CDF	**Champ du Feu**	**152.23 352**	*e*PKIKP		PKPdf	02 48 10.6	-0.2
FLN	**La Foliniere**	**152.24 3**	*e*PKIKP		PKPdf	02 48 10.2	-0.6
DIVS	**Divcibare**	**152.26 330**	*i* P		PKPdf	02 48 10.1	-0.7
OBKA	**Obir** comp=Z,11nm,0.6s	**152.38 340**⇑	*i*		PKPbc	02 48 16.5	-1.9
MEZF	**Maizieres J'vi** comp=Z,29nm,0.9s	**152.39 355**	*e*PKIKP		PKPdf	02 48 10.7	-0.3
LDF	**La Druitiere** comp=Z,46nm,1.1s	**152.43 2**	*e*PKIKP		PKPdf	02 48 10.1	-1.0
WATA	**Walderalm** comp=Z,16nm,0.5s,SNR=12	**152.45 345**	*i*		PKPbc	02 48 17.7	-0.9
WATA	**Walderalm** comp=Z,17nm,0.6s	**152.45 345**⇓	*i*		PKPab	02 48 31.8	-0.1
WATA	**Walderalm** comp=Z,16nm,0.5s,SNR=12	**152.45 345**⇑	*i*PKPdf		PKPdf	02 48 10.2	-0.9
WATA			*i* PKiKP		PKiKP	02 48 17.7	-1.0
WATA	comp=Z,17nm,0.6s		⇓*i*PKPab		PKPab	02 48 31.8	-0.1
ROSF	**Rostrenen**	**152.45 7**	*e*PKIKP		PKPdf	02 48 11.0	-0.1
WTTA	**Wattenberg** comp=Z,37nm,0.6s	**152.50 345**⇓	*i*		PKPbc	02 48 18.3	-0.4
WTTA	**Wattenberg** comp=Z,47nm,0.6s	**152.50 345**⇑	*i*		PKPab	02 48 32.1	0.0
WTTA	**Wattenberg** comp=Z,9.6nm,0.9s	**152.50 345**⇑	*i*PKPdf		PKPdf	02 48 08.8	-2.4
WTTA	comp=Z,37nm,0.6s		⇓*i*PKiKP		PKiKP	02 48 18.3	-0.5
WTTA	comp=Z,47nm,0.6s		⇑*i*PKPab		PKPab	02 48 32.1	0.0
MOTA	**Moosalm** comp=Z,19nm,0.6s	**152.56 346**⇑	*i*		PKPbc	02 48 18.3	-0.6
MOTA	**Moosalm** comp=Z,30nm,0.7s	**152.56 346**⇓	*i*		PKPab	02 48 32.2	-0.1
MOTA	**Moosalm** comp=Z,5.7nm,0.7s	**152.56 346**⇑	*i*PKPdf		PKPdf	02 48 10.4	-0.9
MOTA	comp=Z,19nm,0.6s		⇑*i*PKiKP		PKiKP	02 48 18.3	-0.7
MOTA	comp=Z,30nm,0.7s		⇓*i*PKPab		PKPab	02 48 32.2	-0.1
GRR	**Gorron**	**152.60 3**	*e*PKIKP		PKPdf	02 48 10.6	-0.7
SGMF	**Saint Gilles**	**152.61 6**	*e*PKIKP		PKPdf	02 48 11.0	-0.3
SQTA	**Sankt Quirin** comp=Z,28nm,0.7s	**152.65 345**⇑	*i*		PKPbc	02 48 18.7	-0.3
SQTA	**Sankt Quirin** comp=Z,17nm,0.8s	**152.65 345**⇑	*i*		PKPab	02 48 33.0	+0.3
SQTA	**Sankt Quirin** comp=Z,4.6nm,0.7s	**152.65 345**⇑	*i*PKPdf		PKPdf	02 48 10.2	-1.2
SQTA	comp=Z,28nm,0.7s		⇑*i*PKiKP		PKiKP	02 48 18.7	-0.4
SQTA	comp=Z,17nm,0.8s		⇑*i*PKPab		PKPab	02 48 33.0	+0.3
FELD	**Feldberg im Sc**	**152.65 350**	*e*P		PKPbc	02 48 18.1	-0.9
BBLS	**Bajina Basta -**	**152.71 331**	*i* P		PKPbc	02 48 19.4	+0.3
HAU	**Haudompre**	**152.75 353**	*e*PKIKP		PKPdf	02 48 11.1	-0.4
LJU	**Ljubljana**	**152.79 340**	*e*PKPdf		PKPdf	02 48 11.0	-0.6
LJU			*i* PKPbc		PKPbc	02 48 18.6	-0.8
LJU	**Ljubljana**	**152.79 340**	*i* PKPbc		PKPbc	02 48 18.6	-0.8
MOF	**Molkenrain**	**152.80 352**	PKP		PKPbc	02 48 17.6	-1.8
FVI	**Forni Avoltri**	**152.82 343**	PKIKP		PKPbc	02 48 17.9	-1.5
PTCC	**Patocco-Chiusa**	**152.83 342**	P		PKPbc	02 48 18.1	-1.3
HINF	**Hinteralfeld**	**152.87 352**	*e*PKIKP		PKPdf	02 48 11.2	-0.5
DAVA	**Damuels** comp=Z,31nm,1.1s	**152.88 347**⇓	*i*		PKPbc	02 48 19.8	+0.3
DAVA	**Damuels** comp=Z,36nm,1.1s	**152.88 347**⇑	*i*		PKPab	02 48 33.3	-0.4
DAVA	**Damuels** comp=Z,31nm,1.1s	**152.88 347**			PKPbc	02 48 19.8	+0.3
QUIF	**Quistinic**	**152.88 7**	*e*PKIKP		PKPdf	02 48 11.3	-0.4
VAY	**Valandovo**	**152.95 323**	*e*PKIKP		PKPdf	02 48 12.1	+0.2
VOY	**Vojsko**	**153.01 341**	*e*PKPdf		PKPdf	02 48 14.4	+2.5
VOY			*e*PKPbc		PKPbc	02 48 18.3	-1.5
VOY			*e*PKPab		PKPab	02 48 32.3	-2.0
BOJS	**Bojanci**	**153.03 338**	*i* PKPbc		PKPbc	02 48 19.4	-0.5
SKO	**Skopje**	**153.12 326**	*e*PKP		PKPdf	02 48 12.8	+0.7
APPI	**Appiano**	**153.34 345**	P		PKPbc	02 48 18.8	-1.7
DAVOX	**Davos** comp=Z,6.0nm,0.7s,baz=65,slow=17,SNR=7.2	**153.36 347**	PKP		PKPdf	02 48 11.8	-0.6
DAVOX				PKPbc	PKPbc	02 48 20.3	-0.3
	comp=Z,35nm,0.6s,baz=221,slow=2.1,SNR=50						
DAVOX				PKPab	PKPab	02 48 35.4	-0.4
	comp=Z,23nm,0.8s,baz=9.2,slow=6.0,SNR=9.1						
BRMO	**Bormio**	**153.54 346**	P		PKPbc	02 48 20.8	-0.2
CTI	**Castel Tesino**	**153.63 344**	PKIKP		PKPbc	02 48 20.0	-1.2
KRUS	**Krusevo**	**153.64 325**	*e*PKP		PKPdf	02 48 13.6	+0.8
KRUS			*e*PKP		PKPbc	02 48 20.7	-0.5
LOR	**Lormes** comp=Z,24nm,1.0s	**153.71 356**	*e*PKIKP		PKPdf	02 48 12.6	-0.3
HYF	**Humbligny**	**153.76 358**	*e*PKIKP		PKPdf	02 48 12.6	-0.4
SSF	**Saint Saulge** comp=Z,8.5nm,0.7s	**153.93 357**	*e*PKIKP		PKPdf	02 48 12.4	-0.8
SANT	**Santorini**	**154.02 311**	*e*PKPdf		PKPdf	02 48 13.1	-0.3
SANT			*e*PKPbc		PKPbc	02 48 20.4	-1.5
SANT			*e*PKPab		PKPab	02 48 37.6	-1.0
OHR	**Ohrid**	**154.06 325**	*e*PKP		PKPdf	02 48 13.7	+0.3
CABF	**La Chapelle** comp=Z,47nm,1.2s	**154.16 353**	*e*PKIKP		PKPdf	02 48 13.9	+0.4
AVF	**Avril sur Loir**	**154.21 357**	*e*PKIKP		PKPdf	02 48 13.3	-0.3
SMF	**Signal de Mont**	**154.33 356**	*e*PKIKP		PKPdf	02 48 13.4	-0.4
MFF	**Saint Martin d**	**154.42 2**	*e*PKIKP		PKPdf	02 48 13.3	-0.6
BGF	**Bois d'Agland**	**154.47 358**	*e*PKIKP		PKPdf	02 48 13.6	-0.3
TCF	**Toulx Ste Croi**	**154.75 359**	*e*PKIKP		PKPdf	02 48 13.6	-0.7
IDI	**Anoyia** comp=Z,6.8nm,0.8s,baz=31,slow=16,SNR=5.1	**154.95 310**	PKP		PKPdf	02 48 14.6	0.0
IDI				PKPbc	PKPbc	02 48 24.9	+10
	comp=Z,11nm,0.7s,baz=5.7,slow=13,SNR=10						
IDI				PKPab	PKPab	02 48 41.6	-1.0
	comp=Z,7.7nm,0.4s,baz=48,slow=12,SNR=8.5						
LPL	**La Plagne** comp=Z,11nm,0.8s	**155.15 351**	*e*PKIKP		PKPdf	02 48 14.8	-0.1
LPG	**La Plagne** comp=Z,25nm,1.1s	**155.16 351**	*e*PKIKP		PKPdf	02 48 14.6	-0.3
BNI	**Bardonecchia**	**155.61 351**	*e*PKIKP		PKPdf	02 48 15.5	0.0
BNI			*e*			02 48 45.3	
RJF	**Les Rejaudoux**	**155.75 360**	*e*PKIKP		PKPdf	02 48 15.2	-0.5
ORIF	**Oris-en-Rattie**	**155.85 352**	*e*PKIKP		PKPdf	02 48 15.6	-0.2
MBDF	**Montbardon**	**155.91 351**	*e*PKIKP		PKPdf	02 48 15.8	-0.1
VIVF	**Saint-Julien-l**	**156.04 354**	*e*PKIKP		PKPdf	02 48 15.7	-0.3
LFF	**La Frestale**	**156.10 1**	*e*PKIKP		PKPdf	02 48 15.2	-0.9
CAF	**Calviac**	**156.12 359**	*e*PKIKP		PKPdf	02 48 15.7	-0.4
AQU	**L'Aquila**	**156.43 337**	*e*PKP2		PKPab	02 48 48.4	-0.6
EMAZ	**Mazaricos**	**156.43 19**	PKP		PKPdf	02 48 16.8	+0.2
EPON	**Pontenova**	**156.60 16**	PKP		PKPdf	02 48 16.4	-0.4
STS	**Santiago**	**156.62 19**	PKIKP		PKPdf	02 48 16.3	-0.5
SBF	**Sospel** comp=Z,114nm,1.3s	**156.64 349**	*e*PKIKP		PKPdf	02 48 16.4	-0.4
SMRF	**Simiane la Rot**	**156.81 352**	*e*PKIKP		PKPdf	02 48 16.7	-0.3
LASF	**Ste Croix** comp=Z,19nm,1.0s	**156.88 356**	*e*PKIKP		PKPdf	02 48 16.6	-0.5
EARI	**Arriondas**	**157.07 12**	PKP		PKPdf	02 48 16.4	-1.0
FRF	**La Foret Royal**	**157.07 350**	*e*PKIKP		PKPdf	02 48 17.0	-0.3
ELAN	**Lanestosa**	**157.45 9**	PKP		PKPdf	02 48 16.4	-1.5
ERUA	**La Rua**	**157.47 17**	PKIKP		PKPdf	02 48 17.7	-0.1
PGF	**Pioggiola**	**157.57 345**	*e*PKIKP		PKPdf	02 48 17.5	-0.5
TIP	**Timpagrande**	**157.59 327**	*e*PKPdf		PKPdf	02 48 17.8	-0.2
TIP			*e*PKPab		PKPab	02 48 53.9	-0.1
EALK	**Alkurruntz**	**157.69 6**	PKP		PKPdf	02 48 16.6	-1.5
MTLF	**Montolieu** comp=Z,33nm,1.4s	**157.70 358**	*e*PKIKP		PKPdf	02 48 17.6	-0.5
EPF	**Esparros** comp=Z,12nm,0.8s	**158.00 2**	*e*PKIKP		PKPdf	02 48 18.3	-0.2
ECAL	**Calabor**	**158.00 16**	PKP		PKPdf	02 48 17.3	-1.2
ETSF	**Etsaut** comp=Z,15nm,1.0s	**158.09 4**	PKIKP		PKPdf	02 48 18.3	-0.3
PBRG	**Braganca**	**158.13 17**	*e*PKPab		PKPab	02 48 55.8	-0.6
ECRI	**Cripan**	**158.19 8**	PKIKP		PKPdf	02 48 17.3	-1.4
EBIE	**Bielsa**	**158.34 3**	PKP		PKPdf	02 48 18.8	-0.1
PVRL	**Vila Real**	**158.34 19**	*e*PKPab		PKPab	02 48 56.6	-0.7
PVIS	**Viseu**	**158.80 20**	*e*PKPab		PKPab	02 48 58.5	-0.8
EMIR	**Miracle**	**159.13 360**	PKP		PKPdf	02 48 17.4	-2.5
ESAC	**San Caprasio**	**159.26 4**	PKP		PKPdf	02 48 18.5	-1.5
EPOB	**Poblet**	**159.69 1**	PKP		PKPdf	02 48 18.5	-2.0
PCBR	**Castelo Branco**	**159.72 20**	*e*PKPdf		PKPdf	02 48 20.9	+0.4
PCBR	**Castelo Branco**	**159.72 20**	*e*PKPab		PKPab	02 49 02.2	-1.2
GUD	**Guadarrama**	**159.84 12**	PKIKP		PKPdf	02 48 19.7	-0.9
PMAFR	**Mafra**	**159.86 25**	*e*PKPab		PKPab	02 49 03.3	-0.7
PLOU	**Loures**	**159.98 25**	*e*PKPab		PKPab	02 49 03.2	-1.3
ETOR	**Torete**	**160.01 8**	PKIKP		PKPdf	02 48 20.3	-0.5
ERTA	**Horta de San J**	**160.07 2**	PKP		PKPdf	02 48 20.1	-0.8
PESTR	**Estremoz**	**160.56 22**	*e*PKPdf		PKPdf	02 48 21.6	+0.2
PESTR	**Estremoz**	**160.56 22**	*e*PKPab		PKPab	02 49 05.9	-1.1
EMOS	**Mosqueruela**	**160.62 4**	PKP		PKPdf	02 48 20.7	-0.8
EVO	**Evora** comp=Z,20nm,0.9s	**160.71 23**	*e*PKPdf		PKPdf	02 48 21.0	-0.6
ESDC	**Sonseca Array** comp=Z,1.3nm,0.8s,baz=344,slow=3.2,SNR=5.3	**160.81 13**	PKP		PKPdf	02 48 21.4	-0.2
ESDC				PKPab	PKPab	02 49 07.2	-0.9
	comp=Z,6.5nm,0.7s,baz=344,slow=4.1,SNR=23						
ESDC				PP	PP	02 52 45.8	-7.2
	comp=Z,0.1nm,0.3s,baz=25,slow=18,SNR=2.3						
ESDC	**Sonseca Array**	**160.81 13**		PKP	PKPdf	02 48 21.2	-0.4
EBAD	**Badajoz**	**160.86 20**		PKP	PKPdf	02 48 21.1	-0.6
PBEJ	**Beja**	**161.22 23**	*e*PKPdf		PKPdf	02 48 22.8	+0.7
PBEJ	**Beja**	**161.22 23**	*e*PKPab		PKPab	02 49 09.0	-0.9
ETOS	**Mallorca**	**161.24 357**		PKP	PKPdf	02 48 20.4	-1.7
EGRO	**El Granado**	**161.79 23**		PKP	PKPdf	02 48 19.6	-3.1
EMIN	**Mina Concepcio**	**161.87 21**		PKP	PKPdf	02 48 20.2	-2.5
EIBI	**Ibiza**	**162.02 0**		PKP	PKPdf	02 48 19.6	-3.3
EVIA	**Vianos**	**162.09 10**		PKIKP	PKPdf	02 48 19.5	-3.5
EADA	**Adamuz**	**162.11 16**		PKP	PKPdf	02 48 21.5	-1.5
CCAN	**Las Canadas**	**162.11 63**		PKP	PKPdf	02 48 21.0	-2.0
ETOB	**Tobarra**	**162.22 8**		PKP	PKPdf	02 48 19.9	-3.2
EBEN	**Beniarda**	**162.28 4**		PKP	PKPdf	02 48 20.0	-3.1
EBAN	**Banos Encina**	**162.30 14**		PKIKP	PKPdf	02 48 19.8	-3.4
ELUQ	**Luque**	**162.76 15**		PKIKP	PKPdf	02 48 22.3	-1.3
EQES	**Quesada**	**162.80 12**		PKP	PKPdf	02 48 22.0	-1.6
EHUE	**Huescar**	**162.87 11**		PKIKP	PKPdf	02 48 22.3	-1.4
ESPR	**Espera**	**162.95 20**		PKP	PKPdf	02 48 22.4	-1.4
ELOJ	**Sierra Loja**	**163.18 16**		PKIKP	PKPdf	02 48 22.5	-1.5
ECOG	**Cogollos-Vega**	**163.20 14**		PKIKP	PKPdf	02 48 22.4	-1.6
CART	**Cartagena**	**163.32 7**	*e*PKPab		PKPab	02 49 18.2	-1.0
EMIJ	**Mijas**	**163.56 18**		PKP	PKPdf	02 48 21.6	-2.8
EBER	**Berja**	**163.71 12**		PKP	PKPdf	02 48 21.2	-3.3
KEST	**Kesra** comp=Z,6.6nm,0.9s,baz=265,slow=1.2,SNR=13	**163.75 336**		PKPab	PKPab	02 49 21.0	0.0
LIC	**Lamto** comp=Z,42nm,1.0s	**164.05 156**	*e*PKIKP		PKPdf	02 48 24.2	-0.6
CFTV	**Fuerteventura**	**164.10 59**		PKP	PKPdf	02 48 18.4	-6.5
EBNR	**Beni Rached**	**164.75 360**		P	PKPab	02 49 26.0	+0.5
EMHD	**Djebel Mahouad**	**164.78 355**		P	PKPab	02 49 25.2	-0.4
ECHA	**Ech Chlef**	**164.89 0**		P	PKPab	02 49 26.5	+0.4
EANR	**`Ain N'Sour**	**165.09 1**		P	PKPab	02 49 27.5	+0.5
ETRT	**Tiaret**	**165.65 0**		P	PKPab	02 49 29.1	-0.3
TOA0	**Torodi Ar. Sit**	**172.20 182**	*e*PKPdf		PKPdf	02 48 29.3	-0.9
TOA0			*e*PKPab		PKPab	02 49 57.4	-1.1
TORD	**Torodi Ar. Bea** comp=Z,7.6nm,0.8s,baz=322,slow=0.9,SNR=45	**172.20 182**	PKP		PKPdf	02 48 29.4	-0.8
TORD				PKPab	PKPab	02 49 57.1	-1.4
	comp=Z,2.2nm,0.9s,baz=168,slow=4.0,SNR=5.7						
TORD				pPKPab	pPKPab	02 52 05.4	-1.8
	comp=Z,1.4nm,0.8s,baz=172,slow=3.0,SNR=5.3						

IDC ***11*** *02:48:34.8±2.4, 1657S×17539W, h203km±39km, mb3.9/4, mb1 4.0/5, mb1mx3.5/15, mbtmp3.9/5, Error ellipse: s-maj=41.2km s-min=26.1km az=112.0*
ISCJB ***11*** *02:48:37.9±0.8, 163S±02×1749W±02, h300km, mb4.0/4, Error ellipse: s-maj=40.2km s-min=10.1km az=106.4*

ISC 11 02:48:39.1±0.8, 163S±02×1748W±02, h300km, n8, σ0.932/8, mb4.0/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.77**	**51**	P		**Pn**	**02 49 43.0**	**+0.3**
	12nm,0.3s,baz=40,slow=2.3,SNR=12							
AFI				S		**S**	**02 50 33.6**	**-0.2**
	34nm,0.3s,baz=354,slow=22,SNR=15							
URZ	**Urewera**	**22.98**	**197**	P		**P**	**02 53 17.8**	**-0.1**
	6.1nm,0.5s,mb4.2,baz=102,slow=2.6,SNR=9.0							
ARMA	**Armidale**	**33.73**	**239**	*e*P		**P**	**02 54 52.6**	**-0.2**
STKA	**Stephens Creek**	**42.42**	**240**	*e*P		**P**	**02 56 05.0**	**+0.1**
	3.9nm,0.4s,mb4.0							
STKA	**Stephens Creek**	**42.42**	**240**	P		**P**	**02 56 05.2**	**+0.3**
	5.5nm

ARNR	**Ardon**	**0.48**	**285**	*e*PG	Pg	04 01 13.5	+1.3
ARNR				*i* S	Sg	04 01 23.0	+4.3
LACR	**Lac**	**0.52**	**242**	⇑*i*PG	Pg	04 01 13.5	+0.7
LACR				*i* S	Sg	04 01 22.9	+3.2
KORR	**Kora**	**0.62**	**272**	*e*PG	Pg	04 01 16.0	+1.2
KORR				*e*S	Sg	04 01 27.3	+4.2
TRKR	**Terskaya**	**0.67**	**349**	*e*PG	Pg	04 01 16.4	+0.7
TRKR				*e*S	Sg	04 01 27.8	+3.2
ZEI	**Tsey**	**0.80**	**249**	⇑*i*PG	Pg	04 01 18.8	+0.6
ZEI				*i* S	Sb	04 01 32.1	+3.5
DIGR	**Digorskoe uzhe**	**0.99**	**261**	⇓*i*PG	Pg	04 01 22.5	+0.7
DIGR				*i* S	Sb	04 01 38.5	+4.5

ISCJB ***11*** *04:13:48.9±0.8, 18.10S±009×178.40W±007, h564km±11km, mb4.2/26, Error ellipse: s-maj=14.8km s-min=9.0km az=115.8*
NEIC ***11*** *04:13:50.5±0.8, 1809S×178.38W, h573km±9km, mb4.4/14, Error ellipse: s-maj=13.3km s-min=7.7km az=146.0*
BJI ***11*** *04:13:50.4, 18.10S×178.40W, h572km, mB4.5, mb4.4*
IDC ***11*** *04:13:50.5±1.6, 18.10S×178.38W, h569km±18km, mb3.7/14, mb1 3.8/16, mb1mx3.8/20, mbtmp3.7/16, Error ellipse: s-maj=15.8km s-min=11.6km az=148.0*

ISC 11 04:13:50.8±1.0, 1817S±009×17835W±008, h573km±12km, n68, σ0°91/56, mb4.2/26, 3C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.61**	**57**	P	**P**	**04 15 44.2**	**-1.2**
	21nm,0.3s,baz=26,slow=1.8,SNR=17						
AFI				S	**S**	**04 17 14.0**	**-5.4**
	2.1nm,0.3s,baz=34,slow=7.3,SNR=2.6						
AFI	**Afiamalu**	**7.61**	**57**	*e*Pn	**P**	**04 15 44.5**	**-0.9**
	188nm,0.8s						
DZM	**Mont Dzumac**	**14.79**	**252**	P	**P**	**04 16 57.8**	**0.0**
	1.7nm,0.3s,baz=86,slow=18,SNR=14						
URZ	**Urewera**	**20.41**	**190**	P	**P**	**04 17 47.9**	**-1.4**
	18nm,0.7s,baz=37,slow=4.6,SNR=5.8						
ARMA	**Armidale**	**29.86**	**240**	*e*P	**P**	**04 19 14.0**	**+1.4**
CNB	**Canberra Magne**	**33.31**	**233**	*e*P	**P**	**04 19 43.4**	**+1.4**
	24nm,0.5s,mb5.1						
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**04 19 53.2**	**+0.9**
	44nm,0.8s,mb5.1,baz=86,slow=5.8,SNR=27						
PMG	**Port Moresby**	**34.55**	**280**	*e*P	**P**	**04 19 53.0**	**+0.6**
	53nm,0.9s,mb5.2						
TOO	**Toolangi**	**37.05**	**231**	*e*P	**P**	**04 20 14.0**	**+1.1**
	12nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**38.55**	**241**	⇑*i*P	**P**	**04 20 26.3**	**+1.2**
	6.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**04 20 26.2**	**+1.1**
	7.9nm,0.5s,mb4.5,baz=86,slow=9.0,SNR=27						
STKA	**Stephens Creek**	**38.55**	**241**	*e*P	**P**	**04 20 25.9**	**+0.7**
WB2	**Warramunga Arr**	**44.62**	**260**	*e*P	**P**	**04 21 07.9**	**-5.0**
WB2				*e*		04 21 12.3	
WB2				*e*S	**S**	**04 27 03.0**	**-4.9**
WB2	**Warramunga Arr**	**44.62**	**260**	*e*P	**P**	**04 21 12.1**	**-0.8**
WB2				*e*S	**S**	**04 27 03.0**	**-4.9**
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**04 21 12.4**	**-0.6**
	5.6nm,0.5s,mb4.3,baz=95,slow=7.3,SNR=149						
WRA				PcP	PcP	04 22 43.6	+0.5
	1.3nm,0.4s,baz=90,slow=3.5,SNR=6.9						
WRA				S	**S**	**04 27 03.2**	**-4.8**
	0.4nm,0.7s,baz=94,slow=13,SNR=4.2						
AS31	**Alice Springs**	**44.77**	**254**	*e*P	**P**	**04 21 14.2**	**+0.1**
AS31				*e*S	**S**	**04 27 06.4**	**-3.5**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 21 14.2**	**+0.2**
	32nm,0.7s,mb5.0,baz=88,slow=8.5,SNR=132						
ASAR				PcP	PcP	04 22 43.6	+0.1
	2.4nm,0.5s,baz=93,slow=4.6,SNR=9.0						
ASAR				S	**S**	**04 27 07.8**	**-2.2**
	1.1nm,0.9s,baz=87,slow=16,SNR=9.4						
ASPA	**Alice Springs**	**44.77**	**254**	⇓*i*P	**P**	**04 21 14.3**	**+0.2**
ASPA				*e*S	**S**	**04 27 06.4**	**-3.6**
FORT	**Forrest**	**49.94**	**245**	*e*P	**P**	**04 21 52.2**	**-0.5**
	12nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	*e*P	**P**	**04 22 15.2**	**+0.2**
	3.7nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**04 22 15.2**	**+0.2**
	2.5nm,0.5s,mb3.8,baz=85,slow=21,SNR=26						
MBWA	**Marble Bar**	**58.06**	**256**	*e*P	**P**	**04 22 49.2**	**-0.6**
	6.9nm,0.6s,mb4.0						
KLBR	**Kellerberrin**	**58.76**	**244**	*e*P	**P**	**04 22 53.6**	**-0.9**
	20nm,1.1s,mb4.2						
VNDA	**Vanda**	**60.19**	**185**	P	**P**	**04 23 04.8**	**+0.8**
	0.8nm,0.7s,mb3.0,baz=350,slow=7.1,SNR=11						
VNDA	**Vanda**	**60.19**	**185**	*e*P	**P**	**04 23 04.8**	**+0.8**
	0.6nm,0.6s,mb3.0						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**04 23 53.2**	**-1.1**
	2.4nm,0.5s,mb3.9,baz=152,slow=6.3,SNR=7.5						
QSPA	**South Pole Qui**	**71.89**	**180**	*e*P	**P**	**04 24 17.2**	**+0.7**
	10nm,0.9s,mb4.4						
KSM	**Kuching**	**72.77**	**277**	*e*P	**P**	**04 24 21.7**	**+0.1**
ISA	**Isabella**	**77.96**	**46**	*e*P	**P**	**04 24 51.0**	**+0.6**
NVAR	**Mina Array Bea**	**79.58**	**44**	P	**P**	**04 24 59.9**	**+0.9**
	2.6nm,0.7s,mb3.7,baz=232,slow=8.6,SNR=14						
MAW	**Mawson**	**83.63**	**200**	P	**P**	**04 25 19.5**	**-0.1**
	3.1nm,0.7s,mb4.0,baz=98,slow=6.3,SNR=4.9						
PSI	**Prapat**	**83.96**	**275**	P	**P**	**04 25 21.1**	**-0.1**
	6.1nm,0.8s,mb4.2,baz=239,slow=3.5,SNR=7.2						
MCK	**McKinley**	**84.78**	**13**	*e*P	**P**	**04 25 23.1**	**-2.1**
	3.2nm,1.0s,mb3.9						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**04 25 33.2**	**+1.7**
	2.4nm,0.7s,mb3.9,baz=217,slow=5.9,SNR=21						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**04 25 33.2**	**+1.7**
ANMO	**Albuquerque**	**86.22**	**51**	*e*P	**P**	**04 25 32.6**	**+0.5**
	16nm,2.2s,mb4.3						
XAN	**Xi'an**	**86.46**	**307**	P	**P**	**04 25 33.5**	**+0.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**04 25 38.4**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=228,slow=3.6,SNR=12						
KMI	**Kunming**	**88.00**	**297**	P	**P**	**04 25 41.8**	**+1.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
KMI	**Kunming**	**88.00**	**297**	P	**P**	**04 25 41.8**	**+1.3**
	comp=Z,7.0nm,1.3s,mb4.2						
SYO	**Syowa Base**	**88.91**	**193**	⇑*e*P	**P**	**04 25 43.3**	**-1.4**
CHTO	**Chiang Mai**	**89.14**	**290**	*e*P	**P**	**04 25 46.2**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.2						
CD2	**Chengdu**	**89.25**	**303**	*e*P	**P**	**04 25 45.8**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
SNAA	**Sanae**	**90.34**	**179**	⇓*i*	**P**	**04 25 50.2**	**-1.1**
SNAA				*e*		04 25 51.0	
SNAA	**Sanae**	**90.34**	**179**	*e*P	**P**	**04 25 50.4**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.1						
VNA3	**Neumayer Olymp**	**90.48**	**176**	⇓*i*	**P**	**04 25 51.3**	**-0.7**
VNA3				*e*		04 25 52.7	
VNA2	**Neumayer--Watz**	**90.92**	**177**	⇓*i*	**P**	**04 25 53.7**	**-0.3**
	baz=191,slow=4.3						
VNA2				*e*		04 25 55.0	
VNA2				*e*		04 26 04.5	
VNA2				*e*		04 26 11.6	
VNA1	**Neumayer--Stat**	**91.14**	**177**	*e*	**P**	**04 25 55.4**	**+0.4**
VNA1				*e*		04 25 56.4	
VNA1				*e*		04 26 08.1	
VNA1				*e*		04 26 14.4	
SONM	**Songino Array**	**93.78**	**319**	P	**P**	**04 26 06.8**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.6,baz=130,slow=4.7,SNR=2.7						
BVAR	**Borovoye Array**	**117.08**	**321**	PKP	PKPdf	04 31 29.7	-1.5
	comp=Z,0.8nm,0.4s,baz=129,slow=2.1,SNR=5.3						
AKTK	**Aktyubinsk**	**125.10**	**319**	PKP	PKPdf	04 31 45.5	-1.0
AKTO	**Aktyubinsk**	**125.10**	**319**	PKP	PKPdf	04 31 45.5	-1.0
	comp=Z,0.3nm,0.3s,baz=39,slow=6.5,SNR=4.1						
ARCES	**ARCESS Array B**	**126.58**	**350**	PKP	PKPdf	04 31 47.5	-1.9
	comp=Z,2.0nm,0.8s,baz=64,slow=2.8,SNR=3.9						
FINES	**FINESS Array B**	**133.45**	**344**	PKP	PKPdf	04 31 59.2	-3.1
	comp=Z,1.8nm,0.9s,baz=64,slow=4.4,SNR=6.5						
BR131	**Keskin Array S**	**145.00**	**315**	*e*PKPdf	PKPdf	04 32 23.4	+0.1
BRTR	**Keskin Array B**	**145.00**	**315**	PKP	PKPdf	04 32 23.4	+0.2
	comp=Z,3.6nm,0.9s,baz=120,slow=3.1,SNR=13						
STHS	**Stebnicka Huta**	**145.05**	**338**	*e*PKP	PKPdf	04 32 23.7	+0.4
KOLS	**Kolonicke sedl**	**145.06**	**336**	*e*PKP	PKPdf	04 32 24.0	+0.6
NIE	**Niedzica**	**145.38**	**338**	*e*P	PKPdf	04 32 24.9	+1.0
CLL	**Collm**	**145.73**	**347**	⇑*i*PKPbc	PKPbc	04 32 25.5	-0.7
	comp=Z,9.0nm,0.9s						
MLR	**Muntele Rosu**	**146.08**	**329**	PKPbc	PKPbc	04 32 27.8	+0.6
	comp=Z,2.8nm,0.7s,baz=328,slow=9.5,SNR=3.5						
KECS	**Kecovo**	**146.11**	**337**	*e*PKP	PKPdf	04 32 26.5	+1.4
VYHS	**Vyhne**	**146.68**	**339**	*e*PKP	PKPdf	04 32 28.3	+2.2
GRA1	**Grafenberg Arr**	**147.62**	**348**	*e*PKP	PKPdf	04 32 30.9	+3.3
GRF	**Grafenberg Arr**	**147.62**	**348**	*e*PKP	PKPdf	04 32 30.9	+3.3
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	PKPbc	04 32 31.3	-0.6
	comp=Z,2.5nm,0.7s,baz=18,slow=3.3,SNR=23						
DAVOX	**Davos**	**150.67**	**348**	PKPbc	PKPbc	04 32 38.4	-0.3
	comp=Z,6.5nm,0.7s,baz=272,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**175.00**	**181**	PKP	PKPdf	04 32 54.5	-0.7
	comp=Z,0.8nm,1.0s,baz=271,slow=0.1,SNR=4.1						
TORD				PKPab	PKPab	04 34 35.1	+0.3
	comp=Z,0.3nm,0.7s,baz=198,slow=2.9,SNR=5.6						

WEL 11 04:27:22.9±0.2, 3709S×17752E, h5km, ML3.5/4, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.51**	**211**	P	**Pg**	**04 27 33.2**	**+0.4**
WIZ				SG	Sg	04 27 40.0	+0.6
MXZ	**Matakaoa Point**	**0.79**	**127**	P*	Pb	04 27 37.5	-1.6
MXZ				S*	Sb	04 27 48.7	-1.4
URZ	**Urewera**	**1.21**	**195**	P*	Pb	04 27 44.2	-2.2
MWZ	**Matawai**	**1.25**	**180**	P*	Pb	04 27 44.7	-2.2
WCZ	**Waipu Caves**	**2.80**	**293**	PN	Pn	04 28 07.6	-0.7

STR ***11*** *04:38:15.3±0.1, 4298N×024E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***11*** *04:38:15.2±0.0, 4297N×023E, h12km, Md1.9/2, Ml1.7/4, Error ellipse: s-maj=1.1km s-min=0.5km az=176.0*

ISC 11 04:38:14.6±0.8, 4300N±005×023E±003, h18km±7km, n10, σ0°15/16, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.08**	**70**	*e*Pg	**Pg**	**04 38 18.3**	**+0.2**
EPF				*e*Sg	**Sg**	**04 38 20.4**	**0.0**
	71nm,0.2s						
LABF	**Labassere**	**0.12**	**292**	Pg	**Pg**	**04 38 18.7**	**+0.2**
LABF				Sg	**Sg**	**04 38 20.9**	**-0.2**
VIEF	**Viey**	**0.19**	**232**	Pg	**Pg**	**04 38 19.4**	**0.0**
MELF	**Melles**	**0.41**	**108**	Pg	**Pg**	**04 38 23.3**	**+0.3**
MELF				Sg	**Sg**	**04 38 28.7**	**0.0**
ETSF	**Etsaut**	**0.59**	**260**	*e*Pg	**Pg**	**04 38 26.5**	**+0.2**
ETSF				*e*Sg	**Sg**	**04 38 34.1**	**-0.2**
	3.8nm,0.2s						
SALF	**Salau**	**0.74**	**109**	Pg	**Pg**	**04 38 29.0**	**-0.2**
SJPF	**Ste Jean**	**1.07**	**276**	*e*Pg	**Pg**	**04 38 35.5**	**+0.1**
SJPF				*e*Sg	**Sg**	**04 38 49.5**	**0.0**
	1.3nm,0.2s						
MTLF	**Montolieu**	**1.49**	**76**	*e*Pg	**Pg**	**04 38 43.3**	**-0.1**
MTLF				*e*Sg	**Sg**	**04 39 02.7**	**-0.1**
	0.9nm,0.2s						
LFF	**La Frestale**	**1.97**	**11**	*e*Sg	**Sg**	**04 39 18.3**	**+0.2**
	1.7nm,0.3s						
CAF	**Calviac**	**2.33**	**34**	*e*Sg	**Sg**	**04 39 29.6**	**-0.1**
	0.9nm,0.3s						

NEIC ***11*** *04:38:28.7, 3860S×175.75E, h163km, MG4.0(WEL), After WEL.*

WEL 11 04:38:31.2±0.4, 3860S×17586E, h144km±3km, ML3.6/8, 3C-2D, Error ellipse: s-maj=2.2km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.56**	**202**	P	Pn	04 38 52.3	+0.2
WTVZ	**West Tongariro**	**0.56**	**202**	PN	Pn	04 38 52.3	+0.2
TWVZ	**Taurewa**	**0.58**	**214**	P	Pn	04 38 52.2	0.0
TWVZ	**Taurewa**	**0.58**	**214**	PN	Pn	04 38 52.2	+0.1
NGZ	**Ngauruhoe**	**0.61**	**199**	P	Pn	04 38 52.7	+0.3
NGZ	**Ngauruhoe**	**0.61**	**199**	PN	Pn	04 38 52.7	+0.3
WPVZ	**Whakapapa**	**0.65**	**202**	P	Pn	04 38 53.0	+0.4
WPVZ	**Whakapapa**	**0.65**	**202**	PN	Pn	04 38 53.0	+0.3
TUVZ	**Tukino**	**0.69**	**193**	P	Pn	04 38 53.3	+0.4
TUVZ	**Tukino**	**0.69**	**193**	⇑PN	Pn	04 38 53.3	+0.5
FWVZ	**Far West T-bar**	**0.70**	**200**	P	Pn	04 38 53.2	+0.3
FWVZ	**Far West T-bar**	**0.70**	**200**	PN	Pn	04 38 53.2	+0.2
WNVZ	**Wahianoa**	**0.76**	**195**	P	Pn	04 38 53.5	+0.1
WNVZ	**Wahianoa**	**0.76**	**195**	PN	Pn	04 38 53.5	+0.1
PKVZ	**Pokaka**	**0.80**	**210**	PN	Pn	04 38 53.4	-0.2
MOVZ	**Moawhango**	**0.81**	**186**	P	Pn	04 38 53.7	-0.1
MOVZ	**Moawhango**	**0.81**	**186**	⇑PN	Pn	04 38 53.7	0.0
MOVZ				SN	Sn	04 39 10.5	-0.5
URZ	**Urewera**	**1.04**	**72**	P	Pn	04 38 55.5	-0.2
URZ	**Urewera**	**1.04**	**72**	⇓PN	Pn	04 38 55.5	-0.2
URZ				SN	Sn	04 39 14.3	0.0
MWZ	**Matawai**	**1.34**	**79**	P	Pn	04 38 58.6	+0.1
MWZ				S	Sn	04 39 19.5	+0.1
MWZ	**Matawai**	**1.34**	**79**	PN	Pn	04 38 58.6	+0.1
MWZ				SN	Sn	04 39 19.5	+0.1
WAZ	**Wanganui**	**1.34**	**210**	*e*P	Pn	04 38 58.0	-0.5
WAZ	**Wanganui**	**1.34**	**210**	PN	Pn	04 38 58.0	-0.5
TSZ	**Takapari Road**	**1.46**	**177**	*e*P	Pn	04 38 59.5	-0.3
TSZ	**Takapari Road**	**1.46**	**177**	PN	Pn	04 38 59.5	-0.3
TSZ				SN	Sn	04 39 21.3	-0.5
KNZ	**Kokohu**	**1.48**	**107**	*e*P	Pn	04 39 00.5	+0.5
KNZ	**Kokohu**	**1.48**	**107**	PN	Pn	04 39 00.5	+0.5
WPHZ	**Waipukurau**	**1.54**	**163**	PN	Pn	04 39 00.5	-0.1
WPHZ				SN	Sn	04 39 22.4	-0.6
MRZ	**Mangatainoka R**	**2.07**	**186**	P	Pn	04 39 05.1	-1.7
MRZ				S	Sn	04 39 31.1	-3.0
MRZ	**Mangatainoka R**	**2.07**	**186**	⇑PN	Pn	04 39 05.1	-1.6
MRZ				SN	Sn	04 39 31.1	-3.0
MXZ	**Matakaoa Point**	**2.19**	**63**	P	Pn	04 39 07.9	-0.3
MXZ	**Matakaoa Point**	**2.19**	**63**	PN	Pn	04 39 07.9	-0.3
KIW	**Kapiti Island**	**2.38**	**198**	P	Pn	04 39 08.1	-2.3
KIW	**Kapiti Island**	**2.38**	**198**	⇓PN	Pn	04 39 08.1	-2.3
CAW	**Cannon Point**	**2.58**	**193**	P	Pn	04 39 10.5	-2.5
CAW	**Cannon Point**	**2.58**	**193**	PN	Pn	04 39 10.5	-2.5
TRWZ	**Traveller**	**2.80**	**183**	PN	Pn	04 39 13.1	-2.6
MSWZ	**Moikau Station**	**2.85**	**189**	P	Pn	04 39 13.4	-3.0
MSWZ	**Moikau Station**	**2.85**	**189**	PN	Pn	04 39 13.4	-3.0
TCW	**Tory Channel**	**2.88**	**204**	P	Pn	04 39 13.7	-3.0
TCW	**Tory Channel**	**2.88**	**204**	PN	Pn	04 39 13.7	-3.1
QRZ	**Quartz Range**	**3.40**	**228**	*e*P	Pn	04 39 18.9	-4.5
QRZ	**Quartz Range**	**3.40**	**228**	PN	Pn	04 39 18.9	-4.5
KHZ	**Kahutara**	**4.21**	**204**	PN	Pn	04 39 29.9	-4.0

ISCJB ***11*** *05:12:17.9±0.5, 2445N±007×122.37E±003, h10km, mb3.6/6, MS3.8/1, Error ellipse: s-maj=9.5km s-min=3.9km az=15.7*
IDC ***11*** *05:12:19.0±2.0, 2441N×122.44E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/20, mbtmp3.5/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=162.0km s-min=22.3km az=64.0*
NEIC ***11*** *05:12:21.0±2.8, 2428N×122.14E, h12km±17km, mb3.9/2, Error ellipse: s-maj=31.3km s-min=11.3km az=77.0*
JMA ***11*** *05:12:21.8±0.2, 2481N×122.72E, h32km, M2.4*

ISC 11 05:12:19.2±0.5, 2447N±007×122.40E±003, h10km, n17, σ1°44/18, mb3.6/6, MS3.8/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.56**	**91**	P	**Pg**	**05 12 30.9**	**+0.9**
YOJ				S	**Sg**	**05 12 37.5**	**+0.1**
NACB	**Ninganchiao**	**0.79**	**248**	*e*Pg	**Pg**	**05 12 30.7**	**-3.7**
NACB				*e*Sg	**Sg**	**05 12 44.7**	**0.0**
YHNB	**Yeheng**	**0.95**	**282**	*e*Pg	**Pg**	**05 12 32.6**	**-4.8**
YHNB				*e*Sg	**Sg**	**05 12 46.2**	**-3.6**
TATO	**Taipei**	**0.97**	**301**	*e*Pg	**Pg**	**05 12 38.9**	**+1.1**
TATO				*e*Sg	**Sg**	**05 12 48.9**	**-1.5**
IRIF	**Iriomote-Funau**	**1.22**	**96**	P	**Pn**	**05 12 39.9**	**-2.4**
HATJ	**Hateruma jima**	**1.35**	**108**	P	**Pn**	**05 12 43.3**	**-0.8**
JKRS	**Kuro-shima**	**1.49**	**99**	P	**Pn**	**05 12 44.5**	**-1.5**
JIJ	**Ishigaki jima**	**1.59**	**94**	P	**Pn**	**05 12 45.8**	**-1.6**
JNU	**Nakatsue**	**11.38**	**39**	LR	LR	05 19 33.5	
	comp=Z,155nm,18.3s,baz=120,slow=38						
KSRS	**Korea Array**	**13.78**	**19**	LR	LR	05 20 57.2	
	comp=Z,45nm,19.7s,baz=344,slow=38						
SONM	**Songino Array**	**26.55**	**335**	P	**P**	**05 17 58.5**	**+1.3**
	0.5nm,0.7s,mb3.1,baz=155,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**38.91**	**315**	P	**P**	**05 19 47.5**	**+2.6**
	0.5nm,0.7s,mb3.4,baz=106,slow=8.9,SNR=5.9						
WRAB	**Tennant Creek**	**45.65**	**164**	*e*P	**P**	**05 20 40.5**	**+0.7**
	0.8nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**45.65**	**164**	P	**P**	**05 20 40.8**	**+1.0**
	1.4nm,0.7s,mb4.0,baz=344,slow=9.1,SNR=10						
CHKZ	**Chkalovo**	**48.20**	**321**	*e*P	**P**	**05 21 01.0**	**+1.2**
	0.8nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**49.14**	**166**	P	**P**	**05 21 08.1**	**+1.1**
	0.3nm,0.7s,mb3.4,baz=334,slow=6.2,SNR=5.5						
IDI	**Anoyia**	**81.98**	**305**	LR	LR	06 04 24.7	
	comp=Z,36nm,19.4s,MS3.8,baz=151,slow=38						

ISC 11 05:35:03.5±0.8, 483N±01×230E±01, h10km, n5, σ1°15/10, 1C, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLS	**Kolonicke sedl**	**0.81**	**323**	*e*PN	**Pn**	**05 35 20.1**	**-0.8**
KOLS				*e*SN	**Sn**	**05 35 32.0**	**-0.9**
CRVS	**Cervenica-Dubn**	**1.19**	**301**	*e*PN	**Pn**	**05 35 26.5**	**+0.3**
CRVS				*e*SN	**Sn**	**05 35 42.2**	**-0.3**
STHS	**Stebnicka Huta**	**1.62**	**315**	*e*PN	**Pn**	**05 35 33.6**	**+1.5**
STHS				*e*SN	**Sn**	**05 35 56.1**	**+3.1**
BURAR	**Bucovina Array**	**1.63**	**114**	⇑*i*P	**Pn**	**05 35 31.6**	**-0.6**
BURAR				S	**Sn**	**05 35 54.0**	**+0.7**
KECS	**Kecovo**	**1.69**	**277**	*e*PN	**Pn**	**05 35 31.0**	**-2.1**
KECS				*e*SN	**Sn**	**05 35 55.7**	**+0.9**

ISCJB ***11*** *05:37:45.0±5.1, 6.1S±03×146.7E±03, h96km±28km, mb3.5/3, Error ellipse: s-maj=61.3km s-min=26.7km az=82.1*
NEIC ***11*** *05:37:44.6±6.3, 6.03S×146.77E, h86km±21km, mb4.0/3, Error ellipse: s-maj=79.6km s-min=20.5km az=206.0*
IDC ***11*** *05:37:45.9±7.9, 6.13S×146.75E, h92km±50km, mb3.4/3, mb1 3.6/5, mb1mx3.3/15, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=83.8km s-min=48.0km az=53.0*

ISC 11 05:37:46.2±4.9, 61S±03×1467E±03, h88km±28km, n12, σ0°66/13, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.29**	**172**	P	**Pn**	**05 38 35.2**	**-0.4**
	16nm,0.3s,baz=40,slow=5.1,SNR=73						
PMG				S	**Sn**	**05 39 13.8**	**+0.1**
	16nm,0.3s,baz=286,slow=23,SNR=9.2						
CTA	**Charters Tower**	**13.88**	**182**	P	**Pn**	**05 41 02.2**	**+3.2**
	1.1nm,0.3s,baz=352,slow=14,SNR=6.2						
KAKA	**Kakadu**	**15.48**	**244**	*e*P	**Pn**	**05 41 20.0**	**+0.5**
	6.7nm,0.4s						
WRAB	**Tennant Creek**	**18.21**	**220**	*e*P	**Pn**	**05 41 52.8**	**-0.3**
	2.6nm,0.8s						
WB2	**Warramunga Arr**	**18.22**	**220**	*e*P	**Pn**	**05 41 52.8**	**-0.3**
WRA	**Warramunga Arr**	**18.23**	**220**	P	**Pn**	**05 41 52.5**	**-0.8**
	0.3nm,0.3s,baz=41,slow=12,SNR=16						
AS31	**Alice Springs**	**21.33**	**214**	*e*P	**P**	**05 42 26.2**	**+0.2**
ASAR	**Alice Springs**	**21.33**	**214**	P	**P**	**05 42 26.2**	**+0.2**
	0.5nm,0.4s,mb3.2,baz=53,slow=8.5,SNR=24						
ASAR				S	**S**	**05 46 27.3**	**+10**
	0.9nm,1.0s,baz=29,slow=22,SNR=4.4						
FITZ	**Fitzroy Crossi**	**23.72**	**238**	*e*P	**P**	**05 42 50.5**	**+0.4**
	6.6nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.72**	**238**	P	**P**	**05 42 50.2**	**+0.1**
	3.8nm,0.8s,mb3.8,baz=65,slow=12,SNR=8.8						
STKA	**Stephens Creek**	**26.05**	**190**	P	**P**	**05 43 10.8**	**-0.4**
	0.6nm,0.4s,mb3.4,baz=24,slow=12,SNR=3.3						
KSRS	**Korea Array**	**46.76**	**339**	LR	LR	06 06 26.1	
	comp=Z,25nm,18.3s,baz=252,slow=37						

ISCJB ***11*** *05:37:48.3±0.9, 3331N±004×140.79E±008, h66km±9km, mb3.6/2, Error ellipse: s-maj=11.5km s-min=6.6km az=33.5*
JMA ***11*** *05:37:49.2±0.1, 3333N×140.78E, h51km±5km, M3.1*
*ID

LZG	**Guadaloupe-1**	**5.14**	**122**	*e*P		**Pn**	**05 57 41.6**	**+2.5**

CASC 11 06:03:11.2±2.6, **931N**×**7917W, h75**km±14km, **MD4.2, 3C, Fault plane solution: NP1:**φ=209.15000°, δ82.56000°, λ=-13.06000°., **Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPA	**Univ. de Panam**	**0.48**	**228**	*i* P	Pn	06 03 25.7	+1.5
UPA				*e*S	Sn	06 03 35.2	+1.3
ACH	**Altos**	**0.98**	**229**	⇑*i*P	Pn	06 03 29.9	+0.1
ACH				*e*S	Sn	06 03 43.2	-0.3
UPD1	**Univ de Panama**	**1.37**	**123**	*e*S	Sn	06 03 51.9	-0.3
AZU	**Azuero**	**1.86**	**216**	⇑*e*P	Pn	06 03 41.7	+0.7
DVD	**David**	**3.35**	**255**	⇑*i*P	Pn	06 04 03.7	+2.5
DVD				*e*S	Sn	06 04 40.8	+0.9
LCR2	**La Lucha 2**	**4.78**	**276**	*e*P	Pn	06 04 22.9	+2.1
LCR2				*e*S	Sn	06 05 16.7	+1.9
PRS1	**Puriscal**	**5.11**	**278**	*e*P	Pn	06 04 28.1	+2.9

LDG ***11*** *06:08:18.3*±*1.3, 3930N*×*1584E, h270km, Mb3.7/11, Error ellipse: s-maj=30.4km s-min=5.9km az=131.0*

ISCJB ***11*** *06:08:25.9*±*0.6, 3972N*±*0.10*×*1529E*±*007, h276km*±*6km, mb3.5/5, Error ellipse: s-maj=16.3km s-min=6.4km az=40.4*

ROM ***11*** *06:08:26.3*±*0.5, 3970N*×*1520E, h270km*±*10km, Error ellipse: s-maj=24.6km s-min=9.7km az=49.0*

NEIC ***11*** *06:08:26.3, 3970N*×*1520E, h270km, MG3.0(ROM), After ROM.*

CSEM ***11*** *06:08:26.0*±*0.1, 3970N*×*1521E, h271km*±*1km, mb3.7/11, Error ellipse: s-maj=3.4km s-min=1.7km az=21.0*

IDC ***11*** *06:08:29.1*±*2.5, 3989N*×*1542E, h290km*±*21km, mb3.2/6, mb1 3.1/13, mb1mx3.0/27, mbtmp3.0/13, Error ellipse: s-maj=32.8km s-min=16.2km az=28.0*

ISC 11 06:08:26.8±0.6, **3974N**±010×**1530E**±007, **h271**km±6km, **n58,** σ**0**s**75/63, mb3.5/5, 4D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.47**	**57**	⇓*i*Pg	**Pn**	**06 09 02.8**	**+0.8**
	39nm,0.7s						
CARO	**Carolei**	**0.86**	**124**	⇓*i*Pg	**Pn**	**06 09 03.5**	**+0.1**
CARO				Sg	**S**	**06 09 30.9**	**-1.4**
TIP	**Timpagrande**	**1.26**	**116**	⇓*i*Pg	**Pn**	**06 09 06.1**	**+0.6**
TIP				Sg	**S**	**06 09 35.2**	**-1.0**
	120nm,1.3s						
TIP	**Timpagrande**	**1.26**	**116**	*e*Pn	**Pn**	**06 09 05.9**	**+0.3**
TIP				Sg	**S**	**06 09 35.2**	**-1.0**
GRI	**Girifalco**	**1.26**	**136**	Pg	**Pn**	**06 09 06.3**	**+0.8**
GRI				Sg	**S**	**06 09 35.9**	**-0.3**
SERS	**Sersale**	**1.29**	**123**	⇓*i*Pg	**Pn**	**06 09 06.2**	**+0.5**
SERS				Sg	**S**	**06 09 35.5**	**-1.0**
	119nm,0.3s						
SOI	**Samo**	**1.77**	**160**	Pg	**Pn**	**06 09 09.6**	**+0.5**
	14nm,0.2s						
PGF	**Pioggiola**	**5.52**	**303**	*e*P	**Pn**	**06 09 50.2**	**+0.7**
SBF	**Sospel**	**7.17**	**308**	*e*P	**Pn**	**06 10 09.4**	**-0.4**
LMR	**La Mourre**	**7.51**	**301**	*e*P	**Pn**	**06 10 13.6**	**-0.4**
	17nm,1.0s						
LMR	**La Mourre**	**7.51**	**301**	*e*P	**Pn**	**06 10 13.6**	**-0.4**
	8.7nm,1.0s						
FRF	**La Foret Royal**	**7.52**	**303**	*e*P	**Pn**	**06 10 14.0**	**-0.1**
	31nm,1.2s						
FRF	**La Foret Royal**	**7.52**	**303**	*e*P	**Pn**	**06 10 14.0**	**-0.1**
	16nm,1.2s						
MBDF	**Montbardon**	**8.05**	**311**	*e*P	**Pn**	**06 10 21.0**	**+0.3**
	9.8nm,0.7s						
MBDF	**Montbardon**	**8.05**	**311**	*e*P	**Pn**	**06 10 21.0**	**+0.3**
	4.9nm,0.7s						
DAVOX	**Davos**	**8.07**	**332**	P	**Pn**	**06 10 22.7**	**+1.7**
	baz=153,slow=18,SNR=3.9						
SMRF	**Simiane la Rot**	**8.40**	**303**	*e*P	**Pn**	**06 10 24.9**	**-0.2**
LPG	**La Plagne**	**8.53**	**315**	*e*P	**Pn**	**06 10 27.1**	**+0.4**
	15nm,1.1s						
LPG	**La Plagne**	**8.53**	**315**	*e*P	**Pn**	**06 10 27.1**	**+0.4**
	7.7nm,1.1s						
LPL	**La Plagne**	**8.55**	**315**	*e*P	**Pn**	**06 10 27.1**	**+0.1**
	13nm,0.9s						
LPL	**La Plagne**	**8.55**	**315**	*e*P	**Pn**	**06 10 27.1**	**+0.1**
	6.3nm,0.9s						
ORIF	**Oris-en-Rattie**	**8.68**	**310**	*e*P	**Pn**	**06 10 29.1**	**+0.5**
	5.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**8.68**	**310**	*e*P	**Pn**	**06 10 29.1**	**+0.5**
	2.8nm,0.6s						
IDI	**Anoyia**	**8.82**	**117**	P	**Pn**	**06 10 31.1**	**+0.7**
	0.6nm,0.3s,baz=10,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**9.18**	**353**	P	**Pn**	**06 10 35.3**	**+0.5**
	0.1nm,0.3s,baz=163,slow=14,SNR=2.9						
LASF	**Ste Croix**	**9.56**	**301**	*e*P	**Pn**	**06 10 39.4**	**-0.2**
CABF	**La Chapelle**	**9.61**	**319**	*e*P	**Pn**	**06 10 40.4**	**+0.2**
MLR	**Muntele Rosu**	**9.72**	**50**	P	**Pn**	**06 10 43.1**	**+1.5**
	0.4nm,0.3s,baz=233,slow=9.2,SNR=3.2						
HINF	**Hinteralfeld**	**10.12**	**326**	*e*P	**Pn**	**06 10 46.7**	**+0.2**
	5.0nm,0.6s						
HINF	**Hinteralfeld**	**10.12**	**326**	*e*P	**Pn**	**06 10 46.7**	**+0.2**
	2.5nm,0.6s						
CDF	**Champ du Feu**	**10.41**	**329**	*e*P	**Pn**	**06 10 50.0**	**-0.2**
	3.7nm,0.6s						
CDF	**Champ du Feu**	**10.41**	**329**	*e*P	**Pn**	**06 10 50.0**	**-0.2**
	1.9nm,0.6s						
HAU	**Haudompre**	**10.48**	**325**	*e*P	**Pn**	**06 10 51.4**	**+0.3**
SMF	**Signal de Mont**	**10.84**	**313**	*e*P	**Pn**	**06 10 55.5**	**0.0**
AVF	**Avril sur Loir**	**11.20**	**313**	*e*P	**Pn**	**06 11 00.1**	**+0.2**
	3.1nm,0.5s						
AVF	**Avril sur Loir**	**11.20**	**313**	*e*P	**Pn**	**06 11 00.1**	**+0.2**
	1.5nm,0.5s						
LOR	**Lormes**	**11.20**	**316**	*e*P	**Pn**	**06 11 00.0**	**0.0**
SSF	**Saint Saulge**	**11.27**	**314**	*e*P	**Pn**	**06 11 01.0**	**+0.2**
	2.8nm,0.5s						
SSF	**Saint Saulge**	**11.27**	**314**	*e*P	**Pn**	**06 11 01.0**	**+0.2**
	1.4nm,0.5s						
BGF	**Bois d'Agland**	**11.36**	**311**	*e*P	**Pn**	**06 11 01.9**	**0.0**
TCF	**Toulx Ste Croi**	**11.60**	**309**	*e*P	**Pn**	**06 11 04.8**	**0.0**
ETSF	**Etsaut**	**12.33**	**290**	*e*P	**Pn**	**06 11 13.6**	**-0.3**
BRTR	**Keskin Array B**	**14.12**	**84**	P	**Pn**	**06 11 37.2**	**+1.6**
	0.1nm,0.3s,baz=256,slow=10,SNR=4.9						
LDF	**La Druitiere**	**14.15**	**314**	*e*P	**Pn**	**06 11 36.0**	**0.0**
FLN	**La Foliniere**	**14.44**	**314**	*e*P	**Pn**	**06 11 39.6**	**+0.1**
GRR	**Gorron**	**14.46**	**312**	*e*P	**Pn**	**06 11 39.4**	**-0.2**
AKASG	**Malin Array Be**	**14.69**	**37**	P	**Pn**	**06 11 41.5**	**-0.9**
	0.9nm,0.3s,baz=229,slow=11,SNR=6.8						
ESDC	**Sonseca Array**	**14.83**	**276**	P	**Pn**	**06 11 49.7**	**+5.6**
	0.1nm,0.3s,baz=70,slow=11,SNR=4.1						
SGMF	**Saint Gilles**	**15.38**	**309**	*e*P	**Pn**	**06 11 50.8**	**+0.1**
QUIF	**Quistinic**	**15.61**	**308**	*e*P	**Pn**	**06 11 53.3**	**0.0**
ROSF	**Rostrenen**	**15.85**	**309**	*e*P	**Pn**	**06 11 54.0**	**-2.2**
EKA	**Eskdalemuir Ar**	**19.87**	**328**	P	**P**	**06 12 39.0**	**+1.1**
	0.2nm,0.3s,baz=145,slow=11,SNR=5.0						
HFS	**Hagfors**	**20.44**	**358**	P	**P**	**06 12 42.2**	**-1.8**
	3.5nm,0.8s,baz=158,slow=9.6,SNR=8.9						
NOA	**NORSAR Array B**	**21.48**	**355**	P	**P**	**06 12 53.7**	**-0.5**
	0.6nm,0.6s,mb3.1,baz=169,slow=7.8,SNR=2.3						
FINES	**FINESS Array B**	**22.72**	**13**	P	**P**	**06 13 04.8**	**-0.8**
	1.0nm,0.9s,mb3.2,baz=210,slow=8.0,SNR=2.7						
ARCES	**ARCESS Array B**	**30.35**	**7**	P	**P**	**06 14 11.9**	**-1.6**
	3.5nm,1.1s,mb3.8,baz=183,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**47.96**	**58**	P	**P**	**06 16 37.8**	**-0.6**
	0.5nm,0.3s,mb3.3,baz=284,slow=7.2,SNR=11						
SCHQ	**Schefferville**	**54.52**	**315**	P	**P**	**06 17 26.9**	**0.0**
	6.4nm,1.0s,mb4.0,baz=63,slow=14,SNR=6.6						

NEIC ***11*** *06:24:30.5, 1603N*×*9804W, h11km, MD3.7(MEX), After MEX.*

MEX 11 06:24:30.3±0.9, **1602N**×**9805W, h9**km±10km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**349**	*i* P	Pg	06 24 37.4	-0.4
PNIG				*i* S	Sg	06 24 43.2	+0.3
VHO	**Vista Hermosa**	**1.64**	**50**	*e*P	Pn	06 24 55.7	-3.6
VHO				*i* S	Sn	06 25 14.6	-5.8
OXX	**Oaxaca**	**1.66**	**50**	*e*P	Pn	06 24 57.0	-2.5
OXX				*i* S	Sn	06 25 17.0	-3.8
UTMO	**Huajuapan**	**1.82**	**7**	*i* P	Pn	06 24 57.9	-3.8
UTMO				*i* S	Sn	06 25 22.1	-2.7
MEIG	**Mezcala**	**2.42**	**322**	*e*P	Pn	06 25 08.9	-1.1
MEIG				*i* S	Sn	06 25 34.9	-4.9
TPIG	**Tehuac#an**	**2.48**	**15**	*e*P	Pn	06 25 11.9	+1.2
TPIG				*i* S	Sn	06 25 37.3	-3.8
CMIG	**Matias Romero**	**3.22**	**70**	*e*P	Pn	06 25 18.7	-2.3
CMIG				*i* S	Sn	06 25 56.7	-2.7

ISCJB ***11*** *06:39:13.9*±*1.4, 104S*±*02*×*1609E*±*02, h81km*±*14km, mb3.8/5, Error ellipse: s-maj=34.2km s-min=16.2km az=98.8*

NEIC ***11*** *06:39:14.6*±*1.2, 1033S*×*16089E, h73km*±*10km, Error ellipse: s-maj=23.8km s-min=11.1km az=49.0*

IDC ***11*** *06:39:14.6*±*2.4, 1031S*×*16096E, h76km*±*19km, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, MS3.0/3, Ms1 3.0/3, ms1mx2.8/21, Error ellipse: s-maj=38.4km s-min=21.2km az=57.0*

ISC 11 06:39:14.7±1.5, **103S**±02×**1609E**±02, **h75**km±13km, **n13,** σ**0**s**51/14, mb3.8/5, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**313**	P	**Pn**	**06 39 37.3**	**-0.1**
	67nm,0.3s,baz=133,slow=2.1,SNR=19						
HNR				S	**Sn**	**06 39 54.5**	**+0.1**
	422nm,0.3s,baz=86,slow=14,SNR=27						
HNR	**Honiara**	**1.31**	**313**	*e*Pn	**Pn**	**06 39 37.2**	**-0.2**
HNR				S	**Sn**	**06 39 54.5**	**+0.1**
HNR				*e*Sn	**Sn**	**06 39 54.8**	**+0.4**
DZM	**Mont Dzumac**	**12.82**	**156**	P	**Pn**	**06 42 14.1**	**+0.2**
	0.4nm,0.3s,baz=345,slow=12,SNR=8.7						
PMG	**Port Moresby**	**13.59**	**273**	LR	LR	06 46 20.4	
	comp=Z,22nm,20.4s,baz=58,slow=31						
PMG	**Port Moresby**	**13.59**	**273**	*e*Pn	**Pn**	**06 42 23.3**	**-0.8**
CTA	**Charters Tower**	**17.15**	**234**	P	**Pn**	**06 43 14.4**	**+5.0**
	0.4nm,0.3s,baz=62,slow=13,SNR=6.5						
CTA				LR	LR	06 48 11.6	
	comp=Z,62nm,21.9s,baz=229,slow=31						
WRA	**Warramunga Arr**	**27.34**	**246**	P	**P**	**06 44 53.6**	**+1.0**
	2.3nm,0.5s,mb4.0,baz=76,slow=9.0,SNR=33						
ASAR	**Alice Springs**	**28.97**	**239**	P	**P**	**06 45 07.2**	**+0.1**
	0.8nm,0.5s,mb3.6,baz=60,slow=10.0,SNR=16						
VNDA	**Vanda**	**67.18**	**180**	P	**P**	**06 50 00.2**	**-0.5**
	0.8nm,0.8s,mb3.6,baz=348,slow=5.7,SNR=6.4						
VNDA	**Vanda**	**67.18**	**180**	P	**P**	**06 50 00.2**	**-0.5**
SONM	**Songino Array**	**75.34**	**325**	P	**P**	**06 50 50.0**	**+0.1**
	0.9nm,0.9s,mb3.5,baz=138,slow=5.3,SNR=4.4						
MAW	**Mawson**	**83.58**	**202**	P	**P**	**06 51 34.3**	**-0.3**
	2.7nm,0.7s,mb4.2,baz=108,slow=3.2,SNR=4.9						
SNAA	**Sanae**	**97.47**	**185**	LR	LR	07 33 04.9	
	comp=Z,11nm,18.3s,baz=202,slow=33						

MOS ***11*** *07:22:58.8*±*1.0, 2396S*×*6681W, h181km, mb4.7/14, Error ellipse: s-maj=35.2km s-min=8.7km az=110.9*

ISCJB ***11*** *07:22:58.4*±*0.2, 2421S*±*003*×*6711W*±*004, h180km, mb4.4/37, Error ellipse: s-maj=4.8km s-min=4.1km az=0.6*

IDC ***11*** *07:22:58.2*±*1.1, 2406S*×*6685W, h159km*±*10km, mb4.1/15, mb1 4.3/20, mb1mx4.2/22, mbtmp4.1/20, MS3.4/2, Ms1 3.5/2, ms1mx2.8/19, Error ellipse: s-maj=17.2km s-min=9.4km az=76.0*

GUC ***11*** *07:22:59.8*±*0.6, 2435S*×*6742W, h200km, ML5.3*

BJI ***11*** *07:23:01.4, 2400S*×*6670W, h189km, mB4.8*

NEIC ***11*** *07:23:01.5*±*0.3, 2396S*×*6673W, mb4.5/25, Error ellipse: s-maj=10.9km s-min=6.7km az=76.0*

ISC 11 07:23:00.3±0.2, **2426S**±003×**6718W**±004, **h182**km, **h182**km±7.1km:**pP-P, n133,** σ**1**s**20**/124, **mb4.4**/37, **5C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**316**	P	**Pn**	**07 23 40.3**	**-0.1**
	178nm,0.3s,baz=126,slow=6.6,SNR=2065						
LVC				S	**Sn**	**07 24 09.8**	**-1.9**
	808nm,0.3s,baz=270,slow=20,SNR=62						
LVC	**Limon Verde**	**2.28**	**316**	*e*Pn	**Pn**	**07 23 40.3**	**-0.2**
LVC				*e*Sn	**Sn**	**07 24 10.6**	**-1.1**
CEN1	**Los Morros**	**2.89**	**287**	⇓*i*P	**Pn**	**07 23 48.6**	**+0.9**
CEN1				*i* S	**Sn**	**07 24 25.2**	**+0.6**
CEN1				AML	AML	07 24 26.7	
	comp=N,5μm,0.4s						
CPN1	**Cerro Paranal**	**2.96**	**262**	*e*P	**Pn**	**07 23 48.6**	**+0.1**
CPN1				*i* S	**Sn**	**07 24 25.4**	**-0.5**
CPN1				AML	AML	07 24 27.2	
	comp=E,4μm,0.5s						
ANCH	**Antofagasta**	**3.01**	**280**	*e*P	**Pn**	**07 23 49.1**	**+0.1**
ANCH				*i* S	**Sn**	**07 24 26.1**	**-0.9**
ANCH				AML	AML	07 24 28.4	
	comp=E,7μm,0.5s						
CPCH	**Copiapo**	**4.21**	**222**	⇑*i*P	**Pn**	**07 24 03.9**	**-0.2**
CPCH				*i* S	**Sn**	**07 24 52.4**	**-1.5**
CDCH	**Caldera**	**4.32**	**229**	*e*P	**Pn**	**07 24 04.2**	**-1.3**
CDCH				*i* S	**Sn**	**07 24 54.3**	**-2.2**
TLL	**Tololo Astrono**	**6.71**	**208**	⇑*i*P	**Pn**	**07 24 35.5**	**-1.0**
TLL				*i* S	**Sn**	**07 25 51.2**	**-1.4**
CFAA	**Coronel Fontan**	**7.38**	**187**	P	**Pn**	**07 24 45.0**	**-0.3**
	comp=E,1.2nm,0.3s,baz=2.0,slow=12,SNR=72						
CFAA				S	**Sn**	**07 26 05.1**	**-3.3**
	comp=E,2.3nm,0.3s,baz=293,slow=11,SNR=7.6						
LPAZ	**La Paz**	**7.98**	**353**	P	**Pn**	**07 24 51.4**	**-1.8**
	comp=E,24nm,0.3s,baz=157,slow=11,SNR=335						
LPAZ				S	**Sn**	**07 26 17.1**	**-5.5**
	comp=E,3.5nm,0.3s,baz=328,slow=19,SNR=7.0						
LPAZ				LR	LR	07 27 21.5	
	comp=E,101nm,19.8s,baz=290,slow=34						
LPAZ	**La Paz**	**7.98**	**353**	P	**Pn**	**07 24 51.4**	**-1.8**
LPAZ				S	**Sn**	**07 26 17.2**	**-5.5**
LPAZ				pmax	pmax		
	comp=Z,24nm,0.3s						
LPAZ				smax			
	comp=N,4.0nm,0.3s						
LPAZ	**La Paz**	**7.98**	**353**	⇑*i*Pn	**Pn**	**07 24 51.4**	**-1.8**
	comp=N,59nm,0.4s						
LPAZ				*e*Sn	**Sn**	**07 26 17.1**	**-5.5**
ARE	**Arequipa**	**8.74**	**332**	*e*P	**Pn**	**07 25 00.0**	**-3.2**
ARE				*e*S	**Sn**	**07 26 32.0**	**-8.9**
SIV	**San Ignacio**	**10.03**	**36**	P	**Pn**	**07 25 14.7**	**-5.3**
	comp=N,24nm,0.3s,baz=222,slow=12,SNR=708						
SIV				S	**Sn**	**07 26 52.7**	**-19**
	baz=234,slow=15,SNR=4.8						
TRQA	**Tornquist**	**14.46**	**163**	*e*Pn	**Pn**	**07 26 15.0**	**-1.4**
	comp=N,65nm,0.6s						
NNA	**Nana**	**15.26**	**321**	P	**Pn**	**07 26 25.8**	**-0.5**
	comp=N,0.5nm,0.3s,baz=164,slow=15,SNR=2.8						
ATAH	**Atahualpa**	**20.25**	**326**	P	**P**	**07 27 21.7**	**+0.2**
	comp=N,2.3nm,0.3s,baz=173,slow=17,SNR=3.2						
CAM4	**Nova Friburgo**	**22.68**	**90**	⇑*i*P	**P**	**07 27 43.5**	**-2.7**
CAM4				*i*		07 27 46.7	
CAM4				*i*		07 27 52.9	
CAM3	**Guarapari**	**24.87**	**87**	*e*P	**P**	**07 28 03.8**	**-2.3**
CAM3				*i*		07 28 05.6	
EFI	**East Falkland**	**28.26**	**168**	*e*P	**P**	**07 28 38.1**	**+1.7**
ROSC	**El Rosal**	**29.76**	**346**	*e*P	**P**	**07 28 49.1**	**-0.5**
	comp=N,5.3nm,0.7s,mb4.4,baz=252,slow=13,SNR=4.7						
ROSC	**El Rosal**	**29.76**	**346**	*e*P	**P**	**07 28 49.4**	**-0.2**
USHA	**Ushuaia**	**30.55**	**181**	P	**P**	**07 28 57.6**	**+1.0**
	comp=N,7.4nm,0.7s,mb4.5,baz=356,slow=7.0,SNR=11						
SDV	**Santo Domingo**	**33.11**	**354**	*e*P	**P**	**07 29 16.9**	**-2.0**
	comp=N,12nm,0.4s,mb5.0						
RCBR	**Riachuelo**	**35.19**	**64**	*e*P	**P**	**07 29 34.7**	**-2.2**
JTS	**JuntasAbangare**	**38.47**	**331**	*e*P	**P**	**07 30 04.1**	**-0.4**
MPR	**Mayaguez**	**42.21**	**0**	*e*P	**P**	**07 30 31.7**	**-3.5**
CBYP	**Canovanas**	**42.29**	**2**	*e*P	**P**	**07 30 32.3**	**-3.5**
TGUH	**Tegucigalpa,Un**	**42.84**	**331**	*e*P	**P**	**07 30 40.9**	**+0.6**
	comp=N,12nm,0.6s,mb4.7						
VNA1	**Neumayer--Stat**	**57.17**	**160**	⇓*i*P	**P**	**07 32 29.4**	**+1.4**
VNA1				*e*		07 32 31.4	
VNA1				*e*	pP	07 33 08.3	-1.3
VNA1				*e*		07 33 21.6	
VNA1				*e*		07 33 34.2	
VNA1				*e*		07 33 48.3	
VNA1				*e*		07 34 17.4	
VNA1				*e*		07 34 24.1	
VNA2	**Neumayer--Watz**	**57.53**	**160**	⇓*i*P	**P**	**07 32 31.5**	**+0.9**
VNA2				*e*		07 32 33.4	
VNA2				*e*	pP	07 33 10.9	-1.3
VNA2				*e*		07 33 22.3	
VNA2				*e*		07 33 34.7	
VNA2				*e*		07 33 49.5	
VNA2				*e*		07 34 16.1	
VNA2				*e*		07 34 23.5	
COW	**Cow Castle Cre**	**58.74**	**347**	*e*P	**P**	**07 32 39.2**	**+0.1**
SNAA	**Sanae**	**59.17**	**161**	P	**P**	**07 32 42.5**	**+0.6**
	comp=N,4.6nm,0.6s,mb4.5,baz=285,slow=7.4,SNR=196						
SNAA				PcP	PcP	07 33 28.8	+0.4
	comp=N,1.3nm,0.5s,baz=286,slow=7.4,SNR=3.8						
SNAA	**Sanae**	**59.17**	**161**	⇓*i*P	**P**	**07 32 42.4**	**+0.5**
SNAA				*e*		07 32 44.3	
SNAA				*e*	pP	07 33 28.0	+4.3
SNAA				*e*		07 33 38.5	
SNAA				*e*		07 33 52.2	
SNAA	**Sanae**	**59.17**	**161**	P	**P**	**07 32 42.5**	**+0.6**
SNAA					pP	07 33 28.8	+5.1
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JSC	**Jenkinsville**	**59.73**	**347**	*e*P	**P**	**07 32 45.2**	**-0.6**
LHS	**Liberty Hill**	**59.82**	**347**	*e*P	**P**	**07 32 46.2**	**-0.2**
CPCT	**Cooper Cave**	**61.61**	**344**	*e*P	**P**	**07 32 57.0**	**-1.4**
SWET	**Sewanee**	**61.76**	**343**	*e*P	**P**	**07 32 58.5**	**-0.9**
ELN	**Prospectdale**	**62.48**	**348**	*e*P	**P**	**07 33 03.7**	**-0.5**
JCT	**Junction City**	**62.77**	**328**	*e*P	**P**	**07 33 06.0**	**-0.2**
JCT				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
JCT	**Junction City**	**62.77**	**328**	*e*P	**P**	**07 33 06.0**	**-0.2**
	comp=Z,7.6nm,0.6s,mb4.7						
WVT	**Waverly**	**63.15**	**341**	*e*P	**P**	**07 33 07.2**	**-1.5**
WVT				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
WVT	**Waverly**	**63.15**	**341**	*e*P	**P**	**07 33 07.2**	**-1.5**
	comp=Z,19nm,0.8s,mb5.0						
NVL	**N'lazarevskaya**	**63.70**	**159**	*i*P	**P**	**07 33 12.2**	**-0.1**
NVL				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
NVL				pmax	pmax		
	comp=N,12nm,1.1s						
NVL				pmax	pmax		
	comp=E,10.0nm,1.1s						
TXAR	**Lajitas Array**	**63.79**	**325**	P	**P**	**07 33 13.4**	**+0.6**
	comp=E,0.8nm,0.5s,mb3.8,baz=140,slow=5.8,SNR=6.2						
PARMO	**Parma**	**64.22**	**340**	*e*P	**P**	**07 33 15.8**	**+0.1**
BLO	**Bloomington**	**65.64**	**344**	*e*P	**P**	**07 33 23.9**	**-0.9**
FVM	**French Village**	**65.65**	**340**	*e*P	**P**	**07 33 24.2**	**-0.7**
QSPA	**South Pole Qui**	**65.95**	**180**	*e*P	**P**	**07 33 28.4**	**+1.6**
	comp=E,29nm,0.5s,mb5.4						
CCM	**Cathedral Cave**	**65.97**	**339**	*e*P	**P**	**07 33 25.2**	**-1.8**
CCM				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0						
CCM	**Cathedral Cave**	**65.97**	**339**	*e*P	**P**	**07 33 25.2**	**-1.8**
	comp=Z,29nm,1.1s,mb5.0						
MNTX	**Cornudas Mount**	**66.56**	**325**	*e*P	**P**	**07 33 30.5**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.3						
MNTX				*e*pP	pP	07 34 15.3	+1.8
BINY	**Binghamton**	**66.62**	**353**	*e*P	**P**	**07 33 29.5**	**-1.6**
LPM	**Los Pinos Moun**	**69.25**	**326**	*e*P	**P**	**07 33 48.5**	**+1.0**
LAZ	**Ladron**	**69.59**	**325**	*e*P	**P**	**07 33 50.6**	**+1.1**
ANMO	**Albuquerque**	**69.67**	**326**	*e*P	**P**	**07 33 50.8**	**+0.8**
JFWS	**Jewell Farm**	**70.14**	**342**	*e*P	**P**	**07 33 52.0**	**-0.9**
SDCO	**Great Sand Dun**	**71.42**	**329**	*e*P	**P**	**07 34 02.0**	**+1.4**
	comp=Z,5.0nm,0.8s,mb4.3						
WUAZ	**Wupatki**	**72.68**	**323**	*e*P	**P**	**07 34 09.7**	**+1.5**
	comp=Z,5.4nm,0.7s,mb4.4						
ECSD	**EROS,Sioux Fal**	**72.85**	**338**	*e*P	**P**	**07 34 07.9**	**-1.3**
	comp=Z,10nm,1.0s,mb4.5						
SYO	**Syowa Base**	**73.37**	**159**	⇑*e*P	**P**	**07 34 12.4**	**+0.2**
SYO	**Syowa Base**	**73.37**	**159**	⇓*e*PcP	PcP	07 34 26.0	-1.5
SBA	**Scott Base**	**73.42**	**190**	*e*P	**P**	**07 34 14.8**	**+2.4**
SBA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.6						
SBA	**Scott Base**	**73.42**	**190**	*e*P	**P**	**07 34 14.8**	**+2.4**
	comp=Z,15nm,1.2s,mb4.6						
VNDA	**Vanda**	**74.42**	**190**	P	**P**	**07 34 20.5**	**+2.3**
	comp=Z,4.8nm,0.9s,mb4.2,baz=126,slow=5.7,SNR=28						
VNDA	**Vanda**	**74.42**	**190**	P	**P**	**07 34 20.5**	**+2.2**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNDA	**Vanda**	**74.42**	**190**	*e*P	**P**	**07 34 20.2**	**+1.9**
	comp=Z,7.1nm,1.1s,mb4.3						
VNDA				*e*pP	pP	07 35 05.7	+3.8
SRU	**San Rafael**	**74.94**	**326**	*e*P	**P**	**07 34 22.2**	**+0.9**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
SRU	**San Rafael**	**74.94**	**326**	*e*P	**P**	**07 34 22.2**	**+1.0**
	comp=Z,5.

OBN					pmax	pmax			
	comp=Z,5.0nm,0.5s								
ASAR	**Alice Springs**	**128.16**	**205**	PKP	PKPdf	07 41 45.6	+0.9		
	comp=Z,5.2nm,0.6s,baz=136,slow=1.8,SNR=76								
ASAR	**Alice Springs**	**128.16**	**205**	PKIKP	PKPdf	07 41 45.7	+1.0		
ASAR					pmax	pmax			
	comp=Z,5.0nm,0.6s								
AKTO	**Aktyubinsk**	**130.58**	**43**	SKPbc	SKPbc	07 44 57.1	+1.1		
	comp=Z,3.3nm,0.9s,baz=288,slow=3.3,SNR=7.9								
WRA	**Warramunga Arr**	**131.32**	**207**	PKP	PKPdf	07 41 52.2	+1.5		
	comp=Z,5.2nm,0.5s,baz=160,slow=1.7,SNR=106								
WRA				SKPbc	SKPbc	07 45 00.4	+1.7		
	comp=Z,2.3nm,0.6s,baz=155,slow=3.7,SNR=25								
WRAB	**Tennant Creek**	**131.33**	**207**	*e*PKIKP	PKPdf	07 41 52.2	+1.5		
FITZ	**Fitzroy Crossi**	**136.08**	**198**	PKP	PKPdf	07 42 01.3	+1.6		
	comp=Z,2.1nm,0.6s,baz=170,slow=15,SNR=9.3								
BVAR	**Borovoye Array**	**137.10**	**37**	SKPbc	SKPbc	07 45 16.9	-0.6		
	comp=Z,0.6nm,0.7s,baz=284,slow=5.8,SNR=3.5								
ZAL	**Zalesovo**	**143.70**	**28**	PKP	PKPdf	07 42 12.1	-1.4		
	comp=Z,3.1nm,0.6s,baz=174,slow=4.2,SNR=16								
ZAL				SKPab		07 45 35.8			
	comp=Z,1.8nm,0.3s,baz=188,slow=4.4,SNR=7.3								
MKAR	**Makanchi Array**	**146.83**	**40**	PKPbc	PKPbc	07 42 19.1	-1.8		
	comp=Z,3.8nm,0.7s,baz=293,slow=1.1,SNR=33								
WMQ	**Urumqi**	**151.65**	**40**	PKP	PKPdf	07 42 26.7	+0.2		
WMQ				PKP2	PKPab	07 42 43.5	+1.2		
WMQ				PP	PP	07 46 15.7	+1.5		
WMQ				PP	PP				
	comp=Z,30nm,8.6s								
MJAR	**Matsushiro Arr**	**154.99**	**305**	PKPbc	PKPbc	07 42 40.8	+0.6		
	comp=Z,1.3nm,0.5s,baz=76,slow=1.6,SNR=4.6								
MJAR				PKPab	PKPab	07 42 57.6	+1.1		
	comp=Z,0.6nm,0.7s,baz=57,slow=4.5,SNR=4.2								
SONM	**Songino Array**	**155.92**	**11**	PKP	PKPdf	07 42 33.7	+1.1		
	comp=Z,0.3nm,0.6s,baz=15,slow=0.6,SNR=3.7								
SONM				PKPab	PKPab	07 43 00.5	0.0		
	comp=Z,1.3nm,0.8s,baz=11,slow=1.0,SNR=7.6								
HHC	**Hu-ho-hao-te**	**163.42**	**3**	*e*PKP	PKPdf	07 42 41.7	+0.6		
HHC				PP	PP	07 47 20.8	+2.1		
HHC				SKKS	SKKSac	07 53 52.4	+3.5		
HHC				PP	PP				
	comp=Z,94nm,9.4s								
HHC				LR	LR				
	comp=N,133nm,21.4s								
HHC				LR	LR				
	comp=E,125nm,21.8s								
HHC				LR	LR				
	comp=Z,123nm,19.1s								
LZH	**Lanzhou**	**165.90**	**31**	*e*PKP	PKPdf	07 42 42.2	-1.0		
CD2	**Chengdu**	**169.59**	**48**	*e*PKP	PKPdf	07 42 45.3	-0.5		
GYA	**Guiyang**	**174.02**	**67**	*e*PKP	PKPdf	07 42 47.0	-0.9		
GYA				APKP		07 43 33.0			
GYA				PKP2	PKPab	07 44 19.2	-0.8		
GYA				PKS		07 46 18.0			
GYA				PP	PP	07 48 12.0	-0.2		
GYA				PP	PP				
	comp=Z,90nm,8.2s								

GUC 11 07:40:27.1±0.8, 3230S×7187W, h30km±15km, MD3.6, ML2.7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.52**	**37**	⇓*i* P	Pb	07 40 37.5	-0.4
CHNG				*i* S	Sb	07 40 45.3	+0.1
CHNG				AML	AML	07 40 45.9	
	comp=N,277nm,0.3s						
PTCH	**Petorca**	**0.80**	**88**	⇑*i* P	Pn	07 40 41.8	-0.5
PTCH				*i* S	Sb	07 40 53.1	+0.2
PTCH				AML	AML	07 40 53.5	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.31**	**130**	⇑*i* P	Pn	07 40 49.8	+0.6
PEL				*i* S	Sn	07 41 07.2	+1.5
PEL				AML	AML	07 41 09.6	
	comp=E,394nm,0.3s						
CMCH	**Combarbala**	**1.35**	**34**	⇑*i* P	Pn	07 40 50.5	+0.6
CMCH				*i* S	Sn	07 41 08.3	+1.6
CMCH				AML	AML	07 41 10.7	
	comp=E,521nm,0.7s						
RCDM	**Rinconada Maip**	**1.49**	**143**	*e*P	Pn	07 40 52.7	+0.9
RCDM				*i* S	Sn	07 41 12.2	+2.1
RCDM				AML	AML	07 41 15.5	
	comp=E,138nm,0.2s						
TACH	**Talagante**	**1.56**	**150**	*e*P	Pn	07 40 54.0	+1.2
TACH				*i* S	Sn	07 41 13.2	+1.2
CLCH	**Cerro Calan**	**1.57**	**135**	⇑*i* P	Pn	07 40 54.2	+1.3
CLCH				*i* S	Sn	07 41 14.8	+2.6
CLCH				AML	AML	07 41 19.2	
	comp=E,136nm,0.9s						
ANTU	**Antumapu**	**1.64**	**141**	*e*P	Pn	07 40 54.9	+1.0
ANTU				*i* S	Sn	07 41 16.8	+2.9
ANTU				AML	AML	07 41 24.8	
	comp=N,108nm,0.3s						
FCH	**Farellones**	**1.68**	**128**	⇓*i* P	Pn	07 40 56.3	+1.8
FCH				*i* S	Sn	07 41 18.1	+3.2
FCH				AML	AML	07 41 21.0	
	comp=E,71nm,0.8s						
PCH	**Pirque**	**1.74**	**139**	*i* S	Sn	07 41 19.7	+3.2

IDC 11 08:03:11.1±2.9, 936N×9317E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=123.0km s-min=24.6km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.44**	**348**	P	P	08 10 34.2	-0.3
	0.4nm,0.7s,baz=178,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**39.95**	**14**	P	P	08 10 47.3	+0.2
	0.2nm,0.3s,baz=201,slow=8.4,SNR=4.2						
SONM				LR	LR	08 28 08.9	
	comp=Z,51nm,19.1s,baz=353,slow=38						
WRA	**Warramunga Arr**	**49.90**	**126**	P	P	08 12 06.7	+0.4
	0.5nm,0.4s,baz=305,slow=8.5,SNR=16						
ASAR	**Alice Springs**	**51.60**	**130**	P	P	08 12 19.0	-0.1
	0.2nm,0.4s,baz=301,slow=7.3,SNR=6.1						
ASAR				PcP	PcP	08 13 34.3	+1.3
	0.2nm,0.4s,baz=312,slow=3.0,SNR=4.1						

IDC 11 08:06:34.5±7.8, 2181N×14290E, h195km±74km, mb3.4/9, mb1 3.6/9, mb1mx3.5/21, mbtmp3.4/9, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=36.8km s-min=14.0km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.27**	**324**	P	P	08 10 56.4	+1.4
	3.3nm,0.6s,baz=145,slow=8.8,SNR=10.0						
KSRS				LR	LR	08 17 37.6	
	comp=Z,63nm,20.0s,baz=135,slow=33						
ASAJ	**Asahikawa**	**22.25**	**359**	LR	LR	08 19 56.8	
	comp=Z,34nm,18.2s,baz=156,slow=36						
SONM	**Songino Array**	**39.08**	**32**	P	P	08 13 41.7	-0.9
	1.2nm,0.5s,baz=132,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**42.33**	**192**	P	P	08 14 09.8	+0.6
	1.5nm,0.7s,baz=17,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**46.04**	**191**	P	P	08 14 38.0	-0.7
	0.4nm,0.7s,baz=16,slow=9.6,SNR=8.4						
ZAL	**Zalesovo**	**53.97**	**322**	P	P	08 15 37.9	-0.3
	1.1nm,0.8s,baz=43,slow=6.1,SNR=6.6						
MKAR	**Makanchi Array**	**54.42**	**313**	P	P	08 15 42.1	+0.6
	0.8nm,0.6s,baz=89,slow=9.3,SNR=12						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	P	08 18 02.0	-0.8
	2.9nm,0.7s,baz=293,slow=5.8,SNR=5.4						
FINES	**FINESS Array B**	**82.96**	**334**	P	P	08 18 37.0	-0.6
	1.7nm,0.8s,baz=56,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**83.28**	**51**	P	P	08 18 40.0	+0.8
	1.3nm,0.7s,baz=267,slow=8.9,SNR=3.9						
LPAZ	**La Paz**	**150.19**	**85**	PKPbc	PKPbc	08 26 04.8	+2.6
	0.5nm,0.5s,baz=35,slow=2.8,SNR=4.6						

IDC 11 08:10:56.5±1.2, 059N×12220E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=129.3km s-min=19.5km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.89**	**170**	P	Pn	08 15 20.1	+1.2
	0.5nm,0.3s,baz=16,slow=9.9,SNR=17						
WRA	**Warramunga Arr**	**23.63**	**150**	P	P	08 16 09.0	-0.4
	1.1nm,0.5s,baz=324,slow=11,SNR=27						
ASAR	**Alice Springs**	**26.66**	**156**	P	P	08 16 37.2	+0.3
	0.4nm,0.4s,baz=343,slow=15,SNR=7.6						
STKA	**Stephens Creek**	**37.15**	**152**	P	P	08 18 08.9	0.0
	1.6nm,0.7s,baz=8.1,slow=7.1,SNR=3.3						
SONM	**Songino Array**	**49.01**	**346**	P	P	08 19 46.0	+1.1
	0.2nm,0.5s,baz=134,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**57.69**	**329**	P	P	08 20 48.0	-0.7
	0.2nm,0.4s,baz=142,slow=9.6,SNR=4.5						

*ISCJB **11** 08:14:13.7±0.5, 3864N±003×824W±004, h20km±7km, Error ellipse: s-maj=5.7km s-min=5.3km az=26.1*
*INMG **11** 08:14:14.2±1.2, 3863N×825W, h16km±3km, MD1.8, ML1.8, Error ellipse: s-maj=2.1km s-min=1.9km az=66.0*
*MDD **11** 08:14:14.2±0.5, 3863N×826W, h17km±5km, mbLg2.1/9, Error ellipse: s-maj=6.4km s-min=3.3km az=34.0, PRXIMO*

ISC 11 08:14:13.4±0.5, 3863N±003×823W±004, h18km±4km, n12, σ0s54/18, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOE	**Montemor**	**0.14**	**222**	*e*Pg	**Pg**	**08 14 17.9**	**+0.4**
MOE				*e*Sg	**Sg**	**08 14 20.6**	**+0.2**
PESTR	**Estremoz**	**0.56**	**64**	*e*Pg	**Pg**	**08 14 24.7**	**+0.3**
PESTR				*e*Sg	**Sg**	**08 14 32.6**	**+0.7**
PESTR							
	11nm,0.2s						
PBEJ	**Beja**	**0.67**	**154**	*e*P	**Pb**	**08 14 26.6**	**+0.2**
PBEJ				*e*S	**Sb**	**08 14 36.0**	**+0.7**
PBEJ							
	10nm,0.1s						
PLOU	**Loures**	**0.76**	**290**	*e*P	**Pb**	**08 14 27.7**	**-0.4**
PLOU				*e*S	**Sb**	**08 14 38.1**	**0.0**
PLOU							
	20nm,0.1s						
PMAFR	**Mafra**	**0.88**	**292**	*e*P	**Pb**	**08 14 29.9**	**-0.2**
PMAFR				*e*S	**Sb**	**08 14 41.3**	**-0.3**
PMAFR							
	36nm,0.2s						
EBAD	**Badajoz**	**0.96**	**82**	Pg	**Pg**	**08 14 31.7**	**-0.3**
	5.4nm,0.1s,SNR=18						
EBAD				Lg		08 14 44.8	
	16nm,0.1s,SNR=28						
PTEO	**Sao Teotonio**	**1.15**	**200**	*e*P	**Pn**	**08 14 35.0**	**+0.5**
PTEO				*e*S	**Sb**	**08 14 49.4**	**+0.2**
PTEO							
	22nm,0.2s						
EGRO	**El Granado**	**1.24**	**151**	Pg	**Pg**	**08 14 36.8**	**-0.6**
	1.2nm,0.1s,SNR=9.6						
EGRO				Lg		08 14 53.6	
	4.3nm,0.1s,SNR=9.0						
PCBR	**Castelo Branco**	**1.34**	**26**	*e*S	**Sn**	**08 14 55.0**	**+0.5**
PCBR							
	7.4nm,0.1s						
PCBR	**Castelo Branco**	**1.34**	**26**	S	**Sn**	**08 14 55.0**	**+0.5**
	3.7nm,0.1s						
EMIN	**Mina Concepcio**	**1.50**	**125**	Pg	**Pg**	**08 14 40.8**	**-1.5**
	0.3nm,0.1s,SNR=5.6						
EMIN				Lg		08 15 00.6	
	3.0nm,0.1s,SNR=12						
EADA	**Adamuz**	**2.91**	**98**	Sn	**Sn**	**08 15 32.6**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
EADA				Lg		08 15 45.8	
	1.4nm,0.2s,SNR=5.1						

MEX 11 08:16:03.6±0.5, 1962N×9995W, h28km±50km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**1.29**	**161**	*i* P	Pn	08 16 23.6	-2.1
PLIG				*i* S	Sn	08 16 38.9	-3.1
MEIG	**Mezcala**	**1.71**	**169**	*i* P	Pn	08 16 29.9	-1.6
MEIG				*i* S	Sn	08 16 50.3	-2.1
CAIG	**El Cayaco**	**2.57**	**187**	*i* P	Pn	08 16 41.5	-1.8
CAIG				*i* S	Sn	08 17 10.8	-2.9
ACX	**Acapulco**	**2.74**	**179**	*i* P	Pn	08 16 43.0	-2.6
ACX				*i* S	Sn	08 17 16.0	-1.7

*IDC **11** 08:58:42.2±1.1, 5583N×164.13E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=42.2km s-min=21.4km az=154.0*
*NEIC **11** 08:58:43.8±0.8, 5569N×164.23E, h10km, mb4.0/2, Error ellipse: s-maj=21.8km s-min=12.8km az=137.0*
*ISCJB **11** 08:58:45.4±0.9, 5556N±004×164.30E±009, h39km±10km, mb3.7/8, Error ellipse: s-maj=8.5km s-min=6.5km az=143.7*
*KRSC **11** 08:58:45.0±0.4, 5559N×164.19E, h40km±40km, ML4.5*
*MOS **11** 08:58:46.9±1.7, 5566N×164.03E, h54km, mb4.4/1, Error ellipse: s-maj=19.1km s-min=11.1km az=61.4*

ISC 11 08:58:43.7±1.1, 5568N±005×16429E±007, h9km±6km, n51, σ1s13/86, mb3.7/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.98**	**303**	*i* P	**Pg**	**08 59 01.4**	**-1.2**
KBTR				*i* S	**Sg**	**08 59 14.1**	**-1.2**
KBTR	**Krutoberegovo**	**0.98**	**303**	*i* P	**Pg**	**08 59 01.4**	**-1.2**
KBTR				*i* S	**Sg**	**08 59 14.1**	**-1.2**
BDR	**Baidarnaya**	**1.94**	**298**	*e*P	**Pn**	**08 59 17.5**	**+0.7**
BDR				*i* S	**Sn**	**08 59 41.6**	**+0.3**
BDR	**Baidarnaya**	**1.94**	**298**	*e*P	**Pn**	**08 59 17.5**	**+0.7**
BDR				*i* S	**Sn**	**08 59 41.6**	**+0.3**
ZLN	**Zelenaya**	**1.99**	**281**	*e*P	**Pn**	**08 59 18.8**	**+1.3**
ZLN				*i* S	**Sn**	**08 59 43.8**	**+1.2**
ZLN	**Zelenaya**	**1.99**	**281**	*e*P	**Pn**	**08 59 18.8**	**+1.3**
ZLN				*i* S	**Sn**	**08 59 43.8**	**+1.2**
SRKR	**Sorokina**	**2.00**	**300**	*e*P	**Pn**	**08 59 17.9**	**+0.3**
SRKR				*e*S	**Sn**	**08 59 41.6**	**-1.1**
SRKR	**Sorokina**	**2.00**	**300**	*e*P	**Pn**	**08 59 17.9**	**+0.3**
SRKR				*e*S	**Sn**	**08 59 41.6**	**-1.1**
KLY	**Klyuchi**	**2.14**	**289**	*i* P	**Pn**	**08 59 18.5**	**-1.0**
KLY				*i* S	**Sn**	**08 59 43.7**	**-2.5**
KLY	**Klyuchi**	**2.14**	**289**	*i* P	**Pn**	**08 59 18.5**	**-1.0**
KLY				*i* S	**Sn**	**08 59 43.7**	**-2.5**
KRSR	**Krestovskiy**	**2.16**	**286**	*e*P	**Pn**	**08 59 20.6**	**+0.7**
KRSR				*i* S	**Sn**	**08 59 46.4**	**-0.4**
KRSR	**Krestovskiy**	**2.16**	**286**	*e*P	**Pn**	**08 59 20.6**	**+0.7**
KRSR				*i* S	**Sn**	**08 59 46.4**	**-0.4**
KMNR	**Kamenistaya**	**2.29**	**273**	*e*P	**Pn**	**08 59 22.6**	**+0.9**
KMNR				*i* S	**Sn**	**08 59 49.9**	**-0.1**
KMNR	**Kamenistaya**	**2.29**	**273**	*e*P	**Pn**	**08 59 22.6**	**+0.9**
KMNR				*i* S	**Sn**	**08 59 49.9**	**-0.1**
KPT	**Kopyto**	**2.31**	**279**	*e*P	**Pn**	**08 59 22.6**	**+0.7**
KPT				*i* S	**Sn**	**08 59 49.2**	**-1.3**
KPT	**Kopyto**	**2.31**	**279**	*e*P	**Pn**	**08 59 22.6**	**+0.7**
KPT				*i* S	**Sn**	**08 59 49.2**	**-1.3**
TUMR	**Tumrok**	**2.39**	**262**	*e*P	**Pn**	**08 59 24.1**	**+1.1**
TUMR				*i* S	**Sn**	**08 59 52.8**	**+0.4**
TUMR	**Tumrok**	**2.39**	**262**	*e*P	**Pn**	**08 59 24.1**	**+1.1**
TUMR				*i* S	**Sn**	**08 59 52.8**	**+0.4**
KOZR	**Kozyr**	**2.50**	**281**	PN	**Pn**	**08 59 26.1**	**+1.5**
KOZR				S	**Sn**	**08 59 56.8**	**+1.6**
KOZ	**Kozyrevsk**	**2.52**	**280**	*e*P	**Pn**	**08 59 26.1**	**+1.4**
KOZ				*i* S	**Sn**	**08 59 56.8**	**+1.3**
KOZ	**Kozyrevsk**	**2.52**	**280**	*e*P	**Pn**	**08 59 26.1**	**+1.4**
KOZ				*i* S	**Sn**	**08 59 56.8**	**+1.3**
SRDR	**Sredinnyy**	**2.65**	**286**	*e*P	**Pn**	**08 59 27.6**	**+1.1**
SRDR				*i* S	**Sn**	**08 59 58.5**	**-0.2**
SRDR	**Sredinnyy**	**2.65**	**286**	*e*P	**Pn**	**08 59 27.6**	**+1.1**
SRDR				*i* S	**Sn**	**08 59 58.5**	**-0.2**
SPN	**Mys Shipunski**	**3.60**	**226**	*e*P	**Pn**	**08 59 37.9**	**-1.7**
SPN				*i* S	**Sn**	**09 00 15.9**	**-6.2**
SPN	**Mys Shipunski**	**3.60**	**226**	*e*P	**Pn**	**08 59 37.9**	**-1.7**
SPN				*i* S	**Sn**	**09 00 15.9**	**-6.2**
NLC	**Nalytchevo**	**3.83**	**231**	*e*P	**Pn**	**08 59 42.3**	**-0.5**
NLC				*i* S	**Sn**	**09 00 23.8**	**-4.1**
NLC	**Nalytchevo**	**3.83**	**231**	*e*P	**Pn**	**08 59 42.3**	**-0.5**
NLC				*i* S	**Sn**	**09 00 23.8**	**-4.1**
AVH	**Avacha**	**4.04**	**235**	*e*P	**Pn**	**08 59 46.7**	**+1.0**
AVH				*i* S	**Sn**	**09 00 30.2**	**-3.0**
AVH	**Avacha**	**4.04**	**235**	*e*P	**Pn**	**08 59 46.7**	**+1.0**
AVH				*i* S	**Sn**	**09 00 30.2**	**-3.0**
GNL	**Ganaly**	**4.19**	**244**	*e*P	**Pn**	**08 59 49.0**	**+1.3**
GNL	**Ganaly**	**4.19**	**244**	*e*P	**Pn**	**08 59 49.0**	**+1.3**
PET	**Petropavlovsk**	**4.24**	**233**	*e*PN	**Pn**	**08 59 48.7**	**+0.3**
PET				*e*S	**Sn**	**09 00 32.9**	**-5.1**
PET				pmax	pmax		
	comp=Z,36nm,0.8s						
PET				smax			
	comp=E,119nm,1.2s						
PET	**Petropavlovsk**	**4.24**	**233**	*e*Pn	**Pn**	**08 59 47.9**	**-0.5**
PET				*e*Sn	**Sn**	**09 00 34.7**	**-3.3**
PET	**Petropavlovsk**	**4.24**	**233**	*e*P	**Pn**	**08 59 48.9**	**+0.5**
PET				*i* S	**Sn**	**09 00 34.1**	**-3.9**
PET	**Petropavlovsk**	**4.24**	**233**	*e*P	**Pn**	**08 59 48.9**	**+0.5**
PET				*i* S	**Sn**	**09 00 34.1**	**-3.9**
RUS	**Russkaya**	**4.71**	**229**	*e*P	**Pn**	**08 59 54.4**	**-0.5**
RUS				*i* S	**Sn**	**09 00 44.6**	**-5.0**
RUS	**Russkaya**	**4.71**	**229**	*e*P	**Pn**	**08 59 54.4**	**-0.5**
RUS				*i* S	**Sn**	**09 00 44.6**	**-5.0**
GRL	**Gorelyy**	**4.82**	**232**	*e*P	**Pn**	**08 59 57.5**	**+1.1**
GRL	**Gorelyy**	**4.82**	**232**	*e*P	**Pn**	**08 59 57.5**	**+1.1**
SKR	**Severo-Kuril's**	**7.01**	**228**	*e*PN	**Pn**	**09 00 26.0**	**-0.5**
ASAJ	**Asahikawa**	**18.06**	**239**	P	**Pn**	**09 02 55.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=0.0,slow=11,SNR=3.4						
ASAJ				LR	LR	09 10 35.8	
	comp=E,60nm,18.2s,baz=28,slow=40						
TIXI	**Tiksi**	**21.89**	**330**	*e*P	**P**	**09 03 35.8**	**-1.1**
TIXI	**Tiksi**	**21.89**	**330**	*e*P	**P**	**09 03 37.6**	**+0.7**
	comp=E,3.3nm,0.8s,mb3.8						
MAJO	**Matsushiro**	**26.07**	**234**	P	**P**	**09 04 17.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
MAJO	**Matsushiro**	**26.07**	**234**	P	**P**	**09 04 17.7**	**+0.2**
	comp=Z,2.9nm,0.5s,mb4.1						
MJAR	**Matsushiro Arr**	**26.07**	**234**	P	**P**	**09 04 16.7**	**-0.8**
	comp=Z,1.5nm,0.7s,mb3.6,baz=31,slow=11,SNR=5.1						
SONM	**Songino Array**	**35.73**	**282**	P	**P**	**09 05 40.4**	**-2.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=60,slow=8.1,SNR=3.9						
YKA	**Yellowknife Ar**	**39.59**	**46**	P	**P**	**09 06 14.2**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=296,slow=7.7,SNR=3.5						
MKAR	**Makanchi Array**	**49.23**	**296**	P	**P**	**09 07 31.6**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=47,slow=6.3,SNR=2.4						
PDAR	**Pinedale Array**	**54.16**	**65**	P	**P**	**09 08 09.2**	**-0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=316,slow=6.2,SNR=5.3						
ASAR	**Alice Springs**	**83.17**	**208**	P	**P**	**09 11 10.8**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.5,baz=14,slow=5.7,SNR=4.7						

IDC 11 09:24:07.0±1.6, 2301S×6796W, h0km, mb4.1/1, mb1 4.1/2, mb1mx3.7/15, mbtmp4.0/2, ML4.0/1, Error ellipse: s-maj=63.5km s-min=44.2km az=104.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.69**	**359**	Pn	Pn	09 25 47.1	+0.7
	1.5nm,0.3s,baz=68,slow=19,SNR=45						
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P	P	09 36 02.4	+0.6
	0.8nm,0.5s,baz=253,slow=5.6,SNR=15						
TORD				pP		09 36 32.5	
	0.9nm,0.6s,baz=254,slow=4.9,SNR=4.0						
ASAR	**Alice Springs**	**128.97**	**206**	PKP	PKPdf	09 43 17.3	+0.6
	0.3nm,1.0s,baz=129,slow=3.7,SNR=4.2						
WRA	**Warramunga Arr**	**132.09**	**209**	PKP	PKPdf	09 43 23.0	+0.5
	0.3nm,0.8s,baz=162,slow=1.8,SNR=5.5						

*IDC **11** 09:56:31.7±2.8, 2187N×14299E, h56km±25km, mb3.9/17, mb1 4.0/18, mb1mx4.0/26, mbtmp3.9/18, ML4.0/1, MS4.0/25, Ms1 4.0/25, ms1mx3.9/41, Error ellipse: s-maj=22.9km s-min=10.9km az=87.0*
*ISCJB **11** 09:56:51.5±1.7, 2171N±005×14279E±006, h254km±16km, mb4.2/54, Error ellipse: s-maj=9.4km s-min=8.3km az=119.5*
*BJI **11** 09:56:57.8, 2209N×143.40E, h349km, mB4.6, mb4.2*
*MOS **11** 09:56:58.3±1.8, 2190N×14277E, h318km, mb4.2/26, Error ellipse: s-maj=13.2km s-min=7.7km az=102.1*
*NEIC **11** 09:57:00.9±1.8, 2177N×14279E, h332km±19km, mb4.4/28, Error ellipse: s-maj=13.4km s-min=9.9km az=80.0*

ISC 11 09:56:54.0±1.6, 2175N±005×14281E±006, h265km±16km, h337km±6.6km:pP-P, n119, σ1s15/107, mb4.2/54, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.36**	**354**	P	Px	09 57 45.9	
	12nm,0.3s,baz=313,slow=15,SNR=4.6						
CBIJ				S	Sx	09 58 48.5	
	28nm,0.3s,baz=298,slow=24,SNR=7.1						
CBIJ				LR	LR	09 59 30.9	
	comp=Z,640nm,19.1s,baz=136,slow=34						
GUMO	**Guam**	**8.35**	**166**	LR	LR	10 01 11.1	
	comp=Z,864nm,18.6s,baz=166,slow=33						
JHJ	**Hachijo jima 2**	**11.64**	**347**	LR	LR	10 03 17.9	
	comp=Z,603nm,21.1s,baz=103,slow=35						
JOW	**Kunigami**	**14.18**	**294**	LR	LR	10 04 32.2	
	comp=Z,733nm,19.0s,baz=140,slow=34						
MJAR	**Matsushiro Arr**	**15.28**	**346**	P	Px	10 00 00.0	
	0.2nm,0.3s,baz=162,slow=11,SNR=4.4						
MJAR				LR	LR	10 05 31.9	
	comp=Z,684nm,19.6s,baz=165,slow=36						
MAJO	**Matsushiro**	**15.28**	**346**	*e*P	**Pn**	**10 00 17.5**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s		

HHC **Hu-ho-hao-te** **32.54 313** *e*P **P** **10 03 00.5 0.0**
HHC AP pP 10 04 08.4 +16
HHC PP PP 10 04 26.4 +6.3
HHC XP sP 10 04 47.2 +24
HHC PCP PcP 10 05 39.5 -0.8
HHC S **S** **10 07 49.5 -6.3**
HHC SCP ScP 10 08 48.1 -10
HHC PCS PcS 10 09 22.1 -3.6
HHC SCS ScS 10 12 48.2 -10
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,95nm,5.1s
HHC LR LR
comp=N,218nm,11.3s
HHC LR LR
comp=E,205nm,17.0s
HHC LR LR
comp=Z,240nm,15.5s
GYA **Guiyang** **33.25 285** P **P** **10 03 10.2 +3.6**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
HNR **Honiara** **35.26 150** LR LR 10 15 12.7
comp=Z,202nm,19.7s,baz=359,slow=32
CD2 **Chengdu** **36.02 293** *e*P **P** **10 03 31.5 +1.3**
CD2 PP PP 10 05 06.9 +8.7
CD2 XP sP 10 05 19.2 +26
CD2 S **S** **10 08 47.8 -1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 LR LR
comp=N,380nm,16.8s
CD2 LR LR
comp=E,480nm,19.6s
CD2 LR LR
comp=Z,590nm,19.2s
LZH **Lanzhou** **36.72 302** *e*P **P** **10 03 38.8 +2.7**
LZH AP pP 10 04 44.2 +15
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.3
LZH AMB AMB
comp=Z,50nm,4.0s
LZH **Lanzhou** **36.72 302** *e*P **P** **10 03 38.8 +2.7**
comp=Z,13nm,1.0s,mb4.3
LZH pP pP 10 04 44.2 +15
LZH sP sP 10 05 21.9 +22
KMI **Kunming** **36.83 283** P **P** **10 03 39.3 +2.3**
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.4
KMI AMB AMB
comp=Z,86nm,3.3s
KMI LR LR
comp=N,171nm,15.4s
KMI LR LR
comp=E,208nm,22.6s
KMI LR LR
comp=Z,255nm,28.9s
KMI **Kunming** **36.83 283** P **P** **10 03 39.3 +2.3**
comp=Z,9.0nm,0.6s,mb4.4
KMI PP PP 10 05 05.2 -1.8
KMI PPP 10 05 20.8
KMI S S 10 09 27.2 +26
KMI SS SS 10 11 58.7 +4.1
KMI SSS 10 12 26.0
KMI LR LR
comp=Z,260nm,28.9s
KSM **Kuching** **37.51 242** *e*P **P** **10 03 46.7 +4.0**
SONM **Songino Array** **39.08 321** P **P** **10 03 54.0 -1.8**
comp=Z,2.8nm,0.7s,mb3.8,baz=128,slow=7.5,SNR=21
SONM LR LR 10 20 04.9
comp=Z,251nm,18.3s,baz=263,slow=36
SONM **Songino Array** **39.08 321** P **P** **10 03 54.0 -1.7**
SONM pmax pmax
comp=Z,30nm,0.7s
SONM MLR MLR
comp=Z,251nm,18.3s
GTA **Gaotai** **40.56 306** *e*P **P** **10 04 07.7 -0.2**
GTA PP PP 10 05 49.8 +2.4
GTA S **S** **10 09 48.9 -8.0**
GTA AMB AMB
comp=Z,4.0nm,1.5s,mb3.4
GTA AMB AMB
comp=Z,113nm,5.3s
GTA LR LR
comp=N,1μm,17.9s
GTA LR LR
comp=E,226nm,15.6s
GTA LR LR
comp=Z,7μm,14.8s
YAK **Yakutsk** **41.26 351** *e*P **P** **10 04 10.1 -3.5**
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.2
CTA **Charters Tower** **41.72 175** P **P** **10 04 16.7 -0.5**
comp=Z,9.8nm,1.1s,mb4.0,baz=360,slow=5.0,SNR=3.8
CTA LR LR 10 20 30.1
comp=Z,154nm,18.0s,baz=27,slow=34
CTAO **Charters Tower** **41.72 175** *e*P **P** **10 04 19.9 +2.6**
CTAO pmax pmax
comp=Z,12nm,1.1s,mb4.0
CTAO **Charters Tower** **41.72 175** *e*P **P** **10 04 19.9 +2.6**
comp=Z,12nm,1.1s,mb4.0
ZAK **Zakamensk** **42.09 323** *e*P **P** **10 04 19.1 -1.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb3.7
WB2 **Warramunga Arr** **42.25 192** *e*P **P** **10 04 20.8 -0.8**
WRA **Warramunga Arr** **42.25 192** P **P** **10 04 21.2 -0.4**
comp=Z,3.6nm,0.8s,mb3.7,baz=12,slow=8.5,SNR=21
WRA LR LR 10 21 22.4
comp=Z,115nm,18.9s,baz=355,slow=35
IRK **Irkutsk** **42.47 325** *e*P **P** **10 04 22.2 -1.1**
IRK pmax pmax
comp=Z,27nm,0.7s,mb4.6
TLY **Talaya** **42.52 324** *e*P **P** **10 04 21.5 -2.2**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
TLY MLR MLR
comp=Z,182nm,20.0s
FITZ **Fitzroy Crossi** **43.02 204** P **P** **10 04 27.7 -0.1**
comp=Z,2.9nm,0.8s,mb3.5,baz=106,slow=5.2,SNR=4.0
FITZ LR LR 10 21 09.7
comp=Z,118nm,18.6s,baz=23,slow=34
AS31 **Alice Springs** **45.96 191** *e*P **P** **10 04 50.3 -0.6**
ASAR **Alice Springs** **45.96 191** P **P** **10 04 50.4 -0.6**
comp=Z,1.5nm,0.6s,mb3.5,baz=16,slow=12,SNR=41
ASAR LR LR 10 22 56.8
comp=Z,223nm,20.2s,baz=8.4,slow=34
ASPA **Alice Springs** **45.97 191** *e*P **P** **10 04 50.3 -0.6**
DZM **Mont Dzumac** **49.28 151** LR LR 10 22 47.7
comp=Z,258nm,20.8s,baz=26,slow=32
WMQ **Urumqi** **50.28 309** *i*P **P** **10 05 24.8 +1.0**
WMQ AP pP 10 06 33.8 +13
WMQ PCP PcP 10 06 39.6 +1.1
WMQ PP PP 10 07 24.8 +2.9
WMQ PCS PcS 10 10 35.6 -0.4
WMQ S **S** **10 12 08.6 -6.9**
WMQ SCS ScS 10 14 37.6 -8.9
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.2
WMQ AMB AMB
comp=Z,16nm,5.2s
WMQ LR LR
comp=N,124nm,20.9s
WMQ LR LR
comp=E,178nm,22.9s
WMQ LR LR
comp=Z,123nm,29.0s
TIXI **Tiksi** **50.56 354** *e*P **P** **10 05 22.1 -3.8**
TIXI pmax pmax
comp=Z,30nm,0.8s,mb4.7
STKA **Stephens Creek** **53.33 181** P **P** **10 05 45.4 -0.8**
comp=Z,3.3nm,0.8s,mb3.7,baz=325,slow=4.6,SNR=4.5
STKA LR LR 10 30 56.7
comp=Z,153nm,18.3s,baz=24,slow=39
ZAL **Zalesovo** **53.96 322** P **P** **10 05 49.8 -1.0**
comp=Z,2.0nm,0.8s,mb3.5,baz=2.0,slow=8.2,SNR=14
ZAL LR LR 10 30 14.2
comp=Z,173nm,18.3s,baz=201,slow=38
ZAL **Zalesovo** **53.96 322** P **P** **10 05 49.8 -1.0**
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL MLR MLR
comp=Z,173nm,18.3s
MK31 **Makanchi Array** **54.41 313** *e*P **P** **10 05 54.1 +0.1**
MKAR **Makanchi Array** **54.41 313** P **P** **10 05 53.7 -0.3**
comp=Z,1.3nm,0.8s,mb3.3,baz=89,slow=9.2,SNR=12
MKAR LR LR 10 29 39.7
comp=Z,84nm,19.1s,baz=225,slow=36
AFI **Afiamalu** **56.93 124** LR LR 10 26 46.0
comp=Z,145nm,18.6s,baz=176,slow=32
NWAO **Narrogin (SRO)** **59.60 205** LR LR 10 31 23.4
comp=Z,64nm,18.8s,baz=347,slow=35
AAK **Ala-Archa** **59.86 308** *e*P **P** **10 06 35.1 +3.1**
comp=Z,0.2nm,0.3s,mb3.1
PMR **Palmer** **60.68 31** *e*P **P** **10 06 37.1 -0.5**
PMR pmax pmax
comp=Z,47nm,1.6s,mb4.8
PMR **Palmer** **60.68 31** *e*P **P** **10 06 37.1 -0.4**
comp=Z,47nm,1.6s,mb4.8
MCK **McKinley** **61.11 28** *e*P **P** **10 06 38.1 -2.3**
MCK pmax pmax
comp=Z,18nm,1.8s,mb4.3
MCK **McKinley** **61.11 28** *e*P **P** **10 06 38.1 -2.3**
comp=Z,18nm,1.8s,mb4.3
COLA **College** **61.76 27** *e*P **P** **10 06 42.9 -1.9**
comp=Z,1.8nm,0.6s,mb3.9
CHKZ **Chkalovo** **62.27 320** *e*P **P** **10 06 47.9 -0.3**
CHKZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
CHKZ **Chkalovo** **62.27 320** *e*P **P** **10 06 47.9 -0.3**
comp=Z,7.4nm,1.2s,mb4.2
BRVK **Borovoye** **62.47 320** *e*P **P** **10 06 49.8 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.3s,mb4.4
BRVK **Borovoye** **62.47 320** *e*P **P** **10 06 49.8 +0.3**
comp=Z,13nm,1.3s,mb4.4
INK **Inuvik** **67.66 24** P **P** **10 07 20.8 -1.9**
comp=Z,2.4nm,0.8s,mb4.0,baz=280,slow=7.1,SNR=8.9
INK **Inuvik** **67.66 24** *e*P **P** **10 07 21.4 -1.3**
INK pmax pmax
comp=Z,40nm,0.5s
INK **Inuvik** **67.66 24** *e*P **P** **10 07 21.4 -1.4**
comp=Z,40nm,0.5s,mb5.4
ARU **Arti** **69.02 324** *e*P **P** **10 07 31.5 +0.4**
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
ARU **Arti** **69.02 324** *e*P **P** **10 07 31.5 +0.4**
comp=Z,6.8nm,1.0s,mb4.3
YKA **Yellowknife Ar** **76.57 28** P **P** **10 08 14.4 -0.9**
comp=Z,2.7nm,0.6s,mb4.2,baz=294,slow=5.9,SNR=10.0
YKA LR LR 10 38 15.3
comp=Z,160nm,20.7s,baz=285,slow=33
YKA **Yellowknife Ar** **76.57 28** P **P** **10 08 14.4 -0.9**
YKA pmax pmax
comp=Z,3.0nm,0.6s
PPT **Papeete** **76.87 115** *e*LR LR 10 31 30.5
comp=Z,599nm,29.0s,baz=303
PPT **Papeete** **76.87 115** LR LR 10 36 02.9
comp=Z,196nm,20.9s,baz=292,slow=31
RES **Resolute Bay** **77.11 13** *e*P **P** **10 08 18.0 -0.3**
RES pmax pmax
comp=Z,152nm,0.8s
RES **Resolute Bay** **77.11 13** *e*P **P** **10 08 18.0 -0.3**
comp=Z,152nm,0.8s
ARCES **ARCESS Array B** **78.76 341** P **P** **10 08 28.2 +0.8**
comp=Z,3.9nm,0.8s,mb4.2,baz=55,slow=11,SNR=5.6
ARCES LR LR 10 48 27.7
comp=Z,132nm,18.1s,baz=66,slow=40
ARCES **ARCESS Array B** **78.76 341** P **P** **10 08 28.2 +0.8**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,132nm,18.1s
TBI **Tubuai** **79.71 120** *e*LR LR 10 32 49.9
comp=Z,154nm,34.5s
NEW **Newport** **80.48 42** *e*P **P** **10 08 36.5 -0.1**
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW **Newport** **80.48 42** *e*P **P** **10 08 36.5 -0.1**
comp=Z,2.9nm,0.9s,mb4.0
OBN **Obninsk** **81.25 326** *e*P **P** **10 08 40.9 +0.2**
comp=Z,11nm,0.4s,mb5.0
CMB **Columbia Colle** **82.01 52** *e*P **P** **10 08 45.1 +0.5**
CMB pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
CMB **Columbia Colle** **82.01 52** *e*P **P** **10 08 45.1 +0.5**
comp=Z,2.4nm,0.5s,mb4.2
WALA **Waterton Lakes** **82.13 40** *e*P **P** **10 08 45.4 +0.2**
comp=Z,7.2nm,0.9s,mb4.4
KIV **Kislovodsk** **82.14 314** *e*P **P** **10 08 45.9 +0.6**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.7
KIV **Kislovodsk** **82.14 314** *e*P **P** **10 08 45.9 +0.6**
comp=Z,12nm,0.8s,mb4.7
FINES **FINESS Array B** **82.99 334** P **P** **10 08 49.5 -0.1**
comp=Z,1.0nm,0.5s,mb3.9,baz=75,slow=5.4,SNR=7.6
FINES **FINESS Array B** **82.99 334** P **P** **10 08 49.5 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NVAR **Mina Array Bea** **83.39 51** P **P** **10 08 52.9 +1.2**
comp=Z,1.7nm,0.7s,mb4.0,baz=268,slow=6.3,SNR=6.6
HLID **Hailey** **84.06 45** *e*P **P** **10 08 55.8 +0.8**
comp=Z,14nm,2.0s,mb4.5
FFC **Flin Flon** **85.97 32** *e*P **P** **10 09 05.2 +0.7**
FFC pmax pmax
comp=Z,11nm,0.8s,mb4.7
FFC **Flin Flon** **85.97 32** *e*P **P** **10 09 05.2 +0.7**
comp=Z,11nm,0.8s,mb4.7
DUG **Dugway** **86.56 48** *e*P **P** **10 09 08.3 +0.9**
DUG pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
DUG **Dugway** **86.56 48** *e*P **P** **10 09 08.3 +0.9**
comp=Z,3.6nm,0.5s,mb4.5
HWUT **Hardware Ranch** **86.80 46** *e*P **P** **10 09 09.1 +0.6**
comp=Z,6.6nm,1.1s,mb4.4
AKASG **Malin Array Be** **87.26 324** P **P** **10 09 10.6 -0.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=44,slow=4.8,SNR=5.2
AKASG **Malin Array Be** **87.26 324** P **P** **10 09 10.6 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
JLU **Jordanelle** **87.32 47** *e*P **P** **10 09 12.4 +1.4**
MALT **Malatya** **87.38 310** *e*P **P** **10 09 11.8 +0.5**
MALT pmax pmax
comp=Z,7.0nm,1.6s,mb4.2
MALT **Malatya** **87.38 310** *e*P **P** **10 09 11.8 +0.5**
comp=Z,7.4nm,1.6s,mb4.3
PDAR **Pinedale Array** **87.60 45** P **P** **10 09 13.8 +1.5**
comp=Z,0.2nm,0.5s,baz=204,slow=3.3,SNR=3.5
PDAR LR LR 10 40 20.3
comp=Z,206nm,21.3s,baz=286,slow=30
SRU **San Rafael** **88.63 48** *e*P **P** **10 09 17.6 +0.4**
NOA **NORSAR Array B** **88.77 339** LR LR 10 49 45.8
comp=Z,87nm,19.1s,baz=265,slow=36
BR131 **Keskin Array S** **90.05 313** *e*P **P** **10 09 24.8 +0.9**
RSSD **Black Hills** **90.44 41** *e*P **P** **10 09 25.3 -0.3**
RSSD pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
RSSD **Black Hills** **90.44 41** *e*P **P** **10 09 25.3 -0.3**
comp=Z,1.2nm,0.6s,mb3.9
SMCO **Snowmass** **91.03 47** *e*P **P** **10 09 29.5 +1.2**
comp=Z,3.9nm,0.9s,mb4.2
ULM **Lac du Bonnet** **91.59 33** LR LR 10 48 53.6
comp=Z,144nm,19.0s,baz=16,slow=34
RKT **Rikitea** **91.60 114** *e*LR LR 10 38 19.9
comp=Z,354nm,36.2s
SDCO **Great Sand Dun** **92.74 48** *e*P **P** **10 09 35.9 -0.4**
comp=Z,1.3nm,0.9s,mb3.9
ANMO **Albuquerque** **93.45 50** *e*P **P** **10 09 40.5 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO **Albuquerque** **93.45 50** *e*P **P** **10 09 40.5 +0.9**
comp=Z,0.9nm,0.8s,mb3.8
PSZ **Piszkesteto** **93.86 326** *e*P **P** **10 09 42.2 +0.8**
PSZ pmax pmax
comp=Z,15nm,1.9s,mb4.7
PSZ **Piszkesteto** **93.86 326** *e*P **P** **10 09 42.2 +0.8**
comp=Z,15nm,1.9s,mb4.7
LUPA **Lehigh Univers** **108.52 30** *e*PKP PKiKP 10 14 50.6 -0.6
LPAZ **La Paz** **150.28 85** PKPbc PKPbc 10 16 17.6 +3.8
comp=Z,1.8nm,0.5s,baz=9.4,slow=3.8,SNR=7.0
LPAZ PKPab PKPab 10 16 24.3 +3.3
comp=Z,2.8nm,0.7s,baz=25,slow=2.7,SNR=9.8
LPAZ **La Paz** **150.28 85** *e*PKPbc PKPbc 10 16 16.1 +2.4
LPAZ *e*PKPab PKPab 10 16 24.0 +3.0
LVC **Limon Verde** **150.64 98** *e*PKPdf PKPdf 10 16 10.4 +1.5

IDC 11 10:05:19.0±3.8,5939S×14883E,h0km,mb3.5/2,
mb1 3.6/3,mb1mx3.6/11,mbtmp3.4/3,ML3.0/1,MS3.4/2,
Ms1 3.4/2,ms1mx3.0/22,Error ellipse: s-maj=416.2km
s-min=31.2km az=76.0,West of Macquarie Island

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

VNDA **Vanda** **18.74 171** P Pn 10 09 38.8 -0.8
0.0nm,0.3s,baz=328,slow=7.4,SNR=5.2
VNDA LR LR 10 16 23.2
comp=Z,39nm,19.7s,baz=344,slow=35
ASAR **Alice Springs** **37.22 337** P P 10 12 31.9 -0.1
0.4nm,0.6s,baz=164,slow=9.6,SNR=8.9
WRA **Warramunga Arr** **40.76 339** P P 10 13 01.4 -0.3
0.6nm,0.8s,baz=167,slow=7.6,SNR=4.8
RAR **Rarotonga** **52.63 67** LR LR 10 31 28.8
comp=Z,109nm,19.1s,baz=285,slow=30

IDC ***11*** *10:07:31.9±1.8, 137N×9704E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/22, mbtmp3.5/6, Error ellipse: s-maj=50.8km s-min=22.1km az=57.0*
ISCJB ***11*** *10:07:34.8±1.0, 14N±0.1×970E±0.1, h35km, mb3.5/5, Error ellipse: s-maj=22.3km s-min=15.3km az=45.4*
NEIC ***11*** *10:07:36.0±0.8, 137N×9702E, h30km, mb3.4/1, Error ellipse: s-maj=18.3km s-min=12.1km az=204.0*

ISC 11 10:07:37.0±1.0,14N±02×971E±01,h35km,n8,σ0±69/8,
mb3.5/5,Northern Sumatera

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

PSI **Prapat** **2.30 54** Pn **Pn** **10 08 11.6 -0.9**
3.0nm,0.3s,baz=324,slow=11,SNR=7.9
PALK **Pallekele** **17.30 290** *e*Pn **Pn** **10 11 34.9 -0.8**
2.9nm,0.8s
WRA **Warramunga Arr** **42.28 122** P **P** **10 15 27.5 +0.4**
0.2nm,0.4s,mb3.1,baz=305,slow=9.0,SNR=8.8
ASAR **Alice Springs** **43.65 127** P **P** **10 15 38.0 -0.1**
0.2nm,0.7s,mb3.0,baz=297,slow=7.9,SNR=4.3
SONM **Songino Array** **46.92 9** P **P** **10 16 04.9 +0.9**
0.3nm,0.5s,mb3.5,baz=190,slow=7.3,SNR=3.5
MKAR **Makanchi Array** **46.97 346** P **P** **10 16 05.5 +1.0**
0.6nm,0.5s,mb3.8,baz=167,slow=9.6,SNR=12
MKAR **Makanchi Array** **46.97 346** P **P** **10 16 05.5 +1.0**
ZAL **Zalesovo** **53.29 351** P **P** **10 16 52.1 -0.3**
1.6nm,0.5s,mb4.2,baz=316,slow=7.5,SNR=6.2

ISCJB ***11*** *10:13:23.2±0.8, 179S±0.1×178.50W±008, h571km±12km, mb4.4/17, Error ellipse: s-maj=21.6km s-min=8.4km az=128.7*
NEIC ***11*** *10:13:24.1±0.8, 1794S×17843W, h572km±12km, mb4.0/2, Error ellipse: s-maj=17.6km s-min=9.5km az=152.0*
IDC ***11*** *10:13:24.6±1.8, 1799S×17842W, h576km±22km, mb3.9/12, mb1 4.0/14, mb1mx3.9/19, mbtmp3.9/14, Error ellipse: s-maj=22.2km s-min=11.7km az=153.0*

ISC 11 10:13:23.8±0.8,180S±01×17840W±009,h564km±11km,
n32,σ0±92/33,mb4.4/17,11D,Fiji Islands region

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

AFI **Afiamalu** **7.53 59** P **P** **10 15 17.9 +0.6**
2.9nm,0.3s,baz=337,slow=7.9,SNR=7.3
AFI S **S** **10 16 49.6 -0.8**
1.2nm,0.3s,baz=28,slow=19,SNR=2.1
DZM **Mont Dzumac** **14.82 251** P **P** **10 16 31.5 +0.3**
1.5nm,0.3s,baz=78,slow=17,SNR=14
DZM S **S** **10 18 58.0 -7.4**
0.2nm,0.3s,baz=131,slow=20,SNR=3.4
ARMA **Armidale** **29.92 240** *i*P **P** **10 18 47.7 +1.0**
CNB **Canberra Magne** **33.41 232** *i*P **P** **10 19 17.0 +0.7**
18nm,0.5s,mb4.9
CTA **Charters Tower** **33.45 261** *i*P **P** **10 19 16.9 +0.2**
15nm,0.7s,mb4.6
CTA **Charters Tower** **33.45 261** P **P** **10 19 16.9 +0.2**
16nm,0.6s,mb4.7,baz=88,slow=9.8,SNR=46
PMG **Port Moresby** **34.47 280** P **P** **10 19 26.8 +1.6**
58nm,0.8s,mb5.2,baz=89,slow=5.6,SNR=35
TOO **Toolangi** **37.15 231** *i*P **P** **10 19 47.8 +0.5**
19nm,1.0s,mb4.6
STKA **Stephens Creek** **38.62 241** *i*P **P** **10 19 59.6 +0.3**
11nm,0.6s,mb4.6
STKA **Stephens Creek** **38.62 241** P **P** **10 19 59.9 +0.6**
21nm,0.8s,mb4.7,baz=88,slow=9.5,SNR=33
WB2 **Warramunga Arr** **44.62 260** *i*P **P** **10 20 45.8 -0.7**
WRA **Warramunga Arr** **44.63 260** P **P** **10 20 45.9 -0.7**
13nm,0.7s,mb4.6,baz=95,slow=7.2,SNR=212
WRA PcP PcP 10 22 15.9 -1.1
1.7nm,0.7s,baz=85,slow=3.7,SNR=5.1
AS31 **Alice Springs** **44.78 254** *i*P **P** **10 20 47.7 -0.1**
ASAR **Alice Springs** **44.79 254** P **P** **10 20 47.8 0.0**
62nm,0.7s,mb5.3,baz=88,slow=8.5,SNR=931
ASAR PcP PcP 10 22 16.9 -0.6
1.7nm,0.6s,baz=108,slow=3.6,SNR=4.8
ASPA **Alice Springs** **44.79 254** *i*P **P** **10 20 47.7 -0.1**
KAKA **Kakadu** **47.59 269** *i*P **P** **10 21 08.7 -0.3**
25nm,0.4s,mb5.1
FORT **Forrest** **49.99 245** *i*P **P** **10 21 25.0 -1.8**
23nm,0.6s,mb4.8
FITZ **Fitzroy Crossi** **53.03 261** *i*P **P** **10 21 48.4 -0.3**
5.3nm,0.5s,mb4.1
FITZ **Fitzroy Crossi** **53.03 261** P **P** **10 21 48.6 0.0**
4.0nm,0.7s,mb3.9,baz=155,slow=5.9,SNR=13
NWAO **Narrogin (SRO)** **59.20 242** P **P** **10 22 30.7 -0.4**
7.0nm,0.7s,mb4.0,baz=135,slow=5.7,SNR=4.4
VNDA **Vanda** **60.40 185** P **P** **10 22 38.1 -1.0**
0.5nm,0.8s,baz=340,slow=5.1,SNR=3.4
MJAR **Matsushiro Arr** **67.94 323** P **P** **10 23 25.6 -1.3**
1.6nm,0.7s,mb3.7,baz=152,slow=6.1,SNR=4.8
QSPA **South Pole Qui** **72.10 180** *e*P **P** **10 23 51.0 -0.6**
2.7nm,0.9s,mb3.7
QSPA *e*PcP PcP 10 24 05.9 -0.1
KSM **Kuching** **72.70 277** *e*P **P** **10 23 55.2 +0.3**
ISA **Isabella** **77.84 46** *e*P **P** **10 24 24.0 +0.5**
NVAR **Mina Array Bea** **79.45 44** P **P** **10 24 33.0 +0.9**
3.1nm,0.7s,mb3.8,baz=231,slow=8.7,SNR=5.0
TXAR **Lajitas Array** **86.01 58** P **P** **10 25 06.6 +1.6**
5.0nm,0.8s,mb4.2,baz=216,slow=5.5,SNR=26
PDAR **Pinedale Array** **87.38 43** P **P** **10 25 11.8 +0.4**
3.1nm,0.6s,mb4.1,baz=217,slow=3.1,SNR=30
VNA2 **Neumayer--Watz** **91.14 177** *e* **P** **10 25 27.5 -1.4**
baz=144,slow=2.5
VNA2 *e* 10 25 42.8
VNA2 *e* 10 25 55.2
VNA2 *e* 10 25 58.6
VNA1 **Neumayer--Stat** **91.36 177** *e* **P** **10 25 32.3 +2.4**
VNA1 *e* 10 25 47.4
YKA **Yellowknife Ar** **94.37 25** P **P** **10 25 42.3 -1.3**
1.3nm,0.7s,mb4.2,baz=236,slow=4.5,SNR=4.9
GERES **GERESS Array B** **147.66 345** PKPbc PKPbc 10 32 04.7 -0.6
0.7nm,0.4s,baz=31,slow=3.1,SNR=4.7

IDC ***11*** *10:18:17.4±0.6, 037N×9769E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, ML3.3/1, MS4.1/2, Ms1 4.1/2, ms1mx3.1/41, Error ellipse: s-maj=19.3km s-min=14.0km az=53.0*
BJI ***11*** *10:18:20.9, 044N×9793E, h27km, mB5.2, mb4.8, Ms4.4, Msz4.0*
MOS ***11*** *10:18:20.5±0.9, 037N×9763E, h33km, mb4.6/15, Error ellipse: s-maj=18.8km s-min=8.8km az=88.2*
ISCJB ***11*** *10:18:21.4±1.9, 038N±008×9774E±009, h42km±15km, mb4.5/36, MS4.0/5, Error ellipse: s-maj=16.9km s-min=11.5km az=118.0*
NEIC ***11*** *10:18:21.9±0.3, 035N×9769E, h30km, mb4.6/7, MS3.9/2, Error ellipse: s-maj=9.4km s-min=7.3km az=81.0*

ISC 11 10:18:23.8±1.8,040N±008×9776E±010,h42km±15km,
h29km±3.6km:pP-P,n71,σ0±92/67,mb4.5/36,MS4.0/5,1D,
Northern Sumatera

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

PSI **Prapat** **2.66 26** Pn **Pn** **10 19 02.2 -1.9**
6.0nm,0.3s,baz=174,slow=8.6,SNR=39
PSI **Prapat** **2.66 26** P **Pn** **10 19 02.2 -1.9**
PSI pmax pmax
comp=Z,6.0nm,0.3s
PSI **Prapat** **2.66 26** Pn **Pn** **10 19 02.2 -1.9**
IPM **Ipoh** **5.21 39** P **Pn** **10 19 40.4 +1.3**
KULM **Kulim** **5.66 31** *e*P **Pn** **10 19 45.4 +0.1**
KGM **Kluang** **5.79 74** P **Pn** **10 19 53.9 +6.8**
CHTO **Chiang Mai** **18.34 4** *e*P **Pn** **10 22 33.5 -1.4**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO **Chiang Mai** **18.34 4** *e*Pn **Pn** **10 22 33.5 -1.4**
comp=Z,4.4nm,0.7s
KMI **Kunming** **25.05 11** P **P** **10 23 45.5 +1.4**
KMI AMB AMB
comp=Z,30nm,1.1s,mb4.7
KMI AMB AMB

comp=Z,58nm,3.1s
KMI LR LR
comp=N,426nm,20.0s,MS4.2
KMI LR LR
comp=E,599nm,16.2s,MS4.2
KMI LR LR
comp=Z,561nm,18.7s,MS4.1
KMI Kunming 25.05 11 P **P** **10 23 45.5 +1.4**
comp=Z,30nm,1.1s,mb4.7
KMI pP pP 10 24 00.4 +5.1
KMI sP sP 10 24 06.5 +6.1
KMI PP 10 24 33.8
KMI PPP 10 24 49.3
KMI S **S** **10 28 18.7 +13**
KMI sS sS 10 28 46.4 +22
KMI SS 10 29 39.2
KMI SSS 10 30 02.1
KMI LR LR
comp=Z,560nm,18.7s,MS4.1
GYA Guiyang 27.30 18 ⇓*i*P **P** **10 24 04.5 +0.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
PKI Pulchoki 29.50 337 *e*P **P** **10 24 30.7 +6.7**
comp=Z,13nm,0.5s,mb4.9
GUN Gumba 29.63 338 *e*P **P** **10 24 25.9 +0.8**
comp=Z,61nm,1.0s,mb5.3
DMN Daman 29.66 337 *e*P **P** **10 24 31.2 +5.9**
comp=Z,34nm,1.0s,mb5.0
KKN Kakani 29.75 337 *e*P **P** **10 24 28.0 +1.8**
comp=Z,24nm,1.0s,mb4.9
LSA Lhasa 29.81 348 P **P** **10 24 27.4 +0.7**
LSA AP pP 10 24 36.4 -1.7
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.1
LSA LR LR
comp=N,140nm,21.0s,MS3.8
LSA LR LR
comp=E,170nm,18.0s,MS3.8
LSA LR LR
comp=Z,290nm,22.0s,MS3.9
KOLN Koldanda 30.42 335 *e*P **P** **10 24 32.8 +0.7**
comp=Z,16nm,0.7s,mb4.8
FITZ Fitzroy Crossi 33.01 125 P **P** **10 24 54.3 -0.6**
comp=Z,2.8nm,0.8s,mb4.2,baz=357,slow=6.6,SNR=4.1
XAN Xi'an 35.07 16 P **P** **10 25 12.3 -0.4**
XAN AMB AMB
comp=Z,33nm,1.0s,mb5.2
LZH Lanzhou 35.96 8 *e*P **P** **10 25 13.1 -7.2**
LZH *PP pP 10 25 21.0 -11
LZH *SP sP 10 25 25.5 -11
LZH pmax pmax
comp=Z,16nm,1.2s,mb4.8
LZH Lanzhou 35.96 8 *e*P **P** **10 25 13.1 -7.2**
comp=Z,16nm,1.2s,mb4.8
LZH pP pP 10 25 21.0 -11
LZH sP sP 10 25 25.5 -11
GTA Gaotai 38.88 3 *e*P **P** **10 25 47.5 +2.5**
GTA AP pP 10 25 55.6 -1.0
GTA XP sP 10 25 59.8 -1.8
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
WRA Warramunga Arr 41.14 122 P **P** **10 26 03.4 -0.4**
comp=Z,3.1nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=22
WRA Warramunga Arr 41.14 122 P **P** **10 26 03.4 -0.4**
WRA pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 42.47 127 P **P** **10 26 15.4 +0.7**
comp=Z,3.2nm,0.8s,mb4.0,baz=305,slow=8.0,SNR=27
ASAR Alice Springs 42.47 127 P **P** **10 26 15.4 +0.7**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
BJT Baijiatuan 42.86 21 *e*P **P** **10 26 17.9 +0.1**
BJT pmax pmax
comp=Z,7.0nm,0.5s
BJT Baijiatuan 42.86 21 *e*P **P** **10 26 17.9 +0.1**
comp=Z,7.1nm,0.5s,mb4.7
BJI Beijing 42.88 21 *e*P **P** **10 26 19.4 +1.4**
BJI AMB AMB
comp=Z,22nm,0.8s,mb4.9
BJI LR LR
comp=Z,90nm,18.3s,MS3.7
BJI Beijing 42.88 21 *e*P **P** **10 26 19.4 +1.4**
comp=Z,22nm,0.8s,mb4.9
BJI LR LR
comp=Z,90nm,18.3s,MS3.7
JNU Nakatsue 45.05 40 LR LR 10 46 59.1
comp=Z,538nm,20.1s,MS4.5,baz=148,slow=38
KSRS Korea Array 46.20 34 P **P** **10 26 44.0 -0.4**
comp=Z,5.6nm,0.8s,mb4.5,baz=219,slow=8.9,SNR=12
SONM Songino Array 47.84 8 P **P** **10 26 58.0 +0.7**
comp=Z,7.0nm,0.8s,mb4.7,baz=189,slow=9.6,SNR=45
SONM Songino Array 47.84 8 P **P** **10 26 58.0 +0.7**
SONM pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 48.15 346 P **P** **10 27 00.3 +0.6**
comp=Z,2.7nm,0.5s,mb4.5,baz=158,slow=8.8,SNR=18
MKAR Makanchi Array 48.15 346 P **P** **10 27 00.3 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 48.15 346 P **P** **10 27 00.3 +0.6**
CN2 Changchun 49.77 26 *e*P **P** **10 27 11.3 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
ZAK Zakamensk 50.02 5 *e*P **P** **10 27 14.5 +0.5**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MJAR Matsushiro Arr 51.91 42 P **P** **10 27 27.6 -0.7**
comp=Z,2.0nm,0.9s,mb4.0,baz=311,slow=18,SNR=3.8
MJAR Matsushiro Arr 51.91 42 P **P** **10 27 27.6 -0.6**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 52.41 132 P **P** **10 27 32.6 +0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=320,slow=18,SNR=2.3
KURK Kurchatov 52.71 345 *e*P **P** **10 27 33.5 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KURK Kurchatov 52.71 345 *e*P **P** **10 27 33.5 -0.6**
comp=Z,2.4nm,0.7s,mb4.2
OPO Ambohidratompo 53.11 246 P **P** **10 27 37.2 +0.1**
comp=Z,3.5nm,0.9s,mb4.3,baz=73,slow=6.8,SNR=4.8
ZAL Zalesovo 54.43 351 P **P** **10 27 47.2 +0.5**
comp=Z,8.6nm,0.4s,mb5.0,baz=314,slow=5.1,SNR=25
ZAL Zalesovo 54.43 351 P **P** **10 27 47.2 +0.5**
ZAL pmax pmax
comp=Z,9.0nm,0.4s
ZAL Zalesovo 54.43 351 P **P** **10 27 47.2 +0.5**
NVS Novosibirsk 55.56 350 *e*P **P** **10 27 53.7 -1.2**
KLR Kul'dur 56.73 26 *e*P **P** **10 28 01.8 -1.4**
BVAR Borovoye Array 57.19 341 P **P** **10 28 06.0 -0.5**
comp=Z,3.2nm,0.7s,mb4.5,baz=154,slow=7.9,SNR=12
BVAR Borovoye Array 57.19 341 P **P** **10 28 06.0 -0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
CHKZ Chkalovo 57.66 341 *e*P **P** **10 28 09.2 -0.6**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CHKZ Chkalovo 57.66 341 *e*P **P** **10 28 09.2 -0.6**
comp=Z,2.4nm,0.5s,mb4.5
CHKZ *ePP PP 10 30 10.7 -7.2
BOD Bodaibo 58.70 10 *e*P **P** **10 28 17.5 +0.4**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CNB Canberra Magne 59.74 132 *e*P sP 10 28 42.5 +1.2
comp=Z,15nm,0.9s
AKTK Aktyubinsk 60.20 332 P **P** **10 28 26.7 -0.7**
AKTO Aktyubinsk 60.20 332 P **P** **10 28 26.7 -0.7**
comp=Z,0.6nm,0.4s,mb4.0,baz=124,slow=3.6,SNR=3.7
AKTO Aktyubinsk 60.20 332 P **P** **10 28 26.7 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
YAK Yakutsk 66.03 16 *e*P **P** **10 29 06.6 +0.5**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
BRTR Keskin Array B 70.06 312 P **P** **10 29 31.3 -0.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=177,slow=6.6,SNR=3.1
BRTR Keskin Array B 70.06 312 P **P** **10 29 31.3 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
MATP Matopo 70.74 248 P **P** **10 29 36.1 +0.5**
comp=Z,3.2nm,0.8s,mb4.3,baz=88,slow=6.7,SNR=8.4
AKASG Malin Array Be 76.23 322 P **P** **10 30 06.5 -1.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=287,slow=23,SNR=3.4
FINES FINESS Array B 80.96 332 P **P** **10 30 32.7 -1.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=7.6,SNR=4.5
FINES FINESS Array B 80.96 332 P **P** **10 30 32.7 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 83.47 340 P **P** **10 30 46.1 -0.8**
comp=Z,3.7nm,0.9s,mb4.4,baz=106,slow=6.7,SNR=3.5
ARCES ARCESS Array B 83.47 340 P **P** **10 30 46.2 -0.8**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 93.71 198 LR LR 11 09 31.3
comp=Z,31nm,18.8s,MS3.8,baz=23,slow=33
TXAR Lajitas Array 144.05 33 PKP PKPdf 10 37 55.3 +0.5
comp=Z,0.3nm,0.6s,baz=259,slow=41,SNR=3.1
JCT Junction City 145.05 27 *e*PKIKP PKPdf 10 37 56.7 +0.2

*ISCJB **11** 10:20:23.7±3.1, 067N±008×974E±0.1, h29km±21km, mb4.6/29, MS4.1/12, Error ellipse: s-maj=18.0km s-min=11.4km az=133.8*
*BJI **11** 10:20:23.8, 030N×9765E, h49km, mB5.1, mb5.0, Ms4.6, Msz4.4*
*MOS **11** 10:20:24.2±0.8, 071N×9739E, h33km, mb4.7/16, Error ellipse: s-maj=20.6km s-min=10.6km az=95.5*
*NEIC **11** 10:20:25.4±0.5, 065N×9732E, h30km, mb4.5/7, MS4.0/1, Error ellipse: s-maj=12.6km s-min=8.4km az=67.0*
*IDC **11** 10:20:27.2±4.2, 071N×9737E, h43km±38km, mb4.2/14, mb1 4.3/15, mb1mx4.0/25, mbtmp4.1/15, ML3.3/1, MS4.1/9, Ms1 4.0/9, ms1mx3.7/39, Error ellipse: s-maj=27.4km s-min=15.0km az=54.0*

ISC 11 10:20:26.0±3.2, 070N±008×974E±01, h29km±22km, n62, σ0°94/58, mb4.6/29, MS4.1/12, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.57**	**36**	P	**Pn**	**10 21 05.2**	**-0.4**
	6.9nm,0.3s,baz=246,slow=4.9,SNR=6.9						
PSI	**Prapat**	**2.57**	**36**	P	**Pn**	**10 21 05.2**	**-0.4**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
CM31	**Chiang Mai Arr**	**17.71**	**5**	*e*Pn	**Pn**	**10 24 30.1**	**-0.3**
	comp=Z,10.0nm,0.6s						
CHG	**Chiang Mai**	**18.06**	**5**	⇓P	**Pn**	**10 24 35.0**	**+0.3**
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**18.06**	**5**	*e*P	**Pn**	**10 24 35.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**18.06**	**5**	*e*Pn	**Pn**	**10 24 35.2**	**+0.5**
	comp=Z,9.1nm,0.8s						
NANT	**Nan**	**18.27**	**10**	⇑P	**Pn**	**10 24 37.0**	**-0.3**
	comp=Z,140nm,1.0s						
KMI	**Kunming**	**24.82**	**12**	P	**P**	**10 25 47.1**	**+1.6**
KMI				AP		10 26 01.8	
KMI				XP	sP	10 26 07.4	+10
KMI				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,194nm,3.8s						
KMI	**Kunming**	**24.82**	**12**	P	**P**	**10 25 47.1**	**+1.6**
	comp=Z,40nm,1.2s,mb4.8						
KMI				pP		10 26 01.8	
KMI				sP	sP	10 26 07.4	+10
PKI	**Pulchoki**	**29.10**	**338**	*e*P	**P**	**10 26 32.7**	**+8.7**
	comp=Z,55nm,1.0s,mb5.2						
GUN	**Gumba**	**29.23**	**339**	*e*P	**P**	**10 26 27.9**	**+2.7**
	comp=Z,99nm,1.1s,mb5.5						
KKN	**Kakani**	**29.34**	**338**	*e*P	**P**	**10 26 30.4**	**+4.2**
	comp=Z,28nm,0.8s,mb5.0						
LSA	**Lhasa**	**29.45**	**349**	*e*P	**P**	**10 26 27.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
LSA	**Lhasa**	**29.45**	**349**	*e*P	**P**	**10 26 27.4**	**+0.2**
	comp=Z,4.6nm,0.5s,mb4.5						
KOLN	**Koldanda**	**30.00**	**335**	*e*P	**P**	**10 26 34.6**	**+2.6**
	comp=Z,23nm,0.8s,mb4.9						
CD2	**Chengdu**	**30.64**	**11**	P	**P**	**10 26 37.6**	**-0.1**
CD2				S	**S**	**10 31 39.5**	**+1.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
CD2				LR	LR		
	comp=N,980nm,13.2s						
CD2				LR	LR		
	comp=Z,680nm,13.8s,MS4.5						
FITZ	**Fitzroy Crossi**	**33.46**	**125**	P	**P**	**10 27 02.6**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=302,slow=4.6,SNR=4.1						
XAN	**Xi'an**	**34.87**	**17**	P	**P**	**10 27 13.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.4						
LZH	**Lanzhou**	**35.71**	**9**	*e*P	**P**	**10 27 30.5**	**+8.6**
LZH				*SP	sP	10 27 40.2	+6.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
LZH	**Lanzhou**	**35.71**	**9**	*e*P	**P**	**10 27 30.5**	**+8.6**
	comp=Z,15nm,1.1s,mb4.8						
LZH				pP	pP	10 27 37.1	+6.6
LZH				sP	sP	10 27 40.2	+6.2
GTA	**Gaotai**	**38.59**	**3**	P	**P**	**10 27 46.9**	**+0.6**
GTA				PCP	PcP	10 29 58.2	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**10 28 12.2**	**+1.1**
	comp=Z,3.8nm,0.7s,mb4.1,baz=301,slow=8.9,SNR=3.1						
WRA				LR	LR	10 46 24.9	
	comp=Z,185nm,20.4s,MS4.0,baz=280,slow=37						
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**10 28 12.2**	**+1.1**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,185nm,20.4s						
BJI	**Beijing**	**42.72**	**21**	*e*P	**P**	**10 28 20.7**	**+0.3**
BJI				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,189nm,15.9s,MS4.4						
BJI				LR	LR		
	comp=E,359nm,15.3s,MS4.4						
BJI				LR	LR		
	comp=Z,168nm,19.0s,MS4.0						
BJI	**Beijing**	**42.72**	**21**	*e*P	**P**	**10 28 20.7**	**+0.3**
	comp=Z,28nm,1.0s,mb5.0						
BJI				S	**S**	**10 35 00.1**	**+18**
BJI				LR	LR		
	comp=Z,170nm,19.0s,MS4.0						
ASAR	**Alice Springs**	**42.92**	**127**	P	**P**	**10 28 23.1**	**+1.0**
	comp=Z,5.6nm,0.8s,mb4.3,baz=297,slow=7.8,SNR=5.6						
ASAR				LR	LR	10 47 50.1	
	comp=Z,165nm,20.5s,MS3.9,baz=310,slow=38						
ASAR	**Alice Springs**	**42.92**	**127**	P	**P**	**10 28 23.1**	**+1.1**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,165nm,20.5s						
WMQ	**Urumqi**	**43.80**	**350**	*e*P	**P**	**10 28 29.5**	**+0.4**
KSRS	**Korea Array**	**46.13**	**34**	P	**P**	**10 28 46.4**	**-1.3**
	comp=Z,6.6nm,0.8s,mb4.6,baz=221,slow=8.9,SNR=8.5						
SONM	**Songino Array**	**47.59**	**8**	P	**P**	**10 28 59.3**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.8,baz=190,slow=8.4,SNR=15						
SONM	**Songino Array**	**47.59**	**8**	P	**P**	**10 28 59.3**	**+0.2**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MKAR	**Makanchi Array**	**47.78**	**346**	P	**P**	**10 29 00.9**	**+0.4**
	comp=Z,5.7nm,0.7s,mb4.7,baz=159,slow=8.8,SNR=12						
MKAR				LR	LR	10 50 07.0	
	comp=Z,90nm,20.3s,MS3.7,baz=160,slow=37						
MKAR	**Makanchi Array**	**47.78**	**346**	P	**P**	**10 29 00.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,90nm,20.3s						
ZAK	**Zakamensk**	**49.75**	**5**	*e*P	**P**	**10 29 15.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TLY	**Talaya**	**51.07**	**5**	*e*P	**P**	**10 29 26.5**	**+0.9**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,188nm,16.0s,MS4.2						
MJAR	**Matsushiro Arr**	**51.91**	**42**	P	**P**	**10 29 30.5**	**-1.5**
	comp=Z,2.4nm,0.9s,mb4.1,baz=229,slow=6.2,SNR=6.5						
MJAR				LR	LR	10 51 39.6	
	comp=Z,208nm,18.7s,MS4.2,baz=290,slow=36						
MJAR	**Matsushiro Arr**	**51.91**	**42**	P	**P**	**10 29 30.5**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,208nm,18.7s						
CTA	**Charters Tower**	**52.08**	**116**	P	**P**	**10 29 33.7**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.4,baz=276,slow=17,SNR=2.5						
CTA				LR	LR	10 52 39.7	
	comp=Z,184nm,19.4s,MS4.1,baz=161,slow=37						
CTA	**Charters Tower**	**52.08**	**116**	P	**P**	**10 29 33.7**	**+0.5**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTA				MLR	MLR		
	comp=Z,185nm,19.4s						
KURK	**Kurchatov**	**52.33**	**345**	*e*P	**P**	**10 29 34.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**52.33**	**345**	*e*P	**P**	**10 29 34.9**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**52.86**	**132**	LR	LR	10 53 53.4	
	comp=Z,250nm,21.7s,MS4.2,baz=109,slow=38						
ZAL	**Zalesovo**	**54.08**	**351**	P	**P**	**10 29 47.9**	**-0.1**
	comp=Z,11nm,0.4s,mb5.1,baz=305,slow=4.3,SNR=16						
ZAL	**Zalesovo**	**54.08**	**351**	P	**P**	**10 29 47.9**	**0.0**
ZAL				pmax	pmax		
	comp=Z,11nm,0.4s						
KLR	**Kul'dur**	**56.60**	**26**	*e*P	**P**	**10 30 02.2**	**-3.9**
BOD	**Bodaibo**	**58.46**	**10**	*e*P	**P**	**10 30 18.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
YSS	**Yuzh-Sakhalins**	**60.63**	**34**	*e*P	**P**	**10 30 33.1**	**-1.1**
YAK	**Yakutsk**	**65.83**	**16**	*e*P	**P**	**10 31 07.7**	**-0.9**
BRTR	**Keskin Array B**	**69.61**	**312**	P	**P**	**10 31 32.2**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=112,slow=7.0,SNR=3.5						
BRTR	**Keskin Array B**	**69.61**	**312**	P	**P**	**10 31 32.3**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MATP	**Matopo**	**70.55**	**248**	P	**P**	**10 31 37.3**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=73,slow=6.5,SNR=5.2						
DZM	**Mont Dzumac**	**70.88**	**114**	LR	LR	11 02 20.3	
	comp=Z,149nm,18.6s,MS4.3,baz=236,slow=35						
BOSA	**Boshof**	**74.72**	**240**	LR	LR	10 59 48.1	
	comp=Z,68nm,19.5s,MS4.0,baz=266,slow=32						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**10 32 08.0**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=102,slow=3.9,SNR=4.4						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**10 32 08.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**80.54**	**333**	P	**P**	**10 32 34.1**	**-1.3**
	comp=Z,4.7nm,1.1s,mb4.3,baz=106,slow=6.2,SNR=5.6						
FINES	**FINESS Array B**	**80.54**	**333**	P	**P**	**10 32 34.1**	**-1.4**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
URZ	**Urewera**	**82.33**	**129**	LR	LR	11 10 52.6	
	comp=Z,148nm,19.1s,MS4.4,baz=130,slow=37						
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**10 32 48.1**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.4,baz=108,slow=4.0,SNR=3.6						
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**10 32 48.1**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**143.97**	**32**	PKhKP		10 39 55.5	
	comp=Z,0.8nm,0.7s,baz=318,slow=1.7,SNR=4.1						
JCT	**Junction City**	**144.93**	**26**	*e*PKIKP	PKPdf	10 39 58.7	-1.5

*ISCJB **11** 10:22:49.6±1.6, 55S±0.1×1475E±0.1, h152km±16km, mb4.4/7, Error ellipse: s-maj=20.8km s-min=12.8km az=82.4*
*NEIC **11** 10:22:50.9±1.4, 554S×147.47E, h152km±12km, mb4.7/5, Error ellipse: s-maj=12.7km s-min=10.0km az=156.0*
*IDC **11** 10:22:51.5±1.9, 563S×147.38E, h154km±19km, mb4.2/6, mb1 4.3/10, mb1mx4.1/17, mbtmp4.2/10, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=24.2km s-min=12.4km az=110.0*

ISC 11 10:22:51.1±1.4, 563S±009×1475E±01, h146km±12km, n19, σ1°02/25, mb4.4/7, 1C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**185**	P	**Pn**	**10 23 48.4**	**+0.3**
	11nm,0.3s,baz=356,slow=5.6,SNR=41						
PMG				S	**Sn**	**10 24 30.1**	**-2.3**
	97nm,0.3s,baz=169,slow=22,SNR=22						
PMG	**Port Moresby**	**3.77**	**185**	*e*Pn	**Pn**	**10 23 48.5**	**+0.3**
PMG				S	**Sn**	**10 24 30.1**	**-2.3**
PMG				*eSn	**Sn**	**10 24 30.8**	**-1.6**
HNR	**Honiara**	**12.94**	**108**	P	**Pn**	**10 25 50.1**	**+0.5**
	6.9nm,0.3s,baz=91,slow=1.2,SNR=5.8						
CTA	**Charters Tower**	**14.42**	**185**	*e*P	**Pn**	**10 26 09.8**	**+1.4**
	4.7nm,0.8s						
CTA	**Charters Tower**	**14.42**	**185**	P	**Pn**	**10 26 09.8**	**+1.4**
	0.3nm,0.3s,baz=4.9,slow=14,SNR=8.9						
CTA				LR	LR	10 30 16.0	
	comp=Z,70nm,19.3s,baz=232,slow=31						
KAKA	**Kakadu**	**16.41**	**244**	⇑*i*P	**Pn**	**10 26 33.2**	**+0.3**
	15nm,0.4s						
WB2	**Warramunga Arr**	**19.10**	**221**	⇓*i*P	**P**	**10 27 03.5**	**+0.9**
WB2				*eS	**S**	**10 30 29.5**	**-1.9**
WRA	**Warramunga Arr**	**19.11**	**221**	P	**P**	**10 27 03.2**	**+0.5**
	9.7nm,0.3s,baz=49,slow=12,SNR=141						
WRA				S	**S**	**10 30 27.1**	**-4.4**
	0.1nm,0.3s,baz=42,slow=17,SNR=4.2						
AS31	**Alice Springs**	**22.18**	**215**	⇓*i*P	**P**	**10 27 36.0**	**+0.6**
AS31				*eS	**S**	**10 31 30.0**	**+0.9**
ASAR	**Alice Springs**	**22.18**	**215**	P	**P**	**10 27 35.6**	**+0.2**
	44nm,0.4s,mb5.2,baz=51,slow=8.4,SNR=608						
ASAR				S	**S**	**10 31 30.8**	**+1.7**
	13nm,0.9s,baz=30,slow=22,SNR=31						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	⇓*i*P	**P**	**10 27 58.7**	**+0.6**
	57nm,0.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**10 27 58.7**	**+0.6**
	28nm,0.5s,mb5.1,baz=70,slow=9.9,SNR=106						
STKA	**Stephens Creek**	**26.68**	**191**	P	**P**	**10 28 15.8**	**-0.7**
	4.2nm,0.7s,mb4.2,baz=19,slow=12,SNR=5.1						
KLBR	**Kellerberrin**	**37.96**	**223**	*e*P	**P**	**10 29 54.0**	**-0.5**
	8.4nm,0.5s,mb4.6						
MUN	**Mundaring**	**39.25**	**224**	*e*P	**P**	**10 30 06.4**	**+1.2**
SONM	**Songino Array**	**64.30**	**331**	P	**P**	**10 33 10.0**	**-0.9**
	2.4nm,1.0s,mb4.0,baz=146,slow=10,SNR=6.6						
VNDA	**Vanda**	**72.25**	**177**	P	**P**	**10 33 59.1**	**-1.3**
	3.1nm,0.7s,mb4.2,baz=327,slow=7.6,SNR=17						
MKAR	**Makanchi Array**	**77.50**	**320**	P	**P**	**10 34 29.6**	**-1.0**
	0.6nm,0.5s,mb3.5,baz=96,slow=9.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**145.44**	**285**	PKPbc	PKPbc	10 42 11.2	-0.7
	2.4nm,0.7s,baz=71,slow=3.8,SNR=14						

*CSEM **11** 10:32:32.5±0.7, 4004N×2970W, h10km, ML3.4, Error ellipse: s-maj=11.6km s-min=5.4km az=72.0, After PDA*
*PDA **11** 10:32:32.5±0.7, 4004N×2970W, h10km, MD3.5, ML3.4, Error ellipse: s-maj=11.6km s-min=5.4km az=72.0*

SVSA 11 10:32:32.5±0.7, 4004N×2970W, h10km, MD3.5, ML3.4, Error ellipse: s-maj=11.6km s-min=5.4km az=72.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.61**	**151**	*e*P	Sn	10 33 18.4	-3.4
SRBC	**Serra Branca**	**1.63**	**128**	*e*P	Pn	10 32 56.8	-4.4
SRBC				*eS	Sn	10 33 14.6	-7.6
CALA	**Caldeira**	**1.65**	**152**	*e*S	Sn	10 33 15.0	-7.8
ROSA	**Rosais**	**1.74**	**139**	*e*P	Pn	10 32 58.1	-4.6
PICO	**Pico**	**1.83**	**147**	*e*P	Pn	10 32 59.6	-4.4
PICO				*eS	Sn	10 33 19.9	-7.3
PCND	**Candelaria**	**1.84**	**148**	*e*P	Pn	10 32 59.7	-4.4
PCND				*eS	Sn	10 33 20.3	-7.2
PCND							
	93nm,0.3s						
PBOI	**Pico dos Bois**	**1.91**	**147**	*e*P	Sn	10 33 24.1	-5.0
PID	**Ribeirinha**	**2.02**	**142**	*e*P	Pn	10 33 01.7	-4.8

*ISCJB **11** 10:37:51.9±0.4, 4452N±002×719E±0.4, h10km±3km, Error ellipse: s-maj=4.5km s-min=2.5km az=128.3*
*LDG **11** 10:37:52.6±0.1, 4453N×724E, h3km, Md2.6/1, Ml2.6/7, Error ellipse: s-maj=1.4km s-min=0.7km az=64.0*
*CSEM **11** 10:37:52.0±0.1, 4455N×728E, h10km, ML2.5/7, Error ellipse: s-maj=1.5km s-min=0.9km az=62.0*
*GEN **11** 10:37:52.8, 4451N×720E, h12km, ML2.0*
*NEIC **11** 10:37:52.6, 4453N×724E, h3km, ML2.2(STR), ML2.6(LDG), After LDG.*
*STR **11** 10:37:53.5±0.2, 4449N×727E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

**ISC

	64nm,0.2s,SNR=1.0							
MBDF	**Montbardon**	**0.38**	**302**	*e*Pg	**Pg**	**10 38 00.5**	**+0.5**
	SNR=1.0							
MBDF				*e*Sg	**Sg**	**10 38 05.7**	**+0.5**
	32nm,0.2s,SNR=1.0							
RRL	**Cesana Torines**	**0.51**	**321**	P	**Pg**	**10 38 02.8**	**+0.5**
TOUF	**Mont Tournerai**	**0.51**	**178**	Pg	**Pg**	**10 38 02.7**	**+0.3**
ROB	**Roburent**	**0.52**	**117**	P	**Pg**	**10 38 03.0**	**+0.5**
AUTN	**L'Aution**	**0.55**	**165**	Pg	**Pg**	**10 38 03.4**	**+0.3**
AUTN				Sg	**Sg**	**10 38 10.4**	**0.0**
MONE	**Monesi**	**0.59**	**140**	P	**Pg**	**10 38 03.7**	**-0.1**
SAOF	**Saorge**	**0.59**	**156**	Pg	**Pg**	**10 38 03.8**	**-0.1**
SAOF				Sg	**Sg**	**10 38 11.3**	**-0.4**
RSP	**Reno Superiore**	**0.62**	**2**	P	**Pg**	**10 38 04.2**	**-0.3**
MVIF	**Mont Vial**	**0.63**	**185**	Pg	**Pg**	**10 38 05.1**	**+0.4**
MVIF				Sg	**Sg**	**10 38 13.5**	**+0.4**
LUCF	**Luceram**	**0.64**	**172**	Pg	**Pg**	**10 38 04.9**	**+0.1**
BNI	**Bardonecchia**	**0.66**	**323**	*e*Pg	**Pg**	**10 38 05.2**	**+0.1**
BNI				*e*Sg	**Sg**	**10 38 13.9**	**+0.2**
BNI	**Bardonecchia**	**0.66**	**323**	*e*Pg	**Pg**	**10 38 05.2**	**+0.1**
BNI				*e*Sg	**Sg**	**10 38 13.9**	**+0.2**
SBF	**Sospel**	**0.68**	**167**	*e*P	**Pg**	**10 38 06.8**	**+1.2**
	SNR=1.0							
SBF				*e*Sg	**Sg**	**10 38 14.2**	**-0.3**
	18nm,0.2s,SNR=1.0							
SBF				*e*Sn	**Sg**	**10 38 18.0**	**+3.5**
	SNR=1.0							
SBF	**Sospel**	**0.68**	**167**	*e*Pg	**Pg**	**10 38 05.6**	**0.0**
SBF				*e*Sg	**Sg**	**10 38 14.2**	**-0.3**
SBF	**Sospel**	**0.68**	**167**	*e*P	**Pg**	**10 38 06.8**	**+1.2**
	SNR=1.0							
SBF				*e*Sg	**Sg**	**10 38 14.2**	**-0.3**
	8.8nm,0.2s,SNR=1.0							
SBF				*e*Sn	**Sg**	**10 38 18.0**	**+3.5**
	SNR=1.0							
RORO		**0.73**	**124**	P	**Pg**	**10 38 06.7**	**+0.2**
NEGI	**Negi**	**0.76**	**153**	P	**Pg**	**10 38 06.8**	**-0.3**
FIN	**Finale Ligure**	**0.77**	**114**	P	**Pg**	**10 38 07.3**	**0.0**
LSD	**Ceresole Reale**	**0.93**	**357**	P	**Pb**	**10 38 10.6**	**+0.3**
PCP	**Pian Castagno**	**0.94**	**89**	P	**Pb**	**10 38 10.6**	**+0.1**
LPG	**La Plagne**	**1.03**	**341**	*e*Pn	**Pn**	**10 38 12.4**	**0.0**
	SNR=1.0							
LPG				*e*Sn	**Sn**	**10 38 26.6**	**0.0**
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.04**	**293**	*e*Pg	**Pg**	**10 38 11.9**	**-0.5**
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**10 38 24.8**	**-1.1**
	14nm,0.2s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.04**	**293**	*e*Pg	**Pg**	**10 38 11.9**	**-0.5**
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**10 38 24.8**	**-1.1**
	6.9nm,0.2s,SNR=1.0							
LPL	**La Plagne**	**1.05**	**341**	*e*Pn	**Pn**	**10 38 12.8**	**+0.1**
	SNR=1.0							
LPL				*e*Sg	**Sg**	**10 38 25.0**	**-1.3**
	7.4nm,0.3s,SNR=1.0							
LPL				*e*Sn	**Sn**	**10 38 27.5**	**+0.4**
	SNR=1.0							
LPL	**La Plagne**	**1.05**	**341**	*e*Pn	**Pn**	**10 38 12.8**	**+0.1**
	SNR=1.0							
LPL				*e*Sg	**Sg**	**10 38 25.0**	**-1.3**
	3.7nm,0.3s,SNR=1.0							
LPL				*e*Sn	**Sn**	**10 38 27.5**	**+0.4**
	SNR=1.0							
FRF	**La Foret Royal**	**1.05**	**204**	*e*Pn	**Pn**	**10 38 12.8**	**+0.1**
	SNR=1.0							
FRF				*e*Sg	**Sg**	**10 38 25.5**	**-0.9**
	19nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**1.05**	**204**	*e*Pg	**Pg**	**10 38 12.3**	**-0.3**
FRF				*e*Pn	**Pn**	**10 38 12.8**	**+0.1**
FRF				*e*Sg	**Sg**	**10 38 25.5**	**-0.9**
FRF	**La Foret Royal**	**1.05**	**204**	*e*Pn	**Pn**	**10 38 12.8**	**+0.1**
	SNR=1.0							
FRF				*e*Sg	**Sg**	**10 38 25.5**	**-0.9**
	9.7nm,0.2s,SNR=1.0							
TAVF	**Tavernes**	**1.24**	**223**	Pg	**Pg**	**10 38 16.7**	**+0.5**
TAVF				Sg	**Sg**	**10 38 33.9**	**+1.5**
LMR	**La Mourre**	**1.30**	**204**	*e*Pg	**Pg**	**10 38 16.8**	**-0.6**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**10 38 32.9**	**-0.4**
	SNR=1.0							
LMR				*e*Sg	**Sg**	**10 38 33.8**	**-0.5**
	14nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.30**	**204**	*e*Pg	**Pg**	**10 38 16.8**	**-0.6**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**10 38 32.9**	**-0.4**
	SNR=1.0							
LMR				*e*Sg	**Sg**	**10 38 33.8**	**-0.5**
	6.8nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.31**	**246**	*e*P	**Pn**	**10 38 18.0**	**+1.8**
	SNR=1.0							
SMRF				*e*Sg	**Sg**	**10 38 34.3**	**-0.3**
	24nm,0.3s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.31**	**246**	*e*P	**Pn**	**10 38 18.0**	**+1.8**
	SNR=1.0							
SMRF				*e*Sg	**Sg**	**10 38 34.3**	**-0.3**
	12nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.85**	**281**	*e*Pg	**Pg**	**10 38 27.1**	**-0.8**
VIVF				*e*Sg	**Sg**	**10 38 51.1**	**-0.8**
	4.7nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.85**	**281**	*e*P	**Pn**	**10 38 25.1**	**+1.4**
VIVF				*e*Pg	**Pg**	**10 38 27.1**	**-0.8**
VIVF				*e*Sg	**Sg**	**10 38 51.1**	**-0.8**
VIVF	**Saint-Julien-l**	**1.85**	**281**	*e*Pg	**Pg**	**10 38 27.1**	**-0.8**
VIVF				*e*Sg	**Sg**	**10 38 51.1**	**-0.8**
	2.3nm,0.3s,SNR=1.0							
PGF	**Pioggiola**	**2.36**	**146**	*e*Pn	**Pn**	**10 38 29.8**	**-0.9**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**10 38 58.0**	**-1.5**
	0.9nm,0.2s							
PGF	**Pioggiola**	**2.36**	**146**	*e*Pn	**Pn**	**10 38 29.8**	**-0.9**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**10 38 58.0**	**-1.5**
	0.4nm,0.2s							

NIED ***11*** *10:45:00, 43.30N×14.630E, h74km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:ϕs=59.00000°, δ54.00000°, λ-47.00000°. NP2:ϕs=180.00000°, δ54.00000°, λ-133.00000°.*

ISCJB ***11*** *10:45:26.6±0.6, 43.36N±0.004×14.640E±0.007, h84km±4km, mb4.1/17, Error ellipse: s-maj=9.6km s-min=5.3km az=80.2*

MOS ***11*** *10:45:26.2±1.3, 43.38N×14.642E, h82km, mb4.3/6, Error ellipse: s-maj=14.3km s-min=10.4km az=93.1*

MOS Felt (II) at Yuzhno-Kuril'sk.

NEIC ***11*** *10:45:28.3±0.4, 43.36N×14.630E, mb4.3/4, Error ellipse: s-maj=10.8km s-min=8.4km az=119.0*

NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.

JMA ***11*** *10:45:28.7±0.1, 43.29N×14.631E, h75km±1km, M4.2*

JMA Felt II J1.

SKHL ***11*** *10:45:28.0±1.7, 43.40N×14.653E, h74km±7km, Felt (II) at Yushno-Kurilsk*

IDC ***11*** *10:45:28.4±0.7, 43.37N×14.633E, h85km±7km, mb3.8/11, mb1 4.0/13, mb1mx3.8/24, mbtmp3.8/13, Error ellipse: s-maj=17.4km s-min=16.0km az=79.0*

ISC 11 10:45:27.6±0.6, 4337N±004×14640E±007, h79km±4km, n49, σ1§07/64, mb4.1/17, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.48**	**270**	P	**Pn**	**10 45 41.4**	**+0.4**
NEM2				eS	**Sn**	**10 45 50.8**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.77**	**330**	*i*P	**Pn**	**10 45 43.9**	**0.0**
YUK				AMB	AMB	10 45 44.3	
	4μm,0.1s						
YUK				AMB	AMB	10 45 44.3	
	430nm,0.2s						
YUK				AMB	AMB	10 45 44.3	
	390nm,0.2s						
YUK				AMB	AMB	10 45 45.0	
	11μm,0.1s						
YUK				*i* S	**Sn**	**10 45 55.8**	**-0.3**
YUK				A		10 45 58.9	
	25μm,0.5s						
YUK				A		10 45 58.9	
	11μm,0.4s						
YUK				A		10 46 02.0	
	34μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**0.77**	**330**	*i*PN	**Pn**	**10 45 43.9**	**0.0**
YUK				*i* S	**Sn**	**10 45 55.8**	**-0.3**
YUK				pmax	pmax		
	comp=N,430nm,0.2s						
YUK				pmax	pmax		
	comp=E,390nm,0.2s						
YUK				pmax	pmax		
	comp=Z,410nm,0.2s						
YUK				pmax	pmax		
	comp=Z,11μm,0.2s						
YUK				smax			
	comp=N,25μm,0.5s						
YUK				smax			
	comp=E,11μm,0.4s						
YUK				smax			
	comp=N,34μm,1.0s						
JRA	**Rausu**	**1.09**	**302**	P	**Pn**	**10 45 48.5**	**+0.9**
JRA				*e*S	**Sn**	**10 46 03.5**	**+0.9**
JNK	**Nakash**	**1.24**	**281**	P	**Pn**	**10 45 49.7**	**+0.2**
JNK				*e*S	**Sn**	**10 46 04.9**	**-1.1**
JAK	**Akkeshi**	**1.30**	**254**	P	**Pn**	**10 45 50.2**	**-0.1**
JAK				*e*S	**Sn**	**10 46 06.3**	**-1.0**
JTKR	**Abashiri--Toko**	**1.90**	**289**	P	**Pn**	**10 45 59.3**	**+1.1**
JTKR				*e*S	**Sn**	**10 46 22.2**	**+0.8**
JAR	**Ashorobuto**	**1.92**	**269**	P	**Pn**	**10 45 59.0**	**+0.7**
JAR				*e*S	**Sn**	**10 46 22.2**	**+0.4**
JOB	**Onbets**	**1.93**	**257**	P	**Pn**	**10 45 58.9**	**+0.4**
JOB				*e*S	**Sn**	**10 46 21.5**	**-0.6**
KUR	**Kuril'sk**	**2.14**	**29**	*e*P	**Pn**	**10 45 59.8**	**-1.5**
KUR				AMB	AMB	10 46 05.5	
	comp=N,40nm,0.6s						
KUR				AMB	AMB	10 46 05.5	
	comp=N,80nm,0.6s						
KUR				*i* S	**Sn**	**10 46 25.0**	**-2.1**
KUR				A		10 46 26.4	
	comp=N,550nm,0.5s						
KUR				A		10 46 26.4	
	comp=N,470nm,0.5s						
KUR	**Kuril'sk**	**2.14**	**29**	*e*PN	**Pn**	**10 45 59.8**	**-1.5**
KUR				*i* S	**Sn**	**10 46 25.0**	**-2.1**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,40nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,550nm,0.5s						
KUR				smax			
	comp=E,470nm,0.5s						
JMP	**Maruseppu**	**2.29**	**287**	P	**Pn**	**10 46 04.6**	**+1.2**
JCH	**Churui**	**2.35**	**252**	P	**Pn**	**10 46 04.0**	**-0.1**
JCH				*e*S	**Sn**	**10 46 30.0**	**-2.1**
ERM	**Erimo**	**2.75**	**242**	*e*Pn	**Pn**	**10 46 11.0**	**+1.6**
ERM				*e*Sn	**Sn**	**10 46 40.3**	**-1.3**
ASAJ	**Asahikawa**	**2.85**	**287**	P	**Pn**	**10 46 12.8**	**+1.8**
	comp=E,123nm,0.3s,baz=110,slow=10,SNR=692						
ASAJ	**Asahikawa**	**2.85**	**287**	PN	**Pn**	**10 46 12.8**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,123nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.42**	**326**	*e*P	**Pn**	**10 46 33.5**	**+1.4**
YSS				AMB	AMB	10 46 34.9	
	comp=Z,30nm,1.0s						
YSS				*e*S	**Sn**	**10 47 21.4**	**-0.9**
YSS				A		10 47 25.2	
	comp=Z,60nm,0.8s						
YSS				A		10 47 25.2	
	comp=Z,90nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.42**	**326**	*e*PN	**Pn**	**10 46 33.5**	**+1.4**
YSS				*e*S	**Sn**	**10 47 21.4**	**-0.9**
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,60nm,0.7s						
YSS				smax			
	comp=E,90nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.42**	**326**	*e*Pn	**Pn**	**10 46 33.7**	**+1.6**
UGL	**Uglegorsk**	**6.45**	**334**	*e*P	**Pn**	**10 47 02.5**	**+2.6**
UGL				AMB	AMB	10 47 03.5	
	comp=E,66nm,0.8s						
TYV	**Tymovskoe**	**7.92**	**343**	*e*P	**Pn**	**10 47 19.8**	**-0.1**
TYV				AMB	AMB	10 47 22.2	
	comp=E,14nm,0.8s						
MJAR	**Matsushiro Arr**	**9.27**	**225**	P	**Pn**	**10 47 37.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=20,slow=14,SNR=3.6						
VLA	**Vladivostok**	**10.59**	**274**	*e*PN	**Pn**	**10 48 05.6**	**+9.3**
SEY	**Seymchan**	**19.91**	**8**	*e*P	**Pn**	**10 49 52.3**	**-2.8**
BJT	**Baijiatuau**	**22.76**	**272**	*e*P	**P**	**10 50 21.5**	**-1.7**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	**Baijiatuau**	**22.76**	**272**	*e*P	**P**	**10 50 21.5**	**-1.7**
	comp=Z,6.6nm,0.5s,mb4.2						
BILL	**Bilibino**	**26.88**	**16**	*e*P	**P**	**10 51 09.1**	**+8.2**
BILL				*e*S	**S**	**10 55 31.2**	**-0.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.9						
SONM	**Songino Array**	**28.12**	**293**	P	**P**	**10 51 11.8**	**-0.1**
	comp=Z,7.3nm,0.7s,mb4.3,baz=88,slow=8.7,SNR=44						
IMA2	**Indian Mountai**	**39.30**	**34**	*e*P	**P**	**10 52 49.9**	**+1.2**
ZAL	**Zalesovo**	**40.81**	**307**	P	**P**	**10 52 59.5**	**-1.7**
	comp=Z,1.3nm,0.4s,mb4.1,baz=40,slow=7.2,SNR=3.9						
ZAL	**Zalesovo**	**40.81**	**307**	P	**P**	**10 52 59.5**	**-1.7**
MKAR	**Makanchi Array**	**44.28**	**298**	P	**P**	**10 53 29.5**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.3,baz=81,slow=8.7,SNR=48						
MKAR				PcP	PcP	10 55 11.9	-0.5
	comp=Z,0.3nm,0.5s,baz=64,slow=6.6,SNR=2.8						
KURK	**Kurchatov**	**45.29**	**304**	*e*P	**P**	**10 53 37.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
KURK	**Kurchatov**	**45.29**	**304**	*e*P	**P**	**10 53 37.1**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.3						
INK	**Inuvik**	**47.01**	**30**	P	**P**	**10 53 51.6**	**+0.8**
	comp=Z,5.4nm,0.6s,mb4.5,baz=306,slow=6.6,SNR=16						
CHKZ	**Chkalovo**	**48.97**	**310**	*e*P	**P**	**10 54 05.4**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**48.97**	**310**	*e*P	**P**	**10 54 05.4**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**59.41**	**339**	P	**P**	**10 55 21.5**	**-0.3**
	comp=Z,4.1nm,1.0s,mb4.4,baz=47,slow=6.0,SNR=7.1						
WRAB	**Tennant Creek**	**63.95**	**193**	*e*P	**P**	**10 55 53.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**63.95**	**193**	*e*P	**P**	**10 55 53.3**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**63.96**	**193**	P	**P**	**10 55 52.8**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=9.5,slow=6.6,SNR=7.0						
WRA				pP	pP	10 56 13.9	+1.1
	comp=Z,0.3nm,0.8s,baz=317,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**64.97**	**333**	P	**P**	**10 55 58.0**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=49,slow=8.3,SNR=11						
OBN	**Obninsk**	**65.30**	**323**	*i*P	**P**	**10 56 03.6**	**+2.5**
OBN				*e*		10 58 28.4	
OBN				*e*S	S	11 04 45.1	+6.4
OBN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**67.68**	**192**	P	**P**	**10 56 16.2**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=5.3,slow=5.5,SNR=8.6						
ASAR				pP	pP	10 56 38.2	+1.4
	comp=Z,0.4nm,0.7s,baz=9.6,slow=5.5,SNR=3.0						
NB2	**NORSAR Subarra**	**69.76**	**339**	P	**P**	**10 56 28.4**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.8,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.76**	**339**	P	**P**	**10 56 28.4**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.8,baz=34,slow=6.2,SNR=3.2						
PDAR	**Pinedale Array**	**70.57**	**49**	P	**P**	**10 56 34.3**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=280,slow=2.8,SNR=8.9						
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**10 57 46.4**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.9,baz=288,slow=3.6,SNR=9.0						
SNAA	**Sanae**	**147.92**	**198**	PKPbc	PKPbc	11 05 02.3	-1.3
	comp=Z,0.6nm,0.7s,baz=337,slow=1.1,SNR=7.1						
SNAA				pPKPbc	pPKPbc	11 05 25.1	-0.7
	comp=Z,0.8nm,0.9s,baz=238,slow=0.4,SNR=4.0						

ISCJB ***11*** *11:10:31.8±0.7, 497N±0.1×2891W±0.10, h10km, mb4.2/24, MS3.9/22, Error ellipse: s-maj=17.5km s-min=8.0km az=35.8*

IDC ***11*** *11:10:32.2±0.9, 4984N×2906W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/25, mbtmp3.9/10, ML3.5/1, MS3.9/18, Ms1 3.9/18, ms1mx3.8/35, Error ellipse: s-maj=28.5km s-min=19.1km az=10.0*

NEIC ***11*** *11:10:33.7±0.7, 4977N×2889W, h10km, mb4.3/26, MS3.9/4, Error ellipse: s-maj=18.2km s-min=8.1km az=197.0*

CSEM ***11*** *11:10:34.0±0.1, 4956N×2896W, h33km, mb4.5/15, Ms3.8, Error ellipse: s-maj=7.0km s-min=2.4km az=15.0*

SZGRF ***11*** *11:11:02.0, 4957N×2496W, h33km, mb4.4, Northern Mid-Atlantic Ridge*

ISC 11 11:10:33.8±0.7, 499N±01×2886W±010, h10km, n97, σ1§09/83, mb4.2/23, MS3.9/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**15.34**	**109**	P	**Pn**	**11 14 09.1**	**-1.2**
	12nm,0.9s						
EMAZ	**Mazaricos**	**15.34**	**109**	P	**Pn**	**11 14 09.1**	**-1.2**
	12nm,0.9s						
EPON	**Pontenova**	**16.26**	**105**	P	**Pn**	**11 14 18.1**	**-4.2**
EKA	**Eskdalemuir Ar**	**16.49**	**61**	Pn	**Pn**	**11 14 26.3**	**+1.1**
	0.1nm,0.3s,baz=261,slow=10.0,SNR=6.6						
ROSF	**Rostrenen**	**16.80**	**85**	*e*P	**Pn**	**11 14 27.1**	**-2.0**
	86nm,1.5s						
ROSF	**Rostrenen**	**16.80**	**85**	*e*P	**Pn**	**11 14 27.1**	**-2.0**
	43nm,1.5s						
QUIF	**Quistinic**	**16.98**	**87**	*e*P	**Pn**	**11 14 29.4**	**-2.0**
SGMF	**Saint Gilles**	**17.28**	**85**	*e*P	**Pn**	**11 14 33.9**	**-1.3**
GRR	**Gorron**	**18.34**	**84**	*e*P	**Pn**	**11 14 49.3**	**+1.0**
	57nm,1.3s						
GRR	**Gorron**	**18.34**	**84**	*e*P	**Pn**	**11 14 49.3**	**+1.0**
	28nm,1.3s						
MFF	**Saint Martin d**	**19.35**	**89**	*e*P	**Pn**	**11 15 00.2**	**-0.3**
	21nm,1.0s						
MFF	**Saint Martin d**	**19.35**	**89**	*e*P	**Pn**	**11 15 00.2**	**-0.3**
	10nm,1.0s						
GUD	**Guadarrama**	**19.61**	**109**	P	**Pn**	**11 15 06.2**	**+2.6**
EMIN	**Mina Concepcio**	**19.98**	**119**	P	**Pn**	**11 15 10.5**	**+2.5**
SJPF	**Ste Jean**	**20.11**	**99**	*e*P	**P**	**11 15 08.3**	**+0.6**
ESDC	**Sonseca Array**	**20.31**	**111**	P	**P**	**11 15 10.8**	**+0.9**
	0.3nm,0.3s,baz=306,slow=10,SNR=10						
ESDC				LR	LR	11 21 17.4	
	comp=Z,268nm,19.9s,MS3.6,baz=310,slow=32						
ESDC	**Sonseca Array**	**20.31**	**111**	P	**P**	**11 15 11.5**	**+1.6**
	2.0nm,0.8s						
ESDC	**Sonseca Array**	**20.31**	**111**	P	**P**	**11 15 11.5**	**+1.6**
	2.0nm,0.8s						
ESLA	**Sonseca Array**	**20.31**	**111**	*e*P	**P**	**11 15 11.4**	**+1.5**
	9.6nm,1.5s						
LFF	**La Frestale**	**20.55**	**93**	*e*P	**P**	**11 15 13.3**	**+0.8**
	14nm,0.7s						
LFF	**La Frestale**	**20.55**	**93**	*e*P	**P**	**11 15 13.3**	**+0.8**
	7.2nm,0.7s						
ETSF	**Etsaut**	**20.65**	**99**	*e*P	**P**	**11 15 13.8**	**+0.3**
	50nm,1.4s						
ETSF	**Etsaut**	**20.65**	**99**	*e*P	**P**	**11 15 13.8**	**+0.3**
	25nm,1.4s						
ETOR	**Torete**	**20.81**	**106**	P	**P**	**11 15 16.6**	**+1.4**
	9.8nm,1.0s						
ETOR	**Torete**	**20.81**	**106**	P	**P**	**11 15 16.6**	**+1.4**
	9.8nm,1.0s						
RJF	**Les Rejaudoux**	**20.91**	**91**	*e*P	**P**	**11 15 16.8**	**+0.4**
	34nm,1.1s						
RJF				*e*R			
	405nm,19.0s						
RJF	**Les Rejaudoux**	**20.91**	**91**	*e*P	**P**	**11 15 16.8**	**+0.4**
	17nm,1.1s						
RJF				LR	LR		
	comp=Z,410nm,19.0s,MS3.8						
TCF	**Toulx Ste Croi**	**20.98**	**88**	*e*P	**P**	**11 15 17.6**	**+0.4**
	comp=Z,35nm,1.1s						
TCF	**Toulx Ste Croi**	**20.98**	**88**	*e*P	**P**	**11 15 17.6**	**+0.4**
	comp=Z,17nm,1.1s						
EPF	**Esparros**	**21.16**	**98**	*e*P	**P**	**11 15 19.1**	**+0.1**
BAIF	**Baives**	**21.18**	**77**	*e*P	**P**	**11 15 20.1**	**+0.8**
	comp=Z,54nm,1.4s,mb4.4						
BAIF	**Baives**	**21.18**	**77**	*e*P	**P**	**11 15 20.1**	**+0.8**
	comp=Z,27nm,1.4s,mb4.4						
EBIE	**Bielsa**	**21.20**	**99**	P	**P**	**11 15 25.5**	**+6.0**
	comp=Z,5.2nm,0.8s,mb3.9						
BGF	**Bois d'Agland**	**21.30**	**87**	*e*P	**P**	**11 15 20.8**	**+0.2**
	comp=Z,62nm,1.2s,mb4.5						
BGF	**Bois d'Agland**	**21.30**	**87**	*e*P	**P**	**11 15 20.8**	**+0.2**
	comp=Z,31nm,1.2s,mb4.5						
CAF	**Calviac**	**21.42**	**91**	*e*P	**P**	**11 15 22.0**	**+0.2**
AVF	**Avril sur Loir**	**21.54**	**86**	*e*P	**P**	**11 15 23.4**	**+0.2**
	comp=Z,44nm,1.4s,mb4.4						
AVF	**Avril sur Loir**	**21.54**	**86**	*e*P	**P**	**11 15 23.4**	**+0.2**
	comp=Z,22nm,1.4s,mb4.4						
SSF	**Saint Saulge**	**21.55**	**85**	*e*P	**P**	**11 15 23.7**	**+0.4**
	comp=Z,29nm,1.1s,mb4.3						
SSF	**Saint Saulge**	**21.55**	**85**	*e*P	**P**	**11 15 23.7**	**+0.4**
	comp=Z,14nm,1.1s,mb4.3						
GIVF	**Givet**	**21.56**	**76**	*e*P	**P**	**11 15 24.1**	**+0.8**
LOR	**Lormes**	**21.71**	**84**	*e*P	**P**	**11 15 25.3**	**+0.3**
	comp=Z,41nm,1.2s,mb4.4						
LOR				*e*R			
	comp=Z,797nm,20.4s						
LOR	**Lormes**	**21.71**	**84**	*e*P	**P**	**11 15 25.3**	**+0.3**
	comp=Z,20nm,1.2s,mb4.4						
LOR				LR	LR		
	comp=Z,800nm,20.4s,MS4.1						
EVIA	**Vianos**	**21.85**	**111**	P	**P**	**11 15 33.8**	**+7.3**
	comp=Z,9.3nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**21.91**	**86**	*e*P	**P**	**11 15 26.5**	**-0.6**
	comp=Z,97nm,1.4s,mb4.8						
SMF	**Signal de Mont**	**21.91**	**86**	*e*P	**P**	**11 15 26.5**	**-0.6**
	comp=Z,48nm,1.4s,mb4.8						
MEZF	**Maizieres J'vi**	**22.10**	**80**	*e*P	**P**	**11 15 29.5**	**+0.3**
	comp=Z,52nm,1.2s,mb4.5						
MEZF	**Maizieres J'vi**	**22.10**	**80**	*e*P	**P**	**11 15 29.5**	**+0.3**
	comp

comp=Z,1.1nm,0.6s,mb3.9,baz=287,slow=9.3,SNR=3.5
AKASG LR LR 11 30 53.8
comp=Z,232nm,19.2s,MS4.0,baz=275,slow=34
AKASG Malin Array Be 36.29 66 P **P** **11 17 39.2 +1.8**
AKASG LR LR 11 30 53.8
ULM Lac du Bonnet 41.69 297 P **P** **11 18 21.6 -1.0**
comp=Z,1.6nm,0.7s,mb3.7,baz=111,slow=17,SNR=3.2
ULM LR LR 11 33 32.1
comp=Z,120nm,18.5s,MS3.8,baz=140,slow=33
ULM Lac du Bonnet 41.69 297 P **P** **11 18 21.6 -1.0**
TORD Torodi Ar. Bea 44.35 135 P **P** **11 18 44.1 -0.1**
comp=Z,1.8nm,0.5s,mb4.0,baz=336,slow=8.3,SNR=18
TORD LR LR 11 34 47.3
comp=Z,94nm,21.7s,MS3.7,baz=15,slow=33
YKA Yellowknife Ar 45.77 320 LR LR 11 36 29.6
comp=Z,106nm,19.3s,MS3.8,baz=165,slow=34
LIC Lamto 47.89 147 *eP* **P** **11 19 07.2 -4.9**
LIC *eR*
comp=Z,85nm,18.2s
LIC Lamto 47.89 147 *eP* **P** **11 19 07.2 -4.9**
LIC LR LR
comp=Z,40nm,18.3s,MS3.4
CHMT Chamberlain Mo 53.24 302 *eP* **P** **11 19 53.0 +0.6**
CHMT Chamberlain Mo 53.24 302 *eP* **P** **11 19 53.0 +0.5**
PDAR Pinedale Array 53.64 296 P **P** **11 19 54.5 -1.0**
comp=Z,1.4nm,0.8s,mb4.0,baz=60,slow=7.2,SNR=11
PDAR LR LR 11 42 24.5
comp=Z,82nm,18.3s,MS3.8,baz=255,slow=36
DAWY Dawson 54.20 329 *eP* **P** **11 19 59.9 +0.4**
TXAR Lajitas Array 54.69 279 LR LR 11 45 38.9
comp=Z,147nm,18.0s,MS4.2,baz=5.0,slow=36
LPIG La Paz 66.58 280 LR LR 11 48 39.6
comp=Z,148nm,18.1s,MS4.2,baz=229,slow=34
MKAR Makanchi Array 66.82 44 P **P** **11 21 25.4 -0.3**
comp=Z,1.0nm,0.6s,mb4.0,baz=325,slow=6.1,SNR=9.6
MKAR LR LR 11 49 05.4
comp=Z,179nm,21.8s,MS4.2,baz=335,slow=35
SONM Songino Array 75.30 29 P **P** **11 22 18.0 +0.9**
comp=Z,0.8nm,0.8s,mb3.7,baz=328,slow=5.3,SNR=4.5
KMBO Kilima Mbogo 75.69 109 LR LR 11 54 37.8
comp=Z,80nm,19.0s,MS4.0,baz=94,slow=35
WRA Warramunga Arr 147.27 30 PKPbc PKPbc 11 30 16.3 -1.1
comp=Z,2.1nm,1.0s,baz=338,slow=3.3,SNR=12
ASAR Alice Springs 150.57 34 PKPbc PKPbc 11 30 25.7 -0.2
comp=Z,2.4nm,0.9s,baz=346,slow=2.5,SNR=21
VNDA Vanda 151.95 185 PKPbc PKPbc 11 30 28.3 -0.8
comp=Z,0.7nm,0.7s,baz=301,slow=3.4,SNR=6.7

NEIC ***11*** *11:14:49.9±4.7, 6.58S×129.10E, h78km±45km, Error ellipse: s-maj=55.6km s-min=20.7km az=47.0*

IDC 11 11:14:53.4±18.0, 677S×12890E, h114km±190km, mb2.9/1, mb1 3.3/4, mb1mx3.2/15, mbtmp3.1/4, ML3.6/3, Error ellipse: s-maj=162.4km s-min=58.5km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.71**	**195**	P		Pn	11 17 37.2	+0.4
	0.3nm,0.3s,baz=27,slow=16,SNR=22							
FITZ				S		Sn	11 19 36.6	-8.9
	0.3nm,0.3s,baz=207,slow=23,SNR=3.1							
WRAB	**Tennant Creek**	**14.12**	**159**	*e*Pn		Pn	11 18 07.8	-0.4
	0.8nm,0.6s							
WRA	**Warramunga Arr**	**14.12**	**159**	P		Pn	11 18 07.4	-0.8
	0.3nm,0.3s,baz=334,slow=13,SNR=16							
WRA				S		Sn	11 20 32.8	-11
	0.3nm,0.3s,baz=332,slow=22,SNR=6.1							
AS31	**Alice Springs**	**17.48**	**165**	*e*P		Pn	11 18 50.2	+0.3
ASAR	**Alice Springs**	**17.48**	**165**	P		Pn	11 18 50.1	+0.2
	0.3nm,0.3s,baz=336,slow=9.5,SNR=32							
ASAR				S		S	11 21 53.4	-11
	0.1nm,0.3s,baz=328,slow=12,SNR=3.9							
MKAR	**Makanchi Array**	**67.44**	**327**	P		P	11 25 36.9	+0.1
	0.1nm,0.3s,baz=117,slow=8.1,SNR=3.1							

IDC ***11*** *11:53:19.8±1.9, 6.42S×151.28E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.2/15, mbtmp4.2/7, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=55.8km s-min=22.2km az=110.0*

NEIC ***11*** *11:53:21.9±1.4, 6.49S×151.25E, h10km, mb4.2/2, Error ellipse: s-maj=29.9km s-min=16.9km az=110.0*

ISCJB ***11*** *11:53:24.2±1.3, 6.4S±01×151.1E±02, h35km, mb4.0/7, Error ellipse: s-maj=32.4km s-min=14.6km az=64.6*

ISC 11 11:53:26.1±1.3, 65S±01×1511E±02, h35km, n16, σ0§53/16, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**233**	Pn		**Pn**	**11 54 38.5**	**+1.5**
	5.1nm,0.3s,baz=61,slow=8.1,SNR=17							
PMG				Sn		**Sn**	**11 55 37.2**	**+4.8**
	22nm,0.3s,baz=194,slow=19,SNR=9.8							
PMG	**Port Moresby**	**4.89**	**233**	*e*Pn		**Pn**	**11 54 37.9**	**+0.8**
PMG				*e*Sn		**Sn**	**11 55 32.2**	**-0.2**
HNR	**Honiara**	**9.25**	**109**	LR		LR	11 58 35.3	
	comp=Z,104nm,18.3s,baz=181,slow=35							
CTA	**Charters Tower**	**14.35**	**199**	Pn		**Pn**	**11 56 39.8**	**-7.0**
	0.2nm,0.3s,baz=40,slow=8.2,SNR=1.9							
KAKA	**Kakadu**	**19.42**	**250**	*e*P		**Pn**	**11 57 50.0**	**-0.6**
	13nm,0.6s							
WRAB	**Tennant Creek**	**21.08**	**229**	*e*P		**P**	**11 58 06.9**	**-0.4**
	6.9nm,0.8s,mb4.0							
WB2	**Warramunga Arr**	**21.09**	**229**	*e*P		**P**	**11 58 07.7**	**+0.3**
WRA	**Warramunga Arr**	**21.09**	**229**	P		**P**	**11 58 07.2**	**-0.3**
	3.5nm,0.6s,mb3.9,baz=53,slow=10,SNR=31							
AS31	**Alice Springs**	**23.80**	**222**	*e*P		**P**	**11 58 35.4**	**-0.3**
ASAR	**Alice Springs**	**23.80**	**222**	P		**P**	**11 58 35.5**	**-0.1**
	5.3nm,0.8s,mb4.0,baz=55,slow=8.7,SNR=45							
STKA	**Stephens Creek**	**26.82**	**198**	P		**P**	**11 59 03.0**	**0.0**
	7.5nm,0.8s,mb4.2,baz=356,slow=8.5,SNR=10							
FITZ	**Fitzroy Crossi**	**27.40**	**243**	*e*P		**P**	**11 59 08.4**	**+0.2**
	11nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.40**	**243**	P		**P**	**11 59 08.5**	**+0.3**
	5.9nm,0.5s,mb4.3,baz=51,slow=9.4,SNR=34							
SONM	**Songino Array**	**66.83**	**329**	P		**P**	**12 04 15.1**	**+0.8**
	0.5nm,0.3s,mb4.0,baz=98,slow=4.5,SNR=3.7							
MKAR	**Makanchi Array**	**80.46**	**319**	P		**P**	**12 05 33.6**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=96,slow=7.4,SNR=6.4							
TORD	**Torodi Ar. Bea**	**149.15**	**285**	PKPbc	PKPbc		12 13 11.1	+0.3
	2.2nm,0.6s,baz=62,slow=2.8,SNR=16							

NEIC ***11*** *11:57:05.9±2.4, 6.40S×151.14E, h10km, mb4.0/4, Error ellipse: s-maj=47.3km s-min=38.1km az=125.0*

ISCJB ***11*** *11:57:14.7±5.5, 6.4S±03×1509E±03, h96km±35km, mb3.9/4, Error ellipse: s-maj=52.4km s-min=44.8km az=134.9*

IDC ***11*** *11:57:20.2±7.5, 6.58S×150.79E, h113km±50km, mb3.8/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, Error ellipse: s-maj=60.1km s-min=50.9km az=94.0*

ISC 11 11:57:15.2±5.2, 63S±03×1510E±03, h90km±32km, n14, σ1§13/15, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.84**	**231**	P		**Pn**	**11 58 26.9**	**+1.4**
	1.0nm,0.3s,baz=32,slow=19,SNR=2.3							
PMG				S		**Sn**	**11 59 20.2**	**-0.1**
	5.4nm,0.3s,baz=350,slow=21,SNR=4.4							
PMG	**Port Moresby**	**4.84**	**231**	Pn		**Pn**	**11 58 24.1**	**-1.5**
PMG				*e*Sn		**Sn**	**11 59 21.5**	**+1.1**
KAKA	**Kakadu**	**19.32**	**249**	*e*P		**Pn**	**12 01 35.5**	**+0.5**
	6.2nm,0.6s							
WRAB	**Tennant Creek**	**21.04**	**228**	*e*P		**P**	**12 01 49.4**	**-2.3**
	5.5nm,0.8s,mb3.9							
WB2	**Warramunga Arr**	**21.05**	**228**	*e*P		**P**	**12 01 49.8**	**-1.9**
WRA	**Warramunga Arr**	**21.06**	**228**	P		**P**	**12 01 51.5**	**-0.4**
	4.8nm,0.9s,mb3.9,baz=53,slow=10.0,SNR=12							
AS31	**Alice Springs**	**23.78**	**222**	*e*P		**P**	**12 02 19.6**	**+0.2**
ASAR	**Alice Springs**	**23.79**	**222**	P		**P**	**12 02 19.4**	**0.0**
	2.3nm,0.6s,mb3.7,baz=54,slow=8.3,SNR=11							
ASPA	**Alice Springs**	**23.79**	**222**	*e*P		**P**	**12 02 19.7**	**+0.3**
STKA	**Stephens Creek**	**26.88**	**198**	*e*P		**P**	**12 02 48.6**	**+1.2**
	4.6nm,1.5s,mb3.8							
STKA	**Stephens Creek**	**26.88**	**198**	P		**P**	**12 02 48.4**	**+0.9**
	2.9nm,0.7s,mb3.9,baz=30,slow=11,SNR=4.2							
FITZ	**Fitzroy Crossi**	**27.32**	**242**	*e*P		**P**	**12 02 52.7**	**+1.3**
	6.6nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**27.32**	**242**	P		**P**	**12 02 52.8**	**+1.4**
	6.1nm,0.8s,mb4.2,baz=91,slow=5.7,SNR=7.1							
TORD	**Torodi Ar. Bea**	**148.97**	**285**	PKPbc	PKPbc		12 16 55.4	+2.8
	0.9nm,0.6s,baz=66,slow=2.9,SNR=5.6							

ISCJB ***11*** *12:00:45.0±5.6, 6.4S±03×151.1E±02, h15km±46km, mb3.7/5, Error ellipse: s-maj=57.1km s-min=28.1km az=137.7*

IDC ***11*** *12:00:44.3±2.6, 6.20S×150.97E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML2.2/1, Error ellipse: s-maj=66.4km s-min=39.1km az=126.0*

NEIC ***11*** *12:00:45.2±1.9, 6.43S×151.22E, h10km, mb4.1/3, Error ellipse: s-maj=39.7km s-min=28.7km az=137.0*

ISC 11 12:00:45.1±6.7, 64S±03×1511E±02, h4km±52km, n14, σ0§88/15, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.95**	**233**	Pn		**Pn**	**12 01 60.0**	**-0.1**
	0.6nm,0.3s,baz=168,slow=19,SNR=2.7							
PMG				Sn		**Sn**	**12 02 59.4**	**+1.7**
	2.5nm,0.3s,baz=144,slow=19,SNR=4.0							
PMG	**Port Moresby**	**4.95**	**233**	*e*Pn		**Pn**	**12 02 00.7**	**+0.5**
PMG				*e*Sn		**Sn**	**12 02 56.3**	**-1.5**
KAKA	**Kakadu**	**19.47**	**250**	*e*P		**Pn**	**12 05 14.8**	**+0.8**
	6.4nm,0.6s							
WRAB	**Tennant Creek**	**21.14**	**229**	*e*P		**P**	**12 05 28.6**	**-2.4**
	5.3nm,1.0s,mb3.8							
WB2	**Warramunga Arr**	**21.14**	**229**	*e*P		**P**	**12 05 31.2**	**+0.2**
WRA	**Warramunga Arr**	**21.15**	**229**	P		**P**	**12 05 30.9**	**-0.2**
	1.5nm,0.7s,mb3.4,baz=53,slow=10,SNR=7.6							
AS31	**Alice Springs**	**23.86**	**222**	*e*P		**P**	**12 05 59.6**	**+0.1**
ASAR	**Alice Springs**	**23.86**	**222**	P		**P**	**12 05 59.3**	**-0.2**
	0.9nm,0.6s,mb3.4,baz=55,slow=8.3,SNR=13							
ASPA	**Alice Springs**	**23.86**	**222**	*e*P		**P**	**12 05 59.6**	**+0.1**
STKA	**Stephens Creek**	**26.87**	**198**	P		**P**	**12 06 28.0**	**+1.2**
	1.8nm,0.7s,mb3.7,baz=40,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**26.87**	**198**	*e*P		**P**	**12 06 27.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.45**	**243**	*e*P		**P**	**12 06 32.1**	**0.0**
	3.9nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P		**P**	**12 06 31.9**	**-0.2**
	2.4nm,0.6s,mb3.9,baz=85,slow=7.0,SNR=7.2							
TORD	**Torodi Ar. Bea**	**149.18**	**285**	PKPbc	PKPbc		12 20 35.3	+0.6
	0.6nm,0.6s,baz=69,slow=2.9,SNR=3.9							

IDC ***11*** *12:06:06.7±1.7, 7.11S×119.96E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=186.5km s-min=22.7km az=56.0*

ISCJB ***11*** *12:06:21.5±2.2, 8.1S±02×119.1E±02, h173km±22km, mb3.7/3, Error ellipse: s-maj=34.5km s-min=14.6km az=89.5*

NEIC ***11*** *12:06:25.2±2.9, 8.26S×119.09E, h195km±32km, mb3.9/3, Error ellipse: s-maj=23.2km s-min=16.6km az=207.0*

ISC 11 12:06:25.5±2.1, 83S±02×1191E±02, h195km±23km, n11, σ0§42/13, mb3.6/2, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.66**	**148**	*e*P		**Pn**	**12 09 05.5**	**-0.6**
	2.3nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.66**	**148**	Pn		**Pn**	**12 09 04.6**	**-1.5**
	0.3nm,0.3s,baz=8.0,slow=14,SNR=16							
FITZ				Sn		**Sn**	**12 11 06.5**	**-9.4**
	0.5nm,0.3s,baz=181,slow=20,SNR=7.2							
MBWA	**Marble Bar**	**12.84**	**177**	*e*Pn		**Pn**	**12 09 21.2**	**+0.2**
KAKA	**Kakadu**	**13.82**	**110**	*e*P		**Pn**	**12 09 33.5**	**+0.2**
	2.9nm,0.6s							
WRA	**Warramunga Arr**	**18.76**	**130**	P		**P**	**12 10 29.8**	**0.0**
	0.3nm,0.3s,baz=310,slow=11,SNR=30							
WRA				S		**S**	**12 13 52.5**	**-0.4**
	0.1nm,0.3s,baz=309,slow=22,SNR=3.4							
WB2	**Warramunga Arr**	**18.77**	**130**	*e*P		**P**	**12 10 30.0**	**+0.1**
ASPA	**Alice Springs**	**20.86**	**139**	*e*P		**P**	**12 10 52.7**	**+0.4**
AS31	**Alice Springs**	**20.87**	**139**	*e*P		**P**	**12 10 52.7**	**+0.4**
ASAR	**Alice Springs**	**20.87**	**139**	P		**P**	**12 10 52.7**	**+0.4**
	0.8nm,0.4s,baz=312,slow=9.2,SNR=24							
MKAR	**Makanchi Array**	**63.85**	**333**	P		**P**	**12 16 37.1**	**0.0**
	1.1nm,0.6s,mb3.6,baz=142,slow=7.8,SNR=13							
AAK	**Ala-Archa**	**64.94**	**325**	*e*P		**P**	**12 16 43.9**	**-0.3**
	1.4nm,0.8s,mb3.6							

IDC 11 12:07:15.8±2.0, 637S×15114E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, ML2.4/1, Error ellipse: s-maj=58.8km s-min=26.1km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**232**	Pn		Pn	12 08 33.6	+2.1
	1.1nm,0.3s,baz=85,slow=7.3,SNR=2							
PMG				Sn		Sn	12 09 30.9	+1.3
	3.5nm,0.3s,baz=353,slow=17,SNR=7.5							
WRA	**Warramunga Arr**	**21.17**	**229**	P		P	12 12 02.5	-0.1
	2.5nm,0.8s,baz=52,slow=10.0,SNR=14							
ASAR	**Alice Springs**	**23.88**	**222**	P		P	12 12 30.6	-0.4
	1.4nm,0.6s,baz=54,slow=8.7,SNR=20							
STKA	**Stephens Creek**	**26.90**	**198**	*e*P		P	12 13 08.0	+10
	2.8nm,0.9s							
STKA	**Stephens Creek**	**26.90**	**198**	P		P	12 12 58.2	-0.2
	1.2nm,0.5s,baz=35,slow=10,SNR=3.9							
FITZ	**Fitzroy Crossi**	**27.46**	**243**	P		P	12 13 04.0	+0.5
	2.6nm,0.5s,baz=71,slow=9.8,SNR=5.1							
MKAR	**Makanchi Array**	**80.42**	**319**	P		P	12 19 30.0	+0.7
	0.2nm,0.5s,baz=103,slow=5.9,SNR=4.2							
TORD	**Torodi Ar. Bea**	**149.16**	**285**	PKPbc	PKPbc		12 27 06.8	+0.6
	0.9nm,0.6s,baz=60,slow=2.4,SNR=7.1							

IDC 11 12:15:36.6±2.0, 019N×9762E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=65.3km s-min=21.3km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.90**	**27**	Pn		Pn	12 16 23.0	-1.0
	2.8nm,0.3s,baz=178,slow=5.5,SNR=11							
WRA	**Warramunga Arr**	**41.15**	**121**	P		P	12 23 22.6	+0.1
	0.7nm,0.5s,baz=295,slow=7.9,SNR=16							
ASAR	**Alice Springs**	**42.45**	**127**	P		P	12 23 33.9	+0.7
	1.0nm,0.8s,baz=296,slow=8.1,SNR=14							
MKAR	**Makanchi Array**	**48.32**	**346**	P		P	12 24 19.9	+0.1
	0.9nm,0.5s,baz=154,slow=7.8,SNR=13							
ZAL	**Zalesovo**	**54.61**	**351**	P		P	12 25 06.6	-0.3
	2.0nm,0.4s,baz=289,slow=4.6,SNR=5.6							

ISC 11 12:18:32.2±0.7, 4081N±005×3166E±005, h10km, n5, σ0§65/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGKT	**Sivrigoynuk**	**0.38**	**128**	*i* P		**Pg**	**12 18 39.5**	**-0.2**
SGKT				*i* S		**Sg**	**12 18 43.8**	**-1.0**
KDZE	**Karadeniz Ereo**	**0.53**	**342**	PG		**Pg**	**12 18 42.0**	**-0.5**
KDZE				SG		**Sg**	**12 18 48.9**	**-0.6**
HENT	**Hendek**	**0.58**	**272**	*i* P		**Pg**	**12 18 42.9**	**-0.6**
HENT				*i* S		**Sg**	**12 18 52.1**	**+1.0**
ELDT	**Eldivan**	**1.38**	**103**	*i* P		**Pn**	**12 18 58.0**	**+0.4**
ELDT				*i* S		**Sb**	**12 19 16.3**	**+0.5**
BALT	**Daday**	**1.49**	**60**	*i* P		**Pn**	**12 18 59.4**	**+0.3**
BALT				*i* S		**Sn**	**12 19 19.3**	**+0.7**

IDC ***11*** *12:20:17.8±9.2, 6.64S×151.15E, h55km±66km, mb3.5/3, mb1 3.8/4, mb1mx3.4/15, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=110.1km s-min=57.9km az=136.0*

NEIC 11 12:20:09.6±1.7, 6.58S×151.53E, h10km, mb4.0/3, Error ellipse: s-maj=48.5km s-min=23.9km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**237**	P		Pn	12 21 27.9	+1.1
	1.5nm,0.3s,baz=343,slow=2.3,SNR=6.3							
PMG				S		Sn	12 22 23.4	-3.0
	1.1nm,0.3s,baz=126,slow=19,SNR=3.5							
KAKA	**Kakadu**	**19.77**	**251**	*e*P		Pn	12 24 40.3	-1.0
	5.4nm,0.6s							
WRAB	**Tennant Creek**	**21.32**	**230**	*e*P		P	12 24 56.0	-0.5
	3.7nm,0.8s							
WB2	**Warramunga Arr**	**21.32**	**230**	*e*P		P	12 24 56.9	+0.3
WRA	**Warramunga Arr**	**21.33**	**230**	P		P	12 24 56.4	-0.3
	1.6nm,0.7s,baz=40,slow=8.9,SNR=14							
AS31	**Alice Springs**	**23.99**	**223**	*e*P		P	12 25 25.3	+1.0
ASAR	**Alice Springs**	**23.99**	**223**	P		P	12 25 24.7	+0.4
	1.2nm,0.6s,baz=55,slow=8.6,SNR=31							
ASPA	**Alice Springs**	**23.99**	**223**	*e*P		P	12 25 25.3	+1.0
FITZ	**Fitzroy Crossi**	**27.72**	**243**	*e*P		P	12 25 58.1	+0.1
	5.2nm,1.0s							
FITZ	**Fitzroy Crossi**	**27.72**	**243**	P		P	12 25 58.0	0.0
	1.5nm,0.4s,baz=60,slow=12,SNR=12							
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc	PKPbc		12 40 01.1	+1.8
	0.4nm,0.6s,baz=72,slow=2.7,SNR=3.7							

NEIC ***11*** *12:42:03.0±1.2, 40.43N×63.22E, h10km, mb4.2/2, Error ellipse: s-maj=19.4km s-min=12.4km az=173.0*

CSEM ***11*** *12:42:04.2±0.2, 40.34N×63.11E, h16km, mb3.7, Error ellipse: s-maj=8.1km s-min=5.1km az=27.0*

MOS ***11*** *12:42:05.2±1.7, 40.60N×63.24E, h33km, mb4.0/1, Error ellipse: s-maj=18.2km s-min=10.5km az=84.0*

ISCJB ***11*** *12:42:06.5±0.6, 40.77N±004×63.41E±008, h35km, mb4.4/11, Error ellipse: s-maj=8.9km s-min=5.5km az=125.6*

IDC ***11*** *12:42:06.2±1.3, 40.52N×63.08E, h18km±6km, mb4.0/4, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, ML3.7/4, Error ellipse: s-maj=18.6km s-min=15.6km az=54.0*

NNC ***11*** *12:42:09.0±1.4, 40.76N×63.39E, h67km±41km, mb3.7, mpv3.6, Error ellipse: s-maj=17.1km s-min=10.0km az=55.0*

ISC 11 12:42:08.0±0.6, 4071N±004×6334E±007, h35km, (h11km±7.3km: pP-P), n48, σ1§24/55, mb4.4/11, 12C-6D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.86**	**64**	⇓Pn		**Pn**	**12 43 32.9**	**+0.5**
	2.3nm,0.2s,baz=240,slow=16,SNR=69							
KK31				⇓Lg			12 45 15.0	
	31nm,0.5s							
EKS2	**Erkin-Say**	**8.05**	**73**	P		**Pn**	**12 44 03.3**	**+0.9**
	SNR=6.0							
UCH	**Uchtor**	**8.53**	**76**	P		**Pn**	**12 44 11.3**	**+2.3**
	SNR=5.7							
AAK	**Ala-Archa**	**8.57**	**73**	P		**Pn**	**12 44 10.7**	**+1.2**
	SNR=8.6							
AAK	**Ala-Archa**	**8.57**	**73**	*e*P		**Pn**	**12 44 09.2**	**-0.3**
AAK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**8.57**	**73**	*e*Pn		**Pn**	**12 44 09.2**	**-0.3**
	comp=Z,6.6nm,0.7s							
USP	**Ospenovka**	**8.70**	**69**	P		**Pn**	**12 44 11.3**	**0.0**
	SNR=6.3							
AB31	**Akbulak array**	**8.88**	**345**	⇑Pn		**Pn**	**12 44 14.0**	**+0.3**
	comp=Z,0.7nm,0.3s							
AB31				⇑Sn		**Sn**	**12 45 49.3**	**-3.1**
	comp=Z,2.0nm,0.3s							
AB31				⇑Lg			12 46 50.2	
	comp=Z,11nm,0.6s							
KZA	**Kyzart**	**9.06**	**77**	P		**Pn**	**12 44 17.4**	**+1.2**
	SNR=6.8							
TKM2	**Tokmak 2**	**9.42**	**72**	⇓Lg			12 47 08.3	
	comp=Z,33nm,1.1s							
AKTK	**Aktyubinsk**	**10.41**	**341**	Pn		**Pn**	**12 44 35.3**	**+0.6**
AKTK				Sn		**Sn**	**12 46 28.5**	**-1.7**
AKTK				Lg			12 47 42.1	
AKTK	**Aktyubinsk**	**10.41**	**341**	Pn		**Pn**	**12 44 35.3**	**+0.5**
AKTO	**Aktyubinsk**	**10.41**	**341**	⇑Pn		**Pn**	**12 44 36.2**	**+1.4**
AKTO				⇑Sn		**Sn**	**12 46 27.7**	**-2.5**
	comp=Z,0.1nm,0.7s							
AKTO				⇓Lg			12 47 41.6	
	comp=Z,0.5nm,0.9s							
AKTO	**Aktyubinsk**	**10.41**	**341**	Pn		**Pn**	**12 44 35.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=156,slow=10,SNR=12							
AKTO				Sn		**Sn**	**12 46 28.5**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=176,slow=19,SNR=3.3							
AKTO				Lg			12 47 42.1	
	comp=Z,0.5nm,0.3s,baz=15,slow=20,SNR=2.0							
AKTO	**Aktyubinsk**	**10.41**	**341**	P		**Pn**	**12 44 35.3**	**+0.5**
AKTO							12 46 28.5	
ZRNK	**Zerenda**	**12.84**	**16**	⇑P		**Pn**	**12 45 10.4**	**+2.5**
	comp=Z,1.4nm,0.8s							
ZRNK	**Zerenda**	**12.84**	**16**	*e*Pn		**Pn**	**12 45 08.5**	**+0.5**
ZRNK	**Zerenda**	**12.84**	**16**	*e*Pn		**Pn**	**12 45 08.5**	**+0.5**
VOSK	**Vostochnaya**	**13.10**	**21**	⇑Pn		**Pn**	**12 45 13.2**	**+1.6**
	comp=Z,2.4nm,0.8s							
VOSK				⇑Sn		**Sn**	**12 47 34.3**	**-1.6**
	comp=Z,2.0nm,0.6s							
VOSK				⇑Lg			12 49 03.6	
	comp=Z,9.2nm,1.1s							
BVA0	**Borovoye Array**	**13.22**	**19**	⇓Pn		**Pn**	**12 45 13.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=204,slow=11,SNR=9.1							
BVA0				⇑Sn		**Sn**	**12 47 38.5**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=202,slow=23,SNR=3.5							
BVAR	**Borovoye Array**	**13.22**	**19**	Pn		**Pn**	**12 45 12.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=214,slow=9.6,SNR=3.1							
BVAR				Sn		**Sn**	**12 47 34.6**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=200,slow=20,SNR=2.4							
BVAR				Lg			12 49 18.1	
	baz=203,slow=23,SNR=1.8							
BVAR	**Borovoye Array**	**13.22**	**19**	P		**Pn**	**12 45 12.8**	**-0.4**
BVAR							12 47 34.6	
BRVK	**Borovoye**	**13.23**	**19**	*e*P		**Pn**	**12 45 16.0**	**+2.8**
CHKZ	**Chkalovo**	**13.87**

Error ellipse: s-maj=57.4km s-min=13.6km az=40.2
IDC ***11*** *12:47:05.6±2.9, 3359S×17861W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=69.8km s-min=35.6km az=120.0*
ISC 11 12:47:06.6±2.9, 338S±02×1780W±05, h35km, n7, σ0s59/9, mb3.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.23**	**215**	PN	**Pn**	**12 48 21.8**	**-0.5**
MWZ	**Matawai**	**5.79**	**218**	PN	**Pn**	**12 48 29.6**	**-0.4**
MWZ				SN	**Sn**	**12 49 35.6**	**+0.4**
URZ	**Urewera**	**5.96**	**221**	Pn	**Pn**	**12 48 33.4**	**+1.1**
	2.8nm,0.3s,baz=354,slow=1.6,SNR=22						
URZ				Sn	**Sn**	**12 49 39.4**	**+0.2**
	6.0nm,0.3s,baz=146,slow=20,SNR=9.4						
URZ	**Urewera**	**5.96**	**221**	PN	**Pn**	**12 48 33.4**	**+1.1**
URZ				SN	**Sn**	**12 49 38.1**	**-1.1**
ASAR	**Alice Springs**	**43.06**	**271**	P	**P**	**12 55 03.0**	**0.0**
	1.0nm,0.7s,mb3.6,baz=110,slow=7.2,SNR=9.3						
WRA	**Warramunga Arr**	**44.35**	**276**	P	**P**	**12 55 13.3**	**-0.1**
	0.7nm,0.3s,mb3.8,baz=116,slow=7.7,SNR=23						
FINES	**FINESS Array B**	**148.34**	**338**	PKPbc	PKPbc	13 06 51.2	+2.0
	4.2nm,1.0s,baz=29,slow=4.4,SNR=8.4						

IDC 11 12:49:03.5±3.1, 1076N×9303E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, Error ellipse: s-maj=129.8km s-min=20.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.93**	**342**	*e*P	x	12 49 22.6	
PBA				*e*S	x	12 49 31.5	
PBA				*ex*	x	12 49 49.5	
	comp=N,2μm,0.4s						
PBA				*ex*	x	12 49 51.4	
	comp=E,1μm,0.6s						
MKAR	**Makanchi Array**	**37.05**	**348**	P	P	12 56 15.0	-0.1
	comp=E,1.5nm,0.7s,baz=169,slow=7.9,SNR=19						
SONM	**Songino Array**	**38.63**	**14**	P	P	12 56 28.3	-0.2
	comp=E,0.9nm,0.5s,baz=190,slow=7.5,SNR=4.6						
FITZ	**Fitzroy Crossi**	**43.11**	**131**	P	P	12 57 05.5	+0.1
	comp=E,4.8nm,1.2s,baz=353,slow=6.0,SNR=3.7						
ZAL	**Zalesovo**	**43.56**	**353**	P	P	12 57 09.2	+0.2
	comp=E,0.9nm,0.4s,baz=297,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**50.84**	**127**	P	P	12 58 06.5	+0.6
	comp=E,1.9nm,0.6s,baz=306,slow=8.6,SNR=30						

IDC 11 12:53:21.0±3.2, 623S×14782E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/15, mbtmp3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=72.9km s-min=34.1km az=97.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**192**	Pn	Pn	12 54 13.6	+0.8
	1.1nm,0.3s,baz=31,slow=5.2,SNR=4.3						
PMG				Sn	Sn	12 54 52.5	+0.6
	1.2nm,0.3s,baz=189,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**18.90**	**223**	P	Pn	12 57 43.6	0.0
	0.1nm,0.3s,baz=48,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**21.90**	**216**	P	P	12 58 15.4	-0.2
	0.6nm,0.4s,baz=52,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**24.64**	**239**	P	P	12 58 44.3	+1.1
	1.3nm,0.7s,baz=65,slow=11,SNR=5.2						
MJAR	**Matsushiro Arr**	**43.49**	**349**	LR	LR	13 18 21.5	
	comp=Z,57nm,18.8s,baz=355,slow=34						
TORD	**Torodi Ar. Bea**	**145.93**	**284**	PKPbc	PKPbc	13 13 02.1	-0.3
	1.4nm,0.8s,baz=77,slow=3.5,SNR=4.6						

IDC 11 12:56:29.8±4.0, 2224N×14524E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=163.4km s-min=20.5km az=73.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.29**	**319**	P	P	13 01 18.9	+1.1
	1.0nm,0.5s,baz=144,slow=9.3,SNR=4.8						
CTA	**Charters Tower**	**42.08**	**179**	P	P	13 04 23.3	-0.1
	0.6nm,0.3s,baz=17,slow=5.8,SNR=4.0						
WRA	**Warramunga Arr**	**43.26**	**195**	P	P	13 04 33.1	+0.2
	0.5nm,0.7s,baz=18,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**46.95**	**194**	P	P	13 05 02.6	+0.4
	0.3nm,0.6s,baz=17,slow=8.8,SNR=8.0						
MKAR	**Makanchi Array**	**55.74**	**312**	P	P	13 06 07.0	-1.3
	0.5nm,0.7s,baz=111,slow=6.0						
BVAR	**Borovoye Array**	**63.51**	**319**	P	P	13 07 02.3	+0.6
	1.4nm,0.6s,baz=95,slow=8.2,SNR=8.0						

ISCJB ***11*** *12:56:36.9±0.9, 3804N×00322.05E×003, h9km±6km, mb3.9/3, Error ellipse: s-maj=4.9km s-min=4.5km az=47.0*
NEIC ***11*** *12:56:36.9, 38.10N×2206E, h18km, ML3.6(ATH), ML4.2(THE), After ATH.*
ATH ***11*** *12:56:36.9, 38.10N×2206E, h18km, MD3.6/10, ML3.6*
THE ***11*** *12:56:36.0, 3786N×2224E, h14km, ML3.2*
CSEM ***11*** *12:56:36.8±0.1, 3802N×2205E, h8km, ML3.6*
IDC ***11*** *12:56:44.6±3.5, 3797N×2224E, h76km±35km, mb3.7/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=62.7km s-min=22.3km az=138.0*
SKO ***11*** *12:56:48.0, 3886N×2236E, h0km*
ISC 11 12:56:37.2±0.6, 3807N±003×2206E±004, h2km±5km, n45, σ1s11/51, mb3.9/3, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.47**	**268**	⇓*i* PB	**Pg**	**12 56 45.9**	**-0.3**
RLS				*e*SB	**Sg**	**12 56 53.3**	**+1.0**
EVR	**Evrytania**	**0.87**	**347**	*e*PN	**Pg**	**12 56 53.0**	**-0.8**
ITM	**Ithomi**	**0.90**	**187**	*e*PN	**Pg**	**12 56 54.6**	**+0.2**
LKR	**Lokris**	**0.94**	**52**	*e*PN	**Pg**	**12 56 55.0**	**-0.1**
MGER	**Gerania Oros**	**0.95**	**95**	*e*PN	**Pg**	**12 56 55.0**	**-0.4**
AGG	**Agios Georgios**	**0.97**	**12**	*e*Pg	**Pg**	**12 56 56.3**	**+0.5**
AGG				*e*Sg	**Sg**	**12 57 12.1**	**+3.7**
VLS	**Valsamata**	**1.17**	**276**	*e*PN	**Pn**	**12 56 59.5**	**-0.9**
LKD	**Levkas**	**1.28**	**300**	*e*Pg	**Pg**	**12 57 00.8**	**-0.8**
LKD				*e*Sg	**Sg**	**12 57 22.2**	**+4.0**
ATH	**Athens Observa**	**1.31**	**94**	*e*PN	**Pn**	**12 57 01.9**	**-0.5**
KVR	**Kavouri**	**1.37**	**100**	*e*PN	**Pn**	**12 57 03.0**	**-0.3**
PTL	**Penteli**	**1.42**	**90**	*e*PN	**Pn**	**12 57 03.3**	**-0.7**
THL	**Klokotos Trika**	**1.49**	**359**	*e*PN	**Pn**	**12 57 04.3**	**-0.6**
THL				*e*SN	**Sn**	**12 57 24.7**	**-0.2**
VLI	**Veliai**	**1.52**	**152**	*e*PN	**Pn**	**12 57 05.6**	**+0.3**
VLI				*e*SN	**Sn**	**12 57 26.7**	**+1.1**
NEO	**Neokhori**	**1.53**	**36**	*e*PN	**Pn**	**12 57 04.7**	**-0.8**
XOR	**Xorichti**	**1.56**	**34**	*e*Pb	**Pb**	**12 57 05.2**	**-1.6**
XOR				*e*Sb	**Sb**	**12 57 27.2**	**+0.2**
AOS	**Alonnisos**	**1.80**	**52**	*e*Pb	**Pn**	**12 57 07.2**	**-1.9**
MEV	**Metsovon**	**1.83**	**339**	*e*Pn	**Pn**	**12 57 10.8**	**+1.2**
JAN	**Janina**	**1.84**	**330**	*e*PN	**Pn**	**12 57 09.4**	**-0.4**
LIT	**Litokhoron**	**2.05**	**9**	*e*Pn	**Pn**	**12 57 11.8**	**-0.8**
LIT				*e*Sn	**Sn**	**12 57 40.3**	**+1.5**
KZN	**Kozani**	**2.24**	**354**	*e*PN	**Pn**	**12 57 15.2**	**-0.1**
KEK	**Kerkira**	**2.41**	**314**	*e*PB	**Pn**	**12 57 18.0**	**+0.5**
PLG	**Polygyros**	**2.54**	**25**	*e*PN	**Pn**	**12 57 18.1**	**-1.2**
APE	**Apeiranthos**	**2.93**	**109**	*e*PN	**Pn**	**12 57 25.0**	**+0.3**
VAY	**Valandovo**	**3.27**	**7**	*e*Pn	**Pn**	**12 57 29.7**	**+0.3**
VAY	**Valandovo**	**3.27**	**7**	*e*Pn	**Pn**	**12 57 29.6**	**+0.2**
KRUS	**Krusevo**	**3.35**	**349**	*e*Pn	**Pn**	**12 57 32.7**	**+2.2**
KRUS	**Krusevo**	**3.35**	**349**	*e*Pn	**Pn**	**12 57 32.6**	**+2.1**
NVR	**Nevrokopi**	**3.56**	**22**	*e*PN	**Pn**	**12 57 34.3**	**+1.0**
GVD	**Gavdhos**	**3.62**	**153**	Pn	**Pn**	**12 57 30.8**	**-3.3**
GVD	**Gavdhos**	**3.62**	**153**	Pn	**Pn**	**12 57 30.8**	**-3.3**
SMG	**Samos**	**3.79**	**94**	*e*PN	**Pn**	**12 57 37.0**	**+0.4**
TIP	**Timpagrande**	**4.30**	**287**	*e*Pn	**Pn**	**12 57 43.7**	**+0.2**
TIP	**Timpagrande**	**4.30**	**287**	*e*Pn	**Pn**	**12 57 43.7**	**+0.2**
KARP	**Karpathos**	**4.80**	**120**	*e*PN	**Pn**	**12 57 52.3**	**+1.8**
ESKT	**Eskisehir**	**7.01**	**75**	*i* P	**Pn**	**12 58 22.4**	**+1.5**
SEYT	**Eskypehyr**	**7.01**	**75**	*i* P	**Pn**	**12 58 22.4**	**+1.6**
MLR	**Muntele Rosu**	**7.96**	**20**	P	**Pn**	**12 58 38.5**	**+4.7**
	0.3nm,0.3s,baz=204,slow=10.0,SNR=3.4						
SGKT	**Sivrigoynuk**	**8.14**	**69**	*i* P	**Pn**	**12 58 37.8**	**+1.5**
BR131	**Keskin Array S**	**9.18**	**76**	P	**Pn**	**12 58 51.8**	**+1.3**
	1.6nm,0.4s						
BR131	**Keskin Array S**	**9.18**	**76**	P	**Pn**	**12 58 51.8**	**+1.3**
	1.6nm,0.4s						
BRTR	**Keskin Array B**	**9.18**	**76**	P	**Pn**	**12 58 52.7**	**+2.2**
	0.5nm,0.3s,baz=258,slow=13,SNR=7.2						
GERES	**GERESS Array B**	**12.35**	**333**	LR	LR	13 04 48.3	
	comp=Z,191nm,19.4s,baz=272,slow=39						
TORD	**Torodi Ar. Bea**	**30.73**	**222**	P	**P**	**13 02 52.8**	**-0.8**
	1.1nm,0.6s,mb3.9,baz=33,slow=9.3,SNR=8.3						
MKAR	**Makanchi Array**	**44.32**	**59**	P	**P**	**13 04 46.6**	**-1.9**
	0.6nm,0.5s,mb3.6,baz=277,slow=7.0,SNR=17						
ZAL	**Zalesovo**	**44.85**	**48**	P	**P**	**13 04 50.1**	**-2.6**
	1.2nm,0.3s,mb4.3,baz=204,slow=11,SNR=4.9						

IDC 11 13:00:51.7±8.4, 1179S×7176W, h417km±77km, mb3.8/1, mb1 3.6/2, mb1mx3.0/16, mbtmp3.5/2, Error ellipse: s-maj=113.3km s-min=64.4km az=152.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.69**	**142**	P	P	13 02 22.2	+0.7
	1.4nm,0.3s,baz=169,slow=12,SNR=26						
LPAZ				S	S	13 03 36.4	+1.6
	0.4nm,0.3s,baz=275,slow=20,SNR=8.0						
TORD	**Torodi Ar. Bea**	**76.95**	**73**	P	P	13 12 00.5	+0.7
	1.9nm,0.3s,baz=255,slow=6.1,SNR=31						
ASAR	**Alice Springs**	**136.73**	**215**	PKP	PKPdf	13 19 25.5	+0.2
	0.6nm,0.6s,baz=130,slow=1.9,SNR=6.6						
WRA	**Warramunga Arr**	**139.32**	**219**	PKP	PKPdf	13 19 31.7	+1.6
	0.4nm,0.3s,baz=153,slow=1.9,SNR=19						

ISK ***11*** *13:06:07.9, 3886N×2601E, h9km, MD3.2*
ISCJB ***11*** *13:06:08.1±1.1, 3887N±003×2595E±007, h6km±9km, Error ellipse: s-maj=9.5km s-min=4.7km az=170.4*
NEIC ***11*** *13:06:08.4, 3866N×2594E, h21km, MD3.3(ATH), After ATH.*
ATH ***11*** *13:06:08.4, 3886N×2594E, h21km±9km, MD3.3/3*
CSEM ***11*** *13:06:08.6±0.1, 3886N×2614E, h10km, MD3.3, Error ellipse: s-maj=3.2km s-min=1.4km az=82.0*
ISC 11 13:06:09.4±0.9, 3887N±003×2598E±007, h13km±5km, n18, σ0s68/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.44**	**31**	⇑*i* PB	**Pg**	**13 06 17.9**	**-0.2**
PRK				*e*SB	**Sg**	**13 06 24.5**	**+0.5**
PRK	**Paraskevi**	**0.44**	**31**	*i* Pbu	**Pg**	**13 06 17.9**	**-0.2**
PRK				*e*Sb	**Sg**	**13 06 24.5**	**+0.5**
URLA	**Izmir**	**0.70**	**136**	*i* P	**Pg**	**13 06 22.9**	**-0.2**
URLA				*i* S	**Sg**	**13 06 33.4**	**+1.0**
EZN	**Ezine**	**0.99**	**16**	*i* PG	**Pg**	**13 06 27.6**	**-1.0**
EZN				*i* SG	**Sg**	**13 06 41.7**	**+0.2**
IZM	**Izmir**	**1.11**	**115**	PN	**Pn**	**13 06 29.4**	**-1.2**
IZM				SN	**Sn**	**13 06 44.5**	**-1.3**
KDAG	**Bornova**	**1.11**	**114**	*i* P	**Pb**	**13 06 29.9**	**-0.5**
KDAG				*i* S	**Sb**	**13 06 45.5**	**+0.7**
SMG	**Samos**	**1.34**	**150**	*e*PN	**Pn**	**13 06 34.0**	**+0.2**
SMG				*e*SN	**Sn**	**13 06 52.9**	**+1.4**
CANB	**Canakkale**	**1.42**	**36**	PN	**Pn**	**13 06 34.5**	**-0.4**
CANB				SN	**Sn**	**13 06 54.0**	**+0.6**
CANB	**Canakkale**	**1.42**	**36**	*i* P	**Pn**	**13 06 36.1**	**+1.2**
CANB				*i* S	**Sn**	**13 06 53.9**	**+0.5**
APE	**Apeiranthos**	**1.83**	**191**	*e*PN	**Pn**	**13 06 40.5**	**-0.1**
ENEZ	**Enez**	**1.87**	**4**	*e*PN	**Pn**	**13 06 40.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.04**	**27**	*e*PN	**Pn**	**13 06 43.4**	**0.0**
BODT	**Bodrum**	**2.09**	**149**	*e*PN	**Pn**	**13 06 43.4**	**-0.7**
MLSB	**Milas**	**2.12**	**137**	*e*PN	**Pn**	**13 06 44.1**	**-0.4**
MRMT	**Marmara Adasi**	**2.13**	**35**	*e*PN	**Pn**	**13 06 44.7**	**0.0**
MFT	**Murefte**	**2.16**	**27**	*e*PN	**Pn**	**13 06 44.9**	**-0.2**
RDO	**Rodhopi**	**2.30**	**352**	*e*PN	**Pn**	**13 06 47.1**	**+0.2**
NVR	**Nevrokopi**	**2.96**	**327**	*e*PN	**Pn**	**13 06 57.0**	**+0.9**

IDC 11 13:06:54.0±2.0, 122N×12558E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=189.4km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.72**	**158**	P	P	13 11 57.4	0.0
	1.1nm,0.8s,baz=336,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.03**	**162**	P	P	13 12 29.1	+0.4
	0.2nm,0.3s,baz=348,slow=13,SNR=12						
MKAR	**Makanchi Array**	**58.98**	**327**	P	P	13 16 55.6	+0.3
	0.2nm,0.5s,baz=128,slow=8.4,SNR=4.4						

INMG ***11*** *13:23:48.1±0.7, 3656N×734W, h30km±9km, ML1.7, Error ellipse: s-maj=4.5km s-min=3.1km az=21.0*
MDD 11 13:23:47.8±1.6, 3657N×733W, h30km±38km, mbLg2.0/8, 1D, Error ellipse: s-maj=21.9km s-min=7.7km az=17.0, PRXIMO PROFUNDIDAD POBRE, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.97**	**353**	⇓P	Pn	13 24 04.6	-0.8
	SNR=18						
EGRO				S	Sn	13 24 16.8	-1.4
	7.8nm,0.1s,SNR=18						
ESPR	**Espera**	**1.22**	**75**	P	Pn	13 24 07.8	-1.0
	1.4nm,0.1s,SNR=6.9						
ESPR				S	Sn	13 24 22.8	-1.6
	30nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.31**	**23**	P	Pn	13 24 08.7	-1.3
	0.4nm,0.1s,SNR=6.7						
EMIN				S	Sn	13 24 24.4	-2.0
	3.8nm,0.2s,SNR=19						
PTEO	**Sao Teotonio**	**1.48**	**312**	*i* P	Pn	13 24 11.3	-1.2
PTEO				*e*S	Sn	13 24 28.6	-2.2
PTEO							
	7.5nm,0.1s						
PBEJ	**Beja**	**1.52**	**344**	*i* P	Pn	13 24 11.9	-1.0
PBEJ				*e*S	Sn	13 24 29.8	-1.8
PBEJ							
	3.7nm,0.1s						
MOE	**Montemor**	**2.11**	**338**	*e*Pn	Pn	13 24 20.0	-1.1
MOE				*e*Sn	Sn	13 24 45.3	-1.1
EBAD	**Badajoz**	**2.20**	**6**	P	Pn	13 24 21.4	-0.8
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	13 24 46.0	-2.5
	1.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.30**	**355**	*e*Pn	Pn	13 24 22.5	-1.2
PESTR				*e*Sn	Sn	13 24 48.4	-2.7
PESTR							
	0.9nm,0.1s						
EADA	**Adamuz**	**2.71**	**53**	P	Pn	13 24 28.3	-1.1
	0.2nm,0.1s,SNR=13						
EADA				S	Sn	13 24 58.7	-2.4
	2.7nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.27**	**358**	*e*Sn	Sn	13 25 11.9	-3.0
PCBR							
	1.0nm,0.1s						
PCBR	**Castelo Branco**	**3.27**	**358**	S	Sn	13 25 11.9	-3.0
	0.5nm,0.1s						

IDC ***11*** *14:07:26.8±0.9, 5449N×16201W, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.3/27, mbtmp4.2/20, ML4.3/2, MS3.7/2, Ms1 3.6/2, ms1mx3.1/29, Error ellipse: s-maj=25.9km s-min=13.3km az=171.0*
ISCJB ***11*** *14:07:31.5±0.7, 5442N±008×16182W±007, h49km±5km, mb4.5/32, MS3.9/5, Error ellipse: s-maj=14.8km s-min=4.1km az=134.0*
NEIC ***11*** *14:07:31.3, 5418N×16179W, h36km, mb4.8/8, ML4.3(AEIC), After AEIC.*
BJI ***11*** *14:07:31.3, 5420N×16180W, h35km, mB4.9, mb4.8, Ms4.7, Msz4.2*
ISC 11 14:07:32.9±0.7, 5435N±008×16184W±007, h51km±4km, n82, σ1s03/75, mb4.5/32, MS3.9/5, 1C, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.27**	**38**	P	**Pn**	**14 07 54.9**	**+0.6**
SDPT				S	**Sn**	**14 08 12.7**	**+2.3**
AKA	**Akutan**	**2.32**	**266**	P	**Pn**	**14 08 08.2**	**-0.4**
AKA				S	**Sn**	**14 08 36.0**	**+0.1**
AKUT	**Akutan**	**2.32**	**266**	P	**Pn**	**14 08 08.2**	**-0.5**
AKUT				S	**Sn**	**14 08 36.2**	**+0.3**
AKLV	**Akutan Long Va**	**2.42**	**267**	P	**Pn**	**14 08 09.8**	**-0.3**
AKGG	**Akutan Green G**	**2.44**	**268**	P	**Pn**	**14 08 10.6**	**+0.3**
AKGG				S	**Sn**	**14 08 40.1**	**+1.2**
CHGN	**Chignik**	**2.77**	**44**	P	**Pn**	**14 08 15.8**	**+1.1**
UNV	**Unalaska Valle**	**2.79**	**262**	P	**Pn**	**14 08 14.3**	**-0.8**

OKCD	**Okmok Cone D**	**3.83**	**259**	P	**Pn**	**14 08 29.0**	**-0.2**
OKCE	**Okmok Cone E**	**3.85**	**259**	P	**Pn**	**14 08 29.7**	**+0.1**
KDAK	**Kodiak Island**	**6.22**	**53**	Pn	**Pn**	**14 09 01.3**	**-0.8**
	7.5nm,0.3s,baz=227,slow=7.1,SNR=98						
KDAK				Sn	**Sn**	**14 10 07.7**	**-4.1**
	2.2nm,0.3s,baz=163,slow=19,SNR=3.1						
KDAK				Lg		14 10 37.9	
	2.4nm,0.3s,baz=73,slow=20,SNR=3.8						
KDAK	**Kodiak Island**	**6.22**	**53**	*e*Pn	**Pn**	**14 09 01.3**	**-0.8**
	69nm,0.8s						
SVW2	**Sparrevohn**	**7.55**	**24**	*e*Pn	**Pn**	**14 09 21.8**	**+1.5**
SLKM	**Skilak Lake**	**8.79**	**41**	*e*Pn	**Pn**	**14 09 38.0**	**+0.7**
PMR	**Palmer**	**9.90**	**38**	*e*Pn	**Pn**	**14 09 51.3**	**-1.1**
	20nm,0.8s						
SML	**Sawmill**	**10.33**	**38**	*e*Pn	**Pn**	**14 09 57.6**	**-0.7**
EYAK	**Cordova Ski Ar**	**10.65**	**48**	*e*Pn	**Pn**	**14 10 00.9**	**-1.8**
DIV	**Divide**	**10.93**	**45**	*e*Pn	**Pn**	**14 10 05.1**	**-1.4**
	30nm,0.4s						
DIV				*e*Sn	**Sn**	**14 12 01.7**	**-5.6**
MCK	**McKinley**	**11.49**	**30**	*e*P	**Pn**	**14 10 15.1**	**+0.9**
	7.9nm,0.9s						
TNA	**Tin City**	**11.65**	**347**	*e*Pn	**Pn**	**14 10 18.4**	**+2.0**
IMA2	**Indian Mountai**	**12.42**	**16**	*e*Pn	**Pn**	**14 10 26.7**	**-0.2**
COLA	**College**	**12.67**	**28**	*e*Pn	**Pn**	**14 10 31.4**	**+1.1**
	10nm,1.0s						
MENT	**Mentasta**	**12.73**	**40**	*e*Pn	**Pn**	**14 10 30.1**	**-1.0**
EGAK	**Eagle**	**14.71**	**37**	*e*Pn	**Pn**	**14 10 55.0**	**-2.9**
	7.8nm,0.7s						
DAWY	**Dawson**	**14.97**	**41**	*e*Pn	**Pn**	**14 10 59.5**	**-1.7**
SKAG	**Skagway**	**15.30**	**60**	*e*Pn	**Pn**	**14 11 05.5**	**+0.1**
	14nm,0.7s						
DLBC	**Dease Lake**	**17.98**	**64**	*e*Pn	**Pn**	**14 11 43.6**	**+4.6**
INK	**Inuvik**	**19.23**	**32**	P	**Pn**	**14 11 51.1**	**-3.0**
	0.6nm,0.3s,baz=232,slow=13,SNR=10						
INK	**Inuvik**	**19.23**	**32**	*e*P	**Pn**	**14 11 50.4**	**-3.8**
	264nm,0.9s						
YKA	**Yellowknife Ar**	**25.50**	**52**	P	**P**	**14 12 56.9**	**+0.6**
	1.2nm,0.5s,mb3.7,baz=269,slow=8.7,SNR=5.6						
YKA				LR	LR	14 24 09.2	
	comp=Z,60nm,18.7s,MS3.1,baz=190,slow=39						
MA2	**Magadan**	**25.90**	**301**	P	**P**	**14 12 57.8**	**-2.1**
RES	**Resolute Bay**	**32.59**	**27**	P	**P**	**14 14 00.7**	**+1.3**
	134nm,1.0s						
PDAR	**Pinedale Array**	**35.69**	**87**	P	**P**	**14 14 26.7**	**+0.6**
	0.2nm,0.6s,baz=271,slow=7.0,SNR=2.5						
ULM	**Lac du Bonnet**	**39.23**	**68**	P	**P**	**14 14 57.4**	**+1.2**
	1.6nm,0.6s,mb4.0,baz=158,slow=1.7,SNR=4.6						
MAJO	**Matsushiro**	**44.22**	**272**	*e*P	**P**	**14 15 35.4**	**-1.6**
	12nm,0.8s,mb4.7						
MAT	**Matsushiro**	**44.22**	**272**	P	**P**	**14 15 36.8**	**-0.1**
MJAR	**Matsushiro Arr**	**44.22**	**272**	P	**P**	**14 15 36.5**	**-0.4**
	3.0nm,mb4.2,baz=33,slow=7.4,SNR=20						
CN2	**Changchun**	**46.75**	**288**	*e*P	**P**	**14 16 00.1**	**+3.1**
TXAR	**Lajitas Array**	**48.34**	**97**	P	**P**	**14 16 11.2**	**+1.9**
	0.2nm,0.5s,baz=297,slow=5.0,SNR=3.2						
CBIJ	**Chichi jima**	**48.75**	**259**	LR	LR	14 33 05.7	
	comp=Z,204nm,21.8s,MS4.1,baz=214,slow=32						
KSRS	**Korea Array**	**49.58**	**280**	P	**P**	**14 16 19.1**	**+0.3**
	4.5nm,0.5s,mb4.7,baz=48,slow=7.1,SNR=13						
JNU	**Nakatsue**	**50.90**	**274**	P	**P**	**14 16 28.9**	**+0.1**
	26nm,0.9s,mb5.1,baz=208,slow=12,SNR=4.6						
WVT	**Waverly**	**52.66**	**78**	*e*P	**P**	**14 16 42.4**	**+0.5**
	7.6nm,0.8s,mb4.7						
SONM	**Songino Array**	**54.06**	**304**	P	**P**	**14 16 52.4**	**+0.3**
	4.3nm,0.5s,mb4.6,baz=46,slow=6.7,SNR=27						
KEV	**Kevo**	**56.04**	**356**	*e*p	**P**	**14 17 03.1**	**-3.3**
	8.3nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**56.31**	**357**	P	**P**	**14 17 07.1**	**-1.2**
	3.5nm,0.8s,mb4.4,baz=15,slow=7.0,SNR=9.2						
ZAL	**Zalesovo**	**58.90**	**321**	P	**P**	**14 17 25.9**	**-0.6**
	1.8nm,0.4s,mb4.4,baz=46,slow=6.0,SNR=7.8						
GTA	**Gaotai**	**63.46**	**301**	*e*P	**P**	**14 17 57.4**	**0.0**
GTA				PP	PP	14 20 17.9	+0.5
GTA				S	**S**	**14 26 27.5**	**+0.8**
GTA				SS	SS	14 30 38.5	+4.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,72nm,4.6s						
GTA				LR	LR		
	comp=N,138nm,11.0s,MS4.6						
GTA				LR	LR		
	comp=E,162nm,12.2s,MS4.6						
GTA				LR	LR		
	comp=Z,122nm,16.

comp=Z,1.5nm,0.5s,mb4.3,baz=7.2,slow=2.2,SNR=7.7
ASAR Alice Springs 95.19 236 P **P** **14 20 50.9 +0.1**
comp=Z,0.8nm,0.8s,mb4.2,baz=42,slow=3.9,SNR=6.6
QSPA South Pole Qui 144.12 180 *e*PKPdf PKPdf 14 26 59.5 -3.3

IDC ***11*** *14:07:49.2±2.4, 634S×151.18E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML2.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/19, Error ellipse: s-maj=62.0km s-min=36.7km az=127.0*
ISCJB ***11*** *14:07:51.1±1.7, 63S±03×1512E±02, h35km, mb4.0/5, MS3.2/2, Error ellipse: s-maj=43.0km s-min=18.3km az=116.3*
NEIC ***11*** *14:07:51.0±1.7, 649S×151.17E, h10km, mb4.1/3, Error ellipse: s-maj=34.7km s-min=25.2km az=137.0*
ISC 11 14:07:52.5±1.7, 62S±03×1512E±02, h35km, n18, σ0§89/17, mb4.0/5, MS3.2/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**232**	Pn		**Pn**	**14 09 08.0**	**+1.1**
	0.9nm,0.3s,baz=41,slow=9.3,SNR=4.8							
PMG				Sn		**Sn**	**14 10 05.4**	**+0.5**
	2.4nm,0.3s,baz=204,slow=20,SNR=5.6							
PMG	**Port Moresby**	**5.14**	**232**	*e*Pn		**Pn**	**14 09 04.6**	**-2.3**
PMG				Sn		**Sn**	**14 10 05.5**	**+0.5**
CTA	**Charters Tower**	**14.62**	**199**	LR		LR	14 15 47.9	
	comp=Z,61nm,19.0s,baz=208,slow=33							
KAKA	**Kakadu**	**19.63**	**249**	*e*P		**Pn**	**14 12 19.6**	**+0.1**
	6.9nm,0.7s							
WRAB	**Tennant Creek**	**21.34**	**229**	*e*P		**P**	**14 12 35.0**	**-1.5**
	6.6nm,0.8s,mb4.0							
WB2	**Warramunga Arr**	**21.34**	**229**	*e*P		**P**	**14 12 35.9**	**-0.6**
WB2	**Warramunga Arr**	**21.34**	**229**	*e*P		**P**	**14 12 34.8**	**-1.7**
WRA	**Warramunga Arr**	**21.35**	**229**	P		**P**	**14 12 36.4**	**-0.3**
	4.1nm,0.9s,mb3.8,baz=53,slow=10,SNR=24							
DZM	**Mont Dzumac**	**21.55**	**139**	LR		LR	14 19 30.1	
	comp=Z,102nm,18.9s,MS3.2,baz=204,slow=33							
AS31	**Alice Springs**	**24.06**	**222**	*e*P		**P**	**14 13 04.5**	**0.0**
ASAR	**Alice Springs**	**24.07**	**222**	P		**P**	**14 13 05.0**	**+0.5**
	1.9nm,0.6s,mb3.7,baz=54,slow=8.9,SNR=42							
ASPA	**Alice Springs**	**24.07**	**222**	*e*P		**P**	**14 13 04.9**	**+0.4**
STKA	**Stephens Creek**	**27.08**	**198**	*e*P		**P**	**14 13 32.7**	**+0.9**
	3.4nm,0.5s,mb4.1							
STKA	**Stephens Creek**	**27.08**	**198**	P		**P**	**14 13 32.0**	**+0.2**
	1.8nm,0.4s,mb3.9,baz=4.8,slow=12,SNR=4.9							
STKA				LR		LR	14 23 46.5	
	comp=Z,47nm,18.9s,MS3.1,baz=25,slow=36							
STKA	**Stephens Creek**	**27.08**	**198**	*e*P		**P**	**14 13 32.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.63**	**242**	*e*P		**P**	**14 13 37.9**	**+1.2**
	8.6nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**27.63**	**242**	P		**P**	**14 13 37.8**	**+1.1**
	5.7nm,0.8s,mb4.2,baz=57,slow=9.9,SNR=10							
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc		PKPbc	14 27 40.8	+3.4
	0.9nm,0.6s,baz=64,slow=2.4,SNR=7.9							

IDC 11 14:10:11.3±10.0, 257S×12941E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=148.7km s-min=103.5km az=139.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.88**	**193**	Pn		Pn	14 13 58.0	+1.9
	0.2nm,0.3s,baz=45,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**17.93**	**165**	P		Pn	14 14 21.5	-0.5
	0.1nm,0.3s,baz=346,slow=12,SNR=6.5							
ASAR	**Alice Springs**	**21.42**	**169**	P		P	14 15 01.1	+0.3
	0.6nm,0.5s,baz=347,slow=12,SNR=4.7							
FORT	**Forrest**	**28.09**	**182**	*e*P		P	14 15 48.5	-16
	7.7nm,1.0s							
STKA	**Stephens Creek**	**31.33**	**160**	P		P	14 16 33.4	+0.1
	1.5nm,0.5s,baz=339,slow=13,SNR=3.3							

IDC 11 14:10:51.8±2.8, 640S×15106E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/15, mbtmp3.7/6, ML2.3/1, Error ellipse: s-maj=84.5km s-min=22.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.89**	**232**	Pn		Pn	14 12 08.1	+1.6
	0.9nm,0.3s,baz=68,slow=11,SNR=5.0							
PMG				Sn		Sn	14 13 06.4	+2.7
	3.7nm,0.3s,baz=198,slow=20,SNR=4.8							
WRA	**Warramunga Arr**	**21.10**	**229**	P		P	14 15 37.6	-0.2
	1.3nm,0.5s,baz=52,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**23.81**	**222**	P		P	14 16 06.2	-0.2
	1.9nm,0.6s,baz=54,slow=8.5,SNR=19							
FITZ	**Fitzroy Crossi**	**27.39**	**243**	P		P	14 16 39.1	+0.2
	1.6nm,0.5s,baz=69,slow=9.0,SNR=7.6							
SONM	**Songino Array**	**66.77**	**329**	P		P	14 21 46.3	+1.3
	0.3nm,0.4s,baz=135,slow=5.2,SNR=3.4							
MKAR	**Makanchi Array**	**80.40**	**319**	P		P	14 23 04.8	-0.3
	0.2nm,0.6s,baz=113,slow=6.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**149.10**	**285**	PKPbc		PKPbc	14 30 42.2	+0.3
	0.6nm,0.4s,baz=68,slow=2.1,SNR=6.3							

IDC ***11*** *14:13:37.0±5.1, 1149N×8401W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=226.2km s-min=78.8km az=63.0*
NEIC ***11*** *14:13:38.5±1.2, 1148N×8411W, h10km, mb4.0/1, Error ellipse: s-maj=28.5km s-min=12.4km az=85.0*
ISCJB ***11*** *14:13:48.9±0.5, 1079N±005×8577W±008, h63km±7km, mb3.7/4, Error ellipse: s-maj=15.4km s-min=4.3km az=115.0*
CASC ***11*** *14:13:49.9±2.2, 1080N×8580W, h45km±9km, MD3.5, ML3.3, mb4.0(NEIC)*
ISC 11 14:13:49.6±0.5, 1081N±005×8573W±008, h57km±7km, n28, σ0§96/36, mb3.7/4, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRZC	**La Cruz**	**0.20**	**42**	⇓*i*P		**Pn**	**14 13 58.2**	**-0.5**
SSNN	**San Juan del S**	**0.49**	**346**	*e*P		**Pn**	**14 14 00.3**	**-0.9**
MADN	**Villa Maderas**	**0.63**	**18**	*e*P		**Pn**	**14 14 03.3**	**+0.5**
VCR	**Vista de Mar**	**0.68**	**172**	⇓*e*P		**Pn**	**14 14 02.3**	**-1.2**
VCR				*e*S		**Sn**	**14 14 13.8**	**+0.2**
CONN	**Concepcion**	**0.76**	**8**	*e*P		**Pn**	**14 14 04.2**	**-0.2**
JTS	**JuntasAbangare**	**0.92**	**124**	*e*Pn		**Pn**	**14 14 04.9**	**-1.6**
JTS				*e*Sn		**Sn**	**14 14 18.0**	**-0.9**
JCR	**Jicaral**	**1.13**	**147**	*e*P		**Pn**	**14 14 08.9**	**-0.3**
JCR				*e*S		**Sn**	**14 14 26.4**	**+2.6**
APON	**Apoyo**	**1.15**	**343**	*e*P		**Pn**	**14 14 09.7**	**+0.2**
TICN	**Ticuantepe**	**1.31**	**338**	*e*P		**Pn**	**14 14 12.2**	**+0.5**
MGAN	**Managua**	**1.43**	**339**	*e*P		**Pn**	**14 14 13.3**	**+0.1**
MGAN				*e*S		**Sn**	**14 14 31.6**	**+0.7**
TISN	**Laguna Tiscapa**	**1.43**	**338**	*e*P		**Pn**	**14 14 13.4**	**+0.1**
TISN				*e*S		**Sn**	**14 14 31.3**	**+0.3**
XAVN	**Gruta Xavier**	**1.46**	**336**	*e*P		**Pn**	**14 14 14.0**	**+0.4**
CGA2	**Cerro Gallo 2**	**1.47**	**122**	*e*P		**Pn**	**14 14 14.2**	**+0.4**
CGA2				*e*S		**Sn**	**14 14 36.7**	**+4.6**
COPN	**Copaltepe**	**1.60**	**328**	*e*P		**Pn**	**14 14 15.7**	**0.0**
COPN				*e*S		**Sn**	**14 14 35.1**	**-0.1**
PRS1	**Puriscal**	**1.62**	**120**	⇑*e*P		**Pn**	**14 14 16.5**	**+0.6**
PRS1				*e*S		**Sn**	**14 14 41.3**	**+5.7**
MOMJ	**Momotombo**	**1.78**	**334**	*e*P		**Pn**	**14 14 18.2**	**+0.3**
MOMJ				*e*S		**Sn**	**14 14 39.1**	**-0.4**
MOMJ				*i*			14 14 41.5	
	comp=Z,332nm,0.3s							
LAJ	**Bijagual**	**1.84**	**120**	*e*P		**Pn**	**14 14 16.2**	**-2.6**
MIRN	**Miramar**	**1.89**	**329**	*e*P		**Pn**	**14 14 19.9**	**+0.4**
CNGN	**Cerro Negro**	**1.93**	**331**	*e*P		**Pn**	**14 14 20.5**	**+0.4**
LCR2	**La Lucha 2**	**2.00**	**122**	*e*P		**Pn**	**14 14 21.6**	**+0.5**
LCR2				*e*S		**Sn**	**14 14 48.9**	**+3.9**
CRIN	**San Cristobal**	**2.28**	**326**	*e*P		**Pn**	**14 14 25.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**3.56**	**335**	*e*Pn		**Pn**	**14 14 39.6**	**-2.8**
LTX	**Lajitas**	**24.91**	**320**	*e*P		**P**	**14 19 06.9**	**-0.3**
	comp=Z,2.5nm,0.7s,mb3.9							
TXAR	**Lajitas Array**	**24.91**	**320**	P		**P**	**14 19 08.0**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.7,baz=148,slow=10,SNR=9.9							
PDAR	**Pinedale Array**	**38.01**	**331**	P		**P**	**14 20 59.0**	**-3.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=126,slow=9.2,SNR=2.9							
NVAR	**Mina Array Bea**	**40.04**	**319**	P		**P**	**14 21 18.9**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.8,baz=139,slow=6.0,SNR=3.6							
ASAR	**Alice Springs**	**140.19**	**246**	PKP		PKPdf	14 33 11.2	-0.6
	comp=Z,0.3nm,0.5s,baz=96,slow=2.1,SNR=6.1							
WRA	**Warramunga Arr**	**140.40**	**252**	PKP		PKPdf	14 33 12.1	-0.2
	comp=Z,0.8nm,0.7s,baz=91,slow=2.3,SNR=12							

IDC 11 14:30:25.9±2.5, 628S×15113E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML2.1/1, Error ellipse: s-maj=61.5km s-min=39.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.01**	**231**	Pn		Pn	14 31 44.4	+2.0
	0.5nm,0.3s,baz=344,slow=19,SNR=3.1							
PMG				Sn		Sn	14 32 41.7	+0.7
	2.5nm,0.3s,baz=191,slow=16,SNR=5.8							
WRA	**Warramunga Arr**	**21.23**	**229**	P		P	14 35 13.1	-0.2
	1.8nm,0.9s,baz=52,slow=9.9,SNR=11							
ASAR	**Alice Springs**	**23.95**	**222**	P		P	14 35 41.5	-0.3
	0.6nm,0.6s,baz=54,slow=8.8,SNR=12							
STKA	**Stephens Creek**	**26.98**	**198**	P		P	14 36 09.4	+0.1
	0.9nm,0.6s,baz=18,slow=13,SNR=3.1							
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P		P	14 36 14.5	+0.5
	0.9nm,0.5s,baz=45,slow=8.6,SNR=5.4							
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc		PKPbc	14 50 17.1	+1.0
	0.4nm,0.7s,baz=91,slow=2.2,SNR=4.2							

BJI ***11*** *15:10:23.3, 673S×14893E, h47km, mB5.6, mb5.2, Ms5.6, Msz5.4*
MOS ***11*** *15:10:28.1±0.8, 594S×14857E, h33km, mb5.6/33, MS5.6/24, Error ellipse: s-maj=8.7km s-min=5.8km az=96.3*
ISCJB ***11*** *15:10:29.8±0.2, 600S±002×14856E±003, h51km, mb5.4/101, MS5.5/208, Error ellipse: s-maj=4.3km s-min=3.4km az=170.4*
NEIC ***11*** *15:10:30.6±0.1, 599S×14859E, h47km, mb5.7/54, ME5.5, MS5.7/164, MW5.9, Error ellipse: s-maj=4.9km s-min=3.8km az=93.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr7.44; Mθθ-0.39; Mφφ-7.05; Mrθ2.65; Mrφ3.66; Mθφ-0.76; Best double couple: Mo8.60000×10^17 NP1:ϕs140.00000°, δ53.00000°, λ69.00000°. NP2:ϕs353.00000°, δ41.00000°, λ115.00000°. Principal axes: T 8.2600, Plg72.0000°, Azm355.0000°; N 0.6100, Plg16.0000°, Azm153.0000°; P -8.8600, Plg6.0000°, Azm245.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
GCMT ***11*** *15:10:30.6±0.1, 632S×14874E, h47km, MW6.0/107, Moment Tensor Solution. s107,c228; s99,c306; Duration: 2≥3 Moment tensor: Scale 10^18Nm; Mrr0.93±.01; Mθθ-1.08±.01; Mφφ0.14±.01; Mrθ0.15±.01; Mθφ0.07±.01; Mφr-0.07±.01; Best double couple: Mo1.02200×10^18 NP1:ϕs268.00000°, δ41.00000°, λ83.00000°. NP2:ϕs98.00000°, δ50.00000°, λ96.00000°. Principal axes: T 0.9470, Plg84.0000°, Azm50.0000°; N 0.1470, Plg5.0000°, Azm274.0000°; P -1.0960, Plg4.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***11*** *15:10:32.0±0.7, 607S×14856E, h57km±5km, mb5.0/24, mb1 5.1/28, mb1mx5.1/28, mbtmp5.1/28, MS5.4/25, Ms1 5.4/25, ms1mx5.2/32 Error ellipse: s-maj=9.0km s-min=6.0km az=102.0*
ISC 11 15:10:31.8±0.2, 604S±002×14857E±003, h53km, h53km±.7km: pP-P, n492, σ1§09/281, mb5.4/101, MS5.5/208, 28C-9D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.63**	**203**	P		**Pn**	**15 11 26.9**	**+1.5**
	600nm,0.3s,baz=18,slow=6.7,SNR=821							
PMG				S		**Sn**	**15 12 08.6**	**+1.6**
	7µm,0.3s,baz=180,slow=19,SNR=21							
PMG				LR		LR	15 12 49.0	
	comp=Z,53µm,18.5s,baz=49,slow=38							
PMG	**Port Moresby**	**3.63**	**203**	⇑*e*P		**Pn**	**15 11 26.6**	**+1.2**
PMG	**Port Moresby**	**3.63**	**203**	⇓*e*Pn		**Pn**	**15 11 26.9**	**+1.5**
PMG				*e*Sn		**Sn**	**15 12 09.8**	**+2.9**
HNR	**Honiara**	**11.77**	**107**	P		**Pn**	**15 13 18.0**	**+1.2**
	3.5nm,0.3s,baz=260,slow=2.3,SNR=42							
HNR				S		**Sn**	**15 15 29.8**	**+3.2**
	3.4nm,0.3s,baz=87,slow=9.5,SNR=1.5							
HNR				LR		LR	15 17 19.8	
	comp=Z,13µm,20.8s,baz=352,slow=35							
HNR	**Honiara**	**11.77**	**107**	*e*P		**Pn**	**15 13 17.8**	**+0.9**
HNR				pmax		pmax		
	comp=Z,851nm,1.1s							
HNR	**Honiara**	**11.77**	**107**	*e*Pn		**Pn**	**15 13 17.8**	**+0.9**
	comp=Z,851nm,1.1s							
CTA	**Charters Tower**	**14.15**	**189**	*e*P		**Pn**	**15 13 49.7**	**+0.5**
	comp=Z,226nm,1.5s							
CTA	**Charters Tower**	**14.15**	**189**	P		**Pn**	**15 13 49.9**	**+0.6**
	comp=Z,4.5nm,0.3s,baz=16,slow=14,SNR=103							
CTA				S		**Sn**	**15 16 30.3**	**+5.7**
	comp=Z,2.2nm,0.3s,baz=83,slow=18,SNR=2.6							
CTA	**Charters Tower**	**14.15**	**189**	*e*P		**Pn**	**15 13 49.7**	**+0.5**
CTA				pmax		pmax		
	comp=Z,226nm,1.5s							
CTAO	**Charters Tower**	**14.15**	**189**	*e*P		**Pn**	**15 13 49.8**	**+0.6**
CTAO				pmax		pmax		
	comp=Z,2µm,1.6s							
CTAO	**Charters Tower**	**14.15**	**189**	⇓*e*Pn		**Pn**	**15 13 49.3**	**+0.1**
	comp=Z,1µm,1.6s							
KAKA	**Kakadu**	**17.23**	**246**	*e*P		**Pn**	**15 14 28.7**	**0.0**
	comp=Z,2µm,1.9s							
WRAB	**Tennant Creek**	**19.54**	**224**	Pn		**Pn**	**15 14 56.0**	**-0.6**
	comp=Z,2µm,0.9s							
WRAB	**Tennant Creek**	**19.54**	**224**	*d i*P		**Pn**	**15 14 55.2**	**-1.4**
WB2	**Warramunga Arr**	**19.54**	**224**	*e*P		**Pn**	**15 14 55.8**	**-0.9**
WB2				*e*S		**S**	**15 18 25.5**	**-7.2**
WRA	**Warramunga Arr**	**19.55**	**224**	P		**Pn**	**15 14 55.8**	**-1.0**
	comp=Z,30nm,0.3s,baz=51,slow=11,SNR=337							
WRA				S		**S**	**15 18 29.9**	**-3.0**
	comp=Z,3.2nm,0.3s,baz=41,slow=23,SNR=4.9							
WRA				LR		LR	15 21 11.1	
	comp=Z,2µm,20.8s,baz=50,slow=33							
WRA	**Warramunga Arr**	**19.55**	**224**	P		**Pn**	**15 14 55.8**	**-1.0**
WRA				S		**S**	**15 18 29.9**	**-3.0**
GUMO	**Guam**	**19.84**	**349**	P		**Pn**	**15 14 59.3**	**-0.8**
	comp=Z,11nm,0.3s,baz=184,slow=13,SNR=6.3							
GUMO				S		**S**	**15 18 42.1**	**+3.4**
	comp=Z,3.9nm,0.3s,baz=51,slow=19,SNR=1.7							
GUMO				LR		LR	15 21 40.4	
	comp=Z,7µm,20.9s,baz=151,slow=34							
GUMO	**Guam**	**19.84**	**349**	*e*P		**Pn**	**15 15 01.1**	**+0.9**
GUMO				pmax		pmax		
	comp=Z,4µm,1.6s							
GUMO	**Guam**	**19.84**	**349**	*e*P		**Pn**	**15 15 01.1**	**+0.9**
	comp=Z,4µm,1.6s							
GUMO				*e*			15 15 15.6	
AS31	**Alice Springs**	**22.50**	**217**	*e*P		**P**	**15 15 27.8**	**+1.1**
AS31				*e*S		**S**	**15 19 30.2**	**-0.1**
ASAR	**Alice Springs**	**22.50**	**217**	P		**P**	**15 15 27.8**	**+1.1**
	comp=Z,106nm,0.5s,mb5.5,baz=57,slow=9.3,SNR=424							
ASAR				S		**S**	**15 19 29.3**	**-1.0**
	comp=Z,185nm,0.9s,baz=34,slow=22,SNR=16							
ASAR				LR		LR	15 25 12.1	
	comp=Z,18µm,18.5s,MS5.5,baz=39,slow=39							
ASAR	**Alice Springs**	**22.50**	**217**	P		**P**	**15 15 27.8**	**+1.1**
ASAR				S		**S**	**15 19 29.3**	**-1.0**
ASAR	**Alice Springs**	**22.50**	**217**	P		**P**	**15 15 27.8**	**+1.1**
ASAR				S		**S**	**15 19 29.3**	**-1.0**
ASAR				LR		LR	15 25 12.1	
ASPA	**Alice Springs**	**22.50**	**217**	*e*P		**P**	**15 15 27.8**	**+1.0**
ASPA				*e*S		**S**	**15 19 30.2**	**-0.1**
DZM	**Mont Dzumac**	**23.50**	**134**	*e*P		**P**	**15 15 35.1**	**-1.8**
DZM	**Mont Dzumac**	**23.50**	**134**	P		**P**	**15 15 38.0**	**+1.1**
	comp=Z,34nm,0.5s,mb5.0,baz=332,slow=12,SNR=25							
DZM				S		**S**	**15 19 45.5**	**-1.2**
	comp=Z,15nm,1.1s,baz=33,slow=14,SNR=2.3							
ARMA	**Armidale**	**24.42**	**174**	*e*P		**P**	**15 15 45.9**	**+0.6**
ARMA				*e*			15 15 51.9	
FITZ	**Fitzroy Crossi**	**25.39**	**240**	⇑*i*P		**P**	**15 15 55.2**	**+1.1**
	comp=Z,696nm,0.7s,mb6.3							
FITZ				*e*pP		pP	15 16 09.6	+2.1
FITZ				*e*S		**S**	**15 20 19.6**	**+2.8**
FITZ	**Fitzroy Crossi**	**25.39**	**240**	P		**P**	**15 15 55.2**	**+1.2**
	comp=Z,374nm,0.8s,mb6.0,baz=70,slow=8.1,SNR=302							
FITZ				S		**S**	**15 20 18.7**	**+1.8**
	comp=Z,29nm,0.8s,baz=218,slow=18,SNR=6.7							
FITZ				LR		LR	15 27 24.0	
	comp=Z,13µm,19.5s,MS5.5,baz=67,slow=40							
FITZ				PKKP			15 42 13.6	
	comp=Z,2.6nm,0.8s,baz=133,slow=6.5,SNR=3.8							
DAV	**Davao City (W)**	**26.38**	**299**	*e*P		**P**	**15 16 00.0**	**-3.0**
DAV	**Davao City (W)**	**26.38**	**299**	*e*P		**P**	**15 16 10.0**	**+7.0**
DAV				LR		LR		
	comp=Z,4µm,20.0s,MS4.9							
STKA	**Stephens Creek**	**26.52**	**193**	*e*P		**P**	**15 16 04.7**	**+0.4**
	comp=Z,56nm,0.6s,mb5.3							
STKA				*e*pP		pP	15 16 18.7	+0.9
STKA				*e*S		**S**	**15 20 34.2**	**-0.5**
STKA	**Stephens Creek**	**26.52**	**193**	P		**P**	**15 16 05.5**	**+1.1**
	comp=Z,32nm,0.7s,mb5.0,baz=358,slow=8.3,SNR=58							
STKA				S		**S**	**15 20 35.3**	**+0.5**
	comp=Z,8.4nm,0.8s,baz=239,slow=18,SNR=1.4							
STKA				LR		LR	15 26 47.8	
	comp=Z,14µm,20.7s,MS5.5,baz=1.7,slow=37							
RIV	**Riverview**	**27.76**	**175**	*e*P		**P**	**15 16 23.5**	**+8.1**
CGP	**Cagayan de Oro**	**27.82**	**301**	⇓*e*P		**P**	**15 16 16.1**	**+0.1**
	comp=Z,1437µm,0.5s							
KAPI	**Kappang**	**28.70**	**271**	P		**P**	**15 16 24.1**	**+0.3**
	comp=Z,219nm,1.4s,mb5.7,SNR=5.7							
CNB	**Canberra Magne**	**29.14**	**179**	*e*P		**P**	**15 16 34.3**	**+6.6**
	comp=Z,103nm,1.4s,mb5.4							
FUNA	**Funafuti**	**30.48**	**97**	*e*P		**P**	**15 16 37.2**	**-2.3**
	comp=Z,106nm,0.9s,mb5.6							
FUNA				LR		LR		
	comp=Z,6µm,19.0s,MS5.2							
GUIM	**Jordan**	**30.71**	**303**	*e*P		**P**	**15 16 39.0**	**-2.6**
FORT	**Forrest**	**31.25**	**216**	*e*P		**P**	**15 16 46.8**	**+0.4**
	comp=Z,152nm,0.6s,mb6.0							
FORT				*e*pP		pP	15 17 00.7	+0.7
FORT				*e*S		**S**	**15 21 48.2**	**-0.9**
TOO	**Toolangi**	**31.51**	**185**	*e*P		**P**	**15 16 48.9**	**+0.3**
	comp=Z,22nm,0.7s,mb5.1							
TOO				*e*S		**S**	**15 21 57.2**	**+4.1**
TOO	**Toolangi**	**31.51**	**185**	*e*P		**P**	**15 16 48.9**	**+0.3**
TOO				*e*S		**S**	**15 21 57.2**	**+4.1**
TOO				pmax		pmax		
	comp=Z,22nm,0.7s,mb5.1							
MBWA	**Marble Bar**	**31.72**	**239**	⇑*e*P		**P**	**15 16 50.9**	**+0.4**
	comp=Z,107nm,0.8s,mb5.7							
MBWA				LR		LR		
	comp=Z,14µm,21.0s,MS5.6							
CBIJ	**Chichi jima**	**33.51**	**350**	P		**P**	**15 17 07.5**	**+1.4**
	comp=Z,219nm,0.8s,mb6.1,baz=280,slow=19,SNR=4.6							
CBIJ				LR		LR	15 29 28.8	
	comp=Z,2µm,18.9s,MS4.8,baz=338,slow=34							
TAU	**Tasmania Unive**	**36.73**	**182**	*e*P		**P**	**15 17 32.0**	**-1.9**
TAU				pmax		pmax		
	comp=Z,416nm,1.8s,mb6.0							
TAU				MLR		MLR		
	comp=Z,3µm,19.0s,MS5.1							
TAU	**Tasmania Unive**	**36.73**	**182**	*e*P		**P**	**15 17 32.0**	**-1.8**
	comp=Z,416nm,1.8s,mb6.0							
TAU				LR		LR		
	comp=Z,3µm,19.0s,MS5.1							
JOW	**Kunigami**	**38.13**	**330**	LR		LR	15 30 17.5	
	comp=Z,13µm,21.3s,MS5.7,baz=110,slow=31							
KLBR	**Kellerberrin**	**38.43**	**225**	*e*P		**P**	**15 17 48.1**	**-0.1**
	comp=Z,96nm,0.6s,mb5.7							
KLBR				*e*pP		pP	15 18 00.7	-1.3
KLBR				*e*S		**S**	**15 23 45.7**	**+6.2**
KLBR				*e*			15 24 12.1	
KSM	**Kuching**	**38.92**	**280**	*e*P		**P**	**15 17 53.8**	**+1.5**
KSM				*e*pP		pP	15 18 07.7	+1.5
NWAO	**Narrogin (SRO)**	**39.56**	**223**	LR		LR	15 35 57.3	
	comp=Z,11µm,19.6s,MS5.7,baz=41,slow=39							
NWAO	**Narrogin (SRO)**	**39.56**	**223**	*e*P		**P**	**15 17 59.1**	**+1.5**
NWAO				*e**PP		pP	15 18 12.4	+0.9
NWAO				pmax		pmax		
	comp=Z,201nm,1.2s							
NWAO				MLR		MLR		
	comp=Z,9µm,21.0s							
NWAO	**Narrogin (SRO)**	**39.56**	**223**	*e*P		**P**	**15 17 59.1**	**+1.5**
	comp=Z,201nm,1.2s,mb5.7							
NWAO				*e*pP		pP	15 18 12.4	+0.8
NWAO				LR		LR		
	comp=Z,9µm,21.0s,MS5.6							
MUN	**Mundaring**	**39.74**	**225**	*e*P		**P**	**15 18 00.0**	**+0.9**
MUN				*e*S		**S**	**15 23 58.8**	**-0.3**
AFI	**Afiamalu**	**39.78**	**104**	P		**P**	**15 17 59.2**	**-0.3**
	comp=Z,106nm,1.0s,mb5.5,baz=27,slow=6.4,SNR=10							
AFI				LR		LR	15 31 37.3	
	comp=Z,5µm,21.7s,MS5.3,baz=262,slow=32							
AFI	**Afiamalu**	**39.78**	**104**	*e*P		**P**	**15 17 58.9**	**-0.6**
AFI				*e**PP		pP	15 18 11.7	-1.7
AFI				pmax		pmax		
	comp=Z,225nm,1.0s,mb5.8							
AFI	

QIZ	**Qiongzhong**	**45.56**	**304**	P	**P**	**15 18 46.8**	**+0.5**
QIZ				AP	pP	15 18 59.9	-0.6
QIZ				XP	sP	15 19 04.1	-2.5
QIZ				PPP		15 21 19.0	
QIZ				S	**S**	**15 25 27.9**	**+3.2**
QIZ				XS	sS	15 25 49.7	+1.3
QIZ				AMB	AMB		
	comp=Z,23nm,2.1s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,592nm,8.8s						
QIZ				LR	LR		
	comp=N,2μm,25.8s						
QIZ				LR	LR		
	comp=Z,3μm,23.1s,MS5.2						
QIZ	**Qiongzhong**	**45.56**	**304**	PFAKE		15 19 00.0	+14
QIZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
NJ2	**Nanjing**	**47.29**	**325**	*e*P	**P**	**15 19 01.2**	**+1.3**
NJ2				AP	pP	15 19 13.9	-0.2
NJ2				XP	sP	15 19 18.3	-1.9
NJ2				PP	PP	15 20 52.6	+1.3
NJ2				S	**S**	**15 25 52.5**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,2μm,7.6s						
NJ2				LR	LR		
	comp=N,13μm,26.1s						
NJ2				LR	LR		
	comp=E,11μm,31.2s						
NJ2				LR	LR		
	comp=Z,17μm,26.0s,MS5.9						
MIDW	**Midway**	**47.32**	**42**	PFAKE		15 19 10.0	+10
MIDW				LR	LR		
	comp=Z,6μm,21.0s,MS5.5						
KSRS	**Korea Array**	**47.36**	**338**	P	**P**	**15 19 01.2**	**+0.8**
	comp=Z,33nm,0.7s,mb5.4,baz=155,slow=8.1,SNR=61						
KSRS				LR	LR	15 37 20.6	
	comp=Z,6μm,21.8s,MS5.5,baz=138,slow=34						
INCN	**Inchon**	**47.89**	**336**	*e*P	**P**	**15 19 05.2**	**+0.7**
	comp=Z,42nm,0.8s,mb5.5						
INCN				*e*pP	pP	15 19 20.7	+2.0
INCN				LR	LR		
	comp=Z,7μm,22.0s,MS5.6						
ERM	**Erimo**	**48.08**	**355**	PFAKE		15 19 20.0	+14
ERM				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
WHN	**Wuhan**	**48.96**	**320**	P	**P**	**15 19 14.0**	**+1.3**
WHN				LR	LR		
	comp=Z,9μm,30.4s,MS5.6						
KULM	**Kulim**	**49.15**	**282**⇑	*e*P	**P**	**15 19 14.1**	**-0.1**
ASAJ	**Asahikawa**	**50.21**	**354**	P	**P**	**15 19 23.6**	**+1.3**
	comp=Z,25nm,0.7s,mb5.3,baz=260,slow=19,SNR=10						
ASAJ				LR	LR	15 39 09.3	
	comp=Z,4μm,21.7s,MS5.4,baz=182,slow=34						
VLA	**Vladivostok**	**51.21**	**344**	*e*P	**P**	**15 19 30.5**	**+0.7**
VLA				*e**PP	pP	15 19 44.8	+0.6
VLA				*e*S	**S**	**15 26 54.0**	**+10**
VLA				*e**SS	sS	15 27 15.8	+7.3
VLA				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.4						
VLA	**Vladivostok**	**51.21**	**344**	*e*P	**P**	**15 19 28.5**	**-1.3**
DL2	**Dalian**	**51.22**	**333**⇑	*i*P	**P**	**15 19 31.5**	**+1.7**
DL2				AP	pP	15 19 43.9	-0.3
DL2				XP	sP	15 19 51.6	+1.3
DL2				PP	PP	15 21 29.9	+2.9
DL2				S	**S**	**15 26 47.0**	**+2.6**
DL2				SS	SS	15 30 18.8	-1.5
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
DL2				AMB	AMB		
	comp=Z,470nm,6.9s						
DL2				LR	LR		
	comp=N,2μm,18.0s,MS5.3						
DL2				LR	LR		
	comp=E,2μm,19.0s,MS5.3						
DL2				LR	LR		
	comp=Z,3μm,19.6s,MS5.3						
TIA	**Tai'an**	**51.34**	**327**	*e*P	**P**	**15 19 30.2**	**-0.6**
TIA				S	**S**	**15 26 40.0**	**-6.1**
TIA				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.3						
TIA				LR	LR		
	comp=N,3μm,20.0s,MS5.4						
TIA				LR	LR		
	comp=E,2μm,19.0s,MS5.4						
COCO	**West Island**	**51.38**	**259**	PFAKE		15 19 40.0	+8.9
COCO				LR	LR		
	comp=Z,586nm,22.0s,MS4.6						
GYA	**Guiyang**	**51.89**	**310**	P	**P**	**15 19 34.8**	**-0.1**
GYA				AP	pP	15 19 49.1	-0.1
GYA				XP	sP	15 19 54.9	-0.4
GYA				PCP	PcP	15 20 46.2	-0.8
GYA				PP	PP	15 21 34.6	+1.5
GYA				PPP		15 22 38.6	
GYA				SCP	ScP	15 24 37.0	-2.3
GYA				PCS	PcS	15 24 43.2	-1.9
GYA				S	**S**	**15 26 48.9**	**-4.7**
GYA				PS		15 27 14.3	
GYA				XS	sS	15 27 22.1	+4.3
GYA				SCS	ScS	15 29 21.1	+0.9
GYA				SS	SS	15 30 33.8	+2.9
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,620nm,8.4s						
GYA				LR	LR		
	comp=N,1μm,18.6s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,17.6s,MS5.2						
GYA				LR	LR		
	comp=Z,1μm,18.9s,MS4.9						
RAR	**Rarotonga**	**52.17**	**112**	P	**P**	**15 19 37.4**	**+0.4**
	comp=Z,20nm,1.1s,mb5.0,baz=230,slow=7.9,SNR=3.1						
NST	**Nakhon Sawan**	**52.59**	**295**	P	**P**	**15 19 35.8**	**-4.3**
SNY	**Shenyang**	**52.82**	**337**	⇑P	**P**	**15 19 43.2**	**+1.4**
SNY				AP	pP	15 19 56.9	+0.7
SNY				XP	sP	15 19 59.0	-3.3
SNY				S	**S**	**15 27 11.0**	**+4.6**
SNY				XS	sS	15 27 37.2	+6.6
SNY				AMB	AMB		
	comp=Z,45nm,1.3s,mb5.2						
SNY				AMB	AMB		
	comp=Z,916nm,8.2s						
SNY				LR	LR		
	comp=N,1μm,25.7s,MS5.2						
SNY				LR	LR		
	comp=E,3μm,22.8s,MS5.2						
SNY				LR	LR		
	comp=Z,4μm,27.8s,MS5.4						
YSS	**Yuzh-Sakhalins**	**53.01**	**355**α	*e*P	**P**	**15 19 44.5**	**+1.3**
YSS				*e*S	**S**	**15 27 12.0**	**+3.0**
YSS				*e*PS		15 27 28.0	
YSS				pmax	pmax		
	comp=Z,1μm,8.0s						
YSS				MLR	MLR		
	comp=N,2μm,19.0s,MS5.3						
YSS				MLR	MLR		
	comp=E,2μm,19.0s,MS5.3						
YSS				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**53.01**	**355**	*e*P	**P**	**15 19 43.7**	**+0.5**
YSS				LR	LR		
	comp=Z,5μm,21.0s,MS5.6						
MDJ	**Mudanjiang**	**53.24**	**343**	P	**P**	**15 19 46.5**	**+1.7**
MDJ				AP	pP	15 20 00.3	+1.1
MDJ				PCS	PcS	15 24 51.8	+0.8
MDJ				S	**S**	**15 27 15.6**	**+3.6**
MDJ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,918nm,10.5s						
MDJ				LR	LR		
	comp=N,4μm,27.6s,MS5.3						
MDJ				LR	LR		
	comp=E,2μm,31.1s,MS5.3						
MDJ				LR	LR		
	comp=Z,5μm,27.6s,MS5.4						
MDJ	**Mudanjiang**	**53.24**	**343**	*e*P	**P**	**15 19 45.9**	**+1.1**
	comp=Z,63nm,1.0s,mb5.5						
MDJ				*e*pP	pP	15 20 00.3	+1.0
MDJ				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
NANT	**Nan**	**53.24**	**299**	⇑P	**P**	**15 19 48.0**	**+3.2**
	comp=Z,198nm,1.0s,mb6.0						
CN2	**Changchun**	**53.83**	**339**	*e*P	**P**	**15 19 49.3**	**+0.1**
CN2				*e*AP	pP	15 20 03.8	+0.2
CN2				*e*S	**S**	**15 27 20.9**	**+0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,3μm,18.0s,MS5.6						
CN2				LR	LR		
	comp=E,3μm,18.0s,MS5.6						
CN2				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
KMI	**Kunming**	**54.26**	**307**	P	**P**	**15 19 52.5**	**+0.2**
KMI				AP	pP	15 20 07.6	+0.8
KMI				XP	sP	15 20 13.7	+0.8
KMI				PP	PP	15 21 54.6	+0.1
KMI				PPP		15 23 10.6	
KMI				S	**S**	**15 27 28.5**	**+2.5**
KMI				XS	sS	15 27 50.7	+0.5
KMI				SS	SS	15 31 10.3	+1.9
KMI				SSS		15 33 13.4	
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,501nm,10.6s						
KMI				LR	LR		
	comp=N,1μm,23.3s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,24.5s,MS5.1						
KMI				LR	LR		
	comp=Z,3μm,23.9s,MS5.3						
KMI	**Kunming**	**54.26**	**307**	P	**P**	**15 19 52.5**	**+0.2**
KMI				*PP	pP	15 20 07.6	+0.8
KMI						15 21 54.6	
KMI				PPP		15 23 10.6	
KMI				S	**S**	**15 27 28.5**	**+2.5**
KMI				SS	SS	15 31 10.3	+1.9
KMI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
KMI				MLR	MLR		
	comp=Z,3μm,23.9s,MS5.3						
KMI	**Kunming**	**54.26**	**307**	P	**P**	**15 19 52.5**	**+0.2**
	comp=Z,14nm,1.1s,mb4.8						
KMI				pP	pP	15 20 07.6	+0.8
KMI				sP	sP	15 20 13.7	+0.8
KMI				PP	PP	15 21 54.6	+0.1
KMI				PPP		15 23 10.6	
KMI				S	**S**	**15 27 28.5**	**+2.5**
KMI				sS	sS	15 27 50.7	+0.5
KMI				SS	SS	15 31 10.3	+1.9
KMI				SSS		15 33 13.4	
KMI				LR	LR		
	comp=Z,3μm,23.9s,MS5.3						
CM31	**Chiang Mai Arr**	**54.65**	**298**	PFAKE		15 20 10.0	+15
CM31				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
BJT	**Baijiatuan**	**54.70**	**330**	*e*P	**P**	**15 19 55.5**	**0.0**
BJT				*e**PP	pP	15 20 09.9	0.0
BJT				pmax	pmax		
	comp=Z,57nm,1.2s						
BJT				MLR	MLR		
	comp=Z,8μm,20.0s						
BJT	**Baijiatuan**	**54.70**	**330**	*e*P	**P**	**15 19 55.5**	**0.0**
	comp=Z,57nm,1.2s,mb5.5						
BJT				*e*pP	pP	15 20 09.9	0.0
BJT				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
BJI	**Beijing**	**54.71**	**330**	P	**P**	**15 19 55.5**	**-0.1**
BJI				AP	pP	15 20 08.8	-1.2
BJI				XP	sP	15 20 15.3	-0.8
BJI				S	**S**	**15 27 31.4**	**-0.5**
BJI				SS	SS	15 31 24.6	+9.2
BJI				AMB	AMB		
	comp=Z,23nm,1.6s,mb5.0						
BJI				AMB	AMB		
	comp=Z,979nm,5.9s						
BJI				LR	LR		
	comp=N,5μm,22.0s,MS5.7						
BJI				LR	LR		
	comp=E,4μm,22.0s,MS5.7						
BJI				LR	LR		
	comp=Z,8μm,29.0s						
BJI	**Beijing**	**54.71**	**330**	P	**P**	**15 19 55.5**	**-0.1**
	comp=Z,23nm,1.6s,mb5.0						
BJI				pP	pP	15 20 08.8	-1.2
BJI				sP	sP	15 20 15.3	-0.8
BJI				PP	PP	15 22 07.2	+8.7
BJI				S	**S**	**15 27 31.4**	**-0.5**
BJI				sS	sS	15 28 04.4	+8.2
BJI				SS	SS	15 31 24.6	+9.2
BJI				LR	LR		
	comp=Z,8μm,29.0s,MS5.6						
XAN	**Xi'an**	**54.71**	**320**	P	**P**	**15 19 55.0**	**-0.6**
XAN				S	**S**	**15 27 31.3**	**-0.7**
XAN				SS	SS	15 31 24.1	+8.6
XAN				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.3						
XAN				AMB	AMB		
	comp=Z,620nm,17.2s						
XAN				LR	LR		
	comp=N,1μm,28.7s,MS5.1						
XAN				LR	LR		
	comp=E,2μm,25.0s,MS5.1						
XAN				LR	LR		
	comp=Z,4μm,26.2s,MS5.4						
CHG	**Chiang Mai**	**54.78**	**298**	⇑P	pP	15 20 08.4	-2.1
	comp=Z,21nm,0.9s						
CHTO	**Chiang Mai**	**54.78**	**298**	P	**P**	**15 20 01.9**	**+5.8**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**54.78**	**298**⇑	*e*P	**P**	**15 19 56.6**	**+0.6**
	comp=Z,14nm,0.9s,mb5.0						
CHTO				LR	LR		
	comp=Z,998nm,20.0s,MS4.9						
CD2	**Chengdu**	**56.43**	**313**	P	**P**	**15 20 06.9**	**-1.0**
CD2				AP	pP	15 20 21.4	-1.0
CD2				XP	sP	15 20 27.8	-0.7
CD2				PP	PP	15 22 15.5	+1.6
CD2				PCS	PcS	15 25 01.9	-3.1
CD2				S	**S**	**15 27 52.9**	**-1.9**
CD2				XS	sS	15 28 16.9	-2.3
CD2				SCS	ScS	15 29 47.9	-4.5
CD2				SS	SS	15 31 43.5	+1.0
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
CD2				AMB	AMB		
	comp=Z,930nm,7.2s						
CD2				LR	LR		
	comp=N,2μm,19.8s						
CD2				LR	LR		
	comp=E,2μm,25.0s						
CD2				LR	LR		
	comp=Z,2μm,20.4s,MS5.2						
SKR	**Severo-Kuril's**	**56.87**	**6**	*e*P	**P**	**15 20 10.0**	**-1.0**
SKR				*e*	pP	15 20 23.9	-1.7
SKR				*e*		15 21 06.0	
SKR				*e*PPP		15 23 44.0	
SKR				*e*S	**S**	**15 28 07.0**	**+6.3**
SKR				*e*PS		15 28 18.0	
SKR				pmax	pmax		
	comp=E,800nm,1.5s						
SKR				pmax	pmax		
	comp=Z,800nm,1.5s,mb6.5						
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				MLR	MLR		
	comp=N,3μm,20.0s,MS5.5						
SKR				MLR	MLR		
	comp=E,3μm,20.0s,MS5.5						
SKR				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.5						
KLR	**Kul'dur**	**56.97**	**347**	*e*P	**P**	**15 20 10.0**	**-1.7**
KLR				*e*		15 23 35.0	
KLR				*e*S	**S**	**15 28 16.5**	**+15**
KLR				pmax	pmax		
	comp=N,600nm,9.0s						
KLR				pmax	pmax		
	comp=Z,2μm,9.0s						
HHC	**Hu-ho-hao-te**	**57.70**	**327**	⇑P	**P**	**15 20 17.8**	**+0.9**
HHC				AP	pP	15 20 34.1	+2.7
HHC				PCP	PcP	15 21 09.7	+0.4
HHC				PP	PP	15 22 29.8	+4.6
HHC				SCP	ScP	15 25 03.6	-1.1
HHC				PCS	PcS	15 25 11.5	+0.9
HHC				S	**S**	**15 28 11.7**	**+0.1**
HHC				XS	sS	15 28 39.8	+3.8
HHC				SCS	ScS	15 29 56.7	-5.0
HHC				SS	SS	15 32 05.2	+2.8
HHC				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,760nm,9.9s						
HHC				LR	LR		
	comp=N,3μm,15.5s,MS5.6						
HHC				LR	LR		
	comp=E,4μm,19.8s,MS5.6						
HHC				LR	LR		
	comp=Z,6μm,20.4s,MS5.7						
LZH	**Lanzhou**	**59.27**	**318**	*e*P	**P**	**15 20 29.3**	**+1.5**
LZH				AP	pP	15 20 42.5	+0.1
LZH				XP	sP	15 20 48.0	-0.5
LZH				PP	PP	15 22 43.0	+3.9
LZH				*e*S	**S**	**15 28 31.0**	**-1.0**
LZH				XS	sS	15 28 56.5	0.0
LZH				SS	SS	15 32 27.3	+0.2
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,470nm,6.0s						
LZH				LR	LR		
	comp=N,2μm,19.1s						
LZH				LR	LR		
	comp=Z,4μm,20.6s,MS5.5						
LZH	**Lanzhou**	**59.27**	**318**	*e*P	**P**	**15 20 29.3**	**+1.5**
LZH				*PP	pP	15 20 42.5	+0.1
LZH						15 22 43.0	
LZH				*e*S	**S**	**15 28 31.0**	**-1.0**
LZH				*SS	sS	15 28 56.5	0.0
LZH				SS	SS	15 32 27.3	+0.2
LZH				pmax	pmax		
	comp=Z,83nm,1.5s,mb5.5						
LZH				MLR	MLR		
	comp=Z,4μm,20.6s,MS5.5						
LZH	**Lanzhou**	**59.27**	**318**	*e*P	**P**	**15 20 29.3**	**+1.5**
	comp=Z,83nm,1.5s,mb5.5						
LZH				pP	pP	15 20 42.5	+0.1
LZH				sP	sP	15 20 48.0	-0.5
LZH				PP	PP	15 22 43.0	+3.9
LZH				*e*S	**S**	**15 28 31.0**	**-1.0**
LZH				sS	sS	15 28 56.5	0.0
LZH				SS	SS	15 32 27.3	+0.2
LZH				LR	LR		
	comp=Z,4μm,20.6s,MS5.5						
PET	**Petropavlovsk**	**59.46**	**7**	*e*P	**P**	**15 20 29.8**	**+0.7**
PET				*e*		15 22 35.4	
PET				*e*S	**S**	**15 28 37.2**	**+2.8**
PET				*e*SS	SS	15 32 32.2	+2.1
PET				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.3						
PET				pmax	pmax		
	comp=Z,1μm,5.4s						
PET				smax			
	comp=N,1μm,16.3s						
PET				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET	**Petropavlovsk**	**59.46**	**7**	*e*P	**P**	**15 20 29.5**	**+0.4**
	comp=Z,260nm,1.3s,mb6.1						
PET				*e*pP	pP	15 20 43.6	-0.2
PET				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
HIA	**Hailar**	**60.54**	**339**	*e*P	**P**	**15 20 36.5**	**-0.1**
HIA				*e**PP	pP	15 20 51.0	-0.2
HIA				pmax	pmax		
	comp=Z,109nm,0.9s						
HIA				MLR	MLR		
	comp=Z,4μm,21.0s						
HIA	**Hailar**	**60.54**	**339**	*e*P	**P**	**15 20 36.5**	**0.0**
	comp=Z,109nm,0.9s,mb6.0						
HIA				*e*pP	pP	15 20 51.0	-0.2
HIA				LR	LR		
	comp=Z,4μm,21.0s,MS5.5						
POHA	**Pohakuloa**	**60.66**	**63**	PFAKE		15 20 50.0	+13
POHA				LR	LR		
	comp=Z,6μm,22.0s,MS5.7						
DRV	**Dumont d'Urvil**	**60.82**	**184**	P	**P**	**15 20 36.0**	**-2.4**
DRV				S	**S**	**15 28 52.0**	**+0.1**
DRV				SS	SS	15 32 51.0	-0.4
DRV				L		15 36 00.0	
DRV				R		15 40 00.0	
PPT	**Papeete**	**61.39**	**107**	*e*P	**P**	**15 20 43.8**	**+1.5**
	comp=Z,65nm,1.3s,mb5.6						
PPT	**Papeete**	**61.39**	**107**	*e*S	**S**	**15 28 57.8**	**-1.3**
	comp=Z,4μm,26.0s						
PPT				*e*LR	LR	15 38 59.6	
	comp=Z,5μm,26.2s						
PPT	**Papeete**	**61.39**	**107**	P	**P**	**15 20 43.5**	**+1.2**
	comp=Z,30nm,0.7s,mb5.5,baz=234,slow=14,SNR=3.5						
PPT				LR	LR	15 41 34.0	
	comp=Z,1μm,21.8s,MS5.0,baz=266,slow=30						
PAE	**Paea**	**61.39**	**107**	*e*P	**P**	**15 20 43.1**	**+0.8**
	comp=Z,130nm,1.3s,mb5.9						
PAE	**Paea**	**61.39**	**107**	*e*P	**P**	**15 20 43.1**	**+0.8**
PAE				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.9						
TVO	**Taravao**	**61.71**	**107**	*e*P	**P**	**15 20 45.8**	**+1.4**
	comp=Z,236nm,1.3s,mb6.2						
TVO	**Taravao**	**61.71**	**107**	*e*P	**P**	**15 20 45.8**	**+1.4**
TVO				pmax	pmax		
	comp=Z,236nm,1.3s,mb6.2						
TBI	**Tubuai**	**61.92**	**113**	*e*PP	PP	15 23 03.4	+0.9
	comp=Z,483nm,27.5s						
TBI	**Tubuai**	**61.92**	**113**	*e*S	**S**	**15 29 05.4**	**-0.4**
	comp=Z,4μm,28.0s						
TBI				*e*SS	SS	15 33 14.3	+5.6
	comp=Z,1μm,31.8s						
TBI				*e*LR	LR	15 39 06.4	
	comp=Z,6μm,35.5s						
TBI	**Tubuai**	**61.92**	**113**	*e*P	**P**	**15 20 46.8**	**+0.9**
	comp=Z,172nm,1.2s,mb6.1						
TBI				*e*PP	PP	15 23 03.4	+0.9
TBI				*e*S	**S**	**15 29 05.4**	**-0.4**
TBI				*e*SS	SS	15 33 14.3	+5.6
SMY	**Shemya**	**62.43**	**17**	PFAKE		15 21 00.0	+11
SMY				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
PMOR	**Pomariorio Ree**	**62.92**	**104**	*e*P	**P**	**15 20 53.8**	**+1.2**
	comp=Z,123nm,1.1s,mb6.0						
VAH	**Vaihoa**	**63.19**	**104**	*e*P	**P**	**15 20 55.3**	**+1.0**
	comp=Z,105nm,1.1s,mb5.9						
GTA	**Gaotai**	**63.78**	**320**	P	**P**	**15 20 58.3**	**+0.1**
GTA				AP	pP	15 21 12.5	-0.5
GTA				XP	sP	15 21 17.6	-1.4
GTA				PCP	PcP	15 21 35.0	+1.2
GTA				PP	PP	15 23 19.7	+0.8
GTA				PPP		15 24 53.2	
GTA				SCP		15 25 32.0	
GTA				PCS		15 25 37.3	
GTA				S	**S**	**15 29 28.1**	**-1.0**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,675nm,8.0s						
GTA				LR	LR		
	comp=N,1μm,19.8s,MS5.2						
GTA				LR	LR		
	comp=E,1μm,23.9s,MS5.2						
GTA				LR	LR		
	comp=Z,2μm,27.4s,MS5.2						
CIT	**Chita**	**65.09**	**337**	*e*P	**P**	**15 21 08.5**	**+1.7**
CIT				*e*	pP	15 21 22.3	+0.7
CIT				*e*		15 21 35.5	
CIT				*e*		15 30 08.8	
SONM	**Songino Array**	**65.20**	**330**	P	**P**	**15 21 07.1**	**-0.4**
	comp=Z,8.1nm,0.6s,mb4.9,baz=140,slow=9.1,SNR=19						
SONM				pP	pP	15 21 22.3	0.0
	comp=Z,20nm,1.0s,baz=147,slow=6.3,SNR=9.6						
SONM				LR	LR	15 48 39.4	
	comp=Z,6μm,21.4s,MS5.8,baz=134,slow=35						
SONM	**Songino Array**	**65.20**	**330**	P	**P**	**15 21 07.2**	**-0.3**
SONM				*PP	pP	15 21 22.3	0.0
MA2	**Magadan**	**65.43**	**1**	*e*P	**P**	**15 21 09.9**	**+0.9**
MA2				*e*	pP	15 21 24.0	+0.2
MA2				*e*S	S	15 29 52.4	+3.0
MA2				*e*		15 30 09.6	
MA2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						

MA2 MLR MLR
comp=Z,4µm,18.7s,MS5.6
MA2 Magadan 65.43 1 *e*P **P** **15 21 09.2 +0.2**
comp=Z,436nm,1.6s,mb6.2
MA2 *e*pP pP 15 21 23.9 +0.2
MA2 LR LR
comp=Z,3µm,22.0s,MS5.4
NRGR Nerungri 65.47 346 *e*P pP 15 21 24.5 +0.5
NRGR S sS 15 30 21.1 +6.3
NRGR smax
comp=N,4.0nm,0.2s
LSA Lhasa 65.52 306 P **P** **15 21 09.6 +0.1**
LSA S S 15 29 49.5 -1.0
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.1
LSA AMB AMB
comp=Z,700nm,10.0s
LSA LR LR
comp=N,610nm,22.0s,MS5.1
LSA LR LR
comp=E,1µm,22.0s,MS5.1
LSA LR LR
comp=Z,2µm,27.0s,MS5.2
LSA Lhasa 65.52 306⇑ *e*P **P** **15 21 09.2 -0.3**
LSA *e**PP pP 15 21 24.3 -0.1
LSA pmax pmax
comp=Z,39nm,1.0s,mb5.4
LSA MLR MLR
comp=Z,1µm,19.0s,MS5.1
LSA Lhasa 65.52 306⇑ *e*P **P** **15 21 09.2 -0.3**
comp=Z,39nm,1.0s,mb5.4
LSA *e*pP pP 15 21 24.3 0.0
LSA LR LR
comp=Z,1µm,19.0s,MS5.1
CLNS Chul'man 65.59 346 *e*P **P** **15 21 09.9 -0.1**
CASY Casey 65.64 196 *e*P **P** **15 21 09.6 -0.7**
CASY *e*pP pP 15 21 23.7 -1.5
CASY *e*S S 15 29 51.7 -0.3
CASY Casey 65.64 196 *e*P **P** **15 21 09.6 -0.7**
CASY *e*pP pP 15 21 23.7 -1.5
CASY *e*S S 15 29 51.7 -0.3
CASY LR LR
comp=Z,7µm,21.0s,MS5.8
ZAK Zakamensk 68.43 331 *e*P **P** **15 21 27.3 -0.7**
ZAK *e* pP 15 21 42.7 -0.2
ZAK pmax pmax
comp=Z,11nm,0.7s,mb5.0
SEY Seymchan 68.84 2⇑ *e*P **P** **15 21 31.2 +0.6**
PALK Pallekele 68.99 280 PFAKE 15 21 40.0 +8.5
PALK LR LR
comp=Z,289nm,22.0s,MS4.5
TLY Talaya 69.11 332 *e*P **P** **15 21 33.1 +0.8**
TLY *e* 15 24 03.0
TLY *e*S S 15 30 34.1 +0.5
TLY *e*PS 15 30 56.5
TLY *e* 15 31 22.8
TLY *e*SS SS 15 35 07.2 +6.8
TLY pmax pmax
comp=Z,60nm,0.8s,mb5.6
TLY Talaya 69.11 332⇑ *e*P **P** **15 21 33.0 +0.8**
comp=Z,16nm,0.9s,mb5.0
TLY *e*pP pP 15 21 46.3 -0.9
TLY LR LR
comp=Z,903nm,22.0s,MS5.0
IRK Irkutsk 69.19 333 *e*P **P** **15 21 32.9 +0.1**
IRK *e* pP 15 21 46.6 -1.1
IRK *e* 15 31 03.0
GUN Gumba 69.20 303 *e*P **P** **15 21 32.1 -0.7**
comp=Z,194nm,1.2s,mb5.9
YAK Yakutsk 69.42 351 *e*P **P** **15 21 34.3 +0.1**
YAK *i* *PP pP 15 21 48.4 -0.7
YAK *e* pP 15 21 52.5 +3.4
YAK *e* 15 24 14.1
YAK *e**SS sS 15 31 10.1 +7.6
YAK *e* 15 31 30.3
YAK pmax pmax
comp=Z,49nm,1.4s,mb5.2
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,504nm,5.9s
YAK pmax pmax
comp=N,704nm,6.4s
YAK pmax pmax
comp=E,117nm,2.5s
YAK MLR MLR
comp=N,1µm,20.0s,MS5.3
YAK MLR MLR
comp=Z,2µm,20.0s,MS5.3
YAK MLR MLR
comp=E,898nm,19.0s,MS5.3
YAK Yakutsk 69.42 351 *e*P **P** **15 21 33.1 -1.1**
comp=E,151nm,1.4s,mb5.7
YAK *e*pP pP 15 21 48.3 -0.8
YAK LR LR
comp=Z,3µm,22.0s,MS5.5
PKI Pulchoki 69.48 302 *e*P **P** **15 21 33.6 -1.0**
comp=Z,151nm,1.6s,mb5.7
BOD Bodaibo 69.51 341 *e*P **P** **15 21 33.3 -1.5**
BOD *e* pP 15 21 48.6 -1.1
BOD pmax pmax
comp=Z,14nm,1.5s,mb4.7
KKN Kakani 69.66 302 *e*P **P** **15 21 34.7 -1.0**
comp=Z,88nm,1.2s,mb5.6
DMN Daman 69.75 302 *e*P **P** **15 21 35.5 -0.7**
comp=Z,127nm,1.1s,mb5.8
GKN Gorkha 70.27 302 *e*P **P** **15 21 38.0 -1.4**
comp=Z,35nm,0.6s,mb5.5
MOY Mondy 70.36 331 *e*P **P** **15 21 41.6 +1.6**
MOY pmax pmax
comp=Z,98nm,2.2s,mb5.3
UNV Unalaska Valle 70.55 26 *e*P **P** **15 21 40.8 -0.3**
comp=Z,215nm,1.0s,mb6.0
UNV LR LR
comp=Z,14µm,22.0s,MS6.2
TAOE Nuku Hiva Isla 70.65 97 *e*S S 15 30 49.9 -1.8
comp=Z,4µm,27.8s
TAOE *e*LR LR 15 43 13.7
comp=Z,3µm,22.9s
KOLN Koldanda 71.07 302 *e*P **P** **15 21 42.8 -1.5**
comp=Z,42nm,0.8s,mb5.4
MIR Mirnyy 71.28 200*d i*P **P** **15 21 47.5 +1.9**
MIR *e*S S 15 31 02.0 +2.9
MIR pmax pmax
comp=Z,1µm,6.0s
VNDA Vanda 71.79 177 P **P** **15 21 48.3 -0.3**
comp=Z,17nm,0.7s,mb5.1,baz=333,slow=6.9,SNR=104
VNDA LR LR 15 51 40.2
comp=Z,2µm,18.8s,MS5.4,baz=40,slow=34
VNDA Vanda 71.79 177 P **P** **15 21 48.2 -0.4**
VNDA pmax pmax
comp=Z,130nm,1.0s
VNDA Vanda 71.79 177 *e*P **P** **15 21 47.9 -0.7**
comp=Z,131nm,1.1s,mb5.8
VNDA *e*pP pP 15 22 01.2 -2.3
VNDA LR LR
comp=Z,2µm,20.0s,MS5.4
SBA Scott Base 72.41 176 P **P** **15 21 52.8 +0.5**
SBA pmax pmax
comp=Z,110nm,1.2s,mb5.7
SBA Scott Base 72.41 176 *e*P **P** **15 21 52.2 -0.1**
comp=Z,107nm,1.2s,mb5.7
SBA LR LR
comp=Z,2µm,19.0s,MS5.4
HYB Hyderabad 72.94 290 *i* P **P** **15 21 57.0 +1.5**
HYB Hyderabad 72.94 290 *e*P **P** **15 21 57.0 +1.5**
WMQ Urumqi 73.84 319 ⇑P **P** **15 22 01.2 +0.4**
WMQ AP pP 15 22 15.7 -0.1
WMQ PCP PcP 15 22 16.7 +0.6
WMQ XP sP 15 22 21.7 -0.1
WMQ PP PP 15 24 48.2 +2.2
WMQ S S 15 31 28.2 -0.1
WMQ XS sS 15 31 53.2 -0.4
WMQ SKS 15 31 58.7
WMQ SCS ScS 15 32 03.2 -2.8
WMQ AMB AMB
comp=Z,21nm,1.6s,mb4.8
WMQ AMB AMB
comp=Z,442nm,10.4s
WMQ LR LR
comp=N,2µm,23.6s,MS5.3
WMQ LR LR
comp=E,1µm,23.5s,MS5.3
WMQ LR LR
comp=Z,1µm,24.6s,MS5.2
BILL Bilibino 74.96 7 *e*P **P** **15 22 06.6 -0.6**
BILL pmax pmax
comp=Z,49nm,1.3s,mb5.3
BILL Bilibino 74.96 7 *e*P **P** **15 22 06.7 -0.6**
comp=Z,99nm,1.2s,mb5.6
BILL *e*pP pP 15 22 22.5 +0.1
BILL LR LR
comp=Z,2µm,22.0s,MS5.4
RKT Rikitea 75.21 112 *e*PP PP 15 24 55.4 -2.2
comp=Z,415nm,28.0s
RKT Rikitea 75.21 112 *e*S S 15 31 43.6 0.0
comp=Z,2µm,26.2s
RKT *e*SS SS 15 36 32.9 -1.0
comp=Z,760nm,35.0s
RKT *e*LR LR 15 45 23.8
comp=Z,6µm,32.0s,baz=277
DGAR Diego Garcia 75.52 264 *e*P **P** **15 22 10.5 0.0**
DGAR *e**PP pP 15 22 24.7 -0.9
DGAR pmax pmax
comp=Z,1µm,1.7s,mb6.5
DGAR MLR MLR
comp=Z,320nm,20.0s,MS4.6
DGAR Diego Garcia 75.52 264 *e*P **P** **15 22 10.5 0.0**
comp=Z,1µm,1.7s,mb6.5
DGAR *e*pP pP 15 22 24.7 -0.9
DGAR LR LR
comp=Z,320nm,20.0s,MS4.6
TNA Tin City 78.17 17 PFAKE
TNA LR LR 15 22 40.0 +15
comp=Z,3µm,22.0s,MS5.6
MK31 Makanchi Array 78.52 320 *i* P **P** **15 22 25.8 -1.6**
MKAR Makanchi Array 78.52 320 P **P** **15 22 25.7 -1.7**
comp=Z,6.2nm,0.6s,mb4.8,baz=102,slow=6.6,SNR=55
MKAR PKKPbc PKKPbc 15 41 23.3 +0.3
comp=Z,1.2nm,0.7s,baz=306,slow=2.2,SNR=7.7
MKAR LR LR 15 57 20.8
comp=Z,1µm,21.8s,MS5.2,baz=99,slow=36
MKAR Makanchi Array 78.52 320 *i* P **P** **15 22 25.8 -1.6**
MKAR pmax pmax
comp=Z,15nm,0.9s
TIXI Tiksi 78.61 354 PFAKE
TIXI LR LR 15 22 40.0 +12
comp=Z,13µm,22.0s,MS6.2
KDAK Kodiak Island 79.20 28 P **P** **15 22 30.9 -0.2**
comp=Z,52nm,1.2s,mb5.3,baz=73,slow=2.6,SNR=4.6
KDAK Kodiak Island 79.20 28 P **P** **15 22 30.9 -0.2**
KDAK LR LR
comp=Z,1µm,22.0s,MS5.2
SVW2 Sparrevohn 79.64 24 *e*P **P** **15 22 34.0 +0.6**
SVW2 *e*pP pP 15 22 48.7 +0.1
ZAL Zalesovo 79.89 327 P **P** **15 22 33.4 -1.4**
comp=Z,6.5nm,0.5s,mb4.8,baz=357,slow=5.6,SNR=26
ZAL PKKPbc PKKPbc 15 41 20.3 +0.3
comp=Z,0.8nm,0.6s,baz=273,slow=2.2,SNR=4.7
ZAL LR LR 15 57 28.4
comp=Z,6µm,21.4s,MS5.9,baz=347,slow=35
ZAL Zalesovo 79.89 327 P **P** **15 22 33.4 -1.4**
ZAL PKKPbc PKKPbc 15 41 20.3 +0.3
ZAL LR LR 15 57 28.4
NVS Novosibirsk 81.09 328 *e*P **P** **15 22 41.2 -0.1**
SLKM Skilak Lake 81.59 26 *e*P **P** **15 22 43.1 -0.8**
SLKM *e**PP pP 15 22 58.4 -0.8
TKM2 Tokmak 2 81.78 315 P **P** **15 22 45.1 +0.2**
SNR=10.0
KZA Kyzart 81.79 314 P **P** **15 22 44.9 0.0**
SNR=24
KURK Kurchatov 82.18 323 P **P** **15 22 46.1 -0.9**
comp=Z,78nm,0.6s,mb5.8,SNR=6.0
KURK Kurchatov 82.18 323 *e*P **P** **15 22 46.3 -0.7**
KURK pmax pmax
comp=Z,20nm,1.0s,mb5.0
KURK Kurchatov 82.18 323 *e*P **P** **15 22 45.7 -1.3**
comp=Z,20nm,0.9s,mb5.0
KURK *e*pP pP 15 22 58.3 -3.9
KURK LR LR
comp=Z,600nm,21.0s,MS4.9
UCH Uchtor 82.36 314 P **P** **15 22 47.3 -0.6**
SNR=11
FRU Bishkek 82.45 315 *e*P pP 15 23 02.0 -1.7
FRU pmax pmax
comp=Z,120nm,2.3s,mb5.4
FRU MLR MLR
comp=E,2µm,20.0s
FRU MLR MLR
comp=Z,1µm,20.0s,MS5.3
AAK Ala-Archa 82.48 314 P **P** **15 22 47.1 -1.5**
comp=Z,60nm,0.7s,mb5.6,SNR=9.2
AAK Ala-Archa 82.48 314 P **P** **15 22 48.9 +0.4**
SNR=9.2
AAK Ala-Archa 82.48 314⇑ *e*P **P** **15 22 47.8 -0.8**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AAK Ala-Archa 82.48 314 *e*P **P** **15 22 46.5 -2.1**
comp=Z,17nm,1.0s,mb4.9
AAK LR LR
comp=Z,395nm,21.0s,MS4.8
PMR Palmer 82.57 25 P **P** **15 22 48.2 -0.8**
PMR pmax pmax
comp=Z,54nm,1.0s,mb5.5
PMR Palmer 82.57 25 *e*P **P** **15 22 47.9 -1.1**
comp=Z,54nm,1.0s,mb5.5
PMR *e*pP pP 15 23 02.7 -1.6
PMR LR LR
comp=Z,4µm,21.0s,MS5.8
USP Ospenovka 82.64 315 P **P** **15 22 49.5 +0.1**
SNR=8.3
MAW Mawson 82.81 203 *e*P **P** **15 22 49.4 -0.9**
comp=Z,12nm,0.7s,mb5.0
MAW *e*pP pP 15 23 03.1 -2.5
MAW *e*S S 15 33 00.1 -4.3
MAW Mawson 82.81 203 P **P** **15 22 49.3 -1.0**
comp=Z,14nm,0.8s,mb5.1,baz=91,slow=8.1,SNR=20
MAW LR LR 15 58 21.3
comp=Z,2µm,21.4s,MS5.5,baz=77,slow=35
MAW Mawson 82.81 203 *e*P **P** **15 22 49.4 -0.9**
MAW *e**PP pP 15 23 03.1 -2.5
MAW *e*S S 15 33 00.1 -4.3
MAW pmax pmax
comp=Z,12nm,0.7s
AML Almayashu 82.92 314 P **P** **15 22 50.5 -0.4**
SNR=7.1
SML Sawmill 83.01 25 P **P** **15 22 51.6 +0.3**
SML Sawmill 83.01 25 *e*P **P** **15 22 50.8 -0.5**
SML *e*pP pP 15 23 05.8 -0.8
IMA2 Indian Mountai 83.04 20 *e*P **P** **15 22 51.1 -0.4**
IMA2 *e*pP pP 15 23 06.7 0.0
MCK McKinley 83.64 23 P **P** **15 22 53.3 -1.2**
MCK pmax pmax
comp=Z,81nm,1.0s,mb5.8
MCK McKinley 83.64 23 *e*P **P** **15 22 53.1 -1.4**
comp=Z,81nm,1.0s,mb5.8
MCK *e*pP pP 15 23 07.0 -2.8
MCK LR LR
comp=Z,2µm,21.0s,MS5.4
DIV Divide 83.82 26 *e*P **P** **15 22 54.4 -1.1**
comp=Z,239nm,1.1s,mb6.2
DIV LR LR
comp=Z,8µm,22.0s,MS6.0
QSPA South Pole Qui 83.93 180 *e*P **P** **15 22 55.6 -0.4**
comp=Z,62nm,0.8s,mb5.8
QSPA LR LR
comp=Z,3µm,21.0s,MS5.6
COLA College 84.58 23 *e*P **P** **15 22 58.4 -0.9**
COLA College 84.58 23 *e*P **P** **15 22 58.0 -1.3**
comp=Z,70nm,0.9s,mb5.8
COLA *e*pP pP 15 23 12.8 -1.9
COLA LR LR
comp=Z,2µm,21.0s,MS5.5
KKAR Karatay Array 85.44 314 *i* P pP 15 23 16.5 -2.5
KKAR pmax pmax
comp=Z,49nm,1.2s,mb5.5
EGAK Eagle 87.17 24 *e*P **P** **15 23 11.8 -0.3**
comp=Z,93nm,1.1s,mb5.9
EGAK *e*pP pP 15 23 27.1 -0.4
EGAK LR LR
comp=Z,4µm,20.0s,MS5.8
VOSK Vostochnaya 87.30 324 P **P** **15 23 10.7 -2.1**
VOSK pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
SIT Sitka 87.54 32 PFAKE
SIT LR LR 15 23 20.0 +6.1
comp=Z,7µm,21.0s,MS6.1
DAWY Dawson 87.65 25 *e*P **P** **15 23 14.5 0.0**
DAWY *e*pP pP 15 23 29.8 -0.1
BVA0 Borovoye Array 87.72 324 *i* P **P** **15 23 14.0 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 87.72 324 PKKPbc PKKPbc 15 41 02.6 +0.8
comp=Z,0.5nm,0.5s,baz=318,slow=2.0,SNR=4.0
CHKZ Chkalovo 87.74 324 *e*P **P** **15 23 13.6 -1.3**
CHKZ *e**PP pP 15 23 27.5 -2.8
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
CHKZ Chkalovo 87.74 324 *e*P **P** **15 23 13.6 -1.3**
comp=Z,5.9nm,0.6s,mb5.0
CHKZ *e*pP pP 15 23 27.4 -2.8
BRVK Borovoye 87.79 324 P **P** **15 23 15.3 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BRVK Borovoye 87.79 324 *e*P **P** **15 23 14.7 -0.4**
comp=Z,9.5nm,0.8s,mb5.1
BRVK LR LR
comp=Z,503nm,19.0s,MS5.0
SKAG Skagway 88.16 30 *e*P **P** **15 23 14.5 -2.3**
comp=Z,44nm,1.2s,mb5.6
SKAG *e*pP pP 15 23 30.9 -1.4
ZRNK Zerenda 88.52 323 P **P** **15 23 16.5 -2.1**
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb5.2
ZRNK Zerenda 88.52 323 *e*P **P** **15 23 15.7 -2.9**
comp=Z,11nm,0.8s,mb5.2
ZRNK *e*pP pP 15 23 30.2 -3.8
WRAK Wrangell Islan 88.98 33 PFAKE 15 23 30.0 +9.3
WRAK LR LR
comp=Z,6µm,22.0s,MS6.0
DLBC Dease Lake 90.61 31 *e*P **P** **15 23 28.0 -0.4**
SYO Syowa Base 91.09 200‖ *e*P **P** **15 23 28.8 -1.8**
SYO Syowa Base 91.09 200‖ *e*PcP PcP 15 23 32.0 +0.5
SYO Syowa Base 91.09 200‖ *i*S sP 15 23 50.7 -1.2
INK Inuvik 91.12 21 P **P** **15 23 30.3 -0.4**
comp=Z,20nm,0.9s,mb5.4,baz=272,slow=5.1,SNR=22
INK PKKPbc PKKPbc 15 40 53.5 +0.1
comp=Z,1.2nm,0.5s,baz=187,slow=2.8,SNR=10
INK LR LR 16 00 26.2
comp=Z,2µm,19.5s,MS5.5,baz=236,slow=33
INK Inuvik 91.12 21 P **P** **15 23 29.7 -1.0**
INK pmax pmax
comp=Z,56nm,1.2s
INK Inuvik 91.12 21 *e*P **P** **15 23 28.8 -1.9**
comp=Z,2µm,1.2s
INK *e*pP pP 15 23 44.1 -2.0
WSAR Wadi Sarin 92.29 293 PKKPbc PKKPbc 15 40 51.4 +0.9
comp=Z,3.5nm,0.8s,baz=230,slow=4.0,SNR=5.1
HOPS Hopland 92.48 51 PFAKE 15 23 50.0 +13
HOPS LR LR
comp=Z,3µm,22.0s,MS5.7
MSEY Mahe Island 92.58 265 PFAKE 15 23 50.0 +13
MSEY LR LR
comp=Z,294nm,21.0s,MS4.7
COR Corvallis 92.86 46 PFAKE 15 23 50.0 +11
COR LR LR
comp=Z,5µm,21.0s,MS6.0
HUMO Hull Mountain 92.92 48 PFAKE 15 23 50.0 +11
HUMO LR LR
comp=Z,5µm,22.0s,MS5.9
YBH Yreka Blue Hor 93.02 49 PFAKE 15 23 50.0 +11
YBH LR LR
comp=Z,5µm,21.0s,MS5.9
WDC Whiskeytown Da 93.04 50 PFAKE 15 23 50.0 +10
WDC LR LR
comp=Z,3µm,20.0s,MS5.7
SAO San Andreas Ge 93.56 54 PFAKE 15 23 50.0 +8.0
SAO LR LR
comp=Z,3µm,21.0s,MS5.8
CMB Columbia Colle 94.50 52 PFAKE 15 24 00.0 +14
CMB LR LR
comp=Z,2µm,21.0s,MS5.6
MOD Modoc 94.83 49 PFAKE 15 24 00.0 +12
MOD LR LR
comp=Z,2µm,22.0s,MS5.6
SNCC San Nicolas Is 94.86 57 PFAKE 15 24 00.0 +12
SNCC LR LR
comp=Z,4µm,22.0s,MS5.8
AKTO Aktyubinsk 94.96 320 PKKPbc PKKPbc 15 40 41.0 -2.4
comp=Z,0.4nm,0.3s,baz=286,slow=7.4,SNR=3.6
ARU Arti 94.99 326‖ *i* P **P** **15 23 48.0 -0.5**
ARU *e* 15 27 37.4
ARU *e*S SKSac 15 34 18.9 -0.7
ARU *e*SP SP 15 36 19.2 +3.9
ARU *e*PS PS 15 36 28.8 +6.8
ARU *e*SS SS 15 41 22.2 -2.5
ARU pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
ARU MLR MLR
comp=Z,3µm,22.0s,MS5.7
ARU MLR MLR
comp=N,900nm,21.0s,MS5.6
ARU MLR MLR
comp=E,2µm,23.0s,MS5.6
ARU Arti 94.99 326 *e*P **P** **15 23 48.1 -0.4**
ARU LR LR
comp=Z,741nm,21.0s,MS5.1
HAWA Hanford 95.64 44 PFAKE 15 24 00.0 +8.5
HAWA LR LR
comp=Z,4µm,21.0s,MS5.9
ISA Isabella 95.88 55 PFAKE 15 24 00.0 +7.4
ISA LR LR
comp=Z,562nm,20.0s,MS5.0
WVOR Wild Horse Val 96.09 48 PFAKE 15 24 00.0 +6.4
WVOR LR LR
comp=Z,5µm,22.0s,MS5.9
NVAR Mina Array Bea 96.16 52 P **P** **15 23 54.7 +0.8**
comp=Z,0.5nm,0.3s,mb4.5,baz=251,slow=8.5,SNR=3.5
DAC Darwin (Calif) 96.62 54 *e*P **P** **15 23 56.2 +0.2**
DAC *e**PP pP 15 24 10.2 -1.3
DAC pmax pmax
comp=Z,11nm,1.1s,mb5.2
DAC MLR MLR
comp=Z,4µm,21.0s,MS5.8
DAC Darwin (Calif) 96.62 54 *e*P **P** **15 23 56.2 +0.2**
comp=Z,11nm,1.1s,mb5.2
DAC *e*pP pP 15 24 10.2 -1.3
DAC LR LR
comp=Z,4µm,21.0s,MS5.8
TPH Tonopah 96.99 52 PFAKE 15 24 10.0 +12
TPH LR LR
comp=Z,2µm,21.0s,MS5.7
ORR Orenburg 97.06 321 *e*P **P** **15 24 09.5 +12**
ORR pmax pmax
comp=Z,10.0nm,0.7s,mb5.3
BMN Battle Mountai 97.08 50 PFAKE 15 24 10.0 +12
BMN LR LR
comp=Z,2µm,20.0s,MS5.6
BMO Blue Mountains 97.14 46 PFAKE 15 24 10.0 +12
BMO LR LR
comp=Z,3µm,22.0s,MS5.8
NEW Newport 97.33 42 P **P** **15 23 58.9 -0.3**
comp=Z,1.9nm,0.8s,mb4.6,baz=88,slow=17,SNR=4.6
NEW Newport 97.33 42 P **P** **15 23 58.9 -0.3**
NEW LR LR
comp=Z,2µm,20.0s,MS5.6
PFO Pinyon Flat Ob 97.44 57 LR LR 15 59 45.5
comp=Z,2µm,21.6s,MS5.7,baz=246,slow=30
PFO Pinyon Flat Ob 97.44 57 PFAKE 15 24 10.0 +10
PFO LR LR
comp=Z,925nm,22.0s,MS5.2
RPN Rapa Nui 97.95 118 PFAKE 15 24 10.0 +8.0
RPN LR LR
comp=Z,294nm,20.0s,MS4.8
NVL N'lazarevskaya 98.13 193 *e*P pP 15 24 15.1 -3.2
NVL *i* S SKSac 15 34 33.3 -2.7
NVL *e* 15 37 44.2
NVL pmax pmax
comp=Z,30nm,1.4s,mb5.6
YKA Yellowknife Ar 98.48 28 P **P** **15 24 03.5 -0.8**
comp=Z,2.7nm,0.9s,mb4.8,baz=277,slow=5.0,SNR=6.4
YKA pP pP 15 24 18.8 -1.0
comp=Z,7.2nm,1.0s,baz=276,slow=4.7,SNR=6.8
YKA PKKPbc PKKPbc 15 40 32.6 -1.2
comp=Z,3.0nm,0.7s,baz=87,slow=2.9,SNR=8.9
YKA LR LR 16 06 12.8
comp=Z,2µm,20.8s,MS5.6,baz=220,slow=34
YKA Yellowknife Ar 98.48 28 P **P** **15 24 03.5 -0.8**
YKA *PP pP 15 24 18.8 -1.0
YKA Yellowknife Ar 98.48 28 P **P** **15 24 03.5 -0.8**
YKA pP pP 15 24 18.8 -1.0
YKA PKKPbc PKKPbc 15 40 32.6 -1.2
YKA LR LR 16 06 12.8
ELK Elko 98.59 50 PFAKE 15 24 20.0 +15

ELK LR LR
comp=Z,2µm,21.0s,MS5.6
OPO Ambohidratompo 98.81 250 P **P** 15 24 04.9 -0.9
comp=Z,21nm,1.2s,mb5.5,baz=149,slow=3.3,SNR=6.3
OPO pP pP 15 24 21.2 -0.1
comp=Z,29nm,1.0s,baz=83,slow=5.7,SNR=14
HLID Hailey 99.21 47 PFAKE 15 24 20.0 +12
HLID LR LR
comp=Z,3µm,22.0s,MS5.8
MSO Missoula 99.50 44 PFAKE 15 24 20.0 +11
MSO LR LR
comp=Z,2µm,22.0s,MS5.6
SNAA Sanae 100.20 189 *e*Pdiff Pdif 15 24 11.3 -0.7
SNAA *e* 15 24 25.2
SNAA *e* 15 24 31.1
SNAA *e* 15 24 39.9
SNAA *e* 15 28 18.4
SNAA *e* 15 28 39.5
SNAA *e* 15 28 53.7
SNAA *e* 15 28 58.7
SNAA Sanae 100.20 189 *e*P Pdif 15 24 10.1 -1.9
SNAA pmax pmax
comp=Z,34nm,1.4s
SNAA Sanae 100.20 189 *e*Pdif Pdif 15 24 10.1 -1.9
comp=Z,34nm,1.4s
SNAA *e*pP 15 24 22.9
DUG Dugway 100.45 50 PFAKE 15 24 20.0 +6.9
DUG LR LR
comp=Z,2µm,22.0s,MS5.5
MVU Marysvale 100.94 52 PFAKE 15 24 30.0 +15
MVU LR LR
comp=Z,3µm,22.0s,MS5.8
MPU Maple Canyon 101.36 51 PFAKE 15 24 30.0 +13
MPU LR LR
comp=Z,2µm,21.0s,MS5.6
HWUT Hardware Ranch 101.36 49 PFAKE 15 24 30.0 +13
HWUT LR LR
comp=Z,2µm,19.0s,MS5.7
VNA2 Neumayer--Watz 101.53 188 *e*Pdiff Pdif 15 24 17.9 0.0
VNA2 *e* 15 24 32.6
VNA2 *e* 15 24 37.0
VNA2 *e* 15 24 46.5
VNA2 *e* 15 24 56.6
VNA2 *e* 15 28 28.6
VNA2 *e* 15 28 41.2
VNA2 *e* 15 28 56.9
VNA2 *e* 15 29 01.7
AHID Auburn Hatcher 101.66 48 PFAKE 15 24 30.0 +12
AHID LR LR
comp=Z,4µm,22.0s,MS5.9
WUAZ Wupatki 101.66 55 PFAKE 15 24 30.0 +12
WUAZ LR LR
comp=Z,2µm,20.0s,MS5.7
YMR Madison River 101.66 46 PFAKE 15 24 30.0 +12
YMR LR LR
comp=Z,3µm,22.0s,MS5.8
VNA1 Neumayer--Stat 101.90 188 *e*Pdiff Pdif 15 24 16.3 -3.3
VNA1 *e* 15 24 33.9
VNA1 *e* 15 24 39.7
VNA1 *e* 15 28 30.5
VNA1 *e* 15 28 42.4
VNA1 *e* 15 28 56.8
VNA1 *e* 15 29 03.5
TUC Tucson 102.19 58 PFAKE 15 24 30.0 +9.1
TUC LR LR
comp=Z,2µm,21.0s,MS5.7
EGMT Eagleton 102.27 42 PFAKE 15 24 30.0 +8.8
EGMT LR LR
comp=Z,2µm,19.0s,MS5.6
BW06 Boulder Array 102.79 48 PFAKE 15 24 30.0 +6.5
BW06 LR LR
comp=Z,5µm,22.0s,MS6.0
PDAR Pinedale Array 102.79 48 P Pdif 15 24 22.9 -0.6
comp=Z,1.0nm,0.8s,baz=259,slow=1.5,SNR=7.5
PDAR PKKPbc PKKPbc 15 40 22.4 +0.8
comp=Z,0.7nm,0.4s,baz=95,slow=5.4,SNR=3.6
RLMT Red Lodge 102.83 45 PFAKE 15 24 30.0 +6.3
RLMT LR LR
comp=Z,3µm,22.0s,MS5.8
MVCO Mesa Verde 103.92 53 PFAKE 15 24 40.0 +11
MVCO LR LR
comp=Z,2µm,19.0s,MS5.6
KBS Kingsbay 104.02 352 *e*PP PP 15 28 49.0 +2.1
KBS *e* 15 37 54.4
KBS AMS AMS 16 11 04.8
comp=Z,674nm,18.8s,MS5.2
KBS Kingsbay 104.02 352 PFAKE 15 24 40.0 +11
KBS LR LR
comp=Z,1µm,19.0s,MS5.5
GNI Garni 104.44 310 PFAKE 15 24 40.0 +9.2
GNI LR LR
comp=Z,696nm,22.0s,MS5.2
LAO LASA Array 104.80 43 PFAKE 15 24 40.0 +7.6
LAO LR LR
comp=Z,3µm,22.0s,MS5.8
KIV Kislovodsk 105.60 314 PFAKE 15 29 00.0 +11
KIV LR LR
comp=Z,317nm,22.0s,MS4.8
BJO Bjornoya 105.68 348 AMS AMS 16 13 24.2
comp=Z,2µm,16.8s,MS5.6
ANMO Albuquerque 105.70 56 PFAKE 15 29 00.0 +11
ANMO LR LR
comp=Z,2µm,22.0s,MS5.6
DGMT Dagmar 105.91 41 PFAKE 15 29 00.0 +10
DGMT LR LR
comp=Z,2µm,19.0s,MS5.7
KEV Kevo 106.21 342 PFAKE 15 29 00.0 +10
KEV LR LR
comp=Z,2µm,20.0s,MS5.7
SDCO Great Sand Dun 106.26 53 PFAKE 15 29 00.0 +10
SDCO LR LR
comp=Z,4µm,22.0s,MS6.0
RSSD Black Hills 106.66 46 PFAKE 15 29 00.0 +9.0
RSSD LR LR
comp=Z,3µm,19.0s,MS5.8
ARCES ARCESS Array B 106.78 342 Pdiff Pdif 15 24 40.0 -1.3
comp=Z,1.7nm,0.6s,baz=54,slow=6.2,SNR=7.2
ARCES PKKPbc PKKPbc 15 40 08.2 -1.3
comp=Z,3.3nm,0.9s,baz=352,slow=3.7,SNR=9.9
ARCES ARCESS Array B 106.78 342 Pdif Pdif 15 24 40.0 -1.3
ARCES PKKPbc PKKPbc 15 40 08.2 -1.3
MNTX Cornudas Mount 106.80 59 PFAKE 15 29 00.0 +8.8
MNTX LR LR
comp=Z,2µm,22.0s,MS5.6
OBN Obninsk 107.43 326 PFAKE 15 29 00.0 +7.6
OBN LR LR
comp=Z,915nm,21.0s,MS5.3
LTX Lajitas 108.41 61 PFAKE 15 29 10.0 +16
LTX LR LR
comp=Z,2µm,20.0s,MS5.7
TXAR Lajitas Array 108.41 61 PKiKP PKiKP 15 28 56.5 +2.3
comp=Z,0.8nm,0.8s,baz=122,slow=1.6,SNR=5.0
TXAR PKKPbc PKKPbc 15 40 04.2 -0.2
comp=Z,0.7nm,0.7s,baz=160,slow=3.4,SNR=4.8
TRO Tromso 108.67 343 *e*PP PP 15 29 21.9 +0.8
TRO AMS AMS 16 16 59.8
comp=Z,2µm,20.4s,MS5.6
AMTX Amarillo 109.62 55 PFAKE 15 29 10.0 +13
AMTX LR LR
comp=Z,2µm,22.0s,MS5.7
FINES FINESS Array B 110.39 334 Pdiff Pdif 15 24 57.0 -0.3
comp=Z,3.1nm,0.9s,baz=79,slow=4.1,SNR=3.7
FINES PKiKP PKiKP 15 28 58.2 +0.3
comp=Z,3.3nm,0.9s,baz=87,slow=5.8,SNR=3.9
FINES PKKPbc PKKPbc 15 39 58.6 +0.5
comp=Z,1.5nm,0.9s,baz=225,slow=1.0,SNR=4.0
CBKS Cedar Bluff 110.64 51 PFAKE 15 29 10.0 +12
CBKS LR LR
comp=Z,3µm,21.0s,MS5.9
ULM Lac du Bonnet 110.83 38 PKiKP PKiKP 15 28 59.1 +0.4
comp=Z,1.9nm,0.8s,baz=232,slow=3.8,SNR=4.7
ULM Lac du Bonnet 110.83 38 PKPdf PKiKP 15 28 59.1 +0.4
ULM LR LR
comp=Z,4µm,21.0s,MS6.0
KMBO Kilima Mbogo 111.06 266 PFAKE 15 29 10.0 +11
KMBO LR LR
comp=Z,677nm,21.0s,MS5.2
AGMN Agassiz Refuge 111.37 40 PFAKE 15 29 10.0 +10
AGMN LR LR
comp=Z,2µm,20.0s,MS5.7
JCT Junction City 111.67 60 PFAKE 15 29 10.0 +10
JCT LR LR
comp=Z,4µm,22.0s,MS5.9
ECSD EROS,Sioux Fal 112.00 45 PFAKE 15 29 10.0 +9.0
ECSD LR LR
comp=Z,3µm,22.0s,MS5.8
WMOK Wichita Mounta 112.00 55 PFAKE 15 29 10.0 +9.0
WMOK LR LR
comp=Z,2µm,22.0s,MS5.7
BR131 Keskin Array S 112.94 311 PFAKE 15 29 10.0 +7.2
BR131 LR LR
comp=Z,879nm,22.0s,MS5.3
BRTR Keskin Array B 112.94 311 PKKPbc PKKPbc 15 39 50.6 +1.0
comp=Z,2.0nm,1.1s,baz=288,slow=2.0,SNR=4.3
KSU1 Kansas State U 112.98 50 PFAKE 15 29 10.0 +7.1
KSU1 LR LR
comp=Z,2µm,22.0s,MS5.7
AKASG Malin Array Be 112.99 323 PKKPbc PKKPbc 15 39 48.8 -0.7
comp=Z,1.4nm,0.6s,baz=266,slow=4.2,SNR=6.6
KIEV Kiev 113.00 323 PFAKE 15 29 10.0 +7.1
KIEV LR LR
comp=Z,3µm,22.0s,MS5.8
ANTO Ankara 113.55 311 PFAKE 15 29 20.0 +16
ANTO LR LR
comp=Z,598nm,22.0s,MS5.2
KVTX Kingsville 113.62 63 PFAKE 15 29 20.0 +16
KVTX LR LR
comp=Z,3µm,20.0s,MS5.9
NSS Namsos 114.00 341 AMS AMS 16 16 10.0
comp=Z,1µm,23.6s,MS5.4
EYMN Ely 114.27 40 PFAKE 15 29 20.0 +15
EYMN LR LR
comp=Z,3µm,21.0s,MS5.8
SCIA State Center 114.87 46 PFAKE 15 29 20.0 +14
SCIA LR LR
comp=Z,2µm,22.0s,MS5.6
HKT Hockley 115.14 60 PFAKE 15 29 20.0 +13
HKT LR LR
comp=Z,4µm,22.0s,MS6.0
BOSA Boshof 115.50 234 PKP PKPdf 15 29 08.1 +0.4
comp=Z,2.5nm,0.8s,baz=118,slow=2.8,SNR=7.9
BOSA Boshof 115.50 234 PKP PKPdf 15 29 08.1 +0.4
BOSA LR LR
comp=Z,4µm,21.0s,MS6.0
MATP Matopo 115.54 244 PKP PKPdf 15 29 07.9 +0.1
comp=Z,4.5nm,0.4s,baz=128,slow=1.8,SNR=21
LBTB Lobatse 116.56 238 *e*PKIKP PKPdf 15 29 09.8 +0.1
LBTB *e* 15 29 22.4
LBTB MLR MLR
comp=Z,3µm,21.0s,MS5.8
LBTB Lobatse 116.56 238 PKIKP PKPdf 15 29 12.1 +2.4
NB2 NORSAR Subarra 116.57 338 PKKP PKKPbc 15 39 36.5 -0.7
comp=Z,8.2nm,1.1s,baz=229,slow=3.6
NOA NORSAR Array B 116.57 338 PKKPbc PKKPbc 15 39 37.1 -0.1
comp=Z,1.4nm,0.7s,baz=51,slow=3.5,SNR=3.7
JFWS Jewell Farm 116.69 45 PFAKE 15 29 20.0 +10
JFWS LR LR
comp=Z,2µm,21.0s,MS5.8
MLR Muntele Rosu 116.84 318 PKP PKPdf 15 29 09.7 -0.6
comp=Z,2.6nm,0.8s,baz=90,slow=5.9,SNR=3.7
MLR PKKPbc PKKPbc 15 39 36.9 +0.6
comp=Z,1.2nm,0.5s,baz=144,slow=8.7,SNR=3.0
MLR Muntele Rosu 116.84 318 ⇑*i*P PKPdf 15 29 13.1 +2.8
MLR Muntele Rosu 116.84 318 PKP PKPdf 15 29 09.7 -0.6
MLR ⇑P 15 29 13.1
MLR PKKPbc PKKPbc 15 39 36.9 +0.6
LSZ Lusaka 117.26 249 PKP PKPdf 15 29 11.8 +0.7
comp=Z,3.6nm,0.5s,baz=94,slow=2.7,SNR=8.6
LSZ Lusaka 117.26 249 *e*PKPdf PKPdf 15 29 09.7 -1.4
LSZ LR LR
comp=Z,1µm,20.0s,MS5.6
CCM Cathedral Cave 117.32 50 PFAKE 15 29 20.0 +8.8
CCM LR LR
comp=Z,3µm,20.0s,MS5.9
SUR Sutherland 117.36 229 PFAKE 15 29 20.0 +8.7
SUR LR LR
comp=Z,696nm,21.0s,MS5.3
SFJD Kangerlussuaq 117.73 8 PFAKE 15 29 20.0 +8.0
SFJD LR LR
comp=Z,3µm,19.0s,MS5.9
KOLS Kolonicke sedl 117.83 323 *e*PKP PKPdf 15 29 11.3 -0.9
KOLS *e* 15 29 26.7
HDIL Hopedale 118.08 47 PFAKE 15 29 20.0 +7.3
HDIL LR LR
comp=Z,2µm,19.0s,MS5.8
KONO Kongsberg 118.10 338 PFAKE 15 29 20.0 +7.3
KONO LR LR
comp=Z,2µm,19.0s,MS5.8
EFI East Falkland 118.15 162 PFAKE 15 29 20.0 +7.2
EFI LR LR
comp=Z,413nm,21.0s,MS5.0
GZR Gura Zlata 118.95 319 ⇑*i*P PKPdf 15 29 14.8 +0.5
BZS Buzias 119.61 320 ⇑*i*P PKPdf 15 29 13.9 -1.7
BZS Buzias 119.61 320 ⇑P PKPdf 15 29 13.9 -1.7
OXF Oxford 119.63 54 PFAKE 15 29 30.0 +14
OXF LR LR
comp=Z,2µm,20.0s,MS5.8
HOPE Hope Point 119.75 177 PFAKE 15 29 30.0 +14
HOPE LR LR
comp=Z,903nm,21.0s,MS5.4
OKC Ostrava-Krasne 119.81 325 AMS AMS 16 21 30.0
comp=Z,2µm,21.6s
VYHS Vyhne 120.06 324 *e*PKP PKPdf 15 29 15.5 -1.0
MORC Moravsky Berou 120.19 326 ⇑*i*P PKPdf 15 29 17.3 +0.6
MORC Moravsky Berou 120.19 326 ⇑P PKPdf 15 29 17.2 +0.5
WVT Waverly 120.46 51 PFAKE 15 29 30.0 +13
WVT LR LR
comp=Z,3µm,21.0s,MS5.9
DPC Dobruska-Polom 120.57 327 *e*PKPdf PKPdf 15 29 16.8 -0.7
DPC AMS AMS 16 20 00.0
comp=Z,3µm,22.7s
PAYG Puerto Ayora 120.87 94 PFAKE 15 29 30.0 +12
PAYG LR LR
comp=Z,547nm,22.0s,MS5.2
GRUS Gruza 120.89 318 *i* P PKPdf 15 29 17.6 -0.5
WCI Wyandotte Cave 121.01 49 PFAKE 15 29 30.0 +12
WCI LR LR
comp=Z,3µm,21.0s,MS5.8
PKSM Moragy 121.23 321 ⇑*i*P PKPdf 15 29 17.6 -1.1
PKSM Moragy 121.23 321 ⇑P PKPdf 15 29 17.6 -1.1
DIVS Divcibare 121.28 319 *i* P PKPdf 15 29 17.4 -1.4
AAM Ann Arbor 121.47 43 PFAKE 15 29 30.0 +11
AAM LR LR
comp=Z,2µm,19.0s,MS5.9
BRG Berggiesshubel 121.57 328 *e*PKP PKPdf 15 29 19.0 -0.3
comp=Z,12nm,1.2s
BRG *e* 15 29 36.0
comp=Z,12nm,1.2s
BRG PP PP 15 31 17.0 +25
BRG *e* 15 39 34.8
comp=Z,21nm,1.9s
BRG SS 15 48 15.0
BRG
comp=N,776nm,21.5s
BRG
comp=E,1µm,22.8s
BRG
comp=Z,2µm,22.6s
BRG Berggiesshubel 121.57 328 *e*PKIKP PKPdf 15 29 19.0 -0.4
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG MLR MLR
comp=N,21µm,21.5s
BRG MLR MLR
comp=E,776nm,22.8s
BRG MLR MLR
comp=Z,1µm,22.6s
BRG Berggiesshubel 121.57 328 *e*PKP PKPdf 15 29 19.0 -0.3
BRG *e* 15 29 36.0
BRG PP PP 15 31 17.0 +25
BRG *e* 15 39 34.8
BRG SS 15 48 15.0
BRG LR LR
comp=Z,2µm,22.6s,MS5.7
PRU Pruhonice 121.73 327 *e*PKPdf PKPdf 15 29 18.9 -0.8
PRU *ep*PKP pPKPdf 15 29 33.5 -2.2
PRU AMS AMS 16 20 50.0
comp=Z,3µm,22.2s
BBLS Bajina Basta - 121.76 319 *i* P PKPdf 15 29 21.4 +1.6
CLL Collm 121.81 329 *i* PKPdf PKPdf 15 29 19.4 -0.4
comp=Z,13nm,1.2s
CLL LmH 16 23 00.0
comp=N,3µm,21.9s
CLL LmH 16 23 00.0
comp=E,4µm,21.5s
CLL LmV 16 25 00.0
comp=Z,4µm,21.4s
BRAL Brewton 122.39 57 PFAKE 15 29 30.0 +9.1
BRAL LR LR
comp=Z,2µm,22.0s,MS5.7
NKC Novy Kostel 122.72 328 AMS AMS 16 25 30.0
comp=Z,3µm,18.5s
KHC Kasperske Hory 122.73 326 *e*PKPdf PKPdf 15 29 21.0 -0.6
KHC *ep*PKP pPKPdf 15 29 35.9 -1.7
KHC AMS AMS 16 23 50.0
comp=Z,3µm,23.2s
GERES GERESS Array B 122.82 326 PKP PKPdf 15 29 21.4 -0.4
comp=Z,1.8nm,0.5s,baz=111,slow=3.0,SNR=8.6
MOX Moxa 122.91 329 *e*(PKP) pPKPdf 15 29 38.6 +0.7
comp=Z,42nm,2.1s
MOX
comp=Z,3µm,22.0s
GROS Grobnik 123.02 323 *e*PKPdf PKPdf 15 29 20.6 -1.5
TEIG Tepich 123.14 70 *e*PKPdf PKPdf 15 29 22.6 +0.2
TEIG *ep*PKPdf pPKPdf 15 29 36.7 -1.6
TEIG LR LR
comp=Z,998nm,21.0s,MS5.5
TZTN Tazewell 123.62 50 PFAKE 15 29 40.0 +17
TZTN LR LR
comp=Z,3µm,22.0s,MS5.9
BOJS Bojanci 123.65 322 *e*PKPdf PKPdf 15 29 22.7 -0.7
BOJS *ep*PKPdf pPKPdf 15 29 37.8 -1.6
SCHQ Schefferville 123.66 24 PKP PKPdf 15 29 24.1 +0.7
comp=Z,3.4nm,0.7s,baz=250,slow=11,SNR=4.7
SCHQ Schefferville 123.66 24 PKP PKPdf 15 29 24.1 +0.7
SCHQ LR LR
comp=Z,5µm,21.0s,MS6.2
GRA1 Grafenberg Arr 123.68 328 *e*PKP PKPdf 15 29 23.0 -0.4
GRF Grafenberg Arr 123.68 328 *e*PKPdf PKPdf 15 29 23.0 -0.4
GRFO Grafenberg 123.68 328 PFAKE 15 29 30.0 +6.6
GRFO LR LR
comp=Z,2µm,22.0s,MS5.8
TKL Tuckaleechee C 123.74 51 PKP PKPdf 15 29 23.4 -0.1
comp=Z,6.7nm,0.7s,baz=146,slow=4.6,SNR=8.8
VOJS Vojsko 124.21 323 *e*PKPdf PKPdf 15 29 22.9 -1.5
TGUH Tegucigalpa,Un 124.55 77 *e*PKPdf PKPdf 15 29 25.0 -0.1
TGUH LR LR
comp=Z,2µm,22.0s,MS5.6
MCWV Mont Chateau 125.17 45 PFAKE 15 29 40.0 +14
MCWV LR LR
comp=Z,3µm,20.0s,MS6.0
TSUM Tsumeb 125.61 241 PKP PKPdf 15 29 28.0 +0.9
comp=Z,6.6nm,0.8s,baz=105,slow=2.1,SNR=13
TSUM Tsumeb 125.61 241 *e*PKPdf PKPdf 15 29 28.3 +1.2
TSUM *ep*PKPdf pPKPdf 15 29 43.5 +0.4
TSUM LR LR
comp=Z,1µm,20.0s,MS5.7
BLA Blacksburg 125.73 48 *e*PKIKP PKPdf 15 29 27.6 +0.3
BLA MLR MLR
comp=Z,2µm,20.0s,MS5.8
EKA Eskdalemuir Ar 125.89 340 PKP PKPdf 15 29 27.5 -0.2
comp=Z,3.2nm,0.7s,baz=21,slow=2.8,SNR=6.7
ESK Eskdalemuir 125.92 340 PFAKE 15 29 40.0 +12
ESK LR LR
comp=Z,662nm,20.0s,MS5.3
BFO Black Forest 126.02 328 PFAKE 15 29 40.0 +12
BFO LR LR
comp=Z,556nm,19.0s,MS5.2
SSPA Standing Stone 126.10 43 PFAKE 15 29 40.0 +12
SSPA LR LR
comp=Z,2µm,21.0s,MS5.8
DAVOX Davos 126.11 326 PKP PKPdf 15 29 28.2 +0.1
comp=Z,3.0nm,0.4s,baz=48,slow=2.3,SNR=5.2
JSC Jenkinsville 126.14 52 *e*PKIKP PKPdf 15 29 31.8 +3.7
LONY Lake Ozonia 126.25 37 PFAKE 15 29 40.0 +12
LONY LR LR
comp=Z,3µm,21.0s,MS6.0
CDF Champ du Feu 126.51 329 *e*PKIKP PKPdf 15 29 28.5 -0.3
GIVF Givet 126.61 332 *e*PKIKP PKPdf 15 29 28.3 -0.7
BINY Binghamton 126.62 41 PFAKE 15 29 40.0 +11
BINY LR LR
comp=Z,2µm,20.0s,MS5.8
NCB Newcomb 126.81 38 PFAKE 15 29 40.0 +11
NCB LR LR
comp=Z,3µm,20.0s,MS5.9
JTS JuntasAbangare 126.90 82 PKP PKPdf 15 29 29.0 -0.6
comp=Z,12nm,0.7s,baz=325,slow=3.3,SNR=9.3
JTS JuntasAbangare 126.90 82 *e*PKPdf PKPdf 15 29 29.4 -0.2
JTS LR LR
comp=Z,348nm,21.0s,MS5.0
BAIF Baives 126.93 332 *e*PKIKP PKPdf 15 29 29.1 -0.5
HINF Hinteralfeld 127.11 328 *e*PKIKP PKPdf 15 29 29.4 -0.6
comp=Z,9.5nm,0.7s
HAU Haudompre 127.25 329 *e*PKIKP PKPdf 15 29 30.0 -0.3
comp=Z,6.2nm,0.6s
HAU *e*R
comp=Z,4µm,22.2s
HAU Haudompre 127.25 329 *e*PKPdf PKPdf 15 29 30.0 -0.3
HAU LR LR
comp=Z,4µm,22.3s,MS6.1
CBN Corbin 127.53 46 PFAKE 15 29 40.0 +9.2
CBN LR LR
comp=Z,2µm,19.0s,MS5.9
MEZF Maizieres J'vi 127.58 330 *e*PKIKP PKPdf 15 29 30.4 -0.5
TRQA Tornquist 127.73 150 *e*PKPdf PKPdf 15 29 30.5 -0.7
TRQA *ep*PKPdf pPKPdf 15 29 44.4 -2.8
TRQA LR LR
comp=Z,1µm,21.0s,MS5.5
DWPF Disney 127.85 59 PFAKE 15 29 40.0 +8.6
DWPF LR LR
comp=Z,2µm,21.0s,MS5.7
LBNH Lisbon 128.04 36 PFAKE 15 29 40.0 +8.2
LBNH LR LR
comp=Z,4µm,20.0s,MS6.1
CABF La Chapelle 128.28 328 *e*PKIKP PKPdf 15 29 31.8 -0.4
comp=Z,11nm,0.8s
CNNC Cliffs of the 128.38 49 PFAKE 15 29 40.0 +7.6
CNNC LR LR
comp=Z,2µm,21.0s,MS5.8
LPL La Plagne 128.62 326 *e*PKIKP PKPdf 15 29 32.7 -0.2
comp=Z,11nm,1.1s
LPG La Plagne 128.62 326 *e*PKIKP PKPdf 15 29 33.1 +0.2
comp=Z,13nm,1.0s
CFAA Coronel Fontan 128.68 139 PKP PKPdf 15 29 33.1 +0.2
comp=Z,2.5nm,0.7s,baz=226,slow=2.7,SNR=50
PKME Peaks-Kenny Pk 128.94 34 PFAKE 15 29 40.0 +6.5
PKME LR LR
comp=Z,3µm,22.0s,MS5.9
LOR Lormes 129.00 330 *e*PKIKP PKPdf 15 29 33.1 -0.5
LOR *e*R
comp=Z,3µm,20.0s
LOR Lormes 129.00 330 *e*PKPdf PKPdf 15 29 33.1 -0.5
LOR LR LR
comp=Z,3µm,20.0s,MS6.0
PGF Pioggiola 129.04 322 *e*PKIKP PKPdf 15 29 33.3 -0.4
comp=Z,27nm,0.8s
MBDF Montbardon 129.08 325 *e*PKIKP PKPdf 15 29 33.6 -0.1
comp=Z,7.0nm,0.8s
SBF Sospel 129.22 324 *e*PKIKP PKPdf 15 29 33.6 -0.4
comp=Z,34nm,0.8s
HRV Harvard--Oak R 129.25 38 PFAKE 15 29 50.0 +16
HRV LR LR
comp=Z,3µm,20.0s,MS5.9
SSF Saint Saulge 129.32 330 *e*PKIKP PKPdf 15 29 33.9 -0.3
comp=Z,10nm,0.9s
SMF Signal de Mont 129.43 329 *e*PKIKP PKPdf 15 29 34.1 -0.3
WES Weston 129.46 38 PFAKE 15 29 50.0 +16
WES LR LR
comp=Z,2µm,20.0s,MS5.8
ORIF Oris-en-Rattie 129.46 326 *e*PKIKP PKPdf 15 29 34.0 -0.5
comp=Z,11nm,0.9s
ORIF *e*R
comp=Z,4µm,22.5s
AVF Avril sur Loir 129.58 329 *e*PKIKP PKPdf 15 29 34.3 -0.4
FRF La Foret Royal 129.86 324 *e*PKIKP PKPdf 15 29 34.9 -0.3
LDF La Druitiere 129.96 333 *e*PKIKP PKPdf 15 29 35.0 -0.4
BGF Bois d'Agland 130.00 330 *e*PKIKP PKPdf 15 29 35.0 -0.5
FLN La Foliniere 130.00 334 *e*PKIKP PKPdf 15 29 35.0 -0.5
comp=Z,27nm,1.0s
FLN *e*R
comp=Z,4µm,22.2s
FLN La Foliniere 130.00 334 *e*PKPdf PKPdf 15 29 35.0 -0.5
FLN LR LR
comp=Z,4µm,22.3s,MS6.0
LMR La Mourre 130.07 324 *e*PKIKP PKPdf 15 29 35.1 -0.5
VIVF Saint-Julien-l 130.16 327 *e*PKIKP PKPdf 15 29 35.6 -0.2
SMRF Simiane la Rot 130.22 325 *e*PKIKP PKPdf 15 29 35.8 -0.1
comp=Z,12nm,1.0s
TCF Toulx Ste Croi 130.50 330 *e*PKIKP PKPdf 15 29 35.9 -0.5
comp=Z,7.5nm,0.6s
LASF Ste Croix 131.11 326 *e*PKIKP PKPdf 15 29 36.9 -0.7
comp=Z,7.3nm,0.8s
SGMF Saint Gilles 131.28 335 *e*PKIKP PKPdf 15 29 37.5 -0.4
comp=Z,19nm,0.8s
ATAH Atahualpa 131.38 105 PKP PKPdf 15 29 40.4 +2.2
comp=Z,4.6nm,0.3s,baz=257,slow=2.8,SNR=9.8

NNA Nana 131.42 112 PKP PKPdf 15 29 39.7 +1.5
comp=Z,15nm,0.9s,baz=270,slow=2.6,SNR=4.3
NNA Nana 131.42 112 *e*PKPdf PKPdf 15 29 39.4 +1.2
NNA *ep*PKPdf pPKPdf 15 29 53.4 -0.8
NNA LR LR
comp=Z,177nm,22.0s,MS4.7
MFF Saint Martin d 131.43 331 *e*PKIKP PKPdf 15 29 37.9 -0.3
comp=Z,47nm,1.5s
QUIF Quistinic 131.80 335 *e*PKIKP PKPdf 15 29 38.4 -0.5
KEST Kesra 132.34 314 PKP PKPdf 15 29 41.0 +1.1
comp=Z,0.6nm,0.4s,baz=209,slow=21,SNR=2.1
MTLF Montolieu 132.49 327 *e*PKIKP PKPdf 15 29 39.5 -0.7
comp=Z,5.6nm,0.8s
OTAV Otavalo 132.72 95 PFAKE 15 29 50.0 +9.4
OTAV LR LR
comp=Z,504nm,19.0s,MS5.2
LVC Limon Verde 133.58 129 PKP PKPdf 15 29 44.1 +1.8
comp=Z,12nm,0.8s,baz=255,slow=3.5,SNR=8.4
LVC Limon Verde 133.58 129 *e*PKPdf PKPdf 15 29 43.5 +1.2
LVC *ep*PKPdf pPKPdf 15 29 57.6 -0.6
LVC *e*SKP 15 33 10.5
LVC LR LR
comp=Z,1μm,21.0s,MS5.6
ARE Arequipa 134.50 120 *e*PKIKP PKPdf 15 29 45.0 +1.0
ROSC El Rosal 137.28 89 PKhKP 15 29 44.0
comp=Z,13nm,0.5s,baz=86,slow=20,SNR=4.2
LPAZ La Paz 137.45 122 PKhKP 15 29 39.9
comp=Z,2.2nm,0.6s,baz=321,slow=2.6,SNR=9.0
LPAZ PKP PKPdf 15 29 51.4 +1.9
comp=Z,13nm,0.7s,baz=280,slow=3.5,SNR=23
LPAZ La Paz 137.45 122 *e*PKHKP 15 29 38.1
LPAZ *e* 15 29 51.3
LPAZ *e* 15 30 05.8
LPAZ MLR MLR
comp=Z,589nm,19.0s
LPAZ La Paz 137.45 122 *e*PKPpre 15 29 38.1
LPAZ *e*PKPdf PKPdf 15 29 51.2 +1.8
LPAZ PKP PKPdf 15 29 51.4 +1.9
LPAZ *ep*PKPdf pPKPdf 15 30 05.8 +0.3
LPAZ LR LR
comp=Z,589nm,19.0s,MS5.3
ESLA Sonseca Array 138.37 328 PFAKE 15 30 00.0 +8.8
ESLA LR LR
comp=Z,16μm,22.0s
PAB San Pablo 138.67 328 PFAKE 15 30 00.0 +8.3
PAB LR LR
comp=Z,2μm,21.0s,MS5.9
BBSR BB Station 139.41 46 PFAKE 15 30 10.0 +17
BBSR LR LR
comp=Z,2μm,20.0s,MS5.9
SDV Santo Domingo 141.04 83 *e*PKPdf PKPdf 15 29 53.8 -2.2
SDV *ep*PKPdf pPKPdf 15 30 10.5 -1.5
SDV LR LR
comp=Z,458nm,22.0s,MS5.2
EVO Evora 141.31 330 *e*PKIKP PKPdf 15 29 55.0 -1.5
comp=Z,7.0nm,0.7s
EVO *e*R
comp=Z,3μm,22.8s
SIV San Ignacio 143.39 127 PKhKP 15 29 56.9
comp=Z,28nm,0.7s,baz=237,slow=3.7,SNR=66
MDT Midelt 143.49 320 PKP PKPdf 15 29 59.1 -1.2
comp=Z,1.1nm,0.6s,baz=43,slow=6.5,SNR=4.6
CPD Cerro la Pandu 144.31 67 *e*PKIKP PKPdf 15 30 02.6 +0.8
MTP Monte Pirata 144.62 67 *e*PKPdf PKPdf 15 30 00.7 -1.6
SAML Samuel 145.02 115 *e*PKPdf PKPdf 15 30 01.9 -1.2
SAML *ep*PKPdf pPKPdf 15 30 16.6 -2.5
SAML LR LR
comp=Z,856nm,21.0s,MS5.5
SHEL Horse Pasture 146.47 229 *e*PKPbc PKPbc 15 30 08.8 +1.8
SHEL *ep*PKPdf pPKPdf 15 30 22.6 +1.1
SHEL LR LR
comp=Z,622nm,21.0s,MS5.4
TORD Torodi Ar. Bea 146.61 285 PKPbc PKPbc 15 30 06.6 -0.7
comp=Z,33nm,0.7s,baz=65,slow=2.8,SNR=69
PCRV Puerto La Cruz 146.88 81 PKPbc PKPbc 15 30 07.3 -0.9
comp=Z,24nm,0.5s,baz=89,slow=1.1,SNR=15
LZG Guadaloupe-1 148.62 69 *e*P PKPbc 15 30 13.1 +0.2
TBG Guadaloupe-3 148.82 69 *e*P PKPbc 15 30 13.3 0.0
MGG Marie-Galante 149.10 69 *e*P PKPbc 15 30 13.9 -0.1
DEG La Desirade 149.24 68 *e*P PKPbc 15 30 14.8 +0.5
FDF Fort de France 149.55 71⇑ *e*P PKPbc 15 30 16.4 +1.2
BIM Bigot 149.68 72 *e*P PKPbc 15 30 17.6 +2.1
CAM4 Nova Friburgo 149.75 159 *e*P PKPdf 15 30 12.3 +1.5
CAM4 *i* 15 30 16.5
CAM4 *i* 15 30 25.6
CAM4 *i* 15 30 32.1
CAM4 *i* 15 30 38.7
BBGH Gun Hill 151.40 74 PFAKE 15 30 30.0 +17
BBGH LR LR
comp=Z,3μm,21.0s,MS6.1
CAM3 Guarapari 151.94 162⇑ *i*P PKPbc 15 30 21.5 +0.7
CAM3 *i* 15 30 25.1
CAM3 *i* 15 30 35.7
CAM3 *i* 15 30 39.8
LIC Lamto 153.75 272 *e*PKIKP PKPdf 15 30 16.8 -0.1
comp=Z,37nm,0.6s
LIC *e*R
comp=Z,2μm,20.8s
LIC Lamto 153.75 272 *e*PKPdf PKPdf 15 30 16.8 -0.1
LIC LR LR
comp=Z,1μm,20.8s,MS5.7
ASCN Ascension 158.03 231 PFAKE 15 30 30.0 +7.4
ASCN LR LR
comp=Z,367nm,19.0s,MS5.2
RCBR Riachuelo 167.40 159 PFAKE 15 30 40.0 +8.3
RCBR LR LR
comp=Z,2μm,22.0s

*ISCJB **11** 15:12:37.8±0.9,2431S×005×672W±0.1,h192km±20km, mb3.4/1,Error ellipse: s-maj=22.4km s-min=7.2km az=11.5*
*IDC **11** 15:12:37.4±1.5,2427S×6695W,h163km±16km,mb3.3/1, mb1 3.5/4,mb1mx3.4/17,mbtmp3.4/4,Error ellipse: s-maj=26.6km s-min=13.8km az=89.0*
*GUC **11** 15:12:40.3±0.6,2431S×6743W,h190km,ML4.1*
ISC 11 15:12:38.2±0.8,2432S×005×671W±01,h175km±20km,n13, σ1°14/16,mb3.4/1,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**315**	P	**Pn**	**15 13 20.4**	**+1.2**
	16nm,0.3s,baz=134,slow=5.2,SNR=169						
LVC				S	**Sn**	**15 13 50.8**	**-0.2**
	32nm,0.3s,baz=186,slow=23,SNR=41						
CEN1	**Los Morros**	**3.00**	**287**	*e*P	**Pn**	**15 13 28.1**	**+1.5**
CEN1				*i* S	**Sn**	**15 14 04.3**	**+0.2**
CEN1				AML	AML	15 14 08.0	
	comp=E,366nm,0.9s						
CPN1	**Cerro Paranal**	**3.04**	**264**⇑	*i*P	**Pn**	**15 13 28.0**	**+1.0**
CPN1				*i* S	**Sn**	**15 14 05.2**	**+0.2**
CPN1				AML	AML	15 14 11.9	
	comp=E,258nm,0.7s						
ANCH	**Antofagasta**	**3.10**	**281**⇑	*i*P	**Pn**	**15 13 28.7**	**+0.8**
ANCH				*i* S	**Sn**	**15 14 04.9**	**-1.6**
ANCH				AML	AML	15 14 08.3	
	comp=E,655nm,0.5s						
CDCH	**Caldera**	**4.35**	**230**	*i* P	**Pn**	**15 13 43.0**	**-0.6**
CDCH				*i* S	**Sn**	**15 14 32.6**	**-2.2**
CFAA	**Coronel Fontan**	**7.33**	**188**	P	**Pn**	**15 14 24.4**	**+1.8**
	comp=E,0.0nm,0.3s,baz=4.7,slow=14,SNR=4.3						
CFAA				S	**Sn**	**15 15 44.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=134,slow=20,SNR=8.1						
LPAZ	**La Paz**	**8.05**	**353**	P	**Pn**	**15 14 32.2**	**+0.1**
	comp=E,0.8nm,0.3s,baz=157,slow=7.4,SNR=17						
LPAZ				S	**Sn**	**15 16 01.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=270,slow=21,SNR=3.4						
SIV	**San Ignacio**	**10.02**	**35**	P	**Pn**	**15 14 55.4**	**-2.6**
	comp=E,1.0nm,0.3s,baz=218,slow=14,SNR=29						
TORD	**Torodi Ar. Bea**	**76.76**	**69**	P	**P**	**15 24 10.2**	**0.0**
	comp=E,0.5nm,0.6s,mb3.4,baz=258,slow=5.0,SNR=8.4						
ASAR	**Alice Springs**	**128.14**	**205**	PKP	PKPdf	15 31 24.6	+1.0
	comp=E,0.4nm,0.5s,baz=129,slow=1.6,SNR=4.9						
WRA	**Warramunga Arr**	**131.31**	**207**	PKP	PKPdf	15 31 30.7	+1.2
	comp=E,0.5nm,0.5s,baz=157,slow=1.7,SNR=8.4						
ZAL	**Zalesovo**	**143.71**	**28**	PKP	PKPbc	15 31 50.5	-1.9
	comp=E,0.9nm,0.5s,baz=189,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**146.82**	**40**	PKPbc	PKPbc	15 31 59.9	+0.2
	comp=E,1.3nm,0.6s,baz=315,slow=2.8,SNR=12						

*ATH **11** 15:17:11.0,3604N×2393E,h36km±1km,MD3.4/9,ML3.5*
*CSEM **11** 15:17:11.0,3604N×2393E,h36km,MD3.4/9,After ATH*

*ISCJB **11** 15:17:12.0±1.4,3605N±005×2398E±007,h27km±17km, Error ellipse: s-maj=12.1km s-min=5.9km az=100.5*
*NEIC **11** 15:17:12.0,3605N×2397E,h10km,ML3.1(ATH),After ATH.*
ISC 11 15:17:12.4±1.5,3601N±006×2394E±008,h25km±18km, n18,σ0°78/21,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.64**	**161**	*e*PN	**Pb**	**15 17 24.9**	**0.0**
IDI	**Anoyia**	**1.06**	**133**	P	**Pn**	**15 17 31.4**	**-0.2**
VLI	**Veliai**	**1.07**	**311**	*e*PN	**Pn**	**15 17 30.7**	**-1.1**
GVD	**Gavdhos**	**1.18**	**174**	*e*PN	**Pn**	**15 17 33.0**	**-0.2**
GVD	**Gavdhos**	**1.18**	**174**	*e*Pn	**Pn**	**15 17 34.1**	**+0.9**
NPS	**Neapolis**	**1.55**	**118**	*e*PN	**Pn**	**15 17 37.8**	**-0.6**
NPS				*e*SN	**Sn**	**15 17 57.8**	**+0.1**
APE	**Apeiranthos**	**1.66**	**50**	*e*PN	**Pn**	**15 17 39.4**	**-0.5**
NAIG	**Nisos Aigina**	**1.78**	**348**	*e*PN	**Pn**	**15 17 40.5**	**-1.1**
KVR	**Kavouri**	**1.82**	**356**	*e*PN	**Pn**	**15 17 41.5**	**-0.6**
ATH	**Athens Observa**	**1.97**	**355**	*e*PN	**Pn**	**15 17 43.8**	**-0.3**
ITM	**Ithomi**	**2.00**	**306**	P	**Pn**	**15 17 45.8**	**+1.3**
PTL	**Penteli**	**2.04**	**358**	*e*PN	**Pn**	**15 17 44.0**	**-1.0**
KARP	**Karpathos**	**2.66**	**99**	*e*PN	**Pn**	**15 17 53.8**	**+0.2**
KARP				*e*SN	**Sn**	**15 18 24.9**	**-0.1**
LKR	**Lokris**	**2.74**	**344**	*e*PN	**Pn**	**15 17 54.6**	**-0.1**
SMG	**Samos**	**2.88**	**53**	P	**Pn**	**15 17 57.7**	**+1.1**
NEO	**Neokhori**	**3.34**	**350**	P	**Pn**	**15 18 04.1**	**+1.1**
IZM	**Izmir**	**3.56**	**47**	*i* PG	**Sn**	**15 18 47.0**	**-0.4**
IZM				*i* SG	**Sn**	**15 18 48.2**	**+0.8**
PLG	**Polygyros**	**4.37**	**355**	P	**Pn**	**15 18 18.7**	**+1.5**

IDC 11 15:29:47.0±1.6,238N×12826E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.7/16,mbtmp3.9/4,MS4.7/1,Ms1 4.7/1, ms1mx3.4/38,Error ellipse: s-maj=128.3km s-min=22.9km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.97**	**165**	P	P	15 34 54.1	+1.1
	2.7nm,0.5s,baz=344,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**26.46**	**168**	P	P	15 35 25.9	+0.3
	0.6nm,0.4s,baz=355,slow=8.1,SNR=15						
ASAR				PcP	PcP	15 38 49.6	-1.2
	0.4nm,0.4s,baz=359,slow=2.0,SNR=8.3						
CBIJ	**Chichi jima**	**27.97**	**27**	LR	LR	15 46 11.0	
	comp=Z,1μm,18.6s,baz=203,slow=35						
STKA	**Stephens Creek**	**36.34**	**161**	P	P	15 36 52.3	-0.2
	4.0nm,1.0s,baz=334,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	**59.53**	**325**	P	P	15 39 53.2	+1.1
	0.3nm,0.4s,baz=118,slow=7.9,SNR=7.4						

*NEIC **11** 15:40:53.9±4.0,2184N×143.06E,h25km±28km,mb5.0/45, Error ellipse: s-maj=8.1km s-min=6.2km az=85.0*
*BJI **11** 15:41:01.7,2193N×143.17E,h112km,mB5.5,mb4.8*
*ISCJB **11** 15:41:02.0±0.2,2175N±004×14297E±004,h108km, mb4.7/77,Error ellipse: s-maj=6.1km s-min=5.2km az=59.1*
*GCMT **11** 15:41:03.5±0.4,2183N×143.10E,h12km,MW5.0/65, Moment Tensor Solution. s12,c14; s65,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.04±.14; $M_{\theta\theta}$1.25±.12; $M_{\phi\phi}$2.79±.13; $M_{r\theta}$-0.07±.74; $M_{\theta\phi}$-1.63±.10; $M_{r\phi}$0.87±.58; Best double couple: $M_0$4.02600×10^{16} NP1:ϕs323.00000°,δ40.00000°,λ-98.00000°. NP2: ϕs153.00000°,δ51.00000°,λ-83.00000°. Principal axes: T 3.8990, Plg6.0000°, Azm238.0000°; N 0.2540, Plg5.0000°, Azm329.0000°; P -4.1530, Plg82.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **11** 15:41:05.8±1.3,2185N×142.97E,h143km,mb4.7/43 Error ellipse: s-maj=10.2km s-min=6.1km az=109.7*
*IDC **11** 15:41:07.3±4.4,2177N×142.99E,h147km±41km,mb4.1/25, mb1 4.2/25,mb1mx4.1/31,mbtmp4.1/25,MS4.3/10, Ms1 4.3/10,ms1mx4.0/51,Error ellipse: s-maj=17.4km s-min=9.3km az=80.0*
ISC 11 15:41:04.0±0.2,2180N±004×14300E±004,h110km, h110km±3.5km:pP-P,n203,σ1°23/207,mb4.7/77,16C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.32**	**352**	P	**Pn**	**15 42 12.4**	**-8.7**
	36nm,0.3s,baz=253,slow=19,SNR=6.5						
CBIJ				S	**Sn**	**15 43 15.6**	**-5.6**
	22nm,0.3s,baz=277,slow=23,SNR=3.6						
GUMO	**Guam**	**8.36**	**167**	LR	LR	15 45 46.5	
	comp=Z,976nm,19.3s,baz=334,slow=34						
JHJ	**Hachijo jima 2**	**11.63**	**346**	LR	LR	15 47 50.6	
	comp=Z,1μm,18.6s,baz=92,slow=35						
JOW	**Kunigami**	**14.33**	**293**	LR	LR	15 48 56.0	
	comp=Z,1μm,18.8s,baz=124,slow=33						
MJAR	**Matsushiro Arr**	**15.27**	**345**	P	**Pn**	**15 44 24.2**	**-9.3**
	0.4nm,0.3s,baz=157,slow=11,SNR=7.0						
MJAR				LR	LR	15 49 45.8	
	comp=Z,1μm,19.5s,baz=90,slow=34						
MAJO	**Matsushiro**	**15.27**	**345**	*e*P	**Pn**	**15 44 33.0**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAJO	**Matsushiro**	**15.27**	**345**	*e*P	**Pn**	**15 44 33.0**	**-0.6**
	comp=Z,6.7nm,0.5s						
MAT	**Matsushiro**	**15.27**	**345**	P	**Pn**	**15 44 32.5**	**-1.1**
YHNB	**Yeheng**	**20.07**	**282**	P	**P**	**15 45 32.0**	**+3.4**
	comp=Z,69nm,1.1s						
KSRS	**Korea Array**	**20.33**	**323**	P	**P**	**15 45 32.0**	**+0.7**
	comp=Z,17nm,0.7s,baz=142,slow=8.8,SNR=38						
KSRS				LR	LR	15 52 17.0	
	comp=Z,409nm,19.2s,baz=180,slow=33						
KS15	**Wonju Array Si**	**20.34**	**323**	*e*P	**P**	**15 45 33.5**	**+2.0**
INCN	**Inchon**	**21.08**	**321**	P	**P**	**15 45 40.2**	**+0.8**
ASAJ	**Asahikawa**	**22.26**	**359**	P	**P**	**15 45 53.8**	**+1.8**
	comp=Z,17nm,1.0s,mb4.3,baz=237,slow=14,SNR=3.5						
ASAJ	**Asahikawa**	**22.26**	**359**	P	**P**	**15 45 53.8**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,17nm,1.0s						
TGY	**Tagaytay City**	**22.32**	**254**	P	**P**	**15 45 53.9**	**+1.3**
	comp=Z,254nm,0.3s,baz=211,slow=17,SNR=3.1						
QZH	**Quanzhou**	**22.62**	**283**	P	**P**	**15 45 53.0**	**-2.7**
QZH				AMB	AMB		
	comp=Z,2μm,5.8s						
NJ2	**Nanjing**	**23.78**	**301**	*e*P	**P**	**15 46 07.9**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
DL2	**Dalian**	**25.02**	**318**	⇑P	**P**	**15 46 17.0**	**-0.6**
DL2				*e*S	**S**	**15 50 33.1**	**-0.5**
DL2				PCS	PcS	15 53 28.3	-1.7
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
DL2				AMB	AMB		
	comp=Z,620nm,8.1s						
YSS	**Yuzh-Sakhalins**	**25.09**	**360**	P	**P**	**15 46 22.0**	**+3.7**
YSS	**Yuzh-Sakhalins**	**25.09**	**360**	*e*P	**P**	**15 46 18.8**	**+0.4**
	comp=Z,33nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**25.30**	**337**	P	**P**	**15 46 19.6**	**-0.6**
MDJ				AP	pP	15 46 41.1	-2.9
MDJ				XP	sP	15 46 53.6	-3.2
MDJ				PCP	PcP	15 49 50.9	+0.5
MDJ				S	**S**	**15 50 37.7**	**-0.4**
MDJ				LR	LR		
	comp=N,156nm,9.0s						
MDJ				LR	LR		
	comp=E,264nm,14.8s						
MDJ				LR	LR		
	comp=Z,458nm,19.3s						
MDJ	**Mudanjiang**	**25.30**	**337**	*e*P	**P**	**15 46 18.4**	**-1.8**
	comp=Z,32nm,1.2s,mb4.6						
SNY	**Shenyang**	**25.80**	**325**	⇑P	**P**	**15 46 22.7**	**-2.0**
SNY				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.6						
CN2	**Changchun**	**26.33**	**331**	*e*P	**P**	**15 46 31.7**	**+2.2**
TIA	**Tai'an**	**26.70**	**308**	*e*P	**P**	**15 46 33.2**	**+0.4**
KLR	**Kul'dur**	**28.80**	**345**	*e*P	**P**	**15 46 47.4**	**-4.1**
KLR				pmax	pmax		
	comp=E,24nm,1.4s						
KLR				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.2						
BJI	**Beijing**	**29.16**	**315**	*e*P	**P**	**15 46 57.3**	**+2.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
BJI	**Beijing**	**29.16**	**315**	*e*P	**P**	**15 46 57.3**	**+2.6**
	comp=Z,10.0nm,1.1s,mb4.4						
QIZ	**Qiongzhong**	**31.16**	**271**	P	**P**	**15 47 12.0**	**-0.4**
QIZ				S	**S**	**15 52 08.6**	**-1.7**
QIZ				AMB	AMB		
	comp=Z,25nm,1.9s,mb4.6						
QIZ				LR	LR		
	comp=E,646nm,21.6s						
QIZ				LR	LR		
	comp=Z,707nm,21.0s						
PMG	**Port Moresby**	**31.28**	**172**	P	**P**	**15 47 13.0**	**-0.5**
	comp=Z,6.3nm,0.9s,mb4.3,baz=6.7,slow=7.7,SNR=5.3						
PMG	**Port Moresby**	**31.28**	**172**	P	**P**	**15 47 13.0**	**-0.4**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMG	**Port Moresby**	**31.28**	**172**	*e*P	**P**	**15 47 11.1**	**-2.3**
HHC	**Hu-ho-hao-te**	**32.64**	**313**	*e*P	**P**	**15 47 26.5**	**+1.2**
HHC				AP	pP	15 47 49.7	+0.1
HHC				XP	sP	15 48 01.5	-0.8
HHC				PP	PP	15 48 36.3	-4.8
HHC				PCP	PcP	15 50 11.1	+2.2
HHC				S	**S**	**15 52 34.7**	**+1.5**
HHC				XS	sS	15 53 13.0	-2.5
HHC				SCP	ScP	15 53 45.9	+3.2
HHC				PCS	PcS	15 53 55.6	+1.5
HHC				SS	SS	15 54 37.1	-21
HHC				SCS	ScS	15 57 44.3	+1.8
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,702nm,6.4s						
HHC				LR	LR		
	comp=N,463nm,13.7s						
HHC				LR	LR		
	comp=E,459nm,13.2s						
HHC				LR	LR		
	comp=Z,637nm,15.2s						
HIA	**Hailar**	**33.04**	**332**	*e*P	**P**	**15 47 27.0**	**-1.8**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**33.04**	**332**	*e*P	**P**	**15 47 27.0**	**-1.8**
	comp=Z,8.1nm,0.8s,mb4.6						
PET	**Petropavlovsk**	**33.40**	**17**	P	**P**	**15 47 30.7**	**-1.3**
GYA	**Guiyang**	**33.41**	**285**	P	**P**	**15 47 33.4**	**+1.3**
GYA				AP	pP	15 47 57.8	+1.4
GYA				XP	sP	15 48 10.9	+1.9
GYA				PP	PP	15 48 47.9	-1.8
GYA				PCP	PcP	15 50 12.8	+1.8
GYA				S	**S**	**15 52 44.1**	**-1.1**
GYA				XS	sS	15 53 27.5	-0.1
GYA				SCP	ScP	15 53 46.1	+0.7
GYA				PCS	PcS	15 53 57.5	+0.7
GYA				SS	SS	15 54 53.2	-21
GYA				SCS	ScS	15 57 45.3	-1.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,5.7s						
GYA				LR	LR		
	comp=N,460nm,18.4s						
GYA				LR	LR		
	comp=E,510nm,18.6s						
GYA				LR	LR		
	comp=Z,450nm,18.0s						
CD2	**Chengdu**	**36.16**	**293**	P	**P**	**15 47 55.1**	**-0.6**
CD2				AP	pP	15 48 20.2	-0.1
CD2				XP	sP	15 48 33.2	+0.3
CD2				PP	PP	15 49 20.4	+0.4
CD2				S	**S**	**15 53 25.0**	**-2.4**
CD2				XS	sS	15 54 08.5	-1.6
CD2				SS	SS	15 55 54.0	-13
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
CD2				LR	LR		
	comp=N,780nm,19.2s						
CD2				LR	LR		
	comp=E,1μm,19.2s						
CD2				LR	LR		
	comp=Z,1μm,19.2s						
LZH	**Lanzhou**	**36.85**	**301**	*e*P	**P**	**15 48 02.3**	**+0.8**
LZH				AP	pP	15 48 25.2	-1.0
LZH				XP	sP	15 48 38.6	-0.1
LZH				PP	PP	15 49 30.8	+3.3
LZH				PCP	PcP	15 50 22.6	+1.5
LZH				*e*S	**S**	**15 53 35.2**	**-2.6**
LZH				SCP	ScP	15 53 58.5	+0.7
LZH				PCS	PcS	15 54 10.7	+1.4
LZH				XS	sS	15 54 18.3	-2.3
LZH				*e*SS	SS	15 56 08.0	-15
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH	**Lanzhou**	**36.85**	**301**	*e*P	**P**	**15 48 02.3**	**+0.8**
LZH						15 49 30.8	
LZH						15 50 22.6	
LZH				*e*S	**S**	**15 53 35.2**	**-2.6**
LZH				*e*SS	SS	15 56 08.0	-15
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**36.85**	**301**	*e*P	**P**	**15 48 02.3**	**+0.8**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	15 48 25.2	-1.0
LZH				sP	sP	15 48 38.6	-0.1
LZH				PP	PP	15 49 30.8	+3.3
LZH				PcP	PcP	15 50 22.6	+1.5
LZH				*e*S	**S**	**15 53 35.2**	**-2.6**
LZH				ScP	ScP	15 53 58.5	+0.7
LZH				PcS	PcS	15 54 10.7	+1.4
LZH				sS	sS	15 54 18.3	-2.3
LZH				*e*SS	SS	15 56 08.0	-15
KMI	**Kunming**	**36.99**	**283**	P	**P**	**15 48 04.9**	**+2.2**
KMI				AMB	AMB		
	comp=Z,14nm,2.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,402nm,5.9s						
KMI	**Kunming**	**36.99**	**283**	P	**P**	**15 48 04.9**	**+2.2**
	comp=Z,14nm,2.0s,mb4.5						
KMI				pP	pP	15 48 22.3	-5.1
KMI				sP	sP	15 48 33.4	-6.5
CIT	**Chita**	**37.78**	**330**	*e*P	**P**	**15 48 09.0**	**-0.4**
SONM	**Songino Array**	**39.15**	**320**	P	**P**	**15 48 20.0**	**-0.9**
	comp=Z,9.7nm,0.7s,mb4.8,baz=130,slow=7.6,SNR=34						
SONM	**Songino Array**	**39.15**	**320**	P	**P**	**15 48 20.0**	**-0.9**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NANT	**Nan**	**39.70**	**273**	P	**P**	**15 48 23.0**	**-2.4**
GTA	**Gaotai**	**40.67**	**306**	*e*P	**P**	**15 48 33.6**	**+0.1**
GTA				AP	pP	15 48 59.3	+0.8
GTA				XP	sP	15 49 10.4	-0.5
GTA				PP	PP	15 50 11.2	+1.9
GTA				PCP	PcP	15 50 36.8	+3.7
GTA				S	**S**	**15 54 35.6**	**+0.3**
GTA				AMB	AMB		
	comp=Z,14nm,1.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,827nm,4.9s						
GTA				LR	LR		
	comp=N,292nm,18.6s						
GTA				LR	LR		
	comp=E,336nm,21.3s						
GTA				LR	LR		
	comp=Z,461nm,16.3s						
YAK	**Yakutsk**	**41.24**	**351**	*e*P	**P**	**15 48 35.3**	**-2.8**
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.0						
YAK	**Yakutsk**	**41.24**	**351**	*e*P	**P**	**15 48 35.3**	**-2.8**
	comp=Z,26nm,1.1s,mb5.0						
CHG	**Chiang Mai**	**41.32**	**274**	⇑P	**P**	**15 48 40.9**	**+2.1**
	comp=Z,26nm,0.7s,mb5.2						
CHTO	**Chiang Mai**	**41.32**	**274**	⇑P	**P**	**15 48 41.0**	**+2.2**
	SNR=7.2						
CM31	**Chiang Mai Arr**	**41.40**	**274**	*e*P	**P**	**15 48 40.3**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.4						
SEY	**Seymchan**	**41.60**	**6**⇑	*e*P	**P**	**15 48 40.3**	**-0.7**
BOD	**Bodaibo**	**41.68**	**337**	*e*P	**P**	**15 48 40.5**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.2s,mb4.0						
BOD				pmax	pmax

comp=Z,16nm,1.1s,mb4.7,baz=356,slow=7.1,SNR=11
CTA Charters Tower 41.75 175 P **P** **15 48 43.0 +0.7**
CTA pmax pmax
comp=Z,16nm,1.1s
CTAO Charters Tower 41.75 175 *eP* **P** **15 48 43.0 +0.7**
CTAO pmax pmax
comp=Z,38nm,1.3s,mb5.0
CTAO Charters Tower 41.75 175 *eP* **P** **15 48 43.0 +0.7**
comp=Z,38nm,1.3s,mb5.0
ZAK Zakamensk 42.16 322 *eP* **P** **15 48 44.8 -0.8**
ZAK pmax pmax
comp=Z,18nm,1.3s,mb4.6
ZAK Zakamensk 42.16 322 *eP* **P** **15 48 44.8 -0.8**
comp=Z,18nm,1.3s,mb4.6
WB2 Warramunga Arr 42.34 192 *eP* **P** **15 48 45.8 -1.3**
WRA Warramunga Arr 42.34 192 P **P** **15 48 45.8 -1.2**
comp=Z,8.5nm,1.1s,mb4.4,baz=12,slow=8.6,SNR=29
WRA LR LR 16 04 39.5
comp=Z,503nm,19.5s,baz=65,slow=33
IRK Irkutsk 42.53 325 *eP* **P** **15 48 47.8 -0.8**
IRK pmax pmax
comp=Z,77nm,2.4s,mb5.0
IRK Irkutsk 42.53 325 *eP* **P** **15 48 47.8 -0.8**
comp=Z,77nm,2.4s,mb5.0
TLY Talaya 42.58 324 ⇑P **P** **15 48 49.2 +0.2**
SNR=7.8
TLY Talaya 42.58 324 *eP* **P** **15 48 49.5 +0.5**
TLY pmax pmax
comp=Z,26nm,1.4s,mb4.8
FITZ Fitzroy Crossi 43.15 205 *eP* **P** **15 48 51.9 -1.7**
comp=Z,10nm,1.0s,mb4.5
FITZ Fitzroy Crossi 43.15 205 P **P** **15 48 52.8 -0.7**
comp=Z,4.6nm,0.9s,mb4.2,baz=27,slow=12,SNR=3.6
MOY Mondy 44.03 323 *eP* **P** **15 49 00.4 -0.3**
MOY pmax pmax
comp=Z,98nm,2.6s,mb5.1
MOY Mondy 44.03 323 *eP* **P** **15 49 00.4 -0.3**
comp=Z,98nm,2.6s,mb5.1
KULM Kulim 44.13 254 *eP* **P** **15 49 02.5 +1.1**
AS31 Alice Springs 46.05 192 *eP* **P** **15 49 15.7 -1.0**
ASAR Alice Springs 46.05 192 P **P** **15 49 15.2 -1.4**
comp=Z,2.4nm,0.6s,mb4.1,baz=19,slow=8.7,SNR=42
ASAR LR LR 16 06 46.3
comp=Z,817nm,19.1s,baz=51,slow=33
PSI Prapat 46.78 252 P **P** **15 49 24.4 +2.0**
comp=Z,5.9nm,0.8s,mb4.4,baz=144,slow=5.5,SNR=5.8
PSI LR LR 16 07 39.5
comp=Z,365nm,18.5s,baz=216,slow=34
LSA Lhasa 47.04 291 *eP* **P** **15 49 26.3 +1.9**
LSA Lhasa 47.04 291 *eP* **P** **15 49 26.1 +1.7**
LSA pmax pmax
comp=Z,13nm,1.0s,mb4.6
LSA Lhasa 47.04 291 *eP* **P** **15 49 26.1 +1.8**
comp=Z,13nm,1.0s,mb4.6
MBWA Marble Bar 48.37 210 *eP* **P** **15 49 31.0 -3.6**
comp=Z,31nm,1.4s,mb4.9
BILL Bilibino 48.45 11 *eP* **P** **15 49 34.4 -0.9**
BILL pmax pmax
comp=Z,26nm,2.5s,mb4.6
BILL Bilibino 48.45 11 *eP* **P** **15 49 34.4 -0.9**
comp=Z,26nm,2.5s,mb4.6
WMQ Urumqi 50.38 309 ⇑P **P** **15 49 50.8 +0.9**
WMQ AP pP 15 50 16.8 +1.0
WMQ XP sP 15 50 28.8 +0.8
WMQ PCP PcP 15 51 07.8 +0.9
WMQ PP PP 15 51 49.3 +2.9
WMQ SCP ScP 15 54 52.3 -0.4
WMQ S **S** **15 56 53.8 -1.0**
WMQ XS sS 15 57 39.8 +0.5
WMQ AMB AMB
comp=Z,56nm,1.2s,mb5.4
WMQ LR LR
comp=N,362nm,21.8s
WMQ LR LR
comp=E,533nm,23.4s
WMQ LR LR
comp=Z,492nm,23.5s
ARMA Armidale 52.58 171 *eP* **P** **15 50 05.9 -0.4**
STKA Stephens Creek 53.39 181 P **P** **15 50 11.4 -0.8**
comp=Z,5.2nm,0.9s,mb4.6,baz=341,slow=11,SNR=7.7
STKA Stephens Creek 53.39 181 *eP* **P** **15 50 11.2 -1.1**
comp=Z,21nm,1.4s,mb5.0
ZAL Zalesovo 54.03 322 P **P** **15 50 15.9 -1.0**
comp=Z,7.6nm,0.9s,mb4.7,baz=9.3,slow=7.6,SNR=16
ZAL Zalesovo 54.03 322 P **P** **15 50 16.0 -0.9**
ZAL pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 54.50 313 *i* P **P** **15 50 19.5 -0.8**
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MK31 Makanchi Array 54.50 313 *i* P **P** **15 50 19.5 -0.8**
comp=Z,6.0nm,0.7s,mb4.7
MKAR Makanchi Array 54.50 313 P **P** **15 50 20.3 0.0**
comp=Z,3.3nm,0.6s,mb4.6,baz=92,slow=8.9,SNR=34
MKAR Makanchi Array 54.50 313 P **P** **15 50 20.3 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 55.12 322 *eP* **P** **15 50 22.3 -2.5**
KURK Kurchatov 57.28 317 P **P** **15 50 40.7 +0.6**
SNR=8.6
KURK Kurchatov 57.28 317 *eP* **P** **15 50 39.5 -0.6**
KURK pmax pmax
comp=Z,22nm,1.1s,mb5.1
ULHL Ulahol 58.69 307 P **P** **15 50 50.8 +0.8**
SNR=7.5
KSH Kashi 59.03 304 *eP* **P** **15 50 55.3 +3.0**
KSH *e*AP pP 15 51 22.1 +3.2
KSH *e*XP sP 15 51 35.0 +4.0
KSH *e*PCP PcP 15 51 43.0 +2.9
KSH *e*PP PP 15 53 09.1 +5.2
KSH *e*SCP ScP 15 55 31.2 +0.7
KSH *e*PCS PcS 15 55 40.1 -2.0
KSH *e*S **S** **15 58 51.0 +0.5**
KSH *e*XS sS 15 59 38.0 +1.8
KSH *e*PS 15 59 47.3
KSH *e*SCS ScS 16 00 30.0 -1.7
KSH *e*SS SS 16 02 48.2 +2.2
KSH LR LR
comp=N,3μm,6.8s
KSH LR LR
comp=E,3μm,7.6s
KSH LR LR
comp=Z,3μm,8.6s
TKM2 Tokmak 2 59.15 308 P **P** **15 50 54.1 +1.0**
SNR=16
KZA Kyzart 59.44 307 P **P** **15 50 57.1 +2.0**
SNR=13
KBK Karagaybulak 59.63 308 P **P** **15 50 57.1 +0.7**
SNR=5.1
CHMS Chumysh 59.76 308 P **P** **15 50 58.8 +1.5**
SNR=5.1
FRU Bishkek 59.87 308 *eP* **P** **15 50 57.0 -1.1**
FRU *e* pP 15 51 28.0 +3.3
FRU pmax pmax
comp=Z,110nm,2.3s,mb5.5
FRU Bishkek 59.87 308 *eP* **P** **15 50 57.0 -1.1**
comp=Z,110nm,2.3s,mb5.5
FRU *e* pP 15 51 28.0 +3.3
USP Ospenovka 59.94 308 P **P** **15 50 59.2 +0.7**
SNR=11
AAK Ala-Archa 59.97 308 *eP* **P** **15 50 57.9 -0.9**
AAK pmax pmax
comp=Z,16nm,1.2s,mb4.9
AAK Ala-Archa 59.97 308 *eP* **P** **15 50 57.9 -0.9**
comp=Z,16nm,1.2s,mb4.9
UCH Uchtor 59.98 307 P **P** **15 51 00.5 +1.7**
SNR=27
EKS2 Erkin-Say 60.50 308 P **P** **15 51 03.3 +0.9**
SNR=9.0
AML Almayashu 60.59 307 P **P** **15 51 04.6 +1.6**
SNR=19
SML Sawmill 60.95 30 P **P** **15 51 04.1 -1.4**
MCK McKinley 60.98 28 *eP* **P** **15 51 04.0 -1.6**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MCK McKinley 60.98 28 *eP* **P** **15 51 04.0 -1.6**
comp=Z,12nm,1.1s,mb4.8
COLA College 61.63 27 *i* P **P** **15 51 11.2 +1.2**
VOSK Vostochnaya 62.12 319 P **P** **15 51 11.9 -1.4**
VOSK pmax pmax
comp=Z,105nm,2.5s,mb5.4
VOSK Vostochnaya 62.12 319 P **P** **15 51 11.9 -1.4**
comp=Z,105nm,2.5s,mb5.4
CHKZ Chkalovo 62.35 320 *eP* **P** **15 51 13.6 -1.2**
CHKZ pmax pmax
comp=Z,25nm,1.1s,mb5.2

BVA0 Borovoye Array 62.48 319 *i* P **P** **15 51 14.6 -1.1**
BVA0 pmax pmax
comp=Z,13nm,1.4s,mb4.8
BVA0 Borovoye Array 62.48 319 *i* P **P** **15 51 14.6 -1.1**
comp=Z,13nm,1.4s,mb4.8
BVAR Borovoye Array 62.48 319 P **P** **15 51 15.4 -0.3**
comp=Z,14nm,0.6s,mb5.2,baz=91,slow=7.1,SNR=82
BVAR Borovoye Array 62.48 319 P **P** **15 51 15.4 -0.3**
BVAR pmax pmax
comp=Z,14nm,0.6s
BVAR Borovoye Array 62.48 319 P **P** **15 51 15.4 -0.3**
comp=Z,14nm,0.6s,mb5.2
BRVK Borovoye 62.55 319 ⇑P **P** **15 51 15.9 -0.2**
SNR=11
BRVK Borovoye 62.55 319 *eP* **P** **15 51 15.7 -0.4**
BRVK pmax pmax
comp=Z,29nm,1.0s,mb5.2
BRVK Borovoye 62.55 319 *eP* **P** **15 51 15.7 -0.4**
comp=Z,29nm,1.0s,mb5.2
KK31 Karatay Array 62.86 308 *i* P **P** **15 51 17.2 -1.0**
KK31 pmax pmax
comp=Z,20nm,0.9s,mb5.0
KK31 Karatay Array 62.86 308 *i* P **P** **15 51 17.2 -1.0**
comp=Z,20nm,0.9s,mb5.0
KKAR Karatay Array 62.86 308 *i* P **P** **15 51 17.2 -1.0**
KKAR pmax pmax
comp=Z,19nm,1.0s,mb5.0
KKAR Karatay Array 62.86 308 *i* P **P** **15 51 17.2 -1.0**
comp=Z,19nm,1.0s,mb5.0
ZRNK Zerenda 63.32 319 *eP* **P** **15 51 20.3 -1.0**
ZRNK pmax pmax
comp=Z,19nm,1.0s,mb5.0
INK Inuvik 67.54 24 P **P** **15 51 47.4 -1.1**
comp=Z,3.0nm,0.7s,mb4.2,baz=265,slow=6.8,SNR=6.9
INK Inuvik 67.54 24 P **P** **15 51 47.4 -1.0**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 67.54 24 *eP* **P** **15 51 47.0 -1.5**
comp=Z,142nm,1.0s,mb5.8
ARU Arti 69.08 324 ⇑*i*P **P** **15 51 57.8 -0.2**
ARU *e* 15 54 28.1
ARU *e*S S 16 00 55.1 +0.5
ARU pmax pmax
comp=Z,20nm,1.1s,mb4.9
ARU Arti 69.08 324 ⇑*i*P **P** **15 51 57.8 -0.2**
comp=Z,20nm,1.1s,mb4.9
ARU *e* 15 54 28.1
ARU *e*S S 16 00 55.1 +0.5
AKTK Aktyubinsk 70.38 317 P **P** **15 52 05.6 -0.4**
AKTO Aktyubinsk 70.38 317 P **P** **15 52 05.6 -0.4**
comp=Z,2.9nm,0.6s,mb4.3,baz=72,slow=6.4,SNR=12
AKTO Aktyubinsk 70.38 317 P **P** **15 52 05.6 -0.4**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
YKA Yellowknife Ar 76.44 28 P **P** **15 52 40.3 -1.2**
comp=Z,3.4nm,0.6s,mb4.3,baz=292,slow=5.9,SNR=18
PPT Papeete 76.73 115 LR LR 16 19 48.7
comp=Z,325nm,21.7s,baz=144,slow=30
RES Resolute Bay 77.01 13 *eP* **P** **15 52 43.5 -1.2**
comp=Z,558nm,1.1s
ARCES ARCESS Array B 78.77 341 P **P** **15 52 53.8 -0.7**
comp=Z,13nm,1.1s,mb4.7,baz=67,slow=9.3,SNR=6.2
ARCES ARCESS Array B 78.77 341 P **P** **15 52 53.8 -0.7**
ARCES pmax pmax
comp=Z,13nm,1.1s
EDM Edmonton 80.61 36 P **P** **15 53 04.0 -0.4**
OBN Obninsk 81.31 326 *eP* **P** **15 53 08.0 -0.1**
OBN *e**PP pP 15 54 00.5 +24
OBN *e* 15 56 14.5
OBN pmax pmax
comp=Z,49nm,2.3s,mb4.9
OBN Obninsk 81.31 326 ⇑*eP* **P** **15 53 08.0 -0.1**
comp=Z,49nm,2.3s,mb4.9
OBN *e*pP pP 15 54 00.5 +24
OBN *e* 15 56 14.5
BMO Blue Mountains 81.48 45 *eP* **P** **15 53 05.0 -4.0**
comp=Z,4.0nm,0.8s,mb4.3
CMB Columbia Colle 81.83 52 *eP* **P** **15 53 08.8 -2.1**
CMB pmax pmax
comp=Z,32nm,1.4s,mb5.0
CMB Columbia Colle 81.83 52 *eP* **P** **15 53 08.8 -2.1**
comp=Z,31nm,1.4s,mb5.0
KIV Kislovodsk 82.23 314*c* *i*P **P** **15 53 14.2 +1.2**
KIV pmax pmax
comp=Z,86nm,2.5s,mb5.1
KIV Kislovodsk 82.23 314 ⇑*i*P **P** **15 53 14.2 +1.2**
comp=Z,86nm,2.5s,mb5.1
GNI Garni 82.25 310 P **P** **15 53 13.5 +0.4**
comp=Z,1.9nm,0.3s,mb4.3,baz=68,slow=11,SNR=3.4
GNI Garni 82.25 310 ⇑*eP* **P** **15 53 14.3 +1.2**
GNI pmax pmax
comp=Z,29nm,1.3s
GNI Garni 82.25 310 ⇑*eP* **P** **15 53 14.3 +1.2**
comp=Z,29nm,1.3s,mb5.0
FINES FINESS Array B 83.02 334 P **P** **15 53 15.3 -1.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=78,slow=5.5,SNR=12
NVAR Mina Array Bea 83.21 51 P **P** **15 53 18.2 +0.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=274,slow=5.3,SNR=10
HLID Hailey 83.89 46 *eP* **P** **15 53 21.7 +0.2**
comp=Z,28nm,2.1s,mb4.7
KBD Kabd 84.04 299 *eP* **P** **15 53 23.6 +1.4**
KBD AMb AMB 15 53 27.4
comp=Z,160nm,1.2s,mb5.7
MIB Mutribah 84.09 300 *eP* **P** **15 53 22.9 +0.4**
MIB AMb AMB 15 53 25.5
comp=Z,51nm,0.9s,mb5.3
LRM Limekiln Ridge 84.22 43 *eP* **P** **15 53 23.7 +0.5**
NAY Al-Naaiem 84.38 299 *eP* **P** **15 53 24.2 +0.2**
NAY AMb AMB 15 53 28.1
comp=Z,42nm,1.3s,mb5.1
DAC Darwin (Calif) 84.56 53 *eP* **P** **15 53 25.8 +0.9**
QLMT Earthquake Lak 85.30 43 *eP* **P** **15 53 30.1 +1.4**
GSC Goldstone 85.53 54 *eP* **P** **15 53 30.8 +1.0**
YMR Madison River 85.67 43 *eP* **P** **15 53 31.8 +1.3**
comp=Z,42nm,1.5s,mb5.2
YNR Norris Junctio 85.83 43 *eP* **P** **15 53 34.5 +3.2**
YFT Old Faithful 85.85 44 *eP* **P** **15 53 35.1 +3.8**
BGU Big Grassy Mou 85.93 47 *eP* **P** **15 53 31.9 +0.2**
FLWY Flagg Ranch 86.10 44 *eP* **P** **15 53 34.2 +1.7**
SHPR Sheep Range 86.27 52 *eP* **P** **15 53 34.1 +0.7**
DUG Dugway 86.39 48 *eP* **P** **15 53 34.2 +0.2**
PFO Pinyon Flat Ob 86.47 55 P **P** **15 53 35.0 +0.6**
comp=Z,1.5nm,0.3s,mb4.4,baz=304,slow=4.4,SNR=5.5
PFO Pinyon Flat Ob 86.47 55 *eP* **P** **15 53 34.7 +0.3**
PFO Pinyon Flat Ob 86.47 55 P **P** **15 53 35.0 +0.6**
PFO pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
HWUT Hardware Ranch 86.63 46 *eP* **P** **15 53 34.8 -0.3**
comp=Z,24nm,1.4s,mb4.9
ARUT Antelope Range 86.98 50 *eP* **P** **15 53 37.4 +0.5**
CCUT Cedar City 87.14 51 *eP* **P** **15 53 38.9 +1.3**
JLU Jordanelle 87.15 47 *eP* **P** **15 53 38.4 +0.7**
AKASG Malin Array Be 87.32 324 P **P** **15 53 36.3 -2.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=49,slow=5.4,SNR=15
AKASG Malin Array Be 87.32 324 P **P** **15 53 36.3 -2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 87.32 324 P **P** **15 53 36.3 -2.2**
comp=Z,2.0nm,0.7s,mb4.2
PDAR Pinedale Array 87.44 45 P **P** **15 53 39.4 +0.3**
comp=Z,1.0nm,0.9s,mb3.8,baz=278,slow=4.3,SNR=5.1
MALT Malatya 87.48 310 *eP* **P** **15 53 39.7 +0.5**
MALT pmax pmax
comp=Z,15nm,1.8s,mb4.6
MALT Malatya 87.48 310 *eP* **P** **15 53 39.6 +0.4**
comp=Z,15nm,1.8s,mb4.6
LAO LASA Array 87.66 40 *eP* **P** **15 53 41.5 +1.4**
GLA Glamis 87.94 55 *eP* **P** **15 53 42.3 +0.8**
SRU San Rafael 88.46 48 *eP* **P** **15 53 43.8 -0.1**
SUW Suwalki 88.55 329 *eP* **P** **15 53 43.2 -1.1**
SUW pmax pmax
comp=Z,52nm,1.1s,mb5.5
SUW Suwalki 88.55 329 *eP* **P** **15 53 43.2 -1.1**
comp=Z,52nm,1.1s,mb5.5
NOA NORSAR Array B 88.79 339 P **P** **15 53 43.0 -2.5**
comp=Z,1.5nm,0.9s,mb4.0,baz=50,slow=4.2,SNR=2.8
NOA NORSAR Array B 88.79 339 P **P** **15 53 43.0 -2.4**
NOA pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 90.15 313 *eP* **P** **15 53 51.5 -0.2**
comp=Z,3.1nm,0.8s,mb4.5
BRTR Keskin Array B 90.15 313 P **P** **15 53 50.6 -1.1**
comp=Z,4.1nm,0.9s,mb4.5,baz=107,slow=2.9,SNR=11
BRTR Keskin Array B 90.15 313 P **P** **15 53 50.7 -1.1**
BRTR pmax pmax
comp=Z,4.0nm,1.0s

ASF Jabal al Asfar 91.31 305 LR LR 16 42 07.0
comp=Z,185nm,19.8s,baz=126,slow=40
SDCO Great Sand Dun 92.57 48 *eP* **P** **15 54 04.4 +1.3**
ANMO Albuquerque 93.28 50 ⇑*eP* **P** **15 54 07.8 +1.5**
PSZ Piszkesteto 93.91 326 P **P** **15 54 10.3 +1.1**
PSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
PSZ Piszkesteto 93.91 326 P **P** **15 54 10.3 +1.1**
comp=Z,3.1nm,0.6s,mb4.8
TORD Torodi Ar. Bea 128.54 309 PKP PKPdf 15 59 58.4 +0.4
comp=Z,0.5nm,0.5s,baz=47,slow=1.5,SNR=7.2
TORD Torodi Ar. Bea 128.54 309 PKP PKPdf 15 59 58.4 +0.4
LPAZ La Paz 150.10 85 *e*PKIKP PKPdf 16 00 38.6 +1.9
LPAZ *e* 16 00 44.3
SAML Samuel 151.76 67 *e*PKPdf PKPdf 16 00 39.9 +0.7
SAML *e*PKPbc PKPbc 16 00 45.9 +0.2
SAML *e*PKPab PKPab 16 00 53.0 -2.0

MAN 11 15:48:27.2, 1845N×12111E, h109km, mb1.6, ML3.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.89**	**206**	*e*P	Pn	15 48 47.9	+0.8
CVP	**Callao Caves**	**1.00**	**138**	*e*P	Pn	15 48 48.0	-0.3
CVP				*e*S	Sn	15 49 05.0	+0.7
PALP	**Palanan**	**1.86**	**138**	*e*P	Pn	15 48 59.3	+0.9

*IDC **11** 15:48:36.5±2.5, 6.18S×151.34E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML2.4/1, MS4.0/2, Ms1 4.0/2, ms1mx3.2/29, Error ellipse: s-maj=63.8km s-min=38.7km az=128.0*
*NEIC **11** 15:48:37.6±1.0, 6.23S×151.39E, h10km, mb4.2/2, Error ellipse: s-maj=30.3km s-min=13.7km az=124.0*
*ISCJB **11** 15:48:41.1±4.6, 6.25S±02×151.2E±0.3, h41km±35km, mb3.6/5, MS4.0/1, Error ellipse: s-maj=48.0km s-min=27.0km az=63.8*
ISC 11 15:48:40.9±6.5, 61S±02×151.2E±02, h27km±48km, n13, σ0 62/13, mb3.6/5, MS4.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.18**	**231**	Pn	**Pn**	**15 49 57.8**	**+1.2**
	0.9nm,0.3s,baz=14,slow=12,SNR=4.5						
PMG				Sn	**Sn**	**15 50 56.7**	**+1.2**
	4.6nm,0.3s,baz=187,slow=23,SNR=7.9						
PMG	**Port Moresby**	**5.18**	**231**	*e*Pn	**Pn**	**15 49 56.3**	**-0.4**
	13nm,0.9s						
PMG				*e*Sn	**Sn**	**15 50 54.6**	**-0.9**
HNR	**Honiara**	**9.26**	**111**	LR	LR	15 53 53.4	
	comp=Z,754nm,18.3s,baz=360,slow=35						
KAKA	**Kakadu**	**19.64**	**249**	*e*P	**Pn**	**15 53 08.2**	**-0.7**
	3.8nm,0.4s						
WB2	**Warramunga Arr**	**21.39**	**228**	*e*P	**P**	**15 53 26.5**	**+0.1**
WRA	**Warramunga Arr**	**21.40**	**228**	P	**P**	**15 53 26.6**	**+0.1**
	0.9nm,0.7s,mb3.2,baz=57,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**24.12**	**222**	P	**P**	**15 53 54.4**	**-0.1**
	0.6nm,0.5s,mb3.3,baz=59,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**27.17**	**198**	P	**P**	**15 54 22.6**	**+0.7**
	1.7nm,0.9s,mb3.6,baz=6.8,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**27.17**	**198**	*e*P	**P**	**15 54 20.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**15 54 26.3**	**0.0**
	2.3nm,0.7s,mb3.9,baz=57,slow=11,SNR=6.0						
FITZ				LR	LR	16 05 38.2	
	comp=Z,361nm,19.3s,MS4.0,baz=64,slow=37						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**15 54 26.3**	**0.0**
FITZ				LR	LR	16 05 38.2	
TIXI	**Tiksi**	**78.98**	**353**	*e*P	**P**	**16 00 42.5**	**+0.3**
	1.2nm,0.4s,mb4.2						
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc	PKPbc	16 08 27.7	+1.0
	1.0nm,1.1s,baz=95,slow=2.4,SNR=5.0						

*IDC **11** 16:05:36.4±2.5, 3109S×179.77E, h435km±23km, mb3.2/6, mb1 3.3/8, mb1mx3.3/16, mbtmp3.2/8, Error ellipse: s-maj=26.3km s-min=17.7km az=53.0*
*NEIC **11** 16:05:38.6±1.4, 3124S×179.64E, h457km±13km, mb4.2/3, Error ellipse: s-maj=21.8km s-min=12.2km az=50.0*
*ISCJB **11** 16:05:39.7±1.3, 3143S±0.09×179.3E±0.2, h455km±10km, mb3.8/8, Error ellipse: s-maj=23.9km s-min=11.7km az=138.2*
ISC 11 16:05:41.5±1.3, 3151S±0.09×179.2E±02, h455km±11km, n52, σ0 81/45, mb3.8/8, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.09**	**187**	*e*P	**P**	**16 07 17.4**	**+0.6**
MXZ	**Matakaoa Point**	**6.09**	**187**	PN	**P**	**16 07 17.1**	**+0.3**
PUZ	**Puketiti**	**6.60**	**187**	*e*P	**P**	**16 07 22.9**	**+0.8**
PUZ	**Puketiti**	**6.60**	**187**	PN	**P**	**16 07 22.8**	**+0.8**
PUZ				SN	**S**	**16 08 42.7**	**-1.7**
MWZ	**Matawai**	**6.95**	**191**	*e*P	**P**	**16 07 26.8**	**+1.0**
MWZ	**Matawai**	**6.95**	**191**	PN	**P**	**16 07 26.7**	**+0.9**
MWZ				SN	**S**	**16 08 51.2**	**+0.1**
URZ	**Urewera**	**6.96**	**194**	P	**P**	**16 07 26.4**	**+0.6**
	31nm,0.3s,baz=343,slow=4.7,SNR=106						
URZ				S	**S**	**16 08 52.2**	**+0.9**
	15nm,0.3s,baz=158,slow=24,SNR=18						
URZ	**Urewera**	**6.96**	**194**	*e*P	**P**	**16 07 26.4**	**+0.6**
URZ	**Urewera**	**6.96**	**194**	PN	**P**	**16 07 26.4**	**+0.6**
URZ				SN	**S**	**16 08 50.1**	**-1.2**
KNZ	**Kokohu**	**7.60**	**189**	*e*P	**P**	**16 07 33.9**	**+1.2**
KNZ	**Kokohu**	**7.60**	**189**	PN	**P**	**16 07 33.4**	**+0.7**
TSZ	**Takapari Road**	**8.94**	**196**	PN	**P**	**16 07 46.1**	**-0.9**
TCW	**Tory Channel**	**10.47**	**201**	PN	**P**	**16 08 03.1**	**-0.6**
NNZ	**Nelson**	**10.77**	**204**	*e*P	**P**	**16 08 06.2**	**-0.4**
NNZ	**Nelson**	**10.77**	**204**	PN	**P**	**16 08 06.8**	**-0.1**
THZ	**Tophouse**	**11.42**	**205**	*e*P	**P**	**16 08 14.3**	**+0.3**
THZ	**Tophouse**	**11.42**	**205**	PN	**P**	**16 08 13.7**	**-0.3**
KHZ	**Kahutara**	**11.80**	**201**	*e*P	**P**	**16 08 17.9**	**-0.1**
KHZ	**Kahutara**	**11.80**	**201**	PN	**P**	**16 08 17.8**	**-0.2**
KHZ				SN	**S**	**16 10 27.9**	**+0.7**
LTZ	**Lake Taylor**	**12.54**	**204**	PN	**P**	**16 08 26.1**	**0.0**
RPZ	**Rata Peaks**	**13.79**	**206**	P	**P**	**16 08 40.1**	**+0.5**
	2.4nm,0.3s,baz=61,slow=2.8,SNR=11						
FOZ	**Fox Glacier**	**14.21**	**209**	PN	**P**	**16 08 42.7**	**-1.2**
DZM	**Mont Dzumac**	**14.78**	**306**	P	**P**	**16 08 48.7**	**-1.4**
	0.8nm,0.3s,baz=230,slow=21,SNR=6.8						
TAU	**Tasmania Unive**	**27.69**	**237**	*e*P	**P**	**16 10 51.3**	**+0.1**
CTA	**Charters Tower**	**31.68**	**283**	P	**P**	**16 11 26.1**	**+0.2**
	3.6nm,0.8s,mb3.9,baz=113,slow=9.8,SNR=5.1						
CTAO	**Charters Tower**	**31.68**	**283**	*e*P	**P**	**16 11 25.9**	**0.0**
	2.0nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**31.93**	**259**	P	**P**	**16 11 29.8**	**+1.7**
	1.0nm,0.3s,mb3.7,baz=98,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**31.93**	**259**	*e*P	**P**	**16 11 29.7**	**+1.6**
PMG	**Port Moresby**	**37.01**	**299**	P	**P**	**16 12 12.4**	**+1.6**
	44nm,0.8s,mb4.9						
AS31	**Alice Springs**	**40.70**	**270**	*e*P	**P**	**16 12 41.0**	**+0.1**
ASAR	**Alice Springs**	**40.70**	**270**	P	**P**	**16 12 40.7**	**-0.2**
	0.8nm,0.4s,mb3.5,baz=106,slow=7.3,SNR=24						
ASPA	**Alice Springs**	**40.70**	**269**	*e*P	**P**	**16 12 41.0**	**0.0**
WB2	**Warramunga Arr**	**41.78**	**275**	*e*P	**P**	**16 12 48.8**	**-0.8**
WRA	**Warramunga Arr**	**41.80**	**275**	P	**P**	**16 12 48.9**	**-0.8**
	2.5nm,0.4s,mb4.0,baz=111,slow=8.0,SNR=112						
VNDA	**Vanda**	**46.77**	**185**	P	**P**	**16 13 29.0**	**+0.7**
	0.3nm,0.5s,mb2.9,baz=352,slow=7.0,SNR=7.4						
VNDA				ScP	ScP	16 18 01.1	-1.2
	1.0nm,0.7s,baz=6.7,slow=3.5,SNR=11						
VNDA	**Vanda**	**46.77**	**185**	P	**P**	**16 13 29.0**	**+0.7**
VNDA				ScP	ScP	16 18 01.1	-1.2
FITZ	**Fitzroy Crossi**	**50.01**	**272**	P	**P**	**16 13 52.9**	**+0.3**
	0.7nm,0.4s,mb3.3,baz=145,slow=4.1,SNR=7.4						
QSPA	**South Pole Qui**	**58.60**	**180**	*e*P	**P**	**16 14 53.9**	**+0.5**
	7.5nm,1.0s,mb4.0						
SNAA	**Sanae**	**77.10**	**179**	⇑*i*	**P**	**16 16 45.6**	**-1.2**
SNAA				*e*		16 16 47.4	
VNA2	**Neumayer--Watz**	**77.75**	**178**	⇑*i*	**P**	**16 16 49.6**	**-0.7**
	baz=189,slow=6.3						
VNA2				*e*		16 16 51.0	
VNA2				*e*		16 16 51.4	
ARCES	**ARCESS Array B**	**139.13**	**346**	PKhKP		16 24 03.5	
	2.7nm,0.9s,baz=38,slow=1.2,SNR=9.4						
ARCES				PKP	PKPdf	16 24 12.1	-3.4
	5.1nm,1.0s,baz=22,slow=1.0,SNR=4.3						
ARCES	**ARCESS Array B**	**139.13**	**346**	PKP	PKPdf	16 24 12.1	-3.4
OBN	**Obninsk**	**144.67**	**323**	*e*PKPdf	PKPdf	16 24 21.4	-4.0
FINES	**FINESS Array B**	**145.32**	**338**	PKPbc	PKPdf	16 24 22.3	-4.2
	5.8nm,0.4s,baz=53,slow=5.4,SNR=131						
FINES	**FINESS Array B**	**145.32**	**338**	PKPbc	PKPdf	16 24 22.3	-4.2
NB2	**NORSAR Subarra**	**149.43**	**349**	PKP	PKPdf	16 24 33.0	-0.2

comp=Z,0.7nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 149.43 349 PKPbc PKPdf 16 24 33.2 0.0
comp=Z,1.5nm,0.5s,baz=14,slow=4.1,SNR=5.2
NOA NORSAR Array B 149.43 349 PKPbc PKPdf 16 24 33.2 0.0
MMAI Mount Meron Ar 149.47 283 PKPbc PKPbc 16 24 36.9 -1.4
comp=Z,2.4nm,0.4s,baz=84,slow=7.6,SNR=17
HFS Hagfors 149.79 346 PKPbc PKPdf 16 24 33.8 0.0
comp=Z,1.8nm,0.4s,baz=106,slow=3.2,SNR=21
AKASG Malin Array Be 150.67 320 PKPbc PKPdf 16 24 37.0 +1.9
comp=Z,1.1nm,0.4s,baz=47,slow=3.4,SNR=9.8
BRTR Keskin Array B 150.99 296 PKPbc PKPdf 16 24 38.9 +3.2
comp=Z,1.1nm,0.5s,baz=148,slow=3.8,SNR=8.9

IDC 11 16:10:11.0±8.2, 625S×15070E, h83km±57km, mb3.8/3, mb1 3.9/4, mb1mx3.5/14, mbtmp3.8/4, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=95.1km s-min=54.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.71**	**228**	P	Pn	16 11 19.4	-0.2
	2.0nm,0.3s,baz=14,slow=8.3,SNR=4.7						
PMG				S	Sn	16 12 14.6	+1.7
	5.7nm,0.3s,baz=351,slow=23,SNR=8.5						
PMG				LR	LR	16 13 10.5	
	comp=Z,384nm,18.2s,baz=218,slow=38						
WRA	**Warramunga Arr**	**20.93**	**228**	P	P	16 14 45.9	-1.0
	3.8nm,0.8s,baz=52,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.68**	**221**	P	P	16 15 14.3	-0.7
	2.3nm,0.5s,baz=55,slow=8.7,SNR=16						
FITZ	**Fitzroy Crossi**	**27.14**	**242**	P	P	16 15 47.5	+1.2
	4.7nm,0.7s,baz=55,slow=7.2,SNR=9.2						
TORD	**Torodi Ar. Bea**	**148.72**	**285**	PKPbc	PKPbc	16 29 49.9	+1.2
	0.7nm,0.4s,baz=90,slow=2.7,SNR=7.6						

*BJI **11** 16:11:31.6, 659S×151.17E, h12km, mB5.2, mb4.9, Ms4.9, Msz4.6*
*NEIC **11** 16:11:33.7±0.2, 651S×151.17E, h10km, mb5.1/27, Error ellipse: s-maj=6.7km s-min=4.7km az=111.0*
*IDC **11** 16:11:35.2±3.8, 655S×151.13E, h16km±23km, mb4.7/15, mb1 4.8/17, mb1mx4.8/18, mbtmp4.7/17, ML3.8/2, MS4.0/6, Ms1 4.0/6, ms1mx3.6/29, Error ellipse: s-maj=19.8km s-min=11.8km az=105.0*
*ISCJB **11** 16:11:36.1±1.2, 655S±005×151.15E±005, h36km±11km, mb5.0/71, MS4.4/15, Error ellipse: s-maj=8.8km s-min=7.6km az=62.4*
*MOS **11** 16:11:36.3±0.9, 651S×151.15E, h33km, mb5.0/28, Error ellipse: s-maj=10.6km s-min=7.8km az=82.8*
ISC 11 16:11:39.5±1.0, 660S±005×15123E±005, h52km±9km, h49km±5.1km; pP-P, n193, σ1§00/163, mb5.0/71, MS4.4/15, 8C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**235**	Pn	**Pn**	**16 12 50.8**	**+0.1**
	9.3nm,0.3s,baz=63,slow=5.1,SNR=8.7						
PMG				Sn	**Sn**	**16 13 48.1**	**+2.1**
	61nm,0.3s,baz=147,slow=23,SNR=8.7						
PMG	**Port Moresby**	**4.90**	**235**	*d iP*	**Pn**	**16 12 50.5**	**-0.1**
PMG	**Port Moresby**	**4.90**	**235**	*e*Pn	**Pn**	**16 12 50.2**	**-0.5**
HNR	**Honiara**	**9.08**	**109**	Pn	**Pn**	**16 13 48.4**	**+0.5**
	1.5nm,0.3s,baz=270,slow=6.1,SNR=4.8						
HNR				LR	LR	16 16 37.8	
	comp=Z,836nm,18.3s,baz=358,slow=33						
HNR	**Honiara**	**9.08**	**109**	P	**Pn**	**16 13 48.4**	**+0.5**
HNR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,836nm,18.3s						
CTA	**Charters Tower**	**14.26**	**199**	*e*P	**Pn**	**16 14 57.6**	**-0.8**
	comp=Z,7.6nm,0.8s						
CTA	**Charters Tower**	**14.26**	**199**	Pn	**Pn**	**16 14 57.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=11						
CTA				LR	LR	16 18 54.1	
	comp=Z,331nm,20.2s,baz=8.3,slow=31						
CTAO	**Charters Tower**	**14.26**	**199**	*e*P	**Pn**	**16 14 57.6**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**14.26**	**199**	*e*P	**Pn**	**16 14 57.6**	**-0.8**
	comp=Z,11nm,0.8s						
KAKA	**Kakadu**	**19.49**	**250**	⇓*i*P	**Pn**	**16 16 01.7**	**-2.1**
	comp=Z,107nm,0.6s						
GUMO	**Guam**	**21.02**	**343**	LR	LR	16 22 53.8	
	comp=Z,245nm,18.3s,MS3.6,baz=348,slow=32						
WRAB	**Tennant Creek**	**21.08**	**229**	P	**P**	**16 16 19.9**	**+0.5**
	comp=Z,479nm,0.6s,mb6.0,SNR=22						
WRAB	**Tennant Creek**	**21.08**	**229**	*e*P	**P**	**16 16 19.6**	**+0.2**
WB2	**Warramunga Arr**	**21.08**	**229**	⇓*i*P	**P**	**16 16 18.9**	**-0.5**
WRA	**Warramunga Arr**	**21.09**	**229**	P	**P**	**16 16 19.0**	**-0.5**
	comp=Z,54nm,0.9s,mb4.9,baz=54,slow=10.0,SNR=24						
WRA				S	**S**	**16 20 12.7**	**+1.4**
	comp=Z,3.6nm,1.0s,baz=56,slow=19,SNR=4.7						
WRA				ScP	ScP	16 24 10.9	+14
	comp=Z,2.1nm,0.9s,baz=34,slow=2.4,SNR=5.5						
WRA	**Warramunga Arr**	**21.09**	**229**	P	**P**	**16 16 19.0**	**-0.5**
WRA				S	**S**	**16 20 12.7**	**+1.4**
WRA				pmax	pmax		
	comp=Z,54nm,0.9s						
WRA				smax			
	comp=N,4.0nm,1.0s						
DZM	**Mont Dzumac**	**21.27**	**138**	P	**P**	**16 16 21.2**	**-0.3**
	comp=N,17nm,0.9s,mb4.4,baz=354,slow=9.9,SNR=5.5						
DZM				LR	LR	16 23 15.4	
	comp=N,665nm,19.9s,MS4.0,baz=204,slow=33						
ARMA	**Armidale**	**23.70**	**179**	*e*P	**P**	**16 16 45.8**	**-0.7**
AS31	**Alice Springs**	**23.78**	**223**	⇓*i*P	**P**	**16 16 47.2**	**0.0**
ASAR	**Alice Springs**	**23.78**	**223**	P	**P**	**16 16 47.2**	**0.0**
	comp=N,22nm,0.7s,mb4.7,baz=55,slow=8.4,SNR=92						
ASAR				S	**S**	**16 21 03.9**	**+5.0**
	comp=N,2.4nm,0.9s,baz=40,slow=21,SNR=5.8						
ASAR				ScP	ScP	16 24 18.6	+15
	comp=N,2.3nm,0.9s,baz=41,slow=3.6,SNR=8.4						
ASAR	**Alice Springs**	**23.78**	**223**	P	**P**	**16 16 47.2**	**0.0**
ASAR				S	**S**	**16 21 03.9**	**+4.9**
ASAR				pmax	pmax		
	comp=Z,22nm,0.7s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
ASPA	**Alice Springs**	**23.78**	**223**	⇓*i*P	**P**	**16 16 47.2**	**-0.1**
STKA	**Stephens Creek**	**26.71**	**198**	⇓*i*P	**P**	**16 17 14.7**	**+0.8**
	comp=N,16nm,0.8s,mb4.6						
STKA				*e*	pP	16 17 24.8	-2.3
STKA	**Stephens Creek**	**26.71**	**198**	P	**P**	**16 17 14.7**	**+0.8**
	comp=N,21nm,0.7s,mb4.8,baz=5.5,slow=9.4,SNR=26						
STKA				LR	LR	16 27 45.2	
	comp=N,382nm,19.7s,MS4.0,baz=125,slow=36						
STKA	**Stephens Creek**	**26.71**	**198**	*e*P	**P**	**16 17 13.6**	**-0.3**
STKA				⇓*i*P		16 17 14.7	
STKA				*e*	pP	16 17 24.8	-2.3
FITZ	**Fitzroy Crossi**	**27.44**	**243**	⇓*i*P	**P**	**16 17 20.1**	**-0.3**
	comp=N,64nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.44**	**243**	P	**P**	**16 17 20.4**	**-0.1**
	comp=N,71nm,0.9s,mb5.2,baz=56,slow=9.0,SNR=50						
KAPI	**Kappang**	**31.35**	**271**	P	**P**	**16 17 54.1**	**-1.0**
	comp=N,132nm,1.1s,mb5.7,SNR=5.8						
FORT	**Forrest**	**32.42**	**219**	*e*P	**P**	**16 18 04.0**	**-0.4**
	comp=N,17nm,0.6s,mb5.0						
FORT				*e*	pP	16 18 13.9	-3.9
KKM	**Kota Kinabalu**	**37.13**	**289**	*e*P	**P**	**16 18 42.6**	**-2.4**
KLBR	**Kellerberrin**	**39.95**	**227**	*e*P	**P**	**16 19 07.7**	**-1.0**
	comp=N,15nm,1.0s,mb4.7						
JHJ	**Hachijo jima 2**	**40.96**	**345**	LR	LR	16 33 09.0	
	comp=N,217nm,19.5s,MS4.0,baz=112,slow=32						
NWAO	**Narrogin (SRO)**	**41.02**	**226**	P	**P**	**16 19 18.4**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,36nm,1.3s						
NWAO	**Narrogin (SRO)**	**41.02**	**226**	P	**P**	**16 19 18.4**	**+0.9**
	comp=Z,36nm,1.3s,mb4.8						
KSM	**Kuching**	**41.62**	**280**	*e*P	**P**	**16 19 22.3**	**-0.2**
MJAR	**Matsushiro Arr**	**44.61**	**345**	P	**P**	**16 19 48.0**	**+1.4**
	comp=Z,3.1nm,0.8s,mb4.2,baz=170,slow=7.1,SNR=6.6						
MJAR				PcP	PcP	16 21 29.4	+0.7
	comp=Z,4.7nm,0.7s,baz=162,slow=3.6,SNR=11						
MJAR	**Matsushiro Arr**	**44.61**	**345**	P	**P**	**16 19 48.0**	**+1.4**
MJAR						16 21 29.4	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAJO	**Matsushiro**	**44.61**	**345**	*e*P	**P**	**16 19 48.3**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
MAJO	**Matsushiro**	**44.61**	**345**	*e*P	**P**	**16 19 48.3**	**+1.7**
	comp=Z,29nm,1.3s,mb5.0						
MAT	**Matsushiro**	**44.61**	**345**	P	**P**	**16 19 45.9**	**-0.7**

QIZ Qiongzhong 48.07 303 ⇑P **P** **16 20 13.6 -0.2**
QIZ S **S** **16 27 18.8 +10**
QIZ AMB AMB
comp=Z,21nm,1.6s,mb4.9
QIZ LR LR
comp=E,229nm,20.3s
QIZ LR LR
comp=Z,248nm,22.9s,MS4.1
QIZ Qiongzhong 48.07 303 *e*P **P** **16 20 13.4 -0.4**
comp=Z,35nm,1.2s,mb5.3
KSRS Korea Array 48.93 335 P **P** **16 20 19.6 -0.8**
comp=Z,6.1nm,0.7s,mb4.7,baz=155,slow=7.9,SNR=14
KSRS PcP PcP 16 21 45.1 +1.2
comp=Z,4.8nm,0.7s,baz=169,slow=2.7,SNR=10
NJ2 Nanjing 49.29 323 *e*P **P** **16 20 23.6 +0.5**
NJ2 PP PP 16 22 18.3 +1.0
NJ2 S **S** **16 27 24.0 -1.5**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.6
NJ2 AMB AMB
comp=Z,300nm,5.2s
NJ2 LR LR
comp=N,820nm,21.0s,MS4.9
NJ2 LR LR
comp=E,1μm,24.3s,MS4.9
NJ2 LR LR
comp=Z,910nm,22.8s,MS4.7
WHN Wuhan 51.10 318 P **P** **16 20 37.7 +0.9**
KULM Kulim 51.85 282 *e*P **P** **16 20 41.2 -1.1**
GYA Guiyang 54.27 309 P **P** **16 21 01.4 +1.2**
GYA PCP PcP 16 22 01.6 -2.3
GYA PP PP 16 23 06.7 +4.3
GYA SCP ScP 16 25 58.4 +0.8
GYA S **S** **16 28 34.8 +0.8**
GYA SCS ScS 16 30 43.8 -1.1
GYA SS SS 16 32 17.1 +0.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,510nm,18.9s,MS4.8
GYA LR LR
comp=E,470nm,18.6s,MS4.8
GYA LR LR
comp=Z,480nm,19.0s,MS4.6
MDJ Mudanjiang 54.57 341 P **P** **16 21 04.2 +1.8**
MDJ AMB AMB
comp=Z,7.0nm,0.5s,mb5.0
MDJ AMB AMB
comp=Z,146nm,8.8s
CN2 Changchun 55.32 337 *e*P **P** **16 21 11.4 +3.6**
CN2 *e*S **S** **16 28 50.3 +2.3**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.6
CN2 LR LR
comp=E,200nm,12.0s,MS4.6
CN2 LR LR
comp=Z,300nm,13.0s,MS4.6
NANT Nan 55.83 298 P **P** **16 21 08.0 -3.4**
BJI Beijing 56.55 328 *e*P **P** **16 21 16.0 -0.6**
BJI AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
BJI LR LR
comp=Z,383nm,26.0s,MS4.4
BJI Beijing 56.55 328 *e*P **P** **16 21 16.0 -0.6**
comp=Z,8.0nm,1.3s,mb4.6
BJI LR LR
comp=Z,380nm,26.0s,MS4.4
KMI Kunming 56.72 306 P **P** **16 21 18.7 +0.9**
KMI AP pP 16 21 28.8 -3.3
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI Kunming 56.72 306 P **P** **16 21 18.7 +0.9**
KMI *PP pP 16 21 28.8 -3.3
KMI *SP sP 16 21 34.6 -3.4
KMI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KMI Kunming 56.72 306 P **P** **16 21 18.7 +0.9**
comp=Z,8.0nm,1.0s,mb4.7
KMI pP pP 16 21 28.8 -3.3
KMI sP sP 16 21 34.6 -3.4
XAN Xi'an 56.87 318 P **P** **16 21 17.7 -1.2**
XAN AP pP 16 21 27.7 -5.4
XAN AMB AMB
comp=Z,17nm,1.0s,mb5.0
CM31 Chiang Mai Arr 57.25 297 *e*P **P** **16 21 20.5 -1.1**
CHG Chiang Mai 57.38 297 ⇑P **P** **16 21 22.2 -0.3**
CD2 Chengdu 58.74 312 P **P** **16 21 31.4 -0.6**
CD2 PP PP 16 23 43.6 +1.3
CD2 S **S** **16 29 32.4 -0.7**
CD2 SS SS 16 33 28.4 +1.6
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=N,290nm,15.6s,MS4.7
CD2 LR LR
comp=E,400nm,18.0s,MS4.7
CD2 LR LR
comp=Z,336nm,15.5s,MS4.6
HHC Hu-ho-hao-te 59.61 326 *e*P **P** **16 21 38.3 +0.3**
HHC PCP PcP 16 22 24.8 0.0
HHC PP PP 16 23 51.3 +1.3
HHC SCP ScP 16 26 18.4 -2.8
HHC PCS PcS 16 26 25.4 -1.5
HHC S **S** **16 29 42.7 -1.7**
HHC SCS ScS 16 31 21.2 -2.6
HHC SS SS 16 33 38.8 -1.7
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,137nm,8.5s
HHC LR LR
comp=N,222nm,19.2s,MS4.6
HHC LR LR
comp=E,275nm,14.8s,MS4.6
HHC LR LR
comp=Z,248nm,17.7s,MS4.4
LZH Lanzhou 61.45 317 *e*P **P** **16 21 51.5 +1.0**
LZH PCP PcP 16 22 34.5 +2.3
LZH PP PP 16 24 10.0 +3.8
LZH *eS **S** **16 30 03.4 -4.4**
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,150nm,4.8s
LZH LR LR
comp=E,482nm,15.0s
LZH LR LR
comp=Z,775nm,16.3s,MS5.0
LZH Lanzhou 61.45 317 *e*P **P** **16 21 51.5 +1.0**
LZH *PP pP 16 22 07.5 +2.6
LZH 16 22 34.5
LZH 16 24 10.0
LZH *eS **S** **16 30 03.4 -4.4**
LZH *SS sS 16 30 30.0 -2.0
LZH pmax pmax
comp=Z,40nm,1.3s,mb5.4
LZH MLR MLR
comp=Z,780nm,16.3s,MS5.0
LZH Lanzhou 61.45 317 *e*P **P** **16 21 51.5 +1.0**
comp=Z,40nm,1.3s,mb5.4
LZH pP pP 16 22 07.5 +2.6
LZH sP sP 16 22 13.9 +3.0
LZH PcP PcP 16 22 34.5 +2.3
LZH PP PP 16 24 10.0 +3.8
LZH *eS **S** **16 30 03.4 -4.4**
LZH sS sS 16 30 30.0 -2.0
LZH *eSS SS 16 33 10.0 -59
LZH LR LR
comp=Z,780nm,16.3s,MS5.0
HIA Hailar 62.05 337 *e*P **P** **16 21 52.9 -1.7**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 62.05 337 *e*P **P** **16 21 52.9 -1.7**
comp=Z,10nm,0.9s,mb5.0
CASY Casey 65.85 197 *e*P **P** **16 22 18.2 -1.4**
comp=Z,14nm,1.2s,mb4.9
SHL Shillong 65.89 302 *e*P **P** **16 22 21.1 +1.3**

GTA Gaotai 65.93 318 *e*P **P** **16 22 20.4 +0.4**
GTA PCP PcP 16 22 52.1 +1.6
GTA PP PP 16 24 47.6 +2.0
GTA SCP 16 26 50.2
GTA PCS 16 26 55.1
GTA S S 16 31 03.6 +0.1
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,143nm,6.5s
GTA LR LR
comp=N,183nm,17.5s,MS4.5
GTA LR LR
comp=E,150nm,17.1s,MS4.5
GTA LR LR
comp=Z,210nm,17.1s,MS4.4
SONM Songino Array 67.02 329 P **P** **16 22 27.4 +0.4**
comp=Z,6.1nm,0.7s,mb4.8,baz=133,slow=5.3,SNR=20
SONM Songino Array 67.02 329 P **P** **16 22 27.4 +0.4**
SONM pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 67.98 306 *e*P **P** **16 22 33.7 +0.6**
LSA *e*PP pP 16 22 46.2 -1.5
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LSA Lhasa 67.98 306 *e*P **P** **16 22 33.6 +0.6**
comp=Z,7.5nm,0.8s,mb4.8
LSA *epP pP 16 22 46.2 -1.4
SEY Seymchan 69.33 1⇑*e*P **P** **16 22 41.0 -0.5**
ZAK Zakamensk 70.22 330⇓*i*P **P** **16 22 46.6 -0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YAK Yakutsk 70.42 349⇑*e*P **P** **16 22 46.8 -1.4**
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.9
YAK Yakutsk 70.42 349 *e*P **P** **16 22 46.7 -1.5**
comp=Z,12nm,0.8s,mb4.9
BOK Bokaro 70.50 298 *e*P **P** **16 22 49.4 +0.7**
BOK AMb AMB 16 22 51.0
comp=Z,12nm,0.9s,mb4.8
BOD Bodaibo 70.91 340 *e*P **P** **16 22 49.8 -1.4**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VNDA Vanda 71.11 178 P **P** **16 22 52.3 0.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=326,slow=6.6,SNR=22
VNDA Vanda 71.11 178 P **P** **16 22 52.3 -0.1**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 71.11 178 *e*P **P** **16 22 52.4 0.0**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 71.11 178 *e*P **P** **16 22 52.4 +0.1**
comp=Z,8.4nm,1.1s,mb4.6
VIS Vishakhapatnam 71.23 291 *e*P **P** **16 22 51.8 -1.3**
VIS AMb AMB 16 22 54.4
comp=Z,37nm,1.9s,mb5.0
SBA Scott Base 71.68 177 *e*P **P** **16 22 56.5 +0.7**
SBA pmax pmax
comp=Z,30nm,1.9s,mb4.9
SBA Scott Base 71.68 177 *e*P **P** **16 22 56.5 +0.6**
comp=Z,30nm,1.9s,mb4.9
PALK Pallekele 71.69 280 *e*P **P** **16 22 57.1 +1.2**
comp=Z,27nm,1.0s,mb5.1
MIR Mirnyy 71.70 201*c iP* **P** **16 22 59.0 +3.1**
MIR *i* pP 16 23 16.0 +5.4
MIR pmax pmax
comp=Z,20nm,1.0s,mb5.0
GUN Gumba 71.72 302 *e*P **P** **16 22 56.2 +0.1**
comp=Z,29nm,0.7s,mb5.3
PKI Pulchoki 72.02 302 *e*P **P** **16 22 57.2 -0.6**
comp=Z,28nm,1.1s,mb5.1
KKN Kakani 72.19 302 *e*P **P** **16 22 58.3 -0.6**
comp=Z,23nm,1.0s,mb5.1
DMN Daman 72.29 302 *e*P **P** **16 22 59.5 +0.1**
comp=Z,43nm,1.0s,mb5.3
GKN Gorkha 72.80 302 *e*P **P** **16 23 02.2 -0.3**
comp=Z,43nm,1.1s,mb5.3
MDRS Chennai 73.15 286 *e*P **P** **16 23 05.7 +1.1**
MDRS AMb AMB 16 23 07.6
comp=Z,17nm,0.2s,mb5.6
KOLN Koldanda 73.61 301 *e*P **P** **16 23 07.1 -0.2**
comp=Z,27nm,1.0s,mb5.1
BILL Bilibino 75.22 6 *e*P **P** **16 23 16.4 -0.2**
BILL pmax pmax
comp=Z,38nm,1.0s,mb5.3
BILL Bilibino 75.22 6⇓*i*P **P** **16 23 16.1 -0.5**
comp=Z,32nm,0.9s,mb5.3
TRD Trivandrum 75.54 281 *e*P **P** **16 23 19.6 +1.2**
TRD AMb AMB 16 23 21.6
comp=Z,46nm,1.0s,mb5.4
HYB Hyderabad 75.61 290 *i* P **P** **16 23 19.0 +0.1**
HYB Hyderabad 75.61 290 *e*P **P** **16 23 19.0 +0.1**
NGP Nagpur 75.94 294 *e*P **P** **16 23 20.2 -0.5**
NGP AMb AMB 16 23 21.9
comp=Z,25nm,2.0s,mb4.8
WMQ Urumqi 76.01 318⇓*i*P **P** **16 23 20.5 -0.6**
WMQ PCP PcP 16 23 33.0 -0.2
WMQ PP PP 16 26 13.5 +1.3
WMQ PPP 16 28 00.5
WMQ S S 16 32 58.0 -2.3
WMQ SKS 16 33 21.0
WMQ AMB AMB
comp=Z,14nm,1.3s,mb4.7
WMQ AMB AMB
comp=Z,79nm,7.9s
WMQ LR LR
comp=N,114nm,35.9s,MS4.3
WMQ LR LR
comp=E,276nm,37.6s,MS4.3
WMQ LR LR
comp=Z,118nm,25.0s
BHPL Bhopal 77.87 295 *e*P **P** **16 23 31.8 +0.2**
BHPL AMb AMB 16 23 32.4
comp=Z,23nm,0.6s,mb5.3
MNGI Mangalore 78.33 285 *e*P **P** **16 23 34.9 +0.8**
MNGI AMb AMB 16 23 36.7
comp=Z,33nm,2.3s,mb4.8
SVW2 Sparrevohn 79.08 23 *e*P **P** **16 23 38.6 +0.4**
NDI New Delhi 79.28 301 *e*P **P** **16 23 38.0 -1.3**
KAD Karad 79.69 289 *e*P **P** **16 23 42.0 +0.4**
KAD AMb AMB 16 23 43.1
comp=Z,61nm,1.2s,mb5.4
POO Poona 80.22 290 *ex* x 16 23 37.5
POO *ex* x 16 24 19.2
POO AMb AMB 16 24 20.7
comp=Z,52nm,1.0s,mb5.4
MKAR Makanchi Array 80.65 319 P **P** **16 23 46.3 -0.5**
comp=Z,12nm,1.1s,mb4.7,baz=101,slow=6.3,SNR=39
MKAR Makanchi Array 80.65 319 P **P** **16 23 46.3 -0.5**
MKAR pmax pmax
comp=Z,12nm,1.1s
AJM Ajmer 81.03 298 *e*P **P** **16 23 48.0 -0.8**
AJM AMb AMB 16 23 51.2
comp=Z,34nm,1.1s,mb5.2
ZAL Zalesovo 81.79 327 P **P** **16 23 51.4 -1.4**
comp=Z,3.2nm,0.7s,mb4.4,baz=357,slow=6.3,SNR=19
ZAL Zalesovo 81.79 327 P **P** **16 23 51.4 -1.4**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
PMR Palmer 81.96 25 *e*P **P** **16 23 51.8 -1.9**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMR Palmer 81.96 25 *e*P **P** **16 23 51.8 -1.8**
comp=Z,9.2nm,0.8s,mb4.8
SML Sawmill 82.39 25 *e*P **P** **16 23 56.2 +0.2**
SML *e*PP pP 16 24 12.2 +1.3
IMA2 Indian Mountai 82.66 20 *e*P **P** **16 23 57.1 -0.2**
KSH Kashi 82.92 311 *e*P **P** **16 24 00.2 +1.5**
KSH *ePP PP 16 27 12.1 +2.5
KSH *ePPP 16 29 05.1
KSH *eS S 16 34 12.1 -1.3
KSH *eSS SS 16 39 40.0 +2.6
KSH LR LR
comp=Z,441nm,10.2s,MS5.1
NVS Novosibirsk 82.98 327 *e*P **P** **16 23 57.1 -1.9**
NVS pmax pmax
comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,14nm,1.6s
NVS pmax pmax
comp=Z,14nm,1.6s,mb4.7
MCK McKinley 83.11 23 *e*P **P** **16 23 58.9 -0.8**
MCK pmax pmax
comp=Z,18nm,1.1s,mb5.0
MCK McKinley 83.11 23 *e*P **P** **16 23 58.9 -0.7**

	comp=Z,18nm,1.1s,mb5.0								
DIV	**Divide**	**83.16**	**26**	*e*P		**P**		**16 24 00.3**	**+0.4**
	comp=Z,57nm,1.0s,mb5.6								
MAW	**Mawson**	**83.32**	**203**	*e*P		**P**		**16 24 01.1**	**+0.3**
	comp=Z,12nm,1.4s,mb4.7								
MAW	**Mawson**	**83.32**	**203**	P		**P**		**16 24 00.3**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.8,baz=82,slow=5.3,SNR=11								
MAW	**Mawson**	**83.32**	**203**	*e*P		**P**		**16 24 01.1**	**+0.3**
MAW				pmax		pmax			
	comp=Z,12nm,1.4s								
QSPA	**South Pole Qui**	**83.38**	**180**	*e*P		**P**		**16 24 01.3**	**+0.3**
	comp=Z,10.0nm,0.8s,mb4.9								
ULHL	**Ulahol**	**83.42**	**314**	P		**P**		**16 24 02.2**	**+0.9**
	SNR=7.4								
TKM2	**Tokmak 2**	**84.05**	**314**	P		**P**		**16 24 04.5**	**0.0**
	SNR=10								
KZA	**Kyzart**	**84.09**	**313**	P		**P**		**16 24 06.2**	**+1.5**
	SNR=33								
COLA	**College**	**84.09**	**22**	*e*P		**P**		**16 24 03.8**	**-0.9**
COLA	**College**	**84.09**	**22**	*e*P		**P**		**16 24 03.5**	**-1.1**
	comp=Z,14nm,0.6s,mb5.3								
COLA				*e*pP		pP		16 24 19.5	-0.2
KURK	**Kurchatov**	**84.22**	**322**	*e*P		**P**		**16 24 04.7**	**-0.7**
KURK				pmax		pmax			
	comp=Z,36nm,1.0s,mb5.5								
KURK	**Kurchatov**	**84.22**	**322**	*e*P		**P**		**16 24 04.7**	**-0.6**
	comp=Z,36nm,1.0s,mb5.5								
KBK	**Karagaybulak**	**84.44**	**314**	P		**P**		**16 24 08.2**	**+1.7**
	SNR=9.4								
UCH	**Uchtor**	**84.65**	**313**	P		**P**		**16 24 08.9**	**+1.4**
	SNR=27								
CHMS	**Chumysh**	**84.67**	**314**	P		**P**		**16 24 08.8**	**+1.2**
	SNR=12								
FRU	**Bishkek**	**84.72**	**314**	*e*P		**P**		**16 24 08.0**	**+0.1**
FRU				pmax		pmax			
	comp=Z,50nm,2.2s,mb5.3								
AAK	**Ala-Archa**	**84.76**	**314**	P		**P**		**16 24 07.3**	**-0.8**
	comp=Z,142nm,0.7s,SNR=12								
AAK	**Ala-Archa**	**84.76**	**314**	P		**P**		**16 24 09.8**	**+1.7**
	SNR=21								
AAK	**Ala-Archa**	**84.76**	**314**⇑	*e*P		**P**		**16 24 07.6**	**-0.5**
AAK				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.2								
USP	**Ospenovka**	**84.91**	**314**	P		**P**		**16 24 09.6**	**+0.8**
	SNR=28								
AML	**Almayashu**	**85.22**	**313**	P		**P**		**16 24 11.8**	**+1.4**
	SNR=49								
EKS2	**Erkin-Say**	**85.28**	**314**	P		**P**		**16 24 12.0**	**+1.3**
	SNR=14								
EGAK	**Eagle**	**86.61**	**23**	*e*P		**P**		**16 24 17.5**	**+0.2**
	comp=Z,21nm,0.9s,mb5.4								
DAWY	**Dawson**	**87.06**	**24**	*e*P		**P**		**16 24 20.1**	**+0.7**
BRVK	**Borovoye**	**89.81**	**323**	*e*P		**P**		**16 24 31.1**	**-1.3**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.7								
BRVK	**Borovoye**	**89.81**	**323**	*e*P		**P**		**16 24 31.1**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.7								
INK	**Inuvik**	**90.68**	**21**	P		**P**		**16 24 35.8**	**-0.7**
	comp=Z,13nm,0.9s,mb5.2,baz=247,slow=4.3,SNR=8.9								
INK	**Inuvik**	**90.68**	**21**	*e*P		**P**		**16 24 35.9**	**-0.6**
	comp=Z,519nm,1.0s								
SYO	**Syowa Base**	**91.47**	**200**⇑	*e*P		**P**		**16 24 39.0**	**-1.2**
SYO	**Syowa Base**	**91.47**	**200**⇑	*e*PcP		PcP		16 24 41.6	+0.5
NVAR	**Mina Array Bea**	**94.42**	**52**	P		**P**		**16 24 55.4**	**+1.6**
	comp=Z,3.8nm,0.8s,mb4.9,baz=264,slow=7.2,SNR=14								
YKA	**Yellowknife Ar**	**97.73**	**28**	P		**P**		**16 25 10.1**	**+1.3**
	comp=Z,2.1nm,0.7s,mb4.8,baz=273,slow=4.5,SNR=5.0								
YKA	**Yellowknife Ar**	**97.73**	**28**	P		**P**		**16 25 10.1**	**+1.3**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRG	**Berggiesshubel**	**123.42**	**329**	*e*P		PKPdf		16 30 31.2	+0.4
	comp=Z,2.9nm,1.1s								
CLL	**Collm**	**123.63**	**330**	*e*PKPdf		PKPdf		16 30 32.0	+0.8
	comp=Z,13nm,1.4s								
GERES	**GERESS Array B**	**124.73**	**327**	PKP		PKPdf		16 30 33.6	+0.3
	comp=Z,3.2nm,0.9s,baz=38,slow=2.4,SNR=10								
GERES	**GERESS Array B**	**124.73**	**327**	PKIKP		PKPdf		16 30 33.6	+0.3
GERES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GRA1	**Grafenberg Arr**	**125.52**	**329**	*e*PKP		PKPdf		16 30 35.1	+0.3
GRF	**Grafenberg Arr**	**125.52**	**329**	*e*PKPdf		PKPdf		16 30 35.1	+0.3
DAVOX	**Davos**	**128.03**	**327**	PKP		PKPdf		16 30 40.4	+0.8
	comp=Z,4.7nm,0.8s,baz=276,slow=20,SNR=5.2								
GIVF	**Givet**	**128.33**	**333**	*e*PKIKP		PKPdf		16 30 40.2	0.0
CDF	**Champ du Feu**	**128.34**	**330**	*e*PKIKP		PKPdf		16 30 40.3	+0.1
BAIF	**Baives**	**128.64**	**333**	*e*PKIKP		PKPdf		16 30 40.2	-0.6
HINF	**Hinteralfeld**	**128.94**	**330**	*e*PKIKP		PKPdf		16 30 41.0	-0.3
	comp=Z,19nm,1.2s								
HAU	**Haudompre**	**129.07**	**330**	*e*PKIKP		PKPdf		16 30 41.6	0.0
MEZF	**Maizieres J'vi**	**129.35**	**331**	*e*PKIKP		PKPdf		16 30 42.0	-0.1
CABF	**La Chapelle**	**130.14**	**329**	*e*PKIKP		PKPdf		16 30 43.4	-0.2
	comp=Z,104nm,1.8s								
LPL	**La Plagne**	**130.52**	**328**	*e*PKIKP		PKPdf		16 30 44.5	+0.2
LPG	**La Plagne**	**130.53**	**327**	*e*PKIKP		PKPdf		16 30 44.6	+0.2
	comp=Z,8.2nm,0.7s								
LOR	**Lormes**	**130.79**	**331**	*e*PKIKP		PKPdf		16 30 44.6	-0.3
MBDF	**Montbardon**	**131.01**	**327**	*e*PKIKP		PKPdf		16 30 45.3	0.0
PGF	**Pioggiola**	**131.09**	**323**	*e*PKIKP		PKPdf		16 30 45.6	+0.2
	comp=Z,48nm,1.1s								
SSF	**Saint Saulge**	**131.11**	**331**	*e*PKIKP		PKPdf		16 30 45.8	+0.3
	comp=Z,7.0nm,0.9s								
SMF	**Signal de Mont**	**131.24**	**330**	*e*PKIKP		PKPdf		16 30 45.9	+0.2
ORIF	**Oris-en-Rattie**	**131.37**	**327**	*e*PKIKP		PKPdf		16 30 46.0	0.0
AVF	**Avril sur Loir**	**131.38**	**331**	*e*PKIKP		PKPdf		16 30 46.0	0.0
FLN	**La Foliniere**	**131.64**	**335**	*e*PKIKP		PKPdf		16 30 46.6	+0.1
	comp=Z,12nm,0.8s								
VIVF	**Saint-Julien-l**	**132.05**	**328**	*e*PKIKP		PKPdf		16 30 47.4	+0.2
SMRF	**Simiane la Rot**	**132.16**	**327**	*e*PKIKP		PKPdf		16 30 47.2	-0.2
TCF	**Toulx Ste Croi**	**132.29**	**331**	*e*PKIKP		PKPdf		16 30 48.1	+0.4
	comp=Z,13nm,0.9s								
SGMF	**Saint Gilles**	**132.89**	**336**	*e*PKIKP		PKPdf		16 30 49.0	+0.2
	comp=Z,139nm,1.7s								
LASF	**Ste Croix**	**133.01**	**328**	*e*PKIKP		PKPdf		16 30 49.0	0.0
CAF	**Calviac**	**133.34**	**330**	*e*PKIKP		PKPdf		16 30 49.6	-0.1
LFF	**La Frestale**	**133.98**	**331**	*e*PKIKP		PKPdf		16 30 50.8	-0.1
MTLF	**Montolieu**	**134.38**	**328**	*e*PKIKP		PKPdf		16 30 51.6	0.0
	comp=Z,11nm,1.1s								
KEST	**Kesra**	**134.61**	**315**	PKP		PKPdf		16 30 53.8	+1.8
	comp=Z,1.3nm,0.7s,baz=265,slow=4.8,SNR=3.5								
LPAZ	**La Paz**	**134.90**	**121**	PKP		PKPdf		16 30 55.3	+2.7
	comp=Z,1.9nm,0.8s,baz=53,slow=3.6,SNR=7.2								
LPAZ	**La Paz**	**134.90**	**121**	PKIKP		PKPdf		16 30 55.3	+2.7
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**134.90**	**121**	*e*PKPdf		PKPdf		16 30 54.9	+2.3
EVO	**Evora**	**143.07**	**332**	*e*PKIKP		PKPdf		16 31 06.8	-0.7
	comp=Z,4.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKP		PKPdf		16 31 18.9	+0.9
	comp=Z,15nm,0.7s,baz=54,slow=1.2,SNR=8.6								
TORD				PKPbc		PKPbc		16 31 23.4	+1.0
	comp=Z,15nm,0.7s,baz=50,slow=1.0,SNR=65								
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKP		PKPdf		16 31 18.9	+0.9
TORD				PKPbc		PKPbc		16 31 23.4	+1.0
LIC	**Lamto**	**156.40**	**270**	*e*PKIKP		PKPdf		16 31 24.2	-4.2
	comp=Z,10nm,0.7s								

IDC 11 16:25:40.6±13.0, 2196N×14326E, h159km±111km, mb3.3/7, mb1 3.5/7, mb1mx3.3/21, mbtmp3.3/7, Error ellipse: s-maj=151.1km s-min=16.1km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.35**	**323**	P	P	16 30 05.3	+0.7
	1.5nm,0.6s,baz=134,slow=7.0,SNR=7.1						
SONM	**Songino Array**	**39.19**	**320**	P	P	16 32 52.4	-0.6
	0.9nm,0.5s,baz=136,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**42.55**	**192**	P	P	16 33 21.3	+0.7
	0.4nm,0.5s,baz=17,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**46.25**	**192**	P	P	16 33 49.5	-0.4
	0.5nm,0.7s,baz=13,slow=9.9,SNR=8.9						
ZAL	**Zalesovo**	**54.06**	**322**	P	P	16 34 48.0	-0.7
	1.0nm,0.5s,baz=10,slow=9.4,SNR=4.9						
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	16 34 53.0	+0.5
	0.4nm,0.6s,baz=96,slow=8.6,SNR=7.2						
FINES	**FINESS Array B**	**82.98**	**334**	P	P	16 37 48.0	+0.1
	4.1nm,1.1s,baz=77,slow=6.0,SNR=2.8						

IDC 11 16:36:35.2±6.5, 2224N×14497E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/20, mbtmp3.5/5, Error ellipse: s-maj=245.9km s-min=22.6km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.13**	**320**	P	P	16 41 23.2	+1.7
	1.3nm,0.8s,baz=147,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**43.19**	**195**	P	P	16 44 38.1	+0.3
	0.4nm,0.5s,baz=16,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**46.88**	**194**	P	P	16 45 07.4	+0.3
	0.3nm,0.6s,baz=17,slow=9.4,SNR=10						
ZAL	**Zalesovo**	**54.84**	**321**	P	P	16 46 07.0	-0.1
	0.6nm,0.3s,baz=18,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**55.56**	**312**	P	P	16 46 11.4	-0.9
	0.3nm,0.6s,baz=90,slow=9.8,SNR=6.3						

MAN 11 16:59:28.2, 1048N×12517E, h35km, mb2.5, ML4.0, MS3.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.46**	**222**	*e*P	Pn	16 59 39.8	+1.5
PLP	**Palo**	**0.71**	**345**	*i* P	Pn	16 59 42.6	+0.8
PLP				*e*S	Sn	16 59 53.0	+1.6
SCPH	**Surigao**	**0.76**	**155**	*e*P	Pn	16 59 42.7	+0.3
SCPH				*e*S	Sn	16 59 54.7	+2.0
OCLP	**Ormoc**	**0.79**	**316**	*e*P	Pn	16 59 45.1	+2.2

*STR **11** 17:03:29.3±0.1, 4303N×0.18W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **11** 17:03:29.9±0.1, 4305N×0.16W, h5km, ML2.5/9, Error ellipse: s-maj=1.1km s-min=0.9km az=167.0*
*LDG **11** 17:03:29.7±0.1, 4305N×0.18W, h5km, Md2.6/2, Ml2.4/6, Error ellipse: s-maj=1.6km s-min=1.3km az=23.0*

MDD 11 17:03:30.1±0.2, 4301N×018W, h0km, mbLg1.7/20, Error ellipse: s-maj=2.2km s-min=1.1km az=21.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.17**	**290**	Pg	Pg	17 03 32.7	-0.5
REYF				Sg	Sg	17 03 35.3	-0.1
REYF	**Montagne du Re**	**0.17**	**290**	Pg	Pg	17 03 32.7	-0.5
REYF				Lg		17 03 35.3	
LABF	**Labassere**	**0.19**	**79**	Pg	Pg	17 03 33.5	-0.2
LABF				Sg	Sg	17 03 36.3	+0.2
LABF	**Labassere**	**0.19**	**79**	Pg	Pg	17 03 33.4	-0.3
LABF				Lg		17 03 36.3	
VIEF	**Viey**	**0.20**	**130**	Pg	Pg	17 03 33.7	-0.1
VIEF				Sg	Sg	17 03 36.6	+0.2
VIEF	**Viey**	**0.20**	**130**	Pg	Pg	17 03 33.7	-0.2
VIEF				Lg		17 03 36.4	
FDAF	**Les Forges d'A**	**0.34**	**236**	Pg	Pg	17 03 36.1	-0.6
FDAF				Lg		17 03 40.9	
EPF	**Esparros**	**0.38**	**87**	*e*Pg	Pg	17 03 36.8	-0.6
EPF				*e*Sg	Sg	17 03 42.5	+0.2
	49nm,0.2s						
EPF	**Esparros**	**0.38**	**87**	*e*Pg	Pg	17 03 36.8	-0.6
EPF				*e*Sg	Sg	17 03 42.5	+0.2
	24nm,0.2s						
EBIE	**Bielsa**	**0.40**	**144**	Pg	Pg	17 03 37.4	-0.4
	1.6nm,0.1s,SNR=45						
EBIE				Lg		17 03 42.9	
	10nm,0.0s,SNR=72						
EBIE	**Bielsa**	**0.40**	**144**	Pg	Pg	17 03 37.4	-0.4
	1.6nm,0.1s,SNR=45						
EBIE				Lg		17 03 42.9	
	10nm,0.0s,SNR=72						
RESF	**Ens**	**0.43**	**118**	Pg	Pg	17 03 38.0	-0.3
RESF				Sg	Sg	17 03 44.0	0.0
RESF	**Ens**	**0.43**	**118**	Pg	Pg	17 03 38.1	-0.2
RESF				Lg		17 03 44.1	
ORDF	**Ordiarp**	**0.59**	**290**	Pg	Pg	17 03 41.0	-0.3
ORDF				Lg		17 03 49.3	
LARF	**Larrau**	**0.59**	**273**	Pg	Pg	17 03 41.1	-0.3
LARF				Sg	Sg	17 03 48.9	-0.2
LARF	**Larrau**	**0.59**	**273**	Pg	Pg	17 03 41.1	-0.3
LARF				Lg		17 03 48.9	
MELF	**Melles**	**0.70**	**101**	Pg	Pg	17 03 42.9	-0.6
MELF				Sg	Sg	17 03 52.6	-0.1
MELF	**Melles**	**0.70**	**101**	Pg	Pg	17 03 42.6	-0.9
MELF				Lg		17 03 52.4	
SJPF	**Ste Jean**	**0.77**	**278**	*e*Pg	Pg	17 03 44.7	-0.2
SJPF				*e*Sg	Sg	17 03 54.0	-0.9
	12nm,0.2s						
SJPF	**Ste Jean**	**0.77**	**278**	*e*Pg	Pg	17 03 44.7	-0.2
SJPF				*e*Sg	Sg	17 03 54.0	-0.9
	6.1nm,0.2s						
OSSF	**Osses**	**0.83**	**287**	Lg		17 03 56.7	
IPRE	**Itoiz**	**0.89**	**257**	Lg		17 03 58.4	
	3.5nm,0.2s,SNR=5.9						
IPRE	**Itoiz**	**0.89**	**257**	Pg	Pg	17 03 45.9	-1.2
	0.3nm,0.1s,SNR=5.1						
EALK	**Alkurruntz**	**0.99**	**283**	Pg	Pg	17 03 48.4	-0.6
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		17 04 01.4	
	9.0nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.00**	**279**	Pg	Pg	17 03 48.9	-0.3
	0.5nm,0.1s,SNR=14						
ELIZ				Lg		17 04 01.7	
	3.9nm,0.1s,SNR=8.0						
IUSE	**Utxeti**	**1.00**	**267**	Pg	Pg	17 03 48.9	-0.5
	0.3nm,0.0s,SNR=7.9						
IUSE				Lg		17 04 02.2	
	2.7nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.00**	**267**	Pg	Pg	17 03 48.9	-0.4
	0.3nm,0.0s,SNR=7.9						
SALF	**Salau**	**1.04**	**104**	Pg	Pg	17 03 48.9	-1.1
SALF				Lg		17 04 02.9	
CSOR	**Sort**	**1.16**	**123**	Pg	Pg	17 03 51.6	-0.7
CSOR				Lg		17 04 08.7	
	4.0nm,0.3s						
ESAC	**San Caprasio**	**1.31**	**190**	Pg	Pg	17 03 54.8	-0.3
	4.3nm,0.2s,SNR=4.5						
ESAC				Lg		17 04 12.4	
	16nm,0.1s,SNR=18						
ESAC	**San Caprasio**	**1.31**	**190**	Pg	Pg	17 03 54.8	-0.3
	4.3nm,0.2s,SNR=4.5						
CAVN	**Les Avellanes**	**1.32**	**148**	Pg	Pg	17 03 55.3	-0.1
CAVN				Lg		17 04 13.8	
	10nm,0.1s						
CORG	**Organya**	**1.35**	**125**	Pg	Pg	17 03 55.5	-0.5
CORG				Lg		17 04 14.9	
	0.9nm,0.2s						
EMIR	**Miracle**	**1.67**	**130**	Pg	Pg	17 04 01.5	-0.6
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg		17 04 23.3	
	1.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.67**	**130**	Pg	Pg	17 04 01.5	-0.6
	0.7nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.67**	**108**	Pg	Pg	17 04 00.4	-1.7
CLLI				Lg		17 04 23.5	
	1.4nm,0.2s						
ECRI	**Cripan**	**1.76**	**258**	Pg	Pg	17 04 03.6	-0.2
	0.9nm,0.1s,SNR=7.9						
ECRI				Lg		17 04 26.1	
	1.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.79**	**79**	*e*Pn	Pn	17 03 59.5	-2.6
MTLF	**Montolieu**	**1.79**	**79**	*e*Pg	Pg	17 04 02.9	-1.4
MTLF				*e*Sg	Sg	17 04 26.3	-1.1
	3.4nm,0.2s						
MTLF	**Montolieu**	**1.79**	**79**	Pn	Pn	17 03 59.5	-2.6
MTLF				Pg	Pg	17 04 02.9	-1.4
MTLF				Lg		17 04 26.3	
	1.7nm,0.2s						
MTLF	**Montolieu**	**1.79**	**79**	*e*Pg	Pg	17 04 02.9	-1.4
MTLF				*e*Sg	Sg	17 04 26.3	-1.1
	1.7nm,0.2s						
EPOB	**Poblet**	**1.90**	**150**	Pg	Pg	17 04 05.2	-1.4
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		17 04 29.8	
	2.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.90**	**150**	Pg	Pg	17 04 05.2	-1.4
	0.2nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.04**	**19**	*e*Pn	Pn	17 04 02.2	-3.4
LFF	**La Frestale**	**2.04**	**19**	*e*Pg	Pg	17 04 07.3	-1.8
LFF				*e*Sg	Sg	17 04 32.8	-2.8
	8.2nm,0.3s						
LFF	**La Frestale**	**2.04**	**19**	Pn	Pn	17 04 02.2	-3.4
LFF				Pg	Pg	17 04 07.3	-1.8
LFF				Lg		17 04 32.8	
	4.1nm,0.3s						
LFF	**La Frestale**	**2.04**	**19**	*e*Pg	Pg	17 04 07.3	-1.8
LFF				*e*Sg	Sg	17 04 32.8	-2.8
	4.1nm,0.3s						
ERTA	**Horta de San J**	**2.09**	**169**	Pg	Pg	17 04 08.3	-1.8
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		17 04 35.1	
	2.6nm,0.2s,SNR=6.1						
ERTA	**Horta de San J**	**2.09**	**169**	Pg	Pg	17 04 08.3	-1.8
	0.3nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.33**	**103**	Lg		17 04 43.8	
	0.1nm,0.0s,SNR=7.9						
CAF	**Calviac**	**2.51**	**40**	*e*Pg	Pg	17 04 16.0	-2.1
CAF				*e*Sn	Sn	17 04 37.7	-5.6
CAF				*e*Sg	Sg	17 04 47.5	-3.1
	2.7nm,0.2s						
CAF	**Calviac**	**2.51**	**40**	*e*Pg	Pg	17 04 16.0	-2.1
CAF				*e*Sn	Sn	17 04 37.7	-5.6
CAF				*e*Sg	Sg	17 04 47.5	-3.1
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.60**	**27**	*e*Pg	Pg	17 04 17.2	-2.6
RJF				*e*Sg	Sg	17 04 50.4	-3.1
	3.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.60**	**27**	*e*Pg	Pg	17 04 17.2	-2.6
RJF				*e*Sg	Sg	17 04 50.4	-3.1
	1.6nm,0.2s						
ETOR	**Torete**	**2.60**	**213**	Pn	Pn	17 04 12.3	-1.0
	4.2nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	17 04 43.4	-2.2
	2.5nm,0.2s,SNR=7.9						
ETOR				Lg		17 04 51.7	
	3.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.60**	**213**	Pn	Pn	17 04 12.3	-1.0
	4.2nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	17 04 43.4	-2.2
	2.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.66**	**185**	Sn	Sn	17 04 45.3	-1.6
	0.9nm,0.3s,SNR=7.9						
EMOS				Lg		17 04 52.9	
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.66**	**185**	Pn	Pn	17 04 12.8	-1.3
	0.9nm,0.2s,SNR=4.0						
EMOS				Sn	Sn	17 04 45.3	-1.7
	0.9nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**3.12**	**69**	*e*Pn	Pn	17 04 18.2	-2.3
LASF				*e*Sg	Sg	17 05 07.4	-3.0
	2.6nm,0.3s						
LASF	**Ste Croix**	**3.12**	**69**	*e*Pn	Pn	17 04 18.2	-2.3
LASF				*e*Sg	Sg	17 05 07.4	-3.0
	1.3nm,0.3s						
MFF	**Saint Martin d**	**3.59**	**0**	*e*Sg	Sg	17 05 21.0	-4.4
	2.2nm,0.3s						
MFF	**Saint Martin d**	**3.59**	**0**	*e*Sg	Sg	17 05 21.0	-4.4
	1.1nm,0.3s						

*IDC **11** 17:03:53.8±1.8, 3717N×5578E, h0km, mb3.9/4, mb1 4.2/8, mb1mx3.8/26, mbtmp4.1/8, ML3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/41, Error ellipse: s-maj=27.9km s-min=16.7km az=148.0*
*ISCJB **11** 17:03:54.7±0.3, 3755N±003×5559E±002, h10km, mb4.2/12, Error ellipse: s-maj=4.3km s-min=2.6km az=138.9*
*THR **11** 17:03:55.4±0.9, 3767N×5560E, h15km±9km, ML4.0*
*CSEM **11** 17:03:55.0±0.1, 3759N×5563E, h16km, ML4.0, Error ellipse: s-maj=1.8km s-min=1.2km az=163.0*
*NEIC **11** 17:03:57.0, 3750N×5560E, h17km, mb3.8/8, ML4.1(THR), MN4.1(TEH), After TEH.*
*MOS **11** 17:03:59.3±2.2, 3774N×5568E, h33km, mb4.2/2, Error ellipse: s-maj=13.0km s-min=9.4km az=81.4*

ISC 11 17:03:56.1±0.2, 3753N±002×5558E±002, h10km, n91, σ1§34/154, mb4.2/12, 1C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.42**	**72**	*e*Pg	**Pg**	**17 04 03.5**	**-0.9**
IKIA	**Kiasar**	**2.02**	**230**	Pn	**Pn**	**17 04 30.8**	**+0.7**
IKIA				Pn	**Pn**	**17 04 31.2**	**+1.1**
IKIA				Sn	**Sn**	**17 04 55.9**	**+0.5**
IKIA				Sn	**Sn**	**17 04 56.1**	**+0.7**
IKIA	**Kiasar**	**2.02**	**230**	Pn	**Pn**	**17 04 31.2**	**+1.1**
IANJ	**Anjiloo**	**2.46**	**214**	Pn	**Pn**	**17 04 36.3**	**+0.1**
IANJ				Pn	**Pn**	**17 04 36.7**	**+0.5**
IANJ				Sn	**Sn**	**17 05 06.3**	**0.0**
IANJ	**Anjiloo**	**2.46**	**214**	Pn	**Pn**	**17 04 36.7**	**+0.5**
ISHM	**Shahmirzad**	**2.52**	**228**	Pn	**Pn**	**17 04 38.1**	**+1.0**
ISHM				Pn	**Pn**	**17 04 38.8**	**+1.7**
ISHM				Sn	**Sn**	**17 05 07.8**	**0.0**
ISHM	**Shahmirzad**	**2.52**	**228**	Pn	**Pn**	**17 04 38.8**	**+1.7**
IPAY	**Payeh**	**2.94**	**110**	Pn	**Pn**	**17 04 43.1**	**+0.3**
IPAY				Pn	**Pn**	**17 04 43.

ICHK				Sn		**Sn**	**17 06 15.2**	**-2.7**
ICHK				Sn		**Sn**	**17 06 15.5**	**-2.4**
ICHK	**Chekchek**	**5.36**	**191**	Pn		**Pn**	**17 05 16.4**	**+0.3**
ASAO	**Ashtian**	**5.40**	**238**	*e*Pn		**Pn**	**17 05 18.6**	**+2.0**
ASAO	**Ashtian**	**5.40**	**238**	Pn		**Pn**	**17 05 18.0**	**+1.4**
ISAD	**Sadrabad**	**5.82**	**196**	Pn		**Pn**	**17 05 22.4**	**0.0**
ISAD				Pn		**Pn**	**17 05 22.7**	**+0.3**
ISAD				Sn		**Sn**	**17 06 26.9**	**-2.2**
ISAD	**Sadrabad**	**5.82**	**196**	Pn		**Pn**	**17 05 22.7**	**+0.3**
IBAF	**Bafgh**	**5.92**	**180**	Pn		**Pn**	**17 05 23.3**	**-0.6**
IBAF				Pn		**Pn**	**17 05 24.2**	**+0.3**
IBAF				Sn		**Sn**	**17 06 28.3**	**-3.5**
IBAF				Sn		**Sn**	**17 06 28.6**	**-3.2**
IBAF	**Bafgh**	**5.92**	**180**	Pn		**Pn**	**17 05 24.2**	**+0.3**
IMEH	**Mehriz**	**6.18**	**188**	Pn		**Pn**	**17 05 27.2**	**-0.1**
GRMI	**Germi**	**6.19**	**284**	*e*Pn		**Pn**	**17 05 27.7**	**+0.2**
GRMI				AML		AML	17 05 41.2	
	comp=N,21nm,0.4s							
GRMI	**Germi**	**6.19**	**284**	Pn		**Pn**	**17 05 28.0**	**+0.5**
KRBR	**Kerman**	**7.59**	**172**	*e*Pn		**Pn**	**17 05 49.7**	**+2.9**
KRBR	**Kerman**	**7.59**	**172**	Pn		**Pn**	**17 05 49.0**	**+2.3**
GNI	**Garni**	**8.86**	**291**	Pn		**Pn**	**17 06 08.1**	**+4.0**
	comp=N,2.0nm,0.3s,baz=65,slow=0.9,SNR=6.9							
GNI				Sn		**Sn**	**17 07 52.0**	**+8.0**
	comp=N,1.2nm,0.3s,baz=196,slow=18,SNR=2.7							
GNI				LR		LR	17 10 25.9	
	comp=N,171nm,21.2s,baz=221,slow=43							
GNI	**Garni**	**8.86**	**291**	P		**Pn**	**17 06 08.1**	**+4.0**
GNI							17 07 52.0	
KIV	**Kislovodsk**	**11.69**	**307**	*e*P		**Pn**	**17 06 43.0**	**0.0**
KIV				*i*			17 08 48.2	
KIV				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KIV				smax				
	comp=E,22nm,0.9s							
KIV	**Kislovodsk**	**11.69**	**307**	*e*Pn		**Pn**	**17 06 41.5**	**-1.4**
	comp=E,12nm,0.6s							
KIV	**Kislovodsk**	**11.69**	**307**	*e*Pn		**Pn**	**17 06 41.5**	**-1.5**
	comp=E,12nm,0.6s							
KIV	**Kislovodsk**	**11.69**	**307**	*e*P		**Pn**	**17 06 43.0**	**0.0**
	comp=E,10.0nm,0.8s							
AKTK	**Aktyubinsk**	**13.02**	**7**	Pn		**Pn**	**17 07 01.3**	**+0.2**
AKTK				Sn		**Sn**	**17 09 23.6**	**-2.3**
AKTK	**Aktyubinsk**	**13.02**	**7**	P		**Pn**	**17 07 01.3**	**+0.2**
AKTK				Sn		**Sn**	**17 09 23.6**	**-2.4**
AKTO	**Aktyubinsk**	**13.02**	**7**	Pn		**Pn**	**17 07 01.3**	**+0.2**
	comp=E,1.7nm,0.3s,baz=181,slow=14,SNR=35							
AKTO				Sn		**Sn**	**17 09 23.6**	**-2.3**
	comp=E,0.8nm,0.3s,baz=74,slow=23,SNR=7.5							
ORR	**Orenburg**	**14.10**	**358**	*e*P		**Pn**	**17 07 15.5**	**-0.3**
ORR				S		**Sn**	**17 09 45.5**	**-6.9**
ORR				pmax	pmax			
	comp=Z,20nm,1.3s							
ORR	**Orenburg**	**14.10**	**358**	*e*P		**Pn**	**17 07 15.5**	**-0.3**
	comp=Z,20nm,1.3s							
AAK	**Ala-Archa**	**15.34**	**65**	*e*P		**Pn**	**17 07 29.7**	**-2.9**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**15.34**	**65**	*e*Pn		**Pn**	**17 07 29.7**	**-2.9**
	comp=Z,3.4nm,0.8s							
ASF	**Jabal al Asfar**	**16.24**	**256**	Pn		**Pn**	**17 07 45.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=295,slow=4.4,SNR=8.2							
BR131	**Keskin Array S**	**17.28**	**284**	Pn		**Pn**	**17 07 56.4**	**-1.0**
	comp=Z,1.7nm,0.9s							
VRSR	**Storozhevoye**	**17.96**	**325**	*e*P		**Pn**	**17 08 07.2**	**+1.4**
VRSR				pmax	pmax			
	comp=N,20nm,0.8s							
VRSR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZRNK	**Zerenda**	**18.04**	**27**	*e*P		**Pn**	**17 08 03.0**	**-3.8**
ZRNK				*e*			17 11 18.0	
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ZRNK	**Zerenda**	**18.04**	**27**	*e*Pn		**Pn**	**17 08 03.0**	**-3.8**
	comp=Z,3.6nm,0.8s							
ZRNK				*e*Sn		**Sn**	**17 11 18.0**	**-10**
CSS	**Prodhromos**	**18.13**	**269**	*e*Pn		**Pn**	**17 08 05.9**	**-2.0**
	comp=Z,10nm,1.0s							
CSS	**Prodhromos**	**18.13**	**269**	*e*Pn		**Pn**	**17 08 05.9**	**-2.0**
	comp=Z,10nm,1.0s							
BRVK	**Borovoye**	**18.60**	**29**	*e*P		**Pn**	**17 08 12.6**	**-1.1**
BRVK				*e*			17 11 26.9	
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**18.60**	**29**	*e*Pn		**Pn**	**17 08 12.6**	**-1.1**
	comp=Z,4.9nm,0.8s							
BRVK				*e*Sn		**Sn**	**17 11 26.9**	**-15**
BRVK	**Borovoye**	**18.60**	**29**	*e*P		**Pn**	**17 08 12.6**	**-1.1**
	comp=Z,5.0nm,0.8s							
BVAR	**Borovoye Array**	**18.61**	**29**	P		**Pn**	**17 08 14.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=22							
CHKZ	**Chkalovo**	**19.20**	**28**	*e*P		**Pn**	**17 08 20.0**	**-1.0**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CHKZ	**Chkalovo**	**19.20**	**28**	*e*P		**Pn**	**17 08 20.0**	**-1.0**
	comp=Z,4.2nm,0.6s							
CHKZ	**Chkalovo**	**19.20**	**28**	*e*P		**Pn**	**17 08 20.0**	**-1.0**
	comp=Z,4.2nm,0.6s							
KURK	**Kurchatov**	**21.04**	**44**	*e*P		**P**	**17 08 43.6**	**+3.6**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb3.7							
KURK	**Kurchatov**	**21.04**	**44**	*e*P		**P**	**17 08 43.6**	**+3.6**
	comp=Z,3.4nm,0.8s,mb3.7							
MKAR	**Makanchi Array**	**21.77**	**56**	P		**P**	**17 08 48.6**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.6,baz=245,slow=8.1,SNR=17							
AKASG	**Malin Array Be**	**22.91**	**314**	P		**P**	**17 09 02.8**	**+2.8**
	comp=Z,9.4nm,0.8s,mb4.2,baz=110,slow=9.6,SNR=15							
KIEV	**Kiev**	**22.91**	**313**	*e*P		**P**	**17 08 59.4**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.4							
KIEV	**Kiev**	**22.91**	**313**	*e*P		**P**	**17 08 59.4**	**-0.7**
	comp=Z,9.9nm,0.6s,mb4.4							
KIEV	**Kiev**	**22.91**	**313**	*e*P		**P**	**17 08 59.3**	**-0.8**
MLR	**Muntele Rosu**	**23.48**	**299**	P		**P**	**17 09 09.1**	**+3.1**
	comp=Z,3.0nm,0.7s,mb3.8,baz=188,slow=16,SNR=3.7							
MLR	**Muntele Rosu**	**23.48**	**299**	⇑*i*P		**P**	**17 09 09.7**	**+3.7**
BURAR	**Bucovina Array**	**24.39**	**304**	⇓*i*P		**P**	**17 09 19.1**	**+4.7**
KOLN	**Koldanda**	**25.44**	**104**	*e*P		**P**	**17 09 24.4**	**+0.4**
	comp=Z,12nm,1.1s,mb4.3							
GVD	**Gavdhos**	**25.50**	**274**	P		**P**	**17 09 21.7**	**-2.8**
GKN	**Gorkha**	**26.13**	**103**	*e*P		**P**	**17 09 29.4**	**-0.8**
	comp=Z,23nm,1.1s,mb4.6							
DMN	**Daman**	**26.68**	**103**	*e*P		**P**	**17 09 36.6**	**+1.4**
	comp=Z,12nm,0.7s,mb4.5							
KKN	**Kakani**	**26.73**	**103**	*e*P		**P**	**17 09 37.1**	**+1.4**
	comp=Z,6.9nm,0.6s,mb4.3							
PKI	**Pulchoki**	**26.93**	**103**	*e*P		**P**	**17 09 40.0**	**+2.5**
	comp=Z,26nm,0.8s,mb4.8							
GUN	**Gumba**	**27.14**	**102**	*e*P		**P**	**17 09 40.9**	**+1.6**
	comp=Z,17nm,0.7s,mb4.7							
TORD	**Torodi Ar. Bea**	**53.59**	**258**	P		**P**	**17 13 16.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=48,slow=7.3,SNR=9.1							

MAN 11 17:13:40.4, 1048N×12521E, h39km, mb2.3, ML3.9, MS4.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.49**	**225**	*e*P	Pn	17 13 52.3	+1.4
PLP	**Palo**	**0.72**	**341**	*e*P	Pn	17 13 55.0	+0.9
PLP				*e*S	Sn	17 14 05.7	+1.9
SCPH	**Surigao**	**0.75**	**159**	*e*P	Pn	17 13 55.2	+0.7
SCPH				*e*S	Sn	17 14 06.9	+2.3
OCLP	**Ormoc**	**0.82**	**314**	*e*P	Pn	17 13 57.6	+2.1

*ISCJB **11** 17:16:11.6±0.3, 2351S×006×17559W±006, h10km, mb5.0/40, MS4.7/33, Error ellipse: s-maj=9.2km s-min=7.7km az=86.0*

*GCMT **11** 17:16:12.4±0.3, 2360S×17473W, h20km, MW5.2/84, Moment Tensor Solution. s42,c62; s84,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.68±.29; $M_{\theta\theta}$-1.67±.18; $M_{\phi\phi}$-5.01±.19; $M_{r\theta}$1.20±.39; $M_{r\phi}$-1.35±.13; $M_{\theta\phi}$3.49±.35; Best double couple: $M_0$7.11600×10^{16} NP1:ϕ_s200.00000°,δ29.00000°,λ90.00000°. NP2: ϕ_s19.00000°,δ61.00000°,λ90.00000°. Principal axes: T 7.7120, Plg74.0000°, Azm289.0000°; N -1.1930, Plg0.0000°, Azm19.0000°; P -6.5190, Plg16.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 17:16:12.4±0.3, 2350S×17549W, h10km, mb5.1/24, MS4.4/1 Error ellipse: s-maj=10.2km s-min=7.8km az=133.0*

*BJI **11** 17:16:13.1, 2297S×175.12W, h16km, mB5.6, mb5.3, Ms5.1, Msz4.8*

*IDC **11** 17:16:17.6±2.8, 2329S×17556W, h41km±24km, mb4.3/13, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, MS4.6/22, Ms1 4.6/22, ms1mx4.5/29, Error ellipse: s-maj=21.6km s-min=13.6km az=161.0*

*MOS **11** 17:16:18.5±3.0, 2332S×17577W, h42km, mb5.1/16, MS4.6/6, Error ellipse: s-maj=15.4km s-min=12.7km az=15.1*

ISC 11 17:16:14.1±2.5, 2353S±006×17550W±007, h17km±15km, h17km±2.1km: pP-P, n173, σ1§25/113, mb5.0/40, MS4.7/33, 16C-7D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.20**	**21**	P	**Pn**	**17 18 30.4**	**-9.3**
	14nm,0.3s,baz=66,slow=2.9,SNR=17						
AFI				S	**Sn**	**17 20 18.3**	**-15**
	8.7nm,0.3s,baz=187,slow=22,SNR=4.1						
AFI	**Afiamalu**	**10.20**	**21**	*e*Pn	**Pn**	**17 18 31.4**	**-8.3**
	120nm,0.9s						
AFI				*e*Sn	**Sn**	**17 20 13.8**	**-20**
RAR	**Rarotonga**	**14.73**	**84**	P	**Pn**	**17 19 30.3**	**-11**
	11nm,0.3s,baz=248,slow=9.1,SNR=22						
RAR				S	Sn	17 21 59.9	-24
	3.3nm,0.3s,baz=84,slow=20,SNR=3.5						
RAR				LR	LR	17 24 19.2	
	comp=Z,3μm,19.4s,baz=286,slow=33						
FUNA	**Funafuti**	**15.76**	**340**	*e*Pn	**Pn**	**17 19 53.5**	**-1.8**
	255nm,1.2s						
URZ	**Urewera**	**15.98**	**202**	P	**Pn**	**17 19 55.4**	**-2.8**
	0.3nm,0.3s,baz=255,slow=11,SNR=2.7						
URZ				S	**Sn**	**17 22 45.5**	**-9.5**
	1.5nm,0.3s,baz=31,slow=21,SNR=7.7						
DZM	**Mont Dzumac**	**16.72**	**271**	P	**Pn**	**17 20 13.7**	**+6.2**
	0.4nm,0.3s,baz=92,slow=19,SNR=5.7						
SNZO	**South Karori**	**19.54**	**203**	P	**Pn**	**17 20 40.9**	**-1.2**
TBI	**Tubuai**	**23.88**	**95**	*e*LQ		17 25 50.7	
	1μm,26.2s						
TBI				*e*LR	LR	17 26 43.5	
	2μm,22.2s						
PPT	**Papeete**	**24.96**	**81**	*e*LQ		17 26 14.7	
	2μm,24.2s						
PPT				*e*LR	LR	17 27 10.4	
	2μm,22.0s						
PPT	**Papeete**	**24.96**	**81**	LR	LR	17 29 21.0	
	comp=Z,2μm,18.4s,MS4.6,baz=278,slow=31						
HNR	**Honiara**	**27.34**	**297**	LR	LR	17 31 09.6	
	comp=Z,578nm,18.1s,MS4.2,baz=179,slow=33						
HNR	**Honiara**	**27.34**	**297**	*e*P	**P**	**17 21 57.1**	**-1.1**
HNR				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.9						
HNR	**Honiara**	**27.34**	**297**	*e*P	**P**	**17 21 57.0**	**-1.1**
	comp=Z,39nm,0.9s,mb4.9						
CTA	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**17 23 11.3**	**+0.5**
	comp=Z,6.6nm,0.4s,mb4.9						
CTA	**Charters Tower**	**35.61**	**268**	P	**P**	**17 23 11.8**	**+1.0**
	comp=Z,7.9nm,0.4s,mb5.0,baz=96,slow=9.7,SNR=22						
CTA				LR	LR	17 35 39.2	
	comp=Z,637nm,20.4s,MS4.4,baz=105,slow=33						
CTA	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**17 23 11.3**	**+0.5**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**17 23 11.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**17 23 11.6**	**+0.7**
	comp=Z,26nm,1.0s,mb5.1						
TAOE	**Nuku Hiva Isla**	**36.82**	**73**	*e*LR	LR	17 32 35.8	
	comp=Z,3μm,22.4s						
RKT	**Rikitea**	**37.12**	**98**	*e*LR	LR	17 32 48.6	
	comp=Z,1μm,22.0s						
PMG	**Port Moresby**	**38.33**	**285**	P	**P**	**17 23 33.4**	**-0.6**
	comp=Z,45nm,1.0s,mb5.2,baz=115,slow=5.1,SNR=17						
PMG				LR	LR	17 36 41.5	
	comp=Z,630nm,18.1s,MS4.5,baz=343,slow=32						
PMG	**Port Moresby**	**38.33**	**285**	⇑*e*P	**P**	**17 23 33.8**	**-0.2**
PMG	**Port Moresby**	**38.33**	**285**	*e*P	**P**	**17 23 33.2**	**-0.7**
	comp=Z,54nm,1.0s,mb5.2						
PMG				*e*		17 23 47.8	
STKA	**Stephens Creek**	**38.69**	**248**	*e*P	**P**	**17 23 37.4**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**38.69**	**248**	P	**P**	**17 23 37.0**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.2,baz=82,slow=12,SNR=5.3						
STKA				LR	LR	17 39 15.1	
	comp=Z,1μm,18.2s,MS4.8,baz=68,slow=36						
STKA	**Stephens Creek**	**38.69**	**248**	*e*P	**P**	**17 23 36.3**	**-0.7**
AS31	**Alice Springs**	**46.16**	**259**	*e*P	**P**	**17 24 36.8**	**-1.0**
AS31				*e*S	**S**	**17 31 20.4**	**-2.7**
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**17 24 37.5**	**-0.3**
	comp=Z,8.7nm,1.0s,mb4.6,baz=93,slow=7.9,SNR=50						
ASAR				S	**S**	**17 31 22.4**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=99,slow=15,SNR=7.0						
ASAR				LR	LR	17 44 24.1	
	comp=Z,1μm,18.3s,MS5.0,baz=117,slow=36						
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**17 24 37.5**	**-0.3**
ASAR				S	**S**	**17 31 22.5**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ASAR				smax			
	comp=N,2.0nm,1.0s						
ASAR				MLR	MLR		
	comp=Z,1μm,18.3s						
ASPA	**Alice Springs**	**46.17**	**259**	*e*P	**P**	**17 24 38.8**	**+1.0**
ASPA				*e*S	**S**	**17 31 20.4**	**-2.8**
WB2	**Warramunga Arr**	**46.54**	**264**	*e*P	**P**	**17 24 39.9**	**-0.9**
WB2				*e*S	**S**	**17 31 24.1**	**-4.5**
WRAB	**Tennant Creek**	**46.54**	**264**	P	**P**	**17 24 40.3**	**-0.5**
	comp=Z,134nm,0.9s,mb5.9,SNR=10.0						
WRAB	**Tennant Creek**	**46.54**	**264**	*e*P	**P**	**17 24 39.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**46.54**	**264**	*e*P	**P**	**17 24 39.9**	**-0.9**
	comp=Z,19nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**46.55**	**264**	P	**P**	**17 24 39.9**	**-1.0**
	comp=Z,15nm,0.9s,mb4.9,baz=100,slow=8.2,SNR=69						
WRA				S	**S**	**17 31 26.5**	**-2.3**
	comp=Z,1.5nm,1.0s,baz=99,slow=14,SNR=4.6						
WRA				LR	LR	17 44 22.4	
	comp=Z,1μm,18.1s,MS5.0,baz=105,slow=36						
WRA	**Warramunga Arr**	**46.55**	**264**	P	**P**	**17 24 39.9**	**-0.9**
WRA				S	**S**	**17 31 26.5**	**-2.2**
WRA				pmax	pmax		
	comp=Z,15nm,0.9s						
WRA				smax			
	comp=N,2.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,1μm,18.1s						
FORT	**Forrest**	**50.30**	**249**	*e*P	**P**	**17 25 09.5**	**-0.2**
	comp=Z,20nm,0.6s,mb5.3						
KAKA	**Kakadu**	**50.40**	**273**	*e*P	**P**	**17 25 09.1**	**-1.4**
	comp=Z,10nm,0.6s,mb5.0						
GUMO	**Guam**	**53.52**	**310**	LR	LR	17 45 33.4	
	comp=Z,297nm,20.1s,MS4.3,baz=325,slow=33						
FITZ	**Fitzroy Crossi**	**54.97**	**264**	*e*P	**P**	**17 25 44.4**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**54.97**	**264**	P	**P**	**17 25 43.9**	**-0.4**
	comp=Z,12nm,1.0s,mb4.9,baz=106,slow=7.0,SNR=12						
FITZ				LR	LR	17 49 25.2	
	comp=Z,612nm,18.9s,MS4.7,baz=166,slow=36						
SBA	**Scott Base**	**55.03**	**185**	*e*P	**P**	**17 25 47.1**	**+2.4**
SBA				*e*		17 26 00.2	
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**55.03**	**185**	*e*P	**P**	**17 25 47.1**	**+2.4**
	comp=Z,8.8nm,0.8s,mb4.8						
SBA				*e*		17 26 00.2	
VNDA	**Vanda**	**55.13**	**186**	P	**P**	**17 25 47.5**	**+2.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=2,slow=6.5,SNR=13						
VNDA	**Vanda**	**55.13**	**186**	*e*P	**P**	**17 25 43.3**	**-2.1**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VNDA	**Vanda**	**55.13**	**186**	*e*P	**P**	**17 25 43.3**	**-2.1**
	comp=Z,10nm,1.3s,mb4.7						
NWAO	**Narrogin (SRO)**	**59.14**	**245**	LR	LR	17 51 14.7	
	comp=Z,543nm,18.2s,MS4.7,baz=222,slow=35						
RPN	**Rapa Nui**	**59.29**	**109**	LR	LR	17 46 57.3	
	comp=Z,417nm,20.1s,MS4.6,baz=239,slow=31						
MBWA	**Marble Bar**	**59.50**	**259**	*e*P	**P**	**17 26 15.7**	**-0.6**
	comp=Z,27nm,1.2s,mb5.2						
CASY	**Casey**	**62.25**	**206**	*e*P	**P**	**17 26 36.3**	**+1.3**
QSPA	**South Pole Qui**	**66.56**	**180**	*e*P	**P**	**17 27 04.3**	**+1.1**
	comp=Z,11nm,1.0s,mb4.8						
KKM	**Kota Kinabalu**	**72.78**	**285**	*e*P	**P**	**17 27 41.3**	**-0.2**
JOW	**Kunigami**	**73.88**	**309**	LR	LR	17 58 44.1	
	comp=Z,394nm,18.6s,MS4.7,baz=316,slow=35						
MJAR	**Matsushiro Arr**	**74.02**	**323**	P	**P**	**17 27 48.0**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=156,slow=5.3,SNR=6.2						
MJAR				LR	LR	17 54 07.0	
	comp=Z,226nm,21.7s,MS4.4,baz=70,slow=31						
MJAR	**Matsushiro Arr**	**74.02**	**323**	P	**P**	**17 27 48.0**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,226nm,21.7s						
MAJO	**Matsushiro**	**74.02**	**323**	*e*P	**P**	**17 27 50.8**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**74.02**	**323**	*e*P	**P**	**17 27 50.8**	**+1.9**
	comp=Z,8.8nm,0.9s,mb4.7						
KSM	**Kuching**	**76.13**	**278**	*e*P	**P**	**17 28 01.4**	**+0.4**
LPIG	**La Paz**	**79.00**	**58**	LR	LR	17 55 21.8	
	comp=Z,554nm,19.7s,MS4.9,baz=50,slow=30						
MAW	**Mawson**	**79.50**	**199**	*e*P	**P**	**17 28 21.4**	**+1.6**
	comp=Z,9.6nm,1.1s,mb4.6						
MAW	**Mawson**	**79.50**	**199**	P	**P**	**17 28 21.6**	**+1.8**
	comp=Z,7.7nm,1.1s,mb4.5,baz=127,slow=6.0,SNR=6.2						
MAW				LR	LR	18 03 05.5	
	comp=Z,754nm,18.6s,MS5.1,baz=102,slow=35						
MAW	**Mawson**	**79.50**	**199**	*e*P	**P**	**17 28 20.7**	**+0.9**
MAW				pmax	pmax		
	comp=Z,30nm,1.2s						
MAW	**Mawson**	**79.50**	**199**	*e*P	**P**	**17 28 20.7**	**+0.9**
	comp=Z,30nm,1.2s,mb5.1						
YSS	**Yuzh-Sakhalins**	**79.64**	**332**	⇑*e*P	**P**	**17 28 20.9**	**+0.3**
YSS				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**79.64**	**332**	*e*P	**P**	**17 28 20.3**	**-0.3**
	comp=Z,117nm,1.2s,mb5.7						
ISA	**Isabella**	**79.84**	**44**	P	**P**	**17 28 20.0**	**-1.6**
PFO	**Pinyon Flat Ob**	**79.90**	**47**	LR	LR	17 55 40.9	
	comp=Z,642nm,21.5s,MS4.9,baz=227,slow=30						
CMB	**Columbia Colle**	**80.15**	**41**	*e*P	**P**	**17 28 21.9**	**-1.5**
CMB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CMB	**Columbia Colle**	**80.15**	**41**	*e*P	**P**	**17 28 21.9**	**-1.5**
	comp=Z,6.8nm,1.1s,mb4.5						
KSRS	**Korea Array**	**80.68**	**318**	P	**P**	**17 28 26.1**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.5,baz=141,slow=6.1,SNR=9.6						
KSRS				LR	LR	18 01 49.9	
	comp=Z,272nm,18.6s,MS4.6,baz=313,slow=34						
SSE	**Sheshan**	**81.40**	**309**	P	**P**	**17 28 31.1**	**+1.1**
SSE				S	S	17 38 41.8	+1.4
SSE				XS	sS	17 38 47.5	-2.2
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,108nm,4.4s						
SSE				LR	LR		
	comp=N,111nm,23.5s,MS4.2						
SSE				LR	LR		
	comp=E,84nm,23.5s,MS4.2						
SSE				LR	LR		
	comp=Z,177nm,21.9s,MS4.4						
SSE	**Sheshan**	**81.40**	**309**	P	**P**	**17 28 31.1**	**+1.1**
	comp=Z,41nm,0.7s,mb5.5						
SSE				S	S	17 38 41.8	+1.4
SSE				sS	sS	17 38 47.5	-2.2
SSE				LR	LR		
	comp=Z,180nm,21.9s,MS4.4						
NVAR	**Mina Array Bea**	**81.67**	**42**	P	**P**	**17 28 30.9**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=231,slow=9.0,SNR=11						
NJ2	**Nanjing**	**83.59**	**309**	*e*P	**P**	**17 28 42.6**	**+1.2**
NJ2				AP	pP	17 28 47.4	+0.3
NJ2				XP	sP	17 28 50.5	+1.4
NJ2				PP	PP	17 31 55.9	+2.0
NJ2				S	S	17 39 02.0	-0.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,530nm,5.1s						
NJ2				LR	LR		
	comp=N,1μm,30.2s,MS5.1						
NJ2				LR	LR		
	comp=E,620nm,30.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,250nm,20.6s						
QIZ	**Qiongzhong**	**84.20**	**294**	P	**P**	**17 28 47.8**	**+3.2**
QIZ				XP	sP	17 28 54.5	+2.3
QIZ				S	S	17 39 14.0	+5.0
QIZ				XS	sS	17 39 18.6	+0.3
QIZ				PS		17 40 11.7	
QIZ				SS	SS	17 44 36.5	-1.7
QIZ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.8						
QIZ				AMB	AMB		

comp=Z,28nm,1.2s,mb5.4
ANMO Albuquerque 87.51 50 *e*P **P 17 28 59.2 -1.8**
ANMO Albuquerque 87.51 50 *e*P **P 17 29 00.9 -0.1**
comp=Z,17nm,1.7s,mb5.0
KKTK Khon Kaen 89.05 288 ⇓P **P 17 29 11.2 +2.9**
comp=Z,247nm,0.8s
PDAR Pinedale Array 89.60 42 P **P 17 29 09.3 -1.5**
comp=Z,1.1nm,0.9s,mb4.2,baz=207,slow=3.0,SNR=8.0
PDAR LR LR 18 00 58.7
comp=Z,289nm,20.5s,MS4.7,baz=356,slow=30
BJI Beijing 89.67 314 *e*P **P 17 29 12.0 +0.9**
BJI AMB AMB
comp=Z,18nm,1.8s,mb5.1
BJI LR LR
comp=Z,171nm,25.4s,MS4.4
BJI Beijing 89.67 314 *e*P **P 17 29 12.0 +0.9**
comp=Z,18nm,1.8s,mb5.1
BJI LR LR
comp=Z,170nm,25.4s,MS4.4
SEY Seymchan 89.85 346⇑*e*P **P 17 29 11.3 -0.7**
GYA Guiyang 90.15 299 P **P 17 29 14.6 +1.2**
GYA AP pP 17 29 18.8 -0.3
GYA XP sP 17 29 21.9 +0.8
GYA PP PP 17 32 51.0 +4.1
GYA SKS 17 39 44.5
GYA S S 17 40 06.7 +0.4
GYA PS PS 17 41 16.7 +2.3
GYA SS SS 17 46 08.8 +3.7
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.3
GYA AMB AMB
comp=Z,260nm,6.7s
GYA LR LR
comp=N,480nm,19.8s,MS5.2
GYA LR LR
comp=E,640nm,20.1s,MS5.2
GYA LR LR
comp=Z,630nm,20.4s,MS5.0
XAN Xi'an 91.80 306 P **P 17 29 21.6 +0.5**
XAN AMB AMB
comp=Z,29nm,1.3s,mb5.5
NANT Nan 91.91 290 ⇓P **P 17 29 22.0 +0.4**
comp=Z,170nm,1.0s
BILL Bilibino 92.29 353 *e*P **P 17 29 22.0 -1.3**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
KMI Kunming 92.78 296 P **P 17 29 28.1 +2.5**
KMI AP pP 17 29 36.1 +4.8
KMI XP sP 17 29 41.3 +8.0
KMI S S 17 40 29.5 -0.6
KMI AMB AMB
comp=Z,21nm,1.1s,mb5.5
KMI AMB AMB
comp=Z,133nm,4.5s
KMI LR LR
comp=N,185nm,17.6s,MS4.7
KMI LR LR
comp=E,146nm,19.2s,MS4.7
KMI LR LR
comp=Z,240nm,28.4s
KMI Kunming 92.78 296 P **P 17 29 28.1 +2.5**
comp=Z,21nm,1.1s,mb5.5
KMI pP pP 17 29 36.1 +4.8
KMI sP sP 17 29 41.3 +8.0
KMI S S 17 40 29.5 -0.6
KMI SS SS 17 47 02.2 +19
KMI SSS 17 50 32.1
KMI LR LR
comp=Z,240nm,28.4s,MS4.5
HHC Hu-ho-hao-te 93.12 313 *e*P **P 17 29 27.9 +0.7**
HHC AP pP 17 29 32.7 -0.1
HHC XP sP 17 29 35.6 +0.8
HHC PP PP 17 33 15.0 +4.7
HHC SKS 17 40 00.0
HHC S S 17 40 32.2 -0.9
HHC XS sS 17 40 39.0 -3.5
HHC AMB AMB
comp=Z,17nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,154nm,4.9s
HHC LR LR
comp=N,250nm,16.6s,MS4.9
HHC LR LR
comp=E,274nm,16.3s,MS4.9
HHC LR LR
comp=Z,269nm,17.3s,MS4.8
CM31 Chiang Mai Arr 93.30 289 *e*P **P 17 29 34.4 +6.4**
CHG Chiang Mai 93.44 289 ⇓P **P 17 29 31.4 +2.8**
comp=Z,24nm,0.9s,mb5.6
CHTO Chiang Mai 93.44 289 *e*P **P 17 29 31.2 +2.6**
CHTO pmax pmax
comp=Z,27nm,1.0s,mb5.6
CHTO Chiang Mai 93.44 289 *e*P **P 17 29 31.2 +2.6**
comp=Z,27nm,1.0s,mb5.6
CD2 Chengdu 94.36 302 *e*P **P 17 29 32.9 0.0**
CD2 AP pP 17 29 37.7 -0.9
CD2 XP sP 17 29 40.0 -0.6
CD2 PP PP 17 33 22.4 +2.3
CD2 SKS 17 40 05.9
CD2 S S 17 40 40.6 -3.4
CD2 SS SS 17 47 05.5 -0.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,230nm,20.4s,MS4.8
CD2 LR LR
comp=E,300nm,20.4s,MS4.8
CD2 LR LR
comp=Z,430nm,25.2s,MS4.8
LZH Lanzhou 96.44 306 *e*P **P 17 29 44.5 +2.1**
LZH AP pP 17 29 56.0 +8.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,120nm,4.5s
LZH Lanzhou 96.44 306 *e*P **P 17 29 44.5 +2.1**
comp=Z,25nm,1.0s,mb5.6
LZH pP pP 17 29 56.0 +8.0
LZH sP sP 17 30 01.5 +11
YKA Yellowknife Ar 98.30 24 LR LR 18 08 04.2
comp=Z,207nm,19.0s,MS4.7,baz=275,slow=32
LPAZ La Paz 98.77 112 LR LR 18 06 04.2
comp=Z,163nm,20.1s,MS4.5,baz=257,slow=30
GTA Gaotai 100.67 308 *e*P Pdif 17 29 59.4 -1.9
GTA AP 17 30 05.3
GTA XP 17 30 08.5
GTA PP PP 17 34 07.8 -0.8
GTA SKS 17 40 36.0
GTA S Sdif 17 41 28.9 -9.0
GTA AMB AMB
comp=Z,1.0nm,1.0s
GTA AMB AMB
comp=Z,130nm,4.2s
GTA LR LR
comp=N,142nm,16.0s,MS4.7
GTA LR LR
comp=E,185nm,19.4s,MS4.7
GTA LR LR
comp=Z,223nm,24.0s,MS4.6
WMQ Urumqi 110.65 310 PKP PKiKP 17 34 46.8 +0.9
WMQ PP PP 17 35 27.3 +5.0
WMQ PP PP
comp=Z,198nm,6.3s
WMQ LR LR
comp=N,88nm,22.1s,MS4.7
WMQ LR LR
comp=E,174nm,20.5s,MS4.7
WMQ LR LR
comp=Z,307nm,21.8s,MS4.8
MKAR Makanchi Array 114.95 312 PKP PKiKP 17 34 52.8 -1.2
comp=Z,0.5nm,0.6s,baz=202,slow=2.1,SNR=5.2
MKAR Makanchi Array 114.95 312 PKIKP PKiKP 17 34 52.8 -1.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 117.78 316⇑*i*PKIKP PKPdf 17 34 58.0 -1.5
ARCES ARCESS Array B 132.30 350 PKhKP 17 35 31.5
comp=Z,3.9nm,0.9s,baz=338,slow=2.0,SNR=4.2
ARCES ARCESS Array B 132.30 350 PKIKP PKPdf 17 35 31.5 +4.3
ARCES pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 142.23 355 PKP PKPdf 17 35 44.0 -1.6
comp=Z,1.3nm,0.9s,baz=17,slow=4.8,SNR=3.4
NOA NORSAR Array B 142.23 355 PKIKP PKPdf 17 35 44.0 -1.6

NOA pmax pmax
comp=Z,1.0nm,0.9s
HFS Hagfors 142.86 352 PKhKP 17 35 41.5
comp=Z,3.4nm,0.9s,baz=110,slow=8.2,SNR=4.5
HFS Hagfors 142.86 352 PKHKP 17 35 41.5
HFS pmax pmax
comp=Z,3.0nm,0.9s
SUW Suwalki 146.47 340 *e*PKP2 PKPab 17 35 53.9 -1.4
AKASG Malin Array Be 146.78 331 PKPbc PKPbc 17 35 54.0 -1.2
comp=Z,5.4nm,0.6s,baz=39,slow=4.2,SNR=32
AKASG Malin Array Be 146.78 331 PKIKP PKPdf 17 35 54.0 +0.6
AKASG pmax pmax
comp=Z,5.0nm,0.6s
MALT Malatya 147.59 305 *e*PKP2 PKPab 17 35 58.7 -0.9
SIM Simferopol' 147.80 319 *i* PKP2 PKPab 17 35 59.2 -1.3
SIM pmax pmax
comp=Z,20nm,1.0s
LVV L'vov 149.63 335 *e*PKHKP PKPbc 17 36 01.9 -0.8
ASF Jabal al Asfar 150.18 294 PKPbc PKPbc 17 36 05.6 +1.6
comp=Z,3.2nm,0.7s,baz=70,slow=1.4,SNR=8.2
BR131 Keskin Array S 150.57 310 *e*PKPbc PKPbc 17 36 05.6 +0.5
BRTR Keskin Array B 150.57 310 PKPbc PKPbc 17 36 05.9 +0.9
comp=Z,5.9nm,1.0s,baz=126,slow=1.7,SNR=15
BRTR PKPab PKPab 17 36 13.2 +1.4
comp=Z,4.0nm,0.8s,baz=120,slow=1.6,SNR=9.9
OJC Ojcow 150.81 340 *e*PKP PKPbc 17 36 04.8 -0.8
BURAR Bucovina Array 150.83 331⇓*i*P PKPbc 17 36 07.0 +1.4
BURAR Bucovina Array 150.83 331⇑P PKPbc 17 36 07.0 +1.4
STHS Stebnicka Huta 151.00 337 *e*PKP PKPbc 17 36 06.0 0.0
KOLS Kolonicke sedl 151.02 335 *e*PKP PKPbc 17 36 05.8 -0.3
UZH Uzhgorod 151.26 335 *e*PKIKP PKPbc 17 36 04.0 -2.6
UZH *i* 17 36 14.4
NIE Niedzica 151.32 338 *e*PKP PKPbc 17 36 06.6 -0.2
CRVS Cervenica-Dubn 151.35 336 *e*PKP PKPbc 17 36 06.9 +0.1
VRI Vrincioaia 151.36 327⇑*i*P PKPbc 17 36 04.6 -2.3
VRI Vrincioaia 151.36 327⇑P PKPbc 17 36 04.5 -2.3
CLL Collm 151.50 349 *e*PKIKP PKPdf 17 36 01.0 0.0
CLL *i* 17 36 06.7
CLL Collm 151.50 349 *e*PKPdf PKPdf 17 36 01.0 0.0
CLL *i* PKPbc PKPbc 17 36 06.7 -0.5
comp=Z,19nm,1.2s
CLL *i* pPKPab pPKPab 17 36 21.6 +0.3
UPC Upice 151.62 344 *e*PKPbc PKPdf 17 36 03.9 +2.7
OKC Ostrava-Krasne 151.65 341 *e*PKPbc PKPdf 17 36 03.5 +2.2
DPC Dobruska-Polom 151.69 344 *e*PKPbc PKPdf 17 36 04.0 +2.7
BRG Berggiesshubel 151.74 347 *i* PKP PKPbc 17 36 05.8 -1.9
comp=Z,8.2nm,1.2s
BRG *i* 17 36 22.1
comp=Z,12nm,1.2s
MORC Moravsky Berou 151.88 342⇓*i*P PKPbc 17 36 07.9 -0.1
MORC Moravsky Berou 151.88 342 *e*PKPbc PKPbc 17 36 08.1 0.0
MORC *e*PKPab PKPab 17 36 17.8 +0.6
PVCC Panska Ves 151.93 346 *e*PKPbc PKPbc 17 36 06.7 -1.5
MLR Muntele Rosu 152.02 327 PKPbc PKPbc 17 36 07.9 -0.5
comp=Z,4.7nm,0.9s,baz=122,slow=4.8,SNR=5.5
MLR Muntele Rosu 152.02 327⇑*i*P PKPbc 17 36 08.8 +0.4
KECS Kecovo 152.06 337 *e*PKP PKPbc 17 36 10.2 +1.7
KECS *e* 17 36 17.4
EIL Elat 152.15 289 *e*PKPbc PKPbc 17 36 09.1 +0.4
PRU Pruhonice 152.45 346 *e*PKPbc PKPbc 17 36 08.8 -0.5
VOIR 152.50 326⇓P PKPbc 17 36 12.1 +2.6
VOIR 152.50 328⇑P PKPbc 17 36 12.1 +2.7
VYHS Vyhne 152.62 339 *e*PKP PKPbc 17 36 09.8 +0.1
VYHS *e* 17 36 23.8
PSZ Piszkesteto 152.75 337⇓*i*P PKPdf 17 35 56.8 -6.1
PSZ Piszkesteto 152.75 337⇓P PKPdf 17 35 56.8 -6.1
GRA1 Grafenberg Arr 153.36 350 *e*PKP PKPab 17 36 22.6 -0.8
GRF Grafenberg Arr 153.36 350 *e*PKP PKPab 17 36 22.6 -0.8
KHC Kasperske Hory 153.47 347 *e*PKPbc PKPbc 17 36 06.7 -4.9
GERES GERESS Array B 153.71 346 PKPbc PKPbc 17 36 09.7 -2.4
comp=Z,1.3nm,1.0s,baz=294,slow=1.3,SNR=5.6
TORD Torodi Ar. Bea 169.34 165 PKP PKPdf 17 36 20.4 0.0
comp=Z,1.1nm,1.0s,baz=334,slow=0.5,SNR=5.5
TORD PKPab PKPab 17 37 33.6 +0.6
comp=Z,1.0nm,0.8s,baz=173,slow=6.7,SNR=2.8
TORD Torodi Ar. Bea 169.34 165 PKP PKPdf 17 36 20.4 -0.1
TORD PKPab PKPab 17 37 33.6 +0.6

IDC ***11*** *17:34:12.7±1.0,2328S×17551W,h0km,mb4.2/10, mb1 4.4/10,mb1mx4.2/18,mbtmp4.2/10,MS4.1/1, Ms1 4.1/1,ms1mx3.3/23,Error ellipse: s-maj=37.2km s-min=22.9km az=164.0*
NEIC ***11*** *17:34:14.0±0.6,2336S×17558W,h10km,mb4.8/11,Error ellipse: s-maj=20.1km s-min=14.4km az=170.0*
BJI ***11*** *17:34:13.9,2340S×17560W,h10km,mB5.6,mb4.7,Ms5.3, Msz5.0*
MOS ***11*** *17:34:14.1±3.0,2322S×17509W,h33km,mb4.9/7,Error ellipse: s-maj=21.9km s-min=14.4km az=166.0*
ISCJB ***11*** *17:34:15.2±0.6,230S±0.1×1754W±0.1,h41km,mb4.5/19, MS4.3/2,Error ellipse: s-maj=14.8km s-min=14.2km az=131.4*
ISC 11 17:34:17.4±0.6,231S±01×1754W±01,h43km, h43km±2.1km:pP-P,n59,σ1s25/48,mb4.5/19,MS4.3/2,1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.75**	**21**	Pn		**Pn**		**17 36 33.0**	**-2.0**
	3.8nm,0.3s,baz=114,slow=22,SNR=3.9								
AFI				Sn		**Sn**		**17 38 17.2**	**-5.9**
	4.2nm,0.3s,baz=14,slow=22,SNR=3.5								
AFI	**Afiamalu**	**9.75**	**21**	P		**Pn**		**17 36 33.0**	**-2.0**
AFI								17 38 17.2	
AFI				pmax	pmax				
	comp=Z,4.0nm,0.3s								
AFI				smax					
	comp=N,4.0nm,0.3s								
AFI	**Afiamalu**	**9.75**	**21**	*e*Pn		**Pn**		**17 36 31.3**	**-3.7**
AFI				*e*Sn		**Sn**		**17 38 13.4**	**-10**
RAR	**Rarotonga**	**14.56**	**86**	Pn		**Pn**		**17 37 31.9**	**-8.8**
	comp=N,10nm,0.3s,baz=221,slow=5.6,SNR=7.2								
RAR	**Rarotonga**	**14.56**	**86**	P		**Pn**		**17 37 31.9**	**-8.8**
RAR				pmax	pmax				
	comp=Z,10.0nm,0.3s								
DZM	**Mont Dzumac**	**16.84**	**270**	Pn		**Pn**		**17 38 11.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=110,slow=21,SNR=2.8								
PPT	**Papeete**	**24.78**	**82**	LR		LR		17 47 19.8	
	comp=Z,396nm,18.7s,MS3.9,baz=95,slow=32								
CTA	**Charters Tower**	**35.75**	**267**	*e*P		**P**		**17 41 12.8**	**+0.8**
	comp=Z,5.1nm,1.0s,mb4.4								
CTA				*e*		pP		17 41 25.7	+1.9
CTA	**Charters Tower**	**35.75**	**267**	P		**P**		**17 41 12.9**	**+0.9**
	comp=Z,2.4nm,0.3s,mb4.6,baz=89,slow=11,SNR=16								
CTA	**Charters Tower**	**35.75**	**267**	*e*P		**P**		**17 41 12.8**	**+0.8**
CTA				*e*		pP		17 41 25.7	+1.9
CTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
CTAO	**Charters Tower**	**35.75**	**267**	*e*P		**P**		**17 41 11.9**	**-0.1**
CTAO				pmax	pmax				
	comp=Z,12nm,1.0s,mb4.8								
CTAO	**Charters Tower**	**35.75**	**267**	*e*P		**P**		**17 41 11.9**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8								
PMG	**Port Moresby**	**38.34**	**285**	P		**P**		**17 41 35.6**	**+1.6**
	comp=Z,17nm,1.0s,mb4.7,baz=168,slow=1.7,SNR=7.5								
PMG	**Port Moresby**	**38.34**	**285**	P		**P**		**17 41 35.7**	**+1.7**
PMG				*e*		pP		17 41 47.8	+1.9
PMG				pmax	pmax				
	comp=Z,2.0nm,1.0s								
PMG	**Port Moresby**	**38.34**	**285**	P		**P**		**17 41 35.6**	**+1.6**
	comp=Z,2.0nm,1.0s,mb3.8								
PMG				*e*		pP		17 41 47.8	+1.9
STKA	**Stephens Creek**	**38.97**	**247**	P		**P**		**17 41 38.5**	**-0.8**
	comp=Z,1.8nm,0.8s,mb3.8,baz=102,slow=13,SNR=2.9								
STKA	**Stephens Creek**	**38.97**	**247**	P		**P**		**17 41 36.5**	**-2.8**
AS31	**Alice Springs**	**46.37**	**259**	*e*P		**P**		**17 42 36.4**	**-2.9**
ASAR	**Alice Springs**	**46.37**	**259**	P		**P**		**17 42 38.8**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=95,slow=7.3,SNR=30								
ASAR	**Alice Springs**	**46.37**	**259**	P		**P**		**17 42 38.8**	**-0.5**
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WB2	**Warramunga Arr**	**46.71**	**264**	*e*P		**P**		**17 42 41.3**	**-0.7**
WB2				*e*		pP		17 42 54.5	+0.4
WRAB	**Tennant Creek**	**46.71**	**264**	*e*P		**P**		**17 42 41.0**	**-1.0**
WRAB				*e*		pP		17 42 53.1	-1.0
WRAB				pmax	pmax				
	comp=Z,11nm,0.9s,mb4.8								
WRAB	**Tennant Creek**	**46.71**	**264**	*e*P		**P**		**17 42 41.0**	**-1.0**
	comp=Z,11nm,0.9s,mb4.8								
WRAB				*e*		pP		17 42 53.0	-1.0
WRA	**Warramunga Arr**	**46.72**	**264**	P		**P**		**17 42 41.6**	**-0.5**
	comp=Z,1.8nm,0.3s,mb4.4,baz=92,slow=8.4,SNR=59								
WRA	**Warramunga Arr**	**46.72**	**264**	P		**P**		**17 42 41.6**	**-0.4**
WRA				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KAKA	**Kakadu**	**50.51**	**272**	*e*P		**P**		**17 43 11.4**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7								
FORT	**Forrest**	**50.58**	**248**	*e*P		**P**		**17 43 10.4**	**-1.3**
	comp=Z,12nm,0.9s,mb4.8								
FORT				*e*		pP		17 43 23.1	-0.8
FITZ	**Fitzroy Crossi**	**55.15**	**263**	*e*P		**P**		**17 43 46.2**	**+0.8**
	comp=Z,6.3nm,1.0s,mb4.6								
FITZ				*e*		pP		17 43 58.7	+1.0
FITZ	**Fitzroy Crossi**	**55.15**	**263**	P		**P**		**17 43 45.9**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.3,baz=322,slow=4.6,SNR=3.4								
VNDA	**Vanda**	**55.57**	**186**	P		**P**		**17 43 48.5**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=22,slow=7.0,SNR=6.2								
VNDA	**Vanda**	**55.57**	**186**	P		**P**		**17 43 48.6**	**+0.2**
VNDA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
KLBR	**Kellerberrin**	**59.22**	**246**	*e*P		**P**		**17 44 13.5**	**-0.6**
	comp=Z,24nm,1.1s,mb5.1								
KLBR				*e*		pP		17 44 26.8	+0.2
CASY	**Casey**	**62.69**	**206**	*e*P		**P**		**17 44 36.6**	**-1.1**
	comp=Z,10nm,1.0s,mb4.9								
QSPA	**South Pole Qui**	**66.98**	**180**	*e*P		**P**		**17 45 05.0**	**-0.6**
	comp=Z,4.3nm,0.9s,mb4.5								
NJ2	**Nanjing**	**83.42**	**309**	*e*P		**P**		**17 46 39.8**	**-0.3**
NJ2				AP	pP			17 46 48.8	-4.3
NJ2				XP	sP			17 46 51.9	-6.1
NJ2				AMB	AMB				
	comp=Z,20nm,0.5s,mb5.4								
NJ2				AMB	AMB				
	comp=Z,370nm,6.4s								
NJ2				LR	LR				
	comp=N,740nm,23.2s								
NJ2				LR	LR				
	comp=E,970nm,32.0s								
NJ2				LR	LR				
	comp=Z,470nm,26.1s,MS4.7								
SNAA	**Sanae**	**85.34**	**178**	*e*P		**P**		**17 46 50.8**	**+0.9**
SNAA				*e*		pP		17 47 01.4	-1.5
SNAA				*e*				17 47 12.0	
VNA2	**Neumayer--Watz**	**85.85**	**176**	*e*P		**P**		**17 46 52.6**	**+0.2**
	baz=161,slow=2.9								
VNA2				*e*		pP		17 47 04.1	-1.4
VNA1	**Neumayer--Stat**	**86.07**	**176**	*e*P		**P**		**17 46 54.3**	**+0.8**
VNA1				*e*		pP		17 47 05.4	-1.1
VNA1				*e*				17 47 15.3	
TXAR	**Lajitas Array**	**86.42**	**56**	P		**P**		**17 46 58.4**	**+3.1**
	comp=Z,0.5nm,1.0s,mb3.7,baz=98,slow=3.8,SNR=4.2								
PSI	**Prapat**	**87.15**	**274**	P		**P**		**17 47 00.8**	**+2.0**
	comp=Z,8.2nm,0.9s,mb4.9,baz=162,slow=4.9,SNR=6.1								
PSI	**Prapat**	**87.15**	**274**	P		**P**		**17 47 00.8**	**+2.0**
PSI				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb5.0								
PSI	**Prapat**	**87.15**	**274**	P		**P**		**17 47 00.8**	**+2.0**
PDAR	**Pinedale Array**	**89.19**	**42**	P		**P**		**17 47 10.2**	**+1.7**
	comp=Z,0.3nm,0.7s,mb3.8,baz=180,slow=0.7,SNR=3.1								
BILL	**Bilibino**	**91.88**	**353**	*e*P		**P**		**17 47 27.7**	**+6.7**
BILL				pmax	pmax				
	comp=Z,9.0nm,1.7s,mb4.8								
HIA	**Hailar**	**92.23**	**324**	*e*P		**P**		**17 47 25.9**	**+3.3**
KMI	**Kunming**	**92.70**	**296**	P		**P**		**17 47 29.1**	**+4.3**
KMI				*PP		pP		17 47 42.7	+4.8
KMI				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb5.0								
KMI	**Kunming**	**92.70**	**296**	P		**P**		**17 47 29.1**	**+4.3**
	comp=Z,7.0nm,1.1s,mb5.0								
KMI				pP		pP		17 47 42.7	+4.8
OBN	**Obninsk**	**140.20**	**332**⇑*i*P			KIKP	PKPdf	17 53 41.0	-0.3
OBN				*e*				17 56 35.8	
OBN				pmax	pmax				
	comp=Z,43nm,2.2s								
AKASG	**Malin Array Be**	**146.46**	**331**	PKPbc		PKPbc		17 53 55.3	+1.6
	comp=Z,0.6nm,0.3s,baz=37,slow=4.0,SNR=5.4								
AKASG	**Malin Array Be**	**146.46**	**331**	PKP2		PKPab		17 53 55.3	+0.6
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASF	**Jabal al Asfar**	**150.12**	**295**	PKPbc		PKPbc		17 54 06.9	+3.6
	comp=Z,0.8nm,0.5s,baz=72,slow=3.2,SNR=2.6								
ASF	**Jabal al Asfar**	**150.12**	**295**	PKIKP		PKPbc		17 54 06.9	+3.5
ASF				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**150.39**	**311**	PKPbc		PKPbc		17 54 06.6	+2.6
	comp=Z,1.8nm,0.9s,baz=150,slow=2.7,SNR=6.1								
BRTR	**Keskin Array B**	**150.39**	**311**	PKIKP		PKPbc		17 54 06.6	+2.6
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
UZH	**Uzhgorod**	**150.92**	**336**	*e*PKP2		PKPab		17 54 20.2	+7.5
CLL	**Collm**	**151.10**	**349**	*i* PKP2		PKPab		17 54 21.0	+7.5
CLL				pmax	pmax				
	comp=Z,19nm,1.5s								
CLL	**Collm**	**151.10**	**349**	*i* pPKPab		pPKPab		17 54 21.0	-5.7
	comp=Z,23nm,1.5s								
BRG	**Berggiesshubel**	**151.34**	**348**	*e*PKP		PKPab		17 54 12.2	-2.3
	comp=Z,3.0nm,0.9s								
BRG	**Berggiesshubel**	**151.34**	**348**	*e*PKIKP		PKPab		17 54 12.2	-2.3
BRG				pmax	pmax				
	comp=Z,12nm,0.9s								

IDC ***11*** *17:43:45.4±9.5,3619N×7035E,h162km±88km,mb3.4/5, mb1 3.5/8,mb1mx3.2/24,mbtmp3.4/8,Error ellipse: s-maj=46.8km s-min=24.6km az=24.0*
NEIC ***11*** *17:43:46.7±2.7,3625N×7037E,h176km±24km,mb3.9/4, Error ellipse: s-maj=22.2km s-min=13.5km az=211.0*
ISCJB ***11*** *17:43:49.4±0.5,3646N±003×7033E±008,h208km±7km, mb3.7/6,Error ellipse: s-maj=10.4km s-min=5.1km az=161.6*
NNC ***11*** *17:43:59.2±8.3,3787N×6983E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=93.9km s-min=42.6km az=1.0*
ISC 11 17:43:50.4±0.5,3646N±003×7035E±008,h202km±7km, n52,σ0s75/58,mb3.7/6,6C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**154**	⇑P		**Pn**		**17 44 40.4**	**+1.2**
CEP				S		**Sn**		**17 45 17.0**	**-0.4**
CHCP	**Chirah Chowk**	**3.68**	**139**	P		**Pn**		**17 44 49.5**	**+1.2**
THW	**Thamme Wali**	**3.83**	**162**	⇓P		**Pn**		**17 44 50.9**	**+0.7**
SBDP	**Sheikh Budin**	**4.17**	**175**	⇑P		**Pn**		**17 44 54.1**	**-0.2**
DRP	**Derazinda**	**4.71**	**182**	P		**Pn**		**17 45 01.9**	**+0.8**
DRP				S		**Sn**		**17 45 54.0**	**-2.8**
SARP	**Sargodha**	**4.92**	**156**	P		**Pn**		**17 45 03.8**	**0.0**
THN	**Thein Dam**	**5.98**	**131**	*e*P		**Pn**		**17 45 17.1**	**-0.3**
THN				*ex*	x			17 46 24.6	
DLH	**Dalhousie**	**6.06**	**129**	*ex*	x			17 45 04.0	
DLH				*e*S		**Sn**		**17 46 22.0**	**-6.2**
AML	**Almayashu**	**6.23**	**24**	P		**Pn**		**17 45 20.5**	**-0.1**
	SNR=168								
UCH	**Uchtor**	**6.60**	**28**	P		**Pn**		**17 45 25.4**	**0.0**
	SNR=95								
KK31	**Karatay Array**	**6.63**	**1**	⇓Pn		**Pn**		**17 45 24.8**	**-1.1**
	2.4nm,0.2s,baz=177,slow=12,SNR=165								
KK31				⇓Lg				17 46 39.4	
	2.6nm,0.3s,baz=187,slow=27,SNR=5.1								
EKS2	**Erkin-Say**	**6.73**	**22**	P		**Pn**		**17 45 27.1**	**0.0**
	SNR=19								
KZA	**Kyzart**	**6.77**	**33**	P		**Pn**		**17 45 27.3**	**-0.3**
	SNR=21								
AAK	**Ala-Archa**	**6.94**	**26**	P		**Pn**		**17 45 30.0**	**+0.1**
	SNR=23								
AAK	**Ala-Archa**	**6.94**	**26**	*e*Pn		**Pn**		**17 45 28.5**	**-1.4**
	13nm,0.6s								
AAK				*e*Sn		**Sn**		**17 46 41.9**	**-6.9**
KBK	**Karagaybulak**	**7.13**	**28**	P		**Pn**		**17 45 32.6**	**+0.3**
	SNR=14								
CHMS	**Chumysh**	**7.35**	**26**	P		**Pn**		**17 45 35.4**	**+0.2**
	SNR=5.6								
ULHL	**Ulahol**	**7.36**	**36**	P		**Pn**		**17 45 35.1**	**-0.2**
	SNR=12								
SDNR	**Sundarnagar**	**7.39**	**130**	*e*P		**Pn**		**17 45 36.1**	**+0.4**
SDNR				*e*S		**Sn**		**17 46 53.3**	**-6.2**
USP	**Ospenovka**	**7.51**	**24**	P		**Pn**		**17 45 36.9**	**-0.3**
	SNR=9.1								
TKM2	**Tokmak 2**	**7.61**	**30**	P		**Pn**		**17 45 38.5**	**0.0**
	SNR=14								
TKM2	**Tokmak 2**	**7.61**	**30**	⇑Pn		**Pn**		**17 45 38.5**	**-0.1**
	2.0nm,0.5s								
TKM2				⇑Sn		**Sn**		**17 46 56.3**	**-8.3**
	0.5nm,0.7s								
KLP	**Kalpa**	**8.19**	**125**	*e*P		**Pn**		**17 45 45.1**	**-1.1**
KLP				*e*S		**Sn**		**17 47 12.5**	**-5.9**
KLP				AML	AML			17 47 18.1	
	comp=N,111nm,0.5s								

KLP				AML	AML	17 47 18.8	
	comp=E,73nm,0.4s						
KHET	**Khetri**	**9.55**	**150**	*e*S	**Sn**	**17 47 42.1**	**-8.6**
KHET				AML	AML	17 47 48.5	
	comp=E,38nm,0.5s						
KHET				AML	AML	17 47 48.8	
	comp=N,35nm,0.6s						
NDI	**New Delhi**	**9.68**	**141**	*e*S	**Sn**	**17 47 44.0**	**-10**
SONA	**Sohna**	**9.97**	**143**	*e*S	**Sn**	**17 47 51.7**	**-8.8**
SONA				AML	AML	17 47 54.9	
	comp=N,29nm,0.3s						
SONA				AML	AML	17 47 55.7	
	comp=E,42nm,0.3s						
MK31	**Makanchi Array**	**13.63**	**37**	⇓P	**Pn**	**17 46 58.8**	**+3.1**
	comp=E,2.6nm,1.1s,baz=223,slow=14,SNR=20						
MK31	**Makanchi Array**	**13.63**	**37**	*e*Pn	**Pn**	**17 46 55.1**	**-0.5**
MKAR	**Makanchi Array**	**13.63**	**37**	P	**Pn**	**17 46 55.3**	**-0.4**
	comp=E,0.3nm,0.3s,baz=213,slow=11,SNR=17						
KOLN	**Koldanda**	**14.17**	**124**	*e*P	**Pn**	**17 47 01.5**	**-0.8**
	comp=E,4.0nm,0.3s						
GKN	**Gorkha**	**14.73**	**121**	*e*P	**Pn**	**17 47 09.6**	**+0.4**
	comp=E,14nm,0.3s						
AB31	**Akbulak array**	**14.87**	**333**	⇑Pn	**Pn**	**17 47 12.0**	**+1.1**
	comp=E,1.3nm,0.5s						
AB31				⇓Lg		17 50 17.8	
	comp=E,0.6nm,0.6s						
DMN	**Daman**	**15.30**	**121**	*e*P	**Pn**	**17 47 16.0**	**-0.1**
	comp=E,7.6nm,0.4s						
KKN	**Kakani**	**15.30**	**120**	*e*P	**Pn**	**17 47 16.0**	**-0.2**
	comp=E,12nm,0.3s						
PKI	**Pulchoki**	**15.53**	**121**	*e*P	**Pn**	**17 47 19.7**	**+0.8**
	comp=E,28nm,0.5s						
GUN	**Gumba**	**15.65**	**119**	*e*P	**Pn**	**17 47 21.9**	**+1.5**
	comp=E,24nm,0.7s						
ZRNK	**Zerenda**	**16.52**	**357**	*e*P	**P**	**17 47 29.4**	**-0.4**
	comp=E,1.9nm,0.4s						
AKTK	**Aktyubinsk**	**16.56**	**331**	P	**P**	**17 47 31.1**	**+0.8**
AKTO	**Aktyubinsk**	**16.56**	**331**	⇑P	**P**	**17 47 30.3**	**0.0**
	comp=E,0.2nm,0.8s						
AKTO	**Aktyubinsk**	**16.56**	**331**	P	**P**	**17 47 31.1**	**+0.8**
	comp=E,0.4nm,0.3s,baz=145,slow=11,SNR=24						
BVAR	**Borovoye Array**	**16.56**	**0**	P	**P**	**17 47 30.5**	**+0.2**
	comp=E,0.6nm,0.3s,baz=164,slow=8.5,SNR=12						
BRVK	**Borovoye**	**16.59**	**360**	P	**P**	**17 47 30.9**	**+0.3**
LSA	**Lhasa**	**18.67**	**105**	*e*P	**P**	**17 47 57.1**	**+3.8**
	comp=E,1.9nm,0.6s						
ZAL	**Zalesovo**	**20.15**	**25**	P	**P**	**17 48 08.6**	**-0.6**
	comp=E,3.4nm,0.4s,baz=256,slow=7.1,SNR=11						
ZAL	**Zalesovo**	**20.15**	**25**	P	**P**	**17 48 08.6**	**-0.6**
ARU	**Arti**	**21.50**	**342**	P	**P**	**17 48 23.5**	**0.0**
	comp=E,4.2nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**17 50 42.7**	**+0.3**
	comp=E,3.5nm,1.1s,mb3.8,baz=108,slow=13,SNR=7.9						
KEV	**Kevo**	**40.65**	**338**	*e*p	**P**	**17 51 10.3**	**-0.5**
	comp=E,9.4nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**17 51 13.8**	**+0.3**
	comp=E,2.9nm,0.6s,mb3.9,baz=106,slow=6.8,SNR=18						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**17 51 13.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**65.20**	**268**	P	**P**	**17 54 09.1**	**-0.9**
	comp=E,0.2nm,0.4s,mb3.1,baz=48,slow=6.4,SNR=6.7						
ASAR	**Alice Springs**	**84.66**	**124**	P	**P**	**17 56 00.5**	**-0.9**
	comp=E,0.3nm,0.6s,mb3.2,baz=314,slow=5.2,SNR=6.6						

MAN 11 17:46:33.5, 1048N×12518E, h45km, mb2.3, ML3.9, MS3.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.47**	**223**	*e*P	Pn	17 46 46.2	+2.1
PLP	**Palo**	**0.71**	**344**	*e*P	Pn	17 46 48.7	+1.6
PLP				*e*S	Sn	17 46 59.5	+2.5
SCPH	**Surigao**	**0.76**	**157**	*e*P	Pn	17 46 48.8	+0.9
SCPH				*e*S	Sn	17 47 00.9	+2.6

IDC 11 17:56:47.1±2.6, 1000S×11888E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.4/16, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=209.4km s-min=26.0km az=51.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.38**	**142**	Pn	Pn	17 59 16.5	-0.8
	0.3nm,0.3s,baz=0.3,slow=5.3,SNR=12						
FITZ				Sn	Sn	18 01 04.2	-10
	0.4nm,0.3s,baz=171,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**17.89**	**125**	P	Pn	18 00 56.9	-0.4
	0.1nm,0.3s,baz=296,slow=13,SNR=4.0						
WRA				S	Sn	18 04 06.7	-11
	0.1nm,0.3s,baz=309,slow=19,SNR=3.0						
ASAR	**Alice Springs**	**19.76**	**135**	P	Pn	18 01 19.9	0.0
	0.1nm,0.3s,baz=315,slow=11,SNR=13						
MKAR	**Makanchi Array**	**65.29**	**333**	P	P	18 07 30.7	0.0
	0.3nm,0.5s,baz=153,slow=6.1,SNR=4.2						

IDC 11 18:13:57.6±5.4, 2199S×17648W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, ML2.7/1, Error ellipse: s-maj=176.3km s-min=26.6km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.20**	**30**	Pn	Pn	18 16 11.4	-0.1
	4.8nm,0.3s,baz=29,slow=22,SNR=5.6						
AFI				Sn	Sn	18 17 57.4	+1.7
	1.7nm,0.3s,baz=214,slow=20,SNR=2.3						
CTA	**Charters Tower**	**34.78**	**266**	*e*P	P	18 20 51.7	+1.9
	1.6nm,0.3s						
CTA	**Charters Tower**	**34.78**	**266**	P	P	18 20 52.0	+2.3
	2.4nm,0.4s,baz=95,slow=12,SNR=11						
ASAR	**Alice Springs**	**45.58**	**258**	P	P	18 22 18.3	-1.0
	0.8nm,0.5s,baz=96,slow=7.3,SNR=23						
ASPA	**Alice Springs**	**45.58**	**258**	*e*P	P	18 22 18.4	-0.9
WB2	**Warramunga Arr**	**45.81**	**263**	*e*P	P	18 22 20.1	-1.0
WRA	**Warramunga Arr**	**45.82**	**263**	P	P	18 22 20.8	-0.4
	0.8nm,0.4s,baz=91,slow=8.4,SNR=27						
AKASG	**Malin Array Be**	**145.00**	**331**	PKPbc	PKPbc	18 33 36.6	+0.6
	0.7nm,0.4s,baz=43,slow=4.0,SNR=5.1						

MAN 11 18:17:09.3, 1354N×12139E, h9km, mb1.8, ML3.6, MS2.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.43**	**265**	*e*P	Pg	18 17 18.0	+0.4
BOAC	**Boac**	**0.45**	**101**	*e*P	Pg	18 17 18.9	+0.8
LUBP	**Lubang**	**1.13**	**280**	*e*P	Pb	18 17 29.9	-1.1
OTRP	**Odiongan**	**1.32**	**152**	*e*P	Pn	18 17 32.5	-1.5
OTRP				*e*S	Sb	18 17 51.7	+0.4
BUSP	**Coron**	**1.92**	**217**	*e*P	Pn	18 17 42.9	+0.7

*CSEM **11** 18:26:54.4±0.1, 4003N×003E, h10km, ML2.5/11, Error ellipse: s-maj=2.3km s-min=1.3km az=130.0*
*LDG **11** 18:26:55.7±0.2, 4014N×004E, h5km, Ml2.4/3, Error ellipse: s-maj=4.3km s-min=3.2km az=41.0*

MDD 11 18:26:54.5±0.4, 4004N×003E, h11km, mbLg2.0/15, 1C-2D, Error ellipse: s-maj=3.8km s-min=3.4km az=120.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.50**	**310**	⇓Pg	Pg	18 27 03.9	-0.5
	SNR=18						
EMOS				Lg		18 27 10.5	
	22nm,0.1s,SNR=5.0						
EMOS	**Mosqueruela**	**0.50**	**310**	Pg	Pg	18 27 03.9	-0.5
	6.3nm,0.1s,SNR=18						
ERTA	**Horta de San J**	**0.94**	**14**	⇑Pg	Pg	18 27 11.6	-1.1
	8.0nm,0.1s,SNR=18						
ERTA				Lg		18 27 23.3	
	17nm,0.1s,SNR=19						
ERTA	**Horta de San J**	**0.94**	**14**	Pg	Pg	18 27 11.6	-1.1
	8.0nm,0.1s,SNR=18						
EBEN	**Beniarda**	**1.35**	**189**	Pg	Pg	18 27 19.0	-1.4
	0.7nm,0.1s,SNR=7.9						
EBEN				Lg		18 27 37.3	
	2.8nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**1.35**	**189**	Pg	Pg	18 27 19.0	-1.5
	0.7nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**1.43**	**135**	Pn	Pn	18 27 19.9	-0.6
	0.8nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	18 27 35.7	-3.5
	2.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**1.43**	**135**	Pn	Pn	18 27 19.9	-0.6
	0.8nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	18 27 35.7	-3.6
	2.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.53**	**31**	Pn	Pn	18 27 20.6	-1.3
	0.9nm,0.1s,SNR=9.4						
EPOB				Pg	Pg	18 27 22.6	-1.3
	2.2nm,0.1s,SNR=18						
EPOB				Sn	Sn	18 27 39.7	-2.1
	1.5nm,0.2s,SNR=4.0						
EPOB				Lg		18 27 41.8	
	2.7nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**1.53**	**31**	Pn	Pn	18 27 20.6	-1.2
	0.9nm,0.1s,SNR=9.4						
EPOB	**Poblet**	**1.53**	**31**	Pg	Pg	18 27 22.6	-1.4
	2.2nm,0.1s,SNR=18						
EPOB				Sn	Sn	18 27 39.7	-2.1
	1.5nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**1.72**	**347**	Pn	Pn	18 27 23.5	-1.0
	1.7nm,0.1s,SNR=4.0						
ESAC				Pg	Pg	18 27 26.1	-1.5
	8.4nm,0.2s,SNR=7.3						
ESAC				Lg		18 27 48.3	
	51nm,0.3s,SNR=21						
ESAC	**San Caprasio**	**1.72**	**347**	Pn	Pn	18 27 23.5	-0.9
	1.7nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.72**	**347**	Pg	Pg	18 27 26.1	-1.5
	8.4nm,0.2s,SNR=7.3						
ETOR	**Torete**	**1.77**	**297**	Pg	Pg	18 27 27.4	-1.2
	22nm,0.3s,SNR=18						
ETOR				Sn	Sn	18 27 46.4	-1.3
	5.2nm,0.2s,SNR=4.0						
ETOR				Lg		18 27 50.0	
	23nm,0.2s,SNR=8.6						
ETOR	**Torete**	**1.77**	**297**	Pg	Pg	18 27 27.4	-1.2
	22nm,0.3s,SNR=18						
ETOR				Sn	Sn	18 27 46.4	-1.3
	5.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**1.86**	**222**	Pn	Pn	18 27 25.6	-0.7
	0.7nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	18 27 47.3	-2.5
	1.0nm,0.2s,SNR=5.8						
ETOB				Lg		18 27 52.0	
	2.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**1.86**	**222**	Pn	Pn	18 27 25.6	-0.7
	0.7nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	18 27 47.3	-2.4
	1.0nm,0.2s,SNR=5.8						
ETOS	**Mallorca**	**2.16**	**96**	Pn	Pn	18 27 28.0	-2.4
	0.7nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	18 27 52.0	-5.1
	0.8nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.16**	**96**	Pn	Pn	18 27 28.0	-2.4
	0.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.19**	**31**	Pn	Pn	18 27 29.5	-1.3
	0.4nm,0.1s,SNR=7.9						
EMIR				Pg	Pg	18 27 34.8	-1.7
	2.5nm,0.2s,SNR=6.1						
EMIR				Sn	Sn	18 27 56.2	-1.7
	0.9nm,0.1s,SNR=4.0						
EMIR				Lg		18 28 03.1	
	6.1nm,0.2s,SNR=4.9						
EMIR	**Miracle**	**2.19**	**31**	Pn	Pn	18 27 29.5	-1.3
	0.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.19**	**31**	Pg	Pg	18 27 34.8	-1.7
	2.5nm,0.2s,SNR=6.1						
EMIR				Sn	Sn	18 27 56.2	-1.7
	0.9nm,0.1s,SNR=4.0						
EVIA	**Vianos**	**2.41**	**235**	Sn	Sn	18 28 01.3	-2.2
	0.7nm,0.2s,SNR=4.0						
EVIA				Lg		18 28 09.0	
	1.7nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**2.64**	**2**	Pg	Pg	18 27 43.2	-2.0
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		18 28 17.0	
	1.3nm,0.2s,SNR=6.7						
EBIE	**Bielsa**	**2.64**	**2**	Pg	Pg	18 27 43.2	-2.0
	0.1nm,0.1s,SNR=4.0						
IPRE	**Itoiz**	**2.95**	**340**	Lg		18 28 27.2	
	2.4nm,0.4s,SNR=4.0						
EPF	**Esparros**	**3.00**	**4**	*e*Pn	Pn	18 27 40.8	-1.2
EPF	**Esparros**	**3.00**	**4**	*e*Pg	Pg	18 27 49.8	-2.2
EPF				*e*Sg	Sg	18 28 26.6	-4.2
	3.8nm,0.2s						
EPF	**Esparros**	**3.00**	**4**	Pn	Pn	18 27 40.8	-1.2
EPF				Pg	Pg	18 27 49.8	-2.2
EPF				Lg		18 28 26.6	
	1.9nm,0.2s						
EPF	**Esparros**	**3.00**	**4**	*e*Pg	Pg	18 27 49.8	-2.2
EPF				*e*Sg	Sg	18 28 26.6	-4.2
	1.9nm,0.2s						
ESDC	**Sonseca Array**	**3.10**	**264**	Pn	Pn	18 27 42.2	-1.1
	1.1nm,0.1s,baz=83,slow=14,SNR=4.0						
ESDC				Sn	Sn	18 28 17.7	-2.7
	1.1nm,0.1s,baz=85,slow=22,SNR=4.0						
ESDC				Lg		18 28 29.3	
	0.2nm,0.2s,baz=86,slow=30,SNR=4.0						
ESDC	**Sonseca Array**	**3.10**	**264**	Pn	Pn	18 27 42.2	-1.2
	1.1nm,0.1s,baz=83,slow=14,SNR=4.0						
ESDC				Sn	Sn	18 28 17.7	-2.7
	1.1nm,0.1s,slow=22,SNR=4.0						
SJPF	**Ste Jean**	**3.21**	**343**	*e*Pg	Pg	18 27 53.4	-2.7
SJPF				*e*Sg	Sg	18 28 33.5	-4.2
	2.1nm,0.3s						
SJPF	**Ste Jean**	**3.21**	**343**	*e*Pg	Pg	18 27 53.4	-2.7
SJPF				*e*Sg	Sg	18 28 33.5	-4.2
	1.0nm,0.3s						
GUD	**Guadarrama**	**3.26**	**282**	⇓Pn	Pn	18 27 45.3	-0.3
	1.0nm,0.2s,SNR=18						
GUD				Sn	Sn	18 28 21.9	-2.4
	1.0nm,0.3s,SNR=7.9						
GUD				Lg		18 28 35.8	
	0.9nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.26**	**282**	Pn	Pn	18 27 45.3	-0.2
	1.0nm,0.2s,SNR=18						
GUD				Sn	Sn	18 28 21.9	-2.4
	1.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.29**	**228**	Pg	Pg	18 27 54.7	-3.0
	0.4nm,0.2s,SNR=4.0						
EQES				Lg		18 28 37.6	
	2.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.29**	**228**	Pg	Pg	18 27 54.7	-3.0
	0.4nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**3.33**	**340**	Pn	Pn	18 27 47.2	+0.6
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		18 28 38.2	
	1.2nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**3.38**	**341**	Pn	Pn	18 27 46.5	-0.7
	0.0nm,0.1s,SNR=4.0						
EALK				Pg	Pg	18 27 55.4	-3.9
	0.1nm,0.1s,SNR=4.0						
EALK				Sn	Sn	18 28 25.0	-2.3
	0.4nm,0.1s,SNR=4.0						
EALK				Lg		18 28 40.1	
	4.8nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**3.38**	**341**	Pg	Pg	18 27 55.4	-3.9
	0.1nm,0.1s,SNR=4.0						
EALK				Sn	Sn	18 28 25.0	-2.3
	0.4nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**3.68**	**26**	*e*Pn	Pn	18 27 50.0	-1.4
MTLF	**Montolieu**	**3.68**	**26**	*e*Pg	Pg	18 28 02.4	-2.7
MTLF				*e*Sg	Sg	18 28 48.4	-4.4
	2.2nm,0.3s						
MTLF	**Montolieu**	**3.68**	**26**	Pn	Pn	18 27 50.0	-1.4
MTLF				Pg	Pg	18 28 02.4	-2.7
MTLF				Lg		18 28 48.4	
	1.1nm,0.3s						
MTLF	**Montolieu**	**3.68**	**26**	*e*Pg	Pg	18 28 02.4	-2.7
MTLF				*e*Sg	Sg	18 28 48.4	-4.4
	1.1nm,0.3s						
EADA	**Adamuz**	**4.04**	**244**	Sn	Sn	18 28 39.9	-3.8
	1.2nm,0.1s,SNR=4.0						
EADA				Lg		18 28 58.2	
	0.8nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**4.04**	**244**	Sn	Sn	18 28 39.9	-3.8
	1.2nm,0.1s,SNR=4.0						
ELAN	**Lanestosa**	**4.11**	**322**	Pg	Pg	18 28 10.0	-3.3
	0.2nm,0.2s,SNR=7.9						
ELAN				Lg		18 29 04.5	
	1.0nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**4.94**	**34**	*e*Pn	Pn	18 28 07.1	-1.5
ECAL	**Calabor**	**5.46**	**293**	Pn	Pn	18 28 14.9	-1.0
	0.2nm,0.1s,SNR=4.0						

*ISCJB **11** 18:45:58.1±0.5, 2373N×002×10265E±003, h10km, mb3.5/5, Error ellipse: s-maj=4.5km s-min=3.2km az=162.1*
*BJI **11** 18:45:59.2, 2385N×10252E, h14km, ML3.9, Ms4.3, Msz4.1*
*IDC **11** 18:45:59.6±1.5, 2401N×10280E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=91.8km s-min=21.4km az=66.0*
*PLV **11** 18:46:02.4±1.2, 2355N×10252E, h0km±8km, MD3.9*

ISC 11 18:46:01.0±0.5, 2381N±003×10261E±004, h10km, n18, σ1°38/30, mb3.5/5, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.31**	**5**	P	**Pn**	**18 46 24.3**	**-1.1**
KMI				PG	**Pg**	**18 46 25.9**	**-0.3**
KMI				SG	**Sg**	**18 46 43.2**	**-0.1**
KMI				Smax			
	comp=N,1μm,0.9s						
KMI				Smax			
	comp=E,1μm,1.0s						
KMI				LR	LR		
	comp=N,3μm,5.9s						
KMI				LR	LR		
	comp=E,3μm,5.0s						
KMI				LR	LR		
	comp=Z,2μm,6.1s						
HNV	**Hanoi**	**4.03**	**132**	*e*PN	**Pn**	**18 47 04.4**	**+1.6**
HNV				*e*PG	**Pg**	**18 47 17.5**	**-0.8**
HNV				*e*SG	**Sg**	**18 48 09.2**	**-1.3**
MTZV	**Met**	**4.12**	**122**	*e*Pn	**Pn**	**18 47 05.7**	**+1.7**
MTZV				*e*PG	**Pg**	**18 47 19.9**	**0.0**
MTZV				*e*SG	**Sg**	**18 48 12.9**	**-0.4**
DSV	**Doi Son**	**4.47**	**135**	*e*Pn	**Pn**	**18 47 10.2**	**+1.3**
DSV				*e*PG	**Pg**	**18 47 25.1**	**-1.6**
DSV				*e*SG	**Sg**	**18 48 22.4**	**-2.3**
GYA	**Guiyang**	**4.53**	**54**	P	**Pn**	**18 47 07.4**	**-2.2**
GYA				S	**Sn**	**18 48 02.8**	**+0.6**
GYA				SG	**Sg**	**18 48 27.9**	**+1.6**
GYA				Smax			
	comp=N,110nm,1.2s						
GYA				Smax			
	comp=E,130nm,1.4s						
YTV	**Yen Tu**	**4.63**	**124**	*e*Pn	**Pn**	**18 47 13.3**	**+2.3**
YTV				*e*PG	**Pg**	**18 47 29.6**	**-0.1**
YTV				*e*SG	**Sg**	**18 48 30.1**	**+0.5**
NANT	**Nan**	**5.29**	**200**	⇑P	**Pn**	**18 47 19.0**	**-1.1**
	comp=E,560nm,1.0s						
CHG	**Chiang Mai**	**6.03**	**215**	⇓P	**Sg**	**18 49 16.6**	**+2.1**
	comp=E,31nm,1.4s						
CD2	**Chengdu**	**7.15**	**8**	P	**Pn**	**18 47 44.4**	**-1.2**
CD2				S	**Sn**	**18 49 10.9**	**+4.1**
CD2				LR	LR		
	comp=N,740nm,6.0s						
CD2				LR	LR		
	comp=Z,910nm,6.0s						
KKTK	**Khon Kaen**	**7.44**	**178**	P	**Pb**	**18 48 06.0**	**-4.1**
QIZ	**Qiongzhong**	**8.25**	**124**	P	**Pn**	**18 48 02.4**	**+1.7**
NST	**Nakhon Sawan**	**8.42**	**196**	P		18 50 02.2	
GTA	**Gaotai**	**15.73**	**352**	*e*P	**Pn**	**18 49 44.5**	**+1.8**
SONM	**Songino Array**	**24.17**	**6**	P	**P**	**18 51 15.3**	**-2.0**
	comp=Z,1.2nm,0.7s,mb3.4,baz=185,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**28.14**	**330**	P	**P**	**18 51 51.4**	**-1.8**
	comp=Z,0.4nm,0.8s,mb3.1,baz=134,slow=9.9,SNR=3.2						
ZAL	**Zalesovo**	**32.93**	**341**	P	**P**	**18 52 35.8**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=320,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**53.36**	**142**	P	**P**	**18 55 21.3**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=329,slow=8.0,SNR=5.5						
ASAR	**Alice Springs**	**56.13**	**145**	P	**P**	**18 55 41.7**	**+1.1**
	comp=Z,0.7nm,1.1s,mb3.6,baz=319,slow=7.8,SNR=4.5						

*IDC **11** 18:54:19.9±0.7, 2320S×17554W, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.4/16, mbtmp4.3/11, MS4.1/10, Ms1 4.1/10, ms1mx3.9/21, Error ellipse: s-maj=27.6km s-min=19.4km az=157.0*
*BJI **11** 18:54:20.3, 2320S×17550W, h10km, mB5.1, mb5.1, Ms4.8, Msz4.7*
*NEIC **11** 18:54:20.3±0.4, 2317S×17549W, h10km, mb4.8/16, Error ellipse: s-maj=13.6km s-min=10.1km az=142.0*
*ISCJB **11** 18:54:22.5±0.5, 2309S±008×17553W±009, h35km, mb4.6/24, MS4.1/9, Error ellipse: s-maj=13.2km s-min=10.2km az=67.4*

ISC 11 18:54:24.2±0.4, 2319S±007×17542W±009, h35km, n61, σ1°28/48, mb4.6/24, MS4.1/9, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.85**	**21**	Pn	**Pn**	**18 56 38.1**	**-5.3**
	2.3nm,0.3s,baz=304,slow=17,SNR=2.8						
AFI				Sn	**Sn**	**18 58 30.7**	**-2.0**
	2.6nm,0.3s,baz=197,slow=17,SNR=3.8						
AFI	**Afiamalu**	**9.85**	**21**	P	**Pn**	**18 56 40.3**	**-3.0**
	82nm,1.5s						
RAR	**Rarotonga**	**14.63**	**85**	Pn	**Pn**	**18 57 39.2**	**-9.4**
	3.1nm,0.3s,baz=220,slow=7.0,SNR=9.2						
RAR				LR	LR	19 02 27.4	
	comp=Z,767nm,20.6s,baz=334,slow=33						
DZM	**Mont Dzumac**	**16.78**	**270**	Pn	**Pn**	**18 58 22.6**	**+6.2**
	0.1nm,0.3s,baz=89,slow=15,SNR=3.8						
TBI	**Tubuai**	**23.84**	**96**	*e*LQ		19 03 48.5	
	394nm,25.8s						
TBI				*e*LR	LR	19 04 45.1	
	499nm,22.0s,baz=268						
PPT	**Papeete**	**24.84**	**82**	*e*LQ		19 04 15.5	
	483nm,24.5s						
PPT				*e*LR	LR	19 05 14.7	
	418nm,21.5s,baz=242						
PPT	**Papeete**	**24.84**	**82**	LR	LR	19 08 15.9	
	comp=Z,446nm,18.3s,MS4.0,baz=267,slow=34						
CTA	**Charters Tower**	**35.69**	**267**	*e*P	**P**	**19 01 19.8**	**+0.6**
	3.5nm,0.4s,mb4.6						
CTA	**Charters Tower**	**35.69**	**267**	P	**P**	**19 01 20.1**	**+0.9**
	5.9nm,0.6s,mb4.7,baz=91,slow=11,SNR=18						
CTA				LR	LR	19 13 45.1	
	comp=Z,113nm,18.9s,MS3.6,baz=338,slow=33			

3.8nm,0.7s,mb4.4,baz=181,slow=5.5,SNR=5.4
MAW Mawson 79.85 199 P **P 19 06 28.8 -0.4**
12nm,1.1s,mb4.7
KSRS Korea Array 80.48 318 P **P 19 06 35.2 +2.7**
2.1nm,0.9s,mb4.1,baz=126,slow=6.6,SNR=4.3
KSRS LR LR 19 37 02.6
comp=Z,64nm,20.8s,MS4.0,baz=274,slow=32
NVAR Mina Array Bea 81.37 42 P **P 19 06 39.2 +1.9**
1.7nm,0.8s,mb4.0,baz=228,slow=8.5,SNR=5.9
NVAR Mina Array Bea 81.37 42 P **P 19 06 39.2 +1.9**
MDJ Mudanjiang 84.09 324 *eP* **P 19 06 54.2 +2.8**
17nm,1.1s,mb5.1
SYO Syowa Base 84.63 192⇑*eP* **P 19 06 53.2 -0.9**
SNAA Sanae 85.26 178 *e* **P 19 06 56.1 -1.2**
SNAA *e* 19 06 57.9
SNAA Sanae 85.26 178 *eP* **P 19 06 55.8 -1.5**
4.9nm,1.0s,mb4.6
VNA2 Neumayer--Watz 85.77 176 *e* **P 19 06 59.6 -0.2**
baz=173,slow=2.1
VNA1 Neumayer--Stat 85.98 176 *e* **P 19 07 00.8 -0.1**
VNA1 *e* 19 07 02.7
KULM Kulim 86.50 277 P **P 19 07 06.3 +2.9**
TXAR Lajitas Array 86.52 56 P **P 19 07 05.0 +1.5**
0.3nm,0.8s,mb3.6,baz=213,slow=9.0,SNR=5.5
TXAR LR LR 19 39 38.8
comp=Z,108nm,18.6s,MS4.3,baz=20,slow=31
TXAR Lajitas Array 86.52 56 P **P 19 07 05.0 +1.5**
TXAR LR LR 19 39 38.8
MA2 Magadan 87.01 344 P **P 19 06 59.5 -6.4**
48nm,1.4s,mb5.5
PDAR Pinedale Array 89.30 42 P **P 19 07 17.6 +0.7**
0.6nm,0.9s,mb3.9,baz=250,slow=3.0,SNR=4.1
PDAR LR LR 19 39 38.6
comp=Z,173nm,18.5s,MS4.5,baz=183,slow=30
XAN Xi'an 91.66 306 P **P 19 07 30.7 +2.9**
XAN AMB AMB
comp=Z,11nm,1.0s,mb5.1
KMI Kunming 92.69 296 P **P 19 07 36.5 +3.9**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
KMI Kunming 92.69 296 P **P 19 07 36.5 +3.9**
comp=Z,10.0nm,1.1s,mb5.2
KMI pP pP 19 07 48.9 +5.2
CD2 Chengdu 94.24 302 *eP* **P 19 07 39.3 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,8.2s
MKAR Makanchi Array 114.77 312 PKP PKiKP 19 13 01.8 +0.8
comp=Z,0.3nm,0.7s,baz=107,slow=1.3,SNR=3.9
BOSA Boshof 124.78 202 PKP PKPdf 19 13 23.8 +3.5
comp=Z,2.7nm,0.9s,baz=143,slow=5.1,SNR=3.1
AKASG Malin Array Be 146.51 331 PKPbc PKPbc 19 14 02.4 +0.7
comp=Z,3.1nm,0.7s,baz=37,slow=4.1,SNR=14
MALT Malatya 147.45 305 *e*PKPdf PKPdf 19 14 02.3 +0.5
BRTR Keskin Array B 150.41 311 PKPbc PKPbc 19 14 13.6 +1.6
comp=Z,2.6nm,0.8s,baz=102,slow=1.8,SNR=13
NIE Niedzica 151.03 339 *eP* PKPbc 19 14 15.5 +2.1
CLL Collm 151.18 349 *i P* PKPbc 19 14 14.9 +1.2
CLL *e* 19 14 38.0
CLL Collm 151.18 349 *i* PKPbc PKPbc 19 14 14.9 +1.2
comp=Z,12nm,1.0s
CLL *e*PKPab PKPab 19 14 23.0 +1.4
BRG Berggiesshubel 151.42 348 *eP* PKPbc 19 14 15.5 +1.2
comp=Z,6.0nm,1.1s
TORD Torodi Ar. Bea 169.64 164 PKP PKPdf 19 14 28.1 +0.2
comp=Z,0.8nm,0.9s,baz=301,slow=1.3,SNR=4.1

*ISCJB **11** 19:06:09.6±0.5, 46°48'N±003"×788E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.0km az=89.5*
*LDG **11** 19:06:11.0±0.1, 46°44'N×789E, h3km, Ml2.2/9, Error ellipse: s-maj=2.1km s-min=0.9km az=93.0*
*VIE **11** 19:06:15.1±1.3, 46°74'N×799E, h0km, mb2.1/1, ML2.5/3, Error ellipse: s-maj=21.3km s-min=7.7km az=169.0 11 km ENE of Interlaken*
ISC 11 19:06:11.7±0.4, 4646'N±002"×784E±004, h10km, n17, σ0§98/27, 4C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CABF	**La Chapelle**	**1.22**	**278**	*e*Pn	**Pn**	**19 06 33.8**	**-0.4**
CABF	**La Chapelle**	**1.22**	**278**	*e*Pg	**Pg**	**19 06 34.6**	**+0.1**
CABF	**La Chapelle**	**1.22**	**278**	*e*P	**Pn**	**19 06 35.7**	**+1.5**
CABF				*e*Sg	**Sg**	**19 06 51.2**	**+0.8**
19nm,0.6s							
LPL	**La Plagne**	**1.22**	**220**	*e*Pg	**Pg**	**19 06 34.1**	**-0.5**
LPL	**La Plagne**	**1.22**	**220**	*e*P	**Pn**	**19 06 35.3**	**+1.1**
LPL				*e*Sg	**Sg**	**19 06 50.2**	**-0.3**
8.8nm,0.5s							
LPG	**La Plagne**	**1.23**	**219**	*e*Pg	**Pg**	**19 06 34.5**	**-0.2**
LPG	**La Plagne**	**1.23**	**219**	*e*P	**Pn**	**19 06 35.7**	**+1.4**
LPG				*e*Sg	**Sg**	**19 06 50.7**	**0.0**
13nm,0.6s							
HINF	**Hinteralfeld**	**1.51**	**334**	*e*Pg	**Pg**	**19 06 39.7**	**-0.4**
HINF				*e*Sg	**Sg**	**19 07 00.1**	**+0.3**
3.2nm,0.4s							
DAVA	**Damuels**	**1.62**	**59**⇓	*e*Pn	**Pn**	**19 06 40.7**	**+1.0**
6.8nm,0.4s							
DAVA				⇑*e*Sg	**Sg**	**19 07 02.6**	**-0.6**
40nm,0.7s							
HAU	**Haudompre**	**1.85**	**327**	*e*Sg	**Sg**	**19 07 10.1**	**-0.4**
5.2nm,0.4s							
MBDF	**Montbardon**	**1.89**	**204**	*e*P	**Pn**	**19 06 45.0**	**+1.6**
MBDF				*e*Sg	**Sg**	**19 07 10.4**	**-1.5**
6.1nm,0.5s							
CDF	**Champ du Feu**	**1.99**	**349**	*e*Pn	**Pn**	**19 06 44.3**	**-0.4**
CDF				*e*Sg	**Sg**	**19 07 14.6**	**-0.4**
3.4nm,0.5s							
ORIF	**Oris-en-Rattie**	**2.07**	**222**	*e*P	**Pn**	**19 06 47.2**	**+1.3**
ORIF	**Oris-en-Rattie**	**2.07**	**222**	*e*Pg	**Pg**	**19 06 50.0**	**-0.8**
ORIF				*e*Sg	**Sg**	**19 07 16.7**	**-0.9**
5.5nm,0.6s							
MOTA	**Moosalm**	**2.40**	**67**⇑	*i*Pn	**Pn**	**19 06 53.5**	**+3.0**
MOTA				⇑*i*Sg	**Sg**	**19 07 28.4**	**+0.1**
10nm,0.7s							
SQTA	**Sankt Quirin**	**2.43**	**71**⇑	*i*Pn	**Pg**	**19 06 55.1**	**-2.6**
1.3nm,0.2s							
SQTA				⇓*i*Sg	**Sg**	**19 07 28.8**	**-0.3**
12nm,0.7s							
SMF	**Signal de Mont**	**2.77**	**275**	*e*Sg	**Sg**	**19 07 39.0**	**-1.0**
3.2nm,0.4s							

*KNET **11** 19:40:13.8±0.6, 42.17N×76.10E, h9km±3km, ml2.2, Error ellipse: s-maj=4.5km s-min=2.7km az=148.0*
*ISCJB **11** 19:40:15.1±1.2, 42°16'N±008"×76°14'E±007, h10km, Error ellipse: s-maj=12.2km s-min=6.0km az=122.7*
*NNC **11** 19:40:15.8±3.0, 42°24'N×76°20'E, h0km, mb3.0, mpv2.4, Error ellipse: s-maj=21.9km s-min=8.2km az=17.0*
ISC 11 19:40:14.7±1.2, 4216'N±007"×7618'E±008, h10km, n14, σ1§11/16, 3C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.10**	**29**	P	**Pg**	**19 40 16.6**	**-0.7**
SNR=3318							
KZA	**Kyzart**	**0.69**	**264**	P	**Pg**	**19 40 26.9**	**-1.2**
SNR=92							
TKM2	**Tokmak 2**	**0.87**	**331**	P	**Pg**	**19 40 30.7**	**-0.9**
SNR=112							
TKM2	**Tokmak 2**	**0.87**	**331**	⇓P	**Pg**	**19 40 30.6**	**-1.0**
0.1nm,0.2s							
TKM2				⇑S	**Sg**	**19 40 43.1**	**+0.1**
2.0nm,0.3s							
KBK	**Karagaybulak**	**1.04**	**299**	P	**Pg**	**19 40 33.7**	**-1.0**
SNR=64							
KNDC	**Almaty**	**1.21**	**29**	⇓P	**Pn**	**19 40 37.2**	**-0.5**
4.2nm,0.1s							
KNDC				⇓S	**Sb**	**19 40 54.0**	**+0.7**
29nm,0.3s							
UCH	**Uchtor**	**1.24**	**274**	P	**Pn**	**19 40 36.7**	**-1.4**
SNR=9.4							
AAK	**Ala-Archa**	**1.33**	**291**	P	**Pn**	**19 40 38.7**	**-0.6**
SNR=22							
CHMS	**Chumysh**	**1.35**	**309**	P	**Pn**	**19 40 39.3**	**-0.3**
SNR=11							
USP	**Osenovka**	**1.66**	**312**	P	**Pn**	**19 40 44.6**	**+0.7**
SNR=14							
AML	**Almayashu**	**1.85**	**270**	P	**Pn**	**19 40 48.0**	**+1.6**
SNR=15							
EKS2	**Erkin-Say**	**1.85**	**287**	P	**Pn**	**19 40 48.6**	**+2.1**
SNR=10							
KK31	**Karatay Array**	**4.29**	**285**	⇓Pn	**Pb**	**19 41 31.9**	**+1.8**
0.8nm,0.6s,baz=97,slow=16,SNR=17							
KK31				Lg		19 42 27.3	
1.9nm,0.5s,baz=102,slow=28,SNR=5.8							
MK31	**Makanchi Array**	**6.37**	**41**	⇑Pn	**Pn**	**19 41 52.9**	**+4.2**
0.2nm,0.5s,baz=216,slow=15,SNR=4.3							
MK31				⇑Lg		19 43 27.6	
0.5nm,0.5s,baz=218,slow=30,SNR=4.5							

KRSC 11 19:44:01.6±1.4, 4899N×15697E, h5km±5km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**3.58**	**15**	P	Pn	19 44 58.5	+0.7
RUS				*i* S	Sn	19 45 40.7	+0.2
RUS	**Russkaya**	**3.58**	**15**	P	Pn	19 44 58.5	+0.7
RUS				*i* S	Sn	19 45 40.7	+0.2
GRL	**Gorelyy**	**3.63**	**11**	P	Pn	19 45 00.1	+1.6
GRL				*i* S	Sn	19 45 43.4	+1.6
GRL	**Gorelyy**	**3.63**	**11**	P	Pn	19 45 00.1	+1.6
GRL				*i* S	Sn	19 45 43.4	+1.6
SDLR	**Sedlovina**	**4.46**	**15**	*e*P	Pn	19 45 10.9	+1.1
SDLR				*e*S	Sn	19 46 02.0	-0.1
SDLR	**Sedlovina**	**4.46**	**15**	*e*P	Pn	19 45 10.9	+1.1
SDLR				*e*S	Sn	19 46 02.0	-0.1
SPN	**Mys Shipunski**	**4.54**	**24**	P	Pn	19 45 13.1	+2.1
SPN				*i* S	Sn	19 46 04.2	+0.1
SPN	**Mys Shipunski**	**4.54**	**24**	P	Pn	19 45 13.1	+2.1
SPN				*i* S	Sn	19 46 04.2	+0.1
GNL	**Ganaly**	**4.75**	**7**	*e*P	Pn	19 45 14.7	+0.8
GNL	**Ganaly**	**4.75**	**7**	*e*P	Pn	19 45 14.7	+0.8
MKZ	**Mys Kozlova**	**6.31**	**26**	P	Pn	19 45 36.8	+1.6
MKZ	**Mys Kozlova**	**6.31**	**26**	P	Pn	19 45 36.8	+1.6
KBTR	**Krutoberegovo**	**8.06**	**24**	P	Pn	19 46 00.9	+1.7
KBTR	**Krutoberegovo**	**8.06**	**24**	P	Pn	19 46 00.9	+1.7

*CSEM **11** 19:48:56.0±0.7, 3697N×2450W, h0km, ML2.2, Error ellipse: s-maj=5.5km s-min=3.7km az=113.0, After PDA*
*PDA **11** 19:48:56.0±0.7, 3697N×2450W, h0km, MD2.7, ML2.2, Error ellipse: s-maj=5.5km s-min=3.7km az=113.0*
SVSA 11 19:48:56.0±0.7, 3697N×2450W, h0km, MD2.7, ML2.2, Error ellipse: s-maj=5.5km s-min=3.7km az=113.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.45**	**274**	*e*P	Pg	19 49 04.3	-0.4
PSMN				*e*S	Sg	19 49 10.6	+0.1
FRA1	**Furnas**	**1.03**	**319**	*e*P	Pg	19 49 16.6	+0.9
VIF	**Vila Franca**	**1.08**	**316**	*e*S	Sg	19 49 26.5	-4.1
VIF							
18nm,0.2s							
PFAD	**Fenais da Ajud**	**1.09**	**323**	*e*P	Pg	19 49 13.5	-3.3
PFAD				*e*S	Sg	19 49 26.5	-4.4
PRCH	**Ribeira Ch**	**1.09**	**314**	*e*S	Sg	19 49 26.9	-4.0
PRCH							
32nm,0.2s							
MESC	**Monte Escuro**	**1.11**	**318**	*e*P	Pg	19 49 13.8	-3.6
MESC				*e*S	Sg	19 49 27.6	-4.2
CML	**Cha da Macela**	**1.15**	**314**	*e*P	Pg	19 49 14.8	-3.3
CML				*e*S	Sg	19 49 28.5	-4.6
FAC	**Faja de Cima**	**1.22**	**312**	*e*P	Pg	19 49 29.9	+11
PSAN	**Santo Antonio**	**1.31**	**312**	*e*P	Pg	19 49 30.8	+10
PFET	**Feteiras**	**1.33**	**310**	*e*P	Pg	19 49 29.8	+8.3
SET2	**Ginetes**	**1.36**	**310**	*e*P	Pg	19 49 32.0	+10
SET4	**Mosteiros**	**1.37**	**312**	*e*P	Pg	19 49 32.7	+10

MAN 11 19:59:11.7, 1226N×12578E, h28km, mb3.0, ML4.3, MS2.9, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.73**	**207**	*e*P	Pb	19 59 25.8	0.0
PLP	**Palo**	**1.34**	**216**	*e*P	Pn	19 59 34.6	+0.1
PLP				*e*S	Sn	19 59 51.9	+0.5
OCLP	**Ormoc**	**1.66**	**224**	*e*P	Pn	19 59 40.2	+1.3
OCLP				*e*S	Sn	20 00 12.7	+13
PVCP	**Virac**	**2.07**	**310**	*e*P	Pn	19 59 44.7	+0.1
SCPH	**Surigao**	**2.48**	**187**	*i* P	Pn	19 59 50.9	+0.7

GUC 11 20:21:32.4±0.9, 3163S×7174W, h29km±3km, MD4.0, ML3.4, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.32**	**141**⇓	*i*P	Pb	20 21 39.9	-0.1
CHNG				*i* S	Sb	20 21 45.0	-0.1
CHNG				AML	AML	20 21 45.7	
comp=N,6μm,0.2s							
CMCH	**Combarbala**	**0.78**	**54**⇑	*i*P	Pb	20 21 46.7	-0.7
CMCH				*i* S	Sb	20 21 57.2	-0.3
CMCH				AML	AML	20 22 04.5	
comp=E,5μm,0.6s							
PTCH	**Petorca**	**0.93**	**133**⇓	*i*P	Pn	20 21 49.3	-0.2
PTCH				*i* S	Sb	20 22 01.9	0.0
PTCH				AML	AML	20 22 05.3	
comp=N,3μm,0.6s							
OVCH	**Ovalle**	**1.12**	**24**⇑	*i*P	Pn	20 21 52.7	+0.6
OVCH				*i* S	Sn	20 22 07.4	+0.9
OVCH				AML	AML	20 22 11.6	
comp=N,1μm,0.7s							
ROCH	**El Roble**	**1.47**	**156**	*i* P	Pn	20 21 58.1	+1.1
ROCH				*i* S	Sn	20 22 17.4	+2.2
TLL	**Tololo Astrono**	**1.66**	**29**	*e*P	Pn	20 22 01.7	+2.1
TLL				*i* S	Sn	20 22 23.3	+3.3
TLL				AML	AML	20 22 27.1	
comp=E,530nm,0.4s							
PEL	**Peldehue**	**1.75**	**150**	*e*P	Pn	20 22 02.1	+1.3
PEL				*i* S	Sn	20 22 25.2	+3.0
PEL				AML	AML	20 22 29.5	
comp=E,747nm,0.4s							
LSCH	**La Serena**	**1.77**	**14**	*e*P	Pn	20 22 01.7	+0.6
LSCH				*i* S	Sn	20 22 24.6	+2.0
RCDM	**Rinconada Maip**	**2.01**	**157**	*e*P	Pn	20 22 05.5	+1.1
RCDM				*i* S	Sn	20 22 30.8	+2.1
RCDM				AML	AML	20 22 39.4	
comp=E,253nm,0.4s							
CLCH	**Cerro Calan**	**2.03**	**150**	*e*P	Pn	20 22 06.4	+1.7
CLCH				*i* S	Sn	20 22 32.0	+3.0
FCH	**Farellones**	**2.09**	**145**	*i* P	Pn	20 22 07.3	+1.9
FCH				*i* S	Sn	20 22 34.5	+4.0
FCH				AML	AML	20 22 38.6	
comp=E,319nm,0.3s							
TACH	**Talagante**	**2.13**	**162**⇑	*e*PN3		20 17 48.7	
TACH				⇑*i*P		20 22 07.3	
TACH				*i* S	Sn	20 22 33.8	+2.4
ANTU	**Antumapu**	**2.15**	**155**	*i* S	Sn	20 22 34.3	+2.4
ANTU				AML	AML	20 22 43.5	
comp=E,335nm,0.5s							
PCH	**Pirque**	**2.24**	**153**	*i* P	Pn	20 22 08.9	+1.5
LNV	**Longovilo**	**2.33**	**173**⇓	*i*P	Pn	20 22 10.1	+1.2
CHCH	**Chadas Angostu**	**2.47**	**159**	*e*P	Pn	20 22 12.2	+1.5
CACH	**El Canelo**	**2.66**	**159**	*e*P	Pn	20 22 15.5	+2.3
CICH	**Cipreses**	**2.90**	**158**⇑	*i*P	Pn	20 22 18.2	+1.6
CICH				*i* S	Sn	20 22 53.3	+2.8

*FUNV **11** 20:36:20.9, 1141N×6488W, h5km, MW3.8*
*ISCJB **11** 20:36:21.1±0.3, 1151N±004"×6492W±002, h54km±8km, mb3.7/1, Error ellipse: s-maj=7.1km s-min=2.8km az=142.8*
*TRN **11** 20:36:22.5, 1143N×6494W, h69km, MD4.6*
*NEIC **11** 20:36:23.7, 1143N×6482W, h27km, mb4.1/1, MD4.6(TRN), After TRN.*
*IDC **11** 20:36:29.9±2.5, 1075N×6493W, h34km±23km, mb3.6/5, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML2.8/1, MS3.2/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=30.6km s-min=19.1km az=6.0*
ISC 11 20:36:22.5±0.7, 1147N±004"×6490W±002, h32km±6km, n49, σ1§14/65, mb3.7/1, 8C-6D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAV	**Isla la Blanqu**	**0.48**	**42**⇓	*i*P	**Pb**	**20 36 31.7**	**-1.0**
IBAV				*e*S	**Sb**	**20 36 39.3**	**-0.4**
PCRV	**Puerto La Cruz**	**1.31**	**168**	Pg	**Pn**	**20 36 43.6**	**-0.9**
207nm,0.3s,baz=321,slow=4.7,SNR=334							
PCRV				Lg		20 37 03.1	
142nm,0.3s,baz=341,slow=3.9,SNR=8.3							
PCRV	**Puerto La Cruz**	**1.31**	**168**⇓	*e*P	**Pn**	**20 36 43.6**	**-0.9**
ORCV	**Isla La Orchil**	**1.31**	**285**⇑	*e*P	**Pn**	**20 36 44.9**	**+0.3**
ORCV				*e*S	**Sn**	**20 37 02.6**	**+1.7**
CUPV	**Cœpira**	**1.65**	**212**⇓	*e*P	**Pn**	**20 36 49.3**	**+0.2**
CUPV				*e*S	**Sn**	**20 37 11.5**	**+2.2**
BIRV	**Birongo**	**1.66**	**234**⇑	*e*P	**Pn**	**20 36 48.9**	**-0.5**
ITEV	**Isla Los Testi**	**1.74**	**93**⇑	*e*P	**Pn**	**20 36 48.4**	**-2.1**
CRUV	**Carupano**	**1.82**	**115**	*e*P	**Pn**	**20 36 52.9**	**+1.4**
CRUV				*e*S	**Sn**	**20 37 17.8**	**+4.4**
FUNV	**FUNVISIS**	**2.12**	**242**	*e*P	**Pn**	**20 36 55.3**	**-0.4**
GUNV	**Guanoco**	**2.32**	**124**⇓	*e*P	**Pn**	**20 36 58.1**	**-0.3**
MERV	**Las Mercedes**	**2.59**	**212**⇓	*e*P	**Pn**	**20 37 03.0**	**+0.9**
MERV				*e*S	**Sn**	**20 37 33.5**	**+1.0**
GUIV	**Guiria**	**2.75**	**107**	*e*P	**Pn**	**20 37 04.1**	**-0.3**
TURV	**Turiamo**	**3.06**	**251**	*e*P	**Pn**	**20 37 08.1**	**-0.5**
TURV				*e*S	**Sn**	**20 37 44.4**	**+0.4**
TCE	**Chacachacare**	**3.19**	**104**	*e*P	**Pn**	**20 37 11.8**	**+1.5**
TCE				*e*S	**Sn**	**20 37 45.7**	**-1.5**
GRW	**Mount Saint Ca**	**3.25**	**77**	*e*P	**Pn**	**20 37 11.8**	**+0.5**
GRW				*e*S	**Sn**	**20 37 48.2**	**-0.5**
GRW				*e*S	**Sn**	**20 37 48.5**	**-0.3**
TRN	**Trinidad (W)**	**3.53**	**103**	*e*P	**Pn**	**20 37 16.9**	**+1.8**
TRN				*e*S	**Sn**	**20 37 53.9**	**-1.8**
TRN	**Trinidad (W)**	**3.53**	**103**	*e*P	**Pn**	**20 37 17.3**	**+2.2**
TRN				*e*S	**Sn**	**20 37 53.9**	**-1.8**
JACV	**Jacura**	**3.87**	**265**	*e*P	**Pn**	**20 37 20.0**	**+0.3**
JACV				*e*S	**Sn**	**20 38 05.2**	**+1.1**
TBH	**Brigand Hill**	**3.89**	**104**	*e*P	**Pn**	**20 37 21.6**	**+1.6**
FCV	**Fort Charlotte**	**3.95**	**64**	*e*P	**Pn**	**20 37 21.2**	**+0.4**
FCV				*e*S	**Sn**	**20 38 05.5**	**-0.6**
FCV	**Fort Charlotte**	**3.95**	**64**	*e*P	**Pn**	**20 37 17.0**	**-3.9**
BAUV	**El Baul**	**3.98**	**231**⇑	*e*P	**Pn**	**20 37 24.8**	**-0.5**
BAUV				*e*S	**Sn**	**20 38 05.4**	**-1.3**
SVB	**Belmont**	**3.99**	**63**⇑	*e*P	**Pn**	**20 37 22.8**	**+1.3**
SVB				*e*S	**Sn**	**20 38 07.2**	**0.0**
TPR	**Prospect**	**4.06**	**94**	*e*P	**Pn**	**20 37 24.9**	**+2.6**
SSV	**Crater Summit**	**4.07**	**63**	*e*P	**Pn**	**20 37 23.4**	**+0.9**
SSV				*e*S	**Sn**	**20 38 09.4**	**+0.3**
CAOV	**Caicara del Or**	**4.34**	**199**⇓	*e*P	**Pn**	**20 37 24.1**	**-2.1**
TEPV	**Terepaima**	**4.47**	**251**	*e*P	**Pn**	**20 37 28.0**	**0.0**
TEPV				*e*S	**Sn**	**20 38 17.8**	**-1.1**
BIM	**Bigot**	**4.81**	**51**⇑	*e*P	**Pn**	**20 37 32.8**	**+0.1**
SIQV	**Siquisique**	**4.88**	**261**⇑	*e*P	**Pn**	**20 37 33.8**	**+0.2**
SIQV				*e*S	**Sn**	**20 38 27.2**	**-1.9**
FDF	**Fort de France**	**4.89**	**48**⇑	*e*P	**Pn**	**20 37 34.1**	**+0.4**
FDF				*e*S	**Sn**	**20 38 27.4**	**-1.8**
SANV	**Sanarito**	**4.96**	**247**	*e*P	**Pn**	**20 37 35.1**	**+0.4**
SANV				*e*S	**Sn**	**20 38 29.5**	**-1.3**
CURV	**Curarigua**	**5.17**	**254**	*e*P	**Pn**	**20 37 38.2**	**+0.5**
CURV				*e*S	**Sn**	**20 38 34.6**	**-1.7**
QARV	**Quebrada Arrib**	**5.66**	**258**	*e*P	**Pn**	**20 37 44.0**	**-0.3**
SDV	**Santo Domingo**	**6.20**	**246**	Pn	**Pn**	**20 37 53.7**	**+2.0**
1.4nm,0.3s,baz=49,slow=9.3,SNR=4.4							
SDV				Sn	**Sn**	**20 39 01.3**	**-0.1**
13nm,0.3s,baz=215,slow=15,SNR=12							
SDV	**Santo Domingo**	**6.20**	**246**	*e*Pn	**Pn**	**20 37 59.3**	**+7.6**
LUEV	**Luepa**	**6.54**	**148**	*e*P	**Pn**	**20 37 55.0**	**-1.4**
MTP	**Monte Pirata**	**6.62**	**355**	Pn	**Pn**	**20 38 03.7**	**+6.1**
SOCV	**Socops**	**6.66**	**242**	*e*P	**Pn**	**20 37 57.3**	**-0.8**
SOCV				*e*S	**Sn**	**20 39 08.5**	**-4.4**
VIRV	**Villa del Rosa**	**7.43**	**263**	*e*S	**Sn**	**20 39 26.8**	**-5.0**
ROSC	**El Rosal**	**11.41**	**236**	Pn	**Pn**	**20 39 05.0**	**+1.9**
1.3nm,0.3s,baz=95,slow=17,SNR=8.7							
SAML	**Samuel**	**20.35**	**175**	*e*P	**P**	**20 40 55.9**	**-0.2**
16nm,1.5s							
SIV	**San Ignacio**	**27.54**	**172**	P	**P**	**20 42 07.7**	**+1.4**
1.0nm,0.5s,mb3.7,baz=354,slow=9.2,SNR=5.1							
LPAZ	**La Paz**	**27.76**	**187**	LR	LR	20 53 56.7	
comp=Z,46nm,19.3s,baz=280,slow=39							
TXAR	**Lajitas Array**	**40.21**	**302**	P	sP	20 44 07.1	-2.2
0.2nm,0.6s,baz=128,slow=5.8,SNR=3.4							
LAZ	**Ladrone**	**44.67**	**308**	*eP*	sP	20 44 44.9	-0.7
ULM	**Lac du Bonnet**	**46.29**	**333**	P	sP	20 44 58.0	-0.5
3.1nm,0.9s,baz=135,slow=5.7,SNR=2.9							
ULM	**Lac du Bonnet**	**46.29**	**333**	P	sP	20 44 58.0	-0.5
ESDC	**Sonseca Array**	**60.46**	**51**	P	pP	20 46 38.3	-0.7
0.3nm,0.6s,baz=257,slow=7.3,SNR=6.3							
TORD	**Torodi Ar. Bea**	**64.92**	**81**	P	pP	20 47 07.9	-0.9
1.3nm,0.8s,baz=287,slow=6.6,SNR=9.0							

IDC 11 21:00:58.4±7.8, 513S×15096E, h218km±43km, mb3.1/3, mb1 3.4/4, mb1mx3.1/13, mbtmp3.3/4, Error ellipse: s-maj=83.1km s-min=66.3km az=154.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.68**	**221**	P	Pn	21 02 21.6	-0.2
2.8nm,0.3s,baz=22,slow=8.5,SNR=22							
PMG				S		21 03 29.3	+1.3
1.1nm,0.3s,baz=24,slow=19,SNR=4.3							
WRA	**Warramunga Arr**	**21.87**	**226**	P	P	21 05 33.5	-0.2
1.4nm,0.8s,baz=52,slow=9.7,SNR=15							
ASAR	**Alice Springs**	**24.69**	**220**	P	P	21 06 00.0	+0.6
1.0nm,0.7s,baz=56,slow=8.8,SNR=19							
STKA	**Stephens Creek**	**28.02**	**197**	P	P	21 06 29.5	+0.4
0.9nm,0.8s,baz=1.6,slow=15,SNR=3.2							

IDC 11 21:03:37.6±31.0, 1632S×17876W, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.0/15, mbtmp4.2/4, Error ellipse: s-maj=597.3km s-min=127.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.12**	**239**	*e*P	P	21 11 07.3	+0.6
2.2nm,0.5s							
STKA	**Stephens Creek**	**39.12**	**239**	P	P	21 11 07.3	+0.6
2.5nm,0.4s,baz=88,slow=9.3,SNR=15							
WB2	**Warramunga

	5.9nm,0.6s,mb4.1,baz=52,slow=10,SNR=23									
AS31	**Alice Springs**	**23.82**	**222**	*eP*		**P**		**21 22 00.7**	**+0.2**
ASAR	**Alice Springs**	**23.83**	**222**	P		**P**		**21 22 00.8**	**+0.2**
	4.6nm,0.4s,mb4.2,baz=56,slow=8.7,SNR=141									
ASPA	**Alice Springs**	**23.83**	**222**	*eP*		**P**		**21 22 00.8**	**+0.2**
STKA	**Stephens Creek**	**26.80**	**198**	*eP*		**P**		**21 22 28.4**	**+0.9**
	2.7nm,0.4s,mb4.1									
STKA	**Stephens Creek**	**26.80**	**198**	P		**P**		**21 22 28.8**	**+1.3**
	3.4nm,0.5s,mb4.1,baz=14,slow=6.6,SNR=8.0									
STKA	**Stephens Creek**	**26.80**	**198**	*eP*		**P**		**21 22 27.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.45**	**243**	*eP*		**P**		**21 22 33.3**	**-0.1**
	14nm,0.6s,mb4.7									
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P		**P**		**21 22 34.0**	**+0.6**
	6.5nm,0.5s,mb4.4,baz=53,slow=9.2,SNR=28									
MBWA	**Marble Bar**	**33.75**	**241**	*eP*		**P**		**21 23 28.2**	**-0.7**
	64nm,1.6s,mb5.3									
KULM	**Kulim**	**51.78**	**282**	*eP*		**P**		**21 25 54.5**	**-0.2**
VNDA	**Vanda**	**71.22**	**178**	P		**P**		**21 28 04.9**	**-0.8**
	0.4nm,0.8s,mb3.4,baz=327,slow=6.0,SNR=3.6									
MKAR	**Makanchi Array**	**80.55**	**319**	P		**P**		**21 29 00.1**	**+1.2**
	0.3nm,0.6s,mb3.4,baz=100,slow=5.9,SNR=4.3									
TORD	**Torodi Ar. Bea**	**149.24**	**285**	PKPbc	PKPbc			21 36 36.6	+1.7	
	1.9nm,0.6s,baz=95,slow=2.3,SNR=18									

KNET ***11*** *21:29:42.6±0.5, 42.19N×74.15E, h15km±3km, ml1.4, Error ellipse: s-maj=2.9km s-min=2.1km az=169.0*
ISCJB ***11*** *21:29:43.3±1.1, 4222N±0.10×74.10E±0.08, h3km±16km, Error ellipse: s-maj=16.8km s-min=9.7km az=169.1*

ISC 11 21:29:43.7±1.1,4223N±009×7409E±006,h6km±17km,n8, σ0§70/9,1D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AML	**Almayashu**	**0.31**	**252**	P		**Pg**	**21**	**29**	**50.1**	**+0.3**
	SNR=18									
UCH	**Uchtor**	**0.31**	**90**	P		**Pg**	**21**	**29**	**49.3**	**-0.6**
	SNR=52									
EKS2	**Erkin-Say**	**0.49**	**332**	P		**Pg**	**21**	**29**	**54.0**	**+0.7**
	SNR=12									
AAK	**Ala-Archa**	**0.51**	**36**	P		**Pg**	**21**	**29**	**53.7**	**+0.3**
	SNR=8.1									
KBK	**Karagaybulak**	**0.77**	**56**	P		**Pg**	**21**	**29**	**58.2**	**-0.3**
	SNR=18									
USP	**Ospenovka**	**1.08**	**16**	P		**Pg**	**21**	**30**	**04.4**	**-0.1**
	SNR=16									
ULHL	**Ulahol**	**1.60**	**89**	P		**Pn**	**21**	**30**	**12.6**	**+0.1**
	SNR=5.4									
KK31	**Karatay Array**	**2.78**	**290**	⇓P		**Pg**	**21**	**30**	**38.1**	**+1.1**
	0.1nm,0.3s,baz=103,slow=16,SNR=4.5									
KK31				S		**Sg**	**21**	**31**	**11.6**	**-1.5**
	1.1nm,0.5s,baz=113,slow=26,SNR=11									

ISCJB ***11*** *21:38:10.4±0.7, 685N×007×7298W±008, h170km±8km, mb3.0/2, Error ellipse: s-maj=16.2km s-min=7.0km az=83.3*
IDC ***11*** *21:38:10.8±0.8, 680N×73.00W, h159km±11km, mb2.9/2, mb1 3.4/4, mb1mx3.1/19, mbtmp3.1/4, MS2.7/2, Ms1 2.7/2, ms1mx2.2/9, Error ellipse: s-maj=34.7km s-min=7.6km az=132.0*
FUNV ***11*** *21:38:11.0, 674N×73.11W, h166km, MW3.2*

ISC 11 21:38:11.5±0.7,685N±007×7297W±008,h164km±8km,n15, σ1§05/19,mb3.0/2,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CAPV	**Capacho**	**1.20**	**33**	⇑*iP*		**Pn**	**21**	**38**	**40.1**	**+0.8**
CAPV				*eS*		**Sn**	**21**	**39**	**01.3**	**+0.7**
ROSC	**El Rosal**	**2.40**	**214**	P		**Pn**	**21**	**38**	**52.3**	**+0.2**
	20nm,0.3s,baz=277,slow=21,SNR=96									
ROSC				S		**Sn**	**21**	**39**	**22.0**	**-1.3**
	53nm,0.3s,baz=84,slow=19,SNR=16									
SOCV	**Socops**	**2.54**	**56**	⇓*iP*		**Pn**	**21**	**38**	**55.1**	**+1.3**
SOCV				*eS*		**Sn**	**21**	**39**	**26.8**	**+0.4**
VIGV	**El Vigia**	**2.54**	**39**	*eP*		**Pn**	**21**	**38**	**54.6**	**+0.8**
VIGV				*eS*		**Sn**	**21**	**39**	**26.5**	**0.0**
SDV	**Santo Domingo**	**3.08**	**49**	P		**Pn**	**21**	**39**	**01.7**	**+1.3**
	13nm,0.3s,baz=230,slow=2.0,SNR=31									
SDV				S		**Sn**	**21**	**39**	**38.7**	**+0.4**
	13nm,0.3s,baz=290,slow=16,SNR=16									
VIRV	**Villa del Rosa**	**3.67**	**9**	*eP*		**Pn**	**21**	**39**	**07.2**	**-0.7**
VIRV				*eS*		**Sn**	**21**	**39**	**50.4**	**-1.4**
CURV	**Curarigua**	**4.33**	**43**	*eP*		**Pn**	**21**	**39**	**16.8**	**+0.4**
CURV				*eS*		**Sn**	**21**	**40**	**04.8**	**-2.2**
DABV	**Dabajuro**	**4.66**	**30**	*eP*		**Pn**	**21**	**39**	**21.4**	**+0.7**
BAUV	**El Baul**	**5.31**	**67**	⇓*iP*		**Pn**	**21**	**39**	**28.4**	**-0.8**
BAUV				*eS*		**Sn**	**21**	**40**	**27.3**	**-2.7**
PCRV	**Puerto La Cruz**	**8.88**	**68**	LR		LR	21	43	36.8	
	comp=Z,26nm,19.0s,baz=341,slow=36									
CMIG	**Matias Romero**	**23.70**	**297**	LR		LR	21	53	02.7	
	comp=Z,36nm,21.2s,baz=29,slow=38									
TXAR	**Lajitas Array**	**36.55**	**312**	P		**P**	**21**	**45**	**00.7**	**-0.7**
	0.3nm,0.7s,mb3.1,baz=138,slow=11,SNR=3.4									
PDAR	**Pinedale Array**	**48.14**	**324**	P		**P**	**21**	**46**	**36.0**	**+1.1**
	0.2nm,0.5s,mb3.0,baz=130,slow=8.4,SNR=2.7									
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc		PKPbc	21	57	40.9	+0.2
	0.3nm,0.7s,baz=122,slow=4.0,SNR=4.9									
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc		PKPbc	21	57	43.9	+0.2
	0.3nm,0.6s,baz=108,slow=3.0,SNR=4.5									

IDC ***11*** *22:10:24.0±1.3, 4221S×8550W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/16, mbtmp4.2/7, ML3.0/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/22, Error ellipse: s-maj=38.7km s-min=25.7km az=86.0*
ISCJB ***11*** *22:10:27.4±0.5, 4141S±009×857W±0.1, h10km, mb4.5/6, MS4.2/12, Error ellipse: s-maj=12.9km s-min=10.8km az=137.1*
NEIC ***11*** *22:10:28.7±1.1, 4148S×8561W, h10km, mb4.7/5, Error ellipse: s-maj=22.3km s-min=21.0km az=110.0*
GCMT ***11*** *22:10:28.7±0.3, 4140S×8569W, h14km±1km, MW5.0/65, Moment Tensor Solution. s28,c33; s65,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.39±.21; $M_{\theta\theta}$0.20±.12; $M_{\phi\phi}$3.19±.15; $M_{r\theta}$0.07±.35; $M_{r\phi}$-0.77±.08; $M_{\theta\phi}$0.42±.25; Best double couple: $M_0$3.41100×10^{16} NP1:ϕ_s344.00000°,δ42.00000°,λ-94.00000°. NP2: ϕ_s169.00000°,δ48.00000°,λ-86.00000°. Principal axes: T 3.4000, Plg3.0000°, Azm257.0000°; N 0.0160, Plg3.0000°, Azm347.0000°; P -3.4210, Plg86.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 22:10:28.8±0.5,4142S±009×858W±01,h10km, (h9km±4.9km:pP-P),n28,σ1§04/19,mb4.5/6,MS4.2/12,1C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CFAA	**Coronel Fontan**	**17.13**	**61**	P		**Pn**	**22**	**14**	**27.4**	**-0.9**
	0.1nm,0.3s,baz=227,slow=9.5,SNR=19									
CFAA				LR		LR	22	19	41.5	
	comp=Z,159nm,21.3s,baz=210,slow=32									
USHA	**Ushuaia**	**17.65**	**145**	LR		LR	22	19	38.2	
	comp=Z,178nm,18.7s,baz=239,slow=33									
TRQA	**Tornquist**	**18.59**	**87**	*eP*		**Pn**	**22**	**14**	**46.5**	**+0.3**
	53nm,1.3s									
LVC	**Limon Verde**	**23.50**	**42**	P		**P**	**22**	**15**	**39.8**	**+0.8**
	3.1nm,0.9s,baz=191,slow=11,SNR=5.1									
LVC				LR		LR	22	22	30.9	
	comp=Z,574nm,20.9s,MS4.0,baz=222,slow=30									
LVC	**Limon Verde**	**23.50**	**42**	*eP*		**P**	**22**	**15**	**38.9**	**-0.1**
	42nm,1.7s,mb4.6									
LVC				LR		LR	22	22	30.9	
RPN	**Rapa Nui**	**24.03**	**299**	LR		LR	22	22	37.0	
	comp=Z,902nm,19.0s,MS4.3,baz=99,slow=30									
LPAZ	**La Paz**	**29.30**	**36**	P		**P**	**22**	**16**	**33.3**	**+1.9**
	2.4nm,0.8s,mb4.0,baz=193,slow=6.0,SNR=9.4									
LPAZ				LR		LR	22	25	46.3	
	comp=Z,204nm,20.4s,MS3.7,baz=266,slow=31									
LPAZ	**La Paz**	**29.30**	**36**	*eP*		**P**	**22**	**16**	**31.1**	**-0.3**
	23nm,1.7s,mb4.6									
LPAZ				LR		LR	22	25	46.3	
SAML	**Samuel**	**38.01**	**38**	*eP*		**P**	**22**	**17**	**45.8**	**-1.2**
	8.0nm,1.5s,mb4.2									
RKT	**Rikitea**	**44.79**	**278**	*eS*		**S**	**22**	**25**	**20.1**	**+0.3**
	121nm,28.0s									
RKT				*e*LR		LR	22	31	17.7	
	1μm,26.5s,baz=127									
ROSC	**El Rosal**	**47.22**	**16**	LR		LR	22	36	34.4	
	comp=Z,232nm,19.5s,MS4.2,baz=349,slow=33									
VNA1	**Neumayer--Stat**	**47.50**	**154**	*e*		**P**	**22**	**19**	**04.9**	**+0.9**
VNA1				*e*		pP	22	19	05.9	-1.3
VNA1				*e*		pP	22	19	08.6	+1.4
VNA2	**Neumayer--Watz**	**47.76**	**154**	*e*		**P**	**22**	**19**	**06.3**	**+0.2**
	baz=270,slow=8.8									
VNA2				*e*		pP	22	19	07.4	-1.8
VNA2				*e*		pP	22	19	10.6	+1.4
QSPA	**South Pole Qui**	**48.82**	**180**	*eP*		**P**	**22**	**19**	**15.1**	**+0.8**
SNAA	**Sanae**	**49.12**	**155**	*e*		**P**	**22**	**19**	**15.1**	**-1.4**
SNAA				*e*		pP	22	19	16.3	-3.4
SNAA				*e*		pP	22	19	19.8	+0.1
SNAA	**Sanae**	**49.12**	**155**	*eP*		**P**	**22**	**19**	**14.8**	**-1.8**
	63nm,1.7s,mb5.4									
VNDA	**Vanda**	**54.48**	**194**	LR		LR	22	38	34.7	
	comp=Z,184nm,19.3s,MS4.2,baz=127,slow=31									
TBI	**Tubuai**	**55.52**	**268**	*eS*		**S**	**22**	**27**	**47.5**	**-1.9**
	135nm,29.2s									
TBI				*e*LR		LR	22	36	10.9	
	741nm,29.5s,baz=124									
PPT	**Papeete**	**59.04**	**273**	*eS*		**S**	**22**	**28**	**34.6**	**-1.1**
	193nm,27.2s									
PPT				*e*LR		LR	22	37	52.4	
	849nm,27.2s									
PPT	**Papeete**	**59.04**	**273**	LR		LR	22	38	09.7	
	comp=Z,220nm,18.8s,MS4.3,baz=143,slow=28									
SYO	**Syowa Base**	**62.75**	**161**	⇑*eP*		**P**	**22**	**20**	**54.6**	**+0.4**
MAW	**Mawson**	**68.74**	**168**	LR		LR	22	46	53.3	
	comp=Z,86nm,19.9s,MS4.0,baz=69,slow=32									
TXAR	**Lajitas Array**	**72.32**	**344**	P		**P**	**22**	**21**	**55.9**	**+1.3**
	1.2nm,0.7s,baz=161,slow=5.7,SNR=16									
AFI	**Afiamalu**	**77.98**	**262**	LR		LR	22	49	37.9	
	comp=Z,241nm,18.3s,MS4.6,baz=86,slow=30									
BOSA	**Boshof**	**85.60**	**125**	LR		LR	22	53	38.8	
	comp=Z,114nm,19.9s,MS4.3,baz=217,slow=30									
PDAR	**Pinedale Array**	**86.50**	**343**	P		**P**	**22**	**23**	**13.1**	**+1.2**
	0.6nm,0.6s,mb4.0,baz=187,slow=4.5,SNR=4.0									
PDAR				LR		LR	22	56	42.0	
	comp=Z,122nm,20.7s,MS4.3,baz=330,slow=32									
TORD	**Torodi Ar. Bea**	**96.69**	**78**	P		**P**	**22**	**23**	**58.0**	**-1.4**
	1.3nm,1.0s,mb4.3,baz=278,slow=3.1,SNR=4.9									
TORD				LR		LR	23	04	22.9	
	comp=Z,148nm,19.0s,MS4.5,baz=200,slow=34									
SCHQ	**Schefferville**	**97.23**	**11**	LR		LR	23	02	14.2	
	comp=Z,172nm,18.2s,MS4.6,baz=309,slow=32									

NEIC ***11*** *22:15:51.9±1.7, 643S×151.15E, h10km, mb4.4/4, Error ellipse: s-maj=43.5km s-min=18.9km az=112.0*
ISCJB ***11*** *22:15:57.9±4.5, 65S±02×151.0E±0.03, h66km±33km, mb3.9/6, Error ellipse: s-maj=43.1km s-min=24.4km az=24.0.*
IDC ***11*** *22:15:59.1±7.7, 654S×151.09E, h59km±59km, mb3.7/6, mb1 3.9/7, mb1mx3.7/14, mbtmp3.7/7, ML2.8/1, Error ellipse: s-maj=58.7km s-min=29.9km az=92.0*

ISC 11 22:16:00.4±4.5,65S±02×1509E±03,h70km±31km,n15, σ1§06/15,mb3.9/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**4.73**	**232**	P		**Pn**	**22**	**17**	**08.4**	**-0.7**
	2.8nm,0.3s,baz=19,slow=11,SNR=7.7									
PMG				S		**Sn**	**22**	**18**	**05.4**	**+2.7**
	2.0nm,0.3s,baz=176,slow=22,SNR=3.9									
KAKA	**Kakadu**	**19.25**	**250**	*eP*		**Pn**	**22**	**20**	**19.8**	**-1.0**
	7.2nm,0.6s									
WB2	**Warramunga Arr**	**20.93**	**229**	*eP*		**P**	**22**	**20**	**35.7**	**-1.6**
WRA	**Warramunga Arr**	**20.94**	**229**	P		**P**	**22**	**20**	**37.2**	**-0.2**
	3.4nm,0.7s,baz=54,slow=11,SNR=17									
AS31	**Alice Springs**	**23.65**	**222**	*eP*		**P**	**22**	**21**	**05.6**	**+0.2**
ASAR	**Alice Springs**	**23.65**	**222**	P		**P**	**22**	**21**	**05.2**	**-0.2**
	2.3nm,0.6s,mb3.7,baz=53,slow=8.2,SNR=71									
ASPA	**Alice Springs**	**23.66**	**222**	*eP*		**P**	**22**	**21**	**05.6**	**+0.2**
STKA	**Stephens Creek**	**26.71**	**198**	*eP*		**P**	**22**	**21**	**33.7**	**+0.6**
	3.4nm,0.5s,mb4.1									
STKA	**Stephens Creek**	**26.71**	**198**	P		**P**	**22**	**21**	**34.1**	**+1.0**
	3.1nm,0.7s,mb3.9,baz=21,slow=8.2,SNR=6.0									
FITZ	**Fitzroy Crossi**	**27.23**	**243**	*eP*		**P**	**22**	**21**	**37.6**	**-0.2**
	7.6nm,0.6s,mb4.4									
FITZ	**Fitzroy Crossi**	**27.23**	**243**	P		**P**	**22**	**21**	**38.8**	**+1.0**
	3.9nm,0.6s,mb4.1,baz=53,slow=8.7,SNR=17									
SONM	**Songino Array**	**66.80**	**329**	P		**P**	**22**	**26**	**46.1**	**+1.5**
	0.4nm,0.6s,mb3.5,baz=147,slow=4.1,SNR=4.4									
PALK	**Pallekele**	**71.39**	**280**	P		**P**	**22**	**27**	**11.6**	**-1.5**
	2.8nm,0.6s,mb4.3									
MKAR	**Makanchi Array**	**80.40**	**320**	P		**P**	**22**	**28**	**04.9**	**+0.6**
	0.5nm,0.8s,mb3.4,baz=111,slow=6.9,SNR=5.0									
TORD	**Torodi Ar. Bea**	**149.01**	**285**	PKPbc		PKPbc	22	35	41.5	+1.1
	0.8nm,0.6s,baz=63,slow=3.1,SNR=7.2									

BJI ***11*** *22:27:42.7, 094S×123.87E, h175km, mB4.8, mb4.8*
MOS ***11*** *22:27:46.9±0.9, 0.10N×123.24E, h144km, mb4.6/30, Error ellipse: s-maj=14.3km s-min=6.6km az=118.6*
IDC ***11*** *22:27:48.7±0.8, 002S×123.19E, h144km±7km, mb4.3/27, mb1 4.4/29, mb1mx4.4/31, mbtmp4.3/29, MS4.0/5, Ms1 4.0/5, ms1mx3.1/35, Error ellipse: s-maj=14.5km s-min=7.2km az=61.0*
ISCJB ***11*** *22:27:51.4±0.2, 003S±003×123.31E±005, h186km, mb4.7/77, Error ellipse: s-maj=7.7km s-min=3.7km az=125.6*
NEIC ***11*** *22:27:51.9±1.1, 003S×123.25E, h175km±10km, mb4.6/28, Error ellipse: s-maj=9.2km s-min=4.5km az=62.0*

ISC 11 22:27:53.4±0.2,005S±004×12333E±005,h188km, h188km±4.5km:pP-P,n189,σ1§23/181,mb4.7/76,6C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TSM	**Tawau**	**6.95**	**308**	P		**Pn**	**22**	**29**	**31.3**	**-1.5**
KKM	**Kota Kinabalu**	**9.33**	**311**	P		**Pn**	**22**	**30**	**06.3**	**+2.4**
KKM	**Kota Kinabalu**	**9.33**	**311**	*ePn*		**Pn**	**22**	**30**	**04.1**	**+0.2**
KSM	**Kuching**	**13.10**	**277**	*ePn*		**Pn**	**22**	**30**	**57.1**	**+4.6**
TGY	**Tagaytay City**	**14.25**	**351**	P		**Pn**	**22**	**31**	**04.7**	**-2.2**
	25nm,0.3s,baz=250,slow=15,SNR=2.0									
TGY	**Tagaytay City**	**14.25**	**351**	P		**Pn**	**22**	**31**	**04.7**	**-2.2**
TGY				pmax	pmax					
	comp=Z,25nm,0.3s									
KAKA	**Kakadu**	**15.49**	**145**	*eP*		**Pn**	**22**	**31**	**20.3**	**-1.8**
	comp=Z,114nm,0.6s									
KAKA				*e*S		S	22	34	38.1	+24
FITZ	**Fitzroy Crossi**	**18.09**	**173**	*eP*		**P**	**22**	**31**	**50.0**	**-0.9**
	comp=Z,22nm,1.0s									
FITZ				*e*S		**S**	**22**	**35**	**04.9**	**-3.3**
FITZ	**Fitzroy Crossi**	**18.09**	**173**	P		**P**	**22**	**31**	**50.7**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=14,slow=8.8,SNR=49									
KGM	**Kluang**	**20.11**	**276**	P		**P**	**22**	**32**	**13.7**	**+1.1**
MBWA	**Marble Bar**	**21.27**	**189**	*eP*		**P**	**22**	**32**	**23.4**	**-1.6**
	comp=Z,15nm,0.8s,mb4.4									
WRAB	**Tennant Creek**	**22.52**	**152**	*c iP*		**P**	**22**	**32**	**37.1**	**-0.2**
WRA	**Warramunga Arr**	**22.53**	**152**	P		**P**	**22**	**32**	**37.3**	**0.0**
	comp=Z,15nm,0.5s,mb4.7,baz=332,slow=11,SNR=62									
WRA				S		**S**	**22**	**36**	**30.5**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=332,slow=16,SNR=5.4									
WRA				ScP	ScP		22	39	49.0	+5.1
	comp=Z,2.8nm,0.8s,baz=330,slow=2.8,SNR=8.5									
WRA	**Warramunga Arr**	**22.53**	**152**	P		**P**	**22**	**32**	**37.3**	**0.0**
WRA				S		**S**	**22**	**36**	**30.5**	**+0.4**
WRA				pmax	pmax					
	comp=Z,15nm,0.5s									
WRA				smax						
	comp=N,3.0nm,0.7s									
WB2	**Warramunga Arr**	**22.53**	**152**	*eP*		**P**	**22**	**32**	**36.9**	**-0.5**
WB2				*e*S		**S**	**22**	**36**	**30.4**	**+0.2**
IPM	**Ipoh**	**22.73**	**282**	P		**P**	**22**	**32**	**40.1**	**+1.0**
QIZ	**Qiongzhong**	**23.12**	**326**	P		**P**	**22**	**32**	**43.8**	**+1.1**
QIZ				AMB	AMB					
	comp=Z,56nm,1.0s,mb5.0									
QIZ	**Qiongzhong**	**23.12**	**326**	*eP*		**P**	**22**	**32**	**42.4**	**-0.3**
	comp=Z,32nm,0.8s,mb4.8									
KULM	**Kulim**	**23.25**	**284**	*eP*		**P**	**22**	**32**	**44.5**	**+0.5**
SNG	**Songkhla**	**23.76**	**288**	P		**P**	**22**	**32**	**51.0**	**+2.4**
	comp=Z,178nm,0.8s,mb5.7									
PSI	**Prapat**	**24.55**	**277**	P		**P**	**22**	**32**	**53.5**	**-2.3**
	comp=Z,9.1nm,0.9s,mb4.3,baz=87,slow=6.0,SNR=8.5									
PSI	**Prapat**	**24.55**	**277**	P		**P**	**22**	**32**	**53.5**	**-2.3**
PSI				pmax	pmax					
	comp=Z,9.0nm,0.9s,mb4.3									
PMG	**Port Moresby**	**25.48**	**112**	P		**P**	**22**	**33**	**05.3**	**+1.1**
	comp=Z,9.3nm,0.4s,mb4.7,baz=356,slow=3.9,SNR=8.1									
PMG	**Port Moresby**	**25.48**	**112**	P		**P**	**22**	**33**	**05.3**	**+1.1**
PMG				pmax	pmax					
	comp=Z,9.0nm,0.4s									
PMG	**Port Moresby**	**25.48**	**112**	*eP*		**P**	**22**	**33**	**04.8**	**+0.6**
	comp=Z,20nm,0.8s,mb4.7									
AS31	**Alice Springs**	**25.63**	**157**	*eP*		**P**	**22**	**33**	**05.1**	**-0.4**
AS31				*e*P	P		22	33	36.9	-6.6
AS31				*e*PcP	PcP		22	36	32.2	+1.2
AS31				*e*ScP	ScP		22	39	56.5	+4.0
ASPA	**Alice Springs**	**25.63**	**157**	*eP*		**P**	**22**	**33**	**06.0**	**+0.5**
ASAR	**Alice Springs**	**25.63**	**157**	P		**P**	**22**	**33**	**05.9**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.0,baz=345,slow=14,SNR=31									
ASAR				pP	pP		22	33	35.1	-8.4
	comp=Z,15nm,0.8s,baz=332,slow=8.2,SNR=18									
ASAR				PcP	PcP		22	36	32.6	+1.6
	comp=Z,2.5nm,0.4s,baz=344,slow=2.0,SNR=9.4									
ASAR				ScP	ScP		22	39	57.1	+4.7
	comp=Z,2.7nm,0.7s,baz=348,slow=2.6,SNR=12									
KKTK	**Khon Kaen**	**25.96**	**310**	P		**P**	**22**	**33**	**10.0**	**+1.5**
	comp=Z,2μm,0.5s									
NANT	**Nan**	**29.05**	**311**	⇓P		**P**	**22**	**33**	**35.0**	**-1.0**
	comp=Z,690nm,1.0s									
BDT	**Bhumibol Dam**	**29.48**	**307**	P		**P**	**22**	**33**	**43.0**	**+3.3**
CTA	**Charters Tower**	**30.01**	**133**	P		**P**	**22**	**33**	**45.9**	**+1.5**
	comp=Z,1.3nm,0.3s,mb4.1,baz=294,slow=10,SNR=5.5									
CTA	**Charters Tower**	**30.01**	**133**	P		**P**	**22**	**33**	**45.9**	**+1.5**
CTA				pmax	pmax					
	comp=Z,1.0nm,0.4s									
CHG	**Chiang Mai**	**30.40**	**309**	⇑P		**P**	**22**	**33**	**48.9**	**+1.1**
	comp=Z,50nm,0.8s,mb5.3									
CHTO	**Chiang Mai**	**30.40**	**309**	*eP*		**P**	**22**	**33**	**48.8**	**+1.0**
CHTO				pmax	pmax					
	comp=Z,35nm,0.7s,mb5.2									
CHTO	**Chiang Mai**	**30.40**	**309**	*eP*		**P**	**22**	**33**	**48.8**	**+1.0**
	comp=Z,35nm,0.7s,mb5.2									
GYA	**Guiyang**	**30.86**	**330**	P		**P**	**22**	**33**	**53.7**	**+1.9**
GYA				AP		pP	22	34	33.5	+2.9
GYA				XP		sP	22	34	55.4	+3.1
GYA				PP		PP	22	35	04.2	-1.2
GYA				S		**S**	**22**	**38**	**43.5**	**+1.9**
GYA				XS		sS	22	39	52.9	+2.6
GYA				SCP		ScP	22	40	09.6	+0.8
GYA				SCS		ScS	22	44	05.3	-0.6
GYA				AMB	AMB					
	comp=Z,30nm,0.8s,mb5.1									
GYA				AMB	AMB					
	comp=Z,70nm,4.2s									
FORT	**Forrest**	**30.89**	**172**	*eP*		**P**	**22**	**33**	**51.8**	**-0.4**
	comp=Z,18nm,0.5s,mb5.1									
KLBR	**Kellerberrin**	**31.81**	**189**	*eP*		**P**	**22**	**33**	**59.3**	**-0.9**
	comp=Z,7.1nm,0.4s,mb4.8									
KMI	**Kunming**	**31.98**	**323**	P		**P**	**22**	**34**	**05.4**	**+3.8**
KMI				AMB	AMB					
	comp=Z,6.0nm,0.7s,mb4.4									
KMI	**Kunming**	**31.98**	**323**	P		**P**	**22**	**34**	**05.4**	**+3.8**
	comp=Z,6.0nm,0.7s,mb4.4									
NJ2	**Nanjing**	**32.20**	**353**	*eP*		**P**	**22**	**34**	**05.8**	**+2.2**
NJ2				AMB	AMB					
	comp=Z,40nm,1.1s,mb5.1									
MUN	**Mundaring**	**32.47**	**191**	*eP*		**P**	**22**	**34**	**05.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**33.20**	**189**	P		**P**	**22**	**34**	**12.3**	**0.0**
	comp=Z,11nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=14									
NWAO	**Narrogin (SRO)**	**33.20**	**189**	P		**P**	**22

comp=N,128nm,14.4s
GTA LR LR
comp=E,159nm,11.8s
GTA LR LR
comp=Z,162nm,14.1s
MDJ Mudanjiang 44.82 6 P **P** **22 35 48.2 -0.3**
MDJ SCP ScP 22 41 01.9 +0.5
MDJ AMB AMB
comp=Z,13nm,0.7s,mb4.7
MDJ AMB AMB
comp=Z,76nm,4.6s
MDJ Mudanjiang 44.82 6 *eP* **P** **22 35 47.8 -0.7**
comp=Z,9.3nm,0.6s,mb4.6
JIRN Jiri 45.03 311 *eP* **P** **22 35 52.1 +1.9**
comp=Z,43nm,0.3s,mb5.5
GUN Gumba 45.39 311 *eP* **P** **22 35 54.8 +1.7**
comp=Z,182nm,0.4s
PKI Pulchoki 45.58 310 *eP* **P** **22 35 55.9 +1.4**
KKN Kakani 45.79 310 *eP* **P** **22 35 57.5 +1.4**
comp=Z,138nm,0.7s,mb5.7
DMN Daman 45.83 310 *eP* **P** **22 35 58.0 +1.5**
comp=Z,135nm,0.8s,mb5.6
GKN Gorkha 46.38 310 *eP* **P** **22 36 02.1 +1.3**
comp=Z,155nm,0.5s
TRD Trivandrum 46.97 282 *eP* **P** **22 36 03.9 -1.4**
TRD AMb AMB 22 36 11.9
comp=Z,41nm,1.3s,mb4.9
KOLN Koldanda 47.06 309 *eP* **P** **22 36 07.7 +1.6**
comp=Z,235nm,0.7s
HYB Hyderabad 47.35 294 *i* P **P** **22 36 08.0 -0.3**
HYB Hyderabad 47.35 294 *eP* **P** **22 36 08.0 -0.3**
DZM Mont Dzumac 47.36 120 P **P** **22 36 09.7 +1.3**
comp=Z,7.2nm,0.7s,mb4.4,baz=284,slow=14,SNR=9.1
NGP Nagpur 48.08 299 *eP* **P** **22 36 13.2 -0.7**
NGP AMb AMB 22 36 14.3
comp=Z,18nm,0.4s,mb5.0
HIA Hailar 49.22 357 *eP* **P** **22 36 22.3 -0.3**
HIA Hailar 49.22 357 *eP* **P** **22 36 22.2 -0.4**
comp=Z,9.4nm,0.9s,mb4.4
SONM Songjino Array 49.91 345 P **P** **22 36 27.8 0.0**
comp=Z,111nm,0.6s,mb4.6,baz=161,slow=8.5,SNR=90
SONM pP pP 22 36 58.6 -11
comp=Z,2.7nm,0.7s,baz=166,slow=8.9,SNR=2.5
SONM PcP PcP 22 37 45.8 +0.6
comp=Z,3.6nm,0.6s,baz=163,slow=4.1,SNR=8.3
SONM ScP ScP 22 41 25.1 +2.2
comp=Z,0.7nm,0.8s,baz=170,slow=4.9,SNR=4.5
BHPL Bhopal 50.22 301 *eP* **P** **22 36 30.0 -0.1**
BHPL AMb AMB 22 36 31.6
comp=Z,23nm,0.5s,mb5.0
KAD Karad 51.34 292 *eP* **P** **22 36 37.0 -1.4**
KAD AMb AMB 22 36 39.9
comp=Z,15nm,1.4s,mb4.4
NDI New Delhi 52.50 307 *eP* **P** **22 36 45.0 -2.0**
NDI *eP* 22 36 45.8
NDI AMb AMB 22 36 47.2
comp=Z,43nm,0.5s,mb5.3
ZAK Zakamensk 53.07 344 *eP* **P** **22 36 50.7 -0.5**
AJM Ajmer 53.74 303 *eP* **P** **22 36 56.5 +0.3**
AJM AMb AMB 22 36 57.1
comp=Z,27nm,0.9s,mb5.0
WMQ Urumqi 54.00 329⇑ *iP* **P** **22 37 00.0 +2.0**
WMQ AP pP 22 37 42.5 +2.1
WMQ PCP PcP 22 38 02.5 +1.9
WMQ PP PP 22 39 05.5 +4.2
WMQ *eS* **S** **22 44 21.0 +1.9**
WMQ AMB AMB
comp=Z,21nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,26nm,5.9s
WMQ LR LR
comp=N,44nm,17.0s
WMQ LR LR
comp=E,84nm,19.6s
WMQ LR LR
comp=Z,39nm,17.0s
TLY Talaya 54.15 345 *eP* **P** **22 36 58.7 -0.4**
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
THN Thein Dam 55.27 311 *eP* **P** **22 37 06.1 -1.0**
CLNS Chul'man 56.72 1 *eP* **P** **22 37 16.1 -1.3**
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,17nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,7.0nm,0.7s
BOD Bodaibo 58.17 354 *eP* **P** **22 37 26.6 -0.9**
BOD *e* 22 38 16.3
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.6
MK31 Makanchi Array 58.82 328 *eP* **P** **22 37 31.6 -0.4**
MK31 *e* pP 22 38 19.0 +3.9
MKAR Makanchi Array 58.82 328 P **P** **22 37 31.6 -0.4**
comp=Z,4.8nm,0.4s,mb4.7,baz=125,slow=8.5,SNR=95
MKAR PcP PcP 22 38 19.4 -0.1
comp=Z,5.6nm,0.4s,baz=175,slow=2.8,SNR=19
MKAR ScP ScP 22 42 04.0 +2.2
comp=Z,0.4nm,0.5s,baz=138,slow=5.8,SNR=5.1
KZA Kyzart 60.20 320 P **P** **22 37 43.0 +1.5**
SNR=6.7
TKM2 Tokmak 2 60.42 321 P **P** **22 37 43.7 +0.7**
SNR=6.5
KBK Karagaybulak 60.70 321 P **P** **22 37 45.6 +0.9**
SNR=5.6
UCH Uchtor 60.75 320 P **P** **22 37 46.1 +0.9**
SNR=7.5
AAK Ala-Archa 60.97 321 P **P** **22 37 47.6 +0.9**
SNR=8.2
AAK Ala-Archa 60.97 321 *eP* **P** **22 37 46.5 -0.1**
AML Almayashu 61.23 320 P **P** **22 37 49.1 +0.7**
SNR=9.0
USP Osenovka 61.29 321 P **P** **22 37 48.8 0.0**
SNR=9.7
EKS2 Erkin-Say 61.44 320 P **P** **22 37 50.3 +0.5**
SNR=9.1
YAK Yakutsk 62.10 3*c iP* **P** **22 37 53.5 -0.7**
YAK pmax pmax
comp=Z,45nm,0.8s,mb5.3
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK Yakutsk 62.10 3 *eP* **P** **22 37 53.1 -1.1**
KURK Kurchatov 63.18 330 *eP* **P** **22 38 00.3 -1.0**
KURK pmax pmax
comp=Z,15nm,0.5s,mb5.1
KURK Kurchatov 63.18 330 *eP* **P** **22 38 00.3 -1.0**
comp=Z,15nm,0.5s,mb5.1
KK31 Karatay Array 63.76 319 *i* P **P** **22 38 03.9 -1.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
KKAR Karatay Array 63.76 319 *i* P **P** **22 38 03.9 -1.2**
NVS Novosibirsk 63.78 335 *eP* **P** **22 38 03.1 -2.1**
NVS *e* 22 38 37.2
NVS *e* 22 47 36.1
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CASY Casey 66.72 186 *eP* **P** **22 38 23.9 -0.2**
WSAR Wadi Sarin 66.87 295 P **P** **22 38 24.8 -0.3**
comp=Z,9.7nm,0.6s,mb4.8,baz=120,slow=7.3,SNR=20
VOSK Vostochnaya 68.23 329 P **P** **22 38 31.9 -1.7**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BVA0 Borovoye Array 68.69 329 *i* P **P** **22 38 35.4 -1.1**
BVAR Borovoye Array 68.69 329 P **P** **22 38 35.7 -0.8**
comp=Z,1.3nm,0.3s,mb4.1,baz=141,slow=9.3,SNR=20
BVAR Borovoye Array 68.69 329 P **P** **22 38 35.7 -0.8**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 68.76 329 *eP* **P** **22 38 35.4 -1.5**
CHKZ Chkalovo 68.91 330 *eP* **P** **22 38 37.0 -0.8**
ZRNK Zerenda 69.37 328 *i* P **P** **22 38 39.6 -1.1**
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ZRNK Zerenda 69.37 328 *eP* **P** **22 38 39.4 -1.3**
comp=Z,5.8nm,0.5s,mb4.6
TIXI Tiksi 71.67 2‖ *eP* **P** **22 38 53.5 -1.1**
TIXI pmax pmax
comp=Z,43nm,0.6s,mb5.4
TIXI Tiksi 71.67 2‖ *eP* **P** **22 38 53.5 -1.0**
comp=Z,43nm,0.6s,mb5.4
BILL Bilibino 74.06 15 *eP* **P** **22 39 05.9 -2.7**
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.0
AKTK Aktyubinsk 74.54 323 P **P** **22 39 10.4 -0.9**
AKTO Aktyubinsk 74.54 323 P **P** **22 39 10.4 -0.9**
comp=Z,6.2nm,0.7s,mb4.4,baz=107,slow=7.6,SNR=29
AKTO Aktyubinsk 74.54 323 P **P** **22 39 10.5 -0.9**
AKTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
ARU Arti 76.34 329⇑ *iP* **P** **22 39 20.4 -1.2**
ARU *e* 22 42 13.8
ARU *e*PPP 22 44 01.8
ARU *e*S S 22 48 49.0 -1.8
ARU *e*SS SS 22 53 43.6 -5.4
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ARU Arti 76.34 329 *eP* **P** **22 39 20.0 -1.6**
ORR Orenburg 76.87 323 *eP* **P** **22 39 24.1 -0.5**
ORR pmax pmax
comp=Z,40nm,1.4s,mb4.9
QRN Al-Qurain 77.24 299 *eP* **P** **22 39 25.4 -1.3**
KBD Kabd 77.49 300 *eP* **P** **22 39 26.8 -1.2**
MIB Mutribah 77.87 300 *eP* **P** **22 39 28.8 -1.3**
MIB AMb AMB 22 39 31.0
comp=Z,32nm,0.8s,mb5.0
NAY Al-Naaiem 77.89 300 *eP* **P** **22 39 29.0 -1.3**
NAY AMb AMB 22 39 32.0
comp=Z,10nm,0.7s,mb4.6
MAW Mawson 79.06 200 *eP* **P** **22 39 37.6 +0.9**
comp=Z,4.5nm,0.8s,mb4.2
MAW Mawson 79.06 200 P **P** **22 39 37.5 +0.9**
comp=Z,6.5nm,0.8s,mb4.3,baz=64,slow=9.4,SNR=7.8
MAW Mawson 79.06 200 *eP* **P** **22 39 37.6 +0.9**
MAW pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 80.16 172 P **P** **22 39 43.3 +0.7**
comp=Z,5.1nm,0.7s,mb4.2,baz=315,slow=6.1,SNR=54
VNDA Vanda 80.16 172 P **P** **22 39 43.3 +0.7**
VNDA pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 80.16 172 *eP* **P** **22 39 42.7 +0.2**
comp=Z,4.9nm,0.8s,mb4.2
SBA Scott Base 81.11 172 *eP* **P** **22 39 49.3 +1.7**
SBA pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
SBA Scott Base 81.11 172 *eP* **P** **22 39 49.3 +1.7**
comp=Z,8.1nm,1.1s,mb4.3
MALT Malatya 86.02 308 *eP* **P** **22 40 12.6 0.0**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
MALT Malatya 86.02 308 *eP* **P** **22 40 12.6 0.0**
comp=Z,7.6nm,1.2s,mb4.3
KMBO Kilima Mbogo 86.07 269 P **P** **22 40 14.2 +1.4**
comp=Z,3.8nm,0.8s,mb4.2,baz=39,slow=6.5,SNR=15
KMBO Kilima Mbogo 86.07 269 P **P** **22 40 14.3 +1.5**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 86.07 269 *eP* **P** **22 40 13.9 +1.0**
comp=Z,4.4nm,0.9s,mb4.2
ASF Jabal al Asfar 87.00 302 P **P** **22 40 18.6 +1.2**
comp=Z,2.2nm,0.5s,mb4.2,baz=278,slow=2.3,SNR=6.7
ASF LR LR 23 20 10.3
comp=Z,73nm,19.8s,baz=283,slow=36
ASF Jabal al Asfar 87.00 302 P **P** **22 40 18.6 +1.3**
ASF pmax pmax
comp=Z,2.0nm,0.5s
ASF MLR MLR
comp=Z,73nm,19.8s
IMA2 Indian Mountai 87.19 24 *eP* **P** **22 40 18.9 +0.6**
SYO Syowa Base 87.70 201‖ *eP* **P** **22 40 20.6 -0.1**
SYO Syowa Base 87.70 201‖ *e*PcP PcP 22 40 23.3 +0.9
OBN Obninsk 88.17 325⇑ *eP* **P** **22 40 21.3 -1.6**
OBN *e* 22 43 46.7
OBN pmax pmax
comp=Z,36nm,2.0s,mb4.9
MMAI Mount Meron Ar 88.28 303 P **P** **22 40 24.1 +0.7**
comp=Z,5.3nm,0.7s,mb4.5,baz=87,slow=6.8,SNR=13
MMAI LR LR 23 22 10.5
comp=Z,60nm,20.5s,baz=295,slow=37
BRTR Keskin Array B 89.79 310 P **P** **22 40 29.4 -1.1**
comp=Z,1.1nm,0.6s,mb3.9,baz=122,slow=6.0,SNR=6.7
BRTR Keskin Array B 89.79 310 P **P** **22 40 29.4 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 89.89 180 *eP* **P** **22 40 31.9 +1.0**
comp=Z,3.7nm,0.6s,mb4.5
AKASG Malin Array Be 92.64 321 P **P** **22 40 41.9 -1.8**
comp=Z,1.1nm,0.3s,mb4.4,baz=69,slow=4.8,SNR=6.9
AKASG LR LR 23 24 10.8
comp=Z,68nm,18.9s,baz=285,slow=36
AKASG Malin Array Be 92.64 321 P **P** **22 40 41.9 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,68nm,18.9s
AKASG Malin Array Be 92.64 321 P **P** **22 40 41.9 -1.8**
AKASG LR LR 23 24 10.8
ARCES ARCESS Array B 92.78 340 P **P** **22 40 42.8 -1.5**
comp=Z,2.0nm,0.5s,mb4.5,baz=84,slow=3.7,SNR=10
ARCES ARCESS Array B 92.78 340 P **P** **22 40 42.8 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
DAWY Dawson 93.24 26 *eP* **P** **22 40 47.5 +1.1**
SPB4 Spitsbergen Ar 93.50 349 *eP* **P** **22 40 45.9 -1.7**
FINES FINESS Array B 93.52 331 P **P** **22 40 45.9 -1.8**
comp=Z,1.6nm,0.6s,mb4.3,baz=76,slow=4.0,SNR=12
FINES LR LR 23 25 32.7
comp=Z,281nm,20.8s,baz=291,slow=37
FINES FINESS Array B 93.52 331 P **P** **22 40 45.9 -1.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,281nm,20.8s
LSZ Lusaka 94.94 255 *eP* **P** **22 40 54.8 +0.5**
LSZ pmax pmax
comp=Z,17nm,0.8s,mb5.3
LSZ Lusaka 94.94 255 *eP* **P** **22 40 54.8 +0.5**
comp=Z,17nm,0.8s,mb5.3
MLR Muntele Rosu 95.22 316 P **P** **22 40 54.1 -1.4**
comp=Z,1.0nm,0.5s,mb4.3,baz=149,slow=18,SNR=3.7
MLR Muntele Rosu 95.22 316 P **P** **22 40 54.1 -1.4**
MLR pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 99.72 331 P Pdif 22 41 13.4 -2.4
comp=Z,4.2nm,0.9s,baz=113,slow=3.9,SNR=15
HFS Hagfors 99.72 331 P Pdif 22 41 13.4 -2.3
HFS pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 116.42 41 PKP PKPdf 22 46 16.1 +1.5
comp=Z,0.9nm,0.5s,baz=270,slow=0.4,SNR=8.2
PDAR PKKPbc PKKPbc 22 56 49.1 +5.9
comp=Z,1.0nm,0.7s,baz=113,slow=6.9,SNR=7.6
LAO LASA Array 116.57 36 PKPdf PKPdf 22 46 17.1 +2.3
ESDC Sonseca Array 117.91 316 PKP PKPdf 22 46 18.0 +0.5
comp=Z,0.2nm,0.4s,baz=42,slow=1.4,SNR=4.2
RSSD Black Hills 119.24 37 *e*PKIKP PKPdf 22 46 20.8 +0.8
ULM Lac du Bonnet 119.88 28 PKP PKPdf 22 46 21.6 +0.4
comp=Z,3.3nm,0.5s,baz=335,slow=1.5,SNR=8.6
TORD Torodi Ar. Bea 120.73 285 PKP PKPdf 22 46 23.8 +0.9
comp=Z,4.3nm,0.8s,baz=95,slow=1.9,SNR=89
TORD PP PP 22 47 51.5 -1.9
comp=Z,0.7nm,0.7s,baz=65,slow=7.5,SNR=4.8
TORD PKKPbc PKKPbc 22 56 33.1 +5.4
comp=Z,0.6nm,0.7s,baz=289,slow=4.0,SNR=4.3
TXAR Lajitas Array 126.58 53 PKP PKPdf 22 46 37.0 +2.9
comp=Z,1.7nm,0.9s,baz=233,slow=1.0,SNR=17
TXAR Lajitas Array 126.58 53 PKIKP PKPdf 22 46 37.0 +2.9
TXAR pmax pmax
comp=Z,2.0nm,0.9s
KSU1 Kansas State U 126.67 39 *e*PKPdf PKPdf 22 46 35.2 +1.0
JCT Junction City 129.09 49 *e*PKIKP PKPdf 22 46 40.0 +1.1
JTS JuntasAbangare 150.09 69 *e*PKPdf PKPdf 22 47 18.0 +1.5
JTS *e*PKPbc PKPbc 22 47 23.5 +1.8
LPAZ La Paz 160.22 146 PKP PKPdf 22 47 33.6 +3.5
comp=Z,1.3nm,0.8s,baz=50,slow=1.7,SNR=5.1

BJI **11** *22:43:46.0, 626S×151 84E, h31km, mB5.3, mb4.9, Ms4.5, Msz4.2*
IDC **11** *22:43:46.8±0.5, 620S×151 03E, h0km, mb4.7/14, mb1 4.9/15, mb1mx4.9/16, mbtmp4.8/15, ML5.1/1, MS4.1/9, Ms1 4.1/9, ms1mx3.9/19, Error ellipse: s-maj=17.8km s-min=10.3km az=120.0*
GCMT **11** *22:43:48.4±0.3, 640S×151 30E, h22km, MW5.0/61, Moment Tensor Solution. s32,c42; s61,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.26±.18; Mθθ0.36±.11; Mϕϕ-3.62±.12; Mrθ-0.01±.24; Mrϕ0.09±.08; Mθϕ0.99±.17; Best double couple: Mo3.58000×10^16 NP1:ϕs179.00000°, δ37.00000°, λ90.00000°. NP2: ϕs359.00000°, δ53.00000°, λ90.00000°. Principal axes: T 3.3990, Plg82.0000°, Azm270.0000°; N 0.3580, Plg0.0000°, Azm179.0000°; P -3.7610, Plg8.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **11** *22:43:48.4±0.2, 621S×151.10E, h10km, mb5.2/17 Error ellipse: s-maj=7.4km s-min=5.0km az=115.0*
ISCJB **11** *22:43:51.8±0.3, 626S±004×151 09E±005, h48km, mb4.9/49, MS4.2/9, Error ellipse: s-maj=7.6km s-min=5.2km az=57.9*
MOS **11** *22:43:51.1±1.2, 6.17S×151 03E, h33km, mb5.0/24, MS4.0/5, Error ellipse: s-maj=11.1km s-min=7.8km az=84.0*

ISC 11 22:43:53.7±0.3, 627S±004×15116E±005, h50km, h50km±1.5km: pP-P, n178, cn0 96/128, mb4.9/49, MS4.2/9, 7C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**232**	Pn	**Pn**	**22 45 06.8**	**+0.1**
	51nm,0.3s,baz=49,slow=8.1,SNR=73						
PMG				Sn	**Sn**	**22 46 03.1**	**-0.4**
	86nm,0.3s,baz=48,slow=19,SNR=7.2						
PMG				LR	LR	22 46 31.0	
	comp=Z,388nm,19.1s,baz=226,slow=33						
PMG	**Port Moresby**	**5.04**	**232**‖	*eP*	**Pn**	**22 45 06.2**	**-0.5**
HNR	**Honiara**	**9.26**	**110**	Pn	**Pn**	**22 46 05.4**	**+0.9**
	19nm,0.3s,baz=260,slow=3.5,SNR=17						
HNR	**Honiara**	**9.26**	**110**	P	**Pn**	**22 46 05.4**	**+0.9**
HNR				pmax	pmax		
	comp=Z,19nm,0.3s						
CTA	**Charters Tower**	**14.54**	**199**	*eP*	**Pn**	**22 47 15.6**	**-0.8**
	comp=Z,3.7nm,0.7s						
CTA				*eS*	**Sn**	**22 50 04.8**	**+8.7**
CTA	**Charters Tower**	**14.54**	**199**	Pn	**Pn**	**22 47 17.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=1.7,slow=17,SNR=6.6						
CTA				LR	LR	22 52 16.8	
	comp=Z,898nm,20.7s,baz=24,slow=35						
CTA	**Charters Tower**	**14.54**	**199**	*eP*	**Pn**	**22 47 15.6**	**-0.8**
CTA				*eS*	**Sn**	**22 50 04.8**	**+8.7**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CTAO	**Charters Tower**	**14.54**	**199**	*eP*	**Pn**	**22 47 15.1**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**14.54**	**199**	*e*Pn	**Pn**	**22 47 15.1**	**-1.3**
	comp=Z,8.5nm,0.9s						
KAKA	**Kakadu**	**19.53**	**250**	*eP*	**Pn**	**22 48 16.2**	**-2.4**
	comp=Z,154nm,0.6s						
KAKA				*eS*	**S**	**22 52 14.6**	**+20**
GUMO	**Guam**	**20.70**	**342**	P	**P**	**22 48 30.8**	**+1.2**
	comp=Z,237nm,1.1s,baz=167,slow=8.2,SNR=5.2						
GUMO				LR	LR	22 55 11.3	
	comp=Z,303nm,18.0s,MS3.7,baz=269,slow=33						
GUMO	**Guam**	**20.70**	**342**	P	**P**	**22 48 30.8**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,237nm,1.2s						
GUMO				MLR	MLR		
	comp=Z,303nm,18.0s,MS3.7						
WRAB	**Tennant Creek**	**21.23**	**229**	*eP*	**P**	**22 48 35.2**	**-0.2**
WB2	**Warramunga Arr**	**21.24**	**229**	*eP*	**P**	**22 48 35.0**	**-0.5**
WB2				*eS*	**S**	**22 52 29.1**	**+0.4**
WRA	**Warramunga Arr**	**21.25**	**229**	P	**P**	**22 48 35.7**	**+0.1**
	comp=Z,91nm,0.8s,mb5.1,baz=53,slow=11,SNR=81						
WRA				S	**S**	**22 52 30.0**	**+1.1**
	comp=Z,21nm,1.1s,baz=54,slow=19,SNR=13						
WRA				LR	LR	22 57 23.2	
	comp=Z,417nm,19.2s,MS3.8,baz=55,slow=38						
WRA	**Warramunga Arr**	**21.25**	**229**	P	**P**	**22 48 35.7**	**+0.1**
WRA				S	**S**	**22 52 30.0**	**+1.1**
WRA				pmax	pmax		
	comp=Z,91nm,0.8s						
WRA				smax			
	comp=N,21nm,1.2s						
WRA				MLR	MLR		
	comp=Z,417nm,19.2s						
DZM	**Mont Dzumac**	**21.56**	**138**	P	**P**	**22 48 38.7**	**-0.2**
	comp=Z,11nm,0.7s,mb4.4,baz=13,slow=12,SNR=10						
DZM				LR	LR	22 55 46.3	
	comp=Z,761nm,19.6s,MS4.1,baz=305,slow=33						
AS31	**Alice Springs**	**23.96**	**222**	*eP*	**P**	**22 49 03.6**	**+0.2**
AS31				*eS*	**S**	**22 53 20.3**	**+3.7**
ASAR	**Alice Springs**	**23.97**	**222**	P	**P**	**22 49 03.5**	**+0.1**
	comp=Z,34nm,0.8s,mb4.8,baz=57,slow=8.7,SNR=270						
ASAR				S	**S**	**22 53 24.7**	**+8.1**
	comp=Z,5.1nm,0.9s,baz=42,slow=21,SNR=7.5						
ASAR				LR	LR	22 58 48.8	
	comp=Z,380nm,18.4s,MS3.9,baz=51,slow=38						
ASAR	**Alice Springs**	**23.97**	**222**	P	**P**	**22 49 03.5**	**+0.1**
ASAR				S	**S**	**22 53 24.7**	**+8.1**
ASAR				pmax	pmax		
	comp=Z,34nm,0.8s						
ASAR				smax			
	comp=N,5.0nm,1.0s						
ASAR				MLR	MLR		
	comp=Z,380nm,18.4s						
ARMA	**Armidale**	**24.02**	**179**	*eP*	**P**	**22 49 03.0**	**-0.9**
STKA	**Stephens Creek**	**27.00**	**198**	*eP*	**P**	**22 49 30.0**	**-0.8**
	comp=Z,23nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**27.00**	**198**	P	**P**	**22 49 30.2**	**-0.6**
	comp=Z,10nm,0.8s,mb4.4,baz=2.9,slow=11,SNR=14						
STKA	**Stephens Creek**	**27.00**	**198**	*eP*	**P**	**22 49 30.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.53**	**242**	*eP*	**P**	**22 49 35.5**	**-0.1**
	comp=Z,87nm,0.8s,mb5.4						
FITZ				*eS*	**S**	**22 54 14.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	**P**	**22 49 35.7**	**+0.2**
	comp=Z,26nm,0.6s,mb5.0,baz=89,slow=6.4,SNR=62						
FORT	**Forrest**	**32.62**	**219**	*eP*	pP	22 50 33.1	-0.4
	comp=Z,24nm,0.7s						
MBWA	**Marble Bar**	**33.83**	**241**	*eP*	**P**	**22 50 31.6**	**+0.5**
	comp=Z,47nm,1.1s,mb5.3						
MBWA				*ep*P	pP	22 50 43.3	-0.7
CBIJ	**Chichi jima**	**34.29**	**346**	LR	LR	23 01 17.9	
	comp=Z,983nm,21.8s,MS4.5,baz=162,slow=31						
KLBR	**Kellerberrin**	**40.11**	**227**	*eP*	**P**	**22 51 24.0**	**-0.5**
	comp=Z,42nm,1.4s,mb5.0						
MJAR	**Matsushiro Arr**	**44.28**	**345**	P	**P**	**22 51 57.3**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.2,baz=169,slow=7.7,SNR=8.9						
MJAR				PcP	PcP	22 53 42.4	+0.3
	comp=Z,2.5nm,0.8s,baz=163,slow=4.4,SNR=5.4						
MJAR	**Matsushiro Arr**	**44.28**	**345**	P	**P**	**22 51 57.3**	**-1.1**
MJAR						22 53 42.4	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
QIZ	**Qiongzhong**	**47.84**	**303**	P	**P**	**22 52 28.9**	**+2.5**
QIZ				S	**S**	**22 59 33.9**	**+14**
QIZ				XS	sS	22 59 43.0	+0.8
QIZ				SS	SS	23 02 50.8	+2.1
QIZ				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,261nm,4.5s						
KSRS	**Korea Array**	**48.60**	**335**	P	**P**	**22 52 31.2**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=154,slow=8.6,SNR=8.6						
KSRS				PcP	PcP	22 53 57.6	+0.3
	comp=Z,1.1nm,0.5s,baz=158,slow=3.1,SNR=4.3						
NJ2	**Nanjing**	**48.99**	**323**	*eP*	**P**	**22 52 36.2**	**+1.0**
NJ2				AP	pP	22 52 40.6	-8.1
NJ2				XP	sP	22 52 43.7	-11
NJ2				PP	PP	22 54 28.0	-1.0
NJ2				S	**S**	**22 59 40.6**	**+4.6**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,520nm,4.2s						
NJ2				LR	LR		
	comp=N,460nm,22.7s,MS4.5						
NJ2				LR	LR		
	comp=E,290nm,20.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,470nm,25.7s,MS4.4						
KULM	**Kulim**	**51.71**	**282**	*eP*	**P**	**22 52 55.3**	**-0.5**
KULM				*ep*P	pP	22 53 08.9	-0.4
KULM				*es*P	sP	22 53 14.2	-0.9
KMI	**Kunming**	**56.48**	**306**	P	**P**	**22 53 31.3**	**+0.8**
KMI				PP	PP	22 55 37.1	+0.6

KMI S **S** 23 01 14.2 -3.9
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.8
KMI AMB AMB
comp=Z,209nm,4.2s
KMI LR LR
comp=N,157nm,20.4s,MS4.2
KMI LR LR
comp=E,147nm,20.9s,MS4.1
KMI LR LR
comp=Z,151nm,19.0s,MS4.1
KMI Kunming 56.48 306 P **P** 22 53 31.3 +0.8
comp=Z,7.0nm,0.7s,mb4.8
KMI pP pP 22 53 36.3 -7.9
KMI sP sP 22 53 39.1 -11
KMI PP PP 22 55 37.1 +0.6
KMI S **S** **23 01 14.2 -3.9**
XAN Xi'an 56.58 318 P **P** 22 53 31.3 0.0
XAN AMB AMB
comp=Z,14nm,1.3s,mb4.8
KLR Kul'dur 57.81 345 *eP* **P** 22 53 35.2 -4.8
HIA Hailar 61.72 337 *i* P **P** 22 54 06.6 -0.2
SHL Shillong 65.66 302 *eP* **P** 22 54 34.0 +1.3
CASY Casey 66.14 197 *eP* **P** 22 54 35.3 -0.5
CASY Casey 66.14 197⇑ *eP* **P** 22 54 35.3 -0.6
CASY *e*pP pP 22 54 49.3 -0.5
SONM Songino Array 66.71 329 P **P** 22 54 39.9 +0.5
comp=Z,1.8nm,0.5s,mb4.4,baz=149,slow=5.7,SNR=22
SONM PcP PcP 22 55 08.7 +0.5
comp=Z,3.0nm,0.8s,baz=141,slow=4.3,SNR=7.1
SONM Songino Array 66.71 329 P **P** **22 54 39.9 +0.4**
SONM 22 55 08.7
SONM pmax pmax
comp=Z,2.0nm,0.5s
LSA Lhasa 67.73 305 P **P** **22 54 47.0 +1.0**
LSA Lhasa 67.73 305 *eP* **P** **22 54 46.5 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LSA Lhasa 67.73 305 *eP* **P** **22 54 46.5 +0.5**
comp=Z,4.1nm,0.8s,mb4.5
SEY Seymchan 69.01 1⇑ *eP* **P** **22 54 52.0 -2.0**
ZAK Zakamensk 69.91 330 *eP* **P** **22 54 58.4 -1.1**
ZAK *e* 22 55 26.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
YAK Yakutsk 70.10 349⇑ *eP* **P** **22 55 00.1 -0.5**
YAK pmax pmax
comp=Z,32nm,1.8s,mb5.0
BOK Bokaro 70.28 298 *eP* **P** **22 55 01.0 -0.8**
BOK AMb AMB 22 55 03.6
comp=Z,7.4nm,0.8s,mb4.7
BOD Bodaibo 70.59 340 *eP* **P** **22 55 01.2 -2.4**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VIS Vishakhapatnam 71.05 291 *eP* **P** **22 55 07.6 +1.1**
VIS AMb AMB 22 55 09.7
comp=Z,30nm,0.5s,mb5.5
VNDA Vanda 71.43 178 P **P** **22 55 08.7 -0.1**
comp=Z,7.8nm,0.8s,mb4.7,baz=327,slow=6.7,SNR=61
VNDA Vanda 71.43 178 P **P** **22 55 08.7 -0.1**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
GUN Gumba 71.49 302 *eP* **P** **22 55 09.1 0.0**
comp=Z,24nm,0.8s,mb5.2
PALK Pallekele 71.56 280 *eP* **P** **22 55 10.7 +1.1**
comp=Z,6.8nm,0.8s,mb4.6
PALK pP pP 22 55 25.0 +1.4
PKI Pulchoki 71.79 302 *eP* **P** **22 55 11.4 +0.5**
KKN Kakani 71.96 302 *eP* **P** **22 55 12.2 +0.3**
comp=Z,11nm,0.7s,mb4.9
MIR Mirnyy 71.97 201 *d iP* **P** **22 55 14.0 +2.0**
MIR *e* pP 22 55 27.0 +0.8
MIR pmax pmax
comp=Z,32nm,1.1s,mb5.2
DMN Daman 72.06 302 *eP* **P** **22 55 13.0 +0.5**
comp=Z,12nm,0.5s,mb5.1
GKN Gorkha 72.57 302 *eP* **P** **22 55 15.2 -0.4**
comp=Z,14nm,0.7s,mb5.0
KOLN Koldanda 73.38 301 *eP* **P** **22 55 20.0 -0.4**
comp=Z,16nm,0.8s,mb5.0
BILL Bilibino 74.90 6 *eP* **P** **22 55 27.2 -2.0**
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
TRD Trivandrum 75.41 280 *eP* **P** **22 55 33.1 +0.9**
TRD AMb AMB 22 55 34.8
comp=Z,36nm,1.1s,mb5.2
NGP Nagpur 75.75 294 *eP* **P** **22 55 34.2 +0.2**
BHPL Bhopal 77.67 295 *eP* **P** **22 55 44.4 -0.6**
BHPL AMb AMB 22 55 46.9
comp=Z,17nm,1.1s,mb4.9
SVW2 Sparrevohn 78.81 23 *eP* **P** **22 55 52.0 +0.8**
NDI New Delhi 79.06 301 *eP* **P** **22 55 52.1 -0.5**
NDI AMb AMB 22 55 53.9
comp=Z,23nm,0.7s,mb5.2
TIXI Tiksi 79.14 353 *eP* **P** **22 55 51.9 -1.1**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TIXI Tiksi 79.14 353 *eP* **P** **22 55 51.9 -1.1**
comp=Z,9.5nm,1.0s,mb4.7
KAD Karad 79.51 289 *eP* **P** **22 55 55.6 +0.6**
KAD AMb AMB 22 55 56.8
comp=Z,20nm,0.9s,mb5.0
MK31 Makanchi Array 80.36 319⇑ *iP* **P** **22 55 59.0 -0.7**
MKAR Makanchi Array 80.36 319 P **P** **22 55 59.3 -0.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=112,slow=5.6,SNR=49
MKAR PKKPbc PKKPbc 23 14 41.5 +0.2
comp=Z,0.3nm,0.6s,baz=204,slow=1.5,SNR=4.0
MKAR Makanchi Array 80.36 319 P **P** **22 55 59.3 -0.4**
MKAR 23 14 41.5
MKAR pmax pmax
comp=Z,4.0nm,0.7s
SLKM Skilak Lake 80.69 25 *eP* **P** **22 56 01.7 +0.3**
AJM Ajmer 80.81 298 *eP* **P** **22 56 01.9 -0.2**
AJM AMb AMB 22 56 04.0
comp=Z,31nm,1.1s,mb5.2
PMR Palmer 81.69 25 *eP* **P** **22 56 06.4 -0.4**
PMR pmax pmax
comp=Z,31nm,1.1s,mb5.2
PMR Palmer 81.69 25 *eP* **P** **22 56 06.3 -0.4**
comp=Z,31nm,1.1s,mb5.1
SML Sawmill 82.13 25 *eP* **P** **22 56 08.9 -0.2**
IMA2 Indian Mountai 82.38 20 *eP* **P** **22 56 10.1 -0.3**
MCK McKinley 82.84 23 *eP* **P** **22 56 12.2 -0.6**
MCK pmax pmax
comp=Z,47nm,1.0s,mb5.5
MCK McKinley 82.84 23 *eP* **P** **22 56 12.2 -0.6**
comp=Z,47nm,1.0s,mb5.5
MAW Mawson 83.59 203 *eP* **P** **22 56 16.8 +0.2**
comp=Z,5.3nm,1.0s,mb4.6
MAW Mawson 83.59 203 P **P** **22 56 16.5 -0.1**
comp=Z,3.7nm,0.6s,mb4.7,baz=96,slow=10,SNR=6.3
MAW LR LR 23 31 06.0
comp=Z,129nm,19.0s,MS4.3,baz=96,slow=34
MAW Mawson 83.59 203 P **P** **22 56 16.5 -0.1**
MAW pmax pmax
comp=Z,4.0nm,0.6s
MAW MLR MLR
comp=Z,129nm,19.0s
QSPA South Pole Qui 83.70 180 *eP* **P** **22 56 16.3 -0.8**
comp=Z,21nm,1.0s,mb5.2
KZA Kyzart 83.81 313 P **P** **22 56 19.3 +1.5**
SNR=10
COLA College 83.82 22 *eP* **P** **22 56 16.0 -1.8**
COLA pmax pmax
comp=Z,47nm,0.9s,mb5.6
COLA College 83.82 22 *eP* **P** **22 56 16.0 -1.7**
comp=Z,47nm,0.9s,mb5.6
KURK Kurchatov 83.92 322 *eP* **P** **22 56 16.9 -1.4**
KURK pmax pmax
comp=Z,13nm,1.1s,mb5.0
KURK Kurchatov 83.92 322 *eP* **P** **22 56 16.9 -1.4**
comp=Z,13nm,1.1s,mb5.0
UCH Uchtor 84.38 313 P **P** **22 56 21.9 +1.3**
SNR=9.4
CHMS Chumysh 84.39 314 P **P** **22 56 21.1 +0.4**
SNR=6.0
FRU Bishkek 84.45 314 *eP* **P** **22 56 22.0 +1.0**
AAK Ala-Archa 84.49 314 P **P** **22 56 21.6 +0.5**
SNR=9.5
AAK Ala-Archa 84.49 314 *eP* **P** **22 56 20.1 -1.1**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
AAK Ala-Archa 84.49 314 *eP* **P** **22 56 20.1 -1.1**
comp=Z,8.6nm,0.8s,mb4.9
USP Ospenovka 84.64 314 P **P** **22 56 21.9 0.0**
SNR=22

AML Almayashu 84.95 313 P **P** **22 56 24.6 +1.1**
SNR=14
EKS2 Erkin-Say 85.01 314 P **P** **22 56 24.5 +0.7**
SNR=15
EGAK Eagle 86.35 23 *eP* **P** **22 56 30.9 +0.4**
comp=Z,60nm,1.1s,mb5.7
DAWY Dawson 86.79 24⇑ *eP* **P** **22 56 33.1 +0.5**
BVAR Borovoye Array 89.43 323 P **P** **22 56 43.1 -2.0**
comp=Z,1.4nm,0.6s,mb4.5,baz=98,slow=7.0,SNR=11
INK Inuvik 90.41 21 *eP* **P** **22 56 49.3 -0.5**
comp=Z,1µm,1.2s
MTUM Tungsten Hills 93.98 53 *eP* **P** **22 57 07.7 +1.5**
NVAR Mina Array Bea 94.28 52 P **P** **22 57 09.7 +2.1**
comp=Z,7.8nm,0.9s,mb5.1,baz=269,slow=8.8,SNR=24
DAC Darwin (Calif) 94.67 54 *eP* **P** **22 57 10.9 +1.5**
DAC pmax pmax
comp=Z,16nm,1.1s,mb5.4
DAC Darwin (Calif) 94.67 54 *eP* **P** **22 57 10.9 +1.4**
comp=Z,16nm,1.1s,mb5.3
ARU Arti 96.62 326⇓ *iP* **P** **22 57 17.2 -1.1**
ARU *e* 23 01 11.9
ARU *e*S SKSac 23 07 51.1 +0.2
ARU *e*PS PS 23 10 07.0 +5.0
ARU *e*SS SS 23 15 10.3 -0.1
ARU pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
YKA Yellowknife Ar 97.48 28 P **P** **22 57 22.7 +0.5**
comp=Z,4.4nm,0.8s,mb4.9,baz=272,slow=5.1,SNR=9.4
YKA LR LR 23 38 20.2
comp=Z,105nm,18.4s,MS4.4,baz=250,slow=34
YKA Yellowknife Ar 97.48 28 P **P** **22 57 22.7 +0.5**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA MLR MLR
comp=Z,105nm,18.4s
YKA Yellowknife Ar 97.48 28 P **P** **22 57 22.7 +0.5**
YKA LR LR 23 38 20.2
PDAR Pinedale Array 101.04 48 P Pdif 22 57 38.7 +0.6
comp=Z,1.2nm,0.8s,baz=277,slow=2.3,SNR=7.2
PDAR PP PP 23 01 46.5 -0.4
comp=Z,0.4nm,0.4s,baz=269,slow=7.3,SNR=5.6
TXAR Lajitas Array 106.27 61 PKiKP PKiKP 23 02 14.1 +1.5
comp=Z,0.5nm,0.9s,baz=263,slow=2.1,SNR=4.5
TXAR PKKPbc PKKPbc 23 13 35.6 +2.2
comp=Z,0.3nm,0.7s,baz=103,slow=5.4,SNR=4.3
DUS Dusheti 106.38 312 S SKSdf 23 09 21.8 +1.3
KZR Kazreti 106.67 311 S SKSdf 23 09 27.5 +6.5
ARCES ARCESS Array B 107.78 343 PKiKP PKiKP 23 02 15.5 +0.1
comp=Z,2.0nm,0.6s,baz=163,slow=1.4,SNR=18
ARCES ARCESS Array B 107.78 343 PKPdf PKiKP 23 02 15.5 +0.1
FINES FINESS Array B 111.70 335 PKiKP PKiKP 23 02 22.6 -0.2
comp=Z,5.6nm,1.0s,baz=94,slow=2.7,SNR=4.5
FINES FINESS Array B 111.70 335 *i* PKIKP PKiKP 23 02 22.6 -0.2
FINES pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 114.72 324 PKP PKiKP 23 02 27.8 -0.8
comp=Z,0.3nm,0.3s,baz=57,slow=2.8,SNR=4.3
BRTR Keskin Array B 115.04 311 PKP PKiKP 23 02 29.9 +0.7
comp=Z,1.5nm,1.1s,baz=52,slow=2.0,SNR=4.1
BRTR Keskin Array B 115.04 311 PKIKP PKiKP 23 02 29.9 +0.7
BRTR pmax pmax
comp=Z,2.0nm,1.1s
HFS Hagfors 117.42 338 PKP PKPdf 23 02 33.3 -0.5
comp=Z,1.8nm,0.7s,baz=59,slow=4.0,SNR=9.5
HFS Hagfors 117.42 338 PKIKP PKPdf 23 02 33.3 -0.4
HFS pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 117.44 233 PKP PKPdf 23 02 34.0 +0.3
comp=Z,3.0nm,0.9s,baz=141,slow=14,SNR=3.4
BOSA Boshof 117.44 233 PKIKP PKPdf 23 02 34.1 +0.3
BOSA pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra117.72 339 PKPdf PKPdf 23 02 33.5 -0.8
comp=Z,1.5nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 117.72 339 PKP PKPdf 23 02 33.7 -0.6
comp=Z,2.0nm,0.7s,baz=50,slow=1.9,SNR=8.3
NOA NORSAR Array B 117.72 339 PKIKP PKPdf 23 02 33.7 -0.6
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 117.72 339 PKP PKPdf 23 02 33.7 -0.6
VYHS Vyhne 121.75 325 *e*PKP PKPdf 23 02 40.7 -1.4
BRG Berggieshubel 123.11 329 *i* P PKPdf 23 02 46.5 +1.9
comp=Z,7.9nm,1.2s
CLL Collm 123.32 330 *e*PKPdf PKPdf 23 02 45.0 -0.1
KHC Kasperske Hory 124.32 328⇑ *i*PKIKP PKPdf 23 02 46.6 -0.4
GERES GERESS Array B 124.42 327 PKP PKPdf 23 02 47.7 +0.5
comp=Z,1.3nm,0.5s,baz=78,slow=2.2,SNR=9.1
GERES GERESS Array B 124.42 327 PKIKP PKPdf 23 02 47.7 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.5s
GRA1 Grafenberg Arr 125.21 329 *e*PKP PKPdf 23 02 48.4 -0.3
GRF Grafenberg Arr 125.21 329 *e*PKPdf PKPdf 23 02 48.4 -0.3
EKA Eskdalemuir Ar 126.94 342 PKP PKPdf 23 02 52.8 +0.8
comp=Z,2.4nm,0.5s,baz=17,slow=2.4,SNR=13
EKA Eskdalemuir Ar 126.94 342 PKIKP PKPdf 23 02 52.8 +0.8
EKA pmax pmax
comp=Z,2.0nm,0.5s
DAVOX Davos 127.72 327 PKP PKPdf 23 02 54.5 +1.0
comp=Z,3.3nm,0.6s,baz=135,slow=1.4,SNR=6.7
CDF Champ du Feu 128.02 330 *e*PKIKP PKPdf 23 02 55.4 +1.3
BAIF Baives 128.32 333 *e*PKIKP PKPdf 23 02 55.9 +1.3
HINF Hinteralfeld 128.63 330 *e*PKIKP PKPdf 23 02 56.3 +1.1
HAU Haudompre 128.75 330 *e*PKIKP PKPdf 23 02 56.7 +1.2
comp=Z,9.5nm,0.7s
MEZF Maizieres J'vi 129.04 331 *e*PKIKP PKPdf 23 02 57.0 +1.0
CABF La Chapelle 129.83 329 *e*PKIKP PKPdf 23 02 58.8 +1.3
comp=Z,26nm,1.1s
LPG La Plagne 130.22 328 *e*PKIKP PKPdf 23 02 59.8 +1.6
LOR Lormes 130.48 331 *e*PKIKP PKPdf 23 02 59.8 +1.1
MBDF Montbardon 130.71 327 *e*PKIKP PKPdf 23 03 00.4 +1.2
PGF Pioggiola 130.78 323 *e*PKIKP PKPdf 23 02 59.9 +0.6
SSF Saint Saulge 130.79 331 *e*PKIKP PKPdf 23 03 00.7 +1.4
comp=Z,15nm,1.0s
SBF Sospel 130.89 326 *e*PKIKP PKPdf 23 03 00.6 +1.1
SMF Signal de Mont 130.93 330 *e*PKIKP PKPdf 23 03 00.5 +0.9
AVF Avril sur Loir 131.06 331 *e*PKIKP PKPdf 23 03 00.9 +1.1
ORIF Oris-en-Rattie 131.06 328 *e*PKIKP PKPdf 23 03 00.9 +1.1
LDF La Druitiere 131.29 335 *e*PKIKP PKPdf 23 03 01.5 +1.2
FLN La Foliniere 131.31 335 *e*PKIKP PKPdf 23 03 01.7 +1.4
comp=Z,54nm,1.3s
BGF Bois d'Agland 131.47 331 *e*PKIKP PKPdf 23 03 01.7 +1.1
comp=Z,16nm,0.8s
GRR Gorron 131.76 335 *e*PKIKP PKPdf 23 03 02.1 +0.9
comp=Z,58nm,1.3s
TCF Toulx Ste Croi 131.97 331 *e*PKIKP PKPdf 23 03 02.4 +0.8
comp=Z,8.7nm,0.8s
SGMF Saint Gilles 132.56 336 *e*PKIKP PKPdf 23 03 03.8 +1.1
comp=Z,44nm,0.9s
ROSF Rostrenen 132.78 337 *e*PKIKP PKPdf 23 03 04.3 +1.2
comp=Z,79nm,1.4s
QUIF Quistinic 133.08 336 *e*PKIKP PKPdf 23 03 04.7 +1.0
LFF La Frestale 133.66 331 *e*PKIKP PKPdf 23 03 05.8 +1.0
KEST Kesra 134.33 315 PKP PKPdf 23 03 06.9 +0.9
comp=Z,2.6nm,1.1s,baz=215,slow=2.5,SNR=4.0
LPAZ La Paz 135.13 120 PKP PKPdf 23 03 09.8 +2.2
comp=Z,1.5nm,0.7s,baz=47,slow=2.2,SNR=6.4
LPAZ La Paz 135.13 120 PKIKP PKPdf 23 03 09.8 +2.3
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
SDV Santo Domingo 138.51 84 *e*PKPdf PKPdf 23 03 15.2 +1.4
ESDC Sonseca Array 139.91 330 PKP PKPdf 23 03 18.7 +2.4
comp=Z,0.3nm,0.6s,baz=52,slow=1.9,SNR=4.8
EVO Evora 142.75 333 *e*PKIKP PKPdf 23 03 22.1 +0.7
comp=Z,8.8nm,0.8s
TOA0 Torodi Ar. Sit 149.16 285 *e*PKPbc PKPbc 23 03 37.3 +0.7
TOA0 *e*PKPab PKPab 23 03 42.4 +1.4
TORD Torodi Ar. Bea 149.16 285 PKPbc PKPbc 23 03 37.6 +1.1
comp=Z,18nm,0.7s,baz=17,slow=0.8,SNR=78
LIC Lamto 156.32 271 *e*PKIKP PKPdf 23 03 42.2 -0.6
comp=Z,16nm,0.9s

*CSEM **11** 23:01:17.0, 67.19N×2068E, h6km, ML3.1, Mining explosion. After UPP*
*UPP **11** 23:01:17.0, 67.19N×2068E, h6km, ML3.1, Mining explosion.*
HEL 11 23:01:17.3±0.0, 6719N×2069E, h0km, ML3.1(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**216**	*i* P	Pg	23 01 18.6	-0.2
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	23 01 27.9	-0.5
KUA	**Kurravaara**	**0.78**	**350**	*i* P	Pg	23 01 31.3	-1.1
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	23 01 33.1	-0.9
SALU	**Saltoluokta** baz=105	**0.87**	**284**	P	Pg	23 01 33.1	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	23 01 34.1	-1.1
PAJU	**Pajala**	**0.96**	**99**	*e*P	Pg	23 01 34.5	-1.2
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	23 01 35.2	-1.3
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	23 01 35.7	-1.4
HARU	**Harads** baz=352	**1.03**	**173**	P	Pg	23 01 35.7	-1.4
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 01 47.9	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	23 01 50.1	+0.1
KIF				*e*S	Sn	23 02 14.1	+0.3
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	23 01 51.3	-0.1
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	23 01 56.8	-2.5
SGF				*e*SB	Sb	23 02 26.2	-1.8

OTT 11 23:03:50.4±1.1, 7870N×13748W, h18km, ML4.6/3, Arctic Ocean, Canada Basin 517km northwest from Mould Bay, Nt, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**10.36**	**91**	PN	Pn	23 06 17.4	-0.7
RES				SN	Sn	23 08 06.5	-7.2
RES				Trac		23 08 19.8	
	comp=Z,8.7nm,0.5s						
INK	**Inuvik**	**10.51**	**172**	PN	Pn	23 06 17.3	-2.8
INK				SN	Sn	23 08 08.4	-8.9
INK				Trac		23 08 14.1	
	comp=Z,29nm,0.6s						
JERN	**Jeri Cho Mine,**	**14.72**	**135**	PN	Pn	23 07 16.5	-1.2
JERN				SN	Sn	23 09 48.5	-12
DAWY	**Dawson**	**14.73**	**183**	PN	Pn	23 07 15.2	-2.5
DAWY				SN	Sn	23 09 48.4	-12
DAWY				Trac		23 09 55.5	
	comp=E,11nm,0.6s						
COWN	**Contwyoto Lake**	**15.47**	**136**	PN	Pn	23 07 26.1	-1.6
GALN	**Gameti Lake**	**15.82**	**146**	PN	Pn	23 07 31.0	-1.1
GALN				SN	Sn	23 10 17.6	-9.4
BULN	**Bullion Camp,**	**17.42**	**110**	PN	Pn	23 07 49.4	-3.0
BULN				SN	Sn	23 10 49.4	-16
YKW3	**Yellowknife Ar**	**17.64**	**144**	PN	Pn	23 07 55.0	-0.1
YKW3				SN	Sn	23 10 57.0	-14
YKW3				Trac		23 11 23.0	
	comp=Z,4.9nm,0.5s						
YKB8	**Yellowknife Ar**	**17.64**	**144**	PN	Pn	23 07 55.5	+0.3
YKB8				SN	Sn	23 10 58.3	-13
WHY	**Whitehorse**	**18.15**	**176**	PN	Pn	23 08 04.0	+2.5
QILN	**Qililugaq Expl**	**18.47**	**102**	PN	Pn	23 08 04.6	-0.8
QILN				SN	Sn	23 11 15.9	-15

*NEIC **11** 23:08:03.5, 1635N×9502W, h64km, MD3.7(MEX), After MEX.*
MEX 11 23:08:03.9±0.9, 1640N×9507W, h66km±19km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.71**	**14**	*i* P	Pn	23 08 17.4	-1.3
CMIG				*i* S	Sn	23 08 27.8	-1.8
HUIG	**Huatulco**	**1.18**	**238**	*i* P	Pn	23 08 22.6	-1.9
HUIG				*i* S	Sn	23 08 38.8	-1.1
OXX	**Oaxaca**	**1.72**	**293**	*i* P	Pn	23 08 31.0	-0.7
OXX				*i* S	Sn	23 08 51.0	-1.8
VHO	**Vista Hermosa**	**1.73**	**293**	*i* P	Pn	23 08 31.0	-0.8
VHO				*i* S	Sn	23 08 50.7	-2.3
CCIG	**Comitan**	**2.82**	**92**	*i* P		23 07 19.5	
CCIG				*i* S		23 07 50.5	
UTMO	**Huajuapan**	**2.98**	**299**	*i* P	Pn	23 08 47.7	-1.0
UTMO				*i* S	Sn	23 09 19.5	-3.7

*CSEM **11** 23:12:58.9, 67.18N×2065E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **11** 23:12:58.9, 67.18N×2065E, h0km, ML3.1, Mining explosion.*
HEL 11 23:12:59.6±0.1, 6717N×2065E, h0km, ML3.1(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**212**	*i* P	Pg	23 13 00.4	-0.3
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	23 13 15.2	-0.9
SALU	**Saltoluokta** baz=116	**0.86**	**285**	P	Pg	23 13 15.2	-0.8
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	Pg	23 13 16.3	-1.2
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	23 13 17.2	-1.1
HARU	**Harads**	**1.02**	**172**	*e*P	Pg	23 13 18.0	-1.2
HARU	**Harads** baz=345	**1.02**	**172**	P	Pg	23 13 18.0	-1.2
LANU	**Lannavaara**	**1.02**	**30**	*e*P	Pg	23 13 17.8	-1.4
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	23 13 30.1	-0.6
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	23 13 32.9	+0.4
KIF				*e*S	Sn	23 13 57.6	+1.2
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	23 13 33.9	+0.3
SGF	**Sodankyl**	**2.30**	**80**	*e*SG	Sg	23 14 10.0	-3.4

*ISCJB **11** 23:29:48.8±0.9, 1734S×10607W±009, h128km±10km, mb4.1/8, Error ellipse: s-maj=13.7km s-min=9.4km az=178.8*
*NEIC **11** 23:29:50.0±1.0, 1730S×7044W, h123km±10km, mb4.7/4, Error ellipse: s-maj=15.4km s-min=11.6km az=54.0*
*IDC **11** 23:29:50.1±1.4, 1733S×7041W, h120km±13km, mb3.9/7, mb1 4.2/11, mb1mx3.9/19, mbtmp4.0/11, Error ellipse: s-maj=16.8km s-min=12.2km az=106.0*
ISC 11 23:29:50.1±0.8, 1734S±006×7047W±008, h123km±9km, n26, σ1°04/30, mb4.2/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.47**	**65**	P	**Pn**	**23 30 31.1**	**+1.5**
	120nm,0.3s,baz=258,slow=11,SNR=2737						
LPAZ				S	**Sn**	**23 31 00.0**	**+0.1**
	23nm,0.3s,baz=348,slow=24,SNR=12						
LPAZ	**La Paz**	**2.47**	**65**	P	**Pn**	**23 30 31.1**	**+1.5**
LPAZ				*e*Sn	**Sn**	**23 30 59.5**	**-0.4**
LPAZ				S	**Sn**	**23 31 00.0**	**+0.1**
LVC	**Limon Verde**	**5.45**	**165**	P	**Pn**	**23 31 11.1**	**+2.1**
	19nm,0.3s,baz=343,slow=8.9,SNR=234						
LVC				S	**Sn**	**23 32 10.2**	**-0.3**
	18nm,0.3s,baz=228,slow=22,SNR=20						
LVC	**Limon Verde**	**5.45**	**165**	P	**Pn**	**23 31 11.2**	**+2.1**
LVC				*e*Sn	**Sn**	**23 32 09.8**	**-0.7**
LVC				S	**Sn**	**23 32 10.2**	**-0.3**
NNA	**Nana**	**8.15**	**310**	P	**Pn**	**23 31 44.3**	**-1.2**
	2.6nm,0.3s,baz=116,slow=16,SNR=5.5						
NNA				S	**Sn**	**23 33 09.0**	**-6.9**
	1.0nm,0.3s,baz=226,slow=19,SNR=2.9						
NNA	**Nana**	**8.15**	**310**	*e*Pn	**Pn**	**23 31 44.1**	**-1.5**
	11nm,0.4s						
NNA				*e*Sn	**Sn**	**23 33 10.1**	**-5.8**
SIV	**San Ignacio**	**9.10**	**83**	P	**Pn**	**23 31 57.0**	**-1.4**
	8.0nm,0.3s,baz=274,slow=10,SNR=154						
SAML	**Samuel**	**10.95**	**41**	*e*Pn	**Pn**	**23 32 18.0**	**-5.1**
	7.0nm,0.7s						
CFAA	**Coronel Fontan**	**14.35**	**172**	P	**Pn**	**23 33 06.5**	**-1.0**
	0.2nm,0.3s,baz=342,slow=12,SNR=7.6						
OTAV	**Otavalo**	**19.16**	**335**	P	**P**	**23 34 04.1**	**+0.3**
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**56.39**	**325**	P	**P**	**23 39 19.1**	**+0.5**
	1.1nm,0.5s,mb4.2,baz=152,slow=9.7,SNR=26						
SIUC	**Southern Illin**	**57.53**	**342**	*e*P	**P**	**23 39 25.7**	**-1.0**
	34nm,0.9s,mb5.4						
PDAR	**Pinedale Array**	**69.79**	**330**	P	**P**	**23 40 48.0**	**+0.9**
	0.5nm,0.5s,mb3.6,baz=123,slow=7.8,SNR=4.7						
ULM	**Lac du Bonnet**	**70.93**	**343**	P	**P**	**23 40 53.2**	**-0.8**
	4.7nm,0.5s,mb4.6,baz=159,slow=5.6,SNR=11						
ULM	**Lac du Bonnet**	**70.93**	**343**	P	**P**	**23 40 53.2**	**-0.8**
NVAR	**Mina Array Bea**	**71.33**	**322**	P	**P**	**23 40 58.5**	**+2.1**
	0.7nm,0.8s,mb3.6,baz=139,slow=5.9,SNR=4.5						
NVAR	**Mina Array Bea**	**71.33**	**322**	P	**P**	**23 40 58.5**	**+2.1**
TOA0	**Torodi Ar. Sit**	**77.41**	**72**	*e*P	**P**	**23 41 30.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**77.41**	**72**	P	**P**	**23 41 31.4**	**-0.2**
	6.6nm,0.5s,mb4.6,baz=261,slow=5.4,SNR=160						
ESDC	**Sonseca Array**	**83.94**	**45**	P	**P**	**23 42 07.0**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=249,slow=5.0,SNR=7.8						
YKA	**Yellowknife Ar**	**86.80**	**341**	P	**P**	**23 42 20.3**	**-0.2**
	1.7nm,0.6s,mb4.2,baz=136,slow=4.7,SNR=8.9						
YKA	**Yellowknife Ar**	**86.80**	**341**	P	**P**	**23 42 20.3**	**-0.2**
ASAR	**Alice Springs**	**132.80**	**211**	PKP	PKPdf	23 48 52.7	+2.1
	0.1nm,0.4s,baz=139,slow=2.1,SNR=5.0						

MKAR	**Makanchi Array**	**143.00**	**32**	PKP	PKPdf	23 49 06.9	-2.4	
	0.2nm,0.7s,baz=318,slow=1.9,SNR=2.4							
MJAR	**Matsushiro Arr**	**148.26**	**313**	PKPbc	PKPbc	23 49 22.1	+0.4	
	1.7nm,0.7s,baz=63,slow=1.7,SNR=4.0							
SONM	**Songino Array**	**149.48**	**4**	PKPbc	PKPbc	23 49 26.2	+1.4	
	1.5nm,0.5s,baz=319,slow=1.9,SNR=14							

*ISCJB **11** 23:34:05.7±0.9, 1093N±006×6234W±004, h96km±8km, Error ellipse: s-maj=10.2km s-min=6.0km az=177.9*
*FUNV **11** 23:34:05.8, 1101N×6224W, h94km, MW3.0*
*NEIC **11** 23:34:07.9, 1096N×6226W, h86km, MD3.2(TRN), After TRN.*
*TRN **11** 23:34:08.1, 1095N×6221W, h88km, MD3.2*

ISC 11 23:34:06.5±0.9, 1094N±006×6233W±004, h92km±8km, n13, σ0°77/23, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.31**	**160**	*e*P	**Pn**	**23 34 20.0**	**-0.2**
GUIV				*e*S	**Sn**	**23 34 30.2**	**-0.1**
TCE	**Chacachacare**	**0.62**	**113**	*e*P	**Pn**	**23 34 22.9**	**+0.5**
TCE				*e*S	**Sn**	**23 34 33.7**	**-0.5**
ITEV	**Isla Los Testi**	**0.89**	**298**	*e*P	**Pn**	**23 34 24.5**	**-0.6**
ITEV				*e*S	**Sn**	**23 34 38.6**	**-0.4**
CRUV	**Carupano**	**0.93**	**254**	*e*P	**Pn**	**23 34 25.7**	**+0.3**
CRUV				*e*S	**Sn**	**23 34 40.5**	**+0.8**
TRN	**Trinidad (W)**	**0.96**	**107**	*i*P	**Pn**	**23 34 26.2**	**+0.5**
TRN				*e*S	**Sn**	**23 34 39.1**	**-1.1**
GUNV	**Guanoco**	**0.98**	**218**	*e*P	**Pn**	**23 34 26.7**	**+0.7**
TPP	**Pointe-a-Pierr**	**1.06**	**125**	*e*P	**Pn**	**23 34 28.3**	**+1.3**
TBH	**Brigand Hill**	**1.32**	**110**	*i*P	**Pn**	**23 34 30.5**	**+0.4**
TBH				*e*S	**Sn**	**23 34 48.6**	**+0.7**
GRW	**Mount Saint Ca**	**1.38**	**28**	*e*P	**Pn**	**23 34 31.3**	**+0.5**
GRW				*e*S	**Sn**	**23 34 49.6**	**+0.4**
TPR	**Prospect**	**1.55**	**81**	*e*P	**Pn**	**23 34 32.7**	**-0.1**
TPR				*e*S	**Sn**	**23 34 51.5**	**-1.3**
CUPV	**Cœpira**	**3.51**	**256**	*e*P	**Pn**	**23 34 59.6**	**+0.7**
CAOV	**Caicara del Or**	**5.33**	**228**	*e*P	**Pn**	**23 35 22.5**	**-1.0**
CAOV				*e*S	**Sn**	**23 36 19.5**	**-4.0**
BAUV	**El Baul**	**5.96**	**251**	*e*P	**Pn**	**23 35 31.4**	**-0.8**
BAUV				*e*S	**Sn**	**23 36 34.8**	**-4.2**

*ISCJB **11** 23:39:47.7±0.7, 6277S±009×1615W±02, h10km, mb4.6/10, MS4.3/10, Error ellipse: s-maj=15.8km s-min=12.6km az=175.2*
*IDC **11** 23:39:47.5±0.9, 6277S×16122W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.3/9, mbtmp4.1/5, ML2.9/1, MS4.4/11, Ms1 4.3/11, ms1mx4.2/15, Error ellipse: s-maj=46.6km s-min=24.1km az=17.0*
*NEIC **11** 23:39:48.4±0.6, 6267S×161.14W, h10km, mb4.7/6, Error ellipse: s-maj=16.7km s-min=13.6km az=47.0*
*GCMT **11** 23:39:48.4±0.2, 6275S×16095W, h12km, MW5.1/68, Moment Tensor Solution. s27,c32; s68,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.85±.17; Mθθ5.48±.16; Mφφ-2.63±.14; Mrθ-0.12±.43; Mrφ2.53±.14; Mθφ0.13±.46; Best double couple: M0 4.80300×10^16 NP1: ϕs210.00000°, δ78.00000°, λ-169.00000°. NP2: ϕs118.00000°, δ79.00000°, λ-12.00000°. Principal axes: T 6.2050, Plg1.0000°, Azm164.0000°; N -2.8050, Plg74.0000°, Azm256.0000°; P -3.4000, Plg16.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 23:39:49.4±0.6, 6283S±008×1614W±02, h10km, n34, σ1°02/19, mb4.6/10, MS4.3/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**18.04**	**201**	*e*P	**Pn**	**23 44 01.9**	**+1.8**
	36nm,1.3s						
VNDA	**Vanda**	**18.71**	**204**	P	**Pn**	**23 44 08.7**	**+0.3**
	0.0nm,0.3s,baz=67,slow=13,SNR=10						
VNDA				LR	LR	23 49 49.0	
	comp=Z,2μm,18.2s,baz=62,slow=32						
RPZ	**Rata Peaks**	**24.91**	**307**	LR	LR	23 53 24.1	
	comp=Z,638nm,18.3s,MS4.2,baz=326,slow=33						
QSPA	**South Pole Qui**	**27.29**	**180**	*e*P	**P**	**23 45 34.4**	**+0.4**
	13nm,1.0s,mb4.4						
URZ	**Urewera**	**27.85**	**322**	LR	LR	23 54 05.3	
	comp=Z,1μm,21.4s,MS4.5,baz=26,slow=31						
CASY	**Casey**	**35.04**	**225**	*e*P	**P**	**23 46 43.0**	**+0.8**
	17nm,1.6s,mb4.7						
TBI	**Tubuai**	**40.28**	**17**	*e*S	**S**	**23 53 35.5**	**+1.6**
	93nm,23.2s						
TBI				*e*LQ		23 56 34.1	
	547nm,33.0s						
TBI				*e*LR	LR	23 58 18.4	
	1μm,27.8s,baz=185						
RKT	**Rikitea**	**43.51**	**37**	*e*LQ		23 57 52.3	
	2μm,28.5s						
RKT				*e*LR	LR	23 59 58.9	
	524nm,27.5s,baz=194						
SNAA	**Sanae**	**44.97**	**171**	*e*P	**P**	**23 48 02.5**	**-2.2**
	13nm,1.1s,mb4.7						
PPT	**Papeete**	**45.96**	**16**	*e*S	**S**	**23 54 58.4**	**+1.2**
	182nm,25.2s						
PPT				*e*LQ		23 58 56.4	
	2μm,29.2s						
PPT				*e*LR	LR	00 01 05.3	
	2μm,25.0s,baz=192						
PPT	**Papeete**	**45.96**	**16**	LR	LR	00 02 36.8	
	comp=Z,500nm,19.0s,MS4.5,baz=189,slow=30						
MAW	**Mawson**	**46.01**	**202**	LR	LR	00 05 49.9	
	comp=Z,354nm,18.9s,MS4.3,baz=154,slow=34						
STKA	**Stephens Creek**	**47.18**	**283**	*e*P	**P**	**23 48 24.5**	**+2.4**
	2.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**47.18**	**283**	P	**P**	**23 48 23.8**	**+1.6**
	2.9nm,0.8s,mb4.2,baz=150,slow=10,SNR=4.6						
STKA				LR	LR	00 03 12.9	
	comp=Z,214nm,20.9s,MS4.1,baz=12,slow=30						
STKA	**Stephens Creek**	**47.18**	**283**	*e*P	**P**	**23 48 22.2**	**+0.1**
TAOE	**Nuku Hiva Isla**	**56.03**	**26**	*e*LR	LR	00 05 23.8	
	2μm,31.5s						
ASAR	**Alice Springs**	**57.68**	**281**	P	**P**	**23 49 39.9**	**-0.2**
	3.1nm,0.9s,mb4.3,baz=151,slow=7.3,SNR=24						
ASAR				LR	LR	00 10 15.8	
	comp=Z,359nm,21.3s,MS4.5,baz=159,slow=32						
AS31	**Alice Springs**	**57.68**	**281**	*e*P	**P**	**23 49 39.6**	**-0.4**
WB2	**Warramunga Arr**	**60.73**	**284**	*e*P	**P**	**23 50 00.5**	**-0.6**
WRA	**Warramunga Arr**	**60.73**	**284**	P	**P**	**23 50 00.7**	**-0.5**
	3.2nm,1.0s,mb4.4,baz=160,slow=6.3,SNR=9.9						
WRA				LR	LR	00 14 27.1	
	comp=Z,171nm,18.2s,MS4.2,baz=155,slow=34						
WRAB	**Tennant Creek**	**60.74**	**284**	*e*P	**P**	**23 49 59.7**	**-1.5**
	10.0nm,1.1s,mb4.9						
LVC	**Limon Verde**	**71.27**	**103**	*e*P	**P**	**23 51 08.2**	**-0.7**
	6.8nm,1.0s,mb4.5						
LPAZ	**La Paz**	**77.15**	**100**	P	**P**	**23 51 43.4**	**+0.2**
	3.1nm,0.9s,mb4.2,baz=184,slow=2.7,SNR=7.9						
LPAZ				LR	LR	00 18 48.5	
	comp=Z,81nm,19.3s,MS4.1,baz=40,slow=30						
LPAZ	**La Paz**	**77.15**	**100**	P	**P**	**23 51 43.4**	**+0.2**
LPAZ				LR	LR	00 18 48.5	
COCO	**West Island**	**84.55**	**254**	P	**P**	**23 52 22.5**	**-0.2**
	34nm,0.6s,mb5.7						
BOSA	**Boshof**	**88.72**	**186**	LR	LR	00 29 37.2	
	comp=Z,483nm,18.8s,MS4.9,baz=175,slow=34						
ROSC	**El Rosal**	**92.95**	**85**	LR	LR	00 26 52.3	
	comp=Z,76nm,18.7s,MS4.2,baz=49,slow=30						
TORD	**Torodi Ar. Bea**	**128.96**	**159**	PKP	PKPdf	23 58 57.9	+0.6
	0.8nm,1.0s,baz=145,slow=2.8,SNR=3.3						
MKAR	**Makanchi Array**	**141.74**	**276**	PKhKP		23 59 14.8	
	0.6nm,0.8s,baz=128,slow=3.5,SNR=3.9						
EIL	**Elat**	**145.18**	**205**	*e*PKPdf	PKPdf	23 59 22.8	-4.4
KURK	**Kurchatov**	**146.26**	**277**	*e*PKPdf	PKPdf	23 59 27.6	-1.5
BVAR	**Borovoye Array**	**151.58**	**274**	PKPbc	PKPbc	23 59 41.5	-2.3
	4.5nm,0.9s,baz=151,slow=3.4,SNR=16						
ESDC	**Sonseca Array**	**153.15**	**139**	PKPbc	PKPbc	23 59 45.5	-1.8
	0.6nm,0.7s,baz=186,slow=1.3,SNR=5.9						
BRTR	**Keskin Array B**	**155.16**	**208**	PKPbc	PKPdf	23 59 48.4	+5.7
	0.5nm,0.8s,baz=133,slow=4.9,SNR=3.3						
BRTR				PKPab	PKPab	00 00 05.2	-2.2
	1.3nm,1.1s,baz=165,slow=6.4,SNR=3.6						

*IDC **11** 23:48:06.2±1.3, 5600N×16177E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=43.7km s-min=36.8km az=148.0*
*KRSC **11** 23:48:12.4±0.1, 5631N×16192E, h52km±52km, ML4.2*
*MOS **11** 23:48:12.2±0.8, 5635N×16204E, h47km, mb4.4/2, Error ellipse: s-maj=31.0km s-min=12.2km az=75.5*
*ISCJB **11** 23:48:13.1±0.5, 5633N±004×16197E±006, h60km±5km, mb3.9/4, Error ellipse: s-maj=6.5km s-min=5.7km az=113.4*

ISC 11 23:48:14.0±0.5, 5636N±004×16196E±006, h51km±6km, n46, σ1°06/80, mb3.9/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDR	**Baidarnaya**	**0.47**	**297**	*i*P	**Pn**	**23 48 24.8**	**-0.6**
BDR				*i*S	**Sn**	**23 48 33.4**	**+0.6**
BDR	**Baidarnaya**	**0.47**	**297**	*i*P	**Pn**	**23 48 24.8**	**-0.2**
BDR				*i*S	**Sn**	**23 48 33.4**	**+0.6**
KBTR	**Krutoberegovo**	**0.50**	**108**	*i*P	**Pn**	**23 48 24.9**	**-0.5**
KBTR				*i*S	**Sn**	**23 48 34.9**	**+1.4**
KBTR	**Krutoberegovo**	**0.50**	**108**	*i*P	**Pn**	**23 48 24.9**	**-0.5**
KBTR				*i*S	**Sn**	**23 48 34.9**	**+1.4**
SRKR	**Sorokina**	**0.53**	**304**	*i*P	**Pn**	**23 48 25.4**	**-0.3**
SRKR	**Sorokina**	**0.53**	**304**	*i*P	**Pn**	**23 48 25.4**	**-0.3**
KLY	**Klyuchi**	**0.73**	**267**	*i*P	**Pn**	**23 48 25.7**	**-2.5**
KLY				*i*S	**Sn**	**23 48 36.0**	**-2.6**
KLY	**Klyuchi**	**0.73**	**267**	*i*P	**Pn**	**23 48 25.7**	**-2.5**
KLY				*i*S	**Sn**	**23 48 36.0**	**-2.6**
ZLN	**Zelenaya**	**0.73**	**242**	*i*P	**Pn**	**23 48 27.7**	**-0.6**
ZLN				*i*S	**Sn**	**23 48 39.2**	**+0.6**
ZLN	**Zelenaya**	**0.73**	**242**	*i*P	**Pn**	**23 48 27.7**	**-0.6**
ZLN				*i*S	**Sn**	**23 48 39.2**	**+0.6**
KRSR	**Krestovskiy**	**0.79**	**260**	*i*P	**Pn**	**23 48 27.9**	**-1.1**
KRSR				*i*S	**Sn**	**23 48 39.2**	**-0.8**
KRSR	**Krestovskiy**	**0.79**	**260**	*i*P	**Pn**	**23 48 27.9**	**-1.1**
KRSR				*i*S	**Sn**	**23 48 39.2**	**-0.8**
KPT	**Kopyto**	**1.05**	**249**	*i*P	**Pn**	**23 48 31.8**	**-0.7**
KPT				*i*S	**Sn**	**23 48 46.3**	**+0.2**
KPT	**Kopyto**	**1.05**	**249**	*i*P	**Pn**	**23 48 31.8**	**-0.7**
KPT				*i*S	**Sn**	**23 48 46.3**	**+0.2**
KMNR	**Kamenistaya**	**1.14**	**239**	*i*P	**Pn**	**23 48 33.5**	**-0.2**
KMNR				*i*S	**Sn**	**23 48 49.0**	**+0.7**
KMNR	**Kamenistaya**	**1.14**	**239**	*i*P	**Pn**	**23 48 33.5**	**-0.2**
KMNR				*i*S	**Sn**	**23 48 49.0**	**+0.7**
KOZR	**Kozyr**	**1.19**	**256**	PN	**Pn**	**23 48 34.6**	**+0.2**
KOZR				S	**Sn**	**23 48 51.0**	**+1.5**
KOZ	**Kozyrevsk**	**1.21**	**256**	*i*P	**Pn**	**23 48 34.6**	**0.0**
KOZ				*i*S	**Sn**	**23 48 51.0**	**+1.2**
KOZ	**Kozyrevsk**	**1.21**	**256**	*i*P	**Pn**	**23 48 34.6**	**0.0**
KOZ				*i*S	**Sn**	**23 48 51.0**	**+1.2**
SRDR	**Sredinnyy**	**1.25**	**269**	*i*P	**Pn**	**23 48 35.0**	**-0.2**
SRDR				*i*S	**Sn**	**23 48 51.0**	**+0.1**
SRDR	**Sredinnyy**	**1.25**	**269**	*i*P	**Pn**	**23 48 35.0**	**-0.2**
SRDR				*i*S	**Sn**	**23 48 51.0**	**+0.1**
TUMR	**Tumrok**	**1.49**	**224**	*i*P	**Pn**	**23 48 39.0**	**+0.6**
TUMR				*i*S	**Sn**	**23 48 57.6**	**+0.9**
TUMR	**Tumrok**	**1.49**	**224**	*i*P	**Pn**	**23 48 39.0**	**+0.6**
TUMR				*i*S	**Sn**	**23 48 57.6**	**+0.9**
MKZ	**Mys Kozlova**	**1.81**	**184**	*e*P	**Pn**	**23 48 41.6**	**-1.2**
MKZ				*i*S	**Sn**	**23 49 03.3**	**-1.4**
MKZ	**Mys Kozlova**	**1.81**	**184**	*e*P	**Pn**	**23 48 41.6**	**-1.2**
MKZ				*i*S	**Sn**	**23 49 03.3**	**-1.4**
SPN	**Mys Shipunski**	**3.46**	**200**	*e*P	**Pn**	**23 49 03.8**	**-1.6**
SPN				*i*S	**Sn**	**23 49 41.8**	**-3.3**
SPN	**Mys Shipunski**	**3.46**	**200**	*e*P	**Pn**	**23 49 03.8**	**-1.6**
SPN				*i*S	**Sn**	**23 49 41.8**	**-3.3**
GNL	**Ganaly**	**3.54**	**223**	*e*P	**Pn**	**23 49 06.3**	**-0.1**
GNL	**Ganaly**	**3.54**	**223**	*e*P	**Pn**	**23 49 06.3**	**-0.1**
NLC	**Nalytchevo**	**3.54**	**206**	*e*P	**Pn**	**23 49 06.4**	**-0.1**
NLC				*i*S	**Sn**	**23 49 47.3**	**+0.3**
NLC	**Nalytchevo**	**3.54**	**206**	*e*P	**Pn**	**23 49 06.4**	**-0.1**
NLC				*i*S	**Sn**	**23 49 47.3**	**+0.3**
AVH	**Avacha**	**3.62**	**212**	*e*P	**Pn**	**23 49 08.3**	**+0.7**
AVH				*i*S	**Sn**	**23 49 49.8**	**+0.7**
AVH	**Avacha**	**3.62**	**212**	*e*P	**Pn**	**23 49 08.3**	**+0.7**
AVH				*i*S	**Sn**	**23 49 49.8**	**+0.7**
PET	**Petropavlovsk**	**3.86**	**211**	*e*PN	**Pn**	**23 49 11.8**	**+1.0**
PET				*e*S	**Sn**	**23 49 57.5**	**+2.6**
PET				smax			
	comp=E,33nm,0.6s						
PET				smax			
	comp=N,83nm,0.5s						
PET	**Petropavlovsk**	**3.86**	**211**	P	**Pn**	**23 49 12.5**	**+1.7**
PET				*i*S	**Sn**	**23 49 55.1**	**+0.2**
PET	**Petropavlovsk**	**3.86**	**211**	P	**Pn**	**23 49 12.5**	**+1.7**
PET				*i*S	**Sn**	**23 49 55.1**	**+0.2**
RUS	**Russkaya**	**4.42**	**209**	*e*P	**Pn**	**23 49 19.0**	**+0.4**
RUS				*i*S	**Sn**	**23 50 07.8**	**-1.0**
RUS	**Russkaya**	**4.42**	**209**	*e*P	**Pn**	**23 49 19.0**	**+0.4**
RUS				*i*S	**Sn**	**23 50 07.8**	**-1.0**
GRL	**Gorelyy**	**4.44**	**212**	P	**Pn**	**23 49 21.1**	**+2.3**
GRL	**Gorelyy**	**4.44**	**212**	P	**Pn**	**23 49 21.1**	**+2.3**
NVAR	**Mina Array Bea**	**53.69**	**74**	P	**P**	**23 57 31.8**	**+1.2**
	comp=N,0.6nm,0.6s,mb3.7,baz=298,slow=9.9,SNR=4.1						
FINES	**FINESS Array B**	**57.55**	**337**	P	**P**	**23 57 58.8**	**+0.5**
	comp=N,6.3nm,1.1s,mb4.5,baz=30,slow=7.2,SNR=4.8						
FINES	**FINESS Array B**	**57.55**	**337**	P	**P**	**23 57 58.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TXAR	**Lajitas Array**	**68.41**	**69**	P	**P**	**23 59 10.5**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=304,slow=5.6,SNR=3.9						
TXAR	**Lajitas Array**	**68.41**	**69**	P	**P**	**23 59 10.5**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**83.18**	**206**	P	**P**	**00 00 31.9**	**-2.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=16,slow=4.6,SNR=6.8						

OTT 12 00:06:49.4±1.8, 7878N×13792W, h18km, ML4.5/2, Arctic Ocean, Canada Basin 529km northwest from Mould Bay, Nt, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**10.45**	**91**	PN	Pn	00 09 18.6	+0.4
RES				SN	Sn	00 11 07.2	-7.6
INK	**Inuvik**	**10.60**	**171**	PN	Pn	00 09 18.2	-2.1
INK				SN	Sn	00 11 09.6	-9.0
INK				Trac		00 11 14.7	
	comp=Z,9.2nm,0.4s						
DAWY	**Dawson**	**14.80**	**183**	PN	Pn	00 10 16.4	-1.3
DAWY				SN	Sn	00 12 48.7	-12
DAWY				Trac		00 12 55.1	
	comp=Z,16nm,0.8s						
COWN	**Contwyoto Lake**	**15.59**	**135**	PN	Pn	00 10 25.8	-2.3
COWN				SN	Sn	00 13 08.6	-12
GALN	**Gameti Lake**	**15.93**	**146**	PN	Pn	00 10 27.9	-4.7
GALN				SN	Sn	00 13 18.9	-10
STLN	**Stellar Camp,**	**16.74**	**108**	PN	Pn	00 10 40.7	-2.2
STLN				SN	Sn	00 13 50.0	-16
YKW3	**Yellowknife Ar**	**17.75**	**143**	PN	Pn	00 10 56.0	+0.5
YKW3				SN	Sn	00 13 58.5	-14

IDC 12 00:14:49.9±2.7, 1235N×14413E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=227.4km s-min=17.9km az=116.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.43**	**30**	Pn	Pn	00 15 17.2	+0.1
	18nm,0.3s,baz=201,slow=17,SNR=6.1						
GUMO				Sn	Sn	00 15 35.8	-0.7
	76nm,0.3s,baz=3.1,slow=22,SNR=16						
WRA	**Warramunga Arr**	**33.50**	**197**	P	P	00 21 30.6	-0.4
	0.9nm,0.6s,baz=20,slow=9.8,SNR=9.9						
ASAR	**Alice Springs**	**37.16**	**196**	P	P	00 22 03.0	+0.6
	0.2nm,0.5s,baz=18,slow=13,SNR=4.7						
NVAR	**Mina Array Bea**	**88.25**	**51**	P	P	00 27 44.5	+1.4
	0.2nm,0.4s,baz=282,slow=4.5,SNR=4.6						

*LDG **12** 00:16:35.2±0.6, 4220N×247W, h5km, Md2.4/1, Ml2.2/3, Error ellipse: s-maj=16.2km s-min=10.0km az=178.0*

MDD 12 00:16:33.8±0.4, 4215N×252W, h4km±4km, mbLg1.7/10, Error ellipse: s-maj=3.7km s-min=2.9km az=82.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECRI	**Cripan**	**0.46**	**1**	Pg	Pg	00 16 41.7	-0.9
	12nm,0.1s,SNR=7.9						
ECRI				Lg		00 16 49.2	
	13nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.93**	**48**	Pg	Pg	00 16 51.3	-0.4
	3.3nm,0.1s,SNR=8.2						
EARA				Lg		00 17 02.9	
	3.4nm,0.2s,SNR=4.9						
IUSE	**Utxeti**	**1.07**	**42**	Pg	Pg	00 16 54.5	+0.1
	2.6nm,0.2s,SNR=5.0						
IUSE				Lg		00 17 08.2	
	1.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**1.25**	**35**	Pg	Pg	00 16 56.4	-1.3
	1.9nm,0.2s,SNR=16						
ELIZ				Lg		00 17 14.5	
	3.3nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**1.27**	**328**	Pg	Pg	00 16 56.6	-1.6
	6.7nm,0.2s,SNR=108						
ELAN				Lg		00 17 14.1	
	1.7nm,0.1s,SNR=9.1						
EALK	**Alkurruntz**	**1.30**	**35**	Pg	Pg	00 16 57.2	-1.6
	1.5nm,0.1s,SNR=7.9						
EALK				Lg		00 17 14.9	
	6.5nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**1.36**	**44**	*e*Pn	Pn	00 16 58.0	-1.6
SJPF				*e*Sn	Sn	00 17 15.5	-2.5
	6.3nm,0.2s						
SJPF	**Ste Jean**	**1.36**	**44**	Pn	Pn	00 16 58.0	-1.6
SJPF				Sn	Sn	00 17 15.5	-2.5
	3.2nm,0.2s						
ETOR	**Torete**	**1.38**	**165**	Pg	Pg	00 16 58.4	-1.8
	20nm,0.2s,SNR=40						
ETOR				Lg		00 17 17.5	
	20nm,0.2s,SNR=9.3						
ESAC	**San Caprasio**	**1.59**	**105**	Pg	Pg	00 17 02.8	-1.5
	4.3nm,0.2s,SNR=7.9						
ESAC				Lg		00 17 23.8	
	27nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**1.94**	**220**	Lg		00 17 36.5	
	2.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.04**	**74**	Pn	Pn	00 17 07.7	-1.3
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		00 17 37.8	
	0.1nm,0.2s,SNR=4.0						
EPF	**Esparros**	**2.29**	**66**	*e*Pn	Pn	00 17 11.3	-1.1
EPF				*e*Sn	Sn	00 17 38.3	-2.7
	3.4nm,0.3s						
EPF	**Esparros**	**2.29**	**66**	Pn	Pn	00 17 11.3	-1.1
EPF				Sn	Sn	00 17 38.3	-2.7
	1.7nm,0.3s						
EARI	**Arriondas**	**2.29**	**301**	Pn	Pn	00 17 11.5	-0.9
	0.1nm,0.2s,SNR=7.9						
EARI				Sn	Sn	00 17 39.0	-2.1
	0.3nm,0.1s,SNR=4.0						
EARI				Lg		00 17 48.1	
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.36**	**138**	Pg	Pg	00 17 17.3	-1.7
	0.2nm,0.2s,SNR=7.9						
EMOS				Lg		00 17 48.9	
	0.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.45**	**118**	Pn	Pn	00 17 14.4	-0.2
	0.2nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	00 17 20.0	-0.8
	0.3nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	00 17 44.0	-1.0
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		00 17 51.9	
	0.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.71**	**204**	Pn	Pn	00 17 16.8	-1.3
	3.2nm,0.1s,baz=30,slow=13,SNR=8.0						
ESDC				Sn	Sn	00 17 48.8	-2.5
	baz=27,slow=23,SNR=7.9						
ESDC				Lg		00 18 00.4	
	0.6nm,0.3s,baz=26,slow=27,SNR=8.3						
EPOB	**Poblet**	**2.81**	**105**	Pn	Pn	00 17 17.7	-1.9
	SNR=7.9						
EPOB				Sn	Sn	00 17 50.8	-3.1
	0.1nm,0.2s,SNR=7.9						
EPOB				Lg		00 18 02.9	
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.15**	**268**	Pn	Pn	00 17 22.5	-1.7
	SNR=7.9						
ECAL				Pg	Pg	00 17 30.5	-3.7
	SNR=7.9						
ECAL				Sn	Sn	00 18 00.3	-1.9
	0.5nm,0.2s,SNR=7.9						
ECAL				Lg		00 18 13.4	
	0.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.58**	**168**	Pn	Pn	00 17 30.7	+0.6
	0.1nm,0.1s,SNR=7.9						
ETOB				Pg	Pg	00 17 40.7	-1.7
	SNR=7.9						
ETOB				Lg		00 18 26.9	
	0.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**3.61**	**291**	Sn	Sn	00 18 10.8	-2.8
	0.2nm,0.1s,SNR=7.9						
EPON				Lg		00 18 25.9	
	0.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**3.69**	**70**	*e*Pn	Pn	00 17 30.4	-1.2
MTLF	**Montolieu**	**3.69**	**70**	*e*Pg	Pg	00 17 42.2	-2.3
MTLF				*e*Sg	Sg	00 18 28.6	-3.6
	1.1nm,0.5s						
MTLF	**Montolieu**	**3.69**	**70**	Pn	Pn	00 17 30.4	-1.2
MTLF				Pg	Pg	00 17 42.2	-2.3
MTLF				Lg		00 18 28.6	
	0.6nm,0.5s						
EADA	**Adamuz**	**4.28**	**202**	Pn	Pn	00 17 37.9	-1.9
	SNR=7.9						
EADA

baz=69
MASU Masugnsbyn 0.78 118 *i* P Pg 00 20 33.0 -0.8
SALU Saltoluokta 0.79 236 *i* P Pg 00 20 32.9 -1.0
KIF Kilpisjarvi 1.20 10 *e*P Pg 00 20 41.0 -0.7
KIF *e*S Sg 00 20 56.9 -0.4
PAJU Pajala 1.39 124⇓ *e*P Pg 00 20 43.4 -1.9
HARU Harads 1.70 169 *e*P Pn 00 20 48.8 -0.8
HARU Harads 1.70 169 P Pn 00 20 48.8 -0.8
baz=335
SJUU Sjulsmark 2.40 166 *e*P Pn 00 20 59.6 +0.4
SGF Sodankyl 2.45 96 *e*P Pn 00 20 59.6 -0.3

MEX 12 00:51:14.4±0.8, 1624N×9600W, h58km±33km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.48**	**192**	*i* P	Pn	00 51 24.4	-1.6
HUIG				*i* S	Sn	00 51 32.8	-1.6
VHO	**Vista Hermosa**	**1.08**	**320**	*i* P	Pn	00 51 31.9	-1.5
VHO				*i* S	Sn	00 51 45.5	-2.1
OXX	**Oaxaca**	**1.08**	**321**	*i* P	Pn	00 51 32.5	-0.9
OXX				*i* S	Sn	00 51 46.0	-1.6
UTMO	**Huajuapan**	**2.34**	**313**	*i* P	Pn	00 51 48.5	-1.9
UTMO				*i* S	Sn	00 52 17.0	-0.9

NEIC **12** *01:22:04.5±1.7, 6.42S×151.35E, h10km, mb4.0/4, Error ellipse: s-maj=36.0km s-min=25.5km az=138.0*
ISCJB **12** *01:22:11.1±5.2, 6.6S±0.3×151.0E±0.3, h61km±35km, mb3.9/3, Error ellipse: s-maj=54.1km s-min=39.6km az=124.4*
IDC **12** *01:22:13.8±9.3, 6.54S×150.96E, h63km±67km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.0/1, MS3.8/2, Ms1 3.7/2, ms1mx2.8/27, Error ellipse: s-maj=61.0km s-min=54.1km az=71.0*

ISC 12 01:22:12.1±5.1, 6.5S±0.3×151.1E±0.3, h56km±35km, n13, σ0.9 28/11, mb3.8/5, MS3.8/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**233**	P	**Pn**	**01 23 22.3**	**+0.1**
	0.5nm,0.3s,baz=68,slow=12,SNR=2.9						
PMG				S	**Sn**	**01 24 17.0**	**+0.1**
	2.6nm,0.3s,baz=340,slow=20,SNR=4.9						
KAKA	**Kakadu**	**19.37**	**250**	*e*P	**Pn**	**01 26 34.7**	**0.0**
	2.8nm,0.4s						
WRAB	**Tennant Creek**	**21.02**	**229**	*e*P	**P**	**01 26 50.7**	**-0.4**
	4.8nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	**P**	**01 26 50.7**	**-0.4**
WRA	**Warramunga Arr**	**21.04**	**229**	P	**P**	**01 26 51.1**	**-0.1**
	2.0nm,0.8s,mb3.5,baz=51,slow=9.5,SNR=13						
DZM	**Mont Dzumac**	**21.46**	**138**	LR	LR	01 32 39.6	
	comp=Z,206nm,18.8s,MS3.5,baz=13,slow=29						
ASAR	**Alice Springs**	**23.75**	**222**	P	**P**	**01 27 19.4**	**+0.2**
	2.1nm,0.6s,mb3.8,baz=56,slow=8.6,SNR=47						
STKA	**Stephens Creek**	**26.77**	**198**	*e*P	**P**	**01 27 46.6**	**0.0**
	1.5nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**26.77**	**198**	P	**P**	**01 27 46.9**	**+0.3**
	1.7nm,0.6s,mb3.8,baz=17,slow=12,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	*e*P	**P**	**01 27 51.7**	**-0.1**
	3.4nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	P	**P**	**01 27 52.6**	**+0.8**
	2.4nm,0.8s,mb3.8,baz=60,slow=8.8,SNR=6.2						
MAW	**Mawson**	**83.36**	**203**	LR	LR	02 08 37.0	
	comp=Z,54nm,18.2s,MS4.0,baz=246,slow=33						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	PKPbc	01 41 55.6	+1.5
	0.8nm,0.7s,baz=91,slow=2.3,SNR=6.5						

NIED **12** *01:32:00, 3390N×141.60E, h8km, Mw4.3 Best double couple: M0 3.41000×10^15 NP1:φ=221.00000°, δ=51.00000°, λ=121.00000°. NP2:φ=357.00000°, δ=48.00000°, λ=58.00000°.*
MOS **12** *01:32:19.3±1.1, 3378N×141.57E, h33km, mb4.9/7, Error ellipse: s-maj=25.7km s-min=8.4km az=122.8*
ISCJB **12** *01:32:21.0±0.9, 3388N±0.004×141.59E±0.007, h44km±6km, mb4.5/27, MS3.7/2, Error ellipse: s-maj=10.1km s-min=6.2km az=146.7*
JMA **12** *01:32:20.4±0.3, 3393N×141.63E, h41km±5km, M4.3*
BJI **12** *01:32:21.0, 3380N×141.50E, h35km, mB5.1, mb4.3, Ms4.4, Msz4.1*
NEIC **12** *01:32:22.1±0.4, 3384N×141.50E, h35km, mb4.8/7, MW4.3(NIED), Error ellipse: s-maj=15.1km s-min=8.2km az=68.0*
IDC **12** *01:32:24.3±2.4, 3387N×141.55E, h52km±20km, mb4.0/14, mb1 4.1/17, mb1mx4.0/25, mbtmp4.0/17, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/46, Error ellipse: s-maj=19.1km s-min=10.3km az=88.0*

ISC 12 01:32:21.7±1.7, 3391N±004×14161E±005, h33km±12km, n69, σ0.9 98/78, mb4.5/27, MS3.7/2, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**325**	⇑P	**Pn**	**01 32 36.8**	**-1.3**
BSO2	**Boso 2**	**1.09**	**320**	*e*S	**Sn**	**01 32 52.9**	**-1.8**
BSO3	**Boso 3**	**1.27**	**315**	⇑P	**Pn**	**01 32 42.8**	**-0.3**
BSO4	**Boso 4**	**1.50**	**316**	P	**Pn**	**01 32 46.5**	**+0.2**
BSO4				*e*S	**Sn**	**01 33 05.7**	**+1.0**
KTR	**Katsuura**	**1.63**	**320**	P	**Pn**	**01 32 48.4**	**+0.3**
KTR				*e*S	**Sn**	**01 33 08.1**	**+0.2**
JHJ2	**Mitsune**	**1.69**	**242**	P	**Pn**	**01 32 49.0**	**+0.1**
JHJ	**Hachijo jima 2**	**1.71**	**243**	P	**Pn**	**01 32 49.2**	**0.0**
	240nm,0.3s,baz=63,slow=16,SNR=19						
JHJ				S	**Sn**	**01 33 10.8**	**+0.8**
	297nm,0.3s,baz=244,slow=23,SNR=6.9						
JIM2	**Oshima 3**	**1.97**	**295**	P	**Pn**	**01 32 51.6**	**-1.1**
JIM2				*e*S	**Sn**	**01 33 16.6**	**+0.3**
JKO	**Kozu shima**	**2.07**	**278**	P	**Pn**	**01 32 54.0**	**-0.1**
KTJJ	**Kamata 2**	**2.33**	**296**	P	**Pn**	**01 32 57.0**	**-0.7**
KTJJ				*e*S	**Sn**	**01 33 24.2**	**-1.0**
JIZS	**Izushimoda**	**2.40**	**290**	P	**Pn**	**01 32 58.4**	**-0.2**
JIZS				*e*S	**Sn**	**01 33 25.8**	**-1.0**
JOD2	**Odawara 2**	**2.48**	**304**	P	**Pn**	**01 32 58.9**	**-0.8**
JOD2				*e*S	**Sn**	**01 33 28.7**	**-0.1**
MJAR	**Matsushiro Arr**	**3.82**	**314**	P	**Pn**	**01 33 18.8**	**+0.6**
	13nm,0.3s,baz=139,slow=9.4,SNR=91						
MJAR				S	**Sn**	**01 34 04.5**	**+2.4**
	21nm,0.3s,baz=142,slow=13,SNR=7.9						
MJAR				LR	LR	01 34 55.1	
	comp=Z,526nm,20.5s,baz=140,slow=40						
MJAR	**Matsushiro Arr**	**3.82**	**314**	P	**Pn**	**01 33 18.8**	**+0.6**
MJAR				S	**Sn**	**01 34 04.5**	**+2.5**
MJAR	**Matsushiro Arr**	**3.82**	**314**	P	**Pn**	**01 33 18.8**	**+0.6**
MJAR				S	**Sn**	**01 34 04.5**	**+2.4**
MJAR				LR	LR	01 34 55.1	
MAJO	**Matsushiro**	**3.83**	**314**	*e*Pn	**Pn**	**01 33 18.6**	**+0.3**
MAJO				*e*Sn	**Sn**	**01 33 58.2**	**-3.9**
MAT	**Matsushiro**	**3.83**	**314**	P	**Pn**	**01 33 19.1**	**+0.9**
MAT				S	**Sn**	**01 34 04.4**	**+2.3**
CBIJ	**Chichi jima**	**6.81**	**176**	P	**Pn**	**01 34 00.8**	**+1.5**
	25nm,0.3s,baz=83,slow=8.1,SNR=4.8						
ASAJ	**Asahikawa**	**10.22**	**4**	P	**Pn**	**01 34 42.7**	**-3.3**
	2.3nm,0.3s,baz=228,slow=11,SNR=9.6						
ASAJ				S	**Sn**	**01 36 34.2**	**-5.2**
	1.1nm,0.3s,baz=5.0,slow=22,SNR=4.7						
KSRS	**Korea Array**	**11.67**	**292**	P	**Pn**	**01 35 10.0**	**+4.1**
	baz=100,slow=14,SNR=5.1						
KSRS				LR	LR	01 39 24.5	
	comp=Z,223nm,19.2s,baz=134,slow=36						
VLA	**Vladivostok**	**11.92**	**323**	P	**Pn**	**01 35 12.0**	**+2.7**
VLA				MLR	MLR		
	comp=Z,400nm,16.0s						
JOW	**Kunigami**	**13.49**	**242**	LR	LR	01 41 03.5	
	comp=Z,354nm,18.2s,baz=181,slow=39						
HIA	**Hailar**	**22.30**	**320**	*e*P	**P**	**01 37 16.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,17nm,1.5s						
HIA	**Hailar**	**22.30**	**320**	*e*P	**P**	**01 37 16.1**	**-0.2**
	comp=Z,18nm,1.5s,mb4.3						
SONM	**Songino Array**	**29.75**	**308**	P	**P**	**01 38 25.7**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=120,slow=9.4,SNR=9.3						
SONM				LR	LR	01 51 07.7	
	comp=Z,183nm,19.7s,MS3.7,baz=208,slow=38						
BOD	**Bodaibo**	**30.29**	**331**	*e*P	**P**	**01 38 29.4**	**-0.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.2						
ZAK	**Zakamensk**	**32.41**	**312**	*e*P	**P**	**01 38 47.0**	**-1.4**
ZAK				*e*		01 39 03.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
GTA	**Gaotai**	**33.75**	**292**	*e*P	**P**	**01 39 00.4**	**+0.3**
GTA				AP	pP	01 39 13.3	+3.7
GTA				XP	sP	01 39 19.7	+6.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
WMQ	**Urumqi**	**42.46**	**300**	*e*P	**P**	**01 40 14.5**	**+1.0**
NVS	**Novosibirsk**	**45.15**	**316**	*e*P	**P**	**01 40 37.4**	**+2.3**
MK31	**Makanchi Array**	**45.97**	**305**	*e*P	**P**	**01 40 41.4**	**-0.2**
MKAR	**Makanchi Array**	**45.97**	**305**	P	**P**	**01 40 41.6**	**0.0**
	comp=Z,26.6nm,0.7s,mb4.3,baz=89,slow=8.6,SNR=15						
JIRN	**Jiri**	**47.53**	**278**	*e*P	**P**	**01 40 54.5**	**+0.7**
GUN	**Gumba**	**47.70**	**279**	*e*P	**P**	**01 40 55.5**	**+0.4**
KURK	**Kurchatov**	**48.03**	**310**	*e*P	**P**	**01 40 56.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KURK	**Kurchatov**	**48.03**	**310**	*e*P	**P**	**01 40 56.9**	**-0.7**
	comp=Z,12nn,0.9s,mb4.9						
PKI	**Pulchoki**	**48.21**	**278**	*e*P	**P**	**01 40 58.6**	**-0.5**
KKN	**Kakani**	**48.23**	**279**	*e*P	**P**	**01 40 58.0**	**-1.2**
	comp=Z,26nm,0.9s,mb5.2						
DMN	**Daman**	**48.45**	**279**	*e*P	**P**	**01 41 00.7**	**-0.2**
GKN	**Gorkha**	**48.68**	**279**	*e*P	**P**	**01 41 02.5**	**-0.2**
	comp=Z,59nn,1.1s,mb5.5						
KOLN	**Koldanda**	**49.62**	**279**	*e*P	**P**	**01 41 09.7**	**-0.2**
	comp=Z,20nn,1.0s,mb5.1						
CHKZ	**Chkalovo**	**52.59**	**315**	*e*P	**P**	**01 41 31.0**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,11nn,1.2s,mb4.7						
CHKZ	**Chkalovo**	**52.59**	**315**	*e*P	**P**	**01 41 30.9**	**-1.2**
	comp=Z,11nn,1.2s,mb4.7						
ZRNK	**Zerenda**	**53.66**	**314**	*e*P	**P**	**01 41 39.7**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,13nn,1.2s,mb4.7						
ZRNK	**Zerenda**	**53.66**	**314**	*e*P	**P**	**01 41 39.7**	**-0.4**
	comp=Z,13nn,1.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.91**	**199**	P	**P**	**01 41 42.9**	**+1.0**
	comp=Z,2.6nn,0.5s,mb4.4,baz=53,slow=5.1,SNR=3.5						
WRAB	**Tennant Creek**	**53.99**	**188**	*e*P	**P**	**01 41 40.8**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,3.0nn,0.5s,mb4.5						
WRAB	**Tennant Creek**	**53.99**	**188**	*e*P	**P**	**01 41 40.8**	**-1.6**
	comp=Z,2.7nn,0.5s,mb4.4						
WRA	**Warramunga Arr**	**54.00**	**188**	P	**P**	**01 41 41.6**	**-0.9**
	comp=Z,2.4nn,0.5s,mb4.4,baz=3.4,slow=7.7,SNR=12						
INK	**Inuvik**	**57.10**	**26**	P	**P**	**01 42 05.0**	**+0.1**
	comp=Z,0.8nn,0.7s,mb3.9,baz=306,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**57.72**	**188**	P	**P**	**01 42 10.1**	**+0.9**
	comp=Z,1.1nn,0.4s,mb4.2,baz=3.7,slow=7.5,SNR=12						
ASAR				LR	LR	02 08 47.1	
	comp=Z,61nm,18.1s,MS3.8,baz=241,slow=38						
HYB	**Hyderabad**	**58.33**	**270**	*i* P	**P**	**01 42 13.5**	**+0.1**
HYB	**Hyderabad**	**58.33**	**270**	*e*P	**P**	**01 42 13.5**	**+0.1**
MBWA	**Marble Bar**	**58.59**	**204**	*e*P	**P**	**01 42 14.1**	**-1.2**
	comp=Z,11nn,0.9s,mb4.9						
ARU	**Arti**	**58.82**	**320**	*e*P	**P**	**01 42 15.9**	**-1.0**
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ARU	**Arti**	**58.82**	**320**	*e*P	**P**	**01 42 15.9**	**-0.9**
	comp=Z,18nn,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**66.97**	**340**	P	**P**	**01 43 13.0**	**+1.9**
	comp=Z,7.8nn,1.0s,mb4.7,baz=52,slow=6.2,SNR=3.3						
FINES	**FINESS Array B**	**71.65**	**333**	P	**P**	**01 43 39.8**	**-0.3**
	comp=Z,6.5nn,1.0s,mb4.5,baz=49,slow=8.8,SNR=7.7						
WSAR	**Wadi Sarin**	**71.86**	**286**	P	**P**	**01 43 42.0**	**+0.7**
	comp=Z,8.9nn,1.0s,mb4.7,baz=139,slow=4.7,SNR=5.0						
AKASG	**Malin Array Be**	**76.87**	**323**	P	**P**	**01 44 10.1**	**-0.4**
	comp=Z,2.7nn,0.6s,mb4.3,baz=46,slow=5.7,SNR=14						
NB2	**NORSAR Subarra**	**77.13**	**338**	P	**P**	**01 44 11.5**	**-0.3**
	comp=Z,1.3nn,0.7s,mb4.0,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.13**	**338**	P	**P**	**01 44 11.9**	**0.0**
	comp=Z,1.7nn,0.7s,mb4.1,baz=42,slow=5.7,SNR=4.2						
PDAR	**Pinedale Array**	**79.75**	**45**	P	**P**	**01 44 27.6**	**+1.3**
	comp=Z,0.5nn,0.7s,mb3.6,baz=262,slow=1.1,SNR=5.7						
BRTR	**Keskin Array B**	**81.05**	**312**	P	**P**	**01 44 34.0**	**+0.8**
	comp=Z,2.2nn,0.9s,mb4.1,baz=28,slow=6.5,SNR=10						
CLL	**Collm**	**83.88**	**330**	*e*P	**P**	**01 44 48.0**	**-0.1**
CLL				*e*sP	sP	01 45 04.0	+1.7
GERES	**GERESS Array B**	**85.45**	**328**	P	**P**	**01 44 54.7**	**-1.3**
	comp=Z,0.7nn,0.6s,mb4.0,baz=46,slow=7.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**119.62**	**314**	PKP	PKPdf	01 51 07.8	-0.3
	comp=Z,0.6nn,1.1s,baz=16,slow=3.0,SNR=5.2						
TORD				PP	PP	01 52 28.1	-2.6
	comp=Z,1.1nn,1.2s,baz=67,slow=3.9,SNR=3.8						
LPAZ	**La Paz**	**148.03**	**64**	PKPbc	PKPbc	01 52 06.6	+2.9
	comp=Z,1.4nn,0.8s,baz=270,slow=4.0,SNR=6.3						
LPAZ	**La Paz**	**148.03**	**64**	PKPbc	PKPbc	01 52 06.6	+2.8

ISCJB **12** *01:33:04.2±0.4, 3998N±0.003×0.10E±0.003, h0km, Error ellipse: s-maj=4.4km s-min=3.0km az=82.7*
NEIC **12** *01:33:06.9, 3999N×0.12E, h0km, ML2.7(LDG), MN2.0(MDD), After MDD.*
CSEM **12** *01:33:07.4±0.1, 3998N×0.14E, h8km, ML2.5/7, Error ellipse: s-maj=1.4km s-min=1.2km az=136.0*
MDD **12** *01:33:07.0±0.4, 3998N×0.11E, h0km, mbLg2.2/17, Error ellipse: s-maj=3.5km s-min=3.2km az=88.0, PRXIMO*
LDG **12** *01:33:11.3±0.5, 4021N×0.10E, h5km, Ml2.7/3, Error ellipse: s-maj=10.7km s-min=10.2km az=80.0*

ISC 12 01:33:05.5±0.5, 3999N±002×012E±003, h2km±4km, n72, σ1.9 10/106, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.59**	**310**	⇓Pg	**Pg**	**01 33 17.7**	**+0.9**
	SNR=18						
EMOS				Lg		01 33 24.4	
	82nm,0.2s						
EMOS	**Mosqueruela**	**0.59**	**310**	Pg	**Pg**	**01 33 17.7**	**+0.9**
	7.7nm,0.1s,SNR=18						
EMOS				Lg		01 33 24.4	
	82nm,0.2s						
ERTA	**Horta de San J**	**0.98**	**10**	Pg	**Pg**	**01 33 25.6**	**+1.2**
ERTA				Lg		01 33 37.1	
ERTA	**Horta de San J**	**0.98**	**10**	Pg	**Pg**	**01 33 25.5**	**+1.1**
	27nm,0.1s,SNR=18						
ERTA				Lg		01 33 37.1	
	40nm,0.1s						
ERTA	**Horta de San J**	**0.98**	**10**	Pg	**Pg**	**01 33 25.5**	**+1.1**
	27nm,0.1s,SNR=180						
EBEN	**Beniarda**	**1.31**	**192**	Pg	**Pg**	**01 33 31.2**	**+0.7**
EBEN				Lg		01 33 48.0	
EBEN	**Beniarda**	**1.31**	**192**	Pg	**Pg**	**01 33 31.2**	**+0.7**
	0.8nm,0.1s,SNR=15						
EBEN				Lg		01 33 48.0	
	2.3nm,0.2s						
EBEN	**Beniarda**	**1.31**	**192**	Pg	**Pg**	**01 33 31.2**	**+0.6**
	0.8nm,0.1s,SNR=15						
EIBI	**Ibiza**	**1.35**	**135**	Pg	**Pg**	**01 33 31.3**	**-0.1**
EIBI				Lg		01 33 48.6	
EIBI	**Ibiza**	**1.35**	**135**	Pg	**Pg**	**01 33 31.3**	**-0.1**
	1.1nm,0.1s,SNR=9.2						
EIBI				Lg		01 33 50.2	
	4.2nm,0.1s						
EIBI	**Ibiza**	**1.35**	**135**	Pg	**Pg**	**01 33 31.3**	**0.0**
	1.1nm,0.1s,SNR=9.2						
EPOB	**Poblet**	**1.55**	**28**	Pn	**Pn**	**01 33 34.2**	**+0.1**
	0.7nm,0.0s,SNR=50						
EPOB				Pg	**Pg**	**01 33 36.5**	**+1.2**
	2.5nm,0.1s,SNR=7.9						
EPOB				Lg		01 33 55.6	
	5.3nm,0.1s						
EPOB	**Poblet**	**1.55**	**28**	Pn	**Pn**	**01 33 34.2**	**+0.1**
	0.7nm,0.0s,SNR=50						
EPOB	**Poblet**	**1.55**	**28**	Pg	**Pg**	**01 33 36.5**	**+1.3**
	2.5nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.79**	**346**	Pg	**Pg**	**01 33 40.3**	**+0.4**
	13nm,0.1s,SNR=7.9						
ESAC				Lg		01 34 02.4	
	130nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.79**	**346**	Pg	**Pg**	**01 33 40.3**	**+0.4**
	13nm,0.1s,SNR=7.9						
ETOR	**Torete**	**1.86**	**297**	Pg	**Pg**	**01 33 41.6**	**+0.5**
	12nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**01 34 03.2**	**+0.8**
	60nm,0.2s,SNR=7.9						
ETOR	**Torete**	**1.86**	**297**	Pg	**Pg**	**01 33 41.6**	**+0.5**
	12nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**01 34 03.2**	**+0.8**
ETOR				Sn	**Sn**	**01 34 03.2**	**+0.8**
	60nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.86**	**225**	Pn	**Pn**	**01 33 38.8**	**+0.4**
ETOB				Sn	**Sn**	**01 34 01.8**	**-0.6**
ETOB	**Tobarra**	**1.86**	**225**	Pn	**Pn**	**01 33 38.8**	**+0.4**
	0.3nm,0.1s,SNR=6.7						
ETOB				Sn	**Sn**	**01 34 01.8**	**-0.6**
	1.6nm,0.1s						
ETOB				Lg		01 34 05.9	
	5.9nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**1.86**	**225**	Pn	**Pn**	**01 33 38.8**	**+0.4**
	0.3nm,0.1s,SNR=6.7						
ETOB				Sn	**Sn**	**01 34 01.8**	**-0.6**
	1.6nm,0.1s						
ETOS	**Mallorca**	**2.09**	**95**	Pn	**Pn**	**01 33 41.4**	**-0.1**
ETOS				Pg	**Pg**	**01 33 43.4**	**-2.2**
ETOS				Sn	**Sn**	**01 34 06.6**	**-1.4**
ETOS	**Mallorca**	**2.09**	**95**	Pn	**Pn**	**01 33 41.9**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
ETOS				Pg	**Pg**	**01 33 43.3**	**-2.2**
	0.8nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**01 34 06.6**	**-1.4**
	0.8nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.09**	**95**	Pn	**Pn**	**01 33 41.4**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.09**	**95**	Pg	**Pg**	**01 33 43.3**	**-2.2**
	0.8nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**01 34 06.6**	**-1.4**
	0.8nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.20**	**28**	Pn	**Pn**	**01 33 43.9**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EMIR				Pg	**Pg**	**01 33 48.4**	**+0.7**
	4.3nm,0.2s,SNR=7.9						
EMIR				Lg		01 34 16.4	
	14nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.20**	**28**	Pn	**Pn**	**01 33 43.9**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.20**	**28**	Pg	**Pg**	**01 33 48.4**	**+0.7**
	4.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.44**	**237**	Sn	**Sn**	**01 34 15.5**	**-1.2**
	0.9nm,0.1s,SNR=7.9						
EVIA				Lg		01 34 23.2	
	5.1nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**2.70**	**0**	Pg	**Pg**	**01 33 56.3**	**-1.0**
	0.5nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**01 34 23.3**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		01 34 33.0	
	1.8nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.70**	**0**	Pg	**Pg**	**01 33 56.3**	**-0.9**
	0.5nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**01 34 23.3**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**3.03**	**225**	Pn	**Pn**	**01 33 56.3**	**+1.8**
EHUE				Sn	**Sn**	**01 34 30.7**	**-0.5**
EHUE				Lg		01 34 42.2	
EHUE	**Huescar**	**3.03**	**225**	Sn	**Sn**	**01 34 30.7**	**-0.5**
	0.8nm,0.2s,SNR=4.0						
EHUE				Lg		01 34 42.2	
	SNR=4.0						
EHUE	**Huescar**	**3.03**	**225**	Pn	**Pn**	**01 33 56.3**	**+1.9**
	0.2nm,0.1s,SNR=7.9						
EHUE				Sn	**Sn**	**01 34 30.7**	**-0.6**
	0.8nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**3.03**	**339**	Lg		01 34 40.3	
	0.0nm,0.2s,SNR=7.9						
EPF	**Esparros**	**3.05**	**3**	*e*Pg	**Pg**	**01 34 03.5**	**-0.4**
EPF				*e*Sg	**Sg**	**01 34 40.0**	**-3.4**
	11nm,0.3s						
EPF	**Esparros**	**3.05**	**3**	*e*Pn	**Pn**	**01 33 55.5**	**+0.8**
EPF				*e*Pg	**Pg**	**01 34 03.5**	**-0.4**
EPF				*e*Sg	**Sg**	**01 34 40.0**	**-3.4**
EPF	**Esparros**	**3.05**	**3**	Pn	**Pn**	**01 33 55.5**	**+0.8**
EPF				Pg	**Pg**	**01 34 03.5**	**-0.4**
EPF				Lg		01 34 40.0	
	5.7nm,0.3s						
EPF	**Esparros**	**3.05**	**3**	*e*Pg	**Pg**	**01 34 03.5**	**-0.4**
EPF				*e*Sg	**Sg**	**01 34 40.0**	**-3.4**
	5.7nm,0.3s						
EARA	**Aranguren**	**3.06**	**336**	Lg		01 34 40.7	
	4.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.16**	**266**	Pn	**Pn**	**01 33 56.3**	**+0.1**
	1.2nm,0.1s,baz=83,slow=14,SNR=14						
ESDC				Pg	**Pg**	**01 34 05.7**	**-0.4**
	0.5nm,0.1s,baz=85,slow=17,SNR=7.9						
ESDC				Sn	**Sn**	**01 34 29.9**	**-4.5**
	0.7nm,0.1s,baz=85,slow=24,SNR=3.7						
ESDC				Lg		01 34 43.8	
	0.3nm,0.1s,baz=84,slow=30,SNR=6.0						
ESDC	**Sonseca Array**	**3.16**	**266**	Pn	**Pn**	**01 33 56.3**	**+0.1**
	1.2nm,0.1s,baz=83,slow=14,SNR=14						
ESDC	**Sonseca Array**	**3.16**	**266**	Pg	**Pg**	**01 34 05.7**	**-0.3**
	0.5nm,0.1s,slow=17,SNR=7.9						
EJON	**La Jonquera**	**3.23**	**39**	Lg		01 34 48.7	
	0.0nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**3.28**	**343**	*e*Pn	**Pn**	**01 33 59.0**	**+1.0**
SJPF				*e*Sg	**S

ECAL	**Calabor**	**5.54**	**293**	Pn	**Pn**	**01 34 30.2**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**01 35 29.2**	**-4.1**
	0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.54**	**293**	Pn	**Pn**	**01 34 30.2**	**+1.2**
ECAL				Sn	**Sn**	**01 35 29.2**	**-4.2**
EBAD	**Badajoz**	**5.66**	**260**	Sn	**Sn**	**01 35 33.1**	**-3.1**
	0.9nm,0.3s,SNR=7.9						

IDC ***12*** *01:35:08.6±1.1, 9.26S×119.49E, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.9/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/29, Error ellipse: s-maj=45.3km s-min=18.3km az=60.0*

NEIC ***12*** *01:35:12.3±0.8, 9.88S×118.89E, h35km, mb4.3/4, Error ellipse: s-maj=26.6km s-min=11.1km az=217.0*

ISCJB ***12*** *01:35:14.6±2.5, 10.4S±0.1×118.81E±0.09, h63km±29km, mb4.1/6, Error ellipse: s-maj=25.0km s-min=10.5km az=57.2*

ISC 12 01:35:14.4±1.5, 102S±01×11883E±009, h55km±16km, n18, σ1♀28/21, mb4.1/6, MS4.0/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.28**	**141**	*e*P		**Pn**		**01 37 39.4**	**+0.2**
	7.4nm,0.3s								
FITZ	**Fitzroy Crossi**	**10.28**	**141**	Pn		**Pn**		**01 37 40.2**	**+1.1**
	1.7nm,0.3s,baz=334,slow=13,SNR=44								
FITZ				Sn		**Sn**		**01 39 30.7**	**-2.2**
	1.0nm,0.3s,baz=184,slow=21,SNR=7.5								
FITZ				LR		LR		01 41 33.5	
	comp=Z,65nm,20.1s,baz=317,slow=36								
MBWA	**Marble Bar**	**10.96**	**176**	*e*Pn		**Pn**		**01 37 46.8**	**-1.6**
	11nm,0.4s								
MBWA				*e*Sn		**Sn**		**01 39 34.1**	**-15**
KAKA	**Kakadu**	**13.58**	**102**	*e*P		**Pn**		**01 38 24.5**	**+0.4**
	8.2nm,0.8s								
WRA	**Warramunga Arr**	**17.84**	**125**	P		**Pn**		**01 39 18.8**	**+0.2**
	0.3nm,0.3s,baz=296,slow=13,SNR=12								
WRA				S		**S**		**01 42 29.9**	**-11**
	baz=293,slow=24,SNR=3.9								
WRAB	**Tennant Creek**	**17.84**	**125**	*e*Pn		**Pn**		**01 39 19.0**	**+0.3**
	2.5nm,0.8s								
WB2	**Warramunga Arr**	**17.85**	**125**	*e*P		**Pn**		**01 39 19.4**	**+0.7**
AS31	**Alice Springs**	**19.67**	**135**	*e*P		**Pn**		**01 39 41.1**	**+0.5**
AS31				*e*S		S		01 42 10.7	-67
ASAR	**Alice Springs**	**19.67**	**135**	P		**Pn**		**01 39 42.1**	**+1.4**
	0.3nm,0.3s,baz=317,slow=11,SNR=43								
ASAR				S		**S**		**01 43 17.8**	**+0.1**
	0.2nm,0.3s,baz=312,slow=23,SNR=5.9								
ASAR				LR		LR		01 48 25.0	
	comp=Z,122nm,19.8s,baz=250,slow=40								
COCO	**West Island**	**21.67**	**263**	P		**P**		**01 40 01.2**	**+0.9**
	29nm,0.6s,mb4.9								
NWAO	**Narrogin (SRO)**	**22.70**	**183**	P		**P**		**01 40 22.5**	**+11**
	5.8nm,0.5s,mb4.2,baz=2.8,slow=12,SNR=5.2								
NWAO	**Narrogin (SRO)**	**22.70**	**183**	*e*P		**P**		**01 40 12.4**	**+1.2**
	2.8nm,0.5s,mb4.0								
PSI	**Prapat**	**23.64**	**302**	P		**P**		**01 40 22.5**	**+1.9**
	4.5nm,0.4s,mb4.3,baz=148,slow=9.5,SNR=4.8								
PALK	**Pallekele**	**41.73**	**293**	*e*P		**P**		**01 42 57.1**	**-0.9**
	14nm,1.2s,mb4.5								
BHK	**Bhakra**	**57.96**	**317**	*e*P		**P**		**01 45 09.0**	**+7.9**
SONM	**Songino Array**	**58.79**	**350**	P		**P**		**01 45 04.5**	**-2.4**
	0.2nm,0.4s,mb3.5,baz=184,slow=8.7,SNR=2.8								
MKAR	**Makanchi Array**	**65.42**	**333**	P		**P**		**01 45 48.6**	**-2.7**
	0.3nm,0.6s,mb3.5,baz=134,slow=7.0,SNR=4.2								
AFI	**Afiamalu**	**67.77**	**101**	LR		LR		02 13 38.0	
	comp=Z,97nm,20.5s,MS4.0,baz=64,slow=34								

NEIC ***12*** *01:54:04.2, 28.46S×69.68W, h104km, MG3.7(GUC), After GUC.*

GUC 12 01:54:04.2±0.9, 28.46S×69.68W, h104km±21km, ML3.7, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.25**	**331**	⇑*i*P			Pn	01 54 28.1	+0.5
CPCH				*i* S			Sn	01 54 45.8	+0.4
CPCH				AML			AML	01 54 48.0	
	comp=N,3μm,0.1s								
CPCH	**Copiapo**	**1.25**	**331**	⇑*i*P			Pn	01 54 28.1	+0.5
CPCH				*i* S			Sn	01 54 45.8	+0.4
CDCH	**Caldera**	**1.72**	**323**	*e*P			Pn	01 54 33.8	+0.4
CDCH				*i* S			Sn	01 54 55.8	+0.4
TLL	**Tololo Astrono**	**1.97**	**210**	*e*P			Pn	01 54 38.0	+1.5
TLL				*i* S			Sn	01 55 03.2	+2.0
CMCH	**Combarbala**	**2.94**	**203**	*e*P			Pn	01 54 49.5	+0.3
CMCH				*i* S			Sn	01 55 24.5	+0.5
CMCH				AML			AML	01 55 26.0	
	comp=E,108nm,0.6s								
CMCH	**Combarbala**	**2.94**	**203**	*e*P			Pn	01 54 49.5	+0.3
CMCH				*i* S			Sn	01 55 24.5	+0.5

MOS ***12*** *02:00:18.4±0.9, 78.76N×137.27W, h10km, mb4.8/52, Error ellipse: s-maj=39.6km s-min=5.5km az=91.7*

OTT ***12*** *02:00:18.2±1.1, 78.69N×137.53W, h18km, ML5.5/8, Arctic Ocean, Canada Basin 517km northwest from Mould Bay, Nt*

IDC ***12*** *02:00:18.9±0.5, 78.85N×136.77W, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.4/30, mbtmp4.3/27, MS3.8/10, Ms1 3.8/10, ms1mx3.5/41, Error ellipse: s-maj=17.0km s-min=10.4km az=67.0*

ISCJB ***12*** *02:00:18.8±0.1, 78.86N±0.02×137.5W±0.02, h10km, mb4.5/100, MS4.1/18, Error ellipse: s-maj=5.6km s-min=2.7km az=134.9*

NEIC ***12*** *02:00:20.8±0.3, 78.73N×138.15W, h10km, mb4.6/62, Error ellipse: s-maj=8.4km s-min=5.2km az=68.0*

BJI ***12*** *02:00:20.5, 79.15N×138.83W, h10km, mB5.1, mb4.8, Ms4.8, Msz4.5*

ISC 12 02:00:20.2±0.1, 7886N±002×1374W±02, h10km, (h44km±1.8km:pP-P), n391, σ0♀77/415, mb4.5/100, MS4.1/18, 66C-74D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**10.35**	**91**	PN		**Pn**		**02 02 45.1**	**-3.7**
RES				SN		**Sn**		**02 04 34.5**	**-10**
RES				Trac				02 04 39.5	
	comp=Z,61nm,0.3s								
RES	**Resolute Bay**	**10.35**	**91**	*e*P		**Pn**		**02 02 44.3**	**-4.5**
RES				pmax	pmax				
	comp=Z,2μm,0.4s								
RES	**Resolute Bay**	**10.35**	**91**	*e*Pn		**Pn**		**02 02 44.3**	**-4.4**
	comp=Z,2μm,0.4s								
RES				*e*Sn		**Sn**		**02 04 31.6**	**-13**
INK	**Inuvik**	**10.67**	**172**	Pn		**Pn**		**02 02 44.6**	**-8.4**
	comp=Z,22nm,0.3s,baz=359,slow=13,SNR=275								
INK				Sn		**Sn**		**02 04 35.8**	**-17**
	comp=Z,51nm,0.3s,baz=116,slow=31,SNR=21								
INK	**Inuvik**	**10.67**	**172**	PN		**Pn**		**02 02 44.5**	**-8.6**
INK				SN		**Sn**		**02 04 35.9**	**-17**
INK				Trac				02 04 41.0	
	comp=Z,369nm,0.5s								
INK	**Inuvik**	**10.67**	**172**	*e*Pn		**Pn**		**02 02 44.4**	**-8.7**
INK				*e*Sn		Sn		02 04 27.0	-26
IMA2	**Indian Mountai**	**13.66**	**209**	*e*P		**Pn**		**02 03 28.0**	**-5.9**
EGAK	**Eagle**	**14.20**	**187**	*e*Pn		**Pn**		**02 03 32.7**	**-8.7**
	comp=Z,29nm,0.6s								
EGAK				*e*Sn		**Sn**		**02 06 03.4**	**-16**
COLA	**College**	**14.38**	**198**	*e*P		**Pn**		**02 03 42.3**	**-1.5**
COLA	**College**	**14.38**	**198**	*e*Pn		**Pn**		**02 03 37.5**	**-6.3**
	comp=Z,54nm,0.6s								
COLA				*e*Sn		**Sn**		**02 06 11.0**	**-12**
JERN	**Jeri Cho Mine,**	**14.83**	**136**	PN		**Pn**		**02 03 43.5**	**-6.5**
JERN				SN		**Sn**		**02 06 15.3**	**-19**
JERN				SN		**Sn**		**02 06 16.1**	**-18**
JERN				Trac				02 06 33.1	
	comp=Z,150nm,0.7s								
DAWY	**Dawson**	**14.89**	**183**	PN		**Pn**		**02 03 41.9**	**-8.9**
DAWY				SN		**Sn**		**02 06 17.0**	**-19**
DAWY				Trac				02 06 23.0	
	comp=Z,79nm,0.4s								
DAWY	**Dawson**	**14.89**	**183**	*e*Pn		**Pn**		**02 03 41.2**	**-9.5**
DAWY				*e*Sn		**Sn**		**02 06 16.6**	**-19**
MCK	**McKinley**	**15.59**	**199**	*e*Pn		**Pn**		**02 03 55.1**	**-4.8**
MCK				*e*				02 04 05.6	
MCK				*e*Sn		**Sn**		**02 06 36.1**	**-17**
TNA	**Tin City**	**15.91**	**230**	*e*Pn		**Pn**		**02 04 02.0**	**-2.2**
TNA				*e*Sn		**Sn**		**02 06 40.3**	**-20**
ILKN	**Indian Lake**	**16.09**	**143**	PN		**Pn**		**02 04 00.2**	**-6.3**
ILKN				SN		**Sn**		**02 06 45.6**	**-19**
ILKN				Trac				02 06 52.2	
	comp=Z,26nm,0.3s								
MENT	**Mentasta**	**16.12**	**190**	*e*P		**Pn**		**02 04 01.2**	**-5.7**
STLN	**Stellar Camp,**	**16.68**	**109**	PN		**Pn**		**02 04 07.3**	**-6.7**
MCKN	**MacKay Lake No**	**16.73**	**136**	PN		**Pn**		**02 04 08.0**	**-6.7**
MCKN				SN		**Sn**		**02 07 00.5**	**-20**
MCKN				Trac				02 07 37.1	
	comp=Z,66nm,0.6s								
MLON	**Marlo Lake**	**16.99**	**136**	PN		**Pn**		**02 04 11.3**	**-6.7**
MLON				SN		**Sn**		**02 07 07.3**	**-20**
MLON				Trac				02 07 12.5	
	comp=Z,75nm,0.8s								
ILON	**Igloolik, Nuna**	**17.02**	**93**	PN		**Pn**		**02 04 13.5**	**-4.9**
ILON				SN		**Sn**		**02 07 12.4**	**-15**
BOXN	**Box Lake**	**17.13**	**136**	PN		**Pn**		**02 04 13.3**	**-6.4**
BOXN				SN		**Sn**		**02 07 10.2**	**-20**
SRLN	**Sarcpa Lake, N**	**17.43**	**96**	PN		**Pn**		**02 04 18.0**	**-5.4**
SRLN				SN		**Sn**		**02 07 20.5**	**-17**
BULN	**Bullion Camp,**	**17.46**	**110**	PN		**Pn**		**02 04 17.2**	**-6.6**
BULN				SN		Sn		02 07 15.9	-22
SML	**Sawmill**	**17.46**	**197**	*e*P		**Pn**		**02 04 22.0**	**-1.8**
PMR	**Palmer**	**17.73**	**199**	*e*P		**Pn**		**02 04 25.6**	**-1.5**
PMR				pmax	pmax				
	comp=Z,44nm,0.6s								
PMR	**Palmer**	**17.73**	**199**	*e*P		**Pn**		**02 04 25.6**	**-1.5**
	comp=Z,44nm,0.6s								
YKW3	**Yellowknife Ar**	**17.76**	**144**	PN		**Pn**		**02 04 22.5**	**-5.0**
YKW3				SN		Sn		02 07 23.1	-22
YKW3				SN		Sn		02 07 23.3	-22
YKW3				Trac				02 07 53.6	
	comp=Z,16nm,0.3s								
YKW3	**Yellowknife Ar**	**17.76**	**144**	*e*Pn		**Pn**		**02 04 22.2**	**-5.4**
YKA	**Yellowknife Ar**	**17.83**	**144**	Pn		**Pn**		**02 04 23.0**	**-5.4**
	comp=Z,2.8nm,0.3s,baz=341,slow=12,SNR=77								
YKA				SN		Sn		02 07 25.6	-21
	comp=Z,4.7nm,0.3s,baz=341,slow=22,SNR=14								
YKA				LR		LR		02 11 52.4	
	comp=Z,234nm,22.0s,baz=210,slow=39								
DIV	**Divide**	**18.01**	**193**	*e*Pn		**Pn**		**02 04 27.0**	**-3.6**
	comp=Z,105nm,0.7s								
HYT	**Haines Junctio**	**18.13**	**180**	PN		**Pn**		**02 04 26.8**	**-5.3**
HYT				SN		**Sn**		**02 07 37.7**	**-17**
HYT				Trac				02 07 54.5	
	comp=Z,4.8nm,0.4s								
BILL	**Bilibino**	**18.30**	**266**	*e*P		**Pn**		**02 04 34.0**	**-0.1**
BILL				*e*				02 07 48.5	
BILL				pmax	pmax				
	comp=Z,12nm,0.8s								
BILL	**Bilibino**	**18.30**	**266**	*e*P		**Pn**		**02 04 33.3**	**-0.8**
	comp=Z,17nm,0.6s								
WHY	**Whitehorse**	**18.31**	**176**	PN		**Pn**		**02 04 28.9**	**-5.4**
WHY				SN		**Sn**		**02 07 40.5**	**-18**
QILN	**Qililugaq Expl**	**18.50**	**102**	PN		**Pn**		**02 04 29.8**	**-6.8**
QILN				SN		**Sn**		**02 07 43.7**	**-20**
EYAK	**Cordova Ski Ar**	**18.59**	**193**	*e*P		**Pn**		**02 04 36.7**	**-1.0**
SLKM	**Skilak Lake**	**18.87**	**200**	*e*P		**Pn**		**02 04 39.5**	**-1.7**
PLBC	**Pleasant Camp**	**19.50**	**178**	PN		**Pn**		**02 04 47.0**	**-1.7**
PLBC				SN		**Sn**		**02 08 14.6**	**-13**
SKAG	**Skagway**	**19.51**	**177**	*e*P		**Pn**		**02 04 44.8**	**-4.0**
	comp=Z,17nm,0.6s								
FNBB	**Fort Nelson**	**20.59**	**158**	PN		**P**		**02 04 59.6**	**+0.2**
FNBB				SN		**S**		**02 08 33.2**	**-16**
DLBC	**Dease Lake**	**20.66**	**169**	*e*P		**P**		**02 05 01.2**	**+1.1**
DAG	**Danmarks Havn**	**21.09**	**34**	⇓*i*P		**P**		**02 05 04.1**	**-0.7**
	comp=Z,7.5nm,0.8s,mb4.1								
DAG				*e*				02 08 49.0	
DAG	**Danmarks Havn**	**21.09**	**34**	⇓*i*P		**P**		**02 05 04.1**	**-0.7**
DAG				*e*				02 08 49.0	
DAG				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.0								
KDAK	**Kodiak Island**	**21.75**	**202**	P		**P**		**02 05 11.2**	**-0.7**
	comp=Z,20nm,0.8s,mb4.6,baz=349,slow=13,SNR=8.1								
KDAK	**Kodiak Island**	**21.75**	**202**	*e*P		**P**		**02 05 11.0**	**-0.8**
	comp=Z,21nm,0.8s,mb4.6								
TIXI	**Tiksi**	**22.12**	**303**	*e*P		**P**		**02 05 15.7**	**-0.1**
TIXI				pmax	pmax				
	comp=Z,26nm,1.1s,mb4.6								
TIXI	**Tiksi**	**22.12**	**303**	*e*P		**P**		**02 05 15.7**	**0.0**
	comp=Z,26nm,1.1s,mb4.6								
FCC	**Fort Churchill**	**24.37**	**120**	PN		**P**		**02 05 36.7**	**-1.8**
FCC				SN		**S**		**02 09 55.9**	**-2.0**
FCC	**Fort Churchill**	**24.37**	**120**	*e*P		**P**		**02 05 35.1**	**-3.4**
FRB	**Frobisher Bay**	**24.53**	**88**	P		**P**		**02 05 37.5**	**-2.4**
	comp=Z,23nm,0.9s,mb4.7,baz=3.4,slow=9.3,SNR=3.1								
FRB	**Frobisher Bay**	**24.53**	**88**	PN		**P**		**02 05 38.5**	**-1.4**
FRB				SN		**S**		**02 10 10.6**	**+10**
FRB	**Frobisher Bay**	**24.53**	**88**	P		**P**		**02 05 37.5**	**-2.4**
FRB				pmax	pmax				
	comp=Z,23nm,0.9s								
EDM	**Edmonton**	**27.06**	**147**	*e*P		**P**		**02 06 02.1**	**-0.7**
SILO	**Sutton Inlier**	**30.05**	**112**	PN		**P**		**02 06 29.9**	**+0.5**
YAK	**Yakutsk**	**30.64**	**292**	*e*P		**P**		**02 06 34.7**	**+0.1**
YAK				pmax	pmax				
	comp=N,10.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,17nm,1.1s,mb4.8								
YAK				pmax	pmax				
	comp=E,6.0nm,1.3s								
YAK	**Yakutsk**	**30.64**	**292**	P		**P**		**02 06 34.2**	**-0.4**
A08A	**Turner Farm, O**	**30.75**	**156**	⇓P		**P**		**02 06 35.9**	**+0.3**
	baz=30								
PGC	**Sidney**	**30.76**	**162**	P		**P**		**02 06 30.7**	**-5.0**
A09A	**Danville**	**30.78**	**155**	⇓P		**P**		**02 06 35.9**	**0.0**
	baz=30								
B06A	**Marblemount**	**31.02**	**159**	⇑P		**P**		**02 06 37.5**	**-0.5**
	baz=31								
A12A	**Yaak River Ran**	**31.08**	**152**	⇑P		**P**		**02 06 38.5**	**0.0**
	baz=31								
KEV	**Kevo**	**31.31**	**10**	*e*p		**P**		**02 06 38.6**	**-1.9**
KEV	**Kevo**	**31.31**	**10**	P		**P**		**02 06 45.0**	**+4.5**
KEV				pmax	pmax				
	comp=Z,24nm,1.0s,mb5.0								
KEV	**Kevo**	**31.31**	**10**	P		**P**		**02 06 45.0**	**+4.4**
	comp=Z,24nm,1.0s,mb5.0								
ARCES	**ARCESS Array B**	**31.48**	**11**	P		**P**		**02 06 40.1**	**-1.9**
	comp=Z,3.0nm,0.8s,mb4.2,baz=352,slow=7.5,SNR=5.4								
ARCES	**ARCESS Array B**	**31.48**	**11**	P		**P**		**02 06 40.1**	**-1.9**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
B12A	**Libby**	**31.54**	**152**	⇑P		**P**		**02 06 42.4**	**-0.2**
	baz=31								
NEW	**Newport**	**31.61**	**154**	P		**P**		**02 06 42.0**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=334,slow=11,SNR=5.3								
NEW	**Newport**	**31.61**	**154**	P		**P**		**02 06 42.1**	**-1.1**
NEW				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NEW	**Newport**	**31.61**	**154**	P		**P**		**02 06 42.0**	**-1.1**
NEW				*e*pP		pP		02 06 55.6	+9.4
C04A	**Brinnon**	**31.72**	**161**	⇑P		**P**		**02 06 44.0**	**-0.1**
	baz=31								
B13A	**Whitefish**	**31.74**	**150**	⇑P		**P**		**02 06 44.2**	**-0.1**
	baz=32								
C05A	**Tolt Reservoir**	**31.82**	**160**	⇑P		**P**		**02 06 44.6**	**-0.5**
	baz=32								
C09A	**Chrisman Ranch**	**31.97**	**155**	⇓P		**P**		**02 06 45.9**	**-0.5**
	baz=32								
ULM	**Lac du Bonnet**	**32.27**	**127**	P		**P**		**02 06 47.4**	**-1.7**
	comp=Z,5.0nm,0.9s,mb4.3,baz=346,slow=9.4,SNR=4.8								
ULM				LR		LR		02 18 33.0	
	comp=Z,175nm,18.3s,MS3.8,baz=20,slow=34								
D05A	**Enumclaw**	**32.31**	**160**	⇑P		**P**		**02 06 49.2**	**-0.2**
	baz=32								
C12A	**Trout Creek**	**32.31**	**152**	⇑P		**P**		**02 06 48.9**	**-0.5**
	baz=32								
D04A	**Dobbs Creek Ra**	**32.33**	**161**	⇓P		**P**		**02 06 49.7**	**+0.1**
	baz=32								
D06A	**Cle Elum**	**32.38**	**159**	⇑P		**P**		**02 06 49.1**	**-0.9**
	baz=32								
C14A	**Swan Lake**	**32.41**	**150**	⇑P		**P**		**02 06 49.5**	**-0.7**
	baz=32								
C13A	**Hot Springs**	**32.42**	**151**	⇓P		**P**		**02 06 49.7**	**-0.6**
	baz=32								
D07A	**Quincy**	**32.45**	**158**	⇑P		**P**		**02 06 50.1**	**-0.4**
	baz=32								
E05A	**Randle**	**32.95**	**160**	⇓P		**P**		**02 06 54.3**	**-0.7**
	baz=33								
E06A	**Yakima**	**33.02**	**159**	⇑P		**P**		**02 06 54.9**	**-0.6**
	baz=33								
E07A	**Sunnyside**	**33.09**	**158**	⇑P		**P**		**02 06 55.8**	**-0.3**
	baz=33								
D14A	**Greenough**	**33.12**	**150**	⇓P		**P**		**02 06 56.0**	**-0.4**
	baz=33								
SCHQ	**Schefferville**	**33.13**	**93**	P		**P**		**02 06 54.4**	**-2.1**
	comp=Z,6.9nm,0.9s,mb4.6,baz=270,slow=5.1,SNR=6.1								
SCHQ	**Schefferville**	**33.13**	**93**	P		**P**		**02 06 54.4**	**-2.1**
E08A	**Dider Farm, El**	**33.21**	**157**	⇓P		**P**		**02 06 57.3**	**0.0**
	baz=33								
D15A	**Lincoln**	**33.26**	**148**	P		**P**		**02 06 57.3**	**-0.3**
	baz=33,SNR=9.5								
CHMT	**Chamberlain Mo**	**33.31**	**149**	*e*P		**P**		**02 06 57.5**	**-0.6**
MSO	**Missoula**	**33.32**	**150**	*e*pP		pP		02 07 05.4	+4.1
E10A	**Myers Farm, Un**	**33.38**	**154**	⇑P		**P**		**02 06 58.2**	**-0.5**
	baz=33								
F03A	**Seaside**	**33.46**	**162**	⇓P		**P**		**02 06 59.4**	**0.0**
	baz=33								
PET	**Petropavlovsk**	**33.55**	**259**	P		**P**		**02 06 56.0**	**-4.2**
F05A	**White Salmon**	**33.64**	**160**	⇑P		**P**		**02 07 00.5**	**-0.5**
	baz=33								
E13A	**Victor**	**33.68**	**151**	⇑P		**P**		**02 07 01.2**	**-0.2**
	baz=33								
F07A	**Phinny Hill Vi**	**33.74**	**158**	⇑P		**P**		**02 07 01.7**	**-0.2**
	baz=34								
E14A	**Clinton**	**33.78**	**150**	⇓P		**P**		**02 07 02.1**	**0.0**
	baz=34								
F06A	**Goldendale**	**33.81**	**159**	⇓P		**P**		**02 07 02.2**	**-0.2**
	baz=34								
E15A	**Deer Lodge**	**33.85**	**149**	⇓P		**P**		**02 07 02.5**	**-0.3**
	baz=34								
F10A	**Beach Ranch, E**	**33.88**	**154**	⇑P		**P**		**02 07 02.8**	**-0.2**
	baz=34								
F08A	**Pendleton**	**33.92**	**156**	⇑P		**P**		**02 07 03.2**	**-0.3**
	baz=34								
F11A	**Grangeville**	**34.05**	**153**	⇓P		**P**		**02 07 04.1**	**-0.4**
	baz=34								
G04A	**Mulino**	**34.25**	**161**	⇑P		**P**		**02 07 05.7**	**-0.6**
	baz=34								
F12A	**Elk City**	**34.26**	**152**	⇓P		**P**		**02 07 06.1**	**-0.3**
	baz=34								
G05A	**Wamic**	**34.29**	**160**	⇓P		**P**		**02 07 06.1**	**-0.5**
	baz=34								
F13A	**Darby**	**34.32**	**151**	⇓P		**P**		**02 07 06.7**	**-0.1**
	baz=34,SNR=6.5								
G06A	**Carlson Farm,**	**34.35**	**159**	⇓P		**P**		**02 07 07.0**	**-0.1**
	baz=34								
G07A	**Ruggs Ranch, H**	**34.38**	**158**	⇓P		**P**		**02 07 07.0**	**-0.5**
	baz=34								
F14A	**Wisdom**	**34.39**	**150**	⇓P		**P**		**02 07 07.4**	**0.0**
	baz=34								
G08A	**Pilot Rock**	**34.41**	**157**	⇓P		**P**		**02 07 07.4**	**-0.3**
	baz=34								
F15A	**Butte**	**34.45**	**149**	⇑P		**P**		**02 07 07.7**	**-0.3**
	baz=34								
LRM	**Limekiln Ridge**	**34.47**	**149**	*e*P		**P**		**02 07 07.5**	**-0.6**
LRM				*e*pP		pP		02 07 19.9	+8.6
H06A	**Lindquist Farm**	**34.87**	**159**	⇑P		**P**		**02 07 11.4**	**-0.2**
	baz=35								
DLMT	**Dillon**	**34.91**	**149**	*e*P		**P**		**02 07 11.9**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.7								
BMO	**Blue Mountains**	**34.98**	**155**	*e*P		**P**		**02 07 13.7**	**+1.1**
	comp=Z,9.0nm,1.3s,mb4.5								
H07A	**Lands Inn, Kim**	**35.06**	**158**	⇓P		**P**		**02 07 13.3**	**0.0**
	baz=35,SNR=5.4								
H09A	**Durkee**	**35.14**	**155**	⇑P		**P**		**02 07 14.0**	**+0.1**
	baz=35								
H08A	**Prairie City**	**35.20**	**156**	⇓P		**P**		**02 07 14.4**	**-0.1**
	baz=35								
EYMN	**Ely**	**35.21**	**123**	*e*P		**P**		**02 07 13.1**	**-1.5**
	comp=Z,15nm,0.6s,mb5.1								
H11A	**Donnelly**	**35.24**	**153**	⇓P		**P**		**02 07 14.5**	**-0.3**
	baz=35								
I05A	**Bend**	**35.37**	**160**	⇓P		**P**		**02 07 15.8**	**-0.2**
	baz=35								
I03A	**Eugene**	**35.43**	**162**	⇓P		**P**		**02 07 16.3**	**-0.2**
	baz=35								
QLMT	**Earthquake Lak**	**35.55**	**148**	*e*P		**P**		**02 07 17.8**	**+0.3**
I07A	**Izee**	**35.58**	**158**	⇑P		**P**		**02 07 18.0**	**+0.3**
	baz=35								
I06A	**Prineville**	**35.66**	**158**	⇑P		**P**		**02 07 18.7**	**+0.2**
	baz=35								
I08A	**Drewsey**	**35.82**	**156**	⇓P		**P**		**02 07 20.4**	**+0.6**
	baz=36								
J03A	**Ideyld Park**	**36.05**	**162**	⇑P		**P**		**02 07 21.9**	**+0.1**
	baz=36								
J04A	**Umpqua Nationa**	**36.23**	**161**	⇓P		**P**		**02 07 23.5**	**+0.1**
	baz=36								
J05A	**Fort Rock**	**36.25**	**160**

HVU Hansel Valley 38.44 150 eP P 02 07 42.6 +0.5
HVU pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
HVU Hansel Valley 38.44 150 eP P 02 07 42.5 +0.5
comp=Z,9.7nm,0.6s,mb4.7
HVU e 02 07 54.5
ECSD EROS,Sioux Fal 38.52 130 P P 02 07 41.0 -1.7
comp=Z,9.9nm,1.1s,mb4.5
N02C Big Bar 38.57 163 ⇓P P 02 07 43.4 +0.2
baz=38
M12A Wells 38.60 153 ⇓P P 02 07 44.1 +0.7
baz=38,SNR=5.9
HATC Hat Creek Radi 38.69 160 ⇑P P 02 07 44.2 0.0
baz=38
M13A Montello 38.72 152 ⇓P P 02 07 45.0 +0.6
baz=38,SNR=5.4
HWUT Hardware Ranch 38.73 148 eP P 02 07 44.8 +0.2
comp=Z,10nm,0.6s,mb4.7
HWUT e 02 07 58.9
WDC Whiskeytown Da 38.86 162 ⇓P P 02 07 45.8 +0.3
baz=38
N06A Buffalo Meadow 38.87 159 ⇑P P 02 07 46.0 +0.3
baz=39,SNR=6.5
N09A Rock Creek Ran 38.94 156 ⇓P P 02 07 46.7 +0.5
baz=39
N08A GE Springer Mi 38.96 156 ⇓P P 02 07 46.7 +0.3
baz=39
NOA NORSAR Array B 39.10 24 P P 02 07 46.5 -1.1
comp=Z,1.6nm,0.8s,mb3.8,baz=350,slow=8.5,SNR=2.9
NOA NORSAR Array B 39.10 24 P P 02 07 46.5 -1.1
NOA pmax pmax
comp=Z,2.0nm,0.8s
O04C Chester 39.21 160 ⇑P P 02 07 48.6 +0.1
baz=39,SNR=7.0
N13A Wendover, West 39.22 152 ⇓P P 02 07 49.2 +0.6
baz=39
O06A Flanigan 39.45 159 ⇑P P 02 07 50.8 +0.3
baz=39
O07A Toulon 39.52 157 ⇓P P 02 07 51.3 +0.2
baz=39
O05C Quincy 39.57 160 ⇑P P 02 07 51.8 +0.2
baz=39
FINES FINESS Array B 39.59 12 P P 02 07 50.5 -1.2
comp=Z,4.7nm,0.5s,mb4.4,baz=9.9,slow=10,SNR=46
FINES FINESS Array B 39.59 12 P P 02 07 50.5 -1.2
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 39.59 12 P P 02 07 50.5 -1.2
O09A Fish Creek Ran 39.64 155 ⇓P P 02 07 52.5 +0.4
baz=39
BEKR Beckwourth 39.71 159 ⇑P P 02 07 52.9 +0.2
baz=39
JLU Jordanelle 39.74 149 eP P 02 07 53.3 +0.3
PAHR Pah Rah Range 39.94 158 eP P 02 07 50.6 -4.0
comp=Z,12nm,1.1s,mb4.5
ORV Oroville 39.94 161 ⇓P P 02 07 54.3 -0.4
baz=40
DAU Daniels Canyon 39.95 148 eP P 02 07 54.9 +0.3
DUG Dugway 40.01 150 eP P 02 07 55.4 +0.2
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
DUG Dugway 40.01 150 eP P 02 07 55.4 +0.2
comp=Z,4.7nm,0.8s,mb4.3
DUG Dugway 40.01 150 ⇓P P 02 07 55.5 +0.4
baz=40
P05C Yuba Gap, Truc 40.25 160 P P 02 07 57.4 +0.2
baz=40,SNR=6.9
JFWS Jewell Farm 40.31 124 eP P 02 07 59.7 +2.0
JFWS pmax pmax
comp=Z,23nm,0.8s,mb5.0
JFWS Jewell Farm 40.31 124 eP P 02 07 59.7 +2.0
comp=Z,23nm,0.8s,mb5.0
WCN Washoe City 40.31 159 ⇑P P 02 07 58.0 +0.3
baz=40
HOPS Hopland 40.40 163 ⇑P P 02 07 58.5 +0.1
baz=40
P12A McGill 40.53 153 ⇑P P 02 07 59.8 +0.3
baz=40
MNRC McLaughlin Nat 40.55 162 ⇓P P 02 07 59.7 -0.1
baz=40
Q04C Lincoln 40.66 161 ⇓P P 02 08 00.3 -0.3
baz=40
LAVA Lava Cap Winer 40.79 160 ⇓P P 02 08 01.2 -0.4
baz=40
Q08A Gabbs 40.88 157 ⇑P P 02 08 02.2 -0.2
baz=41
R05C Kirkwood Meado 40.88 159 ⇑P P 02 08 02.2 -0.2
baz=41
Q12A Willow Creek R 40.96 153 ⇑P P 02 08 03.2 +0.1
baz=41
Q11A Duckwater 41.09 154 ⇑P P 02 08 04.3 +0.3
baz=41
R06C Coleville 41.11 158 ⇑P P 02 08 04.2 -0.1
baz=41
NVAR Mina Array Bea 41.28 157 P P 02 08 05.9 +0.2
comp=Z,2.4nm,0.8s,mb3.9,baz=349,slow=6.4,SNR=10
SRU San Rafael 41.31 148 eP P 02 08 04.8 -1.1
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SRU San Rafael 41.31 148 eP P 02 08 04.8 -1.1
comp=Z,8.6nm,0.8s,mb4.4
SRU e 02 08 18.9
R09A Tonopah 41.57 156 ⇑P P 02 08 08.2 +0.2
baz=41
S06C San Francisco 41.72 159 ⇓P P 02 08 09.1 -0.2
baz=41
MSU Marysvale 41.73 150 eP P 02 08 10.1 +0.7
S08C White Mtn Res 42.22 157 ⇑P P 02 08 13.5 +0.2
baz=42
KLR Kul'dur 42.36 283 eP P 02 08 12.0 -2.5
HELL Mitchell Peak, 42.97 158 ⇓P P 02 08 19.5 0.0
baz=43
U04C Hernandez Rese 43.16 160 ⇓P P 02 08 20.9 -0.1
baz=43
SDCO Great Sand Dun 43.22 142 eP P 02 08 21.7 +0.3
comp=Z,2.2nm,0.7s,mb4.0
SHPR Sheep Range 43.45 154 eP P 02 08 23.6 +0.3
SHPR epP pP 02 08 36.2 +10
DAC Darwin (Calif) 43.48 157 eP P 02 08 24.4 +0.8
DAC epP pP 02 08 37.0 +10
V05C Boulder Hill, 43.72 159 ⇑P P 02 08 25.7 +0.2
baz=43
ISA Isabella 44.02 158 ⇑P P 02 08 27.8 -0.1
baz=44
V12A Nelson 44.25 153 ⇓P P 02 08 29.9 +0.1
baz=44
TUQ Turquoise Mtn. 44.45 155 ⇑P P 02 08 31.5 +0.2
baz=44
HIA Hailar 44.53 294 eP P 02 08 32.8 +0.8
HIA pmax pmax
comp=Z,5.0nm,0.3s
HIA Hailar 44.53 294 eP P 02 08 32.8 +0.8
comp=Z,4.8nm,0.3s,mb4.8
BLO Bloomington 44.57 121 eP P 02 08 37.7 +5.4
BLO pmax pmax
comp=Z,14nm,0.8s,mb4.8
BLO Bloomington 44.57 121 eP P 02 08 37.7 +5.3
comp=Z,14nm,0.8s,mb4.8
ARU Arti 44.62 347 ⇓iP P 02 08 38.3 +5.6
ARU e 02 10 20.8
ARU ePPP 02 11 01.2
ARU eS S **02 15 17.5 +8.8**
ARU pmax pmax
comp=Z,10.0nm,1.5s,mb4.4
ARU Arti 44.62 347 eP P 02 08 38.1 +5.4
comp=Z,12nm,1.3s,mb4.6
WUAZ Wupatki 44.78 149 eP P 02 08 34.4 +0.4
comp=Z,8.8nm,0.6s,mb4.8
WUAZ Wupatki 44.78 149 ⇓P P 02 08 34.0 0.0
baz=45
EDW2 Edwards Air Fo 44.84 157 ⇑P P 02 08 34.3 -0.1
baz=45
TLY Talaya 44.84 309 eP P 02 08 35.3 +0.8
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
CCM Cathedral Cave 44.90 126 eP P 02 08 37.8 +2.9
CCM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CCM Cathedral Cave 44.90 126 eP P 02 08 37.8 +2.8
comp=Z,10nm,0.7s,mb4.8
RRX Edison Barstow 44.91 156 ⇑P P 02 08 35.2 +0.1
baz=45
W14A Seligman 44.92 151 ⇓P P 02 08 35.4 +0.3
baz=45
W13A Hualapai Mount 44.96 152 P P 02 08 36.1 +0.6
baz=45,SNR=6.2
W15A Williams 45.03 151 ⇑P P 02 08 36.4 +0.4
baz=45
FVM French Village 45.09 125 eP P 02 08 41.8 +5.3
FVM pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FVM French Village 45.09 125 eP P 02 08 41.8 +5.3
comp=Z,8.1nm,0.9s,mb4.5
X13A Yucca 45.46 152 P P 02 08 40.1 +0.6
baz=45,SNR=6.6
WCI Wyandotte Cave 45.53 121 eP P 02 08 43.0 +3.0
WCI pmax pmax
comp=Z,11nm,0.8s,mb4.8
WCI Wyandotte Cave 45.53 121 eP P 02 08 43.0 +3.0
comp=Z,11nm,0.8s,mb4.8
SIUC Southern Illin 45.55 124 eP P 02 08 46.5 +6.3
X14A Yava 45.67 151 ⇓P P 02 08 41.8 +0.7
baz=45,SNR=6.8
X15A Humboldt 45.72 151 ⇓P P 02 08 42.2 +0.7
baz=46
PDMCI Parker Dam,Lak 45.73 153 ⇑P P 02 08 41.7 +0.2
baz=46
IRM Iron Mountain 45.78 154 ⇑P P 02 08 42.6 +0.7
baz=46
BELC Belle Mtn. 45.87 155 ⇓P P 02 08 43.1 +0.4
baz=46
ANMO Albuquerque 45.87 144 P P 02 08 42.8 +0.1
comp=Z,2.0nm,0.5s,mb4.3,baz=342,slow=8.7,SNR=9.9
ANMO Albuquerque 45.87 144 P P 02 08 42.8 +0.2
ANMO pmax pmax
comp=Z,2.0nm,0.5s
ANMO Albuquerque 45.87 144 eP P 02 08 42.3 -0.3
comp=Z,2.2nm,0.7s,mb4.2
ANMO epP pP 02 08 55.4 +10
Y14A Wickenburg 46.19 152 P P 02 08 45.8 +0.6
baz=46,SNR=8.4
OBN Obninsk 46.23 5 eP P 02 08 47.7 +2.2
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
Y13A Salome 46.24 153 ⇑P P 02 08 45.9 +0.4
baz=46
BC3 Big Chuckw Mtn 46.25 154 ⇓P P 02 08 46.2 +0.5
baz=46
CHKZ Chkalovo 46.66 337 eP P 02 08 48.5 -0.4
CHKZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CHKZ Chkalovo 46.66 337 eP P 02 08 48.5 -0.4
comp=Z,7.8nm,1.3s,mb4.5
Z14A Wintersburg 46.77 152 ⇑P P 02 08 50.2 +0.5
baz=46
WMOK Wichita Mounta 47.04 135 eP P 02 08 51.4 -0.5
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WMOK Wichita Mounta 47.04 135 eP P 02 08 51.4 -0.5
comp=Z,2.8nm,0.8s,mb4.2
BRVK Borovoye 47.30 338 eP P 02 08 54.1 +0.2
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 47.30 338 eP P 02 08 54.1 +0.2
comp=Z,4.8nm,0.6s,mb4.6
BVAR Borovoye Array 47.32 337 P P 02 08 54.5 +0.4
comp=Z,2.5nm,0.7s,mb4.3,baz=5.5,slow=7.7,SNR=13
BVAR Borovoye Array 47.32 337 P P 02 08 54.5 +0.4
BVAR pmax pmax
comp=Z,3.0nm,0.7s
ELN Prospectdale 47.45 115 eP P 02 08 56.8 +1.7
115A Sonoran Desert 47.49 151 ⇑P P 02 08 55.9 +0.5
baz=47,SNR=6.0
ZRNK Zerenda 47.50 339 eP P 02 08 55.7 +0.3
ZRNK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ZRNK Zerenda 47.50 339 eP P 02 08 55.7 +0.3
comp=Z,9.2nm,1.2s,mb4.6
VOSK Vostochnaya 47.58 337 P P 02 08 55.0 -1.1
VOSK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
116A Eloy 47.68 150 ⇓P P 02 08 57.3 +0.5
baz=48
TUC Tucson 48.02 149 eP P 02 08 59.9 +0.5
TUC pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
TUC Tucson 48.02 149 eP P 02 08 59.9 +0.4
comp=Z,1.1nm,0.7s,mb4.0
SONM Songino Array 48.16 306 P P 02 09 01.5 +0.9
comp=Z,7.1nm,0.8s,mb4.7,baz=0.1,slow=7.1,SNR=48
SONM LR LR 02 31 59.8
comp=Z,98nm,18.2s,MS3.8,baz=356,slow=39
SONM Songino Array 48.16 306 P P 02 09 01.5 +0.9
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,98nm,18.2s
OXF Oxford 48.65 125 eP P 02 09 02.9 -1.5
OXF pmax pmax
comp=Z,48nm,0.9s,mb5.5
OXF Oxford 48.65 125 eP P 02 09 02.9 -1.4
comp=Z,48nm,0.9s,mb5.5
CLL Collm 48.90 24 ePP PP 02 11 08.0 +8.5
CLL Collm 48.90 24 e(PP) 02 11 08.0
KURK Kurchatov 48.91 330 eP P 02 09 06.1 -0.2
KURK pmax pmax
comp=Z,11nm,1.0s,mb4.8
KURK Kurchatov 48.91 330 eP P 02 09 06.1 -0.2
comp=Z,11nm,1.0s,mb4.9
WLF Walferdange 49.91 30 P P 02 09 18.7 +4.7
JSC Jenkinsville 50.24 117 eP P 02 09 21.3 +4.8
LDF La Druitiere 50.31 36 eP P 02 09 15.6 -1.4
comp=Z,11nm,0.7s,mb4.7
LDF La Druitiere 50.31 36 eP P 02 09 15.6 -1.4
LDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LDF La Druitiere 50.31 36 eP P 02 09 15.6 -1.4
comp=Z,5.4nm,0.7s,mb4.7
SGMF Saint Gilles 50.36 38 eP P 02 09 17.4 0.0
AKASG Malin Array Be 50.45 11 P P 02 09 17.5 -0.6
comp=Z,3.8nm,0.6s,mb4.6,baz=354,slow=8.2,SNR=4.4
AKASG Malin Array Be 50.45 11 P P 02 09 17.5 -0.6
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 50.45 11 P P 02 09 17.5 -0.6
AKBB Malin Array Si 50.45 11 eP P 02 09 22.2 +4.1
KIEV Kiev 50.46 11 eP P 02 09 22.1 +4.0
KIEV e 02 09 29.4
KIEV pmax pmax
comp=Z,11nm,0.7s,mb5.0
KIEV Kiev 50.46 11 eP P 02 09 22.1 +4.0
comp=Z,11nm,0.7s,mb5.0
KIEV e 02 09 29.4
AKTK Aktyubinsk 50.63 347 P P 02 09 19.4 0.0
AKTK LR LR 02 30 41.6
AKTO Aktyubinsk 50.63 347 P P 02 09 19.4 0.0
comp=Z,1.8nm,0.6s,mb4.2,baz=15,slow=8.4,SNR=9.4
AKTO LR LR 02 30 41.6
comp=Z,148nm,20.9s,MS4.0,baz=120,slow=36
AKTO Aktyubinsk 50.63 347 P P 02 09 19.4 -0.1
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AKTO MLR MLR
comp=Z,148nm,20.9s,MS4.0
MORC Moravsky Berou 50.76 21 eP P 02 09 25.1 +4.7
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 50.76 21 eP P 02 09 25.1 +4.7
comp=Z,3.2nm,0.8s,mb4.3
MEZF Maizières J'vi 50.95 31 eP P 02 09 22.4 +0.5
JCT Junction City 51.10 137 eP P 02 09 21.7 -1.2
JCT pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
JCT Junction City 51.10 137 eP P 02 09 21.7 -1.2
comp=Z,8.9nm,0.7s,mb4.8
HAU Haudompre 51.58 30 eP P 02 09 26.4 -0.1
HAU eR
comp=Z,250nm,17.8s
HAU Haudompre 51.58 30 eP P 02 09 26.4 -0.1
HAU LR LR
comp=Z,250nm,17.8s,MS4.3
AB31 Akbulak array 51.72 346 P P 02 09 27.1 -0.5
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LTX Lajitas 51.74 142 eP P 02 09 27.2 -0.6
LTX pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
LTX Lajitas 51.74 142 eP P 02 09 27.2 -0.6
comp=Z,1.5nm,0.7s,mb4.0
TXAR Lajitas Array 51.74 142 P P 02 09 27.1 -0.7
comp=Z,2.2nm,0.7s,mb4.2,baz=0.0,slow=5.4,SNR=26
TXAR Lajitas Array 51.74 142 P P 02 09 27.1 -0.7
TXAR pmax pmax
comp=Z,2.0nm,0.7s
HINF Hinteralfeld 51.81 30 eP P 02 09 27.9 -0.4
LOR Lormes 52.05 33 eP P 02 09 30.8 +0.7
comp=Z,19nm,1.0s,mb4.7
LOR eR
comp=Z,244nm,17.2s
LOR Lormes 52.05 33 eP P 02 09 30.8 +0.7
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,240nm,17.3s,MS4.3
LOR Lormes 52.05 33 eP P 02 09 30.8 +0.7
comp=Z,9.3nm,1.0s,mb4.7
LOR LR LR
comp=Z,240nm,17.3s,MS4.3
SSF Saint Saulge 52.22 33 eP P 02 09 31.5 +0.2
comp=Z,7.2nm,0.7s,mb4.4
SSF Saint Saulge 52.22 33 eP P 02 09 31.5 +0.2
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SSF Saint Saulge 52.22 33 eP P 02 09 31.5 +0.2
comp=Z,3.6nm,0.7s,mb4.4
MK31 Makanchi Array 52.41 326 eP P 02 09 32.1 -0.7
MKAR Makanchi Array 52.41 326 P P 02 09 32.3 -0.5
comp=Z,3.3nm,0.7s,mb4.4,baz=356,slow=6.4,SNR=29
MKAR LR LR 02 33 56.0
comp=Z,94nm,18.6s,MS3.9,baz=355,slow=38
MKAR Makanchi Array 52.41 326 P P 02 09 32.3 -0.5
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR MLR MLR
comp=Z,94nm,18.6s
BGF Bois d'Agland 52.65 34 eP P 02 09 33.6 -0.9
comp=Z,22nm,0.8s,mb4.8
BGF Bois d'Agland 52.65 34 eP P 02 09 33.6 -0.9
BGF pmax pmax
comp=Z,11nm,0.8s,mb4.8
BGF Bois d'Agland 52.65 34 eP P 02 09 33.6 -0.9
comp=Z,11nm,0.8s,mb4.8
SMF Signal de Mont 52.66 33 eP P 02 09 34.6 0.0
comp=Z,9.3nm,0.7s,mb4.5
SMF Signal de Mont 52.66 33 eP P 02 09 34.6 0.0
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 52.66 33 eP P 02 09 34.6 0.0
comp=Z,4.7nm,0.7s,mb4.5
PSZ Piszkesteto 52.76 19 eP P 02 09 40.1 +4.7
PSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PSZ Piszkesteto 52.76 19 eP P 02 09 40.0 +4.7
comp=Z,3.2nm,0.7s,mb4.4
TCF Toulx Ste Croi 52.84 34 eP P 02 09 36.0 0.0
comp=Z,14nm,0.8s,mb4.7
TCF Toulx Ste Croi 52.84 34 eP P 02 09 36.0 0.0
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 52.84 34 eP P 02 09 36.0 0.0
comp=Z,6.9nm,0.8s,mb4.6
MJAR Matsushiro Arr 53.35 273 P P 02 09 39.8 +0.1
comp=Z,1.8nm,0.8s,mb4.0,baz=348,slow=14,SNR=4.1
MJAR Matsushiro Arr 53.35 273 P P 02 09 39.8 +0.1
MJAR pmax pmax
comp=Z,2.0nm,0.8s
BURAR Bucovina Array 53.36 15 ⇓iP P 02 09 44.6 +4.8
BURAR Bucovina Array 53.36 15 ⇓P P 02 09 44.6 +4.8
RJF Les Rejaudoux 53.74 35 eP P 02 09 42.0 -0.5
comp=Z,15nm,0.9s,mb4.6
RJF eR
comp=Z,171nm,17.5s
RJF Les Rejaudoux 53.74 35 eP P 02 09 42.0 -0.5
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,170nm,17.5s,MS4.2
RJF Les Rejaudoux 53.74 35 eP P 02 09 42.0 -0.5
comp=Z,7.3nm,0.9s,mb4.6
RJF LR LR
comp=Z,170nm,17.5s,MS4.2
BJI Beijing 54.10 295 P P 02 09 41.0 -4.2
BJI S **S 02 17 08.4 -13**
BJI AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
BJI LR LR
comp=N,289nm,15.4s,MS4.7
BJI LR LR
comp=E,458nm,15.4s,MS4.7
BJI LR LR
comp=Z,132nm,27.6s
BJI Beijing 54.10 295 P P 02 09 41.0 -4.2
comp=Z,4.0nm,0.5s,mb4.6
BJI S **S 02 17 08.4 -13**
BJI LR LR
comp=Z,130nm,27.6s,MS3.9
HHC Hu-ho-hao-te 54.11 299 eP P 02 09 46.4 +1.1
HHC PCP PcP 02 10 52.3 +2.3
HHC PP PP 02 11 48.6 +1.8
HHC SCP ScP 02 14 44.8 -3.3
HHC PCS PcS 02 14 48.9 -0.4
HHC S **S 02 17 16.1 -5.7**
HHC SCS ScS 02 19 28.5 -6.3
HHC SS SS 02 20 57.3 -6.0
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,117nm,8.3s
HHC LR LR
comp=N,234nm,15.1s,MS4.5
HHC LR LR
comp=E,249nm,16.3s,MS4.5
HHC LR LR
comp=Z,298nm,15.7s,MS4.5
KSRS Korea Array 54.45 283 P P 02 09 48.5 +0.7
comp=Z,4.1nm,0.7s,mb4.5,baz=8.9,slow=7.5,SNR=12
KSRS LR LR 02 34 55.9
comp=Z,87nm,20.3s,MS3.8,baz=178,slow=38
WMQ Urumqi 54.73 321 ⇑P P 02 09 51.4 +1.7
WMQ PCP PcP 02 10 53.4 +1.1
WMQ PP PP 02 11 55.9 +3.6
WMQ SCP ScP 02 14 46.4 -4.4
WMQ PCS PcS 02 14 51.9 -0.1
WMQ S **S 02 17 27.4 -2.7**
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,25nm,5.2s
WMQ LR LR
comp=N,97nm,19.6s,MS4.0
WMQ LR LR
comp=E,108nm,21.0s,MS4.0
WMQ LR LR
comp=Z,82nm,15.0s
MLR Muntele Rosu 55.52 14 P P 02 09 55.4 0.0
comp=Z,1.1nm,0.7s,mb4.0,baz=348,slow=23,SNR=3.2
MLR Muntele Rosu 55.52 14 ⇑iP P 02 10 01.1 +5.6
LPIG La Paz 56.19 150 LR LR 02 35 56.0
comp=Z,103nm,20.3s,MS3.9,baz=160,slow=38
KK31 Karatay Array 57.18 336 i P P 02 10 06.9 -0.4
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
KKAR Karatay Array 57.18 336 i P P 02 10 06.9 -0.4
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AAK Ala-Archa 57.30 332 eP P 02 10 07.6 -0.6
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AAK Ala-Archa 57.30 332 eP P 02 10 07.6 -0.6
comp=Z,3.8nm,0.8s,mb4.5
GTA Gaotai 57.40 309 eP P 02 10 09.5 +0.6
GTA AP pP 02 10 15.8 +3.7
GTA XP sP 02 10 20.1 +6.8
GTA AMB AMB
comp=Z,5.0nm,0.5s,mb4.8
KIV Kislovodsk 57.45 360 eP P 02 10 14.1 +4.9
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.9
KIV Kislovodsk 57.45 360 eP P 02 10 14.1 +4.9
comp=Z,11nm,0.9s,mb4.9
ZEI Tsey 58.63 359 eP P 02 10 22.8 +5.3
ZEI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ESDC Sonseca Array 58.63 41 P P 02 10 17.4 -0.1
comp=Z,1.6nm,0.9s,mb4.1,baz=347,slow=7.9,SNR=5.6
LZH Lanzhou 60.03 305 eP P 02 10 29.5 +2.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB

comp=Z,66nm,4.3s
LZH Lanzhou 60.03 305 *e*P **P 02 10 29.5 +2.3**
comp=Z,13nm,1.0s,mb4.9
LZH pP pP 02 10 42.5 +12
LZH sP sP 02 10 47.5 +16
NJ2 Nanjing 61.39 290 *e*P **P 02 10 36.6 +0.2**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
BR131 Keskin Array S 61.56 8 *e*P **P 02 10 43.3 +5.8**
comp=Z,2.8nm,0.7s,mb4.5
BRTR Keskin Array B 61.56 8 P **P 02 10 39.3 +1.7**
comp=Z,2.0nm,1.0s,mb4.2,baz=359,slow=5.2,SNR=2.9
BRTR LR LR 02 37 28.7
comp=Z,2μm,20.2s,MS5.3,baz=311,slow=36
BRTR Keskin Array B 61.56 8 P **P 02 10 39.3 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR MLR MLR
comp=Z,2μm,20.2s
MALT Malatya 63.06 4 *e*P **P 02 10 53.9 +6.3**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MALT Malatya 63.06 4 *e*P **P 02 10 53.9 +6.2**
comp=Z,2.2nm,0.7s,mb4.4
KEST Kesra 64.03 30 P **P 02 10 54.0 -0.1**
comp=Z,2.9nm,1.1s,mb4.2,baz=15,slow=16,SNR=4.5
CMIG Matias Romero 64.94 134 P **P 02 10 58.2 -1.8**
comp=Z,2.4nm,0.4s,mb4.6,baz=354,slow=5.8,SNR=7.5
CD2 Chengdu 65.11 304 *e*P **P 02 11 02.0 +0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.8s
MDT Midelt 65.30 43 LR LR 02 36 58.6
comp=Z,71nm,18.0s,MS3.9,baz=318,slow=34
GYA Guiyang 68.99 300 *e*P **P 02 11 26.9 +1.1**
GYA PCP PcP 02 11 51.5 +1.5
GYA PP PP 02 14 01.1 +3.0
GYA SCP 02 15 50.0
GYA S S 02 20 25.4 -5.1
GYA SKS 02 21 18.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,240nm,20.4s,MS4.6
GYA LR LR
comp=E,270nm,21.0s,MS4.6
GYA LR LR
comp=Z,210nm,20.6s,MS4.4
ASF Jabal al Asfar 69.16 5 P **P 02 11 27.2 +0.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=297,slow=4.5,SNR=2.3
GUN Gumba 70.64 320 *e*P **P 02 11 36.6 +0.7**
comp=Z,34nm,0.8s,mb5.3
GKN Gorkha 70.70 321 *e*P **P 02 11 36.3 0.0**
comp=Z,22nm,0.7s,mb5.2
KKN Kakani 70.83 320 *e*P **P 02 11 37.7 +0.6**
comp=Z,20nm,0.7s,mb5.2
KMI Kunming 70.94 304 P **P 02 11 38.9 +1.1**
KMI S S 02 20 47.4 -6.1
KMI SS SS 02 25 22.6 -3.6
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
KMI LR LR
comp=Z,44nm,21.6s,MS3.7
KMI Kunming 70.94 304 P **P 02 11 38.9 +1.1**
KMI *SP sP 02 11 56.9 +15
KMI S S 02 20 47.4 -6.1
KMI SS SS 02 25 22.6 -3.6
KMI SSS 02 28 29.0
KMI pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
KMI MLR MLR
comp=Z,40nm,21.6s,MS3.6
KMI Kunming 70.94 304 P **P 02 11 38.9 +1.1**
comp=Z,8.0nm,0.5s,mb4.9
KMI sP sP 02 11 56.9 +15
KMI S S 02 20 47.4 -6.1
KMI sS sS 02 21 10.4 +12
KMI SS SS 02 25 22.6 -3.6
KMI SSS 02 28 29.0
KMI LR LR
comp=Z,40nm,21.6s,MS3.6
DMN Daman 71.03 321 *e*P **P 02 11 39.0 +0.7**
comp=Z,41nm,0.7s,mb5.5
PKI Pulchoki 71.03 320 *e*P **P 02 11 38.8 +0.5**
KOLN Koldanda 71.06 322 *e*P **P 02 11 38.2 -0.3**
ROSC El Rosal 80.20 116 LR LR 02 51 42.0
comp=Z,60nm,19.0s,MS4.0,baz=22,slow=38
OTAV Otavalo 84.02 120 *e*P **P 02 12 56.1 +5.2**
comp=Z,4.7nm,0.8s,mb4.7
TORD Torodi Ar. Bea 85.50 40 P **P 02 12 57.9 -0.5**
comp=Z,0.6nm,1.0s,mb3.7,baz=340,slow=2.2,SNR=3.8

IDC ***12*** *02:17:13.3±3.9, 1463N×11954E, h133km±39km, mb3.5/5, mb1 3.6/5, mb1mx3.3/19, mbtmp3.5/5, Error ellipse: s-maj=93.0km s-min=18.5km az=67.0*

NEIC 12 02:17:15.8±1.2, 1486N×12019E, h158km±17km, mb4.1/1, Error ellipse: s-maj=128.4km s-min=13.9km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.05**	**136**	P	Pn	02 17 41.8	+0.2
	83nm,0.3s,baz=198,slow=13,SNR=9.1						
TGY				S	Sn	02 18 02.4	+0.9
	62nm,0.3s,baz=7.8,slow=18,SNR=7.6						
WRA	**Warramunga Arr**	**37.28**	**158**	P	P	02 24 12.4	+0.1
	0.3nm,0.5s,baz=328,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**40.57**	**160**	P	P	02 24 40.2	+0.6
	0.3nm,0.5s,baz=336,slow=6.9,SNR=7.9						
MK31	**Makanchi Array**	**44.81**	**323**	*e*P	P	02 25 14.6	+0.8
MKAR	**Makanchi Array**	**44.81**	**323**	P	P	02 25 12.6	-1.1
	0.2nm,0.3s,baz=120,slow=8.6,SNR=5.5						
KURK	**Kurchatov**	**48.95**	**326**	*e*P	P	02 25 46.4	+0.5
	3.3nm,0.8s						
ARCES	**ARCESS Array B**	**77.83**	**339**	P	P	02 28 55.3	-0.3
	6.0nm,1.1s,baz=81,slow=5.6,SNR=13						
FINES	**FINESS Array B**	**79.03**	**331**	P	P	02 29 02.0	-0.2
	1.1nm,0.5s,baz=46,slow=8.0,SNR=11						

IDC 12 02:17:31.7±9.4, 629S×15079E, h67km±67km, mb3.4/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.5/4, ML2.1/1, Error ellipse: s-maj=106.8km s-min=61.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**229**	P	Pn	02 18 40.6	-0.1
	0.6nm,0.3s,baz=13,slow=18,SNR=2.2						
PMG				S	Sn	02 19 36.2	+1.8
	1.3nm,0.3s,baz=166,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**20.97**	**228**	P	P	02 22 08.4	-0.8
	1.6nm,0.8s,baz=50,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**23.71**	**221**	P	P	02 22 37.2	-0.3
	1.2nm,0.6s,baz=56,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**27.20**	**242**	P	P	02 23 09.8	+0.7
	1.6nm,0.6s,baz=58,slow=9.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.80**	**285**	PKPbc	PKPbc	02 37 13.0	+1.4
	0.3nm,0.8s,baz=94,slow=2.1,SNR=4.1						

IDC ***12*** *02:23:12.9±2.4, 2208S×17639W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.0/16, mbtmp4.4/6, ML4.5/1, Error ellipse: s-maj=131.9km s-min=39.9km az=176.0*

NEIC 12 02:23:27.1±0.7, 2264S×17598W, h150km, mb4.2/3, Error ellipse: s-maj=40.0km s-min=11.2km az=177.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.11**	**88**	Pn	Pn	02 26 52.9	+0.1
	2.1nm,0.3s,baz=260,slow=6.4,SNR=8.8						
RAR				Sn	Sn	02 29 27.3	-13
	1.6nm,0.3s,baz=95,slow=20,SNR=3.5						
CTA	**Charters Tower**	**35.20**	**267**	P	P	02 30 08.1	+1.3
	4.8nm,0.4s,baz=94,slow=11,SNR=19						
CTA	**Charters Tower**	**35.20**	**267**	P	P	02 30 08.1	+1.3
CTAO	**Charters Tower**	**35.20**	**267**	*e*P	P	02 30 07.8	+1.0
	5.2nm,0.5s						
STKA	**Stephens Creek**	**38.62**	**247**	*e*P	P	02 30 35.8	+0.2
	1.4nm,0.4s						
STKA	**Stephens Creek**	**38.62**	**247**	P	P	02 30 35.8	+0.1
	1.7nm,0.4s,baz=102,slow=8.2,SNR=9.0						
STKA	**Stephens Creek**	**38.62**	**247**	*e*P	P	02 30 35.6	0.0
AS31	**Alice Springs**	**45.90**	**258**	*e*P	P	02 31 34.6	+0.1
ASAR	**Alice Springs**	**45.90**	**258**	P	P	02 31 35.0	+0.4
	1.0nm,0.4s,baz=91,slow=7.4,SNR=23						
ASPA	**Alice Springs**	**45.90**	**258**	*e*P	P	02 31 34.7	+0.2
WB2	**Warramunga Arr**	**46.19**	**264**	*e*P	P	02 31 36.5	-0.3
WRAB	**Tennant Creek**	**46.19**	**264**	*e*P	P	02 31 36.5	-0.4
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**46.20**	**264**	P	P	02 31 36.9	0.0
	2.0nm,0.3s,baz=94,slow=8.3,SNR=102						
FITZ	**Fitzroy Crossi**	**54.63**	**263**	P	P	02 32 41.4	+1.3
	1.1nm,0.4s,baz=104,slow=7.5,SNR=5.4						
CASY	**Casey**	**62.85**	**206**	*e*P	P	02 33 36.9	0.0
	1.9nm,0.8s						

CSEM ***12*** *02:36:31.3±0.0, 40.14N×3270E, h2km, mb4.4/16, Ms3.5, Error ellipse: s-maj=1.1km s-min=0.7km az=2.0*
NEIC Felt at Ankara.
NEIC ***12*** *02:36:32.0, 40.14N×3270E, h5km, mb4.3/26, ML4.4(ISK), After ISK.*
ISCJB ***12*** *02:36:32.0±0.1, 40.15N±001×3270E±001, h5km, mb4.2/28, MS3.8/17, Error ellipse: s-maj=2.1km s-min=1.6km az=172.6*
NAO ***12*** *02:36:32.5, 3968N×3322E, h33km, mb4.0*
MOS ***12*** *02:36:32.8±1.0, 40.12N×3277E, h16km, mb4.5/15, Error ellipse: s-maj=5.4km s-min=3.8km az=114.4*
ISK ***12*** *02:36:32.2, 40.14N×3270E, h7km, MD4.3, ML4.4*
BJI ***12*** *02:36:32.0, 40.10N×3270E, h4km, mB4.7, mb4.8, Ms4.7, Msz4.0*
IDC ***12*** *02:36:32.1±0.7, 40.12N×3275E, h0km, mb4.0/12, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML4.0/5, MS3.8/20, Ms1 3.8/20, ms1mx3.6/37, Error ellipse: s-maj=13.9km s-min=6.6km az=41.0*

ISC 12 02:36:33.6±0.1, 4013N±001×3272E±001, h5km, n333, σ1§19/366, mb4.2/28, MS3.8/17, 23C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTO	**Ankara**	**0.26**	**168**	*i* PG	**Pg**	**02 36 35.4**	**-3.3**
ANTO	**Ankara**	**0.26**	**168**	*i* P	**Pg**	**02 36 35.9**	**-2.8**
ANTO				*i* S	**Sg**	**02 36 41.8**	**-0.3**
ANTO	**Ankara**	**0.26**	**168**	*e*Pg	**Pg**	**02 36 36.5**	**-2.1**
ANTO	**Ankara**	**0.26**	**168**	*e*Pg	**Pg**	**02 36 36.5**	**-2.2**
ELDT	**Eldivan**	**0.65**	**56**	*i* P	**Pg**	**02 36 44.4**	**-1.6**
ELDT				*i* S	**Sg**	**02 36 51.6**	**-2.8**
BR131	**Keskin Array S**	**0.81**	**119**	*e*Pg	**Pg**	**02 36 46.6**	**-2.5**
BR131	**Keskin Array S**	**0.81**	**119**	*e*Pg	**Pg**	**02 36 46.6**	**-2.5**
BRTR	**Keskin Array B**	**0.81**	**119**	Pg	**Pg**	**02 36 46.0**	**-3.1**
	276nm,0.3s,baz=292,slow=16,SNR=1181						
BRTR				Lg		02 36 59.5	
	328nm,0.3s,baz=129,slow=29,SNR=17						
CANT	**Cankiri**	**0.83**	**55**	*i* PG	**Pg**	**02 36 48.5**	**-1.1**
CANT	**Cankiri**	**0.83**	**55**	Pg	**Pg**	**02 36 48.2**	**-1.4**
SAFT	**Safranbolu**	**1.11**	**359**	*i* PN	**Pn**	**02 36 53.7**	**-2.1**
TOS	**Tosya**	**1.34**	**47**	*i* PN	**Pn**	**02 36 57.6**	**-1.4**
CDAG	**Cicekdag**	**1.36**	**111**	*i* P	**Pn**	**02 36 56.7**	**-2.6**
CDAG				*i* S	**Sb**	**02 36 57.5**	**-0.8**
KIZT	**Kizilcal**	**1.41**	**208**	*i* PN	**Pn**	**02 36 58.2**	**-1.6**
KIZT	**Kizilcal**	**1.41**	**208**	Pn	**Pn**	**02 36 57.6**	**-2.2**
CORM	**Corum**	**1.46**	**87**	*i* PN	**Pn**	**02 36 59.6**	**-1.0**
CORM				*i* SN	**Sn**	**02 37 19.6**	**-0.5**
BALT	**Daday**	**1.49**	**19**	*i* P	**Pn**	**02 37 00.5**	**-0.6**
BALT				*i* S	**Sn**	**02 37 23.3**	**+2.4**
KDZE	**Karadeniz Ereo**	**1.53**	**321**	*i* PN	**Pn**	**02 37 00.7**	**-0.9**
HENT	**Hendek**	**1.56**	**297**	*i* P	**Pn**	**02 37 01.3**	**-0.6**
HENT				*i* S	**Sn**	**02 37 24.2**	**+1.8**
ESKT	**Eskisehir**	**1.56**	**248**	*i* P	**Pn**	**02 37 00.5**	**-1.6**
ESKT				*i* S	**Sn**	**02 37 20.6**	**-2.1**
ESKT	**Eskisehir**	**1.56**	**248**	*i* Pn	**Pn**	**02 37 00.7**	**-1.3**
SEYT	**Eskypehyr**	**1.56**	**248**	*i* P	**Pn**	**02 37 00.4**	**-1.6**
SEYT				*i* S	**Sn**	**02 37 20.6**	**-2.1**
CTKT	**Corum**	**1.65**	**72**	*i* P	**Pn**	**02 37 02.3**	**-0.9**
CTKT				*i* S	**Sn**	**02 37 25.6**	**+0.7**
KDHN	**Kadinhani**	**1.67**	**197**	*i* P	**Pn**	**02 37 01.9**	**-1.6**
KDHN				*i* S	**Sn**	**02 37 25.1**	**-0.2**
KDHN	**Kadinhani**	**1.67**	**197**	*i* P	**Pn**	**02 37 01.9**	**-1.6**
KDHN				*i* S	**Sn**	**02 37 25.1**	**-0.2**
BORA	**Eskisehir**	**1.76**	**263**	*i* P	**Pn**	**02 37 03.9**	**-0.8**
BORA				*i* S	**Sg**	**02 37 30.9**	**+0.8**
GPA	**Golpazari**	**1.86**	**276**	*i* PN	**Pn**	**02 37 04.8**	**-1.2**
BYBT	**Boyabat**	**2.05**	**49**	*i* PN	**Pn**	**02 37 07.9**	**-0.8**
BYBT	**Boyabat**	**2.05**	**49**	Pn	**Pn**	**02 37 08.4**	**-0.3**
YOZ	**Yozgat**	**2.06**	**103**	PN	**Pn**	**02 37 08.1**	**-0.7**
YOZ	**Yozgat**	**2.06**	**103**	Pn	**Pn**	**02 37 08.0**	**-0.8**
BZK	**Bozkurt**	**2.07**	**27**	PN	**Pn**	**02 37 08.3**	**-0.7**
BZK	**Bozkurt**	**2.07**	**27**	Pn	**Pn**	**02 37 08.6**	**-0.4**
BOYT	**Boyabat**	**2.10**	**51**	*i* P	**Pn**	**02 37 08.1**	**-1.3**
BOYT				*i* S	**Sg**	**02 37 39.4**	**-1.7**
AVNT	**Avonos**	**2.13**	**129**	*i* P	**Pn**	**02 37 09.2**	**-0.6**
AVNT				*i* S	**Sn**	**02 37 36.9**	**+0.3**
KONT	**Konya--Tatoy**	**2.20**	**188**	PN	**Pn**	**02 37 10.9**	**+0.2**
KONT	**Konya--Tatoy**	**2.20**	**188**	Pn	**Pn**	**02 37 10.8**	**+0.1**
ADVT	**Abdulvahap**	**2.30**	**279**	PN	**Pn**	**02 37 11.6**	**-0.8**
ADVT	**Abdulvahap**	**2.30**	**279**	Pn	**Pn**	**02 37 11.8**	**-0.4**
SHUT	**Suhut-Afyon**	**2.30**	**228**	PN	**Pn**	**02 37 11.6**	**-0.6**
HRT	**Hereke**	**2.43**	**288**	PN	**Pn**	**02 37 13.0**	**-0.9**
DIKM	**Dikmen**	**2.45**	**51**	PN	**Pn**	**02 37 14.5**	**+0.3**
IZI	**Iznik**	**2.50**	**276**	PN	**Pn**	**02 37 14.2**	**-0.6**
YLV	**Yalova**	**2.60**	**281**	PN	**Pn**	**02 37 16.0**	**-0.2**
YLV	**Yalova**	**2.60**	**281**	Pn	**Pn**	**02 37 15.4**	**-0.8**
KVT	**Kavak**	**2.70**	**68**	PN	**Pn**	**02 37 18.3**	**+0.6**
GDZ	**Gediz**	**2.71**	**249**	*i* P	**Pb**	**02 37 21.4**	**-1.1**
GDZ				*i* S	**Sg**	**02 37 59.8**	**-0.8**
GEMT	**Gemlik**	**2.72**	**278**	PN	**Pn**	**02 37 17.4**	**-0.5**
GEMT	**Gemlik**	**2.72**	**278**	Pn	**Pn**	**02 37 17.6**	**-0.3**
BNN	**Bunyan**	**2.73**	**117**	PN	**Pn**	**02 37 18.1**	**0.0**
BNN	**Bunyan**	**2.73**	**117**	Pn	**Pn**	**02 37 18.7**	**+0.6**
BADT	**Buyukada**	**2.84**	**286**	PN	**Pn**	**02 37 19.0**	**-0.6**
ISP	**Isparta**	**2.86**	**218**	PN	**Pn**	**02 37 19.7**	**-0.1**
ISP	**Isparta**	**2.86**	**218**	eP	**Pn**	**02 37 18.8**	**-1.4**
ISP	**Isparta**	**2.86**	**218**	ePn	**Pn**	**02 37 18.5**	**-1.3**
TOKT	**Tokat**	**2.93**	**85**	PN	**Pn**	**02 37 21.1**	**+0.3**
TOKT	**Tokat**	**2.93**	**85**	Pn	**Pn**	**02 37 21.5**	**+0.7**
KLYT	**Kilyos**	**3.02**	**293**	PN	**Pn**	**02 37 21.8**	**-0.2**
BCK	**Bucak**	**3.14**	**213**	PN	**Pn**	**02 37 22.7**	**-1.0**
BCK	**Bucak**	**3.14**	**213**	Pn	**Pn**	**02 37 23.5**	**-0.2**
SVSK	**Karacayir**	**3.29**	**92**	PN	**Pn**	**02 37 26.1**	**+0.4**
KCT	**Karacabey**	**3.35**	**274**	PN	**Pn**	**02 37 25.5**	**-1.0**
KARA	**Karaisali**	**3.39**	**147**	PN	**Pn**	**02 37 28.4**	**+1.2**
CTT	**Catalca**	**3.42**	**289**	PN	**Pn**	**02 37 26.9**	**-0.7**
MERS	**Mersin**	**3.55**	**156**	PN	**Pn**	**02 37 30.5**	**+1.2**
KOZT	**Kozan**	**3.59**	**136**	PN	**Pn**	**02 37 31.0**	**+1.2**
ANTB	**Antalya**	**3.61**	**207**	PN	**Pn**	**02 37 29.8**	**-0.3**
DENT	**Denizli**	**3.73**	**232**	PN	**Pn**	**02 37 31.3**	**-0.5**
DENT	**Denizli**	**3.73**	**232**	Pn	**Pn**	**02 37 31.9**	**+0.1**
CEYT	**Ceyhan**	**3.91**	**142**	PN	**Pn**	**02 37 34.9**	**+0.6**
CEYT	**Ceyhan**	**3.91**	**142**	Pn	**Pn**	**02 37 35.1**	**+0.8**
MRMT	**Marmara Adasi**	**3.95**	**279**	PN	**Pn**	**02 37 34.9**	**+0.1**
IKL	**Isikli**	**3.96**	**169**	PN	**Pn**	**02 37 35.6**	**+0.7**
IKL	**Isikli**	**3.96**	**169**	Pn	**Pn**	**02 37 35.5**	**+0.6**
ELL	**Elmali**	**4.03**	**214**	PN	**Pn**	**02 37 37.1**	**+1.1**
ELL	**Elmali**	**4.03**	**214**	Pn	**Pn**	**02 37 36.4**	**+0.4**
KMRS	**Kahramanmaras**	**4.18**	**127**	PN	**Pn**	**02 37 38.6**	**+0.6**
MFT	**Murefte**	**4.20**	**281**	PN	**Pn**	**02 37 38.6**	**+0.3**
CANB	**Canakkale**	**4.34**	**270**	*e*PN	**Pn**	**02 37 40.5**	**+0.3**
SEV	**Sevastopol'**	**4.47**	**9**	‖*e*P	**Pn**	**02 37 41.7**	**-0.3**
SEV				pmax	pmax		
	comp=Z,15nm,0.8s						
SEV	**Sevastopol'**	**4.47**	**9**	*e*P	**Pn**	**02 37 41.7**	**-0.3**
	comp=Z,15nm,0.8s						
YAL	**Yalta**	**4.49**	**13**	⇑*e*P	**Pn**	**02 37 42.0**	**-0.2**
YAL				*e*S	**Sn**	**02 38 33.6**	**-1.1**
YAL				pmax	pmax		
	comp=Z,108nm,0.9s						
YAL				smax			
	comp=N,50nm,0.9s						
YAL				smax			
	comp=E,59nm,0.9s						
YAL	**Yalta**	**4.49**	**13**	*e*P	**Pn**	**02 37 42.0**	**-0.2**
	comp=E,108nm,0.9s						
YAL				*e*S	**Sn**	**02 38 33.6**	**-1.1**
FETY	**Fethiye**	**4.51**	**221**	*e*PN	**Pn**	**02 37 43.3**	**+0.8**
IZM	**Izmir**	**4.58**	**250**	*e*PN	**Pn**	**02 37 44.4**	**+1.0**
YER	**Yerkesik**	**4.58**	**231**	*e*PN	**Pn**	**02 37 45.0**	**+1.5**
GAZ	**Gaziantep**	**4.59**	**129**	*e*PN	**Pn**	**02 37 44.4**	**+0.8**
DALT	**Dalyan (Mudla)**	**4.64**	**225**	*e*PN	**Pn**	**02 37 45.1**	**+0.8**
ALU	**Alushta**	**4.72**	**15**	⇑*i*P	**Pn**	**02 37 45.1**	**-0.3**
ALU				*e*S	**Sn**	**02 38 42.6**	**+2.1**
ALU				pmax	pmax		
	comp=Z,45nm,0.5s						
ALU				smax			
	comp=N,110nm,0.8s						
ALU				smax			
	comp=E,120nm,0.8s						
ALU	**Alushta**	**4.72**	**15**	*i*P	**Pn**	**02 37 45.1**	**-0.3**
	comp=E,45nm,0.5s						
ALU				*e*S	**Sn**	**02 38 42.6**	**+2.1**
MYA	**Malataya**	**4.78**	**110**	*e*PN	**Pn**	**02 37 48.0**	**+1.8**
MALT	**Malatya**	**4.79**	**110**	‖*i*P	**Pn**	**02 37 45.8**	**-0.5**
MALT	**Malatya**	**4.79**	**110**	*e*Pn	**Pn**	**02 37 45.9**	**-0.4**
MALT				*e*Pg	**Pb**	**02 37 59.9**	**+2.0**
MALT				*e*Sg	**Sg**	**02 39 05.2**	**-2.1**
MALT	**Malatya**	**4.79**	**110**	*e*Pn	**Pn**	**02 37 45.9**	**-0.4**
MALT	**Malatya**	**4.79**	**110**	*e*Pg	**Pb**	**02 37 59.9**	**+2.0**
MLSB	**Milas**	**4.79**	**235**	*e*PN	**Pn**	**02 37 46.6**	**+0.2**
EDRB	**Edirne**	**4.84**	**293**	*e*PN	**Pn**	**02 37 47.3**	**+0.2**
PSN	**Preselentsi**	**4.91**	**318**	*e*P	**Pn**	**02 37 48.0**	**0.0**
EZN	**Ezine**	**4.92**	**269**	*e*PN	**Pn**	**02 37 48.8**	**+0.6**
SIM	**Simferopol'**	**4.93**	**12**	*e*P	**Pn**	**02 37 48.0**	**-0.3**
SIM				*e*S	**Sn**	**02 38 48.0**	**+2.3**
SIM				pmax	pmax		
	comp=Z,120nm,0.9s						
SIM				smax			
	comp=N,90nm,1.0s						
SIM				smax			
	comp=E,210nm,1.0s						
SIM	**Simferopol'**	**4.93**	**12**	*e*P	**Pn**	**02 37 48.7**	**+0.4**
SIM	**Simferopol'**	**4.93**	**12**	*e*P	**Pn**	**02 37 48.0**	**-0.3**
	comp=E,120nm,0.9s						
SIM				*e*S	**Sn**	**02 38 48.0**	**+2.3**
PRD	**Provadia**	**5.03**	**309**	*e*P	**Pn**	**02 37 47.3**	**-2.4**
SUDU	**Sudak**	**5.05**	**19**	*e*P	**Pn**	**02 37 47.8**	**-2.1**
SUDU				*e*S	**Sn**	**02 38 48.0**	**-0.6**
SUDU				pmax	pmax		
	comp=Z,49nm,0.5s						
SUDU				smax			
	comp=E,240nm,1.0s						
SUDU	**Sudak**	**5.05**	**19**	*e*P	**Pn**	**02 37 47.8**	**-2.1**
	comp=E,49nm,0.5s						
SUDU				*e*S	**Sn**	**02 38 48.0**	**-0.6**
PRK	**Paraskevi**	**5.05**	**262**	*e*P	**Pn**	**02 37 50.1**	**+0.1**
ALN	**Alexandroupoli**	**5.15**	**281**	*e*P	**Pn**	**02 37 51.1**	**-0.2**
JMB	**Yambol**	**5.18**	**299**	*e*P	**Pn**	**02 37 53.3**	**+1.6**
JMB	**Yambol**	**5.18**	**299**	*e*P	**Pn**	**02 37 52.3**	**+0.5**
SMG	**Samos**	**5.19**	**244**	*e*P	**Pn**	**02 37 53.1**	**+1.3**
FEO	**Feodosiya**	**5.27**	**21**	*e*P	**Pn**	**02 37 55.0**	**+2.0**
FEO				*e*S	**Sn**	**02 38 58.0**	**+3.9**
FEO				pmax	pmax		
	comp=Z,30nm,0.7s						
FEO				smax			
	comp=N,80nm,0.8s						
FEO	**Feodosiya**	**5.27**	**21**	*e*P	**Pn**	**02 37 55.0**	**+2.0**
	comp=N,30nm,0.7s						
DAT	**Datca**	**5.28**	**232**	*e*PN	**Pn**	**02 37 53.1**	**+0.1**
PTK	**Pertek**	**5.30**	**101**	*e*PN	**Pn**	**02 37 54.6**	**+1.2**
ARG	**Arkhangelos**	**5.33**	**224**	*e*P	**Pn**	**02 37 54.2**	**+0.5**
TIRR	**Tirgusor**	**5.38**	**325**	⇑*i*P	**Pn**	**02 37 53.5**	**-1.0**
TIRR	**Tirgusor**	**5.38**	**325**	*e*P	**Pn**	**02 37 52.8**	**-1.7**
TIRR				pmax	pmax		
	comp=E,55nm,0.8s						
TIRR	**Tirgusor**	**5.38**	**325**	*e*Pn	**Pn**	**02 37 52.8**	**-1.7**
	comp=E,55nm,0.8s						
TIRR				*e*		02 38 05.3	
EZC	**Erzincan**	**5.46**	**92**	*e*PN	**Pn**	**02 37 52.4**	**-3.2**
URFA	**Urfa**	**5.47**	**117**	*e*PN	**Pn**	**02 37 56.9**	**+1.2**
RDO	**Rodhopi**	**5.56**	**283**	*e*P	**Pn**	**02 37 56.3**	**-0.7**
LIA	**Limnos Island**	**5.79**	**270**	*e*P	**Pn**	**02 38 00.2**	**0.0**
ANN	**Anapa**	**5.83**	**35**	*e*P	**Pn**	**02 37 58.7**	**-1.9**
ANN				*e*S	**Sn**	**02 39 03.5**	**-4.3**
ANN				pmax	pmax		
	comp=Z,72nm,1.2s						
ANN	**Anapa**	**5.83**	**35**	*e*P	**Pn**	**02 37 58.7**	**-1.9**
	comp=Z,72nm,1.2s						
KERU	**Kerch**	**5.87**	**27**	*e*P	**Pb**	**02 38 11.9**	**-4.4**
LOS	**Limnos**	**5.87**	**271**	*e*P	**Pn**	**02 38 01.2**	**0.0**
SZH	**Strazhica**	**5.97**	**304**	*e*P	**Pn**	**02 38 02.6**	**0.0**
BINT	**Bingol**	**6.13**	**99**	*e*PN	**Pn**	**02 38 07.0**	**+2.2**
DIY	**Diyarbakir**	**6.25**	**108**	*e*PN	**Pn**	**02 38 07.7**	**+1.2**
SOC	**Sochi**	**6.26**	**54**	*e*P	**Pn**	**02 38 14.7**	**+8.1**
SOC				*e*		02 39 28.2	
SOC				pmax	pmax		
	comp=Z,44nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,14.0s						
PVL	**Pavlikeni**	**6.34**	**302**	*e*P	**Pn**	**02 38 08.3**	**+0.7**
PLD	**Plovdiv**	**6.37**	**291**	*e*P	**Pn**	**02 38 07.7**	**-0.4**
EZM	**Erzurum**	**6.64**	**89**	*e*PN	**Pn**	**02 38 14.3**	**+2.6**
OUR	**Ouranopolis**	**6.69**	**275**	*e*P	**Pn**	**02 38 11.1**	**-1.4**
ISR	**Istrita**	**6.76**	**320**	⇑*i*P	**Pb**	**02 38 23.8**	**-7.7**
ISR	**Istrita**	**6.76**	**320**	⇑P	**Pb**	**02 38 23.8**	**-7.7**
NVR	**Nevrokopi**	**6.84**	**283**	*e*P	**Pn**	**02 38 15.2**	**+0.7**
BCA	**Borcka**	**6.88**	**76**	*e*PN	**Pn**	**02 38 16.4**	**+1.3**
PAIG	**Paliouri**	**6.94**	**271**	*e*P	**Pn**	**02 38 15.4**	**-0.6**
MMB	**Musomiste**	**6.97**	**285**	*e*P	**Pn**	**02 38 17.1**	**+0.7**
MMB	**Musomiste**	**6.97**	**285**	*e*P	**Pn**	**02 38 16.8**	**+0.4**
BTMT	**Batman**	**7.08**	**103**	*e*PN	**Pn**	**02 38 18.3**	**+0.5**
**P

ZEI	**Tsey**	**8.80**	**69**	*e*P		**Pn**	**02 38 42.5**	**+1.1**
ZEI				*e*			02 40 22.5	
ZEI				pmax	pmax			
	comp=Z,2.0nm,0.1s							
ZEI	**Tsey**	**8.80**	**69**	*e*P		**Pn**	**02 38 42.5**	**+1.1**
	comp=Z,2.0nm,0.1s							
ZEI				*e*S		**Sn**	**02 40 22.5**	**+1.6**
KRUS	**Krusevo**	**8.80**	**282**	*e*Pn		**Pn**	**02 38 41.8**	**+0.4**
GZR	**Gura Zlata**	**9.01**	**309**	⇑*i*P		**Pn**	**02 38 43.8**	**-0.5**
GZR	**Gura Zlata**	**9.01**	**309**	⇑P		**Pn**	**02 38 43.8**	**-0.5**
MSL	**Mosul**	**9.01**	**112**	*ex*		x	02 39 21.0	
MSL				*ex*		x	02 41 25.0	
MSL				*ex*		x	02 41 37.0	
MSL				*ex*		x	02 41 57.0	
GNI	**Garni**	**9.21**	**86**	Pn		**Pn**	**02 38 46.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=333,slow=23,SNR=1.8							
GNI	**Garni**	**9.21**	**86**	*e*Pn		**Pn**	**02 38 46.5**	**-0.5**
GNI	**Garni**	**9.21**	**86**	*e*P		**Pn**	**02 38 46.5**	**-0.5**
BURAR	**Bucovina Array**	**9.24**	**327**	⇑*i*P		**Pn**	**02 38 47.7**	**+0.3**
BURAR	**Bucovina Array**	**9.24**	**327**	⇑P		**Pn**	**02 38 47.7**	**+0.3**
GRUS	**Gruza**	**9.70**	**297**	*i* Pn		**Pn**	**02 38 51.8**	**-1.9**
BZS	**Buzias**	**9.82**	**308**	⇑*i*P		**Pn**	**02 38 54.2**	**-1.3**
BZS	**Buzias**	**9.82**	**308**	⇑P		**Pn**	**02 38 54.1**	**-1.3**
DRGR		**9.86**	**316**	⇑*i*P		**Pn**	**02 38 56.2**	**+0.2**
DRGR		**9.86**	**316**	⇑P		**Pn**	**02 38 56.2**	**+0.2**
DIVS	**Divcibare**	**10.26**	**297**	*i* Pn		**Pn**	**02 39 01.4**	**0.0**
KIEV	**Kiev**	**10.85**	**348**	*e*P		**Pn**	**02 39 07.5**	**-2.0**
KIEV				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KIEV	**Kiev**	**10.85**	**348**	*e*Pn		**Pn**	**02 39 07.5**	**-2.0**
	comp=Z,6.5nm,0.6s							
AKASG	**Malin Array Be**	**10.86**	**348**	Pn		**Pn**	**02 39 06.8**	**-2.7**
	comp=Z,2.4nm,0.3s,baz=168,slow=12,SNR=6.6							
AKASG				Sn		**Sn**	**02 41 05.0**	**-6.4**
	comp=Z,1.7nm,0.3s,baz=166,slow=23,SNR=4.4							
AKASG	**Malin Array Be**	**10.86**	**348**	Pn		**Pn**	**02 39 06.8**	**-2.8**
AKBB	**Malin Array Si**	**10.86**	**348**	*e*P		**Pn**	**02 39 08.6**	**-1.0**
LVV	**L'vov**	**11.47**	**331**	*e*P		**Pn**	**02 39 23.8**	**+5.8**
LVV				*e*S		**Sn**	**02 41 37.9**	**+11**
BHD	**Baghdad**	**11.59**	**123**	*ex*		x	02 39 49.5	
BHD				*ex*		x	02 42 30.5	
CRVS	**Cervenica-Dubn**	**11.89**	**321**	*e*PN		**Pn**	**02 39 30.7**	**+7.0**
PSZ	**Piszkesteto**	**12.07**	**314**	*e*Pn		**Pn**	**02 39 23.8**	**-2.4**
KECS	**Kecovo**	**12.10**	**318**	*e*PN		**Pn**	**02 39 35.8**	**+9.2**
KECS	**Kecovo**	**12.10**	**318**	*e*Pn		**Pn**	**02 39 17.4**	**-9.2**
KECS				*e*			02 39 35.8	
NIE	**Niedzica**	**12.79**	**321**	*e*P		**Pn**	**02 39 38.7**	**+2.6**
VRAC	**Vranov**	**14.66**	**314**	Pn		**Pn**	**02 40 07.9**	**+6.3**
	comp=Z,0.1nm,0.3s,baz=105,slow=9.1,SNR=6.0							
VRAC				LR		LR	02 46 40.1	
	comp=Z,287nm,19.3s,baz=272,slow=41							
OBN	**Obninsk**	**15.21**	**8**	⇑*e*P		**Pn**	**02 40 11.9**	**+2.8**
OBN				*e*S		**Sn**	**02 43 06.7**	**+8.8**
OBN				pmax	pmax			
	comp=Z,23nm,1.0s							
OBN				MLR	MLR			
	comp=Z,400nm,18.0s							
SUW	**Suwalki**	**15.31**	**338**	*e*P		**Pn**	**02 40 05.0**	**-5.4**
SUW				pmax	pmax			
	comp=Z,60nm,1.0s							
SUW	**Suwalki**	**15.31**	**338**	*e*Pn		**Pn**	**02 40 05.0**	**-5.4**
	comp=Z,60nm,1.0s							
KSP	**Ksiaz**	**15.70**	**318**	*e*P		**Pn**	**02 40 21.7**	**+6.3**
MOS	**Moscow**	**15.96**	**10**	*e*P		**Pn**	**02 40 21.4**	**+2.7**
MOS				*e*S		**Sn**	**02 43 18.8**	**+2.8**
MOS				pmax	pmax			
	comp=Z,41nm,1.1s							
GERES	**GERESS Array B**	**16.10**	**309**	Pn		**Pn**	**02 40 20.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=112,slow=12,SNR=3.2							
GERES				LR		LR	02 46 58.9	
	comp=Z,212nm,20.4s,baz=277,slow=39							
PRU	**Pruhonice**	**16.16**	**314**	*e*P		**Pn**	**02 40 25.0**	**+3.7**
KHC	**Kasperske Hory**	**16.30**	**310**	*e*P		**Pn**	**02 40 26.2**	**+3.1**
KHC	**Kasperske Hory**	**16.30**	**310**	*e*P		**Pn**	**02 40 23.6**	**+0.5**
PVCC	**Panska Ves**	**16.42**	**315**	*e*P		**Pn**	**02 40 27.4**	**+2.7**
WET	**Wettzell**	**16.72**	**309**	P		**Pn**	**02 40 29.2**	**+0.7**
BRG	**Berggiesshubel**	**16.94**	**316**	*e*P		**Pn**	**02 40 33.4**	**+2.1**
	comp=Z,15nm,1.7s							
BRG	**Berggiesshubel**	**16.94**	**316**	*e*P		**Pn**	**02 40 33.4**	**+2.1**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.7s							
CLL	**Collm**	**17.68**	**316**	*e*(P)		**Pn**	**02 40 41.0**	**+0.5**
DAVOX	**Davos**	**17.84**	**299**	P		**Pn**	**02 40 45.9**	**+3.4**
	baz=151,slow=18							
DAVOX				LR		LR	02 47 54.8	
	comp=Z,298nm,21.2s,baz=100,slow=38							
VSU	**Vasula**	**18.75**	**350**	*e*P		**Pn**	**02 40 56.1**	**+2.4**
KEST	**Kesra**	**18.94**	**264**	P		**Pn**	**02 40 58.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=4.1,SNR=6.3							
KEST				LR		LR	02 49 37.6	
	comp=Z,66nm,20.5s,baz=192,slow=41							
ORR	**Orenburg**	**19.08**	**46**	*e*P		**Pn**	**02 40 55.5**	**-2.2**
ORR				pmax	pmax			
	comp=Z,60nm,0.9s							
ORR	**Orenburg**	**19.08**	**46**	*e*P		**Pn**	**02 40 55.5**	**-2.2**
	comp=Z,60nm,0.9s							
BFO	**Black Forest**	**19.25**	**303**	*e*P		**Pn**	**02 40 56.0**	**-3.7**
BFO				pmax	pmax			
	comp=Z,18nm,1.4s							
BFO	**Black Forest**	**19.25**	**303**	*e*P		**Pn**	**02 40 56.0**	**-3.7**
	comp=Z,18nm,1.4s							
MBDF	**Montbardon**	**19.67**	**292**	*e*P		**Pn**	**02 41 03.1**	**-1.6**
	comp=Z,19nm,0.7s							
MBDF	**Montbardon**	**19.67**	**292**	*e*P		**Pn**	**02 41 03.1**	**-1.6**
MBDF				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MBDF	**Montbardon**	**19.67**	**292**	*e*P		**Pn**	**02 41 03.1**	**-1.6**
	comp=Z,9.3nm,0.7s							
FRF	**La Foret Royal**	**19.70**	**289**	*e*P		**Pn**	**02 41 04.6**	**-0.5**
	comp=Z,54nm,1.2s							
FRF	**La Foret Royal**	**19.70**	**289**	*e*P		**Pn**	**02 41 04.6**	**-0.5**
FRF				pmax	pmax			
	comp=Z,27nm,1.2s							
FRF	**La Foret Royal**	**19.70**	**289**	*e*P		**Pn**	**02 41 04.6**	**-0.5**
	comp=Z,27nm,1.2s							
LPG	**La Plagne**	**19.75**	**294**	*e*P		**Pn**	**02 41 06.6**	**+0.9**
BNI	**Bardonecchia**	**19.76**	**293**	*e*P		**Pn**	**02 41 03.0**	**-2.8**
BNI				pmax	pmax			
	comp=Z,15nm,0.9s							
BNI	**Bardonecchia**	**19.76**	**293**	*e*P		**Pn**	**02 41 03.0**	**-2.8**
	comp=Z,15nm,0.9s							
BNI	**Bardonecchia**	**19.76**	**293**	*e*P		**Pn**	**02 41 03.0**	**-2.8**
	comp=Z,15nm,0.9s							
LPL	**La Plagne**	**19.77**	**294**	*e*P		**Pn**	**02 41 05.7**	**-0.2**
	comp=Z,21nm,0.9s							
LPL	**La Plagne**	**19.77**	**294**	*e*P		**Pn**	**02 41 05.7**	**-0.2**
LPL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
LPL	**La Plagne**	**19.77**	**294**	*e*P		**Pn**	**02 41 05.7**	**-0.2**
	comp=Z,10nm,0.9s							
CDF	**Champ du Feu**	**19.95**	**303**	*e*P		**Pn**	**02 41 08.7**	**+0.6**
	comp=Z,15nm,1.0s							
CDF	**Champ du Feu**	**19.95**	**303**	*e*P		**Pn**	**02 41 08.7**	**+0.6**
CDF				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CDF	**Champ du Feu**	**19.95**	**303**	*e*P		**Pn**	**02 41 08.7**	**+0.6**
	comp=Z,7.6nm,1.0s							
HINF	**Hinteralfeld**	**20.08**	**301**	*e*P		**P**	**02 41 09.4**	**+1.6**
ORIF	**Oris-en-Rattie**	**20.31**	**292**	*e*P		**P**	**02 41 11.7**	**+1.3**
	comp=Z,34nm,1.1s							
ORIF				*e*R				
	comp=Z,266nm,21.0s							
ORIF	**Oris-en-Rattie**	**20.31**	**292**	*e*P		**P**	**02 41 11.7**	**+1.3**
ORIF				pmax	pmax			
	comp=Z,17nm,1.1s							
ORIF	**Oris-en-Rattie**	**20.31**	**292**	*e*P		**P**	**02 41 11.7**	**+1.3**
	comp=Z,17nm,1.1s							
CABF	**La Chapelle**	**20.36**	**297**	*e*P		**P**	**02 41 12.0**	**+1.1**
	comp=Z,30nm,1.1s							
CABF	**La Chapelle**	**20.36**	**297**	*e*P		**P**	**02 41 12.0**	**+1.1**
CABF				pmax	pmax			
	comp=Z,15nm,1.1s							
CABF	**La Chapelle**	**20.36**	**297**	*e*P		**P**	**02 41 12.0**	**+1.1**
	comp=Z,15nm,1.1s							
HAU	**Haudompre**	**20.45**	**301**	*e*P		**P**	**02 41 13.7**	**+1.8**
	comp=Z,19nm,1.1s							
HAU				*e*R				
	comp=Z,299nm,22.5s							
HAU	**Haudompre**	**20.45**	**301**	*e*P		**P**	**02 41 13.7**	**+1.8**
HAU				pmax	pmax			
	comp=Z,10.0nm,1.1s							
HAU				MLR	MLR			
	comp=Z,300nm,22.5s,MS3.6							
HAU	**Haudompre**	**20.45**	**301**	*e*P		**P**	**02 41 13.7**	**+1.8**
	comp=Z,9.5nm,1.1s							
HAU				LR		LR		
	comp=Z,300nm,22.5s,MS3.6							
AKTK	**Aktyubinsk**	**20.47**	**51**	P		**P**	**02 41 12.3**	**+0.3**
AKTK	**Aktyubinsk**	**20.47**	**51**	P		**P**	**02 41 12.4**	**+0.3**
AKTO	**Aktyubinsk**	**20.47**	**51**	P		**P**	**02 41 12.3**	**+0.3**
	comp=Z,17nm,0.9s,baz=254,slow=12,SNR=51							
AKTO	**Aktyubinsk**	**20.47**	**51**	P		**P**	**02 41 12.4**	**+0.3**
AKTO				pmax	pmax			
	comp=Z,17nm,0.9s							
SMRF	**Simiane la Rot**	**20.49**	**290**	*e*P		**P**	**02 41 13.6**	**+1.3**
	comp=Z,36nm,1.1s							
SMRF	**Simiane la Rot**	**20.49**	**290**	*e*P		**P**	**02 41 13.6**	**+1.3**
	comp=Z,18nm,1.1s							
VIVF	**Saint-Julien-l**	**21.17**	**292**	*e*P		**P**	**02 41 19.7**	**+0.1**
	comp=Z,11nm,0.9s,mb3.9							
VIVF	**Saint-Julien-l**	**21.17**	**292**	*e*P		**P**	**02 41 19.7**	**+0.1**
VIVF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.8							
VIVF	**Saint-Julien-l**	**21.17**	**292**	*e*P		**P**	**02 41 19.7**	**+0.1**
	comp=Z,5.3nm,0.9s,mb3.9							
MEZF	**Maizieres J'vi**	**21.41**	**302**	*e*P		**P**	**02 41 23.4**	**+1.2**
	comp=Z,57nm,1.4s,mb4.4							
MEZF	**Maizieres J'vi**	**21.41**	**302**	*e*P		**P**	**02 41 23.4**	**+1.2**
	comp=Z,28nm,1.4s,mb4.4							
LASF	**Ste Croix**	**21.73**	**290**	*e*P		**P**	**02 41 25.6**	**0.0**
	comp=Z,62nm,1.3s,mb4.6							
LASF	**Ste Croix**	**21.73**	**290**	*e*P		**P**	**02 41 25.6**	**0.0**
	comp=Z,31nm,1.3s,mb4.6							
FINES	**FINESS Array B**	**21.73**	**351**	P		**P**	**02 41 25.2**	**-0.5**
	comp=Z,4.1nm,0.8s,mb3.9,baz=152,slow=12,SNR=17							
SMF	**Signal de Mont**	**21.90**	**297**	*e*P		**P**	**02 41 27.8**	**+0.3**
	comp=Z,58nm,1.4s,mb4.5							
SMF	**Signal de Mont**	**21.90**	**297**	*e*P		**P**	**02 41 27.8**	**+0.3**
SMF				pmax	pmax			
	comp=Z,29nm,1.4s,mb4.5							
SMF	**Signal de Mont**	**21.90**	**297**	*e*P		**P**	**02 41 27.8**	**+0.3**
	comp=Z,29nm,1.4s,mb4.5							
LOR	**Lormes**	**21.97**	**299**	*e*P		**P**	**02 41 28.1**	**-0.2**
	comp=Z,45nm,1.4s,mb4.4							
LOR				*e*R				
	comp=Z,310nm,19.8s							
LOR	**Lormes**	**21.97**	**299**	*e*P		**P**	**02 41 28.1**	**-0.2**
LOR				pmax	pmax			
	comp=Z,22nm,1.4s,mb4.4							
LOR				MLR	MLR			
	comp=Z,310nm,19.8s,MS3.7							
LOR	**Lormes**	**21.97**	**299**	*e*P		**P**	**02 41 28.1**	**-0.2**
	comp=Z,22nm,1.4s,mb4.4							
LOR				LR	LR			
	comp=Z,310nm,19.8s,MS3.7							
SSF	**Saint Saulge**	**22.18**	**298**	*e*P		**P**	**02 41 31.5**	**+1.0**
	comp=Z,43nm,1.2s,mb4.4							
SSF	**Saint Saulge**	**22.18**	**298**	*e*P		**P**	**02 41 31.5**	**+1.0**
SSF				pmax	pmax			
	comp=Z,22nm,1.2s,mb4.5							
SSF	**Saint Saulge**	**22.18**	**298**	*e*P		**P**	**02 41 31.5**	**+1.0**
	comp=Z,22nm,1.2s,mb4.4							
AVF	**Avril sur Loir**	**22.25**	**297**	*e*P		**P**	**02 41 31.9**	**+0.6**
	comp=Z,32nm,1.3s,mb4.3							
AVF	**Avril sur Loir**	**22.25**	**297**	*e*P		**P**	**02 41 31.9**	**+0.6**
AVF				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.3							
AVF	**Avril sur Loir**	**22.25**	**297**	*e*P		**P**	**02 41 31.9**	**+0.6**
	comp=Z,16nm,1.3s,mb4.3							
TCF	**Toulx Ste Croi**	**22.99**	**296**	*e*P		**P**	**02 41 38.7**	**-0.4**
HFS	**Hagfors**	**23.29**	**336**	P		**P**	**02 41 40.9**	**-1.4**
	comp=Z,6.0nm,0.7s,mb4.2,baz=139,slow=12,SNR=16							
HFS				LR	LR		02 52 59.3	
	comp=Z,326nm,19.9s,MS3.8,baz=250,slow=42							
ARU	**Arti**	**23.49**	**37**	⇑*i*P		**P**	**02 41 43.8**	**-0.6**
ARU				*e*PPP			02 42 16.1	
ARU				*e*S		**S**	**02 45 57.4**	**-0.8**
ARU				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.5							
ARU	**Arti**	**23.49**	**37**	*e*P		**P**	**02 41 42.7**	**-1.7**
	comp=Z,19nm,0.9s,mb4.5							
ARU	**Arti**	**23.49**	**37**	*e*P		**P**	**02 41 42.7**	**-1.6**
	comp=Z,19nm,0.9s,mb4.5							
SVE	**Sverdlovsk**	**24.67**	**38**	*e*P		**P**	**02 41 55.0**	**-0.3**
NB2	**NORSAR Subarra**	**24.77**	**335**	P		**P**	**02 41 58.2**	**+2.0**
NB2	**NORSAR Subarra**	**24.77**	**335**	P		**P**	**02 41 55.8**	**-0.4**
	comp=Z,2.0nm,0.5s,mb3.9,baz=138,slow=9.3							
NOA	**NORSAR Array B**	**24.77**	**335**	P		**P**	**02 41 55.7**	**-0.5**
	comp=Z,3.0nm,0.8s,mb3.9,baz=138,slow=9.6,SNR=7.0							
NOA				LR	LR		02 53 37.1	
	comp=Z,224nm,20.0s,MS3.7,baz=285,slow=41							
GRR	**Gorron**	**25.27**	**300**	*e*P		**P**	**02 41 59.0**	**-1.7**
	comp=Z,168nm,1.7s,mb5.0							
GRR	**Gorron**	**25.27**	**300**	*e*P		**P**	**02 41 59.0**	**-1.7**
GRR				pmax	pmax			
	comp=Z,84nm,1.7s,mb5.0							
GRR	**Gorron**	**25.27**	**300**	*e*P		**P**	**02 41 59.0**	**-1.7**
	comp=Z,84nm,1.7s,mb5.0							
WSAR	**Wadi Sarin**	**27.59**	**120**	LR		LR	02 55 55.0	
	comp=Z,103nm,19.2s,MS3.4,baz=276,slow=42							
ZRNK	**Zerenda**	**27.74**	**50**	*e*P		**P**	**02 42 22.8**	**-0.2**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.1							
ZRNK	**Zerenda**	**27.74**	**50**	*e*P		**P**	**02 42 22.8**	**-0.2**
	comp=Z,4.9nm,1.0s,mb4.1							
ZRNK	**Zerenda**	**27.74**	**50**	*e*P		**P**	**02 42 22.8**	**-0.2**
	comp=Z,4.8nm,1.0s,mb4.1							
ESDC	**Sonseca Array**	**28.02**	**281**	P		**P**	**02 42 25.1**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.4,baz=71,slow=9.9,SNR=7.7							
EKA	**Eskdalemuir Ar**	**28.14**	**315**	P		**P**	**02 42 25.4**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.5,baz=118,slow=8.6,SNR=3.7							
BRVK	**Borovoye**	**28.52**	**50**	P		**P**	**02 42 29.5**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.4							
BRVK	**Borovoye**	**28.52**	**50**	P		**P**	**02 42 29.5**	**-0.5**
	comp=Z,12nm,1.4s,mb4.4							
BRVK	**Borovoye**	**28.52**	**50**	P		**P**	**02 42 29.5**	**-0.4**
	comp=Z,12nm,1.4s,mb4.4							
BVAR	**Borovoye Array**	**28.57**	**51**	P		**P**	**02 42 30.6**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.3,baz=246,slow=11,SNR=3.3							
BVAR				LR	LR		02 55 33.0	
	comp=Z,178nm,18.8s,MS3.7,baz=145,slow=40							
CHKZ	**Chkalovo**	**28.84**	**49**	*e*P		**P**	**02 42 32.4**	**-0.4**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2							
CHKZ	**Chkalovo**	**28.84**	**49**	*e*P		**P**	**02 42 32.4**	**-0.4**
	comp=Z,5.0nm,1.0s,mb4.2							
CHKZ	**Chkalovo**	**28.84**	**49**	*e*P		**P**	**02 42 32.4**	**-0.4**
	comp=Z,5.0nm,1.0s,mb4.2							
ARCES	**ARCESS Array B**	**29.72**	**355**	P		**P**	**02 42 39.6**	**-1.0**
	comp=Z,3.3nm,0.7s,mb4.2,baz=167,slow=8.2,SNR=23							
ARCES				LR		LR	02 56 32.6	
	comp=Z,229nm,18.9s,MS3.8,baz=327,slow=40							
ATD	**Arta Tunnel**	**29.86**	**160**	LR		LR	02 54 07.2	
	comp=Z,109nm,19.6s,MS3.5,baz=343,slow=35							
AAK	**Ala-Archa**	**31.22**	**72**	*e*P		**P**	**02 42 54.6**	**+0.8**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**31.22**	**72**	*e*P		**P**	**02 42 54.6**	**+0.8**
	comp=Z,2.5nm,0.9s,mb4.0							
KURK	**Kurchatov**	**33.41**	**56**	*e*P		**P**	**02 43 12.5**	**-0.6**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**33.41**	**56**	*e*P		**P**	**02 43 12.5**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.5							
KURK	**Kurchatov**	**33.41**	**56**	*e*P		**P**	**02 43 12.5**	**-0.6**
	comp=Z,5.6nm,0.9s,mb4.5							
MK31	**Makanchi Array**	**36.09**	**63**	*e*P		**P**	**02 43 36.4**	**+0.2**
MKAR	**Makanchi Array**	**36.09**	**63**	P		**P**	**02 43 34.7**	**-1.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=273,slow=9.5,SNR=13							
MKAR				LR		LR	02 59 29.5	
	comp=Z,140nm,20.9s,MS3.7,baz=268,slow=38							
TOA0	**Torodi Ar. Sit**	**38.27**	**234**	*e*P		**P**	**02 43 53.8**	**-1.0**
TOA0	**Torodi Ar. Sit**	**38.27**	**234**	*e*P		**P**	**02 43 53.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**38.27**	**234**	P		**P**	**02 43 54.0**	**-0.8**
	comp=Z,3.7nm,0.7s,mb4.2,baz=34,slow=8.8,SNR=30							
TORD	**Torodi Ar. Bea**	**38.27**	**234**	P		**P**	**02 43 54.0**	**-0.8**
WMQ	**Urumqi**	**40.41**	**66**	⇑P		**P**	**02 44 13.7**	**+1.1**
WMQ				AP		pP	02 44 16.7	+2.6
WMQ				XP		sP	02 44 19.7	+5.0
WMQ				PP		PP	02 45 50.2	+4.7
WMQ				PCP		PcP	02 46 11.1	-4.6
WMQ				S		**S**	**02 50 22.9**	**+1.6**
WMQ				AMB		AMB		
	comp=Z,10.0nm,4.1s							
WMQ				LR		LR		
	comp=N,150nm,17.0s,MS4.0							
WMQ				LR		LR		
	comp=E,135nm,20.0s,MS4.0							
WMQ				LR		LR		
	comp=Z,183nm,19.0s,MS4.0							
KMBO	**Kilima Mbogo**	**41.26**	**173**	P		**P**	**02 44 19.2**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.6,baz=333,slow=4.5,SNR=4.2							
KMBO	**Kilima Mbogo**	**41.26**	**173**	P		**P**	**02 44 19.2**	**-0.5**
KOLN	**Koldanda**	**43.43**	**90**	*e*P		**P**	**02 44 38.7**	**+1.4**
	comp=Z,22nm,1.1s,mb4.8							
GKN	**Gorkha**	**44.11**	**89**	*e*P		**P**	**02 44 42.9**	**+0.1**
DMN	**Daman**	**44.66**	**90**	*e*P		**P**	**02 44 49.1**	**+1.9**
KKN	**Kakani**	**44.71**	**89**	*e*P		**P**	**02 44 48.6**	**+1.0**
PKI	**Pulchoki**	**44.91**	**89**	*e*P		**P**	**02 44 50.6**	**+1.4**
GUN	**Gumba**	**45.11**	**89**	*e*P		**P**	**02 44 51.7**	**+1.0**
SONM	**Songino Array**	**51.71**	**55**	P		**P**	**02 45 40.5**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=291,slow=8.3,SNR=4.9							
SONM				LR		LR	03 10 42.1	
	comp=Z,103nm,20.3s,MS3.9,baz=10,slow=40							
BOD	**Bodaibo**	**52.81**	**42**	*e*P		**P**	**02 45 42.9**	**-6.9**
CD2	**Chengdu**	**57.16**	**75**	*e*P		**P**	**02 46 19.2**	**-2.1**
KMI	**Kunming**	**59.43**	**82**	P		**P**	**02 46 37.6**	**+0.4**
KMI				AMB		AMB		
	comp=Z,11nm,0.7s,mb5.0							
KMI				LR		LR		
	comp=Z,39nm,20.6s,MS3.5							
KMI	**Kunming**	**59.43**	**82**	P		**P**	**02 46 37.6**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0							
KMI				LR		LR		
	comp=Z,40nm,20.6s,MS3.5							
NJ2	**Nanjing**	**67.48**	**67**	*e*P		**P**	**02 47 29.9**	**-0.6**
NJ2				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.3							
KSRS	**Korea Array**	**70.52**	**57**	LR		LR	03 22 35.3	
	comp=Z,66nm,18.7s,MS3.9,baz=123,slow=39							
YKA	**Yellowknife Ar**	**74.40**	**345**	LR		LR	03 21 11.8	
	comp=Z,68nm,18.9s,MS4.0,baz=55,slow=36							
MJAR	**Matsushiro Arr**	**77.55**	**53**	LR		LR	03 24 55.0	
	comp=Z,26nm,18.9s,MS3.6,baz=305,slow=37							
ROSC	**El Rosal**	**99.79**	**285**	LR		LR	03 29 53.5	
	comp=Z,42nm,20.3s,MS3.9,baz=135,slow=32							
TXAR	**Lajitas Array**	**99.90**	**322**	LR		LR	03 37 55.2	
	comp=Z,73nm,18.2s,MS4.2,baz=355,slow=37							

NIED ***12*** *02:40:00,2400N×12160E,h44km,Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φs216.00000°,δ76.00000°, λ-160.00000°. NP2:φs121.00000°,δ71.00000°, λ-14.00000°.*

IDC ***12*** *02:40:51.6±1.0,2380N×12156E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.8/21,mbtmp3.9/7,ML3.9/1,MS2.6/1, Ms1 2.6/1,ms1mx2.5/29,Error ellipse: s-maj=42.8km s-min=18.7km az=64.0*

ISCJB ***12*** *02:40:56.1±0.8,2383N±007×12154E±004,h48km±7km, mb4.0/9,Error ellipse: s-maj=11.7km s-min=4.8km az=28.5*

JMA ***12*** *02:40:58.0±0.2,2404N×12161E,h81km,M4.2*

NEIC ***12*** *02:40:59.3,2394N×12157E,h32km,mb4.4/3,ML4.6(TAP), After TAP.*

NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in Nan-t'ou and T'ai-chung and [1 TAP] in Chang-hua and I-lan Counties.

BJI ***12*** *02:41:10.5,2478N×12073E,h24km,ML4.3,Ms3.8, Msz3.6*

ISC 12 02:40:57.2±0.8,2386N±007×12153E±004,h40km±8km, n26,σ0°67/37,mb4.0/9,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.32**	**11**	*e*Pn		**Pn**	**02 41 05.5**	**-0.3**
NACB				*e*Sn		**Sn**	**02 41 11.1**	**-0.5**
YHNB	**Yeheng**	**0.82**	**350**	*e*Pn		**

ZRNK	**Zerenda**	**71.48**	**335**	*e*P		**P**	**03 26 31.6**	**-0.5**
	1.7nm,0.5s,mb4.2								
VNDA	**Vanda**	**72.72**	**170**	P		**P**	**03 26 39.0**	**-0.5**
	0.9nm,0.8s,mb3.7,baz=301,slow=7.3,SNR=6.8								
VNDA	**Vanda**	**72.72**	**170**	*e*P		**P**	**03 26 39.1**	**-0.5**
	1.3nm,1.0s,mb3.8								
BRTR	**Keskin Array B**	**85.62**	**311**	P		**P**	**03 27 51.1**	**+1.1**
	0.3nm,0.6s,mb3.7,baz=146,slow=8.7,SNR=2.5								

IDC ***12*** *03:18:52.4±1.2,23.16S×175.47W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.9/14,mbtmp3.8/5,MS3.7/2,Ms1 3.7/2, ms1mx3.0/27,Error ellipse: s-maj=47.3km s-min=29.2km az=156.0*

ISCJB ***12*** *03:18:56.4±1.0,233S±02×1755W±02,h35km,mb4.1/9, MS3.6/2,Error ellipse: s-maj=27.8km s-min=17.9km az=51.0*

NEIC ***12*** *03:18:59.5±0.7,2320S×17550W,h50km,mb4.4/5,Error ellipse: s-maj=18.3km s-min=15.7km az=192.0*

ISC 12 03:18:58.0±1.0,233S±02×1755W±02,h35km,n19, σ0°50/13,mb4.1/9,MS3.6/2,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**23.86**	**95**	*e*LR			LR	03 29 10.1	
	188nm,23.8s								
PPT	**Papeete**	**24.89**	**82**	*e*LR			LR	03 29 38.2	
	134nm,22.0s								
PPT	**Papeete**	**24.89**	**82**	LR			LR	03 31 28.7	
	comp=Z,133nm,19.1s,MS3.5,baz=268,slow=30								
CTAO	**Charters Tower**	**35.66**	**268**	*e*P			**P**	**03 25 53.2**	**+0.6**
	6.0nm,1.0s,mb4.5								
RKT	**Rikitea**	**37.12**	**98**	*e*LR			LR	03 35 19.3	
	90nm,22.8s								
PMG	**Port Moresby**	**38.30**	**285**	*e*P			**P**	**03 26 16.0**	**+0.9**
	11nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**38.82**	**248**	P			**P**	**03 26 19.3**	**-0.2**
	1.7nm,0.6s,mb3.8,baz=78,slow=9.3,SNR=2.7								
ASAR	**Alice Springs**	**46.25**	**259**	P			**P**	**03 27 19.8**	**0.0**
	1.5nm,0.9s,mb3.9,baz=92,slow=8.5,SNR=11								
ASAR					LR		LR	03 45 47.5	
	comp=Z,102nm,19.8s,MS3.8,baz=243,slow=35								
WB2	**Warramunga Arr**	**46.60**	**264**	*e*P			**P**	**03 27 21.7**	**-0.9**
WRA	**Warramunga Arr**	**46.62**	**264**	P			**P**	**03 27 22.2**	**-0.5**
	1.8nm,0.7s,mb4.1,baz=101,slow=8.3,SNR=21								
SBA	**Scott Base**	**55.29**	**185**	*e*P			**P**	**03 28 28.2**	**+0.3**
	2.2nm,1.0s,mb4.1								
VNDA	**Vanda**	**55.39**	**186**	P			**P**	**03 28 28.7**	**+0.1**
	0.5nm,0.8s,mb3.6,baz=358,slow=6.1,SNR=3.6								
VNDA	**Vanda**	**55.39**	**186**	*e*P			**P**	**03 28 28.9**	**+0.3**
	2.0nm,1.1s,mb4.1								
CASY	**Casey**	**62.50**	**206**	*e*P			**P**	**03 29 17.4**	**-0.5**
	3.9nm,1.0s,mb4.5								
VNA3	**Neumayer Olymp**	**85.22**	**175**	*e*			**P**	**03 31 30.8**	**-0.1**
VNA2	**Neumayer--Watz**	**85.69**	**176**	*e*			**P**	**03 31 33.7**	**+0.5**
	baz=207,slow=2.8								
VNA2				*e*			pP	03 31 42.7	-1.6
TXAR	**Lajitas Array**	**86.59**	**56**	P			**P**	**03 31 37.3**	**-0.3**
	0.1nm,0.3s,mb3.6,baz=196,slow=6.0,SNR=4.2								
AKASG	**Malin Array Be**	**146.57**	**331**	PKPbc		PKPbc	PKPbc	03 38 34.5	-1.2
	0.7nm,0.5s,baz=38,slow=3.2,SNR=5.1								
BRTR	**Keskin Array B**	**150.44**	**311**	PKPbc		PKPbc	PKPbc	03 38 46.6	+0.8
	0.6nm,0.7s,baz=146,slow=3.1,SNR=4.4								

ISCJB ***12*** *03:35:52.2±6.1,767S±008×1190E±0.1,h2km±39km, mb4.5/24,MS3.4/4,Error ellipse: s-maj=20.8km s-min=9.6km az=111.2*

IDC ***12*** *03:35:53.9±0.6,768S×11894E,h0km,mb4.2/10, mb1 4.3/12,mb1mx4.2/21,mbtmp4.2/12,ML4.0/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/29,Error ellipse: s-maj=37.1km s-min=13.7km az=60.0*

NEIC ***12*** *03:35:57.9±3.0,772S×11891E,h28km±21km,mb4.5/11, Error ellipse: s-maj=14.7km s-min=6.7km az=55.0*

ISC 12 03:35:57.8±4.0,773S±008×1190E±01,h26km±29km,n44, σ0°63/40,mb4.5/24,MS3.4/4,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**148**	*e*P			**Pn**	**03 38 48.8**	**-1.0**
	6.3nm,0.6s								
FITZ				*e*S			**Sn**	**03 40 58.2**	**-6.6**
FITZ	**Fitzroy Crossi**	**12.19**	**148**	Pn			**Pn**	**03 38 48.5**	**-1.3**
	0.3nm,0.3s,baz=344,slow=6.2,SNR=11								
FITZ				Sn			**Sn**	**03 40 59.8**	**-5.0**
	0.8nm,0.3s,baz=218,slow=19,SNR=11								
FITZ				LR			LR	03 43 45.1	
	comp=Z,85nm,20.6s,baz=325,slow=38								
MBWA	**Marble Bar**	**13.38**	**177**	*e*Pn			**Pn**	**03 39 05.9**	**0.0**
MBWA				*e*Sn			Sx	03 41 20.9	
WRA	**Warramunga Arr**	**19.23**	**131**	P			**Pn**	**03 40 20.4**	**-0.6**
	1.1nm,0.3s,baz=305,slow=12,SNR=46								
WRA				S			Sx	03 43 45.7	
	0.1nm,0.3s,baz=313,slow=23,SNR=3.6								
WB2	**Warramunga Arr**	**19.23**	**131**	*e*P			**Pn**	**03 40 20.5**	**-0.6**
AS31	**Alice Springs**	**21.37**	**140**	*e*P			**P**	**03 40 43.9**	**+0.7**
ASAR	**Alice Springs**	**21.37**	**140**	P			**P**	**03 40 44.0**	**+0.8**
	16nm,0.6s,mb4.5,baz=306,slow=9.3,SNR=52								
ASAR				PcP			PcP	03 44 46.1	-0.3
	0.7nm,0.6s,baz=342,slow=1.1,SNR=5.6								
KULM	**Kulim**	**22.38**	**305**	*e*P			**P**	**03 40 54.2**	**+0.2**
PSI	**Prapat**	**22.56**	**297**	P			**P**	**03 40 56.4**	**+0.5**
	2.2nm,0.4s,mb3.9,baz=239,slow=6.3,SNR=7.5								
PSI				LR			LR	03 51 51.0	
	comp=Z,103nm,18.5s,MS3.3,baz=232,slow=43								
PSI	**Prapat**	**22.56**	**297**	P			**P**	**03 40 56.4**	**+0.5**
PSI				LR			LR	03 51 51.0	
KLBR	**Kellerberrin**	**23.77**	**183**	*e*P			**P**	**03 41 07.4**	**-0.8**
	20nm,1.2s,mb4.4								
FORT	**Forrest**	**24.46**	**161**	*e*P			**P**	**03 41 15.1**	**+0.5**
	29nm,0.8s,mb4.8								
NWAO	**Narrogin (SRO)**	**25.13**	**183**	P			**P**	**03 41 20.6**	**0.0**
	5.3nm,0.8s,mb4.1,baz=346,slow=8.4,SNR=6.1								
CTA	**Charters Tower**	**29.15**	**118**	LR			LR	03 55 17.1	
	comp=Z,57nm,18.4s,MS3.2,baz=59,slow=40								
CTAO	**Charters Tower**	**29.15**	**118**	*e*P			**P**	**03 41 57.7**	**+0.9**
	3.2nm,0.8s,mb4.1								
STKA	**Stephens Creek**	**31.96**	**142**	P			**P**	**03 42 22.7**	**+1.1**
	7.1nm,0.6s,mb4.7,baz=311,slow=9.3,SNR=25								
STKA				PcP			PcP	03 45 11.2	-0.1
	2.1nm,0.5s,baz=299,slow=2.4,SNR=4.5								
STKA				LR			LR	03 56 21.7	
	comp=Z,54nm,18.8s,MS3.3,baz=178,slow=38								
STKA	**Stephens Creek**	**31.96**	**142**	*e*P			**P**	**03 42 22.3**	**+0.7**
STKA				PcP			PcP	03 45 11.2	-0.1
STKA				LR			LR	03 56 21.7	
GUN	**Gumba**	**47.72**	**319**	*e*P			**P**	**03 44 33.3**	**+0.9**
	26nm,0.7s,mb5.3								
PKI	**Pulchoki**	**47.80**	**319**	*e*P			**P**	**03 44 34.1**	**+1.1**
DMN	**Daman**	**48.02**	**318**	*e*P			**P**	**03 44 35.2**	**+0.5**
	23nm,0.9s,mb5.2								
KKN	**Kakani**	**48.03**	**319**	*e*P			**P**	**03 44 35.1**	**+0.3**
	16nm,0.8s,mb5.1								
GKN	**Gorkha**	**48.60**	**318**	*e*P			**P**	**03 44 39.2**	**+0.1**
KOLN	**Koldanda**	**49.13**	**317**	*e*P			**P**	**03 44 43.3**	**+0.1**
	18nm,0.8s,mb5.2								
SONM	**Songino Array**	**56.42**	**350**	P			**P**	**03 45 37.9**	**+0.8**
	0.9nm,0.8s,mb3.8,baz=167,slow=7.3,SNR=5.4								
MK31	**Makanchi Array**	**63.31**	**333**	*e*P			**P**	**03 46 24.5**	**0.0**
MKAR	**Makanchi Array**	**63.31**	**333**	P			**P**	**03 46 24.6**	**+0.1**
	2.8nm,0.6s,mb4.5,baz=140,slow=7.6,SNR=26								
AAK	**Ala-Archa**	**64.42**	**325**	*e*P			**P**	**03 46 31.1**	**-0.6**
	2.1nm,0.7s,mb4.3								
KURK	**Kurchatov**	**67.84**	**334**	*e*P			**P**	**03 46 53.0**	**-0.7**
	4.6nm,0.9s,mb4.5								
MAW	**Mawson**	**70.41**	**200**	P			**P**	**03 47 10.0**	**+0.3**
	1.4nm,0.4s,mb4.3,baz=95,slow=11,SNR=4.4								
BVAR	**Borovoye Array**	**73.16**	**332**	P			**P**	**03 47 25.5**	**-0.7**
	1.8nm,0.7s,mb4.1,baz=134,slow=8.5,SNR=11								
BRVK	**Borovoye**	**73.23**	**332**	*e*P			**P**	**03 47 25.8**	**-0.8**
	1.7nm,0.6s,mb4.2								
VNDA	**Vanda**	**73.24**	**171**	P			**P**	**03 47 26.8**	**+0.2**
	1.5nm,0.8s,mb4.0,baz=316,slow=5.9,SNR=12								
VNDA	**Vanda**	**73.24**	**171**	*e*P			**P**	**03 47 26.8**	**+0.2**
	2.3nm,0.8s,mb4.2								
VNDA				*e*pP			pP	03 47 38.8	+3.9
CHKZ	**Chkalovo**	**73.47**	**332**	*e*P			**P**	**03 47 27.0**	**-1.0**
	7.1nm,1.1s,mb4.5								
ZRNK	**Zerenda**	**73.77**	**331**	*e*P			**P**	**03 47 29.0**	**-0.7**
	6.3nm,1.1s,mb4.5								
AKTK	**Aktyubinsk**	**78.16**	**325**	P			**P**	**03 47 54.3**	**-0.5**
AKTO	**Aktyubinsk**	**78.16**	**325**	P			**P**	**03 47 54.3**	**-0.5**
	1.0nm,0.6s,mb3.9,baz=170,slow=1.6,SNR=3.9								
LSZ	**Lusaka**	**88.73**	**255**	*e*P			**P**	**03 48 48.5**	**-0.6**
	2.3nm,0.8s,mb4.6								

PPT	**Papeete**	**89.09**	**107**	LR			LR	04 21 38.5	
	comp=Z,55nm,20.9s,MS4.0,baz=208,slow=31								
SNAA	**Sanae**	**92.21**	**196**	*e*P			**P**	**03 49 05.4**	**+0.2**
	1.4nm,0.9s,mb4.3								
TOA0	**Torodi Ar. Sit**	**118.19**	**281**	*e*PKPdf		PKPdf	PKPdf	03 54 41.3	-1.3
TORD	**Torodi Ar. Bea**	**118.19**	**281**	PKP		PKPdf	PKPdf	03 54 42.1	-0.5
	0.2nm,0.6s,baz=324,slow=0.7,SNR=4.2								
LVC	**Limon Verde**	**148.88**	**166**	*e*PKPbc		PKPbc	PKPbc	03 55 45.0	+1.9
LPAZ	**La Paz**	**155.13**	**164**	PKPab		PKPab	PKPab	03 56 16.6	+3.3
	0.8nm,0.8s,baz=172,slow=3.5,SNR=4.7								

NEIC ***12*** *04:54:43.9±2.8,2169N×14290E,h160km±39km,mb4.1/6, Error ellipse: s-maj=85.2km s-min=8.4km az=76.0*

ISCJB ***12*** *04:54:44.3±3.5,218N±02×1432E±08,h193km±43km, mb3.6/11,Error ellipse: s-maj=123.0km s-min=14.5km az=151.7*

IDC ***12*** *04:54:44.4±7.5,2172N×14304E,h168km±88km,mb3.2/6, mb1 3.3/7,mb1mx3.2/21,mbtmp3.2/7,Error ellipse: s-maj=157.6km s-min=18.0km az=73.0*

ISC 12 04:54:44.8±3.7,218N±02×1432E±07,h176km±44km,n14, σ0°25/14,mb3.8/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.35**	**345**	P			**Pn**	**04 58 12.2**	**0.0**
	0.1nm,0.3s,baz=174,slow=14,SNR=2.6								
KSRS	**Korea Array**	**20.45**	**323**	P			**P**	**04 59 08.8**	**+0.2**
	2.1nm,0.8s,baz=143,slow=10,SNR=7.1								
SONM	**Songino Array**	**39.27**	**320**	P			**P**	**05 01 55.8**	**-0.6**
	0.8nm,0.6s,mb3.5,baz=130,slow=7.6,SNR=4.9								
WRAB	**Tennant Creek**	**42.32**	**192**	*e*P			**P**	**05 02 21.2**	**-0.1**
	3.8nm,0.9s,mb4.0								
WRA	**Warramunga Arr**	**42.33**	**192**	P			**P**	**05 02 21.1**	**-0.2**
	1.2nm,0.9s,mb3.5,baz=13,slow=8.6,SNR=6.3								
ASAR	**Alice Springs**	**46.04**	**192**	P			**P**	**05 02 50.9**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=19,slow=9.2,SNR=7.9								
STKA	**Stephens Creek**	**53.35**	**182**	P			**P**	**05 03 46.2**	**+0.2**
	1.4nm,0.8s,mb3.7,baz=344,slow=7.4,SNR=3.3								
STKA	**Stephens Creek**	**53.35**	**182**	P			**P**	**05 03 46.2**	**+0.2**
MKAR	**Makanchi Array**	**54.63**	**313**	P			**P**	**05 03 55.7**	**+0.5**
	0.5nm,0.7s,mb3.4,baz=92,slow=8.5,SNR=5.5								
KURK	**Kurchatov**	**57.41**	**317**	*e*P			**P**	**05 04 14.6**	**-0.3**
	3.3nm,1.1s,mb4.1								
AAK	**Ala-Archa**	**60.11**	**308**	*e*P			**P**	**05 04 33.6**	**+0.1**
	0.9nm,0.6s,mb3.8								
CHKZ	**Chkalovo**	**62.47**	**320**	*e*P			**P**	**05 04 49.4**	**0.0**
	1.5nm,0.8s,mb3.9								
BRVK	**Borovoye**	**62.67**	**320**	*e*P			**P**	**05 04 50.6**	**-0.1**
	3.0nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**63.44**	**319**	*e*P			**P**	**05 04 56.0**	**+0.2**
	2.5nm,0.8s,mb4.1								

LDG ***12*** *05:17:21.5±0.2,1809S×16905E,h140km,Mb4.5/2,Error ellipse: s-maj=20.2km s-min=3.9km az=109.0*

IDC ***12*** *05:17:27.7±0.8,1878S×16894E,h200km±7km,mb4.3/18, mb1 4.4/21,mb1mx4.4/24,mbtmp4.4/21,MS3.3/4, Ms1 3.3/4,ms1mx2.9/26,Error ellipse: s-maj=10.6km s-min=10.1km az=116.0*

ISCJB ***12*** *05:17:28.2±0.8,1885S±005×16889E±004,h218km±7km, mb4.5/31,Error ellipse: s-maj=9.5km s-min=5.5km az=125.1*

NEIC ***12*** *05:17:29.0±1.1,1879S×16898E,h217km±10km,mb4.6/19, Error ellipse: s-maj=8.6km s-min=7.8km az=210.0*

BJI ***12*** *05:17:32.0,1802S×16865E,h217km,mB4.8,mb4.8*

ISC 12 05:17:29.1±0.8,1888S±005×16894E±004,h214km±7km, h188km±4.0km:pP-P,n200,σ0°60/179,mb4.5/31,58C-47D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.94**	**216**	*e*P			**Pn**	**05 18 30.6**	**-0.1**
DZM				*e*S			**S**	**05 19 18.4**	**-0.8**
DZM	**Mont Dzumac**	**3.94**	**216**	P			**Pn**	**05 18 30.5**	**-0.2**
	41nm,0.3s,baz=58,slow=17,SNR=232								
DZM					S		**S**	**05 19 17.7**	**-1.5**
	26nm,0.3s,baz=50,slow=21,SNR=6.1								
DZM					LR		LR	05 19 32.4	
	comp=Z,284nm,19.5s,baz=37,slow=31								
HNR	**Honiara**	**12.81**	**316**	P			**Pn**	**05 20 22.6**	**-1.0**
	14nm,0.3s,baz=236,slow=0.3,SNR=13								
HNR	**Honiara**	**12.81**	**316**	*e*Pn			**Pn**	**05 20 23.2**	**-0.5**
	182nm,0.8s								
AFI	**Afiamalu**	**19.15**	**78**	P			**P**	**05 21 36.5**	**+0.2**
	2.5nm,0.3s,baz=302,slow=15,SNR=4.7								
ARMA	**Armidale**	**19.45**	**231**	*e*P			**P**	**05 21 44.8**	**+5.2**
URZ	**Urewera**	**20.58**	**161**	P			**P**	**05 21 53.6**	**+2.0**
	44nm,0.5s,baz=346,slow=2.1,SNR=36								
CTA	**Charters Tower**	**21.42**	**263**	*e*P			**P**	**05 22 02.0**	**+1.6**
	9.5nm,0.6s,mb4.5								
CTA	**Charters Tower**	**21.42**	**263**	P			**P**	**05 22 01.1**	**+0.7**
	11nm,0.6s,mb4.6,baz=90,slow=11,SNR=18								
CTA					pP			05 22 31.9	
	6.9nm,0.8s,baz=74,slow=14,SNR=3.3								
CTA					S		**S**	**05 25 45.8**	**+2.2**
	1.2nm,0.4s,baz=257,slow=15,SNR=3.3								
CTA					LR		LR	05 29 42.8	
	comp=Z,65nm,18.9s,baz=49,slow=34								
CTAO	**Charters Tower**	**21.42**	**263**	*e*P			**P**	**05 22 01.4**	**+0.9**
	11nm,0.6s,mb4.6								
PMG	**Port Moresby**	**23.10**	**291**	P			**P**	**05 22 16.8**	**+0.8**
	34nm,0.7s,mb5.0,baz=84,slow=5.8,SNR=13								
PMG	**Port Moresby**	**23.10**	**291**	*e*P			**P**	**05 22 16.6**	**+0.5**
	38nm,0.8s,mb5.0								
CNB	**Canberra Magne**	**23.84**	**223**	*e*P			**P**	**05 22 24.6**	**+1.8**
	36nm,0.8s,mb5.0								
RPZ	**Rata Peaks**	**24.83**	**176**	P			**P**	**05 22 32.6**	**+0.9**
	20nm,0.6s,mb5.0,baz=319,slow=1.1,SNR=14								
STKA	**Stephens Creek**	**27.80**	**237**	*e*P			**P**	**05 22 59.2**	**+0.9**
	4.5nm,0.5s,mb4.3								
STKA	**Stephens Creek**	**27.80**	**237**	P			**P**	**05 22 59.8**	**+1.4**
	5.4nm,0.5s,mb4.4,baz=72,slow=9.4,SNR=20								
STKA					pP		pP	05 23 37.3	-3.9
	7.6nm,1.0s,baz=60,slow=7.0,SNR=2.0								
STKA					PcP		PcP	05 26 09.2	+0.4
	4.5nm,0.8s,baz=114,slow=5.7,SNR=4.3								
WB2	**Warramunga Arr**	**32.60**	**262**	*e*P			**P**	**05 23 40.0**	**-0.5**
WB2				*e*S			**S**	**05 28 37.7**	**-2.4**
WRAB	**Tennant Creek**	**32.61**	**262**	*e*P			**P**	**05 23 39.3**	**-1.2**
	4.1nm,0.3s,mb4.4								
WRA	**Warramunga Arr**	**32.62**	**262**	P			**P**	**05 23 40.2**	**-0.4**
	3.3nm,0.3s,mb4.3,baz=80,slow=6.1,SNR=71								
WRA					PcP		PcP	05 26 21.0	-0.5
	1.0nm,0.7s,baz=104,slow=3.3,SNR=4.5								
WRA					S		**S**	**05 28 38.9**	**-1.4**
	3.4nm,0.8s,baz=92,slow=15,SNR=15								
WRA					ScP		ScP	05 29 46.9	+2.0
	2.5nm,0.9s,baz=88,slow=3.5,SNR=8.4								
AS31	**Alice Springs**	**32.94**	**255**	↑*i*P			**P**	**05 23 43.6**	**+0.2**
AS31				*e*S			**S**	**05 28 44.7**	**-0.6**
ASAR	**Alice Springs**	**32.94**	**255**	P			**P**	**05 23 43.7**	**+0.3**
	7.7nm,0.4s,mb4.6,baz=82,slow=8.7,SNR=300								
ASAR					pP		pP	05 24 21.5	-5.5
	3.0nm,0.6s,baz=80,slow=9.6,SNR=1.7								
ASAR					S		**S**	**05 28 45.5**	**+0.2**
	4.4nm,0.9s,baz=88,slow=16,SNR=21								
ASAR					ScP		ScP	05 29 46.7	+0.7
	1.6nm,1.1s,baz=98,slow=3.4,SNR=2.5								
ASAR					LR		LR	05 35 51.6	
	comp=Z,65nm,18.3s,baz=225,slow=34								
ASPA	**Alice Springs**	**32.94**	**255**	↑*i*P			**P**	**05 23 43.6**	**+0.1**
ASPA				*e*S			**S**	**05 28 44.7**	**-0.7**
FORT	**Forrest**	**38.74**	**244**	*e*P			**P**	**05 24 33.2**	**+0.5**
	12nm,0.9s,mb4.4								
GUMO	**Guam**	**40.04**	**322**	P			**P**	**05 24 42.9**	**-0.5**
	51nm,0.4s,mb5.3,baz=185,slow=20,SNR=4.3								
FITZ	**Fitzroy Crossi**	**40.99**	**264**	↑*i*P			**P**	**05 24 51.8**	**+0.6**
	20nm,0.9s,mb4.5								
FITZ				*e*			pP	05 25 33.7	-2.5
FITZ	**Fitzroy Crossi**	**40.99**	**264**	P			**P**	**05 24 51.6**	**+0.4**
	12nm,0.8s,mb4.4,baz=109,slow=7.1,SNR=22								
FITZ					pP		pP	05 25 34.0	-2.2
	14nm,0.9s,baz=105,slow=7.9,SNR=2.7								
KKM	**Kota Kinabalu**	**57.54**	**290**	*e*P			**P**	**05 26 56.9**	**+0.7**
VNDA	**Vanda**	**58.78**	**182**	P			**P**	**05 27 04.5**	**-0.3**
	2.9nm,0.7s,mb4.0,baz=359,slow=7.4,SNR=30								
VNDA	**Vanda**	**58.78**	**182**	*e*P			**P**	**05 27 04.2**	**-0.6**
	2.0nm,0.6s,mb3.9								
SBA	**Scott Base**	**59.02**	**181**	*e*P			**P**	**05 27 07.1**	**+0.6**
	27nm,0.9s,mb4.9								
CASY	**Casey**	**60.34**	**203**	*e*P			**P**	**05 27 15.3**	**-0.2**
	16nm,0.7s,mb4.8								
JNU	**Nakatsue**	**63.21**	**325**	P			**P**	**05 27 34.8**	**+0.2**

	19nm,0.7s,mb4.8,baz=217,slow=19,SNR=6.9								
ASAJ	**Asahikawa**	**67.16**	**340**	P			**P**	**05 27 59.6**	**-0.4**
	20nm,0.9s,mb4.8,baz=63,slow=25,SNR=4.7								
KSRS	**Korea Array**	**68.05**	**326**	LR			LR	05 53 17.5	
	comp=Z,18nm,19.7s,baz=320,slow=32								
QSPA	**South Pole Qui**	**71.17**	**180**	*e*P			**P**	**05 28 24.4**	**-0.2**
	20nm,1.0s,mb4.7								
CN2	**Changchun**	**74.00**	**329**	*e*P			**P**	**05 28 40.6**	**-0.6**
CN2					AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8								
BJT	**Baijiatuau**	**76.47**	**321**	*e*P			**P**	**05 28 55.4**	**+0.1**
	comp=Z,8.9nm,0.5s,mb4.7								
KMI	**Kunming**	**77.84**	**302**	P			**P**	**05 29 04.6**	**+1.7**
KMI					AMB		AMB		
	comp=Z,14nm,0.7s,mb4.7								
KMI	**Kunming**	**77.84**	**302**	P			**P**	**05 29 04.6**	**+1.7**
	comp=Z,14nm,0.7s,mb4.7								
CHTO	**Chiang Mai**	**78.24**	**295**	*e*P			**P**	**05 29 05.7**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.0								
MAW	**Mawson**	**78.66**	**202**	P			**P**	**05 29 08.2**	**+0.8**
	comp=Z,16nm,0.7s,mb4.8,baz=118,slow=6.2,SNR=27								
CD2	**Chengdu**	**79.79**	**308**	*e*P			**P**	**05 29 14.9**	**+1.4**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6								
CD2					AMB		AMB		
	comp=Z,30nm,6.2s								
SYO	**Syowa Base**	**85.20**	**196**	↑*e*P			**P**	**05 29 40.3**	**-1.1**
SYO	**Syowa Base**	**85.20**	**196**	↑*e*PcP			PcP	05 29 43.2	-1.0
GASB	**Alder Springs**	**86.25**	**46**	⇓P			**P**	**05 29 47.0**	**+0.4**
	baz=86								
O02C	**Red Bluff**	**86.45**	**45**	⇓P			**P**	**05 29 47.8**	**+0.3**
	baz=86								
SUTB	**Sutter Butte**	**86.69**	**47**	⇑P			**P**	**05 29 48.1**	**-0.6**
	baz=87								
SONM	**Songino Array**	**86.76**	**323**	P			**P**	**05 29 49.1**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.2,baz=154,slow=6.5,SNR=25								
SONM					pP		pP	05 30 35.2	-6.0
	comp=Z,1.8nm,1.0s,baz=148,slow=3.1,SNR=3.2								
WDC	**Whiskeytown Da**	**86.81**	**45**	⇓P			**P**	**05 29 49.0**	**-0.3**
	baz=87								
S05C	**Merced**	**86.86**	**49**	⇑P			**P**	**05 29 49.6**	**+0.1**
	baz=87								
O03C	**Acton Hollow,**	**86.88**	**46**	⇓P			**P**	**05 29 49.3**	**-0.3**
	baz=87								
M02C	**Callahan**	**86.98**	**44**	⇑P			**P**	**05 29 50.2**	**0.0**
	baz=87								
ARVC	**Arvin**	**86.98**	**51**	⇑P			**P**	**05 29 49.4**	**-0.7**
	baz=87								
ORV	**Oroville**	**87.04**	**47**	⇓P			**P**	**05 29 50.0**	**-0.4**
	baz=87								
CMB	**Columbia Colle**	**87.13**	**48**	⇓P			**P**	**05 29 50.5**	**-0.3**
	baz=87								
T06C	**Millerton Lake**	**87.16**	**49**	⇓P			**P**	**05 29 51.0**	**0.0**
	baz=87								
YBH	**Yreka Blue Hor**	**87.24**	**44**	⇑P			**P**	**05 29 51.1**	**-0.2**
	baz=87								
M03C	**McCloud**	**87.42**	**45**	⇑P			**P**	**05 29 51

Y13A	**Salome**	**90.23**	**54**	P		**P**	**05 30 05.9**	**+0.6**
	baz=90,SNR=5.8							
O09A	**Fish Creek Ran**	**90.29**	**47**	⇑P		**P**	**05 30 05.8**	**+0.1**
	baz=90							
N09A	**Rock Creek Ran**	**90.34**	**47**	⇓P		**P**	**05 30 06.1**	**+0.2**
	baz=90							
F06A	**Goldendale**	**90.35**	**41**	⇑P		**P**	**05 30 06.1**	**+0.2**
	baz=90							
L08A	**Fields**	**90.35**	**45**	P		**P**	**05 30 06.2**	**+0.2**
	baz=90,SNR=11							
VNA2	**Neumayer--Watz**	**90.40**	**181**	*e*		**P**	**05 30 05.0**	**-1.1**
	baz=188,slow=4.4							
VNA2				*e*			05 30 06.2	
VNA2				*e*			05 30 09.3	
VNA2				*e*			05 30 19.3	
I07A	**Izee**	**90.41**	**43**	P		**P**	**05 30 06.6**	**+0.4**
	baz=90,SNR=5.0							
K08A	**Mann Creek Ran**	**90.49**	**45**	P		**P**	**05 30 06.9**	**+0.3**
	baz=90,SNR=8.9							
X13A	**Yucca**	**90.52**	**54**	⇓P		**P**	**05 30 06.5**	**-0.2**
	baz=90							
P10A	**Eureka**	**90.58**	**48**	⇑P		**P**	**05 30 07.0**	**0.0**
	baz=91							
H07A	**Lands Inn, Kim**	**90.59**	**43**	P		**P**	**05 30 06.8**	**-0.2**
	baz=91,SNR=6.6							
M09A	**Marrel Ranch,**	**90.64**	**46**	⇑P		**P**	**05 30 07.9**	**+0.6**
	baz=91							
C05A	**Tolt Reservoir**	**90.67**	**39**	⇓P		**P**	**05 30 07.1**	**-0.4**
	baz=91							
W13A	**Hualapai Mount**	**90.67**	**53**	⇑P		**P**	**05 30 07.8**	**+0.4**
	baz=91							
VNA1	**Neumayer--Stat**	**90.69**	**181**	⇓*i*		**P**	**05 30 06.6**	**-0.9**
VNA1				*e*			05 30 08.0	
VNA1				*e*			05 30 11.4	
VNA1				*e*			05 30 20.7	
B05A	**Bryant**	**90.70**	**39**	⇓P		**P**	**05 30 07.5**	**0.0**
	baz=91							
U12A	**Valley of Fire**	**90.70**	**52**	⇑P		**P**	**05 30 08.1**	**+0.5**
	baz=91							
L09A	**Wilkinson Ranc**	**90.74**	**46**	P		**P**	**05 30 08.1**	**+0.3**
	baz=91,SNR=5.8							
Z14A	**Wintersburg**	**90.74**	**55**	⇑P		**P**	**05 30 08.1**	**+0.3**
	baz=91							
J08A	**Circle Bar Ran**	**90.77**	**44**	⇑P		**P**	**05 30 07.6**	**-0.3**
	baz=91,SNR=5.9							
G07A	**Ruggs Ranch, H**	**90.82**	**42**	⇓P		**P**	**05 30 07.8**	**-0.3**
	baz=91							
Q11A	**Duckwater**	**90.84**	**49**	P		**P**	**05 30 08.4**	**+0.3**
	baz=91,SNR=5.4							
Y14A	**Wickenburg**	**90.91**	**54**	⇑P		**P**	**05 30 08.5**	**0.0**
	baz=91							
F07A	**Phinny Hill Vi**	**90.94**	**41**	⇓P		**P**	**05 30 08.4**	**-0.3**
	baz=91							
I08A	**Drewsey**	**90.94**	**44**	⇑P		**P**	**05 30 08.9**	**+0.2**
	baz=91							
D06A	**Cle Elum**	**90.95**	**40**	⇓P		**P**	**05 30 08.2**	**-0.5**
	baz=91							
K09A	**Rome**	**90.98**	**45**	P		**P**	**05 30 08.7**	**-0.2**
	baz=91,SNR=5.9							
115A	**Sonoran Desert**	**91.05**	**56**	⇓P		**P**	**05 30 09.2**	**0.0**
	baz=91							
H08A	**Prairie City**	**91.14**	**43**	⇓P		**P**	**05 30 09.1**	**-0.4**
	baz=91							
X14A	**Yava**	**91.19**	**54**	P		**P**	**05 30 10.7**	**+0.8**
	baz=91,SNR=5.2							
J09A	**Fry Pan Ranch,**	**91.24**	**44**	P		**P**	**05 30 10.0**	**-0.1**
	baz=91,SNR=6.7							
E07A	**Sunnyside**	**91.28**	**41**	⇓P		**P**	**05 30 10.6**	**+0.3**
	baz=91							
G08A	**Pilot Rock**	**91.28**	**42**	⇓P		**P**	**05 30 10.0**	**-0.3**
	baz=91,SNR=5.2							
M10A	**I.L. Ranch, Tu**	**91.30**	**46**	P		**P**	**05 30 10.8**	**+0.5**
	baz=91,SNR=5.8							
W14A	**Seligman**	**91.33**	**53**	P		**P**	**05 30 11.3**	**+0.8**
	baz=91,SNR=5.6							
116A	**Eloy**	**91.41**	**56**	⇓P		**P**	**05 30 11.3**	**+0.5**
	baz=91							
I09A	**Lost Marbles R**	**91.51**	**44**	⇓P		**P**	**05 30 10.9**	**-0.4**
	baz=92							
N11A	**Elko Archery C**	**91.57**	**47**	⇑P		**P**	**05 30 10.9**	**-0.7**
	baz=92							
F08A	**Pendleton**	**91.62**	**42**	⇓P		**P**	**05 30 11.2**	**-0.6**
	baz=92							
P12A	**McGill**	**91.62**	**49**	⇑P		**P**	**05 30 11.5**	**-0.3**
	baz=92							
X15A	**Humboldt**	**91.70**	**54**	P		**P**	**05 30 12.6**	**+0.4**
	baz=92,SNR=11							
M11A	**Holland Ranch,**	**91.78**	**47**	⇓P		**P**	**05 30 13.0**	**+0.4**
	baz=92							
W15A	**Williams**	**91.93**	**54**	⇑P		**P**	**05 30 13.8**	**+0.5**
	baz=92							
B07A	**Winthrop**	**91.96**	**39**	⇑P		**P**	**05 30 13.1**	**-0.3**
	baz=92							
A07A	**Ashnola River,**	**92.07**	**38**	⇓P		**P**	**05 30 13.6**	**-0.3**
	baz=92							
N12A	**Clover Valley,**	**92.07**	**47**	⇓P		**P**	**05 30 14.0**	**+0.1**
	baz=92							
D08A	**Wollman Farm,**	**92.07**	**41**	⇓P		**P**	**05 30 13.7**	**-0.2**
	baz=92							
F09A	**S2 Ranch, Elgi**	**92.13**	**42**	⇑P		**P**	**05 30 14.2**	**+0.1**
	baz=92							
M12A	**Wells**	**92.38**	**47**	⇑P		**P**	**05 30 15.2**	**-0.1**
	baz=92							
D09A	**Jones Farm, Ri**	**92.45**	**41**	⇑P		**P**	**05 30 15.6**	**0.0**
	baz=92							
F10A	**Beach Ranch, E**	**92.67**	**42**	⇓P		**P**	**05 30 17.7**	**+1.0**
	baz=93							
WUAZ	**Wupatki**	**92.74**	**53**	⇑P		**P**	**05 30 17.5**	**+0.5**
	baz=93							
M13A	**Montello**	**92.87**	**47**	⇓P		**P**	**05 30 17.4**	**-0.2**
	baz=93							
H11A	**Donnelly**	**92.94**	**44**	⇑P		**P**	**05 30 18.0**	**+0.1**
	baz=93							
HLID	**Hailey**	**93.55**	**45**	⇑P		**P**	**05 30 21.0**	**+0.3**
	baz=94							
NEW	**Newport**	**93.68**	**40**	P		**P**	**05 30 20.4**	**-0.9**
	comp=Z,1.3nm,0.8s,mb4.0,baz=63,slow=4.5,SNR=2.6							
F12A	**Elk City**	**93.85**	**43**	⇑P		**P**	**05 30 21.4**	**-0.7**
	baz=94							
ANMO	**Albuquerque**	**96.33**	**55**	*e*P		**P**	**05 30 31.5**	**-1.9**
	comp=Z,2.6nm,1.2s,mb4.3							
PDAR	**Pinedale Array**	**96.58**	**47**	P		**P**	**05 30 34.4**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.7,baz=202,slow=6.6,SNR=2.7							
TXAR	**Lajitas Array**	**96.85**	**61**	P		**P**	**05 30 35.9**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.3,baz=222,slow=6.0,SNR=19							
TXAR	**Lajitas Array**	**96.85**	**61**	P		**P**	**05 30 35.9**	**+0.2**
SMCO	**Snowmass**	**97.27**	**51**	*e*P		**P**	**05 30 36.2**	**-1.4**
	comp=Z,0.8nm,0.5s,mb4.2							
MKAR	**Makanchi Array**	**101.28**	**316**	P		Pdif	05 30 56.5	+1.0
	comp=Z,0.7nm,0.5s,baz=93,slow=6.4,SNR=5.6							
MKAR					PKKPbc	PKKPbc	05 47 01.9	-2.1
	comp=Z,0.5nm,0.5s,baz=276,slow=2.9,SNR=5.2							
MKAR	**Makanchi Array**	**101.28**	**316**	P		Pdif	05 30 56.5	+1.0
MKAR					PKKPbc	PKKPbc	05 47 01.9	-2.1
BOSA	**Boshof**	**121.17**	**217**	PKP		PKPdf	05 35 57.0	+0.6
	comp=Z,2.9nm,0.4s,baz=144,slow=0.7,SNR=19							
ARCES	**ARCESS Array B**	**124.65**	**345**	PKP		PKPdf	05 36 00.9	-2.1
	comp=Z,1.0nm,0.4s,baz=70,slow=2.0,SNR=14							
ARCES					PKKPbc	PKKPbc	05 45 44.2	-1.2
	comp=Z,5.5nm,1.0s,baz=241,slow=2.5,SNR=6.5							
ARCES	**ARCESS Array B**	**124.65**	**345**	PKP		PKPdf	05 36 00.9	-2.1
ARCES					PKKPbc	PKKPbc	05 45 44.2	-1.2
FINES	**FINESS Array B**	**130.15**	**338**	SKPbc		SKPbc	05 39 15.8	-0.4
	comp=Z,4.8nm,0.7s,baz=58,slow=5.4,SNR=16							
AKASG	**Malin Array Be**	**135.03**	**324**	SKPbc		SKPbc	05 39 33.3	+0.3
	comp=Z,0.5nm,0.3s,baz=48,slow=4.3,SNR=7.7							
BRTR	**Keskin Array B**	**136.37**	**308**	PKP		PKPdf	05 36 23.9	-1.3
	comp=Z,0.3nm,0.5s,baz=160,slow=3.9,SNR=3.6							
BRTR					SKPab		05 39 44.6	
	comp=Z,0.6nm,0.9s,baz=241,slow=1.3,SNR=3.8							
GERES	**GERESS Array B**	**144.04**	**332**	PKP		PKPdf	05 36 36.8	-2.3
	comp=Z,0.5nm,0.5s,baz=32,slow=5.2,SNR=4.2							
GERES					pPKP	pPKPdf	05 37 31.0	-3.3
	comp=Z,1.0nm,0.9s,baz=108,slow=3.2,SNR=2.1							
GERES					SKPbc	SKPbc	05 39 57.6	+0.1
	comp=Z,1.7nm,0.8s,baz=63,slow=0.3,SNR=5.6							
RCBR	**Riachuelo**	**145.33**	**133**	*e*PKPbc		PKPbc	05 36 40.5	-1.1
CDF	**Champ du Feu**	**147.00**	**337**	*e*PKP1		PKPbc	05 36 45.6	-0.9
	comp=Z,6.7nm,0.8s							
DAVOX	**Davos**	**147.28**	**333**	PKPbc		PKPbc	05 36 47.4	+0.1
	comp=Z,5.9nm,0.5s,baz=232,slow=1.7,SNR=23							
HAU	**Haudompre**	**147.68**	**338**	*e*PKP1		PKPbc	05 36 47.3	-1.0
	comp=Z,5.7nm,0.7s							
CABF	**La Chapelle**	**148.95**	**337**	*e*PKP1		PKPbc	05 36 51.2	-0.4
	comp=Z,5.3nm,0.6s							
FLN	**La Foliniere**	**148.98**	**346**	*e*PKP1		PKPbc	05 36 50.2	-1.5
	comp=Z,24nm,0.8s							
LDF	**La Druitiere**	**149.06**	**346**	*e*PKP1		PKPbc	05 36 50.4	-1.5
LOR	**Lormes**	**149.16**	**340**	*e*PKP1		PKPbc	05 36 51.1	-1.0
	comp=Z,8.4nm,0.8s							
GRR	**Gorron**	**149.42**	**347**	*e*PKP1		PKPbc	05 36 51.5	-1.2
	comp=Z,6.6nm,0.5s							
SSF	**Saint Saulge**	**149.46**	**340**	*e*PKP1		PKPbc	05 36 51.9	-0.9
	comp=Z,5.2nm,0.7s							
LPL	**La Plagne**	**149.61**	**335**	*e*PKP1		PKPbc	05 36 52.9	-0.3
	comp=Z,10nm,0.9s							
LPG	**La Plagne**	**149.62**	**335**	*e*PKP1		PKPbc	05 36 53.0	-0.2
BGF	**Bois d'Agland**	**150.11**	**341**	*e*PKP1		PKPbc	05 36 53.4	-1.0
ORIF	**Oris-en-Rattie**	**150.44**	**335**	*e*PKP1		PKPbc	05 36 54.4	-0.8
	comp=Z,12nm,0.8s							
TCF	**Toulx Ste Croi**	**150.55**	**341**	*e*PKP1		PKPbc	05 36 54.4	-1.1
	comp=Z,4.3nm,0.7s							
PGF	**Pioggiola**	**150.92**	**329**	*e*PKP1		PKPbc	05 36 56.1	-0.2
	comp=Z,44nm,0.8s							
MFF	**Saint Martin d**	**150.93**	**344**	*e*PKP1		PKPbc	05 36 55.0	-1.3
TORD	**Torodi Ar. Bea**	**166.48**	**247**	PKP		PKPdf	05 37 08.5	-0.2
	comp=Z,1.5nm,0.7s,baz=50,slow=0.9,SNR=12							

IDC ***12*** *05:43:58.3±1.2, 9.29S×107.71E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=55.0km s-min=17.9km az=54.0*
ISCJB ***12*** *05:44:01.8±0.9, 92S±02×1079E±02, h35km, mb3.8/10, Error ellipse: s-maj=45.3km s-min=11.6km az=98.7*
NEIC ***12*** *05:44:03.9±0.6, 9.22S×107.84E, h35km, mb4.0/4, Error ellipse: s-maj=30.2km s-min=7.7km az=50.0*

ISC 12 05:44:03.8±0.9, 93S±02×1078E±02, h35km, n13, σ0°38/13, mb3.8/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.43**	**119**	P		**Pn**	**05 48 27.5**	**-0.8**
	0.1nm,0.3s,baz=299,slow=13,SNR=2.5							
WRA	**Warramunga Arr**	**27.75**	**115**	P		**P**	**05 49 49.5**	**+0.5**
	0.8nm,0.6s,mb3.5,baz=291,slow=10,SNR=12							
WRAB	**Tennant Creek**	**27.76**	**115**	*e*P		**P**	**05 49 49.5**	**+0.3**
	1.6nm,0.5s,mb3.9							
ASAR	**Alice Springs**	**28.77**	**123**	P		**P**	**05 49 58.5**	**+0.4**
	0.4nm,0.8s,mb3.2,baz=302,slow=8.6,SNR=6.1							
STKA	**Stephens Creek**	**38.56**	**131**	P		**P**	**05 51 22.8**	**-0.3**
	1.2nm,0.6s,mb3.8,baz=312,slow=14,SNR=4.1							
SONM	**Songino Array**	**56.86**	**359**	P		**P**	**05 53 45.1**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=180,slow=7.9,SNR=6.2							
MK31	**Makanchi Array**	**60.27**	**340**	*e*P		**P**	**05 54 08.5**	**-0.1**
MKAR	**Makanchi Array**	**60.27**	**340**	P		**P**	**05 54 08.4**	**-0.2**
	0.9nm,0.6s,mb4.0,baz=143,slow=7.3,SNR=10							
BVAR	**Borovoye Array**	**69.75**	**337**	P		**P**	**05 55 09.9**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=138,slow=9.1,SNR=4.0							
CHKZ	**Chkalovo**	**70.16**	**338**	*e*P		**P**	**05 55 13.2**	**+0.5**
	2.3nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**70.23**	**336**	*e*P		**P**	**05 55 13.0**	**-0.2**
	0.9nm,0.5s,mb4.0							
VNDA	**Vanda**	**73.61**	**169**	P		**P**	**05 55 33.2**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=316,slow=5.6,SNR=5.8							
VNDA	**Vanda**	**73.61**	**169**	*e*P		**P**	**05 55 33.8**	**+0.4**
	0.7nm,0.7s,mb3.7							

GUC 12 06:22:59.6±0.7, 3027S×7103W, h50km, MD3.9, ML2.8, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.37**	**204**	*e*P		Pn	06 23 09.9	+0.6
OVCH				*i* S		Sn	06 23 17.0	+0.6
OVCH				AML		AML	06 23 17.9	
	comp=N,900nm,0.2s							
LSCH	**La Serena**	**0.41**	**332**	⇑*i* P		Pn	06 23 10.1	+0.3
LSCH				*i* S		Sn	06 23 17.4	+0.4
CMCH	**Combarbala**	**0.90**	**179**	⇑*i* P		Pn	06 23 16.7	+0.7
CMCH				*i* S		Sn	06 23 29.2	+1.2
CMCH				AML		AML	06 23 29.9	
	comp=N,631nm,0.5s							
CHNG	**Los Chungos**	**1.66**	**194**	*e*P		Pn	06 23 26.7	+0.5
CHNG				*i* S		Sn	06 23 49.3	+2.9

NEIC ***12*** *06:58:36.4, 1926N×104.31W, h28km, MD4.2(MEX), After MEX.*

MEX 12 06:58:36.4±1.1, 1926N×10431W, h30km±264km, MD4.2, 1C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CJM	**Chamela**	**0.73**	**289**	⇑*i* P		Pb	06 58 47.9	-2.7
CJM				*i* S		Sb	06 58 57.9	-2.3
SFJM	**Santa Fe**	**1.71**	**44**	*i* P		Pn	06 59 02.0	-2.1
SFJM				*i* S		Sn	06 59 23.0	-2.0
MOIG	**Morelia**	**2.98**	**82**	*i* P		Pn	06 59 20.9	-0.7
MOIG				*i* S		Sn	06 59 53.1	-3.2
MOIG	**Morelia**	**2.98**	**82**	*i* P		Pn	06 59 20.9	-0.7
MOIG				*i* S		Sn	06 59 52.6	-3.7
PLIG	**Platanillo**	**4.64**	**100**	*i* S		Sn	07 00 34.6	-2.7
MEIG	**Mezcala**	**4.64**	**106**	*e*P		Pn	06 59 44.9	+0.4
MEIG				*i* S		Sn	07 00 36.5	-0.9
ACX	**Acapulco**	**4.81**	**119**	*i* P		Pn	06 59 49.0	+2.2
UTMO	**Huajuapan**	**6.34**	**102**	*i* S		Sn	07 01 16.2	-2.9

NEIC ***12*** *07:03:47.1, 1931N×6420W, h36km, MD3.6(RSPR), After RSPR.*

RSPR 12 07:03:47.1, 1931N×6420W, h36km±19km, MD3.6/9, MD3.6/9, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.19**	**217**	⇑*e*P		Pn	07 04 04.3	-2.9
STVI				*e*S		Sn	07 04 16.1	-6.0
CDVI	**St. Croix**	**1.64**	**199**	⇑*e*P		Pn	07 04 12.8	-0.6
CDVI				*e*S		Sn	07 04 31.9	-1.3
MTP	**Monte Pirata**	**1.76**	**227**	⇑*e*P		Pn	07 04 13.9	-1.1
MTP				*e*S		Sn	07 04 34.9	-1.3
CBYP	**Canovanas**	**1.88**	**237**	⇑*e*P		Pn	07 04 15.3	-1.4
CBYP				*e*S		Sn	07 04 38.1	-1.1
CPD	**Cerro la Pandu**	**2.06**	**232**	⇑*e*P		Pn	07 04 18.6	-0.6
CPD				*e*S		Sn	07 04 42.4	-1.3
SJG	**San Juan**	**2.20**	**238**	⇑*e*P		Pn	07 04 19.7	-1.3
SJG				*e*S		Sn	07 04 46.1	-1.0
CELP	**Cerrillos**	**2.57**	**242**	⇑*e*P		Pn	07 04 25.2	-1.0
CELP				*e*S		Sn	07 04 55.6	-0.6
AOPR	**Arecibo Observ**	**2.60**	**249**	⇑*e*P		Pn	07 04 25.9	-0.7
AOPR				*e*S		Sn	07 04 56.2	-0.8
ICM	**Isla Caja Muer**	**2.62**	**238**	⇑*e*P		Pn	07 04 26.4	-0.4
ICM				*e*S		Sn	07 04 56.5	-0.8
LSP	**Las Mesas**	**2.96**	**248**	⇑*e*P		Pn	07 04 31.0	-0.5
LSP				*e*S		Sn	07 05 05.3	-0.5
CRPR	**Cabo Rojo, PR**	**3.05**	**245**	⇑*e*P		Pn	07 04 31.9	-0.8
CRPR				*e*S		Sn	07 05 07.3	-0.7

MEX 12 07:07:25.4±0.7, 1711N×10070W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.42**	**98**	*i* P		Pg	07 07 32.8	-0.7
CAIG				*i* S		Sg	07 07 39.4	+0.4
ACX	**Acapulco**	**0.79**	**108**	*i* P		Pg	07 07 39.0	-1.6
ACX				*i* S		Sg	07 07 51.0	+0.2
MEIG	**Mezcala**	**1.31**	**52**	*i* P		Pn	07 07 51.0	-4.3
MEIG				*i* S		Sg	07 08 03.2	-4.5

NIED ***12*** *07:22:00, 34.00N×141.50E, h11km, Mw4.1 Best double couple: M0 1.47000×10^15 NP1:φs243.00000°, δ68.00000°, λ144.00000°. NP2:φs349.00000°, δ57.00000°, λ27.00000°.*
IDC ***12*** *07:22:05.5±0.9, 3397N×14183E, h0km, mb4.0/9, mb1 4.1/12, mb1mx4.0/24, mbtmp4.0/12, ML3.5/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/44, Error ellipse: s-maj=29.4km s-min=15.7km az=72.0*
MOS ***12*** *07:22:07.0±1.1, 3407N×142.17E, h33km, mb4.8/4, Error ellipse: s-maj=26.1km s-min=10.4km az=117.9*
BJI ***12*** *07:22:07.7, 3364N×14123E, h12km, mB5.1, mb4.4, Ms3.9, Msz3.7*
ISCJB ***12*** *07:22:08.8±1.4, 3395N±005×1418E±0.1, h38km±10km, mb4.2/14, MS3.5/2, Error ellipse: s-maj=16.5km s-min=7.4km az=158.5*
NEIC ***12*** *07:22:11.4, 3397N×141.48E, h39km, mb4.6/4, MW4.1(NIED), After JMA.*
JMA ***12*** *07:22:11.3±0.3, 3397N×141.48E, h39km±4km, M3.6*

ISC 12 07:22:05.7±1.4, 3395N±005×14178E±007, h2km±7km, n40, σ1°08/45, mb4.2/14, MS3.5/2, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.96**	**317**	P		**Pg**	**07 22 26.2**	**+2.1**
BSO1				S		**Sg**	**07 22 36.6**	**0.0**
BSO2	**Boso 2**	**1.16**	**314**	*e*S		**Sg**	**07 22 41.3**	**-1.8**
BSO3	**Boso 3**	**1.35**	**309**	P		**Pg**	**07 22 32.0**	**+0.5**
BSO3				S		**Sg**	**07 22 47.0**	**-2.0**
BSO4	**Boso 4**	**1.58**	**312**	P		**Pn**	**07 22 35.8**	**+1.1**
JHJ2	**Mitsune**	**1.84**	**243**	P		**Pn**	**07 22 38.7**	**+0.4**
JHJ	**Hachijo jima 2**	**1.86**	**244**	Pn		**Pn**	**07 22 38.6**	**+0.1**
	90nm,0.3s,baz=146,slow=5.2,SNR=7.5							
JHJ				Sn		**Sn**	**07 23 00.9**	**-1.7**
	141nm,0.3s,baz=61,slow=23,SNR=6.6							
JIM2	**Oshima 3**	**2.09**	**292**	P		**Pn**	**07 22 41.5**	**-0.2**
KTJJ	**Kamata 2**	**2.44**	**294**	P		**Pn**	**07 22 46.1**	**-0.5**
JIZS	**Izushimoda**	**2.52**	**289**	P		**Pn**	**07 22 47.9**	**+0.3**
JOD2	**Odawara 2**	**2.58**	**301**	P		**Pn**	**07 22 48.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.90**	**313**	Pn		**Pn**	**07 23 07.3**	**+0.7**
	7.2nm,0.3s,baz=132,slow=8.7,SNR=51							
MJAR				Sn		**Sn**	**07 23 54.4**	**+1.4**
	8.1nm,0.3s,baz=145,slow=19,SNR=8.2							
MAJO	**Matsushiro**	**3.90**	**313**	*e*Pn		**Pn**	**07 23 08.5**	**+1.8**
MAJO				*e*Sn		**Sn**	**07 23 53.0**	**0.0**
MAT	**Matsushiro**	**3.90**	**313**	P		**Pn**	**07 23 08.2**	**+1.6**
MAT				S		**Sn**	**07 23 53.2**	**+0.2**
ASAJ	**Asahikawa**	**10.17**	**3**	Pn		**Pn**	**07 24 30.5**	**-2.2**
	0.5nm,0.3s,baz=227,slow=14,SNR=3.0							
ASAJ				Sn		**Sn**	**07 26 21.1**	**-6.3**
	0.6nm,0.3s,baz=170,slow=30,SNR=3.1							
ASAJ	**Asahikawa**	**10.17**	**3**	P		**Pn**	**07 24 30.5**	**-2.2**
ASAJ							07 26 21.1	
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				smax				
	comp=N,1.0nm,0.3s							
KSRS	**Korea Array**	**11.79**	**291**	Pn		**Pn**	**07 24 56.9**	**+2.0**
	baz=99,slow=13,SNR=3.2							
KSRS				LR		LR	07 29 41.1	
	comp=N,123nm,19.0s,baz=95,slow=38							
JOW	**Kunigami**	**13.63**	**242**	LR		LR	07 30 13.7	
	comp=N,151nm,21.4s,baz=256,slow=36							
SONM	**Songino Array**	**29.84**	**308**	P		**P**	**07 28 15.3**	**+1.0**
	comp=N,1.3nm,0.8s,mb3.7,baz=120,slow=8.4,SNR=4.7							
BOD	**Bodaibo**	**30.32**	**330**	*e*P		**P**	**07 28 18.6**	**+0.1**
WMQ	**Urumqi**	**42.56**	**300**	⇑P		**P**	**07 30 01.3**	**-1.6**
WMQ				PP		PP	07 31 42.1	+0.7
WMQ				PCP		PcP	07 31 57.1	+1.7
WMQ				*e*S		**S**	**07 36 14.3**	**-12**
WMQ				AMB		AMB		
	comp=Z,4.0nm,0.5s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,25nm,4.4s							
WMQ				LR		LR		
	comp=N,80nm,14.8s							
WMQ				LR		LR		
	comp=E,81nm,21.6s							
WMQ				LR		LR		
	comp=Z,74nm,14.8s,MS3.7							
MKAR	**Makanchi Array**	**46.06**	**305**	P		**P**	**07 30 31.0**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=77,slow=9.2,SNR=6.4							
KURK	**Kurchatov**	**48.11**	**310**	*e*P		**P**	**07 30 46.2**	**-0.7**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**48.11**	**310**	*e*P		**P**	**07 30 46.2**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**52.66**	**315**	*e*P		**P**	**07 31 20.2**	**-1.2**
CHKZ				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
CHKZ	**Chkalovo**	**52.66**	**315**	*e*P		**P**	**07 31 20.2**	**-1.2**
	comp=Z,4.8nm,1.1s,mb4.3							
ZRNK	**Zerenda**	**53.73**	**314**	*e*P		**P**	**07 31 29.1**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,17nm,1.6s,mb4.7							
ZRNK	**Zerenda**	**53.73**	**314**	*e*P		**P**	**07 31 29.1**	**-0.2**
	comp=Z,17nm,1.6s,mb4.7							
CTA	**Charters Tower**	**53.90**	**175**	P		**P**	**07 31 29.5**	**-1.0**
	comp=Z,2.5nm,0.9s,mb4.2,ba

mb3.5/6,Error ellipse: s-maj=22.1km s-min=15.1km az=152.4
IDC 12 07:42:21.4±6.6, 32.24N×137.83E, h394km±33km, mb3.2/6, mb1 3.3/8, mb1mx3.1/23, mbtmp3.1/8,Error ellipse: s-maj=89.4km s-min=31.1km az=168.0

ISC 12 07:42:19.6±1.1, 321N±01×1381E±01, h390km±7km, n20, σ0§74/25, mb3.5/6, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JWZ	**Kozaga**	**2.46**	**306**	⇑P		**Pn**	**07 43 17.0**	**-0.7**
JIE	**Ise**	**2.55**	**333**	P		**Pn**	**07 43 19.1**	**+0.7**
JKN2	**Miekihoku**	**2.62**	**325**	⇑P		**Pn**	**07 43 18.8**	**-0.1**
JOD2	**Odawara 2**	**3.25**	**14**	P		**Pn**	**07 43 24.8**	**+0.7**
BSO3	**Boso 3**	**3.35**	**36**	P		**Pn**	**07 43 24.6**	**-0.4**
BSO3				*e*S		**S**	**07 44 17.1**	**-0.8**
BSO4	**Boso 4**	**3.42**	**32**	P		**Pn**	**07 43 26.7**	**+1.1**
BSO1	**Boso 1**	**3.49**	**43**	P		**Pn**	**07 43 26.1**	**-0.1**
BSO1				S		**S**	**07 44 19.1**	**-1.1**
JHU	**Hanno**	**3.85**	**14**	P		**Pn**	**07 43 30.0**	**+0.4**
JHU				*e*S		**S**	**07 44 25.3**	**-1.0**
JRY	**Ryogami san**	**3.95**	**9**	P		**Pn**	**07 43 31.7**	**+1.2**
MJAR	**Matsushiro Arr**	**4.42**	**1**	P		**Pn**	**07 43 35.5**	**+0.4**
	1.1nm,0.3s,baz=180,slow=9.7,SNR=12							
MJAR				S		**S**	**07 44 36.5**	**+0.1**
	0.4nm,0.3s,baz=160,slow=32,SNR=3.6							
MAT	**Matsushiro**	**4.42**	**1**	P		**Pn**	**07 43 35.8**	**+0.7**
MAT				S		**S**	**07 44 36.9**	**+0.6**
JAG	**Ashikaga**	**4.44**	**14**	P		**Pn**	**07 43 35.1**	**-0.2**
JHO	**Hitachi**	**4.93**	**24**	P		**Pn**	**07 43 39.9**	**-0.4**
KSRS	**Korea Array**	**9.92**	**305**	P		**Pn**	**07 44 36.4**	**-0.2**
	baz=124,slow=10,SNR=9.5							
SONM	**Songino Array**	**28.68**	**312**	P		**P**	**07 47 42.3**	**-0.1**
	0.2nm,0.3s,mb2.9,baz=126,slow=8.9,SNR=1.9							
BVAR	**Borovoye Array**	**51.98**	**315**	P		**P**	**07 50 48.7**	**-1.8**
	0.3nm,0.3s,mb3.0,baz=95,slow=8.4,SNR=4.5							
ARCES	**ARCESS Array B**	**67.63**	**339**	P		**P**	**07 52 36.0**	**+0.3**
	5.3nm,1.0s,mb4.1,baz=56,slow=6.7,SNR=4.3							
YKA	**Yellowknife Ar**	**69.42**	**28**	P		**P**	**07 52 48.0**	**+1.3**
	1.1nm,0.7s,mb3.6,baz=296,slow=6.3,SNR=4.2							
FINES	**FINESS Array B**	**71.88**	**332**	P		**P**	**07 53 01.2**	**-0.2**
	1.3nm,0.5s,mb3.7,baz=64,slow=5.7,SNR=11							
AKASG	**Malin Array Be**	**76.49**	**322**	P		**P**	**07 53 27.0**	**-0.7**
	0.6nm,0.3s,mb3.6,baz=49,slow=5.5,SNR=4.4							

IGQ 12 07:42:28.8, 187S×7807W, h182km±3km, Mb4.2, Ms4.0, 5C-4D, Error ellipse: s-maj=5.5km s-min=3.5km az=119.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARRY	**Arrayan**	**0.53**	**313**	P		Pn	07 42 54.4	+0.4
ARRY				S		Sn	07 43 12.7	-0.7
ULBA	**Ulba**	**0.54**	**321**	P		Pn	07 42 55.1	+1.0
ULBA				S		Sn	07 43 12.3	-1.1
RETU	**Refugio**	**0.56**	**318**	P		Pn	07 42 55.3	+1.2
RUN5	**Runtun**	**0.57**	**322**	⇑P		Pn	07 42 55.4	+1.2
RUN5				S		Sn	07 43 12.3	-1.4
JUIV	**Juive**	**0.59**	**318**	P		Pn	07 42 55.4	+1.1
IGUA	**Igualata**	**0.68**	**304**	P		Pn	07 42 56.1	+1.4
TAMB	**Tambo**	**1.21**	**346**	⇑P		Pn	07 42 59.7	+1.3
CAMI	**Rancho Maria**	**1.26**	**340**	⇑P		Pn	07 43 00.3	+1.4
VC1	**Cotopaxi 1**	**1.26**	**345**	P		Pn	07 42 60.0	+1.1
ANTI	**Antisana**	**1.41**	**356**	⇑P		Pn	07 43 01.6	+1.5
JUA2	**San Juan 2**	**1.73**	**342**	⇓P		Pn	07 43 04.8	+1.6
GGP	**Refugio Guagua**	**1.76**	**343**	⇓P		Pn	07 43 04.7	+1.2
PINO	**Pino**	**1.78**	**342**	⇑P		Pn	07 43 05.4	+1.6
PINO				S		Sn	07 43 39.4	+8.6
YANA	**Yana**	**1.81**	**344**	⇓P		Pn	07 43 05.3	+1.3
MAG1	**Magdalena**	**2.47**	**316**	⇓P		Pn	07 43 11.2	0.0
MAG1				S		Sn	07 43 43.0	-1.2
JAMA	**Jama**	**2.67**	**307**	P		Pn	07 43 12.8	-0.8
JAMA				S		Sn	07 43 47.1	-1.3

IDC 12 07:45:31.8±2.6, 622S×1514 2E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML2.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/23, Error ellipse: s-maj=65.0km s-min=42.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.28**	**233**	Pn		Pn	07 46 54.0	+2.1
	1.4nm,0.3s,baz=28,slow=5.2,SNR=4.0							
PMG				Sn		Sn	07 47 51.4	-2.1
	1.8nm,0.3s,baz=328,slow=0.3,SNR=3.1							
CTA	**Charters Tower**	**14.68**	**200**	LR		LR	07 53 51.8	
	comp=Z,59nm,20.1s,baz=229,slow=34							
WRA	**Warramunga Arr**	**21.49**	**229**	P		P	07 50 21.7	-0.3
	2.4nm,0.8s,baz=54,slow=11,SNR=10							
ASAR	**Alice Springs**	**24.19**	**222**	P		P	07 50 49.4	-0.4
	1.5nm,0.6s,baz=56,slow=9.7,SNR=18							
STKA	**Stephens Creek**	**27.13**	**199**	P		P	07 51 16.7	+0.2
	6.6nm,0.9s,baz=4.4,slow=10,SNR=9.4							
FITZ	**Fitzroy Crossi**	**27.79**	**243**	P		P	07 51 23.4	+1.0
	1.4nm,0.6s,baz=48,slow=10,SNR=5.2							
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKPbc		PKPbc	08 05 23.4	+0.7
	1.0nm,0.7s,baz=72,slow=3.1,SNR=6.8							

LDG 12 08:28:58.7±0.1, 43.05N×0.34W, h2km, Md2.0/2, Ml1.9/4
STR 12 08:28:58.4±0.1, 43.05N×0.34W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 12 08:28:59.1±0.3, 4310N×034W, h0km, mbLg1.2/8, Error ellipse: s-maj=3.6km s-min=1.5km az=3.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
REYF	**Montagne du Re**	**0.05**	**234**	Pg		Pg	08 29 00.0	-0.1
REYF				Sg		Sg	08 29 00.9	+0.1
REYF	**Montagne du Re**	**0.05**	**234**	Lg			08 29 00.9	
ATE	**Arette**	**0.27**	**267**	Pg		Pg	08 29 03.8	-0.5
ATE				Sg		Sg	08 29 07.5	-0.2
LABF	**Labassere**	**0.30**	**100**	Pg		Pg	08 29 04.7	-0.3
LABF				Sg		Sg	08 29 09.2	+0.3
FDAF	**Les Forges d'A**	**0.33**	**211**	Pg		Pg	08 29 04.6	-0.8
FDAF				Lg			08 29 09.2	
VIEF	**Viey**	**0.34**	**129**	Pg		Pg	08 29 05.2	-0.5
VIEF				Sg		Sg	08 29 08.8	-1.3
LARF	**Larrau**	**0.48**	**263**	Pg		Pg	08 29 07.9	-0.5
LARF				Sg		Sg	08 29 14.9	+0.3
EPF	**Esparros**	**0.50**	**98**	*e*Pg		Pg	08 29 08.3	-0.4
EPF				*e*Sg		Sg	08 29 14.9	-0.3
	5.1nm,0.2s							
EPF	**Esparros**	**0.50**	**98**	Pg		Pg	08 29 08.3	-0.4
EPF				Lg			08 29 14.9	
	2.5nm,0.2s							
EBIE	**Bielsa**	**0.54**	**139**	Pg		Pg	08 29 12.5	+2.9
	0.8nm,0.1s,SNR=7.9							
EBIE				Lg			08 29 19.2	
	2.4nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.65**	**272**	*e*Pg		Pg	08 29 10.8	-0.8
SJPF				*e*Sg		Sg	08 29 19.7	-0.4
	3.0nm,0.2s							
SJPF	**Ste Jean**	**0.65**	**272**	Pg		Pg	08 29 10.8	-0.8
SJPF				Lg			08 29 19.7	
	1.5nm,0.2s							
IPRE	**Itoiz**	**0.80**	**249**	Lg			08 29 25.8	
	0.2nm,0.1s,SNR=4.0							
EALK	**Alkurruntz**	**0.86**	**278**	Lg			08 29 28.6	
	2.7nm,0.2s,SNR=4.0							
ELIZ	**Elizondo**	**0.88**	**275**	Pg		Pg	08 29 17.8	+1.8
	SNR=7.9							
ELIZ				Lg			08 29 28.5	
	0.7nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.90**	**261**	Lg			08 29 29.2	
	1.3nm,0.1s,SNR=4.0							
MTLF	**Montolieu**	**1.88**	**82**	*e*Sg		Sg	08 29 58.5	-1.1
	1.1nm,0.2s							
LFF	**La Frestale**	**2.00**	**23**	*e*Pg		Pg	08 29 36.5	-0.9
LFF				*e*Sg		Sg	08 30 03.1	-0.2
	3.2nm,0.3s							
LFF	**La Frestale**	**2.00**	**23**	Lg			08 30 03.1	
	1.6nm,0.3s							
CAF	**Calviac**	**2.52**	**43**	*e*Sg		Sg	08 30 18.9	-1.1
	0.6nm,0.2s							
CAF	**Calviac**	**2.52**	**43**	Lg			08 30 18.9	
	0.3nm,0.2s							
RJF	**Les Rejaudoux**	**2.58**	**31**	*e*Sg		Sg	08 30 21.0	-0.9
	1.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.58**	**31**	Lg			08 30 21.0	
	0.6nm,0.2s							

STR 12 08:47:00.7±0.0, 43.10N×0.35W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 12 08:47:00.5±0.0, 4307N×032W, h2km, Md1.6/2, Ml1.6/1, Error ellipse: s-maj=6.5km s-min=0.5km az=2.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
REYF	**Montagne du Re**	**0.05**	**272**	Pg		Pg	08 47 01.9	+0.3
REYF				Sg		Sg	08 47 02.8	+0.5
ATE	**Arette**	**0.28**	**274**	Pg		Pg	08 47 05.8	0.0
ATE				Sg		Sg	08 47 09.6	+0.1
EPF	**Esparros**	**0.49**	**94**	*e*Pg		Pg	08 47 09.9	+0.1
EPF				*e*Sg		Sg	08 47 16.4	+0.3
	1.5nm,0.2s							
SJPF	**Ste Jean**	**0.66**	**274**	*e*Pg		Pg	08 47 13.0	-0.2
SJPF				*e*Sg		Sg	08 47 21.9	+0.1
	1.2nm,0.2s							
MTLF	**Montolieu**	**1.88**	**81**	*e*Sg		Sg	08 47 59.3	-1.5
	0.8nm,0.3s							

IDC 12 08:53:54.9±2.5, 003N×12297E, h165km±21km, mb3.3/5, mb1 3.5/6, mb1mx3.3/18, mbtmp3.3/6, Error ellipse: s-maj=43.6km s-min=13.9km az=73.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.20**	**172**	*e*P		P	08 57 55.9	+0.7
	7.8nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.20**	**172**	P		P	08 57 54.8	-0.4
	0.3nm,0.3s,baz=26,slow=8.2,SNR=8.6							
WRA	**Warramunga Arr**	**22.76**	**151**	P		P	08 58 43.0	+0.1
	0.9nm,0.5s,baz=326,slow=11,SNR=26							
WRA				pP		pP	08 59 15.8	+2.6
	1.0nm,0.7s,baz=335,slow=10,SNR=3.9							
WRA				ScP		ScP	09 05 51.5	+0.3
	0.3nm,0.5s,baz=321,slow=2.7,SNR=6.1							
ASAR	**Alice Springs**	**25.83**	**156**	P		P	08 59 11.8	+1.0
	0.1nm,0.3s,baz=343,slow=12,SNR=6.0							
ASAR				pP		pP	08 59 44.7	-0.1
	1.5nm,0.7s,baz=326,slow=7.2,SNR=12							
ASAR				PcP		PcP	09 02 35.8	0.0
	0.3nm,0.4s,baz=342,slow=2.1,SNR=7.3							
ASAR				ScP		ScP	09 05 60.0	+0.2
	0.3nm,0.7s,baz=343,slow=2.2,SNR=4.6							
MJAR	**Matsushiro Arr**	**38.98**	**20**	P		P	09 01 04.7	-0.3
	2.1nm,0.8s,baz=195,slow=8.5,SNR=8.2							
SONM	**Songino Array**	**49.75**	**345**	P		P	09 02 30.6	+0.2
	2.5nm,0.8s,baz=162,slow=9.1,SNR=9.1							
SONM				PcP		PcP	09 03 48.9	0.0
	0.7nm,0.7s,baz=184,slow=1.8,SNR=3.6							
MKAR	**Makanchi Array**	**58.58**	**328**	P		P	09 03 34.8	+0.5
	1.3nm,0.7s,baz=123,slow=8.8,SNR=9.9							
MKAR				PcP		PcP	09 04 21.8	-0.9
	0.7nm,0.6s,baz=141,slow=3.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**120.38**	**285**	PKP		PKPdf	09 12 26.8	+0.3
	0.8nm,0.6s,baz=54,slow=1.8,SNR=7.1							
TXAR	**Lajitas Array**	**126.82**	**52**	PKP		PKPdf	09 12 40.8	+1.9
	0.1nm,0.4s,baz=98,slow=1.9,SNR=3.8							

IDC 12 09:10:44.9±3.2, 845S×14778E, h113km±14km, mb3.4/3, mb1 3.5/4, mb1mx3.3/13, mbtmp3.4/4, Error ellipse: s-maj=52.7km s-min=40.1km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**1.13**	**213**	P		Pn	09 11 07.9	+0.3
	27nm,0.3s,baz=19,slow=6.5,SNR=101							
PMG				S		Sn	09 11 24.9	+0.2
	20nm,0.3s,baz=331,slow=22,SNR=9.0							
WB2	**Warramunga Arr**	**17.30**	**227**	*e*P		Pn	09 14 39.6	+0.3
WRA	**Warramunga Arr**	**17.31**	**227**	P		Pn	09 14 39.6	+0.2
	0.6nm,0.3s,baz=47,slow=10,SNR=34							
ASAR	**Alice Springs**	**20.13**	**220**	P		P	09 15 10.3	+0.4
	0.9nm,0.5s,baz=56,slow=9.1,SNR=17							
ASPA	**Alice Springs**	**20.14**	**220**	*e*P		P	09 15 11.2	+1.3
FITZ	**Fitzroy Crossi**	**23.56**	**244**	*e*P		P	09 15 46.3	+1.4
	3.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.56**	**244**	P		P	09 15 44.9	0.0
	1.9nm,0.6s,baz=44,slow=8.6,SNR=7.4							
STKA	**Stephens Creek**	**24.00**	**193**	P		P	09 15 48.0	-1.0
	1.0nm,0.3s,baz=0.0,slow=11,SNR=5.0							
TORD	**Torodi Ar. Bea**	**146.38**	**281**	PKPbc		PKPbc	09 30 14.5	+2.0
	0.3nm,0.5s,baz=68,slow=4.1,SNR=4.1							

JMA 12 09:26:33.8±0.3, 4327N×14675E, h44km±3km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.74**	**278**	P		Pn	09 26 47.9	0.0
NEM2				*e*S		Sn	09 26 58.1	+0.1
JRA	**Rausu**	**1.36**	**300**	P		Pn	09 26 56.7	+0.4
JNK	**Nakash**	**1.51**	**283**	P		Pn	09 26 58.7	+0.3
JNK				*e*S		Sn	09 27 17.2	+0.3
JAK	**Akkeshi**	**1.53**	**260**	P		Pn	09 26 59.1	+0.5
JAR	**Ashorobuto**	**2.18**	**272**	P		Pn	09 27 08.8	+1.3
JAR				*e*S		Sn	09 27 35.2	+2.0
JTKR	**Abashiri--Toko**	**2.18**	**290**	P		Pn	09 27 09.1	+1.6
JMP	**Maruseppu**	**2.57**	**288**	P		Pn	09 27 14.8	+1.9

IDC 12 10:12:09.1±2.1, 126S×12736E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=193.9km s-min=24.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.78**	**160**	P		Pn	10 16 40.9	-1.4
	0.2nm,0.3s,baz=342,slow=12,SNR=12							
ASAR	**Alice Springs**	**23.16**	**165**	P		P	10 17 17.6	+0.5
	1.0nm,0.8s,baz=349,slow=12,SNR=10							
MKAR	**Makanchi Array**	**62.02**	**327**	P		P	10 22 31.3	+0.1
	0.6nm,0.4s,baz=114,slow=7.9,SNR=11							

ISCJB 12 10:15:27.0±0.5, 3993N±004×11855E±003, h10km, mb3.9/2, Error ellipse: s-maj=5.8km s-min=3.2km az=171.5
IDC 12 10:15:30.4±1.4, 3996N×11864E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=49.9km s-min=19.3km az=39.0
BJI 12 10:15:31.5, 3960N×11849E, h20km, ML3.8
NEIC 12 10:15:31.7±1.2, 3980N×11833E, h5km, Error ellipse: s-maj=25.8km s-min=14.7km az=208.0
NEIC Felt [IV] at Shahe.

ISC 12 10:15:29.5±0.5, 3985N±004×11853E±003, h10km, n11, σ1§28/22, mb3.9/2, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BJI	**Beijing**	**1.82**	**277**	PG		**Pg**	**10 16 03.7**	**-0.8**
BJI				SG		**Sg**	**10 16 27.6**	**-0.6**
BJI				Smax				
	comp=N,1μm,0.5s							
BJI				Smax				
	comp=E,2μm,0.5s							
BJT	**Baijiatuan**	**1.83**	**276**	*e*Pn		**Pn**	**10 16 01.7**	**+0.7**
BJT				*e*Pg		**Pg**	**10 16 03.9**	**-0.7**
BJT				*e*Sg		**Sg**	**10 16 28.1**	**-0.2**
DL2	**Dalian**	**2.58**	**110**	P		**Pn**	**10 16 15.0**	**+3.7**
DL2				PG		**Pg**	**10 16 18.1**	**-0.8**
DL2				SG		**Sg**	**10 16 52.3**	**0.0**
DL2				Smax				
	comp=N,170nm,0.5s							
DL2				Smax				
	comp=E,100nm,0.5s							
TIA	**Tai'an**	**3.80**	**197**	P		**Pn**	**10 16 28.8**	**+0.7**
TIA				SG		**Sb**	**10 17 21.7**	**-1.0**
TIA				Smax				
	comp=N,60nm,0.6s							
TIA				Smax				
	comp=E,122nm,0.7s							
SNY	**Shenyang**	**4.31**	**61**	⇑PG		**Pg**	**10 16 51.1**	**-0.9**
SNY				SG		**Sg**	**10 17 48.3**	**+0.5**
SNY				Smax				
	comp=N,107nm,0.5s							
SNY				Smax				
	comp=E,80nm,0.6s							
HHC	**Hu-ho-hao-te**	**5.42**	**283**	*e*PG		**Pg**	**10 17 09.9**	**-3.4**
HHC				SG		**Sg**	**10 18 25.3**	**+1.8**
HHC				Smax				
	comp=N,60nm,0.5s							
HHC				Smax				
	comp=E,85nm,0.5s							
CN2	**Changchun**	**6.50**	**50**	*e*PG		**Pg**	**10 17 32.7**	**-1.3**
CN2				*e*SG		**Sg**	**10 19 02.6**	**+4.4**
CN2				Smax				
	comp=N,100nm,0.7s							
CN2				Smax				
	comp=E,100nm,0.7s							
KSRS	**Korea Array**	**7.73**	**105**	Pn		**Pn**	**10 17 22.8**	**+0.7**
	baz=288,slow=14,SNR=22							
KSRS				Sn		**Sn**	**10 18 43.4**	**-6.2**
	baz=287,slow=24,SNR=4.1							
KSRS				Lg			10 19 33.6	
	baz=287,slow=29,SNR=7.1							
SONM	**Songino Array**	**11.85**	**316**	Pn		**Pn**	**10 18 21.1**	**+2.6**
	comp=E,0.3nm,0.3s,baz=134,slow=14,SNR=5.8							
SONM				Sn		**Sn**	**10 20 28.0**	**-2.7**
	comp=E,0.1nm,0.3s,baz=148,slow=12,SNR=2.3							
SONM				Lg			10 21 45.8	
	comp=E,0.4nm,0.3s,baz=124,slow=25,SNR=5.9							
FINES	**FINESS Array B**	**57.05**	**325**	P		**P**	**10 25 17.1**	**+1.4**
	comp=E,3.2nm,0.9s,mb4.3,baz=76,slow=8.0,SNR=8.9							
WRA	**Warramunga Arr**	**61.28**	**163**	P		**P**	**10 25 48.3**	**+3.3**
	comp=E,0.3nm,0.8s,mb3.5,baz=348,slow=5.9,SNR=5.2							

ISCJB 12 10:25:58.1±1.1, 176S±03×1782W±03, h623km±31km, mb4.3/10, Error ellipse: s-maj=50.6km s-min=30.0km az=117.2
NEIC 12 10:25:58.5±0.7, 1766S×17836W, h589km±12km, mb4.3/7, Error ellipse: s-maj=30.4km s-min=11.2km az=149.0
IDC 12 10:25:58.6±1.9, 1764S×17839W, h582km±27km, mb3.6/6, mb1 3.6/8, mb1mx3.2/19, mbtmp3.5/8, Error ellipse: s-maj=62.8km s-min=21.3km az=152.0

ISC 12 10:25:58.8±1.3, 177S±03×1783W±03, h593km±44km, n21, σ0§43/19, mb4.3/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.32**	**60**	P		**P**	**10 27 51.4**	**0.0**
	3.9nm,0.3s,baz=169,slow=10,SNR=5.4							
DZM	**Mont Dzumac**	**14.99**	**251**	P		**P**	**10 29 06.4**	**-0.7**
	0.5nm,0.3s,baz=90,slow=16,SNR=6.3							
ARMA	**Armidale**	**30.14**	**240**	*e*P		**P**	**10 31 22.6**	**+0.6**
CTA	**Charters Tower**	**33.59**	**260**	*e*P		**P**	**10 31 50.9**	**-0.3**
	2.9nm,0.8s,mb4.0							
CTA	**Charters Tower**	**33.59**	**260**	P		**P**	**10 31 51.1**	**-0.1**
	3.2nm,0.6s,mb4.1,baz=68,slow=11,SNR=6.9							
CNB	**Canberra Magne**	**33.63**	**232**	*e*P		**P**	**10 31 51.9**	**+0.3**
	6.4nm,0.5s,mb4.5							
PMG	**Port Moresby**	**34.53**	**279**	P		**P**	**10 31 59.6**	**+0.5**
	17nm,0.8s,mb4.7,baz=168,slow=5.3,SNR=3.8							
STKA	**Stephens Creek**	**38.82**	**241**	*e*P		**P**	**10 32 34.6**	**+0.5**
	4.9nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**38.82**	**241**	P		**P**	**10 32 34.6**	**+0.5**
	4.5nm,0.5s,mb4.3,baz=96,slow=8.7,SNR=10							
WB2	**Warramunga Arr**	**44.76**	**259**	*e*P		**P**	**10 33 20.2**	**-0.5**
WB2				*e*P			10 33 20.3	
WRA	**Warramunga Arr**	**44.77**	**259**	P		**P**	**10 33 20.4**	**-0.5**
	3.9nm,0.5s,mb4.2,baz=93,slow=7.0,SNR=104							
AS31	**Alice Springs**	**44.95**	**254**	*e*P		**P**	**10 33 22.3**	**+0.1**
ASAR	**Alice Springs**	**44.95**	**254**	P		**P**	**10 33 22.3**	**+0.1**
	22nm,0.5s,mb4.9,baz=88,slow=8.5,SNR=473							
ASPA	**Alice Springs**	**44.95**	**254**	*e*P		**P**	**10 33 22.2**	**0.0**
KAKA	**Kakadu**	**47.70**	**269**	*e*P		**P**	**10 33 42.9**	**+0.1**
	6.1nm,0.4s,mb4.5							
FORT	**Forrest**	**50.19**	**244**	*e*P		**P**	**10 34 00.6**	**-0.6**
	14nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.17**	**260**	*e*P		**P**	**10 34 23.1**	**+0.5**
	6.1nm,1.5s,mb3.7							
FITZ	**Fitzroy Crossi**	**53.17**	**260**	P		**P**	**10 34 23.2**	**+0.6**
	0.7nm,0.3s,mb3.5,baz=101,slow=13,SNR=6.3							
KLBR	**Kellerberrin**	**59.02**	**243**	*e*P		**P**	**10 35 02.3**	**-0.4**
	30nm,1.5s,mb4.2							
BRTR	**Keskin Array B**	**144.72**	**315**	PKP		PKPdf	10 44 29.6	+0.8
	0.9nm,0.7s,baz=105,slow=2.2,SNR=4.2							
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc		PKPbc	10 44 37.0	0.0
	0.6nm,0.5s,baz=93,slow=2.7,SNR=4.3							

BJI 12 10:35:05.3, 693S×15194E, h35km, mB5.5, mb5.0, Ms5.1, Msz4.9
IDC 12 10:35:06.2±0.5, 645S×15146E, h0km, mb4.8/20, mb1 4.9/21, mb1mx4.9/22, mbtmp4.8/21, ML3.7/1, MS4.5/19, Ms1 4.5/19, ms1mx4.4/21, Error ellipse: s-maj=18.4km s-min=12.2km az=89.0
NEIC 12 10:35:07.8±0.2, 646S×15145E, h10km, mb5.3/25, Error ellipse: s-maj=7.1km s-min=5.3km az=110.0
GCMT 12 10:35:07.8±0.1, 666S×15159E, h12km, MW5.3/102, Moment Tensor Solution. s63,c97; s102,c184; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-1.05±.01; Mθθ 0.49±.01; Mφφ 0.56±.01; Mrθ-0.38±.04; Mθφ 0.40±.01; Mφr-0.12±.04; Best double couple: M0 1.06100×10^17 NP1:φs215.00000°, δ36.00000°, λ-104.00000°. NP2:φs52.00000°, δ55.00000°, λ-80.00000°. Principal axes: T 0.9860, Plg10.0000°, Azm135.0000°; N 0.1550, Plg8.0000°, Azm226.0000°; P -1.1370, Plg77.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*MOS 12 10:35:10.1±1.6, 639S×15140E, h33km, mb5.1/32, MS4.7/7 Error ellipse: s-ma

WRA ScP ScP 10 47 40.7 +8.3
comp=Z,1.7nm,1.1s,baz=93,slow=1.7,SNR=2.5
WRA LR LR 10 47 55.7
comp=Z,784nm,20.7s,MS4.1,baz=25,slow=36
ARMA Armidale 23.77 180 *eP* **P** **10 40 20.4 -0.4**
AS31 Alice Springs 24.00 223 *eP* **P** **10 40 22.9 -0.1**
ASAR Alice Springs 24.00 223 P **P** **10 40 22.9 0.0**
comp=Z,31nm,0.8s,mb4.8,baz=62,slow=9.5,SNR=69
ASAR S **S** **10 44 46.6 +9.4**
comp=Z,9.3nm,1.2s,baz=34,slow=20,SNR=5.8
ASAR LR LR 10 49 08.2
comp=Z,1μm,19.7s,MS4.3,baz=121,slow=35
STKA Stephens Creek 26.86 199 *eP* **P** **10 40 47.9 -1.0**
comp=Z,56nm,0.9s,mb5.1
STKA Stephens Creek 26.86 199 P **P** **10 40 48.6 -0.3**
comp=Z,62nm,0.9s,mb5.2,baz=11,slow=10,SNR=26
STKA LR LR 10 51 56.7
comp=Z,1μm,19.0s,MS4.4,baz=21,slow=38
FITZ Fitzroy Crossi 27.71 243 ⇓*i* P **P** **10 40 56.7 +0.2**
comp=Z,47nm,0.6s,mb5.3
FITZ Fitzroy Crossi 27.71 243 P **P** **10 40 57.4 +0.9**
comp=Z,40nm,0.9s,mb5.0,baz=108,slow=8.0,SNR=26
FITZ LR LR 10 51 10.8
comp=Z,422nm,21.7s,MS4.0,baz=292,slow=35
DAV Davao City (W) 29.17 297 *eP* **P** **10 41 09.4 -0.1**
DAV *ep*P pP 10 41 19.9 -0.6
DAV *es*P sP 10 41 25.6 +0.2
FORT Forrest 32.63 219 *eP* **P** **10 41 40.5 +0.5**
comp=Z,42nm,0.7s,mb5.5
MBWA Marble Bar 33.99 241 *eP* **P** **10 41 51.7 -0.2**
MBWA *ep*P pP 10 42 02.5 -0.5
MBWA *es*P sP 10 42 09.2 +1.4
URZ Urewera 39.20 147 P **P** **10 42 36.4 +0.1**
comp=Z,13nm,0.9s,mb4.7,baz=333,slow=12,SNR=6.2
JOW Kunigami 40.07 327 LR LR 10 55 53.7
comp=Z,1μm,21.7s,MS4.7,baz=15,slow=31
KLBR Kellerberrin 40.18 227 *eP* **P** **10 42 43.4 -1.0**
comp=Z,10.0nm,0.6s,mb4.7
RPZ Rata Peaks 40.83 158 P **P** **10 42 50.1 +0.3**
comp=Z,28nm,1.1s,mb4.8,baz=54,slow=7.6,SNR=3.9
NWAO Narrogin (SRO) 41.25 226 LR LR 10 59 48.5
comp=Z,932nm,19.6s,MS4.7,baz=213,slow=36
MUN Mundaring 41.51 228 *eP* **P** **10 42 55.9 +0.5**
KSM Kuching 41.87 280 *eP* **P** **10 42 59.0 +0.7**
KSM *ep*P pP 10 43 08.8 -0.8
KSM *es*P sP 10 43 14.8 +0.5
NACB Ninganchiao 42.21 317 *eP* **P** **10 43 00.8 -0.2**
NACB *ep*P pP 10 43 13.2 +0.9
YHNB Yeheng 42.69 318 *eP* **P** **10 43 03.2 -1.8**
YHNB *ep*P pP 10 43 16.1 -0.1
MJAR Matsushiro Arr 44.62 345 P **P** **10 43 19.7 -0.8**
comp=Z,1.9nm,0.7s,baz=162,slow=9.5,SNR=4.6
MJAR PcP PcP 10 45 03.6 +0.8
comp=Z,3.2nm,0.8s,baz=154,slow=2.4,SNR=5.4
MJAR LR LR 11 00 11.6
comp=Z,158nm,18.8s,MS4.0,baz=175,slow=34
SSE Sheshan 47.33 324 P **P** **10 43 43.2 +1.4**
SSE AP pP 10 43 54.6 +1.3
SSE S **S** **10 50 33.7 +1.1**
SSE XS sS 10 50 52.6 +1.0
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,198nm,4.9s
SSE LR LR
comp=N,592nm,23.8s,MS4.7
SSE LR LR
comp=E,761nm,23.8s,MS4.7
SSE LR LR
comp=Z,1μm,22.5s,MS4.8
SSE Sheshan 47.33 324 P **P** **10 43 43.2 +1.4**
comp=Z,40nm,0.7s,mb5.5
SSE pP pP 10 43 54.6 +1.3
SSE S **S** **10 50 33.7 +1.1**
SSE sS sS 10 50 52.6 +1.0
SSE LR LR
comp=Z,1μm,22.5s,MS4.8
QIZ Qiongzhong 48.26 303 P **P** **10 43 50.0 +1.0**
QIZ S **S** **10 50 45.6 -0.2**
QIZ SS SS 10 54 20.0 +4.5
QIZ AMB AMB
comp=Z,22nm,1.6s,mb4.9
QIZ AMB AMB
comp=Z,147nm,5.9s
QIZ LR LR
comp=N,498nm,24.4s,MS4.7
QIZ LR LR
comp=E,778nm,26.4s,MS4.7
QIZ LR LR
comp=Z,2μm,25.1s,MS4.9
KSRS Korea Array 48.98 335 P **P** **10 43 54.0 -0.5**
comp=Z,4.1nm,0.8s,mb4.5,baz=148,slow=8.6,SNR=13
KSRS PcP PcP 10 45 18.8 +0.6
comp=Z,6.2nm,0.8s,baz=172,slow=2.7,SNR=14
KSRS LR LR 11 02 07.4
comp=Z,343nm,20.6s,MS4.3,baz=154,slow=33
NJ2 Nanjing 49.39 323 *eP* **P** **10 43 59.6 +1.9**
NJ2 AP pP 10 44 08.7 -0.5
NJ2 XP sP 10 44 12.3 -1.6
NJ2 PP PP 10 45 56.2 +4.2
NJ2 S **S** **10 51 03.0 +1.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,540nm,8.2s
NJ2 LR LR
comp=N,1μm,25.6s,MS5.0
NJ2 LR LR
comp=E,1μm,23.2s,MS5.0
NJ2 LR LR
comp=Z,2μm,22.7s,MS5.1
ASAJ Asahikawa 51.05 352 P **P** **10 44 10.1 -0.1**
comp=Z,8.9nm,0.6s,mb4.8,baz=276,slow=8.1,SNR=6.5
ASAJ Asahikawa 51.05 352 P **P** **10 44 10.1 -0.1**
ASAJ pmax pmax
comp=Z,9.0nm,0.6s
PSI Prapat 53.29 278 P **P** **10 44 27.1 +0.1**
comp=Z,16nm,0.9s,mb4.9,baz=166,slow=6.8,SNR=15
PSI Prapat 53.29 278 P **P** **10 44 27.1 +0.2**
PSI pmax pmax
comp=Z,16nm,1.0s,mb4.9
GYA Guiyang 54.43 309 ⇑*i* P **P** **10 44 38.1 +2.9**
GYA PP PP 10 46 42.4 +4.8
GYA SCP ScP 10 49 34.6 +1.0
GYA S **S** **10 52 12.3 +1.3**
GYA XS sS 10 52 33.5 +3.2
GYA SCS ScS 10 54 20.4 -0.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,130nm,5.1s
GYA LR LR
comp=N,680nm,18.9s,MS4.9
GYA LR LR
comp=E,840nm,18.6s,MS4.9
GYA LR LR
comp=Z,810nm,18.0s,MS4.8
MDJ Mudanjiang 54.59 341 P **P** **10 44 38.4 +2.0**
MDJ AMB AMB
comp=Z,11nm,2.2s,mb4.5
MDJ AMB AMB
comp=Z,534nm,6.5s
MDJ LR LR
comp=N,519nm,37.8s,MS4.4
MDJ LR LR
comp=E,351nm,33.4s,MS4.4
MDJ LR LR
comp=Z,815nm,35.6s,MS4.5
CN2 Changchun 55.35 337 *eP* **P** **10 44 43.9 +2.0**
CN2 PCP PcP 10 45 43.2 +1.1
CN2 *eS* **S** **10 52 24.0 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,12.0s,MS5.3
CN2 LR LR
comp=E,700nm,12.0s,MS5.3
CN2 LR LR
comp=Z,2μm,14.0s,MS5.2
BJI Beijing 56.63 328 P **P** **10 44 53.6 +2.6**
BJI S **S** **10 52 49.1 +8.8**
BJI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
BJI LR LR
comp=N,600nm,33.1s,MS4.5
BJI LR LR
comp=E,418nm,36.8s,MS4.5
BJI LR LR
comp=Z,795nm,33.1s,MS4.6
BJI Beijing 56.63 328 P **P** **10 44 53.6 +2.6**
comp=Z,9.0nm,1.0s,mb4.8
BJI S **S** **10 52 49.1 +8.8**
BJI SS SS 10 56 43.2 +15
BJI LR LR
comp=Z,800nm,33.1s,MS4.6
KMI Kunming 56.90 306 P **P** **10 44 54.1 +1.2**
KMI PP PP 10 47 05.3 +5.7
KMI S **S** **10 52 44.2 +0.4**
KMI XS sS 10 53 06.1 +2.9
KMI AMB AMB
comp=Z,15nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,240nm,5.6s
KMI LR LR
comp=N,494nm,20.1s,MS4.8
KMI LR LR
comp=E,530nm,17.0s,MS4.8
KMI LR LR
comp=Z,1μm,22.7s
KMI Kunming 56.90 306 P **P** **10 44 54.1 +1.2**
KMI *PP pP 10 45 08.6 +4.0
KMI 10 47 05.3
KMI PPP 10 48 23.7
KMI S **S** **10 52 44.2 +0.4**
KMI *SS sS 10 53 06.1 +2.9
KMI SS SS 10 56 35.1 +2.7
KMI SSS 10 58 48.6
KMI pmax pmax
comp=Z,15nm,0.9s,mb5.0
KMI MLR MLR
comp=Z,1μm,22.7s,MS4.9
KMI Kunming 56.90 306 P **P** **10 44 54.1 +1.2**
comp=Z,15nm,0.9s,mb5.0
KMI pP pP 10 45 08.6 +4.0
KMI sP sP 10 45 13.6 +4.3
KMI PP PP 10 47 05.3 +5.7
KMI PPP 10 48 23.7
KMI S **S** **10 52 44.2 +0.4**
KMI sS sS 10 53 06.1 +2.9
KMI SS SS 10 56 35.1 +2.7
KMI SSS 10 58 48.6
KMI LR LR
comp=Z,1μm,22.7s,MS4.9
XAN Xi'an 56.99 318 P **P** **10 44 52.0 -1.6**
XAN AMB AMB
comp=Z,19nm,1.3s,mb5.0
XAN LR LR
comp=N,370nm,17.1s,MS4.7
XAN LR LR
comp=E,396nm,18.6s,MS4.7
XAN LR LR
comp=Z,1μm,20.5s,MS4.9
KLR Kul'dur 58.15 345 *eP* **P** **10 44 57.8 -3.9**
KLR *e* 10 45 47.5
PPT Papeete 58.47 107 *eS* **S** **10 53 07.1 +2.7**
comp=Z,606nm,24.8s
PPT *e*LQ 10 59 35.1
comp=Z,792nm,30.2s
PPT *e*LR LR 11 02 25.0
comp=Z,595nm,26.5s
PPT Papeete 58.47 107 LR LR 11 04 27.3
comp=Z,258nm,19.8s,MS4.3,baz=276,slow=30
CD2 Chengdu 58.89 312 *eP* **P** **10 45 07.8 +0.9**
CD2 PP PP 10 47 20.2 +2.9
CD2 S **S** **10 53 08.8 -1.1**
CD2 XS sS 10 53 30.8 +1.4
CD2 SCS ScS 10 54 50.1 -3.5
CD2 AMB AMB
comp=Z,80nm,1.4s,mb5.6
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,930nm,19.2s,MS5.1
CD2 LR LR
comp=E,1μm,21.6s,MS5.1
CD2 LR LR
comp=Z,2μm,22.8s,MS5.1
TBI Tubuai 59.06 113 *eS* **S** **10 53 15.3 +3.2**
comp=Z,578nm,28.2s
TBI *e*LQ 11 00 45.9
comp=Z,639nm,31.8s
TBI *e*LR LR 11 02 36.3
comp=Z,2μm,35.2s
PET Petropavlovsk 59.63 5 *eP* **P** **10 45 17.9 +5.8**
PET *eS* **S** **10 53 21.9 +2.4**
PET pmax pmax
comp=Z,100nm,15.8s
PET MLR MLR
comp=Z,200nm,19.0s,MS4.3
HHC Hu-ho-hao-te 59.71 326 *eP* **P** **10 45 15.0 +2.5**
HHC PCP PcP 10 45 58.5 -0.7
HHC PP PP 10 47 30.5 +6.0
HHC SCP ScP 10 49 57.5 +0.7
HHC PCS PcS 10 50 01.3 -0.1
HHC S **S** **10 53 21.1 +0.6**
HHC XS sS 10 53 42.7 +2.7
HHC SCS ScS 10 54 57.4 -2.2
HHC AMB AMB
comp=Z,19nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,576nm,5.5s
HHC LR LR
comp=N,657nm,21.8s,MS5.0
HHC LR LR
comp=E,897nm,18.4s,MS5.0
HHC LR LR
comp=Z,890nm,20.8s,MS4.9
DRV Dumont d'Urvil 60.56 185 P **P** **10 45 17.0 -1.4**
DRV S **S** **10 53 33.0 +1.6**
DRV SS SS 10 57 33.0 +3.0
DRV L 11 00 00.0
DRV R 11 04 00.0
LZH Lanzhou 61.58 317 *eP* **P** **10 45 26.3 +1.0**
LZH PCP PcP 10 46 09.4 +2.7
LZH PP PP 10 47 44.2 +3.1
LZH *eS* **S** **10 53 45.0 +0.6**
LZH XS sS 10 54 05.0 +1.1
LZH AMB AMB
comp=Z,52nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,310nm,6.0s
LZH LR LR
comp=E,1μm,17.5s
LZH LR LR
comp=Z,2μm,18.8s,MS5.2
LZH Lanzhou 61.58 317 *eP* **P** **10 45 26.3 +1.0**
LZH *PP pP 10 45 39.7 +2.6
LZH 10 46 09.4
LZH 10 47 44.2
LZH *eS* **S** **10 53 45.0 +0.6**
LZH *SS sS 10 54 05.0 +1.1
LZH SS SS 10 57 43.0 -2.9
LZH pmax pmax
comp=Z,52nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,2μm,18.8s,MS5.2
LZH Lanzhou 61.58 317 *eP* **P** **10 45 26.3 +1.0**
comp=Z,52nm,1.2s,mb5.5
LZH pP pP 10 45 39.7 +2.6
LZH sP sP 10 45 45.5 +3.8
LZH PcP PcP 10 46 09.4 +2.7
LZH PP PP 10 47 44.2 +3.1
LZH *eS* **S** **10 53 45.0 +0.6**
LZH sS sS 10 54 05.0 +1.1
LZH SS SS 10 57 43.0 -2.9
LZH LR LR
comp=Z,2μm,18.8s,MS5.2
HIA Hailar 62.09 337 *eP* **P** **10 45 28.2 -0.5**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA Hailar 62.09 337 *eP* **P** **10 45 28.1 -0.6**
comp=Z,18nm,0.9s,mb5.2
CASY Casey 65.99 197 *eP* **P** **10 45 52.0 -2.4**
GTA Gaotai 66.05 318 *eP* **P** **10 45 56.6 +1.9**
GTA PP PP 10 48 24.6 +4.2
GTA S S 10 54 43.7 +3.8
GTA XS sS 10 55 04.2 +4.5
GTA AMB AMB
comp=Z,17nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,538nm,5.7s
GTA LR LR
comp=N,481nm,16.0s,MS4.9
GTA LR LR
comp=E,457nm,17.5s,MS4.9
GTA LR LR
comp=Z,598nm,17.5s,MS4.8
CLNS Chul'man 66.80 344 *eP* **P** **10 45 56.2 -3.3**
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS pmax pmax
comp=E,7.0nm,0.9s
SONM Songino Array 67.10 329 P **P** **10 46 01.2 -0.3**
comp=E,5.7nm,0.7s,mb4.7,baz=137,slow=5.7,SNR=18
SONM PcP PcP 10 46 29.9 +0.5
comp=E,4.8nm,0.8s,baz=148,slow=3.4,SNR=6.1
SONM PKPPKP 11 14 32.3
comp=E,1.2nm,0.8s,baz=312,slow=2.2,SNR=9.2
SONM LR LR 11 14 50.9
comp=E,570nm,19.0s,MS4.8,baz=150,slow=36
LSA Lhasa 68.15 305 *eP* **P** **10 46 08.3 +0.2**
LSA Lhasa 68.15 305 *eP* **P** **10 46 10.8 +2.7**
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LSA Lhasa 68.15 305 *eP* **P** **10 46 10.8 +2.7**
comp=Z,7.8nm,0.7s,mb4.8
SEY Seymchan 69.27 0 ⇑*i* P **P** **10 46 13.6 -1.4**
ZAK Zakamensk 70.30 330 *eP* **P** **10 46 20.3 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
YAK Yakutsk 70.41 349 *eP* **P** **10 46 20.9 -1.1**
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.1s,mb5.0
BOK Bokaro 70.69 298 *ex* PcP 10 46 49.3 +4.8
BOK AMb AMB 10 46 51.7
comp=Z,38nm,0.9s,mb5.3
TLY Talaya 70.93 331 ⇑*eP* **P** **10 46 22.9 -2.3**
BOD Bodaibo 70.94 340 *eP* **P** **10 46 21.8 -3.5**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VNDA Vanda 71.16 178 P **P** **10 46 26.2 -0.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=335,slow=7.2,SNR=30
VNDA LR LR 11 16 39.5
comp=Z,373nm,18.5s,MS4.7,baz=350,slow=35
VNDA Vanda 71.16 178 P **P** **10 46 26.2 -0.4**
VNDA LR LR 11 16 39.5
VIS Vishakhapatnam 71.45 291 *eP* **P** **10 46 29.1 +0.7**
VIS AMb AMB 10 46 35.5
comp=Z,20nm,1.2s,mb4.9
SBA Scott Base 71.73 177 *eP* **P** **10 46 31.1 +1.0**
SBA pmax pmax
comp=Z,41nm,1.7s,mb5.1
SBA Scott Base 71.73 177 *eP* **P** **10 46 31.1 +1.0**
comp=Z,41nm,1.7s,mb5.1
MIR Mirnyy 71.86 201 *c*/*i* P **P** **10 46 33.5 +2.7**
MIR *i* 10 46 53.0
MIR pmax pmax
comp=Z,40nm,2.0s,mb5.0
GUN Gumba 71.91 302 *eP* **P** **10 46 30.1 -1.0**
comp=Z,40nm,0.7s,mb5.4
PALK Pallekele 71.93 280 *eP* **P** **10 46 31.8 +0.5**
comp=Z,24nm,0.9s,mb5.1
PKI Pulchoki 72.20 302 *eP* **P** **10 46 33.2 +0.3**
RKT Rikitea 72.34 112 *eS* S 10 55 56.9 +2.8
comp=Z,243nm,28.0s
RKT *e*SS SS 11 00 30.3 -2.4
comp=Z,171nm,32.5s
RKT *e*LR LR 11 08 49.1
comp=Z,1μm,35.2s,baz=280
KKN Kakani 72.38 302 *eP* **P** **10 46 33.0 -0.9**
comp=Z,53nm,1.0s,mb5.4
DMN Daman 72.47 301 *eP* **P** **10 46 33.9 -0.6**
comp=Z,58nm,1.0s,mb5.5
GKN Gorkha 72.99 302 *eP* **P** **10 46 35.9 -1.6**
comp=Z,104nm,1.2s,mb5.6
KOLN Koldanda 73.80 301 *eP* **P** **10 46 41.8 -0.5**
comp=Z,87nm,1.2s,mb5.6
BILL Bilibino 75.12 6 *d*/*i* P **P** **10 46 49.3 -0.7**
BILL *i* pP 10 46 59.1 -3.0
BILL pmax pmax
comp=Z,66nm,1.0s,mb5.5
TRD Trivandrum 75.79 280 *eP* **P** **10 46 55.3 +1.5**
TRD AMb AMB 10 46 58.4
comp=Z,44nm,0.8s,mb5.4
HYB Hyderabad 75.83 290 *i* P **P** **10 46 54.0 -0.1**
HYB Hyderabad 75.83 290 *eP* **P** **10 46 54.0 -0.1**
WMQ Urumqi 76.13 318 ⇑P **P** **10 46 56.4 +0.6**
WMQ PCP PcP 10 47 08.8 +1.0
WMQ PP PP 10 49 48.9 +1.9
WMQ S S 10 56 34.9 -1.8
WMQ SKS 10 56 58.4
WMQ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,51nm,6.4s
WMQ LR LR
comp=N,212nm,21.2s,MS4.6
WMQ LR LR
comp=E,287nm,22.6s,MS4.6
WMQ LR LR
comp=Z,306nm,21.2s,MS4.6
NGP Nagpur 76.16 294 *eP* **P** **10 46 54.9 -1.0**
NGP AMb AMB 10 46 59.7
comp=Z,27nm,2.0s,mb4.8
BHPL Bhopal 78.08 295 *eP* **P** **10 47 06.7 0.0**
BHPL AMb AMB 10 47 09.1
comp=Z,23nm,0.6s,mb5.3
KDAK Kodiak Island 78.30 27 P **P** **10 47 07.8 -0.1**
comp=Z,24nm,0.9s,mb5.1,baz=117,slow=3.3,SNR=7.4
KDAK Kodiak Island 78.30 27 P **P** **10 47 07.8 -0.1**
AGRA Agra 78.51 299 *eP* **P** **10 47 09.1 0.0**
AGRA AMb AMB 10 47 10.1
comp=Z,67nm,0.3s,mb6.0
MNGI Mangalore 78.57 285 *eP* **P** **10 47 11.1 +1.7**
MNGI AMb AMB 10 47 13.0
comp=Z,37nm,1.6s,mb5.1
BISR Bishrakh 79.26 301 *eP* **P** **10 47 10.9 -2.3**
BISR AMb AMB 10 47 14.2
comp=Z,1.4nm,0.5s,mb4.2
KLP Kalpa 79.29 304 *eP* **P** **10 47 13.1 -0.3**
KLP AMb AMB 10 47 18.6
comp=Z,52nm,0.8s,mb5.5
TIXI Tiksi 79.43 353 *eP* **P** **10 47 14.2 +0.1**
TIXI pmax pmax
comp=Z,20nm,1.3s,mb4.9
TIXI Tiksi 79.43 353 *eP* **P** **10 47 14.2 +0.1**
comp=Z,20nm,1.3s,mb4.9
NDI New Delhi 79.47 301 *ex* x 10 47 13.0
SONA Sohna 79.49 300 *eP* **P** **10 47 13.6 -0.8**
SONA AMb AMB 10 47 16.4
comp=Z,17nm,1.4s,mb4.8
AYAN Aya Nagar 79.50 300 *eP* **P** **10 47 12.4 -2.2**
AYAN AMb AMB 10 47 15.8
comp=Z,25nm,0.8s,mb5.2
KAD Karad 79.91 289 *eP* **P** **10 47 16.1 -0.7**
KAD *eP* 10 47 16.2
KAD AMb AMB 10 47 19.7
comp=Z,61nm,1.0s,mb5.5
POO Poona 80.44 290 ⇓*i* x **P** **10 47 16.0 -3.6**
comp=Z,50nm,1.0s,mb5.4
KHET Khetri 80.55 300 *eP* **P** **10 47 19.0 -1.2**
KHET AMb AMB 10 47 21.8
comp=Z,19nm,0.9s,mb5.0
MK31 Makanchi Array 80.77 319 *eP* **P** **10 47 20.9 -0.5**
MKAR Makanchi Array 80.77 319 P **P** **10 47 20.8 -0.5**
comp=Z,8.4nm,1.0s,mb4.6,baz=101,slow=4.8,SNR=24
MKAR PP PP 10 50 24.5 -1.3
comp=Z,2.5nm,1.1s,baz=113,slow=9.3,SNR=4.4
MKAR PKKPbc PKKPbc 11 06 01.2 +1.3
comp=Z,0.7nm,0.6s,baz=256,slow=2.5,SNR=5.3
MKAR LR LR 11 21 49.8
comp=Z,442nm,19.5s,MS4.8,baz=110,slow=35
MKAR Makanchi Array 80.77 319 P **P** **10 47 20.8 -0.5**
MKAR PP PP 10 50 24.5 -1.2
MKAR PKKPbc PKKPbc 11 06 01.2 +1.3
MKAR LR LR 11 21 49.8
SLKM Skilak Lake 80.78 25 *eP* **P** **10 47 21.0 -0.4**
THN Thein Dam 81.59 304 *eP* **P** **10 47 23.9 -1.8**
PMR Palmer 81.79 25 *eP* **P** **10 47 27.2 +0.4**
PMR pmax pmax

comp=Z,37nm,1.2s,mb5.2
PMR Palmer 81.79 25 *e*P **P 10 47 27.2 +0.4**
comp=Z,37nm,1.2s,mb5.2
ZAL Zalesovo 81.87 327 P **P 10 47 25.8 -1.4**
comp=Z,4.1nm,0.9s,mb4.3,baz=7.0,slow=6.2,SNR=16
ZAL LR LR 11 23 26.8
comp=Z,580nm,19.7s,MS5.0,baz=358,slow=36
ZAL Zalesovo 81.87 327 P **P 10 47 25.8 -1.4**
ZAL pmax pmax
comp=Z,4.0nm,0.9s
ZAL MLR MLR
comp=Z,581nm,19.7s
SML Sawmill 82.23 25 *e*P **P 10 47 29.4 +0.4**
IMA2 Indian Mountai 82.51 20 *e*P **P 10 47 30.9 +0.3**
IMA2 *e*pP pP 10 47 41.4 -1.3
MCK McKinley 82.95 23 *e*P **P 10 47 31.0 -1.8**
MCK *e**PP pP 10 47 42.8 -2.2
MCK pmax pmax
comp=Z,27nm,0.9s,mb5.3
MCK McKinley 82.95 23 *e*P **P 10 47 31.0 -1.8**
comp=Z,27nm,0.9s,mb5.3
MCK *e*pP pP 10 47 42.8 -2.3
DIV Divide 82.98 26 *e*P **P 10 47 33.6 +0.6**
comp=Z,47nm,0.6s,mb5.7
NVS Novosibirsk 83.06 327 *e*P **P 10 47 33.4 0.0**
NVS pmax pmax
comp=N,51nm,3.2s
NVS pmax pmax
comp=Z,90nm,3.2s
NVS pmax pmax
comp=E,10.0nm,1.7s
KSH Kashi 83.07 311 *e*P **P 10 47 32.4 -1.0**
KSH *e*PP PP 10 50 44.2 -0.5
KSH *e*XS sS 10 58 08.4 -2.0
KSH LR LR
comp=Z,812nm,11.2s,MS5.3
QSPA South Pole Qui 83.44 180 *e*P **P 10 47 35.7 +0.4**
comp=Z,12nm,0.9s,mb4.9
MAW Mawson 83.48 203 *e*P **P 10 47 36.2 +0.6**
comp=Z,6.0nm,1.1s,mb4.5
MAW Mawson 83.48 203 P **P 10 47 36.2 +0.6**
comp=Z,6.1nm,0.9s,mb4.7,baz=127,slow=2.8,SNR=6.7
MAW LR LR 11 21 58.5
comp=Z,686nm,21.4s,MS5.0,baz=77,slow=34
ULHL Ulahol 83.56 314 P **P 10 47 36.0 0.0**
SNR=11
COLA College 83.93 22 *e*P **P 10 47 35.9 -2.0**
COLA pmax pmax
comp=Z,29nm,0.8s,mb5.5
COLA College 83.93 22 *e*P **P 10 47 35.9 -1.9**
comp=Z,29nm,0.8s,mb5.5
TKM2 Tokmak 2 84.19 314 P **P 10 47 40.1 +0.9**
SNR=8.9
KZA Kyzart 84.23 313 P **P 10 47 40.3 +1.0**
SNR=25
KURK Kurchatov 84.33 322 P **P 10 47 39.7 -0.2**
comp=Z,122nm,1.1s,mb6.0,SNR=5.2
KURK Kurchatov 84.33 322 *e*P **P 10 47 38.5 -1.4**
KURK *e**PP pP 10 47 48.8 -3.3
KURK *e**SP sP 10 47 53.9 -2.8
KURK pmax pmax
comp=Z,21nm,1.0s,mb5.2
KURK Kurchatov 84.33 322 *e*P **P 10 47 38.5 -1.4**
comp=Z,21nm,1.0s,mb5.2
KURK *e*pP pP 10 47 48.8 -3.3
KURK *e*sP sP 10 47 53.9 -2.8
JASL Jaisalmer 84.59 298 *e*P **P 10 47 38.8 -2.5**
JASL AMb AMB 10 47 40.6
comp=Z,144nm,0.3s
MENT Mentasta 84.66 25 *e*P **P 10 47 42.7 +1.2**
UCH Uchtor 84.80 313 P **P 10 47 43.1 +0.8**
SNR=29
CHMS Chumysh 84.81 314 P **P 10 47 43.5 +1.2**
SNR=6.8
FRU Bishkek 84.87 314 *e*P **P 10 47 44.0 +1.4**
FRU pmax pmax
comp=Z,120nm,2.2s,mb5.6
AAK Ala-Archa 84.91 314 P **P 10 47 43.4 +0.6**
SNR=10
AAK Ala-Archa 84.91 314 *c i*P **P 10 47 42.0 -0.8**
AAK pmax pmax
comp=Z,47nm,2.5s,mb5.2
AAK Ala-Archa 84.91 314 *e*P **P 10 47 42.3 -0.5**
comp=Z,24nm,1.4s,mb5.1
USP Ospenovka 85.05 314 P **P 10 47 43.1 -0.4**
SNR=23
AML Almayashu 85.37 313 P **P 10 47 45.9 +0.8**
SNR=50
EKS2 Erkin-Say 85.43 314 P **P 10 47 45.4 0.0**
SNR=24
EGAK Eagle 86.45 23 *e*P **P 10 47 49.8 -0.6**
comp=Z,36nm,1.0s,mb5.6
EGAK *e*pP pP 10 48 00.8 -2.0
DAWY Dawson 86.89 24 *e*P **P 10 47 53.0 +0.4**
CHKZ Chkalovo 89.83 324 *e*P **P 10 48 05.6 -1.0**
BRVK Borovoye 89.91 323 *e*P **P 10 48 07.0 +0.1**
INK Inuvik 90.53 21 P **P 10 48 08.4 -1.4**
comp=Z,19nm,1.0s,mb5.4,baz=229,slow=6.4,SNR=17
INK Inuvik 90.53 21 *e*P **P 10 48 08.3 -1.5**
INK *e*pP pP 10 48 20.0 -2.1
SYO Syowa Base 91.61 200⇑ *e*P **P 10 48 14.0 -0.8**
NVAR Mina Array Bea 94.17 52 P **P 10 48 26.7 +0.1**
comp=Z,2.7nm,0.8s,mb4.7,baz=246,slow=1.2,SNR=16
DAC Darwin (Calif) 94.55 54 *e*P **P 10 48 29.7 +1.3**
BMO Blue Mountains 95.41 46 *e*P **P 10 48 34.6 +2.3**
BMO pmax pmax
comp=Z,8.0nm,1.4s,mb5.0
BMO Blue Mountains 95.41 46 *e*P **P 10 48 34.6 +2.3**
comp=Z,8.5nm,1.4s,mb5.0
SHPR Sheep Range 96.53 54 *e*P **P 10 48 39.2 +1.8**
ARU Arti 97.01 326⇑ *e*P **P 10 48 38.5 -1.1**
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
YKA Yellowknife Ar 97.55 28 P **P 10 48 42.9 +0.9**
comp=Z,1.8nm,0.7s,mb4.7,baz=266,slow=4.8,SNR=6.9
YKA LR LR 11 29 08.8
comp=Z,212nm,19.9s,MS4.6,baz=180,slow=33
PDAR Pinedale Array 100.97 48 P Pdif 10 48 57.7 +0.4
comp=Z,0.8nm,0.8s,baz=253,slow=1.5,SNR=6.4
FINES FINESS Array B 112.07 335 Pdiff Pdif 10 49 46.8 +0.2
comp=Z,1.6nm,0.8s,baz=80,slow=2.1,SNR=3.6
FINES FINESS Array B 112.07 335 P Pdif 10 49 46.8 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 115.46 311 PKP PKPdf 10 53 50.5 +0.9
comp=Z,0.3nm,0.3s,baz=161,slow=7.9,SNR=4.4
BOSA Boshof 117.55 233 PKIKP PKPdf 10 53 55.1 +1.5
comp=Z,2.5nm,0.9s,baz=192,slow=5.0,SNR=3.6
BOSA Boshof 117.55 233 PKIKP PKPdf 10 53 55.1 +1.5
BOSA pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 122.15 325 *e*PKP PKPdf 10 54 03.9 +1.5
BRG Berggiesshubel 123.50 329 *e*(P) PKPdf 10 54 06.2 +1.2
comp=Z,2.9nm,1.1s
CLL Collm 123.71 330 *e*PKPdf PKPdf 10 54 05.0 -0.4
KHC Kasperske Hory 124.72 328⇑ *i*PKIKP PKPdf 10 54 09.6 +2.3
GERES GERESS Array B 124.82 327 PKP PKPdf 10 54 08.0 +0.4
comp=Z,1.6nm,0.6s,baz=17,slow=1.4,SNR=9.4
GERES GERESS Array B 124.82 327 PKIKP PKPdf 10 54 08.0 +0.5
GERES pmax pmax
comp=Z,2.0nm,0.6s
GRA1 Grafenberg Arr 125.60 329 *e*PKPdf PKPdf 10 54 11.0 +2.0
GRF Grafenberg Arr 125.60 329 *e*PKPdf PKPdf 10 54 11.0 +2.0
BOJS Bojanci 125.80 323 *e*PKPdf PKPdf 10 54 10.7 +1.2
JAVS Javornik 126.29 324 *e*PKPdf PKPdf 10 54 12.1 +1.7
ROBS Robic 126.41 325 *e*PKPdf PKPdf 10 54 12.2 +1.7
LPAZ La Paz 134.71 120 PKP PKPdf 10 54 28.6 +2.3
comp=Z,3.2nm,0.8s,baz=279,slow=1.0,SNR=17
LPAZ La Paz 134.71 120 PKIKP PKPdf 10 54 28.7 +2.4
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 134.71 120 *e*PKIKP PKPdf 10 54 29.0 +2.7
LPAZ La Paz 134.71 120 *e*PKPdf PKPdf 10 54 29.0 +2.7
KEST Kesra 134.75 315 PKP PKPdf 10 54 28.6 +2.3
comp=Z,3.4nm,0.9s,baz=46,slow=1.0,SNR=4.7
GUD Guadarrama 139.65 331 PKHKP 10 54 28.8
ESDC Sonseca Array 140.30 330 PKhKP 10 54 29.3
comp=Z,1.0nm,0.8s,baz=65,slow=2.0,SNR=6.7
ESDC Sonseca Array 140.30 330 PKP 10 54 29.3
ESDC PKP PKPdf 10 54 33.8 -2.8
EHUE Huescar 140.96 327 PKIKP PKPdf 10 54 33.2 -4.6
EQES Quesada 141.23 327 PKP PKPdf 10 54 32.4 -5.9
EBAN Banos Encina 141.35 328 PKIKP PKPdf 10 54 33.9 -4.6
ENIJ Nijar 141.35 325 PKIKP PKPdf 10 54 35.0 -3.5
EADA Adamuz 141.75 329 PKP PKPdf 10 54 35.1 -4.2
PCBR Castelo Branco 141.83 333 *e*PKP PKPdf 10 54 36.9 -2.5
ECOG Cogollos-Vega 141.88 327 PKIKP PKPdf 10 54 35.5 -4.0
ELUQ Luque 142.05 328 PKHKP PKPdf 10 54 34.9 -4.9
SAML Samuel 142.17 114 *e*PKPdf PKPdf 10 54 41.8 +1.9
ERON Agron 142.20 327 PKP PKPdf 10 54 36.7 -3.3
EGUA Guajares 142.21 326 PKIKP PKPdf 10 54 37.0 -3.0
ELOJ Sierra Loja 142.30 327 PKHKP PKPdf 10 54 34.8 -5.4
EBAD Badajoz 142.49 332 PKP PKPdf 10 54 34.8 -5.8
EMIJ Mijas 143.06 327 PKP PKPdf 10 54 36.7 -4.8
EMIN Mina Concepcio 143.11 331 PKP PKPdf 10 54 39.7 -2.0
ESPR Espera 143.40 329 PKP PKPdf 10 54 40.1 -2.1
PBEJ Beja 143.47 332 *e*PKP PKPdf 10 54 41.0 -1.3
EJIF Jimena Fronter 143.52 328 PKIKP PKPdf 10 54 41.8 -0.6
EGRO El Granado 143.69 331 PKP PKPdf 10 54 40.3 -2.4
PTEO Sao Teotonio 144.26 333 *e*PKP PKPdf 10 54 43.5 -0.2
TOA0 Torodi Ar. Sit 149.54 285 *e*PKPdf PKPdf 10 54 54.5 +2.0
TOA0 *e*PKPbc PKPbc 10 54 57.1 +0.1
TORD Torodi Ar. Bea 149.54 285 PKP PKPdf 10 54 52.5 0.0
comp=Z,12nm,1.2s,baz=70,slow=3.1,SNR=6.6
TORD PKPbc PKPbc 10 54 56.9 -0.2
comp=Z,20nm,0.7s,baz=26,slow=2.5,SNR=48

*ISCJB **12** 10:43:13.0±1.1, 175N±0.1×6221W±0.09, h72km±11km, Error ellipse: s-maj=25.4km s-min=5.3km az=64.9*
*TRN **12** 10:43:12.4, 1751N×6219W, h36km, MD3.3*
*NEIC **12** 10:43:13.5, 1751N×6224W, h35km, MD3.3(TRN), After TRN.*
*RSPR **12** 10:43:15.7, 2022N×6317W, h128km±10km*
ISC 12 10:43:13.8±1.1, 175N±0.1×6218W±0.09, h59km±18km, n13, σ0§69/21, 4C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STAT	**Sint Eustatius**	**0.77**	**268**	*i*P		**Pn**		**10 43 28.1**	**-0.7**
STAT				*i* S		**Sn**		**10 43 38.5**	**-1.2**
SABS	**Saba**	**1.02**	**276**	*e*P		**Pn**		**10 43 32.4**	**+0.3**
SABS				*e*S		**Sn**		**10 43 46.5**	**+0.9**
SABT	**Saba**	**1.02**	**276**	*e*P		**Pn**		**10 43 32.4**	**+0.3**
SABT				*e*S		**Sn**		**10 43 46.5**	**+0.9**
STMA	**St. Maarten, A**	**1.03**	**301**	*e*P		**Pn**		**10 43 32.3**	**+0.1**
STMA				*e*S		**Sn**		**10 43 45.8**	**0.0**
LZG	**Guadaloupe-1**	**1.42**	**164**	*e*P		**Pn**		**10 43 37.2**	**-0.2**
SCG	**Saint Claude**	**1.55**	**162**	*e*P		**Pn**		**10 43 39.0**	**-0.2**
DEG	**La Desirade**	**1.61**	**138**	*e*P		**Pn**		**10 43 39.1**	**-0.7**
DEG				*e*S		**Sn**		**10 44 00.2**	**+0.6**
TBG	**Guadaloupe-3**	**1.73**	**163**	*e*P		**Pn**		**10 43 42.0**	**+0.3**
MGG	**Marie-Galante**	**1.79**	**152**	*e*P		**Pn**		**10 43 42.5**	**+0.1**
STVI	**Saint Thomas**	**2.77**	**288**⇑	*e*P		**Pn**		**10 43 56.0**	**+0.2**
STVI				*e*S		**Sn**		**10 44 27.4**	**-0.6**
MTP	**Monte Pirata**	**3.27**	**281**⇑	*e*P		**Pn**		**10 44 03.4**	**+0.8**
MTP				*e*S		**Sn**		**10 44 40.6**	**+0.5**
CPD	**Cerro la Pandu**	**3.60**	**279**⇑	*e*P		**Pn**		**10 44 07.7**	**+0.6**
CPD				*e*S		**Sn**		**10 44 48.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**4.72**	**277**⇑	*e*P		**Pn**		**10 44 20.5**	**-2.0**

MAN 12 11:21:31.2, 1245N×12360E, h5km, mb3.6, ML4.7, MS2.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.10**	**164**	*i*P		Pg		11 21 33.9	+0.6
MMPH				*i* S		Sg		11 21 35.5	+0.9
RCP	**Roxas**	**1.22**	**223**⇑	*e*P		Pg		11 21 54.6	+0.1
RCP				*e*S		Sg		11 22 10.4	0.0
AUQP	**San Andres**	**1.25**	**314**	*e*P		Pg		11 21 56.8	+1.7
PVCP	**Virac**	**1.26**	**25**	*e*P		Pg		11 21 55.1	-0.2
PVCP				*e*S		Sg		11 22 13.0	+1.3
KALP	**Kalibo**	**1.45**	**238**	*e*P		Pn		11 21 59.6	+1.5
OTRP	**Odiongan**	**1.54**	**267**	*e*P		Pn		11 21 58.9	-0.4
OTRP				*e*S		Sn		11 22 18.8	-1.0
OCLP	**Ormoc**	**1.71**	**144**	*e*P		Pn		11 22 01.7	+0.1
PLP	**Palo**	**1.86**	**133**	*e*P		Pn		11 22 03.1	-0.7
PLP				*e*S		Sn		11 22 26.5	-1.2
BOAC	**Boac**	**1.98**	**301**	*e*P		Pn		11 21 52.1	-13
GUIM	**Jordan**	**2.07**	**209**	*e*P		Pn		11 22 06.3	-0.2
LLP	**Lapu-Lapu**	**2.15**	**170**	*e*P		Pn		11 22 08.2	+0.5
LLP				*e*S		Sn		11 22 32.0	-2.8
MSLP	**Maasin**	**2.62**	**152**	*e*P		Pn		11 22 15.5	+1.4
POLP	**Polillo Island**	**2.78**	**325**	*e*P		Pn		11 22 23.9	+7.6
CUYO	**Cuyo Island**	**2.99**	**238**	*e*P		Pn		11 22 21.4	+2.2
BUSP	**Coron**	**3.35**	**263**	*e*P		Pn		11 22 24.7	+0.4

IDC 12 11:52:47.2±19.0, 584S×15142E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.6/3, Error ellipse: s-maj=308.6km s-min=99.2km az=22.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**230**	Sn		Sn		11 55 09.9	-4.8
	0.8nm,0.3s,baz=238,slow=23,SNR=3.1								
WRA	**Warramunga Arr**	**21.73**	**228**	P		P		11 57 40.4	+0.4
	0.5nm,0.5s,baz=54,slow=11,SNR=6.6								
ASAR	**Alice Springs**	**24.46**	**222**	P		P		11 58 08.1	+0.3
	0.5nm,0.5s,baz=56,slow=8.7,SNR=15								
STKA	**Stephens Creek**	**27.49**	**198**	P		P		11 58 35.4	+0.3
	1.2nm,0.5s,baz=5.1,slow=13,SNR=4.0								

IDC 12 11:55:07.2±2.9, 692S×15171E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, ML2.3/1, Error ellipse: s-maj=103.9km s-min=41.3km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.14**	**241**	Pn		Pn		11 56 27.1	+1.7
	0.7nm,0.3s,baz=63,slow=14,SNR=2.4								
PMG				Sn		Sn		11 57 26.0	+0.6
	0.8nm,0.3s,baz=326,slow=21,SNR=3.3								
WRA	**Warramunga Arr**	**21.26**	**231**	P		P		11 59 55.1	+0.1
	0.9nm,0.8s,baz=56,slow=12,SNR=5.5								
ASAR	**Alice Springs**	**23.87**	**224**	P		P		12 00 22.4	+0.1
	0.8nm,0.5s,baz=54,slow=9.4,SNR=15								
TORD	**Torodi Ar. Bea**	**149.86**	**284**	PKPbc		PKPbc		12 14 60.0	+0.7
	0.8nm,1.0s,baz=73,slow=1.8,SNR=3.4								

IDC 12 11:59:51.4±9.4, 653S×15116E, h70km±66km, mb3.2/3, mb1 3.4/4, mb1mx3.2/14, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=103.7km s-min=63.7km az=152.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88**	**234**	P		Pn		12 01 02.2	0.0
	0.4nm,0.3s,baz=96,slow=10,SNR=2.1								
PMG				S		Sn		12 01 58.5	+1.1
	1.0nm,0.3s,baz=173,slow=21,SNR=2.9								
WRA	**Warramunga Arr**	**21.08**	**229**	P		P		12 04 29.9	0.0
	0.6nm,0.6s,baz=56,slow=11,SNR=8.5								
ASAR	**Alice Springs**	**23.78**	**222**	P		P		12 04 57.5	+0.1
	0.7nm,0.6s,baz=56,slow=8.4,SNR=18								
STKA	**Stephens Creek**	**26.75**	**198**	P		P		12 05 25.0	+0.7
	1.0nm,0.5s,baz=5.2,slow=11,SNR=3.1								

JMA 12 12:07:21.6±0.3, 4325N×14680E, h42km±3km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.78**	**279**	P		Pn		12 07 36.3	+0.1
NEM2				*e*S		Sn		12 07 47.0	+0.3
JRA	**Rausu**	**1.40**	**300**	P		Pn		12 07 45.1	+0.5
JNK	**Nakash**	**1.55**	**283**	P		Pn		12 07 47.1	+0.4
JNK				*e*S		Sn		12 08 05.5	-0.1
JAK	**Akkeshi**	**1.56**	**261**	P		Pn		12 07 47.3	+0.5
JAK				*e*S		Sn		12 08 06.2	+0.4
JAR	**Ashorobuto**	**2.21**	**272**	P		Pn		12 07 57.0	+1.2
JAR				*e*S		Sn		12 08 22.6	+0.7
JTKR	**Abashiri--Toko**	**2.22**	**290**	P		Pn		12 07 57.5	+1.6

MAN 12 12:11:19.9, 1685N×11964E, h1km, mb6.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.01**	**117**	*i*P		Pg		12 11 39.4	0.0
BCPH				*i* S		Sg		12 11 45.3	-7.2
ABRA	**Dolores**	**1.29**	**52**	*e*P		Pg		12 11 44.2	-0.5
CAUP	**Cauayan**	**2.09**	**87**	*e*P		Pn		12 11 58.0	+1.9
BALP	**Baler**	**2.16**	**121**	*e*P		Pn		12 11 57.6	+0.6

*ISCJB **12** 12:12:55.3±1.1, 1775S±02×174.1W±02, h300km, mb3.7/6, Error ellipse: s-maj=35.1km s-min=9.4km az=80.7*
*IDC **12** 12:12:55.3±5.3, 1777S×17398W, h288km±163km, mb3.5/5, mb1 3.6/6, mb1mx3.2/18, mbtmp3.5/6, Error ellipse: s-maj=174.2km s-min=32.2km az=68.0*
*NEIC **12** 12:12:56.4±0.8, 1780S×17398W, h300km, mb3.7/1, Error ellipse: s-maj=26.1km s-min=12.0km az=132.0*
ISC 12 12:12:56.1±1.1, 178S±02×1739W±02, h300km, n12, σ0§57/14, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.33**	**28**	P		**Pn**		**12 14 06.8**	**+0.9**
	5.9nm,0.3s,baz=283,slow=21,SNR=14								
AFI				S		**S**		**12 15 01.1**	**-0.8**
	16nm,0.3s,baz=56,slow=23,SNR=12								
AFI	**Afiamalu**	**4.33**	**28**	*e*P		**Pn**		**12 14 07.2**	**+1.3**
AFI				S		**S**		**12 15 01.1**	**-0.8**
URZ	**Urewera**	**21.89**	**199**	P		**P**		**12 17 24.9**	**-0.1**
	6.9nm,0.7s,mb4.1,baz=45,slow=8.6,SNR=4.6								
CTA	**Charters Tower**	**37.73**	**260**	P		**P**		**12 19 43.4**	**-0.1**
	0.9nm,0.5s,mb3.5,baz=95,slow=11,SNR=4.2								
CTAO	**Charters Tower**	**37.73**	**260**	*e*P		**P**		**12 19 43.4**	**-0.1**
STKA	**Stephens Creek**	**42.50**	**242**	P		**P**		**12 20 21.2**	**-1.2**
	1.1nm,0.7s,mb3.2,baz=72,slow=13,SNR=2.9								
WB2	**Warramunga Arr**	**48.89**	**259**	*e*P		**P**		**12 21 12.0**	**-0.1**
WRAB	**Tennant Creek**	**48.89**	**259**	*e*P		**P**		**12 21 12.3**	**+0.2**
	1.5nm,0.4s,mb3.7								
WRA	**Warramunga Arr**	**48.90**	**259**	P		**P**		**12 21 12.2**	**0.0**
	1.3nm,0.4s,mb3.6,baz=97,slow=7.1,SNR=53								
AS31	**Alice Springs**	**48.98**	**254**	*e*P		**P**		**12 21 13.1**	**+0.3**
ASAR	**Alice Springs**	**48.98**	**254**	P		**P**		**12 21 13.2**	**+0.4**
	4.5nm,0.7s,mb3.9,baz=89,slow=8.8,SNR=83								
ASPA	**Alice Springs**	**48.98**	**254**	*e*P		**P**		**12 21 13.1**	**+0.3**

*ISCJB **12** 12:14:41.5±0.5, 3189N±004×7123E±005, h10km, mb3.7/5, Error ellipse: s-maj=6.9km s-min=4.0km az=98.5*
*NEIC **12** 12:14:43.7±1.5, 3161N×7176E, h39km±13km, mb3.8/1, Error ellipse: s-maj=29.4km s-min=8.0km az=130.0*
*IDC **12** 12:14:43.9±6.0, 3160N×7176E, h41km±55km, mb3.5/5, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=71.8km s-min=25.9km az=133.0*
*MOS **12** 12:14:45.8±0.8, 3201N×7138E, h42km, mb3.8/1, Error ellipse: s-maj=47.8km s-min=14.2km az=82.5*
*NDI **12** 12:14:47.8±3.4, 3212N×7124E, h33km, ML3.8, mb3.8(NEIC)*
*NNC **12** 12:14:55.7±1.4, 3310N×7096E, h0km, mb3.6, Error ellipse: s-maj=16.1km s-min=10.6km az=71.0*
ISC 12 12:14:44.0±0.5, 3185N±004×7120E±005, h10km, n47, σ1§43/61, mb3.7/5, 9C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**0.56**	**324**	⇓P		**Pg**		**12 14 57.9**	**+3.0**
DRP	**Derazinda**	**0.85**	**263**	P		**Pg**		**12 15 06.5**	**+6.0**
THW	**Thamme Wali**	**1.05**	**26**	⇑P		**Pg**		**12 15 05.1**	**+0.9**
SARP	**Sargodha**	**1.26**	**86**	⇑P		**Pn**		**12 15 09.2**	**+1.5**
CEP	**Cherat**	**2.06**	**17**	⇓P		**Pn**		**12 15 20.4**	**+1.7**
CHCP	**Chirah Chowk**	**2.51**	**43**	P		**Pn**		**12 15 26.0**	**+1.1**
THN	**Thein Dam**	**3.88**	**80**	*e*P		**Pn**		**12 15 45.4**	**+1.7**
THN				*ex*		**Sg**		**12 16 50.5**	**+1.9**
DLH	**Dalhousie**	**4.10**	**79**	*e*P		**Pn**		**12 15 45.0**	**-1.8**
DLH				*e*SG		**Sg**		**12 16 50.0**	**-5.8**
SDNR	**Sundarnagar**	**4.94**	**93**	*e*P		**Pn**		**12 16 00.0**	**+1.8**
SDNR				*e*SG		**Sg**		**12 17 13.4**	**-9.1**
KHET	**Khetri**	**5.49**	**132**	*e*P		**Pn**		**12 16 07.6**	**+1.8**
KHET				*e*S		**Sn**		**12 17 08.4**	**-0.6**
KLP	**Kalpa**	**6.02**	**91**	*e*P		**Pn**		**12 16 13.9**	**+0.8**
KLP				*e*S		**Sn**		**12 17 16.7**	**-5.4**
KLP				AML		AML		12 18 04.9	
	comp=E,363nm,0.7s								
KLP				AML		AML		12 18 05.0	
	comp=N,188nm,0.9s								
NDI	**New Delhi**	**6.09**	**120**	*e*P		**Pn**		**12 16 15.6**	**+1.6**
NDI				*e*S		**Sn**		**12 17 20.4**	**-3.4**
AYAN	**Aya Nagar**	**6.13**	**122**	*e*P		**Pn**		**12 16 17.9**	**+3.2**
AYAN				*e*S		**Sn**		**12 17 23.8**	**-1.1**
AJM	**Ajmer**	**6.14**	**150**	*e*P		**Pn**		**12 16 19.3**	**+4.5**
AJM				*e*S		**Sn**		**12 17 25.4**	**+0.3**
AJM				AML		AML		12 18 14.0	
	comp=N,78nm,0.5s								
AJM				AML		AML		12 18 15.3	
	comp=E,130nm,0.8s								
SONA	**Sohna**	**6.24**	**124**	*e*P		**Pn**		**12 16 19.0**	**+2.9**
SONA				*e*S		**Sn**		**12 17 23.1**	**-4.4**
SONA				AML		AML		12 18 14.5	
	comp=E,60nm,0.4s								
SONA				AML		AML		12 18 15.0	
	comp=N,50nm,0.6s								
BHPL	**Bhopal**	**10.20**	**146**	*e*P		**Pn**		**12 17 14.4**	**+4.0**
BHPL				*e*S		**Sn**		**12 19 02.2**	**-2.7**
BHPL				AML		AML		12 20 18.7	
	comp=E,28nm,0.6s								
BHPL				AML		AML		12 20 20.6	
	comp=N,16nm,0.1s								
AML	**Almayashu**	**10.45**	**10**	P		**Pn**		**12 17 14.7**	**+0.7**
	SNR=34								
UCH	**Uchtor**	**10.69**	**13**	P		**Pn**		**12 17 17.6**	**+0.4**
	SNR=15								
KZA	**Kyzart**	**10.71**	**16**	P		**Pn**		**12 17 18.9**	**+1.4**
	SNR=7.6								
AAK	**Ala-Archa**	**11.08**	**13**	*e*P		**Pn**		**12 17 21.5**	**-1.0**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.4s								
AAK	**Ala-Archa**	**11.08**	**13**	*e*Pn		**Pn**		**12 17 21.5**	**-1.1**
	comp=Z,4.1nm,0.4s								
ULHL	**Ulahol**	**11.13**	**20**	P		**Pn**		**12 17 23.5**	**+0.3**
	SNR=6.3								
KK31	**Karatay Array**	**11.25**	**357**	⇑Pn		**Pn**		**12 17 23.6**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=177,slow=13,SNR=11								
KK31				⇑Sn		**Sn**		**12 19 19.6**	**-11**
	comp=Z,3.6nm,0.6s,baz=177,slow=20,SNR=9.0								
KOLN	**Koldanda**	**11.51**	**108**	*e*P		**Pn**		**12 17 28.8**	**+0.4**
	comp=Z,16nm,0.4s								
TKM2	**Tokmak 2**	**11.59**	**16**	P		**Pn**		**12 17 30.1**	**+0.6**
	SNR=5.1								
TKM2	**Tokmak 2**	**11.59**	**16**	⇑Pn		**Pn**		**12 17 29.0**	**-0.5**
	comp=Z,0.1nm,0.5s								
TKM2				⇑Sn		**Sn**		**12 19 26.7**	**-12**
	comp=Z,0.5nm,0.9s								
GKN	**Gorkha**	**12.27**	**105**	*e*P		**Pn**		**12 17 38.8**	**0.0**
DMN	**Daman**	**12.80**	**106**	*e*P		**Pn**		**12 17 45.5**	**-0.6**
KKN	**Kakani**	**12.88**	**105**	*e*P		**Pn**		**12 17 46.3**	**-0.8**
	comp=Z,29nm,0.5s								
PKI	**Pulchoki**	**13.07**	**105**	*e*P		**Pn**		**12 17 49.3**	**-0.4**
	comp=Z,20nm,0.4s								
WSAR	**Wadi

comp=Z,0.6nm,0.7s,mb3.5,baz=104,slow=6.1,SNR=2.3
TORD Torodi Ar. Bea 65.86 271 P **P** **12 25 29.1 -0.6**
comp=Z,0.5nm,0.6s,mb3.7,baz=54,slow=5.7,SNR=3.0

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*NEIC **12** 12:40:13.9±1.3, 624S×15159E, h10km, mb4.2/2, Error ellipse: s-maj=31.4km s-min=11.7km az=172.0*
*IDC **12** 12:40:14.0±2.4, 6.18S×15130E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML2.6/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/24, Error ellipse: s-maj=64.1km s-min=36.9km az=127.0*
*ISCJB **12** 12:40:16.3±2.1, 65S±03×1517E±0.1, h35km, mb3.8/5, Error ellipse: s-maj=50.0km s-min=11.1km az=154.7*
ISC 12 12:40:18.1±2.1, 64S±03×1516E±01, h35km, n14, σ0§71/14, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.33**	**236**	Pn	**Pn**	**12 41 35.1**	**0.0**
	1.5nm,0.3s,baz=184,slow=12,SNR=6.1						
PMG				Sn	**Sn**	**12 42 34.7**	**-0.5**
	1.8nm,0.3s,baz=162,slow=20,SNR=3.8						
PMG	**Port Moresby**	**5.33**	**236**	*e*P	**Pn**	**12 41 35.0**	**-0.2**
PMG				Sn	**Sn**	**12 42 34.8**	**-0.5**
HNR	**Honiara**	**8.78**	**111**	*e*P	**Pn**	**12 42 21.8**	**-0.8**
CTA	**Charters Tower**	**14.56**	**200**	LR	LR	12 48 05.7	
	comp=Z,43nm,18.2s,baz=242,slow=32						
WRAB	**Tennant Creek**	**21.49**	**230**	*e*P	**P**	**12 45 03.6**	**-0.1**
	4.4nm,0.8s,mb3.8						
WB2	**Warramunga Arr**	**21.50**	**230**	*e*P	**P**	**12 45 03.4**	**-0.4**
WRA	**Warramunga Arr**	**21.51**	**230**	P	**P**	**12 45 03.6**	**-0.3**
	1.5nm,0.7s,mb3.5,baz=54,slow=11,SNR=17						
AS31	**Alice Springs**	**24.17**	**223**	*e*P	**P**	**12 45 31.1**	**0.0**
ASAR	**Alice Springs**	**24.18**	**223**	P	**P**	**12 45 31.4**	**+0.3**
	1.7nm,0.6s,mb3.7,baz=56,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**27.01**	**199**	P	**P**	**12 45 58.7**	**+1.9**
	2.4nm,0.8s,mb3.8,baz=56,slow=5.5,SNR=4.2						
STKA	**Stephens Creek**	**27.01**	**199**	P	**P**	**12 45 59.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**27.87**	**243**	*e*P	**P**	**12 46 05.0**	**+0.5**
	4.0nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.87**	**243**	P	**P**	**12 46 04.4**	**-0.1**
	1.8nm,0.5s,mb4.0,baz=74,slow=7.1,SNR=10						
TORD	**Torodi Ar. Bea**	**149.64**	**285**	PKPbc	PKPbc	13 00 05.4	+1.5
	1.1nm,0.6s,baz=64,slow=2.8,SNR=8.0						

IDC 12 12:53:04.2±3.7, 599S×15094E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/18, Error ellipse: s-maj=120.1km s-min=50.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.27**	**228**	P	P	12 57 51.7	-0.4
	0.8nm,0.7s,baz=52,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**24.03**	**221**	P	P	12 58 20.4	-0.5
	0.8nm,0.7s,baz=54,slow=9.7,SNR=18						
FITZ	**Fitzroy Crossi**	**27.47**	**242**	P	P	12 58 53.9	+1.9
	1.6nm,0.8s,baz=61,slow=6.1,SNR=4.1						
KSRS	**Korea Array**	**48.26**	**335**	LR	LR	13 20 51.1	
	comp=Z,52nm,18.7s,baz=325,slow=34						
TORD	**Torodi Ar. Bea**	**148.87**	**285**	PKPbc	PKPbc	13 12 54.1	+0.3
	0.6nm,0.6s,baz=71,slow=3.1,SNR=4.4						

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*INMG **12** 13:06:25.9±0.9, 42.14N×7.14W, h0km±5km, ML1.4, Error ellipse: s-maj=2.4km s-min=1.6km az=89.0*
MDD 12 13:06:25.8±0.3, 4214N×713W, h0km, mbLg1.6/8, 1C, Error ellipse: s-maj=3.5km s-min=2.0km az=33.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERUA	**La Rua**	**0.26**	**358**	Pg	Pg	13 06 30.4	-0.3
	11nm,0.1s,SNR=4.0						
ERUA				Lg		13 06 34.0	
	36nm,0.1s,SNR=4.0						
ECAL	**Calabor**	**0.35**	**124**	⇑Pg	Pg	13 06 32.4	-0.2
	3.3nm,0.1s,SNR=18						
ECAL				Lg		13 06 37.0	
	13nm,0.1s,SNR=32						
PBRG	**Braganca**	**0.44**	**139**	*e*Pg	Pg	13 06 34.2	0.0
PBRG				*e*Sg	Sg	13 06 39.7	-0.3
PBRG							
	8.2nm,0.1s						
PCAB	**Cabril**	**0.79**	**238**	*e*Pg	Pg	13 06 40.4	-0.6
PCAB				*e*Sg	Sg	13 06 50.7	-0.6
PCAB							
	7.2nm,0.1s						
PVRL	**Vila Real**	**0.97**	**207**	*e*P	Pg	13 06 43.6	-0.7
PVRL				*e*S	Sg	13 06 56.4	-0.5
PVRL							
	11nm,0.1s						
EZAM	**Zamans**	**1.16**	**271**	Pg	Pg	13 06 47.4	-0.7
	1.5nm,0.2s,SNR=7.9						
EZAM				Lg		13 07 02.6	
	1.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.19**	**359**	Pg	Pg	13 06 47.8	-0.7
	0.2nm,0.1s,SNR=7.9						
EPON				Lg		13 07 02.8	
	2.7nm,0.2s,SNR=7.1						
PVIS	**Viseu**	**1.53**	**202**	*e*Pn	Pn	13 06 52.7	-1.7
PVIS				*e*Sn	Sn	13 07 13.7	-1.3
PVIS							
	6.1nm,0.1s						
EMAZ	**Mazaricos**	**1.59**	**301**	Lg		13 07 14.9	
	1.3nm,0.1s,SNR=5.8						
EARI	**Arriondas**	**1.83**	**50**	Pg	Pg	13 06 59.2	-1.7
	0.1nm,0.1s,SNR=7.9						
EARI				Lg		13 07 23.0	
	0.4nm,0.1s,SNR=7.9						

IDC 12 13:08:57.9±3.0, 984S×11789E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.4/18, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=173.1km s-min=22.5km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.13**	**138**	Pn	Pn	13 11 38.4	+0.1
	0.1nm,0.3s,baz=328,slow=12,SNR=6.7						
FITZ				Sn	Sn	13 13 30.6	-13
	0.3nm,0.3s,baz=176,slow=19,SNR=8.5						
WRA	**Warramunga Arr**	**18.79**	**124**	P	Pn	13 13 19.0	-0.1
	0.1nm,0.3s,baz=298,slow=13,SNR=6.3						
WRA				S	Sn	13 16 35.6	-14
	0.0nm,0.3s,baz=294,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**20.57**	**134**	P	P	13 13 38.5	+0.4
	0.8nm,0.5s,baz=324,slow=12,SNR=17						
SONM	**Songino Array**	**58.32**	**351**	P	P	13 18 55.0	+0.4
	0.3nm,0.5s,baz=185,slow=8.7,SNR=3.9						
MKAR	**Makanchi Array**	**64.71**	**334**	P	P	13 19 37.6	-0.2
	0.3nm,0.7s,baz=137,slow=7.6,SNR=4.2						

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*IDC **12** 13:16:48.0±1.0, 1809S×17245W, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.9/19, mbtmp4.1/7, ML4.4/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/22, Error ellipse: s-maj=38.5km s-min=21.8km az=158.0*
*NEIC **12** 13:16:48.9±0.5, 1811S×17239W, h10km, mb3.9/1, Error ellipse: s-maj=15.3km s-min=9.8km az=160.0*
*ISCJB **12** 13:16:49.3±0.7, 1796S±007×172.3W±0.1, h35km, mb4.0/5, Error ellipse: s-maj=15.1km s-min=9.2km az=51.3*
ISC 12 13:16:52.1±0.7, 1794S±008×1723W±01, h35km, n16, σ0§79/16, mb4.0/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.04**	**7**	Pn	**Pn**	**13 17 52.3**	**+0.9**
	4.1nm,0.3s,baz=298,slow=23,SNR=13						
AFI				Sn	**Sn**	**13 18 36.5**	**-1.0**
	34nm,0.3s,baz=344,slow=21,SNR=12						
AFI	**Afiamalu**	**4.04**	**7**	*e*Pn	**Pn**	**13 17 52.5**	**+1.1**
AFI				Sn	**Sn**	**13 18 36.5**	**-0.9**
RAR	**Rarotonga**	**12.26**	**107**	Pn	**Pn**	**13 19 43.5**	**-0.6**
	2.3nm,0.3s,baz=160,slow=6.8,SNR=7.5						
CTA	**Charters Tower**	**39.16**	**260**	P	**P**	**13 24 16.8**	**+0.5**
	2.2nm,0.8s,mb4.0,baz=102,slow=9.3,SNR=3.5						
CTAO	**Charters Tower**	**39.16**	**260**	P	**P**	**13 24 16.9**	**+0.5**
	1.9nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**43.73**	**242**	P	**P**	**13 24 53.0**	**-0.8**
	1.2nm,0.7s,mb3.7,baz=138,slow=4.9,SNR=3.1						
WB2	**Warramunga Arr**	**50.31**	**259**	*e*P	**P**	**13 25 44.8**	**-0.4**
WB2	**Warramunga Arr**	**50.31**	**259**	*e*P	**P**	**13 25 44.8**	**-0.4**
WRAB	**Tennant Creek**	**50.32**	**259**	*e*P	**P**	**13 25 45.1**	**-0.1**
WRA	**Warramunga Arr**	**50.33**	**259**	P	**P**	**13 25 44.9**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=97,slow=6.5,SNR=32						
AS31	**Alice Springs**	**50.36**	**254**	*e*P	**P**	**13 25 45.7**	**+0.1**
ASAR	**Alice Springs**	**50.36**	**254**	P	**P**	**13 25 45.9**	**+0.3**
	2.7nm,0.6s,mb4.4,baz=89,slow=8.8,SNR=51						
ASPA	**Alice Springs**	**50.37**	**254**	*e*P	**P**	**13 25 45.7**	**+0.1**
PDAR	**Pinedale Array**	**83.47**	**41**	P	**P**	**13 29 19.1**	**+3.0**
	0.7nm,0.9s,mb3.7,baz=224,slow=2.5,SNR=4.9						
BRTR	**Keskin Array B**	**148.77**	**319**	PKPbc	PKPbc	13 36 38.6	+2.9
	0.7nm,0.7s,baz=45,slow=1.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**172.51**	**129**	PKPab	PKPab	13 38 24.8	+2.5
	0.7nm,1.0s,baz=232,slow=3.6,SNR=3.6						

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*IDC **12** 13:46:27.4±1.6, 2976N×8065E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/23, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=57.8km s-min=23.8km az=63.0*
*ISCJB **12** 13:46:32.2±0.9, 2974N±006×8073E±007, h49km±9km, mb3.5/7, Error ellipse: s-maj=11.3km s-min=8.3km az=65.0*
*NEIC **12** 13:46:32.7±0.9, 2982N×8066E, h35km, mb3.8/2, Error ellipse: s-maj=28.9km s-min=12.3km az=65.0*
*NDI **12** 13:46:33.9±2.9, 2976N×8079E, h33km, ML3.3, mb3.8(NEIC)*
ISC 12 13:46:31.9±1.0, 2974N±005×8078E±006, h28km±6km, n21, σ1§46/28, mb3.5/7, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.53**	**249**	*e*P	**Pn**	**13 46 39.7**	**-2.9**
PTH				*e*S	**Sb**	**13 46 47.1**	**-2.9**
LGTI	**Lohaghat**	**0.55**	**239**	*e*P	**Pb**	**13 46 42.7**	**-0.3**
LGTI				*e*S	**Sb**	**13 46 51.7**	**+1.2**
KLP	**Kalpa**	**2.82**	**310**	*e*P	**Pn**	**13 47 17.8**	**+2.7**
KLP				*e*S	**Sn**	**13 47 48.2**	**0.0**
KLP				AML	AML	13 48 01.4	
	comp=N,104nm,0.6s						
KLP				AML	AML	13 48 02.6	
	comp=E,166nm,0.4s						
NDI	**New Delhi**	**3.29**	**252**	*e*P	**Pn**	**13 47 22.9**	**+1.4**
NDI				*e*S	**Sn**	**13 47 59.2**	**-0.4**
AYAN	**Aya Nagar**	**3.44**	**250**	*e*P	**Pn**	**13 47 24.6**	**+1.1**
AYAN				*e*S	**Sn**	**13 48 05.3**	**+2.1**
AGRA	**Agra**	**3.53**	**226**	*e*P	**Pn**	**13 47 25.8**	**+1.0**
AGRA				*e*S	**Sn**	**13 48 04.0**	**-1.6**
SONA	**Sohna**	**3.56**	**246**	*e*P	**Pn**	**13 47 26.9**	**+1.7**
SONA				*e*S	**Sn**	**13 48 06.9**	**+0.5**
SONA				AML	AML	13 48 10.5	
	comp=N,211nm,0.3s						
SONA				AML	AML	13 48 10.5	
	comp=E,288nm,0.2s						
KHET	**Khetri**	**4.67**	**250**	*e*P	**Pn**	**13 47 42.4**	**+2.0**
KHET				*e*S	**Sn**	**13 48 32.1**	**-1.5**
THN	**Thein Dam**	**5.11**	**303**	*e*x	x	13 48 51.6	
AJM	**Ajmer**	**6.32**	**241**	*e*S	**Sn**	**13 49 10.7**	**-3.7**
AJM				AML	AML	13 49 15.7	
	comp=N,18nm,0.4s						
AJM				AML	AML	13 49 16.2	
	comp=E,13nm,0.2s						
BHPL	**Bhopal**	**7.13**	**206**	*e*x	x	13 48 04.8	
BHPL				*e*S	**Sn**	**13 49 31.7**	**-2.7**
BHPL				AML	AML	13 50 18.3	
	comp=N,16nm,0.6s						
BHPL				AML	AML	13 50 18.6	
	comp=E,32nm,0.5s						
NGP	**Nagpur**	**8.69**	**191**	*e*S	**Sn**	**13 50 07.4**	**-5.3**
NGP				AML	AML	13 51 08.6	
	comp=N,16nm,0.7s						
NGP				AML	AML	13 51 11.0	
	comp=E,12nm,0.4s						
MKAR	**Makanchi Array**	**17.07**	**4**	P	**Pn**	**13 50 27.8**	**-0.6**
	comp=E,0.2nm,0.3s,baz=184,slow=12,SNR=10						
KURK	**Kurchatov**	**21.02**	**356**	*e*P	**P**	**13 51 11.3**	**-1.9**
	comp=E,1.6nm,0.4s,mb3.7						
BVAR	**Borovoye Array**	**24.49**	**345**	P	**P**	**13 51 47.4**	**-1.2**
	comp=E,0.3nm,0.5s,mb3.0,baz=145,slow=10,SNR=2.9						
CHKZ	**Chkalovo**	**25.04**	**346**	*e*P	**P**	**13 51 52.8**	**-0.8**
	comp=E,1.3nm,0.4s,mb3.8						
SONM	**Songino Array**	**26.74**	**40**	P	**P**	**13 52 09.3**	**+0.4**
	comp=E,0.2nm,0.4s,mb3.0,baz=237,slow=8.9,SNR=3.5						
FINES	**FINESS Array B**	**47.60**	**328**	P	**P**	**13 55 04.0**	**-1.2**
	comp=E,4.3nm,1.0s,mb4.4,baz=91,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**47.60**	**328**	P	**P**	**13 55 04.0**	**-1.2**
WRA	**Warramunga Arr**	**71.41**	**127**	P	**P**	**13 57 50.5**	**+1.1**
	comp=E,0.5nm,0.7s,mb3.6,baz=321,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**73.64**	**130**	P	**P**	**13 58 03.5**	**+0.8**
	comp=E,0.3nm,0.7s,mb3.3,baz=316,slow=6.3,SNR=8.7						

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*ISCJB **12** 13:59:42.5±1.0, 3458N±008×731E±0.1, h144km±21km, Error ellipse: s-maj=20.7km s-min=8.7km az=114.9*
*NNC **12** 13:59:48.6±3.2, 3543N×7235E, h0km, mb3.2, mpv3.6, Error ellipse: s-maj=71.4km s-min=23.9km az=84.0*
ISC 12 13:59:40.3±1.9, 3471N±007×732E±01, h24km±16km, n14, σ1§17/22, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.11**	**136**	*e*P	**Pb**	**14 00 31.5**	**-3.4**
THN				*e*S	**Sb**	**14 01 11.4**	**-1.0**
SDNR	**Sundarnagar**	**4.52**	**134**	*e*P	**Pn**	**14 00 50.0**	**+2.8**
SDNR				*e*S	**Sn**	**14 01 43.6**	**+4.6**
KLP	**Kalpa**	**5.31**	**125**	*e*P	**Pn**	**14 00 58.4**	**+0.3**
KLP				*e*S	**Sn**	**14 01 58.9**	**+0.4**
KLP				AML	AML	14 02 33.9	
	comp=N,109nm,0.7s						
KLP				AML	AML	14 02 36.2	
	comp=E,122nm,0.7s						
KHET	**Khetri**	**6.99**	**160**	*e*P	**Pn**	**14 01 23.1**	**+2.0**
KHET				*e*S	**Sn**	**14 02 38.1**	**-1.6**
KHET				AML	AML	14 03 32.9	
	comp=E,9.8nm,0.5s						
KHET				AML	AML	14 03 33.9	
	comp=N,10nm,0.6s						
SONA	**Sohna**	**7.25**	**151**	*e*P	**Pn**	**14 01 25.3**	**+0.6**
SONA				*e*S	**Sn**	**14 02 45.7**	**-0.6**
SONA				AML	AML	14 03 47.0	
	comp=E,16nm,0.4s						
SONA				AML	AML	14 03 47.3	
	comp=N,9.4nm,0.2s						
KK31	**Karatay Array**	**8.63**	**347**	⇑Pn	**Pn**	**14 01 45.9**	**+2.3**
	comp=N,1.0nm,0.3s,baz=154,slow=11,SNR=64						
KK31				⇑Sn	**Sn**	**14 03 18.7**	**-1.6**
	comp=N,1.0nm,0.4s,baz=174,slow=23,SNR=6.1						
KOLN	**Koldanda**	**11.29**	**125**	*e*P	**Pn**	**14 02 21.2**	**+1.1**
GKN	**Gorkha**	**11.86**	**121**	*e*P	**Pn**	**14 02 27.8**	**-0.1**
	comp=N,7.7nm,0.3s						
GKN				*e*S	**Sn**	**14 04 33.6**	**-5.8**
DMN	**Daman**	**12.43**	**121**	*e*P	**Pn**	**14 02 35.9**	**+0.2**
KKN	**Kakani**	**12.45**	**120**	*e*P	**Pn**	**14 02 35.3**	**-0.5**
PKI	**Pulchoki**	**12.67**	**121**	*e*P	**Pn**	**14 02 38.3**	**-0.6**
GUN	**Gumba**	**12.80**	**118**	*e*P	**Pn**	**14 02 40.9**	**+0.1**
AB31	**Akbulak array**	**17.51**	**330**	⇑Pn	**Pn**	**14 03 42.6**	**-0.1**
	comp=N,0.4nm,0.6s,baz=143,slow=13,SNR=6.5						
AB31				⇑Sn	**Sn**	**14 06 47.4**	**-9.5**
	comp=N,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**19.21**	**329**	⇑Pn	**Pn**	**14 04 02.7**	**-0.8**
	comp=N,0.1nm,0.8s						

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*BJI **12** 14:02:22.1, 259N×12690E, h56km, mB5.2, mb4.9, Ms4.6, Msz4.3*
*IDC **12** 14:02:22.6±0.5, 332N×12643E, h0km, mb4.8/20, mb1 4.9/20, mb1mx4.8/24, mbtmp4.8/20, MS3.9/8, Ms1 3.9/8, ms1mx3.5/34, Error ellipse: s-maj=30.9km s-min=10.8km az=72.0*
*ISCJB **12** 14:02:26.6±0.7, 331N±003×12663E±006, h41km±6km, mb5.0/65, MS3.9/18, Error ellipse: s-maj=11.3km s-min=4.4km az=137.3*
*MOS **12** 14:02:28.2±1.3, 341N×12671E, h56km, mb5.1/31, Error ellipse: s-maj=16.4km s-min=6.5km az=113.4*
*NEIC **12** 14:02:30.1±0.2, 333N×12667E, mb5.0/29, Error ellipse: s-maj=10.3km s-min=4.7km az=73.0*
ISC 12 14:02:29.2±0.6, 334N±003×12674E±006, h49km±5km, h52km±2.3km: pP-P, n170, σ1§13/178, mb5.0/65, MS3.9/18, 7C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.61**	**352**	*e*P	**Pn**	**14 03 22.8**	**+0.2**
DAV	**Davao City (W)**	**3.88**	**343**	Pn	**Pn**	**14 03 26.1**	**-0.2**
BUKP	**Musuan**	**4.80**	**340**	*e*P	**Pn**	**14 03 38.8**	**-0.2**
CGP	**Cagayan de Oro**	**5.47**	**338**	⇓*e*P	**Pn**	**14 03 51.9**	**+3.7**
CGP				*e*S	**Sn**	**14 04 50.2**	**+0.5**
ZMPH	**Zamboanga City**	**5.88**	**308**	⇓*i*P	**Pn**	**14 03 52.8**	**-0.9**
ZMPH				*i* S	**Sn**	**14 04 41.2**	**-18**
SWI	**Sorong**	**6.16**	**133**	P	**Pn**	**14 03 57.4**	**-0.2**
	120nm,1.0s						
MSLP	**Maasin**	**7.00**	**345**	*e*P	**Pn**	**14 04 08.3**	**-0.8**
AAI	**Ambon**	**7.13**	**168**	P	**Pn**	**14 04 15.4**	**+4.4**
	30nm,0.8s						
PCI	**Palu**	**8.09**	**239**	P	**Pn**	**14 04 32.1**	**+8.1**
	78nm,0.9s						
KSM	**Kuching**	**16.52**	**264**	*e*P	**Pn**	**14 06 19.8**	**+2.3**
KAKA	**Kakadu**	**16.93**	**161**	*e*P	**Pn**	**14 06 20.3**	**-2.3**
	34nm,0.6s						
GUMO	**Guam**	**20.60**	**59**	LR	LR	14 13 41.1	
	comp=Z,202nm,20.4s,MS3.5,baz=229,slow=32						
FITZ	**Fitzroy Crossi**	**21.34**	**183**	*e*P	**P**	**14 07 11.4**	**-0.7**
	20nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**21.34**	**183**	P	**P**	**14 07 11.5**	**-0.7**
	11nm,0.5s,mb4.5,baz=21,slow=10,SNR=34						
QIZ	**Qiongzhong**	**22.71**	**315**	P	**P**	**14 07 29.7**	**+3.0**
QIZ				S	**S**	**14 11 34.4**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,47nm,1.7s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,404nm,4.0s						
QIZ				LR	LR		
	comp=Z,334nm,18.1s,MS3.8						
JOW	**Kunigami**	**23.40**	**3**	P	**P**	**14 07 35.2**	**+1.4**
	comp=Z,21nm,0.7s,mb4.7,baz=211,slow=12,SNR=5.1						
JOW				LR	LR	14 15 05.0	
	comp=Z,161nm,21.7s,MS3.4,baz=94,slow=32						
WRAB	**Tennant Creek**	**24.31**	**162**	P	**P**	**14 07 41.0**	**-1.1**
	comp=Z,744nm,1.0s,mb6.1,SNR=42						
WRAB	**Tennant Creek**	**24.31**	**162**	*e*P	**P**	**14 07 41.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,116nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**24.31**	**162**	*e*P	**P**	**14 07 41.4**	**-0.7**
	comp=Z,116nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**14 07 41.7**	**-0.5**
	comp=Z,53nm,0.8s,mb5.0,baz=335,slow=11,SNR=152						
WRA				PcP	PcP	14 11 22.4	+1.6
	comp=Z,1.5nm,0.5s,baz=328,slow=2.4,SNR=5.3						
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**14 07 41.7**	**-0.5**
WRA						14 11 22.4	
WRA				pmax	pmax		
	comp=Z,53nm,0.8s						
WB2	**Warramunga Arr**	**24.32**	**162**	⇑*i*P	**P**	**14 07 41.5**	**-0.7**
WB2				*e*S	PcP	14 11 29.7	+8.8
MBWA	**Marble Bar**	**25.30**	**195**	*e*P	**P**	**14 07 52.3**	**+1.2**
KKTK	**Khon Kaen**	**26.82**	**300**	P	**P**	**14 08 05.0**	**+0.2**
AS31	**Alice Springs**	**27.74**	**166**	*e*P	**P**	**14 08 12.8**	**-0.3**
AS31				*e*S	**S**	**14 12 37.0**	**-15**
ASAR	**Alice Springs**	**27.74**	**166**	P	**P**	**14 08 12.8**	**-0.2**
	comp=Z,7.9nm,0.5s,mb4.6,baz=349,slow=7.5,SNR=168						
ASAR				PcP	PcP	14 11 30.4	+1.6
	comp=Z,1.6nm,0.6s,baz=337,slow=1.9,SNR=5.8						
ASAR	**Alice Springs**	**27.74**	**166**	P	**P**	**14 08 12.9**	**-0.2**
ASAR						14 11 30.4	
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASPA	**Alice Springs**	**27.74**	**166**	*e*P	**P**	**14 08 12.8**	**-0.3**
ASPA				*e*S	**S**	**14 12 37.0**	**-15**
PSI	**Prapat**	**27.78**	**270**	LR	LR	14 21 19.8	
	comp=Z,196nm,18.4s,MS3.7,baz=254,slow=41						
CBIJ	**Chichi jima**	**27.86**	**31**	LR	LR	14 17 42.9	
	comp=Z,278nm,18.1s,MS3.9,baz=66,slow=33						
NJ2	**Nanjing**	**29.50**	**346**	*e*P	**P**	**14 08 31.0**	**+2.2**
NJ2				AP	pP	14 08 44.1	+2.6
NJ2				XP	sP	14 08 51.2	+3.9
NJ2				PP	PP	14 09 27.6	-8.4
NJ2				S	**S**	**14 13 20.5**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,310nm,11.0s						
NJ2				LR	LR		
	comp=N,840nm,25.2s						
NJ2				LR	LR		
	comp=E,450nm,18.6s						
NJ2				LR	LR		
	comp=Z,360nm,17.6s						
NANT	**Nan**	**29.74**	**303**	⇓P	**P**	**14 08 29.0**	**-1.9**
	comp=Z,100nm,0.8s,mb5.6						
GYA	**Guiyang**	**29.97**	**322**	P	**P**	**14 08 35.9**	**+3.0**
GYA				AP	pP	14 08 49.6	+4.0
GYA				XP	sP	14 08 55.8	+4.4
GYA				PP	PP	14 09 35.3	-5.9
GYA				S	**S**	**14 13 29.0**	**+1.7**
GYA				XS	sS	14 13 52.7	+4.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,17.9s,MS4.3						
GYA				LR	LR		
	comp=E,480nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=Z,460nm,18.0s,MS4.2						
CTA	**Charters Tower**	**30.16**	**141**	*e*P	**P**	**14 08 36.0**	**+1.4**
	comp=Z,3.1nm,0.9s,mb4.0						
CTA	**Charters Tower**	**30.16**	**141**	*e*P	**P**	**14 08 36.0**	**+1.4**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTAO	**Charters Tower**	**30.16**	**141**	*e*P	**P**	**14 08 34.8**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**30.16**	**141**	*e*P	**P**	**14 08 34.8**	**+0.2**
	comp=Z,6.6nm,1.0s,mb4.3						
CHG	**Chiang Mai**	**31.23**	**302**	P	**P**	**14 08 45.0**	**+1.0**
CHTO	**Chiang Mai**	**31.23**	**302**	*e*P	**P**

comp=Z,15nm,1.1s,mb4.7,baz=22,slow=5.2,SNR=7.6
NWAO Narrogin (SRO) 37.18 193 P **P** **14 09 34.9 -0.6**
NWAO pmax pmax
comp=Z,15nm,1.1s
BJT Baijiatuau 37.74 347 *eP* **P** **14 09 39.7 -0.6**
BJT pmax pmax
comp=Z,62nm,1.1s
BJT Baijiatuau 37.74 347 *eP* **P** **14 09 39.7 -0.6**
comp=Z,62nm,1.1s,mb5.2
BJI Beijing 37.76 347 P **P** **14 09 40.7 +0.3**
BJI S **S** **14 15 24.9 -2.7**
BJI AMB AMB
comp=Z,53nm,0.9s,mb5.3
BJI LR LR
comp=N,68nm,18.5s,MS3.6
BJI LR LR
comp=E,59nm,19.7s,MS3.6
BJI LR LR
comp=Z,90nm,19.2s,MS3.6
BJI Beijing 37.76 347 P **P** **14 09 40.7 +0.3**
comp=Z,53nm,0.9s,mb5.3
BJI S **S** **14 15 24.9 -2.7**
BJI LR LR
comp=Z,90nm,19.2s,MS3.6
STKA Stephens Creek 37.77 159 *eP* **P** **14 09 40.8 +0.3**
comp=Z,44nm,0.9s,mb5.2
STKA Stephens Creek 37.77 159 P **P** **14 09 41.1 +0.7**
comp=Z,57nm,0.8s,mb5.3,baz=336,slow=8.1,SNR=69
STKA PcP PcP 14 11 57.3 +0.8
comp=Z,4.4nm,0.6s,baz=309,slow=6.5,SNR=2.9
LZH Lanzhou 38.84 330 *eP* **P** **14 09 50.5 +1.0**
LZH AP pP 14 10 05.3 +2.9
LZH XP sP 14 10 11.0 +2.8
LZH PP PP 14 11 25.0 +5.9
LZH PCP PcP 14 12 01.5 +1.7
LZH *eS* **S** **14 15 46.4 +2.6**
LZH XS sS 14 16 09.0 +3.4
LZH SS SS 14 18 32.0 -4.4
LZH AMB AMB
comp=Z,43nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,325nm,5.3s
LZH LR LR
comp=E,502nm,14.0s
LZH LR LR
comp=Z,740nm,15.0s,MS4.6
LZH Lanzhou 38.84 330 *eP* **P** **14 09 50.5 +1.0**
LZH *PP pP 14 10 05.3 +2.9
LZH *SP sP 14 10 11.0 +2.8
LZH 14 11 25.0
LZH 14 12 01.5
LZH *eS* **S** **14 15 46.4 +2.6**
LZH *SS sS 14 16 09.0 +3.4
LZH SS SS 14 18 32.0 -4.4
LZH pmax pmax
comp=Z,43nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,740nm,15.0s,MS4.6
LZH Lanzhou 38.84 330 *eP* **P** **14 09 50.5 +1.0**
comp=Z,43nm,1.4s,mb5.0
LZH pP pP 14 10 05.3 +2.9
LZH sP sP 14 10 11.0 +2.8
LZH PP PP 14 11 25.0 +5.9
LZH PcP PcP 14 12 01.5 +1.7
LZH *eS* **S** **14 15 46.4 +2.6**
LZH sS sS 14 16 09.0 +3.4
LZH SS SS 14 18 32.0 -4.4
LZH LR LR
comp=Z,740nm,15.0s,MS4.6
HHC Hu-ho-hao-te 39.76 342 *eP* **P** **14 09 59.0 +1.8**
HHC AP pP 14 10 11.2 +1.0
HHC XP sP 14 10 16.9 +1.0
HHC PP PP 14 11 35.9 +6.7
HHC PCS PcS 14 15 54.0 +1.1
HHC S **S** **14 16 00.2 +2.5**
HHC XS sS 14 16 21.6 +2.1
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,245nm,8.1s
HHC LR LR
comp=N,473nm,13.7s,MS4.6
HHC LR LR
comp=E,526nm,15.7s,MS4.6
HHC LR LR
comp=Z,363nm,14.2s,MS4.4
CN2 Changchun 40.30 359 *eP* **P** **14 10 03.0 +1.3**
CN2 *eAP pP 14 10 18.1 +3.4
ARMA Armidale 41.14 146 *eP* **P** **14 10 09.9 +1.3**
MDJ Mudanjiang 41.18 3 P **P** **14 10 10.1 +1.2**
MDJ AMB AMB
comp=Z,22nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,317nm,5.1s
MDJ LR LR
comp=N,74nm,20.8s,MS3.6
MDJ LR LR
comp=E,34nm,16.2s,MS3.6
MDJ LR LR
comp=Z,74nm,19.9s,MS3.5
MDJ Mudanjiang 41.18 3 *eP* **P** **14 10 09.6 +0.8**
comp=Z,9.3nm,0.8s,mb4.5
LSA Lhasa 42.70 312 *eP* **P** **14 10 21.8 +0.5**
LSA Lhasa 42.70 312 *eP* **P** **14 10 22.0 +0.7**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
LSA Lhasa 42.70 312 *eP* **P** **14 10 22.0 +0.7**
comp=Z,8.8nm,0.6s,mb4.7
GTA Gaotai 43.43 329 *eP* **P** **14 10 26.6 -0.6**
GTA AP pP 14 10 39.4 -0.9
GTA XP sP 14 10 44.4 -1.6
GTA PP PP 14 12 10.0 +1.2
GTA PCP PcP 14 12 16.1 +1.3
GTA S **S** **14 16 48.7 -3.3**
GTA AMB AMB
comp=Z,9.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,85nm,6.5s
GTA LR LR
comp=N,264nm,18.6s,MS4.4
GTA LR LR
comp=E,334nm,18.6s,MS4.4
GTA LR LR
comp=Z,444nm,18.3s,MS4.4
YSS Yuzh-Sakhalins 45.61 15⇑ *eP* **P** **14 10 41.7 -2.9**
YSS pmax pmax
comp=Z,174nm,2.5s,mb5.5
GUN Gumba 45.96 306 *eP* **P** **14 10 47.2 -0.1**
comp=Z,30nm,0.7s,mb5.3
PKI Pulchoki 46.20 306 *eP* **P** **14 10 49.6 +0.4**
DZM Mont Dzumac 46.31 125 P **P** **14 10 52.4 +2.3**
comp=Z,16nm,1.0s,mb4.9,baz=326,slow=7.3,SNR=4.9
KKN Kakani 46.39 306 *eP* **P** **14 10 50.4 -0.3**
comp=Z,9.3nm,0.4s,mb5.0
DMN Daman 46.46 306 *eP* **P** **14 10 51.5 +0.2**
comp=Z,8.6nm,0.5s,mb5.0
GKN Gorkha 47.00 306 *eP* **P** **14 10 55.2 -0.3**
comp=Z,8.5nm,0.6s,mb4.9
SONM Songino Array 47.66 342 P **P** **14 11 00.4 -0.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=154,slow=9.0,SNR=34
SONM PcP PcP 14 12 30.6 +1.1
comp=Z,3.9nm,0.8s,baz=166,slow=2.7,SNR=7.9
SONM Songino Array 47.66 342 P **P** **14 11 00.4 -0.3**
SONM 14 12 30.6
SONM pmax pmax
comp=Z,5.0nm,0.8s
KOLN Koldanda 47.75 305 *eP* **P** **14 11 01.0 -0.3**
ZAK Zakamensk 50.89 341 *eP* **P** **14 11 29.9 +4.6**
ZAK *e* 14 12 42.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MOY Mondy 52.74 340 *eP* **P** **14 11 40.0 +0.9**
WMQ Urumqi 53.04 325⇑ P **P** **14 11 41.2 -0.1**
WMQ AP pP 14 11 55.4 +0.7
WMQ XP sP 14 12 01.7 +1.3
WMQ PCP PcP 14 12 49.3 0.0
WMQ PP PP 14 13 43.0 +1.6
WMQ SCP ScP 14 16 41.6 -1.1
WMQ PCS PcS 14 16 47.2 -0.9
WMQ S **S** **14 19 06.0 -1.7**
WMQ AMB AMB
comp=Z,19nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,26nm,6.0s
WMQ LR LR
comp=N,122nm,19.7s,MS4.1
WMQ LR LR
comp=E,104nm,18.4s,MS4.1
WMQ LR LR
comp=Z,126nm,20.5s,MS4.0
BOD Bodaibo 55.24 352 *eP* **P** **14 11 54.9 -2.4**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PET Petropavlovsk 56.08 23⇑ *eP* **P** **14 12 02.5 -0.8**
PET pmax pmax
comp=Z,42nm,1.3s,mb5.3
MKAR Makanchi Array 57.87 325 P **P** **14 12 15.3 -0.7**
comp=Z,4.0nm,0.4s,mb4.8,baz=118,slow=7.3,SNR=56
MKAR PcP PcP 14 13 08.2 +0.2
comp=Z,2.7nm,0.6s,baz=101,slow=4.3,SNR=3.7
MKAR LR LR 14 39 13.3
comp=Z,95nm,20.6s,MS3.9,baz=173,slow=38
MKAR Makanchi Array 57.87 325 P **P** **14 12 15.3 -0.7**
MKAR 14 13 08.2
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR MLR MLR
comp=Z,95nm,20.6s
MKAR Makanchi Array 57.87 325 P **P** **14 12 15.3 -0.7**
MKAR PcP PcP 14 13 08.2 +0.2
MKAR LR LR 14 39 13.3
YAK Yakutsk 58.59 2 *eP* **P** **14 12 20.4 -0.6**
YAK pmax pmax
comp=Z,46nm,0.9s,mb5.5
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK Yakutsk 58.59 2 *eP* **P** **14 12 21.3 +0.3**
comp=E,47nm,0.8s,mb5.6
KRAR Krasnoyarsk 59.10 339⇓ *eP* **P** **14 12 21.2 -3.4**
KRAR pmax pmax
comp=Z,33nm,0.6s,mb5.5
ULHL Ulahol 59.31 318 P **P** **14 12 26.9 +0.8**
SNR=7.8
KZA Kyzart 59.90 318 P **P** **14 12 30.9 +0.8**
SNR=12
TKM2 Tokmak 2 60.04 319 P **P** **14 12 31.1 0.0**
SNR=8.4
KBK Karagaybulak 60.35 318 P **P** **14 12 33.4 +0.3**
SNR=7.1
UCH Uchtor 60.46 318 P **P** **14 12 34.8 +0.9**
SNR=18
AAK Ala-Archa 60.65 318 *eP* **P** **14 12 34.3 -0.9**
AAK pmax pmax
comp=Z,13nm,1.4s,mb4.9
AAK Ala-Archa 60.65 318 *eP* **P** **14 12 34.3 -0.9**
comp=Z,13nm,1.4s,mb4.9
USP Ospenovka 60.91 319 P **P** **14 12 36.4 -0.5**
SNR=16
ZAL Zalesovo 60.93 333 P **P** **14 12 35.9 -1.3**
comp=Z,3.1nm,0.6s,mb4.6,baz=352,slow=4.6,SNR=14
ZAL Zalesovo 60.93 333 P **P** **14 12 35.9 -1.2**
ZAL pmax pmax
comp=Z,3.0nm,0.6s
AML Almayashu 60.98 317 P **P** **14 12 38.1 +0.7**
SNR=13
EKS2 Erkin-Say 61.14 318 P **P** **14 12 40.3 +1.8**
SNR=10.0
KURK Kurchatov 62.07 328⇑ P **P** **14 12 44.2 -0.6**
SNR=13
KURK Kurchatov 62.07 328 *d iP* **P** **14 12 44.1 -0.7**
KURK Kurchatov 62.07 328 *eP* **P** **14 12 44.3 -0.5**
KURK pmax pmax
comp=Z,56nm,0.8s,mb5.8
KURK Kurchatov 62.07 328 *eP* **P** **14 12 44.3 -0.5**
comp=Z,56nm,0.8s,mb5.7
NVS Novosibirsk 62.22 333 *i* P **P** **14 12 44.2 -1.6**
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
BVAR Borovoye Array 67.64 327 P **P** **14 13 20.5 -0.6**
comp=Z,7.5nm,0.6s,mb4.9,baz=126,slow=7.5,SNR=49
BVAR Borovoye Array 67.64 327 P **P** **14 13 20.5 -0.5**
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 67.72 327 P **P** **14 13 20.4 -1.1**
comp=Z,148nm,0.7s,mb6.1,SNR=17
BRVK Borovoye 67.72 327⇓ P **P** **14 13 21.0 -0.5**
SNR=7.1
BRVK Borovoye 67.72 327 *eP* **P** **14 13 20.6 -0.9**
BRVK pmax pmax
comp=Z,15nm,0.7s,mb5.1
BRVK Borovoye 67.72 327 *eP* **P** **14 13 20.6 -0.9**
comp=Z,15nm,0.7s,mb5.1
CHKZ Chkalovo 67.81 328 *eP* **P** **14 13 20.9 -1.2**
CHKZ pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
CHKZ Chkalovo 67.81 328 *eP* **P** **14 13 20.9 -1.2**
comp=Z,6.8nm,0.5s,mb4.9
ZRNK Zerenda 68.37 327 *eP* **P** **14 13 24.3 -1.3**
ZRNK pmax pmax
comp=Z,21nm,0.5s,mb5.4
ZRNK Zerenda 68.37 327 *eP* **P** **14 13 24.3 -1.3**
comp=Z,21nm,0.5s,mb5.4
BILL Bilibino 69.92 15⇓ *eP* **P** **14 13 33.7 -1.5**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
CASY Casey 70.44 187 *eP* **P** **14 13 39.0 +0.6**
AKTK Aktyubinsk 73.96 322 P **P** **14 13 59.1 -0.3**
AKTK LR LR 14 49 09.3
AKTO Aktyubinsk 73.96 322 P **P** **14 13 59.1 -0.3**
comp=Z,14nm,0.7s,mb5.0,baz=103,slow=8.4,SNR=35
AKTO LR LR 14 49 09.3
comp=Z,142nm,19.2s,MS4.3,baz=320,slow=38
AKTO Aktyubinsk 73.96 322 P **P** **14 13 59.1 -0.3**
AKTO pmax pmax
comp=Z,14nm,0.7s,mb5.0
AKTO MLR MLR
comp=Z,142nm,19.3s,MS4.3
SVE Sverdlovsk 74.29 329 *eP* **P** **14 14 00.0 -1.3**
ARU Arti 75.26 328 P **P** **14 14 05.0 -1.9**
comp=Z,146nm,0.5s,SNR=7.7
ARU Arti 75.26 328 *eP* **P** **14 14 06.1 -0.8**
ARU *e* pP 14 14 17.0 -4.0
ARU *e* 14 16 50.6
ARU *eS* S 14 23 41.3 -1.2
ARU Arti 75.26 328 *eP* **P** **14 14 05.7 -1.3**
comp=Z,11nm,0.4s,mb5.1
ORR Orenburg 76.24 322 *eP* **P** **14 14 12.1 -0.4**
ORR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
ZEI Tsey 82.48 313 *eP* **P** **14 14 45.9 -0.6**
ZEI *e**PP pP 14 14 59.6 -1.1
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
IMA2 Indian Mountai 82.73 24 *eP* **P** **14 14 49.2 +1.4**
VNDA Vanda 83.05 173 P **P** **14 14 50.2 +0.7**
comp=Z,4.1nm,0.9s,mb4.5,baz=312,slow=5.9,SNR=21
VNDA Vanda 83.05 173 P **P** **14 14 50.2 +0.8**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 83.05 173 *eP* **P** **14 14 49.9 +0.5**
comp=Z,6.7nm,1.1s,mb4.6
SLKM Skilak Lake 83.67 30 *eP* **P** **14 14 53.2 +0.5**
SBA Scott Base 83.95 172 *eP* **P** **14 14 55.9 +1.8**
SBA pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
SBA Scott Base 83.95 172 *eP* **P** **14 14 55.9 +1.8**
comp=Z,5.0nm,1.1s,mb4.6
PMR Palmer 84.28 29 *eP* **P** **14 14 56.0 +0.3**
PMR pmax pmax
comp=Z,29nm,1.0s,mb5.4
PMR Palmer 84.28 29 *eP* **P** **14 14 56.0 +0.2**
comp=Z,29nm,1.0s,mb5.4
MCK McKinley 84.50 26 *eP* **P** **14 14 57.2 +0.3**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MCK McKinley 84.50 26 *eP* **P** **14 14 57.2 +0.3**
comp=Z,3.7nm,0.8s,mb4.6
SML Sawmill 84.67 28 *eP* **P** **14 14 58.3 +0.6**
DIV Divide 85.88 29 *eP* **P** **14 15 05.5 +1.7**
comp=Z,49nm,0.8s,mb5.8
MALT Malatya 86.62 308 *eP* **P** **14 15 08.3 +0.9**
MALT pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
MALT Malatya 86.62 308 *eP* **P** **14 15 08.3 +0.9**
comp=Z,7.8nm,0.8s,mb5.0
ANN Anapa 87.17 315 *eP* **P** **14 15 08.2 -1.9**
ANN pmax pmax
comp=Z,80nm,1.1s,mb5.9
OBN Obninsk 87.38 325*c iP* **P** **14 15 10.3 -0.8**
OBN pmax pmax
comp=Z,72nm,1.6s,mb5.7
OBN Obninsk 87.38 325 *eP* **P** **14 15 10.4 -0.7**
comp=Z,26nm,0.8s,mb5.5
DAWY Dawson 88.72 26 *eP* **P** **14 15 18.3 +0.8**
KMBO Kilima Mbogo 89.55 269 P **P** **14 15 23.2 +1.8**
comp=Z,1.9nm,0.5s,mb4.7,baz=49,slow=8.7,SNR=10
KMBO Kilima Mbogo 89.55 269⇓ P **P** **14 15 23.7 +2.4**
SNR=5.0
KMBO Kilima Mbogo 89.55 269 *eP* **P** **14 15 23.7 +2.3**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 89.55 269 *eP* **P** **14 15 23.7 +2.4**
comp=Z,2.6nm,0.6s,mb4.7
EIL Elat 89.92 300 *eP* **P** **14 15 23.5 +0.4**
comp=Z,120nm,1.0s
BR131 Keskin Array S 90.27 310 *eP* **P** **14 15 23.7 -1.0**
comp=Z,6.5nm,0.9s,mb5.0
BRTR Keskin Array B 90.27 310 P **P** **14 15 24.4 -0.3**
comp=Z,4.8nm,0.9s,mb4.8,baz=116,slow=5.6,SNR=20
BRTR Keskin Array B 90.27 310 P **P** **14 15 24.4 -0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 90.81 340 P **P** **14 15 26.3 -0.9**
comp=Z,9.3nm,0.9s,mb5.1,baz=81,slow=6.1,SNR=18
ARCES ARCESS Array B 90.81 340 P **P** **14 15 26.3 -0.9**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
SYO Syowa Base 92.07 201⇑ *eP* **P** **14 15 31.2 -1.9**
FINES FINESS Array B 92.17 332 P **P** **14 15 32.6 -0.9**
comp=Z,1.4nm,0.5s,mb4.5,baz=65,slow=4.9,SNR=13
FINES FINESS Array B 92.17 332 P **P** **14 15 32.7 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 92.19 321 P **P** **14 15 32.8 -0.9**
comp=Z,1.2nm,0.5s,mb4.5,baz=71,slow=4.8,SNR=8.5
AKASG Malin Array Be 92.19 321 P **P** **14 15 32.8 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
QSPA South Pole Qui 93.25 180 *eP* **P** **14 15 39.6 +1.1**
comp=Z,10nm,0.1s
NOA NORSAR Array B 99.13 334 P **P** **14 16 03.7 -1.5**
comp=Z,3.0nm,0.9s,mb4.8,baz=67,slow=4.6,SNR=3.8
NOA NORSAR Array B 99.13 334 P **P** **14 16 03.7 -1.5**
NOA pmax pmax
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 121.83 52 PKP PKPdf 14 21 19.8 +1.9
comp=Z,0.6nm,0.7s,baz=118,slow=0.1,SNR=7.8
TXAR Lajitas Array 121.83 52 PKIKP PKPdf 14 21 19.8 +1.9
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 123.04 288 PKP PKPdf 14 21 21.5 +1.3
comp=Z,2.3nm,0.8s,baz=56,slow=1.9,SNR=15
JCT Junction City 124.31 49 *e*PKIKP PKPdf 14 21 24.1 +1.5
LPAZ La Paz 160.53 132 PKP PKPdf 14 22 26.2 +2.8
comp=Z,3.0nm,1.0s,baz=349,slow=1.7,SNR=12
LPAZ PKPab PKPab 14 23 09.1 +4.1
comp=Z,1.1nm,0.8s,baz=47,slow=6.8,SNR=3.6
LPAZ La Paz 160.53 132 PKIKP PKPdf 14 22 26.2 +2.7
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

IDC 12 14:05:02.0±1.6, 7°**43S×12420E, h0km, mb4.3/2, mb1 4.6/5, mb1mx4.0/17, mbtmp4.4/5, ML3.9/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=113.7km s-min=24.9km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.70**	**173**	Pn	Pn	14 07 36.4	0.0
	1.2nm,0.3s,baz=1.4,slow=13,SNR=11						
FITZ				Sn	Sn	14 09 22.0	-15
	4.9nm,0.3s,baz=140,slow=16,SNR=9.7						
FITZ				LR	LR	14 11 46.4	
	comp=Z,80nm,20.9s,baz=203,slow=38						
WRA	**Warramunga Arr**	**15.85**	**143**	Pn	Pn	14 08 47.5	+1.0
	0.3nm,0.3s,baz=317,slow=13,SNR=2.7						
WRA				Sn	Sn	14 11 29.2	-14
	0.5nm,0.3s,baz=317,slow=24,SNR=3.8						
ASAR	**Alice Springs**	**18.64**	**151**	P	Pn	14 09 19.5	-1.9
	0.8nm,0.3s,baz=326,slow=11,SNR=4.6						
ASAR				S	Sn	14 12 37.7	-13
	0.2nm,0.3s,baz=326,slow=21,SNR=4.4						
PMG	**Port Moresby**	**22.80**	**97**	LR	LR	14 18 23.7	
	comp=Z,164nm,18.3s,baz=284,slow=35						
STKA	**Stephens Creek**	**29.23**	**149**	P	P	14 11 06.7	+1.2
	8.8nm,0.8s,baz=321,slow=12,SNR=3.1						
DZM	**Mont Dzumac**	**43.20**	**114**	LR	LR	14 29 47.1	
	comp=Z,103nm,18.1s,baz=353,slow=34						
MKAR	**Makanchi Array**	**65.56**	**330**	P	P	14 15 47.5	+0.1
	0.6nm,0.4s,baz=136,slow=7.3,SNR=5.0						

MAN 12 14:11:51.4, 1678N×12005E, h17km, mb2.4, ML4.0, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.65**	**128**⇑	*iP*	Pg	14 12 03.8	-0.4
BCPH				*i* S	Sg	14 12 13.4	+0.6
PCPH	**Palayan**	**1.58**	**140**	*eP*	Pn	14 12 18.7	+0.1
PCPH				*eS*	Sn	14 12 38.9	+0.4
CAUP	**Cauayan**	**1.71**	**84**	*eP*	Pn	14 12 20.1	-0.3
CAUP				*eS*	Sn	14 12 42.2	+0.4
BALP	**Baler**	**1.80**	**125**	*eP*	Pn	14 12 22.3	+0.8
CVP	**Callao Caves**	**1.93**	**61**	*eP*	Pn	14 12 21.5	-1.9
PALP	**Palanan**	**2.29**	**83**	*eP*	Pn	14 12 28.7	+0.3
POLP	**Polilio Island**	**2.74**	**138**	*eP*	Pn	14 12 35.3	+0.8
LUBP	**Lubang**	**3.04**	**176**	*eP*	Pn	14 12 42.0	+3.4
ENPP	**El Nido**	**5.57**	**186**	*eP*	Pn	14 13 15.1	+1.6
BESP	**Borongan**	**7.34**	**134**	*eP*	Pn	14 13 24.2	-14
SCPH	**Surigao**	**8.74**	**142**	*eP*	Pn	14 13 15.7	-41
SCPH				*eS*		14 13 27.3	

MAN 12 14:17:24.1, 1044N×12571E, h29km, mb2.5, ML4.0, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.69**	**199**	*eP*	Pb	14 17 29.9	-7.6
SCPH				*eS*	Sb	14 17 47.4	+0.7
MSLP	**Maasin**	**0.89**	**250**	*eP*	Pn	14 17 40.9	+0.3
MSLP				*eS*	Sb	14 17 56.9	+4.4
MSLP	**Maasin**	**0.89**	**250**	*eP*	Pn	14 17 41.0	+0.3
MSLP				*eS*	Sb	14 17 56.8	+4.3
PLP	**Palo**	**1.02**	**315**	*eP*	Pn	14 17 41.8	-0.6
PLP				*eS*	Sn	14 17 56.4	+0.6
OCLP	**Ormoc**	**1.24**	**299**	*eP*	Pn	14 17 47.0	+1.5
OCLP	**Ormoc**	**1.24**	**299**	*eP*	Pn	14 17 46.8	+1.3
BUKP	**Musuan**	**2.62**	**194**	*eP*	Pn	14 18 04.8	+0.4
BUKP	**Musuan**	**2.62**	**194**	*eP*	Pn	14 18 04.7	+0.3
GUIM	**Jordan**	**3.08**	**274**	*eP*	Pn	14 18 11.4	+0.8
GUIM	**Jordan**	**3.08**	**274**	*eP*	Pn	14 18 11.2	+0.6
PVCP	**Virac**	**3.49**	**334**	*eP*	Pn	14 18 17.5	+1.1
PVCP	**Virac**	**3.49**	**334**	*eP*	Pn	14 18 17.1	+0.7
MATI	**Mati**	**3.51**	**171**	*eP*	Pn	14 18 18.4	+1.7

*ISCJB **12** 14:26:32.5±5.6, 16.1S±04×1685E±08, h204km±62km, mb3.9/5, Error ellipse: s-maj=131.1km s-min=51.7km az=27.0*

*IDC **12** 14:26:36.8±13.0, 1625S×16547E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/16, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=227.0km s-min=34.3km az=53.0*

ISC 12 14:26:33.2±6.1, 160S±04×1683E±06, h176km±55km, n8, σ1°08/10, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.26**	**196**	*eP*	**Pn**	**14 28 02.3**	**-1.2**
DZM				*eS*	**Sn**	**14 29 14.3**	**-0.3**
DZM	**Mont Dzumac**	**6.26**	**196**	Pn	**Pn**	**14 28 05.2**	**+1.6**
	12nm,0.3s,baz=329,slow=18,SNR=214						
DZM				Sn	**Sn**	**14 29 14.3**	**-0.3**
	1.0nm,0.3s,baz=307,slow=20,SNR=2.8						
CTA	**Charters Tower**	**21.34**	**256**	*eP*	**P**	**14 31 07.7**	**+1.3**
	2.5nm,0.6s,mb3.7						

STKA Stephens Creek 28.95 232 P **P 14 32 17.5 +1.6**
2.7nm,0.8s,mb4.0,baz=72,slow=15,SNR=4.0
WRA Warramunga Arr 32.50 258 P **P 14 32 45.5 -1.6**
0.6nm,0.4s,mb3.6,baz=83,slow=7.9,SNR=14
ASAR Alice Springs 33.17 251 P **P 14 32 52.4 -0.5**
3.3nm,0.6s,mb4.2,baz=79,slow=8.5,SNR=74
ASPA Alice Springs 33.17 251 *e*P **P 14 32 52.3 -0.7**
FITZ Fitzroy Crossi 40.77 261 *e*P **P 14 33 57.1 +0.1**
4.7nm,0.5s,mb4.4

MOS **12** *14:42:22.6*$_{\pm}$*0.9,5514N*$_{\times}$*16521E,h36*^{km}*,mb4.8/15,Error ellipse: s-maj=9.4km s-min=7.1km az=66.5*
ISCJB **12** *14:42:23.0*$_{\pm}$*0.1,5516N*$_{\pm}$*003*$_{\times}$*16526E*$_{\pm}$*002,h37*^{km}*, mb4.7/71,MS4.1/13,Error ellipse: s-maj=4.8km s-min=1.7km az=179.2*
NEIC **12** *14:42:24.7*$_{\pm}$*0.2,5516N*$_{\times}$*16530E,mb5.0/39,Error ellipse: s-maj=6.1km s-min=3.5km az=168.0*
BJI **12** *14:42:24.7,5520N*$_{\times}$*16530E,h37*^{km}*,mB5.2,mb4.8,Ms4.7, Msz4.4*
KRSC **12** *14:42:24.0*$_{\pm}$*0.5,5510N*$_{\times}$*16499E,h41*$^{km}_{\pm}$*41*^{km}*,ML4.7*
IDC **12** *14:42:25.1*$_{\pm}$*0.6,5520N*$_{\times}$*16538E,h39*$^{km}_{\pm}$*5*^{km}*,mb4.1/25, mb1 4.3/26,mb1mx4.3/30,mbtmp4.1/26,ML3.7/1,MS3.8/7, Ms1 3.8/7,ms1mx3.5/29,Error ellipse: s-maj=15.4km s-min=11.2km az=155.0*
ISC 12 14:42:24.8$_{\pm}$**0.1,5516N**$_{\pm}$**003**$_{\times}$**16524E**$_{\pm}$**002,h39**^{km}**,**
h39$^{km}_{\pm}$**1.5km:pP-P,n381,**$_{\sigma}$**0°74/429,mb4.7/71,MS4.1/13,**
90C-78D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.73**	**308**	*i* P	**Pn**	**14 42 49.8**	**-2.5**
KBTR				*i* S	**Sn**	**14 43 09.2**	**-3.8**
KBTR	**Krutoberegovo**	**1.73**	**308**	*i* P	**Pn**	**14 42 49.8**	**-2.5**
KBTR				*i* S	**Sn**	**14 43 09.2**	**-3.8**
MKZ	**Mys Kozlova**	**2.12**	**255**	*e*P	**Pn**	**14 42 56.5**	**-1.1**
MKZ				*i* S	**Sn**	**14 43 20.8**	**-1.9**
MKZ	**Mys Kozlova**	**2.12**	**255**	*e*P	**Pn**	**14 42 56.5**	**-1.1**
MKZ				*i* S	**Sn**	**14 43 20.8**	**-1.9**
ZLN	**Zelenaya**	**2.66**	**291**	*e*P	**Pn**	**14 43 06.0**	**+0.9**
ZLN				*i* S	**Sn**	**14 43 36.8**	**+0.7**
ZLN	**Zelenaya**	**2.66**	**291**	*e*P	**Pn**	**14 43 06.0**	**+0.9**
ZLN				*i* S	**Sn**	**14 43 36.8**	**+0.7**
BDR	**Baidarnaya**	**2.67**	**303**	*e*P	**Pn**	**14 43 05.0**	**-0.3**
BDR				*i* S	**Sn**	**14 43 34.4**	**-2.0**
BDR	**Baidarnaya**	**2.67**	**303**	*e*P	**Pn**	**14 43 05.0**	**-0.3**
BDR				*i* S	**Sn**	**14 43 34.4**	**-2.0**
SRKR	**Sorokina**	**2.74**	**305**	*e*P	**Pn**	**14 43 06.6**	**+0.4**
SRKR				*i* S	**Sn**	**14 43 36.8**	**-1.2**
SRKR	**Sorokina**	**2.74**	**305**	*e*P	**Pn**	**14 43 06.6**	**+0.4**
SRKR				*i* S	**Sn**	**14 43 36.8**	**-1.2**
KLY	**Klyuchi**	**2.84**	**296**	*e*P	**Pn**	**14 43 06.4**	**-1.2**
KLY				*i* S	**Sn**	**14 43 38.0**	**-2.5**
KLY	**Klyuchi**	**2.84**	**296**	*e*P	**Pn**	**14 43 06.4**	**-1.2**
KLY				*i* S	**Sn**	**14 43 38.0**	**-2.5**
KRSR	**Krestovskiy**	**2.85**	**294**	*e*P	**Pn**	**14 43 08.4**	**+0.7**
KRSR				*i* S	**Sn**	**14 43 40.6**	**-0.2**
KRSR	**Krestovskiy**	**2.85**	**294**	*e*P	**Pn**	**14 43 08.4**	**+0.7**
KRSR				*i* S	**Sn**	**14 43 40.6**	**-0.2**
KMNR	**Kamenistaya**	**2.91**	**284**	*e*P	**Pn**	**14 43 09.6**	**+1.1**
KMNR				*i* S	**Sn**	**14 43 42.8**	**+0.6**
KMNR	**Kamenistaya**	**2.91**	**284**	*e*P	**Pn**	**14 43 09.6**	**+1.1**
KMNR				*i* S	**Sn**	**14 43 42.8**	**+0.6**
TUMR	**Tumrok**	**2.92**	**274**	*e*P	**Pn**	**14 43 09.6**	**+0.9**
TUMR				*i* S	**Sn**	**14 43 42.6**	**+0.1**
TUMR	**Tumrok**	**2.92**	**274**	*e*P	**Pn**	**14 43 09.6**	**+0.9**
TUMR				*i* S	**Sn**	**14 43 42.6**	**+0.1**
KPT	**Kopyto**	**2.96**	**288**	*e*P	**Pn**	**14 43 10.2**	**+1.0**
KPT				*i* S	**Sn**	**14 43 43.5**	**0.0**
KPT	**Kopyto**	**2.96**	**288**	*e*P	**Pn**	**14 43 10.2**	**+1.0**
KPT				*i* S	**Sn**	**14 43 43.5**	**0.0**
KOZR	**Kozyr**	**3.16**	**289**	PN	**Pn**	**14 43 13.2**	**+1.2**
KOZR				S	**Sn**	**14 43 49.3**	**+0.8**
KOZ	**Kozyrevsk**	**3.17**	**289**	*e*P	**Pn**	**14 43 13.2**	**+1.0**
KOZ				*i* S	**Sn**	**14 43 49.3**	**+0.6**
KOZ	**Kozyrevsk**	**3.17**	**289**	*e*P	**Pn**	**14 43 13.2**	**+1.0**
KOZ				*i* S	**Sn**	**14 43 49.3**	**+0.6**
SRDR	**Sredinnyy**	**3.33**	**293**	*e*P	**Pn**	**14 43 15.8**	**+1.5**
SRDR				*i* S	**Sn**	**14 43 53.6**	**+1.0**
SRDR	**Sredinnyy**	**3.33**	**293**	*e*P	**Pn**	**14 43 15.8**	**+1.5**
SRDR				*i* S	**Sn**	**14 43 53.6**	**+1.0**
SPN	**Mys Shipunski**	**3.70**	**238**	*i* P	**Pn**	**14 43 18.1**	**-1.3**
SPN				*i* S	**Sn**	**14 43 57.9**	**-3.8**
SPN	**Mys Shipunski**	**3.70**	**238**	*i* P	**Pn**	**14 43 18.1**	**-1.3**
SPN				*i* S	**Sn**	**14 43 57.9**	**-3.8**
NLC	**Nalytchevo**	**4.00**	**242**	*e*P	**Pn**	**14 43 22.7**	**-0.8**
NLC				*i* S	**Sn**	**14 44 06.4**	**-2.6**
NLC	**Nalytchevo**	**4.00**	**242**	*e*P	**Pn**	**14 43 22.7**	**-0.8**
NLC				*i* S	**Sn**	**14 44 06.4**	**-2.6**
AVH	**Avacha**	**4.26**	**246**	*i* P	**Pn**	**14 43 27.9**	**+0.8**
AVH				*i* S	**Sn**	**14 44 14.1**	**-1.5**
AVH	**Avacha**	**4.26**	**246**	*i* P	**Pn**	**14 43 27.9**	**+0.8**
AVH				*i* S	**Sn**	**14 44 14.1**	**-1.5**
PET	**Petropavlovsk**	**4.43**	**244**	*e*PN	**Pn**	**14 43 27.1**	**-2.3**
PET				pmax	pmax		
	comp=Z,121nm,0.5s						
PET				MLR	MLR		
	comp=N,1$_{\mu}$m,19.0s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s						
PET	**Petropavlovsk**	**4.43**	**244**	*e*Pn	**Pn**	**14 43 29.2**	**-0.2**
PET				*e*Sn	**Sn**	**14 44 17.5**	**-2.2**
PET	**Petropavlovsk**	**4.43**	**244**	*e*P	**Pn**	**14 43 29.4**	**0.0**
PET				*i* S	**Sn**	**14 44 17.5**	**-2.2**
PET	**Petropavlovsk**	**4.43**	**244**	*e*P	**Pn**	**14 43 29.4**	**0.0**
PET				*i* S	**Sn**	**14 44 17.5**	**-2.2**
GNL	**Ganaly**	**4.51**	**254**	*i* P	**Pn**	**14 43 31.8**	**+1.3**
GNL	**Ganaly**	**4.51**	**254**	*i* P	**Pn**	**14 43 31.8**	**+1.3**
RUS	**Russkaya**	**4.83**	**238**	*e*P	**Pn**	**14 43 34.5**	**-0.5**
RUS				*i* S	**Sn**	**14 44 25.4**	**-4.3**
RUS	**Russkaya**	**4.83**	**238**	*e*P	**Pn**	**14 43 34.5**	**-0.5**
RUS				*i* S	**Sn**	**14 44 25.4**	**-4.3**
GRL	**Gorelyy**	**4.98**	**241**	*e*P	**Pn**	**14 43 37.7**	**+0.7**
GRL				*i* S	**Sn**	**14 44 30.9**	**-2.4**
GRL	**Gorelyy**	**4.98**	**241**	*e*P	**Pn**	**14 43 37.7**	**+0.7**
GRL				*i* S	**Sn**	**14 44 30.9**	**-2.4**
SMY	**Shemya**	**5.77**	**111**	*e*PN	**Pn**	**14 43 47.8**	**-0.1**
SKR	**Severo-Kuril's**	**7.11**	**235**	*e*PN	**Pn**	**14 44 04.1**	**-2.1**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
AMKA	**Amchitka**	**9.24**	**108**	*e*P	**Pn**	**14 44 32.5**	**-2.9**
BILL	**Bilibino**	**12.93**	**2**	*e*PN	**Pn**	**14 45 27.8**	**+1.8**
BILL				pmax	pmax		
	comp=Z,15nm,2.2s						
BILL	**Bilibino**	**12.93**	**2**	*e*Pn	**Pn**	**14 45 27.6**	**+1.6**
	comp=Z,6.3nm,0.6s						
UNV	**Unalaska Valle**	**16.42**	**83**	*e*P	**Pn**	**14 46 12.7**	**+0.4**
	comp=Z,56nm,0.6s						
ASAJ	**Asahikawa**	**18.27**	**242**	P	**Pn**	**14 46 36.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=28,slow=17,SNR=4.1						
ASAJ				LR	LR	14 53 37.9	
	comp=Z,243nm,20.0s,baz=164,slow=37						
ASAJ	**Asahikawa**	**18.27**	**242**	P	**Pn**	**14 46 36.5**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,243nm,20.0s						
ERM	**Erimo**	**19.54**	**237**	*e*P	**Pn**	**14 46 50.2**	**-0.3**
YAK	**Yakutsk**	**19.55**	**305**	*e*P	**Pn**	**14 46 48.2**	**-2.4**
YAK				pmax	pmax		
	comp=Z,26nm,2.5s						
IMA2	**Indian Mountai**	**22.45**	**45**	*e*P	**P**	**14 47 20.6**	**+0.3**
KDAK	**Kodiak Island**	**23.17**	**66**	P	**P**	**14 47 25.7**	**-2.2**
	comp=Z,27nm,0.9s,mb4.7,baz=311,slow=4.2,SNR=25						
KDAK	**Kodiak Island**	**23.17**	**66**	P	**P**	**14 47 25.7**	**-2.2**
MCK	**McKinley**	**24.31**	**51**	P	**P**	**14 47 37.0**	**-1.5**
MCK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
MCK	**McKinley**	**24.31**	**51**	*e*P	**P**	**14 47 36.4**	**-2.1**
	comp=Z,16nm,1.0s,mb4.4						
PMR	**Palmer**	**24.34**	**56**	*e*P	**P**	**14 47 37.7**	**-1.1**
PMR				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
PMR	**Palmer**	**24.34**	**56**	*e*P	**P**	**14 47 37.5**	**-1.3**
	comp=Z,7.3nm,0.6s,mb4.3						
SML	**Sawmill**	**24.70**	**55**	*e*P	**P**	**14 47 41.3**	**-0.8**
SML	**Sawmill**	**24.70**	**55**	*e*P	**P**	**14 47 41.1**	**-0.9**
COLA	**College**	**24.78**	**48**	*c i*P	**P**	**14 47 42.0**	**-0.8**
COLA	**College**	**24.78**	**48**	*e*P	**P**	**14 47 41.7**	**-1.2**
	comp=Z,320nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**25.00**	**260**	P	**P**	**14 47 45.7**	**+0.8**
MDJ				S	**S**	**14 52 09.4**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,410nm,5.2s						
DIV	**Divide**	**26.00**	**57**	*e*P	**P**	**14 47 52.5**	**-1.4**
	comp=Z,81nm,1.0s,mb5.2						
EGAK	**Eagle**	**27.64**	**48**	*e*P	**P**	**14 48 07.0**	**-1.7**
	comp=Z,26nm,0.8s,mb4.9						
DAWY	**Dawson**	**28.49**	**49**	*e*P	**P**	**14 48 15.5**	**-0.7**
INK	**Inuvik**	**30.36**	**40**	P	**P**	**14 48 32.1**	**-0.7**
	comp=Z,4.6nm,0.3s,mb4.6,baz=279,slow=5.8,SNR=85						
INK	**Inuvik**	**30.36**	**40**	*e*P	**P**	**14 48 32.4**	**-0.4**
	comp=Z,269nm,0.9s						
KSRS	**Korea Array**	**30.78**	**250**	P	**P**	**14 48 38.8**	**+2.2**
	comp=Z,2.0nm,0.9s,mb3.9,baz=38,slow=8.9,SNR=3.1						
KSRS				LR	LR	14 59 56.6	
	comp=Z,86nm,19.7s,MS3.4,baz=252,slow=34						
JNU	**Nakatsue**	**32.55**	**242**	LR	LR	15 01 43.4	
	comp=Z,164nm,19.5s,MS3.7,baz=76,slow=36						
DLBC	**Dease Lake**	**34.38**	**57**	*e*P	**P**	**14 49 09.1**	**+1.1**
BJI	**Beijing**	**35.57**	**266**	P	**P**	**14 49 09.3**	**-8.9**
SONM	**Songino Array**	**36.37**	**284**	P	**P**	**14 49 27.1**	**+2.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=63,slow=8.1,SNR=13						
SONM				pP	pP	14 49 37.0	+1.0
	comp=Z,2.3nm,0.6s,baz=57,slow=8.1,SNR=11						
SONM				PcP	PcP	14 51 49.5	+0.5
	comp=Z,0.7nm,0.8s,baz=88,slow=2.7,SNR=4.4						
SONM				LR	LR	15 06 45.5	
	comp=Z,130nm,18.0s,MS3.8,baz=55,slow=40						
SONM	**Songino Array**	**36.37**	**284**	P	**P**	**14 49 27.1**	**+2.0**
SONM				*PP	pP	14 49 37.0	+0.9
SONM						14 51 49.5	
HHC	**Hu-ho-hao-te**	**37.68**	**271**	*e*P	**P**	**14 49 36.7**	**+0.5**
HHC				AP	pP	14 49 46.6	-0.6
HHC				XP	sP	14 49 50.3	-1.6
HHC				PP	PP	14 51 06.7	+4.1
HHC				PCP	PcP	14 51 53.7	+0.8
HHC				S	**S**	**14 55 22.9**	**-0.6**
HHC				SCS	ScS	14 59 45.0	-0.9
HHC				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,183nm,5.7s						
HHC				LR	LR		
	comp=N,578nm,17.3s,MS4.7						
HHC				LR	LR		
	comp=E,753nm,18.0s,MS4.7						
HHC				LR	LR		
	comp=Z,407nm,17.0s,MS4.3						
YKA	**Yellowknife Ar**	**39.57**	**46**	P	**P**	**14 49 50.9**	**-1.1**
	comp=Z,9.9nm,0.6s,mb4.7,baz=296,slow=7.7,SNR=19						
YKA	**Yellowknife Ar**	**39.57**	**46**	P	**P**	**14 49 50.9**	**-1.1**
NJ2	**Nanjing**	**39.77**	**254**	*e*P	**P**	**14 49 54.6**	**+0.9**
NJ2				AP	pP	14 50 04.0	-0.8
NJ2				XP	sP	14 50 07.2	-2.2
NJ2				PP	PP	14 51 31.2	+5.7
NJ2				S	**S**	**14 55 56.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,480nm,6.1s						
NJ2				LR	LR		
	comp=N,680nm,24.5s						
NJ2				LR	LR		
	comp=E,540nm,18.3s						
NJ2				LR	LR		
	comp=Z,390nm,14.8s						
A06A	**Chilliwack**	**43.47**	**66**	⇓P	**P**	**14 50 24.0**	**-0.1**
	baz=43						
C04A	**Brinnon**	**43.52**	**69**	⇓P	**P**	**14 50 24.2**	**-0.3**
	baz=43						
B05A	**Bryant**	**43.65**	**68**	⇑P	**P**	**14 50 25.3**	**-0.3**
	baz=44,SNR=5.4						
JCW	**Jim Creek**	**43.78**	**68**	P	**P**	**14 50 26.7**	**+0.1**
B06A	**Marblemount**	**43.82**	**67**	⇓P	**P**	**14 50 26.5**	**-0.4**
	baz=44						
RPW	**Rockport**	**43.85**	**67**	P	**P**	**14 50 26.9**	**-0.1**
E03A	**Lebam**	**43.92**	**70**	⇓P	**P**	**14 50 27.6**	**-0.1**
	baz=44						
D04A	**Dobbs Creek Ra**	**43.98**	**69**	⇑P	**P**	**14 50 27.9**	**-0.3**
	baz=44						
A07A	**Ashnola River,**	**44.08**	**66**	⇑P	**P**	**14 50 28.6**	**-0.3**
	baz=44,SNR=9.3						
ZAL	**Zalesovo**	**44.21**	**303**	LR	LR	15 12 12.4	
	comp=Z,123nm,18.0s,MS3.9,baz=229,slow=40						
C05A	**Tolt Reservoir**	**44.22**	**68**	⇑P	**P**	**14 50 30.0**	**0.0**
	baz=44						
D05A	**Enumclaw**	**44.37**	**69**	⇑P	**P**	**14 50 31.5**	**+0.2**
	baz=44						
NVS	**Novosibirsk**	**44.42**	**305**	*e*P	**P**	**14 50 33.8**	**+2.1**
B07A	**Winthrop**	**44.58**	**66**	⇑P	**P**	**14 50 32.8**	**-0.1**
	baz=44						
A08A	**Turner Farm, O**	**44.72**	**65**	P	**P**	**14 50 34.0**	**0.0**
	baz=44,SNR=9.6						
E05A	**Randle**	**44.89**	**69**	⇑P	**P**	**14 50 35.4**	**0.0**
	baz=45						
F04A	**Amboy**	**44.93**	**70**	⇓P	**P**	**14 50 35.8**	**+0.1**
	baz=45						
D06A	**Cle Elum**	**44.98**	**68**	⇑P	**P**	**14 50 35.9**	**-0.2**
	baz=45						
A09A	**Danville**	**45.06**	**65**	⇓P	**P**	**14 50 36.6**	**-0.1**
	baz=45,SNR=12						
C07A	**Waterville**	**45.08**	**67**	P	**P**	**14 50 36.7**	**-0.3**
	baz=45,SNR=5.9						
EDM	**Edmonton**	**45.10**	**57**	P	**P**	**14 50 36.6**	**-0.5**
EDM	**Edmonton**	**45.10**	**57**	*e*P	**P**	**14 50 36.3**	**-0.7**
TBM	**Table Mountain**	**45.12**	**68**	P	**P**	**14 50 37.3**	**+0.1**
WTV	**Waterville**	**45.13**	**67**	P	**P**	**14 50 37.1**	**-0.3**
EBG	**Ellensburg**	**45.30**	**68**	P	**P**	**14 50 39.1**	**+0.4**
LZH	**Lanzhou**	**45.35**	**272**	*e*P	**P**	**14 50 39.4**	**+0.4**
LZH				AP	pP	14 50 48.4	-1.8
LZH				XP	sP	14 50 53.2	-1.7
LZH				PP	PP	14 52 26.0	+0.5
LZH				*e*S	**S**	**14 57 14.6**	**-2.5**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,110nm,5.0s						
LZH				LR	LR		
	comp=E,490nm,15.4s						
LZH				LR	LR		
	comp=Z,699nm,16.2s,MS4.7						
LZH	**Lanzhou**	**45.35**	**272**	*e*P	**P**	**14 50 39.4**	**+0.4**
	comp=Z,26nm,1.2s,mb4.9						
LZH				pP	pP	14 50 48.4	-1.8
LZH				sP	sP	14 50 53.2	-1.7
LZH				PP	PP	14 52 26.0	+0.5
LZH				*e*S	**S**	**14 57 14.6**	**-2.5**
LZH				sS	sS	14 57 29.1	-6.6
LZH				SS	SS	15 00 27.2	-14
LZH				LR	LR		
	comp=Z,700nm,16.2s,MS4.7						
GTA	**Gaotai**	**45.35**	**278**	*e*P	**P**	**14 50 43.3**	**+4.2**
GTA				S	**S**	**14 57 25.2**	**+8.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,361nm,4.9s						
GTA				LR	LR		
	comp=N,412nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=E,236nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=Z,190nm,15.2s,MS4.2						
D07A	**Quincy**	**45.44**	**67**	⇓P	**P**	**14 50 39.3**	**-0.4**
	baz=45						
EPH	**Ephrata**	**45.54**	**67**	P	**P**	**14 50 40.3**	**-0.3**
C08A	**Higginbotham F**	**45.56**	**66**	⇓P	**P**	**14 50 40.3**	**-0.5**
	baz=45,SNR=6.9						
A10A	**Northport**	**45.59**	**64**	⇑P	**P**	**14 50 40.6**	**-0.3**
	baz=45						
B09A	**Rice**	**45.63**	**65**	P	**P**	**14 50 41.2**	**0.0**
	baz=45,SNR=7.8						
E07A	**Sunnyside**	**45.91**	**68**	⇑P	**P**	**14 50 43.0**	**-0.4**
	baz=46						
F06A	**Goldendale**	**45.92**	**69**	⇑P	**P**	**14 50 43.2**	**-0.3**
	baz=46						
J02A	**Umpqua**	**45.95**	**74**	⇑P	**P**	**14 50 43.9**	**+0.1**
	baz=46						
C09A	**Chrisman Ranch**	**45.95**	**66**	⇑P	**P**	**14 50 43.5**	**-0.4**
	baz=46						
G05A	**Wamic**	**45.97**	**70**	⇓P	**P**	**14 50 43.6**	**-0.3**
	baz=46						
D08A	**Wollman Farm,**	**46.09**	**67**	⇑P	**P**	**14 50 44.3**	**-0.5**
	baz=46						
B10A	**Chitwood Farm,**	**46.19**	**65**	⇑P	**P**	**14 50 45.3**	**-0.4**
	baz=46						
A11A	**Hall Mountain,**	**46.22**	**63**	⇓P	**P**	**14 50 45.6**	**-0.3**
	baz=46,SNR=5.5						
J03A	**Ideyld Park**	**46.28**	**73**	⇑P	**P**	**14 50 46.3**	**-0.1**
	baz=46						
F07A	**Phinny Hill Vi**	**46.29**	**69**	⇓P	**P**	**14 50 46.1**	**-0.4**
	baz=46,SNR=5.6						
I04A	**Tendick Farm,**	**46.31**	**73**	⇑P	**P**	**14 50 46.6**	**-0.1**
	baz=46						
G06A	**Carlson Farm,**	**46.34**	**70**	⇑P	**P**	**14 50 46.5**	**-0.3**
	baz=46						
E08A	**Dider Farm, El**	**46.37**	**68**	⇓P	**P**	**14 50 46.7**	**-0.4**
	baz=46						
H05A	**Madras**	**46.40**	**71**	⇑P	**P**	**14 50 47.1**	**-0.2**
	baz=46						
D09A	**Jones Farm, Ri**	**46.41**	**67**	⇑P	**P**	**14 50 47.1**	**-0.3**
	baz=46						
B11A	**Sandpoint**	**46.54**	**64**	⇓P	**P**	**14 50 48.1**	**-0.4**
	baz=46						
A12A	**Yaak River Ran**	**46.60**	**63**	⇓P	**P**	**14 50 48.7**	**-0.1**
	baz=46						
I05A	**Bend**	**46.69**	**71**	⇓P	**P**	**14 50 49.4**	**-0.2**
	baz=46						
L02A	**Cave Junction**	**46.73**	**75**	⇓P	**P**	**14 50 49.8**	**-0.1**
	baz=46						
HUMO	**Hull Mountain**	**46.79**	**74**	⇓P	**P**	**14 50 50.1**	**-0.3**
	baz=47						
H06A	**Lindquist Farm**	**46.83**	**70**	⇓P	**P**	**14 50 50.3**	**-0.3**
	baz=47						
J04A	**Umpqua Nationa**	**46.84**	**73**	⇓P	**P**	**14 50 51.1**	**+0.3**
	baz=47,SNR=5.4						
E09A	**Wood Farm, Sta**	**46.84**	**67**	⇑P	**P**	**14 50 50.2**	**-0.6**
	baz=47						
G08A	**Pilot Rock**	**47.20**	**69**	⇓P	**P**	**14 50 53.0**	**-0.6**
	baz=47						
J05A	**Fort Rock**	**47.29**	**72**	⇓P	**P**	**14 50 54.5**	**+0.2**
	baz=47,SNR=10.0						
WALA	**Waterton Lakes**	**47.40**	**62**	*e*P	**P**	**14 50 49.6**	**-5.6**
	comp=Z,50nm,1.1s,mb5.4						
E10A	**Myers Farm, Un**	**47.41**	**66**	P	**P**	**14 50 55.0**	**-0.2**
	baz=47,SNR=6.8						
I06A	**Prineville**	**47.41**	**71**	⇑P	**P**	**14 50 55.2**	**-0.1**
	baz=47						
K04A	**Chilquin**	**47.46**	**73**	⇑P	**P**	**14 50 55.4**	**-0.2**
	baz=47						
C12A	**Trout Creek**	**47.47**	**64**	⇑P	**P**	**14 50 55.3**	**-0.4**
	baz=47,SNR=11						
F09A	**S2 Ranch, Elgi**	**47.49**	**68**	⇓P	**P**	**14 50 55.5**	**-0.4**
	baz=47						
YBH	**Yreka Blue Hor**	**47.51**	**75**	⇑P	**P**	**14 50 55.8**	**-0.2**
	baz=47						
B13A	**Whitefish**	**47.56**	**63**	⇓P	**P**	**14 50 56.1**	**-0.3**
	baz=47,SNR=8.7						
M02C	**Callahan**	**47.66**	**75**	⇑P	**P**	**14 50 57.4**	**+0.2**
	baz=48						
L04A	**Klamath Falls**	**47.67**	**74**	⇑P	**P**	**14 50 57.4**	**+0.1**
	baz=48,SNR=5.2						
F10A	**Beach Ranch, E**	**47.68**	**67**	P	**P**	**14 50 57.0**	**-0.3**
	baz=48,SNR=6.2						
I07A	**Izee**	**47.70**	**70**	⇓P	**P**	**14 50 57.3**	**-0.2**
	baz=48						
BSMT	**Bassoo Peak**	**47.73**	**64**	P	**P**	**14 50 57.8**	**+0.1**
N02C	**Big Bar**	**47.80**	**76**	⇓P	**P**	**14 50 58.4**	**+0.2**
	baz=48						
K05A	**Summer Lake**	**47.85**	**73**	⇓P	**P**	**14 50 58.4**	**-0.2**
	baz=48						
H08A	**Prairie City**	**47.86**	**69**	P	**P**	**14 50 58.4**	**-0.3**
	baz=48,SNR=7.1						
C13A	**Hot Springs**	**47.95**	**64**	⇑P	**P**	**14 50 59.3**	**-0.1**
	baz=48,SNR=14						
M04C	**Macdoel**	**47.96**	**74**	⇓P	**P**	**14 50 59.7**	**+0.2**
	baz=48						
M03C	**McCloud**	**48.15**	**75**	⇓P	**P**	**14 51 00.9**	**0.0**
	baz=48						
K06A	**Valley Falls**	**48.15**	**72**	⇓P	**P**	**14 51 01.0**	**0.0**
	baz=48,SNR=7.5						
J07A	**Hines**	**48.28**	**71**	⇑P	**P**	**14 51 01.5**	**-0.4**
	baz=48						
F11A	**Grangeville**	**48.30**	**67**	⇑P	**P**	**14 51 01.3**	**-0.8**
	baz=48,SNR=10						
H09A	**Durkee**	**48.30**	**69**	⇑P	**P**	**14 51 02.2**	**0.0**
	baz=48,SNR=7.9						
I08A	**Drewsey**	**48.32**	**70**	⇓P	**P**	**14 51 02.3**	**0.0**
	baz=48,SNR=6.0						
L05A	**Lakeview**	**48.34**	**73**	⇑P	**P**	**14 51 02.7**	**+0.3**
	baz=48,SNR=5.5						
WDC	**Whiskeytown Da**	**48.38**	**76**	⇓P	**P**	**14 51 02.8**	**0.0**
	baz=48						
D13A	**Huson**	**48.39**	**64**	P	**P**	**14 51 02.2**	**-0.6**
	baz=48,SNR=7.6						
O02C	**Red Bluff**	**48.52**	**77**	⇑P	**P**	**14 51 03.8**	**0.0**
	baz=48						
M05C	**Lookout**	**48.63**	**74**	⇑P	**P**	**14 51 04.6**	**0.0**

KURK				*e*		pP	14 51 19.4	-0.7
E14A	**Clinton**	**49.34**	**64**	P		**P**	**14 51 10.0**	**-0.1**
	baz=49,SNR=11							
ELFS	**Eagle Lake Fie**	**49.37**	**75**	⇓P		**P**	**14 51 10.5**	**+0.2**
	baz=49							
O04C	**Chester**	**49.37**	**75**	⇑P		**P**	**14 51 10.8**	**+0.4**
	baz=49							
D15A	**Lincoln**	**49.42**	**63**	P		**P**	**14 51 10.6**	**-0.1**
	baz=49,SNR=9.1							
K09A	**Rome**	**49.59**	**71**	⇑P		**P**	**14 51 11.8**	**-0.2**
	baz=49,SNR=8.0							
L08A	**Fields**	**49.60**	**72**	⇑P		**P**	**14 51 12.1**	**0.0**
	baz=49,SNR=11							
MNRC	**McLaughlin Nat**	**49.61**	**78**	⇑P		**P**	**14 51 12.3**	**+0.1**
	baz=49							
ORV	**Oroville**	**49.67**	**76**	⇑P		**P**	**14 51 11.7**	**-0.9**
	baz=50,SNR=7.4							
M07A	**Soldier Meadow**	**49.70**	**73**	⇓P		**P**	**14 51 13.0**	**+0.1**
	baz=50,SNR=18							
O05C	**Quincy**	**49.71**	**75**	⇓P		**P**	**14 51 12.9**	**-0.1**
	baz=50							
SUTB	**Sutter Butte**	**49.74**	**77**	⇓P		**P**	**14 51 12.9**	**-0.2**
	baz=50							
N06A	**Buffalo Meadow**	**49.77**	**74**	⇓P		**P**	**14 51 13.6**	**+0.2**
	baz=50,SNR=11							
E15A	**Deer Lodge**	**49.77**	**64**	P		**P**	**14 51 13.2**	**-0.1**
	baz=50,SNR=18							
OHCM	**Honcut**	**49.83**	**76**	*e*P		**P**	**14 51 12.9**	**-0.9**
FCC	**Fort Churchill**	**49.94**	**42**	*e*P		**P**	**14 51 14.4**	**-0.3**
FCC				pmax		pmax		
	comp=Z,17nm,0.5s,mb5.3							
FCC	**Fort Churchill**	**49.94**	**42**	*e*P		**P**	**14 51 14.3**	**-0.3**
	comp=Z,17nm,0.5s,mb5.3							
MKAR	**Makanchi Array**	**49.95**	**297**	P		**P**	**14 51 14.1**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=51,slow=6.5,SNR=8.4							
Q03C	**Winters**	**50.02**	**77**	⇑P		**P**	**14 51 15.4**	**+0.1**
	baz=50							
BEKR	**Beckwourth**	**50.09**	**75**	⇓P		**P**	**14 51 15.5**	**-0.2**
	baz=50,SNR=7.8							
M08A	**Happy Creek Ra**	**50.09**	**72**	⇓P		**P**	**14 51 16.0**	**+0.2**
	baz=50,SNR=7.2							
EGMT	**Eagleton**	**50.17**	**61**	*e*P		**P**	**14 51 15.6**	**-0.8**
	comp=Z,14nm,0.8s,mb5.0							
EGMT	**Eagleton**	**50.17**	**61**	P		**P**	**14 51 15.9**	**-0.5**
	baz=50,SNR=5.0							
O06A	**Flanigan**	**50.18**	**74**	⇑P		**P**	**14 51 16.4**	**-0.1**
	baz=50,SNR=5.6							
N07B	**Gerlach**	**50.22**	**73**	⇑P		**P**	**14 51 16.9**	**+0.1**
	baz=50,SNR=11							
F15A	**Butte**	**50.24**	**64**	P		**P**	**14 51 16.7**	**-0.2**
	baz=50,SNR=8.9							
P06A	**Stead Airport,**	**50.47**	**75**	⇓P		**P**	**14 51 18.9**	**+0.2**
	baz=50							
M09A	**Marrel Ranch,**	**50.61**	**72**	⇑P		**P**	**14 51 19.9**	**+0.1**
	baz=50							
LAVA	**Lava Cap Winer**	**50.65**	**76**	⇓P		**P**	**14 51 19.7**	**-0.3**
	baz=50,SNR=8.0							
N08A	**GE Springer Mi**	**50.68**	**73**	⇓P		**P**	**14 51 20.2**	**-0.1**
	baz=50							
O07A	**Toulon**	**50.70**	**74**	⇓P		**P**	**14 51 20.6**	**+0.2**
	baz=50,SNR=13							
PAHR	**Pah Rah Range**	**50.74**	**75**	*e*P		**P**	**14 51 20.7**	**0.0**
	comp=Z,22nm,1.2s,mb5.0							
MCMT	**McKenzie Canyo**	**50.74**	**65**	*e*P		**P**	**14 51 20.0**	**-0.7**
HLID	**Hailey**	**50.78**	**68**	⇓P		**P**	**14 51 20.7**	**-0.3**
	baz=51,SNR=9.5							
GYA	**Guiyang**	**50.87**	**260**	P		**P**	**14 51 23.7**	**+2.0**
GYA				PCP		PcP	14 52 40.4	+2.5
GYA				PP		PP	14 53 20.9	+2.8
GYA				S		**S**	**14 58 35.4**	**+0.2**
GYA				SCS		ScS	15 01 08.1	-1.1
GYA				SS		SS	15 02 07.6	-2.5
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
GYA				AMB		AMB		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,490nm,18.0s,MS4.7							
GYA				LR		LR		
	comp=E,460nm,18.6s,MS4.7							
GYA				LR		LR		
	comp=Z,410nm,18.4s,MS4.5							
CHKZ	**Chkalovo**	**50.90**	**310**	P		**P**	**14 51 21.9**	**0.0**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
CHKZ	**Chkalovo**	**50.90**	**310**	*e*P		**P**	**14 51 21.4**	**-0.4**
	comp=Z,7.4nm,1.0s,mb4.6							
N09A	**Rock Creek Ran**	**50.97**	**72**	⇓P		**P**	**14 51 22.7**	**+0.2**
	baz=51,SNR=8.5							
M10A	**I.L. Ranch, Tu**	**51.04**	**71**	⇓P		**P**	**14 51 23.2**	**+0.2**
	baz=51,SNR=5.3							
R05C	**Kirkwood Meado**	**51.06**	**76**	⇑P		**P**	**14 51 23.2**	**+0.1**
	baz=51							
CMB	**Columbia Colle**	**51.35**	**77**	*e*P		**P**	**14 51 25.2**	**-0.1**
CMB				*e*			14 52 39.5	
CMB				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
CMB	**Columbia Colle**	**51.35**	**77**	P		**P**	**14 51 25.9**	**+0.6**
CMB				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
CMB	**Columbia Colle**	**51.35**	**77**	*e*P		**P**	**14 51 25.2**	**-0.1**
	comp=Z,6.7nm,1.2s,mb4.5							
CMB				*e*PcP		PcP	14 52 39.5	-0.1
CMB	**Columbia Colle**	**51.35**	**77**	⇓P		**P**	**14 51 25.2**	**-0.1**
	baz=51							
BVAR	**Borovoye Array**	**51.44**	**310**	P		**P**	**14 51 26.1**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=56,slow=5.6,SNR=7.8							
BRVK	**Borovoye**	**51.46**	**310**	*e*P		**P**	**14 51 25.8**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
BRVK	**Borovoye**	**51.46**	**310**	*e*P		**P**	**14 51 25.8**	**-0.3**
	comp=Z,8.0nm,1.2s,mb4.5							
QLMT	**Earthquake Lak**	**51.48**	**65**	*e*P		**P**	**14 51 26.4**	**+0.1**
M11A	**Holland Ranch,**	**51.51**	**71**	⇑P		**P**	**14 51 26.4**	**-0.1**
	baz=51							
R06C	**Coleville**	**51.53**	**76**	⇓P		**P**	**14 51 26.9**	**+0.3**
	baz=51,SNR=11							
PACP	**Pacheco Peak**	**51.58**	**78**	⇑P		**P**	**14 51 27.0**	**0.0**
	baz=51							
N10A	**Dunphy**	**51.61**	**72**	⇑P		**P**	**14 51 27.7**	**+0.4**
	baz=51							
O09A	**Fish Creek Ran**	**51.62**	**73**	⇓P		**P**	**14 51 27.9**	**+0.5**
	baz=51,SNR=11							
S06C	**San Francisco**	**51.76**	**77**	⇓P		**P**	**14 51 28.7**	**+0.3**
	baz=52,SNR=5.9							
YMR	**Madison River**	**51.83**	**64**	*e*P		**P**	**14 51 28.8**	**-0.1**
	comp=Z,21nm,0.8s,mb5.1							
M12A	**Wells**	**51.99**	**70**	⇓P		**P**	**14 51 30.5**	**+0.4**
	baz=52,SNR=8.2							
YFT	**Old Faithful**	**52.05**	**65**	P		**P**	**14 51 31.0**	**+0.5**
R07C	**Lee Vining**	**52.06**	**76**	⇓P		**P**	**14 51 31.4**	**+0.7**
	baz=52							
P09A	**Austin**	**52.09**	**73**	⇓P		**P**	**14 51 31.1**	**+0.4**
	baz=52							
ZRNK	**Zerenda**	**52.10**	**310**	*e*P		**P**	**14 51 30.7**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**52.10**	**310**	*e*P		**P**	**14 51 30.7**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.5							
Q08A	**Gabbs**	**52.13**	**74**	⇑P		**P**	**14 51 31.7**	**+0.6**
	baz=52,SNR=27							
ARCES	**ARCESS Array B**	**52.22**	**343**	P		**P**	**14 51 31.6**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.3,baz=35,slow=14,SNR=4.0							
NVAR	**Mina Array Bea**	**52.23**	**75**	P		**P**	**14 51 31.8**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7,baz=302,slow=8.4,SNR=38							
N12A	**Clover Valley,**	**52.32**	**71**	P		**P**	**14 51 33.2**	**+0.7**
	baz=52,SNR=12							
RLMT	**Red Lodge**	**52.39**	**63**	*e*P		**P**	**14 51 33.6**	**+0.5**
	comp=Z,41nm,0.9s,mb5.4							
P10A	**Eureka**	**52.41**	**73**	⇓P		**P**	**14 51 33.6**	**+0.4**
	baz=52							
M13A	**Montello**	**52.43**	**70**	⇓P		**P**	**14 51 33.6**	**+0.2**
	baz=52							
KCC	**Kaiser Creek**	**52.45**	**77**	P		**P**	**14 51 34.1**	**+0.6**
	baz=52,SNR=5.3							
DCID1	**Drake Creek**	**52.46**	**66**	*e*P		**P**	**14 51 33.9**	**+0.4**
Q09A	**Carvers**	**52.57**	**74**	⇓P		**P**	**14 51 34.6**	**+0.3**
	baz=52							
DGMT	**Dagmar**	**52.59**	**57**	*e*P		**P**	**14 51 34.0**	**-0.5**
	comp=Z,15nm,0.5s,mb5.2							
N13A	**Wendover, West**	**52.77**	**70**	⇑P		**P**	**14 51 36.2**	**+0.4**
	baz=53							
LAO	**LASA Array**	**52.84**	**60**	*e*P		**P**	**14 51 36.2**	**-0.1**
	comp=Z,35nm,0.9s,mb5.3							
S08C	**White Mtn Res**	**52.97**	**76**	⇑P		**P**	**14 51 38.0**	**+0.7**
	baz=53							
R09A	**Tonopah**	**53.05**	**74**	P		**P**	**14 51 38.4**	**+0.5**
	baz=53,SNR=17							
TPH	**Tonopah**	**53.08**	**75**	P		**P**	**14 51 39.2**	**+1.0**
TPH				pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2							
TPH	**Tonopah**	**53.08**	**75**	*e*P		**P**	**14 51 38.6**	**+0.4**
	comp=Z,28nm,1.0s,mb5.2							
P12A	**McGill**	**53.36**	**72**	⇑P		**P**	**14 51 40.8**	**+0.6**
	baz=53							
Q11A	**Duckwater**	**53.40**	**73**	P		**P**	**14 51 41.0**	**+0.5**
	baz=53,SNR=6.9							
HWUT	**Hardware Ranch**	**53.65**	**68**	*e*P		**P**	**14 51 42.7**	**+0.3**
	comp=Z,18nm,1.2s,mb4.9							
VES	**Vestal, Richgr**	**53.65**	**78**	⇑P		**P**	**14 51 42.2**	**-0.2**
	baz=54							
Q12A	**Willow Creek R**	**53.71**	**72**	⇓P		**P**	**14 51 43.2**	**+0.5**
	baz=54							
GRAC	**Grapevine Rang**	**53.77**	**76**	⇑P		**P**	**14 51 43.8**	**+0.5**
	baz=54							
CWC	**Cottonwood Cre**	**53.78**	**77**	⇑P		**P**	**14 51 43.6**	**+0.4**
	baz=54							
ARU	**Arti**	**53.88**	**319**	*e*P		**P**	**14 51 43.1**	**-0.9**
ARU				*e*PPP			14 54 51.8	
ARU				*e*S		**S**	**14 59 16.8**	**+0.4**
ARU				*e*SS		SS	15 02 58.5	+0.7
PDAR	**Pinedale Array**	**53.89**	**65**	P		**P**	**14 51 44.2**	**+0.1**
	comp=Z,15nm,0.9s,mb4.9,baz=323,slow=2.9,SNR=107							
PKM	**Peak Mountain**	**53.92**	**79**	⇓P		**P**	**14 51 44.8**	**+0.5**
	baz=54							
DUG	**Dugway**	**53.98**	**70**	P		**P**	**14 51 45.4**	**+0.6**
DUG				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8							
DUG	**Dugway**	**53.98**	**70**	*e*P		**P**	**14 51 45.1**	**+0.3**
	comp=Z,14nm,1.0s,mb4.8							
DUG	**Dugway**	**53.98**	**70**	⇑P		**P**	**14 51 45.3**	**+0.5**
	baz=54,SNR=14							
ISA	**Isabella**	**54.12**	**78**	⇑P		**P**	**14 51 45.8**	**0.0**
	baz=54							
KMI	**Kunming**	**54.13**	**263**	P		**P**	**14 51 47.5**	**+1.7**
KMI				AP		pP	14 51 59.0	+1.8
KMI				S		**S**	**14 59 21.1**	**+1.4**
KMI				SS		SS	15 03 01.9	+0.3
KMI				AMB		AMB		
	comp=Z,5.0nm,1.8s,mb4.1							
KMI				AMB		AMB		
	comp=Z,107nm,4.0s							
KMI				LR		LR		
	comp=Z,68nm,21.6s,MS3.7							
KMI	**Kunming**	**54.13**	**263**	P		**P**	**14 51 47.5**	**+1.7**
KMI				*P		pP	14 51 59.0	+1.8
KMI				S		**S**	**14 59 21.1**	**+1.4**
KMI				SS		SS	15 03 01.9	+0.3
KMI				pmax		pmax		
	comp=Z,5.0nm,1.8s,mb4.1							
KMI	**Kunming**	**54.13**	**263**	P		**P**	**14 51 47.5**	**+1.7**
	comp=Z,5.0nm,1.8s,mb4.1							
KMI				pP		pP	14 51 59.0	+1.8
KMI				S		**S**	**14 59 21.1**	**+1.4**
KMI				S		S	14 59 53.6	+34
KMI				SS		SS	15 03 01.9	+0.3
CTU	**Camp Tracy**	**54.20**	**69**	*e*P		**P**	**14 51 46.6**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8							
MPMC	**Manual Prospec**	**54.38**	**76**	P		**P**	**14 51 48.4**	**+0.8**
	baz=54,SNR=6.8							
FURC	**Furnace Creek,**	**54.44**	**76**	⇓P		**P**	**14 51 48.2**	**+0.1**
	baz=54,SNR=11							
DAU	**Daniels Canyon**	**54.66**	**68**	P		**P**	**14 51 51.2**	**+1.5**
DAU	**Daniels Canyon**	**54.66**	**68**	*e*P		**P**	**14 51 50.4**	**+0.6**
LRMC	**Laurel Mountai**	**54.69**	**77**	⇓P		**P**	**14 51 50.1**	**+0.1**
	baz=54,SNR=5.4							
MPU	**Maple Canyon**	**54.74**	**69**	*e*P		**P**	**14 51 50.9**	**+0.6**
	comp=Z,26nm,1.0s,mb5.2							
U10A	**Ash Meadows, A**	**54.77**	**75**	⇑P		**P**	**14 51 51.1**	**+0.6**
	baz=55,SNR=5.8							
EDW2	**Edwards Air Fo**	**54.96**	**78**	⇓P		**P**	**14 51 51.9**	**0.0**
	baz=55							
SHOC	**Shoshone**	**55.17**	**76**	⇑P		**P**	**14 51 53.7**	**+0.3**
	baz=55							
ULM	**Lac du Bonnet**	**55.18**	**51**	P		**P**	**14 51 53.1**	**-0.4**
	comp=Z,16nm,0.8s,mb5.1,baz=314,slow=6.3,SNR=20							
ULM				LR		LR	15 17 30.9	
	comp=Z,132nm,19.9s,MS4.0,baz=60,slow=38							
DECC	**Green Verdugo**	**55.23**	**79**	⇑P		**P**	**14 51 54.1**	**+0.3**
	baz=55							
GSC	**Goldstone**	**55.31**	**77**	P		**P**	**14 51 55.3**	**+0.9**
GSC	**Goldstone**	**55.31**	**77**	*e*P		**P**	**14 51 54.9**	**+0.5**
GSC	**Goldstone**	**55.31**	**77**	⇑P		**P**	**14 51 54.6**	**+0.2**
	baz=55,SNR=11							
ARUT	**Antelope Range**	**55.37**	**72**	P		**P**	**14 51 56.2**	**+1.4**
ARUT	**Antelope Range**	**55.37**	**72**	*e*P		**P**	**14 51 55.3**	**+0.5**
TMUT	**Trail Mountain**	**55.49**	**69**	*e*P		**P**	**14 51 56.3**	**+0.7**
MSU	**Marysvale**	**55.53**	**71**	P		**P**	**14 51 57.3**	**+1.3**
MSU	**Marysvale**	**55.53**	**71**	*e*P		**P**	**14 51 57.0**	**+1.1**
BFSC	**Mount Baldy St**	**55.62**	**78**	⇓P		**P**	**14 51 56.9**	**+0.3**
	baz=55							
V11A	**Goodsprings**	**55.69**	**75**	⇓P		**P**	**14 51 57.5**	**+0.4**
	baz=56,SNR=12							
U12A	**Valley of Fire**	**55.75**	**74**	⇓P		**P**	**14 51 58.0**	**+0.4**
	baz=56,SNR=6.9							
RWWY	**Rawlins**	**55.88**	**65**	*e*P		**P**	**14 51 57.7**	**-0.8**
	comp=Z,28nm,1.1s,mb5.2							
HEC	**Hector,Ludlow**	**55.92**	**77**	⇑P		**P**	**14 51 58.9**	**+0.1**
	baz=56,SNR=9.6							
SRU	**San Rafael**	**55.99**	**69**	P		**P**	**14 52 00.2**	**+0.9**
SRU				pmax		pmax		
	comp=Z,52nm,0.8s,mb5.6							
SRU	**San Rafael**	**55.99**	**69**	*e*P		**P**	**14 51 60.0**	**+0.7**
	comp=Z,52nm,0.8s,mb5.6							
V12A	**Nelson**	**56.09**	**75**	⇓P		**P**	**14 52 00.5**	**+0.5**
	baz=56,SNR=6.2							
MURC	**Murrieta**	**56.34**	**78**	⇓P		**P**	**14 52 01.7**	**-0.1**
	baz=56							
W12A	**Cal Nev Ari**	**56.39**	**75**	⇑P		**P**	**14 52 02.2**	**0.0**
	baz=56							
AGMN	**Agassiz Refuge**	**56.61**	**52**	*e*P		**P**	**14 52 03.2**	**-0.5**
	comp=Z,33nm,1.1s,mb5.3							
BELC	**Belle Mtn.**	**56.72**	**77**	⇓P		**P**	**14 52 04.2**	**-0.3**
	baz=56							
PFO	**Pinyon Flat Ob**	**56.75**	**78**	⇑P		**P**	**14 52 04.7**	**0.0**
	baz=57							
AAK	**Ala-Archa**	**56.83**	**298**	⇑*e*P		**P**	**14 52 04.9**	**-0.3**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**56.83**	**298**	*e*P		**P**	**14 52 04.4**	**-0.8**
	comp=Z,6.5nm,1.0s,mb4.6							
109C	**Camp Elliot, M**	**56.92**	**79**	⇑P		**P**	**14 52 05.8**	**0.0**
	baz=57							
IRM	**Iron Mountain**	**57.08**	**76**	P		**P**	**14 52 07.4**	**+0.4**
	baz=57,SNR=6.8							
W13A	**Hualapai Mount**	**57.09**	**75**	⇑P		**P**	**14 52 07.1**	**0.0**
	baz=57,SNR=8.1							
LSA	**Lhasa**	**57.28**	**276**	P		**P**	**14 52 07.4**	**-1.0**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**57.28**	**276**	P		**P**	**14 52 07.4**	**-1.0**
	comp=Z,2.6nm,0.6s,mb4.4							
BC3	**Big Chuckw Mtn**	**57.28**	**77**	⇓P		**P**	**14 52 08.3**	**-0.2**
	baz=57							
MONP	**Monument Peak**	**57.31**	**78**	⇑P		**P**	**14 52 08.5**	**-0.1**
	baz=57							
W14A	**Seligman**	**57.45**	**74**	⇑P		**P**	**14 52 10.2**	**+0.6**
	baz=57,SNR=9.9							
X13A	**Yucca**	**57.49**	**75**	⇑P		**P**	**14 52 10.0**	**+0.1**
	baz=57							
PDMCI	**Parker Dam,Lak**	**57.53**	**75**	⇑P		**P**	**14 52 10.4**	**+0.1**
	baz=57							
Y12C	**Blythe**	**57.73**	**76**	⇑P		**P**	**14 52 11.8**	**+0.2**
	baz=58							
SMCO	**Snowmass**	**57.83**	**67**	*e*P		**P**	**14 52 12.4**	**+0.1**
	comp=Z,20nm,1.0s,mb5.1							
W15A	**Williams**	**57.92**	**73**	⇑P		**P**	**14 52 13.5**	**+0.6**
	baz=58							
Y13A	**Salome**	**58.07**	**76**	⇓P		**P**	**14 52 13.9**	**-0.1**
	baz=58							
GLA	**Glamis**	**58.08**	**77**	⇓P		**P**	**14 52 14.1**	**0.0**
	baz=58							
X14A	**Yava**	**58.10**	**74**	⇓P		**P**	**14 52 14.9**	**+0.7**
	baz=58,SNR=6.2							
WUAZ	**Wupatki**	**58.16**	**73**	⇓P		**P**	**14 52 15.3**	**+0.7**
	baz=58,SNR=6.3							
Y14A	**Wickenburg**	**58.43**	**75**	⇑P		**P**	**14 52 16.9**	**+0.3**
	baz=58							
X15A	**Humboldt**	**58.45**	**74**	P		**P**	**14 52 17.8**	**+1.2**
	baz=58,SNR=7.8							
MVCO	**Mesa Verde**	**58.47**	**69**	P		**P**	**14 52 17.6**	**+0.9**
	baz=58,SNR=5.2							
AKTK	**Aktyubinsk**	**58.60**	**314**	P		**P**	**14 52 17.3**	**-0.4**
AKTK				LR		LR	15 20 55.8	
AKTO	**Aktyubinsk**	**58.60**	**314**	P		**P**	**14 52 17.3**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=32,slow=9.5,SNR=2.8							
AKTO				LR		LR	15 20 55.8	
	comp=Z,114nm,20.6s,MS4.0,baz=44,slow=39							
AKTO	**Aktyubinsk**	**58.60**	**314**	P		**P**	**14 52 17.3**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
AKTO				MLR		MLR		
	comp=Z,114nm,20.6s,MS4.0							
Z14A	**Wintersburg**	**58.90**	**75**	⇑P		**P**	**14 52 20.1**	**+0.4**
	baz=59							
FINES	**FINESS Array B**	**59.36**	**339**	P		**P**	**14 52 21.7**	**-1.3**
	comp=Z,2.7nm,1.0s,mb4.2,baz=293,slow=9.9,SNR=3.9							
115A	**Sonoran Desert**	**59.79**	**75**	⇑P		**P**	**14 52 26.6**	**+0.7**
	baz=60,SNR=5.5							
116A	**Eloy**	**60.18**	**75**	⇑P		**P**	**14 52 29.2**	**+0.6**
	baz=60							
ANMO	**Albuquerque**	**61.25**	**69**	⇑*e*P		**P**	**14 52 36.3**	**+0.4**
GUN	**Gumba**	**61.63**	**279**	*e*P		**P**	**14 52 39.4**	**+1.0**
Y22C	**IRIS PASSCAL I**	**61.66**	**70**	⇑P		**P**	**14 52 39.4**	**+0.7**
	baz=62							
KKN	**Kakani**	**62.06**	**279**	*e*P		**P**	**14 52 42.1**	**+0.8**
PKI	**Pulchoki**	**62.16**	**279**	*e*P		**P**	**14 52 42.6**	**+0.6**
	comp=Z,34nm,0.9s,mb5.5							
GKN	**Gorkha**	**62.27**	**280**	*e*P		**P**	**14 52 43.3**	**+0.6**
	comp=Z,36nm,1.0s,mb5.4							
DMN	**Daman**	**62.30**	**279**	*e*P		**P**	**14 52 43.2**	**+0.3**
NB2	**NORSAR Subarra**	**62.33**	**346**	P		**P**	**14 52 42.2**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.2,baz=17,slow=6.9							
NOA	**NORSAR Array B**	**62.33**	**346**	P		**P**	**14 52 42.6**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.4,baz=17,slow=6.8,SNR=4.5							
SCHQ	**Schefferville**	**62.36**	**31**	P		**P**	**14 52 41.7**	**-1.6**
	comp=Z,3.4nm,0.6s,mb4.7,baz=337,slow=9.3,SNR=5.3							
SCHQ	**Schefferville**	**62.36**	**31**	P		**P**	**14 52 41.7**	**-1.6**
KOLN	**Koldanda**	**63.03**	**280**	*e*P		**P**	**14 52 48.2**	**+0.4**
	comp=Z,22nm,0.8s,mb5.3							
KSU1	**Kansas State U**	**63.19**	**60**	*e*P		**P**	**14 52 47.3**	**-1.6**
	comp=Z,7.5nm,0.7s,mb4.9							
WMOK	**Wichita Mounta**	**65.46**	**64**	P		**P**	**14 53 03.8**	**+0.1**
WMOK				pmax		pmax		
	comp=Z,15nm,0.9s,mb5.0							
WMOK	**Wichita Mounta**	**65.46**	**64**	*e*P		**P**	**14 53 03.2**	**-0.5**
	comp=Z,15nm,0.8s,mb5.1							
FVM	**French Village**	**67.07**	**56**	*e*P		**P**	**14 53 13.3**	**-0.7**
FVM				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.2							
FVM	**French Village**	**67.07**	**56**	*e*P		**P**	**14 53 12.9**	**-1.1**
	comp=Z,21nm,0.8s,mb5.2							
TXAR	**Lajitas Array**	**67.07**	**71**	P		**P**	**14 53 14.3**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.7,baz=300,slow=5.0,SNR=78							
TXAR	**Lajitas Array**	**67.07**	**71**	P		**P**	**14 53 14.3**	**+0.2**
JCT	**Junction City**	**68.25**	**68**	P		**P**	**14 53 21.4**	**-0.1**
JCT				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
JCT	**Junction City**	**68.25**	**68**	*e*P		**P**	**14 53 20.8**	**-0.7**
	comp=Z,9.6nm,1.0s,mb4.8							
AKASG	**Malin Array Be**	**68.32**	**332**	P		**P**	**14 53 20.8**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=29,slow=6.9,SNR=4.2							
PARMO	**Parma**	**68.45**	**57**	*e*P		**P**	**14 53 22.7**	**0.0**
KAKA	**Kakadu**	**73.04**	**214**	*e*P		**P**	**14 53 52.6**	**+2.0**
	comp=Z,7.1nm,0.9s,mb4.6							
KAKA				*e*		pP	14 54 03.2	+0.8
KHC	**Kasperske Hory**	**73.40**	**341**	⇑*e*P		**P**	**14 53 53.9**	**+1.2**
GERES	**GERESS Array B**	**73.65**	**341**	P		**P**	**14 53 53.9**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=26,slow=6.4,SNR=5.1							
CTA	**Charters Tower**	**76.68**	**198**	P		**P**	**14 54 11.3**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=32,slow=1.5,SNR=3.8							
CTA	**Charters Tower**	**76.68**	**198**	P		**P**	**14 54 11.3**	**-0.4**
CTAO	**Charters Tower**	**76.68**	**198**	*e*P		**P**	**14 54 11.1**	**-0.5**
CTAO				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
**CTAO

PBRG								
	100nm,0.2s							
PCAB	**Cabril**	**0.79**	**238**	*e*P	Pg	14 48 18.9	-0.4	
PCAB				*e*S	Sg	14 48 29.1	-0.4	
PCAB								
	47nm,0.1s							
PVRL	**Vila Real**	**0.96**	**207**	*e*P	Pg	14 48 21.9	-0.7	
PVRL				*e*S	Sg	14 48 34.2	-0.8	
PVRL								
	104nm,0.1s							
EZAM	**Zamans**	**1.16**	**271**	⇑Pg	Pg	14 48 25.7	-0.7	
	20nm,0.1s,SNR=18							
EZAM				Lg		14 48 40.4		
	7.9nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**1.19**	**359**	Pg	Pg	14 48 25.4	-1.6	
	17nm,0.2s,SNR=48							
EPON				Lg		14 48 41.4		
	25nm,0.2s,SNR=14							
STS	**Santiago**	**1.29**	**306**	Pg	Pg	14 48 27.4	-1.4	
	2.7nm,0.2s,SNR=7.9							
STS				Lg		14 48 44.1		
	26nm,0.2s,SNR=14							
PTO	**Porto**	**1.48**	**228**	*e*P	Pn	14 48 31.4	-0.7	
PTO				*e*S	Sg	14 48 50.6	-1.2	
PTO								
	25nm,0.2s							
PVIS	**Viseu**	**1.53**	**202**	*e*Pn	Pn	14 48 31.7	-1.0	
PVIS				*e*Sn	Sn	14 48 51.8	-1.4	
PVIS								
	35nm,0.1s							
EMAZ	**Mazaricos**	**1.59**	**302**	Pg	Pg	14 48 33.0	-1.6	
	2.1nm,0.1s,SNR=8.0							
EMAZ				Lg		14 48 53.8		
	20nm,0.2s							
EARI	**Arriondas**	**1.84**	**50**	Pn	Pn	14 48 35.2	-1.7	
	0.3nm,0.1s,SNR=11							
EARI				Pg	Pg	14 48 38.2	-1.2	
	0.3nm,0.1s,SNR=7.9							
EARI				Lg		14 49 01.4		
	4.7nm,0.1s,SNR=8.2							
PCBR	**Castelo Branco**	**2.31**	**187**	*e*Pn	Pn	14 48 41.7	-1.7	
PCBR				*e*Sg	Sg	14 49 16.1	-2.1	
PCBR								
	6.0nm,0.3s							
GUD	**Guadarrama**	**2.69**	**123**	Pn	Pn	14 48 47.7	-0.9	
	0.1nm,0.1s,SNR=7.9							
GUD				Pg	Pg	14 48 53.5	-2.3	
	1.1nm,0.2s,SNR=7.9							
GUD				Lg		14 49 26.6		
	5.7nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**2.94**	**67**	Pn	Pn	14 48 51.1	-1.0	
	0.0nm,0.1s,SNR=6.2							
ELAN				Sn	Sn	14 49 24.5	-3.6	
	1.4nm,0.1s,SNR=7.9							
ELAN				Lg		14 49 37.0		
	3.2nm,0.2s							
PESTR	**Estremoz**	**3.28**	**186**	*e*Pn	Pn	14 48 57.3	+0.5	
PESTR				*e*Sn	Sn	14 49 32.4	-4.1	
PESTR				*e*Sg	Sg	14 49 45.9	-3.7	
PESTR								
	4.7nm,0.5s							
EBAD	**Badajoz**	**3.38**	**178**	Pn	Pn	14 48 58.1	0.0	
	0.2nm,0.1s,SNR=4.0							
EBAD				Pg	Pg	14 49 05.8	-3.0	
	0.5nm,0.1s,SNR=4.0							
EBAD				Sn	Sn	14 49 33.3	-5.5	
	1.6nm,0.2s,SNR=7.9							
EBAD				Lg		14 49 50.3		
	2.9nm,0.2s,SNR=7.5							
ECRI	**Cripan**	**3.46**	**81**	Pg	Pg	14 49 07.6	-2.9	
	3.3nm,0.3s,SNR=7.9							
ECRI				Lg		14 49 51.7		
	2.1nm,0.2s,SNR=7.9							
ETOR	**Torete**	**4.04**	**107**	Pn	Pn	14 49 06.4	-0.7	
	0.4nm,0.1s,SNR=4.0							
ETOR				Pg	Pg	14 49 18.1	-3.4	
	3.2nm,0.2s,SNR=7.9							
ETOR				Lg		14 50 11.7		
	4.2nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.38**	**175**	Lg		14 50 19.3		
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.42**	**153**	Pn	Pn	14 49 11.7	-0.8	
	0.1nm,0.1s,SNR=7.9							
EADA				Sn	Sn	14 49 59.6	-5.0	
	0.4nm,0.1s,SNR=7.9							
EADA				Lg		14 50 19.6		
	1.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.60**	**183**	Lg		14 50 27.9		
	4.0nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**5.42**	**82**	Pn	Pn	14 49 24.4	-1.8	
	0.1nm,0.1s,SNR=7.9							
EBIE				Sn	Sn	14 50 22.7	-6.4	
	0.2nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**5.51**	**127**	Sn	Sn	14 50 23.8	-7.6	
	0.1nm,0.2s,SNR=7.9							
ETOB				Lg		14 50 59.6		
	0.6nm,0.2s,SNR=4.0							

CSEM ***12*** *15:24:39.6±0.9, 3658N×2351W, h5km, ML3.2, Error ellipse: s-maj=12.4km s-min=4.3km az=46.0, After PDA*
PDA ***12*** *15:24:39.6±0.9, 3658N×2351W, h5km, MD3.3, ML3.2, Error ellipse: s-maj=12.4km s-min=4.3km az=46.0*

SVSA 12 15:24:39.6±0.9, 3658N×2351W, h5km, MD3.3, ML3.2, Error ellipse: s-maj=12.4km s-min=4.3km az=46.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**1.32**	**289**	*e*P	Pn	15 24 59.8	-4.9
PSMN				*e*S	Sg	15 25 14.5	-7.5
MIRA	**Miradouro**	**1.86**	**311**	*e*S	Sn	15 25 27.6	-8.3
FRA1	**Furnas**	**1.88**	**309**	*e*P	Pn	15 25 07.5	-4.9
FRA1				*e*S	Sn	15 25 28.7	-7.7
PCNG	**Congro**	**1.92**	**309**	*e*S	Sn	15 25 29.6	-7.8
PCNG							
	50nm,0.4s						
PFAD	**Fenais da Ajud**	**1.92**	**311**	*e*P	Pn	15 25 07.4	-5.5
PFAD				*e*S	Sn	15 25 29.1	-8.3
VIF	**Vila Franca**	**1.93**	**308**	*e*P	Pn	15 25 08.3	-4.8
VIF				*e*S	Sn	15 25 30.1	-7.7
VIF							
	33nm,0.2s						
VIF	**Vila Franca**	**1.93**	**308**	*e*P	Pn	15 25 08.3	-4.8
VIF				*e*S	Sn	15 25 30.1	-7.7
PRCH	**Ribeira Ch**	**1.95**	**307**	*e*S	Sn	15 25 30.3	-7.9
PRCH							
	135nm,0.1s						
MESC	**Monte Escuro**	**1.96**	**309**	*e*P	Pn	15 25 08.4	-5.2
MESC				*e*S	Sn	15 25 30.4	-8.2
LFA	**Lagoa do Fogo**	**1.98**	**308**	*e*P	Pn	15 25 09.3	-4.4
PMAT	**Coroa da Mata**	**2.00**	**309**	*e*P	Pn	15 25 09.0	-5.0
PMAT				*e*S	Sn	15 25 31.6	-7.7
PMAT							
	37nm,0.2s						
PMAT	**Coroa da Mata**	**2.00**	**309**	*e*P	Pn	15 25 09.0	-5.0
PMAT				*e*S	Sn	15 25 31.6	-7.7
PVER	**Pico Vermelho**	**2.01**	**308**	*e*P	Pn	15 25 09.8	-4.4
PVER				*e*S	Sn	15 25 31.9	-7.8
PVER							
	51nm,0.2s						
PVER	**Pico Vermelho**	**2.01**	**308**	*e*P	Pn	15 25 09.8	-4.4
PVER				*e*S	Sn	15 25 31.9	-7.8
CML	**Cha da Macela**	**2.02**	**307**	*e*P	Pn	15 25 09.8	-4.4
CML				*e*S	Sn	15 25 31.8	-8.0
FAC	**Faja de Cima**	**2.08**	**306**	*e*P	Pn	15 25 10.5	-4.7
FAC				*e*S	Sn	15 25 33.8	-7.7
PSAN	**Santo Antonio**	**2.18**	**306**	*e*S	Sn	15 25 36.4	-7.4
PFET	**Feteiras**	**2.20**	**305**	*e*P	Pn	15 25 12.3	-4.5
PFET				*e*S	Sn	15 25 36.5	-7.9
SET2	**Ginetes**	**2.23**	**305**	*e*P	Pn	15 25 12.5	-4.7
SET2				*e*S	Sn	15 25 37.3	-7.7
SET4	**Mosteiros**	**2.24**	**306**	*e*S	Sn	15 25 37.5	-7.8

CSEM ***12*** *15:31:48.7, 6787N×2015E, h3km, ML3.1, Suspected Mining explosion. After UPP*
UPP ***12*** *15:31:48.7, 6787N×2015E, h3km, ML3.1, Suspected Mining explosion.*

HEL 12 15:31:49.3±0.2, 6785N×2012E, h0km, ML1.9, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**39**	*i* P	Pg	15 31 50.5	-1.3
NIKU	**Nikkaluokta**	**0.41**	**273**	*i* P	Pg	15 31 56.4	-0.8
LANU	**Lannavaara**	**0.73**	**74**	*i* P	Pg	15 32 02.4	-1.0
DUNU	**Dundret**	**0.76**	**167**	*i* P	Pg	15 32 02.5	-1.3
SALU	**Saltoluokta**	**0.78**	**233**	*i* P	Pg	15 32 03.9	-0.4
SALU	**Saltoluokta**	**0.78**	**233**	P	Pg	15 32 03.9	-0.3
	baz=82						
MASU	**Masugnsbyn**	**0.82**	**118**	*i* P	Pg	15 32 03.8	-1.2
KIF	**Kilpisjarvi**	**1.18**	**12**	*e*P	Pg	15 32 12.4	+0.4
KIF				*e*S	Sg	15 32 26.8	-0.5
PAJU	**Pajala**	**1.42**	**124**	*e*P	Pn	15 32 14.4	-2.0
HARU	**Harads**	**1.73**	**168**	*e*P	Pn	15 32 19.6	-1.0
HARU	**Harads**	**1.73**	**168**	P	Pn	15 32 19.6	-1.0
SGF	**Sodankyl**	**2.48**	**97**	*e*P	Pn	15 32 31.9	+1.0
SGF				*e*S	Sn	15 33 02.6	+0.7
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	15 32 40.3	+0.2
KEV				*e*S	Sn	15 33 17.8	-0.6
KEV				MSG		15 33 23.9	
	comp=Z,3.1nm,0.3s						
KU4	**Liikasenvaara**	**3.99**	**108**	*e*PB	Pb	15 32 58.3	-2.1
KU4				*e*SB	Sb	15 33 49.3	+0.1
KU4				MSG		15 33 55.8	
	comp=Z,2.4nm,0.3s						

NEIC ***12*** *15:32:20.4, 1773N×9856W, h83km, MD4.0(MEX), After MEX.*

MEX 12 15:32:21.0±1.8, 1767N×9853W, h59km±22km, MD4.0, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UTMO	**Huajuapan**	**0.71**	**77**	*i* P	Pn	15 32 34.3	-0.9
UTMO				*i* S	Sn	15 32 44.3	-1.4
MEIG	**Mezcala**	**1.07**	**284**	*i* P	Pn	15 32 39.1	-0.8
MEIG				*i* S	Sn	15 32 53.0	-0.9
PLIG	**Platanillo**	**1.17**	**308**	*i* P	Pn	15 32 40.5	-0.7
PLIG				*i* S	Sn	15 32 53.8	-2.5
YAIG	**Yautepec**	**1.29**	**337**	*i* P	Pn	15 32 42.9	+0.1
YAIG				*i* S	Sn	15 32 56.2	-2.9
PNIG	**Pinotepa**	**1.33**	**163**	*i* P	Pn	15 32 42.2	-1.2
PNIG				*i* S	Sn	15 32 58.4	-1.7
PNIG	**Pinotepa**	**1.33**	**163**	*i* P	Pn	15 32 42.2	-1.2
PNIG				*i* S	Sn	15 32 56.3	-3.8
TPIG	**Tehuac#an**	**1.33**	**56**	*i* P	Pn	15 32 42.7	-0.8
TPIG				*i* S	Sn	15 32 57.4	-2.8
PPM	**Popocatepetl**	**1.39**	**356**	*i* P	Pn	15 32 42.4	-1.7
PPM				*i* S	Sn	15 33 01.7	+0.1
ACX	**Acapulco**	**1.55**	**239**	*i* P	Pn	15 32 43.0	-3.3
ACX				*i* S	Sn	15 33 06.0	+0.6
UNM	**Universidad Na**	**1.76**	**340**	*e*P	Pn	15 32 47.0	-2.1
CAIG	**El Cayaco**	**1.77**	**250**	⇑*i* P	Pn	15 32 47.5	-1.9
CAIG				*i* S	Sn	15 33 10.3	-0.5
VHO	**Vista Hermosa**	**1.81**	**109**	*i* P	Pn	15 32 50.1	+0.2
VHO				*i* S	Sn	15 33 11.5	-0.4
OXX	**Oaxaca**	**1.82**	**109**	*e*P	Pn	15 32 49.5	-0.5
SZVM	**Salazar**	**1.83**	**334**	*e*P	Pn	15 32 49.3	-0.8
SZVM				*i* S	Sn	15 33 09.6	-2.5
MOIG	**Morelia**	**3.21**	**309**	*e*P	Pn	15 33 09.8	+0.7
MOIG				*i* S	Sn	15 33 45.7	-0.4
MOIG	**Morelia**	**3.21**	**309**	*e*P	Pn	15 33 09.8	+0.7
MOIG				*i* S	Sn	15 33 47.2	+1.2
CMIG	**Matias Romero**	**3.53**	**99**	*i* P	Pn	15 33 12.8	-0.4
CMIG				*i* S	Sn	15 33 51.0	-2.8
CMIG	**Matias Romero**	**3.53**	**99**	*i* P	Pn	15 33 13.2	-0.1
CMIG				*i* S	Sn	15 33 48.2	-5.6

IDC 12 15:33:31.9±3.9, 6215S×15238E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/13, mbtmp3.3/2, Error ellipse: s-maj=166.0km s-min=51.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.21**	**230**	P	P	15 38 31.1	+1.2
	0.2nm,0.5s,baz=54,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**24.84**	**224**	P	P	15 38 55.5	-0.3
	0.9nm,0.7s,baz=56,slow=9.0,SNR=16						
TORD	**Torodi Ar. Bea**	**150.31**	**286**	PKPbc	PKPbc	15 53 26.1	+1.1
	0.6nm,0.6s,baz=64,slow=3.2,SNR=4.4						

IDC ***12*** *15:44:46.4±1.2, 3890N×11055E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=65.5km s-min=16.8km az=56.0*
ISCJB ***12*** *15:44:49.2±1.0, 389N±0.1×1105E±02, h35km, mb4.1/9, Error ellipse: s-maj=20.9km s-min=14.6km az=150.1*

ISC 12 15:44:51.5±1.0, 388N±01×1103E±02, h35km, n11, σ1§16/11, mb4.1/9, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.44**	**344**	Pn	**Pn**	**15 47 04.7**	**-0.4**
	0.1nm,0.3s,baz=163,slow=12,SNR=18						
SONM				Lg		15 49 45.3	
	0.3nm,0.3s,baz=161,slow=29,SNR=10						
MKAR	**Makanchi Array**	**21.96**	**300**	P	**P**	**15 49 43.1**	**+1.0**
	4.7nm,0.8s,mb4.0,baz=99,slow=12,SNR=16						
JIRN	**Jiri**	**22.97**	**248**	*e*P	**P**	**15 49 53.6**	**+0.7**
	12nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**23.02**	**319**	P	**P**	**15 49 52.6**	**-0.8**
	0.4nm,0.6s,mb3.0,baz=355,slow=11,SNR=2.2						
GUN	**Gumba**	**23.06**	**249**	*e*P	**P**	**15 49 55.3**	**+1.5**
	26nm,0.9s,mb4.7						
KKN	**Kakani**	**23.56**	**250**	*e*P	**P**	**15 49 57.0**	**-1.9**
	34nm,1.3s,mb4.6						
GKN	**Gorkha**	**23.92**	**251**	*e*P	**P**	**15 50 01.8**	**-0.3**
	12nm,0.9s,mb4.3						
KOLN	**Koldanda**	**24.81**	**252**	*e*P	**P**	**15 50 07.8**	**-2.5**
BRTR	**Keskin Array B**	**57.56**	**297**	P	**P**	**15 54 39.0**	**+1.4**
	1.0nm,0.8s,mb3.9,baz=76,slow=9.3,SNR=6.3						
WRA	**Warramunga Arr**	**62.65**	**154**	P	**P**	**15 55 12.2**	**-0.2**
	2.1nm,0.9s,mb4.3,baz=348,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**65.98**	**156**	P	**P**	**15 55 34.8**	**+0.5**
	1.2nm,0.8s,mb4.0,baz=340,slow=5.7,SNR=15						

IDC ***12*** *15:57:29.6±3.5, 3005S×17807W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=70.1km s-min=44.1km az=93.0*

ISC 12 15:57:43.9±3.2, 308S±03×1785W±09, h94km±61km, n20, σ1§34/14, mb3.5/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.78**	**200**	*e*SN	**Sn**	**16 01 01.6**	**+0.8**
MWZ	**Matawai**	**8.25**	**203**	*e*PN	**Pn**	**15 59 40.0**	**-0.7**
MWZ				SN	**Sn**	**16 01 12.6**	**+0.5**
URZ	**Urewera**	**8.32**	**205**	Pn	**Pn**	**15 59 42.5**	**+0.8**
	baz=0.0,slow=0.0						
URZ	**Urewera**	**8.32**	**205**	PN	**Pn**	**15 59 41.4**	**-0.4**
URZ				SN	**Sn**	**16 01 14.3**	**+0.3**
URZ				*e*SN	**Sn**	**16 01 15.3**	**+1.2**
KNZ	**Kokohu**	**8.83**	**200**	SN	**Sn**	**16 01 24.0**	**-2.3**
WPHZ	**Waipukurau**	**10.17**	**203**	SN	**Sn**	**16 01 55.5**	**-3.4**
BFZ	**Birch Farm**	**10.79**	**202**	SN	Sx	16 02 09.5	
MRZ	**Mangatainoka R**	**11.00**	**205**	SN	Sx	16 02 12.1	
KIW	**Kapiti Island**	**11.42**	**206**	*e*SN	Sx	16 02 22.5	
PAWZ	**Paruwai Farm**	**11.69**	**203**	*e*SN	Sx	16 02 28.4	
MSWZ	**Moikau Station**	**11.78**	**204**	*e*SN	Sx	16 02 30.3	
MRW	**Makara Radio**	**11.82**	**206**	SN	Sx	16 02 33.0	
TCW	**Tory Channel**	**11.97**	**207**	*e*SN	Sx	16 02 34.3	
NNZ	**Nelson**	**12.34**	**210**	PN	**Pn**	**16 00 37.7**	**+1.5**
NNZ				*e*SN	Sx	16 02 43.9	
THZ	**Tophouse**	**12.99**	**210**	*e*PN	**Pn**	**16 00 42.4**	**-2.4**
THZ				*e*SN	Sx	16 02 59.8	
MQZ	**McQueen's Vall**	**14.72**	**206**	SN	Sx	16 03 36.7	
RPZ	**Rata Peaks**	**15.37**	**210**	Pn	**Pn**	**16 01 17.4**	**+1.9**
	1.4nm,0.3s,baz=30,slow=20,SNR=7.4						
ASAR	**Alice Springs**	**42.70**	**268**	P	**P**	**16 05 31.5**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=104,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**43.72**	**273**	P	**P**	**16 05 39.1**	**-0.6**
	0.6nm,0.3s,mb3.8,baz=110,slow=8.1,SNR=23						
FINES	**FINESS Array B**	**145.35**	**339**	PKP	PKPdf	16 17 07.2	-3.5
	2.7nm,0.9s,baz=49,slow=5.8,SNR=7.4						

IDC 12 16:48:57.4±3.8, 587S×15078E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/13, mbtmp3.3/2, Error ellipse: s-maj=148.3km s-min=49.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.24**	**227**	P	P	16 53 45.9	+0.9
	0.9nm,0.6s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.02**	**221**	P	P	16 54 13.7	-0.2
	0.5nm,0.7s,baz=56,slow=8.9,SNR=16						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	17 08 47.4	+0.8
	0.6nm,0.6s,baz=66,slow=3.3,SNR=4.5						

LDG ***12*** *16:56:43.7±0.2, 4310N×067W, h18km±1km, Md1.9/2, Error ellipse: s-maj=5.3km s-min=1.3km az=9.0*
ISCJB ***12*** *16:56:44.1±0.4, 4299N±004×068W±003, h5km, Error ellipse: s-maj=5.5km s-min=2.8km az=32.1*
STR ***12*** *16:56:44.5±0.3, 4302N×066W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***12*** *16:56:44.6±0.3, 4316N×065W, h0km, mbLg1.2/8, Error ellipse: s-maj=3.4km s-min=1.4km az=14.0, PRXIMO*

ISC 12 16:56:44.7±0.4, 4302N±004×068W±003, h5km, n24, σ0§89/29, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.07**	**348**	Pg	**Pg**	**16 56 47.0**	**+0.8**
ATE				Sg	**Sg**	**16 56 49.2**	**+1.9**
REYF	**Montagne du Re**	**0.22**	**77**	Pg	**Pg**	**16 56 48.7**	**-0.3**
REYF				Sg	**Sg**	**16 56 52.0**	**+0.1**
REYF	**Montagne du Re**	**0.22**	**77**	Pg	**Pg**	**16 56 48.8**	**-0.2**
REYF				Lg		16 56 52.0	
FDAF	**Les Forges d'A**	**0.22**	**158**	Pg	**Pg**	**16 56 50.6**	**+1.5**
FDAF				Lg		16 56 55.0	
LARF	**Larrau**	**0.23**	**274**	Pg	**Pg**	**16 56 49.6**	**+0.5**
LARF				Sg	**Sg**	**16 56 53.8**	**+1.7**
LARF	**Larrau**	**0.23**	**274**	Pg	**Pg**	**16 56 49.6**	**+0.5**
LARF				Lg		16 56 53.6	
ORDF	**Ordiarp**	**0.27**	**316**	Pg	**Pg**	**16 56 49.0**	**-0.9**
ORDF				Sg	**Sg**	**16 56 53.3**	**-0.1**
ORDF	**Ordiarp**	**0.27**	**316**	Pg	**Pg**	**16 56 49.0**	**-0.9**
ORDF				Lg		16 56 52.6	
SJPF	**Ste Jean**	**0.41**	**283**	*e*Pg	**Pg**	**16 56 51.9**	**-0.7**
SJPF				*e*Sg	**Sg**	**16 56 57.6**	**-0.3**
	3.9nm,0.2s						
SJPF	**Ste Jean**	**0.41**	**283**	Pg	**Pg**	**16 56 51.9**	**-0.7**
SJPF				Lg		16 56 57.6	
	1.9nm,0.2s						
VIEF	**Viey**	**0.54**	**105**	Pg	**Pg**	**16 56 54.7**	**-0.3**
VIEF				Sg	**Sg**	**16 57 02.1**	**+0.1**
VIEF	**Viey**	**0.54**	**105**	Pg	**Pg**	**16 56 54.9**	**-0.2**
VIEF				Lg		16 57 02.2	
EALK	**Alkurruntz**	**0.64**	**288**	Pg	**Pg**	**16 56 55.4**	**-1.6**
	0.2nm,0.1s,SNR=5.0						
EALK				Lg		16 57 03.6	
	5.7nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.64**	**283**	Pg	**Pg**	**16 56 55.7**	**-1.3**
	0.5nm,0.1s,SNR=4.0						
ELIZ				Lg		16 57 04.0	
	1.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.64**	**264**	Pg	**Pg**	**16 56 57.6**	**+0.6**
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		16 57 06.0	
	1.4nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.69**	**119**	⇓Pg	**Pg**	**16 56 58.1**	**+0.1**
	1.1nm,0.0s,SNR=18						
EBIE				Lg		16 57 07.3	
	6.0nm,0.1s,SNR=20						
EARA	**Aranguren**	**0.71**	**250**	Lg		16 57 09.1	
	1.3nm,0.1s,SNR=4.0						
EPF	**Esparros**	**0.75**	**89**	*e*Pg	**Pg**	**16 56 58.9**	**-0.2**
EPF				*e*Sg	**Sg**	**16 57 08.6**	**-0.2**
	2.1nm,0.2s						
EPF	**Esparros**	**0.75**	**89**	Pg	**Pg**	**16 56 58.9**	**-0.2**
EPF				Lg		16 57 08.6	
	1.1nm,0.2s						
ESAC	**San Caprasio**	**1.31**	**173**	Pg	**Pg**	**16 57 11.0**	**+1.2**
	2.4nm,0.1s,SNR=7.9						
ESAC				Lg		16 57 29.5	
	11nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.41**	**254**	Pg	**Pg**	**16 57 10.9**	**-0.8**
	1.1nm,0.2s,SNR=7.9						
ECRI				Lg		16 57 28.9	
	1.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.97**	**123**	Pg	**Pg**	**16 57 21.8**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		16 57 48.7	
	0.4nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.03**	**277**	Lg		16 57 38.8	
	1.1nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.12**	**141**	Pg	**Pg**	**16 57 24.6**	**-0.8**
	0.5nm,0.1s,SNR=4.0						
EPOB				Lg		16 57 53.5	
	0.2nm,0.2s,SNR=7.9						

NEIC ***12*** *17:21:38.8±1.2, 621S×15166E, h10km, mb4.3/4, Error ellipse: s-maj=27.5km s-min=17.3km az=112.0*
ISCJB ***12*** *17:21:45.6±3.8, 645S±02×1514E±02, h66km±28km, mb3.9/7, Error ellipse: s-maj=28.5km s-min=25.8km az=0.8*
IDC ***12*** *17:21:47.1±6.5, 644S×15138E, h65km±51km, mb3.8/6, mb1 3.9/8, mb1mx3.8/16, mbtmp3.8/8, ML3.0/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/25, Error ellipse: s-maj=44.8km s-min=28.5km az=77.0*

ISC 12 17:21:47.5±3.6, 645S±02×1514E±02, h68km±26km, n27, σ0§80/21, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**234**	P	**Pn**	**17 23 01.9**	**0.0**
	3.4nm,0.3s,baz=55,slow=5.3,SNR=13						
PMG				S	**Sn**	**17 23 59.6**	**-0.3**
	3.0nm,0.3s,baz=317,slow=13,SNR=2.7						
PMG	**Port Moresby**	**5.14**	**234**	*e*Pn	**Pn**	**17 23 02.0**	**+0.1**
PMG				S	**Sn**	**17 23 59.6**	**-0.3**
HNR	**Honiara**	**9.01**	**110**	LR	LR	17 27 08.6	
	comp=Z,128nm,19.6s,baz=359,slow=36						
CTA	**Charters Tower**	**14.50**	**200**	P	**Pn**	**17 25 09.3**	**+0.3**
	0.1nm,0.3s,baz=23,slow=15,SNR=2.7						
CTA				LR

*ISCJB **12** 17:31:42.4±2.0, 2899S×007×1786W±02, h185km±18km, mb3.8/7, Error ellipse: s-maj=27.2km s-min=11.0km az=170.3*

*IDC **12** 17:31:47.1±0.8, 2859S×17835W, h240km±6km, mb3.3/4, mb1 3.4/5, mb1mx3.3/14, mbtmp3.3/5, Error ellipse: s-maj=29.9km s-min=21.4km az=20.0*

*NEIC **12** 17:31:50.4±1.1, 2932S×17929W, h203km±21km, mb3.9/3, Error ellipse: s-maj=47.0km s-min=16.1km az=46.0*

ISC 12 17:31:44.2±3.9, 291S±01×1786W±03, h187km±28km, n27, σ1°31/27, mb3.8/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RAO	**Raoul Island**	**0.64 109**		P		**Pn**	**17 32 21.8**	**+11**
	725nm,0.3s,baz=53,slow=2.8,SNR=48							
RAO				S		Sn	17 32 45.7	+15
	149nm,0.3s,baz=60,slow=20,SNR=2.1							
URZ	**Urewera**	**9.86 200**		P		**Pn**	**17 34 03.9**	**+2.3**
	2.4nm,0.3s,baz=275,slow=2.1,SNR=11							
URZ				S		**Sn**	**17 35 53.9**	**+2.4**
	1.6nm,0.3s,baz=104,slow=19,SNR=6.6							
URZ	**Urewera**	**9.86 200**		PN		**Pn**	**17 34 03.7**	**+2.0**
URZ				SN		**Sn**	**17 35 53.5**	**+2.0**
KNZ	**Kokohu**	**10.41 196**		SN		**Sn**	**17 36 05.2**	**+0.4**
PXZ	**Pawanui**	**11.57 198**		PN		**Pn**	**17 34 23.8**	**-0.1**
MRZ	**Mangatainoka R**	**12.53 201**		*e*PN		**Pn**	**17 34 35.3**	**-0.7**
MRZ				SN		**Sn**	**17 36 50.7**	**-4.7**
KIW	**Kapiti Island**	**12.92 202**		*e*PN		**Pn**	**17 34 39.9**	**-1.1**
TCW	**Tory Channel**	**13.45 204**		*e*PN		**Pn**	**17 34 47.1**	**-0.6**
TCW				*e*SN		**Sn**	**17 37 13.1**	**-4.4**
THZ	**Tophouse**	**14.44 206**		*e*PN		**Pn**	**17 34 58.2**	**-1.8**
KHZ	**Kahutara**	**14.78 203**		*e*PN		**Pn**	**17 35 02.3**	**-1.8**
KHZ				SN		**Sn**	**17 37 44.8**	**-4.2**
DZM	**Mont Dzumac**	**15.16 294**		P		**Pn**	**17 35 09.7**	**+0.9**
	0.1nm,0.3s,baz=15,slow=18,SNR=2.2							
MQZ	**McQueen's Vall**	**16.22 203**		SN		Sx	17 38 13.7	
AFI	**Afiamalu**	**16.34 24**		P		**Pn**	**17 35 13.8**	**-9.3**
	2.9nm,0.3s,baz=143,slow=20,SNR=4.8							
AFI				S		**Sn**	**17 38 00.2**	**-26**
	1.1nm,0.3s,baz=330,slow=22,SNR=2.7							
RPZ	**Rata Peaks**	**16.82 207**		P		**Pn**	**17 35 27.0**	**-1.8**
	0.3nm,0.3s,baz=123,slow=17,SNR=2.1							
CTA	**Charters Tower**	**33.07 278**		P		**P**	**17 38 03.7**	**+1.6**
	3.3nm,0.7s,mb4.2,baz=69,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**42.66 266**		P		**P**	**17 39 22.1**	**-0.2**
	0.5nm,0.6s,mb3.3,baz=100,slow=6.5,SNR=13							
WRAB	**Tennant Creek**	**43.52 271**		*e*P		**P**	**17 39 29.0**	**-0.2**
	1.6nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**43.52 271**		P		**P**	**17 39 28.0**	**-1.1**
	2.1nm,0.8s,mb3.8,baz=110,slow=7.8,SNR=16							
SBA	**Scott Base**	**49.34 184**		*e*P		**P**	**17 40 18.3**	**+3.9**
	4.4nm,1.0s,mb4.0							
VNDA	**Vanda**	**49.39 185**		P		**P**	**17 40 15.9**	**+1.1**
	0.5nm,0.7s,mb3.3,baz=8.9,slow=10.0,SNR=6.2							
VNDA	**Vanda**	**49.39 185**		P		**P**	**17 40 16.3**	**+1.5**
	0.2nm,0.4s,mb3.1							
QSPA	**South Pole Qui**	**61.06 180**		*e*P		**P**	**17 41 39.2**	**+1.1**
	1.9nm,0.6s,mb4.1							
ARCES	**ARCESS Array B**	**137.16 348**		PKP		PKPdf	17 50 41.1	-3.8
	4.1nm,0.8s,baz=358,slow=8.5,SNR=3.9							
FINES	**FINESS Array B**	**143.69 340**		PKP		PKPdf	17 50 49.2	-7.5
	0.9nm,0.5s,baz=41,slow=5.4,SNR=10							
NB2	**NORSAR Subarra**	**147.34 351**		PKP		PKPdf	17 51 00.3	-2.7
	comp=Z,0.8nm,0.6s,baz=18,slow=3.5							
NOA	**NORSAR Array B**	**147.34 351**		PKPbc		PKPdf	17 51 00.1	-2.9
	comp=Z,1.9nm,0.7s,baz=15,slow=4.5,SNR=3.8							
AKASG	**Malin Array Be**	**149.90 324**		PKPbc		PKPdf	17 51 07.4	+0.3
	comp=Z,2.0nm,0.4s,baz=47,slow=3.4,SNR=12							

IDC 12 17:46:05.7±14.0, 680S×15080E, h86km±65km, mb3.3/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.3/5, ML1.8/1, Error ellipse: s-maj=157.9km s-min=59.1km az=40.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**4.44 234**		P		Pn	17 47 10.7	+0.1
	0.3nm,0.3s,baz=256,slow=15,SNR=2.2							
WRA	**Warramunga Arr**	**20.64 229**		P		P	17 50 38.7	+0.5
	0.6nm,0.5s,baz=55,slow=11,SNR=11							
ASAR	**Alice Springs**	**23.34 222**		P		P	17 51 06.8	+0.6
	0.9nm,0.5s,baz=55,slow=9.1,SNR=26							
STKA	**Stephens Creek**	**26.39 198**		P		P	17 51 34.0	+0.1
	1.2nm,0.6s,baz=28,slow=15,SNR=2.8							
FITZ	**Fitzroy Crossi**	**26.97 243**		P		P	17 51 39.3	+0.2
	1.7nm,0.8s,baz=49,slow=13,SNR=3.7							

*BJI **12** 17:46:47.3, 659S×15189E, h32km, mB4.5, mb4.5, Ms4.6, Msz4.3*

*NEIC **12** 17:46:48.1±0.4, 629S×15141E, h10km, mb4.8/14, Error ellipse: s-maj=12.1km s-min=8.1km az=130.0*

*GCMT **12** 17:46:48.1±0.4, 645S×15166E, h14km±1km, MW4.8/43, Moment Tensor Solution. s14,c17; s43,c61; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.05±.23; Mθθ0.96±.14; Mϕϕ 1.10±.16; Mrθ-0.05±.31; Mθϕ 1.11±.10; Mϕr0.23±.33; Best double couple: Mo2.10900×10^16 NP1:ϕs218.00000°, δ47.00000°, λ-98.00000°. Principal axes: T 2.1450, Plg2.0000°, Azm313.0000°; N -0.0660, Plg6.0000°, Azm223.0000°; P -2.0730, Plg84.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **12** 17:46:50.1±0.8, 632S×15138E, h33km, mb4.5/15 Error ellipse: s-maj=15.2km s-min=11.0km az=52.1*

*ISCJB **12** 17:46:51.3±1.6, 641S±007×15146E±006, h46km±15km, mb4.5/33, MS4.1/6, Error ellipse: s-maj=12.5km s-min=9.1km az=127.9*

*IDC **12** 17:46:51.2±4.2, 639S×15152E, h33km±32km, mb4.1/14, mb1 4.3/16, mb1mx4.2/19, mbtmp4.1/16, ML3.4/2, MS3.8/5, Ms1 3.8/5, ms1mx3.5/17, Error ellipse: s-maj=19.6km s-min=12.4km az=121.0*

ISC 12 17:46:53.9±1.3, 643S±007×15151E±006, h55km±12km, h36km±8.0km: pP-P, n76, σ0°93/72, mb4.5/33, MS4.1/6, 2C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**5.23 235**		Pn		**Pn**	**17 48 07.7**	**-1.9**
	8.5nm,0.3s,baz=32,slow=7.7,SNR=23							
PMG				Sn		**Sn**	**17 49 08.5**	**0.0**
	4.0nm,0.3s,baz=8.6,slow=18,SNR=3.2							
PMG				LR		LR	17 49 48.9	
	comp=Z,128nm,19.2s,baz=297,slow=34							
PMG	**Port Moresby**	**5.23 235**		P		**Pn**	**17 48 07.7**	**-1.8**
PMG							17 49 08.5	
PMG				pmax		pmax		
	comp=Z,9.0nm,0.3s							
PMG				smax				
	comp=N,4.0nm,0.3s							
PMG	**Port Moresby**	**5.23 235**		*e*Pn		**Pn**	**17 48 08.1**	**-1.4**
	comp=N,67nm,0.7s							
HNR	**Honiara**	**8.87 110**		*e*P		**Pn**	**17 49 01.3**	**+1.9**
HNR				pmax		pmax		
	comp=Z,46nm,0.8s							
HNR	**Honiara**	**8.87 110**		*e*P		**Pn**	**17 49 01.3**	**+1.9**
	comp=Z,46nm,0.8s							
CTA	**Charters Tower**	**14.51 200**		*e*P		**Pn**	**17 50 18.3**	**+2.3**
	comp=Z,2.5nm,0.8s							
CTA	**Charters Tower**	**14.51 200**		Pn		**Pn**	**17 50 15.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=56,slow=17,SNR=2.5							
CTA				LR		LR	17 55 27.2	
	comp=Z,300nm,18.0s,baz=210,slow=36							
KAKA	**Kakadu**	**19.81 250**		*e*P		**Pn**	**17 51 16.3**	**-5.5**
	comp=Z,30nm,0.4s							
DZM	**Mont Dzumac**	**21.21 139**		P		**P**	**17 51 34.2**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.0,baz=206,slow=23,SNR=5.0							
DZM				LR		LR	17 58 36.1	
	comp=Z,855nm,19.5s,MS4.1,baz=122,slow=33							
WRAB	**Tennant Creek**	**21.40 230**		*i*P		**P**	**17 51 36.7**	**-0.4**
WRAB	**Tennant Creek**	**21.40 230**		*e*P		**P**	**17 51 36.9**	**-0.2**
	comp=Z,21nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**21.41 230**		*e*P		**P**	**17 51 37.1**	**0.0**
WRA	**Warramunga Arr**	**21.41 230**		P		**P**	**17 51 37.4**	**+0.2**
	comp=Z,13nm,0.8s,mb4.3,baz=54,slow=11,SNR=38							
WRA				S		**S**	**17 55 33.9**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=49,slow=18,SNR=4.5							
WRA				LR		LR	18 00 29.7	
	comp=Z,108nm,19.6s,MS3.2,baz=40,slow=38							
WRA	**Warramunga Arr**	**21.41 230**		P		**P**	**17 51 37.4**	**+0.2**
WRA				S		**S**	**17 55 33.9**	**+2.2**
WRA				pmax		pmax		
	comp=Z,13nm,0.8s							
WRA				smax				
	comp=N,1.0nm,0.9s							
WRA				MLR		MLR		
	comp=Z,108nm,19.7s							
AS31	**Alice Springs**	**24.09 223**		*e*P		**P**	**17 52 04.6**	**+0.4**
ASAR	**Alice Springs**	**24.09 223**		P		**P**	**17 52 04.7**	**+0.4**
	comp=Z,7.3nm,0.7s,mb4.2,baz=59,slow=9.4,SNR=45							
ASAR	**Alice Springs**	**24.09 223**		P		**P**	**17 52 04.7**	**+0.4**
ASAR				pmax		pmax		
	comp=Z,7.0nm,0.7s							
STKA	**Stephens Creek**	**26.96 199**		*e*P		**P**	**17 52 28.7**	**-1.6**
	comp=Z,8.8nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**26.96 199**		P		**P**	**17 52 28.9**	**-1.4**
	comp=Z,9.1nm,0.7s,mb4.4,baz=360,slow=8.3,SNR=17							
FITZ	**Fitzroy Crossi**	**27.77 243**		*e*P		**P**	**17 52 37.1**	**-0.4**
	comp=Z,18nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**27.77 243**		P		**P**	**17 52 37.6**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.4,baz=53,slow=9.2,SNR=21							
FORT	**Forrest**	**32.72 219**		*e*P		**P**	**17 53 20.8**	**-0.5**
	comp=Z,20nm,0.7s,mb5.2							
MBWA	**Marble Bar**	**34.06 241**		P		**P**	**17 53 35.4**	**+2.5**
	comp=Z,15nm,0.7s,mb5.0							
RPZ	**Rata Peaks**	**40.91 158**		LR		LR	18 09 03.5	
	comp=Z,474nm,18.3s,MS4.4,baz=161,slow=32							
KSRS	**Korea Array**	**48.90 335**		P		**P**	**17 55 34.5**	**+0.2**
	comp=Z,1.9nm,1.0s,mb4.1,baz=140,slow=9.6,SNR=3.8							
NJ2	**Nanjing**	**49.33 323**		*e*P		**P**	**17 55 38.3**	**+0.7**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.4							
PSI	**Prapat**	**53.30 278**		P		**P**	**17 56 06.7**	**-0.6**
	comp=Z,1.2nm,0.4s,mb4.2,baz=147,slow=7.0,SNR=2.5							
PSI	**Prapat**	**53.30 278**		P		**P**	**17 56 06.7**	**-0.6**
PSI				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
PSI	**Prapat**	**53.30 278**		P		**P**	**17 56 06.7**	**-0.6**
KMI	**Kunming**	**56.86 305**		P		**P**	**17 56 38.0**	**+5.1**
KMI				AP		pP	17 56 50.3	+2.6
KMI				AMB		AMB		
	comp=Z,6.0nm,1.0s,mb4.6							
KMI				LR		LR		
	comp=N,218nm,23.0s,MS4.3							
KMI				LR		LR		
	comp=E,151nm,22.2s,MS4.3							
KMI				LR		LR		
	comp=Z,146nm,26.5s,MS4.0							
KMI	**Kunming**	**56.86 305**		P		**P**	**17 56 38.0**	**+5.1**
	comp=Z,6.0nm,1.0s,mb4.6							
KMI				pP		pP	17 56 50.3	+2.6
KMI				sP		sP	17 56 57.7	+3.8
KMI				LR		LR		
	comp=Z,150nm,26.5s,MS4.0							
CD2	**Chengdu**	**58.84 312**		*e*P		**P**	**17 56 47.9**	**+1.0**
CD2				PP		PP	17 59 00.6	+3.2
CD2				S		**S**	**18 04 48.0**	**-0.4**
CD2				SS		SS	18 08 44.4	+2.0
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
CD2				LR		LR		
	comp=E,270nm,13.2s							
CD2				LR		LR		
	comp=Z,310nm,11.8s,MS4.7							
GTA	**Gaotai**	**65.99 318**		*e*P		**P**	**17 57 35.2**	**+0.6**
GTA				AP		pP	17 57 41.1	-8.6
GTA				XP		sP	17 57 45.1	-11
GTA				AMB		AMB		
	comp=Z,2.0nm,1.1s,mb4.1							
SONM	**Songino Array**	**67.03 329**		P		**P**	**17 57 41.3**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=145,slow=5.8,SNR=6.6							
SONM	**Songino Array**	**67.03 329**		P		**P**	**17 57 41.3**	**+0.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZAK	**Zakamensk**	**70.22 330**		*e*P		**P**	**17 57 57.1**	**-4.0**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
YAK	**Yakutsk**	**70.32 349**		*i*P		**P**	**17 58 01.1**	**-0.6**
YAK				pmax		pmax		
	comp=Z,16nm,1.7s,mb4.7							
VNDA	**Vanda**	**71.26 178**		P		**P**	**17 58 07.5**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.0,baz=338,slow=5.5,SNR=17							
VNDA	**Vanda**	**71.26 178**		P		**P**	**17 58 07.5**	**+0.1**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**71.26 178**		*e*P		**P**	**17 58 07.8**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.1							
JIRN	**Jiri**	**71.54 302**		*e*P		**P**	**17 58 10.1**	**+1.0**
	comp=Z,4.1nm,0.6s,mb4.6							
GUN	**Gumba**	**71.88 302**		*e*P		**P**	**17 58 11.3**	**+0.2**
KKN	**Kakani**	**72.35 302**		*e*P		**P**	**17 58 13.8**	**-0.1**
DMN	**Daman**	**72.44 301**		*e*P		**P**	**17 58 14.7**	**+0.2**
GKN	**Gorkha**	**72.95 302**		*e*P		**P**	**17 58 17.5**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.7							
KOLN	**Koldanda**	**73.77 301**		*e*P		**P**	**17 58 21.5**	**-0.8**
	comp=Z,5.6nm,0.7s,mb4.6							
BILL	**Bilibino**	**75.03**	**6**	*i*P		**P**	**17 58 29.7**	**+0.1**
BILL				*i*		pP	17 58 40.2	-4.8
BILL				*e*			18 01 17.7	
BILL				pmax		pmax		
	comp=Z,22nm,1.2s,mb5.0							
BILL	**Bilibino**	**75.03**	**6**	*e*P		**P**	**17 58 29.5**	**-0.1**
	comp=Z,17nm,1.0s,mb4.9							
WMQ	**Urumqi**	**76.08 318**		P		**P**	**17 58 37.1**	**+1.4**
WMQ				PCP		PcP	17 58 49.6	+1.9
WMQ				PP		PP	18 01 30.1	+3.2
WMQ				S		S	18 08 14.1	-0.9
WMQ				AMB		AMB		
	comp=Z,2.0nm,0.8s,mb4.1							
WMQ				AMB		AMB		
	comp=Z,26nm,4.9s							
WMQ				LR		LR		
	comp=N,62nm,16.9s,MS4.1							
WMQ				LR		LR		
	comp=E,53nm,16.9s,MS4.1							
WMQ				LR		LR		
	comp=Z,53nm,18.0s,MS3.9							
KDAK	**Kodiak Island**	**78.20**	**27**	P		**P**	**17 58 46.0**	**-1.6**
	comp=Z,6.7nm,0.8s,mb4.6,baz=313,slow=22,SNR=3.2							
SLKM	**Skilak Lake**	**80.68**	**25**	*e*P		**P**	**17 59 00.9**	**-0.1**
MKAR	**Makanchi Array**	**80.71 319**		P		**P**	**17 59 01.4**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=131,slow=5.0,SNR=4.7							
MKAR	**Makanchi Array**	**80.71 319**		P		**P**	**17 59 01.4**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ZAL	**Zalesovo**	**81.81 327**		P		**P**	**17 59 05.0**	**-2.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=339,slow=4.5,SNR=5.4							
ZAL	**Zalesovo**	**81.81 327**		P		**P**	**17 59 05.0**	**-2.0**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SML	**Sawmill**	**82.13**	**25**	*e*P		**P**	**17 59 08.6**	**-0.1**
MCK	**McKinley**	**82.85**	**23**	*e*P		**P**	**17 59 11.5**	**-1.0**
MCK				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
MCK	**McKinley**	**82.85**	**23**	*e*P		**P**	**17 59 11.5**	**-0.9**
	comp=Z,6.3nm,0.9s,mb4.7							
QSPA	**South Pole Qui**	**83.54 180**		*i*P		**P**	**17 59 16.0**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.7							
MAW	**Mawson**	**83.58 203**		P		**P**	**17 59 15.2**	**-1.0**
	comp=Z,1.8nm,0.4s,mb4.5,baz=91,slow=15,SNR=4.1							
MAW	**Mawson**	**83.58 203**		P		**P**	**17 59 15.2**	**-1.0**
MAW				pmax		pmax		
	comp=Z,2.0nm,0.4s							
COLA	**College**	**83.83**	**22**	*e*P		**P**	**17 59 16.0**	**-1.5**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.9							
COLA	**College**	**83.83**	**22**	*e*P		**P**	**17 59 16.0**	**-1.6**
	comp=Z,6.2nm,0.6s,mb4.9							
KURK	**Kurchatov**	**84.26 322**		*i*P		**P**	**17 59 19.9**	**+0.2**
AAK	**Ala-Archa**	**84.86 314**		*e*P		**P**	**17 59 22.9**	**+0.2**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**84.86 314**		*e*P		**P**	**17 59 22.9**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.5							
EGAK	**Eagle**	**86.35**	**23**	*e*P		**P**	**17 59 30.4**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.9							
DAWY	**Dawson**	**86.79**	**24**	*e*P		**P**	**17 59 33.1**	**+0.8**
NVAR	**Mina Array Bea**	**94.09**	**52**	P		**P**	**18 00 07.9**	**+1.5**
	comp=Z,0.7nm,0.6s,mb4.2,baz=265,slow=7.2,SNR=9.8							
PDAR	**Pinedale Array**	**100.89**	**48**	P		Pdif	18 00 34.8	-2.3
	comp=Z,0.5nm,0.8s,baz=168,slow=1.4,SNR=3.5							
GERES	**GERESS Array B**	**124.75 327**		PKP		PKPdf	18 05 47.5	0.0
	comp=Z,0.5nm,0.7s,baz=210,slow=0.8,SNR=3.7							
GERES	**GERESS Array B**	**124.75 327**		PKIKP		PKPdf	18 05 47.5	0.0
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**134.74 120**		PKP		PKPdf	18 06 09.3	+2.9
	comp=Z,1.0nm,0.7s,baz=219,slow=5.6,SNR=6.3							
LPAZ	**La Paz**	**134.74 120**		PKIKP		PKPdf	18 06 09.3	+2.9
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**134.74 120**		PKP		PKPdf	18 06 09.3	+2.9
TORD	**Torodi Ar. Bea**	**149.54 285**		PKPbc		PKPbc	18 06 38.0	+0.9
	comp=Z,5.8nm,0.7s,baz=74,slow=3.0,SNR=42							

IDC 12 17:49:27.1±8.7, 640S×15144E, h57km±62km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=83.7km s-min=38.4km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**5.18 235**		P		Pn	17 50 42.7	+0.6
	4.4nm,0.3s,baz=5.8,slow=17,SNR=8.0							
PMG				S		Sn	17 51 41.4	+0.9
	2.7nm,0.3s,baz=178,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**21.38 229**		P		P	17 54 09.3	-0.5
	1.5nm,0.8s,baz=55,slow=10.0,SNR=3.8							
ASAR	**Alice Springs**	**24.06 223**		P		P	17 54 37.2	+0.2
	2.4nm,0.6s,baz=55,slow=9.7,SNR=6.8							
FITZ	**Fitzroy Crossi**	**27.72 243**		P		P	17 55 11.0	+0.9
	1.4nm,0.3s,baz=45,slow=11,SNR=5.2							
SONM	**Songino Array**	**66.97 329**		P		P	18 00 13.8	0.0
	0.5nm,0.6s,baz=153,slow=5.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**149.46 285**		PKPbc		PKPbc	18 09 10.7	+0.9
	0.9nm,0.5s,baz=96,slow=2.7,SNR=7.9							

*IDC **12** 17:54:27.2±1.1, 621S×15167E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/15, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=38.0km s-min=22.9km az=122.0*

*NEIC **12** 17:54:28.6±0.8, 6.17S×15162E, h10km, mb4.5/2, Error ellipse: s-maj=23.2km s-min=12.6km az=132.0*

*ISCJB **12** 17:54:32.8±4.1, 623S±02×1514E±02, h49km±33km, mb3.8/7, Error ellipse: s-maj=35.5km s-min=23.4km az=62.7*

ISC 12 17:54:34.1±3.8, 623S±02×1515E±02, h45km±32km, n16, σ0°84/17, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PMG	**Port Moresby**	**5.32 233**		Pn		**Pn**	**17 55 50.9**	**0.0**
	4.9nm,0.3s,baz=58,slow=5.5,SNR=15							
PMG				Sn		**Sn**	**17 56 50.4**	**-0.6**
	6.7nm,0.3s,baz=183,slow=23,SNR=5.9							
PMG	**Port Moresby**	**5.32 233**		*e*P		**Pn**	**17 55 51.8**	**+0.8**
PMG				*e*S		**Sn**	**17 56 51.5**	**+0.6**
KAKA	**Kakadu**	**19.84 250**		*e*P		**Pn**	**17 59 00.8**	**-2.2**
	10nm,0.7s							
WRAB	**Tennant Creek**	**21.51 229**		*e*P		**P**	**17 59 19.4**	**+0.3**
WB2	**Warramunga Arr**	**21.52 229**		*e*P		**P**	**17 59 19.5**	**+0.4**
WRA	**Warramunga Arr**	**21.53 229**		P		**P**	**17 59 18.8**	**-0.4**
	3.3nm,0.8s,mb3.8,baz=54,slow=10,SNR=19							
AS31	**Alice Springs**	**24.22 222**		*e*P		**P**	**17 59 46.1**	**-0.4**
ASAR	**Alice Springs**	**24.22 222**		P		**P**	**17 59 46.8**	**+0.3**
	0.9nm,0.5s,mb3.5,baz=23,slow=12,SNR=18							
STKA	**Stephens Creek**	**27.15 199**		P		**P**	**18 00 14.1**	**+1.0**
	3.7nm,0.8s,mb4.0,baz=15,slow=13,SNR=6.4							
STKA	**Stephens Creek**	**27.15 199**		*e*P		**P**	**18 00 14.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.83 243**		*e*P		**P**	**18 00 19.9**	**+0.8**
	6.0nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.83 243**		P		**P**	**18 00 20.0**	**+0.9**
	2.3nm,0.6s,mb4.0,baz=61,slow=8.7,SNR=9.7							
SONM	**Songino Array**	**66.82 329**		P		**P**	**18 05 21.8**	**+0.7**
	0.4nm,0.6s,mb3.7,baz=140,slow=5.3,SNR=3.7							
VNDA	**Vanda**	**71.48 178**		P		**P**	**18 05 48.8**	**-1.2**
	0.3nm,0.3s,mb3.7,baz=328,slow=4.2,SNR=6.0							
NVAR	**Mina Array Bea**	**93.99 52**		P		**P**	**18 07 46.8**	**-0.3**
	0.3nm,0.5s,mb4.0,baz=251,slow=7.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**149.44 285**		PKPbc		PKPbc	18 14 19.7	+1.5
	1.2nm,0.7s,baz=60,slow=2.7,SNR=7.6							

*IDC **12** 17:58:46.3±3.0, 1945S×16896E, h114km±21km, mb4.1/9, mb1 4.2/11, mb1mx4.0/18, mbtmp4.2/11, Error ellipse: s-maj=25.5km s-min=17.7km az=51.0*

*ISCJB **12** 17:58:47.2±2.1, 1955S±0.1×1688E±0.1, h136km±15km, mb4.3/11, Error ellipse: s-maj=22.5km s-min=11.8km az=105.5*

*NEIC **12** 17:58:47.0±1.6, 1939S×16894E, h125km±12km, mb4.5/8, Error ellipse: s-maj=16.7km s-min=8.6km az=50.0*

ISC 12 17:58:47.2±2.0, 1947S±010×1690E±01, h125km±14km, n34, σ0°83/33, mb4.4/11, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DZM	**Mont Dzumac**	**3.49 222**		*e*P		**Pn**	**17 59 39.6**	**-0.4**
DZM				*e*S		**Sn**	**18 00 20.0**	**-0.2**
DZM	**Mont Dzumac**	**3.49 222

FRB	**Frobisher Bay**	**2.19 330**	PN	Pn	18 14 41.1	+0.2
FRB			PG	Pg	18 14 43.5	-3.9
FRB			SG	Sg	18 15 11.2	-4.7
FRB			Trac		18 15 15.6	
	comp=Z,60nm,0.1s					
KUQ	**Kuujjuuaa**	**3.96 198**	PN	Pn	18 15 04.7	-0.6
KUQ			PG	Pg	18 15 15.7	-5.6
KUQ			SN	Sn	18 15 48.3	-2.9
KUQ			SG	Sg	18 16 06.0	-6.6
KUQ			Trac		18 16 13.5	
	comp=Z,19nm,0.2s					
IVKQ	**Ivujivik**	**5.58 281**	PN	Pn	18 15 29.1	+1.7
IVKQ			SN	Sn	18 16 26.9	-4.0
IVKQ			LG		18 16 57.1	
IVKQ			Trac		18 17 04.7	
	comp=Z,24nm,0.6s					
AKVQ	**Akulik**	**5.93 265**	PN	Pn	18 15 33.6	+1.3
AKVQ			SN	Sn	18 16 37.2	-2.5
AKVQ			LG		18 17 05.1	
AKVQ			Trac		18 17 14.6	
	comp=Z,12nm,0.5s					
INUQ	**Inukjuak**	**6.92 246**	PN	Pn	18 15 45.6	-0.2
INUQ			SN	Sn	18 16 59.4	-4.8
INUQ			LG		18 17 33.9	
SCHQ	**Schefferville**	**7.08 184**	PN	Pn	18 15 46.6	-1.5
SCHQ			SN	Sn	18 17 03.5	-4.6
SCHQ			LG		18 17 43.0	
SCHQ			Trac		18 17 53.6	
	comp=Z,8.3nm,0.7s					
SNQN	**Sanikiliuq**	**8.60 237**	PN	Pn	18 16 06.5	-2.4
LG4Q	**La Grande 4**	**9.31 211**	PN	Pn	18 16 15.7	-3.0
LG4Q			SN	Sn	18 17 57.5	-5.5
LG4Q			LG		18 18 52.6	
LG4Q			Trac		18 18 56.4	
	comp=Z,6.4nm,0.4s					
SRLN	**Sarcpa Lake, N**	**9.82 320**	PN	Pn	18 16 24.8	-0.9
SRLN			SN	Sn	18 18 08.2	-7.3
SRLN			LG		18 19 04.6	
SRLN			Trac		18 19 11.7	
	comp=Z,6.5nm,0.3s					
ILON	**Igloolik, Nuna**	**9.90 326**	PN	Pn	18 16 24.6	-2.3
ILON			SN	Sn	18 18 08.6	-9.0
ILON			LG		18 19 06.1	
ILON			Trac		18 19 20.5	
	comp=Z,19nm,0.7s					
QILN	**Qililugaq Expl**	**10.01 307**	PN	Pn	18 16 29.8	+1.5
QILN			SN	Sn	18 18 09.4	-11
QILN			LG		18 19 06.1	
QILN			Trac		18 19 11.6	
	comp=Z,28nm,1.0s					
GIFN	**Gifford Fjord,**	**10.29 329**	PN	Pn	18 16 28.8	-3.2
GIFN			SN	Sn	18 18 15.1	-12
GIFN			LG		18 19 23.0	
GIFN			Trac		18 19 26.3	
	comp=Z,20nm,0.8s					
MNQ	**Manicouagan**	**11.47 189**	PN	Pn	18 16 42.8	-5.5
MNQ			SN	Sn	18 18 46.6	-9.4
SEDN	**First Sedna Si**	**11.64 288**	PN	Pn	18 16 47.9	-2.7
SEDN			SN	Sn	18 18 47.4	-13
SEDN			LG		18 20 03.5	
SEDN			Trac		18 20 13.5	
	comp=Z,2.1nm,0.6s					
PINU	**Pond Inlet**	**11.76 342**	PN		18 21 07.3	
PINU			SN		18 23 02.6	
YRTN	**Rankin Inlet**	**12.10 286**	PN	Pn	18 16 55.8	-1.0
YRTN			SN	Sn	18 19 02.1	-9.1
YRTN			Trac		18 20 33.1	
	comp=Z,1.2nm,0.3s					
SILO	**Sutton Inlier**	**12.36 242**	PN	Pn	18 16 58.2	-2.2
SILO			SN	Sn	18 19 01.7	-16
SILO			LG		18 20 15.7	
BULN	**Bullion Camp,**	**12.58 303**	PN	Pn	18 17 04.8	+1.5
BULN			SN	Sn	18 19 11.7	-11
BULN			LG		18 20 28.8	
STLN	**Stellar Camp,**	**12.69 307**	SN	Sn	18 19 13.2	-12
STLN			LG		18 20 25.1	
YBKN	**Baker Lake, Hu**	**13.70 293**	SN	Sn	18 19 39.2	-11
YBKN			LG		18 21 07.8	
FCC	**Fort Churchill**	**14.17 270**	SN	Sn	18 19 46.7	-15

NEIC ***12*** *18:15:49.0±0.7, 652S×151.11E, h10km, mb4.4/3, Error ellipse: s-maj=21.0km s-min=10.5km az=124.0*

ISCJB ***12*** *18:15:54.8±3.7, 66S±0.1×1509E±0.02, h62km±30km, mb3.9/8, Error ellipse: s-maj=31.6km s-min=20.3km az=34.3*

IDC ***12*** *18:15:55.3±6.1, 656S×150.90E, h52km±50km, mb3.8/9, mb1 4.0/10, mb1mx3.9/15, mbtmp3.8/10, ML2.7/1, Error ellipse: s-maj=39.3km s-min=22.5km az=82.0*

ISC 12 18:15:56.3±3.5, 66S±01×1509E±02, h61km±28km, n22, σ0§49/22, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.65 232**		P	**Pn**	**18 17 04.6**	**+0.6**
	2.5nm,0.3s,baz=39,slow=10,SNR=12						
PMG				S	**Sn**	**18 17 56.0**	**-0.5**
	3.6nm,0.3s,baz=51,slow=8.5,SNR=2.8						
PMG	**Port Moresby**	**4.65 232**		*e*P	**Pn**	**18 17 04.0**	**0.0**
PMG				S	**Sn**	**18 17 56.0**	**-0.5**
KAKA	**Kakadu**	**19.18 250**		*e*P	**P**	**18 20 16.1**	**-0.3**
	12nm,0.6s						
WRAB	**Tennant Creek**	**20.84 229**		*e*P	**P**	**18 20 32.9**	**-0.1**
	8.3nm,0.7s						
WB2	**Warramunga Arr**	**20.85 229**		*e*P	**P**	**18 20 33.2**	**+0.2**
WRA	**Warramunga Arr**	**20.86 229**		P	**P**	**18 20 33.3**	**+0.2**
	6.2nm,0.7s,baz=54,slow=10,SNR=32						
AS31	**Alice Springs**	**23.57 222**		*e*P	**P**	**18 21 01.8**	**+0.4**
ASAR	**Alice Springs**	**23.57 222**		P	**P**	**18 21 01.6**	**+0.2**
	2.9nm,0.6s,mb3.9,baz=56,slow=9.2,SNR=68						
ASPA	**Alice Springs**	**23.57 222**		*e*P	**P**	**18 21 01.7**	**+0.3**
STKA	**Stephens Creek**	**26.64 198**		*e*P	**P**	**18 21 29.3**	**+0.1**
	1.7nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**26.64 198**		P	**P**	**18 21 29.1**	**0.0**
	2.5nm,0.5s,mb4.0,baz=21,slow=8.8,SNR=7.8						
STKA	**Stephens Creek**	**26.64 198**		*e*P	**P**	**18 21 29.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.16 243**		*e*P	**P**	**18 21 34.0**	**+0.1**
	9.0nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.16 243**		P	**P**	**18 21 34.6**	**+0.7**
	4.6nm,0.5s,mb4.2,baz=54,slow=8.1,SNR=40						
SONM	**Songino Array**	**66.83 329**		P	**P**	**18 26 42.0**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=149,slow=5.4,SNR=8.3						
VNDA	**Vanda**	**71.15 177**		P	**P**	**18 27 07.8**	**-0.7**
	0.7nm,1.0s,mb3.6,baz=334,slow=5.1,SNR=4.2						
VNDA	**Vanda**	**71.15 177**		*e*P	**P**	**18 27 07.1**	**-1.3**
MKAR	**Makanchi Array**	**80.42 320**		P	**P**	**18 28 01.5**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=101,slow=8.5,SNR=2.9						
ZAL	**Zalesovo**	**81.58 327**		P	**P**	**18 28 06.4**	**-1.1**
	0.8nm,0.4s,mb4.0,baz=124,slow=5.2,SNR=3.0						
NVAR	**Mina Array Bea**	**94.66 52**		P	**P**	**18 29 10.9**	**+0.2**
	0.3nm,0.5s,mb4.0,baz=274,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**124.53 327**		PKP	PKPdf	18 34 50.7	+2.0
	0.2nm,0.3s,baz=76,slow=4.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.98 285**		PKPbc	PKPbc	18 35 38.0	+0.7
	1.6nm,0.8s,baz=95,slow=2.7,SNR=17						

BJI ***12*** *18:21:23.6, 637S×151.69E, h34km, mB6.1, mb5.9, Ms6.0, Msz5.8*

NEIC ***12*** *18:21:26.1±0.1, 623S×151.05E, h12km, mb6.0/114, ME5.9, MS6.0/155, MW6.1, Error ellipse: s-maj=4.2km s-min=3.5km az=141.0, Moment Tensor Solution. s37 Moment tensor: Scale 10¹⁸Nm; Mrr0.88; Mθθ1.06; Mϕϕ-1.94; Mrθ0.67; Mθϕ0.47; Mϕr-0.33; Best double couple: Mo1.90000×10¹⁸ NP1:ϕs135.00000°, δ70.00000°, λ37.00000°. NP2:ϕs30.00000°, δ56.00000°, λ155.00000°. Principal axes: T 1.6500, Plg40.0000°, Azm357.0000°; N 0.4300, Plg49.0000°, Azm160.0000°; P -2.0800, Plg9.0000°, Azm260.0000°; Broadband fault plane solution: P waves. NP1:ϕs351.00000°, δ36.00000°, λ121.00000°. NP2:ϕs135.00000°, δ60.00000°, λ70.00000°. Principal axes: T Plg68.0000°, Azm4.0000°; N Plg0.0000°, Azm0.0000°; P Plg13.0000°, Azm239.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kimbe and Rabaul.

GCMT ***12*** *18:21:26.1±0.1, 640S×151.26E, h20km, MW6.2/113, Moment Tensor Solution. s104,c223; s113,c391; Duration: 3ś1 Moment tensor: Scale 10¹⁸Nm;*

Mrr1.74±.01; Mθθ0.93±.01; Mϕϕ-2.66±.01; Mrθ0.68±.03; Mθϕ0.70±.01; Mϕr0.20±.03; Best double couple: Mo2.49000×10¹⁸ NP1:ϕs141.00000°, δ52.00000°, λ48.00000°. NP2:ϕs17.00000°, δ54.00000°, λ131.00000°. Principal axes: T 2.1860, Plg58.0000°, Azm348.0000°; N 0.6150, Plg32.0000°, Azm170.0000°; P -2.7940, Plg1.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

MOS ***12*** *18:21:27.2±1.0, 6.18S×150.92E, h33km, mb6.2/56, MS6.0/68 Error ellipse: s-maj=7.4km s-min=5.6km az=83.6*

IDC ***12*** *18:21:27.3±1.1, 623S×151.04E, h23km±5km, mb5.7/23, mb1 5.8/26, mb1mx5.8/26, mbtmp5.7/26, ML5.0/3, MS5.9/24, Ms1 5.8/24, ms1mx5.7/32, Error ellipse: s-maj=8.1km s-min=6.7km az=73.0*

ISCJB ***12*** *18:21:28.3±0.1, 627S±002×150.94E±002, h36km, mb6.0/160, MS5.9/203, Error ellipse: s-maj=3.4km s-min=2.6km az=177.4*

SZGRF ***12*** *18:21:29.0, 677S×150.12E, h33km, mb6.0, New Britain, Papua New Guinea, region*

ISC 12 18:21:30.4±0.1, 626S±002×151.00E±002, h38km, h38km±1.8km; pP-P, n1419, σ0§92/700, mb6.0/156, MS5.9/203, 171C-143D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92 230**		Pn	**Pn**	**18 22 42.7**	**+0.9**
	152nm,0.3s,baz=49,slow=7.6,SNR=149						
PMG				Sn	**Sn**	**18 23 39.5**	**+2.0**
	116nm,0.3s,baz=217,slow=1.9,SNR=3.8						
PMG				LR	LR	18 24 25.5	
	comp=Z,61μm,18.1s,baz=48,slow=36						
PMG	**Port Moresby**	**4.92 230**		*d*P	**Pn**	**18 22 44.5**	**+2.7**
PMG	**Port Moresby**	**4.92 230**		*e*Pn	**Pn**	**18 22 42.8**	**+1.0**
PMG				*e*Sn	**Sn**	**18 23 42.3**	**+4.8**
HNR	**Honiara**	**9.40 110**		Pn	**Pn**	**18 23 40.8**	**-2.5**
	134nm,0.3s,baz=262,slow=2.8,SNR=64						
HNR				Sn	**Sn**	**18 25 24.5**	**-3.3**
	baz=277,slow=6.5,SNR=1.2						
HNR	**Honiara**	**9.40 110**		*e*P	**Pn**	**18 23 40.9**	**-2.4**
HNR				pmax	pmax		
	comp=Z,7μm,1.1s						
HNR	**Honiara**	**9.40 110**		*e*Pn	**Pn**	**18 23 40.9**	**-2.4**
	comp=Z,7μm,1.1s						
CTA	**Charters Tower**	**14.49 198**		*e*P	**Pn**	**18 24 52.5**	**-0.4**
	comp=Z,148nm,1.4s						
CTA				*e*S	**Sn**	**18 27 32.9**	**+0.7**
CTA				*e*SCP	ScP	18 33 46.6	+10
CTA	**Charters Tower**	**14.49 198**		Pn	**Pn**	**18 24 53.3**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=34,slow=15,SNR=33						
CTA				Sn	**Sn**	**18 27 32.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=21,slow=12,SNR=1.6						
CTA				LR	LR	18 29 56.2	
	comp=Z,79μm,20.6s,baz=19,slow=35						
CTA	**Charters Tower**	**14.49 198**		*e*P	**Pn**	**18 24 52.5**	**-0.4**
CTA				*e*S	**Sn**	**18 27 32.9**	**+0.7**
CTA				pmax	pmax		
	comp=Z,148nm,1.4s						
CTAO	**Charters Tower**	**14.49 198**		*e*P	**Pn**	**18 24 52.6**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,669nm,1.7s						
CTAO	**Charters Tower**	**14.49 198**		*e*Pn	**Pn**	**18 24 52.6**	**-0.3**
	comp=Z,669nm,1.7s						
KAKA	**Kakadu**	**19.39 249**		*e*P	**Pn**	**18 25 53.1**	**-1.2**
	comp=Z,1μm,0.6s						
KAKA				*e*S	**S**	**18 29 30.5**	**+0.3**
GUMO	**Guam**	**20.64 343**		P	**P**	**18 26 06.8**	**+0.2**
	comp=Z,4μm,1.1s,baz=174,slow=8.2,SNR=59						
GUMO				S	**S**	**18 29 54.8**	**-0.3**
	comp=Z,41nm,0.7s,baz=217,slow=22,SNR=2.0						
GUMO				LR	LR	18 33 13.4	
	comp=Z,18μm,18.3s,MS5.5,baz=163,slow=34						
GUMO				ScP	ScP	18 33 53.0	+3.5
	comp=Z,49nm,0.5s,baz=19,slow=19,SNR=4.0						
GUMO	**Guam**	**20.64 343**		*e*P	**P**	**18 26 07.2**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,10μm,1.5s						
GUMO				MLR	MLR		
	comp=Z,23μm,21.0s,MS5.5						
GUMO	**Guam**	**20.64 343**		*e*P	**P**	**18 26 07.2**	**+0.6**
	comp=Z,10μm,1.5s						
GUMO				LR	LR		
	comp=Z,23μm,21.0s,MS5.5						
WRAB	**Tennant Creek**	**21.12 228**		P	**P**	**18 26 12.0**	**+0.2**
	comp=Z,11μm,0.8s						
WRAB	**Tennant Creek**	**21.12 228**		*e*P	**P**	**18 26 11.7**	**-0.1**
WRAB				*e*		18 26 26.1	
WRAB				pmax	pmax		
	comp=Z,2μm,1.5s,mb6.2						
WRAB				MLR	MLR		
	comp=Z,12μm,19.0s,MS5.3						
WRAB	**Tennant Creek**	**21.12 228**		*e*P	**P**	**18 26 11.7**	**-0.1**
	comp=Z,2μm,1.5s,mb6.2						
WRAB				*e*		18 26 26.1	
WRAB				LR	LR		
	comp=Z,12μm,19.0s,MS5.3						
WB2	**Warramunga Arr**	**21.13 228**		*i*P	**P**	**18 26 11.1**	**-0.8**
WB2				*e*S	**S**	**18 30 02.8**	**-2.0**
WB2				*e*SCP	ScP	18 33 59.5	+8.9
WRA	**Warramunga Arr**	**21.14 228**		P	**P**	**18 26 11.6**	**-0.4**
	comp=Z,1μm,0.8s,mb6.2,baz=50,slow=9.0,SNR=216						
WRA				S	**S**	**18 30 06.5**	**+1.5**
	comp=Z,256nm,1.1s,baz=55,slow=19,SNR=11						
WRA				ScP	ScP	18 33 54.0	+3.4
	comp=Z,18nm,1.1s,baz=44,slow=2.2,SNR=3.7						
WRA				LR	LR	18 35 20.6	
	comp=Z,45μm,18.1s,MS5.9,baz=50,slow=39						
WRA				P3KPbc		19 00 02.2	
	comp=Z,0.7nm,1.1s,baz=235,slow=3.1,SNR=8.1						
WRA				P3KP		19 00 51.1	
	comp=Z,2.5nm,1.1s,baz=211,slow=0.6,SNR=5.1						
WRA	**Warramunga Arr**	**21.14 228**		P	**P**	**18 26 11.6**	**-0.4**
WRA				S	**S**	**18 30 06.5**	**+1.5**
WRA	**Warramunga Arr**	**21.14 228**		P	**P**	**18 26 11.6**	**-0.4**
WRA				S	**S**	**18 30 06.5**	**+1.5**
WRA				ScP	ScP	18 33 54.0	+3.4
WRA				LR	LR	18 35 20.6	
DZM	**Mont Dzumac**	**21.67 138**		*e*P	**P**	**18 26 15.3**	**-2.4**
DZM	**Mont Dzumac**	**21.67 138**		P	**P**	**18 26 15.3**	**-2.4**
	comp=Z,350nm,1.3s,mb5.6,baz=345,slow=11,SNR=42						
DZM				S	**S**	**18 30 14.8**	**-0.6**
	comp=Z,8.8nm,0.9s,baz=158,slow=19,SNR=1.8						
DZM				LR	LR	18 33 35.2	
	comp=Z,73μm,19.1s,MS6.1,baz=321,slow=34						
AS31	**Alice Springs**	**23.87 222**		*e*P	**P**	**18 26 40.4**	**+0.2**
AS31				*e*S	**S**	**18 30 59.0**	**+5.3**
ASAR	**Alice Springs**	**23.87 222**		P	**P**	**18 26 39.3**	**-0.9**
	comp=Z,606nm,0.8s,mb6.1,baz=57,slow=7.3,SNR=403						
ASAR				PcP	PcP	18 30 23.4	+1.0
	comp=Z,26nm,0.9s,baz=32,slow=3.7,SNR=4.5						
ASAR				S	**S**	**18 30 56.5**	**+2.8**
	comp=Z,19nm,0.9s,baz=152,slow=35,SNR=2.7						
ASAR				ScP	ScP	18 34 01.3	+3.6
	comp=Z,11nm,1.1s,baz=50,slow=5.0,SNR=3.6						
ASAR				LR	LR	18 35 18.8	
	comp=Z,30μm,20.9s,MS5.7,baz=49,slow=35						
ASAR				P3KPbc		18 59 53.1	
	comp=Z,1.0nm,0.9s,baz=205,slow=1.3,SNR=4.3						
ASAR				P3KP		19 00 46.6	
	comp=Z,6.4nm,1.2s,baz=177,slow=1.5,SNR=5.3						
ASAR	**Alice Springs**	**23.87 222**		P	**P**	**18 26 39.3**	**-0.9**
ASAR						18 30 23.4	
ASAR				S	**S**	**18 30 56.5**	**+2.8**
ASAR	**Alice Springs**	**23.87 222**		P	**P**	**18 26 39.3**	**-0.9**
ASAR				PcP	PcP	18 30 23.4	+1.0
ASAR				S	**S**	**18 30 56.5**	**+2.8**
ASAR				ScP	ScP	18 34 01.3	+3.5
ASAR				LR	LR	18 35 18.8	
ASPA	**Alice Springs**	**23.87 222**		*e*P	**P**	**18 26 40.4**	**+0.1**
ASPA				*e*S	**S**	**18 30 59.0**	**+5.3**
ARMA	**Armidale**	**24.04 179**		*e*P	**P**	**18 26 40.7**	**-1.1**
ARMA				*e*S	**S**	**18 30 58.2**	**+1.8**
ARMA				*e*SCP	ScP	18 34 01.8	+3.6
STKA	**Stephens Creek**	**26.96 198**		*e*P	**P**	**18 27 07.1**	**-1.1**
	comp=Z,363nm,0.8s,mb6.0						
STKA				*e*S	**S**	**18 31 42.8**	**0.0**
STKA				*e*SCP	ScP	18 34 13.2	+6.7
STKA	**Stephens Creek**	**26.96 198**		P	**P**	**18 27 07.9**	**-0.3**
	comp=Z,189nm,1.0s,mb5.6,baz=358,slow=7.7,SNR=27						
STKA				S	**S**	**18 31 41.1**	**-1.7**
	comp=Z,11nm,0.9s,baz=347,slow=19,SNR=1.5						
STKA				LR	LR	18 38 27.5	
	comp=Z,54μm,18.1s,MS6.2,baz=14,slow=38						
STKA				P3KPbc		18 59 45.5	
	comp=Z,7.4nm,1.1s,baz=211,slow=4.3,SNR=3.7						
STKA				P3KP		19 00 45.5	
	comp=Z,5.4nm,0.9s,baz=70,slow=4.0,SNR=4.7						
FITZ	**Fitzroy Crossi**	**27.39 242**		*e*P	**P**	**18 27 11.7**	**-0.5**
	comp=Z,1μm,0.9s,mb6.4						
FITZ				*e*S	**S**	**18 31 50.1**	**+0.4**
FITZ				*e*SCP	ScP	18 33 37.4	-30
FITZ	**Fitzroy Crossi**	**27.39 242**		P	**P**	**18 27 12.3**	**+0.1**
	comp=Z,278nm,0.7s,mb5.9,baz=56,slow=8.5,SNR=92						
FITZ				S	**S**	**18 31 51.5**	**+1.7**
	comp=Z,27nm,0.8s,baz=34,slow=19,SNR=1.3						
RIV	**Riverview**	**27.43 180**		*e*P	**P**	**18 27 12.8**	**+0.3**
MATI	**Mati**	**27.96 298**		*e*P	**P**	**18 27 16.5**	**-0.8**
FUNA	**Funafuti**	**28.05 96**		*e*P	**P**	**18 27 17.2**	**-0.8**
	comp=Z,336nm,1.2s,mb5.8						
FUNA				LR	LR		
	comp=Z,15μm,19.0s,MS5.6						
DAV	**Davao City (W)**	**28.61 297**		PFAKE		18 27 30.0	+7.0
DAV				LR	LR		
	comp=Z,24μm,22.0s,MS5.8						
CNB	**Canberra Magne**	**28.95 183**		*e*P	**P**	**18 27 26.3**	**+0.3**
	comp=Z,169nm,1.5s,mb5.5						
BUKP	**Musuan**	**29.44 298**		*e*P	**P**	**18 27 31.9**	**+1.6**
SCPH	**Surigao**	**30.00 302**		*e*P	**P**	**18 27 36.5**	**+1.2**
CGP	**Cagayan de Oro**	**30.03 299**		*e*P	**P**	**18 27 36.3**	**+0.7**
MSLP	**Maasin**	**30.71 302**		*e*P	**P**	**18 27 42.3**	**+0.7**
KAPI	**Kappang**	**31.12 271**		P	**P**	**18 27 46.2**	**+1.0**
	comp=Z,791nm,1.4s,mb6.3,SNR=24						
OCLP	**Ormoc**	**31.40 303**		*e*P	**P**	**18 27 48.4**	**+0.7**
TOO	**Toolangi**	**31.57 188**		*e*P	**P**	**18 27 48.6**	**-0.5**
	comp=Z,58nm,1.2s,mb5.3						
TOO				*e*SCP	ScP	18 34 36.8	+16
TOO	**Toolangi**	**31.57 188**		*e*P	**P**	**18 27 48.6**	**-0.5**
TOO				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.3						
FORT	**Forrest**	**32.53 219**		*e*P	**P**	**18 27 57.2**	**-0.4**
	comp=Z,116nm,0.8s,mb5.9						
FORT				*e*sP	sP	18 28 13.1	+0.2
FORT				*e*S	**S**	**18 33 15.9**	**+5.6**
PVCP	**Virac**	**33.16 307**		*i*P	**P**	**18 28 04.8**	**+1.7**
PVCP	**Virac**	**33.16 307**		*e*P	**P**	**18 28 02.7**	**-0.4**
MBWA	**Marble Bar**	**33.70 241**		*e*P	**P**	**18 28 08.4**	**+0.7**
	comp=Z,1μm,1.6s,mb6.5						
MBWA				*e*		18 28 22.5	
MBWA				LR	LR		
	comp=Z,26μm,19.0s,MS6.0						
OTRP	**Odiongan**	**34.24 303**		*e*P	**P**	**18 28 13.2**	**+0.7**
CBIJ	**Chichi jima**	**34.24 346**		PcP	PcP	18 30 47.9	-0.6
	comp=Z,440nm,0.8s,baz=146,slow=3.5,SNR=5.9						
CBIJ				LR	LR	18 41 15.1	
	comp=Z,8μm,20.0s,MS5.5,baz=358,slow=35						
CUYO	**Cuyo Island**	**34.35 300**		*e*P	**P**	**18 28 13.1**	**-0.4**
TSM	**Tawau**	**34.70 287**		P	**P**	**18 28 17.7**	**+1.2**
GQP	**Guinayangan**	**34.71 305**		*e*P	**P**	**18 28 16.0**	**-0.6**
BOAC	**Boac**	**34.96 304**		*e*P	**P**	**18 28 18.9**	**+0.2**
POLP	**Polillo Island**	**35.57 306**		*e*P	**P**	**18 28 24.9**	**+0.9**
BUSP	**Coron**	**35.60 301**		*e*P	**P**	**18 28 25.0**	**+0.8**
PPR	**Puerto Princes**	**35.88 296**		*i*P	**P**	**18 28 28.1**	**+1.4**
ENPP	**El Nido**	**35.90 299**		*e*P	**P**	**18 28 28.6**	**+1.8**
TGY	**Tagaytay City**	**36.05 304**		*e*P	**P**	**18 28 30.0**	**+1.9**
TGY	**Tagaytay City**	**36.05 304**		P	**P**	**18 28 27.0**	**-1.1**
	comp=Z,154nm,0.3s,baz=221,slow=12,SNR=7.0						
TGY				PcP	PcP	18 30 54.6	+0.9
	comp=Z,1μm,1.0s,baz=248,slow=4.1,SNR=14						
TGY				S	**S**	**18 34 03.6**	**-0.9**
	comp=Z,33nm,0.3s,baz=128,slow=19,SNR=1.9						
TGY				ScP	ScP	18 34 40.5	+3.5
	comp=Z,39nm,0.3s,baz=318,slow=18,SNR=4.2						
TGY				LR	LR	18 41 28.2	
	comp=Z,52nm,19.1s,baz=284,slow=33						
TGY	**Tagaytay City**	**36.05 304**		P	**P**	**18 28 27.0**	**-1.1**
TGY						18 30 54.6	
TGY				S	**S**	**18 34 03.6**	**-0.9**
BATP	**Bataraza**	**36.32 294**		*e*P	**P**	**18 28 31.5**	**+1.1**
LUBP	**Lubang**	**36.42 303**		*e*P	**P**	**18 28 30.8**	**-0.5**
BALP	**Baler**	**36.43 307**		*e*P	**P**	**18 28 32.5**	**+1.2**
TAU	**Tasmania Unive**	**36.64 185**		P	**P**	**18 28 32.2**	**-0.9**
	comp=Z,680nm,1.4s,mb6.3,SNR=9.2						
TAU	**Tasmania Unive**	**36.64 185**		*e*P	**P**	**18 28 32.3**	**-0.8**
TAU				*e*		18 28 47.2	
TAU				pmax	pmax		
	comp=Z,218nm,1.3s,mb5.8						
TAU				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.6						
TAU	**Tasmania Unive**	**36.64 185**		*e*P	**P**	**18 28 32.3**	**-0.8**
	comp=Z,218nm,1.3s,mb5.8						
TAU				*e*		18 28 47.2	
TAU				LR	LR		
	comp=Z,10μm,20.0s,MS5.6						
KKM	**Kota Kinabalu**	**36.81 289**		P	**P**	**18 28 35.8**	**+1.2**
KKM	**Kota Kinabalu**	**36.81 289**		*e*P	**P**	**18 28 34.5**	**-0.1**
CAUP	**Cauayan**	**36.93 309**		*e*P	**P**	**18 28 38.3**	**+2.7**
RAO	**Raoul Island**	**37.19 132**		LR	LR	18 40 47.8	
	comp=Z,9μm,19.3s,MS5.6,baz=51,slow=31						
RAO	**Raoul Island**	**37.19 132**		P	**P**	**18 28 36.6**	**-1.2**
RAO				pmax	pmax		
	comp=Z,1μm,0.3s						
RAO	**Raoul Island**	**37.19 132**		PFAKE		18 28 50.0	+12
RAO				LR	LR		
	comp=Z,10μm,19.0s,MS5.7						
CVP	**Callao Caves**	**37.38 310**		*e*P	**P**	**18 28 40.0**	**+0.6**
	comp=Z,20μm,0.5s						
AFI	**Afiamalu**	**37.39 105**		P	**P**	**18 28 37.2**	**-2.3**
	comp=Z,145nm,1.0s,mb5.8,baz=92,slow=2.8,SNR=8.4						
AFI				S	**S**	**18 34 25.9**	**+1.0**
	comp=Z,18nm,0.9s,baz=249,slow=19,SNR=2.2						
AFI				LR	LR	18 42 46.8	
	comp=Z,20μm,

comp=Z,20µm,20.0s,MS6.0
JNU Nakatsue 43.58 335 PcP PcP 18 31 18.5 +0.7
comp=Z,58nm,1.0s,baz=208,slow=20,SNR=2.9
JNU ScP ScP 18 35 09.8 +3.6
comp=Z,31nm,0.9s,baz=224,slow=19,SNR=4.4
JNU S **S** **18 35 57.8 +0.5**
comp=Z,27nm,1.0s,baz=223,slow=19,SNR=2.3
MJAR Matsushiro Arr 44.23 345 P **P** **18 29 32.8 -3.1**
comp=Z,24nm,0.9s,baz=165,slow=7.6,SNR=29
MJAR PcP PcP 18 31 19.2 -0.8
comp=Z,40nm,1.1s,baz=183,slow=3.2,SNR=7.2
MJAR ScP ScP 18 35 11.1 +2.2
comp=Z,23nm,1.1s,baz=171,slow=4.2,SNR=12
MJAR LR LR 18 47 36.2
comp=Z,8µm,19.0s,MS5.7,baz=170,slow=36
MJAR Matsushiro Arr 44.23 345 P **P** **18 29 32.8 -3.1**
MJAR 18 31 19.2
MAJO Matsushiro 44.24 345 P **P** **18 29 33.9 -2.0**
MAJO pmax pmax
comp=Z,86nm,0.9s,mb5.5
MAJO Matsushiro 44.24 345 *eP* **P** **18 29 32.0 -3.9**
comp=Z,88nm,0.9s,mb5.5
MAJO LR LR
comp=Z,11µm,19.0s,MS5.8
MAT Matsushiro 44.24 345 P **P** **18 29 33.2 -2.7**
MAT S **S** **18 36 14.0 +7.2**
QZH Quanzhou 44.24 316⇑ *iP* **P** **18 29 37.3 +1.4**
QZH PCP PcP 18 31 21.9 +1.9
QZH S **S** **18 36 05.3 -1.5**
QZH SS SS 18 39 29.0 +3.3
QZH AMB AMB
comp=Z,1µm,1.0s,mb6.5
QZH LR LR
comp=N,13µm,18.5s,MS6.1
QZH LR LR
comp=E,13µm,15.2s,MS6.1
QZH LR LR
comp=Z,27µm,26.3s
HKC Hong Kong 45.89 309⇑ *iP* **P** **18 29 51.0 +1.9**
HKC *i* S **S** **18 36 36.0 +5.2**
MIDW Midway 45.89 40 PFAKE 18 30 00.0 +11
MIDW LR LR
comp=Z,8µm,20.0s,MS5.7
SSE Sheshan 46.83 324 P **P** **18 29 57.0 +0.6**
SSE XP sP 18 30 13.5 +1.6
SSE PP PP 18 31 46.8 0.0
SSE S **S** **18 36 46.4 +2.3**
SSE XS sS 18 37 06.3 +3.9
SSE AMB AMB
comp=Z,263nm,1.2s,mb6.0
SSE AMB AMB
comp=Z,3µm,6.7s
SSE LR LR
comp=N,6µm,25.0s,MS5.6
SSE LR LR
comp=E,7µm,25.0s,MS5.6
SSE LR LR
comp=Z,11µm,25.0s,MS5.7
SSE Sheshan 46.83 324 P **P** **18 29 57.0 +0.6**
comp=Z,263nm,1.2s,mb6.0
SSE sP sP 18 30 13.5 +1.6
SSE PP PP 18 31 46.8 0.0
SSE S **S** **18 36 46.4 +2.3**
SSE sS sS 18 37 06.3 +3.9
SSE SS SS 18 40 15.4 +4.5
SSE LR LR
comp=Z,11µm,25.0s,MS5.7
GZH Guangzhou 46.96 310 P **P** **18 29 56.8 -0.7**
GZH S **S** **18 36 45.5 -0.6**
GZH LR LR
comp=N,4µm,16.5s,MS5.8
GZH LR LR
comp=E,9µm,18.3s,MS5.8
GZH LR LR
comp=Z,15µm,18.0s,MS6.0
QIZ Qiongzhong 47.70 303 P **P** **18 30 03.2 0.0**
QIZ AP pP 18 30 13.4 -0.9
QIZ XP sP 18 30 17.3 -1.4
QIZ PPP 18 32 43.9
QIZ S **S** **18 36 57.4 +0.7**
QIZ XS sS 18 37 13.7 -1.2
QIZ SS SS 18 40 25.4 +0.2
QIZ AMB AMB
comp=Z,84nm,1.1s,mb5.7
QIZ AMB AMB
comp=Z,1µm,9.1s
QIZ LR LR
comp=N,12µm,24.5s,MS5.9
QIZ LR LR
comp=E,7µm,21.9s,MS5.9
QIZ LR LR
comp=Z,10µm,35.1s
QIZ Qiongzhong 47.70 303 *eP* **P** **18 30 03.1 -0.1**
comp=Z,83nm,1.0s,mb5.7
QIZ LR LR
comp=Z,9µm,19.0s,MS5.7
KGM Kluang 48.31 278 P **P** **18 30 09.4 +1.5**
MCQ Macquarie Isla 48.52 174 *eP* **P** **18 30 09.5 -0.1**
KSRS Korea Array 48.53 335 P **P** **18 30 09.1 -0.5**
comp=Z,50nm,1.0s,mb5.5,baz=150,slow=8.5,SNR=63
KSRS PcP PcP 18 31 35.0 0.0
comp=Z,40nm,1.0s,baz=148,slow=4.8,SNR=13
KSRS ScP ScP 18 35 27.9 +1.0
comp=Z,15nm,0.9s,baz=145,slow=5.6,SNR=10
KSRS S **S** **18 37 10.1 +1.7**
comp=Z,0.8nm,0.7s,baz=168,slow=6.4,SNR=2.7
KSRS LR LR 18 49 03.1
comp=Z,8µm,19.9s,MS5.7,baz=149,slow=34
ERM Erimo 48.58 352 PFAKE 18 30 20.0 +10
ERM LR LR
comp=Z,2µm,21.0s,MS5.2
NJ2 Nanjing 48.89 323 *eP* **P** **18 30 13.1 +0.7**
NJ2 AP pP 18 30 22.7 -0.7
NJ2 XP sP 18 30 26.3 -1.6
NJ2 PP PP 18 32 06.4 +0.5
NJ2 S **S** **18 37 15.5 +2.1**
NJ2 XS sS 18 37 32.0 +0.3
NJ2 AMB AMB
comp=Z,590nm,1.0s,mb6.6
NJ2 AMB AMB
comp=Z,8µm,5.6s
NJ2 LR LR
comp=N,19µm,19.2s,MS6.2
NJ2 LR LR
comp=E,17µm,21.6s,MS6.2
NJ2 LR LR
comp=Z,24µm,18.4s,MS6.2
INCN Inchon 49.10 334 *eP* **P** **18 30 13.9 0.0**
comp=Z,409nm,1.1s,mb6.4
INCN LR LR
comp=Z,8µm,22.0s,MS5.7
RAR Rarotonga 49.85 112 P **P** **18 30 18.8 -0.9**
comp=Z,48nm,1.1s,mb5.5,baz=228,slow=7.1,SNR=4.1
RAR LR LR 18 47 29.7
comp=Z,3µm,21.3s,MS5.2,baz=288,slow=31
ASAJ Asahikawa 50.72 352 P **P** **18 30 25.5 -0.8**
comp=Z,132nm,1.0s,mb5.8,baz=219,slow=13,SNR=21
ASAJ S **S** **18 37 39.5 +0.6**
comp=Z,8.2nm,0.9s,baz=209,slow=30,SNR=1.8
IPM Ipoh 51.02 281 P **P** **18 30 30.8 +2.2**
KULM Kulim 51.56 282 *eP* **P** **18 30 31.7 -0.8**
VLA Vladivostok 52.12 342 *d iP* **P** **18 30 36.3 -0.5**
VLA *e* 18 31 48.0
VLA *i* S **S** **18 38 00.6 +2.3**
VLA pmax pmax
comp=Z,154nm,1.2s,mb5.8
VLA MLR MLR
comp=Z,3µm,19.6s,MS5.4
VLA Vladivostok 52.12 342 *i* P **P** **18 30 36.1 -0.7**
DL2 Dalian 52.54 331⇑ *iP* **P** **18 30 39.4 -0.5**
DL2 S **S** **18 38 03.7 -0.4**
DL2 PS 18 38 10.2
DL2 AMB AMB
comp=Z,150nm,0.9s,mb5.9
DL2 AMB AMB
comp=Z,2µm,7.4s
DL2 LR LR
comp=N,2µm,13.6s,MS5.5
DL2 LR LR
comp=E,3µm,16.9s,MS5.5
DL2 LR LR
comp=Z,4µm,17.0s,MS5.5
KKTK Khon Kaen 52.69 296 P **P** **18 30 41.0 0.0**
TIA Tai'an 52.86 326 *eP* **P** **18 30 41.3 -0.9**
TIA S **S** **18 38 06.0 -2.4**
TIA AMB AMB
comp=Z,399nm,1.6s,mb6.1
TIA LR LR
comp=N,5µm,17.0s,MS5.8
TIA LR LR
comp=E,4µm,16.0s,MS5.8
YSS Yuzh-Sakhalins 53.49 353⇑ *eP* **P** **18 30 44.3 -2.5**
YSS *e* pP 18 30 52.1 -5.9
YSS *e* 18 31 53.0
YSS pmax pmax
comp=Z,160nm,1.0s,mb5.9
YSS MLR MLR
comp=E,5µm,16.0s,MS5.7
YSS MLR MLR
comp=Z,6µm,16.0s,MS5.7
YSS MLR MLR
comp=N,4µm,19.0s,MS5.7
YSS Yuzh-Sakhalins 53.49 353 *eP* **P** **18 30 44.1 -2.7**
comp=N,125nm,1.0s,mb5.8
YSS LR LR
comp=Z,7µm,22.0s,MS5.7
COCO West Island 53.72 260 P **P** **18 30 49.4 +0.8**
comp=Z,1µm,1.5s,mb6.6
COCO LR LR
comp=Z,1µm,22.0s,MS5.0
GYA Guiyang 53.89 309⇑ *iP* **P** **18 30 52.0 +2.2**
GYA AP pP 18 31 03.2 +2.3
GYA XP sP 18 31 07.8 +2.4
GYA PCP PcP 18 31 57.7 +2.7
GYA PP PP 18 32 55.7 +4.6
GYA SCP ScP 18 35 51.3 +1.4
GYA PCS PcS 18 35 55.4 +1.2
GYA S **S** **18 38 24.2 +1.9**
GYA PS 18 38 38.9
GYA XS sS 18 38 41.8 +1.0
GYA SCS ScS 18 40 35.7 -0.4
GYA SS SS 18 42 05.3 +1.7
GYA AMB AMB
comp=Z,870nm,1.0s,mb6.6
GYA AMB AMB
comp=Z,2µm,8.4s
GYA LR LR
comp=N,13µm,19.5s,MS6.1
GYA LR LR
comp=E,10µm,18.9s,MS6.1
GYA LR LR
comp=Z,7µm,18.7s,MS5.8
SNY Shenyang 54.02 335⇑ P **P** **18 30 50.3 -0.5**
SNY S **S** **18 38 25.9 +1.8**
SNY AMB AMB
comp=Z,1µm,2.4s,mb6.4
SNY AMB AMB
comp=Z,3µm,4.3s
SNY LR LR
comp=N,6µm,20.6s
SNY LR LR
comp=Z,10µm,20.6s,MS5.9
MDJ Mudanjiang 54.19 341 P **P** **18 30 51.4 -0.6**
MDJ XP sP 18 31 04.2 -3.4
MDJ PCP PcP 18 31 56.3 +0.2
MDJ S **S** **18 38 22.1 -4.3**
MDJ AMB AMB
comp=Z,69nm,1.4s,mb5.4
MDJ AMB AMB
comp=Z,2µm,12.3s
MDJ LR LR
comp=N,5µm,26.6s,MS5.5
MDJ LR LR
comp=E,2µm,23.1s,MS5.5
MDJ LR LR
comp=Z,6µm,29.7s
MDJ Mudanjiang 54.19 341 *eP* **P** **18 30 51.1 -0.9**
comp=Z,84nm,1.1s,mb5.6
MDJ LR LR
comp=Z,5µm,22.0s,MS5.5
NST Nakhon Sawan 54.88 294 P **P** **18 30 57.0 0.0**
comp=Z,67nm,0.7s,mb5.8
CN2 Changchun 54.92 338 *eP* **P** **18 30 56.5 -0.8**
CN2 PCP PcP 18 31 57.8 -1.1
CN2 PP PP 18 33 01.3 +0.8
CN2 *eS* **S** **18 38 35.3 -1.0**
CN2 AMB AMB
comp=Z,90nm,1.2s,mb5.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,4µm,17.0s,MS5.7
CN2 LR LR
comp=E,4µm,17.0s,MS5.7
CN2 LR LR
comp=Z,8µm,21.0s,MS5.8
NANT Nan 55.47 298⇑ P **P** **18 30 59.0 -2.3**
comp=Z,750nm,1.0s,mb6.7
BJT Baijiatuau 56.13 328 *eP* **P** **18 31 04.6 -1.4**
BJT pmax pmax
comp=Z,601nm,1.9s
BJT MLR MLR
comp=Z,9µm,21.0s
BJT Baijiatuau 56.13 328 *eP* **P** **18 31 04.6 -1.4**
comp=Z,601nm,1.9s,mb6.3
BJT LR LR
comp=Z,9µm,21.0s,MS5.8
BJI Beijing 56.15 328 P **P** **18 31 09.8 +3.7**
BJI PP PP 18 33 14.3 +2.9
BJI S **S** **18 38 54.5 +1.9**
BJI AMB AMB
comp=Z,130nm,2.4s,mb5.5
BJI AMB AMB
comp=Z,4µm,4.0s
BJI LR LR
comp=N,6µm,19.6s,MS5.8
BJI LR LR
comp=E,5µm,23.1s,MS5.8
BJI LR LR
comp=Z,9µm,26.2s,MS5.8
BJI Beijing 56.15 328 P **P** **18 31 09.8 +3.7**
comp=Z,130nm,2.4s,mb5.5
BJI PP PP 18 33 14.3 +2.9
BJI S **S** **18 38 54.5 +1.9**
BJI SS SS 18 42 48.9 +10
BJI LR LR
comp=Z,9µm,26.2s,MS5.8
KMI Kunming 56.34 306 P **P** **18 31 10.2 +2.7**
KMI AP pP 18 31 20.8 +2.1
KMI XP sP 18 31 25.1 +1.9
KMI PCP PcP 18 32 06.5 +2.1
KMI PP PP 18 33 18.1 +4.9
KMI PPP 18 34 35.1
KMI PS 18 36 05.1
KMI PCS PcS 18 36 06.0 +1.0
KMI S **S** **18 38 56.9 +1.7**
KMI XS sS 18 39 15.4 +1.6
KMI SS SS 18 42 43.3 +0.9
KMI SSS 18 44 53.0
KMI AMB AMB
comp=Z,39nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,1µm,6.0s
KMI LR LR
comp=N,9µm,24.1s,MS5.9
KMI LR LR
comp=E,8µm,21.4s,MS5.9
KMI LR LR
comp=Z,8µm,19.3s,MS5.8
KMI Kunming 56.34 306 P **P** **18 31 10.2 +2.7**
comp=Z,39nm,1.0s,mb5.4
KMI pP pP 18 31 20.8 +2.1
KMI sP sP 18 31 25.1 +1.9
KMI PcP PcP 18 32 06.5 +2.1
KMI PP PP 18 33 18.1 +4.9
KMI PPP 18 34 35.1
KMI PS 18 36 05.1
KMI PcS PcS 18 36 06.0 +1.0
KMI S **S** **18 38 56.9 +1.7**
KMI sS sS 18 39 15.4 +1.6
KMI SS SS 18 42 43.3 +0.9
KMI SSS 18 44 53.0
KMI LR LR
comp=Z,8µm,19.3s,MS5.8
BDT Bhumibol Dam 56.43 295 P **P** **18 31 00.0 -8.1**
comp=Z,24nm,1.0s,mb5.2
XAN Xi'an 56.47 318 P **P** **18 31 08.0 -0.4**
XAN AP pP 18 31 16.4 -3.3
XAN S **S** **18 38 55.7 -1.2**
XAN AMB AMB
comp=Z,321nm,1.3s,mb6.2
XAN AMB AMB
comp=Z,2µm,12.0s
XAN LR LR
comp=N,3µm,19.0s,MS5.7
XAN LR LR
comp=E,5µm,19.9s,MS5.7
XAN LR LR
comp=Z,14µm,19.7s,MS6.0
SKR Severo-Kuril's 56.89 4 *eP* **P** **18 31 07.0 -4.4**
SKR *e* 18 39 18.0
SKR *eSS* ScS 18 40 51.0 -6.6
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.2
SKR pmax pmax
comp=Z,4µm,14.0s
CM31 Chiang Mai Arr 56.90 297 PFAKE 18 31 20.0 +8.5
CM31 LR LR
comp=Z,4µm,20.0s,MS5.5
CHG Chiang Mai 57.02 297⇑ P **P** **18 31 12.6 +0.3**
comp=Z,78nm,1.0s,mb5.7
CHTO Chiang Mai 57.02 297 P **P** **18 31 12.3 0.0**
CHTO pmax pmax
comp=Z,66nm,0.9s,mb5.7
CHTO Chiang Mai 57.02 297 *eP* **P** **18 31 11.8 -0.5**
comp=Z,68nm,0.8s,mb5.7
CHTO *e*PcP PcP 18 32 07.1 0.0
CHTO LR LR
comp=Z,4µm,21.0s,MS5.5
HON Honolulu 57.03 60 *eP* **P** **18 31 13.2 +0.8**
KLR Kul'dur 57.76 345 *eP* **P** **18 31 12.8 -4.7**
KLR *eS* **S** **18 39 13.5 -0.4**
KLR *e* 18 40 55.5
KLR pmax pmax
comp=E,160nm,2.0s
KLR pmax pmax
comp=Z,300nm,2.0s,mb6.0
KLR pmax pmax
comp=Z,4µm,9.0s
KLR MLR MLR
comp=Z,10µm,15.0s,MS6.1
KKH Kailua Kona 58.14 62 *eP* **P** **18 31 21.1 +0.9**
HKL Haleakala 58.31 61 *eP* **P** **18 31 22.3 +0.9**
KHU Kahuku 58.35 63 *eP* **P** **18 31 21.7 0.0**
CD2 Chengdu 58.35 312 P **P** **18 31 22.0 +0.3**
CD2 AP pP 18 31 32.8 -0.1
CD2 XP sP 18 31 36.0 -1.4
CD2 PP PP 18 33 33.7 +2.7
CD2 S **S** **18 39 22.3 +0.7**
CD2 XS sS 18 39 38.9 -1.4
CD2 SCS ScS 18 41 05.4 -2.9
CD2 SS SS 18 43 16.3 +2.3
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.8
CD2 AMB AMB
comp=Z,2µm,4.8s
CD2 LR LR
comp=N,9µm,20.4s,MS6.0
CD2 LR LR
comp=E,7µm,21.6s,MS6.0
CD2 LR LR
comp=Z,10µm,20.4s,MS5.9
HPO Honuapo 58.35 63 *eP* **P** **18 31 22.3 +0.6**
POHA Pohakuloa 58.60 62 *eP* **P** **18 31 24.5 +1.1**
comp=Z,525nm,1.4s,mb6.4
POHA LR LR
comp=Z,11µm,19.0s,MS6.0
PPT Papeete 59.01 107 *eP* **P** **18 31 26.9 +0.7**
comp=Z,49nm,1.3s,mb5.4
PPT Papeete 59.01 107 *eLQ* 18 46 19.0
comp=Z,37µm,30.5s
PPT Papeete 59.01 107 *ePP* PP 18 33 34.9 -1.9
comp=Z,753nm,26.2s
PPT Papeete 59.01 107 *eS* **S** **18 39 30.8 +0.7**
comp=Z,17µm,26.0s
PPT *e*LR LR 18 48 43.6
comp=Z,8µm,25.5s,baz=269
PPT Papeete 59.01 107 P **P** **18 31 26.5 +0.3**
comp=Z,27nm,0.8s,mb5.3,baz=193,slow=21,SNR=4.3
PPT S **S** **18 39 32.3 +2.2**
comp=Z,7.0nm,0.5s,baz=167,slow=22,SNR=2.1
PPT LR LR 18 53 28.0
comp=Z,3µm,19.2s,MS5.4,baz=274,slow=33
PPT Papeete 59.01 107 P **P** **18 31 26.5 +0.3**
PPT S **S** **18 39 32.3 +2.2**
PAE Paea 59.01 107 *eP* **P** **18 31 26.5 +0.3**
comp=Z,136nm,1.2s,mb5.9
PAE Paea 59.01 107 *eP* **P** **18 31 26.5 +0.3**
PAE pmax pmax
comp=Z,136nm,1.2s,mb5.8
HHC Hu-ho-hao-te 59.21 326⇑ *iP* **P** **18 31 28.4 +0.7**
HHC AP pP 18 31 38.6 -0.3
HHC XP sP 18 31 42.7 -0.7
HHC PCP PcP 18 32 16.3 +0.6
HHC PP PP 18 33 42.1 +3.4
HHC SCP ScP 18 36 14.4 +1.0
HHC PCS PcS 18 36 15.9 -1.8
HHC S **S** **18 39 34.8 +2.0**
HHC XS sS 18 39 50.0 -1.5
HHC SCS ScS 18 41 12.7 -2.0
HHC SS SS 18 43 31.0 +3.5
HHC AMB AMB
comp=Z,167nm,1.2s,mb5.9
HHC LR LR
comp=N,7µm,16.3s,MS5.9
HHC LR LR
comp=E,4µm,17.3s,MS5.9
HHC LR LR
comp=Z,9µm,18.0s,MS5.9
TVO Taravao 59.33 107 *eP* **P** **18 31 29.2 +0.7**
comp=Z,167nm,1.1s,mb6.0
TVO Taravao 59.33 107 *eP* **P** **18 31 29.2 +0.7**
TVO pmax pmax
comp=Z,167nm,1.1s,mb6.0
PET Petropavlovsk 59.42 5 *eP* **P** **18 31 26.0 -3.0**
PET *e* 18 32 15.0
PET *eS* **S** **18 39 33.1 -2.3**
PET *ePS* 18 39 48.3
PET *e* 18 41 13.9
PET pmax pmax
comp=Z,111nm,0.9s,mb5.9
PET pmax pmax
comp=Z,2µm,5.7s
PET MLR MLR
comp=E,2µm,18.0s,MS5.6
PET MLR MLR
comp=Z,3µm,18.0s,MS5.5
PET MLR MLR
comp=N,4µm,18.0s,MS5.6
PET Petropavlovsk 59.42 5⇑ *eP* **P** **18 31 26.4 -2.6**
PET LR LR
comp=Z,7µm,21.0s,MS5.8
TBI Tubuai 59.61 113 *eLQ* 18 46 43.0
comp=Z,29µm,35.8s
TBI Tubuai 59.61 113 *ePP* PP 18 33 41.1 -1.1
comp=Z,718nm,26.8s
TBI Tubuai 59.61 113 *eS* **S** **18 39 37.5 -0.4**
comp=Z,11µm,30.0s
TBI *eSS* SS 18 43 33.4 -0.3
comp=Z,3µm,26.5s
TBI *eLR* LR 18 48 58.4
comp=Z,13µm,36.8s,baz=292
TBI Tubuai 59.61 113 *eP* **P** **18 31 30.5 +0.1**
comp=Z,205nm,1.1s,mb6.1
TBI *ePP* PP 18 33 41.1 -1.1
TBI *eS* **S** **18 39 37.5 -0.4**
TBI *eSS* SS 18 43 33.4 -0.3
TBI *eLQ* 18 46 43.0
BTO Baotou 59.92 325 *eP* **P** **18 31 31.4 -1.1**
PMOR Pomariorio Ree 60.52 104 *eP* **P** **18 31 37.5 +0.8**
DRV Dumont d'Urvil 60.78 185 P **P** **18 31 38.0 -0.4**
DRV S **S** **18 39 56.0 +3.1**
DRV L 18 47 00.0
DRV R 18 51 00.0
VAH Vaihoa 60.79 104 *eP* **P** **18 31 38.9 +0.5**
comp=Z,220nm,1.1s,mb6.2
LZH Lanzhou 61.05 317 *eP* **P** **18 31 41.1 +0.9**
LZH AP pP 18 31 51.9 +0.3
LZH XP sP 18 31 56.5 +0.5
LZH PCP PcP 18 32 22.6 -0.5
LZH PP PP 18 33 59.0 +4.1
LZH AMB AMB
comp=Z,736nm,1.5s,mb6.6

LZH AMB AMB
comp=Z,3μm,4.5s
LZH LR LR
comp=E,6μm,18.3s
LZH LR LR
comp=Z,8μm,19.3s,MS5.9
LZH Lanzhou 61.05 317 *eP* **P 18 31 41.1 +0.9**
LZH *PP pP 18 31 51.9 +0.3
LZH *SP sP 18 31 56.5 +0.5
LZH 18 32 22.6
LZH 18 33 59.0
LZH S **S 18 39 57.0 +0.6**
LZH *SS sS 18 40 14.9 -0.2
LZH 18 41 26.4
LZH SS SS 18 43 58.0 +1.7
LZH pmax pmax
comp=Z,736nm,1.5s,mb6.6
LZH MLR MLR
comp=Z,8μm,19.3s,MS5.9
HIA Hailar 61.65 337 *eP* **P 18 31 42.8 -1.5**
HIA pmax pmax
comp=Z,305nm,1.0s
HIA MLR MLR
comp=Z,8μm,21.0s
HIA Hailar 61.65 337 *eP* **P 18 31 42.8 -1.5**
comp=Z,306nm,1.0s,mb6.4
HIA LR LR
comp=Z,8μm,21.0s,MS5.8
SMY Shemya 61.96 16 *eP* **P 18 31 44.6 -1.8**
SMY pmax pmax
comp=Z,410nm,1.1s,mb6.5
SMY Shemya 61.96 16 *eP* **P 18 31 44.6 -1.8**
comp=Z,410nm,1.1s,mb6.5
AMKA Amchitka 62.35 20 *eP* **P 18 31 46.1 -2.8**
IMP Imphal 63.51 302 *eP* **P 18 31 58.0 +1.3**
IMP *ex* x 18 32 33.0
AGT Agartala 65.49 300 *eP* **P 18 32 12.0 +2.4**
SHL Shillong 65.52 302 *eP* **P 18 32 09.5 -0.3**
SHL *eS* S 18 40 56.5 +4.4
GTA Gaotai 65.53 318⇑ *iP* **P 18 32 09.3 -0.6**
GTA AP pP 18 32 21.0 -0.3
GTA XP sP 18 32 25.8 +0.1
GTA PCP PcP 18 32 39.1 -2.3
GTA PP PP 18 34 35.1 +0.8
GTA S S 18 40 52.8 +0.6
GTA XS sS 18 41 15.3 +4.2
GTA PS 18 41 20.2
GTA SCS ScS 18 41 56.6 -5.9
GTA SS SS 18 45 09.9 +3.6
GTA AMB AMB
comp=Z,149nm,1.1s,mb5.9
GTA AMB AMB
comp=Z,2μm,6.5s
GTA LR LR
comp=N,3μm,17.5s,MS5.8
GTA LR LR
comp=E,5μm,19.4s,MS5.8
GTA LR LR
comp=Z,6μm,20.5s,MS5.8
CASY Casey 66.10 197 *eP* **P 18 32 12.1 -1.5**
CASY *eS* S 18 40 58.7 -0.5
CIT Chita 66.27 336 *eP* **P 18 32 14.2 -0.4**
CIT *e* pP 18 32 27.0 +0.9
CIT *e* 18 32 46.2
CIT pmax pmax
comp=Z,436nm,1.6s,mb6.2
NRGR Nerungri 66.30 345 *eP* **P 18 32 14.3 -0.6**
CLNS Chul'man 66.42 345 *eP* **P 18 32 12.1 -3.5**
CLNS *e*SP sP 18 32 22.5 -8.9
CLNS *e* 18 32 43.6
CLNS *eS* S 18 40 55.2 -7.8
CLNS pmax pmax
comp=Z,150nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,57nm,1.0s
CLNS pmax pmax
comp=E,16nm,0.8s
CLNS smax
comp=N,902nm,11.6s
CLNS smax
comp=Z,2μm,12.9s
CLNS smax
comp=E,1μm,12.8s
CLNS MLR MLR
comp=Z,4μm,18.0s,MS5.7
CLNS MLR MLR
comp=N,1μm,16.0s,MS5.6
CLNS MLR MLR
comp=E,3μm,16.0s,MS5.6
SONM Songino Array 66.62 329 P **P 18 32 16.6 -0.3**
comp=E,58nm,0.9s,mb5.6,baz=141,slow=4.5,SNR=127
SONM PKiKP PKiKP 18 38 46.1 -0.2
comp=E,2.8nm,0.9s,baz=250,slow=2.9,SNR=3.5
SONM S S 18 41 07.4 +1.9
comp=E,0.2nm,0.6s,baz=304,slow=32,SNR=2.1
SONM PKPPKP 19 00 41.2
comp=E,5.3nm,1.2s,baz=338,slow=1.6,SNR=9.4
SONM PKP2ab 19 00 51.3
comp=E,19nm,1.2s,baz=302,slow=1.9,SNR=22
SONM LR LR 19 02 36.6
comp=E,7μm,18.5s,MS5.9,baz=134,slow=37
LSA Lhasa 67.60 306 P **P 18 32 23.2 +0.1**
LSA AP pP 18 32 38.0 +3.4
LSA XP sP 18 32 43.6 +4.6
LSA S S 18 41 13.8 -3.5
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,2μm,9.0s
LSA LR LR
comp=N,4μm,21.0s,MS5.8
LSA LR LR
comp=E,4μm,21.0s,MS5.8
LSA LR LR
comp=Z,6μm,28.0s
LSA Lhasa 67.60 306 *eP* **P 18 32 23.1 0.0**
LSA pmax pmax
comp=Z,99nm,1.0s,mb5.8
LSA MLR MLR
comp=Z,5μm,22.0s,MS5.7
LSA Lhasa 67.60 306 *eP* **P 18 32 23.1 0.0**
comp=Z,99nm,1.0s,mb5.8
LSA LR LR
comp=Z,5μm,22.0s,MS5.7
CAL Calcutta 67.62 297 *ex* **P 18 32 19.8 -3.5**
CAL *eS* S 18 41 22.2 +4.6
TAOE Nuku Hiva Isla 68.22 97 *eP* **P 18 32 27.7 +0.7**
comp=Z,1μm,1.1s,mb6.8
TAOE *eS* S 18 41 26.4 +1.7
comp=Z,20μm,27.3s
TAOE *eSS* SS 18 45 47.3 -0.7
comp=Z,10μm,30.1s
SEY Seymchan 69.00 1 *eP* **P 18 32 29.3 -2.6**
SEY Seymchan 69.00 1 *eP* **P 18 32 29.3 -2.6**
UNV Unalaska Valle 69.69 25 *eP* **P 18 32 34.9 -1.2**
comp=Z,1μm,1.1s,mb6.8
UNV LR LR
comp=Z,28μm,20.0s,MS6.5
ZAK Zakamensk 69.82 330 *eP* **P 18 32 36.1 -0.8**
ZAK pmax pmax
comp=Z,101nm,1.1s,mb5.7
YAK Yakutsk 70.06 349*c iP* **P 18 32 36.9 -1.5**
YAK *e* 18 33 00.1
YAK *e* 18 35 13.2
YAK *e*PPP 18 36 50.2
YAK *eS* S 18 41 49.1 +2.7
YAK *e* 18 42 37.0
YAK pmax pmax
comp=N,120nm,1.4s
YAK pmax pmax
comp=E,36nm,1.4s
YAK pmax pmax
comp=Z,239nm,1.4s,mb5.9
YAK smax
comp=N,287nm,3.1s
YAK smax
comp=E,484nm,5.4s
YAK Yakutsk 70.06 349 *eP* **P 18 32 36.5 -1.9**
comp=E,341nm,1.3s,mb6.1
YAK *e* 18 32 59.0
YAK LR LR
comp=Z,4μm,20.0s,MS5.7
AKUT Akutan 70.21 25 *eP* **P 18 32 38.1 -1.2**
comp=Z,2μm,1.3s,mb6.8
TLY Talaya 70.46 331 P **P 18 32 40.0 -0.8**
comp=Z,292nm,1.2s,mb6.1,SNR=8.5
TLY Talaya 70.46 331*c iP* **P 18 32 39.1 -1.7**
TLY *e*PPP 18 36 50.7
TLY *eS* S 18 41 41.3 -10
TLY *e* 18 42 32.0
TLY pmax pmax
comp=Z,90nm,1.3s,mb5.5
TLY Talaya 70.46 331 *eP* **P 18 32 40.5 -0.3**
comp=Z,58nm,1.1s,mb5.4
TLY LR LR
comp=Z,1μm,20.0s,MS5.2
IRK Irkutsk 70.52 332⇓ *iP* **P 18 32 40.5 -0.7**
IRK pmax pmax
comp=N,212nm,2.2s
BOD Bodaibo 70.53 340 *eP* **P 18 32 39.2 -2.1**
BOD pmax pmax
comp=Z,111nm,1.5s,mb5.6
JIRN Jiri 71.02 302 *eP* **P 18 32 43.9 -0.3**
comp=Z,84nm,0.8s,mb5.7
GUN Gumba 71.36 302 *eP* **P 18 32 46.0 -0.3**
comp=Z,231nm,0.8s,mb6.2
PALK Pallekele 71.41 280 P **P 18 32 48.3 +1.7**
comp=Z,608nm,1.6s,mb6.3,SNR=14
PALK Pallekele 71.41 280 *eP* **P 18 32 48.3 +1.7**
comp=Z,74nm,0.8s,mb5.7
PALK LR LR
comp=Z,1μm,22.0s,MS5.0
VNDA Vanda 71.45 178 P **P 18 32 46.0 -0.8**
comp=Z,63nm,0.9s,mb5.5,baz=331,slow=6.6,SNR=146
VNDA S S 18 42 03.6 +1.0
comp=Z,1.2nm,1.0s,baz=341,slow=10,SNR=2.0
VNDA LR LR 19 03 51.6
comp=Z,9μm,18.1s,MS6.1,baz=350,slow=36
VNDA Vanda 71.45 178 *eP* **P 18 32 45.5 -1.3**
VNDA pmax pmax
comp=Z,84nm,1.0s
VNDA MLR MLR
comp=Z,7μm,19.0s
VNDA Vanda 71.45 178 *eP* **P 18 32 45.5 -1.3**
comp=Z,84nm,1.0s,mb5.6
VNDA LR LR
comp=Z,7μm,19.0s,MS5.9
PKI Pulchoki 71.65 302 *eP* **P 18 32 47.9 -0.2**
MOY Mondy 71.75 330 *eP* **P 18 32 47.1 -1.6**
MOY pmax pmax
comp=Z,377nm,2.7s,mb5.8
KKN Kakani 71.83 302 *eP* **P 18 32 48.2 -0.9**
comp=Z,185nm,0.9s,mb6.0
DMN Daman 71.92 302 *eP* **P 18 32 49.0 -0.7**
comp=Z,432nm,1.1s,mb6.3
MIR Mirnyy 71.93 201*d iP* **P 18 32 51.0 +1.3**
MIR *e*PS 18 42 02.0
MIR pmax pmax
comp=Z,2μm,6.0s
MIR MLR MLR
comp=Z,16μm,18.0s,MS6.3
SBA Scott Base 72.03 177 *eP* **P 18 32 50.2 -0.1**
SBA *e* 18 33 05.2
SBA pmax pmax
comp=Z,173nm,1.4s,mb5.8
SBA MLR MLR
comp=Z,5μm,19.0s,MS5.8
SBA Scott Base 72.03 177 *eP* **P 18 32 50.2 -0.1**
comp=Z,173nm,1.4s,mb5.8
SBA *e* 18 33 05.2
SBA LR LR
comp=Z,5μm,19.0s,MS5.8
GKN Gorkha 72.43 302 *eP* **P 18 32 51.8 -0.9**
MDRS Chennai 72.84 286 *eP* **P 18 32 55.7 +0.5**
MDRS Chennai 72.84 286 *eS* S 18 42 11.7 -6.9
RKT Rikitea 72.89 112 *eS* S 18 42 18.8 -0.3
comp=Z,6μm,30.8s
RKT *eSS* SS 18 46 53.2 -6.6
comp=Z,3μm,35.8s
RKT *eLQ* 18 52 15.5
comp=Z,13μm,39.2s
RKT *eLR* LR 18 55 15.9
comp=Z,8μm,34.2s,baz=278
RKT Rikitea 72.89 112 *eP* **P 18 32 55.4 -0.1**
RKT *eS* S 18 42 18.8 -0.3
RKT pmax pmax
comp=Z,271nm,1.1s,mb6.1
RKT Rikitea 72.89 112 *eP* **P 18 32 55.4 -0.1**
comp=Z,271nm,1.1s,mb6.1
RKT *eS* S 18 42 18.8 -0.3
RKT *eSS* SS 18 46 53.2 -6.6
RKT *eLQ* 18 52 15.5
KOLN Koldanda 73.24 301 *eP* **P 18 32 56.7 -0.9**
comp=Z,214nm,0.9s,mb6.1
SDPT Sand Point 73.31 27 *eP* **P 18 32 56.4 -1.6**
comp=Z,2μm,1.2s,mb6.9
ALBI Allahabad 74.12 298 *eP* **P 18 33 00.0 -2.7**
CHGN Chignik 74.82 27 *eP* **P 18 33 05.4 -1.4**
BILL Bilibino 74.91 6⇓ *iP* **P 18 33 05.3 -2.0**
BILL *i* pP 18 33 15.9 -3.0
BILL *i* 18 33 24.5
BILL *i* S S 18 42 38.4 -3.4
BILL *eSS* SS 18 47 26.4 -4.1
BILL pmax pmax
comp=Z,203nm,1.2s,mb5.9
BILL MLR MLR
comp=Z,3μm,19.0s,MS5.7
BILL Bilibino 74.91 6 *eP* **P 18 33 04.7 -2.6**
comp=Z,164nm,0.9s,mb6.0
BILL LR LR
comp=Z,4μm,20.0s,MS5.7
JBP Jabalpur 75.21 296⇑ *iP* **P 18 33 11.0 +2.0**
JBP *ex* x 18 33 15.4
comp=Z,207nm,1.4s
JBP *i* x x 18 42 45.3
TRD Trivandrum 75.26 280⇑ *ex* **P 18 33 16.1 +6.8**
TRD *ex* x 18 39 14.1
HYB Hyderabad 75.29 290⇑ *iP* **P 18 33 09.0 -0.4**
comp=Z,130nm,1.0s,mb5.8
HYB *eS* S 18 42 44.0 -2.0
HYB *e* 18 43 16.0
HYB Hyderabad 75.29 290⇑ *eP* **P 18 33 09.0 -0.4**
HYB *eS* S 18 42 46.0 0.0
HYB pmax pmax
comp=Z,130nm,1.0s,mb5.8
HYB Hyderabad 75.29 290⇑ *eP* **P 18 33 09.0 -0.4**
comp=Z,130nm,1.0s,mb5.8
HYB *eS* S 18 42 46.0 0.0
NGP Nagpur 75.60 294 *eP* **P 18 33 10.3 -0.9**
NGP *ex* x 18 33 15.6
comp=Z,213nm,1.1s
NGP *ex* x 18 42 46.5
WMQ Urumqi 75.61 318⇓ *iP* **P 18 33 11.1 -0.2**
WMQ AP pP 18 33 21.6 -1.3
WMQ PCP PcP 18 33 24.3 +0.2
WMQ XP sP 18 33 25.3 -2.0
WMQ PP PP 18 36 02.6 +1.6
WMQ PPP 18 37 49.1
WMQ S S 18 42 48.6 -1.0
WMQ XS sS 18 43 05.7 -3.2
WMQ SKS 18 43 13.6
WMQ SCS ScS 18 43 18.6 -3.5
WMQ PS 18 43 30.1
WMQ AMB AMB
comp=Z,137nm,1.3s,mb5.7
WMQ AMB AMB
comp=Z,833nm,6.9s
WMQ LR LR
comp=N,3μm,29.0s,MS5.7
WMQ LR LR
comp=E,4μm,25.2s,MS5.7
WMQ LR LR
comp=Z,4μm,22.2s,MS5.6
LGTI Lohaghat 76.54 302 *eP* **P 18 33 16.7 +0.1**
LATR Latur 77.34 290 *eP* **P 18 33 20.2 -0.9**
BHPL Bhopal 77.52 295 *eP* **P 18 33 21.4 -0.8**
BHPL AMb AMB 18 33 26.0
comp=Z,143nm,1.0s,mb5.9
TNA Tin City 77.69 16 *eP* **P 18 33 22.6 -0.4**
comp=Z,96nm,1.2s,mb5.6
TNA LR LR
comp=Z,7μm,20.0s,MS6.0
DGAR Diego Garcia 77.90 264 P **P 18 33 24.5 +0.3**
DGAR pmax pmax
comp=Z,290nm,0.9s,mb6.2
DGAR Diego Garcia 77.90 264 *eP* **P 18 33 23.8 -0.4**
comp=Z,291nm,0.8s,mb6.3
DGAR LR LR
comp=Z,728nm,20.0s,MS5.0
AGRA Agra 77.96 299 *eP* **P 18 33 23.5 -1.1**
AGRA AMb AMB 18 33 26.4
comp=Z,209nm,1.3s,mb5.9
MNGI Mangalore 78.03 285 *eP* **P 18 33 26.4 +1.4**
MNGI AMb AMB 18 33 31.9
comp=Z,104nm,1.8s,mb5.5
MNGI *i* S S 18 43 18.3 +2.3
KRAR Krasnoyarsk 78.16 331⇓ *eP* **P 18 33 24.6 -1.1**
KRAR pmax pmax
comp=Z,105nm,2.5s,mb5.3
KDAK Kodiak Island 78.28 27 P **P 18 33 26.0 -0.3**
comp=Z,4μm,1.1s,SNR=47
KDAK Kodiak Island 78.28 27 P **P 18 33 25.4 -0.9**
comp=Z,741nm,1.0s,mb6.6,baz=198,slow=2.7,SNR=82
KDAK S S 18 43 18.8 +0.1
comp=Z,9.0nm,0.9s,baz=159,slow=20,SNR=1.9
KDAK Kodiak Island 78.28 27 *eP* **P 18 33 24.9 -1.4**
comp=Z,806nm,1.0s,mb6.6
KDAK LR LR
comp=Z,2μm,19.0s,MS5.4
BISR Bishrakh 78.70 301 *eP* **P 18 33 26.5 -2.2**
BISR AMb AMB 18 33 29.2
comp=Z,10nm,0.8s
KLP Kalpa 78.74 304 *eP* **P 18 33 28.7 -0.1**
KLP AMb AMB 18 33 35.2
comp=Z,262nm,1.0s,mb6.1
SVW2 Sparrevohn 78.87 23 *eP* **P 18 33 29.5 -0.1**
NDI New Delhi 78.92 301 *eP* **P 18 33 29.0 -0.8**
NDI *eP* 18 33 29.3
NDI AMb AMB 18 33 32.9
comp=Z,280nm,0.7s,mb6.3
NDI *ex* x 18 43 21.0
SONA Sohna 78.93 300 *eP* **P 18 33 29.3 -0.6**
SONA AMb AMB 18 33 31.9
comp=Z,170nm,0.9s,mb6.0
AYAN Aya Nagar 78.95 300 *eP* **P 18 33 29.0 -1.0**
AYAN AMb AMB 18 33 31.7
comp=Z,163nm,1.1s,mb5.9
TIXI Tiksi 79.11 353 PFAKE 18 33 40.0 +9.1
TIXI LR LR
comp=Z,13μm,21.0s,MS6.2
KAD Karad 79.36 289 *eP* **P 18 33 32.3 0.0**
KKR Kurukshetra 79.55 302 *eP* **P 18 33 33.0 -0.3**
KKR AMb AMB 18 33 36.7
comp=Z,218nm,0.3s,mb6.6
POO Poona 79.89 290⇓ *ix* **P 18 33 31.0 -4.1**
comp=Z,250nm,1.0s,mb6.1
POO *i* x x 18 33 39.5
POO *ex* x 18 36 32.0
KHET Khetri 79.99 300 *eP* **P 18 33 34.9 -0.8**
KHET AMb AMB 18 33 37.4
comp=Z,171nm,0.9s,mb6.0
MKAR Makanchi Array 80.25 319 P **P 18 33 36.0 -1.1**
comp=Z,70nm,0.8s,mb5.6,baz=108,slow=4.4,SNR=91
MKAR PP PP 18 36 38.0 -1.9
comp=Z,26nm,1.0s,baz=99,slow=7.6,SNR=6.5
MKAR PKiKP PKiKP 18 39 06.3 +0.2
comp=Z,5.7nm,1.0s,baz=69,slow=0.3,SNR=4.2
MKAR S S 18 43 34.2 -5.4
comp=Z,1.1nm,1.0s,baz=125,slow=49,SNR=2.2
MKAR PKKPbc PKKPbc 18 52 19.5 -0.1
comp=Z,2.1nm,0.7s,baz=264,slow=3.3,SNR=6.4
MKAR LR LR 19 08 37.7
comp=Z,5μm,20.3s,MS5.8,baz=242,slow=35
MKAR Makanchi Array 80.25 319 P **P 18 33 36.0 -1.1**
MKAR PP PP 18 36 38.0 -1.9
AJM Ajmer 80.67 298 *i* P **P 18 33 39.0 -0.3**
SLKM Skilak Lake 80.75 25 *eP* **P 18 33 38.0 -1.7**
THN Thein Dam 81.04 304 *eP* **P 18 33 39.3 -2.0**
ZAL Zalesovo 81.39 327 P **P 18 33 40.5 -2.6**
comp=Z,28nm,0.9s,mb5.2,baz=6.3,slow=6.2,SNR=86
ZAL PP PP 18 36 48.2 -1.0
comp=Z,13nm,1.1s,baz=357,slow=9.8,SNR=5.3
ZAL S S 18 43 51.1 -0.3
comp=Z,4.1nm,1.1s,baz=217,slow=11,SNR=4.4
ZAL PKKPbc PKKPbc 18 52 17.9 +0.9
comp=Z,1.0nm,0.5s,baz=122,slow=1.4,SNR=3.8
ZAL PKPPKP 19 00 19.1
comp=Z,1.9nm,0.8s,baz=89,slow=2.1,SNR=5.2
ZAL LR LR 19 09 38.7
comp=Z,6μm,20.1s,MS5.9,baz=351,slow=36
ZAL Zalesovo 81.39 327 P **P 18 33 40.5 -2.6**
ZAL 18 36 48.3
ZAL S S 18 43 51.2 -0.2
PMR Palmer 81.75 25 *eP* **P 18 33 43.2 -1.9**
PMR pmax pmax
comp=Z,1μm,2.1s,mb6.5
PMR Palmer 81.75 25 *eP* **P 18 33 43.2 -1.9**
comp=Z,1μm,2.1s,mb6.5
MID Middleton Isla 81.94 27 *eP* **P 18 33 46.3 +0.2**
SML Sawmill 82.19 25 *eP* **P 18 33 46.1 -1.3**
IMA2 Indian Mountai 82.42 20 *eP* **P 18 33 47.3 -1.3**
KSH Kashi 82.53 311 P **P 18 33 50.1 +0.9**
KSH *eAP pP 18 34 03.1 +2.2
KSH *ePP PP 18 37 02.1 +3.4
KSH *ePPP 18 38 55.6
KSH *eS* S 18 44 03.1 -0.1
KSH *eXS sS 18 44 25.0 +2.3
KSH *ePS 18 45 00.3
KSH *eSS SS 18 49 28.4 +3.4
KSH AMB AMB
comp=Z,200nm,1.1s,mb6.1
KSH AMB AMB
comp=Z,2μm,4.0s
KSH LR LR
comp=N,6μm,8.6s
KSH LR LR
comp=E,7μm,10.3s
KSH LR LR
comp=Z,3μm,8.6s
NVS Novosibirsk 82.58 327 *i* P **P 18 33 47.0 -2.4**
NVS *i* S S 18 43 57.7 -6.0
NVS pmax pmax
comp=Z,277nm,2.2s,mb5.9
NVS pmax pmax
comp=N,73nm,1.8s
NVS pmax pmax
comp=E,136nm,1.8s
NVS smax
comp=N,93nm,2.5s
NVS smax
comp=E,247nm,2.5s
EYAK Cordova Ski Ar 82.71 26 *eP* **P 18 33 49.0 -1.1**
AAA Alma-Ata 82.79 315*c iP* **P 18 33 50.9 +0.4**
AAA *i* S S 18 44 09.6 +3.7
AAA pmax pmax
comp=Z,3μm,3.8s
AAA smax
comp=E,2μm,6.0s
MCK McKinley 82.89 23 *eP* **P 18 33 48.6 -2.4**
MCK pmax pmax
comp=Z,722nm,1.0s,mb6.7
MCK MLR MLR
comp=Z,8μm,20.0s,MS6.1
MCK McKinley 82.89 23 *eP* **P 18 33 48.6 -2.4**
comp=Z,722nm,1.0s,mb6.7
MCK LR LR
comp=Z,8μm,20.0s,MS6.1
DIV Divide 82.96 26 *eP* **P 18 33 50.1 -1.3**
comp=Z,2μm,1.0s,mb7.1
DIV LR LR
comp=Z,22μm,20.0s,MS6.5
ULHL Ulahol 83.02 314 P **P 18 33 51.8 +0.1**
SNR=21
NIL Nilore 83.33 305 P **P 18 33 55.9 +2.6**
comp=Z,183nm,0.6s,mb6.3,SNR=10
MAW Mawson 83.54 203 *eS* S 18 44 14.0 +0.5
MAW Mawson 83.54 203 P **P 18 33 53.3 -1.1**
comp=Z,75nm,1.1s,mb5.7,baz=82,slow=7.3,SNR=50
MAW S S 18 44 11.3 -2.2
comp=Z,1.7nm,0.3s,baz=7.7,slow=24,SNR=2.0
MAW PKKPbc PKKPbc 18 52 13.0 +0.9
comp=Z,6.3nm,0.4s,baz=44,slow=7.7,SNR=4.3
MAW LR LR 19 08 13.4
comp=Z,10μm,20.9s,MS6.2,baz=82,slow=34
MAW Mawson 83.54 203 *eP* **P 18 33 53.0 -1.4**
MAW *eS* S 18 44 14.0 +0.5
MAW pmax pmax
comp=Z,118nm,1.1s
MAW Mawson 83.54 203 *eP* **P 18 33 53.0 -1.4**
comp=Z,118nm,1.1s,mb5.9
MAW *eS* S 18 44 14.0 +0.5
TKM2 Tokmak 2 83.66 314 P **P 18 33 54.4 -0.6**
SNR=67
KZA Kyzart 83.69 313 P **P 18 33 55.7 +0.5**
SNR=56
QSPA South Pole Qui 83.71 180 *eP* **P 18 33 55.7 +0.5**

comp=Z,250nm,1.1s,mb6.3
KURK Kurchatov 83.82 322 P P 18 33 54.9 -0.9
comp=Z,977nm,1.0s,mb6.9,SNR=20
KURK Kurchatov 83.82 322 ⇓P P 18 33 54.7 -1.1
SNR=64
KURK Kurchatov 83.82 322 eP P 18 33 54.3 -1.5
KURK pmax pmax
comp=Z,161nm,1.0s,mb6.1
KURK MLR MLR
comp=Z,1µm,20.0s,MS5.3
KURK Kurchatov 83.82 322 eP P 18 33 54.3 -1.5
comp=Z,160nm,1.0s,mb6.1
KURK LR LR
comp=Z,1µm,20.0s,MS5.3
COLA College 83.87 22⇑ iP P 18 33 54.2 -1.9
COLA College 83.87 22 eP P 18 33 53.5 -2.5
comp=Z,618nm,0.9s,mb6.7
COLA LR LR
comp=Z,6µm,20.0s,MS6.0
JASL Jaisalmer 84.04 298 ex P 18 33 53.5 -3.4
KBK Karagaybulak 84.05 314 P P 18 33 57.0 0.0
SNR=67
UCH Uchtor 84.26 313 P P 18 33 58.6 +0.5
SNR=86
CHMS Chumysh 84.28 314 P P 18 33 58.5 +0.3
SNR=76
FRU Bishkek 84.33 314 i P P 18 33 58.5 +0.1
FRU i S S 18 44 21.0 -0.4
FRU pmax pmax
comp=Z,400nm,2.0s,mb6.2
AAK Ala-Archa 84.37 314 P P 18 33 57.0 -1.6
comp=Z,590nm,1.0s,mb6.7,SNR=37
AAK Ala-Archa 84.37 314 P P 18 33 58.3 -0.3
SNR=77
AAK Ala-Archa 84.37 314 P P 18 33 57.7 -1.0
SNR=81
AAK Ala-Archa 84.37 314 c iP P 18 33 56.9 -1.7
AAK pmax pmax
comp=Z,82nm,0.7s,mb6.0
AAK Ala-Archa 84.37 314 eP P 18 33 57.2 -1.5
comp=Z,85nm,0.9s,mb5.9
AAK LR LR
comp=Z,2µm,21.0s,MS5.4
USP Ospenovka 84.52 314 P P 18 33 58.6 -0.7
SNR=148
MENT Mentasta 84.62 25 eP P 18 33 58.8 -1.1
AML Almayashu 84.83 313 P P 18 34 01.2 +0.2
SNR=205
EKS2 Erkin-Say 84.89 314 P P 18 34 01.1 -0.2
SNR=182
EGAK Eagle 86.40 23 eP P 18 34 07.8 -1.0
comp=Z,994nm,1.1s,mb7.0
SIT Sitka 86.45 32 eP P 18 34 08.9 -0.1
SIT pmax pmax
comp=Z,82nm,1.1s,mb5.9
SIT Sitka 86.45 32 eP P 18 34 08.9 -0.1
comp=Z,824nm,1.1s,mb6.9
DAWY Dawson 86.85 24 eP P 18 34 10.8 -0.2
SKAG Skagway 87.16 29 eP P 18 34 11.7 -0.7
comp=Z,1µm,1.5s,mb6.8
CRAG Craig 87.19 34 eP P 18 34 13.0 +0.4
comp=Z,1µm,1.6s,mb6.8
WRAK Wrangell Islan 87.86 33 eP P 18 34 16.1 +0.3
comp=Z,813nm,1.2s,mb6.8
CHKZ Chkalovo 89.33 324 P P 18 34 20.0 -2.7
CHKZ pmax pmax
comp=Z,21nm,0.8s,mb5.5
CHKZ Chkalovo 89.33 324 eP P 18 34 19.1 -3.6
comp=Z,22nm,0.8s,mb5.5
BRVK Borovoye 89.41 323 P P 18 34 21.9 -1.2
comp=Z,212nm,0.9s,mb6.5,SNR=12
BRVK Borovoye 89.41 323 P P 18 34 20.1 -3.0
BRVK pmax pmax
comp=Z,54nm,1.4s,mb5.7
BRVK Borovoye 89.41 323 eP P 18 34 19.4 -3.7
comp=Z,86nm,1.4s,mb5.9
BRVK LR LR
comp=Z,902nm,21.0s,MS5.2
DLBC Dease Lake 89.55 31 eP P 18 34 23.9 +0.2
ZRNK Zerenda 90.14 323 eP P 18 34 23.7 -2.8
ZRNK pmax pmax
comp=Z,33nm,1.1s,mb5.6
ZRNK Zerenda 90.14 323 eP P 18 34 23.6 -2.9
comp=Z,33nm,1.1s,mb5.6
K01A Sixes 90.21 47 ⇓P P 18 34 27.3 +0.4
baz=90
JCC Jacoby Creek 90.25 49 ⇑P P 18 34 27.8 +0.8
baz=90
O01C Eel River Cons 90.32 50 P P 18 34 28.2 +0.9
baz=90,SNR=11
M01C Crescent City 90.33 48 ⇑P P 18 34 28.1 +0.7
baz=90
KCPM Cahto Peak 90.44 50 eP P 18 34 27.9 0.0
INK Inuvik 90.45 21 P P 18 34 26.0 -2.0
INK Inuvik 90.45 21 eP P 18 34 26.1 -1.8
comp=Z,18µm,1.1s
KHMM Horse Mountain 90.48 49 eP P 18 34 29.7 +1.6
KIPM Iron Peak 90.53 50 eP P 18 34 28.6 +0.2
P01C Double 8 Ranch 90.60 51 ⇓P P 18 34 28.9 +0.3
baz=91,SNR=9.0
HOPS Hopland 90.74 51 eP P 18 34 30.0 +0.7
comp=Z,84nm,1.1s,mb6.0
HOPS LR LR
comp=Z,23µm,19.0s,MS6.6
HOPS Hopland 90.74 51 ⇑P P 18 34 29.5 +0.2
baz=91,SNR=5.5
L02A Cave Junction 90.75 48 ⇓P P 18 34 29.8 +0.4
baz=91,SNR=11
N02C Big Bar 90.80 49 ⇑P P 18 34 30.2 +0.6
baz=91,SNR=16
I02A Mapleton 90.84 46 ⇓P P 18 34 30.3 +0.5
baz=91,SNR=8.2
C03A Quillayute Air 90.88 42 ⇓P P 18 34 31.2 +1.3
baz=91
K02A Glendale 90.92 47 P P 18 34 30.5 +0.4
baz=91,SNR=13
J02A Umpqua 90.94 47 ⇑P P 18 34 30.6 +0.4
baz=91,SNR=11
NSHM Saint Helena R 91.04 52 eP P 18 34 30.5 -0.2
GASB Alder Springs 91.09 50 P P 18 34 32.1 +1.2
baz=91,SNR=21
O02C Red Bluff 91.11 50 ⇓P P 18 34 32.1 +1.1
baz=91,SNR=35
CVS Carmenet Viney 91.13 52 ⇓P P 18 34 31.5 +0.4
baz=91,SNR=9.0
JRSC Jasper Ridge 91.19 53 ⇓P P 18 34 30.9 -0.6
baz=91
M02C Callahan 91.21 49 ⇑P P 18 34 32.2 +0.8
baz=91,SNR=24
BNLO Ben Lomond (Sa 91.21 53 ⇓P P 18 34 31.8 +0.3
baz=91
MNRC McLaughlin Nat 91.21 51 ⇑P P 18 34 32.4 +0.9
baz=91,SNR=17
I03A Eugene 91.23 46 ⇓P P 18 34 32.2 +0.6
baz=91,SNR=5.1
HUMO Hull Mountain 91.29 47 eP P 18 34 32.0 +0.1
comp=Z,176nm,1.1s,mb6.3
HUMO LR LR
comp=Z,12µm,19.0s,MS6.4
HUMO Hull Mountain 91.29 47 ⇑P P 18 34 32.7 +0.9
baz=91,SNR=54
COR Corvallis 91.29 45 eP P 18 34 33.6 +1.7
COR MLR MLR
comp=Z,15µm,19.0s,MS6.5
H03A Soap Creek Ran 91.31 45 ⇓P P 18 34 32.5 +0.5
baz=91
WDC Whiskeytown Da 91.34 50 eP P 18 34 31.8 -0.3
WDC pmax pmax
comp=Z,86nm,1.3s,mb5.9
WDC MLR MLR
comp=Z,12µm,19.0s,MS6.4
WDC Whiskeytown Da 91.34 50 eP P 18 34 31.8 -0.3
comp=Z,86nm,1.3s,mb5.9
WDC LR LR
comp=Z,12µm,19.0s,MS6.4
WDC Whiskeytown Da 91.34 50 ⇓P P 18 34 32.7 +0.6
baz=91,SNR=24
YBH Yreka Blue Hor 91.36 48 eP P 18 34 32.4 +0.2
YBH pmax pmax
comp=Z,120nm,1.1s
YBH MLR MLR
comp=Z,12µm,20.0s
YBH Yreka Blue Hor 91.36 48 eP P 18 34 32.4 +0.3
comp=Z,120nm,1.1s,mb6.1
YBH LR LR
comp=Z,12µm,20.0s,MS6.3
YBH Yreka Blue Hor 91.36 48 P P 18 34 32.9 +0.7
baz=91,SNR=44
E03A Lebam 91.36 43 ⇑P P 18 34 32.4 +0.2
baz=91
J03A Ideyld Park 91.38 47 ⇑P P 18 34 32.4 +0.2
baz=91,SNR=14
Q03C Winters 91.52 51 ⇑P P 18 34 34.1 +1.2
baz=92,SNR=6.9
BDM Black Diamond 91.55 52 ⇓P P 18 34 33.7 +0.6
baz=92
WENL Wente Brothers 91.60 53 ⇑P P 18 34 34.3 +1.0
baz=92,SNR=7.0
B04A Port Angeles 91.60 42 ⇑P P 18 34 33.8 +0.5
baz=92
HAST UC Hastings Re 91.62 54 ⇓P P 18 34 33.9 +0.5
baz=92,SNR=7.8
O03C Acorn Hollow, 91.66 50 ⇑P P 18 34 33.5 -0.1
baz=92
SYO Syowa Base 91.70 200 i/P P 18 34 31.8 -2.0
SYO Syowa Base 91.70 200 i/pP pP 18 34 38.6 -7.0
SYO Syowa Base 91.70 200 eSH S 18 45 34.0 +2.5
PGC Sidney 91.72 41 eP P 18 34 32.6 -1.3
comp=Z,187nm,1.1s,mb6.3
M03C McCloud 91.74 49 ⇓P P 18 34 34.6 +0.6
baz=92,SNR=54
SAO San Andreas Ge 91.75 53 eP P 18 34 34.7 +0.7
SAO pmax pmax
comp=Z,38nm,1.1s,mb5.6
SAO MLR MLR
comp=Z,5µm,19.0s,MS6.0
SAO San Andreas Ge 91.75 53 eP P 18 34 34.7 +0.8
comp=Z,38nm,1.1s,mb5.6
SAO LR LR
comp=Z,5µm,19.0s,MS6.0
SUTB Sutter Butte 91.76 51 ⇑P P 18 34 34.0 -0.1
baz=92,SNR=13
I04A Tendick Farm, 91.83 46 ⇓P P 18 34 34.3 -0.1
baz=92,SNR=19
V03C Hunter Liggett 91.83 54 ⇑P P 18 34 35.7 +1.3
baz=92,SNR=13
HBO Huckleberry Mo 91.90 46 P P 18 34 35.5 +0.8
PACP Pacheco Peak 91.90 53 ⇓P P 18 34 35.3 +0.6
baz=92,SNR=18
C04A Brinnon 91.92 42 ⇓P P 18 34 34.7 -0.1
baz=92
SSOR Sweet Springs 91.92 45 P P 18 34 34.7 -0.1
G04A Mulino 91.95 45 ⇑P P 18 34 35.0 0.0
baz=92,SNR=12
IRO Indian Ridge 91.97 46 P P 18 34 34.9 -0.1
J04A Umpqua Nationa 91.98 47 ⇓P P 18 34 35.5 +0.4
baz=92,SNR=10
OHCM Honcut 92.01 51 eP P 18 34 34.8 -0.4
M04C Macdoel 92.01 48 P P 18 34 35.7 +0.5
baz=92,SNR=38
ORV Oroville 92.02 51 P P 18 34 35.3 +0.1
baz=92,SNR=68
L04A Klamath Falls 92.02 48 ⇓P P 18 34 35.7 +0.5
baz=92,SNR=20
Q04C Lincoln 92.03 51 ⇑P P 18 34 35.2 -0.1
baz=92,SNR=6.1
LRV Little Rabbit 92.05 54 eP P 18 34 34.3 -1.1
F04A Amboy 92.08 44 ⇓P P 18 34 35.8 +0.3
baz=92
V04C Ramage Ranch, 92.09 55 ⇓P P 18 34 36.4 +0.8
baz=92,SNR=6.9
H04A Detroit Lake 92.09 45 ⇑P P 18 34 35.0 -0.6
baz=92,SNR=10
K04A Chilguin 92.19 48 ⇓P P 18 34 36.3 +0.3
baz=92,SNR=5.8
HATC Hat Creek Radi 92.19 49 ⇓P P 18 34 36.2 +0.1
baz=92,SNR=16
U04C Hernandez Rese 92.23 54 ⇓P P 18 34 36.6 +0.4
baz=92,SNR=16
R04C Big Horse Ranc 92.31 52 ⇓P P 18 34 36.3 -0.3
baz=92
T05C Eagle Field, D 92.38 53 ⇓P P 18 34 36.9 0.0
baz=92
PKD Parkfield 92.39 54 ⇑P P 18 34 37.4 +0.5
baz=92,SNR=30
BKCOR Black Crater 92.40 46 P P 18 34 37.2 +0.2
O04C Chester 92.42 50 ⇓P P 18 34 37.5 +0.4
baz=92,SNR=28
M05C Lookout 92.48 49 ⇑P P 18 34 37.5 +0.1
baz=92,SNR=36
O05C Quincy 92.51 50 P P 18 34 37.4 -0.1
baz=92,SNR=46
D05A Emmclaw 92.52 43 ⇓P P 18 34 37.2 -0.3
baz=92,SNR=6.1
LAVA Lava Cap Winer 92.52 51 P P 18 34 37.4 -0.2
baz=92,SNR=102
B05A Bryant 92.56 42 ⇑P P 18 34 37.4 -0.3
baz=93
J05A Fort Rock 92.62 47 P P 18 34 38.1 +0.1
baz=93,SNR=65
PTRM Twissleman Ran 92.62 55 eP P 18 34 39.1 +1.0
A05A Maple Falls 92.65 41 ⇓P P 18 34 38.0 -0.2
baz=93
VFP Flag Point 92.67 45 P P 18 34 38.4 +0.1
P05C Yuba Gap, Truc 92.68 51 P P 18 34 38.6 +0.3
baz=93,SNR=83
I05A Bend 92.69 46 P P 18 34 38.8 +0.5
baz=93,SNR=19
S05C Merced 92.70 53 ⇓P P 18 34 38.6 +0.2
baz=93,SNR=10
ELFS Eagle Lake Fie 92.72 50 ⇑P P 18 34 38.6 +0.1
baz=93
CMB Columbia Colle 92.72 52 eP P 18 34 38.1 -0.4
CMB pmax pmax
comp=Z,102nm,1.1s,mb6.2
CMB MLR MLR
comp=Z,15µm,19.0s,MS6.5
CMB Columbia Colle 92.72 52 eP P 18 34 38.1 -0.4
comp=Z,102nm,1.1s,mb6.2
CMB LR LR
comp=Z,15µm,19.0s,MS6.5
CMB Columbia Colle 92.72 52 ⇓P P 18 34 38.7 +0.2
baz=93,SNR=92
F05A White Salmon 92.74 44 ⇓P P 18 34 38.5 -0.1
baz=93
SMMC Simmler 92.76 55 P P 18 34 40.1 +1.5
baz=93,SNR=17
G05A Wamic 92.77 45 ⇓P P 18 34 38.8 +0.1
baz=93,SNR=8.2
H05A Madras 92.77 46 P P 18 34 38.8 +0.1
baz=93,SNR=16
C05A Tolt Reservoir 92.77 43 ⇑P P 18 34 38.6 -0.1
baz=93
L05A Lakeview 92.79 48 ⇑P P 18 34 39.3 +0.5
baz=93,SNR=36
K05A Summer Lake 92.81 48 P P 18 34 39.5 +0.6
baz=93,SNR=48
PKM Peak Mountain 92.87 55 P P 18 34 40.3 +1.2
baz=93,SNR=38
V05C Elder Hill, 92.89 54 ⇑P P 18 34 39.6 +0.3
baz=93
SBC Santa Barbara 92.91 56 ⇑P P 18 34 40.5 +1.2
baz=93,SNR=5.6
BEKR Beckwourth 92.93 50 ⇓P P 18 34 39.7 +0.2
baz=93,SNR=44
BSC Santa Cruz Isl 92.93 56 ⇓P P 18 34 40.2 +0.7
baz=93,SNR=11
SNCC San Nicolas Is 92.95 57 P P 18 34 39.1 -0.4
comp=Z,0.4nm,1.1s
SNCC LR LR
comp=Z,9µm,19.0s,MS6.2
SNCC San Nicolas Is 92.95 57 ⇓P P 18 34 39.8 +0.2
baz=93
M06C Likely Place G 92.97 49 P P 18 34 39.7 +0.1
baz=93,SNR=17
B06A Marblemount 93.00 42 ⇓P P 18 34 39.8 0.0
baz=93
R05C Kirkwood Meado 93.03 52 P P 18 34 40.1 +0.2
baz=93,SNR=69
A06A Chilliwack 93.06 41 ⇑P P 18 34 39.3 -0.7
baz=93
S06C San Francisco 93.13 52 ⇓P P 18 34 40.7 +0.3
baz=93,SNR=155
E06A Yakima 93.14 44 P P 18 34 40.5 +0.2
baz=93,SNR=12
T06C Millerton Lake 93.16 53 ⇓P P 18 34 40.6 +0.1
baz=93,SNR=134
MOD Modoc 93.17 48 eP P 18 34 40.1 -0.5
comp=Z,76nm,1.1s,mb6.0
MOD LR LR
comp=Z,10µm,20.0s,MS6.2
MOD Modoc 93.17 48 P P 18 34 40.4 -0.1
baz=93,SNR=68
VIPM Ingram Point 93.19 46 P P 18 34 40.7 +0.1
F06A Goldendale 93.20 44 ⇑P P 18 34 40.8 +0.1
baz=93,SNR=9.4
G06A Carlson Farm, 93.25 45 ⇑P P 18 34 40.7 -0.2
baz=93,SNR=8.4
P06A Stead Airport, 93.26 51 ⇓P P 18 34 41.6 +0.6
baz=93,SNR=12
K06A Valley Falls 93.29 47 ⇓P P 18 34 41.1 0.0
baz=93,SNR=29
D06A Cle Elum 93.29 43 ⇑P P 18 34 41.0 -0.1
baz=93,SNR=9.1
WCN Washoe City 93.33 51 ⇑P P 18 34 42.0 +0.7
baz=93,SNR=89
O06A Flanigan 93.36 50 P P 18 34 41.5 0.0
baz=93,SNR=19
N06A Buffalo Meadow 93.41 50 P P 18 34 41.6 -0.1
baz=93,SNR=40
H06A Lindquist Farm 93.41 46 ⇓P P 18 34 41.3 -0.4
baz=93,SNR=42
BLG Laguna Peak 93.42 56 ⇓P P 18 34 42.1 +0.4
baz=93
I06A Prineville 93.43 46 P P 18 34 41.5 -0.2
baz=93,SNR=47
RCTC Rector, Farmer 93.47 54 ⇑P P 18 34 41.4 -0.5
baz=94,SNR=13
KCC Kaiser Creek 93.50 53 P P 18 34 42.2 +0.1
baz=94,SNR=130
R06C Coleville 93.50 52 P P 18 34 42.6 +0.5
baz=94,SNR=80
VES Vestal, Richgr 93.56 54 ⇓P P 18 34 42.2 -0.2
baz=94,SNR=33
PAHR Pah Rah Range 93.66 51 eP P 18 34 42.9 +0.1
comp=Z,128nm,1.1s,mb6.3
ARVC Arvin 93.70 55 ⇓P P 18 34 43.7 +0.7
baz=94,SNR=14
OSI Osito Adit 93.74 56 P P 18 34 44.2 +1.1
baz=94,SNR=13
SCI San Clemente I 93.75 57 ⇓P P 18 34 42.0 -1.2
baz=94
A07A Ashnola River, 93.77 41 ⇑P P 18 34 43.3 0.0
baz=94,SNR=24
R07C Lee Vining 93.78 52 ⇓P P 18 34 43.8 +0.4
baz=94,SNR=13
F07A Phinny Hill Vi 93.80 44 P P 18 34 43.6 +0.2
baz=94,SNR=14
C07A Waterville 93.87 43 P P 18 34 43.2 -0.6
baz=94,SNR=19
D07A Quincy 93.88 43 ⇑P P 18 34 43.8 0.0
baz=94
L07A Adell 93.89 48 P P 18 34 44.8 +0.9
baz=94,SNR=14
B07A Winthrop 93.90 42 P P 18 34 43.8 -0.1
baz=94,SNR=15
CIS Catalina Islan 93.90 57 ⇓P P 18 34 44.3 +0.4
baz=94,SNR=11
MLAC Mammoth Lakes 93.91 53 ⇓P P 18 34 44.7 +0.8
baz=94,SNR=17
E07A Sunnyside 93.91 44 ⇑P P 18 34 43.7 -0.3
baz=94,SNR=14
H07A Lands Inn, Kim 93.95 46 P P 18 34 44.1 -0.1
baz=94,SNR=44
I07A Izee 93.95 46 P P 18 34 43.9 -0.2
baz=94,SNR=42
M07A Soldier Meadow 93.97 49 ⇓P P 18 34 44.4 +0.2
baz=94,SNR=34
K07A Rock Creek Ran 94.02 48 P P 18 34 44.9 +0.5
baz=94,SNR=35
P07A Fallon 94.03 51 ⇓P P 18 34 44.8 +0.3
baz=94
J07A Hines 94.03 47 ⇑P P 18 34 44.5 0.0
baz=94,SNR=19
DECC Green Verdugo 94.03 56 ⇓P P 18 34 45.2 +0.7
baz=94,SNR=19
ISA Isabella 94.03 55 P P 18 34 44.2 -0.3
ISA Isabella 94.03 55 eP P 18 34 44.5 -0.1
comp=Z,0.2nm,1.1s
ISA LR LR
comp=Z,1µm,20.0s
ISA Isabella 94.03 55 ⇑P P 18 34 44.7 +0.2
baz=94,SNR=79
Q07A Schurz 94.04 51 ⇓P P 18 34 45.2 +0.7
baz=94,SNR=16
N07B Gerlach 94.06 50 ⇑P P 18 34 45.1 +0.4
baz=94,SNR=30
O07A Toulon 94.09 50 P P 18 34 44.9 +0.1
baz=94,SNR=55
MTUM Tungsten Hills 94.10 53 eP P 18 34 45.3 +0.4
HAWA Hanford 94.12 44 P P 18 34 44.9 0.0
comp=Z,86nm,1.3s,mb6.0
HAWA LR LR
comp=Z,8µm,20.0s,MS6.2
WBK Wadi Bani Khal 94.24 292 ⇑P P 18 34 46.3 +0.9
SNR=11
TIN Timemaha 94.34 53 ⇓P P 18 34 46.4 +0.4
baz=94,SNR=8.3
EDW2 Edwards Air Fo 94.36 56 P P 18 34 46.7 +0.6
baz=94,SNR=84
NVAR Mina Array Bea 94.39 52 P P 18 34 46.4 +0.3
comp=Z,127nm,1.0s,mb6.3,baz=250,slow=3.2,SNR=232
NVAR PP PP 18 38 33.6 0.0
comp=Z,25nm,1.1s,baz=266,slow=12,SNR=6.9
NVAR PKPPKP 18 59 57.2
comp=Z,0.3nm,0.5s,baz=360,slow=5.1,SNR=3.8
NVAR Mina Array Bea 94.39 52 P P 18 34 46.4 +0.3
NVAR PP PP 18 38 33.6 0.0
NVAR P'P' 18 59 57.2
CWC Cottonwood Cre 94.41 54 ⇑P P 18 34 46.8 +0.5
baz=94,SNR=12
S08C White Mtn Res 94.42 53 P P 18 34 47.1 +0.8
baz=94,SNR=97
G08A Pilot Rock 94.43 45 ⇑P P 18 34 46.1 -0.3
baz=94,SNR=41
WVOR Wild Horse Val 94.45 48 eP P 18 34 45.3 -1.1
WVOR pmax pmax
comp=Z,63nm,1.1s,mb6.0
WVOR MLR MLR
comp=Z,14µm,19.0s,MS6.5
WVOR Wild Horse Val 94.45 48 eP P 18 34 45.3 -1.1
comp=Z,63nm,1.1s,mb6.0
WVOR LR LR
comp=Z,14µm,19.0s,MS6.5
E08A Elder Farm, El 94.45 44 ⇓P P 18 34 46.5 +0.1
baz=94,SNR=11
A08A Turner Farm, O 94.50 41 ⇓P P 18 34 46.4 -0.3
baz=94,SNR=26
C08A Higginbotham F 94.56 43 ⇑P P 18 34 46.7 -0.3
baz=94
M08A Happy Creek Ra 94.56 49 ⇑P P 18 34 47.5 +0.5
baz=95,SNR=17
H08A Prairie City 94.58 46 P P 18 34 47.0 0.0
baz=95,SNR=17
K08A Mann Creek Ran 94.58 48 ⇑P P 18 34 47.0 -0.1
baz=95,SNR=6.9
BFSC Mount Baldy St 94.59 56 P P 18 34 47.2 +0.2
baz=95,SNR=29
I08A Drewsey 94.61 46 ⇓P P 18 34 46.9 -0.3
baz=95,SNR=10.0
J08A Circle Bar Ran 94.63 47 ⇓P P 18 34 47.2 -0.1
baz=95,SNR=27
L08A Fields 94.64 48 ⇑P P 18 34 47.4 +0.1
baz=95,SNR=34
O08A Rochester Mine 94.65 50 ⇑P P 18 34 47.3 -0.1
baz=95
LRMC Laurel Mountai 94.66 55 P P 18 34 48.1 +0.7
baz=95,SNR=138
N08A GE Springer Mi 94.70 50 ⇑P P 18 34 48.1 +0.5
baz=95,SNR=44
Q08A Gabbs 94.71 52 P P 18 34 47.8 +0.1
baz=95,SNR=122
OD2 Odessa Site #2 94.76 43 P P 18 34 47.6 -0.3
DAC Darwin (Calif) 94.79 54 eP P 18 34 48.2 +0.2
DAC pmax pmax
comp=Z,254nm,1.1s,mb6.6
DAC MLR MLR
comp=Z,6µm,20.0s,MS6.0
DAC Darwin (Calif) 94.79 54 eP P 18 34 48.2 +0.2
comp=Z,254nm,1.1s,mb6.6
DAC LR LR
comp=Z,6µm,20.0s,MS6.0
MPMC Manual Prospec 94.86 54 P P 18 34 48.9 +0.6
baz=95,SNR=122
MURC Murrieta 94.92 57 ⇑P P 18 34 49.0 +0.4
baz=95,SNR=12
109C Camp Elliot, M 94.95 58 ⇓P P 18 34 49.3 +0.6
baz=95,SNR=13
A09A Danville 94.95 41 ⇑P P 18 34 48.5 -0.2
baz=95,SNR=26
MSEY Mahe Island 94.97 265 eP P 18 34 49.1 +0.3
comp=Z,20nm,1.0s,mb5.5
MSEY LR LR

comp=Z,547nm,19.0s,MS5.0
D09A Jones Farm, Ri 95.01 43 ⇓P **P 18 34 48.9 -0.1**
baz=95
GRAC Grapevine Rang 95.02 53 ⇑P **P 18 34 49.1 +0.1**
baz=95,SNR=21
C09A Chrisman Ranch 95.08 43 P **P 18 34 49.0 -0.3**
baz=95,SNR=6.4
E09A Wood Farm, Sta 95.08 44 ⇓P **P 18 34 49.3 -0.1**
baz=95,SNR=11
SMDO Samad 95.13 293 ⇓P **P 18 34 50.2 +0.7**
SNR=7.2
L09A Wilkinson Ranc 95.14 48 ⇓P **P 18 34 49.5 -0.1**
baz=95
K09A Rome 95.14 48 P **P 18 34 49.7 +0.1**
baz=95,SNR=14
J09A Fry Pan Ranch, 95.16 47 ⇓P **P 18 34 50.0 +0.3**
baz=95,SNR=34
N09A Rock Creek Ran 95.17 50 ⇑P **P 18 34 49.8 0.0**
baz=95
RRX Edison Barstow 95.18 56 ⇓P **P 18 34 49.8 0.0**
baz=95,SNR=7.3
F09A S2 Ranch, Elgi 95.20 45 ⇓P **P 18 34 49.7 -0.2**
baz=95,SNR=6.3
BBRC Big Bear Sol-O 95.20 56 ⇑P **P 18 34 50.0 +0.2**
baz=95
B09A Rice 95.20 42 P **P 18 34 49.8 -0.1**
baz=95,SNR=17
TPH Tonopah 95.22 52 *e*P **P 18 34 49.3 -0.6**
TPH pmax pmax
comp=Z,144nm,1.1s,mb6.3
TPH MLR MLR
comp=Z,10μm,19.0s,MS6.3
TPH Tonopah 95.22 52 *e*P **P 18 34 49.3 -0.6**
comp=Z,144nm,1.1s,mb6.3
TPH LR LR
comp=Z,10μm,19.0s,MS6.3
M09A Marrel Ranch, 95.26 49 ⇑P **P 18 34 50.3 +0.2**
baz=95
Q09A Carvers 95.30 52 ⇓P **P 18 34 50.3 0.0**
baz=95,SNR=26
H09A Durkee 95.31 46 ⇑P **P 18 34 50.4 0.0**
baz=95,SNR=13
R09A Tonopah 95.34 52 P **P 18 34 50.7 +0.1**
baz=95,SNR=117
GSC Goldstone 95.36 55 *e*P **P 18 34 51.1 +0.5**
GSC Goldstone 95.36 55 ⇓P **P 18 34 50.9 +0.3**
baz=95,SNR=67
BMN Battle Mountai 95.37 50 *e*P **P 18 34 51.0 +0.4**
BMN pmax pmax
comp=Z,47nm,1.1s,mb5.8
BMN MLR MLR
comp=Z,12μm,19.0s,MS6.4
BMN Battle Mountai 95.37 50 *e*P **P 18 34 51.0 +0.4**
comp=Z,47nm,1.1s,mb5.8
BMN LR LR
comp=Z,12μm,19.0s,MS6.4
P09A Austin 95.38 51 ⇑P **P 18 34 50.8 +0.2**
baz=95,SNR=5.2
O09A Fish Creek Ran 95.38 50 P **P 18 34 51.0 +0.3**
baz=95,SNR=40
SVE Sverdlovsk 95.39 326 *e*P **P 18 34 48.6 -2.2**
SVE *e* 18 38 40.0
SVE *e*S SKSac 18 45 20.0 -3.7
SVE pmax pmax
comp=Z,175nm,2.7s,mb6.0
SVE MLR MLR
comp=E,2μm,19.0s
SVE MLR MLR
comp=Z,8μm,19.0s,MS6.2
FURC Furnace Creek, 95.40 54 ⇑P **P 18 34 50.9 +0.1**
baz=95,SNR=27
MONP Monument Peak 95.52 58 ⇑P **P 18 34 51.9 +0.6**
baz=96,SNR=34
PFO Pinyon Flat Ob 95.54 57 P **P 18 34 51.7 +0.3**
comp=Z,449nm,1.0s,mb6.8,SNR=21
PFO Pinyon Flat Ob 95.54 57 LR LR 19 15 57.5
comp=Z,6μm,18.1s,MS6.1,baz=279,slow=34
PFO Pinyon Flat Ob 95.54 57 *e*P **P 18 34 51.5 +0.1**
PFO pmax pmax
comp=Z,80nm,1.0s,mb6.1
PFO MLR MLR
comp=Z,1μm,19.0s,MS5.5
PFO Pinyon Flat Ob 95.54 57 *e*P **P 18 34 51.5 +0.1**
comp=Z,80nm,1.0s,mb6.1
PFO LR LR
comp=Z,1μm,19.0s,MS5.5
PFO Pinyon Flat Ob 95.54 57 ⇑P **P 18 34 52.0 +0.6**
baz=96,SNR=32
BMO Blue Mountains 95.57 46 *e*P **P 18 34 50.7 -0.9**
BMO pmax pmax
comp=Z,54nm,1.2s,mb5.8
BMO MLR MLR
comp=Z,10μm,20.0s,MS6.3
BMO Blue Mountains 95.57 46 *e*P **P 18 34 50.7 -0.9**
comp=Z,54nm,1.2s,mb5.9
BMO LR LR
comp=Z,10μm,20.0s,MS6.3
A10A Northport 95.62 41 ⇑P **P 18 34 51.8 0.0**
baz=96
F10A Beach Ranch, E 95.69 44 P **P 18 34 51.3 -0.8**
baz=96,SNR=22
RPN Rapa Nui 95.72 118 PFAKE 18 35 00.0 +7.8
RPN LR LR
comp=Z,1μm,22.0s,MS5.3
HEC Hector,Ludlow 95.72 56 ⇓P **P 18 34 52.4 +0.1**
baz=96,SNR=13
DVTC Desert V Tower 95.78 58 ⇑P **P 18 34 52.5 0.0**
baz=96,SNR=13
E10A Myers Farm, Un 95.80 44 ⇓P **P 18 34 51.9 -0.7**
baz=96
B10A Chitwood Farm, 95.81 42 ⇓P **P 18 34 52.3 -0.3**
baz=96,SNR=6.2
U10A Ash Meadows, A 95.82 54 ⇑P **P 18 34 53.3 +0.6**
baz=96,SNR=21
SHOC Shoshone 95.83 55 ⇑P **P 18 34 53.0 +0.3**
baz=96,SNR=16
HOQ Hoqain 95.84 293 ⇑P **P 18 34 53.2 +0.4**
SNR=10
NEW Newport 95.88 42 *e*P **P 18 34 51.5 -1.5**
NEW pmax pmax
comp=Z,77nm,1.1s
NEW MLR MLR
comp=Z,11μm,19.0s
NEW Newport 95.88 42 *e*P **P 18 34 51.5 -1.4**
comp=Z,77nm,1.1s,mb6.0
NEW LR LR
comp=Z,11μm,19.0s,MS6.4
BSY Bisya 95.88 292 ⇑P **P 18 34 53.2 +0.2**
SNR=8.6
P10A Eureka 95.90 51 ⇓P **P 18 34 53.2 +0.1**
baz=96,SNR=6.6
N10A Dunphy 95.93 50 ⇓P **P 18 34 53.6 +0.4**
baz=96
BELC Belle Mtn. 95.94 57 ⇑P **P 18 34 53.5 +0.2**
baz=96,SNR=48
M10A I.L. Ranch, Tu 95.95 49 P **P 18 34 53.8 +0.5**
baz=96,SNR=7.4
SWSC Sam W. Stewart 96.05 58 ⇓P **P 18 34 54.3 +0.6**
baz=96,SNR=12
ABKT Ailbek 96.08 307 P **P 18 34 53.4 -0.5**
comp=Z,323nm,1.1s,mb6.7,SNR=16
TUQ Turquoise Mtn. 96.09 55 ⇓P **P 18 34 54.5 +0.6**
baz=96,SNR=49
BC3 Big Chuckw Mtn 96.38 57 ⇓P **P 18 34 56.0 +0.8**
baz=96,SNR=16
B11A Sandpoint 96.39 42 ⇑P **P 18 34 55.4 +0.1**
baz=96,SNR=12
A11A Hall Mountain, 96.41 41 ⇓P **P 18 34 55.8 +0.5**
baz=96,SNR=35
F11A Grangeville 96.43 45 ⇑P **P 18 34 54.6 -0.8**
baz=96,SNR=20
P11A Circle Ranch, 96.44 51 ⇓P **P 18 34 56.0 +0.5**
baz=96,SNR=15
H11A Donnelly 96.48 46 P **P 18 34 55.4 -0.3**
baz=96,SNR=22
Q11A Duckwater 96.49 52 ⇓P **P 18 34 56.1 +0.3**
baz=96,SNR=50
M11A Holland Ranch, 96.50 49 P **P 18 34 56.5 +0.7**
baz=96,SNR=21
N11A Elko Archery C 96.52 50 ⇑P **P 18 34 56.4 +0.6**
baz=96
TRCR Troy Canyon 96.52 52 *e*P **P 18 34 56.5 +0.6**
ARU Arti 96.52 326 P **P 18 34 53.2 -2.7**
comp=Z,127nm,1.2s,mb6.2,SNR=7.5
ARU Arti 96.52 326 ⇑ *i*P **P 18 34 53.2 -2.7**
ARU *e* 18 38 46.4
ARU *e*S SKSac 18 45 26.9 -2.8
ARU *e*PS PS 18 47 36.4 -2.1
ARU pmax pmax
comp=Z,31nm,1.4s,mb5.5
ARU Arti 96.52 326 *e*P **P 18 34 52.9 -3.0**
comp=Z,45nm,1.4s,mb5.7
ARU LR LR
comp=Z,2μm,21.0s,MS5.7
U11A Corn Creek 96.58 54 ⇑P **P 18 34 57.0 +0.8**
baz=97,SNR=16
IRM Iron Mountain 96.66 56 P **P 18 34 57.2 +0.7**
baz=97,SNR=35
GLA Glamis 96.87 58 *e*P **P 18 34 58.8 +1.3**
GLA Glamis 96.87 58 ⇓P **P 18 34 58.5 +1.0**
baz=97,SNR=13
A12A Yaak River Ran 96.88 42 P **P 18 34 57.8 +0.3**
baz=97,SNR=15
ELK Elko 96.89 50 *e*P **P 18 34 57.5 -0.1**
ELK pmax pmax
comp=Z,50nm,1.1s
ELK MLR MLR
comp=Z,12μm,19.0s
ELK Elko 96.89 50 *e*P **P 18 34 57.5 -0.1**
comp=Z,50nm,1.1s,mb5.9
ELK LR LR
comp=Z,12μm,19.0s,MS6.4
B12A Libby 96.91 42 ⇓P **P 18 34 57.9 +0.3**
baz=97
W12A Cal Nev Ari 96.94 55 ⇑P **P 18 34 58.2 +0.4**
baz=97,SNR=8.2
V12A Nelson 96.98 55 ⇑P **P 18 34 58.5 +0.6**
baz=97,SNR=47
N12A Clover Valley, 97.05 50 P **P 18 34 58.8 +0.6**
baz=97,SNR=88
F12A Elk City 97.06 45 ⇓P **P 18 34 58.5 +0.2**
baz=97
ASHO Ashiyiah 97.06 294 ⇑P **P 18 34 58.5 +0.2**
SNR=8.1
P12A McGill 97.10 51 P **P 18 34 59.3 +0.8**
baz=97,SNR=75
Y12C Blythe 97.16 57 ⇑P **P 18 34 59.4 +0.7**
baz=97,SNR=13
M12A Wells 97.16 49 ⇓P **P 18 34 58.9 +0.1**
baz=97,SNR=46
U12A Valley of Fire 97.26 54 ⇓P **P 18 34 59.8 +0.5**
baz=97,SNR=24
SOKR Solikamsk 97.49 329 ⇓ *i*P **P 18 34 58.8 -1.5**
SOKR pmax pmax
comp=Z,70nm,1.5s,mb5.9
PDMCI Parker Dam,Lak 97.50 56 ⇓P **P 18 35 00.5 +0.2**
baz=98,SNR=18
YKA Yellowknife Ar 97.55 28 P **P 18 34 59.4 -1.1**
comp=Z,98nm,0.8s,mb6.4,baz=270,slow=4.6,SNR=73
YKA PP PP 18 38 55.5 -2.6
comp=Z,5.4nm,1.0s,baz=286,slow=6.8,SNR=2.7
YKA PKiKP PKiKP 18 39 33.8 -1.1
comp=Z,3.1nm,0.8s,baz=284,slow=1.5,SNR=5.6
YKA PKKPbc PKKPbc 18 51 35.7 -1.2
comp=Z,4.4nm,0.8s,baz=86,slow=2.8,SNR=6.6
YKA LR LR 19 12 58.2
comp=Z,6μm,21.7s,MS6.1,baz=230,slow=32
YKA Yellowknife Ar 97.55 28 P **P 18 34 59.4 -1.1**
YKA PP PP 18 38 55.5 -2.6
C13A Hot Springs 97.57 43 ⇑P **P 18 35 00.7 0.0**
baz=98
HLID Hailey 97.60 47 *e*P **P 18 35 00.2 -0.5**
comp=Z,24nm,0.9s,mb5.7
HLID LR LR
comp=Z,4μm,19.0s,MS5.9
HLID Hailey 97.60 47 ⇑P **P 18 35 00.9 +0.2**
baz=98
D13A Huson 97.64 43 ⇑P **P 18 35 00.4 -0.6**
baz=98
B13A Whitefish 97.65 42 P **P 18 35 00.6 -0.4**
baz=98,SNR=33
N13A Wendover, West 97.68 50 ⇓P **P 18 35 00.8 -0.3**
baz=98,SNR=10
M13A Montello 97.72 49 ⇓P **P 18 35 00.9 -0.4**
baz=98,SNR=27
Y13A Salome 97.74 57 ⇑P **P 18 35 01.5 +0.2**
baz=98,SNR=24
W13A Hualapai Mount 97.74 56 ⇓P **P 18 35 01.9 +0.5**
baz=98,SNR=62
X13A Yucca 97.77 56 ⇓P **P 18 35 01.7 +0.2**
baz=98,SNR=29
E13A Victor 97.81 44 ⇑P **P 18 35 01.4 -0.3**
baz=98
MSO Missoula 97.99 44 PFAKE 18 35 10.0 +7.5
MSO LR LR
comp=Z,5μm,21.0s,MS6.0
WALA Waterton Lakes 98.03 41 *e*P **P 18 35 02.1 -0.5**
comp=Z,53nm,1.0s,mb6.0
ARUT Antelope Range 98.19 53 *e*P **P 18 35 04.0 +0.6**
CCUT Cedar City 98.24 53 *e*P **P 18 35 04.5 +0.9**
D14A Greenough 98.29 43 ⇓P **P 18 35 04.1 +0.2**
baz=98,SNR=7.6
E14A Clinton 98.29 44 ⇑P **P 18 35 03.4 -0.5**
baz=98
EDM Edmonton 98.36 37 *e*P **P 18 35 01.3 -2.9**
EDM Edmonton 98.36 37 *e*P **P 18 35 01.2 -3.0**
F14A Wisdom 98.38 45 ⇓P **P 18 35 04.2 0.0**
baz=98
W14A Seligman 98.40 55 ⇓P **P 18 35 05.4 +1.1**
baz=98,SNR=16
Y14A Wickenburg 98.43 57 ⇑P **P 18 35 05.8 +1.3**
baz=98,SNR=17
NVL N'lazarevskaya 98.45 193 *c* *i*P **P 18 35 02.8 -1.8**
NVL *i* 18 39 05.9
NVL *i*S SKSac 18 45 37.0 -2.5
NVL *i* 18 46 25.2
NVL *i*PS PS 18 48 05.9 +6.4
NVL *i* 18 48 49.4
NVL *e*SS SS 18 53 13.2 -1.9
NVL pmax pmax
comp=Z,71nm,1.6s,mb6.0
Z14A Wintersburg 98.46 57 ⇑P **P 18 35 05.7 +1.1**
baz=98,SNR=19
CHMT Chamberlain Mo 98.46 44 *e*P **P 18 35 03.6 -1.0**
X14A Yava 98.54 56 ⇓P **P 18 35 06.0 +1.1**
baz=98,SNR=18
BGU Big Grassy Mou 98.57 50 *e*P **P 18 35 03.4 -1.7**
DUG Dugway 98.73 50 P **P 18 35 04.7 -1.1**
DUG pmax pmax
comp=Z,30nm,1.1s,mb5.7
DUG MLR MLR
comp=Z,8μm,19.0s,MS6.2
DUG Dugway 98.73 50 P **P 18 35 04.7 -1.1**
comp=Z,30nm,1.1s,mb5.7
DUG LR LR
comp=Z,8μm,19.0s,MS6.2
DUG Dugway 98.73 50 ⇑P **P 18 35 05.9 +0.1**
baz=99
MCMT McKenzie Canyo 98.74 46 *e*P **P 18 35 05.7 -0.2**
ORR Orenburg 98.75 321 *e*P **P 18 35 02.5 -3.4**
ORR pmax pmax
comp=Z,70nm,2.2s,mb5.8
ORR MLR MLR
comp=Z,3μm,24.0s,MS5.8
HVU Hansel Valley 98.78 49 *e*P **P 18 35 05.9 -0.1**
HVU pmax pmax
comp=Z,72nm,1.1s,mb6.1
HVU Hansel Valley 98.78 49 *e*P **P 18 35 05.9 -0.1**
comp=Z,72nm,1.1s,mb6.1
E15A Deer Lodge 98.88 44 P **P 18 35 06.2 -0.3**
baz=99,SNR=33
DLMT Dillon 98.92 45 P **P 18 35 04.4 -2.3**
comp=Z,43nm,1.0s,mb5.9
D15A Lincoln 98.96 43 ⇓P **P 18 35 06.5 -0.4**
baz=99
F15A Butte 98.99 45 ⇓P **P 18 35 07.7 +0.7**
baz=99,SNR=21
SPUT South Promonto 99.02 49 *e*P **P 18 35 05.1 -2.0**
115A Sonoran Desert 99.04 58 ⇓P **P 18 35 08.4 +1.2**
baz=99,SNR=8.3
W15A Williams 99.07 55 ⇓P **P 18 35 08.5 +1.2**
baz=99,SNR=14
X15A Humboldt 99.08 56 ⇓P **P 18 35 08.9 +1.5**
baz=99,SNR=22
MVU Marysvale 99.17 52 PFAKE 18 35 20.0 +12
MVU LR LR
comp=Z,10μm,19.0s,MS6.3
ABTO Aybut 99.17 287 ⇑P **P 18 35 09.0 +1.2**
SNR=7.1
MSU Marysvale 99.20 52 *e*P **P 18 35 08.5 +0.6**
NOQ North Oquirrh 99.26 50 *e*P **P 18 35 08.0 -0.2**
comp=Z,22nm,1.0s,mb5.6
NLU North Lily Min 99.29 51 *e*P **P 18 35 08.4 +0.1**
116A Eloy 99.48 58 ⇓P **P 18 35 10.4 +1.3**
baz=100
CTU Camp Tracy 99.54 50 *e*P **P 18 35 09.1 -0.3**
comp=Z,18nm,1.0s,mb5.5
MPU Maple Canyon 99.63 51 *e*Pdif Pdif 18 35 09.6 -0.3
comp=Z,16nm,1.0s
MPU LR LR
comp=Z,13μm,19.0s,MS6.5
HWUT Hardware Ranch 99.68 49 *e*Pdif Pdif 18 35 09.3 -0.8
comp=Z,23nm,1.1s
HWUT LR LR
comp=Z,5μm,21.0s,MS6.0
QLMT Earthquake Lak 99.75 46 *e*Pdif Pdif 18 35 10.6 +0.2
JLU Jordanelle 99.77 50 *e*Pdif Pdif 18 35 10.6 +0.1
WUAZ Wupatki 99.81 55 *e*Pdif Pdif 18 35 11.9 +1.3
comp=Z,43nm,1.1s
WUAZ LR LR
comp=Z,3μm,19.0s,MS5.8
WUAZ Wupatki 99.81 55 ⇓P Pdif 18 35 11.7 +1.0
baz=100
RRI2 Red Ridge 99.85 47 *e*Pdif Pdif 18 35 10.8 0.0
comp=Z,50nm,1.0s
DAU Daniels Canyon 99.92 50 *e*P Pdif 18 35 10.9 -0.2
DCID1 Drake Creek 99.94 47 *e*Pdif Pdif 18 35 11.2 -0.1
TMUT Trail Mountain 99.96 51 *e*Pdif Pdif 18 35 11.7 +0.4
AHID Auburn Hatcher 100.02 48 *e*Pdif Pdif 18 35 10.6 -0.9
comp=Z,30nm,1.1s
AHID LR LR
comp=Z,12μm,19.0s,MS6.4
YMR Madison River 100.08 46 *e*Pdif Pdif 18 35 12.4 +0.6
comp=Z,42nm,1.0s
YMR LR LR
comp=Z,15μm,20.0s,MS6.5
IMW Indian Meadow 100.12 47 *e*Pdif Pdif 18 35 12.8 +0.8
comp=Z,25nm,1.0s
YFT Old Faithful 100.18 46 *e*Pdif Pdif 18 35 13.8 +1.5
REDW Red Top Meadow 100.19 47 *e*Pdif Pdif 18 35 12.1 -0.3
comp=Z,51nm,1.3s
TUC Tucson 100.25 58 *e*P Pdif 18 35 14.1 +1.5
TUC pmax pmax
comp=Z,17nm,1.2s
TUC MLR MLR
comp=Z,8μm,19.0s,MS6.2
TUC Tucson 100.25 58 *e*Pdif Pdif 18 35 14.1 +1.5
comp=Z,17nm,1.2s
TUC LR LR
comp=Z,8μm,19.0s,MS6.2
FLWY Flagg Ranch 100.29 46 *e*Pdif Pdif 18 35 13.0 +0.2
comp=Z,33nm,1.0s
YNR Norris Junctio 100.29 46 *e*Pdif Pdif 18 35 14.6 +1.8
SNAA Sanae 100.34 188 PKKPbc PKKPbc 18 51 25.8 -3.3
comp=Z,7.6nm,1.1s,baz=327,slow=2.3,SNR=16
SNAA Sanae 100.34 188 *e*Pdiff Pdif 18 35 10.8 -2.2
SNAA *e* 18 35 15.1
SNAA *e* 18 35 22.7
SNAA *e* 18 35 30.3
SNAA Sanae 100.34 188 *e* PKKPbc 18 51 27.7 -1.4
SNAA *e* 18 51 32.9
SNAA Sanae 100.34 188 *e*Pdif Pdif 18 35 10.9 -2.1
comp=Z,28nm,1.3s
SRU San Rafael 100.49 51 *e*P Pdif 18 35 13.2 -0.5
SRU pmax pmax
comp=Z,24nm,0.9s
SRU San Rafael 100.49 51 *e*Pdif Pdif 18 35 13.2 -0.5
comp=Z,24nm,0.9s
EGMT Eagleton 100.81 42 *e*Pdif Pdif 18 35 14.8 -0.3
comp=Z,40nm,1.0s
EGMT LR LR
comp=Z,6μm,22.0s,MS6.1
EGMT Eagleton 100.81 42 ⇓P Pdif 18 35 15.1 0.0
baz=101
BW06 Boulder Array 101.15 48 PFAKE 18 35 30.0 +13
BW06 LR LR
comp=Z,12μm,19.0s,MS6.4
PDAR Pinedale Array 101.15 48 P Pdif 18 35 15.4 -1.2
comp=Z,28nm,1.0s,baz=253,slow=1.5,SNR=87
PDAR PP PP 18 39 24.2 -1.3
comp=Z,30nm,1.1s,baz=266,slow=5.9,SNR=14
VNA3 Neumayer Olymp 101.59 186 *e*Pdiff Pdif 18 35 16.4 -2.2
VNA3 *e* 18 35 21.9
VNA3 *e* 18 35 34.7
MVCO Mesa Verde 102.12 53 *e*Pdif Pdif 18 35 21.8 +0.9
comp=Z,36nm,1.1s
MVCO Mesa Verde 102.12 53 ⇑P Pdif 18 35 22.1 +1.2
baz=102
RES Resolute Bay 102.26 14 *e*P Pdif 18 35 20.0 -1.5
RES pmax pmax
comp=Z,1μm,1.1s
RES Resolute Bay 102.26 14 *e*Pdif Pdif 18 35 19.9 -1.6
comp=Z,1μm,1.1s
RWWY Rawlins 102.94 49 *e*Pdif Pdif 18 35 22.7 -1.8
comp=Z,36nm,1.0s
SMCO Snowmass 103.25 51 *e*Pdif Pdif 18 35 26.2 +0.3
comp=Z,40nm,1.0s
LAO LASA Array 103.29 44 *e*Pdif Pdif 18 35 25.3 -0.8
comp=Z,34nm,0.9s
LAO LR LR
comp=Z,8μm,20.0s,MS6.2
Y22C IRIS PASSCAL I 103.48 57 ⇑P Pdif 18 35 28.6 +1.7
baz=104
ANMO Albuquerque 103.83 56 *e*P Pdif 18 35 29.6 +1.1
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO MLR MLR
comp=Z,3μm,19.0s
ANMO Albuquerque 103.83 56 *e*Pdif Pdif 18 35 29.6 +1.0
comp=Z,12nm,1.0s
ANMO LR LR
comp=Z,3μm,19.0s,MS5.8
MAK Makhachkala 104.12 313 *i*P Pdif 18 35 27.7 -2.1
MAK *i* 18 39 45.4
MAK *e*PPP 18 42 06.1
MAK *e*S SKSac 18 46 05.9 -0.9
MAK pmax pmax
comp=Z,126nm,1.7s
DGMT Dagmar 104.47 42 Pdif Pdif 18 35 30.8 -0.6
comp=Z,235nm,1.3s
DGMT LR LR
comp=Z,7μm,19.0s,MS6.2
SDCO Great Sand Dun 104.48 53 PFAKE 18 35 40.0 +8.6
SDCO LR LR
comp=Z,9μm,20.0s,MS6.3
PMSA Palmer Station 104.53 165 PFAKE 18 35 40.0 +8.4
PMSA LR LR
comp=Z,3μm,19.0s,MS5.9
PECR Pechory 104.55 327 *e*P Pdif 18 35 28.7 -3.0
KBS Kingsbay 104.57 352 *e* PKiKP 18 39 45.9 -1.7
KBS AMS AMS 19 25 53.2
comp=Z,993nm,20.4s,MS5.3
KBS Kingsbay 104.57 352 PFAKE 18 35 40.0 +8.2
KBS LR LR
comp=Z,2μm,20.0s,MS5.7
MNTX Cornudas Mount 104.84 59 *e*Pdif Pdif 18 35 35.3 +2.2
comp=Z,7.5nm,1.0s
MNTX LR LR
comp=Z,9μm,19.0s,MS6.3
RSSD Black Hills 105.07 46 *e*P Pdif 18 35 32.4 -1.6
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD MLR MLR
comp=Z,7μm,19.0s,MS6.2
RSSD Black Hills 105.07 46 *e*Pdif Pdif 18 35 32.4 -1.7
comp=Z,9.9nm,0.8s
RSSD LR LR
comp=Z,7μm,19.0s,MS6.2
APA Apatity 106.07 339 ⇑ *e*P Pdif 18 35 37.6 -0.9
APA pmax pmax
comp=Z,30nm,1.1s
LTX Lajitas 106.40 61 *e*PKiKP PKiKP 18 39 50.9 0.0
LTX LR LR
comp=Z,9μm,19.0s,MS6.3
TXAR Lajitas Array 106.40 61 Pdiff Pdif 18 35 41.1 +1.1
comp=Z,3.2nm,1.2s,baz=235,slow=4.4,SNR=8.7
TXAR PKiKP PKiKP 18 39 51.3 +0.3
comp=Z,5.2nm,1.0s,baz=217,slow=1.3,SNR=11
TXAR PP PP 18 40 05.2 +0.5
comp=Z,5.2nm,1.0s,baz=260,slow=5.4,SNR=7.1
TXAR PKKPbc PKKPbc 18 51 10.9 -0.2
comp=Z,2.2nm,0.8s,baz=107,slow=4.0,SNR=4.5
TXAR PKKPab PKKPab 18 51 29.6 +2.5
comp=Z,2.7nm,0.8s,baz=111,slow=6.9,SNR=6.9
TXAR PKPPKP 18 59 37.4
comp=Z,0.5nm,0.9s,baz=349,slow=2.0,SNR=4.3
TXAR Lajitas Array 106.40 61 P Pdif 18 35 41.1 +1.2
TXAR 18 40 05.2
BJO Bjornoya 106.41 348 *e* PKiKP 18 39 59.1 +8.1
BJO AMS AMS 19 27 21.1
comp=Z,3μm,18.7s,MS5.8

GNI	**Garni**	**106.44**	**310**	P	Pdif	18 35 50.1	+10		
GNI	**Garni**	**106.44**	**310**	PFAKE		18 40 00.0	+9.0		
GNI				LR	LR				
	comp=Z,2µm,22.0s,MS5.7								
ZEI	**Tsey**	**106.77**	**313**	*e*P	Pdif	18 35 39.3	-2.3		
KEV	**Kevo**	**107.16**	**342**	*e*P	Pdif	18 35 40.7	-2.6		
KEV				pmax	pmax				
	comp=Z,5.0nm,0.7s								
KEV				MLR	MLR				
	comp=Z,4µm,19.0s,MS6.0								
KEV	**Kevo**	**107.16**	**342**	*e*P	Pdif	18 35 40.7	-2.6		
	comp=Z,4.7nm,0.7s								
KEV				*e*P		18 39 50.3			
KEV				LR	LR				
	comp=Z,4µm,19.0s,MS6.0								
BHD	**Baghdad**	**107.30**	**303**	*ex*	x	18 35 39.0			
BHD				*ex*	x	18 40 04.0			
BHD				*ex*	x	18 41 19.0			
BHD				*ex*	x	18 47 10.0			
BHD				*ex*	x	18 49 32.0			
KIV	**Kislovodsk**	**107.49**	**314**	*e*P	Pdif	18 35 42.1	-2.7		
KIV				*e*		18 40 09.4			
KIV				*e*		18 46 19.1			
KIV				pmax	pmax				
	comp=Z,12nm,1.0s								
KIV	**Kislovodsk**	**107.49**	**314**	PFAKE		18 40 00.0	+7.0		
KIV				LR	LR				
	comp=Z,939nm,21.0s,MS5.3								
HAKT	**HAKKARI**	**107.50**	**307**	*i* P	PKiKP	18 40 03.0	+10		
ARCES	**ARCESS Array B**	**107.72**	**343**	Pdiff	Pdif	18 35 43.7	-2.1		
	comp=Z,6.6nm,0.8s,baz=81,slow=7.5,SNR=11								
ARCES				PKiKP	PKiKP	18 39 52.2	-1.2		
	comp=Z,13nm,0.6s,baz=94,slow=1.1,SNR=80								
ARCES				PKKPbc	PKKPbc	18 51 05.6	-1.4		
	comp=Z,4.7nm,0.9s,baz=289,slow=2.8,SNR=3.9								
ARCES	**ARCESS Array B**	**107.72**	**343**	Pdif	Pdif	18 35 43.7	-2.1		
ARCES				PKPdf	PKiKP	18 39 52.2	-1.2		
ARCES				PKKPbc	PKKPbc	18 51 05.6	-1.4		
AMTX	**Amarillo**	**107.76**	**55**	PFAKE		18 40 10.0	+17		
AMTX				LR	LR				
	comp=Z,5µm,20.0s,MS6.1								
MSL	**Mosul**	**108.11**	**306**	*ex*	x	18 35 50.0			
MSL				*ex*	x	18 40 09.0			
MSL				*ex*	x	18 46 30.0			
MOS	**Moscow**	**108.21**	**327**	*e*P	Pdif	18 35 50.9	+2.9		
KTK1	**Kautokeino**	**108.69**	**343**	*e*	PKiKP	18 39 55.1	-0.1		
KTK1	**Kautokeino**	**108.69**	**343**	*e*P	PKiKP	18 39 55.2	-0.1		
CBKS	**Cedar Bluff**	**108.90**	**51**	*e*PKiKP	PKiKP	18 39 56.4	+0.8		
CBKS				LR	LR				
	comp=Z,9µm,20.0s,MS6.4								
OBN	**Obninsk**	**108.96**	**326**	*i* P	Pdif	18 35 56.1	+4.8		
OBN	**Obninsk**	**108.96**	**326**	PFAKE		18 40 10.0	+14		
OBN				LR	LR				
	comp=Z,2µm,21.0s,MS5.6								
DAG	**Danmarks Havn**	**109.31**	**357**	⇓*i* P	PKiKP	18 39 55.3	-1.1		
	comp=Z,14nm,1.0s								
BNGL	**BINGOL**	**109.33**	**309**	*i* P	PKiKP	18 40 04.3	+7.9		
ULM	**Lac du Bonnet**	**109.50**	**39**	Pdiff	Pdif	18 35 54.4	+0.7		
	comp=Z,10nm,1.0s,baz=297,slow=4.1,SNR=6.6								
ULM				PKiKP	PKiKP	18 39 56.1	-0.6		
	comp=Z,14nm,0.9s,baz=320,slow=3.5,SNR=10								
ULM				PP	PP	18 40 22.1	-5.2		
	comp=Z,14nm,1.0s,baz=293,slow=7.9,SNR=5.1								
ULM				PKKPab	PKKPab	18 51 12.9	-0.5		
	comp=Z,3.1nm,0.8s,baz=115,slow=4.4,SNR=4.1								
ULM	**Lac du Bonnet**	**109.50**	**39**	Pdif	Pdif	18 35 54.4	+0.7		
ULM				PKPdf	PKiKP	18 39 56.1	-0.6		
ULM				PP	PP	18 40 22.1	-5.2		
ULM				PKKPab	PKKPab	18 51 12.9	-0.5		
TRO	**Tromso**	**109.56**	**344**	*e*	PP	18 40 26.8	-0.9		
TRO				AMS	AMS	19 28 43.7			
	comp=Z,2µm,22.3s,MS5.7								
SOC	**Sochi**	**109.67**	**314**	*e*P	Pdif	18 35 48.5	-6.0		
SOC				*e*		18 40 25.8			
SOC				*e*		18 46 30.0			
SOC				*e*SS	SS	18 55 47.5	-1.6		
SOC				*e*SSS		18 59 53.2			
SOC				pmax	pmax				
	comp=Z,21nm,0.9s								
SOC				MLR	MLR				
	comp=Z,5µm,20.0s,MS6.1								
JCT	**Junction City**	**109.69**	**60**	*e*PKiKP	PKiKP	18 39 57.0	-0.1		
JCT				LR	LR				
	comp=Z,13µm,19.0s,MS6.5								
WMOK	**Wichita Mounta**	**110.15**	**55**	PFAKE		18 40 10.0	+12		
WMOK				LR	LR				
	comp=Z,5µm,19.0s,MS6.1								
KELT	**Kelkit**	**110.60**	**310**	*i* P	PP	18 40 29.7	-5.6		
USHA	**Ushuaia**	**110.84**	**157**	PKKPbc	PKKPbc	18 50 56.6	-0.4		
	comp=Z,20nm,1.0s,baz=21,slow=3.4,SNR=3.7								
ANN	**Anapa**	**111.04**	**316**	*i* PKiKP	PKiKP	18 40 01.1	+1.4		
ANN				*e*		18 40 39.3			
ANN				*e*		18 46 33.6			
ANN				pmax	pmax				
	comp=Z,86nm,1.1s								
ANN				MLR	MLR				
	comp=N,2µm,23.0s,MS5.7								
ANN				MLR	MLR				
	comp=E,2µm,23.0s,MS5.7								
ANN				MLR	MLR				
	comp=Z,4µm,23.0s,MS5.9								
KSU1	**Kansas State U**	**111.27**	**51**	PKiKP	PKiKP	18 39 60.0	-0.1		
KSU1				*e*PP	PP	18 40 38.4	-1.7		
MALT	**Malatya**	**111.54**	**309**	⇓*i* P	PKiKP	18 40 01.7	+1.1		
MALT	**Malatya**	**111.54**	**309**	*e*PKiKP	PKiKP	18 40 01.4	+0.8		
FINES	**FINESS Array B**	**111.62**	**335**	Pdiff	Pdif	18 36 02.4	-0.7		
	comp=Z,3.9nm,0.6s,baz=75,slow=5.0,SNR=20								
FINES				PKiKP	PKiKP	18 39 59.9	-0.9		
	comp=Z,14nm,0.8s,baz=57,slow=4.2,SNR=24								
FINES				PP	PP	18 40 40.0	-2.6		
	comp=Z,6.4nm,0.9s,baz=97,slow=4.6,SNR=2.5								
FINES				PKKPab	PKKPab	18 51 03.0	-1.0		
	comp=Z,6.1nm,0.9s,baz=107,slow=6.6,SNR=6.3								
FINES	**FINESS Array B**	**111.62**	**335**	P	Pdif	18 36 02.4	-0.8		
FINES						18 39 59.9			
FINES						18 40 40.0			
FINES	**FINESS Array B**	**111.62**	**335**	Pdif	Pdif	18 36 02.4	-0.7		
FINES				PKPdf	PKiKP	18 39 59.9	-0.9		
FINES				PP	PP	18 40 40.0	-2.6		
FINES				PKKPab	PKKPab	18 51 03.0	-1.0		
LOF	**Lofoten**	**112.02**	**344**	*e*	PKiKP	18 40 02.5	+1.0		
LOF	**Lofoten**	**112.02**	**344**	*e*P	PKiKP	18 40 02.7	+1.2		
GZT	**Gaziantep**	**112.37**	**308**	*i* P	PKiKP	18 40 02.0	-0.2		
VSU	**Vasula**	**112.73**	**332**	⇓*i* PKiKP	PKiKP	18 40 02.5	-0.4		
VSU	**Vasula**	**112.73**	**332**	⇓*e*PKP	PKiKP	18 40 02.6	-0.3		
EYMN	**Ely**	**112.89**	**40**	PFAKE		18 40 10.0	+6.8		
EYMN				LR	LR				
	comp=Z,7µm,21.0s,MS6.2								
MOR8	**Moi Rana**	**113.10**	**342**	*e*	PKiKP	18 40 02.4	-1.1		
MOR8	**Moi Rana**	**113.10**	**342**	*e*P	PKiKP	18 40 02.7	-0.9		
HKT	**Hockley**	**113.16**	**60**	*e*PKiKP	PKiKP	18 40 05.0	+1.3		
HKT				MLR	MLR				
	comp=Z,11µm,19.0s,MS6.5								
SIM	**Simferopol'**	**113.30**	**316**	*i* PKiKP	PKiKP	18 40 07.0	+3.1		
SIM				*e*		18 40 56.0			
SIM				*e*		18 46 42.0			
SIM				pmax	pmax				
	comp=Z,320nm,16.3s								
STOK	**Stokkvaagen**	**113.41**	**343**	*e*	PKiKP	18 40 03.1	-1.0		
STOK				AMb	AMB	18 40 07.8			
	comp=Z,82nm,1.3s								
STOK	**Stokkvaagen**	**113.41**	**343**	*e*P	PKiKP	18 40 03.3	-0.8		
KMBO	**Kilima Mbogo**	**113.46**	**266**	Pdiff	Pdif	18 36 12.9	+1.6		
	comp=Z,0.8nm,0.3s,baz=198,slow=24,SNR=4.4								
KMBO				PKiKP	PKiKP	18 40 05.2	+1.0		
	comp=Z,9.7nm,1.0s,baz=36,slow=3.6,SNR=8.9								
KMBO				PP	PP	18 40 56.0	+0.3		
	comp=Z,0.9nm,0.3s,baz=37,slow=22,SNR=3.4								
KMBO				PKKPbc	PKKPbc	18 50 50.5	+2.2		
	comp=Z,6.9nm,1.0s,baz=297,slow=2.8,SNR=8.5								
KMBO				PKKP	PKKPdf	18 51 06.9	-2.7		
	comp=Z,4.3nm,0.9s,baz=44,slow=23,SNR=5.1								
KMBO	**Kilima Mbogo**	**113.46**	**266**	P	Pdif	18 36 12.9	+1.6		
KMBO						18 40 05.2			
KMBO						18 40 56.1			
KMBO				MLR	MLR				
	comp=Z,2µm,19.0s								
KMBO	**Kilima Mbogo**	**113.46**	**266**	Pdif	Pdif	18 36 12.9	+1.6		
KMBO				PKPdf	PKiKP	18 40 05.2	+1.0		
KMBO				PP	PP	18 40 56.0	+0.3		
KMBO				PKKPbc	PKKPbc	18 50 50.5	+2.2		
KMBO				PKKP	PKKPdf	18 51 06.9	-2.7		
KMBO				LR	LR				
	comp=Z,2µm,19.0s,MS5.8								
CTKT	**Corum**	**113.86**	**312**	*i* P	PP	18 40 57.5	-1.1		
MNK	**Minsk**	**113.91**	**328**	*e*PKiKP	PKiKP	18 40 00.0	-5.1		
AVNT	**Avonos**	**114.20**	**310**	*i* P	PKiKP	18 40 04.9	-0.8		
CDAG	**Cicekdag**	**114.39**	**311**	*i* P	PP	18 41 02.3	0.0		
AKASG	**Malin Array Be**	**114.62**	**324**	PKP	PKiKP	18 40 06.0	-0.5		
	comp=Z,14nm,0.6s,baz=60,slow=2.4,SNR=43								
AKASG				PP	PP	18 40 59.0	-5.0		
	comp=Z,5.3nm,0.9s,baz=55,slow=6.5,SNR=5.4								
AKASG				PKKPbc	PKKPbc	18 50 44.0	-0.4		
	comp=Z,3.1nm,0.6s,baz=262,slow=3.6,SNR=16								
KIEV	**Kiev**	**114.63**	**324**	*e*PKiKP	PKiKP	18 40 05.7	-0.8		
KIEV				MLR	MLR				
	comp=Z,5µm,22.0s,MS6.0								
NSS	**Namsos**	**114.98**	**342**	*e*	PKiKP	18 40 04.6	-2.6		
NSS				AMS	AMS	19 32 26.4			
	comp=Z,4µm,20.7s,MS6.0								
NSS	**Namsos**	**114.98**	**342**	*e*P	PKiKP	18 40 04.7	-2.5		
NSS				LR	LR				
	comp=Z,4µm,20.7s,MS6.0								
JFWS	**Jewell Farm**	**115.14**	**45**	*e*PKiKP	PKiKP	18 40 06.9	-0.6		
JFWS				MLR	MLR				
	comp=Z,8µm,19.0s,MS6.3								
UALR	**University of**	**115.38**	**55**	PKPdf	PKPdf	18 40 07.3	-0.7		
ANTO	**Ankara**	**115.52**	**311**	⇓*i* P	PKPdf	18 40 09.0	+0.8		
ANTO	**Ankara**	**115.52**	**311**	*e*PKPdf	PKPdf	18 40 09.1	+0.9		
ANTO				LR	LR				
	comp=Z,1µm,21.0s,MS5.5								
CCM	**Cathedral Cave**	**115.59**	**51**	PKiKP	PKPdf	18 40 06.4	-1.9		
CCM	**Cathedral Cave**	**115.59**	**51**	*e*PKPdf	PKPdf	18 40 06.7	-1.6		
CCM				LR	LR				
	comp=Z,4µm,19.0s,MS6.1								
EIL	**Elat**	**115.68**	**300**	*e*PKPdf	PKPdf	18 40 09.7	+1.2		
CSS	**Prodhromos**	**116.17**	**306**	*e*PKPdf	PKPdf	18 40 08.5	-1.0		
KIS	**Kishinev**	**116.19**	**320**	*e*PKiKP	PKPdf	18 40 11.0	+1.5		
KIS				*e*		18 41 15.0			
KIS				*e*PS	PS	18 50 52.0	-5.0		
KIS				*e*PPS		18 52 10.0			
KIS				MLR	MLR				
	comp=N,2µm,20.0s,MS6.0								
KIS				MLR	MLR				
	comp=E,2µm,20.0s,MS6.0								
KIS				MLR	MLR				
	comp=Z,5µm,20.0s,MS6.1								
KIS				MLR	MLR				
	comp=Z,5µm,20.0s								
KIS	**Kishinev**	**116.19**	**320**	*e*PP	PP	18 41 15.0	0.0		
FVM	**French Village**	**116.24**	**51**	*e*PKiKP	PKPdf	18 40 07.7	-1.9		
FVM				*e*		18 41 12.9			
SUW	**Suwalki**	**116.57**	**329**	*e*PKP	PKPdf	18 40 10.4	+0.2		
SUW				L		19 28 47.5			
	comp=Z,6.3nm,23.2s								
HENT	**Hendek**	**116.67**	**313**	*i* P	PKPdf	18 40 10.3	-0.1		
EFI	**East Falkland**	**117.15**	**160**	PFAKE		18 40 20.0	+8.7		
EFI				LR	LR				
	comp=Z,656nm,19.0s,MS5.3								
SIUC	**Southern Illin**	**117.23**	**51**	*e*PKPdf	PKPdf	18 40 11.2	-0.3		
CFR	**Carcaliu**	**117.27**	**318**	⇑*i* P	PKPdf	18 40 14.0	+2.4		
CFR	**Carcaliu**	**117.27**	**318**	⇑P	PKPdf	18 40 14.0	+2.4		
BOSA	**Boshof**	**117.32**	**233**	PKP	PKPdf	18 40 11.7	0.0		
	comp=Z,6.4nm,0.6s,baz=118,slow=2.4,SNR=16								
BOSA				PKKPbc	PKKPbc	18 50 34.1	-0.9		
	comp=Z,12nm,1.0s,baz=295,slow=4.9,SNR=6.9								
BOSA				SKKP		18 54 29.7			
	comp=Z,3.5nm,1.1s,baz=225,slow=2.0,SNR=3.1								
BOSA	**Boshof**	**117.32**	**233**	*e*PKPdf	PKPdf	18 40 12.2	+0.6		
BOSA				LR	LR				
	comp=Z,7µm,19.0s,MS6.3								
TIRR	**Tirgusor**	**117.33**	**317**	⇑*i* P	PKPdf	18 40 12.1	+0.4		
TIRR	**Tirgusor**	**117.33**	**317**	*e*PKPdf	PKPdf	18 40 11.7	+0.1		
GLAT	**Glass**	**117.52**	**52**	*e*PKPdf	PKPdf	18 40 12.3	+0.2		
NB2	**NORSAR Subarra**	**117.66**	**339**	PKPdf	PKPdf	18 40 10.8	-1.5		
	baz=44,slow=1.9								
NB2	**NORSAR Subarra**	**117.66**	**339**	PKPdf	PKPdf	18 40 10.8	-1.5		
	comp=Z,13nm,0.8s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.66**	**339**	PKP	PKPdf	18 40 10.2	-2.1		
	comp=Z,33nm,0.9s,baz=48,slow=1.9,SNR=55								
NOA				PKKPbc	PKKPbc	18 50 34.2	+0.5		
	comp=Z,7.4nm,1.0s,baz=227,slow=4.2,SNR=4.3								
NOA	**NORSAR Array B**	**117.66**	**339**	PKP	PKPdf	18 40 10.2	-2.1		
NOA				PKKPbc	PKKPbc	18 50 34.2	+0.5		
ISP	**Isparta**	**117.75**	**310**	*e*P	PKPdf	18 40 11.4	-1.1		
ISP	**Isparta**	**117.75**	**310**	*e*PKPdf	PKPdf	18 40 11.3	-1.1		
MOL	**Molde**	**117.77**	**342**	*e*	PKPdf	18 40 11.0	-1.5		
MOL	**Molde**	**117.77**	**342**	*e*P	PKPdf	18 40 12.1	-0.5		
OXF	**Oxford**	**117.81**	**54**	PFAKE		18 40 20.0	+7.4		
OXF				LR	LR				
	comp=Z,6µm,19.0s,MS6.2								
TKTP	**Tekketepe**	**117.84**	**310**	*i* P	PKPdf	18 40 12.6	-0.1		
NAO01	**NORSAR Array S**	**117.91**	**339**	*e*PKPdf	PKPdf	18 40 11.7	-1.1		
NAO01				LR	LR				
	comp=Z,8µm,19.0s,MS6.4								
VRI	**Vrincioaia**	**117.95**	**319**	⇑*i* P	PKPdf	18 40 12.8	-0.1		
VRI	**Vrincioaia**	**117.95**	**319**	⇑P	PKPdf	18 40 12.8	-0.1		
PLOR	**Plostina**	**118.00**	**319**	⇓*i* P	PKPdf	18 40 15.4	+2.4		
LVV	**L'vov**	**118.02**	**324**	*e*PKiKP	PKPdf	18 40 11.5	-1.5		
LVV				*e*		18 41 27.5			
LVV				*e*		18 46 59.7			
LVV				*e*		18 47 20.9			
GDZ	**Gediz**	**118.20**	**311**	*i* P	PKPdf	18 40 11.0	-2.4		
BURAR	**Bucovina Array**	**118.23**	**321**	⇑*i* P	PKPdf	18 40 15.1	+1.7		
BURAR	**Bucovina Array**	**118.23**	**321**	⇑P	PKPdf	18 40 15.1	+1.6		
USIN	**University of**	**118.36**	**50**	*e*PKPdf	PKPdf	18 40 12.7	-0.9		
PAYG	**Puerto Ayora**	**118.44**	**94**	PFAKE		18 40 30.0	+16		
PAYG				LR	LR				
	comp=Z,2µm,19.0s,MS5.8								
LBTB	**Lobatse**	**118.49**	**237**	*e*PKiKP	PKPdf	18 40 13.0	-0.9		
LBTB				MLR	MLR				
	comp=Z,3µm,19.0s,MS6.0								
WAR	**Warsaw**	**118.57**	**328**	*e*PKP	PKPdf	18 40 15.6	+1.5		
WAR				L		19 30 45.4			
	comp=Z,4.3nm,23.2s								
MLR	**Muntele Rosu**	**118.60**	**319**	⇑*i* P	PKPdf	18 40 13.5	-0.6		
MLR	**Muntele Rosu**	**118.60**	**319**	⇑P	PKPdf	18 40 13.5	-0.6		
WVT	**Waverly**	**118.70**	**52**	PFAKE		18 40 30.0	+16		
WVT				LR	LR				
	comp=Z,9µm,19.0s,MS6.4								
KWP	**Kalwaria**	**118.88**	**324**	*e*PKP	PKPdf	18 40 15.5	+0.8		
KWP				L		19 27 00.7			
	comp=Z,5.9nm,29.3s								
KWP	**Kalwaria**	**118.88**	**324**	PKIKP	PKPdf	18 40 14.8	+0.1		
BLO	**Bloomington**	**118.89**	**49**	*e*PKIKP	PKPdf	18 40 13.4	-1.3		
SUR	**Sutherland**	**119.02**	**228**	PKKPab	PKKPab	18 50 31.2	-0.2		
	comp=Z,21nm,1.1s,baz=30,slow=4.3,SNR=4.2								
SUR	**Sutherland**	**119.02**	**228**	PFAKE		18 40 30.0	+15		
SUR				LR	LR				
	comp=Z,2µm,19.0s,MS5.7								
VOIR		**119.20**	**319**	⇓*i* P	PKPdf	18 40 17.3	+2.0		
VOIR		**119.20**	**319**	⇓P	PKPdf	18 40 17.3	+2.0		
KONO	**Kongsberg**	**119.20**	**339**	*e*PP	PP	18 41 34.8	-1.1		
KONO	**Kongsberg**	**119.20**	**339**	⇑*e*PKiKP	PKPdf	18 40 14.3	-1.0		
KONO				MLR	MLR				
	comp=Z,3µm,21.0s,MS5.9								
JMB	**Yambol**	**119.25**	**316**	*e*P	PKPdf	18 40 15.7	+0.3		
MTUR	**Matau**	**119.27**	**319**	⇓*i* P	PKPdf	18 40 17.8	+2.4		
MTUR	**Matau**	**119.27**	**319**	⇓P	PKPdf	18 40 17.8	+2.4		
WCI	**Wyandotte Cave**	**119.33**	**49**	*e*PKiKP	PKPdf	18 40 14.3	-1.2		
WCI				MLR	MLR				
	comp=Z,6µm,19.0s,MS6.3								
HOPE	**Hope Point**	**119.35**	**175**	PFAKE		18 40 30.0	+14		
HOPE				LR	LR				
	comp=Z,2µm,20.0s,MS5.7								
LSZ	**Lusaka**	**119.44**	**249**	*e*PKiKP	PKPdf	18 40 16.4	+0.7		
LSZ				MLR	MLR				
	comp=Z,3µm,19.0s,MS5.9								
KOLS	**Kolonicke sedl**	**119.44**	**324**	*e*PKP	PKPdf	18 40 16.0	+0.2		
KOLS				*e*		18 50 23.4			
UZH	**Uzhgorod**	**119.57**	**323**	*e*PKiKP	PKPdf	18 40 14.4	-1.6		
UZH				*e*		18 40 23.8			
ZIMR		**119.67**	**317**	⇑*i* P	PKPdf	18 40 17.0	+0.8		
ZIMR		**119.67**	**317**	⇑P	PKPdf	18 40 17.0	+0.9		
STHS	**Stebnicka Huta**	**119.82**	**325**	*e*PKP	PKPdf	18 40 16.7	+0.2		
PVL	**Pavlikeni**	**119.85**	**317**	*i* P	PKPdf	18 40 17.0	+0.5		
CRVS	**Cervenica-Dubn**	**119.94**	**324**	*e*PKP	PKPdf	18 40 17.3	+0.6		
CRVS				*e*		18 53 44.8			
AAM	**Ann Arbor**	**119.95**	**44**	*e*PKiKP	PKPdf	18 40 16.5	-0.2		
AAM				MLR	MLR				
	comp=Z,10µm,19.0s,MS6.5								
GKP	**Gorka Klasztor**	**119.98**	**330**	*e*PKP	PKPdf	18 40 17.6	+0.8		
GKP				L		19 33 59.6			
	comp=Z,7.1nm,21.0s								
ARG	**Arkhangelos**	**120.01**	**308**	*e*P	PKPdf	18 40 19.5	+2.7		
ODD1	**Odda**	**120.05**	**340**	*e*P	PKPdf	18 40 15.7	-1.2		
ODD1				AMb	AMB	18 40 19.6			
	comp=Z,171nm,1.1s								
ODD1	**Odda**	**120.05**	**340**	*e*P	PKPdf	18 40 16.7	-0.2		
KDAG	**Bornova**	**120.05**	**311**	*i* P	PKPdf	18 40 17.3	+0.4		
ASK	**Askoy**	**120.09**	**341**	*e*P	PKPdf	18 40 18.1	+1.1		
ASK	**Askoy**	**120.09**	**341**	*e*P	PKPdf	18 40 18.1	+1.1		
BER	**Bergen**	**120.12**	**341**	*e*	PKPdf	18 40 18.4	+1.4		
BER				*e*PP	PP	18 41 39.5	-2.7		
BER	**Bergen**	**120.12**	**341**	*e*P	PKPdf	18 40 17.5	+0.4		
DIM	**Dimitrovgrad**	**120.13**	**315**	*i* P	PKPdf	18 40 17.0	-0.1		
DRGR		**120.13**	**321**	⇑*i* P	PKPdf	18 40 17.7	+0.6		
DRGR		**120.13**	**321**	⇑P	PKPdf	18 40 17.7	+0.7		
EGD	**Espegrend**	**120.24**	**341**	*e*P	PKPdf	18 40 18.9	+1.6		
EGD	**Espegrend**	**120.24**	**341**	*e*P	PKPdf	18 40 18.9	+1.6		
OJC	**Ojcow**	**120.25**	**326**	*e*PKPdf	PKPdf	18 40 16.3	-1.0		
OJC				*e*pPKPdf	pPKPdf	18 40 19.5	-10		
OJC				*e*PP	PP	18 41 43.6	+0.5		
OJC				*e*SKSdf	SKSdf	18 47 28.9	+2.6		
OJC				L		19 33 07.1			
	comp=Z,22nm,21.4s								
NIE	**Niedzica**	**120.35**	**325**	*e*PKP	PKPdf	18 40 17.7	+0.2		
CRAR	**CRAIOVA**	**120.45**	**318**	PKIKP	PKPdf	18 40 18.4	+0.7		
BLS5	**Blasjo**	**120.47**	**340**	*e*P	PKPdf	18 40 19.4	+1.6		
BLS5				AMb	AMB	18 40 22.5			
	comp=Z,64nm,1.3s								
BLS5	**Blasjo**	**120.47**	**340**	*e*P	PKPdf	18 40 19.6	+1.9		
URLA	**Izmir**	**120.57**	**311**	*i* P	PKPdf	18 40 17.8	-0.1		
SMG	**Samos**	**120.58**	**310**	*e*P	PKPdf	18 40 19.5	+1.6		
GZR	**Gura Zlata**	**120.68**	**320**	⇑*i* P	PKPdf	18 40 18.8	+0.7		
GZR	**Gura Zlata**	**120.68**	**320**	⇑P	PKPdf	18 40 18.8	+0.7		
KECS	**Kecovo**	**120.70**	**324**	*e*PKP	PKPdf	18 40 18.7	+0.5		
TEIG	**Tepich**	**120.94**	**70**	*e*PKPdf	PKPdf	18 40 19.3	+0.7		
TEIG				LR	LR				
	comp=Z,2µm,19.0s,MS5.7								
SNART	**Snartemo**	**121.01**	**339**	*e*P	PKPdf	18 40 18.2	-0.5		
SNART				AMb	AMB	18 40 22.1			
	comp=Z,137nm,1.2s								
RGN	**Rugen**	**121.08**	**333**	*e*PKPdf	PKPdf	18 40 18.6	-0.3		
LOS	**Limnos**	**121.18**	**313**	*e*P	PKPdf	18 40 17.7	-1.4		
PSZ	**Piszkesteto**	**121.32**	**324**	⇓*i* P	PKPdf	18 40 21.0	+1.6		
PSZ	**Piszkesteto**	**121.32**	**324**	*e*PKPdf	PKPdf	18 40 18.9	-0.4		
PSZ	**Piszkesteto**	**121.32**	**324**	⇑*e*PKP	PKPdf	18 40 19.6	+0.2		
BZS	**Buzias**	**121.33**	**321**	⇑*i* P	PKPdf	18 40 19.0	-0.4		
BZS	**Buzias**	**121.33**	**321**	PKIKP	PKPdf	18 40 19.8	+0.4		
BZS	**Buzias**	**121.33**	**321**	⇑P	PKPdf	18 40 19.0	-0.3		
OKC	**Ostrava-Krasne**	**121.36**	**326**	*e*PKPdf	PKPdf	18 40 19.3	-0.1		
OKC				AMS	AMS	19 32 40.0			
	comp=Z,2µm,21.1s								
CPCT	**Cooper Cave**	**121.47**	**52**	*e*PKPdf	PKPdf	18 40 19.8	+0.1		
VTS	**Vitosha**

comp=Z,4µm,25.8s,MS6.0
DIVS Divcibare 123.03 320 *i* P PKPdf 18 40 22.1 -0.5
PRU Pruhonice 123.22 328 *e*PKPdf PKPdf 18 40 22.8 -0.2
PRU AMS AMS 19 33 10.0
comp=Z,4µm,22.8s
PRA Prague 123.23 328 PKPdf PKPdf 18 40 23.0 0.0
CLL Collm 123.23 330 *e*PKPdf PKPdf 18 40 22.8 -0.2
comp=Z,114nm,1.0s
CLL *e*PP PP 18 42 07.7 +4.3
CLL *e*(PPP) 18 44 45.0
CLL *e*PKKPbc PKKPbc 18 50 14.0 +1.0
CLL *e*PKKPdf PKKPdf 18 50 50.6 -0.5
CLL *e*SKSP 18 52 02.3
CLL *e*PPS 18 53 27.6
CLL *e*LR LR 19 20 15.2
CLL *e*L 19 33 16.9
comp=Z,5µm,22.0s
CLL Collm 123.23 330 *i* PKIKP PKPdf 18 40 22.8 -0.2
CLL *e* 18 40 39.0
CLL pmax pmax
comp=Z,112nm,1.0s
CLL MLR MLR
comp=Z,5µm,20.5s,MS6.1
CLL Collm 123.23 330 *i* PKP PKPdf 18 40 22.8 -0.2
CLL *es*PKP 18 40 39.0
CLL *e* 18 44 06.0
CLL *i* PKKP PKKPbc 18 50 14.0 +1.0
CLL LR LR
comp=Z,5µm,20.5s,MS6.1
CLL Collm 123.23 330 *i* PKPdf PKPdf 18 40 22.8 -0.2
comp=Z,112nm,1.0s
CLL *ex* x 18 40 39.0
CLL *e*PP PP 18 42 06.0 +2.6
CLL *e*(PKSdf) 18 44 06.0
CLL *i* PKKPbc PKKPbc 18 50 14.0 +1.0
comp=Z,22nm,1.2s
CLL *ex* x 18 50 28.0
CLL *e*SKSP 18 51 58.0
CLL *e*PPS 18 53 23.0
CLL *ex* x 18 55 18.0
CLL LmH 19 32 00.0
comp=N,3µm,22.0s
CLL LmH 19 32 00.0
comp=E,3µm,21.2s
CLL LmV 19 35 00.0
comp=Z,5µm,20.5s
FBE Freiberg 123.29 329 *e*PKPdf PKPdf 18 40 22.8 -0.3
VAM Vamos 123.30 309 *e*P PKPdf 18 40 25.0 +1.8
KRUS Krusevo 123.35 316 *e*PKP PKPdf 18 40 22.4 -0.8
SOP Sopron 123.38 325⇑ *e*PKP PKPdf 18 40 23.2 -0.1
KZN Kozani 123.41 315 *e*P PKPdf 18 40 23.5 +0.1
BIA Bitola 123.44 316 *e*PKP PKPdf 18 40 22.6 -0.8
AGG Agios Georgios 123.49 313 *e*P PKPdf 18 40 21.8 -1.8
FNA Florina 123.50 315 *e*P PKPdf 18 40 22.4 -1.1
GVD Gavdhos 123.56 308 *e*P PKPdf 18 40 24.5 +0.9
GVD Gavdhos 123.56 308 *e*PKPdf PKPdf 18 40 23.9 +0.3
MCWV Mont Chateau 123.60 46 *e*PKPdf PKPdf 18 40 24.1 +0.3
MCWV LR LR
comp=Z,10µm,20.0s,MS6.5
IVA Berane 123.64 318‖ *i*PKP PKPdf 18 40 24.9 +1.1
CONA Conrad Observa 123.65 325⇑ *i*PKIKP PKIKP 18 40 23.9 -0.2
comp=Z,78nm,1.5s,SNR=23
FWV Forest Hill 123.65 49 *e*PKPdf PKPdf 18 40 23.2 -0.7
PVY Plav 123.71 318‖ *i*PKP PKPdf 18 40 25.5 +1.6
HLG Helgoland 123.71 335 *e*PKPdf PKPdf 18 40 23.6 -0.3
BCI Bajram Curri 123.74 318 *i* p PKPdf 18 40 23.6 -0.4
PLE Pljevlja 123.76 319‖ *i*PKP PKPdf 18 40 25.6 +1.6
OHR Ohrid 123.77 316 *e*PKP PKPdf 18 40 23.2 -0.9
PHP Peshkopia 123.78 317 *i* p PKPdf 18 40 23.4 -0.7
VLI Veliai 123.85 310 *e*P PKPdf 18 40 26.0 +1.8
EVR Evrytania 123.91 313 *e*P PKPdf 18 40 25.5 +1.2
KYTH Kithira 123.92 310 *e*P PKPdf 18 40 25.5 +1.2
MEV Metsovon 124.00 314 *e*P PKPdf 18 40 26.7 +2.2
BLA Blacksburg 124.07 49 *e*PKIKP PKPdf 18 40 23.8 -0.8
BLA MLR MLR
comp=Z,7µm,20.0s,MS6.3
WERD Werda 124.11 329 *e*PKPdf PKPdf 18 40 24.2 -0.5
UPM Unac-Piva 124.14 319‖ *i*PKP PKPdf 18 40 26.1 +1.3
GUNZ Gunzen 124.15 329 *e*PKPdf PKPdf 18 40 24.5 -0.3
NKC Novy Kostel 124.17 329 *e*PKPdf PKPdf 18 40 24.0 -0.8
WERN Wernitzgruen 124.17 329 *e*PKPdf PKPdf 18 40 24.5 -0.3
CLZ Clausthal 124.18 332 *e*PKPdf PKPdf 18 40 24.7 -0.1
CLZ *e*PP PP 18 42 11.4 +1.6
ARSA Arzberg 124.21 325⇑ *i*P PKPdf 18 40 24.4 -0.5
comp=Z,43nm,1.0s,SNR=10
KOGS Kog 124.21 324 *i* PKPdf PKPdf 18 40 24.6 -0.3
KHC Kasperske Hory 124.23 327 *e*PKPdf PKPdf 18 40 24.7 -0.2
KHC AMS AMS 19 33 20.0
comp=Z,6µm,21.0s
KHC Kasperske Hory 124.23 327*c i*PKIKP PKPdf 18 40 24.6 -0.3
TTG Podgorica 124.25 318‖ *i*PKP PKPdf 18 40 25.8 +0.8
NKY Niksic 124.25 319‖ *i*PKP PKPdf 18 40 25.8 +0.8
JAN Janina 124.31 314 *e*P PKPdf 18 40 26.0 +0.9
GEC2 GERESS Array S 124.33 327 *e*PKPdf PKPdf 18 40 24.6 -0.5
GEC2 *e*PP PP 18 42 10.1 -0.7
GERES GERESS Array B 124.33 327 PKP PKPdf 18 40 24.5 -0.6
comp=Z,59nm,0.9s,baz=75,slow=1.4,SNR=92
GERES PKKPbc 18 50 08.9
comp=Z,1.9nm,0.9s,baz=224,slow=3.7,SNR=3.6
MOX Moxa 124.33 330 *e*PKPdf PKPdf 18 40 24.6 -0.5
MOX *e*PP PP 18 42 11.1 +0.3
MOX Moxa 124.33 330 *e*PKP PKPdf 18 40 25.6 +0.5
comp=Z,96nm,1.3s
MOX
comp=Z,3µm,22.0s
JSC Jenkinsville 124.37 53 *e*PKIKP PKPdf 18 40 26.1 +0.9
MLA1 Latheron 124.42 344⇑ *e*P PKPdf 18 40 24.7 -0.6
ITM Ithomi 124.45 311 *e*P PKPdf 18 40 26.5 +1.1
ULC Ulcinj 124.46 318‖ *i*PKP PKPdf 18 40 26.5 +1.1
MANZ Manzenberg 124.49 329 *e*PKPdf PKPdf 18 40 25.2 -0.2
BRY Bratogost 124.51 319‖ *i*PKP PKPdf 18 40 25.9 +0.4
JTS JuntasAbangare 124.54 82 *e*PKIKP PKPdf 18 40 23.9 -1.6
JTS MLR MLR
comp=Z,966nm,20.0s
BUM Brajici-Budva 124.55 318‖ *i*PKP PKPdf 18 40 26.5 +1.0
ROTZ Rotzenmuhle 124.57 329 *e*PKPdf PKPdf 18 40 25.3 -0.3
MSNY Massena 124.58 38 *e*PKPdf PKPdf 18 40 25.2 -0.4
MOA Molln 124.59 326⇑ *i*P PKPdf 18 40 26.5 +0.9
comp=Z,47nm,1.1s,SNR=9.7
SSPA Standing Stone 124.59 44 *e*PKPdf PKPdf 18 40 25.1 -0.6
SSPA LR LR
comp=Z,7µm,19.0s,MS6.4
WET Wettzell 124.60 328 *e*PKPdf PKPdf 18 40 25.3 -0.3
SISC Sisak 124.64 323 P PKPdf 18 40 26.3 +0.6
IGT Igoumenitsa 124.73 314 *e*P PKPdf 18 40 25.2 -0.7
HCY Herceg Novi 124.75 318‖ *i*PKP PKPdf 18 40 27.4 +1.4
PERS Pernice 124.77 324 *e*PKPdf PKPdf 18 40 25.8 -0.2
PERS *e* 18 40 27.9
GOLS Golise 124.81 323 *e*PKPdf PKPdf 18 40 26.3 +0.2
LKD Levkas 124.83 313 *e*P PKPdf 18 40 25.4 -0.7
GCIS Gornji Cirnik 124.88 323 *e*PKPdf PKPdf 18 40 25.7 -0.5
LONY Lake Ozonia 124.94 38 *e*PKPdf PKPdf 18 40 25.1 -1.2
MVH1 Achvaich 124.97 344⇑ *e*P PKPdf 18 40 25.6 -0.8
MCD Coleburn Disti 125.00 343⇑ *e*P PKPdf 18 40 25.9 -0.5
KEK Kerkira 125.03 315 *e*P PKPdf 18 40 29.5 +3.0
IBBN Ibbenburen 125.07 333 *e*PKPdf PKPdf 18 40 26.2 -0.3
VLS Valsamata 125.07 313 *e*P PKPdf 18 40 29.0 +2.4
STON Ston 125.08 319 *i* P PKPdf 18 40 27.7 +1.2
GRA1 Grafenberg Arr 125.12 329 *e*PKPdf PKPdf 18 40 26.2 -0.5
GRA1 *e*PP PP 18 42 15.2 -0.9
GRA1 *e*SP SP 18 52 12.6 +0.5
GRA1 *e*SS SS 18 59 14.2 +4.2
GRA1 LR LR
comp=Z,4µm,20.4s,MS6.0
GRF Grafenberg Arr 125.12 329 *e*PKPdf PKPdf 18 40 26.2 -0.5
GRF *e*PP PP 18 42 15.2 -0.9
GRF *e*SP SP 18 52 12.6 +0.5
GRF *e*SS SS 18 59 14.2 +4.2
GRF *e*L 19 36 01.8
comp=Z,4µm,20.4s
GRFO Grafenberg 125.13 329 *e*PKIKP PKPdf 18 40 26.7 0.0
GRFO MLR MLR
comp=Z,4µm,20.0s,MS6.1
MME1 Meikle Cairn 125.15 343⇑ *e*P PKPdf 18 40 26.1 -0.6
PDKS Podkum 125.15 324 *e*PKPdf PKPdf 18 40 26.7 0.0
OBKA Obir 125.17 324⇑ *i*P PKPdf 18 40 26.4 -0.3
comp=Z,85nm,1.3s,SNR=14
BINY Binghamton 125.20 42 *e*PKPdf PKPdf 18 40 26.0 -0.8
BINY LR LR
comp=Z,7µm,22.0s,MS6.3
BOJS Bojanci 125.30 323 *i* PKPdf PKPdf 18 40 27.3 +0.3
BOJS *i* 18 40 29.6
MDO Dochfour 125.44 344⇑ *e*P PKPdf 18 40 26.9 -0.3
LJU Ljubljana 125.44 324 *e*PKPdf PKPdf 18 40 27.5 +0.3
LJU *i* 18 40 29.6
LJU *e* 18 40 34.5
LJU *e* 18 40 43.5
LJU Ljubljana 125.44 324 *e*PKPdf PKPdf 18 40 27.5 +0.3
LJU *i* 18 40 29.6
FRNY Flat Rock 125.44 38 *e*PKPdf PKPdf 18 40 25.9 -1.4
NCB Newcomb 125.49 39 *e*PKPdf PKPdf 18 40 26.6 -0.8
NCB *e*PP PP 18 42 15.7 -2.8
NCB LR LR
comp=Z,8µm,19.0s,MS6.4
SOR Soroa 125.51 67 *e*P PKPdf 18 40 28.1 +0.7
KBA Koelnbreinsper 125.54 326⇑ *i*P PKPdf 18 40 28.3 +0.9
comp=Z,93nm,1.1s
KAC Achnashellach 125.64 345⇑ *e*P PKPdf 18 40 26.4 -1.2
WTSB Winterswijk 125.73 334 *e*PKiKP PKiKP 18 40 28.1 -0.1
comp=Z,208nm,1.7s
JAVS Javornik 125.79 324 *e*PKPdf PKPdf 18 40 27.2 -0.7
VOY Vojsko 125.81 324 *e*PKPdf PKPdf 18 40 26.8 -1.2
VOY *e* 18 40 29.3
VOY *e* 18 40 41.0
VOY *e* 18 41 02.8
VOY *e* 18 41 11.8
KPL Plockton 125.87 345 P PKPdf 18 40 27.4 -0.7
KPL AMb AMB 18 40 32.1
comp=Z,238nm,1.4s
KPL Plockton 125.87 345 *e*P PKPdf 18 40 27.4 -0.7
KPL AMb AMB 18 40 32.1
comp=Z,238nm,1.4s
KPL AMS AMS 19 32 56.6
comp=Z,943nm,22.2s,MS5.4
BUG Bochum--Univer 125.89 333 *e*PKPdf PKPdf 18 40 27.6 -0.5
DWPF Disney 125.89 60 *e*PKPdf PKPdf 18 40 28.9 +0.8
DWPF LR LR
comp=Z,3µm,20.0s,MS6.0
PTCC Patocco-Chiusa 125.92 325 PKP PKPdf 18 40 27.9 -0.3
MVL Millersville 125.93 44 *e*PKPdf PKPdf 18 40 27.7 -0.5
CBN Corbin 125.94 47 *e*PKPdf PKPdf 18 40 27.5 -0.7
CBN LR LR
comp=Z,9µm,19.0s,MS6.5
FUR Furstenfeldbru 126.03 328 *e*PKPdf PKPdf 18 40 27.9 -0.5
GMNA Gemona 126.06 325 PKP PKPdf 18 40 28.6 +0.2
ACCN Adirondack Com 126.13 39 *e*PKPdf PKPdf 18 40 28.4 -0.2
ACCN *e*PP PP 18 42 19.2 -3.6
TNS Taunus Mts 126.16 331 *e*PKPdf PKPdf 18 40 28.3 -0.3
ESY Stoneypath 126.22 342 *e*P PKPdf 18 40 28.3 -0.5
TRQA Tornquist 126.28 148 *e*PKPdf PKPdf 18 40 27.9 -1.0
TRQA LR LR
comp=Z,3µm,19.0s,MS6.0
KAR1 Arisaig 126.29 344⇑ *e*P PKPdf 18 40 28.1 -0.7
LUPA Lehigh Univers 126.34 43 *e*PKPdf PKPdf 18 40 29.1 +0.1
WATA Walderalm 126.37 327⇑ *i*P PKPdf 18 40 28.6 -0.5
comp=Z,79nm,0.9s,SNR=44
WATA Walderalm 126.37 327 P PKPdf 18 40 28.6 -0.5
WTTA Wattenberg 126.38 327 *i* P PKPdf 18 40 28.7 -0.4
comp=Z,294nm,1.1s,SNR=72
WTTA Wattenberg 126.38 327 P PKPdf 18 40 28.7 -0.4
EDI Edinburgh 126.39 342 P PKPdf 18 40 28.1 -0.9
EDI AMb AMB 18 40 33.6
comp=Z,268nm,1.6s
EDI Edinburgh 126.39 342 *e*P PKPdf 18 40 28.1 -0.9
EDI AMb AMB 18 40 33.6
comp=Z,268nm,1.6s
EDI AMS AMS 19 28 36.8
comp=Z,819nm,20.4s,MS5.4
TOD Tromm 126.39 330 PKIKP PKPdf 18 40 29.5 +0.4
EBL Broad Law 126.48 342 *e*P PKPdf 18 40 29.1 -0.1
EAB Aberfoyle 126.51 343 *e*P PKPdf 18 40 28.4 -0.9
MOTA Moosalm 126.62 327⇑ *i*P PKPdf 18 40 29.1 -0.4
comp=Z,151nm,0.9s,SNR=35
SQTA Sankt Quirin 126.64 327⇑ *i*P PKPdf 18 40 29.2 -0.3
comp=Z,129nm,1.0s,SNR=31
CNNC Cliffs of the 126.68 50 *e*PKPdf PKPdf 18 40 30.3 +0.7
STU Stuttgart 126.74 329 *e*PKPdf PKPdf 18 40 29.3 -0.4
STU Stuttgart 126.74 329 *e*PKPdf PKPdf 18 40 29.3 -0.5
LBNH Lisbon 126.77 38 PFAKE 18 40 40.0 +10
LBNH LR LR
comp=Z,9µm,20.0s,MS6.5
FGMS Monte Sant'Ang 126.77 319 PKP PKPdf 18 40 29.9 +0.1
ABH Alteburg 126.82 331 PKP PKPdf 18 40 30.4 +0.5
HNH Hanover 126.83 38 *e*PKPdf PKPdf 18 40 28.8 -1.1
BRNJ Basking Ridge 126.84 43 *e*PKPdf PKPdf 18 40 30.9 +1.0
PGBU Glenifferbraes 126.87 343 P PKPdf 18 40 29.3 -0.7
PGBU AMb AMB 18 40 34.4
comp=Z,70nm,2.0s
PGBU Glenifferbraes 126.87 343 *e*P PKPdf 18 40 29.3 -0.7
PGBU AMb AMB 18 40 34.4
comp=Z,70nm,2.0s
PGBU AMS AMS 19 30 06.6
comp=Z,367nm,21.2s,MS5.0
CFAA Coronel Fontan 126.90 138 PKP PKPdf 18 40 28.5 -1.6
comp=Z,5.9nm,0.9s,baz=246,slow=2.4,SNR=44
CFAA PP PP 18 42 22.5 -5.4
comp=Z,0.7nm,0.9s,baz=239,slow=6.9,SNR=3.2
ESK Eskdalemuir 126.91 342 P PKPdf 18 40 29.4 -0.6
ESK AMb AMB 18 40 32.8
comp=Z,164nm,1.4s
ESK Eskdalemuir 126.91 342 *e*P PKPdf 18 40 29.4 -0.6
ESK AMb AMB 18 40 32.8
comp=Z,164nm,1.4s
ESK AMS AMS 19 32 16.5
comp=Z,1µm,21.1s,MS5.5
ESK Eskdalemuir 126.91 342 *e*PKPdf PKPdf 18 40 29.6 -0.5
ESK LR LR
comp=Z,753nm,21.0s,MS5.3
KTD Kalmit 126.93 330 PKIKP PKPdf 18 40 31.2 +1.1
HGN Heinsgroeve 126.96 333 *e*PKiKP PKiKP 18 40 30.2 -0.4
comp=Z,165nm,1.2s
HGN *e*PP PP 18 42 21.9 -6.5
HGN *e*PPP 18 45 27.2
HGN *e*SKSP 18 52 34.6
HGN *e*SS SS 19 00 31.5 +59
MEM Membach 127.04 333 PKP PKPdf 18 40 30.5 +0.2
MEM E 18 40 46.5
APPI Appiano 127.07 326 PKP PKPdf 18 40 29.7 -0.7
CTI Castel Tesino 127.09 325 PKIKP PKPdf 18 40 30.5 +0.1
PAL Palisades 127.14 42 *e*PKIKP PKPdf 18 40 30.8 +0.3
RUP Ruppelstein 127.17 331 PKIKP PKPdf 18 40 31.4 +0.8
CPNY Central Park 127.20 42 *e*PKPdf PKPdf 18 40 30.9 +0.3
LANF Langenberg 127.30 330 PKP PKPdf 18 40 31.0 +0.2
DAVA Damuels 127.32 327⇑ *i*P PKPdf 18 40 30.8 0.0
comp=Z,124nm,0.9s,SNR=25
FG4 Candela 127.33 318 PKIKP PKPdf 18 40 33.1 +2.2
FFD Franklin Falls 127.34 38 *e*PKPdf PKPdf 18 40 30.2 -0.7
TIP Timpagrande 127.39 316 *e*PKPdf PKPdf 18 40 31.3 +0.3
BFO Black Forest 127.46 329 *e*PKPdf PKPdf 18 40 30.3 -0.8
BCLA Clavier 127.49 333 PKP PKPdf 18 40 31.8 +0.7
CKE Keswick 127.49 341⇑ *e*P PKPdf 18 40 31.7 +0.5
GCD Castle Douglas 127.52 342 *e*P PKPdf 18 40 31.8 +0.6
QUA2 Belchertown 127.52 40 *e*PKPdf PKPdf 18 40 31.0 -0.3
STR Strasbourg 127.58 330 PKP PKPdf 18 40 31.4 +0.1
TSUM Tsumeb 127.61 240 *e*PKPdf PKPdf 18 40 32.3 +0.9
TSUM LR LR
comp=Z,5µm,19.0s,MS6.2
WLF Walferdange 127.63 332 *e*PKPdf PKPdf 18 40 31.8 +0.4
WLF *e*PP PP 18 42 31.7 -1.0
WLF Walferdange 127.63 332 PKP PKPdf 18 40 31.4 0.0
WLF E 18 40 48.7
WLF Walferdange 127.63 332 *e*PKPdf PKPdf 18 40 31.6 +0.1
UCC Uccle 127.64 334 PKP PKPdf 18 40 31.9 +0.5
UCC APKP 18 40 33.8
CING Cingoli 127.68 322 PKP PKPdf 18 40 31.5 0.0
XDE Dent Fell 127.68 341⇑ *e*P PKPdf 18 40 31.2 -0.3
MABI Malga Bissina 127.72 326 PKP PKPdf 18 40 31.5 -0.1
CDU1 Dunnerdale 127.73 341⇑ *e*P PKPdf 18 40 31.6 -0.1
GAL1 Galloway 127.75 342 P PKPdf 18 40 31.8 +0.1
GAL1 AMb AMB 18 40 35.7
comp=Z,305nm,1.3s
GAL1 Galloway 127.75 342 *e*P PKPdf 18 40 31.8 +0.1
GAL1 *e*P 18 40 31.8
GAL1 AMb AMB 18 40 35.7
comp=Z,305nm,1.3s
GAL1 AMS AMS 19 33 21.3
comp=Z,1µm,20.1s,MS5.7
PKME Peaks-Kenny Pk 127.75 35 *e*PKPdf PKPdf 18 40 31.0 -0.7
PSB1 Pescosannita 127.75 319 PKP PKPdf 18 40 33.3 +1.6
SNF Seneffe 127.88 334 PKP PKPdf 18 40 32.2 +0.3
SNF E 18 40 48.2
WLS Welschbruch 127.90 330 PKP PKPdf 18 40 31.4 -0.6
HRV Harvard--Oak R 127.91 39 PKIKP PKPdf 18 40 31.6 -0.4
HRV Harvard--Oak R 127.91 39 *e*PKPdf PKPdf 18 40 31.7 -0.3
HRV LR LR
comp=Z,6µm,21.0s,MS6.2
MIDA Miranda 127.91 319 PKP PKPdf 18 40 33.2 +1.2
FELD Feldberg im Sc 127.92 329⇑ *e*P PKPdf 18 40 31.7 -0.3
GIVF Givet 127.93 333 *e*PKIKP PKPdf 18 40 32.2 +0.2
comp=Z,477nm,1.2s
CDF Champ du Feu 127.94 330 *e*PKIKP PKPdf 18 40 31.8 -0.2
comp=Z,231nm,1.4s
GCL Cushendall 127.98 344⇑ *e*P PKPdf 18 40 32.3 +0.2
FIU Minerbio Fiu 128.00 324 PKP PKPdf 18 40 34.2 +2.1
DOU Dourbes 128.04 333 PKP PKPdf 18 40 32.3 +0.1
DOU E 18 40 48.6
AQU L'Aquila 128.09 321⇑ *i*P PKPdf 18 40 35.0 +2.7
AQU L'Aquila 128.09 321 *e*PKPdf PKPdf 18 40 33.4 +1.0
TUE Stuetta 128.11 327 PKP PKPdf 18 40 32.6 +0.2
WES Weston 128.12 39 PKIKP PKPdf 18 40 32.7 +0.3
WES Weston 128.12 39 *e*PKPdf PKPdf 18 40 32.8 +0.4
WES LR LR
comp=Z,4µm,22.0s,MS6.1
ECH Echery 128.12 330 PKP PKPdf 18 40 32.1 -0.3
MURB Monte Urbino 128.15 322 PKP PKPdf 18 40 33.7 +1.3
GIM North Isle of 128.17 342 *e*P PKPdf 18 40 32.8 +0.3
BAIF Baives 128.24 333 *e*PKIKP PKPdf 18 40 32.8 +0.2
comp=Z,246nm,1.2s
WIM Isle of Man 128.36 342⇑ *e*P PKPdf 18 40 33.0 +0.2
MOF Molkenrain 128.38 330 PKP PKPdf 18 40 32.1 -0.8
MGV Manicaragua 128.39 67 *e*P PKPdf 18 40 35.6 +2.7
BBS Basel-Blauen 128.44 329 PKIKP PKPdf 18 40 33.2 +0.2
FNVD Fontana Vidola 128.48 324 PKP PKPdf 18 40 34.0 +0.9
SCLL Scilla 128.53 315 PKP PKPdf 18 40 34.9 +1.7
HINF Hinteralfeld 128.54 330 *e*PKIKP PKPdf 18 40 33.0 -0.2
comp=Z,494nm,1.3s
CERT Cerreto 128.57 320 PKP PKPdf 18 40 33.8 +0.6
GMM Mts of Mourne 128.66 343⇑ *e*P PKPdf 18 40 33.4 0.0
HAU Haudompre 128.67 330 *e*PKIKP PKPdf 18 40 33.4 0.0
comp=Z,415nm,1.2s
HAU *e*R
comp=Z,6µm,22.2s
HAU Haudompre 128.67 330 *e*PKPdf PKPdf 18 40 33.4 0.0
HAU LR LR
comp=Z,6µm,22.3s,MS6.2
MTCE Montecelio 128.68 321 PKP PKPdf 18 40 33.8 +0.4
THEF They Montfort 128.70 331 PKP PKPdf 18 40 33.0 -0.5
MENF Mencas 128.76 335 PKP PKPdf 18 40 34.5 +0.9
CSNT Castellina Chi 128.78 323 PKP PKPdf 18 40 32.4 -1.2
BDI Bagni Di Lucca 128.85 324 PKIKP PKPdf 18 40 33.2 -0.6
LOMF Lomont 128.87 329 PKP PKPdf 18 40 34.0 +0.2
VLC Villacollemand 128.92 324 *e*PKPdf PKPdf 18 40 35.0 +1.1
SBD1 Bryn Du 128.95 340⇑ *e*P PKPdf 18 40 33.6 -0.3
MEZF Maizieres J'vi 128.96 331 *e*PKIKP PKPdf 18 40 34.5 +0.5
comp=Z,305nm,1.0s
WCB1 Church Bay 128.97 341⇑ *e*P PKPdf 18 40 33.4 -0.6
ATAH Atahualpa 128.99 104 PKP PKPdf 18 40 36.1 +2.1
comp=Z,79nm,0.9s,baz=257,slow=1.9,SNR=41
ATAH SKP 18 44 08.0
comp=Z,15nm,0.9s,baz=315,slow=12,SNR=3.6
NNA Nana 129.09 111 PKP PKPdf 18 40 34.3 +0.1
comp=Z,102nm,1.0s,baz=283,slow=4.1,SNR=20
NNA Nana 129.09 111 *e*PKPdf PKPdf 18 40 34.5 +0.2
NNA LR LR
comp=Z,787nm,19.0s,MS5.4
YRC Rhoscolyn 129.09 341⇑ *e*P PKPdf 18 40 34.1 -0.1
PII Pisa 129.09 324 PKIKP PKPdf 18 40 34.6 +0.4
BOB Bobbio (Coli) 129.10 325 PKIKP PKPdf 18 40 35.7 +1.5
HLM1 Long Mynd 129.14 340⇑ *e*P PKPdf 18 40 34.0 -0.3
GRFL Gerfalco 129.15 323 PKP PKPdf 18 40 35.1 +0.8
SSW Stow on the Wo 129.23 339⇑ *e*P PKPdf 18 40 34.4 -0.1
YRE Yr Eifl 129.27 341 *e*P PKPdf 18 40 34.3 -0.3
ORO Oropa 129.38 327 PKIKP PKPdf 18 40 33.9 -0.9
SWN1 Swindon 129.58 338 P PKPdf 18 40 35.4 +0.3
SWN1 AMb AMB 18 40 39.0
comp=Z,400nm,1.2s
SWN1 Swindon 129.58 338‖⇑ *e*P PKPdf 18 40 35.0 -0.1
SWN1 ⇑ *e*P 18 40 35.4
SWN1 AMb AMB 18 40 39.0
comp=Z,400nm,1.2s
MCH1 Michaelchurch 129.61 339 P PKPdf 18 40 35.0 -0.2
MCH1 AMb AMB 18 40 38.3
comp=Z,127nm,1.2s
MCH1 Michaelchurch 129.61 339 *e*P PKPdf 18 40 35.0 -0.2
MCH1 *e*P 18 40 35.0
MCH1 AMb AMB 18 40 38.3
comp=Z,127nm,1.2s
MCH1 AMS AMS 19 30 32.2
comp=Z,288nm,19.7s,MS5.0
OG01 Vacheresse 129.62 328 PKP PKPdf 18 40 34.9 -0.3
DSB Dublin 129.65 343 *e*PKPdf PKPdf 18 40 35.5 +0.3
DLF Lyons Farm 129.65 343⇑ *i*P PKPdf 18 40 33.6 -1.7
HVZN Vizzini 129.72 314 PKP PKPdf 18 40 36.1 +0.7
CABF La Chapelle 129.74 329 *e*PKIKP PKPdf 18 40 36.1 +0.6
comp=Z,727nm,1.3s
DCN Croghan 129.83 343⇑ *i*P PKPdf 18 40 34.8 -0.8
HGH Gray Hill 129.84 339⇑ *e*P PKPdf 18 40 35.1 -0.5
RSL Roselend 130.07 328 PKP PKPdf 18 40 37.0 +0.9
LPL La Plagne 130.12 328 *e*PKIKP PKPdf 18 40 36.7 +0.5
comp=Z,204nm,1.1s
LPG La Plagne 130.13 327 *e*PKIKP PKPdf 18 40 36.8 +0.6
comp=Z,210nm,1.1s
FIN Finale Ligure 130.14 325 PKIKP PKPdf 18 40 36.3 +0.1
OTAV Otavalo 130.29 95 *e*PKPdf PKPdf 18 40 35.4 -1.1
OTAV LR LR
comp=Z,2µm,19.0s,MS5.8
LOR Lormes 130.40 331 *e*PKIKP PKPdf 18 40 37.0 +0.3
comp=Z,456nm,1.3s
LOR *e*R
comp=Z,5µm,23.0s
LOR Lormes 130.40 331 *e*PKPdf PKPdf 18 40 37.0 +0.3
LOR LR LR
comp=Z,5µm,23.0s,MS6.2
OG05 Jujurieux 130.44 329 PKP PKPdf 18 40 36.5 -0.3
BNI Bardonecchia 130.45 327 *e*PKIKP PKPdf 18 40 37.4 +0.6
CLTB Caltabellotta 130.60 315 PKP PKPdf 18 40 40.6 +3.5
MBDF Montbardon 130.61 327 *e*PKIKP PKPdf 18 40 37.4 +0.3
comp=Z,172nm,1.3s
SAOF Saorge 130.65 325 PKP PKPdf 18 40 37.8 +0.6
GDM Grand'Maison 130.66 328 PKP PKPdf 18 40 38.5 +1.3
PGF Pioggiola 130.69 323 *e*PKIKP PKPdf 18 40 37.5 +0.2
comp=Z,755nm,1.3s
SSF Saint Saulge 130.71 331 *e*PKIKP PKPdf 18 40 37.6 +0.3
comp=Z,443nm,1.4s
AUTN L'Aution 130.72 326 PKP PKPdf 18 40 38.1 +0.8
CORF Corte 130.74 323 PKP PKPdf 18 40 38.1 +0.7
SURF Saint Ours 130.75 326 PKP PKPdf 18 40 39.1 +1.7
SBF Sospel 130.79 325 *e*PKIKP PKPdf 18 40 37.4 -0.1
comp=Z,624nm,1.3s
TOUF Mont Tournerai 130.80 326 PKP PKPdf 18 40 38.9 +1.4
LUCF Luceram 130.83 326 PKP PKPdf 18 40 37.5 0.0
GRN Grenoble 130.83 328 PKP PKPdf 18 40 39.0 +1.5
SMF Signal de Mont 130.84 330 *e*PKIKP PKPdf 18 40 37.7 +0.1
comp=Z,508nm,1.3s
REVF Revere 130.91 325 PKP PKPdf 18 40 38.8 +1.1
MVIF Mont Vial 130.93 326 PKP PKPdf 18 40 38.6 +0.9
HTL Hartland 130.96 340 P PKPdf 18 40 37.7 -0.1
HTL AMb AMB 18 40 42.4
comp=Z,109nm,1.5s
HTL Hartland 130.96 340 *e*P PKPdf 18 40 37.7 -0.1
HTL AMb AMB 18 40 42.4
comp=Z,109nm,1.5s
HTL AMS AMS 19 32 48.9
comp=Z,343nm,20.1s,MS5.0
ORIF Oris-en-Rattie 130.97 327 *e*PKIKP PKPdf 18 40 38.2 +0.4
comp=Z,107nm,0.9s
ORIF *e*R
comp=Z,3µm,20.8s
HYF Humbligny 130.98 332 *e*PKIKP PKPdf 18 40 38.5 +0.7
AVF Avril sur Loir 130.98 331 *e*PKIKP PKPdf 18 40 37.8 0.0
comp=Z,110nm,1.2s
LDF La Druitiere 131.22 335 *e*PKIKP PKPdf 18 40 38.4 +0.1
comp=Z,364nm,1.3s
OG25 Le Caire 131.23 327 PKP PKPdf 18 40 40.1 +1.8
DYA Yadsworthy 131.24 339⇑ *e*P PKPdf 18 40 38.6 +0.3
FLN La Foliniere 131.24 335 *e*PKIKP PKPdf 18 40 38.5 +0.2
comp=Z,719nm,1.4s
FLN *e*R
comp=Z,6µm,22.0s
FLN La Foliniere 131.24 335 *e*PKPdf PKPdf 18 40 38.5 +0.2
FLN LR LR
comp=Z,6µm,22.0s,MS6.3
BGF Bois d'Agland 131.39 331 *e*PKIKP PKPdf 18 40 39.0 +0.4
comp=Z,378nm,1.2s
PLDF La Plantade 131.43 330 PKP PKPdf 18 40 40.1 +1.4
FRF La Foret Royal 131.43 326 *e*PKIKP PKPdf 18 40 38.9 +0.2
comp=Z,447nm,1.3s
LMGC Las Mercedes 131.47 69 *e*P PKPdf 18 40 31.6 -7.1
LVC Limon Verde 131.54 128 PKP PKPdf 18 40 37.0 -1.9

comp=Z,42nm,1.2s,baz=134,slow=2.4,SNR=5.3
LVC PP PP 18 42 50.9 -7.3
comp=Z,4.9nm,0.9s,baz=53,slow=23,SNR=2.2
LVC SKPbc SKPbc 18 44 03.5 +2.3
comp=Z,6.2nm,1.1s,baz=283,slow=1.2,SNR=1.9
LVC Limon Verde 131.54 128 *e*PKPdf PKPdf 18 40 40.0 +1.1
LVC LR LR
comp=Z,3µm,20.0s,MS5.9
STOF St-Etienne Org 131.56 326 PKP PKPdf 18 40 41.3 +2.4
AGO Saint Agoulin 131.61 330 PKP PKPdf 18 40 39.4 +0.4
LMR La Mourre 131.65 325 *e*PKIKP PKPdf 18 40 39.3 +0.2
comp=Z,495nm,1.3s
VIVF Saint-Julien-l 131.65 328 *e*PKIKP PKPdf 18 40 39.6 +0.5
comp=Z,291nm,1.3s
GRR Gorron 131.69 335 *e*PKIKP PKPdf 18 40 39.6 +0.4
comp=Z,456nm,1.3s
COLF Collangettes 131.70 329 PKP PKPdf 18 40 40.6 +1.4
TAVF Tavernes 131.72 326 PKP PKPdf 18 40 41.3 +2.1
SMRF Simiane la Rot 131.75 327 *e*PKIKP PKPdf 18 40 38.9 -0.4
comp=Z,506nm,1.3s
PYM Petit Puy Mans 131.88 330 PKP PKPdf 18 40 40.3 +0.8
TCF Toulx Ste Croi 131.89 331 *e*PKIKP PKPdf 18 40 40.0 +0.5
comp=Z,420nm,1.2s
PRAF Pradon 132.09 327 PKP PKPdf 18 40 42.4 +2.5
LBL Lubilhac 132.13 329 PKP PKPdf 18 40 41.7 +1.7
VERF Verneugheol 132.14 330 PKP PKPdf 18 40 41.7 +1.7
VSL Villasalto 132.19 320 *e*PKPdf PKPdf 18 40 41.5 +1.4
GELF Grande-Etoile 132.22 326 PKP PKPdf 18 40 42.4 +2.2
ARE Arequipa 132.29 119 *e*PKIKP PKPdf 18 40 42.0 +1.7
SGMF Saint Gilles 132.49 336 *e*PKIKP PKPdf 18 40 40.7 0.0
comp=Z,180nm,0.8s
LASF Ste Croix 132.61 328 *e*PKIKP PKPdf 18 40 41.6 +0.7
comp=Z,335nm,1.3s
RCC Rio Carpintero 132.69 69 *e*P PKPdf 18 40 41.3 +0.3
ROSF Rostrenen 132.71 337 *e*PKIKP PKPdf 18 40 41.0 -0.1
comp=Z,48nm,0.6s
MFF Saint Martin d 132.75 333 *e*PKIKP PKPdf 18 40 40.3 -0.9
comp=Z,241nm,1.4s
RJF Les Rejaudoux 132.94 331 *e*PKIKP PKPdf 18 40 41.1 -0.4
RJF comp=Z,89nm,1.1s
RJF *e*R
comp=Z,4µm,21.5s
RJF Les Rejaudoux 132.94 331 *e*PKPdf PKPdf 18 40 41.1 -0.4
RJF LR LR
comp=Z,4µm,21.5s,MS6.1
CAF Calviac 132.94 330 *e*PKIKP PKPdf 18 40 41.3 -0.2
comp=Z,199nm,1.3s
LCHF La Chataignera 132.97 334 PKP PKPdf 18 40 42.4 +0.8
QUIF Quistinic 133.01 336 *e*PKIKP PKPdf 18 40 41.6 0.0
comp=Z,83nm,0.8s
MOAC Moa 133.25 68 *e*P PKPdf 18 40 43.7 +1.6
LFF La Frestale 133.58 331 *e*PKIKP PKPdf 18 40 42.5 -0.2
comp=Z,269nm,1.4s
MTLF Montolieu 133.98 328 *e*PKIKP PKPdf 18 40 43.4 -0.1
comp=Z,40nm,0.8s
MASC Masc 134.01 68 *e*P PKPdf 18 40 45.4 +1.9
LRDF Laroque-de-Fa 134.09 328 PKP PKPdf 18 40 45.7 +2.0
KEST Kesra 134.22 315 PKP PKPdf 18 40 42.2 -1.7
comp=Z,27nm,0.9s,baz=207,slow=4.0,SNR=10.0
KEST SKPbc SKPbc 18 44 11.6 +1.2
comp=Z,12nm,1.1s,baz=343,slow=5.5,SNR=4.4
FILF Fillols 134.34 327 PKP PKPdf 18 40 46.0 +1.9
VALF Valcebollere 134.74 327 PKP PKPdf 18 40 46.8 +1.9
MLS Moulis 134.83 329 PKP PKPdf 18 40 46.3 +1.2
ROSC El Rosal 134.87 89 PKP PKPdf 18 40 46.0 +0.9
comp=Z,33nm,0.8s,baz=85,slow=11,SNR=19
ROSC SKPbc SKPbc 18 44 14.5 +2.0
comp=Z,8.4nm,0.9s,baz=254,slow=22,SNR=3.8
CMAH Djebel Manchou 135.06 317 P PKPdf 18 40 48.3 +2.8
MELF Melles 135.06 329 PKP PKPdf 18 40 47.1 +1.6
EPF Esparros 135.16 329 *e*PKIKP PKPdf 18 40 46.0 +0.3
comp=Z,90nm,1.1s
CGMA Guelma 135.17 317 P PKPdf 18 40 48.0 +2.3
LPAZ La Paz 135.27 121 PKhKP 18 40 32.2
comp=Z,4.4nm,0.9s,baz=255,slow=1.7,SNR=18
LPAZ PKP PKPdf 18 40 47.1 +1.3
comp=Z,31nm,1.0s,baz=356,slow=0.7,SNR=15
LPAZ SKP 18 44 19.8
comp=Z,9.9nm,1.0s,baz=157,slow=22,SNR=6.5
LPAZ La Paz 135.27 121 *e*PKHKP 18 40 32.3
LPAZ 18 40 47.2
LPAZ MLR MLR
comp=Z,2µm,20.0s
LPAZ La Paz 135.27 121 *e*PKPpre 18 40 32.3
LPAZ PKP PKPdf 18 40 47.1 +1.3
LPAZ *e*PKPdf PKPdf 18 40 48.4 +2.5
LPAZ SKP 18 44 19.8
LPAZ LR LR
comp=Z,2µm,20.0s,MS5.8
LABF Labassere 135.29 330 PKP PKPdf 18 40 47.9 +2.0
RESF Ens 135.33 329 PKP PKPdf 18 40 48.3 +2.3
EMIR Miracle 135.34 327 PKP PKPdf 18 40 49.0 +3.0
VIEF Viey 135.43 329 PKP PKPdf 18 40 49.3 +3.1
REYF Montagne du Re 135.50 330 PKP PKPdf 18 40 48.3 +2.0
EBIE Bielsa 135.51 329 PKP PKPdf 18 40 45.8 -0.5
ATE Arette 135.65 330 PKP PKPdf 18 40 48.6 +2.0
EGRA Graus 135.78 329 PKP PKPdf 18 40 50.7 +3.9
LARF Larrau 135.82 330 PKP PKPdf 18 40 48.4 +1.5
SJPF Ste Jean 135.88 331 *e*PKIKP PKPdf 18 40 47.4 +0.4
comp=Z,96nm,0.9s
CASM Ain Smara 135.89 318 P PKPdf 18 40 50.0 +3.0
EALK Alkurruntz 135.94 331 PKP PKPdf 18 40 51.1 +4.0
EPOB Poblet 135.97 327 PKP 18 40 36.2
ELIZ Elizondo 135.99 331 PKIKP PKPdf 18 40 50.1 +2.9
CTEI Djebel Teioual 136.06 317 P PKPdf 18 40 51.5 +4.2
ETOS Mallorca 136.07 324 PKP PKPdf 18 40 50.2 +2.9
DFRA Djebel Bou Aff 136.14 318 P PKPdf 18 40 52.0 +4.5
ESAC San Caprasio 136.53 329 PKP PKPdf 18 40 50.2 +1.9
CMER Merouana 136.65 317 P PKPdf 18 40 50.0 +1.6
ERTA Horta de San J 136.65 327 PKP PKPdf 18 40 51.4 +2.9
SET Setif 136.65 318 P PKPdf 18 40 52.0 +3.5
ELAN Lanestosa 136.84 333 PKP PKPdf 18 40 46.0 -2.8
ECRI Cripan 136.88 331 PKIKP 18 40 40.9
EMOS Mosqueruela 137.50 327 PKP 18 40 41.6
EARI Arriondas 137.57 334 PKP PKPdf 18 40 53.0 +2.8
BBSR BB Station 137.81 47 PFAKE 18 41 00.0 +9.4
BBSR LR LR
comp=Z,5µm,19.0s,MS6.2
ETOR Torete 138.00 329 PKHKP 18 40 40.9
EMHD Djebel Mahouad 138.24 320 P PKPdf 18 40 48.0 -3.4
EPON Pontenova 138.37 336 PKP 18 40 44.5
EBEN Beniarda 138.53 325 PKP 18 40 44.0
SDV Santo Domingo 138.66 84 PKhKP 18 40 41.9
comp=Z,13nm,0.9s,baz=297,slow=3.5,SNR=4.0
SDV PKP PKPdf 18 40 52.3 +0.2
comp=Z,146nm,0.9s,baz=274,slow=2.4,SNR=17
SDV SKPbc SKPbc 18 44 26.4 +2.5
comp=Z,64nm,1.2s,baz=30,slow=20,SNR=21
SDV Santo Domingo 138.66 84 *e*PKPpre 18 40 43.5
SDV PKP PKPdf 18 40 52.3 +0.2
SDV *e*PKPdf PKPdf 18 40 52.6 +0.4
SDV SKPbc SKPbc 18 44 26.4 +2.5
SDV LR LR
comp=Z,1µm,20.0s,MS5.6
EBNR Beni Rached 139.09 321 P PKPdf 18 40 48.6 -4.3
ERUA La Rua 139.14 335 PKIKP 18 40 46.8
GUD Guadarrama 139.18 331 PKHKP 18 40 45.6
ECHA Ech Chlef 139.28 321 P PKPdf 18 40 48.6 -4.7
STS Santiago 139.30 337 PKHKP 18 40 40.0
ETOB Tobarra 139.31 326 PKP 18 40 45.4
ECAL Calabor 139.34 334 PKP 18 40 46.3
EMAZ Mazaricos 139.41 337 PKP 18 40 47.1
PBRG Bragança 139.45 334 *e*PKP 18 40 46.3
EANR 'Ain N'Sour 139.57 321 P 18 40 48.5
ETRT Tiaret 139.80 320 P 18 40 46.3
ESDC Sonseca Array 139.82 330 PKhKP 18 40 46.1
comp=Z,8.0nm,1.0s,baz=28,slow=3.4,SNR=15
ESDC PP PP 18 43 49.6 -0.8
comp=Z,7.9nm,1.1s,baz=24,slow=8.0,SNR=5.3
ESDC SKPbc SKPbc 18 44 29.8 +2.7
comp=Z,4.5nm,0.9s,baz=17,slow=2.8,SNR=2.6
ESDC Sonseca Array 139.82 330 PKP 18 40 46.2
ESLA Sonseca Array 139.82 330 *e*PKPpre 18 40 44.5
ESLA LR LR
comp=Z,17µm,22.0s,MS6.7
EVIA Vianos 139.83 327 PKIKP PKPdf 18 40 47.7 -6.6
PCAB Cabril 140.07 335 *e*PKP PKPdf 18 40 50.4 -4.3
PAB San Pablo 140.12 330 *e*PKHKP 18 40 47.2
PAB MLR MLR
comp=Z,3µm,22.0s,MS6.0
PAB San Pablo 140.12 330 *e*PKHKP 18 40 47.6
PVRL Vila Real 140.30 335 *e*PKP PKPdf 18 40 49.3 -5.8
EHUE Huescar 140.47 326 PKIKP PKPdf 18 40 49.6 -5.9
EQES Quesada 140.75 327 PKP PKPdf 18 40 49.4 -6.6
ODJA Bouhanifia 140.75 321 P PKPdf 18 40 50.0 -6.0
PVIS Viseu 140.84 334 *e*PKP PKPdf 18 40 49.7 -6.4
ENIJ Nijar 140.86 325 PKIKP PKPdf 18 40 51.3 -4.8
EBAN Banos Encina 140.86 328 PKIKP PKPdf 18 40 51.6 -4.6
EADA Adamuz 141.28 329 PKP PKPdf 18 40 52.0 -5.0
EBER Berja 141.29 326 PKP PKPdf 18 40 54.0 -2.9
SIV San Ignacio 141.31 125 PKhKP 18 40 48.8
comp=Z,19nm,0.9s,baz=237,slow=3.8,SNR=55
PCBR Castelo Branco 141.37 333 *e*PKP PKPdf 18 40 52.7 -4.4
ECOG Cogollos-Vega 141.40 327 PKHKP 18 40 50.9
ELUQ Luque 141.57 328 PKIKP PKPdf 18 40 51.8 -5.6
ERON Agron 141.72 327 PKP 18 40 50.7
EGUA Guajares 141.72 326 PKIKP PKPdf 18 40 53.6 -4.1
ELOJ Sierra Loja 141.81 327 PKHKP 18 40 51.6
EBAD Badajoz 142.03 332 PKP PKPdf 18 40 54.8 -3.4
EALB Alboran 142.06 325 PKP PKPdf 18 40 54.4 -4.0
CPD Cerro la Pandu 142.15 69 PKIKP PKPdf 18 40 54.0 -4.5
CPD Cerro la Pandu 142.15 69 *e*PKPpre 18 40 52.9
PESTR Estremoz 142.21 332 *e*PKP PKPdf 18 40 54.8 -3.8
PESTR Estremoz 142.21 332 *e*PP PP 18 44 01.5 -3.4
PESTR Estremoz 142.21 332 *e*LQ 19 29 09.5
PESTR *e*LR LR 19 30 39.8
comp=Z,3µm,22.0s
MTP Monte Pirata 142.47 68 *e*PKPpre 18 40 53.7
MTP *e*PKPdf PKPdf 18 40 60.0 +0.9
EMIJ Mijas 142.57 327 PKP PKPdf 18 40 56.0 -3.3
EMIN Mina Concepcio 142.64 330 PKP PKPdf 18 40 54.9 -4.5
EVO Evora 142.67 332 *e*PKIKP PKPdf 18 40 54.4 -5.0
comp=Z,111nm,0.9s
EVO *e*R
comp=Z,5µm,23.0s
SAML Samuel 142.73 114 *e*PKPpre 18 40 54.2
SAML LR LR
comp=Z,3µm,21.0s,MS6.1
PMAFR Mafra 142.89 334 *e*PKP PKPdf 18 40 57.0 -2.8
PMAFR Mafra 142.89 334 *e*PP PP 18 44 10.0 +0.9
PMAFR Mafra 142.89 334 *e*LQ 19 29 32.9
PMAFR *e*LR LR 19 30 56.1
comp=Z,2µm,18.0s
PLOU Loures 142.90 334 *e*PKP PKPdf 18 40 57.4 -2.4
ESPR Espera 142.92 328 PKP PKPdf 18 40 56.8 -3.1
PBEJ Beja 143.01 332 *e*PKP PKPdf 18 40 57.5 -2.5
EJIF Jimena Fronter 143.03 328 PKIKP PKPdf 18 40 56.6 -3.4
LIS Lisbon 143.03 334 *e*P PKPdf 18 40 59.6 -0.5
EGRO El Granado 143.22 331 PKP PKPdf 18 40 58.6 -1.8
SFS San Fernando 143.41 328 *e*PKIKP PKPdf 18 40 59.6 -1.1
PTEO Sao Teotonio 143.80 332 *e*PKP PKPdf 18 41 00.3 -1.1
PCRV Puerto La Cruz 144.53 81 PKhKP 18 40 58.5
comp=Z,60nm,0.5s,baz=11,slow=2.8,SNR=33
SABS Saba 144.72 68 *e*P PKPdf 18 41 02.7 -0.2
SABT Saba 144.72 68 *e*P PKPdf 18 41 02.7 -0.2
LZG Guadaloupe-1 146.43 70 *e*P PKPdf 18 41 06.0 +0.1
SCG Saint Claude 146.55 70 *e*P PKPdf 18 41 06.1 0.0
TBG Guadaloupe-3 146.62 71 *e*P PKPdf 18 41 06.3 0.0
MGG Marie-Galante 146.91 70 *e*P PKPdf 18 41 07.7 +1.0
MDN Morne-Daniel 146.97 72 *e*P PKPdf 18 41 08.5 +1.7
DWS Wesley 147.00 71 *e*P PKPdf 18 41 07.9 +1.1
DSHT Scott's Head 147.01 72 *e*P PKPdf 18 41 09.7 +2.8
DBCT Belle View Cho 147.03 72 *e*P PKPdf 18 41 09.3 +2.3
DEG La Desirade 147.06 70 *e*P PKPdf 18 41 07.2 +0.2
GRW Mount Saint Ca 147.25 77 *e*P PKPdf 18 41 08.4 +1.1
STGR Santa Cruz 147.32 359 *e*PKP PKPab 18 41 11.9 +0.2
TCE Chacachacare 147.32 80 *e*P PKPab 18 41 10.3 -1.4
FDF Fort de France 147.32 72 *e*P PKPab 18 41 10.7 -1.0
PVIA Vitoria 147.33 359 *e*PKP PKPab 18 41 12.6 +0.9
SRBC Serra Branca 147.36 359 *e*PKP PKPab 18 41 12.8 +0.9
PLUZ Luz 147.39 360 *e*PKP PKPab 18 41 12.5 +0.5
BIM Bigot 147.44 73 *e*P PKPdf 18 41 08.8 +1.1
SVB Belmont 147.49 75 *e*P PKPdf 18 41 09.0 +1.3
FCV Fort Charlotte 147.51 75 *e*P PKPdf 18 41 11.0 +3.3
SSV Crater Summit 147.54 75 *e*P PKPdf 18 41 09.9 +2.2
SSV *e*S 00 00 20.0
PVNV Vila Nova 147.60 357 *e*PKP PKPab 18 41 12.4 -0.4
PBIS Biscoitos 147.61 357 *e*PKP PKPab 18 41 12.5 -0.3
TPP Pointe-a-Pierr 147.65 81 *e*P PKPab 18 41 12.4 -0.6
PFAV Pico das Favas 147.65 357 *e*PKP PKPab 18 41 13.4 +0.4
ASBA Santa Barbara 147.65 358 *e*PKP PKPab 18 41 13.2 +0.2
TRN Trinidad (W) 147.67 80 *e*P PKPab 18 41 12.0 -1.1
PPAD Pico dos Padre 147.67 357 *e*PKP PKPab 18 41 12.7 -0.4
ROSA Rosais 147.68 359 *e*PKP PKPab 18 41 12.4 -0.7
RIB2 Ribeirinha 147.70 357 *e*PKP PKPab 18 41 12.8 -0.4
ADH Angra Heroismo 147.72 357 *e*PKP PKPab 18 41 12.2 -1.1
PAMA Santo Amaro 147.72 359 *e*PKP PKPab 18 41 12.8 -0.5
PMAN Manadas 147.77 359 *e*PKP PKPab 18 41 12.6 -0.9
PCED Cedros 147.78 360 *e*PKP PKPab 18 41 12.8 -0.7
CALA Caldeira 147.83 360 *e*PKP PKPab 18 41 12.9 -0.8
HOR Horta 147.88 359 *e*PKP PKPab 18 41 14.9 +1.0
PICO Pico 147.90 359 *e*PKP PKPab 18 41 14.3 +0.3
PTEI Pico do Teixo 147.91 359 *e*PKP PKPab 18 41 13.2 -0.8
PCND Candelaria 147.94 359 *e*PKP PKPab 18 41 13.0 -1.1
PID Ribeirinha 147.96 359 *e*PKP PKPab 18 41 12.8 -1.4
PBOI Pico dos Bois 147.97 359 *e*PKP PKPab 18 41 13.8 -0.5
TBH Brigand Hill 148.01 80 *e*P PKPab 18 41 12.6 -1.9
SHEL Horse Pasture 148.10 226 *e*PKPab PKPab 18 41 14.9 +0.1
SHEL LR LR
comp=Z,1µm,20.0s,MS5.7
TPR Prospect 148.23 79 *e*P PKPab 18 41 13.1 -2.2
PFAD Fenais da Ajud 148.39 354 *e*PKP PKPab 18 41 13.8 -2.2
SET4 Mosteiros 148.40 355 *e*PKP PKPab 18 41 15.9 -0.1
PMAT Coroa da Mata 148.43 355 *e*PKP PKPab 18 41 14.9 -1.2
SET2 Ginetes 148.43 355 *e*PKP PKPab 18 41 15.0 -1.1
MIRA Miradouro 148.44 354 *e*PKP PKPab 18 41 15.5 -0.7
PSET Sete Cidades 148.44 355 *e*PKP PKPab 18 41 14.9 -1.3
MESC Monte Escuro 148.45 355 *e*PKP PKPab 18 41 15.9 -0.3
PVER Pico Vermelho 148.45 355 *e*PKP PKPab 18 41 14.7 -1.5
PCNG Congro 148.47 355 *e*PKP PKPab 18 41 13.8 -2.5
LFA Lagoa do Fogo 148.47 355 *e*PKP PKPab 18 41 14.7 -1.6
FRA1 Furnas 148.49 354 *e*PKP PKPab 18 41 17.3 +0.9
VIF Vila Franca 148.50 355 *e*PKP PKPab 18 41 15.1 -1.3
PDA Ponta Delgada 148.51 355 *i* PKP PKPab 18 41 16.0 -0.5
PRCH Ribeira Ch 148.52 355 *e*PKP PKPab 18 41 15.1 -1.4
CAM4 Nova Friburgo 148.61 155 *e*P PKPab 18 41 13.9 -2.9
CAM4 *i* 18 41 21.7
CAM4 *i* 18 41 32.1
CAM4 *i* 18 41 41.1
TORD Torodi Ar. Bea 149.00 285 PKP PKPdf 18 41 09.3 -0.9
comp=Z,29nm,0.9s,baz=35,slow=0.9,SNR=44
TORD PKPbc PKPbc 18 41 13.5 -0.7
comp=Z,218nm,0.9s,baz=57,slow=2.5,SNR=155
TORD Torodi Ar. Bea 149.00 285 PKP PKPdf 18 41 09.3 -0.9
TORD PKPbc PKPbc 18 41 13.5 -0.7
BBGH Gun Hill 149.14 75 *e*PKPbc PKPbc 18 41 17.2 +2.7
PSMN Pico do Norte, 149.19 354 *e*PKP PKPdf 18 41 10.4 -0.1
PMPS Porto Santo 150.85 338 *e*PKP PKPbc 18 41 19.4 +0.7
CAM3 Guarapari 150.89 157 *e*P PKPbc 18 41 19.2 +0.4
CAM3 *i* 18 41 22.5
CAM3 *i* 18 41 27.2
CAM3 *i* 18 41 55.9
PMAR Madeira 151.37 338 *e*PKP PKPbc 18 41 21.1 +1.2
FUL Funchal 151.44 338 *e*PKP PKPbc 18 41 21.5 +1.4
EFAM Famara 152.97 329 PKP PKPbc 18 41 25.4 +1.8
CFTV Fuerteventura 153.83 329 PKP PKPdf 18 41 18.5 +1.0
EGOM La Gomera 155.52 334 PKP PKPdf 18 41 30.3 +10
LIC Lamto 156.17 271 *e*PKIKP PKPdf 18 41 19.7 -1.0
comp=Z,115nm,1.0s
LIC *e*R
comp=Z,6µm,20.0s
LIC Lamto 156.17 271 *e*PKPdf PKPdf 18 41 19.7 -1.0
LIC LR LR
comp=Z,3µm,20.0s,MS6.1
ASCN Ascension 159.70 226 PFAKE 18 41 40.0 +15
ASCN LR LR
comp=Z,1µm,20.0s,MS5.7
RCBR Riachuelo 166.16 150 PFAKE 18 41 40.0 +8.7
RCBR LR LR
comp=Z,4µm,21.0s

IDC **12** *18:32:52.2±6.5,* **647S**×**15075E, h93**km±48km**, mb3.6**/5**, mb1 3.7**/6**, mb1mx3.6**/15**, mbtmp3.6**/6**, Error ellipse: s-maj=56.9km s-min=27.8km az=93.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**230**	P	P	Pn	18 33 58.6	-0.7
	0.6nm,0.3s,baz=0.6,slow=20,SNR=4.5							
PMG				S	S	Sn	18 34 53.1	+1.5
	1.8nm,0.3s,baz=290,slow=5.1,SNR=1.8							
WRA	**Warramunga Arr**	**20.82**	**228**	P	P		18 37 26.4	+0.3
	1.8nm,0.6s,baz=50,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**23.55**	**222**	P	P		18 37 54.5	+0.5
	2.4nm,0.7s,baz=55,slow=9.0,SNR=11							
STKA	**Stephens Creek**	**26.69**	**198**	P	P		18 38 21.6	-0.9
	2.4nm,0.6s,baz=16,slow=15,SNR=2.7							
FITZ	**Fitzroy Crossi**	**27.08**	**242**	P	P		18 38 26.6	+0.6
	4.5nm,0.9s,baz=57,slow=10,SNR=4.7							
SONM	**Songino Array**	**66.67**	**329**	P	P		18 43 33.5	+0.5
	0.5nm,0.7s,baz=148,slow=5.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc	PKPbc		18 52 29.7	+0.8
	2.5nm,1.0s,baz=70,slow=1.7,SNR=8.4							

NEIC **12** *18:39:22.0±1.7, 6.25S*×*151.34E, h10*km*, mb4.7/2, Error ellipse: s-maj=41.2km s-min=25.3km az=156.0*
ISCJB **12** *18:39:30.9±5.1, 6.6S±0.4*×*151.0E±0.2, h75*km*±34*km*, mb4.2/5, Error ellipse: s-maj=62.8km s-min=36.5km az=143.6*
IDC **12** *18:39:31.6±8.9, 6.50S*×*150.99E, h66*km*±63*km*, mb3.9/4, mb1 4.0/5, mb1mx3.6/15, mbtmp3.9/5, ML2.5/1, MS4.8/1, Ms1 4.8/1, ms1mx4.0/30, Error ellipse: s-maj=58.6km s-min=52.9km az=66.0*
ISC 12 18:39:32.3±5.1, 66S±04×**151.1E±03, h72**km±33km**, n13, σ0.58/14, mb4.2/5, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**234**	P	P	Pn	**18 40 41.2**	**-0.6**
	1.4nm,0.3s,baz=76,slow=12,SNR=5.6							
PMG				S	S	Sn	**18 41 35.8**	**0.0**
	0.9nm,0.3s,baz=164,slow=23,SNR=4.0							
PMG	**Port Moresby**	**4.78**	**234**	*e*Pn	P	Pn	**18 40 42.2**	**+0.4**
PMG					S	Sn	**18 41 35.8**	**0.0**
WRAB	**Tennant Creek**	**20.96**	**229**	*e*P	P		**18 44 09.9**	**+0.5**
	3.3nm,0.6s							
WB2	**Warramunga Arr**	**20.97**	**229**	*e*P	P		**18 44 09.3**	**-0.2**
WRA	**Warramunga Arr**	**20.98**	**229**	P	P		**18 44 09.0**	**-0.6**
	3.0nm,0.7s,baz=53,slow=10,SNR=20							
WRA				LR	LR		18 52 51.4	
	comp=Z,3µm,20.2s,baz=25,slow=38							
AS31	**Alice Springs**	**23.67**	**222**	*e*P	P		**18 44 37.3**	**+0.1**
ASAR	**Alice Springs**	**23.67**	**222**	P	P		**18 44 37.5**	**+0.2**
	3.2nm,0.6s,mb3.9,baz=57,slow=8.7,SNR=54							
STKA	**Stephens Creek**	**26.66**	**198**	P	P		**18 45 04.6**	**+0.2**
	5.8nm,1.0s,mb4.1,baz=45,slow=12,SNR=7.5							
STKA	**Stephens Creek**	**26.66**	**198**	*e*P	P		**18 45 05.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P	P		**18 45 10.5**	**+0.4**
	2.4nm,0.5s,mb4.0,baz=90,slow=6.0,SNR=9.2							
CASY	**Casey**	**65.81**	**197**	*e*P	P		**18 50 08.5**	**-1.5**
	13nm,0.5s,mb5.0							
SBA	**Scott Base**	**71.69**	**177**	*e*P	P		**18 50 47.2**	**+0.7**
	1.3nm,0.6s,mb3.9							
TORD	**Torodi Ar. Bea**	**149.16**	**285**	PKPbc	PKPbc		18 59 13.0	+0.5
	0.7nm,0.6s,baz=65,slow=2.8,SNR=4.5							

ISCJB **12** *18:43:03.1±2.1, 179S±02*×*174.8W±0.3, h254*km*±43*km*, mb4.3/8, Error ellipse: s-maj=48.0km s-min=28.6km az=174.7*
NEIC **12** *18:43:04.0±1.3, 18.00S*×*174.78W, h248*km*±24*km*, mb4.3/5, Error ellipse: s-maj=24.1km s-min=18.5km az=77.0*
IDC **12** *18:43:04.0±2.5, 18.01S*×*174.83W, h243*km*±45*km*, mb4.0/6, mb1 4.1/8, mb1mx3.7/19, mbtmp3.9/8, Error ellipse: s-maj=45.5km s-min=29.8km az=82.0*
ISC 12 18:43:03.7±2.0, 180S±02×**174.7W±03, h246**km±38km**, n19, σ0.69/21, mb4.3/8, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.92**	**35**	P	P	Pn	**18 44 19.9**	**+1.6**
	16nm,0.3s,baz=334,slow=3.1,SNR=12							
AFI				S	S		**18 45 15.7**	**-2.0**
	107nm,0.3s,baz=38,slow=18,SNR=16							
AFI	**Afiamalu**	**4.92**	**35**	*e*Pn	P	Pn	**18 44 19.6**	**+1.4**
AFI				*e*S	S		**18 45 13.8**	**-3.9**
DZM	**Mont Dzumac**	**18.18**	**254**	P	P		**18 46 58.3**	**-0.2**
	0.2nm,0.3s,baz=81,slow=18,SNR=3.1							
URZ	**Urewera**	**21.45**	**198**	P	P		**18 47 32.8**	**0.0**
	4.1nm,0.4s,mb4.3,baz=345,slow=5.6,SNR=6.5							
HNR	**Honiara**	**26.03**	**286**	*e*P	P		**18 48 14.8**	**+0.5**
CTA	**Charters Tower**	**36.92**	**260**	*e*P	P		**18 49 48.6**	**-0.5**
	4.6nm,0.6s,mb4.2							
CTA	**Charters Tower**	**36.92**	**260**	P	P		**18 49 48.6**	**-0.5**
	4.3nm,0.4s,mb4.3,baz=87,slow=11,SNR=14							
CTAO	**Charters Tower**	**36.92**	**260**	*e*P	P		**18 49 48.6**	**-0.5**
	4.6nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**41.71**	**242**	*e*P	P		**18 50 28.0**	**-0.6**
	5.8nm,2.0s,mb3.7							
STKA	**Stephens Creek**	**41.71**	**242**	P	P		**18 50 27.9**	**-0.7**
	1.0nm,0.3s,mb3.7,baz=85,slow=11,SNR=9.5							
STKA	**Stephens Creek**	**41.71**	**242**	*e*P	P		**18 50 28.3**	**-0.3**
WB2	**Warramunga Arr**	**48.08**	**259**	*e*P	P		**18 51 18.6**	**0.0**
WRAB	**Tennant Creek**	**48.09**	**259**	*e*P	P		**18 51 18.2**	**-0.4**
	5.4nm,0.3s,mb4.4							
WRA	**Warramunga Arr**	**48.09**	**259**	P	P		**18 51 18.4**	**-0.3**
	7.2nm,0.4s,mb4.4,baz=98,slow=6.9,SNR=207							
AS31	**Alice Springs**	**48.17**	**254**	*e*P	P		**18 51 19.1**	**-0.2**
ASAR	**Alice Springs**	**48.18**	**254**	P	P		**18 51 19.4**	**+0.1**
	30nm,0.6s,mb4.8,baz=89,slow=8.5,SNR=416							
KAKA	**Kakadu**	**51.12**	**268**	*e*P	P		**18 51 41.9**	**+0.5**
	5.5nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**56.50**	**260**	*e*P	P		**18 52 21.1**	**+0.8**
	2.7nm,0.3s,mb4.3							
FITZ	**Fitzroy Crossi**	**56.50**	**260**	P	P		**18 52 21.1**	**+0.8**
	1.5nm,0.3s,mb4.1,baz=92,slow=8.1,SNR=9.1							

IDC **12** *19:12:02.1±1.7, 2331S*×*175.13W, h0*km*, mb3.9/3, mb1 4.3/5, mb1mx4.0/16, mbtmp4.3/5, Error ellipse: s-maj=68.9km s-min=26.9km az=149.0*
NEIC **12** *19:12:03.2±0.6, 2322S*×*175.10W, h10*km*, mb4.6/4, Error ellipse: s-maj=20.4km s-min=11.1km az=157.0*
ISC 12 19:12:08.6±4.5, 231S±02×**174.9W±02, h69**km±58km**, n16, σ0.52/17, mb4.2/7, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.62**	**18**	Pn	Pn		**19 14 24.6**	**+0.4**
	4.2nm,0.3s,baz=21,slow=15,SNR=5.8							
AFI				Sn	Sn		**19 16 10.6**	**-0.1**
	1.2nm,0.3s,baz=144,slow=19,SNR=2.4							
AFI	**Afiamalu**	**9.62**	**18**	*e*Pn	Pn		**19 14 24.7**	**+0.5**
AFI				Sn	Sn		**19 16 10.6**	**-0.1**
RAR	**Rarotonga**	**14.11**	**85**	Pn	Pn		**19 15 24.6**	**-0.3**
	4.6nm,0.3s,baz=243,slow=7.2,SNR=9.1							
RAR				Sn	Sn		**19 17 48.3**	**-12**
	0.8nm,0.3s,baz=70,slow=15,SNR=3.3							
STKA	**Stephens Creek**	**39.38**	**247**	P	P		**19 19 31.5**	**+0.1**
	1.4nm,0.7s,mb3.9,baz=112,slow=11,SNR=2.7							
STKA	**Stephens Creek**	**39.38**	**247**	P	P		**19 19 31.5**	**+0.1**
AS31	**Alice Springs**	**46.81**	**259**	*e*P	P		**19 20 31.3**	**-0.1**
ASAR	**Alice Springs**	**46.81**	**259**	P	P		**19 20 31.2**	**-0.1**
	0.6nm,0.5s,mb3.6,baz=

RSP	**Reno Superiore**	**0.29**	**5**	Pg		**Pg**	**19 12 50.3**	**0.0**
RSP				Sg		**Sg**	**19 12 54.3**	**0.0**
RRL	**Cesana Torines**	**0.32**	**281**			**Pg**	**19 12 51.1**	**+0.4**
MBDF	**Montbardon**	**0.35**	**248**	*e*Pg		**Pg**	**19 12 51.8**	**+0.5**
MBDF				*e*Sg		**Sg**	**19 12 55.8**	**-0.2**
	20nm,0.3s							
DOI	**San Damiano**	**0.36**	**177**	Pg		**Pg**	**19 12 51.3**	**-0.1**
DOI				Sg		**Sg**	**19 12 56.0**	**-0.2**
	35nm,0.3s							
PZZ	**Prazzo**	**0.37**	**194**			**Pg**	**19 12 51.6**	**0.0**
LSD	**Ceresole Reale**	**0.60**	**355**			**Pg**	**19 12 57.1**	**+1.1**
ENR	**Entracque**	**0.65**	**167**			**Pg**	**19 12 56.1**	**-0.8**
LPG	**La Plagne**	**0.72**	**332**	*e*Pg		**Pg**	**19 12 58.3**	**+0.1**
LPG				*e*Sg		**Sg**	**19 13 07.5**	**-0.2**
	7.3nm,0.3s							
ROB	**Roburent**	**0.73**	**141**			**Pg**	**19 12 57.7**	**-0.7**
LPL	**La Plagne**	**0.74**	**332**	*e*Pg		**Pg**	**19 12 58.7**	**0.0**
LPL				*e*Sg		**Sg**	**19 13 08.2**	**-0.2**
	7.8nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.96**	**274**	*e*Pg		**Pg**	**19 13 03.1**	**+0.4**
ORIF				*e*Sg		**Sg**	**19 13 15.3**	**+0.1**
	4.1nm,0.2s							
PCP	**Pian Castagno**	**0.99**	**108**			**Pb**	**19 13 02.9**	**-0.5**
SBF	**Sospel**	**1.01**	**171**	*e*Pg		**Pg**	**19 13 04.2**	**+0.5**
SBF				*e*Sg		**Sg**	**19 13 17.6**	**+0.8**
	3.9nm,0.2s							
FRF	**La Foret Royal**	**1.36**	**198**	*e*Pg		**Pg**	**19 13 10.4**	**-0.1**
FRF				*e*Sg		**Sg**	**19 13 28.5**	**+0.3**
	3.4nm,0.3s							
SMRF	**Simiane la Rot**	**1.48**	**234**	*e*Pg		**Pg**	**19 13 12.7**	**+0.1**
SMRF				*e*Sg		**Sg**	**19 13 31.9**	**+0.1**
	1.1nm,0.2s							
LMR	**La Mourre**	**1.61**	**199**	*e*P		**Pn**	**19 13 13.3**	**+0.8**
LMR	**La Mourre**	**1.61**	**199**	*e*Pg		**Pg**	**19 13 15.0**	**-0.2**
LMR				*e*Sg		**Sg**	**19 13 36.1**	**0.0**
	2.1nm,0.2s							
VIVF	**Saint-Julien-l**	**1.81**	**271**	*e*Pg		**Pg**	**19 13 18.2**	**-0.9**
VIVF				*e*Sg		**Sg**	**19 13 41.9**	**-0.7**
	0.3nm,0.2s							
PGF	**Pioggiola**	**2.65**	**150**	*e*Pn		**Pn**	**19 13 26.3**	**-0.4**

IDC 12 19:20:22.6±9.9, 636S×15080E, h64km±66km, mb3.4/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.4/5, ML1.9/1, Error ellipse: s-maj=83.6km s-min=54.4km az=68.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.71**	**230**	P	Pn	19 21 31.2	+0.2
	0.4nm,0.3s,baz=36,slow=8.7,SNR=1.7						
WRA	**Warramunga Arr**	**20.93**	**228**	P	P	19 25 00.6	+0.8
	0.8nm,0.6s,baz=54,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**23.66**	**222**	P	P	19 25 28.4	+0.2
	0.5nm,0.5s,baz=55,slow=9.2,SNR=18						
STKA	**Stephens Creek**	**26.80**	**198**	P	P	19 25 56.6	-0.1
	0.7nm,0.4s,baz=12,slow=9.3,SNR=3.0						
FITZ	**Fitzroy Crossi**	**27.17**	**242**	P	P	19 26 00.1	+0.2
	1.1nm,0.5s,baz=59,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc	PKPbc	19 40 03.7	+0.8
	0.4nm,0.7s,baz=61,slow=1.2,SNR=4.8						

*ISCJB **12** 19:26:20.2±0.2, 4741N±001×1505E±002, h5km, Error ellipse: s-maj=1.7km s-min=1.5km az=105.7*
*VIE **12** 19:26:21.9±0.2, 4735N×1511E, h5km±4km, mb2.4/6, ML3.0/6, Error ellipse: s-maj=2.1km s-min=1.4km az=144.0 3 km SSE of Leoben felt 5 EMS98 at Leoben / STYRIA*
*IPEC **12** 19:26:22.1±0.1, 4740N×15.16E, h0km, ML2.8/2, Error ellipse: s-maj=0.6km s-min=0.5km az=145.0*
*BGR **12** 19:26:22.4±0.3, 4741N×1520E, h10km, ML3.2, Error ellipse: s-maj=10.0km s-min=4.4km az=40.0*
*NEIC **12** 19:26:22.0±0.3, 4733N×1511E, h10km, ML3.2(SZGRF), ML3.3(ROM), ML3.5(STR), Error ellipse: s-maj=3.4km s-min=3.1km az=54.0*
NEIC Felt at Leoben.
*LDG **12** 19:26:22.7±0.1, 4734N×15.17E, h10km, Ml3.3/13, Error ellipse: s-maj=4.0km s-min=3.0km az=10.0*
*PRU **12** 19:26:23.8, 4750N×1511E, h0km*
*CSEM **12** 19:26:23.2±0.1, 4727N×1510E, h12km, ML3.4/16, Error ellipse: s-maj=1.0km s-min=1.0km az=99.0*
*ROM **12** 19:26:24.3±1.3, 4735N×1508E, h10km, Md3.3/5, Ml3.3/1, Error ellipse: s-maj=34.1km s-min=12.3km az=49.0*
*STR **12** 19:26:30.4±1.6, 4760N×1437E, h5km±1km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 19:26:21.3±0.2, 4740N±001×1508E±002, h2km±2km, n155, σ1§20/289, 28C-18D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.34**	**116**	⇓*i*Pg		**Pg**	**19 26 27.8**	**0.0**
	comp=Z,88nm,0.1s							
ARSA				⇓*i*Sg		**Sg**	**19 26 32.0**	**-0.2**
	comp=N,154nm,0.1s							
ARSA	**Arzberg**	**0.34**	**116**	*e*Pg		**Pg**	**19 26 27.9**	**+0.1**
ARSA				*e*Sg		**Sg**	**19 26 31.8**	**-0.4**
ARSA	**Arzberg**	**0.34**	**116**	Pg		**Pg**	**19 26 27.9**	**+0.1**
ARSA				Sg		**Sg**	**19 26 32.0**	**-0.2**
ARSA	**Arzberg**	**0.34**	**116**	*e*Pg		**Pg**	**19 26 27.9**	**+0.1**
ARSA				Sg		**Sg**	**19 26 32.0**	**-0.2**
	154nm,0.1s							
MOA	**Molln**	**0.71**	**310**	*e*Pg		**Pg**	**19 26 35.6**	**+0.7**
MOA				*e*Sg		**Sg**	**19 26 47.9**	**+3.8**
MOA	**Molln**	**0.71**	**310**	⇓*i*Pg		**Pg**	**19 26 35.7**	**+0.7**
	22nm,0.1s,SNR=25							
MOA				⇑*i*Sg		**Sg**	**19 26 47.9**	**+3.8**
	72nm,0.1s							
MOA	**Molln**	**0.71**	**310**	*e*Pg		**Pg**	**19 26 36.4**	**+1.5**
MOA				Sg		**Sg**	**19 26 47.9**	**+3.8**
	72nm,0.1s							
CONA	**Conrad Observa**	**0.75**	**45**	⇑*e*Pg		**Pg**	**19 26 35.9**	**+0.2**
	6.3nm,0.1s,SNR=60							
CONA				⇑*i*Sg		**Sg**	**19 26 47.7**	**+2.3**
	84nm,0.4s							
BISS	**Bistriski jare**	**0.75**	**177**	*i*Pg		**Pg**	**19 26 35.7**	**0.0**
BISS				*i*Sg		**Sg**	**19 26 44.4**	**-1.1**
PERS	**Pernice**	**0.76**	**178**	*i*Pg		**Pg**	**19 26 35.9**	**-0.1**
PERS				*e*Sg		**Sg**	**19 26 44.9**	**-1.0**
PERS								
	comp=Z,136nm,0.2s							
PERS	**Pernice**	**0.76**	**178**	*i*Pg		**Pg**	**19 26 35.9**	**-0.1**
PERS				*e*Sg		**Sg**	**19 26 44.9**	**-1.0**
PERS	**Pernice**	**0.76**	**178**	*i*Pg		**Pg**	**19 26 35.9**	**-0.1**
PERS				*e*Sg		**Sg**	**19 26 44.9**	**-1.0**
OBKA	**Obir**	**0.96**	**202**	⇑*i*Pg		**Pg**	**19 26 40.0**	**+0.3**
	comp=Z,12nm,0.1s,SNR=19							
OBKA				⇑*i*Sg		**Sg**	**19 26 52.3**	**+0.1**
	comp=Z,143nm,0.3s							
OBKA	**Obir**	**0.96**	**202**	Pg		**Pg**	**19 26 40.0**	**+0.3**
OBKA				Sg		**Sg**	**19 26 52.3**	**+0.1**
OBKA	**Obir**	**0.96**	**202**	Pg		**Pg**	**19 26 40.0**	**+0.3**
	comp=Z,12nm,0.1s,SNR=19							
OBKA				*e*Sg		**Sg**	**19 26 52.0**	**-0.2**
GROS	**Grobnik**	**0.98**	**163**	*i*Pg		**Pg**	**19 26 39.7**	**-0.4**
SOP	**Sopron**	**1.04**	**74**	⇑*e*Pg		**Pg**	**19 26 41.0**	**-0.3**
SOP				*e*Sn		**Sn**	**19 26 57.7**	**-0.4**
KBA	**Koelnbreinsper**	**1.22**	**255**	*e*Pg		**Pg**	**19 26 45.4**	**+0.6**
KBA	**Koelnbreinsper**	**1.22**	**255**	⇑*e*Pg		**Pg**	**19 26 44.9**	**+0.2**
	comp=Z,15nm,0.2s							
KBA				⇑*e*Sg		**Sg**	**19 27 03.2**	**+2.6**
	comp=Z,92nm,0.4s							
KBA	**Koelnbreinsper**	**1.22**	**255**	Pg		**Pg**	**19 26 45.4**	**+0.7**
KBA				Sg		**Sg**	**19 27 03.2**	**+2.6**
	comp=Z,92nm,0.4s							
KOGS	**Kog**	**1.25**	**139**	*e*Pg		**Pg**	**19 26 44.3**	**-0.9**
DOBS	**Dobrina**	**1.28**	**168**	*e*Pg		**Pg**	**19 26 45.2**	**-0.6**
LSR	**Lussari**	**1.41**	**230**	⇓*i*Pg		**Pg**	**19 26 48.3**	**+0.1**
LSR				*i*Sg		**Sg**	**19 27 08.9**	**+2.4**
LSR	**Lussari**	**1.41**	**230**	*i*Pg		**Pg**	**19 26 48.3**	**0.0**
LSR				*i*Sg		**Sg**	**19 27 08.9**	**+2.4**
LJU	**Ljubljana**	**1.41**	**196**	*e*Pg		**Pg**	**19 26 49.0**	**+0.7**
GOLS	**Golise**	**1.44**	**165**	*i*Pg		**Pg**	**19 26 48.5**	**-0.4**
GOLS				*e*Sg		**Sg**	**19 27 06.0**	**-1.6**
GOLS								
	comp=Z,84nm,0.3s							
GOLS	**Golise**	**1.44**	**165**	*i*Pg		**Pg**	**19 26 48.5**	**-0.4**
GOLS				*e*Sg		**Sg**	**19 27 06.0**	**-1.6**
GOLS	**Golise**	**1.44**	**165**	*i*Pg		**Pg**	**19 26 48.5**	**-0.4**
GOLS				*e*Sg		**Sg**	**19 27 06.0**	**-1.6**
CADS	**Cadrg**	**1.49**	**219**	*i*Pg		**Pg**	**19 26 49.5**	**-0.3**
CADS				*e*Sg		**Sg**	**19 27 08.8**	**-0.4**
CADS								
	comp=Z,71nm,0.4s							
CADS	**Cadrg**	**1.49**	**219**	*i*Pg		**Pg**	**19 26 49.5**	**-0.4**
CADS				*e*Sg		**Sg**	**19 27 08.8**	**-0.4**
	comp=Z,71nm,0.4s							
PTCC	**Patocco-Chiusa**	**1.54**	**231**	Pg		**Pg**	**19 26 50.7**	**-0.2**
PTCC				Sg		**Sg**	**19 27 11.3**	**+0.4**
	comp=Z,41nm,0.3s							
PLRO	**Paularo**	**1.57**	**238**	⇓*i*Pg		**Pg**	**19 26 51.3**	**-0.1**
PLRO				*i*Sg		**Sg**	**19 27 12.8**	**+1.0**
DRE	**Drenchia**	**1.57**	**219**	⇓*i*Pg		**Pg**	**19 26 50.9**	**-0.5**
DRE				*i*Sg		**Sg**	**19 27 12.9**	**+1.1**
ZST	**Bratislava**	**1.58**	**59**	*e*PN		**Pn**	**19 26 50.4**	**0.0**
ZST				*e*SN		**Sn**	**19 27 10.7**	**-0.7**
ZST	**Bratislava**	**1.58**	**59**	*e*Pn		**Pn**	**19 26 50.4**	**0.0**
ZST				*e*Sn		**Sn**	**19 27 10.7**	**-0.7**
ZST				*e*Sg		**Sg**	**19 27 11.0**	**-1.1**
VOY	**Vojsko**	**1.59**	**211**	*e*Pn		**Pn**	**19 26 51.2**	**+0.7**
VOY				*e*			19 26 52.7	
VOY				*e*Sn		**Sn**	**19 27 12.1**	**+0.5**
CRES	**Cresnjev**	**1.60**	**170**	*e*Pg		**Pg**	**19 26 51.2**	**-0.7**
CRES	**Cresnjev**	**1.60**	**170**	*e*Pn		**Pb**	**19 26 52.4**	**+0.9**
ZOU	**Zoufplan**	**1.67**	**240**	⇓*i*Pg		**Pg**	**19 26 53.8**	**+0.5**
ZOU				*i*Sg		**Sg**	**19 27 15.9**	**+1.0**
GMNA	**Gemona**	**1.69**	**229**	Pg		**Pg**	**19 26 55.8**	**+2.1**
GMNA				Sg		**Sg**	**19 27 19.1**	**+3.5**
	comp=Z,285nm,0.8s							
BAD	**Bernadia**	**1.71**	**228**	⇓*i*Pg		**Pg**	**19 26 53.5**	**-0.7**
BAD				*i*Sg		**Sg**	**19 27 17.4**	**+1.1**
GEC2	**GERESS Array S**	**1.71**	**328**	*e*Pn		**Pn**	**19 26 53.4**	**+1.2**
GEC2				*e*Sg		**Sg**	**19 27 16.2**	**-0.2**
GEC2	**GERESS Array S**	**1.71**	**328**	*e*Pn		**Pn**	**19 26 53.4**	**+1.2**
GEC2				*e*Sg		**Sg**	**19 27 16.2**	**-0.2**
GERES	**GERESS Array B**	**1.71**	**328**	*e*Pn		**Pn**	**19 26 53.6**	**+1.4**
GERES				*e*Sg		**Sg**	**19 27 16.2**	**-0.2**
CEY	**Cerknica**	**1.72**	**195**	*i*Pn		**Pg**	**19 26 55.4**	**+1.1**
CEY				*i*Sn		**Sg**	**19 27 17.5**	**+0.9**
CEY	**Cerknica**	**1.72**	**195**	*e*Pn		**Pn**	**19 26 52.9**	**+0.6**
COLI	**Coloredo**	**1.72**	**223**	⇑*i*Pg		**Pg**	**19 26 54.0**	**-0.3**
FVI	**Forni Avoltri**	**1.77**	**244**	Pg		**Pg**	**19 26 54.9**	**-0.2**
FVI				Sg		**Sg**	**19 27 18.7**	**+0.7**
	comp=Z,29nm,0.3s							
KRUC	**Moravsky**	**1.88**	**27**	*e*Pn		**Pn**	**19 26 55.4**	**+0.9**
BOJS	**Bojanci**	**1.90**	**176**	*i*Pn		**Pn**	**19 26 55.1**	**+0.3**
BOJS				*e*Sn		**Sg**	**19 27 22.4**	**+0.1**
TRI	**Trieste**	**1.92**	**209**	*e*Sg		**Sg**	**19 27 22.2**	**-0.7**
SMOL	**Smolenice**	**1.94**	**54**	*e*SN		**Sn**	**19 27 20.7**	**+0.6**
KHC	**Kasperske Hory**	**2.00**	**331**	*e*PN		**Pb**	**19 26 57.6**	**-0.8**
KHC				*e*SN		**Sb**	**19 27 24.5**	**+0.7**
	comp=Z,119nm,0.4s							
SEST	**Monte Rota**	**2.06**	**253**	Pg		**Pb**	**19 26 58.7**	**-0.7**
	comp=Z,4μm,3.6s							
VRAC	**Vranov**	**2.16**	**27**	⇑*i*P		**Pn**	**19 26 59.1**	**+0.8**
VRAC	**Vranov**	**2.16**	**27**	*e*Pn		**Pn**	**19 26 59.1**	**+0.8**
CSO	**Casso**	**2.20**	**240**	⇓*i*Pn		**Pb**	**19 27 00.7**	**-1.1**
CSO				*i*Sn		**Sb**	**19 27 28.8**	**-0.7**
WET	**Wettzell**	**2.28**	**321**	*e*Pn		**Pn**	**19 27 01.0**	**+1.1**
WET	**Wettzell**	**2.28**	**321**	*e*Pn		**Pn**	**19 27 01.0**	**+1.0**
WTTA	**Wattenberg**	**2.34**	**268**	⇑*i*Pn		**Pb**	**19 27 04.6**	**+0.4**
	comp=Z,3.3nm,0.1s,SNR=86							
WTTA				⇓*e*Pg		**Pg**	**19 27 06.1**	**-0.2**
	comp=Z,74nm,0.2s							
WTTA	**Wattenberg**	**2.34**	**268**	*e*Pn		**Pb**	**19 27 04.4**	**+0.1**
WTTA	**Wattenberg**	**2.34**	**268**	⇑*i*Pn		**Pb**	**19 27 04.6**	**+0.4**
	comp=Z,3.3nm,0.1s,SNR=86							
WTTA				⇓*e*Pg		**Pg**	**19 27 06.1**	**-0.2**
	comp=Z,74nm,0.2s							
WTTA				⇑*i*Sg		**Sg**	**19 27 38.3**	**+1.7**
	comp=Z,86nm,0.6s							
WATA	**Walderalm**	**2.38**	**270**	⇑*e*Pn		**Pb**	**19 27 04.6**	**-0.3**
	comp=Z,0.7nm,0.1s,SNR=42							
WATA				⇑*i*Pg		**Pg**	**19 27 06.8**	**-0.1**
	comp=Z,19nm,0.2s							
WATA				⇑*i*Sg		**Sg**	**19 27 39.4**	**+1.6**
	comp=Z,20nm,0.2s							
WATA	**Walderalm**	**2.38**	**270**	*e*Pn		**Pb**	**19 27 04.5**	**-0.4**
PRU	**Pruhonice**	**2.62**	**352**	*e*PN		**Pn**	**19 27 05.5**	**+0.9**
PRU				*e*PG		**Pg**	**19 27 11.7**	**+0.3**
PRU				*e*SG		**Sg**	**19 27 44.6**	**-0.7**
	comp=Z,35nm,0.4s							
PRU	**Pruhonice**	**2.62**	**352**	*e*Pn		**Pn**	**19 27 05.2**	**+0.6**
SQTA	**Sankt Quirin**	**2.64**	**268**	⇑*i*Pn		**Pb**	**19 27 08.3**	**-1.0**
	comp=Z,1.4nm,0.1s							
SQTA				⇓*e*Pg		**Pg**	**19 27 11.3**	**-0.6**
	comp=Z,29nm,0.3s,SNR=21							
SQTA				⇓*i*Sg		**Sg**	**19 27 47.5**	**+1.4**
	comp=Z,20nm,0.3s							
FUR	**Furstenfeldbru**	**2.67**	**288**	*e*Pn		**Pb**	**19 27 08.3**	**-1.6**
BUD	**Budapest**	**2.68**	**87**	⇓*e*PB		**Pb**	**19 27 11.5**	**+1.5**
BUD				*e*Sg		**Sg**	**19 27 53.1**	**+5.7**
MOTA	**Moosalm**	**2.70**	**270**	⇓*i*Pn		**Pb**	**19 27 08.7**	**-1.7**
	comp=Z,1.5nm,0.2s							
MOTA				⇑*e*Pg		**Pg**	**19 27 13.6**	**+0.6**
	comp=Z,12nm,0.3s,SNR=14							
MOTA				⇑*i*Sg		**Sg**	**19 27 49.5**	**+1.5**
	comp=Z,50nm,0.4s							
MOTA	**Moosalm**	**2.70**	**270**	*e*Pn		**Pb**	**19 27 08.5**	**-1.8**
CTI	**Castel Tesino**	**2.72**	**241**	Pg		**Pb**	**19 27 08.4**	**-2.2**
	comp=Z,63nm,1.0s							
PKSM	**Moragy**	**2.72**	**115**	⇑*i*P		**Pn**	**19 27 05.1**	**-0.9**
PKSM	**Moragy**	**2.72**	**115**	⇑*e*Pn		**Pn**	**19 27 05.4**	**-0.6**
PKSM				*e*Sn		**Sn**	**19 27 38.8**	**-0.7**
VYHS	**Vyhne**	**2.75**	**65**	*e*PN		**Pn**	**19 27 06.0**	**-0.5**
VYHS				*e*PG		**Pg**	**19 27 12.2**	**-1.9**
VYHS				*e*SG		**Sg**	**19 27 51.6**	**+1.8**
APPI	**Appiano**	**2.79**	**252**	Pg		**Pb**	**19 27 10.3**	**-1.6**
MORC	**Moravsky Berou**	**2.89**	**34**	⇑*i*P		**Pn**	**19 27 10.3**	**+2.0**
MORC	**Moravsky Berou**	**2.89**	**34**	*e*Pn		**Pn**	**19 27 08.7**	**+0.4**
MORC				*e*Pg		**Pg**	**19 27 17.4**	**+0.7**
MORC	**Moravsky Berou**	**2.89**	**34**	⇑*i*P		**Pn**	**19 27 10.3**	**+2.0**
MORC	**Moravsky Berou**	**2.89**	**34**	*e*Pg		**Pg**	**19 27 17.4**	**+0.7**
DPC	**Dobruska-Polom**	**3.07**	**15**	*e*Pn		**Pn**	**19 27 11.8**	**+1.0**
DPC				*e*Sg		**Sg**	**19 27 58.4**	**-1.4**
	comp=Z,29nm,0.5s							
UPC	**Upice**	**3.17**	**11**	*e*PG		**Pb**	**19 27 19.4**	**+1.0**
PSZ	**Piszkesteto**	**3.30**	**79**	*e*Pg		**Pg**	**19 27 23.4**	**-1.1**
PSZ	**Piszkesteto**	**3.30**	**79**	⇑*e*PB		**Pb**	**19 27 23.3**	**+2.8**
PSZ				*e*Sg		**Sg**	**19 28 09.0**	**+1.7**
PSZ	**Piszkesteto**	**3.30**	**79**	*e*Pg		**Pg**	**19 27 23.4**	**-1.1**
NKC	**Novy Kostel**	**3.33**	**329**	*e*PG		**Pg**	**19 27 23.5**	**-1.5**
NKC				*e*SG		**Sg**	**19 28 07.2**	**-0.9**
	comp=Z,85nm,0.4s							
NKC	**Novy Kostel**	**3.33**	**329**	*e*Pg		**Pg**	**19 27 23.5**	**-1.5**
NKC				*e*Sg		**Sg**	**19 28 06.6**	**-1.5**
GRA1	**Grafenberg Arr**	**3.44**	**313**	*e*Pn		**Pn**	**19 27 16.7**	**+0.8**
GRA1	**Grafenberg Arr**	**3.44**	**313**	*e*Pn		**Pn**	**19 27 16.7**	**+0.8**
GRF	**Grafenberg Arr**	**3.44**	**313**	*e*Pn		**Pn**	**19 27 16.7**	**+0.8**
GRFO	**Grafenberg**	**3.44**	**313**	*e*Pn		**Pn**	**19 27 16.0**	**+0.1**
GRFO				*e*Sg		**Sg**	**19 28 13.3**	**+1.6**
GRFO	**Grafenberg**	**3.44**	**313**	*e*Pn		**Pn**	**19 27 16.0**	**+0.1**
GRFO				*e*Sg		**Sg**	**19 28 13.3**	**+1.5**
MAGA	**Magasa**	**3.47**	**244**	Pg		**Pn**	**19 27 19.0**	**+2.7**
DAVA	**Damuels**	**3.54**	**270**	⇓*i*Pn		**Pn**	**19 27 19.7**	**+2.5**
	comp=Z,2.7nm,0.3s,SNR=8.1							
DAVA				⇑*e*Pg		**Pg**	**19 27 28.3**	**-0.8**
	comp=Z,18nm,0.3s							
DAVA	**Damuels**	**3.54**	**270**	*e*Pn		**Pn**	**19 27 19.6**	**+2.4**
DAVA	**Damuels**	**3.54**	**270**	⇓*i*Pn		**Pn**	**19 27 19.7**	**+2.5**
	comp=Z,2.7nm,0.3s,SNR=8.1							
DAVA				⇑*e*Pg		**Pg**	**19 27 28.3**	**-0.8**
	comp=Z,18nm,0.3s							
DAVA				⇓*i*Sn		**Sn**	**19 28 02.3**	**+2.7**
	comp=Z,9.8nm,0.3s							
DAVA				⇑*i*Sg		**Sg**	**19 28 16.4**	**+1.6**
	comp=Z,32nm,0.4s							
DAVA	**Damuels**	**3.54**	**270**	Pn		**Pn**	**19 27 19.7**	**+2.5**
DAVA				Pg		**Pg**	**19 27 28.3**	**-0.8**
DAVA				*i*Sg		**Sg**	**19 28 16.4**	**+1.6**
BRG	**Berggiesshubel**	**3.56**	**348**	*e*Pn		**Pn**	**19 27 18.0**	**+0.5**
BRG				*e*Sn		**Sn**	**19 28 00.1**	**0.0**
BRG	**Berggiesshubel**	**3.56**	**348**	PN		**Pn**	**19 27 17.9**	**+0.4**
BRG				PG		**Pg**	**19 27 29.1**	**-0.3**
BRG				SN		**Sn**	**19 27 58.1**	**-2.0**
BRG				SG		**Sg**	**19 28 15.0**	**-0.5**
	comp=Z,20nm,0.6s							
BRG	**Berggiesshubel**	**3.56**	**348**	Pg		**Pg**	**19 27 29.1**	**-0.4**
BRG				Sn		**Sn**	**19 28 00.1**	**0.0**
KECS	**Kecovo**	**3.79**	**71**	*e*PN		**Pn**	**19 27 20.4**	**-0.4**
MOX	**Moxa**	**3.97**	**326**	*e*PN		**Pn**	**19 27 25.5**	**+2.3**
MOX				*e*SG		**Sg**	**19 28 29.1**	**+0.4**
CLL	**Collm**	**4.14**	**342**	*e*Pn		**Pn**	**19 27 27.0**	**+1.5**
CLL				*e*Pg		**Pg**	**19 27 44.0**	**+3.3**
CLL				*e*Sn		**Sn**	**19 28 13.0**	**-1.5**
CLL				*i*x		x	19 28 26.8	
CLL				*i*Sg		**Sg**	**19 28 32.4**	**-1.9**
	comp=Z,45nm,1.0s							
CLL				*i*x		x	19 28 39.2	
BFO	**Black Forest**	**4.64**	**284**	*e*Pn		**Pn**	**19 27 33.6**	**+1.2**
BFO				*e*Sn		**Sn**	**19 28 24.3**	**-2.5**
BFO	**Black Forest**	**4.64**	**284**	*e*Pn		**Pn**	**19 27 33.4**	**+1.0**
BFO				Pg		**Pg**	**19 27 50.5**	**+0.4**
BFO				Sn		**Sn**	**19 28 24.3**	**-2.4**
BFO				*e*Sg		**Sg**	**19 28 51.9**	**+1.7**
BFO	**Black Forest**	**4.64**	**284**	*e*Pn		**Pn**	**19 27 33.4**	**+1.0**
BFO	**Black Forest**	**4.64**	**284**	Pg		**Pg**	**19 27 50.5**	**+0.4**
BFO				Sn		**Sn**	**19 28 24.3**	**-2.4**
TOD	**Tromm**	**4.72**	**300**	P		**Pn**	**19 27 35.0**	**+1.5**
TOD				S		**Sn**	**19 28 28.2**	**-0.6**
DIVS	**Divcibare**	**4.77**	**132**	*i*Pn		**Pn**	**19 27 34.0**	**-0.1**
DIVS				Sn		**Sn**	**19 28 28.0**	**-2.0**
FELD	**Feldberg im Sc**	**4.80**	**278**	P		**Pn**	**19 27 35.8**	**+1.1**
BZS	**Buzias**	**4.86**	**109**	⇑*i*P		**Pn**	**19 27 35.1**	**-0.3**
TNS	**Taunus Mts**	**5.21**	**305**	*e*Sn		**Sn**	**19 28 39.5**	**-1.5**
CDF	**Champ du Feu**	**5.34**	**284**	*e*Pg		**Pg**	**19 28 02.4**	**-1.3**
CDF				*e*Sn		**Sn**	**19 28 39.8**	**-4.4**
CDF				*e*Sg		**Sg**	**19 29 12.6**	**-0.3**
	comp=Z,32nm,0.8s							
CDF	**Champ du Feu**	**5.34**	**284**	*e*Pn		**Pn**	**19 27 43.3**	**+1.2**
CDF				*e*Pg		**Pg**	**19 28 02.4**	**-1.3**
CDF				*e*Sn		**Sn**	**19 28 39.8**	**-4.4**
CDF				*e*Sg		**Sg**	**19 29 12.6**	**-0.3**
	comp=Z,16nm,0.8s							
MOF	**Molkenrain**	**5.39**	**278**	P		**Pn**	**19 27 44.9**	**+2.2**
HINF	**Hinteralfeld**	**5.58**	**277**	*e*Pn		**Pn**	**19 27 45.5**	**+0.2**
HINF				*e*Sn		**Sn**	**19 28 45.3**	**-4.7**
HINF				*e*Sg		**Sg**	**19 29 19.3**	**-1.1**
	comp=Z,11nm,0.5s							
HINF	**Hinteralfeld**	**5.58**	**277**	*e*Pn		**Pn**	**19 27 45.5**	**+0.2**
HINF				*e*Sn		**Sn**	**19 28 45.3**	**-4.7**
HINF				*e*Sg		**Sg**	**19 29 19.3**	**-1.1**
	comp=Z,5.6nm,0.5s							
HAU	**Haudompre**	**5.92**	**279**	*e*P		**Pn**	**19 27 53.7**	**+3.7**
HAU	**Haudompre**	**5.92**	**279**	*e*Pg		**Pg**	**19 28 12.9**	**-1.9**
HAU				*e*Sn		**Sn**	**19 28 53.5**	**-5.0**
HAU				*e*Sg		**Sg**	**19 29 29.0**	**-2.6**
	comp=Z,23nm,0.6s							
HAU	**Haudompre**	**5.92**	**279**	*e*Pn		**Pn**	**19 27 48.7**	**-1.3**
HAU				*e*Pg		**Pg**	**19 28 12.9**	**-1.9**
HAU				*e*Sn		**Sn**	**19 28 53.5

12nm,0.1s
PLOU Loures 2.95 33 *e*Pn **Pn 19 37 42.5 +0.1**
PLOU *e*Sn **Sn 19 38 18.4 +0.5**
PLOU
19nm,0.5s
PLOU Loures 2.95 33 *e*Pn **Pn 19 37 42.5 +0.1**
PLOU *e*Sn **Sn 19 38 18.4 +0.5**
19nm,0.5s
PMAFR Mafra 2.95 30 *e*Pn **Pn 19 37 42.3 -0.2**
PMAFR *e*Sn **Sn 19 38 17.6 -0.4**
PMAFR
29nm,0.3s
PMAFR Mafra 2.95 30 *e*Pn **Pn 19 37 42.3 -0.2**
PMAFR *e*Sn **Sn 19 38 17.6 -0.4**
29nm,0.3s
MOE Montemor 3.09 46 *e*Pn **Pn 19 37 45.3 +1.0**
MOE *e*Sn **Sn 19 38 21.2 -0.1**
PBEJ Beja 3.10 58 *e*Pn **Pn 19 37 45.5 +1.0**
PBEJ *e*Sn **Sn 19 38 23.0 +1.3**
PBEJ
6.0nm,0.2s
PBEJ Beja 3.10 58 *e*Pn **Pn 19 37 45.5 +1.0**
PBEJ *e*Sn **Sn 19 38 23.0 +1.3**
6.0nm,0.2s
EGRO El Granado 3.17 68 P **Pn 19 37 47.0 +1.5**
5.8nm,0.3s,SNR=23
EGRO S **Sn 19 38 24.8 +1.4**
5.9nm,0.1s,SNR=8.1
EGRO El Granado 3.17 68 P **Pn 19 37 47.0 +1.5**
5.8nm,0.3s,SNR=23
EGRO S **Sn 19 38 24.8 +1.4**
5.9nm,0.1s,SNR=8.1
ALMR Almeirim 3.43 36 *e*P **Pn 19 37 49.1 0.0**
ALMR *e*S **Sn 19 38 28.4 -1.3**
ALMR *e*S **Sn 19 38 28.5 -1.3**
ALMR AML AML 19 38 36.2
comp=Z,31nm,0.8s
ALMR Almeirim 3.43 36 *e*P **Pn 19 37 49.1 0.0**
ALMR *e*S **Sn 19 38 28.4 -1.4**
ALMR
comp=Z,31nm,0.8s
PESTR Estremoz 3.76 48 *e*Pn **Pn 19 37 54.8 +1.2**
PESTR *e*Sn **Sn 19 38 38.3 +0.3**
PESTR
comp=Z,2.7nm,0.3s
PESTR Estremoz 3.76 48 *e*Pn **Pn 19 37 54.8 +1.2**
PESTR *e*Sn **Sn 19 38 38.3 +0.3**
comp=Z,2.7nm,0.3s
EMIN Mina Concepcio 3.86 68 P **Pn 19 37 56.1 +1.2**
comp=Z,2.6nm,0.1s,SNR=65
EMIN S **Sn 19 38 40.5 +0.2**
comp=Z,2.3nm,0.1s,SNR=8.6
EMIN Mina Concepcio 3.86 68 P **Pn 19 37 56.1 +1.2**
comp=Z,2.6nm,0.1s,SNR=65
EMIN S **Sn 19 38 40.5 +0.2**
comp=Z,2.3nm,0.1s,SNR=8.6
EBAD Badajoz 4.06 54 P **Pn 19 37 58.3 +0.6**
comp=Z,3.2nm,0.1s,SNR=23
EBAD S **Sn 19 38 44.8 -0.4**
comp=Z,3.8nm,0.1s,SNR=4.9
EBAD Badajoz 4.06 54 P **Pn 19 37 58.3 +0.6**
comp=Z,3.2nm,0.1s,SNR=23
EBAD S **Sn 19 38 44.8 -0.4**
comp=Z,3.8nm,0.1s,SNR=4.9
ESPR Espera 4.31 82 P **Pn 19 38 03.0 +1.8**
comp=Z,11nm,0.2s,SNR=34
ESPR S **Sn 19 38 51.3 -0.2**
comp=Z,37nm,0.3s
ESPR Espera 4.31 82 P **Pn 19 38 03.0 +1.8**
comp=Z,11nm,0.2s,SNR=34
ESPR S **Sn 19 38 51.3 -0.2**
comp=Z,37nm,0.3s
PCBR Castelo Branco 4.50 39 *e*Pn **Pn 19 38 04.3 +0.5**
PCBR *e*Sn **Sn 19 38 55.0 -1.2**
PCBR
comp=Z,3.3nm,0.3s
PCBR Castelo Branco 4.50 39 *e*Pn **Pn 19 38 04.3 +0.5**
PCBR *e*Sn **Sn 19 38 55.0 -1.2**
comp=Z,3.3nm,0.3s
EJIF Jimena Fronter 4.61 88 P **Pn 19 38 07.2 +1.9**
comp=Z,1.2nm,0.2s,SNR=7.9
EJIF S **Sn 19 38 58.9 -0.1**
comp=Z,0.9nm,0.2s,SNR=7.9
PVIS Viseu 5.01 30 *e*Pn **Pn 19 38 10.3 -0.5**
PVIS *e*Sn **Sn 19 39 07.0 -1.7**
PVIS
comp=Z,9.1nm,0.1s
PVIS Viseu 5.01 30 *e*Pn **Pn 19 38 10.3 -0.5**
PVIS *e*Sn **Sn 19 39 07.0 -1.7**
comp=Z,9.1nm,0.1s
PTO Porto 5.13 22 *e*Sn **Sn 19 39 08.1 -3.6**
EMIJ Mijas 5.17 86 P **Pn 19 38 15.2 +2.2**
EMIJ S **Sn 19 39 11.5 -1.2**
EMIJ Mijas 5.17 86 P **Pn 19 38 14.5 +1.5**
comp=Z,0.1nm,0.1s,SNR=7.9
EMIJ S **Sn 19 39 11.5 -1.2**
comp=Z,1.1nm,0.2s,SNR=7.9
EMIJ Mijas 5.17 86 P **Pn 19 38 15.2 +2.2**
comp=Z,0.1nm,0.1s,SNR=7.9
EMIJ S **Sn 19 39 11.5 -1.2**
comp=Z,1.1nm,0.2s,SNR=7.9
CIA Chichaoua 5.24 157 *i* P **Pn 19 38 11.5 -2.4**
CIA *i* S **Sn 19 39 07.0 -7.4**
PMPS Porto Santo 5.40 233 *e*Pn **Pn 19 38 07.0 -9.1**
PMPS *e*Sn **Sn 19 38 59.8 -18**
EADA Adamuz 5.55 70 P **Pn 19 38 19.5 +1.3**
comp=Z,4.6nm,0.2s,SNR=41
EADA S **Sn 19 39 21.4 -0.8**
comp=Z,1.4nm,0.1s,SNR=4.9
EADA Adamuz 5.55 70 P **Pn 19 38 19.5 +1.3**
comp=Z,4.6nm,0.2s,SNR=41
EADA S **Sn 19 39 21.4 -0.7**
comp=Z,1.4nm,0.1s,SNR=4.9
PVRL Vila Real 5.56 28 *e*Pn **Pn 19 38 18.0 -0.3**
PVRL *e*Sn **Sn 19 39 19.0 -3.3**
PVRL
comp=Z,4.3nm,0.3s
ELUQ Luque 5.66 76 P **Pn 19 38 20.6 +1.0**
comp=Z,0.8nm,0.2s,SNR=7.9
ELUQ S **Sn 19 39 23.7 -1.0**
comp=Z,1.4nm,0.2s,SNR=7.9
ELUQ Luque 5.66 76 P **Pn 19 38 20.6 +0.9**
comp=Z,0.8nm,0.2s,SNR=7.9
ELUQ S **Sn 19 39 23.7 -1.0**
comp=Z,1.4nm,0.2s,SNR=7.9
ELOJ Sierra Loja 5.70 81 S **Sn 19 39 25.3 -0.3**
comp=Z,0.8nm,0.2s,SNR=7.9
KIB El Ksiba 5.72 131 *i* P **Pn 19 38 19.5 -1.0**
KIB *i* S **Sn 19 39 21.0 -5.2**
TZC Tazercounte 5.76 136 *i* P **Pn 19 38 20.0 -1.1**
TZC *i* S **Sn 19 39 23.0 -4.3**
PCAB Cabril 5.83 24 *e*Pn **Pn 19 38 21.8 -0.3**
PCAB *e*Sn **Sn 19 39 24.7 -4.3**
PCAB
comp=Z,3.9nm,0.2s
OUK Oukaimeden 5.88 151 P **Pn 19 38 20.0 -2.7**
OUK S **Sn 19 39 22.0 -8.2**
OUK Oukaimeden 5.88 151 *i* P **Pn 19 38 20.0 -2.7**
PMAR Madeira 5.99 234 *e*Pn **Pn 19 38 15.8 -8.4**
EZAM Zamans 6.04 18 P **Pn 19 38 24.7 -0.3**
EZAM S **Sn 19 39 28.3 -6.0**
EZAM Zamans 6.04 18 S **Sn 19 39 28.3 -5.9**
comp=Z,3.5nm,0.1s,SNR=7.9
CZD Col de Zad 6.08 122 *i* P **Pn 19 38 25.0 -0.5**
CZD *i* S **Sn 19 39 31.5 -3.6**
EGUA Guajares 6.15 84 P **Pn 19 38 28.1 +1.7**
comp=Z,0.3nm,0.1s,SNR=7.9
EGUA S **Sn 19 39 37.2 +0.5**
comp=Z,0.8nm,0.2s,SNR=7.9
EBAN Banos Encina 6.16 71 P **Pn 19 38 27.7 +1.2**
comp=Z,1.6nm,0.2s,SNR=7.4
EBAN S **Sn 19 39 35.2 -1.8**
comp=Z,1.2nm,0.1s
EQUE Quentar 6.27 80 P **Pn 19 38 30.4 +2.4**
comp=Z,0.2nm,0.1s,SNR=7.5
EQUE S **Sn 19 39 39.4 -0.3**
comp=Z,0.1nm,0.1s,SNR=7.9
PBRG Braganca 6.40 31 *e*Pn **Pn 19 38 29.3 -0.5**
PBRG *e*Sn **Sn 19 39 39.6 -3.3**
PBRG
comp=Z,1.7nm,0.1s
ECAL Calabor 6.51 31 P **Pn 19 38 31.1 -0.3**
ECAL S **Sn 19 39 40.3 -5.5**
ECAL Calabor 6.51 31 P **Pn 19 38 30.8 -0.6**
comp=Z,0.7nm,0.1s,SNR=8.5
ECAL S **Sn 19 39 40.3 -5.5**
comp=Z,1.3nm,0.2s,SNR=7.9
ESDC Sonseca Array 6.57 58 P **Pn 19 38 32.9 +0.8**
comp=Z,7.6nm,0.1s,baz=254,slow=12,SNR=17
ESDC Sonseca Array 6.57 58 P **Pn 19 38 32.9 +0.8**
comp=Z,7.6nm,0.1s,SNR=17
EQES Quesada 6.63 76 P **Pn 19 38 33.7 +0.6**
comp=Z,0.8nm,0.2s,SNR=9.7
EQES S **Sn 19 39 48.5 -0.3**
comp=Z,2.1nm,0.2s,SNR=7.9
EQES Quesada 6.63 76 P **Pn 19 38 33.7 +0.6**
comp=Z,0.8nm,0.2s,SNR=9.7
EQES S **Sn 19 39 48.5 -0.2**
comp=Z,2.1nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.75 14 P **Pn 19 38 33.4 -1.2**
comp=Z,1.5nm,0.1s,SNR=7.9
EMAZ S **Sn 19 39 42.4 -9.1**
comp=Z,2.9nm,0.1s,SNR=7.9
EHUE Huescar 7.01 76 P **Pn 19 38 39.1 +0.9**
comp=Z,0.3nm,0.1s,SNR=7.9
EHUE S **Sn 19 39 56.9 -1.1**
comp=Z,1.2nm,0.2s,SNR=7.9
EHUE Huescar 7.01 76 P **Pn 19 38 39.1 +0.9**
comp=Z,0.3nm,0.1s,SNR=7.9
EHUE S **Sn 19 39 56.9 -1.1**
comp=Z,1.2nm,0.2s,SNR=7.9
EVIA Vianos 7.25 70 P **Pn 19 38 42.5 +0.9**
comp=Z,0.9nm,0.1s,SNR=7.9
EVIA S **Sn 19 40 01.8 -2.1**
comp=Z,0.8nm,0.2s,SNR=7.9
EPON Pontenova 7.57 23 P **Pn 19 38 44.3 -1.6**
comp=Z,0.3nm,0.1s,SNR=6.3
EPON S **Sn 19 40 05.6 -6.2**
comp=Z,1.0nm,0.2s,SNR=7.9
ETOB Tobarra 7.98 71 P **Pn 19 38 52.1 +0.6**
comp=Z,0.5nm,0.2s,SNR=10
ETOB S **Sn 19 40 21.1 -0.7**
comp=Z,0.4nm,0.2s,SNR=7.9
ETOB Tobarra 7.98 71 P **Pn 19 38 52.1 +0.6**
comp=Z,0.5nm,0.2s,SNR=10
ETOB S **Sn 19 40 21.1 -0.7**
comp=Z,0.4nm,0.2s,SNR=7.9
EARI Arriondas 8.27 32 P **Pn 19 38 55.1 -0.4**
comp=Z,0.2nm,0.2s,SNR=7.9
EARI S **Sn 19 40 25.0 -4.0**
comp=Z,0.1nm,0.2s,SNR=7.9
EARI Arriondas 8.27 32 P **Pn 19 38 55.1 -0.4**
comp=Z,0.2nm,0.2s,SNR=7.9
ETOR Torete 8.39 56 P **Pn 19 38 58.1 +0.9**
comp=Z,5.1nm,0.2s,SNR=14
ETOR S **Sn 19 40 28.2 -3.8**
comp=Z,1.0nm,0.1s,SNR=7.9

IDC 12 19:40:59.5±8.8, 633S×15143E, h57km±64km, mb3.7/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=58.2km s-min=52.4km az=90.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**234**	P		Pn	19 42 15.0	+0.1
	2.7nm,0.3s,baz=8.2,slow=5.1,SNR=8.7							
PMG				S		Sn	19 43 15.3	+1.5
	1.7nm,0.3s,baz=162,slow=20,SNR=4.4							
WRA	**Warramunga Arr**	**21.42**	**229**	P		P	19 45 42.5	0.0
	2.8nm,0.8s,baz=51,slow=10,SNR=18							
ASAR	**Alice Springs**	**24.11**	**223**	P		P	19 46 09.9	+0.2
	1.3nm,0.5s,baz=57,slow=9.6,SNR=22							
STKA	**Stephens Creek**	**27.02**	**199**	P		P	19 46 35.4	-0.8
	4.8nm,1.0s,baz=23,slow=12,SNR=5.4							
FITZ	**Fitzroy Crossi**	**27.74**	**243**	*e*P		P	19 46 41.1	-1.5
	6.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**27.74**	**243**	P		P	19 46 43.2	+0.6
	1.4nm,0.4s,baz=50,slow=11,SNR=14							
TORD	**Torodi Ar. Bea**	**149.44**	**285**	PKPbc		PKPbc	20 00 43.3	+1.2
	1.0nm,0.7s,baz=89,slow=2.6,SNR=12							

*NEIC **12** 19:57:29.4±1.5, 608S×15152E, h10km, mb4.3/3, Error ellipse: s-maj=32.1km s-min=22.2km az=159.0*
*ISCJB **12** 19:57:36.8±4.9, 63S±03×1512E±02, h65km±34km, mb4.0/5, Error ellipse: s-maj=48.4km s-min=35.1km az=144.9*
*IDC **12** 19:57:38.0±8.9, 640S×15135E, h59km±64km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML2.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.2/24, Error ellipse: s-maj=58.6km s-min=50.7km az=77.0*

ISC 12 19:57:37.8±4.8, 62S±03×1513E±02, h63km±33km, n18, σ0s55/18, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**232**	P		Pn	19 58 52.6	+0.3
	2.3nm,0.3s,baz=48,slow=8.5,SNR=7.3							
PMG				S		Sn	19 59 50.3	0.0
	2.0nm,0.3s,baz=55,slow=15,SNR=3.3							
PMG	**Port Moresby**	**5.15**	**232**	*e*Pn		Pn	19 58 52.7	+0.4
PMG				S		Sn	19 59 50.3	0.0
KAKA	**Kakadu**	**19.64**	**249**	*e*P		Pn	20 02 02.2	-1.0
	13nm,0.9s							
WRAB	**Tennant Creek**	**21.34**	**229**	*e*P		P	20 02 19.5	-0.2
	10nm,1.0s,mb4.1							
WB2	**Warramunga Arr**	**21.35**	**229**	*e*P		P	20 02 19.5	-0.2
WB2	**Warramunga Arr**	**21.35**	**229**	*e*P		P	20 02 19.3	-0.4
WRA	**Warramunga Arr**	**21.36**	**229**	P		P	20 02 19.7	-0.1
	4.4nm,1.0s,mb3.8,baz=54,slow=9.7,SNR=28							
AS31	**Alice Springs**	**24.07**	**222**	*e*P		P	20 02 47.2	0.0
ASAR	**Alice Springs**	**24.07**	**222**	P		P	20 02 47.1	-0.1
	1.7nm,0.4s,mb3.9,baz=59,slow=9.6,SNR=63							
ASPA	**Alice Springs**	**24.07**	**222**	*e*P		P	20 02 47.5	+0.3
STKA	**Stephens Creek**	**27.08**	**198**	*e*P		P	20 03 15.1	+0.7
	9.0nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**27.08**	**198**	P		P	20 03 14.2	-0.3
	2.7nm,0.8s,mb3.8,baz=16,slow=10,SNR=8.1							
STKA	**Stephens Creek**	**27.08**	**198**	*e*P		P	20 03 14.8	+0.4
FITZ	**Fitzroy Crossi**	**27.64**	**242**	*e*P		P	20 03 20.6	+1.2
	10nm,1.0s,mb4.4							
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P		P	20 03 21.0	+1.6
	2.5nm,0.4s,mb4.2,baz=47,slow=11,SNR=38							
AFI	**Afiamalu**	**37.15**	**105**	LR		LR	20 16 37.2	
	comp=Z,755nm,19.9s,baz=141,slow=31							
VNDA	**Vanda**	**71.48**	**178**	*e*P		P	20 08 51.2	-0.5
TORD	**Torodi Ar. Bea**	**149.24**	**285**	PKPbc		PKPbc	20 17 20.6	+1.4
	1.7nm,0.6s,baz=84,slow=1.9,SNR=25							

*IDC **12** 19:59:21.1±6.2, 38.15N×7378E, h81km±55km, mb3.6/5, mb1 3.8/9, mb1mx3.5/24, mbtmp3.7/9, ML4.0/4, Error ellipse: s-maj=41.3km s-min=21.2km az=15.0*
*BJI **12** 19:59:23.3, 3861N×7368E, h143km*
*ISCJB **12** 19:59:24.2±0.3, 3835N±002×7398E±006, h141km±7km, mb3.6/5, Error ellipse: s-maj=8.2km s-min=3.8km az=172.8*
*NEIC **12** 19:59:26.4±1.6, 3856N×7367E, h115km±18km, mb3.8/5, Error ellipse: s-maj=14.2km s-min=12.0km az=55.0*
*NNC **12** 19:59:33.6±6.0, 3901N×7363E, h170km±43km, mb2.8, mpv3.5, Error ellipse: s-maj=61.6km s-min=28.8km az=12.0*

ISC 12 19:59:24.6±0.4, 3830N±003×7390E±007, h126km±7km, n57, σ1s27/71, mb3.8/5, 7C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.02**	**53**	*i*P		Pn	20 00 00.2	+1.6
KSH				S		Sn	20 00 26.0	+1.4
KSH				Smax				
	comp=N,8μm,0.6s							
KSH				Smax				
	comp=E,5μm,0.3s							
AML	**Almayashu**	**3.83**	**358**	P		Pn	20 00 22.5	+0.6
	SNR=107							
KZA	**Kyzart**	**3.91**	**15**	P		Pn	20 00 23.6	+0.6
	SNR=44							
UCH	**Uchtor**	**3.95**	**7**	P		Pn	20 00 24.4	+0.8
	SNR=94							
ULHL	**Ulahol**	**4.33**	**24**	P		Pn	20 00 29.1	+0.6
	SNR=29							
AAK	**Ala-Archa**	**4.35**	**6**	P		Pn	20 00 29.7	+0.8
	SNR=32							
AAK	**Ala-Archa**	**4.35**	**6**	*e*P		Pn	20 00 28.4	-0.4
EKS2	**Erkin-Say**	**4.36**	**359**	P		Pn	20 00 29.7	+0.8
	SNR=47							
KBK	**Karagaybulak**	**4.42**	**10**	P		Pn	20 00 30.8	+1.0
	SNR=28							
CHCP	**Chirah Chowk**	**4.66**	**186**	⇑P		Pn	20 00 38.2	+5.2
CHMS	**Chumysh**	**4.74**	**8**	P		Pn	20 00 34.7	+0.7
	SNR=5.7							
CEP	**Cherat**	**4.75**	**200**	P		Pn	20 00 38.4	+4.2
CEP				S		Sn	20 01 31.0	+2.6
TKM2	**Tokmak 2**	**4.79**	**15**	P		Pn	20 00 35.5	+0.8
	SNR=32							
TKM2	**Tokmak 2**	**4.79**	**15**	⇓P		Pn	20 00 35.2	+0.4
	comp=E,1.3nm,0.5s							
TKM2				⇓S		Sn	20 01 27.1	-2.2
	comp=E,2.1nm,0.5s							
USP	**Ospenovka**	**4.98**	**5**	P		Pn	20 00 35.9	-1.4
	SNR=13							
KK31	**Karatay Array**	**5.44**	**333**	⇑P		Pn	20 00 43.2	-0.2
	comp=E,9.6nm,0.3s,baz=137,slow=13,SNR=344							
KK31				⇑S		Sn	20 01 40.1	-4.9
	comp=E,37nm,0.5s,baz=144,slow=22,SNR=4.2							
THW	**Thamme Wali**	**5.77**	**198**	⇑P		Pn	20 00 51.4	+3.5
DLH	**Dalhousie**	**5.99**	**163**	*e*P		Pn	20 00 49.0	-1.9
DLH				*e*S		Sn	20 01 57.0	-1.2
THN	**Thein Dam**	**6.04**	**165**	*e*P		Pn	20 00 53.3	+1.7
THN				*e*S		Sn	20 01 57.7	-1.7
SARP	**Sargodha**	**6.44**	**189**	P		Pn	20 00 59.7	+2.7
SARP				S		Sn	20 02 00.0	-9.2
SBDP	**Sheikh Budin**	**6.50**	**204**	P		Pn	20 00 59.8	+2.1
DRP	**Derazinda**	**7.21**	**206**	P		Pn	20 01 10.8	+3.5
SDNR	**Sundarnagar**	**7.24**	**159**	*e*P		Pn	20 01 08.5	+0.8
SDNR				*e*S		Sn	20 02 23.8	-4.6
KLP	**Kalpa**	**7.64**	**151**	*e*P		Pn	20 01 12.9	-0.2
KLP				*e*S		Sn	20 02 33.0	-5.1
KLP				AML		AML	20 02 44.6	
	comp=N,170nm,0.6s							
KLP				AML		AML	20 02 44.8	
	comp=E,183nm,0.4s							
NDI	**New Delhi**	**9.98**	**163**	*e*x		x	20 03 23.0	
KHET	**Khetri**	**10.32**	**171**	*e*P		Pn	20 01 48.8	-0.5
KHET				*e*S		Sn	20 03 36.0	-7.1
KHET				AML		AML	20 03 41.4	
	comp=E,31nm,0.2s							
KHET				AML		AML	20 03 41.7	
	comp=N,27nm,0.3s							
SONA	**Sohna**	**10.37**	**164**	*e*P		Pn	20 01 49.5	-0.4
SONA				*e*S		Sn	20 03 37.5	-6.8
SONA				AML		AML	20 03 41.3	
	comp=N,24nm,0.3s							
SONA				AML		AML	20 03 41.5	
	comp=E,47nm,0.4s							
MK31	**Makanchi Array**	**10.50**	**33**	P		Pn	20 01 51.0	-0.5
	comp=E,3.9nm,0.6s,baz=216,slow=15,SNR=21							
MKAR	**Makanchi Array**	**10.50**	**33**	P		Pn	20 01 51.9	+0.3
	comp=E,0.6nm,0.3s,baz=204,slow=15,SNR=23							
KURK	**Kurchatov**	**12.86**	**14**	*e*P		Pn	20 02 20.0	-2.6
	comp=E,3.2nm,0.9s							
KOLN	**Koldanda**	**13.28**	**139**	*e*P		Pn	20 02 26.7	-1.4
	comp=E,6.3nm,0.3s							
GKN	**Gorkha**	**13.64**	**136**	*e*P		Pn	20 02 31.4	-1.4
	comp=E,33nm,0.3s							
KKN	**Kakani**	**14.16**	**134**	*e*P		Pn	20 02 39.1	-0.4
	comp=E,9.0nm,0.4s							
DMN	**Daman**	**14.21**	**135**	*e*P		Pn	20 02 40.2	+0.2
	comp=E,9.1nm,0.4s							
PKI	**Pulchoki**	**14.41**	**135**	*e*P		Pn	20 02 42.4	-0.1
GUN	**Gumba**	**14.42**	**132**	*e*P		Pn	20 02 43.1	+0.5
VOSK	**Vostochnaya**	**14.56**	**353**	⇑P		Pn	20 02 41.2	-3.3
	comp=E,2.6nm,0.9s							
JIRN	**Jiri**	**14.79**	**132**	*e*P		Pn	20 02 47.5	+0.2
	comp=E,11nm,0.3s							
AB31	**Akbulak array**	**14.85**	**322**	⇑P		Pn	20 02 46.7	-1.4
	comp=E,0.9nm,0.5s,baz=109,slow=38,SNR=17							
AB31				⇓S		Sn	20 05 19.7	-13
	comp=E,2.8nm,0.7s,baz=132,slow=24,SNR=5.2							
BVA0	**Borovoye Array**	**14.92**	**352**	⇓P		Pn	20 02 52.8	+3.8
	comp=E,1.3nm,0.8s,baz=180,slow=16,SNR=41							
BVAR	**Borovoye Array**	**14.92**	**352**	P		Pn	20 02 47.2	-1.8
	comp=E,0.3nm,0.3s,baz=144,slow=10,SNR=16							
BRVK	**Borovoye**	**14.97**	**352**	*e*P		Pn	20 02 48.4	-1.2
	comp=E,11nm,0.8s							
ZRNK	**Zerenda**	**15.04**	**349**	P		Pn	20 02 50.4	0.0
	comp=E,3.0nm,0.6s							
ZRNK	**Zerenda**	**15.04**	**349**	*e*P		Pn	20 02 49.4	-1.1
	comp=E,5.4nm,0.7s							
CHKZ	**Chkalovo**	**15.54**	**353**	P		Pn	20 02 55.0	-1.8
	comp=E,0.4nm,0.5s							
CHKZ	**Chkalovo**	**15.54**	**353**	*e*P		Pn	20 02 54.9	-1.8
	comp=E,1.9nm,0.5s							
AKTK	**Aktyubinsk**	**16.57**	**322**	P		Pn	20 03 09.0	-0.4
AKTK				S		S	20 06 00.2	-14
AKTO	**Aktyubinsk**	**16.57**	**322**	⇓P		Pn	20 03 08.3	-1.1
	comp=E,0.1nm,0.8s							
AKTO				⇑S		S	20 06 00.8	-13
	comp=E,0.1nm,0.9s							
AKTO	**Aktyubinsk**	**16.57**	**322**	P		Pn	20 03 09.0	-0.4
	comp=E,0.7nm,0.3s,baz=119,slow=13,SNR=9.3							
AKTO				S		S	20 06 00.2	-14
	comp=E,0.1nm,0.3s,baz=351,slow=18,SNR=3.9							
LSA	**Lhasa**	**16.66**	**116**	*e*P		Pn	20 03 18.0	+7.5
	comp=E,2.7nm,0.8s							
ZAL	**Zalesovo**	**17.33**	**22**	P		Pn	20 03 18.1	-0.6
	comp=E,2.3nm,0.3s,baz=253,slow=7.8,SNR=21							
WSAR	**Wadi Sarin**	**19.89**	**225**	P		P	20 03 48.3	+2.3
	comp=E,0.2nm,0.3s,baz=56,slow=2.7,SNR=5.1							
SONM	**Songino Array**	**25.42**	**57**	P		P	20 04 43.2	+2.8
	comp=E,0.5nm,0.7s,mb3.0,baz=260,slow=7.2,SNR=3.3							
FINES	**FINESS Array B**	**37.33**	**324**	P		P	20 06 25.6	+1.0
	comp=E,0.8nm,0.5s,mb3.9,baz=114,slow=9.2,SNR=5.9							
ARCES	**ARCESS Array B**	**40.40**	**336**	P		P	20 06 51.5	+1.3
	comp=E,3.3nm,0.9s,mb4.1,baz=112,slow=9.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**68.05**	**270**	P		P	20 10 11.8	+1.4
	comp=E,1.3nm,0.5s,mb4.0,baz=49,slow=5.7,SNR=30							
WRA	**Warramunga Arr**	**81.03**	**124**	P		P	20 11 26.8	+1.4
	comp=E,0.9nm,0.8s,mb3.7,baz=321,slow=4.7,SNR=8.7							

IDC 12 20:00:16.8±1.3, 031N×12632E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=130.5km s-min=21.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**159**	P		P	20 05 08.5	+0.2
	0.4nm,0.4s,baz=336,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**24.94**	**163**	P		P	20 05 42.1	+0.3
	0.2nm,0.3s,baz=330,slow=7.4,SNR=4.3							
SONM	**Songino Array**	**50.40**	**343**	P		P	20 09 15.0	-0.9
	0.3nm,0.6s,baz=140,slow=7.6,SNR=4.7							
MKAR	**Makanchi Array**	**60.14**	**327**	P		P	20 10 27.1	+0.9
	0.4nm,0.4s,baz=124,slow=7.4,SNR=6.7							
AKTO	**Aktyubinsk**	**76.08**	**322**	P		P	20 12 06.7	+0.5
	0.6nm,0.5s,baz=90,slow=11,SNR=4.3							

*CSEM **12** 20:01:02.9, 6784N×2022E, h0km, ML3.1, Suspected Mining explosion. After UPP*
*UPP **12** 20:01:02.9, 6784N×2022E, h0km, ML3.1, Suspected Mining explosion.*

HEL 12 20:01:03.6±0.1, 6785N×2022E, h0km, ML1.4, ML3.1 (UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**22**	*i*P		Pg	20 01 05.4	-0.3
NIKU	**Nikkaluokta**	**0.45**	**273**	*i*P		Pg	20 01 11.5	-0.8
LANU	**Lannavaara**	**0.70**	**72**	*i*P		Pg	20 01 16.3	-0.7
DUNU	**Dundret**	**0.74**	**170**	*i*P		Pg	20 01 16.4	-1.4
MASU	**Masugnsbyn**	**0.79**	**119**	*i*P		Pg	20 01 17.8	-0.8
SALU	**Saltoluokta**	**0.81**	**235**	*i*P		Pg	20 01 18.6	-0.5
SALU	**Saltoluokta**	**0.81**	**235**	P		Pg	20 01 18.6	-0.5
	baz=81							
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*PB		Pb	20 01 26.2	-0.7
KIF				*e*SN		Sn	20 01 45.3	+1.2
PAJU	**Pajala**	**1.39**	**125**	*e*P		Pn	20 01 28.2	-2.0
HARU	**Harads**	**1.72**	**170**	*e*P		Pn	20 01 34.7	-0.1
SGF	**Sodankyl**	**2.44**	**97**	*e*PB		Pb

mb1mx3.7/15, mbtmp3.7/5, ML2.1/1, Error ellipse: s-maj=83.1km s-min=26.2km az=119.0
*ISCJB **12** 20:17:49.1±4.8, 6.1S±02.2×151.0E±0.3, h13km±33km, mb3.8/7, Error ellipse: s-maj=53.9km s-min=11.8km az=63.5*

ISC 12 20:17:51.2±6.4, 62S±02×151.1E±0.2, h20km±45km, n19, σ0§91/18, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**230**	Pn		**Pn**		**20 19 03.7**	**-2.2**
	0.5nm,0.3s,baz=9.5,slow=6.1,SNR=2.9								
PMG				Sn		**Sn**		**20 20 03.5**	**-0.4**
	1.0nm,0.3s,baz=57,slow=4.5,SNR=4.0								
CTAO	**Charters Tower**	**14.62**	**198**	*e*Pn		**Pn**		**20 21 10.8**	**-5.9**
	6.2nm,1.3s								
KAKA	**Kakadu**	**19.53**	**249**	*e*P		**Pn**		**20 22 19.4**	**+0.8**
	3.0nm,0.3s								
WRAB	**Tennant Creek**	**21.27**	**228**	*e*P		**P**		**20 22 37.0**	**+0.8**
	1.6nm,0.5s,mb3.6								
WB2	**Warramunga Arr**	**21.28**	**228**	*e*P		**P**		**20 22 37.0**	**+0.8**
WRA	**Warramunga Arr**	**21.29**	**228**	P		**P**		**20 22 36.9**	**+0.5**
	1.5nm,0.8s,mb3.4,baz=55,slow=10,SNR=12								
AS31	**Alice Springs**	**24.01**	**222**	*e*P		**P**		**20 23 03.7**	**-0.8**
ASAR	**Alice Springs**	**24.02**	**222**	P		**P**		**20 23 04.5**	**0.0**
	1.2nm,0.6s,mb3.5,baz=57,slow=10.0,SNR=22								
ASPA	**Alice Springs**	**24.02**	**222**	*e*P		**P**		**20 23 05.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**27.54**	**242**	*e*P		**P**		**20 23 37.0**	**+0.5**
	4.5nm,0.4s,mb4.5								
FITZ	**Fitzroy Crossi**	**27.54**	**242**	P		**P**		**20 23 36.3**	**-0.2**
	1.4nm,0.4s,mb3.9,baz=56,slow=11,SNR=16								
MBWA	**Marble Bar**	**33.84**	**241**	*e*P		sP		20 24 40.5	-0.4
	3.3nm,0.5s								
SONM	**Songino Array**	**66.61**	**329**	P		**P**		**20 28 41.5**	**+1.5**
	0.3nm,0.5s,mb3.6,baz=136,slow=6.4,SNR=4.1								
LSA	**Lhasa**	**67.65**	**305**	P		**P**		**20 28 47.0**	**+0.4**
KURK	**Kurchatov**	**83.82**	**322**	*e*P		**P**		**20 30 18.1**	**-1.0**
	1.6nm,1.0s,mb4.1								
CHKZ	**Chkalovo**	**89.33**	**324**	P		**P**		**20 30 45.8**	**-0.2**
BRVK	**Borovoye**	**89.40**	**323**	*e*P		**P**		**20 30 45.3**	**-1.1**
	0.8nm,0.5s,mb4.3								
ZRNK	**Zerenda**	**90.14**	**323**	P		**P**		**20 30 49.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.09**	**285**	PKPbc	PKPbc			20 37 37.8	-0.1
	0.9nm,0.6s,baz=71,slow=3.1,SNR=14								

IDC 12 20:19:38.3±18.0, 2232S×17498W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=342.7km s-min=137.3km az=84.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.14**	**266**	P		P		20 26 44.1	+1.9
	2.0nm,0.5s,baz=100,slow=12,SNR=4.0								
STKA	**Stephens Creek**	**39.59**	**247**	P		P		20 27 10.3	-0.9
	2.0nm,0.8s,baz=85,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**46.87**	**258**	P		P		20 28 10.5	+0.4
	0.3nm,0.4s,baz=93,slow=7.6,SNR=8.6								
WRA	**Warramunga Arr**	**47.15**	**263**	P		P		20 28 12.3	0.0
	0.6nm,0.4s,baz=98,slow=8.5,SNR=24								
FITZ	**Fitzroy Crossi**	**55.58**	**263**	P		P		20 29 16.2	+0.6
	1.0nm,0.6s,baz=126,slow=8.7,SNR=3.4								

MAN 12 20:35:26.9, 919N×12599E, h106km, mb3.2, ML4.4, MS4.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.77**	**320**	*e*P		Pn		20 35 46.8	+1.3
SCPH				*e*S		Sn		20 36 01.5	+2.0
MSLP	**Maasin**	**1.46**	**310**	*e*P		Pn		20 35 54.0	+1.0
CGP	**Cagayan de Oro**	**1.48**	**240**	⇑*i*P		Pn		20 35 53.4	+0.2
CGP				*i* S		Sn		20 36 13.7	+0.6
BUKP	**Musuan**	**1.59**	**215**	*e*P		Pn		20 35 56.0	+1.4
BUKP				*e*S		Sn		20 36 17.5	+1.8
MATI	**Mati**	**2.24**	**173**	*e*P		Pn		20 36 03.2	+0.4

*CSEM **12** 20:37:08.4±1.1, 3852N×2849W, h10km, ML1.1, Error ellipse: s-maj=3.5km s-min=2.5km az=17.0, After PDA*
*PDA **12** 20:37:08.4±1.1, 3852N×2849W, h10km, MD2.8, ML1.1, Error ellipse: s-maj=3.5km s-min=2.5km az=17.0*

SVSA 12 20:37:08.4±1.1, 3852N×2849W, h10km, MD2.8, ML1.1, Error ellipse: s-maj=3.5km s-min=2.5km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.06**	**114**	*e*P		Pg		20 37 10.3	-0.2
PICO				*e*S		Sg		20 37 12.4	+0.4
PCND	**Candelaria**	**0.06**	**156**	*e*P		Pg		20 37 10.2	-0.3
PCND				*e*S		Sg		20 37 12.4	+0.4
PCND									
	32nm,0.2s								
HOR	**Horta**	**0.11**	**271**	*e*P		Pg		20 37 10.8	-0.3
HOR				*e*S		Sg		20 37 12.9	-0.1
PTEI	**Pico do Teixo**	**0.11**	**105**	*e*S		Sg		20 37 13.4	+0.3
PTEI									
	23nm,0.4s								
PBOI	**Pico dos Bois**	**0.13**	**133**	*e*S		Sg		20 37 12.7	-0.8
PBOI									
	30nm,0.3s								
CALA	**Caldeira**	**0.17**	**289**	*e*P		Pg		20 37 11.6	-0.6
CALA				*e*S		Sg		20 37 14.7	0.0
ROSA	**Rosais**	**0.28**	**45**	*e*P		Pg		20 37 13.2	-0.8
ROSA				*e*S		Sg		20 37 17.3	-0.4
PID	**Ribeirinha**	**0.30**	**105**	*e*S		Sg		20 37 18.0	-0.6
PMAN	**Manadas**	**0.34**	**71**	*e*S		Sg		20 37 18.5	-1.0
PMAN									
	18nm,0.1s								

*ISCJB **12** 20:54:51.8±1.4, 206S±02×1783W±0.1, h571km±24km, mb4.2/12, Error ellipse: s-maj=28.8km s-min=13.2km az=153.2*
*IDC **12** 20:54:52.8±2.0, 2039S×17832W, h560km±28km, mb3.6/6, mb1 3.8/8, mb1mx3.6/15, mbtmp3.7/8, Error ellipse: s-maj=37.2km s-min=16.7km az=158.0*
*NEIC **12** 20:54:53.1±1.1, 2053S×17827W, h573km±13km, mb4.4/10, Error ellipse: s-maj=19.7km s-min=11.0km az=161.0*

ISC 12 20:54:51.7±1.3, 207S±02×1782W±01, h549km±20km, n30, σ0§90/27, mb4.2/12, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.09**	**43**	P		P		**20 57 01.6**	**+1.5**
	2.3nm,0.3s,baz=62,slow=14,SNR=4.3								
AFI				S		**S**		**20 58 43.5**	**-2.3**
	1.4nm,0.3s,baz=18,slow=21,SNR=3.9								
DZM	**Mont Dzumac**	**14.38**	**262**	*e*P		**P**		**20 57 54.8**	**+0.1**
DZM	**Mont Dzumac**	**14.38**	**262**	P		**P**		**20 57 55.4**	**+0.7**
	1.1nm,0.3s,baz=89,slow=22,SNR=12								
CTA	**Charters Tower**	**33.29**	**265**	*e*P		**P**		**21 00 44.6**	**+0.5**
	6.2nm,0.3s,mb4.6								
CTA	**Charters Tower**	**33.29**	**265**	P		**P**		**21 00 44.6**	**+0.5**
	7.2nm,0.4s,mb4.6,baz=89,slow=11,SNR=28								
CTAO	**Charters Tower**	**33.29**	**265**	*e*P		**P**		**21 00 44.5**	**+0.4**
	6.3nm,0.4s,mb4.5								
PMG	**Port Moresby**	**35.20**	**283**	*e*P		**P**		**21 01 00.9**	**+0.8**
	13nm,0.7s,mb4.6								
TAU	**Tasmania Unive**	**36.38**	**225**	P		**P**		**21 01 09.2**	**-0.6**
STKA	**Stephens Creek**	**37.55**	**244**	*e*P		**P**		**21 01 19.8**	**+0.3**
	5.0nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**37.55**	**244**	P		**P**		**21 01 19.9**	**+0.4**
	6.4nm,0.5s,mb4.4,baz=83,slow=10.0,SNR=16								
AS31	**Alice Springs**	**44.30**	**257**	*e*P		**P**		**21 02 13.0**	**0.0**
ASAR	**Alice Springs**	**44.30**	**257**	P		**P**		**21 02 13.1**	**+0.1**
	15nm,0.6s,mb4.7,baz=96,slow=7.6,SNR=141								
ASPA	**Alice Springs**	**44.31**	**257**	*e*P		**P**		**21 02 13.0**	**0.0**
WB2	**Warramunga Arr**	**44.38**	**262**	⇑*i*P		**P**		**21 02 13.1**	**-0.5**
WRA	**Warramunga Arr**	**44.40**	**262**	P		**P**		**21 02 13.1**	**-0.6**
	6.7nm,0.3s,mb4.6,baz=97,slow=7.5,SNR=151								
KAKA	**Kakadu**	**47.79**	**271**	*e*P		**P**		**21 02 39.1**	**-0.4**
	4.5nm,0.3s,mb4.5								
FORT	**Forrest**	**49.06**	**247**	*e*P		**P**		**21 02 48.3**	**-0.6**
	18nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**52.82**	**263**	*e*P		**P**		**21 03 16.2**	**0.0**
	4.1nm,0.4s,mb4.1								
FITZ	**Fitzroy Crossi**	**52.82**	**263**	P		**P**		**21 03 16.3**	**+0.1**
	2.3nm,0.5s,mb3.8,baz=118,slow=7.4,SNR=9.5								
MBWA	**Marble Bar**	**57.64**	**258**	*e*P		**P**		**21 03 48.8**	**-0.8**
	7.0nm,0.7s,mb4.0								
VNDA	**Vanda**	**57.74**	**185**	P		**P**		**21 03 51.5**	**+1.1**
	0.2nm,0.7s,baz=37,slow=5.1,SNR=2.8								
VNDA	**Vanda**	**57.74**	**185**	*e*P		**P**		**21 03 51.8**	**+1.5**
	0.1nm,0.4s								
CASY	**Casey**	**63.74**	**205**	*e*P		**P**		**21 04 29.0**	**-0.9**
	1.5nm,0.4s,mb3.8								
MAW	**Mawson**	**81.36**	**200**	P		**P**		**21 06 11.7**	**+0.5**
TXAR	**Lajitas Array**	**87.30**	**57**	P		**P**		**21 06 42.1**	**+1.9**
	0.1nm,0.6s,mb2.7,baz=220,slow=8.2,SNR=3.6								
TRQA	**Tornquist**	**96.39**	**135**	*e*P		**P**		**21 07 20.7**	**-1.4**
	1.0nm,0.6s,mb4.2								
BRVK	**Borovoye**	**119.14**	**320**	PKPdf		PKPdf		21 12 36.5	-1.9
ZRNK	**Zerenda**	**119.92**	**320**	PKPdf		PKPdf		21 12 38.4	-1.6
AKASG	**Malin Array Be**	**143.06**	**331**	PKP		PKPdf		21 13 20.3	-2.9
	0.2nm,0.3s,baz=44,slow=4.4,SNR=5.9								
AKASG	**Malin Array Be**	**143.06**	**331**	PKP		PKPdf		21 13 20.3	-3.0

*NEIC **12** 20:54:51.5±0.7, 604S×14955E, h10km, mb4.2/6, Error ellipse: s-maj=20.1km s-min=11.3km az=99.0*
*ISCJB **12** 20:55:00.4±3.2, 62S±0.1×1493E±0.2, h86km±24km, mb3.7/8, Error ellipse: s-maj=30.1km s-min=17.2km az=155.0*
*IDC **12** 20:55:03.1±4.7, 622S×14922E, h95km±35km, mb3.5/4, mb1 3.7/6, mb1mx3.6/15, mbtmp3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.8/28, Error ellipse: s-maj=44.0km s-min=25.5km az=87.0*

ISC 12 20:55:02.7±3.0, 62S±01×1492E±02, h92km±23km, n21, σ0§87/21, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**213**	P		**Pn**		**20 55 57.8**	**-1.0**
	15nm,0.3s,baz=37,slow=6.9,SNR=39								
PMG				S		**Sn**		**20 56 43.6**	**+1.2**
	25nm,0.3s,baz=16,slow=20,SNR=9.2								
PMG				LR		LR		20 57 32.9	
	comp=Z,195nm,19.7s,baz=66,slow=40								
CTAO	**Charters Tower**	**14.10**	**192**	*e*P		**Pn**		**20 58 18.6**	**+0.5**
	2.2nm,0.7s								
KAKA	**Kakadu**	**17.78**	**247**	*e*P		**Pn**		**20 59 03.9**	**-0.1**
	4.2nm,0.6s								
WB2	**Warramunga Arr**	**19.89**	**225**	*e*P		**Pn**		**20 59 27.3**	**-1.8**
WRA	**Warramunga Arr**	**19.90**	**225**	P		**Pn**		**20 59 27.6**	**-1.6**
	0.4nm,0.3s,baz=50,slow=10,SNR=33								
AS31	**Alice Springs**	**22.78**	**219**	*e*P		**P**		**20 59 58.7**	**+1.3**
ASAR	**Alice Springs**	**22.78**	**219**	P		**P**		**20 59 57.8**	**+0.4**
	1.2nm,0.5s,mb3.5,baz=50,slow=9.7,SNR=24								
FITZ	**Fitzroy Crossi**	**25.88**	**241**	*e*P		**P**		**21 00 25.7**	**0.0**
	7.2nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**25.88**	**241**	P		**P**		**21 00 26.0**	**+0.3**
	3.4nm,0.6s,mb4.0,baz=98,slow=9.3,SNR=24								
STKA	**Stephens Creek**	**26.52**	**195**	P		**P**		**21 00 32.6**	**+1.1**
TAU	**Tasmania Unive**	**36.59**	**182**	P		**P**		**21 01 59.8**	**+0.1**
CASY	**Casey**	**65.66**	**196**	*e*P		**P**		**21 05 35.5**	**-1.5**
SONM	**Songino Array**	**65.68**	**330**	P		**P**		**21 05 38.2**	**+1.0**
	0.2nm,0.5s,mb3.2,baz=147,slow=5.4,SNR=9.0								
LSA	**Lhasa**	**66.15**	**306**	*e*P		**P**		**21 05 40.9**	**+0.7**
	0.7nm,0.4s,mb3.8								
VNDA	**Vanda**	**71.59**	**177**	P		**P**		**21 06 13.6**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=335,slow=7.3,SNR=9.7								
KURK	**Kurchatov**	**82.71**	**323**	P		**P**		**21 07 16.0**	**-0.1**
	1.1nm,0.7s,mb3.8								
QSPA	**South Pole Qui**	**83.76**	**180**	P		**P**		**21 07 21.6**	**0.0**
CHKZ	**Chkalovo**	**88.26**	**324**	P		**P**		**21 07 43.6**	**0.0**
BRVK	**Borovoye**	**88.32**	**324**	*e*P		**P**		**21 07 44.1**	**+0.2**
	0.7nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**89.05**	**323**	*e*P		**P**		**21 07 47.0**	**-0.4**
	0.3nm,0.3s,mb3.8								
TORD	**Torodi Ar. Bea**	**147.30**	**285**	PKPbc	PKPbc			21 14 35.2	-0.2
	0.3nm,0.4s,baz=70,slow=2.7,SNR=17								

IDC 12 21:05:17.4±3.5, 674S×15202E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=119.6km s-min=50.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.50**	**241**	Sn		Sn		21 07 41.4	-3.0
	1.0nm,0.3s,baz=223,slow=18,SNR=2.5								
WRA	**Warramunga Arr**	**21.61**	**231**	P		P		21 10 09.3	+0.4
	0.4nm,0.5s,baz=56,slow=11,SNR=3.5								
ASAR	**Alice Springs**	**24.21**	**224**	P		P		21 10 35.9	+0.2
	0.4nm,0.8s,baz=54,slow=9.5,SNR=3.8								
FITZ	**Fitzroy Crossi**	**28.08**	**244**	P		P		21 11 11.2	+0.5
	1.1nm,0.8s,baz=85,slow=11,SNR=2.5								
TORD	**Torodi Ar. Bea**	**150.11**	**285**	PKPbc	PKPbc			21 25 10.9	+0.8
	0.3nm,0.6s,baz=96,slow=1.6,SNR=4.9								

*CSEM **12** 21:09:37.8, 2378N×3525E, h4km, ML3.7, After HLW*

HLW 12 21:09:37.8, 2378N×3525E, h4km, Mb3.7, 7C-7D, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**0.64**	**338**	⇑*e*P		Pg		21 09 50.2	0.0
HSHL	**Bi'r Shalatayn**	**0.68**	**168**	⇑P		Pg		21 09 51.2	+0.2
HSHL				S		Sg		21 10 00.4	+0.6
EMRS	**Mersa Alam**	**1.28**	**343**	P		Pg		21 10 01.6	-0.9
EMRS				S		Sg		21 10 18.8	-0.3
EMRS	**Mersa Alam**	**1.28**	**343**	P		Pg		21 10 01.5	-0.9
EMRS				S		Sg		21 10 18.8	-0.3
HADB		**1.67**	**340**	⇓*e*P		Pn		21 10 06.8	-0.9
HADB				S		Sn		21 10 28.1	-1.4
HADB		**1.67**	**340**	P		Pn		21 10 06.8	-0.9
HADB				S		Sn		21 10 28.1	-1.4
HQSR		**2.12**	**338**	P		Pn		21 10 13.3	-0.6
AAHD	**Abu Hadid**	**2.29**	**270**	⇑P		Pn		21 10 15.4	-0.9
HEDF	**Idfu**	**2.29**	**305**	⇑*e*P		Pn		21 10 15.7	-0.7
AKRL	**Khor El Raml**	**2.32**	**268**	⇑P		Pn		21 10 15.6	-1.1
ANMR	**North Marawa**	**2.46**	**269**	⇓P		Pn		21 10 18.1	-0.7
HSFG		**3.02**	**337**	P		Pn		21 10 25.9	-0.5
HMSM	**Jabal Masmas**	**3.22**	**255**	⇓P		Pn		21 10 28.6	-0.4
HHRG	**Al Ghardaqah**	**3.75**	**336**	⇑P		Pn		21 10 36.7	-0.4
AADN	**Adndan**	**3.80**	**245**	*e*P		Pn		21 10 36.7	-0.4
HKFR	**Khafra**	**3.82**	**253**	⇓P		Pn		21 10 37.2	-0.1
APRS		**4.19**	**279**	⇓P		Pn		21 10 42.0	-0.4
GTR	**Jabal at Tayr**	**4.60**	**293**	⇑*e*P		Pn		21 10 47.6	-0.5
AKRG	**Al Kharijah**	**4.65**	**293**	⇓P		Pn		21 10 48.4	-0.4
HKAT	**Jabal Katrina**	**4.86**	**347**	P		Pn		21 10 51.6	-0.1
GRB	**Gharib**	**4.99**	**334**	⇓P		Pn		21 10 53.2	-0.3
HDK1	**Dakhla**	**5.60**	**289**	P		Pn		21 11 01.7	-0.1
HFRF	**Wahat Farafira**	**7.11**	**300**	P		Pn		21 11 35.3	+13

*NEIC **12** 21:10:05.4, 3226S×7152W, h47km, MD3.6(GUC), After GUC.*

GUC 12 21:10:05.4±0.8, 3226S×7152W, h47km±6km, MD3.6, ML2.5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.37**	**3**	⇓*i*P		Pn		21 10 15.2	+0.3
CHNG				*i* S		Sn		21 10 22.1	+0.4
CHNG				AML		AML		21 10 22.6	
	comp=E,364nm,0.4s								
PTCH	**Petorca**	**0.50**	**91**	⇑*i*P		Pn		21 10 16.9	+0.4
PTCH				*i* S		Sn		21 10 25.7	+1.3
PTCH				AML		AML		21 10 26.4	
	comp=E,2μm,0.2s								
PTCH	**Petorca**	**0.50**	**91**	⇑*i*P		Pn		21 10 16.9	+0.4
PTCH				*i* S		Sn		21 10 25.7	+1.3
PEL	**Peldehue**	**1.13**	**142**	*e*P		Pn		21 10 25.4	+0.6
PEL				*i* S		Sn		21 10 40.5	+1.2
PEL				AML		AML		21 10 41.9	
	comp=E,240nm,0.3s								
PEL	**Peldehue**	**1.13**	**142**	*e*P		Pn		21 10 25.4	+0.6
PEL				*i* S		Sn		21 10 40.5	+1.2
CMCH	**Combarbala**	**1.17**	**23**	*e*P		Pn		21 10 25.8	+0.5
CMCH				*i* S		Sn		21 10 41.5	+1.4
CMCH				AML		AML		21 10 43.3	
	comp=E,568nm,0.8s								
CMCH	**Combarbala**	**1.17**	**23**	*e*P		Pn		21 10 25.8	+0.5
CMCH				*i* S		Sn		21 10 41.5	+1.4
RCDM	**Rinconada Maip**	**1.37**	**154**	*i* P		Pn		21 10 28.7	+0.6
RCDM				*i* S		Sn		21 10 46.3	+1.3
RCDM				AML		AML		21 10 48.7	
	comp=E,104nm,0.4s								
RCDM	**Rinconada Maip**	**1.37**	**154**	*i* P		Pn		21 10 28.7	+0.6
RCDM				*i* S		Sn		21 10 46.3	+1.3
CLCH	**Cerro Calan**	**1.41**	**144**	⇓*i*P		Pn		21 10 29.6	+1.0
CLCH				*i* S		Sn		21 10 47.8	+1.8
CLCH				AML		AML		21 10 49.9	
	comp=E,68nm,0.8s								
FCH	**Farellones**	**1.49**	**136**	⇑*i*P		Pn		21 10 30.9	+1.2
FCH				*i* S		Sn		21 10 50.2	+2.2
FCH				AML		AML		21 10 51.5	
	comp=N,64nm,0.2s								
TLL	**Tololo Astrono**	**2.17**	**17**	*e*P		Pn		21 10 41.0	+1.9
TLL				AML		AML		21 11 13.5	
	comp=N,20nm,0.3s								

*ISCJB **12** 21:27:41.3±0.1, 4826N±002×15432E±002, h41km, mb6.1/436, MS5.5/231, Error ellipse: s-maj=2.7km s-min=1.4km az=153.5*
*BJI **12** 21:27:41.0, 4846N×15460E, h62km, mB5.9, mb5.6, Ms5.6, Msz5.5*
*MOS **12** 21:27:41.9±1.4, 4825N×15444E, h56km, mb6.1/97, MS5.4/89, Error ellipse: s-maj=7.7km s-min=6.7km az=73.3*
MOS Felt (II) at Severo-Kuril'sk, Petropavlovsk-Kamchatskiy.
*BGS **12** 21:27:42.0, 4834N×15475E, h33km, mb6.2, MS5.1*
*GCMT **12** 21:27:42.4±0.1, 4817N×15475E, h48km, MW5.9/111, Moment Tensor Solution. s105,c243; s111,c343; Duration: 2s3 Moment tensor: Scale 10^18^Nm; Mrr 0.90±.01; Mθθ -0.19±.01; Mφφ -0.71±.01; Mrθ 0.14±.01; Mθφ -0.46±.01; Mφr 0.28±.01; Best double couple: M0 0.99100×10^18^ NP1:ϕs 211.00000°, δ 36.00000°, λ 91.00000°. NP2:ϕs 29.00000°, δ 54.00000°, λ 89.00000°. Principal axes: T 0.9540, Plg81.0000°, Azm295.0000°; N 0.0760, Plg1.0000°, Azm30.0000°; P -1.0280, Plg9.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **12** 21:27:42.4±0.1, 4828N×15425E, h36km, mb6.1/268, ME5.7, MS5.4/170, MW5.9 Error ellipse: s-maj=2.8km s-min=1.9km az=170.0, Moment Tensor Solution. s77 Moment tensor: Scale 10^17^Nm; Mrr 6.49; Mθθ -3.07; Mφφ -3.43; Mrθ 2.04; Mθφ -3.35; Mφr 3.08; Best double couple: M0 7.50000×10^17^ NP1:ϕs 39.00000°, δ 60.00000°, λ 85.00000°. NP2:ϕs 228.00000°, δ 31.00000°, λ 99.00000°. Principal axes: T 7.4800, Plg75.0000°, Azm295.0000°; N 0.0700, Plg4.0000°, Azm41.0000°; P -7.5500, Plg15.0000°, Azm132.0000°; Broadband fault plane solution: P waves. NP1:ϕs 210.00000°, δ 30.00000°, λ 90.00000°. NP2: ϕs 30.00000°, δ 60.00000°, λ 90.00000°. Principal axes: T Plg75.0000°, Azm300.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm120.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy and Severo-Kuril'sk.
*IDC **12** 21:27:43.1±0.6, 4832N×15408E, h44km±5km, mb5.4/26, mb1 5.5/28, mb1mx5.5/28, mbtmp5.4/28, ML4.9/2, MS5.5/26, Ms1 5.5/26, ms1mx5.3/36 Error ellipse: s-maj=10.9km s-min=7.6km az=139.0*
*SKHL **12** 21:27:43.6±0.4, 4826N×15441E, h77km±28km, mbh6.6/5, Ms5.6/2*
SKHL Felt (II) at Severo-Kurilsk.
*SZGRF **12** 21:27:45.0, 4878N×15332E, h33km, mb6.5, MS5.8, Kuril Islands, Russia*

ISC 12 21:27:43.3±0.1, 4835N±002×15422E±002, h43km, h43km±.5km: pP-P, n1787, σ0§84/1763, mb6.1/436, MS5.5/231, 443C-159D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**27**	⇑*i*P		**Pn**		**21 28 24.0**	**+0.6**
SKR						AMB	AMB	21 28 27.0	
	1μm,0.5s								
SKR						AMB	AMB	21 28 27.0	
	5μm,0.5s								
SKR						AMB	AMB	21 28 27.0	
	1μm,0.8s								
SKR						AMB	AMB	21 28 30.0	
	10μm,2.0s								
SKR						AMB	AMB	21 28 30.0	
	18μm,2.0s								
SKR						AMB	AMB	21 28 30.0	
	20μm,2.0s								
SKR						AMB	AMB	21 28 30.0	
	10μm,2.0s								
SKR						AMB	AMB	21 28 30.0	
	18μm,2.0s								
SKR				*i* S		**Sn**		**21 28 54.0**	**-0.2**
SKR						A		21 29 06.0	
	167μm,10.0s								
SKR						A		21 29 06.0	
	132μm,8.0s								
SKR						A		21 29 06.0	
	90μm,8.0s								
SKR						A		21 29 06.0	
	167μm,10.0s								
SKR						A		21 29 06.0	
	138μm,8.0s								
SKR						A		21 29 06.0	
	82μm,8.0s								
SKR						AMS	AMS	21 29 41.0	
	121μm,10.0s								
SKR						AMS	AMS	21 29 41.0	
	133μm,14.0s								
SKR						AMS	AMS	21 29 41.0	
	112μm,14.0s								
SKR						AMS	AMS	21 29 41.0	
	130μm,10.0s								
SKR						AMS	AMS	21 29 41.0	
	133μm,14.0s								
SKR						A

PET pmax pmax
comp=Z,2μm,0.7s
PET smax
comp=E,21μm,3.8s
PET smax
comp=E,75μm,4.1s
PET smax
comp=N,24μm,1.2s
PET MLR MLR
comp=N,27μm,14.0s
PET MLR MLR
comp=Z,33μm,17.0s
PET MLR MLR
comp=Z,35μm,19.2s
PET Petropavlovsk 5.46 29 *e*Pn **Pn 21 29 03.5 +1.3**
comp=Z,1μm,0.6s
PET *e*Sn **Sn 21 30 10.4 +6.8**
YUK Yuzh-Kuril'sk 7.23 236⇑ *i*P **Pn 21 29 29.0 +2.6**
YUK AMB AMB 21 29 30.8
comp=Z,710nm,0.4s
YUK AMB AMB 21 29 30.8
comp=Z,2μm,0.5s
YUK AMB AMB 21 29 30.8
comp=Z,3μm,0.3s
YUK AMB AMB 21 29 38.3
comp=Z,8μm,2.0s
YUK AMB AMB 21 29 38.3
comp=Z,6μm,2.0s
YUK AMB AMB 21 29 38.3
comp=Z,18μm,2.0s
YUK A 21 30 09.5
comp=Z,25μm,2.0s
YUK A 21 31 09.6
comp=Z,70μm,3.0s
YUK A 21 31 23.5
comp=Z,3μm,0.5s
YUK A 21 31 23.5
comp=Z,1μm,0.5s
YUK AMS AMS 21 32 03.5
comp=Z,80μm,17.0s
YUK AMS AMS 21 32 03.5
comp=Z,55μm,15.0s
YUK AMS AMS 21 32 03.5
comp=Z,50μm,20.0s
YUK Yuzh-Kuril'sk 7.23 236⇑ *i*PN **Pn 21 29 29.0 +2.6**
YUK *e*S **Sn 21 30 56.1 +9.0**
YUK pmax pmax
comp=Z,3μm,0.3s
YUK pmax pmax
comp=N,710nm,0.4s
YUK pmax pmax
comp=E,2μm,0.5s
YUK pmax pmax
comp=N,8μm,2.0s
YUK pmax pmax
comp=E,6μm,2.0s
YUK pmax pmax
comp=Z,18μm,2.0s
YUK smax
comp=N,70μm,3.0s
YUK smax
comp=E,25μm,2.0s
YUK MLR MLR
comp=Z,80μm,17.0s
YUK MLR MLR
comp=N,50μm,20.0s
YUK MLR MLR
comp=E,55μm,15.0s
YSS Yuzh-Sakhalins 7.87 264⇓ *i*P **Pn 21 29 40.4 +5.2**
YSS ⇓ *i*P 21 29 40.4
YSS AMB AMB 21 29 43.5
comp=E,990nm,1.0s
YSS AMB AMB 21 29 43.5
comp=E,1μm,1.1s
YSS AMB AMB 21 29 43.5
comp=E,2μm,0.9s
YSS AMB AMB 21 29 44.0
comp=E,12μm,2.0s
YSS AMB AMB 21 29 44.0
comp=E,10μm,2.0s
YSS AMB AMB 21 29 44.0
comp=E,15μm,2.0s
YSS AMB AMB 21 29 44.0
comp=E,12μm,2.0s
YSS *e*S **Sn 21 31 04.4 +1.5**
YSS A 21 31 09.5
comp=E,1μm,0.8s
YSS AMS AMS 21 32 38.0
comp=E,25μm,16.0s
YSS AMS AMS 21 32 38.0
comp=E,25μm,16.0s
YSS AMS AMS 21 32 38.0
comp=E,22μm,16.0s
YSS AMS AMS 21 32 38.0
comp=E,24μm,16.0s
YSS Yuzh-Sakhalins 7.87 264κ *i*PN **Pn 21 29 40.4 +5.2**
YSS *e* 21 31 16.0
YSS pmax pmax
comp=Z,1μm,1.1s
YSS pmax pmax
comp=N,990nm,1.0s
YSS pmax pmax
comp=E,2μm,0.9s
YSS pmax pmax
comp=E,15μm,2.0s
YSS pmax pmax
comp=Z,10μm,2.0s
YSS MLR MLR
comp=E,24μm,16.0s
YSS MLR MLR
comp=Z,22μm,16.0s
YSS Yuzh-Sakhalins 7.87 264 *e*Pn **Pn 21 29 40.7 +5.5**
comp=Z,1μm,0.8s
YSS *e*Sn **Sn 21 31 06.7 +3.9**
TYV Tymovskoe 7.92 293 *e*P **Pn 21 29 40.5 +4.6**
TYV AMB AMB 21 29 45.0
comp=Z,9μm,5.0s
TYV AMB AMB 21 29 45.0
comp=Z,14μm,6.0s
TYV AMB AMB 21 29 45.0
comp=Z,19μm,6.0s
TYV AMB AMB 21 29 45.5
comp=Z,441nm,0.7s
TYV AMS AMS 21 32 50.0
comp=Z,24μm,18.0s
TYV AMS AMS 21 32 50.0
comp=Z,53μm,18.0s
TYV AMS AMS 21 32 50.0
comp=Z,76μm,20.0s
UGL Uglegorsk 8.07 280 *e*P **Pn 21 29 44.5 +6.5**
UGL AMB AMB 21 29 46.0
comp=Z,216nm,0.5s
UGL AMB AMB 21 29 46.0
comp=Z,200nm,0.5s
UGL AMB AMB 21 29 46.0
comp=Z,1μm,0.5s
UGL AMB AMB 21 29 47.0
comp=Z,8μm,1.4s
UGL AMB AMB 21 29 47.0
comp=Z,12μm,4.0s
UGL AMB AMB 21 29 47.0
comp=Z,6μm,5.0s
UGL AMB AMB 21 29 47.0
comp=Z,11μm,5.0s
UGL A 21 31 21.0
comp=Z,339nm,0.5s
UGL A 21 31 21.0
comp=Z,462nm,0.5s
UGL A 21 31 21.0
comp=Z,308nm,0.5s
UGL AMS AMS 21 32 44.0
comp=Z,91μm,18.0s
UGL AMS AMS 21 32 44.0
comp=Z,65μm,18.0s
UGL AMS AMS 21 32 44.0
comp=Z,64μm,20.0s
UGL Uglegorsk 8.07 280 *e*PN **Pn 21 29 44.5 +6.5**
UGL *e*S **Sn 21 31 15.5 +7.6**
UGL pmax pmax
comp=N,216nm,0.5s
UGL pmax pmax
comp=E,200nm,0.5s
UGL pmax pmax
comp=Z,1μm,0.5s
UGL pmax pmax
comp=Z,12μm,4.0s
UGL pmax pmax
comp=N,6μm,5.0s

UGL pmax pmax
comp=E,11μm,5.0s
UGL smax
comp=N,339nm,0.5s
UGL smax
comp=E,462nm,0.5s
UGL smax
comp=Z,308nm,0.5s
UGL MLR MLR
comp=Z,64μm,20.0s
UGL MLR MLR
comp=N,91μm,18.0s
UGL MLR MLR
comp=E,65μm,18.0s
JMP Maruseppu 8.70 244 P **Pn 21 29 50.4 +3.9**
JMP S **Sn 21 31 38.0 +15**
JWK2 Keihoku 8.97 255 P **Pn 21 29 57.7 +7.4**
ASAJ Asahikawa 9.10 247 P **Pn 21 29 57.0 +5.0**
comp=E,46nm,0.3s,baz=76,slow=15,SNR=136
ASAJ S **Sn 21 31 42.1 +9.0**
comp=E,1.1nm,0.3s,baz=129,slow=20,SNR=1.2
ASAJ LR LR 21 33 05.5
comp=E,45μm,21.6s,baz=62,slow=36
ASAJ Asahikawa 9.10 247 P **Pn 21 29 57.2 +5.2**
ASAJ S **Sn 21 31 46.5 +13**
ASAJ Asahikawa 9.10 247 PN **Pn 21 29 57.0 +5.0**
ASAJ S **Sn 21 31 42.1 +9.0**
ASAJ pmax pmax
comp=Z,46nm,0.3s
ASAJ MLR MLR
comp=Z,45μm,21.7s
NKL Nikolayevsk 9.83 304⇓ *i*P **Pn 21 30 05.7 +3.7**
NKL AMB AMB 21 30 07.2
comp=Z,4μm,1.3s
NKL AMB AMB 21 30 07.2
comp=Z,3μm,1.3s
NKL AMB AMB 21 30 07.2
comp=Z,4μm,1.3s
NKL AMB AMB 21 30 07.5
comp=Z,1μm,6.0s
NKL AMB AMB 21 30 07.5
comp=Z,13μm,6.0s
NKL AMB AMB 21 30 07.5
comp=Z,4μm,4.0s
NKL A 21 32 10.0
comp=Z,7μm,10.0s
NKL A 21 32 10.0
comp=Z,6μm,10.0s
NKL *e*L 21 32 43.0
NKL AMS AMS 21 33 51.0
comp=Z,24μm,21.0s
NKL AMS AMS 21 33 51.0
comp=Z,46μm,21.0s
NKL AMS AMS 21 33 51.0
comp=Z,7μm,16.0s
JEM Erimo 10.05 235 P **Pn 21 30 06.7 +1.7**
ERM Erimo 10.05 235 *e*PN **Pn 21 30 06.3 +1.3**
ERM pmax pmax
comp=Z,474nm,0.6s
ERM Erimo 10.05 235 *e*Pn **Pn 21 30 06.3 +1.3**
comp=Z,474nm,0.6s
JEW Eniwo 10.50 243 P **Pn 21 30 14.4 +3.2**
JSH Shimam 11.46 245 P **Pn 21 30 26.6 +2.3**
JSH S **Sn 21 32 38.2 +7.2**
JOT Ohata 11.65 238 P **Pn 21 30 25.0 -1.9**
JOT S **Sn 21 32 31.5 -4.0**
JTM Tenmabayashi 12.04 236 P **Pn 21 30 29.4 -2.8**
JTM S **Sn 21 32 36.0 -9.0**
TEY Ternei 12.54 261 *i* P **Pn 21 30 42.0 +2.9**
TEY AMB AMB 21 30 48.0
comp=Z,1μm,2.0s
TEY AMB AMB 21 30 48.0
comp=Z,3μm,2.0s
TEY AMB AMB 21 30 48.0
comp=Z,3μm,2.0s
TEY AMB AMB 21 30 48.0
comp=Z,3μm,3.0s
TEY A 21 33 34.0
comp=Z,13μm,15.0s
JOM Ohasama 12.85 231 P **Pn 21 30 39.2 -4.2**
JOM S **Sn 21 32 55.5 -9.5**
SMY Shemya 13.37 63 *e*PN **Pn 21 30 47.5 -2.9**
SMY pmax pmax
comp=Z,2μm,0.5s
SMY Shemya 13.37 63 *e*P **Pn 21 30 47.4 -3.0**
comp=Z,2μm,0.5s
JMM Marumori 14.33 228 P **Pn 21 31 00.8 -2.7**
JMM S **Sn 21 33 30.2 -11**
JYA Atsumi 14.33 232 P **Pn 21 30 58.5 -5.0**
SEY Seymchan 14.65 357⇑ *i*P **Pn 21 31 09.5 +1.7**
KLR Kul'dur 14.83 282⇓ *i*P **Pn 21 31 13.0 +2.9**
KLR *e*S **Sn 21 34 06.0 +13**
KLR pmax pmax
comp=E,5μm,7.5s
KLR pmax pmax
comp=Z,7μm,7.5s
KLR smax
comp=N,14μm,10.0s
KLR smax
comp=E,6μm,10.0s
KLR MLR MLR
comp=Z,47μm,13.0s
JSD Sado 15.52 234 P **Pn 21 31 19.4 +0.3**
JYT Yasato 15.92 226 S **Sn 21 34 09.3 -10**
VLA Vladivostok 16.42 260 *de*P **Pn 21 31 31.5 +0.9**
VLA *e* 21 34 37.3
VLA pmax pmax
comp=Z,582nm,1.2s
VLA MLR MLR
comp=Z,4μm,14.3s
VLA Vladivostok 16.42 260⇑ *i*P **Pn 21 31 29.7 -0.9**
AMKA Amchitka 16.43 70 *e*P **Pn 21 31 29.3 -1.4**
MJAR Matsushiro Arr 16.66 231 P **Pn 21 31 32.1 -1.5**
comp=Z,3.6nm,0.3s,baz=30,slow=13,SNR=101
MJAR S **S 21 34 41.9 -5.4**
comp=Z,0.9nm,0.3s,baz=15,slow=10,SNR=3.6
MJAR ScP ScP 21 39 50.9 -1.7
comp=Z,0.1nm,0.3s,baz=57,slow=1.5,SNR=5.6
MJAR Matsushiro Arr 16.66 231 P **Pn 21 31 32.1 -1.5**
MJAR S **S 21 34 41.9 -5.4**
MAJO Matsushiro 16.66 231 *e*P **Pn 21 31 31.6 -2.0**
MAJO pmax pmax
comp=Z,1μm,1.5s
MAJO Matsushiro 16.66 231 *e*P **Pn 21 31 31.6 -2.1**
comp=Z,1μm,1.5s
MAT Matsushiro 16.66 231 P **Pn 21 31 31.4 -2.2**
MAT S **S 21 34 38.0 -9.3**
MAT Matsushiro 16.66 231 P **Pn 21 31 28.9 -4.7**
MAT S **S 21 34 40.3 -7.0**
JRY Ryogami san 16.72 228 P **Pn 21 31 31.7 -2.6**
JRY S **S 21 34 31.1 -17**
JOD2 Odawara 2 17.23 226 P **Pn 21 31 41.6 +0.9**
JOD2 S **S 21 34 41.9 -17**
MDJ Mudanjiang 17.34 267 P **Pn 21 31 44.5 +2.4**
MDJ AP pP 21 31 55.2 +1.9
MDJ XP sP 21 32 00.6 +1.8
MDJ S **S 21 34 58.3 -2.9**
MDJ AMB AMB
comp=Z,258nm,1.2s
MDJ LR LR
comp=N,7μm,26.9s
MDJ LR LR
comp=E,8μm,26.1s
MDJ LR LR
comp=Z,14μm,21.4s
MDJ Mudanjiang 17.34 267⇓ *e*Pn **Pn 21 31 44.4 +2.3**
comp=Z,586nm,1.4s
MDJ *e*Sn **Sn 21 34 58.2 +4.1**
ZEA Zeya 17.73 298⇑ *i*P **Pn 21 31 45.7 -1.3**
ZEA ⇑ *i*P 21 31 45.7
ZEA AMB AMB 21 31 51.0
comp=Z,5μm,6.0s
ZEA AMB AMB 21 31 51.0
comp=Z,2μm,5.0s
ZEA AMB AMB 21 31 51.0
comp=Z,4μm,5.0s
ZEA AMB AMB 21 31 51.4
comp=Z,220nm,1.2s
ZEA AMB AMB 21 31 51.4
comp=Z,370nm,1.2s
ZEA AMB AMB 21 31 51.4
comp=Z,560nm,1.2s
JGF Kuroka 17.82 231 P **Pn 21 31 50.0 +2.0**
JSG Sagara 18.14 227 P **Pn 21 31 54.8 +2.9**
JHJ Hachijo jima 2 18.69 221 P **Pn 21 31 58.0 -0.5**
comp=Z,23nm,0.3s,baz=226,slow=18,SNR=3.2
JWT Wachi 19.10 234 P **Pn 21 32 01.5 -2.0**
JIE Ise 19.10 230 P **Pn 21 32 02.8 -0.7**
YAK Yakutsk 19.42 324*c* *i*P **Pn 21 32 06.1 -1.3**
YAK *e*S **S 21 35 45.0 +1.8**
YAK pmax pmax
comp=N,955nm,1.3s
YAK pmax pmax
comp=E,2μm,1.3s
YAK pmax pmax
comp=Z,2μm,1.3s
YAK smax
comp=E,1μm,2.0s
YAK smax
comp=Z,2μm,2.9s
YAK smax
comp=N,2μm,2.4s
YAK MLR MLR
comp=Z,18μm,25.0s
YAK MLR MLR
comp=N,6μm,20.0s
YAK MLR MLR
comp=E,12μm,21.0s
YAK Yakutsk 19.42 324 *e*P **Pn 21 32 07.1 -0.3**
comp=E,2μm,0.9s
CLNS Chul'man 19.61 307 *e*P **Pn 21 32 10.2 +0.6**
NRGR Nerungri 19.66 306 *i* P **Pn 21 32 13.3 +3.1**
NRGR S **S 21 35 54.1 +6.2**
NRGR pmax pmax
comp=Z,2μm,0.6s
NRGR smax
comp=E,102nm,0.5s
JAD Aida 20.02 235 P **P 21 32 12.0 -0.5**
JWZ Kozaga 20.28 230 P **P 21 32 15.8 +0.5**
CN2 Changchun 20.41 268 *e*P **P 21 32 15.6 -1.1**
CN2 *e*S **S 21 35 55.9 -7.0**
CN2 AMB AMB
comp=Z,50nm,1.0s
CN2 LR LR
comp=N,6μm,16.0s,MS5.4
CN2 LR LR
comp=E,11μm,16.0s,MS5.4
CN2 LR LR
comp=Z,13μm,21.0s,MS5.3
JHS Saijyo 20.56 237 P **P 21 32 19.8 +1.5**
BILL Bilibino 20.66 13*c* *i*P **P 21 32 17.4 -2.0**
BILL pmax pmax
comp=Z,155nm,1.0s
BILL MLR MLR
comp=Z,14μm,20.0s,MS5.3
BILL Bilibino 20.66 13 *e*P **P 21 32 17.4 -2.0**
comp=Z,156nm,0.8s
BILL LR LR
comp=Z,13μm,19.0s,MS5.3
JMN Monobe 21.09 234 P **P 21 32 24.7 +0.7**
KSRS Korea Array 22.02 250 P **P 21 32 34.7 +0.7**
comp=Z,430nm,1.0s,mb5.8,baz=51,slow=10.0,SNR=188
KSRS PcP PcP 21 36 31.2 +0.3
comp=Z,42nm,1.1s,baz=33,slow=1.0,SNR=12
KSRS ScP ScP 21 40 03.0 -1.7
comp=Z,5.7nm,1.1s,baz=198,slow=0.5,SNR=5.9
KSRS LR LR 21 40 47.2
comp=Z,15μm,18.4s,MS5.4,baz=48,slow=36
SNY Shenyang 22.49 265⇓ P **P 21 32 39.2 +0.2**
SNY S **S 21 36 38.7 -4.8**
SNY AMB AMB
comp=Z,190nm,1.1s,mb5.4
SNY AMB AMB
comp=Z,2μm,6.1s
SNY LR LR
comp=N,10μm,17.3s
SNY LR LR
comp=Z,10μm,24.5s
HIA Hailar 22.61 285 *e*P **P 21 32 41.8 +1.5**
HIA *e*S **S 21 36 46.4 +1.0**
HIA pmax pmax
comp=Z,435nm,1.4s
HIA MLR MLR
comp=Z,27μm,20.0s
HIA Hailar 22.61 285 *e*P **P 21 32 41.8 +1.5**
comp=Z,435nm,1.4s,mb5.7
HIA *e*S **S 21 36 46.4 +1.0**
HIA LR LR
comp=Z,27μm,20.0s,MS5.7
INCN Inchon 22.82 252⇓ P **P 21 32 44.1 +1.7**
SNR=33
INCN Inchon 22.82 252⇑ *i*P **P 21 32 42.8 +0.4**
comp=Z,1μm,1.4s,mb6.2
INCN *e*PcP PcP 21 36 32.4 -0.2
INCN LR LR
comp=Z,14μm,20.0s,MS5.4
JTU Tsushima 23.05 242 P **P 21 32 44.9 +0.1**
JNU Nakatsue 23.20 238 P **P 21 32 46.9 +0.5**
comp=Z,200nm,1.1s,mb5.5,baz=271,slow=24,SNR=21
JNU S **S 21 36 51.0 -4.0**
comp=Z,23nm,1.1s,baz=234,slow=12,SNR=1.7
JNU LR LR 21 42 49.4
comp=Z,5μm,18.1s,MS5.0,baz=65,slow=39
JNU Nakatsue 23.20 238 P **P 21 32 46.2 -0.2**
CBIJ Chichi jima 23.20 208 LR LR 21 40 25.6
comp=Z,2μm,19.2s,MS4.7,baz=211,slow=33
JSU Suzuyama 24.65 236 P **P 21 32 59.2 -0.6**
JFU Fukue jima 2 24.75 240 P **P 21 33 00.7 -0.1**
UNV Unalaska Valle 25.03 62 PFAKE 21 33 10.0 +6.7
UNV LR LR
comp=Z,15μm,19.0s,MS5.5
DL2 Dalian 25.24 260⇑ *i*P **P 21 33 06.0 +0.7**
DL2 XP sP 21 33 22.3 +0.5
DL2 S **S 21 37 28.1 +0.2**
DL2 AMB AMB
comp=Z,240nm,1.1s,mb5.6
DL2 AMB AMB
comp=Z,1μm,4.1s
DL2 LR LR
comp=N,2μm,15.9s,MS5.0
DL2 LR LR
comp=E,3μm,18.5s,MS5.0
DL2 LR LR
comp=Z,4μm,19.4s,MS5.0
BOD Bodaibo 25.59 307 *e*P **P 21 33 08.1 -0.3**
BOD *e* 21 33 23.5
BOD pmax pmax
comp=Z,99nm,1.4s,mb5.2
CIT Chita 26.05 294 *e*P **P 21 33 15.5 +2.9**
CIT *e* 21 33 34.7
CIT *e* 21 33 59.7
CIT *e* 21 36 39.2
CIT pmax pmax
comp=Z,571nm,1.4s,mb5.9
TIXI Tiksi 26.16 342⇑ *i*P **P 21 33 11.6 -1.9**
TIXI MLR MLR
comp=Z,47μm,22.0s,MS6.0
TNA Tin City 26.29 35⇑ *i*P **P 21 33 14.9 +0.2**
comp=Z,630nm,1.1s,mb6.1
TNA *e*S **S 21 37 45.8 +1.4**
TNA LR LR
comp=Z,5μm,22.0s,MS5.0
BJI Beijing 28.27 267 P **P 21 33 31.8 -0.7**
BJI S **S 21 38 07.9 -7.8**
BJI AMB AMB
comp=Z,43nm,1.5s
BJI AMB AMB
comp=Z,1μm,6.9s
BJI LR LR
comp=N,7μm,17.4s,MS5.6
BJI LR LR
comp=E,10μm,15.8s,MS5.6
BJI LR LR
comp=Z,8μm,26.7s
BJI Beijing 28.27 267 P **P 21 33 31.8 -0.7**
comp=Z,43nm,1.5s
BJI S **S 21 38 07.9 -7.8**
BJI LR LR
comp=Z,8μm,26.7s
BJT Baijiatuau 28.29 267⇑ *i*P **P 21 33 32.4 -0.3**
BJT *e* 21 34 36.4
BJT *e* 21 36 40.7
BJT *e*S **S 21 38 19.0 +3.1**
BJT pmax pmax
comp=Z,69nm,0.9s
BJT MLR MLR
comp=Z,11μm,22.0s
BJT Baijiatuau 28.29 267⇑ *i*P **P 21 33 32.4 -0.2**
comp=Z,69nm,0.9s,mb5.3
BJT *e*PP PP 21 34 36.4 -0.6
BJT *e*PcP PcP 21 36 40.7 -4.2

BJT eS S 21 38 19.0 +3.0
BJT eScP ScP 21 40 12.5 -10
BJT LR LR
comp=Z,11µm,22.0s,MS5.4
JOW Kunigami 29.49 233 P **P** **21 33 43.4 +0.1**
comp=Z,44nm,0.5s,mb5.5,baz=36,slow=7.0,SNR=21
JOW PcP PcP 21 36 47.5 -0.4
comp=Z,28nm,0.5s,baz=132,slow=1.4,SNR=8.9
JOW S **S** **21 38 32.4 -2.4**
comp=Z,9.7nm,0.8s,baz=37,slow=20,SNR=4.1
JOW LR LR 21 45 55.8
JOW Kunigami 29.49 233 P **P** **21 33 42.6 -0.7**
TIA Tai'an 29.71 260 ⇑P **P** **21 33 45.6 +0.3**
TIA S **S** **21 38 36.0 -2.4**
TIA AMB AMB
comp=Z,147nm,1.4s,mb5.5
TIA LR LR
comp=N,2µm,14.0s,MS5.2
TIA LR LR
comp=E,4µm,14.0s,MS5.2
MIDW Midway 29.75 122 PFAKE 21 34 00.0 +14
MIDW LR LR
comp=Z,9µm,20.0s,MS5.4
SSE Sheshan 30.39 248 P **P** **21 33 51.3 0.0**
SSE S **S** **21 38 48.4 -0.5**
SSE AMB AMB
comp=Z,115nm,1.2s,mb5.5
SSE AMB AMB
comp=Z,1µm,7.6s
SSE LR LR
comp=N,3µm,25.0s,MS5.1
SSE LR LR
comp=E,5µm,25.0s,MS5.1
SSE LR LR
comp=Z,7µm,25.0s,MS5.2
SSE Sheshan 30.39 248 P **P** **21 33 51.3 0.0**
comp=Z,115nm,1.2s,mb5.5
SSE S **S** **21 38 48.4 -0.5**
SSE SS SS 21 40 56.5 -3.0
SSE LR LR
comp=Z,7µm,25.0s,MS5.2
HHC Hu-ho-hao-te 30.95 272 ⇑*iP* **P** **21 33 56.4 +0.1**
HHC AP pP 21 34 08.1 +0.3
HHC XP sP 21 34 14.0 +1.1
HHC PP PP 21 34 59.7 -6.9
HHC PCP PcP 21 36 51.0 -0.8
HHC S **S** **21 38 56.0 -1.8**
HHC SCP ScP 21 40 29.9 -1.2
HHC PCS PcS 21 40 35.6 -0.2
HHC SS SS 21 40 42.5 -29
HHC SCS ScS 21 44 25.8 -2.2
HHC AMB AMB
comp=Z,148nm,1.4s,mb5.6
HHC AMB AMB
comp=Z,1µm,6.2s
HHC LR LR
comp=N,7µm,16.7s,MS5.6
HHC LR LR
comp=E,10µm,16.7s,MS5.6
HHC LR LR
comp=Z,10µm,19.6s,MS5.5
NJ2 Nanjing 31.20 252 *eP* **P** **21 33 59.5 +1.1**
NJ2 AP pP 21 34 11.6 +1.6
NJ2 XP sP 21 34 16.2 +1.1
NJ2 PP PP 21 35 04.6 -4.7
NJ2 S **S** **21 39 01.5 -0.1**
NJ2 AMB AMB
comp=Z,3µm,5.0s
NJ2 LR LR
comp=N,20µm,18.6s,MS5.9
NJ2 LR LR
comp=E,13µm,17.5s,MS5.9
NJ2 LR LR
comp=Z,21µm,20.5s,MS5.8
SONM Songino Array 31.54 287 P **P** **21 34 01.7 +0.3**
comp=Z,26nm,1.0s,mb5.0,baz=55,slow=8.2,SNR=52
SONM PcP PcP 21 36 53.4 +0.1
comp=Z,34nm,0.8s,baz=111,slow=2.0,SNR=16
SONM ScP ScP 21 40 30.9 -2.2
comp=Z,7.5nm,1.0s,baz=57,slow=5.5,SNR=4.6
SONM LR LR 21 48 01.2
comp=Z,23µm,18.5s,MS5.9,baz=26,slow=39
SONM P3KPbc 22 05 37.7
comp=Z,1.3nm,0.8s,baz=235,slow=5.7,SNR=10
SONM Songino Array 31.54 287 P **P** **21 34 01.7 +0.3**
SONM 21 36 53.4
SONM Songino Array 31.54 287 P **P** **21 34 01.7 +0.3**
SONM PcP PcP 21 36 53.4 +0.1
SONM ScP ScP 21 40 30.9 -2.2
SONM LR LR 21 48 01.2
SONM *e* 22 05 37.7
IRK Irkutsk 31.63 296 *eP* **P** **21 34 03.7 +1.5**
IRK *e* 21 36 52.8
IRK pmax pmax
comp=Z,86nm,1.2s,mb5.5
IMA2 Indian Mountai 32.07 37 ⇑*iP* **P** **21 34 05.8 -0.3**
IMA2 *e*PP PP 21 35 11.9 -2.1
IMA2 *e*PcP PcP 21 36 53.3 -1.2
BTO Baotou 32.10 273 *eP* **P** **21 34 04.9 -1.4**
BTO S **S** **21 39 13.3 -2.4**
BTO LR LR
comp=N,2µm,16.1s,MS5.0
BTO LR LR
comp=E,2µm,21.0s,MS5.0
TLY Talaya 32.14 295 ⇑*iP* **P** **21 34 06.2 -0.5**
TLY *e* 21 34 26.5
TLY *e*PPP 21 35 14.7
TLY *e* 21 35 36.1
TLY *e* 21 36 54.5
TLY *eS* **S** **21 39 08.6 -7.7**
TLY *e* 21 41 39.2
TLY pmax pmax
comp=Z,43nm,0.8s,mb5.3
TLY MLR MLR
comp=Z,19µm,18.0s,MS5.8
TLY Talaya 32.14 295 ⇑*iP* **P** **21 34 06.1 -0.6**
TLY LR LR
comp=Z,5µm,20.0s,MS5.2
KDAK Kodiak Island 32.53 53 P **P** **21 34 08.9 -1.2**
comp=Z,45nm,0.8s,mb5.5,baz=310,slow=3.6,SNR=14
KDAK PcP PcP 21 36 55.5 -0.5
comp=Z,46nm,0.9s,baz=349,slow=7.8,SNR=3.7
KDAK Kodiak Island 32.53 53 P **P** **21 34 08.9 -1.2**
KDAK PcP PcP 21 36 55.5 -0.5
KDAK LR LR
comp=Z,3µm,22.0s,MS5.0
ZAK Zakamensk 32.71 293 *eP* **P** **21 34 12.1 +0.4**
ZAK *e* 21 34 35.1
ZAK pmax pmax
comp=Z,31nm,1.1s,mb5.2
SLKM Skilak Lake 33.48 48 *eP* **P** **21 34 18.0 -0.4**
SLKM *e* 21 35 34.3
SLKM *e* 21 36 57.7
MOY Mondy 33.74 296 *eP* **P** **21 34 21.0 +0.4**
MOY pmax pmax
comp=Z,148nm,4.4s
PMR Palmer 33.94 46 *eP* **P** **21 34 21.9 -0.5**
PMR pmax pmax
comp=Z,205nm,1.2s,mb5.9
PMR MLR MLR
comp=Z,6µm,19.0s,MS5.3
PMR Palmer 33.94 46 *eP* **P** **21 34 21.9 -0.5**
comp=Z,205nm,1.2s,mb5.9
PMR LR LR
comp=Z,6µm,19.0s,MS5.3
MCK McKinley 33.95 42 ⇑*iP* **P** **21 34 22.1 -0.4**
MCK *e* pP 21 34 33.4 -0.7
MCK *e* 21 35 39.3
MCK *e* 21 35 47.8
MCK *e* 21 36 59.1
MCK pmax pmax
comp=Z,248nm,1.2s,mb6.0
MCK MLR MLR
comp=Z,3µm,20.0s,MS5.0
MCK McKinley 33.95 42 ⇑*iP* **P** **21 34 22.1 -0.4**
comp=Z,248nm,1.2s,mb6.0
MCK *e* pP 21 34 33.4 -0.8
MCK *e*PP PP 21 35 39.3 -0.6
MCK *e*PP PP 21 35 47.8 +8.0
MCK *e*PcP PcP 21 36 59.1 -0.9
MCK *eS* **S** **21 39 54.8 +10**
MCK LR LR
comp=Z,3µm,20.0s,MS5.0
SML Sawmill 34.30 45 ⇑*iP* **P** **21 34 24.8 -0.7**
SML *e* pP 21 34 36.1 -1.1
SML *e* 21 35 40.9
SML *eS* **S** **21 39 49.8 0.0**
COLA College 34.42 40 ⇑*iP* **P** **21 34 26.6 0.0**
COLA MLR MLR
comp=Z,4µm,20.0s,MS5.1
TATO Taipei 34.70 240 *eP* **P** **21 34 27.9 -1.1**
comp=Z,178nm,1.0s,mb6.0
TATO LR LR
comp=Z,8µm,20.0s,MS5.5
YHNB Yeheng 35.00 239 *eP* **P** **21 34 31.5 -0.1**
NACB Ninganchiao 35.26 239 *eP* **P** **21 34 32.5 -1.4**
GUMO Guam 35.52 196 PFAKE 21 34 50.0 +14
GUMO LR LR
comp=Z,3µm,22.0s,MS5.0
DIV Divide 35.59 46 ⇑*iP* **P** **21 34 36.5 -0.2**
comp=Z,811nm,1.1s,mb6.6
DIV *e* pP 21 34 47.2 -1.1
DIV *eS* **S** **21 40 10.2 +0.5**
DIV LR LR
comp=Z,15µm,20.0s,MS5.7
EYAK Cordova Ski Ar 35.68 47 ⇑*iP* **P** **21 34 36.1 -1.2**
EYAK *e* pP 21 34 48.0 -1.1
EYAK *e*PP PP 21 35 60.0 +1.1
EYAK *e*PcP PcP 21 37 04.0 -1.0
EYAK *eS* **S** **21 40 12.5 +1.6**
MENT Mentasta 36.35 43 *eP* **P** **21 34 43.1 0.0**
XAN Xi'an 36.41 264 P **P** **21 34 43.7 0.0**
XAN S **S** **21 40 18.9 -3.4**
XAN AMB AMB
comp=Z,136nm,1.2s,mb5.8
XAN LR LR
comp=N,2µm,25.6s,MS5.3
XAN LR LR
comp=E,5µm,20.8s,MS5.3
XAN LR LR
comp=Z,9µm,22.6s,MS5.5
QZH Quanzhou 36.42 243 ⇑*iP* **P** **21 34 44.8 +1.0**
QZH S **S** **21 40 21.1 -1.3**
QZH AMB AMB
comp=Z,790nm,1.3s,mb6.5
QZH AMB AMB
comp=Z,5µm,3.6s
QZH LR LR
comp=N,7µm,18.8s
QZH LR LR
comp=E,1µm,6.4s
QZH LR LR
comp=Z,10µm,26.5s
KRAR Krasnoyarsk 37.24 305 ⇓*eP* **P** **21 34 50.8 0.0**
KRAR pmax pmax
comp=Z,213nm,1.3s,mb5.8
KRAR MLR MLR
comp=Z,12µm,17.0s,MS5.8
EGAK Eagle 37.28 40 ⇑*iP* **P** **21 34 50.3 -0.8**
comp=Z,613nm,1.1s,mb6.3
EGAK *e*PP PP 21 36 19.8 +3.1
EGAK *eS* **S** **21 40 30.8 -4.7**
EGAK LR LR
comp=Z,5µm,19.0s,MS5.3
DAWY Dawson 38.13 41 ⇑*iP* **P** **21 34 58.0 -0.3**
DAWY *e* pP 21 35 09.3 -0.7
DAWY *e*PP PP 21 36 29.3 +3.4
ENH Enshi 38.41 259 P **P** **21 34 59.6 -0.9**
comp=Z,0.4nm,0.2s
ENH LR LR
comp=Z,4.0nm,22.0s
LZH Lanzhou 38.60 271 *eP* **P** **21 35 03.4 +1.2**
LZH AP pP 21 35 17.0 +3.1
LZH XP sP 21 35 23.7 +4.7
LZH PP PP 21 36 36.1 +5.0
LZH PCP PcP 21 37 14.4 +0.5
LZH S **S** **21 40 54.0 -1.5**
LZH PCS PcS 21 41 04.4 +1.2
LZH SS SS 21 43 37.0 -10
LZH AMB AMB
comp=Z,550nm,1.6s,mb6.0
LZH AMB AMB
comp=Z,2µm,4.2s
LZH LR LR
comp=E,6µm,15.3s
LZH LR LR
comp=Z,8µm,15.9s,MS5.7
LZH Lanzhou 38.60 271 *eP* **P** **21 35 03.4 +1.2**
LZH *PP pP 21 35 17.0 +3.1
LZH *SP sP 21 35 23.7 +4.7
LZH 21 36 36.1
LZH 21 37 14.4
LZH S **S** **21 40 54.0 -1.5**
LZH SS SS 21 43 37.0 -10
LZH 21 45 09.6
LZH pmax pmax
comp=Z,550nm,1.6s,mb6.0
LZH MLR MLR
comp=Z,8µm,15.9s,MS5.7
LZH Lanzhou 38.60 271 *eP* **P** **21 35 03.4 +1.2**
comp=Z,550nm,1.6s,mb6.0
LZH pP pP 21 35 17.0 +3.1
LZH sP sP 21 35 23.7 +4.7
LZH PP PP 21 36 36.1 +5.0
LZH PcP PcP 21 37 14.4 +0.5
LZH S **S** **21 40 54.0 -1.5**
LZH ScP ScP 21 40 58.8 +0.3
LZH PcS PcS 21 41 04.4 +1.2
LZH sS sS 21 41 06.2 -8.8
LZH SS SS 21 43 37.0 -10
LZH ScS ScS 21 45 09.6 +0.6
LZH LR LR
comp=Z,8µm,15.9s,MS5.7
GTA Gaotai 39.48 278 *eP* **P** **21 35 09.8 +0.3**
GTA AP pP 21 35 23.6 +2.3
GTA XP sP 21 35 29.4 +3.1
GTA PP PP 21 36 45.8 +5.2
GTA PCP PcP 21 37 17.8 +1.1
GTA SCP ScP 21 41 01.8 0.0
GTA S **S** **21 41 07.0 -1.6**
GTA PCS PcS 21 41 08.3 +1.7
GTA SS SS 21 43 53.5 -11
GTA SCS ScS 21 45 12.7 -1.3
GTA AMB AMB
comp=Z,50nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,911nm,7.6s
GTA LR LR
comp=N,7µm,18.2s,MS5.8
GTA LR LR
comp=E,11µm,17.9s,MS5.8
GTA LR LR
comp=Z,17µm,16.7s,MS6.0
INK Inuvik 39.90 34 P **P** **21 35 13.6 +0.5**
comp=Z,294nm,1.1s,mb5.9,baz=288,slow=7.0,SNR=294
INK PP PP 21 36 47.1 +1.9
comp=Z,74nm,1.1s,baz=252,slow=7.2,SNR=4.3
INK S **S** **21 41 16.4 +1.5**
comp=Z,7.8nm,1.0s,baz=102,slow=32,SNR=5.7
INK Inuvik 39.90 34 ⇑*iP* **P** **21 35 13.3 +0.3**
INK *e* pP 21 35 24.5 -0.3
INK *eS* **S** **21 41 14.7 -0.3**
INK Inuvik 39.90 34 ⇓*iP* **P** **21 35 13.3 +0.3**
INK *e* pP 21 35 24.5 -0.3
INK *e*PP PP 21 36 36.6 -8.6
INK *eS* **S** **21 41 14.7 -0.2**
CVP Callao Caves 40.35 232 *eP* **P** **21 35 17.0 +0.2**
CAUP Cauayan 40.98 231 *eP* **P** **21 35 23.7 +1.7**
SKAG Skagway 41.02 47 *eP* **P** **21 35 23.4 +1.1**
comp=Z,675nm,1.7s,mb6.0
SKAG LR LR
comp=Z,4µm,22.0s,MS5.3
SIT Sitka 41.77 51 *eP* **P** **21 35 30.1 +1.7**
SIT pmax pmax
comp=Z,441nm,1.8s,mb5.8
SIT MLR MLR
comp=Z,4µm,21.0s,MS5.2
SIT Sitka 41.77 51 *eP* **P** **21 35 30.1 +1.7**
comp=Z,441nm,1.8s,mb5.8
SIT LR LR
comp=Z,4µm,21.0s,MS5.2
CD2 Chengdu 41.77 264 ⇑*iP* **P** **21 35 28.5 0.0**
CD2 AP pP 21 35 41.3 +1.0
CD2 XP sP 21 35 46.2 +0.9
CD2 PP PP 21 37 09.2 +3.7
CD2 PCP PcP 21 37 27.0 +2.9
CD2 S **S** **21 41 41.5 -1.3**
CD2 SS SS 21 44 43.0 -6.7
CD2 SCS ScS 21 45 26.3 -1.5
CD2 AMB AMB
comp=Z,250nm,1.1s,mb5.8
CD2 AMB AMB
comp=Z,2µm,5.9s
CD2 LR LR
comp=N,7µm,19.2s,MS5.6
CD2 LR LR
comp=E,5µm,19.8s,MS5.6
CD2 LR LR
comp=Z,9µm,21.0s,MS5.6
ZAL Zalesovo 42.31 305 P **P** **21 35 32.5 -0.4**
comp=Z,19nm,0.4s,mb5.0,baz=51,slow=6.0,SNR=71
ZAL PcP PcP 21 37 26.2 +0.3
comp=Z,96nm,1.0s,baz=43,slow=2.8,SNR=21
ZAL LR LR 21 55 01.9
comp=Z,14µm,18.1s,MS5.9,baz=33,slow=39
ZAL Zalesovo 42.31 305 P **P** **21 35 32.5 -0.4**
ZAL 21 37 26.2
GYA Guiyang 42.80 257 ⇑*iP* **P** **21 35 37.4 +0.6**
GYA AP pP 21 35 51.2 +2.5
GYA XP sP 21 35 56.6 +2.9
GYA PP PP 21 37 20.2 +3.6
GYA PCP PcP 21 37 29.5 +2.0
GYA PPP 21 37 54.8
GYA SCP ScP 21 41 15.1 +0.1
GYA PCS PcS 21 41 20.5 +0.8
GYA S **S** **21 41 58.0 +0.1**
GYA XS sS 21 42 20.4 +2.7
GYA SS SS 21 45 02.6 -7.4
GYA SCS ScS 21 45 32.5 -1.6
GYA AMB AMB
comp=Z,410nm,1.0s,mb6.1
GYA AMB AMB
comp=Z,1µm,5.7s
GYA LR LR
comp=N,2µm,18.2s,MS5.3
GYA LR LR
comp=E,2µm,17.4s,MS5.3
GYA LR LR
comp=Z,3µm,18.0s,MS5.2
NVS Novosibirsk 42.83 306 *i*P **P** **21 35 36.2 -0.8**
NVS *i* 21 37 26.5
NVS *i*S **S** **21 41 58.8 +0.5**
NVS *eSS* SS 21 45 07.3 -3.2
NVS *i*SSS 21 45 32.3
NVS pmax pmax
comp=Z,127nm,1.4s,mb5.5
NVS pmax pmax
comp=N,118nm,2.1s
NVS pmax pmax
comp=E,133nm,1.6s
NVS smax
comp=N,99nm,1.5s
NVS smax
comp=E,70nm,1.5s
WRAK Wrangell Islan 43.53 51 *eP* **P** **21 35 44.2 +1.5**
comp=E,209nm,1.4s,mb5.7
WRAK LR LR
comp=Z,5µm,22.0s,MS5.4
DLBC Dease Lake 43.95 47 *eP* **P** **21 35 47.8 +1.7**
LUBP Lubang 44.49 231 *eP* **P** **21 35 48.3 -2.1**
OTRP Odiongan 44.76 228 *eP* **P** **21 35 52.7 +0.1**
WMQ Urumqi 45.06 290 ⇑*iP* **P** **21 35 55.2 +0.3**
WMQ AP pP 21 36 07.7 +0.8
WMQ XP sP 21 36 13.0 +1.1
WMQ PCP PcP 21 37 36.2 +1.0
WMQ PP PP 21 37 41.6 +0.9
WMQ PPP 21 38 22.9
WMQ SCP ScP 21 41 23.5 -0.7
WMQ PCS PcS 21 41 28.6 -0.4
WMQ S **S** **21 42 30.0 -0.9**
WMQ XS sS 21 42 51.0 +0.3
WMQ SS SS 21 45 43.7 -10
WMQ SCS ScS 21 45 45.8 -2.6
WMQ AMB AMB
comp=Z,89nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,547nm,8.9s
WMQ LR LR
comp=N,9µm,19.4s,MS5.8
WMQ LR LR
comp=E,6µm,20.8s,MS5.8
WMQ LR LR
comp=Z,10µm,22.8s,MS5.7
MSLP Maasin 45.36 223 *eP* **P** **21 35 57.1 -0.2**
BUSP Coron 45.98 230 *eP* **P** **21 36 02.5 +0.3**
GUIM Jordan 45.98 226 *eP* **P** **21 36 02.4 +0.2**
QIZ Qiongzhong 46.17 247 ⇑P **P** **21 36 05.0 +1.3**
QIZ AP pP 21 36 17.9 +2.2
QIZ XP sP 21 36 22.9 +2.2
QIZ PP PP 21 37 56.5 +4.0
QIZ S **S** **21 42 50.0 +3.1**
QIZ XS sS 21 43 12.9 +6.1
QIZ AMB AMB
comp=Z,204nm,1.6s,mb5.8
QIZ AMB AMB
comp=Z,2µm,6.6s
QIZ LR LR
comp=N,3µm,16.8s,MS5.5
QIZ LR LR
comp=E,3µm,16.3s,MS5.5
QIZ LR LR
comp=Z,6µm,15.8s,MS5.6
QIZ Qiongzhong 46.17 247 ⇑*iP* **P** **21 36 04.8 +1.1**
comp=Z,439nm,1.4s,mb6.2
QIZ *e*PcP PcP 21 37 39.1 0.0
QIZ LR LR
comp=Z,4µm,21.0s,MS5.3
KMI Kunming 46.28 259 ⇑P **P** **21 36 05.5 +0.9**
KMI AP pP 21 36 21.9 +5.4
KMI XP sP 21 36 25.4 +3.9
KMI PCP PcP 21 37 42.4 +3.0
KMI PP PP 21 37 54.6 +1.5
KMI S **S** **21 42 44.9 -3.5**
KMI XS sS 21 43 10.5 +2.2
KMI SCS ScS 21 45 54.2 -2.0
KMI SS SS 21 46 06.0 -8.1
KMI AMB AMB
comp=Z,248nm,1.3s,mb6.0
KMI AMB AMB
comp=Z,2µm,3.9s
KMI LR LR
comp=N,4µm,19.4s,MS5.4
KMI LR LR
comp=E,3µm,18.5s,MS5.4
KMI LR LR
comp=Z,4µm,21.2s,MS5.3
KMI Kunming 46.28 259 ⇑P **P** **21 36 05.5 +0.9**
KMI *PP pP 21 36 21.9 +5.4
KMI *SP sP 21 36 25.4 +3.9
KMI 21 37 42.4
KMI 21 37 54.6
KMI PPP 21 38 40.8
KMI S **S** **21 42 44.9 -3.5**
KMI *SS sS 21 43 10.5 +2.2
KMI 21 45 54.2
KMI SS SS 21 46 06.0 -8.1
KMI SSS 21 47 12.3
KMI pmax pmax
comp=Z,248nm,1.3s,mb6.0
KMI MLR MLR
comp=Z,4µm,21.2s,MS5.3
KMI Kunming 46.28 259 ⇑P **P** **21 36 05.5 +0.9**
comp=Z,248nm,1.3s,mb6.0
KMI pP pP 21 36 21.9 +5.4
KMI sP sP 21 36 25.4 +3.9
KMI PcP PcP 21 37 42.4 +3.0
KMI PP PP 21 37 54.6 +1.0
KMI PPP 21 38 40.8
KMI S **S** **21 42 44.9 -3.5**
KMI sS sS 21 43 10.5 +2.2
KMI ScS ScS 21 45 54.2 -2.0
KMI SS SS 21 46 06.0 -8.1
KMI SSS 21 47 12.3
KMI LR LR
comp=Z,4µm,21.2s,MS5.3
CUYO Cuyo Island 46.55 228 *eP* **P** **21 36 07.7 +1.0**
MK31 Makanchi Array 46.88 297 ⇑*iP* **P** **21 36 08.4 -0.9**
MK31 *e* 21 37 41.2
MK31 *e* 21 37 58.9
MK31 *eS* **S** **21 42 57.4 +0.3**
MK31 Makanchi Array 46.88 297 ⇑*iP* **P** **21 36 08.4 -0.9**
MK31 *e*PcP PcP 21 37 41.2 -0.4

MK31 ePP PP 21 37 58.9 -1.1
MK31 eScP ScP 21 41 30.8 -1.0
MK31 eS S **21 42 57.4 +0.3**
MKAR Makanchi Array 46.88 297 P P **21 36 08.2 -1.1**
comp=Z,62nm,0.9s,mb5.5,baz=66,slow=6.9,SNR=83
MKAR PcP PcP 21 37 41.2 -0.4
comp=Z,48nm,1.0s,baz=47,slow=5.3,SNR=5.9
MKAR ScP ScP 21 41 29.8 -2.0
comp=Z,4.0nm,0.9s,baz=42,slow=4.5,SNR=2.8
MKAR S **S** **21 42 55.1 -1.9**
comp=Z,2.4nm,1.0s,baz=30,slow=9.0,SNR=1.9
MKAR ScS ScS 21 45 58.7 -1.5
comp=Z,8.1nm,1.0s,baz=55,slow=10,SNR=8.0
MKAR LR LR 21 57 34.6
comp=Z,17µm,18.5s,MS6.0,baz=39,slow=38
MKAR Makanchi Array 46.88 297 P **P** **21 36 08.3 -1.0**
MKAR 21 37 41.2
MKAR S **S** **21 42 55.1 -2.0**
MKAR 21 45 58.7
MKAR Makanchi Array 46.88 297 P **P** **21 36 08.2 -1.1**
MKAR PcP PcP 21 37 41.2 -0.4
MKAR ScP ScP 21 41 29.8 -2.0
MKAR S **S** **21 42 55.1 -1.9**
MKAR ScS ScS 21 45 58.7 -1.5
MKAR LR LR 21 57 34.6
KURK Kurchatov 47.11 303 P **P** **21 36 10.8 -0.3**
comp=Z,2µm,0.8s,SNR=96
KURK Kurchatov 47.11 303 ⇑P **P** **21 36 10.5 -0.6**
SNR=135
KURK Kurchatov 47.11 303 *e*P **P** **21 36 10.6 -0.5**
KURK *e* 21 36 35.6
KURK *e* 21 37 42.4
KURK pmax pmax
comp=Z,457nm,1.0s,mb6.4
KURK MLR MLR
comp=Z,4µm,20.0s,MS5.4
KURK Kurchatov 47.11 303 *e*P **P** **21 36 10.6 -0.5**
comp=Z,457nm,1.0s,mb6.4
KURK *e* 21 36 35.6
KURK *e*PcP PcP 21 37 42.4 0.0
KURK LR LR
comp=Z,4µm,20.0s,MS5.4
BUKP Musuan 47.27 221 *e*P **P** **21 36 12.6 +0.3**
DAV Davao City (W) 47.77 220 *e*P **P** **21 36 16.6 +0.4**
comp=Z,430nm,1.3s,mb6.3
DAV LR LR
comp=Z,2µm,20.0s,MS5.1
ALE Alert 48.07 6 P **P** **21 36 18.0 -0.5**
comp=Z,944nm,1.1s,mb6.7,SNR=45
RES Resolute Bay 49.08 19 *e*P **P** **21 36 26.2 0.0**
comp=Z,13µm,1.0s
YKA Yellowknife Ar 49.20 38 P **P** **21 36 27.2 +0.1**
comp=Z,238nm,0.9s,mb6.2,baz=298,slow=7.5,SNR=130
YKA PP PP 21 38 18.7 -2.4
comp=Z,7.5nm,0.9s,baz=290,slow=9.0,SNR=2.0
POHA Pohakuloa 49.30 107 *e*P **P** **21 36 27.6 -0.4**
POHA LR LR
comp=Z,7µm,20.0s,MS5.7
BATP Bataraza 49.93 230 *e*P **P** **21 36 33.8 +1.1**
CHKZ Chkalovo 49.98 309 *e*P **P** **21 36 31.7 -1.5**
CHKZ *e* 21 36 53.5
CHKZ *e* 21 37 52.3
CHKZ pmax pmax
comp=Z,222nm,0.8s,mb6.2
CHKZ Chkalovo 49.98 309 *e*P **P** **21 36 31.6 -1.5**
comp=Z,222nm,0.8s,mb6.2
CHKZ *e* 21 36 53.5
CHKZ *e*PcP PcP 21 37 52.3 -0.4
CHKZ *e* 21 38 42.5
BVAR Borovoye Array 50.43 309 S **S** **21 43 43.5 -3.5**
comp=Z,3.8nm,0.8s,baz=67,slow=11,SNR=3.8
BVAR LR LR 22 00 07.1
comp=Z,16µm,18.1s,MS6.1,baz=324,slow=39
BRVK Borovoye 50.47 309 ⇑P **P** **21 36 37.2 +0.4**
SNR=38
BRVK Borovoye 50.47 309 *e*P **P** **21 36 36.8 0.0**
BRVK *e* 21 37 54.7
BRVK pmax pmax
comp=Z,132nm,0.8s,mb6.0
BRVK MLR MLR
comp=Z,4µm,20.0s,MS5.4
BRVK Borovoye 50.47 309 *e*P **P** **21 36 36.8 0.0**
comp=Z,132nm,0.8s,mb6.0
BRVK *e* 21 37 54.6
BRVK LR LR
comp=Z,4µm,20.0s,MS5.4
LSA Lhasa 50.94 273 P **P** **21 36 42.2 +1.8**
LSA AP pP 21 36 56.3 +3.8
LSA XP sP 21 37 03.3 +5.8
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,1µm,10.0s
LSA LR LR
comp=N,2µm,22.0s,MS5.5
LSA LR LR
comp=E,4µm,24.0s,MS5.5
LSA LR LR
comp=Z,6µm,24.0s,MS5.5
LSA Lhasa 50.94 273 ⇑*i*P **P** **21 36 42.2 +1.8**
LSA *e* 21 37 58.0
LSA *e*S **S** **21 43 52.7 -1.4**
LSA pmax pmax
comp=Z,57nm,0.9s,mb5.5
LSA MLR MLR
comp=Z,5µm,19.0s,MS5.6
LSA Lhasa 50.94 273 *i*P **P** **21 36 42.1 +1.8**
comp=Z,57nm,0.9s,mb5.5
LSA *e*PcP PcP 21 37 58.0 +1.8
LSA *e*S **S** **21 43 52.7 -1.4**
LSA LR LR
comp=Z,5µm,19.0s,MS5.6
KBS Kingsbay 51.03 351 *e*P **P** **21 36 40.7 -0.4**
KBS *e* 21 43 47.1
KBS *e* 21 47 44.7
KBS AMS AMS 21 57 32.6
comp=Z,2µm,19.4s,MS5.2
KBS Kingsbay 51.03 351 P **P** **21 36 40.4 -0.7**
KBS pmax pmax
comp=Z,79nm,1.0s,mb5.6
KBS Kingsbay 51.03 351 *i* P **P** **21 36 39.9 -1.2**
KBS LR LR
comp=Z,3µm,21.0s,MS5.3
SPB4 Spitsbergen Ar 51.17 350 *e*P **P** **21 36 41.5 -0.7**
SPB4 *e* pP 21 36 52.2 -2.0
ZRNK Zerenda 51.19 309 ⇑*i*P **P** **21 36 41.3 -0.9**
ZRNK *e* pP 21 36 53.1 -1.2
ZRNK *e* 21 37 56.4
ZRNK *e*S **S** **21 43 54.3 -3.2**
ZRNK pmax pmax
comp=Z,181nm,1.1s,mb5.9
ZRNK Zerenda 51.19 309 ⇑*i*P **P** **21 36 41.3 -0.9**
comp=Z,181nm,1.1s,mb5.9
ZRNK *e* pP 21 36 53.1 -1.2
ZRNK *e*PcP PcP 21 37 56.4 -0.7
ZRNK *e*S **S** **21 43 54.3 -3.1**
C03A Quillayute Air 51.68 58 ⇓P **P** **21 36 45.0 -1.0**
baz=52
PGC Sidney 51.93 57 *e*P **P** **21 36 46.6 -1.2**
comp=Z,262nm,1.3s,mb6.0
PGC *e* pP 21 37 00.2 +0.3
AAA Alma-Ata 51.96 295 *d*P **P** **21 36 46.5 -1.5**
AAA pmax pmax
comp=Z,1µm,2.6s,mb6.3
AAA MLR MLR
comp=Z,16µm,16.2s,MS6.2
NANT Nan 52.09 255 ⇑P **P** **21 36 47.0 -2.0**
comp=Z,1µm,1.0s,mb6.8
B04A Port Angeles 52.22 57 ⇑P **P** **21 36 49.3 -0.7**
baz=52,SNR=7.0
A04A Legoe Bay, Lum 52.30 56 ⇑P **P** **21 36 50.4 -0.2**
baz=52
IMP Imphal 52.33 266 *i* P **P** **21 36 51.0 +0.2**
IMP *ex* x 21 39 07.0
NLWA Neilton Lookou 52.38 58 PFAKE 21 37 00.0 +8.8
NLWA LR LR
comp=Z,3µm,20.0s,MS5.3
VDB Vedder Mountai 52.47 56 P **P** **21 36 51.7 -0.1**
A05A Maple Falls 52.49 56 ⇑P **P** **21 36 51.1 -0.8**
baz=52,SNR=13
KKTK Khon Kaen 52.56 251 ⇑P **P** **21 36 53.5 +1.0**
comp=Z,1µm,1.0s,mb6.8
D03A Wishkah Elem. 52.59 58 ⇑P **P** **21 36 51.9 -0.8**
baz=52
C04A Brinnon 52.71 57 ⇓P **P** **21 36 53.1 -0.5**
baz=52,SNR=5.8
A06A Chilliwack 52.77 55 ⇓P **P** **21 36 53.0 -1.0**
baz=53
B05A Bryant 52.89 56 ⇑P **P** **21 36 54.7 -0.2**
baz=53,SNR=13
ULHL Ulahol 52.97 295 P **P** **21 36 56.8 +1.3**
SNR=6.6
TKM2 Tokmak 2 52.98 296 P **P** **21 36 55.5 0.0**
SNR=48
JCW Jim Creek 53.03 56 P **P** **21 36 56.1 +0.2**
E03A Lebam 53.03 59 ⇑P **P** **21 36 55.9 0.0**
baz=53,SNR=5.4
KKM Kota Kinabalu 53.08 230 P **P** **21 36 58.0 +1.7**
KKM Kota Kinabalu 53.08 230 ⇑*i*P **P** **21 36 56.9 +0.6**
KKM *e*PcP PcP 21 38 04.2 0.0
KKM *e*PP PP 21 38 55.5 -0.9
B06A Marblemount 53.09 56 ⇓P **P** **21 36 55.7 -0.7**
baz=53,SNR=5.7
D04A Dobbs Creek Ra 53.14 58 ⇓P **P** **21 36 56.1 -0.7**
baz=53
SHL Shillong 53.17 268 *e*P **P** **21 36 55.7 -1.2**
SHL AMb AMB 21 36 58.0
comp=Z,4µm,0.4s
SHL *e*S **S** **21 44 27.0 +2.4**
SVE Sverdlovsk 53.17 317 ⇑*i*P **P** **21 36 56.0 -1.0**
SVE *e* 21 37 17.0
SVE *e* 21 38 02.0
SVE *e*PPP 21 40 11.0
SVE *e* 21 46 44.0
SVE pmax pmax
comp=Z,180nm,2.0s,mb5.7
CHG Chiang Mai 53.22 256 ⇑P **P** **21 36 58.7 +1.4**
comp=Z,150nm,1.1s,mb5.8
CHTO Chiang Mai 53.22 256 ⇑*i*P **P** **21 36 58.5 +1.2**
CHTO *e* pP 21 37 10.7 +1.2
CHTO *e* 21 38 04.0
CHTO pmax pmax
comp=Z,287nm,1.3s,mb6.0
CHTO MLR MLR
comp=Z,6µm,19.0s,MS5.7
CHTO Chiang Mai 53.22 256 ⇑*i*P **P** **21 36 58.5 +1.1**
comp=Z,287nm,1.3s,mb6.0
CHTO *e* pP 21 37 10.7 +1.2
CHTO *e*PcP PcP 21 38 04.0 -0.8
CHTO LR LR
comp=Z,6µm,19.0s,MS5.7
SOKR Solikamsk 53.32 321 ⇑*i*P **P** **21 36 58.2 +0.1**
SOKR *e* 21 38 04.9
SOKR S **S** **21 44 18.2 -8.5**
SOKR pmax pmax
comp=Z,80nm,1.5s,mb5.4
SOKR MLR MLR
comp=Z,5µm,18.0s,MS5.6
F03A Seaside 53.38 59 ⇑P **P** **21 36 58.8 +0.3**
baz=53
A07A Ashnola River, 53.40 55 ⇓P **P** **21 36 58.3 -0.4**
baz=53,SNR=32
USP Ospenovka 53.43 297 P **P** **21 36 58.2 -0.7**
SNR=175
CHMS Chumysh 53.44 296 P **P** **21 36 59.2 +0.3**
SNR=38
C05A Tolt Reservoir 53.44 57 ⇓P **P** **21 36 58.7 -0.2**
baz=53,SNR=11
CM31 Chiang Mai Arr 53.48 256 ⇑*i*P **P** **21 37 00.6 +1.4**
comp=Z,78nm,0.8s,mb5.7
CM31 *e* pP 21 37 09.6 -1.8
CM31 *e*PcP PcP 21 38 05.5 -0.2
CM31 LR LR
comp=Z,4µm,19.0s,MS5.5
E04A Onalaska 53.48 58 ⇑P **P** **21 36 59.5 +0.3**
baz=53,SNR=5.1
KBK Karagaybulak 53.52 296 P **P** **21 36 59.5 -0.1**
SNR=63
D05A Enumclaw 53.56 57 ⇑P **P** **21 37 00.2 +0.4**
baz=53,SNR=12
KZA Kyzart 53.67 295 P **P** **21 37 01.7 +1.0**
SNR=34
TSM Tawau 53.76 227 P **P** **21 37 01.8 +0.5**
BJO Bjornoya 53.79 346 AMS AMS 22 05 20.0
comp=Z,3µm,17.6s,MS5.4
AAK Ala-Archa 53.80 296 P **P** **21 37 01.3 -0.3**
SNR=67
AAK Ala-Archa 53.80 296 ⇑P **P** **21 37 00.9 -0.8**
SNR=37
AAK Ala-Archa 53.80 296 ⇑*i*P **P** **21 37 00.2 -1.4**
AAK LR LR
comp=Z,2µm,21.0s,MS5.2
B07A Winthrop 53.87 55 ⇓P **P** **21 37 02.1 -0.1**
baz=54,SNR=24
NLW Nelson Butte 53.97 56 P **P** **21 37 03.4 +0.6**
UCH Uchtor 54.03 295 P **P** **21 37 03.4 +0.2**
SNR=16
F04A Amboy 54.03 59 ⇓P **P** **21 37 02.9 -0.3**
baz=54,SNR=11
A08A Turner Farm, O 54.06 54 P **P** **21 37 03.2 -0.2**
baz=54,SNR=50
D06A Cle Elum 54.20 57 ⇑P **P** **21 37 04.3 -0.2**
baz=54,SNR=20
EKS2 Erkin-Say 54.22 296 P **P** **21 37 04.5 -0.1**
SNR=101
H03A Soap Creek Ran 54.25 61 ⇑P **P** **21 37 04.6 -0.3**
baz=54
COR Corvallis 54.30 61 PFAKE 21 37 20.0 +15
COR LR LR
comp=Z,3µm,22.0s,MS5.4
BDT Bhumibol Dam 54.33 255 P **P** **21 37 07.0 +1.6**
comp=Z,20nm,1.0s,mb5.0
I02A Mapleton 54.33 62 ⇑P **P** **21 37 05.3 -0.2**
baz=54
ARU Arti 54.34 317 P **P** **21 37 05.9 +0.4**
comp=Z,1µm,1.1s,mb6.7,SNR=24
ARU Arti 54.34 317 ⇑*i*P **P** **21 37 05.0 -0.5**
ARU *e* pP 21 37 17.8 +0.1
ARU *i* 21 38 07.6
ARU *e*PPP 21 40 17.1
ARU *e*S **S** **21 44 40.7 +0.2**
ARU *e* 21 46 49.1
ARU *e*SSS 21 50 20.3
ARU pmax pmax
comp=Z,194nm,1.0s,mb6.0
ARU MLR MLR
comp=Z,6µm,22.0s,MS5.6
ARU MLR MLR
comp=N,3µm,19.0s,MS5.6
ARU MLR MLR
comp=E,4µm,21.0s,MS5.6
ARU Arti 54.34 317 *i* P **P** **21 37 05.1 -0.4**
ARU LR LR
comp=Z,2µm,22.0s,MS5.0
C07A Waterville 54.35 56 ⇓P **P** **21 37 05.4 -0.2**
baz=54,SNR=20
WTV Waterville 54.40 56 P **P** **21 37 06.0 0.0**
A09A Danville 54.41 54 ⇓P **P** **21 37 05.8 -0.2**
baz=54,SNR=86
G04A Mulino 54.42 60 ⇓P **P** **21 37 06.1 0.0**
baz=54
E06A Yakima 54.49 58 ⇑P **P** **21 37 06.6 0.0**
baz=54,SNR=13
EBG Ellensburg 54.51 57 P **P** **21 37 07.5 +0.7**
AML Almayashu 54.58 296 P **P** **21 37 07.8 +0.6**
SNR=39
K01A Sixes 54.65 63 ⇑P **P** **21 37 08.4 +0.7**
baz=54
I03A Eugene 54.67 61 ⇓P **P** **21 37 08.6 +0.6**
baz=54
EDM Edmonton 54.67 47 *e*P **P** **21 37 05.4 -2.5**
EDM Edmonton 54.67 47 ⇑*i*P **P** **21 37 05.2 -2.8**
EDM *e* pP 21 37 17.1 -3.1
D07A Quincy 54.68 56 ⇑P **P** **21 37 07.6 -0.4**
baz=54,SNR=14
AGT Agartala 54.73 267 *i* P **P** **21 37 10.0 +1.7**
AGT *i* x x 21 37 37.0
KSH Kashi 54.74 292 *e*P **P** **21 37 09.6 +1.2**
KSH *e*PCP PcP 21 38 12.1 +1.5
KSH *e*PP PP 21 39 12.3 +1.0
KSH *e*SCP ScP 21 42 03.3 -2.3
KSH *e*S **S** **21 44 43.6 -2.3**
KSH *e*PS 21 45 02.0
KSH *e*XS sS 21 45 10.1 +3.9
KSH *e*SCS ScS 21 46 50.5 -3.6
KSH *e*SS SS 21 48 24.4 -4.9
KSH AMB AMB
comp=Z,2µm,4.0s
KSH LR LR
comp=Z,29µm,14.6s,MS6.5
NST Nakhon Sawan 54.77 253 ⇓P **P** **21 37 10.0 +1.4**
comp=Z,83nm,1.4s,mb5.6
C08A Higginbotham F 54.85 55 ⇑P **P** **21 37 08.7 -0.5**
baz=55,SNR=17
J02A Umpqua 54.85 62 ⇓P **P** **21 37 10.2 +1.0**
baz=55,SNR=7.1
MXC Moxie City 54.86 57 P **P** **21 37 09.7 +0.4**
H04A Detroit Lake 54.89 60 ⇓P **P** **21 37 09.7 +0.2**
baz=55,SNR=7.1
A10A Northport 54.96 54 ⇓P **P** **21 37 09.8 -0.3**
baz=55,SNR=9.2
B09A Rice 54.97 54 ⇑P **P** **21 37 09.9 -0.2**
baz=55,SNR=22
G05A Wamic 55.06 59 ⇑P **P** **21 37 11.0 +0.3**
baz=55
DAG Danmarks Havn 55.07 358 ⇓*i*P **P** **21 37 09.9 -0.9**
comp=Z,68nm,1.1s,mb5.6
DAG *i* 21 38 11.7
DAG Danmarks Havn 55.07 358 ⇓*i*P **P** **21 37 09.9 -0.9**
DAG *i* 21 38 11.7
DAG pmax pmax
comp=Z,68nm,1.1s,mb5.6
E07A Sunnyside 55.12 57 ⇑P **P** **21 37 11.0 -0.2**
baz=55,SNR=20
J03A Ideyld Park 55.21 62 ⇓P **P** **21 37 12.6 +0.8**
baz=55,SNR=8.9
K02A Glendale 55.26 63 ⇓P **P** **21 37 12.6 +0.5**
baz=55,SNR=8.0
C09A Chrisman Ranch 55.27 55 ⇑P **P** **21 37 11.5 -0.7**
baz=55,SNR=30
I04A Tendick Farm, 55.28 61 P **P** **21 37 13.1 +0.7**
baz=55,SNR=15
SNIWA Snively Ranch 55.28 57 P **P** **21 37 12.9 +0.6**
RSW Rattlesnake Hi 55.36 57 P **P** **21 37 13.5 +0.6**
HAWA Hanford 55.40 57 *e*P **P** **21 37 13.1 -0.1**
comp=Z,127nm,1.3s,mb5.8
HAWA LR LR
comp=Z,3µm,20.0s,MS5.3
M01C Crescent City 55.43 64 ⇑P **P** **21 37 13.7 +0.3**
baz=55
G06A Carlson Farm, 55.45 59 ⇑P **P** **21 37 13.6 0.0**
baz=55,SNR=7.4
H05A Madras 55.46 60 ⇑P **P** **21 37 13.8 +0.2**
baz=55,SNR=7.7
F07A Phinny Hill Vi 55.47 58 ⇑P **P** **21 37 13.8 +0.2**
baz=55,SNR=28
B10A Chitwood Farm, 55.54 54 ⇑P **P** **21 37 14.0 -0.2**
baz=55
L02A Cave Junction 55.55 63 ⇑P **P** **21 37 14.6 +0.3**
baz=55,SNR=9.7
JIRN Jiri 55.57 274 *e*P **P** **21 37 15.3 +0.9**
comp=Z,108nm,0.4s,mb6.2
LVZ Lovozero 55.60 336 P **P** **21 37 13.4 -1.2**
comp=Z,645nm,1.0s,mb6.6,SNR=7.1
LVZ Lovozero 55.60 336 *e*P **P** **21 37 12.6 -2.0**
LVZ pmax pmax
comp=N,55nm,1.1s
LVZ pmax pmax
comp=Z,141nm,1.1s,mb5.9
LVZ pmax pmax
comp=E,25nm,1.0s
LVZ MLR MLR
comp=E,3µm,22.0s,MS5.7
LVZ MLR MLR
comp=Z,9µm,22.0s,MS5.8
LVZ MLR MLR
comp=N,6µm,23.0s,MS5.7
LVZ Lovozero 55.60 336 *i* P **P** **21 37 12.0 -2.6**
E08A Dider Farm, El 55.60 57 ⇑P **P** **21 37 14.1 -0.5**
baz=55,SNR=17
GUN Gumba 55.61 275 *e*P **P** **21 37 15.6 +0.9**
comp=N,116nm,0.5s,mb6.2
A11A Hall Mountain, 55.62 53 ⇑P **P** **21 37 15.0 +0.2**
baz=55,SNR=31
NEW Newport 55.62 54 *e*P **P** **21 37 14.2 -0.6**
NEW *e* pP 21 37 26.6 -0.4
NEW *e* 21 38 14.1
NEW pmax pmax
comp=Z,310nm,1.8s
NEW MLR MLR
comp=Z,2µm,21.0s
NEW Newport 55.62 54 *e*P **P** **21 37 14.2 -0.6**
comp=Z,310nm,1.8s,mb6.0
NEW *e* pP 21 37 26.6 -0.3
NEW *e*PcP PcP 21 38 14.1 +0.1
NEW LR LR
comp=Z,2µm,21.0s,MS5.2
HUMO Hull Mountain 55.67 63 *e*P **P** **21 37 15.9 +0.8**
comp=Z,77nm,1.2s,mb5.6
HUMO *e*PcP PcP 21 38 14.7 +0.5
HUMO LR LR
comp=Z,4µm,21.0s,MS5.4
HUMO Hull Mountain 55.67 63 ⇓P **P** **21 37 15.1 0.0**
baz=56,SNR=13
D09A Jones Farm, Ri 55.68 56 ⇑P **P** **21 37 14.6 -0.6**
baz=56,SNR=20
I05A Bend 55.73 60 ⇓P **P** **21 37 15.7 +0.1**
baz=56,SNR=10
C10A Spilker Farm, 55.78 55 ⇑P **P** **21 37 15.6 -0.3**
baz=56
J04A Umpqua Nationa 55.79 61 P **P** **21 37 17.1 +1.2**
baz=56,SNR=7.1
B11A Sandpoint 55.92 54 ⇓P **P** **21 37 17.0 0.0**
baz=56,SNR=23
H06A Lindquist Farm 55.92 59 ⇓P **P** **21 37 17.0 0.0**
baz=56,SNR=16
A12A Yaak River Ran 56.01 53 ⇓P **P** **21 37 17.6 +0.1**
baz=56,SNR=20
KEV Kevo 56.08 340 *e*P **P** **21 37 18.0 -0.1**
KEV MLR MLR
comp=Z,10µm,20.0s,MS5.9
KKN Kakani 56.09 275 *e*P **P** **21 37 18.4 +0.3**
comp=Z,1µm,1.7s,mb6.6
E09A Wood Farm, Sta 56.10 56 P **P** **21 37 18.0 -0.2**
baz=56,SNR=42
PKI Pulchoki 56.15 275 *e*P **P** **21 37 19.1 +0.5**
comp=Z,97nm,0.5s,mb6.1
APA Apatity 56.16 337 ⇑*i*P **P** **21 37 17.5 -1.2**
APA *i* pP 21 37 27.6 -3.3
APA *i* 21 37 37.2
APA *i* 21 38 11.0
APA *e*S **S** **21 45 04.0 -0.9**
APA pmax pmax
comp=Z,130nm,1.2s,mb5.8
KHMM Horse Mountain 56.25 65 *e*P **P** **21 37 19.1 -0.2**
KHMM *e* pP 21 37 33.4 +1.9
KHMM *e*PcP PcP 21 38 16.2 -0.3
J05A Fort Rock 56.27 61 ⇑P **P** **21 37 20.2 +0.8**
baz=56,SNR=48
B12A Libby 56.32 53 ⇑P **P** **21 37 20.1 +0.3**
baz=56,SNR=6.6
DMN Daman 56.33 275 *e*P **P** **21 37 20.8 +1.0**
comp=Z,181nm,0.5s,mb6.3
YBH Yreka Blue Hor 56.34 63 *e*P **P** **21 37 20.4 +0.5**
YBH *e* pP 21 37 33.2 +1.1
YBH *e* 21 38 16.6
YBH *e* 21 39 24.3
YBH pmax pmax
comp=Z,73nm,1.1s
YBH MLR MLR
comp=Z,4µm,21.0s
YBH Yreka Blue Hor 56.34 63 *e*P **P** **21 37 20.4 +0.5**
comp=Z,73nm,1.1s,mb5.6
YBH *e* pP 21 37 33.2 +1.1
YBH *e*PcP PcP 21 38 16.6 -0.2
YBH *e*PP PP 21 39 24.3 -1.3
YBH *e*ScP ScP 21 42 12.5 -0.1
YBH LR LR
comp=Z,4µm,21.0s,MS5.4
YBH Yreka Blue Hor 56.34 63 P **P** **21 37 20.7 +0.8**
baz=56,SNR=26
G08A Pilot Rock 56.37 58 ⇓P **P** **21 37 20.3 +0.2**
baz=56,SNR=16
GKN Gorkha 56.38 276 *e*P **P** **21 37 20.6 +0.4**
comp=Z,198nm,0.5s,mb6.4
K04A Chilquin 56.39 62 ⇓P **P** **21 37 20.8 +0.5**
baz=56,SNR=5.3
H07A Lands Inn, Kim 56.45 59 ⇓P **P** **21 37 20.6 -0.1**
baz=56,SNR=14
M02C Callahan 56.46 64 ⇓P **P** **21 37 21.7 +1.0**
baz=56,SNR=23
I06A Prineville 56.47 60 ⇓P **P** **21 37 21.4 +0.6**
baz=56,SNR=34
N02C Big Bar 56.54 64 ⇑P **P** **21 37 21.7 +0.4**
baz=56,SNR=9.4
L04A Klamath Falls 56.56 62 P **P** **21 37 22.1 +0.6**
baz=56,SNR=20
ARCES ARCESS Array B 56.59 341 P **P** **21 37 19.4 -2.2**

comp=Z,32nm,1.0s,mb5.3,baz=43,slow=6.0,SNR=23
ARCES PcP PcP 21 38 17.4 -0.4
comp=Z,52nm,1.0s,baz=38,slow=6.1,SNR=10
ARCES LR LR 22 05 28.9
comp=Z,9μm,21.2s,MS5.8,baz=32,slow=40
ARCES PKPPKP 22 07 15.9
comp=Z,10nm,1.1s,baz=299,slow=1.2,SNR=5.6
ARCES ARCESS Array B 56.59 341 P **P** **21 37 19.5 -2.2**
ARCES 21 38 17.4
ARE0 ARCESS Array S 56.59 341 *eP* **P** **21 37 19.7 -2.0**
O01C Eel River Cons 56.64 65 ⇑P **P** **21 37 22.6 +0.6**
baz=56
E10A Myers Farm, Un 56.69 56 ⇑P **P** **21 37 22.1 -0.3**
baz=56,SNR=23
F09A S2 Ranch, Elgi 56.71 57 ⇓P **P** **21 37 22.8 +0.2**
baz=56,SNR=9.6
I07A Izee 56.79 59 P **P** **21 37 23.6 +0.5**
baz=57,SNR=35
K05A Summer Lake 56.81 61 ⇓P **P** **21 37 24.1 +0.8**
baz=57,SNR=24
M04C Macdoel 56.83 63 ⇓P **P** **21 37 24.2 +0.8**
baz=57,SNR=31
WALA Waterton Lakes 56.85 52 *eP* **P** **21 37 23.8 +0.2**
comp=Z,166nm,1.2s,mb5.9
WALA *e* pP 21 37 35.2 -0.6
J06A Christmas Vall 56.92 60 ⇓P **P** **21 37 24.5 +0.4**
baz=57
F10A Beach Ranch, E 56.93 56 P **P** **21 37 24.5 +0.4**
baz=57,SNR=23
M03C McCloud 56.97 63 ⇓P **P** **21 37 24.7 +0.3**
baz=57,SNR=14
B13A Whitefish 56.97 53 ⇓P **P** **21 37 24.7 +0.2**
baz=57,SNR=72
H08A Prairie City 57.00 58 ⇓P **P** **21 37 25.1 +0.5**
baz=57,SNR=48
KIPM Iron Peak 57.05 65 *eP* **P** **21 37 25.8 +0.9**
KIPM *e* pP 21 37 37.0 -0.2
KCPM Cahto Peak 57.06 66 *eP* **P** **21 37 25.6 +0.6**
KCPM *e* pP 21 37 38.4 +1.1
K06A Valley Falls 57.14 61 P **P** **21 37 26.4 +0.8**
baz=57,SNR=39
WDC Whiskeytown Da 57.14 64 *eP* **P** **21 37 25.7 +0.1**
WDC *e* pP 21 37 38.1 +0.2
WDC *e* 21 38 19.7
WDC pmax pmax
comp=Z,108nm,1.5s,mb5.7
WDC MLR MLR
comp=Z,2μm,22.0s,MS5.2
WDC Whiskeytown Da 57.14 64 *eP* **P** **21 37 25.7 0.0**
comp=Z,108nm,1.5s,mb5.7
WDC *e* pP 21 37 38.1 +0.2
WDC *ePcP* PcP 21 38 19.7 -0.2
WDC LR LR
comp=Z,2μm,22.0s,MS5.2
WDC Whiskeytown Da 57.14 64 ⇓P **P** **21 37 26.0 +0.4**
baz=57,SNR=25
KOLN Koldanda 57.22 276 *eP* **P** **21 37 26.9 +0.8**
comp=Z,275nm,0.9s,mb6.3
O02C Red Bluff 57.24 65 P **P** **21 37 27.0 +0.7**
baz=57,SNR=18
L05A Lakeview 57.26 62 ⇓P **P** **21 37 27.3 +0.9**
baz=57,SNR=36
J07A Hines 57.33 60 ⇑P **P** **21 37 27.6 +0.6**
baz=57,SNR=20
NNT Nongplab 57.34 251 P **P** **21 37 29.3 +2.3**
C13A Hot Springs 57.34 53 P **P** **21 37 27.4 +0.4**
baz=57,SNR=20
P01C Double 8 Ranch 57.35 66 ⇑P **P** **21 37 27.0 -0.1**
baz=57,SNR=7.1
I08A Drewsey 57.43 59 P **P** **21 37 28.3 +0.7**
baz=57,SNR=36
H09A Durkee 57.48 58 P **P** **21 37 28.7 +0.7**
baz=57,SNR=41
KTK1 Kautokeino 57.50 341 *eP* **P** **21 37 28.3 +0.2**
KTK1 AMb AMB 21 37 31.2
comp=Z,159nm,1.4s,mb5.9
KTK1 *ep*P pP 21 37 39.2 -1.2
KTK1 Kautokeino 57.50 341 *eP* **P** **21 37 28.3 +0.2**
comp=Z,159nm,1.4s,mb5.9
M05C Lookout 57.50 63 P **P** **21 37 28.6 +0.5**
baz=57,SNR=16
BMO Blue Mountains 57.57 57 *eP* **P** **21 37 28.8 +0.2**
comp=Z,119nm,1.1s,mb5.8
BMO *e* pP 21 37 41.7 +0.8
BMO *ePcP* PcP 21 38 21.6 0.0
BMO LR LR
comp=Z,3μm,22.0s,MS5.4
F11A Grangeville 57.58 56 P **P** **21 37 28.5 -0.1**
baz=57,SNR=35
CAL Calcutta 57.60 268 *eP* **P** **21 37 31.1 +2.3**
CAL *ex* x 21 45 17.0
GASB Alder Springs 57.61 65 ⇑P **P** **21 37 29.5 +0.6**
baz=57,SNR=21
HATC Hat Creek Radi 57.64 63 ⇓P **P** **21 37 29.3 +0.2**
baz=57,SNR=10
MOD Modoc 57.66 62 *eP* **P** **21 37 29.4 +0.2**
comp=Z,69nm,1.1s,mb5.6
MOD *e* pP 21 37 42.8 +1.2
MOD *ePcP* PcP 21 38 22.6 +0.6
MOD LR LR
comp=Z,2μm,22.0s,MS5.2
MOD Modoc 57.66 62 P **P** **21 37 29.6 +0.4**
baz=58,SNR=27
HNR Honiara 57.75 173 PFAKE 21 37 40.0 +10
HNR LR LR
comp=Z,4μm,21.0s,MS5.5
D13A Huson 57.76 54 ⇑P **P** **21 37 29.9 0.0**
baz=58,SNR=18
K07A Rock Creek Ran 57.79 60 P **P** **21 37 30.9 +0.7**
baz=58,SNR=35
HOPS Hopland 57.80 66 PFAKE 21 37 40.0 +10
HOPS LR LR
comp=Z,4μm,22.0s,MS5.5
HOPS Hopland 57.80 66 ⇓P **P** **21 37 30.4 +0.1**
baz=58
O03C Acorn Hollow, 57.81 64 ⇓P **P** **21 37 29.9 -0.4**
baz=58,SNR=5.3
J08A Circle Bar Ran 57.83 59 ⇓P **P** **21 37 30.8 +0.4**
baz=58,SNR=37
PMG Port Moresby 57.84 188 *eP* **P** **21 37 29.2 -1.3**
PMG *e* pP 21 37 40.4 -2.4
PMG *ePcP* PcP 21 38 22.1 -0.6
PMG *e* 21 38 22.1
PMG pmax pmax
comp=Z,90nm,1.5s
PMG MLR MLR
comp=Z,2μm,21.0s
PMG Port Moresby 57.84 188 *eP* **P** **21 37 29.2 -1.3**
comp=Z,90nm,1.5s,mb5.6
PMG *e* pP 21 37 40.4 -2.4
PMG *ePcP* PcP 21 38 22.1 -0.6
PMG LR LR
comp=Z,2μm,21.0s,MS5.3
TRO Tromso 57.87 343 *eP* **P** **21 37 29.8 -0.9**
TRO *eS* **S** **21 45 19.5 -7.8**
TRO *eSS* SS 21 49 19.2 +0.7
TRO AMS AMS 22 07 59.4
comp=Z,3μm,18.0s,MS5.4
M06C Likely Place G 57.99 62 ⇑P **P** **21 37 31.8 +0.3**
baz=58,SNR=13
L07A Adell 58.15 61 ⇓P **P** **21 37 33.4 +0.7**
baz=58,SNR=15
F12A Elk City 58.15 56 ⇓P **P** **21 37 33.2 +0.4**
baz=58,SNR=53
O04C Chester 58.18 64 ⇓P **P** **21 37 33.2 +0.3**
baz=58,SNR=34
MSO Missoula 58.20 54 *eP* **P** **21 37 33.1 0.0**
comp=Z,151nm,1.3s,mb5.9
MSO *e* pP 21 37 45.1 -0.2
MSO *ePcP* PcP 21 38 23.6 -0.5
MSO LR LR
comp=Z,1μm,21.0s,MS5.1
ELFS Eagle Lake Fie 58.20 63 ⇑P **P** **21 37 33.6 +0.5**
baz=58,SNR=23
K08A Mann Creek Ran 58.21 60 ⇑P **P** **21 37 33.5 +0.4**
baz=58,SNR=32
AKTO Aktyubinsk 58.22 312 S **S** **21 45 34.3 +2.4**
comp=Z,1.9nm,0.9s,baz=229,slow=20,SNR=5.9
AKTO ScS ScS 21 47 16.1 -3.2
comp=Z,1.1nm,0.8s,baz=336,slow=17,SNR=3.3
AKTO LR LR 22 05 10.1
comp=Z,6μm,18.2s,MS5.7,baz=233,slow=39
J09A Fry Pan Ranch, 58.24 59 ⇑P **P** **21 37 33.9 +0.6**
baz=58,SNR=52
MNRC McLaughlin Nat 58.26 66 ⇓P **P** **21 37 33.8 +0.4**
baz=58,SNR=16
D14A Greenough 58.28 53 P **P** **21 37 33.6 +0.1**
baz=58,SNR=96

WVOR Wild Horse Val 58.30 60 *eP* **P** **21 37 34.3 +0.5**
WVOR *e* pP 21 37 46.4 +0.4
WVOR pmax pmax
comp=Z,65nm,1.0s,mb5.6
WVOR MLR MLR
comp=Z,2μm,21.0s,MS5.2
WVOR Wild Horse Val 58.30 60 *eP* **P** **21 37 34.3 +0.5**
comp=Z,65nm,1.0s,mb5.6
WVOR *e* pP 21 37 46.4 +0.4
WVOR LR LR
comp=Z,2μm,21.0s,MS5.2
E13A Victor 58.31 54 P **P** **21 37 33.6 -0.2**
baz=58,SNR=41
LGTI Lohaghat 58.33 280 *i* P **P** **21 37 36.0 +2.1**
BOK Bokaro 58.37 271 *i* P **P** **21 37 34.7 +0.5**
NSHM Saint Helena R 58.38 66 *eP* **P** **21 37 33.2 -1.1**
NSHM *e* pP 21 37 45.6 -1.0
NSHM *ePcP* PcP 21 38 24.4 -0.4
H11A Donnelly 58.39 57 ⇑P **P** **21 37 34.3 -0.1**
baz=58,SNR=142
ORV Oroville 58.41 65 P **P** **21 37 33.8 -0.7**
baz=58,SNR=36
SUTB Sutter Butte 58.44 65 ⇓P **P** **21 37 33.9 -0.8**
baz=58,SNR=5.8
O05C Quincy 58.50 64 P **P** **21 37 35.1 0.0**
baz=58,SNR=28
CHMT Chamberlain Mo 58.52 53 *eP* **P** **21 37 35.0 -0.2**
CHMT *e* pP 21 37 47.0 -0.6
CHMT *ePP* PP 21 39 37.0 -8.0
OHCM Honcut 58.55 65 *eP* **P** **21 37 35.3 -0.2**
OHCM *e* pP 21 37 46.4 -1.4
OHCM *ePcP* PcP 21 38 24.1 -1.4
CVS Carmenet Viney 58.58 66 ⇑P **P** **21 37 35.4 -0.3**
baz=58,SNR=5.2
L08A Fields 58.62 60 ⇓P **P** **21 37 36.4 +0.4**
baz=58,SNR=31
F13A Darby 58.64 55 ⇑P **P** **21 37 36.1 0.0**
baz=58
M07A Soldier Meadow 58.64 62 P **P** **21 37 36.6 +0.4**
baz=58,SNR=76
N06A Buffalo Meadow 58.65 63 P **P** **21 37 36.5 +0.3**
baz=58,SNR=46
FARB Farallon Islan 58.66 67 ⇓P **P** **21 37 35.5 -0.7**
baz=58
K09A Rome 58.66 60 ⇓P **P** **21 37 36.8 +0.5**
baz=58,SNR=28
Q03C Winters 58.67 66 ⇓P **P** **21 37 36.8 +0.5**
baz=58,SNR=6.6
E14A Clinton 58.70 54 P **P** **21 37 36.7 +0.2**
baz=58,SNR=47
D15A Lincoln 58.83 53 ⇓P **P** **21 37 37.5 +0.1**
baz=59,SNR=47
BEKR Beckwourth 58.89 64 ⇓P **P** **21 37 37.7 -0.2**
baz=59,SNR=60
Q04C Lincoln 58.93 65 ⇓P **P** **21 37 37.7 -0.4**
baz=59,SNR=5.6
O06A Flanigan 59.02 63 ⇑P **P** **21 37 38.8 +0.1**
baz=59,SNR=7.0
ORR Orenburg 59.06 314 *eP* **P** **21 37 38.6 -0.5**
ORR pmax pmax
comp=Z,70nm,0.8s,mb5.7
ORR MLR MLR
comp=Z,15μm,17.0s,MS6.2
M08A Happy Creek Ra 59.07 61 ⇓P **P** **21 37 39.5 +0.4**
baz=59,SNR=33
P05C Yuba Gap, Truc 59.10 64 ⇓P **P** **21 37 39.1 -0.2**
baz=59,SNR=14
L09A Wilkinson Ranc 59.12 60 ⇓P **P** **21 37 39.9 +0.4**
baz=59,SNR=11
N07B Gerlach 59.14 62 ⇓P **P** **21 37 39.7 +0.1**
baz=59,SNR=23
F14A Wisdom 59.15 54 ⇓P **P** **21 37 39.5 -0.2**
baz=59,SNR=7.6
E15A Deer Lodge 59.16 54 P **P** **21 37 39.7 0.0**
baz=59,SNR=66
BDM Black Diamond 59.19 66 ⇑P **P** **21 37 40.1 +0.1**
baz=59
P06A Stead Airport, 59.29 64 ⇓P **P** **21 37 40.8 +0.2**
baz=59,SNR=7.1
JRSC Jasper Ridge 59.31 67 ⇑P **P** **21 37 40.2 -0.6**
baz=59
THN Thein Dam 59.33 286 *eP* **P** **21 37 39.9 -1.0**
THN *ex* x 21 47 33.3
LAVA Lava Cap Winer 59.37 65 ⇑P **P** **21 37 40.9 -0.3**
baz=59
WENL Wente Brothers 59.47 66 ⇓P **P** **21 37 41.5 -0.3**
baz=59
FCC Fort Churchill 59.52 34 *eP* **P** **21 37 42.3 +0.1**
FCC *e* 21 38 25.1
FCC pmax pmax
comp=Z,300nm,0.9s,mb6.3
FCC Fort Churchill 59.52 34 *eP* **P** **21 37 42.3 +0.1**
comp=Z,300nm,0.9s,mb6.3
FCC *ePcP* PcP 21 38 25.1 -4.2
BNLO Ben Lomond (Sa 59.53 67 ⇑P **P** **21 37 41.5 -0.7**
baz=59
R04C Big Horse Ranc 59.56 65 ⇑P **P** **21 37 41.9 -0.6**
baz=59
PAHR Pah Rah Range 59.58 63 *eP* **P** **21 37 42.8 +0.2**
comp=Z,106nm,1.1s,mb5.8
PAHR *e* pP 21 37 55.3 +0.4
PAHR *ePcP* PcP 21 38 29.9 +0.4
O07A Toulon 59.59 63 P **P** **21 37 43.2 +0.5**
baz=59,SNR=76
F15A Butte 59.60 54 P **P** **21 37 43.0 +0.2**
baz=59,SNR=93
WCN Washoe City 59.61 64 P **P** **21 37 43.1 +0.3**
baz=59,SNR=32
M09A Marrel Ranch, 59.63 61 ⇑P **P** **21 37 43.3 +0.4**
baz=59,SNR=38
N08A GE Springer Mi 59.63 62 ⇓P **P** **21 37 43.1 +0.1**
baz=59,SNR=45
EGMT Eagleton 59.66 51 *eP* **P** **21 37 43.2 +0.1**
comp=Z,392nm,1.4s,mb6.2
EGMT *e* pP 21 37 56.3 +0.9
EGMT LR LR
comp=Z,3μm,20.0s,MS5.5
EGMT Eagleton 59.66 51 ⇓P **P** **21 37 43.1 -0.1**
baz=59,SNR=9.0
R05C Kirkwood Meado 59.80 65 ⇓P **P** **21 37 44.1 -0.1**
baz=60,SNR=33
DLMT Dillon 59.85 54 *eP* **P** **21 37 44.9 +0.4**
comp=Z,582nm,1.9s,mb6.3
DLMT *e* pP 21 37 57.6 +0.8
O08A Rochester Mine 59.93 62 ⇓P **P** **21 37 45.5 +0.4**
baz=60
N09A Rock Creek Ran 59.95 61 ⇓P **P** **21 37 45.5 +0.4**
baz=60,SNR=25
P07A Fallon 59.98 63 ⇓P **P** **21 37 45.5 +0.1**
baz=60
HLID Hailey 60.00 57 *eP* **P** **21 37 45.6 +0.2**
comp=Z,98nm,1.3s,mb5.7
HLID *e* pP 21 37 58.6 +0.8
HLID *ePcP* PcP 21 38 31.6 +0.4
HLID LR LR
comp=Z,3μm,21.0s,MS5.4
HLID Hailey 60.00 57 ⇓P **P** **21 37 45.8 +0.3**
baz=60,SNR=93
KSM Kuching 60.04 233 *eP* **P** **21 37 46.9 +1.2**
CMB Columbia Colle 60.04 65 *eP* **P** **21 37 45.6 -0.2**
CMB *e* pP 21 37 57.7 -0.4
CMB *e* 21 38 31.7
CMB pmax pmax
comp=Z,120nm,1.4s,mb5.7
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.3
CMB Columbia Colle 60.04 65 *eP* **P** **21 37 45.6 -0.2**
comp=Z,120nm,1.4s,mb5.7
CMB *e* pP 21 37 57.7 -0.4
CMB *ePcP* PcP 21 38 31.7 +0.3
CMB LR LR
comp=Z,2μm,22.0s,MS5.3
CMB Columbia Colle 60.04 65 ⇑P **P** **21 37 45.6 -0.2**
baz=60,SNR=39
ALBI Allahabad 60.05 275 *ex* **P** **21 37 42.5 -3.4**
MCMT McKenzie Canyo 60.06 55 P **P** **21 37 46.5 +0.6**
M10A I.L. Ranch, Tu 60.09 60 ⇓P **P** **21 37 46.8 +0.7**
baz=60,SNR=34
NIL Nilore 60.12 288 P **P** **21 37 47.2 +0.9**
comp=Z,511nm,1.2s,mb6.4,SNR=49
PACP Pacheco Peak 60.15 67 ⇓P **P** **21 37 46.4 -0.2**
baz=60,SNR=20
LOF Lofoten 60.17 344 *eP* **P** **21 37 47.5 +0.8**
LOF AMb AMB 21 37 51.7
comp=Z,129nm,1.0s,mb5.9
LOF Lofoten 60.17 344 *eP* **P** **21 37 50.5 +3.8**

comp=Z,129nm,1.0s,mb5.9
SAO San Andreas Ge 60.21 67 *eP* **P** **21 37 47.0 +0.1**
SAO *e* pP 21 37 57.9 -1.4
SAO pmax pmax
comp=Z,151nm,1.8s,mb5.7
SAO MLR MLR
comp=Z,2μm,21.0s,MS5.2
SAO San Andreas Ge 60.21 67 *eP* **P** **21 37 47.0 +0.1**
comp=Z,151nm,1.8s,mb5.7
SAO *e* pP 21 37 57.9 -1.4
SAO LR LR
comp=Z,2μm,21.0s,MS5.2
KKR Kurukshetra 60.23 283 *eP* **P** **21 37 48.0 +0.9**
KKR AMb AMB 21 38 01.4
comp=Z,231nm,2.2s,mb5.8
R06C Coleville 60.29 64 ⇓P **P** **21 37 47.8 +0.2**
baz=60,SNR=55
P08A Dixie Valley 60.36 63 ⇑P **P** **21 37 48.8 +0.9**
baz=60
HAST UC Hastings Re 60.39 67 ⇓P **P** **21 37 48.0 -0.1**
baz=60,SNR=9.3
BMN Battle Mountai 60.39 61 P **P** **21 37 48.6 +0.4**
BMN pmax pmax
comp=Z,110nm,1.0s,mb5.8
BMN Battle Mountai 60.39 61 *eP* **P** **21 37 48.7 +0.6**
comp=Z,114nm,1.0s,mb5.9
BMN *e* pP 21 37 59.4 -1.1
BMN *eP* PP 21 39 58.3 -3.3
BMN LR LR
comp=Z,3μm,21.0s,MS5.4
Q07A Schurz 60.41 64 ⇓P **P** **21 37 48.5 +0.2**
baz=60
S06C San Francisco 60.46 65 ⇓P **P** **21 37 48.4 -0.3**
baz=60,SNR=50
S05C Merced 60.52 66 ⇓P **P** **21 37 48.5 -0.6**
baz=60,SNR=14
O09A Fish Creek Ran 60.58 62 P **P** **21 37 50.1 +0.7**
baz=60,SNR=41
M11A Holland Ranch, 60.58 60 ⇑P **P** **21 37 50.3 +0.9**
baz=60,SNR=13
T05C Eagle Field, D 60.60 66 ⇑P **P** **21 37 49.7 +0.1**
baz=60
PECR Pechory 60.62 323 *eP* **P** **21 37 48.6 -1.1**
PECR *e* 21 40 01.0
PECR *eS* sS 21 46 27.0 +3.6
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.9
PECR smax
comp=E,800nm,13.0s
N10A Dunphy 60.62 61 ⇓P **P** **21 37 50.3 +0.5**
baz=60
LRV Little Rabbit 60.69 67 *eP* **P** **21 37 50.2 0.0**
BISR Bishrakh 60.75 281 *eP* **P** **21 37 48.8 -1.8**
FUNA Funafuti 60.77 151 PFAKE 21 38 00.0 +9.3
FUNA LR LR
comp=Z,11μm,19.0s,MS6.0
R07C Lee Vining 60.81 64 P **P** **21 37 51.6 +0.6**
baz=61,SNR=29
V03C Hunter Liggett 60.82 68 ⇑P **P** **21 37 51.3 +0.3**
baz=61
NDI New Delhi 60.82 281 *eP* **P** **21 37 51.0 -0.1**
NDI *eP* 21 37 51.0
NDI AMb AMB 21 37 54.6
comp=Z,199nm,1.6s,mb6.0
NDI *eS* **S** **21 46 06.0 +0.5**
QLMT Earthquake Lak 60.83 54 *eP* **P** **21 37 51.7 +0.6**
QLMT *e* pP 21 38 03.2 -0.3
U04C Hernandez Rese 60.88 67 ⇓P **P** **21 37 51.3 -0.2**
baz=61,SNR=8.7
O10A Cortez Mining, 60.90 61 ⇓P **P** **21 37 52.4 +0.8**
baz=61
Q08A Gabbs 60.98 63 P **P** **21 37 52.5 +0.3**
baz=61,SNR=83
P09A Austin 61.01 62 ⇑P **P** **21 37 52.8 +0.4**
baz=61,SNR=13
N11A Elko Archery C 61.01 60 ⇑P **P** **21 37 52.8 +0.4**
baz=61,SNR=5.8
AYAN Aya Nagar 61.01 281 *eP* **P** **21 37 52.3 -0.1**
AYAN AMb AMB 21 37 56.4
comp=Z,114nm,1.0s,mb5.9
NVAR Mina Array Bea 61.04 64 P **P** **21 37 52.8 +0.2**
comp=Z,35nm,0.7s,mb5.6,baz=291,slow=9.6,SNR=197
NVAR pP pP 21 38 05.2 +0.2
comp=Z,26nm,0.9s,baz=299,slow=9.2,SNR=7.4
NVAR PcP PcP 21 38 36.3 +0.8
comp=Z,30nm,1.0s,baz=292,slow=3.4,SNR=5.7
NVAR PKPPKP 22 07 02.8
comp=Z,0.9nm,0.8s,baz=190,slow=2.3,SNR=5.0
M12A Wells 61.09 59 ⇓P **P** **21 37 53.6 +0.6**
baz=61,SNR=81
KAPI Kappang 61.10 220 P **P** **21 37 52.3 -0.7**
comp=Z,623nm,1.2s,mb6.6,SNR=22
T06C Millerton Lake 61.11 66 ⇑P **P** **21 37 52.2 -0.9**
baz=61,SNR=23
KCC Kaiser Creek 61.15 65 ⇓P **P** **21 37 53.4 +0.1**
baz=61,SNR=28
GCMT Greycliff 61.15 53 *eP* **P** **21 37 54.6 +1.3**
YMR Madison River 61.19 54 *eP* **P** **21 37 54.3 +0.7**
comp=Z,92nm,0.9s,mb5.9
YMR *e* pP 21 38 04.7 -1.3
YMR LR LR
comp=Z,1μm,19.0s,MS5.2
SONA Sohna 61.20 281 *eP* **P** **21 37 53.8 +0.2**
SONA AMb AMB 21 37 57.8
comp=Z,147nm,1.2s,mb6.0
R08A Mina 61.21 64 ⇓P **P** **21 37 53.8 +0.1**
baz=61
MLAC Mammoth Lakes 61.24 65 ⇓P **P** **21 37 54.7 +0.7**
baz=61,SNR=5.9
V04C Ramage Ranch, 61.29 68 ⇓P **P** **21 37 54.3 0.0**
baz=61,SNR=7.7
PKD Parkfield 61.30 67 ⇑P **P** **21 37 54.2 -0.1**
baz=61,SNR=7.0
U05C Westside ANR, 61.30 67 ⇓P **P** **21 37 54.9 +0.5**
baz=61
YNR Norris Junctio 61.31 54 *eP* **P** **21 37 55.6 +1.2**
YNR *e* pP 21 38 05.3 -1.4
YNR *ePcP* PcP 21 38 36.9 +0.4
AGRA Agra 61.31 280 *eP* **P** **21 37 54.5 0.0**
AGRA AMb AMB 21 37 58.6
comp=Z,220nm,1.2s,mb6.2
ELK Elko 61.34 60 *eP* **P** **21 37 55.3 +0.7**
ELK pmax pmax
comp=Z,40nm,1.0s
ELK MLR MLR
comp=Z,2μm,20.0s
ELK Elko 61.34 60 *eP* **P** **21 37 55.3 +0.7**
comp=Z,40nm,1.0s,mb5.5
ELK *e* pP 21 38 05.1 -1.9
ELK LR LR
comp=Z,2μm,20.0s,MS5.3
P10A Eureka 61.36 62 ⇓P **P** **21 37 55.0 +0.2**
baz=61,SNR=23
N12A Clover Valley, 61.39 60 ⇑P **P** **21 37 55.4 +0.4**
baz=61,SNR=34
YFT Old Faithful 61.40 54 *eP* **P** **21 37 57.8 +2.8**
YFT *e* pP 21 38 11.6 +4.2
YFT *ePcP* PcP 21 38 33.6 -3.2
Q09A Carvers 61.45 63 ⇓P **P** **21 37 55.7 +0.3**
baz=61,SNR=12
O11A Cowboy Ranch, 61.50 61 ⇑P **P** **21 37 56.2 +0.5**
baz=61
M13A Montello 61.56 59 ⇑P **P** **21 37 56.4 +0.3**
baz=61,SNR=22
MTUM Tungsten Hills 61.58 65 *eP* **P** **21 37 56.9 +0.7**
MTUM *e* pP 21 38 07.7 -0.9
MTUM *ePcP* PcP 21 38 38.3 +0.6
IMW Indian Meadow 61.70 55 *eP* **P** **21 37 58.1 +1.0**
comp=Z,165nm,1.3s,mb6.0
IMW *e* pP 21 38 10.8 +1.3
IMW *ePcP* PcP 21 38 39.3 +1.2
FLWY Flagg Ranch 61.71 55 *eP* **P** **21 37 58.5 +1.3**
comp=Z,119nm,1.1s,mb5.9
FLWY *e* pP 21 38 09.8 +0.3
FLWY *ePcP* PcP 21 38 39.7 +1.5
FLWY *ePP* PP 21 40 13.9 +0.7
MOR8 Moi Rana 61.72 343 *eP* **P** **21 37 55.1 -2.1**
MOR8 AMb AMB 21 37 58.1
comp=Z,111nm,1.2s,mb5.9
MOR8 *ep*P pP 21 38 05.4 -4.1
MOR8 Moi Rana 61.72 343 *eP* **P** **21 37 55.1 -2.1**
comp=Z,111nm,1.2s,mb5.9
S08C White Mtn Res 61.72 64 ⇑P **P** **21 37 57.6 +0.4**
baz=62,SNR=31
V05C Boulder Hill, 61.74 67 ⇑P **P** **21 37 57.6 +0.3**
baz=62,SNR=5.7

HELL	**Mitchell Peak,**	**61.74**	**66**	⇓P		**P**	**21 37 56.7**	**-0.6**
	baz=62								
DCID1	**Drake Creek**	**61.77**	**55**	*e*P		**P**	**21 37 58.7**	**+1.2**
DCID1				*e*		pP	21 38 11.0	+1.2
RLMT	**Red Lodge**	**61.80**	**53**	*e*P		**P**	**21 37 58.4**	**+0.6**
	comp=Z,1μm,2.0s,mb6.6								
RLMT				*e*		pP	21 38 09.8	-0.3
P11A	**Circle Ranch,**	**61.82**	**61**	⇓P		**P**	**21 37 58.4**	**+0.5**
	baz=62,SNR=23								
RCTC	**Rector, Farmer**	**61.85**	**66**	⇑P		**P**	**21 37 57.2**	**-0.9**
	baz=62,SNR=5.7								
RRI2	**Red Ridge**	**61.85**	**56**	*e*P		**P**	**21 37 59.3**	**+1.2**
	comp=Z,212nm,1.0s,mb6.2								
RRI2				*e*		pP	21 38 10.3	-0.2
RRI2				*e*PcP		PcP	21 38 36.6	-2.1
N13A	**Wendover, West**	**61.87**	**59**	⇓P		**P**	**21 37 58.7**	**+0.6**
	baz=62,SNR=32								
R09A	**Tonopah**	**61.90**	**63**	P		**P**	**21 37 58.4**	**0.0**
	baz=62,SNR=133								
MOOW	**Moose Ponds**	**61.91**	**55**	*e*P		**P**	**21 37 59.2**	**+0.8**
	comp=Z,515nm,1.9s,mb6.3								
MOOW				*e*		pP	21 38 10.1	-0.8
TPH	**Tonopah**	**61.92**	**63**	*e*P		**P**	**21 37 59.4**	**+0.9**
TPH				*e*		pP	21 38 11.4	+0.5
TPH				*e*			21 38 39.5	
TPH				pmax		pmax			
	comp=Z,83nm,0.9s,mb5.9								
TPH				MLR		MLR			
	comp=Z,2μm,21.0s,MS5.3								
TPH	**Tonopah**	**61.92**	**63**	*e*P		**P**	**21 37 59.4**	**+0.9**
	comp=Z,83nm,0.9s,mb5.9								
TPH				*e*		pP	21 38 11.4	+0.5
TPH				*e*PcP		PcP	21 38 39.5	+0.5
TPH				LR		LR			
	comp=Z,2μm,21.0s,MS5.3								
O12A	**Currie**	**61.94**	**60**	⇑P		**P**	**21 37 58.8**	**+0.2**
	baz=62								
TPAW	**Teton Pass**	**61.96**	**55**	*e*P		**P**	**21 37 59.8**	**+1.0**
	comp=Z,307nm,1.3s,mb6.3								
TPAW				*e*		pP	21 38 13.4	+2.2
TPAW				*e*PcP		PcP	21 38 37.6	-1.5
TIN	**Tinemaha**	**61.98**	**65**	⇓P		**P**	**21 37 59.0**	**+0.1**
	baz=62								
SMMC	**Simmler**	**62.04**	**67**	⇑P		**P**	**21 37 59.3**	**0.0**
	baz=62,SNR=10								
HVU	**Hansel Valley**	**62.07**	**58**	*e*P		**P**	**21 38 00.4**	**+0.8**
HVU				*e*		pP	21 38 12.6	+0.7
HVU				*e*			21 38 38.4	
HVU				pmax		pmax			
	comp=Z,52nm,1.0s,mb5.6								
HVU	**Hansel Valley**	**62.07**	**58**	*e*P		**P**	**21 38 00.4**	**+0.9**
	comp=Z,52nm,1.0s,mb5.6								
HVU				*e*		pP	21 38 12.6	+0.6
HVU				*e*PcP		PcP	21 38 38.4	-1.2
LOHW	**Long Hollow**	**62.07**	**55**	*e*P		**P**	**21 38 00.9**	**+1.3**
	comp=Z,224nm,1.3s,mb6.1								
LOHW				*e*		pP	21 38 12.8	+0.9
LOHW				*e*PcP		PcP	21 38 41.2	+1.6
SNOW	**Snow King Moun**	**62.09**	**55**	*e*P		**P**	**21 38 00.8**	**+1.2**
	comp=Z,214nm,1.3s,mb6.1								
SNOW				*e*		pP	21 38 12.4	+0.3
SNOW				*e*PcP		PcP	21 38 39.3	-0.4
SNOW				*e*PP		PP	21 40 17.6	+1.1
REDW	**Red Top Meadow**	**62.10**	**55**	*e*P		**P**	**21 38 00.8**	**+1.0**
	comp=Z,254nm,1.2s,mb6.2								
REDW				*e*pP		pP	21 38 11.2	-1.0
REDW				*e*PcP		PcP	21 38 40.7	+1.0
REDW				*e*PP		PP	21 40 15.6	-1.1
S09A	**Goldfield**	**62.15**	**64**	⇓P		**P**	**21 37 60.0**	**0.0**
	baz=62								
KHET	**Khetri**	**62.15**	**282**	*e*P		**P**	**21 37 59.6**	**-0.5**
KHET				AMb		AMB	21 38 03.4		
	comp=Z,80nm,1.0s,mb5.8								
DGMT	**Dagmar**	**62.17**	**47**	*e*P		**P**	**21 38 00.4**	**+0.2**
	comp=Z,231nm,0.9s,mb6.3								
DGMT				*e*		pP	21 38 10.9	-1.7
DGMT				LR		LR			
	comp=Z,3μm,21.0s,MS5.4								
VES	**Vestal, Richgr**	**62.26**	**66**	⇑P		**P**	**21 37 59.7**	**-1.1**
	baz=62,SNR=14								
R10A	**Warm Springs**	**62.32**	**63**	⇓P		**P**	**21 38 01.2**	**-0.1**
	baz=62								
Q11A	**Duckwater**	**62.34**	**62**	P		**P**	**21 38 01.3**	**-0.1**
	baz=62,SNR=33								
LAO	**LASA Array**	**62.35**	**50**	*e*P		**P**	**21 38 02.1**	**+0.7**
	comp=Z,580nm,1.5s,mb6.5								
LAO				*e*		pP	21 38 12.9	-0.9
LAO				*e*PcP		PcP	21 38 40.2	-0.5
LAO				LR		LR			
	comp=Z,4μm,19.0s,MS5.5								
AHID	**Auburn Hatcher**	**62.36**	**56**	*e*P		**P**	**21 38 01.8**	**+0.4**
	comp=Z,85nm,1.2s,mb5.8								
AHID				*e*		pP	21 38 12.4	-1.5
AHID				*e*PcP		PcP	21 38 38.9	-1.9
AHID				LR		LR			
	comp=Z,2μm,21.0s,MS5.2								
P12A	**McGill**	**62.37**	**61**	P		**P**	**21 38 01.8**	**+0.3**
	baz=62,SNR=48								
PKM	**Peak Mountain**	**62.43**	**68**	⇑P		**P**	**21 38 02.0**	**+0.1**
	baz=62,SNR=16								
KULM	**Kulim**	**62.44**	**245**	*e*P		**P**	**21 38 03.2**	**+1.2**
KULM				*e*PcP		PcP	21 38 41.4	+0.3
KULM				*e*PP		PP	21 40 22.7	+3.1
CWC	**Cottonwood Cre**	**62.47**	**65**	⇑P		**P**	**21 38 02.2**	**0.0**
	baz=62,SNR=14								
BGU	**Big Grassy Mou**	**62.49**	**59**	*e*P		**P**	**21 38 02.5**	**+0.1**
BGU				*e*		pP	21 38 15.3	+0.6
BGU				*e*PcP		PcP	21 38 42.5	+1.1
GRAC	**Grapevine Rang**	**62.53**	**64**	P		**P**	**21 38 03.0**	**+0.4**
	baz=62,SNR=30								
SPUT	**South Promonto**	**62.57**	**58**	*e*P		**P**	**21 38 00.9**	**-1.9**
SPUT				*e*		pP	21 38 12.8	-2.4
SPUT				*e*PcP		PcP	21 38 40.7	-0.9
Q12A	**Willow Creek R**	**62.70**	**61**	⇓P		**P**	**21 38 03.8**	**+0.1**
	baz=62								
TRCR	**Troy Canyon**	**62.71**	**62**	*e*P		**P**	**21 38 03.6**	**-0.2**
JBP	**Jabalpur**	**62.73**	**275**	⇑*i*P		**P**	**21 38 04.3**	**+0.3**
JBP				*ex*		x	21 38 09.2		
	comp=Z,618nm,1.1s								
JBP				*i* x		x	21 46 27.4		
ISA	**Isabella**	**62.75**	**66**	P		**P**	**21 38 03.5**	**-0.6**
ISA	**Isabella**	**62.75**	**66**	*e*P		**P**	**21 38 03.4**	**-0.6**
	comp=Z,0.7nm,2.0s								
ISA				*e*		pP	21 38 15.0	-1.5
ISA				*e*PcP		PcP	21 38 42.0	-0.4
ISA				LR		LR			
	comp=Z,423nm,20.0s								
ISA	**Isabella**	**62.75**	**66**	⇓P		**P**	**21 38 02.8**	**-1.3**
	baz=62,SNR=20								
SBC	**Santa Barbara**	**62.79**	**68**	⇓P		**P**	**21 38 04.0**	**-0.4**
	baz=63								
IPM	**Ipoh**	**62.85**	**244**	P		**P**	**21 38 05.6**	**+0.9**
HWUT	**Hardware Ranch**	**62.87**	**57**	*e*P		**P**	**21 38 05.5**	**+0.6**
	comp=Z,122nm,1.2s,mb5.9								
HWUT				LR		LR			
	comp=Z,2μm,20.0s,MS5.3								
DAC	**Darwin (Calif)**	**62.88**	**65**	*e*P		**P**	**21 38 04.4**	**-0.5**
DAC				*e*		pP	21 38 16.7	-0.6
DAC				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.5								
DAC				MLR		MLR			
	comp=Z,1μm,20.0s,MS5.2								
DAC	**Darwin (Calif)**	**62.88**	**65**	*e*P		**P**	**21 38 04.4**	**-0.5**
	comp=Z,38nm,1.0s,mb5.5								
DAC				*e*		pP	21 38 16.7	-0.6
DAC				LR		LR			
	comp=Z,1μm,20.0s,MS5.2								
ARVC	**Arvin**	**62.88**	**67**	⇑P		**P**	**21 38 04.1**	**-0.9**
	baz=63,SNR=12								
FIA1	**FINESS Array S**	**62.91**	**335**	*e*P		**P**	**21 38 04.2**	**-0.9**
FIA1				*e*		pP	21 38 15.4	-2.1
FIA1				*e*PcP		PcP	21 38 42.5	-0.5
FINES	**FINESS Array B**	**62.91**	**335**	P		**P**	**21 38 04.0**	**-1.1**
	comp=Z,19nm,0.4s,mb5.6,baz=34,slow=8.1,SNR=168								
FINES				pP		pP	21 38 15.6	-2.0
	comp=Z,48nm,0.9s,baz=33,slow=11,SNR=8.0								
FINES				LR		LR	22 07 58.7		
	comp=Z,6μm,21.6s,MS5.7,baz=36,slow=38								
FINES	**FINESS Array B**	**62.91**	**335**	P		**P**	**21 38 04.1**	**-1.0**
FINES				*PP		pP	21 38 15.6	-1.9
PUL	**Pulkovo**	**62.98**	**332**	⇓*i*P		**P**	**21 38 04.5**	**-1.1**
MPMC	**Manual Prospec**	**63.08**	**65**	P		**P**	**21 38 06.2**	**-0.1**
	baz=63,SNR=59								
DUG	**Dugway**	**63.10**	**59**	*e*P		**P**	**21 38 06.7**	**+0.3**
DUG				pmax		pmax			
	comp=Z,183nm,1.2s,mb6.1								
DUG				MLR		MLR			
	comp=Z,2μm,21.0s,MS5.2								
DUG	**Dugway**	**63.10**	**59**	*e*P		**P**	**21 38 06.7**	**+0.3**
	comp=Z,183nm,1.2s,mb6.1								
DUG				LR		LR			
	comp=Z,2μm,21.0s,MS5.2								
DUG	**Dugway**	**63.10**	**59**	P		**P**	**21 38 06.9**	**+0.5**
	baz=63,SNR=145								
BSC	**Santa Cruz Isl**	**63.14**	**68**	⇑P		**P**	**21 38 05.7**	**-1.0**
	baz=63								
NOQ	**North Oquirrh**	**63.19**	**58**	*e*P		**P**	**21 38 07.2**	**+0.2**
	comp=Z,293nm,1.4s,mb6.2								
NOQ				*e*		pP	21 38 20.2	+0.8
NOQ				*e*PcP		PcP	21 38 44.2	+0.1
FURC	**Furnace Creek,**	**63.19**	**65**	P		**P**	**21 38 07.1**	**+0.1**
	baz=63,SNR=45								
BW06	**Boulder Array**	**63.21**	**55**	*e*P		**P**	**21 38 07.4**	**+0.3**
	comp=Z,143nm,1.1s,mb6.0								
BW06				*e*		pP	21 38 18.3	-1.2
BW06				*e*PcP		PcP	21 38 43.1	-1.1
BW06				LR		LR			
	comp=Z,2μm,22.0s,MS5.3								
PDAR	**Pinedale Array**	**63.21**	**55**	P		**P**	**21 38 07.3**	**+0.2**
	comp=Z,80nm,0.9s,mb5.8,baz=297,slow=2.1,SNR=259								
PDAR				PKPPKP			22 06 54.5		
	comp=Z,1.9nm,1.1s,baz=151,slow=3.4,SNR=4.8								
PDAR				LR		LR	22 09 01.0		
	comp=Z,809nm,18.0s,MS4.9,baz=335,slow=39								
OSI	**Osito Adit**	**63.29**	**67**	⇑P		**P**	**21 38 07.5**	**-0.2**
	baz=63,SNR=13								
LRMC	**Laurel Mountai**	**63.35**	**66**	P		**P**	**21 38 07.6**	**-0.4**
	baz=63,SNR=37								
CTU	**Camp Tracy**	**63.37**	**58**	*e*P		**P**	**21 38 08.8**	**+0.6**
	comp=Z,574nm,2.1s,mb6.3								
CTU				*e*		pP	21 38 20.5	-0.1
BLG	**Laguna Peak**	**63.41**	**68**	⇓P		**P**	**21 38 08.0**	**-0.5**
	baz=63								
KGM	**Kluang**	**63.48**	**240**	P		**P**	**21 38 10.5**	**+1.6**
U10A	**Ash Meadows, A**	**63.54**	**64**	⇑P		**P**	**21 38 09.6**	**+0.2**
	baz=63,SNR=29								
MOS	**Moscow**	**63.55**	**326**	*e*P		**P**	**21 38 05.9**	**-3.4**
MOS				*i* *PP		pP	21 38 18.6	-3.2
MOS				*i*			21 38 43.9	
MOS				*e*S		**S**	**21 46 38.3**	**-1.5**
MOS				*i*			21 47 55.1	
MOS				pmax		pmax			
	comp=Z,53nm,1.1s,mb5.5								
MOS				MLR		MLR			
	comp=N,5μm,20.0s								
MOS				MLR		MLR			
	comp=Z,5μm,20.0s,MS5.7								
EDW2	**Edwards Air Fo**	**63.56**	**67**	P		**P**	**21 38 09.3**	**-0.2**
	baz=63,SNR=55								
JLU	**Jordanelle**	**63.60**	**58**	*e*P		**P**	**21 38 09.9**	**+0.2**
JLU				*e*		pP	21 38 22.2	0.0
NSS	**Namsos**	**63.66**	**343**	*e*P		**P**	**21 38 08.5**	**-1.6**
NSS				AMS		AMS	22 12 08.4		
	comp=Z,3μm,18.1s,MS5.5								
NLU	**North Lily Min**	**63.68**	**59**	*e*P		**P**	**21 38 10.7**	**+0.4**
NLU				*e*		pP	21 38 22.1	-0.6
SNCC	**San Nicolas Is**	**63.70**	**69**	PFAKE			21 38 20.0	+10
SNCC				LR		LR			
	comp=Z,2μm,20.0s,MS5.3								
SNCC	**San Nicolas Is**	**63.70**	**69**	⇓P		**P**	**21 38 10.0**	**-0.4**
	baz=64								
DECC	**Green Verdugo**	**63.77**	**67**	⇑P		**P**	**21 38 10.1**	**-0.7**
	baz=64,SNR=9.5								
KAKA	**Kakadu**	**63.79**	**204**	⇑*i*P		**P**	**21 38 09.8**	**-1.2**
	comp=Z,118nm,1.2s,mb5.8								
DAU	**Daniels Canyon**	**63.84**	**58**	*e*P		**P**	**21 38 12.5**	**+1.3**
DAU				*e*		pP	21 38 21.9	-1.8
DAU				*e*PcP		PcP	21 38 45.1	-1.7
MPU	**Maple Canyon**	**63.89**	**59**	*e*P		**P**	**21 38 12.7**	**+1.1**
	comp=Z,99nm,1.1s,mb5.8								
MPU				*e*		pP	21 38 24.4	+0.3
MPU				*e*PcP		PcP	21 38 47.0	0.0
MPU				LR		LR			
	comp=Z,4μm,22.0s,MS5.5								
SHOC	**Shoshone**	**63.92**	**65**	⇑P		**P**	**21 38 11.5**	**-0.3**
	baz=64								
AJM	**Ajmer**	**63.99**	**281**	*i* P		**P**	**21 38 12.0**	**-0.3**
GSC	**Goldstone**	**64.00**	**65**	*e*P		**P**	**21 38 12.1**	**-0.3**
GSC				*e*		pP	21 38 25.0	+0.2
GSC				*e*			21 38 47.8	
GSC	**Goldstone**	**64.00**	**65**	⇑P		**P**	**21 38 12.0**	**-0.4**
	baz=64,SNR=34								
U11A	**Corn Creek**	**64.11**	**64**	⇑P		**P**	**21 38 13.3**	**+0.2**
	baz=64,SNR=7.4								
FMP	**Fort Macarthur**	**64.16**	**68**	⇓P		**P**	**21 38 12.8**	**-0.6**
	baz=64								
RRX	**Edison Barstow**	**64.17**	**66**	⇑P		**P**	**21 38 13.1**	**-0.3**
	baz=64								
BFSC	**Mount Baldy St**	**64.19**	**67**	⇓P		**P**	**21 38 12.5**	**-1.1**
	baz=64,SNR=22								
CIS	**Catalina Islan**	**64.29**	**68**	⇑P		**P**	**21 38 13.6**	**-0.7**
	baz=64,SNR=11								
ARUT	**Antelope Range**	**64.34**	**61**	*e*P		**P**	**21 38 14.7**	**+0.1**
ARUT				*e*		pP	21 38 26.0	-1.0
BHPL	**Bhopal**	**64.38**	**277**	*ex*		x	21 47 06.9	
OBN	**Obninsk**	**64.41**	**326**	*c* *i*P		**P**	**21 38 13.5**	**-1.5**
OBN				*i*		pP	21 38 25.9	-1.6
OBN				*i*			21 38 48.2	
OBN				*e*S		**S**	**21 46 49.5**	**-1.0**
OBN				*e*SS		SS	21 51 01.1	+0.1
OBN				pmax		pmax			
	comp=Z,75nm,1.2s,mb5.6								
OBN				MLR		MLR			
	comp=Z,4μm,19.0s,MS5.7								
OBN	**Obninsk**	**64.41**	**326**	⇑*e*P		**P**	**21 38 13.6**	**-1.4**
OBN				LR		LR			
	comp=Z,4μm,19.0s,MS5.7								
TUQ	**Turquoise Mtn.**	**64.45**	**65**	P		**P**	**21 38 15.2**	**-0.1**
	baz=64,SNR=60								
V11A	**Goodsprings**	**64.47**	**64**	⇓P		**P**	**21 38 15.4**	**0.0**
	baz=64								
SCI	**San Clemente I**	**64.49**	**68**	⇑P		**P**	**21 38 15.1**	**-0.4**
	baz=64								
CCUT	**Cedar City**	**64.55**	**62**	*e*P		**P**	**21 38 16.3**	**+0.3**
CCUT				*e*		pP	21 38 28.1	-0.3
MVU	**Marysvale**	**64.58**	**60**	PFAKE			21 38 30.0	+14
MVU				LR		LR			
	comp=Z,3μm,21.0s,MS5.5								
MSU	**Marysvale**	**64.59**	**60**	*e*P		**P**	**21 38 16.9**	**+0.7**
MSU				*e*		pP	21 38 28.7	+0.1
MSU				*e*			21 38 50.5	
HEC	**Hector,Ludlow**	**64.61**	**66**	⇓P		**P**	**21 38 15.8**	**-0.5**
	baz=64,SNR=24								
U12A	**Valley of Fire**	**64.61**	**63**	⇑P		**P**	**21 38 16.4**	**+0.1**
	baz=64,SNR=19								
TMUT	**Trail Mountain**	**64.62**	**59**	*e*P		**P**	**21 38 17.3**	**+0.9**
TMUT				*e*		pP	21 38 27.9	-0.9
BBRC	**Big Bear Sol-O**	**64.63**	**66**	⇑P		**P**	**21 38 16.1**	**-0.3**
	baz=64								
NGP	**Nagpur**	**64.75**	**274**	*e*P		**P**	**21 38 16.6**	**-0.6**
NGP				*ex*		x	21 38 19.1		
NGP				*e*S		**S**	**21 46 55.5**	**+0.8**
ULM	**Lac du Bonnet**	**64.83**	**42**	P		**P**	**21 38 17.5**	**-0.2**
	comp=Z,66nm,0.9s,mb5.7,baz=313,slow=6.9,SNR=73								
ULM				PcP		PcP	21 38 47.0	-3.9
	comp=Z,17nm,0.7s,baz=276,slow=3.9,SNR=3.8								
ULM				PKPPKP			22 07 00.4		
	comp=Z,6.0nm,1.0s,baz=140,slow=1.0,SNR=4.7								
ULM				LR		LR	22 08 22.3		
	comp=Z,2μm,21.0s,MS5.3,baz=326,slow=38								
ULM	**Lac du Bonnet**	**64.83**	**42**	P		**P**	**21 38 17.5**	**-0.2**
ULM				PcP		PcP	21 38 47.0	-3.9
ULM				P'P'			22 07 00.4		
ULM				LR		LR	22 08 22.3		
V12A	**Nelson**	**64.90**	**64**	⇓P		**P**	**21 38 18.4**	**+0.2**
	baz=65,SNR=33								
MURC	**Murrieta**	**64.90**	**67**	⇑P		**P**	**21 38 17.6**	**-0.7**
	baz=65,SNR=25								
SRU	**San Rafael**	**65.13**	**59**	*e*P		**P**	**21 38 19.7**	**0.0**
SRU				*e*		pP	21 38 32.2	0.0
SRU				pmax		pmax			
	comp=Z,150nm,1.0s,mb6.0								
SRU	**San Rafael**	**65.13**	**59**	*e*P		**P**	**21 38 19.7**	**-0.1**
	comp=Z,150nm,1.0s,mb6.0								
SRU				*e*		pP	21 38 32.2	0.0
VSU	**Vasula**	**65.14**	**333**	*c* *i*P		**P**	**21 38 18.2**	**-1.6**
VSU	**Vasula**	**65.14**	**333**	⇑*i*P		**P**	**21 38 18.3**	**-1.5**
W12A	**Cal Nev Ari**	**65.17**	**64**	⇓P		**P**	**21 38 19.9**	**-0.1**
	baz=65,SNR=10								
RWWY	**Rawlins**	**65.22**	**55**	*e*P		**P**	**21 38 20.6**	**+0.3**
	comp=Z,90nm,1.1s,mb5.7								
RWWY				*e*		pP	21 38 32.9	+0.2
RWWY				*e*PcP		PcP	21 38 52.2	-0.3
RWWY				*e*PP		PP	21 40 39.0	-5.0
RSSD	**Black Hills**	**65.23**	**51**	P		**P**	**21 38 20.2**	**-0.1**
RSSD				pmax		pmax			
	comp=Z,180nm,1.0s,mb6.1								
RSSD	**Black Hills**	**65.23**	**51**	*e*P		**P**	**21 38 20.5**	**+0.2**
	comp=Z,166nm,1.0s,mb6.0								
RSSD				*e*		pP	21 38 31.6	-1.1
RSSD				*e*PcP		PcP	21 38 48.5	-4.0
RSSD				LR		LR			
	comp=Z,4μm,21.0s,MS5.6								
PFO	**Pinyon Flat Ob**	**65.36**	**67**	*e*P		**P**	**21 38 20.8**	**-0.4**
PFO				*e*		pP	21 38 33.3	-0.3
PFO				*e*			21 38 53.5	
PFO				pmax		pmax			
	comp=Z,62nm,1.2s,mb5.5								
PFO				MLR		MLR			
	comp=Z,715nm,22.0s,MS4.8								
PFO	**Pinyon Flat Ob**	**65.36**	**67**	*e*P		**P**	**21 38 20.8**	**-0.4**
	comp=Z,62nm,1.2s,mb5.5								
PFO				*e*		pP	21 38 33.3	-0.3
PFO				*e*PcP		PcP	21 38 53.5	+0.5
PFO				LR		LR			
	comp=Z,715nm,22.0s,MS4.8								
PFO	**Pinyon Flat Ob**	**65.36**	**67**	⇓P		**P**	**21 38 20.5**	**-0.7**
	baz=65,SNR=15								
BELC	**Belle Mtn.**	**65.37**	**66**	⇑P		**P**	**21 38 20.3**	**-0.9**
	baz=65,SNR=15								
VRHR	**Novokhopersk**	**65.38**	**320**	*e*P		**P**	**21 38 19.8**	**-1.5**
VRHR				pmax		pmax			
	comp=E,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,30nm,0.6s,mb5.5								
VRHR				pmax		pmax			
	comp=N,3.0nm,0.7s								
109C	**Camp Elliot, M**	**65.44**	**68**	⇑P		**P**	**21 38 21.2**	**-0.6**
	baz=65,SNR=14								
IRM	**Iron Mountain**	**65.78**	**65**	P		**P**	**21 38 23.7**	**-0.2**
	baz=66,SNR=55								
MONP	**Monument Peak**	**65.86**	**67**	⇑P		**P**	**21 38 23.8**	**-0.7**
	baz=66,SNR=12								
W13A	**Hualapai Mount**	**65.90**	**64**	P		**P**	**21 38 24.7**	**0.0**
	baz=66,SNR=44								
BC3	**Big Chuckw Mtn**	**65.94**	**66**	⇑P		**P**	**21 38 24.1**	**-0.8**
	baz=66,SNR=23								
JASL	**Jaisalmer**	**66.12**	**284**	*ex*		**P**	**21 38 22.6**	**-3.5**
JASL				AMb		AMB	21 38 24.4		
	comp=Z,252nm,1.5s,mb6.0								
SWSC	**Sam W. Stewart**	**66.21**	**67**	⇓P		**P**	**21 38 25.9**	**-0.8**
	baz=66,SNR=7.7								
DVTC	**Desert V Tower**	**66.22**	**67**	⇑P		**P**	**21 38 26.1**	**-0.7**
	baz=66,SNR=12								
AGMN	**Agassiz Refuge**	**66.25**	**43**	*e*P		**P**	**21 38 26.6**	**-0.3**
	comp=Z,245nm,1.2s,mb6.1								
AGMN				*e*		pP	21 38 37.4	-2.0
AGMN				*e*PcP		PcP	21 38 57.4	+0.7
AGMN				LR		LR			
	comp=Z,4μm,19.0s,MS5.7								
X13A	**Yucca**	**66.28**	**64**	P		**P**	**21 38 26.9**	**-0.2**
	baz=66,SNR=50								
PDMCI	**Parker Dam,Lak**	**66.29**	**65**	⇓P		**P**	**21 38 26.6**	**-0.6**
	baz=66,SNR=22								
W14A	**Seligman**	**66.30**	**63**	P		**P**	**21 38 27.8**	**+0.5**
	baz=66,SNR=64								
VRSR	**Storozhevoye**	**66.32**	**322**	*e*P		**P**	**21 38 27.2**	**-0.2**
VRSR				*e**PP		pP	21 38 40.3	+0.5
VRSR				*e*			21 38 56.6	
VRSR				pmax		pmax			
	comp=N,110nm,1.0s								
VRSR				pmax		pmax			
	comp=E,90nm,1.0s								
VRSR				pmax		pmax			
	comp=Z,80nm,1.0s,mb5.7								
VRSR				MLR		MLR			
	comp=N,3μm,23.0s								
VRSR				MLR		MLR			
	comp=Z,5μm,23.0s,MS5.7								
ABKT	**Ailbek**	**66.42**	**301**	P		**P**	**21 38 29.6**	**+1.6**
	comp=Z,535nm,1.1s,mb6.5,SNR=26								
PHWY	**Pilot Hill**	**66.44**	**54**	*e*P		**P**	**21 38 28.4**	**+0.3**
PHWY				*e*		pP	21 38 41.1	+0.5
PHWY				*e*PcP		PcP	21 38 57.2	-0.4
PHWY				*e*PP		PP	21 40 52.5	-2.2
Y12C	**Blythe**	**66.44**	**65**	P		**P**	**21 38 27.9**	**-0.2**
	baz=66,SNR=31								
VORD	**Divnogorie**	**66.46**	**321**	*e*P		**P**	**21 38 26.3**	**-2.0**
VORD				pmax		pmax			
	comp=Z,20nm,1.1s,mb5.1								
VORD				pmax		pmax			
	comp=N,10.0nm,0.8s								
VORD				pmax		pmax			
	comp=E,10.0nm,0.8s								
VORD				MLR		MLR			
	comp=Z,4μm,21.0s,MS5.7								
VORD				MLR		MLR			
	comp=N,3μm,19.0s,MS5.6						

comp=Z,320nm,1.0s,mb6.3
HYB Hyderabad 67.71 271 *e*P **P** **21 38 36.5 +0.3**
comp=Z,320nm,1.0s,mb6.3
HYB *e*S S 21 47 28.0 -2.6
IDID Didziasalis 67.72 331 *e*P **P** **21 38 35.5 -0.8**
IDID AMb AMB 21 38 37.2
comp=Z,2μm,0.9s,mb7.0
HYA Hoyanger 67.84 344 *e*P **P** **21 38 38.1 +1.1**
HYA AMb AMB 21 38 40.2
comp=Z,350nm,1.2s,mb6.2
HYA Hoyanger 67.84 344 *e*P **P** **21 38 38.1 +1.1**
comp=Z,350nm,1.3s,mb6.2
IIGN Ignalina 67.85 331 *e*P **P** **21 38 36.4 -0.8**
IIGN AMb AMB 21 38 38.3
comp=Z,2μm,1.0s,mb7.1
MNK Minsk 68.02 330⇓ *e*P **P** **21 38 34.0 -4.2**
MNK pmax pmax
comp=Z,390nm,1.0s,mb6.4
OSL Oslo 68.06 341 *e*P **P** **21 38 38.6 +0.3**
OSL AMb AMB 21 38 40.6
comp=Z,222nm,1.2s,mb6.0
OSL Oslo 68.06 341 *e*P **P** **21 38 38.6 +0.3**
comp=Z,222nm,1.2s,mb6.1
LATR Latur 68.33 274 *e*P **P** **21 38 37.6 -2.5**
EYMN Ely 68.47 41 *e*P **P** **21 38 40.2 -0.8**
comp=Z,194nm,1.0s,mb6.1
EYMN *e* pP 21 38 51.6 -1.9
EYMN *e*PP PP 21 41 11.7 -0.7
EYMN LR LR
comp=Z,3μm,22.0s,MS5.5
CTA Charters Tower 68.50 188 *e*P **P** **21 38 39.5 -1.6**
comp=Z,22nm,0.9s,mb5.2
CTA *e*S S 21 47 37.1 -2.9
CTA Charters Tower 68.50 188 *e*P **P** **21 38 39.5 -1.6**
CTA *e*S S 21 47 37.1 -2.9
CTA pmax pmax
comp=Z,22nm,0.9s
CTAO Charters Tower 68.50 188 *e*P **P** **21 38 39.3 -1.8**
CTAO *e* pP 21 38 51.4 -2.3
CTAO pmax pmax
comp=Z,93nm,1.3s,mb5.7
CTAO MLR MLR
comp=Z,1μm,22.0s,MS5.1
CTAO Charters Tower 68.50 188 *e*P **P** **21 38 39.3 -1.8**
comp=Z,93nm,1.3s,mb5.7
CTAO *e* pP 21 38 51.4 -2.3
CTAO LR LR
comp=Z,1μm,22.0s,MS5.1
115A Sonoran Desert 68.55 65 ⇓P **P** **21 38 41.7 +0.3**
baz=68,SNR=30
KONO Kongsberg 68.56 342 *e*P **P** **21 38 41.0 -0.5**
KONO *e*S S 21 47 37.2 -3.5
KONO Kongsberg 68.56 342*c* *i*P **P** **21 38 40.6 -0.9**
KONO Kongsberg 68.56 342⇑ *i*P **P** **21 38 40.7 -0.8**
KONO LR LR
comp=Z,4μm,20.0s,MS5.6
MAK Makhachkala 68.59 311 *i* P **P** **21 38 40.3 -1.4**
MAK *e* 21 39 01.3
MAK *e* 21 41 16.6
MAK *i* PPP 21 42 51.2
MAK *i* S S 21 47 39.5 -1.6
MAK *e* 21 48 00.5
MAK *e* 21 48 37.1
MAK pmax pmax
comp=Z,190nm,1.1s,mb5.9
MAK MLR MLR
comp=Z,13μm,19.0s,MS6.2
ASK Askoy 68.65 344 *e*P **P** **21 38 43.3 +1.2**
ASK AMb AMB 21 38 44.8
comp=Z,632nm,1.3s,mb6.4
RUND Rundenannen 68.69 344 *e*P **P** **21 38 42.4 +0.1**
RUND AMb AMB 21 38 44.9
comp=Z,684nm,1.2s,mb6.5
RUND Rundenannen 68.69 344 *e*P **P** **21 38 42.4 +0.1**
comp=Z,684nm,1.2s,mb6.5
BER Bergen 68.72 344 *e*P **P** **21 38 43.1 +0.6**
BER AMb AMB 21 38 45.7
comp=Z,392nm,1.4s,mb6.2
BER AMS AMS 22 14 51.8
comp=Z,3μm,19.5s,MS5.5
BER Bergen 68.72 344 *e*P **P** **21 38 43.1 +0.6**
comp=Z,392nm,1.4s,mb6.2
EGD Espegrend 68.85 344 *e*P **P** **21 38 44.5 +1.1**
EGD AMb AMB 21 38 46.1
comp=Z,519nm,1.7s,mb6.2
EGD Espegrend 68.85 344 *e*P **P** **21 38 44.5 +1.1**
comp=Z,519nm,1.7s,mb6.2
ODD1 Odda 68.92 343 *e*P **P** **21 38 43.0 -0.7**
ODD1 AMb AMB 21 38 45.4
comp=Z,265nm,1.2s,mb6.0
ODD1 Odda 68.92 343 *e*P **P** **21 38 43.0 -0.7**
comp=Z,265nm,1.3s,mb6.0
SDCO Great Sand Dun 68.92 57 *e*P **P** **21 38 43.8 +0.1**
comp=Z,335nm,1.8s,mb6.0
SDCO *e* pP 21 38 56.6 +0.3
SDCO LR LR
comp=Z,3μm,22.0s,MS5.5
AFI Afiamalu 68.96 144 *e*P **P** **21 38 42.4 -1.6**
AFI *e*S S 21 47 36.9 -8.6
AFI MLR MLR
comp=Z,4μm,20.0s,MS5.7
116A Eloy 68.96 64 ⇓P **P** **21 38 44.1 +0.1**
baz=69
ECSD EROS,Sioux Fal 69.24 47 *e*P **P** **21 38 45.0 -0.8**
comp=Z,185nm,1.0s,mb6.0
ECSD *e* pP 21 38 57.1 -1.3
ECSD LR LR
comp=Z,3μm,19.0s,MS5.6
BLS5 Blasjo 69.40 343 *e*P **P** **21 38 47.7 +0.9**
BLS5 AMb AMB 21 38 50.5
comp=Z,121nm,1.1s,mb5.7
BLS5 Blasjo 69.40 343 *e*P **P** **21 38 48.5 +1.8**
comp=Z,121nm,1.1s,mb5.7
TUC Tucson 69.69 64 *e*P **P** **21 38 48.3 -0.3**
TUC *e* pP 21 39 01.3 +0.2
TUC *e* 21 39 10.1
TUC pmax pmax
comp=Z,59nm,1.2s,mb5.4
TUC MLR MLR
comp=Z,1μm,21.0s,MS5.1
TUC Tucson 69.69 64 *e*P **P** **21 38 48.3 -0.2**
comp=Z,58nm,1.2s,mb5.4
TUC *e* pP 21 39 01.3 +0.2
TUC *e*PcP PcP 21 39 10.1 -1.1
TUC LR LR
comp=Z,1μm,21.0s,MS5.1
MDRS Chennai 69.71 267 *ex* **P** **21 38 49.7 +1.1**
MDRS Chennai 69.71 267 *ex* x 21 47 41.7
MDRS *ex* x 21 52 14.7
KMY Karmoy 69.83 344 *e*P **P** **21 38 50.1 +0.7**
KMY AMb AMB 21 38 52.0
comp=Z,562nm,1.3s,mb6.3
KMY *e*pP pP 21 38 59.9 -2.1
KMY Karmoy 69.83 344 *e*P **P** **21 38 50.1 +0.7**
comp=Z,562nm,1.3s,mb6.3
SUW Suwalki 69.95 332 *e*P **P** **21 38 49.0 -1.1**
SUW *e*SKS 21 48 52.4
SUW L 22 09 01.9
comp=Z,5.3nm,25.7s
SUW Suwalki 69.95 332 *e*P **P** **21 38 49.2 -0.9**
SUW *e* pP 21 39 00.9 -1.8
SUW Suwalki 69.95 332 *e*P **P** **21 38 49.2 -0.9**
SUW *e* pP 21 39 00.9 -1.8
SUW *e*SKS 21 48 52.4
LRW Lerwick 70.04 347 AMS AMS 22 08 55.0
comp=Z,605nm,20.1s
LRW Lerwick 70.04 347 AMS AMS 22 08 55.0
comp=Z,605nm,20.1s,MS4.8
POO Poona 70.05 276⇑ *i*P **P** **21 38 49.5 -1.3**
comp=Z,670nm,1.0s,mb6.5
KIV Kislovodsk 70.22 314 *e*P **P** **21 38 51.5 -0.3**
KIV *e* 21 39 14.8
KIV *e* 21 41 27.6
KIV *e*PPP 21 43 11.6
KIV *e*S S 21 48 01.1 +0.8
KIV *e*SS SS 21 52 32.5 +1.6
KIV pmax pmax
comp=Z,1μm,3.9s
KIV pmax pmax
comp=Z,158nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,5μm,18.0s,MS5.8
KIV Kislovodsk 70.22 314⇑ *i*P **P** **21 38 51.6 -0.2**
KIV LR LR
comp=Z,2μm,22.0s,MS5.3

SNART Snartemo 70.26 342 *e*P **P** **21 38 52.4 +0.3**
SNART AMb AMB 21 38 54.6
comp=Z,381nm,1.4s,mb6.1
WRAB Tennant Creek 70.26 200*c* *i*P **P** **21 38 50.1 -1.9**
WB2 Warramunga Arr 70.27 200⇑ *i*P **P** **21 38 50.9 -1.2**
WB2 *e*S S 21 47 55.6 -5.3
WB2 Warramunga Arr 70.27 200 *e*P **P** **21 38 51.0 -1.0**
WB2 *e*PcP PcP 21 39 13.9 +0.3
WB2 *e*PP PP 21 41 27.1 -0.8
WB2 *e*S S 21 47 55.6 -5.3
WRA Warramunga Arr 70.27 200 P **P** **21 38 50.7 -1.4**
comp=Z,123nm,1.0s,mb5.8,baz=16,slow=6.0,SNR=423
WRA PKP2bc 22 06 50.9
comp=Z,3.4nm,1.1s,baz=186,slow=2.5,SNR=7.2
WRA LR LR 22 09 02.3
comp=Z,682nm,20.6s,MS4.9,baz=45,slow=35
WRA Warramunga Arr 70.27 200 P **P** **21 38 50.7 -1.4**
WRA ⇑*e* 22 06 50.9
WRA LR LR 22 09 02.3
ANMO Albuquerque 70.36 59*c* *i*P **P** **21 38 52.3 -0.4**
ANMO Albuquerque 70.36 59 *e*P **P** **21 38 52.7 +0.1**
comp=Z,59nm,1.1s,mb5.4
ANMO *e* pP 21 39 04.6 -0.6
ANMO LR LR
comp=Z,2μm,22.0s,MS5.4
BOM Bombay 70.48 277 *e*P **P** **21 38 54.4 +1.0**
BOM *ex* x 21 38 57.5
comp=Z,942nm,1.3s
BOM *e*S S 21 48 04.4 +1.1
ZEI Tsey 70.52 313 *e*P **P** **21 38 53.0 -0.6**
ZEI *e**PP pP 21 39 06.2 0.0
ZEI *e* 21 39 13.1
ZEI *e* 21 41 33.4
ZEI pmax pmax
comp=Z,71nm,1.2s,mb5.5
AKASG Malin Array Be 70.63 326 P **P** **21 38 52.8 -1.5**
comp=Z,41nm,0.7s,mb5.5,baz=33,slow=6.2,SNR=125
AKASG S S 21 48 11.0 +5.9
comp=Z,0.5nm,0.5s,baz=38,slow=12,SNR=4.6
AKASG ScS ScS 21 48 57.6 +3.3
comp=Z,0.1nm,0.3s,baz=36,slow=8.2,SNR=5.0
AKASG PKP2ab 22 06 41.4
comp=Z,0.5nm,0.5s,baz=228,slow=0.9,SNR=2.9
AKASG LR LR 22 12 04.8
comp=Z,5μm,20.6s,MS5.7,baz=30,slow=38
AKASG Malin Array Be 70.63 326 P **P** **21 38 52.8 -1.5**
AKASG S S 21 48 11.0 +5.9
AKASG 21 48 57.6
AKASG Malin Array Be 70.63 326 P **P** **21 38 52.8 -1.5**
AKASG S S 21 48 11.0 +5.9
AKASG ScS ScS 21 48 57.6 +3.3
AKASG P'P'ab 22 06 41.4
AKASG LR LR 22 12 04.8
KIEV Kiev 70.64 326 *e*P **P** **21 38 53.0 -1.4**
KIEV pmax pmax
comp=Z,84nm,0.9s,mb5.7
KIEV MLR MLR
comp=Z,5μm,20.0s,MS5.8
KIEV Kiev 70.64 326 *e*P **P** **21 38 53.0 -1.4**
comp=Z,84nm,0.9s,mb5.7
KIEV LR LR
comp=Z,5μm,20.0s,MS5.8
KAD Karad 70.70 275 *e*P **P** **21 38 55.7 +1.0**
Y22C IRIS PASSCAL I 70.72 60⇑P **P** **21 38 55.7 +0.9**
baz=70
TBLG Delisi 70.88 312 P **P** **21 38 58.0 +2.2**
FITZ Fitzroy Crossi 70.91 209⇑ *i*P **P** **21 38 55.9 -0.1**
comp=Z,186nm,1.2s,mb5.9
FITZ *e*S S 21 48 07.5 -0.8
DZM Mont Dzumac 70.95 168 *e*P **P** **21 38 53.2 -3.0**
CBKS Cedar Bluff 71.28 52 *e*P **P** **21 38 57.5 -0.7**
CBKS pmax pmax
comp=Z,168nm,1.4s,mb5.8
CBKS MLR MLR
comp=Z,2μm,20.0s,MS5.4
CBKS Cedar Bluff 71.28 52 *e*P **P** **21 38 57.5 -0.7**
comp=Z,168nm,1.4s,mb5.8
CBKS LR LR
comp=Z,2μm,20.0s,MS5.4
SCHQ Schefferville 71.54 24 P **P** **21 38 59.9 +0.1**
comp=Z,174nm,0.8s,mb6.0,baz=345,slow=6.2,SNR=97
SCHQ LR LR 22 14 38.6
comp=Z,1μm,18.5s,MS5.2,baz=343,slow=39
SCHQ Schefferville 71.54 24 *e*P **P** **21 38 59.5 -0.3**
SCHQ *e* pP 21 39 11.1 -1.3
SCHQ LR LR 22 14 38.6
SOC Sochi 71.90 316*c* *i*P **P** **21 39 01.3 -0.7**
SOC *e**PP pP 21 39 13.7 -0.9
SOC *e* 21 39 18.3
SOC *e* 21 41 44.8
SOC *e*PPP 21 43 21.6
SOC *e*S S 21 48 18.2 -1.5
SOC *e* 21 49 01.6
SOC pmax pmax
comp=Z,171nm,1.1s,mb5.9
SOC MLR MLR
comp=Z,7μm,16.0s,MS6.0
SOC Sochi 71.90 316 *i* P **P** **21 39 03.0 +1.0**
ANN Anapa 71.99 318*c* *i*P **P** **21 39 02.0 -0.5**
ANN *e**PP pP 21 39 15.8 +0.7
ANN *e* 21 41 40.6
ANN *e*PPP 21 43 24.5
ANN *e*S S 21 48 22.6 +1.7
ANN *e* 21 49 00.0
ANN *e*SS SS 21 52 57.8 -0.3
ANN *e*SSS 21 56 08.1
ANN pmax pmax
comp=Z,207nm,1.4s,mb5.9
ANN MLR MLR
comp=N,4μm,20.0s,MS5.8
ANN MLR MLR
comp=E,3μm,20.0s,MS5.8
ANN MLR MLR
comp=Z,4μm,20.0s,MS5.7
GNI Garni 72.06 311 *e*P **P** **21 39 04.0 +1.0**
GNI Garni 72.06 311*c* *i*P **P** **21 39 03.9 +0.9**
GNI pmax pmax
comp=Z,335nm,1.7s
GNI MLR MLR
comp=Z,7μm,22.0s
GNI Garni 72.06 311⇑ *i*P **P** **21 39 03.0 +0.1**
GNI LR LR
comp=Z,7μm,20.0s,MS5.9
MLA1 Latheron 72.11 348⇑ *e*P **P** **21 39 03.2 -0.1**
WAR Warsaw 72.14 332 *e*P **P** **21 39 03.9 +0.5**
WAR L 22 10 31.0
comp=Z,7.1nm,26.2s
SCIA State Center 72.26 46 *e*P **P** **21 39 04.3 +0.1**
comp=Z,504nm,1.4s,mb6.3
SCIA *e* pP 21 39 15.1 -1.7
SCIA *e*PcP PcP 21 39 22.2 +0.2
SCIA LR LR
comp=Z,3μm,19.0s,MS5.5
RGN Rugen 72.31 337 *e*P **P** **21 39 04.4 0.0**
comp=Z,692nm,1.1s,mb6.5
GKP Gorka Klasztor 72.38 335 *e*P **P** **21 39 04.8 -0.1**
GKP *e*pP pP 21 39 14.6 -2.9
GKP *e*S S 21 48 27.1 +1.8
GKP L 22 13 27.6
comp=Z,6.4nm,20.4s
KARS Kars 72.54 312 *e*P **P** **21 39 05.9 +0.1**
MVH1 Achvaich 72.60 348⇑ *e*P **P** **21 39 05.3 -0.8**
BCA Borcka 72.63 313 *e*P **P** **21 39 03.5 -2.8**
KSU1 Kansas State U 72.69 50 *e*P **P** **21 39 05.5 -1.2**
comp=Z,66nm,0.9s,mb5.6
KSU1 *e* pP 21 39 17.2 -2.1
KSU1 LR LR
comp=Z,4μm,19.0s,MS5.7
MCD Coleburn Disti 72.80 348⇑ *e*P **P** **21 39 06.5 -0.8**
JFWS Jewell Farm 72.89 44 P **P** **21 39 06.9 -1.0**
JFWS pmax pmax
comp=Z,38nm,0.8s,mb5.4
JFWS Jewell Farm 72.89 44 *e*P **P** **21 39 06.8 -1.1**
comp=Z,36nm,0.8s,mb5.3
JFWS *e* pP 21 39 19.5 -1.0
JFWS LR LR
comp=Z,3μm,21.0s,MS5.6
MME1 Meikle Cairn 73.01 347⇑ *e*P **P** **21 39 07.5 -1.1**
MDO Dochfour 73.09 348⇑ *e*P **P** **21 39 08.8 -0.3**
AMTX Amarillo 73.11 56 *e*P **P** **21 39 09.4 +0.2**
comp=Z,128nm,1.1s,mb5.8
AMTX *e* pP 21 39 21.5 -0.3
AMTX LR LR
comp=Z,2μm,21.0s,MS5.4

KAC Achnashellach 73.16 349⇑ *e*P **P** **21 39 09.3 -0.2**
LVV L'vov 73.22 329⇑ *i*P **P** **21 39 08.1 -1.7**
LVV *e* 21 39 25.1
LVV *e*S S 21 48 35.5 +0.7
LVV *e* 21 49 19.3
CLDR Caldiran 73.24 310 *e*P **P** **21 39 10.7 +0.7**
SIM Simferopol' 73.33 320*c* *i*P **P** **21 39 10.0 -0.4**
SIM *e*S S 21 48 39.0 +3.0
SIM pmax pmax
comp=Z,132nm,1.0s,mb5.8
SIM MLR MLR
comp=Z,4μm,18.2s,MS5.7
MNTX Cornudas Mount 73.33 61 *e*P **P** **21 39 10.3 -0.2**
comp=Z,86nm,1.3s,mb5.5
MNTX *e* pP 21 39 23.2 +0.1
MNTX LR LR
comp=Z,2μm,22.0s,MS5.2
KPL Plockton 73.36 349 P **P** **21 39 10.3 -0.4**
KPL AMb AMB 21 39 12.7
comp=Z,692nm,1.3s,mb6.4
KPL Plockton 73.36 349⇑ *e*P **P** **21 39 10.3 -0.4**
KPL AMb AMB 21 39 12.7
comp=Z,692nm,1.3s,mb6.4
KPL AMS AMS 22 11 05.3
comp=Z,1μm,20.4s,MS5.2
MNGI Mangalore 73.41 271 *i* P **P** **21 39 10.6 -0.4**
MNGI AMb AMB 21 39 11.5
comp=Z,293nm,2.2s,mb5.8
KSB Sheil Bridge 73.46 349⇑ *i*P **P** **21 39 11.2 -0.1**
BSEG Bad Segeberg 73.61 339 *e*P **P** **21 39 12.0 -0.1**
comp=Z,338nm,1.2s,mb6.2
PALK Pallekele 73.65 262 *e*P **P** **21 39 12.8 +0.4**
comp=Z,275nm,1.4s,mb6.0
PALK *e*PP PP 21 41 57.9 +1.0
PALK LR LR
comp=Z,362nm,22.0s,MS4.6
KAR1 Arisaig 73.79 349⇑ *e*P **P** **21 39 13.1 -0.1**
KIS Kishinev 73.82 324*αe*P **P** **21 39 11.0 -2.4**
KIS *e* 21 42 08.0
KIS *e*S S 21 48 37.0 -4.7
KIS *e*PS 21 49 04.0
KIS pmax pmax
comp=Z,700nm,1.4s,mb6.4
KIS pmax pmax
comp=Z,2μm,6.0s
KIS Kishinev 73.82 324 *e*P **P** **21 39 11.0 -2.4**
comp=Z,700nm,1.4s,mb6.4
KIS Kishinev 73.82 324 *e*PcP PcP 21 39 21.0 -7.8
KIS Kishinev 73.82 324 *e*PP PP 21 42 08.0 +10
KWP Kalwaria 73.83 330 *e*P **P** **21 39 13.6 +0.2**
KWP *e*S S 21 48 44.7 +3.0
KWP L 22 09 47.3
comp=Z,4.5nm,27.4s
KWP Kalwaria 73.83 330⇑ *e*P **P** **21 39 13.6 +0.2**
KWP *e*S S 21 48 44.7 +3.0
KWP Kalwaria 73.83 330 *e*P **P** **21 39 13.0 -0.4**
KTUT Trabzon 73.88 314 *e*P **P** **21 39 12.2 -1.4**
MACK Trabzon 73.91 314 *i* P **P** **21 39 10.1 -3.8**
VANB Van 73.92 310 *e*P **P** **21 39 15.8 +1.9**
ERZM Erzurum 73.93 312 *i* P **P** **21 39 16.1 +2.0**
EZM Erzurum 73.94 312 *e*P **P** **21 39 15.9 +1.9**
HLG Helgoland 73.95 340 *e*P **P** **21 39 14.0 -0.1**
comp=Z,2μm,1.8s,mb6.6
AS31 Alice Springs 73.96 199 *e*P **P** **21 39 14.1 -0.1**
AS31 *e* pP 21 39 27.0 +0.2
TVAN Van 73.96 310 *i* P **P** **21 39 16.4 +2.2**
ASAR Alice Springs 73.97 199 P **P** **21 39 13.9 -0.2**
comp=Z,33nm,0.6s,mb5.4,baz=12,slow=5.5,SNR=338
ASAR PKPPKP 22 06 45.9
comp=Z,1.5nm,1.0s,baz=157,slow=3.0,SNR=4.1
ASAR LR LR 22 09 21.5
comp=Z,802nm,21.1s,MS5.0,baz=24,slow=34
VANT Van 74.04 310 *e*P **P** **21 39 21.5 +6.9**
RUE Ruedersdorf 74.05 336 *e*P **P** **21 39 14.4 -0.3**
comp=Z,609nm,1.2s,mb6.4
IAS Iasi 74.14 325⇑ *i*P **P** **21 39 15.3 +0.1**
IAS Iasi 74.14 325 P **P** **21 39 15.5 +0.2**
OJC Ojcow 74.28 332 *e*P **P** **21 39 15.6 -0.4**
OJC *e*S S 21 48 48.8 +2.0
OJC L 22 15 49.5
comp=Z,17nm,20.1s
EAB Aberfoyle 74.30 348⇑ *i*P **P** **21 39 16.1 -0.1**
ESY Stoneypath 74.31 347⇑ *i*P **P** **21 39 15.8 -0.4**
EDI Edinburgh 74.39 347 P **P** **21 39 16.2 -0.5**
EDI AMb AMB 21 39 19.6
comp=Z,321nm,1.3s,mb6.1
EDI Edinburgh 74.39 347 AMS AMS 22 14 17.0
comp=Z,1μm,20.4s
EDI Edinburgh 74.39 347⇑ *e*P **P** **21 39 16.2 -0.5**
EDI AMb AMB 21 39 19.6
comp=Z,321nm,1.3s,mb6.1
EDI AMS AMS 22 14 17.0
comp=Z,1μm,20.4s,MS5.1
STHS Stebnicka Huta 74.50 330 *e*P **P** **21 39 18.2 +0.9**
STHS pmax pmax
comp=Z,170nm,1.1s,mb5.9
STHS Stebnicka Huta 74.50 330 *e*P **P** **21 39 18.2 +0.9**
comp=Z,170nm,1.1s,mb5.9
EAU Auchinoon 74.50 347⇑ *i*P **P** **21 39 17.4 +0.1**
EBL Broad Law 74.51 347⇑ *i*P **P** **21 39 16.9 -0.5**
HKR Hakkari 74.52 309 *e*P **P** **21 39 16.9 -0.5**
KOLS Kolonicke sedl 74.57 329 *e*P **P** **21 39 18.2 +0.5**
GRSN GIRESUNGRSN 74.64 315 *i* P **P** **21 39 18.4 +0.3**
BURAR Bucovina Array 74.66 327⇑ *i*P **P** **21 39 18.3 +0.1**
BURAR Bucovina Array 74.66 327 P **P** **21 39 18.8 +0.6**
PGBU Glenifferbraes 74.69 348 P **P** **21 39 18.5 +0.1**
PGBU AMb AMB 21 39 20.7
comp=Z,790nm,1.4s,mb6.4
PGBU Glenifferbraes 74.69 348⇑ *e*P **P** **21 39 18.5 +0.1**
PGBU AMb AMB 21 39 20.7
comp=Z,790nm,1.4s,mb6.4
PGBU AMS AMS 22 19 14.2
comp=Z,467nm,19.2s,MS4.8
KELT Kelkit 74.77 314 *i* P **P** **21 39 18.3 -0.6**
BNGL BINGOL 74.77 312 *i* P **P** **21 39 20.2 +1.3**
KSP Ksiaz 74.80 334 *e*P **P** **21 39 18.7 -0.4**
KSP *e*sP sP 21 39 33.7 -2.9
KSP L 22 17 35.1
comp=Z,10nm,20.1s
KSP Ksiaz 74.80 334⇑ *e*P **P** **21 39 18.7 -0.4**
KSP *e*pP pP 21 39 33.1 +1.4
KSP *e*S S 21 48 44.0 -8.6
KSP LR LR
comp=Z,12μm,20.1s,MS6.2
NIE Niedzica 74.81 331 *e*P **P** **21 39 19.2 +0.1**
EZC Erzincan 74.81 313 *e*P **P** **21 39 21.8 +2.7**
WMOK Wichita Mounta 74.81 55 *e*P **P** **21 39 18.8 -0.3**
WMOK *e* pP 21 39 31.0 -0.8
WMOK pmax pmax
comp=Z,88nm,1.2s,mb5.6
WMOK MLR MLR
comp=Z,2μm,22.0s,MS5.3
WMOK Wichita Mounta 74.81 55 *e*P **P** **21 39 18.8 -0.3**
comp=Z,88nm,1.2s,mb5.6
WMOK *e* pP 21 39 31.0 -0.8
WMOK LR LR
comp=Z,2μm,22.0s,MS5.3
UZH Uzhgorod 74.83 329⇓ *i*P **P** **21 39 16.6 -2.6**
UZH *e* 21 39 33.0
UZH *e*S S 21 48 50.0 -2.9
UZH *e* 21 49 20.0
UZH *e*PS 21 49 37.0
UZH MLR MLR
comp=Z,4μm,19.0s,MS5.8
CUKT Cukurca 74.83 309 *e*P **P** **21 39 19.2 0.0**
CRVS Cervenica-Dubn 74.87 330 *e*P **P** **21 39 19.8 +0.3**
RAC Raciborz 74.90 332 *e*P **P** **21 39 20.2 +0.6**
RAC MLR MLR
comp=Z,7μm,25.2s,MS5.9
ESK Eskdalemuir 74.98 347 P **P** **21 39 19.8 -0.3**
ESK AMb AMB 21 39 22.2
comp=Z,356nm,1.5s,mb6.1
ESK Eskdalemuir 74.98 347 AMS AMS 22 14 45.8
comp=Z,1μm,19.5s
ESK Eskdalemuir 74.98 347⇑ *i*P **P** **21 39 19.8 -0.3**
ESK AMb AMB 21 39 22.2
comp=Z,356nm,1.5s,mb6.1
ESK AMS AMS 22 14 45.8
comp=Z,1μm,19.5s,MS5.2
ESK Eskdalemuir 74.98 347 *e*P **P** **21 39 20.1 0.0**
ESK pmax pmax
comp=Z,519nm,1.4s,mb6.3
ESK MLR MLR
comp=Z,457nm,19.0s,MS4.8

ESK Eskdalemuir 74.98 347 *e*P **P 21 39 20.1 0.0**
comp=Z,519nm,1.4s,mb6.3
ESK LR LR
comp=Z,457nm,19.0s,MS4.8
OKC Ostrava-Krasne 75.13 332 *e*P **P 21 39 21.3 +0.4**
OKC *e*S S 21 49 00.1 +3.8
OKC AMS AMS 22 15 20.0
comp=Z,4μm,20.6s
OKC Ostrava-Krasne 75.13 332 *e*P **P 21 39 21.3 +0.4**
OKC *e*S S 21 49 00.1 +3.8
BINT Bingol 75.16 312 *e*P **P 21 39 22.5 +1.4**
HDIL Hopedale 75.18 45 PFAKE 21 39 30.0 +8.8
HDIL LR LR
comp=Z,3μm,20.0s,MS5.5
UPC Upice 75.18 334 *e*P **P 21 39 21.2 0.0**
BTMT Batman 75.19 311 *e*P **P 21 39 22.9 +1.6**
DPC Dobruska-Polom 75.23 334 *e*P **P 21 39 21.8 +0.3**
DPC *e*S S 21 48 51.9 -5.5
DPC AMS AMS 22 18 10.0
comp=Z,7μm,19.0s
SIRT Sirnak 75.24 310 *e*P **P 21 39 22.9 +1.3**
GMK Mull of Kintyr 75.30 348⇑*e*P **P 21 39 21.6 -0.3**
CLL Collm 75.31 336 *e*P **P 21 39 21.2 -0.8**
comp=Z,643nm,1.1s,mb6.5
CLL Collm 75.31 336 *i* P **P 21 39 21.7 -0.3**
CLL *i* 21 39 30.1
CLL *e*S S 21 48 47.0 -11
CLL pmax pmax
comp=Z,643nm,1.1s,mb6.5
CLL MLR MLR
comp=Z,6μm,21.6s,MS5.9
CLL Collm 75.31 336 *i* P **P 21 39 21.7 -0.3**
comp=Z,643nm,1.1s,mb6.5
CLL *i* 21 39 30.1
CLL *i* 21 41 49.1
CLL *e*S S 21 48 47.0 -11
CLL *e*SS SS 21 54 06.0 +17
CLL Lm 22 14 00.0
comp=N,4μm,21.9s
CLL Lm 22 14 00.0
comp=E,3μm,18.6s
CLL Lm 22 14 00.0
comp=Z,6μm,21.6s
MORC Moravsky Berou 75.37 333⇑*i*P **P 21 39 22.7 +0.4**
MORC Moravsky Berou 75.37 333 P **P 21 39 22.6 +0.3**
BRG Berggiesshubel 75.45 335 *e*P **P 21 39 22.1 -0.7**
comp=Z,280nm,1.2s,mb6.1
BRG Berggiesshubel 75.45 335 *i* P **P 21 39 22.2 -0.6**
comp=Z,167nm,1.2s,mb5.8
BRG *i* pP 21 39 35.8 +0.4
comp=Z,55nm,1.4s
BRG *i* 21 42 00.6
comp=Z,14nm,1.4s
BRG S S 21 48 59.0 -0.8
BRG *e*PKKP PKKPbc 21 58 20.8 -22
comp=Z,9.4nm,1.8s
BRG *e* 22 02 07.1
comp=Z,6.5nm,1.6s
BRG Berggiesshubel 75.45 335 *i* P **P 21 39 22.2 -0.6**
BRG *i* pP 21 39 35.8 +0.4
BRG S S 21 48 59.0 -0.8
BRG pmax pmax
comp=Z,20nm,1.2s
BRG Berggiesshubel 75.45 335 *i* P **P 21 39 22.2 -0.6**
comp=Z,167nm,1.2s,mb5.8
BRG *i* pP 21 39 35.8 +0.4
BRG *i* 21 42 00.6
BRG S S 21 48 59.0 -0.8
BRG *e*PKKP PKKPbc 21 58 20.8 -22
BRG *e* 22 02 07.1
BRG LR LR
comp=Z,3μm,25.1s,MS5.5
DIKM Dikmen 75.45 317 *e*P **P 21 39 23.2 +0.4**
CLZ Clausthal 75.52 338 *e*P **P 21 39 23.3 +0.1**
comp=Z,773nm,1.3s,mb6.5
CLZ Clausthal 75.52 338 *e*P **P 21 39 23.3 +0.1**
CLZ pmax pmax
comp=Z,773nm,1.3s,mb6.5
LIKS Likavka 75.52 331 *e*P **P 21 39 23.8 +0.6**
LIKS pmax pmax
comp=Z,255nm,1.2s,mb6.0
LIKS Likavka 75.52 331 *e*P **P 21 39 23.8 +0.6**
comp=Z,255nm,1.2s,mb6.0
GCD Castle Douglas 75.53 347⇑*e*P **P 21 39 22.4 -0.8**
KVT Kavak 75.55 317 *e*P **P 21 39 24.2 +0.9**
KECS Kecovo 75.56 330 *e*P **P 21 39 23.2 -0.2**
KECS pmax pmax
comp=Z,89nm,1.1s,mb5.6
KECS Kecovo 75.56 330 *e*P **P 21 39 23.2 -0.2**
comp=Z,89nm,1.1s,mb5.6
FBE Freiberg 75.57 336 *e*P **P 21 39 23.0 -0.5**
comp=Z,497nm,1.2s,mb6.3
VRI Vrincioaia 75.57 325⇑*i*P **P 21 39 23.5 0.0**
VRI Vrincioaia 75.57 325 P **P 21 39 24.2 +0.7**
PVCC Panska Ves 75.58 335 *e*P **P 21 39 23.8 +0.3**
PVCC AMS AMS 22 14 40.0
comp=Z,7μm,19.5s
CFR Carcaliu 75.59 324⇓*i*P **P 21 39 24.0 +0.4**
CFR Carcaliu 75.59 324 P **P 21 39 24.3 +0.7**
PLOR Plostina 75.61 325⇓*i*P **P 21 39 24.3 +0.6**
GCL Cushendall 75.63 348⇑*i*P **P 21 39 23.6 -0.2**
GAL1 Galloway 75.64 348 P **P 21 39 23.5 -0.4**
GAL1 AMb AMB 21 39 25.9
comp=Z,735nm,1.4s,mb6.4
GAL1 Galloway 75.64 348 AMS AMS 22 14 18.6
comp=Z,1μm,20.6s
GAL1 Galloway 75.64 348⇑*e*P **P 21 39 23.5 -0.4**
GAL1 ⇑*i*P 21 39 23.5
GAL1 AMb AMB 21 39 25.9
comp=Z,735nm,1.4s,mb6.4
GAL1 AMS AMS 22 14 18.6
comp=Z,1μm,20.6s,MS5.3
CKE Keswick 75.67 347⇑*e*P **P 21 39 24.1 +0.1**
PTK Pertek 75.69 313 *e*P **P 21 39 24.3 +0.1**
IBBN Ibbenburen 75.72 340 *e*P **P 21 39 23.9 -0.5**
comp=Z,467nm,1.2s,mb6.3
MBWA Marble Bar 75.77 213 *e*P **P 21 39 23.6 -1.1**
comp=Z,220nm,1.3s,mb5.9
MBWA LR LR
comp=Z,546nm,19.0s,MS4.9
BZK Bozkurt 75.77 318 *e*P **P 21 39 23.6 -1.0**
XDE Dent Fell 75.81 347⇑*e*P **P 21 39 24.7 -0.2**
BYBT Boyabat 75.82 318 *e*P **P 21 39 26.1 +1.2**
MSL Mosul 75.83 309 *i* x x 21 39 38.0
MSL *e*x x 21 49 37.0
TOKT Tokat 75.92 316 *e*P **P 21 39 27.6 +2.1**
SVSK Karacayir 76.03 315 *e*P **P 21 39 26.9 +0.8**
PRA Prague 76.03 335 P **P 21 39 26.0 -0.1**
PRA *e*x x 21 39 46.0
DIY Diyarbakir 76.05 312 *e*P **P 21 39 27.0 +0.8**
LTX Lajitas 76.06 62 *e*P **P 21 39 26.1 -0.2**
LTX *e* pP 21 39 38.3 -0.7
LTX *e* 21 42 17.3
LTX pmax pmax
comp=Z,136nm,1.0s,mb5.8
LTX MLR MLR
comp=Z,2μm,21.0s,MS5.4
LTX Lajitas 76.06 62 *e*P **P 21 39 26.1 -0.2**
comp=Z,136nm,1.0s,mb5.8
LTX *e* pP 21 39 38.3 -0.6
LTX *e*PP PP 21 42 17.3 0.0
LTX LR LR
comp=Z,2μm,21.0s,MS5.4
TXAR Lajitas Array 76.06 62 P **P 21 39 25.9 -0.3**
comp=Z,55nm,0.7s,mb5.6,baz=296,slow=3.7,SNR=505
TXAR pP pP 21 39 38.9 -0.1
comp=Z,18nm,0.7s,baz=300,slow=6.1,SNR=5.5
TXAR PKKPbc PKKPbc 21 58 41.0 -0.2
comp=Z,0.9nm,0.9s,baz=139,slow=4.6,SNR=6.0
TXAR PKPPKP 22 06 42.0
comp=Z,1.2nm,1.1s,baz=170,slow=0.8,SNR=4.5
TXAR Lajitas Array 76.06 62 P **P 21 39 26.0 -0.3**
TXAR *PP pP 21 39 38.9 -0.1
TXAR Lajitas Array 76.06 62 P **P 21 39 25.9 -0.3**
TXAR pP pP 21 39 38.9 -0.1
TXAR PKKPbc PKKPbc 21 58 41.0 -0.2
TXAR P'P' 22 06 42.0

PRU Pruhonice 76.07 335 *e*P **P 21 39 26.5 +0.2**
PRU AMS AMS 22 15 00.0
comp=Z,6μm,19.5s
VRAC Vranov 76.07 333⇑*i*P **P 21 39 25.5 -0.8**
VRAC Vranov 76.07 333 P **P 21 39 26.9 +0.5**
TIRR Tirgusor 76.08 323⇓*i*P **P 21 39 26.2 -0.2**
TIRR Tirgusor 76.08 323 P **P 21 39 27.2 +0.8**
VYHS Vyhne 76.09 331 *e*P **P 21 39 26.5 +0.1**
VYHS pmax pmax
comp=Z,199nm,1.2s,mb5.9
VYHS Vyhne 76.09 331 *e*P **P 21 39 26.5 +0.1**
comp=Z,199nm,1.2s,mb5.9
GIM North Isle of 76.16 347⇑*e*P **P 21 39 26.5 -0.3**
MLR Muntele Rosu 76.18 325⇓*i*P **P 21 39 26.7 -0.3**
MLR Muntele Rosu 76.18 325 P **P 21 39 27.6 +0.6**
ELZG Elazig 76.19 313 *i* P **P 21 39 28.9 +1.9**
CCM Cathedral Cave 76.19 48 *e*P **P 21 39 24.6 -2.4**
CCM *e* pP 21 39 37.5 -2.2
CCM pmax pmax
comp=Z,146nm,1.3s,mb5.8
CCM MLR MLR
comp=Z,2μm,21.0s,MS5.5
CCM Cathedral Cave 76.19 48 *e*P **P 21 39 24.6 -2.5**
comp=Z,146nm,1.3s,mb5.8
CCM *e* pP 21 39 37.5 -2.2
CCM LR LR
comp=Z,2μm,21.0s,MS5.5
MARD Mardin 76.22 311 *i* P **P 21 39 28.4 +1.2**
SLM Saint Louis 76.23 47 P **P 21 39 27.1 -0.2**
SLM pmax pmax
comp=Z,250nm,1.2s,mb6.0
SLM Saint Louis 76.23 47 *e*P **P 21 39 26.8 -0.4**
comp=Z,250nm,1.3s,mb6.0
PSZ Piszkesteto 76.25 330⇑*i*P **P 21 39 27.7 +0.4**
PSZ Piszkesteto 76.25 330 P **P 21 39 28.0 +0.7**
PSZ Piszkesteto 76.25 330⇑*e*P **P 21 39 27.9 +0.6**
DRGR 76.26 328⇓*i*P **P 21 39 26.8 -0.6**
DRGR 76.26 328 P **P 21 39 27.5 +0.1**
WTSB Winterswijk 76.26 340⇑*e*P **P 21 39 27.5 0.0**
comp=Z,443nm,1.2s,mb6.3
WERD Werda 76.28 336 *e*P **P 21 39 27.3 -0.2**
comp=Z,417nm,1.3s,mb6.2
MOX Moxa 76.29 337 *e*P **P 21 39 27.2 -0.4**
comp=Z,390nm,1.2s,mb6.2
MOX Moxa 76.29 337 *e*P **P 21 39 27.6 0.0**
comp=Z,597nm,1.5s,mb6.3
MOX
comp=Z,4μm,21.0s
MOX Moxa 76.29 337 *e*P **P 21 39 27.6 0.0**
MOX pmax pmax
comp=Z,597nm,1.5s,mb6.3
MOX MLR MLR
comp=Z,4μm,21.0s,MS5.7
AAM Ann Arbor 76.33 40 P **P 21 39 28.1 +0.3**
AAM pmax pmax
comp=Z,94nm,1.0s,mb5.7
AAM Ann Arbor 76.33 40 *e*P **P 21 39 27.1 -0.6**
comp=Z,94nm,1.1s,mb5.6
AAM LR LR
comp=Z,4μm,20.0s,MS5.7
WIM Isle of Man 76.33 347⇑*e*P **P 21 39 27.6 -0.2**
GUNZ Gunzen 76.35 336 *e*P **P 21 39 27.8 -0.1**
comp=Z,368nm,1.2s,mb6.2
WERN Wernitzgruen 76.41 336 *e*P **P 21 39 28.1 -0.1**
comp=Z,375nm,1.1s,mb6.2
GMM Mts of Mourne 76.42 348⇑*i*P **P 21 39 27.8 -0.5**
NKC Novy Kostel 76.44 336 *e*P **P 21 39 28.4 0.0**
SNX Sinaia 76.46 326⇓*i*P **P 21 39 29.8 +1.3**
SNX Sinaia 76.46 326⇓P **P 21 39 29.8 +1.3**
CTKT Corum 76.49 317 *i* P **P 21 39 30.0 +1.3**
TOS Tosya 76.50 318 *e*P **P 21 39 31.1 +2.3**
SMOL Smolenice 76.52 332 *e*P **P 21 39 29.6 +0.7**
WSAR Wadi Sarin 76.55 290 S S 21 49 08.5 -3.5
comp=Z,1.8nm,0.8s,baz=146,slow=7.3,SNR=2.1
76.56 326⇓*i*P **P 21 39 29.1 0.0**
VOIR 76.60 313 *e*P **P 21 39 30.5 +1.2**
MYA Malataya 76.60 313⇑*i*P **P 21 39 30.5 +1.1**
MALT Malatya 76.61 313 P **P 21 39 30.4 +1.1**
MALT Malatya 76.61 313 P **P 21 39 29.1 -0.5**
BUG Bochum-Univer 76.64 339 *e*P **P**
comp=Z,600nm,1.2s,mb6.4
FVM French Village 76.65 47 *e*P **P 21 39 28.7 -0.9**
FVM *e* pP 21 39 40.9 -1.4
FVM *e* 21 42 21.4
FVM pmax pmax
comp=Z,152nm,1.2s,mb5.8
FVM French Village 76.65 47 *e*P **P 21 39 28.7 -1.0**
comp=Z,152nm,1.2s,mb5.8
FVM *e* pP 21 39 40.9 -1.4
FVM *e*PP PP 21 42 21.4 -0.9
MTUR Matau 76.74 326⇓*i*P **P 21 39 31.0 +0.9**
MTUR Matau 76.74 326⇓P **P 21 39 31.0 +0.9**
MANZ Manzenberg 76.75 336 *e*P **P 21 39 30.0 -0.2**
comp=Z,280nm,1.2s,mb6.1
AEU East Anglia Un 76.81 343⇑*e*P **P 21 39 30.7 +0.2**
PSN Preselentsi 76.82 323 *i* P **P 21 39 30.7 +0.1**
ZST Bratislava 76.90 332 *e*P **P 21 39 31.7 +0.7**
ZST pmax pmax
comp=Z,267nm,1.1s,mb6.1
ZST MLR MLR
comp=Z,6μm,19.4s,MS5.9
ZST Bratislava 76.90 332 *e*P **P 21 39 31.7 +0.7**
comp=Z,267nm,1.1s,mb6.1
ZST LR LR
comp=Z,6μm,19.4s,MS5.9
BUD Budapest 76.92 331⇑*e*P **P 21 39 31.9 +0.8**
CORM Corum 76.92 317 *e*P **P 21 39 31.4 +0.3**
ROTZ Rotzenmuhle 76.92 336 *e*P **P 21 39 31.3 +0.1**
comp=Z,492nm,1.2s,mb6.3
SAFT Safranbolu 76.93 319 *e*P **P 21 39 32.4 +1.2**
CANT Cankiri 77.03 318 *e*P **P 21 39 33.5 +1.8**
YOZ Yozgat 77.03 316 *e*P **P 21 39 30.3 -1.4**
WCB1 Church Bay 77.06 347⇑*e*P **P 21 39 31.3 -0.6**
DRBT Darb Altahta 77.07 311 ⇑P PcP 21 39 39.0 -3.8
ASHO Ashiyiah 77.10 293 ⇓P **P 21 39 33.1 +1.0**
SNR=154
URFA Urfa 77.10 312 *e*P **P 21 39 33.8 +1.6**
BUC1 Bucharest 77.11 325⇓*i*P **P 21 39 33.5 +1.3**
BUC1 Bucharest 77.11 325 P **P 21 39 32.1 -0.1**
KHC Kasperske Hory 77.12 335 *e*P **P 21 39 32.8 +0.5**
KHC *e*S S 21 49 15.7 -2.4
KHC AMS AMS 22 15 40.0
comp=Z,6μm,20.1s
WLF1 Llynfaes 77.12 347⇑*e*P **P 21 39 31.6 -0.7**
YRC Rhoscolyn 77.19 347⇑*e*P **P 21 39 31.9 -0.8**
ELDT Eldivan 77.21 318 *i* P **P 21 39 33.8 +1.0**
GRA1 Grafenberg Arr 77.26 336 *e*P **P 21 39 33.3 +0.2**
comp=Z,876nm,1.2s,mb6.6
GRA1 LR LR
comp=Z,5μm,20.8s,MS5.8
GRF Grafenberg Arr 77.26 336 *e*P **P 21 39 33.3 +0.2**
comp=Z,876nm,1.2s,mb6.6
GRF *e*L 22 17 01.8
comp=Z,5μm,20.8s
GRF Grafenberg Arr 77.26 336 *e*P **P 21 39 33.3 +0.2**
GRF pmax pmax
comp=Z,876nm,1.2s,mb6.6
GRF MLR MLR
comp=Z,5μm,20.8s,MS5.8
GRF Grafenberg Arr 77.26 336 *e*P **P 21 39 33.3 +0.2**
GRF pmax pmax
comp=Z,876nm,1.2s,mb6.6
GRF MLR MLR
comp=Z,5μm,20.8s,MS5.8
GRFO Grafenberg 77.26 336 *e*P **P 21 39 33.8 +0.7**
GRFO pmax pmax
comp=Z,855nm,1.3s,mb6.5
GRFO MLR MLR
comp=Z,5μm,21.0s,MS5.8
GRFO Grafenberg 77.26 336 *e*P **P 21 39 33.8 +0.7**
comp=Z,855nm,1.3s,mb6.5
GRFO LR LR
comp=Z,5μm,21.0s,MS5.8
WET Wettzell 77.30 335 *e*P **P 21 39 33.5 +0.2**
comp=Z,659nm,1.2s,mb6.4
WET Wettzell 77.30 335 *e*P **P 21 39 33.5 +0.2**
WET pmax pmax
comp=Z,659nm,1.2s,mb6.4
SBD1 Bryn Du 77.32 346⇑*e*P **P 21 39 33.3 -0.1**
ATAB Bozova 77.33 313 *i* P **P 21 39 34.5 +1.1**
GEC2 GERESS Array S 77.34 334 *e*P **P 21 39 33.2 -0.3**
comp=Z,293nm,1.1s,mb6.1
GEC2 GERESS Array S 77.34 334 P **P 21 39 33.8 +0.3**
GERES GERESS Array B 77.34 334 P **P 21 39 33.7 +0.2**
comp=Z,100nm,0.9s,mb5.7,baz=40,slow=4.4,SNR=304
GERES LR LR 22 16 15.4

comp=Z,6μm,21.0s,MS5.9,baz=19,slow=38
BNN Bunyan 77.41 315 *e*P **P 21 39 34.9 +1.0**
KDZE Karadeniz Ereo 77.41 320 *e*P **P 21 39 32.4 -1.5**
DLF Lyons Farm 77.42 348⇑*i*P **P 21 39 34.0 +0.1**
YRE Yr Eifl 77.43 347⇑*e*P **P 21 39 33.1 -0.9**
GZR Gura Zlata 77.44 327⇓*i*P **P 21 39 34.4 +0.4**
GZR Gura Zlata 77.44 327 P **P 21 39 34.1 0.0**
JCT Junction City 77.44 58 *e*P **P 21 39 33.9 -0.2**
JCT *e* pP 21 39 45.4 -1.4
JCT pmax pmax
comp=Z,171nm,1.3s,mb5.8
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.4
JCT Junction City 77.44 58 *e*P **P 21 39 33.9 -0.2**
comp=Z,171nm,1.3s,mb5.8
JCT *e*PcP PcP 21 39 45.4 +1.0
JCT LR LR
comp=Z,2μm,22.0s,MS5.4
DSB Dublin 77.45 348 *e*P **P 21 39 34.2 +0.1**
comp=Z,420nm,1.0s,mb6.3
SIUC Southern Illin 77.45 47 *e*P **P 21 39 33.9 -0.3**
comp=Z,254nm,1.2s,mb6.0
SIUC *e*PcP PcP 21 39 45.6 +1.2
BHD Baghdad 77.46 306 *i* x x 21 39 29.0
BHD *e*x x 21 39 39.0
BHD *e*x x 21 49 20.0
BHD *e*x x 21 49 36.0
DCN Croghan 77.47 349⇑*i*P **P 21 39 34.2 0.0**
CDAG Cicekdag 77.48 317 *i* P **P 21 39 35.0 +0.7**
TNS Taunus Mts 77.49 338 *e*P **P 21 39 34.1 -0.2**
comp=Z,480nm,1.1s,mb6.3
TNS Taunus Mts 77.49 338 *e*P **P 21 39 34.1 -0.2**
TNS pmax pmax
comp=Z,480nm,1.1s,mb6.3
CONA Conrad Observa 77.52 333⇓*i*P **P 21 39 35.4 +0.9**
comp=Z,287nm,1.1s,mb6.1,SNR=105
SOP Sopron 77.53 332⇑*e*P **P 21 39 35.5 +1.0**
PRD Provadia 77.54 323 *i* P **P 21 39 34.7 +0.1**
BLO Bloomington 77.57 44 P **P 21 39 34.0 -0.8**
BLO pmax pmax
comp=Z,26nm,0.7s,mb5.3
BLO Bloomington 77.57 44 *e*P **P 21 39 33.8 -1.0**
comp=Z,26nm,0.7s,mb5.3
BLO *e* 21 39 42.4
HGN Heimansgroeve 77.58 340⇑*e*P **P 21 39 35.0 +0.2**
comp=Z,666nm,1.3s,mb6.4
HGN *e*PP PP 21 42 50.9 +21
HGN *e*S S 21 49 19.8 -3.3
MSNY Massena 77.58 33 *e*P **P 21 39 34.3 -0.6**
MSNY *e*PcP PcP 21 39 44.1 -0.9
BEBN Eben Emael 77.61 340 ⇑P **P 21 39 35.1 +0.1**
comp=Z,141nm,1.0s,mb5.8
HLM1 Long Mynd 77.63 346⇑*i*P **P 21 39 35.1 0.0**
BZS Buzias 77.66 328⇓*i*P **P 21 39 34.1 -1.2**
BZS Buzias 77.66 328 P **P 21 39 34.9 -0.4**
MEM Membach 77.71 340 ⇑P **P 21 39 35.6 0.0**
comp=Z,250nm,1.1s,mb6.1
SGKT Sivrigoynuk 77.75 319 *i* P **P 21 39 35.8 0.0**
GZT Gaziantep 77.78 313 *i* P **P 21 39 37.3 +1.4**
UCC Uccle 77.90 341 ⇑P **P 21 39 36.4 -0.2**
comp=Z,930nm,1.1s,mb6.6
UCC XP sP 21 39 50.5 -3.7
AVNT Avonos 77.94 316 *i* P **P 21 39 38.4 +1.6**
ZIMR 77.95 325⇓*i*P **P 21 39 37.0 +0.1**
ZIMR 77.95 325 P **P 21 39 36.9 -0.1**
TOD Tromm 77.97 338 *e*P **P 21 39 37.2 +0.2**
CRAR CRAIOVA 77.98 326⇑*i*P **P 21 39 37.5 +0.5**
KMRS Kahramanmaras 77.98 314 *e*P **P 21 39 37.5 +0.4**
KAMT Kaman 77.99 317 *e*P **P 21 39 37.7 +0.6**
BSHR Al Beshri 77.99 311 ⇑P **P 21 39 41.1 +4.0**
SSW Stow on the Wo 77.99 345⇑*e*P **P 21 39 37.1 0.0**
ANTO Ankara 78.00 318 *e*P **P 21 39 36.7 -0.5**
ANTO Ankara 78.00 318 P **P 21 39 38.1 +0.9**
SNR=117
ANTO Ankara 78.00 318⇓*i*P **P 21 39 38.3 +1.1**
ANTO Ankara 78.00 318 *e*P **P 21 39 38.0 +0.8**
ANTO pmax pmax
comp=Z,564nm,1.1s,mb6.4
ANTO MLR MLR
comp=Z,3μm,21.0s,MS5.6
ANTO Ankara 78.00 318 *e*P **P 21 39 38.0 +0.9**
comp=Z,564nm,1.1s,mb6.4
ANTO LR LR
comp=Z,3μm,21.0s,MS5.6
SIND Sindeldorf 78.00 337 P **P 21 39 37.3 +0.1**
USIN University of 78.00 45 *e*P **P 21 39 37.2 0.0**
comp=Z,337nm,1.1s,mb6.2
LONY Lake Ozonia 78.01 33 *e*P **P 21 39 36.0 -1.3**
comp=Z,203nm,1.8s,mb5.8
LONY LR LR
comp=Z,3μm,22.0s,MS5.6
ABH Alteburg 78.02 339 *e*P **P 21 39 37.3 0.0**
PARMO Parma 78.02 48 *e*P **P 21 39 37.6 +0.3**
BCLA Clavier 78.05 340 ⇑P **P 21 39 37.4 0.0**
comp=Z,176nm,1.1s,mb5.9
SKP1 Kophill 78.05 344⇑*e*P **P 21 39 37.0 -0.4**
HENT Hendek 78.05 320 *i* P **P 21 39 37.8 +0.3**
SZH Strazhica 78.06 324 *i* P **P 21 39 37.6 +0.1**
MOA Molln 78.07 334⇑*i*P **P 21 39 38.2 +0.6**
comp=Z,233nm,1.0s,mb6.1,SNR=73
GAZ Gaziantep 78.10 313 *e*P **P 21 39 39.5 +1.8**
SWS Schriesheim-Wi 78.11 338 P **P 21 39 38.3 +0.5**
MCH1 Michaelchurch 78.15 346 P **P 21 39 37.9 -0.1**
MCH1 AMb AMB 21 39 40.4
comp=Z,343nm,1.8s,mb6.0
MCH1 Michaelchurch 78.15 346⇑*e*P **P 21 39 37.8 -0.2**
MCH1 ⇑*e*P 21 39 37.9
MCH1 AMb AMB 21 39 40.4
comp=Z,343nm,1.8s,mb6.0
MCH1 AMS AMS 22 19 44.1
comp=Z,1μm,20.2s,MS5.3
PKSM Moragy 78.16 330⇑*i*P **P 21 39 37.4 -0.6**
PKSM Moragy 78.16 330 P **P 21 39 37.5 -0.5**
SNF Seneffe 78.19 341 ⇓P **P 21 39 38.2 0.0**
comp=Z,113nm,1.3s,mb5.6
FRNY Flat Rock 78.19 33 *e*P **P 21 39 36.6 -1.6**
UALR University of 78.20 50 *e*P **P 21 39 38.1 -0.2**
comp=Z,44nm,1.0s,mb5.3
UALR *e* pP 21 39 50.9 -0.1
ARSA Arzberg 78.23 333⇓*i*P **P 21 39 39.0 +0.6**
comp=Z,352nm,1.2s,mb6.2,SNR=107
PVMO Portageville 78.25 48 *e*P **P 21 39 38.7 +0.2**
RUP Ruppelstein 78.31 339 *e*P **P 21 39 39.0 +0.1**
PVL Pavlikeni 78.34 324 *i* P **P 21 39 38.7 -0.3**
ALLY Alegheny Colle 78.35 38 *e*P **P 21 39 38.8 -0.3**
ALLY *e*PcP PcP 21 39 48.0 -0.3
ALLY *e*PP PP 21 42 32.8 -3.8
KTD Kalmit 78.41 338 *e*P **P 21 39 39.4 -0.1**
SWN1 Swindon 78.42 345 P **P 21 39 40.0 +0.5**
SWN1 AMb AMB 21 39 41.6
comp=Z,2μm,1.1s,mb6.9
SWN1 Swindon 78.42 345⇑*e*P **P 21 39 39.1 -0.4**
SWN1 ⇑*i*P 21 39 40.0
SWN1 AMb AMB 21 39 41.6
comp=Z,2μm,1.1s,mb6.9
WCI Wyandotte Cave 78.44 44 *e*P **P 21 39 39.3 -0.3**
WCI pmax pmax
comp=Z,220nm,1.1s,mb6.0
WCI MLR MLR
comp=Z,3μm,20.0s,MS5.7
WCI Wyandotte Cave 78.44 44 *e*P **P 21 39 39.3 -0.3**
comp=Z,220nm,1.1s,mb6.0
WCI LR LR
comp=Z,3μm,20.0s,MS5.7
UMR Umm Al-Rimmam 78.44 301 *e*P **P 21 39 40.0 +0.4**
UMR AMb AMB 21 39 41.6
comp=Z,718nm,0.9s,mb6.6
GNAR Gosnell 78.44 48 P sP 21 39 59.0 +1.9
ARMA Armidale 78.44 182 *e*P **P 21 39 39.4 -0.2**
ARMA *e*pP pP 21 39 52.0 -0.4
HBAR Harrisburg 78.44 49 *e*P **P 21 39 40.1 +0.5**
GIVF Givet 78.45 340⇑*i*P **P 21 39 39.7 0.0**
comp=Z,1μm,1.3s,mb6.3
GIVF Givet 78.45 340⇑*i*P **P 21 39 39.7 0.0**
GIVF pmax pmax
comp=Z,554nm,1.3s,mb6.3
GIVF Givet 78.45 340⇑*i*P **P 21 39 39.7 0.0**
comp=Z,554nm,1.3s,mb6.3
MIB Mutribah 78.46 302 *e*P **P 21 39 40.4 +0.6**
MIB AMb AMB 21 39 41.8
comp=Z,744nm,0.8s,mb6.7
HGH Gray Hill 78.47 346⇑*i*P **P 21 39 39.9 +0.1**
JMB Yambol 78.48 323 *e*P **P 21 39 39.9 0.0**
JMB Yambol 78.48 323 *i* P **P 21 39 39.9 +0.1**

KLYT **Kilyos** 78.49 321 *e*P **P** 21 39 39.0 -0.9
SLMH **Al Salmeh** 78.51 312 ⇑P **P** 21 39 41.4 +1.4
DOU **Dourbes** 78.51 341 ⇑P **P** 21 39 39.9 -0.1
comp=Z,98nm,1.2s,mb5.6
KOZT **Kozan** 78.52 314 *e*P **P** 21 39 40.6 +0.5
HDH **Heidenheim-Cha** 78.54 337 P **P** 21 39 40.5 +0.3
WLF **Walferdange** 78.56 339 *e*P **P** 21 39 40.9 +0.6
comp=Z,2µm,2.6s,mb6.6
WLF **Walferdange** 78.56 339 P **P** 21 39 40.6 +0.4
comp=Z,85nm,1.2s,mb5.5
WLF **Walferdange** 78.56 339 P **P** 21 39 40.5 +0.2
WLF pmax pmax
comp=Z,230nm,1.1s,mb6.0
WLF **Walferdange** 78.56 339 *e*P **P** 21 39 40.3 0.0
comp=Z,226nm,1.1s,mb6.0
GLAT **Glass** 78.56 48 *e*P **P** 21 39 41.0 +0.7
HRT **Hereke** 78.58 320 *e*P **P** 21 39 40.7 +0.3
HRT **Hereke** 78.58 320 *e*P **P** 21 39 40.8 +0.4
MENF **Mencas** 78.59 342 *e*P **P** 21 39 40.5 +0.1
BAIF **Baives** 78.63 341 ⇑*i*P **P** 21 39 40.9 +0.3
comp=Z,849nm,1.2s,mb6.3
BAIF **Baives** 78.63 341 ⇑*i*P **P** 21 39 40.9 +0.3
BAIF pmax pmax
comp=Z,425nm,1.2s,mb6.2
BAIF **Baives** 78.63 341 ⇑*i*P **P** 21 39 40.9 +0.3
comp=Z,424nm,1.2s,mb6.2
STU **Stuttgart** 78.64 337 *e*P **P** 21 39 40.5 -0.2
comp=Z,590nm,1.2s,mb6.4
STU **Stuttgart** 78.64 337 *e*P **P** 21 39 41.3 +0.6
STU pmax pmax
comp=Z,566nm,1.3s,mb6.3
STU **Stuttgart** 78.64 337 *e*P **P** 21 39 41.3 +0.6
comp=Z,566nm,1.3s,mb6.3
FUR **Furstenfeldbru** 78.64 336 *e*P **P** 21 39 40.7 0.0
comp=Z,935nm,1.2s,mb6.6
JHLN **Al Jahlan** 78.68 312 ⇑P **P** 21 39 42.5 +1.6
NCB **Newcomb** 78.70 33 *e*P **P** 21 39 40.6 -0.5
comp=Z,68nm,1.1s,mb5.5
NCB LR LR
comp=Z,2µm,19.0s,MS5.5
UTMT **University of** 78.71 47 *e*P **P** 21 39 41.3 +0.2
comp=Z,406nm,1.1s,mb6.3
KOGS **Kog** 78.72 332 *e*P **P** 21 39 40.7 -0.4
KOGS *e* pP 21 39 55.8 +1.9
KOGS **Kog** 78.72 332 *i*P **P** 21 39 40.8 -0.3
KOGS *e* pP 21 39 55.8 +1.9
KBD **Kabd** 78.73 301 *e*P **P** 21 39 41.5 +0.2
KBD AMb AMB 21 39 43.4
comp=Z,2µm,1.0s,mb7.0
COCO **West Island** 78.74 237 *e*P **P** 21 39 43.6 +2.3
COCO *e*S S 21 49 30.0 -5.6
COCO LR LR
comp=Z,197nm,20.0s,MS4.4
OSMT **Osmaniye** 78.75 320 *e*P **P** 21 39 40.5 -0.8
BEO **Belgrade** 78.76 328 *i*P **P** 21 39 40.1 -1.2
BADT **Buyukada** 78.79 321 *e*P **P** 21 39 40.4 -1.2
LANF **Langenberg** 78.80 338 *e*P **P** 21 39 41.8 +0.2
DRWC **Darouich** 78.80 313 ⇑P **P** 21 39 43.0 +1.5
HALT **Halls** 78.82 48 P **P** 21 39 41.5 -0.2
CTT **Catalca** 78.83 321 *e*P **P** 21 39 41.8 0.0
LBG **Lerchenberg** 78.84 337 P **P** 21 39 42.1 +0.3
ADVT **Abdulvahap** 78.87 320 *e*P **P** 21 39 41.6 -0.4
RST **Umm Al-Ruwaisa** 78.88 302 *e*P **P** 21 39 42.1 +0.1
RST AMb AMB 21 39 44.9
comp=Z,1µm,1.1s,mb6.7
BUCH **Bad Urach** 78.89 337 P **P** 21 39 42.6 +0.5
PERS **Pernice** 78.91 333 *e*P **P** 21 39 42.5 +0.3
YLV **Yalova** 78.92 320 *e*P **P** 21 39 41.7 -0.5
QRN **Al-Qurain** 78.93 301 *e*P **P** 21 39 43.0 +0.6
QRN AMb AMB 21 39 44.5
comp=Z,887nm,1.1s,mb6.6
CEYT **Ceyhan** 78.93 314 *e*P **P** 21 39 42.4 +0.1
NAY **Al-Naaiem** 78.94 302 *e*P **P** 21 39 42.8 +0.5
NAY AMb AMB 21 39 45.5
comp=Z,626nm,1.1s,mb6.5
EDRB **Edirne** 78.94 323 *e*P **P** 21 39 41.0 -1.3
SVIS **Svilajnac** 78.94 328 *i*P **P** 21 39 41.2 -1.1
RDF **Al-Radifah** 79.00 301 *e*P **P** 21 39 43.6 +0.8
RDF AMb AMB 21 39 46.2
comp=Z,2µm,1.2s,mb6.9
BORA **Eskisehir** 79.02 319 *i*P **P** 21 39 42.8 0.0
KBA **Koelnbreinsper** 79.04 334 ⇓*i*P **P** 21 39 43.9 +1.0
comp=Z,1µm,1.1s,mb6.7,SNR=42
KARA **Karaisali** 79.06 315 *e*P **P** 21 39 43.9 +0.9
IZI **Iznik** 79.06 320 *e*P **P** 21 39 42.2 -0.8
BOLS **Boljevac** 79.08 327 ⇓*i*P **P** 21 39 41.9 -1.3
COBT **Iskenderun** 79.08 314 *i*P **P** 21 39 44.2 +1.0
GEMT **Gemlik** 79.10 320 *e*P **P** 21 39 43.2 0.0
ESKT **Eskisehir** 79.14 319 *e*P **P** 21 39 43.8 +0.3
ESKT **Eskisehir** 79.14 319 *i*P **P** 21 39 43.6 +0.2
MET **Memphis--Engin** 79.15 49 *e*P **P** 21 39 43.7 +0.2
STR **Strasbourg** 79.17 338 *e*P **P** 21 39 44.4 +0.8
OBKA **Obir** 79.19 333 *i*P **P** 21 39 44.0 +0.3
comp=Z,174nm,1.1s,mb5.9,SNR=63
DIM **Dimitrovgrad** 79.25 324 *i*P **P** 21 39 44.6 +0.6
BFO **Black Forest** 79.27 338 P **P** 21 39 44.2 +0.1
BFO **Black Forest** 79.27 338 *e*P **P** 21 39 43.8 -0.3
comp=Z,587nm,1.2s,mb6.4
BFO LR LR
comp=Z,2µm,22.0s,MS5.3
PKME **Peaks-Kenny Pk** 79.29 30 *e*P **P** 21 39 44.6 +0.3
comp=Z,410nm,1.9s,mb6.0
PKME *e*PP PP 21 42 46.3 +1.9
PKME LR LR
comp=Z,4µm,20.0s,MS5.7
LBNH **Lisbon** 79.30 32 *e*P **P** 21 39 44.3 0.0
LBNH *e* 21 39 51.8
LBNH pmax pmax
comp=Z,31nm,1.0s,mb5.2
LBNH MLR MLR
comp=Z,3µm,21.0s,MS5.6
LBNH **Lisbon** 79.30 32 *e*P **P** 21 39 44.3 0.0
comp=Z,31nm,1.0s,mb5.2
LBNH *e*PcP PcP 21 39 51.8 -0.6
LBNH LR LR
comp=Z,3µm,21.0s,MS5.6
GUT **Gutenstein** 79.30 337 P **P** 21 39 44.8 +0.5
WATA **Walderalm** 79.31 335 *i*P **P** 21 39 45.1 +0.7
comp=Z,904nm,1.1s,mb6.6,SNR=347
PGB **Panagyurishte** 79.35 325 *i*P **P** 21 39 44.0 -0.6
SPAK **Spaichingen-Ko** 79.36 337 *e*P **P** 21 39 45.0 +0.3
WTTA **Wattenberg** 79.36 335 ⇓*i*P **P** 21 39 45.6 +0.9
comp=Z,1µm,1.0s,mb6.8,SNR=351
HTL **Hartland** 79.36 346 P **P** 21 39 44.6 -0.1
HTL AMb AMB 21 39 46.5
comp=Z,399nm,1.1s,mb6.2
HTL **Hartland** 79.36 346 ⇑*i*P **P** 21 39 44.6 -0.1
HTL AMb AMB 21 39 46.5
comp=Z,399nm,1.1s,mb6.2
HTL AMS AMS 22 21 04.5
comp=Z,1µm,19.7s,MS5.2
BTCH **Batrach** 79.37 313 ⇑P **P** 21 39 45.7 +1.0
WVT **Waverly** 79.39 47 *e*P **P** 21 39 45.0 +0.2
WVT pmax pmax
comp=Z,78nm,1.1s,mb5.5
WVT MLR MLR
comp=Z,2µm,19.0s,MS5.6
WVT **Waverly** 79.39 47 *e*P **P** 21 39 45.0 +0.2
comp=Z,78nm,1.1s,mb5.5
WVT LR LR
comp=Z,2µm,19.0s,MS5.6
KDHN **Kadinhani** 79.40 317 *i*P **P** 21 39 44.9 +0.1
UBR **Ueberruh** 79.40 336 P **P** 21 39 45.2 +0.3
ACCN **Adirondack Com** 79.41 33 *e*P **P** 21 39 44.4 -0.6
ACCN *e*PcP PcP 21 39 53.8 +0.9
ACCN *e*PP PP 21 42 43.7 -1.7
WLS **Welschbruch** 79.43 338 *e*P **P** 21 39 45.3 +0.2
GCIS **Gornji Cirnik** 79.44 332 *i*P **P** 21 39 45.1 0.0
MOTA **Moosalm** 79.44 335 ⇓*i*P **P** 21 39 45.8 +0.7
comp=Z,802nm,1.0s,mb6.6,SNR=432
CDF **Champ du Feu** 79.45 338 ⇑*i*P **P** 21 39 45.5 +0.3
comp=Z,2µm,1.2s,mb6.5
CDF **Champ du Feu** 79.45 338 ⇑*i*P **P** 21 39 45.5 +0.3
CDF pmax pmax
comp=Z,807nm,1.2s,mb6.5
CDF **Champ du Feu** 79.45 338 ⇑*i*P **P** 21 39 45.5 +0.3
comp=Z,807nm,1.2s,mb6.5
HTY **Hatay** 79.46 313 *e*P **P** 21 39 46.2 +1.0
GRUS **Gruza** 79.48 328 *i*P **P** 21 39 44.5 -0.8
SQTA **Sankt Quirin** 79.52 335 ⇓*i*P **P** 21 39 46.4 +0.9
comp=Z,798nm,1.1s,mb6.6,SNR=299
PLD **Plovdiv** 79.53 324 *e*P **P** 21 39 46.2 +0.7
PLD **Plovdiv** 79.53 324 *i*P **P** 21 39 45.3 -0.3
DIVS **Divcibare** 79.55 328 *i*P **P** 21 39 45.1 -0.5

DIVS **Divcibare** 79.55 328 *e*P **P** 21 39 45.5 -0.2
SISC **Sisak** 79.55 331 P **P** 21 39 45.7 0.0
BINY **Binghamton** 79.55 35 *e*P **P** 21 39 45.0 -0.7
comp=Z,104nm,1.7s,mb5.5
BINY *e* pP 21 39 54.3 -4.2
BINY LR LR
comp=Z,2µm,19.0s,MS5.5
MFT **Murefte** 79.61 322 *e*P **P** 21 39 44.5 -1.5
LIBD **Limburg** 79.61 338 *e*P **P** 21 39 46.5 +0.5
LJU **Ljubljana** 79.62 333 *e*P **P** 21 39 45.2 -0.8
LJU *e* 21 39 53.0
LJU *e* pP 21 39 56.8 -2.0
MERS **Mersin** 79.63 315 *e*P **P** 21 39 46.8 +0.7
KDZ **Kurdzhali** 79.63 324 *i*P **P** 21 39 46.5 +0.4
MRMT **Marmara Adasi** 79.63 322 *e*P **P** 21 39 45.9 -0.2
HNH **Hanover** 79.63 32 *e*P **P** 21 39 46.4 +0.3
comp=Z,3.8nm,1.1s
HNH *e*PcP PcP 21 39 54.1 +0.2
SEST **Monte Rota** 79.66 335 P **P** 21 39 44.9 -1.4
ECH **Echery** 79.67 338 *e*P **P** 21 39 46.5 +0.2
VTS **Vitosha** 79.68 326 *e*P **P** 21 39 46.9 +0.5
VTS **Vitosha** 79.68 326 ⇑*i*P **P** 21 39 46.2 -0.2
VTS **Vitosha** 79.68 326 *i*P **P** 21 39 46.3 -0.1
SISB **Singen-Schiene** 79.70 337 P **P** 21 39 47.0 +0.5
KIZ **Kirchzarten** 79.72 338 P **P** 21 39 46.6 0.0
SART **Tekirdag** 79.73 322 *i*P **P** 21 39 47.1 +0.4
RKY **Sarkoy-Tekirda** 79.73 322 *e*P **P** 21 39 45.9 -0.8
EDC **Edincik** 79.73 321 *e*P **P** 21 39 46.2 -0.5
STEIN **Stein am Rhein** 79.74 337 ⇑*i*P **P** 21 39 45.7 -1.0
comp=Z,2µm,1.3s,mb6.9
ARNB **Al Arnab** 79.74 313 ⇑P **P** 21 39 48.1 +1.4
SLE **Schleitheim** 79.75 337 ⇑*i*P **P** 21 39 46.7 -0.1
comp=Z,734nm,1.1s,mb6.5
KONT **Konya--Tatoy** 79.76 317 *e*P **P** 21 39 47.3 +0.5
FELD **Feldberg im Sc** 79.77 338 *e*P **P** 21 39 47.1 +0.2
TRULL **Truellikon** 79.81 337 ⇑*i*P **P** 21 39 47.6 +0.5
comp=Z,2µm,1.3s,mb6.9
DYA **Yadsworthy** 79.82 346 ⇑*i*P **P** 21 39 47.0 -0.1
VOY **Vojsko** 79.82 333 *e*P **P** 21 39 43.0 -4.2
VOY ⇑*e* 21 39 45.9
VOY *e* 21 40 09.5
VOY *e* 21 40 33.2
VOY *e* 21 40 53.5
DAVA **Damuels** 79.82 336 ⇓*i*P **P** 21 39 47.6 +0.4
comp=Z,544nm,1.0s,mb6.4,SNR=190
SLNF **Slenfeh** 79.83 313 ⇑P **P** 21 39 48.4 +1.2
WEIN **Weingarten** 79.84 337 ⇑*i*P **P** 21 39 47.3 +0.1
comp=Z,2µm,1.3s,mb6.8
RZN **Rozhen** 79.88 324 *i*P **P** 21 39 47.7 +0.2
BOJS **Bojanci** 79.88 332 *e*P **P** 21 39 47.3 -0.1
BOJS *i* 21 40 03.5
OXF **Oxford** 79.89 49 *e*P **P** 21 39 47.2 -0.4
OXF *e* 21 42 51.7
OXF pmax pmax
comp=Z,308nm,1.1s,mb6.2
OXF MLR MLR
comp=Z,3µm,20.0s,MS5.6
OXF **Oxford** 79.89 49 *e*P **P** 21 39 47.2 -0.3
comp=Z,308nm,1.1s,mb6.2
OXF *e*PP PP 21 42 51.7 +2.3
OXF LR LR
comp=Z,3µm,20.0s,MS5.6
MEZF **Maizieres J'vi** 79.90 340 ⇑*i*P **P** 21 39 48.2 +0.6
comp=Z,2µm,1.2s,mb6.6
MEZF **Maizieres J'vi** 79.90 340 ⇑*i*P **P** 21 39 48.2 +0.6
comp=Z,2µm,1.2s,mb6.9
LIENZ **Alp Oberkamor** 79.92 336 ⇑*i*P **P** 21 39 47.7 0.0
comp=Z,1µm,1.5s,mb6.6
THEF **They Montfort** 79.94 339 *e*P **P** 21 39 48.2 +0.4
WILA **Wila** 79.96 337 ⇑*i*P **P** 21 39 47.8 -0.1
comp=Z,2µm,1.3s,mb6.8
BARS **Barje** 80.00 327 *i*P **P** 21 39 46.5 -1.7
MOF **Molkenrain** 80.01 338 *e*P **P** 21 39 48.3 +0.1
RDO **Rodhopi** 80.01 323 *e*P **P** 21 39 48.2 0.0
ALN **Alexandroupoli** 80.02 323 *e*P **P** 21 39 48.4 +0.1
ALN **Alexandroupoli** 80.02 323 P **P** 21 39 48.6 +0.4
HAU **Haudompre** 80.06 339 ⇑*i*P **P** 21 39 48.6 +0.2
comp=Z,1µm,1.2s,mb6.4
HAU *e*R
comp=Z,7µm,23.0s
HAU **Haudompre** 80.06 339 ⇑*i*P **P** 21 39 48.6 +0.2
HAU pmax pmax
comp=Z,592nm,1.2s,mb6.4
HAU MLR MLR
comp=Z,7µm,23.0s,MS6.0
HAU **Haudompre** 80.06 339 ⇑*i*P **P** 21 39 48.6 +0.2
comp=Z,592nm,1.2s,mb6.4
HAU LR LR
comp=Z,7µm,23.0s,MS6.0
FFD **Franklin Falls** 80.06 32 *e*P **P** 21 39 48.9 +0.4
comp=Z,74nm,1.2s,mb5.5
SULZ **Sulz-Cheisache** 80.06 337 ⇑*i*P **P** 21 39 48.2 -0.3
comp=Z,2µm,1.3s,mb7.0
HKT **Hockley** 80.06 56 *e*P **P** 21 39 48.1 -0.4
HKT *e* 21 39 56.1
HKT *e* pP 21 40 01.5 +0.3
HKT *e* 21 42 51.6
HKT pmax pmax
comp=Z,272nm,2.1s,mb5.8
HKT MLR MLR
comp=Z,2µm,20.0s,MS5.4
HKT **Hockley** 80.06 56 *e*P **P** 21 39 48.1 -0.4
comp=Z,272nm,2.1s,mb5.8
HKT *e*PcP PcP 21 39 56.1 +0.3
HKT *e* pP 21 40 01.4 +0.2
HKT *e*PP PP 21 42 51.6 +0.8
HKT LR LR
comp=Z,2µm,20.0s,MS5.4
SHUT **Suhut-Afyon** 80.07 319 *e*P **P** 21 39 48.6 +0.1
ZUR **Zurich** 80.09 337 ⇑*i*P **P** 21 39 48.3 -0.3
comp=Z,2µm,1.2s,mb7.0
GDZ **Gediz** 80.10 320 *i*P **P** 21 39 49.3 +0.6
HINF **Hinteralfeld** 80.11 338 ⇑*i*P **P** 21 39 48.7 0.0
comp=Z,827nm,1.3s,mb6.2
HINF **Hinteralfeld** 80.11 338 ⇑*i*P **P** 21 39 48.7 0.0
HINF pmax pmax
comp=Z,413nm,1.3s,mb6.2
HINF **Hinteralfeld** 80.11 338 ⇑*i*P **P** 21 39 48.7 0.0
comp=Z,413nm,1.3s,mb6.2
SSPA **Standing Stone** 80.13 38 *e*P **P** 21 39 47.6 -1.2
comp=Z,306nm,1.9s,mb5.9
SSPA LR LR
comp=Z,2µm,21.0s,MS5.4
MCWV **Mont Chateau** 80.14 39 *e*P **P** 21 39 49.0 +0.1
comp=Z,520nm,1.8s,mb6.2
MCWV *e*PcP PcP 21 39 56.1 +0.1
MCWV *e* 21 40 05.2
MCWV LR LR
comp=Z,5µm,21.0s,MS5.8
BTOK **Tokmak** 80.16 321 *i*P **P** 21 39 49.8 +0.8
PLONS **Plons** 80.17 336 ⇑*i*P **P** 21 39 48.7 -0.4
comp=Z,1µm,1.3s,mb6.8
BBS **Basel-Blauen** 80.28 338 *e*P **P** 21 39 49.9 +0.3
DAVOX **Davos** 80.29 336 ⇑*i*P **P** 21 39 49.0 -0.7
comp=Z,1µm,1.7s,mb6.6
FUORN **Ofenpass** 80.33 336 ⇑*i*P **P** 21 39 49.6 -0.3
comp=Z,3µm,2.1s,mb6.8
CANB **Canakkale** 80.34 322 *e*P **P** 21 39 49.8 -0.2
CANB **Canakkale** 80.34 322 *i*P **P** 21 39 49.3 -0.7
CANB **Canakkale** 80.34 322 *i*P **P** 21 39 49.9 -0.1
MMB **Musomiste** 80.34 325 *e*P **P** 21 39 50.3 +0.3
MMB **Musomiste** 80.34 325 *i*P **P** 21 39 50.0 0.0
BALST **Balsthal** 80.35 338 ⇑*i*P **P** 21 39 50.5 +0.5
comp=Z,3µm,1.3s,mb7.1
KKB **Krupnik** 80.35 325 *i*P **P** 21 39 50.1 +0.1
BOURR **Bourrignon** 80.41 338 ⇑*i*P **P** 21 39 50.6 +0.3
comp=Z,1µm,1.3s,mb6.7
PLE **Pljevlja** 80.43 328 ⇑*i*P **P** 21 39 50.8 +0.3
BRMO **Bormio** 80.43 336 P **P** 21 39 51.2 +0.7
ROOS **Il Laroos** 80.44 311 P **P** 21 39 52.0 +1.5
MUO **Muotathal** 80.45 337 ⇑*i*P **P** 21 39 50.7 +0.2
comp=Z,2µm,1.3s,mb6.8
LLS **Linth-Limmern** 80.46 337 ⇑*i*P **P** 21 39 51.9 +1.3
comp=Z,1µm,1.6s,mb6.5
NVR **Nevrokopi** 80.50 324 *e*P **P** 21 39 51.3 +0.5
IKL **Isikli** 80.53 315 *e*P **P** 21 39 50.0 -1.0
RAR **Rarotonga** 80.54 137 PFAKE **P** 21 40 00.0 +9.0
RAR LR LR
comp=Z,1.0nm,20.0s
LOMF **Lomont** 80.55 338 *e*P **P** 21 39 51.6 +0.5
BERNI **Berninapass** 80.59 336 ⇑*i*P **P** 21 39 51.1 -0.2
comp=Z,974nm,1.6s,mb6.5
BNALP **Bannalp** 80.59 337 ⇑*i*P **P** 21 39 51.2 -0.1
comp=Z,1µm,1.4s,mb6.6

TKTP **Tekketepe** 80.60 318 *i*P **P** 21 39 51.6 +0.3
IVA **Berane** 80.66 328 ⇑*i*P **P** 21 39 51.3 -0.3
STKA **Stephens Creek** 80.66 191 ⇑*i*P **P** 21 39 50.5 -1.2
comp=Z,28nm,1.1s,mb5.1
STKA *e*S S 21 49 46.4 -9.5
STKA **Stephens Creek** 80.66 191 P **P** 21 39 50.5 -1.1
comp=Z,23nm,0.7s,mb5.2,baz=347,slow=7.0,SNR=25
STKA LR LR 22 15 50.1
comp=Z,2µm,20.0s,MS5.4,baz=7.5,slow=36
VDL **Val di Lei** 80.67 336 ⇑*i*P **P** 21 39 51.9 +0.2
comp=Z,1µm,1.0s,mb6.7
ISP **Isparta** 80.67 318 *e*P **P** 21 39 49.6 -2.2
ISP **Isparta** 80.67 318 *e*P **P** 21 39 50.9 -0.9
ISP **Isparta** 80.67 318 P **P** 21 39 51.8 0.0
ISP **Isparta** 80.67 318 *e*P **P** 21 39 51.3 -0.4
comp=Z,274nm,1.4s,mb6.0
UPM **Unac-Piva** 80.71 329 ⇑*i*P **P** 21 39 50.8 -1.2
TUE **Stuetta** 80.72 336 P **P** 21 39 53.0 +1.0
KVTX **Kingsville** 80.75 59 *e*P **P** 21 39 54.1 +1.9
comp=Z,202nm,1.2s,mb5.9
KVTX LR LR
comp=Z,2µm,20.0s,MS5.4
HASLI **Hasliberg** 80.77 337 ⇑*i*P **P** 21 39 52.3 0.0
comp=Z,1µm,1.6s,mb6.7
MABI **Malga Bissina** 80.78 335 P **P** 21 39 52.5 +0.2
SRS **Serrai** 80.80 324 *e*P **P** 21 39 51.2 -1.2
EZN **Ezine** 80.81 322 *e*P **P** 21 39 51.5 -0.9
FLN **La Foliniere** 80.82 343 ⇑*i*P **P** 21 39 52.7 +0.2
comp=Z,2µm,1.2s,mb6.5
FLN *e*R
comp=Z,4µm,20.2s
FLN **La Foliniere** 80.82 343 ⇑*i*P **P** 21 39 52.7 +0.2
FLN pmax pmax
comp=Z,791nm,1.2s,mb6.5
FLN MLR MLR
comp=Z,4µm,20.3s,MS5.8
FLN **La Foliniere** 80.82 343 ⇑*i*P **P** 21 39 52.7 +0.2
comp=Z,791nm,1.2s,mb6.5
FLN LR LR
comp=Z,4µm,20.3s,MS5.8
NVLJ **Novalja** 80.84 332 *i*P **P** 21 39 51.2 -1.4
STIP **Stip** 80.84 326 *e*P **P** 21 39 52.0 -0.7
STIP **Stip** 80.84 326 ⇑*i*P **P** 21 39 51.9 -0.7
comp=Z,58nm,0.8s,mb5.5
PVY **Plav** 80.87 328 ⇑*i*P **P** 21 39 51.9 -0.9
SKO **Skopje** 80.88 326 *e*P **P** 21 39 53.6 +0.7
SKO **Skopje** 80.88 326 ⇑*i*P **P** 21 39 53.6 +0.7
comp=Z,656nm,1.4s,mb6.4
SKO **Skopje** 80.88 326 P **P** 21 39 53.4 +0.6
TAOE **Nuku Hiva Isla** 80.91 114 *e*S S 21 49 54.0 -4.4
comp=Z,5µm,29.4s
TAOE *e*LQ 22 01 34.1
TAOE comp=Z,5µm,28.4s
TAOE *e*LR LR 22 05 13.6
comp=Z,17µm,23.2s,baz=324
BOZC **Bozcaada** 80.91 322 *i*P **P** 21 39 51.2 -1.8
FUSIO **Fusio** 80.91 337 ⇑*i*P **P** 21 39 52.3 -0.7
comp=Z,2µm,1.3s,mb6.9
LDF **La Druitiere** 80.91 343 ⇑*i*P **P** 21 39 53.1 +0.1
comp=Z,820nm,1.1s,mb6.3
LDF **La Druitiere** 80.91 343 ⇑*i*P **P** 21 39 53.1 +0.1
LDF pmax pmax
comp=Z,410nm,1.1s,mb6.3
LDF **La Druitiere** 80.91 343 ⇑*i*P **P** 21 39 53.1 +0.1
comp=Z,410nm,1.1s,mb6.3
HRV **Harvard--Oak R** 80.94 32 PFAKE 21 40 00.0 +6.8
HRV LR LR
comp=Z,3µm,19.0s,MS5.6
MARH **Ras Al Marh** 80.96 312 ⇑P **P** 21 39 55.0 +1.7
WIMIS **Wimmis** 80.99 337 ⇑*i*P **P** 21 39 52.7 -0.7
comp=Z,548nm,1.2s,mb6.3
MAGA **Magasa** 81.00 335 P **P** 21 39 52.0 -1.5
VAY **Valandovo** 81.02 325 *e*P **P** 21 39 53.8 +0.2
VAY **Valandovo** 81.02 325 ⇑*i*P **P** 21 39 53.2 -0.4
comp=Z,644nm,1.1s,mb6.5
VAY **Valandovo** 81.02 325 P **P** 21 39 53.1 -0.5
BRANT **Les Verrieres** 81.02 338 ⇑*i*P **P** 21 39 52.7 -0.9
comp=Z,1µm,1.2s,mb6.7
NKY **Niksic** 81.02 328 ⇑*i*P **P** 21 39 52.3 -1.3
KNT **Kendrikon** 81.03 325 *e*P **P** 21 39 53.0 -0.7
KNT **Kendrikon** 81.03 325 P **P** 21 39 53.5 -0.2
BCI **Bajram Curri** 81.04 327 *i*Pn **P** 21 39 52.7 -1.0
TORNY **Torny** 81.06 338 ⇑*i*P **P** 21 39 53.8 0.0
comp=Z,2µm,1.4s,mb6.7
TZTN **Tazewell** 81.08 44 *e*P **P** 21 39 53.8 -0.1
comp=Z,76nm,1.1s,mb5.5
AYVA **Ayvalik** 81.10 321 *i*P **P** 21 39 54.0 0.0
BRY **Bratogost** 81.11 329 ⇑*i*P **P** 21 39 52.5 -1.5
WES **Weston** 81.13 32 *e*P **P** 21 39 53.7 -0.5
WES *e* 21 40 12.1
WES pmax pmax
comp=Z,123nm,1.2s,mb5.7
WES MLR MLR
comp=Z,2µm,19.0s,MS5.4
WES **Weston** 81.13 32 *e*P **P** 21 39 53.7 -0.5
comp=Z,123nm,1.2s,mb5.7
WES *e* 21 40 12.1
WES LR LR
comp=Z,2µm,19.0s,MS5.4
SOH **Sokhos** 81.15 324 *e*P **P** 21 39 54.2 -0.1
SOH **Sokhos** 81.15 324 P **P** 21 39 53.8 -0.5
LUPA **Lehigh Univers** 81.16 36 *e*P **P** 21 39 53.9 -0.5
RAO **Raoul Island** 81.19 156 LR LR 22 10 01.6
comp=Z,4µm,21.7s,MS5.7,baz=360,slow=31
RAO **Raoul Island** 81.19 156 PFAKE 21 40 10.0 +16
RAO LR LR
comp=Z,4µm,20.0s,MS5.8
LIA **Limnos Island** 81.21 323 *e*P **P** 21 39 54.4 -0.2
LOS **Limnos** 81.22 323 *e*P **P** 21 39 53.9 -0.7
LOS **Limnos** 81.22 323 P **P** 21 39 54.5 -0.2
LKBD **Leukerbad** 81.25 337 ⇑*i*P **P** 21 39 53.9 -0.9
comp=Z,1µm,1.1s,mb6.7
GRR **Gorron** 81.25 343 ⇑*i*P **P** 21 39 55.2 +0.4
comp=Z,2µm,1.2s,mb6.7
GRR **Gorron** 81.25 343 ⇑*i*P **P** 21 39 55.2 +0.4
GRR pmax pmax
comp=Z,1µm,1.2s,mb6.7
GRR **Gorron** 81.25 343 ⇑*i*P **P** 21 39 55.2 +0.4
comp=Z,1µm,1.2s,mb6.7
TTG **Podgorica** 81.27 328 ⇑*i*P **P** 21 39 54.0 -0.9
MUGIO **Muggio** 81.31 336 ⇑*i*P **P** 21 39 54.2 -0.9
comp=Z,2µm,1.2s,mb6.8
PMOR **Pomariorio Ree** 81.31 124 *e*P **P** 21 39 54.4 -0.8
comp=Z,55nm,0.9s,mb5.5
OUR **Ouranopolis** 81.32 324 *e*P **P** 21 39 53.1 -2.1
PRK **Paraskevi** 81.32 322 *e*P **P** 21 39 54.7 -0.5
LOR **Lormes** 81.33 340 ⇑*i*P **P** 21 39 55.5 +0.2
comp=Z,2µm,1.1s,mb6.5
LOR *e*R
comp=Z,8µm,22.2s
LOR **Lormes** 81.33 340 ⇑*i*P **P** 21 39 55.5 +0.2
LOR pmax pmax
comp=Z,789nm,1.1s,mb6.6
LOR MLR MLR
comp=Z,8µm,22.3s,MS6.0
LOR **Lormes** 81.33 340 ⇑*i*P **P** 21 39 55.5 +0.2
comp=Z,789nm,1.1s,mb6.6
LOR LR LR
comp=Z,8µm,22.3s,MS6.0
SENIN **Lac Senin** 81.35 338 ⇑*i*P **P** 21 39 54.2 -1.2
comp=Z,944nm,1.4s,mb6.5
PAL **Palisades** 81.38 35 *e*P **P** 21 39 54.9 -0.6
PAL pmax pmax
comp=Z,327nm,1.9s,mb5.9
PAL **Palisades** 81.38 35 *e*P **P** 21 39 54.9 -0.6
comp=Z,327nm,1.9s,mb5.9
PUK **Puka** 81.38 327 *i*Pn **P** 21 39 55.0 -0.5
ANTB **Antalya** 81.39 318 *e*P **P** 21 39 53.5 -2.0
GRG **Griva** 81.40 325 *e*P **P** 21 39 54.9 -0.7
GRG **Griva** 81.40 325 P **P** 21 39 55.2 -0.4
DENT **Denizli** 81.40 319 *e*P **P** 21 39 55.2 +0.6
ZALF **Zalf** 81.42 311 ⇑P **P** 21 39 57.3 +1.6
STON **Ston** 81.42 329 *i*P **P** 21 39 54.3 -1.4
CABF **La Chapelle** 81.42 338 ⇑*i*P **P** 21 39 56.4 +0.7
comp=Z,1µm,1.2s,mb6.4
CABF **La Chapelle** 81.42 338 ⇑*i*P **P** 21 39 56.4 +0.7
CABF pmax pmax
comp=Z,605nm,1.2s,mb6.4
CABF **La Chapelle** 81.42 338 ⇑*i*P **P** 21 39 56.4 +0.7
comp=Z,605nm,1.2s,mb6.4
FWV **Forest Hill** 81.45 41 *e*P **P** 21 39 55.4 -0.5
FWV *e* pP 21 40 06.5 -2.1
GIMEL **Gimel** 81.45 338 ⇑*i*P **P** 21 39 54.3 -1.6
comp=Z,495nm,1.2s,mb6.3
QASN **Qassioun** 81.46 312 ⇑P **P** 21 39 57.6 +1.7

AIGLE **Aigle** 81.46 338⇑ *i*P P 21 39 54.4 -1.5
comp=Z,1µm,1.3s,mb6.7
THE **Thessaloniki** 81.46 325 *e*P P 21 39 53.8 -2.1
THE **Thessaloniki** 81.46 325 P P 21 39 55.0 -0.9
BHL **Bhannes** 81.47 312 *e*P P 21 39 55.9 -0.1
MMK **Mattmark** 81.47 337⇑ *i*P P 21 39 55.7 -0.3
comp=Z,1µm,1.2s,mb6.7
KRUS **Krusevo** 81.47 326⇑ *i*P P 21 39 56.4 +0.4
PHP **Peshkopia** 81.50 327 *i* Pn P 21 39 55.4 -0.7
PLG **Polygyros** 81.50 324 *e*P P 21 39 56.0 -0.2
PLG **Polygyros** 81.50 324 *e*P P 21 39 55.3 -0.8
GRYON **Gryon** 81.50 338⇑ *i*P P 21 39 55.4 -0.8
comp=Z,944nm,1.3s,mb6.6
BUM **Brajici-Budva** 81.51 328⇑ *i*P P 21 39 55.4 -0.8
CPCT **Cooper Cave** 81.52 45 *e*P P 21 39 55.8 -0.5
HCY **Herceg Novi** 81.52 329⇑ *i*P P 21 39 55.0 -1.3
TOTH **TOTAH** 81.52 312 ⇑P P 21 39 57.5 +1.2
OG01 **Vacheresse** 81.54 338 *e*P P 21 39 57.0 +0.6
CPNY **Central Park** 81.54 35 *e*P P 21 39 56.1 -0.3
CPNY *e* 21 40 05.3
CPNY *e*PP PP 21 43 00.1 -2.9
DIX **Grande Dixence** 81.59 337⇑ *i*P P 21 39 56.1 -0.5
comp=Z,2µm,1.1s,mb6.8
GOLH **Golhisar** 81.60 318 *i* P P 21 39 57.3 +0.6
HYF **Humbligny** 81.61 341⇑ *i*P P 21 39 57.4 +0.7
ZAIG **Zacatecas** 81.61 65 *i* P P 21 39 57.2 +0.5
SSF **Saint Saulge** 81.61 340⇑ *i*P P 21 39 57.0 +0.3
comp=Z,605nm,1.0s,mb6.2
SSF **Saint Saulge** 81.61 340⇑ *i*P P 21 39 57.0 +0.3
SSF pmax pmax
comp=Z,302nm,1.0s,mb6.2
SSF **Saint Saulge** 81.61 340⇑ *i*P P 21 39 57.0 +0.3
comp=Z,302nm,1.0s,mb6.2
KDAG **Bornova** 81.62 321 *i* P P 21 39 56.4 -0.4
MAMC **Mammari** 81.62 315 ⇑P P 21 39 56.8 0.0
MAMC **Mammari** 81.62 315⇑ *e*P P 21 39 56.8 0.0
IZM **Izmir** 81.62 321 *e*P P 21 39 56.0 -0.8
SALAN **Lac Salanfe** 81.64 338⇑ *i*P P 21 39 56.3 -0.6
comp=Z,905nm,1.3s,mb6.5
VAH **Vaihoa** 81.65 124 *e*P P 21 39 55.9 -1.0
comp=Z,66nm,1.0s,mb5.5
ULC **Ulcinj** 81.68 328⇑ *i*P P 21 39 56.4 -0.7
SGMF **Saint Gilles** 81.69 345⇑ *i*P P 21 39 57.6 +0.4
comp=Z,2µm,1.2s,mb6.5
SGMF **Saint Gilles** 81.69 345⇑ *i*P P 21 39 57.6 +0.4
SGMF pmax pmax
comp=Z,799nm,1.2s,mb6.5
SGMF **Saint Gilles** 81.69 345⇑ *i*P P 21 39 57.6 +0.4
comp=Z,799nm,1.2s,mb6.5
BRBR **Barbar** 81.72 312 ⇑P P 21 39 58.5 +1.2
RCY **Rachaya** 81.72 312 *e*P P 21 39 58.2 +0.9
EMV **Vieux Emosson** 81.73 338⇑ *i*P P 21 39 56.4 -1.0
comp=Z,1µm,1.2s,mb6.8
CSS **Prodhromos** 81.74 315 ⇑P P 21 39 55.7 -1.7
comp=Z,5.7nm,1.0s
CSS **Prodhromos** 81.74 315 *e*P P 21 39 57.2 -0.2
ROSF **Rostrenen** 81.74 345⇑ *i*P P 21 39 58.0 +0.6
comp=Z,2µm,1.1s,mb6.7
ROSF **Rostrenen** 81.74 345⇑ *i*P P 21 39 58.0 +0.6
ROSF pmax pmax
comp=Z,1µm,1.1s,mb6.7
ROSF **Rostrenen** 81.74 345⇑ *i*P P 21 39 58.0 +0.6
comp=Z,1µm,1.1s,mb6.7
BIA **Bitola** 81.75 326⇑ *i*P P 21 39 56.4 -1.0
comp=Z,49nm,1.1s,mb5.3
BIA **Bitola** 81.75 326 P P 21 39 56.6 -0.9
FIU **Minerbio Fiu** 81.80 334 P P 21 39 58.9 +1.2
RAVA **Ravarino** 81.80 334 P P 21 39 59.3 +1.6
ELL **Elmali** 81.85 318 *e*P P 21 39 57.7 -0.3
OHR **Ohrid** 81.86 326 *e*P P 21 39 55.5 -2.6
OHR **Ohrid** 81.86 326 P P 21 39 57.3 -0.8
SALA **Sala** 81.89 311 ⇑P P 21 39 59.6 +1.4
AVF **Avril sur Loir** 81.90 340⇑ *i*P P 21 39 58.7 +0.4
comp=Z,2µm,1.2s,mb6.5
AVF **Avril sur Loir** 81.90 340⇑ *i*P P 21 39 58.7 +0.4
AVF pmax pmax
comp=Z,820nm,1.2s,mb6.5
AVF **Avril sur Loir** 81.90 340⇑ *i*P P 21 39 58.7 +0.4
comp=Z,820nm,1.2s,mb6.5
ALFC **Alevga** 81.92 315 ⇑P P 21 39 58.0 -0.4
comp=Z,7.2nm,0.8s
ALFC **Alevga** 81.92 315⇑ *e*P P 21 39 58.0 -0.4
SMF **Signal de Mont** 81.93 340⇑ *i*P P 21 39 58.9 +0.5
comp=Z,3µm,1.3s,mb6.7
SMF **Signal de Mont** 81.93 340⇑ *i*P P 21 39 58.9 +0.5
comp=Z,1µm,1.3s,mb6.7
BLA **Blacksburg** 81.93 41 *e*P P 21 39 58.5 +0.1
BLA pmax pmax
comp=Z,439nm,1.9s,mb6.1
BLA MLR MLR
comp=Z,2µm,22.0s,MS5.5
BLA **Blacksburg** 81.93 41 *e*P P 21 39 58.5 +0.1
comp=Z,439nm,1.9s,mb6.1
BLA LR LR
comp=Z,2µm,22.0s,MS5.5
FNA **Florina** 81.94 326 *e*P P 21 39 57.4 -1.0
FNA **Florina** 81.94 326 P P 21 39 57.8 -0.6
URLA **Izmir** 81.94 321 *i* P P 21 39 58.0 -0.4
TIR **Tirane** 82.00 327 P P 21 39 58.8 0.0
TIR **Tirane** 82.00 327 *i* Pn P 21 39 58.4 -0.4
LIT **Litokhoron** 82.10 325 *e*P P 21 39 57.0 -2.3
LIT **Litokhoron** 82.10 325 P P 21 39 58.6 -0.7
OG05 **Jujurieux** 82.11 339 *e*P P 21 39 59.7 +0.3
SZAC **Souni-Zanaja** 82.12 315 P P 21 39 59.7 +0.3
QUIF **Quistinic** 82.13 345⇑ *i*P P 21 39 59.8 +0.4
comp=Z,1µm,1.3s,mb6.4
QUIF **Quistinic** 82.13 345⇑ *i*P P 21 39 59.8 +0.4
QUIF pmax pmax
comp=Z,587nm,1.3s,mb6.3
QUIF **Quistinic** 82.13 345⇑ *i*P P 21 39 59.8 +0.4
comp=Z,587nm,1.3s,mb6.3
RSL **Roselend** 82.15 338 *e*P P 21 40 00.3 +0.7
AKMC **Akamas** 82.16 315 P P 21 39 59.3 -0.3
RSM **Repubblica di** 82.16 333 P P 21 40 00.6 +1.0
FORT **Forrest** 82.19 203 *e*P P 21 39 59.1 -0.6
comp=Z,315nm,0.6s,mb6.4
FORT *e* pP 21 40 10.4 -2.1
KZN **Kozani** 82.20 325 *e*P P 21 39 59.0 -0.8
BGF **Bois d'Agland** 82.23 341⇑ *i*P P 21 40 00.5 +0.5
comp=Z,1µm,1.3s,mb6.3
BGF **Bois d'Agland** 82.23 341⇑ *i*P P 21 40 00.5 +0.5
BGF pmax pmax
comp=Z,539nm,1.3s,mb6.3
BGF **Bois d'Agland** 82.23 341⇑ *i*P P 21 40 00.5 +0.5
comp=Z,539nm,1.3s,mb6.3
ASF **Jabal al Asfar** 82.23 310 P P 21 40 00.8 +0.8
comp=Z,269nm,1.1s,mb6.1,baz=266,slow=2.1,SNR=230
ASF S S 21 50 09.2 -3.0
comp=Z,0.9nm,0.6s,baz=52,slow=18,SNR=1.9
YER **Yerkesik** 82.25 319 *e*P P 21 40 00.9 +0.9
BOB **Bobbio (Coli)** 82.26 336 P P 21 40 01.0 +0.9
PPCY **Paphos** 82.27 315 ⇑P P 21 39 59.8 -0.4
PPCY **Paphos** 82.27 315⇑ *e*P P 21 39 59.8 -0.4
FSSB **Fossombrone** 82.28 333 P P 21 40 00.7 +0.5
SHAO **Shalim** 82.28 288 ⇓P P 21 40 01.4 +1.1
SNR=10
LPL **La Plagne** 82.29 338⇑ *i*P P 21 40 01.6 +1.3
comp=Z,1µm,1.1s,mb6.5
LPL **La Plagne** 82.29 338⇑ *i*P P 21 40 01.6 +1.3
LPL pmax pmax
comp=Z,722nm,1.1s,mb6.5
LPL **La Plagne** 82.29 338⇑ *i*P P 21 40 01.6 +1.3
comp=Z,722nm,1.1s,mb6.5
KBN **Korca** 82.29 326 *i* p P 21 40 00.0 -0.3
LPG **La Plagne** 82.30 338⇑ *i*P P 21 40 01.8 +1.5
comp=Z,2µm,1.2s,mb6.7
LPG **La Plagne** 82.30 338⇑ *i*P P 21 40 01.8 +1.5
LPG pmax pmax
comp=Z,1µm,1.2s,mb6.7
LPG **La Plagne** 82.30 338⇑ *i*P P 21 40 01.8 +1.5
comp=Z,1µm,1.2s,mb6.7
ERBM **Eremo** 82.31 335 P P 21 40 01.7 +1.3
MMAI **Mount Meron Ar** 82.31 312 S S 21 50 09.9 -3.0
comp=Z,0.6nm,0.6s,baz=228,slow=13,SNR=2.4
FETY **Fethiye** 82.31 318 *e*P P 21 39 59.8 -0.6
GSCL **Gusciola** 82.32 335 P P 21 40 01.7 +1.2
MLSB **Milas** 82.33 320 *e*P P 21 40 00.1 -0.4
FNVD **Fontana Vidola** 82.33 334 P P 21 40 01.8 +1.3
AOS **Alonnisos** 82.36 323 *e*P P 21 40 00.4 -0.3
SFI **Santa Sofia** 82.36 334 P P 21 40 01.8 +1.1
SEI **Searperia** 82.37 334 P P 21 40 01.8 +1.1
SMG **Samos** 82.38 321 *e*P P 21 39 59.6 -1.2
CBN **Corbin** 82.39 39 *e*P P 21 40 00.8 -0.1
CBN *e*PP PP 21 43 10.3 +0.2
CBN LR LR
comp=Z,3µm,21.0s,MS5.6
DALT **Dalyan (Mudla)** 82.39 319 *e*P P 21 40 00.1 -0.7
VMG **Vicchio** 82.40 334 P P 21 40 01.8 +0.9
CING **Cingoli** 82.43 332 P P 21 40 01.3 +0.3
XOR **Xorichti** 82.46 324 *e*P P 21 39 59.9 -1.3
RSP **Reno Superiore** 82.49 337 P P 21 40 00.9 -0.4
KSL **Kastellorizon** 82.49 318 *e*P P 21 40 02.0 +0.7
NEO **Neokhori** 82.50 324 *e*P P 21 40 00.4 -1.0
PPT **Papeete** 82.50 127 *e*P P 21 40 00.6 -0.8
comp=Z,56nm,1.3s,mb5.4
PPT **Papeete** 82.50 127 *e*S S 21 50 10.2 -4.7
comp=Z,3µm,30.0s
PPT *e*SS SS 21 55 37.7 +1.0
comp=Z,717nm,29.5s
PPT *e*LR LR 22 05 43.8
comp=Z,6µm,23.2s,baz=324
PPT **Papeete** 82.50 127 P P 21 40 01.6 +0.2
comp=Z,47nm,1.0s,mb5.5,baz=305,slow=4.2,SNR=4.3
PPT LR LR 22 08 39.2
comp=Z,3µm,21.5s,MS5.5,baz=288,slow=30
VLC **Villacollemand** 82.55 335 P P 21 40 02.0 +0.3
PAE **Paea** 82.58 127 *e*P P 21 40 00.8 -1.0
comp=Z,62nm,1.0s,mb5.6
PAE **Paea** 82.58 127 *e*P P 21 40 00.8 -1.0
PAE pmax pmax
comp=Z,62nm,1.0s,mb5.6
BDI **Bagni Di Lucca** 82.58 334 P P 21 40 01.8 0.0
CRE **Caprese Michel** 82.59 333 P P 21 40 02.6 +0.7
PLDF **La Plantade** 82.61 340 *e*P P 21 40 02.8 +0.8
SNTG **Esanatoglia** 82.62 333 P P 21 40 02.4 +0.4
TCF **Toulx Ste Croi** 82.63 341⇑ *i*P P 21 40 02.7 +0.6
comp=Z,1µm,1.1s,mb6.6
TCF **Toulx Ste Croi** 82.63 341⇑ *i*P P 21 40 02.7 +0.6
TCF pmax pmax
comp=Z,693nm,1.1s,mb6.6
TCF **Toulx Ste Croi** 82.63 341⇑ *i*P P 21 40 02.7 +0.6
comp=Z,694nm,1.1s,mb6.6
AGO **Saint Agoulin** 82.65 340 *e*P P 21 40 03.1 +0.9
CDCA **Citt' di Caste** 82.65 333 P P 21 40 03.2 +1.0
BDRM **Kayabasi** 82.67 320 *i* P P 21 40 02.5 +0.3
BNI **Bardonecchia** 82.73 337 P P 21 40 03.8 +1.2
BNI pmax pmax
comp=Z,490nm,1.1s,mb6.5
BNI **Bardonecchia** 82.73 337 P P 21 40 03.9 +1.3
GDM **Grand'Maison** 82.73 338 *e*P P 21 40 03.8 +1.2
MURB **Monte Urbino** 82.74 333 P P 21 40 03.5 +0.9
THL **Klokotos Trika** 82.75 325 *e*P P 21 40 00.7 -2.0
THL **Klokotos Trika** 82.75 325 *e*P P 21 40 00.7 -2.0
GRN **Grenoble** 82.79 338 *e*P P 21 40 04.2 +1.3
MFF **Saint Martin d** 82.83 343⇑ *i*P P 21 40 03.6 +0.5
comp=Z,1µm,1.2s,mb6.5
MFF **Saint Martin d** 82.83 343⇑ *i*P P 21 40 03.6 +0.5
MFF pmax pmax
comp=Z,638nm,1.2s,mb6.5
MFF **Saint Martin d** 82.83 343⇑ *i*P P 21 40 03.6 +0.5
comp=Z,638nm,1.2s,mb6.5
TVO **Taravao** 82.85 127 *e*P P 21 40 02.6 -0.6
comp=Z,53nm,0.9s,mb5.6
TVO **Taravao** 82.85 127 *e*P P 21 40 02.6 -0.6
TVO pmax pmax
comp=Z,53nm,0.9s,mb5.6
OG22 **Abries** 82.88 337 *e*P P 21 40 04.1 +0.7
LCHF **La Chataignera** 82.88 343 *e*P P 21 40 04.0 +0.6
ASS **Assisi** 82.88 333 P P 21 40 03.1 -0.3
DAT **Datca** 82.89 319 *e*P P 21 40 00.2 -3.2
VLO **Vlora** 82.91 327 *i* p P 21 40 03.9 +0.4
PII **Pisa** 82.92 334 P P 21 40 02.8 -0.7
CSNT **Castellina Chi** 82.92 334 P P 21 40 03.1 -0.5
PYM **Petit Puy Mans** 82.96 340 *e*P P 21 40 04.5 +0.7
QLNO **Quiliano** 82.97 336 P P 21 40 04.3 +0.5
TERO **Teramo** 82.99 332 P P 21 40 04.2 +0.3
MBDF **Montbardon** 83.01 337⇑ *i*P P 21 40 04.8 +0.8
comp=Z,611nm,1.0s,mb6.3
MBDF **Montbardon** 83.01 337⇑ *i*P P 21 40 04.8 +0.8
MBDF pmax pmax
comp=Z,306nm,1.0s,mb6.3
MBDF **Montbardon** 83.01 337⇑ *i*P P 21 40 04.8 +0.8
comp=Z,306nm,1.0s,mb6.3
COLF **Collangettes** 83.02 340 *e*P P 21 40 05.0 +0.9
SFJM **Santa Fe** 83.03 67 *i* P P 21 40 04.0 -0.2
MSAG **Monte S. Angel** 83.06 330 P P 21 40 03.7 -0.6
ORIF **Oris-en-Rattie** 83.06 338⇑ *i*P P 21 40 05.5 +1.2
comp=Z,2µm,1.2s,mb6.7
ORIF *e*R
comp=Z,4µm,22.2s
ORIF **Oris-en-Rattie** 83.06 338⇑ *i*P P 21 40 05.5 +1.2
ORIF pmax pmax
comp=Z,891nm,1.2s,mb6.7
ORIF **Oris-en-Rattie** 83.06 338⇑ *i*P P 21 40 05.5 +1.2
comp=Z,891nm,1.2s,mb6.7
SGRT **San Giovanni R** 83.08 330 P P 21 40 03.9 -0.5
VERF **Verneugheol** 83.08 340 *e*P P 21 40 04.8 +0.4
ARG **Arkhangelos** 83.08 319 *e*P P 21 40 04.2 -0.2
AGG **Agios Georgios** 83.10 324 *e*P P 21 40 02.2 -2.2
DOI **San Damiano** 83.10 337 P P 21 40 03.3 -1.2
FIN **Finale Ligure** 83.11 336 P P 21 40 04.1 -0.5
JAN **Janina** 83.11 326 *e*P P 21 40 04.6 0.0
LRYF **La Roche-sur-Y** 83.12 343 *e*P P 21 40 05.2 +0.6
LKR **Lokris** 83.15 324 *e*P P 21 40 03.3 -1.5
NISR **Nisiros** 83.18 320 *e*P P 21 40 05.0 +0.1
RGNG **Rignano Grg** 83.20 330 P P 21 40 04.4 -0.6
FG2 **Serracapriola** 83.22 330 P P 21 40 05.0 -0.1
SURF **Saint Ours** 83.23 337 *e*P P 21 40 06.3 +1.1
SRN **Sarande** 83.24 326 *i* p P 21 40 04.5 -0.7
AQU **L'Aquila** 83.29 332⇑ *i*P P 21 40 06.3 +0.8
AQU **L'Aquila** 83.29 332 P P 21 40 06.0 +0.5
AQU P 21 40 06.1
GRFL **Gerfalco** 83.31 334 P P 21 40 05.4 -0.2
PTL **Penteli** 83.33 323 *e*P P 21 40 05.0 -0.7
EVR **Evrytania** 83.39 325 *e*P P 21 40 03.8 -2.2
LBL **Lubilhac** 83.40 340 *e*P P 21 40 06.7 +0.7
CNB **Canberra Magne** 83.40 184 *e*P P 21 40 05.6 -0.5
comp=Z,54nm,1.3s,mb5.4
CNB *e* 21 40 14.0
VIVF **Saint-Julien-l** 83.42 339⇑ *i*P P 21 40 07.1 +1.0
comp=Z,2µm,1.3s,mb6.7
VIVF **Saint-Julien-l** 83.42 339⇑ *i*P P 21 40 07.1 +1.0
VIVF pmax pmax
comp=Z,991nm,1.3s,mb6.7
VIVF **Saint-Julien-l** 83.42 339⇑ *i*P P 21 40 07.1 +1.0
comp=Z,991nm,1.3s,mb6.7
IGT **Igoumenitsa** 83.42 326 *e*P P 21 40 04.5 -1.7
CIGN **Sant'Elia a Pi** 83.44 331 P P 21 40 06.0 -0.3
INTR **Introdacqua** 83.44 331 P P 21 40 04.9 -1.4
ATH **Athens Observa** 83.45 323 *e*P P 21 40 04.7 -1.6
KEK **Kerkira** 83.46 326 *e*P P 21 40 04.7 -1.6
FIAM **Fiamignano** 83.46 332 P P 21 40 06.7 +0.3
APE **Apeiranthos** 83.48 321 *e*P P 21 40 05.2 -1.3
APE **Apeiranthos** 83.48 321 *e*P P 21 40 04.6 -1.8
APE **Apeiranthos** 83.48 321 ⇓*i*P P 21 40 05.0 -1.4
APE **Apeiranthos** 83.48 321 P P 21 40 05.6 -0.8
IMI **Imperia** 83.48 336 P P 21 40 06.6 +0.2
SAOF **Saorge** 83.50 336 *e*P P 21 40 06.7 +0.2
AUTN **L'Aution** 83.52 337 *e*P P 21 40 06.9 +0.2
OG25 **Le Caire** 83.52 338 *e*P P 21 40 07.5 +0.8
WHFO **Wadi Hawf** 83.53 290 ⇓P P 21 40 07.2 +0.4
SNR=95
LATE **Laterza** 83.55 333 P P 21 40 06.8 0.0
TOUF **Mont Tournerai** 83.55 337 *e*P P 21 40 07.4 +0.6
KVR **Kavouri** 83.55 323 *e*P P 21 40 05.5 -1.3
RBK **Rabkut** 83.57 289 ⇑P P 21 40 07.2 +0.3
SNR=36
MATF **Mathat** 83.59 342 *e*P P 21 40 08.2 +1.2
LUCF **Luceram** 83.64 337 *e*P P 21 40 07.5 +0.2
SBF **Sospel** 83.64 337⇑ *i*P P 21 40 07.5 +0.2
comp=Z,2µm,1.2s,mb6.8
SBF **Sospel** 83.64 337⇑ *i*P P 21 40 07.5 +0.2
SBF pmax pmax
comp=Z,976nm,1.2s,mb6.8
SBF **Sospel** 83.64 337⇑ *i*P P 21 40 07.5 +0.2
comp=Z,976nm,1.2s,mb6.8
RNI2 **Rionero Sannit** 83.64 331 P P 21 40 08.0 +0.7
FG5 **Orsara di Pugl** 83.66 330 P P 21 40 07.8 +0.4
VVLD **Villa Vallelon** 83.66 332 P P 21 40 07.2 -0.2
MIDA **Miranda** 83.67 331 P P 21 40 07.8 +0.4
MVIF **Mont Vial** 83.69 337 *e*P P 21 40 08.1 +0.6
OLEF **Ile d'Oleron** 83.69 343 *e*P P 21 40 08.7 +1.1
RJF **Les Rejaudoux** 83.72 341⇑ *i*P P 21 40 08.2 +0.5
comp=Z,1µm,1.3s,mb6.6
RJF *e*R
comp=Z,7µm,22.2s
RJF **Les Rejaudoux** 83.72 341⇑ *i*P P 21 40 08.2 +0.5
RJF pmax pmax
comp=Z,614nm,1.3s,mb6.6
RJF MLR MLR
comp=Z,7µm,22.3s,MS6.0
RJF **Les Rejaudoux** 83.72 341⇑ *i*P P 21 40 08.2 +0.5
comp=Z,614nm,1.3s,mb6.6
RJF LR LR
comp=Z,7µm,22.3s,MS6.0
SDI **San Donato** 83.75 331 P P 21 40 07.6 -0.2
MON **Monaco** 83.77 336 P P 21 40 08.0 +0.1
REVF **Revere** 83.77 337 *e*P P 21 40 08.2 +0.2
CERT **Cerreto** 83.79 332 P P 21 40 07.8 -0.3
MTCE **Montecelio** 83.80 332 P P 21 40 07.5 -0.6
SGG **Gregorio Mates** 83.86 331 P P 21 40 08.3 -0.1
PSB1 **Pescosannita** 83.86 330 P P 21 40 08.2 -0.2
STOF **St-Etienne Org** 83.91 338 *e*P P 21 40 09.5 +0.8
CAF **Calviac** 83.95 341⇑ *i*P P 21 40 09.8 +0.9
comp=Z,972nm,1.2s,mb6.5
CAF **Calviac** 83.95 341⇑ *i*P P 21 40 09.8 +0.9
CAF pmax pmax
comp=Z,486nm,1.2s,mb6.5
CAF **Calviac** 83.95 341⇑ *i*P P 21 40 09.8 +0.9
comp=Z,486nm,1.2s,mb6.5
JSC **Jenkinsville** 83.99 43 *e*P P 21 40 09.2 +0.1
TOLF **Tolfa** 83.99 333 P P 21 40 09.1 0.0
LKD **Levkas** 84.02 325 *e*P P 21 40 07.7 -1.5
SMRF **Simiane la Rot** 84.02 338⇑ *i*P P 21 40 10.4 +1.2
comp=Z,1µm,1.3s,mb6.7
SMRF **Simiane la Rot** 84.02 338⇑ *i*P P 21 40 10.4 +1.2
comp=Z,1µm,1.3s,mb6.9
RDP **Rocca di Papa** 84.05 332 P P 21 40 09.5 +0.1
MRLC **Muro Lucano** 84.05 330 P P 21 40 09.4 0.0
MA9 **Marino** 84.06 332 P P 21 40 09.7 +0.3
RFI **Roccamonfina** 84.06 331 P P 21 40 09.4 0.0
KARP **Karpathos** 84.07 319 *e*P P 21 40 08.5 -1.0
SANT **Santorini** 84.10 321 *e*P P 21 40 07.5 -2.2
comp=Z,194nm,1.0s,mb6.2
SANT *e* 21 40 14.1
LAV9 **Lanuvio** 84.13 332 P P 21 40 10.2 +0.4
FRF **La Foret Royal** 84.13 337⇑ *i*P P 21 40 10.1 +0.3
comp=Z,2µm,1.4s,mb6.7
FRF **La Foret Royal** 84.13 337⇑ *i*P P 21 40 10.1 +0.3
FRF pmax pmax
comp=Z,792nm,1.4s,mb6.7
FRF **La Foret Royal** 84.13 337⇑ *i*P P 21 40 10.1 +0.3
comp=Z,792nm,1.4s,mb6.7
LFF **La Frestale** 84.23 341 *e*P P 21 40 11.0 +0.7
comp=Z,1µm,1.3s,mb6.6
LFF **La Frestale** 84.23 341 *e*P P 21 40 11.0 +0.7
LFF pmax pmax
comp=Z,631nm,1.3s,mb6.6
LFF **La Frestale** 84.23 341 *e*P P 21 40 11.0 +0.7
comp=Z,630nm,1.3s,mb6.6
TAVF **Tavernes** 84.23 337 *e*P P 21 40 11.0 +0.7
ABTO **Aybut** 84.25 290 ⇓P P 21 40 10.9 +0.5
SNR=51
RLS **Riolos of Patr** 84.27 324 *e*P P 21 40 09.6 -0.9
PRAF **Pradon** 84.28 338 *e*P P 21 40 11.6 +1.1
SGO **Sicignano** 84.29 330 P P 21 40 09.4 -1.2
SLCN **Sala Consilina** 84.33 329 P P 21 40 12.1 +1.3
LASF **Ste Croix** 84.35 339 *e*P P 21 40 12.0 +1.1
comp=Z,792nm,1.4s,mb6.3
LMR **La Mourre** 84.38 337⇑ *i*P P 21 40 11.5 +0.5
comp=Z,3µm,1.2s,mb6.9
LMR **La Mourre** 84.38 337⇑ *i*P P 21 40 11.5 +0.5
comp=Z,1µm,1.2s,mb6.9
TREF **Trevaresse** 84.40 338 *e*P P 21 40 12.2 +1.1
PUYF **Puyloubier** 84.40 338 *e*P P 21 40 12.0 +0.8
PGF **Pioggiola** 84.43 335⇑ *i*P P 21 40 11.5 +0.2
comp=Z,970nm,1.4s,mb6.4
PGF **Pioggiola** 84.43 335⇑ *i*P P 21 40 11.5 +0.2
PGF pmax pmax
comp=Z,485nm,1.4s,mb6.4
PGF **Pioggiola** 84.43 335⇑ *i*P P 21 40 11.5 +0.2
comp=Z,485nm,1.4s,mb6.4
VLS **Valsamata** 84.50 325 *e*P P 21 40 10.8 -0.9
GELF **Grande-Etoile** 84.61 338 *e*P P 21 40 12.9 +0.7
CORF **Corte** 84.62 335 *e*P P 21 40 12.4 +0.1
CUC **Castrocucco** 84.63 329 P P 21 40 11.4 -0.9
CNNC **Cliffs of the** 84.69 40 *e*P P 21 40 12.9 +0.3
comp=Z,134nm,1.0s,mb6.0
CNNC *e*PP PP 21 43 27.5 -1.3
CNNC LR LR
comp=Z,3µm,22.0s,MS5.6
MOIG **Morelia** 84.78 66 *i* P P 21 40 12.9 -0.2
ZKR **Zakros** 84.84 320 *e*P P 21 40 13.1 -0.3
VLI **Veliai** 84.84 323 *e*P P 21 40 10.1 -3.3
ITM **Ithomi** 84.85 324 *e*P P 21 40 12.2 -1.2
NPS **Neapolis** 84.98 320 *e*P P 21 40 12.4 -1.7
TIP **Timpagrande** 85.03 328 P P 21 40 14.4 +0.1
KYTH **Kithira** 85.18 322 *e*P P 21 40 13.5 -1.6
EIL **Eilat** 85.24 310 *e*P P 21 40 15.9 +0.6
comp=Z,13µm,1.4s
XRY **Khrisi** 85.27 320 *e*P P 21 40 15.5 0.0
MTLF **Montolieu** 85.42 340⇑ *i*P P 21 40 16.3 0.0
comp=Z,210nm,1.1s,mb5.9
MTLF **Montolieu** 85.42 340⇑ *i*P P 21 40 16.3 0.0
MTLF pmax pmax
comp=Z,105nm,1.1s,mb5.9
MTLF **Montolieu** 85.42 340⇑ *i*P P 21 40 16.3 0.0
comp=Z,105nm,1.1s,mb5.9
VAM **Vamos** 85.45 321 *e*P P 21 40 14.8 -1.6
GRI **Girifalco** 85.46 328 P P 21 40 16.5 0.0
SIVA **Sivas** 85.53 320 *e*P P 21 40 16.4 -0.4
LRDF **Laroque-de-Fa** 85.73 340 *e*P P 21 40 17.5 -0.3
TOO **Toolangi** 85.90 187 *e*P P 21 40 18.6 0.0
comp=Z,55nm,1.2s,mb5.7
TOO **Toolangi** 85.90 187 *e*P P 21 40 18.6 0.0
TOO pmax pmax
comp=Z,55nm,1.2s,mb5.7
GVD **Gavdhos** 85.99 321 *e*P P 21 40 19.5 +0.4
GVD **Gavdhos** 85.99 321 *e*P P 21 40 18.5 -0.6
comp=Z,202nm,0.9s,mb6.3
KLBR **Kellerberrin** 86.02 211 *e*P P 21 40 18.0 -1.2
comp=Z,136nm,1.2s,mb6.0
KLBR *e* pP 21 40 28.2 -3.9
MLS **Moulis** 86.04 341 *e*P P 21 40 19.3 -0.1
CARF **Carcanieres** 86.04 340 *e*P P 21 40 19.1 -0.3
SJAF **Saint Jean de** 86.08 339 *e*P P 21 40 19.3 -0.3
FILF **Fillols** 86.09 339 *e*P P 21 40 19.3 -0.3
EJON **La Jonquera** 86.11 339 P P 21 40 20.4 +0.6
comp=Z,58nm,1.0s,mb5.8
EPF **Esparros** 86.14 341⇑ *i*P P 21 40 19.1 -0.7
comp=Z,170nm,1.2s,mb5.9
EPF **Esparros** 86.14 341⇑ *i*P P 21 40 19.1 -0.7
EPF pmax pmax
comp=Z,85nm,1.2s,mb5.8
EPF **Esparros** 86.14 341⇑ *i*P P 21 40 19.1 -0.7
comp=Z,85nm,1.2s,mb5.8
LABF **Labassere** 86.18 341 *e*P P 21 40 19.9 -0.1
SOI **Samo** 86.26 328 P P 21 40 19.9 -0.5
DGI **Dorgali Grotta** 86.31 334 P P 21 40 21.2 +0.5
EALK **Alkurruntz** 86.34 342 P P 21 40 20.7 -0.2
comp=Z,343nm,1.4s,mb6.4
VIEF **Viey** 86.35 341 *e*P P 21 40 20.8 -0.1
RESF **Ens** 86.35 341 *e*P P 21 40 21.4 +0.5
VALF **Valcebollere** 86.36 340 *e*P P 21 40 21.1 +0.2
SJPF **Ste Jean** 86.39 342⇑ *i*P P 21 40 21.2 +0.1
comp=Z,120nm,1.2s,mb5.7
SJPF **Ste Jean** 86.39 342⇑ *i*P P 21 40 21.2 +0.1
SJPF pmax pmax
comp=Z,60nm,1.2s,mb5.7
SJPF **Ste Jean** 86.39 342⇑ *i*P P 21 40 21.2 +0.1
comp=Z,60nm,1.2s,mb5.7
ELIZ **Elizondo** 86.40 342 P P 21 40 20.8 -0.3
ELIZ pmax pmax
comp=Z,111nm,1.1s,mb6.0
ELIZ **Elizondo** 86.40 342 P P 21 40 20.8 -0.3
comp=Z,111nm,1.1s,mb6.0
LARF **Larrau** 86.41 342 *e*P P 21 40 21.3 +0.1
EBIE **Bielsa** 86.51 341 ⇑P P 21 40 22.1 +0.5
comp=Z,108nm,1.2s,mb6.0
ELAN **Lanestosa** 86.70 344 ⇑P P 21 40 22.1 -0.5
comp=Z,157nm,1.2s,mb6.1
MUN **Mundaring** 86.90 212 *e*P P 21 40 22.4 -1.2
EMIR **Miracle** 86.94 340 P P 21 40 23.9 +0.2
comp=Z,821nm,3.0s
EARI **Arriondas** 86.95 345 P P 21 40 23.0 -0.8
comp=Z,398nm,1.7s,mb6.4
ECRI **Cripan** 87.13 343 ⇑P P 21 40 24.4 -0.3
ECRI pmax pmax
comp=Z,39nm,1.2s,mb5.5
ECRI **Cripan** 87.13 343 ⇑P P 21 40 24.4 -0.3
comp=Z,39nm,1.2s,mb5.5
VSL **Villasalto** 87.14 334 *e*P P 21 40 25.1 +0.4

comp=Z,246nm,1.1s,mb6.3
VSL PP PP 21 43 45.1 -3.5
EPON Pontenova 87.25 347 ⇑P **P** **21 40 24.2 -1.1**
comp=Z,305nm,1.3s,mb6.4
AGST Augusta-Monte 87.28 328 P **P** **21 40 24.3 -1.1**
TBI Tubuai 87.34 130 *e*S S 21 50 57.9 -5.0
comp=Z,1μm,27.0s
TBI *e*SS SS 21 56 48.1 +0.2
comp=Z,1μm,29.5s
TBI *e*LR LR 22 08 02.5
comp=Z,8μm,30.0s,baz=332
NWAO Narrogin (SRO) 87.41 210 *e*P **P** **21 40 25.5 -0.6**
NWAO *e* pP 21 40 35.6 -3.4
NWAO LR LR
comp=Z,889nm,22.0s,MS5.1
ESAC San Caprasio 87.56 341 ⇑P **P** **21 40 26.8 0.0**
comp=Z,364nm,1.3s,mb6.5
EPOB Poblet 87.58 340 ⇑P **P** **21 40 26.4 -0.4**
comp=Z,54nm,1.0s,mb5.7
EMAZ Mazaricos 87.89 348 ⇑P **P** **21 40 26.9 -1.4**
comp=Z,180nm,1.6s,mb6.0
STS Santiago 87.89 347 P **P** **21 40 27.7 -0.6**
STS pmax pmax
comp=Z,41nm,1.1s,mb5.6
STS Santiago 87.89 347 P **P** **21 40 27.7 -0.6**
comp=Z,41nm,1.1s,mb5.6
ERTA Horta de San J 88.12 341 P **P** **21 40 29.2 -0.2**
comp=Z,16nm,1.0s,mb5.2
ERUA La Rua 88.16 346 P **P** **21 40 28.6 -1.0**
ERUA pmax pmax
comp=Z,43nm,0.8s,mb5.7
ERUA La Rua 88.16 346 P **P** **21 40 28.6 -1.0**
comp=Z,43nm,0.8s,mb5.7
ECAL Calabor 88.53 346 ⇑P **P** **21 40 30.5 -0.9**
comp=Z,377nm,2.2s,mb6.3
PBRG Braganca 88.67 346 *e*P **P** **21 40 31.0 -1.0**
comp=Z,126nm,1.7s,mb6.0
ETOS Mallorca 88.67 338 P **P** **21 40 32.4 +0.3**
comp=Z,300nm,2.2s,mb6.2
ETOR Torete 88.76 342 ⇑P **P** **21 40 31.8 -0.7**
ETOR pmax pmax
comp=Z,49nm,1.2s,mb5.7
ETOR Torete 88.76 342 ⇑P **P** **21 40 31.8 -0.7**
comp=Z,49nm,1.2s,mb5.7
EMOS Mosqueruela 88.86 341 P **P** **21 40 32.8 -0.1**
comp=Z,107nm,1.7s,mb5.9
PCAB Cabril 88.96 347 *e*P **P** **21 40 32.4 -1.0**
comp=Z,138nm,1.9s,mb6.0
DWPF Disney 89.04 47 *e*P **P** **21 40 34.5 +0.8**
comp=Z,865nm,2.0s,mb6.7
DWPF LR LR
comp=Z,3μm,20.0s,MS5.7
MUKL Al Mukalla 89.09 291⇑*e*P **P** **21 40 34.0 0.0**
PVRL Vila Real 89.34 346 *e*P **P** **21 40 34.3 -0.9**
comp=Z,203nm,1.1s,mb6.4
GUD Guadarrama 89.34 344 ⇑P **P** **21 40 34.5 -0.7**
GUD pmax pmax
comp=Z,41nm,1.1s,mb5.7
GUD Guadarrama 89.34 344 ⇑P **P** **21 40 34.5 -0.7**
comp=Z,40nm,1.1s,mb5.7
OXX Oaxaca 89.47 65 *i* P **P** **21 40 37.0 +1.2**
VHO Vista Hermosa 89.48 65 *i* P **P** **21 40 35.1 -0.7**
PTO Porto 89.61 347 *e*P **P** **21 40 35.9 -0.5**
EIBI Ibiza 89.73 339 ⇑P **P** **21 40 37.0 0.0**
comp=Z,172nm,1.4s,mb6.2
PVIS Viseu 89.91 346 *e*P **P** **21 40 36.8 -1.0**
comp=Z,138nm,1.4s,mb6.1
DGAR Diego Garcia 90.04 259 PFAKE 21 40 50.0 +12
DGAR LR LR
comp=Z,392nm,20.0s,MS4.8
ESDC Sonseca Array 90.24 343 P **P** **21 40 38.4 -1.0**
comp=Z,49nm,1.0s,mb5.8,baz=8.7,slow=4.3,SNR=156
ESDC PKKP PKKPbc 21 58 06.3 -2.1
comp=Z,0.7nm,0.8s,baz=262,slow=1.3,SNR=5.9
ESDC LR LR 22 25 49.4
comp=Z,3μm,21.2s,MS5.7,baz=10.0,slow=39
ESDC Sonseca Array 90.24 343 ⇑P **P** **21 40 38.5 -0.9**
comp=Z,62nm,1.1s,mb5.8
ESLA Sonseca Array 90.24 343 *e*P **P** **21 40 38.3 -1.1**
comp=Z,29nm,1.2s,mb5.5
ESLA LR LR
comp=Z,25μm,21.0s
CMAH Djebel Manchou 90.37 334 P **P** **21 40 38.0 -2.0**
CAEH 'Ain El Ouahch 90.40 334 P **P** **21 40 45.0 +4.9**
EBEN Beniarda 90.40 340 ⇑P **P** **21 40 40.2 +0.1**
comp=Z,408nm,2.0s,mb6.4
PAB San Pablo 90.44 344 *e*P **P** **21 40 39.0 -1.3**
PAB pmax pmax
comp=Z,66nm,1.1s,mb5.9
PAB MLR MLR
comp=Z,5μm,21.0s,MS5.9
PAB San Pablo 90.44 344 *e*P **P** **21 40 39.0 -1.3**
comp=Z,66nm,1.1s,mb5.9
PAB LR LR
comp=Z,5μm,21.0s,MS5.9
CGMA Guelma 90.54 334 P **P** **21 40 41.0 +0.2**
KEST Kesra 90.62 332 P **P** **21 40 41.4 +0.3**
comp=Z,44nm,1.0s,mb5.8,baz=310,slow=2.2,SNR=53
KEST LR LR 22 26 18.6
comp=Z,2μm,20.4s,MS5.5,baz=332,slow=39
PCBR Castelo Branco 90.70 346 *e*P **P** **21 40 40.2 -1.3**
comp=Z,114nm,1.9s,mb5.9
ETOB Tobarra 90.75 341 P **P** **21 40 40.8 -1.0**
comp=Z,471nm,2.8s,mb6.3
CKFL Kef-Lekhel 90.79 334 P **P** **21 40 43.0 +1.1**
DFRA Djebel Bou Aff 90.89 335 P **P** **21 40 50.0 +7.6**
EVIA Vianos 90.95 342 ⇑P **P** **21 40 42.2 -0.5**
EVIA pmax pmax
comp=Z,58nm,1.3s,mb5.8
EVIA Vianos 90.95 342 ⇑P **P** **21 40 42.2 -0.4**
comp=Z,58nm,1.3s,mb5.8
CASM Ain Smara 90.98 334 P **P** **21 40 41.0 -1.8**
TAU Tasmania Unive 91.08 185 *e*P **P** **21 40 43.1 -0.2**
TAU MLR MLR
comp=Z,547nm,22.0s,MS5.0
SNZO South Karori 91.10 165 PFAKE 21 40 50.0 +6.6
SNZO LR LR
comp=Z,3μm,20.0s,MS5.7
CTEI Djebel Teioual 91.19 334 P **P** **21 40 46.0 +2.2**
SET Setif 91.35 335 P **P** **21 40 45.0 +0.5**
EBAN Banos Encina 91.67 343 P **P** **21 40 45.5 -0.5**
EBAN pmax pmax
comp=Z,25nm,1.0s,mb5.5
EBAN Banos Encina 91.67 343 P **P** **21 40 45.5 -0.5**
comp=Z,25nm,1.0s,mb5.5
PESTR Estremoz 91.67 346 *e*P **P** **21 40 44.5 -1.5**
comp=Z,96nm,1.4s,mb5.9
PESTR Estremoz 91.67 346 *e*PP PP 21 44 10.0 -15
PESTR *e*SKS 21 51 45.8
PESTR Estremoz 91.67 346 *e*LQ 22 06 21.4
PESTR *e*LR LR 22 13 00.0
comp=Z,3μm,20.0s
EBAD Badajoz 91.68 345 P **P** **21 40 44.6 -1.4**
comp=Z,93nm,1.2s,mb6.0
CMER Merouana 91.75 335 P **P** **21 40 47.0 +0.6**
EHUE Huescar 91.77 342 ⇑P **P** **21 40 45.8 -0.7**
EHUE pmax pmax
comp=Z,151nm,1.9s,mb6.0
EHUE Huescar 91.77 342 ⇑P **P** **21 40 45.8 -0.6**
comp=Z,151nm,1.9s,mb6.0
EADA Adamuz 91.82 343 ⇑P **P** **21 40 45.9 -0.8**
comp=Z,458nm,3.1s
PMAFR Mafra 91.85 347 *e*P **P** **21 40 43.2 -3.6**
comp=Z,142nm,1.7s,mb6.0
PMAFR Mafra 91.85 347 *e*PP PP 21 44 30.5 +4.3
PMAFR *e*SKS 21 51 45.3
PMAFR Mafra 91.85 347 *e*LQ 22 06 53.9
PMAFR *e*LR LR 22 13 04.0
comp=Z,1μm,20.0s
EQES Quesada 91.88 342 P **P** **21 40 45.7 -1.2**
comp=Z,293nm,2.8s,mb6.1
DHBB Dhamar BB 91.88 294⇑*e*P **P** **21 40 47.8 +0.8**
PLOU Loures 91.90 347 *e*P **P** **21 40 46.4 -0.7**
TEIG Tepich 91.91 56 *e*P **P** **21 40 46.6 -0.5**
TEIG LR LR
comp=Z,2μm,22.0s,MS5.4
EMHD Djebel Mahouad 92.01 337 P **P** **21 40 49.0 +1.4**
EVO Evora 92.07 346⇑*i*P **P** **21 40 46.7 -1.1**
comp=Z,189nm,1.4s,mb5.9
EVO *e*R
comp=Z,5μm,20.8s
EBNR Beni Rached 92.28 338 P **P** **21 40 50.0 +1.1**
ELUQ Luque 92.35 343 ⇑P **P** **21 40 48.5 -0.6**
ELUQ pmax pmax
comp=Z,46nm,1.2s,mb5.7
ELUQ Luque 92.35 343 ⇑P **P** **21 40 48.5 -0.6**
comp=Z,46nm,1.2s,mb5.7
BBSR BB Station 92.42 32 PFAKE 21 41 00.0 +11
BBSR LR LR
comp=Z,1μm,19.0s,MS5.4
ECOG Cogollos-Vega 92.48 342 P **P** **21 40 48.4 -1.4**
ECOG pmax pmax
comp=Z,29nm,1.2s,mb5.5
ECOG Cogollos-Vega 92.48 342 P **P** **21 40 48.4 -1.4**
comp=Z,29nm,1.2s,mb5.5
ENIJ Nijar 92.50 341 P **P** **21 40 48.6 -1.2**
ENIJ pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
ENIJ Nijar 92.50 341 P **P** **21 40 48.6 -1.2**
comp=Z,8.0nm,0.7s,mb5.2
PBEJ Beja 92.54 346 *e*P **P** **21 40 49.2 -0.8**
comp=Z,102nm,1.2s,mb6.1
EMIN Mina Concepcio 92.59 345 ⇑P **P** **21 40 49.2 -1.0**
comp=Z,143nm,1.4s,mb6.2
EANR 'Ain N'Sour 92.71 338 P **P** **21 40 51.0 +0.2**
ELOJ Sierra Loja 92.72 343 P **P** **21 40 50.0 -0.9**
ELOJ pmax pmax
comp=Z,24nm,1.1s,mb5.5
ELOJ Sierra Loja 92.72 343 P **P** **21 40 50.0 -0.9**
comp=Z,24nm,1.1s,mb5.5
ERON Agron 92.78 343 P **P** **21 40 49.3 -1.9**
comp=Z,7.4nm,0.8s,mb5.2
RPZ Rata Peaks 92.87 168 LR LR 22 17 36.4
comp=Z,2μm,21.3s,MS5.6,baz=360,slow=32
EGUA Guajares 92.91 342 P **P** **21 40 50.4 -1.3**
EGUA pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
EGUA Guajares 92.91 342 P **P** **21 40 50.4 -1.4**
comp=Z,9.4nm,1.1s,mb5.1
EGRO El Granado 92.95 346 P **P** **21 40 50.7 -1.2**
comp=Z,125nm,1.2s,mb6.2
PTEO Sao Teotonio 93.14 346 *e*P **P** **21 40 52.0 -0.8**
comp=Z,148nm,1.2s,mb6.3
ETRT Tiaret 93.20 338 P **P** **21 40 53.0 -0.1**
ESPR Esparza 93.32 344 ⇑P **P** **21 40 53.0 -0.7**
comp=Z,133nm,1.3s,mb6.2
EMIJ Mijas 93.41 343 P **P** **21 40 52.8 -1.2**
comp=Z,14nm,0.8s,mb5.4
EJIF Jimena Fronter 93.65 344 P **P** **21 40 55.3 +0.1**
EJIF pmax pmax
comp=Z,176nm,1.3s,mb6.3
EJIF Jimena Fronter 93.65 344 P **P** **21 40 55.3 +0.1**
comp=Z,176nm,1.3s,mb6.3
RKT Rikitea 95.10 119 *e*PP PP 21 44 49.8 -1.9
comp=Z,175nm,29.5s
RKT Rikitea 95.10 119 *e*SKSac SKSac 21 51 31.6 -2.5
comp=Z,862nm,26.5s
RKT *e*SP SP 21 53 31.0 +0.8
comp=Z,1μm,35.0s
RKT *e*SS SS 21 58 38.9 -0.9
comp=Z,2μm,29.0s
RKT *e*LR LR 22 11 14.6
comp=Z,3μm,34.8s,baz=314
TGUH Tegucigalpa,Un 97.42 59 *e*P **P** **21 41 12.3 -0.1**
comp=Z,47nm,1.3s,mb5.8
TGUH *e* pP 21 41 25.5 +0.2
TGUH LR LR
comp=Z,2μm,22.0s,MS5.5
PMAR Madeira 98.90 352 *e*P **P** **21 41 20.1 +1.1**
MSEY Mahe Island 99.28 273 *e*P **P** **21 41 20.3 -0.4**
comp=Z,53nm,1.8s,mb5.8
MSEY LR LR
comp=Z,479nm,20.0s,MS5.0
JTS JuntasAbangare 101.78 60 PFAKE 21 41 40.0 +8.2
JTS LR LR
comp=Z,176nm,21.0s,MS4.6
PAYG Puerto Ayora 107.21 71 PFAKE 21 46 20.0 +15
PAYG LR LR
comp=Z,856nm,20.0s,MS5.3
KMBO Kilima Mbogo 108.48 290 Pdiff Pdif 21 42 01.4 -0.2
comp=Z,0.7nm,0.3s,baz=238,slow=24,SNR=3.9
KMBO Kilima Mbogo 108.48 290 Pdif Pdif 21 42 01.4 -0.2
KMBO LR LR
comp=Z,3μm,20.0s,MS5.8
SDV Santo Domingo 110.67 48 PFAKE 21 46 20.0 +8.7
SDV LR LR
comp=Z,547nm,21.0s,MS5.1
BBGH Gun Hill 111.83 36 PFAKE 21 46 30.0 +17
BBGH LR LR
comp=Z,2μm,22.0s,MS5.7
OTAV Otavalo 113.67 60 PFAKE 21 46 30.0 +13
OTAV LR LR
comp=Z,505nm,19.0s,MS5.1
RPN Rapa Nui 113.87 104 PFAKE 21 46 30.0 +13
RPN LR LR
comp=Z,540nm,20.0s,MS5.1
TOA0 Torodi Ar. Sit 114.09 331 *e*Pdif Pdif 21 42 27.5 +1.0
TOA0 *e*PKiKP PKiKP 21 46 16.8 -1.0
TORD Torodi Ar. Bea 114.09 331 Pdiff Pdif 21 42 27.4 +0.9
comp=Z,2.9nm,0.9s,baz=8.2,slow=4.2,SNR=14
TORD PKP PKiKP 21 46 17.0 -0.8
comp=Z,15nm,1.0s,baz=11,slow=1.6,SNR=91
TORD PKKPbc PKKPbc 21 56 56.4 -2.2
comp=Z,1.9nm,0.6s,baz=202,slow=1.6,SNR=20
TORD PKKPab PKKPab 21 57 04.2 -1.2
comp=Z,5.2nm,0.9s,baz=215,slow=3.5,SNR=12
DRV Dumont d'Urvil 115.20 186 Pdif Pdif 21 42 30.0 -1.4
DRV Dumont d'Urvil 115.20 186 PP PP 21 47 17.0 -3.5
DRV SP SP 21 56 53.0 -2.2
DRV SS SS 22 03 12.0 -2.5
CASY Casey 119.09 199 *e*P PKPdf 21 46 24.5 -2.9
CASY LR LR
comp=Z,626nm,19.0s,MS5.3
ATAH Atahualpa 119.49 65 PKP PKPdf 21 46 29.5 +1.3
comp=Z,9.5nm,0.8s,baz=338,slow=5.2
MSKU Masuku 122.46 311 PFAKE 21 46 50.0 +16
MSKU LR LR
comp=Z,14nm,21.0s
LIC Lamto 122.68 335 *e*PKP1 PKPdf 21 46 33.6 -0.7
comp=Z,155nm,1.1s
LIC *e*R
comp=Z,3μm,22.5s
LIC Lamto 122.68 335 *e*PKP PKPdf 21 46 33.6 -0.7
LIC LR LR
comp=Z,1μm,22.5s,MS5.5
MIR Mirnyy 123.65 205 *d*/*i*PKIKP PKPdf 21 46 36.0 -0.2
MIR *i* 21 46 54.0
MIR pmax pmax
comp=Z,400nm,1.1s
NNA Nana 124.33 67 PKP PKPdf 21 46 36.5 -1.0
comp=Z,15nm,1.0s,baz=329,slow=2.6,SNR=4.6
NNA Nana 124.33 67 PKP PKPdf 21 46 36.5 -1.0
NNA *e*PKPdf PKPdf 21 46 37.1 -0.4
NNA LR LR
comp=Z,174nm,21.0s,MS4.7
LSZ Lusaka 125.01 288 *e*PKIKP PKPdf 21 46 38.9 +0.1
LSZ *e* 21 48 28.6
LSZ MLR MLR
comp=Z,3μm,20.0s,MS5.9
VNDA Vanda 125.68 178 PKP PKPdf 21 46 37.2 -2.9
comp=Z,12nm,0.8s,baz=320,slow=4.1,SNR=56
VNDA PKKPbc 21 56 16.7
comp=Z,5.2nm,1.0s,baz=229,slow=4.2,SNR=15
VNDA Vanda 125.68 178 *e*PKPdf PKPdf 21 46 37.3 -2.8
VNDA LR LR
comp=Z,758nm,21.0s,MS5.3
SBA Scott Base 126.17 177 *e*PKIKP PKPdf 21 46 39.0 -2.0
SBA MLR MLR
comp=Z,1μm,21.0s,MS5.5
SAML Samuel 129.69 51 *e*PKPdf PKPdf 21 46 47.4 -0.3
SAML LR LR
comp=Z,764nm,20.0s,MS5.4
ARE Arequipa 131.05 66 *e*PKIKP PKPdf 21 46 51.0 +0.7
LPAZ La Paz 132.93 62 PKP PKPdf 21 46 53.8 0.0
comp=Z,16nm,1.2s,baz=358,slow=5.0,SNR=29
LPAZ PP PP 21 49 25.8 +6.3
comp=Z,5.5nm,1.1s,baz=12,slow=6.6,SNR=3.9
LPAZ La Paz 132.93 62 PKP PKPdf 21 46 53.8 0.0
LPAZ *e*PKPdf PKPdf 21 46 54.3 +0.4
LPAZ PP PP 21 49 25.8 +6.3
LPAZ LR LR
comp=Z,882nm,21.0s,MS5.5
LBTB Lobatse 133.71 281 *e*PKIKP PKPdf 21 46 55.5 +0.2
LBTB MLR MLR
comp=Z,1μm,21.0s,MS5.6
MAW Mawson 133.96 212 *e*P PKPdf 21 46 53.6 -2.2
comp=Z,13nm,0.7s
MAW Mawson 133.96 212 PKP PKPdf 21 46 53.3 -2.5
comp=Z,28nm,1.0s,baz=27,slow=3.5,SNR=9.9
MAW Mawson 133.96 212 PKIKP PKPdf 21 46 53.3 -2.5
MAW pmax pmax
comp=Z,28nm,1.0s
TSUM Tsumeb 134.58 294 *e*P 21 46 49.5
TSUM *e*PKPdf PKPdf 21 46 57.0 0.0
TSUM LR LR
comp=Z,2μm,20.0s,MS5.7
BOSA Boshof 136.36 278 PKhKP 21 46 47.2
comp=Z,7.1nm,1.0s,baz=354,slow=3.7,SNR=8.0
BOSA PKP PKPdf 21 46 58.7 -1.5
comp=Z,32nm,1.2s,baz=73,slow=6.1,SNR=12
BOSA PP PP 21 49 41.9 +0.6
comp=Z,8.8nm,0.9s,baz=84,slow=5.4,SNR=3.7
BOSA Boshof 136.36 278 PKHKP 21 46 47.2
BOSA 21 46 58.7
BOSA 21 49 41.9
BOSA pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 136.36 278 *e*PKP 21 46 49.3
BOSA PKP PKPdf 21 46 58.7 -1.6
BOSA PP PP 21 49 41.9 +0.6
BOSA LR LR
comp=Z,1μm,20.0s,MS5.7
SIV San Ignacio 136.69 54 PKhKP 21 46 48.6
comp=Z,4.8nm,0.7s,baz=304,slow=3.0,SNR=26
SIV PKP PKPdf 21 47 00.1 -0.7
comp=Z,20nm,1.1s,baz=330,slow=1.6,SNR=17
SIV PP PP 21 49 44.1 +0.7
comp=Z,2.6nm,0.8s,baz=312,slow=13,SNR=3.6
RCBR Riachuelo 136.76 15 PFAKE 21 47 10.0 +9.0
RCBR LR LR
comp=Z,1μm,19.0s,MS5.6
LVC Limon Verde 137.28 69 PKhKP 21 46 51.7
comp=Z,4.6nm,0.8s,baz=68,slow=5.4,SNR=2.6
LVC PKP PKPdf 21 47 01.1 -0.9
comp=Z,13nm,0.9s,baz=164,slow=0.3,SNR=8.2
LVC Limon Verde 137.28 69 PKP 21 46 51.7
LVC *e*PKPdf PKPdf 21 47 02.9 +0.9
LVC LR LR
comp=Z,1μm,20.0s,MS5.7
QSPA South Pole Qui 138.09 180 *e*P 21 46 50.2
QSPA *e*PKPdf PKPdf 21 47 02.1 -1.4
QSPA LR LR
comp=Z,1μm,21.0s,MS5.7
ASCN Ascension 138.58 343 PFAKE 21 47 20.0 +16
ASCN LR LR
comp=Z,321nm,22.0s,MS5.0
TLL Tololo Astrono 141.34 79⇓*i*P PKPdf 21 47 02.9 -6.4
SUR Sutherland 141.71 277 *e*P PKPdf 21 47 00.3 -10
SUR *e*PKPdf PKPdf 21 47 06.1 -4.0
SUR LR LR
comp=Z,391nm,20.0s,MS5.2
SYO Syowa Base 142.66 213⇑*e*P PKPdf 21 47 05.0 -6.7
CLCH Cerro Calan 143.56 83⇑*i*P PKPdf 21 47 07.4 -5.9
FCH Farellones 143.68 82⇑*i*P PKPdf 21 47 08.1 -5.4
SHEL Horse Pasture 143.75 326 *e*PKPdf PKPdf 21 47 12.2 -1.4
SHEL LR LR
comp=Z,505nm,22.0s,MS5.2
CFAA Coronel Fontan 143.94 78 PKhKP 21 47 09.4
baz=300,slow=3.0
NICH Los Niches 144.06 85⇓*e*P PKPdf 21 47 04.3 -10
CAM3 Guarapari 150.00 28⇓*i*P PKPdf 21 47 25.0 +0.9
CAM3 *i* 21 47 30.6
CAM3 *i* 21 47 33.8
CAM3 *i* 21 47 38.0
CAM4 Nova Friburgo 150.81 33⇓*i*P PKPdf 21 47 24.9 -0.5
CAM4 *i* 21 47 30.6
CAM4 *i* 21 47 33.8
CAM4 *i* 21 47 38.1
NVL N'lazarevskaya 151.40 205*c* *i*PKIKP PKPdf 21 47 28.8 +2.5
NVL *i* 21 47 37.8
NVL *i* 21 51 10.5
NVL pmax pmax
comp=Z,226nm,1.1s
TRQA Tornquist 151.92 82 PKPdf PKPdf 21 47 24.2 -2.8
TRQA PKPbc PKPbc 21 47 32.1 -1.4
TRQA Tornquist 151.92 82 *e*PKPdf PKPdf 21 47 24.6 -2.5
TRQA *e*PKPbc PKPbc 21 47 32.6 -0.9
TRQA LR LR
comp=Z,1μm,21.0s,MS5.8
USHA Ushuaia 153.06 120 PKPbc PKPbc 21 47 34.4 -1.7
comp=Z,21nm,0.9s,baz=347,slow=2.1,SNR=6.9
USHA PP PP 21 51 27.5 +6.6
comp=Z,6.7nm,1.0s,baz=253,slow=4.6,SNR=3.1
PMSA Palmer Station 153.84 143 PKPbc PKPbc 21 47 34.2 -3.6
comp=Z,75nm,1.0s,baz=204,slow=3.2,SNR=5.7
PMSA PKPab PKPab 21 47 49.6 -1.4
comp=Z,76nm,1.0s,baz=181,slow=3.6,SNR=5.3
PMSA Palmer Station 153.84 143 PKPbc PKPbc 21 47 34.2 -3.6
PMSA PKPab PKPab 21 47 49.6 -1.4
PMSA LR LR
comp=Z,1μm,19.0s,MS5.7
SNAA Sanae 154.30 197 PKP PKPdf 21 47 27.4 -3.1
comp=Z,4.8nm,1.2s,baz=199,slow=3.3,SNR=12
SNAA PKPbc PKPbc 21 47 36.1 -2.7
comp=Z,12nm,1.0s,baz=183,slow=1.3,SNR=38
SNAA PKPab PKPab 21 47 51.1 -1.8
comp=Z,25nm,1.1s,baz=96,slow=3.5,SNR=16
SNAA PP PP 21 51 26.0 -1.9
comp=Z,5.8nm,1.1s,baz=140,slow=7.9,SNR=6.5
SNAA Sanae 154.30 197 *e*PKPdf PKPdf 21 47 27.1 -3.4
SNAA *e* 21 47 49.8
SNAA *e* 21 51 24.4
SNAA Sanae 154.30 197 PKIKP PKPdf 21 47 27.4 -3.1
SNAA 21 47 51.1
SNAA 21 51 26.0
SNAA pmax pmax
comp=Z,5.0nm,1.2s
SNAA Sanae 154.30 197 *e*PKPdf PKPdf 21 47 27.5 -3.0
SNAA *e*PKPbc PKPbc 21 47 36.2 -2.6
VNA2 Neumayer--Watz 155.74 195 *e*PKPdf PKPdf 21 47 29.6 -2.9
baz=199,slow=0.4
VNA2 *e* 21 47 56.5
VNA2 *e* 21 48 09.2
VNA2 *e* 21 48 14.6
VNA2 *e* 21 51 35.6
VNA3 Neumayer Olymp 155.82 193 *e*PKPdf PKPdf 21 47 29.2 -3.4
VNA3 *e* 21 47 56.8
VNA3 *e* 21 48 09.1
VNA3 *e* 21 48 15.3
VNA3 *e* 21 51 34.5
VNA1 Neumayer--Stat 156.12 194 *e*PKPdf PKPdf 21 47 28.7 -4.3
VNA1 *e* 21 47 58.0
VNA1 *e* 21 48 11.2
VNA1 *e* 21 48 16.4
EFI East Falkland 159.08 111 PFAKE 21 47 50.0 +13
EFI LR LR
comp=Z,602nm,20.0s,MS5.4
HOPE Hope Point 171.05 136 PFAKE 21 48 00.0 +13
HOPE LR LR
comp=Z,856nm,22.0s

WEL 12 21:33:32.5±0.4,3555S×17878E,h33km,ML3.6/7,Error ellipse: s-maj=8.6km s-min=3.8km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**191**	P*		Pb	21 34 04.5	-4.5
MXZ				S*		Sb	21 34 27.4	-6.5
PUZ	**Puketiti**	**2.55**	**189**	PN		Pn	21 34 11.0	-0.5
PUZ				SN		Sn	21 34 39.6	-1.8
PUZ				SN		Sn	21 34 39.8	-1.6
MWZ	**Matawai**	**2.95**	**199**	P*		Pb	21 34 17.1	-7.4
MWZ				S*		Sb	21 34 51.9	-8.2
URZ	**Urewera**	**3.02**	**206**	P*		Pb	21 34 17.6	-7.9
URZ				*e*S*		Sb	21 34 53.2	-8.6
URZ				S*		Sb	21 34 53.5	-8.4
KNZ	**Kokohu**	**3.57**	**194**	*e*PN		Pn	21 34 23.0	-2.6
BKZ	**Black Stump Fm**	**4.04**	**206**	*e*P*		Pb	21 34 31.6	-11
BFZ	**Birch Farm**	**5.50**	**201**	*e*PN		Pn	21 34 48.5	-3.5
MRZ	**Mangatainoka R**	**5.69**	**205**	*e*PN		Pn	21 34 50.3	-4.4

*THR **12** 22:05:55.2±0.5,3308N×5840E,h15km,ML3.6*
*TEH **12** 22:05:56.6,3299N×5836E,h7km,Mn3.6*
CSEM 12 22:05:55.6±0.1,3304N×5836E,h16km,ML3.6,Error ellipse: s-maj=2.3km s-min=1.9km az=39.0,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITEG		**0.35**	**113**	*e*Pg		Pg	22 06 02.5	-0.4
IKOO		**0.82**	**138**	*e*Pg		Pg	22 06 11.0	-0.5
IMON		**1.11**	**82**	*e*Pg		Pg	22 06 17.0	0.0

IDAH		1.30	103	*e*Pg	Pg	22 06 19.7	-1.0
IMOG	Moghan	3.17	14	*e*Pn	Pn	22 06 46.6	+1.8
KRBR	Kerman	3.34	205	*e*Pn	Pn	22 06 50.0	+2.9
KRBR				*e*Sg	Sg	22 07 40.8	-2.0
KRBR				AML	AML	22 07 51.4	
	comp=E,283nm,0.6s						
KRBR				AML	AML	22 07 54.0	
	comp=N,281nm,0.6s						
KRBR	Kerman	3.34	205	*e*Pn	Pn	22 06 50.0	+2.9
	SNR=52						
KRBR				*e*Sg	Sg	22 07 40.8	-2.0
	SNR=90						
IAKL	Akhlamad	3.55	5	*e*Pn	Pn	22 06 52.3	+2.3
IMYA	Miamay	3.60	23	*e*Pn	Pn	22 06 53.7	+3.0
ZHSF	Zahedan	3.99	148	*e*Pn	Pn	22 06 58.1	+2.1
ZHSF				AML	AML	22 08 12.2	
	comp=N,23nm,0.6s						
ZHSF				AML	AML	22 08 26.4	
	comp=E,25nm,0.6s						
ISFR	Esferayen	4.01	356	*e*Pn	Pn	22 06 59.0	+2.7
IEMG	Emamqoli	4.37	3	*e*Pn	Pn	22 07 03.5	+2.2
ISHV	Shirvan	4.52	353	*e*Pn	Pn	22 07 05.9	+2.5
MRVT	Maraveh tapeh	4.97	339	*e*Pn	Pn	22 07 11.3	+1.7
MRVT				AML	AML	22 08 07.9	
	comp=N,87nm,0.4s						
IZEF	Zefreh	5.07	270	*e*Pn	Pn	22 07 12.4	+1.4
IGAR	Garneh	5.26	263	*e*Pn	Pn	22 07 16.1	+2.6
ISFB	Sefidab	5.27	286	*e*Pn	Pn	22 07 14.4	+0.7
IFIR	Firoozkooh	5.32	301	*e*Pn	Pn	22 07 15.8	+1.5
IPAR	Pars	5.54	236	*e*Pn	Pn	22 07 21.7	+4.3
IKLH	Kalahroud	5.70	275	*e*Pn	Pn	22 07 21.2	+1.7
IVRN	Varamin	5.84	291	*e*Pn	Pn	22 07 22.9	+1.3
DAMV	Damavand	5.89	298	*e*Pn	Pn	22 07 24.4	+2.2
DAMV				AML	AML	22 09 15.0	
	comp=N,18nm,0.6s						
DAMV				AML	AML	22 09 20.7	
	comp=E,26nm,0.7s						
IAFJ	Afjeh	6.17	299	*e*Pn	Pn	22 07 28.7	+2.7
IPIR	Pirpir	6.30	269	*e*Pn	Pn	22 07 31.0	+3.2
IMHD	Mahdasht	6.89	295	*e*Pn	Pn	22 07 37.8	+1.9
ASAO	Ashtian	7.10	285	*e*Pn	Pn	22 07 41.1	+2.3
IRAZ	Razeghan	7.37	291	*e*Pn	Pn	22 07 44.5	+2.0

ISCJB ***12*** *22:33:02.9±2.2, 11.39S±0.08×166.29E±0.08, h33km±19km, mb4.4/15, MS4.0/3, Error ellipse: s-maj=15.7km s-min=9.9km az=85.6*

IDC ***12*** *22:33:02.3±4.8, 11.35S×166.32E, h18km±28km, mb4.2/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.2/11, ML3.2/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/31, Error ellipse: s-maj=31.0km s-min=20.7km az=106.0*

NEIC ***12*** *22:33:06.2±1.4, 11.37S×166.37E, h47km±13km, mb4.6/6, Error ellipse: s-maj=10.7km s-min=8.5km az=220.0*

ISC 12 22:33:05.9±1.6, 11.36S±0.08×166.34E±0.07, h43km±14km, n31, σ0=89/29, mb4.4/15, MS4.0/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.57	286	P	Pn	22 34 41.7	+1.7
	23nm,0.3s,baz=249,slow=1.3,SNR=18						
HNR				Sn	Sn	22 35 52.3	-1.3
	22nm,0.3s,baz=90,slow=19,SNR=3.7						
HNR				LR	LR	22 36 46.3	
	comp=Z,392nm,19.8s,baz=180,slow=34						
DZM	Mont Dzumac	10.65	179	Pn	Pn	22 35 35.8	0.0
	0.2nm,0.3s,baz=307,slow=20,SNR=3.4						
DZM				LR	LR	22 38 27.3	
	comp=Z,201nm,18.5s,baz=30,slow=30						
PMG	Port Moresby	18.97	274	LR	LR	22 43 37.7	
	comp=Z,460nm,20.6s,baz=309,slow=34						
CTA	Charters Tower	21.17	243	P	P	22 37 48.4	+1.0
	9.0nm,0.9s,mb4.1,baz=63,slow=9.9,SNR=9.8						
CTA				LR	LR	22 44 55.0	
	comp=Z,350nm,18.1s,MS3.8,baz=22,slow=34						
CTA	Charters Tower	21.17	243	P	P	22 37 48.4	+1.0
CTA				LR	LR	22 44 55.0	
CTAO	Charters Tower	21.17	243	*e*P	P	22 37 48.8	+1.3
	9.0nm,0.9s,mb4.1						
AFI	Afiamalu	21.50	99	LR	LR	22 44 23.0	
	comp=Z,312nm,20.2s,MS3.7,baz=241,slow=32						
AFI	Afiamalu	21.50	99	P	P	22 37 49.8	-1.2
RAO	Raoul Island	23.07	143	P	P	22 38 07.0	-0.7
STKA	Stephens Creek	30.62	224	P	P	22 39 15.6	-0.3
	3.2nm,0.9s,mb4.1,baz=21,slow=8.6,SNR=4.3						
SNZO	South Karori	30.72	168	P	P	22 39 17.1	+0.3
WB2	Warramunga Arr	31.91	251	*e*P	P	22 39 26.7	-0.6
WRA	Warramunga Arr	31.92	251	P	P	22 39 27.1	-0.2
	6.1nm,0.9s,mb4.4,baz=81,slow=9.1,SNR=26						
GUMO	Guam	32.68	319	P	P	22 39 34.5	+0.5
AS31	Alice Springs	33.17	244	*e*P	P	22 39 37.6	-0.7
ASAR	Alice Springs	33.17	244	P	P	22 39 37.5	-0.7
	5.5nm,0.8s,mb4.5,baz=75,slow=9.5,SNR=54						
ASAR				PcP	PcP	22 42 18.3	-2.1
	1.2nm,0.9s,baz=103,slow=2.9,SNR=5.9						
ASAR				ScP	ScP	22 46 04.9	+3.7
	1.0nm,1.0s,baz=70,slow=4.1,SNR=5.2						
FITZ	Fitzroy Crossi	39.86	255	*e*P	P	22 40 35.8	+0.5
	8.3nm,0.8s,mb4.5						
MBWA	Marble Bar	45.65	252	*e*P	P	22 41 23.2	+1.0
	9.9nm,0.8s,mb4.8						
MJAR	Matsushiro Arr	54.52	332	P	P	22 42 28.1	-1.3
	2.1nm,0.7s,mb4.3,baz=172,slow=8.8,SNR=5.7						
VNDA	Vanda	66.19	181	P	P	22 43 48.0	-1.1
	2.2nm,1.1s,mb4.1,baz=360,slow=8.4,SNR=7.2						
CASY	Casey	66.30	201	*e*P	P	22 43 49.6	-0.2
	5.1nm,0.9s,mb4.5						
SBA	Scott Base	66.48	180	*e*P	P	22 43 52.7	+1.7
KDAK	Kodiak Island	76.66	21	LR	LR	23 20 26.3	
	comp=Z,196nm,18.2s,MS4.5,baz=7.6,slow=37						
QSPA	South Pole Qui	78.64	180	*e*P	P	22 45 03.6	+0.3
	14nm,1.0s,mb4.8						
BILL	Bilibino	79.19	360	P	P	22 45 06.7	+0.3
SONM	Songino Array	79.27	324	P	P	22 45 07.4	+0.7
	1.8nm,1.0s,mb4.0,baz=119,slow=4.6,SNR=8.2						
NVAR	Mina Array Bea	85.78	50	P	P	22 45 42.4	+1.8
	0.2nm,0.4s,mb3.7,baz=250,slow=6.3,SNR=3.6						
MKAR	Makanchi Array	94.15	317	P	P	22 46 19.7	-0.3
	4.4nm,0.9s,mb4.9,baz=92,slow=6.1,SNR=9.7						
ZAL	Zalesovo	94.16	324	P	P	22 46 19.7	-0.4
	1.5nm,0.4s,mb4.8,baz=84,slow=13,SNR=4.6						
ZAL	Zalesovo	94.16	324	P	P	22 46 19.7	-0.4
KURK	Kurchatov	97.25	320	*e*P	P	22 46 33.6	-0.6
	0.7nm,0.6s,mb4.3						

ISCJB ***12*** *22:59:23.1±4.0, 3369S±0.08×1786W±0.03, h6km±27km, mb4.1/6, Error ellipse: s-maj=35.6km s-min=12.9km az=21.0*

IDC ***12*** *22:59:23.4±1.8, 3366S×17847W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, ML4.3/1, Error ellipse: s-maj=44.0km s-min=34.9km az=121.0*

NEIC ***12*** *22:59:29.0±1.1, 3361S×17857W, h35km, mb4.2/4, Error ellipse: s-maj=23.4km s-min=12.9km az=85.0*

ISC 12 22:59:23.7±4.9, 3368S±0.09×1785W±0.02, h1km±33km, n15, σ0=72/13, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	5.11	210	*e*PN	Pn	23 00 40.2	-1.2
MWZ	Matawai	5.65	214	PN	Pn	23 00 48.4	-0.4
URZ	Urewera	5.79	217	Pn	Pn	23 00 52.2	+1.5
	7.4nm,0.3s,baz=343,slow=1.4,SNR=27						
URZ				Sn	Sn	23 01 57.6	-0.3
	8.3nm,0.3s,baz=174,slow=21,SNR=9.8						
TAU	Tasmania Unive	28.20	241	*e*P	P	23 05 17.9	0.0
	17nm,0.8s,mb4.9						
PMG	Port Moresby	39.73	299	P	P	23 06 57.1	-0.6
	3.2nm,0.4s,mb4.3						
ASAR	Alice Springs	42.62	271	P	P	23 07 21.7	+0.2
	0.9nm,0.7s,mb3.6,baz=110,slow=7.3,SNR=11						
WB2	Warramunga Arr	43.89	276	*e*P	P	23 07 31.8	+0.1
WRAB	Tennant Creek	43.90	276	*e*P	P	23 07 32.0	+0.2
	1.0nm,0.5s,mb3.8						
WRA	Warramunga Arr	43.90	276	P	P	23 07 32.0	+0.1
	0.9nm,0.3s,mb3.9,baz=116,slow=8.0,SNR=13						
SBA	Scott Base	44.75	184	*e*P	P	23 07 38.0	-0.6
CASY	Casey	52.06	209	*e*P	P	23 08 36.5	+1.5
	1.0nm,0.5s,mb4.0						
GUMO	Guam	58.54	317	P	P	23 09 21.4	-0.4
FINES	FINESS Array B	148.04	338	PKPbc	PKPbc	23 19 09.8	-1.1
	1.3nm,0.5s,baz=69,slow=4.6,SNR=16						
FINES	FINESS Array B	148.04	338	PKPbc	PKPbc	23 19 09.8	-1.2
TORD	Torodi Ar. Bea	159.56	181	PKPab	PKPab	23 20 01.7	-0.6
	1.0nm,1.2s,baz=183,slow=4.3,SNR=5.5						

JMA 12 23:02:35.3±0.4, 4391N×14784E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	1.62	251	P	Pn	23 03 05.3	+0.2
NEM2				*e*S	Sn	23 03 26.8	+0.2
JRA	Rausu	1.96	272	P	Pn	23 03 10.3	+0.5
JRA				*e*S	Sn	23 03 35.9	+0.7
JNK	Nakash	2.29	263	P	Pn	23 03 15.0	+0.8
JNK				*e*S	Sn	23 03 43.9	+0.8
JAK	Akkeshi	2.46	249	P	Pn	23 03 17.5	+0.8
JAK				*e*S	Sn	23 03 48.4	+0.9
JAR	Ashorobuto	3.02	260	P	Pn	23 03 25.7	+1.4
JAR				*e*S	Sn	23 04 03.2	+2.0
JOB	Onbets	3.09	252	P	Pn	23 03 26.5	+1.2
JOB				*e*S	Sn	23 04 04.5	+1.6
JCH	Churui	3.52	250	P	Pn	23 03 32.1	+0.9
JCH				*e*S	Sn	23 04 14.3	+0.8
JNBK	Urakawa-nobuka	4.07	248	P	Pn	23 03 40.8	+2.1

IDC ***12*** *23:25:59.3±1.3, 3728N×2053E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.5/5, Error ellipse: s-maj=25.5km s-min=19.1km az=57.0*

NEIC ***12*** *23:26:01.9, 37.17N×2033E, h32km, ML3.2(ATH), ML3.7(THE), After ATH.*

ATH ***12*** *23:26:01.9, 37.17N×2033E, h32km±7km, MD3.8/13*

ISCJB ***12*** *23:26:02.9±0.3, 3725N±003×2034E±002, h32km, mb3.4/4, Error ellipse: s-maj=3.9km s-min=2.6km az=165.0*

CSEM ***12*** *23:26:04.5±0.1, 3729N×2042E, h60km, MD3.8*

THE ***12*** *23:26:07.3, 3740N×2058E, h24km, ML3.6*

SKO ***12*** *23:26:32.2, 3939N×2117E, h0km*

ISC 12 23:26:04.9±0.3, 3723N±003×2038E±002, h50km±10km, n100, σ0=97/141, mb3.5/4, 2C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	Valsamata	0.96	10	*e*PN	Pn	23 26 21.0	-1.1
RLS	Riolos of Patr	1.19	46	*e*PN	Pn	23 26 25.2	0.0
RLS				*e*SN	Sn	23 26 42.1	+1.8
ITM	Ithomi	1.23	92	*e*PB	Pn	23 26 24.8	-0.9
LKD	Levkas	1.49	8	*e*Pg	Pn	23 26 30.1	+0.8
EVR	Evrytania	2.03	33	*e*PB	Pn	23 26 37.8	+1.2
EVR				*e*SN	Sn	23 27 02.4	+1.7
VLI	Veliai	2.11	103	*e*PN	Pn	23 26 38.0	+0.3
IGT	Igoumenitsa	2.30	359	*e*Pn	Pn	23 26 40.0	-0.3
IGT	Igoumenitsa	2.30	359	P	Pn	23 26 40.0	-0.4
KYTH	Kithira	2.33	113	*e*PN	Pn	23 26 41.0	+0.3
AGG	Agios Georgios	2.36	40	*e*Pn	Pn	23 26 42.5	+1.4
AGG	Agios Georgios	2.36	40	P	Pn	23 26 40.2	-0.9
AGG				S	Sn	23 27 08.4	-0.5
AGG	Agios Georgios	2.36	40	*e*Pn	Pn	23 26 42.5	+1.4
AGG				S	Sn	23 27 08.4	-0.5
JAN	Janina	2.45	8	*e*PN	Pn	23 26 43.3	+0.9
LKR	Lokris	2.51	55	*e*PN	Pn	23 26 43.8	+0.6
KEK	Kerkira	2.52	350	*e*PN	Pn	23 26 43.0	-0.4
MEV	Metsovon	2.64	14	*e*Pn	Pn	23 26 46.6	+1.6
MEV	Metsovon	2.64	14	P	Pn	23 26 43.8	-1.1
MEV	Metsovon	2.64	14	P	Pn	23 26 43.8	-1.2
MEV	Metsovon	2.64	14	*e*Pn	Pn	23 26 46.6	+1.6
THL	Klokotos Trika	2.66	28	*e*PN	Pn	23 26 46.4	+1.1
THL				*e*SN	Sn	23 27 17.8	+1.5
KVK	Kavouri	2.76	76	*e*PN	Pn	23 26 50.0	+0.4
PTL	Penteli	2.88	72	*e*PN	Pn	23 26 48.5	+0.2
NEO	Neokhori	3.05	46	*e*PN	Pn	23 26 50.8	+0.2
XOR	Xorichti	3.07	45	P	Pn	23 26 50.7	-0.2
XOR				S	Sn	23 27 25.9	-0.6
XOR	Xorichti	3.07	45	P	Pn	23 26 50.7	-0.2
XOR				S	Sn	23 27 25.9	-0.5
KZN	Kozani	3.26	19	*e*PN	Pn	23 26 54.7	+1.2
LIT	Litokhoron	3.31	29	*e*Pn	Pn	23 26 54.5	+0.4
LIT				*e*Sn	Sn	23 27 31.5	-0.7
LIT	Litokhoron	3.31	29	P	Pn	23 26 53.7	-0.4
LIT				S	Sn	23 27 31.5	-0.7
LIT	Litokhoron	3.31	29	P	Pn	23 26 53.7	-0.4
LIT	Litokhoron	3.31	29	*e*Pn	Pn	23 26 54.5	+0.4
LIT				*e*Sn	Sn	23 27 31.5	-0.7
AOS	Alonnisos	3.37	54	*e*Pn	Pn	23 26 54.9	-0.1
AOS				*e*Sn	Sn	23 27 33.1	-0.6
TIP	Timpagrande	3.46	305	P	Pn	23 26 57.4	+1.2
GRI	Giriîalco	3.51	298	Pn	Pn	23 26 57.3	+0.4
GRI				Sn	Sn	23 27 27.3	-1.0
SOI	Samo	3.54	285	Pn	Pn	23 26 57.6	+0.3
SOI				Sn	Sn	23 27 35.2	-2.6
LCI	Lecce	3.58	331	Pn	Pn	23 26 58.3	+0.5
LCI				Sn	Sn	23 27 36.8	-1.9
VAM	Vamos	3.58	119	*e*PN	Pn	23 26 57.7	-0.1
FNA	Florina	3.63	12	*e*Pn	Pn	23 26 59.5	+0.8
FNA				*e*Sn	Sn	23 27 40.1	-0.1
PAIG	Paliouri	3.73	43	*e*Pn	Pn	23 26 59.3	-0.7
PAIG				*e*Sn	Sn	23 27 41.3	-1.4
PAIG	Paliouri	3.73	43	P	Pn	23 27 00.3	+0.4
PAIG				S	Sn	23 27 41.3	-1.4
PAIG	Paliouri	3.73	43	P	Pn	23 27 00.3	+0.3
PAIG				*e*Sn	Sn	23 27 41.3	-1.4
MTTG	Motta San Giov	3.80	283	Pn	Pn	23 27 01.2	+0.3
MTTG				Sn	Sn	23 27 44.5	+0.1
BIA	Bitola	3.86	11	*e*Pn	Pn	23 27 02.0	+0.4
BIA				*e*Sn	Sn	23 27 03.8	-22
BIA	Bitola	3.86	11	P	Pn	23 27 02.1	+0.4
BIA				S	Sn	23 27 45.7	0.0
BIA	Bitola	3.86	11	*e*Pn	Pn	23 27 02.1	+0.4
BIA				S	Sn	23 27 45.7	0.0
OHR	Ohrid	3.89	5	*e*Pn	Pn	23 27 02.9	+0.8
PLG	Polygyros	3.95	36	*e*PN	Pn	23 27 02.5	-0.4
GRG	Griva	4.04	22	*e*Pn	Pn	23 27 04.3	+0.1
GRG	Griva	4.04	22	P	Pn	23 27 04.3	+0.1
GRG				S	Sn	23 27 49.7	-0.5
GRG	Griva	4.04	22	*e*Pn	Pn	23 27 04.3	+0.1
GRG				S	Sn	23 27 49.7	-0.5
AGST	Augusta-Monte	4.12	272	Pn	Pn	23 27 03.8	-1.4
AGST				Sn	Sn	23 27 47.2	-4.8
APE	Apeiranthos	4.12	91	P	Pn	23 27 04.0	-1.2
IDI	Anoyia	4.12	117	Pn	Pn	23 27 03.4	-1.9
	1.2nm,0.3s,baz=264,slow=9.5,SNR=24						
IDI				Sn	Sn	23 27 51.2	-1.1
	5.1nm,0.3s,baz=326,slow=18,SNR=7.5						
OUR	Ouranopolis	4.19	41	*e*Pn	Pn	23 27 05.6	-0.6
OUR	Ouranopolis	4.19	41	P	Pn	23 27 05.7	-0.5
KRUS	Krusevo	4.19	9	*e*Pn	Pn	23 27 07.0	+0.8
HAVL	Avola	4.21	268	Pn	Pn	23 27 05.6	-0.9
HAVL				Sn	Sn	23 27 49.9	-4.6
PE1	Pezze di Greco	4.25	328	*e*Pn	Pn	23 27 06.9	-0.2
SOH	Sokhos	4.27	32	*e*Pn	Pn	23 27 08.0	+0.7
PZI	Palazzolo	4.35	269	Pn	Pn	23 27 07.6	-0.8
KNT	Kendrikon	4.39	26	P	Pn	23 27 09.2	+0.3
KNT				S	Sn	23 27 57.8	-1.0
KNT	Kendrikon	4.39	26	P	Pn	23 27 09.2	+0.3
KNT				S	Sn	23 27 57.8	-1.0
CUC	Castrocucco	4.52	309	P	Pn	23 27 14.9	+4.1
SRS	Serrai	4.62	32	P	Pn	23 27 12.0	-0.1
SRS				S	Sn	23 28 03.2	-1.2
SRS	Serrai	4.62	32	P	Pn	23 27 12.0	-0.1
SRS				S	Sn	23 28 03.2	-1.2
SG1	Sgolgore (BA)	4.62	322	*e*Pn	Pn	23 27 11.7	-0.4
NPS	Neapolis	4.66	113	*e*PN	Pn	23 27 12.3	-0.4
STIP	Stip	4.67	17	*e*Pn	Pn	23 27 13.3	+0.4
STIP	Stip	4.67	17	*e*Pn	Pn	23 27 13.2	+0.3
BAI	Bari	4.74	326	*e*Pn	Pn	23 27 13.3	-0.4
VAE	Valguarnera	4.76	275	Pn	Pn	23 27 15.2	+1.1
	1.4nm,0.3s,baz=270,slow=6.1,SNR=10						
VAE				Sn	Sn	23 28 07.6	-0.4
	4.1nm,0.3s,baz=277,slow=15,SNR=4.3						
SLCN	Sala Consilina	4.87	312	Pn	Pn	23 27 17.9	+2.3
SLCN				Sn	Sn	23 28 12.4	+1.7
WDD	Wield Dalam	4.91	256	P	Pn	23 27 17.2	+1.1
NVR	Nevrokopi	4.92	32	P	Pn	23 27 19.2	+2.9
CDT	Castel del Mon	5.00	322	*e*Pn	Pn	23 27 18.1	+0.7
MMB	Musomiste	5.07	30	P	Pn	23 27 18.3	0.0
MMB	Musomiste	5.07	30	P	Pn	23 27 18.3	0.0
FGMS	Monte Sant'Ang	5.64	324	Pn	Pn	23 27 26.1	0.0
FGMS				Sn	Sn	23 28 23.9	-5.6
FG5	Orsara di Pugl	5.67	317	Pn	Pn	23 27 27.9	+1.4
FG5				Sn	Sn	23 28 28.4	-1.9
KARP	Karpathos	5.72	105	P	Pn	23 27 29.2	+2.0
RGNG	Rignano Grg	5.79	322	Pn	Pn	23 27 28.6	+0.5
STON	Ston	6.00	341	*i* Pn	Pn	23 27 29.7	-1.4
STON				*i* Sn	Sn	23 28 33.5	-4.9
FG2	Serracapriola	6.10	320	Pn	Pn	23 27 32.9	+0.5
	43nm,0.3s						
GRUS	Gruza	6.66	2	*i* Pn	Pn	23 27 38.6	-1.5
DIVS	Divcibare	6.87	358	*i* Pn	Pn	23 27 41.7	-1.3
DIVS				Sn	Sn	23 28 54.1	-5.7
NVLJ	Novalja	8.43	332	*i* Pn	Pn	23 28 04.3	-0.1
NVLJ				*i* Sn	Sn	23 29 33.1	-5.0
BOJS	Bojanci	9.12	337	*e*Pn	Pn	23 28 13.5	-0.4
BOJS				*i* Sn	Sn	23 29 48.8	-6.3
BOJS							
	comp=Z,2.0nm,0.2s						
CRES	Cresnjev	9.35	338	*i* Pn	Pn	23 28 16.1	-0.9
VISS	Visnje	9.52	336	*i* Pn	Pn	23 28 19.0	-0.3
VISS				*e*Sn	Sn	23 29 57.0	-7.9
PDKS	Podkum	9.70	337	*i* Pn	Pn	23 28 21.1	-0.7
OBKA	Obir	10.24	337⇑	*i* Pn	Pn	23 28 29.2	0.0
	comp=Z,1.8nm,0.2s						
OBKA				⇓*i* Sn	Sn	23 30 16.6	-5.9
	comp=Z,1.7nm,0.2s						
OBKA	Obir	10.24	337⇑	*i* Pn	Pn	23 28 29.2	0.0
	comp=Z,1.8nm,0.2s						
OBKA				*i* Sn	Sn	23 30 16.6	-5.9
MOA	Molln	11.53	339⇓	*i* Pn	Pn	23 28 46.7	0.0
	comp=Z,1.8nm,0.2s						
DAVOX	Davos	12.32	324	Pn	Pn	23 28 57.9	+0.3
	baz=139,slow=18,SNR=2.7						
GERES	GERESS Array B	12.59	339	Pn	Pn	23 29 00.4	-0.8
	comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=5.2						
MMAI	Mount Meron Ar	12.99	104	Pn	Pn	23 29 03.9	-2.8
	comp=Z,0.7nm,0.3s,baz=296,slow=12,SNR=7.3						
HFS	Hagfors	23.32	352	P	P	23 31 08.3	-0.3
	comp=Z,1.0nm,0.3s,mb3.7,baz=158,slow=11,SNR=14						
FINES	FINESS Array B	24.50	7	P	P	23 31 19.8	+0.4
	comp=Z,1.1nm,0.6s,mb3.6,baz=191,slow=11,SNR=5.0						
NOA	NORSAR Array B	24.53	349	P	P	23 31 19.4	-0.2
	comp=Z,1.3nm,0.7s,mb3.6,baz=158,slow=9.2,SNR=4.8						
NOA	NORSAR Array B	24.53	349	P	P	23 31 19.4	-0.2
TORD	Torodi Ar. Bea	29.23	220	P	P	23 32 03.5	+1.7
	comp=Z,0.2nm,0.6s,mb3.0,baz=37,slow=8.7,SNR=5.4						

IDC 12 23:28:22.9±2.2, 176N×12897E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=150.2km s-min=25.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.20	167	P	P	23 33 20.2	-0.6
	0.8nm,0.7s,baz=346,slow=11,SNR=3.8						
ASAR	Alice Springs	25.72	170	P	P	23 33 55.7	+0.8
	0.8nm,0.3s,baz=355,slow=7.2,SNR=7.6						
MKAR	Makanchi Array	60.44	325	P	P	23 38 34.5	+0.2
	0.8nm,0.5s,baz=124,slow=8.9,SNR=9.1						

IDC 12 23:40:06.5±1.9, 037N×12491E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=190.8km s-min=26.1km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.20	156	P	P	23 45 04.4	+0.1
	1.1nm,0.9s,baz=334,slow=10,SNR=5.3						
ASAR	Alice Springs	25.44	161	P	P	23 45 36.4	+0.5
	0.8nm,0.6s,baz=333,slow=8.4,SNR=7.4						
MKAR	Makanchi Array	59.32	327	P	P	23 50 10.4	+0.2
	0.7nm,0.9s,baz=124,slow=8.0,SNR=5.6						

IDC ***12*** *23:42:42.0±10.0, 674S×128.15E, h178km±120km, mb3.1/2, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, Error ellipse: s-maj=80.0km s-min=49.2km az=44.0*

ISCJB ***12*** *23:42:43.3±1.6, 687S±006×12799E±0.10, h213km±17km, mb3.6/5, Error ellipse: s-maj=17.3km s-min=7.8km az=126.8*

NEIC ***12*** *23:42:43.1±1.5, 681S×12804E, h190km±17km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=8.2km az=51.0*

ISC 12 23:42:47.4±1.5, 706S±006×12801E±010, h240km±16km, n17, σ1=21/22, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.21	192	P	Pn	23 45 21.7	+0.3
	0.5nm,0.3s,baz=27,slow=11,SNR=16						
FITZ				S	S	23 47 24.8	-1.9
	0.7nm,0.3s,baz=272,slow=17,SNR=3.7						
WRAB	Tennant Creek	14.20	155	*e*Pn	Pn	23 45 58.5	+0.3

0.7nm,0.7s,mb3.9
GERES GERESS Array B 124.13 327 PKP PKPdf 00 54 05.5 +0.2
0.3nm,0.5s,baz=82,slow=2.8,SNR=3.8
TORD Torodi Ar. Bea 148.88 285 PKPbc PKPbc 00 54 54.9 +0.4
0.5nm,0.4s,baz=80,slow=1.8,SNR=11
TORD Torodi Ar. Bea 148.88 285 PKPbc PKPbc 00 54 54.9 +0.4

BGS ***13*** *01:26:33.2,26.04S×63.22W,h552km,mb5.8*
IGIL ***13*** *01:26:33.6,26.08S×63.29W,h550km,MS6.3*
GCMT ***13*** *01:26:34.2±0.1,26.10S×63.47W,h573km,MW6.8/112, Moment Tensor Solution. s112,c278; s101,c205; Duration: 6.4 Moment tensor: Scale 10^19Nm; Mrr-0.41±.01; Mθθ-0.22±.01; Mϕϕ0.63±.01; Mrθ-0.74±.01; Mθϕ-0.33±.01; Mϕr2.06±.01; Best double couple: M0 2.26400×10^19 NP1:ϕs344.00000°,δ7.00000°, λ-87.00000°. NP2:ϕs160.00000°,δ83.00000°, λ-90.00000°. Principal axes: T 2.4320, Plg38.0000°, Azm251.0000°; N -0.3350, Plg0.0000°, Azm160.0000°; P -2.0970, Plg52.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
BJI ***13*** *01:26:34.2,26.00S×63.20W,h551km,mB6.4*
MOS ***13*** *01:26:34.1±0.7,26.03S×63.26W,h563km,mb6.5/72,Error ellipse: s-maj=8.0km s-min=5.2km az=78.1*
ISCJB ***13*** *01:26:35.5±0.1,26.10S±002×63.30W±002,h580km, mb6.2/270,Error ellipse: s-maj=2.6km s-min=2.4km az=23.8*
IDC ***13*** *01:26:36.0±0.3,26.03S×63.30W,h564km±2km, mb5.5/33, mb1 5.5/36,mb1mx5.5/36,mbtmp5.5/36,Error ellipse: s-maj=7.2km s-min=4.9km az=68.0*
NEIC ***13*** *01:26:35.9±0.1,26.05S×63.28W,h572km, mb6.3/201, ME6.8,MW6.8,Error ellipse: s-maj=3.5km s-min=3.3km az=180.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^19Nm; Mrr-0.55; Mθθ0.00; Mϕϕ0.55; Mrθ-0.56; Mθϕ-0.42; Mϕr1.53; Best double couple: M0 1.80000×10^19 NP1:ϕs160.00000°,δ79.00000°,λ-85.00000°. NP2: ϕs316.00000°,δ12.00000°,λ-113.00000°. Principal axes: T 1.8600, Plg34.0000°, Azm246.0000°; N -0.2100, Plg5.0000°, Azm339.0000°; P -1.6600, Plg56.0000°, Azm76.0000°; Broadband fault plane solution: P waves. NP1:ϕs160.00000°,δ2.00000°,λ90.00000°. NP2: ϕs340.00000°,δ88.00000°,λ90.00000°. Principal axes: T Plg47.0000°, Azm250.0000°; N Plg0.0000°, Azm0.0000°; P Plg43.0000°, Azm70.0000°; Complex earthquake, with at least one event occurring about 5 seconds after the onset observed on broadband displacement seismograms. Depth and focal mechanism from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC *Felt [III] in Catamarca, Corrientes, La Rioja and San Juan. Also felt at Asuncion, Paraguay and Antofagasta, Chile.*
GUC ***13*** *01:26:35.3±2.2,26.16S×63.36W,h560km,MS6.0, mb6.3(NEIC),MW6.8(NEIC)*
LDG ***13*** *01:26:38.6±0.6,25.48S×63.16W,h589km,Mb6.3/44, Ms5.7/10,Error ellipse: s-maj=37.7km s-min=18.5km az=35.0*

ISC 13 01:26:36.4±0.1,2616S±002×6329W±002,h582km, h582km±1.3km;pP-P,n1764,σ0 96/1104,mb6.2/253, 337C-486D,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**6.22**	**303**	P		**P**	**01 28 16.6**	**-1.9**
LVC				S		**S**	**01 29 38.6**	**-3.5**
LVC				ScS		ScS	01 40 19.3	+7.4
LVC	**Limon Verde**	**6.22**	**303**	P		**P**	**01 28 16.6**	**-1.9**
	2μm,0.3s,baz=122,slow=6.2,SNR=9717							
LVC				S		**S**	**01 29 37.2**	**-4.8**
	5μm,0.3s,baz=266,slow=21,SNR=24							
LVC	**Limon Verde**	**6.22**	**303**	*e*P		**P**	**01 28 16.1**	**-2.4**
LVC				*e*Sn		**S**	**01 29 38.8**	**-3.2**
CPCH	**Copiapo**	**6.42**	**258**	↓*i*P		**P**	**01 28 17.4**	**-2.8**
CPN1	**Cerro Paranal**	**6.61**	**282**	↓*i*P		**P**	**01 28 20.4**	**-1.6**
CDCH	**Caldera**	**6.81**	**261**	↓*i*P		**P**	**01 28 21.1**	**-2.6**
CDCH				*i* S		**S**	**01 29 44.2**	**-7.5**
CEN1	**Los Morros**	**6.86**	**292**	↑*i*P		**P**	**01 28 23.0**	**-1.3**
CFAA	**Coronel Fontan**	**6.94**	**217**	P		**P**	**01 28 24.1**	**-1.0**
	2μm,0.3s,baz=44,slow=9.3,SNR=3714							
CFAA				S		**S**	**01 29 51.5**	**-2.5**
	103nm,0.3s,baz=249,slow=18,SNR=13							
CFAA				P3KPbc			02 04 46.0	
	0.0nm,0.3s,baz=229,slow=1.2,SNR=4.8							
CFAA	**Coronel Fontan**	**6.94**	**217**	P		**P**	**01 28 24.1**	**-1.0**
CFAA				S		**S**	**01 29 51.5**	**-2.5**
LCO	**Las Campanas**	**7.16**	**245**	P		**P**	**01 28 25.7**	**-1.3**
LCO				P			01 28 28.6	
LCO				S		**S**	**01 29 56.4**	**-1.3**
LCO				ScS		ScS	01 40 12.4	-0.7
LCO				ScS		ScS	01 40 19.6	+6.6
TLL	**Tololo Astrono**	**7.74**	**237**	↓*i*P		**P**	**01 28 31.5**	**-1.0**
TLL				*i* S		**S**	**01 30 05.3**	**-2.4**
TLL	**Tololo Astrono**	**7.74**	**237**	↓*i*P		**P**	**01 28 31.5**	**-1.0**
TLL				S		**S**	**01 30 05.3**	**-2.4**
LSCH	**La Serena**	**7.96**	**240**	↓*e*P		**P**	**01 28 32.4**	**-2.2**
OVCH	**Ovalle**	**8.25**	**236**	↓*i*P		**P**	**01 28 35.3**	**-2.2**
CMCH	**Combarbala**	**8.41**	**232**	↑*i*P		**P**	**01 28 36.9**	**-2.1**
CMCH				*i* S		**S**	**01 30 17.6**	**-2.0**
CMCH	**Combarbala**	**8.41**	**232**	↑*i*P		**P**	**01 28 36.9**	**-2.1**
CMCH				*i* S		**S**	**01 30 17.6**	**-2.0**
FCH	**Farellones**	**9.38**	**219**	↓*i*P		**P**	**01 28 48.1**	**-0.4**
FCH				AMb		AMB	01 28 52.8	
	comp=Z,25μm,1.3s							
FCH				*i* S		**S**	**01 30 37.5**	**+0.5**
FCH				AMS		AMS	01 31 33.2	
	comp=E,169μm,20.2s							
PEL	**Peldehue**	**9.47**	**221**	↑*i*P		**P**	**01 28 48.0**	**-1.4**
PEL				AMS		AMS	01 31 22.5	
	comp=N,319μm,20.2s							
CLCH	**Cerro Calan**	**9.57**	**219**	↓*i*P		**P**	**01 28 49.3**	**-1.1**
STL	**Santa Lucia**	**9.66**	**220**	*e*P		**P**	**01 28 49.3**	**-2.0**
LPA	**La Plata**	**9.87**	**153**	↓*e*P		**P**	**01 28 53.9**	**+0.5**
	comp=N,10μm,0.8s							
LPA				*es*P			01 30 34.0	
LPA				*e*S		**S**	**01 30 46.0**	**+0.1**
SIV	**San Ignacio**	**10.33**	**12**	P		**P**	**01 28 56.5**	**-1.5**
	comp=N,75nm,0.3s,baz=205,slow=9.8,SNR=1659							
SIV				S		**S**	**01 30 51.4**	**-3.0**
	baz=288,slow=16,SNR=1.5							
LPAZ	**La Paz**	**10.81**	**334**	P		**P**	**01 29 01.6**	**-1.3**
LPAZ				ScS		ScS	01 40 26.0	+7.0
LPAZ	**La Paz**	**10.81**	**334**	S		**S**	**01 31 00.1**	**-3.1**
	comp=N,207nm,0.3s,baz=302,slow=24,SNR=11							
LPAZ				P3KPbc			02 04 51.5	
	comp=N,0.1nm,0.3s,baz=118,slow=3.8,SNR=7.7							
LPAZ	**La Paz**	**10.81**	**334**	↓*e*P		**P**	**01 29 01.3**	**-1.5**
LPAZ				pmax		pmax		
	comp=Z,60nm,0.6s							
LPAZ	**La Paz**	**10.81**	**334**	↓*e*P		**P**	**01 29 01.2**	**-1.6**
	comp=Z,60nm,0.6s							
TRQA	**Tornquist**	**11.91**	**175**	P		**P**	**01 29 11.2**	**-2.9**
TRQA				ScS		ScS	01 40 26.2	+4.9
TRQA	**Tornquist**	**11.91**	**175**	*e*P		**P**	**01 29 11.1**	**-2.9**
TRQA				*e*Sn		**S**	**01 31 21.9**	**-1.8**
ARE	**Arequipa**	**12.30**	**320**	↓*i*P		**P**	**01 29 16.4**	**-1.6**
ARE				*e*S		**S**	**01 31 27.0**	**-3.9**
ARE	**Arequipa**	**12.30**	**320**	↓*i*P		**P**	**01 29 16.4**	**-1.6**
ARE				*e*			01 29 22.0	
ARE				*e*S		**S**	**01 31 27.0**	**-3.9**
ARE				*e*			01 40 29.0	
ARE				*e*			01 44 28.0	
ARE				*e*			01 56 02.0	
CCHI	**Chillan**	**12.82**	**214**	↑*i*P		**P**	**01 29 21.4**	**-1.9**
CCHI				AMS		AMS	01 33 37.1	
	comp=N,142μm,18.9s							
SAML	**Samuel**	**17.12**	**0**	P		**P**	**01 30 03.3**	**-1.3**
SAML				ScS		ScS	01 40 41.3	+6.4
SAML	**Samuel**	**17.12**	**0**	*e*P		**P**	**01 30 03.4**	**-1.2**
SAML				*e*Sn		**S**	**01 32 58.7**	**+4.5**
NNA	**Nana**	**19.02**	**315**	P		**P**	**01 30 21.0**	**-1.0**
	comp=N,10nm,0.3s,baz=156,slow=7.9,SNR=45							
NNA				S		**S**	**01 33 26.5**	**+1.6**
	comp=N,2.3nm,0.3s,baz=278,slow=15,SNR=16							
NNA				ScP		ScP	01 37 00.9	+2.2
	comp=N,11nm,0.3s,baz=89,slow=4.2,SNR=6.9							
NNA	**Nana**	**19.02**	**315**	*e*P		**P**	**01 30 19.8**	**-2.2**
CAM4	**Nova Friburgo**	**19.27**	**83**	↑*i*P		**P**	**01 30 24.7**	**+0.4**
CAM4				*i*			01 30 28.1	
CAM4				*i*			01 30 31.8	
CAM4				*i*			01 30 38.9	
CAM4				*i*			01 30 43.7	
CAM4				*i*			01 30 49.6	
CAM3	**Guarapari**	**21.57**	**80**	↑*i*P		**P**	**01 30 45.2**	**+0.2**
CAM3				*i*			01 30 48.5	
CAM3				*i*			01 30 53.6	
CAM3				*i*			01 30 56.7	
ATAH	**Atahualpa**	**23.88**	**320**	P		**P**	**01 31 06.0**	**+0.5**
	comp=N,1μm,0.9s,mb6.4,baz=163,slow=6.5,SNR=59							
EFI	**East Falkland**	**25.79**	**173**	*e*P		**P**	**01 31 22.0**	**-0.3**
EFI	**East Falkland**	**25.79**	**173**	*e*P		**P**	**01 31 20.4**	**-1.9**
EFI				*e*ScP		ScP	01 37 23.3	+6.7
USHA	**Ushuaia**	**28.89**	**186**	P		**P**	**01 31 48.8**	**-0.6**
	comp=N,1μm,0.5s,mb6.7,baz=359,slow=7.0,SNR=357							
OTAV	**Otavalo**	**30.04**	**329**	*e*P		**P**	**01 32 00.1**	**+0.8**
ROSC	**El Rosal**	**32.64**	**339**	P		**P**	**01 32 21.0**	**-0.4**
	comp=N,744nm,0.5s,mb6.6,baz=103,slow=3.7,SNR=157							
ROSC				S		**S**	**01 36 59.1**	**+2.0**
	comp=N,227nm,0.9s,baz=92,slow=23,SNR=6.1							
ROSC	**El Rosal**	**32.64**	**339**	↑*e*P		**P**	**01 32 21.3**	**-0.1**
ROSC				*e*pP			01 33 55.7	
ROSC				*e*pP			01 33 55.7	
ROSC				S		**S**	**01 36 59.1**	**+2.0**
ROSC				*e*ScP		ScP	01 37 40.9	+2.1
HOPE	**Hope Point**	**34.35**	**152**	*e*P		**P**	**01 32 36.3**	**+0.6**
HOPE				*e*ScP		ScP	01 37 46.3	+1.4
SDV	**Santo Domingo**	**35.56**	**347**	P		**P**	**01 32 43.4**	**-2.3**
	comp=N,350nm,0.3s,mb6.3,baz=108,slow=3.4,SNR=118							
SDV				S		**S**	**01 37 37.4**	**-3.7**
	comp=N,80nm,0.8s,baz=296,slow=19,SNR=7.8							
SDV	**Santo Domingo**	**35.56**	**347**	*e*P		**P**	**01 32 43.3**	**-2.5**
PCRV	**Puerto La Cruz**	**36.14**	**358**	P		**P**	**01 32 49.7**	**-0.9**
	comp=N,408nm,0.8s,mb6.0,baz=179,slow=4.3,SNR=38							
PCRV				S		**S**	**01 37 49.6**	**-0.2**
	comp=N,136nm,1.1s,baz=55,slow=20,SNR=6.1							
PAYG	**Puerto Ayora**	**36.30**	**310**	*e*P		**P**	**01 32 52.6**	**+0.7**
PAYG				*e*ScP		ScP	01 37 54.3	+2.2
UPA	**Univ. de Panam**	**38.33**	**334**	*i* P		**P**	**01 33 11.5**	**+3.1**
PMSA	**Palmer Station**	**38.62**	**181**	P		**P**	**01 33 11.7**	**+0.9**
	comp=N,257nm,0.7s,mb5.8,baz=22,slow=7.5,SNR=32							
PMSA				ScP		ScP	01 38 02.4	+1.5
	comp=N,37nm,0.8s,baz=0.0,slow=7.1,SNR=2.2							
PMSA	**Palmer Station**	**38.62**	**181**	*e*P		**P**	**01 33 11.8**	**+1.1**
PMSA				*e*pP			01 34 48.7	
PMSA				*e*PP		PP	01 35 00.5	+2.4
PMSA				*e*PP		PP	01 35 00.5	+2.4
PMSA				ScP		ScP	01 38 02.4	+1.5
PMSA				*e*S		**S**	**01 38 32.0**	**+5.8**
FCV	**Fort Charlotte**	**39.13**	**3**	*e*P		**P**	**01 33 17.8**	**+3.0**
BBGH	**Gun Hill**	**39.23**	**6**	*e*P		**P**	**01 33 20.1**	**+4.4**
	comp=N,1μm,1.1s,mb6.4							
SVB	**Belmont**	**39.24**	**3**	*e*P		**P**	**01 33 16.6**	**+0.8**
SSV	**Crater Summit**	**39.30**	**3**	*e*P		**P**	**01 33 18.0**	**+1.8**
BIM	**Bigot**	**40.49**	**3**	*e*P		**P**	**01 33 23.8**	**-1.9**
FDF	**Fort de France**	**40.70**	**3**	↓*e*P		**P**	**01 33 25.5**	**-1.9**
LIO	**Limon**	**40.75**	**329**	*e*P		**P**	**01 33 30.5**	**+2.7**
LCR2	**La Lucha 2**	**40.98**	**328**	*e*P		**P**	**01 33 30.5**	**+0.9**
RPN	**Rapa Nui**	**40.99**	**258**	P		**P**	**01 33 30.3**	**+0.7**
	comp=N,15μm,1.0s,SNR=18							
RPN	**Rapa Nui**	**40.99**	**258**	P		**P**	**01 33 30.8**	**+1.2**
	comp=N,2μm,1.1s,mb6.6,baz=89,slow=4.0,SNR=45							
RPN	**Rapa Nui**	**40.99**	**258**	*e*P		**P**	**01 33 30.3**	**+0.6**
LAJ	**Bijagual**	**41.14**	**328**	*e*P		**P**	**01 33 33.2**	**+2.3**
DSHT	**Scott's Head**	**41.17**	**3**	*e*P		**P**	**01 33 30.4**	**-0.7**
SJS	**Escuela Geolog**	**41.17**	**328**	*e*P		**P**	**01 33 34.1**	**+3.0**
DBCT	**Belle View Cho**	**41.23**	**3**	*e*P		**P**	**01 33 31.2**	**-0.4**
MDN	**Morne-Daniel**	**41.27**	**3**	*e*P		**P**	**01 33 32.9**	**+1.1**
PRS1	**Puriscal**	**41.34**	**328**	*e*P		**P**	**01 33 33.8**	**+1.4**
CGA2	**Cerro Gallo 2**	**41.44**	**327**	*e*P		**P**	**01 33 36.5**	**+3.3**
BBL	**Barber's Block**	**41.47**	**3**	*e*P		**P**	**01 33 31.5**	**-1.9**
DWS	**Wesley**	**41.52**	**3**	*e*P		**P**	**01 33 31.7**	**-2.1**
JCR	**Jicaral**	**41.61**	**327**	*e*P		**P**	**01 33 37.2**	**+2.6**
TBG	**Guadaloupe-3**	**41.79**	**2**	*e*P		**P**	**01 33 33.2**	**-2.7**
MGG	**Marie-Galante**	**41.87**	**3**	*e*P		**P**	**01 33 35.3**	**-1.3**
JTS	**JuntasAbangare**	**41.91**	**327**	P		**P**	**01 33 36.7**	**-0.3**
	comp=N,623nm,0.9s,mb6.2,baz=81,slow=0.9,SNR=30							
JTS				ScP		ScP	01 38 15.6	+1.7
	comp=N,116nm,1.0s,baz=8.1,slow=7.1,SNR=3.4							
JTS	**JuntasAbangare**	**41.91**	**327**	*e*P		**P**	**01 33 37.2**	**+0.3**
JTS				pmax		pmax		
	comp=Z,1μm,1.0s							
JTS	**JuntasAbangare**	**41.91**	**327**	*e*P		**P**	**01 33 37.2**	**+0.3**
	comp=Z,1μm,1.0s,mb6.4							
LZG	**Guadaloupe-1**	**42.07**	**2**	*e*P		**P**	**01 33 34.6**	**-3.6**
VCR	**Vista de Mar**	**42.11**	**326**	*e*P		**P**	**01 33 41.1**	**+2.6**
SFG	**Saint Francois**	**42.21**	**3**	*e*P		**P**	**01 33 38.2**	**-1.1**
DEG	**La Desirade**	**42.27**	**3**	*e*P		**P**	**01 33 37.3**	**-2.4**
BPA	**Boggy Peak**	**42.97**	**2**	*e*P		**P**	**01 33 42.5**	**-2.7**
MADN	**Villa Maderas**	**43.16**	**327**	*e*P		**P**	**01 33 46.6**	**-0.1**
CONN	**Concepcion**	**43.34**	**327**	*e*P		**P**	**01 33 49.2**	**+1.2**
STAT	**Sint Eustatius**	**43.39**	**0**	*e*P		**P**	**01 33 51.5**	**+3.1**
SABS	**Saba**	**43.52**	**0**	*e*P		**P**	**01 33 46.7**	**-2.7**
SABT	**Saba**	**43.52**	**0**	*e*P		**P**	**01 33 46.7**	**-2.7**
CPB	**Codrington**	**43.56**	**2**	*e*P		**P**	**01 33 47.4**	**-2.3**
STMA	**St. Maarten, A**	**43.94**	**0**	*e*P		**P**	**01 33 52.3**	**-0.4**
CPD	**Cerro la Pandu**	**44.01**	**356**	*e*P		**P**	**01 33 50.1**	**-3.1**
TICN	**Ticuantepe**	**44.04**	**327**	*e*P		**P**	**01 33 54.4**	**+0.9**
MTP	**Monte Pirata**	**44.05**	**357**	*e*P		**P**	**01 33 50.3**	**-3.2**
MGAN	**Managua**	**44.14**	**327**	*e*P		**P**	**01 33 55.5**	**+1.3**
MGAN				*i*			01 34 05.2	
	comp=E,218nm,0.6s							
TISN	**Laguna Tiscapa**	**44.15**	**327**	*e*P		**P**	**01 33 54.8**	**+0.4**
XAVN	**Gruta Xavier**	**44.18**	**327**	*e*P		**P**	**01 33 56.1**	**+1.5**
CBYP	**Canovanas**	**44.23**	**357**	*e*P		**P**	**01 33 51.9**	**-3.0**
MPR	**Mayaguez**	**44.26**	**355**	*e*P		**P**	**01 33 52.5**	**-2.7**
TRIS	**Tristan da Cun**	**44.29**	**117**	*e*P		**P**	**01 33 59.9**	**+4.5**
	comp=E,3μm,0.7s,mb6.9							
COPN	**Copaltepe**	**44.34**	**326**	*e*P		**P**	**01 33 58.0**	**+2.2**
MOMJ	**Momotombo**	**44.51**	**327**	*e*P		**P**	**01 33 57.7**	**+0.6**
MIRN	**Miramar**	**44.62**	**326**	*e*		**P**	**01 33 57.6**	**-0.3**
MIRN				*e*P			01 33 57.6	
CNGN	**Cerro Negro**	**44.67**	**327**	*e*P		**P**	**01 33 59.8**	**+1.5**
PCJ	**Portland Cotta**	**45.67**	**341**	*e*P		**P**	**01 34 04.0**	**-1.9**
CMJ	**Castle Mountai**	**45.83**	**343**	↓*e*P		**P**	**01 34 07.3**	**+0.2**
STH	**Stony Hill**	**45.89**	**342**	*e*P		**P**	**01 34 06.6**	**-1.0**
MCJ	**Malvern**	**46.00**	**341**	↓*e*P		**P**	**01 34 08.8**	**+0.4**
CVJ	**Coleyville**	**46.24**	**341**	*e*P		**P**	**01 34 08.6**	**-1.6**
TGUH	**Tegucigalpa,Un**	**46.29**	**327**	↑*e*P		**P**	**01 34 09.4**	**-1.2**
	comp=E,2μm,1.0s,mb6.6							
BBJ	**Bamboo Saint A**	**46.31**	**342**	↓*e*P		**P**	**01 34 11.3**	**+0.5**
MBJ	**Montego Bay**	**46.50**	**341**	*e*P		**P**	**01 34 12.5**	**+0.3**
MASC	**Masc**	**47.27**	**346**	*e*P		**P**	**01 34 22.9**	**+4.9**
MASC				*e*S		**S**	**01 40 30.2**	**+1.0**
	comp=N,8.0nm,10.9s							
MASC				*e*				
	comp=E,28nm,10.0s							
RCC	**Rio Carpintero**	**47.43**	**344**	*e*P		**P**	**01 34 17.0**	**-2.2**
LMGC	**Las Mercedes**	**47.84**	**343**	*e*P		**P**	**01 34 24.9**	**+2.7**
MOAC	**Moa**	**47.90**	**345**	*e*P		**P**	**01 34 22.8**	**+0.1**
TER	**Terranova**	**48.25**	**323**	*e*P		**P**	**01 34 27.7**	**+2.5**
HLGC	**Holguin**	**48.38**	**344**	*e*P		**P**	**01 34 25.6**	**-0.7**
FUG	**Fuego 3**	**48.45**	**323**	*e*P		**P**	**01 34 27.6**	**+0.9**
JAT	**Jato**	**48.78**	**322**	*e*P		**P**	**01 34 32.0**	**+2.8**
ASCN	**Ascension**	**49.84**	**78**	↓*e*P		**P**	**01 34 36.6**	**-0.3**
	comp=E,4μm,0.8s,mb6.9							
ASCN				*e*pP		pP	01 36 24.4	+0.6
ASCN				*e*ScP		ScP	01 38 52.6	+5.5
ASCN				*e*S		**S**	**01 41 08.7**	**+4.5**
MGV	**Manicaragua**	**50.64**	**340**	*e*P		**P**	**01 34 44.7**	**+1.9**
CCIG	**Comitan**	**50.66**	**323**	*i* P		**P**	**01 34 41.7**	**-1.3**
TEIG	**Tepich**	**52.10**	**330**	P		**P**	**01 34 51.8**	**-1.5**
TEIG				S		**S**	**01 41 32.5**	**-2.1**
TEIG				ScS		ScS	01 43 42.5	+0.5
TEIG	**Tepich**	**52.10**	**330**	*e*P		**P**	**01 34 51.8**	**-1.5**
	comp=E,2μm,0.8s,mb6.4							
SOR	**Soroa**	**52.27**	**337**	*e*P		**P**	**01 34 55.3**	**+0.7**
SOR				*e*S		**S**	**01 41 37.3**	**+0.4**
	comp=N,24nm,4.3s							
SOR				*e*				
	comp=E,42nm,2.4s							
HUIG	**Huatulco**	**52.50**	**319**	*i* P		**P**	**01 34 58.1**	**+2.0**
CMIG	**Matias Romero**	**52.84**	**321**	P		**P**	**01 34 57.5**	**-1.0**
	comp=E,383nm,0.9s,mb5.7,baz=117,slow=5.6,SNR=54							
CMIG				pP		pP	01 36 44.4	-3.0
	comp=E,64nm,0.9s,baz=46,slow=8.5,SNR=0.8							
CMIG				S		**S**	**01 41 45.3**	**+1.0**
	comp=E,22nm,0.9s,baz=131,slow=6.8,SNR=4.1							
TUIG	**Tuzandepetl**	**53.34**	**322**	*i* P		**P**	**01 35 05.4**	**+3.2**
VHO	**Vista Hermosa**	**53.89**	**319**	*i* P		**P**	**01 35 05.3**	**-0.7**
OXX	**Oaxaca**	**53.89**	**319**	*i* P		**P**	**01 35 06.0**	**0.0**
VNA3	**Neumayer Olymp**	**54.03**	**161**	↓*i*P		**P**	**01 35 07.5**	**+0.5**
VNA3				*e*			01 35 13.8	
VNA3				*e*			01 35 17.1	
VNA3				*e*			01 35 19.4	
VNA3				*e*			01 35 27.2	
VNA3				*e*			01 36 06.6	
VNA3				*e*			01 36 10.9	
VNA3				*e*		pP	01 36 58.8	+2.3
VNA3				*e*			01 37 03.6	
VNA3				*e*			01 37 07.5	
VNA3				*e*			01 37 13.1	
VNA3				*e*			01 37 26.5	
VNA3				*e*			01 37 33.7	
VNA3				*e*			01 37 41.5	
VNA3				*e*			01 38 00.5	
VNA3				*e*			01 38 12.6	
VNA3				*e*			01 38 30.8	
VNA3				*e*			01 39 08.4	
VNA3				*e*			01 39 14.0	
VNA3				*e*			01 39 16.0	
VNA3				*e*			01 39 28.9	
VNA3				*e*S		**S**	**01 42 01.8**	**+1.8**
VNA1	**Neumayer--Stat**	**54.19**	**160**	↓*i*P		**P**	**01 35 09.2**	**+1.1**
VNA1				*e*			01 35 15.4	
VNA1				*e*			01 35 18.5	
VNA1				*e*			01 35 20.8	
VNA1				*e*			01 35 29.0	
VNA1				*e*			01 36 08.4	
VNA1				*e*			01 36 13.1	
VNA1				*e*		pP	01 37 00.4	+2.7
VNA1				*e*			01 37 05.1	
VNA1				*e*			01 37 09.6	
VNA1				*e*			01 37 16.9	
VNA1				*e*			01 37 26.3	
VNA1				*e*			01 37 34.8	
VNA1				*e*			01 37 38.6	
VNA1				*e*			01 38 01.9	
VNA1				*e*			01 38 13.5	
VNA1				*e*			01 38 16.6	
VNA1				*e*			01 39 10.7	
VNA1				*e*			01 39 15.4	
VNA1				*e*			01 39 17.5	
VNA1				*e*			01 39 29.9	
VNA1				*e*S		**S**	**01 42 03.2**	**+1.1**
VNA1				*e*			01 42 14.0	
VNA1				*e*			01 44 18.6	
VNA1				*e*			01 44 45.0	
PNIG	**Pinotepa**	**54.19**	**317**	*e*P		**P**	**01 35 07.9**	**-0.2**
SHEL	**Horse Pasture**	**54.29**	**91**	↓*e*P		**P**	**01 35 10.1**	**+1.3**
	comp=E,2μm,0.6s,mb6.7							
SHEL				*e*PcP		PcP	01 36 06.6	+3.0
SHEL				*e*pP		pP	01 36 59.6	+1.2
VNA2	**Neumayer--Watz**	**54.56**	**160**	↓*i*P		**P**	**01 35 11.5**	**+0.8**
	baz=291,slow=9.0							
VNA2				*e*			01 35 17.7	
VNA2				*e*			01 35 20.8	
VNA2				*e*			01 35 23.2	
VNA2				*e*			01 35 31.1	
VNA2				*e*			01 35 40.6	
VNA2				*e*			01 36 11.0	
VNA2				*e*			01 36 13.2	
VNA2				*e*		pP	01 36 58.0	-2.6
VNA2				*e*		pP	01 37 02.9	+2.3
VNA2				*e*			01 37 07.8	
VNA2				*e*			01 37 12.7	
VNA2				*e*			01 37 18.4	
VNA2				*e*			01 37 29.7	
VNA2				*e*			01 37 38.2	
VNA2				*e*			01 37 46.4	
VNA2				*e*			01 38 04.4	
VNA2				*e*			01 38 16.6	
VNA2				*e*			01 38 20.1	
VNA2				*e*			01 38 36.2	
VNA2				*e*			01 39 11.7	
VNA2				*e*			01 39 16.5	
VNA2				*e*			01 39 18.6	
VNA2				*e*			01 39 30.8	
VNA2				*e*			01 39 41.4	
VNA2				*e*S		**S**	**01 42 08.6**	**+1.6**
VNA2				*e*			01 42 18.5	
VNA2				*e*			01 42 33.7	
VNA2				*e*			01 42 43.0	
VNA2				*e*			01 42 55.2	
VNA2				*e*			01 43 01.0	
VNA2				*e*			01 44 01.8	
VNA2				*e*			01 44 10.1	
VNA2				*

DWPF eS S 01 42 30.5 -4.2
UNM Universidad Na 57.09 319 *i* P P 01 35 30.7 +2.6
ZIIG Zihuatanejo 57.18 315 *i* P P 01 35 28.2 -0.6
BBSR BB Station 58.22 359⇓*e*P P 01 35 35.0 -0.8
comp=N,988nm,0.8s,mb6.0
BBSR epP pP 01 37 26.2 -1.6
BBSR esP sP 01 38 22.6 -7.2
BBSR eS S 01 42 53.9 +0.1
MOIG Morelia 58.57 317 *i* P P 01 35 37.9 -0.2
SFJM Santa Fe 60.31 316 *i* P P 01 35 50.0 +0.3
NVL N'lazarevskaya 60.65 158 *d* P P 01 35 51.6 -0.3
NVL *i* 01 36 37.1
NVL *i* *PP pP 01 37 45.8 +0.5
NVL *i* *SP sP 01 38 45.4 -1.6
NVL *i* S S 01 43 24.7 +0.5
NVL *i* 01 44 47.2
NVL *i* SSS 01 50 39.0
NVL pmax pmax
comp=Z,838nm,0.7s,mb6.1
NVL smax
comp=E,7μm,4.3s
CJM Chamela 60.85 314 *i* P P 01 35 53.6 +0.3
COW Cow Castle Cre 61.48 343 *e*P P 01 35 57.9 +0.5
COW epP pP 01 37 50.2 -1.1
ZAIG Zacatecas 61.74 318 *i* P P 01 35 59.8 +0.7
JSC Jenkinsville 62.48 343 *e*P P 01 36 03.7 -0.2
JSC *e* 01 38 30.4
LHS Liberty Hill 62.55 344 *e*P P 01 36 04.3 0.0
LHS *e* 01 38 30.2
CNNC Cliffs of the 62.61 347⇓*e*P P 01 36 05.4 +0.7
comp=E,2μm,1.2s,mb6.3
CNNC epP pP 01 37 53.3 -5.9
CNNC ePP PP 01 38 31.3 -1.1
KVTX Kingsville 62.93 326 *e*P P 01 36 07.2 +0.5
comp=E,5μm,1.0s,mb6.8
KVTX epP pP 01 37 57.0 -4.3
KVTX eS S 01 43 55.3 +3.2
HKT Hockley 63.91 329⇑*e*P P 01 36 12.2 -0.8
HKT *e**PP pP 01 38 08.5 +0.4
HKT *e* 01 38 44.3
HKT eS S 01 44 07.9 +3.9
HKT pmax pmax
comp=Z,300nm,0.7s,mb5.7
HKT Hockley 63.91 329⇑*e*P P 01 36 12.2 -0.8
comp=Z,3.5nm,0.7s
HKT epP pP 01 38 08.5 +0.3
HKT ePP PP 01 38 44.3 +0.7
HKT eS S 01 44 07.8 +3.8
QSPA South Pole Qui 64.06 180 *e*P P 01 36 14.7 +0.8
comp=E,855nm,0.8s,mb6.1
MAIG Mazatlaan 64.42 316 *i* P P 01 36 15.9 -0.3
RKT Rikitea 64.45 256 *e*S S 01 44 08.4 -2.1
comp=E,11μm,34.5s
RKT Rikitea 64.45 256⇑*i*P P 01 36 18.7 +2.3
RKT eS S 01 44 08.4 -2.1
RKT pmax pmax
comp=Z,213nm,1.3s,mb5.3
RKT Rikitea 64.45 256⇑*i*P P 01 36 18.7 +2.3
comp=Z,213nm,1.3s,mb5.3
RKT eS S 01 44 08.4 -2.1
TKL Tuckaleechee C 64.46 342 S S 01 44 10.4 -0.2
comp=Z,40nm,1.2s,baz=345,slow=20,SNR=10
CPCT Cooper Cave 64.48 341 *e*P P 01 36 15.6 -1.0
CPCT epP pP 01 38 07.9 -4.1
LIC Lamto 64.99 69⇓*i*P P 01 36 19.8 0.0
comp=Z,3μm,0.6s,mb6.5
LIC eR
comp=Z,9μm,19.8s
LIC Lamto 64.99 69⇓*i*P P 01 36 19.8 0.0
comp=Z,1μm,0.6s,mb6.5
LIC LR LR
comp=Z,5μm,19.8s
BLA Blacksburg 65.06 345⇓*e*P P 01 36 20.7 +0.5
BLA *e**PP pP 01 38 17.8 +1.8
BLA *e* 01 38 53.9
BLA eS S 01 44 22.7 +4.9
BLA pmax pmax
comp=Z,2μm,2.1s,mb6.3
BLA Blacksburg 65.06 345⇓*e*P P 01 36 20.7 +0.5
comp=Z,2μm,2.1s,mb6.3
BLA epP pP 01 38 17.8 +1.9
BLA ePP PP 01 38 53.9 +0.3
BLA eS S 01 44 22.7 +4.9
ELN Prospectdale 65.16 345 *e*P P 01 36 21.0 +0.2
TZTN Tazewell 65.23 342 *e*P P 01 36 21.3 +0.1
comp=Z,2μm,1.5s,mb6.3
TZTN ePcP PcP 01 36 50.4 +2.5
TZTN epP pP 01 38 15.8 -1.3
TZTN ePP PP 01 38 57.5 +2.5
TZTN eS S 01 44 16.6 -3.2
CBN Corbin 65.37 348⇓*e*P P 01 36 23.6 +1.4
CBN epP pP 01 38 17.4 -0.7
CBN ePP PP 01 38 55.2 -1.0
FWV Forest Hill 65.51 345 *e*P P 01 36 23.0 0.0
FWV epP pP 01 38 20.7 +1.7
FWV ePP PP 01 38 56.0 -1.4
MET Memphis--Engin 65.96 336⇓*e*P P 01 36 26.2 +0.3
MET epP pP 01 38 19.5 -2.5
MET eS S 01 44 29.9 +1.5
WVT Waverly 66.14 338⇓*e*P P 01 36 25.6 -1.4
WVT *e**PP pP 01 38 22.8 -0.5
WVT *e* 01 39 02.1
WVT eS S 01 44 31.2 +0.6
WVT pmax pmax
comp=Z,2μm,1.0s,mb6.5
WVT Waverly 66.14 338⇓*e*P P 01 36 25.6 -1.4
comp=Z,2μm,1.0s,mb6.5
WVT epP pP 01 38 22.8 -0.4
WVT ePP PP 01 39 02.1 -0.7
WVT eS S 01 44 31.2 +0.7
JCT Junction City 66.28 326⇑*e*P P 01 36 27.3 -0.5
JCT *e* 01 36 54.4
JCT *e**PP pP 01 38 24.7 +0.5
JCT eS S 01 44 29.5 -2.7
JCT pmax pmax
comp=Z,1μm,0.8s,mb6.4
JCT Junction City 66.28 326⇑*e*P P 01 36 27.2 -0.6
comp=Z,1μm,0.8s,mb6.4
JCT ePcP PcP 01 36 54.4 +2.1
JCT epP pP 01 38 24.7 +0.6
JCT eS S 01 44 29.5 -2.6
HALT Halls 66.46 337⇓*e*P P 01 36 29.3 +0.4
HALT ePcP PcP 01 36 53.2 +0.3
HALT epP pP 01 38 26.7 +1.4
HALT esP sP 01 39 17.5 -8.7
UALR University of 66.56 334⇓*e*P P 01 36 29.9 +0.4
comp=Z,880nm,1.1s,mb6.1
UALR epP pP 01 38 24.2 -1.8
UALR ePP PP 01 39 07.9 +1.5
UALR eS S 01 44 35.0 -0.5
HBAR Harrisburg 66.61 336⇑*e*P P 01 36 29.8 0.0
HBAR epP pP 01 38 28.5 +2.1
HBAR ePP PP 01 39 03.1 -3.7
UTMT University of 66.68 338⇓*e*P P 01 36 30.5 +0.2
comp=Z,1μm,0.7s,mb6.4
UTMT epP pP 01 38 20.2 -6.7
UTMT eS S 01 44 38.3 +1.4
GNAR Gosnell 66.75 337 P PcP 01 36 49.9 -4.3
GLAT Glass 66.76 337⇓*e*P P 01 36 30.6 -0.2
GLAT epP pP 01 38 23.8 -3.6
GLAT PP PP 01 39 07.1 -1.0
MVL Millersville 66.93 349 PcP PcP 01 36 54.9 -0.1
MVL epP pP 01 38 25.3 -3.3
MVL ePP PP 01 39 07.2 -2.4
MVL eS S 01 44 43.5 +3.7
PVMO Portageville 67.04 337 *e*P P 01 36 32.7 +0.2
comp=Z,10μm,1.0s
PVMO epP pP 01 38 29.5 +0.3
PVMO eS S 01 44 42.7 +1.7
MCWV Mont Chateau 67.28 346 *e*P P 01 36 34.2 +0.3
comp=Z,2μm,1.2s,mb6.4
PARMO Parma 67.28 337⇓*e*P P 01 36 33.1 -0.8
PARMO epP pP 01 38 33.5 +2.7
BRNJ Basking Ridge 67.32 351⇓*e*P P 01 36 34.5 +0.3
comp=Z,785nm,0.8s,mb6.2
BRNJ epP pP 01 38 34.1 +3.0
BRNJ ePP PP 01 39 11.4 -1.5
BRNJ eS S 01 44 53.3 +8.9
CPNY Central Park 67.34 351⇓*e*P P 01 36 35.7 +1.4
comp=Z,1μm,1.2s,mb6.2
CPNY epP pP 01 38 34.8 +3.6
CPNY ePP PP 01 39 10.3 -2.8

LUPA Lehigh Univers 67.36 350⇓*e*P P 01 36 35.4 +1.0
LUPA epP pP 01 38 30.5 -0.8
LUPA ePP PP 01 39 11.9 -1.4
LUPA eS S 01 44 39.8 -5.1
LTX Lajitas 67.41 322 *e*P P 01 36 34.5 -0.3
LTX pmax pmax
comp=Z,990nm,1.2s,mb6.1
LTX Lajitas 67.41 322⇑*e*P P 01 36 34.4 -0.3
comp=Z,986nm,1.3s,mb6.1
LTX epP pP 01 38 22.6 -9.1
LTX eS S 01 44 49.8 +4.4
TXAR Lajitas Array 67.41 322 P P 01 36 34.4 -0.4
comp=Z,180nm,0.8s,mb5.6,baz=147,slow=7.3,SNR=191
TXAR S S 01 44 48.0 +2.6
comp=Z,6.8nm,0.9s,baz=128,slow=13,SNR=3.1
TXAR PKP2bc 02 04 56.4
comp=Z,15nm,1.0s,baz=307,slow=0.6,SNR=9.8
TXAR P4KPbc 02 13 19.7
comp=Z,3.9nm,1.0s,baz=159,slow=5.4,SNR=3.0
TXAR Lajitas Array 67.41 322 P P 01 36 34.4 -0.4
TXAR S S 01 44 48.0 +2.6
TXAR Lajitas Array 67.41 322 P P 01 36 34.4 -0.4
TXAR S S 01 44 48.0 +2.6
TXAR ⇑*e* 02 04 56.4
PAL Palisades 67.55 351⇓*e*P P 01 36 36.0 +0.4
PAL *e**PP pP 01 38 26.5 -6.1
PAL *e* 01 39 12.0
PAL eS S 01 44 49.8 +2.8
PAL pmax pmax
comp=Z,1μm,1.2s,mb6.2
PAL Palisades 67.55 351⇓*e*P P 01 36 36.0 +0.4
comp=Z,2μm,1.2s,mb6.3
PAL epP pP 01 38 26.5 -6.1
PAL ePP PP 01 39 12.0 -2.9
PAL eS S 01 44 49.8 +2.8
LPIG La Paz 67.55 314 P P 01 36 35.2 -0.4
comp=Z,672nm,1.1s,mb6.0,baz=93,slow=1.0,SNR=12
LPIG PKP2bc 02 05 01.7
comp=Z,11nm,0.3s,baz=109,slow=1.4,SNR=5.0
LPIG La Paz 67.55 314 P P 01 36 35.2 -0.4
LPIG ⇑*e* 02 05 01.7
WCI Wyandotte Cave 67.58 341⇓*e*P P 01 36 34.9 -0.9
WCI *e**PP pP 01 38 26.2 -6.6
WCI eS S 01 44 42.4 -5.0
WCI pmax pmax
comp=Z,997nm,0.8s,mb6.3
WCI Wyandotte Cave 67.58 341⇓*e*P P 01 36 34.9 -0.9
comp=Z,997nm,0.8s,mb6.3
WCI epP pP 01 38 26.2 -6.6
WCI eS S 01 44 42.4 -5.1
USIN University of 67.77 339⇓*e*P P 01 36 36.2 -0.7
USIN epP pP 01 38 31.0 -3.0
USIN eS S 01 44 40.3 -9.2
SSPA Standing Stone 67.83 348⇑*e*P P 01 36 37.5 +0.2
comp=Z,1μm,1.1s,mb6.2
SSPA epP pP 01 38 35.2 +0.8
SSPA eS S 01 44 50.9 +0.6
SIUC Southern Illin 68.04 338⇓*e*P P 01 36 38.4 -0.2
comp=Z,1μm,0.9s,mb6.3
SIUC epP pP 01 38 35.2 -0.6
SIUC ePP PP 01 39 20.6 +1.6
BLO Bloomington 68.52 341 *e*P P 01 36 40.1 -1.4
BLO pmax pmax
comp=Z,1μm,0.9s,mb6.3
BLO Bloomington 68.52 341 *e*P P 01 36 40.1 -1.4
comp=Z,1μm,0.9s,mb6.3
WES Weston 68.60 354 *e*P P 01 36 42.0 0.0
WES pmax pmax
comp=Z,600nm,0.8s,mb6.1
WES Weston 68.60 354 *e*P P 01 36 42.0 0.0
comp=Z,612nm,0.8s,mb6.1
QUA2 Belchertown 68.61 353⇓*e*P P 01 36 42.5 +0.5
comp=Z,1μm,1.1s,mb6.3
QUA2 epP pP 01 38 41.1 +1.6
QUA2 ePP PP 01 39 26.6 +2.7
QUA2 eS S 01 44 59.9 +0.6
FVM French Village 68.70 337 *e*P P 01 36 41.2 -1.4
FVM pmax pmax
comp=Z,2μm,1.0s,mb6.5
FVM French Village 68.70 337 *e*P P 01 36 41.2 -1.4
comp=Z,2μm,1.0s,mb6.5
HRV Harvard--Oak R 68.75 353⇑*e*P P 01 36 43.1 +0.2
HRV *e**PP pP 01 38 41.2 +0.8
HRV *e* 01 39 27.1
HRV pmax pmax
comp=Z,4μm,1.5s,mb6.6
HRV Harvard--Oak R 68.75 353⇑*e*P P 01 36 43.1 +0.2
comp=Z,4μm,1.5s,mb6.6
HRV epP pP 01 38 41.2 +0.8
HRV ePP PP 01 39 27.1 +2.0
BINY Binghamton 69.02 350 *e*P P 01 36 44.8 +0.3
comp=Z,1μm,1.0s,mb6.3
CCM Cathedral Cave 69.05 337⇓*e*P P 01 36 43.4 -1.3
CCM eS S 01 45 02.0 -2.4
CCM pmax pmax
comp=Z,2μm,1.0s,mb6.4
CCM Cathedral Cave 69.05 337⇓*e*P P 01 36 43.4 -1.3
comp=Z,2μm,1.0s,mb6.4
CCM epP pP 01 38 31.6 -11
CCM eS S 01 45 02.0 -2.4
CHIE El Hierro 69.08 42 P P 01 36 44.6 -0.2
comp=Z,566nm,0.8s,mb6.0
SLM Saint Louis 69.22 338 *e*P P 01 36 45.0 -0.7
SLM pmax pmax
comp=Z,2μm,1.0s,mb6.4
SLM Saint Louis 69.22 338 *e*P P 01 36 45.0 -0.7
comp=Z,2μm,1.0s,mb6.4
ALLY Alegheny Colle 69.25 347 *e*P P 01 36 45.5 -0.3
WMOK Wichita Mounta 69.27 329 *e*P P 01 36 45.5 -0.5
FFD Franklin Falls 69.71 354⇓*e*P P 01 36 49.0 +0.4
comp=Z,1μm,0.9s,mb6.3
FFD epP pP 01 38 50.1 +3.5
FFD ePP PP 01 39 35.7 +2.5
EGOM La Gomera 69.84 43 P P 01 36 49.1 -0.3
comp=Z,2μm,1.6s,mb6.3
ACCN Adirondack Com 69.86 352 *e*P P 01 36 49.6 +0.2
HNH Hanover 70.01 353 *e*P P 01 36 51.2 +0.8
MNTX Cornudas Mount 70.17 323 *e*P P 01 36 49.9 -1.4
comp=Z,735nm,1.0s,mb6.1
CCAN Las Canadas 70.26 43 P P 01 36 51.8 0.0
comp=Z,367nm,1.0s,mb5.8
SYO Syowa Base 70.32 158⇓*i*P P 01 36 51.9 -0.3
LBNH Lisbon 70.50 353 *e*P P 01 36 53.9 +0.6
LBNH pmax pmax
comp=Z,1μm,1.1s,mb6.3
LBNH Lisbon 70.50 353 *e*P P 01 36 53.9 +0.6
comp=Z,1μm,1.1s,mb6.3
NCB Newcomb 70.50 352 *e*P P 01 36 53.1 -0.2
MIV Mineville/With 70.52 352 *e*P P 01 36 58.0 +4.7
WVL Waterville 70.62 355 *e*P P 01 36 54.2 +0.2
comp=Z,1μm,1.1s,mb6.3
EMMW East Machias 70.63 357 *e*P P 01 36 54.2 +0.2
EBAJ Bajamar 70.65 43 P P 01 36 55.4 +1.3
comp=Z,2μm,2.2s,mb6.2
AAM Ann Arbor 70.67 344⇑*e*P P 01 36 53.7 -0.6
AAM *e**PP pP 01 38 53.3 +0.6
AAM *e* 01 39 40.8
AAM eS S 01 45 21.3 -1.4
AAM pmax pmax
comp=Z,470nm,0.9s,mb6.0
AAM Ann Arbor 70.67 344⇑*e*P P 01 36 53.7 -0.6
comp=Z,470nm,0.9s,mb6.0
AAM epP pP 01 38 53.3 +0.6
AAM ePP PP 01 39 40.8 -0.5
AAM eS S 01 45 21.3 -1.5
AMTX Amarillo 70.76 327 *e*P P 01 36 51.5 -3.3
EOSO Osorio 70.80 44 P P 01 36 55.2 +0.1
comp=Z,2μm,1.9s,mb6.4
LONY Lake Ozonia 71.19 352 *e*P P 01 36 57.3 0.0
FRNY Flat Rock 71.27 352 *e*P P 01 36 57.8 0.0
PKME Peaks-Kenny Pk 71.29 356⇓*e*P P 01 36 58.0 +0.1
comp=Z,1μm,0.7s,mb6.5
PKME epP pP 01 38 59.8 +3.1
PKME ePP PP 01 39 48.7 +2.1
PKME eS S 01 45 36.9 +7.2
MSNY Massena 71.60 351 *e*P P 01 36 59.7 0.0
MSNY epP pP 01 38 52.9 -5.7
SUR Sutherland 71.83 118 P P 01 37 02.6 +1.5
comp=Z,335nm,0.8s,mb5.9,baz=240,slow=5.8,SNR=109
SUR pP pP 01 39 00.5 +0.5
comp=Z,138nm,0.8s,baz=232,slow=3.8,SNR=2.3
SUR PKPPKP 02 04 44.4
comp=Z,20nm,1.2s,baz=150,slow=6.7,SNR=4.7
SUR Sutherland 71.83 118 *e*P P 01 37 02.7 +1.6
comp=Z,1μm,0.7s,mb6.5
CFTV Fuerteventura 71.96 45 P P 01 37 01.6 -0.2
comp=Z,572nm,1.0s,mb6.1
KSU1 Kansas State U 72.00 333⇑*e*P P 01 37 00.8 -1.3
comp=Z,48nm,1.3s
KSU1 epP pP 01 39 00.6 -0.6
KSU1 eS S 01 45 34.7 -3.0
HOR Horta 72.07 28 *e*P P 01 37 07.9 +5.5
CALA Caldeira 72.09 28 *e*P P 01 37 07.2 +4.7
PCND Candelaria 72.09 28 *e*P P 01 37 07.1 +4.5
PBOI Pico dos Bois 72.10 28 *e*P P 01 37 04.8 +2.2
PCED Cedros 72.13 28 *e*P P 01 37 05.7 +2.9
PICO Pico 72.14 28 *e*P P 01 37 07.8 +5.0
PTEI Pico do Teixo 72.16 28 *e*P P 01 37 06.9 +3.9
SBA Scott Base 72.16 190 *e*P P 01 37 04.0 +1.0
PID Ribeirinha 72.22 28 *e*P P 01 37 07.6 +4.3
PIED Piedade 72.23 28 *e*P P 01 37 05.9 +2.6
PLUZ Luz 72.34 27 *e*P P 01 37 12.1 +8.1
PMAN Manadas 72.39 28 *e*P P 01 37 05.4 +1.1
PAMA Santo Amaro 72.39 28 *e*P P 01 37 07.9 +3.6
PSMN Pico do Norte, 72.40 31 *e*P P 01 37 04.8 +0.5
ROSA Rosais 72.40 28 *e*P P 01 37 05.6 +1.3
PDA Ponta Delgada 72.73 30 *i* P P 01 37 11.0 +4.8
PDA *e*P 01 37 18.0
PFET Feteiras 72.73 30 *e*P P 01 37 11.5 +5.3
SET2 Ginetes 72.74 30 *e*P P 01 37 09.1 +2.8
SRBC Serra Branca 72.75 28 *e*P P 01 37 09.5 +3.2
FAC Faja de Cima 72.75 30 *e*P P 01 37 11.1 +4.7
PSET Sete Cidades 72.76 30 *e*P P 01 37 10.7 +4.3
PGRA Graciosa 72.77 28 *e*P P 01 37 04.0 -2.4
SET4 Mosteiros 72.77 30 *e*P P 01 37 11.7 +5.3
PVIA Vitoria 72.77 28 *e*P P 01 37 11.2 +4.7
ADH Angra Heroismo 72.78 29 *e*P P 01 37 04.2 -2.3
PSAN Santo Antonio 72.78 30 *e*P P 01 37 11.0 +4.5
ASBA Santa Barbara 72.79 29 *e*P P 01 37 09.5 +2.9
PPAD Pico dos Padre 72.79 29 *e*P P 01 37 10.6 +4.0
PRCH Ribeira Ch 72.80 31 *e*P P 01 37 09.8 +3.2
comp=Z,300nm,0.7s,mb5.9
CML Cha da Macela 72.80 31 *e*P P 01 37 08.1 +1.5
STGR Santa Cruz 72.80 28 *e*P P 01 37 11.6 +5.0
comp=Z,712nm,1.2s,mb6.1
EFAM Famara 72.81 44 P P 01 37 07.5 +0.8
comp=Z,599nm,0.7s,mb6.2
RIB2 Ribeirinha 72.82 29 *e*P P 01 37 08.4 +1.7
comp=Z,122nm,0.8s,mb5.5
Y22C IRIS PASSCAL I 72.82 323⇓P P 01 37 07.1 +0.4
baz=73,SNR=26
Y22C ⇑S S 01 45 54.7 +8.0
baz=73
VIF Vila Franca 72.83 31 *e*P P 01 37 09.3 +2.5
comp=Z,126nm,0.8s,mb5.5
LFA Lagoa do Fogo 72.83 31 *e*P P 01 37 08.0 +1.2
PSBA Serra de Santa 72.83 29 *e*P P 01 37 06.9 +0.1
comp=Z,308nm,1.0s,mb5.8
PVER Pico Vermelho 72.83 31 *e*P P 01 37 09.7 +2.9
comp=Z,334nm,1.0s,mb5.8
PBIS Biscoitos 72.86 29 *e*P P 01 37 12.8 +5.9
comp=Z,755nm,1.6s,mb6.0
FRA1 Furnas 72.86 31 *e*P P 01 37 07.9 +0.9
MESC Monte Escuro 72.86 31 *e*P P 01 37 09.4 +2.4
PCNG Congro 72.86 31 *e*P P 01 37 09.4 +2.4
comp=Z,266nm,0.8s,mb5.8
PMAT Coroa da Mata 72.87 31 *e*P P 01 37 10.1 +3.1
comp=Z,295nm,1.0s,mb5.8
PFAV Pico das Favas 72.89 29 *e*P P 01 37 08.7 +1.6
comp=Z,221nm,1.0s,mb5.6
PVNV Vila Nova 72.90 29 *e*P P 01 37 09.3 +2.1
comp=Z,245nm,1.3s,mb5.6
MIRA Miradouro 72.93 31 *e*P P 01 37 05.5 -1.9
PFAD Fenais da Ajud 72.96 31 *e*P P 01 37 09.6 +2.1
CBKS Cedar Bluff 73.08 331 *e*P P 01 37 08.2 +0.2
JFWS Jewell Farm 73.08 340 *e*P P 01 37 07.2 -1.0
VNDA Vanda 73.14 189 P P 01 37 09.4 +0.8
VNDA pP pP 01 39 08.3 +0.2
VNDA S S 01 45 54.4 +4.2
VNDA Vanda 73.14 189 P P 01 37 09.4 +0.9
comp=Z,269nm,0.9s,mb5.8,baz=137,slow=5.0,SNR=192
VNDA pP pP 01 39 08.0 -0.2
comp=Z,203nm,0.9s,baz=156,slow=5.1,SNR=10
VNDA S S 01 45 55.6 +5.4
comp=Z,9.4nm,1.1s,baz=165,slow=8.7,SNR=3.8
VNDA PKKPbc PKKPbc 01 56 45.8 +6.0
comp=Z,2.9nm,0.9s,baz=303,slow=2.2,SNR=4.2
VNDA PKP2bc 02 04 35.4
comp=Z,5.5nm,1.0s,baz=295,slow=3.4,SNR=4.0
VNDA tx tx 02 07 19.2
comp=Z,4.4nm,1.1s,baz=297,slow=4.4,SNR=4.1
VNDA Vanda 73.14 189 P P 01 37 09.4 +0.9
VNDA *PP pP 01 39 08.0 -0.1
VNDA S S 01 45 55.6 +5.4
VNDA Vanda 73.14 189 P P 01 37 09.4 +0.9
VNDA pP pP 01 39 08.0 -0.2
VNDA S S 01 45 55.6 +5.4
VNDA PKKPbc PKKPbc 01 56 45.8 +6.0
VNDA ⇑*e* 02 04 35.4
SCIA State Center 73.16 337 *e*P P 01 37 08.0 -0.7
comp=Z,1μm,1.1s,mb6.3
SCIA epP pP 01 39 09.8 +1.5
SCIA eS S 01 45 50.7 +0.2
ANMO Albuquerque 73.24 324 P P 01 37 09.6 +0.5
ANMO S S 01 45 56.0 +4.7
ANMO Albuquerque 73.24 324 *e*P P 01 37 09.5 +0.4
ANMO pmax pmax
comp=Z,912nm,1.1s
ANMO Albuquerque 73.24 324 *e*P P 01 37 09.5 +0.4
comp=Z,912nm,1.1s,mb6.2
FUL Funchal 73.28 40 *e*P P 01 37 09.8 +0.4
FUL epP pP 01 39 11.8 +2.8
PMAR Madeira 73.34 40 *e*P P 01 37 13.2 +3.5
PMAR epP pP 01 39 11.2 +1.8
PMAR Madeira 73.34 40 *e*PP PP 01 40 06.3 +2.6
PMAR eS S 01 46 03.7 +11
TUC Tucson 73.68 319⇑*e*P P 01 37 11.7 +0.1
TUC *e**PP pP 01 39 10.6 -0.9
TUC *e*SP sP 01 40 10.5 -0.8
TUC *e*S S 01 46 04.0 +7.8
TUC pmax pmax
comp=Z,729nm,1.3s,mb6.0
TUC Tucson 73.68 319⇑*e*P P 01 37 11.7 0.0
comp=Z,729nm,1.3s,mb6.0
TUC epP pP 01 39 10.6 -0.9
TUC esP sP 01 40 10.5 -0.8
TUC eS S 01 46 04.0 +7.8
TSUM Tsumeb 73.86 104 PKPPKP 02 04 38.4
comp=Z,2.7nm,0.9s,baz=143,slow=16,SNR=3.7
TSUM tx tx 02 07 20.3
comp=Z,4.1nm,1.0s,baz=87,slow=6.3,SNR=4.2
TSUM Tsumeb 73.86 104 *e*P P 01 37 13.5 +0.9
PMPS Porto Santo 73.91 40 *e*P P 01 37 17.6 +4.6
PMPS *e*P pP 01 39 16.3 +3.4
PMPS Porto Santo 73.91 40 *e*PP PP 01 40 11.9 +3.4
PMPS eS S 01 46 06.8 +8.1
TOA0 Torodi Ar. Sit 74.27 67 *e*P P 01 37 14.9 -0.1
TOA0 *e* 01 37 24.0
TOA0 epP pP 01 39 17.7 +2.7
TOA0 eS S 01 46 05.8 +3.2
TORD Torodi Ar. Bea 74.27 67 P P 01 37 14.9 0.0
comp=Z,859nm,0.4s,mb6.6,baz=266,slow=6.2,SNR=6510
TORD pP pP 01 39 14.5 -0.6
comp=Z,852nm,0.9s,baz=250,slow=5.4,SNR=13
TORD S S 01 46 05.9 +3.3
comp=Z,180nm,1.1s,baz=244,slow=8.6,SNR=13
TORD PKKP PKKPdf 01 56 23.1 +0.6
comp=Z,3.4nm,0.8s,baz=54,slow=4.0,SNR=4.7
TORD PKPPKP 02 04 39.5
comp=Z,8.4nm,1.1s,baz=44,slow=2.5,SNR=6.0
TORD tx tx 02 07 11.3
comp=Z,3.1nm,0.9s,baz=98,slow=2.6,SNR=5.8
TORD P4KPbc 02 13 46.2
comp=Z,0.2nm,0.7s,baz=256,slow=7.3,SNR=2.0
TORD Torodi Ar. Bea 74.27 67 P P 01 37 14.9 0.0
TORD pP pP 01 39 14.5 -0.6
TORD S S 01 46 05.9 +3.3
TORD PKKP PKKPdf 01 56 23.1 +0.6
TORD P'P' 02 04 39.5
TAOE Nuku Hiva Isla 74.39 268 *e*P P 01 37 17.5 +1.8
comp=Z,3μm,1.6s,mb6.5
TAOE eS S 01 46 03.0 -0.9
comp=Z,63μm,27.2s
116A Eloy 74.40 319⇓P P 01 37 16.1 +0.4
baz=75,SNR=383
116A ⇑S S 01 46 11.8 +7.8
baz=75
115A Sonoran Desert 74.81 319 P P 01 37 18.8 +0.8

baz=75,SNR=327
115A ⇓S S 01 46 15.9 +7.5
baz=75
SDCO Great Sand Dun 74.91 327 *e*P **P 01 37 19.1 +0.6**
comp=Z,1μm,1.2s,mb6.4
Z14A Wintersburg 75.70 319 ⇓P **P 01 37 23.3 +0.3**
baz=76,SNR=150
Z14A ⇑S S 01 46 24.8 +6.8
baz=76
ECSD EROS,Sioux Fal 75.98 336⇑ *e*P **P 01 37 24.1 -0.4**
comp=Z,37nm,0.8s
ECSD *e*pP pP 01 39 25.9 +0.6
ECSD *e*sP sP 01 40 13.1 -12
ECSD *e*S S 01 46 22.2 +1.3
MVCO Mesa Verde 76.03 324⇑ *e*P **P 01 37 25.3 +0.5**
comp=Z,4μm,2.0s,mb6.5
MVCO *e*pP pP 01 39 17.6 -8.0
MVCO *e*S S 01 46 25.5 +4.1
MVCO Mesa Verde 76.03 324 P **P 01 37 25.4 +0.7**
baz=76,SNR=598
MVCO ⇑S S 01 46 28.5 +7.0
baz=76
X15A Humboldt 76.09 320 ⇑P **P 01 37 25.9 +0.9**
baz=76,SNR=1000
X15A ⇓S S 01 46 29.5 +7.3
baz=76
Y14A Wickenburg 76.14 319 ⇓P **P 01 37 25.8 +0.4**
baz=76,SNR=957
Y14A ⇓S S 01 46 29.4 +6.7
baz=76
WUAZ Wupatki 76.34 321 *e*P **P 01 37 27.3 +0.8**
comp=Z,1μm,1.1s,mb6.3
WUAZ Wupatki 76.34 321 ⇑P **P 01 37 27.4 +1.0**
baz=76,SNR=769
WUAZ ⇓S S 01 46 32.3 +7.5
baz=76
X14A Yava 76.45 320 ⇑P **P 01 37 27.9 +0.9**
baz=77,SNR=818
X14A ⇓S S 01 46 32.9 +6.9
baz=77
Y13A Salome 76.55 319 ⇓P **P 01 37 28.1 +0.5**
baz=77,SNR=468
Y13A ⇑S S 01 46 34.1 +7.1
baz=77
W15A Williams 76.60 321 ⇑P **P 01 37 28.9 +1.1**
baz=77,SNR=197
W15A ⇓S S 01 46 35.9 +8.3
baz=77
GLA Glamis 76.61 317 *e*P **P 01 37 28.3 +0.3**
GLA Glamis 76.61 317 ⇓P **P 01 37 28.3 +0.4**
baz=77,SNR=262
GLA ⇓S S 01 46 34.1 +6.4
baz=77
SMCO Snowmass 76.74 327 *e*P **P 01 37 29.7 +1.0**
comp=Z,1μm,1.0s,mb6.3
BOSA Boshof 76.77 115 P **P 01 37 29.2 +0.4**
comp=Z,322nm,0.4s,mb6.1,baz=256,slow=4.2,SNR=265
BOSA pP pP 01 39 29.7 -0.3
comp=Z,451nm,1.0s,baz=258,slow=6.3,SNR=7.9
BOSA S S 01 46 34.3 +4.9
comp=Z,12nm,0.9s,baz=94,slow=19,SNR=2.8
BOSA PKPPKP 02 04 39.1
comp=Z,4.1nm,1.0s,baz=93,slow=6.6,SNR=3.2
BOSA tx tx 02 07 10.4
comp=Z,4.6nm,1.0s,baz=301,slow=4.8,SNR=3.1
BOSA Boshof 76.77 115 ⇓*i*P **P 01 37 29.1 +0.3**
BOSA *e*PcP PcP 01 37 37.4 +0.3
BOSA *e*pP pP 01 39 31.3 +1.3
BOSA *e*sP sP 01 40 25.7 -3.7
BOSA *e*PP PP 01 40 37.6 +5.4
BOSA *e*S S 01 46 28.4 -0.9
TBI Tubuai 76.82 250⇑ *i*P **P 01 37 30.6 +1.5**
comp=Z,408nm,1.0s,mb5.8
TBI *e*pP pP 01 39 33.7 +3.4
comp=Z,1μm,1.2s
TBI *e*S S 01 46 28.0 -1.9
comp=Z,14μm,29.0s
Y12C Blythe 76.92 318 ⇓P **P 01 37 30.0 +0.5**
baz=77,SNR=675
Y12C ⇑S S 01 46 37.2 +6.3
baz=77
PDMCI Parker Dam,Lak 77.07 319 ⇓P **P 01 37 30.7 +0.3**
baz=77,SNR=132
PDMCI ⇓S S 01 46 39.8 +7.3
baz=77
X13A Yucca 77.09 319 ⇓P **P 01 37 31.1 +0.6**
baz=77,SNR=1000
X13A ⇓S S 01 46 40.0 +7.2
baz=77
W14A Seligman 77.09 320 ⇑P **P 01 37 31.5 +1.0**
baz=77,SNR=956
W14A ⇓S S 01 46 41.4 +8.6
baz=77
DVTC Desert V Tower 77.13 316 ⇓P **P 01 37 31.1 +0.4**
baz=77,SNR=81
DVTC ⇓S S 01 46 40.1 +7.0
baz=77
SWSC Sam W. Stewart 77.13 317 ⇓P **P 01 37 31.1 +0.3**
baz=77,SNR=147
SWSC ⇓S S 01 46 40.5 +7.3
baz=77
BC3 Big Chuckw Mtn 77.41 318 ⇑P **P 01 37 32.6 +0.4**
baz=78,SNR=434
BC3 ⇑S S 01 46 42.7 +6.6
baz=78
W13A Hualapai Mount 77.48 320 P **P 01 37 33.5 +0.9**
baz=78,SNR=970
W13A ⇓S S 01 46 43.8 +7.0
baz=78
MONP Monument Peak 77.48 316 ⇓P **P 01 37 33.2 +0.5**
baz=78,SNR=275
MONP ⇓S S 01 46 44.2 +7.3
baz=78
BAR Barrett 77.50 316 *e*P **P 01 37 33.0 +0.2**
IRM Iron Mountain 77.57 318 ⇓P **P 01 37 33.5 +0.4**
baz=78,SNR=784
IRM ⇑S S 01 46 44.0 +6.1
baz=78
PHWY Pilot Hill 77.67 329 *e*P **P 01 37 33.9 +0.2**
109C Camp Elliot, M 77.91 316 ⇑P **P 01 37 35.0 0.0**
baz=78,SNR=73
109C ⇑S S 01 46 47.5 +6.2
baz=78
BELC Belle Mtn. 77.98 317 ⇓P **P 01 37 35.8 +0.5**
baz=78,SNR=366
BELC ⇑S S 01 46 49.7 +7.7
baz=78
PFO Pinyon Flat Ob 77.99 317 S S 01 46 46.2 +4.0
comp=Z,5.4nm,1.1s,baz=287,slow=11,SNR=2.3
PFO PKPPKP 02 04 37.6
comp=Z,4.1nm,1.1s,baz=226,slow=6.3,SNR=3.6
PFO tx tx 02 07 13.4
comp=Z,6.8nm,1.1s,baz=217,slow=8.3,SNR=5.2
PFO Pinyon Flat Ob 77.99 317 *e*P **P 01 37 35.7 +0.3**
PFO pmax pmax
comp=Z,1μm,1.1s,mb6.2
PFO Pinyon Flat Ob 77.99 317 *e*P **P 01 37 35.7 +0.3**
comp=Z,1μm,1.1s,mb6.2
PFO Pinyon Flat Ob 77.99 317 P **P 01 37 36.0 +0.7**
baz=78,SNR=266
PFO ⇑S S 01 46 50.2 +8.0
baz=78
EYMN Ely 78.00 341 *e*P **P 01 37 33.3 -2.1**
W12A Cal Nev Ari 78.19 319 ⇓P **P 01 37 36.7 +0.2**
baz=78,SNR=39
W12A ⇓S S 01 46 50.6 +6.2
baz=78
MAW Mawson 78.36 162 *e*P **P 01 37 37.5 +0.2**
comp=Z,235nm,0.5s,mb5.9
MAW *e* pP 01 39 40.8 +1.6
MAW *e*S S 01 46 46.1 +0.1
MAW *e*sS sS 01 50 22.4 -0.8
MAW Mawson 78.36 162 P **P 01 37 37.8 +0.4**
comp=Z,304nm,0.7s,mb5.8,baz=220,slow=6.2,SNR=192
MAW pP pP 01 39 38.4 -0.8
comp=Z,190nm,1.0s,baz=234,slow=7.7,SNR=8.5
MAW S S 01 46 50.8 +4.8
comp=Z,8.7nm,0.8s,baz=315,slow=19,SNR=5.6
MAW PKKP PKKPdf 01 56 14.1 -2.1
comp=Z,3.7nm,0.8s,baz=313,slow=6.1,SNR=4.1
MAW PKPPKP 02 04 33.4
comp=Z,5.9nm,0.7s,baz=329,slow=5.9,SNR=5.1
MAW tx tx 02 07 04.8
comp=Z,32nm,1.3s,baz=36,slow=5.9,SNR=4.6
MAW Mawson 78.36 162 P **P 01 37 37.8 +0.5**
MAW *PP pP 01 39 38.4 -0.8
MAW S S 01 46 50.8 +4.8
MAW pmax pmax
comp=Z,304nm,0.7s
MAW smax
comp=N,9.0nm,0.8s
MAW Mawson 78.36 162 *e*P **P 01 37 37.5 +0.2**
comp=N,235nm,0.5s,mb5.9
MAW *e*PcP PcP 01 37 43.7 -0.4
MAW *e*PcP PcP 01 37 43.7 -0.4
MAW *e* pP 01 39 40.8 +1.6
MAW *e*S S 01 46 46.1 +0.1
MAW *e*S S 01 46 51.6 +5.6
MAW *e*sS sS 01 50 22.4 -0.8
MURC Murrieta 78.44 316 ⇑P **P 01 37 38.1 +0.3**
baz=79,SNR=238
MURC ⇓S S 01 46 53.3 +6.4
baz=79
LBTB Lobatse 78.45 112 P **P 01 37 38.4 +0.5**
LBTB Lobatse 78.45 112 PKKPbc PKKPbc 01 56 32.9 +4.4
comp=N,11nm,0.7s,baz=121,slow=1.8,SNR=13
LBTB Lobatse 78.45 112 ⇓*i*P **P 01 37 38.4 +0.6**
LBTB *e* 01 37 46.0
LBTB *e**PP pP 01 39 35.1 -4.7
LBTB *e**SP sP 01 40 37.3 -1.7
LBTB *e* 01 40 45.8
LBTB *e*S S 01 46 51.0 +4.0
LBTB pmax pmax
comp=Z,110nm,1.4s,mb5.1
LBTB Lobatse 78.45 112 ⇓*i*P **P 01 37 38.4 +0.5**
comp=Z,11nm,1.4s
LBTB *e*PcP PcP 01 37 46.0 +1.5
LBTB *e*pP pP 01 39 35.1 -4.6
LBTB *e*sP sP 01 40 37.3 -1.7
LBTB *e*PP PP 01 40 45.8 -0.2
LBTB *e*S S 01 46 51.0 +4.0
VAH Vaihoa 78.45 259 *e*PcP PcP 01 37 44.3 -0.2
comp=Z,4μm,1.1s
VAH *e*pP pP 01 39 44.3 +4.5
comp=Z,1μm,1.4s
VAH Vaihoa 78.45 259⇑ *i*P **P 01 37 39.6 +1.7**
comp=Z,384nm,1.0s,mb5.8
VAH *e*PcP PcP 01 37 44.3 -0.2
VAH *e*pP pP 01 39 44.3 +4.5
V12A Nelson 78.48 319 ⇓P **P 01 37 38.3 +0.3**
baz=79,SNR=795
V12A ⇓S S 01 46 54.6 +7.3
baz=79
BBRC Big Bear Sol-O 78.72 317 ⇑P **P 01 37 40.2 +0.9**
baz=79,SNR=121
BBRC ⇓S S 01 46 56.5 +6.8
baz=79
HEC Hector,Ludlow 78.74 318 ⇑P **P 01 37 40.2 +0.8**
baz=79,SNR=264
HEC ⇓S S 01 46 57.0 +7.1
baz=79
PMOR Pomariorio Ree 78.78 259 *e*PcP PcP 01 37 46.1 +0.2
comp=Z,2μm,1.2s
PMOR *e*pP pP 01 39 46.3 +4.6
comp=Z,638nm,1.2s
PMOR Pomariorio Ree 78.78 259⇑ *i*P **P 01 37 41.4 +1.8**
comp=Z,243nm,1.0s,mb5.5
PMOR *e*PcP PcP 01 37 46.1 +0.2
PMOR *e*pP pP 01 39 46.3 +4.6
U12A Valley of Fire 78.79 320 ⇓P **P 01 37 40.2 +0.6**
baz=79
U12A ⇓S S 01 46 57.3 +6.8
baz=79
RWWY Rawlins 78.79 328 *e*P **P 01 37 40.2 +0.6**
TVO Taravao 78.85 256 *e*PcP PcP 01 37 46.4 +0.2
comp=Z,3μm,1.2s
TVO *e*pP pP 01 39 46.8 +4.8
comp=Z,2μm,1.5s
TVO Taravao 78.85 256⇑ *i*P **P 01 37 41.7 +1.8**
TVO *e* 01 37 46.4
TVO *e**PP pP 01 39 46.8 +4.8
TVO pmax pmax
comp=Z,320nm,1.0s,mb5.6
TVO Taravao 78.85 256⇑ *i*P **P 01 37 41.7 +1.8**
comp=Z,320nm,1.0s,mb5.6
TVO *e*PcP PcP 01 37 46.4 +0.2
TVO *e*pP pP 01 39 46.8 +4.8
SCI San Clemente I 78.87 315 ⇑P **P 01 37 40.2 +0.1**
baz=79
SCI ⇑S S 01 46 57.0 +5.6
baz=79
V11A Goodsprings 78.90 319 ⇑P **P 01 37 40.6 +0.4**
baz=79
V11A ⇓S S 01 46 58.4 +6.8
baz=79
CCUT Cedar City 78.91 322⇑ *e*P **P 01 37 41.4 +1.1**
CCUT *e*PcP PcP 01 37 45.9 -0.5
CCUT *e*pP pP 01 39 40.7 -1.7
CCUT *e*S SKKSac 01 47 04.0 +0.9
TUQ Turquoise Mtn. 78.91 319 ⇓P **P 01 37 40.7 +0.4**
baz=79,SNR=214
TUQ ⇑S S 01 46 59.0 +7.3
baz=79
MSU Marysvale 78.95 323 *e*P **P 01 37 41.4 +0.9**
MSU *e**PP pP 01 39 37.5 -5.1
TMUT Trail Mountain 79.00 324 *e*P **P 01 37 41.8 +1.0**
CIS Catalina Islan 79.06 316 P **P 01 37 41.3 +0.2**
baz=79,SNR=111
CIS ⇑S S 01 46 58.7 +5.4
baz=79
ARUT Antelope Range 79.12 322 *e*P **P 01 37 43.2 +1.8**
ARUT *e* 01 39 58.8
BFSC Mount Baldy St 79.15 317 ⇓P **P 01 37 40.9 -0.6**
baz=79,SNR=281
BFSC ⇑S S 01 46 59.5 +5.3
baz=79
RRX Edison Barstow 79.18 318 ⇓P **P 01 37 42.1 +0.4**
baz=79,SNR=22
RRX ⇓S S 01 47 00.7 +6.2
baz=79
PAE Paea 79.18 256 *e*PcP PcP 01 37 47.9 +0.2
comp=Z,3μm,1.2s
PAE *e*pP pP 01 39 48.5 +4.6
comp=Z,2μm,1.4s
PAE Paea 79.18 256⇑ *i*P **P 01 37 43.2 +1.5**
PAE *e* 01 37 47.9
PAE pmax pmax
comp=Z,206nm,1.0s,mb5.4
PAE Paea 79.18 256⇑ *i*P **P 01 37 43.2 +1.5**
comp=Z,206nm,1.0s,mb5.4
PAE *e*PcP PcP 01 37 47.9 +0.2
PAE *e*pP pP 01 39 48.5 +4.6
FMP Fort Macarthur 79.19 316 ⇓P **P 01 37 41.8 +0.1**
baz=79,SNR=15
FMP ⇓S S 01 47 00.8 +6.2
baz=79
SHPR Sheep Range 79.20 320 *e*P **P 01 37 42.5 +0.7**
PPT Papeete 79.22 256⇑ *i*P **P 01 37 43.7 +1.8**
comp=Z,163nm,1.1s,mb5.2
PPT Papeete 79.22 256 *e*PcP PcP 01 37 48.4 +0.6
comp=Z,2μm,1.5s
PPT *e*pP pP 01 39 48.8 +4.7
comp=Z,870nm,1.4s
PPT Papeete 79.22 256 *e*S S 01 46 52.5 -2.4
comp=Z,16μm,27.8s
PPT Papeete 79.22 256 P **P 01 37 43.4 +1.5**
comp=Z,926nm,1.0s,mb6.1,baz=113,slow=5.9,SNR=23
PPT pP pP 01 39 43.3 -0.9
comp=Z,232nm,1.0s,baz=117,slow=11,SNR=5.9
PPT PP PP 01 40 57.7 +5.4
comp=Z,219nm,1.1s,baz=140,slow=14,SNR=3.5
RSSD Black Hills 79.27 331 *e*P **P 01 37 42.1 -0.1**
RSSD *e**PP pP 01 39 43.4 -1.0
RSSD *e* 01 40 57.1
RSSD *e*S S 01 46 52.9 -2.5
RSSD pmax pmax
comp=Z,632nm,1.0s,mb5.9
RSSD Black Hills 79.27 331 *e*P **P 01 37 42.1 -0.1**
comp=Z,632nm,1.0s,mb5.9
RSSD *e*pP pP 01 39 43.4 -1.1
RSSD *e*sP sP 01 40 44.8 +1.2
RSSD *e*PP PP 01 40 57.1 +4.4
RSSD *e*S S 01 46 52.9 -2.5
U11A Corn Creek 79.27 320 ⇓P **P 01 37 42.8 +0.6**
baz=80,SNR=158
U11A ⇑S S 01 47 02.7 +7.3
baz=80
GSC Goldstone 79.35 318 *e*P **P 01 37 42.9 +0.3**
GSC Goldstone 79.35 318 ⇓P **P 01 37 43.0 +0.4**
baz=80,SNR=661
GSC ⇑S S 01 47 02.4 +6.1
baz=80
MWC Mount Wilson 79.39 316 *e*P **P 01 37 43.1 +0.3**
SHOC Shoshone 79.44 319 ⇑P **P 01 37 43.1 0.0**
baz=80
SHOC ⇓S S 01 47 03.9 +6.8
baz=80
DECC Green Verdugo 79.58 316 ⇓P **P 01 37 43.9 +0.1**
baz=80,SNR=124
DECC ⇓S S 01 47 05.0 +6.4
baz=80
AGMN Agassiz Refuge 79.67 339⇑ *e*P **P 01 37 43.6 -0.7**
comp=Z,211nm,0.8s,mb5.5
AGMN *e*PcP PcP 01 37 47.8 -2.0
AGMN *e*pP pP 01 39 46.6 -0.1
AGMN *e* 01 40 46.5
SNCC San Nicolas Is 79.67 315 *e*P **P 01 37 44.6 +0.3**
comp=Z,2μm,1.1s,mb6.3
SNCC San Nicolas Is 79.67 315 ⇓P **P 01 37 44.2 0.0**
baz=80
SNCC ⇓S S 01 47 06.9 +7.3
baz=80
MPU Maple Canyon 79.75 324 *e*P **P 01 37 45.2 +0.5**
EDW2 Edwards Air Fo 79.78 317 P **P 01 37 44.8 -0.1**
baz=80,SNR=459
EDW2 ⇓S S 01 47 06.5 +5.8
baz=80
U10A Ash Meadows, A 79.82 319 ⇑P **P 01 37 45.7 +0.7**
baz=80,SNR=381
U10A ⇑S S 01 47 08.8 +7.7
baz=80
DAU Daniels Canyon 79.84 325 *e*P **P 01 37 46.9 +1.7**
DAU *e*S SKKSac 01 47 15.1 +5.0
NLU North Lily Min 79.94 324 *e*P **P 01 37 46.3 +0.6**
BLG Laguna Peak 79.94 316 ⇓P **P 01 37 45.6 -0.1**
baz=80,SNR=85
BLG ⇑S S 01 47 08.7 +6.4
baz=80
LRMC Laurel Mountai 80.00 318 ⇓P **P 01 37 46.1 +0.1**
baz=80,SNR=530
LRMC ⇑S S 01 47 09.4 +6.5
baz=80
OSI Osito Adit 80.06 316 ⇑P **P 01 37 46.3 0.0**
baz=80,SNR=76
OSI ⇑S S 01 47 09.7 +6.1
baz=80
JLU Jordanelle 80.08 325 *e*P **P 01 37 47.1 +0.6**
FURC Furnace Creek, 80.17 319 P **P 01 37 47.4 +0.5**
baz=80,SNR=299
FURC ⇓S S 01 47 11.7 +7.1
baz=80
BSC Santa Cruz Isl 80.22 315 ⇓P **P 01 37 47.1 -0.1**
baz=80,SNR=102
BSC ⇑S S 01 47 11.6 +6.4
baz=80
MPMC Manual Prospec 80.27 318 ⇑P **P 01 37 47.5 +0.1**
baz=80,SNR=477
MPMC ⇑S S 01 47 12.9 +7.3
baz=80
CTU Camp Tracy 80.31 325 *e*P **P 01 37 47.8 +0.2**
CTU *e*S S 01 47 12.3 +6.3
ARVC Arvin 80.46 317 ⇑P **P 01 37 48.5 +0.1**
baz=81,SNR=91
ARVC ⇓S S 01 47 13.2 +5.6
baz=81
NOQ North Oquirrh 80.47 324 *e*P **P 01 37 48.6 +0.1**
NOQ *e*S ScS 01 47 25.6 +3.5
DAC Darwin (Calif) 80.48 318 *e*P **P 01 37 48.9 +0.4**
DAC *e*S S 01 47 13.1 +5.3
DAC pmax pmax
comp=Z,1μm,1.1s,mb6.2
DAC Darwin (Calif) 80.48 318 *e*P **P 01 37 48.9 +0.4**
comp=Z,1μm,1.1s,mb6.2
DAC *e*S S 01 47 13.1 +5.3
DUG Dugway 80.50 324 *e*P **P 01 37 49.0 +0.4**
DUG Dugway 80.50 324 ⇓P **P 01 37 49.0 +0.4**
baz=81,SNR=558
DUG ⇓S S 01 47 15.0 +6.9
baz=81
SBC Santa Barbara 80.56 316 ⇑P **P 01 37 48.7 -0.3**
baz=81
SBC ⇑S S 01 47 15.1 +6.5
baz=81
ISA Isabella 80.60 317 *e*P **P 01 37 49.6 +0.5**
comp=Z,1μm,1.1s,mb6.2
ISA Isabella 80.60 317 ⇓P **P 01 37 49.5 +0.4**
baz=81,SNR=570
ISA ⇓S S 01 47 16.1 +7.1
baz=81
SCHQ Schefferville 80.72 358 P **P 01 37 47.8 -1.9**
comp=Z,104nm,0.8s,mb5.3,baz=184,slow=4.9,SNR=66
SCHQ pP pP 01 39 51.3 -1.2
comp=Z,78nm,0.7s,baz=202,slow=4.6,SNR=3.0
SCHQ S S 01 47 11.4 +1.2
comp=Z,52nm,1.1s,baz=90,slow=19,SNR=15
SCHQ PKPPKP 02 04 39.4
comp=Z,17nm,1.2s,baz=281,slow=1.3,SNR=4.1
SCHQ Schefferville 80.72 358 P **P 01 37 47.8 -1.9**
SCHQ pP pP 01 39 51.3 -1.2
SCHQ S S 01 47 11.4 +1.2
SCHQ P'P' 02 04 39.4
TRCR Troy Canyon 80.72 321 *e*P **P 01 37 50.5 +0.7**
TRCR *e*PcP PcP 01 37 54.6 +0.2
TRCR *e*pP pP 01 39 55.9 +3.3
BW06 Boulder Array 80.74 327 *e*P **P 01 37 49.6 -0.3**
PDAR Pinedale Array 80.74 327 P **P 01 37 49.5 -0.4**
comp=Z,295nm,0.9s,mb5.7,baz=132,slow=7.8,SNR=119
PDAR pP pP 01 39 51.5 -1.2
comp=Z,33nm,1.1s,baz=137,slow=13,SNR=1.6
PDAR S S 01 47 15.5 +5.0
comp=Z,11nm,1.0s,baz=45,slow=15,SNR=4.0
PDAR PKKPbc PKKPbc 01 56 21.7 -1.8
comp=Z,2.4nm,0.6s,baz=104,slow=1.5,SNR=4.0
PDAR PKP2bc 02 04 11.8
comp=Z,1.4nm,0.8s,baz=100,slow=5.0,SNR=4.2
PDAR PKPPKP 02 04 23.9
comp=Z,1.4nm,0.9s,baz=180,slow=1.5,SNR=4.7
PDAR tx tx 02 06 38.0
comp=Z,6.5nm,1.2s,baz=70,slow=1.7,SNR=7.3
PDAR P4KPbc 02 14 06.1
comp=Z,0.3nm,1.0s,baz=138,slow=4.5,SNR=2.8
PDAR Pinedale Array 80.74 327 P **P 01 37 49.5 -0.4**
PDAR pP pP 01 39 51.5 -1.2
PDAR S S 01 47 15.5 +5.0
PDAR PKKPbc PKKPbc 01 56 21.7 -1.8
PDAR ⇑*e* 02 04 11.8
PDAR P'P' 02 04 23.9
Q12A Willow Creek R 80.78 322 ⇑P **P 01 37 50.4 +0.4**
baz=81
Q12A ⇑S S 01 47 18.1 +7.3
baz=81
GRAC Grapevine Rang 80.83 319 ⇓P **P 01 37 50.7 +0.4**
baz=81,SNR=358
GRAC ⇓S S 01 47 18.3 +7.0
baz=81
CWC Cottonwood Cre 80.88 318 ⇑P **P 01 37 51.0 +0.4**
baz=81,SNR=140
CWC ⇑S S 01 47 17.9 +6.1
baz=81
HWUT Hardware Ranch 80.88 325 *e*P **P 01 37 50.6 +0.1**
HWUT *e*S S 01 47 17.9 +6.1
PKM Peak Mountain 80.92 316 ⇓P **P 01 37 51.2 +0.4**
baz=81,SNR=474
PKM ⇓S S 01 47 18.4 +6.1
baz=81
MDT Midelt 80.97 47 P **P 01 37 51.8 +0.7**
comp=Z,424nm,1.0s,mb5.8,baz=235,slow=5.2,SNR=190
MDT pP pP 01 39 53.3 -0.7
comp=Z,129nm,1.0s,baz=221,slow=7.5,SNR=4.4
MDT PKPPKP 02 04 31.0
comp=Z,3.6nm,1.0s,baz=76,slow=2.9,SNR=5.9
MDT tx tx 02 06 59.1
comp=Z,1.5nm,1.0s,baz=121,slow=2.1,SNR=4.3
MDT Midelt 80.97 47 P **P 01 37 51.8 +0.7**
MDT pP pP 01 39 53.3 -0.7
MDT P'P' 02 04 31.0
VES Vestal, Richgr 81.08 317 ⇓P **P 01 37 51.6 0.0**
baz=81,SNR=584
VES ⇓S S 01 47 19.3 +5.4
baz=81
R10A Warm Springs 81.09 320 ⇓P **P 01 37 52.6 +1.0**
baz=81
R10A ⇑S S 01 47 20.8 +6.9
baz=81
Q11A Duckwater 81.10 321 P **P 01 37 52.2 +0.5**
baz=81,SNR=1000
Q11A ⇑S S 01 47 21.2 +7.2
baz=81

SPUT **South Promonto** 81.12 325 *e*P P **01 37 49.2 -2.6**
SPUT *e*S S 01 47 18.0 +3.8
P12A McGill 81.12 322 ⇓P P **01 37 52.3 +0.5**
baz=81,SNR=793
P12A ⇑S S 01 47 20.6 +6.3
baz=81
BGU Big Grassy Mou 81.14 324⇑ *e*P P **01 37 52.0 +0.1**
BGU *e*PcP PcP 01 37 56.5 +0.2
BGU *e*pP pP 01 39 54.5 -0.5
BGU *e*sP sP 01 40 53.6 -0.3
BGU *e*S ScS 01 47 25.1 -2.6
S09A Goldfield 81.23 320 ⇓P P **01 37 52.6 +0.2**
baz=81
S09A ⇑S S 01 47 21.9 +6.5
baz=81
SMMC Simmler 81.31 316 ⇑P P **01 37 53.3 +0.6**
baz=82,SNR=203
SMMC ⇑S S 01 47 22.9 +6.8
baz=82
ULM Lac du Bonnet 81.38 340 P P **01 37 52.5 -0.7**
comp=Z,727nm,1.0s,mb6.1,baz=155,slow=5.0,SNR=102
ULM pP pP 01 39 54.8 -1.5
comp=Z,105nm,1.0s,baz=150,slow=15,SNR=2.7
ULM S S 01 47 18.2 +1.4
comp=Z,80nm,1.1s,baz=269,slow=20,SNR=16
ULM PKKPbc PKKPbc 01 56 22.8 +0.7
comp=Z,9.4nm,0.6s,baz=338,slow=4.7,SNR=12
ULM PKPPKP 02 04 34.6
comp=Z,4.8nm,1.1s,baz=313,slow=14,SNR=3.9
ULM tx tx 02 06 53.6
comp=Z,5.7nm,0.9s,baz=20,slow=6.6,SNR=3.9
ULM Lac du Bonnet 81.38 340⇓*i*P P **01 37 53.4 +0.3**
ULM pP pP 01 39 54.8 -1.5
ULM S S 01 47 18.2 +1.4
ULM PKKPbc PKKPbc 01 56 22.8 +0.7
ULM P'P' 02 04 34.6
TIN Tinemaha 81.38 319 ⇓P P **01 37 53.6 +0.5**
baz=82
TIN ⇓S S 01 47 22.9 +6.1
baz=82
TPH Tonopah 81.47 320 *e*P P **01 37 54.1 +0.5**
TPH pmax pmax
comp=Z,1μm,1.1s,mb6.3
TPH Tonopah 81.47 320 *e*P P **01 37 54.1 +0.5**
comp=Z,1μm,1.1s,mb6.3
PTEO Sao Teotonio 81.49 41 *e*P P **01 37 54.1 +0.4**
PTEO *e*pP pP 01 39 59.7 +2.9
PTEO Sao Teotonio 81.49 41 *e*PP PP 01 41 10.0 -0.7
RCTC Rector, Farmer 81.49 317 ⇑P P **01 37 53.0 -0.7**
baz=82,SNR=148
RCTC ⇓S S 01 47 22.1 +4.1
baz=82
R09A Tonopah 81.50 320 ⇓P P **01 37 53.9 +0.2**
baz=82,SNR=1000
R09A ⇑S S 01 47 23.6 +5.6
baz=82
AHID Auburn Hatcher 81.50 327 *e*P P **01 37 53.9 +0.2**
comp=Z,1μm,1.1s,mb6.3
AHID *e*PcP PcP 01 37 58.2 +0.4
AHID *e*pP pP 01 40 01.9 +5.0
AHID *e*S S 01 47 26.1 +8.0
O12A Currie 81.59 323 ⇑P P **01 37 54.4 +0.1**
baz=82
O12A ⇓S S 01 47 25.5 +6.6
baz=82
HELL Mitchell Peak, 81.60 318 ⇓P P **01 37 53.9 -0.3**
baz=82,SNR=867
HELL ⇓S S 01 47 23.7 +4.6
baz=82
V05C Boulder Hill, 81.61 317 ⇑P P **01 37 54.6 +0.3**
baz=82
V05C ⇑S S 01 47 25.2 +6.0
baz=82
HVU Hansel Valley 81.62 325 *e*P P **01 37 54.4 0.0**
HVU *e*S S 01 47 27.6 +8.3
S08C White Mtn Res 81.64 319 ⇑P P **01 37 54.9 +0.4**
baz=82,SNR=319
S08C ⇓S S 01 47 25.0 +5.5
baz=82
P11A Circle Ranch, 81.65 322 ⇑P P **01 37 54.9 +0.4**
baz=82,SNR=156
P11A ⇑S S 01 47 25.8 +6.3
baz=82
N13A Wendover, West 81.72 323 ⇓P P **01 37 54.6 -0.2**
baz=82,SNR=141
N13A ⇑S S 01 47 26.2 +6.0
baz=82
MTUM Tungsten Hills 81.77 319 *e*P P **01 37 55.3 +0.2**
REDW Red Top Meadow 81.82 327 *e*P P **01 37 54.8 -0.6**
comp=Z,1μm,1.1s,mb6.3
REDW *e*S S 01 47 23.4 +2.2
SNOW Snow King Moun 81.84 327 *e*P P **01 37 55.6 +0.1**
SNOW *e*S S 01 47 28.7 +7.2
LOHW Long Hollow 81.88 327 *e*P P **01 37 55.7 +0.1**
LOHW *e*S S 01 47 31.3 +9.4
TPAW Teton Pass 81.96 327 *e*P P **01 37 56.1 0.0**
TPAW *e*S S 01 47 27.4 +4.7
Q09A Carvers 81.96 320 ⇓P P **01 37 56.5 +0.4**
baz=82,SNR=223
Q09A ⇑S S 01 47 28.5 +5.8
baz=82
O11A Cowboy Ranch, 82.00 322 ⇑P P **01 37 56.5 +0.2**
baz=82
O11A ⇑S S 01 47 28.3 +5.3
baz=82
LIS Lisbon 82.03 40 *e*P P **01 37 56.4 0.0**
LIS *e*P 01 37 57.8
LIS *e*S S 01 47 22.1 -1.3
LIS *e*S S 01 47 22.1 -1.2
LIS AMS AMS 01 57 40.7
comp=Z,7μm,10.5s
LIS Lisbon 82.03 40 *e*P P **01 37 56.4 0.0**
LIS *e*S S 01 47 22.1 -1.2
RRI2 Red Ridge 82.04 327 *e*P P **01 37 56.5 +0.1**
RRI2 *e*S S 01 47 30.7 +7.3
U05C Westside ANR, 82.05 317 ⇑P P **01 37 56.1 -0.4**
baz=82
U05C ⇑S S 01 47 28.1 +4.6
baz=82
M13A Montello 82.05 324 ⇑P P **01 37 56.4 -0.1**
baz=82,SNR=169
M13A ⇑S S 01 47 30.8 +7.2
baz=82
MOOW Moose Ponds 82.05 327 *e*P P **01 37 56.3 -0.2**
PKD Parkfield 82.05 316 ⇓P P **01 37 56.4 -0.2**
baz=82,SNR=134
PKD ⇓S S 01 47 29.6 +6.0
baz=82
V04C Ramage Ranch, 82.06 316 ⇓P P **01 37 57.0 +0.4**
baz=82,SNR=102
V04C ⇓S S 01 47 29.2 +5.6
baz=82
P10A Eureka 82.09 321 ⇑P P **01 37 57.3 +0.6**
baz=82,SNR=308
P10A ⇓S S 01 47 30.2 +6.2
baz=82
PMAFR Mafra 82.11 40 *e*P P **01 37 56.9 +0.1**
PMAFR *e*pP pP 01 40 01.9 +1.6
PMAFR *e*S S 01 47 28.4 +4.2
MLAC Mammoth Lakes 82.12 319 ⇓P P **01 37 57.5 +0.6**
baz=82,SNR=221
MLAC ⇑S S 01 47 30.3 +6.1
baz=82
PLOU Loures 82.14 40 *e*P P **01 37 57.2 +0.2**
PLOU *e*pP pP 01 40 08.0 +7.6
PLOU Loures 82.14 40 *e*PP PP 01 41 14.3 -1.7
PLOU *e*S S 01 47 28.4 +4.0
DCID1 Drake Creek 82.15 327 *e*P P **01 37 58.1 +1.1**
DCID1 *e*S S 01 47 33.4 +8.9
N12A Clover Valley, 82.16 323 ⇓P P **01 37 57.0 -0.1**
baz=82,SNR=334
N12A ⇓S S 01 47 29.5 +4.8
baz=82
R08A Mina 82.17 320 ⇑P P **01 37 57.4 +0.3**
baz=82
R08A ⇑S S 01 47 29.5 +4.7
baz=82
ELK Elko 82.19 323 *e*P P **01 37 57.5 +0.2**
KCC Kaiser Creek 82.20 318 P P **01 37 56.9 -0.4**
baz=82,SNR=334
KCC ⇑S S 01 47 29.6 +4.5
baz=82
EGRO El Granado 82.21 42 P P **01 37 57.7 +0.3**
comp=Z,138nm,0.6s,mb5.7
T06C Millerton Lake 82.23 318 ⇓P P **01 37 56.4 -1.1**
baz=82,SNR=130
T06C ⇑S S 01 47 28.0 +2.6
baz=82
LAO LASA Array 82.25 332 *e*P P **01 37 57.0 -0.5**
comp=Z,898nm,1.0s,mb6.2
IMW Indian Meadow 82.26 327 *e*P P **01 37 57.8 +0.2**
comp=Z,1μm,1.0s,mb6.4
FLWY Flagg Ranch 82.28 328 *e*P P **01 37 58.1 +0.4**
FLWY *e*S S 01 47 33.0 +7.2
SFS San Fernando 82.29 43 *e*P P **01 37 58.8 +1.1**
SFS pmax pmax
comp=Z,899nm,1.2s,mb6.2
SFS San Fernando 82.29 43 *e*P P **01 37 58.8 +1.1**
comp=Z,899nm,1.2s,mb6.2
PBEJ Beja 82.31 41 *e*P P **01 37 58.0 +0.1**
PBEJ *e*pP pP 01 40 03.9 +2.6
PBEJ Beja 82.31 41 *e*PP PP 01 41 20.0 +2.6
PBEJ *e*S S 01 47 29.4 +3.2
NVAR Mina Array Bea 82.34 320 P P **01 37 58.2 +0.3**
comp=Z,496nm,1.2s,mb5.9,baz=147,slow=3.8,SNR=89
NVAR S S 01 47 28.4 +2.0
comp=Z,1.6nm,0.9s,baz=87,slow=15,SNR=1.9
NVAR SKKP 01 58 37.7
comp=Z,6.2nm,1.0s,baz=323,slow=2.8,SNR=4.6
NVAR PKPPKP 02 04 32.6
comp=Z,2.9nm,0.8s,baz=271,slow=2.6,SNR=5.7
NVAR tx tx 02 06 40.6
comp=Z,1.1nm,0.6s,baz=327,slow=0.4,SNR=4.1
NVAR P4KPbc 02 14 11.8
comp=Z,0.1nm,0.2s,baz=145,slow=5.6,SNR=4.6
NVAR Mina Array Bea 82.34 320 P P **01 37 58.2 +0.3**
NVAR S S 01 47 28.4 +1.9
NVAR SKKP 01 58 37.7
NVAR P'P' 02 04 32.6
MOE Montemor 82.36 40 *e*P P **01 37 58.7 +0.6**
RLMT Red Lodge 82.39 329 *e*P P **01 37 58.5 +0.3**
comp=Z,632nm,1.0s,mb6.1
RLMT *e*PcP PcP 01 38 02.3 +0.6
RLMT *e*pP pP 01 40 07.8 +6.0
RLMT *e*PP PP 01 41 18.4 +0.5
RLMT *e*S S 01 47 31.4 +4.5
Q08A Gabbs 82.41 320 ⇑P P **01 37 58.4 0.0**
baz=83,SNR=683
Q08A ⇓S S 01 47 32.1 +5.0
baz=83
P09A Austin 82.43 321 ⇑P P **01 37 58.5 +0.1**
baz=83,SNR=130
P09A ⇓S S 01 47 32.6 +5.3
baz=83
U04C Hernandez Rese 82.47 317 ⇑P P **01 37 58.9 +0.3**
baz=83,SNR=167
U04C ⇑S S 01 47 33.1 +5.4
baz=83
M12A Wells 82.49 324 ⇑P P **01 37 58.9 +0.1**
baz=83,SNR=996
M12A ⇓S S 01 47 33.0 +5.0
baz=83
N11A Elko Archery C 82.52 323 P P **01 37 58.8 -0.1**
baz=83,SNR=127
N11A ⇑S S 01 47 33.1 +4.9
baz=83
V03C Hunter Liggett 82.53 316 ⇓P P **01 37 59.4 +0.5**
baz=83,SNR=109
V03C ⇑S S 01 47 34.1 +5.8
baz=83
R07C Lee Vining 82.55 319 ⇓P P **01 37 59.6 +0.6**
baz=83,SNR=376
R07C ⇓S S 01 47 34.2 +5.8
baz=83
EVO Evora 82.56 41⇓*i*P P **01 37 58.7 -0.4**
comp=Z,1μm,1.2s,mb6.1
EVO *e*R
comp=Z,5μm,19.8s
O10A Cortez Mining, 82.57 322 ⇑P P **01 37 59.3 +0.1**
baz=83
O10A ⇑S S 01 47 33.7 +5.0
baz=83
YFT Old Faithful 82.62 328 *e*P P **01 38 00.9 +1.5**
ALMR Almeirim 82.65 40 *e*P P **01 37 59.6 0.0**
LRV Little Rabbit 82.66 317 *e*P P **01 38 00.8 +1.2**
LRV *e*PcP PcP 01 38 05.7 +2.8
LRV *e*pP pP 01 40 10.4 +7.2
EJIF Jimena Fronter 82.73 43 P P **01 38 01.0 +1.0**
EJIF pmax pmax
comp=Z,350nm,0.7s,mb6.0
EJIF Jimena Fronter 82.73 43 P P **01 38 01.0 +1.0**
comp=Z,350nm,0.7s,mb6.0
YNR Norris Junctio 82.74 328 *e*P P **01 38 01.6 +1.6**
T05C Eagle Field, D 82.75 317 ⇓P P **01 38 00.6 +0.5**
baz=83
T05C ⇑S S 01 47 35.9 +5.5
baz=83
ESPR Espera 82.76 43 P P **01 38 00.6 +0.5**
comp=Z,920nm,1.0s,mb6.3
S05C Merced 82.83 318 ⇓P P **01 38 00.6 +0.1**
baz=83,SNR=139
S05C ⇓S S 01 47 36.3 +5.1
baz=83
YMR Madison River 82.84 328 *e*P P **01 38 01.3 +0.8**
comp=Z,2μm,1.0s,mb6.5
YMR *e*PcP PcP 01 38 05.2 +1.4
YMR *e*pP pP 01 40 06.0 +1.7
YMR *e*S S 01 47 40.2 +8.8
EMIN Mina Concepcio 82.85 42 P P **01 38 00.7 +0.1**
comp=Z,636nm,1.4s,mb6.0
N10A Dunphy 82.87 322 ⇑P P **01 38 00.6 -0.1**
baz=83,SNR=157
N10A ⇑S S 01 47 35.5 +3.9
baz=83
O09A Fish Creek Ran 82.88 321 ⇑P P **01 38 00.7 0.0**
baz=83,SNR=169
O09A ⇓S S 01 47 35.9 +4.2
baz=83
S06C San Francisco 82.89 318 ⇓P P **01 38 00.8 0.0**
baz=83,SNR=436
S06C ⇓S S 01 47 37.0 +5.2
baz=83
HAST UC Hastings Re 82.96 316 ⇓P P **01 38 01.3 +0.2**
baz=83,SNR=155
HAST ⇓S S 01 47 37.4 +4.8
baz=83
Q07A Schurz 82.97 320 ⇓P P **01 38 01.8 +0.7**
baz=83
Q07A ⇑S S 01 47 37.1 +4.4
baz=83
M11A Holland Ranch, 82.97 323 ⇑P P **01 38 01.6 +0.5**
baz=83,SNR=736
M11A ⇓S S 01 47 37.9 +5.2
baz=83
PESTR Estremoz 83.03 41 *e*P P **01 38 01.6 +0.1**
PESTR *e*pP pP 01 40 06.4 +1.2
PESTR Estremoz 83.03 41 *e*PP PP 01 41 25.6 +2.4
PESTR *e*S S 01 47 33.6 +0.3
P08A Dixie Valley 83.06 321 ⇑P P **01 38 01.9 +0.3**
baz=83
P08A ⇑S S 01 47 38.6 +5.1
baz=83
BMN Battle Mountai 83.07 322 *e*P P **01 38 01.1 -0.6**
R06C Coleville 83.07 319 P P **01 38 02.5 +0.8**
baz=83,SNR=636
R06C ⇓S S 01 47 39.4 +5.7
baz=83
GCMT Greycliff 83.08 329 *e*P P **01 38 01.5 -0.2**
GCMT *e*PcP PcP 01 38 05.8 +1.1
SAO San Andreas Ge 83.14 317 *e*P P **01 38 02.0 0.0**
QLMT Earthquake Lak 83.19 328 *e*P P **01 38 02.7 +0.5**
QLMT *e*S S 01 47 36.2 +1.5
PACP Pacheco Peak 83.20 317 ⇑P P **01 38 02.5 +0.2**
baz=83,SNR=145
PACP ⇑S S 01 47 40.0 +5.1
baz=83
EMIJ Mijas 83.24 44 P P **01 38 02.3 -0.1**
comp=Z,2μm,1.5s,mb6.4
EBAD Badajoz 83.30 41 P P **01 38 03.0 +0.2**
comp=Z,2μm,1.5s,mb6.3
CMB Columbia Colle 83.31 318 *e*P P **01 38 02.5 -0.3**
CMB Columbia Colle 83.31 318 P P **01 38 02.6 -0.3**
baz=84,SNR=258
CMB ⇓S S 01 47 40.2 +4.2
baz=84
P07A Fallon 83.42 320 ⇑P P **01 38 04.0 +0.6**
baz=84
P07A ⇑S S 01 47 41.5 +4.4
baz=84
M10A I.L. Ranch, Tu 83.44 323 ⇓P P **01 38 03.7 +0.2**
baz=84,SNR=190
M10A ⇓S S 01 47 43.1 +5.8
baz=84
O08A Rochester Mine 83.50 321 ⇓P P **01 38 03.6 -0.2**
baz=84
O08A ⇓S S 01 47 42.2 +4.4
baz=84
N09A Rock Creek Ran 83.53 322 P P **01 38 03.3 -0.6**
baz=84,SNR=89
N09A ⇓S S 01 47 41.3 +3.2
baz=84
S04C Ingram Canyon, 83.54 317 ⇓P P **01 38 03.9 -0.1**
baz=84
S04C ⇑S S 01 47 43.1 +4.9
baz=84
R05C Kirkwood Meado 83.56 319 ⇓P P **01 38 04.6 +0.5**
baz=84,SNR=320
R05C ⇓S S 01 47 42.9 +4.4
baz=84
PCBR Castelo Branco 83.74 40 *e*P P **01 38 04.5 -0.5**
PCBR *e*pP pP 01 40 10.6 +1.5
PCBR Castelo Branco 83.74 40 *e*PP PP 01 41 32.9 +4.0
PCBR *e*S S 01 47 37.8 -2.4
HLID Hailey 83.75 325 *e*P P **01 38 05.7 +0.7**
HLID *e*S S 01 47 49.3 +9.1
HLID *e*PKKPdf PKKPdf 01 56 12.3 +4.9
HLID Hailey 83.75 325 P P **01 38 05.8 +0.8**
baz=84,SNR=1000
HLID ⇑S S 01 47 46.0 +5.8
baz=84
WCN Washoe City 83.76 319 ⇓P P **01 38 05.5 +0.4**
baz=84,SNR=148
WCN ⇓S S 01 47 44.6 +4.2
baz=84
R04C Big Horse Ranc 83.78 318 ⇑P P **01 38 05.5 +0.3**
baz=84
R04C ⇑S S 01 47 45.0 +4.4
baz=84
PAHR Pah Rah Range 83.81 320 *e*P P **01 38 07.0 +1.6**
N08A GE Springer Mi 83.82 321 ⇑P P **01 38 04.7 -0.7**
baz=84,SNR=483
N08A ⇑S S 01 47 45.6 +4.7
baz=84
BNLO Ben Lomond (Sa 83.82 317 ⇑P P **01 38 05.2 -0.2**
baz=84
BNLO ⇑S S 01 47 45.5 +4.6
baz=84
O07A Toulon 83.82 321 ⇑P P **01 38 05.4 0.0**
baz=84,SNR=308
O07A ⇑S S 01 47 44.9 +3.9
baz=84
MCMT McKenzie Canyo 83.87 327 P P **01 38 06.0 +0.4**
MCMT *e*S S 01 47 42.1 +0.6
M09A Marrel Ranch, 83.87 322 ⇓P P **01 38 05.7 +0.1**
baz=84,SNR=150
M09A ⇓S S 01 47 46.2 +4.8
baz=84
WENL Wente Brothers 83.88 317 ⇓P P **01 38 06.0 +0.4**
baz=84
WENL ⇓S S 01 47 46.5 +5.0
baz=84
EALB Alboran 83.94 45 P P **01 38 05.4 -0.6**
comp=Z,906nm,1.7s,mb6.0
PTO Porto 83.97 38 *e*P P **01 38 06.3 +0.2**
PTO *e*pP pP 01 40 13.0 +2.7
PTO *e*S S 01 47 39.4 -3.1
LAVA Lava Cap Winer 83.99 318 ⇓P P **01 38 06.0 -0.2**
baz=84,SNR=520
LAVA ⇓S S 01 47 47.8 +5.2
baz=84
ELOJ Sierra Loja 83.99 44 P P **01 38 06.7 +0.5**
JRSC Jasper Ridge 84.03 317 ⇓P P **01 38 06.4 -0.1**
baz=84
JRSC ⇑S S 01 47 47.7 +4.6
baz=84
PVIS Viseu 84.09 39 *e*P P **01 38 06.3 -0.4**
PVIS *e*pP pP 01 40 13.2 +2.3
PVIS *e*S S 01 47 39.5 -4.1
P06A Stead Airport, 84.09 320 ⇑P P **01 38 07.2 +0.5**
baz=84
P06A ⇓S S 01 47 50.2 +6.5
baz=84
ERON Agron 84.12 44 P P **01 38 06.8 -0.1**
comp=Z,51nm,0.5s,mb5.3
DLMT Dillon 84.14 327 *e*P P **01 38 07.0 +0.1**
comp=Z,1μm,1.3s,mb6.3
BDM Black Diamond 84.15 317 ⇓P P **01 38 07.3 +0.3**
baz=84,SNR=133
BDM ⇑S S 01 47 49.7 +5.5
baz=84
EGUA Guajares 84.16 44 P P **01 38 06.1 -0.9**
comp=Z,9.9nm,0.4s
ELUQ Luque 84.18 43 P P **01 38 07.6 +0.5**
ELUQ pmax pmax
comp=Z,275nm,0.5s,mb6.0
ELUQ Luque 84.18 43 P P **01 38 07.6 +0.4**
comp=Z,275nm,0.5s,mb6.0
SAC San Andreas 84.26 317 *e*P P **01 38 08.3 +0.8**
P05C Yuba Gap, Truc 84.27 319 ⇓P P **01 38 08.0 +0.5**
baz=84,SNR=460
P05C ⇓S S 01 47 51.0 +5.7
baz=84
N07B Gerlach 84.29 321 ⇑P P **01 38 07.6 0.0**
baz=84,SNR=687
N07B ⇓S S 01 47 51.5 +6.0
baz=84
O06A Flanigan 84.37 320 P P **01 38 08.3 +0.2**
baz=84,SNR=218
O06A ⇓S S 01 47 51.9 +5.6
baz=84
EADA Adamuz 84.37 43 P P **01 38 08.0 -0.1**
comp=Z,988nm,1.3s,mb6.2
L09A Wilkinson Ranc 84.40 323 P P **01 38 08.2 0.0**
baz=85,SNR=282
L09A ⇓S S 01 47 51.3 +4.8
baz=85
LRM Limekiln Ridge 84.40 328 *e*P P **01 38 08.3 +0.1**
M08A Happy Creek Ra 84.40 322 ⇓P P **01 38 08.3 0.0**
baz=85,SNR=321
M08A ⇑S S 01 47 52.4 +5.8
baz=85
Q04C Lincoln 84.42 318 ⇓P P **01 38 08.6 +0.3**
baz=85,SNR=237
Q04C ⇑S S 01 47 52.5 +5.7
baz=85
ECOG Cogollos-Vega 84.44 44 P P **01 38 08.3 -0.1**
ECOG pmax pmax
comp=Z,150nm,0.8s,mb5.6
ECOG Cogollos-Vega 84.44 44 P P **01 38 08.3 -0.1**
comp=Z,150nm,0.8s,mb5.6
F15A Butte 84.44 328 ⇓P P **01 38 08.4 +0.1**
baz=85,SNR=512
F15A ⇓S S 01 47 50.5 +3.6
baz=85
BEKR Beckwourth 84.49 320 ⇑P P **01 38 08.9 +0.3**
baz=85,SNR=659
BEKR ⇓S S 01 47 53.5 +6.1
baz=85
PVRL Vila Real 84.56 39 *e*P P **01 38 08.9 -0.1**
PVRL *e*pP pP 01 40 14.6 +1.2
PVRL *e*S S 01 47 43.4 -4.7
EZAM Zamans 84.61 38 P P **01 38 09.2 0.0**
EZAM pmax pmax
comp=Z,246nm,0.3s,mb6.3
EZAM Zamans 84.61 38 P P **01 38 09.2 -0.1**
comp=Z,246nm,0.3s,mb6.3
EBER Berja 84.62 44 P P **01 38 09.6 +0.2**
comp=Z,1μm,1.6s,mb6.4
Q03C Winters 84.67 318 ⇓P P **01 38 10.3 +0.8**
baz=85,SNR=188
Q03C ⇑S S 01 47 56.6 +7.3
baz=85
PCAB Cabril 84.68 38 *e*P P **01 38 09.2 -0.4**
PCAB *e*pP pP 01 40 15.1 +1.1
PCAB *e*S S 01 47 43.2 -6.1
FARB Farallon Islan 84.69 317 ⇑P P **01 38 09.2 -0.5**
baz=85
FARB ⇑S S 01 47 53.7 +4.4
baz=85
LSZ Lusaka 84.70 104 PKKPbc PKKPbc 01 56 16.2 +1.7
comp=Z,31nm,0.8s,baz=68,slow=2.0,SNR=15
LSZ PKPPKP 02 04 22.8
comp=Z,9.7nm,1.0s,baz=131,slow=1.2,SNR=5.5
LSZ tx tx 02 06 48.7
comp=Z,22nm,1.2s,baz=70,slow=4.1,SNR=5.4
LSZ Lusaka 84.70 104 *e*P P **01 38 11.7 +2.0**
N06A Buffalo Meadow 84.76 320 ⇑P P **01 38 09.9 -0.1**
baz=85,SNR=745
N06A ⇑S S 01 47 55.2 +5.2

baz=85
CVS Carmenet Viney 84.76 317 ⇓P P **01 38 09.7 -0.2**
baz=85,SNR=146
CVS ⇓S S 01 47 54.5 +4.4
baz=85
HRY Holter Researc 84.76 329 *e*P P **01 38 08.5 -1.5**
EGMT Eagleton 84.80 331 *e*P P **01 38 09.6 -0.6**
EGMT Eagleton 84.80 331 ⇓P P **01 38 09.3 -0.9**
baz=85,SNR=150
EGMT ⇑S S 01 47 52.0 +1.5
baz=85
OHCM Honcut 84.81 319 *e*P P **01 38 10.1 -0.1**
M07A Soldier Meadow 84.81 321 ⇑P P **01 38 10.3 +0.1**
baz=85,SNR=630
M07A ⇓S S 01 47 55.5 +4.9
baz=85
F14A Wisdom 84.84 327 ⇓P P **01 38 10.7 +0.3**
baz=85,SNR=254
F14A ⇓S S 01 47 56.0 +5.2
baz=85
EBAN Banos Encina 84.86 43 P P **01 38 10.3 -0.1**
EBAN pmax pmax
comp=Z,278nm,0.5s,mb6.2
EBAN Banos Encina 84.86 43 P P **01 38 10.3 -0.2**
comp=Z,278nm,0.5s,mb6.2
O05C Quincy 84.87 319 ⇓P P **01 38 10.6 +0.1**
baz=85,SNR=625
O05C ⇓S S 01 47 57.2 +6.0
baz=85
L08A Fields 84.88 322 ⇓P P **01 38 10.4 -0.2**
baz=85,SNR=292
L08A ⇓S S 01 47 56.6 +5.3
baz=85
K09A Rome 84.89 323 ⇓P P **01 38 10.5 -0.1**
baz=85,SNR=240
K09A ⇑S S 01 47 56.2 +4.9
baz=85
SUTB Sutter Butte 84.92 318 ⇓P P **01 38 10.3 -0.4**
baz=85,SNR=212
SUTB ⇑S S 01 47 56.7 +5.1
baz=85
E15A Deer Lodge 84.93 328 P P **01 38 10.7 -0.1**
baz=85,SNR=176
E15A ⇑S S 01 47 56.5 +4.8
baz=85
ORV Oroville 84.95 319 ⇑P P **01 38 11.0 0.0**
baz=85,SNR=948
ORV ⇑S S 01 47 57.2 +5.3
baz=85
NSHM Saint Helena R 84.96 317 *e*P P **01 38 11.1 +0.1**
NSHM *e*PcP PcP 01 38 14.8 +1.8
NSHM *e*pP pP 01 40 18.6 +3.1
EMAZ Mazaricos 85.00 37 P P **01 38 10.3 -0.8**
comp=Z,227nm,1.5s,mb5.6
EQES Quesada 85.07 44 P P **01 38 10.6 -0.8**
comp=Z,229nm,1.0s,mb5.8
MNRC McLaughlin Nat 85.09 318 ⇓P P **01 38 11.7 +0.1**
baz=85,SNR=139
MNRC ⇓S S 01 47 58.9 +5.7
baz=85
ENIJ Nijar 85.10 45 P P **01 38 11.4 -0.2**
ENIJ pmax pmax
comp=Z,192nm,0.7s,mb5.8
ENIJ Nijar 85.10 45 P P **01 38 11.4 -0.3**
comp=Z,192nm,0.7s,mb5.8
STS Santiago 85.18 37 P P **01 38 11.6 -0.4**
STS pmax pmax
comp=Z,496nm,1.3s,mb6.0
STS Santiago 85.18 37 P P **01 38 11.6 -0.4**
comp=Z,496nm,1.3s,mb6.0
ELFS Eagle Lake Fie 85.19 320 ⇑P P **01 38 12.3 +0.3**
baz=85
ELFS ⇑S S 01 48 00.1 +6.0
baz=85
O04C Chester 85.20 320 ⇓P P **01 38 12.0 -0.1**
baz=85,SNR=206
O04C ⇑S S 01 47 58.8 +4.5
baz=85
WVOR Wild Horse Val 85.21 322 *e*P P **01 38 11.2 -0.9**
WVOR *e**PP pP 01 40 15.5 -1.3
WVOR pmax pmax
comp=Z,397nm,1.3s,mb5.9
WVOR Wild Horse Val 85.21 322 *e*P P **01 38 11.2 -0.9**
comp=Z,397nm,1.3s,mb5.9
WVOR *e*PcP PcP 01 38 15.8 +1.7
WVOR *e*pP pP 01 40 15.5 -1.3
F13A Darby 85.29 327 ⇓P P **01 38 12.4 -0.1**
baz=86
F13A ⇓S S 01 47 59.1 +4.0
baz=86
L07A Adell 85.32 322 ⇑P P **01 38 13.1 +0.4**
baz=86,SNR=292
L07A ⇓S S 01 48 00.8 +5.4
baz=86
K08A Mann Creek Ran 85.32 323 P P **01 38 12.9 +0.2**
baz=86,SNR=322
K08A ⇓S S 01 48 02.3 +6.8
baz=86
D15A Lincoln 85.33 329 ⇑P P **01 38 12.7 0.0**
baz=86,SNR=280
D15A ⇑S S 01 48 00.5 +5.1
baz=86
E14A Clinton 85.33 328 ⇑P P **01 38 12.8 +0.1**
baz=86,SNR=347
E14A ⇑S S 01 48 00.9 +5.4
baz=86
J09A Fry Pan Ranch, 85.34 323 P P **01 38 12.9 +0.2**
baz=86,SNR=290
J09A ⇓S S 01 48 00.9 +5.3
baz=86
H11A Donnelly 85.37 325 P P **01 38 12.9 +0.1**
baz=86,SNR=951
H11A ⇓S S 01 48 00.3 +4.5
baz=86
EHUE Huescar 85.38 44 P P **01 38 12.2 -0.7**
EHUE pmax pmax
comp=Z,458nm,1.4s,mb5.9
EHUE Huescar 85.38 44 P P **01 38 12.2 -0.7**
comp=Z,458nm,1.4s,mb5.9
PAB San Pablo 85.39 42 P P **01 38 12.7 -0.3**
PAB pP pP 01 40 19.6 +1.9
PAB SKSac SKSac 01 47 48.4 +5.5
PAB San Pablo 85.39 42 *e*P P **01 38 13.1 +0.1**
PAB *e**PP pP 01 40 19.4 +1.7
PAB *e**SP sP 01 41 13.6 -2.7
PAB *e*S S 01 47 47.4 -8.7
PAB pmax pmax
comp=Z,1µm,1.4s,mb6.4
PAB San Pablo 85.39 42 *e*P P **01 38 13.1 +0.1**
comp=Z,1µm,1.4s,mb6.4
PAB *e*pP pP 01 40 19.4 +1.7
PAB *e*sP sP 01 41 13.6 -2.6
PAB *e*S S 01 47 47.4 -8.6
USTO Oran 85.42 47 P P **01 38 19.0 +5.9**
M06C Likely Place G 85.43 320 ⇑P P **01 38 13.5 +0.3**
baz=86,SNR=756
M06C ⇓S S 01 48 02.0 +5.6
baz=86
ODJA Bouhanifia 85.44 47 P P **01 38 14.0 +0.8**
PBRG Braganca 85.46 39 *e*P P **01 38 13.4 +0.1**
PBRG *e*pP pP 01 40 19.7 +1.6
PBRG Braganca 85.46 39 *e*PP PP 01 41 39.5 -3.1
PBRG *e*S S 01 47 49.9 -6.8
HOPS Hopland 85.54 318 *e*P P **01 38 14.3 +0.6**
comp=Z,1µm,1.3s,mb6.3
HOPS Hopland 85.54 318 ⇑P P **01 38 13.9 +0.1**
baz=86
HOPS ⇓S S 01 48 02.9 +5.3
baz=86
ECAL Calabor 85.55 39 P P **01 38 13.6 -0.2**
comp=Z,268nm,0.5s,mb6.1
O03C Acorn Hollow, 85.55 319 ⇓P P **01 38 12.9 -0.9**
baz=86,SNR=105
O03C ⇑S S 01 48 02.2 +4.6
baz=86
CHMT Chamberlain Mo 85.58 328 *e*P P **01 38 13.7 -0.2**
ERUA La Rua 85.62 38 P P **01 38 13.9 -0.2**
ERUA pmax pmax
comp=Z,111nm,0.4s,mb5.8
ERUA La Rua 85.62 38 P P **01 38 13.9 -0.3**
comp=Z,111nm,0.4s,mb5.8
E13A Victor 85.69 327 ⇑P P **01 38 14.6 +0.2**
baz=86,SNR=641
E13A ⇑S S 01 48 04.0 +5.1
baz=86
ESDC Sonseca Array 85.70 42 P P **01 38 14.3 -0.2**
comp=Z,100nm,0.9s,mb5.5,baz=238,slow=4.9,SNR=171
ESDC pP pP 01 40 17.5 -1.8
comp=Z,231nm,1.1s,baz=228,slow=2.8,SNR=12
ESDC PP PP 01 41 48.7 +4.2
comp=Z,43nm,1.1s,baz=247,slow=7.2,SNR=3.1
ESDC PKiKP PKiKP 01 43 22.2 +3.0
comp=Z,6.1nm,0.8s,baz=209,slow=1.9,SNR=3.7
ESDC PKKPbc PKKPbc 01 56 06.6 -5.6
comp=Z,0.4nm,0.4s,baz=41,slow=5.5,SNR=4.3
ESDC PKPPKP 02 04 10.6
comp=Z,0.4nm,0.6s,baz=72,slow=2.7,SNR=4.3
ESDC tx tx 02 06 46.7
comp=Z,0.8nm,0.8s,baz=31,slow=4.0,SNR=4.3
ESDC Sonseca Array 85.70 42 P P **01 38 14.3 -0.1**
comp=Z,470nm,1.5s,mb5.9
K07A Rock Creek Ran 85.71 322 P P **01 38 15.2 +0.7**
baz=86,SNR=699
K07A ⇑S S 01 48 04.8 +5.6
baz=86
F12A Elk City 85.72 326 P P **01 38 14.4 -0.2**
baz=86,SNR=406
F12A ⇑S S 01 48 03.1 +3.9
baz=86
J08A Circle Bar Ran 85.74 323 ⇓P P **01 38 15.0 +0.4**
baz=86,SNR=895
J08A ⇓S S 01 48 05.3 +5.9
baz=86
HATC Hat Creek Radi 85.74 320 ⇓P P **01 38 14.6 -0.1**
baz=86,SNR=204
HATC ⇓S S 01 48 03.5 +4.0
baz=86
GASB Alder Springs 85.74 318 ⇑P P **01 38 15.3 +0.7**
baz=86,SNR=276
GASB ⇓S S 01 48 05.3 +5.8
baz=86
MOD Modoc 85.78 321 *e*P P **01 38 15.4 +0.5**
comp=Z,1µm,1.1s,mb6.4
MOD Modoc 85.78 321 ⇓P P **01 38 15.2 +0.3**
baz=86,SNR=121
MOD ⇑S S 01 48 05.8 +6.0
baz=86
D14A Greenough 85.82 328 ⇑P P **01 38 14.9 -0.1**
baz=86,SNR=270
D14A ⇑S S 01 48 04.7 +4.5
baz=86
MIR Mirnyy 85.84 171 *c* *i*P P **01 38 17.0 +1.8**
MIR *i* pP 01 40 22.0 +1.9
MIR *e* 01 41 17.0
MIR *e*S S 01 48 04.0 +3.6
MIR pmax pmax
comp=Z,2µm,1.5s,mb6.4
MIR pmax pmax
comp=Z,3µm,5.0s
MSO Missoula 85.84 328 *e*P P **01 38 15.1 0.0**
M05C Lookout 85.91 320 ⇓P P **01 38 15.4 -0.1**
baz=86,SNR=240
M05C ⇑S S 01 48 06.4 +5.4
baz=86
EVIA Vianos 85.94 43 P P **01 38 15.4 -0.2**
EVIA pmax pmax
comp=Z,79nm,0.7s,mb5.5
EVIA Vianos 85.94 43 P P **01 38 15.4 -0.2**
comp=Z,79nm,0.7s,mb5.5
LTIM Timbered Crate 85.99 320 P P **01 38 15.8 0.0**
P01C Double 8 Ranch 86.00 318 ⇓P P **01 38 16.4 +0.5**
baz=86,SNR=141
P01C ⇑S S 01 48 08.6 +6.7
baz=86
O02C Red Bluff 86.11 319 ⇑P P **01 38 16.1 -0.3**
baz=86,SNR=175
O02C ⇑S S 01 48 07.4 +4.4
baz=86
BMO Blue Mountains 86.14 325 *e*P P **01 38 16.2 -0.3**
comp=Z,649nm,1.1s,mb6.2
I08A Drewsey 86.16 323 ⇑P P **01 38 16.8 +0.1**
baz=86,SNR=216
I08A ⇓S S 01 48 09.1 +5.7
baz=86
L05A Lakeview 86.18 321 ⇑P P **01 38 17.0 +0.3**
baz=86,SNR=326
L05A ⇓S S 01 48 08.4 +4.9
baz=86
H09A Durkee 86.19 324 P P **01 38 16.8 0.0**
baz=86,SNR=146
H09A ⇑S S 01 48 09.6 +5.9
baz=86
GUD Guadarrama 86.20 41 P P **01 38 16.5 -0.3**
comp=Z,14nm,0.3s,mb5.1
J07A Hines 86.20 323 ⇓P P **01 38 17.0 +0.1**
baz=86
J07A ⇓S S 01 48 09.3 +5.5
baz=86
WDC Whiskeytown Da 86.22 319 *e*P P **01 38 15.7 -1.3**
WDC pmax pmax
comp=Z,655nm,1.0s,mb6.2
WDC Whiskeytown Da 86.22 319 *e*P P **01 38 15.7 -1.3**
comp=Z,655nm,1.0s,mb6.2
WDC Whiskeytown Da 86.22 319 ⇑P P **01 38 17.1 +0.2**
baz=86,SNR=215
WDC ⇓S S 01 48 05.7 +1.8
baz=86
CART Cartagena 86.24 45 *e*P P **01 38 15.8 -1.2**
comp=Z,1µm,1.6s,mb6.4
CART *e*PcP PcP 01 38 19.6 +1.0
CART *e*pP pP 01 40 22.9 +0.8
CART *e*PP PP 01 41 46.0 -2.7
CART *e*S S 01 47 51.0 -13
EPON Pontenova 86.24 37 P P **01 38 16.5 -0.6**
comp=Z,46nm,0.4s,mb5.5
F11A Grangeville 86.26 326 ⇓P P **01 38 17.4 +0.3**
baz=86,SNR=511
F11A ⇑S S 01 48 07.1 +2.7
baz=86
D13A Huson 86.28 328 ⇑P P **01 38 17.5 +0.3**
baz=86,SNR=206
D13A ⇓S S 01 48 07.6 +3.0
baz=86
KCPM Cahto Peak 86.28 318 *e*P P **01 38 18.3 +1.0**
KCPM pP pP 01 40 22.6 +0.3
KIPM Iron Peak 86.30 318 *e*P P **01 38 18.1 +0.8**
K06A Valley Falls 86.34 322 ⇑P P **01 38 17.7 +0.1**
baz=86,SNR=188
K06A ⇓S S 01 48 09.6 +4.5
baz=86
RAR Rarotonga 86.38 248 P P **01 38 20.2 +2.5**
comp=Z,64nm,1.0s,mb5.2,baz=185,slow=6.9,SNR=14
RAR pP pP 01 40 21.7 -1.1
comp=Z,36nm,0.8s,baz=220,slow=4.9,SNR=5.0
M03C McCloud 86.42 320 ⇑P P **01 38 17.3 -0.6**
baz=87,SNR=212
M03C ⇑S S 01 48 09.2 +3.4
baz=87
ETRT Tiaret 86.43 48 P P **01 38 18.0 +0.1**
ETOB Tobarra 86.53 44 P P **01 38 18.2 -0.2**
comp=Z,448nm,1.7s,mb5.9
M04C Macdoel 86.58 320 P P **01 38 18.7 +0.1**
baz=87,SNR=274
M04C ⇓S S 01 48 12.1 +4.8
baz=87
J06A Christmas Vall 86.58 322 ⇓P P **01 38 18.5 -0.1**
baz=87
EANR 'Ain N'Sour 86.62 47 P P **01 38 19.0 +0.1**
H08A Prairie City 86.62 324 ⇑P P **01 38 19.0 +0.1**
baz=87,SNR=182
H08A ⇓S S 01 48 12.4 +4.6
baz=87
K05A Summer Lake 86.65 321 ⇓P P **01 38 19.6 +0.6**
baz=87,SNR=254
K05A ⇓S S 01 48 12.1 +4.1
baz=87
O01C Eel River Cons 86.71 318 ⇓P P **01 38 19.5 +0.2**
baz=87,SNR=149
O01C ⇓S S 01 48 14.5 +5.9
baz=87
C13A Hot Springs 86.75 328 ⇓P P **01 38 19.2 -0.3**
baz=87,SNR=332
C13A ⇓S S 01 48 11.2 +2.2
baz=87
I07A Izee 86.78 323 ⇓P P **01 38 19.7 +0.1**
baz=87,SNR=226
I07A ⇓S S 01 48 13.4 +4.2
baz=87
HOG Hogback Mounta 86.80 321 P P **01 38 20.3 +0.6**
N02C Big Bar 86.83 319 P P **01 38 20.1 +0.3**
baz=87,SNR=274
N02C ⇓S S 01 48 14.3 +4.7
baz=87
L04A Klamath Falls 86.86 321 ⇑P P **01 38 19.9 -0.1**
baz=87,SNR=298
L04A ⇑S S 01 48 14.5 +4.5
baz=87
F10A Beach Ranch, E 86.86 326 P P **01 38 19.6 -0.4**
baz=87,SNR=271
F10A ⇑S S 01 48 14.6 +4.6
baz=87
ECHA Ech Chlef 86.92 47 P P **01 38 21.0 +0.8**
M02C Callahan 86.92 319 ⇓P P **01 38 19.7 -0.5**
baz=87,SNR=129
M02C ⇑S S 01 48 15.1 +4.6
baz=87
BSMT Bassoo Peak 86.98 328 *e*P P **01 38 20.4 -0.1**
VSP Spence Mountai 87.00 321 P P **01 38 20.7 +0.1**
F09A S2 Ranch, Elgi 87.03 325 ⇓P P **01 38 20.1 -0.6**
baz=87,SNR=76
F09A ⇑S S 01 48 15.0 +3.4
baz=87
K04A Chilquin 87.05 321 ⇓P P **01 38 20.9 +0.1**
baz=87,SNR=77
K04A ⇓S S 01 48 16.1 +4.4
baz=87
YBH Yreka Blue Hor 87.05 320 *e*P P **01 38 19.9 -1.0**
YBH pmax pmax
comp=Z,614nm,1.0s
YBH Yreka Blue Hor 87.05 320 *e*P P **01 38 19.9 -1.0**
comp=Z,621nm,1.0s,mb6.3
YBH Yreka Blue Hor 87.05 320 ⇑P P **01 38 19.9 -1.0**
baz=87,SNR=190
YBH ⇑S S 01 48 14.3 +2.6
baz=87
I06A Prineville 87.07 323 ⇑P P **01 38 21.3 +0.3**
baz=87,SNR=141
I06A ⇑S S 01 48 16.9 +5.0
baz=87
EBNR Beni Rached 87.11 47 P P **01 38 22.0 +0.9**
KHMM Horse Mountain 87.11 319 *e*P P **01 38 22.2 +1.0**
H07A Lands Inn, Kim 87.15 323 ⇓P P **01 38 21.1 -0.3**
baz=87
E10A Myers Farm, Un 87.16 326 ⇑P P **01 38 20.9 -0.4**
baz=87,SNR=265
E10A ⇑S S 01 48 16.3 +3.6
baz=87
B13A Whitefish 87.20 329 ⇓P P **01 38 21.2 -0.4**
baz=87,SNR=316
B13A ⇓S S 01 48 14.4 +1.3
baz=87
JCC Jacoby Creek 87.25 318 ⇑P P **01 38 22.1 +0.3**
baz=87
JCC ⇑S S 01 48 17.7 +4.1
baz=87
EARI Arriondas 87.29 38 P P **01 38 22.6 +0.6**
comp=Z,126nm,1.1s,mb5.6
G08A Pilot Rock 87.29 324 ⇓P P **01 38 21.8 -0.1**
baz=88,SNR=82
G08A ⇑S S 01 48 17.6 +3.6
baz=88
EBEN Beniarda 87.39 44 P P **01 38 22.1 -0.3**
comp=Z,495nm,1.6s,mb6.0
WALA Waterton Lakes 87.43 329 *e*P P **01 38 22.3 -0.3**
comp=Z,859nm,1.1s,mb6.4
F08A Pendleton 87.54 325 ⇓P P **01 38 22.8 -0.4**
baz=88
F08A ⇓S S 01 48 18.8 +2.5
baz=88
ETOR Torete 87.55 42 P P **01 38 23.5 +0.3**
ETOR pmax pmax
comp=Z,335nm,1.0s,mb6.0
ETOR Torete 87.55 42 P P **01 38 23.5 +0.3**
comp=Z,335nm,1.0s,mb6.0
KRMB Red Mountain 87.62 319 *e*P P **01 38 24.2 +0.7**
KRMB *e*pP pP 01 40 35.4 +6.3
KRMB *e*sP sP 01 41 24.6 -2.9
KRMB *e*PP PP 01 41 57.6 -2.1
G07A Ruggs Ranch, H 87.65 324 ⇑P P **01 38 23.9 +0.2**
baz=88
G07A ⇓S S 01 48 21.4 +4.1
baz=88
H06A Lindquist Farm 87.66 323 ⇑P P **01 38 23.7 0.0**
baz=88,SNR=121
H06A ⇑S S 01 48 22.5 +5.2
baz=88
J04A Umpqua Nationa 87.67 321 ⇑P P **01 38 24.1 +0.4**
baz=88,SNR=9.7
J04A ⇑S S 01 48 20.1 +2.6
baz=88
E09A Wood Farm, Sta 87.70 326 ⇑P P **01 38 23.6 -0.3**
baz=88,SNR=52
E09A ⇓S S 01 48 19.5 +1.8
baz=88
CASY Casey 87.73 178 *e*P P **01 38 24.4 +0.3**
CASY *e* pP 01 40 30.7 +1.0
CASY *e*SKS 01 48 01.5
CASY *e*SCS ScS 01 48 23.3 +1.2
CASY Casey 87.73 178 *e*P pP 01 40 30.7 +1.0
CASY PP PP 01 42 01.7 +1.2
CASY PP PP 01 42 01.7 +1.2
CASY *e*SKS 01 48 01.5
CASY *e*S S 01 48 22.8 +4.7
CASY *e*ScS ScS 01 48 23.3 +1.2
HUMO Hull Mountain 87.75 320 *e*P P **01 38 23.7 -0.4**
comp=Z,297nm,1.0s,mb6.0
HUMO PP PP 01 42 04.9 +4.3
HUMO Hull Mountain 87.75 320 ⇓P P **01 38 24.1 0.0**
baz=88,SNR=30
HUMO ⇑S S 01 48 20.8 +2.6
baz=88
I05A Bend 87.79 322 ⇓P P **01 38 24.6 +0.3**
baz=88,SNR=74
I05A ⇑S S 01 48 20.6 +2.0
baz=88
B12A Libby 87.79 328 ⇑P P **01 38 24.1 -0.2**
baz=88,SNR=393
B12A ⇑S S 01 48 19.6 +1.0
baz=88
L02A Cave Junction 87.83 320 ⇑P P **01 38 24.8 +0.3**
baz=88,SNR=77
L02A ⇓S S 01 48 24.1 +5.0
baz=88
M01C Crescent City 87.95 319 ⇓P P **01 38 25.4 +0.4**
baz=88
M01C ⇓S S 01 48 23.5 +3.4
baz=88
EMHD Djebel Mahouad 88.00 48 P P **01 38 25.0 -0.3**
VTHM Trough 88.07 323 P P **01 38 26.8 +1.1**
H05A Madras 88.08 323 ⇓P P **01 38 26.4 +0.7**
baz=88,SNR=30
H05A ⇓S S 01 48 23.8 +2.5
baz=88
B11A Sandpoint 88.14 328 ⇓P P **01 38 25.8 -0.2**
baz=88,SNR=148
B11A ⇑S S 01 48 23.7 +1.9
baz=88
G06A Carlson Farm, 88.14 323 ⇑P P **01 38 26.2 +0.2**
baz=88,SNR=91
G06A ⇑S S 01 48 26.6 +4.7
baz=88
E08A Dider Farm, El 88.15 325 ⇑P P **01 38 25.7 -0.3**
baz=88,SNR=86
E08A ⇑S S 01 48 24.9 +3.0
baz=88
A12A Yaak River Ran 88.15 329 P P **01 38 25.7 -0.3**
baz=88,SNR=187
A12A ⇑S S 01 48 22.0 +0.1
baz=88
D09A Jones Farm, Ri 88.15 326 ⇓P P **01 38 25.7 -0.3**
baz=88,SNR=94
D09A ⇓S S 01 48 24.5 +2.6
baz=88
K02A Glendale 88.15 320 ⇑P P **01 38 26.2 +0.2**
baz=88,SNR=98
K02A ⇓S S 01 48 24.8 +2.9
baz=88
C10A Spilker Farm, 88.17 327 ⇓P P **01 38 26.2 +0.1**
baz=88
C10A ⇑S S 01 48 22.1 0.0
baz=88
I04A Tendick Farm, 88.19 322 ⇑P P **01 38 26.2 +0.1**
baz=88,SNR=26
I04A ⇑S S 01 48 23.9 +1.7
baz=88
F07A Phinny Hill Vi 88.20 324 ⇑P P **01 38 26.2 0.0**
baz=88,SNR=39
F07A ⇑S S 01 48 26.9 +4.5
baz=88
J03A Ideyld Park 88.23 321 ⇓P P **01 38 26.2 -0.1**
baz=88,SNR=13

J03A ⇓S S 01 48 25.5 +2.8
baz=88
EMOS Mosqueruela 88.23 43 P **P** **01 38 26.8 +0.4**
comp=Z,83nm,1.0s,mb5.4
ELAN Lanestosa 88.25 39 P **P** **01 38 26.3 -0.2**
comp=Z,780nm,1.4s,mb6.2
ADJB Djebel Djouab 88.29 48 P **P** **01 38 28.0 +1.3**
HAWA Hanford 88.33 325 *eP* **P** **01 38 26.7 -0.1**
NEW Newport 88.39 327 PKKPbc PKKPbc 01 56 08.9 +3.2
comp=Z,4.2nm,0.6s,baz=322,slow=4.1,SNR=3.6
NEW Newport 88.39 327 *eP* **P** **01 38 25.6 -1.5**
ECRI Cripan 88.39 40 P **P** **01 38 27.4 +0.3**
ECRI pmax pmax
comp=Z,130nm,0.9s,mb5.7
ECRI Cripan 88.39 40 P **P** **01 38 27.4 +0.3**
comp=Z,130nm,0.9s,mb5.7
ABA Alger-Bouzarea 88.39 47 P **P** **01 38 28.4 +1.3**
FCC Fort Churchill 88.39 345 *eP* **P** **01 38 28.4 +1.3**
FCC pmax pmax
comp=Z,632nm,1.1s,mb6.3
FCC Fort Churchill 88.39 345 *eP* **P** **01 38 28.4 +1.3**
comp=Z,632nm,1.1s,mb6.3
SNIWA Snively Ranch 88.44 325 P **P** **01 38 27.8 +0.5**
D08A Wollman Farm, 88.46 326 ⇓P **P** **01 38 27.1 -0.3**
baz=89
D08A ⇑S S 01 48 28.0 +3.3
baz=89
B10A Chitwood Farm, 88.46 327 ⇓P **P** **01 38 27.0 -0.4**
baz=89,SNR=8.0
B10A ⇓S S 01 48 23.8 -0.9
baz=89
A11A Hall Mountain, 88.50 328 ⇓P **P** **01 38 27.1 -0.6**
baz=89,SNR=441
A11A ⇓S S 01 48 25.1 0.0
baz=89
G05A Wamic 88.52 323 ⇓P **P** **01 38 27.9 +0.2**
baz=89,SNR=28
G05A ⇑S S 01 48 27.3 +2.0
baz=89
AKET Djebel Ketaf 88.53 48 P **P** **01 38 29.8 +2.0**
EIBI Ibiza 88.57 45 P **P** **01 38 28.8 +0.9**
comp=Z,860nm,1.3s,mb6.4
J02A Umpqua 88.57 321 ⇓P **P** **01 38 27.1 -0.9**
baz=89,SNR=22
J02A ⇓S S 01 48 29.6 +3.8
baz=89
OD2 Odessa Site #2 88.58 326 P **P** **01 38 27.4 -0.5**
E07A Sunnyside 88.60 325 ⇓P **P** **01 38 27.6 -0.5**
baz=89,SNR=27
E07A ⇑S S 01 48 28.8 +2.7
baz=89
H04A Detroit Lake 88.63 322 ⇑P **P** **01 38 27.4 -0.8**
baz=89,SNR=26
H04A ⇑S S 01 48 28.3 +2.0
baz=89
C09A Chrisman Ranch 88.63 326 ⇑P **P** **01 38 27.7 -0.6**
baz=89,SNR=291
C09A ⇑S S 01 48 27.8 +1.5
baz=89
VFP Flag Point 88.64 323 P **P** **01 38 30.4 +2.1**
KEBM Edson Butte 88.70 320 *eP* **P** **01 38 33.5 +4.9**
K01A Sixes 88.74 320 ⇑P **P** **01 38 28.1 -0.7**
baz=89,SNR=9.9
K01A ⇑S S 01 48 29.1 +1.8
baz=89
I03A Eugene 88.79 321 ⇑P **P** **01 38 28.6 -0.3**
baz=89,SNR=24
I03A ⇓S S 01 48 30.8 +3.1
baz=89
B09A Rice 88.99 327 P **P** **01 38 29.4 -0.5**
baz=89,SNR=286
B09A ⇓S S 01 48 30.3 +0.7
baz=89
C08A Higginbotham F 89.01 326 ⇓P **P** **01 38 29.8 -0.2**
baz=89,SNR=18
C08A ⇑S S 01 48 31.4 +1.6
baz=89
ESAC San Caprasio 89.05 42 P **P** **01 38 30.4 +0.2**
comp=Z,60nm,0.4s,mb5.8
ERTA Horta de San J 89.08 43 P **P** **01 38 30.6 +0.2**
comp=Z,277nm,1.1s,mb6.0
D07A Quincy 89.08 325 ⇓P **P** **01 38 30.2 -0.1**
baz=89,SNR=60
D07A ⇓S S 01 48 32.7 +2.3
baz=89
A10A Northport 89.09 328 ⇓P **P** **01 38 30.2 -0.2**
baz=89,SNR=28
A10A ⇑S S 01 48 30.9 +0.5
baz=89
I02A Mapleton 89.12 321 ⇑P **P** **01 38 29.9 -0.6**
baz=89,SNR=14
I02A ⇑S S 01 48 31.2 +0.4
baz=89
G04A Mulino 89.12 323 ⇑P **P** **01 38 29.9 -0.6**
baz=89,SNR=47
G04A ⇓S S 01 48 32.1 +1.3
baz=89
E06A Yakima 89.18 324 ⇓P **P** **01 38 30.5 -0.3**
baz=89,SNR=33
E06A ⇑S S 01 48 34.5 +3.2
baz=89
COR Corvallis 89.19 322 *eP* **P** **01 38 31.2 +0.4**
COR pmax pmax
comp=Z,1μm,1.0s,mb6.6
COR Corvallis 89.19 322 *eP* **P** **01 38 31.1 +0.3**
comp=Z,1μm,1.0s,mb6.6
COR *ep*P pP 01 40 41.5 +4.6
EBG Ellensburg 89.20 325 P **P** **01 38 31.1 +0.3**
H03A Soap Creek Ran 89.24 322 ⇑P **P** **01 38 30.8 -0.3**
baz=89,SNR=24
H03A ⇓S S 01 48 34.2 +2.4
baz=89
ELIZ Elizondo 89.30 40 P **P** **01 38 31.4 +0.1**
ELIZ pmax pmax
comp=Z,96nm,1.1s,mb5.5
ELIZ Elizondo 89.30 40 P **P** **01 38 31.4 0.0**
comp=Z,96nm,1.1s,mb5.5
AKF Akfadou 89.31 48 P **P** **01 38 37.7 +6.3**
EALK Alkurruntz 89.35 40 P **P** **01 38 32.2 +0.6**
comp=Z,548nm,1.6s,mb6.1
TBM Table Mountain 89.39 325 P **P** **01 38 31.7 -0.1**
SJPF Ste Jean 89.44 40 ⇓*iP* **P** **01 38 32.2 +0.2**
comp=Z,767nm,0.8s,mb6.3
SJPF *ep*P pP 01 40 40.2 +2.1
SJPF Ste Jean 89.44 40 ⇓*iP* **P** **01 38 32.2 +0.2**
SJPF *e**PP pP 01 40 40.2 +2.1
SJPF pmax pmax
comp=Z,384nm,0.8s,mb6.3
SJPF Ste Jean 89.44 40 ⇓*iP* **P** **01 38 32.2 +0.2**
comp=Z,384nm,0.8s,mb6.3
SJPF *ep*P pP 01 40 40.2 +2.1
C07A Waterville 89.46 326 P **P** **01 38 31.4 -0.6**
baz=90,SNR=106
C07A ⇑S S 01 48 34.5 +0.7
baz=90
OSSF Osses 89.51 40 *eP* **P** **01 38 31.8 -0.5**
D06A Cle Elum 89.53 325 ⇓P **P** **01 38 31.5 -0.9**
baz=90,SNR=23
D06A ⇓S S 01 48 34.5 0.0
baz=90
LARF Larrau 89.54 40 *eP* **P** **01 38 32.9 +0.5**
F04A Amboy 89.55 323 ⇑P **P** **01 38 31.8 -0.8**
baz=90,SNR=85
F04A ⇓S S 01 48 35.5 +0.8
baz=90
A09A Danville 89.58 327 ⇑P **P** **01 38 31.7 -0.9**
baz=90,SNR=158
A09A ⇓S S 01 48 35.3 +0.4
baz=90
E05A Randle 89.60 324 ⇓P **P** **01 38 31.9 -0.8**
baz=90
E05A ⇓S S 01 48 37.4 +2.3
baz=90
H02A Toledo 89.63 322 ⇑P **P** **01 38 32.0 -0.8**
baz=90
H02A ⇓S S 01 48 37.0 +1.7
baz=90
SET Setif 89.64 49 P **P** **01 38 35.0 +2.1**
CMER Merouana 89.66 50 P **P** **01 38 31.0 -2.0**
ORDF Ordiarp 89.67 40 *eP* **P** **01 38 31.8 -1.3**
FRB Frobisher Bay 89.70 358 P **P** **01 38 32.1 -1.1**
comp=Z,94nm,1.0s,mb5.6,baz=178,slow=5.0,SNR=15
ATE Arette 89.73 41 *eP* **P** **01 38 33.6 +0.3**
EPOB Poblet 89.77 43 P **P** **01 38 33.0 -0.4**
comp=Z,145nm,1.0s,mb5.8
A08A Turner Farm, O 89.90 327 ⇑P **P** **01 38 33.5 -0.6**
baz=90,SNR=178

A08A ⇑S S 01 48 38.5 +0.7
baz=90
REYF Montagne du Re 89.90 41 *eP* **P** **01 38 34.6 +0.5**
ETOS Mallorca 89.93 45 P **P** **01 38 34.8 +0.6**
comp=Z,334nm,1.6s,mb5.9
EBIE Bielsa 89.99 41 P **P** **01 38 35.8 +1.3**
comp=Z,336nm,1.6s,mb5.9
B07A Winthrop 90.00 326 ⇑P **P** **01 38 34.1 -0.5**
baz=90,SNR=154
B07A ⇑S S 01 48 38.1 -0.6
baz=90
VIEF Viey 90.04 41 *eP* **P** **01 38 34.8 +0.1**
D05A Enumclaw 90.12 324 ⇓P **P** **01 38 34.8 -0.3**
baz=90,SNR=26
D05A ⇓S S 01 48 41.6 +1.8
baz=90
E04A Onalaska 90.13 324 ⇑P **P** **01 38 35.0 -0.2**
baz=90,SNR=8.2
E04A ⇓S S 01 48 41.2 +1.3
baz=90
DFRA Djebel Bou Aff 90.15 49 P **P** **01 38 37.0 +1.7**
LABF Labassere 90.17 41 *eP* **P** **01 38 35.8 +0.5**
F03A Seaside 90.17 323 ⇑P **P** **01 38 35.1 -0.3**
baz=90,SNR=14
F03A ⇓S S 01 48 41.3 +1.2
baz=90
RESF Ens 90.18 41 *eP* **P** **01 38 36.0 +0.6**
EDM Edmonton 90.20 333 *eP* **P** **01 38 31.5 -4.0**
CTEI Djebel Teioual 90.25 49 P **P** **01 38 41.0 +5.3**
C05A Tolt Reservoir 90.30 325 ⇓P **P** **01 38 35.7 -0.3**
baz=90,SNR=18
C05A ⇓S S 01 48 40.5 -0.8
baz=90
EPF Esparros 90.31 41 ⇓*iP* **P** **01 38 35.9 -0.1**
comp=Z,266nm,0.8s,mb5.8
EPF Esparros 90.31 41 ⇓*iP* **P** **01 38 35.9 -0.1**
EPF pmax pmax
comp=Z,133nm,0.8s,mb5.8
EPF Esparros 90.31 41 ⇓*iP* **P** **01 38 35.9 -0.1**
comp=Z,133nm,0.8s,mb5.8
EMIR Miracle 90.37 42 P **P** **01 38 36.0 -0.2**
comp=Z,193nm,1.6s,mb5.7
CASM Ain Smara 90.41 49 P **P** **01 38 38.0 +1.5**
MELF Melles 90.47 41 *eP* **P** **01 38 37.4 +0.7**
D04A Dobbs Creek Ra 90.50 324 ⇑P **P** **01 38 36.5 -0.4**
baz=91,SNR=15
A07A Ashnola River, 90.51 326 ⇑P **P** **01 38 36.3 -0.7**
baz=91,SNR=207
A07A ⇓S S 01 48 44.0 +0.8
baz=91
E03A Lebam 90.56 323 ⇑P **P** **01 38 36.4 -0.8**
baz=91,SNR=28
E03A ⇑S S 01 48 45.3 +1.7
baz=91
VAL Valentia 90.57 30 *eP* **P** **01 38 35.8 -1.4**
CKFL Kef-Lekhel 90.64 49 P **P** **01 38 39.0 +1.5**
SALF Salau 90.66 42 *eP* **P** **01 38 38.4 +0.8**
MLS Moulis 90.72 41 *eP* **P** **01 38 37.5 -0.4**
B06A Marblemount 90.72 326 ⇓P **P** **01 38 37.1 -0.8**
baz=91,SNR=45
B06A ⇓S S 01 48 44.6 -0.5
baz=91
GNW Green Mountain 90.80 324 *eP* **P** **01 38 38.4 +0.1**
B05A Bryant 90.87 325 ⇓P **P** **01 38 37.6 -1.0**
baz=91,SNR=58
B05A ⇓S S 01 48 44.6 -1.8
baz=91
CAEH 'Ain El Ouahch 90.93 49 P **P** **01 38 40.0 +1.1**
VALF Valcebollere 90.95 42 *eP* **P** **01 38 40.1 +1.2**
C04A Brinnon 90.98 324 ⇓P **P** **01 38 38.6 -0.5**
baz=91,SNR=21
C04A ⇓S S 01 48 47.2 -0.1
baz=91
D03A Wishkah Elem. 91.02 324 ⇑P **P** **01 38 39.1 -0.2**
baz=91,SNR=9.7
A06A Chilliwack 91.09 326 ⇑P **P** **01 38 39.0 -0.6**
baz=91,SNR=9.0
A06A ⇑S S 01 48 49.6 +1.2
baz=91
CGMA Guelma 91.14 50 P **P** **01 38 41.0 +1.2**
CARF Carcanieres 91.18 42 *eP* **P** **01 38 40.1 +0.1**
CMAH Djebel Manchou 91.24 49 P **P** **01 38 42.0 +1.7**
NLWA Neilton Lookou 91.25 324 ⇓P **P** **01 38 39.7 -0.7**
baz=91
NLWA ⇑S S 01 48 53.8 +4.1
baz=91
A05A Maple Falls 91.33 326 ⇑P **P** **01 38 39.9 -0.8**
baz=92,SNR=54
A05A ⇑S S 01 48 49.9 -0.5
baz=92
QUIF Quistinic 91.34 36 ⇓*iP* **P** **01 38 39.5 -1.2**
comp=Z,605nm,0.8s,mb6.3
QUIF Quistinic 91.34 36 ⇓*iP* **P** **01 38 39.5 -1.2**
QUIF pmax pmax
comp=Z,303nm,0.8s,mb6.3
QUIF Quistinic 91.34 36 ⇓*iP* **P** **01 38 39.5 -1.2**
comp=Z,302nm,0.8s,mb6.3
FILF Fillols 91.37 42 *eP* **P** **01 38 40.8 -0.1**
B04A Port Angeles 91.47 324 ⇑P **P** **01 38 41.0 -0.4**
baz=92,SNR=16
B04A ⇓S S 01 48 54.0 +2.4
baz=92
A04A Legoe Bay, Lum 91.47 325 ⇓P **P** **01 38 41.1 -0.2**
baz=92,SNR=9.6
A04A ⇑S S 01 48 53.5 +1.7
baz=92
EJON La Jonquera 91.50 43 P **P** **01 38 42.2 +0.7**
comp=Z,580nm,1.7s,mb6.3
ROSF Rostrenen 91.54 35 ⇓*iP* **P** **01 38 40.6 -1.1**
comp=Z,932nm,0.8s,mb6.5
ROSF *ep*P pP 01 40 48.8 +0.7
ROSF Rostrenen 91.54 35 ⇓*iP* **P** **01 38 40.6 -1.1**
ROSF *e**PP pP 01 40 48.8 +0.7
ROSF pmax pmax
comp=Z,466nm,0.8s,mb6.6
ROSF Rostrenen 91.54 35 ⇓*iP* **P** **01 38 40.6 -1.1**
comp=Z,466nm,0.8s,mb6.6
ROSF *ep*P pP 01 40 48.8 +0.7
LRDF Laroque-de-Fa 91.57 42 *eP* **P** **01 38 41.9 +0.1**
MTLF Montolieu 91.61 42 ⇓*iP* **P** **01 38 41.3 -0.7**
comp=Z,2μm,1.7s,mb6.5
MTLF Montolieu 91.61 42 ⇓*iP* **P** **01 38 41.3 -0.7**
MTLF pmax pmax
comp=Z,833nm,1.7s,mb6.5
MTLF Montolieu 91.61 42 ⇓*iP* **P** **01 38 41.3 -0.7**
comp=Z,833nm,1.7s,mb6.5
LFF La Frestale 91.67 40 ⇓*iP* **P** **01 38 41.8 -0.5**
comp=Z,847nm,0.6s,mb6.6
LFF La Frestale 91.67 40 ⇓*iP* **P** **01 38 41.8 -0.5**
LFF pmax pmax
comp=Z,424nm,0.6s,mb6.7
LFF La Frestale 91.67 40 ⇓*iP* **P** **01 38 41.8 -0.5**
comp=Z,424nm,0.6s,mb6.7
CRQ2 Rosemanowes 2 91.75 33 *eP* **P** **01 38 41.9 -0.7**
PGC Sidney 91.81 325 *eP* **P** **01 38 44.8 +1.9**
MCQ Macquarie Isla 91.83 203 *eP* **P** **01 38 47.5 +4.5**
MCQ *e* pP 01 40 51.2 +1.8
SGMF Saint Gilles 91.87 36 ⇓*iP* **P** **01 38 41.8 -1.4**
comp=Z,407nm,0.8s,mb6.2
SGMF *ep*P pP 01 40 50.1 +0.5
SGMF Saint Gilles 91.87 36 ⇓*iP* **P** **01 38 41.8 -1.4**
SGMF *e**PP pP 01 40 50.1 +0.5
SGMF pmax pmax
comp=Z,204nm,0.8s,mb6.2
SGMF Saint Gilles 91.87 36 ⇓*iP* **P** **01 38 41.8 -1.4**
comp=Z,204nm,0.8s,mb6.2
SGMF *ep*P pP 01 40 50.1 +0.5
C03A Quillayute Air 91.96 324 ⇑P **P** **01 38 43.4 -0.3**
baz=92
CSA1 St Austell 92.01 33 *eP* **P** **01 38 41.9 -1.9**
KEST Kesra 92.11 51 P **P** **01 38 44.9 +0.6**
comp=Z,95nm,1.1s,mb5.7,baz=163,slow=2.1,SNR=39
KEST S SKSac 01 48 27.6 +5.7
comp=Z,9.8nm,1.1s,baz=9.1,slow=20,SNR=7.1
KEST PKKPbc PKKPbc 01 56 01.7 +5.1
comp=Z,4.7nm,0.6s,baz=294,slow=2.5,SNR=21
MFF Saint Martin d 92.16 38 ⇓*iP* **P** **01 38 43.9 -0.6**
comp=Z,2μm,1.6s,mb6.6
MFF *ep*P pP 01 40 52.3 +1.3
MFF Saint Martin d 92.16 38 ⇓*iP* **P** **01 38 43.9 -0.6**
MFF *e**PP pP 01 40 52.3 +1.3
MFF pmax pmax
comp=Z,1μm,1.6s,mb6.6
MFF Saint Martin d 92.16 38 ⇓*iP* **P** **01 38 43.9 -0.6**
comp=Z,1μm,1.6s,mb6.6
MFF *ep*P pP 01 40 52.3 +1.3

RJF Les Rejaudoux 92.33 40 ⇓*iP* **P** **01 38 44.5 -0.8**
comp=Z,212nm,0.6s,mb6.0
RJF *eR*
comp=Z,5μm,19.8s
RJF Les Rejaudoux 92.33 40 ⇓*iP* **P** **01 38 44.5 -0.8**
RJF pmax pmax
comp=Z,106nm,0.6s,mb6.0
RJF MLR MLR
comp=Z,5μm,19.8s
RJF Les Rejaudoux 92.33 40 ⇓*iP* **P** **01 38 44.5 -0.8**
comp=Z,106nm,0.6s,mb6.0
RJF LR LR
comp=Z,5μm,19.8s
CAF Calvac 92.43 40 ⇓*iP* **P** **01 38 45.3 -0.5**
comp=Z,653nm,1.0s,mb6.3
CAF *ep*P pP 01 40 53.7 +1.4
CAF Calvac 92.43 40 ⇓*iP* **P** **01 38 45.3 -0.5**
CAF *e**PP pP 01 40 53.7 +1.4
CAF pmax pmax
comp=Z,327nm,1.0s,mb6.3
CAF Calvac 92.43 40 ⇓*iP* **P** **01 38 45.3 -0.5**
comp=Z,327nm,1.0s,mb6.3
CAF *ep*P pP 01 40 53.7 +1.4
DYA Yadsworthy 92.53 33 *eP* **P** **01 38 44.4 -1.9**
HTL Hartland 92.62 33 *eP* **P** **01 38 45.4 -1.2**
HTL AMb AMB 01 38 56.1
comp=Z,221nm,1.8s,mb5.9
GRR Gorron 92.84 36 ⇓*iP* **P** **01 38 46.2 -1.5**
comp=Z,567nm,0.9s,mb6.3
GRR Gorron 92.84 36 ⇓*iP* **P** **01 38 46.2 -1.5**
GRR pmax pmax
comp=Z,283nm,0.9s,mb6.3
GRR Gorron 92.84 36 ⇓*iP* **P** **01 38 46.2 -1.5**
comp=Z,283nm,0.9s,mb6.3
DCN Croghan 92.85 30 ⇑*iP* **P** **01 38 46.4 -1.3**
LASF Ste Croix 93.00 42 ⇓*iP* **P** **01 38 48.1 -0.3**
comp=Z,359nm,1.1s,mb6.0
DLF Lyons Farm 93.15 30 ⇑*iP* **P** **01 38 47.9 -1.2**
DSB Dublin 93.19 30 *eP* **P** **01 38 48.0 -1.2**
comp=Z,218nm,0.9s,mb6.2
DSB *ep*P pP 01 40 53.0 -2.8
FLN La Foliniere 93.27 36 ⇓*iP* **P** **01 38 48.2 -1.4**
comp=Z,323nm,0.8s,mb6.1
FLN *ep*P pP 01 40 56.7 +0.5
FLN *eR*
comp=Z,5μm,22.5s
FLN La Foliniere 93.27 36 ⇓*iP* **P** **01 38 48.2 -1.4**
FLN *e**PP pP 01 40 56.7 +0.5
FLN pmax pmax
comp=Z,162nm,0.8s,mb6.1
FLN MLR MLR
comp=Z,5μm,22.5s
FLN La Foliniere 93.27 36 ⇓*iP* **P** **01 38 48.2 -1.4**
comp=Z,162nm,0.8s,mb6.1
FLN *ep*P pP 01 40 56.7 +0.5
FLN LR LR
comp=Z,5μm,22.5s
LBL Lubilhac 93.29 40 *eP* **P** **01 38 49.8 +0.1**
TCF Toulx Ste Croi 93.30 39 ⇓*iP* **P** **01 38 48.8 -0.9**
comp=Z,597nm,1.2s,mb6.2
TCF *ep*P pP 01 40 57.5 +1.2
TCF Toulx Ste Croi 93.30 39 ⇓*iP* **P** **01 38 48.8 -0.9**
TCF *e**PP pP 01 40 57.5 +1.2
TCF pmax pmax
comp=Z,299nm,1.2s,mb6.2
TCF Toulx Ste Croi 93.30 39 ⇓*iP* **P** **01 38 48.8 -0.9**
comp=Z,299nm,1.2s,mb6.2
TCF *ep*P pP 01 40 57.5 +1.2
LDF La Druitiere 93.36 36 ⇓*iP* **P** **01 38 48.7 -1.3**
comp=Z,599nm,1.0s,mb6.3
LDF La Druitiere 93.36 36 ⇓*iP* **P** **01 38 48.7 -1.3**
LDF pmax pmax
comp=Z,299nm,1.0s,mb6.3
LDF La Druitiere 93.36 36 ⇓*iP* **P** **01 38 48.7 -1.3**
comp=Z,299nm,1.0s,mb6.3
PYM Petit Puy Mans 93.45 40 *eP* **P** **01 38 50.4 0.0**
GELF Grande-Etoile 93.57 43 *eP* **P** **01 38 51.3 +0.3**
PRAF Pradon 93.64 42 *eP* **P** **01 38 52.6 +1.3**
AGO Saint Agoulin 93.69 40 *eP* **P** **01 38 51.4 -0.1**
ODZ Otahua Downs 93.77 215 *eP* **P** **01 38 52.3 +0.4**
ODZ Otahua Downs 93.77 215 *ePN* **P** **01 38 52.3 +0.4**
BGF Bois d'Agland 93.81 39 ⇓*iP* **P** **01 38 51.4 -0.7**
comp=Z,1μm,1.4s,mb6.6
BGF Bois d'Agland 93.81 39 ⇓*iP* **P** **01 38 51.4 -0.7**
BGF pmax pmax
comp=Z,627nm,1.4s,mb6.5
BGF Bois d'Agland 93.81 39 ⇓*iP* **P** **01 38 51.4 -0.7**
comp=Z,627nm,1.4s,mb6.5
HGH Gray Hill 93.84 33 *eP* **P** **01 38 50.3 -1.9**
APZ The Paps 93.85 212 *ePN* **P** **01 38 52.3 +0.1**
VIVF Saint-Julien-I 93.92 41 ⇓*iP* **P** **01 38 52.4 -0.2**
comp=Z,499nm,1.1s,mb6.2
VIVF Saint-Julien-I 93.92 41 ⇓*iP* **P** **01 38 52.4 -0.2**
VIVF pmax pmax
comp=Z,249nm,1.1s,mb6.2
VIVF Saint-Julien-I 93.92 41 ⇓*iP* **P** **01 38 52.4 -0.2**
comp=Z,249nm,1.1s,mb6.3
PLDF La Plantade 93.92 40 *eP* **P** **01 38 52.8 +0.2**
MCH1 Michaelchurch 93.97 33 *eP* **P** **01 38 51.1 -1.7**
MCH1 *eP* 01 38 51.1
MCH1 AMb AMB 01 39 01.8
comp=Z,189nm,2.0s,mb5.9
SMRF Simiane la Rot 93.98 42 ⇓*iP* **P** **01 38 53.2 +0.3**
comp=Z,657nm,1.1s,mb6.4
SMRF *ep*P pP 01 41 01.8 +2.3
SMRF Simiane la Rot 93.98 42 ⇓*iP* **P** **01 38 53.2 +0.3**
comp=Z,657nm,1.1s,mb6.7
SMRF *ep*P pP 01 41 01.8 +2.3
YRC Rhoscolyn 94.02 31 *eP* **P** **01 38 51.2 -1.8**
GMM Mts of Mourne 94.03 30 *eP* **P** **01 38 51.9 -1.2**
SNZO South Karori 94.04 220 *eP* **P** **01 38 57.8 +4.7**
comp=Z,244nm,1.5s,mb6.1
SNZO *ep*P pP 01 40 56.3 -3.4
SNZO *eP*P PP 01 42 52.8 +3.3
VSL Villasalto 94.05 48 *eP* **P** **01 38 56.8 +3.7**
TAVF Tavernes 94.08 43 *eP* **P** **01 38 53.9 +0.6**
HYF Humbligny 94.10 39 ⇓*iP* **P** **01 38 52.6 -0.8**
STOF St-Etienne Org 94.20 43 *eP* **P** **01 38 55.7 +1.9**
LMR La Mourre 94.21 43 ⇓*iP* **P** **01 38 53.7 -0.2**
comp=Z,566nm,0.9s,mb6.4
LMR La Mourre 94.21 43 ⇓*iP* **P** **01 38 53.7 -0.2**
LMR pmax pmax
comp=Z,283nm,0.9s,mb6.4
LMR La Mourre 94.21 43 ⇓*iP* **P** **01 38 53.7 -0.2**
comp=Z,283nm,0.9s,mb6.4
AVF Avril sur Loir 94.23 39 ⇓*iP* **P** **01 38 53.1 -0.9**
comp=Z,285nm,0.9s,mb6.1
AVF Avril sur Loir 94.23 39 ⇓*iP* **P** **01 38 53.1 -0.9**
AVF pmax pmax
comp=Z,143nm,0.9s,mb6.1
AVF Avril sur Loir 94.23 39 ⇓*iP* **P** **01 38 53.1 -0.9**
comp=Z,143nm,0.9s,mb6.1
SWN1 Swindon 94.26 33 *eP* **P** **01 38 53.1 -1.0**
SWN1 AMb AMB 01 39 01.0
comp=Z,378nm,1.7s,mb6.2
HLM1 Long Mynd 94.35 32 *eP* **P** **01 38 53.0 -1.6**
SBD1 Bryn Du 94.42 32 *eP* **P** **01 38 53.2 -1.6**
FRF La Foret Royal 94.42 43 ⇓*iP* **P** **01 38 54.7 -0.1**
comp=Z,368nm,0.9s,mb6.2
FRF La Foret Royal 94.42 43 ⇓*iP* **P** **01 38 54.7 -0.1**
FRF pmax pmax
comp=Z,184nm,0.9s,mb6.2
FRF La Foret Royal 94.42 43 ⇓*iP* **P** **01 38 54.7 -0.1**
comp=Z,184nm,0.9s,mb6.2
SMF Signal de Mont 94.43 40 ⇓*iP* **P** **01 38 54.3 -0.6**
comp=Z,766nm,0.8s,mb6.5
SMF *ep*P pP 01 41 02.8 +1.3
SMF Signal de Mont 94.43 40 ⇓*iP* **P** **01 38 54.3 -0.6**
SMF *e**PP pP 01 41 02.8 +1.3
SMF pmax pmax
comp=Z,383nm,0.8s,mb6.6
SMF Signal de Mont 94.43 40 ⇓*iP* **P** **01 38 54.3 -0.6**
comp=Z,383nm,0.8s,mb6.6
SMF *ep*P pP 01 41 02.8 +1.3
LBZ Lake Benmore 94.46 215 *eP* **P** **01 38 54.9 -0.1**
LBZ Lake Benmore 94.46 215 *ePN* **P** **01 38 54.9 -0.1**
RPZ Rata Peaks 94.47 216 P **P** **01 38 56.0 +0.9**
comp=Z,182nm,1.0s,mb6.1,baz=151,slow=3.8,SNR=23
RPZ pP pP 01 41 00.9 -0.8
comp=Z,113nm,1.0s,baz=125,slow=2.2,SNR=10
RPZ PKKPbc PKKPbc 01 55 54.4 +3.9
comp=Z,15nm,0.5s,baz=252,slow=5.2,SNR=6.2
RPZ Rata Peaks 94.47 216 *eP* **P** **01 38 54.9 -0.1**
RPZ Rata Peaks 94.47 216 *ePN* **P** **01 38 54.9 -0.1**
SSF Saint Saulge 94.47 39 ⇓*iP* **P** **01 38 54.0 -1.1**

SSF comp=Z,412nm,0.9s,mb6.3 *ep*P pP 01 41 02.5 +0.8
SSF Saint Saulge 94.47 39 ⇓*i*P **P 01 38 54.0 -1.1**
SSF *e**PP pP 01 41 02.5 +0.8
SSF pmax pmax
comp=Z,206nm,0.9s,mb6.3
SSF Saint Saulge 94.47 39 ⇓*i*P **P 01 38 54.0 -1.1**
comp=Z,206nm,0.9s,mb6.3
SSF *ep*P pP 01 41 02.5 +0.8
GCL Cushendall 94.50 29 *e*P **P 01 38 53.6 -1.6**
URZ Urewera 94.53 223 P **P 01 38 57.3 +2.0**
comp=Z,22nm,0.8s,mb5.3,baz=152,slow=4.3,SNR=8.7
URZ pP pP 01 41 01.8 -0.3
comp=Z,33nm,1.2s,baz=15,slow=11,SNR=2.0
URZ S SKSac 01 48 38.0 +3.0
comp=Z,14nm,0.9s,baz=319,slow=22,SNR=8.3
URZ PKPPKP 02 04 01.3
comp=Z,19nm,1.1s,baz=92,slow=6.4,SNR=3.8
WIM Isle of Man 94.55 30 *e*P **P 01 38 54.2 -1.2**
ORIF Oris-en-Rattie 94.68 42 ⇓*i*P **P 01 38 56.3 +0.3**
comp=Z,556nm,0.7s,mb6.5
ORIF *e*R
comp=Z,4μm,18.5s
ORIF Oris-en-Rattie 94.68 42 ⇓*i*P **P 01 38 56.3 +0.3**
ORIF pmax pmax
comp=Z,278nm,0.7s,mb6.5
ORIF Oris-en-Rattie 94.68 42 ⇓*i*P **P 01 38 56.3 +0.3**
comp=Z,278nm,0.7s,mb6.5
THZ Tophouse 94.77 219 *e*P **P 01 38 57.2 +0.8**
THZ Tophouse 94.77 219 *e*PN **P 01 38 57.2 +0.8**
THZ pP pP 01 41 04.9 +1.8
LOR Lormes 94.78 39 ⇓*i*P **P 01 38 55.5 -1.0**
comp=Z,469nm,0.9s,mb6.3
LOR *e*R
comp=Z,6μm,23.0s
LOR Lormes 94.78 39 ⇓*i*P **P 01 38 55.5 -1.0**
LOR pmax pmax
comp=Z,235nm,0.9s,mb6.3
LOR MLR MLR
comp=Z,6μm,23.0s
LOR Lormes 94.78 39 ⇓*i*P **P 01 38 55.5 -1.0**
comp=Z,235nm,0.9s,mb6.3
LOR LR LR
comp=Z,6μm,23.0s
NNZ Nelson 94.86 219 *e*P **P 01 38 56.6 -0.2**
NNZ Nelson 94.86 219 *e*PN **P 01 38 56.6 -0.2**
MVIF Mont Vial 94.90 43 *e*P **P 01 38 57.9 +0.9**
GMK Mull of Kintyr 94.91 29 *e*P **P 01 38 54.8 -2.3**
REVF Revere 94.95 43 *e*P **P 01 38 57.5 +0.2**
GAL1 Galloway 94.99 30 *e*P **P 01 38 55.8 -1.6**
GAL1 *e*P 01 38 55.8
GAL1 AMb AMB 01 39 05.6
comp=Z,306nm,1.4s,mb6.2
TOUF Mont Tournerai 95.03 43 *e*P **P 01 38 58.2 +0.6**
SBF Sospel 95.06 43 ⇓*i*P **P 01 38 57.5 -0.2**
comp=Z,500nm,0.8s,mb6.4
SBF Sospel 95.06 43 ⇓*i*P **P 01 38 57.5 -0.2**
SBF pmax pmax
comp=Z,250nm,0.8s,mb6.4
SBF Sospel 95.06 43 ⇓*i*P **P 01 38 57.5 -0.2**
comp=Z,250nm,0.8s,mb6.4
WVZ Waitaha Valley 95.07 217 PN **P 01 38 59.0 +1.2**
WVZ pP pP 01 41 06.0 +1.5
MBDF Montbardon 95.11 42 ⇓*i*P **P 01 38 58.2 +0.2**
comp=Z,440nm,0.9s,mb6.3
MBDF *ep*P pP 01 41 06.7 +2.0
MBDF Montbardon 95.11 42 ⇓*i*P **P 01 38 58.2 +0.2**
MBDF *e**PP pP 01 41 06.7 +2.0
MBDF pmax pmax
comp=Z,220nm,0.9s,mb6.3
MBDF Montbardon 95.11 42 ⇓*i*P **P 01 38 58.2 +0.2**
comp=Z,220nm,0.9s,mb6.3
MBDF *ep*P pP 01 41 06.7 +2.0
AUTN L'Aution 95.12 43 *e*P **P 01 38 58.7 +0.7**
SAOF Saorge 95.20 43 *e*P **P 01 38 58.5 +0.1**
BNI Bardonecchia 95.23 42 *e*P **P 01 38 59.1 +0.6**
BNI *e**PP pP 01 41 07.4 +2.2
BNI *e**SP sP 01 42 00.0 -3.1
BNI *e* 01 42 58.7
BNI pmax pmax
comp=Z,253nm,1.2s,mb6.2
BNI Bardonecchia 95.23 42 *e*P **P 01 38 59.1 +0.6**
comp=Z,253nm,1.2s,mb6.2
BNI *ep*P pP 01 41 07.4 +2.2
BNI *es*P sP 01 41 60.0 -3.2
BNI *e*PP PP 01 42 58.7 +0.2
DOI San Damiano 95.28 43 P **P 01 39 03.3 +4.6**
DOI pmax pmax
comp=Z,495nm,2.0s,mb6.3
DOI San Damiano 95.28 43 P **P 01 39 03.3 +4.6**
comp=Z,495nm,2.0s,mb6.3
XDE Dent Fell 95.31 30 *e*P **P 01 38 57.3 -1.5**
CORF Corte 95.33 45 *e*P **P 01 38 59.3 +0.3**
GCD Castle Douglas 95.33 30 *e*P **P 01 38 57.6 -1.4**
PGF Pioggiola 95.36 45 ⇓*i*P **P 01 38 58.9 -0.2**
comp=Z,400nm,1.3s,mb6.1
PGF *ep*P pP 01 41 07.7 +1.9
PGF Pioggiola 95.36 45 ⇓*i*P **P 01 38 58.9 -0.2**
PGF *e**PP pP 01 41 07.7 +1.9
PGF pmax pmax
comp=Z,200nm,1.3s,mb6.1
PGF Pioggiola 95.36 45 ⇓*i*P **P 01 38 58.9 -0.2**
comp=Z,200nm,1.3s,mb6.1
PGF *ep*P pP 01 41 07.7 +1.9
LPL La Plagne 95.50 42 ⇓*i*P **P 01 39 00.2 +0.5**
comp=Z,767nm,1.1s,mb6.6
LPL *ep*P pP 01 41 08.8 +2.3
LPL La Plagne 95.50 42 ⇓*i*P **P 01 39 00.2 +0.5**
LPL *e**PP pP 01 41 08.8 +2.3
LPL pmax pmax
comp=Z,384nm,1.1s,mb6.5
LPL La Plagne 95.50 42 ⇓*i*P **P 01 39 00.2 +0.5**
comp=Z,384nm,1.1s,mb6.5
LPL *ep*P pP 01 41 08.8 +2.3
LPG La Plagne 95.51 42 ⇓*i*P **P 01 39 00.3 +0.6**
comp=Z,872nm,1.1s,mb6.6
LPG La Plagne 95.51 42 ⇓*i*P **P 01 39 00.3 +0.6**
LPG pmax pmax
comp=Z,436nm,1.1s,mb6.6
LPG La Plagne 95.51 42 ⇓*i*P **P 01 39 00.3 +0.6**
comp=Z,436nm,1.1s,mb6.6
CKE Keswick 95.54 30 *e*P **P 01 38 58.9 -1.0**
BWH Wardlaw 95.66 30 *e*P **P 01 38 59.2 -1.2**
PGBU Glenifferbraes 95.69 29 *e*P **P 01 38 58.2 -2.4**
PGBU AMb AMB 01 39 09.1
comp=Z,140nm,1.5s,mb6.0
CABF La Chapelle 95.71 40 ⇓*i*P **P 01 39 00.2 -0.4**
comp=Z,432nm,1.0s,mb6.3
CABF *ep*P pP 01 41 08.7 +1.3
CABF La Chapelle 95.71 40 ⇓*i*P **P 01 39 00.2 -0.4**
CABF *e**PP pP 01 41 08.7 +1.3
CABF pmax pmax
comp=Z,216nm,1.0s,mb6.3
CABF La Chapelle 95.71 40 ⇓*i*P **P 01 39 00.2 -0.4**
comp=Z,216nm,1.0s,mb6.3
CABF *ep*P pP 01 41 08.7 +1.3
FIN Finale Ligure 95.72 43 P **P 01 39 04.4 +3.7**
GIMEL Gimel 95.77 41 ⇓*i*P **P 01 39 00.7 -0.2**
comp=Z,2μm,2.5s,mb6.8
EMV Vieux Emosson 95.89 41 ⇓*i*P **P 01 39 00.9 -0.6**
comp=Z,3μm,2.5s,mb7.1
ESK Eskdalemuir 95.95 30 *e*P **P 01 39 00.1 -1.7**
ESK AMb AMB 01 39 10.1
comp=Z,281nm,1.3s,mb6.3
ESK Eskdalemuir 95.95 30 *e*P **P 01 39 00.5 -1.2**
ESK *e**PP pP 01 41 02.9 -5.6
ESK pmax pmax
comp=Z,290nm,1.2s,mb6.4
ESK Eskdalemuir 95.95 30 *e*P **P 01 39 00.5 -1.3**
comp=Z,290nm,1.2s,mb6.4
ESK *ep*P pP 01 41 02.9 -5.6
EKA Eskdalemuir Ar 95.98 30 P **P 01 39 00.1 -1.8**
comp=Z,25nm,0.4s,mb5.8,baz=239,slow=4.3,SNR=40
EKA pP pP 01 41 06.8 -1.9
comp=Z,44nm,1.0s,baz=227,slow=4.4,SNR=8.1
EKA PP PP 01 43 03.4 -0.9
comp=Z,9.1nm,0.8s,baz=228,slow=5.0,SNR=2.6
SALAN Lac Salanfe 95.98 41 ⇓*i*P **P 01 39 01.8 -0.1**
comp=Z,2μm,2.0s,mb6.9
EAB Aberfoyle 95.99 29 *e*P **P 01 39 00.4 -1.5**
AIGLE Aigle 96.07 41 ⇓*i*P **P 01 39 01.9 -0.4**
comp=Z,2μm,2.4s,mb6.9
BRANT Les Verrieres 96.11 40 ⇓*i*P **P 01 39 02.2 -0.2**
comp=Z,2μm,2.2s,mb7.0
GRYON Gryon 96.12 41 ⇓*i*P **P 01 39 02.4 -0.1**
comp=Z,2μm,3.2s
MEZF Maizieres J'vi 96.13 38 ⇓*i*P **P 01 39 01.6 -1.0**
comp=Z,668nm,1.1s,mb6.5
MEZF Maizieres J'vi 96.13 38 ⇓*i*P **P 01 39 01.6 -1.0**
comp=Z,668nm,1.1s,mb6.8
KPL Plockton 96.18 27 *e*P **P 01 39 00.8 -1.9**
KPL AMb AMB 01 39 09.2
comp=Z,138nm,1.6s,mb5.9
DIX Grande Dixence 96.20 41 ⇓*i*P **P 01 39 02.6 -0.3**
comp=Z,1μm,2.5s,mb6.8
BORG Borgarnes 96.28 17 P **P 01 39 03.0 -0.3**
comp=Z,41nm,1.0s,mb5.6,baz=284,slow=4.2,SNR=5.2
BORG Borgarnes 96.28 17 *e*P **P 01 39 09.3 +6.1**
SENIN Lac Senin 96.29 41 ⇓*i*P **P 01 39 02.6 -0.7**
comp=Z,2μm,2.5s,mb6.8
EBL Broad Law 96.30 30 *e*P **P 01 39 02.5 -0.8**
TORNY Torny 96.30 41 ⇓*i*P **P 01 39 03.4 +0.1**
comp=Z,2μm,2.4s,mb7.0
AEU East Anglia Un 96.42 34 *e*P **P 01 39 02.8 -1.1**
LKBD Leukerbad 96.49 41 ⇓*i*P **P 01 39 03.5 -0.7**
comp=Z,969nm,0.9s,mb7.0
THEF They Montfort 96.51 39 *e*P **P 01 39 03.7 -0.6**
VAE Valguarnera 96.51 51 P **P 01 39 04.4 +0.1**
comp=Z,13nm,1.1s,mb5.1,baz=250,slow=17,SNR=2.0
MMK Mattmark 96.52 42 ⇓*i*P **P 01 39 03.7 -0.6**
comp=Z,2μm,2.2s,mb6.9
BAIF Baives 96.52 37 ⇓*i*P **P 01 39 03.1 -1.2**
comp=Z,259nm,1.0s,mb6.1
BAIF Baives 96.52 37 ⇓*i*P **P 01 39 03.1 -1.2**
BAIF pmax pmax
comp=Z,130nm,1.0s,mb6.1
BAIF Baives 96.52 37 ⇓*i*P **P 01 39 03.1 -1.2**
comp=Z,130nm,1.0s,mb6.1
LOMF Lomont 96.53 40 *e*P **P 01 39 03.3 -1.0**
ESY Stoneypath 96.58 30 *e*P **P 01 39 03.1 -1.5**
HAU Haudompre 96.60 39 ⇓*i*P **P 01 39 03.7 -1.0**
comp=Z,219nm,0.7s,mb6.2
HAU *ep*P pP 01 41 12.5 +1.0
HAU *e*R
comp=Z,5μm,19.5s
HAU Haudompre 96.60 39 ⇓*i*P **P 01 39 03.7 -1.0**
HAU *e**PP pP 01 41 12.5 +1.0
HAU pmax pmax
comp=Z,110nm,0.7s,mb6.2
HAU MLR MLR
comp=Z,5μm,19.5s
HAU Haudompre 96.60 39 ⇓*i*P **P 01 39 03.7 -1.0**
comp=Z,110nm,0.7s,mb6.2
HAU *ep*P pP 01 41 12.5 +1.0
HAU LR LR
comp=Z,5μm,19.5s
WIMIS Wimmis 96.64 41 ⇓*i*P **P 01 39 04.4 -0.4**
comp=Z,1μm,2.7s,mb6.7
MAON Monte Argentar 96.67 46 P **P 01 39 07.8 +2.9**
DOU Dourbes 96.75 37 ⇑P **P 01 39 04.7 -0.6**
comp=Z,49nm,1.1s,mb5.7
DOU AP pP 01 41 13.1 +0.9
DOU PP PP 01 43 08.2 -1.9
DOU E 01 44 58.0
BOB Bobbio (Coli) 96.77 43 P **P 01 39 09.7 +4.3**
MDO Dochfour 96.78 28 *e*P **P 01 39 03.6 -1.8**
HINF Hinteralfeld 96.79 40 ⇓*i*P **P 01 39 04.5 -1.0**
comp=Z,248nm,1.0s,mb6.1
HINF Hinteralfeld 96.79 40 ⇓*i*P **P 01 39 04.5 -1.0**
HINF pmax pmax
comp=Z,124nm,1.0s,mb6.1
HINF Hinteralfeld 96.79 40 ⇓*i*P **P 01 39 04.5 -1.0**
comp=Z,124nm,1.0s,mb6.1
SNF Seneffe 96.81 36 P **P 01 39 04.8 -0.8**
comp=Z,70nm,1.1s,mb5.8
SNF AP pP 01 41 13.0 +0.5
SNF PP PP 01 43 08.7 -1.8
GIVF Givet 96.88 37 ⇓*i*P **P 01 39 04.9 -1.0**
comp=Z,353nm,0.8s,mb6.3
GIVF *ep*P pP 01 41 13.6 +0.8
GIVF Givet 96.88 37 ⇓*i*P **P 01 39 04.9 -1.0**
GIVF *e**PP pP 01 41 13.6 +0.8
GIVF pmax pmax
comp=Z,176nm,0.8s,mb6.3
GIVF Givet 96.88 37 ⇓*i*P **P 01 39 04.9 -1.0**
comp=Z,176nm,0.8s,mb6.3
GIVF *ep*P pP 01 41 13.6 +0.8
MOF Molkenrain 96.97 40 *e*P **P 01 39 05.7 -0.6**
HASLI Hasliberg 96.99 41 ⇓*i*Pdiff **P 01 39 04.8 -1.6**
comp=Z,2μm,2.3s,mb7.0
UCC Uccle 97.01 36 ⇓P **P 01 39 05.5 -1.0**
comp=Z,780nm,0.8s,mb7.0
UCC AP pP 01 41 13.9 +0.5
UCC PP PP 01 43 11.9 -0.2
UCC E 01 45 13.2
BALST Balsthal 97.02 40 ⇓*i*Pdiff **P 01 39 04.9 -1.7**
comp=Z,2μm,2.2s,mb7.0
VLC Villacollemand 97.04 44 *e*P **P 01 39 07.8 +1.2**
VLC *e*PcP PcP 01 39 08.1 +1.4
VLC *es*P sP 01 42 05.4 -6.1
TOLF Tolfa 97.05 47 P **P 01 39 09.9 +3.2**
MUGIO Muggio 97.10 42 ⇓*i*Pdiff **P 01 39 05.7 -1.2**
comp=Z,1μm,2.3s,mb6.7
FUSIO Fusio 97.14 41 ⇓*i*Pdiff **P 01 39 06.6 -0.5**
comp=Z,1μm,2.0s,mb6.8
MVH1 Achvaich 97.16 27 *e*P **P 01 39 05.7 -1.5**
ECH Echery 97.17 39 *e*P **P 01 39 06.6 -0.6**
BNALP Bannalp 97.21 41 ⇓*i*Pdiff **P 01 39 06.6 -0.8**
comp=Z,1μm,2.3s,mb6.8
CSNT Castellina Chi 97.28 45 P **P 01 39 11.9 +4.2**
BCLA Clavier 97.31 37 ⇑P **P 01 39 07.2 -0.6**
comp=Z,42nm,0.8s,mb5.7
BCLA AP pP 01 41 14.6 -0.2
BCLA PP PP 01 43 14.4 +0.1
BCLA E 01 45 02.9
YKA Yellowknife Ar 97.33 339 P **P 01 39 06.7 -1.2**
comp=Z,27nm,0.8s,mb5.5,baz=129,slow=4.7,SNR=44
YKA pP pP 01 41 12.5 -2.4
comp=Z,16nm,0.7s,baz=125,slow=4.8,SNR=1.9
YKA PP PP 01 43 11.9 -2.6
comp=Z,26nm,0.9s,baz=128,slow=6.4,SNR=4.1
YKA ScS ScS 01 49 42.5 +0.5
comp=Z,5.6nm,1.0s,baz=125,slow=9.2,SNR=2.4
YKA PKKPbc PKKPbc 01 55 46.5 +3.5
comp=Z,0.9nm,0.3s,baz=360,slow=18,SNR=13
YKA PKKP PKKPbc 01 55 51.8 +8.8
comp=Z,4.3nm,0.5s,baz=322,slow=3.6,SNR=15
YKA Yellowknife Ar 97.33 339 P **P 01 39 06.7 -1.2**
YKA *PP pP 01 41 12.5 -2.4
YKA 01 43 11.9
YKA 01 49 42.5
YKA Yellowknife Ar 97.33 339 P **P 01 39 06.7 -1.2**
YKA pP pP 01 41 12.4 -2.4
YKA PP PP 01 43 11.9 -2.6
YKA ScS ScS 01 49 42.5 +0.5
YKA PKKPbc PKKPbc 01 55 46.5 +3.5
YKA PKKP PKKPbc 01 55 51.9 +8.8
MCD Coleburn Disti 97.33 28 *e*P **P 01 39 06.5 -1.4**
CDF Champ du Feu 97.34 39 ⇓*i*P **P 01 39 07.2 -0.8**
comp=Z,333nm,0.9s,mb6.3
CDF Champ du Feu 97.34 39 ⇓*i*P **P 01 39 07.2 -0.8**
CDF pmax pmax
comp=Z,166nm,0.9s,mb6.3
CDF Champ du Feu 97.34 39 ⇓*i*P **P 01 39 07.2 -0.8**
comp=Z,166nm,0.9s,mb6.3
SULZ Sulz-Cheisache 97.37 40 ⇓*i*Pdiff **P 01 39 07.6 -0.5**
comp=Z,1μm,2.2s,mb6.8
WLF Walferdange 97.37 38 *e*Pdiff **P 01 39 08.0 -0.1**
WLF *ep*Pdiff pP 01 41 15.7 +0.6
WLF *e*SKSac SKSac 01 48 53.4 +3.8
WLF Walferdange 97.37 38 ⇑P **P 01 39 08.0 -0.1**
comp=Z,185nm,1.0s,mb6.3
WLF AP pP 01 41 16.4 +1.3
WLF Walferdange 97.37 38 *e*P **P 01 39 07.6 -0.5**
WLF *ep*P pP 01 41 15.6 +0.6
WLS Welschbruch 97.39 39 *e*P **P 01 39 07.6 -0.6**
MUO Muotathal 97.39 41 ⇓*i*Pdiff **P 01 39 07.7 -0.5**
comp=Z,2μm,2.3s,mb6.8
FELD Feldberg im Sc 97.48 40 *e*P **P 01 39 08.1 -0.5**
FELD ⇓*e*P 01 39 12.5
FNVD Fontana Vidola 97.51 44 P Pdif 01 39 12.8 +4.1
LLS Linth-Limmern 97.55 41 ⇓*i*Pdiff Pdif 01 39 08.3 -0.6
comp=Z,1μm,2.4s
ZUR Zurich 97.56 41 ⇓*i*Pdiff Pdif 01 39 08.5 -0.4
comp=Z,2μm,2.5s
TUE Stuetta 97.56 42 P Pdif 01 39 08.9 0.0
VDL Val di Lei 97.64 42 ⇓*i*Pdiff Pdif 01 39 09.9 +0.6
comp=Z,1μm,2.0s
SLE Schleitheim 97.71 40 ⇓*i*Pdiff Pdif 01 39 09.1 -0.5
comp=Z,2μm,2.6s
BEBN Eben Emael 97.71 37 E 01 39 17.5
BEBN AP pP 01 41 17.7 +1.1
BEBN PP PP 01 43 17.8 +0.5
BEBN E 01 45 04.8
MLA1 Latheron 97.74 27 *e*P Pdif 01 39 07.5 -2.3
WILA Wila 97.77 41 ⇓*i*Pdiff Pdif 01 39 09.2 -0.7
comp=Z,2μm,2.5s
MEM Membach 97.79 37 ⇑P Pdif 01 39 09.6 -0.4
comp=Z,54nm,0.8s
MEM AP pP 01 41 17.1 +0.1
MEM PP PP 01 43 16.1 -1.8
HGN Heimansgroeve 97.83 37 *e*P Pdif 01 39 13.7 +3.5
comp=Z,216nm,1.7s
HGN *ex* x 01 41 18.1
comp=Z,129nm,2.2s
HGN *e*PP PP 01 43 09.1 -9.2
HGN *e*SKS 01 48 57.7
HGN *e*SKSP 01 52 11.0
PLONS Plons 97.87 41 ⇓*i*Pdiff Pdif 01 39 09.4 -0.9
comp=Z,2μm,2.5s
FIAM Fiamignano 97.88 47 P Pdif 01 39 14.6 +4.2
STEIN Stein am Rhein 97.88 41 ⇓*i*Pdiff Pdif 01 39 10.0 -0.4
comp=Z,2μm,2.0s
RUP Ruppelstein 97.89 38 *e*P Pdif 01 39 10.2 -0.2
BFO Black Forest 97.90 40 *e*P Pdif 01 39 10.0 -0.5
BFO *e**PP pP 01 41 18.2 +0.7
BFO *e* 01 43 19.7
BFO *e* 01 48 56.3
BFO Black Forest 97.90 40 *e*Pdif Pdif 01 39 10.0 -0.5
BFO *ep*P pP 01 41 18.2 +0.7
BFO *e*PP PP 01 43 19.4 +0.6
BFO *e*PP PP 01 43 19.7 +0.9
BFO *e*SKS 01 48 56.3
LANF Langenberg 97.94 39 *e*P Pdif 01 39 10.5 -0.1
BERNI Berninapass 97.94 42 ⇓*i*Pdiff Pdif 01 39 10.2 -0.4
comp=Z,1μm,2.2s
SOI Samo 97.94 52 P Pdif 01 39 14.4 +3.8
FIU Minerbio Fiu 97.97 44 P Pdif 01 39 15.5 +4.7
DAVOX Davos 98.03 42 ⇓*i*Pdiff Pdif 01 39 10.3 -0.7
comp=Z,1μm,2.4s
DAVOX Davos 98.03 42 P Pdif 01 39 11.3 +0.3
comp=Z,59nm,0.8s,baz=220,slow=5.4,SNR=54
DAVOX pP pP 01 41 17.0 -1.1
comp=Z,28nm,0.7s,baz=304,slow=2.7,SNR=3.7
DAVOX PP PP 01 43 16.9 -2.9
comp=Z,44nm,0.9s,baz=216,slow=11,SNR=2.6
DAVOX S SKSac 01 48 58.5 +5.5
comp=Z,52nm,1.0s,baz=360,slow=4.9,SNR=9.5
DAVOX PKKPbc PKKPbc 01 55 45.7 +4.6
comp=Z,7.2nm,0.5s,baz=207,slow=4.5,SNR=10
DAVOX PKPPKP 02 04 01.6
comp=Z,3.5nm,0.9s,baz=51,slow=6.7,SNR=3.0
MABI Malga Bissina 98.06 42 P Pdif 01 39 14.8 +3.7
LIENZ Alp Oberkamor 98.06 41 ⇓*i*Pdiff Pdif 01 39 10.5 -0.7
comp=Z,1μm,2.3s
AQU L'Aquila 98.11 47 ⇓*i*P Pdif 01 39 20.1 +8.7
AQU L'Aquila 98.11 47 ⇓P Pdif 01 39 20.1 +8.7
FUORN Ofenpass 98.18 42 ⇓*i*Pdiff Pdif 01 39 10.9 -0.8
comp=Z,982nm,2.5s
SNTG Esanatoglia 98.23 46 P Pdif 01 39 15.1 +3.2
ABH Alteburg 98.25 38 *e*P Pdif 01 39 11.8 -0.2
DAVA Damuels 98.28 41 ⇓*i* PP 01 43 23.2 +1.6
comp=Z,190nm,1.2s
DAVA Damuels 98.28 41 *i* Pdiff Pdif 01 39 12.5 +0.3
comp=Z,176nm,0.8s,SNR=31
DAVA ⇓*i*PKiKP PP 01 43 23.2 +1.6
comp=Z,190nm,1.2s
DAVA Damuels 98.28 41 *i* P Pdif 01 39 12.5 +0.3
comp=Z,176nm,0.8s
DAVA *i* 01 41 21.7
DAVA *i* 01 43 23.2
DAVA *i* 01 45 10.4
MIDA Miranda 98.34 48 P Pdif 01 39 09.7 -2.7
STU Stuttgart 98.62 40 *e*Pdiff Pdif 01 39 13.4 -0.3
STU *ep*Pdiff 01 41 21.0
STU *e*SKSac SKSac 01 49 00.6 +4.8
CTI Castel Tesino 98.75 43 P Pdif 01 39 14.6 +0.4
BUG Bochum-Univer 98.90 37 *e*Pdiff Pdif 01 39 14.5 -0.4
BUG *ep*Pdiff 01 41 22.4
BUG *e*PP PP 01 43 26.8 +0.5
WTSB Winterswijk 98.92 36 *e*P Pdif 01 39 17.6 +2.6
comp=Z,280nm,2.0s
WTSB *ex* x 01 41 23.1
comp=Z,191nm,2.2s
WTSB *e*PP PP 01 43 25.8 -0.7
TNS Taunus Mts 98.93 38 *e*Pdiff Pdif 01 39 15.1 +0.1
TNS *e*PP PP 01 43 27.3 +0.8
TNS *e* 01 45 14.5
TNS Taunus Mts 98.93 38 *e*P Pdif 01 39 15.1 +0.1
TNS *e* 01 43 27.3
TIP Timpagrande 98.93 51 *e*Pdif Pdif 01 39 14.6 -0.4
comp=Z,28nm,0.7s
TIP *ep*P pP 01 41 16.7 -5.5
TIP *e*PP PP 01 43 29.9 +3.4
KMBO Kilima Mbogo 98.97 96 P Pdif 01 39 16.2 +1.1
comp=Z,0.5nm,0.3s,baz=183,slow=22,SNR=2.5
KMBO pP pP 01 41 22.7 +0.4
comp=Z,11nm,1.0s,baz=58,slow=23,SNR=4.3
KMBO S SKSac 01 49 08.4 +11
comp=Z,3.7nm,0.8s,baz=92,slow=24,SNR=6.6
KMBO PKKPbc PKKPbc 01 55 41.9 +3.3
comp=Z,4.5nm,0.9s,baz=61,slow=23,SNR=4.2
KMBO PKPPKP 02 03 54.0
comp=Z,0.4nm,0.3s,baz=206,slow=24,SNR=3.7
KMBO Kilima Mbogo 98.97 96 P Pdif 01 39 16.3 +1.1
KMBO *PP pP 01 41 22.7 +0.4
KMBO Kilima Mbogo 98.97 96 *e*Pdif Pdif 01 39 18.1 +2.9
comp=Z,90nm,1.6s
KMBO pP pP 01 41 22.8 +0.4
KMBO *e*PP PP 01 43 16.8 -10
KMBO S SKSac 01 49 08.4 +11
KMBO PKKPbc PKKPbc 01 55 41.9 +3.3
KMBO *e*PKKPdf PKKPdf 01 55 44.8 +3.9
KMBO P'P' 02 03 54.0
MOTA Moosalm 99.04 42 ⇑*i*P Pdif 01 39 15.6 +0.1
MOTA pmax pmax
comp=Z,80nm,0.7s,mb6.2
MOTA Moosalm 99.04 42 ⇑*i*P Pdif 01 39 15.6 +0.1
comp=Z,80nm,0.7s
MOTA *i* 01 41 24.6
SQTA Sankt Quirin 99.04 42 ⇑*i* PP 01 43 29.2 +1.9
comp=Z,129nm,1.0s
SQTA Sankt Quirin 99.04 42 ⇑*i*Pdiff Pdif 01 39 15.7 +0.2
comp=Z,124nm,0.7s,SNR=73
SQTA ⇑*i*PKiKP PP 01 43 29.2 +1.9
comp=Z,129nm,1.0s
SQTA Sankt Quirin 99.04 42 ⇑*i*P Pdif 01 39 15.7 +0.2
SQTA *i* 01 43 29.2
SQTA pmax pmax
comp=Z,124nm,0.7s,mb6.3
SQTA Sankt Quirin 99.04 42 ⇑*i*P Pdif 01 39 15.7 +0.2
comp=Z,124nm,0.7s
SQTA *i* 01 41 24.7
SQTA *i* 01 43 29.2
OPO Ambohidratompo 99.18 116 PKKPbc PKKPbc 01 55 38.3 +0.3
comp=Z,3.1nm,0.8s,baz=297,slow=4.5,SNR=2.3
WATA Walderalm 99.31 42 *e*P Pdif 01 39 16.5 -0.3
comp=Z,54nm,0.8s,SNR=17
WATA Walderalm 99.31 42 *e*P Pdif 01 39 16.5 -0.2
WATA pmax pmax
comp=Z,54nm,0.8s,mb5.9
WATA Walderalm 99.31 42 *e*P Pdif 01 39 16.5 -0.3
comp=Z,54nm,0.8s
WATA *i* 01 41 25.9
WTTA Wattenberg 99.32 42 ⇑*i*P Pdif 01 39 17.2 +0.5
WTTA *i* 01 41 22.5
WTTA pmax pmax
comp=Z,224nm,1.2s,mb6.4
WTTA Wattenberg 99.32 42 ⇑*i*P Pdif 01 39 17.2 +0.5
comp=Z,224nm,1.2s
WTTA *i* 01 41 22.5
FUR Furstenfeldbru 99.53 41 *e*Pdiff Pdif 01 39 17.8 +0.1
FUR *ep*Pdiff 01 41 25.5
FUR *e*PP PP 01 43 31.4 +0.4
FUR *e*SKSac SKSac 01 49 04.3 +4.0
IBBN Ibbenburen 99.61 36 *e*Pdiff Pdif 01 39 17.7 -0.3
IBBN *ep*Pdiff 01 41 25.6
IBBN *e*SKSac SKSac 01 49 06.9 +6.3
GMNA Gemona 99.83 43 P Pdif 01 39 19.0 0.0
AFI Afiamalu 99.90 249 PP PP 01 43 35.9 +2.2
comp=Z,56nm,1.1s,baz=204,slow=17,SNR=3.9
PTCC Patocco-Chiusa 99.96 43 P Pdif 01 39 20.0 +0.4
NVLJ Novalja 100.07 45 *i* P Pdif 01 39 27.0 +6.9
CADS Cadrg 100.11 43 *e*Pdiff Pdif 01 39 24.6 +4.4

CADS ePPdiff 01 41 28.1
CADS ePP PP 01 43 36.0 +0.7
CADS e 01 45 23.4
CADS eSKSac SKSac 01 49 09.1 +6.1
CADS eSdiff Sdif 01 50 12.2 +7.0
CADS e 01 56 06.7
CADS e 01 59 58.1
VOY Vojsko 100.12 44 ePdif Pdif 01 39 23.6 +3.3
VOY e 01 41 29.0
GRFO Grafenberg 100.23 39 eP Pdif 01 39 20.7 -0.1
GRFO pmax pmax
comp=Z,124nm,1.0s
GRFO Grafenberg 100.23 39 ePdif Pdif 01 39 20.7 -0.1
comp=Z,126nm,1.0s
GRFO epP pP 01 41 29.6 +1.6
GRA1 Grafenberg Arr 100.23 39 ePdif Pdif 01 39 21.0 +0.2
GRA1 eSKS 01 49 11.9
GRA1 ePKKP PKKPbc 01 55 38.5 +3.5
GRA1 e 01 56 06.6
GRF Grafenberg Arr 100.23 39 ePdiff Pdif 01 39 21.0 +0.2
GRF epPdiff 01 41 29.6
GRF eSKSac SKSac 01 49 11.9 +8.2
GRF ePKKP PKKPbc 01 55 38.5 +3.5
GRF e 01 56 06.6
GRF Grafenberg Arr 100.23 39 eP Pdif 01 39 21.0 +0.2
GRF e 01 49 11.9
GRF Grafenberg Arr 100.23 39 eP Pdif 01 39 21.0 +0.2
GRF e 01 49 11.9
KBA Koelnbreinsper 100.26 43⇑ eP Pdif 01 39 25.3 +4.4
comp=Z,76nm,1.2s
KBA Koelnbreinsper 100.26 43⇑ eP Pdif 01 39 25.3 +4.4
KBA pmax pmax
comp=Z,77nm,1.2s
LJU Ljubljana 100.52 44 ePdiff Pdif 01 39 34.8 +13
LJU epPdiff 01 41 31.5
LJU ePP PP 01 43 38.9 +0.6
LJU e 01 45 26.7
LJU eSKSac SKSac 01 49 10.6 +5.6
LJU e 01 56 05.9
LJU eSS SS 01 57 21.1 -0.7
LJU e 02 00 45.7
HLG Helgoland 100.62 34 eSKSac SKSac 01 49 12.2 +6.7
WRAK Wrangell Islan 100.72 328 ePdif Pdif 01 39 26.0 +3.0
comp=Z,82nm,1.0s
WRAK e 01 41 44.0
WRAK ePP PP 01 43 38.2 -1.6
BOJS Bojanci 100.73 45 ePdiff Pdif 01 39 27.5 +4.5
BOJS epPdiff 01 41 31.5
BOJS eSPdiff 01 42 30.9
BOJS ePP PP 01 43 40.7 +0.8
BOJS e 01 45 28.7
BOJS e 02 07 39.3
DLBC Dease Lake 100.73 331 ePdif Pdif 01 39 24.2 +1.1
OBKA Obir 100.74 43 i PKiKP 01 43 41.2 -4.0
comp=Z,642nm,1.6s,SNR=7.7
OBKA Obir 100.74 43⇑ iPdiff Pdif 01 39 23.8 +0.7
comp=Z,192nm,2.0s,SNR=18
OBKA i PKiKP PKiKP 01 43 41.2 -4.0
comp=Z,642nm,1.6s,SNR=7.7
OBKA Obir 100.74 43⇑ iP Pdif 01 39 23.8 +0.7
comp=Z,192nm,2.0s
OBKA i 01 41 27.5
OBKA i 01 43 41.2
CLZ Clausthal 100.78 37 e Pdif 01 39 28.0 +4.7
CLZ eSKSac SKSac 01 49 14.8 +8.5
ROTZ Rotzenmuhle 100.83 40 ePdiff Pdif 01 39 23.3 -0.2
ROTZ epPdiff 01 41 32.8
ROTZ ePP PP 01 43 40.0 0.0
ROTZ eSKSac SKSac 01 49 13.0 +6.5
MANZ Manzenberg 100.88 40 ePdiff 01 41 32.4
MANZ ePP PP 01 43 40.5 -0.5
MANZ e 01 45 29.7
MANZ eSKSac SKSac 01 49 14.3 +7.6
MOX Moxa 100.90 39 ePdiff Pdif 01 39 24.1 +0.3
MOX epPdiff 01 41 31.8
MOX e 01 45 28.0
MOX eSKSac SKSac 01 49 14.0 +7.1
MOX Moxa 100.90 39 ePDIFF Pdif 01 39 24.0 +0.2
comp=Z,433nm,2.3s
MOX e 01 39 48.7
MOX e 01 41 32.1
MOX
comp=Z,3μm,19.0s
WET Wettzell 100.93 40 ePdiff Pdif 01 39 24.0 +0.1
WET epPdiff 01 41 32.9
WET ePP PP 01 43 41.1 -0.3
WET e 01 45 28.6
WET eSKSac SKSac 01 49 12.7 +5.7
WET Wettzell 100.93 40 eP Pdif 01 39 24.0 +0.1
WET e 01 43 41.1
WET e 01 49 12.7
CRES Cresnjev 101.00 44 ePdiff Pdif 01 39 28.9 +4.7
PERS Pernice 101.15 43 ePdiff Pdif 01 39 29.1 +4.2
WERN Wernitzgruen 101.17 39 ePdiff Pdif 01 39 25.6 +0.6
WERN epPdiff 01 41 34.4
WERN ePP PP 01 43 43.2 +0.1
MOA Molln 101.17 42 i PKiKP 01 43 43.1 -2.9
comp=Z,339nm,1.6s,SNR=5.9
MOA Molln 101.17 42 i Pdiff Pdif 01 39 27.2 +2.2
SNR=11
MOA i PKiKP PKiKP 01 43 43.1 -2.9
comp=Z,339nm,1.6s,SNR=5.9
MOA Molln 101.17 42 i P Pdif 01 39 27.2 +2.2
MOA i 01 41 34.2
MOA i 01 43 43.1
GUNZ Gunzen 101.18 39 ePdiff Pdif 01 39 25.8 +0.8
NKC Novy Kostel 101.18 39 ePDIF Pdif 01 39 25.6 +0.6
NKC epP pP 01 41 34.1 +1.8
NKC ePP PP 01 43 43.3 +0.1
NKC eSKS 01 49 15.9
NKC ePKKP PKKPbc 01 55 36.3 +4.0
NKC ex x 01 56 01.8
NKC Novy Kostel 101.18 39 eP Pdif 01 39 25.6 +0.6
NKC e 01 43 43.3
NKC e 01 49 15.9
WERD Werda 101.20 39 ePdiff Pdif 01 39 25.7 +0.6
WERD epPdiff 01 41 33.3
VLS Valsamata 101.21 53 eP PKiKP 01 43 43.0 -3.1
GEC2 GERESS Array S 101.28 41 ePdiff Pdif 01 39 25.2 -0.3
GEC2 epPdiff 01 41 34.2
GEC2 eSKSac SKSac 01 49 14.6 +6.0
GEC2 GERESS Array S 101.28 41 ePdif Pdif 01 39 25.5 0.0
GEC2 e 01 41 33.7
GEC2 ePP PP 01 43 42.4 -1.6
GEC2 eSKS 01 49 14.6
GERES GERESS Array B 101.28 41 P Pdif 01 39 25.3 -0.1
comp=Z,2.3nm,0.7s,baz=217,slow=3.3,SNR=9.9
GERES pP pP 01 41 30.9 -1.8
comp=Z,5.8nm,0.8s,baz=212,slow=4.7,SNR=2.7
GERES PP PP 01 43 36.6 -7.4
comp=Z,29nm,1.0s,baz=207,slow=8.5,SNR=4.5
GERES PKiKP PKiKP 01 43 47.1 +0.9
comp=Z,48nm,1.0s,baz=233,slow=2.9,SNR=7.4
GERES PKKPbc PKKPbc 01 55 34.1 +2.1
comp=Z,9.5nm,1.0s,baz=50,slow=2.1,SNR=9.9
GERES SKKPbc 01 58 21.7
comp=Z,3.4nm,0.7s,baz=48,slow=2.0,SNR=4.1
GERES PKPPKP 02 03 49.7
comp=Z,1.7nm,0.9s,baz=94,slow=4.0,SNR=4.0
GERES tx tx 02 06 22.8
comp=Z,1.3nm,0.9s,baz=36,slow=3.7,SNR=3.6
GERES GERESS Array B 101.28 41 P Pdif 01 39 25.3 -0.1
GERES pP pP 01 41 30.9 -1.8
GERES PP PP 01 43 36.6 -7.4
KEK Kerkira 101.28 51 eP Pdif 01 39 29.4 +3.9
KEK Kerkira 101.28 51 eP PKiKP 01 43 44.7 -1.5
KHC Kasperske Hory 101.33 41 ePDIF Pdif 01 39 26.0 +0.3
KHC epP pP 01 41 35.3 +2.3
KHC ePP PP 01 43 43.4 -1.0
KHC eSKS 01 49 13.3
KHC ePKKP PKKPbc 01 55 36.8 +4.9
KHC ex x 01 56 01.4
KHC Kasperske Hory 101.33 41 eP Pdif 01 39 26.0 +0.3
KHC e 01 43 43.4
KHC e 01 49 13.3
SISC Sisak 101.43 45 P PKiKP 01 43 45.2 -1.2
ARSA Arzberg 101.67 43⇑ i PKiKP 01 43 47.2 +0.3
comp=Z,152nm,1.5s
ARSA Arzberg 101.67 43⇑ iPdiff Pdif 01 39 30.8 +3.6
comp=Z,34nm,0.9s,SNR=21
ARSA ⇑ iPKiKP PKiKP 01 43 47.2 +0.3
comp=Z,152nm,1.5s
ARSA Arzberg 101.67 43⇑ iP Pdif 01 39 30.8 +3.6
comp=Z,34nm,0.9s
ARSA i 01 41 36.6
ARSA i 01 43 47.2
KOGS Kog 101.77 44 ePdiff Pdif 01 39 32.0 +4.3
KOGS ePP PP 01 43 47.7 +0.1
KOGS eSKSac SKSac 01 49 17.0 +6.1
ITM Ithomi 101.77 54 eP Pdif 01 39 29.0 +1.3
ITM Ithomi 101.77 54 eP PKiKP 01 43 40.7 -6.4
RLS Riolos of Patr 101.79 53 eP Pdif 01 39 30.4 +2.6
RLS Riolos of Patr 101.79 53 eP PKiKP 01 43 48.2 +1.1
CLL Collm 101.99 39 ePdiff Pdif 01 39 32.4 +3.8
comp=Z,212nm,1.7s
CLL epPdiff 01 41 37.2
CLL esPdiff 01 42 34.0
CLL ePP PP 01 43 45.2 -4.0
CLL epPP 01 45 31.5
CLL esPP 01 46 40.9
CLL eSKSac SKSac 01 49 19.7 +7.7
CLL eSdiff Sdif 01 50 28.7 +7.8
CLL eSP SP 01 51 54.7 -4.3
CLL ePS PS 01 53 14.3 +1.5
CLL ePKKPbc PKKPbc 01 55 29.8 -0.2
CLL ePKKPdf PKKPdf 01 55 35.1 -0.4
CLL eSS SS 01 57 52.1 +10
CLL esSS 02 01 00.3
CLL eSSS 02 01 44.3
CLL eSSSS 02 05 06.8
CLL eL 02 13 43.3
comp=Z,4μm,22.0s
CLL Collm 101.99 39 i P Pdif 01 39 32.4 +3.8
CLL i 01 49 18.4
pmax pmax
comp=Z,210nm,1.7s
CLL Collm 101.99 39 i Pdif Pdif 01 39 32.4 +3.8
comp=Z,210nm,1.7s
CLL i pP 01 41 37.3
CLL i SKS 01 49 18.4
CLL eSdif Sdif 01 50 29.0 +8.1
CLL i 01 55 55.0
CLL i PKKP PKKPbc 01 55 58.4 +28
CLL Collm 101.99 39 ePdif Pdif 01 39 29.0 +0.4
CLL esSS 01 01 00.0
CLL esSSS 01 04 36.0
CLL ex x 01 21 39.0
comp=Z,38nm,1.9s
CLL i Pdiffmax 01 39 32.4
comp=Z,210nm,1.7s
CLL ePdiffIp 01 39 35.0
comp=Z,2μm,11.7s
CLL i pPdif 01 41 37.3
comp=Z,270nm,1.9s
CLL esPdif 01 42 38.0
CLL i PP PP 01 43 50.4 +1.2
comp=Z,422nm,1.8s
CLL ePPIp 01 43 54.0
comp=Z,3μm,25.2s
CLL i pPP 01 45 38.9
CLL ePPP 01 46 06.0
CLL esPP 01 46 40.0
CLL eSKSac SKSac 01 49 13.0 +1.0
CLL i SKSacmax 01 49 18.4
CLL eSKKSac SKKSac 01 49 57.0 +3.6
CLL eSdif Sdif 01 50 29.0 +8.1
CLL eSP SP 01 52 01.0 +2.0
CLL ePS PS 01 53 10.0 -2.8
CLL ex x 01 54 20.0
CLL ex x 01 54 36.0
CLL ePKKPbc PKKPbc 01 55 30.0 0.0
CLL ex x 01 55 50.0
CLL i PKKP PKKPbc 01 55 58.4 +28
comp=Z,71nm,1.3s
CLL eSS SS 01 57 42.0 +0.2
JAN Janina 102.00 52 eP Pdif 01 39 37.0 +8.3
FBE Freiberg 102.01 39 ePdiff Pdif 01 39 29.1 +0.4
FBE ePP PP 01 43 48.7 -0.7
CONA Conrad Observa 102.17 43⇑ iPdiff Pdif 01 39 31.1 +1.7
comp=Z,46nm,1.6s
CONA ⇑ iPKiKP PKiKP 01 43 51.3 +3.5
comp=Z,188nm,1.5s
KYTH Kithira 102.23 56 eP Pdif 01 39 36.0 +6.3
PRA Prague 102.25 40 PDIF Pdif 01 39 34.0 +4.2
PRA pP 01 41 40.0
PRA PP PP 01 43 50.0 -1.1
PRA ex x 01 45 45.0
PRU Pruhonice 102.28 40 ePDIF Pdif 01 39 30.1 +0.2
PRU epP 01 41 36.5
PRU ePP PP 01 43 47.1 -4.2
PRU eSKS 01 49 20.1
PRU ePKKP PKKPbc 01 55 33.1 +3.9
PRU ex x 01 55 56.8
PRU Pruhonice 102.28 40 eP Pdif 01 39 30.1 +0.2
PRU e 01 43 47.1
PRU e 01 49 20.1
BRG Berggiesshubel 102.32 39 ePdiff Pdif 01 39 30.3 +0.2
BRG epPdiff 01 41 37.8
BRG eSKSac SKSac 01 49 20.6 +7.1
BRG Berggiesshubel 102.32 39 eP Pdif 01 39 30.4 +0.3
comp=Z,2.1nm,1.0s
BRG i 01 39 34.0
comp=Z,24nm,1.4s
BRG i 01 39 38.5
comp=Z,51nm,1.4s
BRG pP 01 41 36.0
BRG sP 01 42 32.0
BRG PP PP 01 43 34.0 -18
BRG S SKSac 01 49 18.0 +4.5
BRG SP Sdif 01 50 28.0 +4.3
BRG SS PKKPdf 01 55 36.0 +1.1
BRG ePKPPKP 02 05 31.0
comp=Z,55nm,2.5s
BRG comp=N,2μm,23.0s
BRG comp=E,833nm,19.9s
BRG comp=Z,2μm,18.7s
BRG Berggiesshubel 102.32 39 eP Pdif 01 39 30.4 +0.3
comp=Z,2.1nm,1.0s
BRG i 01 39 34.0
BRG i 01 39 38.5
BRG pP 01 41 36.0
BRG sP 01 42 32.0
BRG PP PP 01 43 34.0 -18
BRG S SKSac 01 49 18.0 +4.5
BRG SP Sdif 01 50 28.0 +4.3
BRG SS PKKPdf 01 55 36.0 +1.1
BRG eP'P' 02 05 31.0
BRG LR LR
comp=Z,2μm,18.7s
VLI Veliai 102.33 55 eP Pdif 01 39 32.2 +2.1
VLI Veliai 102.33 55 eP PKiKP 01 43 52.0 +3.9
MUD Monsted U'grnd 102.38 33 i P Pdif 01 39 34.3 +3.9
comp=Z,97nm,1.2s
MUD e 01 41 38.4
MUD i 01 43 41.0
MUD i 01 43 56.3
MUD i S SKSac 01 49 24.3 +11
MUD i 01 50 29.1
MUD
comp=Z,2μm,19.0s
MUD Monsted U'grnd 102.38 33 i P Pdif 01 39 34.3 +3.9
MUD i 01 43 56.3
MUD pmax pmax
comp=Z,97nm,1.2s
MUD MLR MLR
comp=Z,2μm,19.0s
MUD Monsted U'grnd 102.38 33 i P Pdif 01 39 34.3 +3.9
comp=Z,97nm,1.2s
MUD e 01 41 38.4
MUD i 01 43 41.0
MUD i 01 43 56.3
MUD i S SKSac 01 49 24.3 +11
MUD i 01 50 29.1
EVR Evrytania 102.38 53 eP Pdif 01 39 34.4 +4.0
GVD Gavdhos 102.45 57 eP Pdif 01 39 40.0 +9.3
SIT Sitka 102.46 328 eP Pdif 01 39 34.0 +3.3
SOP Sopron 102.49 43⇑ eP Pdif 01 39 35.6 +4.8
PVCC Panska Ves 102.53 40 ePDIF Pdif 01 39 31.2 +0.2
PVCC epP 01 41 40.0
PVCC ePP PP 01 43 48.3 -4.9
PVCC eSKS 01 49 22.1
PVCC ePKKP PKKPbc 01 55 33.0 +4.5
PVCC ex x 01 55 56.2
PVCC Panska Ves 102.53 40 eP Pdif 01 39 31.2 +0.2
PVCC e 01 43 48.3
PVCC e 01 49 22.1
BLS5 Blasjo 102.58 29 eP Pdif 01 39 37.2 +6.0
BLS5 AMb AMB 01 39 40.9
comp=Z,92nm,2.6s
BER Bergen 102.58 28 e Pdif 01 39 35.5 +4.2
BER ePP PP 01 43 55.1 +1.5
BER eSKS 01 49 15.6
RES Resolute Bay 102.67 352 eP Pdif 01 39 34.9 +3.3
VAM Vamos 102.75 57 eP Pdif 01 39 36.8 +4.8
VAM Vamos 102.75 57 eP PKiKP 01 43 57.0 +8.1
THL Klokotos Trika 102.79 52 eP Pdif 01 39 35.2 +3.0
THL Klokotos Trika 102.79 52 eP PKiKP 01 43 48.0 -0.9
BIA Bitola 102.88 51 eP Pdif 01 39 40.7 +8.2
BIA i PP PP 01 43 56.3 +0.6
BIA i SKS 01 49 19.6
ODD1 Odda 102.90 29 eP Pdif 01 39 38.1 +5.4
ODD1 AMb AMB 01 39 41.5
comp=Z,156nm,1.7s
KZN Kozani 102.91 51 eP Pdif 01 39 40.9 +8.2
KZN Kozani 102.91 51 eP PKiKP 01 43 57.2 +8.1
RUE Ruedersdorf 102.94 38 ePdiff Pdif 01 39 32.8 -0.1
RUE ePP PP 01 43 55.7 -0.5
RUE e 01 45 43.3
RUE eSKSac SKSac 01 49 22.8 +6.4
KRUS Krusevo 102.96 50 i PP PP 01 43 59.5 +3.1
KRUS i SKS 01 49 20.6
ZST Bratislava 103.03 43 PDIF Pdif 01 39 37.3 +4.0
ZST ePP PP 01 43 56.7 -0.2
ZST e 01 49 20.6
ZST Bratislava 103.03 43 eP Pdif 01 39 37.3 +4.0
ZST e 01 43 56.7
ZST e 01 49 20.6
LKR Lokris 103.13 53 eP Pdif 01 39 32.4 -1.3
LKR Lokris 103.13 53 eP PKiKP 01 43 54.2 +4.6
PKSM Moragy 103.18 45⇑ iP Pdif 01 39 34.5 +0.6
PKSM Moragy 103.18 45⇑ P Pdif 01 39 34.5 +0.6
VRAC Vranov 103.19 41 Pdiff Pdif 01 39 33.3 -0.7
comp=Z,14nm,1.0s,baz=244,slow=4.0,SNR=8.4
VRAC pPdiff 01 41 41.2
comp=Z,6.0nm,0.7s,baz=264,slow=5.3,SNR=3.3
VRAC PP PP 01 43 51.9 -6.2
comp=Z,45nm,1.2s,baz=235,slow=11,SNR=4.4
VRAC Sdiff SKSac 01 49 23.8 +6.3
comp=Z,8.0nm,1.1s,baz=30,slow=20,SNR=7.8
VRAC Vranov 103.19 41⇑ iP Pdif 01 39 32.6 -1.4
VRAC Vranov 103.19 41 P Pdif 01 39 33.3 -0.7
VRAC S SKSac 01 49 23.8 +6.3
VRAC pmax pmax
comp=Z,14nm,1.0s
VRAC Vranov 103.19 41⇑ P Pdif 01 39 32.6 -1.4
VRAC P 01 39 36.4
DIVS Divcibare 103.20 47 i P Pdif 01 39 38.7 +4.7
IDI Anoyia 103.23 57 Pdiff Pdif 01 39 35.4 +1.2
comp=Z,15nm,0.9s,baz=24,slow=19,SNR=5.2
IDI pPdiff 01 41 43.6
comp=Z,19nm,0.9s,baz=303,slow=4.5,SNR=3.1
IDI PP PP 01 43 56.9 -1.4
comp=Z,34nm,0.7s,baz=174,slow=17,SNR=3.5
IDI Sdiff SKSac 01 49 24.6 +6.9
comp=Z,20nm,0.9s,baz=71,slow=22,SNR=25
SKO Skopje 103.33 50 eP Pdif 01 39 43.0 +8.4
SKO i PP PP 01 44 00.9 +1.8
SKO i SKS 01 49 22.2
HYA Hoyanger 103.34 28 eP Pdif 01 39 40.9 +6.3
UPC Upice 103.35 40 ePDIF Pdif 01 39 35.3 +0.6
UPC epP 01 41 42.4
UPC ePP PP 01 43 53.4 -5.8
UPC eSKS 01 49 24.8
UPC ex x 01 55 52.5
UPC Upice 103.35 40 eP Pdif 01 39 35.3 +0.6
UPC e 01 49 24.8
KVR Kavouri 103.37 54 eP Pdif 01 39 43.0 +8.2
ATH Athens Observa 103.39 54 eP Pdif 01 39 39.1 +4.2
ATH Athens Observa 103.39 54 eP PP 01 44 01.9 +2.4
DPC Dobruska-Polom 103.47 40 ePDIF Pdif 01 39 35.2 0.0
DPC epP 01 41 44.0
DPC ePP PP 01 43 58.3 -1.8
DPC eSKS 01 49 26.1
DPC ePKKP PKKPbc 01 55 28.8 +3.0
DPC ex x 01 55 51.1
DPC Dobruska-Polom 103.47 40 eP Pdif 01 39 35.2 0.0
DPC e 01 43 58.3
DPC e 01 49 26.1
PTL Penteli 103.53 54 eP Pdif 01 39 42.0 +6.5
NEO Neokhori 103.55 53 eP Pdif 01 39 43.7 +8.1
NEO Neokhori 103.55 53 eP PKiKP 01 43 52.5 +2.2
GRUS Gruza 103.60 48 i P Pdif 01 39 43.4 +7.6
RGN Rugen 103.60 36 eSKS SKSac 01 49 27.2 +7.8
SKAG Skagway 103.62 330 eP Pdif 01 39 38.6 +2.7
comp=Z,90nm,1.5s
SKAG LR LR
comp=Z,3μm,22.0s
COP Copenhagen 103.64 34 i P Pdif 01 39 47.4 +11
comp=Z,42nm,1.0s
COP i 01 42 48.2
COP i S SKSac 01 49 28.9 +9.3
COP i 01 53 27.1
COP i 01 58 07.1
COP Copenhagen 103.64 34 i P Pdif 01 39 47.4 +11
COP i 01 53 27.1
COP i 01 58 07.1
COP pmax pmax
comp=Z,42nm,1.0s
KSP Ksiaz 103.66 40 ePdiff Pdif 01 39 40.6 +4.6
KSP Ksiaz 103.66 40 ePP PP 01 44 00.3 -1.1
KSP Ksiaz 103.66 40 eP PKiKP 01 44 00.5 +10
KSP epP 01 44 06.5
KSP eSKS 01 49 27.7
KSP eSS SS 01 58 08.8 +4.3
KSP Ksiaz 103.66 40 ePdif Pdif 01 39 36.2 +0.2
KSP e 01 39 40.2
KSP ePP PP 01 44 00.0 -1.4
KSP eSKS 01 49 24.5
KSP eSP SP 01 52 20.0 +3.7
STIP Stip 103.74 50 eP Pdif 01 39 40.9 +4.5
STIP i PP PP 01 44 04.2 +2.1
STIP i SKS 01 49 24.5
STIP i PS PS 01 52 50.3 -39
NPS Neapolis 103.77 57 eP Pdif 01 39 39.4 +2.9
NPS Neapolis 103.77 57 eP PP 01 44 04.5 +2.3
BEO Belgrade 103.79 47 i P Pdif 01 39 40.8 +4.2
BARS Barje 103.93 49 i P Pdif 01 39 44.2 +6.9
BUD Budapest 103.93 44⇓ e Pdif 01 39 41.9 +4.7
MORC Moravsky Berou 103.95 41⇓ iP Pdif 01 39 37.8 +0.5
MORC Moravsky Berou 103.95 41⇓ P Pdif 01 39 37.8 +0.5
MORC P 01 39 41.9
KONO Kongsberg 104.09 30 ePP PP 01 44 07.6 +3.0
KONO eSKS 01 49 22.8
KONO eSS SS 01 58 11.6 +1.2
SVIS Svilajnac 104.09 47 i P Pdif 01 39 41.8 +3.8
PLG Polygyros 104.11 52 eP Pdif 01 39 45.9 +7.8
PLG Polygyros 104.11 52 eP PP 01 44 06.0 +1.2
VYHS Vyhne 104.21 43 PDIF Pdif 01 39 41.8 +3.3
VYHS pPDIF 01 41 46.9
VYHS Vyhne 104.21 43 ePKP PKiKP 01 43 52.7 +1.2
VYHS ePP PP 01 44 04.9 -0.6
VYHS e 01 49 28.4
VYHS e 01 55 49.3
VYHS e 01 59 40.3
VYHS Vyhne 104.21 43 eP Pdif 01 39 41.8 +3.3
VYHS e 01 44 04.9
VYHS e 01 49 28.4
VYHS pmax pmax
comp=Z,36nm,1.6s
VYHS Vyhne 104.21 43 eP Pdif 01 39 41.8 +3.3
comp=Z,36nm,1.6s
VYHS e 01 41 46.9
VYHS e 01 43 52.7
VYHS e 01 44 04.9
VYHS e 01 49 28.4
VYHS e 01 55 49.3
VYHS e 01 59 40.3
OKC Ostrava-Krasne 104.33 41 ePDIF Pdif 01 39 43.3 +4.3
OKC epP 01 41 47.7
OKC ePP PP 01 43 58.5 -7.9
OKC eSKS 01 49 30.3
OKC ePKKP PKKPbc 01 55 25.9 +2.7

OKC ex x 01 55 48.0
OKC Ostrava-Krasne 104.33 41 eP Pdif 01 39 43.3 +4.3
OKC e 01 49 30.3
APE Apeiranthos 104.38 56 eP Pdif 01 39 43.7 +4.4
APE Apeiranthos 104.38 56 eP PP 01 44 04.9 -1.9
APE Apeiranthos 104.38 56 ⇓i P Pdif 01 39 42.9 +3.6
APE Apeiranthos 104.38 56 ⇓P Pdif 01 39 42.9 +3.6
KKB Krupnik 104.42 50 i P Pdif 01 39 45.0 +5.5
RAC Raciborz 104.46 41 eP Pdif 01 39 39.5 -0.1
RAC e 01 44 04.5
FURI Furi 104.57 87 eP Pdif 01 39 45.7 +5.6
FURI S PP 01 44 11.5 +3.4
PSZ Piszkesteto 104.64 44 ⇓i P Pdif 01 39 52.2 +12
PSZ Piszkesteto 104.64 44 eP Pdif 01 39 43.6 +3.2
PSZ pmax pmax
comp=Z,83nm,2.0s
PSZ Piszkesteto 104.64 44 ePdif Pdif 01 39 43.5 +3.1
comp=Z,83nm,2.0s
PSZ ePKiKP PKiKP 01 43 56.4 +4.1
PSZ ePKKP PKKPbc 01 55 45.5 +23
PSZ Piszkesteto 104.64 44 e Pdif 01 39 44.5 +4.1
BSD Bornholm Skovb 104.68 36 i P Pdif 01 39 44.2 +3.6
comp=Z,39nm,1.1s
BSD e 01 41 50.1
BSD i 01 44 11.7
BSD i S SKSac 01 49 33.4 +9.2
BSD i 01 53 08.7
BSD
comp=Z,3µm,23.0s
BSD Bornholm Skovb 104.68 36 i P Pdif 01 39 44.2 +3.6
BSD i 01 44 11.7
BSD pmax pmax
comp=Z,39nm,1.1s
BSD MLR MLR
comp=Z,3µm,23.0s
BSD Bornholm Skovb 104.68 36 i P Pdif 01 39 44.2 +3.6
comp=Z,39nm,1.1s
BSD e 01 41 50.1
BSD i 01 44 11.7
BSD i S SKSac 01 49 33.4 +9.2
BSD i 01 53 08.7
MMB Musomiste 104.77 51 i P Pdif 01 39 45.7 +4.7
NVR Nevrokopi 104.77 51 eP PP 01 44 08.5 -1.1
VTS Vitosha 104.78 50 ⇑i P Pdif 01 39 49.2 +8.2
VTS Vitosha 104.78 50 ⇓i P 01 55 47.1
VTS Vitosha 104.78 50 i P Pdif 01 39 48.0 +7.0
BZS Buzias 104.86 46 ⇓i P Pdif 01 39 44.6 +3.2
BZS Buzias 104.86 46 ⇓P Pdif 01 39 44.6 +3.2
KAP Karpathos 105.06 58 eP Pdif 01 39 40.9 -1.4
KAP Karpathos 105.06 58 eP PP 01 44 11.3 -0.4
LIA Limnos Island 105.17 53 eP PP 01 44 04.9 -7.6
NAO01 NORSAR Array S 105.21 29 ePdif Pdif 01 39 47.8 +4.9
comp=Z,8.7nm,0.6s
KECS Kecovo 105.22 43 PDIF Pdif 01 39 44.5 +1.5
KECS ePP 01 46 11.5
KECS e SKSac 01 49 32.3 +5.7
KECS e SKKSac 01 50 21.3 +5.1
KECS e 01 55 44.8
KECS e 01 59 34.8
KECS Kecovo 105.22 43 eP Pdif 01 39 44.5 +1.5
KECS e 01 49 32.3
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 105.22 43 eP Pdif 01 39 44.5 +1.5
comp=Z,5.2nm,0.8s
KECS e 01 46 11.5
KECS e 01 49 32.3
KECS e 01 50 21.3
KECS e 01 55 44.8
KECS e 01 59 34.8
NB2 NORSAR Subarra105.44 29 P Pdif 01 39 47.2 +3.2
comp=Z,98nm,1.7s,baz=248,slow=4.6
NOA NORSAR Array B 105.44 29 Pdiff Pdif 01 39 45.5 +1.6
comp=Z,1.1nm,0.6s,baz=41,slow=24,SNR=4.0
NOA pPdiff 01 41 50.3
comp=Z,7.8nm,1.2s,baz=47,slow=3.3,SNR=2.7
NOA PKiKP PKiKP 01 43 55.2 +1.4
comp=Z,9.6nm,1.0s,baz=236,slow=1.6,SNR=3.7
NOA PP PP 01 44 10.0 -4.5
comp=Z,7.0nm,0.9s,baz=248,slow=1.9,SNR=5.6
NOA PKKPbc PKKPbc 01 55 24.7 +4.8
comp=Z,1.2nm,0.4s,baz=260,slow=2.8,SNR=3.9
NOA PKKP PKKPbc 01 55 37.9 +18
comp=Z,17nm,0.7s,baz=65,slow=4.5,SNR=14
NOA SKKPbc 01 58 14.6
comp=Z,1.2nm,0.6s,baz=261,slow=2.7,SNR=3.2
NOA PKPPKP 02 03 46.9
comp=Z,5.4nm,1.0s,baz=261,slow=3.1,SNR=3.8
NOA tx tx 02 06 18.4
comp=Z,2.4nm,0.9s,baz=349,slow=1.0,SNR=3.6
NOA NORSAR Array B 105.44 29 P Pdif 01 39 45.5 +1.5
NOA 01 44 10.0
NOA NORSAR Array B 105.44 29 Pdif Pdif 01 39 45.5 +1.6
NOA PKPdf PKiKP 01 43 55.2 +1.4
NOA PP PP 01 44 10.0 -4.4
NOA PKKPbc PKKPbc 01 55 24.7 +4.8
NOA PKKP PKKPbc 01 55 37.9 +18
NOA SKKPbc 01 58 14.6
NOA PPP 02 03 46.9
OJC Ojcow 105.46 41 ePdiff Pdif 01 39 48.5 +4.4
OJC ePP PP 01 44 14.5 -0.1
OJC eSKSac SKSac 01 49 32.7 +5.0
OJC eSS SS 01 58 42.2 +13
OJC L 02 24 32.2
comp=Z,16nm,21.1s
NIE Niedzica 105.47 42 ePdiff Pdif 01 39 49.8 +5.7
GZR Gura Zlata 105.53 47 ⇓i P Pdif 01 39 50.7 +6.3
GZR Gura Zlata 105.53 47 ⇓P Pdif 01 39 50.7 +6.4
SMG Samos 105.58 55 eP PKiKP 01 43 56.1 +2.0
BODT Bodrum 105.71 56 eP PP 01 44 07.1 -9.3
PRK Paraskevi 105.72 54 eP Pdif 01 39 54.2 +9.0
PRK Paraskevi 105.72 54 eP PP 01 44 06.8 -10
DAT Datca 105.79 57 eP PKiKP 01 44 02.3 +7.9
RDO Rodhopi 105.88 52 eP Pdif 01 39 36.4 -10
RDO Rodhopi 105.88 52 eP PKiKP 01 44 00.8 +6.2
EZN Ezine 105.97 53 eP PP 01 44 11.4 -6.9
KDZ Kurdzhali 105.97 51 i P Pdif 01 39 49.0 +2.7
CRVS Cervenica-Dubn 105.98 43 PDIF Pdif 01 39 52.0 +5.6
CRVS pPDIF 01 41 56.6
CRVS e 01 43 05.6
CRVS Cervenica-Dubn 105.98 43 ePKP PKiKP 01 44 02.4 +7.6
CRVS e 01 55 42.0
CRVS e 01 57 47.3
CRVS e 01 59 24.2
CRVS Cervenica-Dubn 105.98 43 eP Pdif 01 39 52.0 +5.6
CRVS e 01 41 56.6
CRVS e 01 43 05.6
CRVS e 01 44 02.4
CRVS e 01 55 42.0
CRVS e 01 57 47.4
CRVS e 01 59 24.2
DRGR 106.00 45 ⇑i P Pdif 01 39 55.8 +9.4
DRGR 106.00 45 ⇓i P PKKPab 01 55 40.7 +3.5
DRGR 106.00 45 P Pdif 01 39 51.9 +5.5
DRGR 106.00 45 ⇑P Pdif 01 39 55.9 +9.4
ARG Arkhangelos 106.02 57 eP Pdif 01 39 51.2 +4.7
ARG Arkhangelos 106.02 57 eP PP 01 44 12.4 -6.2
STHS Stebnicka Huta 106.03 43 PDIF Pdif 01 39 51.7 +5.1
STHS e 01 43 21.4
STHS Stebnicka Huta 106.03 43 ePKP PKiKP 01 44 00.2 +5.3
STHS ePP PP 01 44 26.3 +7.6
STHS e 01 55 41.3
STHS Stebnicka Huta 106.03 43 eP Pdif 01 39 51.7 +5.1
STHS e 01 44 26.3
STHS pmax pmax
comp=Z,6.0nm,1.2s
STHS Stebnicka Huta 106.03 43 eP Pdif 01 39 51.7 +5.1
comp=Z,5.9nm,1.2s
STHS e 01 43 21.4
STHS e 01 44 00.2
STHS e 01 44 26.3
STHS e 01 55 41.3
MLSB Milas 106.14 56 eP PP 01 44 10.9 -8.6
IZM Izmir 106.14 55 eP PP 01 44 09.0 -11
HFS Hagfors 106.16 31 Pdiff Pdif 01 39 48.9 +1.8
comp=Z,6.2nm,0.7s,baz=197,slow=7.5,SNR=22
HFS PKiKP PKiKP 01 43 57.7 +2.6
comp=Z,12nm,0.7s,baz=210,slow=2.3,SNR=6.4
HFS PP PP 01 44 15.2 -4.4
comp=Z,61nm,1.0s,baz=190,slow=4.2,SNR=5.5
HFS PKKPbc PKKPbc 01 55 20.6 +2.9
comp=Z,5.6nm,0.7s,baz=95,slow=3.4,SNR=7.9
HFS PKKP PKKPbc 01 55 36.7 +19
comp=Z,15nm,0.4s,baz=66,slow=3.7,SNR=18
HFS Hagfors 106.16 31 P Pdif 01 39 48.9 +1.7
HFS 01 44 15.2
DAG Danmarks Havn 106.23 10 i P Pdif 01 39 50.0 +2.5
DAG Danmarks Havn 106.23 10 eP Pdif 01 39 50.0 +2.5
UZH Uzhgorod 106.39 44 eP Pdif 01 39 51.2 +3.0
UZH i 01 49 33.0
UZH e 01 52 49.0
YER Yerkesik 106.46 56 eP PP 01 44 18.1 -3.7
KOLS Kolonicke sedl 106.49 43 PDIF Pdif 01 39 57.6 +9.0
KOLS Kolonicke sedl 106.49 43 ePKP PKiKP 01 44 05.6 +10
KOLS ePP PP 01 44 19.6 -2.4
KOLS ePP PKKPbc 01 55 21.1 +4.3
KOLS e 01 59 20.9
KOLS Kolonicke sedl 106.49 43 eP Pdif 01 39 57.6 +9.0
KOLS e 01 44 19.6
KOLS Kolonicke sedl 106.49 43 eP Pdif 01 39 57.6 +9.0
KOLS e 01 44 05.6
KOLS e 01 44 19.6
KOLS e 01 55 21.1
KOLS e 01 59 20.9
CANB Canakkale 106.56 53 eP PP 01 44 20.4 -2.1
CANB Canakkale 106.56 53 i P PP 01 44 21.3 -1.3
DALT Dalyan (Mudla) 106.60 57 eP PKiKP 01 44 03.3 +7.3
FETY Fethiye 106.89 57 eP PKiKP 01 43 60.0 +3.5
WAR Warsaw 106.92 40 eP PP 01 44 25.9 +0.8
WAR epP 01 44 30.8
EDRB Edirne 106.97 51 eP PP 01 44 11.9 -14
MFT Murefte 106.99 53 eP PP 01 44 13.3 -12
KWP Kalwaria 107.00 43 eP PP 01 44 24.2 -1.5
KWP epP 01 44 31.4
KWP Kalwaria 107.00 43 P Pdif 01 39 55.6 +4.7
KWP e*PP 01 44 31.4
KWP pmax pmax
comp=Z,32nm,1.1s
KWP Kalwaria 107.00 43 Pdif Pdif 01 39 55.6 +4.7
comp=Z,32nm,1.1s
KWP ePKiKP PKiKP 01 43 56.2 -0.5
KWP epP 01 44 31.4
KWP ePKKP PKKPbc 01 55 36.1 +21
JMB Yambol 107.07 51 i P Pdif 01 39 56.0 +4.8
INK Inuvik 107.10 339 Pdiff Pdif 01 39 52.4 +1.1
comp=Z,44nm,1.1s,baz=111,slow=4.3,SNR=18
INK PKiKP PKiKP 01 43 57.2 +0.3
comp=Z,7.3nm,0.5s,baz=78,slow=3.9,SNR=9.3
INK PP PP 01 44 24.5 -1.9
comp=Z,52nm,1.1s,baz=137,slow=11,SNR=3.6
INK PKKPbc PKKPbc 01 55 16.8 +1.9
comp=Z,23nm,0.6s,baz=338,slow=2.8,SNR=16
INK Inuvik 107.10 339 ePdif Pdif 01 39 51.9 +0.6
comp=Z,25nm,1.4s
INK PKPdf PKiKP 01 43 57.2 +0.3
INK ePKiKP PKiKP 01 44 02.4 +5.5
INK PP PP 01 44 24.5 -1.9
INK ePP PP 01 44 25.6 -0.8
INK PKKPbc PKKPbc 01 55 16.8 +1.9
MRMT Marmara Adasi 107.15 53 eP PP 01 44 18.1 -8.7
BTOK Tokmak 107.18 54 i P PP 01 44 22.7 -4.3
DENT Denizli 107.23 56 eP PKiKP 01 44 03.3 +6.2
NSS Namsos 107.25 26 e Pdif 01 39 55.0 +3.0
NSS ePP PP 01 44 27.6 +0.1
NSS eSKS SKSac 01 49 36.0 +0.6
NSS eSS SS 01 58 52.3 -0.5
NSS Namsos 107.25 26 eP Pdif 01 39 55.0 +3.0
NSS ePP PP 01 44 27.6 +0.1
DAWY Dawson 107.39 333 ePdif Pdif 01 39 53.7 +1.1
GOLH Golhisar 107.45 57 i P PKiKP 01 44 02.5 +5.0
ELL Elmali 107.55 57 eP PKiKP 01 43 51.4 -6.3
MLR Muntele Rosu 107.65 48 Pdiff Pdif 01 39 56.7 +2.9
comp=Z,2.4nm,0.6s,baz=120,slow=20,SNR=2.5
MLR PKiKP PKiKP 01 43 58.7 +0.8
comp=Z,39nm,1.0s,baz=230,slow=4.8,SNR=3.6
MLR PP PP 01 44 25.6 -4.8
comp=Z,106nm,1.2s,baz=25,slow=7.7,SNR=4.6
MLR PKKP PKKPbc 01 55 33.4 +20
comp=Z,16nm,1.0s,baz=112,slow=3.3,SNR=3.8
MLR Muntele Rosu 107.65 48 ⇓i P Pdif 01 40 01.1 +7.3
MLR Muntele Rosu 107.65 48 P Pdif 01 39 56.7 +2.9
MLR 01 44 25.6
MLR Muntele Rosu 107.65 48 Pdif Pdif 01 39 56.7 +2.9
MLR ⇓P 01 40 01.1
MLR PKPdf PKiKP 01 43 58.7 +0.8
MLR PP PP 01 44 25.6 -4.8
MLR PKKP PKKPbc 01 55 33.4 +20
LVV L'vov 107.87 43 eP Pdif 01 39 53.4 -1.4
LVV e 01 44 29.2
LVV e 01 49 44.9
BURAR Bucovina Array 107.88 45 ⇑i P Pdif 01 40 01.4 +6.6
BURAR Bucovina Array 107.88 45 ⇑i P PKKPab 01 55 29.5 +0.7
BURAR Bucovina Array 107.88 45 ⇑P Pdif 01 40 01.4 +6.6
GDZ Gediz 108.01 55 i P PP 01 44 29.5 -3.4
ANTB Antalya 108.16 57 eP PP 01 44 27.6 -6.5
GEMT Gemlik 108.24 53 eP PP 01 44 15.7 -19
TKTP Tekketepe 108.29 56 i P PKiKP 01 44 04.4 +5.3
VRI Vrincioaia 108.29 47 ⇓i P Pdif 01 40 02.1 +5.4
VRI Vrincioaia 108.29 47 ⇑i P PKKPab 01 55 30.1 +3.1
VRI Vrincioaia 108.29 47 ⇓P Pdif 01 40 02.1 +5.4
ISP Isparta 108.36 56 eP PP 01 44 15.7 -20
EGAK Eagle 108.38 334 ePdif Pdif 01 39 58.1 +1.0
comp=Z,6µm,0.9s
EGAK ePKiKP PKiKP 01 43 51.3 -8.0
KLYT Kilyos 108.40 53 eP PP 01 44 25.2 -11
YLV Yalova 108.41 53 eP PP 01 44 15.2 -21
SHUT Suhut-Afyon 108.63 56 eP PP 01 44 24.7 -13
ADVT Abdulvahap 108.64 54 eP PP 01 44 16.1 -21
SUW Suwalki 108.74 38 eP PP 01 44 34.6 -3.6
SUW epP 01 44 43.1
SUW ePP 01 46 50.0
SUW Suwalki 108.74 38 eP Pdif 01 40 00.1 +1.4
SUW pmax pmax
comp=Z,208nm,0.9s
SUW Suwalki 108.74 38 ePdif Pdif 01 40 00.1 +1.5
comp=Z,208nm,0.9s
SUW ePKiKP PKiKP 01 44 04.1 +4.2
MOR8 Moi Rana 108.85 25 e Pdif 01 40 10.6 +11
MOR8 AMb AMB 01 40 18.8
comp=Z,47nm,1.9s
TIRR Tirgusor 108.98 49 ePKiKP PKiKP 01 44 01.1 +0.7
TIRR ePP PP 01 44 39.9 0.0
CFR Carcaliu 109.02 48 ⇑i P Pdif 01 40 02.1 +2.2
CFR Carcaliu 109.02 48 ⇓i P PKKPab 01 55 27.1 +3.3
CFR Carcaliu 109.02 48 ⇑P Pdif 01 40 02.1 +2.3
DIV Divide 109.05 329 ePdif Pdif 01 40 00.2 +0.2
comp=Z,29nm,1.0s
DIV ePKiKP PKiKP 01 44 00.7 +0.1
EIL Elat 109.15 66 ePdif Pdif 01 40 03.4 +2.9
EIL ePKiKP PKiKP 01 43 51.0 -10
EIL ePKKPab PKKPab 01 55 26.6 +3.4
ESKT Eskisehir 109.16 55 eP PKiKP 01 44 01.9 +1.1
ESKT Eskisehir 109.16 55 i P PKiKP 01 44 01.3 +0.6
ATD Arta Tunnel 109.39 86 PKKPbc PKKPbc 01 55 11.7 +3.8
comp=Z,13nm,0.9s,baz=246,slow=9.9,SNR=3.5
ATD PKKP PKKPbc 01 55 27.1 +19
comp=Z,41nm,1.1s,baz=60,slow=2.0,SNR=7.9
CSS Prodhromos 109.59 60 eP PKiKP 01 44 05.2 +3.6
CSS Prodhromos 109.59 60 ePdif Pdif 01 40 05.6 +3.2
CSS ePKiKP PKiKP 01 44 02.2 +0.7
CSS ePP PP 01 44 48.3 +4.1
KONT Konya--Tatoy 109.78 57 eP PKiKP 01 44 05.7 +3.7
KIS Kishinev 110.02 47 eP Pdif 01 40 06.0 +1.7
KIS ePPP 01 47 12.0
KIS i 01 49 49.0
KIS MLR MLR
comp=Z,3µm,18.0s
KIS MLR MLR
comp=Z,3µm,18.0s
KIS Kishinev 110.02 47 eP Pdif 01 40 06.0 +1.7
KIS epP 01 42 10.0
KIS Kishinev 110.02 47 ePKP PKiKP 01 44 06.0 +3.6
KIS Kishinev 110.02 47 ePP PP 01 44 42.0 -5.3
KIS epPKP 01 46 14.0
KIS Kishinev 110.02 47 ePPP 01 47 12.0
KIS i SKS SKSac 01 49 49.0 +1.9
KIS i SKKS SKKSac 01 50 48.0 -1.4
KIS eSS SS 01 59 16.0 -14
KIS LRM 02 34 24.0
comp=Z,3µm,18.0s
IKL Isikli 110.26 59 eP PKiKP 01 44 05.2 +2.4
SGKT Sivrigoynuk 110.36 54 i P PKiKP 01 44 06.5 +3.5
SML Sawmill 110.43 330 P Pdif 01 40 09.8 +3.7
SML Sawmill 110.43 330 ePdif Pdif 01 40 05.9 -0.2
SML ePKiKP PKiKP 01 44 06.6 +3.5
MMAI Mount Meron Ar 110.61 63 Pdiff Pdif 01 40 13.9 +6.9
comp=Z,1.4nm,0.6s,baz=220,slow=3.6,SNR=4.1
MMAI PKiKP PKiKP 01 44 08.3 +4.8
comp=Z,12nm,0.4s,baz=65,slow=1.7,SNR=18
MMAI PP PP 01 44 39.5 -12
comp=Z,34nm,0.9s,baz=270,slow=3.3,SNR=6.8
ANTO Ankara 110.69 55 ⇓i P PKKPab 01 55 20.7 +4.3
ANTO Ankara 110.69 55 ePdif Pdif 01 40 08.7 +1.4
ANTO ePKiKP PKiKP 01 44 08.6 +4.9
ANTO eSKPdf SKPdf 01 46 47.7 +3.4
SAFT Safranbolu 111.01 53 eP PKiKP 01 44 04.2 0.0
BHL Bhannes 111.08 62 eP PKiKP 01 44 09.6 +5.2
MERS Mersin 111.10 58 eP PKiKP 01 44 05.7 +1.3
COLA College 111.11 333 eP Pdif 01 40 10.0 +0.8
COLA i 01 44 07.1
COLA e 01 44 56.6
COLA College 111.11 333 ePdif Pdif 01 40 10.0 +0.9
COLA ePKiKP PKiKP 01 44 07.1 +2.6
COLA ePP PP 01 44 56.6 +1.6
COLA eSKPdf SKPdf 01 46 45.3 +0.2
KAMT Kaman 111.22 56 eP PKiKP 01 44 07.5 +2.8
MCK McKinley 111.24 332 ePKIKP PKiKP 01 44 05.4 +0.7
MCK e 01 44 55.8
MCK McKinley 111.24 332 ePKiKP PKiKP 01 44 05.4 +0.7
MCK ePP PP 01 44 55.8 -0.1
MCK eSKPdf SKPdf 01 46 47.4 +2.1
KIEV Kiev 111.30 43 ePKIKP PKiKP 01 44 03.7 -1.1
KIEV e 01 44 52.8
KIEV Kiev 111.30 43 ePKiKP PKiKP 01 44 03.7 -1.1
KIEV ePP PP 01 44 52.8 -3.5
KIEV eSKPdf SKPdf 01 46 47.3 +1.9
AKASG Malin Array Be 111.31 43 Pdiff Pdif 01 40 16.5 +6.4
comp=Z,1.9nm,0.6s,baz=260,slow=5.3,SNR=5.6
AKASG PKiKP PKiKP 01 44 05.9 +1.0
comp=Z,25nm,0.6s,baz=260,slow=2.8,SNR=17
AKASG PP PP 01 44 54.2 -2.2
comp=Z,23nm,0.8s,baz=258,slow=7.0,SNR=8.0
AKASG SKiKP 01 46 48.3
comp=Z,12nm,0.6s,baz=260,slow=2.7,SNR=6.9
AKASG PKKPbc PKKPbc 01 55 05.1 +3.5
comp=Z,2.9nm,0.4s,baz=62,slow=3.9,SNR=5.5
AKASG PKKP PKKPbc 01 55 21.6 +20
comp=Z,1.5nm,0.4s,baz=313,slow=9.5,SNR=5.5
AKASG SKKPbc 01 57 58.8
comp=Z,0.7nm,0.3s,baz=59,slow=3.3,SNR=5.0
AKASG Malin Array Be 111.31 43 P Pdif 01 40 16.5 +6.4
AKASG 01 44 05.9
AKASG 01 44 54.2
AKASG Malin Array Be 111.31 43 Pdif Pdif 01 40 16.5 +6.4
AKASG PKPdf PKiKP 01 44 05.9 +1.1
AKASG PP PP 01 44 54.2 -2.2
AKASG PKKPbc PKKPbc 01 55 05.1 +3.5
AKASG PKKP PKKPbc 01 55 21.6 +20
AKASG SKKPbc 01 57 58.8
AKBB Malin Array Si 111.31 43 ePKIKP PKiKP 01 44 03.2 -1.6
AKBB e 01 44 52.8
AKBB Malin Array Si 111.31 43 ePKiKP PKiKP 01 44 03.2 -1.6
AKBB ePP PP 01 44 52.8 -3.6
AKBB eSKPdf SKPdf 01 46 48.1 +2.6
ELDT Eldivan 111.33 54 i P PKiKP 01 44 08.3 +3.4
KDAK Kodiak Island 111.37 325 PKKPbc PKKPbc 01 55 06.0 +4.5
comp=Z,20nm,0.7s,baz=244,slow=2.2,SNR=10
CNB Canberra Magne 111.50 208 ePKP PKiKP 01 44 10.2 +5.0
comp=Z,15nm,1.1s
CNB e 01 44 54.4
CNB ePKKP PKKPbc 01 55 05.3 +4.2
CANT Cankiri 111.51 54 eP PKiKP 01 44 06.2 +1.0
ASF Jabal al Asfar 111.54 64 Pdiff Pdif 01 40 18.7 +7.6
comp=Z,1.4nm,0.8s,baz=122,slow=7.7,SNR=3.5
ASF PKiKP PKiKP 01 44 06.7 +1.5
comp=Z,11nm,0.8s,baz=268,slow=4.0,SNR=3.2
ASF PP PP 01 45 00.7 +2.7
comp=Z,95nm,1.2s,baz=152,slow=2.0,SNR=11
ASF SKiKP 01 46 51.6
comp=Z,21nm,1.2s,baz=338,slow=2.7,SNR=3.4
ASF PKKPbc PKKPbc 01 55 03.7 +2.8
comp=Z,3.9nm,0.8s,baz=246,slow=2.3,SNR=3.0
ASF PKKP PKKPbc 01 55 17.1 +16
comp=Z,29nm,1.0s,baz=343,slow=0.5,SNR=8.6
ASF Jabal al Asfar 111.54 64 P Pdif 01 40 18.7 +7.6
ASF 01 44 06.7
ASF 01 45 00.7
ASF Jabal al Asfar 111.54 64 Pdif Pdif 01 40 18.7 +7.6
ASF PKPdf PKiKP 01 44 06.7 +1.5
ASF PP PP 01 45 00.7 +2.7
ASF PKKPbc PKKPbc 01 55 03.7 +2.8
ASF PKKP PKKPbc 01 55 17.1 +16
BALT Daday 111.60 53 i P PKiKP 01 44 05.3 0.0
TRO Tromso 111.60 22 e Pdif 01 40 17.0 +5.7
TRO ePP PP 01 45 00.0 +1.6
TRO eSKS SKSac 01 49 52.8 -0.6
TRO eSS SS 01 59 51.0 +0.6
KARA Karaisali 111.62 58 eP PKiKP 01 44 06.2 +0.7
CDAG Cicekdag 111.78 56 i P PKiKP 01 43 58.9 -6.8
AVNT Avonos 111.91 57 i P PKiKP 01 44 09.3 +3.3
VSU Vasula 111.92 35 ⇑ePKIKP PKiKP 01 44 06.8 +0.8
TOS Tosya 111.92 54 eP PKiKP 01 44 04.2 -1.7
DZM Mont Dzumac 112.02 230 PKiKP PKiKP 01 44 09.1 +2.9
comp=Z,8.6nm,0.7s,baz=343,slow=4.1,SNR=6.5
DZM PP PP 01 45 01.3 -0.1
comp=Z,26nm,1.2s,baz=43,slow=20,SNR=5.8
DZM PKKP PKKPbc 01 55 15.1 +16
comp=Z,56nm,0.8s,baz=78,slow=7.3,SNR=11
CEYT Ceyhan 112.08 59 eP PKiKP 01 44 10.9 +4.6
HTY Hatay 112.12 60 eP PKiKP 01 44 07.6 +1.2
CORM Corum 112.13 55 eP PKiKP 01 44 06.6 +0.2
BZK Bozkurt 112.16 53 eP PKiKP 01 44 09.5 +3.0
KOZT Kozan 112.27 58 eP PKiKP 01 44 07.6 +0.9
FINES FINESS Array B 112.32 31 Pdiff Pdif 01 40 20.3 +5.7
comp=Z,0.6nm,0.3s,baz=209,slow=2.9,SNR=7.3
FINES PKiKP PKiKP 01 44 07.4 +0.7
comp=Z,11nm,0.8s,baz=96,slow=3.8,SNR=6.3
FINES PP PP 01 44 59.1 -4.4
comp=Z,14nm,0.8s,baz=241,slow=7.9,SNR=5.4
FINES PKKPbc PKKPbc 01 55 00.8 +2.4
comp=Z,4.3nm,0.4s,baz=45,slow=4.8,SNR=15
FINES SKKPbc 01 57 52.8
comp=Z,4.4nm,0.5s,baz=67,slow=3.6,SNR=5.0
FINES PKPPKP 02 03 32.7
comp=Z,3.5nm,0.9s,baz=100,slow=5.8,SNR=4.5
FINES tx tx 02 06 02.0
comp=Z,1.3nm,0.6s,baz=96,slow=3.8,SNR=5.5
FINES FINESS Array B 112.32 31 P Pdif 01 40 20.3 +5.7
FINES 01 44 07.4
FINES 01 44 59.1
FINES 01 55 00.8
FINES FINESS Array B 112.32 31 Pdif Pdif 01 40 20.3 +5.7
FINES PKPdf PKiKP 01 44 07.4 +0.7
FINES PP PP 01 44 59.1 -4.4
FINES PKKPbc PKKPbc 01 55 00.8 +2.4
FINES SKKPbc 01 57 52.8
FINES P'P' 02 03 32.7
COBT Iskenderun 112.33 59 i P PKiKP 01 44 00.1 -6.7
CTKT Corum 112.37 55 i P PKiKP 01 44 11.0 +4.2
YOZ Yozgat 112.49 56 eP PKiKP 01 44 08.4 +1.3
BYBT Boyabat 112.58 54 eP PKiKP 01 44 10.4 +3.2
BOYT Boyabat 112.67 54 i P PKiKP 01 44 09.9 +2.5
BNN Bunyan 112.67 57 eP PKiKP 01 44 05.2 -2.2
KBS Kingsbay 112.70 12 ePP PP 01 45 04.3 -1.9
KTK1 Kautokeino 112.92 23 e PKiKP 01 44 07.8 0.0
DIKM Dikmen 112.98 54 eP PKiKP 01 44 12.8 +4.8
BJO Bjornoya 113.00 17 ePP PP 01 45 00.6 -7.6
BJO eSKS SKSac 01 49 59.1 +0.1
SIM Simferopol' 113.02 50 eP Pdif 01 40 27.9 +10
SIM i PKiKP 01 44 10.2 +2.1
SIM i PP 01 45 18.7 +10
SIM i 01 49 58.0
SIM i PS SP 01 53 45.0 -1.2
KMRS Kahramanmaras 113.10 58 eP PKiKP 01 44 06.2 -2.1
GAZ Gaziantep 113.25 59 eP PKiKP 01 44 04.7 -3.8
MSEY Mahe Island 113.31 108 ePKiKP PKiKP 01 44 10.4 +1.8
MSEY ePP PP 01 45 12.6 +2.3
MSEY eSKPdf SKPdf 01 46 53.2 +3.9
SPB4 Spitsbergen Ar 113.31 13 ePKiKP PKiKP 01 44 04.1 -4.5
KVT Kavak 113.41 54 eP PKiKP 01 44 12.8 +4.0
IMA2 Indian Mountai 113.76 334 ePdif Pdif 01 40 26.1 +5.2
IMA2 ePKiKP PKiKP 01 44 10.9 +1.4
IMA2 eSKPdf SKPdf 01 46 54.0 +3.8
SVSK Karacayir 113.81 56 eP PKiKP 01 44 07.1 -2.5
ARCES ARCESS Array B 113.82 23 PKiKP PKiKP 01 44 08.4 -1.2
comp=Z,8.2nm,0.6s,baz=244,slow=4.0,SNR=20

ARCES PP PP 01 45 12.1 -1.8
comp=Z,9.8nm,0.8s,baz=249,slow=6.6,SNR=4.1
ARCES PKKPbc PKKPbc 01 54 53.3 -0.1
comp=Z,18nm,0.4s,baz=79,slow=3.0,SNR=46
ARCES SKKPbc 01 57 50.3
comp=Z,12nm,0.6s,baz=76,slow=3.8,SNR=7.4
ARCES ARCESS Array B 113.82 23 PKIKP PKiKP 01 44 08.4 -1.2
ARCES 01 45 12.1
ARCES 01 54 53.3
PUL Pulkovo 114.01 34⇑*i*PKIKP PKiKP 01 44 10.5 +0.5
ATAB Bozova 114.16 59 *i* P PKiKP 01 44 11.8 +1.6
KEV Kevo 114.38 22 *ep* PKiKP 01 44 09.2 -1.5
comp=Z,4.1nm,0.6s
KEV Kevo 114.38 22 *e*PKIKP PKiKP 01 44 09.2 -1.5
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 114.38 22 *e*P Pdif 01 40 31.1 +7.4
KEV *e*P 01 44 09.2
MALT Malatya 114.48 58 *e*P Pdif 01 40 24.8 +0.7
MALT *i* 01 44 11.7
MALT *e* 01 45 18.0
MALT Malatya 114.48 58 *e*Pdif Pdif 01 40 24.8 +0.7
MALT *e*PKiKP PKiKP 01 44 11.7 +0.8
MALT *e*PP PP 01 45 17.9 -0.6
MYA Malataya 114.48 58 *e*P PKiKP 01 44 13.8 +2.9
URFA Urfa 114.55 59 *e*P PKiKP 01 44 18.5 +7.5
ARMA Armidale 114.56 213 *e*PKP PKPdf 01 44 13.5 +2.5
ARMA *e*PP PP 01 45 18.5 -0.6
ARMA *e*SKP SKPdf 01 46 58.2 +6.5
ARMA *e*SKS SKSac 01 50 10.6 +5.7
ARMA *e*PKKP PKKPbc 01 54 43.2 -7.8
ELZG Elazig 114.95 58 *i* P PKPdf 01 44 12.9 +1.1
GRSN GIRESUNGRSN 115.00 55 *i* P PKPdf 01 44 15.7 +3.9
ANN Anapa 115.28 51 *i* PKIKP PKPdf 01 44 13.9 +1.5
ANN *e* 01 45 27.9
ANN *e* 01 50 10.7
ANN *e*SP SP 01 54 09.4 +2.7
ANN *i* 01 55 22.7
ANN pmax pmax
comp=Z,222nm,1.2s
PTK Pertek 115.35 57 *e*P PKPdf 01 44 12.3 -0.2
KELT Kelkit 115.55 56 *i* P PKPdf 01 44 13.3 +0.4
DIY Diyarbakir 115.75 59 *e*P PKPdf 01 44 14.7 +1.4
EZC Erzincan 115.87 57 *e*P PKPdf 01 44 12.3 -1.2
MARD Mardin 116.03 59 *i* P PKPdf 01 44 14.5 +0.6
MACK Trabzon 116.11 55 *i* P 01 44 03.5
KTUT Trabzon 116.12 55 *e*P PKPdf 01 44 10.4 -3.6
BINT Bingol 116.18 58 *e*P PKPdf 01 44 10.9 -3.2
APA Apatity 116.43 25⇑*e*PKIKP PKPdf 01 44 13.6 -1.0
APA *i* 01 45 33.0
APA *i* 01 50 17.0
APA *i* SS SS 02 01 10.0 +17
APA pmax pmax
comp=Z,65nm,1.0s
OBN Obninsk 116.57 39*c e*P Pdif 01 40 44.7 +11
OBN *i* 01 44 13.8
OBN *i* 01 45 33.8
OBN *i* 01 50 15.0
OBN *e* 01 54 26.0
OBN pmax pmax
comp=Z,66nm,1.2s
OBN Obninsk 116.57 39 *i* PKP PKPdf 01 44 13.8 -1.1
SOC Sochi 116.63 52 *e*P Pdif 01 40 44.1 +10
SOC *e* 01 44 18.2
SOC *e* 01 45 39.6
SOC *e* 01 50 15.0
SOC *e*PS PS 01 55 35.9 +10
SOC pmax pmax
comp=Z,162nm,0.8s
BNGL BINGOL 116.70 58 *i* P PKPdf 01 44 16.4 +1.2
BTMT Batman 116.79 59 *e*P PKPdf 01 44 16.3 +1.0
LVZ Lovozero 116.93 25⇓*i*PKIKP PKPdf 01 44 15.9 +0.3
LVZ Lovozero 116.93 25⇓*i*PKP PKPdf 01 44 15.0 -0.6
EZM Erzurum 117.07 57 *e*P PKPdf 01 44 14.7 -1.2
ERZM Erzurum 117.07 57 *i* P PKPdf 01 44 13.6 -2.3
MOS Moscow 117.25 39 *e*PKIKP PKPdf 01 44 19.3 +3.1
MOS *e* 01 45 37.3
MOS *i* 01 50 18.9
MOS *e* 01 54 20.0
MOS pmax pmax
comp=Z,181nm,0.8s
BCA Borcka 117.58 55 *e*P PKPdf 01 44 12.8 -4.0
VRSR Storozhevoye 117.59 44 *i* PKIKP PKPdf 01 44 16.1 -0.8
VRSR *e* 01 50 20.2
VRSR pmax pmax
comp=Z,90nm,1.0s
VRSR pmax pmax
comp=N,7.0nm,0.6s
VRSR pmax pmax
comp=E,30nm,0.7s
STKA Stephens Creek 117.59 204 *e*PKP PKPdf 01 44 18.1 +1.2
comp=E,29nm,1.0s
STKA *e* 01 45 41.1
STKA *e*pPKIKP 01 46 32.7
STKA *e*SKP SKPdf 01 46 00.0 +2.4
STKA *e*SKS SKSac 01 50 15.9 -0.2
STKA *e* 01 51 41.7
STKA *e*PKKP PKKPbc 01 54 37.0 -3.6
STKA Stephens Creek 117.59 204 PKP PKPdf 01 44 18.4 +1.6
comp=E,27nm,0.9s,baz=103,slow=2.2,SNR=15
STKA PP PP 01 45 39.3 -0.6
comp=E,7.0nm,0.7s,baz=164,slow=9.1,SNR=3.5
STKA PKKPbc PKKPbc 01 54 43.9 +3.3
comp=E,20nm,0.7s,baz=346,slow=4.6,SNR=9.8
STKA Stephens Creek 117.59 204 *e*PKPdf PKPdf 01 44 19.3 +2.4
STKA *e*PP PP 01 45 40.1 +0.2
STKA *e*SKPdf SKPdf 01 47 01.6 +4.1
MSL Mosul 117.59 61 *ex* x 01 40 58.0
MSL *ex* x 01 44 21.0
MSL *i* x x 01 45 43.0
MSL *ex* x 01 50 26.0
MSL *ex* x 01 51 46.0
VORD Divnogorie 117.61 44 *e*PKIKP PKPdf 01 44 14.4 -2.5
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
BHD Baghdad 117.90 65 *ex* x 01 40 39.0
BHD *ex* x 01 44 18.0
BHD *ex* x 01 45 41.0
BHD *ex* x 01 47 37.0
BHD *ex* x 01 50 18.0
BHD *ex* x 01 51 36.0
CUKT Cukurca 118.21 60 *e*P PKPdf 01 44 18.5 +0.5
TVAN Van 118.33 59 *i* P PKPdf 01 44 23.1 +4.8
HKR Hakkari 118.39 60 *e*P PKPdf 01 44 19.5 +1.1
KARS Kars 118.51 56 *e*P PKPdf 01 44 18.5 -0.1
KIV Kislovodsk 118.81 52 *e*P Pdif 01 40 41.2 -2.2
KIV *i* 01 44 18.4
KIV *e* 01 45 48.2
KIV *e*PPP 01 48 33.5
KIV *e* 01 50 32.7
KIV *e*SP SP 01 54 34.5 -3.9
KIV *e*PS PS 01 55 44.5 -0.7
KIV *e*SS SS 02 01 28.7 +5.3
KIV pmax pmax
comp=Z,219nm,1.1s
KIV Kislovodsk 118.81 52 *e*PKP PKPdf 01 44 18.4 -0.8
KIV *e*PKKP PKKPbc 01 54 39.5 +3.2
CLDR Caldiran 118.85 58 *e*P PKPdf 01 44 20.5 +1.2
VRHR Novokhopersk 119.09 44 *e*PKIKP PKPdf 01 44 19.3 -0.5
VRHR *e* 01 45 50.0
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR pmax pmax
comp=Z,30nm,0.5s
VRHR pmax pmax
comp=N,2.0nm,0.7s
RST Umm Al-Ruwaisa 119.11 69 *e*P PKPdf 01 44 20.0 +0.2
RST AMb AMB 01 44 30.3
comp=Z,317nm,0.5s
NAY Al-Naaiem 119.25 70 *e*P PKPdf 01 44 20.1 +0.1
NAY AMb AMB 01 44 29.4
comp=Z,55nm,0.5s
MIB Mutribah 119.48 69 *e*P PKPdf 01 44 21.0 +0.5
MIB AMb AMB 01 44 30.1
comp=Z,178nm,0.6s
GNI Garni 119.66 57 PKP PKPdf 01 44 21.6 +0.8
comp=Z,45nm,0.6s,baz=277,slow=3.8,SNR=12
GNI PP PP 01 45 55.1 +1.1
comp=Z,41nm,0.9s,baz=116,slow=12,SNR=6.9
GNI PKKPbc PKKPbc 01 54 37.8 +4.5
comp=Z,7.9nm,0.7s,baz=186,slow=14,SNR=4.0
GNI Garni 119.66 57*c i* PKIKP PKPdf 01 44 21.6 +0.8
GNI Garni 119.66 57 PP PP 01 45 55.1 +1.1
GNI PKKPbc PKKPbc 01 54 37.8 +4.5
GNI *e*PKKP PKKPbc 01 54 38.7 +5.4
UMR Umm Al-Rimmam 119.73 70 *e*P PKPdf 01 44 21.2 +0.2
UMR AMb AMB 01 44 27.2
comp=Z,273nm,0.8s
TBLG Delisi 119.93 55 PKIKP PKPdf 01 44 22.3 +0.9
PECR Pechory 120.91 38 *e*PKIKP PKPdf 01 44 22.0 -1.2
PECR *e* 01 46 02.0
PECR *i* 01 50 31.0
NWAO Narrogin (SRO) 121.24 181 PKKPbc PKKPbc 01 54 33.4 +5.9
comp=Z,28nm,0.9s,baz=2.4,slow=4.0,SNR=6.2
NWAO Narrogin (SRO) 121.24 181 *e*PKIKP PKPdf 01 44 25.6 +1.7
NWAO *e* 01 46 03.1
NWAO Narrogin (SRO) 121.24 181 *e*PKPdf PKPdf 01 44 25.6 +1.7
NWAO *e*PP PP 01 46 03.0 -1.5
NWAO *e*SKPdf SKPdf 01 47 07.5 +3.0
MAK Makhachkala 122.14 54 *e*P Pdif 01 41 05.4 +7.2
MAK *e* 01 46 16.6
MAK *i* PPP 01 49 00.0
MAK *i* 01 50 38.6
MAK *i* 01 55 15.7
MAK *e*SS SS 02 02 35.0 +30
MAK pmax pmax
comp=Z,498nm,1.4s
MUN Mundaring 122.19 179 *e*PKP PKPdf 01 44 23.9 -1.8
MUN *e*PP PP 01 46 11.2 +0.3
MUN *e*PKKP PKKPbc 01 54 25.1 +1.0
MUN Mundaring 122.19 179 *e*PKIKP PKPdf 01 44 23.9 -1.8
MUN *e* 01 46 11.2
FORT Forrest 122.35 192 *e*PKP PKPdf 01 44 21.7 -4.3
comp=Z,114nm,0.5s
FORT *e* 01 46 52.0
FORT *e* 01 49 37.3
FORT *e*PKKP PKKPbc 01 54 23.3 -0.1
KLBR Kellerberrin 122.56 181 *e*PKP PKPdf 01 44 27.0 +0.6
comp=Z,321nm,1.2s
KLBR *e*PP PP 01 46 13.1 -0.3
KLBR *e* 01 46 46.4
KLBR *e*PKKP PKKPbc 01 54 22.4 -0.2
DGAR Diego Garcia 125.61 122⇓*i*PKIKP PKPdf 01 44 32.2 0.0
DGAR *e* 01 46 34.1
DGAR Diego Garcia 125.61 122⇓*i*PKP PKPdf 01 44 32.2 0.0
DGAR *e*PKPdf PKPdf 01 44 33.1 +0.9
DGAR *e*PP PP 01 46 34.1 +0.7
DGAR *e*pPKPdf pPKPdf 01 46 47.7 +0.6
CTA Charters Tower 125.81 215 *e* PKPdf 01 44 36.7 +4.1
CTA *e*pPKP pPKPdf 01 46 36.6 -11
CTA *e*SKS SKSdf 01 50 41.7 -8.0
CTA *e*SKKS SKKSac 01 52 34.9 +1.8
CTA *e*PKKP PKKPbc 01 54 12.2 +2.1
CTA Charters Tower 125.81 215 PKP PKPdf 01 44 36.9 +4.3
comp=Z,124nm,1.0s,baz=220,slow=2.3,SNR=8.2
CTA PP PP 01 46 36.2 +1.4
comp=Z,29nm,1.1s,baz=147,slow=6.8,SNR=5.4
CTA PKKPbc PKKPbc 01 54 16.8 +6.7
comp=Z,15nm,0.8s,baz=343,slow=3.0,SNR=9.2
CTA Charters Tower 125.81 215 *e* PKPdf 01 44 36.7 +4.1
CTA PKP PKPdf 01 44 36.9 +4.3
CTA PP PP 01 46 36.2 +1.4
CTA *e*pPKP pPKPdf 01 46 36.6 -11
CTA *e*SKS SKSdf 01 51 41.7 -8.0
CTA *e*SKKS SKKSac 01 52 34.9 +1.8
CTA *e*PKKP PKKPbc 01 54 12.2 +2.1
CTA PKKPbc PKKPbc 01 54 16.8 +6.7
CTAO Charters Tower 125.81 215 *e*PKIKP PKPdf 01 44 36.9 +4.3
CTAO *e* 01 46 36.8
AMKA Amchitka 126.94 316 *e*PKPdf PKPdf 01 44 37.9 +3.1
AMKA *e*PP PP 01 46 39.4 -2.7
ORR Orenburg 127.32 44 *e*PKIKP PKPdf 01 44 33.5 -2.0
ORR *e* 01 46 43.8
ORR pmax pmax
comp=Z,270nm,1.0s
SOKR Solikamsk 127.36 34 PKIKP PKPdf 01 44 38.3 +2.7
SOKR *e* 01 46 44.1
SOKR pmax pmax
comp=Z,190nm,0.9s
WSAR Wadi Sarin 127.53 80 PKP PKPdf 01 44 35.9 -0.1
comp=Z,69nm,0.9s,baz=250,slow=3.3,SNR=23
WSAR PP PP 01 46 48.6 +2.7
comp=Z,326nm,1.3s,baz=277,slow=5.7,SNR=7.6
WSAR PKKPbc 01 54 05.9
comp=Z,52nm,1.1s,baz=89,slow=4.2,SNR=9.5
ASAR Alice Springs 127.75 200 PKP PKPdf 01 44 38.6 +2.3
comp=Z,162nm,0.9s,baz=145,slow=2.2,SNR=65
ASAR pPKP pPKPdf 01 46 49.4 -1.8
comp=Z,33nm,0.7s,baz=165,slow=1.4,SNR=5.9
ASAR PKKPbc 01 54 07.2
comp=Z,11nm,0.6s,baz=332,slow=3.2,SNR=15
ASAR SKKPbc 01 56 57.2
comp=Z,5.1nm,0.8s,baz=302,slow=2.7,SNR=3.6
ASAR SKKP 01 57 36.6
comp=Z,12nm,1.0s,baz=329,slow=4.3,SNR=4.2
ASAR Alice Springs 127.75 200 PKIKP PKPdf 01 44 38.6 +2.3
ASAR 01 46 49.4
ASAR S 01 56 57.2
ASAR S 01 57 36.6
BILL Bilibino 128.72 338⇑*i*PKIKP PKPdf 01 44 31.2 -7.0
BILL *e* 01 46 50.5
BILL *i* 01 50 59.9
BILL *e* 01 58 57.9
BILL *i* SS SS 02 03 26.6 -0.1
BILL pmax pmax
comp=Z,20nm,1.5s
BILL Bilibino 128.72 338 *i* PKP PKPdf 01 44 37.6 -0.6
ARU Arti 128.91 37 *e*PKIKP PKPdf 01 44 33.1 -5.4
ARU *e* 01 46 50.5
ARU Arti 128.91 37 *e*P PKPdf 01 44 33.1 -5.4
ARU ⇑*i*PKP PKPdf 01 44 38.8 +0.3
ARU *e*PKPdf PKPdf 01 44 39.3 +0.8
ARU *e*pPKPdf pPKPdf 01 46 50.5 -2.9
AKTK Aktyubinsk 129.48 45 PKP 01 44 30.4
AKTK PKP PKPdf 01 44 40.1 +0.5
AKTK *e*PKP pPKPdf 01 46 52.8 -1.7
AKTK SKPbc SKPbc 01 47 10.7 +3.0
AKTO Aktyubinsk 129.48 45 PKhKP 01 44 30.4
comp=Z,6.2nm,0.6s,baz=170,slow=5.1,SNR=6.4
AKTO PKP PKPdf 01 44 40.1 +0.5
comp=Z,28nm,0.8s,baz=320,slow=2.5,SNR=17
AKTO *e*PKP pPKPdf 01 46 52.8 -1.7
comp=Z,37nm,0.9s,baz=268,slow=9.8,SNR=2.1
AKTO SKPbc SKPbc 01 47 10.7 +3.0
comp=Z,82nm,0.9s,baz=261,slow=9.8,SNR=6.0
AKTO Aktyubinsk 129.48 45 PKIKP PKPdf 01 44 39.5 -0.1
AKTO pmax pmax
comp=Z,26nm,1.9s
SVE Sverdlovsk 129.95 37 *i* PKHKP 01 44 09.0
AB31 Akbulak array 130.84 46 PKHKP 01 44 26.8
AB31 pmax pmax
comp=Z,40nm,0.5s
WB2 Warramunga Arr 131.08 202 *e*PKP 01 44 25.1
WB2 *e* PKiKP 01 44 46.9 +3.2
WB2 *e*pPKP pPKPdf 01 46 58.5 +1.0
WB2 *e*SKP 01 47 15.7
WB2 *e*PKS 01 48 12.2
WB2 *e*SKS SKSdf 01 51 01.3 +2.0
WB2 *e*SKKS SKKSac 01 53 01.6 -4.2
WB2 *e* 01 57 12.3
WB2 Warramunga Arr 131.08 202 *e*PKP 01 44 25.1
WB2 *e* 01 44 30.7
WB2 *e*PKPdf PKPdf 01 44 45.1 +2.5
WB2 *e* 01 44 46.9
WB2 *e*pPKPdf pPKPdf 01 46 58.1 +0.5
WB2 *e*pPKP pPKPdf 01 46 58.5 +1.0
WB2 *e*SKP 01 47 15.7
WB2 *e*SKPbc SKPbc 01 47 16.4 +2.9
WB2 *e*PKS 01 48 12.2
WB2 *e*SKS SKSdf 01 51 01.3 +2.0
WB2 *e*SKKS SKKSac 01 53 01.6 -4.2
WB2 *e* 01 57 12.3
WRA Warramunga Arr 131.08 202 PKP PKPdf 01 44 44.9 +2.3
comp=Z,141nm,0.7s,baz=170,slow=1.5,SNR=65
WRA pPKP pPKPdf 01 46 57.3 -0.2
comp=Z,95nm,0.9s,baz=173,slow=1.6,SNR=10
WRA SKPbc SKPbc 01 47 15.1 +1.6
comp=Z,211nm,0.7s,baz=157,slow=4.1,SNR=17
WRA PKKPbc 01 53 50.9
comp=Z,2.9nm,0.7s,baz=322,slow=4.6,SNR=7.2
WRA SKKPbc 01 56 42.9
comp=Z,4.8nm,0.6s,baz=284,slow=4.0,SNR=5.8
WRA SKKP 01 57 26.7
comp=Z,17nm,0.9s,baz=328,slow=5.7,SNR=5.2
WRA Warramunga Arr 131.08 202 PKIKP PKPdf 01 44 44.9 +2.2
WRA SKPbc 01 47 15.1 +1.5
WRA S 01 57 26.7
WRAB Tennant Creek 131.09 202*c i* PKIKP PKPdf 01 44 44.1 +1.4
MBWA Marble Bar 132.87 184 *e*P PKPdf 01 44 39.2 -6.9
MBWA *e*PKPdf PKPdf 01 44 50.1 +4.1
MBWA *ep*PKPdf pPKPdf 01 47 03.4 +2.4
PMG Port Moresby 133.89 224 pPKP pPKPdf 01 47 02.4 -0.4
comp=Z,40nm,1.0s,baz=70,slow=4.3,SNR=2.1
PMG SKPbc SKPbc 01 47 25.0 +2.0
comp=Z,341nm,0.9s,baz=196,slow=2.3,SNR=9.7
PMG SKKPbc 01 56 35.8
comp=Z,4.8nm,0.5s,baz=336,slow=10.0,SNR=2.8
PMG Port Moresby 133.89 224 *e*P PKPdf 01 44 40.2 -7.8
PMG *e*PKPdf PKPdf 01 44 53.8 +5.9
PMG *ep*PKPdf pPKPdf 01 47 00.6 -2.2
PMG *e*PP PP 01 47 27.5 +1.1
TIXI Tiksi 133.97 355 *e*PKHKP 01 44 35.2
TIXI *e* 01 44 48.6
TIXI *e* 01 46 58.4
TIXI *e* 01 47 23.7
FITZ Fitzroy Crossi 135.16 192 *e*PKP 01 44 38.6
comp=Z,56nm,0.9s
FITZ *e* 01 44 55.6
FITZ *e*SKP 01 47 28.5
FITZ *e*PKS 01 48 25.5
FITZ *e* 01 50 38.8
FITZ *e*SKKS SKKSac 01 53 27.1 -3.3
FITZ Fitzroy Crossi 135.16 192 PKhKP 01 44 40.5
comp=Z,7.4nm,0.4s,baz=178,slow=1.2,SNR=14
FITZ PKP PKPdf 01 44 53.1 +2.8
comp=Z,46nm,0.3s,baz=286,slow=2.3,SNR=32
FITZ pPKP pPKPdf 01 47 04.7 -0.5
comp=Z,11nm,0.7s,baz=187,slow=6.8,SNR=1.5
FITZ SKPbc SKPbc 01 47 29.7 +2.6
comp=Z,224nm,0.5s,baz=194,slow=3.6,SNR=13
FITZ SKKPbc 01 56 39.6
comp=Z,17nm,1.0s,baz=29,slow=4.5,SNR=4.2
FITZ SKKP 01 57 08.1
comp=Z,14nm,1.0s,baz=353,slow=2.8,SNR=3.8
FITZ Fitzroy Crossi 135.16 192 *e*PKP 01 44 38.6
FITZ PKP PKPdf 01 44 53.1 +2.8
FITZ *e* 01 44 55.6
FITZ *e*pPKP pPKPdf 01 47 04.7 -0.5
FITZ *e*SKP 01 47 28.5
FITZ SKPbc SKPbc 01 47 29.7 +2.6
FITZ *e*PKS 01 48 25.5
FITZ *e* 01 50 38.8
FITZ *e*SKKS SKKSac 01 53 27.1 -3.3
FITZ SKKPbc 01 56 39.6
FITZ SKKP 01 57 08.1
ZRNK Zerenda 135.65 40 PKHKP 01 44 43.3
ZRNK pmax pmax
comp=Z,341nm,1.0s
ZRNK Zerenda 135.65 40 *e*PKPdf PKPdf 01 44 44.0 -7.2
ZRNK *ep*PKPdf pPKPdf 01 47 04.4 -1.7
ZRNK *e*SKPbc SKPbc 01 47 30.9 +2.4
CHKZ Chkalovo 136.32 38 PKIKP PKPdf 01 44 46.9 -5.6
CHKZ pmax pmax
comp=Z,307nm,1.1s
CHKZ Chkalovo 136.32 38 *ep*PKPdf pPKPdf 01 46 58.6 -8.8
CHKZ *e*SKPbc SKPbc 01 47 35.0 +4.4
BRVK Borovoye 136.35 39 *e*PKHKP 01 44 41.5
BRVK *e* 01 44 54.4
BRVK Borovoye 136.35 39 *e*P 01 44 41.5
BRVK ⇑*e*PKP PKPdf 01 44 54.4 +1.9
BRVK *e*PKPdf PKPdf 01 44 54.6 +2.1
BRVK *ep*PKPdf pPKPdf 01 47 09.4 +2.0
BRVK *e*SKPbc SKPbc 01 47 34.8 +4.1
BVA0 Borovoye Array 136.42 39 *i* PKHKP 01 44 43.9
BVA0 pmax pmax
comp=Z,264nm,1.7s
BVAR Borovoye Array 136.42 39 PKhKP 01 44 43.9
comp=Z,7.4nm,0.4s,baz=294,slow=2.2,SNR=26
BVAR PKP PKPdf 01 44 54.2 +1.6
comp=Z,60nm,0.6s,baz=222,slow=1.3,SNR=27
BVAR pPKP pPKPdf 01 47 05.5 -2.0
comp=Z,21nm,0.7s,baz=317,slow=4.7,SNR=3.2
BVAR SKPbc SKPbc 01 47 33.4 +2.5
comp=Z,53nm,0.6s,baz=294,slow=1.5,SNR=8.7
BVAR SKKPbc 01 56 33.2
comp=Z,26nm,0.6s,baz=123,slow=4.2,SNR=10
BVAR PKPPKP 02 02 54.7
comp=Z,7.0nm,0.9s,baz=101,slow=7.5,SNR=7.4
BVAR Borovoye Array 136.42 39 PKHKP 01 44 43.9
BVAR 01 44 54.2
BVAR 01 47 05.5
BVAR Borovoye Array 136.42 39 PKP 01 44 43.9
BVAR PKP PKPdf 01 44 54.2 +1.6
BVAR pPKP pPKPdf 01 47 05.5 -2.0
BVAR SKPbc SKPbc 01 47 33.4 +2.5
BVAR SKKPbc 01 56 33.2
BVAR P'P' 02 02 54.7
VOSK Vostochnaya 136.86 40 PKHKP 01 44 46.1
VOSK pmax pmax
comp=Z,216nm,1.0s
COCO West Island 137.26 151 *e*PKPdf PKPdf 01 44 57.2 +3.0
COCO *ep*PKPdf pPKPdf 01 47 08.8 -0.3
COCO *e*SKPbc SKPbc 01 47 37.2 +3.9
TRD Trivandrum 138.41 108 *e*P PKPdf 01 44 57.2 +0.9
TRD *ex* x 01 47 53.1
KAKA Kakadu 138.44 204 *e*P Pdif 01 42 21.9 +11
comp=Z,9.7nm,0.6s
KAKA Kakadu 138.44 204 *e*PKP PKPdf 01 44 46.5 -10
comp=Z,263nm,0.9s
KAKA *e*SKP 01 47 38.0
KAKA *e*SKKS SKKSac 01 53 47.9 -1.9
KAKA *e* 01 56 24.1
MNGI Mangalore 138.58 100 *i* P PKPdf 01 44 57.0 +0.4
MNGI *i* x x 01 47 14.1
MNGI AMS AMS 02 23 07.8
comp=Z,2μm,16.5s
PET Petropavlovsk 138.87 322 *e*PKIKP PKPdf 01 44 51.8 -5.3
PET *e* 01 48 03.2
PET *i* SS SS 02 05 25.1 -2.2
PET pmax pmax
comp=Z,2μm,4.8s
PET pmax pmax
comp=Z,182nm,1.1s
PET Petropavlovsk 138.87 322 *e*PKPdf PKPdf 01 44 54.6 -2.5
PET ⇑*i*PKP PKPdf 01 45 00.9 +3.8
PET *e*SKPdf SKPdf 01 47 39.7 +2.5
KKAR Karatay Array 138.95 54 PKHKP 01 44 49.5
KKAR pmax pmax
comp=Z,16nm,0.4s
BOM Bombay 138.97 91 *e*P PKPdf 01 45 00.0 +2.7
BOM *ex* x 01 47 14.2
BHV Bhavnagar 139.18 86 *e*P PKPdf 01 44 56.0 -1.7
JASL Jaisalmer 139.19 78 *ex* 01 44 47.2
JASL AMS AMS 01 54 36.1
comp=Z,138nm,0.4s
KAD Karad 139.68 94 *e*P PKPdf 01 44 58.0 -0.6
POO Poona 139.78 92⇑*i*x PKPdf 01 44 51.0 -7.8
POO *i* x x 01 45 03.0
POO *i* x x 02 02 44.0
PALK Pallekele 140.93 112 *e*PKPdf PKPdf 01 44 56.9 -3.9
PALK *ep*PKPdf pPKPdf 01 47 12.7 -3.2
PALK *e*SKPdf SKPdf 01 47 44.2 +3.4
SKR Severo-Kuril's 141.27 320 *e*PKIKP PKPdf 01 45 01.2 -0.3
SKR pmax pmax
comp=E,360nm,1.0s
SKR pmax pmax
comp=Z,490nm,1.0s
SKR pmax pmax
comp=Z,5μm,6.0s
EKS2 Erkin-Say 141.39 54 P PKPdf 01 44 57.0 -4.6
SNR=34
AML Almayashu 141.43 54 P PKPdf 01 44 57.4 -4.4
SNR=24
USP Ospenovka 141.79 53 P PKPdf 01 44 58.3 -4.1
SNR=41
AAK Ala-Archa 141.92 54 P PKPdf 01 44 59.3 -3.3
SNR=86
AAK Ala-Archa 141.92 54 *e*PKHKP 01 44 58.4
AAK *i* 01 45 04.6
AAK *e* 01 47 12.3
AAK Ala-Archa 141.92 54 *e*PKPdf PKPdf 01 44 58.4 -4.2
AAK ⇑*i*PKP PKPdf 01 45 04.6 +2.0
AAK *ep*PKPdf pPKPdf 01 47 12.3 -5.4
AAK *e*SKPdf SKPdf 01 47 48.3 +5.8

FRU	**Bishkek**	**141.97**	**53**	*i* PKHKP	PKPdf	01 44 59.0	-3.7		
FRU				*e*		02 06 50.0			
UCH	**Uchtor**	**142.01**	**54**	P	PKPdf	01 44 59.8	-3.0		
	SNR=110								
KURK	**Kurchatov**	**142.01**	**40**	*e*PKPdf	PKPdf	01 44 59.5	-3.3		
KURK			⇑	*i*PKP	PKPdf	01 45 05.2	+2.4		
KURK				*e*SKPdf	SKPdf	01 47 44.1	+1.5		
CHMS	**Chumysh**	**142.03**	**53**	P	PKPdf	01 44 59.6	-3.2		
	SNR=38								
LATR	**Latur**	**142.18**	**93**	*e*P	PKPdf	01 44 59.4	-3.7		
KBK	**Karagaybulak**	**142.24**	**53**	P	PKPdf	01 45 00.7	-2.4		
	SNR=84								
NVS	**Novosibirsk**	**142.31**	**31**	*e*PKIKP	PKPdf	01 45 00.6	-2.7		
NVS				pmax	pmax				
	comp=N,223nm,1.6s								
NVS				pmax	pmax				
	comp=E,458nm,1.6s								
AJM	**Ajmer**	**142.42**	**80**	*i* P	PKPdf	01 45 01.0	-2.5		
AJM				*e*P		01 45 03.2			
AJM				*i* x	x	01 47 53.0			
KZA	**Kyzart**	**142.58**	**54**	P	PKPdf	01 45 02.3	-1.5		
	SNR=69								
TKM2	**Tokmak 2**	**142.65**	**53**	P	PKPdf	01 45 01.7	-2.2		
	SNR=90								
YAK	**Yakutsk**	**143.09**	**350**	*e*PKIKP	PKPdf	01 45 02.2	-2.5		
YAK				*e*		01 48 23.2			
YAK				*i*		01 51 24.2			
YAK				*i* SS	SS	02 06 14.1	-1.7		
YAK				pmax	pmax				
	comp=Z,580nm,1.1s								
YAK				pmax	pmax				
	comp=N,136nm,1.6s								
YAK				pmax	pmax				
	comp=E,38nm,0.9s								
YAK				pmax	pmax				
	comp=E,144nm,4.1s								
YAK	**Yakutsk**	**143.09**	**350**	*e*PKPdf	PKPdf	01 45 02.4	-2.3		
YAK			⇑	*e*PKP	PKPdf	01 45 07.2	+2.5		
YAK				*ep*PKPdf	pPKPdf	01 47 27.1	+7.3		
YAK				*e*SKPdf	SKPdf	01 47 47.2	+2.7		
JMU	**Jammu**	**143.19**	**70**	*e*P	PKPdf	01 45 03.5	-1.4		
ULHL	**Ulahol**	**143.26**	**54**	P	PKPdf	01 45 04.4	-0.6		
	SNR=82								
MDRS	**Chennai**	**143.40**	**104**	*e*P	PKPdf	01 45 03.9	-1.3		
MDRS				*e*P		01 45 04.7			
KSH	**Kashi**	**143.58**	**58**	PKP	PKPdf	01 45 04.5	-1.0		
KSH				*e*PKS		01 48 39.6			
KSH				*e*SKS	SKSdf	01 51 25.1	+4.8		
ZAL	**Zalesovo**	**143.58**	**32**	PKP	PKPdf	01 45 04.2	-1.4		
	comp=E,257nm,0.3s,baz=171,slow=4.3,SNR=294								
ZAL				SKPbc	SKPbc	01 47 52.0	+2.3		
	comp=E,145nm,0.7s,baz=169,slow=3.6,SNR=5.6								
ZAL				SKKPbc		01 56 03.2			
	comp=E,18nm,1.0s,baz=341,slow=3.4,SNR=4.5								
HYB	**Hyderabad**	**143.63**	**96**	*i* PKP	PKPdf	01 45 05.5	-0.1		
	comp=E,1μm,0.8s								
HYB				*e*		01 47 21.0			
HYB				*e*SKP		01 47 44.0			
HYB				*ep*PKP	PP	01 48 26.0	+0.5		
HYB				*e*PP	PP	01 48 32.0	+6.5		
HYB				*e*		01 50 28.0			
HYB				*e*SKS	SKSdf	01 51 24.0	+3.6		
HYB				*e*PPP		01 51 44.0			
HYB				*e*		01 54 24.0			
HYB	**Hyderabad**	**143.63**	**96**	*e*P	PKPdf	01 45 05.5	-0.1		
HYB				*e*		01 56 05.5			
KHET	**Khetri**	**143.66**	**78**	*e*P	PKPdf	01 45 05.0	-0.7		
THN	**Thein Dam**	**143.87**	**70**	*e*P	PKPdf	01 45 05.0	-1.0		
THN				*ex*	x	01 54 22.7			
DLH	**Dalhousie**	**144.09**	**70**	*e*P	PKPdf	01 45 04.0	-2.4		
DLH				*ex*	x	01 45 19.0			
BHPL	**Bhopal**	**144.28**	**86**	*e*P	PKPdf	01 45 07.0	+0.2		
BHPL				AMS	AMS	01 52 14.2			
	comp=Z,1μm,13.4s								
KKR	**Kurukshetra**	**144.72**	**74**	*e*P	PKPdf	01 45 07.6	+0.1		
SONA	**Sohna**	**144.80**	**77**	*e*P	PKPdf	01 45 07.3	-0.4		
SONA				AMS	AMS	01 54 38.2			
	comp=Z,1μm,18.1s								
AYAN	**Aya Nagar**	**144.86**	**77**	*e*P	PKPdf	01 45 08.3	+0.5		
SDNR	**Sundarnagar**	**144.92**	**72**	*e*P	PKPdf	01 45 08.6	+0.8		
SDNR				*ex*	x	01 47 22.6			
NDI	**New Delhi**	**144.96**	**77**	*e*P	PKPdf	01 45 08.0	+0.1		
NDI				*e*P		01 45 08.8			
NDI				*ex*	x	01 48 00.0			
NDI				AMS	AMS	02 23 29.2			
	comp=Z,4μm,16.4s								
BISR	**Bishrakh**	**145.15**	**77**	*e*P	PKPdf	01 45 08.1	-0.1		
NGP	**Nagpur**	**145.23**	**90**	*e*P	PKPdf	01 45 09.5	+1.1		
NGP				*ex*	x	01 45 15.1			
	comp=Z,1μm,0.9s								
NGP				AMS	AMS	02 21 59.7			
	comp=Z,2μm,19.7s								
AGRA	**Agra**	**145.44**	**79**	*e*P	PKPdf	01 45 09.4	+0.7		
KRAR	**Krasnoyarsk**	**145.54**	**24**	⇑*i*PKP2	PKPab	01 45 12.4	+0.4		
DDI	**Dehra Dun**	**145.81**	**74**	*e*P	PKPdf	01 45 12.0	+2.6		
DDI				*ex*	x	01 47 26.0			
MK31	**Makanchi Array**	**145.89**	**44**	*e*PKIKP	PKPdf	01 45 10.7	+1.2		
MK31				*e*		01 45 15.3			
MK31				*e*		01 47 22.9			
MKAR	**Makanchi Array**	**145.89**	**44**	PKPbc	PKPbc	01 45 09.9	-1.5		
	comp=Z,205nm,0.5s,baz=295,slow=1.5,SNR=355								
MKAR				pPKPbc		01 47 21.6			
	comp=Z,441nm,0.9s,baz=296,slow=3.9,SNR=13								
MKAR				SKKPbc		01 55 50.5			
	comp=Z,33nm,0.9s,baz=101,slow=3.5,SNR=12								
MKAR	**Makanchi Array**	**145.89**	**44**	PKIKP	PKPdf	01 45 10.0	+0.5		
MKAR						01 47 21.6			
PTH	**Pithoragarh**	**147.64**	**76**	*ex*	PKPdf	01 45 17.2	+4.8		
PTH				*ex*	x	01 47 31.9			
LGTI	**Lohaghat**	**147.66**	**76**	*i* P	PKPdf	01 45 13.3	+0.9		
LGTI				*ex*	x	01 47 30.0			
BOD	**Bodaibo**	**148.31**	**3**	*e*PKHKP	PKPdf	01 45 12.7	-0.8		
BOD				pmax	pmax				
	comp=Z,828nm,0.8s								
ALBI	**Allahabad**	**148.60**	**84**	*e*P	PKPdf	01 45 12.5	-1.5		
ALBI				*ex*	x	01 45 25.0			
CLNS	**Chul'man**	**148.79**	**351**	*e*PKP2	PKPbc	01 45 20.4	+1.5		
CLNS				pmax	pmax				
	comp=N,247nm,1.3s								
CLNS				pmax	pmax				
	comp=E,202nm,1.3s								
CLNS				pmax	pmax				
	comp=Z,745nm,1.3s								
NRGR	**Nerungri**	**148.99**	**351**	*i* PKP2	PKPbc	01 45 20.0	+0.6		
YUK	**Yuzh-Kuril'sk**	**150.44**	**315**	⇑*i*PKIKP	PKPbc	01 45 26.2	+3.4		
YUK				*i*		01 47 30.0			
YUK				pmax	pmax				
	comp=Z,3μm,1.2s								
KOLN	**Koldanda**	**150.49**	**79**	*e*P	PKPdf	01 45 17.5	+0.6		
	comp=Z,1μm,0.7s								
WMQ	**Urumqi**	**150.63**	**46**	⇓PKP	PKPdf	01 45 17.7	+0.6		
WMQ				PKP2	PKPab	01 45 34.9	+2.1		
WMQ				APKP		01 47 27.9			
WMQ				XPKP		01 48 21.2			
WMQ				PKS		01 48 50.7			
WMQ				SKS	SKSdf	01 51 32.7	+2.5		
WMQ				PPP		01 52 41.2			
WMQ				SKKS	SKKSac	01 55 03.2	+4.5		
WMQ				PP	PP				
	comp=Z,7μm,5.7s								
YSS	**Yuzh-Sakhalins**	**150.76**	**322**	⇑*i*PKIKP	PKPdf	01 45 21.0	+3.7		
YSS				*e*		01 49 05.0			
YSS				pmax	pmax				
	comp=Z,980nm,0.8s								
YSS	**Yuzh-Sakhalins**	**150.76**	**322**	*e*PKPdf	PKPdf	01 45 21.4	+4.0		
YSS				*e*PKPbc	PKPbc	01 45 25.5	+1.9		
YSS				*ep*PKPdf	pPKPdf	01 47 39.0	+6.2		
YSS				*e*PP	PP	01 49 07.0	+0.3		
GUMO	**Guam**	**150.79**	**250**	PKP	PKPdf	01 45 20.0	+2.7		
	comp=Z,897nm,1.2s,baz=206,slow=2.8,SNR=7.3								
GUMO				PKPbc	PKPbc	01 45 26.6	+3.0		
	comp=Z,639nm,0.5s,baz=152,slow=2.7,SNR=27								
GUMO				pPKPbc	pPKPbc	01 47 35.6	-2.0		
	comp=Z,333nm,0.8s,baz=149,slow=4.2,SNR=3.8								
GUMO	**Guam**	**150.79**	**250**	PKIKP	PKPdf	01 45 20.1	+2.7		
GUMO				*e*		01 45 20.7			
GUMO	**Guam**	**150.79**	**250**	PKP	PKPdf	01 45 20.1	+2.7		
GUMO				*e*PKPdf	PKPdf	01 45 20.6	+3.3		
GUMO				PKPbc	PKPbc	01 45 26.6	+3.0		
GUMO				pPKPbc	pPKPbc	01 47 35.6	-2.0		
BWNR	**Bhubaneshwar**	**151.05**	**95**	*ex*	x	01 44 10.0			
BWNR				*ex*	x	01 46 22.0			
PSI	**Prapat**	**151.17**	**141**	PKP	PKPdf	01 45 20.3	+2.4		
	comp=Z,31nm,0.6s,baz=214,slow=6.8,SNR=14								
PSI				PKPbc	PKPbc	01 45 27.2	+2.7		
	comp=Z,281nm,0.7s,baz=206,slow=2.2,SNR=47								
PSI				pPKPbc	pPKPbc	01 47 37.2	-1.3		
	comp=Z,368nm,1.1s,baz=211,slow=8.4,SNR=13								
PSI	**Prapat**	**151.17**	**141**	PKIKP	PKPdf	01 45 20.3	+2.4		
PSI						01 45 27.2			
GKN	**Gorkha**	**151.43**	**79**	*e*P	PKPdf	01 45 19.1	+0.8		
	comp=Z,2μm,0.8s								
DMN	**Daman**	**151.81**	**80**	*e*P	PKPdf	01 45 19.9	+1.0		
	comp=Z,2μm,0.9s								
MOY	**Mondy**	**151.87**	**21**	*e*PKIKP	PKPdf	01 45 22.1	+3.1		
MOY				pmax	pmax				
	comp=Z,2μm,2.6s								
KKN	**Kakani**	**151.98**	**80**	*e*P	PKPdf	01 45 19.9	+0.7		
	comp=Z,2μm,0.8s								
BOK	**Bokaro**	**151.99**	**88**	*e*P	PKPdf	01 45 20.2	+1.1		
BOK				*i* x	x	01 47 40.8			
BOK				AMS	AMS	01 59 08.9			
	comp=Z,1μm,18.9s								
PKI	**Pulchoki**	**152.08**	**80**	*e*P	PKPdf	01 45 20.0	+0.7		
	comp=Z,2μm,0.9s								
IRK	**Irkutsk**	**152.31**	**17**	*e*PKIKP	PKPbc	01 45 26.6	-0.4		
IRK				pmax	pmax				
	comp=Z,486nm,1.7s								
ASAJ	**Asahikawa**	**152.44**	**317**	PKP	PKPdf	01 45 21.6	+1.7		
	comp=Z,152nm,1.1s,baz=265,slow=12,SNR=15								
ASAJ				PKPbc	PKPbc	01 45 29.3	+2.0		
	comp=Z,649nm,1.1s,baz=278,slow=4.7,SNR=26								
ASAJ				PKPab	PKPab	01 45 41.7	+1.1		
	comp=Z,925nm,1.2s,baz=63,slow=2.3,SNR=8.1								
ASAJ	**Asahikawa**	**152.44**	**317**	PKIKP	PKPdf	01 45 21.6	+1.8		
ASAJ						01 45 29.3			
ASAJ						01 45 41.7			
ASAJ				pmax	pmax				
	comp=Z,152nm,1.1s								
GUN	**Gumba**	**152.52**	**79**	*e*P	PKPdf	01 45 20.8	+0.9		
TLY	**Talaya**	**152.65**	**18**	*i* PKIKP	PKPdf	01 45 21.4	+1.3		
TLY				*e*		01 45 25.8			
TLY				*e*		02 01 27.7			
TLY	**Talaya**	**152.65**	**18**	*e*PKPdf	PKPdf	01 45 21.3	+1.2		
TLY				*e*PKPbc	PKPbc	01 45 27.8	0.0		
TLY				*ep*PKPdf	pPKPdf	01 47 44.6	+9.0		
TLY				*e*PP	PP	01 49 21.9	+4.5		
KGM	**Kluang**	**152.76**	**150**	P	PKPbc	01 45 26.5	-1.5		
JIRN	**Jiri**	**152.78**	**80**	*e*P	PKPdf	01 45 21.4	+1.1		
ERM	**Erimo**	**153.13**	**313**	*e*PKP	PKPbc	01 45 27.6	-1.2		
ERM				*e*PKPab	PKPab	01 45 47.8	+4.3		
ERM				*ep*PKPdf	pPKPdf	01 47 45.2	+8.8		
ERM				*e*PP	PP	01 49 21.8	+1.8		
PBA	**Port Blair**	**153.20**	**118**	*e*P	PKPdf	01 45 21.2	+0.3		
PBA				*ex*	x	01 47 21.8			
PBA				AMS	AMS	02 19 50.5			
	comp=Z,3μm,16.2s								
ZAK	**Zakamensk**	**153.70**	**20**	*e*PKIKP	PKPdf	01 45 26.0	+4.4		
ZAK				pmax	pmax				
	comp=Z,131nm,2.2s								
IPM	**Ipoh**	**153.73**	**142**	P	PKPdf	01 45 26.6	+5.0		
CAL	**Calcutta**	**153.92**	**92**	⇑*i*P	PKPdf	01 45 21.9	0.0		
CAL				*i* x	x	01 47 40.0			
CIT	**Chita**	**154.06**	**4**	*e*PKIKP	PKPdf	01 45 23.9	+1.8		
CIT				*e*		01 49 25.8			
CIT				pmax	pmax				
	comp=Z,2μm,2.1s								
KLR	**Kul'dur**	**154.17**	**337**	*e*PKIKP	PKPdf	01 45 20.8	-1.5		
KLR				*e*		01 49 23.0			
KLR				pmax	pmax				
	comp=Z,430nm,1.6s								
KLR				pmax	pmax				
	comp=Z,3μm,9.0s								
KULM	**Kulim**	**154.18**	**141**	*e*PKPdf	PKPdf	01 45 24.8	+2.5		
KULM				*e*PKPbc	PKPbc	01 45 32.9	+1.8		
KULM				*ep*PKPdf	pPKPdf	01 47 46.9	+9.0		
KSM	**Kuching**	**154.69**	**165**	*e*PKPdf	PKPdf	01 45 27.0	+4.0		
KSM				*ep*PKPdf	pPKPdf	01 47 41.9	+3.3		
KSM				*e*PP	PP	01 49 28.1	-0.5		
GTK	**Gangtok**	**154.91**	**81**	*e*P	PKPdf	01 45 23.0	-0.3		
SNG	**Songkhla**	**155.68**	**138**	P	PKPdf	01 45 26.0	+1.7		
	comp=Z,206nm,0.9s								
TURI	**Tura**	**156.27**	**86**	*e*P	PKPdf	01 45 24.0	-1.1		
TURI				*ex*	x	01 46 24.0			
HIA	**Hailar**	**156.81**	**355**	*e*PKPdf	PKPdf	01 45 27.1	+1.3		
HIA				*e*SKPdf	SKPdf	01 48 10.0	+6.2		
HIA				*e*PP	PP	01 49 42.6	+2.4		
AGT	**Agartala**	**156.83**	**90**	*i* x	PKPdf	01 45 32.0	+6.2		
AGT				*i* x	x	01 46 09.0			
SONM	**Songino Array**	**156.89**	**18**	PKP	PKPdf	01 45 26.6	+0.8		
	comp=Z,16nm,0.8s,baz=277,slow=0.8,SNR=52								
SONM				PKPab	PKPab	01 46 00.8	+1.1		
	comp=Z,36nm,0.6s,baz=328,slow=4.2,SNR=7.6								
SONM				pPKP	pPKPdf	01 47 38.5	-3.1		
	comp=Z,17nm,0.7s,baz=276,slow=0.9,SNR=1.4								
SONM				pPKPab	pPKPab	01 48 04.8	-2.8		
	comp=Z,24nm,0.7s,baz=357,slow=1.4,SNR=2.0								
SONM				PP	PP	01 49 40.0	-0.6		
	comp=Z,39nm,1.1s,baz=296,slow=1.4,SNR=3.7								
SONM	**Songino Array**	**156.89**	**18**	PKIKP	PKPdf	01 45 26.6	+0.7		
SONM						01 47 38.6			
SONM						01 49 40.0			
LSA	**Lhasa**	**157.16**	**75**	PKP	PKPdf	01 45 28.4	+2.2		
LSA				PP	PP				
	comp=Z,2μm,6.0s								
LSA	**Lhasa**	**157.16**	**75**	PKPdf	PKPdf	01 45 28.3	+2.1		
LSA				PKPdf	PKPdf	01 45 34.8	+8.6		
LSA				SKKSac	SKKSac	01 55 38.4	+4.7		
LSA	**Lhasa**	**157.16**	**75**	*e*PKPdf	PKPdf	01 45 27.4	+1.2		
LSA				*e*PKPab	PKPab	01 46 05.1	+4.3		
LSA				*ep*PKPdf	pPKPdf	01 47 37.0	-5.0		
LSA				*e*PP	PP	01 49 43.9	+1.8		
CBIJ	**Chichi jima**	**157.22**	**278**	PKPab	PKPab	01 46 03.0	+1.9		
	comp=Z,612nm,1.1s,baz=121,slow=4.4,SNR=3.7								
SHL	**Shillong**	**157.66**	**86**	*e*P	PKPdf	01 45 27.0	+0.2		
SHL				*ex*	x	01 46 39.0			
SHL				*ex*	x	01 51 51.0			
SHL				AMS	AMS	02 18 35.2			
	comp=Z,33μm,18.7s								
TSM	**Tawau**	**158.23**	**183**	P	PKPdf	01 45 33.5	+6.0		
MDJ	**Mudanjiang**	**158.85**	**334**	PKP	PKPdf	01 45 31.4	+3.2		
MDJ	**Mudanjiang**	**158.85**	**334**	*e*PKPdf	PKPdf	01 45 31.3	+3.1		
MDJ				*e*PKPab	PKPab	01 46 09.7	+1.5		
MDJ				*e*PP	PP	01 49 54.4	+3.2		
MJAR	**Matsushiro Arr**	**158.97**	**305**	PKP	PKPdf	01 45 30.4	+2.1		
	comp=Z,28nm,1.1s,baz=11,slow=0.4,SNR=23								
MJAR				PKPab	PKPab	01 46 09.5	+0.7		
	comp=Z,310nm,1.0s,baz=90,slow=2.8,SNR=23								
MJAR				pPKPab	pPKPab	01 48 13.8	-2.7		
	comp=Z,35nm,1.0s,baz=64,slow=2.1,SNR=6.3								
MJAR				PP	PP	01 49 52.1	+0.3		
	comp=Z,71nm,1.2s,baz=72,slow=2.1,SNR=6.2								
MJAR	**Matsushiro Arr**	**158.97**	**305**	PKIKP	PKPdf	01 45 30.5	+2.1		
MJAR						01 46 09.5			
MJAR						01 49 52.1			
MAJO	**Matsushiro**	**158.97**	**305**	PKPdf	PKPdf	01 45 31.9	+3.6		
MAJO				PKPab	PKPab	01 46 12.4	+3.7		
MAJO	**Matsushiro**	**158.97**	**305**	*e*PKIKP	PKPdf	01 45 30.8	+2.4		
MAJO				*e*		01 46 12.4			
MAJO	**Matsushiro**	**158.97**	**305**	*e*PKPdf	PKPdf	01 45 30.8	+2.4		
MAJO				*e*PKPab	PKPab	01 46 12.4	+3.7		
MAJO				*e*SKPdf	SKPdf	01 48 14.0	+7.8		
MAT	**Matsushiro**	**158.97**	**305**	PKP	PKPdf	01 45 32.0	+3.6		
VLA	**Vladivostok**	**159.03**	**328**	*e*PKIKP	PKPdf	01 45 33.0	+4.6		
VLA				*e*		01 49 53.8			
VLA				*i* SS	SS	02 09 13.0	+3.7		
VLA				*e*SSS		02 15 33.0			
VLA				pmax	pmax				
	comp=Z,129nm,1.5s								
NNT	**Nongplab**	**159.09**	**127**	P	PKPdf	01 45 35.8	+7.3		
IMP	**Imphal**	**159.39**	**89**	*ex*	PKPdf	01 45 36.0	+7.2		
IMP				*ex*	x	01 47 48.0			
IMP				*ex*	x	01 48 19.0			
KKM	**Kota Kinabalu**	**159.99**	**179**	P	PKPdf	01 45 35.2	+5.7		
KKM	**Kota Kinabalu**	**159.99**	**179**	*e*PKPdf	PKPdf	01 45 31.6	+2.1		
KKM				*e*PP	PP	01 49 57.9	+0.6		
BUKP	**Musuan**	**160.16**	**205**	*e*P	PKPdf	01 45 34.8	+5.1		
GTA	**Gaotai**	**160.64**	**43**	PKP	PKPdf	01 45 30.9	+0.7		
GTA				PKP2	PKPab	01 46 20.4	+4.3		
GTA				APKP		01 47 40.4			
GTA				PKS		01 49 05.1			
GTA				PP	PP	01 50 06.0	+5.3		
GTA				SKS	SKSdf	01 51 42.9	+2.1		
GTA				PPP		01 53 51.5			
GTA				SKKS	SKKSac	01 55 54.7	+3.0		
GTA				PP	PP				
	comp=Z,4μm,8.7s								
CN2	**Changchun**	**161.02**	**340**	PKP	PKPdf	01 45 31.9	+1.3		
CN2				PKP2	PKPab	01 46 20.8	+3.1		
CN2				XPKP		01 48 34.0			
CN2				PP	PP	01 50 07.0	+4.3		
CN2				*e*SS	SS	02 09 33.4	+3.4		
BDT	**Bhumibol Dam**	**161.32**	**115**	P	PKPdf	01 45 33.0	+2.1		
	comp=Z,40nm,1.2s								
NST	**Nakhon Sawan**	**161.35**	**121**	P	PKPdf	01 45 31.3	+0.3		
	comp=Z,282nm,1.3s								
CM31	**Chiang Mai Arr**	**161.88**	**111**	*e*PKPdf	PKPdf	01 45 33.2	+1.7		
CM31				*e*PKPab	PKPab	01 46 21.4	-0.1		
CHG	**Chiang Mai**	**162.04**	**110**	⇓P	PKPdf	01 45 32.7	+1.1		
	comp=Z,150nm,0.8s								
CHTO	**Chiang Mai**	**162.04**	**110**	*e*PKIKP	PKPdf	01 45 32.9	+1.2		
CHTO				*e*		01 46 23.0			
CHTO				*e*		01 50 09.4			
CHTO	**Chiang Mai**	**162.04**	**110**	*e*PKPdf	PKPdf	01 45 32.9	+1.2		
CHTO				*e*PKPab	PKPab	01 46 23.0	+0.8		
CHTO				*ep*PKPdf	pPKPdf	01 47 49.4	+1.7		
CHTO				*e*SKPdf		01 48 31.3			
CHTO				*e*PP	PP	01 50 09.4	+1.3		
MSLP	**Maasin**	**162.29**	**207**	*e*P	PKPdf	01 45 37.2	+5.3		
BATP	**Bataraza**	**162.70**	**184**	*e*P	PKPdf	01 45 37.6	+5.3		
SNY	**Shenyang**	**163.38**	**342**	PKPR		01 45 38.8			
SNY				PKP2	PKPab	01 46 32.0	+3.9		
SNY				PP	PP	01 50 13.3	-1.7		
SNY				SKKS	SKKSac	01 56 10.3	+4.7		
SNY				PP	PP				
	comp=Z,3μm,12.0s								
NANT	**Nan**	**163.50**	**113**	⇑P	PKPdf	01 45 32.0	-1.0		
	comp=Z,2μm,1.0s								
PPR	**Puerto Princes**	**163.59**	**187**	*e*P	PKPdf	01 45 39.9	+6.8		
KKTK	**Khon Kaen**	**163.79**	**124**	P	PKPdf	01 45 35.0	+1.7		
BTO	**Baotou**	**164.56**	**19**	*e*PKP	PKPdf	01 45 35.5	+1.5		
HHC	**Hu-ho-hao-te**	**164.74**	**15**	*e*PKP	PKPdf	01 45 35.1	+1.0		
HHC				PKP2	PKPab	01 46 35.6	+1.5		
HHC				APKP		01 47 45.3			
HHC				XPKP		01 48 34.8			
HHC				PKS		01 49 07.0			
HHC				PP	PP	01 50 23.8	+1.7		
HHC				SKS	SKSdf	01 51 46.8	+2.8		
HHC				SKKS	SKKSac	01 56 18.0	+5.5		
HHC				SS	SS	02 10 08.5	+0.6		
HHC				PP	PP				
	comp=Z,5μm,11.3s								
ENPP	**El Nido**	**164.91**	**190**	*e*P	PKPdf	01 45 40.6	+6.4		
LZH	**Lanzhou**	**165.21**	**45**	*e*PKP	PKPdf	01 45 36.8	+2.3		
LZH				APKP		01 47 49.1			
LZH				SKS	SKSdf	01 51 45.2	+0.9		
LZH				SKKS	SKKSac	01 56 18.0	+3.2		
LZH				SS	SS	02 10 18.0	+5.4		
LZH				PP	PP				
	comp=Z,882nm,4.5s								
KSRS	**Korea Array**	**165.26**	**323**	PKP	PKPdf	01 45 36.6	+2.1		
	comp=Z,26nm,1.1s,baz=64,slow=0.6,SNR=25								
KSRS				PKPab	PKPab	01 46 37.7	+1.3		
	comp=Z,157nm,1.1s,baz=47,slow=4.0,SNR=26								
KSRS				PP	PP	01 50 30.0	+5.3		
	comp=Z,25nm,0.9s,baz=9.4,slow=4.7,SNR=7.1								
OTRP	**Odiongan**	**165.39**	**201**	*e*P	PKPdf	01 45 40.1	+5.5		
BUSP	**Coron**	**165.54**	**194**	*e*P	PKPdf	01 45 41.1	+6.3		
JNU	**Nakatsue**	**165.87**	**303**	PKP	PKPdf	01 45 37.5	+2.4		
	comp=Z,32nm,0.9s,baz=228,slow=12								
JNU				PKPab	PKPab	01 46 41.7	+2.7		
	comp=Z,233nm,1.1s,baz=263,slow=14,SNR=8.3								
INCN	**Inchon**	**165.92**	**326**	*e*PKPdf	PKPdf	01 45 36.7	+1.6		
INCN				*e*PKPab	PKPab	01 46 39.8	+0.5		
INCN				*ep*PKPdf	pPKPdf	01 47 54.7	+3.4		
INCN				*e*PP	PP	01 50 29.4	+1.3		
BJI	**Beijing**	**166.15**	**2**	PKP	PKPdf	01 45 37.0	+1.7		
BJI				AMB	AMB				
	comp=Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.32**	**79**	*e*PB	**Pb**	**01 27 26.3**	**-0.5**
KZN				*e*SB	**Sb**	**01 27 32.0**	**+0.4**
JAN	**Janina**	**0.71**	**214**	*e*PN	**Pn**	**01 27 34.6**	**0.0**
BIA	**Bitola**	**0.77**	**358**	*e*Pg	**Pb**	**01 27 32.8**	**-1.8**
BIA				*e*Sg	**Sb**	**01 27 44.3**	**-0.3**
BIA	**Bitola**	**0.77**	**358**	*e*Pg	**Pb**	**01 27 32.7**	**-1.9**
BIA				*e*Sg	**Sb**	**01 27 44.3**	**-0.3**
THL	**Klokotos Trika**	**0.84**	**144**	*e*PN	**Pn**	**01 27 35.6**	**-0.8**
THL				*e*SN	**Sn**	**01 27 47.7**	**-0.5**
KRUS	**Krusevo**	**1.12**	**356**	*e*Pg	**Pn**	**01 27 40.0**	**-0.3**
KRUS				*e*Sg	**Sb**	**01 27 56.7**	**+1.9**
KRUS	**Krusevo**	**1.12**	**356**	*e*Pg	**Pn**	**01 27 39.9**	**-0.4**
KRUS				*e*Sg	**Sb**	**01 27 56.6**	**+1.9**
KEK	**Kerkira**	**1.32**	**247**	*e*PN	**Pn**	**01 27 47.5**	**+4.6**
EVR	**Evrytania**	**1.37**	**165**	*e*PN	**Pn**	**01 27 45.2**	**+1.5**
VAY	**Valandovo**	**1.41**	**40**	*e*Pg	**Pn**	**01 27 43.7**	**-0.5**
VAY				*e*Sg	**Sn**	**01 28 02.0**	**-0.2**
VAY	**Valandovo**	**1.41**	**40**	*e*Pg	**Pn**	**01 27 43.7**	**-0.5**
VAY				*e*Sg	**Sn**	**01 28 01.9**	**-0.2**
PLG	**Polygyros**	**1.59**	**85**	*e*PN	**Pn**	**01 27 48.0**	**+1.2**

SKO ***13*** *01:30:52.1, 40.13N×21.44E, h0km, M2.0, ML2.4*
ISCJB ***13*** *01:30:54.8±0.5, 40.29N±0.02×21.44E±0.03, h4km±5km, Error ellipse: s-maj=4.2km s-min=2.9km az=30.9*
CSEM ***13*** *01:30:54.8±0.1, 40.33N×21.41E, h15km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.3km az=88.0*
NEIC ***13*** *01:30:55.2, 40.28N×21.42E, h24km, MD3.2(ATH), After ATH.*
ATH ***13*** *01:30:55.2, 40.28N×21.42E, h24km±1km, MD3.2/6*

ISC 13 01:30:55.6±0.4, 4029N±002×2140E±003, h13km±3km, n33, σ1°04/57, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.29**	**86**	*e*PB	**Pg**	**01 31 01.6**	**+0.1**
KZN				*e*SB	**Sg**	**01 31 07.1**	**+1.6**
FNA	**Florina**	**0.49**	**358**	*e*P	**Pg**	**01 31 04.6**	**-0.8**
FNA				*e*S	**Sg**	**01 31 12.2**	**+0.3**
MEV	**Metsovon**	**0.52**	**194**	*e*P	**Pg**	**01 31 05.0**	**-0.7**
MEV				*e*S	**Sg**	**01 31 13.5**	**+0.8**
KBN	**Korca**	**0.57**	**306**	*i* Pg	**Pg**	**01 31 05.9**	**-0.9**
KBN				*i* Sg	**Sg**	**01 31 15.6**	**+1.2**
BIA	**Bitola**	**0.73**	**356**	*i* Pg	**Pg**	**01 31 07.9**	**-1.9**
BIA				*e*Sg	**Sg**	**01 31 19.8**	**+0.4**
BIA	**Bitola**	**0.73**	**356**	*i* Pg	**Pg**	**01 31 07.9**	**-1.9**
BIA				*e*Sg	**Sg**	**01 31 19.7**	**+0.3**
JAN	**Janina**	**0.76**	**214**	*e*PN	**Pg**	**01 31 09.5**	**-0.8**
JAN				*e*SN	**Sg**	**01 31 21.0**	**+0.8**
LIT	**Litokhoron**	**0.86**	**102**	*e*P	**Pg**	**01 31 11.5**	**-0.7**
LIT				*e*S	**Sg**	**01 31 25.9**	**+2.4**
THL	**Klokotos Trika**	**0.86**	**146**	*e*PB	**Pg**	**01 31 10.8**	**-1.5**
THL				*e*SN	**Sg**	**01 31 24.5**	**+0.9**
GRG	**Griva**	**1.02**	**49**	*e*P	**Pb**	**01 31 14.4**	**-0.6**
GRG				*e*S	**Sb**	**01 31 30.5**	**+2.1**
GRG	**Griva**	**1.02**	**49**	*e*P	**Pb**	**01 31 14.4**	**-0.7**
GRG				*e*S	**Sb**	**01 31 30.5**	**+2.2**
KRUS	**Krusevo**	**1.08**	**354**	*i* Pg	**Pg**	**01 31 14.9**	**-1.6**
KRUS				*e*Sg	**Sg**	**01 31 32.0**	**+1.3**
KRUS	**Krusevo**	**1.08**	**354**	*i* Pg	**Pg**	**01 31 14.8**	**-1.7**
KRUS				*e*Sg	**Sg**	**01 31 31.9**	**+1.3**
IGT	**Igoumenitsa**	**1.11**	**228**	*e*P	**Pb**	**01 31 16.4**	**-0.3**
IGT				*e*S	**Sb**	**01 31 32.5**	**+1.4**
SRN	**Sarande**	**1.15**	**250**	*i* Pn	**Pn**	**01 31 18.6**	**+1.3**
SRN				*i* Sn	**Sg**	**01 31 36.5**	**+4.0**
KEK	**Kerkira**	**1.35**	**245**	*e*PN	**Pn**	**01 31 21.5**	**+1.3**
VAY	**Valandovo**	**1.36**	**40**	*i* Pn	**Pn**	**01 31 19.7**	**-0.7**
VAY				*e*Sn	**Sn**	**01 31 40.2**	**+1.9**
VAY				*e*Lg		01 31 43.9	
	comp=E,94nm,1.0s						
VAY				*e*Lg		01 31 45.2	
	comp=N,44nm,0.7s						
VAY	**Valandovo**	**1.36**	**40**	*i* Pn	**Pn**	**01 31 19.6**	**-0.7**
VAY				*e*Sn	**Sn**	**01 31 40.2**	**+1.9**
EVR	**Evrytania**	**1.41**	**167**	*e*PN	**Pn**	**01 31 20.8**	**-0.1**
KNT	**Kendrikon**	**1.44**	**52**	*e*P	**Pn**	**01 31 20.3**	**-1.1**
KNT				*e*S	**Sn**	**01 31 39.9**	**-0.2**
AGG	**Agios Georgios**	**1.46**	**150**	*e*P	**Pn**	**01 31 21.2**	**-0.4**
AGG				*e*S	**Sn**	**01 31 40.9**	**+0.3**
STIP	**Stip**	**1.53**	**23**	*e*Pg	**Pn**	**01 31 20.9**	**-1.7**
PLG	**Polygyros**	**1.57**	**86**	*e*P	**Pn**	**01 31 23.4**	**+0.2**
PLG				*e*S	**Sn**	**01 31 43.1**	**-0.3**
PHP	**Peshkopia**	**1.57**	**333**	*i* Pn	**Pn**	**01 31 22.9**	**-0.3**
PHP				*i* Sn	**Sn**	**01 31 44.4**	**+1.0**
SOH	**Sokhos**	**1.58**	**70**	*e*P	**Pn**	**01 31 23.5**	**+0.1**
SOH				*e*S	**Sn**	**01 31 43.6**	**-0.2**
XOR	**Xorichti**	**1.66**	**123**	*e*P	**Pn**	**01 31 24.0**	**-0.4**
NEO	**Neokhori**	**1.72**	**124**	*e*PN	**Pn**	**01 31 25.5**	**+0.3**
PAIG	**Paliouri**	**1.79**	**101**	*e*P	**Pn**	**01 31 25.2**	**-1.0**
PAIG				*e*S	**Sn**	**01 31 49.2**	**+0.4**
SRS	**Serrai**	**1.86**	**63**	*e*P	**Pn**	**01 31 26.3**	**-0.9**
SRS				*e*S	**Sn**	**01 31 51.3**	**+0.6**
OUR	**Ouranopolis**	**1.98**	**88**	*e*P	**Pn**	**01 31 28.1**	**-0.8**
OUR	**Ouranopolis**	**1.98**	**88**	*e*P	**Pn**	**01 31 28.0**	**-0.8**
LKR	**Lokris**	**2.05**	**142**	*e*PB	**Pn**	**01 31 29.5**	**-0.3**
VLS	**Valsamata**	**2.20**	**197**	*e*PB	**Pb**	**01 31 32.8**	**-2.4**

MAN ***12*** *01:35:26.4, 2066N×119.89E, h7km, mb3.8, ML4.9, MS7.1*
ISCJB ***13*** *01:35:25.5±1.3, 2073N±002×11995E±005, h9km±9km, mb4.6/22, Error ellipse: s-maj=8.4km s-min=4.2km az=174.0*
IDC ***13*** *01:35:25.6±0.7, 2071N×119.95E, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.5/23, mbtmp4.4/12, ML4.5/2, MS3.2/1, Ms1 3.2/1, ms1mx3.2/44, Error ellipse: s-maj=33.3km s-min=13.4km az=71.0*
NEIC ***13*** *01:35:27.1±0.3, 2069N×120.01E, h10km, mb4.7/12, Error ellipse: s-maj=8.9km s-min=4.5km az=80.0*
BJI ***13*** *01:35:28.1, 2103N×119.70E, h4km, mB4.9, mb4.7, ML4.0*

ISC 13 01:35:26.7±1.3, 2071N±003×11998E±005, h5km±8km, n54, σ0°89/61, mb4.6/22, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.45**	**166**	*e*P	**Pn**	**01 36 06.0**	**-1.3**
PIP				*e*S	**Sn**	**01 36 37.5**	**0.0**
ABRA	**Dolores**	**3.12**	**167**	*e*P	**Pn**	**01 36 15.9**	**-0.6**
SGCP	**Mt. Cagua**	**3.13**	**141**	*e*P	**Pn**	**01 36 16.5**	**-0.2**
CVP	**Callao Caves**	**3.46**	**150**	*e*P	**Pn**	**01 36 21.5**	**+0.3**
NACB	**Ninganchiao**	**3.76**	**23**	*e*Pn	**Pn**	**01 36 24.8**	**-0.5**
NACB				*e*Sn	**Sn**	**01 37 10.3**	**+0.5**
CAUP	**Cauayan**	**4.13**	**155**	*e*P	**Pn**	**01 36 33.8**	**+3.4**
YHNB	**Yeheng**	**4.15**	**18**	*e*Pn	**Pn**	**01 36 29.9**	**-0.7**
YHNB				*e*Pg	**Pg**	**01 36 47.9**	**+1.7**
YHNB				*e*Sn	**Sn**	**01 37 19.0**	**-0.5**
PALP	**Palanan**	**4.30**	**147**	⇑*i*P	**Pn**	**01 36 33.0**	**+0.3**
PALP				*e*S	**Pg**	**01 36 47.3**	**-1.8**
PALP	**Palanan**	**4.30**	**147**	*e*P	**Pn**	**01 36 34.6**	**+1.8**
BOLP	**Bolinao**	**4.31**	**181**	*e*P	**Pn**	**01 36 33.8**	**+1.0**
QZH	**Quanzhou**	**4.40**	**343**	P	**Pn**	**01 36 30.2**	**-4.0**
QZH				S	**Sn**	**01 37 16.5**	**-9.3**
QZH				Smax			
	comp=N,200nm,0.8s						
QZH				Smax			
	comp=E,340nm,0.9s						
TATO	**Taipei**	**4.47**	**18**	Pn	**Pn**	**01 36 36.0**	**+1.0**
TATO				*e*Sn	**Sn**	**01 37 27.7**	**+0.3**
BALP	**Baler**	**5.17**	**163**	*e*P	**Pn**	**01 36 46.3**	**+1.6**
GZH	**Guangzhou**	**6.60**	**292**	P	**Pn**	**01 37 01.0**	**-3.4**
GZH				S	**Sn**	**01 38 09.0**	**-11**
GZH				Smax			
	comp=N,168nm,0.7s						
GZH				Smax			
	comp=E,205nm,0.6s						
TGY	**Tagaytay City**	**6.63**	**172**	Pn	**Pn**	**01 37 03.9**	**-0.9**
	comp=E,38nm,0.3s,baz=308,slow=21,SNR=1.7						
LUBP	**Lubang**	**6.94**	**178**	*e*P	**Pn**	**01 37 12.3**	**+3.3**
JOW	**Kunigami**	**9.73**	**50**	LR	LR	01 41 44.8	
	comp=E,152nm,21.9s,baz=72,slow=39						
KSRS	**Korea Array**	**18.06**	**21**	P	**Pn**	**01 39 38.2**	**-0.1**
	baz=203,slow=11,SNR=7.1						
BJT	**Baijiatuau**	**19.52**	**351**	*e*P	**Pn**	**01 39 55.5**	**-0.6**
	comp=E,21nm,0.8s						
BJI	**Beijing**	**19.54**	**351**	P	**Pn**	**01 39 54.5**	**-1.8**
	comp=E,32nm,0.9s						
LZH	**Lanzhou**	**20.84**	**321**	⇑P	**P**	**01 40 10.5**	**+1.3**
LZH				AMB	AMB		
	comp=Z,26nm,1.3s						
LZH	**Lanzhou**	**20.84**	**321**	⇑P	**P**	**01 40 10.5**	**+1.3**
	comp=Z,26nm,1.3s						
LZH				pP		01 40 21.3	
LZH				sP	sP	01 40 25.0	+14
MAJO	**Matsushiro**	**22.40**	**41**	P	**P**	**01 40 25.7**	**-0.3**
MJAR	**Matsushiro Arr**	**22.41**	**41**	P	**P**	**01 40 25.9**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.0,baz=238,slow=10,SNR=13						
MDJ	**Mudanjiang**	**25.14**	**16**	*e*P	**P**	**01 40 53.1**	**+0.5**
	comp=Z,16nm,0.7s,mb4.7						
GTA	**Gaotai**	**25.43**	**322**	*e*P	**P**	**01 40 55.2**	**-0.1**
GTA				AP	pP	01 41 04.2	+7.3
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
LSA	**Lhasa**	**27.52**	**295**	*e*P	**P**	**01 41 15.0**	**+0.9**
LSA	**Lhasa**	**27.52**	**295**	*e*P	**P**	**01 41 15.2**	**+1.1**
	comp=Z,9.1nm,0.6s,mb4.6						
HIA	**Hailar**	**28.49**	**360**	P	**P**	**01 41 22.5**	**-0.3**
SONM	**Songino Array**	**29.20**	**341**	P	**P**	**01 41 28.5**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.1,baz=160,slow=8.1,SNR=16						
GUN	**Gumba**	**31.82**	**290**	*e*P	**P**	**01 41 52.5**	**+0.3**
	comp=Z,43nm,0.9s,mb5.3						
PKI	**Pulchoki**	**32.21**	**289**	*e*P	**P**	**01 41 56.2**	**+0.6**
KKN	**Kakani**	**32.34**	**289**	*e*P	**P**	**01 41 57.0**	**+0.2**
	comp=Z,21nm,0.8s,mb5.0						
DMN	**Daman**	**32.48**	**289**	*e*P	**P**	**01 41 58.4**	**+0.4**
	comp=Z,29nm,0.9s,mb5.1						
GKN	**Gorkha**	**32.92**	**290**	*e*P	**P**	**01 42 01.9**	**0.0**
	comp=Z,26nm,0.9s,mb5.2						
TLY	**Talaya**	**33.44**	**341**	*e*P	**P**	**01 42 06.3**	**-0.2**
KOLN	**Koldanda**	**33.82**	**289**	*e*P	**P**	**01 42 09.8**	**0.0**
	comp=Z,23nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**38.97**	**171**	*e*P	**P**	**01 42 52.9**	**-0.8**
	comp=Z,11nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.97**	**171**	P	**P**	**01 42 52.8**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.0,baz=4.8,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**40.15**	**319**	P	**P**	**01 43 03.8**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.2,baz=116,slow=9.2,SNR=14						
ZAL	**Zalesovo**	**42.62**	**330**	P	**P**	**01 43 22.6**	**-1.2**
	comp=Z,1.3nm,0.6s,mb3.9,baz=348,slow=10,SNR=8.7						
WRAB	**Tennant Creek**	**42.77**	**160**	*e*P	**P**	**01 43 24.9**	**-0.2**
	comp=Z,13nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**42.78**	**160**	P	**P**	**01 43 24.7**	**-0.4**
	comp=Z,22nm,0.9s,mb4.9,baz=342,slow=9.0,SNR=39						
WB2	**Warramunga Arr**	**42.78**	**160**	*e*P	**P**	**01 43 24.7**	**-0.5**
AAK	**Ala-Archa**	**43.81**	**311**	*e*P	**P**	**01 43 33.8**	**+0.3**
	comp=Z,2.8nm,0.9s,mb4.0						
AS31	**Alice Springs**	**46.15**	**162**	*e*P	**P**	**01 43 52.0**	**0.0**
ASAR	**Alice Springs**	**46.15**	**162**	P	**P**	**01 43 52.2**	**+0.1**
	comp=Z,3.4nm,0.4s,mb4.6,baz=345,slow=6.9,SNR=61						
CTA	**Charters Tower**	**48.01**	**146**	P	**P**	**01 44 07.9**	**+1.3**
	comp=Z,21nm,0.8s,mb5.2,baz=327,slow=12						
CTAO	**Charters Tower**	**48.01**	**146**	*e*P	**P**	**01 44 08.5**	**+1.8**
	comp=Z,16nm,0.7s,mb5.2						
BVAR	**Borovoye Array**	**49.70**	**323**	P	**P**	**01 44 19.9**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=107,slow=7.9,SNR=6.7						
BRVK	**Borovoye**	**49.78**	**323**	*e*P	**P**	**01 44 20.1**	**-0.1**
	comp=Z,4.4nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**50.47**	**322**	*e*P	**P**	**01 44 25.5**	**+0.1**
	comp=Z,8.3nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**80.76**	**332**	P	**P**	**01 47 39.8**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=63,slow=5.3,SNR=2.7						
CLL	**Collm**	**84.14**	**323**	*e*P	**P**	**01 47 59.0**	**+0.2**

NEIC 13 01:36:06.7, 1990N×15586W, h37km, MD3.7(HVO), **After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.28**	**211**	*e*P	Pn	01 36 13.4	-1.1
KKH				*e*S	Sn	01 36 21.2	+1.4
KHU	**Kahuku**	**0.69**	**160**	*e*P	Pn	01 36 18.3	-1.6
KHU				*e*S	Sn	01 36 26.1	-3.2
HPO	**Honuapo**	**0.85**	**160**	*e*P	Pn	01 36 20.3	-1.9
HPO				*e*S	Sn	01 36 30.8	-2.7
STCH	**Steam Cracks**	**0.86**	**126**	*e*P	Pn	01 36 20.4	-1.9
STCH				*e*S	Sn	01 36 29.7	-3.9
HKL	**Haleakala**	**0.89**	**335**	*e*P	Pn	01 36 20.9	-1.8
HKL				*e*S	Sn	01 36 29.9	-4.5
HON	**Honolulu**	**2.46**	**306**	*e*Pn	Pn	01 36 41.6	-2.6
HON				*e*Sn	Sn	01 37 06.4	-6.6

MDD ***13*** *01:47:14.9±1.5, 3795N×951W, h54km±28km, mb3.7/7, Error ellipse: s-maj=16.0km s-min=6.9km az=54.0, PRXIMO*

INMG 13 01:47:15.5±1.0, 3794N×951W, h31km, ML1.8, Error ellipse: s-maj=5.3km s-min=2.4km az=65.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.99**	**16**	*e*P	Pn	01 47 31.8	-1.4
PLOU				*e*S	Sn	01 47 44.8	-1.3
PLOU							
	12nm,0.1s						
PMAFR	**Mafra**	**1.03**	**10**	*e*P	Pn	01 47 32.3	-1.5
PMAFR				*e*S	Sn	01 47 45.6	-1.6
PMAFR							
	22nm,0.2s						
MOE	**Montemor**	**1.08**	**57**	*e*S	Sn	01 47 46.2	-2.2
PBEJ	**Beja**	**1.30**	**86**	*e*P	Pn	01 47 36.7	-0.8
PBEJ				*e*S	Sn	01 47 52.0	-1.8
PBEJ							
	4.4nm,0.1s						
EGRO	**El Granado**	**1.65**	**103**	P	Pn	01 47 40.6	-1.7
	0.7nm,0.1s,SNR=6.3						
EGRO				S	Sn	01 48 00.0	-2.5
	2.9nm,0.1s,SNR=6.5						
PESTR	**Estremoz**	**1.77**	**58**	*e*Pn	Pn	01 47 42.3	-1.6
PESTR				*e*Sn	Sn	01 48 02.9	-2.5
PESTR							
	1.2nm,0.2s						
EBAD	**Badajoz**	**2.12**	**67**	P	Pn	01 47 47.6	-1.2
	0.3nm,0.1s,SNR=5.5						
EBAD				S	Sn	01 48 11.3	-2.8
	2.1nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**2.25**	**93**	P	Pn	01 47 49.0	-1.5
	0.1nm,0.0s,SNR=7.9						
EMIN				S	Sn	01 48 13.8	-3.4
	0.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**2.47**	**39**	*e*Pn	Pn	01 47 52.3	-1.3
PCBR				*e*Sn	Sn	01 48 19.2	-3.6
PCBR							
	1.7nm,0.2s						
PVIS	**Viseu**	**3.04**	**24**	*e*Pn	Pn	01 48 00.1	-1.4
ESPR	**Espera**	**3.10**	**109**	P	Pn	01 48 00.7	-1.5
	76nm,0.8s,SNR=7.9						
ESPR				S	Sn	01 48 35.4	-2.7
	8.0nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**3.61**	**22**	*e*Pn	Pn	01 48 07.5	-1.8
PVRL				*e*Sn	Sn	01 48 46.4	-4.4
PVRL							
	4.3nm,0.1s						
EADA	**Adamuz**	**3.90**	**85**	P	Pn	01 48 11.3	-1.9
	2.6nm,0.2s,SNR=7.9						
EADA				S	Sn	01 48 53.8	-4.0
	1.4nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**3.94**	**16**	*e*Pn	Pn	01 48 12.4	-1.4
PCAB				*e*Sn	Sn	01 48 53.8	-5.1
PBRG	**Braganca**	**4.41**	**28**	*e*Pn	Pn	01 48 18.6	-1.7
PBRG				*e*Sn	Sn	01 49 05.4	-5.2
PBRG							
	1.7nm,0.1s						
ECAL	**Calabor**	**4.53**	**27**	P	Pn	01 48 20.5	-1.4
	3.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	01 49 08.5	-5.0
	0.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.02**	**4**	P	Pn	01 48 26.4	-2.3
	0.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	01 49 18.9	-6.8
	0.6nm,0.1s,SNR=7.9						

ISCJB ***13*** *01:51:55.4±2.1, 199S±02×178.7W±02, h602km±23km, mb4.2/11, Error ellipse: s-maj=29.2km s-min=16.8km az=85.8*
NEIC ***13*** *01:51:56.8±1.7, 1987S×178.65W, h599km±17km, mb4.0/9, Error ellipse: s-maj=22.3km s-min=13.4km az=224.0*
IDC ***13*** *01:51:56.1±7.7, 1982S×178.66W, h588km±78km, mb3.8/4, mb1 3.9/6, mb1mx3.5/16, mbtmp3.7/6, Error ellipse: s-maj=64.9km s-min=21.0km az=48.0*

ISC 13 01:51:56.7±2.0, 199S±02×1786W±02, h602km±21km, n26, σ0°85/21, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.34**	**176**	P	**P**	**01 54 09.0**	**+0.1**
DZM	**Mont Dzumac**	**14.14**	**259**	*e*P	**P**	**01 54 59.0**	**+2.1**
DZM	**Mont Dzumac**	**14.14**	**259**	P	**P**	**01 54 58.2**	**+1.4**
	1.6nm,0.3s,baz=78,slow=23,SNR=12						
URZ	**Urewera**	**18.68**	**191**	P	**P**	**01 55 36.9**	**-1.5**
	3.1nm,0.3s,baz=141,slow=3.1,SNR=10						
SNZO	**South Karori**	**22.10**	**194**	P	**P**	**01 56 09.2**	**+0.1**
CTA	**Charters Tower**	**33.00**	**264**	P	**P**	**01 57 44.6**	**+0.9**
	15nm,0.4s,mb5.0,baz=87,slow=10,SNR=30						
CTAO	**Charters Tower**	**33.00**	**264**	*e*P	**P**	**01 57 44.5**	**+0.8**
	15nm,0.3s,mb5.1						
ASAR	**Alice Springs**	**44.12**	**256**	P	**P**	**01 59 12.9**	**-0.2**
	7.3nm,0.3s,mb4.6,baz=86,slow=8.4,SNR=42						
WB2	**Warramunga Arr**	**44.12**	**262**	*e*P	**P**	**01 59 12.6**	**-0.6**
WRAB	**Tennant Creek**	**44.12**	**262**	*e*P	**P**	**01 59 12.6**	**-0.6**
	6.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**44.13**	**262**	P	**P**	**01 59 12.7**	**-0.6**
	7.4nm,0.3s,mb4.6,baz=97,slow=7.6,SNR=63						
GUMO	**Guam**	**48.98**	**310**	P	**P**	**01 59 49.5**	**-0.2**
MBWA	**Marble Bar**	**57.44**	**257**	*e*P	**P**	**02 00 48.6**	**-0.8**
	1.9nm,0.3s,mb3.8						
SBA	**Scott Base**	**58.44**	**184**	P	**P**	**02 00 56.2**	**0.0**
	1.9nm,0.4s,mb3.6						
VNDA	**Vanda**	**58.47**	**185**	P	**P**	**02 00 57.2**	**+0.9**
	1.0nm,0.4s,mb3.3,baz=18,slow=8.5,SNR=18						
VNDA	**Vanda**	**58.47**	**185**	*e*P	**P**	**02 00 57.2**	**+0.9**
	0.9nm,0.3s,mb3.4						
CASY	**Casey**	**64.27**	**205**	*e*P	**P**	**02 01 33.5**	**-0.6**
	2.8nm,0.6s,mb3.8						
QSPA	**South Pole Qui**	**70.17**	**180**	*e*P	**P**	**02 02 10.4**	**+0.3**
	6.3nm,0.7s,mb4.2						
MAW	**Mawson**	**81.95**	**200**	P	**P**	**02 03 16.8**	**+2.2**
SNAA	**Sanae**	**88.63**	**179**	P	**P**	**02 03 46.2**	**-0.6**
	0.5nm,0.3s,mb3.8						
WMOK	**Wichita Mounta**	**93.14**	**54**	*e*P	**P**	**02 04 07.6**	**0.0**
	17nm,1.2s,mb5.0						
BVAR	**Borovoye Array**	**118.25**	**320**	PKP	PKPdf	02 09 36.2	-0.4
	0.6nm,0.4s,baz=107,slow=3.3,SNR=6.0						
FINES	**FINESS Array B**	**135.03**	**344**	PKP	PKPdf	02 10 10.4	+1.9
	3.6nm,1.1s,baz=23,slow=2.5,SNR=4.3						
AKASG	**Malin Array Be**	**142.21**	**331**	PKhKP		02 10 18.4	
	2.7nm,0.3s,baz=44,slow=4.4,SNR=24						
CLL	**Collm**	**147.34**	**346**	*e*PKPbc	PKPbc	02 10 35.0	+1.2
GERES	**GERESS Array B**	**149.46**	**344**	PKPbc	PKPbc	02 10 38.5	-0.5
	0.8nm,0.8s,baz=358,slow=3.2,SNR=3.7						

NEIC ***13*** *01:58:20.0±0.7, 6.14S×151.67E, h10km, mb4.3/2, Error ellipse: s-maj=20.0km s-min=12.4km az=112.0*
IDC ***13*** *01:58:19.3±2.3, 6.23S×151.60E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML2.3/1, Error ellipse: s-maj=60.8km s-min=37.2km az=128.0*
ISCJB ***13*** *01:58:23.4±4.9, 6.2S±0.1×151.5E±0.2, h40km±38km, mb4.0/6, Error ellipse: s-maj=33.8km s-min=24.5km az=170.6*

ISC 13 01:58:24.3±4.6, 62S±01×1516E±02, h36km±35km, n15, σ0°68/16, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**234**	Pn	**Pn**	**01 59 42.4**	**-0.2**
	0.6nm,0.3s,baz=347,slow=6.3,SNR=2.8						
PMG				Sn	**Sn**	**02 00 44.1**	**+0.4**
	2.5nm,0.3s,baz=142,slow=22,SNR=3.9						
PMG	**Port Moresby**	**5.42**	**234**	*e*Pn	**Pn**	**01 59 43.0**	**+0.4**
PMG				*e*Sn	**Sn**	**02 00 42.1**	**-1.6**
WB2	**Warramunga Arr**	**21.61**	**229**	P	**P**	**02 03 11.7**	**+0.6**
WRA	**Warramunga Arr**	**21.62**	**229**	P	**P**	**02 03 11.4**	**+0.2**
	3.2nm,0.9s,mb3.8,baz=54,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.30**	**223**	P	**P**	**02 03 39.4**	**+1.0**
	5.0nm,0.8s,mb4.0,baz=51,slow=8.3,SNR=18						
STKA	**Stephens Creek**	**27.19**	**199**	P	**P**	**02 04 03.6**	**-0.8**
	2.8nm,0.8s,mb3.8,baz=0.0,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**27.19**	**199**	P	**P**	**02 04 04.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.94**	**243**	P	**P**	**02 04 11.5**	**+0.3**
	1.3nm,0.5s,mb3.8,baz=54,slow=6.7,SNR=4.7						
KULM	**Kulim**	**52.12**	**282**	*e*P	**P**	**02 07 30.0**	**-0.8**

PNIG					*i* S	Sb	03 53 55.8	-1.4
VHO	**Vista Hermosa**	**1.33**	**59**		*i* P	Pn	03 54 07.4	-2.3
VHO					*i* S	Sn	03 54 24.4	-2.1
OXX	**Oaxaca**	**1.35**	**59**		*e*P	Pn	03 54 10.0	+0.1
OXX					*i* S	Sn	03 54 24.0	-2.8
OXX	**Oaxaca**	**1.35**	**59**		*e*P	Pn	03 54 10.0	+0.1
OXX					*i* S	Sn	03 54 28.0	+1.2
UTMO	**Huajuapan**	**1.44**	**5**		*i* P	Pn	03 54 10.4	-0.8
UTMO					*i* S	Sn	03 54 27.3	-1.7
ACX	**Acapulco**	**1.96**	**284**		*i* P	Pn	03 54 17.0	-1.4
ACX					*i* S	Sn	03 54 39.0	-3.0
TPIG	**Tehuac#an**	**2.09**	**15**		*i* P	Pn	03 54 19.5	-0.7
TPIG					*i* S	Sn	03 54 41.8	-3.4
MEIG	**Mezcala**	**2.22**	**314**		*i* P	Pn	03 54 20.3	-1.6
MEIG					*i* S	Sn	03 54 45.3	-3.1
CAIG	**El Cayaco**	**2.33**	**287**		*i* P	Pn	03 54 21.1	-2.4
CAIG					*i* S	Sn	03 54 48.6	-2.5
PLIG	**Platanillo**	**2.49**	**323**		*i* P	Pn	03 54 24.7	-1.0
PLIG					*i* S	Sn	03 54 51.2	-3.9
PLIG	**Platanillo**	**2.49**	**323**		*i* P	Pn	03 54 28.1	+2.5
PLIG					*i* S	Sn	03 54 51.2	-3.9
CMIG	**Matias Romero**	**3.00**	**76**		*i* P	Pn	03 54 30.8	-1.9

NEIC ***13*** *03:55:12.4±1.7, 623S×15169E, h10km, mb4.6/2, Error ellipse: s-maj=36.4km s-min=25.8km az=139.0*
IDC ***13*** *03:55:12.1±2.5, 632S×15163E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML3.0/1, Error ellipse: s-maj=64.1km s-min=39.3km az=131.0*
ISCJB ***13*** *03:55:14.8±5.5, 625S±03×1516E±0.3, h43km±39km, mb3.8/4, Error ellipse: s-maj=56.6km s-min=38.3km az=120.9*

ISC 13 03:55:15.1±7.2, 62S±03×1517E±02, h29km±58km, n10, σ0s54/11, mb3.8/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.50**	**235**	Pn			**Pn**	**03 56 35.5**	**+0.5**
	3.3nm,0.3s,baz=11,slow=10,SNR=8.8								
PMG				Sn			**Sn**	**03 57 36.7**	**-0.5**
	5.2nm,0.3s,baz=182,slow=17,SNR=7.0								
PMG	**Port Moresby**	**5.50**	**235**	*e*Pn			**Pn**	**03 56 35.5**	**+0.5**
	47nm,0.7s								
PMG				*e*Sn			**Sn**	**03 57 37.8**	**+0.6**
KAKA	**Kakadu**	**20.05**	**250**	*e*P			**P**	**03 59 45.3**	**-0.5**
	13nm,0.7s								
WB2	**Warramunga Arr**	**21.68**	**229**	*e*P			**P**	**04 00 02.7**	**-0.7**
WRA	**Warramunga Arr**	**21.69**	**229**	P			**P**	**04 00 03.2**	**-0.4**
	1.3nm,0.5s,mb3.6,baz=55,slow=12,SNR=26								
ASAR	**Alice Springs**	**24.36**	**223**	P			**P**	**04 00 30.9**	**+0.3**
	0.8nm,0.5s,mb3.4,baz=41,slow=11,SNR=18								
STKA	**Stephens Creek**	**27.22**	**199**	P			**P**	**04 00 56.4**	**0.0**
	2.1nm,0.7s,mb3.8,baz=5.2,slow=11,SNR=3.0								
FITZ	**Fitzroy Crossi**	**28.03**	**243**	⇓*i*P			**P**	**04 01 04.4**	**+0.8**
	6.6nm,0.4s,mb4.6								
FITZ	**Fitzroy Crossi**	**28.03**	**243**	P			**P**	**04 01 04.5**	**+0.9**
	2.8nm,0.8s,mb4.0,baz=75,slow=8.1,SNR=9.4								
TORD	**Torodi Ar. Bea**	**149.66**	**285**	PKPbc			PKPbc	04 15 04.1	+2.2
	0.1nm,0.3s,baz=39,slow=2.0,SNR=4.6								

NEIC ***13*** *04:00:56.1±1.2, 643S×15174E, h10km, mb4.6/3, Error ellipse: s-maj=29.4km s-min=19.9km az=141.0*
ISCJB ***13*** *04:01:00.8±5.1, 645S±03×1515E±0.2, h55km±35km, mb4.0/6, Error ellipse: s-maj=49.1km s-min=34.8km az=151.3*
IDC ***13*** *04:01:04.0±8.2, 661S×15156E, h59km±62km, mb3.7/5, mb1 3.9/6, mb1mx3.6/15, mbtmp3.7/6, ML2.4/1, Error ellipse: s-maj=51.3km s-min=36.2km az=65.0*

ISC 13 04:01:02.2±5.0, 65S±03×1516E±02, h51km±33km, n14, σ0s84/13, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**236**	P			**Pn**	**04 02 19.1**	**+0.5**
	1.0nm,0.3s,baz=86,slow=4.7,SNR=4.7								
PMG				S			**Sn**	**04 03 18.3**	**+0.2**
	1.0nm,0.3s,baz=16,slow=20,SNR=4.6								
KAKA	**Kakadu**	**19.89**	**250**	*e*P			**Pn**	**04 05 28.4**	**-2.8**
	13nm,0.6s								
WB2	**Warramunga Arr**	**21.45**	**230**	*e*P			**P**	**04 05 45.1**	**-1.0**
WRA	**Warramunga Arr**	**21.46**	**230**	P			**P**	**04 05 46.0**	**-0.3**
	2.7nm,0.8s,mb3.6,baz=53,slow=11,SNR=16								
AS31	**Alice Springs**	**24.12**	**223**	*e*P			**P**	**04 06 13.7**	**+0.6**
ASAR	**Alice Springs**	**24.12**	**223**	P			**P**	**04 06 13.7**	**+0.5**
	2.5nm,0.8s,mb3.7,baz=61,slow=9.2,SNR=25								
ASPA	**Alice Springs**	**24.12**	**223**	*e*P			**P**	**04 06 13.7**	**+0.5**
STKA	**Stephens Creek**	**26.94**	**199**	P			**P**	**04 06 37.6**	**-1.1**
	2.5nm,0.6s,mb3.9,baz=13,slow=8.0,SNR=4.6								
FITZ	**Fitzroy Crossi**	**27.84**	**243**	*e*P			**P**	**04 06 47.1**	**+0.4**
	3.8nm,0.3s,mb4.5								
FITZ	**Fitzroy Crossi**	**27.84**	**243**	P			**P**	**04 06 47.1**	**+0.3**
	2.2nm,0.7s,mb3.9,baz=74,slow=9.9,SNR=9.6								
MBWA	**Marble Bar**	**34.13**	**242**	P			**P**	**04 07 42.8**	**+0.7**
	6.8nm,0.6s,mb4.8								
VNDA	**Vanda**	**71.20**	**178**	P			**P**	**04 12 16.0**	**+0.3**
	0.7nm,0.9s,mb3.6,baz=345,slow=4.6,SNR=4.1								
MDT	**Midelt**	**145.72**	**323**	PKPbc			PKPbc	04 20 37.1	+1.7
	1.9nm,0.8s,baz=39,slow=5.0,SNR=6.0								
TORD	**Torodi Ar. Bea**	**149.66**	**285**	PKPbc			PKPbc	04 20 46.9	+0.8
	1.3nm,0.7s,baz=67,slow=2.4,SNR=10								
TORD				PKPab			PKPab	04 20 53.3	+1.9
	1.4nm,0.7s,baz=64,slow=3.1,SNR=5.0								

NEIC ***13*** *04:02:00.7, 1836N×10186W, h67km, MD3.7(MEX), After MEX.*

MEX 13 04:02:00.6±0.9, 1836N×10186W, h67km±18km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.84**	**153**	*i* P			Pn	04 02 15.4	-1.4
ZIIG				*i* S			Sn	04 02 27.1	-1.8
ZIIG	**Zihuatanejo**	**0.84**	**153**	*i* P			Pn	04 02 15.5	-1.4
ZIIG				*i* S			Sn	04 02 27.1	-1.8
MOIG	**Morelia**	**1.46**	**26**	*i* P			Pn	04 02 23.6	-1.3
MOIG				*i* S			Sn	04 02 42.3	-0.9
CAIG	**El Cayaco**	**2.00**	**130**	*i* P			Pn	04 02 31.3	-0.9
CAIG				*i* S			Sn	04 02 54.6	-1.6
MEIG	**Mezcala**	**2.17**	**101**	*i* P			Pn	04 02 32.2	-2.3
MEIG				*i* S			Sn	04 02 59.0	-1.5
ACX	**Acapulco**	**2.38**	**128**	*i* P			Pn	04 02 37.5	+0.3
ACX				*i* S			Sn	04 03 04.0	-1.3

NEIC ***13*** *04:03:35.5, 1574N×9732W, h10km, mb4.4/2, MD4.0(MEX), After MEX.*

MEX 13 04:03:35.5±0.6, 1574N×9734W, h10km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.19**	**88**	*i* P			Pb	04 03 53.6	-4.5
HUIG				*i* S			Sb	04 04 09.5	-4.0
VHO	**Vista Hermosa**	**1.45**	**24**	*i* P			Pn	04 03 58.4	-3.4
VHO				*i* S			Sn	04 04 15.2	-5.7
OXX	**Oaxaca**	**1.46**	**24**	*i* P			Pn	04 03 56.5	-5.4
OXX				*i* S			Sn	04 04 16.0	-5.1
OXX	**Oaxaca**	**1.46**	**24**	*i* P			Pn	04 03 58.0	-3.9
OXX				*i* S			Sn	04 04 18.5	-2.6
UTMO	**Huajuapan**	**2.13**	**348**	*i* P			Pn	04 04 06.0	-5.1
UTMO				*i* S			Sn	04 04 34.7	-2.8
TPIG	**Tehuac#an**	**2.67**	**360**	*i* P			Pn	04 04 15.8	-2.7
TPIG				*i* S			Sn	04 04 47.8	-3.1
CMIG	**Matias Romero**	**2.72**	**60**	*e*P			Pn	04 04 16.4	-2.8
CMIG				*i* S			Sn	04 04 49.3	-2.8
MEIG	**Mezcala**	**3.08**	**315**	*i* P			Pn	04 04 22.0	-2.2
MEIG				*i* S			Sn	04 04 58.3	-2.8
PLIG	**Platanillo**	**3.35**	**322**	*i* P			Pn	04 04 26.7	-1.2
PLIG				*i* S			Sn	04 05 05.1	-2.7
SRU	**San Rafael**	**26.00**	**336**	*e*P			P	04 09 08.7	+0.2
	1.1nm,0.3s								
MSU	**Marysvale**	**26.18**	**333**	P			P	04 09 13.6	+3.5
YMR	**Madison River**	**31.06**	**341**	*e*P			P	04 09 46.5	-7.1
	8.9nm,0.7s								

IDC ***13*** *04:06:49.0±1.4, 5.17S×15149E, h86km±12km, mb4.8/17, mb1 4.9/18, mb1mx4.8/20, mbtmp4.8/18, MS4.3/10, Ms1 4.3/10, ms1mx4.1/17, Error ellipse: s-maj=12.4km s-min=9.5km az=106.0*
MOS ***13*** *04:06:50.9±1.1, 5.14S×15148E, h109km, mb5.4/30, Error ellipse: s-maj=8.2km s-min=6.6km az=82.8*
BJI ***13*** *04:06:50.5, 5.18S×15225E, h141km, mB5.3, mb5.1*
ISCJB ***13*** *04:06:51.6±0.1, 524S±003×15146E±003, h116km, mb5.2/77, Error ellipse: s-maj=5.0km s-min=3.6km az=145.4*
NEIC ***13*** *04:06:52.4±1.0, 5.19S×15147E, h116km±8km, mb5.3/42, Error ellipse: s-maj=6.4km s-min=5.2km az=160.0*

ISC 13 04:06:53.5±0.1, 525S±003×15150E±003, h118km, h118km±4.0km: pP-P, n488, σ0s83/398, mb5.2/76, 95C-84D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.97**	**226**	P			**Pn**	**04 08 19.8**	**+0.3**
	165nm,0.3s,baz=48,slow=6.7,SNR=157								
PMG				S			**Sn**	**04 09 28.6**	**+2.1**
	170nm,0.3s,baz=174,slow=24,SNR=13								
PMG	**Port Moresby**	**5.97**	**226**	*e*P			**Pn**	**04 08 19.5**	**0.0**
PMG	**Port Moresby**	**5.97**	**226**	*e*Pn			**Pn**	**04 08 18.8**	**-0.7**
	756nm,0.6s								
PMG				*e*Sn			**Sn**	**04 09 28.8**	**+2.3**
HNR	**Honiara**	**9.35**	**117**	P			**Pn**	**04 09 03.1**	**-2.1**
	20nm,0.3s,baz=259,slow=4.3,SNR=2.6								
HNR	**Honiara**	**9.35**	**117**	P			**Pn**	**04 09 03.1**	**-2.1**
HNR				pmax			pmax		
	comp=Z,21nm,0.3s								
CTA	**Charters Tower**	**15.61**	**199**	*e*P			**Pn**	**04 10 28.7**	**+1.8**
	comp=Z,25nm,0.8s								
CTA				*e*S			**S**	**04 13 26.5**	**-0.3**
CTA	**Charters Tower**	**15.61**	**199**	P			**Pn**	**04 10 28.6**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=25,slow=12,SNR=38								
CTA				LR			LR	04 15 37.0	
	comp=Z,1μm,20.6s,baz=225,slow=34								
CTA	**Charters Tower**	**15.61**	**199**	P			**Pn**	**04 10 28.6**	**+1.7**
CTA				pmax			pmax		
	comp=Z,1.0nm,0.3s								
CTA				MLR			MLR		
	comp=Z,1μm,20.6s								
CTAO	**Charters Tower**	**15.61**	**199**	*e*P			**Pn**	**04 10 28.4**	**+1.5**
CTAO				pmax			pmax		
	comp=Z,45nm,0.9s								
CTAO	**Charters Tower**	**15.61**	**199**	*e*P			**Pn**	**04 10 28.4**	**+1.4**
	comp=Z,46nm,0.9s								
GUMO	**Guam**	**19.84**	**341**	P			**P**	**04 11 15.8**	**+0.9**
	comp=Z,15nm,0.3s,baz=158,slow=7.3,SNR=14								
GUMO	**Guam**	**19.84**	**341**	*e*Pn			**Pn**	**04 11 16.1**	**-1.5**
KAKA	**Kakadu**	**20.23**	**247**	⇑*i*P			**P**	**04 11 18.9**	**-0.2**
	comp=Z,229nm,0.6s								
KAKA				*e*S			**S**	**04 14 59.1**	**-0.4**
KAKA				*i* SCP			ScP	04 18 56.2	+2.5
KAKA				*e*				04 19 40.7	
DZM	**Mont Dzumac**	**22.11**	**141**	*e*P			**P**	**04 11 37.2**	**-2.0**
DZM	**Mont Dzumac**	**22.11**	**141**	P			**P**	**04 11 37.5**	**-1.7**
	comp=Z,242nm,1.0s,mb5.5,baz=335,slow=8.1,SNR=68								
DZM				LR			LR	04 18 46.8	
	comp=Z,1μm,21.6s,baz=55,slow=32								
WRAB	**Tennant Creek**	**22.17**	**227**	P			**P**	**04 11 39.0**	**-0.8**
	comp=Z,2μm,0.8s,SNR=90								
WRAB	**Tennant Creek**	**22.17**	**227**	*c i*P			**P**	**04 11 40.1**	**+0.3**
WRAB				*i* *PP				04 12 05.6	
WRAB	**Tennant Creek**	**22.17**	**227**	P			**P**	**04 11 39.5**	**-0.4**
WB2	**Warramunga Arr**	**22.18**	**227**	⇑*i*P			**P**	**04 11 39.2**	**-0.7**
WB2				*i* S			**S**	**04 15 33.7**	**-2.2**
WB2				*i* SCP			ScP	04 19 02.3	+3.7
WB2				*e*				04 19 35.9	
WB2				*e*				04 19 45.7	
WB2				*e*SCS			ScS	04 22 47.0	+3.4
WRA	**Warramunga Arr**	**22.19**	**227**	P			**P**	**04 11 39.3**	**-0.7**
	comp=Z,162nm,0.8s,mb5.4,baz=48,slow=9.5,SNR=149								
WRA				S			**S**	**04 15 38.4**	**+2.3**
	comp=Z,69nm,1.2s,baz=57,slow=19,SNR=13								
WRA				SCP			ScP	04 19 02.1	+3.5
	comp=Z,36nm,1.2s,baz=44,slow=2.7,SNR=22								
WRA	**Warramunga Arr**	**22.19**	**227**	P			**P**	**04 11 39.3**	**-0.7**
WRA				S			**S**	**04 15 38.4**	**+2.3**
WRA				pmax			pmax		
	comp=Z,162nm,0.8s								
WRA				smax					
	comp=N,69nm,1.3s								
AS31	**Alice Springs**	**24.96**	**221**	*e*P			**P**	**04 12 06.4**	**+0.6**
AS31				*e*ScP			ScP	04 19 09.9	+3.9
AS31				*i* ScS			ScS	04 22 59.8	+5.3
AS31				*e*				04 23 43.2	
ASAR	**Alice Springs**	**24.96**	**221**	P			**P**	**04 12 06.2**	**+0.3**
	comp=N,86nm,0.8s,mb5.2,baz=55,slow=8.4,SNR=131								
ASAR				S			**S**	**04 16 23.8**	**+3.1**
	comp=N,4.8nm,0.9s,baz=43,slow=14,SNR=3.7								
ASAR				ScP			ScP	04 19 09.7	+3.6
	comp=N,14nm,1.0s,baz=52,slow=3.3,SNR=22								
ASAR	**Alice Springs**	**24.96**	**221**	P			**P**	**04 12 06.2**	**+0.4**
ASAR				S			**S**	**04 16 23.8**	**+3.1**
ASAR				pmax			pmax		
	comp=Z,86nm,0.8s								
ASAR				smax					
	comp=N,5.0nm,1.0s								
ASPA	**Alice Springs**	**24.96**	**221**	*e*P			**P**	**04 12 06.4**	**+0.6**
ASPA				*e*SCP			ScP	04 19 09.9	+3.8
ASPA				*i* SCS			ScS	04 22 59.8	+5.3
ASPA				*e*				04 23 43.2	
ARMA	**Armidale**	**25.04**	**180**	*e*P			**P**	**04 12 06.8**	**+0.2**
STKA	**Stephens Creek**	**28.07**	**198**	*e*P			**P**	**04 12 32.8**	**-1.0**
	comp=N,7.5nm,0.8s,mb4.3								
STKA				*e*SCP			ScP	04 19 20.1	+4.8
STKA	**Stephens Creek**	**28.07**	**198**	P			**P**	**04 12 33.4**	**-0.4**
	comp=N,8.6nm,0.7s,mb4.4,baz=22,slow=10,SNR=13								
STKA				SCP			ScP	04 19 20.8	+5.5
	comp=N,16nm,1.1s,baz=34,slow=4.4,SNR=5.7								
STKA				LR			LR	04 23 49.0	
	comp=N,483nm,18.8s,baz=30,slow=36								
FITZ	**Fitzroy Crossi**	**28.31**	**241**	⇑*i*P			**P**	**04 12 35.3**	**-0.6**
	comp=N,75nm,0.7s,mb5.3								
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P			**P**	**04 12 35.5**	**-0.4**
	comp=N,58nm,0.8s,mb5.1,baz=69,slow=7.0,SNR=66								
FITZ				LR			LR	04 24 36.8	
	comp=N,257nm,18.1s,baz=65,slow=38								
FORT	**Forrest**	**33.63**	**218**	*e*P			**P**	**04 13 21.4**	**-1.2**
	comp=N,35nm,0.6s,mb5.4								
MBWA	**Marble Bar**	**34.63**	**240**	*e*P			**P**	**04 13 30.4**	**-0.9**
	comp=N,112nm,1.3s,mb5.5								
MBWA				*e*pP			pP	04 13 52.9	-4.5
TSM	**Tawau**	**34.90**	**285**	P			**P**	**04 13 35.5**	**+2.0**
URZ	**Urewera**	**40.27**	**148**	P			**P**	**04 14 17.9**	**-0.9**
	comp=N,33nm,0.8s,mb5.2,baz=332,slow=2.7,SNR=11								
KLBR	**Kellerberrin**	**41.06**	**226**	*e*P			**P**	**04 14 23.8**	**-1.5**
	comp=N,31nm,0.7s,mb5.2								
KLBR				*e*			pP	04 14 45.8	-6.3
KSM	**Kuching**	**41.68**	**278**	*e*P			**P**	**04 14 30.0**	**-0.4**
YHNB	**Yeheng**	**41.76**	**317**	*e*P			**P**	**04 14 30.7**	**-0.3**
RPZ	**Rata Peaks**	**42.01**	**159**	P			**P**	**04 14 32.2**	**-0.8**
	comp=N,68nm,0.7s,mb5.5,baz=38,slow=5.2,SNR=22								
NWAO	**Narrogin (SRO)**	**42.16**	**225**	P			**P**	**04 14 32.7**	**-1.5**
	baz=64,slow=9.4								
NWAO	**Narrogin (SRO)**	**42.16**	**225**	*e*P			**P**	**04 14 33.1**	**-1.1**
NWAO				*e*PP			pP	04 14 55.2	-5.9
NWAO				pmax			pmax		
	comp=Z,86nm,1.6s								
NWAO	**Narrogin (SRO)**	**42.16**	**225**	*e*P			**P**	**04 14 33.1**	**-1.1**
	comp=Z,86nm,1.6s,mb5.2								
NWAO				*e*pP			pP	04 14 55.2	-5.9
MUN	**Mundaring**	**42.38**	**227**	*e*P			**P**	**04 14 35.7**	**-0.3**
MUN				*e*			pP	04 14 57.6	-5.4
MJAR	**Matsushiro Arr**	**43.39**	**344**	P			**P**	**04 14 41.4**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=163,slow=9.4,SNR=5.1								
MJAR				ScP			ScP	04 20 12.9	+1.9
	comp=Z,1.5nm,0.7s,baz=182,slow=5.2,SNR=5.0								
MJAR				LR			LR	04 30 16.9	
	comp=Z,244nm,21.6s,baz=185,slow=32								
MJAR	**Matsushiro Arr**	**43.39**	**344**	P			**P**	**04 14 41.4**	**-2.8**
MJAR				ScP			ScP	04 20 12.9	+1.9
MJAR				LR			LR	04 30 16.9	
QZH	**Quanzhou**	**43.87**	**315**	⇑*i*P			**P**	**04 14 48.8**	**+0.8**
QZH				AMB			AMB		
	comp=Z,130nm,0.9s,mb5.7								
GZH	**Guangzhou**	**46.71**	**309**	P			**P**	**04 15 11.6**	**+1.2**
GZH				S			**S**	**04 21 53.3**	**+2.2**
GZH				LR			LR		
	comp=N,449nm,14.2s								
GZH				LR			LR		
	comp=E,419nm,20.7s								
GZH				LR			LR		
	comp=Z,978nm,20.4s								
QIZ	**Qiongzhong**	**47.59**	**302**	⇑P			**P**	**04 15 19.8**	**+2.6**
QIZ				AP			pP	04 15 49.1	+4.4
QIZ				S			**S**	**04 22 04.3**	**+0.8**
QIZ				AMB			AMB		
	comp=Z,28nm,1.4s,mb4.9								
QIZ				AMB			AMB		
	comp=Z,319nm,4.0s								
KSRS	**Korea Array**	**47.83**	**335**	P			**P**	**04 15 16.9**	**-2.1**
	comp=Z,3.0nm,0.8s,mb4.2,baz=150,slow=9.1,SNR=7.9								
KGM	**Kluang**	**48.67**	**277**	P			**P**	**04 15 27.8**	**+2.3**
RAR	**Rarotonga**	**49.79**	**113**	P			**P**	**04 15 33.4**	**-0.6**
	comp=Z,47nm,1.0s,mb5.4,baz=270,slow=5.2,SNR=6.2								
RAR	**Rarotonga**	**49.79**	**113**	P			**P**	**04 15 33.4**	**-0.6**
RAR				pmax			pmax		
	comp=Z,47nm,1.0s								
WHN	**Wuhan**	**50.29**	**317**	⇓P			**P**	**04 15 39.5**	**+1.7**
WHN				AMB			AMB		
	comp=Z,190nm,1.6s,mb5.8								
WHN				LR			LR		
	comp=Z,1μm,22.2s								
IPM	**Ipoh**	**51.33**	**280**	P			**P**	**04 15 47.2**	**+1.6**
KULM	**Kulim**	**51.85**	**281**	*e*P			**P**	**04 15 48.8**	**-0.7**
PSI	**Prapat**	**53.13**	**277**	P			**P**	**04 15 58.2**	**-0.7**
	comp=Z,21nm,1.1s,mb5.1,baz=155,slow=6.2,SNR=14								
PSI	**Prapat**	**53.13**	**277**	P			**P**	**04 15 58.2**	**-0.7**
PSI				pmax			pmax		
	comp=Z,21nm,1.1s,mb5.1								
PSI	**Prapat**	**53.13**	**277**	P			**P**	**04 15 58.2**	**-0.7**
MDJ	**Mudanjiang**	**53.39**	**341**	P			**P**	**04 15 59.3**	**-1.6**
MDJ				AMB			AMB		
	comp=Z,12nm,1.9s,mb4.6								
MDJ				AMB			AMB		
	comp=Z,164nm,4.8s								
GYA	**Guiyang**	**53.64**	**308**	⇑*i*P			**P**	**04 16 04.3**	**+1.6**
GYA				AP			pP	04 16 33.4	+2.7
GYA				XP			sP	04 16 47.8	+4.0
GYA				PCP			PcP	04 17 08.9	+1.4
GYA				PP			PP	04 18 07.6	+3.0
GYA				SCP			ScP	04 20 53.5	-0.9
GYA				PCS			PcS	04 21 07.5	+0.7
GYA				S			**S**	**04 23 26.5**	**-0.7**
GYA				SCS			ScS	04 25 38.6	-1.7
GYA				AMB			AMB		
	comp=Z,30nm,0.8s,mb5.4								
GYA				AMB			AMB		
	comp=Z,120nm,4.9s								
GYA				LR			LR		
	comp=N,540nm,18.9s								
GYA				LR			LR		
	comp=E,480nm,18.7s								
GYA				LR			LR		
	comp=Z,610nm,19.0s								
NANT	**Nan**	**55.45**	**297**	⇓P			**P**	**04 16 15.0**	**-0.7**
	comp=Z,199nm,1.0s,mb6.1								
XAN	**Xi'an**	**56.06**	**317**	P			**P**	**04 16 20.0**	**-0.1**
XAN				AMB			AMB		
	comp=Z,13nm,1.6s,mb4.7								
KMI	**Kunming**	**56.17**	**305**	P			**P**	**04 16 22.8**	**+2.0**
KMI				AP			pP	04 16 53.1	+4.0
KMI				XP			sP	04 17 07.6	+5.4
KMI				S			**S**	**04 24 00.1**	**-0.8**
KMI				AMB			AMB		
	comp=Z,29nm,1.4s,mb5.1								
KMI				AMB			AMB		
	comp=Z,211nm,4.4s								
KMI				LR			LR		
	comp=N,218nm,14.6s								
KMI				LR			LR		
	comp=E,258nm,15.9s								
KMI				LR			LR		
	comp=Z,668nm,41.3s								
KMI	**Kunming**	**56.17**	**305**	P			**P**	**04 16 22.8**	**+2.0**
	comp=Z,29nm,1.4s,mb5.1								
KMI				pP			pP	04 16 53.1	+4.0
KMI				sP			sP	04 17 07.6	+5.4
KMI				S			**S**	**04 24 00.1**	**-0.8**
KMI				SS			SS	04 27 50.1	+1.1
KMI				LR			LR		
	comp=Z,670nm,41.3s								
KLR	**Kul'dur**	**56.92**	**345**	*e*P			**P**	**04 16 20.8**	**-5.3**
CHG	**Chiang Mai**	**57.02**	**296**	⇓P			**P**	**04 16 28.9**	**+2.1**
	comp=Z,45nm,1.3s,mb5.3								
CHTO	**Chiang Mai**	**57.02**	**296**	*e*P			**P**	**04 16 28.3**	**+1.5**
CHTO				pmax			pmax		
	comp=Z,76nm,1.4s,mb5.5								
CHTO	**Chiang Mai**	**57.02**	**296**	*e*P			**P**	**04 16 28.3**	**+1.5**
	comp=Z,76nm,1.4s,mb5.5								
CD2	**Chengdu**	**58.05**	**311**	*e*P			**P**	**04 16 34.3**	**+0.2**
CD2				AP			pP	04 17 04.3	+1.8
CD2				S			**S**	**04 24 23.0**	**-2.6**
CD2				AMB			AMB		
	comp=Z,50nm,0.6s,mb5.7								
CD2				AMB			AMB		
	comp=Z,120nm,6.2s								
CD2				LR

GTA LR LR
comp=N,264nm,14.5s
GTA LR LR
comp=E,268nm,17.9s
GTA LR LR
comp=Z,383nm,21.3s
CIT Chita 65.55 335 *e*P **P** **04 17 23.5 -0.8**
CIT pmax pmax
comp=Z,89nm,2.9s,mb5.1
SONM Songino Array 66.02 329 P **P** **04 17 27.3 0.0**
comp=Z,18nm,0.5s,mb5.1,baz=147,slow=5.3,SNR=70
SONM LR LR 04 42 58.6
comp=Z,390nm,21.9s,baz=194,slow=33
LSA Lhasa 67.43 305 *e*P **P** **04 17 37.3 +1.0**
LSA Lhasa 67.43 305 *e*P **P** **04 17 36.9 +0.6**
LSA pmax pmax
comp=Z,28nm,0.8s,mb5.1
LSA Lhasa 67.43 305 *e*P **P** **04 17 36.9 +0.6**
comp=Z,28nm,0.8s,mb5.2
YAK Yakutsk 69.16 349⇑ *e*P **P** **04 17 44.9 -2.1**
YAK pmax pmax
comp=Z,53nm,1.7s,mb5.1
BOD Bodaibo 69.75 340 *e*P **P** **04 17 46.9 -3.8**
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
TLY Talaya 69.82 331 *e*P **P** **04 17 50.5 -0.6**
TLY *e*S 04 27 30.7
TLY pmax pmax
comp=Z,24nm,1.2s,mb4.9
IRK Irkutsk 69.87 331 *e*P **P** **04 17 49.0 -2.4**
IRK pmax pmax
comp=Z,44nm,1.3s,mb5.1
JIRN Jiri 70.91 301 *e*P **P** **04 17 57.9 +0.1**
GUN Gumba 71.25 302 *e*P **P** **04 17 59.9 +0.1**
comp=Z,84nm,0.7s,mb5.7
PKI Pulchoki 71.55 301 *e*P **P** **04 18 02.0 +0.4**
KKN Kakani 71.72 301 *e*P **P** **04 18 02.8 +0.2**
comp=Z,50nm,0.7s,mb5.4
PALK Pallekele 71.73 279 *e*P **P** **04 18 03.0 +0.3**
comp=Z,14nm,0.7s,mb4.9
DMN Daman 71.82 301 *e*P **P** **04 18 03.5 +0.3**
comp=Z,137nm,0.9s,mb5.8
GKN Gorkha 72.33 301 *e*P **P** **04 18 06.3 +0.1**
comp=Z,183nm,1.2s,mb5.8
VNDA Vanda 72.44 178 P **P** **04 18 06.1 -0.8**
comp=Z,3.1nm,0.8s,mb4.2,baz=320,slow=6.1,SNR=26
RKT Rikitea 72.81 112 *e*LR LR 04 40 36.8
comp=Z,862nm,35.0s
SBA Scott Base 73.01 177 *e*P **P** **04 18 09.7 -0.6**
SBA pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
SBA Scott Base 73.01 177 *e*P **P** **04 18 09.7 -0.5**
comp=Z,7.6nm,1.2s,mb4.4
MIR Mirnyy 73.05 201 *e*P **P** **04 18 09.0 -1.5**
MIR *i* 04 18 33.0
MIR *e* 04 18 48.0
MIR pmax pmax
comp=Z,250nm,1.0s,mb6.0
KOLN Koldanda 73.15 301 *e*P **P** **04 18 10.8 -0.3**
comp=Z,73nm,0.9s,mb5.5
BILL Bilibino 73.86 6⇑ *e*P **P** **04 18 16.3 +1.1**
BILL *e* 04 18 27.0
BILL *e* pP 04 18 43.6 -1.2
BILL pmax pmax
comp=Z,90nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,200nm,19.0s
WMQ Urumqi 75.19 318 *e*P **P** **04 18 23.1 +0.1**
WMQ PCP PcP 04 18 37.3 +1.4
WMQ AP pP 04 18 55.3 +2.6
WMQ XP sP 04 19 09.1 +3.7
WMQ PP PP 04 21 16.0 +3.2
WMQ PPP 04 23 01.8
WMQ S S 04 27 50.6 -1.6
WMQ SKS 04 28 16.3
WMQ SCS ScS 04 28 21.8 -3.1
WMQ PS 04 28 43.8
WMQ AMB AMB
comp=Z,35nm,1.5s,mb4.9
WMQ AMB AMB
comp=Z,222nm,5.3s
WMQ LR LR
comp=Z,280nm,29.0s
HYB Hyderabad 75.42 289 *i* P **P** **04 18 24.5 +0.3**
HYB Hyderabad 75.42 289 *e*P **P** **04 18 24.5 +0.3**
KRAR Krasnoyarsk 77.52 331⇑ *e*P **P** **04 18 36.2 +0.1**
KRAR pmax pmax
comp=Z,34nm,0.6s,mb5.2
TIXI Tiksi 78.17 353⇑ *i*P **P** **04 18 38.9 -0.8**
TIXI pmax pmax
comp=Z,11nm,1.7s,mb4.3
TIXI Tiksi 78.17 353 *e*P **P** **04 18 37.0 -2.7**
NDI New Delhi 78.83 300 *e*x x 04 18 42.0
SLKM Skilak Lake 79.62 25 *e*P **P** **04 18 45.3 -2.3**
MKAR Makanchi Array 79.81 319 P **P** **04 18 47.9 -0.7**
comp=Z,11nm,1.0s,mb4.6,baz=91,slow=6.1,SNR=21
MKAR Makanchi Array 79.81 319 P **P** **04 18 47.9 -0.7**
MKAR pmax pmax
comp=Z,11nm,1.0s
MKAR Makanchi Array 79.81 319 P **P** **04 18 47.9 -0.7**
ZAL Zalesovo 80.81 327 P **P** **04 18 52.3 -1.7**
comp=Z,8.7nm,0.7s,mb4.7,baz=16,slow=4.5,SNR=23
ZAL Zalesovo 80.81 327 P **P** **04 18 52.3 -1.7**
ZAL pmax pmax
comp=Z,9.0nm,0.7s
SML Sawmill 81.06 25 *e*P **P** **04 18 54.1 -1.2**
SML *e**PP pP 04 19 22.4 -3.0
IMA2 Indian Mountai 81.30 20 *e*P **P** **04 18 57.0 +0.4**
MCK McKinley 81.77 23 *e*P **P** **04 18 56.6 -2.5**
NVS Novosibirsk 82.00 327⇑ *i*P **P** **04 18 58.4 -1.8**
NVS *i* 04 19 39.5
NVS pmax pmax
comp=N,20nm,1.7s
NVS pmax pmax
comp=E,33nm,1.7s
NVS pmax pmax
comp=Z,48nm,1.7s,mb5.0
KSH Kashi 82.24 311 ⇑P **P** **04 19 03.1 +1.6**
KSH *e*AP pP 04 19 35.3 +3.6
KSH *e*S S 04 29 04.6 -2.5
KSH LR LR
comp=N,2μm,5.6s
KSH LR LR
comp=E,1μm,6.1s
KSH LR LR
comp=Z,3μm,8.6s
ULHL Ulahol 82.69 314 P **P** **04 19 04.2 +0.3**
SNR=6.8
COLA College 82.74 22*d i*P **P** **04 19 01.7 -2.4**
COLA *i* *PP pP 04 19 42.1 +7.8
COLA College 82.74 22 *e*P **P** **04 19 00.8 -3.3**
comp=Z,8.3nm,0.8s,mb4.6
COLA *e*pP pP 04 19 29.7 -4.6
TKM2 Tokmak 2 83.31 314 P **P** **04 19 06.8 -0.2**
SNR=18
KURK Kurchatov 83.32 322 P **P** **04 19 05.3 -1.8**
comp=Z,158nm,1.2s,mb5.7,SNR=5.8
KURK Kurchatov 83.32 322 *e*P **P** **04 19 05.3 -1.8**
KURK pmax pmax
comp=Z,49nm,1.3s,mb5.2
KURK Kurchatov 83.32 322 *e*P **P** **04 19 05.3 -1.8**
comp=Z,49nm,1.3s,mb5.2
KZA Kyzart 83.36 313 P **P** **04 19 08.4 +1.1**
SNR=45
KBK Karagaybulak 83.71 314 P **P** **04 19 09.4 +0.3**
SNR=13
CHMS Chumysh 83.93 314 P **P** **04 19 10.2 -0.1**
SNR=13
UCH Uchtor 83.93 313 P **P** **04 19 11.0 +0.8**
SNR=37
FRU Bishkek 83.99 314 *i* P **P** **04 19 11.0 +0.5**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.4
AAK Ala-Archa 84.03 314 P **P** **04 19 09.3 -1.4**
comp=Z,102nm,1.1s,mb5.6,SNR=9.5
AAK Ala-Archa 84.03 314 P **P** **04 19 11.1 +0.4**
SNR=20
AAK Ala-Archa 84.03 314⇑ *i*P **P** **04 19 09.5 -1.2**
AAK pmax pmax
comp=Z,54nm,1.7s,mb5.1
AAK Ala-Archa 84.03 314⇑ *e*P **P** **04 19 09.4 -1.3**
comp=Z,56nm,1.4s,mb5.2
USP Ospenovka 84.17 314 P **P** **04 19 11.5 +0.1**
SNR=29
AML Almayashu 84.50 313 P **P** **04 19 14.2 +1.1**
SNR=70
EKS2 Erkin-Say 84.56 314 P **P** **04 19 13.9 +0.5**
SNR=28
MAW Mawson 84.66 203 *e*P **P** **04 19 12.9 -1.0**
comp=Z,8.7nm,1.2s,mb4.6
MAW Mawson 84.66 203 P **P** **04 19 13.3 -0.6**
comp=Z,5.5nm,0.6s,mb4.7,baz=90,slow=5.9,SNR=14
MAW LR LR 04 53 02.6
comp=Z,128nm,19.4s,baz=318,slow=33
EGAK Eagle 85.28 23 *e*P **P** **04 19 16.2 -0.7**
comp=Z,18nm,0.9s,mb5.0
EGAK pP pP 04 19 43.9 -3.4
DAWY Dawson 85.72 24 *e*P **P** **04 19 17.9 -1.2**
DLBC Dease Lake 88.43 31 *e*P **P** **04 19 32.1 -0.1**
CHKZ Chkalovo 88.81 324 *e*P **P** **04 19 30.9 -3.1**
CHKZ pmax pmax
comp=Z,22nm,1.3s,mb5.0
CHKZ Chkalovo 88.81 324 *e*P **P** **04 19 30.9 -3.1**
comp=Z,22nm,1.3s,mb5.0
BVAR Borovoye Array 88.82 323 LR LR 04 56 19.6
comp=Z,174nm,21.2s,baz=318,slow=34
BRVK Borovoye 88.89 323 P **P** **04 19 32.1 -2.3**
comp=Z,81nm,1.8s,mb5.5,SNR=6.1
BRVK Borovoye 88.89 323 P **P** **04 19 33.0 -1.4**
M01C Crescent City 89.28 48 ⇑P **P** **04 19 34.7 -1.6**
baz=89
O01C Eel River Cons 89.28 50 ⇓P **P** **04 19 36.9 +0.6**
baz=89
INK Inuvik 89.33 21 *e*P **P** **04 19 36.0 -0.5**
ZRNK Zerenda 89.63 323 *e*P **P** **04 19 34.3 -3.6**
ZRNK *e**PP pP 04 20 00.2 -8.3
ZRNK pmax pmax
comp=Z,30nm,1.4s,mb5.2
ZRNK Zerenda 89.63 323 *e*P **P** **04 19 34.3 -3.6**
comp=Z,30nm,1.4s,mb5.2
ZRNK *e*pP pP 04 20 00.2 -8.3
I02A Mapleton 89.78 46 ⇓P **P** **04 19 37.3 -1.2**
baz=90
K02A Glendale 89.86 47 ⇑P **P** **04 19 38.3 -0.6**
baz=90
O02C Red Bluff 90.07 50 ⇓P **P** **04 19 39.6 -0.3**
baz=90
CVS Carmenet Viney 90.12 52 ⇓P **P** **04 19 39.8 -0.3**
baz=90
M02C Callahan 90.17 49 ⇑P **P** **04 19 40.6 +0.3**
baz=90
MNRC McLaughlin Nat 90.19 51 ⇑P **P** **04 19 40.1 -0.3**
baz=90
BNLO Ben Lomond (Sa 90.20 53 ⇓P **P** **04 19 40.8 +0.3**
baz=90
HUMO Hull Mountain 90.23 47 ⇑P **P** **04 19 40.6 -0.1**
baz=90,SNR=7.6
H03A Soap Creek Ran 90.24 45 ⇓P **P** **04 19 40.6 -0.1**
baz=90
WDC Whiskeytown Da 90.31 49 *e*P **P** **04 19 41.0 0.0**
WDC pmax pmax
comp=Z,28nm,1.4s,mb5.2
WDC Whiskeytown Da 90.31 49 *e*P **P** **04 19 41.0 0.0**
comp=Z,28nm,1.4s,mb5.2
WDC Whiskeytown Da 90.31 49 ⇓P **P** **04 19 40.7 -0.3**
baz=90
YBH Yreka Blue Hor 90.31 48 *e*P **P** **04 19 42.0 +1.0**
YBH Yreka Blue Hor 90.31 48 ⇓P **P** **04 19 40.9 -0.2**
baz=90,SNR=6.3
J03A Ideyld Park 90.32 47 ⇓P **P** **04 19 41.0 0.0**
baz=90
WENL Wente Brothers 90.59 52 ⇑P **P** **04 19 42.1 -0.2**
baz=91
O03C Acorn Hollow, 90.63 50 ⇓P **P** **04 19 42.1 -0.4**
baz=91
SUTB Sutter Butte 90.74 51 ⇑P **P** **04 19 42.8 -0.2**
baz=91
I04A Tendick Farm, 90.77 46 ⇓P **P** **04 19 42.5 -0.6**
baz=91
C04A Brinnon 90.83 42 ⇑P **P** **04 19 43.1 -0.4**
baz=91
V03C Hunter Liggett 90.84 54 ⇓P **P** **04 19 43.8 +0.3**
baz=91
E04A Onalaska 90.87 43 ⇑P **P** **04 19 43.9 +0.3**
baz=91
G04A Mulino 90.88 45 ⇓P **P** **04 19 43.9 +0.3**
baz=91
PACP Pacheco Peak 90.90 53 ⇑P **P** **04 19 44.2 +0.4**
baz=91
GNW Green Mountain 90.91 42 *e*P **P** **04 19 43.9 0.0**
S04C Ingram Canyon, 90.92 53 ⇓P **P** **04 19 44.2 +0.3**
baz=91
J04A Umpqua Nationa 90.93 47 ⇓P **P** **04 19 44.1 +0.3**
baz=91
M04C Macdoel 90.97 48 ⇓P **P** **04 19 44.0 -0.1**
baz=91,SNR=5.7
L04A Klamath Falls 90.97 48 P **P** **04 19 44.0 0.0**
baz=91,SNR=6.2
ORV Oroville 90.99 51 ⇓P **P** **04 19 44.0 -0.2**
baz=91,SNR=12
K04A Chilcuin 91.14 47 ⇑P **P** **04 19 44.6 -0.3**
baz=91
HATC Hat Creek Radi 91.15 49 ⇑P **P** **04 19 45.1 +0.2**
baz=91
U04C Hernandez Rese 91.24 54 ⇑P **P** **04 19 45.3 0.0**
baz=91
O04C Chester 91.38 50 ⇑P **P** **04 19 46.3 +0.3**
baz=91
PKD Parkfield 91.39 54 P **P** **04 19 46.4 +0.4**
baz=91,SNR=6.4
D05A Enumclaw 91.44 43 ⇓P **P** **04 19 47.1 +0.9**
baz=92
M05C Lookout 91.44 49 ⇑P **P** **04 19 46.2 0.0**
baz=92
O05C Quincy 91.48 50 P **P** **04 19 46.1 -0.3**
baz=92,SNR=6.5
B05A Bryant 91.48 42 ⇓P **P** **04 19 46.4 -0.1**
baz=92
LAVA Lava Cap Winer 91.50 51 ⇓P **P** **04 19 46.6 +0.1**
baz=92,SNR=12
E05A Randle 91.53 44 ⇓P **P** **04 19 46.7 0.0**
baz=92
I05A Bend 91.63 46 ⇓P **P** **04 19 47.1 -0.1**
baz=92
PTRM Twissleman Ran 91.63 55 *e*P **P** **04 19 47.7 +0.6**
P05C Yuba Gap, Truc 91.65 51 ⇓P **P** **04 19 47.5 +0.2**
baz=92,SNR=11
S05C Merced 91.69 53 ⇑P **P** **04 19 47.8 +0.3**
baz=92,SNR=5.5
C05A Tolt Reservoir 91.69 42 ⇑P **P** **04 19 47.4 -0.1**
baz=92
G05A Wamic 91.70 45 ⇓P **P** **04 19 47.4 -0.1**
baz=92
H05A Madras 91.71 46 ⇑P **P** **04 19 47.7 +0.2**
baz=92
CMB Columbia Colle 91.71 52 *e*P **P** **04 19 47.3 -0.2**
CMB pmax pmax
comp=Z,27nm,1.3s,mb5.3
CMB Columbia Colle 91.71 52 *e*P **P** **04 19 47.3 -0.2**
comp=Z,27nm,1.3s,mb5.3
CMB Columbia Colle 91.71 52 P **P** **04 19 47.8 +0.3**
baz=92,SNR=13
L05A Lakeview 91.74 48 ⇑P **P** **04 19 47.7 0.0**
baz=92
K05A Summer Lake 91.76 47 ⇓P **P** **04 19 47.7 0.0**
baz=92,SNR=5.8
PKM Peak Mountain 91.88 55 ⇑P **P** **04 19 49.3 +1.0**
baz=92,SNR=5.3
BEKR Beckwourth 91.90 50 ⇑P **P** **04 19 48.3 -0.1**
baz=92
B06A Marblemount 91.91 42 ⇓P **P** **04 19 48.4 -0.1**
baz=92
M06C Likely Place G 91.93 49 ⇑P **P** **04 19 48.8 +0.2**
baz=92
R05C Kirkwood Meado 92.01 52 P **P** **04 19 49.5 +0.6**
baz=92,SNR=8.5
S06C San Francisco 92.12 52 ⇓P **P** **04 19 49.5 +0.1**
baz=92,SNR=28
MOD Modoc 92.12 48 *e*P **P** **04 19 49.6 +0.2**
comp=Z,31nm,1.2s,mb5.4
MOD Modoc 92.12 48 P **P** **04 19 49.7 +0.3**
baz=92,SNR=7.7
T06C Millerton Lake 92.15 53 P **P** **04 19 49.6 +0.1**
baz=92,SNR=16
D06A Cle Elum 92.21 43 ⇑P **P** **04 19 49.3 -0.5**
baz=92
K06A Valley Falls 92.24 47 ⇑P **P** **04 19 49.8 -0.1**
baz=92
WCN Washoe City 92.31 51 ⇑P **P** **04 19 50.6 +0.3**
baz=92,SNR=5.2
O06A Flanigan 92.33 50 P **P** **04 19 50.6 +0.2**
baz=92,SNR=5.0
H06A Lindquist Farm 92.35 45 P **P** **04 19 50.7 +0.2**
baz=92,SNR=6.8
I06A Prineville 92.37 46 ⇑P **P** **04 19 50.5 -0.1**
baz=92
N06A Buffalo Meadow 92.37 49 P **P** **04 19 50.5 -0.1**
baz=92,SNR=7.8
RCTC Rector, Farmer 92.47 54 ⇑P **P** **04 19 51.3 +0.2**
baz=92
R06C Coleville 92.48 52 P **P** **04 19 51.6 +0.5**
baz=92,SNR=9.3
KCC Kaiser Creek 92.49 53 P **P** **04 19 51.5 +0.4**
baz=92,SNR=16
VES Vestal, Richgr 92.56 54 ⇓P **P** **04 19 50.8 -0.7**
baz=93
PAHR Pah Rah Range 92.63 51 *e*P **P** **04 19 51.8 0.0**
comp=Z,26nm,1.2s,mb5.4
HELL Mitchell Peak, 92.68 54 P **P** **04 19 51.5 -0.4**
baz=93,SNR=14
A07A Ashnola River, 92.69 41 ⇓P **P** **04 19 51.3 -0.7**
baz=93
ARVC Arvin 92.71 55 ⇑P **P** **04 19 52.5 +0.3**
baz=93
F07A Phinny Hill Vi 92.73 44 ⇑P **P** **04 19 51.8 -0.4**
baz=93
R07C Lee Vining 92.77 52 ⇓P **P** **04 19 52.9 +0.5**
baz=93,SNR=5.8
C07A Waterville 92.79 43 ⇓P **P** **04 19 51.2 -1.3**
baz=93
B07A Winthrop 92.81 42 ⇓P **P** **04 19 51.8 -0.8**
baz=93
SYO Syowa Base 92.82 200⇓ *e*P **P** **04 19 51.5 -1.1**
SYO Syowa Base 92.82 200⇓ *e*P pP 04 20 14.6 -8.7
E07A Sunnyside 92.83 44 ⇑P **P** **04 19 52.3 -0.4**
baz=93
I07A Izee 92.89 46 ⇓P **P** **04 19 53.2 +0.2**
baz=93
MLAC Mammoth Lakes 92.90 53 ⇓P **P** **04 19 53.2 +0.2**
baz=93
M07A Soldier Meadow 92.92 49 P **P** **04 19 53.6 +0.4**
baz=93,SNR=7.9
CIS Catalina Islan 92.93 57 ⇑P **P** **04 19 53.4 +0.2**
baz=93
K07A Rock Creek Ran 92.97 48 ⇑P **P** **04 19 53.2 -0.1**
baz=93,SNR=9.6
J07A Hines 92.97 47 ⇑P **P** **04 19 53.5 +0.2**
baz=93
P07A Fallon 93.00 51 ⇑P **P** **04 19 53.9 +0.4**
baz=93
N07B Gerlach 93.03 50 ⇓P **P** **04 19 53.7 +0.1**
baz=93
ISA Isabella 93.04 55 *e*P **P** **04 19 53.5 -0.2**
ISA Isabella 93.04 55 P **P** **04 19 53.6 -0.1**
baz=93,SNR=7.6
HAWA Hanford 93.04 44 *e*P **P** **04 19 53.7 +0.1**
O07A Toulon 93.06 50 P **P** **04 19 53.8 0.0**
baz=93,SNR=7.5
DECC Green Verdugo 93.06 56 ⇓P **P** **04 19 53.7 -0.1**
baz=93
MTUM Tungsten Hills 93.09 53 *e*P **P** **04 19 54.3 +0.4**
MWC Mount Wilson 93.28 56 *e*P **P** **04 19 55.3 +0.5**
TIN Tinemaha 93.34 53 ⇑P **P** **04 19 55.4 +0.4**
baz=93
G08A Pilot Rock 93.36 45 ⇓P **P** **04 19 54.8 -0.4**
baz=93
NVAR Mina Array Bea 93.38 52 P **P** **04 19 55.1 -0.1**
comp=Z,12nm,0.7s,mb5.3,baz=273,slow=6.3,SNR=67
E08A Dider Farm, El 93.38 44 ⇑P **P** **04 19 55.0 -0.2**
baz=93
EDW2 Edwards Air Fo 93.38 55 P **P** **04 19 55.5 +0.3**
baz=93,SNR=9.4
WVOR Wild Horse Val 93.40 48 *e*P **P** **04 19 54.6 -0.7**
WVOR pmax pmax
comp=Z,88nm,1.8s,mb5.8
WVOR Wild Horse Val 93.40 48 *e*P **P** **04 19 54.6 -0.7**
comp=Z,88nm,1.8s,mb5.8
A08A Turner Farm, O 93.41 41 ⇓P **P** **04 19 54.9 -0.4**
baz=93
CWC Cottonwood Cre 93.42 54 ⇑P **P** **04 19 55.3 -0.1**
baz=93
S08C White Mtn Res 93.42 53 ⇓P **P** **04 19 55.8 +0.5**
baz=93
H08A Prairie City 93.52 46 ⇑P **P** **04 19 55.7 -0.1**
baz=94
R08A Mina 93.52 52 P **P** **04 19 55.9 0.0**
baz=94,SNR=16
K08A Mann Creek Ran 93.53 48 ⇓P **P** **04 19 55.5 -0.4**
baz=94
J08A Circle Bar Ran 93.58 47 ⇑P **P** **04 19 56.0 -0.1**
baz=94
L08A Fields 93.60 48 ⇓P **P** **04 19 56.3 +0.1**
baz=94
BFSC Mount Baldy St 93.61 56 P **P** **04 19 56.2 -0.1**
baz=94,SNR=6.0
P08A Dixie Valley 93.63 51 ⇑P **P** **04 19 56.6 +0.2**
baz=94
N08A GE Springer Mi 93.66 50 ⇓P **P** **04 19 56.7 +0.2**
baz=94,SNR=9.2
LRMC Laurel Mountai 93.67 55 P **P** **04 19 56.9 +0.3**
baz=94,SNR=25
Q08A Gabbs 93.69 51 P **P** **04 19 57.1 +0.4**
baz=94,SNR=7.4
DAC Darwin (Calif) 93.80 54 *e*P **P** **04 19 57.2 +0.1**
A09A Danville 93.86 41 ⇓P **P** **04 19 56.7 -0.8**
baz=94
MPMC Manual Prospec 93.87 54 P **P** **04 19 57.6 +0.2**
baz=94,SNR=19
D09A Jones Farm, Ri 93.93 43 ⇓P **P** **04 19 57.2 -0.6**
baz=94
MURC Murrieta 93.95 57 ⇓P **P** **04 19 58.4 +0.5**
baz=94
109C Camp Elliot, M 93.98 57 ⇑P **P** **04 19 58.6 +0.6**
baz=94
C09A Chrisman Ranch 94.00 43 ⇓P **P** **04 19 56.9 -1.1**
baz=94
E09A Wood Farm, Sta 94.01 44 P **P** **04 19 57.4 -0.7**
baz=94,SNR=6.2
GRAC Grapevine Rang 94.02 53 ⇓P **P** **04 19 58.4 +0.2**
baz=94
K09A Rome 94.09 48 ⇑P **P** **04 19 58.6 +0.2**
baz=94,SNR=5.1
L09A Wilkinson Ranc 94.09 48 ⇑P **P** **04 19 58.9 +0.4**
baz=94
J09A Fry Pan Ranch, 94.10 47 ⇓P **P** **04 19 58.7 +0.1**
baz=94,SNR=7.4
B09A Rice 94.12 42 ⇓P **P** **04 19 58.8 +0.1**
baz=94
N09A Rock Creek Ran 94.13 50 ⇑P **P** **04 19 58.7 +0.1**
baz=94,SNR=6.4
S09A Goldfield 94.18 53 P **P** **04 19 58.6 -0.3**
baz=94,SNR=49
TPH Tonopah 94.20 52 *e*P **P** **04 19 59.5 +0.5**
TPH pmax pmax
comp=Z,29nm,1.2s,mb5.5
TPH Tonopah 94.20 52 *e*P **P** **04 19 59.5 +0.5**
comp=Z,29nm,1.2s,mb5.5
M09A Marrel Ranch, 94.22 49 ⇓P **P** **04 19 59.7 +0.6**
baz=94,SNR=6.3
BBRC Big Bear Sol-O 94.22 56 ⇑P **P** **04 19 59.9 +0.8**
baz=94
H09A Durkee 94.24 46 ⇑P **P** **04 19 59.3 +0.2**
baz=94
Q09A Carvers 94.28 52 ⇓P **P** **04 19 59.5 +0.2**
baz=94
R09A Tonopah 94.33 52 P **P** **04 19 59.4 -0.2**
baz=94,SNR=16
BAR Barrett 94.33 58 *e*P **P** **04 20 00.8 +1.2**
BMN Battle Mountai 94.34 50 *e*P **P** **04 20 00.0 +0.4**
BMN pmax pmax
comp=Z,28nm,1.4s,mb5.4
BMN Battle Mountai 94.34 50 *e*P **P** **04 20 00.0 +0.4**
comp=Z,28nm,1.4s,mb5.4
O09A Fish Creek Ran 94.35 50 P **P** **04 19 59.9 +0.2**
baz=94,SNR=8.1
P09A Austin 94.35 51 ⇓P **P** **04 19 59.5 -0.1**
baz=94
GSC Goldstone 94.38 55 *e*P **P** **04 19 59.8 0.0**
GSC Goldstone 94.38 55 ⇑P **P** **04 19 59.9 +0.1**
baz=94,SNR=9.7
FURC Furnace Creek, 94.40 54 P **P** **04 19 59.9 0.0**
baz=94,SNR=17
BMO Blue Mountains 94.51 46 *e*P **P** **04 19 59.8 -0.6**
A10A Northport 94.54 41 ⇓P **P** **04 20 00.7 +0.1**
baz=94
MONP Monument Peak 94.56 58 ⇓P **P** **04 20 01.5 +0.9**
baz=95,SNR=8.2
PFO Pinyon Flat Ob 94.57 57 *e*P **P** **04 20 00.8 +0.1**
PFO pmax pmax
comp=Z,28nm,1.3s,mb5.5
PFO Pinyon Flat Ob 94.57 57 *e*P **P** **04 20 00.8 +0.2**

comp=Z,28nm,1.3s,mb5.5
PFO Pinyon Flat Ob 94.57 57 ⇑P **P** 04 20 01.5 +0.8
baz=95,SNR=6.5
F10A Beach Ranch, E 94.62 44 ⇑P **P** 04 19 59.5 -1.4
baz=95
E10A Myers Farm, Un 94.72 44 ⇑P **P** 04 20 00.3 -1.1
baz=95
B10A Chitwood Farm, 94.73 42 ⇑P **P** 04 20 01.0 -0.4
baz=95
HEC Hector,Ludlow 94.74 56 ⇓P **P** 04 20 01.6 +0.1
baz=95,SNR=6.2
NEW Newport 94.79 42 *e*P **P** 04 20 00.9 -0.8
NEW pmax pmax
comp=Z,17nm,1.3s
NEW Newport 94.79 42 *e*P **P** 04 20 00.9 -0.8
comp=Z,17nm,1.3s,mb5.3
DVTC Desert V Tower 94.81 58 ⇑P **P** 04 20 02.6 +0.8
baz=95
U10A Ash Meadows, A 94.82 54 P **P** 04 20 02.1 +0.3
baz=95,SNR=8.0
SHOC Shoshone 94.84 55 P **P** 04 20 02.0 0.0
baz=95,SNR=14
O10A Cortez Mining, 94.88 50 ⇓P **P** 04 20 01.9 -0.2
baz=95
N10A Dunphy 94.89 50 ⇑P **P** 04 20 02.6 +0.5
baz=95
R10A Warm Springs 94.94 52 ⇓P **P** 04 20 02.9 +0.5
baz=95,SNR=6.2
BELC Belle Mtn. 94.97 56 ⇑P **P** 04 20 03.1 +0.6
baz=95,SNR=8.7
SWSC Sam W. Stewart 95.08 57 ⇑P **P** 04 20 03.8 +0.8
baz=95
TUQ Turquoise Mtn. 95.10 55 P **P** 04 20 03.6 +0.5
baz=95,SNR=16
B11A Sandpoint 95.30 42 ⇓P **P** 04 20 03.5 -0.5
baz=95
A11A Hall Mountain, 95.32 41 P **P** 04 20 04.5 +0.4
baz=95,SNR=7.7
F11A Grangeville 95.36 45 ⇓P **P** 04 20 02.5 -1.8
baz=95
BC3 Big Chuckw Mtn 95.41 57 ⇓P **P** 04 20 05.8 +1.3
baz=95,SNR=9.0
H11A Donnelly 95.42 46 ⇓P **P** 04 20 03.7 -0.9
baz=95
P11A Circle Ranch, 95.42 51 ⇑P **P** 04 20 05.0 +0.4
baz=95
M11A Holland Ranch, 95.47 49 ⇑P **P** 04 20 05.2 +0.5
baz=96
Q11A Duckwater 95.47 52 ⇑P **P** 04 20 04.6 -0.2
baz=96,SNR=11
O11A Cowboy Ranch, 95.52 50 ⇑P **P** 04 20 05.1 +0.1
baz=96,SNR=7.8
U11A Corn Creek 95.59 54 ⇓P **P** 04 20 05.5 +0.1
baz=96
IRM Iron Mountain 95.68 56 ⇓P **P** 04 20 06.8 +1.0
baz=96,SNR=16
SHPR Sheep Range 95.77 54 *e*P **P** 04 20 06.8 +0.6
A12A Yaak River Ran 95.79 41 ⇑P **P** 04 20 05.7 -0.6
baz=96
GLA Glamis 95.90 57 *e*P **P** 04 20 08.7 +1.9
GLA Glamis 95.90 57 ⇑P **P** 04 20 08.1 +1.4
baz=96
W12A Cal Nev Ari 95.96 55 ⇓P **P** 04 20 07.8 +0.7
baz=96
F12A Elk City 95.99 45 ⇓P **P** 04 20 06.0 -1.2
baz=96
V12A Nelson 95.99 55 P **P** 04 20 08.1 +0.9
baz=96,SNR=13
N12A Clover Valley, 96.01 50 P **P** 04 20 07.6 +0.4
baz=96,SNR=13
P12A McGill 96.07 51 P **P** 04 20 07.9 +0.3
baz=96,SNR=9.3
Q12A Willow Creek R 96.12 51 ⇑P **P** 04 20 08.0 +0.3
baz=96,SNR=8.1
M12A Wells 96.12 49 ⇑P **P** 04 20 08.2 +0.4
baz=96
Y12C Blythe 96.19 57 P **P** 04 20 08.6 +0.6
baz=96,SNR=7.4
O12A Currie 96.22 50 ⇓P **P** 04 20 08.6 +0.4
baz=96
AKTO Aktyubinsk 96.23 320 LR LR 05 05 01.6
comp=Z,162nm,19.2s,baz=58,slow=36
U12A Valley of Fire 96.27 54 ⇑P **P** 04 20 09.2 +0.8
baz=96,SNR=6.9
YKA Yellowknife Ar 96.42 28 LR LR 04 55 18.3
comp=Z,148nm,21.8s,baz=230,slow=30
PDMCI Parker Dam,Lak 96.52 56 ⇓P **P** 04 20 10.5 +0.9
baz=96
HLID Hailey 96.54 47 *e*P **P** 04 20 08.9 -0.7
comp=Z,35nm,2.0s,mb5.4
HLID Hailey 96.54 47 ⇑P **P** 04 20 09.4 -0.3
baz=97
B13A Whitefish 96.57 42 ⇑P **P** 04 20 09.0 -0.8
baz=97
N13A Wendover, West 96.65 50 ⇓P **P** 04 20 09.6 -0.6
baz=97
M13A Montello 96.69 49 P **P** 04 20 10.4 +0.1
baz=97,SNR=8.2
W13A Hualapai Mount 96.76 55 ⇑P **P** 04 20 11.6 +1.0
baz=97,SNR=8.2
Y13A Salome 96.77 57 ⇓P **P** 04 20 11.7 +1.0
baz=97
X13A Yucca 96.79 56 P **P** 04 20 12.0 +1.2
baz=97,SNR=9.6
ARUT Antelope Range 97.18 53 *e*P **P** 04 20 12.8 +0.2
ARUT *e* 04 23 28.1
EDM Edmonton 97.26 37 *e*P **P** 04 20 11.9 -1.0
W14A Seligman 97.42 55 ⇓P **P** 04 20 14.9 +1.3
baz=97
Y14A Wickenburg 97.45 57 ⇓P **P** 04 20 14.5 +0.7
baz=98
Z14A Wintersburg 97.49 57 ⇑P **P** 04 20 14.9 +1.0
baz=98
X14A Yava 97.56 56 ⇓P **P** 04 20 15.1 +0.8
baz=98,SNR=7.0
DUG Dugway 97.70 50 *e*P **P** 04 20 14.8 -0.1
DUG pmax pmax
comp=Z,17nm,1.6s,mb5.3
DUG Dugway 97.70 50 *e*P **P** 04 20 14.8 -0.1
comp=Z,17nm,1.6s,mb5.3
DUG Dugway 97.70 50 ⇓P **P** 04 20 14.9 0.0
baz=98
HVU Hansel Valley 97.73 49 *e*P **P** 04 20 15.1 +0.1
E15A Deer Lodge 97.81 44 P **P** 04 20 14.8 -0.6
baz=98,SNR=5.3
F15A Butte 97.92 45 ⇑P **P** 04 20 15.3 -0.6
baz=98
115A Sonoran Desert 98.08 58 ⇑P **P** 04 20 17.8 +1.2
baz=98
W15A Williams 98.08 55 ⇓P **P** 04 20 17.9 +1.2
baz=98
X15A Humboldt 98.10 56 ⇑P **P** 04 20 17.7 +1.0
baz=98,SNR=7.5
NLU North Lily Min 98.26 51 *e*P **P** 04 20 17.7 +0.3
116A Eloy 98.52 58 ⇓P **P** 04 20 19.3 +0.7
baz=98
RRI2 Red Ridge 98.80 47 *e*P **P** 04 20 19.9 +0.1
WUAZ Wupatki 98.82 55 *e*P **P** 04 20 21.3 +1.4
WUAZ Wupatki 98.82 55 ⇑P **P** 04 20 20.9 +1.0
baz=99,SNR=6.3
TMUT Trail Mountain 98.94 51 *e*P **P** 04 20 20.8 +0.4
IMW Indian Meadow 99.06 47 *e*P **P** 04 20 20.7 -0.3
TPAW Teton Pass 99.06 47 *e*P **P** 04 20 19.8 -1.2
comp=Z,15nm,1.5s,mb5.3
REDW Red Top Meadow 99.14 47 *e*P **P** 04 20 21.2 -0.1
LOHW Long Hollow 99.31 47 *e*P Pdif 04 20 22.2 +0.1
comp=Z,27nm,1.9s
SRU San Rafael 99.47 51 *e*P Pdif 04 20 22.5 -0.3
EGMT Eagleton 99.73 42 ⇑P Pdif 04 20 23.3 -0.7
baz=100
BW06 Boulder Array 100.10 48 *e*P Pdif 04 20 24.2 -1.4
PDAR Pinedale Array 100.10 48 P Pdif 04 20 24.1 -1.5
comp=Z,3.5nm,0.7s,baz=232,slow=2.2,SNR=29
MVCO Mesa Verde 101.11 53 *e*P Pdif 04 20 29.8 -0.3
comp=Z,5.7nm,0.7s
MVCO Mesa Verde 101.11 53 ⇑P Pdif 04 20 30.5 +0.4
baz=101,SNR=5.9
SMCO Snowmass 102.23 51 *e*P Pdif 04 20 35.5 +0.4
comp=Z,7.7nm,1.0s
ANMO Albuquerque 102.85 55⇓*e*P Pdif 04 20 39.4 +1.6
TXAR Lajitas Array 105.48 61 Pdiff Pdif 04 20 50.1 +0.6
comp=Z,0.3nm,0.8s,baz=270,slow=5.0,SNR=2.5
TXAR PKiKP PKiKP 04 25 00.5 -1.9
comp=Z,0.2nm,0.9s,baz=14,slow=41,SNR=2.9
ARCES ARCESS Array B 106.91 343 PKiKP PKiKP 04 25 03.3 -1.8
comp=Z,0.9nm,0.4s,baz=107,slow=2.8,SNR=17
FINES FINESS Array B 110.92 335 PKiKP PKiKP 04 25 11.4 -1.2
comp=Z,1.9nm,0.7s,baz=94,slow=3.4,SNR=9.7
FINES FINESS Array B 110.92 335 *i* PKiKP PKiKP 04 25 11.4 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 114.10 324 PKP PKiKP 04 25 16.8 -1.9
comp=Z,1.0nm,0.3s,baz=49,slow=2.4,SNR=5.9
AKASG Malin Array Be 114.10 324 PKIKP PKiKP 04 25 16.8 -1.9
AKASG pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 116.61 338 PKP PKPdf 04 25 22.1 -1.5
comp=Z,1.5nm,0.7s,baz=69,slow=4.1,SNR=8.2
HFS Hagfors 116.61 338 PKIKP PKPdf 04 25 22.1 -1.4
HFS pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 116.88 340 PKPdf PKPdf 04 25 22.3 -1.7
baz=44,slow=1.9
NB2 NORSAR Subarra 116.88 340 PKPdf PKPdf 04 25 22.3 -1.7
comp=Z,9.4nm,1.4s,baz=44,slow=1.9
NOA NORSAR Array B 116.88 340 PKP PKPdf 04 25 22.2 -1.8
comp=Z,2.1nm,0.6s,baz=49,slow=1.8,SNR=8.0
NOA NORSAR Array B 116.88 340 PKIKP PKPdf 04 25 22.2 -1.8
NOA pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 118.16 320 PKP PKPdf 04 25 27.0 +0.5
comp=Z,1.5nm,0.4s,baz=123,slow=10,SNR=3.5
MLR Muntele Rosu 118.16 320 PKIKP PKPdf 04 25 27.0 +0.5
MLR pmax pmax
comp=Z,2.0nm,0.4s
BOSA Boshof 118.32 234 PKP PKPdf 04 25 27.2 +0.4
comp=Z,1.6nm,0.5s,baz=216,slow=6.5,SNR=8.4
BOSA Boshof 118.32 234 PKIKP PKPdf 04 25 27.2 +0.4
BOSA pmax pmax
comp=Z,2.0nm,0.5s
KOLS Kolonicke sedl 118.92 324 *e*PKP PKPdf 04 25 27.9 -0.1
STHS Stebnicka Huta 119.28 325 *e*PKP PKPdf 04 25 29.4 +0.7
STHS Stebnicka Huta 119.28 325 *e*PKP PKPdf 04 25 29.5 +0.8
CRVS Cervenica-Dubn 119.41 325 *e*PKP PKPdf 04 25 30.6 +1.7
KECS Kecovo 120.17 324 *e*PKP PKPdf 04 25 38.8 +8.4
VYHS Vyhne 121.11 325 *e*PKP PKPdf 04 25 31.3 -0.9
KSP Ksiaz 121.22 329 *e*PKIKP PKPdf 04 25 32.8 +0.4
DPC Dobruska-Polom 121.48 328 *e*PKPdf PKPdf 04 25 32.3 -0.6
UPC Upice 121.56 328 *e*PKPdf PKPdf 04 25 32.8 -0.2
SCHQ Schefferville 121.74 25 PKP PKPdf 04 25 34.5 +1.1
comp=Z,3.2nm,0.7s,baz=225,slow=0.6,SNR=3.1
SCHQ Schefferville 121.74 25 PKP PKPdf 04 25 34.5 +1.1
VRAC Vranov 121.93 327 PKP PKPdf 04 25 34.3 +0.5
comp=Z,1.0nm,0.4s,baz=163,slow=15,SNR=3.1
VRAC Vranov 121.93 327 PKIKP PKPdf 04 25 34.3 +0.6
VRAC pmax pmax
comp=Z,1.0nm,0.4s
GRUS Gruza 122.22 320 *i* P PKPdf 04 25 32.7 -1.6
PVCC Panska Ves 122.29 329 *e*PKPdf PKPdf 04 25 34.0 -0.4
BRG Berggiesshubel 122.41 330 *e*PKP PKPdf 04 25 33.8 -0.9
comp=Z,4.2nm,0.8s
IDI Anoyia 122.56 309 PKP PKPdf 04 25 35.8 +0.9
comp=Z,7.2nm,0.6s,baz=44,slow=7.8,SNR=5.8
DIVS Divcibare 122.58 320 *i* P PKPdf 04 25 34.8 -0.2
CLL Collm 122.61 330 *i* PKPdf PKPdf 04 25 35.4 +0.4
comp=Z,8.0nm,1.2s
PRU Pruhonice 122.63 328 *e*PKPdf PKPdf 04 25 31.3 -3.8
CONA Conrad Observa 123.10 326⇓*e*PKiKP PKiKP 04 25 35.2 -1.0
comp=Z,5.5nm,0.7s
NKC Novy Kostel 123.55 330 *e*PKPdf PKPdf 04 25 36.9 0.0
KHC Kasperske Hory 123.64 328 *e*PKPdf PKPdf 04 25 35.9 -1.1
GEC2 GERESS Array S 123.75 328 *e*PKIKP PKPdf 04 25 36.3 -0.9
GERES GERESS Array B 123.75 328 PKP PKPdf 04 25 36.4 -0.9
comp=Z,4.4nm,0.5s,baz=78,slow=1.4,SNR=43
GERES GERESS Array B 123.75 328 PKIKP PKPdf 04 25 36.4 -0.8
GERES pmax pmax
comp=Z,4.0nm,0.5s
CRES Cresnjev 124.49 324 *e*PKPdf PKPdf 04 25 39.2 +0.5
LEGS Legarje 124.50 324 *e*PKPdf PKPdf 04 25 39.3 +0.6
GRA1 Grafenberg Arr 124.51 330 *e*PKP PKPdf 04 25 38.0 -0.7
GRF Grafenberg Arr 124.51 330 *e*PKPdf PKPdf 04 25 38.0 -0.7
LJU Ljubljana 124.91 325 *i* PKPdf PKPdf 04 25 40.1 +0.7
WATA Walderalm 125.80 327⇓*i*P PKPdf 04 25 40.3 -0.9
comp=Z,5.0nm,0.6s
WTTA Wattenberg 125.81 327⇑*i*P PKPdf 04 25 40.8 -0.3
comp=Z,8.7nm,0.9s
MOTA Moosalm 126.04 328⇑*i*P PKPdf 04 25 40.9 -0.7
comp=Z,7.9nm,0.6s
SQTA Sankt Quirin 126.06 327⇑*i*P PKPdf 04 25 41.3 -0.4
comp=Z,6.1nm,0.7s
EKA Eskdalemuir Ar 126.07 342 PKP PKPdf 04 25 41.5 -0.2
comp=Z,2.2nm,0.5s,baz=19,slow=3.5,SNR=11
EKA Eskdalemuir Ar 126.07 342 PKIKP PKPdf 04 25 41.5 -0.2
EKA pmax pmax
comp=Z,2.0nm,0.5s
DAVA Damuels 126.73 328⇑*e*P PKPdf 04 25 41.6 -1.3
comp=Z,6.8nm,0.8s
DAVOX Davos 127.05 328 PKP PKPdf 04 25 43.4 -0.2
comp=Z,4.2nm,0.3s,baz=72,slow=3.4,SNR=16
GIVF Givet 127.25 334 *e*PKIKP PKPdf 04 25 42.0 -1.9
CDF Champ du Feu 127.30 331 *e*PKIKP PKPdf 04 25 41.7 -2.3
HINF Hinteralfeld 127.92 330 *e*PKIKP PKPdf 04 25 42.9 -2.3
HAU Haudompre 128.03 331 *e*PKIKP PKPdf 04 25 43.3 -2.1
comp=Z,8.8nm,0.5s
TSUM Tsumeb 128.54 241 *e*PKPdf PKPdf 04 25 45.7 -0.7
LPL La Plagne 129.53 328 *e*PKIKP PKPdf 04 25 47.3 -1.0
comp=Z,8.9nm,0.6s
LOR Lormes 129.75 332 *e*PKIKP PKPdf 04 25 47.3 -1.4
OTAV Otavalo 129.88 94 *e*PKPdf PKPdf 04 25 51.4 +2.5
MBDF Montbardon 130.04 327 *e*PKIKP PKPdf 04 25 47.7 -1.5
SSF Saint Saulge 130.06 332 *e*PKIKP PKPdf 04 25 47.8 -1.5
PGF Pioggiola 130.17 324 *e*PKIKP PKPdf 04 25 47.8 -1.7
comp=Z,23nm,0.7s
SMF Signal de Mont 130.20 331 *e*PKIKP PKPdf 04 25 48.0 -1.6
SBF Sospel 130.24 326 *e*PKIKP PKPdf 04 25 48.5 -1.1
AVF Avril sur Loir 130.33 332 *e*PKIKP PKPdf 04 25 48.9 -0.9
ORIF Oris-en-Rattie 130.38 328 *e*PKIKP PKPdf 04 25 48.5 -1.4
comp=Z,7.7nm,0.6s
LDF La Druitiere 130.51 335 *e*PKIKP PKPdf 04 25 48.9 -1.2
FLN La Foliniere 130.53 336 *e*PKIKP PKPdf 04 25 48.4 -1.8
BGF Bois d'Agland 130.74 332 *e*PKIKP PKPdf 04 25 49.2 -1.4
comp=Z,12nm,0.5s
FRF La Foret Royal 130.87 326 *e*PKIKP PKPdf 04 25 49.8 -1.0
TCF Toulx Ste Croi 131.24 332 *e*PKIKP PKPdf 04 25 49.7 -1.8
comp=Z,60nm,1.3s
SGMF Saint Gilles 131.76 337 *e*PKIKP PKPdf 04 25 50.3 -2.2
comp=Z,57nm,0.9s
RJF Les Rejaudoux 132.29 331 *e*PKIKP PKPdf 04 25 52.0 -1.5
KEST Kesra 133.84 316 PKP PKPdf 04 25 57.0 +0.6
comp=Z,3.9nm,0.9s,baz=339,slow=10,SNR=6.7
ROSC El Roral 134.35 88 PKP PKPdf 04 25 59.2 +1.8
comp=Z,2.9nm,0.6s,baz=87,slow=22,SNR=6.1
EBIE Bielsa 134.89 330 PKP PKPdf 04 26 01.3 +2.9
LPAZ La Paz 135.34 119 PKP PKPdf 04 26 01.4 +2.2
comp=Z,1.2nm,0.7s,baz=17,slow=8.2,SNR=5.7
LPAZ La Paz 135.34 119 PKIKP PKPdf 04 26 01.4 +2.2
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
ERTA Horta de San J 136.06 328 PKP PKPdf 04 26 01.6 +1.1
ETOR Torete 137.38 330 PKIKP PKPdf 04 26 04.7 +1.7
GUD Guadarrama 138.53 332 PKIKP PKPdf 04 26 06.8 +1.7
ESDC Sonseca Array 139.20 331 PKP PKPdf 04 26 07.5 +1.2
comp=Z,0.3nm,0.4s,baz=6.0,slow=2.7,SNR=5.4
ESDC PP PP 04 28 58.6 -2.1
comp=Z,1.1nm,0.8s,baz=33,slow=7.1,SNR=7.1
ESDC Sonseca Array 139.20 331 PKP PKPdf 04 26 06.3 0.0
EADA Adamuz 140.66 330 PKP PKPdf 04 26 04.0 -5.0
MTP Monte Pirata 141.63 67 *e*PKPdf PKPdf 04 26 10.8 +0.1
EVO Evora 142.00 334 *e*PKIKP PKPdf 04 26 06.6 -4.8
comp=Z,22nm,1.1s
EGRO El Granado 142.57 332 PKP PKPdf 04 26 08.2 -4.2
SAML Samuel 142.66 112 *e*PKPdf PKPdf 04 26 09.7 -2.8
MDT Midelt 144.66 324 PKP PKPdf 04 26 15.3 -0.8
comp=Z,2.4nm,0.3s,baz=43,slow=2.6,SNR=44
MDT SKPbc SKPbc 04 29 47.3 +2.9
comp=Z,5.5nm,1.2s,baz=183,slow=0.9,SNR=4.0
TORD Torodi Ar. Bea 149.21 287 PKPbc PKPbc 04 26 27.0 -1.0
comp=Z,34nm,0.8s,baz=88,slow=2.1,SNR=107
TORD SKPbc SKPbc 04 29 58.0 +3.6
comp=Z,1.9nm,0.9s,baz=69,slow=1.3,SNR=3.6

MOS ***13*** *04:11:56.2±1.2,56.11N×11166E,h26km,mb4.3/1,Error ellipse: s-maj=51.3km s-min=25.0km az=52.4*

BYKL 13 04:11:56.0±0.3,5611N×11163E,h25km±3km,5C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
YOA	**Uoyan**	**0.06**	**66**	*i* Pg	Pb	04 12 00.2		-0.2
YOA				*i* Sg	Sb	04 12 04.0		+0.7
YOA				Pmax				
	8μm,0.1s							
YOA				Smax				
	14μm,0.3s							
YOA	**Uoyan**	**0.06**	**66**	*i* PG	Pb	04 12 00.2		-0.2
YOA				*i* S	Sb	04 12 04.0		+0.7
KMO	**Kumora**	**0.33**	**227**	⇑*i*Pg	Pb	04 12 03.3		-0.1
KMO				*e*Sg	Sb	04 12 08.8		+0.3
KMO				Pmax				
	435nm,0.1s							
KMO				Smax				
	728nm,0.3s							
KMO	**Kumora**	**0.33**	**227**	*e*PG	Pb	04 12 03.2		-0.2
KMO				S	Sb	04 12 08.6		+0.1
KMO				pmax	pmax			
	comp=Z,1.0nm,0.1s							
KMO				smax				
	comp=N,1.0nm,0.2s							
SVKR	**Severomuysk**	**1.08**	**89**	⇑*i*Pg	Pn	04 12 16.1		+0.6
SVKR				*e*Sg	Sb	04 12 30.3		+0.6
SVKR				Pmax				
	comp=N,216nm,0.1s							
SVKR				Smax				
	comp=N,722nm,0.3s							
SVKR	**Severomuysk**	**1.08**	**89**	*e*PG	Pn	04 12 16.1		+0.6
SVKR				*e*S	Sb	04 12 30.1		+0.4
SVKR				pmax	pmax			
	comp=Z,269nm,0.4s							
SVKR				smax				
	comp=N,1μm,0.5s							
NIZ	**Nizh Angarsk**	**1.22**	**255**	*e*Pg	Pn	04 12 18.7		+1.2
NIZ				*e*Sg	Sn	04 12 35.7		+2.5
NIZ				Pmax				
	comp=N,50nm,0.2s							
NIZ				Smax				
	comp=N,287nm,0.3s							
NIZ	**Nizh Angarsk**	**1.22**	**255**	*e*PN	Pn	04 12 18.6		+1.1
NIZ				*e*S	Sn	04 12 35.7		+2.5
NIZ				pmax	pmax			
	comp=Z,52nm,0.2s							
NIZ				smax				
	comp=N,298nm,0.3s							
YLYR	**Ulyunkhan**	**1.27**	**192**	⇑*i*Pg	Pn	04 12 19.2		+1.1
YLYR				*e*Sg	Sn	04 12 36.5		+2.2
YLYR				Pmax				
	comp=N,43nm,0.2s							
YLYR				Smax				
	comp=N,441nm,0.2s							
YLYR	**Ulyunkhan**	**1.27**	**192**	*e*PN	Pn	04 12 19.1		+1.0
YLYR				*e*S	Sn	04 12 36.3		+2.0
YLYR				pmax	pmax			
	comp=Z,48nm,0.2s							
YLYR				smax				
	comp=N,463nm,0.1s							
UKT	**Uakit**	**1.29**	**118**	⇑*i*Pg	Pn	04 12 19.2		+0.8
UKT				*e*Sg	Sn	04 12 36.3		+1.5
UKT				Pmax				
	comp=N,66nm,0.3s							
UKT				Smax				
	comp=N,119nm,0.3s							
BOD	**Bodaibo**	**2.15**	**36**	*e*Pn	Pn	04 12 31.5		+1.3
BOD				*e*Sn	Sn	04 12 58.4		+2.3
BOD				*e*Sg	Sn	04 13 01.9		+5.8
BOD				Smax				
	comp=N,100nm,0.3s							
NLYR	**Nelyaty**	**2.30**	**79**	*e*Pn	Pn	04 12 33.4		+1.1
NLYR				*e*Pg	Pn	04 12 36.6		+4.3
NLYR				*e*Sg	Sn	04 13 07.1		+7.3
SYVR	**Suvo**	**2.63**	**202**	*e*Pn	Pn	04 12 39.4		+2.5
SYVR				*e*Pg	Pn	04 12 42.5		+5.6
SYVR				*e*Sg	Sn	04 13 17.2		+9.2
SYVR				Pmax				
	comp=N,18nm,0.5s							
SYVR				Smax				
	comp=N,53nm,0.5s							
OGRR	**Ongureny**	**3.40**	**225**	*e*Pn	Pn	04 12 49.2		+1.8
OGRR				*e*Pg	Pn	04 12 56.7		+9.3
OGRR				*e*Sg	Sn	04 13 41.5		+15
OGRR				Smax				
	comp=N,58nm,1.7s							
CRS	**Chara**	**3.76**	**75**	*e*Pg	Pn	04 13 03.2		+11
CRS				*e*Sg	Sn	04 13 52.7		+17
CRS				Pmax				
	comp=N,9.0nm,0.6s							
CRS				Smax				
	comp=N,24nm,0.6s							
CRS	**Chara**	**3.76**	**75**	*e*PN	Pn	04 13 02.6		+10
CRS				*e*S	Sn	04 13 52.2		+16
CRS				pmax	pmax			
	comp=Z,92nm,1.5s							
CRS				smax				
	comp=N,98nm,1.5s							
CIT	**Chita**	**4.25**	**164**	*e*Sg	Sn	04 14 08.9		+21
CIT				Smax				
	comp=N,30nm,1.0s							
TRTB	**Turuntaevo**	**4.54**	**213**	*e*Sg	Sn	04 14 15.9		+21
TRTB				Smax				
	comp=N,58nm,1.9s							
TRG	**Tyrgan**	**4.56**	**225**	*e*	Pn	04 13 07.3		+4.0
TRG				*e*Sg	Sn	04 14 16.0		+21
TRG				Smax				
	comp=N,16nm,0.4s							
TUP	**Tupik**	**5.05**	**106**	*e*Pn	Pn	04 13 09.9		-0.2
TUP				*e*Pg	Pn	04 13 26.0		+16
TUP				*e*Sg	Sn	04 14 32.5		+25
TUP				Pmax				
	comp=N,3.0nm,0.6s							
TUP				Smax				
	comp=N,13nm,0.9s							

BUC ***13*** *04:33:11.9±0.9,4572N×2681E,h133km±8km,MD4.3/2, Error ellipse: s-maj=6.9km s-min=6.0km az=97.0*

NEIC ***13*** *04:33:12.4,4580N×2682E,h130km,MD3.0(SOF),After BUC.*

ISCJB ***13*** *04:33:12.2±0.4,4571N±002×2677E±004,h125km±3km, mb3.5/2,Error ellipse: s-maj=4.8km s-min=3.7km az=28.7*

CSEM ***13*** *04:33:13.1±0.4,4570N×2671E,h112km±4km, mb3.4, Error ellipse: s-maj=6.4km s-min=5.5km az=86.0*

IDC ***13*** *04:33:13.3±1.9,4568N×2671E,h116km±9km, mb3.2/2, mb1 3.3/4,mb1mx3.0/19,mbtmp3.1/4,Error ellipse: s-maj=45.2km s-min=21.2km az=97.0*

SOF ***13*** *04:33:16.3,4523N×2670E,h2km,MD3.0*

ISC 13 04:33:13.0±0.4,4572N±002×2678E±004,h122km±3km, n46,σ1s03/78,mb3.5/2,15C-11D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VRI	**Vrincioaia**	**0.16**	**347**	⇑P	**Pn**	**04 33 30.0**		**+0.2**
VRI				S	Sn	**04 33 42.3**		**-0.1**
VRI	**Vrincioaia**	**0.16**	**347**	P	**Pn**	**04 33 30.0**		**+0.2**
VRI				S	**Sn**	**04 33 42.3**		**-0.1**
PLOR	**Plostina**	**0.16**	**327**	⇑*i*P	**Pn**	**04 33 29.9**		**+0.1**
PLOR				*i* S	**Sn**	**04 33 43.0**		**+0.5**
PETR		**0.32**	**88**	⇑*i*P	**Pn**	**04 33 30.8**		**+0.5**
PETR				*i* S	**Sn**	**04 33 44.1**		**+0.8**
GHRR		**0.56**	**52**	⇑*i*P	**Pn**	**04 33 31.9**		**+0.3**
GHRR				*i* S	**Sn**	**04 33 45.8**		**+0.2**
ISR	**Istrita**	**0.62**	**196**	⇓*i*P	**Pn**	**04 33 33.1**		**+1.1**
MLR	**Muntele Rosu**	**0.63**	**249**	P	**Pn**	**04 33 32.5**		**+0.5**
	56nm,0.3s,baz=72,slow=19,SNR=313							
MLR				S	**Sn**	**04 33 46.4**		**0.0**
	247nm,0.3s,baz=73,slow=19,SNR=88							
MLR	**Muntele Rosu**	**0.63**	**249**	S	**Sn**	**04 33 46.5**		**+0.1**
MLR	**Muntele Rosu**	**0.63**	**249**	⇑*i*P	**Pn**	**04 33 32.5**		**+0.5**
MLR				*i* S	**Sn**	**04 33 46.5**		**+0.1**
MLR	**Muntele Rosu**	**0.63**	**249**	⇑P	**Pn**	**04 33 32.5**		**+0.4**
MLR				S	**Sn**	**04 33 46.5**		**+0.1**
TUDR		**0.64**	**101**	⇑*i*P	**Pn**	**04 33 32.0**		**-0.1**
TUDR				*i* S	**Sn**	**04 33 46.7**		**+0.2**
VARR		**0.77**	**77**	⇑*i*P	**Pn**	**04 33 33.4**		**+0.2**
VARR				*i* S	**Sn**	**04 33 48.1**		**-0.3**
TESR		**0.80**	**354**	⇑*i*P	**Pn**	**04 33 32.9**		**-0.5**
TESR				*i* S	**Sn**	**04 33 47.0**		**-1.8**
SECR		**0.84**	**217**	⇑*i*P	**Pn**	**04 33 34.7**		**+0.9**
SECR				*i* S	**Sn**	**04 33 50.8**		**+1.3**
SNX	**Sinaia**	**0.96**	**248**	⇓*i*P	**Pn**	**04 33 35.4**		**+0.6**
KGL	**Cahul**	**1.01**	**79**	*e*S	**Sn**	**04 33 50.6**		**-1.7**
CFR	**Carcaliu**	**1.10**	**119**	⇑*i*P	**Pn**	**04 33 36.3**		**+0.1**
CFR				*i* S	**Sn**	**04 33 53.0**		**-0.7**
SULR		**1.10**	**200**	⇑*i*P	**Pn**	**04 33 37.0**		**+0.8**
SULR				*i* S	**Sn**	**04 33 54.9**		**+1.1**
LEOM	**Leova**	**1.27**	**53**	*i* P	**Pn**	**04 33 39.4**		**+1.4**
	490nm,0.3s							

LEOM				*i* S		**Sn**	**04 33 57.3**	**+0.3**
	1μm,0.4s								
MTUR	**Matau**	**1.30**	**249**	⇑*i*P		**Pn**	**04 33 39.1**	**+0.8**
BUC1	**Bucharest**	**1.47**	**202**	⇑*i*P		**Pn**	**04 33 40.5**	**+0.3**
BUC1				*i* S		**Sn**	**04 34 00.8**	**-0.1**
IAS	**Iasi**	**1.57**	**20**	*i* S		**Sn**	**04 34 01.6**	**-1.5**
TIRR	**Tirgusor**	**1.71**	**137**	⇓*i*P		**Pn**	**04 33 43.3**	**+0.3**
TIRR				*i* S		**Sn**	**04 34 04.5**	**-1.4**
TIRR	**Tirgusor**	**1.71**	**137**	⇓P		**Pn**	**04 33 43.2**	**+0.2**
TIRR				S		**Sn**	**04 34 04.5**	**-1.4**
KIS	**Kishinev**	**1.91**	**47**	⇓*i*P		**Pn**	**04 33 44.0**	**-1.4**
	700nm,0.5s								
KIS				*i* S		**Sn**	**04 34 08.0**	**-2.2**
	2μm,0.7s								
BURAR	**Bucovina Array**	**2.18**	**331**	⇓*i*P		**Pn**	**04 33 50.3**	**+1.5**
BURAR				*i* S		**Sn**	**04 34 17.9**	**+1.6**
BURAR	**Bucovina Array**	**2.18**	**331**	⇓P		**Pn**	**04 33 50.5**	**+1.6**
BURAR				S		**Sn**	**04 34 17.9**	**+1.6**
PSN	**Preselentsi**	**2.27**	**153**	*i* P		**Pn**	**04 33 51.2**	**+1.3**
PSN				*i* S		**Sn**	**04 34 17.7**	**-0.5**
ZIMR		**2.29**	**207**	*i* S		**Sn**	**04 34 17.4**	**-1.3**
SZH	**Strazhica**	**2.52**	**194**	*i* P		**Pn**	**04 33 53.7**	**+0.6**
SZH				*i* S		**Sn**	**04 34 22.3**	**-1.7**
PRD	**Provadia**	**2.55**	**170**	*i* P		**Pn**	**04 33 54.6**	**+1.1**
PRD				*i* S		**Sn**	**04 34 24.4**	**-0.3**
AVR	**AVREN**	**2.67**	**166**	*i* P		**Pn**	**04 33 56.3**	**+1.2**
AVR				*i* S		**Sn**	**04 34 28.2**	**+0.8**
PVL	**Pavlikeni**	**2.70**	**203**	*i* P		**Pn**	**04 33 57.5**	**+2.0**
PVL				*i* S		**Sn**	**04 34 28.6**	**+0.4**
DRGR		**3.02**	**292**	⇓*i*P		**Pn**	**04 33 58.9**	**-0.7**
DRGR		**3.02**	**292**	⇑P		**Pn**	**04 33 58.8**	**-0.8**
JMB	**Yambol**	**3.25**	**183**	*i* S		**Sn**	**04 34 38.7**	**-2.2**
BZS	**Buzias**	**3.62**	**270**	⇓*i*P		**Pn**	**04 34 07.0**	**-0.5**
BZS				*i* S		**Sn**	**04 34 50.6**	**+0.9**
BZS	**Buzias**	**3.62**	**270**	⇓P		**Pn**	**04 34 07.0**	**-0.5**
BZS				S		**Sn**	**04 34 47.6**	**-2.1**
VTS	**Vitosha**	**4.04**	**221**	⇓*i*P		**Pn**	**04 34 13.0**	**-0.1**
VTS				*i* S		**Sn**	**04 34 58.7**	**-1.0**
SVIS	**Svilajnac**	**4.19**	**252**	*i* Pn		**Pn**	**04 34 13.7**	**-1.3**
SVIS				Sn		**Sn**	**04 35 00.8**	**-2.4**
GRUS	**Gruza**	**4.69**	**249**	*i* Pn		**Pn**	**04 34 20.1**	**-1.6**
GRUS				Sn		**Sn**	**04 35 01.5**	**-14**
DIVS	**Divcibare**	**5.08**	**254**	*i* Pn		**Pn**	**04 34 26.1**	**-1.0**
DIVS				Sn		**Sn**	**04 35 19.2**	**-5.5**
GERES	**GERESS Array B**	**9.42**	**294**	P		**Pn**	**04 35 26.0**	**+0.3**
	0.1nm,0.3s,baz=126,slow=13,SNR=4.5								
FINES	**FINESS Array B**	**15.77**	**359**	P		**Pn**	**04 36 48.7**	**+0.6**
	0.2nm,0.3s,baz=165,slow=12,SNR=6.2								
ARCES	**ARCESS Array B**	**23.89**	**359**	P		**P**	**04 38 15.8**	**+0.6**
	3.5nm,0.9s,mb3.7,baz=169,slow=10,SNR=4.1								
TORD	**Torodi Ar. Bea**	**38.79**	**221**	P		**P**	**04 40 26.1**	**+0.4**
	0.2nm,0.3s,mb3.4,baz=26,slow=8.1,SNR=9.6								

CSEM ***13*** *04:55:41.3, 3393N×5995E, h14km, ML3.7, After TEH*

TEH 13 04:56:27.1, 3393N×5995E, h14km, Mn3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMON		**0.78**	**198**	*e*Pg	Pg	04 56 41.4	-0.8
IMON		**0.78**	**198**	*e*Pg	Pg	04 56 42.2	0.0
IMON		**0.78**	**198**	*e*Pg	Pg	04 56 42.8	+0.6
IMON				*e*Sg	Sg	04 56 51.4	-1.0
IMON				*e*Sg	Sg	04 56 52.2	-0.2
IDAH		**1.19**	**183**	*e*Pg	Pg	04 56 48.5	-1.6
IDAH		**1.19**	**183**	*e*Pg	Pg	04 56 48.8	-1.3
IDAH		**1.19**	**183**	*e*Pg	Pg	04 56 49.1	-1.0
IDAH				*e*Sg	Sg	04 57 04.4	-1.2
IDAH				*e*Sg	Sg	04 57 04.6	-1.0
ITEG		**1.44**	**225**	*e*Pn	Pn	04 56 52.5	-0.2
ITEG		**1.44**	**225**	*e*Pn	Pn	04 56 52.7	0.0
ITEG		**1.44**	**225**	*e*Pn	Pn	04 56 53.1	+0.4
ITEG				*e*Sn	Sn	04 57 12.0	+0.6
ITEG				*e*Sn	Sn	04 57 12.7	+1.3
IKOO		**1.70**	**208**	*e*Pn	Pn	04 56 56.7	+0.4
IKOO		**1.70**	**208**	*e*Pn	Pn	04 56 57.1	+0.8
IKOO		**1.70**	**208**	*e*Pn	Pn	04 56 57.1	+0.8
IKOO				*e*Sn	Sn	04 57 18.4	+0.6
IKOO				*e*Sn	Sn	04 57 19.0	+1.2
IMYA	**Miamay**	**2.41**	**3**	*e*Pn	Pn	04 57 05.8	-0.2
IMYA	**Miamay**	**2.41**	**3**	*e*Pn	Pn	04 57 06.0	0.0
IMYA	**Miamay**	**2.41**	**3**	*e*Pn	Pn	04 57 06.3	+0.3
IMYA				*e*Sn	Sn	04 57 35.1	-0.1
IMYA				*e*Sn	Sn	04 57 35.3	+0.1
IPAY	**Payeh**	**2.63**	**343**	*e*Pn	Pn	04 57 09.0	-0.1
IBAF	**Bafgh**	**4.37**	**239**	*e*Pn	Pn	04 57 32.6	-0.4
ICHK	**Chekchek**	**4.95**	**252**	*e*Pn	Pn	04 57 40.4	-0.5
IANJ	**Anjiloo**	**5.20**	**289**	*e*Pn	Pn	04 57 43.7	-0.7
IANJ	**Anjiloo**	**5.20**	**289**	*e*Pn	Pn	04 57 44.0	-0.4
IANJ				*e*Sn	Sn	04 59 05.3	+21
ISHM	**Shahmirzad**	**5.79**	**291**	*e*Pn	Pn	04 57 51.2	-1.2
ISHM	**Shahmirzad**	**5.79**	**291**	*e*Pn	Pn	04 57 51.7	-0.7
ISHM	**Shahmirzad**	**5.79**	**291**	*e*Pn	Pn	04 57 51.8	-0.6
ISHM				*e*Sn	Sn	04 58 55.1	-3.4
ISHM				*e*Sn	Sn	04 58 55.5	-3.0
IFIR	**Firoozkooh**	**6.16**	**288**	*e*Pn	Pn	04 57 57.1	-0.5
IFIR	**Firoozkooh**	**6.16**	**288**	*e*Pn	Pn	04 57 57.5	-0.1
IFIR	**Firoozkooh**	**6.16**	**288**	*e*Pn	Pn	04 57 58.1	+0.5
IFIR				*e*Sn	Sn	04 59 30.6	+23
IFIR				*e*Sn	Sn	04 59 30.6	+23
IZEF	**Zefreh**	**6.46**	**263**	*e*Pn	Pn	04 58 02.4	+0.7
IDMV	**Damavand**	**6.72**	**286**	*e*Pn	Pn	04 58 04.4	-0.9
IDMV	**Damavand**	**6.72**	**286**	*e*Pn	Pn	04 58 04.9	-0.4
IDMV	**Damavand**	**6.72**	**286**	*e*Pn	Pn	04 58 05.0	-0.3
IVRN	**Varamin**	**6.88**	**281**	*e*Pn	Pn	04 58 06.3	-1.1
IKLH	**Kalahroud**	**7.01**	**267**	*e*Pn	Pn	04 58 08.6	-0.7
IKLH				*e*Sn	Sn	05 00 02.8	+34
IKLH				*e*Sn	Sn	05 00 03.4	+35

IDC 13 05:01:48.2±7.8, 2998S×17713W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, Error ellipse: s-maj=325.4km s-min=59.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.89**	**266**	P	P	05 09 57.0	+0.6
	0.3nm,0.4s,baz=107,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**44.84**	**271**	P	P	05 10 03.9	-0.1
	0.6nm,0.5s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	05 21 25.1	-1.5
	1.2nm,0.6s,baz=50,slow=3.2,SNR=4.2						

ISCJB ***13*** *05:02:14.7±0.4, 4114N±002×777W±004, h10km±3km, Error ellipse: s-maj=5.3km s-min=3.3km az=3.5*
CSEM ***13*** *05:02:16.1±0.1, 4117N×783W, h2km, ML2.5/7, Error ellipse: s-maj=1.7km s-min=1.3km az=100.0*
INMG ***13*** *05:02:16.2±1.0, 4118N×785W, h5km±2km, ML1.8, Error ellipse: s-maj=1.9km s-min=1.3km az=93.0*
MDD ***13*** *05:02:16.1±0.3, 4117N×784W, h0km, mbLg2.1/10, Error ellipse: s-maj=3.1km s-min=2.1km az=107.0, PRXIMO*

ISC 13 05:02:15.5±0.4, 4115N±002×778W±004, h7km±3km, n32, σ0§91/51, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVRL	**Vila Real**	**0.14**	**22**	*i* Pg	**Pg**	**05 02 18.9**	**+0.4**
PVRL				*e*Sg	**Sg**	**05 02 20.8**	**+0.3**
PVRL							
	260nm,0.1s						
PVRL	**Vila Real**	**0.14**	**22**	*e*Sg	**Sg**	**05 02 20.8**	**+0.3**
	260nm,0.1s						
PVIS	**Viseu**	**0.44**	**191**	*e*Pg	**Pg**	**05 02 24.8**	**+0.8**
PVIS				*e*Sg	**Sg**	**05 02 31.0**	**+1.3**
PCAB	**Cabril**	**0.59**	**342**	*e*Pg	**Pg**	**05 02 26.3**	**-0.6**
PCAB				*e*Sg	**Sg**	**05 02 33.6**	**-1.1**
PCAB							
	28nm,0.1s						
PCAB	**Cabril**	**0.59**	**342**	*e*Pg	**Pg**	**05 02 26.3**	**-0.6**
PCAB				*e*Sg	**Sg**	**05 02 33.6**	**-1.1**
	28nm,0.1s						
PTO	**Porto**	**0.62**	**270**	*e*Pg	**Pg**	**05 02 27.0**	**-0.4**
PTO				*e*Sg	**Sg**	**05 02 34.3**	**-1.1**
PBRG	**Braganca**	**1.02**	**50**	*e*Pg	**Pg**	**05 02 35.3**	**+0.2**
PBRG				*e*Sg	**Sg**	**05 02 49.4**	**+1.0**
PBRG							
	14nm,0.1s						
PBRG	**Braganca**	**1.02**	**50**	*e*Pg	**Pg**	**05 02 35.3**	**+0.2**
PBRG				*e*Sg	**Sg**	**05 02 49.4**	**+1.0**
	14nm,0.1s						
ECAL	**Calabor**	**1.12**	**44**	Pg	**Pg**	**05 02 37.0**	**+0.1**
	7.8nm,0.1s,SNR=74						
ECAL				Lg		05 02 52.4	
	12nm,0.1s,SNR=5.0						
ECAL	**Calabor**	**1.12**	**44**	Pg	**Pg**	**05 02 37.0**	**0.0**
	7.8nm,0.1s,SNR=74						
EZAM	**Zamans**	**1.21**	**326**	Pg	**Pg**	**05 02 37.6**	**-1.2**
	1.8nm,0.1s,SNR=7.9						
EZAM				Lg		05 02 53.2	
	7.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**1.32**	**170**	*e*P	**Pn**	**05 02 40.5**	**+0.2**
PCBR				*e*S	**Sb**	**05 02 59.1**	**+1.3**
PCBR							
	4.8nm,0.1s						
ERUA	**La Rua**	**1.34**	**21**	Lg		05 02 58.7	
	13nm,0.1s,SNR=7.9						
STS	**Santiago**	**1.83**	**342**	Pn	**Pn**	**05 02 48.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
STS				Sn	**Sn**	**05 03 11.6**	**+0.9**
	7.3nm,0.1s,SNR=7.9						
STS	**Santiago**	**1.83**	**342**	Pn	**Pn**	**05 02 48.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
STS				Sn	**Sn**	**05 03 11.6**	**+0.9**
	7.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**2.01**	**334**	Pn	**Pn**	**05 02 51.7**	**+2.0**
	1.6nm,0.2s,SNR=7.9						
EMAZ				Sn	**Sn**	**05 03 16.8**	**+1.7**
	2.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**2.01**	**334**	Pn	**Pn**	**05 02 51.7**	**+1.9**
	1.6nm,0.2s,SNR=7.9						
EMAZ				Sn	**Sn**	**05 03 16.8**	**+1.7**
	2.8nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.23**	**12**	Pg	**Pg**	**05 02 57.5**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**05 03 19.8**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
EPON				Lg		05 03 26.0	
	2.4nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.23**	**12**	Pg	**Pg**	**05 02 57.5**	**-0.7**
	0.3nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**05 03 19.8**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.46**	**166**	Pn	**Pn**	**05 02 56.1**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EBAD				Pg	**Pg**	**05 03 01.7**	**-0.9**
	0.7nm,0.1s,SNR=6.5						
EBAD				Sn	**Sn**	**05 03 26.3**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
EBAD				Lg		05 03 33.7	
	1.8nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**2.46**	**166**	Pn	**Pn**	**05 02 56.1**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.46**	**166**	Pg	**Pg**	**05 03 01.7**	**-0.9**
	0.7nm,0.1s,SNR=6.5						
EBAD				Sn	**Sn**	**05 03 26.3**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**2.80**	**99**	Pn	**Pn**	**05 03 00.9**	**+0.3**
	SNR=7.9						
GUD				Lg		05 03 44.8	
	1.5nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.88**	**41**	Lg		05 03 48.2	
	0.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.27**	**115**	Lg		05 03 57.8	
	1.1nm,0.6s,baz=285,slow=29,SNR=7.9						
EMIN	**Mina Concepcio**	**3.48**	**165**	Pn	**Pn**	**05 03 09.9**	**-0.1**
	SNR=7.9						
EMIN				Sn	**Sn**	**05 03 50.1**	**-1.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		05 04 07.2	
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.48**	**165**	Pn	**Pn**	**05 03 09.9**	**-0.1**
	SNR=7.9						
EMIN				Sn	**Sn**	**05 03 50.1**	**-1.3**
	0.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.61**	**176**	Pn	**Pn**	**05 03 11.7**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**05 03 54.2**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
EGRO				Lg		05 04 09.7	
	0.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.61**	**176**	Pn	**Pn**	**05 03 11.7**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**05 03 54.2**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.85**	**56**	Sn	**Sn**	**05 03 59.1**	**-1.3**
	0.2nm,0.2s,SNR=4.0						
ELAN				Lg		05 04 19.5	
	0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.85**	**56**	Sn	**Sn**	**05 03 59.1**	**-1.3**
	0.2nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.87**	**139**	Pn	**Pn**	**05 03 15.5**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**05 03 59.6**	**-1.4**
	0.3nm,0.2s,SNR=7.9						
EADA				Lg		05 04 16.7	
	0.5nm,0.2s,SNR=7.9						

LDG ***13*** *05:05:49.4±0.3, 4305N×155W, h2km, Md1.8/2, Ml2.0/1, Error ellipse: s-maj=4.8km s-min=3.4km az=38.0*
STR ***13*** *05:05:49.5±0.5, 4305N×152W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 05:05:50.6±0.1, 4307N×150W, h0km, mbLg1.6/8, 1D, Error ellipse: s-maj=1.7km s-min=0.9km az=92.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.10**	**346**	Pg	Pg	05 05 52.5	0.0
	25nm,0.1s,SNR=97						
ELIZ				Lg		05 05 54.4	
	69nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.12**	**198**	⇓Pg	Pg	05 05 52.8	-0.2
	14nm,0.1s,SNR=18						
IUSE				Lg		05 05 54.9	
	21nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.15**	**357**	Pg	Pg	05 05 53.3	-0.2
	4.0nm,0.0s,SNR=88						
EALK				Lg		05 05 55.8	
	81nm,0.1s,SNR=5.0						
SJPF	**Ste Jean**	**0.20**	**76**	*e*Pg	Pg	05 05 54.2	-0.3
SJPF				*e*Sg	Sg	05 05 57.0	-0.1
	43nm,0.2s						
SJPF	**Ste Jean**	**0.20**	**76**	Pg	Pg	05 05 54.2	-0.3
SJPF				Lg		05 05 57.0	
	21nm,0.2s						
OSSF	**Osses**	**0.26**	**42**	Pg	Pg	05 05 54.9	-0.6
OSSF	**Osses**	**0.26**	**42**	Pg	Pg	05 05 55.0	-0.5
OSSF				Lg		05 05 58.4	
IPRE	**Itoiz**	**0.28**	**158**	Pg	Pg	05 05 55.6	-0.3
	1.8nm,0.2s,SNR=7.0						
IPRE				Lg		05 05 60.0	
	2.8nm,0.1s,SNR=12						
EARA	**Aranguren**	**0.30**	**192**	Pg	Pg	05 05 56.1	-0.2
	4.6nm,0.1s,SNR=5.9						
EARA				Lg		05 06 00.1	
	7.5nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.37**	**94**	Pg	Pg	05 05 57.2	-0.5
LARF				Sg	Sg	05 06 02.7	+0.1
LARF	**Larrau**	**0.37**	**94**	Pg	Pg	05 05 57.2	-0.5
LARF				Lg		05 06 02.5	
ORDF	**Ordiarp**	**0.44**	**70**	Pg	Pg	05 05 58.6	-0.3
ORDF				Sg	Sg	05 06 04.9	+0.3
ORDF	**Ordiarp**	**0.44**	**70**	Pg	Pg	05 05 58.6	-0.3
ORDF				Lg		05 06 04.6	
ECRI	**Cripan**	**0.88**	**239**	Pg	Pg	05 06 07.3	0.0
	0.8nm,0.2s,SNR=7.9						
ECRI				Lg		05 06 18.8	
	0.4nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.26**	**107**	Pg	Pg	05 06 15.5	+0.7
	0.9nm,0.1s,SNR=9.1						
EBIE				Lg		05 06 31.8	
	0.5nm,0.1s,SNR=10						
EPF	**Esparros**	**1.35**	**91**	*e*Pg	Pg	05 06 15.2	-1.2
EPF				*e*Sg	Sg	05 06 33.4	-0.4
	1.7nm,0.2s						
EPF	**Esparros**	**1.35**	**91**	Pg	Pg	05 06 15.2	-1.2
EPF				Lg		05 06 33.4	
	0.9nm,0.2s						
ESAC	**San Caprasio**	**1.54**	**150**	Pn	Pn	05 06 18.7	-0.6
	1.6nm,0.2s,SNR=7.9						
ESAC				Lg		05 06 39.7	
	12nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.28**	**191**	Sn	Sn	05 06 57.8	-0.5
	0.4nm,0.2s,SNR=7.9						

IDC 13 05:10:21.8±1.7, 1955S×6911W, h116km±17km, mb3.9/3, mb1 4.0/5, mb1mx3.6/17, mbtmp3.9/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=33.5km s-min=15.7km az=100.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.05**	**176**	P	Pn	05 11 09.1	+0.5
	8.8nm,0.3s,baz=356,slow=11,SNR=77						
LVC				S	Sn	05 11 45.7	+0.9
	32nm,0.3s,baz=6.0,slow=19,SNR=6.1						
LPAZ	**La Paz**	**3.38**	**16**	P	Pn	05 11 14.6	+1.7
	0.1nm,0.3s,baz=193,slow=10,SNR=5.2						
SIV	**San Ignacio**	**8.44**	**66**	P	Pn	05 12 20.4	-0.8
	3.4nm,0.3s,baz=256,slow=12,SNR=104						
ROSC	**El Rosal**	**24.79**	**348**	LR	LR	05 25 04.3	
	comp=Z,104nm,18.4s,baz=348,slow=36						
ULM	**Lac du Bonnet**	**73.41**	**342**	P	P	05 21 40.1	-1.1
	1.7nm,0.6s,baz=145,slow=5.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P	P	05 22 01.8	+0.7
	1.1nm,0.4s,baz=254,slow=5.5,SNR=17						
YKA	**Yellowknife Ar**	**89.29**	**341**	P	P	05 23 04.3	-0.6
	2.8nm,0.7s,baz=136,slow=5.1,SNR=10						
SONM	**Songino Array**	**151.55**	**6**	PKPbc	PKPbc	05 30 03.3	+1.1
	1.0nm,0.4s,baz=2.3,slow=1.1,SNR=8.7						

JMA 13 05:22:10.3±0.2, 4190N×14220E, h80km±3km, M3.6, 3C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.56**	**47**	⇓P	Pn	05 22 24.0	-0.6
JNBK				*e*S	Sn	05 22 34.9	-0.2
JEM	**Erimo**	**0.72**	**80**	⇓P	Pn	05 22 26.6	+0.4
JEM				*e*S	Sn	05 22 38.2	+0.2
JKB	**Kayabe**	**0.87**	**270**	⇓P	Pn	05 22 27.7	-0.1
JKB				*e*S	Sn	05 22 40.3	-0.6
JBT2	**Biratori 2**	**0.89**	**8**	⇓P	Pn	05 22 28.0	0.0
JBT2				*e*S	Sn	05 22 41.3	+0.1
JOT	**Ohata**	**1.01**	**239**	⇑P	Pn	05 22 29.6	+0.2
JOT				*e*S	Sn	05 22 43.5	-0.2
JNB	**Noboribetsu**	**1.03**	**304**	⇓P	Pn	05 22 29.2	-0.5
JNB				*e*S	Sn	05 22 43.1	-1.2
JEW	**Eniwo**	**1.09**	**330**	P	Pn	05 22 30.6	+0.2
JEW				*e*S	Sn	05 22 45.7	+0.2
JCH	**Churui**	**1.12**	**50**	⇑P	Pn	05 22 31.2	+0.4
JCH				*e*S	Sn	05 22 47.2	+1.1
JFR	**Furan**	**1.30**	**13**	P	Pn	05 22 33.3	+0.3
JYM2	**Yakumo 2**	**1.38**	**280**	P	Pn	05 22 34.2	+0.1
JSR	**Shiriuchi**	**1.39**	**255**	P	Pn	05 22 34.6	+0.5
JSR				*e*S	Sn	05 22 52.4	+0.4
JTM	**Tenmabayashi**	**1.40**	**218**	P	Pn	05 22 34.7	+0.4
JTM				*e*S	Sn	05 22 53.2	+0.8
JANG	**Nango**	**1.61**	**199**	P	Pn	05 22 37.7	+0.7
JANG				*e*S	Sn	05 22 57.8	+0.5
JAR	**Ashorobuto**	**1.81**	**39**	⇑P	Pn	05 22 39.9	+0.2
JAR				*e*S	Sn	05 23 01.5	-0.5
JHR	**Hokuryu**	**1.88**	**349**	P	Pn	05 22 42.0	+1.5
JSK	**Shakotan**	**1.93**	**319**	P	Pn	05 22 42.2	+1.0

ATH ***13*** *05:30:51.3, 3946N×24.19E, h26km±2km, ML3.0*
NEIC ***13*** *05:30:51.3, 3946N×24.19E, h26km, MD3.1(SOF), ML3.0(ATH), After ATH.*
SOF ***13*** *05:30:51.7, 3957N×24.14E, h16km, MD3.1*
ISCJB ***13*** *05:30:51.1±0.5, 3950N±002×24.18E±003, h10km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=36.4*
THE ***13*** *05:30:52.0, 3949N×24.18E, h8km, ML3.3*
CSEM ***13*** *05:30:52.3±0.1, 3946N×24.14E, h20km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.6km az=86.0*

ISC 13 05:30:52.1±0.5, 3949N±002×2415E±003, h12km±3km, n41, σ0§90/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.38**	**213**	*e*Pg	**Pg**	**05 30 59.4**	**-0.3**
AOS				*e*Sg	**Sg**	**05 31 05.3**	**+0.4**
PAIG	**Paliouri**	**0.57**	**321**	*e*Pg	**Pg**	**05 31 03.3**	**+0.2**
PAIG				*e*Sg	**Sg**	**05 31 11.9**	**+1.3**
NEO	**Neokhori**	**0.74**	**256**	*e*PN	**Pg**	**05 31 06.1**	**-0.3**
XOR	**Xorichti**	**0.75**	**261**	*e*Pg	**Pg**	**05 31 06.3**	**-0.4**
XOR				*e*Sg	**Sg**	**05 31 18.2**	**+1.7**
LOS	**Limnos**	**0.84**	**58**	*e*Pg	**Pg**	**05 31 07.9**	**-0.5**
LOS				*e*Sg	**Sg**	**05 31 20.2**	**+0.7**
OUR	**Ouranopolis**	**0.85**	**351**	*e*Pg	**Pg**	**05 31 07.8**	**-0.8**
OUR				*e*Sg	**Sg**	**05 31 20.5**	**+0.8**
LIA	**Limnos Island**	**0.90**	**63**	*e*PN	**Pn**	**05 31 08.4**	**-2.0**
PLG	**Polygyros**	**1.03**	**329**	*e*Pg	**Pg**	**05 31 11.9**	**-0.2**
PLG				*e*Sg	**Sg**	**05 31 25.1**	**-0.4**
PLG	**Polygyros**	**1.03**	**329**	*e*PN	**Pn**	**05 31 12.0**	**-0.3**
LKR	**Lokris**	**1.23**

JOW	**Kunigami**	**14.46**	**293**	LR	LR	06 00 38.7
	comp=Z,177nm,19.3s,baz=281,slow=34					
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**05 57 05.3 +4.7**
	3.1nm,0.7s,baz=138,slow=10,SNR=12					
KSRS				LR	LR	06 04 08.1
	comp=Z,102nm,20.6s,MS3.2,baz=130,slow=34					
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**05 59 52.8 +1.0**
	1.9nm,0.8s,mb3.9,baz=133,slow=9.2,SNR=11					
WRAB	**Tennant Creek**	**42.48**	**192**	*e*P	**P**	**06 00 18.4 -0.5**
	4.8nm,0.9s,mb4.1					
WB2	**Warramunga Arr**	**42.49**	**192**	*e*P	**P**	**06 00 19.1 +0.1**
WRA	**Warramunga Arr**	**42.49**	**192**	P	**P**	**06 00 19.0 0.0**
	2.3nm,0.7s,mb3.9,baz=17,slow=9.2,SNR=18					
WRA				LR	LR	06 17 41.9
	comp=Z,64nm,19.8s,MS3.5,baz=100,slow=36					
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**06 00 48.7 +0.1**
	0.9nm,0.6s,mb3.9,baz=17,slow=9.1,SNR=20					
WMQ	**Urumqi**	**50.46**	**309**	*e*P	**P**	**06 01 22.6 +1.1**
STKA	**Stephens Creek**	**53.51**	**182**	P	**P**	**06 01 44.6 +0.4**
	3.7nm,0.9s,mb4.3,baz=330,slow=8.1,SNR=3.4					
ZAL	**Zalesovo**	**54.07**	**322**	P	**P**	**06 01 48.0 -0.2**
	1.2nm,0.5s,mb4.1,baz=15,slow=8.9,SNR=3.7					
MKAR	**Makanchi Array**	**54.57**	**313**	P	**P**	**06 01 51.6 -0.3**
	0.9nm,0.7s,mb3.9,baz=92,slow=9.0,SNR=6.5					
KURK	**Kurchatov**	**57.33**	**317**	*e*P	**P**	**06 02 10.5 -1.2**
	4.8nm,1.1s,mb4.4					
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**06 04 12.6 +0.5**
	0.9nm,0.4s,mb4.0,baz=292,slow=5.8,SNR=4.7					
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**06 04 25.9 -0.1**
	4.0nm,0.9s,mb4.3,baz=39,slow=5.8,SNR=3.3					
FINES	**FINESS Array B**	**83.00**	**334**	P	**P**	**06 04 47.6 -1.1**
	1.9nm,0.9s,mb4.1,baz=114,slow=4.6,SNR=4.7					
PDAR	**Pinedale Array**	**87.22**	**45**	LR	LR	06 38 49.8
	comp=Z,133nm,19.9s,MS4.3,baz=167,slow=32					
LPAZ	**La Paz**	**149.90**	**85**	PKPbc	PKPbc	06 12 15.9 +2.2
	0.7nm,0.7s,baz=90,slow=2.0,SNR=4.7					
LPAZ				PKPab	PKPab	06 12 22.9 +3.6
	1.7nm,0.7s,baz=34,slow=3.6,SNR=5.0					

NEIC ***13*** *06:01:50.5, 3685S×7345W, h41km, MD4.0(GUC), After GUC.*

GUC 13 06:01:50.5±0.7, 3685S×7345W, h41km±3km, MD4.0, ML3.3,3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.90**	**37**	*e*P	Pn	06 02 06.7	+0.1
COCH				*i* S	Sn	06 02 19.6	+1.2
COCH				AML	AML	06 02 22.8	
	comp=N,1μm,0.5s						
COCH	**Cobquecura**	**0.90**	**37**	*e*P	Pn	06 02 06.7	+0.1
COCH				*i* S	Sn	06 02 19.6	+1.2
CCHI	**Chillan**	**1.13**	**78** ⇓	*i* P	Pn	06 02 10.3	+0.5
CCHI				*i* S	Sn	06 02 26.1	+1.9
CCHI				AML	AML	06 02 33.0	
	comp=E,2μm,0.8s						
CCHI	**Chillan**	**1.13**	**78** ⇓	*i* P	Pn	06 02 10.3	+0.5
CCHI				*i* S	Sn	06 02 26.1	+1.9
CNCO	**Chanco**	**1.34**	**34**	*e*P	Pn	06 02 13.5	+0.9
CNCO				*i* S	Sn	06 02 31.2	+2.0
CNCO				AML	AML	06 02 43.0	
	comp=N,1μm,0.7s						
CNCO	**Chanco**	**1.34**	**34**	*e*P	Pn	06 02 13.5	+0.9
CNCO				*i* S	Sn	06 02 31.2	+2.0
TALC	**Talca**	**2.06**	**46** ⇓	*i* P	Pn	06 02 23.8	+1.2
TALC				*i* S	Sn	06 02 48.3	+1.1
NICH	**Los Niches**	**2.58**	**45**	*e*P	Pn	06 02 31.1	+1.4
CICH	**Cipreses**	**3.53**	**45**	*e*P	Pn	06 02 45.1	+2.3
CHCH	**Chadas Angostu**	**3.70**	**39**	*e*P	Pn	06 02 47.3	+2.2
ANTU	**Antumapu**	**4.00**	**36**	*e*P	Pn	06 02 50.4	+1.1
CLCH	**Cerro Calan**	**4.19**	**36**	*e*P	Pn	06 02 53.8	+1.9
CLCH				*i* S	Sn	06 03 41.6	+2.0
FCH	**Farellones**	**4.37**	**37**	*e*P	Pn	06 02 56.3	+2.0

IDC 13 06:11:28.6±3.1, 660S×15110E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=72.0km s-min=49.3km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**20.99**	**229**	*e*P	P	06 16 13.5	+0.1
WRA	**Warramunga Arr**	**21.00**	**229**	P	P	06 16 13.4	-0.1
	1.2nm,0.6s,baz=55,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**23.69**	**222**	P	P	06 16 42.1	0.0
	0.8nm,0.4s,baz=55,slow=9.0,SNR=22						
STKA	**Stephens Creek**	**26.67**	**198**	P	P	06 17 09.8	+0.6
	0.8nm,0.4s,baz=14,slow=9.1,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.33**	**243**	*e*P	P	06 17 15.2	+0.1
	2.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.33**	**243**	P	P	06 17 15.4	+0.3
	1.5nm,0.4s,baz=64,slow=10.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	06 31 19.8	+0.8
	0.7nm,1.1s,baz=88,slow=2.8,SNR=3.5						

NEIC ***13*** *06:17:16.0, 3328S×7202W, h34km, ML2.9(GUC), After GUC.*

GUC 13 06:17:16.0±0.8, 3328S×7202W, h34km±3km, MD3.7, ML2.9, 14C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.41**	**51** ⇓	*i* P	Pb	06 17 24.7	-0.6
IHA				*i* S	Sb	06 17 31.5	-0.1
LCCH	**Las Cruces**	**0.42**	**117** ⇑	*i* P	Pb	06 17 25.2	-0.2
LCCH				*i* S	Sb	06 17 32.4	+0.4
LNV	**Longovilo**	**0.84**	**143** ⇑	*i* P	Pn	06 17 31.5	+0.1
LNV				*i* S	Sn	06 17 42.8	+0.2
ROCH	**El Roble**	**0.90**	**70** ⇑	*i* P	Pn	06 17 32.6	+0.4
ROCH				*i* S	Sn	06 17 44.8	+0.8
TACH	**Talagante**	**0.97**	**113** ⇓	*i* P	Pn	06 17 33.8	+0.5
TACH				*i* S	Sn	06 17 46.9	+1.1
RCDM	**Rinconada Maip**	**1.03**	**102** ⇓	*i* P	Pn	06 17 32.9	-1.1
RCDM				*i* S	Sn	06 17 47.9	+0.5
RCDM				AML	AML	06 17 50.8	
	comp=N,947nm,0.1s						
RCDM	**Rinconada Maip**	**1.03**	**102**	P	Pn	06 17 32.9	-1.1
RCDM				*i* S	Sn	06 17 47.9	+0.5
PEL	**Peldehue**	**1.12**	**83** ⇑	*i* P	Pn	06 17 36.1	+0.8
PEL				*i* S	Sn	06 17 51.5	+2.0
PEL				AML	AML	06 17 56.7	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.12**	**83** ⇑	*i* P	Pn	06 17 36.1	+0.8
PEL				*i* S	Sn	06 17 51.5	+2.0
SAN	**Santiago**	**1.15**	**99**	*i* S	Sn	06 17 51.9	+1.8
SAN				AML	AML	06 17 54.8	
	comp=N,317nm,0.8s						
STL	**Santa Lucia**	**1.16**	**98**	*e*P	Pn	06 17 35.9	+0.1
STL				*i* S	Sn	06 17 51.5	+1.0
ANTU	**Antumapu**	**1.19**	**104** ⇑	*i* P	Pn	06 17 37.2	+1.0
ANTU				*i* S	Sn	06 17 53.3	+2.1
ANTU				AML	AML	06 17 57.3	
	comp=E,422nm,0.6s						
ANTU	**Antumapu**	**1.19**	**104** ⇑	*i* P	Pn	06 17 37.2	+1.0
ANTU				*i* S	Sn	06 17 53.3	+2.1
DSCH	**Colegio Aleman**	**1.22**	**96**	*e*P	Pn	06 17 37.0	+0.5
DSCH				*i* S	Sn	06 17 53.2	+1.4
CLCH	**Cerro Calan**	**1.24**	**96**	*e*P	Pn	06 17 37.9	+0.9
CLCH				*i* S	Sn	06 17 55.0	+2.5
CLCH				AML	AML	06 17 56.7	
	comp=E,385nm,0.6s						
FSR	**Penalolen**	**1.26**	**99** ⇑	*i* P	Pn	06 17 38.7	+1.5
FSR				*i* S	Sn	06 17 55.0	+2.1
FSR				AML	AML	06 17 56.1	
	comp=N,441nm,0.6s						
FSR	**Penalolen**	**1.26**	**99** ⇑	*i* P	Pn	06 17 38.7	+1.5
FSR				*i* S	Sn	06 17 55.0	+2.1
PCH	**Pirque**	**1.30**	**105** ⇓	*i* P	Pn	06 17 39.0	+1.3
PCH				*i* S	Sn	06 17 55.7	+1.8
CHCH	**Chadas Angostu**	**1.31**	**120** ⇓	*i* P	Pn	06 17 39.0	+1.2
CHCH				*i* S	Sn	06 17 56.5	+2.3
PTCH	**Petorca**	**1.37**	**42** ⇑	*i* P	Pn	06 17 39.9	+1.3
PTCH				*i* S	Sn	06 17 55.6	0.0
PTCH				AML	AML	06 17 59.4	
	comp=N,238nm,0.3s						
PTCH	**Petorca**	**1.37**	**42** ⇑	*i* P	Pn	06 17 39.9	+1.3
PTCH				S	Sn	06 17 55.6	0.0
CACH	**El Canelo**	**1.45**	**126** ⇓	*i* P	Pn	06 17 41.3	+1.6
FCH	**Farellones**	**1.45**	**92**	*e*P	Pn	06 17 41.1	+1.4
FCH				*i* S	Sn	06 18 00.2	+2.7
FCH				AML	AML	06 18 03.0	
	comp=N,292nm,0.9s						

SFDO	**San Fernando**	**1.57**	**148** ⇑	*i* P	Pn	06 17 43.0 +1.6
LMEL	**Las Melosas**	**1.62**	**111** ⇑	*i* P	Pn	06 17 44.0 +1.9
LMEL				*i* S	Sn	06 18 04.9 +3.2
LMEL				AML	AML	06 18 06.5
	comp=N,458nm,0.2s					
LMEL	**Las Melosas**	**1.62**	**111** ⇑	*i* P	Pn	06 17 44.0 +1.9
LMEL				*i* S	Sn	06 18 04.9 +3.2
CICH	**Cipreses**	**1.69**	**128** ⇓	*i* P	Pn	06 17 44.6 +1.6
CICH				*i* S	Sn	06 18 06.5 +3.1

ISCJB ***13*** *06:23:29.0±1.4, 760S±007×127.11E±0.10, h134km±14km, mb4.5/15, Error ellipse: s-maj=17.6km s-min=7.3km az=119.6*

IDC ***13*** *06:23:30.8±3.9, 756S×127.14E, h135km±35km, mb4.3/8, mb1 4.3/9, mb1mx4.1/14, mbtmp4.3/9, Error ellipse: s-maj=26.1km s-min=13.6km az=54.0*

NEIC ***13*** *06:23:31.3±1.8, 764S×127.12E, h137km±17km, mb4.7/10, Error ellipse: s-maj=15.5km s-min=11.7km az=216.0*

ISC 13 06:23:28.9±1.6, 756S±009×1273E±01, h118km±15km, n42, σ1§21/49, mb4.6/15, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.20**	**136**	*e*P	**Pn**	**06 25 15.5**	**+4.0**
	163nm,0.2s						
KAKA				*e*S	**Sn**	**06 26 30.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.60**	**189**	*e*P	**Pn**	**06 25 56.3**	**-1.1**
	41nm,0.4s						
FITZ				*e*S	**Sn**	**06 27 46.9**	**-7.3**
FITZ	**Fitzroy Crossi**	**10.60**	**189**	P	**Pn**	**06 25 57.2**	**-0.3**
	5.8nm,0.3s,baz=17,slow=9.8,SNR=89						
FITZ				S	**Sn**	**06 27 47.4**	**-6.8**
	9.6nm,0.3s,baz=294,slow=20,SNR=6.2						
WRAB	**Tennant Creek**	**14.07**	**152**	*e*Pn	**Pn**	**06 26 42.7**	**-0.3**
WRAB				*e*Sn	**Sn**	**06 29 08.9**	**-9.2**
WRA	**Warramunga Arr**	**14.08**	**152**	P	**Pn**	**06 26 42.6**	**-0.4**
	6.2nm,0.3s,baz=325,slow=13,SNR=148						
WRA				S	**Sn**	**06 29 10.7**	**-7.6**
	22nm,0.3s,baz=333,slow=24,SNR=17						
WB2	**Warramunga Arr**	**14.08**	**152**	*e*P	**Pn**	**06 26 41.1**	**-2.0**
WB2				*e*S	**Sn**	**06 29 11.2**	**-7.2**
MBWA	**Marble Bar**	**15.37**	**208**	*e*P	**Pn**	**06 27 01.6**	**+2.3**
	13nm,0.5s						
MBWA				*e*S	**S**	**06 29 37.9**	**-19**
AS31	**Alice Springs**	**17.23**	**159**	*e*P	**Pn**	**06 27 24.0**	**+1.9**
AS31				*e*S	**S**	**06 30 28.7**	**-5.4**
ASAR	**Alice Springs**	**17.23**	**159**	P	**Pn**	**06 27 24.1**	**+1.9**
	28nm,0.3s,baz=338,slow=12,SNR=358						
ASAR				S	**S**	**06 30 28.4**	**-5.7**
	3.8nm,0.3s,baz=319,slow=21,SNR=8.6						
ASPA	**Alice Springs**	**17.23**	**159**	*e*P	**Pn**	**06 27 24.0**	**+1.9**
ASPA				*e*S	**S**	**06 30 28.7**	**-5.4**
KSM	**Kuching**	**19.18**	**297**	*e*P	**P**	**06 27 43.3**	**+0.2**
PMG	**Port Moresby**	**19.73**	**97**	P	**P**	**06 27 54.5**	**+5.3**
	2.8nm,0.3s,baz=170,slow=2.8,SNR=5.9						
PMG	**Port Moresby**	**19.73**	**97**	*e*P	**P**	**06 27 55.4**	**+6.2**
CTA	**Charters Tower**	**22.19**	**126**	*e*P	**P**	**06 28 18.1**	**+2.6**
	8.9nm,0.9s,mb4.1						
CTA				*e*S	S	06 32 40.6	+29
CTA	**Charters Tower**	**22.19**	**126**	P	**P**	**06 28 18.2**	**+2.8**
	12nm,0.8s,mb4.2,baz=301,slow=12,SNR=16						
CTA				S	**S**	**06 32 28.5**	**+17**
	1.3nm,0.4s,baz=82,slow=16,SNR=2.2						
CTAO	**Charters Tower**	**22.19**	**126**	*e*P	**P**	**06 28 17.2**	**+1.7**
	13nm,0.9s,mb4.3						
FORT	**Forrest**	**23.11**	**178**	*e*P	**P**	**06 28 24.7**	**+0.3**
	51nm,0.5s,mb5.1						
FORT				*e*S	S	06 32 46.1	+19
KLBR	**Kellerberrin**	**25.51**	**199**	*e*P	**P**	**06 28 46.4**	**+0.1**
	14nm,0.6s,mb4.6						
KLBR				*e*S	S	06 33 33.9	+29
MUN	**Mundaring**	**26.40**	**202**	*e*P	**P**	**06 28 54.9**	**+0.6**
MUN				*e*S	sS	06 34 00.7	-3.0
NWAO	**Narrogin (SRO)**	**26.91**	**199**	P	**P**	**06 28 59.2**	**+0.4**
	27nm,0.6s,mb4.9,baz=27,slow=7.6,SNR=30						
NWAO	**Narrogin (SRO)**	**26.91**	**199**	*e*P	**P**	**06 28 59.0**	**+0.1**
	14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.62**	**153**	*e*P	**P**	**06 29 06.2**	**+1.0**
	12nm,0.6s,mb4.6						
STKA				*e*S	sS	06 34 35.5	+13
STKA	**Stephens Creek**	**27.62**	**153**	P	**P**	**06 29 06.3**	**+1.1**
	12nm,0.4s,mb4.8,baz=328,slow=9.0,SNR=45						
PSI	**Prapat**	**30.12**	**289**	P	**P**	**06 29 27.5**	**+0.1**
	14nm,0.8s,mb4.7,baz=98,slow=5.3,SNR=20						
RPZ	**Rata Peaks**	**52.47**	**141**	P	**P**	**06 32 30.5**	**+1.0**
	24nm,0.8s,mb5.3,baz=34,slow=6.8,SNR=11						
GUN	**Gumba**	**53.34**	**313**	*e*P	**P**	**06 32 36.6**	**+0.7**
	11nm,0.6s,mb5.0						
PKI	**Pulchoki**	**53.48**	**312**	*e*P	**P**	**06 32 36.2**	**-0.8**
GKN	**Gorkha**	**54.29**	**312**	*e*P	**P**	**06 32 43.0**	**+0.2**
	7.2nm,0.3s,mb5.2						
KOLN	**Koldanda**	**54.93**	**312**	*e*P	**P**	**06 32 48.0**	**+0.6**
SONM	**Songino Array**	**58.17**	**344**	P	**P**	**06 33 09.5**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=171,slow=7.3,SNR=4.0						
SONM	**Songino Array**	**58.17**	**344**	P	**P**	**06 33 09.5**	**-0.8**
MKAR	**Makanchi Array**	**67.25**	**328**	P	**P**	**06 34 10.1**	**-0.5**
	1.7nm,0.8s,mb3.9,baz=118,slow=7.8,SNR=13						
VNDA	**Vanda**	**72.23**	**173**	P	**P**	**06 34 40.1**	**-1.0**
	0.6nm,0.6s,mb3.6,baz=324,slow=6.4,SNR=9.5						
VNDA	**Vanda**	**72.23**	**173**	*e*P	**P**	**06 34 39.8**	**-1.4**
	0.6nm,0.6s,mb3.6						
MAW	**Mawson**	**73.46**	**201**	P	**P**	**06 34 47.6**	**-0.8**
	3.1nm,0.5s,mb4.4,baz=188,slow=11,SNR=9.2						
SYO	**Syowa Base**	**82.17**	**201** ⇑	*e*P	**P**	**06 35 35.2**	**-1.4**
SYO	**Syowa Base**	**82.17**	**201** ⇑	*e*PcP	PcP	06 35 39.0	-2.7
QSPA	**South Pole Qui**	**82.42**	**180**	*e*P	**P**	**06 35 37.2**	**-0.7**
	4.5nm,0.3s,mb4.8						
SNAA	**Sanae**	**94.49**	**194**	*e*P	**P**	**06 36 34.7**	**-1.0**
	1.9nm,0.5s,mb4.7						
COP	**Copenhagen**	**110.11**	**327**	*i* P	PKiKP	06 41 41.8	-4.8
	28nm,0.6s						
LPAZ	**La Paz**	**151.81**	**147**	PKPbc	PKPbc	06 43 11.0	+1.3
	1.9nm,0.5s,baz=180,slow=2.4,SNR=16						
LPAZ				PKPab	PKPab	06 43 21.5	+2.4
	6.5nm,0.6s,baz=162,slow=1.1,SNR=29						
LPAZ	**La Paz**	**151.81**	**147**	*e*PKPbc	PKPbc	06 43 11.2	+1.5
LPAZ				*e*PKPab	PKPab	06 43 21.3	+2.2

NIED ***13*** *06:30:00, 4650N×154.10E, h11km, Mw4.8 Best double couple: Ms1.75000×1016 NP1:φ=72.00000°, δ78.00000°, λ=-109.00000°. NP2:φ=310.00000°, δ22.00000°, λ=-33.00000°.*

BJI ***13*** *06:30:28.2, 4692N×15336E, h2km, mB5.1, mb4.9, Ms4.7, Msz4.4*

SKHL ***13*** *06:30:28.5±2.2, 4649N×15391E, h68km±21km, Ms4.8/3*

NEIC ***13*** *06:30:30.3±0.2, 4665N×15345E, h10km, mb5.1/77, Error ellipse: s-maj=6.0km s-min=3.5km az=158.0*

ISCJB ***13*** *06:30:31.4±0.2, 4655N±004×15347E±003, h30km, mb4.9/125, MS4.3/34, Error ellipse: s-maj=5.6km s-min=2.3km az=124.4*

SZGRF ***13*** *06:30:32.2, 4599N×15269E, h33km, mb5.0, East of Kuril Islands, Russia*

MOS ***13*** *06:30:33.6±1.1, 4664N×15342E, h47km, mb5.3/44, MS4.1/13, Error ellipse: s-maj=7.9km s-min=5.0km az=107.6*

IDC ***13*** *06:30:36.2±3.5, 4667N×15351E, h60km±31km, mb4.4/22, mb1 4.5/23, mb1mx4.4/28, mbtmp4.4/23, ML4.9/1, MS4.1/16, Ms1 4.1/16, ms1mx3.8/31, Error ellipse: s-maj=16.2km s-min=11.1km az=138.0*

ISC 13 06:30:33.7±0.2, 4668N±003×15343E±003, h32km, h32km±4km: pP-P, n387, σ1§12/402, mb4.9/125, MS4.3/34, 38C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.14**	**252** ⇑	*i* P	**Pn**	**06 31 32.6**	**-2.1**
KUR				AMB	AMB	06 31 36.0	
	304nm,0.5s						
KUR				AMB	AMB	06 31 36.0	
	380nm,0.5s						
KUR				AMB	AMB	06 31 36.0	
	1μm,0.5s						
KUR				*e*S	**Sn**	**06 32 23.0**	**+1.0**
KUR				A		06 32 30.0	
	988nm,0.5s						
KUR				A		06 32 30.0	
	2μm,0.5s						
KUR	**Kuril'sk**	**4.14**	**252**	*i* PN	**Pn**	**06 31 32.6**	**-2.1**
KUR				*e*S	**Sn**	**06 32 23.0**	**+1.0**
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,380nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
SKR	**Severo-Kuril's**	**4.38**	**23**	*e*P	**Pn**	**06 31 35.4**	**-2.7**
SKR				AMB	AMB	06 31 39.5	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	06 31 39.5	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	06 31 39.5	
	comp=E,150nm,0.5s						
SKR				*e*S	**Sn**	**06 32 24.6**	**-3.4**
SKR				A		06 32 31.5	
	comp=E,280nm,0.5s						
SKR				A		06 32 31.5	
	comp=E,320nm,0.5s						
SKR				A		06 32 31.5	
	comp=E,150nm,0.5s						
SKR				AMS	AMS	06 34 23.0	
	comp=E,3μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**246**	*e*P	**Pn**	**06 32 00.5**	**+0.9**
YUK				AMB	AMB	06 32 11.4	
	comp=E,3μm,1.1s						
YUK				AMB	AMB	06 32 11.8	
	comp=E,930nm,0.5s						
YUK				AMB	AMB	06 32 11.8	
	comp=E,770nm,0.5s						
YUK				AMB	AMB	06 32 11.8	
	comp=E,490nm,0.6s						
YUK				*e*S	**Sn**	**06 33 08.2**	**+1.5**
YUK				A		06 33 15.7	
	comp=E,1μm,0.6s						
YUK				A		06 33 15.7	
	comp=E,950nm,0.6s						
YUK				A		06 33 23.0	
	comp=E,3μm,1.1s						
YUK				A		06 33 23.0	
	comp=E,2μm,1.1s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**246**	PN	**Pn**	**06 32 00.5**	**+0.9**
YUK				*e*S	**Sn**	**06 33 08.2**	**+1.5**
YUK				pmax	pmax		
	comp=Z,3μm,1.1s						
YUK				pmax	pmax		
	comp=N,930nm,0.5s						
YUK				pmax	pmax		
	comp=Z,770nm,0.5s						
YUK				pmax	pmax		
	comp=E,490nm,0.6s						
YUK				smax			
	comp=N,1μm,0.7s						
YUK				smax			
	comp=E,950nm,0.5s						
YUK				smax			
	comp=N,3μm,1.2s						
YUK				smax			
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**6.38**	**241**	P	**Pn**	**06 32 03.8**	**-1.6**
NEM2				*e*S	**Sn**	**06 33 15.1**	**-2.0**
JRA	**Rausu**	**6.47**	**248**	P	**Pn**	**06 32 07.5**	**+0.8**
JRA				*e*S	**Sn**	**06 33 24.4**	**+5.0**
JNK	**Nakash**	**6.89**	**247**	P	**Pn**	**06 32 13.2**	**+0.7**
PET	**Petropavlovsk**	**7.19**	**26**	*e*PN	**Pn**	**06 32 11.0**	**-5.6**
PET				pmax	pmax		
	comp=Z,108nm,1.4s						
PET				MLR	MLR		
	comp=Z,700nm,21.0s						
PET	**Petropavlovsk**	**7.19**	**26**	*e*Pn	**Pn**	**06 32 13.8**	**-2.8**
JAK	**Akkeshi**	**7.22**	**242**	P	**Pn**	**06 32 15.1**	**-1.9**
JAK				*e*S	**Sn**	**06 33 35.6**	**-2.2**
JTKR	**Abashiri--Toko**	**7.24**	**251**	P	**Pn**	**06 32 18.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.33**	**276**	*e*P	**Pn**	**06 32 22.0**	**+3.5**
YSS				*e*LQ		06 34 08.0	
YSS				AMS	AMS	06 35 35.0	
	comp=Z,3μm,13.0s						
YSS				AMS	AMS	06 35 35.0	
	comp=Z,1μm,13.0s						
YSS				AMS	AMS	06 35 35.0	
	comp=Z,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.33**	**276**	*e*PN	**Pn**	**06 32 22.0**	**+3.5**
YSS				*e*S	**Sn**	**06 33 47.0**	**+6.4**
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.33**	**276**	*e*Pn	**Pn**	**06 32 22.9**	**+4.4**
JMP	**Maruseppu**	**7.58**	**253**	P	**Pn**	**06 32 24.1**	**+2.1**
JAR	**Ashorobuto**	**7.64**	**247**	P	**Pn**	**06 32 23.1**	**+0.4**
JAR				*e*S	**Sn**	**06 33 51.3**	**+3.1**
JSE	**Soyaes**	**7.77**	**261**	P	**Pn**	**06 32 28.5**	**+3.9**
JOB	**Onbets**	**7.80**	**245**	P	**Pn**	**06 32 23.9**	**-1.0**
JOB				*e*S	**Sn**	**06 33 50.9**	**-1.2**
UGL	**Uglegorsk**	**8.01**	**292**	*e*P	**Pn**	**06 32 34.0**	**+6.1**
UGL				*e*L		06 34 54.0	
UGL				AMS	AMS	06 35 34.0	
	comp=E,3μm,16.0s						
UGL				AMS	AMS	06 35 34.0	
	comp=E,3μm,16.0s						
UGL				AMS	AMS	06 35 34.0	
	comp=E,5μm,13.0s						
JKK2	**Kamakawa 2**	**8.04**	**253**	P	**Pn**	**06 32 30.3**	**+2.0**
ASAJ	**Asahikawa**	**8.05**	**255**	P	**Pn**	**06 32 31.1**	**+2.8**
	comp=E,17nm,0.3s,baz=87,slow=13,SNR=33						
ASAJ				LR	LR	06 35 35.2	
	comp=E,217nm,19.0s,baz=331,slow=37						
ASAJ	**Asahikawa**	**8.05**	**255**	P	**Pn**	**06 32 30.9**	**+2.6**
JWK2	**Keihoku**	**8.15**	**265**	P	**Pn**	**06 32 35.3**	**+5.6**
JCH	**Churui**	**8.25**	**244**	P	**Pn**	**06 32 29.4**	**-1.

MAT Matsushiro 15.21 234 P **Pn** **06 34 02.2 -3.9**
MJAR Matsushiro Arr 15.21 234 P **Pn** **06 34 01.9 -4.2**
comp=Z,1.0nm,0.3s,baz=28,slow=14,SNR=18
VLA Vladivostok 15.66 265 *e*P **Pn** **06 34 11.4 -0.6**
VLA pmax pmax
comp=Z,69nm,0.8s
VLA MLR MLR
comp=Z,600nm,14.4s
SEY Seymchan 16.30 358 *e*P **Pn** **06 34 21.3 +1.1**
MDJ Mudanjiang 16.79 272 P **Pn** **06 34 24.8 -1.5**
MDJ AP pP 06 34 34.9 -1.8
MDJ S **Sn** **06 37 29.5 -2.2**
MDJ SCP ScP 06 42 45.8 +0.1
MDJ PCS PcS 06 42 49.4 +0.1
MDJ SCS ScS 06 46 25.3 +0.2
MDJ AMB AMB
comp=Z,15nm,2.3s
MDJ AMB AMB
comp=Z,135nm,4.2s
MDJ LR LR
comp=N,646nm,11.4s
MDJ LR LR
comp=E,522nm,14.1s
MDJ LR LR
comp=Z,763nm,13.8s
MDJ Mudanjiang 16.79 272 *e*P **Pn** **06 34 26.1 -0.2**
comp=Z,46nm,1.0s
ZEA Zeya 18.12 303 *e*P **Pn** **06 34 42.0 -0.8**
ZEA AMB AMB 06 34 44.7
comp=Z,29nm,1.2s
ZEA AMB AMB 06 34 44.7
comp=Z,43nm,1.2s
CN2 Changchun 19.87 272 *e*P **Pn** **06 35 01.8 -2.1**
CN2 *e*XP sP 06 35 15.0 +0.2
CN2 *e*S **Sn** **06 38 36.3 -10**
CN2 AMB AMB
comp=Z,30nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,15.0s
CN2 LR LR
comp=E,500nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
CLNS Chul'man 20.23 311 *e*P **P** **06 35 00.9 -5.2**
CLNS *e*PPP 06 35 17.5
CLNS pmax pmax
comp=Z,11nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS4.5
CLNS MLR MLR
comp=N,300nm,15.0s,MS4.5
CLNS MLR MLR
comp=E,1μm,12.0s,MS4.5
YAK Yakutsk 20.50 327 *e*P **P** **06 35 10.1 +1.1**
YAK *e*S **S** **06 38 55.5 -1.2**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK smax
comp=N,120nm,14.2s
YAK smax
comp=Z,122nm,18.1s
YAK smax
comp=E,95nm,19.4s
YAK MLR MLR
comp=Z,386nm,19.0s,MS3.8
YAK MLR MLR
comp=N,396nm,17.0s,MS3.9
YAK MLR MLR
comp=E,311nm,20.0s,MS3.9
YAK Yakutsk 20.50 327 *e*P **P** **06 35 08.7 -0.3**
comp=E,53nm,0.8s
KSRS Korea Array 20.99 253 P **P** **06 35 15.5 +1.3**
comp=E,16nm,0.6s,baz=60,slow=9.6,SNR=42
KSRS LR LR 06 43 08.4
comp=E,162nm,18.2s,MS3.4,baz=50,slow=36
KS15 Wonju Array Si 21.02 253 *e*Pn **P** **06 35 16.1 +1.5**
INCN Inchon 21.82 255 *e*P **P** **06 35 23.7 +0.5**
comp=E,56nm,0.8s,mb5.0
SNY Shenyang 21.86 268 ⇓P **P** **06 35 22.9 -0.7**
SNY AMB AMB
comp=Z,46nm,0.5s,mb5.2
SNY AMB AMB
comp=Z,425nm,3.5s
SNY LR LR
comp=N,707nm,12.6s,MS4.5
SNY LR LR
comp=E,1μm,12.6s,MS4.5
SNY LR LR
comp=Z,856nm,14.1s,MS4.3
JNU Nakatsue 21.87 240 P **P** **06 35 24.9 +1.2**
comp=Z,49nm,0.8s,mb5.0,baz=197,slow=20,SNR=4.7
BILL Bilibino 22.41 13 ⇑P **P** **06 35 29.1 -0.4**
BILL 06 35 58.0
BILL *e* 06 36 09.0
BILL pmax pmax
comp=Z,38nm,1.7s,mb4.5
BILL MLR MLR
comp=Z,300nm,15.0s,MS3.8
BILL Bilibino 22.41 13 *e*P **P** **06 35 29.4 -0.1**
comp=Z,10nm,0.6s,mb4.4
HIA Hailar 22.60 289 *e*P **P** **06 35 30.4 -1.1**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 22.60 289 *e*P **P** **06 35 30.4 -1.1**
comp=Z,7.9nm,0.7s,mb4.2
DL2 Dalian 24.47 263 P **P** **06 35 51.8 +2.1**
DL2 AMB AMB
comp=Z,40nm,1.2s,mb4.7
BOD Bodaibo 26.20 310 *e*P **P** **06 36 03.3 -2.2**
BOD *e* 06 41 56.4
BOD pmax pmax
comp=Z,12nm,1.6s,mb4.2
BJI Beijing 27.70 270 P **P** **06 36 21.6 +2.7**
BJI S **S** **06 40 54.9 -4.1**
BJI AMB AMB
comp=Z,14nm,1.0s,mb4.5
BJI LR LR
comp=N,564nm,14.3s,MS4.5
BJI LR LR
comp=E,689nm,15.3s,MS4.5
BJI LR LR
comp=Z,276nm,18.5s,MS3.9
BJI Beijing 27.70 270 P **P** **06 36 21.6 +2.7**
comp=Z,14nm,1.0s,mb4.5
BJI S **S** **06 40 54.9 -4.1**
BJI LR LR
comp=Z,280nm,18.5s,MS3.9
BJT Baijiatuau 27.71 270 *e*P **P** **06 36 19.7 +0.7**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuau 27.71 270 *e*P **P** **06 36 19.7 +0.7**
comp=Z,23nm,0.8s,mb4.9
JOW Kunigami 28.06 234 P **P** **06 36 21.6 -0.5**
comp=Z,14nm,0.8s,mb4.7,baz=41,slow=8.0,SNR=5.0
NJ2 Nanjing 30.19 253 *e*P **P** **06 36 41.9 +0.9**
NJ2 AP pP 06 36 52.8 +2.5
NJ2 PP PP 06 37 41.3 -8.1
NJ2 S **S** **06 41 37.0 -1.1**
NJ2 XS sS 06 41 52.5 -1.0
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,430nm,5.8s
NJ2 LR LR
comp=N,990nm,19.4s,MS4.5
NJ2 LR LR
comp=E,600nm,19.8s,MS4.5
NJ2 LR LR
comp=Z,520nm,22.1s,MS4.1
HHC Hu-ho-hao-te 30.52 274 *e*P **P** **06 36 44.8 +0.9**
HHC AP pP 06 36 54.8 +1.6
HHC PP PP 06 37 43.3 -10
HHC PCP PcP 06 39 45.6 +3.2
HHC S **S** **06 41 43.8 +0.5**
HHC SS ScP 06 43 22.1 -0.4
HHC PCS PcS 06 43 26.0 -0.1
HHC AMB AMB
comp=Z,25nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,217nm,5.2s
HHC LR LR
comp=N,741nm,16.3s,MS4.5
HHC LR LR
comp=E,670nm,16.1s,MS4.5
HHC LR LR
comp=Z,365nm,16.1s,MS4.1
SONM Songino Array 31.57 290 P **P** **06 36 52.9 -0.3**
comp=Z,1.7nm,0.7s,mb4.0,baz=70,slow=9.1,SNR=4.1
SONM LR LR 06 50 31.8
comp=Z,546nm,18.6s,MS4.3,baz=258,slow=38
TLY Talaya 32.41 297 *e*P **P** **06 37 00.1 -0.5**
TLY *e*SS SS 06 44 33.0 +0.3
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,310nm,15.0s,MS4.1
TLY Talaya 32.41 297 *e*P **P** **06 36 60.0 -0.6**
comp=Z,6.4nm,0.7s,mb4.6
ZAK Zakamensk 32.91 295 *e*P **P** **06 37 04.3 -0.6**
IMA2 Indian Mountai 33.73 36 *e*P **P** **06 37 12.3 +0.2**
IMA2 *e*pP pP 06 37 20.9 -0.6
GUMO Guam 33.76 195 LR LR 06 48 42.5
comp=Z,113nm,20.0s,MS3.6,baz=220,slow=32
KDAK Kodiak Island 33.98 51 P **P** **06 37 12.3 -1.9**
comp=Z,12nm,0.6s,mb5.0,baz=270,slow=7.5,SNR=12
WHN Wuhan 34.13 256 P **P** **06 37 16.1 +0.6**
MCK McKinley 35.56 40 *e*P **P** **06 37 27.2 -0.8**
MCK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MCK McKinley 35.56 40 *e*P **P** **06 37 27.2 -0.8**
comp=Z,5.8nm,1.2s,mb4.4
XAN Xi'an 35.73 266 P **P** **06 37 30.3 +0.9**
XAN AMB AMB
comp=Z,18nm,1.4s,mb4.8
SML Sawmill 35.87 44 *e*P **P** **06 37 29.8 -0.8**
SML *e**PP pP 06 37 39.1 -0.9
COLA College 36.06 38 ⇓*i*P **P** **06 37 31.5 -0.7**
COLA College 36.06 38 *e*P **P** **06 37 32.0 -0.2**
comp=Z,20nm,0.9s,mb5.1
COLA *e*pP pP 06 37 40.9 -0.6
LZH Lanzhou 38.11 272 ⇑P **P** **06 37 51.0 +1.4**
LZH AP pP 06 38 00.5 +1.5
LZH PP PP 06 39 21.3 +4.3
LZH PCP PcP 06 40 03.4 -0.8
LZH *e*S **S** **06 43 41.1 +0.7**
LZH XS sS 06 43 56.1 +0.1
LZH SS SS 06 46 20.0 -7.7
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,220nm,4.2s
LZH LR LR
comp=E,493nm,12.0s
LZH LR LR
comp=Z,770nm,13.1s,MS4.7
LZH Lanzhou 38.11 272 ⇑P **P** **06 37 51.0 +1.4**
LZH *SP sP 06 38 05.0 +2.1
LZH 06 39 21.3
LZH 06 40 03.4
LZH *e*S **S** **06 43 41.1 +0.7**
LZH SS SS 06 46 20.0 -7.7
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,770nm,13.1s,MS4.7
LZH Lanzhou 38.11 272 ⇑P **P** **06 37 51.0 +1.4**
comp=Z,83nm,1.5s,mb5.2
LZH pP pP 06 38 00.5 +1.5
LZH sP sP 06 38 05.0 +2.1
LZH PP PP 06 39 21.3 +4.3
LZH PcP PcP 06 40 03.4 -0.8
LZH *e*S **S** **06 43 41.1 +0.7**
LZH sS sS 06 43 56.1 +0.1
LZH SS SS 06 46 20.0 -7.7
LZH LR LR
comp=Z,770nm,13.1s,MS4.7
EGAK Eagle 38.92 38 *e*P **P** **06 37 55.4 -1.1**
comp=Z,15nm,1.0s,mb4.7
EGAK *e*pP pP 06 38 04.1 -1.8
GTA Gaotai 39.20 279 *e*P **P** **06 37 59.8 +1.1**
GTA PP PP 06 39 35.0 +6.1
GTA PCP PcP 06 40 08.3 +0.7
GTA S **S** **06 43 59.3 +2.4**
GTA SS SS 06 46 45.0 -5.5
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,171nm,4.9s
GTA LR LR
comp=N,362nm,11.8s,MS4.6
GTA LR LR
comp=E,365nm,12.2s,MS4.6
GTA LR LR
comp=Z,514nm,12.2s,MS4.6
CD2 Chengdu 41.09 266 *e*P **P** **06 38 14.8 +0.4**
CD2 AP pP 06 38 23.6 -0.3
CD2 XP sP 06 38 27.3 -0.5
CD2 PP PP 06 39 53.0 +3.5
CD2 XS sS 06 44 37.8 -3.0
CD2 SS SS 06 47 23.3 -5.0
CD2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,180nm,6.2s
CD2 LR LR
comp=N,380nm,13.2s
CD2 LR LR
comp=Z,330nm,13.2s,MS4.4
INK Inuvik 41.60 32 P **P** **06 38 18.3 -0.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=303,slow=9.5,SNR=8.3
INK Inuvik 41.60 32 P **P** **06 38 18.3 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 41.60 32 *e*P **P** **06 38 19.1 +0.5**
comp=Z,322nm,0.9s,mb6.0
INK *e*pP pP 06 38 27.8 -0.3
GYA Guiyang 41.91 258 P **P** **06 38 21.1 -0.1**
GYA AP pP 06 38 30.8 +0.1
GYA XP sP 06 38 33.9 -0.6
GYA PP PP 06 40 01.3 +2.9
GYA PCP PcP 06 40 17.8 +1.5
GYA SCP ScP 06 44 04.5 +0.2
GYA S **S** **06 44 36.8 -0.5**
GYA XS sS 06 44 51.8 -1.2
GYA SS SS 06 47 36.8 -7.7
GYA SCS ScS 06 48 19.9 -1.6
GYA AMB AMB
comp=Z,30nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,490nm,17.4s,MS4.6
GYA LR LR
comp=E,540nm,17.0s,MS4.6
GYA LR LR
comp=Z,570nm,17.2s,MS4.5
ZAL Zalesovo 42.85 306 P **P** **06 38 26.5 -2.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=64,slow=4.2,SNR=5.3
ZAL LR LR 06 58 11.1
comp=Z,703nm,18.7s,MS4.6,baz=43,slow=39
NVS Novosibirsk 43.41 308 *e*P **P** **06 38 32.0 -1.3**
NVS pmax pmax
comp=N,4.0nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.6s
NVS pmax pmax
comp=Z,10.0nm,1.6s,mb4.3
WMQ Urumqi 45.16 291 ⇓*i*P **P** **06 38 48.0 +0.7**
WMQ AP pP 06 38 58.0 +1.1
WMQ PCP PcP 06 40 28.8 +1.5
WMQ PP PP 06 40 34.4 +1.2
WMQ PPP 06 41 15.8
WMQ SCP ScP 06 44 17.3 -0.2
WMQ PCS PcS 06 44 21.3 +0.2
WMQ S **S** **06 45 24.8 +0.1**
WMQ SS SS 06 48 37.5 -10
WMQ SCS ScS 06 48 39.6 -2.2
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,41nm,6.5s
WMQ LR LR
comp=N,524nm,18.7s,MS4.5
WMQ LR LR
comp=E,136nm,18.8s,MS4.5
WMQ LR LR
comp=Z,242nm,16.0s,MS4.2
KMI Kunming 45.45 260 P **P** **06 38 50.8 +1.2**
KMI AP pP 06 38 58.5 -0.7
KMI XP sP 06 39 02.4 -0.6
KMI PP PP 06 40 36.8 +0.6
KMI S **S** **06 45 28.0 -0.9**
KMI SS SS 06 48 42.3 -11
KMI AMB AMB
comp=Z,24nm,0.8s,mb5.1
KMI AMB AMB
comp=Z,81nm,3.3s
KMI LR LR
comp=N,256nm,13.3s,MS4.4
KMI LR LR
comp=E,165nm,13.8s,MS4.4
KMI LR LR
comp=Z,240nm,13.9s,MS4.3
KMI Kunming 45.45 260 P **P** **06 38 50.7 +1.1**
KMI *SP sP 06 39 02.4 -0.6
KMI 06 40 36.7
KMI S **S** **06 45 28.0 -0.9**
KMI *SS sS 06 45 42.8 -1.8
KMI SS SS 06 48 42.3 -11
KMI pmax pmax
comp=Z,24nm,0.8s,mb5.1
KMI MLR MLR
comp=Z,240nm,13.9s,MS4.3
KMI Kunming 45.45 260 P **P** **06 38 50.7 +1.1**
comp=Z,24nm,0.8s,mb5.1
KMI pP pP 06 38 58.5 -0.7
KMI sP sP 06 39 02.4 -0.6
KMI PP PP 06 40 36.7 +0.5
KMI S **S** **06 45 28.0 -0.9**
KMI sS sS 06 45 42.8 -1.8
KMI SS SS 06 48 42.3 -11
KMI LR LR
comp=Z,240nm,13.9s,MS4.3
DLBC Dease Lake 45.49 46 *e*P **P** **06 38 50.7 +0.8**
MKAR Makanchi Array 47.17 298 P **P** **06 39 02.2 -0.9**
comp=Z,3.8nm,0.5s,mb4.6,baz=69,slow=7.8,SNR=57
MKAR LR LR 07 00 14.7
comp=Z,414nm,18.8s,MS4.4,baz=55,slow=38
MKAR Makanchi Array 47.17 298 *i* P **P** **06 39 01.9 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 47.59 304 P **P** **06 39 05.1 -1.3**
comp=Z,108nm,1.0s,mb5.8,SNR=12
KURK Kurchatov 47.59 304 ⇓P **P** **06 39 05.0 -1.3**
SNR=5.1
KURK Kurchatov 47.59 304 *e*P **P** **06 39 05.2 -1.2**
KURK *e**PP pP 06 39 14.8 -1.2
KURK pmax pmax
comp=Z,14nm,0.7s,mb5.1
KURK Kurchatov 47.59 304 *e*P **P** **06 39 05.2 -1.2**
comp=Z,14nm,0.7s,mb5.1
KURK *e*pP pP 06 39 14.8 -1.2
LSA Lhasa 50.50 273 P **P** **06 39 31.4 +2.7**
LSA Lhasa 50.50 273 *e*P **P** **06 39 31.1 +2.4**
LSA *e**PP pP 06 39 40.8 +2.5
LSA pmax pmax
comp=Z,33nm,0.8s,mb5.4
LSA Lhasa 50.50 273 *e*P **P** **06 39 31.1 +2.5**
comp=Z,33nm,0.8s,mb5.4
LSA *e*pP pP 06 39 40.8 +2.5
CHKZ Chkalovo 50.65 310 *e*P **P** **06 39 28.2 -1.6**
CHKZ *e**PP pP 06 39 37.6 -1.9
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
CHKZ Chkalovo 50.65 310 *e*P **P** **06 39 28.2 -1.6**
comp=Z,14nm,0.7s,mb5.0
CHKZ *e*pP pP 06 39 37.6 -1.8
RES Resolute Bay 50.84 19 *e*P **P** **06 39 31.3 +0.1**
comp=Z,399nm,0.9s
YKA Yellowknife Ar 50.85 37 P **P** **06 39 30.0 -1.3**
comp=Z,3.3nm,0.7s,mb4.4,baz=295,slow=7.0,SNR=5.5
YKA Yellowknife Ar 50.85 37 P **P** **06 39 30.0 -1.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
VOSK Vostochnaya 50.91 309 P **P** **06 39 29.8 -1.9**
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BVA0 Borovoye Array 51.08 310 *i* P **P** **06 39 31.3 -1.7**
BVAR Borovoye Array 51.08 310 LR LR 07 03 14.9
comp=Z,296nm,18.5s,MS4.3,baz=320,slow=38
BRVK Borovoye 51.12 310 P **P** **06 39 32.4 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 51.12 310 *e*P **P** **06 39 32.3 -1.0**
BRVK *e*pP pP 06 39 41.8 -1.2
NANT Nan 51.15 255 ⇑P **P** **06 39 32.0 -1.6**
comp=Z,188nm,1.0s,mb6.0
KKTK Khon Kaen 51.52 251 P **P** **06 39 37.0 +0.7**
ZRNK Zerenda 51.84 310 *e*P **P** **06 39 37.5 -1.3**
ZRNK *e**PP pP 06 39 46.9 -1.6
ZRNK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ZRNK Zerenda 51.84 310 *e*P **P** **06 39 37.5 -1.3**
comp=Z,6.8nm,0.7s,mb4.7
ZRNK *e*pP pP 06 39 46.9 -1.5
CHG Chiang Mai 52.32 257 ⇑P **P** **06 39 43.6 +1.3**
comp=Z,27nm,0.8s,mb5.2
CHTO Chiang Mai 52.32 257 ⇓P **P** **06 39 44.0 +1.8**
SNR=10
CHTO Chiang Mai 52.32 257 *e*P **P** **06 39 43.5 +1.2**
CHTO *e**PP pP 06 39 53.2 +1.2
CHTO pmax pmax
comp=Z,23nm,0.9s,mb5.1
CHTO Chiang Mai 52.32 257 *e*P **P** **06 39 43.5 +1.2**
comp=Z,24nm,0.9s,mb5.1
CHTO *e*pP pP 06 39 53.2 +1.2
CM31 Chiang Mai Arr 52.57 257 *e*P **P** **06 39 45.5 +1.4**
comp=Z,14nm,1.0s,mb4.8
ULHL Ulahol 53.20 295 P **P** **06 39 49.2 +0.5**
SNR=7.8
USP Ospenovka 53.72 297 P **P** **06 39 52.7 +0.1**
SNR=16
KZA Kyzart 53.90 296 P **P** **06 39 55.1 +1.2**
SNR=8.1
AAK Ala-Archa 54.06 297 P **P** **06 39 54.0 -1.1**
comp=Z,73nm,0.9s,mb5.6,SNR=6.3
AAK Ala-Archa 54.06 297 P **P** **06 39 55.2 +0.1**
SNR=7.6
AAK Ala-Archa 54.06 297 *e*P **P** **06 39 54.1 -1.0**
AAK *e**PP pP 06 40 03.3 -1.6
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AAK Ala-Archa 54.06 297 *e*P **P** **06 39 54.1 -1.0**
comp=Z,9.7nm,0.8s,mb4.8
AAK *e*pP pP 06 40 03.3 -1.6
EKS2 Erkin-Say 54.49 297 P **P** **06 39 58.5 +0.2**
SNR=7.8
KSH Kashi 54.88 293 *e*P **P** **06 40 03.6 +2.5**
KSH *e*PCP PcP 06 41 04.6 +1.7
KSH *e*PP PP 06 42 08.8 +4.7
KSH *e*S **S** **06 47 41.3 +1.0**
KSH *e*PS 06 47 59.4
KSH *e*SCS ScS 06 49 46.5 -1.4
KSH *e*SS SS 06 51 26.9 +3.0
KSH LR LR
comp=Z,981nm,6.4s
JIRN Jiri 55.17 275 *e*P **P** **06 40 04.8 +1.6**
comp=Z,14nm,0.4s,mb5.3
ARU Arti 55.22 318 ⇓*i*P **P** **06 40 01.9 -1.6**
ARU *e* 06 42 03.3
ARU *e*S **S** **06 47 43.9 -0.8**
ARU *e*SS SS 06 51 27.1 -2.0
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.9
ARU Arti 55.22 318 *e*P **P** **06 40 01.5 -2.0**
comp=Z,19nm,1.0s,mb5.1
GUN Gumba 55.23 275 *e*P **P** **06 40 04.8 +1.2**
comp=Z,41nm,0.5s,mb5.7
KKN Kakani 55.71 276 *e*P **P** **06 40 09.0 +1.9**
comp=Z,73nm,0.7s,mb5.8
PKI Pulchoki 55.76 275 *e*P **P** **06 40 08.5 +1.1**
comp=Z,89nm,0.9s,mb5.8
DMN Daman 55.95 276 *e*P **P** **06 40 10.2 +1.5**
comp=Z,171nm,0.9s,mb6.1
GKN Gorkha 56.02 276 *e*P **P** **06 40 10.6 +1.3**
comp=Z,139nm,0.9s,mb6.0
EDM Edmonton 56.21 46 *e*P **P** **06 40 08.9 -1.7**
EDM *e**PP pP 06 40 18.3 -2.1
KKAR Karatay Array 56.23 299 *i* P **P** **06 40 09.6 -1.1**
KKAR pmax pmax

comp=Z,3.0nm,0.6s,mb4.5
KOLN Koldanda 56.88 277 *e*P **P 06 40 16.7 +1.3**
comp=Z,112nm,0.9s,mb5.9
NEW Newport 57.04 53 *e*P **P 06 40 17.1 +0.6**
NEW pmax pmax
comp=Z,63nm,2.2s
NEW Newport 57.04 53 *e*P **P 06 40 17.1 +0.5**
comp=Z,63nm,2.2s,mb5.2
NEW *e*pP pP 06 40 25.2 -1.2
KEV Kevo 57.49 341 *e*p **P 06 40 18.1 -1.6**
ARCES ARCESS Array B 57.99 341 P **P 06 40 22.6 -0.7**
comp=Z,1.7nm,0.4s,mb4.5,baz=25,slow=4.0,SNR=26
WALA Waterton Lakes 58.32 51 *e*P **P 06 40 26.1 +0.6**
comp=Z,7.3nm,0.6s,mb4.9
WALA *e*pP pP 06 40 34.4 -0.9
AB31 Akbulak array 58.64 310 *e*P **P 06 40 26.5 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BMO Blue Mountains 58.93 56 *e*P **P 06 40 31.4 +1.6**
AKTO Aktyubinsk 58.94 312 LR LR 07 08 06.2
comp=Z,307nm,20.0s,MS4.4,baz=230,slow=38
AKTO Aktyubinsk 58.94 312 P **P 06 40 28.6 -1.2**
MSO Missoula 59.63 53 *e*P **P 06 40 35.1 +0.4**
comp=Z,19nm,1.3s,mb5.0
CHMT Chamberlain Mo 59.96 52 *e*P **P 06 40 37.2 +0.4**
CHMT *e*pP pP 06 40 46.0 -0.6
LRM Limekiln Ridge 61.06 53 *e*P **P 06 40 44.4 0.0**
EGMT Eagleton 61.14 50 *e*P **P 06 40 46.3 +1.3**
comp=Z,15nm,0.9s,mb5.1
CMB Columbia Colle 61.24 64 *e*P **P 06 40 45.9 +0.3**
CMB *e**PP pP 06 40 55.2 -0.2
CMB Columbia Colle 61.24 64 *e*P **P 06 40 46.5 +0.9**
comp=Z,8.0nm,1.3s,mb4.7
CMB *e*pP pP 06 40 55.0 -0.4
HLID Hailey 61.37 56 *e*P **P 06 40 46.0 -0.5**
comp=Z,11nm,1.2s,mb4.9
KAKA Kakadu 62.05 203 *e*P **P 06 40 50.3 -0.7**
comp=Z,8.9nm,0.6s,mb5.1
QLMT Earthquake Lak 62.25 53 *e*P **P 06 40 53.3 +0.9**
NVAR Mina Array Bea 62.27 62 P **P 06 40 51.9 -0.6**
comp=Z,1.2nm,0.7s,mb4.2,baz=55,slow=27,SNR=11
RRI2 Red Ridge 63.25 54 *e*P **P 06 40 59.5 +0.4**
comp=Z,14nm,0.9s,mb5.1
MOOW Moose Ponds 63.31 54 *e*P **P 06 41 00.0 +0.5**
TPAW Teton Pass 63.37 54 *e*P **P 06 41 00.7 +0.9**
SNOW Snow King Moun 63.49 54 *e*P **P 06 41 01.2 +0.5**
REDW Red Top Meadow 63.50 54 *e*P **P 06 41 01.1 +0.4**
DGMT Dagmar 63.70 46 *e*P **P 06 41 01.4 -0.7**
comp=Z,14nm,0.8s,mb5.1
DGMT *e*pP pP 06 41 09.6 -2.3
LAO LASA Array 63.84 49 *e*P **P 06 41 04.3 +1.4**
LAO *e*pP pP 06 41 12.9 +0.1
DAC Darwin (Calif) 64.08 64 *e*P **P 06 41 04.9 +0.4**
FINES FINESS Array B 64.20 335 P **P 06 41 04.2 -1.2**
comp=Z,8.2nm,0.4s,mb5.1,baz=37,slow=8.7,SNR=64
FINES LR LR 07 12 05.5
comp=Z,174nm,18.9s,MS4.3,baz=164,slow=39
PSI Prapat 64.25 245 P **P 06 41 06.7 +1.1**
comp=Z,9.0nm,0.9s,mb4.8,baz=346,slow=2.7,SNR=10
DUG Dugway 64.43 58 *e*P **P 06 41 05.9 -0.9**
DUG pmax pmax
comp=Z,13nm,1.0s,mb4.9
DUG Dugway 64.43 58 *e*P **P 06 41 08.2 +1.4**
comp=Z,13nm,1.1s,mb4.9
DUG *e*pP pP 06 41 16.9 +0.2
BW06 Boulder Array 64.61 54 *e*P **P 06 41 07.0 -1.0**
comp=Z,12nm,1.0s,mb4.9
BW06 *e*pP pP 06 41 17.1 -0.9
PDAR Pinedale Array 64.61 54 P **P 06 41 07.2 -0.8**
comp=Z,4.3nm,0.9s,mb4.5,baz=220,slow=0.9,SNR=22
NLU North Lily Min 65.01 58 *e*P **P 06 41 12.1 +1.5**
MPU Maple Canyon 65.23 57 *e*P **P 06 41 13.0 +1.0**
MPU *e*pP pP 06 41 22.1 +0.2
OBN Obninsk 65.50 326⇓ *e*P **P 06 41 12.5 -1.2**
OBN *e**PP pP 06 41 22.1 -1.6
OBN *e* 06 41 28.9
OBN pmax pmax
comp=Z,37nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
TMUT Trail Mountain 65.95 58 *e*P **P 06 41 19.1 +2.4**
TMUT *e*pP pP 06 41 35.2 +8.6
ULM Lac du Bonnet 66.43 41 P **P 06 41 18.4 -1.3**
comp=Z,7.1nm,0.7s,mb4.8,baz=305,slow=4.8,SNR=13
SRU San Rafael 66.47 58 *e*P **P 06 41 18.8 -1.2**
SRU *e**PP pP 06 41 29.5 -0.5
SRU pmax pmax
comp=Z,17nm,0.9s,mb5.1
SRU San Rafael 66.47 58 *e*P **P 06 41 18.8 -1.2**
comp=Z,17nm,0.9s,mb5.1
SRU *e*pP pP 06 41 29.5 -0.4
RSSD Black Hills 66.70 50 *e*P **P 06 41 20.3 -1.2**
RSSD *e**PP pP 06 41 30.2 -1.2
RSSD pmax pmax
comp=Z,24nm,1.3s,mb5.1
RSSD Black Hills 66.70 50 *e*P **P 06 41 20.3 -1.2**
comp=Z,24nm,1.3s,mb5.1
RSSD *e*pP pP 06 41 30.2 -1.2
HYB Hyderabad 67.22 272 *i* P **P 06 41 25.0 +0.2**
HYB *e* pP 06 41 35.0 +0.3
HYB Hyderabad 67.22 272 *e*P **P 06 41 25.0 +0.2**
HYB *e* pP 06 41 35.0 +0.3
VRSR Storozhevoye 67.30 322 *e*P **P 06 41 26.0 +0.7**
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.8s
NB2 NORSAR Subarra 68.37 341 P **P 06 41 31.1 -0.9**
comp=Z,44nm,1.2s,mb5.4,baz=27,slow=6.2
NOA NORSAR Array B 68.37 341 P **P 06 41 31.8 -0.2**
comp=Z,9.9nm,0.5s,mb5.1,baz=26,slow=6.3,SNR=38
NOA LR LR 07 17 24.4
comp=Z,103nm,18.5s,MS4.1,baz=15,slow=41
NOA NORSAR Array B 68.37 341 P **P 06 41 31.8 -0.3**
NOA LR LR 07 17 24.4
WUAZ Wupatki 68.37 61 *e*P **P 06 41 33.0 +1.0**
comp=Z,20nm,1.5s,mb4.9
WUAZ *e*pP pP 06 41 42.8 +0.8
SMCO Snowmass 68.47 55 *e*P **P 06 41 32.2 -0.4**
comp=Z,11nm,0.9s,mb4.9
WRAB Tennant Creek 68.50 199 *e*P **P 06 41 31.8 -1.1**
WRAB *e**PP pP 06 41 42.1 -0.7
WRAB *e**SP sP 06 41 49.1 +2.5
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.0
WRAB Tennant Creek 68.50 199 *e*P **P 06 41 31.8 -1.0**
comp=Z,15nm,0.8s,mb5.0
WRAB *e*pP pP 06 41 42.1 -0.8
WRAB *es*P sP 06 41 49.1 +2.5
WB2 Warramunga Arr 68.51 199 *e*P **P 06 41 31.8 -1.1**
WRA Warramunga Arr 68.52 199 P **P 06 41 31.8 -1.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=17,slow=6.8,SNR=27
NAO01 NORSAR Array S 68.62 341 *e*P **P 06 41 33.0 -0.6**
comp=Z,5.0nm,0.5s,mb4.7
NAO01 *e*pP pP 06 41 42.6 -1.0
FITZ Fitzroy Crossi 69.18 208 *e*P **P 06 41 36.8 -0.3**
comp=Z,12nm,0.7s,mb4.9
KONO Kongsberg 69.98 341 *e*P **P 06 41 41.8 -0.2**
SDCO Great Sand Dun 70.29 56 *e*P **P 06 41 43.3 -0.6**
comp=Z,16nm,1.4s,mb4.8
ECSD EROS,Sioux Fal 70.78 46 *e*P **P 06 41 45.3 -1.6**
comp=Z,7.6nm,0.8s,mb4.7
ECSD *e*pP pP 06 41 55.1 -1.8
KIV Kislovodsk 71.01 314⇑ *e*P **P 06 41 47.8 -0.5**
KIV pmax pmax
comp=Z,31nm,1.6s,mb5.0
SUW Suwalki 71.17 332 *e*P **P 06 41 48.2 -1.0**
ZEI Tsey 71.27 313 *e*P **P 06 41 49.7 -0.2**
ZEI *e**PP pP 06 41 59.1 -0.8
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ANMO Albuquerque 71.68 58 *e*P **P 06 41 51.6 -0.7**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 71.68 58 *e*P **P 06 41 51.5 -0.8**
comp=Z,4.5nm,1.0s,mb4.3
AKASG Malin Array Be 71.73 326 P **P 06 41 51.4 -1.2**
comp=Z,6.4nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=34
AKASG LR LR 07 15 37.2
comp=Z,175nm,19.6s,MS4.3,baz=35,slow=38
KIEV Kiev 71.74 326 *e*P **P 06 41 51.5 -1.2**
KIEV *e**PP pP 06 42 01.2 -1.5
KIEV pmax pmax
comp=Z,30nm,0.8s,mb5.3
KIEV Kiev 71.74 326 *e*P **P 06 41 51.5 -1.2**
comp=Z,30nm,0.8s,mb5.3
KIEV *e*pP pP 06 42 01.2 -1.6
AS31 Alice Springs 72.21 199 *e*P **P 06 41 55.5 0.0**
AS31 *e*pP pP 06 42 04.8 -0.8
AS31 *e*PcP PcP 06 42 12.9 -0.7
ASAR Alice Springs 72.21 199 P **P 06 41 55.4 -0.1**
comp=Z,6.2nm,0.8s,mb4.6,baz=17,slow=5.8,SNR=41
BSD Bornholm Skovb 72.71 337⇑ *i*P **P 06 41 58.3 -0.2**
comp=Z,62nm,1.1s,mb5.5
BSD *i* pP 06 42 07.9 -0.6
BSD Bornholm Skovb 72.71 337⇑ *i*P **P 06 41 58.3 -0.2**
BSD *i* pP 06 42 07.9 -0.6
BSD pmax pmax
comp=Z,62nm,1.1s,mb5.5
GNI Garni 72.75 311 LR LR 07 16 44.4
comp=Z,170nm,21.5s,MS4.3,baz=357,slow=38
GNI Garni 72.75 311⇑ *e*P **P 06 41 58.6 -0.1**
GNI pmax pmax
comp=Z,41nm,1.7s
MUD Monsted U'grnd 72.97 340 *i* P **P 06 42 02.1 +2.1**
MUD Monsted U'grnd 72.97 340 *e*P **P 06 42 02.1 +2.1**
LVV L'vov 74.37 329 *e*P **P 06 42 07.9 -0.4**
MNTX Cornudas Mount 74.61 60 *e*P **P 06 42 08.9 -0.8**
KWP Kalwaria 75.00 329 *e*P **P 06 42 12.1 +0.2**
KWP *e* pP 06 42 21.1 -0.9
OJC Ojcow 75.49 331 *e*P **P 06 42 14.9 +0.2**
STHS Stebnicka Huta 75.69 330 *e*P **P 06 42 16.6 +0.7**
STHS pmax pmax
comp=Z,14nm,0.9s,mb4.9
STHS Stebnicka Huta 75.69 330 *e*P **P 06 42 16.6 +0.7**
comp=Z,14nm,0.9s,mb4.9
KOLS Kolonicke sedl 75.74 329 *e*P **P 06 42 16.5 +0.3**
BURAR Bucovina Array 75.77 327⇓ *i*P **P 06 42 16.9 +0.6**
BURAR Bucovina Array 75.77 327 ⇓P **P 06 42 16.9 +0.5**
UZH Uzhgorod 75.99 329 *e* **P 06 42 16.4 -1.2**
UZH *e* 06 42 22.4
NIE Niedzica 76.00 331 *e*P **P 06 42 18.7 +1.0**
CRVS Cervenica-Dubn 76.05 330 *e*P **P 06 42 19.8 +1.9**
KSP Ksiaz 76.07 334 *e*P **P 06 42 18.2 +0.2**
KSP *e* pP 06 42 26.8 -1.3
KSP Ksiaz 76.07 334 *e*P **P 06 42 18.2 +0.2**
KSP *e*pP pP 06 42 26.6 -1.5
WMOK Wichita Mounta 76.22 54 *e*P **P 06 42 19.6 +0.7**
WMOK *e**PP pP 06 42 27.9 -1.1
WMOK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WMOK Wichita Mounta 76.22 54 *e*P **P 06 42 19.6 +0.7**
comp=Z,2.4nm,0.9s,mb4.1
WMOK *e*pP pP 06 42 27.9 -1.1
OKC Ostrava-Krasne 76.36 332 *e*P **P 06 42 26.0 +6.3**
UPC Upice 76.45 334 *e*P **P 06 42 20.8 +0.6**
UPC *ex* x 06 42 29.3
DPC Dobruska-Polom 76.49 333 *e*P **P 06 42 21.2 +0.8**
DPC *ex* x 06 42 30.1
MORC Moravsky Berou 76.61 332⇑ *i*P **P 06 42 21.0 -0.1**
MORC Moravsky Berou 76.61 332 *e*P **P 06 42 20.8 -0.3**
MORC *e**PP pP 06 42 30.5 -0.7
MORC pmax pmax
comp=Z,18nm,0.9s,mb5.0
MORC Moravsky Berou 76.61 332 *e*P **P 06 42 20.8 -0.3**
comp=Z,18nm,0.9s,mb5.0
MORC *e*pP pP 06 42 30.5 -0.7
WSAR Wadi Sarin 76.62 290 P **P 06 42 21.8 +0.6**
comp=Z,4.3nm,1.0s,mb4.3,baz=103,slow=8.2,SNR=4.2
CLL Collm 76.62 336 *i* P **P 06 42 21.2 0.0**
CLL *i* *PP pP 06 42 29.5 -1.8
CLL pmax pmax
comp=Z,30nm,1.0s,mb5.2
CLL Collm 76.62 336 *i* P **P 06 42 21.2 0.0**
comp=Z,30nm,1.0s,mb5.2
CLL *i* sP sP 06 42 29.5 -5.5
BRG Berggiesshubel 76.74 335 *e*P **P 06 42 22.2 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
BRG *e* pP 06 42 30.8 -1.2
comp=Z,26nm,1.6s
BRG Berggiesshubel 76.74 335 *e*P **P 06 42 22.2 +0.4**
BRG *e* pP 06 42 30.8 -1.1
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 76.75 330 *e*P **P 06 42 21.9 0.0**
KECS *e* pP 06 42 31.5 -0.5
KECS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
KECS Kecovo 76.75 330 *e*P **P 06 42 21.9 0.0**
comp=Z,7.3nm,1.2s,mb4.5
KECS *e* pP 06 42 31.5 -0.5
PVCC Panska Ves 76.86 334 *e*P **P 06 42 23.1 +0.6**
PVCC *ex* x 06 42 31.3
HATD Hatta, Dubai 77.10 292⇑P **P 06 42 25.1 +1.2**
SNR=17
TIRR Tirgusor 77.10 323⇑ *i*P **P 06 42 24.4 +0.5**
TIRR Tirgusor 77.10 323 P **P 06 42 24.5 +0.6**
TIRR Tirgusor 77.10 323 *e*P **P 06 42 23.7 -0.1**
comp=Z,28nm,1.0s,mb5.1
TIRR *e*pP pP 06 42 33.0 -1.0
HOQ Hoqain 77.23 291⇑⇑P **P 06 42 25.7 +1.1**
SNR=11
ASHO Ashiyiah 77.25 292⇓P **P 06 42 26.1 +1.5**
SNR=11
MLR Muntele Rosu 77.25 325⇓ *i*P **P 06 42 25.4 +0.7**
VYHS Vyhne 77.30 331 *e*P **P 06 42 24.8 -0.2**
VYHS pmax pmax
comp=Z,19nm,1.5s,mb4.8
VYHS Vyhne 77.30 331 *e*P **P 06 42 24.8 -0.2**
comp=Z,19nm,1.5s,mb4.8
VRAC Vranov 77.32 333⇑ *i*P **P 06 42 25.3 +0.2**
VRAC Vranov 77.32 333⇑P **P 06 42 25.3 +0.2**
LTX Lajitas 77.34 61 *e*P **P 06 42 24.6 -0.6**
LTX *e**PP pP 06 42 34.7 -0.6
LTX pmax pmax
comp=Z,20nm,0.9s,mb5.0
LTX Lajitas 77.34 61 *e*P **P 06 42 24.6 -0.6**
comp=Z,20nm,0.9s,mb5.0
LTX *e*pP pP 06 42 34.7 -0.6
TXAR Lajitas Array 77.34 61 P **P 06 42 24.3 -0.9**
comp=Z,12nm,0.6s,mb5.0,baz=300,slow=4.6,SNR=109
PRU Pruhonice 77.35 334 *e*P **P 06 42 25.7 +0.4**
PRU *ex* x 06 42 34.2
MALT Malatya 77.36 313⇑ *i*P **P 06 42 27.0 +1.7**
MALT Malatya 77.36 313 *e*P **P 06 42 26.1 +0.8**
MALT *e**PP pP 06 42 36.2 +0.8
MALT pmax pmax
comp=Z,20nm,0.9s,mb5.0
MALT Malatya 77.36 313 *e*P **P 06 42 26.1 +0.8**
comp=Z,20nm,0.9s,mb5.0
MALT *e*pP pP 06 42 36.2 +0.7
DRGR 77.39 328⇓ *i*P **P 06 42 25.6 +0.1**
DRGR 77.39 328 ⇓P **P 06 42 25.6 +0.1**
PSZ Piszkesteto 77.44 330 *e*P **P 06 42 26.2 +0.5**
PSZ pmax pmax
comp=Z,39nm,1.4s,mb5.1
PSZ Piszkesteto 77.44 330 *e*P **P 06 42 26.2 +0.4**
comp=Z,39nm,1.4s,mb5.2
JMDO Jabal Madar 77.57 289⇑P **P 06 42 27.9 +1.4**
SNR=7.3
MOX Moxa 77.61 336 *e*P **P 06 42 27.3 +0.6**
comp=Z,27nm,1.4s,mb5.0
VOIR 77.65 326⇓ *i*P **P 06 42 27.3 +0.4**
VOIR 77.65 326 ⇓P **P 06 42 27.3 +0.4**
NKC Novy Kostel 77.74 336 *e*P **P 06 42 28.3 +0.8**
NKC *ex* x 06 42 36.9
BSY Bisya 77.89 290⇓P **P 06 42 29.6 +1.4**
SNR=16
ZST Bratislava 78.13 332 *e*P **P 06 42 33.1 +3.5**
ZST MLR MLR
comp=Z,200nm,17.6s,MS4.5
KHC Kasperske Hory 78.40 334 *e*P **P 06 42 31.0 -0.1**
KHC *ex* x 06 42 40.3
GZR Gura Zlata 78.55 327⇓ *i*P **P 06 42 32.2 +0.3**
GZR Gura Zlata 78.55 327 ⇓P **P 06 42 32.2 +0.2**
GRA1 Grafenberg Arr 78.58 336 *e*P **P 06 42 31.2 -0.9**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.58 336 *e*P **P 06 42 31.2 -0.9**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.58 336 *e*P **P 06 42 31.2 -0.9**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.58 336 *e*P **P 06 42 31.2 -0.9**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRFO Grafenberg 78.58 336 *e*P **P 06 42 31.0 -1.1**
GRFO pmax pmax
comp=Z,41nm,1.1s,mb5.3
GRFO Grafenberg 78.58 336 *e*P **P 06 42 31.0 -1.1**
comp=Z,41nm,1.1s,mb5.3
GERES GERESS Array B 78.62 334 P **P 06 42 32.1 -0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=29,slow=6.1,SNR=14
GERES LR LR 07 21 40.4
comp=Z,186nm,19.7s,MS4.4,baz=296,slow=39
CONA Conrad Observa 78.76 332⇓ *i*P **P 06 42 33.8 +0.7**
comp=Z,14nm,1.2s,mb4.8
JCT Junction City 78.78 57 *e*P **P 06 42 33.7 +0.5**
JCT *e**PP pP 06 42 42.2 -1.1
ANTO Ankara 78.88 318 *e*P **P 06 42 33.4 -0.3**
ANTO *e**PP pP 06 42 43.7 -0.1
ANTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
ANTO Ankara 78.88 318 *e*P **P 06 42 33.4 -0.3**
comp=Z,14nm,0.8s,mb4.9
ANTO *e*pP pP 06 42 43.7 -0.2
MIB Mutribah 78.89 302 *e*P **P 06 42 33.9 +0.1**
MIB AMb AMB 06 42 44.9
comp=Z,175nm,1.1s,mb5.9
STKA Stephens Creek 78.92 190 LR LR 07 18 17.8
comp=Z,65nm,18.9s,MS4.0,baz=24,slow=36
SZH Strazhica 79.10 324 *e*P **P 06 42 38.2 +3.2**
KBD Kabd 79.14 301 *e*P **P 06 42 35.6 +0.4**
KBD AMb AMB 06 42 47.0
comp=Z,409nm,1.0s
RST Umm Al-Ruwaisa 79.31 302 *e*P **P 06 42 36.4 +0.3**
RST AMb AMB 06 42 47.5
comp=Z,170nm,1.1s,mb5.9
MOA Molln 79.33 333⇓ *e*P **P 06 42 37.0 +0.8**
comp=Z,10nm,1.0s,mb4.7
NAY Al-Naaiem 79.36 301 *e*P **P 06 42 36.6 +0.2**
NAY AMb AMB 06 42 48.0
comp=Z,80nm,1.1s,mb5.6
RDF Al-Radifah 79.41 301 *e*P **P 06 42 37.3 +0.6**
RDF AMb AMB 06 42 48.5
comp=Z,194nm,1.0s,mb6.0
GIVF Givet 79.85 340 *e*P **P 06 42 37.5 -1.5**
BAIF Baives 80.03 340 *e*P **P 06 42 39.2 -0.8**
KBA Koelnbreinsper 80.31 334⇑ *e*P **P 06 42 41.1 -0.4**
comp=Z,47nm,1.1s,mb5.3
KBA Koelnbreinsper 80.31 334⇑ *e*P **P 06 42 41.1 -0.4**
KBA pmax pmax
comp=Z,47nm,1.1s,mb5.3
KBA Koelnbreinsper 80.31 334⇑ *e*P **P 06 42 41.1 -0.4**
comp=Z,47nm,1.1s,mb5.3
PGB Panagyurishte 80.41 325 *e*P **P 06 42 44.1 +2.0**
WATA Walderalm 80.60 335⇑ *i*P **P 06 42 44.2 +1.1**
comp=Z,25nm,1.0s,mb5.1
WATA Walderalm 80.60 335⇑ *i*P **P 06 42 44.2 +1.1**
WATA pmax pmax
comp=Z,25nm,1.0s,mb5.1
WTTA Wattenberg 80.65 335⇑ *i*P **P 06 42 44.4 +1.1**
comp=Z,11nm,0.5s,mb5.0
WTTA Wattenberg 80.65 335⇑ *i*P **P 06 42 44.4 +1.1**
WTTA pmax pmax
comp=Z,11nm,0.5s,mb5.0
DIVS Divcibare 80.69 328 *i* P **P 06 42 42.9 -0.7**
MOTA Moosalm 80.73 335⇑ *i*P **P 06 42 44.3 +0.6**
comp=Z,15nm,0.8s,mb5.0
MOTA Moosalm 80.73 335⇑ *i*P **P 06 42 44.3 +0.5**
MOTA pmax pmax
comp=Z,15nm,0.8s,mb5.0
VTS Vitosha 80.76 325⇑ *i*P **P 06 42 44.3 +0.4**
VTS Vitosha 80.76 325 *e*P **P 06 42 43.8 -0.1**
CDF Champ du Feu 80.81 338 *e*P **P 06 42 43.6 -0.6**
comp=Z,44nm,1.2s,mb5.0
CDF Champ du Feu 80.81 338 *e*P **P 06 42 43.6 -0.6**
CDF pmax pmax
comp=Z,22nm,1.2s,mb5.0
CDF Champ du Feu 80.81 338 *e*P **P 06 42 43.6 -0.6**
comp=Z,22nm,1.2s,mb5.0
SQTA Sankt Quirin 80.81 335⇑ *i*P **P 06 42 45.1 +0.8**
comp=Z,8.5nm,0.8s,mb4.7
SQTA Sankt Quirin 80.81 335⇑ *i*P **P 06 42 45.1 +0.9**
SQTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMOR Pomariorio Ree 80.83 123 *e*T 08 10 49.6
comp=Z,3.5nm,0.2s
DAVA Damuels 81.14 336⇑ *i*P **P 06 42 45.9 0.0**
comp=Z,9.6nm,0.9s,mb4.7
MMB Musomiste 81.40 324 *e*P **P 06 42 56.2 +8.9**
HAU Haudompre 81.42 338 *e*P **P 06 42 46.5 -0.9**
HAU *e*R
comp=Z,210nm,17.8s
HAU Haudompre 81.42 338 *e*P **P 06 42 46.5 -0.9**
HAU LR LR
comp=Z,210nm,17.8s,MS4.5
HINF Hinteralfeld 81.47 338 *e*P **P 06 42 46.8 -0.9**
PPT Papeete 81.94 126 *e*LR LR 07 07 31.2
comp=Z,294nm,26.2s
PPT Papeete 81.94 126 LR LR 07 10 03.0
comp=Z,175nm,21.0s,MS4.4,baz=151,slow=29
FLN La Foliniere 82.27 343 *e*P **P 06 42 51.1 -0.8**
FLN *e*R
comp=Z,170nm,17.5s
FLN La Foliniere 82.27 343 *e*P **P 06 42 51.1 -0.8**
FLN LR LR
comp=Z,170nm,17.5s,MS4.5
GRR Gorron 82.70 343 *e*P **P 06 42 53.5 -0.7**
comp=Z,35nm,0.9s,mb5.1
GRR Gorron 82.70 343 *e*P **P 06 42 53.5 -0.7**
GRR pmax pmax
comp=Z,18nm,0.9s,mb5.1
GRR Gorron 82.70 343 *e*P **P 06 42 53.5 -0.7**
comp=Z,18nm,0.9s,mb5.1
LOR Lormes 82.72 340 *e*P **P 06 42 53.6 -0.7**
LOR *e*R
comp=Z,246nm,21.2s
LOR Lormes 82.72 340 *e*P **P 06 42 53.6 -0.7**
LOR LR LR
comp=Z,250nm,21.3s,MS4.5
CABF La Chapelle 82.78 338 *e*P **P 06 42 54.4 -0.2**
comp=Z,47nm,1.3s,mb5.0
CABF La Chapelle 82.78 338 *e*P **P 06 42 54.4 -0.2**
CABF pmax pmax
comp=Z,24nm,1.3s,mb5.1
CABF La Chapelle 82.78 338 *e*P **P 06 42 54.4 -0.2**
comp=Z,24nm,1.3s,mb5.1
SSF Saint Saulge 83.00 340 *e*P **P 06 42 55.2 -0.5**
comp=Z,24nm,1.1s,mb4.8
SSF Saint Saulge 83.00 340 *e*P **P 06 42 55.2 -0.5**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.8
SSF Saint Saulge 83.00 340 *e*P **P 06 42 55.2 -0.5**
comp=Z,12nm,1.1s,mb4.8
AVF Avril sur Loir 83.29 340⇑ *i*P **P 06 42 56.8 -0.4**
comp=Z,37nm,1.0s,mb5.1
AVF Avril sur Loir 83.29 340⇑ *i*P **P 06 42 56.8 -0.4**
AVF pmax pmax
comp=Z,19nm,1.0s,mb5.1
AVF Avril sur Loir 83.29 340⇑ *i*P **P 06 42 56.8 -0.4**
comp=Z,18nm,1.0s,mb5.1
SMF Signal de Mont 83.31 339⇑ *i*P **P 06 42 57.0 -0.3**
comp=Z,72nm,1.2s,mb5.3
SMF Signal de Mont 83.31 339⇑ *i*P **P 06 42 57.0 -0.3**
SMF pmax pmax
comp=Z,36nm,1.2s,mb5.3
SMF Signal de Mont 83.31 339⇑ *i*P **P 06 42 57.0 -0.3**
comp=Z,36nm,1.2s,mb5.3
LPL La Plagne 83.63 337 *e*P **P 06 42 59.3 +0.4**
BGF Bois d'Agland 83.63 340 *e*P **P 06 42 58.5 -0.5**
LPG La Plagne 83.64 337 *e*P **P 06 42 59.6 +0.6**
TCF Toulx Ste Croi 84.03 340 *e*P **P 06 43 00.4 -0.6**
ORIF Oris-en-Rattie 84.41 337 *e*P **P 06 43 03.1 +0.2**
comp=Z,24nm,0.9s,mb5.0
ORIF *e*R
comp=Z,212nm,21.0s
ORIF Oris-en-Rattie 84.41 337 *e*P **P 06 43 03.1 +0.2**
ORIF pmax pmax
comp=Z,12nm,0.9s,mb5.0
ORIF Oris-en-Rattie 84.41 337 *e*P **P 06 43 03.1 +0.2**
comp=Z,12nm,0.9s,mb5.0
LMR La Mourre 85.71 336 *e*P **P 06 43 09.1 -0.3**
comp=Z,61nm,1.1s,mb5.4
LMR La Mourre 85.71 336 *e*P **P 06 43 09.1 -0.3**
LMR pmax pmax
comp=Z,30nm,1.1s,mb5.4
LMR La Mourre 85.71 336 *e*P **P 06 43 09.1 -0.3**
comp=Z,30nm,1.1s,mb5.4
EIL Elat 85.91 310 *e*P **P 06 43 10.5 0.0**
comp=Z,519nm,1.1s
EIL *e*pP pP 06 43 21.8 +1.1
TBI Tubuai 86.68 129 *e*LR LR 07 09 42.9
comp=Z,195nm,34.0s

TBI	**Tubuai**	**86.68**	**129**	*e*T			08 18 08.9	
	comp=Z,4.5nm,0.2s							
ESDC	**Sonseca Array**	**91.69**	**343**	LR	LR		07 27 03.9	
	comp=Z,102nm,19.6s,MS4.3,baz=330,slow=37							
RKT	**Rikitea**	**94.76**	**119**	*e*LR	LR		07 13 28.1	
	comp=Z,196nm,34.0s							
TORD	**Torodi Ar. Bea**	**115.27**	**329**	PKP	PKPdf		06 49 10.2	-1.6
	comp=Z,0.2nm,0.3s,baz=14,slow=2.5,SNR=7.6							
VNDA	**Vanda**	**124.03**	**178**	PKP	PKPdf		06 49 25.4	-3.3
	comp=Z,0.8nm,0.8s,baz=315,slow=4.5,SNR=6.5							
VNDA	**Vanda**	**124.03**	**178**	PKP	PKPdf		06 49 25.4	-3.3
LPAZ	**La Paz**	**134.18**	**63**	PKP	PKPdf		06 49 47.6	-0.4
	comp=Z,0.4nm,0.6s,baz=331,slow=3.7,SNR=3.6							
CFAA	**Coronel Fontan**	**144.79**	**80**	PKP	PKPdf		06 50 04.1	-3.2
	comp=Z,1.1nm,0.8s,baz=305,slow=3.0,SNR=17							
SNAA	**Sanae**	**152.54**	**196**	PKPbc	PKPbc		06 50 24.2	-2.6
	comp=Z,1.3nm,0.6s,baz=203,slow=5.2,SNR=8.7							
SNAA	**Sanae**	**152.54**	**196**	*e*PKPdf	PKPdf		06 50 24.0	+4.2
SNAA				*e*			06 50 34.7	
SNAA				*e*			06 50 42.4	
SNAA				*e*			06 50 47.6	
SNAA				*e*			06 51 05.9	
SNAA	**Sanae**	**152.54**	**196**	*e*PKPdf	PKPdf		06 50 18.2	-1.6
SNAA				*e*PKPbc	PKPbc		06 50 24.2	-2.5
SNAA				*e*PKPab	PKPab		06 50 35.0	-2.2
VNA2	**Neumayer--Watz**	**153.99**	**194**	*e*PKPdf	PKPdf		06 50 23.2	+1.3
VNA2				*e*			06 50 31.3	
VNA2				*e*			06 50 53.1	
VNA2				*e*			06 51 04.2	
VNA2				*e*			06 51 25.8	
VNA2				*e*			08 21 32.0	
VNA2				*e*			08 21 38.0	
VNA2				*e*			08 21 46.3	
VNA2				*e*			08 21 56.5	
VNA3	**Neumayer Olymp**	**154.07**	**192**	*e*PKPdf	PKPbc		06 50 27.5	-2.6
VNA3				*e*			06 50 37.2	
VNA3				*e*			06 50 43.7	
VNA3				*e*			06 50 54.2	
VNA3				*e*			06 50 59.2	
VNA3				*e*			06 51 30.2	
VNA3				*e*			08 21 40.0	
VNA3				*e*			08 21 46.3	
VNA3				*e*			08 21 55.3	
VNA3				*e*			08 22 03.5	

ISCJB ***13*** *06:44:11.4±1.8, 64S×03×1512E±0.2, h35km, mb3.8/4, Error ellipse: s-maj=44.9km s-min=19.0km az=117.0*
IDC ***13*** *06:44:13.5±2.8, 64S×151.11E, h31km±7km, mb3.7/4, mb1 4.0/4, mb1mx3.6/14, mbtmp3.8/4, Error ellipse: s-maj=51.3km s-min=42.8km az=96.0*

ISC 13 06:44:13.0±1.9, 63S±03×1512E±02, h35km, n10, σ0§86/10, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.06**	**232**	Pn	**Pn**	**06 45 28.6**	**+2.4**
	1.2nm,0.3s,baz=69,slow=14,SNR=2.7						
PMG				Sn	**Sn**	**06 46 23.1**	**-0.4**
	1.9nm,0.3s,baz=134,slow=17,SNR=4.2						
KAKA	**Kakadu**	**19.56**	**250**	*e*P	**Pn**	**06 48 39.2**	**0.0**
	5.6nm,0.6s						
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P	**P**	**06 48 55.7**	**-0.4**
WRA	**Warramunga Arr**	**21.27**	**229**	P	**P**	**06 48 55.3**	**-0.8**
	2.2nm,0.9s,mb3.5,baz=56,slow=11,SNR=13						
WRA				pP		06 49 04.2	
	3.7nm,0.8s,baz=56,slow=10,SNR=14						
ASAR	**Alice Springs**	**23.98**	**222**	P	**P**	**06 49 23.6**	**-0.6**
	1.0nm,0.5s,mb3.5,baz=56,slow=8.5,SNR=26						
ASAR				pP		06 49 32.6	
	2.7nm,0.9s,baz=55,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**26.99**	**198**	*e*P	**P**	**06 49 51.9**	**+0.5**
	2.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**26.99**	**198**	P	**P**	**06 49 51.6**	**+0.2**
	2.2nm,0.7s,mb3.8,baz=15,slow=11,SNR=3.5						
STKA				pP	pP	06 50 00.4	-1.0
	3.7nm,0.5s,baz=8.1,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**27.55**	**243**	*e*P	**P**	**06 49 56.9**	**+0.4**
	7.8nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.55**	**243**	P	**P**	**06 49 56.1**	**-0.4**
	2.4nm,0.6s,mb4.0,baz=54,slow=11,SNR=14						
FITZ				pP	pP	06 50 05.5	-1.0
	3.9nm,0.5s,baz=66,slow=8.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**149.20**	**285**	PKPbc	PKPbc	07 03 59.8	+2.0
	0.7nm,0.6s,baz=68,slow=1.8,SNR=6.2						

IDC 13 07:22:28.1±2.4, 485S×13064E, h0km, mb4.3/1, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, ML3.9/3, Error ellipse: s-maj=124.8km s-min=26.2km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.05**	**200**	Pn	Pn	07 25 47.6	-0.8
	0.7nm,0.3s,baz=30,slow=15,SNR=21						
FITZ				Sn	Sn	07 28 17.6	-7.4
	0.1nm,0.3s,baz=259,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**15.43**	**167**	Pn	Pn	07 26 05.2	-1.9
	0.3nm,0.3s,baz=350,slow=13,SNR=20						
WRA				Sn	Sn	07 28 50.8	-7.9
	0.3nm,0.3s,baz=330,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**18.97**	**171**	P	Pn	07 26 52.4	+0.9
	0.6nm,0.3s,baz=352,slow=9.3,SNR=57						
ASAR				S	Sn	07 30 20.2	-4.3
	0.1nm,0.3s,baz=360,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**66.79**	**326**	P	P	07 33 21.6	+0.2
	1.5nm,0.5s,baz=126,slow=7.4,SNR=18						

ISCJB ***13*** *07:33:33.7±2.4, 394N±02×700E±0.1, h52km±49km, Error ellipse: s-maj=34.7km s-min=17.1km az=175.0*
NNC ***13*** *07:33:34.4±3.4, 3947N×7006E, h23km±15km, mb3.6, mpv3.2, Error ellipse: s-maj=21.7km s-min=8.9km az=1.0*

ISC 13 07:33:33.5±3.4, 395N±05×700E±01, h8km±59km, n12, σ0§90/15, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.59**	**6**	⇑Pn	**Pn**	**07 34 30.0**	**+0.6**
	4.1nm,0.3s,baz=183,slow=13,SNR=93						
KK31				⇑Lg		07 35 30.5	
	62nm,0.5s,baz=186,slow=29						
AML	**Almayashu**	**3.81**	**46**	P	**Pn**	**07 34 32.9**	**+0.5**
	SNR=22						
EKS2	**Erkin-Say**	**4.22**	**41**	P	**Pn**	**07 34 38.8**	**+0.7**
	SNR=11						
UCH	**Uchtor**	**4.34**	**50**	P	**Pn**	**07 34 40.3**	**+0.6**
	SNR=15						
AAK	**Ala-Archa**	**4.59**	**46**	P	**Pn**	**07 34 42.2**	**-0.9**
	SNR=20						
KZA	**Kyzart**	**4.71**	**56**	P	**Pn**	**07 34 46.0**	**+1.1**
	SNR=11						
USP	**Ospenovka**	**5.03**	**41**	P	**Pn**	**07 34 48.1**	**-1.1**
	SNR=11						
TKM2	**Tokmak 2**	**5.40**	**49**	P	**Pn**	**07 34 53.8**	**-0.5**
	SNR=27						
TKM2	**Tokmak 2**	**5.40**	**49**	⇑Pn	**Pn**	**07 34 53.4**	**-0.9**
	0.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**07 35 56.6**	**0.0**
	0.9nm,0.5s						
TKM2				⇓Lg		07 36 25.9	
	0.9nm,0.5s						
ULHL	**Ulahol**	**5.44**	**58**	P	**Pn**	**07 34 54.4**	**-0.4**
	SNR=7.2						
AB31	**Akbulak array**	**12.10**	**327**	⇑Pn	**Pn**	**07 36 25.0**	**-1.1**
	0.9nm,0.4s,baz=163,slow=12,SNR=6.9						
AB31				⇑Sn	**Sn**	**07 38 39.7**	**-1.4**
	4.1nm,0.8s,baz=144,slow=23,SNR=3.0						
AKTO	**Aktyubinsk**	**13.80**	**326**	⇓Pn	**Pn**	**07 36 50.4**	**+0.9**
	2.5nm,3.1s						
AKTO				⇓Sn	**Sn**	**07 39 24.3**	**+1.4**
	0.7nm,2.0s						

MAN 13 07:45:30.2, 764N×12202E, h33km, mb3.2, ML4.5, MS3.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZMPH	**Zamboanga City**	**0.68**	**176**	⇓*i*P	Pn	07 45 44.1	+0.6
ZMPH				*i* S	Sb	07 45 54.0	+1.2
DCPH	**Dipolog City**	**1.62**	**54**	⇑*e*P	Pn	07 45 58.6	+2.2
DCPH				*e*S	Sn	07 46 20.1	+4.0
SNPH	**Sibulan**	**2.08**	**35**	*e*P	Pn	07 46 03.0	+0.3
BUKP	**Musuan**	**3.02**	**85**	*e*P	Pn	07 46 23.3	+7.6
GUIM	**Jordan**	**3.02**	**11**	*e*P	Pn	07 46 16.8	+1.1
GUIM				*e*S	Sn	07 46 49.9	-0.8
CUYO	**Cuyo Island**	**3.34**	**343**	*e*P	Pn	07 46 22.0	+1.9
OTRP	**Odiongan**	**4.70**	**360**	*e*P	Pn	07 46 40.0	+1.3

NEIC ***13*** *07:56:09.7, 1376S×7187W, h19km, ML4.3(LIM), After LIM.*
NEIC Felt [III] at Cusco and Urcos.
ISCJB ***13*** *07:56:11.0±1.1, 1370S±007×7155W±007, h40km±15km, mb3.8/3, MS3.7/3, Error ellipse: s-maj=14.0km s-min=8.5km az=97.6*
IDC ***13*** *07:56:12.9±3.4, 1382S×7147W, h36km±30km, mb3.6/3, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML4.1/4, MS3.7/6, Ms1 3.7/6, ms1mx3.5/21, Error ellipse: s-maj=40.9km s-min=18.9km az=36.0*

ISC 13 07:56:13.8±0.9, 1368S±007×7157W±007, h40km±13km, n22, σ1§02/20, mb3.8/3, MS3.7/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.76**	**179**	*e*P	**Pn**	**07 56 55.0**	**-0.5**
ARE				*e*S	**Sn**	**07 57 35.0**	**+7.3**
LPAZ	**La Paz**	**4.21**	**128**	Pn	**Pn**	**07 57 20.9**	**+5.4**
	1.8nm,0.3s,baz=300,slow=18,SNR=12						
LPAZ				Sn	**Sn**	**07 58 15.1**	**+12**
	0.9nm,0.3s,baz=204,slow=24,SNR=1.4						
NNA	**Nana**	**5.42**	**288**	Pn	**Pn**	**07 57 32.3**	**+0.3**
	2.8nm,0.3s,baz=155,slow=8.4,SNR=13						
NNA				Sn	**Sn**	**07 58 38.2**	**+5.2**
	4.2nm,0.3s,baz=108,slow=20,SNR=2.5						
NNA	**Nana**	**5.42**	**288**	*e*Pn	**Pn**	**07 57 31.0**	**-0.9**
	79nm,0.8s						
NNA				*e*Sn	**Sn**	**07 58 32.4**	**-0.6**
LVC	**Limon Verde**	**9.23**	**165**	Pn	**Pn**	**07 58 22.3**	**-2.0**
	1.9nm,0.3s,baz=324,slow=9.0,SNR=44						
LVC				Sn	**Sn**	**08 00 09.1**	**+2.3**
	0.2nm,0.3s,baz=52,slow=19,SNR=3.4						
LVC				LR	LR	08 02 13.7	
	comp=Z,768nm,19.9s,baz=350,slow=40						
LVC	**Limon Verde**	**9.23**	**165**	*e*Pn	**Pn**	**07 58 22.7**	**-1.7**
	38nm,0.8s						
ATAH	**Atahualpa**	**9.44**	**314**	Pn	**Pn**	**07 58 28.4**	**+1.1**
	0.6nm,0.3s,baz=143,slow=12,SNR=6.9						
SAML	**Samuel**	**9.47**	**61**	*e*Pn	**Pn**	**07 58 27.9**	**+0.4**
SIV	**San Ignacio**	**10.40**	**104**	Pn	**Pn**	**07 58 40.1**	**-0.3**
	0.6nm,0.3s,baz=280,slow=14,SNR=2.7						
CFAA	**Coronel Fontan**	**18.10**	**171**	P	**Pn**	**08 00 18.4**	**-3.6**
	baz=339,slow=12						
CFAA				LR	LR	08 06 40.5	
	comp=Z,35nm,21.9s,baz=20,slow=35						
CFAA	**Coronel Fontan**	**18.10**	**171**	P	**Pn**	**08 00 18.4**	**-3.6**
ROSC	**El Rosal**	**18.62**	**351**	LR	LR	08 08 04.1	
	comp=Z,305nm,21.6s,baz=8.4,slow=38						
SDV	**Santo Domingo**	**22.44**	**2**	LR	LR	08 11 17.7	
	comp=Z,131nm,20.5s,MS3.4,baz=182,slow=40						
PCRV	**Puerto La Cruz**	**24.68**	**17**	LR	LR	08 11 50.9	
	comp=Z,724nm,18.8s,MS4.2,baz=186,slow=38						
JTS	**JuntasAbangare**	**27.27**	**330**	LR	LR	08 13 18.4	
	comp=Z,188nm,18.8s,MS3.7,baz=170,slow=37						
TXAR	**Lajitas Array**	**52.81**	**324**	P	**P**	**08 05 25.4**	**+0.4**
	0.6nm,0.9s,mb3.5,baz=126,slow=9.0,SNR=4.2						
PDAR	**Pinedale Array**	**66.10**	**330**	P	**P**	**08 06 57.0**	**+0.3**
	0.6nm,1.0s,mb3.6,baz=133,slow=7.9,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**77.32**	**73**	*e*P	**P**	**08 08 04.1**	**0.0**
TORD	**Torodi Ar. Bea**	**77.32**	**73**	P	**P**	**08 08 03.4**	**-0.7**
	3.2nm,0.8s,mb4.3,baz=264,slow=5.2,SNR=16						
MJAR	**Matsushiro Arr**	**144.96**	**316**	PKPbc	PKPdf	08 15 46.1	-0.4
	2.9nm,0.8s,baz=123,slow=1.8,SNR=7.3						
SONM	**Songino Array**	**145.91**	**2**	PKPbc	PKPbc	08 15 49.8	+0.9
	5.2nm,1.0s,baz=344,slow=1.8,SNR=17						
KSRS	**Korea Array**	**150.64**	**327**	PKPbc	PKPbc	08 16 02.1	+0.7
	3.6nm,0.8s,baz=356,slow=2.2,SNR=9.1						

IDC 13 07:56:47.3±9.8, 2141N×14180E, h170km±91km, mb3.4/8, mb1 3.6/8, mb1mx3.5/19, mbtmp3.4/8, Error ellipse: s-maj=43.8km s-min=14.6km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.00**	**326**	P	P	08 01 08.5	+1.7
	0.4nm,0.3s,baz=148,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**38.75**	**321**	P	P	08 03 54.1	-0.9
	0.9nm,0.5s,baz=120,slow=5.5,SNR=5.0						
WRA	**Warramunga Arr**	**41.74**	**191**	P	P	08 04 19.8	+0.2
	0.9nm,0.7s,baz=18,slow=8.9,SNR=9.0						
ASAR	**Alice Springs**	**45.46**	**190**	P	P	08 04 49.7	+0.4
	0.6nm,0.6s,baz=15,slow=14,SNR=19						
STKA	**Stephens Creek**	**52.98**	**180**	P	P	08 05 45.2	-1.1
	2.4nm,0.9s,baz=24,slow=8.4,SNR=3.3						
ZAL	**Zalesovo**	**53.65**	**322**	P	P	08 05 49.5	-1.7
	1.5nm,0.2s,baz=356,slow=5.5,SNR=3.1						
MKAR	**Makanchi Array**	**53.95**	**313**	P	P	08 05 54.2	+0.8
	0.6nm,0.6s,baz=91,slow=9.9,SNR=6.1						
NVAR	**Mina Array Bea**	**84.32**	**51**	P	P	08 08 59.8	-0.3
	0.5nm,0.7s,baz=274,slow=6.1,SNR=3.9						
LPAZ	**La Paz**	**151.24**	**85**	PKPbc	PKPbc	08 16 23.3	+2.8
	0.6nm,0.4s,baz=268,slow=3.4,SNR=4.8						
LPAZ				PKPab	PKPab	08 16 30.6	+1.6
	0.7nm,0.8s,baz=16,slow=7.8,SNR=3.4						

IDC 13 08:01:13.4±7.7, 635S×15058E, h108km±51km, mb3.4/3, mb1 3.5/4, mb1mx3.3/15, mbtmp3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/23, Error ellipse: s-maj=96.6km s-min=54.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.55**	**228**	P	Pn	08 02 20.0	-0.1
	0.8nm,0.3s,baz=41,slow=11,SNR=2.1						
PMG				S	Sn	08 03 13.2	+1.3
	3.3nm,0.3s,baz=191,slow=19,SNR=4.6						
PMG				LR	LR	08 04 16.3	
	comp=Z,81nm,19.1s,baz=65,slow=40						
KAKA	**Kakadu**	**18.96**	**249**	*e*P	P	08 05 28.2	+2.1
	4.2nm,0.6s						
WB2	**Warramunga Arr**	**20.76**	**228**	*e*P	P	08 05 45.5	0.0
WRA	**Warramunga Arr**	**20.77**	**228**	P	P	08 05 44.7	-1.0
	2.1nm,0.8s,baz=52,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**23.53**	**221**	P	P	08 06 13.3	-0.4
	1.0nm,0.6s,baz=56,slow=8.6,SNR=16						
FITZ	**Fitzroy Crossi**	**26.98**	**242**	*e*P	P	08 06 46.3	+1.4
	8.0nm,1.9s						
FITZ	**Fitzroy Crossi**	**26.98**	**242**	P	P	08 06 46.3	+1.4
	2.0nm,0.8s,baz=57,slow=7.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**148.62**	**285**	PKPbc	PKPbc	08 20 48.8	+1.0
	0.3nm,0.4s,baz=60,slow=3.2,SNR=4.0						

NIED ***13*** *08:02:00, 2100N×120.10E, h62km, Mw5.4 Best double couple: M0 1.53000×10^17 NP1:φs49.00000°, δ46.00000°, λ95.00000°. NP2:φs221.00000°, δ45.00000°, λ85.00000°.*
IDC ***13*** *08:02:42.0±0.4, 2072N×12000E, h0km, mb4.8/21, mb1 4.9/22, mb1mx4.9/25, mbtmp4.8/22, ML4.1/1, MS4.5/18, Ms1 4.5/18, ms1mx4.3/32, Error ellipse: s-maj=22.1km s-min=10.7km az=65.0*
ISCJB ***13*** *08:02:43.4±0.1, 2069N±002×12006E±002, h17km, mb5.0/93, MS4.6/33, Error ellipse: s-maj=3.3km s-min=2.7km az=165.7*
BJI ***13*** *08:02:44.8, 2092N×11984E, h11km, mB5.3, mb4.7, ML4.6, Ms5.2, Msz5.0*
NEIC ***13*** *08:02:44.5±0.2, 2066N×12000E, mb5.0/52, Error ellipse: s-maj=5.0km s-min=3.8km az=87.0*
GCMT ***13*** *08:02:44.5±0.2, 2069N×11993E, h12km, MW5.2/86, Moment Tensor Solution. s36,c43; s86,c134; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr-0.69±.02; Mθθ 0.34±.01; Mϕϕ 0.34±.02; Mrθ-0.33±.06; Mrϕ-0.26±.01; Mθϕ 0.40±.06; Best double couple: M0 0.83300×10^17 NP1:φs313.00000°, δ26.00000°, λ-94.00000°. NP2: φs138.00000°, δ64.00000°, λ-88.00000°. Principal axes: T 0.7880, Plg19.0000°, Azm226.0000°; N 0.0890, Plg2.0000°, Azm317.0000°; P -0.8770, Plg71.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***13*** *08:02:46.8±0.9, 2095N×12006E, h33km, mb5.2/61, MS4.6/15 Error ellipse: s-maj=10.4km s-min=5.0km az=121.4*

JMA ***13*** *08:02:48.6±0.3, 2101N×120.14E, h88km, M4.6*

ISC 13 08:02:45.3±0.1, 2072N±002×12010E±002, h18km, h18km±2.8km:pP-P, n321, σ1§11/349, mb5.0/92, MS4.6/33, 21C-24D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**2.43**	**168**	*e*P	**Pn**	**08 03 22.0**	**-2.1**
PIP				*e*S	**Sn**	**08 03 55.0**	**+1.6**
SGCP	**Mt. Cagua**	**3.08**	**143**	*e*P	**Pn**	**08 03 32.2**	**-0.8**
ABRA	**Dolores**	**3.11**	**169**	*e*P	**Pn**	**08 03 31.8**	**-1.7**
CVP	**Callao Caves**	**3.42**	**151**	⇑*i*P	**Pn**	**08 03 37.5**	**-0.1**
NACB	**Ninganchiao**	**3.71**	**22**	*e*Pn	**Pn**	**08 03 42.2**	**+0.6**
CAUP	**Cauayan**	**4.10**	**156**	*e*P	**Pn**	**08 03 49.5**	**+2.5**
YHNB	**Yeheng**	**4.10**	**16**	*e*Pn	**Pn**	**08 03 46.6**	**-0.5**
PALP	**Palanan**	**4.25**	**148**	⇓*e*P	**Pn**	**08 03 50.6**	**+1.5**
PALP				*e*S	**Sn**	**08 04 47.7**	**+9.4**
PALP	**Palanan**	**4.25**	**148**	*e*P	**Pn**	**08 03 50.7**	**+1.6**
BOLP	**Bolinao**	**4.32**	**182**	*e*P	**Pn**	**08 03 48.5**	**-1.6**
BCPH	**Baguio City Da**	**4.34**	**174**	⇑*i*P	**Pn**	**08 03 49.5**	**-0.9**
TATO	**Taipei**	**4.42**	**17**	*e*Pn	**Pn**	**08 03 53.4**	**+1.9**
QZH	**Quanzhou**	**4.42**	**342**	P	**Pn**	**08 03 47.3**	**-4.2**
QZH				S	**Sn**	**08 04 33.3**	**-9.3**
QZH				Smax			
	comp=N,750nm,0.9s						
QZH				Smax			
	comp=E,980nm,1.1s						
QZH				LR	LR		
	comp=N,22μm,8.8s						
QZH				LR	LR		
	comp=E,36μm,9.7s						
QZH				LR	LR		
	comp=Z,7μm,2.7s						
YOJ	**Yonaguni jima**	**4.59**	**35**	P	**Pn**	**08 03 53.4**	**-0.4**
YOJ				*e*S	**Sn**	**08 04 44.0**	**-2.7**
HATJ	**Hateruma jima**	**4.77**	**45**	P	**Pn**	**08 03 56.5**	**+0.2**
HATJ				*e*S	**Sn**	**08 04 48.1**	**-3.1**
IRIF	**Iriomote-Funau**	**4.92**	**42**	P	**Pn**	**08 03 58.1**	**-0.2**
IRIF				*e*S	**Sn**	**08 04 52.2**	**-2.6**
JKRS	**Kuro-shima**	**5.03**	**45**	P	**Pn**	**08 04 00.0**	**+0.1**
JKRS				*e*S	**Sn**	**08 04 55.5**	**-2.0**
BALP	**Baler**	**5.15**	**164**	*e*P	**Pn**	**08 04 01.8**	**+0.3**
JIJ	**Ishigaki jima**	**5.21**	**45**	P	**Pn**	**08 04 02.2**	**-0.1**
JIJ				*e*S	**Sn**	**08 04 58.1**	**-3.8**
HKC	**Hong Kong**	**5.74**	**287**	P	**Pn**	**08 04 08.0**	**-1.5**
HKC				S	**Sb**	**08 05 36.0**	**+2.8**
JTJ	**Tarama**	**5.77**	**47**	P	**Pn**	**08 04 10.5**	**+0.5**
JTJ				*e*S	**Sn**	**08 05 12.7**	**-3.0**
POLP	**Polilio Island**	**6.21**	**163**	*e*P	**Pn**	**08 04 19.6**	**+3.5**
TGY	**Tagaytay City**	**6.63**	**173**	Pn	**Pn**	**08 04 25.7**	**+3.9**
	comp=Z,119nm,0.3s,baz=213,slow=11,SNR=4.7						
TGY	**Tagaytay City**	**6.63**	**173**	P	**Pn**	**08 04 25.7**	**+3.9**
TGY				pmax	pmax		
	comp=Z,119nm,0.3s						
GZH	**Guangzhou**	**6.70**	**292**	P	**Pn**	**08 04 19.3**	**-3.4**
GZH				S	**Sn**	**08 05 25.5**	**-13**
GZH				Smax			
	comp=N,456nm,0.7s						
GZH				Smax			
	comp=E,578nm,0.6s						
ENPP	**El Nido**	**9.48**	**184**	*e*P	**Pn**	**08 05 00.2**	**-0.8**
JOW	**Kunigami**	**9.64**	**49**	Pn	**Pn**	**08 05 06.5**	**+3.3**
	comp=E,0.9nm,0.3s,baz=243,slow=16,SNR=2.2						
JOW				Sn	**Sn**	**08 06 45.7**	**-5.3**
	comp=E,0.5nm,0.3s,baz=329,slow=29,SNR=2.4						
QIZ	**Qiongzhong**	**9.79**	**262**	P	**Pn**	**08 05 03.8**	**-1.4**
QIZ				S	**Sn**	**08 06 55.8**	**+1.1**
QIZ				LR	LR		
	comp=N,5μm,10.0s						
QIZ				LR	LR		
	comp=E,10μm,10.2s						
QIZ				LR	LR		
	comp=Z,12μm,10.5s						
QIZ	**Qiongzhong**	**9.79**	**262**	*e*Pn	**Pn**	**08 05 03.2**	**-2.0**
SSE	**Sheshan**	**10.38**	**5**	*e*P	**Pn**	**08 05 13.4**	**+0.2**
SSE				AP		08 05 17.3	
SSE				S	**Sn**	**08 07 11.5**	**+2.5**
SSE				AMB	AMB		
	comp=Z,69nm,0.7s						
SSE				AMB	AMB		
	comp=Z,192nm,3.8s						
SSE				LR	LR		
	comp=N,3μm,15.5s						
SSE				LR	LR		
	comp=E,5μm,15.5s						
SSE				LR	LR		
	comp=Z,5μm,12.3s						
SSE	**Sheshan**	**10.38**	**5**	*e*P	**Pn**	**08 05 13.4**	**+0.2**
	comp=Z,69nm,0.7s						
SSE				pP		08 05 17.2	
SSE				S	**Sn**	**08 07 11.5**	**+2.5**
WHN	**Wuhan**	**11.07**	**333**	⇓P	**Pn**	**08 05 20.6**	**-2.0**
WHN				AP		08 05 27.6	
WHN				S	**Sn**	**08 07 32.0**	**+6.1**
WHN				LR	LR		
	comp=Z,16μm,9.2s						
NJ2	**Nanjing**	**11.34**	**355**	*e*P	**Pn**	**08 05 28.8**	**+2.4**
NJ2				AP		08 05 30.6	
NJ2				XP		08 05 33.4	
NJ2				PP		08 05 35.4	
NJ2				S	**Sn**	**08 07 36.0**	**+3.4**
NJ2				XS		08 07 45.5	
NJ2				AMB	AMB		
	comp=Z,400nm,5.1s						
NJ2				LR	LR		
	comp=N,10μm,11.8s						
NJ2				LR	LR		
	comp=E,25μm,13.2s						
NJ2				LR	LR		
	comp=Z,12μm,12.0s						
GYA	**Guiyang**	**13.57**	**297**	⇑*i*P	**Pn**	**08 05 53.4**	**-3.5**
GYA				AP		08 05 56.6	
GYA				PP		08 06 03.4	
GYA				S	**Sn**	**08 08 18.8**	**-8.4**
GYA				SS		08 08 40.5

comp=Z,3μm,11.5s
KMI Kunming 16.58 289 P Pn 08 06 36.7 -0.1
KMI S **Sn 08 09 40.0 -0.3**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI Kunming 16.58 289 P Pn 08 06 36.7 -0.1
comp=Z,7.0nm,0.7s
KMI pP pP 08 06 39.5 -4.7
KMI sP sP 08 06 41.0 -5.6
KMI PP 08 06 50.4
KMI PPP 08 06 58.0
KMI S **Sn 08 09 40.0 -0.3**
KMI sS sS 08 09 43.8 -16
KMI SS 08 10 00.0
KMI SSS 08 10 11.5
INCN Inchon 17.64 17 *e*Pn **Pn 08 06 49.5 -0.6**
CD2 Chengdu 17.85 308 P **Pn 08 06 53.3 +0.7**
CD2 AP pP 08 06 56.9 -1.4
CD2 XP sP 08 07 01.4 +0.8
CD2 PP 08 07 09.3
CD2 S **Sn 08 10 07.5 -3.7**
CD2 XS sS 08 10 12.8 -13
CD2 SS 08 10 30.8
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=E,8μm,9.4s
CD2 LR LR
comp=Z,6μm,9.6s
KS15 Wonju Array Si 17.98 20 *e*P **Pn 08 06 56.0 +1.7**
KSRS Korea Array 18.01 21 P **Pn 08 06 53.9 -0.7**
baz=203,slow=12,SNR=22
KSRS LR LR 08 14 20.1
comp=Z,861nm,18.0s,baz=200,slow=39
DL2 Dalian 18.17 4 *i*P **Pn 08 06 58.3 +1.7**
DL2 AMB AMB
comp=Z,50nm,1.3s
DL2 AMB AMB
comp=Z,740nm,4.0s
DL2 LR LR
comp=N,2μm,11.3s
DL2 LR LR
comp=E,3μm,12.2s
DL2 LR LR
comp=Z,2μm,12.5s
NANT Nan 18.36 267 ⇑P **Pn 08 06 58.0 -0.9**
comp=Z,206nm,1.0s
JWZ Kozaga 18.84 44 P **Pn 08 07 05.8 +1.1**
BJT Baijiatuan 19.53 351 *e*P **Pn 08 07 12.6 -0.4**
BJT pmax pmax
comp=Z,49nm,0.9s
BJT Baijiatuan 19.53 351 *e*P **Pn 08 07 12.6 -0.4**
comp=Z,49nm,0.9s
BJI Beijing 19.55 351 P **Pn 08 07 12.4 -0.8**
BJI S **Sn 08 10 50.3 -1.9**
BJI AMB AMB
comp=Z,57nm,0.9s
BJI LR LR
comp=N,2μm,14.6s
BJI LR LR
comp=E,4μm,14.6s
BJI LR LR
comp=Z,3μm,11.8s
BJI Beijing 19.55 351 P **Pn 08 07 12.4 -0.8**
comp=Z,57nm,0.9s
BJI S **Sn 08 10 50.3 -1.9**
NST Nakhon Sawan 19.61 258 P **Pn 08 07 12.0 -2.0**
JWT Wachi 19.79 40 P **Pn 08 07 15.4 -0.7**
CHG Chiang Mai 20.00 268 ⇑P **Pn 08 07 18.2 -0.4**
comp=Z,31nm,1.3s
CHTO Chiang Mai 20.00 268 *e*P **Pn 08 07 17.5 -1.1**
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO Chiang Mai 20.00 268 *e*P **Pn 08 07 17.5 -1.1**
comp=Z,29nm,1.0s
JIE Ise 20.02 44 P **P 08 07 18.8 +1.8**
BDT Bhumibol Dam 20.24 264 P **P 08 07 21.0 +1.5**
LZH Lanzhou 20.90 321 *e*P **P 08 07 27.8 +1.2**
LZH AP 08 07 31.4
LZH XP sP 08 07 36.6 +2.6
LZH PP 08 07 50.5
LZH XS sS 08 11 23.3 -3.7
LZH SS 08 11 46.5
LZH AMB AMB
comp=Z,111nm,1.5s
LZH AMB AMB
comp=Z,320nm,4.1s
LZH LR LR
comp=E,4μm,12.1s
LZH LR LR
comp=Z,4μm,12.5s,MS5.0
LZH Lanzhou 20.90 321 *e*P **P 08 07 27.8 +1.2**
LZH *SP sP 08 07 36.6 +2.6
LZH 08 07 50.5
LZH *e*S **S 08 11 16.0 -2.9**
LZH SS 08 11 46.5
LZH pmax pmax
comp=Z,111nm,1.5s
LZH MLR MLR
comp=Z,4μm,12.5s,MS5.0
LZH Lanzhou 20.90 321 *e*P **P 08 07 27.8 +1.2**
comp=Z,111nm,1.5s
LZH pP 08 07 31.4
LZH sP sP 08 07 36.6 +2.6
LZH PP 08 07 50.5
LZH *e*S **S 08 11 16.0 -2.9**
LZH sS sS 08 11 23.2 -3.8
LZH SS 08 11 46.5
LZH LR LR
comp=Z,4μm,12.5s,MS5.0
CBIJ Chichi jima 21.15 68 LR LR 08 13 46.6
comp=Z,1μm,21.2s,MS4.3,baz=82,slow=31
JGF Kuroka 21.19 42 P **P 08 07 29.7 -0.1**
SNY Shenyang 21.25 7 P **P 08 07 31.0 +0.6**
SNY S **S 08 11 30.1 +4.4**
SNY AMB AMB
comp=Z,36nm,2.5s,mb4.3
SNY AMB AMB
comp=Z,942nm,3.6s
SNY LR LR
comp=N,3μm,11.4s,MS5.0
SNY LR LR
comp=E,2μm,11.1s,MS5.0
SNY LR LR
comp=Z,4μm,11.8s,MS5.0
HHC Hu-ho-hao-te 21.34 342 ⇑*i*P **P 08 07 33.5 +2.2**
HHC AP 08 07 37.6
HHC XP sP 08 07 39.9 +1.1
HHC PP 08 07 57.8
HHC S **S 08 11 28.5 +1.0**
HHC XS sS 08 11 31.8 -3.9
HHC PCP PcP 08 11 37.3 +2.2
HHC SCP ScP 08 15 11.9 +0.7
HHC AMB AMB
comp=Z,31nm,1.5s,mb4.4
HHC AMB AMB
comp=Z,657nm,8.0s
HHC LR LR
comp=N,4μm,12.2s,MS5.1
HHC LR LR
comp=E,3μm,13.5s,MS5.1
HHC LR LR
comp=Z,3μm,12.5s,MS4.9
KSM Kuching 21.39 208 *e*P **P 08 07 31.2 -0.6**
JHJ Hachijo jima 2 21.42 51 LR LR 08 15 07.4
comp=Z,1μm,20.2s,MS4.4,baz=282,slow=35
BTO Baotou 21.60 339 *e*P **P 08 07 33.3 -0.9**
JOD2 Odawara 2 22.10 45 P **P 08 07 40.2 +0.7**
MAJO Matsushiro 22.32 41 *e*P **P 08 07 44.9 +3.0**
MAJO pmax pmax
comp=Z,79nm,1.1s,mb5.1
MAJO Matsushiro 22.32 41 *e*P **P 08 07 44.9 +3.0**
comp=Z,79nm,1.1s,mb5.1
MAT Matsushiro 22.32 41 P **P 08 07 42.1 +0.2**
MAT S **S 08 11 49.0 +2.2**
MAT Matsushiro 22.32 41 P **P 08 07 45.8 +3.9**
MJAR Matsushiro Arr 22.33 41 P **P 08 07 41.5 -0.4**
comp=Z,47nm,1.1s,mb4.8,baz=238,slow=10.0,SNR=22
MJAR LR LR 08 16 23.5
comp=Z,1μm,21.9s,MS4.3,baz=225,slow=37
MJAR Matsushiro Arr 22.33 41 P **P 08 07 41.5 -0.4**
MJAR pmax pmax
comp=Z,47nm,1.1s
MJAR MLR MLR
comp=Z,1μm,21.9s
MJAR Matsushiro Arr 22.33 41 P **P 08 07 41.5 -0.4**
MJAR LR LR 08 16 23.4
JRY Ryogami san 22.43 43 P **P 08 07 43.5 +0.5**
CN2 Changchun 23.44 10 *e*P **P 08 07 53.9 +0.2**
CN2 *e*XP sP 08 08 00.0 -1.2
CN2 *e*S **S 08 12 03.5 -2.4**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.4
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,3μm,16.0s,MS5.1
CN2 LR LR
comp=E,4μm,16.0s,MS5.1
CN2 LR LR
comp=Z,3μm,16.0s,MS4.9
KULM Kulim 24.33 234 *e*P **P 08 08 01.2 -0.7**
VLA Vladivostok 24.42 21 *d i*P **P 08 08 00.3 -2.4**
VLA pmax pmax
comp=Z,134nm,1.3s,mb5.2
IPM Ipoh 24.59 232 P **P 08 08 05.6 +1.4**
GUMO Guam 24.69 103 P **P 08 08 05.0 -0.1**
comp=Z,56nm,0.8s,mb5.2,baz=19,slow=22,SNR=4.2
GUMO LR LR 08 15 50.4
comp=Z,715nm,18.1s,MS4.2,baz=78,slow=32
GUMO Guam 24.69 103 *e*P **P 08 08 05.7 +0.5**
KGM Kluang 24.77 224 P **P 08 08 07.4 +1.5**
MDJ Mudanjiang 25.10 16 P **P 08 08 09.6 +0.7**
MDJ AP pP 08 08 12.6 -1.7
MDJ XP sP 08 08 14.1 -2.5
MDJ PCP PcP 08 11 42.3 -0.7
MDJ S **S 08 12 32.3 -0.3**
MDJ XS sS 08 12 40.3 -1.3
MDJ SCP ScP 08 15 22.8 +1.6
MDJ PCS PcS 08 15 24.1 +0.8
MDJ AMB AMB
comp=Z,44nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,558nm,4.3s
MDJ LR LR
comp=N,1μm,16.0s,MS4.8
MDJ LR LR
comp=E,2μm,16.4s,MS4.8
MDJ LR LR
comp=Z,2μm,11.5s,MS4.8
MDJ Mudanjiang 25.10 16 *e*P **P 08 08 09.4 +0.5**
comp=Z,48nm,1.0s,mb5.0
GTA Gaotai 25.49 321 ⇑P **P 08 08 12.5 0.0**
GTA AP pP 08 08 19.3 +1.4
GTA XP sP 08 08 21.9 +1.7
GTA PP 08 08 54.3
GTA S **S 08 12 40.8 +1.9**
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,216nm,5.7s
GTA LR LR
comp=N,2μm,9.9s
GTA LR LR
comp=E,2μm,11.4s
GTA LR LR
comp=Z,2μm,11.8s,MS4.9
JOM Ohasama 26.07 40 P **P 08 08 17.0 -0.7**
SHL Shillong 26.36 286 *e*P **P 08 08 20.5 +0.2**
SHL *e*S **S 08 12 57.0 +4.4**
LSA Lhasa 27.61 295 P **P 08 08 33.3 +1.7**
LSA AP pP 08 08 40.3 +3.2
LSA S **S 08 13 09.6 -2.8**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
LSA AMB AMB
comp=Z,2μm,6.0s
LSA LR LR
comp=N,1μm,11.0s,MS4.9
LSA LR LR
comp=E,1μm,11.0s,MS4.9
LSA LR LR
comp=Z,1μm,11.0s,MS4.7
LSA Lhasa 27.61 295 *e*P **P 08 08 33.1 +1.5**
LSA pmax pmax
comp=Z,23nm,0.8s,mb4.9
LSA Lhasa 27.61 295 *e*P **P 08 08 33.1 +1.5**
comp=Z,23nm,0.8s,mb4.9
HIA Hailar 28.48 360 *e*P **P 08 08 39.9 +0.5**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 28.48 360 *e*P **P 08 08 39.9 +0.6**
comp=Z,12nm,1.0s,mb4.5
SONM Songino Array 29.23 341 P **P 08 08 45.3 -0.7**
comp=Z,6.4nm,0.8s,mb4.4,baz=159,slow=9.7,SNR=32
SONM PcP PcP 08 11 51.1 -1.7
comp=Z,1.6nm,0.9s,baz=208,slow=4.9,SNR=2.4
SONM LR LR 08 20 53.1
comp=Z,1μm,19.1s,MS4.6,baz=62,slow=37
SONM Songino Array 29.23 341 P **P 08 08 45.3 -0.7**
SONM 08 11 51.1
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,1μm,19.1s
ASAJ Asahikawa 29.90 34 LR LR 08 21 42.3
comp=Z,2μm,20.2s,MS4.7,baz=163,slow=38
KLR Kul'dur 29.93 15 *e*P **P 08 08 49.7 -2.5**
GUN Gumba 31.92 290 *e*P **P 08 09 10.2 +0.5**
comp=Z,81nm,0.8s,mb5.6
YSS Yuzh-Sakhalins 32.00 30 *e*P **P 08 09 10.8 +0.3**
YSS pmax pmax
comp=Z,61nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,1μm,20.0s,MS4.5
PKI Pulchoki 32.30 289 *e*P **P 08 09 12.8 -0.3**
comp=Z,58nm,1.2s,mb5.3
KKN Kakani 32.44 289 *e*P **P 08 09 13.5 -0.8**
ZAK Zakamensk 32.45 340 *e*P **P 08 09 13.4 -1.0**
DMN Daman 32.58 289 *e*P **P 08 09 15.6 +0.1**
comp=Z,136nm,1.4s,mb5.7
GKN Gorkha 33.02 290 *e*P **P 08 09 18.9 -0.5**
comp=Z,100nm,1.3s,mb5.6
TLY Talaya 33.47 341 *e*P **P 08 09 22.2 -1.1**
TLY *e*S **S 08 14 33.7 -10**
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,1μm,14.0s,MS4.8
TLY Talaya 33.47 341 *e*P **P 08 09 22.3 -0.9**
comp=Z,7.1nm,0.7s,mb4.7
KOLN Koldanda 33.92 289 *e*P **P 08 09 26.6 -0.6**
comp=Z,110nm,1.3s,mb5.6
KAKA Kakadu 35.37 159 *e*P **P 08 09 38.6 -1.2**
comp=Z,15nm,0.6s,mb5.1
WMQ Urumqi 35.44 318 ⇓P **P 08 09 41.3 +1.0**
WMQ AP pP 08 09 45.8 -0.1
WMQ XP sP 08 09 48.3 +0.2
WMQ PP PP 08 11 01.1 +0.3
WMQ PPP 08 11 18.8
WMQ PCP PcP 08 12 11.3 +1.5
WMQ S **S 08 15 14.8 +0.4**
WMQ XS sS 08 15 21.8 -1.7
WMQ SCP ScP 08 15 55.4 +0.6
WMQ PCS PcS 08 15 57.3 +0.4
WMQ AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
WMQ LR LR
comp=N,772nm,17.7s,MS4.7
WMQ LR LR
comp=E,683nm,15.8s,MS4.7
WMQ LR LR
comp=Z,420nm,14.7s,MS4.3
FITZ Fitzroy Crossi 38.96 172 *e*P **P 08 10 08.5 -1.8**
comp=Z,17nm,1.4s,mb4.6
FITZ *e*pP pP 08 10 14.3 -1.5
FITZ *e*S **S 08 16 06.8 -1.3**
FITZ Fitzroy Crossi 38.96 172 P **P 08 10 08.9 -1.3**
comp=Z,8.3nm,1.1s,mb4.4,baz=342,slow=9.0,SNR=5.4
PMG Port Moresby 40.05 136 P **P 08 10 20.8 +1.4**
comp=Z,21nm,0.8s,mb4.9,baz=296,slow=8.0,SNR=3.7
PMG Port Moresby 40.05 136 *e*P **P 08 10 20.2 +0.8**
MK31 Makanchi Array 40.21 319 *i*P **P 08 10 20.3 -0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MKAR Makanchi Array 40.21 319 P **P 08 10 20.5 -0.1**
comp=Z,4.8nm,0.7s,mb4.3,baz=112,slow=9.3,SNR=21
MKAR PcP PcP 08 12 23.8 -0.7
comp=Z,4.6nm,0.7s,baz=102,slow=5.1,SNR=6.7
MKAR LR LR 08 27 15.9
comp=Z,505nm,18.6s,MS4.4,baz=118,slow=37
MKAR Makanchi Array 40.21 319 *i*P **P 08 10 20.3 -0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 40.21 319 P **P 08 10 20.5 -0.1**
MKAR PcP PcP 08 12 23.8 -0.7
MKAR LR LR 08 27 15.9
YAK Yakutsk 41.81 7 *e*P **P 08 10 35.3 +1.5**
YAK pmax pmax
comp=Z,16nm,0.9s,mb4.7
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK MLR MLR
comp=N,818nm,17.0s,MS4.8
YAK MLR MLR
comp=Z,1μm,17.0s,MS4.8
YAK MLR MLR
comp=E,476nm,14.0s,MS4.8
KSH Kashi 42.04 306 *e*P **P 08 10 35.9 +0.2**
KSH *e*AP pP 08 10 41.5 +0.2
KSH *e*XP sP 08 10 45.9 +2.4
KSH *e*PP PP 08 12 18.5 +5.4
KSH *e*PCP PcP 08 12 27.8 -2.7
KSH *e*PCS PcS 08 16 21.4 -0.8
KSH *e*S **S 08 16 51.8 -2.1**
KSH *e*XS sS 08 16 59.8 -3.3
KSH *e*PS 08 17 08.8
KSH *e*SCS ScS 08 20 33.5 -3.9
KSH LR LR
comp=N,5μm,9.1s
KSH LR LR
comp=E,9μm,8.3s
KSH LR LR
comp=Z,981nm,6.4s
ULHL Ulahol 42.54 310 P **P 08 10 41.0 +1.2**
SNR=11
ZAL Zalesovo 42.66 330 LR LR 08 28 32.7
comp=Z,382nm,20.5s,MS4.3,baz=342,slow=36
WRAB Tennant Creek 42.74 160 *e*P **P 08 10 40.9 -0.6**
WRAB pmax pmax
comp=Z,60nm,0.8s,mb5.4
WRAB Tennant Creek 42.74 160 *e*P **P 08 10 40.9 -0.6**
comp=Z,60nm,0.8s,mb5.4
WRA Warramunga Arr 42.75 160 P **P 08 10 40.9 -0.6**
comp=Z,24nm,0.7s,mb5.1,baz=342,slow=9.1,SNR=100
WRA PcP PcP 08 12 33.1 +0.3
comp=Z,3.8nm,0.8s,baz=343,slow=3.7,SNR=3.3
WRA Warramunga Arr 42.75 160 P **P 08 10 40.9 -0.6**
WRA 08 12 33.1
WRA pmax pmax
comp=Z,24nm,0.7s
WB2 Warramunga Arr 42.75 160 *e*P **P 08 10 40.7 -0.8**
WB2 *e*sP sP 08 10 48.5 -0.8
WB2 *e*S **S 08 17 01.0 -3.5**
TKM2 Tokmak 2 43.19 311 P **P 08 10 46.3 +1.2**
SNR=8.4
KZA Kyzart 43.20 310 P **P 08 10 47.3 +2.2**
SNR=13
KBK Karagaybulak 43.57 311 P **P 08 10 49.7 +1.5**
SNR=5.4
UCH Uchtor 43.77 310 P **P 08 10 51.9 +2.1**
SNR=18
FRU Bishkek 43.86 311 *e*P **P 08 10 51.0 +0.6**
AAK Ala-Archa 43.89 310 *e*P **P 08 10 50.8 +0.1**
AAK pmax pmax
comp=Z,15nm,2.1s,mb4.3
AAK MLR MLR
comp=Z,900nm,17.0s,MS4.8
AAK Ala-Archa 43.89 310 *e*P **P 08 10 51.1 +0.4**
comp=Z,5.1nm,0.9s,mb4.2
NVS Novosibirsk 43.93 330 *e*P **P 08 10 50.4 -0.7**
NVS *e* 08 12 33.9
NVS pmax pmax
comp=N,44nm,2.0s
NVS pmax pmax
comp=E,48nm,2.0s
NVS pmax pmax
comp=Z,50nm,2.0s,mb4.9
KURK Kurchatov 44.16 323 P **P 08 10 53.1 +0.2**
comp=Z,134nm,1.1s,mb5.6,SNR=5.2
KURK Kurchatov 44.16 323 P **P 08 10 51.9 -1.0**
KURK pmax pmax
comp=Z,25nm,1.3s,mb4.8
KURK Kurchatov 44.16 323 *e*P **P 08 10 53.0 +0.1**
comp=Z,63nm,1.5s,mb5.1
AML Almayashu 44.34 310 P **P 08 10 56.2 +1.9**
SNR=10
AS31 Alice Springs 46.12 162 *e*P **P 08 11 08.1 -0.3**
ASAR Alice Springs 46.12 162 P **P 08 11 08.3 -0.1**
comp=Z,3.7nm,0.4s,mb4.6,baz=344,slow=7.0,SNR=122
ASAR PcP PcP 08 12 43.5 -0.9
comp=Z,1.9nm,0.8s,baz=327,slow=4.9,SNR=1.9
ASAR Alice Springs 46.12 162 P **P 08 11 08.4 -0.1**
ASAR 08 12 43.5
ASAR pmax pmax
comp=Z,4.0nm,0.4s
KK31 Karatay Array 46.84 310 *i*P **P 08 11 14.4 +0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KKAR Karatay Array 46.84 310 *i*P **P 08 11 14.4 +0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SEY Seymchan 47.56 19 *e*P **P 08 11 19.8 +0.1**
CTA Charters Tower 47.96 146 *e*P **P 08 11 24.0 +1.2**
comp=Z,32nm,1.0s,mb5.3
CTA *e*sP sP 08 11 33.0 +2.3
CTA *e*S **S 08 18 22.9 +3.2**
CTA Charters Tower 47.96 146 P **P 08 11 24.3 +1.5**
comp=Z,40nm,1.0s,mb5.4,baz=327,slow=9.3,SNR=35
CTA Charters Tower 47.96 146 *e*P **P 08 11 24.0 +1.2**
CTA *e**SP sP 08 11 33.0 +2.3
CTA *e*S **S 08 18 22.9 +3.2**
CTA pmax pmax
comp=Z,32nm,1.0s
CTAO Charters Tower 47.96 146 *e*P **P 08 11 24.2 +1.4**
CTAO pmax pmax
comp=Z,39nm,0.7s,mb5.5
CTAO Charters Tower 47.96 146 *e*P **P 08 11 24.2 +1.4**
comp=Z,40nm,0.7s,mb5.5
VOSK Vostochnaya 49.32 323 P **P 08 11 31.9 -1.4**
VOSK pmax pmax
comp=Z,30nm,2.2s,mb4.9
HNR Honiara 49.32 124 LR LR 08 28 53.4
comp=Z,219nm,20.6s,MS4.1,baz=359,slow=32
BVA0 Borovoye Array 49.76 323 *i*P **P 08 11 36.2 -0.4**
BVA0 pmax pmax
comp=Z,9.0nm,2.0s,mb4.5
BRVK Borovoye 49.83 323 *e*P **P 08 11 37.3 +0.1**
BRVK *e* 08 12 57.3
BRVK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BRVK Borovoye 49.83 323 *e*P **P 08 11 37.3 +0.1**
comp=Z,9.0nm,0.7s,mb4.9
BRVK *e*PcP PcP 08 12 57.3 -0.4
CHKZ Chkalovo 49.87 324 *i*P **P 08 11 36.9 -0.6**
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CHKZ Chkalovo 49.87 324 *e*P **P 08 11 37.4 -0.1**
comp=Z,12nm,0.9s,mb4.9
ZRNK Zerenda 50.52 322 *i*P **P 08 11 41.4 -1.0**
ZRNK pmax pmax
comp=Z,41nm,2.3s,mb5.0
ZRNK Zerenda 50.52 322 *e*P **P 08 11 42.5 0.0**
comp=Z,14nm,0.9s,mb4.9
FORT Forrest 51.77 171 *e*P **P 08 11 51.6 -0.2**
comp=Z,22nm,0.9s,mb5.1
KLBR Kellerberrin 52.06 183 *e*P **P 08 11 50.7 -3.2**
comp=Z,11nm,0.7s,mb4.9
MUN Mundaring 52.53 184 *e*P **P 08 11 48.7 -8.7**
NWAO Narrogin (SRO) 53.41 183 P **P 08 12 03.0 -0.9**
comp=Z,12nm,0.9s,mb4.8,baz=40,slow=6.4,SNR=3.7
NWAO Narrogin (SRO) 53.41 183 P **P 08 12 03.0 -1.0**
NWAO pmax pmax
comp=Z,12nm,0.9s
AB31 Akbulak array 55.18 316 *i*P **P 08 12 16.6 -0.2**
AB31 pmax pmax
comp=Z,14nm,1.0s,mb5.0
BILL Bilibino 55.27 19 ⇑*e*P **P 08 12 16.5 -0.9**
BILL *e* 08 12 27.0
BILL *e*S **S 08 20 07.5 +7.2**
BILL Bilibino 55.27 19 *e*P **P 08 12 17.0 -0.5**
comp=Z,13nm,0.9s,mb5.0
STKA Stephens Creek 56.21 158 *e*P **P 08 12 24.9 +0.7**
comp=Z,7.3nm,0.6s,mb4.9

STKA esP sP 08 12 33.0 +0.9
STKA Stephens Creek 56.21 158 P P 08 12 23.0 -1.2
comp=Z,11nm,0.8s,mb5.0,baz=334,slow=5.0,SNR=16
SVE Sverdlovsk 56.27 325 *e*P **P 08 12 23.2 -1.4**
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
SVE MLR MLR
comp=E,500nm,12.0s
SVE MLR MLR
comp=Z,600nm,12.0s,MS4.9
AKTO Aktyubinsk 56.58 317 *i* P **P 08 12 26.0 -0.9**
ARU Arti 57.29 325⇓ *i*P **P 08 12 31.2 -0.7**
ARU *e*S **S 08 20 26.6 -0.6**
ARU *e*SS SS 08 24 19.5 +3.0
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARU MLR MLR
comp=E,200nm,16.0s,MS4.6
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU MLR MLR
comp=N,300nm,17.0s,MS4.6
ARU Arti 57.29 325 *e*P **P 08 12 31.7 -0.2**
comp=N,33nm,1.3s,mb5.2
ORR Orenburg 58.77 318 *e*P **P 08 12 41.7 -0.5**
ORR pmax pmax
comp=Z,40nm,1.3s,mb5.3
ORR MLR MLR
comp=Z,380nm,16.0s,MS4.6
DZM Mont Dzumac 62.10 131 P **P 08 13 06.6 +1.6**
comp=Z,4.0nm,0.8s,mb4.6,baz=294,slow=20,SNR=2.4
DZM LR LR 08 34 17.5
comp=Z,222nm,19.9s,MS4.3,baz=211,slow=30
TOO Toolangi 62.72 157 *e*P **P 08 13 10.3 +1.2**
comp=Z,10nm,1.1s,mb4.9
TOO *es*P sP 08 13 18.5 +1.4
TOO Toolangi 62.72 157 *e*P **P 08 13 10.3 +1.2**
TOO *e**SP sP 08 13 18.5 +1.4
TOO pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
GNI Garni 65.97 306 *e*P **P 08 13 30.8 +0.4**
GNI pmax pmax
comp=Z,21nm,1.5s
GNI MLR MLR
comp=Z,200nm,25.0s
KIV Kislovodsk 67.01 310 *e*P **P 08 13 37.1 0.0**
KIV *e* 08 14 04.2
KIV *e*PPP 08 17 42.9
KIV *e*S S 08 22 28.4 -1.3
KIV pmax pmax
comp=Z,19nm,0.6s,mb5.3
KIV MLR MLR
comp=Z,434nm,15.0s,MS4.8
KIV Kislovodsk 67.01 310 *e*P **P 08 13 37.1 +0.1**
comp=Z,23nm,0.8s,mb5.3
VRSR Storozhevoje 68.50 318 *e*P **P 08 13 46.1 -0.4**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=E,20nm,0.9s
MOS Moscow 68.94 323 *e*P **P 08 13 55.5 +6.3**
MOS pmax pmax
comp=Z,59nm,0.9s,mb5.5
OBN Obninsk 69.60 322⇑ *e*P **P 08 13 52.9 -0.4**
OBN *e* 08 14 02.5
OBN *e* 08 14 07.5
OBN 08 14 14.0
OBN pmax pmax
comp=Z,75nm,2.4s,mb5.2
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
IMA2 Indian Mountai 69.74 26 *e*P **P 08 13 55.0 +0.9**
APA Apatity 69.79 336⇓ *i*P **P 08 13 54.0 -0.4**
APA *i* 08 14 13.6
APA pmax pmax
comp=Z,13nm,0.7s,mb5.0
ANN Anapa 70.60 312 *e*P **P 08 13 54.2 -5.3**
ANN *e*S S 08 23 06.9 -5.5
ANN pmax pmax
comp=Z,137nm,1.7s,mb5.6
MALT Malatya 71.11 305⇓ *i*P **P 08 14 03.7 +1.2**
MALT Malatya 71.11 305 *e*P **P 08 14 03.6 +1.1**
MALT pmax pmax
comp=Z,26nm,1.4s,mb5.0
MALT Malatya 71.11 305 *e*P **P 08 14 03.6 +1.1**
comp=Z,26nm,1.4s,mb5.0
MCK McKinley 72.06 28 *e*P **P 08 14 09.6 +1.3**
MCK pmax pmax
comp=Z,16nm,1.3s,mb4.8
MCK McKinley 72.06 28 *e*P **P 08 14 09.6 +1.3**
comp=Z,16nm,1.3s,mb4.8
COLA College 72.32 27 *e*P **P 08 14 09.9 +0.1**
COLA College 72.32 27 *e*P **P 08 14 10.7 +0.9**
ARCES ARCESS Array B 72.37 338 P **P 08 14 09.0 -1.1**
comp=Z,7.8nm,0.8s,mb4.7,baz=76,slow=6.7,SNR=9.0
ARCES ARCESS Array B 72.37 338 P **P 08 14 09.0 -1.1**
ARCES pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 72.37 338 P **P 08 14 09.0 -1.1**
PMR Palmer 72.37 30 *e*P **P 08 14 09.9 -0.2**
PMR pmax pmax
comp=Z,19nm,1.0s,mb5.0
PMR Palmer 72.37 30 *e*P **P 08 14 09.9 -0.2**
comp=Z,19nm,1.0s,mb5.0
FINES FINESS Array B 73.92 330 P **P 08 14 18.4 -0.9**
comp=Z,9.5nm,0.7s,mb4.8,baz=51,slow=8.2,SNR=25
FINES LR LR 08 48 50.6
comp=Z,286nm,18.4s,MS4.6,baz=34,slow=38
FINES FINESS Array B 73.92 330 P **P 08 14 18.4 -0.9**
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES MLR MLR
comp=Z,286nm,18.5s
DIV Divide 74.05 30 *e*P **P 08 14 22.6 +2.6**
MENT Mentasta 74.53 28 *e*P **P 08 14 25.4 +2.5**
AKASG Malin Array Be 74.79 319 P **P 08 14 23.6 -0.7**
comp=Z,7.1nm,0.8s,mb4.7,baz=62,slow=5.7,SNR=12
AKASG Malin Array Be 74.79 319 P **P 08 14 23.6 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 74.80 319 *e*P **P 08 14 23.3 -1.1**
KIEV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIEV Kiev 74.80 319 *e*P **P 08 14 23.3 -1.1**
comp=Z,12nm,1.0s,mb4.8
EGAK Eagle 75.12 26 *e*P **P 08 14 25.7 -0.6**
comp=Z,7.6nm,0.9s,mb4.6
DAWY Dawson 76.07 26 *e*P **P 08 14 31.4 -0.3**
INK Inuvik 76.80 21 *e*P **P 08 14 34.9 -0.9**
comp=Z,354nm,1.1s,mb6.2
SUW Suwalki 77.44 323 *e*P **P 08 14 39.3 -0.1**
VRI Vrincioaia 77.69 314⇓ *i*P **P 08 14 42.0 +1.2**
VRI Vrincioaia 77.69 314⇓ P **P 08 14 42.0 +1.2**
BURAR Bucovina Array 78.16 316⇓ *i*P **P 08 14 44.2 +0.7**
BURAR Bucovina Array 78.16 316⇓ P **P 08 14 44.2 +0.8**
MLR Muntele Rosu 78.33 314⇑ *i*P **P 08 14 45.9 +1.5**
MLR Muntele Rosu 78.33 314⇑ P **P 08 14 45.9 +1.5**
KWP Kalwaria 79.11 319 *e*P **P 08 14 49.3 +0.6**
RPZ Rata Peaks 79.32 145 P **P 08 14 50.0 +0.2**
comp=Z,5.7nm,0.6s,mb4.7,baz=330,slow=12,SNR=3.2
KOLS Kolonicke sedl 79.61 318 *e*P **P 08 14 51.3 -0.1**
DRGR 80.05 316⇓ *i*P **P 08 14 54.8 +1.0**
DRGR 80.05 316⇓ P **P 08 14 54.8 +1.0**
STHS Stebnicka Huta 80.08 319 *e*P **P 08 14 51.8 -2.1**
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
STHS Stebnicka Huta 80.08 319 *e*P **P 08 14 51.8 -2.1**
comp=Z,4.2nm,1.0s,mb4.3
OJC Ojcow 80.67 320 *e*P **P 08 14 57.2 +0.1**
NB2 NORSAR Subarra 80.80 332 P **P 08 14 56.6 -1.2**
comp=Z,3.3nm,0.7s,mb4.4,baz=62,slow=5.6
NOA NORSAR Array B 80.80 332 P **P 08 14 56.2 -1.6**
comp=Z,6.0nm,0.8s,mb4.6,baz=64,slow=5.3,SNR=13
NOA LR LR 08 53 52.7
comp=Z,520nm,18.8s,MS4.9,baz=55,slow=38
NOA NORSAR Array B 80.80 332 P **P 08 14 56.2 -1.6**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,520nm,18.8s
NOA NORSAR Array B 80.80 332 P **P 08 14 56.2 -1.6**
NOA LR LR 08 53 52.7
KECS Kecovo 80.88 318 *e*P **P 08 14 57.0 -1.2**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
comp=Z,0.8nm,0.7s,baz=22,slow=1.9,SNR=4.8
TXAR Lajitas Array 114.76 42 PKiKP PKiKP 08 21 22.6 -2.1
comp=Z,1.1nm,0.9s,baz=250,slow=1.6,SNR=8.3
TXAR Lajitas Array 114.76 42 *i* PKIKP PKiKP 08 21 22.6 -2.1
TXAR pmax pmax
comp=Z,1.0nm,0.9s
ROSC El Rosal 150.90 31 PKP PKPdf 08 22 31.6 +0.5
comp=Z,3.0nm,0.7s,baz=92,slow=23,SNR=6.3
ROSC PKPbc PKPbc 08 22 39.1 +2.3
comp=Z,13nm,0.9s,baz=125,slow=4.9,SNR=14
OTAV Otavalo 152.38 43 *e*PKPdf PKPdf 08 22 34.6 +1.3
LPAZ La Paz 171.04 62 PKP PKPdf 08 22 53.8 +1.3
comp=Z,3.4nm,1.1s,baz=8.9,slow=3.4,SNR=9.9
LPAZ La Paz 171.04 62 PKIKP PKPdf 08 22 53.8 +1.4
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ La Paz 171.04 62 *e*PKPdf PKPdf 08 22 54.5 +2.1

IDC 13 08:13:05.2±9.9, 636S×15094E, h73km±65km, mb3.7/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML2.3/1, Error ellipse: s-maj=73.4km s-min=61.6km az=11.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**231**	P			Pn	08 14 15.4	+0.2
	0.8nm,0.3s,baz=290,slow=9.6,SNR=3.1								
PMG				S			Sn	08 15 10.6	+1.0
	1.1nm,0.3s,baz=160,slow=22,SNR=3.9								
WRA	**Warramunga Arr**	**21.03**	**229**	P			P	08 17 42.7	-0.2
	1.6nm,0.7s,baz=54,slow=10,SNR=4.6								
ASAR	**Alice Springs**	**23.76**	**222**	P			P	08 18 10.8	0.0
	2.0nm,0.6s,baz=56,slow=8.6,SNR=19								
STKA	**Stephens Creek**	**26.85**	**198**	P			P	08 18 39.0	+0.2
	3.2nm,0.7s,baz=29,slow=13,SNR=4.9								
FITZ	**Fitzroy Crossi**	**27.30**	**242**	P			P	08 18 43.7	+0.9
	2.7nm,0.7s,baz=56,slow=8.1,SNR=7.1								

ISCJB ***13*** *08:17:28.7±5.4, 66S±03×1510E±03, h91km±35km, mb3.8/3, Error ellipse: s-maj=55.5km s-min=43.6km az=136.6*
IDC ***13*** *08:17:32.0±8.1, 674S×15098E, h94km±56km, mb3.7/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.6/5, ML2.4/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/28, Error ellipse: s-maj=58.6km s-min=48.1km az=73.0*

ISC 13 08:17:29.5±5.3, 65S±03×1510E±03, h85km±34km, n10, σ0s40/10, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**233**	P			**Pn**	**08 18 39.1**	**+0.1**
	1.4nm,0.3s,baz=340,slow=12,SNR=3.1								
PMG				S			**Sn**	**08 19 33.2**	**+0.1**
	2.8nm,0.3s,baz=311,slow=19,SNR=4.5								
KAKA	**Kakadu**	**19.32**	**250**	*e*P			**Pn**	**08 21 49.3**	**-0.4**
	3.5nm,0.6s								
WB2	**Warramunga Arr**	**20.97**	**229**	*e*P			**P**	**08 22 05.0**	**-0.6**
WRA	**Warramunga Arr**	**20.98**	**229**	P			**P**	**08 22 05.6**	**-0.2**
	1.5nm,0.5s,baz=52,slow=9.9,SNR=21								
ASAR	**Alice Springs**	**23.69**	**222**	P			**P**	**08 22 33.7**	**+0.4**
	2.3nm,0.6s,mb3.7,baz=56,slow=8.6,SNR=47								
STKA	**Stephens Creek**	**26.71**	**198**	*e*P			**P**	**08 23 00.9**	**+0.2**
	4.5nm,1.4s,mb3.8								
STKA	**Stephens Creek**	**26.71**	**198**	P			**P**	**08 23 00.3**	**-0.4**
	2.9nm,0.6s,mb4.0,baz=23,slow=7.7,SNR=8.1								
FITZ	**Fitzroy Crossi**	**27.30**	**243**	*e*P			**P**	**08 23 06.6**	**+0.7**
	3.6nm,0.6s,mb4.1								
FITZ	**Fitzroy Crossi**	**27.30**	**243**	P			**P**	**08 23 06.6**	**+0.6**
	1.6nm,0.5s,mb3.8,baz=56,slow=9.7,SNR=9.5								
TORD	**Torodi Ar. Bea**	**149.10**	**285**	PKPbc			PKPbc	08 37 10.4	+2.6
	0.5nm,0.7s,baz=46,slow=3.2,SNR=3.2								

IDC 13 08:24:54.2±12.0, 590S×15136E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=196.6km s-min=73.3km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**228**	P			P	08 29 45.9	-0.2
	0.6nm,0.6s,baz=53,slow=10,SNR=6.8								
ASAR	**Alice Springs**	**24.38**	**222**	P			P	08 30 13.9	+0.1
	0.7nm,0.6s,baz=55,slow=8.3,SNR=15								
STKA	**Stephens Creek**	**27.41**	**198**	P			P	08 30 41.3	-0.1
	1.5nm,0.7s,baz=25,slow=12,SNR=3.0								
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P			P	08 30 46.8	+1.2
	1.2nm,0.8s,baz=72,slow=9.1,SNR=2.8								

IDC 13 08:36:49.9±9.3, 687S×15074E, h136km±53km, mb3.2/4, mb1 3.3/5, mb1mx3.1/15, mbtmp3.1/5, Error ellipse: s-maj=79.8km s-min=55.8km az=30.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.35**	**234**	P			Pn	08 37 54.3	-0.1
	1.0nm,0.3s,baz=128,slow=23,SNR=2.6								
PMG				S			Sn	08 38 45.5	+1.0
	0.8nm,0.3s,baz=306,slow=22,SNR=2.8								
WRA	**Warramunga Arr**	**20.55**	**229**	P			P	08 41 17.2	-0.5
	0.3nm,0.4s,baz=54,slow=10,SNR=4.9								
ASAR	**Alice Springs**	**23.25**	**222**	P			P	08 41 44.9	-0.3
	0.5nm,0.4s,baz=56,slow=8.7,SNR=12								
STKA	**Stephens Creek**	**26.31**	**198**	P			P	08 42 13.3	+0.5
	3.3nm,1.0s,baz=26,slow=11,SNR=6.4								
FITZ	**Fitzroy Crossi**	**26.89**	**243**	P			P	08 42 18.9	+0.9
	0.9nm,0.7s,baz=65,slow=9.1,SNR=3.5								

CSEM ***13*** *08:46:53.4, 6787N×20.17E, h0km, ML3.2, Suspected Mining explosion. After UPP*
UPP ***13*** *08:46:53.4, 6787N×20.17E, h0km, ML3.2, Suspected Mining explosion.*

HEL 13 08:46:53.9±0.1, 6788N×2019E, h0km, ML1.7, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**37**	*i* P			Pg	08 46 55.7	+0.1
NIKU	**Nikkaluokta**	**0.44**	**269**	*i* P			Pg	08 47 01.6	-0.7
LANU	**Lannavaara**	**0.70**	**75**	*i* P			Pg	08 47 07.2	-0.1
DUNU	**Dundret**	**0.78**	**169**	*i* P			Pg	08 47 07.7	-1.1
DUNU	**Dundret**	**0.78**	**169**	P			Pg	08 47 07.7	-1.1
	baz=73								
MASU	**Masugnsbyn**	**0.81**	**121**	*i* P			Pg	08 47 08.3	-1.2
SALU	**Saltoluokta**	**0.82**	**233**	*i* P			Pg	08 47 08.9	-0.7
KIF	**Kilpisjarvi**	**1.15**	**11**	*e*PN			Pn	08 47 16.7	-0.5
KIF				*e*SN			Sn	08 47 34.4	+0.7
PAJU	**Pajala**	**1.42**	**126**	*e*P			Pn	08 47 18.8	-2.1
HARU	**Harads**	**1.75**	**170**	*e*P			Pn	08 47 25.1	-0.4
SGF	**Sodankyl**	**2.46**	**97**	*e*PB			Pb	08 47 36.7	-2.2
SGF				*e*SB			Sb	08 48 07.5	-2.3
KEV	**Kevo**	**3.11**	**50**	*e*SB			Sb	08 48 24.8	-3.7

IDC ***13*** *08:53:56.1±0.5, 1244S×1473W, h0km, mb4.5/22, mb1 4.6/22, mb1mx4.5/24, mbtmp4.5/22, MS4.5/16, Ms1 4.5/16, ms1mx4.4/19, Error ellipse: s-maj=15.2km s-min=13.2km az=7.0*
BJI ***13*** *08:53:56.6, 1225S×1471W, h10km, mB5.7, Ms5.3, Msz4.8*
ISCJB ***13*** *08:53:56.2±0.3, 1243S±0.05×1476W±0.06, h10km, mb5.1/95, MS4.7/23, Error ellipse: s-maj=8.2km s-min=6.7km az=60.6*
NEIC ***13*** *08:53:57.8±0.2, 1251S×1477W, h10km, mb5.3/67, Error ellipse: s-maj=6.1km s-min=4.9km az=117.0*
GCMT ***13*** *08:53:57.8±0.2, 1254S×1470W, h12km, MW5.2/85, Moment Tensor Solution. s36,c42; s85,c142; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.80±.02; $M_{\theta\theta}$0.06±.02; $M_{\phi\phi}$0.74±.02; $M_{r\theta}$0.03±.07; $M_{\phi\phi}$-0.21±.01; $M_{\phi r}$-0.15±.06; Best double couple: M0.81800×10^{17} NP1:ϕs163.00000°, δ40.00000°, λ-91.00000°. NP2: ϕs345.00000°, δ50.00000°, λ-89.00000°. Principal axes: T 0.8180, Plg5.0000°, Azm74.0000°; N 0.0010, Plg1.0000°, Azm164.0000°; P -0.8190, Plg85.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***13*** *08:53:59.5±0.8, 1245S×1480W, h10km, mb5.5/46 Error*

ellipse: s-maj=13.4km s-min=5.2km az=72.2
SZGRF ***13*** *08:54:12.2, 11.13S×13.36W, h33km, mb5.6, MS4.7,*
Ascension Island region
ISC 13 08:53:58.2×0.3, **1246S**×0.05×**1476W**×0.06, **h10**km, **(h24**km± 1.8km**:pP-P), n250**, ×0°**80**/231, **mb5.1**/95, **MS4.7**/23, **6C-5D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIC	**Lamto**	**20.93**	**28**	*eP*		**P**	**08 58 40.4**	**-0.6**
	136nm,1.2s							
LIC				*eR*				
	3μm,19.2s							
LIC	**Lamto**	**20.93**	**28**	*eP*		**P**	**08 58 40.4**	**-0.6**
	68nm,1.2s							
TORD	**Torodi Ar. Bea**	**30.22**	**33**	P		**P**	**09 00 07.4**	**-1.6**
	3.2nm,0.6s,mb4.2,baz=214,slow=9.0,SNR=18							
TORD				LR		LR	09 10 27.3	
	comp=Z,2μm,19.4s,MS4.8,baz=230,slow=33							
TSUM	**Tsumeb**	**31.79**	**106**	*eP*		**P**	**09 00 23.2**	**+0.4**
	60nm,1.8s,mb5.1							
SUR	**Sutherland**	**38.14**	**127**	P		**P**	**09 01 17.8**	**+0.3**
	13nm,0.8s,mb4.7,baz=243,slow=6.8,SNR=5.6							
LBTB	**Lobatse**	**40.05**	**114**	P		**P**	**09 01 33.0**	**-0.5**
	2.5nm,0.7s,mb4.1,baz=282,slow=11,SNR=4.7							
LBTB	**Lobatse**	**40.05**	**114**	P		**P**	**09 01 33.0**	**-0.5**
LBTB				pmax		pmax		
	comp=Z,30nm,0.7s,mb5.1							
LBTB	**Lobatse**	**40.05**	**114**	*eP*		**P**	**09 01 33.9**	**+0.4**
	comp=Z,49nm,1.6s,mb5.0							
BOSA	**Boshof**	**40.55**	**120**	P		**P**	**09 01 37.1**	**-0.6**
	comp=Z,9.6nm,0.8s,mb4.5,baz=279,slow=8.8,SNR=15							
BOSA				LR		LR	09 15 34.9	
	comp=Z,1μm,19.5s,MS4.8,baz=285,slow=32							
BOSA	**Boshof**	**40.55**	**120**	*eP*		**P**	**09 01 36.9**	**-0.7**
BOSA				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.5							
BOSA	**Boshof**	**40.55**	**120**	*eP*		**P**	**09 01 36.9**	**-0.7**
	comp=Z,9.0nm,0.7s,mb4.5							
LSZ	**Lusaka**	**41.74**	**99**	P		**P**	**09 01 47.8**	**+0.4**
	comp=Z,11nm,1.0s,mb4.5,baz=265,slow=5.6,SNR=16							
LSZ	**Lusaka**	**41.74**	**99**	P		**P**	**09 01 47.8**	**+0.3**
LSZ				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.4							
LSZ	**Lusaka**	**41.74**	**99**	*eP*		**P**	**09 01 48.5**	**+1.1**
	comp=Z,29nm,1.1s,mb4.8							
MATP	**Matopo**	**42.13**	**107**	P		**P**	**09 01 50.1**	**-0.6**
	comp=Z,13nm,0.7s,mb4.7,baz=270,slow=9.0,SNR=28							
SIV	**San Ignacio**	**44.97**	**260**	P		**P**	**09 02 13.8**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.1,baz=96,slow=13,SNR=14							
TRQA	**Tornquist**	**49.06**	**230**	*eP*		**P**	**09 02 45.4**	**-0.1**
	comp=Z,18nm,0.9s,mb5.1							
EJIF	**Jimena Fronter**	**49.43**	**10**	P		**P**	**09 02 48.5**	**+0.2**
EJIF				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8							
EJIF	**Jimena Fronter**	**49.43**	**10**	P		**P**	**09 02 48.5**	**+0.2**
	comp=Z,6.6nm,0.7s,mb4.8							
EMIJ	**Mijas**	**49.66**	**11**	P		**P**	**09 02 48.1**	**-1.9**
	comp=Z,21nm,0.9s,mb5.2							
ESPR	**Espera**	**49.77**	**9**	P		**P**	**09 02 50.8**	**-0.2**
	comp=Z,94nm,1.9s,mb5.5							
EGRO	**El Granado**	**50.20**	**8**	P		**P**	**09 02 53.1**	**-1.0**
	comp=Z,87nm,2.5s,mb5.3							
EBER	**Berja**	**50.35**	**12**	P		**P**	**09 02 55.6**	**+0.3**
	comp=Z,18nm,0.8s,mb5.1							
EMIN	**Mina Concepcio**	**50.53**	**8**	P		**P**	**09 02 56.8**	**+0.1**
	comp=Z,278nm,3.0s							
ENIJ	**Nijar**	**50.57**	**13**	P		**P**	**09 02 58.7**	**+1.7**
ENIJ				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
ENIJ	**Nijar**	**50.57**	**13**	P		**P**	**09 02 58.7**	**+1.7**
	comp=Z,22nm,1.0s,mb5.0							
ECOG	**Cogollos-Vega**	**50.58**	**12**	P		**P**	**09 02 57.5**	**+0.5**
ECOG				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
ECOG	**Cogollos-Vega**	**50.58**	**12**	P		**P**	**09 02 57.5**	**+0.4**
	comp=Z,9.6nm,0.8s,mb4.8							
ELUQ	**Luque**	**50.72**	**11**	P		**P**	**09 02 58.9**	**+0.8**
	comp=Z,0.3nm,0.6s							
EVO	**Evora**	**51.12**	**7**	*eP*		**P**	**09 03 00.8**	**-0.3**
	comp=Z,128nm,1.6s,mb5.3							
EVO				*eR*				
	comp=Z,338nm,20.2s							
EADA	**Adamuz**	**51.26**	**10**	P		**P**	**09 03 01.5**	**-0.7**
	comp=Z,88nm,1.4s,mb5.5							
EBAD	**Badajoz**	**51.46**	**8**	P		**P**	**09 03 03.4**	**-0.3**
	comp=Z,137nm,2.1s,mb5.5							
LPAZ	**La Paz**	**51.73**	**259**	P		**P**	**09 03 06.0**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.4,baz=104,slow=6.1,SNR=17							
LPAZ				LR		LR	09 25 31.0	
	comp=Z,451nm,19.6s,MS4.5,baz=254,slow=37							
LPAZ	**La Paz**	**51.73**	**259**	*eP*		**P**	**09 03 05.9**	**+0.2**
LPAZ				pmax		pmax		
	comp=Z,12nm,0.9s							
LPAZ	**La Paz**	**51.73**	**259**	*eP*		**P**	**09 03 05.9**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8							
ETOB	**Tobarra**	**52.32**	**13**	P		**P**	**09 03 10.0**	**-0.1**
	comp=Z,293nm,2.6s,mb5.8							
LVC	**Limon Verde**	**52.38**	**251**	P		**P**	**09 03 12.7**	**+2.2**
	comp=Z,5.4nm,0.8s,mb4.5,baz=87,slow=4.6,SNR=4.2							
LVC	**Limon Verde**	**52.38**	**251**	*eP*		**P**	**09 03 12.2**	**+1.7**
	comp=Z,5.8nm,0.8s,mb4.6							
PAB	**San Pablo**	**52.64**	**10**	*eP*		**P**	**09 03 14.2**	**+1.8**
PAB				pmax		pmax		
	comp=Z,45nm,1.8s,mb5.1							
PAB	**San Pablo**	**52.64**	**10**	*eP*		**P**	**09 03 14.2**	**+1.8**
	comp=Z,45nm,1.8s,mb5.1							
KMBO	**Kilima Mbogo**	**52.75**	**82**	P		**P**	**09 03 15.0**	**+1.7**
	comp=Z,3.7nm,1.0s,mb4.3,baz=252,slow=16,SNR=12							
KMBO				LR		LR	09 22 45.3	
	comp=Z,891nm,21.1s,MS4.8,baz=273,slow=33							
KMBO	**Kilima Mbogo**	**52.75**	**82**	*eP*		**P**	**09 03 15.6**	**+2.3**
	comp=Z,70nm,2.0s,mb5.2							
ESDC	**Sonseca Array**	**52.83**	**10**	P		**P**	**09 03 13.6**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=176,slow=4.5,SNR=5.6							
ESDC				LR		LR	09 27 10.5	
	comp=Z,183nm,20.0s,MS4.1,baz=355,slow=38							
ESDC	**Sonseca Array**	**52.83**	**10**	P		**P**	**09 03 14.3**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.4							
KEST	**Kesra**	**53.08**	**25**	P		**P**	**09 03 15.2**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.4,baz=102,slow=2.2,SNR=5.5							
KEST				LR		LR	09 25 10.7	
	comp=Z,402nm,19.0s,MS4.5,baz=4.9,slow=35							
ARE	**Arequipa**	**54.94**	**259**	*eP*		**P**	**09 03 29.0**	**-0.3**
SJPF	**Ste Jean**	**56.67**	**12**	*eP*		**P**	**09 03 42.1**	**+0.4**
	comp=Z,41nm,1.2s,mb5.0							
SJPF	**Ste Jean**	**56.67**	**12**	*eP*		**P**	**09 03 42.1**	**+0.4**
SJPF				pmax		pmax		
	comp=Z,20nm,1.2s,mb5.0							
SJPF	**Ste Jean**	**56.67**	**12**	*eP*		**P**	**09 03 42.1**	**+0.4**
	comp=Z,20nm,1.2s,mb5.0							
EPF	**Esparros**	**56.92**	**13**	*eP*		**P**	**09 03 43.9**	**+0.4**
	comp=Z,146nm,1.8s,mb5.4							
EPF	**Esparros**	**56.92**	**13**	*eP*		**P**	**09 03 43.9**	**+0.4**
EPF				pmax		pmax		
	comp=Z,73nm,1.8s,mb5.4							
EPF	**Esparros**	**56.92**	**13**	*eP*		**P**	**09 03 43.9**	**+0.4**
	comp=Z,73nm,1.8s,mb5.4							
MTLF	**Montolieu**	**57.66**	**15**	*eP*		**P**	**09 03 48.2**	**-0.5**
	comp=Z,103nm,1.6s,mb5.3							
MTLF	**Montolieu**	**57.66**	**15**	*eP*		**P**	**09 03 48.2**	**-0.5**
MTLF				pmax		pmax		
	comp=Z,52nm,1.6s,mb5.3							
MTLF	**Montolieu**	**57.66**	**15**	*eP*		**P**	**09 03 48.2**	**-0.5**
	comp=Z,52nm,1.6s,mb5.3							
VNA2	**Neumayer--Watz**	**58.60**	**177**	*eP*		**P**	**09 04 01.0**	**+5.7**
VNA2				*e*		pP	09 04 05.7	+7.2
VNA2				*e*			09 04 13.7	
VNA2				*e*			09 04 26.2	
VNA2				*e*			09 04 42.0	
LASF	**Ste Croix**	**58.76**	**16**	*eP*		**P**	**09 03 55.9**	**-0.5**
	comp=Z,279nm,1.9s,mb5.7							
LFF	**La Frestale**	**58.83**	**13**	*eP*		**P**	**09 03 56.9**	**0.0**
LMR	**La Mourre**	**58.83**	**18**	*eP*		**P**	**09 03 56.6**	**-0.3**
	comp=Z,126nm,1.5s,mb5.4							
LMR	**La Mourre**	**58.83**	**18**	*eP*		**P**	**09 03 56.6**	**-0.3**
LMR				pmax		pmax		
	comp=Z,63nm,1.5s,mb5.4							
LMR	**La Mourre**	**58.83**	**18**	*eP*		**P**	**09 03 56.6**	**-0.3**
	comp=Z,63nm,1.5s,mb5.4							
HUMP	**Col San Antoni**	**58.87**	**300**	*eP*		**P**	**09 03 58.1**	**+0.9**
FRF	**La Foret Royal**	**59.08**	**18**	*eP*		**P**	**09 03 58.0**	**-0.6**
RJF	**Les Rejaudoux**	**59.35**	**13**	*eP*		**P**	**09 04 00.3**	**-0.2**
	comp=Z,174nm,1.9s,mb5.5							
RJF				*eR*				
	comp=Z,475nm,19.0s							
RJF	**Les Rejaudoux**	**59.35**	**13**	*eP*		**P**	**09 04 00.3**	**-0.2**
RJF				pmax		pmax		
	comp=Z,87nm,1.9s,mb5.5							
RJF	**Les Rejaudoux**	**59.35**	**13**	*eP*		**P**	**09 04 00.3**	**-0.2**
	comp=Z,87nm,1.9s,mb5.5							
SBF	**Sospel**	**59.59**	**18**	*eP*		**P**	**09 04 01.9**	**-0.3**
SNAA	**Sanae**	**59.62**	**176**	P		**P**	**09 04 01.3**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.2,baz=346,slow=7.0,SNR=6.9							
SNAA	**Sanae**	**59.62**	**176**	*eP*		**P**	**09 04 01.1**	**-1.3**
SNAA				*e*			09 04 07.8	
SNAA				*e*			09 04 14.7	
SNAA	**Sanae**	**59.62**	**176**	*eP*		**P**	**09 04 00.9**	**-1.5**
SNAA	**Sanae**	**59.62**	**176**	*eP*		**P**	**09 04 01.2**	**-1.1**
	comp=Z,18nm,1.0s,mb5.0							
VIVF	**Saint-Julien-l**	**59.70**	**16**	*eP*		**P**	**09 04 03.0**	**0.0**
	comp=Z,128nm,1.8s,mb5.3							
VIVF	**Saint-Julien-l**	**59.70**	**16**	*eP*		**P**	**09 04 03.0**	**0.0**
VIVF				pmax		pmax		
	comp=Z,64nm,1.8s,mb5.3							
VIVF	**Saint-Julien-l**	**59.70**	**16**	*eP*		**P**	**09 04 03.0**	**0.0**
	comp=Z,64nm,1.8s,mb5.3							
ORIF	**Oris-en-Rattie**	**60.09**	**17**	*eP*		**P**	**09 04 06.2**	**+0.6**
	comp=Z,82nm,1.5s,mb5.2							
ORIF				*eR*				
	comp=Z,1μm,20.2s							
ORIF	**Oris-en-Rattie**	**60.09**	**17**	*eP*		**P**	**09 04 06.2**	**+0.6**
ORIF				pmax		pmax		
	comp=Z,41nm,1.5s,mb5.2							
ORIF	**Oris-en-Rattie**	**60.09**	**17**	*eP*		**P**	**09 04 06.2**	**+0.6**
	comp=Z,41nm,1.5s,mb5.2							
MBDF	**Montbardon**	**60.18**	**18**	*eP*		**P**	**09 04 07.0**	**+0.8**
	comp=Z,87nm,1.4s,mb5.3							
MBDF	**Montbardon**	**60.18**	**18**	*eP*		**P**	**09 04 07.0**	**+0.8**
MBDF				pmax		pmax		
	comp=Z,43nm,1.4s,mb5.3							
MBDF	**Montbardon**	**60.18**	**18**	*eP*		**P**	**09 04 07.0**	**+0.8**
	comp=Z,44nm,1.4s,mb5.3							
MFF	**Saint Martin d**	**60.24**	**12**	*eP*		**P**	**09 04 06.5**	**-0.1**
	comp=Z,113nm,1.5s,mb5.4							
MFF	**Saint Martin d**	**60.24**	**12**	*eP*		**P**	**09 04 06.5**	**-0.1**
MFF				pmax		pmax		
	comp=Z,57nm,1.5s,mb5.4							
MFF	**Saint Martin d**	**60.24**	**12**	*eP*		**P**	**09 04 06.5**	**-0.1**
	comp=Z,57nm,1.5s,mb5.4							
TCF	**Toulx Ste Croi**	**60.44**	**13**	*eP*		**P**	**09 04 08.0**	**0.0**
	comp=Z,146nm,1.7s,mb5.4							
TCF	**Toulx Ste Croi**	**60.44**	**13**	*eP*		**P**	**09 04 08.0**	**0.0**
TCF				pmax		pmax		
	comp=Z,73nm,1.7s,mb5.4							
TCF	**Toulx Ste Croi**	**60.44**	**13**	*eP*		**P**	**09 04 08.0**	**0.0**
	comp=Z,73nm,1.7s,mb5.4							
BGF	**Bois d'Agland**	**60.84**	**14**	*eP*		**P**	**09 04 10.8**	**+0.1**
LPG	**La Plagne**	**60.87**	**17**	*eP*		**P**	**09 04 11.6**	**+0.7**
	comp=Z,83nm,1.4s,mb5.4							
LPG	**La Plagne**	**60.87**	**17**	*eP*		**P**	**09 04 11.6**	**+0.7**
LPG				pmax		pmax		
	comp=Z,42nm,1.4s,mb5.4							
LPG	**La Plagne**	**60.87**	**17**	*eP*		**P**	**09 04 11.6**	**+0.7**
	comp=Z,42nm,1.4s,mb5.4							
LPL	**La Plagne**	**60.88**	**17**	*eP*		**P**	**09 04 11.5**	**+0.5**
	comp=Z,76nm,1.3s,mb5.3							
LPL	**La Plagne**	**60.88**	**17**	*eP*		**P**	**09 04 11.5**	**+0.5**
LPL				pmax		pmax		
	comp=Z,38nm,1.3s,mb5.4							
LPL	**La Plagne**	**60.88**	**17**	*eP*		**P**	**09 04 11.5**	**+0.5**
	comp=Z,38nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**61.16**	**15**	*eP*		**P**	**09 04 12.5**	**-0.4**
	comp=Z,143nm,1.8s,mb5.5							
SMF	**Signal de Mont**	**61.16**	**15**	*eP*		**P**	**09 04 12.5**	**-0.4**
SMF				pmax		pmax		
	comp=Z,71nm,1.8s,mb5.5							
SMF	**Signal de Mont**	**61.16**	**15**	*eP*		**P**	**09 04 12.5**	**-0.4**
	comp=Z,71nm,1.8s,mb5.5							
AVF	**Avril sur Loir**	**61.17**	**14**	*eP*		**P**	**09 04 12.9**	**-0.1**
	comp=Z,131nm,1.8s,mb5.5							
AVF	**Avril sur Loir**	**61.17**	**14**	*eP*		**P**	**09 04 12.9**	**-0.1**
AVF				pmax		pmax		
	comp=Z,66nm,1.8s,mb5.5							
AVF	**Avril sur Loir**	**61.17**	**14**	*eP*		**P**	**09 04 12.9**	**-0.1**
	comp=Z,66nm,1.8s,mb5.5							
SGMF	**Saint Gilles**	**61.41**	**9**	*eP*		**P**	**09 04 13.9**	**-0.7**
SSF	**Saint Saulge**	**61.47**	**14**	*eP*		**P**	**09 04 14.7**	**-0.3**
	comp=Z,88nm,1.5s,mb5.4							
SSF	**Saint Saulge**	**61.47**	**14**	*eP*		**P**	**09 04 14.7**	**-0.3**
SSF				pmax		pmax		
	comp=Z,44nm,1.5s,mb5.4							
SSF	**Saint Saulge**	**61.47**	**14**	*eP*		**P**	**09 04 14.7**	**-0.3**
	comp=Z,44nm,1.5s,mb5.4							
ROSC	**El Rosal**	**61.65**	**282**	P		**P**	**09 04 17.5**	**+1.3**
	comp=Z,3.8nm,0.6s,mb4.7,baz=71,slow=20,SNR=13							
CABF	**La Chapelle**	**61.71**	**16**	*eP*		**P**	**09 04 16.2**	**-0.4**
	comp=Z,195nm,1.8s,mb5.6							
CABF	**La Chapelle**	**61.71**	**16**	*eP*		**P**	**09 04 16.2**	**-0.4**
CABF				pmax		pmax		
	comp=Z,98nm,1.8s,mb5.6							
CABF	**La Chapelle**	**61.71**	**16**	*eP*		**P**	**09 04 16.2**	**-0.4**
	comp=Z,98nm,1.8s,mb5.6							
LOR	**Lormes**	**61.74**	**14**	*eP*		**P**	**09 04 16.5**	**-0.3**
	comp=Z,119nm,1.8s,mb5.4							
LOR				*eR*				
	comp=Z,825nm,19.8s							
LOR	**Lormes**	**61.74**	**14**	*eP*		**P**	**09 04 16.5**	**-0.3**
LOR				pmax		pmax		
	comp=Z,59nm,1.8s,mb5.4							
LOR	**Lormes**	**61.74**	**14**	*eP*		**P**	**09 04 16.5**	**-0.3**
	comp=Z,59nm,1.8s,mb5.4							
GRR	**Gorron**	**61.82**	**10**	*eP*		**P**	**09 04 17.0**	**-0.4**
	comp=Z,142nm,1.6s,mb5.6							
GRR	**Gorron**	**61.82**	**10**	*eP*		**P**	**09 04 17.0**	**-0.4**
GRR				pmax		pmax		
	comp=Z,71nm,1.6s,mb5.5							
GRR	**Gorron**	**61.82**	**10**	*eP*		**P**	**09 04 17.0**	**-0.4**
	comp=Z,71nm,1.6s,mb5.5							
LDF	**La Druitiere**	**62.15**	**11**	*eP*		**P**	**09 04 19.4**	**-0.2**
	comp=Z,209nm,1.8s,mb5.7							
LDF	**La Druitiere**	**62.15**	**11**	*eP*		**P**	**09 04 19.4**	**-0.2**
LDF				pmax		pmax		
	comp=Z,104nm,1.8s,mb5.7							
LDF	**La Druitiere**	**62.15**	**11**	*eP*		**P**	**09 04 19.4**	**-0.2**
	comp=Z,104nm,1.8s,mb5.7							
FLN	**La Foliniere**	**62.25**	**11**	*eP*		**P**	**09 04 19.9**	**-0.3**
FLN				*eR*				
	comp=Z,405nm,18.8s							
HINF	**Hinteralfeld**	**63.02**	**16**	*eP*		**P**	**09 04 24.5**	**-0.9**
MEZF	**Maizieres J'vi**	**63.19**	**15**	*eP*		**P**	**09 04 26.3**	**-0.2**
CDF	**Champ du Feu**	**63.68**	**16**	*eP*		**P**	**09 04 28.9**	**-0.9**
BOJS	**Bojanci**	**63.74**	**23**	*eP*		**P**	**09 04 31.4**	**+1.2**
CADS	**Cadrg**	**63.79**	**22**	*eP*		**P**	**09 04 31.7**	**+1.2**
BFO	**Black Forest**	**63.90**	**17**	*eP*		**P**	**09 04 31.0**	**-0.2**
	comp=Z,103nm,2.0s,mb5.5							
BFO	**Black Forest**	**63.90**	**17**	*eP*		**P**	**09 04 31.0**	**-0.2**
BFO				pmax		pmax		
	comp=Z,103nm,2.0s,mb5.5							
OTAV	**Otavalo**	**64.41**	**276**	*eP*		**P**	**09 04 35.5**	**+0.9**
	comp=Z,12nm,1.1s,mb4.8							
BAIF	**Baives**	**64.44**	**13**	*eP*		**P**	**09 04 33.9**	**-0.8**
STU	**Stuttgart**	**64.55**	**17**	*eP*		**P**	**09 04 35.5**	**+0.1**
	comp=Z,18nm,0.7s,mb5.2							
DIVS	**Divcibare**	**64.56**	**27**	*i P*		**P**	**09 04 36.8**	**+1.2**
GIVF	**Givet**	**64.62**	**14**	*eP*		**P**	**09 04 35.0**	**-0.9**
GROS	**Grobnik**	**64.64**	**23**	*eP*		**P**	**09 04 37.2**	**+1.2**
GRUS	**Gruza**	**64.72**	**28**	*i P*		**P**	**09 04 37.3**	**+0.7**
BEO	**Belgrade**	**65.33**	**27**	*i P*		**P**	**09 04 40.0**	**-0.6**
TNS	**Taunus Mts**	**65.65**	**16**	*eP*		**P**	**09 04 42.7**	**+0.1**
	comp=Z,94nm,1.9s,mb5.5							
TNS	**Taunus Mts**	**65.65**	**16**	*eP*		**P**	**09 04 42.7**	**+0.1**
TNS				pmax		pmax		
	comp=Z,94nm,1.9s,mb5.5							
GRA1	**Grafenberg Arr**	**65.97**	**18**	*eP*		**P**	**09 04 44.4**	**-0.3**
	comp=Z,258nm,2.7s,mb5.8							
GRF	**Grafenberg Arr**	**65.97**	**18**	*eP*		**P**	**09 04 44.4**	**-0.3**
	comp=Z,258nm,2.7s,mb5.8							
GRF				*eL*			09 33 04.1	
	comp=Z,489nm,18.9s							
WET	**Wettzell**	**66.01**	**19**	*eP*		**P**	**09 04 45.1**	**+0.2**
	comp=Z,90nm,2.0s,mb5.5							
WET	**Wettzell**	**66.01**	**19**	*eP*		**P**	**09 04 45.1**	**+0.2**
WET				pmax		pmax		
	comp=Z,90nm,2.0s,mb5.5							
GEC2	**GERESS Array S**	**66.03**	**20**	*eP*		**P**	**09 04 45.0**	**0.0**
	comp=Z,52nm,1.8s,mb5.3							
GEC2	**GERESS Array S**	**66.03**	**20**	*eP*		**P**	**09 04 45.0**	**0.0**
GEC2				pmax		pmax		
	comp=Z,52nm,1.8s,mb5.3							
GERES	**GERESS Array B**	**66.03**	**20**	P		**P**	**09 04 44.9**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.1,baz=194,slow=5.1,SNR=7.5							
GERES				LR		LR	09 33 23.9	
	comp=Z,526nm,18.0s,MS4.8,baz=255,slow=36							
GERES	**GERESS Array B**	**66.03**	**20**	P		**P**	**09 04 44.9**	**-0.1**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GERES				MLR		MLR		
	comp=Z,526nm,18.0s							
SOP	**Sopron**	**66.06**	**23**⇑	*eP*		**P**	**09 04 46.4**	**+1.2**
SYO	**Syowa Base**	**66.10**	**161**⇑	*eP*		**P**	**09 04 43.4**	**-2.1**
SYO	**Syowa Base**	**66.10**	**161**⇓	*epP*		**P**	**09 04 46.2**	**+0.7**
KHC	**Kasperske Hory**	**66.23**	**20**	*eP*		**P**	**09 04 46.0**	**-0.4**
KHC				*epP*		pP	09 04 53.0	+3.4
ROTZ	**Rotzenmuhle**	**66.34**	**19**	*eP*		**P**	**09 04 46.9**	**-0.2**
	comp=Z,167nm,2.4s,mb5.6							
MANZ	**Manzenberg**	**66.50**	**19**	*eP*		**P**	**09 04 48.5**	**+0.4**
	comp=Z,140nm,2.3s,mb5.6							
UBBA	**Unterbreizbach**	**66.61**	**17**	*eP*		**P**	**09 04 49.2**	**+0.4**
	comp=Z,76nm,2.1s,mb5.4							
ZST	**Bratislava**	**66.69**	**23**	*eP*		**P**	**09 04 50.3**	**+1.0**
ZST				pmax		pmax		
	comp=Z,87nm,2.0s,mb5.4							
ZST	**Bratislava**	**66.69**	**23**	*eP*		**P**	**09 04 50.3**	**+1.0**
	comp=Z,87nm,2.0s,mb5.4							
WERN	**Wernitzgruen**	**66.85**	**19**	*eP*		**P**	**09 04 50.5**	**+0.2**
	comp=Z,79nm,2.0s,mb5.4							
BUD	**Budapest**	**66.85**	**24**	*eP*		**P**	**09 04 51.3**	**+1.0**
MOX	**Moxa**	**66.93**	**18**	*eP*		**P**	**09 04 51.1**	**+0.3**
	comp=Z,42nm,1.7s,mb5.2							
MOX	**Moxa**	**66.93**	**18**	*eP*		**P**	**09 04 50.8**	**0.0**
	comp=Z,74nm,2.0s,mb5.4							
MOX	**Moxa**	**66.93**	**18**	*eP*		**P**	**09 04 50.8**	**0.0**
MOX				pmax		pmax		
	comp=Z,74nm,2.0s,mb5.4							
WERD	**Werda**	**66.97**	**18**	*eP*		**P**	**09 04 50.9**	**-0.2**
	comp=Z,50nm,1.9s,mb5.2							
TANN	**Tannenbergstha**	**66.99**	**19**	*eP*		**P**	**09 04 51.2**	**0.0**
	comp=Z,73nm,1.9s,mb5.4							
PRU	**Pruhonice**	**67.29**	**20**	*eP*		**P**	**09 04 52.9**	**-0.2**
PRU				*epP*		pP	09 04 59.7	+3.3
IBBN	**Ibbenburen**	**67.37**	**15**	*eP*		**P**	**09 04 54.2**	**+0.6**
	comp=Z,113nm,2.0s,mb5.5							
PSZ	**Piszkesteto**	**67.55**	**24**	*eP*		**P**	**09 04 55.3**	**+0.5**
PSZ	**Piszkesteto**	**67.55**	**24**‖	*eP*		**P**	**09 04 55.4**	**+0.6**
VYHS	**Vyhne**	**67.59**	**23**	*eP*		**P**	**09 04 55.6**	**+0.6**
VYHS				*e*			09 05 02.5	
VYHS				pmax		pmax		
	comp=Z,29nm,1.6s,mb5.1							
VYHS	**Vyhne**	**67.59**	**23**	*eP*		**P**	**09 04 55.6**	**+0.6**
	comp=Z,29nm,1.6s,mb5.1							
VYHS				*e*			09 05 02.5	
CLZ	**Clausthal**	**67.64**	**17**	*eP*		**P**	**09 04 56.1**	**+0.8**
	comp=Z,80nm,2.1s,mb5.4							
CLZ	**Clausthal**	**67.64**	**17**	*eP*		**P**	**09 04 56.1**	**+0.8**
CLZ				pmax		pmax		
	comp=Z,80nm,2.1s,mb5.4							
BRG	**Berggiesshubel**	**67.85**	**19**	*eP*		**P**	**09 04 56.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.3							
CLL	**Collm**	**67.94**	**18**⇑	*iP*		**P**	**09 04 57.0**	**-0.2**
CLL				*i*			09 05 04.0	
CLL				*i*			09 05 10.2	
CLL				pmax		pmax		
	comp=Z,96nm,2.2s,mb5.4							
CLL	**Collm**	**67.94**	**18

comp=Z,17nm,0.5s,mb5.2
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.7
OBN Obninsk 79.91 27 *e*P **P 09 06 10.9 +3.6**
SCHQ Schefferville 80.07 332 P **P 09 06 07.2 -1.0**
comp=Z,7.7nm,0.7s,mb4.8,baz=110,slow=6.5,SNR=9.5
SCHQ LR LR 09 35 41.5
comp=Z,178nm,18.0s,MS4.5,baz=7.6,slow=31
FINES FINESS Array B 80.38 19 P **P 09 06 09.1 -0.7**
comp=Z,4.9nm,0.6s,mb4.6,baz=192,slow=2.8,SNR=17
FINES LR LR 09 41 47.9
comp=Z,251nm,19.8s,MS4.6,baz=340,slow=36
FINES FINESS Array B 80.38 19 P **P 09 06 09.1 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES MLR MLR
comp=Z,251nm,19.8s
ALLY Alegheny Colle 80.62 316 *e*P **P 09 06 12.6 +1.4**
MOS Moscow 80.77 27 *e*P **P 09 06 09.0 -2.9**
MOS pmax pmax
comp=Z,400nm,2.8s,mb5.8
WVT Waverly 84.01 309 *e*P **P 09 06 27.9 -1.0**
WVT pmax pmax
comp=Z,67nm,1.9s,mb5.5
WVT Waverly 84.01 309 *e*P **P 09 06 27.9 -0.9**
comp=Z,67nm,1.9s,mb5.5
SIUC Southern Illin 85.59 310 *e*P **P 09 06 35.6 -1.2**
comp=Z,4.6nm,0.6s,mb4.9
ARCES ARCESS Array B 86.48 13 P **P 09 06 39.8 -1.4**
comp=Z,4.4nm,0.9s,mb4.7,baz=19,slow=4.1,SNR=5.2
ARCES LR LR 09 46 14.7
comp=Z,211nm,18.9s,MS4.6,baz=56,slow=36
ARCES ARCESS Array B 86.48 13 P **P 09 06 39.8 -1.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,211nm,18.9s
FVM French Village 86.58 310 *e*P **P 09 06 41.3 -0.4**
FVM pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
FVM French Village 86.58 310 *e*P **P 09 06 41.3 -0.4**
comp=Z,8.5nm,0.7s,mb5.1
CCM Cathedral Cave 87.22 310 *e*P **P 09 06 43.1 -1.7**
CCM pmax pmax
comp=Z,27nm,1.4s,mb5.3
CCM Cathedral Cave 87.22 310 *e*P **P 09 06 43.1 -1.7**
comp=Z,27nm,1.4s,mb5.3
ORR Orenburg 87.39 36 *e*P **P 09 06 44.6 -1.0**
ORR pmax pmax
comp=Z,50nm,2.8s,mb5.2
RPN Rapa Nui 88.41 243 LR LR 09 40 52.5
comp=Z,214nm,19.6s,MS4.6,baz=286,slow=32
DAG Danmarks Havn 89.09 359 ⇓ *i*P **P 09 06 54.9 +1.2**
comp=Z,35nm,1.3s,mb5.5
DAG Danmarks Havn 89.09 359 ⇓ *i*P **P 09 06 54.9 +1.2**
DAG pmax pmax
comp=Z,35nm,1.3s,mb5.5
VNDA Vanda 90.16 179 P **P 09 06 58.3 -0.4**
comp=Z,3.2nm,0.9s,mb4.6,baz=232,slow=4.8,SNR=11
VNDA LR LR 09 42 58.8
comp=Z,124nm,20.2s,MS4.3,baz=182,slow=33
VNDA Vanda 90.16 179 *e*P **P 09 06 57.9 -0.8**
VNDA pmax pmax
comp=Z,17nm,1.5s
VNDA Vanda 90.16 179 *e*P **P 09 06 57.9 -0.8**
comp=Z,17nm,1.5s,mb5.2
ARU Arti 91.29 32 ⇓ *i*P **P 09 07 04.3 +0.3**
ARU *e* 09 10 43.4
ARU *e*PPP 09 12 40.5
ARU *e*S SKSac 09 17 34.0 -2.4
ARU *e*SS SS 09 24 11.4 +3.9
ARU pmax pmax
comp=Z,13nm,1.1s,mb5.2
ARU MLR MLR
comp=E,200nm,18.0s,MS4.7
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.6
ARU MLR MLR
comp=N,200nm,19.0s,MS4.7
JCT Junction City 92.03 301 *e*P **P 09 07 07.8 +0.4**
JCT pmax pmax
comp=Z,11nm,0.8s,mb5.2
JCT Junction City 92.03 301 *e*P **P 09 07 07.8 +0.4**
comp=Z,11nm,0.8s,mb5.2
AGMN Agassiz Refuge 93.37 319 *e*P **P 09 07 13.1 -0.5**
comp=Z,65nm,2.0s,mb5.7
ULM Lac du Bonnet 93.88 321 LR LR 09 43 15.0
comp=Z,171nm,20.4s,MS4.5,baz=115,slow=32
TXAR Lajitas Array 95.06 299 P **P 09 07 20.9 -0.4**
comp=Z,1.1nm,0.8s,mb4.3,baz=126,slow=7.2,SNR=14
TXAR PP PP 09 11 11.9 +1.2
comp=Z,0.6nm,1.0s,baz=126,slow=6.5,SNR=3.8
TXAR Lajitas Array 95.06 299 P **P 09 07 20.9 -0.5**
TXAR PP PP 09 11 11.9 +1.2
AAK Ala-Archa 97.77 48 *e*P **P 09 07 36.4 +2.7**
AAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.5
AAK MLR MLR
comp=Z,200nm,16.0s,MS4.7
ANMO Albuquerque 98.40 304 *e*P **P 09 07 36.0 -0.5**
WMQ Urumqi 107.48 48 PDIF Pdif 09 08 18.6 +1.7
WMQ PP PP 09 12 50.0 +5.5
WMQ PP PP
comp=Z,127nm,5.3s
WMQ LR LR
comp=N,111nm,19.1s,MS4.8
WMQ LR LR
comp=E,211nm,19.1s,MS4.8
WMQ LR LR
comp=Z,169nm,22.8s,MS4.5
SONM Songino Array 119.92 42 PKP PKPdf 09 12 47.6 -1.3
comp=Z,1.0nm,0.9s,baz=211,slow=3.3,SNR=4.4
SONM Songino Array 119.92 42 PKIKP PKPdf 09 12 47.6 -1.3
SONM pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 119.95 68 PKIKP PKPdf 09 12 49.4 +0.4
KMI 09 12 53.8
KMI 09 14 18.5
KMI SS SS 09 30 40.2 +1.4
KMI SSS 09 35 06.9
KMI Kunming 119.95 68 PKP PKPdf 09 12 49.4 +0.4
KMI sPKP 09 12 53.8
KMI PP PP 09 14 18.5 +5.5
KMI S Sdif 09 22 02.8 -1.9
KMI SS SS 09 30 40.2 +1.4
KMI SSS 09 35 06.9
TAOE Nuku Hiva Isla 121.75 251 *e*LR LR 09 50 23.6
comp=Z,1μm,36.8s
TBI Tubuai 123.16 231 *e*SS SS 09 31 16.6 -3.2
comp=Z,264nm,30.0s
TBI *e*LR LR 09 51 02.3
comp=Z,404nm,24.5s
GYA Guiyang 123.47 66 *e*PDIF Pdif 09 09 27.3 -0.6
GYA PP PP 09 14 40.8 +3.9
GYA PKS 09 16 29.9
GYA PPP 09 17 19.0
GYA SKS SKSdf 09 20 04.1 -3.6
GYA SKKS SKKSac 09 21 31.6 -4.4
GYA S Sdif 09 22 31.8 -2.2
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,210nm,20.4s,MS5.0
GYA LR LR
comp=E,240nm,21.6s,MS5.0
GYA LR LR
comp=Z,200nm,21.4s,MS4.7
BILL Bilibino 124.47 360 *i* PKIKP PKPdf 09 12 57.0 -0.6
HHC Hu-ho-hao-te 125.35 49 *e*PKP PKPdf 09 12 58.1 -1.2
HHC PP PP 09 14 52.8 +3.3
HHC PKS 09 16 33.9
HHC SKS SKSdf 09 20 08.6 -2.6
HHC SKKS SKKSac 09 21 44.3 -3.7
HHC SS SS 09 31 49.3 +1.9
HHC LR LR
comp=N,369nm,18.5s,MS5.3
HHC LR LR
comp=E,570nm,22.1s,MS5.3
HHC LR LR
comp=Z,374nm,21.6s,MS5.0
PPT Papeete 126.33 237 *e*SS SS 09 31 54.6 -5.1
comp=Z,126nm,29.2s
PPT *e*LR LR 09 52 29.6
comp=Z,389nm,23.8s
BJI Beijing 128.95 48 PKP PKPdf 09 13 06.0 -0.2
BJI LR LR
comp=N,400nm,16.8s,MS5.4
BJI LR LR
comp=E,474nm,15.9s,MS5.4
BJI LR LR
comp=Z,191nm,34.4s
FITZ Fitzroy Crossi 130.51 127 PKP PKPdf 09 13 07.9 -1.3
comp=Z,3.2nm,0.9s,baz=177,slow=5.5,SNR=5.0
ASAR Alice Springs 132.79 139 PKP PKPdf 09 13 11.5 -2.0
comp=Z,0.6nm,0.8s,baz=211,slow=2.3,SNR=6.3
ASAR Alice Springs 132.79 139 PKIKP PKPdf 09 13 11.5 -2.0
ASAR pmax pmax
comp=Z,10.0nm,0.8s
MAT Matsushiro 145.87 41 PKP PKPdf 09 13 37.4 +0.2

IDC 13 08:56:00.8±8.7, 596S×15065E, h93km±60km, mb3.3/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/15, Error ellipse: s-maj=113.3km s-min=55.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**225**	P	Pn	08 57 11.9	+0.3
	1.6nm,0.3s,baz=29,slow=9.3,SNR=4.1						
PMG				S	Sn	08 58 07.4	+0.7
	3.9nm,0.3s,baz=1.1,slow=3.0,SNR=13						
WRA	**Warramunga Arr**	**21.09**	**227**	P	P	09 00 37.9	+0.4
	1.5nm,0.7s,baz=54,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**23.87**	**221**	P	P	09 01 06.2	+0.6
	1.5nm,0.7s,baz=55,slow=9.0,SNR=16						
ASAR				LR	LR	09 09 24.0	
	comp=Z,46nm,18.0s,baz=278,slow=34						
TORD	**Torodi Ar. Bea**	**148.59**	**285**	PKPbc	PKPbc	09 15 37.2	+0.4
	1.8nm,0.6s,baz=63,slow=2.9,SNR=12						

NIED ***13*** *09:06:00, 2080N×120.70E, h32km, Mw4.5 Best double couple: M0 6.95000×10^15 NP1:φ=287.00000°, δ=68.00000°, λ=-113.00000°. NP2:φ=155.00000°, δ=32.00000°, λ=-46.00000°.*

IDC ***13*** *09:06:48.4±0.6, 2071N×120.16E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.2/20, mbtmp4.1/13, ML3.6/1, MS3.8/10, Ms1 3.9/10, ms1mx3.6/27, Error ellipse: s-maj=26.3km s-min=11.8km az=71.0*

ISCJB ***13*** *09:06:50.1±1.5, 2076N±003×120.12E±005, h20km±11km, mb4.5/22, MS3.8/9, Error ellipse: s-maj=7.9km s-min=4.6km az=147.2*

MAN ***13*** *09:06:51.2, 2073N×119.82E, h32km, mb3.9, ML4.9, MS6.6*

NEIC ***13*** *09:06:52.3±4.3, 2068N×120.20E, h21km±34km, mb4.7/10, Error ellipse: s-maj=11.9km s-min=10.0km az=71.0*

BJI ***13*** *09:06:54.2, 2109N×119.86E, h20km, mB4.7, mb4.6, ML4.1, Ms4.5, Msz4.3*

ISC 13 09:06:52.8±1.6, 2077N±003×12017E±005, h25km±12km, h29km±2.6km: pP-P, n59, σ1s00/62, mb4.5/22, MS3.8/9, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**2.47**	**170**	*e*P	**Pn**	**09 07 28.8**	**-2.5**
PIP				*e*S	**Sn**	**09 08 01.0**	**+0.4**
ABRA	**Dolores**	**3.15**	**171**	*e*P	**Sn**	**09 08 12.5**	**-4.8**
CVP	**Callao Caves**	**3.43**	**153**	*e*P	**Pn**	**09 07 44.5**	**0.0**
CVP				*e*S	**Sn**	**09 08 24.0**	**-0.3**
NACB	**Ninganchiao**	**3.64**	**21**	*e*Pn	**Pn**	**09 07 47.1**	**-0.3**
NACB				*e*Sn	**Sn**	**09 08 28.6**	**-0.9**
YHNB	**Yeheng**	**4.04**	**16**	*e*Pn	**Pn**	**09 07 52.8**	**-0.2**
CAUP	**Cauayan**	**4.11**	**157**	*e*P	**Pn**	**09 07 55.3**	**+1.3**
CAUP				*e*S	**Sn**	**09 08 44.8**	**+3.6**
PALP	**Palanan**	**4.26**	**150**	*e*P	**Pn**	**09 07 58.3**	**+2.3**
BOLP	**Bolinao**	**4.37**	**183**	*e*P	**Pn**	**09 07 56.4**	**-1.1**
QZH	**Quanzhou**	**4.40**	**341**	P	**Pn**	**09 07 52.5**	**-5.4**
QZH				S	**Sn**	**09 08 41.3**	**-7.1**
QZH				Smax			
	comp=N,900nm,0.9s						
QZH				Smax			
	comp=E,340nm,1.2s						
QZH				LR	LR		
	comp=N,5μm,10.0s						
QZH				LR	LR		
	comp=E,6μm,10.7s						
QZH				LR	LR		
	comp=Z,5μm,10.1s						
BALP	**Baler**	**5.18**	**165**	*e*P	**Pn**	**09 08 09.3**	**+0.8**
GZH	**Guangzhou**	**6.74**	**291**	P	**Pn**	**09 08 25.3**	**-4.8**
GZH				Smax			
	comp=N,139nm,1.0s						
GZH				Smax			
	comp=E,149nm,0.7s						
QIZ	**Qiongzhong**	**9.87**	**262**	P	**Pn**	**09 09 12.4**	**-0.6**
QIZ				AP		09 09 17.9	
QIZ				AMB	AMB		
	comp=Z,31nm,1.7s						
QIZ				LR	LR		
	comp=N,1μm,9.7s						
QIZ				LR	LR		
	comp=E,2μm,10.0s						
QIZ				LR	LR		
	comp=Z,2μm,10.2s						
JNU	**Nakatsue**	**15.56**	**36**	Pn	**Pn**	**09 10 33.8**	**+3.4**
	comp=Z,0.6nm,0.3s,baz=252,slow=13,SNR=2.5						
JNU				LR	LR	09 16 44.6	
	comp=Z,539nm,19.3s,baz=359,slow=38						
KMI	**Kunming**	**16.63**	**288**	P	**Pn**	**09 10 46.8**	**+2.8**
KMI				AP	pP	09 10 51.9	-1.3
KMI				AMB	AMB		
	comp=Z,18nm,1.2s						
KMI				AMB	AMB		
	comp=Z,156nm,4.8s						
KMI				LR	LR		
	comp=N,609nm,8.7s						
KMI				LR	LR		
	comp=E,864nm,7.8s						
KMI				LR	LR		
	comp=Z,654nm,8.3s						
KMI	**Kunming**	**16.63**	**288**	P	**Pn**	**09 10 46.7**	**+2.7**
	comp=Z,18nm,1.2s						
KMI				pP	pP	09 10 51.9	-1.3
KMI				S	**Sn**	**09 13 48.2**	**+0.4**
CD2	**Chengdu**	**17.87**	**308**	*e*P	**Pn**	**09 11 02.8**	**+3.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**17.94**	**20**	P	**Pn**	**09 11 00.6**	**+0.2**
	baz=202,slow=11,SNR=5.4						
KSRS				LR	LR	09 17 59.3	
	comp=Z,99nm,18.7s,baz=202,slow=37						
CHTO	**Chiang Mai**	**20.07**	**268**	*e*P	**P**	**09 11 24.1**	**0.0**
	comp=Z,14nm,1.0s						
LZH	**Lanzhou**	**20.91**	**320**	*e*P	**P**	**09 11 37.1**	**+3.9**
LZH				AMB	AMB		
	comp=Z,50nm,1.4s						
LZH				AMB	AMB		
	comp=Z,163nm,5.0s						
LZH				LR	LR		
	comp=E,695nm,6.7s						
LZH				LR	LR		
	comp=Z,940nm,7.5s						
LZH	**Lanzhou**	**20.91**	**320**	*e*P	**P**	**09 11 37.1**	**+3.9**
	comp=Z,50nm,1.4s						
LZH				pP		09 11 52.9	
LZH				sP	sP	09 11 58.5	+15
KSM	**Kuching**	**21.46**	**208**	*e*P	**P**	**09 11 38.5**	**-0.6**
MAT	**Matsushiro**	**22.25**	**41**	P	**P**	**09 11 47.6**	**0.0**
MJAR	**Matsushiro Arr**	**22.25**	**41**	P	**P**	**09 11 47.4**	**-0.2**
	comp=Z,19nm,1.4s,mb4.3,baz=237,slow=11,SNR=9.1						
MJAR				LR	LR	09 21 21.8	
	comp=Z,170nm,19.6s,MS3.5,baz=260,slow=39						
GUMO	**Guam**	**24.63**	**103**	LR	LR	09 21 19.1	
	comp=Z,132nm,18.6s,MS3.5,baz=90,slow=35						
PSI	**Prapat**	**27.34**	**232**	P	**P**	**09 12 35.1**	**-0.5**
	comp=Z,7.5nm,0.9s,mb4.2,baz=296,slow=1.2,SNR=6.9						
SONM	**Songino Array**	**29.21**	**341**	P	**P**	**09 12 52.1**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.6,baz=162,slow=8.2,SNR=5.8						
SONM				LR	LR	09 25 01.0	
	comp=Z,148nm,20.2s,MS3.6,baz=348,slow=37						
SONM	**Songino Array**	**29.21**	**341**	P	**P**	**09 12 52.1**	**-0.1**
SONM				LR	LR	09 25 01.0	
ASAJ	**Asahikawa**	**29.82**	**34**	LR	LR	09 25 37.2	
	comp=Z,254nm,18.0s,MS3.9,baz=140,slow=38						
GUN	**Gumba**	**31.96**	**290**	*e*P	**P**	**09 13 16.3**	**-0.3**
	comp=Z,36nm,1.0s,mb5.2						
PKI	**Pulchoki**	**32.35**	**289**	*e*P	**P**	**09 13 19.4**	**-0.6**
KKN	**Kakani**	**32.48**	**289**	*e*P	**P**	**09 13 20.1**	**-1.0**
DMN	**Daman**	**32.62**	**289**	*e*P	**P**	**09 13 22.1**	**-0.3**
	comp=Z,20nm,0.9s,mb5.0						
GKN	**Gorkha**	**33.07**	**290**	*e*P	**P**	**09 13 25.6**	**-0.7**
	comp=Z,30nm,1.0s,mb5.2						
KOLN	**Koldanda**	**33.97**	**289**	*e*P	**P**	**09 13 34.0**	**-0.1**
	comp=Z,20nm,1.0s,mb5.0						
KAKA	**Kakadu**	**35.39**	**159** ⇑ *i*P		**P**	**09 13 44.8**	**-1.6**
	comp=Z,12nm,0.7s,mb4.9						
WMQ	**Urumqi**	**35.45**	**318** ⇓ P		**P**	**09 13 48.6**	**+1.7**
WMQ				AP	pP	09 13 58.4	+3.9
WMQ				XP	sP	09 14 02.4	+4.8
WMQ				PP	PP	09 15 08.8	+1.3
WMQ				PPP		09 15 27.4	
WMQ				PCP	PcP	09 16 19.5	+3.3
WMQ				*e*S	**S**	**09 19 20.3**	**0.0**
WMQ				XS	sS	09 19 36.3	+3.4
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,33nm,4.6s						
WMQ				LR	LR		
	comp=N,81nm,18.8s,MS3.8						
WMQ				LR	LR		
	comp=E,168nm,21.3s,MS3.8						
WMQ				LR	LR		
	comp=Z,154nm,20.0s,MS3.8						
FITZ	**Fitzroy Crossi**	**39.00**	**172**	*e*P	**P**	**09 14 15.7**	**-1.3**
	comp=Z,10nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.00**	**172**	P	**P**	**09 14 15.3**	**-1.7**
	comp=Z,11nm,1.1s,mb4.5,baz=337,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	**40.22**	**319**	P	**P**	**09 14 27.8**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.6,baz=115,slow=8.1,SNR=5.6						
ZAL	**Zalesovo**	**42.65**	**330**	LR	LR	09 33 14.9	
	comp=Z,79nm,20.2s,MS3.6,baz=239,slow=37						
WRA	**Warramunga Arr**	**42.77**	**160**	P	**P**	**09 14 47.3**	**-0.8**
	comp=Z,23nm,0.8s,mb5.0,baz=342,slow=9.0,SNR=107						
WRA				PcP	PcP	09 16 39.8	+0.5
	comp=Z,2.4nm,0.8s,baz=336,slow=3.5,SNR=5.4						
WRA				S	**S**	**09 21 12.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=21,slow=8.2,SNR=4.2						
WB2	**Warramunga Arr**	**42.77**	**160**	*e*P	**P**	**09 14 47.2**	**-0.9**
AS31	**Alice Springs**	**46.15**	**162** ⇑ *i*P		**P**	**09 15 15.1**	**0.0**
AS31				*e*	pP	09 15 22.5	-0.3
ASAR	**Alice Springs**	**46.15**	**162**	P	**P**	**09 15 15.2**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.5,baz=344,slow=6.9,SNR=53						
ASAR				LR	LR	09 36 45.4	
	comp=Z,124nm,18.2s,MS3.9,baz=254,slow=39						
ASPA	**Alice Springs**	**46.15**	**162** ⇑ *i*P		**P**	**09 15 15.1**	**0.0**
ASPA				*e*	pP	09 15 22.5	-0.3
CTA	**Charters Tower**	**47.96**	**146** ⇑ *i*P		**P**	**09 15 30.9**	**+1.7**
	comp=Z,28nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**47.96**	**146**	*e*P	**P**	**09 15 30.7**	**+1.5**
	comp=Z,69nm,1.2s,mb5.6						
BVAR	**Borovoye Array**	**49.76**	**323**	P	**P**	**09 15 43.5**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=102,slow=11,SNR=2.9						
BVAR				PcP	PcP	09 17 02.0	-1.8
	comp=Z,1.3nm,0.8s,baz=134,slow=4.3,SNR=4.5						
ZRNK	**Zerenda**	**50.53**	**322**	*e*P	**P**	**09 15 49.3**	**+0.5**
	comp=Z,3.9nm,1.0s,mb4.3						
FORT	**Forrest**	**51.81**	**171**	*e*P	**P**	**09 15 58.0**	**-0.5**
	comp=Z,16nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**56.23**	**158**	*e*P	**P**	**09 16 31.0**	**+0.3**
	comp=Z,5.6nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**56.23**	**158**	P	**P**	**09 16 30.8**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.6,baz=336,slow=7.4,SNR=11						
FINES	**FINESS Array B**	**73.92**	**330**	P	**P**	**09 18 25.1**	**-0.5**
	comp=Z,6.8nm,1.1s,mb4.5,baz=235,slow=6.7,SNR=3.9						
AKASG	**Malin Array Be**	**74.80**	**319**	P	**P**	**09 18 30.2**	**-0.5**
	comp=Z,0.1nm,0.3s,mb3.3,baz=62,slow=4.4,SNR=4.5						
NOA	**NORSAR Array B**	**80.79**	**332**	P	**P**	**09 19 03.1**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.0,baz=62,slow=5.1,SNR=3.4						
NOA				LR	LR	10 00 13.0	
	comp=Z,97nm,18.1s,MS4.2,baz=175,slow=40						
KMBO	**Kilima Mbogo**	**83.77**	**266**	P	**P**	**09 19 21.5**	**+1.8**
	comp=Z,1.0nm,0.5s,mb4.2,baz=16,slow=18,SNR=3.8						
CLL	**Collm**	**84.20**	**323**	*e*P	**P**	**09 19 22.0**	**+0.1**
PPT	**Papeete**	**96.30**	**106**	LR	LR	10 01 44.1	
	comp=Z,188nm,18.3s,MS4.6,baz=306,slow=34						
LPAZ	**La Paz**	**170.95**	**62**	*e*PKPdf	PKPdf	09 27 01.1	+2.5

IDC ***13*** *09:17:20.6±1.4, 1734S×16772E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML4.1/1, MS3.3/5, Ms1 3.3/5, ms1mx3.2/25, Error ellipse: s-maj=31.0km s-min=28.2km az=81.0*

ISCJB ***13*** *09:17:24.8±1.4, 1757S±008×1676E±02, h35km, mb4.0/6, MS3.3/3, Error ellipse: s-maj=24.8km s-min=11.6km az=161.7*

ISC 13 09:17:26.2±1.4, 1753S±009×1677E±02, h35km, n12, σ0s95/12, mb4.0/6, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.68**	**195**	*e*P	**Pn**	**09 18 34.3**	**0.0**
DZM				*e*S	**Sn**	**09 19 26.1**	**-1.2**
DZM	**Mont Dzumac**	**4.68**	**195**	Pn	**Pn**	**09 18 34.5**	**+0.3**
	8.5nm,0.3s,baz=41,slow=16,SNR=85						
DZM				Sn	**Sn**	**09 19 26.6**	**-0.7**
	11nm,0.3s,baz=132,slow=23,SNR=18						
DZM				LR	LR	09 20 18.7	
	comp=Z,295nm,20.0s,baz=20,slow=37						
HNR	**Honiara**	**11.05**	**316**	LR	LR	09 23 46.6	
	comp=Z,109nm,20.0s,baz=0.3,slow=35						
CTA	**Charters Tower**	**20.49**	**259**	P	**P**	**09 22 02.5**	**+1.5**
	6.6nm,1.0s,baz=69,slow=17,SNR=3.5						
CTA				LR	LR	09 28 42.4	
	comp=Z,85nm,18.8s,MS3.1,baz=50,slow=33						
URZ	**Urewera**	**22.23**	**160**	P	**P**	**09 22 20.7**	**+1.0**
	5.1nm,0.5s,mb4.2,baz=326,slow=6.6,SNR=3.9						
STKA	**Stephens Creek**	**27.61**	**234**	P	**P**	**09 23 10.8**	**+0.5**
	1.4nm,0.5s,mb3.8,baz=80,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**31.69**	**260**	P	**P**	**09 23 45.4**	**-0.9**
	0.6nm,0.8s,mb3.5,baz=84,slow=7.8,SNR=7.7						
WRA				PcP	PcP	09 26 37.1	-0.4
	0.5nm,0.6s,baz=91,slow=3.4,SNR=5.2						
WRA				LR	LR	09 35 41.8	
	comp=Z,45nm,21.2s,MS3.1,baz=85,slow=35						
ASAR	**Alice Springs**	**32.20**	**253**	P	**P**	**09 23 50.6**	**-0.1**
	1.4nm,0.6s,mb3.9,baz=78,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**40.02**	**263**	*e*P	**P**	**09 24 57.9**	**+0.3**
	6.7nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.02**	**263**	P	**P**	**09 24 58.2**	**+0.6**
	3.0nm,0.9s,mb4.0,baz=111,slow=8.6,SNR=4.8						
FITZ				LR	LR	09 40 50.7	
	comp=Z,89nm,18.0s,MS3.6,baz=321,slow=35						
SONM	**Songino Array**	**85.00**	**324**	P	**P**	**09 29 56.3**	**-1.6**
	2.0nm,0.6s,mb4.4,baz=136,slow=5.4,SNR=13						
ARCES	**ARCESS Array B**	**123.06**	**345**	PKP	PKPdf	09 36 19.6	+0.7
	3.6nm,0.9s,baz=29,slow=2.1,SNR=7.7						

IDC 13 09:23:05.2±7.0, 665S×15120E, h70km±55km, mb3.9/6, mb1 4.0/7, mb1mx3.8/14, mbtmp3.9/7, ML2.8/1, 1C-1D, Error ellipse: s-maj=49.8km s-min=27.0km az=83.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**235**	P	Pn	09 24 15.8	+0.2
	3.1nm,0.3s,baz=72,slow=5.5,SNR=7.8						
PMG				S	Sn	09 25 11.5	+1.0
	3.2nm,0.3s,baz=167,slow=23,SNR=5.2						
KAKA	**Kakadu**	**19.45**	**251** ⇓ *i*P		Pn	09 27 26.8	-1.0
	5.0nm,0.4s						
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	P	09 27 42.8	-0.3
WRA	**Warramunga Arr**	**21.04**	**229**	P	P	09 27 42.9	-0.3
	3.5nm,0.6s,baz=55,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.72**	**223**	P	P	09 28 11.1	+0.4
	4.5nm,0.6s,baz=56,slow=8.7,SNR=87						
ASPA	**Alice Springs**	**23.72**	**223** ⇑ *i*P		P	09 28 11.1	+0.4
STKA	**Stephens Creek**	**26.66**	**198**	P	P	09 28 37.8	+0.5
	5.8nm,0.6s,baz=9.2,slow=12,SNR=7.0						
FITZ	**Fitzroy Crossi**	**27.40**	**243**	*e*P	P	09 28 44.0	0.0
	8.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.40**	**243**	P	P	09 28 44.4	+0.4
	4.6nm,0.5s,baz=56,slow=7.9,SNR=20						
SONM	**Songino Array**	**67.05**	**329**	P	P	09 33 51.2	+0.3
	0.5nm,0.7s,baz=114,slow=7.0,SNR=3.6						
VNDA	**Vanda**	**71.06**	**178**	P	P	09 34 15.2	-0.5
	0.6nm,0.8s,baz=306,slow=7.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.30**	**285**	PKPbc	PKPbc	09 42 46.6	+0.8
	1.0nm,0.6s,baz=50,slow=2.8,SNR=7.7						

IDC ***13*** *09:29:50.3±1.4, 3326S×179.16W, h0km, mb4.2/4, mb1 4.5/6, mb1mx4.2/15, mbtmp4.4/6, ML4.5/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=35.2km*

s-min=24.1km az=126.0

ISCJB ***13*** *09:29:51.5±2.0, 3341S×005.6×179.1W±0.1, h23km±17km, mb4.4/6, MS3.8/5, Error ellipse: s-maj=19.9km s-min=6.0km az=35.2*

NEIC ***13*** *09:29:53.0±3.8, 3334S×17908W, h19km±25km, mb4.5/5, Error ellipse: s-maj=16.9km s-min=10.3km az=106.0*

ISC 13 09:29:53.6±2.1, 3340S±005×1791W±0.1, h25km±17km, n53, σ1§08/50, mb4.4/6, MS3.8/5, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.25**	**14**	Pn		**Pn**		**09 30 56.2**	**-0.6**
	79nm,0.3s,baz=117,slow=20,SNR=5.1								
RAO				Sn		**Sn**		**09 31 44.9**	**-0.8**
	344nm,0.3s,baz=112,slow=22,SNR=9.5								
RAO				LR		LR		09 32 04.9	
	comp=Z,180nm,21.0s,baz=280,slow=32								
MXZ	**Matakaoa Point**	**4.67**	**207**	P		**Pn**		**09 31 03.5**	**+0.9**
MXZ				S		**Sn**		**09 31 56.6**	**+0.6**
MXZ	**Matakaoa Point**	**4.67**	**207**	PN		**Pn**		**09 31 03.5**	**+0.9**
MXZ				SN		**Sn**		**09 31 56.6**	**+0.6**
MXZ				T				09 35 17.7	
PUZ	**Puketiti**	**5.14**	**204**	*e*P		**Pn**		**09 31 09.5**	**+0.5**
PUZ				S		**Sn**		**09 32 05.3**	**-2.3**
PUZ	**Puketiti**	**5.14**	**204**	PN		**Pn**		**09 31 09.5**	**+0.4**
PUZ				SN		**Sn**		**09 32 05.3**	**-2.3**
PUZ				SN		**Sn**		**09 32 06.3**	**-1.4**
KUZ	**Kuaotunu**	**5.42**	**231**	*e*P		**Pn**		**09 31 15.1**	**+2.2**
KUZ	**Kuaotunu**	**5.42**	**231**	*e*PN		**Pn**		**09 31 13.1**	**+0.2**
MWZ	**Matawai**	**5.65**	**208**	*e*P		**Pn**		**09 31 16.6**	**+0.7**
MWZ				S		**Sn**		**09 32 20.1**	**+0.1**
MWZ	**Matawai**	**5.65**	**208**	PN		**Pn**		**09 31 16.1**	**+0.2**
MWZ				SN		**Sn**		**09 32 20.1**	**+0.1**
URZ	**Urewera**	**5.76**	**212**	Pn		**Pn**		**09 31 18.3**	**+0.8**
	5.6nm,0.3s,baz=25,slow=5.3,SNR=42								
URZ				Sn		**Sn**		**09 32 22.0**	**-0.8**
	2.5nm,0.3s,baz=317,slow=23,SNR=3.6								
URZ	**Urewera**	**5.76**	**212**	*e*P		**Pn**		**09 31 17.7**	**+0.2**
URZ	**Urewera**	**5.76**	**212**	*e*PN		**Pn**		**09 31 17.5**	**0.0**
URZ				SN		**Sn**		**09 32 21.2**	**-1.5**
WCZ	**Waipu Caves**	**5.99**	**243**	*e*P		**Pn**		**09 31 21.5**	**+0.8**
WCZ	**Waipu Caves**	**5.99**	**243**	*e*PN		**Pn**		**09 31 21.3**	**+0.6**
KNZ	**Kokohu**	**6.20**	**204**	*e*P		**Pn**		**09 31 25.0**	**+1.5**
KNZ	**Kokohu**	**6.20**	**204**	*e*PN		**Pn**		**09 31 25.0**	**+1.5**
OUZ	**Omahuta**	**6.34**	**251**	P		**Pn**		**09 31 24.8**	**-0.7**
OUZ	**Omahuta**	**6.34**	**251**	PN		**Pn**		**09 31 24.8**	**-0.6**
BKZ	**Black Stump Fm**	**6.78**	**211**	P		**Pn**		**09 31 31.4**	**-0.1**
BKZ	**Black Stump Fm**	**6.78**	**211**	PN		**Pn**		**09 31 31.4**	**-0.1**
PXZ	**Pawanui**	**7.38**	**205**	*e*PN		**Pn**		**09 31 37.5**	**-2.3**
PXZ				SN		**Sn**		**09 32 57.3**	**-5.4**
BFZ	**Birch Farm**	**8.17**	**206**	*e*PN		**Pn**		**09 31 48.6**	**-2.1**
THZ	**Tophouse**	**10.49**	**215**	*e*PN		**Pn**		**09 32 17.7**	**-4.8**
KHZ	**Kahutara**	**10.72**	**211**	*e*P		**Pn**		**09 32 20.9**	**-4.7**
KHZ	**Kahutara**	**10.72**	**211**	*e*PN		**Pn**		**09 32 20.9**	**-4.7**
RPZ	**Rata Peaks**	**12.87**	**214**	Sn		**Sn**		**09 35 05.5**	**-12**
	0.7nm,0.3s,baz=316,slow=8.5,SNR=2.5								
DZM	**Mont Dzumac**	**17.07**	**308**	LR		LR		09 38 58.6	
	comp=Z,327nm,19.6s,baz=30,slow=32								
RAR	**Rarotonga**	**20.96**	**59**	LR		LR		09 39 59.1	
	comp=Z,199nm,20.6s,MS3.5,baz=270,slow=29								
TBI	**Tubuai**	**27.82**	**77**	*e*LR		LR		09 42 48.1	
	332nm,30.2s,baz=239								
PPT	**Papeete**	**30.80**	**67**	*e*LR		LR		09 44 07.9	
	309nm,28.6s,baz=230								
STKA	**Stephens Creek**	**33.03**	**262**	LR		LR		09 48 21.1	
	comp=Z,193nm,18.2s,MS3.9,baz=124,slow=34								
CTA	**Charters Tower**	**33.53**	**284**	*e*P		**P**		**09 36 34.7**	**+3.5**
	2.0nm,0.4s,mb4.4								
CTA	**Charters Tower**	**33.53**	**284**	P		**P**		**09 36 32.2**	**+1.0**
	1.9nm,0.5s,mb4.3,baz=66,slow=20,SNR=3.2								
CTAO	**Charters Tower**	**33.53**	**284**	*e*P		**P**		**09 36 31.5**	**+0.3**
	3.3nm,0.6s,mb4.4								
PMG	**Port Moresby**	**39.19**	**300**	LR		LR		09 50 57.4	
	comp=Z,166nm,18.1s,MS3.9,baz=57,slow=32								
RKT	**Rikitea**	**39.91**	**87**	*e*LR		LR		09 48 22.1	
	415nm,32.2s								
AS31	**Alice Springs**	**42.14**	**271**	*e*P		**P**		**09 37 44.9**	**+1.0**
ASAR	**Alice Springs**	**42.14**	**271**	P		**P**		**09 37 44.2**	**+0.3**
	3.4nm,0.6s,mb4.2,baz=111,slow=7.3,SNR=67								
WB2	**Warramunga Arr**	**43.39**	**276**	*e*P		**P**		**09 37 53.8**	**-0.3**
WB2	**Warramunga Arr**	**43.39**	**276**	*e*P		**P**		**09 37 54.5**	**+0.4**
WRA	**Warramunga Arr**	**43.40**	**276**	P		**P**		**09 37 52.8**	**-1.4**
	0.8nm,0.3s,mb3.9,baz=116,slow=7.8,SNR=28								
VNDA	**Vanda**	**45.03**	**186**	LR		LR		09 52 38.4	
	comp=Z,85nm,20.6s,MS3.7,baz=122,slow=30								
FITZ	**Fitzroy Crossi**	**51.52**	**273**	*e*P		**P**		**09 38 57.7**	**+0.4**
	6.2nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**51.52**	**273**	P		**P**		**09 38 57.0**	**-0.3**
	3.1nm,0.7s,mb4.4,baz=171,slow=5.9,SNR=9.5								
FITZ				LR		LR		10 01 15.9	
	comp=Z,174nm,20.2s,MS4.1,baz=337,slow=37								
QSPA	**South Pole Qui**	**56.72**	**180**	*e*P		**P**		**09 39 39.6**	**+4.4**
	16nm,0.7s,mb5.2								
SYO	**Syowa Base**	**73.99**	**194**	*e*P		**P**		**09 41 27.0**	**0.0**
SNAA	**Sanae**	**75.19**	**179**	*e*P		**P**		**09 41 35.8**	**+1.9**
	5.3nm,1.3s,mb4.3								
FINES	**FINESS Array B**	**147.61**	**338**	PKPbc		PKPbc		09 49 34.8	-1.0
	1.4nm,0.7s,baz=49,slow=5.8,SNR=8.1								
FINES	**FINESS Array B**	**147.61**	**338**	PKPbc		PKPbc		09 49 34.8	-1.0
NB2	**NORSAR Subarra**	**151.55**	**349**	PKP		PKPbc		09 49 46.0	+0.4
	comp=Z,6.1nm,1.2s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.55**	**349**	PKPbc		PKPbc		09 49 44.2	-1.4
	comp=Z,1.7nm,0.7s,baz=14,slow=4.1,SNR=7.0								
NOA	**NORSAR Array B**	**151.55**	**349**	PKPbc		PKPbc		09 49 44.2	-1.4
TORD	**Torodi Ar. Bea**	**159.82**	**182**	PKPab		PKPab		09 50 31.2	+1.8
	comp=Z,2.0nm,0.9s,baz=188,slow=4.0,SNR=6.4								

ISCJB ***13*** *09:49:06.0±1.1, 7.15S±009.4×1232E±0.1, h547km±18km, mb3.6/7, Error ellipse: s-maj=24.8km s-min=8.8km az=120.8*

NEIC ***13*** *09:49:06.6±0.9, 726S×123.16E, h547km±15km, mb4.6/4, Error ellipse: s-maj=24.0km s-min=9.9km az=59.0*

IDC ***13*** *09:49:06.2±1.8, 720S×12331E, h539km±21km, mb3.1/7, mb1 3.3/10, mb1mx3.3/19, mbtmp3.2/10, Error ellipse: s-maj=36.1km s-min=9.6km az=68.0*

ISC 13 09:49:06.4±0.9, 721S±009×1232E±01, h540km±13km, n21, σ1§07/23, mb3.6/7, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.63**	**122**	*e*P		**P**		**09 51 31.5**	**+0.9**
	9.8nm,0.6s								
FITZ	**Fitzroy Crossi**	**11.09**	**168**	⇑ *i*P		**P**		**09 51 35.6**	**+0.2**
	24nm,0.4s								
FITZ	**Fitzroy Crossi**	**11.09**	**168**	P		**P**		**09 51 35.7**	**+0.3**
	4.7nm,0.3s,baz=3.4,slow=8.2,SNR=159								
MBWA	**Marble Bar**	**14.26**	**193**	*e*P		**P**		**09 52 07.6**	**-0.7**
	25nm,0.6s								
KKM	**Kota Kinabalu**	**14.89**	**332**	*e*P		**P**		**09 52 14.2**	**-0.6**
KSM	**Kuching**	**15.47**	**303**	*e*P		**P**		**09 52 22.2**	**+1.3**
WRA	**Warramunga Arr**	**16.65**	**141**	P		**P**		**09 52 32.9**	**+0.6**
	0.9nm,0.3s,baz=311,slow=12,SNR=64								
WRA				S		**S**		**09 55 21.9**	**+1.6**
	0.2nm,0.3s,baz=314,slow=19,SNR=8.3								
WB2	**Warramunga Arr**	**16.66**	**141**	*e*P		**P**		**09 52 32.8**	**+0.4**
WB2				*e*S		**S**		**09 55 20.5**	**0.0**
AS31	**Alice Springs**	**19.33**	**149**	*e*P		**P**		**09 52 54.7**	**-2.1**
ASAR	**Alice Springs**	**19.33**	**149**	P		**P**		**09 52 54.6**	**-2.2**
	0.1nm,0.3s,baz=84,slow=9.0,SNR=20								
ASAR				S		**S**		**09 56 03.5**	**-0.4**
	0.0nm,0.3s,baz=330,slow=17,SNR=5.2								
ASAR				PcP		PcP		09 56 52.9	+0.6
	0.2nm,0.3s,baz=306,slow=1.0,SNR=6.4								
ASAR				ScP		ScP		09 59 37.5	+0.3
	0.1nm,0.3s,baz=310,slow=1.9,SNR=6.6								
STKA	**Stephens Creek**	**29.95**	**147**	P		**P**		**09 54 32.0**	**+1.1**
	4.3nm,0.5s,mb4.2,baz=326,slow=8.7,SNR=16								
STKA	**Stephens Creek**	**29.95**	**147**	*e*P		**P**		**09 54 32.4**	**+1.5**
KSRS	**Korea Array**	**44.65**	**5**	P		**P**		**09 56 29.3**	**-1.7**
	1.7nm,0.7s,mb3.7,baz=198,slow=11,SNR=5.3								
MJAR	**Matsushiro Arr**	**45.75**	**17**	P		**P**		**09 56 38.9**	**-0.5**
	0.7nm,0.5s,mb3.5,baz=190,slow=7.2,SNR=4.1								
SONM	**Songino Array**	**56.78**	**347**	P		**P**		**09 57 59.5**	**+0.3**
	1.1nm,0.5s,mb3.4,baz=163,slow=7.2,SNR=7.8								
MKAR	**Makanchi Array**	**64.87**	**330**	P		**P**		**09 58 52.4**	**0.0**
	0.7nm,0.4s,mb3.4,baz=129,slow=7.0,SNR=13								
VNDA	**Vanda**	**73.13**	**172**	P		**P**		**09 59 40.7**	**-1.3**
	1.0nm,0.6s,mb3.4,baz=321,slow=7.0,SNR=16								
VNDA	**Vanda**	**73.13**	**172**	*e*P		**P**		**09 59 40.9**	**-1.1**
	2.1nm,1.0s,mb3.5								
AKTK	**Aktyubinsk**	**80.18**	**324**	P		**P**		**10 00 21.6**	**+1.0**
AKTO	**Aktyubinsk**	**80.18**	**324**	P		**P**		**10 00 21.6**	**+1.0**
	0.5nm,0.3s,mb3.3,baz=76,slow=8.3,SNR=3.1								
TORD	**Torodi Ar. Bea**	**122.21**	**281**	PKP		PKPdf		10 07 00.4	+0.4
	0.5nm,0.5s,baz=83,slow=2.5,SNR=5.2								

NIED ***13*** *09:52:00, 2080N×12050E, h32km, Mw4.1 Best double couple: M0 1.74000×10^15 NP1:φs291.00000°, δ65.00000°, λ-111.00000°. NP2:φs153.00000°, δ32.00000°, λ-53.00000°.*

IDC ***13*** *09:52:18.0±0.8, 2066N×11982E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, MS3.2/2, Ms1 3.2/2, ms1mx2.9/33, Error ellipse: s-maj=40.7km s-min=16.6km az=66.0*

ISCJB ***13*** *09:52:20.6±0.6, 2080N±006×12021E±009, h35km, mb4.0/8, Error ellipse: s-maj=13.2km s-min=5.4km az=61.3*

JMA ***13*** *09:52:20.6±0.4, 2084N×12052E, h0km, M4.0*

ISC 13 09:52:22.7±0.6, 2079N±006×12018E±009, h35km, n18, σ0§86/20, mb4.0/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.49**	**170**	*e*P		**Pn**		**09 52 59.0**	**-1.6**
YOJ	**Yonaguni jima**	**4.50**	**35**	P		**Pn**		**09 53 28.9**	**+0.6**
YOJ				*e*S		**Sn**		**09 54 19.5**	**+0.2**
HATJ	**Hateruma jima**	**4.67**	**45**	*e*S		**Sn**		**09 54 23.1**	**-0.6**
IRIF	**Iriomote-Funau**	**4.82**	**42**	P		**Pn**		**09 53 33.0**	**+0.3**
IRIF				*e*S		**Sn**		**09 54 27.1**	**-0.2**
JKRS	**Kuro-shima**	**4.93**	**45**	P		**Pn**		**09 53 34.1**	**-0.2**
JIJ	**Ishigaki jima**	**5.11**	**45**	P		**Pn**		**09 53 36.9**	**+0.2**
JIJ				*e*S		**Sn**		**09 54 32.9**	**-1.5**
JTJ	**Tarama**	**5.67**	**47**	P		**Pn**		**09 53 45.1**	**+0.7**
JTJ				*e*S		**Sn**		**09 54 49.0**	**+0.8**
JOW	**Kunigami**	**9.55**	**49**	LR		LR		09 58 46.6	
	comp=Z,232nm,21.1s,baz=281,slow=39								
KSRS	**Korea Array**	**17.92**	**20**	LR		LR		10 03 36.4	
	comp=Z,52nm,18.1s,baz=200,slow=37								
MJAR	**Matsushiro Arr**	**22.23**	**41**	P		**P**		**09 57 20.0**	**+3.9**
	3.4nm,1.0s,mb3.7,baz=229,slow=12,SNR=5.3								
SONM	**Songino Array**	**29.19**	**341**	P		**P**		**09 58 19.7**	**-1.1**
	0.7nm,0.8s,mb3.4,baz=165,slow=10.0,SNR=3.6								
MKAR	**Makanchi Array**	**40.20**	**319**	P		**P**		**09 59 55.9**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=126,slow=9.2,SNR=3.0								
WRA	**Warramunga Arr**	**42.79**	**160**	P		**P**		**10 00 16.5**	**-0.3**
	6.6nm,0.8s,mb4.4,baz=342,slow=9.0,SNR=31								
WRA				PcP		PcP		10 02 09.3	+1.6
	0.7nm,0.6s,baz=340,slow=3.9,SNR=5.5								
WB2	**Warramunga Arr**	**42.79**	**160**	*e*P		**P**		**10 00 16.2**	**-0.7**
ASAR	**Alice Springs**	**46.16**	**162**	P		**P**		**10 00 43.9**	**+0.1**
	2.0nm,0.9s,mb4.0,baz=332,slow=6.7,SNR=13								
CTA	**Charters Tower**	**47.98**	**146**	P		**P**		**10 01 00.2**	**+2.3**
	8.3nm,0.7s,mb4.9,baz=322,slow=10.0,SNR=14								
STKA	**Stephens Creek**	**56.24**	**158**	P		**P**		**10 02 00.2**	**+0.8**
	2.0nm,0.9s,mb4.2,baz=355,slow=11,SNR=3.6								
AKTO	**Aktyubinsk**	**56.59**	**317**	P		**P**		**10 02 01.8**	**0.0**
	0.8nm,0.6s,mb4.0,baz=140,slow=3.0,SNR=4.1								

NEIC ***13*** *09:58:47.2, 1805N×6420W, h16km, MD3.6(RSPR), After RSPR.*

RSPR 13 09:58:47.2, 1805N×6420W, h16km±37km, MD3.6/9, MD3.6/9, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.78**	**292**	⇑ *e*P		**Pn**		**09 58 57.7**	**-4.7**
STVI				*e*S		Sb		09 59 06.4	-6.4
MTP	**Monte Pirata**	**1.29**	**272**	⇑ *e*P		**Pn**		**09 59 06.8**	**-3.8**
MTP				*e*S		Sb		09 59 22.6	-4.9
HUMP	**Col San Antoni**	**1.57**	**273**	⇑ *e*P		**Pn**		**09 59 11.7**	**-2.8**
HUMP				*e*S		Sn		09 59 30.5	-4.0
CBYP	**Canovanas**	**1.59**	**278**	⇑ *e*P		**Pn**		**09 59 11.7**	**-3.1**
CBYP				*e*S		Sn		09 59 31.4	-3.6
CPD	**Cerro la Pandu**	**1.64**	**270**	⇑ *e*P		**Pn**		**09 59 12.8**	**-2.5**
CPD				*e*S		Sn		09 59 32.3	-3.7
SJG	**San Juan**	**1.86**	**272**	⇑ *e*P		**Pn**		**09 59 15.7**	**-2.8**
SJG				*e*S		Sn		09 59 38.2	-3.3
ICM	**Isla Caja Muer**	**2.22**	**266**	⇑ *e*P		**Pn**		**09 59 21.2**	**-2.1**
ICM				*e*S		Sn		09 59 47.2	-3.2
CELP	**Cerrillos**	**2.27**	**271**	⇑ *e*P		**Pn**		**09 59 22.1**	**-1.9**
CELP				*e*S		Sn		09 59 49.0	-2.7
AOPR	**Arecibo Observ**	**2.45**	**277**	⇑ *e*P		**Pn**		**09 59 24.1**	**-2.4**
AOPR				*e*S		Sn		09 59 53.5	-2.6
CRPR	**Cabo Rojo, PR**	**2.77**	**269**	⇑ *e*P		**Pn**		**09 59 28.5**	**-2.4**
CRPR				*e*S		Sn		10 00 00.4	-3.7

ISCJB ***13*** *10:15:41.9±1.2, 1526N±006×9665W±004, h20km±10km, mb4.5/4, Error ellipse: s-maj=10.3km s-min=6.9km az=158.8*

NEIC ***13*** *10:15:42.9, 1513N×9655W, h19km, mb4.4/10, MD4.5(MEX), After MEX.*

MEX ***13*** *10:15:43.0±0.9, 1516N×9656W, h16km±15km, MD4.4*

ISC 13 10:15:41.5±1.3, 1528N±007×9666W±005, h5km±9km, n32, σ1§16/50, mb4.5/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.72**	**48**	*i* P		**Pg**		**10 15 54.8**	**-0.5**
HUIG				*i* S		**Sg**		**10 16 04.8**	**+0.1**
VHO	**Vista Hermosa**	**1.78**	**358**	*i* P		**Pn**		**10 16 13.1**	**+0.2**
VHO				*i* S		**Sn**		**10 16 35.8**	**-0.2**
VHO	**Vista Hermosa**	**1.78**	**358**	*i* P		**Pn**		**10 16 13.8**	**+0.9**
VHO				*i* S		**Sn**		**10 16 35.6**	**-0.3**
OXX	**Oaxaca**	**1.79**	**358**	*i* P		**Pn**		**10 16 14.0**	**+0.9**
OXX				*i* S		**Sn**		**10 16 36.5**	**+0.3**
PNIG	**Pinotepa**	**1.79**	**308**	*i* P		**Pn**		**10 16 12.8**	**-0.3**
PNIG				*i* S		**Sn**		**10 16 34.2**	**-2.0**
PNIG	**Pinotepa**	**1.79**	**308**	*i* P		**Pn**		**10 16 12.8**	**-0.3**
PNIG				*i* S		**Sn**		**10 16 34.0**	**-2.2**
CMIG	**Matias Romero**	**2.48**	**43**	*i* P		**Pn**		**10 16 20.0**	**-2.5**
CMIG				*i* S		**Sn**		**10 16 48.8**	**-4.4**
UTMO	**Huajuapan**	**2.76**	**337**	*i* P		**Pn**		**10 16 27.7**	**+1.3**
UTMO				*i* S		**Sn**		**10 17 01.6**	**+1.5**
TPIG	**Tehuac#an**	**3.19**	**348**	*i* P		**Pn**		**10 16 33.8**	**+1.5**
TPIG				*i* S		**Sn**		**10 17 10.7**	**-0.1**
ACX	**Acapulco**	**3.50**	**297**	*i* P		**Pn**		**10 16 36.5**	**-0.1**
MEIG	**Mezcala**	**3.87**	**313**	*i* P		**Pn**		**10 16 40.3**	**-1.3**
MEIG				*i* S		**Sn**		**10 17 27.5**	**+0.1**
CAIG	**El Cayaco**	**3.88**	**297**	*i* P		**Pn**		**10 16 42.7**	**+0.9**
CAIG				*i* S		**Sn**		**10 17 26.9**	**-1.0**
PLIG	**Platanillo**	**4.12**	**319**	*i* P		**Pn**		**10 16 44.4**	**-0.7**
PLIG				*i* S		**Sn**		**10 17 34.3**	**+0.7**
PLIG	**Platanillo**	**4.12**	**319**	*e*P		**Pn**		**10 16 47.0**	**+1.9**
PLIG				*i* S		**Sn**		**10 17 34.3**	**+0.7**
LVIG	**Laguna Verde**	**4.42**	**3**	*i* P		**Pn**		**10 16 46.6**	**-2.6**
LVIG				*i* S		**Sn**		**10 17 40.9**	**-0.2**
UNM	**Universidad Na**	**4.69**	**330**	*e*P		**Pn**		**10 16 59.0**	**+6.1**
SZVM	**Salazar**	**4.79**	**328**	*i* P		**Pn**		**10 16 52.0**	**-2.2**
SZVM				*i* S		**Sn**		**10 17 49.5**	**-0.6**
MOIG	**Morelia**	**6.15**	**316**	*i* P		**Pn**		**10 17 14.4**	**+1.5**
MOIG				*i* S		**Sn**		**10 18 23.0**	**-0.6**
MOIG	**Morelia**	**6.15**	**316**	*i* P		**Pn**		**10 17 17.9**	**+5.0**
MOIG				*i* S		**Sn**		**10 18 23.0**	**-0.6**
SFJM	**Santa Fe**	**7.98**	**311**	*i* P		**Pn**		**10 17 42.5**	**+4.4**
ZAIG	**Zacatecas**	**9.31**	**324**	*i* P		**Pn**		**10 18 01.0**	**+4.7**
TEIG	**Tepich**	**9.38**	**57**	*e*P		**Pn**		**10 17 52.8**	**-4.5**
TEIG				*e*Pn		**Pn**		**10 17 53.5**	**-3.8**
JCT	**Junction City**	**15.40**	**350**	*e*P		**Pn**		**10 19 23.2**	**+3.8**
	24nm,1.0s								
LTX	**Lajitas**	**15.41**	**336**	*e*P		**Pn**		**10 19 23.5**	**+4.0**
	10nm,1.0s								
WMOK	**Wichita Mounta**	**19.47**	**355**	*e*P		**Pn**		**10 20 09.5**	**-0.8**
	17nm,1.0s								
UALR	**University of**	**19.80**	**11**	*e*P		**Pn**		**10 20 14.4**	**+0.2**
	38nm,1.3s								
AMTX	**Amarillo**	**20.04**	**348**	*e*P		**P**		**10 20 16.6**	**+1.3**
	16nm,0.6s								
OXF	**Oxford**	**20.23**	**18**	*e*P		**P**		**10 20 18.0**	**+0.6**
	13nm,0.8s								
WVT	**Waverly**	**22.21**	**19**	*e*P		**P**		**10 20 38.2**	**-0.5**
	14nm,0.6s,mb4.6								
KSU1	**Kansas State U**	**23.73**	**0**	*e*P		**P**		**10 20 55.4**	**+0.8**
	17nm,0.9s,mb4.5								
WUAZ	**Wupatki**	**24.08**	**329**	*e*P		**P**		**10 20 58.0**	**+0.3**
	3.4nm,0.8s,mb3.8								
BLO	**Bloomington**	**25.41**	**19**	*e*P		**P**		**10 21 11.1**	**+1.2**
	51nm,1.0s,mb5.0								

IDC 13 10:16:03.9±2.6, 688S×12837E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=291.3km s-min=31.4km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**157**	Pn		**Pn**		**10 19 24.5**	**-1.9**
	0.2nm,0.3s,baz=331,slow=14,SNR=13								
WRA				Sn		**Sn**		**10 21 52.2**	**-13**
	0.6nm,0.3s,baz=335,slow=23,SNR=11								
ASAR	**Alice Springs**	**17.52**	**163**	P		**Pn**		**10 20 11.2**	**+1.8**
	0.3nm,0.3s,baz=348,slow=10,SNR=28								
ASAR				S		**Sn**		**10 23 14.0**	**-11**
	0.1nm,0.3s,baz=356,slow=27,SNR=4.9								
MKAR	**Makanchi Array**	**67.25**	**328**	P		**P**		**10 27 00.2**	**+0.1**
	0.5nm,0.4s,baz=110,slow=7.5,SNR=5.8								

NEIC ***13*** *10:29:18.3, 2442S×6734W, h180km, mb3.9/1, After GUC.*

GUC 13 10:29:18.3±0.8, 2442S×6734W, h180km, ML4.0, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**321**	⇑ *i*P		**Pn**		**10 29 59.1**	**+0.4**
LVC				*e*Sn		**Sn**		**10 30 28.8**	**-1.3**
CPN1	**Cerro Paranal**	**2.80**	**265**	*e*P		**Pn**		**10 30 07.0**	**+2.5**
CPN1				*i* S		**Sn**		**10 30 43.1**	**+2.6**
CPN1				AML		AML		10 30 45.2	
	comp=E,450nm,0.5s								
CEN1	**Los Morros**	**2.81**	**291**	⇓ *i*P		**Pn**		**10 30 07.0**	**+2.4**
CEN1				*i* S		**Sn**		**10 30 43.5**	**+2.7**
CEN1				AML		AML		10 30 45.4	
	comp=N,199nm,0.5s								
ANCH	**Antofagasta**	**2.91**	**284**	⇑ *i*P		**Pn**		**10 30 09.5**	**+3.8**
ANCH				*e*S		**Sn**		**10 30 47.4**	**+4.8**
CDCH	**Caldera**	**4.11**	**229**	⇓ *i*P		**Pn**		**10 30 22.9**	**+2.1**
CDCH				*i* S		**Sn**		**10 31 12.1**	**+2.4**
LPAZ	**La Paz**	**8.13**	**355**	*e*Pn		**Pn**		**10 31 11.0**	**-2.1**
	comp=N,2.1nm,0.4s								
LPAZ				*e*Sn		**Sn**		**10 32 37.7**	**-6.5**

IDC 13 10:29:19.1±6.5, 2058N×12118E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, ML3.3/1, MS3.9/4, Ms1 3.9/4, ms1mx3.1/43, Error ellipse: s-maj=302.4km s-min=36.1km az=94.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.81**	**18**	P		**Pn**		**10 33 28.1**	**-0.3**
	baz=205,slow=11,SNR=4.3								
KSRS				LR		LR		10 39 40.6	
	comp=Z,38nm,19.1s,baz=110,slow=35								
WRA	**Warramunga Arr**	**42.28**	**161**	P		**P**		**10 37 14.4**	**+0.1**
	1.2nm,0.6s,baz=342,slow=8.9,SNR=12								
ASAR	**Alice Springs**	**45.69**	**164**	P		**P**		**10 37 42.0**	**+0.3**
	0.3nm,0.4s,baz=343,

3.2nm,0.7s,mb4.1,baz=149,slow=6.7,SNR=17
TORD Torodi Ar. Bea 72.51 29 P **P 11 06 54.2 +0.4**
7.8nm,0.8s,mb4.5,baz=199,slow=6.4,SNR=37
TORD LR LR 11 33 39.9
comp=Z,112nm,18.0s,baz=220,slow=32
TORD Torodi Ar. Bea 72.51 29 P **P 11 06 54.2 +0.4**
TORD LR LR 11 33 39.9
ARU Arti 131.11 47 *eP* Pdif 11 11 30.6 +0.8
SONM Songino Array 150.24 85 PKPbc PKPbc 11 15 18.5 +1.7
0.7nm,0.7s,baz=211,slow=4.0,SNR=5.3

IDC ***13*** *10:59:53.7±0.5,2776N×5514E,h0km,mb4.4/21, mb1 4.5/23,mb1mx4.5/29,mbtmp4.4/23,ML4.1/2,MS3.6/8, Ms1 3.6/8,ms1mx3.3/32,Error ellipse: s-maj=14.4km s-min=13.0km az=99.0*
ISCJB ***13*** *10:59:54.0±0.2,2772N±002×5504E±002,h10km, mb4.4/46,MS3.7/7,Error ellipse: s-maj=3.6km s-min=2.7km az=76.3*
TEH ***13*** *10:59:54.9,2746N×5513E,h10km,Mn4.4*
CSEM ***13*** *10:59:54.6±0.1,2769N×5505E,h10km,mb4.5/17,Error ellipse: s-maj=2.4km s-min=1.6km az=42.0*
NEIC ***13*** *10:59:55.2±0.4,2765N×5509E,h10km,mb4.5/16, MN4.4(TEH),Error ellipse: s-maj=7.6km s-min=6.4km az=62.0*
BJI ***13*** *10:59:55.1,2760N×5510E,h10km,mb4.7*
KISR ***13*** *10:59:56.7±1.0,2801N×5498E,h34km,mL4.2*
THR ***13*** *10:59:56.0±0.8,2772N×5513E,h14km±7km,ML4.2*
MOS ***13*** *10:59:57.0±1.1,2775N×5509E,h33km,mb4.7/18,Error ellipse: s-maj=10.7km s-min=6.0km az=87.8*

ISC 13 10:59:56.0±0.2,2771N±002×5508E±002,h10km,n201, σ1s24/243,mb4.4/46,MS3.7/7,8C-11D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.01**	**107**	*e*Pg		**Pg**		**11 00 14.4**	**-1.2**
BNDS						AML	AML	11 00 35.8	
	comp=E,8μm,0.5s								
BNDS						AML	AML	11 00 36.7	
	comp=N,7μm,0.4s								
GHIR	**Ghir-Karzin**	**1.94**	**288**	*e*Pg		**Pg**		**11 00 31.7**	**-1.5**
GHIR				*e*Sg		**Sg**		**11 00 58.6**	**+0.2**
GHIR						AML	AML	11 01 22.5	
	comp=N,2μm,0.7s								
GHIR						AML	AML	11 01 27.9	
	comp=E,2μm,0.6s								
GHIR	**Ghir-Karzin**	**1.94**	**288**	*e*Pg		**Pg**		**11 00 31.7**	**-1.6**
	SNR=90								
GHIR				*e*Sg		**Sg**		**11 00 58.6**	**+0.2**
	SNR=90								
BANOM	**Banah**	**2.08**	**148**	⇑P		**Pn**		**11 00 31.1**	**+0.1**
	SNR=111								
ISRV	**Sarvestan**	**2.41**	**314**	*e*Pn		**Pn**		**11 00 37.7**	**+2.3**
IMOK	**Mook**	**2.48**	**303**	*e*Pn		**Pn**		**11 00 37.5**	**+1.1**
KRBR	**Kerman**	**2.71**	**33**	*e*Pn		**Pn**		**11 00 41.2**	**+1.7**
KRBR				*e*Sg		**Sg**		**11 01 19.7**	**-3.2**
KRBR						AML	AML	11 01 29.3	
	comp=E,1μm,0.6s								
KRBR						AML	AML	11 01 30.6	
	comp=N,1μm,0.8s								
KRBR	**Kerman**	**2.71**	**33**	*e*Pn		**Pn**		**11 00 41.2**	**+1.6**
	SNR=52								
KRBR				*e*Sg		**Sg**		**11 01 19.7**	**-3.2**
	SNR=90								
IPAR	**Pars**	**2.78**	**321**	*e*Pn		**Pn**		**11 00 42.8**	**+2.2**
IPAR	**Pars**	**2.78**	**321**	Pn		**Pn**		**11 00 42.7**	**+2.1**
HATD	**Hatta, Dubai**	**3.02**	**162**	⇑P		**Pn**		**11 00 44.8**	**+0.9**
	SNR=53								
ASHO	**Ashiyiah**	**3.13**	**164**	⇓P		**Pn**		**11 00 46.3**	**+0.9**
	SNR=178								
IBAF	**Bafgh**	**3.90**	**6**	*e*Pn		**Pn**		**11 00 56.0**	**+0.1**
IBAF				*e*Pn		**Pn**		**11 00 56.8**	**+0.9**
IBAF				*e*Pn		**Pn**		**11 00 57.3**	**+1.4**
IBAF				*e*Sn		**Sn**		**11 01 43.0**	**+1.3**
IBAF				*e*Sn		**Sn**		**11 01 44.2**	**+2.5**
IBAF	**Bafgh**	**3.90**	**6**	Pn		**Pn**		**11 00 56.0**	**+0.1**
IBAF				Pn		**Pn**		**11 00 56.8**	**+0.9**
IBAF				Pn		**Pn**		**11 00 57.3**	**+1.4**
IBAF				Sn		**Sn**		**11 01 43.0**	**+1.3**
IBAF				Sn		**Sn**		**11 01 44.1**	**+2.4**
IBAF	**Bafgh**	**3.90**	**6**	*e*Pn		**Pn**		**11 00 56.8**	**+0.9**
ARQ	**Araqi**	**4.54**	**163**	⇓P		**Pn**		**11 01 07.0**	**+2.2**
	SNR=8.6								
ICHK	**Chekchek**	**4.56**	**353**	*e*Pn		**Pn**		**11 01 06.5**	**+1.4**
BIDO	**Bidbid**	**4.99**	**146**	⇑P		**Pn**		**11 01 11.4**	**+0.4**
	SNR=12								
IGAR	**Garneh**	**5.17**	**332**	*e*Pn		**Pn**		**11 01 17.7**	**+4.3**
BSY	**Bisya**	**5.30**	**158**	⇓P		**Pn**		**11 01 16.3**	**+1.1**
	SNR=13								
BSYO	**Bisya**	**5.32**	**158**	P		**Pn**		**11 01 16.3**	**+0.7**
	SNR=13								
SMDO	**Samad**	**5.35**	**149**	⇓P		**Pn**		**11 01 17.8**	**+1.9**
	SNR=22								
ZHSF	**Zahedan**	**5.35**	**68**	*e*Pn		**Pn**		**11 01 17.2**	**+1.3**
WSAR	**Wadi Sarin**	**5.48**	**143**	Pn		**Pn**		**11 01 17.6**	**-0.2**
	comp=N,10.0nm,0.3s,baz=346,slow=7.5,SNR=93								
WSAR					Sn		**Sn**	**11 02 17.8**	**-3.1**
	comp=N,7.4nm,0.3s,baz=272,slow=23,SNR=3.9								
WSAR					LR		LR	11 03 59.1	
	comp=N,106nm,19.7s,baz=344,slow=45								
WSAR	**Wadi Sarin**	**5.48**	**143**	Pn		**Pn**		**11 01 17.6**	**-0.2**
WSAR				Sn		**Sn**		**11 02 17.8**	**-3.1**
WSAR				LR		LR		11 03 59.1	
IZEF	**Zefreh**	**5.69**	**336**	*e*Pn		**Pn**		**11 01 18.3**	**-2.3**
IZEF				*e*Pn		**Pn**		**11 01 19.9**	**-0.7**
IZEF				*e*Pn		**Pn**		**11 01 20.9**	**+0.3**
IZEF				*e*Sn		**Sn**		**11 02 25.9**	**-0.2**
IZEF				*e*Sn		**Sn**		**11 02 26.7**	**+0.6**
IZEF	**Zefreh**	**5.69**	**336**	Pn		**Pn**		**11 01 18.2**	**-2.4**
IZEF				Pn		**Pn**		**11 01 19.9**	**-0.7**
IZEF				Pn		**Pn**		**11 01 20.9**	**+0.3**
IZEF				Sn		**Sn**		**11 02 25.9**	**-0.2**
IZEF				Sn		**Sn**		**11 02 26.7**	**+0.6**
IZEF	**Zefreh**	**5.69**	**336**	*e*Pn		**Pn**		**11 01 20.9**	**+0.3**
IKOO		**5.80**	**35**	*e*Pn		**Pn**		**11 01 23.2**	**+1.1**
JMDO	**Jabal Madar**	**5.98**	**152**	⇑P		**Pn**		**11 01 25.6**	**+1.1**
	SNR=8.7								
ITEG		**6.07**	**31**	*e*Pn		**Pn**		**11 01 26.8**	**+1.0**
IPIR	**Pirpir**	**6.14**	**325**	*e*Pn		**Pn**		**11 01 26.5**	**-0.3**
IPIR				*e*Pn		**Pn**		**11 01 27.3**	**+0.5**
IPIR				*e*Pn		**Pn**		**11 01 28.2**	**+1.4**
IPIR				*e*Sn		**Sn**		**11 02 37.2**	**0.0**
IPIR				*e*Sn		**Sn**		**11 02 37.9**	**+0.7**
IPIR	**Pirpir**	**6.14**	**325**	Pn		**Pn**		**11 01 26.5**	**-0.3**
IPIR				Pn		**Pn**		**11 01 27.3**	**+0.5**
IPIR				Pn		**Pn**		**11 01 28.1**	**+1.3**
IPIR				Sn		**Sn**		**11 02 37.1**	**-0.1**
IPIR				Sn		**Sn**		**11 02 37.8**	**+0.6**
IPIR	**Pirpir**	**6.14**	**325**	*e*Pn		**Pn**		**11 01 27.3**	**+0.5**
WBK	**Wadi Bani Khal**	**6.18**	**144**	⇑P		**Pn**		**11 01 27.0**	**-0.3**
	SNR=25								
IKLH	**Kalahroud**	**6.36**	**332**	*e*Pn		**Pn**		**11 01 31.0**	**+1.2**
QRN	**Al-Qurain**	**6.41**	**281**	*e*P		**Pn**		**11 01 31.5**	**+1.1**
QRN					AML	AML		11 02 45.2	
	comp=Z,106nm,0.4s								
IDAH		**6.50**	**38**	*e*Pn		**Pn**		**11 01 33.9**	**+2.1**
KBD	**Kabd**	**6.67**	**284**	*e*P		**Pn**		**11 01 35.3**	**+1.3**
KBD					AML	AML		11 02 42.6	
	comp=Z,83nm,0.4s								
KBD				*e*S		**Sn**		**11 02 48.0**	**-2.1**
UMR	**Umm Al-Rimmam**	**6.73**	**288**	*e*P		**Pn**		**11 01 35.7**	**+0.9**
UMR					AML	AML		11 02 36.4	
	comp=Z,44nm,0.3s								
IMON		**6.75**	**35**	*e*Pn		**Pn**		**11 01 37.8**	**+2.7**
RDF	**Al-Radifah**	**6.75**	**282**	*e*P		**Pn**		**11 01 36.1**	**+1.0**
RDF					AML	AML		11 02 48.8	
	comp=Z,39nm,0.3s								
ISFB	**Sefidab**	**7.06**	**340**	*e*Pn		**Pn**		**11 01 37.3**	**-2.1**
ISFB				*e*Pn		**Pn**		**11 01 39.7**	**+0.3**
ISFB				*e*Pn		**Pn**		**11 01 40.9**	**+1.5**
ISFB	**Sefidab**	**7.06**	**340**	Pn		**Pn**		**11 01 37.2**	**-2.2**
ISFB				Pn		**Pn**		**11 01 39.7**	**+0.3**
ISFB				Pn		**Pn**		**11 01 40.9**	**+1.5**
ISFB	**Sefidab**	**7.06**	**340**	*e*Pn		**Pn**		**11 01 39.7**	**+0.3**
NAY	**Al-Naaiem**	**7.07**	**284**	*e*P		**Pn**		**11 01 40.2**	**+0.7**
NAY					AML	AML		11 02 53.4	
	comp=Z,24nm,0.5s								
NAY				*e*S		**Sn**		**11 02 59.1**	**-0.9**
MIB	**Mutribah**	**7.11**	**289**	*e*P		**Pn**		**11 01 40.6**	**+0.5**
MIB				*e*S		**Sn**		**11 02 59.1**	**-1.9**
MIB					AML	AML		11 03 01.8	
	comp=Z,60nm,0.6s								
IANJ	**Anjiloo**	**7.80**	**353**	*e*Pn		**Pn**		**11 01 50.5**	**+0.9**
IVRN	**Varamin**	**7.81**	**339**	*e*Pn		**Pn**		**11 01 50.1**	**+0.4**
ASAO	**Ashtian**	**8.08**	**329**	*e*Pn		**Pn**		**11 01 55.0**	**+1.6**
IDMV	**Damavand**	**8.27**	**342**	*e*Pn		**Pn**		**11 01 56.9**	**+0.9**
IKIA	**Kiasar**	**8.56**	**352**	*e*Pn		**Pn**		**11 02 01.3**	**+1.3**
IKIA	**Kiasar**	**8.56**	**352**	Pn		**Pn**		**11 02 01.2**	**+1.2**
IAFJ	**Afjeh**	**8.62**	**341**	*e*Pn		**Pn**		**11 02 02.8**	**+2.0**
CHTH	**Charan**	**8.84**	**339**	*e*Pn		**Pn**		**11 02 06.0**	**+2.1**
IRAZ	**Razeghan**	**8.84**	**331**	*e*Pn		**Pn**		**11 02 04.2**	**+0.3**
IRAZ	**Razeghan**	**8.84**	**331**	Pn		**Pn**		**11 02 04.1**	**+0.2**
IKOM	**Komasi**	**9.15**	**317**	*e*Pn		**Pn**		**11 02 08.6**	**+0.5**
IKOM	**Komasi**	**9.15**	**317**	Pn		**Pn**		**11 02 08.5**	**+0.4**
IPAY	**Payeh**	**9.33**	**20**	*e*Pn		**Pn**		**11 02 12.8**	**+2.3**
IMYA	**Miamay**	**9.61**	**25**	*e*Pn		**Pn**		**11 02 14.9**	**+0.6**
IMYA	**Miamay**	**9.61**	**25**	Pn		**Pn**		**11 02 14.8**	**+0.5**
ISFR	**Esferayen**	**9.63**	**14**	*e*Pn		**Pn**		**11 02 10.7**	**-4.0**
IVIS	**Veys**	**9.79**	**316**	*e*Pn		**Pn**		**11 02 16.0**	**-0.9**
IVIS						*e*Pn		**Pn**	**11 02 16.7**	**-0.2**
IVIS						*e*Pn		**Pn**	**11 02 16.9**	**0.0**
IVIS						*e*Sn		**Sn**	**11 04 03.3**	**-3.6**
IVIS						*e*Sn		**Sn**	**11 04 04.3**	**-2.6**
IVIS	**Veys**	**9.79**	**316**	Pn		**Pn**		**11 02 16.0**	**-0.9**
IVIS				Pn		**Pn**		**11 02 16.6**	**-0.3**
IVIS				Pn		**Pn**		**11 02 16.8**	**-0.1**
IVIS				Sn		**Sn**		**11 04 03.2**	**-3.7**
IVIS				Sn		**Sn**		**11 04 04.3**	**-2.6**
IVIS	**Veys**	**9.79**	**316**	*e*Pn		**Pn**		**11 02 16.9**	**0.0**
WHFO	**Wadi Hawf**	**9.81**	**187**	⇓P		**Pn**		**11 02 17.4**	**+0.2**
	SNR=6.8								
IGHG	**Ghalehghazi**	**9.84**	**314**	*e*Pn		**Pn**		**11 02 17.8**	**+0.2**
ISHV	**Shirvan**	**10.04**	**12**	*e*Pn		**Pn**		**11 02 21.3**	**+1.0**
GNI	**Garni**	**15.07**	**328**	Pn		**Pn**		**11 03 36.1**	**+7.0**
	comp=Z,1.2nm,0.3s,baz=330,slow=3.8,SNR=5.8								
GNI	**Garni**	**15.07**	**328**	*e*P		**Pn**		**11 03 31.0**	**+1.9**
GNI					pmax	pmax			
	comp=Z,24nm,1.7s								
GNI	**Garni**	**15.07**	**328**	*e*P		**Pn**		**11 03 31.0**	**+1.9**
	comp=Z,24nm,1.7s								
ASF	**Jabal al Asfar**	**16.38**	**290**	Pn		**Pn**		**11 03 45.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=323,slow=5.9,SNR=3.4								
ASF					Sn		**Sn**	**11 06 42.1**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=189,slow=17,SNR=3.4								
MALT	**Malatya**	**17.50**	**311**	*e*P		**Pn**		**11 04 00.0**	**0.0**
MALT					pmax	pmax			
	comp=Z,12nm,0.9s								
MALT	**Malatya**	**17.50**	**311**	*e*Pn		**Pn**		**11 04 00.0**	**0.0**
	comp=Z,12nm,0.9s								
MALT	**Malatya**	**17.50**	**311**	*e*P		**Pn**		**11 04 00.0**	**0.0**
	comp=Z,12nm,0.9s								
ZEI	**Tsey**	**17.56**	**332**	*e*P		**Pn**		**11 04 02.4**	**+1.5**
EIL	**Elat**	**17.77**	**281**	*e*P		**Pn**		**11 04 11.7**	**+8.2**
	comp=Z,152nm,0.8s								
MMAI	**Mount Meron Ar**	**17.78**	**292**	LR		LR		11 11 47.9	
	comp=Z,25nm,20.2s,baz=90,slow=40								
KIV	**Kislovodsk**	**19.04**	**332**	P		**Pn**		**11 04 19.8**	**+0.8**
	SNR=6.0								
KIV	**Kislovodsk**	**19.04**	**332**	*e*P		**Pn**		**11 04 19.7**	**+0.7**
KIV					pmax	pmax			
	comp=Z,40nm,1.0s								
KIV					MLR	MLR			
	comp=Z,48nm,12.0s								
KIV	**Kislovodsk**	**19.04**	**332**	*e*P		**Pn**		**11 04 20.4**	**+1.5**
	comp=Z,30nm,0.8s								
KIV	**Kislovodsk**	**19.04**	**332**	*e*P		**Pn**		**11 04 19.7**	**+0.7**
	comp=Z,48nm,12.0s								
KK31	**Karatay Array**	**19.80**	**35**	*i* P		**Pn**		**11 04 26.1**	**-2.0**
KK31					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KK31	**Karatay Array**	**19.80**	**35**	*i* P		**Pn**		**11 04 26.1**	**-2.0**
	comp=Z,10.0nm,0.7s								
KKAR	**Karatay Array**	**19.80**	**35**	*i* P		**Pn**		**11 04 26.1**	**-2.0**
KKAR					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KKAR	**Karatay Array**	**19.80**	**35**	*i* P		**Pn**		**11 04 26.1**	**-2.0**
	comp=Z,7.0nm,0.7s								
AML	**Almayashu**	**20.91**	**42**	P		**P**		**11 04 38.4**	**-0.3**
	SNR=25								
EKS2	**Erkin-Say**	**21.29**	**41**	P		**P**		**11 04 42.9**	**+0.2**
	SNR=17								
UCH	**Uchtor**	**21.46**	**42**	P		**P**		**11 04 44.0**	**-0.5**
	SNR=22								
AAK	**Ala-Archa**	**21.69**	**42**	P		**P**		**11 04 46.9**	**-0.1**
	SNR=17								
AAK	**Ala-Archa**	**21.69**	**42**	P		**P**		**11 04 46.7**	**-0.3**
	SNR=16								
AAK	**Ala-Archa**	**21.69**	**42**	*e*P		**P**		**11 04 45.8**	**-1.2**
AAK					pmax	pmax			
	comp=Z,54nm,2.0s,mb4.6								
AAK	**Ala-Archa**	**21.69**	**42**	*e*P		**P**		**11 04 46.3**	**-0.7**
	comp=Z,25nm,0.9s,mb4.7								
AAK	**Ala-Archa**	**21.69**	**42**	*e*P		**P**		**11 04 45.8**	**-1.2**
	comp=Z,54nm,2.0s,mb4.6								
KZA	**Kyzart**	**21.82**	**44**	P		**P**		**11 04 51.9**	**+3.5**
	SNR=12								
AB31	**Akbulak array**	**21.84**	**9**	P		**P**		**11 04 47.5**	**-1.1**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.2								
AB31	**Akbulak array**	**21.84**	**9**	P		**P**		**11 04 47.5**	**-1.1**
	comp=Z,7.0nm,0.7s,mb4.2								
FRU	**Bishkek**	**21.88**	**41**	*e*P		**P**		**11 04 51.0**	**+2.0**
FRU				*e*				11 05 07.0	
ANTO	**Ankara**	**22.08**	**309**	*e*P		**P**		**11 04 56.8**	**+5.6**
	comp=Z,8.9nm,0.6s,mb4.4								
USP	**Ospenovka**	**22.08**	**40**	P		**P**		**11 04 50.0**	**-1.2**
	SNR=7.1								
TKM2	**Tokmak 2**	**22.51**	**42**	P		**P**		**11 04 55.3**	**-0.5**
	SNR=6.8								
ULHL	**Ulahol**	**22.52**	**44**	P		**P**		**11 04 55.9**	**0.0**
	SNR=11								
AKTK	**Aktyubinsk**	**22.81**	**5**	P		**P**		**11 04 58.4**	**-0.5**
AKTK					LR	LR		11 14 35.5	
AKTO	**Aktyubinsk**	**22.81**	**5**	P		**P**		**11 04 58.4**	**-0.5**
	comp=Z,8.9nm,0.9s,mb4.2,baz=202,slow=10,SNR=17								
AKTO					LR	LR		11 14 35.5	
	comp=Z,91nm,20.6s,MS3.2,baz=70,slow=39								
AKTO	**Aktyubinsk**	**22.81**	**5**	P		**P**		**11 04 58.4**	**-0.5**
AKTO					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.2								
AKTO					MLR	MLR			
	comp=Z,91nm,20.6s,MS3.2								
ORR	**Orenburg**	**23.89**	**359**	*e*P		**P**		**11 05 09.0**	**-0.8**
ORR					pmax	pmax			
	comp=Z,30nm,0.9s,mb4.7								
ORR	**Orenburg**	**23.89**	**359**	*e*P		**P**		**11 05 09.0**	**-0.8**
	comp=Z,30nm,0.9s,mb4.7								
KOLN	**Koldanda**	**25.22**	**83**	*e*P		**P**		**11 05 22.4**	**+0.4**
	comp=Z,27nm,1.1s,mb4.7								
VRHR	**Novokhopersk**	**25.49**	**340**	*e*P		**P**		**11 05 24.3**	**-0.1**
VRHR					pmax	pmax			
	comp=Z,30nm,0.6s,mb5.0								
VRHR					pmax	pmax			
	comp=N,2.0nm,1.0s								
VRHR					pmax	pmax			
	comp=E,20nm,0.9s								
VRHR	**Novokhopersk**	**25.49**	**340**	*e*P		**P**		**11 05 24.3**	**-0.1**
	comp=E,2.0nm,1.0s,mb3.6								
GKN	**Gorkha**	**26.11**	**82**	*e*P		**P**		**11 05 31.3**	**+1.3**
VORD	**Divnogorie**	**26.13**	**337**	*e*P		**P**		**11 05 28.3**	**-1.9**
VORD					pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.5								
VORD					pmax	pmax			
	comp=N,20nm,0.6s								
VORD					pmax	pmax			
	comp=E,5.0nm,0.6s								
VORD	**Divnogorie**	**26.13**	**337**	*e*P		**P**		**11 05 28.3**	**-1.9**
	comp=E,10.0nm,0.7s,mb4.5								
VRSR	**Storozhevoye**	**26.38**	**337**	*e*P		**P**		**11 05 31.3**	**-1.1**
VRSR					pmax	pmax			
	comp=Z,20nm,1.0s,mb4.6								
VRSR					pmax	pmax			
	comp=N,50nm,0.9s								
VRSR					pmax	pmax			
	comp=E,30nm,0.9s								
VRSR	**Storozhevoye**	**26.38**	**337**	*e*P		**P**		**11 05 31.3**	**-1.1**
	comp=E,20nm,1.0s,mb4.6								
DMN	**Daman**	**26.57**	**83**	*e*P		**P**		**11 05 34.4**	**+0.3**
KKN	**Kakani**	**26.70**	**83**	*e*P		**P**		**11 05 34.2**	**-1.1**
	comp=E,25nm,0.9s,mb4.8								
IDI	**Amoyia**	**26.76**	**294**	P		**P**		**11 05 36.8**	**+0.9**
	comp=E,7.9nm,0.7s,mb4.4,baz=357,slow=8.3,SNR=2.9								
PKI	**Pulchoki**	**26.84**	**83**	*e*P		**P**		**11 05 35.4**	**-1.2**
GUN	**Gumba**	**27.21**	**82**	*e*P		**P**		**11 05 39.9**	**0.0**
ZRNK	**Zerenda**	**27.26**	**19**	*e*P		**P**		**11 05 39.5**	**-0.9**
ZRNK					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**27.26**	**19**	*e*P		**P**		**11 05 39.5**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**27.26**	**19**	*e*P		**P**		**11 05 39.5**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.2								
BRVK	**Borovoye**	**27.73**	**20**	*e*P		**P**		**11 05 43.6**	**-1.0**
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.3								
BRVK	**Borovoye**	**27.73**	**20**	*e*P		**P**		**11 05 43.6**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.3								
BRVK	**Borovoye**	**27.73**	**20**	*e*P		**P**		**11 05 43.6**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.3								
BVA0	**Borovoye Array**	**27.73**	**20**	*i* P		**P**		**11 05 43.3**	**-1.3**
BVA0					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.1								
BVA0	**Borovoye Array**	**27.73**	**20**	*i* P		**P**		**11 05 43.3**	**-1.3**
	comp=Z,6.0nm,1.3s,mb4.1								
BVAR	**Borovoye Array**	**27.73**	**20**	P		**P**		**11 05 43.8**	**-0.8**
	comp=Z,15nm,0.8s,mb4.7,baz=201,slow=7.8,SNR=46								
BVAR					PcP	PcP		11 08 59.7	-1.5
	comp=Z,0.8nm,0.4s,baz=242,slow=4.7,SNR=4.5								
BVAR					LR	LR		11 18 17.8	
	comp=Z,258nm,19.2s,MS3.8,baz=177,slow=40								
BVAR	**Borovoye Array**	**27.73**	**20**	P		**P**		**11 05 43.8**	**-0.8**
BVAR								11 08 59.7	
BVAR	**Borovoye Array**	**27.73**	**20**	PcP		PcP		11 08 59.7	-1.5
CHKZ	**Chkalovo**	**28.36**	**20**	*e*P		**P**		**11 05 49.8**	**-0.5**
CHKZ					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.1								
CHKZ	**Chkalovo**	**28.36**	**20**	*e*P		**P**		**11 05 49.8**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.1								
CHKZ	**Chkalovo**	**28.36**	**20**	*e*P		**P**		**11 05 49.8**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.1								
MK31	**Makanchi Array**	**28.62**	**41**	*i* P		**P**		**11 05 50.6**	**-2.0**
MK31					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.9								
MK31	**Makanchi Array**	**28.62**	**41**	*e*P		**P**		**11 05 52.1**	**-0.4**
MK31	**Makanchi Array**	**28.62**	**41**	*i* P		**P**		**11 05 50.6**	**-2.0**
	comp=Z,1.0nm,0.4s,mb3.9								
MKAR	**Makanchi Array**	**28.62**	**41**	P		**P**		**11 05 51.5**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.0,baz=218,slow=7.7,SNR=7.1								
MKAR					LR	LR		11 18 46.3	
	comp=Z,74nm,20.2s,MS3.3,baz=55,slow=40								
MKAR	**Makanchi Array**	**28.62**	**41**	P		**P**		**11 05 50.6**	**-2.0**
KURK	**Kurchatov**	**29.10**	**31**	*e*P		**P**		**11 05 56.5**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.3								
KURK	**Kurchatov**	**29.10**	**31**	*e*P		**P**		**11 05 56.0**	**-0.8**
SVE	**Sverdlovsk**	**29.37**	**6**	*e*P		**P**		**11 06 00.0**	**+0.8**
AKASG	**Malin Array Be**	**30.20**	**327**	P		**P**		**11 06 05.1**	**-1.5**
	comp=Z,1.6nm,0.4s,mb4.1,baz=134,slow=8.5,SNR=14								
AKASG	**Malin Array Be**	**30.20**	**327**	P		**P**		**11 06 05.1**	**-1.5**
AKBB	**Malin Array Si**	**30.20**	**327**	*e*P		**P**		**11 06 05.0**	**-1.5**
OBN	**Obninsk**	**30.51**	**339**	*i* P		**P**		**11 06 09.1**	**-0.2**
OBN				*e*				11 06 16.6	
OBN				*e*				11 13 02.4	
OBN					pmax	pmax			
	comp=Z,25nm,0.6s,mb5.2								
OBN	**Obninsk**	**30.51**	**339**	*i* P		**P**		**11 06 09.1**	**-0.2**
	comp=Z,25nm,0.6s,mb5.2								
KMBO	**Kilima Mbogo**	**33.40**	**214**	P		**P**		**11 06 36.3**	**+1.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=58,slow=17,SNR=5.3								
KMBO					LR	LR		11 21 28.5	
	comp=Z,118nm,18.5s,MS3.6,baz=56,slow=39								
NVS	**Novosibirsk**	**33.96**	**29**	*e*P		**P**		**11 06 39.9**	**+0.4**
ZAL	**

comp=Z,94nm,19.9s,MS4.3,baz=30,slow=39
LVC Limon Verde 129.41 263 *e*PKPdf PKPdf 11 19 02.9 -2.0

NEIC ***13*** *11:07:07.0±1.0, 6.17S×151.64E, h10km, mb4.4/3, Error ellipse: s-maj=37.4km s-min=16.8km az=139.0*
ISCJB ***13*** *11:07:14.6±5.1, 6.3S±03×151.3E±0.3, h70km±34km, mb4.0/4, Error ellipse: s-maj=51.8km s-min=38.8km az=117.5*
IDC ***13*** *11:07:17.3±8.4, 6.37S×151.28E, h76km±60km, mb3.9/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML2.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/27, Error ellipse: s-maj=58.2km s-min=49.8km az=80.0*
ISC 13 11:07:15.6±5.0, 62S±03×151.3E±03, h69km±33km, n19, σ0.9 39/12, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**232**	P		P	**Pn**	**11 08 30.8**	**+0.1**
	1.4nm,0.3s,baz=28,slow=12,SNR=5.2								
PMG				S			**Sn**	**11 09 29.3**	**+0.1**
	3.0nm,0.3s,baz=84,slow=18,SNR=6.4								
HNR	**Honiara**	**9.16**	**111**	LR		LR		11 12 13.0	
	comp=Z,154nm,21.5s,baz=0.5,slow=32								
CTA	**Charters Tower**	**14.65**	**199**	LR		LR		11 15 38.6	
	comp=Z,83nm,20.5s,baz=228,slow=35								
KAKA	**Kakadu**	**19.68**	**249**	*e*P			**Pn**	**11 11 40.6**	**-0.5**
	22nm,1.1s								
WB2	**Warramunga Arr**	**21.39**	**229**	*e*P		P		**11 11 57.4**	**-0.1**
WRA	**Warramunga Arr**	**21.40**	**229**	P		P		**11 11 57.2**	**-0.4**
	6.2nm,0.9s,mb3.9,baz=54,slow=11,SNR=31								
DZM	**Mont Dzumac**	**21.53**	**139**	LR		LR		11 18 44.5	
AS31	**Alice Springs**	**24.11**	**222**	*e*P		P		**11 12 24.7**	**-0.1**
ASAR	**Alice Springs**	**24.11**	**222**	P		P		**11 12 24.8**	**-0.1**
	5.0nm,0.8s,mb3.9,baz=57,slow=8.5,SNR=38								
ASPA	**Alice Springs**	**24.11**	**222**	*e*P		P		**11 12 24.7**	**-0.1**
STKA	**Stephens Creek**	**27.11**	**198**	*e*P		P		**11 12 52.4**	**+0.4**
	4.4nm,0.9s,mb4.0								
STKA	**Stephens Creek**	**27.11**	**198**	P		P		**11 12 51.8**	**-0.1**
	6.7nm,1.0s,mb4.1,baz=5.4,slow=10,SNR=7.2								
FITZ	**Fitzroy Crossi**	**27.68**	**242**	*e*P		P		**11 12 58.2**	**+1.2**
	4.6nm,0.5s,mb4.3								
FITZ	**Fitzroy Crossi**	**27.68**	**242**	P		P		**11 12 57.8**	**+0.7**
	1.3nm,0.4s,mb3.9,baz=42,slow=11,SNR=6.4								
URZ	**Urewera**	**39.59**	**147**	LR		LR		11 27 07.2	
	comp=Z,125nm,19.9s,baz=99,slow=30								
CPD	**Cerro la Pandu**	**141.86**	**69**	P		PKPdf		11 26 39.5	+0.1
TOA0	**Torodi Ar. Sit**	**149.26**	**285**	*e*PKPdf		PKPdf		11 26 54.5	+2.6
TOA0				*e*PKPbc		PKPbc		11 26 58.0	+1.6
TOA0				*e*PKPab		PKPab		11 27 02.9	+1.9
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc		PKPbc		11 26 58.2	+1.8
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc		PKPbc		11 26 58.2	+1.8

BJI ***13*** *11:20:11.8, 6.64S×151.21E, h12km, mB5.5, mb4.9*
NEIC ***13*** *11:20:14.6±0.3, 6.58S×151.18E, h10km, mb5.0/13, Error ellipse: s-maj=10.6km s-min=6.3km az=119.0*
ISCJB ***13*** *11:20:16.8±0.4, 6.63S±005×151.11E±0.08, h33km, mb4.8/32, MS3.6/9, Error ellipse: s-maj=11.5km s-min=6.7km az=41.0*
MOS ***13*** *11:20:17.4±1.2, 6.42S×150.84E, h33km, mb4.8/16, Error ellipse: s-maj=16.7km s-min=10.7km az=65.5*
IDC ***13*** *11:20:19.2±1.9, 6.58S×151.20E, h44km±17km, mb4.4/15, mb1 4.5/17, mb1mx4.5/18, mbtmp4.4/17, ML3.4/2, MS3.6/10, Ms1 3.6/10, ms1mx3.5/17, Error ellipse: s-maj=17.3km s-min=9.6km az=120.0*
ISC 13 11:20:16.8±2.6, 662S±005×15120E±007, h21km±18km, h31km±2.8km: pP-P, n80, σ0.9 97/78, mb4.8/33, MS3.6/9, 2C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**235**	P		P	**Pn**	**11 21 30.1**	**+1.4**
	11nm,0.3s,baz=66,slow=6.5,SNR=20								
PMG				S			**Sn**	**11 22 28.8**	**+4.5**
	27nm,0.3s,baz=291,slow=10,SNR=9.9								
PMG	**Port Moresby**	**4.86**	**235**	P		P	**Pn**	**11 21 30.1**	**+1.5**
PMG				S		S	**Sn**	**11 22 28.8**	**+4.5**
PMG				pmax		pmax			
	comp=Z,11nm,0.3s								
PMG				smax					
	comp=N,27nm,0.3s								
CTA	**Charters Tower**	**14.22**	**199**	P		P	**Pn**	**11 23 38.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=30,slow=15,SNR=4.0								
CTA				LR		LR		11 28 13.9	
	comp=N,255nm,20.7s,baz=23,slow=33								
KAKA	**Kakadu**	**19.45**	**250**	*e*P		P	**Pn**	**11 24 42.0**	**-1.1**
	comp=N,53nm,0.6s								
WRAB	**Tennant Creek**	**21.04**	**229**	⇑*i*P		P		**11 24 58.8**	**-0.3**
GUMO	**Guam**	**21.04**	**343**	LR		LR		11 31 26.8	
	comp=N,199nm,19.3s,MS3.5,baz=118,slow=32								
WB2	**Warramunga Arr**	**21.05**	**229**	*e*P		P		**11 24 59.0**	**-0.2**
WRA	**Warramunga Arr**	**21.05**	**229**	P		P		**11 24 59.1**	**-0.2**
	comp=N,27nm,0.7s,mb4.7,baz=53,slow=11,SNR=86								
WRA				S		S		**11 28 52.4**	**-0.2**
	comp=N,0.7nm,0.6s,baz=42,slow=20,SNR=4.6								
WRA				LR		LR		11 31 55.9	
	comp=N,51nm,21.4s,MS2.9,baz=70,slow=33								
WRA	**Warramunga Arr**	**21.05**	**229**	P		P		**11 24 59.1**	**-0.2**
WRA				S		S		**11 28 52.4**	**-0.3**
WRA				pmax		pmax			
	comp=Z,27nm,0.7s								
WRA				smax					
	comp=N,1.0nm,0.6s								
DZM	**Mont Dzumac**	**21.27**	**138**	P		P		**11 25 01.4**	**-0.2**
	comp=N,17nm,1.1s,mb4.3,baz=346,slow=20,SNR=7.5								
DZM				LR		LR		11 32 27.1	
	comp=N,359nm,18.4s,MS3.8,baz=8.6,slow=34								
AS31	**Alice Springs**	**23.74**	**223**	*e*P		P		**11 25 27.4**	**0.0**
ASAR	**Alice Springs**	**23.74**	**223**	P		P		**11 25 27.6**	**+0.1**
	comp=N,15nm,0.7s,mb4.6,baz=54,slow=8.1,SNR=263								
ASAR				S		S		**11 29 42.8**	**+1.4**
	comp=N,1.7nm,0.8s,baz=42,slow=20,SNR=5.9								
ASAR				LR		LR		11 35 31.5	
	comp=N,56nm,18.3s,MS3.1,baz=45,slow=38								
ASAR	**Alice Springs**	**23.74**	**223**	P		P		**11 25 27.6**	**+0.1**
ASAR				S		S		**11 29 42.8**	**+1.4**
ASAR				pmax		pmax			
	comp=Z,15nm,0.7s								
ASAR				smax					
	comp=N,2.0nm,0.8s								
ASPA	**Alice Springs**	**23.74**	**223**	*e*P		P		**11 25 27.4**	**-0.1**
STKA	**Stephens Creek**	**26.68**	**198**	*e*P		P		**11 25 52.9**	**-1.3**
	comp=N,8.2nm,0.5s,mb4.5								
STKA	**Stephens Creek**	**26.68**	**198**	P		P		**11 25 53.6**	**-0.6**
	comp=N,11nm,0.8s,mb4.5,baz=359,slow=7.9,SNR=13								
STKA				LR		LR		11 37 28.9	
	comp=N,123nm,18.9s,MS3.5,baz=26,slow=38								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	*e*P		P		**11 26 00.1**	**-0.6**
	comp=N,36nm,0.6s,mb5.1								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P		P		**11 26 00.5**	**-0.2**
	comp=N,22nm,0.7s,mb4.8,baz=68,slow=7.9,SNR=93								
FITZ				LR		LR		11 36 55.0	
	comp=N,87nm,18.1s,MS3.4,baz=55,slow=36								
FORT	**Forrest**	**32.38**	**219**	*e*P		P		**11 26 44.1**	**-0.6**
	comp=N,11nm,0.6s,mb4.9								
FORT				*e*				11 26 53.9	
MBWA	**Marble Bar**	**33.70**	**241**	*e*P		P		**11 26 56.6**	**+0.3**
RAO	**Raoul Island**	**36.80**	**132**	P		P		**11 27 30.3**	**+7.4**
	comp=N,211nm,0.2s,baz=65,slow=23,SNR=6.3								
JOW	**Kunigami**	**39.99**	**327**	P		P		**11 27 50.1**	**+0.3**
	comp=N,23nm,0.7s,mb5.0,baz=160,slow=10,SNR=10								
MJAR	**Matsushiro Arr**	**44.63**	**345**	P		P		**11 28 26.9**	**-0.7**
	comp=N,1.1nm,0.6s,mb3.9,baz=161,slow=8.9,SNR=4.0								
MJAR				PcP		PcP		11 30 09.5	-0.6
	comp=N,3.5nm,0.7s,baz=142,slow=3.8,SNR=6.5								
MJAR	**Matsushiro Arr**	**44.63**	**345**	P		P		**11 28 26.9**	**-0.7**
MJAR								11 30 09.5	
MJAR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KSRS	**Korea Array**	**48.94**	**335**	P		P		**11 29 00.9**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.5,baz=155,slow=8.6,SNR=11								
KSRS				PcP		PcP		11 30 25.6	+0.2
	comp=Z,3.1nm,0.7s,baz=173,slow=2.9,SNR=9.1								
KSRS				LR		LR		11 45 58.7	
	comp=Z,80nm,19.4s,MS3.7,baz=319,slow=32								
NJ2	**Nanjing**	**49.29**	**323**	*e*P		P		**11 29 05.6**	**+1.6**
NJ2				AMB		AMB			
	comp=Z,20nm,0.5s,mb5.4								
LZH	**Lanzhou**	**61.45**	**317**	*e*P		P		**11 30 32.1**	**+0.5**
LZH				AP		pP		11 30 42.0	+3.6
LZH						AMB	AMB		
	comp=Z,21nm,1.3s,mb5.1								
LZH	**Lanzhou**	**61.45**	**317**	*e*P		P		**11 30 32.1**	**+0.5**
	comp=Z,21nm,1.3s,mb5.1								
LZH				pP		pP		11 30 42.0	+3.6
LZH				sP		sP		11 30 48.1	+7.1
GTA	**Gaotai**	**65.93**	**318**	*e*P		P		**11 31 01.8**	**+0.7**
GTA				AP		pP		11 31 11.6	+3.6
GTA				AMB		AMB			
	comp=Z,9.0nm,0.6s,mb5.0								
SONM	**Songino Array**	**67.03**	**329**	P		P		**11 31 07.6**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.6,baz=149,slow=4.3,SNR=27								
SONM				LR		LR		11 59 14.6	
	comp=Z,97nm,19.4s,MS4.0,baz=356,slow=35								
ZAK	**Zakamensk**	**70.23**	**330**	*e*P		P		**11 31 26.7**	**-1.4**
ZAK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
VNDA	**Vanda**	**71.08**	**178**	P		P		**11 31 33.2**	**-0.1**
	comp=Z,2.5nm,1.1s,mb4.1,baz=333,slow=7.2,SNR=8.3								
VNDA	**Vanda**	**71.08**	**178**	P		P		**11 31 33.3**	**0.0**
VNDA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
GUN	**Gumba**	**71.72**	**302**	*e*P		P		**11 31 37.1**	**0.0**
	comp=Z,26nm,0.7s,mb5.3								
KKN	**Kakani**	**72.18**	**302**	*e*P		P		**11 31 39.0**	**-0.9**
	comp=Z,11nm,0.6s,mb4.9								
DMN	**Daman**	**72.28**	**302**	*e*P		P		**11 31 40.3**	**-0.2**
	comp=Z,16nm,0.7s,mb5.1								
GKN	**Gorkha**	**72.79**	**302**	*e*P		P		**11 31 42.7**	**-0.8**
	comp=Z,16nm,0.7s,mb5.1								
KOLN	**Koldanda**	**73.60**	**301**	*e*P		P		**11 31 47.8**	**-0.5**
	comp=Z,11nm,0.7s,mb4.9								
BILL	**Bilibino**	**75.25**	**6**	⇓*e*P		P		**11 31 57.8**	**-0.1**
BILL				*e*		pP		11 32 05.3	+0.4
BILL								11 32 10.0	
BILL				pmax		pmax			
	comp=Z,16nm,0.8s,mb5.0								
BILL	**Bilibino**	**75.25**	**6**	*e*P		P		**11 31 58.0**	**0.0**
	comp=Z,21nm,0.9s,mb5.1								
MKAR	**Makanchi Array**	**80.66**	**319**	P		P		**11 32 26.1**	**-1.9**
	comp=Z,1.5nm,0.5s,mb4.2,baz=100,slow=7.4,SNR=16								
MKAR	**Makanchi Array**	**80.66**	**319**	P		P		**11 32 26.1**	**-1.9**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZAL	**Zalesovo**	**81.79**	**327**	P		P		**11 32 31.9**	**-2.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=7.7,slow=6.0,SNR=10								
ZAL				LR		LR		12 10 16.6	
	comp=Z,96nm,18.7s,MS4.2,baz=168,slow=37								
ZAL	**Zalesovo**	**81.79**	**327**	P		P		**11 32 31.9**	**-2.1**
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ZAL				MLR		MLR			
	comp=Z,96nm,18.7s								
SML	**Sawmill**	**82.43**	**25**	*e*P		P		**11 32 36.9**	**-0.5**
MCK	**McKinley**	**83.15**	**23**	*e*P		P		**11 32 40.2**	**-0.9**
MCK				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.7								
MCK	**McKinley**	**83.15**	**23**	*e*P		P		**11 32 40.2**	**-0.9**
	comp=Z,9.4nm,1.1s,mb4.7								
MAW	**Mawson**	**83.28**	**203**	P		P		**11 32 41.4**	**-0.4**
	comp=Z,5.1nm,0.9s,mb4.5,baz=85,slow=7.4,SNR=8.0								
MAW	**Mawson**	**83.28**	**203**	P		P		**11 32 41.4**	**-0.4**
MAW				pmax		pmax			
	comp=Z,5.0nm,0.9s								
QSPA	**South Pole Qui**	**83.35**	**180**	*e*P		P		**11 32 41.5**	**-0.6**
	comp=Z,7.2nm,0.7s,mb4.8								
QSPA						*e*P		11 32 42.0	
ULHL	**Ulahol**	**83.41**	**314**	P		P		**11 32 42.6**	**+0.1**
	SNR=6.0								
TKM2	**Tokmak 2**	**84.05**	**314**	P		P		**11 32 48.0**	**+2.3**
	SNR=7.5								
KZA	**Kyzart**	**84.08**	**313**	P		P		**11 32 48.2**	**+2.3**
	SNR=9.8								
COLA	**College**	**84.12**	**22**	⇓*e*P		P		**11 32 44.0**	**-2.1**
COLA	**College**	**84.12**	**22**	*e*P		P		**11 32 44.9**	**-1.1**
	comp=Z,10nm,0.7s,mb5.1								
KURK	**Kurchatov**	**84.22**	**322**	⇑*i*P		P		**11 32 45.3**	**-1.3**
KURK	**Kurchatov**	**84.22**	**322**	*e*P		P		**11 32 45.8**	**-0.8**
	comp=Z,13nm,0.9s,mb5.1								
UCH	**Uchtor**	**84.65**	**313**	P		P		**11 32 50.0**	**+1.2**
	SNR=18								
AAK	**Ala-Archa**	**84.76**	**314**	P		P		**11 32 49.9**	**+0.6**
	SNR=8.3								
AAK	**Ala-Archa**	**84.76**	**314**	*e*P		P		**11 32 48.7**	**-0.6**
AAK				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.9								
AAK	**Ala-Archa**	**84.76**	**314**	*e*P		P		**11 32 48.7**	**-0.6**
	comp=Z,7.9nm,0.8s,mb4.9								
USP	**Ospenovka**	**84.91**	**314**	P		P		**11 32 50.9**	**+0.9**
	SNR=19								
AML	**Almayashu**	**85.22**	**313**	P		P		**11 32 52.8**	**+1.2**
	SNR=20								
EKS2	**Erkin-Say**	**85.28**	**314**	P		P		**11 32 53.1**	**+1.2**
	SNR=13								
EGAK	**Eagle**	**86.65**	**23**	*e*P		P		**11 32 58.6**	**-0.1**
	comp=Z,9.5nm,0.8s,mb5.1								
DAWY	**Dawson**	**87.09**	**24**	*e*P		P		**11 33 01.6**	**+0.8**
SYO	**Syowa Base**	**91.43**	**200**	⇓*e*P		P		**11 33 20.3**	**-1.0**
NVAR	**Mina Array Bea**	**94.45**	**52**	P		P		**11 33 36.6**	**+1.4**
	comp=Z,2.8nm,0.8s,mb4.7,baz=270,slow=9.0,SNR=14								
DAC	**Darwin (Calif)**	**94.84**	**54**	*e*P		P		**11 33 38.7**	**+1.7**
DAC				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.9								
DAC	**Darwin (Calif)**	**94.84**	**54**	*e*P		P		**11 33 38.7**	**+1.7**
	comp=Z,4.6nm,1.0s,mb4.9								
YKA	**Yellowknife Ar**	**97.77**	**28**	P		P		**11 33 51.1**	**+0.8**
	comp=Z,2.2nm,0.6s,mb4.9,baz=273,slow=4.9,SNR=8.9								
YKA	**Yellowknife Ar**	**97.77**	**28**	P		P		**11 33 51.1**	**+0.8**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
PDAR	**Pinedale Array**	**101.25**	**48**	P		Pdif		11 34 05.5	-0.3
	comp=Z,0.6nm,0.7s,baz=303,slow=3.0,SNR=4.7								
GERES	**GERESS Array B**	**124.74**	**327**	PKP		PKPdf		11 39 14.2	-0.6
	comp=Z,1.1nm,0.6s,baz=112,slow=1.4,SNR=6.1								
GERES	**GERESS Array B**	**124.74**	**327**	PKIKP		PKPdf		11 39 14.2	-0.5
GERES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**134.91**	**121**	PKP		PKPdf		11 39 35.6	+1.6
	comp=Z,0.5nm,0.4s,baz=339,slow=5.7,SNR=5.7								
LPAZ	**La Paz**	**134.91**	**121**	PKIKP		PKPdf		11 39 35.6	+1.6
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TOA0	**Torodi Ar. Sit**	**149.29**	**285**	*e*PKPdf		PKPdf		11 39 59.6	+0.1
TOA0				*e*PKPbc		PKPbc		11 40 03.7	0.0
TOA0				*e*PKPab		PKPab		11 40 08.7	+0.3
TORD	**Torodi Ar. Bea**	**149.29**	**285**	PKP		PKPbc		11 39 59.0	-0.5
	comp=Z,7.0nm,0.6s,baz=116,slow=1.5,SNR=3.5								
TORD				PKPbc		PKPbc		11 40 03.0	-0.8
	comp=Z,7.1nm,0.6s,baz=49,slow=2.3,SNR=56								

GRAL ***13*** *11:39:14.9±1.7, 3360N×3704E, h0km±780km, MD3.2*
CSEM ***13*** *11:39:16.8±0.1, 3363N×3683E, h8km, Mc1.8, Error ellipse: s-maj=3.1km s-min=2.5km az=107.0*
ISCJB ***13*** *11:39:18.1±1.0, 3368N±003×3677E±005, h15km±6km, Error ellipse: s-maj=7.4km s-min=4.4km az=48.4*
NSSC ***13*** *11:39:18, 3367N×3676E, h18km±2km*
ISC 13 11:39:18.4±0.7, 3364N±004×3679E±005, h26km±7km, n19, σ0.9 90/33, 13D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**0.41**	**227**	⇑*i*P		P	**Pb**	**11 39 26.5**	**-0.6**
TOTH	**TOTAH**	**0.41**	**227**	⇑P		P	**Pb**	**11 39 26.0**	**-1.1**
TOTH				⇑S			**Sb**	**11 39 33.0**	**-0.1**
QASN	**Qassioun**	**0.44**	**256**	⇓*i*P		P	**Pb**	**11 39 27.2**	**-0.4**
QASN	**Qassioun**	**0.44**	**256**	⇓P		P	**Pb**	**11 39 27.0**	**-0.6**
QASN				⇓S			**Sb**	**11 39 33.0**	**-0.9**
ROOS	**tl_alroos**	**0.67**	**38**	⇑*i*P		P	**Pb**	**11 39 30.9**	**-0.7**
ROOS				⇑*i*S			**Sb**	**11 39 41.3**	**+0.8**
ROOS	**tl_alroos**	**0.67**	**38**	⇑P		P	**Pb**	**11 39 30.0**	**-1.6**
ROOS				⇑S			**Sb**	**11 39 41.0**	**+0.5**
BRBR	**Barbar**	**0.73**	**252**	⇓*i*P		P	**Pb**	**11 39 32.6**	**0.0**
BRBR	**Barbar**	**0.73**	**252**	⇓P		P	**Pb**	**11 39 32.0**	**-0.6**
BRBR				⇓S			**Sb**	**11 39 42.0**	**-0.2**
RCY	**Rachaya**	**0.82**	**259**	*e*Pg		Pb		**11 39 33.1**	**-1.0**
RCY				*e*Sg			**Sb**	**11 39 45.5**	**+0.8**
RCY	**Rachaya**	**0.82**	**259**	*e*Pg		Pb		**11 39 33.1**	**-1.0**
RCY				*e*Sg			**Sb**	**11 39 45.5**	**+0.8**
SALA	**Sala**	**0.93**	**183**	⇓*i*P		P	**Pn**	**11 39 36.2**	**+0.5**
SALA				⇓*i*S			**Sb**	**11 39 49.1**	**+1.4**
SALA	**Sala**	**0.93**	**183**	⇓P		P	**Pn**	**11 39 36.0**	**+0.3**
SALA				⇓S			**Sb**	**11 39 49.0**	**+1.3**
HWQ	**Hawqa**	**0.94**	**313**	*e*Pg			**Pn**	**11 39 35.5**	**-0.4**
HWQ				*e*Sg			**Sb**	**11 39 50.0**	**+1.8**
BHL	**Bhannes**	**0.98**	**286**	*e*Pg			**Pn**	**11 39 36.2**	**-0.2**
BHL				*e*Sg			**Sb**	**11 39 52.5**	**+3.3**
BHL	**Bhannes**	**0.98**	**286**	*e*Pg			**Pn**	**11 39 36.2**	**-0.2**
BHL				*e*Sg			**Sb**	**11 39 52.5**	**+3.3**
BIDA	**Albida**	**1.42**	**344**	⇓*i*P			**Pn**	**11 39 43.8**	**+1.3**
BIDA	**Albida**	**1.42**	**344**	⇓P			**Pn**	**11 39 43.0**	**+0.5**
BIDA				⇓S			**Sn**	**11 40 00.0**	**-0.4**
WRDH	**Warideh**	**1.89**	**351**	⇑*i*P			**Pn**	**11 39 49.9**	**+1.0**
WRDH	**Warideh**	**1.89**	**351**	⇑P			**Pn**	**11 39 49.0**	**+0.1**
WRDH				⇑S			**Sn**	**11 40 11.0**	**-0.9**

ISCJB ***13*** *11:56:08.2±4.6, 6.65S±01×151.1E±03, h58km±35km, mb4.1/8, MS4.0/1, Error ellipse: s-maj=46.0km s-min=20.4km az=27.4*
IDC ***13*** *11:56:11.1±6.9, 6.53S×151.06E, h66km±52km, mb3.9/8, mb1 4.0/9, mb1mx3.9/15, mbtmp3.9/9, ML3.0/1, MS3.9/2, Ms1 3.9/2, ms1mx3.0/26, Error ellipse: s-maj=56.7km s-min=22.7km az=94.0*
ISC 13 11:56:09.8±4.5, 66S±01×1512E±03, h57km±34km, n14, σ0.9 81/13, mb4.1/8, MS4.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**234**	P		P	**Pn**	**11 57 20.3**	**-0.5**
	4.0nm,0.3s,baz=22,slow=8.9,SNR=12								
PMG				S			**Sn**	**11 58 16.8**	**+0.7**
	12nm,0.3s,baz=183,slow=20,SNR=9.1								
WB2	**Warramunga Arr**	**21.08**	**229**	*e*P		P		**12 00 48.7**	**-0.6**
WRA	**Warramunga Arr**	**21.09**	**229**	P		P		**12 00 48.4**	**-1.0**
	4.6nm,0.7s,mb3.9,baz=53,slow=10,SNR=31								
ASAR	**Alice Springs**	**23.78**	**222**	P		P		**12 01 17.2**	**+0.1**
	3.4nm,0.6s,mb4.0,baz=54,slow=8.1,SNR=71								
ASPA	**Alice Springs**	**23.79**	**222**	*e*P		P		**12 01 17.3**	**+0.2**
STKA	**Stephens Creek**	**26.75**	**198**	P		P		**12 01 44.9**	**+1.0**
	2.4nm,0.4s,mb4.1,baz=355,slow=10,SNR=8.9								
FITZ	**Fitzroy Crossi**	**27.43**	**243**	*e*P		P		**12 01 50.0**	**-0.1**
	7.6nm,0.4s,mb4.6								
FITZ	**Fitzroy Crossi**	**27.43**	**243**	P		P		**12 01 49.8**	**-0.3**
	4.8nm,0.6s,mb4.2,baz=69,slow=7.9,SNR=35								
JNU	**Nakatsue**	**43.92**	**335**	LR		LR		12 20 14.3	
	comp=Z,184nm,18.5s,MS4.0,baz=227,slow=33								
KSRS	**Korea Array**	**48.87**	**335**	P		P		**12 04 50.8**	**+1.2**
	1.7nm,0.7s,mb4.2,baz=158,slow=8.6,SNR=5.5								
SONM	**Songino Array**	**66.96**	**329**	P		P		**12 06 56.9**	**+0.6**
	1.1nm,0.6s,mb4.1,baz=153,slow=3.7,SNR=7.1								
MKAR	**Makanchi Array**	**80.59**	**319**	P		P		**12 08 16.2**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=96,slow=6.9,SNR=7.2								
ZAL	**Zalesovo**	**81.72**	**327**	P		P		**12 08 20.3**	**-1.8**
	0.8nm,0.4s,mb4.0,baz=346,slow=3.7,SNR=2.7								
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc		PKPbc		12 15 53.5	+1.5
	1.9nm,0.5s,baz=65,slow=2.4,SNR=13								

BJI ***13*** *11:56:37.7, 1751S×17807W, h589km, mB5.2, mb4.9*
MOS ***13*** *11:56:37.1±1.4, 1773S×17843W, h570km, mb4.9/22, Error ellipse: s-maj=11.3km s-min=8.2km az=162.0*
ISCJB ***13*** *11:56:38.0±0.1, 1791S±004×17846W±003, h589km, mb4.9/78, Error ellipse: s-maj=6.2km s-min=3.3km az=129.5*
IDC ***13*** *11:56:38.4±0.6, 1778S×17836W, h582km±6km, mb4.4/21, mb1 4.5/24, mb1mx4.4/25, mbtmp4.4/24, Error ellipse: s-maj=10.1km s-min=8.3km az=163.0*
GCMT ***13*** *11:56:39.1±0.3, 1777S×17825W, h619km±2km, MW5.5/70, Moment Tensor Solution. s70,c120; Duration: 1ⁱ9⁴ Moment tensor: Scale 10^17 Nm; Mrr~0.88±.05; Mθθ 0.13±.07; Mϕϕ 0.75±.07; Mrθ~0.07±.08; Mϕθ 0.78±.07; Mϕr~1.93±.07; Best double couple: Mo2.23800×10^17 NP1:ϕ243.00000°, δ22.00000°, λ-35.00000°. NP2: ϕ6.00000°, δ78.00000°, λ-108.00000°. Principal axes: T 2.2580,

TOO pmax pmax
comp=Z,83nm,1.1s,mb5.2
STKA Stephens Creek 38.63 241 ⇓*i*P **P 12 03 14.5 +1.1**
comp=Z,124nm,1.0s,mb5.4
STKA *e*S **S 12 08 28.1 -0.5**
STKA Stephens Creek 38.63 241 P **P 12 03 14.6 +1.1**
comp=Z,88nm,0.4s,mb5.6,baz=93,slow=9.9,SNR=162
RKT Rikitea 40.94 105 *e*S **S 12 08 59.1 -2.9**
comp=Z,210nm,33.0s
POHA Pohakuloa 43.63 32 *e*P **P 12 03 52.3 -0.5**
WB2 Warramunga Arr 44.60 259 ⇓*i*P **P 12 03 59.8 -0.6**
WB2 *e*S **S 12 09 51.8 -2.4**
WB2 *e*SCS ScS 12 12 54.4 +1.8
WRAB Tennant Creek 44.61 260 *d i*P **P 12 03 59.9 -0.5**
WRA Warramunga Arr 44.62 259 P **P 12 03 59.9 -0.5**
comp=Z,74nm,0.4s,mb5.5,baz=90,slow=7.5,SNR=501
WRA PcP PcP 12 05 30.6 +0.5
comp=Z,4.8nm,0.5s,baz=93,slow=4.4,SNR=6.1
WRA ScP ScP 12 08 28.2 +1.7
comp=Z,4.5nm,1.0s,baz=93,slow=4.0,SNR=8.4
AS31 Alice Springs 44.78 254 ⇓*i*P **P 12 04 02.0 +0.3**
AS31 *e*S **S 12 09 55.3 -1.3**
AS31 *e*ScS ScS 12 12 54.7 +1.0
ASAR Alice Springs 44.78 254 P **P 12 04 02.0 +0.3**
comp=Z,357nm,0.7s,mb6.0,baz=89,slow=8.4,SNR=1159
ASAR PcP PcP 12 05 30.8 +0.1
comp=Z,13nm,0.5s,baz=98,slow=4.2,SNR=4.7
ASPA Alice Springs 44.78 254 ⇓*i*P **P 12 04 02.0 +0.3**
ASPA *e*S **S 12 09 55.3 -1.4**
ASPA *e*SCS ScS 12 12 54.7 +1.0
KAKA Kakadu 47.56 269 *e*P **P 12 04 22.2 -0.5**
comp=Z,78nm,0.6s,mb5.4
GUMO Guam 47.83 308 P **P 12 04 24.4 -0.3**
comp=Z,127nm,0.7s,mb5.6,baz=180,slow=11,SNR=9.9
GUMO Guam 47.83 308 *e*P **P 12 04 24.7 0.0**
GUMO pmax pmax
comp=Z,136nm,0.8s,mb5.5
GUMO Guam 47.83 308 *e*P **P 12 04 24.7 0.0**
comp=Z,136nm,0.8s,mb5.5
FORT Forrest 50.01 245 ⇓*i*P **P 12 04 40.2 -0.5**
comp=Z,284nm,0.6s,mb5.9
FORT *e*PCP PcP 12 05 49.7 +0.1
FORT *e*S **S 12 11 06.9 -1.6**
FITZ Fitzroy Crossi 53.01 261 ⇓*i*P **P 12 05 02.3 0.0**
comp=Z,61nm,1.4s,mb4.7
FITZ *e*S **S 12 11 49.2 +0.6**
FITZ Fitzroy Crossi 53.01 261 P **P 12 05 02.5 +0.2**
comp=Z,9.4nm,0.3s,mb4.6,baz=111,slow=5.0,SNR=110
MBWA Marble Bar 58.06 256 *e*P **P 12 05 36.9 -0.3**
comp=Z,49nm,0.5s,mb4.9
KLBR Kellerberrin 58.83 244 ⇓*i*P **P 12 05 41.7 -0.6**
comp=Z,52nm,0.6s,mb4.8
NWAO Narrogin (SRO) 59.21 242 *e*P **P 12 05 45.2 +0.3**
NWAO pmax pmax
comp=Z,96nm,1.2s
NWAO Narrogin (SRO) 59.21 242 *e*P **P 12 05 45.2 +0.3**
comp=Z,96nm,1.2s,mb4.8
MUN Mundaring 60.12 243 *e*P **P 12 05 51.1 +0.2**
VNDA Vanda 60.49 185 P **P 12 05 53.8 +0.5**
comp=Z,10nm,0.7s,mb4.2,baz=2.8,slow=6.9,SNR=108
VNDA Vanda 60.49 185 P **P 12 05 53.8 +0.5**
VNDA pmax pmax
comp=Z,100nm,0.7s
RPN Rapa Nui 63.83 112 LR LR 12 44 01.3
comp=Z,42nm,19.0s,baz=136,slow=30
CASY Casey 66.17 205 *e*P **P 12 06 29.1 -0.4**
TSM Tawau 66.53 283 P **P 12 06 32.8 +1.0**
MJAR Matsushiro Arr 67.86 323 P **P 12 06 38.6 -1.2**
comp=Z,25nm,0.8s,mb4.7,baz=156,slow=5.6,SNR=41
MJAR pP pP 12 08 38.0 -0.4
comp=Z,8.4nm,1.2s,baz=159,slow=6.9,SNR=4.5
MJAR Matsushiro Arr 67.86 323 P **P 12 06 38.7 -1.2**
MJAR *PP pP 12 08 38.0 -0.5
MJAR pmax pmax
comp=Z,25nm,0.8s
MAJO Matsushiro 67.86 323 *e*P **P 12 06 38.6 -1.3**
MAJO pmax pmax
comp=Z,40nm,0.9s,mb4.8
MAJO Matsushiro 67.86 323 *e*P **P 12 06 38.6 -1.3**
comp=Z,40nm,0.9s,mb4.8
JOW Kunigami 68.17 309 P **P 12 06 41.5 -0.4**
comp=Z,14nm,0.6s,mb4.6,baz=124,slow=9.7,SNR=8.0
KKM Kota Kinabalu 68.71 284 P **P 12 06 45.7 +0.7**
NACB Ninganchiao 71.87 304 *e*P **P 12 07 03.9 +0.2**
QSPA South Pole Qui 72.19 180 *e*P **P 12 07 05.9 +0.4**
comp=Z,98nm,0.7s,mb5.4
TATO Taipei 72.35 304 *e*P **P 12 07 06.4 -0.1**
comp=Z,26nm,0.6s,mb4.9
KSM Kuching 72.65 277 *e*P **P 12 07 08.8 +0.6**
MIR Mirnyy 73.20 205 *d i*P **P 12 07 12.0 +0.7**
MIR *e* 12 07 28.0
MIR pmax pmax
comp=Z,50nm,1.5s,mb4.8
QZH Quanzhou 74.63 303 ⇑*i*P **P 12 07 19.5 +0.1**
QZH AMB AMB
comp=Z,110nm,0.9s,mb5.4
KSRS Korea Array 74.65 318 P **P 12 07 19.8 +0.3**
comp=Z,6.7nm,0.6s,mb4.3,baz=130,slow=6.4,SNR=25
SSE Sheshan 75.69 310 *e*P **P 12 07 25.5 +0.2**
SSE PcP PcP 12 07 34.3 -0.5
SSE AP pP 12 09 28.8 +1.3
SSE PP PP 12 10 25.8 -0.1
SSE S S 12 16 19.6 -0.1
SSE ScS ScS 12 16 42.5 -2.3
SSE XS sS 12 19 53.9 -3.7
SSE AMB AMB
comp=Z,32nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,115nm,7.4s
SSE Sheshan 75.69 310 *e*P **P 12 07 25.5 +0.2**
comp=Z,32nm,0.7s,mb4.9
SSE PcP PcP 12 07 34.2 -0.6
SSE pP pP 12 09 28.8 +1.3
SSE PP PP 12 10 25.7 -0.2
SSE S S 12 16 19.6 -0.1
SSE ScS ScS 12 16 42.5 -2.3
SSE sS sS 12 19 53.9 -3.7
SSE LR LR
comp=Z,130nm,26.4s
BSC Santa Cruz Isl 76.10 47 ⇓P **P 12 07 27.7 +0.2**
baz=76
HAST UC Hastings Re 76.13 44 P **P 12 07 28.2 +0.5**
baz=76,SNR=13
V03C Hunter Liggett 76.13 45 ⇑P **P 12 07 28.0 +0.4**
baz=76
BNLO Ben Lomond (Sa 76.14 43 ⇑P **P 12 07 27.8 0.0**
baz=76
SAO San Andreas Ge 76.41 44 *e*P **P 12 07 29.7 +0.5**
SAO pmax pmax
comp=Z,18nm,0.7s,mb4.6
SAO San Andreas Ge 76.41 44 *e*P **P 12 07 29.7 +0.5**
comp=Z,18nm,0.7s,mb4.6
PKD Parkfield 76.55 45 ⇑P **P 12 07 30.2 +0.3**
baz=77
SMMC Simmler 76.57 46 ⇑P **P 12 07 30.7 +0.7**
baz=77
U04C Hernandez Rese 76.62 45 ⇓P **P 12 07 31.0 +0.6**
baz=77,SNR=5.4
PACP Pacheco Peak 76.65 44 ⇓P **P 12 07 30.9 +0.4**
baz=77,SNR=11
S04C Ingram Canyon, 76.91 43 ⇑P **P 12 07 32.0 0.0**
baz=77
MNRC McLaughlin Nat 76.98 42 ⇑P **P 12 07 32.7 +0.3**
baz=77
ARVC Arvin 77.27 46 ⇓P **P 12 07 34.1 +0.2**
baz=77
109C Camp Elliot, M 77.31 49 ⇑P **P 12 07 34.1 0.0**
baz=78
MWC Mount Wilson 77.33 48 *e*P **P 12 07 34.3 +0.1**
S05C Merced 77.47 44 ⇓P **P 12 07 34.9 -0.1**
baz=78
VES Vestal, Richgr 77.48 46 P **P 12 07 34.8 -0.2**
baz=78,SNR=9.1
BAR Barrett 77.52 50 *e*P **P 12 07 35.5 +0.3**
MURC Murrieta 77.61 49 ⇓P **P 12 07 35.7 0.0**
baz=78
BFSC Mount Baldy St 77.61 48 P **P 12 07 35.0 -0.7**
baz=78,SNR=7.9
RCTC Rector, Farmer 77.63 45 ⇓P **P 12 07 35.5 -0.3**
baz=78
T06C Millerton Lake 77.70 44 ⇓P **P 12 07 36.0 -0.2**
baz=78,SNR=12
EDW2 Edwards Air Fo 77.72 47 P **P 12 07 36.3 0.0**
baz=78,SNR=14
ISA Isabella 77.80 46 *e*P **P 12 07 37.0 +0.2**
ISA Isabella 77.80 46 ⇑P **P 12 07 36.9 +0.2**
baz=78
MONP Monument Peak 77.80 49 P **P 12 07 37.2 +0.5**
baz=78,SNR=14
CMB Columbia Colle 77.82 43 *e*P **P 12 07 36.6 -0.3**
CMB *e**PP pP 12 09 41.2 +1.2
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.3
CMB Columbia Colle 77.82 43 *e*P **P 12 07 36.6 -0.3**
comp=Z,11nm,0.9s,mb4.3
CMB *e*pP pP 12 09 41.2 +1.2
CMB Columbia Colle 77.82 43 P **P 12 07 36.6 -0.3**
baz=78,SNR=8.1
NJ2 Nanjing 77.89 309 *e*P **P 12 07 38.3 +1.1**
NJ2 AP pP 12 09 44.6 +4.2
NJ2 XP sP 12 10 44.4 +3.8
NJ2 PP PP 12 10 46.3 +2.3
NJ2 S S 12 16 42.0 -0.9
NJ2 XS sS 12 20 25.0 +2.5
NJ2 AMB AMB
comp=Z,120nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,580nm,4.9s
DVTC Desert V Tower 77.92 50 ⇑P **P 12 07 37.8 +0.4**
baz=78,SNR=9.6
ORV Oroville 77.97 41 ⇑P **P 12 07 37.5 -0.2**
baz=78
HELL Mitchell Peak, 77.98 45 P **P 12 07 37.2 -0.5**
baz=78,SNR=9.9
LAVA Lava Cap Winer 78.00 43 ⇓P **P 12 07 37.6 -0.2**
baz=78
S06C San Francisco 78.09 44 ⇑P **P 12 07 38.2 0.0**
baz=78
KCC Kaiser Creek 78.13 44 P **P 12 07 38.7 +0.2**
baz=78,SNR=9.4
MDJ Mudanjiang 78.14 325 P **P 12 07 38.8 +0.3**
MDJ AP pP 12 09 38.6 -3.2
MDJ XP sP 12 10 42.3 +0.3
MDJ PP PP 12 10 46.8 +0.8
MDJ S S 12 16 47.6 +2.1
MDJ SCS ScS 12 17 04.8 +0.1
MDJ AMB AMB
comp=Z,53nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,300nm,3.9s
MDJ Mudanjiang 78.14 325 *e*P **P 12 07 38.8 +0.2**
comp=Z,55nm,1.0s,mb4.9
PFO Pinyon Flat Ob 78.14 49 ⇑P **P 12 07 38.5 -0.1**
baz=78
BBRC Big Bear Sol-O 78.15 48 ⇑P **P 12 07 38.7 +0.1**
baz=78
LRMC Laurel Mountai 78.25 47 ⇓P **P 12 07 39.2 +0.1**
baz=78
SWSC Sam W. Stewart 78.28 50 ⇑P **P 12 07 39.4 +0.1**
baz=78,SNR=5.1
P05C Yuba Gap, Truc 78.40 42 P **P 12 07 39.9 0.0**
baz=79,SNR=5.3
R05C Kirkwood Meado 78.40 43 P **P 12 07 40.1 +0.2**
baz=79,SNR=6.3
RRX Edison Barstow 78.41 47 ⇑P **P 12 07 39.2 -0.8**
baz=79
CWC Cottonwood Cre 78.49 46 ⇑P **P 12 07 40.7 +0.3**
baz=79
YBH Yreka Blue Hor 78.50 39 ⇓P **P 12 07 40.8 +0.3**
baz=79
O05C Quincy 78.58 41 P **P 12 07 41.1 +0.2**
baz=79,SNR=6.8
M03C McCloud 78.59 40 P **P 12 07 41.3 +0.3**
baz=79
MLAC Mammoth Lakes 78.62 44 ⇓P **P 12 07 41.4 +0.3**
baz=79
MTUM Tungsten Hills 78.65 45 *e*P **P 12 07 41.6 +0.3**
BELC Belle Mtn. 78.67 49 ⇓P **P 12 07 41.8 +0.4**
baz=79,SNR=11
O04C Chester 78.67 41 ⇑P **P 12 07 41.5 +0.1**
baz=79
MPMC Manual Prospec 78.69 46 P **P 12 07 41.9 +0.5**
baz=79,SNR=9.3
WAKR Walker 78.70 43 *e*P **P 12 07 42.1 +0.5**
WAKR *e*pP pP 12 09 47.2 +2.1
R06C Coleville 78.70 43 ⇓P **P 12 07 42.1 +0.5**
baz=79,SNR=6.8
TIN Tinemaha 78.72 45 ⇓P **P 12 07 42.2 +0.5**
baz=79
HATC Hat Creek Radi 78.73 40 ⇓P **P 12 07 42.0 +0.3**
baz=79
R07C Lee Vining 78.73 44 ⇑P **P 12 07 42.0 +0.3**
baz=79
DAC Darwin (Calif) 78.73 46 *e*P **P 12 07 42.2 +0.5**
GSC Goldstone 78.77 47 *e*P **P 12 07 42.4 +0.5**
GSC Goldstone 78.77 47 ⇑P **P 12 07 41.9 0.0**
baz=79
HEC Hector,Ludlow 78.86 48 ⇑P **P 12 07 42.3 -0.1**
baz=79
BEKR Beckwourth 78.87 42 P **P 12 07 42.6 +0.2**
baz=79,SNR=8.7
HUMO Hull Mountain 78.88 38 ⇑P **P 12 07 42.7 +0.2**
baz=79
BC3 Big Chuckw Mtn 78.89 49 P **P 12 07 43.1 +0.6**
baz=79,SNR=7.3
WCN Washoe City 78.94 42 ⇓P **P 12 07 43.0 +0.2**
baz=79
S08C White Mtn Res 78.99 45 P **P 12 07 43.7 +0.6**
baz=79,SNR=18
GLA Glamis 79.04 50 *e*P **P 12 07 44.4 +1.0**
GLA Glamis 79.04 50 ⇑P **P 12 07 44.0 +0.6**
baz=79,SNR=5.4
M04C Macdoel 79.06 39 ⇑P **P 12 07 43.6 +0.2**
baz=79
M05C Lookout 79.24 40 ⇓P **P 12 07 44.4 0.0**
baz=79,SNR=5.4
L04A Klamath Falls 79.26 39 ⇓P **P 12 07 45.0 +0.5**
baz=79
GRAC Grapevine Rang 79.27 45 ⇓P **P 12 07 45.0 +0.4**
baz=79,SNR=5.8
FURC Furnace Creek, 79.34 46 P **P 12 07 45.2 +0.3**
baz=80,SNR=6.2
Q07A Schurz 79.35 43 ⇑P **P 12 07 45.3 +0.3**
baz=80
IRM Iron Mountain 79.36 49 P **P 12 07 45.6 +0.6**
baz=80,SNR=8.7
O06A Flanigan 79.38 42 ⇓P **P 12 07 45.2 +0.1**
baz=80,SNR=6.7
NVAR Mina Array Bea 79.41 44 P **P 12 07 45.2 -0.1**
comp=Z,8.6nm,0.6s,mb4.2,baz=233,slow=8.9,SNR=64
NVAR pP pP 12 09 47.6 -1.5
comp=Z,0.3nm,0.6s,baz=181,slow=29,SNR=4.3
NVAR Mina Array Bea 79.41 44 P **P 12 07 45.2 -0.1**
NVAR pP pP 12 09 47.6 -1.5
KGM Kluang 79.44 276 P **P 12 07 46.9 +1.4**
SHOC Shoshone 79.44 47 ⇑P **P 12 07 45.6 +0.1**
baz=80
TUQ Turquoise Mtn. 79.45 47 ⇑P **P 12 07 45.5 0.0**
baz=80,SNR=9.3
R08A Mina 79.49 44 ⇓P **P 12 07 45.8 0.0**
baz=80
M06C Likely Place G 79.56 41 ⇑P **P 12 07 46.1 +0.1**
baz=80,SNR=5.2
Y12C Blythe 79.61 50 ⇓P **P 12 07 46.5 +0.2**
baz=80,SNR=7.5
U10A Ash Meadows, A 79.68 46 ⇓P **P 12 07 47.0 +0.3**
baz=80,SNR=5.4
N06A Buffalo Meadow 79.70 41 P **P 12 07 46.7 -0.1**
baz=80,SNR=6.8
S09A Goldfield 79.75 45 P **P 12 07 47.2 +0.2**
baz=80,SNR=5.0
J04A Umpqua Nationa 79.76 38 ⇑P **P 12 07 47.5 +0.4**
baz=80,SNR=5.2
L05A Lakeview 79.82 40 ⇑P **P 12 07 47.9 +0.5**
baz=80
Q08A Gabbs 79.89 44 P **P 12 07 47.9 +0.1**
baz=80,SNR=9.8
TPH Tonopah 79.94 45 *e*P **P 12 07 48.6 +0.6**
CN2 Changchun 79.97 322 *e*P **P 12 07 48.1 -0.1**
CN2 *e*AP pP 12 09 52.0 -0.3
CN2 *e*S S 12 17 04.5 +0.1
CN2 AMB AMB
comp=Z,60nm,1.3s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
O07A Toulon 79.98 42 ⇑P **P 12 07 48.3 0.0**
baz=80,SNR=11
MOD Modoc 80.06 40 *e*P **P 12 07 48.5 -0.2**
comp=Z,11nm,0.6s,mb4.4
MOD Modoc 80.06 40 ⇓P **P 12 07 48.7 -0.1**
baz=80,SNR=7.7
R09A Tonopah 80.12 45 P **P 12 07 48.9 -0.2**
baz=80,SNR=7.3
W12A Cal Nev Ari 80.13 48 ⇑P **P 12 07 49.4 +0.4**
baz=80
Y13A Salome 80.14 50 ⇓P **P 12 07 49.8 +0.7**
baz=80,SNR=15
PDMCI Parker Dam,Lak 80.16 49 ⇓P **P 12 07 49.6 +0.4**
baz=80,SNR=5.4
K05A Summer Lake 80.18 39 ⇓P **P 12 07 49.7 +0.4**
baz=80
N07B Gerlach 80.26 42 ⇑P **P 12 07 49.8 +0.1**
baz=80,SNR=5.2
U11A Corn Creek 80.33 47 ⇓P **P 12 07 50.5 +0.4**
baz=80
V12A Nelson 80.36 48 ⇓P **P 12 07 50.6 +0.4**
baz=80
Q09A Carvers 80.37 44 ⇑P **P 12 07 50.4 +0.2**
baz=80
M07A Soldier Meadow 80.48 41 P **P 12 07 51.2 +0.4**
baz=81,SNR=9.4
X13A Yucca 80.52 49 ⇑P **P 12 07 51.4 +0.4**
baz=81,SNR=6.5
SHPR Sheep Range 80.53 47 *e*P **P 12 07 51.6 +0.4**
WHN Wuhan 80.56 306 ⇑P **P 12 07 52.4 +1.1**
Z14A Wintersburg 80.57 51 ⇑P **P 12 07 51.9 +0.6**
baz=81,SNR=5.2
K06A Valley Falls 80.61 39 ⇓P **P 12 07 52.0 +0.5**
baz=81
R10A Warm Springs 80.67 45 P **P 12 07 52.3 +0.5**
baz=81,SNR=15
L07A Adell 80.72 40 P **P 12 07 52.4 +0.2**
baz=81,SNR=5.6
W13A Hualapai Mount 80.73 49 ⇑P **P 12 07 52.7 +0.6**
baz=81
P09A Austin 80.78 43 ⇑P **P 12 07 52.6 +0.2**
baz=81
115A Sonoran Desert 80.79 51 ⇓P **P 12 07 53.0 +0.6**
baz=81
Y14A Wickenburg 80.80 50 ⇓P **P 12 07 52.9 +0.3**
baz=81,SNR=9.2
U12A Valley of Fire 80.93 47 ⇓P **P 12 07 53.7 +0.5**
baz=81,SNR=5.2
O09A Fish Creek Ran 81.07 43 ⇓P **P 12 07 54.3 +0.4**
baz=81,SNR=6.4
116A Eloy 81.12 52 ⇑P **P 12 07 54.8 +0.6**
baz=81,SNR=10
X14A Yava 81.14 50 P **P 12 07 54.8 +0.6**
baz=81,SNR=16
K07A Rock Creek Ran 81.16 40 P **P 12 07 54.7 +0.3**
baz=81,SNR=6.2
BMN Battle Mountai 81.19 43 *e*P **P 12 07 54.3 -0.2**
BMN pmax pmax
comp=Z,14nm,0.9s,mb4.4
BMN Battle Mountai 81.19 43 *e*P **P 12 07 54.3 -0.2**
comp=Z,14nm,0.9s,mb4.4
N09A Rock Creek Ran 81.22 42 ⇑P **P 12 07 54.8 +0.1**
baz=81
P10A Eureka 81.25 44 ⇓P **P 12 07 55.0 +0.1**
baz=81
I06A Prineville 81.29 38 ⇓P **P 12 07 55.4 +0.3**
baz=82
Q11A Duckwater 81.39 45 ⇑P **P 12 07 55.7 +0.2**
baz=82,SNR=12
L08A Fields 81.43 41 ⇑P **P 12 07 56.1 +0.3**
baz=82
J07A Hines 81.50 39 ⇓P **P 12 07 56.3 +0.2**
baz=82
M09A Marrel Ranch, 81.58 42 ⇓P **P 12 07 56.7 +0.2**
baz=82,SNR=6.0
O10A Cortez Mining, 81.58 43 ⇑P **P 12 07 57.0 +0.5**
baz=82
X15A Humboldt 81.62 50 ⇑P **P 12 07 57.4 +0.7**
baz=82,SNR=13
K08A Mann Creek Ran 81.64 40 ⇓P **P 12 07 57.0 +0.2**
baz=82,SNR=9.6
H06A Lindquist Farm 81.67 38 ⇓P **P 12 07 56.9 -0.1**
baz=82
P11A Circle Ranch, 81.69 44 ⇑P **P 12 07 57.1 +0.1**
baz=82
L09A Wilkinson Ranc 81.76 41 ⇓P **P 12 07 57.6 +0.1**
baz=82,SNR=7.7
I07A Izee 81.79 39 ⇑P **P 12 07 57.7 +0.2**
baz=82
N10A Dunphy 81.80 43 ⇓P **P 12 07 57.8 +0.2**
baz=82,SNR=7.3
E05A Randle 81.93 36 ⇓P **P 12 07 58.1 -0.2**
baz=82
W15A Williams 81.93 49 ⇑P **P 12 07 58.8 +0.5**
baz=82
C04A Brinnon 81.97 34 ⇓P **P 12 07 58.5 0.0**
baz=82
J08A Circle Bar Ran 82.00 40 P **P 12 07 58.8 +0.1**
baz=82,SNR=5.8
H07A Lands Inn, Kim 82.04 38 ⇑P **P 12 07 58.8 0.0**
baz=82
Q12A Willow Creek R 82.04 45 P **P 12 07 59.2 +0.3**
baz=82,SNR=9.2
O11A Cowboy Ranch, 82.05 44 ⇑P **P 12 07 59.2 +0.3**
baz=82,SNR=12
K09A Rome 82.10 40 P **P 12 07 59.1 -0.1**
baz=82,SNR=7.4
M10A I.L. Ranch, Tu 82.21 42 P **P 12 08 00.1 +0.4**
baz=82,SNR=12
P12A McGill 82.21 44 ⇓P **P 12 07 59.7 0.0**
baz=82
ARUT Antelope Range 82.36 46 *e*P **P 12 08 01.1 +0.6**
J09A Fry Pan Ranch, 82.43 40 P **P 12 08 01.0 +0.2**
baz=83,SNR=7.0
H08A Prairie City 82.53 39 ⇓P **P 12 08 01.1 -0.2**
baz=83
PMR Palmer 82.56 14 *e*P **P 12 07 59.3 -2.2**
F07A Phinny Hill Vi 82.57 37 ⇑P **P 12 08 01.3 -0.2**
baz=83
M11A Holland Ranch, 82.64 42 ⇑P **P 12 08 02.3 +0.5**
baz=83,SNR=5.4
C05A Tolt Reservoir 82.64 35 ⇑P **P 12 08 01.9 0.0**
baz=83
O12A Currie 82.72 44 ⇑P **P 12 08 02.0 -0.3**
baz=83,SNR=9.3
WUAZ Wupatki 82.73 49 *e*P **P 12 08 03.3 +0.9**
comp=Z,14nm,0.9s,mb4.5
WUAZ Wupatki 82.73 49 ⇑P **P 12 08 02.9 +0.6**
baz=83,SNR=9.3
B05A Bryant 82.77 34 ⇓P **P 12 08 02.1 -0.3**
baz=83
G08A Pilot Rock 82.79 38 ⇓P **P 12 08 02.7 +0.1**
baz=83
D06A Cle Elum 82.81 35 ⇓P **P 12 08 02.6 -0.1**
baz=83
N12A Clover Valley, 82.83 43 ⇑P **P 12 08 02.9 +0.1**
baz=83,SNR=6.0
DIV Divide 82.96 15 *e*P **P 12 08 01.9 -1.6**
E07A Sunnyside 83.00 36 ⇑P **P 12 08 03.7 0.0**
baz=83
KULM Kulim 83.00 278 *e*P **P 12 08 04.6 +0.9**
H09A Durkee 83.21 39 P **P 12 08 04.9 +0.2**
baz=83,SNR=5.3
N13A Wendover, West 83.37 43 ⇓P **P 12 08 05.7 +0.2**
baz=84
C07A Waterville 83.53 35 ⇑P **P 12 08 05.6 -0.7**
baz=84
MSU Marysvale 83.58 46 *e*P **P 12 08 07.4 +0.9**
F09A S2 Ranch, Elgi 83.64 38 ⇑P **P 12 08 06.7 -0.2**
baz=84
M13A Montello 83.65 43 P **P 12 08 07.1 +0.2**
baz=84,SNR=9.5
BJT Baijiatuau 83.73 315 *e*P **P 12 08 07.9 +0.6**
BJT pmax pmax
comp=Z,66nm,1.4s
BJT Baijiatuau 83.73 315 *e*P **P 12 08 07.9 +0.6**
comp=Z,66nm,1.4s,mb5.0
BJI Beijing 83.73 315 P **P 12 08 07.8 +0.5**
BJI AP pP 12 10 13.3 +0.3
BJI AMB AMB
comp=Z,44nm,1.5s,mb4.8
BJI Beijing 83.73 315 P **P 12 08 07.7 +0.4**
BJI *PP pP 12 10 13.2 +0.2
BJI pmax pmax
comp=Z,44nm,1.5s,mb4.8
BJI Beijing 83.73 315 P **P 12 08 07.7 +0.4**
comp=Z,44nm,1.5s,mb4.8
BJI pP pP 12 10 13.2 +0.2
BJI S SKSac 12 17 17.7 -17
D08A Wollman Farm, 83.81 36 ⇓P **P 12 08 07.6 -0.1**
baz=84
MAW Mawson 83.89 200 ⇓*i*P **P 12 08 07.6 -0.5**
comp=Z,24nm,0.7s,mb4.8
MAW Mawson 83.89 200 P **P 12 08 07.5 -0.6**
comp=Z,25nm,0.7s,mb4.9,baz=125,slow=7.2,SNR=62
MAW Mawson 83.89 200 ⇓*i*P **P 12 08 07.6 -0.5**

MAW pmax pmax
comp=Z,24nm,0.7s
B07A Winthrop 83.95 35 P **P 12 08 07.8 -0.5**
baz=84,SNR=6.2
DUG Dugway 83.97 45 ⇑P **P 12 08 07.9 -0.5**
baz=84
D09A Jones Farm, Ri 84.16 37 ⇑P **P 12 08 09.3 -0.1**
baz=84
H11A Donnelly 84.22 39 P **P 12 08 09.9 +0.2**
baz=84,SNR=5.1
MCK McKinley 84.50 13 *e*P **P 12 08 09.0 -2.1**
MCK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
MCK McKinley 84.50 13 *e*P **P 12 08 09.0 -2.0**
comp=Z,5.0nm,0.6s,mb4.3
C09A Chrisman Ranch 84.59 36 ⇓P **P 12 08 10.8 -0.7**
baz=85
HLID Hailey 84.61 41 *e*P **P 12 08 11.9 +0.3**
comp=Z,5.8nm,0.7s,mb4.3
HLID *e*pP pP 12 10 20.1 +2.5
HLID Hailey 84.61 41 P **P 12 08 12.0 +0.4**
baz=85,SNR=10
TMUT Trail Mountain 84.62 46 *e*P **P 12 08 12.3 +0.7**
A08A Turner Farm, O 84.69 35 P **P 12 08 11.6 -0.4**
baz=85,SNR=5.9
GYA Guiyang 84.99 300 P **P 12 08 13.8 +0.3**
GYA AP pP 12 10 21.6 +2.0
GYA XP sP 12 11 19.8 +0.8
GYA PP PP 12 11 44.4 +3.0
GYA SKS 12 17 40.8
GYA S S 12 17 53.9 -0.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,80nm,4.8s
SRU San Rafael 85.00 46 *e*P **P 12 08 13.5 0.0**
SRU pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
SRU San Rafael 85.00 46 *e*P **P 12 08 13.5 0.0**
comp=Z,8.6nm,0.6s,mb4.6
B09A Rice 85.00 36 ⇑P **P 12 08 13.0 -0.5**
baz=85
A09A Danville 85.07 35 P **P 12 08 13.3 -0.5**
baz=85,SNR=6.8
F12A Elk City 85.23 39 ⇓P **P 12 08 14.0 -0.6**
baz=85,SNR=11
Y22C IRIS PASSCAL I 85.37 52 ⇑P **P 12 08 15.7 +0.4**
baz=86
B10A Chitwood Farm, 85.45 36 ⇓P **P 12 08 15.2 -0.5**
baz=86
HWUT Hardware Ranch 85.47 44 *e*P **P 12 08 15.2 -0.5**
comp=Z,3.8nm,0.6s,mb4.2
MVCO Mesa Verde 85.57 49 ⇑P **P 12 08 15.1 -1.1**
baz=86
MNTX Cornudas Mount 85.57 55 *e*P **P 12 08 16.6 +0.4**
comp=Z,4.3nm,0.6s,mb4.3
MNTX *e*pP pP 12 10 23.8 +1.2
A10A Northport 85.64 35 ⇓P **P 12 08 16.1 -0.5**
baz=86
COLA College 85.73 13 ⇑*i*P **P 12 08 14.3 -2.7**
COLA College 85.73 13 *e*P **P 12 08 14.0 -3.0**
comp=Z,34nm,1.3s,mb4.8
LTX Lajitas 85.99 58 *e*P **P 12 08 19.3 +1.1**
LTX *e**PP pP 12 10 25.9 +1.1
LTX pmax pmax
comp=Z,17nm,0.8s,mb4.7
LTX Lajitas 85.99 58 *e*P **P 12 08 19.3 +1.1**
comp=Z,17nm,0.8s,mb4.7
LTX *e*pP pP 12 10 25.9 +1.1
TXAR Lajitas Array 85.99 58 P **P 12 08 18.5 +0.3**
comp=Z,12nm,0.7s,mb4.7,baz=218,slow=6.1,SNR=125
TXAR pP pP 12 10 22.6 -2.2
comp=Z,1.6nm,1.1s,baz=242,slow=2.7,SNR=3.2
TXAR Lajitas Array 85.99 58 P **P 12 08 18.5 +0.3**
TXAR *PP pP 12 10 22.6 -2.2
TXAR pmax pmax
comp=Z,12nm,0.7s
B11A Sandpoint 86.00 36 ⇑P **P 12 08 17.7 -0.6**
baz=86
ANMO Albuquerque 86.09 52 *d*/P **P 12 08 18.3 -0.4**
ANMO Albuquerque 86.09 52 *e*pP pP 12 10 26.9 +1.6
XAN Xi'an 86.21 307 P **P 12 08 19.3 0.0**
XAN AMB AMB
comp=Z,70nm,1.3s,mb5.1
E13A Victor 86.22 39 ⇑P **P 12 08 18.6 -0.7**
baz=86
MCMT McKenzie Canyo 86.22 40 *e*P **P 12 08 19.6 +0.3**
A11A Hall Mountain, 86.29 36 ⇓P **P 12 08 19.1 -0.5**
baz=86
BILL Bilibino 86.38 354 *e*P **P 12 08 19.4 -0.7**
BILL PP PP 12 11 32.0 -20
BILL pmax pmax
comp=Z,20nm,1.0s,mb4.7
BILL Bilibino 86.38 354 *e*P **P 12 08 19.4 -0.7**
comp=Z,5.3nm,0.7s,mb4.3
F14A Wisdom 86.39 39 ⇑P **P 12 08 19.9 -0.2**
baz=86
D13A Huson 86.39 38 ⇓P **P 12 08 19.5 -0.6**
baz=86
B12A Libby 86.46 36 ⇑P **P 12 08 20.1 -0.4**
baz=87
RRI2 Red Ridge 86.46 42 *e*P **P 12 08 20.9 +0.4**
comp=Z,19nm,0.7s,mb4.8
USHA Ushuaia 86.55 147 P **P 12 08 21.4 +0.6**
comp=Z,10.0nm,0.9s,mb4.5,baz=277,slow=3.7,SNR=3.5
E14A Clinton 86.62 39 ⇓P **P 12 08 20.5 -0.6**
baz=87
C13A Hot Springs 86.63 37 ⇓P **P 12 08 20.8 -0.5**
baz=87
DLMT Dillon 86.64 40 *e*P **P 12 08 16.2 -5.1**
comp=Z,9.1nm,0.7s,mb4.6
A12A Yaak River Ran 86.67 36 ⇓P **P 12 08 21.0 -0.4**
baz=87
TPAW Teton Pass 86.77 42 *e*P **P 12 08 22.6 +0.7**
comp=Z,7.4nm,0.8s,mb4.5
SNOW Snow King Moun 86.88 42 *e*P **P 12 08 22.9 +0.5**
comp=Z,12nm,0.8s,mb4.7
F15A Butte 86.94 40 ⇓P **P 12 08 22.3 -0.4**
baz=87
D14A Greenough 86.95 38 ⇑P **P 12 08 21.7 -1.0**
baz=87
IMW Indian Meadow 86.97 42 *e*P **P 12 08 23.4 +0.6**
comp=Z,16nm,0.7s,mb4.9
CHMT Chamberlain Mo 87.01 39 *e*P **P 12 08 22.4 -0.6**
B13A Whitefish 87.05 37 ⇓P **P 12 08 22.2 -1.0**
baz=87
LOHW Long Hollow 87.05 42 *e*P **P 12 08 23.2 0.0**
comp=Z,8.7nm,0.7s,mb4.6
DAWY Dawson 87.05 16 *e*P **P 12 08 21.8 -1.4**
FLWY Flagg Ranch 87.21 42 *e*P **P 12 08 24.5 +0.5**
comp=Z,14nm,0.7s,mb4.8
HHC Hu-ho-hao-te 87.22 314 *e*P **P 12 08 23.9 -0.1**
HHC AP pP 12 10 33.1 +2.0
HHC XP sP 12 11 32.4 +2.1
HHC PP PP 12 12 03.8 +4.7
HHC SKS 12 17 54.5
HHC S S 12 18 11.8 -3.3
HHC SS SS 12 24 20.9 +3.7
HHC AMB AMB
comp=Z,27nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,246nm,4.4s
BW06 Boulder Array 87.33 43 *e*P **P 12 08 24.1 -0.4**
comp=Z,7.7nm,0.6s,mb4.6
PDAR Pinedale Array 87.33 43 P **P 12 08 23.8 -0.7**
comp=Z,7.9nm,0.6s,mb4.6,baz=217,slow=3.0,SNR=71
PDAR pP pP 12 10 29.8 -1.9
comp=Z,0.9nm,1.0s,baz=245,slow=8.6,SNR=1.8
PDAR PP PP 12 11 56.8 -3.2
comp=Z,1.3nm,1.0s,baz=248,slow=7.5,SNR=5.1
SMCO Snowmass 87.50 48 *e*P **P 12 08 25.6 +0.3**
comp=Z,9.8nm,1.1s,mb4.5
SMCO *e*pP pP 12 10 34.9 +2.4
D15A Lincoln 87.51 39 ⇑P **P 12 08 25.0 -0.4**
baz=88
WALA Waterton Lakes 87.72 36 *e*P **P 12 08 26.0 -0.3**
KMI Kunming 87.79 297 P **P 12 08 28.9 +2.3**
KMI AP pP 12 10 35.5 +1.6
KMI XP sP 12 11 33.4 +0.4
KMI PP PP 12 12 06.6 +3.0
KMI SKS 12 17 58.3
KMI S S 12 18 21.3 +1.0
KMI XS sS 12 22 07.0 -0.1
KMI SS SS 12 24 27.8 +2.5
KMI AMB AMB
comp=Z,32nm,1.6s,mb4.8
KMI AMB AMB
comp=Z,228nm,3.9s
KMI Kunming 87.79 297 P **P 12 08 28.9 +2.3**
KMI *PP pP 12 10 35.5 +1.6
KMI *SP sP 12 11 33.4 +0.4
KMI 12 12 06.6
KMI 12 17 58.3
KMI S S 12 18 21.2 +0.9
KMI SS SS 12 24 27.7 +2.4
KMI SSS 12 28 08.6
KMI pmax pmax
comp=Z,32nm,1.6s,mb4.8
KMI MLR MLR
comp=Z,100nm,28.5s
KMI Kunming 87.79 297 P **P 12 08 28.9 +2.3**
comp=Z,32nm,1.6s,mb4.8
KMI pP pP 12 10 35.5 +1.6
KMI sP sP 12 11 33.4 +0.4
KMI PP PP 12 12 06.6 +3.0
KMI SKS 12 17 58.3
KMI S S 12 18 21.2 +0.9
KMI sS sS 12 22 07.0 -0.1
KMI SS SS 12 24 27.7 +2.4
KMI SSS 12 28 08.6
KMI LR LR
comp=Z,100nm,28.5s
SDCO Great Sand Dun 87.95 49 *e*P **P 12 08 27.7 +0.3**
CHTO Chiang Mai 88.96 290 *e*P **P 12 08 32.9 +0.8**
CHTO pmax pmax
comp=Z,25nm,1.1s,mb5.0
CHTO Chiang Mai 88.96 290 *e*P **P 12 08 32.9 +0.7**
comp=Z,26nm,1.1s,mb5.0
CD2 Chengdu 89.02 303 *e*P **P 12 08 31.1 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,6.2s
SYO Syowa Base 89.19 193 ⇑*e*P **P 12 08 31.4 -1.8**
SYO Syowa Base 89.19 193 ⇓*e*pP pP 12 10 38.0 -2.9
PHWY Pilot Hill 89.45 46 *e*P **P 12 08 34.6 +0.2**
YAK Yakutsk 89.53 338 *e*P **P 12 08 32.6 -2.1**
JCT Junction City 89.53 58 *e*P **P 12 08 34.9 +0.2**
JCT pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
JCT Junction City 89.53 58 *e*P **P 12 08 34.9 +0.2**
comp=Z,7.9nm,0.6s,mb4.7
AMTX Amarillo 89.67 53 *e*P **P 12 08 35.0 -0.3**
EDM Edmonton 90.13 33 *e*P **P 12 08 35.8 -1.7**
LZH Lanzhou 90.84 308 *e*P **P 12 08 42.3 +1.5**
LZH AMB AMB
comp=Z,70nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,221nm,4.0s
LZH Lanzhou 90.84 308 *e*P **P 12 08 42.2 +1.4**
LZH pmax pmax
comp=Z,70nm,1.4s,mb5.4
LZH Lanzhou 90.84 308 *e*P **P 12 08 42.2 +1.4**
comp=Z,70nm,1.4s,mb5.4
LAO LASA Array 91.19 41 *e*P **P 12 08 42.9 +0.5**
comp=Z,9.4nm,0.7s,mb4.8
MAIT Maitri 91.31 183 *e*P **P 12 08 42.2 -0.8**
RSSD Black Hills 91.55 44 *e*P **P 12 08 43.3 -0.8**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
RSSD Black Hills 91.55 44 *e*P **P 12 08 43.3 -0.8**
comp=Z,3.9nm,0.8s,mb4.5
SONM Songino Array 93.50 319 P **P 12 08 52.4 -0.6**
comp=Z,1.3nm,0.4s,mb4.4,baz=130,slow=5.6,SNR=14
SONM Songino Array 93.50 319 P **P 12 08 52.4 -0.6**
SONM pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 94.30 25 P **P 12 08 55.0 -1.6**
comp=Z,1.0nm,0.4s,mb4.3,baz=235,slow=4.5,SNR=9.7
YKA Yellowknife Ar 94.30 25 P **P 12 08 55.0 -1.6**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 94.30 25 P **P 12 08 55.0 -1.6**
GTA Gaotai 94.99 310 *e*P **P 12 09 00.1 +0.4**
GTA AP pP 12 11 13.3 +5.2
GTA XP sP 12 12 09.9 +3.1
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.8
ZAK Zakamensk 96.34 321 *e*P **P 12 09 04.4 -1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.3
MKAR Makanchi Array 109.09 314 Pdiff Pdiff 12 10 03.8 +1.3
comp=Z,0.6nm,0.6s,baz=99,slow=3.8,SNR=4.1
MKAR PKiKP PKiKP 12 14 01.1 -1.8
comp=Z,2.3nm,0.5s,baz=170,slow=0.6,SNR=66
MKAR PKKPbc PKKPbc 12 25 10.7 -0.4
comp=Z,1.1nm,0.8s,baz=299,slow=2.9,SNR=4.6
KURK Kurchatov 111.78 318 ⇑*i*PKIKP PKiKP 12 14 05.9 -2.1
AAK Ala-Archa 114.33 309 *i* PKIKP PKiKP 12 14 10.2 -2.7
ARU Arti 122.80 326 *i* PKIKP PKPdf 12 14 28.3 -0.8
ARU *e* 12 16 15.5
ARU Arti 122.80 326 *e*PKPdf PKPdf 12 14 27.4 -1.8
KEV Kevo 125.82 349 *ep* PKPdf 12 14 32.4 -2.5
ARCES ARCESS Array B 126.27 350 PKP PKPdf 12 14 33.6 -2.1
comp=Z,2.0nm,0.4s,baz=16,slow=1.2,SNR=30
ARCES ARCESS Array B 126.27 350 PKiKP PKPdf 12 14 33.7 -2.1
ARCES pmax pmax
comp=Z,2.0nm,0.4s
BOSA Boshof 128.43 207 PKP PKPdf 12 14 40.5 +0.6
comp=Z,2.3nm,0.6s,baz=281,slow=1.0,SNR=6.7
BOSA Boshof 128.43 207 PKiKP PKPdf 12 14 40.5 +0.6
BOSA pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 133.14 344 PKhKP 12 14 40.1
comp=Z,1.2nm,0.4s,baz=92,slow=4.4,SNR=5.7
FINES PKP PKPdf 12 14 46.4 -2.4
comp=Z,1.2nm,0.4s,baz=72,slow=4.5,SNR=11
FINES SKPbc SKPbc 12 17 21.2 -0.9
comp=Z,4.8nm,0.7s,baz=56,slow=5.2,SNR=11
FINES FINESS Array B 133.14 344 PKP PKPdf 12 14 46.4 -2.4
FINES SKPbc SKPbc 12 17 21.2 -0.9
OBN Obninsk 134.25 333 ⇑*i*PKIKP PKPdf 12 14 51.0 +0.1
OBN *i* 12 17 26.5
OBN *e* 12 29 43.9
OBN SS SS 12 34 38.0 +3.1
OBN MLR MLR
comp=Z,100nm,12.0s
NB2 NORSAR Subarra 136.33 353 PKP PKPdf 12 14 43.7 -11
comp=Z,3.2nm,1.0s,baz=17,slow=2.6
NOA NORSAR Array B 136.33 353 PKP PKPdf 12 14 54.2 -0.5
comp=Z,1.0nm,0.7s,baz=13,slow=4.0,SNR=3.4
NOA SKPbc SKPbc 12 17 30.7 -1.4
comp=Z,3.9nm,0.9s,baz=16,slow=4.6,SNR=5.2
NOA NORSAR Array B 136.33 353 PKP PKPdf 12 14 54.2 -0.5
NOA SKPbc SKPbc 12 17 30.7 -1.4
LSZ Lusaka 137.89 220 *e*PKIKP PKPdf 12 15 00.7 +3.1
KMBO Kilima Mbogo 140.12 245 PKhKP 12 14 56.8
comp=Z,1.4nm,0.5s,baz=97,slow=8.5,SNR=9.8
KMBO PKP PKPdf 12 15 04.1 +2.5
comp=Z,1.7nm,0.5s,baz=215,slow=21,SNR=7.1
KMBO Kilima Mbogo 140.12 245 PKHKP 12 14 56.8
KMBO 12 15 04.1
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 140.12 245 *e*PKPdf PKPdf 12 14 57.7 -4.0
AKASG Malin Array Be 140.51 332 PKhKP 12 14 54.0
comp=Z,1.6nm,0.3s,baz=44,slow=4.1,SNR=13
AKASG PKP PKPdf 12 15 01.8 -0.6
comp=Z,2.0nm,0.4s,baz=40,slow=2.6,SNR=8.1
AKASG SKPbc SKPbc 12 17 44.0 +0.4
comp=Z,2.7nm,0.7s,baz=38,slow=3.3,SNR=9.5
MALT Malatya 141.97 310 ⇓*i*P PKPdf 12 15 01.8 -3.2
MALT Malatya 141.97 310 *e*PKPdf PKPdf 12 15 02.1 -2.8
WAR Warsaw 142.43 340 *e*PKP PKPdf 12 15 03.0 -2.8
LVV L'vov 143.36 335 ⇓*i*PKHKP PKPdf 12 15 04.2 -3.2
DCN Croghan 143.93 9 *e*P PKPdf 12 15 05.7 -2.7
KWP Kalwaria 144.02 336 *e*PKP PKPdf 12 15 08.2 -0.3
DLF Lyons Farm 144.08 8 *e*P PKPdf 12 15 05.3 -3.4
RUE Ruedersdorf 144.15 347 *e*PKPbc PKPdf 12 15 07.7 -1.1
OJC Ojcow 144.56 340 *e*PKP PKPdf 12 15 08.6 -0.9
BURAR Bucovina Array 144.56 332 ⇓*i*P PKPdf 12 15 09.7 +0.2
BURAR Bucovina Array 144.56 332 ⇓P PKPdf 12 15 09.7 +0.2
BRTR Keskin Array B 144.73 315 PKP PKPdf 12 15 09.3 -0.4
comp=Z,13nm,0.5s,baz=149,slow=4.0,SNR=46
BRTR Keskin Array B 144.73 315 PKiKP PKPdf 12 15 09.3 -0.5
BRTR pmax pmax
comp=Z,13nm,0.5s
STHS Stebnicka Huta 144.74 338 *e*PKP PKPdf 12 15 09.6 -0.2
STHS *e* 12 15 35.4
KOLS Kolonicke sedl 144.75 336 *e*PKP PKPdf 12 15 09.7 -0.1
UZH Uzhgorod 144.99 336 *e*PKHKP 12 15 06.0
UZH *e* PKPdf 12 15 09.4 -0.8
KSP Ksiaz 145.06 344 *e*PKP PKPdf 12 15 10.8 +0.5
KSP Ksiaz 145.06 344 *e*PKP PKPdf 12 15 10.5 +0.2
NIE Niedzica 145.07 338 *e*PKP PKPdf 12 15 10.8 +0.4
VRI Vrincioaia 145.13 329 ⇑*i*P PKPdf 12 15 11.1 +0.6
TIRR Tirgusor 145.22 325 ⇑*i*P PKPdf 12 15 11.7 +1.1
ANTO Ankara 145.23 316 ⇑*i*P PKPdf 12 15 11.4 +0.8
ANTO Ankara 145.23 316 *e*PKPdf PKPdf 12 15 08.3 -2.3
ANTO *e*PKPbc PKPbc 12 15 10.5 -1.3
IBBN Ibbenburen 145.29 353 *e*PKPbc PKPbc 12 15 11.5 -0.5
CLZ Clausthal 145.39 350 *e*PKPbc PKPbc 12 15 11.4 -0.8
CLL Collm 145.41 347 *e*PKPbc PKPbc 12 15 11.1 -1.2
CLL Collm 145.41 347 ⇑*i*PKIKP PKPdf 12 15 11.9 +1.0
CLL pmax pmax
comp=Z,73nm,1.1s
CLL Collm 145.41 347 *i* PKP PKPdf 12 15 11.1 +0.2
CLL ⇑*i*PKP PKPdf 12 15 11.9 +1.0
CLL *ep*PKP pPKPdf 12 17 33.0 +5.1
CLL Collm 145.41 347 *i* PKPdf PKPdf 12 15 11.1 +0.2
comp=Z,16nm,0.4s
CLL ⇑*i*PKPbc PKPbc 12 15 11.9 -0.4
comp=Z,73nm,1.1s
CLL *e*PP PP 12 18 43.0 +4.6
OKC Ostrava-Krasne 145.42 341 *e*PKP PKPdf 12 15 09.5 -1.5
UPC Upice 145.44 344 *e*PKP PKPdf 12 15 10.8 -0.2
DPC Dobruska-Polom 145.50 343 *e*PKP PKPdf 12 15 11.5 +0.4
BHL Bhannes 145.62 304 *e*P PKPdf 12 15 12.5 +1.2
MORC Moravsky Berou 145.66 342 ⇓*i*P PKPdf 12 15 12.8 +1.4
MORC Moravsky Berou 145.66 342 PKP2 PKPab 12 15 13.2 -1.6
MORC Moravsky Berou 145.66 342 *e*PKPdf PKPdf 12 15 10.1 -1.2
MORC *e*PKPbc PKPbc 12 15 12.4 -0.6
FBE Freiberg 145.70 347 *e*PKPbc PKPbc 12 15 11.8 -1.3
MLR Muntele Rosu 145.78 329 ⇑*i*P PKPdf 12 15 12.9 +1.3
KECS Kecovo 145.79 337 *e*PKP PKPdf 12 15 12.6 +1.0
PSN Preselentsi 145.85 325 *i* P PKPab 12 15 17.4 +1.9
BUG Bochum--Univer 146.19 354 *e*PKPbc PKPbc 12 15 13.7 -0.8
DRGR 146.29 333 ⇓*i*P PKPdf 12 15 14.5 +2.1
DRGR 146.29 333 P PKPdf 12 15 14.0 +1.5
PRU Pruhonice 146.30 345 *e*PKP PKPdf 12 15 13.8 +1.4
MOX Moxa 146.32 348 *e*PKP PKPdf 12 15 14.3 +1.8
comp=Z,68nm,1.7s
VRAC Vranov 146.36 342 ⇑*i*P PKPbc 12 15 14.9 -0.1
VRAC Vranov 146.36 342 P PKPbc 12 15 15.1 +0.1
VYHS Vyhne 146.37 339 *e*PKP PKPdf 12 15 14.3 +1.8
VYHS *e* 12 17 31.6
WERD Werda 146.37 348 *e*PKPbc PKPdf 12 15 13.1 +0.5
WERD *ep*PKPbc 12 17 32.3
PSZ Piszkesteto 146.49 337 *e*PKPdf PKPdf 12 15 12.7 0.0
PSZ *e*PKPbc PKPbc 12 15 15.1 -0.2
PSZ *e*PKPab PKPab 12 15 17.5 -0.6
PSZ Piszkesteto 146.49 337 ⇑*e*PKP PKPbc 12 15 15.2 -0.1
WERN Wernitzgruen 146.51 347 *e*PKPab PKPab 12 15 17.7 -0.5
NKC Novy Kostel 146.55 347 *e*PKP PKPdf 12 15 13.2 +0.4
PRD Provadia 146.59 325 *i* P PKPdf 12 15 15.0 +2.1
SMOL Smolenice 146.81 341 *e*PKP PKPbc 12 15 17.0 +0.8
CSS Prodhromos 147.03 307 *e*PKPdf PKPdf 12 15 12.7 -1.0
CSS *e*PKPbc PKPbc 12 15 16.2 -0.5
CSS *e*PKPab PKPab 12 15 19.9 -0.4
MEM Membach 147.14 355 *e*PKPbc PKPbc 12 15 15.5 -1.6
BUD Budapest 147.17 338 ⇑*e*PKP PKPbc 12 15 17.1 0.0
TNS Taunus Mts 147.25 352 *e*PKPbc PKPbc 12 15 16.7 -0.6
GRA1 Grafenberg Arr 147.31 348 *e*PKPab PKPab 12 15 20.8 -0.6
GRF Grafenberg Arr 147.31 348 *e*PKPab PKPab 12 15 20.8 -0.6
KHC Kasperske Hory 147.33 345 *e*PKP PKPbc 12 15 16.6 -0.9
KHC Kasperske Hory 147.33 345 *i* PKIKP PKPdf 12 15 13.5 -0.6
GZR Gura Zlata 147.35 332 PKHKP PKPbc 12 15 17.4 -0.2
SNF Seneffe 147.36 357 PKPbc PKPbc 12 15 15.9 -1.7
BCLA Clavier 147.38 356 PKPbc PKPbc 12 15 16.4 -1.3
BCLA PKPab PKPab 12 15 20.1 -1.6
GEC2 GERESS Array S 147.56 345 *e*PKPbc PKPbc 12 15 17.0 -1.1
GEC2 *e*PKPab PKPab 12 15 21.8 -0.6
GEC2 GERESS Array S 147.56 345 *e*PKP2 PKPab 12 15 21.8 -0.6
GERES GERESS Array B 147.56 345 PKPbc PKPbc 12 15 17.2 -1.0
comp=Z,12nm,0.4s,baz=23,slow=2.9,SNR=102
GERES GERESS Array B 147.56 345 PKiKP PKPbc 12 15 17.2 -0.9
GERES pmax pmax
comp=Z,12nm,0.4s
BZS Buzias 147.68 333 ⇑*i*P PKPbc 12 15 17.4 -1.0
GIVF Givet 147.73 356 *e*PKP1 PKPbc 12 15 17.4 -1.2
comp=Z,28nm,0.5s
ISP Isparta 147.79 314 PKiKP PKPbc 12 15 18.3 -0.4
BAIF Baives 147.81 357 *e*PKP1 PKPbc 12 15 17.6 -1.2
comp=Z,29nm,0.6s
CONA Conrad Observa 147.81 342 ⇓*i*PKPbc PKPbc 12 15 18.4 -0.4
comp=Z,41nm,1.6s,SNR=11
SOP Sopron 147.82 341 ⇑*e*PKP PKPbc 12 15 18.9 +0.1
WLF Walferdange 148.06 354 *e*PKPbc PKPbc 12 15 19.3 -0.1
WLF Walferdange 148.06 354 PKPbc PKPbc 12 15 19.0 -0.4
WLF PKPab PKPab 12 15 24.1 -0.3
MOA Molln 148.34 344 ⇑*i*P PKPbc 12 15 19.3 -0.8
comp=Z,34nm,1.6s,SNR=6.8
MOA ⇑*i*P 12 15 19.3
comp=Z,34nm,1.6s,SNR=6.8
PKSM Moragy 148.38 337 ⇓*i*P PKPbc 12 15 18.4 -1.8
PKSM Moragy 148.38 337 P PKPbc 12 15 19.6 -0.7
DIM Dimitrovgrad 148.39 325 *i* P PKPbc 12 15 19.9 -0.3
ARSA Arzberg 148.52 342 ⇓*i*P PKPbc 12 15 19.8 -0.7
comp=Z,20nm,1.1s
KDZ Kurdzhali 148.72 324 *i* P PKPbc 12 15 20.1 -0.9
FUR Furstenfeldbru 148.75 347 *e*PKPbc PKPbc 12 15 20.3 -0.8
PGB Panagyurishte 148.78 327 *i* P PKPbc 12 15 20.5 -0.7
BFO Black Forest 149.12 351 *e*PKPbc PKPbc 12 15 21.6 -0.4
BFO *e*PKPab PKPab 12 15 27.7 -1.1
BFO Black Forest 149.12 351 *e*PKPdf PKPdf 12 15 15.2 -1.8
BFO *e*PKPbc PKPbc 12 15 20.8 -1.2
BFO *e*PKPbc PKPbc 12 15 21.6 -0.4
BFO *e*PKPab PKPab 12 15 27.7 -1.1
FLN La Foliniere 149.13 3 *e*PKP1 PKPbc 12 15 20.5 -1.5
comp=Z,21nm,0.4s
CDF Champ du Feu 149.18 353 *e*PKP1 PKPbc 12 15 21.0 -1.1
comp=Z,24nm,0.5s
VTS Vitosha 149.24 328 ⇓*i*P PKPbc 12 15 21.2 -1.1
VTS Vitosha 149.24 328 *i* P PKPbc 12 15 21.4 -0.9
KBA Koelnbreinsper 149.29 344 ⇑*e*P PKPbc 12 15 21.6 -0.8
comp=Z,19nm,0.5s
MEZF Maizieres J'vi 149.31 355 *e*PKP1 PKPbc 12 15 21.4 -1.0
LDF La Druitiere 149.32 2 *e*PKP1 PKPbc 12 15 20.8 -1.7
comp=Z,21nm,0.3s
ROSF Rostrenen 149.35 6 *e*PKP1 PKPbc 12 15 20.7 -1.8
WATA Walderalm 149.48 347 ⇑*i*P PKPbc 12 15 22.0 -0.9
comp=Z,11nm,0.4s
OBKA Obir 149.48 342 ⇑*e*P PKPbc 12 15 22.0 -0.8
comp=Z,13nm,1.1s
GRR Gorron 149.49 3 *e*PKP1 PKPbc 12 15 21.4 -1.5
comp=Z,35nm,0.4s
SGMF Saint Gilles 149.50 5 *e*PKP1 PKPbc 12 15 21.1 -1.8
comp=Z,20nm,0.6s
WTTA Wattenberg 149.53 346 ⇑*i*P PKPbc 12 15 21.8 -1.2
comp=Z,20nm,0.4s
MOTA Moosalm 149.57 347 ⇑*i*P PKPbc 12 15 22.6 -0.4
comp=Z,4.3nm,0.4s
SQTA Sankt Quirin 149.66 347 ⇑*i*P PKPbc 12 15 22.6 -0.7
comp=Z,12nm,0.4s
HAU Haudompre 149.68 354 *e*PKP1 PKPbc 12 15 22.0 -1.3
comp=Z,25nm,0.5s
MMB Musomiste 149.68 326 *i* P PKPbc 12 15 22.2 -1.1
QUIF Quistinic 149.78 6 *e*PKP1 PKPbc 12 15 22.1 -1.5
comp=Z,6.5nm,0.5s
HINF Hinteralfeld 149.81 353 *e*PKP1 PKPbc 12 15 22.2 -1.4
CRES Cresnjev 149.82 340 *e*PKPbc PKPbc 12 15 22.7 -0.9
KKB Krupnik 149.83 327 *i* P PKPbc 12 15 22.9 -0.8
DAVA Damuels 149.87 349 ⇑*i*P PKPbc 12 15 23.5 -0.2
comp=Z,43nm,1.3s
LJU Ljubljana 149.91 342 *e*PKPdf PKPdf 12 15 17.0 -1.3
LJU *i* PKPbc PKPbc 12 15 22.9 -0.9
LJU *e*PKPab PKPab 12 15 31.0 -1.2
LJU Ljubljana 149.91 342 *i* PKPbc PKPbc 12 15 22.9 -0.9
VOY Vojsko 150.10 343 *e*PKPbc PKPbc 12 15 22.5 -1.8
VOY *e*PKPab PKPab 12 15 30.9 -2.1
BOJS Bojanci 150.17 340 *i* PKPbc PKPbc 12 15 24.5 +0.1
LOR Lormes 150.61 357 *e*PKP1 PKPbc 12 15 24.3 -1.2
comp=Z,33nm,0.4s
HYF Humbligny 150.66 359 *e*PKP1 PKPbc 12 15 24.7 -0.9
SSF Saint Saulge 150.84 357 *e*PKP1 PKPbc 12 15 24.9 -1.1
comp=Z,25nm,0.4s
CABF La Chapelle 151.09 354 *e*PKP1 PKPbc 12 15 25.9 -0.7
comp=Z,18nm,0.5s
AVF Avril sur Loir 151.12 357 *e*PKP1 PKPbc 12 15 25.0 -1.6
comp=Z,6.7nm,0.5s
SMF Signal de Mont 151.24 357 *e*PKP1 PKPbc 12 15 25.2 -1.7
comp=Z,4.6nm,0.3s
MFF Saint Martin d 151.31 2 *e*PKP1 PKPbc 12 15 25.6 -1.5

comp=Z,12nm,0.4s
BGF Bois d'Agland 151.37 358 *e*PKP1 PKPbc 12 15 26.0 -1.2
comp=Z,17nm,0.4s
TCF Toulx Ste Croi 151.65 359 *e*PKP1 PKPbc 12 15 26.4 -1.4
comp=Z,4.6nm,0.4s
LPL La Plagne 152.09 352 *e*PKP1 PKPbc 12 15 28.5 -0.3
comp=Z,3.3nm,0.4s
LPG La Plagne 152.11 352 *e*PKP1 PKPbc 12 15 28.6 -0.2
comp=Z,5.6nm,0.5s
RJF Les Rejaudoux 152.64 0 *e*PKP1 PKPbc 12 15 29.5 -0.5
comp=Z,4.9nm,0.4s
ORIF Oris-en-Rattie 152.78 353 *e*PKP1 PKPbc 12 15 29.4 -0.9
comp=Z,6.5nm,0.5s
MBDF Montbardon 152.86 352 *e*PKP1 PKPbc 12 15 29.6 -0.9
comp=Z,11nm,0.7s
VIVF Saint-Julien-l 152.96 355 *e*PKP1 PKPbc 12 15 28.8 -1.9
LFF La Frestale 153.00 1 *e*PKP1 PKPbc 12 15 31.2 +0.4
CAF Calviac 153.01 359 *e*PKP1 PKPbc 12 15 29.8 -1.0
ESDC Sonseca Array 157.74 11 PKPab PKPab 12 16 03.0 -2.7
comp=Z,0.2nm,0.3s,baz=346,slow=4.6,SNR=6.6
TORD Torodi Ar. Bea 175.31 182 PKP PKPdf 12 15 41.1 -1.2
comp=Z,1.4nm,0.6s,baz=90,slow=0.6,SNR=11
TORD PKPab PKPab 12 17 22.5 -0.8
comp=Z,1.4nm,0.6s,baz=191,slow=4.4,SNR=7.5
TORD Torodi Ar. Bea 175.31 182 PKPab PKPab 12 17 22.5 -0.8

CASC 13 12:14:06.2±1.9, 1294N×8859W, h40km±292km, MD4.0, ML3.5, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.60**	**34**	*e*P		x	12 14 38.1	
BLLM				*e*S		x	12 14 47.6	
CNCH	**Conchagua**	**0.81**	**66**	*e*P		x	12 14 40.4	
CNCH				*e*S		x	12 14 51.9	
LFRS	**El Faro**	**0.82**	**326**	⇓*i*P		x	12 14 40.6	
LFRS				*e*S		x	12 14 52.0	
SNET	**Serv Nac Est T**	**0.97**	**320**	*e*P		x	12 14 23.1	
SNET				*e*S		x	12 14 35.6	
SNET				*i*			12 14 37.7	
	comp=Z,1μm,0.2s							
BOQS	**Boqueron**	**1.04**	**320**	*e*P		x	12 14 43.4	
BOQS				*e*S		x	12 14 57.9	
SBLS	**San Blas**	**1.34**	**312**	*e*P		x	12 14 48.3	
SBLS				*e*S		x	12 15 06.4	
CRIN	**San Cristobal**	**1.52**	**99**	*e*P		Pn	12 14 32.0	+1.1
CRIN				*e*S		Sn	12 14 49.9	+0.5
CNGN	**Cerro Negro**	**1.90**	**103**	*e*P		Pn	12 14 36.0	0.0
MIRN	**Miramar**	**1.90**	**105**	*e*P		Pn	12 14 36.8	+0.7
MIRN				*i*			12 15 01.5	
	comp=Z,349nm,0.2s							
MOMJ	**Momotombo**	**2.07**	**105**	*e*P		Pn	12 14 38.2	-0.2
COPN	**Copaltepe**	**2.09**	**111**	*e*P		Pn	12 14 38.0	-0.8
COPN				*e*S		Sn	12 15 04.2	+0.7
XAVN	**Gruta Xavier**	**2.34**	**109**	*e*P		Pn	12 14 42.5	+0.3
TICN	**Ticuantepe**	**2.47**	**111**	*e*P		Pn	12 14 44.6	+0.6
TICN				*i*			12 15 16.6	
	comp=Z,418nm,0.2s							

*ISCJB **13** 12:15:39.6±0.9, 1344N±005×12069E±004, h9km±8km, mb3.5/3, Error ellipse: s-maj=8.5km s-min=6.9km az=133.0*
*MAN **13** 12:15:39.6, 1348N×120.71E, h9km, mb2.9, ML4.3, MS1.6*
MAN F PTO GALERA - INTENSITY I.
*IDC **13** 12:15:40.4±1.5, 1343N×120.97E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=104.6km s-min=9.2km az=84.0*

ISC 13 12:15:40.4±0.8, 1346N±005×12072E±005, h10km±7km, n16, σ1§03/19, mb3.5/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.23**	**79**	⇑*i*P		**Pg**	**12 15 45.0**	**-0.2**
PGP				*i* S		**Sg**	**12 15 49.3**	**+0.8**
LUBP	**Lubang**	**0.53**	**301**	*e*P		**Pg**	**12 15 49.3**	**-1.4**
TGY	**Tagaytay City**	**0.68**	**19**	⇑*i*P		**Pg**	**12 15 54.2**	**+0.8**
TGY				*i* S		**Sg**	**12 16 03.5**	**+1.2**
TGY	**Tagaytay City**	**0.68**	**19**	Pg		**Pg**	**12 15 52.6**	**-0.9**
	513nm,0.3s,baz=228,slow=3.1,SNR=29							
TGY				Lg			12 16 02.5	
	925nm,0.3s,baz=117,slow=18,SNR=22							
BOAC	**Boac**	**1.10**	**90**	*e*P		**Pb**	**12 15 59.2**	**-2.2**
BOAC				*e*S		**Sb**	**12 16 14.8**	**-0.9**
BUSP	**Coron**	**1.53**	**199**	*e*P		**Pn**	**12 16 07.4**	**-0.3**
OTRP	**Odiongan**	**1.68**	**130**	*e*P		**Pn**	**12 16 09.3**	**-0.3**
POLP	**Polillo Island**	**1.73**	**43**	*e*P		**Pn**	**12 16 09.9**	**-0.6**
AUQP	**San Andres**	**1.91**	**94**	*e*P		**Pn**	**12 16 16.2**	**+3.3**
BALP	**Baler**	**2.42**	**20**	*e*P		**Pn**	**12 16 19.5**	**-0.4**
ENPP	**El Nido**	**2.57**	**210**	*e*P		**Pn**	**12 16 22.0**	**0.0**
CUYO	**Cuyo Island**	**2.61**	**173**	*e*P		**Pn**	**12 16 22.7**	**+0.2**
PPR	**Puerto Princes**	**4.14**	**208**	*e*P		**Pn**	**12 16 44.1**	**+0.5**
WRA	**Warramunga Arr**	**35.80**	**158**	P		**P**	**12 22 40.3**	**+0.6**
	0.4nm,0.3s,mb3.8,baz=338,slow=9.4,SNR=5.3							
SONM	**Songino Array**	**36.29**	**344**	P		**P**	**12 22 47.6**	**+3.7**
	0.2nm,0.6s,mb3.2,baz=166,slow=9.7,SNR=2.8							
ASAR	**Alice Springs**	**39.09**	**161**	P		**P**	**12 23 08.9**	**+1.4**
	0.6nm,0.6s,mb3.5,baz=338,slow=6.9,SNR=21							

IDC 13 12:23:11.9±3.7, 635S×15117E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/19, Error ellipse: s-maj=120.5km s-min=51.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.21**	**229**	P		P	12 27 59.3	+0.1
	1.0nm,0.6s,baz=54,slow=10,SNR=3.5							
ASAR	**Alice Springs**	**23.92**	**222**	P		P	12 28 27.6	+0.2
	0.5nm,0.5s,baz=55,slow=8.8,SNR=17							
FITZ	**Fitzroy Crossi**	**27.51**	**243**	P		P	12 29 00.4	+0.4
	1.3nm,0.6s,baz=67,slow=13,SNR=7.3							
RPZ	**Rata Peaks**	**41.11**	**158**	LR		LR	12 45 41.8	
	comp=Z,95nm,18.8s,baz=112,slow=33							
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc		PKPbc	12 43 03.2	+0.9
	0.5nm,0.6s,baz=68,slow=3.5,SNR=3.6							

*ISCJB **13** 13:14:35.7±2.6, 362N±01.1×71.1E±02, h88km±39km, Error ellipse: s-maj=32.8km s-min=5.9km az=118.1*
*NNC **13** 13:14:43.8±6.8, 3674N×7103E, h111km±116km, mb2.9, mpv3.6, Error ellipse: s-maj=87.6km s-min=45.5km az=54.0*

ISC 13 13:14:37.6±1.8, 362N±01×711E±02, h102km±25km, n25, σ0§80/28, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.44**	**131**	*e*S		**Sn**	**13 16 57.0**	**-0.5**
AML	**Almayashu**	**6.26**	**18**	P		**Pn**	**13 16 07.5**	**+0.1**
	SNR=74							
UCH	**Uchtor**	**6.58**	**23**	P		**Pn**	**13 16 12.0**	**+0.3**
	SNR=18							
SDNR	**Sundarnagar**	**6.77**	**132**	*e*P		**Pn**	**13 16 16.5**	**+2.1**
SDNR				*e*S		**Sn**	**13 17 30.0**	**0.0**
EKS2	**Erkin-Say**	**6.78**	**17**	P		**Pn**	**13 16 14.5**	**+0.1**
	SNR=42							
KK31	**Karatay Array**	**6.91**	**356**	⇑P		**Pn**	**13 16 15.4**	**-0.8**
	5.9nm,0.4s,baz=177,slow=12,SNR=54							
KK31				⇑S		**Sn**	**13 17 26.9**	**-6.3**
	9.9nm,0.3s,baz=188,slow=26,SNR=16							
AAK	**Ala-Archa**	**6.94**	**21**	P		**Pn**	**13 16 17.0**	**+0.3**
	SNR=51							
KBK	**Karagaybulak**	**7.10**	**24**	P		**Pn**	**13 16 19.8**	**+1.0**
	SNR=5.3							
ULHL	**Ulahol**	**7.24**	**32**	P		**Pn**	**13 16 20.8**	**+0.2**
	SNR=6.6							
CHMS	**Chumysh**	**7.35**	**21**	P		**Pn**	**13 16 22.1**	**-0.1**
	SNR=5.8							
USP	**Ospenovka**	**7.53**	**19**	P		**Pn**	**13 16 23.8**	**-0.8**
	SNR=12							
KLP	**Kalpa**	**7.55**	**126**	*e*P		**Pn**	**13 16 28.9**	**+3.9**
KLP				*e*S		**Sn**	**13 17 46.7**	**-2.3**
KLP				AML		AML	13 18 11.1	
	comp=N,36nm,0.4s							
KLP				AML		AML	13 18 13.9	
	comp=E,33nm,0.8s							
TKM2	**Tokmak 2**	**7.56**	**26**	P		**Pn**	**13 16 25.0**	**0.0**
	SNR=19							
TKM2	**Tokmak 2**	**7.56**	**26**	⇑P		**Pn**	**13 16 25.0**	**0.0**
	comp=E,0.9nm,0.7s							
KHET	**Khetri**	**9.03**	**152**	*e*S		**Sn**	**13 18 18.8**	**-6.2**
KHET				AML		AML	13 18 30.2	
	comp=E,12nm,0.2s							
KHET				AML		AML	13 18 31.4	
	comp=N,13nm,0.1s							
SONA	**Sohna**	**9.41**	**146**	*e*S		**Sn**	**13 18 26.8**	**-7.3**
SONA				AML		AML	13 18 39.9	
	comp=E,14nm,0.3s							
SONA				AML		AML	13 18 40.0	
	comp=N,8.5nm,0.2s							
KOLN	**Koldanda**	**13.53**	**125**	*e*P		**Pn**	**13 17 46.1**	**+0.8**
	comp=N,5.2nm,0.2s							
GKN	**Gorkha**	**14.08**	**122**	*e*P		**Pn**	**13 17 52.2**	**-0.2**
	comp=N,21nm,0.7s							
DMN	**Daman**	**14.65**	**122**	*e*P		**Pn**	**13 17 59.9**	**+0.2**
KKN	**Kakani**	**14.66**	**121**	*e*P		**Pn**	**13 17 59.8**	**0.0**
	comp=N,14nm,0.6s							
PKI	**Pulchoki**	**14.88**	**121**	*e*P		**Pn**	**13 18 02.8**	**+0.1**
	comp=N,7.8nm,0.2s							
GUN	**Gumba**	**15.00**	**119**	*e*P		**Pn**	**13 18 04.3**	**+0.1**
JIRN	**Jiri**	**15.37**	**119**	*e*P		**Pn**	**13 18 09.1**	**+0.2**
	comp=N,14nm,0.3s							
AB31	**Akbulak array**	**15.38**	**331**	P		**Pn**	**13 18 07.3**	**-1.6**
	comp=N,0.3nm,0.3s,baz=163,slow=11,SNR=18							
AKTO	**Aktyubinsk**	**17.08**	**330**	⇑P		**Pn**	**13 18 30.4**	**+0.5**
	comp=N,0.9nm,2.2s							

*IDC **13** 13:34:29.5±0.6, 301S×129.14E, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.4/21, mbtmp4.4/15, ML4.1/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/29, Error ellipse: s-maj=25.6km s-min=13.3km az=68.0*
*ISCJB **13** 13:34:32.3±0.3, 308S±004×129.23E±006, h33km, mb4.7/34, MS3.7/9, Error ellipse: s-maj=8.5km s-min=5.3km az=138.2*
*MOS **13** 13:34:32.6±1.2, 308S×129.09E, h33km, mb4.7/18, Error ellipse: s-maj=17.6km s-min=8.0km az=119.7*
*BJI **13** 13:34:34.5, 310S×129.20E, h33km, mB5.4, mb4.8, Ms4.9, Msz4.6*
*NEIC **13** 13:34:34.6±0.3, 308S×129.17E, mb4.6/17, Error ellipse: s-maj=12.3km s-min=5.9km az=65.0*

ISC 13 13:34:35.0±0.9, 307S±004×12929E±006, h39km±9km, h35km±4.4km; pP-P, n95, σ1§05/91, mb4.7/34, MS3.7/9, 4C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.26**	**241**	P		**Pn**	**13 34 57.7**	**+1.6**
	10μm,0.6s							
SWI	**Sorong**	**2.94**	**42**	P		**Pn**	**13 35 17.4**	**-1.9**
	2μm,0.6s							
BAKI	**Biak**	**7.06**	**75**	P		**Pn**	**13 36 16.1**	**+0.3**
	122nm,0.9s							
KAKA	**Kakadu**	**10.08**	**162**	*e*P		**Pn**	**13 36 57.9**	**+0.7**
	21nm,0.5s							
FITZ	**Fitzroy Crossi**	**15.37**	**193**	*e*P		**Pn**	**13 38 09.6**	**+0.6**
	24nm,0.9s							
FITZ	**Fitzroy Crossi**	**15.37**	**193**	Pn		**Pn**	**13 38 09.6**	**+0.6**
	0.6nm,0.3s,baz=30,slow=12,SNR=23							
FITZ				LR		LR	13 45 02.6	
	comp=Z,352nm,19.2s,baz=18,slow=41							
WRAB	**Tennant Creek**	**17.48**	**164**	*e*P		**Pn**	**13 38 34.3**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,26nm,0.8s							
WRAB	**Tennant Creek**	**17.48**	**164**	*e*Pn		**Pn**	**13 38 34.3**	**-1.5**
	comp=Z,26nm,0.8s							
WRA	**Warramunga Arr**	**17.48**	**164**	P		**Pn**	**13 38 34.2**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=349,slow=11,SNR=29							
WRA	**Warramunga Arr**	**17.48**	**164**	P		**Pn**	**13 38 34.2**	**-1.6**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
WB2	**Warramunga Arr**	**17.48**	**164**	*e*P		**Pn**	**13 38 34.5**	**-1.3**
PMG	**Port Moresby**	**18.84**	**110**	P		**Pn**	**13 38 53.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=249,slow=4.2,SNR=5.4							
PMG	**Port Moresby**	**18.84**	**110**	P		**Pn**	**13 38 55.4**	**+3.1**
PMG				pmax		pmax		
	comp=Z,18nm,0.8s							
PMG	**Port Moresby**	**18.84**	**110**	P		**Pn**	**13 38 55.4**	**+3.1**
	comp=Z,18nm,0.8s							
KSM	**Kuching**	**19.50**	**283**	*e*P		**Pn**	**13 38 59.8**	**-0.5**
MBWA	**Marble Bar**	**20.25**	**207**	*e*P		**P**	**13 39 06.0**	**-0.9**
	comp=Z,30nm,1.0s							
ASAR	**Alice Springs**	**20.96**	**168**	P		**P**	**13 39 15.4**	**+0.8**
	comp=Z,15nm,0.5s,baz=348,slow=11,SNR=397							
ASAR				S		**S**	**13 43 06.7**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=350,slow=20,SNR=4.3							
ASAR				PcP		PcP	13 43 20.7	-0.4
	comp=Z,1.0nm,0.4s,baz=17,slow=1.8,SNR=5.2							
ASAR	**Alice Springs**	**20.96**	**168**	P		**P**	**13 39 15.4**	**+0.8**
ASAR				S		**S**	**13 43 06.7**	**+0.7**
ASAR							13 43 20.7	
ASAR				pmax		pmax		
	comp=Z,15nm,0.5s							
ASAR				smax				
	comp=N,3.0nm,0.8s							
GUMO	**Guam**	**22.64**	**43**	LR		LR	13 47 43.1	
	comp=N,106nm,20.3s,MS3.3,baz=249,slow=35							
CTA	**Charters Tower**	**23.67**	**137**	*e*P		**P**	**13 39 44.4**	**+1.4**
	comp=N,12nm,0.9s,mb4.3							
CTA	**Charters Tower**	**23.67**	**137**	P		**P**	**13 39 44.5**	**+1.5**
	comp=N,3.7nm,0.6s,mb4.0,baz=318,slow=8.6,SNR=7.3							
CTA	**Charters Tower**	**23.67**	**137**	P		**P**	**13 39 44.5**	**+1.5**
CTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CTAO	**Charters Tower**	**23.67**	**137**	*e*P		**P**	**13 39 44.4**	**+1.4**
CTAO				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.5							
CTAO	**Charters Tower**	**23.67**	**137**	*e*P		**P**	**13 39 44.4**	**+1.4**
	comp=Z,18nm,0.9s,mb4.5							
QIZ	**Qiongzhong**	**29.12**	**320**	P		**P**	**13 40 33.8**	**+1.6**
QIZ				AMB		AMB		
	comp=Z,38nm,1.8s,mb4.8							
JOW	**Kunigami**	**29.74**	**358**	LR		LR	13 50 51.5	
	comp=Z,197nm,20.1s,MS3.7,baz=111,slow=33							
KULM	**Kulim**	**29.79**	**286**	*e*P		**P**	**13 40 38.2**	**+0.1**
KLBR	**Kellerberrin**	**30.38**	**200**	*e*P		**P**	**13 40 42.1**	**-1.2**
	comp=Z,22nm,1.0s,mb4.8							
PSI	**Prapat**	**30.91**	**281**	P		**P**	**13 40 47.3**	**-0.6**
	comp=Z,30nm,0.9s,mb5.1,baz=114,slow=4.3,SNR=18							
PSI	**Prapat**	**30.91**	**281**	P		**P**	**13 40 47.3**	**-0.6**
PSI				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.1							
STKA	**Stephens Creek**	**30.91**	**159**	*e*P		**P**	**13 40 48.8**	**+0.8**
	comp=Z,4.0nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**30.91**	**159**	P		**P**	**13 40 48.9**	**+0.9**
	comp=Z,1.5nm,0.3s,mb4.2,baz=332,slow=5.4,SNR=12							
NWAO	**Narrogin (SRO)**	**31.78**	**199**	P		**P**	**13 40 55.4**	**-0.2**
	comp=Z,3.3nm,0.5s,mb4.4,baz=42,slow=16,SNR=4.5							
NWAO	**Narrogin (SRO)**	**31.78**	**199**	P		**P**	**13 40 55.4**	**-0.2**
NWAO				pmax		pmax		
	comp=Z,3.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**31.78**	**199**	P		**P**	**13 40 55.4**	**-0.2**
CHG	**Chiang Mai**	**36.94**	**307**	⇑P		**P**	**13 41 41.1**	**+0.8**
	comp=Z,21nm,0.8s,mb5.0							
CHTO	**Chiang Mai**	**36.94**	**307**	*e*P		**P**	**13 41 41.0**	**+0.7**
CHTO				pmax		pmax		
	comp=Z,23nm,1.1s,mb4.9							
CHTO	**Chiang Mai**	**36.94**	**307**	*e*P		**P**	**13 41 41.0**	**+0.7**
	comp=Z,23nm,1.1s,mb4.9							
KMI	**Kunming**	**38.06**	**319**	P		**P**	**13 41 50.9**	**+1.1**
KMI				*PP		pP	13 42 01.8	+1.1
KMI				S		**S**	**13 47 43.2**	**+3.4**
KMI				pmax		pmax		
	comp=Z,18nm,1.3s,mb4.6							
KMI				MLR		MLR		
	comp=Z,50nm,31.1s,MS3.1							
KMI	**Kunming**	**38.06**	**319**	P		**P**	**13 41 50.9**	**+1.1**
	comp=Z,18nm,1.3s,mb4.6							
KMI				pP		pP	13 42 01.8	+1.1
KMI				S		**S**	**13 47 43.2**	**+3.4**
KMI				LR		LR		
	comp=Z,50nm,31.1s,MS3.1							
MAT	**Matsushiro**	**40.27**	**11**	P		**P**	**13 42 08.1**	**-0.1**
MJAR	**Matsushiro Arr**	**40.27**	**11**	P		**P**	**13 42 09.3**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=184,slow=7.2,SNR=4.9							
MJAR				LR		LR	13 58 31.2	
	comp=Z,120nm,18.5s,MS3.8,baz=50,slow=36							
MJAR	**Matsushiro Arr**	**40.27**	**11**	P		**P**	**13 42 09.3**	**+1.1**
MJAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MJAR				MLR		MLR		
	comp=Z,121nm,18.5s							
MJAR	**Matsushiro Arr**	**40.27**	**11**	P		**P**	**13 42 09.3**	**+1.1**
MJAR				LR		LR	13 58 31.2	
KSRS	**Korea Array**	**40.33**	**358**	LR		LR	13 56 39.8	
	comp=Z,110nm,21.3s,MS3.7,baz=319,slow=33							
CD2	**Chengdu**	**41.64**	**326**	*e*P		**P**	**13 42 22.0**	**+2.5**
CD2				XP		sP	13 42 35.8	+0.7
CD2				PP		PP	13 44 02.4	+6.2
CD2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5							
CD2				LR		LR		
	comp=N,230nm,13.2s,MS4.4							
CD2				LR		LR		
	comp=E,220nm,13.2s,MS4.4							
CD2				LR		LR		
	comp=Z,310nm,14.3s,MS4.3							
LZH	**Lanzhou**	**45.63**	**331**	*e*P		**P**	**13 42 51.5**	**-0.1**
LZH				AP		pP	13 43 00.1	-2.6
LZH				XP		sP	13 43 05.3	-2.0
LZH				AMB		AMB		
	comp=Z,18nm,1.3s,mb4.8							
LZH	**Lanzhou**	**45.63**	**331**	*e*P		**P**	**13 42 51.5**	**-0.1**
LZH				*PP		pP	13 43 00.1	-2.6
LZH				*SP		sP	13 43 05.2	-2.1
LZH				pmax		pmax		
	comp=Z,18nm,1.3s,mb4.8							
LZH	**Lanzhou**	**45.63**	**331**	*e*P		**P**	**13 42 51.5**	**-0.1**
	comp=Z,18nm,1.3s,mb4.8							
LZH				pP		pP	13 43 00.1	-2.6
LZH				sP		sP	13 43 05.2	-2.1
MDJ	**Mudanjiang**	**47.47**	**0**	P		**P**	**13 43 08.6**	**+2.6**
MDJ				AMB		AMB		
	comp=Z,9.0nm,2.5s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,96nm,4.0s							
LSA	**Lhasa**	**48.92**	**315**	*e*P		**P**	**13 43 18.4**	**+1.2**
LSA	**Lhasa**	**48.92**	**315**	*e*P		**P**	**13 43 18.3**	**+1.1**
LSA				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.0							
LSA	**Lhasa**	**48.92**	**315**	*e*P		**P**	**13 43 18.3**	**+1.1**
	comp=Z,14nm,0.8s,mb5.1							
JIRN	**Jiri**	**51.52**	**309**	*e*P		**P**	**13 43 37.1**	**+0.2**
	comp=Z,36nm,1.1s,mb5.2							
GUN	**Gumba**	**51.89**	**309**	*e*P		**P**	**13 43 39.8**	**+0.2**
	comp=Z,20nm,0.5s,mb5.3							
PKI	**Pulchoki**	**52.09**	**309**	*e*P		**P**	**13 43 40.9**	**-0.2**
	comp=Z,6.5nm,0.4s,mb4.9							
KKN	**Kakani**	**52.29**	**309**	*e*P		**P**	**13 43 42.3**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0							
DMN	**Daman**	**52.34**	**309**	*e*P		**P**	**13 43 42.8**	**-0.2**
	comp=Z,48nm,1.2s,mb5.3							
GKN	**Gorkha**	**52.89**	**309**	*e*P		**P**	**13 43 46.8**	**-0.3**
	comp=Z,18nm,0.8s,mb5.1							
KOLN	**Koldanda**	**53.60**	**308**	*e*P		**P**	**13 43 52.4**	**+0.2**
	comp=Z,26nm,0.8s,mb5.2							
HYB	**Hyderabad**	**54.02**	**294**	*i* P		**P**	**13 43 54.5**	**-0.8**
HYB	**Hyderabad**	**54.02**	**294**	*e*P		**P**	**13 43 54.5**	**-0.8**
SONM	**Songino Array**	**54.51**	**341**	P		**P**	**13 43 57.4**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=149,slow=6.9,SNR=8.4							
WMQ	**Urumqi**	**59.74**	**326**	⇑*i*P		**P**	**13 44 36.0**	**+0.1**
WMQ				AP		pP	13 44 46.1	-1.2
WMQ				XP		sP	13 44 50.5	-1.3
WMQ				PP		PP	13 46 49.8	+1.9
WMQ				AMB		AMB		
	comp=Z,14nm,1.1s,mb4.9							
WMQ				LR		LR		
	comp=N,55nm,20.5s,MS3.8							
WMQ				LR		LR		
	comp=E,48nm,16.7s,MS3.8							
WMQ				LR		LR		
	comp=Z,60nm,20.5s,MS3.7							
CASY	**Casey**	**64.46**	**188**	*e*P		**P**	**13 45 07.1**	**-0.4**
MK31	**Makanchi Array**	**64.58**	**326**	*e*P		**P**	**13 45 07.4**	**-0.9**
MKAR	**Makanchi Array**	**64.58**	**326**	P		**P**	**13 45 08.2**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.5,baz=126,slow=7.8,SNR=20							
MKAR				LR		LR	14 13 16.8	
	comp=Z,57nm,19.3s,MS3.8,baz=350,slow=36							
MKAR	**Makanchi Array**	**64.58**	**326**	P		**P**	**13 45 08.2**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
MKAR				MLR		MLR		
	comp=Z,57nm,19.3s							
YAK	**Yakutsk**	**64.92**	**0**	*e*P		**P**	**13 45 10.1**	**-0.4**
YAK				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.1							
YAK				pmax		pmax		
	comp=N,11nm,1.4s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.4s							
YAK	**Yakutsk**	**64.92**	**0**	*e*P		**P**	**13 45 09.8**	**-0.7**
	comp=E,21nm,0.8s,mb5.2							
AAK	**Ala-Archa**	**67.11**	**319**	*e*P		**P**	**13 45 24.0**	**-0.6**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.9s,mb4.2							
ZAL	**Zalesovo**	**67.77**	**333**	P		**P**	**13 45 27.4**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=350,slow=6.4,SNR=21							
ZAL	**Zalesovo**	**67.77**	**333**	P		**P**	**13 45 27.4**	**-1.4**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**68.82**	**328**	*e*P		**P**	**13 45 34.5**	**-0.8**
KURK				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.0							
KURK	**Kurchatov**	**68.82**	**328**	*e*P		**P**	**13 45 34.5**	**-0.8**
	comp=Z,17nm,0.9s,mb5.0							
NVS	**Novosibirsk**	**69.05**	**334**	*e*P		**P**	**13 45 35.5**	**-1.3**
CHKZ	**Chkalovo**	**74.56**	**328**	*e*P		**P**	**13 46 08.8**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**74.56**	**328**	*e*P		**P**	**13 46 08.8**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.3							
**Z

IDC 13 14:07:39.9±2.9, 616S×15123E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/12, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=92.2km s-min=45.4km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.23**	**111**	LR	LR	14 12 48.3	
	comp=Z,66nm,19.1s,baz=359,slow=33						
KAKA	**Kakadu**	**19.64**	**249**	*e*P	Pn	14 12 12.7	+1.3
	13nm,1.1s						
WB2	**Warramunga Arr**	**21.37**	**229**	*e*P	P	14 12 29.7	+0.8
WRA	**Warramunga Arr**	**21.38**	**229**	P	P	14 12 30.2	+1.2
	1.8nm,0.7s,baz=54,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.10**	**222**	P	P	14 12 56.4	-0.7
	0.8nm,0.5s,baz=59,slow=8.7,SNR=31						
ASPA	**Alice Springs**	**24.10**	**222**	*e*P	P	14 12 57.8	+0.6
STKA	**Stephens Creek**	**27.13**	**198**	P	P	14 13 25.3	+0.7
	1.4nm,0.8s,baz=5.7,slow=10,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	*e*P	P	14 13 30.9	+1.6
	3.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**149.20**	**285**	PKPbc	PKPbc	14 27 31.1	+0.8
	0.9nm,0.6s,baz=57,slow=2.4,SNR=8.0						

NIED ***13*** *14:08:00,39 60N×143.10E, h11km, Mw3.5 Best double couple: M0 1.74000×10^14 NP1:φs 354.00000°, δ54.00000°, λ52.00000°. NP2:φs 228.00000°, δ50.00000°, λ131.00000°.*

JMA 13 14:08:54.7±0.2, 3960N×14311E, h26km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.00**	**269**	P	Pn	14 09 12.8	-0.2
MIYJ				*e*S	Sb	14 09 25.7	-0.3
JTH	**Tanohata**	**1.02**	**290**	P	Pn	14 09 13.4	+0.1
JTH				*e*S	Sb	14 09 26.6	0.0
OFUJ	**Ofunato**	**1.23**	**246**	P	Pn	14 09 16.4	+0.2
JOM	**Ohasama**	**1.41**	**265**	P	Pn	14 09 19.4	+0.7
JOM				*e*S	Sn	14 09 37.4	+1.0
JANG	**Nango**	**1.45**	**303**	P	Pn	14 09 19.3	+0.1
JANG				*e*S	Sn	14 09 37.3	0.0
JMK	**Ichinoseki**	**1.60**	**247**	P	Pn	14 09 22.2	+0.9
JIO	**Ouri**	**1.79**	**231**	P	Pn	14 09 24.6	+0.8
JIO				*e*S	Sn	14 09 45.9	+0.2
JTM	**Tenmabayashi**	**1.96**	**308**	P	Pn	14 09 27.6	+1.3
JTM				*e*S	Sn	14 09 51.2	+1.2
JAH	**Hinai**	**1.99**	**288**	P	Pn	14 09 29.0	+2.3
JAH				*e*S	Sn	14 09 53.9	+3.1
JYK	**Kaneyama**	**2.24**	**253**	P	Pn	14 09 32.3	+2.2

JMA 13 14:09:03.1±0.1, 3599N×14023E, h42km±1km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.24**	**353**	P	Pn	14 09 11.1	+0.2
JYT				S	Sn	14 09 16.5	+0.1
JHO	**Hitachi**	**0.68**	**24**	P	Pn	14 09 15.9	-0.4
JHO				S	Sn	14 09 24.7	-1.0
JAG	**Ashikaga**	**0.76**	**305**	P	Pn	14 09 17.6	+0.2
JAG				S	Sn	14 09 27.6	-0.2
JRY	**Ryogami san**	**1.08**	**272**	P	Pn	14 09 21.8	+0.1
JRY				S	Sn	14 09 34.8	-0.7
JKT	**Katashina**	**1.11**	**315**	P	Pn	14 09 22.9	+0.8
JKT				S	Sn	14 09 36.5	+0.3
MAT	**Matsushiro**	**1.73**	**289**	P	Pn	14 09 32.1	+1.5
MAT				S	Sn	14 09 52.9	+1.5

MOS ***13*** *14:16:15.8±1.5, 526N×12607E, h33km, mb5.0/37, Error ellipse: s-maj=14.8km s-min=6.4km az=109.5*

MAN ***13*** *14:16:16.5, 489N×12628E, h65km, mb5.4, ML5.9, MS5.3*

ISCJB ***13*** *14:16:21.2±0.2, 523N±003×12623E±004, h83km, mb4.8/77, Error ellipse: s-maj=5.6km s-min=3.0km az=129.6*

NEIC ***13*** *14:16:23.6±0.2, 526N×12621E, mb4.9/37, Error ellipse: s-maj=9.0km s-min=4.8km az=73.0*

BJI ***13*** *14:16:23.6, 530N×12620E, h90km, mB5.3, mb4.8, Ms4.4, Msz4.1*

IDC ***13*** *14:16:23.2±1.8, 5.19N×12605E, h88km±15km, mb4.4/24, mb1 4.4/24, mb1mx4.4/28, mbtmp4.4/24, MS3.8/8, Ms1 3.8/8, ms1mx3.5/24, Error ellipse: s-maj=20.1km s-min=7.9km az=75.0*

ISC 13 14:16:23.2±0.2, 525N±002×12623E±004, h85km, h85km±2.6km: pP-P, n195, σ1s25/213, mb4.8/77, 9C-12D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.52**	**303**	*e*S	**Sn**	**14 17 07.0**	**-1.5**
MATI	**Mati**	**1.68**	**1**	*e*P	**Pn**	**14 16 49.3**	**-1.8**
MATI				*e*S	**Sn**	**14 17 11.3**	**-0.9**
DAV	**Davao City (W)**	**1.92**	**340**	*e*P	**Pn**	**14 16 53.0**	**-1.2**
DAV	**Davao City (W)**	**1.92**	**340**	*e*P	**Pn**	**14 16 52.3**	**-1.8**
KCP	**Kidapawan**	**2.08**	**327**	↑*i*P	**Pn**	**14 16 57.6**	**+1.3**
KCP				*i* S	**Sn**	**14 17 26.4**	**+4.8**
CTBH	**Cotabato--PC H**	**2.78**	**315**	↑*e*P	**Pn**	**14 17 03.9**	**-1.8**
CTBH				*i* S	**Sn**	**14 17 37.8**	**-0.5**
BUKP	**Musuan**	**2.86**	**336**	*e*P	**Pn**	**14 17 06.1**	**-0.5**
CGP	**Cagayan de Oro**	**3.53**	**334**	↓*e*P	**Pn**	**14 17 15.2**	**-0.5**
CGP				*i* S	**Sn**	**14 17 60.0**	**+3.5**
DCPH	**Dipolog City**	**4.38**	**319**	↓*e*P	**Pn**	**14 17 30.5**	**+3.3**
ZMPH	**Zamboanga City**	**4.48**	**292**	↑*i*P	**Pn**	**14 17 26.4**	**-2.2**
ZMPH				*i* S	**Sn**	**14 18 19.4**	**-0.1**
SCPH	**Surigao**	**4.56**	**351**	*e*P	**Pn**	**14 17 29.3**	**-0.5**
TBP	**Tagbilaran**	**5.00**	**332**	*e*P	**Pn**	**14 17 35.6**	**-0.1**
TBP				*e*S	**Sn**	**14 18 46.2**	**+14**
MSLP	**Maasin**	**5.04**	**344**	*e*P	**Pn**	**14 17 35.7**	**-0.6**
LLP	**Lapu-Lapu**	**5.51**	**336**	*e*P	**Pn**	**14 17 42.1**	**-0.6**
LLP				*e*S	**Sn**	**14 18 30.4**	**-14**
OCLP	**Ormoc**	**5.98**	**345**	*e*P	**Pn**	**14 17 49.2**	**+0.1**
PLP	**Palo**	**6.01**	**348**	*e*P	**Pn**	**14 17 49.2**	**-0.2**
GUIM	**Jordan**	**6.45**	**326**	*e*P	**Pn**	**14 17 55.5**	**+0.1**
RCP	**Roxas**	**7.16**	**331**	↓*i*P	**Pn**	**14 18 06.3**	**+1.2**
KALP	**Kalibo**	**7.46**	**329**	*i* P	**Pn**	**14 18 14.3**	**+5.1**
CUYO	**Cuyo Island**	**7.59**	**317**	*e*P	**Pn**	**14 18 11.0**	**-0.1**
OTRP	**Odiongan**	**8.20**	**330**	*e*P	**Pn**	**14 18 20.6**	**+1.3**
TSM	**Tawau**	**8.39**	**264**	P	**Pn**	**14 18 25.2**	**+3.3**
PVCP	**Virac**	**8.54**	**346**	*e*P	**Pn**	**14 18 26.5**	**+2.5**
ENPP	**El Nido**	**8.97**	**312**	*e*P	**Pn**	**14 18 29.1**	**-0.7**
BUSP	**Coron**	**8.98**	**315**	*e*P	**Pn**	**14 18 29.0**	**-0.9**
BATP	**Bataraza**	**9.08**	**293**	*e*P	**Pn**	**14 18 29.3**	**-2.1**
KKM	**Kota Kinabalu**	**10.00**	**275**	P	**Pn**	**14 18 50.6**	**+6.7**
KKM	**Kota Kinabalu**	**10.00**	**275**	*e*P	**Pn**	**14 18 45.8**	**+1.9**
TGY	**Tagaytay City**	**10.23**	**330**	P	**Pn**	**14 18 50.6**	**+3.7**
	49nm,0.3s,baz=220,slow=8.0,SNR=7.4						
TGY	**Tagaytay City**	**10.23**	**330**	P	**Pn**	**14 18 50.6**	**+3.6**
TGY				pmax	pmax		
	comp=Z,49nm,0.3s						
CAUP	**Cauayan**	**12.40**	**340**	*e*P	**Pn**	**14 19 14.2**	**-2.3**
ABRA	**Dolores**	**13.45**	**337**	*e*P	**Pn**	**14 19 33.3**	**+2.8**
KSM	**Kuching**	**16.33**	**257**	*e*P	**Pn**	**14 20 09.4**	**+2.2**
KAKA	**Kakadu**	**18.88**	**161**	*e*P	**Pn**	**14 20 35.9**	**-2.3**
	comp=Z,47nm,0.6s						
YHNB	**Yeheng**	**19.86**	**347**	*e*P	**Pn**	**14 20 47.5**	**-2.3**
GUMO	**Guam**	**20.15**	**64**	LR	LR	14 27 09.4	
	comp=Z,202nm,21.2s,baz=234,slow=32						
QIZ	**Qiongzhong**	**21.05**	**312**	P	**P**	**14 21 00.4**	**+0.2**
QIZ				S	**S**	**14 24 50.1**	**+0.4**
QIZ				XS	sS	14 25 17.0	-0.7
QIZ				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,223nm,5.2s						
JOW	**Kunigami**	**21.55**	**5**	P	**P**	**14 21 07.5**	**+1.9**
	comp=Z,56nm,0.8s,mb4.9,baz=198,slow=8.6,SNR=12						
KGM	**Kluang**	**23.09**	**263**	P	**P**	**14 21 23.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**23.21**	**181**	*e*P	**P**	**14 21 22.5**	**-0.2**
	comp=Z,134nm,0.5s,mb5.5						
FITZ				*e*S	**S**	**14 25 27.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**23.21**	**181**	P	**P**	**14 21 22.5**	**-0.2**
	comp=Z,49nm,0.5s,mb5.1,baz=15,slow=9.8,SNR=115						
FITZ				S	**S**	**14 25 28.2**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=89,slow=14,SNR=5.0						
IPM	**Ipoh**	**25.13**	**269**	P	**P**	**14 21 42.9**	**+2.7**
PMG	**Port Moresby**	**25.43**	**125**	P	**P**	**14 21 44.1**	**+1.2**
	comp=Z,8.1nm,0.7s,mb4.3,baz=309,slow=6.5,SNR=2.9						
PMG	**Port Moresby**	**25.43**	**125**	↑*e*P	**P**	**14 21 46.0**	**+3.1**
PMG	**Port Moresby**	**25.43**	**125**	*e*P	**P**	**14 21 43.9**	**+1.0**
	comp=Z,156nm,0.7s,mb4.5						
KKTK	**Khon Kaen**	**25.46**	**297**	P	**P**	**14 21 46.0**	**+2.8**
	comp=Z,741nm,0.7s						
KULM	**Kulim**	**25.48**	**271**	*e*P	**P**	**14 21 44.1**	**+0.8**
SSE	**Sheshan**	**26.14**	**350**	*e*P	**P**	**14 21 50.9**	**+1.5**
SSE				AP	pP	14 22 11.1	+2.5
SSE				XP	sP	14 22 21.6	+3.1
SSE				S	**S**	**14 26 18.0**	**+3.2**
SSE				XS	sS	14 26 53.8	+5.4
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,104nm,3.6s						
SSE				LR	LR		
	comp=N,41nm,29.4s						
SSE				LR	LR		
	comp=E,124nm,29.4s						
SSE				LR	LR		
	comp=Z,154nm,35.6s						
WRAB	**Tennant Creek**	**26.27**	**163**	*e*P	**P**	**14 21 49.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**26.27**	**163**	*e*P	**P**	**14 21 49.8**	**-0.7**
	comp=Z,51nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**26.27**	**163**	P	**P**	**14 21 49.9**	**-0.6**
	comp=Z,13nm,0.4s,mb4.8,baz=342,slow=10,SNR=32						
WRA				S	**S**	**14 26 15.1**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=348,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**26.27**	**163**	P	**P**	**14 21 49.9**	**-0.6**
WRA				S	**S**	**14 26 15.1**	**-1.8**
WRA				pmax	pmax		
	comp=Z,13nm,0.4s						
WB2	**Warramunga Arr**	**26.28**	**163**	↓*i*P	**P**	**14 21 49.8**	**-0.8**
WB2				*e*S	**S**	**14 26 26.5**	**+10**
WB2				*e*ScS	ScS	14 32 38.5	+1.4
CBIJ	**Chichi jima**	**26.52**	**33**	P	**P**	**14 21 52.5**	**-0.2**
	comp=Z,40nm,0.5s,mb5.2,baz=282,slow=19,SNR=3.2						
CBIJ				LR	LR	14 31 04.0	
	comp=Z,149nm,18.9s,baz=322,slow=33						
MBWA	**Marble Bar**	**27.01**	**193**	*e*P	**P**	**14 21 56.6**	**-0.6**
	comp=Z,106nm,1.0s,mb5.3						
NJ2	**Nanjing**	**27.54**	**346**	*e*P	**P**	**14 22 07.3**	**+5.4**
NJ2				AP	pP	14 22 24.3	+3.0
NJ2				XP	sP	14 22 34.6	+3.4
NJ2				PP	PP	14 22 57.0	-8.5
NJ2				S	**S**	**14 26 41.0**	**+4.1**
NJ2				XS	sS	14 27 11.0	+0.5
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,240nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,19.3s						
NJ2				LR	LR		
	comp=E,520nm,17.1s						
NJ2				LR	LR		
	comp=Z,330nm,14.1s						
NST	**Nakhon Sawan**	**27.64**	**294**	P	**P**	**14 22 02.0**	**-0.8**
	comp=Z,70nm,0.8s,mb5.2						
JNU	**Nakatsue**	**28.07**	**8**	P	**P**	**14 22 07.2**	**+0.6**
	comp=Z,21nm,0.9s,mb4.7,baz=217,slow=12,SNR=3.2						
GYA	**Guiyang**	**28.18**	**321**	↑*i*P	**P**	**14 22 08.3**	**+0.7**
GYA				AP	pP	14 22 27.8	+0.8
GYA				XP	sP	14 22 38.3	+1.4
GYA				PP	PP	14 23 02.0	-11
GYA				PCP	PcP	14 25 20.0	+0.6
GYA				S	**S**	**14 26 46.4**	**-0.6**
GYA				XS	sS	14 27 20.8	+0.3
GYA				SS	SS	14 28 15.5	-34
GYA				SCP	ScP	14 28 51.8	-0.9
GYA				SCS	ScS	14 32 43.3	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,420nm,16.7s						
GYA				LR	LR		
	comp=E,410nm,16.4s						
GYA				LR	LR		
	comp=Z,450nm,16.8s						
NANT	**Nan**	**28.31**	**301**	P	**P**	**14 22 11.0**	**+2.2**
AS31	**Alice Springs**	**29.70**	**166**	↓*i*P	**P**	**14 22 20.7**	**-0.3**
AS31				*e*S	sS	14 27 44.6	+0.2
ASAR	**Alice Springs**	**29.70**	**166**	P	**P**	**14 22 20.8**	**-0.3**
	comp=Z,6.5nm,0.5s,mb4.5,baz=345,slow=7.2,SNR=150						
ASAR				PcP	PcP	14 25 24.1	+0.9
	comp=Z,3.6nm,0.6s,baz=357,slow=2.3,SNR=6.2						
ASAR				S	**S**	**14 27 10.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=342,slow=18,SNR=3.2						
ASAR				ScP	ScP	14 28 57.4	-0.2
	comp=Z,3.0nm,0.9s,baz=349,slow=1.7,SNR=5.7						
ASAR	**Alice Springs**	**29.70**	**166**	P	**P**	**14 22 20.8**	**-0.3**
ASAR						14 25 24.1	
ASAR				S	**S**	**14 27 10.0**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ASAR				smax			
	comp=N,1.0nm,0.8s						
ASPA	**Alice Springs**	**29.70**	**166**	↓*i*P	**P**	**14 22 20.7**	**-0.3**
ASPA				*e*S	sS	14 27 44.6	+0.2
CHG	**Chiang Mai**	**29.84**	**299**	↓P	**P**	**14 22 25.3**	**+3.0**
CHTO	**Chiang Mai**	**29.84**	**299**	*e*P	**P**	**14 22 22.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
CHTO	**Chiang Mai**	**29.84**	**299**	*e*P	**P**	**14 22 22.8**	**+0.5**
	comp=Z,4.4nm,0.5s,mb4.3						
KMI	**Kunming**	**29.97**	**314**	P	**P**	**14 22 25.4**	**+1.9**
	comp=Z,7.0nm,0.5s,mb4.5						
KMI				pP	pP	14 22 46.5	+3.6
KMI				S	**S**	**14 27 16.5**	**+1.5**
KMI				SS	SS	14 28 59.1	-27
KMI				SSS		14 29 22.0	
KMI				LR	LR		
	comp=Z,350nm,23.1s						
CTA	**Charters Tower**	**31.96**	**143**	*e*P	**P**	**14 22 42.5**	**+1.5**
	comp=Z,1.4nm,0.2s,mb4.3						
CTA	**Charters Tower**	**31.96**	**143**	LR	LR	14 35 44.8	
	comp=Z,277nm,21.3s,baz=305,slow=36						
CTA	**Charters Tower**	**31.96**	**143**	*e*P	**P**	**14 22 42.5**	**+1.5**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.2s						
CTAO	**Charters Tower**	**31.96**	**143**	*e*P	**P**	**14 22 42.6**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**31.96**	**143**	*e*P	**P**	**14 22 42.6**	**+1.6**
	comp=Z,11nm,0.9s,mb4.6						
KSRS	**Korea Array**	**32.09**	**3**	P	**P**	**14 22 42.0**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.4,baz=188,slow=8.8,SNR=14						
XAN	**Xi'an**	**32.84**	**333**	P	**P**	**14 22 47.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
MJAR	**Matsushiro Arr**	**33.02**	**18**	P	**P**	**14 22 49.7**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.1,baz=189,slow=8.9,SNR=6.5						
MJAR				LR	LR	14 34 11.5	
	comp=Z,149nm,20.9s,baz=195,slow=32						
MJAR	**Matsushiro Arr**	**33.02**	**18**	P	**P**	**14 22 49.7**	**-0.6**
MJAR				LR	LR	14 34 11.5	
MAT	**Matsushiro**	**33.02**	**18**	P	**P**	**14 22 49.5**	**-0.8**
CD2	**Chengdu**	**33.13**	**323**	*e*P	**P**	**14 22 51.1**	**-0.1**
CD2				AP	pP	14 23 11.6	+0.8
CD2				XP	sP	14 23 21.6	+0.9
CD2				S	**S**	**14 28 03.1**	**-1.3**
CD2				XS	sS	14 28 38.6	+0.4
CD2				SS	SS	14 30 10.1	-20
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,370nm,24.0s						
CD2				LR	LR		
	comp=E,340nm,20.4s						
CD2				LR	LR		
	comp=Z,320nm,20.4s						
BJT	**Baijiatuao**	**35.78**	**347**	*e*P	**P**	**14 23 13.6**	**-0.5**
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuao**	**35.78**	**347**	*e*P	**P**	**14 23 13.6**	**-0.5**
	comp=Z,18nm,0.6s,mb5.2						
BJI	**Beijing**	**35.80**	**347**	P	**P**	**14 23 13.6**	**-0.7**
BJI				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=N,126nm,25.0s						
BJI				LR	LR		
	comp=E,176nm,31.9s						
BJI				LR	LR		
	comp=Z,188nm,31.2s						
BJI	**Beijing**	**35.80**	**347**	P	**P**	**14 23 13.6**	**-0.7**
	comp=Z,28nm,0.9s,mb5.2						
BJI				S	**S**	**14 28 33.9**	**-12**
BJI				LR	LR		
	comp=Z,190nm,31.2s						
FORT	**Forrest**	**35.87**	**177**	↓*i*P	**P**	**14 23 14.7**	**-0.1**
	comp=Z,61nm,0.5s,mb5.8						
SNY	**Shenyang**	**36.50**	**357**	↓P	**P**	**14 23 21.1**	**+0.9**
SNY				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.4						
SNY				AMB	AMB		
	comp=Z,302nm,3.6s						
SNY				LR	LR		
	comp=N,269nm,5.4s						
SNY				LR	LR		
	comp=E,552nm,6.0s						
SNY				LR	LR		
	comp=Z,383nm,4.8s						
HNR	**Honiara**	**36.63**	**113**	LR	LR	14 35 49.8	
	comp=Z,137nm,19.2s,baz=359,slow=32						
LZH	**Lanzhou**	**36.95**	**329**	*e*P	**P**	**14 23 24.8**	**+0.8**
LZH				AP	pP	14 23 45.8	+1.9
LZH				XP	sP	14 23 56.8	+3.2
LZH				PP	PP	14 24 53.9	+4.2
LZH				PCP	PcP	14 25 42.0	-1.6
LZH				*e*S	**S**	**14 29 02.0**	**-1.0**
LZH				XS	sS	14 29 39.3	+2.2
LZH				SS	SS	14 31 35.0	-11
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,190nm,6.0s						
LZH				LR	LR		
	comp=N,523nm,13.5s						
LZH				LR	LR		
	comp=Z,668nm,14.2s						
LZH	**Lanzhou**	**36.95**	**329**	*e*P	**P**	**14 23 24.7**	**+0.7**
LZH						14 24 53.9	
LZH						14 25 42.0	
LZH				*e*S	**S**	**14 29 02.0**	**-1.0**
LZH				SS	SS	14 31 35.0	-11
LZH				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.2						
LZH				MLR	MLR		
	comp=Z,670nm,14.2s						
LZH	**Lanzhou**	**36.95**	**329**	*e*P	**P**	**14 23 24.7**	**+0.7**
	comp=Z,41nm,1.4s,mb5.2						
LZH				pP	pP	14 23 45.7	+1.8
LZH				sP	sP	14 23 56.8	+3.2
LZH				PP	PP	14 24 53.9	+4.2
LZH				PcP	PcP	14 25 42.0	-1.6
LZH				*e*S	**S**	**14 29 02.0**	**-1.0**
LZH				sS	sS	14 29 39.3	+2.2
LZH				SS	SS	14 31 35.0	-11
LZH				LR	LR		
	comp=Z,670nm,14.2s						
KLBR	**Kellerberrin**	**37.52**	**192**	*e*P	**P**	**14 23 28.3**	**-0.5**
	comp=Z,52nm,1.0s,mb5.3						
HHC	**Hu-ho-hao-te**	**37.81**	**342**	*e*P	**P**	**14 23 33.0**	**+1.7**
HHC				AP	pP	14 23 51.3	+0.1
HHC				XP	sP	14 24 00.8	-0.1
HHC				PP	PP	14 25 04.4	+5.3
HHC				PCP	PcP	14 25 46.6	+0.4
HHC				S	**S**	**14 29 18.1**	**+2.1**
HHC				SCP	ScP	14 29 27.1	+1.0
HHC				PCS	PcS	14 29 35.9	+0.8
HHC				XS	sS	14 29 49.4	-0.8
HHC				SCS	ScS	14 33 35.6	+0.4
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,111nm,6.5s						
HHC				LR	LR		
	comp=N,355nm,19.7s						
HHC				LR	LR		
	comp=E,291nm,18.6s						
HHC				LR	LR		
	comp=Z,316nm,17.6s						
MUN	**Mundaring**	**38.23**	**194**	↓*i*P	**P**	**14 23 34.3**	**-0.5**
CN2	**Changchun**	**38.40**	**359**	*e*P	**P**	**14 23 37.3**	**+1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**38.92**	**192**	*e*P	**P**	**14 23 40.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,55nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.92**	**192**	*e*P	**P**	**14 23 40.2**	**-0.3**
	comp=Z,55nm,1.0s,mb5.3						
MDJ	**Mudanjiang**	**39.32**	**4**	P	**P**	**14 23 45.1**	**+1.2**
MDJ				AP	pP	14 24 03.8	-0.1
MDJ				XP	sP	14 24 13.6	-0.1
MDJ				PP	PP	14 25 17.1	+1.5
MDJ				SCP	ScP	14 29 32.5	+0.6
MDJ				S	**S**	**14 29 41.8**	**+3.1**
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.9						
MDJ				LR	LR		
	comp=N,122nm,35.8s						
MDJ				LR	LR		
	comp=E,67nm,23.7s						
MDJ				LR	LR		
	comp=Z,173nm,35.2s						
MDJ	**Mudanjiang**	**39.32**	**4**	*e*P	**P**	**14 23 44.6**	**+0.7**
	comp=Z,33nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**39.72**	**159**	*e*P	**P**	**14 23 47.6**	**+0.4**
	comp=Z,18nm,0.8s,mb5.0						
STKA				*e*PCP	PcP	14 25 54.1	+1.9
STKA	**Stephens Creek**	**39.72**	**159**	P	**P**	**14 23 48.0**	**+0.8**
	comp=Z,24nm,0.8s,mb5.1,baz=334,slow=7.9,SNR=27						
STKA				PcP	PcP	14 25 54.8	+2.6
	comp=Z,11nm,0.6s,baz=352,slow=3.3,SNR=3.1						
STKA				LR	LR	14 41 44.0	
	comp=Z,176nm,19.4s,baz=243,slow=38						
LSA	**Lhasa**	**41.08**	**310**	*e*P	**P**	**14 24 00.5**	**+2.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**41.08**	**310**	*e*P	**P**	**14 24 00.5**	**+2.1**
	comp=Z,10nm,0.8s,mb4.7						
ASAJ	**Asahikawa**	**41.30**	**18**	P	**P**	**14 24 02.2**	**+2.0**
	comp=Z,19nm,0.8s,mb5.0,baz=209,slow=29,SNR=6.4						
ASAJ	**Asahikawa**	**41.30**	**18**	P	**P**	**14 24 02.3**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.9s						
GTA	**Gaotai**	**41.55**	**329**	*e*P	**P**	**14 24 01.8**	**-0.5**
GTA				AP	pP	14 24 20.1	-2.4
GTA				PP	PP	14 25 41.1

HIA	**Hailar**	**44.20**	**354**	*e*P		**P**	**14 24 23.9**	**+0.1**
	comp=Z,18nm,1.0s,mb4.8							
GUN	**Gumba**	**44.44**	**305**	*e*P		**P**	**14 24 26.5**	**+0.8**
	comp=Z,42nm,0.5s,mb5.4							
PKI	**Pulchoki**	**44.70**	**304**	*e*P		**P**	**14 24 28.6**	**+0.9**
	comp=Z,15nm,0.5s,mb5.0							
KKN	**Kakani**	**44.89**	**305**	*e*P		**P**	**14 24 29.6**	**+0.4**
DMN	**Daman**	**44.96**	**304**	*e*P		**P**	**14 24 30.9**	**+1.1**
	comp=Z,21nm,0.7s,mb5.0							
GKN	**Gorkha**	**45.49**	**305**	*e*P		**P**	**14 24 35.0**	**+1.0**
	comp=Z,12nm,0.4s,mb4.9							
SONM	**Songino Array**	**45.71**	**341**	P		**P**	**14 24 34.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=350,slow=33,SNR=4.6							
SONM				PcP		PcP	14 26 12.0	-0.2
	comp=Z,2.6nm,0.8s,baz=198,slow=1.0,SNR=4.0							
SONM				ScP		ScP	14 29 59.4	+1.9
	comp=Z,1.3nm,0.9s,baz=159,slow=5.2,SNR=2.7							
SONM	**Songino Array**	**45.71**	**341**	P		**P**	**14 24 34.9**	**-0.8**
SONM							14 26 12.0	
CNB	**Canberra Magne**	**45.84**	**153**	*e*P		**P**	**14 24 38.5**	**+1.8**
	comp=Z,19nm,1.0s,mb4.8							
TOO	**Toolangi**	**46.23**	**159**	*e*P		**P**	**14 24 39.0**	**-0.7**
	comp=Z,15nm,1.0s,mb4.7							
TOO	**Toolangi**	**46.23**	**159**	*e*P		**P**	**14 24 39.0**	**-0.7**
TOO				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.7							
KOLN	**Koldanda**	**46.26**	**304**	*e*P		**P**	**14 24 39.8**	**-0.2**
	comp=Z,31nm,0.5s,mb5.3							
DZM	**Mont Dzumac**	**47.82**	**126**	P		**P**	**14 24 54.4**	**+2.3**
	comp=Z,6.4nm,0.6s,mb4.6,baz=254,slow=18,SNR=9.2							
DZM				LR		LR	14 43 07.9	
	comp=Z,175nm,20.1s,baz=255,slow=34							
HYB	**Hyderabad**	**48.15**	**289**	*i* P		**P**	**14 24 57.0**	**+2.3**
HYB	**Hyderabad**	**48.15**	**289**	*e*P		**P**	**14 24 57.0**	**+2.3**
ZAK	**Zakamensk**	**48.94**	**341**	*e*P		**P**	**14 25 07.9**	**+7.2**
ZAK				*e*			14 26 23.0	
TLY	**Talaya**	**49.94**	**342**	*e*P		**P**	**14 25 10.4**	**+2.0**
TLY				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
TLY				MLR		MLR		
	comp=Z,57nm,10.0s							
WMQ	**Urumqi**	**51.20**	**325**	⇓P		**P**	**14 25 18.4**	**+0.5**
WMQ				AP		pP	14 25 39.4	+0.7
WMQ				XP		sP	14 25 49.8	+1.6
WMQ				PCP		PcP	14 26 32.6	+0.5
WMQ				PP		PP	14 27 17.3	+1.9
WMQ				PPP			14 28 19.0	
WMQ				SCP		ScP	14 30 19.6	-1.2
WMQ				PCS		PcS	14 30 28.6	-1.3
WMQ				S		**S**	**14 32 28.9**	**-1.0**
WMQ				PS			14 32 51.8	
WMQ				XS		sS	14 33 04.5	-0.9
WMQ				AMB		AMB		
	comp=Z,11nm,0.6s,mb5.1							
WMQ				AMB		AMB		
	comp=Z,144nm,4.8s							
WMQ				LR		LR		
	comp=N,192nm,27.6s							
WMQ				LR		LR		
	comp=E,178nm,26.3s							
WMQ				LR		LR		
	comp=Z,144nm,20.4s							
CLNS	**Chul'man**	**51.45**	**359**	*e*P		**P**	**14 25 19.8**	**+0.1**
CLNS				pmax		pmax		
	comp=N,18nm,0.7s							
CLNS				pmax		pmax		
	comp=Z,28nm,0.7s,mb5.4							
CLNS				pmax		pmax		
	comp=E,12nm,0.9s							
BOD	**Bodaibo**	**53.30**	**352**	*e*P		**P**	**14 25 32.8**	**-0.6**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
MKAR	**Makanchi Array**	**56.03**	**325**	P		**P**	**14 25 52.5**	**-0.7**
	comp=Z,5.9nm,0.5s,mb4.8,baz=116,slow=7.4,SNR=78							
MKAR				ScP		ScP	14 30 43.2	+1.3
	comp=Z,5.5nm,0.9s,baz=122,slow=4.4,SNR=7.3							
MKAR	**Makanchi Array**	**56.03**	**325**	P		**P**	**14 25 52.5**	**-0.7**
MKAR				ScP		ScP	14 30 43.2	+1.3
YAK	**Yakutsk**	**56.71**	**2**	*e*P		**P**	**14 25 58.5**	**+0.5**
YAK				pmax		pmax		
	comp=Z,44nm,0.9s,mb5.5							
YAK				pmax		pmax		
	comp=N,17nm,1.2s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.6s							
YAK	**Yakutsk**	**56.71**	**2**	*e*P		**P**	**14 25 58.4**	**+0.4**
	comp=E,66nm,0.8s,mb5.7							
AAK	**Ala-Archa**	**58.91**	**317**	*e*P		**P**	**14 26 13.1**	**-0.2**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**58.91**	**317**	*e*P		**P**	**14 26 13.1**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.4							
ZAL	**Zalesovo**	**59.02**	**333**	P		**P**	**14 26 12.5**	**-1.6**
	comp=Z,2.0nm,0.4s,mb4.5,baz=327,slow=3.9,SNR=8.5							
ZAL				LR		LR	14 53 11.5	
	comp=Z,119nm,21.9s,baz=294,slow=37							
ZAL	**Zalesovo**	**59.02**	**333**	P		**P**	**14 26 12.5**	**-1.6**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.4s							
ZAL				MLR		MLR		
	comp=Z,119nm,21.9s							
KURK	**Kurchatov**	**60.20**	**327**	*e*P		**P**	**14 26 20.3**	**-1.9**
KURK				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.1							
KURK	**Kurchatov**	**60.20**	**327**	*e*P		**P**	**14 26 20.3**	**-1.9**
	comp=Z,13nm,0.7s,mb5.1							
NVS	**Novosibirsk**	**60.30**	**333**	*e*P		**P**	**14 26 20.6**	**-2.3**
NVS				*e*			14 27 03.1	
NVS				pmax		pmax		
	comp=Z,17nm,1.5s,mb4.8							
NVS				pmax		pmax		
	comp=N,11nm,1.4s							
NVS				pmax		pmax		
	comp=E,12nm,1.4s							
SEY	**Seymchan**	**60.67**	**13**⇑	*e*P		**P**	**14 26 26.4**	**+1.0**
RPZ	**Rata Peaks**	**63.28**	**145**	P		**P**	**14 26 42.5**	**-0.4**
	comp=E,21nm,0.9s,mb5.0,baz=338,slow=11,SNR=3.3							
URZ	**Urewera**	**63.98**	**137**	P		**P**	**14 26 49.1**	**+1.5**
	comp=E,6.1nm,0.8s,mb4.5,baz=21,slow=12,SNR=3.5							
BRVK	**Borovoye**	**65.86**	**327**	*e*P		**P**	**14 26 58.6**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
BRVK	**Borovoye**	**65.86**	**327**	*e*P		**P**	**14 26 58.6**	**-1.0**
	comp=Z,9.9nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**65.94**	**327**	*e*P		**P**	**14 26 58.2**	**-2.0**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
CHKZ	**Chkalovo**	**65.94**	**327**	*e*P		**P**	**14 26 58.2**	**-2.0**
	comp=Z,4.2nm,0.7s,mb4.4							
ZRNK	**Zerenda**	**66.51**	**326**	*e*P		**P**	**14 27 02.5**	**-1.4**
ZRNK				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
ZRNK	**Zerenda**	**66.51**	**326**	*e*P		**P**	**14 27 02.5**	**-1.3**
	comp=Z,10nm,0.7s,mb4.8							
BILL	**Bilibino**	**68.22**	**15**⇑	*e*P		**P**	**14 27 15.3**	**+0.7**
BILL				*e*			14 27 25.0	
BILL				pmax		pmax		
	comp=Z,16nm,1.4s,mb4.7							
BILL	**Bilibino**	**68.22**	**15**	*e*P		**P**	**14 27 14.7**	**+0.1**
	comp=Z,19nm,1.4s,mb4.7							
CASY	**Casey**	**72.26**	**187**	*e*P		**P**	**14 27 39.4**	**+0.1**
SVE	**Sverdlovsk**	**72.42**	**328**	*e*P		**P**	**14 27 41.0**	**+0.8**
ARU	**Arti**	**73.39**	**328**	⇓*i*P		**P**	**14 27 43.9**	**-2.1**
ARU				*e*			14 27 58.9	
ARU				*e*S		S	14 37 11.0	+2.6
ARU				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.6							
ARU	**Arti**	**73.39**	**328**	*e*P		**P**	**14 27 43.6**	**-2.4**
	comp=Z,8.8nm,0.5s,mb4.8							
ORR	**Orenburg**	**74.44**	**322**	*e*P		**P**	**14 27 51.1**	**-1.0**
ORR				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.7							
IMA2	**Indian Mountai**	**81.20**	**24**	*e*P		**P**	**14 28 31.1**	**+1.5**
OPO	**Ambohidratompo**	**81.33**	**250**	P		**P**	**14 28 30.2**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.4,baz=70,slow=4.3,SNR=17							
PMR	**Palmer**	**82.86**	**29**	*e*P		**P**	**14 28 37.9**	**-0.4**
PMR				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.8							
PMR	**Palmer**	**82.86**	**29**	*e*P		**P**	**14 28 37.9**	**-0.4**
	comp=Z,16nm,1.1s,mb4.8							
MCK	**McKinley**	**83.03**	**27**	*e*P		**P**	**14 28 39.8**	**+0.6**
MCK				pmax		pmax		
	comp=Z,32nm,1.3s,mb5.0							
MCK	**McKinley**	**83.03**	**27**	*e*P		**P**	**14 28 39.8**	**+0.6**
	comp=Z,32nm,1.3s,mb5.0							
COLA	**College**	**83.54**	**25**	*i* P		**P**	**14 28 43.4**	**+1.6**
COLA	**College**	**83.54**	**25**	*e*P		**P**	**14 28 41.9**	**+0.1**
	comp=Z,7.8nm,0.8s,mb4.6							
DIV	**Divide**	**84.47**	**29**	P		**P**	**14 28 45.8**	**-0.8**
	comp=Z,141nm,1.3s,mb5.6							
VNDA	**Vanda**	**84.99**	**173**	P		**P**	**14 28 49.0**	**-0.1**
	comp=Z,5.5nm,0.9s,mb4.5,baz=319,slow=5.9,SNR=33							
VNDA	**Vanda**	**84.99**	**173**	P		**P**	**14 28 49.1**	**0.0**
VNDA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
VNDA	**Vanda**	**84.99**	**173**	*e*P		**P**	**14 28 48.7**	**-0.4**
	comp=Z,6.9nm,1.0s,mb4.5							
MAW	**Mawson**	**85.00**	**200**	*e*P		**P**	**14 28 49.4**	**+0.2**
	comp=Z,5.4nm,0.6s,mb4.7							
MAW	**Mawson**	**85.00**	**200**	P		**P**	**14 28 48.6**	**-0.6**
	comp=Z,6.1nm,0.6s,mb4.7,baz=36,slow=6.6,SNR=6.5							
MAW	**Mawson**	**85.00**	**200**	*e*P		**P**	**14 28 49.4**	**+0.2**
MAW				pmax		pmax		
	comp=Z,5.0nm,0.6s							
OBN	**Obninsk**	**85.54**	**325**	P		**P**	**14 28 52.0**	**+0.1**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
PPT	**Papeete**	**86.05**	**108**	*e*LR		LR	14 56 19.0	
	comp=Z,139nm,30.8s							
APA	**Apatity**	**86.27**	**337**⇑	*e*P		**P**	**14 28 48.6**	**-6.9**
APA				*e*			14 29 00.0	
APA				pmax		pmax		
	comp=Z,11nm,0.6s,mb5.0							
KEV	**Kevo**	**88.30**	**340**	*ep*		**P**	**14 29 04.2**	**-1.1**
BRTR	**Keskin Array B**	**88.68**	**310**	P		**P**	**14 29 05.1**	**-1.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=120,slow=4.8,SNR=4.1							
BRTR	**Keskin Array B**	**88.68**	**310**	P		**P**	**14 29 05.1**	**-1.9**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**88.86**	**340**	P		**P**	**14 29 06.6**	**-1.3**
	comp=Z,3.3nm,0.6s,mb4.5,baz=80,slow=6.5,SNR=14							
ARCES	**ARCESS Array B**	**88.86**	**340**	P		**P**	**14 29 06.6**	**-1.3**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**88.94**	**21**	*e*P		**P**	**14 29 07.8**	**-0.4**
	comp=Z,248nm,1.1s							
FINES	**FINESS Array B**	**90.27**	**332**	P		**P**	**14 29 12.5**	**-2.0**
	comp=Z,1.4nm,0.5s,mb4.4,baz=51,slow=4.4,SNR=11							
FINES	**FINESS Array B**	**90.27**	**332**	P		**P**	**14 29 12.5**	**-2.0**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SYO	**Syowa Base**	**93.66**	**201**⇑	*e*P		**P**	**14 29 29.6**	**-0.5**
TAOE	**Nuku Hiva Isla**	**94.36**	**98**	*e*LR		LR	15 00 11.1	
	comp=Z,230nm,24.6s							
QSPA	**South Pole Qui**	**95.15**	**180**	*e*P		**P**	**14 29 37.0**	**0.0**
	comp=Z,4.8nm,0.6s,mb5.1							
DAG	**Danmarks Havn**	**95.69**	**352**	*i* P		**P**	**14 29 37.0**	**-2.4**
DAG	**Danmarks Havn**	**95.69**	**352**	*e*P		**P**	**14 29 37.0**	**-2.4**
NB2	**NORSAR Subarra**	**97.21**	**334**	P		**P**	**14 29 44.4**	**-1.9**
	comp=Z,3.7nm,1.0s,mb4.8,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**97.21**	**334**	P		**P**	**14 29 44.8**	**-1.5**
	comp=Z,0.8nm,0.6s,mb4.3,baz=67,slow=4.5,SNR=4.1							
NOA	**NORSAR Array B**	**97.21**	**334**	P		**P**	**14 29 44.8**	**-1.5**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**121.97**	**289**	PKP		PKPdf	14 35 08.0	+0.3
	comp=Z,1.9nm,0.5s,baz=52,slow=1.6,SNR=26							
JCT	**Junction City**	**123.43**	**48**	*e*PKIKP		PKPdf	14 35 11.3	+0.8
JTS	**JuntasAbangare**	**145.31**	**64**	*e*PKIKP		PKPdf	14 35 52.6	+1.5
TRQA	**Tornquist**	**146.50**	**168**	*e*PKPdf		PKPdf	14 35 54.9	+1.8
LPAZ	**La Paz**	**162.14**	**129**	PKP		PKPdf	14 36 18.1	+3.5
	comp=Z,1.0nm,0.9s,baz=343,slow=2.0,SNR=5.0							
LPAZ				PKPab		PKPab	14 37 01.3	-0.4
	comp=Z,1.0nm,0.6s,baz=239,slow=5.9,SNR=3.2							
LPAZ	**La Paz**	**162.14**	**129**	PKIKP		PKPdf	14 36 18.2	+3.5
LPAZ							14 37 01.3	
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.9s							

IDC ***13*** *14:26:59.9±8.4, 3184S×17868W, h98km±78km, mb3.8/5, mb1 3.9/6, mb1mx3.7/14, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=65.2km s-min=46.7km az=177.0*

ISCJB ***13*** *14:27:07.2±2.0, 326S±02×178.1W±05, h238km±30km, mb3.7/6, Error ellipse: s-maj=77.1km s-min=16.5km az=52.9*

NEIC ***13*** *14:27:16.0±3.0, 3292S×17897W, h258km±30km, mb3.7/1, Error ellipse: s-maj=40.2km s-min=25.1km az=191.0*

ISC 13 14:27:11.2±2.0, 329S±02×1781W±04, h264km±24km, n24, σ0.995/31, mb3.6/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.50**	**211**	*e*P	**Pn**	**14 28 32.4**	**-1.1**
MXZ	**Matakaoa Point**	**5.50**	**211**	*e*PN	**Pn**	**14 28 33.4**	**-0.1**
PUZ	**Puketiti**	**5.96**	**209**	P	**Pn**	**14 28 40.4**	**+1.4**
PUZ				S	**S**	**14 29 49.6**	**+0.2**
PUZ	**Puketiti**	**5.96**	**209**	PN	**Pn**	**14 28 38.9**	**-0.2**
PUZ				SN	**S**	**14 29 50.3**	**+0.9**
MWZ	**Matawai**	**6.49**	**212**	*e*P	**Pn**	**14 28 46.4**	**+0.8**
MWZ				S	**S**	**14 30 01.3**	**-0.1**
MWZ	**Matawai**	**6.49**	**212**	*e*PN	**Pn**	**14 28 46.4**	**+0.8**
MWZ				SN	**S**	**14 30 02.0**	**+0.5**
URZ	**Urewera**	**6.62**	**215**	P	**Pn**	**14 28 43.4**	**-3.8**
	0.6nm,0.3s,baz=358,slow=13,SNR=12						
URZ				S	**S**	**14 30 05.0**	**+0.6**
	2.2nm,0.3s,baz=186,slow=21,SNR=9.7						
URZ	**Urewera**	**6.62**	**215**	*e*P	**Pn**	**14 28 42.6**	**-4.7**
URZ	**Urewera**	**6.62**	**215**	*e*PN	**Pn**	**14 28 43.7**	**-3.6**
URZ				SN	**S**	**14 30 04.0**	**-0.5**
MRZ	**Mangatainoka R**	**9.26**	**211**	SN	**S**	**14 31 03.4**	**-1.5**
THZ	**Tophouse**	**11.38**	**216**	*e*P	**Pn**	**14 29 45.3**	**-1.4**
THZ	**Tophouse**	**11.38**	**216**	*e*PN	**Pn**	**14 29 45.3**	**-1.4**
THZ				SN	**S**	**14 31 54.4**	**+0.6**
KHZ	**Kahutara**	**11.58**	**213**	*e*P	**Pn**	**14 29 49.1**	**-0.1**
KHZ				S	**S**	**14 31 58.5**	**+0.1**
KHZ	**Kahutara**	**11.58**	**213**	*e*PN	**Pn**	**14 29 50.1**	**+0.9**
KHZ				SN	**S**	**14 31 58.5**	**+0.1**
STKA	**Stephens Creek**	**33.92**	**261**	P	**P**	**14 33 32.3**	**+2.7**
	3.4nm,1.0s,mb3.8,baz=99,slow=13,SNR=4.5						
STKA	**Stephens Creek**	**33.92**	**261**	*e*P	**P**	**14 33 32.6**	**+3.0**
CTA	**Charters Tower**	**34.21**	**283**	P	**P**	**14 33 31.8**	**-0.3**
	2.4nm,0.7s,mb3.8,baz=108,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**34.21**	**283**	P	**P**	**14 33 30.8**	**-1.3**
ASAR	**Alice Springs**	**42.96**	**270**	P	**P**	**14 34 44.9**	**+0.3**
	1.4nm,0.4s,mb3.5,baz=107,slow=7.3,SNR=34						
WRAB	**Tennant Creek**	**44.17**	**275**	*e*P	**P**	**14 34 53.5**	**-0.6**
	2.5nm,0.7s,mb3.5						
WRA	**Warramunga Arr**	**44.18**	**275**	P	**P**	**14 34 53.7**	**-0.5**
	1.3nm,0.3s,mb3.7,baz=111,slow=8.1,SNR=13						
FITZ	**Fitzroy Crossi**	**52.33**	**272**	P	**P**	**14 35 56.8**	**+0.6**
	1.1nm,0.7s,mb3.3,baz=106,slow=7.4,SNR=3.0						
FIA1	**FINESS Array S**	**147.46**	**339**	*e*PKPbc	PKPbc	14 46 28.0	+4.0
FINES	**FINESS Array B**	**147.46**	**339**	PKPbc	PKPbc	14 46 27.8	+3.8
	2.4nm,0.5s,baz=61,slow=4.7,SNR=20						

SZGRF ***13*** *14:31:50.6, 1605S×6729E, h33km, mb5.0, Mid-Indian Ridge*

IDC ***13*** *14:31:52.0±0.6, 1507S×6701E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.2/26, mbtmp4.1/20, ML3.8/1, MS4.4/24, Ms1 4.4/24, ms1mx4.3/30, Error ellipse: s-maj=18.4km s-min=15.0km az=178.0*

BJI ***13*** *14:31:51.2, 1528S×66.15E, h29km, mB4.7, mb4.7, Ms5.0, Msz4.6*

ISCJB ***13*** *14:31:52.0±0.4, 1509S±007×6697E±007, h10km, mb4.4/34, MS4.5/28, Error ellipse: s-maj=10.8km s-min=8.5km az=113.3*

GCMT ***13*** *14:31:53.8±0.2, 1511S×6697E, h12km, MW5.1/78, Moment Tensor Solution. s34,c43; s78,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.84±.16; Mθθ=1.43±.16; Mϕϕ=4.42±.17; Mrθ=-0.50±.49; Mrϕ=-3.25±.14; Mθϕ=0.58±.51; Best double couple: M=6.21900×10^16 NP1:ϕs=329.00000°, δ=42.00000°, λ=-88.00000°. NP2: ϕs=146.00000°, δ=49.00000°, λ=-92.00000°. Principal axes: T 6.5490, Plg=3.0000°, Azm=237.0000°; N -0.6500, Plg=1.0000°, Azm=147.0000°; P -5.8890, Plg=86.0000°, Azm=38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *14:31:53.9±0.3, 1507S×6698E, h10km, mb4.8/14 Error ellipse: s-maj=9.7km s-min=8.8km az=167.0*

MOS ***13*** *14:31:57.3±0.9, 1411S×6675E, h10km, mb4.6/18, Error ellipse: s-maj=21.5km s-min=10.7km az=102.3*

ISC 13 14:31:55.1±2.9, 1509S±008×6694E±007, h16km±17km, h26km±3.9km: pP-P, n96, σ0.993/76, mb4.4/34, MS4.5/28,

4C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.22**	**257**	P	**Pn**	**14 36 19.8**	**+0.5**
	0.3nm,0.3s,baz=336,slow=1.9,SNR=4.5						
KMBO	**Kilima Mbogo**	**32.43**	**293**	P	**P**	**14 38 25.8**	**+1.6**
	0.6nm,0.3s,mb3.9,baz=211,slow=22,SNR=4.4						
KMBO				LR	LR	14 48 48.7	
	comp=Z,402nm,21.7s,MS4.1,baz=277,slow=31						
KMBO	**Kilima Mbogo**	**32.43**	**293**	*e*P	**P**	**14 38 26.3**	**+2.1**
	35nm,2.0s,mb4.8						
LSZ	**Lusaka**	**37.37**	**264**	P	**P**	**14 39 08.0**	**+1.2**
	5.2nm,0.9s,mb4.3,baz=120,slow=8.2,SNR=8.2						
LSZ	**Lusaka**	**37.37**	**264**	P	**P**	**14 39 08.0**	**+1.2**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
LSZ	**Lusaka**	**37.37**	**264**	*e*P	**P**	**14 39 08.1**	**+1.3**
	comp=Z,22nm,1.4s,mb4.8						
WSAR	**Wadi Sarin**	**38.95**	**348**	P	**P**	**14 39 19.9**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.8,baz=66,slow=12,SNR=3.0						
LBTB	**Lobatse**	**39.94**	**249**	P	**P**	**14 39 29.3**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.1,baz=116,slow=13,SNR=3.4						
LBTB	**Lobatse**	**39.94**	**249**	P	**P**	**14 39 29.3**	**+0.9**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
LBTB	**Lobatse**	**39.94**	**249**	*e*P	**P**	**14 39 30.1**	**+1.7**
	comp=Z,4.4nm,0.8s,mb4.2						
BOSA	**Boshof**	**40.76**	**244**	P	**P**	**14 39 35.1**	**-0.1**
	comp=Z,2.7nm,0.8s,mb3.9,baz=69,slow=6.3,SNR=3.9						
BOSA				LR	LR	14 53 08.8	
	comp=Z,1μm,21.1s,MS4.7,baz=89,slow=31						
MAW	**Mawson**	**52.55**	**182**	LR	LR	14 58 03.1	
	comp=Z,386nm,20.8s,MS4.4,baz=54,slow=30						
KMI	**Kunming**	**53.06**	**42**	P	**P**	**14 41 14.9**	**+3.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**53.06**	**42**	P	**P**	**14 41 14.9**	**+3.5**
	comp=Z,9.0nm,0.8s,mb4.8						
QIZ	**Qiongzhong**	**54.16**	**53**	P	**P**	**14 41 20.5**	**+1.1**
QIZ				S	**S**	**14 48 57.4**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,250nm,5.3s						
QIZ				LR	LR		
	comp=N,403nm,13.6s,MS4.9						
QIZ				LR	LR		
	comp=E,658nm,18.1s,MS4.9						
QIZ				LR	LR		
	comp=Z,755nm,19.6s,MS4.8						
FITZ	**Fitzroy Crossi**	**56.14**	**102**	LR	LR	15 01 27.7	
	comp=Z,662nm,21.6s,MS4.7,baz=276,slow=32						
SYO	**Syowa Base**	**56.60**	**191**⇑	*e*P	**P**	**14 41 36.2**	**-0.8**
SYO	**Syowa Base**	**56.60**	**191**⇓	*e*PP	PP	14 43 43.4	+0.4
CD2	**Chengdu**	**57.83**	**37**	*e*P	**P**	**14 41 47.4**	**+1.7**
CD2				AP	pP	14 41 52.0	+1.1
CD2				S	**S**	**14 49 45.4**	**+1.0**
CD2				SS	SS	14 53 38.3	+3.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,380nm,17.8s,MS4.7						
CD2				LR	LR		
	comp=E,360nm,16.6s,MS4.7						
CD2				LR	LR		
	comp=Z,340nm,17.8s,MS4.5						
AAK	**Ala-Archa**	**57.85**	**7**⇑	*e*P	**P**	**14 41 44.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
GNI	**Garni**	**58.70**	**340**	P	**P**	**14 41 53.1**	**+1.3**
	comp=Z,1.6nm,0.4s,mb4.5,baz=187,slow=19,SNR=4.9						
GNI	**Garni**	**58.70**	**340**	*i* P	**P**	**14 41 51.5**	**-0.3**
GNI				pmax	pmax		
	comp=Z,44nm,2.1s						
GNI	**Garni**	**58.70**	**340**	P	**P**	**14 41 51.8**	**0.0**
	comp=Z,50nm,1.6s,mb5.3						
WMQ	**Urumqi**	**61.62**	**17**⇑	*i*P	**P**	**14 42 12.0**	**+0.2**
WMQ				AP	pP	14 42 16.5	-0.5
WMQ				PCP	PcP	14 42 53.3	0.0
WMQ				PP	PP	14 44 29.8	+2.4
WMQ				PPP		14 45 58.8	
WMQ				SCP	ScP	14 46 53.3	-1.0
WMQ				*e*S	**S**	**14 50 32.0**	**-1.3**
WMQ				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,58nm,6.1s						
WMQ				LR	LR		
	comp=N,241nm,18.6s,MS4.4						
WMQ				LR	LR		
	comp=E,137nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,271nm,19.3s,MS4.4						
LZH	**Lanzhou**	**61.70**	**34**	*e*P	**P**	**14

ARU				*e*				14 45 48.0	
ARU				*e*PPP				14 47 33.8	
ARU				*e*S		S		14 52 30.9	-3.1
ARU				pmax		pmax			
	comp=Z,8.0nm,1.4s,mb4.5								
SONM	**Songino Array**	**71.86**	**27**	P		**P**		**14 43 17.8**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=212,slow=5.8,SNR=5.9								
SONM				LR		LR		15 13 31.9	
	comp=Z,443nm,20.9s,MS4.7,baz=203,slow=35								
JOW	**Kunigami**	**72.67**	**55**	LR		LR		15 11 36.4	
	comp=Z,339nm,20.8s,MS4.6,baz=226,slow=33								
AKASG	**Malin Array Be**	**73.36**	**336**	P		**P**		**14 43 25.2**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=139,slow=5.4,SNR=11								
AKASG	**Malin Array Be**	**73.36**	**336**	P		**P**		**14 43 25.2**	**-0.8**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KEST	**Kesra**	**74.29**	**314**	LR		LR		15 15 10.6	
	comp=Z,92nm,20.3s,MS4.1,baz=184,slow=35								
OBN	**Obninsk**	**74.50**	**342**	P		**P**		**14 43 33.0**	**+0.3**
OBN				*e*		pP		14 43 38.4	+0.3
OBN				*e*				14 43 44.6	
OBN				SS		SS		14 57 41.0	-13
OBN				pmax		pmax			
	comp=Z,32nm,1.9s,mb4.9								
OBN				MLR		MLR			
	comp=Z,200nm,19.0s,MS4.4								
MOS	**Moscow**	**74.75**	**343**	*e*P		**P**		**14 43 34.2**	**+0.1**
MOS				*e*				14 46 20.1	
QSPA	**South Pole Qui**	**75.00**	**180**	P		**P**		**14 43 35.3**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.7								
KOLS	**Kolonicke sedl**	**75.11**	**331**	*e*P		**P**		**14 43 36.2**	**+0.5**
CTA	**Charters Tower**	**75.13**	**107**	LR		LR		15 12 20.5	
	comp=Z,541nm,21.4s,MS4.8,baz=256,slow=32								
VYHS	**Vyhne**	**76.35**	**329**	*e*P		**P**		**14 43 42.6**	**-0.7**
VYHS				*e*pP		pP		14 43 50.3	+1.6
VNDA	**Vanda**	**76.44**	**167**	P		**P**		**14 43 42.4**	**-1.5**
	comp=Z,2.0nm,1.0s,mb4.0,baz=286,slow=9.5,SNR=5.4								
VNDA				LR		LR		15 12 41.8	
	comp=Z,156nm,21.1s,MS4.3,baz=257,slow=32								
KSRS	**Korea Array**	**77.51**	**45**	P		**P**		**14 43 48.8**	**-1.1**
	comp=Z,4.0nm,1.1s,mb4.2,baz=237,slow=8.6,SNR=4.8								
KSRS				LR		LR		15 19 13.0	
	comp=Z,239nm,18.4s,MS4.5,baz=228,slow=37								
JNU	**Nakatsue**	**77.56**	**51**	LR		LR		15 18 52.5	
	comp=Z,471nm,19.1s,MS4.8,baz=1.2,slow=36								
PMG	**Port Moresby**	**78.23**	**97**	LR		LR		15 17 42.2	
	comp=Z,144nm,18.0s,MS4.3,baz=67,slow=35								
DPC	**Dobruska-Polom**	**78.81**	**330**	*e*P		**P**		**14 43 55.0**	**-2.1**
UPC	**Upice**	**79.06**	**330**	*e*P		**P**		**14 43 59.7**	**+1.3**
GERES	**GERESS Array B**	**79.18**	**327**	P		**P**		**14 43 58.5**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=217,slow=4.2,SNR=3.7								
GERES	**GERESS Array B**	**79.18**	**327**	P		**P**		**14 43 58.5**	**-0.6**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KHC	**Kasperske Hory**	**79.42**	**328**	*e*P		**P**		**14 43 59.9**	**-0.5**
KHC				*e*pP		pP		14 44 11.6	+5.8
KHC	**Kasperske Hory**	**79.42**	**328**	*e*P		**P**		**14 43 59.9**	**-0.5**
KHC				*e*				14 44 11.6	
PRU	**Pruhonice**	**79.46**	**329**	*e*P		**P**		**14 44 00.0**	**-0.6**
PRU				*e*pP		pP		14 44 07.2	+1.2
NKC	**Novy Kostel**	**80.67**	**328**	*e*P		**P**		**14 44 08.0**	**+0.8**
GRA1	**Grafenberg Arr**	**80.98**	**327**	*e*P		**P**		**14 44 08.6**	**-0.2**
	comp=Z,18nm,1.6s,mb4.8								
GRF	**Grafenberg Arr**	**80.98**	**327**	*e*P		**P**		**14 44 08.6**	**-0.2**
	comp=Z,18nm,1.6s,mb4.8								
GRF	**Grafenberg Arr**	**80.98**	**327**	*e*P		**P**		**14 44 08.6**	**-0.2**
GRF				pmax		pmax			
	comp=Z,18nm,1.6s,mb4.8								
GRF	**Grafenberg Arr**	**80.98**	**327**	*e*P		**P**		**14 44 08.6**	**-0.2**
GRF				pmax		pmax			
	comp=Z,18nm,1.6s,mb4.8								
CLL	**Collm**	**81.05**	**329**	*e*P		**P**		**14 44 09.0**	**-0.2**
CLL				pmax		pmax			
	comp=Z,35nm,2.0s,mb4.9								
CLL	**Collm**	**81.05**	**329**	*e*P		**P**		**14 44 09.0**	**-0.2**
	comp=Z,35nm,2.0s,mb4.9								
CLL				*ex*		x		14 44 21.0	
MOX	**Moxa**	**81.34**	**328**	*e*P		pP		14 44 18.0	+1.8
MDJ	**Mudanjiang**	**82.19**	**40**	P		**P**		**14 44 15.5**	**+0.3**
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.6s,mb4.5								
MDJ				AMB		AMB			
	comp=Z,20nm,2.7s,mb4.6								
FINES	**FINESS Array B**	**82.86**	**342**	LR		LR		15 19 15.9	
	comp=Z,163nm,18.8s,MS4.4,baz=338,slow=34								
CBIJ	**Chichi jima**	**84.14**	**60**	LR		LR		15 16 43.4	
	comp=Z,179nm,18.3s,MS4.5,baz=295,slow=32								
MJAR	**Matsushiro Arr**	**84.46**	**50**	P		**P**		**14 44 27.7**	**+0.8**
	comp=Z,1.6nm,0.7s,mb4.2,baz=234,slow=5.2,SNR=4.4								
MJAR				LR		LR		15 22 11.8	
	comp=Z,168nm,18.2s,MS4.5,baz=250,slow=36								
MJAR	**Matsushiro Arr**	**84.46**	**50**	P		**P**		**14 44 27.7**	**+0.8**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MJAR				MLR		MLR			
	comp=Z,169nm,18.2s								
ESDC	**Sonseca Array**	**85.44**	**313**	P		**P**		**14 44 31.2**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.5,baz=115,slow=4.1,SNR=12								
ESDC				LR		LR		15 19 17.7	
	comp=Z,116nm,20.2s,MS4.3,baz=330,slow=33								
ARCES	**ARCESS Array B**	**89.28**	**347**	LR		LR		15 23 54.6	
	comp=Z,183nm,18.7s,MS4.5,baz=319,slow=35								
PPT	**Papeete**	**131.53**	**131**	*e*LR		LR		15 32 50.6	
	comp=Z,83nm,24.0s								
RKT	**Rikitea**	**136.39**	**150**	*e*LR		LR		15 35 06.3	
	comp=Z,123nm,23.8s								
TAOE	**Nuku Hiva Isla**	**144.13**	**130**	*e*LR		LR		15 38 39.6	
	comp=Z,384nm,26.1s								
DGMT	**Dagmar**	**145.92**	**349**	*e*PKP		PKPdf		14 51 34.1	+1.1
CHMT	**Chamberlain Mo**	**148.27**	**0**	*e*PKPbc		PKPbc		14 51 40.5	+0.2
MSO	**Missoula**	**148.34**	**1**	*e*PKPbc		PKPbc		14 51 40.6	+0.1
GCMT	**Greycliff**	**149.26**	**355**	*e*PKPbc		PKPbc		14 51 43.8	+0.9
CCM	**Cathedral Cave**	**150.08**	**324**	*e*PKIKP		PKPdf		14 51 43.5	+3.6
HLID	**Hailey**	**151.59**	**2**	*e*PKPbc		PKPbc		14 51 49.4	+1.0
PDAR	**Pinedale Array**	**152.25**	**354**	PKPbc		PKPbc		14 51 49.3	-0.6
	comp=Z,1.9nm,0.8s,baz=67,slow=1.9,SNR=12								
PDAR				PKPab		PKPab		14 51 57.0	-2.7
	comp=Z,0.8nm,0.6s,baz=70,slow=3.1,SNR=4.6								

MAN 13 14:50:03.0, 1356N×12152E, h9km, mb2.1, ML3.8, MS1.8, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.33**	**108**	*e*P	Pg	14 50 10.4	+0.8
BOAC				*e*S	Sg	14 50 16.2	+2.2
PGP	**Puerto Galera**	**0.55**	**264**↓	*e*P	Pg	14 50 14.1	+0.3
PGP				*e*S	Sg	14 50 21.9	+0.9
TGY	**Tagaytay City**	**0.78**	**314**↑	*i*P	Pg	14 50 20.5	+2.4
TGY				*i* S	Sg	14 50 30.7	+2.4
GQP	**Guinayangan**	**0.96**	**69**↑	*e*P	Pg	14 50 22.2	+0.7
GQP				*e*S	Sg	14 50 35.8	+1.6
AUQP	**San Andres**	**1.15**	**102**	*e*P	Pb	14 50 26.7	+1.6
POLP	**Polilio Island**	**1.23**	**19**	*e*P	Pn	14 50 25.6	-0.9
POLP				*e*S	Sb	14 50 42.6	+0.2
LUBP	**Lubang**	**1.25**	**278**	*e*P	Pn	14 50 25.6	-1.1
OTRP	**Odiongan**	**1.29**	**158**	*e*P	Pn	14 50 26.1	-1.1
BUSP	**Coron**	**2.01**	**220**	*e*P	Pn	14 50 38.0	+0.8
BALP	**Baler**	**2.17**	**1**	*e*P	Pn	14 50 41.2	+1.9
PVCP	**Virac**	**2.56**	**89**	*e*P	Pn	14 50 46.1	+1.3
CUYO	**Cuyo Island**	**2.74**	**190**	*e*P	Pn	14 50 46.8	-0.4

IDC ***13*** *15:00:24.2±7.8, 3582N×5390E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=186.4km s-min=31.5km az=1.0*

ISCJB ***13*** *15:00:26.8±0.8, 3638N±003×54.16E±003, h0km±6km, mb4.3/9, MS3.6/1, Error ellipse: s-maj=5.5km s-min=3.4km az=167.6*

BJI ***13*** *15:00:27.3, 3630N×54.10E, h4km, mB4.9, mb4.3*

THR ***13*** *15:00:27.4±0.8, 3643N×54.13E, h14km±7km, ML3.8*

MOS ***13*** *15:00:27.5±2.2, 3606N×5408E, h22km, mb4.3/6, Error ellipse: s-maj=12.7km s-min=8.9km az=105.2*

CSEM ***13*** *15:00:28.4±0.1, 3633N×5409E, h16km, mb4.2/3, Error ellipse: s-maj=1.8km s-min=1.3km az=167.0*

NEIC ***13*** *15:00:29.3, 3634N×54.10E, h4km, mb4.0/7, MN4.1(TEH), After TEH.*

TEH ***13*** *15:00:29.3, 3634N×54.10E, h4km, Mn4.1*

NNC ***13*** *15:00:38.6±2.7, 37.11N×5480E, h0km, mb3.5, Error ellipse: s-maj=52.9km s-min=20.2km az=84.0*

ISC 13 15:00:28.4±0.8, 3635N±003×5413E±003, h0km±6km, n100, σ1§17/113, mb4.3/9, MS3.6/1, 7C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKIA	**Kiasar**	**0.39**	**249**	*e*Pg	**Pg**	**15 00 35.5**	**-0.3**
ISHM	**Shahmirzad**	**0.86**	**232**	*e*Pg	**Pg**	**15 00 44.6**	**-0.4**
ISHM	**Shahmirzad**	**0.86**	**232**	Pg	**Pg**	**15 00 44.5**	**-0.5**
IANJ	**Anjiloo**	**0.89**	**191**	*e*Pg	**Pg**	**15 00 44.7**	**-0.8**
IANJ				*e*Sg	**Sg**	**15 00 56.9**	**-0.2**
IFIR	**Firoozkooh**	**1.32**	**238**	*e*Pg	**Pn**	**15 00 52.3**	**-1.8**
IFIR	**Firoozkooh**	**1.32**	**238**	Pg	**Pn**	**15 00 52.2**	**-1.9**
ILAS	**Lasjerd**	**1.35**	**225**	*e*Pg	**Pn**	**15 00 53.0**	**-1.5**
IPRN	**Paran-Amol**	**1.53**	**267**	*e*Pg	**Pn**	**15 00 55.7**	**-1.2**
IPRN	**Paran-Amol**	**1.53**	**267**	Pg	**Pn**	**15 00 55.6**	**-1.3**
IDMV	**Damavand**	**1.87**	**246**	*e*Pn	**Pn**	**15 01 01.9**	**+0.3**
DAMV	**Damavand**	**1.89**	**248**	*e*Pg	**Pn**	**15 01 02.6**	**+0.7**
DAMV				*e*Sg	**Sg**	**15 01 28.2**	**-1.0**
DAMV				AML	AML	15 01 34.4	
	comp=E,1μm,0.4s						
DAMV				AML	AML	15 01 39.6	
	comp=N,1μm,0.6s						
DAMV	**Damavand**	**1.89**	**248**	*e*Pg	**Pn**	**15 01 02.6**	**+0.7**
	SNR=90						
DAMV				*e*Sg	**Sg**	**15 01 28.2**	**-1.0**
	SNR=90						
IAFJ	**Afjeh**	**2.02**	**257**	*e*Pn	**Pn**	**15 01 05.1**	**+1.4**
MRVT	**Maraveh tapeh**	**2.04**	**50**	*e*Pg	**Pn**	**15 01 03.5**	**-0.5**
CHTH	**Charan**	**2.47**	**261**	*e*Pg	**Pn**	**15 01 12.4**	**+2.5**
CHTH				AML	AML	15 02 10.3	
	comp=E,203nm,0.8s						
ISFB	**Sefidab**	**2.52**	**218**	*e*Pn	**Pn**	**15 01 10.6**	**0.0**
THKV	**Tehran--Karaj**	**2.67**	**262**	*e*Pg	**Pn**	**15 01 15.6**	**+3.0**
IMHD	**Mahdasht**	**2.88**	**258**	*e*Pn	**Pn**	**15 01 18.0**	**+2.4**
IMHD				*e*Lg		15 01 58.4	
ISHV	**Shirvan**	**3.09**	**66**	*e*Pn	**Pn**	**15 01 19.4**	**+0.9**
ISFR	**Esferayen**	**3.19**	**76**	*e*Pn	**Pn**	**15 01 20.8**	**+1.0**
ISFR	**Esferayen**	**3.19**	**76**	Pn	**Pn**	**15 01 20.7**	**+0.9**
IRAZ	**Razeghan**	**3.54**	**256**	*e*Pn	**Pn**	**15 01 26.9**	**+2.3**
IRAZ	**Razeghan**	**3.54**	**256**	Pn	**Pn**	**15 01 26.8**	**+2.2**
IKRD	**Kardeh**	**3.56**	**82**	*e*Pn	**Pg**	**15 01 35.6**	**-1.1**
IKRD				*e*Sn	**Sg**	**15 02 25.5**	**+2.7**
IKRD	**Kardeh**	**3.56**	**82**	Pn	**Pg**	**15 01 35.6**	**-1.1**
IKRD				Sn	**Sg**	**15 02 25.4**	**+2.6**
IAKL	**Akhlamad**	**3.71**	**85**	*e*Pn	**Pn**	**15 01 27.6**	**+0.7**
IEMG	**Emamqoli**	**3.78**	**72**	*e*Pn	**Pn**	**15 01 28.8**	**+0.9**
IEMG				*e*Sn	**Sn**	**15 02 12.2**	**-0.8**
ASAO	**Ashtian**	**3.80**	**243**	*e*Pn	**Pn**	**15 01 28.7**	**+0.5**
ASAO				AML	AML	15 02 49.2	
	comp=N,135nm,0.7s						
IPAY	**Payeh**	**3.93**	**87**	*e*Pn	**Pn**	**15 01 30.1**	**+0.2**
ICHK	**Chekchek**	**4.10**	**177**	*e*Pn	**Pn**	**15 01 32.3**	**0.0**
IMOG	**Moghan**	**4.22**	**92**	*e*Pn	**Pn**	**15 01 33.9**	**0.0**
IMOG	**Moghan**	**4.22**	**92**	Pn	**Pn**	**15 01 33.8**	**-0.1**
IMYA	**Miamay**	**4.82**	**88**	*e*Pn	**Pn**	**15 01 42.0**	**-0.2**
IBAF	**Bafgh**	**4.89**	**165**	*e*Pn	**Pn**	**15 01 43.0**	**-0.2**
IBAF	**Bafgh**	**4.89**	**165**	Pn	**Pn**	**15 01 42.9**	**-0.3**
IMEH	**Mehriz**	**4.96**	**175**	*e*Pn	**Pn**	**15 01 44.1**	**0.0**
ITEG		**5.13**	**131**	*e*Pn	**Pn**	**15 01 46.8**	**+0.3**
GRMI	**Germi**	**5.53**	**298**	*e*Pn	**Pn**	**15 01 51.4**	**-0.5**
IMON		**5.54**	**123**	*e*Pn	**Pn**	**15 01 52.4**	**+0.6**
IKOO		**5.62**	**133**	*e*Pn	**Pn**	**15 01 52.8**	**-0.3**
IHSH	**Hashtroud**	**5.81**	**292**	*e*Pn	**Pn**	**15 01 54.0**	**-1.8**
IHSH				*e*Sn	**Sn**	**15 02 53.9**	**-9.3**
IHSH	**Hashtroud**	**5.81**	**292**	Pn	**Pn**	**15 01 53.9**	**-1.9**
IHSH				Sn	**Sn**	**15 02 53.8**	**-9.4**
IKOM	**Komasi**	**5.83**	**250**	*e*Pn	**Pn**	**15 01 59.4**	**+3.3**
IDAH		**5.95**	**126**	*e*Pn	**Pn**	**15 01 58.0**	**+0.3**
IBST	**Bostanabad**	**5.95**	**285**	*e*Pn	**Pn**	**15 01 58.7**	**+1.0**
IBST	**Bostanabad**	**5.95**	**285**	Pn	**Pn**	**15 01 58.6**	**+0.9**
IGHG	**Ghaleghazi**	**6.50**	**254**	*e*Pn	**Pn**	**15 02 04.6**	**-0.7**
IGHG	**Ghaleghazi**	**6.50**	**254**	Pn	**Pn**	**15 02 04.5**	**-0.8**
ITBZ	**Tabriz**	**6.64**	**289**	*e*Pn	**Pn**	**15 02 08.8**	**+1.6**
ITBZ	**Tabriz**	**6.64**	**289**	Pn	**Pn**	**15 02 08.7**	**+1.5**
ISHB	**Shabestar**	**7.05**	**288**	*e*Pn	**Pn**	**15 02 14.7**	**+1.8**
ISHB	**Shabestar**	**7.05**	**288**	Pn	**Pn**	**15 02 14.6**	**+1.7**
IMRD	**Marand**	**7.10**	**292**	*e*Pn	**Pn**	**15 02 15.5**	**+2.0**
IMRD				*e*Sn	**Sn**	**15 03 29.4**	**-5.5**
IMRD	**Marand**	**7.10**	**292**	Pn	**Pn**	**15 02 15.4**	**+1.9**
IMRD				Sn	**Sn**	**15 03 29.3**	**-5.6**
GNI	**Garni**	**8.30**	**300**	*e*P	**Pn**	**15 02 31.4**	**+1.3**
GNI				pmax	pmax		
	comp=Z,30nm,0.7s						
GNI	**Garni**	**8.30**	**300**	*e*P	**Pn**	**15 02 31.4**	**+1.4**
	comp=Z,30nm,0.7s						
GNI	**Garni**	**8.30**	**300**	*e*P	**Pn**	**15 02 31.4**	**+1.3**
	comp=Z,30nm,0.7s						
ZEI	**Tsey**	**10.17**	**312**	*e*P	**Pn**	**15 02 56.2**	**+0.5**
KIV	**Kislovodsk**	**11.59**	**314**	*e*P	**Pn**	**15 03 17.6**	**+2.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,106nm,10.0s						
KIV	**Kislovodsk**	**11.59**	**314**	*e*P	**Pn**	**15 03 17.6**	**+2.6**
	comp=Z,106nm,10.0s						
AB31	**Akbulak array**	**13.58**	**16**	⇑P	**Pn**	**15 03 41.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=214,slow=14,SNR=9.5						
AB31				⇑S	**Sn**	**15 06 03.3**	**-11**
	comp=Z,3.0nm,0.7s,baz=199,slow=23						
AKTO	**Aktyubinsk**	**14.36**	**10**	⇑P	**Pn**	**15 03 50.7**	**-2.2**
	comp=Z,0.4nm,1.4s						
AKTO				⇑S	**Sn**	**15 06 24.6**	**-8.3**
	comp=Z,0.7nm,1.7s						
ORR	**Orenburg**	**15.28**	**1**	*e*P	**Pn**	**15 04 09.2**	**+3.9**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRTR	**Keskin Array B**	**16.49**	**288**	Pn	**Pn**	**15 04 18.8**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=2.5						
AAK	**Ala-Archa**	**16.91**	**62**	*e*P	**Pn**	**15 04 23.3**	**-3.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**16.91**	**62**	*e*P	**Pn**	**15 04 23.3**	**-3.1**
	comp=Z,4.6nm,0.8s						
ZRNK	**Zerenda**	**19.62**	**28**	⇓P	**Pn**	**15 04 57.4**	**-2.3**
	comp=Z,3.1nm,0.8s						
ZRNK	**Zerenda**	**19.62**	**28**	*e*P	**Pn**	**15 04 57.1**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**19.62**	**28**	*e*P	**Pn**	**15 04 57.1**	**-2.5**
	comp=Z,3.2nm,0.8s						
BRVK	**Borovoye**	**20.20**	**29**	*e*P	**P**	**15 05 04.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRVK	**Borovoye**	**20.20**	**29**	*e*P	**P**	**15 05 04.5**	**-0.1**
	comp=Z,6.5nm,0.9s						
BVA0	**Borovoye Array**	**20.21**	**29**	⇑P	**P**	**15 05 04.7**	**-0.1**
	comp=Z,2.0nm,1.6s,baz=213,slow=11,SNR=24						
BVAR	**Borovoye Array**	**20.21**	**29**	P	**P**	**15 05 04.7**	**-0.1**
	comp=Z,2.0nm,1.6s,SNR=24						
VOSK	**Vostochnaya**	**20.22**	**31**	⇑P	**P**	**15 05 04.5**	**-0.5**
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**20.31**	**7**⇓	*e*P	**P**	**15 05 05.3**	**-0.6**
ARU				pmax	pmax		
	comp=Z,26nm,1.5s						
ARU	**Arti**	**20.31**	**7**	*e*P	**P**	**15 05 04.2**	**-1.8**
	comp=Z,16nm,1.0s						
ARU	**Arti**	**20.31**	**7**	*e*P	**P**	**15 05 05.3**	**-0.6**
	comp=Z,26nm,1.5s						
CHKZ	**Chkalovo**	**20.80**	**28**	⇓P	**P**	**15 05 11.8**	**+0.7**
	comp=Z,11nm,2.0s						
CHKZ	**Chkalovo**	**20.80**	**28**	*e*P	**P**	**15 05 11.4**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CHKZ	**Chkalovo**	**20.80**	**28**	*e*P	**P**	**15 05 11.4**	**+0.3**
	comp=Z,9.2nm,1.3s						
OBN	**Obninsk**	**22.30**	**333**↑	*e*P	**P**	**15 05 28.4**	**+1.1**
OBN				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.6						
OBN	**Obninsk**	**22.30**	**333**	*e*P	**P**	**15 05 28.4**	**+1.1**
	comp=Z,200nm,19.0s						
MOS	**Moscow**	**22.42**	**335**	*e*P	**P**	**15 05 31.8**	**+3.2**
MOS				*e*		15 05 38.8	
MOS				*e*		15 05 59.9	
KURK	**Kurchatov**	**22.70**	**43**	*e*P	**P**	**15 05 31.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**22.70**	**43**	*e*P	**P**	**15 05 31.8**	**+0.3**
	comp=Z,4.8nm,0.9s,mb4.0						
AKASG	**Malin Array Be**	**22.92**	**317**	P	**P**	**15 05 32.3**	**-1.6**
	comp=Z,5.2nm,0.8s,mb4.1,baz=122,slow=9.7,SNR=17						
AKBB	**Malin Array Si**	**22.92**	**317**	*e*P	**P**	**15 05 32.7**	**-1.2**
KIEV	**Kiev**	**22.93**	**317**	*e*P	**P**	**15 05 33.1**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
KIEV	**Kiev**	**22.93**	**317**	*e*P	**P**	**15 05 33.1**	**-0.9**
	comp=Z,12nm,0.9s,mb4.4						
MK31	**Makanchi Array**	**23.40**	**55**	*e*P	**P**	**15 05 40.3**	**+1.4**
MKAR	**Makanchi Array**	**23.40**	**55**	P	**P**	**15 05 39.3**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.1,baz=246,slow=10.0,SNR=4.1						
KOLN	**Koldanda**	**26.32**	**101**	*e*P	**P**	**15 06 05.4**	**-0.4**
	comp=Z,17nm,1.0s,mb4.6						
GKN	**Gorkha**	**27.04**	**99**	*e*P	**P**	**15 06 12.0**	**-0.3**
DMN	**Daman**	**27.59**	**100**	*e*P	**P**	**15 06 17.1**	**-0.1**
	comp=Z,23nm,1.0s,mb5.0						
KKN	**Kakani**	**27.65**	**99**	*e*P	**P**	**15 06 17.7**	**-0.1**
PKI	**Pulchoki**	**27.85**	**99**	*e*P	**P**	**15 06 19.3**	**-0.2**
GUN	**Gumba**	**28.08**	**98**	*e*P	**P**	**15 06 21.4**	**-0.2**
JIRN	**Jiri**	**28.43**	**99**	*e*P	**P**	**15 06 24.7**	**-0.1**
	comp=Z,12nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**31.90**	**306**	P	**P**	**15 06 52.0**	**-3.4**
	comp=Z,0.4nm,0.2s,mb4.0,baz=104,slow=7.4,SNR=2.4						
NJ2	**Nanjing**	**52.82**	**75**	*e*P	**P**	**15 09 45.3**	**-0.2**
NJ2				AP		15 09 51.6	
NJ2				XP	sP	15 09 54.9	+9.3
NJ2				PP	PP	15 11 46.4	+1.6
NJ2				S	**S**	**15 17 09.0**	**-6.0**
NJ2				AMB	AMB		
	comp=Z,120nm,6.0s						

WEL 13 15:09:42.6±0.2, 4564S×16705E, h79km±1km, ML3.5/8, 3D, Error ellipse: s-maj=3.0km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.18**	**25**	PN	Pn	15 09 53.7	-0.4
DCZ				SN	Sn	15 10 02.4	-0.3
WHZ	**Wether Hill Ro**	**0.68**	**112**	⇓PN	Pn	15 09 57.8	-0.1
WHZ				SN	Sn	15 10 09.3	-0.1
MLZ	**Mavora Lakes**	**0.84**	**70**	⇓PN	Pn	15 09 59.2	-0.5
MLZ				SN	Sn	15 10 11.7	-0.7
MSZ	**Milford Sound**	**1.15**	**33**	PN	Pn	15 10 03.6	+0.2
MSZ				SN	Sn	15 10 18.3	-0.7
APZ	**The Paps**	**1.36**	**152**	PN	Pn	15 10 06.1	0.0
APZ				SN	Sn	15 10 23.4	-0.3
WKZ	**Wanaka**	**1.61**	**61**	PN	Pn	15 10 09.2	-0.1
EAZ	**Earnscleugh**	**1.64**	**77**	PN	Pn	15 10 09.3	-0.4
SYZ	**Scrubby Hill**	**1.71**	**122**	PN	Pn	15 10 10.0	-0.6
TUZ	**Tuapeka**	**1.84**	**101**	PN	Pn	15 10 11.6	-0.7
ODZ	**Otahua Downs**	**2.60**	**78**	⇓PN	Pn	15 10 20.6	-2.0

CASC 13 15:57:54.9±0.6, 876N×8341W, h5km, MD3.7, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.26**	**114**	*e*P	Pg	15 58 00.6	+0.6
ACR				*e*S	Sg	15 58 05.3	+1.9
LCR2	**La Lucha 2**	**1.14**	**329**↑	*e*P	Pg	15 58 15.9	-0.8
LCR2				*e*S	Sg	15 58 32.0	+0.5
LAJ	**Bijagual**	**1.30**	**327**	*e*P	Pn	15 58 21.8	+2.1
LAJ				*e*S	Sg	15 58 42.2	+5.5
PRS1	**Puriscal**	**1.51**	**324**	*e*P	Pn	15 58 21.1	-1.5
PRS1				*e*S	Sn	15

*ISCJB **13** 16:06:55.8±0.5, 4777N×002×12191W±003, h10km±4km, Error ellipse: s-maj=4.0km s-min=2.7km az=98.9*

*PGC **13** 16:06:55.9±0.0, 4759N×12194W, h45km, ML2.6/11, 29km southeast of Seattle, Wa Washington*

*PNSN **13** 16:06:56.8, 4778N×12187W, h1km, MD2.2, Fault plane solution: NP1:φs195.00000°, δ75.00000°, NP2: φs97.00000°, δ61.00000°, Principal axes: T Plg32.0000°, Azm59.0000°; P Plg9.0000°, Azm323.0000°;*

ISC 13 16:06:56.0±0.4, 4776N±002×12191W±003, h12km±3km, n40, σ0°77/52, 12C-14D, Washington

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
C05A	**Tolt Reservoir**	**0.16**	**114**	⇓P			**Pg**	**16 06 59.8**	**+0.1**
	baz=0.2,SNR=368								
C05A				⇑S			**Sg**	**16 07 02.2**	**-0.1**
	baz=0.2								
B05A	**Bryant**	**0.52**	**346**	⇓P			**Pg**	**16 07 05.8**	**-0.4**
	baz=0.5,SNR=7.3								
B05A				⇑S			**Sg**	**16 07 12.9**	**-0.2**
	baz=0.5								
D05A	**Enumclaw**	**0.57**	**186**	⇓P			**Pg**	**16 07 07.8**	**+0.6**
	baz=0.6,SNR=7.5								
D05A				⇑S			**Sg**	**16 07 16.6**	**+1.8**
	baz=0.6								
C04A	**Brinnon**	**0.72**	**267**	⇓P			**Pg**	**16 07 09.6**	**-0.4**
	baz=0.7								
C04A				⇓S			**Sg**	**16 07 19.8**	**+0.4**
	baz=0.7								
D06A	**Cle Elum**	**0.92**	**128**	⇓P			**Pg**	**16 07 13.5**	**-0.2**
	baz=0.9,SNR=52								
D06A				⇓S			**Sg**	**16 07 25.8**	**+0.1**
	baz=0.9								
A04A	**Legoe Bay, Lum**	**1.10**	**331**	⇑S			**Sb**	**16 07 31.2**	**0.0**
	baz=1.1								
B04A	**Port Angeles**	**1.12**	**286**	P			**Pb**	**16 07 16.0**	**-1.2**
	baz=1.1,SNR=17								
B04A				⇓S			**Sb**	**16 07 31.5**	**-0.2**
	baz=1.1								
VGZ	**Gonzales**	**1.15**	**305**	Trac					
VGZ	**Gonzales**	**1.15**	**305**	P			**Pb**	**16 07 16.2**	**-1.6**
VGZ				S			**Sb**	**16 07 31.9**	**-0.9**
E05A	**Randle**	**1.20**	**175**	⇑P			**Pn**	**16 07 18.0**	**-0.6**
	baz=1.2,SNR=24								
E05A				⇓S			**Sb**	**16 07 34.2**	**0.0**
	baz=1.2								
A05A	**Maple Falls**	**1.25**	**355**	⇓P			**Pn**	**16 07 19.3**	**+0.2**
	baz=1.2,SNR=9.2								
A05A				⇑S			**Sb**	**16 07 35.6**	**+0.2**
	baz=1.2								
C07A	**Waterville**	**1.25**	**92**	P			**Pn**	**16 07 18.6**	**-0.6**
	baz=1.2,SNR=29								
C07A				⇑S			**Sb**	**16 07 34.4**	**-1.0**
	baz=1.2								
VDB	**Vedder Mountai**	**1.27**	**354**	Trac					
VDB	**Vedder Mountai**	**1.27**	**354**	P			**Pn**	**16 07 19.6**	**0.0**
VDB				S			**Sb**	**16 07 35.6**	**-0.6**
SNB	**Saturna Island**	**1.32**	**321**	Trac					
SNB	**Saturna Island**	**1.32**	**321**	P			**Pn**	**16 07 20.2**	**-0.1**
SNB				S			**Sb**	**16 07 37.4**	**-0.2**
PGC	**Sidney**	**1.36**	**311**	Trac					
PGC	**Sidney**	**1.36**	**311**	P			**Pn**	**16 07 20.1**	**-0.7**
PGC				S			**Sb**	**16 07 37.8**	**-1.1**
A06A	**Chilliwack**	**1.37**	**12**	⇑P			**Pn**	**16 07 21.0**	**+0.1**
	baz=1.3								
A06A				⇓S			**Sb**	**16 07 38.3**	**-0.7**
	baz=1.3								
E06A	**Yakima**	**1.37**	**152**	P			**Pn**	**16 07 20.8**	**-0.1**
	baz=1.4,SNR=34								
E06A				⇓S			**Sb**	**16 07 39.4**	**+0.4**
	baz=1.4								
B07A	**Winthrop**	**1.39**	**59**	P			**Pn**	**16 07 21.5**	**+0.4**
	baz=1.4,SNR=47								
B07A				⇓S			**Sn**	**16 07 39.6**	**+0.2**
	baz=1.4								
LZB	**Mount Lazard**	**1.54**	**304**	Trac					
LZB	**Mount Lazard**	**1.54**	**304**	P			**Pn**	**16 07 22.2**	**-1.0**
LZB				S			**Sn**	**16 07 42.3**	**-0.9**
HNB	**Haney**	**1.58**	**344**	Trac					
HNB	**Haney**	**1.58**	**344**	P			**Pn**	**16 07 24.1**	**+0.3**
HNB				S			**Sn**	**16 07 44.4**	**+0.3**
GOBB	**Galiano Island**	**1.60**	**319**	Trac					
GOBB	**Galiano Island**	**1.60**	**319**	P			**Pn**	**16 07 24.5**	**+0.4**
GOBB				S			**Sn**	**16 07 45.1**	**+0.5**
HOPB	**Hope**	**1.66**	**11**	Trac					
HOPB	**Hope**	**1.66**	**11**	P			**Pn**	**16 07 26.2**	**+1.3**
HOPB				S			**Sn**	**16 07 46.6**	**+0.5**
BIB	**Bowen Island**	**1.89**	**331**	Trac					
BIB	**Bowen Island**	**1.89**	**331**	P			**Pn**	**16 07 28.9**	**+0.8**
BIB				S			**Sn**	**16 07 53.0**	**+1.1**
C08A	**Higginbotham F**	**1.93**	**88**	⇓P			**Pn**	**16 07 28.3**	**-0.2**
	baz=1.9								
NLLB	**Nanaimo Lost L**	**2.02**	**317**	Trac					
NLLB	**Nanaimo Lost L**	**2.02**	**317**	P			**Pn**	**16 07 30.5**	**+0.7**
NLLB				S			**Sn**	**16 07 56.4**	**+1.4**
WPB	**Watts Point**	**2.09**	**336**	Trac					
WPB	**Watts Point**	**2.09**	**336**	P			**Pn**	**16 07 31.5**	**+0.7**
WPB				S			**Sn**	**16 07 57.5**	**+0.9**
A08A	**Turner Farm, O**	**2.12**	**55**	⇑P			**Pn**	**16 07 34.3**	**+3.0**
	baz=2.1								
D08A	**Wollman Farm,**	**2.15**	**108**	⇑P			**Pn**	**16 07 31.4**	**-0.1**
	baz=2.1								
B09A	**Rice**	**2.60**	**74**	⇑P			**Pn**	**16 07 37.7**	**-0.1**
	baz=2.6,SNR=9.8								
F09A	**S2 Ranch, Elgi**	**3.43**	**125**	⇑S			**Sn**	**16 08 27.9**	**-1.8**
	baz=3.4								

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*BJI **13** 16:12:26.2, 663S×15180E, h33km, mB6.4, mb5.7, Ms6.1, Msz5.9*

*ISCJB **13** 16:12:27.5±0.8, 639S±002×15114E±002, h9km±4km, mb5.9/132, MS5.8/199, Error ellipse: s-maj=4.1km s-min=3.3km az=175.0*

*NEIC **13** 16:12:29.0±0.1, 638S×15123E, h11km, mb6.1/87, ME6.1, MS5.9/154, MW6.1, Error ellipse: s-maj=3.9km s-min=3.6km az=137.0, Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁸Nm; Mrr=1.57; Mθθ 1.52; Mφφ0.05; Mrθ-0.15; Mθφ0.46; Mφr0.25; Best double couple: Mo1.60000×10¹⁸ NP1:φs84.00000°, δ47.00000°, λ-76.00000°. NP2:φs244.00000°, δ45.00000°, λ-105.00000°. Principal axes: T 1.6500, Plg1.0000°, Azm164.0000°; N -0.0300, Plg10.0000°, Azm255.0000°; P -1.6200, Plg80.0000°, Azm67.0000°; Broadband fault plane solution: P waves. NP1:φs250.00000°, δ45.00000°, λ-90.00000°. NP2:φs70.00000°, δ45.00000°, λ-90.00000°. Principal axes: T Plg0.0000°, Azm160.0000°; N Plg0.0000°, Azm0.0000°; P Plg90.0000°, Azm0.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kimbe.

*GCMT **13** 16:12:29.0±0.1, 661S×15145E, h12km, MW6.2/106, Moment Tensor Solution. s106,c241; s106,c414; Duration: 3↯1 Moment tensor: Scale 10¹⁸Nm; Mrr-2.09±.01; Mθθ1.94±.01; Mφφ0.14±.01; Mrθ-0.94±.03; Mθφ1.13±.01; Mφr-0.77±.03; Best double couple: Mo2.59700×10¹⁸ NP1:φs253.00000°, δ32.00000°, λ-76.00000°. NP2:φs57.00000°, δ59.00000°, λ-99.00000°. Principal axes: T 2.7770, Plg14.0000°, Azm153.0000°; N -0.3610, Plg7.0000°, Azm61.0000°; P -2.4180, Plg74.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **13** 16:12:30.6±1.1, 636S×15117E, h33km, mb6.2/47, MS6.0/69 Error ellipse: s-maj=8.0km s-min=5.9km az=80.0*

*IDC **13** 16:12:33.9±0.5, 647S×15126E, h45km±4km, mb5.4/22, mb1 5.5/24, mb1mx5.5/24, mbtmp5.4/24, MS5.7/22, Ms1 5.7/22, ms1mx5.6/27, Error ellipse: s-maj=9.4km s-min=7.4km az=93.0*

ISC 13 16:12:31.9±0.9, 642S±003×15119E±002, h26km±5km, h36km±1.7km; pP-P, n1175, σ0°86/623, mb5.9/131, MS5.8/199, 151C-131D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**233**	P			**Pn**	**16 13 48.1**	**+3.2**
	68nm,0.3s,baz=47,slow=7.8,SNR=174								
PMG						S	**Sn**	**16 14 45.3**	**+3.8**
	123nm,0.3s,baz=37,slow=1.4,SNR=3.8								
PMG						LR	LR	16 15 19.9	
	comp=Z,30μm,18.0s,baz=41,slow=33								
PMG	**Port Moresby**	**4.97**	**233**	*c*	*i*	P	**Pn**	**16 13 47.6**	**+2.7**
PMG	**Port Moresby**	**4.97**	**233**	*e*		Pn	**Pn**	**16 13 47.8**	**+3.0**
	3μm,0.8s								
HNR	**Honiara**	**9.18**	**110**			P	**Pn**	**16 14 39.1**	**-3.5**
	34nm,0.3s,baz=266,slow=3.9,SNR=42								
HNR						S	**Sn**	**16 16 25.3**	**+0.3**
	baz=85,slow=11,SNR=2.9								
HNR	**Honiara**	**9.18**	**110**	*e*	P		**Pn**	**16 14 40.4**	**-2.2**
HNR						pmax	pmax		
	comp=Z,1μm,0.8s								
HNR	**Honiara**	**9.18**	**110**	*e*	Pn		**Pn**	**16 14 40.4**	**-2.2**
	comp=Z,1μm,0.8s								
CTA	**Charters Tower**	**14.41**	**199**	⇑	*i*	P	**Pn**	**16 15 53.4**	**-0.7**
	comp=Z,66nm,0.8s								
CTA					*i*	S	**Sn**	**16 18 37.8**	**+4.8**
CTA					*e*	SCP	ScP	16 24 53.1	+12
CTA	**Charters Tower**	**14.41**	**199**			P	**Pn**	**16 15 54.1**	**0.0**
	comp=Z,2.7nm,0.3s,baz=24,slow=14,SNR=73								
CTA						S	**Sn**	**16 18 38.5**	**+5.5**
	comp=Z,0.8nm,0.3s,baz=81,slow=19,SNR=1.8								
CTA						pPcP		16 24 53.1	
	comp=Z,0.3nm,0.3s,baz=92,slow=5.7,SNR=4.3								
CTA	**Charters Tower**	**14.41**	**199**	⇑	*i*	P	**Pn**	**16 15 53.4**	**-0.7**
CTA					*i*	S	**Sn**	**16 18 37.8**	**+4.8**
CTA						pmax	pmax		
	comp=Z,66nm,0.8s								
CTAO	**Charters Tower**	**14.41**	**199**	*e*	P		**Pn**	**16 15 53.6**	**-0.5**
CTAO						pmax	pmax		
	comp=Z,1μm,2.0s								
CTAO	**Charters Tower**	**14.41**	**199**	*e*	Pn		**Pn**	**16 15 53.6**	**-0.5**
	comp=Z,1μm,2.0s								
KAKA	**Kakadu**	**19.51**	**250**	⇓	*i*	P	**Pn**	**16 16 57.9**	**-0.5**
	comp=Z,1μm,0.9s								
KAKA					*e*	S	**Sn**	**16 20 36.4**	**-0.2**
GUMO	**Guam**	**20.84**	**342**			P		**16 17 12.0**	**+0.4**
	comp=Z,2μm,1.2s,baz=164,slow=5.8,SNR=17								
GUMO						S		**16 21 06.0**	**+3.2**
	comp=Z,60nm,0.9s,baz=12,slow=22,SNR=6.7								
GUMO	**Guam**	**20.84**	**342**	*e*	P			**16 17 11.8**	**+0.2**
GUMO						pmax	pmax		
	comp=Z,3μm,1.4s								
GUMO						MLR	MLR		
	comp=Z,24μm,20.0s,MS5.6								
GUMO	**Guam**	**20.84**	**342**	*e*	P			**16 17 11.8**	**+0.2**
	comp=Z,3μm,1.4s								
GUMO						LR	LR		
	comp=Z,24μm,20.0s,MS5.6								
WRAB	**Tennant Creek**	**21.16**	**229**			P		**16 17 15.9**	**+0.8**
	comp=Z,4μm,0.9s,mb6.8								
WRAB	**Tennant Creek**	**21.16**	**229**	*d*	*i*	P		**16 17 15.1**	**0.0**
WRAB	**Tennant Creek**	**21.16**	**229**			P		**16 17 15.6**	**+0.5**
WB2	**Warramunga Arr**	**21.17**	**229**	⇓	*i*	P		**16 17 15.4**	**+0.3**
WB2					*e*	S		**16 21 07.3**	**-1.9**
WB2					*e*	SCP	ScP	16 25 05.6	+10
WB2					*e*	SCS	ScS	16 28 51.7	+13
WRA	**Warramunga Arr**	**21.18**	**229**			P		**16 17 15.6**	**+0.4**
	comp=Z,125nm,0.6s,mb5.4,baz=56,slow=11,SNR=206								
WRA						S		**16 21 09.4**	**0.0**
	comp=Z,72nm,1.2s,baz=54,slow=19,SNR=241								
WRA						pPcP		16 25 05.6	
	comp=Z,47nm,0.8s,baz=42,slow=2.5,SNR=17								
WRA						LR	LR	16 26 15.5	
	comp=Z,25μm,18.5s,MS5.6,baz=50,slow=39								
WRA						P3KP		16 51 47.2	
	comp=Z,1.1nm,0.9s,baz=158,slow=3.0,SNR=4.7								
WRA	**Warramunga Arr**	**21.18**	**229**			P		**16 17 15.6**	**+0.4**
WRA						S		**16 21 09.4**	**0.0**
WRA	**Warramunga Arr**	**21.18**	**229**			P		**16 17 15.6**	**+0.4**
WRA						S		**16 21 09.4**	**0.0**
WRA						pPcP		16 25 05.6	
WRA						LR	LR	16 26 15.5	
DZM	**Mont Dzumac**	**21.43**	**138**	*e*	P			**16 17 15.3**	**-2.7**
DZM	**Mont Dzumac**	**21.43**	**138**	*e*	S			**16 21 11.5**	**-2.9**
DZM	**Mont Dzumac**	**21.43**	**138**			P		**16 17 17.1**	**-0.9**
	comp=Z,91nm,0.7s,mb5.2,baz=338,slow=11,SNR=66								
DZM						S		**16 21 12.8**	**-1.6**
	comp=Z,17nm,1.1s,baz=118,slow=17,SNR=2.1								
DZM						LR	LR	16 24 13.4	
	comp=Z,61μm,20.6s,MS6.0,baz=318,slow=33								
AS31	**Alice Springs**	**23.88**	**222**	*e*	P			**16 17 42.8**	**-0.5**
AS31					*e*	S		**16 21 52.6**	**-5.2**
AS31					*e*	SCP	ScP	16 25 12.8	+10
AS31					*e*	SCS	ScS	16 29 03.1	+14
ASAR	**Alice Springs**	**23.88**	**222**			P		**16 17 43.5**	**+0.1**
	comp=Z,272nm,0.9s,mb5.7,baz=59,slow=8.6,SNR=1408								
ASAR						S		**16 22 04.0**	**+6.2**
	comp=Z,223nm,1.1s,baz=36,slow=19,SNR=21								
ASAR						pScP		16 25 13.6	
	comp=Z,52nm,1.0s,baz=46,slow=3.2,SNR=18								
ASAR						LR	LR	16 27 27.6	
	comp=Z,19μm,21.6s,MS5.5,baz=229,slow=37								
ASAR						P3KP		16 51 44.1	
	comp=Z,1.2nm,0.9s,baz=172,slow=3.6,SNR=3.3								
ASAR	**Alice Springs**	**23.88**	**222**			P		**16 17 43.5**	**+0.1**
ASAR						S		**16 22 04.0**	**+6.2**
ASAR						pScP		16 25 13.6	
ASAR						LR	LR	16 27 27.6	
ASPA	**Alice Springs**	**23.88**	**222**	*e*	P			**16 17 42.8**	**-0.5**
ASPA					*e*	S		**16 21 52.6**	**-5.3**
ASPA					*e*	SCP	ScP	16 25 12.8	+10
ASPA					*e*	SCS	ScS	16 29 03.1	+14
STKA	**Stephens Creek**	**26.87**	**198**	*e*	P			**16 18 10.4**	**0.0**
	comp=Z,415nm,1.0s,mb5.9								
STKA						S		**16 22 42.2**	**-3.3**
STKA	**Stephens Creek**	**26.87**	**198**			P		**16 18 10.7**	**+0.3**
	comp=Z,330nm,1.0s,mb5.8,baz=6.8,slow=8.5,SNR=55								
STKA						LR	LR	16 27 26.1	
	comp=Z,30μm,21.1s,MS5.8,baz=217,slow=33								
STKA						P3KP		16 51 44.5	
	comp=Z,1.8nm,0.8s,baz=225,slow=4.3,SNR=2.3								
RIV	**Riverview**	**27.28**	**180**	*e*	P			**16 18 17.6**	**+3.5**
FITZ	**Fitzroy Crossi**	**27.49**	**243**	⇓	*i*	P		**16 18 15.8**	**-0.2**
	comp=Z,620nm,0.6s,mb6.3								
FITZ						S		**16 22 52.3**	**-2.9**
FITZ	**Fitzroy Crossi**	**27.49**	**243**			P		**16 18 16.2**	**+0.2**
	comp=Z,291nm,0.6s,mb6.0,baz=82,slow=8.2,SNR=342								
FUNA	**Funafuti**	**27.85**	**96**	*e*	P			**16 18 17.7**	**-1.5**
	comp=Z,262nm,1.0s,mb5.8								
FUNA						LR	LR		
	comp=Z,16μm,19.0s,MS5.6								
MATI	**Mati**	**28.19**	**298**	*e*	P			**16 18 20.9**	**-1.4**
CNB	**Canberra Magne**	**28.81**	**183**	*e*	P			**16 18 28.2**	**+0.4**
	comp=Z,124nm,1.0s,mb5.6								
DAV	**Davao City (W)**	**28.85**	**297**			PFAKE		16 18 40.0	+12
DAV						LR	LR		
	comp=Z,17μm,20.0s,MS5.7								
BUKP	**Musuan**	**29.67**	**298**	*e*	P			**16 18 35.9**	**+0.4**
CGP	**Cagayan de Oro**	**30.27**	**299**	⇓	*i*	P		**16 18 44.1**	**+3.4**
MSLP	**Maasin**	**30.95**	**302**	*e*	P			**16 18 47.0**	**+0.3**
KAPI	**Kappang**	**31.31**	**271**	P				**16 18 51.8**	**+1.9**
	comp=Z,730nm,1.0s,mb6.5,SNR=12								
TOO	**Toolangi**	**31.44**	**189**	*e*	P			**16 18 51.8**	**+0.7**
	comp=Z,74nm,1.1s,mb5.4								
TOO						PCP	PcP	16 21 43.4	-0.6
TOO					*e*	S		**16 23 59.2**	**+1.9**
TOO	**Toolangi**	**31.44**	**189**	*e*	P			**16 18 51.8**	**+0.7**
TOO					*e*			16 21 43.4	
TOO					*e*	S		**16 23 59.2**	**+1.9**
TOO						pmax	pmax		
	comp=Z,74nm,1.1s,mb5.4								
OCLP	**Ormoc**	**31.64**	**303**	*e*	P			**16 18 54.6**	**+1.8**
FORT	**Forrest**	**32.53**	**219**	*e*	P			**16 18 59.8**	**-0.8**
	comp=Z,384nm,0.7s,mb6.4								
FORT					*e*	S		**16 24 14.4**	**+0.1**
GUIM	**Jordan**	**33.13**	**301**	*e*	P			**16 19 06.3**	**+0.5**
PVCP	**Virac**	**33.40**	**307**	*e*	P			**16 19 06.7**	**-1.6**
MBWA	**Marble Bar**	**33.78**	**241**	*e*	P			**16 19 11.4**	**-0.2**
	comp=Z,196nm,0.6s,mb6.2								
MBWA						LR	LR		
	comp=Z,20μm,19.0s,MS5.9								
CBIJ	**Chichi jima**	**34.44**	**346**			LR	LR	16 32 55.1	
	comp=Z,5μm,18.4s,MS5.3,baz=150,slow=35								
AUQP	**San Andres**	**34.45**	**305**	*e*	P			**16 19 18.9**	**+1.6**
OTRP	**Odiongan**	**34.48**	**303**	*e*	P			**16 19 17.8**	**+0.2**
CUYO	**Cuyo Island**	**34.59**	**300**	*e*	P			**16 19 19.0**	**+0.5**
TSM	**Tawau**	**34.92**	**287**	P				**16 19 21.6**	**+0.2**
GQP	**Guinayangan**	**34.95**	**305**	⇑	*e*	P		**16 19 21.1**	**-0.6**
	comp=Z,544μm,1.9s								
BOAC	**Boac**	**35.20**	**304**	*e*	P			**16 19 23.5**	**-0.3**
POLP	**Polilio Island**	**35.81**	**306**	*e*	P			**16 19 29.8**	**+0.7**
BUSP	**Coron**	**35.84**	**301**	*e*	P			**16 19 30.1**	**+0.8**
ENPP	**El Nido**	**36.13**	**299**	*e*	P			**16 19 31.2**	**-0.6**
TGY	**Tagaytay City**	**36.29**	**304**	pScP				16 25 49.1	
	comp=Z,82nm,0.8s,baz=139,slow=11,SNR=4.5								
TGY						LR	LR	16 32 59.4	
	comp=Z,50nm,18.8s,baz=280,slow=34								
TAU	**Tasmania Unive**	**36.50**	**185**	P				**16 19 36.1**	**+1.1**
	comp=Z,627nm,1.0s,mb6.4,SNR=6.7								
TAU	**Tasmania Unive**	**36.50**	**185**	P				**16 19 35.8**	**+0.8**
TAU						pmax	pmax		
	comp=Z,139nm,1.1s,mb5.7								
TAU						MLR	MLR		
	comp=Z,6μm,20.0s,MS5.4								
TAU	**Tasmania Unive**	**36.50**	**185**	P				**16 19 35.8**	**+0.8**
	comp=Z,139nm,1.1s,mb5.7								
TAU						LR	LR		
	comp=Z,6μm,20.0s,MS5.4								
BATP	**Bataraza**	**36.55**	**294**	*e*	P			**16 19 35.8**	**+0.4**
LUBP	**Lubang**	**36.66**	**303**	*e*	P			**16 19 36.1**	**-0.2**
BALP	**Baler**	**36.67**	**307**	*e*	P			**16 19 35.4**	**-1.0**
PALP	**Palanan**	**36.78**	**310**	⇑	*e*	P		**16 19 37.8**	**+0.4**
PALP	**Palanan**	**36.78**	**310**	*e*	P			**16 19 37.5**	**+0.2**
KKM	**Kota Kinabalu**	**37.03**	**289**	P				**16 19 39.3**	**-0.2**
KKM	**Kota Kinabalu**	**37.03**	**289**	*e*	P			**16 19 39.0**	**-0.5**
AFI	**Afiamalu**	**37.17**	**105**	P				**16 19 38.9**	**-1.7**
	comp=Z,315nm,1.1s,mb6.1,baz=280,slow=4.3,SNR=18								
AFI						LR	LR	16 32 52.0	
	comp=Z,11μm,18.4s,MS5.7,baz=275,slow=33								
AFI	**Afiamalu**	**37.17**	**105**	P				**16 19 38.9**	**-1.7**
AFI						pmax	pmax		
	comp=Z,360nm,1.1s,mb6.1								
AFI	**Afiamalu**	**37.17**	**105**	*e*	P			**16 19 39.0**	**-1.6**
	comp=Z,363nm,1.1s,mb6.1								
AFI						LR	LR		
	comp=Z,10μm,20.0s,MS5.6								
CAUP	**Cauayan**	**37.17**	**309**	*e*	P			**16 19 41.3**	**+0.6**
CVP	**Callao Caves**	**37.62**	**310**	*e*	P			**16 19 43.0**	**-1.5**
SGCP	**Mt. Cagua**	**37.78**	**311**	*e*	P			**16 19 47.4**	**+1.6**
BCPH	**Baguio City Da**	**37.82**	**307**	⇑	*i*	P		**16 19 46.4**	**+0.3**
ABRA	**Dolores**	**38.44**	**309**	*e*	P			**16 19 50.3**	**-1.1**
URZ	**Urewera**	**39.46**	**147**	P				**16 19 58.4**	**-1.6**
	comp=Z,70nm,0.7s,mb5.5,baz=237,slow=2.0,SNR=31								
URZ						PP	PP	16 21 37.3	+6.6
	comp=Z,9.7nm,0.6s,baz=346,slow=20,SNR=5.8								
URZ						PcP	PcP	16 22 05.4	-2.1
	comp=Z,59nm,0.8s,baz=321,slow=4.3,SNR=3.8								
URZ						LR	LR	16 33 53.7	
	comp=Z,10μm,18.0s,MS5.7,baz=131,slow=32								
KLBR	**Kellerberrin**	**40.03**	**227**	*e*	P			**16 20 04.0**	**-0.7**
	comp=Z,195nm,1.1s,mb5.8								
SNZO	**South Karori**	**40.58**	**152**	PFAKE				16 20 20.0	+11
SNZO						LR	LR		
	comp=Z,23μm,19.0s,MS6.0								
JHJ	**Hachijo jima 2**	**40.78**	**345**	PcP		PcP		16 22 12.6	+0.8
	comp=Z,247nm,0.8s,baz=251,slow=15,SNR=5.1								
JHJ						LR	LR	16 34 15.2	
	comp=Z,10μm,19.4s,MS5.7,baz=268,slow=32								
RPZ	**Rata Peaks**	**41.05**	**158**	P				**16 20 12.3**	**-0.8**
	comp=Z,36nm,0.6s,mb5.2,baz=43,slow=2.9,SNR=9.2								
RPZ						PcP	PcP	16 22 12.1	-0.5
	comp=Z,33nm,0.9s,baz=324,slow=3.5,SNR=4.1								
NWAO	**Narrogin (SRO)**	**41.12**	**226**	P				**16 20 12.7**	**-0.9**
	comp=Z,55nm,1.0s,mb5.2,baz=54,slow=9.2,SNR=4.1								
NWAO						PP	PP	16 21 48.0	-0.7
	comp=Z,114nm,0.9s,baz=68,slow=12,SNR=7.1								
NWAO						LR	LR	16 37 38.2	
	comp=Z,30μm,18.1s,MS6.2,baz=54,slow=37								
NWAO	**Narrogin (SRO)**	**41.12**	**226**	*e*	P			**16 20 14.3**	**+0.7**
NWAO						pmax	pmax		
	comp=Z,64nm,1.2s								
NWAO						MLR	MLR		
	comp=Z,21μm,21.0s								
NWAO	**Narrogin (SRO)**	**41.12**	**226**	*e*	P			**16 20 14.3**	**+0.7**
	comp=Z,64nm,1.2s,mb5.1								
NWAO						LR	LR		
	comp=Z,21μm,21.0s,MS6.0								
MUN	**Mundaring**	**41.36**	**227**	*e*	P			**16 20 15.4**	**-0.3**
MUN					*e*	S		**16 26 25.0**	**-3.7**
KSM	**Kuching**	**41.55**	**279**	*e*	P			**16 20 17.5**	**+0.3**
NACB	**Ninganchiao**	**41.92**	**318**	*e*	P			**16 20 20.3**	**+0.1**
YHNB	**Yeheng**	**42.40**	**318**	*e*	P			**16 20 24.4**	**+0.3**
TATO	**Taipei**	**42.53**	**318**	*e*	P			**16 20 25.2**	**0.0**
	comp=Z,615nm,1.3s,mb6.2								
TATO						LR	LR		
	comp=Z,18μm,20.0s,MS6.0								
MJAR	**Matsushiro Arr**	**44.43**	**345**	P				**16 20 40.2**	**-0.3**
	comp=Z,19nm,0.9s,mb4.8,baz=169,slow=7.2,SNR=29								
MJAR						PcP	PcP	16 22 24.7	+0.8
	comp=Z,57nm,0.7s,baz=154,slow=4.0,SNR=21								
MJAR						ScP	ScP	16 26 17.7	+3.5
	comp=Z,38nm,1.1s,baz=168,slow=3.8,SNR=20								
MJAR						LR	LR	16 36 23.5	
	comp=Z,9μm,21.0s,MS5.6,baz=165,slow=32								
MJAR	**Matsushiro Arr**

QIZ comp=E,6μm,19.8s LR LR
QIZ comp=Z,19μm,32.7s
QIZ Qiongzhong 47.94 303 *e*P **P 16 21 09.4 +1.2**
QIZ comp=Z,42nm,0.6s,mb5.6 LR LR
QIZ comp=Z,8μm,21.0s,MS5.7
MCQ Macquarie Isla 48.35 174 *e*P **P 16 21 12.0 +0.7**
MCQ *i* S **S 16 28 10.4 +0.4**
KGM Kluang 48.52 278 P **P 16 21 14.0 +1.5**
KSRS Korea Array 48.75 335 P **P 16 21 13.5 -0.9**
KSRS comp=Z,19nm,0.7s,mb5.3,baz=153,slow=7.3,SNR=13 PcP PcP 16 22 39.7 +0.6
KSRS comp=Z,60nm,0.7s,baz=165,slow=3.1,SNR=40 ScP ScP 16 26 34.0 +1.6
KSRS comp=Z,5.4nm,0.8s,baz=150,slow=5.6,SNR=8.1 LR LR 16 40 11.6
ERM comp=Z,4μm,20.7s,MS5.4,baz=56,slow=34
ERM Erimo 48.75 352 PFAKE 16 21 30.0 +16
ERM comp=Z,2μm,19.0s,MS5.2 LR LR
NJ2 Nanjing 49.12 323 *e*P **P 16 21 17.9 +0.7**
NJ2 AP pP 16 21 27.8 +2.7
NJ2 XP sP 16 21 31.4 +3.2
NJ2 PP PP 16 23 11.1 +0.1
NJ2 S **S 16 28 19.5 -1.3**
NJ2 XS sS 16 28 36.0 +2.2
NJ2 comp=Z,300nm,0.9s,mb6.3 AMB AMB
NJ2 comp=Z,10μm,6.5s AMB AMB
NJ2 comp=N,20μm,17.7s,MS6.3 LR LR
NJ2 comp=E,23μm,20.9s,MS6.3 LR LR
NJ2 comp=Z,32μm,22.9s,MS6.3 LR LR
INCN Inchon 49.32 334 *e*P **P 16 21 18.1 -0.7**
INCN comp=Z,222nm,1.3s,mb6.0 LR LR
YUK comp=Z,9μm,22.0s,MS5.7
YUK Yuzh-Kuril'sk 50.45 355 P **P 16 21 28.0 +0.7**
YUK comp=Z,6μm,17.0s,MS5.7 MLR MLR
YUK comp=N,11μm,20.0s MLR MLR
ASAJ Asahikawa 50.89 352 P **P 16 21 30.0 -0.7**
comp=N,47nm,0.6s,mb5.6,baz=206,slow=8.0,SNR=19
WHN Wuhan 50.94 318 ⇑P **P 16 21 31.8 +0.7**
WHN XP sP 16 21 45.6 +3.5
WHN S **S 16 28 47.3 +1.1**
WHN comp=Z,7μm,7.8s AMB AMB
WHN comp=Z,26μm,20.9s,MS6.2 LR LR
IPM Ipoh 51.23 281 P **P 16 21 34.3 +1.1**
KULM Kulim 51.77 282 *e*P **P 16 21 37.1 -0.1**
SNG Songkhla 52.23 284 P **P 16 21 44.0 +3.4**
comp=Z,276nm,1.0s,mb6.1
VLA Vladivostok 52.32 342 *e*P **P 16 21 42.6 +1.2**
VLA *e* 16 22 53.0
VLA *e*S **S 16 29 05.3 +0.1**
VLA *e* 16 31 30.8
VLA comp=Z,146nm,1.6s,mb5.7 pmax pmax
VLA comp=Z,2μm,14.6s,MS5.3 MLR MLR
VLA Vladivostok 52.32 342 *i* P **P 16 21 40.3 -1.1**
DL2 Dalian 52.77 331 *i* P **P 16 21 44.6 -0.1**
DL2 PCP PcP 16 22 55.8 +1.8
DL2 PP PP 16 23 47.3 +3.3
DL2 S **S 16 29 10.5 -0.8**
DL2 XS sS 16 29 29.8 +5.5
DL2 comp=Z,80nm,0.7s,mb5.8 AMB AMB
DL2 comp=Z,2μm,8.4s AMB AMB
DL2 comp=N,3μm,25.9s,MS5.3 LR LR
DL2 comp=E,2μm,25.3s,MS5.3 LR LR
DL2 comp=Z,8μm,29.4s,MS5.6 LR LR
KKTK Khon Kaen 52.92 296 P **P 16 21 46.0 +0.2**
comp=Z,556nm,0.5s,mb6.8
TIA Tai'an 53.09 325 *e*P **P 16 21 46.0 -1.1**
TIA S **S 16 29 16.0 +0.3**
TIA comp=Z,330nm,2.2s,mb5.9 AMB AMB
TIA comp=N,4μm,16.0s,MS5.6 LR LR
TIA comp=E,2μm,16.0s,MS5.6 LR LR
YSS Yuzh-Sakhalins 53.66 353 *oe*P **P 16 21 52.0 +0.8**
YSS *e**SP sP 16 22 06.0 +3.7
YSS *e* 16 22 57.2
YSS *e*PPP 16 23 55.0
YSS *e*S **S 16 29 22.0 -1.4**
YSS *e*PS 16 29 39.0
YSS *e*SSS 16 34 56.0
YSS comp=Z,7μm,18.0s,MS5.8 MLR MLR
YSS comp=N,6μm,16.0s,MS5.8 MLR MLR
YSS comp=E,4μm,16.0s,MS5.8 MLR MLR
YSS Yuzh-Sakhalins 53.66 353 *e*P **P 16 21 49.0 -2.2**
YSS comp=E,49nm,0.9s,mb5.4 LR LR
YSS comp=Z,6μm,19.0s,MS5.7
COCO West Island 53.87 260 P **P 16 21 55.9 +3.1**
comp=Z,4μm,1.1s,SNR=5.5
COCO West Island 53.87 260 *e*P **P 16 21 55.4 +2.6**
COCO comp=Z,758nm,1.1s,mb6.5 LR LR
COCO comp=Z,1μm,20.0s,MS5.0
GYA Guiyang 54.13 309 ⇑*i*P **P 16 21 55.0 +0.4**
GYA AP pP 16 22 07.1 +4.5
GYA XP sP 16 22 09.5 +3.8
GYA PCP PcP 16 22 59.8 +0.7
GYA S **S 16 29 32.3 +2.6**
GYA XS sS 16 29 46.8 +4.0
GYA SCS ScS 16 31 41.3 -1.0
GYA SS SS 16 33 12.8 +1.3
GYA comp=Z,60nm,0.7s,mb5.6 AMB AMB
GYA comp=Z,8μm,8.7s AMB AMB
GYA comp=N,11μm,21.0s,MS6.0 LR LR
GYA comp=E,8μm,21.0s,MS6.0 LR LR
GYA comp=Z,12μm,21.0s,MS5.9 LR LR
SNY Shenyang 54.24 335 ⇓P **P 16 21 54.8 -0.6**
SNY S **S 16 29 25.0 -6.2**
SNY comp=Z,27nm,0.7s,mb5.3 AMB AMB
SNY comp=Z,4μm,7.2s AMB AMB
SNY comp=N,8μm,17.6s LR LR
SNY comp=Z,8μm,17.6s,MS5.8 LR LR
MDJ Mudanjiang 54.39 341 P **P 16 21 56.9 +0.3**
MDJ AP pP 16 22 06.0 +1.5
MDJ XP sP 16 22 09.8 +2.2
MDJ PP PP 16 23 59.8 +1.1
MDJ SCP ScP 16 26 55.9 -0.8
MDJ PCS PcS 16 26 59.6 -0.1
MDJ S **S 16 29 34.8 +1.5**
MDJ comp=Z,28nm,1.1s,mb5.1 AMB AMB
MDJ comp=Z,3μm,7.0s AMB AMB
MDJ comp=N,5μm,39.1s LR LR
MDJ comp=E,7μm,29.9s LR LR
MDJ Mudanjiang 54.39 341 *e*P **P 16 21 55.4 -1.2**
MDJ comp=E,48nm,1.0s,mb5.4 LR LR
MDJ comp=Z,6μm,22.0s,MS5.6
NNT Nongplab 54.51 290 P **P 16 22 01.0 +3.6**
NST Nakhon Sawan 55.11 294 P **P 16 22 02.2 +0.4**
comp=Z,171nm,1.1s,mb6.0
CN2 Changchun 55.14 337 *e*P **P 16 22 03.3 +1.3**
CN2 *e*XP sP 16 22 15.0 +2.0
CN2 *e*S **S 16 29 43.3 0.0**
CN2 AMB AMB
CN2 comp=Z,60nm,1.5s,mb5.4 LR LR
CN2 comp=N,6μm,19.0s,MS5.8 LR LR
CN2 comp=E,4μm,19.0s,MS5.8 LR LR
CN2 comp=Z,11μm,23.0s,MS5.9 LR LR
NANT Nan 55.71 298 ⇑P **P 16 22 04.0 -2.1**
comp=Z,452nm,1.0s,mb6.5
BJT Baijiatuan 56.36 328 *e*P **P 16 22 10.5 -0.3**
BJT pmax pmax
BJT comp=Z,426nm,1.9s MLR MLR
BJT comp=Z,10μm,19.0s
BJT Baijiatuan 56.36 328 *e*P **P 16 22 10.5 -0.3**
comp=Z,426nm,1.9s,mb6.2
BJT comp=Z,10μm,19.0s,MS5.9 LR LR
BJI Beijing 56.38 328 P **P 16 22 09.9 -0.9**
BJI S **S 16 29 53.4 -6.4**
BJI AMB AMB
BJI comp=Z,73nm,2.1s,mb5.3 AMB AMB
BJI comp=Z,5μm,7.0s LR LR
BJI comp=N,9μm,16.7s,MS6.0 LR LR
BJI comp=E,7μm,16.2s,MS6.0 LR LR
BJI comp=Z,7μm,16.2s,MS5.9
BJI Beijing 56.38 328 P **P 16 22 09.9 -0.9**
comp=Z,73nm,2.1s,mb5.3
BJI S **S 16 29 53.4 -6.4**
BJI SS SS 16 33 42.8 -4.1
BJI LR LR
KMI Kunming 56.59 306 P **P 16 22 13.9 +1.6**
KMI AP pP 16 22 23.9 +3.6
KMI XP sP 16 22 27.4 +4.0
KMI PCP PcP 16 23 10.4 +1.8
KMI PP PP 16 24 19.8 +1.5
KMI PPP 16 25 39.6
KMI S **S 16 30 03.8 +1.2**
KMI XS sS 16 30 21.0 +5.2
KMI SCS ScS 16 31 57.9 -2.0
KMI SS SS 16 33 52.3 +2.1
KMI SSS 16 36 05.5
KMI AMB AMB
KMI comp=Z,28nm,1.2s,mb5.2 AMB AMB
KMI comp=Z,4μm,6.5s LR LR
KMI comp=N,8μm,20.5s,MS5.9 LR LR
KMI comp=E,7μm,19.2s,MS5.9 LR LR
KMI comp=Z,16μm,21.1s,MS6.1
KMI Kunming 56.59 306 P **P 16 22 13.9 +1.6**
KMI *PP pP 16 22 23.9 +3.6
KMI *SP sP 16 22 27.4 +4.0
KMI 16 23 10.4
KMI 16 24 19.8
KMI PPP 16 25 39.6
KMI S **S 16 30 03.7 +1.1**
KMI *SS sS 16 30 21.0 +5.2
KMI 16 31 57.9
KMI SS SS 16 33 52.3 +2.1
KMI SSS 16 36 05.5
KMI pmax pmax
KMI comp=Z,28nm,1.2s,mb5.2 MLR MLR
KMI comp=Z,16μm,21.1s,MS6.1
KMI Kunming 56.59 306 P **P 16 22 13.9 +1.6**
comp=Z,28nm,1.2s,mb5.2
KMI pP pP 16 22 23.9 +3.6
KMI sP sP 16 22 27.4 +4.0
KMI PcP PcP 16 23 10.4 +1.8
KMI PP PP 16 24 19.8 +1.5
KMI PPP 16 25 39.6
KMI S **S 16 30 03.7 +1.1**
KMI sS sS 16 30 21.0 +5.2
KMI ScS ScS 16 31 57.9 -2.0
KMI SS SS 16 33 52.3 +2.1
KMI SSS 16 36 05.5
KMI LR LR
BDT Bhumibol Dam 56.66 295 P **P 16 22 14.0 +1.1**
comp=Z,13nm,1.0s,mb4.9
XAN Xi'an 56.71 318 P **P 16 22 12.3 -0.9**
XAN PP PP 16 24 16.5 -2.9
XAN S **S 16 30 03.3 -1.0**
XAN AMB AMB
XAN comp=Z,154nm,1.4s,mb5.8 AMB AMB
XAN comp=Z,3μm,11.9s LR LR
XAN comp=N,4μm,18.0s,MS5.6 LR LR
XAN comp=E,2μm,17.3s,MS5.6 LR LR
XAN comp=Z,9μm,17.5s,MS5.9 LR LR
HON Honolulu 56.95 60 *e*P **P 16 22 14.7 -0.2**
CM31 Chiang Mai Arr 57.13 297 PFAKE 16 22 30.0 +14
CM31 LR LR
CHG Chiang Mai 57.26 297 ⇓P **P 16 22 16.8 -0.3**
comp=Z,70nm,0.8s,mb5.7
CHTO Chiang Mai 57.26 297 ⇓P **P 16 22 17.9 +0.7**
SNR=40
CHTO Chiang Mai 57.26 297 *e*P **P 16 22 17.2 +0.1**
CHTO pmax pmax
CHTO comp=Z,73nm,1.0s,mb5.7 MLR MLR
CHTO comp=Z,5μm,20.0s,MS5.6
CHTO Chiang Mai 57.26 297 *e*P **P 16 22 17.2 0.0**
comp=Z,73nm,1.0s,mb5.7
CHTO comp=Z,5μm,20.0s,MS5.6 LR LR
KLR Kul'dur 57.96 345 *e*P **P 16 22 20.0 -2.0**
KLR *e*S **S 16 30 39.0 +18**
KLR *e* 16 34 04.5
KLR pmax pmax
KLR comp=Z,8μm,12.5s MLR MLR
KLR comp=E,3μm,15.0s MLR MLR
KLR comp=Z,11μm,15.0s,MS6.1
KKH Kailua Kona 58.05 62 P **P 16 22 23.3 +0.6**
KHU Kahuku 58.26 63 *e*P **P 16 22 24.1 0.0**
HPO Honuapo 58.26 63 *e*P **P 16 22 23.9 -0.2**
POHA Pohakuloa 58.51 62 PFAKE 16 22 40.0 +14
POHA LR LR
comp=Z,7μm,20.0s,MS5.8
CD2 Chengdu 58.59 312 P **P 16 22 26.3 -0.2**
CD2 AP pP 16 22 35.1 +0.6
CD2 XP sP 16 22 38.8 +1.2
CD2 PP PP 16 24 38.1 +1.9
CD2 PCS PcS 16 27 15.8 -2.4
CD2 S **S 16 30 28.4 -0.6**
CD2 XS sS 16 30 42.8 +0.7
CD2 SCS ScS 16 32 10.8 -3.8
CD2 SS SS 16 34 23.3 +1.5
CD2 AMB AMB
CD2 comp=Z,40nm,0.9s,mb5.5 AMB AMB
CD2 comp=Z,6μm,8.0s LR LR
CD2 comp=N,10μm,25.0s,MS6.0 LR LR
CD2 comp=E,9μm,24.0s,MS6.0 LR LR
CD2 comp=Z,13μm,24.6s,MS6.0
PPT Papeete 58.79 107 *e*P **P 16 22 28.2 +0.4**
comp=Z,85nm,1.4s,mb5.6
PPT Papeete 58.79 107 *e*PP PP 16 24 37.8 -0.1
comp=Z,685nm,23.2s
PPT Papeete 58.79 107 *e*S **S 16 30 30.0 -1.5**
PPT comp=Z,5μm,27.0s
comp=Z,2μm,29.0s
PPT *e*LR LR 16 39 37.7
comp=Z,10μm,26.5s,baz=275
PPT Papeete 58.79 107 P **P 16 22 28.5 +0.7**
comp=Z,12nm,0.3s,mb5.4,baz=245,slow=7.6,SNR=4.9
PPT LR LR 16 45 58.8
comp=Z,3μm,18.1s,MS5.4,baz=94,slow=34
PAE Paea 58.79 107 *e*P **P 16 22 27.8 0.0**
comp=Z,179nm,1.3s,mb6.0
PAE Paea 58.79 107 *e*P **P 16 22 27.8 0.0**
PAE pmax pmax
comp=Z,179nm,1.3s,mb5.9
TVO Taravao 59.11 107 *e*P **P 16 22 30.3 +0.2**
TVO pmax pmax
comp=Z,311nm,1.4s,mb6.2
TVO Taravao 59.11 107 *e*P **P 16 22 30.3 +0.2**
comp=Z,311nm,1.4s,mb6.2
TVO *e*P'P' 16 52 18.1
TBI Tubuai 59.38 113 *e*S **S 16 30 37.4 -1.7**
comp=Z,12μm,26.5s
TBI *e*SS SS 16 34 35.1 +1.0
TBI comp=Z,5μm,26.0s
TBI *e*LR LR 16 40 05.9
comp=Z,22μm,33.8s,baz=282
TBI Tubuai 59.38 113 *e*P **P 16 22 31.5 -0.4**
comp=Z,191nm,1.2s,mb6.0
TBI *e*S **S 16 30 37.4 -1.7**
TBI *e*SS SS 16 34 35.1 +1.0
HHC Hu-ho-hao-te 59.44 326 ⇓P **P 16 22 32.9 +0.5**
HHC AP pP 16 22 43.0 +2.6
HHC XP sP 16 22 47.3 +3.8
HHC PCP PcP 16 23 20.0 +0.1
HHC PP PP 16 24 46.0 +2.3
HHC SCP ScP 16 27 16.9 -2.1
HHC PCS PcS 16 27 20.4 -1.5
HHC S **S 16 30 41.0 +1.0**
HHC XS sS 16 30 55.1 +1.9
HHC SCS ScS 16 32 15.8 -5.1
HHC SS SS 16 34 35.8 +0.6
HHC AMB AMB
HHC comp=Z,96nm,1.3s,mb5.7 AMB AMB
HHC comp=Z,4μm,10.6s LR LR
HHC comp=N,9μm,17.1s,MS6.0 LR LR
HHC comp=E,6μm,16.3s,MS6.0 LR LR
HHC comp=Z,8μm,16.5s,MS5.9
PET Petropavlovsk 59.55 5 *e*P **P 16 22 32.0 -1.1**
PET *e* 16 23 20.7
PET *e*S **S 16 30 42.4 +1.0**
PET *e* 16 32 13.9
PET *e*SS SS 16 34 40.2 +3.4
PET pmax pmax
PET comp=Z,3μm,8.2s pmax pmax
PET comp=Z,4μm,7.0s smax
PET comp=N,12μm,22.5s MLR MLR
PET comp=Z,5μm,17.0s,MS5.7 MLR MLR
PET comp=Z,4μm,19.0s
PET Petropavlovsk 59.55 5 PFAKE 16 22 40.0 +6.9
PET LR LR
BTO Baotou 60.16 325 *e*P **P 16 22 36.3 -1.0**
BTO comp=Z,5μm,19.0s,MS5.7 AMB AMB
comp=Z,46nm,2.3s,mb5.1
PMOR Pomariorio Ree 60.31 104 *e*P **P 16 22 38.7 +0.4**
comp=Z,521nm,1.4s,mb6.4
VAH Vaihoa 60.57 104 *e*P **P 16 22 40.1 0.0**
comp=Z,199nm,1.2s,mb6.1
VAH *e*P'P' 16 52 14.2
DRV Dumont d'Urvil 60.64 185 P **P 16 22 37.0 -3.6**
DRV S **S 16 30 55.0 -0.4**
DRV L 16 38 00.0
DRV R 16 42 00.0
LZH Lanzhou 61.29 317 ⇑P **P 16 22 45.8 +0.8**
LZH AP pP 16 22 54.9 +1.9
LZH XP sP 16 22 58.6 +2.5
LZH PP PP 16 25 03.0 +3.0
LZH S **S 16 31 03.0 -0.6**
LZH XS sS 16 31 19.0 +2.1
LZH SS SS 16 35 07.0 +2.9
LZH AMB AMB
LZH comp=Z,450nm,1.4s,mb6.4 AMB AMB
LZH comp=Z,2μm,7.6s LR LR
LZH comp=N,6μm,16.2s LR LR
LZH comp=Z,10μm,19.9s,MS6.0
LZH Lanzhou 61.29 317 ⇑P **P 16 22 45.7 +0.7**
LZH *PP pP 16 22 54.9 +1.9
LZH *SP sP 16 22 58.6 +2.5
LZH 16 25 03.0
LZH S **S 16 31 03.0 -0.6**
LZH *SS sS 16 31 19.0 +2.1
LZH SS SS 16 35 07.0 +2.9
LZH pmax pmax
LZH comp=Z,450nm,1.4s,mb6.4 MLR MLR
LZH comp=Z,10μm,19.9s,MS6.0
LZH Lanzhou 61.29 317 ⇑P **P 16 22 45.7 +0.7**
LZH comp=Z,450nm,1.4s,mb6.4
LZH pP pP 16 22 54.9 +1.9
LZH sP sP 16 22 58.6 +2.5
LZH PP PP 16 25 03.0 +3.0
LZH S **S 16 31 03.0 -0.6**
LZH sS sS 16 31 19.0 +2.1
LZH SS SS 16 35 07.0 +2.9
LZH LR LR
HIA Hailar 61.87 337 *e*P **P 16 22 47.0 -1.9**
HIA comp=Z,10μm,19.9s,MS6.0 pmax pmax
HIA comp=Z,80nm,0.8s MLR MLR
HIA Hailar 61.87 337 *e*P **P 16 22 47.0 -1.8**
comp=Z,6μm,20.0s
HIA comp=Z,80nm,0.8s,mb5.9 LR LR
SMY Shemya 62.06 16 P **P 16 22 49.9 -0.3**
SMY comp=Z,6μm,20.0s,MS5.8 pmax pmax
SMY Shemya 62.06 16 *e*P **P 16 22 50.0 -0.2**
comp=Z,860nm,1.4s,mb6.7
SMY comp=Z,870nm,1.6s LR LR
AMKA Amchitka 62.43 19 *e*P **P 16 22 52.5 -0.2**
IMP Imphal 63.74 302 *e*P **P 16 23 03.0 +1.6**
IMP *ex* x 16 23 38.0
AGT Agartala 65.73 300 *i* x x 16 23 20.0
AGT *i* x x 16 23 51.0
SHL Shillong 65.76 302 *e*P **P 16 23 14.2 -0.3**
SHL *e*S S 16 32 01.2 +1.9
GTA Gaotai 65.77 318 ⇓*i*P **P 16 23 14.3 -0.3**
GTA AP pP 16 23 22.1 -0.6
GTA XP sP 16 23 25.8 +0.1
GTA PCP PcP 16 23 47.8 +2.2
GTA PP PP 16 25 41.3 +1.9
GTA S S 16 32 01.3 +1.9
GTA XS sS 16 32 13.6 +0.8
GTA SS SS 16 36 17.8 +3.8
GTA AMB AMB
GTA comp=Z,36nm,1.2s,mb5.3 AMB AMB
GTA comp=Z,4μm,6.8s LR LR
GTA comp=N,3μm,16.0s,MS5.8 LR LR
GTA comp=E,3μm,17.1s,MS5.8 LR LR
GTA comp=Z,5μm,18.6s,MS5.8
CASY Casey 66.01 197 *e*P **P 16 23 14.8 -1.3**
CASY *i* S S 16 31 59.8 -2.6
CIT Chita 66.48 336 *e*P **P 16 23 18.8 -0.4**
CIT *e* 16 23 31.4
CIT *e* 16 33 03.9
CIT pmax pmax
comp=Z,348nm,2.7s,mb5.9
CLNS Chul'man 66.61 345 *e*P **P 16 23 18.0 -2.0**
SONM Songino Array 66.85 329 P **P 16 23 21.3 -0.2**

comp=Z,41nm,0.6s,mb5.6,baz=146,slow=5.3,SNR=82
SONM PKP2bc 16 51 52.2
comp=Z,8.4nm,0.8s,baz=296,slow=2.0,SNR=21
SONM LR LR 16 53 35.9
comp=Z,8μm,19.5s,MS6.0,baz=138,slow=37
SONM Songino Array 66.85 329 P **P 16 23 21.3 -0.2**
SONM ⇑*e* 16 51 52.2
SONM LR LR 16 53 35.9
LSA Lhasa 67.84 306 P **P 16 23 28.5 +0.7**
LSA AP pP 16 23 43.0 +7.1
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.1
LSA AMB AMB
comp=Z,3μm,8.0s
LSA LR LR
comp=N,2μm,27.0s,MS5.7
LSA LR LR
comp=E,6μm,28.0s,MS5.7
LSA LR LR
comp=Z,8μm,27.0s,MS5.8
LSA Lhasa 67.84 306 *e*P **P 16 23 28.0 +0.2**
LSA pmax pmax
comp=Z,59nm,0.6s,mb5.8
LSA MLR MLR
comp=Z,3μm,20.0s,MS5.5
LSA Lhasa 67.84 306 *e*P **P 16 23 28.0 +0.2**
comp=Z,59nm,0.6s,mb5.8
LSA LR LR
comp=Z,3μm,20.0s,MS5.5
CAL Calcutta 67.86 297 *i* P **P 16 23 28.1 +0.2**
CAL *ex* x 16 31 20.9
TAOE Nuku Hiva Isla 68.02 97 *e*S S 16 32 25.4 -1.2
comp=Z,12μm,26.1s
TAOE *e*SS SS 16 36 44.3 -4.6
comp=Z,6μm,29.3s
TAOE *e*LR LR 16 43 59.3
comp=Z,11μm,23.1s
TAOE Nuku Hiva Isla 68.02 97 *e*P **P 16 23 28.9 0.0**
comp=Z,723nm,1.3s,mb6.5
TAOE *e*S S 16 32 25.4 -1.2
TAOE *e*SS SS 16 36 44.3 -4.6
SEY Seymchan 69.16 1⇑*e*P **P 16 23 33.3 -2.7**
UNV Unalaska Valle 69.75 25 *e*P **P 16 23 38.9 -0.8**
comp=Z,817nm,0.8s,mb6.7
UNV LR LR
comp=Z,18μm,21.0s,MS6.3
ZAK Zakamensk 70.05 330⇓*i*P **P 16 23 40.3 -1.2**
ZAK pmax pmax
comp=Z,57nm,1.0s,mb5.5
YAK Yakutsk 70.24 349 *e*P **P 16 23 40.4 -2.3**
YAK *i* *PP pP 16 23 50.5 -0.4
YAK *i* 16 24 00.0
YAK *e*S S 16 32 51.5 -1.4
YAK *e* 16 33 38.3
YAK pmax pmax
comp=Z,154nm,1.2s,mb5.8
YAK pmax pmax
comp=N,91nm,1.5s
YAK pmax pmax
comp=E,22nm,1.1s
YAK smax
comp=N,3μm,9.8s
YAK smax
comp=Z,1μm,7.4s
YAK smax
comp=E,1μm,5.5s
YAK MLR MLR
comp=Z,6μm,26.0s,MS5.7
YAK MLR MLR
comp=N,3μm,17.0s
YAK MLR MLR
comp=E,2μm,17.0s
YAK Yakutsk 70.24 349 *e*P **P 16 23 40.1 -2.6**
comp=E,292nm,1.3s,mb6.0
YAK LR LR
comp=Z,4μm,21.0s,MS5.7
AKUT Akutan 70.27 25 *e*P **P 16 23 41.6 -1.3**
comp=Z,472nm,0.9s,mb6.4
AKUT LR LR
comp=Z,5μm,21.0s,MS5.8
BOK Bokaro 70.38 298 *e*P **P 16 23 43.8 +0.3**
BOK AMb AMB 16 23 50.3
comp=Z,204nm,1.4s,mb5.9
TLY Talaya 70.68 331 P **P 16 23 45.7 +0.3**
comp=Z,147nm,0.9s,mb5.9,SNR=11
TLY Talaya 70.68 331 *e*P **P 16 23 44.9 -0.5**
TLY *e* 16 24 04.6
TLY *e* 16 26 22.6
TLY *e*S S 16 32 58.1 +0.1
TLY *e*PS 16 33 15.6
TLY *e* 16 33 40.1
TLY *e*SS SS 16 37 31.2 +1.2
TLY *e*SSS 16 40 38.4
TLY pmax pmax
comp=Z,31nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,4μm,16.0s,MS5.8
TLY Talaya 70.68 331 *e*P **P 16 23 45.4 0.0**
comp=Z,34nm,1.0s,mb5.2
TLY LR LR
comp=Z,2μm,22.0s,MS5.4
BOD Bodaibo 70.73 340 *e*P **P 16 23 44.0 -1.7**
BOD pmax pmax
comp=Z,64nm,1.4s,mb5.4
IRK Irkutsk 70.74 332 *e*P **P 16 23 44.5 -1.2**
IRK *e* 16 24 03.9
IRK *e*S S 16 32 57.6 -1.1
IRK *e* 16 33 27.1
IRK *e* 16 33 45.8
IRK pmax pmax
comp=Z,218nm,2.4s,mb5.7
JIRN Jiri 71.26 302 *e*P **P 16 23 49.1 +0.2**
comp=Z,107nm,0.6s,mb5.9
VNDA Vanda 71.29 178 P **P 16 23 48.2 -0.8**
comp=Z,102nm,0.8s,mb5.8,baz=330,slow=6.6,SNR=376
VNDA pP pP 16 24 00.8 +3.6
comp=Z,71nm,0.9s,baz=344,slow=11,SNR=10
VNDA S S 16 33 05.3 +0.3
comp=Z,0.5nm,0.9s,baz=92,slow=19,SNR=6.0
VNDA PKPPKP 16 51 32.1
comp=Z,1.6nm,1.1s,baz=215,slow=5.7,SNR=3.4
VNDA Vanda 71.29 178 *e*P **P 16 23 47.3 -1.7**
VNDA pmax pmax
comp=Z,110nm,0.9s
VNDA MLR MLR
comp=Z,4μm,19.0s
VNDA Vanda 71.29 178 *e*P **P 16 23 47.3 -1.7**
comp=Z,110nm,0.9s,mb5.8
VNDA LR LR
comp=Z,4μm,19.0s,MS5.7
GUN Gumba 71.60 302 *e*P **P 16 23 51.1 +0.2**
comp=Z,322nm,0.8s,mb6.3
PALK Pallekele 71.61 280 P **P 16 23 52.6 +1.6**
comp=Z,1μm,1.3s,mb6.8,SNR=13
PALK Pallekele 71.61 280 ⇓P **P 16 23 52.6 +1.6**
SNR=19
PALK Pallekele 71.61 280 *e*P **P 16 23 51.8 +0.7**
comp=Z,370nm,1.1s,mb6.2
PALK LR LR
comp=Z,753nm,22.0s,MS4.9
MIR Mirnyy 71.85 201*d i*P **P 16 23 55.0 +2.6**
MIR pmax pmax
comp=Z,2μm,6.0s
MIR MLR MLR
comp=N,6μm,17.0s,MS6.1
MIR MLR MLR
comp=E,6μm,17.0s,MS6.1
MIR MLR MLR
comp=Z,18μm,17.0s,MS6.4
SBA Scott Base 71.86 177 PFAKE 16 24 00.0 +7.5
SBA LR LR
comp=Z,3μm,19.0s,MS5.6
PKI Pulchoki 71.89 302 *e*P **P 16 23 53.2 +0.5**
MOY Mondy 71.98 330 *e*P **P 16 23 53.4 +0.2**
MOY pmax pmax
comp=Z,370nm,3.9s
KKN Kakani 72.06 302 *e*P **P 16 23 53.5 -0.2**
comp=Z,262nm,1.0s,mb6.1
DMN Daman 72.16 302 *e*P **P 16 23 54.5 +0.2**
comp=Z,470nm,1.0s,mb6.4
RKT Rikitea 72.66 112 *e*S S 16 33 18.8 -2.0
comp=Z,5μm,29.0s
RKT *e*SS SS 16 37 54.1 -6.2
comp=Z,4μm,32.8s
RKT *e*LR LR 16 46 15.5
comp=Z,15μm,33.5s,baz=271
RKT Rikitea 72.66 112 *e*P **P 16 23 56.6 -0.7**
RKT *e*S S 16 33 18.8 -2.0
RKT *e*SS SS 16 37 54.1 -6.2
RKT pmax pmax
comp=Z,116nm,1.0s,mb5.8
RKT Rikitea 72.66 112 *e*P **P 16 23 56.6 -0.7**
comp=Z,116nm,1.0s,mb5.8
RKT *e*S S 16 33 18.8 -2.0
RKT *e*SS SS 16 37 54.1 -6.2
GKN Gorkha 72.67 302 *e*P **P 16 23 56.7 -0.6**
MDRS Chennai 73.06 286 *e*P **P 16 23 59.8 +0.1**
MDRS *ex* x 16 25 50.7
MDRS Chennai 73.06 286 *e*S S 16 33 09.7 -16
SDPT Sand Point 73.37 26 *e*P **P 16 24 00.4 -1.1**
comp=Z,662nm,0.8s,mb6.6
SDPT LR LR
comp=Z,5μm,19.0s,MS5.8
SALM Salem 74.78 284 *e*P **P 16 24 12.0 +2.3**
CHGN Chignik 74.88 26 *e*P **P 16 24 05.6 -4.7**
BILL Bilibino 75.05 6⇓*e*P **P 16 24 09.9 -1.3**
BILL *e* 16 24 15.2
BILL *e* 16 24 23.5
BILL *e* 16 27 06.6
BILL *i* S S 16 33 45.9 -1.8
BILL *e* 16 34 12.8
BILL *i* 16 34 42.5
BILL pmax pmax
comp=Z,158nm,0.8s,mb6.0
BILL Bilibino 75.05 6 *e*P **P 16 24 09.2 -2.0**
comp=Z,122nm,0.8s,mb5.9
BILL LR LR
comp=Z,3μm,19.0s,MS5.6
JBP Jabalpur 75.45 296⇓*i*P **P 16 24 13.9 +0.3**
JBP *ex* x 16 24 19.6
comp=Z,321nm,1.2s
JBP *ex* x 16 33 35.6
TRD Trivandrum 75.47 280⇓*e*P **P 16 24 14.1 +0.4**
HYB Hyderabad 75.51 290 *i* P **P 16 24 13.5 -0.4**
comp=Z,260nm,1.0s,mb6.1
HYB LR LR
comp=Z,7.6nm,8.0s
HYB Hyderabad 75.51 290 *e*P **P 16 24 13.5 -0.4**
HYB *e*S S 16 33 52.0 -0.8
HYB pmax pmax
comp=Z,260nm,1.0s,mb6.1
HYB Hyderabad 75.51 290 *e*P **P 16 24 13.5 -0.4**
comp=Z,260nm,1.0s,mb6.1
HYB *e*S S 16 33 52.0 -0.8
NGP Nagpur 75.83 294⇓*e*P **P 16 24 14.0 -1.8**
NGP *ex* x 16 24 19.8
comp=Z,325nm,1.8s
NGP *ex* x 16 33 55.0
WMQ Urumqi 75.85 318⇓*i*P **P 16 24 15.3 -0.6**
WMQ AP pP 16 24 25.8 +1.7
WMQ PCP PcP 16 24 28.4 +0.1
WMQ XP sP 16 24 29.8 +2.7
WMQ PP PP 16 27 07.4 +1.3
WMQ PPP 16 28 53.8
WMQ S S 16 33 53.8 -2.8
WMQ XS sS 16 34 10.9 +0.7
WMQ SKS 16 34 17.8
WMQ SCS ScS 16 34 23.5 -4.9
WMQ PS 16 34 35.3
WMQ AMB AMB
comp=Z,87nm,1.2s,mb5.6
WMQ AMB AMB
comp=Z,902nm,5.6s
WMQ LR LR
comp=N,4μm,23.8s,MS5.8
WMQ LR LR
comp=E,5μm,25.3s,MS5.8
WMQ LR LR
comp=Z,3μm,25.2s,MS5.4
LGTI Lohaghat 76.78 302 *i* P **P 16 24 20.5 -0.6**
PTH Pithoragarh 76.83 302 *e*P **P 16 24 22.9 +1.5**
LATR Latur 77.57 290 *e*P **P 16 24 22.9 -2.7**
BHPL Bhopal 77.76 295 *e*P **P 16 24 26.5 -0.1**
BHPL AMb AMB 16 24 30.4
comp=Z,271nm,0.8s,mb6.2
TNA Tin City 77.78 16 *e*P **P 16 24 26.4 -0.4**
comp=Z,47nm,0.8s,mb5.5
TNA LR LR
comp=Z,4μm,20.0s,MS5.8
DGAR Diego Garcia 78.07 264 P **P 16 24 29.2 +0.9**
comp=Z,4μm,1.1s,SNR=7.5
DGAR Diego Garcia 78.07 264*d i*P **P 16 24 29.1 +0.8**
DGAR Diego Garcia 78.07 264 *e*P **P 16 24 29.0 +0.7**
comp=Z,1μm,1.2s,mb6.6
DGAR LR LR
comp=Z,852nm,20.0s,MS5.1
MNGI Mangalore 78.25 285 *i* P **P 16 24 29.6 +0.3**
MNGI *i* S S 16 34 25.4 +2.8
KDAK Kodiak Island 78.34 27 P **P 16 24 29.2 -0.6**
comp=Z,1μm,1.3s,mb6.6,SNR=8.1
KDAK Kodiak Island 78.34 27 *e*P **P 16 24 28.7 -1.1**
comp=Z,187nm,1.1s,mb5.9,baz=171,slow=4.3,SNR=12
KDAK Kodiak Island 78.34 27 *e*P **P 16 24 28.8 -1.0**
comp=Z,338nm,1.2s,mb6.2
KDAK LR LR
comp=Z,1μm,22.0s,MS5.2
DDI Dehra Dun 78.84 302 *e*P **P 16 24 34.5 +1.9**
SVW2 Sparrevohn 78.93 23 *e*P **P 16 24 31.8 -1.3**
NDI New Delhi 79.16 301 *e*P **P 16 24 32.0 -2.3**
NDI *e*P 16 24 32.0
KAD Karad 79.59 289 *e*P **P 16 24 36.3 -0.4**
SDNR Sundarnagar 80.03 303 *e*P **P 16 24 39.0 -0.1**
POO Poona 80.12 290⇓*i*x x 16 24 35.0
comp=Z,460nm,1.0s
POO *i* x x 16 24 42.0
POO *i* S S 16 34 44.0 +1.4
POO *ex* x 16 34 50.0
POO *e*SCS ScS 16 35 04.0 +0.9
MKAR Makanchi Array 80.49 319 P **P 16 24 40.3 -1.3**
comp=Z,23nm,0.6s,mb5.3,baz=98,slow=4.0,SNR=142
MKAR PP PP 16 27 44.1 -0.8
comp=Z,12nm,1.0s,baz=104,slow=9.4,SNR=3.6
MKAR PKKPbc PKKPbc 16 43 22.1 -0.3
comp=Z,4.6nm,0.7s,baz=300,slow=1.9,SNR=19
MKAR PKPPKP 16 51 29.2
comp=Z,3.1nm,0.9s,baz=302,slow=2.3,SNR=7.8
MKAR LR LR 17 02 15.5
comp=Z,4μm,18.3s,MS5.8,baz=107,slow=37
MKAR Makanchi Array 80.49 319 P **P 16 24 40.3 -1.3**
MKAR 16 27 44.1
MKAR 16 43 22.1
SLKM Skilak Lake 80.81 25 *e*P **P 16 24 42.0 -1.3**
AJM Ajmer 80.91 298 *e*P **P 16 24 42.8 -1.0**
AJM AMb AMB 16 24 47.4
comp=Z,508nm,1.1s,mb6.4
BOM Bombay 81.15 290 *e*P **P 16 24 45.2 +0.2**
BOM *ex* x 16 24 49.9
comp=Z,494nm,1.8s
BOM *ex* x 16 30 10.2
THN Thein Dam 81.28 304 *e*P **P 16 24 43.7 -2.1**
THN *ex* x 16 35 01.9
ZAL Zalesovo 81.61 327 P **P 16 24 45.5 -2.1**
comp=Z,19nm,0.7s,mb5.1,baz=358,slow=5.8,SNR=48
ZAL S S 16 34 56.6 -1.6
comp=Z,1.9nm,1.0s,baz=191,slow=19,SNR=4.6
ZAL PKKPbc PKKPbc 16 43 20.1 +0.2
comp=Z,1.8nm,0.8s,baz=247,slow=1.8,SNR=6.4
ZAL LR LR 16 59 44.9
comp=Z,5μm,20.3s,MS5.8,baz=355,slow=35
ZAL Zalesovo 81.61 327 P **P 16 24 45.5 -2.1**
ZAL S S 16 34 56.6 -1.6
ZAL Zalesovo 81.61 327 P **P 16 24 45.5 -2.1**
ZAL S S 16 34 56.6 -1.6
ZAL PKKPbc PKKPbc 16 43 20.1 +0.2
ZAL LR LR 16 59 44.9
PMR Palmer 81.81 25 P **P 16 24 47.0 -1.6**
PMR pmax pmax
comp=Z,150nm,0.8s,mb6.0
PMR Palmer 81.81 25 *e*P **P 16 24 47.4 -1.2**
comp=Z,1μm,2.2s,mb6.4
PMR LR LR
comp=Z,4μm,18.0s,MS5.8
SML Sawmill 82.25 25 *e*P **P 16 24 49.9 -1.0**
IMA2 Indian Mountai 82.51 20 *e*P **P 16 24 50.9 -1.3**
EYAK Cordova Ski Ar 82.77 26 *e*P **P 16 24 52.8 -0.8**
KSH Kashi 82.77 311 P **P 16 24 54.9 +1.3**
KSH *e*AP pP 16 25 05.8 +3.9
KSH *e*XP sP 16 25 09.3 +4.4
KSH *e*PP PP 16 28 07.1 +3.4
KSH *e*S S 16 35 08.8 -1.2
KSH *e*XS sS 16 35 24.3 +0.5
KSH *e*PS 16 36 04.8
KSH *e*SS SS 16 40 35.6 +2.9
KSH LR LR
comp=N,17μm,16.6s
KSH LR LR
comp=E,8μm,10.0s
KSH LR LR
comp=Z,23μm,22.2s
NVS Novosibirsk 82.81 327⇓*i*P **P 16 24 51.5 -2.3**
NVS *e*S S 16 35 04.6 -5.8
NVS pmax pmax
comp=Z,405nm,2.5s,mb6.0
NVS pmax pmax
comp=N,115nm,1.9s
NVS pmax pmax
comp=E,141nm,1.9s
NVS smax
comp=E,1μm,3.0s
MCK McKinley 82.96 23 *e*P **P 16 24 52.2 -2.4**
MCK pmax pmax
comp=Z,350nm,1.1s,mb6.3
MCK MLR MLR
comp=Z,5μm,21.0s,MS5.9
MCK McKinley 82.96 23 *e*P **P 16 24 52.2 -2.4**
comp=Z,350nm,1.1s,mb6.3
MCK LR LR
comp=Z,5μm,21.0s,MS5.9
DIV Divide 83.02 26 *e*P **P 16 24 53.9 -1.0**
comp=Z,598nm,0.8s,mb6.7
DIV LR LR
comp=Z,14μm,22.0s,MS6.3
AAA Alma-Ata 83.03 315 *i* P **P 16 24 55.2 +0.2**
AAA *i* S S 16 35 14.1 +1.4
AAA pmax pmax
comp=Z,9μm,7.0s
AAA smax
comp=E,9μm,7.7s
ULHL Ulaho 83.26 314 P **P 16 24 59.7 +3.6**
SNR=6.9
MAW Mawson 83.47 203 *e*S S 16 35 14.1 -3.0
MAW Mawson 83.47 203 P **P 16 24 55.9 -1.3**
comp=E,100nm,0.9s,mb5.8,baz=97,slow=5.8,SNR=84
MAW LR LR 16 59 14.1
comp=E,7μm,20.4s,MS6.0,baz=90,slow=34
MAW Mawson 83.47 203 *e*P **P 16 24 56.7 -0.5**
MAW *e*S S 16 35 14.1 -3.0
MAW pmax pmax
comp=Z,110nm,1.2s
MAW Mawson 83.47 203 *e*P **P 16 24 56.7 -0.5**
comp=Z,110nm,1.2s,mb5.8
MAW *e*S S 16 35 14.1 -3.0
QSPA South Pole Qui 83.55 180 *e*P **P 16 24 57.1 -0.6**
comp=Z,335nm,1.1s,mb6.4
NIL Nilore 83.57 305 P **P 16 24 59.2 +1.5**
comp=Z,680nm,0.6s,mb7.0,SNR=38
TKM2 Tokmak 2 83.89 314 P **P 16 24 58.9 -0.6**
SNR=130
KZA Kyzart 83.94 313 P **P 16 25 00.6 +1.0**
SNR=188
COLA College 83.94 22⇑*i*P **P 16 24 56.6 -3.0**
COLA College 83.94 22 *e*P **P 16 24 56.9 -2.8**
comp=Z,316nm,0.9s,mb6.5
COLA LR LR
comp=Z,3μm,19.0s,MS5.7
KURK Kurchatov 84.05 322 P **P 16 24 59.5 -0.7**
comp=Z,983nm,1.1s,mb6.8
KURK Kurchatov 84.05 322 P **P 16 24 59.1 -1.1**
SNR=58
KURK Kurchatov 84.05 322⇓*i*P **P 16 24 57.7 -2.5**
KURK Kurchatov 84.05 322 *e*P **P 16 24 58.4 -1.8**
comp=Z,158nm,0.9s,mb6.1
KURK LR LR
comp=Z,1μm,19.0s,MS5.3
KBK Karagaybulak 84.29 314 P **P 16 25 01.4 -0.1**
SNR=123
UCH Uchtor 84.50 313 P **P 16 25 03.2 +0.7**
SNR=270
CHMS Chumysh 84.52 314 P **P 16 25 02.5 0.0**
SNR=95
FRU Bishkek 84.57 314 *i* P **P 16 25 04.0 +1.2**
FRU *e* 16 28 22.0
FRU *i* S S 16 35 26.0 -2.2
FRU pmax pmax
comp=Z,660nm,2.0s,mb6.4
FRU pmax pmax
comp=Z,6μm,6.0s
FRU smax
comp=E,8μm,6.0s
AAK Ala-Archa 84.61 314 P **P 16 25 01.3 -1.7**
comp=E,1μm,0.6s,SNR=43
AAK Ala-Archa 84.61 314 P **P 16 25 02.8 -0.2**
SNR=197
AAK Ala-Archa 84.61 314 ⇓P **P 16 25 02.2 -0.9**
SNR=105
AAK Ala-Archa 84.61 314⇓*i*P **P 16 25 01.2 -1.8**
AAK pmax pmax
comp=Z,148nm,0.8s,mb6.2
AAK MLR MLR
comp=Z,6μm,19.0s,MS6.0
AAK Ala-Archa 84.61 314 *e*P **P 16 25 02.2 -0.9**
comp=Z,126nm,0.7s,mb6.2
AAK LR LR
comp=Z,2μm,21.0s,MS5.4
USP Ospenovka 84.76 314 P **P 16 25 03.9 +0.1**
SNR=152
AML Almayashu 85.07 313 P **P 16 25 05.9 +0.6**
SNR=308
EKS2 Erkin-Say 85.13 314 P **P 16 25 05.7 0.0**
SNR=309
EGAK Eagle 86.47 23 *e*P **P 16 25 10.8 -1.5**
comp=Z,472nm,1.2s,mb6.6
SIT Sitka 86.48 32 *e*P **P 16 25 12.6 +0.2**
SIT pmax pmax
comp=Z,126nm,0.9s,mb6.2
SIT MLR MLR
comp=Z,14μm,21.0s,MS6.3
SIT Sitka 86.48 32 *e*P **P 16 25 12.6 +0.2**
comp=Z,126nm,0.9s,mb6.2
SIT LR LR
comp=Z,14μm,21.0s,MS6.3
DAWY Dawson 86.91 24 *e*P **P 16 25 13.3 -1.2**
SKAG Skagway 87.20 29 *e*P **P 16 25 16.3 +0.4**
comp=Z,1μm,2.6s,mb6.7
SKAG LR LR
comp=Z,6μm,23.0s,MS5.9
CRAG Craig 87.21 34 *e*P **P 16 25 16.6 +0.7**
comp=Z,126nm,1.3s,mb6.0
CRAG LR LR
comp=Z,7μm,19.0s,MS6.1
WRAK Wrangell Islan 87.88 33 *e*P **P 16 25 18.2 -1.0**
comp=Z,355nm,1.4s,mb6.4
CHKZ Chkalovo 89.56 324 P **P 16 25 24.5 -2.5**
CHKZ pmax pmax
comp=Z,26nm,0.7s,mb5.7
CHKZ Chkalovo 89.56 324 *e*P **P 16 25 23.9 -3.2**
comp=Z,26nm,0.7s,mb5.7
BVAR Borovoye Array 89.57 323 S SKSac 16 35 53.5 -2.2
comp=Z,3.0nm,1.0s,baz=116,slow=6.8,SNR=5.1
BVAR PKKPbc PKKPbc 16 43 01.9 +0.9
comp=Z,1.7nm,0.8s,baz=295,slow=3.7,SNR=5.9
DLBC Dease Lake 89.59 31 *e*P **P 16 25 27.1 -0.1**
BRVK Borovoye 89.64 323 P **P 16 25 25.5 -1.9**
comp=Z,240nm,0.9s,mb6.5,SNR=7.4
BRVK Borovoye 89.64 323 P **P 16 25 25.8 -1.6**
SNR=21
BRVK Borovoye 89.64 323 P **P 16 25 24.3 -3.1**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb5.5
BRVK Borovoye 89.64 323 *e*P **P 16 25 24.1 -3.3**
comp=Z,33nm,0.8s,mb5.7
BRVK LR LR
comp=Z,882nm,20.0s,MS5.2
JCC Jacoby Creek 90.21 49 ⇑P **P 16 25 31.2 +1.2**
baz=90°
O01C Eel River Cons 90.28 50 ⇑P **P 16 25 31.2 +0.9**
baz=90
ZRNK Zerenda 90.38 323 P **P 16 25 28.4 -2.5**
ZRNK pmax pmax
comp=Z,26nm,0.7s,mb5.7
ZRNK Zerenda 90.38 323 *e*P **P 16 25 27.9 -3.0**
comp=Z,26nm,0.7s,mb5.7
INK Inuvik 90.53 21 P **P 16 25 29.3 -2.3**
comp=Z,72nm,0.9s,mb6.0,baz=236,slow=4.5,SNR=78
INK pP pP 16 25 44.5 +4.6
comp=Z,113nm,1.0s,baz=256,slow=5.3,SNR=12
INK PKiKP PKiKP 16 30 22.9 -3.2

comp=Z,6.3nm,0.9s,baz=265,slow=3.8,SNR=3.1
INK S SKSac 16 36 00.2 -1.1
comp=Z,2.2nm,0.7s,baz=40,slow=28,SNR=6.9
INK PKKP PKKPbc 16 42 58.6 0.0
comp=Z,12nm,0.9s,baz=63,slow=3.5,SNR=12
INK Inuvik 90.53 21 *eP* **P 16 25 29.3 -2.3**
comp=Z,7µm,1.2s
P01C Double 8 Ranch 90.55 51 ⇓P **P 16 25 32.2 +0.5**
baz=91
HOPS Hopland 90.69 51 PFAKE 16 25 40.0 +7.7
HOPS LR LR
comp=Z,4µm,19.0s,MS5.9
L02A Cave Junction 90.72 48 ⇓P **P 16 25 32.7 +0.2**
baz=91
N02C Big Bar 90.76 49 ⇓P **P 16 25 32.9 +0.2**
baz=91
I02A Mapleton 90.81 46 ⇓P **P 16 25 33.1 +0.3**
baz=91
K02A Glendale 90.89 47 ⇓P **P 16 25 33.9 +0.7**
baz=91
J02A Umpqua 90.91 47 ⇑P **P 16 25 33.2 -0.1**
baz=91
GASB Alder Springs 91.05 50 ⇑P **P 16 25 34.9 +0.9**
baz=91
O02C Red Bluff 91.06 50 ⇑P **P 16 25 34.2 +0.1**
baz=91,SNR=10
BNLO Ben Lomond (Sa 91.16 53 ⇓P **P 16 25 35.0 +0.5**
baz=91
MNRC McLaughlin Nat 91.16 51 ⇑P **P 16 25 34.7 +0.2**
baz=91
M02C Callahan 91.17 49 ⇑P **P 16 25 35.2 +0.7**
baz=91,SNR=5.3
I03A Eugene 91.20 46 ⇓P **P 16 25 35.2 +0.5**
baz=91
HUMO Hull Mountain 91.25 47 *eP* **P 16 25 35.6 +0.7**
comp=Z,152nm,1.4s,mb6.1
HUMO LR LR
comp=Z,3µm,21.0s,MS5.7
HUMO Hull Mountain 91.25 47 ⇑P **P 16 25 35.5 +0.6**
baz=91,SNR=11
COR Corvallis 91.27 45 PFAKE 16 25 50.0 +15
COR LR LR
comp=Z,12µm,19.0s,MS6.3
WDC Whiskeytown Da 91.30 49 PFAKE 16 25 50.0 +15
WDC LR LR
comp=Z,2µm,19.0s,MS5.6
WDC Whiskeytown Da 91.30 49 ⇑P **P 16 25 35.6 +0.5**
baz=91,SNR=5.8
YBH Yreka Blue Hor 91.32 48 P **P 16 25 35.7 +0.5**
YBH pmax pmax
comp=Z,170nm,1.7s
YBH Yreka Blue Hor 91.32 48 *eP* **P 16 25 34.9 -0.3**
comp=Z,166nm,1.7s,mb6.1
YBH LR LR
comp=Z,10µm,19.0s,MS6.3
YBH Yreka Blue Hor 91.32 48 P **P 16 25 35.8 +0.6**
baz=91,SNR=11
J03A Ideyld Park 91.35 47 ⇑P **P 16 25 35.8 +0.5**
baz=91
WENL Wente Brothers 91.55 52 ⇓P **P 16 25 36.5 +0.2**
baz=92
HAST UC Hastings Re 91.56 54 ⇓P **P 16 25 37.0 +0.7**
baz=92
B04A Port Angeles 91.59 42 ⇓P **P 16 25 36.9 +0.4**
baz=92
O03C Acorn Hollow, 91.62 50 ⇑P **P 16 25 36.2 -0.4**
baz=92
SYO Syowa Base 91.62 200 ⇑*iP* **P 16 25 35.0 -1.6**
SYO Syowa Base 91.62 200 ⇓*i*PcP PcP 16 25 36.5 -1.0
SAO San Andreas Ge 91.69 53 *eP* **P 16 25 35.9 -1.0**
SAO pmax pmax
comp=Z,275nm,2.1s,mb6.2
SAO MLR MLR
comp=Z,1µm,22.0s,MS5.3
SAO San Andreas Ge 91.69 53 *eP* **P 16 25 35.9 -1.0**
comp=Z,275nm,2.1s,mb6.2
SAO LR LR
comp=Z,1µm,22.0s,MS5.3
M03C McCloud 91.70 49 ⇓P **P 16 25 37.2 +0.2**
baz=92
SUTB Sutter Butte 91.71 51 ⇑P **P 16 25 37.1 0.0**
baz=92
V03C Hunter Liggett 91.77 54 ⇑P **P 16 25 38.0 +0.7**
baz=92,SNR=7.0
I04A Tendick Farm, 91.80 46 ⇑P **P 16 25 37.4 -0.1**
baz=92
PACP Pacheco Peak 91.85 53 ⇑P **P 16 25 37.4 -0.2**
baz=92,SNR=5.6
S04C Ingram Canyon, 91.87 53 ⇓P **P 16 25 38.0 +0.2**
baz=92,SNR=7.7
HBO Huckleberry Mo 91.87 46 P **P 16 25 38.4 +0.6**
C04A Brinnon 91.91 42 ⇑P **P 16 25 38.1 +0.1**
baz=92
G04A Mulino 91.93 45 ⇓P **P 16 25 37.7 -0.4**
baz=92
J04A Umpqua Nationa 91.95 47 ⇑P **P 16 25 38.3 +0.1**
baz=92,SNR=9.0
OHCM Honcut 91.96 51 *eP* **P 16 25 38.0 -0.2**
VSP Spence Mountai 91.96 48 P **P 16 25 39.1 +0.9**
ORV Oroville 91.97 51 P **P 16 25 37.8 -0.5**
baz=92,SNR=24
M04C Macdoel 91.97 48 ⇓P **P 16 25 38.4 +0.1**
baz=92,SNR=7.1
L04A Klamath Falls 91.98 48 ⇓P **P 16 25 37.9 -0.4**
baz=92
LRV Little Rabbit 92.00 54 *eP* **P 16 25 39.1 +0.8**
V04C Ramage Ranch, 92.03 55 ⇓P **P 16 25 38.9 +0.4**
baz=92
H04A Detroit Lake 92.07 45 ⇓P **P 16 25 38.8 +0.1**
baz=92
HATC Hat Creek Radi 92.15 49 ⇓P **P 16 25 38.7 -0.4**
baz=92
K04A Chilquin 92.15 48 ⇑P **P 16 25 39.4 +0.3**
baz=92
U04C Hernandez Rese 92.18 54 ⇓P **P 16 25 39.6 +0.4**
baz=92,SNR=10
LBCM Butte Creek Ri 92.23 49 P **P 16 25 39.5 +0.1**
PKD Parkfield 92.33 54 P **P 16 25 40.7 +0.8**
baz=92,SNR=18
O04C Chester 92.38 50 ⇓P **P 16 25 40.1 0.0**
baz=92,SNR=6.2
M05C Lookout 92.44 49 P **P 16 25 40.5 +0.1**
baz=92,SNR=7.3
O05C Quincy 92.46 50 ⇓P **P 16 25 40.4 -0.1**
baz=92
LAVA Lava Cap Winer 92.47 51 P **P 16 25 40.7 +0.2**
baz=92,SNR=22
D05A Enumclaw 92.50 43 ⇑P **P 16 25 41.0 +0.3**
baz=92
B05A Bryant 92.56 42 ⇓P **P 16 25 41.4 +0.5**
baz=93
PTRM Twissleman Ran 92.56 55 *eP* **P 16 25 41.6 +0.6**
E05A Randle 92.58 44 ⇑P **P 16 25 42.2 +1.1**
baz=93
P05C Yuba Gap, Truc 92.63 51 P **P 16 25 41.9 +0.6**
baz=93,SNR=29
S05C Merced 92.64 53 P **P 16 25 42.0 +0.6**
baz=93,SNR=10
I05A Bend 92.66 46 ⇑P **P 16 25 41.8 +0.3**
baz=93
CMB Columbia Colle 92.67 52 *eP* **P 16 25 40.6 -0.9**
CMB pmax pmax
comp=Z,111nm,1.4s,mb6.1
CMB MLR MLR
comp=Z,791nm,19.0s,MS5.2
CMB Columbia Colle 92.67 52 *eP* **P 16 25 40.6 -0.9**
comp=Z,111nm,1.4s,mb6.1
CMB LR LR
comp=Z,791nm,19.0s,MS5.2
CMB Columbia Colle 92.67 52 P **P 16 25 41.8 +0.3**
baz=93,SNR=23
SMMC Simmler 92.70 55 ⇑P **P 16 25 41.9 +0.3**
baz=93,SNR=14
H05A Madras 92.75 46 ⇑P **P 16 25 42.0 +0.2**
baz=93
G05A Wamic 92.75 45 ⇑P **P 16 25 41.7 -0.1**
baz=93
L05A Lakeview 92.75 48 ⇓P **P 16 25 41.7 -0.1**
baz=93,SNR=5.7
C05A Tolt Reservoir 92.76 42 ⇓P **P 16 25 41.7 -0.2**
baz=93
K05A Summer Lake 92.78 47 P **P 16 25 42.6 +0.6**
baz=93,SNR=13
PKM Peak Mountain 92.80 55 ⇓P **P 16 25 42.4 +0.3**
baz=93,SNR=28
V05C Boulder Hill, 92.83 54 ⇓P **P 16 25 43.0 +0.8**
baz=93
BEKR Beckwourth 92.88 50 P **P 16 25 42.7 +0.3**
baz=93,SNR=26
SNCC San Nicolas Is 92.88 57 *eP* **P 16 25 41.8 -0.6**
comp=Z,0.4nm,1.3s
SNCC LR LR
comp=Z,5µm,19.0s
SNCC San Nicolas Is 92.88 57 ⇓P **P 16 25 42.4 -0.1**
baz=93
M06C Likely Place G 92.93 49 ⇑P **P 16 25 43.2 +0.5**
baz=93
R05C Kirkwood Meado 92.98 52 P **P 16 25 43.6 +0.7**
baz=93,SNR=13
S06C San Francisco 93.08 52 P **P 16 25 43.7 +0.4**
baz=93,SNR=40
T06C Millerton Lake 93.10 53 P **P 16 25 43.8 +0.3**
baz=93,SNR=20
E06A Yakima 93.12 44 ⇑P **P 16 25 43.8 +0.2**
baz=93,SNR=6.3
MOD Modoc 93.13 48 *eP* **P 16 25 43.2 -0.4**
comp=Z,65nm,1.4s,mb5.9
MOD LR LR
comp=Z,2µm,19.0s,MS5.6
MOD Modoc 93.13 48 P **P 16 25 44.1 +0.5**
baz=93,SNR=13
P06A Stead Airport, 93.22 51 ⇑P **P 16 25 44.2 +0.2**
baz=93
G06A Carlson Farm, 93.22 45 ⇓P **P 16 25 43.9 -0.1**
baz=93
K06A Valley Falls 93.26 47 ⇑P **P 16 25 44.3 +0.1**
baz=93,SNR=8.7
VTHM Trough 93.27 45 P **P 16 25 44.3 +0.1**
D06A Cle Elum 93.28 43 ⇓P **P 16 25 44.2 -0.1**
baz=93
WCN Washoe City 93.29 51 ⇓P **P 16 25 44.7 +0.4**
baz=93,SNR=16
O06A Flanigan 93.32 50 P **P 16 25 44.9 +0.4**
baz=93,SNR=19
BLG Laguna Peak 93.35 56 ⇓P **P 16 25 44.7 +0.1**
baz=93
N06A Buffalo Meadow 93.37 50 P **P 16 25 45.0 +0.3**
baz=93,SNR=29
H06A Lindquist Farm 93.39 46 P **P 16 25 44.6 -0.2**
baz=93,SNR=11
I06A Prineville 93.40 46 P **P 16 25 45.3 +0.4**
baz=93,SNR=11
EBG Ellensburg 93.44 43 P **P 16 25 45.3 +0.3**
KCC Kaiser Creek 93.44 53 P **P 16 25 45.5 +0.5**
baz=93,SNR=46
R06C Coleville 93.45 52 ⇑P **P 16 25 45.4 +0.3**
baz=93,SNR=24
VES Vestal, Richgr 93.50 54 P **P 16 25 45.8 +0.5**
baz=94,SNR=9.0
ARVC Arvin 93.63 55 ⇓P **P 16 25 46.1 +0.1**
baz=94
SCI San Clemente I 93.67 57 ⇑P **P 16 25 46.5 +0.4**
baz=94
OSI Osito Adit 93.67 56 ⇓P **P 16 25 46.8 +0.7**
baz=94
R07C Lee Vining 93.73 52 ⇓P **P 16 25 46.7 +0.4**
baz=94,SNR=6.2
F07A Phinny Hill Vi 93.78 44 ⇑P **P 16 25 46.5 -0.1**
baz=94
CIS Catalina Islan 93.83 57 ⇓P **P 16 25 47.2 +0.4**
baz=94
MLAC Mammoth Lakes 93.85 53 ⇑P **P 16 25 47.5 +0.6**
baz=94
C07A Waterville 93.86 43 ⇓P **P 16 25 46.4 -0.5**
baz=94
L07A Adell 93.86 48 ⇑P **P 16 25 46.9 -0.1**
baz=94
B07A Winthrop 93.89 42 ⇓P **P 16 25 46.9 -0.1**
baz=94
I07A Izee 93.92 46 P **P 16 25 47.4 +0.2**
baz=94,SNR=16
H07A Lands Inn, Kim 93.92 46 ⇓P **P 16 25 47.1 -0.1**
baz=94
M07A Soldier Meadow 93.93 49 ⇓P **P 16 25 47.2 -0.1**
baz=94,SNR=11
MDW Midway 93.96 44 P **P 16 25 47.8 +0.4**
DECC Green Verdugo 93.97 56 ⇓P **P 16 25 47.6 +0.1**
baz=94
ISA Isabella 93.97 55 *eP* **P 16 25 47.0 -0.4**
comp=Z,0.2nm,1.5s
ISA LR LR
comp=Z,859nm,19.0s
ISA Isabella 93.97 55 ⇑P **P 16 25 47.5 0.0**
baz=94,SNR=9.8
P07A Fallon 93.98 51 ⇑P **P 16 25 47.7 +0.1**
baz=94
K07A Rock Creek Ran 93.98 48 P **P 16 25 47.9 +0.3**
baz=94,SNR=13
Q07A Schurz 93.99 51 ⇑P **P 16 25 48.0 +0.4**
baz=94
J07A Hines 94.00 47 ⇑P **P 16 25 47.9 +0.3**
baz=94
N07B Gerlach 94.02 50 ⇓P **P 16 25 47.3 -0.5**
baz=94
O07A Toulon 94.04 50 P **P 16 25 48.2 +0.4**
baz=94,SNR=25
MTUM Tungsten Hills 94.04 53 *eP* **P 16 25 48.4 +0.6**
HAWA Hanford 94.10 44 PFAKE 16 26 00.0 +12
HAWA LR LR
comp=Z,10µm,19.0s,MS6.3
GBL Gable Mountain 94.17 44 P **P 16 25 48.6 +0.2**
TIN Tinemaha 94.29 53 ⇑P **P 16 25 49.1 +0.1**
baz=94
EDW2 Edwards Air Fo 94.30 56 ⇑P **P 16 25 49.5 +0.6**
baz=94,SNR=33
CWC Cottonwood Cre 94.35 54 P **P 16 25 50.0 +0.8**
baz=94,SNR=44
S08C White Mtn Res 94.37 53 P **P 16 25 50.5 +1.2**
baz=94,SNR=27
G08A Pilot Rock 94.41 45 P **P 16 25 49.5 0.0**
baz=94,SNR=20
WVOR Wild Horse Val 94.41 48 *eP* **P 16 25 48.2 -1.3**
WVOR pmax pmax
comp=Z,604nm,2.3s,mb6.6
WVOR MLR MLR
comp=Z,13µm,20.0s,MS6.4
WVOR Wild Horse Val 94.41 48 *eP* **P 16 25 48.2 -1.3**
comp=Z,604nm,2.3s,mb6.6
WVOR LR LR
comp=Z,13µm,20.0s,MS6.4
WBK Wadi Bani Khal 94.47 292 ⇑P **P 16 25 50.0 +0.2**
SNR=22
A08A Turner Farm, O 94.49 41 ⇑P **P 16 25 49.7 -0.2**
baz=94,SNR=9.3
R08A Mina 94.49 52 ⇑P **P 16 25 50.4 +0.6**
baz=94,SNR=7.4
BFSC Mount Baldy St 94.52 56 P **P 16 25 50.0 0.0**
baz=94,SNR=12
K08A Man Creek Ran 94.55 48 ⇓P **P 16 25 49.9 -0.2**
baz=94,SNR=8.2
C08A Higginbotham F 94.55 43 ⇑P **P 16 25 50.0 -0.2**
baz=94
H08A Prairie City 94.55 46 ⇑P **P 16 25 50.0 -0.2**
baz=94,SNR=5.5
D08A Wollman Farm, 94.57 43 ⇑P **P 16 25 49.8 -0.4**
baz=95
LRMC Laurel Mountai 94.59 55 ⇑P **P 16 25 50.3 -0.1**
baz=95,SNR=71
J08A Circle Bar Ran 94.60 47 ⇑P **P 16 25 50.5 +0.1**
baz=95
O08A Rochester Mine 94.60 50 ⇓P **P 16 25 50.5 +0.1**
baz=95
L08A Fields 94.61 48 ⇑P **P 16 25 50.4 0.0**
baz=95
P08A Dixie Valley 94.61 51 ⇓P **P 16 25 50.6 +0.1**
baz=95
Q08A Gabbs 94.67 52 P **P 16 25 51.2 +0.6**
baz=95,SNR=18
DAC Darwin (Calif) 94.73 54 *eP* **P 16 25 50.2 -0.8**
DAC pmax pmax
comp=Z,197nm,1.4s,mb6.3
DAC MLR MLR
comp=Z,5µm,19.0s,MS6.0
DAC Darwin (Calif) 94.73 54 *eP* **P 16 25 50.2 -0.8**
comp=Z,197nm,1.4s,mb6.3
DAC LR LR
comp=Z,5µm,19.0s,MS6.0
OD2 Odessa Site #2 94.74 43 P **P 16 25 50.9 -0.1**
MPMC Manual Prospec 94.80 54 ⇑P **P 16 25 51.8 +0.6**
baz=95,SNR=85
WSAR Wadi Sarin 94.84 293 LR LR 17 15 05.2
comp=Z,2µm,19.5s,MS5.5,baz=106,slow=40
MURC Murrieta 94.85 57 ⇑P **P 16 25 51.6 +0.1**
baz=95
109C Camp Elliot, M 94.87 58 ⇑P **P 16 25 52.4 +0.8**
baz=95
A09A Danville 94.94 41 ⇓P **P 16 25 52.5 +0.6**
baz=95
GRAC Grapevine Rang 94.97 53 P **P 16 25 52.7 +0.7**
baz=95,SNR=25
D09A Jones Farm, Ri 94.99 43 ⇓P **P 16 25 52.3 +0.1**
baz=95
E09A Wood Farm, Sta 95.07 44 ⇑P **P 16 25 52.3 -0.2**
baz=95
C09A Chrisman Ranch 95.07 43 ⇑P **P 16 25 52.0 -0.5**
baz=95
K09A Rome 95.10 48 ⇓P **P 16 25 52.2 -0.5**
baz=95
N09A Rock Creek Ran 95.12 50 ⇓P **P 16 25 52.9 +0.1**
baz=95,SNR=12
J09A Fry Pan Ranch, 95.13 47 ⇓P **P 16 25 52.3 -0.4**
baz=95,SNR=6.0
BBRC Big Bear Sol-O 95.13 56 ⇑P **P 16 25 52.9 +0.1**
baz=95
S09A Goldfield 95.14 53 ⇓P **P 16 25 52.6 -0.2**
baz=95,SNR=65
MSEY Mahe Island 95.14 265 *eP* **P 16 25 53.5 +0.6**
comp=Z,40nm,1.2s,mb5.7
MSEY LR LR
comp=Z,676nm,20.0s,MS5.1
TPH Tonopah 95.16 52 *eP* **P 16 25 53.6 +0.7**
TPH pmax pmax
comp=Z,88nm,1.3s,mb6.0
TPH MLR MLR
comp=Z,9µm,20.0s,MS6.2
TPH Tonopah 95.16 52 *eP* **P 16 25 53.6 +0.6**
comp=Z,88nm,1.3s,mb6.0
TPH LR LR
comp=Z,9µm,20.0s,MS6.2
F09A S2 Ranch, Elgi 95.17 45 ⇓P **P 16 25 52.8 -0.2**
baz=95
B09A Rice 95.19 42 ⇑P **P 16 25 52.6 -0.4**
baz=95,SNR=6.2
M09A Marrel Ranch, 95.22 49 ⇓P **P 16 25 53.3 +0.1**
baz=95
Q09A Carvers 95.25 52 ⇓P **P 16 25 53.4 +0.1**
baz=95,SNR=9.3
H09A Durkee 95.28 46 P **P 16 25 53.3 -0.1**
baz=95,SNR=6.7
R09A Tonopah 95.29 52 P **P 16 25 54.0 +0.5**
baz=95,SNR=44
GSC Goldstone 95.30 55 *eP* **P 16 25 54.4 +0.8**
GSC Goldstone 95.30 55 ⇑P **P 16 25 53.6 +0.1**
baz=95
BMN Battle Mountai 95.33 50 *eP* **P 16 25 53.1 -0.6**
BMN pmax pmax
comp=Z,78nm,1.6s,mb5.9
BMN MLR MLR
comp=Z,10µm,21.0s,MS6.3
BMN Battle Mountai 95.33 50 *eP* **P 16 25 53.1 -0.6**
comp=Z,78nm,1.6s,mb5.9
BMN LR LR
comp=Z,10µm,21.0s,MS6.3
P09A Austin 95.33 51 ⇑P **P 16 25 53.9 +0.2**
baz=95
O09A Fish Creek Ran 95.33 50 ⇓P **P 16 25 53.9 +0.2**
baz=95,SNR=18
FURC Furnace Creek, 95.34 54 ⇑P **P 16 25 53.6 -0.1**
baz=95,SNR=19
MONP Monument Peak 95.45 58 ⇑P **P 16 25 54.9 +0.6**
baz=95,SNR=20
PFO Pinyon Flat Ob 95.47 57 P **P 16 25 55.1 +0.8**
comp=Z,156nm,1.2s,mb6.3,SNR=5.4
PFO Pinyon Flat Ob 95.47 57 LR LR 17 04 41.0
comp=Z,4µm,18.7s,MS5.9,baz=259,slow=33
PFO Pinyon Flat Ob 95.47 57 *eP* **P 16 25 54.6 +0.3**
PFO pmax pmax
comp=Z,109nm,1.6s,mb6.0
PFO MLR MLR
comp=Z,902nm,19.0s,MS5.3
PFO Pinyon Flat Ob 95.47 57 *eP* **P 16 25 54.5 +0.2**
comp=Z,109nm,1.6s,mb6.0
PFO LR LR
comp=Z,902nm,19.0s,MS5.3
PFO Pinyon Flat Ob 95.47 57 ⇓P **P 16 25 54.7 +0.4**
baz=95,SNR=11
RPN Rapa Nui 95.48 118 LR LR 17 02 09.6
comp=Z,1µm,18.7s,MS5.4,baz=73,slow=31
RPN Rapa Nui 95.48 118 PFAKE 16 26 10.0 +16
RPN LR LR
comp=Z,538nm,19.0s,MS5.0
BMO Blue Mountains 95.55 46 *eP* **P 16 25 53.3 -1.4**
BMO pmax pmax
comp=Z,67nm,0.9s,mb6.1
BMO MLR MLR
comp=Z,7µm,20.0s,MS6.1
BMO Blue Mountains 95.55 46 *eP* **P 16 25 53.3 -1.4**
comp=Z,67nm,0.9s,mb6.1
BMO LR LR
comp=Z,7µm,20.0s,MS6.1
A10A Northport 95.62 41 ⇑P **P 16 25 55.1 +0.1**
baz=96
HEC Hector,Ludlow 95.66 56 P **P 16 25 55.8 +0.6**
baz=96,SNR=17
DVTC Desert V Tower 95.70 58 ⇑P **P 16 25 56.4 +1.0**
baz=96,SNR=7.7
U10A Ash Meadows, A 95.76 54 P **P 16 25 56.6 +0.9**
baz=96,SNR=19
SHOC Shoshone 95.77 55 ⇓P **P 16 25 56.1 +0.4**
baz=96
B10A Chitwood Farm, 95.80 42 ⇓P **P 16 25 55.6 -0.2**
baz=96
P10A Eureka 95.85 51 ⇑P **P 16 25 56.2 +0.1**
baz=96
NEW Newport 95.87 42 LR LR 17 07 12.9
comp=Z,7µm,18.1s,MS6.2,baz=265,slow=34
NEW Newport 95.87 42 *eP* **P 16 25 55.3 -0.8**
NEW pmax pmax
comp=Z,48nm,1.4s
NEW MLR MLR
comp=Z,6µm,19.0s
NEW Newport 95.87 42 *eP* **P 16 25 55.3 -0.8**
comp=Z,48nm,1.4s,mb5.7
NEW LR LR
comp=Z,6µm,19.0s,MS6.1
O10A Cortez Mining, 95.87 50 ⇑P **P 16 25 56.7 +0.5**
baz=96
BELC Belle Mtn. 95.88 57 ⇓P **P 16 25 56.6 +0.4**
baz=96,SNR=24
N10A Dunphy 95.89 50 ⇑P **P 16 25 56.5 +0.3**
baz=96
R10A Warm Springs 95.90 52 ⇓P **P 16 25 57.1 +0.8**
baz=96
M10A I.L. Ranch, Tu 95.91 49 ⇑P **P 16 25 56.8 +0.4**
baz=96
SWSC Sam W. Stewart 95.97 58 ⇑P **P 16 25 57.6 +1.0**
baz=96,SNR=11
TUQ Turquoise Mtn. 96.03 55 P **P 16 25 57.0 +0.1**
baz=96,SNR=42
HOQ Hoqain 96.07 293 ⇑P **P 16 25 57.9 +0.8**
SNR=21
BC3 Big Chuckw Mtn 96.31 57 ⇓P **P 16 25 58.5 +0.4**
baz=96,SNR=24
ABKT Ailbek 96.32 307 P **P 16 25 57.2 -1.0**
comp=Z,421nm,1.0s,mb6.8,SNR=21
B11A Sandpoint 96.38 42 ⇓P **P 16 25 58.1 -0.4**
baz=96
P11A Circle Ranch, 96.40 51 ⇓P **P 16 25 59.2 +0.6**
baz=96
A11A Hall Mountain, 96.40 42 ⇓P **P 16 25 58.6 +0.1**
baz=96
Q11A Duckwater 96.44 52 ⇓P **P 16 25 59.6 +0.9**
baz=96,SNR=21
H11A Donnelly 96.46 46 ⇓P **P 16 25 59.2 +0.4**
baz=96,SNR=5.6
M11A Holland Ranch, 96.47 49 ⇓P **P 16 25 58.9 +0.1**
baz=96
TRCR Troy Canyon 96.47 52 *eP* **P 16 25 59.0 +0.1**
O11A Cowboy Ranch, 96.50 50 ⇓P **P 16 25 59.3 +0.3**
baz=96,SNR=9.3
U11A Corn Creek 96.52 54 ⇓P **P 16 25 59.9 +0.7**
baz=96
IRM Iron Mountain 96.59 56 ⇑P **P 16 26 00.4 +1.0**
baz=97,SNR=25
ARU Arti 96.75 326 ⇓*iP* **P 16 25 57.8 -2.4**
ARU *e* 16 29 52.9
ARU *e*S SKSac 16 36 31.9 -3.5
ARU *e*PS PS 16 38 42.3 -1.6
ARU *e*SS SS 16 43 50.5 -4.8
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.4
ARU Arti 96.75 326 *eP* **P 16 25 57.4 -2.7**
comp=Z,7.8nm,0.5s,mb5.4
ARU LR LR

comp=Z,2µm,21.0s,MS5.6
GLA Glamis 96.79 58 *e*P **P 16 26 01.4 +1.0**
GLA Glamis 96.79 58 ⇑P **P 16 26 01.6 +1.3**
baz=97,SNR=14
A12A Yaak River Ran 96.87 42 ⇓P **P 16 26 00.9 +0.2**
baz=97
W12A Cal Nev Ari 96.88 55 ⇓P **P 16 26 01.2 +0.5**
baz=97
B12A Libby 96.90 42 ⇑P **P 16 26 00.3 -0.5**
baz=97
V12A Nelson 96.92 55 ⇓P **P 16 26 00.9 0.0**
baz=97,SNR=27
AKTO Aktyubinsk 96.92 320 PKKP PKKPbc 16 42 41.7 -0.2
comp=Z,2.5nm,0.9s,baz=251,slow=4.6,SNR=4.7
N12A Clover Valley, 97.01 50 ⇑P **P 16 26 01.4 0.0**
baz=97,SNR=9.9
F12A Elk City 97.03 45 ⇑P **P 16 26 01.4 -0.1**
baz=97
P12A McGill 97.05 51 ⇓P **P 16 26 01.8 +0.3**
baz=97,SNR=20
Y12C Blythe 97.08 57 ⇑P **P 16 26 01.7 0.0**
baz=97
Q12A Willow Creek R 97.09 52 ⇑P **P 16 26 01.6 -0.1**
baz=97,SNR=13
M12A Wells 97.12 49 ⇓P **P 16 26 02.3 +0.5**
baz=97
BANOM Banah 97.15 295 ⇓P **P 16 26 01.8 -0.2**
SNR=31
U12A Valley of Fire 97.20 54 ⇓P **P 16 26 02.8 +0.6**
baz=97
O12A Currie 97.21 50 ⇑P **P 16 26 02.7 +0.5**
baz=97,SNR=12
HATD Hatta, Dubai 97.23 294 ⇓P **P 16 26 01.9 -0.4**
SNR=14
ASHO Ashiyiah 97.29 294 ⇑P **P 16 26 02.0 -0.6**
SNR=16
PDMCI Parker Dam,Lak 97.43 56 ⇓P **P 16 26 03.9 +0.7**
baz=97,SNR=15
HLID Hailey 97.57 47 *e*P **P 16 26 02.3 -1.5**
comp=Z,23nm,1.1s,mb5.6
HLID LR LR
comp=Z,7µm,20.0s,MS6.1
HLID Hailey 97.57 47 P **P 16 26 04.0 +0.1**
baz=98,SNR=14
YKA Yellowknife Ar 97.60 28 P **P 16 26 02.8 -1.1**
comp=Z,14nm,0.6s,mb5.6,baz=272,slow=4.5,SNR=24
YKA pP pP 16 26 15.9 +3.5
comp=Z,39nm,0.8s,baz=272,slow=4.7,SNR=16
YKA PP PP 16 30 01.1 -0.4
comp=Z,2.2nm,0.7s,baz=274,slow=7.1,SNR=3.0
YKA PKiKP PKiKP 16 30 37.3 -1.0
comp=Z,2.3nm,0.6s,baz=250,slow=1.2,SNR=7.8
YKA PKKPbc PKKPbc 16 42 39.4 -0.6
comp=Z,3.7nm,0.7s,baz=85,slow=2.7,SNR=8.5
YKA LR LR 17 07 47.5
comp=Z,3µm,20.0s,MS5.8,baz=230,slow=34
YKA Yellowknife Ar 97.60 28 P **P 16 26 02.9 -1.1**
YKA pP pP 16 26 15.9 +3.5
YKA PP PP 16 30 01.1 -0.4
N13A Wendover, West 97.64 50 ⇑P **P 16 26 03.5 -0.6**
baz=98
B13A Whitefish 97.64 42 P **P 16 26 04.0 -0.1**
baz=98,SNR=10
Y13A Salome 97.67 57 ⇓P **P 16 26 04.8 +0.6**
baz=98,SNR=8.2
W13A Hualapai Mount 97.68 56 ⇓P **P 16 26 05.0 +0.7**
baz=98
M13A Montello 97.68 49 ⇑P **P 16 26 04.1 -0.2**
baz=98,SNR=10
X13A Yucca 97.70 56 ⇑P **P 16 26 04.1 -0.3**
baz=98,SNR=10.0
MSO Missoula 97.97 44 PFAKE 16 26 20.0 +14
MSO LR LR
comp=Z,6µm,20.0s,MS6.1
WALA Waterton Lakes 98.02 41 *e*P **P 16 26 04.5 -1.4**
comp=Z,213nm,1.8s,mb6.4
ARUT Antelope Range 98.13 53 *e*P **P 16 26 06.9 +0.5**
CCUT Cedar City 98.19 53 *e*P **P 16 26 06.7 0.0**
D14A Greenough 98.27 43 ⇓P **P 16 26 06.4 -0.7**
baz=98
NVL N'lazarevskaya 98.34 193 *c i*P **P 16 26 06.2 -1.1**
NVL *i* S SKSac 16 36 40.0 -3.5
NVL *i* PS PS 16 38 58.4 -2.8
NVL pmax pmax
comp=Z,52nm,1.5s,mb5.8
Y14A Wickenburg 98.36 57 ⇑P **P 16 26 07.6 +0.2**
baz=98,SNR=5.2
MAIT Maitri 98.36 193 *e*P **P 16 26 06.1 -1.3**
EDM Edmonton 98.37 37 *e*P **P 16 26 06.4 -1.1**
Z14A Wintersburg 98.38 57 ⇑P **P 16 26 08.4 +0.8**
baz=98
CHMT Chamberlain Mo 98.44 44 *e*P **P 16 26 06.8 -1.0**
X14A Yava 98.47 56 ⇓P **P 16 26 08.9 +1.0**
baz=98,SNR=9.6
DUG Dugway 98.68 50 PFAKE 16 26 20.0 +11
DUG LR LR
comp=Z,7µm,21.0s,MS6.2
DUG Dugway 98.68 50 ⇓P **P 16 26 09.2 +0.4**
baz=99
HVU Hansel Valley 98.74 49 *e*P **P 16 26 09.3 +0.2**
HVU pmax pmax
comp=Z,24nm,0.9s,mb5.7
HVU Hansel Valley 98.74 49 *e*P **P 16 26 09.3 +0.2**
comp=Z,24nm,0.9s,mb5.7
E15A Deer Lodge 98.86 44 P **P 16 26 09.9 +0.2**
baz=99,SNR=7.1
D15A Lincoln 98.95 43 ⇑P **P 16 26 09.3 -0.7**
baz=99
115A Sonoran Desert 98.96 58 ⇑P **P 16 26 09.9 -0.2**
baz=99
F15A Butte 98.97 45 ⇑P **P 16 26 09.7 -0.4**
baz=99
ORR Orenburg 98.99 321 *e*P **P 16 26 08.6 -1.6**
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.8
ORR MLR MLR
comp=Z,4µm,28.0s,MS5.8
W15A Williams 99.00 55 ⇑P **P 16 26 11.6 +1.3**
baz=99
X15A Humboldt 99.01 56 ⇓P **P 16 26 11.4 +1.1**
baz=99,SNR=8.9
MVU Marysvale 99.12 52 PFAKE 16 26 20.0 +9.2
MVU LR LR
comp=Z,11µm,21.0s,MS6.3
MSU Marysvale 99.15 52 P **P 16 26 12.5 +1.6**
116A Eloy 99.40 58 ⇑P **P 16 26 13.1 +1.0**
baz=99
MPU Maple Canyon 99.58 51 PFAKE 16 26 20.0 +7.1
MPU LR LR
comp=Z,10µm,21.0s,MS6.3
HWUT Hardware Ranch 99.64 49 PFAKE 16 26 20.0 +6.9
HWUT LR LR
comp=Z,5µm,20.0s,MS6.0
WUAZ Wupatki 99.74 55 *e*Pdif Pdif 16 26 14.9 +1.3
comp=Z,80nm,1.6s
WUAZ LR LR
comp=Z,3µm,19.0s,MS5.8
WUAZ Wupatki 99.74 55 ⇑P Pdif 16 26 14.7 +1.2
baz=100,SNR=5.8
TMUT Trail Mountain 99.91 51 *e*Pdif Pdif 16 26 15.0 +0.7
AHID Auburn Hatcher 99.98 48 PFAKE 16 26 30.0 +15
AHID LR LR
comp=Z,11µm,20.0s,MS6.3
YMR Madison River 100.06 46 Pdif Pdif 16 26 15.7 +0.8
comp=Z,39nm,1.3s
YMR LR LR
comp=Z,9µm,20.0s,MS6.3
TPAW Teton Pass 100.08 47 *e*Pdif Pdif 16 26 15.0 -0.1
comp=Z,26nm,1.3s
REDW Red Top Meadow 100.16 47 *e*Pdif Pdif 16 26 14.3 -1.1
comp=Z,31nm,1.4s
TUC Tucson 100.17 58 PFAKE 16 26 30.0 +15
TUC LR LR
comp=Z,6µm,19.0s,MS6.1
SNAA Sanae 100.22 188 PKKPbc PKKPbc 16 42 32.5 -0.2
comp=Z,1.6nm,0.7s,baz=196,slow=14,SNR=5.3
EGMT Eagleton 100.80 42 PFAKE 16 26 30.0 +12
EGMT LR LR
comp=Z,5µm,21.0s,MS6.0
EGMT Eagleton 100.80 42 ⇑P Pdif 16 26 19.1 +0.8
baz=101
BW06 Boulder Array 101.12 48 PFAKE 16 26 30.0 +10
BW06 LR LR
comp=Z,10µm,20.0s,MS6.3
PDAR Pinedale Array 101.12 48 P Pdif 16 26 19.0 -0.7
comp=Z,9.2nm,0.9s,baz=251,slow=2.7,SNR=20
PDAR PP PP 16 30 15.4 -13
comp=Z,3.0nm,1.0s,baz=250,slow=10,SNR=4.1
PDAR PKiKP PKiKP 16 30 47.8 +3.2
comp=Z,4.0nm,0.9s,baz=222,slow=2.0,SNR=5.8
PDAR PKKPbc PKKPbc 16 42 29.8 -0.3
comp=Z,1.4nm,0.8s,baz=120,slow=4.6,SNR=4.9
PDAR Pinedale Array 101.12 48 P Pdif 16 26 19.0 -0.7
PDAR PP PP 16 30 15.4 -13
VNA3 Neumayer Olymp 101.46 186 *e*Pdiff Pdif 16 26 20.7 -0.5
VNA3 *e* 16 26 31.5
VNA3 *e* 16 26 34.0
VNA2 Neumayer--Watz 101.50 187 *e*Pdiff Pdif 16 26 20.4 -1.0
MVCO Mesa Verde 102.06 53 *e*Pdif Pdif 16 26 24.1 +0.2
comp=Z,72nm,1.6s
MVCO Mesa Verde 102.06 53 ⇑P Pdif 16 26 25.0 +1.1
baz=102
LAO LASA Array 103.28 44 PFAKE 16 26 40.0 +11
LAO LR LR
comp=Z,8µm,20.0s,MS6.3
ANMO Albuquerque 103.77 56 PFAKE 16 26 40.0 +8.5
ANMO LR LR
comp=Z,2µm,19.0s,MS5.8
PMSA Palmer Station 104.33 165 PFAKE 16 26 40.0 +6.0
PMSA LR LR
comp=Z,5µm,19.0s,MS6.0
SDCO Great Sand Dun 104.42 53 *e*Pdif Pdif 16 26 35.8 +1.4
comp=Z,17nm,1.5s
SDCO LR LR
comp=Z,9µm,20.0s,MS6.3
DGMT Dagmar 104.47 42 PFAKE 16 26 50.0 +15
DGMT LR LR
comp=Z,5µm,22.0s,MS6.0
KBS Kingsbay 104.74 353 *e*PP PP 16 30 56.0 +0.5
KBS Kingsbay 104.74 353 PFAKE 16 26 50.0 +14
KBS LR LR
comp=Z,2µm,19.0s,MS5.8
MNTX Cornudas Mount 104.76 59 PFAKE 16 26 50.0 +14
MNTX LR LR
comp=Z,4µm,19.0s,MS6.0
RSSD Black Hills 105.05 46 *e*Pdif Pdif 16 26 36.7 -0.5
RSSD *e*PKiKP PKiKP 16 30 50.1 -1.6
RSSD LR LR
comp=Z,4µm,19.0s,MS6.0
APA Apatity 106.28 339 ⇑ *i*P Pdif 16 26 41.2 -1.4
APA pmax pmax
comp=Z,14nm,0.7s
LTX Lajitas 106.31 61 *e*PKiKP PKiKP 16 30 54.3 +0.2
LTX LR LR
comp=Z,8µm,19.0s,MS6.3
TXAR Lajitas Array 106.31 61 Pdiff Pdif 16 26 43.8 +1.0
comp=Z,1.3nm,0.9s,baz=242,slow=5.7,SNR=7.0
TXAR PKiKP PKiKP 16 30 55.5 +1.4
comp=Z,4.3nm,0.9s,baz=222,slow=2.4,SNR=16
TXAR PKKPbc PKKPbc 16 42 13.6 -1.0
comp=Z,2.5nm,0.7s,baz=107,slow=4.8,SNR=8.8
TXAR PKKP PKKPbc 16 42 29.0 +14
comp=Z,6.2nm,0.8s,baz=108,slow=5.8,SNR=5.7
BJO Bjornoya 106.60 348 *e*PP PP 16 31 07.9 -1.3
BJO *e*SKS SKSac 16 37 22.2 -0.3
BJO1 Bjornoya 106.64 348 *e*P PP 16 31 16.7 +7.1
GNI Garni 106.68 310 PFAKE 16 31 10.0 +15
GNI LR LR
comp=Z,2µm,21.0s,MS5.7
ZEI Tsey 107.01 313 *e*P Pdif 16 26 44.4 -1.5
ZEI *e* 16 31 10.3
KEV Kevo 107.36 342 *e*p Pdif 16 26 44.6 -2.9
comp=Z,4.9nm,0.6s
KEV Kevo 107.36 342 *e*p PKiKP 16 30 56.3 +0.3
comp=Z,4.9nm,0.7s
KEV Kevo 107.36 342 *e*P Pdif 16 26 44.6 -2.9
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 107.36 342 *e*P PKiKP 16 30 56.3 +0.3
KEV LR LR
comp=Z,4µm,22.0s,MS5.9
BHD Baghdad 107.54 303 *ex* x 16 26 36.0
BHD *ex* x 16 31 04.0
AMTX Amarillo 107.69 56 PFAKE 16 31 10.0 +13
AMTX LR LR
comp=Z,5µm,20.0s,MS6.1
KIV Kislovodsk 107.73 314 *e*P Pdif 16 26 45.8 -3.3
KIV *e* 16 31 14.6
KIV *e* 16 37 16.8
KIV *e*SP SP 16 40 35.7 -1.2
KIV *e*PS PS 16 40 38.8 -1.3
KIV *e*SS SS 16 46 22.4 -4.7
KIV *e*SSS 16 50 23.2
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,4µm,22.0s,MS5.9
KIV Kislovodsk 107.73 314 PFAKE 16 31 10.0 +13
KIV LR LR
comp=Z,734nm,22.0s,MS5.2
ARCES ARCESS Array B 107.93 343 Pdiff Pdif 16 26 49.2 -0.8
comp=Z,7.5nm,0.8s,baz=44,slow=7.1,SNR=12
ARCES PKiKP PKiKP 16 30 57.1 0.0
comp=Z,11nm,0.7s,baz=105,slow=1.3,SNR=22
ARCES PKKPbc PKKPbc 16 42 08.3 -1.3
comp=Z,3.4nm,0.7s,baz=273,slow=2.2,SNR=7.7
ARCES ARCESS Array B 107.93 343 Pdif Pdif 16 26 49.2 -0.8
ARCES PKPdf PKiKP 16 30 57.1 0.0
ARCES PKKPbc PKKPbc 16 42 08.3 -1.3
MSL Mosul 108.35 306 *ex* x 16 26 52.0
MSL *ex* x 16 31 08.0
MSL *ex* x 16 31 22.0
MSL *ex* x 16 37 32.0
CBKS Cedar Bluff 108.85 51 PFAKE 16 31 10.0 +11
CBKS LR LR
comp=Z,8µm,20.0s,MS6.3
KTK1 Kautokeino 108.89 343 *e*PP PP 16 31 21.2 -4.8
KTK1 Kautokeino 108.89 343 *e*P PKiKP 16 30 58.7 -0.2
OBN Obninsk 109.19 326 P Pdif 16 27 01.0 +5.4
OBN *e* 16 27 40.9
OBN Obninsk 109.19 326 PFAKE 16 31 10.0 +11
OBN LR LR
comp=Z,1µm,21.0s,MS5.5
ULM Lac du Bonnet 109.50 39 Pdiff Pdif 16 27 00.4 +3.4
comp=Z,4.0nm,0.9s,baz=358,slow=8.3,SNR=3.8
ULM PKiKP PKiKP 16 30 59.5 -0.6
comp=Z,11nm,0.8s,baz=294,slow=4.2,SNR=14
ULM PP PP 16 31 29.2 -1.3
comp=Z,10.0nm,1.0s,baz=283,slow=8.6,SNR=3.6
ULM PKKPbc PKKPbc 16 42 04.6 0.0
comp=Z,1.2nm,0.5s,baz=49,slow=5.1,SNR=3.1
ULM PKKPab PKKPab 16 42 15.8 -0.9
comp=Z,8.1nm,1.0s,baz=98,slow=3.4,SNR=5.9
ULM Lac du Bonnet 109.50 39 Pdif Pdif 16 27 00.4 +3.4
ULM PKPdf PKiKP 16 30 59.5 -0.6
ULM PP PP 16 31 29.2 -1.3
ULM PKKPbc PKKPbc 16 42 04.6 -0.1
ULM PKKPab PKKPab 16 42 15.8 -0.9
JCT Junction City 109.60 60 *e*PKiKP PKiKP 16 31 00.5 +0.2
JCT LR LR
comp=Z,7µm,20.0s,MS6.2
TRO Tromso 109.75 344 *e*PP PP 16 31 30.5 -1.7
TRO *e* 16 40 49.9
SOC Sochi 109.91 314 *e*P Pdif 16 26 58.6 -0.2
SOC *e* 16 31 29.5
SOC *e*PPP 16 33 52.9
SOC *e* 16 37 34.4
SOC *e*PS PS 16 41 02.6 +0.3
SOC *e*SS SS 16 47 09.8 +13
SOC *e*SSS 16 50 56.8
SOC pmax pmax
comp=Z,41nm,1.2s
SOC MLR MLR
comp=Z,6µm,22.0s,MS6.1
WMOK Wichita Mounta 110.08 55 *e*PKiKP PKiKP 16 31 00.7 -0.4
WMOK MLR MLR
comp=Z,3µm,19.0s,MS5.8
ECSD EROS,Sioux Fal 110.41 46 *e*PKiKP PKiKP 16 31 00.9 -0.8
USHA Ushuaia 110.63 157 PKKPbc PKKPbc 16 42 01.0 0.0
comp=Z,21nm,0.9s,baz=56,slow=4.8,SNR=8.6
KSU1 Kansas State U 111.22 51 *e*PKiKP PKiKP 16 31 03.2 -0.1
MALT Malatya 111.78 309 ⇓ *i*P PKiKP 16 31 05.9 +1.6
MALT Malatya 111.78 309 *e*PKiKP PKiKP 16 31 04.4 +0.1
FINES FINESS Array B 111.84 335 Pdiff Pdif 16 27 06.2 -1.1
comp=Z,6.1nm,0.7s,baz=92,slow=5.7,SNR=16
FINES PKiKP PKiKP 16 31 04.4 0.0
comp=Z,7.4nm,0.7s,baz=69,slow=6.3,SNR=15
FINES PKKPbc PKKPbc 16 41 57.1 +0.1
comp=Z,3.4nm,0.8s,baz=190,slow=5.2,SNR=6.2
FINES FINESS Array B 111.84 335 P Pdif 16 27 06.3 -1.1
FINES 16 31 04.4
EYMN Ely 112.88 40 *e*PKiKP PKiKP 16 31 05.4 -1.0
EYMN LR LR
comp=Z,4µm,19.0s,MS6.1
HKT Hockley 113.07 60 PFAKE 16 31 20.0 +13
HKT LR LR
comp=Z,8µm,20.0s,MS6.3
SCIA State Center 113.23 47 *e*PKiKP PKiKP 16 31 07.0 0.0
SIM Simferopol' 113.54 316 *e*P Pdif 16 27 15.2 +0.3
SIM *e* 16 31 59.4
SIM *e*PS PS 16 41 35.0 -0.7
SIM pmax pmax
comp=Z,500nm,9.0s
KMBO Kilima Mbogo 113.64 266 Pdiff Pdif 16 27 18.1 +2.8
comp=Z,0.6nm,0.3s,baz=217,slow=21,SNR=8.3
KMBO PKiKP PKiKP 16 31 09.5 +1.6
comp=Z,10nm,1.0s,baz=40,slow=2.6,SNR=16
KMBO PP PP 16 31 51.5 -8.6
comp=Z,2.8nm,1.0s,baz=76,slow=9.1,SNR=3.5
KMBO PKKPbc PKKPbc 16 41 51.3 +0.3
comp=Z,5.6nm,1.0s,baz=333,slow=4.0,SNR=11
KMBO Kilima Mbogo 113.64 266 P Pdif 16 27 18.1 +2.8
KMBO *i* 16 31 08.7
KMBO MLR MLR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 113.64 266 Pdif Pdif 16 27 18.1 +2.8
KMBO *e*PKiKP PKiKP 16 31 08.7 +0.8
KMBO LR LR
comp=Z,2µm,19.0s,MS5.8
BHL Bhannes 114.70 304 *e*P PP 16 32 15.6 +7.9
AKASG Malin Array Be 114.85 324 PKP PKiKP 16 31 09.0 -1.2
comp=Z,9.3nm,0.5s,baz=54,slow=2.5,SNR=28
AKASG pPKP 16 31 23.4
comp=Z,12nm,0.6s,baz=57,slow=2.4,SNR=13
AKASG PKKPbc PKKPbc 16 41 46.0 -0.8
comp=Z,4.7nm,0.7s,baz=263,slow=4.2,SNR=22
KIEV Kiev 114.86 324 *e*PKiKP PKiKP 16 31 09.3 -0.9
KIEV MLR MLR
comp=Z,4µm,21.0s,MS6.0
JFWS Jewell Farm 115.12 45 *e*PKiKP PKiKP 16 31 09.5 -1.2
JFWS MLR MLR
comp=Z,7µm,19.0s,MS6.3
BRTR Keskin Array B 115.16 311 PKP PKiKP 16 31 10.1 -0.7
comp=Z,13nm,0.9s,baz=143,slow=2.4,SNR=31
BRTR PP PP 16 32 11.9 +1.0
comp=Z,2.7nm,0.9s,baz=108,slow=4.7,SNR=2.1
BRTR PKKPbc PKKPbc 16 41 46.6 +0.8
comp=Z,5.3nm,0.8s,baz=215,slow=3.7,SNR=19
NSS Namsos 115.18 342 *e*PP PP 16 32 09.3 -1.7
UALR University of 115.32 55 *e*PKPdf PKPdf 16 31 10.8 -0.3
ANTO Ankara 115.76 311 ⇑ *i*P PKPdf 16 31 12.9 +0.9
ANTO Ankara 115.76 311 *e*PKPdf PKPdf 16 31 11.0 -0.9
ANTO LR LR
comp=Z,2µm,22.0s,MS5.7
EIL Elat 115.92 300 *e*PKPdf PKPdf 16 31 11.4 -0.9
SLM Saint Louis 116.19 50 PKIKP PKPdf 16 31 13.1 +0.3
FVM French Village 116.19 51 *e*PKIKP PKPdf 16 31 11.4 -1.4
KIS Kishinev 116.43 320 *e*PKIKP 16 31 03.0
KIS *e* PP 16 32 20.0 +0.2
KIS Kishinev 116.43 320 *e*PP PP 16 32 20.0 +0.2
KIS Kishinev 116.43 320 *e*PS PS 16 41 45.0 -17
KIS LRM 17 21 24.0
comp=Z,4µm,20.0s
SUW Suwalki 116.80 329 *e*PKP PKPdf 16 31 13.7 -0.2
SUW *e* 16 31 29.5
EFI East Falkland 116.94 160 PFAKE 16 31 30.0 +16
EFI LR LR
comp=Z,783nm,20.0s,MS5.3
BOSA Boshof 117.38 233 PKP PKPdf 16 31 15.6 +0.6
comp=Z,16nm,0.8s,baz=156,slow=0.7,SNR=18
BOSA PKKPbc PKKPbc 16 41 37.6 -0.4
comp=Z,6.3nm,0.9s,baz=325,slow=5.2,SNR=5.0
BOSA Boshof 117.38 233 *e*PKPdf PKPdf 16 31 15.3 +0.3
BOSA LR LR
comp=Z,5µm,20.0s,MS6.1
GLAT Glass 117.47 52 *e*PKPdf PKPdf 16 31 14.1 -1.1
CFR Carcaliu 117.51 318 PKIKP PKPdf 16 31 17.1 +1.8
OXF Oxford 117.75 54 *e*PKIKP PKPdf 16 31 15.2 -0.6
OXF MLR MLR
comp=Z,4µm,19.0s,MS6.0
NB2 NORSAR Subarra 117.86 339 PKP PKPdf 16 31 15.3 -0.7
baz=45,slow=1.9
NB2 NORSAR Subarra 117.86 339 PKPdf PKPdf 16 31 15.3 -0.7
comp=Z,27nm,0.9s,baz=45,slow=1.9
NOA NORSAR Array B 117.86 339 PKP PKPdf 16 31 14.9 -1.1
comp=Z,9.8nm,0.6s,baz=48,slow=1.9,SNR=25
NOA pPKP pPKPdf 16 31 30.4 +5.8
comp=Z,17nm,0.7s,baz=49,slow=1.8,SNR=10
NOA SKP 16 34 54.6
comp=Z,5.4nm,0.9s,baz=52,slow=2.1,SNR=4.8
NOA PKKPbc PKKPbc 16 41 36.1 -0.2
comp=Z,5.7nm,0.8s,baz=42,slow=3.6,SNR=15
NOA NORSAR Array B 117.86 339 PKIKP PKPdf 16 31 15.0 -1.0
NOA 16 31 30.4
MOL Molde 117.97 342 *e*PP PP 16 32 27.6 -3.0
PSN Preselentsi 117.98 316 *i* P PKPdf 16 31 17.2 +1.0
NA001 NORSAR Array S 118.11 339 *e*PKPdf PKPdf 16 31 16.3 -0.2
VRI Vrincioaia 118.19 319 ⇑ *i*P PKPdf 16 31 17.2 +0.6
VRI Vrincioaia 118.19 319 ⇑P PKPdf 16 31 17.2 +0.6
PAYG Puerto Ayora 118.25 94 PFAKE 16 31 30.0 +13
PAYG LR LR
comp=Z,3µm,19.0s,MS5.9
LVV L'vov 118.25 324 *e*PKIKP PKPdf 16 31 16.4 -0.4
LVV *e* 16 32 30.6
LVV *e* 16 38 09.8
LVV *e* 16 42 13.8
USIN University of 118.31 50 *e*PKPdf PKPdf 16 31 16.1 -0.8
BURAR Bucovina Array 118.47 321 ⇑ *i*P PKPdf 16 31 18.0 +0.8
BURAR Bucovina Array 118.47 321 ⇑P PKPdf 16 31 18.0 +0.8
LBTB Lobatse 118.56 237 *e*PKIKP PKPdf 16 31 18.1 +0.8
LBTB MLR MLR
comp=Z,3µm,19.0s,MS5.9
WVT Waverly 118.64 52 PFAKE 16 31 30.0 +12
WVT LR LR
comp=Z,6µm,20.0s,MS6.2
PRD Provadia 118.68 316 *i* P PKPdf 16 31 17.6 0.0
MLR Muntele Rosu 118.84 319 PKP PKPdf 16 31 17.9 0.0
comp=Z,19nm,0.8s,baz=23,slow=3.0,SNR=16
MLR pPKP pPKPdf 16 31 33.0 +6.6
comp=Z,28nm,0.8s,baz=288,slow=4.0,SNR=8.2
MLR PKKPbc PKKPbc 16 41 32.5 -0.3
comp=Z,5.7nm,0.7s,baz=146,slow=12,SNR=5.8
MLR Muntele Rosu 118.84 319 ⇓ *i*P PKPdf 16 31 18.5 +0.6
MLR Muntele Rosu 118.84 319 P PKPdf 16 31 19.5 +1.6
BLO Bloomington 118.85 49 *e*PKIKP PKPdf 16 31 18.0 +0.1
SUR Sutherland 119.05 228 PFAKE 16 31 30.0 +12
SUR LR LR
comp=Z,817nm,20.0s,MS5.4
KWP Kalwaria 119.11 324 *e*PKP PKPdf 16 31 18.8 +0.4
KWP *e* 16 31 33.9
KWP Kalwaria 119.11 324 PKIKP PKPdf 16 31 18.1 -0.3
HOPE Hope Point 119.18 175 PFAKE 16 31 30.0 +11
HOPE LR LR
comp=Z,1µm,19.0s,MS5.5
WCI Wyandotte Cave 119.29 50 *e*PKIKP PKPdf 16 31 18.2 -0.5
WCI MLR MLR
comp=Z,4µm,20.0s,MS6.1
KONO Kongsberg 119.41 339 *e*PP PP 16 32 36.2 -4.3
KONO *e*SS SS 16 49 01.9 +0.4
KONO Kongsberg 119.41 339 PFAKE 16 31 30.0 +11
KONO LR LR
comp=Z,4µm,20.0s,MS6.1
LSZ Lusaka 119.56 249 *e*PKIKP PKPdf 16 31 20.2 +0.9
LSZ MLR MLR
comp=Z,4µm,19.0s,MS6.0
SZH Strazhica 119.66 317 *i* P PKPdf 16 31 20.0 +0.5
KOLS Kolonicke sedl 119.68 324 *e*PKP PKPdf 16 31 19.0 -0.5
KOLS Kolonicke sedl 119.68 324 *e*PKP PKPdf 16 31 19.1 -0.4
UZH Uzhgorod 119.81 323 *i*PKIKP PKPdf 16 31 19.0 -0.7
UZH *i* 16 31 31.4
UZH *i* 16 32 41.0
UZH *e*PPP 16 35 12.0
UZH *e* 16 38 14.0
UZH *i* PS PS 16 42 21.0 -12
UZH *e*SS SS 16 49 07.0 +0.5
AAM Ann Arbor 119.93 44 PKIKP PKPdf 16 31 19.7 -0.3
AAM Ann Arbor 119.93 44 *e*PKPdf PKPdf 16 31 19.6 -0.4
AAM LR LR
comp=Z,10µm,20.0s,MS6.5
STHS Stebnicka Huta 120.05 325 *e*PKP PKPdf 16 31 20.7 +0.5
STHS *e* 16 31 35.8
PVL Pavlikeni 120.09 317 *i* P PKPdf 16 31 20.0 -0.3
ODD1 Odda 120.26 340 *e*P PKPdf 16 31 20.1 -0.5
ODD1 Odda 120.26 340 *e*P PKPdf 16 31 20.1 -0.5
ASK Askoy 120.29 341 *e*P PKPdf 16 31 21.9 +1.2

ASK	Askoy	120.29	341	eP		PKPdf	16 31 23.7	+3.1
BER	Bergen	120.33	341	eP		PKPdf	16 31 21.5	+0.8
BER				ePP		PP	16 32 46.7	-0.1
BER				e			16 49 54.7	
DRGR		120.37	321	⇑iP		PKPdf	16 31 21.5	+0.7
DRGR		120.37	321	P		PKPdf	16 31 20.9	0.0
DIM	Dimitrovgrad	120.37	315	i P		PKPdf	16 31 19.6	-1.2
EGD	Espegrend	120.45	341	eP		PKPdf	16 31 27.3	+6.3
OJC	Ojcow	120.48	326	ePdiff		Pdif	16 27 43.6	-2.2
OJC				ePKPdf		PKPdf	16 31 22.4	+1.4
OJC				ePP		PP	16 32 47.5	-0.3
OJC				eSKSac		SKSac	16 38 15.2	-1.7
OJC				eSP		SP	16 42 32.8	-2.6
OJC				eSS		SS	16 49 08.2	-7.0
OJC				L			17 19 58.2	
	comp=Z,17nm,21.1s							
NIE	Niedzica	120.58	325	ePKP		PKPdf	16 31 22.1	+0.9
NIE				e			16 31 37.6	
NIE	Niedzica	120.58	325	ePKP		PKPdf	16 31 22.1	+0.9
NIE				e			16 31 37.6	
KDZ	Kurdzhali	120.59	315	i P		PKPdf	16 31 22.0	+0.8
BLS5	Blasjo	120.68	340	eP		PKPdf	16 31 23.0	+1.6
BLS5				AMb		AMB	16 31 40.3	
	comp=Z,51nm,0.6s							
BLS5	Blasjo	120.68	340	eP		PKPdf	16 31 23.2	+1.8
CRAR	CRAIOVA	120.69	318	PKIKP		PKPdf	16 31 22.5	+1.1
TEIG	Tepich	120.82	70	ePKPdf		PKPdf	16 31 21.9	+0.3
TEIG				LR		LR		
	comp=Z,2μm,22.0s,MS5.6							
GZR	Gura Zlata	120.92	320	⇓iP		PKPdf	16 31 21.8	-0.1
GZR	Gura Zlata	120.92	320	P		PKPdf	16 31 21.5	-0.4
KECS	Kecovo	120.94	324	ePKP		PKPdf	16 31 21.8	-0.1
COP	Copenhagen	120.98	334	i P		PKPdf	16 31 25.7	+3.7
	comp=Z,77nm,1.0s							
COP				e			16 31 37.0	
COP				i			16 32 50.7	
COP				i			16 50 06.7	
COP								
	comp=Z,3μm,18.0s							
COP	Copenhagen	120.98	334	ePKIKP		PKPdf	16 31 25.7	+3.7
COP				e			16 31 37.0	
COP				i			16 32 50.7	
COP				pmax		pmax		
	comp=Z,77nm,1.0s							
COP				MLR		MLR		
	comp=Z,3μm,18.0s,MS5.9							
COP	Copenhagen	120.98	334	eP		PKPdf	16 31 25.7	+3.7
COP				e			16 31 37.0	
COP				i			16 32 50.7	
COP				i			16 50 06.7	
COP				LR		LR		
	comp=Z,3μm,18.0s,MS5.9							
PGB	Panagyurishte	121.13	316	i P		PKPdf	16 31 22.4	+0.1
CPCT	Cooper Cave	121.42	52	ePKPdf		PKPdf	16 31 21.5	-1.3
RAC	Raciborz	121.43	326	ePKIKP		PKPdf	16 31 24.0	+1.1
RAC				MLR		MLR		
	comp=Z,5μm,17.3s,MS6.2							
PSZ	Piszkesteto	121.55	324	ePKIKP		PKPdf	16 31 22.2	-0.9
PSZ	Piszkesteto	121.55	324	⇑ePKP		PKPdf	16 31 23.9	+0.8
BZS	Buzias	121.56	321	⇑iP		PKPdf	16 31 22.8	-0.3
OKC	Ostrava-Krasne	121.59	326	ePKPdf		PKPdf	16 31 23.7	+0.5
OKC				ex		x	16 31 37.2	
OKC				ePP		PP	16 32 53.3	-2.1
OKC				eSP		SP	16 42 44.6	-0.7
OKC				AMS		AMS	17 31 50.0	
	comp=Z,5μm,16.7s							
OKC	Ostrava-Krasne	121.59	326	ePKP		PKPdf	16 31 23.7	+0.5
OKC				e			16 31 37.2	
OKC				ePP		PP	16 32 53.3	-2.1
OKC				e			16 42 44.6	
VTS	Vitosha	121.77	317	eP		PKPdf	16 31 23.2	-0.3
VTS	Vitosha	121.77	317	⇑iP		PKPdf	16 31 24.5	+1.0
VTS	Vitosha	121.77	317	i P		PKPdf	16 31 24.4	+0.9
VTS	Vitosha	121.77	317	PKIKP		PKPdf	16 31 23.8	+0.3
MMB	Musomiste	121.79	316	eP		PKPdf	16 31 22.6	-1.0
MMB	Musomiste	121.79	316	i P		PKPdf	16 31 22.6	-1.0
MUD	Monsted U'grnd	121.82	336	i P		PKPdf	16 31 23.5	-0.1
	comp=Z,45nm,1.1s							
MUD				e			16 31 37.4	
MUD				i			16 32 58.8	
MUD				i S		SP	16 42 47.6	+0.3
MUD				e			16 50 19.1	
MUD								
	comp=Z,5μm,20.0s							
MUD	Monsted U'grnd	121.82	336	ePKIKP		PKPdf	16 31 23.5	-0.1
MUD				e			16 31 37.4	
MUD				i			16 32 58.8	
MUD				i S		SP	16 42 47.6	+0.3
MUD				pmax		pmax		
	comp=Z,45nm,1.1s							
MUD				MLR		MLR		
	comp=Z,5μm,20.0s,MS6.1							
MUD	Monsted U'grnd	121.82	336	eP		PKPdf	16 31 23.5	-0.1
MUD				e			16 31 37.4	
MUD				i			16 32 58.8	
MUD				i S		SP	16 42 47.6	+0.3
MUD				e			16 50 19.1	
TZTN	Tazewell	121.86	51	ePKPdf		PKPdf	16 31 23.4	-0.3
VYHS	Vyhne	121.89	325	ePKP		PKPdf	16 31 23.0	-0.7
VYHS				e			16 31 38.5	
VYHS				ePP		PP	16 32 57.8	+0.4
VYHS	Vyhne	121.89	325	ePKP		PKPdf	16 31 23.0	-0.7
VYHS				e			16 31 38.5	
VYHS				ePP		PP	16 32 57.8	+0.4
VYHS				LR		LR		
	comp=Z,4μm,26.1s,MS5.9							
MORC	Moravsky Berou	121.95	326	⇑iP		PKPdf	16 31 24.3	+0.4
MORC	Moravsky Berou	121.95	326	ePKPdf		PKPdf	16 31 23.6	-0.3
KSP	Ksiaz	122.04	328	ePKP		PKPdf	16 31 24.8	+0.8
KSP				e			16 31 39.9	
KSP	Ksiaz	122.04	328	ePKIKP		PKPdf	16 31 24.2	+0.2
KSP				e			16 31 38.5	
KSP				e			16 32 58.5	
KSP				eSP		SP	16 42 46.0	-3.4
KSP				MLR		MLR		
	comp=Z,10μm,23.2s,MS6.4							
KSP	Ksiaz	122.04	328	ePKP		PKPdf	16 31 24.2	+0.2
KSP				epPKP		pPKPdf	16 31 38.5	+5.9
KSP				ePP		PP	16 32 58.5	0.0
KSP				eSP		SP	16 42 46.0	-3.4
KSP				eSS		SS	16 49 42.0	+6.8
KSP				eSSS			16 54 18.0	
KSP				LR		LR		
	comp=Z,10μm,23.2s,MS6.4							
TGUH	Tegucigalpa,Un	122.09	77	ePKPdf		PKPdf	16 31 24.9	+0.7
BUD	Budapest	122.28	324	⇓ePKP		PKPdf	16 31 25.8	+1.3
DPC	Dobruska-Polom	122.30	328	ePKPdf		PKPdf	16 31 23.9	-0.6
DPC				ex		x	16 31 39.7	
DPC				ePP		PP	16 33 00.3	+0.1
DPC				eSP		SP	16 42 46.9	-4.8
DPC				AMS		AMS	17 34 00.0	
	comp=Z,4μm,18.5s							
RUE	Ruedersdorf	122.36	331	ePKPdf		PKPdf	16 31 24.4	-0.3
RUE				epPKPdf		pPKPdf	16 31 39.8	+6.6
UPC	Upice	122.38	328	ePKP		PKPdf	16 31 24.9	+0.2
SVIS	Svilajnac	122.39	319	i P		PKPdf	16 31 24.8	+0.1
LRW	Lerwick	122.46	344	P		PKPdf	16 31 25.2	+0.3
LRW				AMb		AMB	16 31 26.8	
	comp=Z,123nm,1.8s							
LRW	Lerwick	122.46	344	eP		PKPdf	16 31 25.2	+0.3
LRW				AMb		AMB	16 31 26.8	
	comp=Z,123nm,1.8s							
LRW				AMS		AMS	17 11 19.9	
	comp=Z,357nm,19.5s,MS5.0							
KNT	Kendrikon	122.53	315	eP		PKPdf	16 31 24.0	-1.0
ALLY	Alegheny Colle	122.61	44	ePKPdf		PKPdf	16 31 24.2	-0.9
BARS	Barje	122.61	318	i P		PKPdf	16 31 25.0	-0.1
BEO	Belgrade	122.65	320	i P		PKPdf	16 31 24.9	-0.3
VAY	Valandovo	122.70	316	i PKP		PKPdf	16 31 24.6	-0.7
VRAC	Vranov	122.72	326	⇑iP		PKPdf	16 31 25.9	+0.6
VRAC	Vranov	122.72	326	P		PKPdf	16 31 27.0	+1.7
GRUS	Gruza	122.89	319	i P		PKPdf	16 31 24.8	-0.8
SCHQ	Schefferville	122.92	25	PKP		PKPdf	16 31 25.0	-0.7
	comp=Z,27nm,0.8s,baz=321,slow=1.8,SNR=19							
SCHQ				PP		PP	16 33 00.9	-3.5
	comp=Z,13nm,1.1s,baz=320,slow=6.8,SNR=3.9							
SCHQ				PKKPab		PKKPab	16 41 17.5	-0.3
	comp=Z,11nm,0.9s,baz=144,slow=6.1,SNR=6.9							
GRG	Griva	122.96	315	eP		PKPdf	16 31 23.9	-1.9
ZST	Bratislava	123.03	325	ePKP		PKPdf	16 31 25.9	0.0
ZST				e			16 31 40.1	
ZST				LR		LR		
	comp=Z,2μm,20.2s,MS5.8							
PKSM	Moragy	123.13	322	⇑iP		PKPdf	16 31 25.3	-0.8
PKSM	Moragy	123.13	322	P		PKPdf	16 31 25.9	-0.2
LIT	Litokhoron	123.22	314	eP		PKPdf	16 31 25.4	-0.9
SKO	Skopje	123.22	317	i PKP		PKPdf	16 31 27.6	+1.3
SKO				i PKP		pPKPdf	16 31 41.7	+6.8
BRG	Berggiesshubel	123.25	329	ePKPdf		PKPdf	16 31 26.1	-0.2
BRG				epPKPdf		pPKPdf	16 31 41.7	+6.8
BRG	Berggiesshubel	123.25	329	i PKP		PKPdf	16 31 25.4	-0.9
	comp=Z,5.4nm,1.3s							
BRG				i			16 31 41.6	
	comp=Z,47nm,1.0s							
BRG				PP		PP	16 33 04.0	-2.6
BRG				e			16 38 30.8	
	comp=Z,5.2nm,1.6s							
BRG				ePKKP		PKKPbc	16 41 17.3	+1.2
	comp=Z,8.0nm,1.4s							
BRG				e			16 42 56.0	
BRG				e			16 44 46.5	
	comp=Z,48nm,2.5s							
BRG				SS		SS	16 50 05.0	+15
BRG								
	comp=N,2μm,21.8s							
BRG								
	comp=E,2μm,22.8s							
BRG								
	comp=Z,4μm,26.3s							
BRG	Berggiesshubel	123.25	329	i PKIKP		PKPdf	16 31 25.4	-0.9
BRG				i			16 31 41.6	
BRG							16 33 04.0	
BRG				e			16 38 30.8	
BRG				e			16 42 56.0	
BRG				SS		SS	16 50 05.0	+15
BRG				pmax		pmax		
	comp=Z,30nm,1.3s							
BRG				MLR		MLR		
	comp=N,5μm,21.8s,MS6.1							
BRG				MLR		MLR		
	comp=E,2μm,22.8s,MS6.1							
BRG				MLR		MLR		
	comp=Z,2μm,26.3s,MS5.7							
BRG	Berggiesshubel	123.25	329	i PKP		PKPdf	16 31 25.4	-0.9
BRG				i			16 31 41.6	
BRG				PP		PP	16 33 04.0	-2.6
BRG				e			16 38 30.8	
BRG				ePKKP		PKKPbc	16 41 17.3	+1.2
BRG				e			16 42 56.0	
BRG				e			16 44 46.5	
BRG				SS		SS	16 50 05.0	+15
BRG				LR		LR		
	comp=Z,4μm,26.3s,MS5.9							
DIVS	Divcibare	123.27	320	i P		PKPdf	16 31 25.9	-0.5
DIVS	Divcibare	123.27	320	eP		PKPdf	16 31 25.9	-0.4
PRU	Pruhonice	123.45	328	ePKPdf		PKPdf	16 31 26.8	+0.1
PRU				ex		x	16 31 41.4	
PRU				ePP		PP	16 33 04.0	-4.0
PRU				ex		x	16 42 53.3	
PRU				AMS		AMS	17 31 10.0	
	comp=Z,4μm,18.3s							
PRU	Pruhonice	123.45	328	ePKP		PKPdf	16 31 26.8	+0.1
PRU				e			16 31 41.4	
PRU				ePP		PP	16 33 04.0	-4.0
PRU				e			16 42 53.3	
PRU				LR		LR		
	comp=Z,4μm,18.3s,MS6.1							
CLL	Collm	123.46	330	ePKPdf		PKPdf	16 31 26.5	-0.3
	comp=Z,60nm,1.0s							
CLL				e			16 31 42.1	
CLL				ePP		PP	16 33 08.2	+0.1
CLL				ePKKPbc		PKKPbc	16 41 16.2	+0.9
CLL				ePS		PS	16 43 01.5	-3.6
CLL				ePPS			16 44 31.8	
CLL				eSS		SS	16 50 24.5	+31
CLL				eSSS			16 54 41.8	
CLL				eSSSS			16 58 31.5	
CLL				eLR		LR	17 11 50.7	
CLL				eL			17 24 50.3	
	comp=Z,5μm,22.0s							
CLL	Collm	123.46	330	i PKIKP		PKPdf	16 31 26.8	0.0
CLL				i			16 31 42.1	
CLL				e			16 33 06.0	
CLL				pmax		pmax		
	comp=Z,57nm,0.9s							
CLL				MLR		MLR		
	comp=Z,5μm,19.0s,MS6.2							
CLL	Collm	123.46	330	i PKP		PKPdf	16 31 26.8	0.0
CLL				i			16 31 42.1	
CLL				ePP		PP	16 33 06.0	-2.1
CLL				i PKKP		PKKPbc	16 41 16.5	+1.2
CLL				LR		LR		
	comp=Z,5μm,19.0s,MS6.2							
CLL	Collm	123.46	330	i PKPdf		PKPdf	16 31 26.8	0.0
	comp=Z,57nm,0.9s							
CLL				i x		x	16 31 42.1	
	comp=Z,77nm,0.8s							
CLL				ePP		PP	16 33 06.0	-2.1
CLL				i PKKPbc		PKKPbc	16 41 16.5	+1.2
	comp=Z,30nm,1.2s							
CLL				ePS		PS	16 42 58.0	-7.1
CLL				ePPS			16 44 35.0	
CLL				eSKKSdf		SKKSdf	16 49 11.0	+6.9
CLL				e(SS)			16 50 21.0	
CLL				eSSS			16 54 42.0	
CLL				eSSSS			16 58 36.0	
CLL				LmH			17 24 00.0	
	comp=N,4μm,19.7s							
CLL				LmH			17 24 00.0	
	comp=E,3μm,21.9s							
CLL				LmV			17 30 00.0	
	comp=Z,5μm,19.0s							
FBE	Freiberg	123.52	329	ePKPdf		PKPdf	16 31 26.8	-0.1
FBE				epPKPdf		pPKPdf	16 31 42.5	+7.0
MCWV	Mont Chateau	123.58	46	ePKPdf		PKPdf	16 31 26.2	-0.8
MCWV				LR		LR		
	comp=Z,5μm,19.0s,MS6.2							
KRUS	Krusevo	123.59	316	i PKP		PKPdf	16 31 26.5	-0.6
KRUS				i PKP			16 31 40.2	
FWV	Forest Hill	123.61	49	ePKPdf		PKPdf	16 31 26.5	-0.5
SOP	Sopron	123.61	325	⇓ePKP		PKPdf	16 31 28.5	+1.4
AGG	Agios Georgios	123.73	313	eP		PKPdf	16 31 25.9	-1.4
FNA	Florina	123.74	315	eP		PKPdf	16 31 26.6	-0.7
KARN	Karanos	123.76	309	eP		PKPdf	16 31 28.4	+1.0
ELN	Prospectdale	123.78	49	ePKPdf		PKPdf	16 31 26.6	-0.8
GVD	Gavdhos	123.80	308	ePKPdf		PKPdf	16 31 27.0	-0.4
IVA	Berane	123.87	318	⇑iPKP		PKPdf	16 31 28.0	+0.4
CONA	Conrad Observa	123.88	325	⇑iPKPdf		PKPdf	16 31 26.7	-0.9
	comp=Z,17nm,0.6s,SNR=23							
CONA					⇓iPKiKP		16 31 43.4	
	comp=Z,14nm,0.6s							
PVY	Plav	123.94	318	⇑iPKP		PKPdf	16 31 27.9	+0.2
BCI	Bajram Curri	123.98	318	i Pn		PKPdf	16 31 28.4	+0.6
PLE	Pljevlja	124.00	319	⇑iPKP		PKPdf	16 31 28.8	+1.0
OHR	Ohrid	124.01	316	eP		PKPdf	16 31 27.5	-0.3
OHR	Ohrid	124.01	316	i PKP		PKPdf	16 31 26.8	-1.0
OHR				i PKP			16 31 41.9	
PHP	Peshkopia	124.02	317	i Pn		PKPdf	16 31 27.9	+0.1
BLA	Blacksburg	124.03	49	ePKIKP		PKPdf	16 31 27.1	-0.7
BLA				MLR		MLR		
	comp=Z,5μm,21.0s,MS6.2							
KBN	Korca	124.21	315	i Pn		PKPdf	16 31 29.3	+1.1
JCR	Jicaral	124.21	82	eP		PKPdf	16 31 29.9	+1.7
MEV	Metsovon	124.23	314	eP		PKPdf	16 31 27.5	-0.7
TANN	Tannenbergstha	124.28	329	ePKPdf		PKPdf	16 31 28.2	-0.1
WERD	Werda	124.33	329	ePKPdf		PKPdf	16 31 28.3	-0.1
UPM	Unac-Piva	124.38	319	⇑iPKP		PKPdf	16 31 28.6	+0.1
JTS	JuntasAbangare	124.38	82	PKP		PKPdf	16 31 28.7	+0.1
	baz=290,slow=5.9							
JTS				PP		PP	16 33 11.4	-2.8
	comp=Z,5.9nm,1.1s,baz=291,slow=6.7,SNR=2.9							
JTS	JuntasAbangare	124.38	82	ePKPdf		PKPdf	16 31 26.6	-1.9
JTS				LR		LR		
	comp=Z,810nm,20.0s,MS5.4							
NKC	Novy Kostel	124.39	329	ePKPdf		PKPdf	16 31 28.7	+0.2
NKC				ex		x	16 31 41.8	
NKC				ePP		PP	16 33 16.3	+1.9
NKC				AMS		AMS	17 33 30.0	
	comp=Z,6μm,18.4s							
NKC	Novy Kostel	124.39	329	ePKP		PKPdf	16 31 28.7	+0.2
NKC				e			16 31 41.8	
NKC				ePP		PP	16 33 16.3	+1.9
WERN	Wernitzgruen	124.40	329	ePKPdf		PKPdf	16 31 28.5	-0.1
CLZ	Clausthal	124.40	332	ePKPdf		PKPdf	16 31 28.7	+0.1
CLZ				epPKPdf		pPKPdf	16 31 44.3	+7.1
ARSA	Arzberg	124.44	325	⇓i			16 31 44.0	
	comp=Z,25nm,1.0s							
ARSA	Arzberg	124.44	325	⇑iPKPdf		PKPdf	16 31 27.5	-1.1
	comp=Z,24nm,1.0s,SNR=7.1							
ARSA					⇓iPKiKP		16 31 44.0	
	comp=Z,25nm,1.0s							
KOGS	Kog	124.44	324	ePKPdf		PKPdf	16 31 29.4	+0.8
KOGS				epPKPdf		pPKPdf	16 31 43.6	+6.4
KHC	Kasperske Hory	124.46	328	ePKPdf		PKPdf	16 31 28.4	-0.3
KHC				ex		x	16 31 43.9	
KHC				ePP		PP	16 33 14.3	-0.5
KHC				eSP		SP	16 43 12.7	+2.0
KHC				AMS		AMS	17 32 10.0	
	comp=Z,3μm,16.2s							
KHC	Kasperske Hory	124.46	328	ePKP		PKPdf	16 31 28.4	-0.3
KHC				e			16 31 43.9	
KHC				ePP		PP	16 33 14.3	-0.5
KHC				e			16 43 12.7	
KHC				LR		LR		
	comp=Z,3μm,16.2s,MS6.1							
TTG	Podgorica	124.49	318	⇑iPKP		PKPdf	16 31 28.6	-0.2
NKY	Niksic	124.49	319	⇑iPKP		PKPdf	16 31 28.4	-0.3
MOX	Moxa	124.56	330	ePKPdf		PKPdf	16 31 28.7	-0.2
MOX	Moxa	124.56	330	ePKP		PKPdf	16 31 29.0	+0.1
	comp=Z,105nm,1.8s							
MOX				e			16 31 44.1	
MOX								
	comp=Z,3μm,22.0s							
GEC2	GERESS Array S	124.56	327	ePKPdf		PKPdf	16 31 28.6	-0.3
GEC2	GERESS Array S	124.56	327	PKIKP		PKPdf	16 31 27.7	-1.2
GERES	GERESS Array B	124.56	327	PKP		PKPdf	16 31 28.9	0.0
	comp=Z,18nm,0.6s,baz=66,slow=1.4,SNR=59							
GERES				pPKP		pPKPdf	16 31 43.7	+6.2
	comp=Z,39nm,0.6s,baz=75,slow=1.6,SNR=18							
GERES				PKKPab			16 41 09.8	
	comp=Z,2.3nm,0.9s,baz=183,slow=2.7,SNR=5.2							
GERES	GERESS Array B	124.56	327	PKIKP		PKPdf	16 31 28.9	0.0
GERES							16 31 43.7	
SSPA	Standing Stone	124.58	44	ePKPdf		PKPdf	16 31 27.8	-1.1
SSPA				LR		LR		
	comp=Z,8μm,20.0s,MS6.4							
MSNY	Massena	124.58	38	ePKPdf		PKPdf	16 31 28.0	-0.9
MLA1	Latheron	124.62	344	eP		PKPdf	16 31 29.0	+0.1
ULC	Ulcinj	124.70	318	⇑iPKP		PKPdf	16 31 29.3	+0.2
MANZ	Manzenberg	124.72	329	ePKPdf		PKPdf	16 31 29.2	0.0
MANZ				epPKPdf		pPKPdf	16 31 44.5	+6.7
BRY	Bratogost	124.75	319	⇑iPKP		PKPdf	16 31 28.6	-0.6
BUM	Brajici-Budva	124.79	318	⇑iPKP		PKPdf	16 31 30.1	+0.8
ROTZ	Rotzenmuhle	124.80	329	ePKPdf		PKPdf	16 31 29.2	-0.1
MOA	Molln	124.82	326	⇓i			16 31 44.7	
	comp=Z,21nm,1.1s							
MOA	Molln	124.82	326	⇑iPKiKP		PKiKP	16 31 28.9	-0.7
	comp=Z,12nm,0.7s,SNR=6.9							
MOA					⇓iPKiKP		16 31 44.7	
	comp=Z,21nm,1.1s							
WET	Wettzell	124.83	328	ePKPdf		PKPdf	16 31 29.3	-0.1
WET				epPKPdf		pPKPdf	16 31 44.6	+6.6
LONY	Lake Ozonia	124.94	39	ePKPdf		PKPdf	16 31 29.0	-0.6
HCY	Herceg Novi	124.99	318	⇑iPKP		PKPdf	16 31 29.3	-0.4
PERS	Pernice	125.01	324	ePKPdf		PKPdf	16 31 29.7	0.0
COW	Cow Castle Cre	125.03	54	ePKPdf		PKPdf	16 31 30.9	+1.1
MVH1	Achvaich	125.17	344	eP		PKPdf	16 31 30.1	0.0
LAJ	Bijagual	125.19	82	eP		PKPdf	16 31 31.6	+1.5
BINY	Binghamton	125.19	42	ePKPdf		PKPdf	16 31 29.3	-0.8
BINY				LR		LR		
	comp=Z,3μm,20.0s,MS6.0							
MCD	Coleburn Disti	125.20	343	eP		PKPdf	16 31 30.0	-0.1
UBBA	Unterbreizbach	125.24	331	ePKPdf		PKPdf	16 31 30.0	-0.2
IBBN	Ibbenburen	125.29	333	ePKPdf		PKPdf	16 31 30.2	-0.1
IBBN				epPKPdf		pPKPdf	16 31 45.5	+6.6
LCR2	La Lucha 2	125.31	83	eP		PKPdf	16 31 31.3	+1.0
STON	Ston	125.31	319	i P		PKPdf	16 31 29.2	-1.1
GRA1	Grafenberg Arr	125.35	329	ePKPdf		PKPdf	16 31 30.2	-0.2
GRA1				LR		LR		
	comp=Z,5μm,21.7s,MS6.1							
GRF	Grafenberg Arr	125.35	329	ePKPdf		PKPdf	16 31 30.2	-0.2
GRF				eL			17 25 18.1	
	comp=Z,5μm,21.7s							
GRFO	Grafenberg	125.35	329	ePKIKP		PKPdf	16 31 30.5	+0.1
GRFO				MLR		MLR		
	comp=Z,5μm,22.0s,MS6.1							
OBKA	Obir	125.40	324	⇑i			16 31 45.5	
	comp=Z,48nm,1.2s							
OBKA	Obir	125.40	324	⇑iPKiKP		PKiKP	16 31 30.5	-0.4
	comp=Z,23nm,1.1s,SNR=8.1							
OBKA					⇑iPKiKP		16 31 45.5	
	comp=Z,48nm,1.2s							
SOR	Soroa	125.40	67	eP		PKPdf	16 31 30.8	+0.4
FRNY	Flat Rock	125.45	38	ePKPdf		PKPdf	16 31 29.8	-0.8
NCB	Newcomb	125.49	39	ePKPdf		PKPdf	16 31 30.2	-0.4
NCB				LR		LR		
	comp=Z,4μm,22.0s,MS6.0							
BOJS	Bojanci	125.53	323	ePKPdf		PKPdf	16 31 30.8	0.0
BOJS				epPKPdf		pPKPdf	16 31 46.4	+7.1
BOJS				ePP		PP	16 33 26.7	+4.8
BOJS				e			16 43 17.9	
MDO	Dochfour	125.63	344	eP		PKPdf	16 31 30.8	-0.1
LJU	Ljubljana	125.67	324	ePKPdf		PKPdf	16 31 32.2	+1.2
LJU				epPKPdf		pPKPdf	16 31 46.4	+6.9
KBA	Koelnbreinsper	125.77	326	⇓i		pPKPdf	16 31 46.3	+6.5
	comp=Z,56nm,1.1s							
KBA	Koelnbreinsper	125.77	326	⇑iPKPdf		PKPdf	16 31 30.1	-1.1
	comp=Z,24nm,0.9s							
KBA					⇓iPKiKP		16 31 46.3	
	comp=Z,56nm,1.1s							
DWPF	Disney	125.80	60	ePKPdf		PKPdf	16 31 31.3	0.0
DWPF				LR		LR		
	comp=Z,3μm,22.0s,MS5.9							
MVL	Millersville	125.

CFAA Coronel Fontan 126.67 138 PKP PKPdf 16 31 23.3 -10
CFAA PKP PKPdf 16 31 32.5 -0.4
CFAA PP PP 16 33 29.2 -0.3
LBNH Lisbon 126.77 38 *e*PKIKP PKPdf 16 31 33.0 -0.1
LBNH MLR MLR
comp=Z,7μm,20.0s,MS6.3
BRNJ Basking Ridge 126.83 43 PKPdf PKPdf 16 31 32.9 -0.3
HNH Hanover 126.83 39 *e*PKPdf PKPdf 16 31 33.6 +0.4
MOTA Moosalm 126.85 327 ⇑*i* pPKPdf 16 31 49.1 +7.3
comp=Z,81nm,0.8s
MOTA Moosalm 126.85 327 ⇑*i*PKiKP PKiKP 16 31 33.3 -0.4
comp=Z,42nm,0.7s,SNR=29
MOTA ⇑*i*PKiKP 16 31 49.1
comp=Z,81nm,0.8s
SQTA Sankt Quirin 126.87 327 ⇑*i* pPKPdf 16 31 49.4 +7.5
comp=Z,55nm,0.7s
SQTA Sankt Quirin 126.87 327 ⇑*i*PKiKP PKiKP 16 31 33.5 -0.2
comp=Z,51nm,0.9s,SNR=18
SQTA ⇑*i*PKiKP 16 31 49.4
comp=Z,55nm,0.7s
STU Stuttgart 126.96 329 *e*PKPdf PKPdf 16 31 33.3 -0.2
STU Stuttgart 126.96 329 *e*PKPdf PKPdf 16 31 34.9 +1.4
FGMS Monte Sant'Ang 127.01 319 PKP PKPdf 16 31 34.8 +1.3
ABH Alteburg 127.04 331 PKP PKPdf 16 31 34.8 +1.2
PGBU Glenifferbraes 127.07 343 P PKPdf 16 31 34.3 +0.7
PGBU AMb AMB 16 31 39.2
comp=Z,46nm,1.5s
PGBU Glenifferbraes 127.07 343 *e*P PKPdf 16 31 34.3 +0.7
PGBU AMb AMB 16 31 39.2
comp=Z,46nm,1.5s
PGBU AMS AMS 17 01 14.7
comp=Z,324nm,17.9s,MS5.0
ESK Eskdalemuir 127.11 342 P PKPdf 16 31 34.2 +0.4
ESK AMb AMB 16 31 36.8
comp=Z,115nm,1.7s
ESK Eskdalemuir 127.11 342 *e*P PKPdf 16 31 34.2 +0.4
ESK AMb AMB 16 31 36.8
comp=Z,115nm,1.7s
ESK AMS AMS 17 07 22.5
comp=Z,632nm,17.4s,MS5.3
ESK Eskdalemuir 127.11 342 PFAKE 16 31 40.0 +6.3
ESK LR LR
comp=Z,1μm,21.0s,MS5.5
PAL Palisades 127.12 42 *e*PKIKP PKPdf 16 31 33.7 -0.1
HGN Heimansgroeve 127.18 333 *e*PKiKP PKiKP 16 31 33.7 -0.7
comp=Z,76nm,2.5s
HGN *ex* x 16 31 49.0
comp=Z,81nm,0.8s
HGN *e*PP PP 16 33 33.3 +0.4
CPNY Central Park 127.19 43 *e*PKPdf PKPdf 16 31 34.4 +0.5
MEM Membach 127.26 333 E 16 31 32.0
MEM PKiKP PKiKP 16 31 32.9 -1.6
MEM E 16 31 48.0
BEBN Eben Emael 127.28 333 PKiKP PKiKP 16 31 35.5 +0.9
BEBN E 16 31 49.7
CTI Castel Tesino 127.32 325 PKIKP PKPdf 16 31 34.6 +0.5
FFD Franklin Falls 127.35 39 *e*PKPdf PKPdf 16 31 34.3 +0.1
RUP Ruppelstein 127.40 331 PKIKP PKPdf 16 31 36.3 +2.0
LANF Langenberg 127.52 330 PKP PKPdf 16 31 35.8 +1.3
QUA2 Belchertown 127.52 40 *e*PKPdf PKPdf 16 31 34.7 +0.1
DAVA Damuels 127.55 328 ⇑*i* pPKPdf 16 31 51.0 +7.8
comp=Z,58nm,0.7s
DAVA Damuels 127.55 328 ⇑*i*PKiKP PKiKP 16 31 35.0 -0.1
comp=Z,49nm,0.8s,SNR=13
DAVA ⇑*i*PKiKP 16 31 51.0
comp=Z,58nm,0.7s
SPAK Spaichingen-Ko 127.60 329 PKP PKPdf 16 31 35.4 +0.7
TIP Timpagrande 127.63 316 PKP PKPdf 16 31 24.8 -10
TIP *e*PKPdf PKPdf 16 31 34.9 +0.2
BFO Black Forest 127.69 329 *e*PKPdf PKPdf 16 31 34.3 -0.5
TSUM Tsumeb 127.69 240 PKPdf PKPdf 16 31 35.1 +0.2
TSUM LR LR
comp=Z,4μm,19.0s,MS6.1
BCLA Clavier 127.71 333 PKiKP PKiKP 16 31 35.3 -0.1
BCLA E 16 31 50.5
PKME Peaks-Kenny Pk 127.77 35 *e*PKPdf PKPdf 16 31 35.0 0.0
BRMO Bormio 127.78 326 PKP PKPdf 16 31 35.5 +0.5
STR Strasbourg 127.80 330 PKP PKPdf 16 31 37.1 +2.0
WLF Walferdange 127.85 332 *e*PKPdf PKPdf 16 31 35.8 +0.6
WLF Walferdange 127.85 332 PKiKP PKiKP 16 31 35.4 -0.3
WLF E 16 31 51.5
WLF Walferdange 127.85 332 *e*PKPdf PKPdf 16 31 35.2 +0.1
UCC Uccle 127.86 334 PKiKP PKiKP 16 31 36.4 +0.7
UCC E 16 31 50.5
CING Cingoli 127.91 322 PKP PKPdf 16 31 35.8 +0.5
HRV Harvard--Oak R 127.91 40 *e*PKiKP PKPdf 16 31 35.1 -0.2
HRV MLR MLR
comp=Z,4μm,20.0s,MS6.1
SNF Seneffe 128.10 334 PKiKP PKiKP 16 31 35.6 -0.7
SNF APKiKP 16 31 37.2
SNF E 16 31 51.6
WLS Welschbruch 128.12 330 PKP PKPdf 16 31 35.8 +0.1
WES Weston 128.12 40 PFAKE 16 31 50.0 +14
WES LR LR
comp=Z,4μm,21.0s,MS6.0
FELD Feldberg im Sc 128.15 329 ⇑*e*P PKPdf 16 31 35.9 +0.2
GIVF Givet 128.15 333 *e*PKIKP PKPdf 16 31 34.9 -0.8
comp=Z,187nm,0.9s
CDF Champ du Feu 128.16 330 *e*PKIKP PKPdf 16 31 34.5 -1.2
comp=Z,131nm,1.2s
LIBD Limburg 128.17 330 PKIKP PKPdf 16 31 36.3 +0.5
RNI2 Rionero Sannit 128.18 320 PKP PKPdf 16 31 36.8 +1.0
DOU Dourbes 128.26 333 PKiKP PKiKP 16 31 37.1 +0.5
DOU E 16 31 51.9
MGV Manicaragua 128.28 67 *e*P PKPdf 16 31 37.7 +1.7
AQU L'Aquila 128.32 321 ⇑*i*P PKPdf 16 31 38.5 +2.4
AQU L'Aquila 128.32 321 *e*PKPdf PKPdf 16 31 36.2 +0.2
TUE Stuetta 128.34 327 PKP PKPdf 16 31 36.9 +0.8
ECH Echery 128.35 330 PKP PKPdf 16 31 36.5 +0.4
MURB Monte Urbino 128.38 322 PKP PKPdf 16 31 36.9 +0.7
BAIF Baives 128.46 333 *e*PKIKP PKPdf 16 31 35.5 -0.8
comp=Z,76nm,0.9s
MOF Molkenrain 128.61 330 PKP PKPdf 16 31 37.8 +1.2
SOI Samo 128.62 315 PKIKP PKPdf 16 31 37.3 +0.7
BBS Basel-Blauen 128.67 329 PKIKP PKPdf 16 31 35.4 -1.3
GUAR Guarcino 128.67 320 PKP PKPdf 16 31 38.1 +1.4
FNVD Fontana Vidola 128.72 324 PKP PKPdf 16 31 38.2 +1.4
MNS Montasola 128.76 321 PKHKP 16 31 25.2
ATAH Atahualpa 128.77 104 PKP PKPdf 16 31 39.1 +2.2
comp=Z,114nm,0.8s,baz=156,slow=1.0,SNR=45
HINF Hinteralfeld 128.77 330 *e*PKIKP PKPdf 16 31 35.7 -1.2
comp=Z,192nm,1.1s
NNA Nana 128.86 111 PKP PKPdf 16 31 37.4 +0.4
comp=Z,97nm,0.9s,baz=278,slow=5.6,SNR=30
NNA Nana 128.86 111 *e*PKPdf PKPdf 16 31 36.9 -0.2
NNA LR LR
comp=Z,683nm,19.0s,MS5.4
HAU Haudompre 128.89 330 *e*PKIKP PKPdf 16 31 36.1 -1.0
comp=Z,146nm,0.8s
HAU *e*R
comp=Z,3μm,20.5s
HAU Haudompre 128.89 330 *e*PKPdf PKPdf 16 31 36.1 -1.0
HAU LR LR
comp=Z,3μm,20.5s,MS6.0
THEF They Montfort 128.92 331 PKP PKPdf 16 31 38.4 +1.2
MENF Mencas 128.98 335 PKP PKPdf 16 31 39.0 +1.7
CSNT Castellina Chi 129.01 323 PKP PKPdf 16 31 36.8 -0.6
BDI Bagni Di Lucca 129.09 324 PKIKP PKPdf 16 31 37.6 +0.1
LOMF Lomont 129.09 329 PKP PKPdf 16 31 38.2 +0.7
VLC Villacollemand 129.15 324 *e*PKPdf PKPdf 16 31 38.0 +0.3
SBD1 Bryn Du 129.16 340 *e*P PKPdf 16 31 38.6 +1.0
MEZF Maizieres J'vi 129.18 331 *e*PKIKP PKPdf 16 31 37.1 -0.6
comp=Z,102nm,0.7s
HLM1 Long Mynd 129.35 340 *e*P PKPdf 16 31 38.1 +0.1
ORO Oropa 129.61 327 PKIKP PKPdf 16 31 37.0 -1.5
MAON Monte Argentar 129.70 322 PKP PKPdf 16 31 37.9 -0.8
SWN1 Swindon 129.79 338 *e*P PKPdf 16 31 39.5 +0.7
SWN1 AMb AMB 16 31 43.1
comp=Z,251nm,1.4s
MCH1 Michaelchurch 129.82 339 P PKPdf 16 31 39.9 +1.0
MCH1 AMb AMB 16 31 42.1
comp=Z,72nm,1.6s
MCH1 Michaelchurch 129.82 339 *e*P PKPdf 16 31 39.1 +0.2
MCH1 *e*P 16 31 39.9
MCH1 AMb AMB 16 31 42.1
comp=Z,72nm,1.6s
MCH1 AMS AMS 17 14 27.7
comp=Z,329nm,18.9s,MS5.0
DLF Lyons Farm 129.85 343 *e*P PKPdf 16 31 39.3 +0.3
CABF La Chapelle 129.97 329 *e*PKIKP PKPdf 16 31 38.8 -0.4
comp=Z,148nm,0.9s
DCN Croghan 130.03 343 *e*P PKPdf 16 31 39.8 +0.5
HGH Gray Hill 130.05 339 *e*P PKPdf 16 31 39.8 +0.5

OTAV Otavalo 130.10 95 *e*PKPdf PKPdf 16 31 39.4 0.0
OTAV LR LR
comp=Z,2μm,19.0s,MS5.7
LPL La Plagne 130.35 328 *e*PKIKP PKPdf 16 31 39.5 -0.4
comp=Z,62nm,0.7s
LPG La Plagne 130.35 328 *e*PKIKP PKPdf 16 31 39.6 -0.3
comp=Z,63nm,0.7s
FIN Finale Ligure 130.37 325 PKIKP PKPdf 16 31 39.7 -0.3
LOR Lormes 130.62 331 *e*PKIKP PKPdf 16 31 39.8 -0.6
comp=Z,100nm,1.0s
LOR *e*R
comp=Z,3μm,22.2s
LOR Lormes 130.62 331 *e*PKPdf PKPdf 16 31 39.8 -0.6
LOR LR LR
comp=Z,3μm,22.3s,MS5.9
BNI Bardonecchia 130.68 327 *e*PKHKP 16 31 28.7
IMI Imperia 130.74 325 PKP PKPdf 16 31 41.2 +0.6
CLTB Caltabellotta 130.84 315 PKP PKPdf 16 31 41.8 +1.0
MBDF Montbardon 130.84 327 *e*PKIKP PKPdf 16 31 40.4 -0.4
SAOF Saorge 130.88 326 PKP PKPdf 16 31 40.6 -0.3
PGF Pioggiola 130.92 323 *e*PKIKP PKPdf 16 31 40.3 -0.7
comp=Z,157nm,0.9s
SSF Saint Saulge 130.94 331 *e*PKIKP PKPdf 16 31 40.5 -0.5
comp=Z,118nm,1.0s
AUTN L'Aution 130.95 326 PKP PKPdf 16 31 47.7 +6.7
SBF Sospel 131.03 325 *e*PKIKP PKPdf 16 31 40.1 -1.1
comp=Z,315nm,1.3s
TOUF Mont Tournerai 131.04 326 PKP PKPdf 16 31 41.5 +0.3
LUCF Luceram 131.06 326 PKP PKPdf 16 31 43.4 +2.2
SMF Signal de Mont 131.07 330 *e*PKIKP PKPdf 16 31 40.6 -0.7
comp=Z,173nm,1.3s
REVF Revere 131.14 325 PKP PKPdf 16 31 41.9 +0.5
MVIF Mont Vial 131.16 326 PKP PKPdf 16 31 41.7 +0.3
HYF Humbligny 131.20 332 *e*PKIKP PKPdf 16 31 41.4 -0.1
ORIF Oris-en-Rattie 131.20 327 *e*PKIKP PKPdf 16 31 40.9 -0.6
comp=Z,64nm,0.7s
ORIF *e*R
comp=Z,2μm,22.5s
AVF Avril sur Loir 131.20 331 *e*PKIKP PKPdf 16 31 40.5 -1.0
LVC Limon Verde 131.30 128 PKP PKPdf 16 31 43.0 +1.3
comp=Z,33nm,0.9s,baz=240,slow=1.7,SNR=21
LVC Limon Verde 131.30 128 *e*PKPdf PKPdf 16 31 43.4 +1.6
LVC LR LR
comp=Z,3μm,20.0s,MS5.9
LMGC Las Mercedes 131.35 69 *e*P PKPdf 16 31 42.2 +0.4
LMGC *e*S PP 16 33 55.1 -5.0
comp=N,68nm,2.5s
LMGC *e*
comp=E,167nm,3.4s
LDF La Druitiere 131.44 335 *e*PKIKP PKPdf 16 31 41.2 -0.8
comp=E,52nm,0.7s
FLN La Foliniere 131.46 335 *e*PKIKP PKPdf 16 31 41.2 -0.8
comp=E,153nm,0.9s
FLN *e*R
comp=E,3μm,20.8s
FLN La Foliniere 131.46 335 *e*PKPdf PKPdf 16 31 41.2 -0.8
FLN LR LR
comp=Z,3μm,20.8s,MS5.9
BGF Bois d'Agland 131.61 331 *e*PKIKP PKPdf 16 31 41.9 -0.4
comp=Z,79nm,0.7s
PLDF La Plantade 131.65 330 PKP PKPdf 16 31 43.5 +1.1
FRF La Foret Royal 131.66 326 *e*PKIKP PKPdf 16 31 41.7 -0.7
comp=Z,169nm,1.2s
AGO Saint Agoulin 131.83 330 PKP PKPdf 16 31 44.4 +1.7
VIVF Saint-Julien-l 131.88 328 *e*PKIKP PKPdf 16 31 42.4 -0.4
comp=Z,164nm,1.4s
LMR La Mourre 131.88 325 *e*PKIKP PKPdf 16 31 42.2 -0.6
comp=Z,147nm,1.1s
GRR Gorron 131.91 335 *e*PKIKP PKPdf 16 31 42.2 -0.7
comp=Z,98nm,0.7s
SMRF Simiane la Rot 131.98 327 *e*PKIKP PKPdf 16 31 43.0 0.0
comp=Z,134nm,1.0s
PYM Petit Puy Mans 132.11 330 PKP PKPdf 16 31 44.4 +1.2
TCF Toulx Ste Croi 132.11 331 *e*PKIKP PKPdf 16 31 42.9 -0.3
comp=Z,124nm,0.9s
LBL Lubilhac 132.35 329 PKP PKPdf 16 31 45.3 +1.6
VSL Villasalto 132.43 320 *e*PKPdf PKPdf 16 31 44.1 +0.3
RCC Rio Carpintero 132.58 69 *e*P PKPdf 16 31 37.2 -6.9
SGMF Saint Gilles 132.71 336 *e*PKIKP PKPdf 16 31 43.6 -0.8
comp=Z,69nm,0.6s
LASF Ste Croix 132.84 328 *e*PKIKP PKPdf 16 31 44.5 -0.1
comp=Z,117nm,1.0s
ROSF Rostrenen 132.92 337 *e*PKIKP PKPdf 16 31 43.8 -1.0
comp=Z,73nm,0.9s
MOAC Moa 133.14 68 *e*P PKPdf 16 31 46.6 +1.5
RJF Les Rejaudoux 133.16 331 *e*PKIKP PKPdf 16 31 43.4 -1.8
comp=Z,40nm,0.8s
RJF *e*R
comp=Z,3μm,21.8s
RJF Les Rejaudoux 133.16 331 *e*PKPdf PKPdf 16 31 43.4 -1.8
RJF LR LR
comp=Z,3μm,21.8s,MS6.0
CAF Calviac 133.16 330 *e*PKIKP PKPdf 16 31 43.3 -1.9
comp=Z,11nm,1.1s
QUIF Quistinic 133.22 336 *e*PKIKP PKPdf 16 31 44.5 -0.8
comp=Z,47nm,0.7s
LFF La Frestale 133.80 331 *e*PKIKP PKPdf 16 31 44.5 -1.9
MASC Masc 133.90 68 *e*P PKPdf 16 31 49.0 +2.4
KEST Kesra 134.45 315 PKhKP 16 31 38.0
comp=Z,4.0nm,1.0s,baz=153,slow=6.8,SNR=3.3
KEST PKP PKPdf 16 31 48.0 +0.4
comp=Z,18nm,0.9s,baz=323,slow=3.0,SNR=20
KEST SKP 16 35 18.6
comp=Z,11nm,1.1s,baz=45,slow=1.4,SNR=2.8
ROSC El Rosal 134.69 90 PKhKP 16 31 39.5
comp=Z,4.2nm,0.4s,baz=128,slow=22,SNR=4.4
ROSC PKP PKPdf 16 31 50.0 +1.9
comp=Z,61nm,0.7s,baz=319,slow=2.2,SNR=30
ROSC SKP 16 35 19.0
comp=Z,4.0nm,0.4s,baz=263,slow=23,SNR=9.0
LPAZ La Paz 135.03 121 PKhKP 16 31 34.5
comp=Z,5.2nm,0.8s,baz=42,slow=2.6,SNR=11
LPAZ PKP PKPdf 16 31 50.5 +1.8
comp=Z,38nm,0.8s,baz=277,slow=2.1,SNR=40
LPAZ SKP 16 35 24.1
comp=Z,9.8nm,0.9s,baz=338,slow=24,SNR=9.5
LPAZ La Paz 135.03 121 *e*PKHKP 16 31 32.6
LPAZ *e* 16 31 50.1
LPAZ MLR MLR
comp=Z,1μm,20.0s
LPAZ La Paz 135.03 121 *e*PKPpre 16 31 32.6
LPAZ *e*PKPdf PKPdf 16 31 50.1 +1.4
LPAZ PKP PKPdf 16 31 50.5 +1.7
LPAZ SKP 16 35 24.1
LPAZ LR LR
comp=Z,1μm,20.0s,MS5.6
CMAH Djebel Manchou 135.30 317 P PKPdf 16 31 53.0 +3.8
EPF Esparros 135.39 329 *e*PKIKP PKPdf 16 31 47.0 -2.4
comp=Z,97nm,1.2s
ABSA Djebel Ababsia 135.46 317 P PKPdf 16 31 54.0 +4.5
CAEH 'Ain El Ouahch 135.60 318 P PKPdf 16 31 56.5 +6.7
CKFL Kef-Lekhel 135.90 318 P PKPdf 16 31 56.0 +5.7
SJPF Ste Jean 136.11 331 *e*PKIKP PKPdf 16 31 51.4 +0.7
comp=Z,66nm,0.7s
CASM Ain Smara 136.13 318 P PKPdf 16 31 55.0 +4.2
CTEI Djebel Teioual 136.29 317 P PKPdf 16 31 57.0 +5.9
DFRA Djebel Bou Aff 136.38 318 P PKPdf 16 31 58.0 +6.8
CMER Merouana 136.88 317 P PKPdf 16 31 54.0 +1.8
SET Setif 136.89 318 P PKPdf 16 31 56.0 +3.8
BBSR BB Station 137.78 48 *e*PKPpre 16 31 50.9
BBSR LR LR
comp=Z,4μm,21.0s,MS6.1
EMHD Djebel Mahouad 138.48 320 P PKPdf 16 31 48.9 -6.2
SDV Santo Domingo 138.50 84 PKhKP 16 31 45.3
comp=Z,32nm,0.9s,baz=314,slow=2.4,SNR=7.4
SDV PKP PKPdf 16 31 56.1 +0.9
comp=Z,132nm,0.8s,baz=258,slow=1.9,SNR=34
SDV SKPbc SKPbc 16 35 29.7 +1.7
comp=Z,28nm,1.0s,baz=9.5,slow=19,SNR=22
SDV Santo Domingo 138.50 84 PKP PKPdf 16 31 45.3 -10
SDV *e*PKPdf PKPdf 16 31 56.1 +0.9
SDV LR LR
comp=Z,987nm,19.0s,MS5.6
EBNR Beni Rached 139.32 321 P PKPdf 16 31 50.9 -5.8
ECHA Ech Chlef 139.51 321 P PKPdf 16 31 51.0 -6.0
PBRG Braganca 139.67 334 *e*PKP PKPdf 16 31 49.4 -7.9
EANR 'Ain N'Sour 139.81 321 P PKPdf 16 31 51.7 -5.8
CART Cartagena 139.97 325 *e*PKPpre 16 31 51.7
ETRT Tiaret 140.03 320 P PKPdf 16 31 52.0 -6.0
ESDC Sonseca Array 140.05 330 PKhKP 16 31 50.4
comp=Z,6.0nm,0.7s,baz=28,slow=3.0,SNR=13
ESDC PKP PKPdf 16 31 59.1 +1.1
comp=Z,3.9nm,0.6s,baz=8.9,slow=3.1,SNR=13
ESDC PP PP 16 34 56.7 +1.8
comp=Z,2.6nm,0.7s,baz=26,slow=6.6,SNR=4.7

ESLA Sonseca Array 140.05 330 *e*PKPpre 16 31 50.0
ESLA LR LR
comp=Z,14μm,21.0s,MS6.7
PCAB Cabril 140.29 335 *e*PKP PKPdf 16 31 51.5 -6.9
PAB San Pablo 140.34 330 *e*PKHKP 16 31 51.1
PAB MLR MLR
comp=Z,2μm,21.0s,MS5.9
PVRL Vila Real 140.52 335 *e*PKP PKPdf 16 31 52.8 -6.0
PVIS Viseu 141.06 334 *e*PKP PKPdf 16 31 54.9 -4.9
SIV San Ignacio 141.07 125 PKhKP 16 31 52.4
comp=Z,27nm,0.8s,baz=228,slow=3.3,SNR=88
SIV PKP PKPdf 16 32 01.0 +1.2
comp=Z,40nm,0.8s,baz=233,slow=4.1,SNR=25
SIV PP PP 16 35 00.5 -0.7
comp=Z,10nm,0.9s,baz=232,slow=9.7,SNR=3.1
PCBR Castelo Branco 141.59 333 *e*PKP PKPdf 16 31 56.4 -4.4
CPD Cerro la Pandu 142.03 69 PKIKP PKPdf 16 31 57.6 -3.9
CPD Cerro la Pandu 142.03 69 *e*PKPpre 16 31 57.2
PTOM Tomar 142.19 334 *e*PKP PKPdf 16 31 57.7 -4.1
MTP Monte Pirata 142.35 69 *e*PKPpre 16 31 57.4
PESTR Estremoz 142.43 332 *e*PKP PKPdf 16 31 58.1 -4.2
PESTR Estremoz 142.43 332 *e*LQ 17 14 29.9
PESTR *e*LR LR 17 21 47.6
comp=Z,2μm,22.0s
SAML Samuel 142.50 114 *e*PKPpre 16 31 55.4
SAML LR LR
comp=Z,2μm,19.0s,MS6.0
EVO Evora 142.90 333 *e*PKIKP PKPdf 16 32 00.2 -2.9
comp=Z,130nm,0.9s
EVO *e*R
comp=Z,4μm,21.5s
MOE Montemor 143.06 333 *e*PKP PKPdf 16 32 02.0 -1.4
PMAFR Mafra 143.11 334 *e*PKP PKPdf 16 32 00.7 -2.8
PMAFR Mafra 143.11 334 *e*LQ 17 15 09.9
PMAFR *e*LR LR 17 21 45.2
comp=Z,2μm,20.0s
PLOU Loures 143.11 334 *e*PKP PKPdf 16 32 00.5 -3.0
PBEJ Beja 143.24 332 *e*PKP PKPdf 16 32 01.3 -2.4
LIS Lisbon 143.25 334 *e*P PKPdf 16 32 01.2 -2.6
SFS San Fernando 143.64 328 *e*PKIKP PKPdf 16 32 01.7 -2.7
PTEO Sao Teotonio 144.02 332 *e*PKP PKPdf 16 32 02.9 -2.2
PCRV Puerto La Cruz 144.37 82 PKP PKPdf 16 32 03.2 -2.4
comp=Z,135nm,0.9s,baz=215,slow=1.3,SNR=45
CPB Codrington 145.91 68 *e*P PKPdf 16 32 07.0 -1.4
LZG Guadaloupe-1 146.31 71 *e*P PKPdf 16 32 09.1 +0.1
TBG Guadaloupe-3 146.50 71 *e*P PKPdf 16 32 10.4 +1.1
MGG Marie-Galante 146.79 71 *e*P PKPdf 16 32 10.9 +1.1
MDN Morne-Daniel 146.85 72 *e*P PKPdf 16 32 10.6 +0.7
DWS Wesley 146.87 71 *e*P PKPdf 16 32 10.3 +0.3
DSHT Scott's Head 146.89 72 *e*P PKPdf 16 32 12.5 +2.5
GRW Mount Saint Ca 147.11 78 *e*P PKPdf 16 32 10.1 -0.3
TCE Chacachacare 147.16 80 *e*P PKPdf 16 32 11.9 +1.5
FDF Fort de France 147.19 73 *e*P PKPdf 16 32 12.4 +1.9
BIM Bigot 147.31 73 *e*P PKPdf 16 32 12.9 +2.2
SVB Belmont 147.35 75 *e*P PKPdf 16 32 10.3 -0.4
FCV Fort Charlotte 147.37 76 *e*P PKPdf 16 32 12.1 +1.3
SSV Crater Summit 147.40 75 *e*P PKPdf 16 32 11.7 +0.9
STGR Santa Cruz 147.47 359 *e*PKP PKPbc 16 32 15.7 +2.2
PVIA Vitoria 147.49 359 *e*PKP PKPbc 16 32 16.2 +2.6
TPP Pointe-a-Pierr 147.49 81 *e*P PKPdf 16 32 12.9 +2.0
TRN Trinidad (W) 147.51 80 *e*P PKPdf 16 32 12.6 +1.6
SRBC Serra Branca 147.52 359 *e*PKP PKPbc 16 32 15.9 +2.3
PGRA Graciosa 147.53 359 *e*PKP PKPbc 16 32 14.6 +0.9
PLUZ Luz 147.55 0 *e*PKP PKPbc 16 32 16.2 +2.5
PVNV Vila Nova 147.77 358 *e*PKP PKPbc 16 32 17.3 +3.0
PBIS Biscoitos 147.77 358 *e*PKP PKPbc 16 32 16.9 +2.6
PFAV Pico das Favas 147.81 357 *e*PKP PKPbc 16 32 17.1 +2.7
ASBA Santa Barbara 147.81 358 *e*PKP PKPbc 16 32 16.8 +2.4
PPAD Pico dos Padre 147.83 358 *e*PKP PKPbc 16 32 17.0 +2.5
ROSA Rosais 147.84 359 *e*PKP PKPbc 16 32 15.8 +1.3
TBH Brigand Hill 147.85 81 *e*P PKPdf 16 32 13.7 +2.1
RIB2 Ribeirinha 147.86 358 *e*PKP PKPbc 16 32 17.2 +2.6
ADH Angra Heroismo 147.88 358 *e*P PKPdf 16 32 13.3 +1.7
PAMA Santo Amaro 147.88 359 *e*PKP PKPbc 16 32 16.5 +1.9
PMAN Manadas 147.92 359 *e*PKP PKPbc 16 32 15.9 +1.2
PCED Cedros 147.94 360 *e*PKP PKPbc 16 32 15.9 +1.1
CALA Caldeira 147.98 360 *e*PKP PKPbc 16 32 17.2 +2.3
PICO Pico 148.06 359 *e*P PKPbc 16 32 15.0 -0.1
PTEI Pico do Teixo 148.06 359 *e*PKP PKPbc 16 32 17.7 +2.6
TPR Prospect 148.07 79 *e*P PKPbc 16 32 15.1 0.0
PCND Candelaria 148.09 359 *e*PKP PKPbc 16 32 17.4 +2.2
PID Ribeirinha 148.11 359 *e*PKP PKPbc 16 32 17.0 +1.8
PBOI Pico dos Bois 148.12 359 *e*PKP PKPbc 16 32 18.2 +2.9
SHEL Horse Pasture 148.13 226 *e*PKPab PKPab 16 32 18.4 +0.3
SHEL LR LR
comp=Z,681nm,19.0s,MS5.5
CAM4 Nova Friburgo 148.39 155 ⇓*i*P PKPdf 16 32 13.2 +0.7
CAM4 *i* 16 32 17.0
CAM4 *i* 16 32 21.8
PFAD Fenais da Ajud 148.56 355 *e*PKP PKPbc 16 32 19.3 +2.9
PMAT Coroa da Mata 148.60 355 *e*PKP PKPbc 16 32 20.0 +3.5
MIRA Miradouro 148.61 355 *e*PKP PKPbc 16 32 20.0 +3.5
PSET Sete Cidades 148.61 355 *e*PKP PKPbc 16 32 18.1 +1.6
MESC Monte Escuro 148.62 355 *e*PKP PKPbc 16 32 20.1 +3.5
PCNG Congro 148.64 355 *e*PKP PKPbc 16 32 19.5 +2.9
LFA Lagoa do Fogo 148.64 355 *e*PKP PKPbc 16 32 19.7 +3.1
CML Cha da Macela 148.65 355 *e*PKP PKPbc 16 32 20.2 +3.6
VIF Vila Franca 148.67 355 *e*PKP PKPbc 16 32 19.5 +2.8
PDA Ponta Delgada 148.68 355 *e*PKP PKPbc 16 32 19.0 +2.3
PDA Ponta Delgada 148.68 355 *i* PKP PKPbc 16 32 20.4 +3.7
PDA *e*P 16 32 27.8
PDA *e*P 16 35 22.0
PDA Ponta Delgada 148.68 355 *e*LR LR 17 22 24.0
PRCH Ribeira Ch 148.69 355 *e*PKP PKPbc 16 32 20.4 +3.7
BBGH Gun Hill 149.00 75 *e*PKPab PKPab 16 32 20.1 -1.6
TORD Torodi Ar. Bea 149.22 285 PKP PKPdf 16 32 13.1 -0.7
comp=Z,18nm,0.8s,baz=38,slow=1.2,SNR=72
TORD PKPbc PKPbc 16 32 19.4 +1.4
comp=Z,245nm,0.6s,baz=72,slow=2.6,SNR=335
TORD SKP 16 35 46.2
comp=Z,4.0nm,0.8s,baz=92,slow=3.4,SNR=3.0
PSMN Pico do Norte, 149.37 354 *e*PKP PKPbc 16 32 20.0 +1.6
CAM3 Guarapari 150.67 157 ⇓*i*P PKPdf 16 32 18.9 +2.8
CAM3 *i* 16 32 22.0
CAM3 *i* 16 32 29.2
PMPS Porto Santo 151.06 338 *e*PKP PKPbc 16 32 23.9 +1.4
PMAR Madeira 151.58 339 *e*PKP PKPbc 16 32 25.4 +1.7
LIC Lamto 156.36 271 *e*PKIKP PKPdf 16 32 24.0 -0.2
comp=Z,80nm,0.7s
LIC *e*R
comp=Z,5μm,22.2s
LIC Lamto 156.36 271 *e*PKPdf PKPdf 16 32 24.0 -0.2
LIC LR LR
comp=Z,2μm,22.3s,MS6.0
ASCN Ascension 159.73 226 *e*PKPab PKPab 16 33 08.7 +1.6
ASCN LR LR
comp=Z,658nm,22.0s,MS5.4

IDC ***13*** *16:21:15.1±1.9,639S×1515E,h0km,mb4.3/6,mb1 4.5/7, mb1mx4.3/14,mbtmp4.4/7,ML3.2/1,MS5.4/1,Ms1 5.4/1, ms1mx4.6/25,Error ellipse: s-maj=58.6km s-min=22.3km az=110.0*

ISCJB ***13*** *16:21:17.5±6.5,63S±0.1×1514E±0.1,h23km±46km, mb4.2/6,Error ellipse: s-maj=27.7km s-min=15.3km az=70.6*

NEIC ***13*** *16:21:17.1±0.7,627S×1514E,h10km,Error ellipse: s-maj=21.6km s-min=10.4km az=113.0*

ISC 13 16:21:19.0±6.5,64S±0.1×1515E±0.1,h22km±46km,n17, σ0568/18,mb4.2/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**234**	Pn	Pn		**16 22 35.7**	**-0.6**
	5.9nm,0.3s,baz=27,slow=16,SNR=4.0							
PMG				Sn	**Sn**		**16 23 35.8**	**-0.5**
	15nm,0.3s,baz=357,slow=20,SNR=5.9							
PMG	**Port Moresby**	**5.26**	**234**	*e*P	**Pn**		**16 22 35.4**	**-0.9**
PMG				Sn	**Sn**		**16 23 35.8**	**-0.5**
PMG				S	**Sn**		**16 23 36.1**	**-0.2**
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**		**16 26 06.6**	**+0.9**
WRA	**Warramunga Arr**	**21.46**	**229**	P	**P**		**16 26 06.0**	**+0.2**
	6.8nm,0.7s,mb4.1,baz=53,slow=10,SNR=5.8							
AS31	**Alice Springs**	**24.14**	**223**	*e*P	**P**		**16 26 33.5**	**+0.2**
ASAR	**Alice Springs**	**24.14**	**223**	P	**P**		**16 26 33.5**	**+0.2**
	5.3nm,0.7s,mb4.1,baz=65,slow=8.7,SNR=7.7							
STKA	**Stephens Creek**	**27.03**	**199**	P	**P**		**16 26 58.4**	**-1.1**
	6.7nm,0.7s,mb4.3,baz=14,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**27.03**	**199**	*e*P	**P**		**16 27 01.9**	**+2.4**
FITZ	**Fitzroy Crossi**	**27.80**	**243**	P	**P**		**16 27 06.1**	**-0.2**
	13nm,0.8s,mb4.6,baz=89,slow=9.7,SNR=5.8							

MBWA	**Marble Bar**	**34.09**	**241**	*e*P	**P**	**16 28 09.2 +7.4**
YHNB	**Yeheng**	**42.56**	**318**	*e*P	**P**	**16 29 13.7 +0.6**
SONM	**Songino Array**	**66.95**	**329**	P	**P**	**16 32 10.2 +0.4**
	1.3nm,0.5s,mb4.2,baz=148,slow=5.3,SNR=8.1					
VNDA	**Vanda**	**71.34**	**178**	*e*P	**P**	**16 32 36.9 -0.1**
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**16 33 29.7 -0.3**
	1.6nm,0.8s,mb4.0,baz=104,slow=8.4,SNR=4.8					
COLA	**College**	**83.76**	**22**	*e*P	**P**	**16 33 45.4 -1.0**
TOA0	**Torodi Ar. Sit**	**149.50**	**285**	*e*PKPbc	PKPbc	16 41 07.2 +0.8
TORD	**Torodi Ar. Bea**	**149.50**	**285**	PKPbc	PKPbc	16 41 07.3 +0.9
	5.5nm,0.7s,baz=69,slow=3.0,SNR=12					

IDC 13 16:26:07.2±3.8, 613S×15095E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.5/12, mbtmp3.6/2, MS4.6/1, Ms1 4.6/1, ms1mx3.8/21, Error ellipse: s-maj=150.2km s-min=50.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**229**	LR	LR	16 28 43.1	
	comp=Z,6μm,19.1s,baz=73,slow=31						
WRA	**Warramunga Arr**	**21.19**	**228**	P	P	16 30 55.6	+1.4
	1.6nm,0.8s,baz=54,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**23.94**	**221**	P	P	16 31 22.4	-0.5
	1.6nm,0.7s,baz=55,slow=9.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**148.92**	**285**	PKPbc	PKPbc	16 45 57.7	+0.8
	0.8nm,0.6s,baz=61,slow=2.9,SNR=4.8						

IDC 13 16:30:13.9±3.1, 625S×15141E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=134.6km s-min=40.4km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**233**	Pn	Pn	16 31 33.9	+0.3
	1.5nm,0.3s,baz=343,slow=17,SNR=4.0						
PMG				Sn	Sn	16 32 37.2	+2.3
	1.6nm,0.3s,baz=9.0,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**21.45**	**229**	P	P	16 35 04.9	+1.1
	0.7nm,0.6s,baz=54,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**24.15**	**222**	P	P	16 35 31.1	-0.6
	0.6nm,0.6s,baz=59,slow=9.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	PKPbc	16 50 05.8	+1.0
	0.7nm,0.8s,baz=82,slow=2.8,SNR=3.5						

ISCJB ***13*** *16:36:39.9±2.1, 642S±005×15129E±006, h6km±13km, mb4.9/46, MS5.2/3, Error ellipse: s-maj=10.4km s-min=6.8km az=55.7*

BJI ***13*** *16:36:40.0, 634S×15128E, h7km, mB5.9, mb4.8, Ms5.4, Msz5.2*

GCMT ***13*** *16:36:41.8±0.4, 657S×15135E, h18km±1km, MW5.2/53, Moment Tensor Solution. s10,c11; s53,c78; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr=0.84±.08; Mθθ=0.66±.05; Mφφ=0.18±.04; Mrθ=0.10±.11; Mφθ=0.32±.03; Mrφ=0.28±.13; Best double couple: M=0.87400×10^17 NP1=φ=75.00000°, δ=39.00000°, λ=-71.00000°. NP2: φ=231.00000°, δ=53.00000°, λ=-105.00000°. Principal axes: T 0.8410, Plg7.0000°, Azm332.0000°; N 0.0670, Plg12.0000°, Azm240.0000°; P -0.9080, Plg76.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *16:36:41.8±0.3, 641S×15132E, h10km, mb5.1/20 Error ellipse: s-maj=10.5km s-min=7.4km az=108.0*

MOS ***13*** *16:36:43.9±0.8, 638S×15128E, h33km, mb5.0/23, Error ellipse: s-maj=13.4km s-min=11.1km az=82.8*

IDC ***13*** *16:36:47.2±1.9, 649S×15132E, h46km±18km, mb4.5/16, mb1 4.5/19, mb1mx4.5/21, mbtmp4.5/19, ML3.8/3, MS4.4/2, Ms1 4.4/2, ms1mx4.2/27, Error ellipse: s-maj=15.6km s-min=10.7km az=120.0*

ISC 13 16:36:46.5±1.1, 649S±005×15135E±005, h41km±10km, h40km±8.7km; pP-P, n130, σ0§94/115, mb4.9/46, MS5.2/3, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.07**	**235**	P	Pn	**16 38 02.0**	**+2.2**
	7.9nm,0.3s,baz=71,slow=6.7,SNR=22						
PMG				S	Sn	**16 38 58.1**	**+1.0**
	14nm,0.3s,baz=18,slow=20,SNR=8.8						
PMG				LR	LR	16 39 18.6	
	comp=Z,3μm,21.3s,baz=329,slow=30						
PMG	**Port Moresby**	**5.07**	**235**	*e*Pn	Pn	**16 38 00.4**	**+0.5**
PMG	**Port Moresby**	**5.07**	**235**	*e*Pn	Pn	**16 38 01.3**	**+1.4**
	182nm,0.8s						
PMG				*e*Sn	Sn	**16 38 56.5**	**-0.6**
HNR	**Honiara**	**9.00**	**110**	P	Pn	**16 38 53.5**	**-0.3**
	3.9nm,0.3s,baz=265,slow=4.4,SNR=6.1						
HNR				LR	LR	16 41 01.6	
	comp=Z,3μm,19.6s,baz=358,slow=28						
HNR	**Honiara**	**9.00**	**110**	P	Pn	**16 38 53.5**	**-0.3**
HNR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,3μm,19.6s						
HNR	**Honiara**	**9.00**	**110**	*e*P	Pn	**16 38 55.7**	**+1.8**
	comp=Z,64nm,0.7s						
CTA	**Charters Tower**	**14.40**	**200**	*e*P	Pn	**16 40 06.9**	**-0.7**
	comp=Z,6.9nm,0.9s						
CTA	**Charters Tower**	**14.40**	**200**	P	Pn	**16 40 07.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=6.7						
CTA	**Charters Tower**	**14.40**	**200**	*e*P	Pn	**16 40 06.9**	**-0.7**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**14.40**	**200**	*e*P	Pn	**16 40 06.9**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,20nm,1.1s						
CTAO	**Charters Tower**	**14.40**	**200**	*e*P	Pn	**16 40 06.9**	**-0.7**
	comp=Z,20nm,1.1s						
KAKA	**Kakadu**	**19.64**	**250**	*e*P	Pn	**16 41 11.7**	**-1.6**
	comp=Z,48nm,0.7s						
GUMO	**Guam**	**20.96**	**342**	P	P	**16 41 26.8**	**+0.9**
	comp=Z,88nm,0.9s,baz=106,slow=4.4,SNR=3.5						
GUMO	**Guam**	**20.96**	**342**	P	P	**16 41 26.8**	**+0.9**
GUMO				pmax	pmax		
	comp=Z,88nm,0.9s						
WRAB	**Tennant Creek**	**21.24**	**229**	*e*P	P	**16 41 29.1**	**+0.1**
WB2	**Warramunga Arr**	**21.25**	**229**	*e*P	P	**16 41 28.7**	**-0.3**
WRA	**Warramunga Arr**	**21.26**	**229**	P	P	**16 41 29.0**	**-0.1**
	comp=Z,18nm,0.9s,mb4.4,baz=57,slow=11,SNR=41						
WRA				S	S	**16 45 23.6**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=55,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**21.26**	**229**	P	P	**16 41 29.0**	**-0.1**
WRA				S	S	**16 45 23.6**	**+0.6**
WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
WRA				smax			
	comp=N,2.0nm,1.0s						
DZM	**Mont Dzumac**	**21.27**	**138**	P	P	**16 41 30.0**	**+0.8**
	comp=N,20nm,0.9s,mb4.5,baz=43,slow=11,SNR=9.5						
AS31	**Alice Springs**	**23.94**	**223**	*e*P	P	**16 41 56.8**	**+0.1**
ASAR	**Alice Springs**	**23.94**	**223**	P	P	**16 41 57.0**	**+0.3**
	comp=N,15nm,0.7s,mb4.5,baz=58,slow=9.4,SNR=71						
ASAR				S	S	**16 46 14.8**	**+4.3**
	comp=N,7.0nm,1.3s,baz=35,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**23.94**	**223**	P	P	**16 41 57.0**	**+0.3**
ASAR				S	S	**16 46 14.8**	**+4.3**
ASAR				pmax	pmax		
	comp=Z,15nm,0.7s						
ASAR				smax			
	comp=N,7.0nm,1.3s						
STKA	**Stephens Creek**	**26.86**	**199**	*e*P	P	**16 42 22.8**	**-0.4**
	comp=N,15nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**26.86**	**199**	P	P	**16 42 23.5**	**+0.3**
	comp=N,24nm,1.0s,mb4.7,baz=8.2,slow=11,SNR=16						
FITZ	**Fitzroy Crossi**	**27.60**	**243**	*e*P	P	**16 42 29.1**	**-0.8**
	comp=N,45nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.60**	**243**	P	P	**16 42 30.2**	**+0.3**
	comp=N,26nm,0.6s,mb5.0,baz=63,slow=9.3,SNR=16						
FORT	**Forrest**	**32.58**	**219**	*e*P	P	**16 43 12.2**	**-1.7**
	comp=N,20nm,0.7s,mb5.2						
JOW	**Kunigami**	**39.96**	**327**	P	P	**16 44 17.9**	**+0.9**
	comp=N,9.3nm,0.6s,mb4.7,baz=208,slow=7.1,SNR=6.5						
YHNB	**Yeheng**	**42.57**	**318**	*e*P	P	**16 44 39.2**	**+1.0**
MJAR	**Matsushiro Arr**	**44.54**	**345**	P	P	**16 44 54.2**	**0.0**
	comp=N,1.6nm,0.6s,mb4.0,baz=169,slow=8.5,SNR=5.2						
MJAR				PcP	PcP	16 46 37.2	+0.4
	comp=N,3.6nm,0.6s,baz=155,slow=3.5,SNR=8.8						
KSRS	**Korea Array**	**48.88**	**335**	P	P	**16 45 26.7**	**-1.4**
	comp=N,2.0nm,0.8s,mb4.2,baz=161,slow=7.6,SNR=4.4						
KSRS				PcP	PcP	16 46 54.2	+2.1
	comp=N,6.2nm,0.7s,baz=171,slow=2.9,SNR=14						
NJ2	**Nanjing**	**49.28**	**323**	*e*P	P	**16 45 30.4**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
MDJ	**Mudanjiang**	**54.51**	**341**	P	P	**16 46 11.0**	**+0.9**
MDJ				PP	PP	16 48 13.8	+1.2
MDJ				SCP	ScP	16 51 07.0	-1.1
MDJ				PCS	PcS	16 51 13.1	+0.4
MDJ				S	S	**16 53 47.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,14nm,2.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,3μm,11.1s						
MDJ				LR	LR		
	comp=N,2μm,18.6s						
MDJ				LR	LR		
	comp=E,816nm,12.2s						
MDJ				LR	LR		
	comp=Z,5μm,16.8s,MS5.6						
KMI	**Kunming**	**56.76**	**306**	P	P	**16 46 27.8**	**+1.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
KMI	**Kunming**	**56.76**	**306**	P	P	**16 46 27.7**	**+1.4**
KMI				*PP	pP	16 46 42.3	+4.2
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KMI	**Kunming**	**56.76**	**306**	P	P	**16 46 27.7**	**+1.4**
	comp=Z,6.0nm,0.9s,mb4.6						
KMI				pP	pP	16 46 42.3	+4.2
KMI				sP	sP	16 46 49.6	+6.7
XAN	**Xi'an**	**56.87**	**318**	P	P	**16 46 26.1**	**-1.0**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	**57.44**	**297**	P	P	**16 46 30.8**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
CHTO	**Chiang Mai**	**57.44**	**297**	P	P	**16 46 30.8**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.3						
CD2	**Chengdu**	**58.76**	**312**	*e*P	P	**16 46 41.3**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**59.60**	**326**	*e*P	P	**16 46 48.0**	**+1.9**
HHC				PCP	PcP	16 47 37.5	+4.5
HHC				PP	PP	16 49 01.4	+3.5
HHC				SCP	ScP	16 51 31.6	+1.0
HHC				PCS	PcS	16 51 35.4	+0.2
HHC				S	S	**16 54 54.6**	**+1.3**
HHC				SCS	ScS	16 56 30.9	-2.1
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,3μm,9.6s						
HHC				LR	LR		
	comp=N,618nm,17.3s,MS5.0						
HHC				LR	LR		
	comp=E,755nm,18.0s,MS5.0						
HHC				LR	LR		
	comp=Z,846nm,18.0s,MS4.9						
LZH	**Lanzhou**	**61.45**	**317**	*e*P	P	**16 46 57.8**	**-1.0**
LZH				AP	pP	16 47 08.6	-2.1
LZH				XP	sP	16 47 12.8	-2.7
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,127nm,4.0s						
LZH	**Lanzhou**	**61.45**	**317**	*e*P	P	**16 46 57.8**	**-1.0**
LZH				*PP	pP	16 47 08.6	-2.1
LZH				*SP	sP	16 47 12.8	-2.7
LZH				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.3						
LZH	**Lanzhou**	**61.45**	**317**	*e*P	P	**16 46 57.8**	**-1.0**
	comp=Z,30nm,1.3s,mb5.3						
LZH				pP	pP	16 47 08.6	-2.1
LZH				sP	sP	16 47 12.8	-2.7
HIA	**Hailar**	**62.00**	**337**	*e*P	P	**16 47 01.4**	**-1.0**
GTA	**Gaotai**	**65.93**	**318**	*e*P	P	**16 47 28.4**	**+0.1**
GTA				AP	pP	16 47 37.3	-3.0
GTA				XP	sP	16 47 41.0	-4.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
SONM	**Songino Array**	**67.00**	**329**	P	P	**16 47 35.4**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.5,baz=139,slow=4.2,SNR=20						
SONM	**Songino Array**	**67.00**	**329**	P	P	**16 47 35.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSA	**Lhasa**	**68.02**	**305**	*e*P	P	**16 47 42.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**68.02**	**305**	*e*P	P	**16 47 42.4**	**+0.9**
	comp=Z,7.8nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**70.19**	**330**	*e*P	P	**16 47 54.3**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
YAK	**Yakutsk**	**70.34**	**349**	*e*P	P	**16 47 55.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
YAK	**Yakutsk**	**70.34**	**349**	*e*P	P	**16 47 55.0**	**-0.9**
	comp=Z,13nm,1.0s,mb4.8						
VNDA	**Vanda**	**71.21**	**178**	P	P	**16 48 01.3**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.4,baz=321,slow=8.4,SNR=12						
VNDA	**Vanda**	**71.21**	**178**	P	P	**16 48 01.3**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**71.21**	**178**	P	P	**16 48 01.3**	**+0.1**
JIRN	**Jiri**	**71.44**	**302**	*e*P	P	**16 48 02.4**	**-0.2**
	comp=Z,7.1nm,0.7s,mb4.7						
GUN	**Gumba**	**71.77**	**302**	*e*P	P	**16 48 04.7**	**+0.1**
	comp=Z,23nm,0.8s,mb5.2						
SBA	**Scott Base**	**71.78**	**177**	*e*P	P	**16 48 06.0**	**+1.4**
SBA				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.7						
SBA	**Scott Base**	**71.78**	**177**	*e*P	P	**16 48 06.0**	**+1.3**
	comp=Z,17nm,1.6s,mb4.7						
KKN	**Kakani**	**72.24**	**302**	*e*P	P	**16 48 06.8**	**-0.6**
	comp=Z,17nm,0.7s,mb5.1						
DMN	**Daman**	**72.34**	**302**	*e*P	P	**16 48 07.9**	**-0.1**
	comp=Z,19nm,0.7s,mb5.1						
GKN	**Gorkha**	**72.85**	**302**	*e*P	P	**16 48 10.6**	**-0.4**
	comp=Z,40nm,1.1s,mb5.3						
KOLN	**Koldanda**	**73.66**	**301**	*e*P	P	**16 48 15.1**	**-0.7**
	comp=Z,28nm,0.9s,mb5.2						
BILL	**Bilibino**	**75.10**	**6**	*e*P	P	**16 48 24.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
BILL	**Bilibino**	**75.10**	**6**	*e*P	P	**16 48 24.0**	**-0.1**
	comp=Z,27nm,0.9s,mb5.2						
HYB	**Hyderabad**	**75.69**	**290**	*i* P	P	**16 48 28.0**	**+0.4**
HYB	**Hyderabad**	**75.69**	**290**	*e*P	P	**16 48 28.0**	**+0.4**
WMQ	**Urumqi**	**76.01**	**318**	||P	P	**16 48 29.6**	**+0.2**
WMQ				PCP	PcP	16 48 42.1	+0.5
WMQ				PP	PP	16 51 22.1	+1.8
WMQ				S	S	16 58 07.1	-2.5
WMQ				AMB	AMB		
	comp=Z,72nm,1.3s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,1μm,9.0s						
WMQ				LR	LR		
	comp=N,835nm,19.3s,MS5.2						
WMQ				LR	LR		
	comp=E,948nm,19.7s,MS5.2						
WMQ				LR	LR		
	comp=Z,959nm,18.5s,MS5.1						
KDAK	**Kodiak Island**	**78.32**	**27**	P	P	**16 48 43.6**	**+1.3**
	comp=Z,12nm,0.8s,mb4.9,baz=294,slow=10.0,SNR=3.6						
NDI	**New Delhi**	**79.34**	**301**	*e*P	P	**16 48 46.0**	**-1.9**
MKAR	**Makanchi Array**	**80.65**	**319**	P	P	**16 48 54.5**	**-0.5**
	comp=Z,8.2nm,1.1s,mb4.6,baz=102,slow=5.4,SNR=20						
MKAR	**Makanchi Array**	**80.65**	**319**	P	P	**16 48 54.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MKAR	**Makanchi Array**	**80.65**	**319**	P	P	**16 48 54.5**	**-0.6**
ZAL	**Zalesovo**	**81.77**	**327**	P	P	**16 48 59.8**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=18,slow=4.3,SNR=9.7						
ZAL	**Zalesovo**	**81.77**	**327**	P	P	**16 48 59.8**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SML	**Sawmill**	**82.25**	**25**	*e*P	P	**16 49 03.5**	**+0.1**
IMA2	**Indian Mountai**	**82.52**	**20**	*e*P	P	**16 49 04.9**	**0.0**
NVS	**Novosibirsk**	**82.95**	**327**	*e*P	P	**16 49 06.2**	**-0.9**
MCK	**McKinley**	**82.97**	**23**	*e*P	P	**16 49 06.2**	**-1.0**
MCK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
MCK	**McKinley**	**82.97**	**23**	*e*P	P	**16 49 06.2**	**-1.0**
	comp=Z,11nm,0.8s,mb5.0						
DIV	**Divide**	**83.01**	**26**	*e*P	P	**16 49 07.1**	**-0.3**
	comp=Z,21nm,0.7s,mb5.3						
MAW	**Mawson**	**83.47**	**203**	P	P	**16 49 10.3**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.5,baz=69,slow=8.6,SNR=4.5						
MAW	**Mawson**	**83.47**	**203**	P	P	**16 49 10.3**	**+0.5**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QSPA	**South Pole Qui**	**83.48**	**180**	⇑ *i*P	P	**16 49 09.7**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
COLA	**College**	**83.94**	**22**	*e*P	P	**16 49 10.8**	**-1.4**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
COLA	**College**	**83.94**	**22**	*e*P	P	**16 49 10.8**	**-1.4**
	comp=Z,17nm,0.8s,mb5.2						
KZA	**Kyzart**	**84.10**	**313**	P	P	**16 49 14.9**	**+1.9**
	SNR=6.9						
KURK	**Kurchatov**	**84.21**	**322**	*e*P	P	**16 49 12.4**	**-1.2**
KURK	**Kurchatov**	**84.21**	**322**	*e*P	P	**16 49 12.5**	**-1.1**
	comp=Z,16nm,1.0s,mb5.1						
UCH	**Uchtor**	**84.67**	**313**	P	P	**16 49 17.8**	**+1.9**
	SNR=14						
CHMS	**Chumysh**	**84.68**	**314**	P	P	**16 49 16.8**	**+0.8**
	SNR=7.6						
AAK	**Ala-Archa**	**84.78**	**314**	P	P	**16 49 17.6**	**+1.1**
	SNR=13						
AAK	**Ala-Archa**	**84.78**	**314**	*e*P	P	**16 49 15.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**84.78**	**314**	*e*P	P	**16 49 16.1**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.9						
USP	**Ospenovka**	**84.93**	**314**	P	P	**16 49 18.0**	**+0.8**
	SNR=18						
AML	**Almayashu**	**85.24**	**313**	P	P	**16 49 20.0**	**+1.2**
	SNR=22						
EKS2	**Erkin-Say**	**85.30**	**314**	P	P	**16 49 20.3**	**+1.3**
	SNR=19						
EGAK	**Eagle**	**86.47**	**23**	*e*P	P	**16 49 24.9**	**0.0**
	comp=Z,22nm,0.9s,mb5.4						
DAWY	**Dawson**	**86.91**	**24**	*e*P	P	**16 49 27.4**	**+0.4**
CHKZ	**Chkalovo**	**89.72**	**324**	*e*P	P	**16 49 38.2**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**89.72**	**324**	*e*P	P	**16 49 38.1**	**-2.2**
	comp=Z,2.5nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**90.53**	**323**	*e*P	P	**16 49 42.6**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**90.53**	**323**	*e*P	P	**16 49 42.6**	**-1.5**
	comp=Z,2.2nm,0.7s,mb4.6						
INK	**Inuvik**	**90.54**	**21**	P	P	**16 49 43.6**	**-0.5**
	comp=Z,12nm,1.0s,mb5.2,baz=229,slow=9.5,SNR=11						
INK	**Inuvik**	**90.54**	**21**	P	P	**16 49 43.6**	**-0.5**
INK				pmax	pmax		
	comp=Z,12nm,1.0s						
INK	**Inuvik**	**90.54**	**21**	*e*P	P	**16 49 43.6**	**-0.5**
	comp=Z,374nm,0.9s,mb6.7						
PDAR	**Pinedale Array**	**101.04**	**48**	P	Pdif	16 50 32.0	+0.1
	comp=Z,0.8nm,0.7s,baz=235,slow=3.2,SNR=6.3						
VNA3	**Neumayer Olymp**	**101.41**	**186**	*e*Pdiff	Pdif	16 50 29.6	-3.9
VNA3				*e*		16 50 37.8	
VNA2	**Neumayer--Watz**	**101.45**	**187**	*e*Pdiff	Pdif	16 50 29.0	-4.7
VNA2				*e*		16 50 37.0	
AKASG	**Malin Array Be**	**115.00**	**324**	PKP	PKiKP	16 55 22.9	0.0
	comp=Z,0.6nm,0.4s,baz=56,slow=2.1,SNR=4.3						
AKASG	**Malin Array Be**	**115.00**	**324**	PKIKP	PKiKP	16 55 22.9	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**115.00**	**324**	PKP	PKiKP	16 55 22.9	0.0
CLL	**Collm**	**123.61**	**330**	*e*PKPpre		16 55 37.0	
CLL				*e*PKPdf	PKPdf	16 55 40.0	+0.5
KHC	**Kasperske Hory**	**124.61**	**328**	*i* PKIKP	PKPdf	16 55 41.1	-0.3
GRA1	**Grafenberg Arr**	**125.50**	**329**	*e*PKP	PKPdf	16 55 41.5	-1.6
GRF	**Grafenberg Arr**	**125.50**	**329**	*e*PKPdf	PKPdf	16 55 41.5	-1.6
HAU	**Haudompre**	**129.04**	**330**	*e*PKIKP	PKPdf	16 55 48.0	-1.9
LPG	**La Plagne**	**130.50**	**328**	*e*PKIKP	PKPdf	16 55 51.3	-1.4
MBDF	**Montbardon**	**130.99**	**327**	*e*PKIKP	PKPdf	16 55 52.7	-0.9
	comp=Z,9.2nm,0.8s						
SSF	**Saint Saulge**	**131.08**	**331**	*e*PKIKP	PKPdf	16 55 51.6	-2.1
	comp=Z,18nm,1.2s						
SBF	**Sospel**	**131.18**	**326**	*e*PKIKP	PKPdf	16 55 51.9	-2.0
	comp=Z,26nm,0.9s						
FRF	**La Foret Royal**	**131.81**	**326**	*e*PKIKP	PKPdf	16 55 52.0	-3.1
	comp=Z,27nm,1.2s						
LPAZ	**La Paz**	**134.85**	**121**	PKP	PKPdf	16 56 02.5	+1.7
	comp=Z,2.7nm,0.8s,baz=327,slow=1.7,SNR=13						
LPAZ	**La Paz**	**134.85**	**121**	PKIKP	PKPdf	16 56 02.5	+1.7
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EVO	**Evora**	**143.03**	**333**	*e*PKIKP	PKPdf	16 56 12.9	-2.9
	comp=Z,11nm,0.9s						
PCRV	**Puerto La Cruz**	**144.22**	**82**	PKP	PKPdf	16 56 16.7	-1.1
	comp=Z,6.4nm,0.5s,baz=225,slow=4.3,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**149.40**	**285**	*e*PKPbc	PKPbc	16 56 31.3	+0.3
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKP	PKPdf	16 56 26.8	+0.2
	comp=Z,9.6nm,1.2s,baz=68,slow=2.0,SNR=4.6						
TORD				PKPbc	PKPbc	16 56 31.8	+0.8
	comp=Z,18nm,0.9s,baz=33,slow=2.1,SNR=59						
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKP	PKPdf	16 56 26.8	+0.2
TORD				PKPbc	PKPbc	16 56 31.8	+0.8

IDC ***13*** *16:49:44.8±9.3, 1981S×17738W, h508km±84km, mb3.5/5, mb1 3.6/7, mb1mx3.4/16, mbtmp3.5/7, Error ellipse: s-maj=80.2km s-min=24.2km az=44.0*

NEIC ***13*** *16:49:46.5±5.7, 1975S×17748W, h527km±49km, mb

ASAR	**Alice Springs**	**44.69**	**257**	P		P	17 03 21.6	-0.8
	1.8nm,0.9s,baz=95,slow=8.5,SNR=11							
WRA	**Warramunga Arr**	**44.76**	**262**	P		P	17 03 23.9	+0.9
	2.2nm,0.8s,baz=95,slow=8.3,SNR=17							
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P		P	17 04 28.5	+1.0
	1.9nm,1.0s,baz=108,slow=9.0,SNR=4.0							
PDAR	**Pinedale Array**	**88.76**	**43**	P		P	17 08 03.5	+0.1
	0.6nm,0.9s,baz=214,slow=6.3,SNR=3.7							

NEIC ***13*** *16:56:55.7, 3668N×28.13E, h26km, MD3.1(ATH), After ATH.*
ATH ***13*** *16:56:55.7, 3668N×28.13E, h26km±7km, MD3.1/3*
CSEM ***13*** *16:56:57.5±0.1, 3667N×2801E, h12km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.2km az=158.0*
ISCJB ***13*** *16:56:58.3±0.6, 3669N±005×2802E±005, h26km, Error ellipse: s-maj=7.9km s-min=5.3km az=149.7*
ISK ***13*** *16:56:58.2, 3670N×2804E, h6km, MD3.0*
ISC 13 16:56:58.2±0.6, 3666N±007×2803E±004, h17km±7km, n10, σ0§90/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.37**	**280**	**PG**	**Pg**	**16 57 05.6**	**-0.2**
DAT				SG	**Sg**	**16 57 12.0**	**+1.1**
ARG	**Arkhangelos**	**0.45**	**170**	*e*PB	**Pb**	**16 57 05.5**	**-2.2**
DALT	**Dalyan (Mudla)**	**0.50**	**78**	PG	**Pg**	**16 57 08.1**	**-0.1**
DALT				SG	**Sg**	**16 57 15.2**	**+0.2**
YER	**Yerkesik**	**0.51**	**24**	PG	**Pg**	**16 57 08.1**	**-0.3**
MLSB	**Milas**	**0.66**	**342**	*e*PG	**Pg**	**16 57 10.6**	**-0.3**
FETY	**Fethiye**	**0.85**	**92**	*e*PG	**Pg**	**16 57 15.0**	**+0.3**
KARP	**Karpathos**	**1.32**	**212**	*e*PN	**Pn**	**16 57 21.4**	**-0.3**
KARP				*e*SN	**Sn**	**16 57 39.7**	**+0.9**
SMG	**Samos**	**1.41**	**318**	*e*PN	**Pn**	**16 57 22.3**	**-0.7**
ELL	**Elmali**	**1.52**	**86**	*e*PN	**Pn**	**16 57 26.4**	**+2.0**
NPS	**Neapolis**	**2.41**	**235**	*e*PN	**Pn**	**16 57 36.6**	**-0.1**

ISCJB ***13*** *16:59:10.5±1.1, 3353N±005×1419E±01, h10km, mb3.3/2, Error ellipse: s-maj=12.8km s-min=6.5km az=144.7*
JMA ***13*** *16:59:10.4±0.3, 3351N×14190E, h9km, M3.2*
IDC ***13*** *16:59:19.1±1.5, 3281N×13855E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/21, mbtmp3.0/3, ML2.6/1, Error ellipse: s-maj=31.2km s-min=19.2km az=130.0*
ISC 13 16:59:12.2±1.1, 3355N±005×1419E±01, h10km, n12, σ1§03/19, mb3.3/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.32**	**327**	P	**Pn**	**16 59 35.7**	**-1.0**
BSO1				*e*S	**Sb**	**16 59 53.9**	**-0.1**
BSO2	**Boso 2**	**1.50**	**323**	S	**Sn**	**17 00 00.3**	**+1.4**
BSO3	**Boso 3**	**1.67**	**319**	P	**Pn**	**16 59 41.1**	**-0.4**
BSO3				*e*S	**Sn**	**17 00 04.6**	**+1.6**
JHJ2	**Mitsune**	**1.76**	**256**	P	**Pn**	**16 59 42.3**	**-0.4**
JHJ2				*e*S	**Sn**	**17 00 05.7**	**+0.5**
JHJ	**Hachijo jima 2**	**1.79**	**257**	Pn	**Pn**	**16 59 41.9**	**-1.2**
	18nm,0.3s,baz=239,slow=19,SNR=9.6						
JHJ				Sn	**Sn**	**16 59 59.1**	**-6.7**
	25nm,0.3s,baz=73,slow=23,SNR=6.6						
BSO4	**Boso 4**	**1.91**	**319**	P	**Pn**	**16 59 45.1**	**+0.3**
JOD2	**Odawara 2**	**2.85**	**308**	P	**Pn**	**16 59 57.1**	**-0.7**
JOD2				*e*S	**Sn**	**17 00 30.5**	**-1.7**
JYN	**Shimob**	**3.35**	**306**	P	**Pn**	**17 00 04.9**	**+0.3**
JYN				S	**Sn**	**17 00 46.4**	**+1.9**
JAG	**Ashikaga**	**3.48**	**326**	S	**Sn**	**17 00 46.8**	**-0.8**
MJAR	**Matsushiro Arr**	**4.22**	**316**	Pn	**Pn**	**17 00 16.7**	**+0.1**
	0.4nm,0.3s,baz=165,slow=9.0,SNR=5.2						
MJAR				Sn	**Sn**	**17 01 05.2**	**-0.8**
	0.6nm,0.3s,baz=172,slow=5.2,SNR=3.6						
WRA	**Warramunga Arr**	**53.67**	**189**	P	**P**	**17 08 33.6**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=5.5,slow=7.4,SNR=4.0						
ASAR	**Alice Springs**	**57.40**	**189**	P	**P**	**17 09 02.9**	**+2.1**
	0.2nm,0.9s,mb3.2,baz=22,slow=11,SNR=2.6						

NEIC ***13*** *17:16:20.2±1.8, 627S×15157E, h10km, mb4.2/2, Error ellipse: s-maj=38.0km s-min=27.2km az=138.0*
ISCJB ***13*** *17:16:25.4±5.2, 62S±03×1513E±03, h59km±35km, mb3.8/3, Error ellipse: s-maj=53.5km s-min=38.7km az=113.3*
IDC ***13*** *17:16:28.8±8.9, 659S×15144E, h60km±64km, mb3.6/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.7/5, ML2.5/1, MS4.5/1, Ms1 4.5/1, ms1mx3.4/24, Error ellipse: s-maj=57.9km s-min=51.4km az=65.0*
ISC 13 17:16:26.5±5.1, 62S±03×1513E±03, h56km±34km, n14, σ0§71/14, mb3.8/3, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**232**	P	**Pn**	**17 17 42.5**	**+0.5**
	1.1nm,0.3s,baz=39,slow=11,SNR=5.6						
PMG				S	**Sn**	**17 18 40.9**	**0.0**
	1.6nm,0.3s,baz=186,slow=19,SNR=5.1						
KAKA	**Kakadu**	**19.70**	**249**	*e*P	**Pn**	**17 20 51.6**	**-1.4**
	3.9nm,0.6s						
WRAB	**Tennant Creek**	**21.42**	**229**	*e*P	**P**	**17 21 09.4**	**-0.3**
WB2	**Warramunga Arr**	**21.43**	**229**	*e*P	**P**	**17 21 09.0**	**-0.7**
WB2	**Warramunga Arr**	**21.43**	**229**	*e*P	**P**	**17 21 09.0**	**-0.7**
WRA	**Warramunga Arr**	**21.43**	**229**	P	**P**	**17 21 10.1**	**+0.3**
	1.6nm,0.6s,mb3.5,baz=56,slow=11,SNR=18						
AS31	**Alice Springs**	**24.15**	**222**	*e*P	**P**	**17 21 37.7**	**+0.5**
ASAR	**Alice Springs**	**24.15**	**222**	P	**P**	**17 21 37.5**	**+0.4**
	1.2nm,0.8s,baz=57,slow=8.7,SNR=36						
ASPA	**Alice Springs**	**24.15**	**222**	⇓*i*P	**P**	**17 21 37.7**	**+0.5**
STKA	**Stephens Creek**	**27.15**	**198**	P	**P**	**17 22 03.4**	**-1.0**
	1.4nm,0.6s,mb3.7,baz=0.0,slow=10,SNR=2.4						
STKA	**Stephens Creek**	**27.15**	**198**	*e*P	**P**	**17 22 03.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.71**	**242**	*e*P	**P**	**17 22 10.3**	**+0.9**
	5.2nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.71**	**242**	P	**P**	**17 22 10.6**	**+1.2**
	4.3nm,0.8s,mb4.1,baz=92,slow=8.4,SNR=16						
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	PKPbc	17 36 12.2	+3.4
	0.8nm,0.6s,baz=85,slow=2.4,SNR=6.2						

ISCJB ***13*** *17:17:46.8±0.3, 3522N±002×596W±003, h66km±5km, Error ellipse: s-maj=3.9km s-min=2.9km az=166.4*
LDG ***13*** *17:17:48.9±0.2, 3515N×590W, h30km, Md3.6/1, Ml3.5/4, Error ellipse: s-maj=4.2km s-min=3.4km az=30.0*
CSEM ***13*** *17:17:48.0±0.1, 3516N×574W, h40km, ML3.9/5, Error ellipse: s-maj=3.8km s-min=2.6km az=87.0*
MDD ***13*** *17:17:49.3±0.4, 3517N×592W, h49km±4km, mb4.3/14, Error ellipse: s-maj=4.9km s-min=3.1km az=91.0, PRXIMO*
NEIC ***13*** *17:17:50.9, 3534N×588W, h65km, MG3.7(MDD), After MDD.*
CNRM ***13*** *17:17:50.3, 3513N×599W, h32km, MD3.6*
INMG ***13*** *17:17:51.0±1.0, 3539N×586W, h30km±11km, MD3.0, ML2.7, Error ellipse: s-maj=6.6km s-min=3.1km az=16.0*
SFS ***13*** *17:17:51.0, 3537N×587W, h65km, ML3.7*
ISC 13 17:17:48.2±0.3, 3521N±002×596W±003, h53km±5km, n102, σ1§35/184, 4C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSY	**Tnine Yamani**	**0.16**	**356**	*i* P	**Pn**	**17 17 57.0**	**+0.3**
TSY				*i* S	**Sn**	**17 18 03.0**	**+0.3**
RSA	**Sarsar**	**0.35**	**162**	*i* P	**Pn**	**17 17 58.0**	**-0.1**
RSA				*i* S	**Sn**	**17 18 04.0**	**-1.2**
DKH	**Dar Kharkhour**	**0.56**	**60**	*i* P	**Pn**	**17 18 01.0**	**+0.6**
DKH				*i* S	**Sn**	**17 18 09.0**	**-0.1**
MDAL	**Dalia**	**0.79**	**29**	*i* P	**Pn**	**17 18 05.0**	**+1.8**
MOMI	**Momias**	**1.13**	**10**	P	**Pn**	**17 18 10.5**	**+2.7**
MOMI	**Momias**	**1.13**	**10**	*e*P	**Pn**	**17 18 10.5**	**+2.7**
CNIL	**Conil**	**1.16**	**356**	P	**Pn**	**17 18 10.8**	**+2.6**
CNIL				S	**Sn**	**17 18 25.6**	**+2.6**
CNIL	**Conil**	**1.16**	**356**	*i* P	**Pn**	**17 18 10.8**	**+2.7**
CNIL				*e*S	**Sn**	**17 18 25.6**	**+2.7**
EJIF	**Jimena Fronter**	**1.30**	**18**	P	**Pn**	**17 18 11.7**	**+1.7**
EJIF				S	**Sn**	**17 18 23.0**	**-3.3**
EJIF	**Jimena Fronter**	**1.30**	**18**	P	**Pn**	**17 18 11.7**	**+1.7**
	6.3nm,0.2s,SNR=17						
EJIF				S	**Sn**	**17 18 28.1**	**+1.8**
	22nm,0.5s,SNR=5.8						
EJIF	**Jimena Fronter**	**1.30**	**18**	P	**Pn**	**17 18 11.7**	**+1.7**
	6.3nm,0.2s,SNR=17						
EJIF				S	**Sn**	**17 18 23.0**	**-3.3**
	22nm,0.5s,SNR=5.8						
REAL	**Reales**	**1.41**	**25**	⇑P	**Pn**	**17 18 13.2**	**+1.7**
REAL				S	**Sn**	**17 18 30.4**	**+1.4**
REAL	**Reales**	**1.41**	**25**	*i* P	**Pn**	**17 18 13.1**	**+1.6**
REAL				*e*S	**Sn**	**17 18 30.4**	**+1.4**
GIBL	**Gibalbin**	**1.61**	**360**	⇑P	**Pn**	**17 18 15.9**	**+1.6**
GIBL				S	**Sn**	**17 18 34.4**	**+0.4**
GIBL	**Gibalbin**	**1.61**	**360**	*i* P	**Pn**	**17 18 15.9**	**+1.6**
GIBL				*e*S	**Sn**	**17 18 34.4**	**+0.4**
ESPR	**Espera**	**1.66**	**3**	⇑P	**Pn**	**17 18 16.0**	**+1.1**
	14nm,0.2s,SNR=18						
ESPR				S	**Sn**	**17 18 34.1**	**-0.8**
	36nm,0.3s,SNR=5.8						
ESPR	**Espera**	**1.66**	**3**	P	**Pn**	**17 18 16.0**	**+1.1**
	14nm,0.2s,SNR=18						
ESPR				S	**Sn**	**17 18 34.1**	**-0.9**
	36nm,0.3s,SNR=5.8						
EMIJ	**Mijas**	**1.66**	**35**	P	**Pn**	**17 18 14.8**	**-0.1**
	3.2nm,0.1s,SNR=7.0						
EMIJ				S	**Sn**	**17 18 34.3**	**-0.7**
	27nm,0.3s,SNR=5.1						
LIJA	**Lijar**	**1.75**	**15**	⇑P	**Pn**	**17 18 17.5**	**+1.3**
LIJA				S	**Sn**	**17 18 35.2**	**-2.0**
LIJA	**Lijar**	**1.75**	**15**	*i* P	**Pn**	**17 18 17.5**	**+1.4**
LIJA				*e*S	**Sn**	**17 18 35.2**	**-2.1**
TOU	**Touzarine**	**1.82**	**97**	P	**Pn**	**17 18 21.5**	**+4.3**
TOU				S	**Sn**	**17 18 41.0**	**+1.9**
MIF	**Mishlifen**	**1.90**	**161**	*i* P	**Pn**	**17 18 18.0**	**-0.2**
MIF				*i* S	**Sn**	**17 18 40.0**	**-0.9**
CZD	**Col de Zad**	**2.30**	**160**	*i* P	**Pn**	**17 18 24.0**	**+0.3**
CZD				*i* S	**Sn**	**17 18 49.0**	**-1.8**
ELOJ	**Sierra Loja**	**2.42**	**37**	S	**Sn**	**17 18 54.3**	**+0.5**
	7.1nm,0.4s,SNR=7.9						
EALB	**Alboran**	**2.49**	**72**	P	**Pn**	**17 18 26.1**	**-0.1**
	8.5nm,0.5s,SNR=6.7						
EALB				S	**Sn**	**17 18 53.0**	**-2.4**
	20nm,0.1s						
EALB	**Alboran**	**2.49**	**72**	P	**Pn**	**17 18 26.1**	**-0.2**
	8.5nm,0.5s,SNR=6.7						
EALB				S	**Sn**	**17 18 53.0**	**-2.5**
	20nm,0.1s						
EGUA	**Guajares**	**2.53**	**49**	P	**Pn**	**17 18 26.2**	**-0.5**
	0.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**17 18 53.7**	**-2.6**
	5.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.61**	**347**	⇓P	**Pn**	**17 18 28.3**	**+0.4**
EMIN				S	**Sn**	**17 18 55.6**	**-2.9**
EMIN	**Mina Concepcio**	**2.61**	**347**	⇓P	**Pn**	**17 18 28.3**	**+0.4**
	4.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**17 18 57.1**	**-1.4**
	9.9nm,0.1s						
EMIN	**Mina Concepcio**	**2.61**	**347**	P	**Pn**	**17 18 28.3**	**+0.3**
	4.0nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.62**	**332**	⇓P	**Pn**	**17 18 28.8**	**+0.7**
	16nm,0.1s,SNR=18						
EGRO				S	**Sn**	**17 18 57.0**	**-1.7**
	34nm,0.1s						
EGRO	**El Granado**	**2.62**	**332**	P	**Pn**	**17 18 28.8**	**+0.7**
	16nm,0.1s,SNR=18						
KIB	**El Ksiba**	**2.63**	**181**	*i* P	**Pn**	**17 18 28.0**	**-0.2**
KIB				*i* S	**Sn**	**17 18 58.0**	**-0.9**
ZAI	**Zaio**	**2.65**	**94**	P	**Pn**	**17 18 28.5**	**+0.1**
ZAI				S	**Sn**	**17 18 59.0**	**-0.2**
ZAI	**Zaio**	**2.65**	**94**	*e*P	**Pn**	**17 18 28.5**	**+0.1**
ELUQ	**Luque**	**2.71**	**30**	S	**Sn**	**17 18 59.7**	**-1.2**
	15nm,0.2s,SNR=6.3						
ELUQ	**Luque**	**2.71**	**30**	S	**Sn**	**17 18 58.9**	**-2.0**
	15nm,0.2s,SNR=6.3						
ECOG	**Cogollos-Vega**	**2.83**	**42**	P	**Pn**	**17 18 31.6**	**+0.8**
ECOG				S	**Sn**	**17 19 01.6**	**-2.1**
ECOG	**Cogollos-Vega**	**2.83**	**42**	S	**Sn**	**17 19 03.1**	**-0.6**
	6.7nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.83**	**42**	P	**Pn**	**17 18 31.6**	**+0.7**
ECOG				S	**Sn**	**17 19 01.6**	**-2.1**
	6.7nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.85**	**45**	P	**Pn**	**17 18 32.8**	**+1.6**
	1.3nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**17 19 04.2**	**+0.1**
	7.1nm,0.2s,SNR=11						
EBER	**Berja**	**3.00**	**55**	P	**Pn**	**17 18 33.8**	**+0.6**
	SNR=7.9						
EBER				S	**Sn**	**17 19 05.2**	**-2.8**
	3.9nm,0.2s,SNR=216						
EBER	**Berja**	**3.00**	**55**	P	**Pn**	**17 18 33.8**	**+0.5**
	SNR=7.9						
EBER				S	**Sn**	**17 19 05.2**	**-2.8**
	3.9nm,0.2s,SNR=216						
TZC	**Tazercounte**	**3.09**	**188**	P	**Pn**	**17 18 34.0**	**-0.5**
TZC				S	**Sn**	**17 19 09.0**	**-1.1**
TZC	**Tazercounte**	**3.09**	**188**	*e*P	**Pn**	**17 18 34.0**	**-0.5**
EADA	**Adamuz**	**3.15**	**20**	P	**Pn**	**17 18 35.7**	**+0.3**
	1.7nm,0.1s,SNR=24						
EADA				S	**Sn**	**17 19 08.2**	**-3.5**
	12nm,0.1s						
EADA	**Adamuz**	**3.15**	**20**	P	**Pn**	**17 18 35.7**	**+0.4**
	1.7nm,0.1s,SNR=24						
EADA				S	**Sn**	**17 19 08.2**	**-3.5**
	12nm,0.1s						
PBEJ	**Beja**	**3.20**	**332**	*e*Pn	**Pn**	**17 18 36.7**	**+0.7**
PBEJ				*e*Sn	**Sn**	**17 19 11.6**	**-1.3**
PBEJ							
	14nm,0.1s						
PBEJ	**Beja**	**3.20**	**332**	*e*Pn	**Pn**	**17 18 36.7**	**+0.7**
PBEJ				*e*Sn	**Sn**	**17 19 11.6**	**-1.3**
	14nm,0.1s						
PTEO	**Sao Teotonio**	**3.23**	**317**	*e*Pn	**Pn**	**17 18 37.1**	**+0.8**
PTEO				*e*Sn	**Sn**	**17 19 12.8**	**-0.7**
PTEO							
	16nm,0.1s						
PTEO	**Sao Teotonio**	**3.23**	**317**	*e*Pn	**Pn**	**17 18 37.1**	**+0.8**
PTEO				*e*Sn	**Sn**	**17 19 12.8**	**-0.7**
	16nm,0.1s						
EBAN	**Banos Encina**	**3.42**	**30**	P	**Pn**	**17 18 39.1**	**+0.1**
	2.1nm,0.2s,SNR=6.5						
EBAN				S	**Sn**	**17 19 14.7**	**-3.7**
	11nm,0.1s						
EQES	**Quesada**	**3.48**	**41**	P	**Pn**	**17 18 40.7**	**+1.0**
	3.8nm,0.1s,SNR=7.2						
EQES				S	**Sn**	**17 19 16.9**	**-2.8**
	16nm,0.2s						
EQES	**Quesada**	**3.48**	**41**	P	**Pn**	**17 18 40.7**	**+0.9**
	3.8nm,0.1s,SNR=7.2						
EQES				S	**Sn**	**17 19 16.9**	**-2.8**
	16nm,0.2s						
EBAD	**Badajoz**	**3.64**	**347**	P	**Pn**	**17 18 42.5**	**+0.5**
	6.8nm,0.1s,SNR=31						
EBAD				S	**Sn**	**17 19 21.3**	**-2.3**
	11nm,0.1s,SNR=6.0						
EBAD	**Badajoz**	**3.64**	**347**	P	**Pn**	**17 18 42.5**	**+0.5**
	6.8nm,0.1s,SNR=31						
EVO	**Evora**	**3.70**	**334**	*e*Pn	**Pn**	**17 18 44.1**	**+1.3**
EVO				*e*Sn	**Sn**	**17 19 23.6**	**-1.6**
	41nm,0.3s						
EHUE	**Huescar**	**3.75**	**45**	P	**Pn**	**17 18 45.1**	**+1.5**
	1.0nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**17 19 24.2**	**-2.3**
	4.6nm,0.2s,SNR=7.9						
MOE	**Montemor**	**3.82**	**331**	*e*Pn	**Pn**	**17 18 45.4**	**+0.9**
MOE				*e*Sn	**Sn**	**17 19 27.1**	**-1.0**
PESTR	**Estremoz**	**3.88**	**341**	*e*Pn	**Pn**	**17 18 45.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**17 19 26.9**	**-2.6**
PESTR							
	7.1nm,0.1s						
PESTR	**Estremoz**	**3.88**	**341**	*e*Pn	**Pn**	**17 18 45.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**17 19 26.9**	**-2.6**
	7.1nm,0.1s						
OUK	**Oukaimeden**	**4.30**	**202**	P	**Pn**	**17 18 51.0**	**-0.1**
OUK				S	**Sn**	**17 19 37.0**	**-3.0**
CIA	**Chichaoua**	**4.33**	**214**	P	**Pn**	**17 18 51.5**	**+0.1**
CIA				S	**Sn**	**17 19 38.0**	**-2.6**
EVIA	**Vianos**	**4.40**	**38**	P	**Pn**	**17 18 52.9**	**+0.5**
	3.9nm,0.1s,SNR=10						
EVIA				S	**Sn**	**17 19 37.3**	**-5.1**
	8.3nm,0.1s						
PMAFR	**Mafra**	**4.58**	**326**	*e*Pn	**Pn**	**17 18 56.6**	**+1.6**
PMAFR				*e*Sn	**Sn**	**17 19 46.4**	**-0.5**
ESDC	**Sonseca Array**	**4.73**	**19**	P	**Pn**	**17 18 57.1**	**+0.2**
	0.7nm,0.3s,baz=202,slow=13,SNR=6.5						
ESDC				S	**Sn**	**17 19 45.0**	**-5.4**
	5.3nm,0.3s,baz=202,slow=22,SNR=5.2						
ESDC	**Sonseca Array**	**4.73**	**19**	P	**Pn**	**17 18 57.1**	**+0.2**
	0.7nm,0.3s,SNR=6.5						
PCBR	**Castelo Branco**	**4.78**	**346**	*e*Pn	**Pn**	**17 18 58.9**	**+1.3**
PCBR				*e*Sn	**Sn**	**17 19 48.7**	**-2.9**
PCBR							
	7.5nm,0.1s						
PCBR	**Castelo Branco**	**4.78**	**346**	*e*Pn	**Pn**	**17 18 58.9**	**+1.3**
PCBR				*e*Sn	**Sn**	**17 19 48.7**	**-2.9**
	7.5nm,0.1s						
PTOM	**Tomar**	**4.81**	**337**	*e*Pn	**Pn**	**17 18 59.4**	**+1.3**
PTOM				*e*Sn	**Sn**	**17 19 49.9**	**-2.6**
PTOM							
	9.4nm,0.2s						
PTOM	**Tomar**	**4.81**	**337**	*e*Pn	**Pn**	**17 18 59.4**	**+1.3**
PTOM				*e*Sn	**Sn**	**17 19 49.9**	**-2.6**
	9.4nm,0.2s						
ETOB	**Tobarra**	**4.92**	**45**	P	**Pn**	**17 18 59.7**	**+0.2**
ETOB				S	**Sn**	**17 19 49.4**	**-5.8**
ETOB	**Tobarra**	**4.92**	**45**	P	**Pn**	**17 18 59.7**	**+0.2**
	2.9nm,0.1s,SNR=16						
ETOB				S	**Sn**	**17 19 50.4**	**-4.8**
	2.9nm,0.1s						
ETOB	**Tobarra**	**4.92**	**45**	P	**Pn**	**17 18 59.7**	**+0.1**
	2.9nm,0.1s,SNR=16						
GUD	**Guadarrama**	**5.61**	**14**	P	**Pn**	**17 19 09.5**	**+0.6**
	1.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**17 20 06.0**	**-6.0**
	1.8nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.70**	**345**	*e*Pn	**Pn**	**17 19 11.3**	**+1.0**
PVIS				*e*Sn	**Sn**	**17 20 11.3**	**-3.1**
PVRL	**Vila Real**	**6.21**	**348**	*e*Pn	**Pn**	**17 19 18.2**	**+1.0**
PVRL				*e*Sn	**Sn**	**17 20 23.1**	**-3.8**
PVRL							
	7.0nm,0.1s						
ETOR	**Torete**	**6.39**	**28**	⇓P	**Pn**	**17 19 19.8**	**+0.1**
ETOR				S	**Sn**	**17 20 24.8**	**-6.5**
ETOR	**Torete**	**6.39**	**28**	⇓P	**Pn**	**17 19 19.8**	**+0.1**
	10.0nm,0.1s,SNR=18						
ETOR				S	**Sn**	**17 20 26.4**	**-4.9**
	9.6nm,0.2s						
PBRG	**Braganca**	**6.61**	**355**	*e*Pn	**Pn**	**17 19 23.4**	**+0.7**
PBRG				*e*Sn	**Sn**	**17 20 33.3**	**-3.4**
PCAB	**Cabril**	**6.69**	**347**	*e*Pn	**Pn**	**17 19 25.0**	**+1.2**
EMOS	**Mosqueruela**	**6.73**	**39**	S	**Sn**	**17 20 33.7**	**-6.0**
	2.7nm,0.2s,SNR=5.8						
ECAL	**Calabor**	**6.75**	**355**	P	**Pn**	**17 19 25.6**	**+1.0**
ECAL				S	**Sn**	**17 20 33.2**	**-6.8**
ECAL	**Calabor**	**6.75**	**355**	P	**Pn**	**17 19 25.6**	**+1.0**
	6.0nm,0.3s,SNR=7.5						
ECAL				S	**Sn**	**17 20 35.2**	**-4.8**
	1.8nm,0.2s						
EARI	**Arriondas**	**8.10**	**4**	P	**Pn**	**17 19 44.2**	**+1.1**
	5.0nm,1.1s,SNR=5.6						
EARI				S	**Sn**	**17 21 06.7**	**-6.5**
	33nm,1.3s						
EARI	**Arriondas**	**8.10**	**4**	P	**Pn**	**17 19 44.2**	**+1.1**
	5.0nm,1.1s,SNR=5.6						
ELAN	**Lanestosa**	**8.24**	**13**	P	**Pn**	**17 19 45.8**	**+0.7**
ELAN				S	**Sn**	**17 21 09.2**	**-7.6**
ELAN	**Lanestosa**	**8.24**	**13**	P	**Pn**	**17 19 45.8**	**+0.7**
	0.7nm,0.0s,SNR=7.9						
ELAN				S	**Sn**	**17 21 10.3**	**-6.5**
	3.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.24**	**13**	P	**Pn**	**17 19 45.8**	**+0.7**
	0.7nm,0.0s,SNR=7.9						
SJPF	**Ste Jean**	**8.70**	**24**	*e*Pn	**Pn**	**17 19 52.2**	**+0.8**
SJPF				*e*Sn	**Sn**	**17 21 21.3**	**-6.7**
	3.0nm,0.3s						
SJPF	**Ste Jean**	**8.70**	**24**	P	**Pn**	**17 19 52.2**	**+0.8**
SJPF				S	**Sn**	**17 21 21.3**	**-6.7**
	1.5nm,0.3s						
EALK	**Alkurruntz**	**8.71**	**22**	P	**Pn**	**17 19 52.3**	**+0.8**
EALK				S	**Sn**	**17 21 19.7**	**-8.5**
EALK	**Alkurruntz**	**8.71**	**22**	P	**Pn**	**17 19 52.3**	**+0.8**
	0.9nm,0.1s,SNR=7.9						
EALK				S	**Sn**	**17 21 22.5**	**-5.7**
	4.0nm,0.4s,SNR=6.2						
ETSF	**Etsaut**	**8.75**	**27**	*e*Pn	**Pn**	**17 19 53.1**	**+1.1**
ETSF				*e*Sn	**Sn**	**17 21 21.8**	**-7.3**
	2.3nm,0.4s						
ETSF	**Etsaut**	**8.75**	**27**	P	**Pn**	**17 19 53.1**	**+1.1**
ETSF				S	**Sn**	**17 21 21.8**	**-7.3**
	1.1nm,0.4s						
EBIE	**Bielsa**	**8.85**	**31**	P	**Pn**	**17 19 54.5**	**+1.2**
EBIE				S	**Sn**	**17 21 23.2**	**-8.3**
EBIE	**Bielsa**	**8.85**	**31**	P	**Pn**	**17 19 54.5**	**+1.2**
	1.1nm,0.3s,SNR=7.9						
EBIE				S	**Sn**	**17 21 25.1**	**-6.5**
	1.8nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**8.85**	**31**	P	**Pn**	**17 19 54.5**	**+1.2**
EPF	**Esparros**	**9.21**	**30**	*e*P	**Pn**	**17 19 59.7**	**+1.4**
EPF				*e*Sn	**Sn**	**17 21 33.8**	**-6.7**
	3.1nm,0.3s						
EPF	**Esparros**	**9.21**	**30**	*e*Pn	**Pn**	**17 19 58.1**	**-0.2**
EPF	

IDC 13 17:23:49.6±4.9, 644S×15112E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/14, mbtmp3.5/5, ML1.9/1, Error ellipse: s-maj=82.8km s-min=57.2km az=178.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**233**	Pn	Pn	17 25 05.5	+1.0
	0.4nm,0.3s,baz=135,slow=17,SNR=2.3						
PMG				Sn	Sn	17 26 01.7	-0.3
	0.6nm,0.3s,baz=127,slow=15,SNR=2.0						
WRA	**Warramunga Arr**	**21.11**	**229**	P	P	17 28 37.3	+1.5
	0.5nm,0.6s,baz=55,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**23.82**	**222**	P	P	17 29 04.2	-0.1
	0.4nm,0.5s,baz=55,slow=9.3,SNR=4.5						
STKA	**Stephens Creek**	**26.82**	**198**	P	P	17 29 31.7	+0.1
	1.0nm,0.6s,baz=18,slow=6.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P	P	17 29 36.8	-0.1
	0.9nm,0.8s,baz=105,slow=16,SNR=2.1						

*NEIC **13** 17:37:57.8±1.8, 620S×15154E, h10km, mb4.3/2, Error ellipse: s-maj=45.6km s-min=26.8km az=133.0*

IDC 13 17:38:08.4±8.5, 622S×15103E, h76km±60km, mb3.8/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.8/5, ML2.5/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/24, Error ellipse: s-maj=60.7km s-min=53.1km az=99.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**230**	P	Pn	17 39 20.1	-0.4
	1.2nm,0.3s,baz=18,slow=8.2,SNR=5.9						
PMG				S	Sn	17 40 18.9	+2.2
	3.4nm,0.3s,baz=191,slow=20,SNR=6.4						
PMG	**Port Moresby**	**4.97**	**230**	*eP*	Pn	17 39 20.1	-0.5
PMG				*eS*	Sn	17 40 18.8	+2.1
WRAB	**Tennant Creek**	**21.18**	**228**	*eP*	P	17 42 47.0	-0.5
	5.6nm,0.8s						
WB2	**Warramunga Arr**	**21.18**	**228**	*eP*	P	17 42 47.4	-0.1
WB2	**Warramunga Arr**	**21.18**	**228**	*eP*	P	17 42 47.4	-0.2
WRA	**Warramunga Arr**	**21.19**	**228**	P	P	17 42 47.6	0.0
	3.3nm,0.8s,baz=50,slow=10,SNR=31						
AS31	**Alice Springs**	**23.92**	**222**	*eP*	P	17 43 15.1	-0.1
ASAR	**Alice Springs**	**23.92**	**222**	P	P	17 43 15.2	-0.1
	2.0nm,0.6s,baz=57,slow=8.7,SNR=62						
STKA	**Stephens Creek**	**27.01**	**198**	P	P	17 43 42.4	-0.8
	2.3nm,0.8s,baz=7.7,slow=15,SNR=3.3						
FITZ	**Fitzroy Crossi**	**27.44**	**242**	*eP*	P	17 43 47.7	+0.6
	8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.44**	**242**	P	P	17 43 47.0	-0.1
	5.5nm,0.7s,baz=90,slow=8.9,SNR=17						
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	PKPbc	17 57 49.5	+1.8
	1.3nm,0.6s,baz=62,slow=2.9,SNR=11						

*ISCJB **13** 17:41:10.1±1.1, 64S±0.1×1516E±0.2, h10km, mb3.7/5, Error ellipse: s-maj=25.9km s-min=11.5km az=71.2*

*NEIC **13** 17:41:11.8±0.9, 640S×15159E, h10km, mb4.4/1, Error ellipse: s-maj=25.6km s-min=10.9km az=111.0*

*IDC **13** 17:41:18.0±5.8, 632S×15140E, h50km±47km, mb3.5/5, mb1 3.8/6, mb1mx3.6/15, mbtmp3.6/6, ML2.2/1, Error ellipse: s-maj=47.1km s-min=20.3km az=98.0*

ISC 13 17:41:11.9±1.1, 64S±01×1517E±02, h10km, n16, σ0s57/16, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.35**	**236**	P	**Pn**	**17 42 31.6**	**-0.2**
	0.6nm,0.3s,baz=25,slow=2.3,SNR=3.6						
PMG				S	**Sn**	**17 43 34.1**	**+0.6**
	1.4nm,0.3s,baz=22,slow=21,SNR=4.2						
PMG	**Port Moresby**	**5.35**	**236**	*eP*	**Pn**	**17 42 31.4**	**-0.4**
PMG				S	**Sn**	**17 43 34.1**	**+0.6**
GUMO	**Guam**	**20.99**	**341**	P	**P**	**17 45 56.0**	**+0.7**
	28nm,0.2s,baz=156,slow=10.0,SNR=22						
WRAB	**Tennant Creek**	**21.52**	**230**	*eP*	**P**	**17 46 00.7**	**-0.3**
WB2	**Warramunga Arr**	**21.52**	**230**	*eP*	**P**	**17 46 00.9**	**-0.2**
WB2	**Warramunga Arr**	**21.52**	**230**	*eP*	**P**	**17 46 00.6**	**-0.5**
WRA	**Warramunga Arr**	**21.53**	**230**	P	**P**	**17 46 00.8**	**-0.3**
	2.1nm,0.7s,mb3.7,baz=52,slow=10,SNR=8.8						
AS31	**Alice Springs**	**24.19**	**223**	*eP*	**P**	**17 46 28.2**	**-0.2**
ASAR	**Alice Springs**	**24.20**	**223**	P	**P**	**17 46 29.5**	**+1.0**
	0.9nm,0.5s,mb3.4,baz=54,slow=9.3,SNR=19						
FITZ	**Fitzroy Crossi**	**27.90**	**243**	*eP*	**P**	**17 47 01.1**	**-0.9**
	4.5nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.90**	**243**	P	**P**	**17 47 01.5**	**-0.5**
	2.6nm,0.6s,mb4.0,baz=85,slow=9.3,SNR=8.4						
SONM	**Songino Array**	**67.09**	**329**	P	**P**	**17 52 04.9**	**-0.6**
	0.6nm,0.6s,mb3.8,baz=149,slow=5.5,SNR=5.2						
VNDA	**Vanda**	**71.27**	**178**	P	**P**	**17 52 32.1**	**+0.7**
	0.4nm,0.8s,mb3.4,baz=341,slow=5.4,SNR=4.2						
VNDA	**Vanda**	**71.27**	**178**	*eP*	**P**	**17 52 31.7**	**+0.3**
TOA0	**Torodi Ar. Sit**	**149.67**	**285**	*e*PKPbc	PKPbc	18 01 02.0	+0.2
TORD	**Torodi Ar. Bea**	**149.67**	**285**	PKPbc	PKPbc	18 01 02.3	+0.5
	1.4nm,0.6s,baz=64,slow=2.9,SNR=10						

*ISCJB **13** 17:41:59.6±0.5, 4485N±002×7.18E±004, h13km±6km, Error ellipse: s-maj=5.2km s-min=3.4km az=166.1*

*ROM **13** 17:41:59.4±0.1, 4485N×724E, h8km±1km, Md1.7/3, Ml1.5/2, Error ellipse: s-maj=3.2km s-min=2.2km az=134.0*

*LDG **13** 17:42:00.7±0.1, 4488N×721E, h5km, Md2.3/1, Ml2.0/6, Error ellipse: s-maj=2.1km s-min=1.1km az=77.0*

ISC 13 17:41:60.0±0.6, 4486N±002×723E±004, h14km±10km, n17, σ0s37/28, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSP	**Reno Superiore**	**0.29**	**4**	Pg	**Pg**	**17 42 06.1**	**0.0**
RSP				Sg	**Sg**	**17 42 10.1**	**-0.1**
	48nm,0.1s						
RRL	**Cesana Torines**	**0.32**	**281**		**Pg**	**17 42 07.0**	**+0.4**
MBDF	**Montbardon**	**0.35**	**248**	*e*Pg	**Pg**	**17 42 07.6**	**+0.5**
MBDF				*e*Sg	**Sg**	**17 42 11.7**	**-0.3**
	16nm,0.2s						
DOI	**San Damiano**	**0.36**	**178**	Pg	**Pg**	**17 42 07.1**	**-0.2**
DOI				Sg	**Sg**	**17 42 11.8**	**-0.3**
	53nm,0.3s						
PZZ	**Prazzo**	**0.37**	**194**		**Pg**	**17 42 07.3**	**-0.1**
LSD	**Ceresole Reale**	**0.60**	**355**		**Pg**	**17 42 12.2**	**+0.5**
ENR	**Entracque**	**0.65**	**168**		**Pg**	**17 42 12.0**	**-0.7**
LPG	**La Plagne**	**0.72**	**332**	*e*Pg	**Pg**	**17 42 14.3**	**+0.3**
LPG				*e*Sg	**Sg**	**17 42 23.4**	**-0.1**
	12nm,0.2s						
ROB	**Roburent**	**0.73**	**141**		**Pg**	**17 42 13.6**	**-0.6**
LPL	**La Plagne**	**0.74**	**332**	*e*Pg	**Pg**	**17 42 14.6**	**+0.2**
LPL				*e*Sg	**Sg**	**17 42 24.1**	**-0.1**
	9.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.96**	**274**	*e*Pg	**Pg**	**17 42 18.9**	**+0.4**
ORIF				*e*Sg	**Sg**	**17 42 31.1**	**0.0**
	8.0nm,0.3s						
PCP	**Pian Castagno**	**0.99**	**108**		**Pb**	**17 42 18.7**	**-0.2**
SBF	**Sospel**	**1.01**	**171**	*e*Pg	**Pg**	**17 42 20.1**	**+0.6**
SBF				*e*Sg	**Sg**	**17 42 33.3**	**+0.6**
	3.7nm,0.2s						
FRF	**La Foret Royal**	**1.36**	**198**	*e*Pg	**Pg**	**17 42 26.3**	**0.0**
FRF				*e*Sg	**Sg**	**17 42 44.1**	**+0.1**
	2.0nm,0.2s						
SMRF	**Simiane la Rot**	**1.48**	**234**	*e*Pg	**Pg**	**17 42 28.5**	**+0.1**
SMRF				*e*Sg	**Sg**	**17 42 47.7**	**+0.1**
	0.9nm,0.2s						
LMR	**La Mourre**	**1.61**	**199**	*e*Pg	**Pg**	**17 42 31.2**	**+0.2**
LMR				*e*Sg	**Sg**	**17 42 52.0**	**+0.1**
	2.5nm,0.3s						
VIVF	**Saint-Julien-l**	**1.82**	**271**	*e*Pg	**Pg**	**17 42 34.0**	**-0.9**
VIVF				*e*Sg	**Sg**	**17 42 57.9**	**-0.5**
	1.3nm,0.3s						

*NEIC **13** 17:51:23.0±1.8, 6.15S×151.42E, h10km, mb4.1/3, Error ellipse: s-maj=38.1km s-min=27.0km az=135.0*

*IDC **13** 17:51:22.9±2.5, 629S×151.34E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML2.5/1, Error ellipse: s-maj=59.7km s-min=38.6km az=128.0*

*ISCJB **13** 17:51:27.6±5.3, 62S±03×1512E±0.3, h51km±36km, mb3.7/5, Error ellipse: s-maj=53.1km s-min=38.9km az=109.9*

ISC 13 17:51:28.8±5.2, 61S±03×1512E±03, h48km±35km, n12, σ0s67/13, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**230**	Pn	**Pn**	**17 52 42.6**	**-0.8**
	1.2nm,0.3s,baz=28,slow=9.4,SNR=7.1						
PMG				Sn	**Sn**	**17 53 43.1**	**+1.6**
	1.4nm,0.3s,baz=187,slow=20,SNR=4.0						
PMG	**Port Moresby**	**5.16**	**230**	*eP*	**Pn**	**17 52 44.5**	**+1.2**
PMG				*e*Sn	**Sn**	**17 53 40.2**	**-1.3**
KAKA	**Kakadu**	**19.60**	**249**	*eP*	**Pn**	**17 55 54.1**	**-0.5**
	5.5nm,0.6s						
WRAB	**Tennant Creek**	**21.36**	**228**	*eP*	**P**	**17 56 11.8**	**-0.2**
	1.9nm,0.6s,mb3.6						
WB2	**Warramunga Arr**	**21.36**	**228**	*eP*	**P**	**17 56 11.7**	**-0.3**
WRA	**Warramunga Arr**	**21.37**	**228**	P	**P**	**17 56 11.8**	**-0.3**
	1.2nm,0.5s,mb3.5,baz=56,slow=11,SNR=18						
AS31	**Alice Springs**	**24.10**	**222**	*eP*	**P**	**17 56 39.6**	**-0.2**
ASAR	**Alice Springs**	**24.10**	**222**	P	**P**	**17 56 39.7**	**-0.1**
	0.8nm,0.4s,mb3.5,baz=57,slow=8.8,SNR=47						
STKA	**Stephens Creek**	**27.17**	**198**	P	**P**	**17 57 07.7**	**+0.1**
	1.3nm,0.6s,mb3.6,baz=9.5,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.62**	**242**	*eP*	**P**	**17 57 12.6**	**+1.0**
	6.1nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.62**	**242**	P	**P**	**17 57 12.7**	**+1.1**
	3.3nm,0.5s,mb4.2,baz=50,slow=12,SNR=18						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	PKPbc	18 11 14.3	+2.7
	1.0nm,0.7s,baz=69,slow=2.5,SNR=5.0						

*ISCJB **13** 17:54:09.6±0.7, 5338S±0.09×252E±0.3, h10km, mb4.1/9, Error ellipse: s-maj=29.1km s-min=12.3km az=161.9*

*IDC **13** 17:54:09.6±0.9, 5335S×2543E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, Error ellipse: s-maj=40.2km s-min=17.7km az=77.0*

*NEIC **13** 17:54:11.1±0.5, 5339S×2533E, h10km, mb4.4/5, Error ellipse: s-maj=20.9km s-min=9.1km az=81.0*

ISC 13 17:54:11.0±0.7, 5341S±009×253E±03, h10km, n15, σ0s55/15, mb4.1/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**21.27**	**349**	P	**P**	**17 58 58.4**	**+1.0**
	16nm,1.0s,mb4.3,baz=172,slow=12,SNR=8.9						
SUR	**Sutherland**	**21.27**	**349**	*eP*	**P**	**17 58 58.2**	**+0.8**
	14nm,0.9s,mb4.3						
SNAA	**Sanae**	**22.05**	**203**	P	**P**	**17 59 06.8**	**+1.0**
	3.9nm,0.9s,mb3.8,baz=57,slow=8.5,SNR=15						
SNAA	**Sanae**	**22.05**	**203**	*eP*	**P**	**17 59 06.2**	**+0.4**
	11nm,0.9s,mb4.3						
MAW	**Mawson**	**22.81**	**143**	P	**P**	**17 59 14.5**	**+0.6**
	5.2nm,0.8s,mb4.0,baz=286,slow=17,SNR=5.8						
MAW	**Mawson**	**22.81**	**143**	P	**P**	**17 59 14.2**	**+0.2**
	1.5nm,0.3s,mb3.9						
BOSA	**Boshof**	**24.78**	**360**	P	**P**	**17 59 32.7**	**-0.2**
	2.7nm,0.8s,mb3.8,baz=158,slow=4.9,SNR=3.2						
QSPA	**South Pole Qui**	**36.81**	**180**	*eP*	**P**	**18 01 18.4**	**-0.6**
VNDA	**Vanda**	**46.58**	**168**	P	**P**	**18 02 38.5**	**-0.5**
	3.4nm,0.7s,mb4.4,baz=236,slow=7.9,SNR=33						
VNDA	**Vanda**	**46.58**	**168**	*eP*	**P**	**18 02 38.2**	**-0.8**
	3.1nm,0.7s,mb4.3						
SBA	**Scott Base**	**46.87**	**170**	*eP*	**P**	**18 02 41.5**	**+0.3**
	8.4nm,1.1s,mb4.6						
TORD	**Torodi Ar. Bea**	**69.32**	**335**	P	**P**	**18 05 17.7**	**-0.9**
	1.2nm,1.0s,mb3.8,baz=175,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**81.67**	**119**	P	**P**	**18 06 29.6**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=205,slow=5.3,SNR=23						
AS31	**Alice Springs**	**81.67**	**119**	*eP*	**P**	**18 06 29.7**	**+0.2**
WRA	**Warramunga Arr**	**84.94**	**117**	P	**P**	**18 06 46.0**	**-0.3**
	0.5nm,0.8s,mb3.7,baz=209,slow=4.1,SNR=4.9						

*NEIC **13** 18:19:31.1±1.8, 652S×15184E, h10km, mb4.7/1, Error ellipse: s-maj=72.2km s-min=25.7km az=134.0*

IDC 13 18:19:41.3±9.0, 666S×15133E, h64km±64km, mb3.7/3, mb1 3.9/4, mb1mx3.5/14, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=87.5km s-min=57.9km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95**	**236**	P	Pn	18 20 53.6	+0.5
	1.0nm,0.3s,baz=54,slow=11,SNR=5.6						
PMG				S	Sn	18 21 49.6	+0.6
	1.3nm,0.3s,baz=188,slow=19,SNR=4.5						
WRAB	**Tennant Creek**	**21.11**	**230**	*eP*	P	18 24 21.0	+0.3
WB2	**Warramunga Arr**	**21.12**	**230**	*eP*	P	18 24 20.9	+0.2
WRA	**Warramunga Arr**	**21.13**	**230**	P	P	18 24 21.3	+0.5
	1.8nm,0.6s,baz=56,slow=11,SNR=26						
AS31	**Alice Springs**	**23.80**	**223**	*eP*	P	18 24 48.8	+0.7
ASAR	**Alice Springs**	**23.80**	**223**	P	P	18 24 48.9	+0.7
	0.9nm,0.4s,baz=56,slow=8.8,SNR=54						
ASPA	**Alice Springs**	**23.80**	**223**	*eP*	P	18 24 48.8	+0.6
FITZ	**Fitzroy Crossi**	**27.50**	**243**	*eP*	P	18 25 21.6	-0.1
	6.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.50**	**243**	P	P	18 25 21.9	+0.2
	4.1nm,0.6s,baz=99,slow=8.3,SNR=17						
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKPbc	18 39 23.6	+0.4
	1.0nm,0.7s,baz=91,slow=1.6,SNR=7.5						

*NEIC **13** 18:23:08.5, 3146S×7165W, h33km±3km, MD4.1, ML3.4, 3D, Near coast of central Chile*

GUC 13 18:23:08.5±0.7, 3146S×7165W, h33km±3km, MD4.1, ML3.4, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.44**	**163**	⇓*i*P	Pb	18 23 17.9	-0.3
CHNG				*i* S	Sb	18 23 25.0	+0.1
CHNG				AML	AML	18 23 26.0	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**1.48**	**30**	⇓*i*P	Pn	18 23 34.5	+1.7
TLL				*i* S	Sn	18 23 54.5	+3.5
TLL				AML	AML	18 24 00.8	
	comp=E,1μm,0.6s						
TLL	**Tololo Astrono**	**1.48**	**30**	⇓*i*P	Pn	18 23 34.5	+1.7
TLL				*i* S	Sn	18 23 54.5	+3.5
LSCH	**La Serena**	**1.58**	**13**	*eP*	Pn	18 23 35.6	+1.4
LSCH				*i* S	Sn	18 23 55.6	+2.1
LSCH				AML	AML	18 24 02.5	
	comp=N,349nm,0.5s						
LSCH	**La Serena**	**1.58**	**13**	*eP*	Pn	18 23 35.6	+1.4
LSCH				*i* S	Sn	18 23 55.6	+2.1
PEL	**Peldehue**	**1.87**	**154**	*eP*	Pn	18 23 39.5	+1.3
PEL				*i* S	Sn	18 24 03.1	+2.5
PEL				AML	AML	18 24 14.1	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**1.87**	**154**	*eP*	Pn	18 23 39.5	+1.3
PEL				*i* S	Sn	18 24 03.1	+2.5
CLCH	**Cerro Calan**	**2.15**	**154**	*eP*	Pn	18 23 43.9	+1.8
CLCH				*i* S	Sn	18 24 10.3	+2.8
CLCH				AML	AML	18 24 21.2	
	comp=N,583nm,0.5s						
FCH	**Farellones**	**2.19**	**149**	*eP*	Pn	18 23 45.2	+2.6
FCH				*i* S	Sn	18 24 12.2	+3.7
FCH				AML	AML	18 24 22.5	
	comp=E,285nm,1.2s						
TACH	**Talagante**	**2.27**	**165**	*eP*	Pn	18 23 45.3	+1.7
PCH	**Pirque**	**2.36**	**156**	*eP*	Pn	18 23 46.4	+1.5
ZON	**Zonda**	**2.54**	**93**	*eP*	Pn	18 23 53.5	+6.1
LMEL	**Las Melosas**	**2.68**	**153**	*eP*	Pn	18 23 51.3	+2.0
CACH	**El Canelo**	**2.80**	**162**	*eP*	Pn	18 23 53.0	+2.2
CICH	**Cipreses**	**3.04**	**160**	*eP*	Pn	18 23 54.0	-0.2

*MOS **13** 18:31:43.2±1.6, 2631N×5722E, h33km, mb4.6/4, Error ellipse: s-maj=27.8km s-min=12.4km az=103.8*

*ISCJB **13** 18:31:50.8±0.3, 2739N±003×5662E±004, h10km, mb4.0/16, MS3.5/1, Error ellipse: s-maj=4.9km s-min=4.1km az=179.3*

*NEIC **13** 18:31:52.7, 2749N×5656E, h14km, mb3.8/3, ML3.9(THR), After THR.*

*THR **13** 18:31:52.6±0.3, 2746N×5658E, h14km±2km, ML3.9*

*TEH **13** 18:31:53.5, 2738N×5642E, h3km, Mn3.8*

*CSEM **13** 18:31:54.0±0.1, 2743N×5655E, h35km, mb4.2/3, Error ellipse: s-maj=3.2km s-min=3.0km az=175.0*

*IDC **13** 18:31:55.1±4.2, 2741N×5653E, h40km±49km, mb3.7/9, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/37, Error ellipse: s-maj=26.9km s-min=19.9km az=168.0*

ISC 13 18:31:52.5±0.3, 2737N±003×5659E±004, h10km, n60, σ1s46/70, mb4.0/16, MS3.5/1, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.37**	**275**	*e*Pg	**Pg**	**18 32 00.4**	**+0.6**
BNDS					AML	AML	18 32 17.8
	comp=E,9μm,0.5s						
BNDS	**Bandar-Abbas**	**0.37**	**275**	*e*Pg	**Pg**	**18 32 00.0**	**+0.2**
BNDS				*e*Sg	**Sg**	**18 32 05.0**	**+0.3**
BANOM	**Banah**	**1.46**	**190**	⇑P	**Pg**	**18 32 21.0**	**+0.5**
	SNR=81						
BANOM				⇓S	**Sg**	**18 32 43.0**	**+3.5**
KRBR	**Kerman**	**2.61**	**3**	*e*Pn	**Pn**	**18 32 35.4**	**+0.7**
KRBR				*e*Sg	**Sn**	**18 33 11.8**	**+5.3**
KRBR				AML	AML	18 33 15.8	
	comp=N,720nm,0.6s						
KRBR				AML	AML	18 33 32.4	
	comp=E,522nm,0.6s						
KRBR	**Kerman**	**2.61**	**3**	*e*Pn	**Pn**	**18 32 35.0**	**+0.3**
KRBR				*e*Sg	**Sn**	**18 33 10.0**	**+3.6**
KRBR	**Kerman**	**2.61**	**3**	*e*Pn	**Pn**	**18 32 35.4**	**+0.7**
	SNR=52						
KRBR				*e*Sg	**Sn**	**18 33 11.8**	**+5.4**
	SNR=90						
GHIR	**Ghir-Karzin**	**3.31**	**287**	*e*Pn	**Pn**	**18 32 45.8**	**+1.4**
GHIR	**Ghir-Karzin**	**3.31**	**287**	*e*Pn	**Pn**	**18 32 45.0**	**+0.6**
IMOK	**Mook**	**3.80**	**297**	*e*Pn	**Pn**	**18 32 51.5**	**+0.4**
HOQ	**Hoqain**	**3.83**	**170**	⇑P	**Pn**	**18 32 52.9**	**+1.5**
	SNR=16						
IBAF	**Bafgh**	**4.30**	**348**	*e*Pn	**Pn**	**18 32 58.0**	**+0.1**
ZHSF	**Zahedan**	**4.31**	**58**	*e*Pn	**Pn**	**18 32 59.4**	**+1.3**
ZHSF				*e*Sg	**Sg**	**18 34 05.0**	**-6.0**
ZHSF	**Zahedan**	**4.31**	**58**	*e*Pn	**Pn**	**18 32 59.0**	**+0.9**
ZHSF				*e*Sg	**Sg**	**18 34 05.0**	**-6.0**
	SNR=90						
WSAR	**Wadi Sarin**	**4.51**	**155**	Pn	**Pn**	**18 33 01.9**	**+1.1**
	comp=E,13nm,0.3s,baz=349,slow=12,SNR=48						
WSAR				Sn	**Sn**	**18 33 52.4**	**-0.9**
	comp=E,22nm,0.3s,baz=217,slow=20,SNR=14						
WSAR				LR	LR	18 34 38.8	
	comp=E,499nm,20.2s,baz=309,slow=36						
ICHK	**Chekchek**	**5.22**	**339**	*e*Pn	**Pn**	**18 33 13.3**	**+2.8**
IKOO		**5.46**	**22**	*e*Pn	**Pn**	**18 33 15.7**	**+1.8**
ITEG		**5.82**	**18**	*e*Pn	**Pn**	**18 33 20.5**	**+1.7**
IDAH		**6.06**	**27**	*e*Pn	**Pn**	**18 33 24.1**	**+1.9**
IGAR	**Garneh**	**6.18**	**323**	*e*Pn	**Pn**	**18 33 26.1**	**+2.4**
IMON		**6.39**	**24**	*e*Pn	**Pn**	**18 33 28.5**	**+1.9**
IZEF	**Zefreh**	**6.63**	**327**	*e*Pn	**Pn**	**18 33 29.6**	**-0.3**
IPIR	**Pirpir**	**7.24**	**318**	*e*Pn	**Pn**	**18 33 38.5**	**+0.2**
IPIR				*e*Sn	**Sn**	**18 34 55.5**	**-5.1**
IKLH	**Kalahroud**	**7.34**	**325**	*e*Pn	**Pn**	**18 33 39.2**	**-0.5**
IPAY	**Payeh**	**9.28**	**12**	*e*Pn	**Pn**	**18 34 07.3**	**+0.9**
WHFO	**Wadi Hawf**	**9.76**	**196**	⇑P	**Pn**	**18 34 14.0**	**+1.2**
	SNR=14						
WHFO	**Wadi Hawf**	**9.76**	**196**	P	**Pn**	**18 34 14.0**	**+1.2**
	SNR=14						
RBK	**Rabkut**	**10.06**	**193**	⇓P	**Pn**	**18 34 16.8**	**-0.1**
	SNR=6.5						
RBK				⇓S	**Sn**	**18 36 07.4**	**-2.5**
GNI	**Garni**	**16.09**	**325**	Pn	**Pn**	**18 35 44.4**	**+5.7**
	comp=E,1.5nm,0.3s,baz=111,slow=1.9,SNR=6.7						
MALT	**Malatya**	**18.73**	**310**	*e*P	**Pn**	**18 36 13.0**	**+1.4**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	**18.73**	**310**	*e*P	**Pn**	**18 36 13.0**	**+1.4**
	comp=Z,3.6nm,0.8s						
MMAI	**Mount Meron Ar**	**19.14**	**292**	Pn	**Pn**	**18 36 14.8**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=118,slow=15,SNR=3.5						
AAK	**Ala-Archa**	**21.08**	**39**	*e*P	**P**	**18 36 35.4**	**-1.5**
AAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**21.08**	**39**	*e*P	**P**	**18 36 35.4**	**-1.5**
	comp=Z,2.4nm,0.7s,mb3.6						
AAK	**Ala-Archa**	**21.08**	**39**	*e*P	**P**	**18 36 35.4**	**-1.5**
	comp=Z,2.4nm,0.7s,mb3.6						
BRTR	**Keskin Array B**	**22.68**	**309**	P	**P**	**18 36 53.6**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.5,baz=127,slow=9.3,SNR=7.3						
BRTR				LR	LR	18 46 22.0	
	comp=Z,158nm,18.4s,MS3.5,baz=309,slow=38						
BRTR	**Keskin Array B**	**22.68**	**309**	P	**P**	**18 36 53.5**	**-0.5**
AKTK	**Aktyubinsk**	**23.06**	**2**	P	**P**	**18 36 56.5**	**-1.5**
AKTO	**Aktyubinsk**	**23.06**	**2**	P	**P**	**18 36 56.5**	**-1.5**
	comp=Z,1.1nm,0.7s,mb4.4,baz=178,slow=11,SNR=24						
AKTO	**Aktyubinsk**	**23.06**	**2**	P	**P**	**18 36 56.5**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
KOLN	**Koldanda**	**23.94**	**83**	*e*P	**P**	**18 37 05.4**	**-1.3**
ORR	**Orenburg**	**24.26**	**357**	*e*P	**P**	**18 37 05.9**	**-3.7**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
ORR	**Orenburg**	**24.26**	**357**	*e*P	**P**	**18 37 05.9**	**-3.7**
	comp=Z,10.0nm,0.8s,mb4.3						
GKN	**Gorkha**	**24.83

PMG	**Port Moresby**	**18.05**	**98**	P		**P**	**18 36 43.2**	**-1.8**
	0.5nm,0.3s,baz=220,slow=7.9,SNR=1.6							
KSM	**Kuching**	**20.61**	**294**	*e*P		**P**	**18 37 11.9**	**-0.8**
CTA	**Charters Tower**	**21.01**	**129**	⇑*i*P		**P**	**18 37 18.8**	**+1.9**
	7.2nm,0.7s,mb4.1							
CTA	**Charters Tower**	**21.01**	**129**	P		**P**	**18 37 17.8**	**+0.9**
	9.3nm,0.7s,mb4.2,baz=309,slow=14,SNR=16							
CTAO	**Charters Tower**	**21.01**	**129**	*e*P		**P**	**18 37 18.6**	**+1.7**
	9.3nm,0.8s,mb4.2							
FORT	**Forrest**	**23.43**	**182**	*e*P		**P**	**18 37 44.8**	**+4.1**
	11nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**27.16**	**156**	*e*P		**P**	**18 38 16.5**	**+2.1**
	2.6nm,1.0s,mb3.8							
STKA	**Stephens Creek**	**27.16**	**156**	P		**P**	**18 38 16.5**	**+2.1**
	3.0nm,0.8s,mb4.0,baz=338,slow=10,SNR=5.6							
DZM	**Mont Dzumac**	**38.93**	**116**	P		**P**	**18 39 57.1**	**+0.9**
	5.2nm,0.9s,mb4.2,baz=307,slow=15,SNR=3.0							
LSA	**Lhasa**	**51.73**	**317**	*e*P		**P**	**18 41 37.6**	**+0.7**
	2.6nm,0.6s,mb4.0							
JIRN	**Jiri**	**54.04**	**312**	*e*P		**P**	**18 41 54.2**	**+0.4**
	3.9nm,0.2s,mb4.7							
GUN	**Gumba**	**54.41**	**312**	*e*P		**P**	**18 41 56.7**	**+0.2**
	15nm,0.5s,mb5.0							
PKI	**Pulchoki**	**54.57**	**311**	*e*P		**P**	**18 41 57.3**	**-0.3**
KKN	**Kakani**	**54.78**	**311**	*e*P		**P**	**18 41 59.2**	**0.0**
	6.5nm,0.6s,mb4.6							
DMN	**Daman**	**54.82**	**311**	*e*P		**P**	**18 42 00.1**	**+0.7**
	12nm,0.8s,mb4.7							
GKN	**Gorkha**	**55.38**	**311**	*e*P		**P**	**18 42 03.4**	**0.0**
	15nm,0.3s,mb5.2							
KOLN	**Koldanda**	**56.03**	**310**	*e*P		**P**	**18 42 08.3**	**+0.2**
	13nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**67.92**	**327**	P		**P**	**18 43 26.7**	**-0.7**
	1.1nm,0.4s,mb3.9,baz=114,slow=8.7,SNR=26							
ZAL	**Zalesovo**	**71.39**	**334**	P		**P**	**18 43 48.1**	**-0.5**
	1.4nm,0.4s,mb4.0,baz=0.0,slow=2.0,SNR=4.7							
KURK	**Kurchatov**	**72.32**	**329**	*e*P		**P**	**18 43 52.2**	**-1.4**
VNDA	**Vanda**	**72.32**	**173**	P		**P**	**18 43 55.5**	**+1.3**
	0.3nm,0.6s,mb3.2,baz=321,slow=8.1,SNR=4.0							
VNDA	**Vanda**	**72.32**	**173**	P		**P**	**18 43 55.5**	**+1.3**
BVAR	**Borovoye Array**	**77.77**	**328**	P		**P**	**18 44 25.4**	**0.0**
	0.8nm,0.5s,mb3.6,baz=125,slow=11,SNR=5.2							
CHKZ	**Chkalovo**	**77.98**	**329**	*e*P		**P**	**18 44 25.8**	**-0.7**
ZRNK	**Zerenda**	**78.46**	**328**	*e*P		**P**	**18 44 27.5**	**-1.7**
AKTK	**Aktyubinsk**	**83.69**	**323**	P		**P**	**18 44 57.3**	**+0.5**
AKTO	**Aktyubinsk**	**83.69**	**323**	P		**P**	**18 44 57.3**	**+0.5**
	0.9nm,0.4s,mb3.8,baz=113,slow=6.5,SNR=7.4							
LPAZ	**La Paz**	**151.09**	**144**	PKPbc	PKPbc		18 52 23.0	+2.9
	0.5nm,0.4s,baz=229,slow=11,SNR=4.7							

NEIC ***13*** *18:44:41.6±1.7,593S×15120E,h10km,mb4.0/2, Error ellipse: s-maj=44.7km s-min=24.8km az=129.0*

IDC 13 18:44:41.2±2.4,595S×15103E,h0km,mb3.5/3,mb1 3.7/4, mb1mx3.5/13,mbtmp3.6/4,ML2.0/1,Error ellipse: s-maj=70.9km s-min=37.2km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**228**	Pn	Pn	18 46 01.7	+2.2
	0.4nm,0.3s,baz=15,slow=12,SNR=2.2						
PMG				Sn	Sn	18 46 59.7	+0.1
	1.9nm,0.3s,baz=164,slow=5.7,SNR=4.4						
WRAB	**Tennant Creek**	**21.35**	**228**	P	P	18 49 30.1	+0.1
	4.0nm,1.1s						
WB2	**Warramunga Arr**	**21.36**	**228**	*e*P	P	18 49 30.8	+0.8
WRA	**Warramunga Arr**	**21.37**	**228**	P	P	18 49 30.5	+0.4
	0.6nm,0.6s,baz=53,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**24.12**	**221**	P	P	18 49 58.1	-0.5
	0.5nm,0.7s,baz=59,slow=8.4,SNR=16						
STKA	**Stephens Creek**	**27.26**	**198**	P	P	18 50 27.3	+0.2
	2.3nm,0.9s,baz=68,slow=5.4,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.56**	**242**	*e*P	P	18 50 30.8	+1.0
	2.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.95**	**286**	PKPbc	PKPbc	19 04 31.9	+0.9
	0.6nm,0.6s,baz=62,slow=3.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.95**	**286**	PKPbc	PKPbc	19 04 31.9	+0.9

PRE 13 18:57:34.0±1.1,2111S×3343E,h5km,ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**3.05**	**218**	*e*P	Pn	18 58 23.6	+0.7
MOPA				*e*S	Sn	18 58 60.0	+0.2
MOPA				AML	AML	18 59 12.8	
	comp=Z,925nm,0.2s						
PRYS	**Parys**	**8.02**	**223**	*e*P	Pn	18 59 32.4	+1.2
PRYS				*e*S	Sn	19 00 58.6	-3.6
PRYS				AML	AML	19 02 00.3	
	comp=Z,17nm,0.6s						
LBTB	**Lobatse**	**8.20**	**240**	*e*P	Pn	18 59 35.2	+1.6
LBTB				*e*S	Sn	19 01 03.5	-3.1
LBTB				AML	AML	19 01 52.1	
	comp=Z,18nm,0.7s						
KSD	**Kokstad**	**10.06**	**200**	*e*P	Pn	19 00 00.8	+1.6
KSD				*e*S	Sn	19 01 47.5	-4.9
KSD				AML	AML	19 02 59.5	
	comp=Z,8.4nm,0.8s						
BOSA	**Boshof**	**10.53**	**223**	*e*P	Pn	19 00 06.4	+0.9
BOSA				*e*S	Sn	19 01 58.2	-5.7
BOSA				AML	AML	19 03 12.5	
	comp=Z,12nm,0.7s						
PKA	**Prieska**	**12.87**	**226**	*e*P	Pn	19 00 39.1	+1.5

KRSC 13 19:10:41.7±0.3,5089N×15962E,h5km±5km,ML3.9,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.69**	**336**	*e*P	Pn	19 11 12.5	+0.6
RUS				*e*S	Sn	19 11 35.4	+1.5
RUS	**Russkaya**	**1.69**	**336**	*e*P	Pn	19 11 12.5	+0.6
RUS				*e*S	Sn	19 11 35.4	+1.5
GRL	**Gorelyy**	**1.92**	**331**	*e*P	Pn	19 11 16.6	+1.5
GRL				*e*S	Sn	19 11 41.4	+1.8
GRL	**Gorelyy**	**1.92**	**331**	*e*P	Pn	19 11 16.6	+1.5
GRL				*e*S	Sn	19 11 41.4	+1.8
PET	**Petropavlovsk**	**2.22**	**345**	*e*P	Pn	19 11 20.4	+1.3
PET				*e*S	Sn	19 11 48.6	+1.7
PET	**Petropavlovsk**	**2.22**	**345**	*e*P	Pn	19 11 20.4	+1.3
PET				*e*S	Sn	19 11 48.6	+1.7
SPN	**Mys Shipunski**	**2.23**	**6**	*e*P	Pn	19 11 21.3	+2.1
SPN				*e*S	Sn	19 11 49.2	+2.1
SPN	**Mys Shipunski**	**2.23**	**6**	*e*P	Pn	19 11 21.3	+2.1
SPN				*e*S	Sn	19 11 49.2	+2.1
NLC	**Nalytchevo**	**2.29**	**356**	*e*S	Sn	19 11 50.7	+2.0
NLC	**Nalytchevo**	**2.29**	**356**	*e*S	Sn	19 11 50.7	+2.0
AVH	**Avacha**	**2.44**	**347**	*e*P	Pn	19 11 23.3	+1.1
AVH				*e*S	Sn	19 11 53.9	+1.5
AVH	**Avacha**	**2.44**	**347**	*e*P	Pn	19 11 23.3	+1.1
AVH				*e*S	Sn	19 11 53.9	+1.5
GNL	**Ganaly**	**2.99**	**341**	*e*P	Pn	19 11 31.9	+2.1
GNL				*e*S	Sn	19 12 08.0	+2.0
GNL	**Ganaly**	**2.99**	**341**	*e*P	Pn	19 11 31.9	+2.1
GNL				*e*S	Sn	19 12 08.0	+2.0
MKZ	**Mys Kozlova**	**3.89**	**18**	*e*P	Pn	19 11 43.4	+1.3
MKZ				*e*S	Sn	19 12 30.0	+1.8
MKZ	**Mys Kozlova**	**3.89**	**18**	*e*P	Pn	19 11 43.4	+1.3
MKZ				*e*S	Sn	19 12 30.0	+1.8
KBTR	**Krutoberegovo**	**5.66**	**18**	*e*P	Pn	19 12 08.5	+2.1
KBTR	**Krutoberegovo**	**5.66**	**18**	*e*P	Pn	19 12 08.5	+2.1

IDC ***13*** *19:22:34.0±2.3,6205×15120E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/14,mbtmp3.6/4,ML1.8/1,Error ellipse: s-maj=72.5km s-min=35.5km az=124.0*

ISCJB ***13*** *19:22:35.2±7.1,63S±03×1512E±02,h15km±56km, mb3.7/5,Error ellipse: s-maj=57.5km s-min=23.7km az=116.0*

NEIC ***13*** *19:22:35.4±1.2,633S×15133E,h10km,mb4.0/3,Error ellipse: s-maj=29.7km s-min=14.9km az=116.0*

ISC 13 19:22:35.8±7.0,63S±04×1512E±02,h6km±56km,n9, σ0°32°/9,mb3.7/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.06**	**232**	Pn	**Pn**	**19 23 52.3**	**+0.1**
	0.3nm,0.3s,baz=118,slow=19,SNR=1.9						
PMG				Sn	**Sn**	**19 24 50.9**	**0.0**
	1.1nm,0.3s,baz=24,slow=20,SNR=2.6						

KAKA	**Kakadu**	**19.57**	**250**	*e*P		**Pn**	**19 27 05.4**	**-0.3**
	6.3nm,0.8s							
WRAB	**Tennant Creek**	**21.25**	**229**	*e*P		**P**	**19 27 23.1**	**+0.4**
	3.9nm,0.9s,mb3.7							
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P		**P**	**19 27 22.1**	**-0.6**
WRA	**Warramunga Arr**	**21.27**	**229**	P		**P**	**19 27 23.3**	**+0.5**
	1.4nm,0.8s,mb3.4,baz=52,slow=9.8,SNR=16							
ASAR	**Alice Springs**	**23.97**	**222**	P		**P**	**19 27 51.0**	**0.0**
	0.9nm,0.8s,mb3.2,baz=57,slow=8.6,SNR=14							
STKA	**Stephens Creek**	**26.97**	**198**	P		**P**	**19 28 18.1**	**-0.2**
	1.5nm,0.6s,mb3.7,baz=11,slow=13,SNR=4.5							
FITZ	**Fitzroy Crossi**	**27.56**	**243**	*e*P		**P**	**19 28 23.7**	**+0.2**
	4.7nm,0.4s,mb4.5							
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc	PKPbc		19 42 25.1	-0.3
	0.9nm,0.6s,baz=65,slow=2.4,SNR=15							

NIED ***13*** *19:27:00,2700N×13020E,h8km,Mw3.9 Best double couple: M08.52000×10^14 NP1:φ227.00000°,δ52.00000°, λ-64.00000°. NP2:φ8.00000°,δ45.00000°,λ-120.00000°.*

ISCJB ***13*** *19:27:41.7±0.6,2694N±004×13014E±004,h36km±11km, mb4.0/4,Error ellipse: s-maj=6.3km s-min=5.6km az=116.9*

JMA ***13*** *19:27:41.6±0.1,2696N×13019E,h46km,M4.0*

IDC ***13*** *19:27:45.8±3.1,2708N×13001E,h57km±34km,mb3.6/4, mb1 3.8/5,mb1mx3.6/22,mbtmp3.7/5,ML3.8/1,Error ellipse: s-maj=27.2km s-min=18.9km az=118.0*

ISC 13 19:27:42.4±1.9,2696N±003×13014E±004,h30km±16km, n20,σ1°901/33,mb4.0/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**1.34**	**308**	P	**Pn**	**19 28 04.8**	**-0.3**
JTK				S	**Sn**	**19 28 21.8**	**0.0**
JZK	**Kikaishima**	**1.35**	**354**	P	**Pn**	**19 28 05.2**	**-0.1**
JZK				S	**Sn**	**19 28 22.1**	**-0.1**
JMZ	**Minamidaito 2**	**1.50**	**139**	P	**Pn**	**19 28 06.2**	**-1.0**
JMZ				S	**Sn**	**19 28 24.2**	**-1.5**
JAM	**Amami Oshima**	**1.52**	**342**	P	**Pn**	**19 28 06.8**	**-0.7**
JAM				S	**Sn**	**19 28 24.9**	**-1.4**
JOW	**Kunigami**	**1.67**	**266**	P	**Pn**	**19 28 10.2**	**+0.6**
	111nm,0.3s,baz=113,slow=14,SNR=684						
JOW				S	**Sn**	**19 28 30.4**	**+0.3**
	235nm,0.3s,baz=89,slow=29,SNR=37						
JIH	**Iheya**	**1.94**	**273**	P	**Pn**	**19 28 13.8**	**+0.5**
JIH				S	**Sn**	**19 28 37.7**	**+1.0**
JJT2	**Tamagusuku 2**	**2.29**	**250**	P	**Pn**	**19 28 19.1**	**+0.9**
JJT2				*e*S	**Sn**	**19 28 45.9**	**+0.5**
NAH1	**Naha**	**2.32**	**252**	P	**Pn**	**19 28 19.3**	**+0.7**
NAH1				*e*S	**Sn**	**19 28 46.5**	**+0.4**
JAGN	**Aguni-jima**	**2.62**	**262**	P	**Pn**	**19 28 23.0**	**+0.3**
JAGN				*e*S	**Sn**	**19 28 52.8**	**-0.6**
JKE	**Kume jima 2**	**3.07**	**259**	P	**Pn**	**19 28 28.7**	**-0.2**
JKE				*e*S	**Sn**	**19 29 05.3**	**+0.8**
JOGS	**Gusukube**	**4.80**	**244**	P	**Pn**	**19 28 53.3**	**+0.7**
JOGS				*e*S	**Sn**	**19 29 45.7**	**-1.5**
JMJ	**Miyako jima 2**	**4.86**	**245**	P	**Pn**	**19 28 54.0**	**+0.5**
JMJ				*e*S	**Sn**	**19 29 47.2**	**-1.6**
JTJ	**Tarama**	**5.42**	**246**	P	**Pn**	**19 29 00.4**	**-0.8**
JTJ				*e*S	**Sn**	**19 29 58.6**	**-3.9**
JIJ	**Ishigaki jima**	**6.00**	**246**	P	**Pn**	**19 29 07.8**	**-1.3**
JKRS	**Kuro-shima**	**6.17**	**245**	P	**Pn**	**19 29 10.3**	**-1.1**
JNU	**Nakatsue**	**6.17**	**6**	P	**Pn**	**19 29 13.5**	**+2.0**
	2.5nm,0.3s,baz=244,slow=20,SNR=13						
SONM	**Songino Array**	**27.91**	**325**	P	**P**	**19 33 28.4**	**-1.4**
	0.4nm,0.6s,mb3.2,baz=147,slow=6.2,SNR=4.5						
WRA	**Warramunga Arr**	**46.80**	**175**	P	**P**	**19 36 10.7**	**+1.4**
	1.8nm,0.6s,mb4.2,baz=354,slow=8.5,SNR=24						
WRA				pP	pP	19 36 22.7	+4.4
	1.0nm,0.7s,baz=353,slow=8.7,SNR=5.7						
CTA	**Charters Tower**	**49.31**	**160**	P	**P**	**19 36 30.3**	**+1.6**
	0.9nm,0.2s,mb4.4,baz=354,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**50.46**	**176**	P	**P**	**19 36 39.2**	**+1.8**
	0.9nm,0.5s,mb4.0,baz=7.0,slow=14,SNR=21						
ASAR				pP	pP	19 36 52.4	+5.8
	0.5nm,0.5s,baz=9.2,slow=13,SNR=5.0						

NIED ***13*** *19:29:00,4290N×14300E,h98km,Mw4.0 Best double couple: M01.02000×10^15 NP1:φ110.00000°,δ78.00000°, λ60.00000°. NP2:φ0.00000°,δ32.00000°,λ156.00000°.*

MOS ***13*** *19:29:19.3±0.9,4290N×14302E,h125km,mb4.4/6, Error ellipse: s-maj=14.8km s-min=8.7km az=97.1*

ISCJB ***13*** *19:29:19.3±0.3,4287N±003×14301E±004,h122km±2km, mb4.3/22,Error ellipse: s-maj=5.7km s-min=4.4km az=91.7*

NEIC ***13*** *19:29:20.0±0.7,4297N×14299E,h110km±8km,mb4.7/5, MW3.9(NIED),Error ellipse: s-maj=9.3km s-min=7.2km az=167.0*

NEIC Recorded [2 JMA] in the Ombetsu area.

IDC ***13*** *19:29:21.2±1.1,4294N×14298E,h121km±7km,mb3.9/19, mb1 4.0/20,mb1mx3.9/27,mbtmp3.9/20,Error ellipse: s-maj=13.9km s-min=12.9km az=114.0*

JMA ***13*** *19:29:21.2±0.1,4288N×14303E,h108km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φ±299.00000°,δ15.00000°,λ114.00000°. NP2: φ±95.00000°,δ76.00000°,λ84.00000°. Principal axes: T Plg58.0000°, Azm357.0000°; N Plg6.0000°, Azm96.0000°; P Plg31.0000°, Azm190.0000°;*

JMA Felt II J1.

ISC 13 19:29:20.3±0.3,4288N±003×14302E±004,h117km±2km, n66,σ0°80/82,mb4.3/22,7C-7D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.36**	**136**	⇑P	**Pn**	**19 29 36.9**	**-0.3**
JCH				*e*S	**Sn**	**19 29 48.7**	**-1.2**
JFR	**Furan**	**0.42**	**313**	P	**Pn**	**19 29 37.3**	**-0.2**
JFR				*e*S	**Sn**	**19 29 49.7**	**-0.8**
JBT2	**Biratori 2**	**0.49**	**259**	⇑P	**Pn**	**19 29 37.9**	**0.0**
JBT2				*e*S	**Sn**	**19 29 50.8**	**-0.4**
JOB	**Onbets**	**0.60**	**87**	⇑P	**Pn**	**19 29 38.9**	**+0.2**
JOB				*e*S	**Sn**	**19 29 52.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.63**	**198**	⇑P	**Pn**	**19 29 39.4**	**+0.6**
JAR	**Ashorobuto**	**0.69**	**52**	⇓P	**Pn**	**19 29 39.1**	**-0.3**
JAR				*e*S	**Sn**	**19 29 52.9**	**-0.8**
JAB	**Ashibetsu**	**0.86**	**318**	⇓P	**Pn**	**19 29 40.8**	**+0.1**
JEM	**Erimo**	**0.86**	**173**	P	**Pn**	**19 29 41.4**	**+0.6**
ERM	**Erimo**	**0.87**	**173**	*e*PN	**Pn**	**19 29 41.3**	**+0.5**
JKK2	**Kamakawa 2**	**1.02**	**349**	⇓P	**Pn**	**19 29 42.5**	**+0.2**
JEW	**Eniwo**	**1.15**	**269**	⇑P	**Pn**	**19 29 43.9**	**+0.2**
JEW				*e*S	**Sn**	**19 30 01.4**	**0.0**
JAK	**Akkeshi**	**1.24**	**84**	⇓P	**Pn**	**19 29 44.4**	**-0.2**
JTKR	**Abashiri--Toko**	**1.27**	**30**	⇓P	**Pn**	**19 29 45.1**	**+0.1**
JTKR				*e*S	**Sn**	**19 30 03.4**	**-0.3**
ASAJ	**Asahikawa**	**1.28**	**346**	P	**Pn**	**19 29 45.8**	**+0.7**
	232nm,0.3s,baz=202,slow=13,SNR=1298						
ASAJ				S	**Sn**	**19 30 03.7**	**-0.1**
	39nm,0.3s,baz=47,slow=30,SNR=3.9						
ASAJ	**Asahikawa**	**1.28**	**346**	PN	**Pn**	**19 29 45.8**	**+0.8**
ASAJ				S	**Sn**	**19 30 03.7**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,232nm,0.3s						
ASAJ				smax			
	comp=N,39nm,0.3s						
JHR	**Hokuryu**	**1.28**	**313**	⇓P	**Pn**	**19 29 45.5**	**+0.4**
JHR				*e*S	**Sn**	**19 30 04.7**	**+0.8**
JKB	**Kayabe**	**1.77**	**237**	⇑P	**Pn**	**19 29 50.9**	**+0.1**
JKB				*e*S	**Sn**	**19 30 12.8**	**-1.3**
JRA	**Rausu**	**1.87**	**55**	⇓P	**Pn**	**19 29 52.6**	**+0.6**
JRA				*e*S	**Sn**	**19 30 18.6**	**+2.5**
JSK	**Shakotan**	**1.92**	**285**	*e*S	**Sn**	**19 30 17.6**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**2.37**	**60**	⇑PN	**Pn**	**19 29 58.2**	**-0.2**
YUK				*i* S	**Sn**	**19 30 27.0**	**-0.5**
YUK				pmax	pmax		
	comp=Z,400nm,0.4s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,1μm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.08**	**357**	*e*PN	**Pn**	**19 30 20.8**	**-0.1**
YSS				S	**Sn**	**19 31 09.0**	**+1.2**
YSS				smax			
	comp=E,70nm,0.8s						
MAJO	**Matsushiro**	**7.33**	**212**	*e*PN	**Pn**	**19 31 04.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**7.33**	**212**	*e*P	**Pn**	**19 31 04.7**	**0.0**
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**7.33**	**212**	P	**Pn**	**19 31 04.3**	**-0.4**
MAT				S	**Sn**	**19 32 28.5**	**+2.2**
MJAR	**Matsushiro Arr**	**7.33**	**212**	P	**Pn**	**19 31 04.9**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=26,slow=13,SNR=15						
JHJ	**Hachijo jima 2**	**10.07**	**196**	P	**Pn**	**19 31 39.4**	**-2.4**
	comp=Z,15nm,0.3s,baz=14,slow=15,SNR=13						
JHJ				S	**Sn**	**19 33 24.1**	**-8.6**
	comp=Z,25nm,0.3s,baz=243,slow=23,SNR=11						
SONM	**Songino Array**	**26.04**	**294**	P	**P**	**19 34 43.1**	**+0.6**
	comp=Z,1.3nm,0.4s,mb3.7,baz=91,slow=8.7,SNR=15						
ZAK	**Zakamensk**	**28.03**	**299**	*e*P	**P**	**19 35 00.9**	**+0.6**
ZAL	**Zalesovo**	**39.13**	**307**	P	**P**	**19 36 36.4**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.3,baz=22,slow=9.2,SNR=17						
ZAL				PcP	PcP	19 38 42.9	-0.7
	comp=Z,0.8nm,0.8s,baz=298,slow=4.3,SNR=3.6						
IMA2	**Indian Mountai**	**41.09**	**34**	*e*P	**P**	**19 36 51.6**	**-0.8**
KDAK	**Kodiak Island**	**42.05**	**46**	P	**P**	**19 36 59.8**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.5,baz=251,slow=16,SNR=5.8						
MK31	**Makanchi Array**	**42.31**	**297**	*e*P	**P**	**19 37 02.4**	**+0.1**
MKAR	**Makanchi Array**	**42.31**	**297**	P	**P**	**19 37 02.5**	**+0.2**
	comp=Z,2.4nm,0.4s,mb4.2,baz=75,slow=11,SNR=6.9						
KURK	**Kurchatov**	**43.51**	**304**	*e*P	**P**	**19 37 11.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**43.51**	**304**	*e*P	**P**	**19 37 11.3**	**-0.8**
	comp=Z,8.1nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**47.38**	**310**	*e*P	**P**	**19 37 42.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**47.38**	**310**	*e*P	**P**	**19 37 42.2**	**-0.4**
	comp=Z,7.4nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**47.71**	**309**	P	**P**	**19 37 45.4**	**+0.3**
	comp=Z,4.8nm,0.4s,mb4.7,baz=75,slow=9.4,SNR=46						
BVAR				PcP	PcP	19 39 12.5	-0.1
	comp=Z,0.8nm,0.5s,baz=92,slow=4.5,SNR=3.7						
BRVK	**Borovoye**	**47.76**	**309**	*e*P	**P**	**19 37 45.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**47.76**	**309**	*e*P	**P**	**19 37 45.4**	**-0.1**
	comp=Z,2.7nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**48.53**	**309**	*e*P	**P**	**19 37 51.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**48.53**	**309**	*e*P	**P**	**19 37 51.5**	**+0.2**
	comp=Z,9.5nm,0.8s,mb4.8						
INK	**Inuvik**	**48.66**	**29**	P	**P**	**19 37 52.0**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.5,baz=301,slow=7.7,SNR=10						
INK	**Inuvik**	**48.66**	**29**	P	**P**	**19 37 52.0**	**-0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**48.66**	**29**	*e*P	**P**	**19 37 51.8**	**-0.7**
	comp=Z,122nm,0.7s,mb5.9						
AKTK	**Aktyubinsk**	**55.80**	**310**	P	**P**	**19 38 45.1**	**0.0**
AKTO	**Aktyubinsk**	**55.80**	**310**	P	**P**	**19 38 45.1**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=50,slow=12,SNR=8.4						
AKTO	**Aktyubinsk**	**55.80**	**310**	P	**P**	**19 38 45.1**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RES	**Resolute Bay**	**56.65**	**16**	*e*P	**P**	**19 38 49.9**	**-1.3**
	comp=Z,142nm,0.7s						
YKA	**Yellowknife Ar**	**58.18**	**32**	P	**P**	**19 39 01.6**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=298,slow=6.5,SNR=5.4						
YKA	**Yellowknife Ar**	**58.18**	**32**	P	**P**	**19 39 01.6**	**-0.3**
KEV	**Kevo**	**58.45**	**338**	*e*P	**P**	**19 39 01.4**	**-2.4**
ARCES	**ARCESS Array B**	**58.99**	**339**	P	**P**	**19 39 06.7**	**-0.9**
	comp=Z,5.7nm,1.0s,mb4.5,baz=48,slow=8.4,SNR=16						
WRA	**Warramunga Arr**	**63.01**	**189**	P	**P**	**19 39 35.1**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=6.8,slow=6.8,SNR=17						
FINES	**FINESS Array B**	**64.25**	**332**	P	**P**	**19 39 41.8**	**-1.0**
	comp=Z,4.9nm,0.4s,mb4.7,baz=49,slow=8.8,SNR=60						
ASAR	**Alice Springs**	**66.74**	**189**	P	**P**	**19 40 00.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=8.7,slow=5.4,SNR=7.3						
NB2	**NORSAR Subarra**	**69.28**	**337**	P	**P**	**19 40 13.7**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.1,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**69.28**	**337**	P	**P**	**19 40 13.9**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.2,baz=35,slow

EGUA	**Guajares**	**2.48**	**49**	P		**Pn**	**19 52 18.0**	**+3.0**
	0.3nm,0.1s,SNR=4.0							
EGUA				S		**Sn**	**19 52 44.3**	**+0.3**
	0.4nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.59**	**347**	P		**Pn**	**19 52 17.0**	**+0.4**
	0.7nm,0.1s,SNR=11							
EMIN				S		**Sn**	**19 52 45.1**	**-1.8**
	1.2nm,0.1s							
EMIN	**Mina Concepcio**	**2.59**	**347**	P		**Pn**	**19 52 17.0**	**+0.4**
	0.7nm,0.1s,SNR=11							
EMIN				S		**Sn**	**19 52 45.1**	**-1.8**
	1.2nm,0.1s							
EGRO	**El Granado**	**2.62**	**331**	P		**Pn**	**19 52 17.5**	**+0.6**
	1.5nm,0.1s,SNR=29							
EGRO				S		**Sn**	**19 52 46.6**	**-0.8**
	2.6nm,0.1s							
EGRO	**El Granado**	**2.62**	**331**	P		**Pn**	**19 52 17.5**	**+0.6**
	1.5nm,0.1s,SNR=29							
EGRO				S		**Sn**	**19 52 46.6**	**-0.8**
	2.6nm,0.1s							
EQUE	**Quentar**	**2.80**	**45**	S		**Sn**	**19 52 53.6**	**+1.7**
	0.5nm,0.1s,SNR=5.6							
EBER	**Berja**	**2.95**	**55**	S		**Sn**	**19 52 55.8**	**+0.1**
	0.6nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.95**	**55**	S		**Sn**	**19 52 55.8**	**+0.1**
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.11**	**20**	P		**Pn**	**19 52 24.4**	**+0.8**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**19 52 57.2**	**-2.4**
	2.7nm,0.1s,SNR=7.6							
EADA	**Adamuz**	**3.11**	**20**	P		**Pn**	**19 52 24.4**	**+0.7**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**19 52 57.2**	**-2.3**
	2.7nm,0.1s,SNR=7.6							
PTEO	**Sao Teotonio**	**3.23**	**316**	*eP*		**Pn**	**19 52 25.8**	**+0.5**
PTEO				*eS*		**Sn**	**19 53 01.8**	**-0.7**
EBAN	**Banos Encina**	**3.38**	**30**	P		**Pn**	**19 52 28.9**	**+1.5**
EBAN				S		**Sn**	**19 53 04.0**	**-2.2**
EBAN	**Banos Encina**	**3.38**	**30**	P		**Pn**	**19 52 28.9**	**+1.5**
	0.6nm,0.1s,SNR=4.0							
EBAN				S		**Sn**	**19 53 04.0**	**-2.2**
	3.0nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.43**	**41**	P		**Pn**	**19 52 30.0**	**+1.9**
	0.7nm,0.1s,SNR=4.0							
EQES				S		**Sn**	**19 53 05.9**	**-1.5**
	2.7nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.43**	**41**	P		**Pn**	**19 52 30.0**	**+2.0**
	0.7nm,0.1s,SNR=4.0							
EQES				S		**Sn**	**19 53 05.9**	**-1.5**
	2.7nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.62**	**346**	P		**Pn**	**19 52 32.6**	**+2.0**
	1.0nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**19 53 09.8**	**-2.2**
	1.3nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.62**	**346**	P		**Pn**	**19 52 32.6**	**+2.0**
	1.0nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**19 53 09.8**	**-2.2**
	1.3nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**3.70**	**45**	S		**Sn**	**19 53 14.1**	**-0.1**
	0.8nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**3.86**	**340**	*eP*		**Pn**	**19 52 34.7**	**+0.8**
PESTR				*eS*		**Sn**	**19 53 17.3**	**-0.7**
EVIA	**Vianos**	**4.35**	**38**	S		**Sn**	**19 53 27.0**	**-3.1**
	1.5nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.69**	**19**	S		**Sn**	**19 53 33.9**	**-4.4**
	0.8nm,0.1s,baz=203,slow=22,SNR=6.0							
PCBR	**Castelo Branco**	**4.75**	**345**	*eP*		**Pn**	**19 52 47.6**	**+1.4**
ETOB	**Tobarra**	**4.87**	**45**	P		**Pn**	**19 52 48.4**	**+0.6**
	0.3nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**19 53 39.3**	**-3.6**
	1.1nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**4.87**	**45**	P		**Pn**	**19 52 48.4**	**+0.6**
	0.3nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**19 53 39.2**	**-3.7**
ETOR	**Torete**	**6.34**	**28**	P		**Pn**	**19 53 08.9**	**+0.9**
	1.3nm,0.2s,SNR=4.0							
ETOR				S		**Sn**	**19 54 14.2**	**-4.8**
	2.4nm,0.2s,SNR=7.9							

NEIC ***13*** *20:03:38.7, 6529N×13433W, h0km, ML3.6(AEIC), ML3.8(PGC), After PGC.*

PGC 13 20:03:38.7±1.1, 6528N×13433W, h0km, ML3.8/4, 239km southeast of Ft. McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.50**	**243**	Trac			
DAWY	**Dawson**	**2.50**	**243**	Pn	Pn	20 04 18.8	-1.7
DAWY				Sn	Sn	20 04 50.6	-1.0
DAWY				Sg	Sg	20 04 54.5	-4.3
DAWY	**Dawson**	**2.50**	**243**	Pn	Pn	20 04 18.8	-1.7
DAWY				S	Sn	20 04 50.4	-1.3
DAWY				Sn	Sn	20 04 50.6	-1.0
EGAK	**Eagle**	**2.94**	**263**	P	Pn	20 04 23.4	-3.2
INK	**Inuvik**	**3.05**	**6**	Trac			
INK	**Inuvik**	**3.05**	**6**	Pg	Pg	20 04 33.1	-4.1
INK				Sg	Sg	20 05 13.8	-3.0
INK	**Inuvik**	**3.05**	**6**	*eP*	Pn	20 04 25.4	-2.8
INK				Pg	Pg	20 04 33.1	-4.1
INK				Sg	Sg	20 05 13.8	-3.0
BCA3	**Beaver Creek A**	**3.95**	**239**	P	Pn	20 04 38.6	-1.9
BCA3				S	Sn	20 05 27.7	+0.1
DOT	**Dot Lake**	**4.52**	**253**	P	Pn	20 04 45.3	-3.1
WHY	**Whitehorse**	**4.65**	**183**	Trac			
WHY	**Whitehorse**	**4.65**	**183**	Pn	Pn	20 04 49.5	-0.7
WHY				Sg	Sg	20 06 03.4	-4.7
BM3	**Burnt Mountain**	**4.66**	**302**	P	Pn	20 04 46.8	-3.4
HYT	**Haines Junctio**	**4.70**	**199**	Trac			
HYT	**Haines Junctio**	**4.70**	**199**	Pn	Pn	20 04 50.3	-0.6
HYT				Sn	Sn	20 05 42.9	-3.2
HYT				Sg	Sg	20 06 05.3	-4.5
HYT	**Haines Junctio**	**4.70**	**199**	Pn	Pn	20 04 50.3	-0.6
HYT				Sn	Sn	20 05 42.9	-3.2
MENT	**Mentasta**	**4.74**	**245**	P	Pn	20 04 48.9	-2.5
IL1	**Eielson Array**	**5.35**	**270**	P	Pn	20 04 55.6	-4.1
SKAG	**Skagway**	**5.87**	**185**	*eP*	Pn	20 05 06.6	-0.3
PLBC	**Pleasant Camp**	**5.93**	**190**	Pn	Pn	20 05 07.8	+0.2
PLBC				Sg	Sg	20 06 42.6	-6.5
DLBC	**Dease Lake**	**7.17**	**162**	Pn	Pn	20 05 24.2	-0.5
DLBC				Sg	Sg	20 07 22.8	-6.0
DLBC	**Dease Lake**	**7.17**	**162**	*eP*	Pn	20 05 23.8	-0.9
YKR1	**Yellowknife Ar**	**8.98**	**99**	Pn	Pn	20 05 47.4	-2.2
YKR2	**Yellowknife Ar**	**9.00**	**99**	Pn	Pn	20 05 47.9	-2.0
YKR3	**Yellowknife Ar**	**9.02**	**99**	Pn	Pn	20 05 48.0	-2.2
YKR4	**Yellowknife Ar**	**9.04**	**99**	Pn	Pn	20 05 48.2	-2.2
YKR5	**Yellowknife Ar**	**9.06**	**99**	Pn	Pn	20 05 48.6	-2.1
YKW4	**Yellowknife Ar**	**9.07**	**99**	Pn	Pn	20 05 48.6	-2.2
YKB0	**Yellowknife Ar**	**9.07**	**98**	Pn	Pn	20 05 48.7	-2.1
YKB9	**Yellowknife Ar**	**9.08**	**98**	Pn	Pn	20 05 48.8	-2.2
YKW3	**Yellowknife Ar**	**9.09**	**98**	Pn	Pn	20 05 48.8	-2.3
YKW3				Sn	Sn	20 07 23.7	-10
YKB8	**Yellowknife Ar**	**9.09**	**98**	Pn	Pn	20 05 49.0	-2.1
YKB7	**Yellowknife Ar**	**9.10**	**99**	Pn	Pn	20 05 49.2	-2.1
YKR7	**Yellowknife Ar**	**9.10**	**99**	Pn	Pn	20 05 49.2	-2.1
YKB6	**Yellowknife Ar**	**9.11**	**99**	Pn	Pn	20 05 49.4	-2.1
YKR8	**Yellowknife Ar**	**9.12**	**99**	Pn	Pn	20 05 49.5	-2.1
YKB4	**Yellowknife Ar**	**9.13**	**99**	Pn	Pn	20 05 49.6	-2.1
YKB3	**Yellowknife Ar**	**9.14**	**99**	Pn	Pn	20 05 49.7	-2.1
YKR9	**Yellowknife Ar**	**9.14**	**99**	Pn	Pn	20 05 49.8	-2.1
YKB2	**Yellowknife Ar**	**9.15**	**99**	Pn	Pn	20 05 49.8	-2.2
YKW2	**Yellowknife Ar**	**9.15**	**99**	Pn	Pn	20 05 49.9	-2.1
YKB1	**Yellowknife Ar**	**9.16**	**99**	Pn	Pn	20 05 50.0	-2.1
YKW1	**Yellowknife Ar**	**9.16**	**99**	Pn	Pn	20 05 50.0	-2.1
RES	**Resolute Bay**	**16.05**	**38**	Pn	Pn	20 07 22.9	-2.9

IDC ***13*** *20:08:36.8±1.1, 639S×15169E, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/31, Error ellipse: s-maj=35.1km s-min=18.8km az=106.0*

ISCJB ***13*** *20:08:37.8±5.7, 6458S±01×1517E±0.1, h17km±41km, mb3.9/9, Error ellipse: s-maj=25.3km s-min=16.8km az=93.1*

NEIC ***13*** *20:08:38.2±0.7, 6385S×15168E, h10km, mb4.4/3, Error ellipse: s-maj=18.2km s-min=10.2km az=115.0*

ISC 13 20:08:39.5±5.3, 64S±01×1518E±01, h17km±34km, n22, σ0§56/19, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**237**	Pn	**Pn**	**20 10 00.7**	**+1.3**
	3.8nm,0.3s,baz=56,slow=5.0,SNR=18						
PMG				Sn	**Sn**	**20 11 01.4**	**-0.1**
	8.8nm,0.3s,baz=3.6,slow=21,SNR=7.4						
PMG				LR	LR	20 12 03.5	
	comp=Z,98nm,19.4s,baz=200,slow=38						
HNR	**Honiara**	**8.66**	**111**	LR	LR	20 13 18.9	
	comp=Z,116nm,20.7s,baz=180,slow=32						
CTA	**Charters Tower**	**14.59**	**201**	Pn	**Pn**	**20 12 04.2**	**-0.9**
	0.1nm,0.3s,baz=72,slow=20,SNR=1.7						
KAKA	**Kakadu**	**20.03**	**250**	*eP*	**P**	**20 13 10.6**	**-0.8**
	14nm,0.8s						
WRAB	**Tennant Creek**	**21.58**	**230**	*eP*	**P**	**20 13 27.9**	**-0.3**
	7.4nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**21.59**	**230**	*eP*	**P**	**20 13 28.2**	**-0.1**
WRA	**Warramunga Arr**	**21.59**	**230**	P	**P**	**20 13 28.0**	**-0.3**
	4.2nm,0.7s,mb4.0,baz=54,slow=11,SNR=27						
AS31	**Alice Springs**	**24.25**	**223**	*eP*	**P**	**20 13 55.8**	**+0.4**
ASAR	**Alice Springs**	**24.25**	**223**	P	**P**	**20 13 55.8**	**+0.3**
	2.7nm,0.6s,mb3.9,baz=62,slow=9.5,SNR=35						
ASPA	**Alice Springs**	**24.25**	**223**	*eP*	**P**	**20 13 55.8**	**+0.3**
STKA	**Stephens Creek**	**27.04**	**199**	*eP*	**P**	**20 14 20.2**	**-0.6**
	4.5nm,0.6s,mb4.2,baz=7.6,slow=10,SNR=15						
STKA	**Stephens Creek**	**27.04**	**199**	*eP*	**P**	**20 14 21.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.98**	**243**	*eP*	**P**	**20 14 29.2**	**+0.1**
	7.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.98**	**243**	P	**P**	**20 14 29.2**	**0.0**
	3.3nm,0.5s,mb4.2,baz=49,slow=9.5,SNR=37						
MBWA	**Marble Bar**	**34.27**	**241**	*eP*	**P**	**20 15 31.3**	**+6.8**
SONM	**Songino Array**	**67.14**	**329**	P	**P**	**20 19 32.1**	**-0.1**
	0.3nm,0.3s,mb3.7,baz=157,slow=4.8,SNR=6.0						
SONM				PcP	PcP	20 20 00.0	-0.2
	0.3nm,0.4s,baz=143,slow=3.8,SNR=4.0						
VNDA	**Vanda**	**71.26**	**178**	P	**P**	**20 19 58.1**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=324,slow=5.1,SNR=6.5						
MKAR	**Makanchi Array**	**80.86**	**319**	P	**P**	**20 20 53.0**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=93,slow=7.9,SNR=4.6						
BVAR	**Borovoye Array**	**89.91**	**323**	P	**P**	**20 21 36.8**	**-0.7**
	0.4nm,0.6s,mb4.0,baz=105,slow=40,SNR=2.3						
LPAZ	**La Paz**	**134.55**	**120**	PKP	PKPdf	20 27 59.9	+3.1
	0.3nm,0.4s,baz=213,slow=21,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**149.76**	**285**	*e*PKPbc	PKPbc	20 28 28.8	+0.4
TORD	**Torodi Ar. Bea**	**149.76**	**285**	PKPbc	PKPbc	20 28 28.9	+0.6
	2.6nm,0.6s,baz=63,slow=2.8,SNR=22						

IDC 13 20:13:26.0±64.0, 1757S×17899E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/13, mbtmp4.0/3, Error ellipse: s-maj=1148.0km s-min=147.6km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.63**	**240**	P	P	20 20 34.1	+0.1
	0.9nm,0.4s,baz=105,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**42.25**	**259**	P	P	20 21 21.4	+0.4
	0.5nm,0.6s,baz=94,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**42.49**	**254**	P	P	20 21 23.3	+0.3
	4.4nm,0.6s,baz=89,slow=8.1,SNR=91						

NIED ***13*** *20:16:00, 29.10N×128.00E, h210km, Mw4.3 Best double couple: M0 2.90000×10^15 NP1:φs=37.00000°, δ76.00000°, λ-91.00000°. NP2:φs=223.00000°, δ14.00000°, λ-84.00000°.*

BJI ***13*** *20:16:16.1, 2877N×12838E, h229km, mB5.1, mb4.6*

ISCJB ***13*** *20:16:18.6±0.2, 2903N±003×12809E±005, h224km±3km, mb4.0/28, Error ellipse: s-maj=7.9km s-min=5.0km az=52.1*

NEIC ***13*** *20:16:20.5±0.7, 2908N×12802E, h230km±7km, mb4.1/8, Error ellipse: s-maj=10.2km s-min=6.8km az=68.0*

JMA ***13*** *20:16:20.5±0.2, 2908N×12801E, h203km, M4.2*

IDC ***13*** *20:16:20.1±1.2, 2913N×12800E, h224km±11km, mb3.8/20, mb1 3.8/26, mb1mx3.8/33, mbtmp3.7/26, Error ellipse: s-maj=14.0km s-min=7.5km az=73.0*

ISC 13 20:16:19.4±0.3, 2905N±003×12806E±005, h216km±3km, n67, σ1§12/78, mb4.0/28, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.49**	**148**	P	**Pn**	**20 16 55.0**	**+0.6**
JTK				S	**S**	**20 17 21.2**	**-0.5**
JAM	**Amami Oshima**	**1.50**	**115**	P	**Pn**	**20 16 54.7**	**+0.2**
JAM				*eS*	**S**	**20 17 20.3**	**-1.6**
JNN	**Nakanoshima**	**1.77**	**63**	P	**Pn**	**20 16 57.4**	**+0.5**
JZK	**Kikaishima**	**1.83**	**113**	P	**Pn**	**20 16 59.2**	**+1.7**
JZK				S	**S**	**20 17 28.0**	**+0.7**
JIH	**Iheya**	**2.01**	**182**	P	**Pn**	**20 17 00.0**	**+0.7**
JIH				*eS*	**S**	**20 17 29.4**	**-1.0**
JOW	**Kunigami**	**2.22**	**175**	P	**Pn**	**20 17 01.9**	**+0.5**
	254nm,0.3s,baz=81,slow=10,SNR=859						
JOW				S	**S**	**20 17 33.0**	**-1.2**
	824nm,0.3s,baz=104,slow=27,SNR=84						
JOW	**Kunigami**	**2.22**	**175**	P	**Pn**	**20 17 01.9**	**+0.5**
JOW				S	**S**	**20 17 32.8**	**-1.4**
JKC	**Kuchinoerabu**	**2.33**	**52**	P	**Pn**	**20 17 02.9**	**+0.5**
JAGN	**Aguni-jima**	**2.56**	**197**	P	**Pn**	**20 17 05.5**	**+0.5**
JAGN				S	**S**	**20 17 39.8**	**-0.9**
NAH1	**Naha**	**2.86**	**187**	P	**Pn**	**20 17 09.0**	**+0.7**
NAH1				S	**S**	**20 17 45.6**	**-1.0**
JJT2	**Tamagusuku 2**	**2.92**	**186**	P	**Pn**	**20 17 09.9**	**+1.0**
JJT2				*eS*	**S**	**20 17 47.3**	**-0.5**
JKE	**Kume jima 2**	**2.94**	**203**	P	**Pn**	**20 17 09.6**	**+0.4**
JKE				*eS*	**S**	**20 17 47.2**	**-1.2**
JTN	**Tanegashima 3**	**3.00**	**57**	P	**Pn**	**20 17 09.3**	**-0.5**
JTN				*eS*	**S**	**20 17 45.4**	**-4.0**
JTZ	**Takazaki**	**3.86**	**42**	P	**Pn**	**20 17 20.4**	**+0.4**
JTZ				*eS*	**S**	**20 18 06.2**	**-1.6**
JNU	**Nakatsue**	**4.72**	**30**	P	**Pn**	**20 17 32.3**	**+1.6**
	2.1nm,0.3s,baz=212,slow=19,SNR=9.5						
KSRS	**Korea Array**	**8.38**	**359**	P	**Pn**	**20 18 17.6**	**+0.1**
	baz=180,slow=14,SNR=11						
MJAR	**Matsushiro Arr**	**11.34**	**46**	P	**Pn**	**20 18 57.6**	**+2.1**
	0.1nm,0.3s,baz=226,slow=11,SNR=2.7						
CBIJ	**Chichi jima**	**12.62**	**96**	P	**Pn**	**20 19 12.4**	**+0.8**
	3.1nm,0.3s,baz=280,slow=19,SNR=3.3						
BJT	**Baijiatuao**	**14.67**	**321**	*eP*	**Pn**	**20 19 39.5**	**+2.6**
	33nm,0.7s						
CN2	**Changchun**	**14.87**	**353**	*eP*	**Pn**	**20 19 41.3**	**+2.0**
CN2				AMB	AMB		
	comp=Z,60nm,0.9s						
XAN	**Xi'an**	**17.05**	**292**	P	**P**	**20 20 05.8**	**+2.0**
XAN				AMB	AMB		
	comp=Z,123nm,0.8s						
ASAJ	**Asahikawa**	**18.99**	**34**	P	**P**	**20 20 24.1**	**-0.7**
	comp=Z,5.5nm,0.3s,baz=225,slow=16,SNR=4.1						
CD2	**Chengdu**	**21.13**	**281**	*eP*	**P**	**20 20 47.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
LZH	**Lanzhou**	**21.55**	**295**	*eP*	**P**	**20 20 52.8**	**+0.8**
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,274nm,6.9s						
KMI	**Kunming**	**22.87**	**266**	P	**P**	**20 21 05.6**	**+1.5**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
KMI	**Kunming**	**22.87**	**266**	P	**P**	**20 21 05.6**	**+1.5**
	comp=Z,5.0nm,1.2s,mb3.9						
SONM	**Songino Array**	**25.14**	**324**	P	**P**	**20 21 25.3**	**+0.6**
	comp=Z,14nm,0.8s,mb4.7,baz=150,slow=9.5,SNR=58						
SONM				PcP	PcP	20 24 52.4	-0.3
	comp=Z,0.3nm,0.3s,baz=103,slow=1.8,SNR=6.3						
GTA	**Gaotai**	**25.44**	**301**	*eP*	**P**	**20 21 27.8**	**+0.4**
GTA				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
JIRN	**Jiri**	**36.74**	**278**	*eP*	**P**	**20 23 10.1**	**+4.1**
GUN	**Gumba**	**36.95**	**279**	*eP*	**P**	**20 23 11.3**	**+3.4**
KKN	**Kakani**	**37.50**	**279**	*eP*	**P**	**20 23 13.7**	**+1.3**
DMN	**Daman**	**37.69**	**278**	*eP*	**P**	**20 23 16.3**	**+2.3**
GKN	**Gorkha**	**38.01**	**279**	*eP*	**P**	**20 23 18.0**	**+1.3**
KOLN	**Koldanda**	**38.95**	**279**	*eP*	**P**	**20 23 25.0**	**+0.4**
MK31	**Makanchi Array**	**39.59**	**309**	*eP*	**P**	**20 23 29.0**	**-0.8**
MKAR	**Makanchi Array**	**39.59**	**309**	P	**P**	**20 23 29.3**	**-0.5**
	comp=Z,1.6nm,0.4s,mb3.8,baz=92,slow=9.5,SNR=52						
MKAR				PcP	PcP	20 25 32.2	-0.2
	comp=Z,1.8nm,0.6s,baz=72,slow=4.0,SNR=9.2						
MKAR	**Makanchi Array**	**39.59**	**309**	P	**P**	**20 23 29.3**	**-0.5**
MKAR				PcP	PcP	20 25 32.2	-0.2
ZAL	**Zalesovo**	**39.95**	**321**	P	**P**	**20 23 31.4**	**-1.4**
	comp=Z,2.3nm,0.4s,mb4.0,baz=11,slow=8.9,SNR=5.7						
ZAL				PcP	PcP	20 25 32.7	-0.9
	comp=Z,1.4nm,0.4s,baz=38,slow=4.7,SNR=3.2						
KURK	**Kurchatov**	**42.70**	**315**	*eP*	**P**	**20 23 53.7**	**-1.4**
	comp=Z,2.3nm,0.3s,mb4.1						
AAK	**Ala-Archa**	**44.78**	**303**	*eP*	**P**	**20 24 10.9**	**-0.8**
	comp=Z,1.8nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**46.94**	**183**	*eP*	**P**	**20 24 29.6**	**+1.1**
	comp=Z,4.3nm,0.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**46.94**	**183**	P	**P**	**20 24 29.6**	**+1.2**
	comp=Z,2.3nm,0.5s,mb3.7,baz=39,slow=7.6,SNR=16						
BVAR	**Borovoye Array**	**48.10**	**317**	P	**P**	**20 24 36.9**	**-0.5**
	comp=Z,2.2nm,0.3s,mb3.9,baz=96,slow=9.9,SNR=27						
BVAR				PcP	PcP	20 26 00.9	-0.6
	comp=Z,2.4nm,0.5s,baz=120,slow=3.2,SNR=9.5						
BRVK	**Borovoye**	**48.17**	**317**	*eP*	**P**	**20 24 36.7**	**-1.2**
ZRNK	**Zerenda**	**48.92**	**316**	*eP*	**P**	**20 24 42.5**	**-1.2**
	comp=Z,2.5nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**49.09**	**172**	P	**P**	**20 24 45.3**	**+0.4**
	comp=Z,2.4nm,0.5s,mb3.8,baz=353,slow=8.2,SNR=43						
WB2	**Warramunga Arr**	**49.09**	**172**	*eP*	**P**	**20 24 45.2**	**+0.3**
CTA	**Charters Tower**	**51.91**	**158**	P	**P**	**20 25 06.5**	**+0.5**
	comp=Z,2.0nm,0.6s,mb3.7,baz=336,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**52.72**	**173**	P	**P**	**20 25 12.8**	**+0.8**
	comp=Z,2.1nm,0.5s,mb3.8,baz=1.7,slow=14,SNR=46						
AKTK	**Aktyubinsk**	**55.77**	**313**	P	**P**	**20 25 32.9**	**-1.0**
AKTO	**Aktyubinsk**	**55.77**	**313**	P	**P**	**20 25 32.9**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.3,baz=65,slow=19,SNR=3.4						
KDAK	**Kodiak Island**	**60.36**	**37**	P	**P**	**20 26 04.9**	**-0.8**
	comp=Z,5.0nm,0.4s,mb4.5,baz=315,slow=8.6,SNR=15						
STKA	**Stephens Creek**	**61.95**	**167**	P	**P**	**20 26 16.9**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.2,baz=345,slow=6.9,SNR=13						
DZM	**Mont Dzumac**	**52.86**	**140**	P	**P**	**20 26 22.9**	**+0.4**
	comp=Z,3.8nm,0.5s,mb4.3,baz=105,slow=22,SNR=7.1						
KEV	**Kevo**	**66.77**	**338**	*ep*	**P**	**20 26 45.3**	**-2.3**
	comp=Z,2.6nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**67.34**	**338**	P	**P**	**20 26 48.9**	**-2.2**
	comp=Z,1.4nm,0.5s,mb3.9,baz=68,slow=8.4,SNR=16						
ARCES	**ARCESS Array B**	**67.34**	**338**	P	**P**	**20 26 48.9**	**-2.2**
FINES	**FINESS Array B**	**70.35**	**330**	P	**P**	**20 27 07.8**	**-1.9**
	comp=Z,2.0nm,0.5s,mb4.0,baz=65,slow=7.2,SNR=24						
FINES	**FINESS Array B**	**70.35**	**330**	P	**P**	**20 27 07.8**	**-1.9**
BRTR	**Keskin Array B**	**75.20**	**307**	P	**P**	**20 27 37.5**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.7,baz=105,slow=5.0,SNR=6.9						
YKA	**Yellowknife Ar**	**76.04**	**25**	P	**P**	**20 27 42.5**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.2,baz=303,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**76.04**	**25**	P	**P**	**20 27 42.5**	**-0.5**
NOA	**NORSAR Array B**	**76.73**	**334**	P	**P**	**20 27 44.8**	**-2.0**
	comp=Z,1.0nm,0.8s,mb3.5,baz=26,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**82.87**	**323**	P	**P**	**20 28 19.3**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.5,baz=346,slow=7.5,SNR=2.8						
PDAR	**Pinedale Array**	**91.06**	**38**	P	**P**	**20 28 59.8**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=82,slow=0.3,SNR=7.9						
ULM	**Lac du Bonnet**	**91.97**	**26**	P	**P**	**20 29 02.6**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.3,baz=281,slow=7.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**113.36**	**301**	PKiKP	PKiKP	20 34 31.7	+0.3
	comp=Z,0.4nm,0.6s,baz=91,slow=1.3,SNR=4.5						

CSEM ***13*** *20:24:13.2±1.0, 3827N×2680W, h10km, ML1.8, Error ellipse: s-maj=4.0km s-min=1.2km az=39.0, After PDA*

PDA ***13*** *20:24:13.2±1.0, 3827N×2680W, h10km, MD2.6, ML1.8, Error ellipse: s-maj=4.0km s-min=1.2km az=39.0*

SVSA 13 20:24:13.2±1.0, 3827N×2680W, h10km, MD2.6, ML1.8, Error ellipse: s-maj=4.0km s-min=1.2km az=39.0, Azores Islands

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

comp=Z,182nm,18.7s,MS4.3,baz=175,slow=34
PDAR Pinedale Array 99.03 44 LR LR 22 17 08.9
comp=Z,78nm,19.8s,MS4.2,baz=164,slow=31
FINES FINESS Array B 147.97 338 PKPbc PKPbc 21 45 42.2 -3.4
2.2nm,0.5s,baz=41,slow=4.9,SNR=20
FINES FINESS Array B 147.97 338 PKPbc PKPbc 21 45 42.2 -3.4
TORD Torodi Ar. Bea 159.50 182 PKPab PKPab 21 46 35.1 -1.8
0.4nm,0.8s,baz=189,slow=3.2,SNR=3.7

IDC 13 21:57:36.2±2.8, 020S×9526E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.7/35, Error ellipse: s-maj=89.4km s-min=23.5km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**34.75**	**122**	LR	LR	22 17 18.7	
	comp=Z,83nm,19.5s,baz=59,slow=34						
WRA	**Warramunga Arr**	**42.99**	**120**	P	P	22 05 37.8	+0.6
	1.0nm,0.8s,baz=298,slow=9.4,SNR=4.9						
ASAR	**Alice Springs**	**44.15**	**125**	P	P	22 05 46.8	+0.3
	0.2nm,0.5s,baz=300,slow=8.2,SNR=4.7						
KSRS	**Korea Array**	**48.09**	**35**	P	P	22 06 17.0	-0.6
	1.4nm,0.8s,baz=283,slow=18,SNR=3.2						
MKAR	**Makanchi Array**	**48.16**	**348**	P	P	22 06 18.3	+0.2
	1.5nm,0.7s,baz=173,slow=8.9,SNR=13						
SONM	**Songino Array**	**48.81**	**10**	P	P	22 06 24.3	+1.2
	0.2nm,0.4s,baz=188,slow=8.3,SNR=4.3						
ZAL	**Zalesovo**	**54.64**	**352**	P	P	22 07 05.8	-1.0
	0.9nm,0.4s,baz=313,slow=4.0,SNR=3.9						

IDC 13 22:15:18.3±3.7, 616S×15107E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/21, Error ellipse: s-maj=140.4km s-min=47.6km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.25**	**228**	P	P	22 20 06.5	+0.5
	0.8nm,0.6s,baz=51,slow=9.9,SNR=7.8						
WRA				LR	LR	22 27 55.6	
	comp=Z,40nm,18.6s,baz=55,slow=36						
ASAR	**Alice Springs**	**23.99**	**222**	P	P	22 20 34.1	-0.4
	0.6nm,0.6s,baz=54,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P	P	22 21 07.1	+0.7
	1.4nm,0.7s,baz=56,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc	PKPbc	22 35 09.2	+0.8
	0.3nm,0.7s,baz=93,slow=2.0,SNR=6.7						

*IDC **13** 22:18:09.2±2.1, 580S×133.23E, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=90.4km s-min=28.2km az=76.0*
*ISCJB **13** 22:18:11.7±3.0, 60S±01×1333E±01, h33km±29km, mb4.0/6, Error ellipse: s-maj=22.8km s-min=15.0km az=53.9*
*NEIC **13** 22:18:13.9±0.6, 587S×133.40E, h35km, mb4.1/4, Error ellipse: s-maj=14.7km s-min=8.8km az=79.0*
ISC 13 22:18:13.4±4.9, 590S±010×1333E±01, h30km±37km, n14, σ0s99/18, mb4.0/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.99**	**176**	Pn	**Pn**	**22 21 29.6**	**-0.1**
	0.1nm,0.3s,baz=354,slow=13,SNR=1.9						
WRA				Sn	**Sn**	**22 23 59.2**	**-4.7**
	0.2nm,0.3s,baz=354,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**13.99**	**176**	Pn	**Pn**	**22 21 29.6**	**-0.1**
WRA				Sn	**Sn**	**22 23 59.2**	**-4.7**
WB2	**Warramunga Arr**	**14.00**	**176**	*e*Pn	**Pn**	**22 21 30.3**	**+0.7**
WB2				*e*Sn	**Sn**	**22 23 59.9**	**-4.1**
PMG	**Port Moresby**	**14.18**	**105**	Pn	**Pn**	**22 21 30.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**14.24**	**211**	Pn	**Pn**	**22 21 33.7**	**+0.6**
	0.3nm,0.3s,baz=21,slow=11,SNR=7.4						
FITZ				Sn	**Sn**	**22 24 07.4**	**-2.6**
	0.2nm,0.3s,baz=192,slow=15,SNR=6.2						
AS31	**Alice Springs**	**17.67**	**178**	Pn	**Pn**	**22 22 16.7**	**-0.6**
ASAR	**Alice Springs**	**17.67**	**178**	P	**Pn**	**22 22 18.0**	**+0.7**
	0.1nm,0.3s,baz=357,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**26.99**	**164**	P	**P**	**22 23 54.1**	**+1.6**
	1.7nm,0.8s,mb3.6,baz=340,slow=12,SNR=2.6						
CASY	**Casey**	**62.32**	**190**	*e*P	**P**	**22 28 34.2**	**+1.3**
	4.7nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**69.15**	**325**	P	**P**	**22 29 16.9**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=121,slow=8.2,SNR=3.7						
KURK	**Kurchatov**	**73.33**	**327**	*e*P	**P**	**22 29 42.3**	**0.0**
	0.6nm,0.6s,mb3.7						
BRVK	**Borovoye**	**78.98**	**327**	P	**P**	**22 30 13.9**	**-0.4**
CHKZ	**Chkalovo**	**79.07**	**327**	*e*P	**P**	**22 30 14.5**	**-0.3**
	0.5nm,0.5s,mb3.7						
SNAA	**Sanae**	**97.47**	**193**	*e*P	**P**	**22 31 44.4**	**0.0**
	0.7nm,0.5s,mb4.3						

*NIED **13** 22:27:00, 33.10N×137.10E, h5km, Mw3.7 Best double couple: M03.44000×10^14 NP1:φs235.00000°, δ84.00000°, λ59.00000°. NP2:φs136.00000°, δ31.00000°, λ169.00000°.*
JMA 13 22:27:17.6±0.1, 3312N×13713E, h42km±3km, M3.7, 1C-9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.75**	**31**	P	Pn	22 27 31.8	+0.1
TK02	**Tokai 2**	**0.98**	**32**	⇓P	Pn	22 27 35.0	+0.2
TK02				S	Sn	22 27 46.2	-1.3
JWZ	**Kozaga**	**1.25**	**289**	⇑P	Pn	22 27 38.9	+0.3
JWZ				S	Sn	22 27 53.8	-0.5
JIE	**Ise**	**1.32**	**345**	⇓P	Pn	22 27 40.5	+1.0
JIE				S	Sn	22 27 56.4	+0.6
JKN2	**Miekihoku**	**1.32**	**328**	⇓P	Pn	22 27 40.3	+0.7
JKN2				S	Sn	22 27 55.8	-0.2
TK04	**Tokai 4**	**1.41**	**26**	⇓P	Pn	22 27 41.4	+0.7
TK04				S	Sn	22 27 58.9	+0.9
JWM	**Minabe**	**1.65**	**297**	P	Pn	22 27 44.9	+0.8
JWM				S	Sn	22 28 04.0	-0.1
JWY	**Kouya**	**1.69**	**311**	⇓P	Pn	22 27 46.0	+1.4
JWY				S	Sn	22 28 05.7	+0.8
TSUJ	**Tsu 2**	**1.69**	**340**	P	Pn	22 27 45.7	+1.1
TSUJ				S	Sn	22 28 05.8	+0.7
JHE	**Heguri**	**1.94**	**322**	⇓P	Pn	22 27 49.5	+1.4
JHE				S	Sn	22 28 12.4	+1.1
SHZ3	**Shizuoka 3**	**2.14**	**24**	P	Pn	22 27 51.3	+0.5
SHZ3				S	Sn	22 28 15.7	-0.4
JIZS	**Izushimoda**	**2.16**	**42**	P	Pn	22 27 52.6	+1.6
JHJ2	**Mitsune**	**2.25**	**89**	P	Pn	22 27 52.8	+0.4
JHJ2				S	Sn	22 28 17.9	-1.0
JNY	**Yasuok**	**2.31**	**15**	⇓P	Pn	22 27 54.2	+1.0
JNY				S	Sn	22 28 20.6	+0.2
JAI	**Aioi**	**2.34**	**287**	P	Pn	22 27 54.8	+1.3
JAI				S	Sn	22 28 20.3	-0.7
JGF	**Kuroka**	**2.48**	**4**	P	Pn	22 27 56.8	+1.3
JGF				S	Sn	22 28 25.4	+0.9
JFM	**Mihama**	**2.58**	**339**	P	Pn	22 27 58.7	+1.8
JFM				S	Sn	22 28 29.4	+2.4
JWT	**Wachi**	**2.59**	**327**	⇓P	Pn	22 27 58.7	+1.7
JWT				S	Sn	22 28 28.3	+1.1
JGM	**Miyama**	**2.59**	**353**	⇓P	Pn	22 27 58.6	+1.6
JGM				S	Sn	22 28 28.6	+1.3
JYN	**Shimob**	**2.65**	**26**	P	Pn	22 27 58.8	+1.1
JYN				S	Sn	22 28 28.9	+0.3
JOD2	**Odawara 2**	**2.68**	**37**	P	Pn	22 28 00.4	+2.1
JOD2				S	Sn	22 28 29.5	0.0
MAT	**Matsushiro**	**3.53**	**14**	P	Pn	22 28 12.1	+2.2
MAT				S	Sn	22 28 51.8	+1.5

*NIED **13** 22:29:00, 2350N×122.40E, h14km, Mw4.7 Best double couple: M01.48000×10^16 NP1:φs31.00000°, δ83.00000°, λ120.00000°. NP2:φs134.00000°, δ30.00000°, λ15.00000°.*
*IDC **13** 22:29:24.3±0.6, 2340N×122.12E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.4/24, mbtmp4.3/19, ML3.8/2, MS3.8/17, Ms1 3.8/17, ms1mx3.6/34, Error ellipse: s-maj=24.6km s-min=14.2km az=69.0*
*ISCJB **13** 22:29:25.9±1.1, 2343N±003×12234E±002, h25km±8km, mb4.4/37, MS3.9/14, Error ellipse: s-maj=4.5km s-min=3.2km az=144.9*
*NEIC **13** 22:29:27.4, 2340N×122.22E, h35km, mb4.5/15, MS4.3/1, ML5.0(TAP), After TAP.*
NEIC Recorded [2 TAP] in Hua-lien and T'ai-tung; [1 TAP] in I-lan Counties.
*MOS **13** 22:29:27.6±1.2, 2350N×122.33E, h33km, mb4.6/26, Error ellipse: s-maj=13.7km s-min=7.1km az=119.0*
*BJI **13** 22:29:27.9, 2372N×122.39E, h16km, mB4.8, mb4.6, ML4.5, Ms4.3, Msz3.9*
*JMA **13** 22:29:28.0±0.2, 2348N×122.35E, h71km, M4.5*
ISC 13 22:29:27.2±0.9, 2347N±003×12236E±002, h20km±7km, n151, σ1s12/166, mb4.4/37, MS3.9/14, 11C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.00**	**315**	*e*Pn	**Pn**	**22 29 44.3**	**-1.7**
NACB				*e*Sn	**Sn**	**22 29 56.8**	**-2.7**
YOJ	**Yonaguni jima**	**1.16**	**31**	P	**Pn**	**22 29 48.6**	**+0.4**
YOJ				S	**Sb**	**22 30 03.8**	**+0.8**
HATJ	**Hateruma jima**	**1.45**	**66**	P	**Pn**	**22 29 52.5**	**+0.3**
HATJ				S	**Sn**	**22 30 10.8**	**+0.2**
YHNB	**Yeheng**	**1.50**	**323**	*e*Pn	**Pn**	**22 29 52.8**	**-0.1**
YHNB				*e*Sn	**Sn**	**22 30 09.7**	**-2.2**
IRIF	**Iriomote-Funau**	**1.52**	**55**	P	**Pn**	**22 29 53.8**	**+0.6**
IRIF				S	**Sn**	**22 30 13.3**	**+0.9**
JKRS	**Kuro-shima**	**1.69**	**63**	P	**Pn**	**22 29 56.2**	**+0.6**
JKRS				S	**Sn**	**22 30 17.0**	**+0.4**
TATO	**Taipei**	**1.70**	**332**	*e*Pn	**Pn**	**22 29 56.4**	**+0.7**
TATO				*e*Sn	**Sn**	**22 30 17.1**	**+0.3**
JIJ	**Ishigaki jima**	**1.86**	**61**	P	**Pn**	**22 29 58.0**	**+0.1**
JIJ				S	**Sn**	**22 30 19.5**	**-1.2**
JTJ	**Tarama**	**2.44**	**61**	P	**Pn**	**22 30 05.9**	**+0.1**
JTJ				S	**Sn**	**22 30 35.3**	**+0.3**
JMJ	**Miyako jima 2**	**3.00**	**63**	P	**Pn**	**22 30 13.9**	**+0.4**
JMJ				S	**Sn**	**22 30 49.2**	**+0.4**
JOGS	**Gusukube**	**3.06**	**65**	P	**Pn**	**22 30 15.0**	**+0.5**
JOGS				S	**Sn**	**22 30 50.9**	**+0.4**
QZH	**Quanzhou**	**3.74**	**294**	P	**Pn**	**22 30 23.0**	**-0.8**
QZH				S	**Sn**	**22 31 03.0**	**-4.2**
QZH				Smax			
	comp=N,1μm,0.7s						
QZH				Smax			
	comp=E,1μm,0.8s						
JKE	**Kume jima 2**	**4.92**	**54**	P	**Pn**	**22 30 39.3**	**-0.7**
JKE				S	**Sn**	**22 31 34.8**	**-1.5**
JAGN	**Aguni-jima**	**5.41**	**54**	P	**Pn**	**22 30 46.0**	**-0.7**
JAGN				S	**Sn**	**22 31 48.5**	**+0.2**
NAH1	**Naha**	**5.55**	**60**	*e*S	**Sn**	**22 31 51.9**	**0.0**
CVP	**Callao Caves**	**5.76**	**185**	*e*P	**Pn**	**22 30 50.0**	**-1.4**
JIH	**Iheya**	**6.19**	**54**	P	**Pn**	**22 30 56.2**	**-1.3**
JIH				S	**Sn**	**22 32 03.8**	**-3.8**
JOW	**Kunigami**	**6.32**	**57**	Pn	**Pn**	**22 30 57.6**	**-1.6**
	comp=E,8.6nm,0.3s,baz=185,slow=12,SNR=30						
JOW				Sn	**Sn**	**22 32 06.8**	**-3.9**
	comp=E,4.7nm,0.3s,baz=102,slow=23,SNR=2.4						
JOW	**Kunigami**	**6.32**	**57**	P	**Pn**	**22 30 57.5**	**-1.7**
JOW				S	**Sn**	**22 32 08.7**	**-2.0**
PALP	**Palanan**	**6.37**	**179**	*e*P	**Pn**	**22 31 01.1**	**+1.2**
CAUP	**Cauayan**	**6.51**	**185**	*e*P	**Pn**	**22 31 02.0**	**+0.2**
JTK	**Tokunoshima**	**7.34**	**53**	P	**Pn**	**22 31 10.9**	**-2.3**
JTK				S	**Sn**	**22 32 30.7**	**-5.1**
BALP	**Baler**	**7.72**	**186**	*e*P	**Pn**	**22 31 16.8**	**-1.6**
JAM	**Amami Oshima**	**8.17**	**51**	P	**Pn**	**22 31 22.0**	**-2.6**
JAM				S	**Sn**	**22 32 49.8**	**-6.4**
JMZ	**Minamidaito 2**	**8.39**	**72**	P	**Pn**	**22 31 23.9**	**-3.7**
JMZ				S	**Sn**	**22 32 49.9**	**-12**
NJ2	**Nanjing**	**9.10**	**341**	*e*P	**Pn**	**22 31 37.3**	**0.0**
NJ2				AP		22 31 45.8	
NJ2				XP		22 31 50.6	
NJ2				S	**Sn**	**22 33 20.0**	**+0.9**
NJ2				XS		22 33 33.0	
NJ2				AMB	AMB		
	comp=Z,320nm,4.9s						
NJ2				Smax			
	comp=N,180nm,0.9s						
NJ2				Smax			
	comp=E,220nm,1.0s						
NJ2				LR	LR		
	comp=N,2μm,18.7s						
NJ2				LR	LR		
	comp=E,4μm,17.2s						
NJ2				LR	LR		
	comp=Z,2μm,13.2s						
WHN	**Wuhan**	**10.03**	**316**	P	**Pn**	**22 31 49.3**	**-0.8**
WHN				S	**Sn**	**22 33 35.5**	**-6.6**
WHN				LR	LR		
	comp=Z,2μm,16.9s						
JNU	**Nakatsue**	**12.19**	**36**	LR	LR	22 36 59.1	
	comp=Z,1μm,21.0s,baz=259,slow=37						
QIZ	**Qiongzhong**	**12.48**	**252**	P	**Pn**	**22 32 31.0**	**+7.4**
QIZ				AMB	AMB		
	comp=Z,28nm,1.2s						
QIZ				LR	LR		
	comp=N,748nm,14.1s						
QIZ				LR	LR		
	comp=Z,721nm,15.6s						
QIZ	**Qiongzhong**	**12.48**	**252**	*e*Pn	**Pn**	**22 32 24.5**	**+0.9**
QIZ				*e*Sn	**Sn**	**22 34 40.2**	**-1.7**
GYA	**Guiyang**	**14.55**	**285**	⇑*i*P	**Pn**	**22 32 51.6**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,70nm,3.6s						
GYA				LR	LR		
	comp=N,840nm,10.8s						
GYA				LR	LR		
	comp=E,330nm,11.3s						
GYA				LR	LR		
	comp=Z,670nm,12.0s						
KSRS	**Korea Array**	**14.74**	**18**	Pn	**Pn**	**22 32 56.0**	**+1.6**
	baz=200,slow=12,SNR=18						
KSRS				LR	LR	22 39 38.4	
	comp=Z,202nm,18.4s,baz=23,slow=41						
XAN	**Xi'an**	**15.79**	**315**	P	**Pn**	**22 33 09.5**	**+1.2**
XAN				LG2		22 37 01.4	
XAN				LR	LR		
	comp=N,572nm,23.7s						
XAN				LR	LR		
	comp=E,676nm,21.8s						
XAN				LR	LR		
	comp=Z,386nm,10.6s						
BJT	**Baijiatuan**	**17.31**	**344**	*e*P	**Pn**	**22 33 29.0**	**+1.4**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuan**	**17.31**	**344**	*e*Pn	**Pn**	**22 33 29.0**	**+1.4**
	comp=Z,13nm,0.6s						
KMI	**Kunming**	**17.97**	**279**	P	**Pn**	**22 33 37.1**	**+1.4**
KMI				AP	pP	22 33 43.8	+1.9
KMI				XP	sP	22 33 47.8	+3.3
KMI				PP		22 33 51.1	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,136nm,4.1s						
KMI				LR	LR		
	comp=N,679nm,11.2s						
KMI				LR	LR		
	comp=E,352nm,10.0s						
KMI				LR	LR		
	comp=Z,315nm,19.9s						
KMI	**Kunming**	**17.97**	**279**	P	**Pn**	**22 33 37.1**	**+1.4**
	comp=Z,9.0nm,1.0s						
KMI				pP	pP	22 33 43.8	+1.9
KMI				sP	sP	22 33 47.8	+3.3
KMI				PP		22 33 51.1	
KMI				S	**Sn**	**22 36 36.0**	**-19**
KMI				sS	sS	22 36 47.3	-23
KMI				SS		22 36 54.8	
JHJ	**Hachijo jima 2**	**18.09**	**54**	LR	LR	22 40 12.9	
	comp=Z,182nm,21.8s,baz=90,slow=35						
CD2	**Chengdu**	**18.12**	**298**	*e*P	**Pn**	**22 33 39.0**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CBIJ	**Chichi jima**	**18.29**	**74**	LR	LR	22 39 57.6	
	comp=Z,49nm,20.8s,baz=19,slow=34						
KKM	**Kota Kinabalu**	**18.30**	**200**	*e*Pn	**Pn**	**22 33 40.6**	**+0.8**
MJAR	**Matsushiro Arr**	**18.89**	**43**	P	**Pn**	**22 33 49.7**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=62,slow=45,SNR=2.9						
MJAR				LR	LR	22 41 53.0	
	comp=Z,166nm,18.7s,baz=240,slow=39						
BTO	**Baotou**	**20.00**	**332**	*e*P	**Pn**	**22 33 58.9**	**-1.3**
LZH	**Lanzhou**	**20.37**	**312**	*e*P	**P**	**22 34 08.5**	**+6.1**
LZH				AP		22 34 15.3	
LZH				XP	sP	22 34 20.0	+9.2
LZH				AMB	AMB		
	comp=Z,56nm,1.5s						
LZH				AMB	AMB		
	comp=Z,190nm,4.6s						
LZH				LR	LR		
	comp=E,896nm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.3						
LZH	**Lanzhou**	**20.37**	**312**	*e*P	**P**	**22 34 08.5**	**+6.1**
	comp=Z,56nm,1.5s						
LZH				pP		22 34 15.2	
LZH				sP	sP	22 34 20.0	+9.2
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.3						
CN2	**Changchun**	**20.44**	**6**	*e*P	**P**	**22 34 03.8**	**+0.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
NANT	**Nan**	**20.73**	**261**	⇑P	**P**	**22 34 05.0**	**-1.3**
	comp=Z,212nm,1.0s						
CHG	**Chiang Mai**	**22.32**	**262**	⇑P	**P**	**22 34 24.8**	**+1.4**
	comp=Z,15nm,1.2s,mb4.3						
CHTO	**Chiang Mai**	**22.32**	**262**	*e*P	**P**	**22 34 24.2**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**22.32**	**262**	*e*P	**P**	**22 34 24.2**	**+0.8**
	comp=Z,18nm,1.1s,mb4.4						
GUMO	**Guam**	**23.46**	**111**	LR	LR	22 42 12.2	
	comp=Z,162nm,18.3s,MS3.5,baz=290,slow=32						
KSM	**Kuching**	**24.79**	**210**	P	**P**	**22 34 43.6**	**-4.0**
GTA	**Gaotai**	**24.85**	**315**	*e*P	**P**	**22 34 50.5**	**+2.3**
GTA				AP		22 34 58.8	
GTA				XP	sP	22 35 04.3	+7.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb3.8						
HIA	**Hailar**	**25.83**	**356**	*e*P	**P**	**22 34 56.3**	**-0.8**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s						
HIA	**Hailar**	**25.83**	**356**	*e*P	**P**	**22 34 56.2**	**-0.9**
	comp=Z,18nm,0.9s,mb4.6						
ASAJ	**Asahikawa**	**26.46**	**34**	LR	LR	22 46 57.0	
	comp=Z,222nm,18.4s,MS3.7,baz=138,slow=40						
SONM	**Songino Array**	**27.45**	**336**	P	**P**	**22 35 11.9**	**+0.2**
	comp=Z,15nm,0.9s,mb4.5,baz=154,slow=9.7,SNR=89						
SONM				LR	LR	22 46 27.3	
	comp=Z,284nm,18.6s,MS3.9,baz=334,slow=37						
SONM	**Songino Array**	**27.45**	**336**	P	**P**	**22 35 11.9**	**+0.2**
SONM				pmax	pmax		
	comp=Z,15nm,0.9s						
SONM				MLR	MLR		
	comp=Z,284nm,18.6s						
LSA	**Lhasa**	**28.54**	**289**	*e*P	**P**	**22 35 23.0**	**+1.6**
LSA	**Lhasa**	**28.54**	**289**	*e*P	**P**	**22 35 22.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**28.54**	**289**	*e*P	**P**	**22 35 22.5**	**+1.1**
	comp=Z,4.2nm,0.6s,mb4.3						
ZAK	**Zakamensk**	**30.71**	**336**	*e*P	**P**	**22 35 39.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
TLY	**Talaya**	**31.64**	**338**	*e*P	**P**	**22 35 49.0**	**+0.1**
TLY	**Talaya**	**31.64**	**338**	P	**P**	**22 35 47.4**	**-1.4**
IRK	**Irkutsk**	**31.90**	**339**	*e*P	**P**	**22 35 50.3**	**-0.8**
IRK				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.9						
JIRN	**Jiri**	**32.82**	**285**	*e*P	**P**	**22 36 00.7**	**+1.5**
	comp=Z,19nm,1.0s,mb5.0						
GUN	**Gumba**	**33.10**	**285**	*e*P	**P**	**22 36 01.6**	**0.0**
KKN	**Kakani**	**33.63**	**285**	*e*P	**P**	**22 36 06.7**	**+0.4**
	comp=Z,13nm,0.9s,mb4.9						
DMN	**Daman**	**33.79**	**285**	*e*P	**P**	**22 36 08.4**	**+0.8**
GKN	**Gorkha**	**34.19**	**286**	*e*P	**P**	**22 36 11.2**	**0.0**
KOLN	**Koldanda**	**35.12**	**285**	*e*P	**P**	**22 36 19.7**	**+0.6**
KAKA	**Kakadu**	**37.28**	**164**	*e*P	**P**	**22 36 35.6**	**-2.1**
	comp=Z,10nm,0.7s,mb4.8						
YAK	**Yakutsk**	**38.87**	**5**	*e*P	**P**	**22 36 49.5**	**-1.5**
YAK				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
MK31	**Makanchi Array**	**39.60**	**316**	*e*P	**P**	**22 36 57.4**	**+0.2**
MKAR	**Makanchi Array**	**39.60**	**316**	P	**P**	**22 36 57.5**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=100,slow=11,SNR=24						
MKAR	**Makanchi Array**	**39.60**	**316**	P	**P**	**22 36 57.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**41.44**	**327**	P	**P**	**22 37 11.4**	**-0.9**
	comp=Z,3.9nm,0.7s,mb4.1,baz=8.0,slow=8.6,SNR=24						
ZAL				LR	LR	22 55 17.9	
	comp=Z,170nm,20.9s,MS3.9,baz=346,slow=38						
ZAL	**Zalesovo**	**41.44**	**327**	P	**P**	**22 37 11.4**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,170nm,20.9s						
NVS	**Novosibirsk**	**42.69**	**327**	*e*P	**P**	**22 37 18.1**	**-4.5**
KURK	**Kurchatov**	**43.33**	**320**	*e*P	**P**	**22 37 27.6**	**-0.2**
KURK	**Kurchatov**	**43.33**	**320**	*e*P	**P**	**22 37 27.1**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**43.80**	**308**	*e*P	**P**	**22 37 32.6**	**+1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**43.80**	**308**	*e*P	**P**	**22 37 30.7**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.2						
AAK				*e*		22 37 44.1	
WRAB	**Tennant Creek**	**44.69**	**164**	*e*P	**P**	**22 37 38.7**	**0.0**
WRA	**Warramunga Arr**	**44.70**	**164**	P	**P**	**22 37 38.4**	**-0.3**
	comp=Z,5.9nm,0.8s,mb4.5,baz=344,slow=8.5,SNR=24						
WRA	**Warramunga Arr**	**44.70**	**164**	P	**P**	**22 37 38.4**	**-0.3**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**44.70**	**164**	*e*P	**P**	**22 37 38.3**	**-0.4**
WB2				*e*		22 37 50.1	
WB2	**Warramunga Arr**	**44.70**	**164**	*e*P	**P**	**22 37 38.2**	**-0.6**
AS31	**Alice Springs**	**48.17**	**166**	*e*P	**P**	**22 38 04.7**	**-1.3**
AS31				*e*		22 38 18.9	
ASAR	**Alice Springs**	**48.17**	**166**	P	**P**	**22 38 08.2**	**+2.2**
	comp=Z,2.5nm,1.0s,mb4.2,baz=352,slow=14,SNR=16						
ASAR	**Alice Springs**	**48.17**	**166**	P	**P**	**22 38 08.2**	**+2.2**
ASAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**48.91**	**321**	P	**P**	**22 38 12.2**	**+0.6**
	comp=Z,1.9nm,0.5s,mb4.4,baz=86,slow=9.0,SNR=11						
BVAR	**Borovoye Array**	**48.91**	**321**	P	**P**	**22 38 12.2**	**+0.5**
BV

comp=Z,6.4nm,0.8s,mb4.7,baz=277,slow=16,SNR=5.3
COLA College 68.93 27 *e*P **P 22 40 30.1 -0.6**
COLA College 68.93 27 *e*P **P 22 40 26.1 -4.6**
comp=Z,4.0nm,0.7s,mb4.5
COLA *e* 22 40 44.0
ARCES ARCESS Array B 70.60 338 P **P 22 40 42.1 +1.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=27,slow=5.6,SNR=5.0
ARCES ARCESS Array B 70.60 338 P **P 22 40 42.1 +1.1**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
MALT Malatya 71.29 304 ⇓*i*P **P 22 40 46.9 +1.7**
MALT Malatya 71.29 304 *e*P **P 22 40 46.1 +0.9**
MALT *e* 22 40 58.3
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT Malatya 71.29 304 *e*P **P 22 40 46.1 +1.0**
comp=Z,7.4nm,0.8s,mb4.7
MALT *e* 22 40 58.3
FINES FINESS Array B 72.61 330 P **P 22 40 52.7 -0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=71,slow=8.3,SNR=5.5
FINES LR LR 23 12 45.2
comp=Z,146nm,18.2s,MS4.3,baz=143,slow=36
FINES FINESS Array B 72.61 330 P **P 22 40 52.7 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES MLR MLR
comp=Z,146nm,18.2s
FINES FINESS Array B 72.61 330 P **P 22 40 52.7 -0.4**
FINES LR LR 23 12 45.2
DAWY Dawson 72.68 27 *e*P **P 22 40 54.7 +1.2**
DAWY *e* 22 41 06.3
INK Inuvik 73.48 22 P **P 22 40 58.8 +0.6**
comp=Z,3.7nm,0.5s,mb4.5,baz=305,slow=4.4,SNR=10
INK Inuvik 73.48 22 P **P 22 40 58.8 +0.6**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 73.48 22 P **P 22 40 58.6 +0.4**
AKASG Malin Array Be 74.12 319 P **P 22 41 00.2 -1.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=328,slow=25,SNR=4.7
BRTR Keskin Array B 74.47 307 P **P 22 41 03.8 -0.2**
comp=Z,0.9nm,0.9s,mb3.7,baz=159,slow=2.1,SNR=4.1
SUW Suwalki 76.52 323 P **P 22 41 10.2 -5.6**
SUW *e* 22 41 26.8
SUW pmax pmax
comp=Z,26nm,0.8s,mb5.2
SUW Suwalki 76.52 323 P **P 22 41 10.2 -5.6**
comp=Z,26nm,0.8s,mb5.2
SUW *e* 22 41 26.8
BURAR Bucovina Array 77.63 317 ⇑*i*P **P 22 41 20.2 -1.8**
BURAR Bucovina Array 77.63 317 ⇑P **P 22 41 20.2 -1.8**
MLR Muntele Rosu 77.92 314 ⇓*i*P **P 22 41 24.8 +1.2**
MLR Muntele Rosu 77.92 314 ⇓P **P 22 41 24.8 +1.2**
NB2 NORSAR Subarra 79.36 332 P **P 22 41 30.5 -1.1**
comp=Z,2.6nm,0.8s,mb4.2,baz=55,slow=5.3
NOA NORSAR Array B 79.36 332 P **P 22 41 30.1 -1.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=56,slow=5.6,SNR=4.0
NOA LR LR 23 18 34.5
comp=Z,75nm,20.3s,MS4.0,baz=270,slow=37
NOA NORSAR Array B 79.36 332 P **P 22 41 30.1 -1.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,75nm,20.3s
DRGR 79.52 316 ⇑*i*P **P 22 41 32.7 +0.3**
DRGR 79.52 316 ⇑P **P 22 41 32.7 +0.3**
VTS Vitosha 80.84 312 ⇑*i*P **P 22 41 40.7 +1.1**
VTS Vitosha 80.84 312 ⇑P **P 22 41 40.7 +1.1**
DPC Dobruska-Polom 81.87 322 *e*P **P 22 41 48.0 +3.0**
VRAC Vranov 82.18 321 ⇑*i*P **P 22 41 37.4 -9.3**
VRAC Vranov 82.18 321 ⇑P **P 22 41 37.4 -9.2**
PRU Pruhonice 83.05 322 *e*pP pP 22 42 01.4 +3.5
YKA Yellowknife Ar 83.21 23 P **P 22 41 53.8 +1.8**
comp=Z,5.1nm,0.6s,mb4.7,baz=309,slow=5.1,SNR=15
YKA LR LR 23 23 08.6
comp=Z,47nm,18.8s,MS3.9,baz=265,slow=39
YKA Yellowknife Ar 83.21 23 P **P 22 41 53.8 +1.8**
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA MLR MLR
comp=Z,47nm,18.8s
YKA Yellowknife Ar 83.21 23 P **P 22 41 53.8 +1.8**
YKA LR LR 23 23 08.6
CLL Collm 83.27 323 *e*P **P 22 41 58.0 +5.7**
CLL *e* pP 22 42 04.0 +4.9
CLL Collm 83.27 323 *e*(pP) pP 22 41 58.0 -1.1
CLL *es*P sP 22 42 04.0 +2.5
GERES GERESS Array B 84.08 321 P **P 22 41 56.2 -0.3**
comp=Z,1.4nm,0.7s,mb4.2,baz=54,slow=6.8,SNR=5.0
GERES LR LR 23 24 05.1
comp=Z,134nm,18.6s,MS4.3,baz=285,slow=39
GERES GERESS Array B 84.08 321 P **P 22 41 56.2 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,134nm,18.6s
KMBO Kilima Mbogo 85.96 267 P **P 22 42 06.8 +0.9**
comp=Z,0.5nm,0.3s,mb4.3,baz=48,slow=22,SNR=4.3
KMBO LR LR 23 21 47.5
comp=Z,45nm,18.2s,MS3.9,baz=88,slow=37
KMBO Kilima Mbogo 85.96 267 P **P 22 42 06.8 +0.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO MLR MLR
comp=Z,45nm,18.3s
KEST Kesra 93.55 311 LR LR 23 30 16.1
comp=Z,48nm,19.0s,MS4.0,baz=228,slow=39

NEIC ***13*** *22:45:08.1±0.6, 6.04S×151.23E, h10km, mb4.3/5, Error ellipse: s-maj=17.9km s-min=8.4km az=108.0*
ISCJB ***13*** *22:45:14.2±4.3, 6.1S±0.1×150.9E±0.2, h59km±32km, mb4.0/9, MS2.9/2, Error ellipse: s-maj=36.5km s-min=18.6km az=4.5*
IDC ***13*** *22:45:14.6±7.5, 6.11S×150.98E, h51km±58km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, mbtmp3.9/7, ML3.2/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/17, Error ellipse: s-maj=59.4km s-min=28.3km az=94.0*
ISC 13 22:45:15.4±4.1, 6.1S±0.1×151.0E±0.2, h57km±30km, n23, σ0§49/20, mb4.0/9, MS2.9/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**229**	P		**Pn**	**22 46 28.4**	**+0.5**
	7.0nm,0.3s,baz=35,slow=5.2,SNR=12						
PMG				S		**Sn**	**22 47 24.2**	**-0.2**
	14nm,0.3s,baz=171,slow=21,SNR=7.8						
PMG				LR	LR		22 48 19.7	
	comp=Z,101nm,20.4s,baz=32,slow=37						
KAKA	**Kakadu**	**19.42**	**249**	*e*P		**Pn**	**22 49 37.3**	**-1.3**
	8.6nm,0.9s						
GUMO	**Guam**	**20.50**	**343**	LR	LR		22 55 20.3	
	comp=Z,31nm,19.9s,MS2.7,baz=359,slow=30						
WB2	**Warramunga Arr**	**21.21**	**228**	*e*P		**P**	**22 49 56.3**	**-0.1**
WB2				*e*			22 50 08.0	
WRA	**Warramunga Arr**	**21.22**	**228**	P		**P**	**22 49 56.4**	**-0.1**
	10nm,0.8s,mb4.2,baz=52,slow=11,SNR=52						
AS31	**Alice Springs**	**23.96**	**222**	*e*P		**P**	**22 50 24.5**	**+0.1**
AS31				*e*			22 50 36.7	
ASAR	**Alice Springs**	**23.97**	**222**	P		**P**	**22 50 24.8**	**+0.4**
	6.0nm,0.8s,mb4.1,baz=54,slow=9.4,SNR=62						
STKA	**Stephens Creek**	**27.09**	**198**	P		**P**	**22 50 52.5**	**-0.2**
	4.7nm,0.9s,mb4.0,baz=11,slow=15,SNR=6.4						
STKA				LR	LR		23 02 01.0	
	comp=Z,58nm,19.6s,MS3.1,baz=24,slow=37						
STKA	**Stephens Creek**	**27.09**	**198**	P		**P**	**22 50 52.5**	**-0.2**
STKA				LR	LR		23 02 01.0	
FITZ	**Fitzroy Crossi**	**27.45**	**242**	*e*P		**P**	**22 50 56.1**	**+0.2**
	5.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.45**	**242**	P		**P**	**22 50 56.4**	**+0.5**
	3.7nm,0.6s,mb4.1,baz=84,slow=6.5,SNR=11						
MBWA	**Marble Bar**	**33.75**	**241**	*e*P		**P**	**22 51 52.4**	**+0.9**
	2.0nm,0.6s,mb4.2						
QIZ	**Qiongzhong**	**47.61**	**303**	*e*P		**P**	**22 53 45.8**	**+0.1**
CASY	**Casey**	**66.24**	**197**	P		**P**	**22 55 56.8**	**-0.6**
SONM	**Songino Array**	**66.49**	**329**	P		**P**	**22 55 59.1**	**+0.1**
	0.1nm,0.5s,mb3.1,baz=23,slow=27,SNR=3.9						
LSA	**Lhasa**	**67.51**	**305**	*e*P		**P**	**22 56 06.1**	**+0.6**
	1.6nm,0.3s,mb4.5						
MKAR	**Makanchi Array**	**80.13**	**319**	P		**P**	**22 57 19.1**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=101,slow=6.8,SNR=5.7						
MAW	**Mawson**	**83.67**	**203**	P		**P**	**22 57 38.1**	**+0.2**
KURK	**Kurchatov**	**83.69**	**322**	P		**P**	**22 57 37.5**	**-0.6**
BRVK	**Borovoye**	**89.28**	**323**	*e*P		**P**	**22 58 05.3**	**0.0**
	1.0nm,0.8s,mb4.2						
LOHW	**Long Hollow**	**100.28**	**47**	Pdif	Pdif		22 58 55.4	-0.2
	6.5nm,0.4s						
GERES	**GERESS Array B**	**124.20**	**327**	PKP	PKPdf		23 04 07.1	-0.5
	0.4nm,0.5s,baz=245,slow=37,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.95**	**285**	PKPbc	PKPbc		23 04 58.2	+1.3
	0.9nm,0.5s,baz=86,slow=2.2,SNR=16						

INMG ***13*** *23:32:33.5±1.0, 36.65N×8.14W, h13km±3km, MD2.7, ML2.0, Error ellipse: s-maj=3.3km s-min=1.9km az=58.0*
CSEM ***13*** *23:32:35.0±0.3, 36.74N×7.77W, h15km, ML2.0, Error ellipse: s-maj=6.3km s-min=2.6km az=37.0*
MDD 13 23:32:33.0±1.1, 36.63N×8.14W, h16km±12km, mbLg2.2/20, 3C-2D, Error ellipse: s-maj=14.5km s-min=4.8km az=39.0, PRXIMO PROFUNDIDAD POBRE, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.02**	**333**	*e*P		Pb	23 32 51.0	-1.3
PTEO				*e*S		Sb	23 33 05.5	0.0
PTEO								
	18nm,0.2s						
EGRO	**El Granado**	**1.04**	**30**	⇑P		Pb	23 32 52.0	-0.6
	2.9nm,0.1s,SNR=18						
EGRO				S		Sb	23 33 05.7	-0.4
	26nm,0.2s,SNR=23						
EGRO	**El Granado**	**1.04**	**30**	P		Pb	23 32 52.0	-0.6
	2.9nm,0.1s,SNR=18						
EGRO				S		Sb	23 33 05.7	-0.3
	26nm,0.2s,SNR=23						
PBEJ	**Beja**	**1.41**	**9**	*e*P		Pn	23 32 56.7	-1.2
PBEJ				*e*S		Sn	23 33 14.3	-1.9
PBEJ								
	10nm,0.2s						
EMIN	**Mina Concepcio**	**1.63**	**45**	⇓P		Pn	23 32 59.7	-1.3
	0.6nm,0.1s,SNR=18						
EMIN				S		Sn	23 33 19.8	-1.8
	5.6nm,0.1s,SNR=9.3						
EMIN	**Mina Concepcio**	**1.63**	**45**	P		Pn	23 32 59.7	-1.3
	0.6nm,0.1s,SNR=18						
EMIN				S		Sn	23 33 19.8	-1.8
	5.6nm,0.1s,SNR=9.3						
ESPR	**Espera**	**1.85**	**82**	⇑P		Pn	23 33 02.6	-1.4
	5.8nm,0.1s,SNR=18						
ESPR				S		Sn	23 33 24.7	-2.3
	66nm,0.2s,SNR=6.3						
ESPR	**Espera**	**1.85**	**82**	P		Pn	23 33 02.6	-1.4
	5.8nm,0.1s,SNR=18						
ESPR				S		Sn	23 33 24.7	-2.3
	66nm,0.2s,SNR=6.3						
MOE	**Montemor**	**1.90**	**355**	*e*Pn		Pn	23 33 03.6	-1.0
MOE				*e*Sn		Sn	23 33 26.8	-1.4
EJIF	**Jimena Fronter**	**2.16**	**94**	⇑P		Pn	23 33 07.3	-0.9
	0.8nm,0.2s,SNR=18						
EJIF				S		Sn	23 33 31.9	-2.7
	2.9nm,0.5s,SNR=4.0						
PESTR	**Estremoz**	**2.27**	**11**	*e*Pn		Pn	23 33 08.6	-1.2
PESTR				*e*Sn		Sn	23 33 35.3	-2.2
PESTR								
	5.2nm,0.1s						
PESTR	**Estremoz**	**2.27**	**11**	*e*Pn		Pn	23 33 08.6	-1.2
PESTR				*e*Sn		Sn	23 33 35.3	-2.2
	5.2nm,0.1s						
EBAD	**Badajoz**	**2.30**	**23**	P		Pn	23 33 08.9	-1.4
	3.1nm,0.1s,SNR=25						
EBAD				S		Sn	23 33 36.9	-1.3
	7.5nm,0.2s,SNR=4.9						
EBAD	**Badajoz**	**2.30**	**23**	P		Pn	23 33 08.9	-1.3
	3.1nm,0.1s,SNR=25						
EBAD				S		Sn	23 33 36.8	-1.4
	7.5nm,0.2s,SNR=4.9						
PLOU	**Loures**	**2.39**	**341**	*e*Pn		Pn	23 33 10.7	-0.7
PLOU				*e*Sn		Sn	23 33 39.3	-1.0
PMAFR	**Mafra**	**2.49**	**339**	*e*Pn		Pn	23 33 12.0	-0.8
PMAFR				*e*Sn		Sn	23 33 41.3	-1.5
PMAFR								
	18nm,0.8s						
PMAFR	**Mafra**	**2.49**	**339**	*e*Pn		Pn	23 33 12.0	-0.8
PMAFR				*e*Sn		Sn	23 33 41.3	-1.5
EMIJ	**Mijas**	**2.71**	**90**	P		Pn	23 33 14.4	-1.4
	0.2nm,0.1s,SNR=7.9						
EMIJ				S		Sn	23 33 45.2	-3.1
	2.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**61**	⇓P		Pn	23 33 21.9	-1.0
	0.7nm,0.1s,SNR=18						
EADA				S		Sn	23 33 58.0	-2.9
	6.7nm,0.3s,SNR=7.1						
EADA	**Adamuz**	**3.22**	**61**	P		Pn	23 33 21.9	-1.0
	0.7nm,0.1s,SNR=18						
EADA				S		Sn	23 33 58.0	-3.0
	6.7nm,0.3s,SNR=7.1						
ELOJ	**Sierra Loja**	**3.24**	**80**	S		Sn	23 34 00.4	-0.9
	1.3nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.25**	**9**	*e*Pn		Pn	23 33 22.0	-1.2
PCBR				*e*Sn		Sn	23 33 58.1	-3.4
PCBR								
	3.2nm,0.2s						
EGUA	**Guajares**	**3.68**	**85**	P		Pn	23 33 27.8	-1.4
	0.3nm,0.2s,SNR=4.0						
EGUA				S		Sn	23 34 07.9	-4.3
	0.6nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.72**	**79**	P		Pn	23 33 29.2	-0.5
	0.4nm,0.1s,SNR=4.0						
ECOG				S		Sn	23 34 10.9	-2.3
	2.6nm,0.4s,SNR=4.0						
EBAN	**Banos Encina**	**3.79**	**65**	P		Pn	23 33 29.9	-0.8
	0.7nm,0.1s,SNR=7.9						
EBAN				S		Sn	23 34 10.5	-4.4
	2.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.81**	**80**	P		Pn	23 33 31.1	+0.1
	1.0nm,0.3s,SNR=7.9						
EQUE				S		Sn	23 34 12.6	-2.8
	1.8nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.08**	**3**	*e*Pn		Pn	23 33 33.3	-1.4
PVIS				*e*Sn		Sn	23 34 18.4	-3.7
PVIS								
	2.0nm,0.2s						
EQES	**Quesada**	**4.21**	**72**	P		Pn	23 33 36.1	-0.3
	1.0nm,0.2s,SNR=9.8						
EQES				S		Sn	23 34 21.9	-3.4
	1.0nm,0.2s						
EQES	**Quesada**	**4.21**	**72**	P		Pn	23 33 36.2	-0.3
	1.0nm,0.2s,SNR=9.8						
EQES				S		Sn	23 34 21.9	-3.4
	1.0nm,0.2s						
EBER	**Berja**	**4.22**	**85**	P		Pn	23 33 37.5	+0.8
	0.8nm,0.4s,SNR=4.0						
EBER				S		Sn	23 34 22.2	-3.4
	0.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**4.22**	**85**	P		Pn	23 33 37.5	+0.8
	0.8nm,0.4s,SNR=4.0						
EBER				S		Sn	23 34 22.2	-3.4
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.48**	**46**	P		Pn	23 33 38.7	-1.4
	1.0nm,0.1s,baz=230,slow=13,SNR=4.7						
ESDC				S		Sn	23 34 28.6	-3.3
	1.5nm,0.2s,baz=229,slow=24,SNR=5.6						
ESDC	**Sonseca Array**	**4.48**	**46**	P		Pn	23 33 38.7	-1.5
	1.0nm,0.1s,SNR=4.7						
ESDC				S		Sn	23 34 28.6	-3.3
	1.5nm,0.2s,SNR=5.6						
EHUE	**Huescar**	**4.58**	**73**	P		Pn	23 33 40.9	-0.7
	0.4nm,0.1s,SNR=7.9						
EHUE				S		Sn	23 34 30.2	-4.2
	0.5nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.90**	**64**	P		Pn	23 33 45.9	-0.1
	0.6nm,0.1s,SNR=7.9						
EVIA				S		Sn	23 34 37.7	-4.7
	1.0nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.07**	**1**	*e*Pn		Pn	23 33 47.1	-1.2
PCAB				*e*Sn		Sn	23 34 41.6	-4.9
PCAB								
	2.1nm,0.2s						
GUD	**Guadarrama**	**5.08**	**37**	P		Pn	23 33 47.6	-0.8
	0.5nm,0.2s,SNR=7.9						
GUD				S		Sn	23 34 41.8	-4.8
	0.9nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**5.28**	**11**	*e*Pn		Pn	23 33 49.5	-1.7
PBRG				*e*Sn		Sn	23 34 46.6	-5.0
PBRG								
	1.1nm,0.3s						
ECAL	**Calabor**	**5.41**	**11**	P		Pn	23 33 51.9	-1.1
	0.2nm,0.1s,SNR=5.4						
ECAL				S		Sn	23 34 50.9	-4.0
	2.8nm,0.3s,SNR=8.7						
ECAL	**Calabor**	**5.41**	**11**	P		Pn	23 33 51.9	-1.1
	0.2nm,0.1s,SNR=5.4						
ECAL				S		Sn	23 34 50.9	-4.0
	2.8nm,0.3s,SNR=8.7						
ETOB	**Tobarra**	**5.60**	**67**	P		Pn	23 33 54.2	-1.4
	0.3nm,0.2s,SNR=7.9						
ETOB				S		Sn	23 34 54.7	-5.0
	0.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.60**	**67**	P		Pn	23 33 54.2	-1.4
	0.3nm,0.2s,SNR=7.9						
ETOB				S		Sn	23 34 54.7	-4.9
	0.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.33**	**47**	P		Pn	23 34 04.9	-0.7
	1.3nm,0.2s,SNR=7.9						
ETOR				S		Sn	23 35 12.4	-5.2
	2.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.34**	**354**	P		Pn	23 34 04.1	-1.7
	0.5nm,0.1s,SNR=4.0						
EMAZ				S		Sn	23 35 12.0	-5.8
	0.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.34**	**354**	P		Pn	23 34 04.1	-1.7
	0.5nm,0.1s,SNR=4.0						
EARI	**Arriondas**	**7.03**	**18**	S		Sn	23 35 33.3	-1.5
	0.2nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**7.07**	**56**	S		Sn	23 35 30.5	-5.4
	0.5nm,0.3s,SNR=7.9						

PRU ***13*** *23:33:46.5, 44.01N×1.293E, h0km*
ROM ***13*** *23:33:47.9±0.2, 43.91N×1.230E, h10km±3km, Md2.8/35, Ml2.7/23, Error ellipse: s-maj=2.7km s-min=2.0km az=159.0*
LDG ***13*** *23:33:47.9±0.2, 43.91N×1.243E, h10km, Ml2.8/10, Error ellipse: s-maj=5.2km s-min=3.5km az=26.0*
NEIC ***13*** *23:33:47.0, 43.88N×1.230E, h22km, ML2.8(LDG), ML2.8(ROM), After ROM.*
CSEM ***13*** *23:33:47.0±0.1, 43.86N×1.233E, h15km, ML3.0/15, Error ellipse: s-maj=1.3km s-min=1.2km az=82.0*
ISCJB ***13*** *23:33:48.1±0.3, 43.92N±0.002×1.227E±0.002, h21km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=6.9*
VIE ***13*** *23:33:48.4±1.3, 43.95N×1.236E, h2km±5km, mb2.4/4, ML2.8/8, Error ellipse: s-maj=7.9km s-min=5.9km az=170.0 10 km WNW of San Marino*
ISC 13 23:33:48.0±0.2, 43.87N±0.002×1.230E±0.002, h16km±2km, n86, σ1§12/134, 14C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSM	**Repubblica di**	**0.13**	**60**	Pg		**Pg**	**23 33 51.3**	**-0.3**
RSM				Sg		**Sg**	**23 33 54.4**	**+0.3**
SFI	**Santa Sofia**	**0.33**	**277**	Pg		**Pg**	**23 33 54.2**	**-0.6**
SFI				Sg		**Sg**	**23 33 59.9**	**+0.5**
	200nm,0.2s						
CRE	**Caprese Michel**	**0.35**	**226**	Pg		**Pg**	**23 33 55.1**	**-0.1**
CRE				Sg		**Sg**	**23 34 01.2**	**+1.1**
	216nm,0.2s						
FSSB	**Fossombrone**	**0.39**	**116**	Pg		**Pg**	**23 33 55.3**	**-0.6**
FSSB				Sg		**Sg**	**23 34 02.7**	**+1.5**
	1µm,0.3s						
PESA	**Pesaro**	**0.40**	**79**	Pg		**Pg**	**23 33 55.4**	**-0.7**
PESA				Sg		**Sg**	**23 34 02.7**	**+1.1**
	673nm,0.2s						
CDCA	**Citt' di Caste**	**0.41**	**186**	Pg		**Pg**	**23 33 56.2**	**-0.1**
	215nm,0.1s						
BRSN	**Barisano**	**0.45**	**339**	Pg		**Pg**	**23 33 55.7**	**-1.3**
	622nm,0.3s						
VMG	**Vicchio**	**0.55**	**280**	Pg		**Pg**	**23 33 58.3**	**-0.6**
VMG				Sg		**Sg**	**23 34 07.1**	**+0.8**
	115nm,0.2s						
MURB	**Monte Urbino**	**0.62**	**165**	Pg		**Pg**	**23 34 00.1**	**-0.1**
MURB				Sg		**Sg**	**23 34 11.2**	**+2.6**
	681nm,0.3s						
SEI	**Scarperia**	**0.70**	**286**	Pg		**Pg**	**23 34 00.8**	**-0.9**
SEI				Sg		**Sg**	**23 34 12.0**	**+0.9**
	709nm,0.4s						
SNTG	**Esanatoglia**	**0.77**	**142**	Pg		**Pg**	**23 34 02.2**	**-0.8**
SNTG				Sg		**Sg**	**23 34 15.9**	**+2.8**
	166nm,0.4s						
CING	**Cingoli**	**0.82**	**127**	Pg		**Pg**	**23 34 03.7**	**-0.1**
	191nm,0.3s						
CSNT	**Castellina Chi**	**0.83**	**242**	Pg		**Pg**	**23 34 05.0**	**+0.9**
	82nm,0.4s						
ASS	**Assisi**	**0.84**	**162**	Pg		**Pg**	**23 34 03.9**	**-0.4**
	8.0nm,0.4s						
FNVD	**Fontana Vidola**	**0.90**	**290**	Pg		**Pg**	**23 34 04.6**	**-0.8**
	191nm,0.4s						
CRMI	**Carmignano**	**0.96**	**266**	Pg		**Pg**	**23 34 06.1**	**-0.5**
	22nm,0.6s						
FIU	**Minerbio Fiu**	**0.97**	**323**	Pg		**Pg**	**23 34 08.8**	**+2.1**
	461nm,0.6s						
AOI	**Ancona**	**1.00**	**108**	Pg		**Pg**	**23 34 07.9**	**+0.6**
	113nm,0.4s						
SACS	**San Casciano d**	**1.05**	**196**	Pg		**Pg**	**23 34 08.5**	**+0.1**
SACS				Sg		**Sg**	**23 34 24.6**	**+2.4**
	103nm,0.6s						
ZCCA	**Zocca**	**1.07**	**297**	Pg		**Pg**	**23 34 08.7**	**+0.1**
	15nm,0.3s						
PZZT	**Monte Pizzetto**	**1.07**	**285**	Pg		**Pg**	**23 34 08.6**	**0.0**
	127nm,0.6s						
ARCI	**Arcidosso**	**1.18**	**211**	Pg		**Pg**	**23 34 09.9**	**-0.8**
ARCI				Sg		**Sg**	**23 34 27.7**	**+1.6**
	69nm,0.8s						
RAVA	**Ravarino**	**1.23**	**317**	Pg		**Pg**	**23 34 12.9**	**+1.3**
BDI	**Bagni Di Lucca**	**1.24**	**280**	Pg		**Pg**	**23 34 11.0**	**-0.9**
	79nm,0.5s						
PII	**Pisa**	**1.29**	**264**	Pg		**Pg**	**23 34 11.8**	**-1.1**
	40nm,0.2s						
LATE	**Laterza**	**1.30**	**196**	Pg		**Pg**	**23 34 12.1**	**-1.0**
	12nm,1.1s						
MAIM		**1.31**	**273**	Pg		**Pg**	**23 34 11.9**	**-1.2**
	52nm,0.7s						
GSCL	**Gusciola**	**1.32**	**292**	Pg		**Pg**	**23 34 13.8**	**+0.3**
	30nm,0.5s						
LNSS	**Leonessa**	**1.37**	**156**	Pg		**Pg**	**23 34 13.5**	**-0.9**
	211nm,0.4s						
OFFI	**Offida**	**1.38**	**132**	Pg		**Pg**	**23 34 15.3**	**+0.9**
	396nm,0.7s						
VLC	**Villacollemand**	**1.41**	**283**	Pg		**Pg**	**23 34 13.8**	**-1.3**
	117nm,1.6s						
VLC	**Villacollemand**	**1.41**	**283**	*e*Pn		**Pn**	**23 34 13.7**	**+0.7**
VLC				*e*Sn		**Sn**	**23 34 32.0**	**+0.8**
VLC	**Villacollemand**	**1.41**	**283**	*e*Pn		**Pn**	**23 34 13.7**	**+0.7**
VLC				*e*Sn		**Sn**	**23 34 32.0**	**+0.8**
ERBM	**Eremo**	**1.47**	**293**	Pg		**Pg**	**23 34 17.4**	**+1.2**
TERO	**Teramo**	**1.57**	**142**	Pg		**Pg**	**23 34 16.3**	**-1.8**
	122nm,0.5s						
FIAM	**Fiamignano**	**1.71**	**159**	Pg		**Pg**	**23 34 18.9**	**-1.8**
	61nm,0.6s						
AQU	**L'Aquila**	**1.71**	**151**	*e*Pn		**Pn**	**23 34 17.6**	**+0.5**
AQU				*e*Sn		**Sn**	**23 34 39.6**	**+0.9**
AQU	**L'Aquila**	**1.71**	**151**	Pg		**Pg**	**23 34 19.4**	**-1.5**
	25nm,0.4s						
AQU				*e*Sn		**Sn**	**23 34 39.6**	**+0.9**
**VC

OBKA	**Obir**	**3.09**	**30**⇑	*i*Pn	**Pn**	**23 34 36.6**	**+0.6**
	0.4nm,0.1s							
OBKA			⇑	*i*Sg	**Sg**	**23 35 27.0**	**-0.1**
	26nm,0.7s							
OBKA	**Obir**	**3.09**	**30**	Pn	**Pn**	**23 34 36.6**	**+0.6**
	0.4nm,0.1s							
OBKA				Sg	**Sg**	**23 35 27.0**	**-0.1**
	26nm,0.7s							
WTTA	**Wattenberg**	**3.43**	**352**⇑	*i*Pn	**Pn**	**23 34 42.4**	**+1.7**
	1.1nm,0.1s							
WTTA			⇑	*i*Pg	**Pg**	**23 34 53.1**	**-0.5**
	3.7nm,0.2s							
WTTA			⇑	*i*Sn	**Sn**	**23 35 22.7**	**+1.6**
	8.4nm,0.3s							
WTTA			⇑	*i*Sg	**Sg**	**23 35 37.9**	**-0.3**
	13nm,0.4s							
SQTA	**Sankt Quirin**	**3.44**	**348**⇓	*i*Pn	**Pn**	**23 34 43.2**	**+2.4**
	5.4nm,0.1s							
SQTA			⇓	*i*Sn	**Sn**	**23 35 24.0**	**+2.6**
	7.4nm,0.3s							
WATA	**Walderalm**	**3.51**	**352**⇑	*i*Pn	**Pn**	**23 34 44.3**	**+2.5**
	1.6nm,0.1s							
WATA			⇑	*i*Sn	**Sn**	**23 35 26.5**	**+3.6**
	4.5nm,0.2s							
SBF	**Sospel**	**3.52**	**272**	*e*Pn	**Pn**	**23 34 42.4**	**+0.5**
	SNR=1.0							
SBF				*e*Sn	**Sn**	**23 35 22.5**	**-0.7**
	5.1nm,0.3s							
SBF	**Sospel**	**3.52**	**272**	*e*Pn	**Pn**	**23 34 42.4**	**+0.5**
	SNR=1.0							
SBF				*e*Sn	**Sn**	**23 35 22.5**	**-0.7**
	2.5nm,0.3s							
MOTA	**Moosalm**	**3.58**	**347**⇓	*i*Pn	**Pn**	**23 34 43.8**	**+1.1**
	0.5nm,0.2s							
MOTA			⇑	*i*Sn	**Sn**	**23 35 27.1**	**+2.3**
	1.6nm,0.2s							
DAVA	**Damuels**	**3.82**	**334**⇑	*i*Pn	**Pn**	**23 34 48.0**	**+1.9**
	0.6nm,0.1s							
DAVA			⇓	*i*Sn	**Sn**	**23 35 33.4**	**+2.8**
	8.7nm,0.5s							
MBDF	**Montbardon**	**4.06**	**284**	*e*Pn	**Pn**	**23 34 49.3**	**-0.1**
MBDF				*e*Sn	**Sn**	**23 35 35.1**	**-1.5**
	1.4nm,0.3s							
MBDF	**Montbardon**	**4.06**	**284**	*e*Pn	**Pn**	**23 34 49.3**	**-0.1**
MBDF				*e*Sn	**Sn**	**23 35 35.1**	**-1.5**
	0.7nm,0.3s							
ARSA	**Arzberg**	**4.07**	**33**⇑	*i*Pn	**Pg**	**23 35 00.9**	**-5.0**
	0.9nm,0.2s							
ARSA			⇑	*i*Sn	**Sn**	**23 35 40.6**	**+3.7**
	3.0nm,0.6s							
FRF	**La Foret Royal**	**4.11**	**268**	*e*Pn	**Pn**	**23 34 50.7**	**+0.6**
	SNR=1.0							
FRF				*e*Sn	**Sn**	**23 35 36.5**	**-1.3**
	3.8nm,0.4s							
FRF	**La Foret Royal**	**4.11**	**268**	*e*Pn	**Pn**	**23 34 50.7**	**+0.6**
	SNR=1.0							
FRF				*e*Sn	**Sn**	**23 35 36.5**	**-1.3**
	1.9nm,0.4s							
MOA	**Molln**	**4.21**	**18**⇑	*i*Pn	**Pn**	**23 34 52.4**	**+0.8**
	0.5nm,0.1s							
MOA			⇑	*i*Sn	**Sn**	**23 35 40.6**	**+0.2**
	4.4nm,0.4s							
LMR	**La Mourre**	**4.24**	**265**	*e*Pn	**Pn**	**23 34 51.9**	**+0.1**
	SNR=1.0							
LPL	**La Plagne**	**4.30**	**295**	*e*Pn	**Pn**	**23 34 52.4**	**-0.3**
	SNR=1.0							
LPL				*e*Sn	**Sn**	**23 35 40.6**	**-1.9**
	3.6nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**4.30**	**295**	*e*Pn	**Pn**	**23 34 52.4**	**-0.3**
	SNR=1.0							
LPL				*e*Sn	**Sn**	**23 35 40.6**	**-1.9**
	1.8nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**4.72**	**285**	*e*Pn	**Pn**	**23 35 00.0**	**+1.6**
	SNR=1.0							
SMRF	**Simiane la Rot**	**4.86**	**274**	*e*Pn	**Pn**	**23 35 01.0**	**+0.6**
CABF	**La Chapelle**	**5.17**	**304**	*e*Pn	**Pn**	**23 35 04.9**	**+0.2**
KHC	**Kasperske Hory**	**5.34**	**9**	*e*PN	**Pn**	**23 35 04.3**	**-2.7**
KHC				*e*SN	**Sn**	**23 36 02.6**	**-5.6**
HINF	**Hinteralfeld**	**5.48**	**318**	*e*Pn	**Pn**	**23 35 08.1**	**-0.9**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**23 36 08.3**	**-3.4**
	4.2nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**5.56**	**283**	*e*Pn	**Pn**	**23 35 10.0**	**0.0**
CDF	**Champ du Feu**	**5.73**	**324**	*e*Pn	**Pn**	**23 35 12.0**	**-0.4**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**23 36 13.9**	**-3.9**
	2.2nm,0.3s							
CDF	**Champ du Feu**	**5.73**	**324**	*e*Pn	**Pn**	**23 35 12.0**	**-0.4**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**23 36 13.9**	**-3.9**
	1.1nm,0.3s							
HAU	**Haudompre**	**5.86**	**317**	*e*Pn	**Pn**	**23 35 13.6**	**-0.5**
	SNR=1.0							
HAU				*e*Sn	**Sn**	**23 36 16.6**	**-4.4**
	7.3nm,0.3s							
HAU	**Haudompre**	**5.86**	**317**	*e*Pn	**Pn**	**23 35 13.6**	**-0.5**
	SNR=1.0							
HAU				*e*Sn	**Sn**	**23 36 16.6**	**-4.4**
	3.7nm,0.3s							
SMF	**Signal de Mont**	**6.58**	**298**	*e*Pn	**Pn**	**23 35 23.5**	**-0.6**
SMF				*e*Sn	**Sn**	**23 36 35.0**	**-3.8**
	1.6nm,0.3s							
LOR	**Lormes**	**6.83**	**303**	*e*Pn	**Pn**	**23 35 27.1**	**-0.4**
	SNR=1.0							
LOR				*e*Sn	**Sn**	**23 36 40.7**	**-4.2**
	2.3nm,0.3s							
AVF	**Avril sur Loir**	**6.95**	**298**	*e*Pn	**Pn**	**23 35 28.5**	**-0.6**
SSF	**Saint Saulge**	**6.96**	**300**	*e*Pn	**Pn**	**23 35 28.9**	**-0.3**
BGF	**Bois d'Agland**	**7.20**	**295**	*e*Pn	**Pn**	**23 35 32.2**	**-0.3**
	SNR=1.0							
MTLF	**Montolieu**	**7.34**	**269**	*e*Pn	**Pn**	**23 35 34.7**	**+0.3**

*IDC **13** 23:34:57.6±1.0, 1346N×12057E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.0/5, MS3.8/3, Ms1 3.8/3, ms1mx3.1/41, Error ellipse: s-maj=27.3km s-min=9.2km az=111.0*
*NEIC **13** 23:34:58.7±0.4, 1349N×12060E, h10km, mb4.3/7, Error ellipse: s-maj=13.4km s-min=7.5km az=79.0*
*ISCJB **13** 23:34:59.7±0.5, 1351N±003×12065E±003, h26km±4km, mb4.2/12, MS3.9/3, Error ellipse: s-maj=5.7km s-min=5.6km az=82.0*
*MAN **13** 23:34:59.6, 1350N×12068E, h13km, mb3.6, ML4.7, MS1.6 MAN F PTO GALERA GASANG MARINDUQUE - INTENSITY II.*

ISC 13 23:35:00.0±0.6, 1351N±003×12066E±003, h16km±4km, n34, σ0°75/37, mb4.2/12, MS3.9/3, 5C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.28**	**91**⇑	*e*P	**Pg**	**23 35 05.7**	**-0.4**
PGP				*e*S	**Sg**	**23 35 09.7**	**-0.5**
LUBP	**Lubang**	**0.46**	**299**	*e*P	**Pg**	**23 35 09.0**	**-0.4**
LUBP				*e*S	**Sg**	**23 35 15.5**	**-0.1**
TGY	**Tagaytay City**	**0.65**	**24**⇑	*e*P	**Pg**	**23 35 13.7**	**+1.0**
TGY				*e*S	**Sg**	**23 35 22.7**	**+1.4**
TGY	**Tagaytay City**	**0.65**	**24**	Pg	**Pg**	**23 35 12.4**	**-0.3**
	2µm,0.3s,baz=217,slow=4.0,SNR=174						
TGY				Lg		23 35 21.4	
	4µm,0.3s,baz=23,slow=23,SNR=42						
BOAC	**Boac**	**1.15**	**92**	*e*P	**Pn**	**23 35 19.2**	**-2.2**
BUSP	**Coron**	**1.56**	**197**	*e*P	**Pn**	**23 35 27.4**	**+0.2**
BUSP				*e*S	**Sn**	**23 35 48.1**	**+1.0**
POLP	**Polillo Island**	**1.73**	**45**	*e*P	**Pn**	**23 35 28.9**	**-0.5**
OTRP	**Odiongan**	**1.75**	**131**	*e*P	**Pn**	**23 35 30.1**	**+0.4**
GQP	**Guinayangan**	**1.78**	**77**⇑	*e*P	**Pn**	**23 35 30.3**	**+0.3**
GQP				*e*S	**Sn**	**23 35 53.1**	**+0.8**
AUQP	**San Andres**	**1.97**	**95**	*e*P	**Pn**	**23 35 32.5**	**-0.2**
BALP	**Baler**	**2.39**	**22**	*e*P	**Pn**	**23 35 38.7**	**+0.2**
ENPP	**El Nido**	**2.59**	**208**	*e*P	**Pn**	**23 35 41.5**	**+0.2**
CUYO	**Cuyo Island**	**2.67**	**172**	*e*P	**Pn**	**23 35 42.4**	**+0.1**
BCPH	**Baguio City Da**	**2.86**	**358**⇑	*i*P	**Pn**	**23 35 45.8**	**+0.8**
BOLP	**Bolinao**	**2.95**	**346**	*e*P	**Pn**	**23 35 46.9**	**+0.7**
PVCP	**Virac**	**3.40**	**88**	*e*P	**Pn**	**23 35 52.8**	**+0.4**
GUIM	**Jordan**	**3.43**	**146**	*e*P	**Pn**	**23 35 52.5**	**-0.3**
PPR	**Puerto Princes**	**4.17**	**207**⇑	*e*P	**Pn**	**23 36 04.1**	**+1.1**
GUMO	**Guam**	**23.53**	**87**	*e*P	**P**	**23 40 10.2**	**+0.5**
	49nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**35.86**	**158**	*e*P	**P**	**23 41 58.6**	**-0.4**
	2.5nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**35.86**	**158**	P	**P**	**23 41 58.2**	**-0.9**
	2.2nm,0.7s,mb4.2,baz=336,slow=9.6,SNR=9.7						
WB2	**Warramunga Arr**	**35.87**	**158**	*e*P	**P**	**23 41 58.6**	**-0.5**
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**23 42 01.5**	**-0.8**
	1.8nm,0.7s,mb4.1,baz=160,slow=11,SNR=13						
ASAR	**Alice Springs**	**39.15**	**161**	P	**P**	**23 42 27.3**	**+0.4**
	0.7nm,0.3s,mb3.8,baz=340,slow=7.3,SNR=16						
TLY	**Talaya**	**40.47**	**344**	*e*P	**P**	**23 42 38.2**	**+0.3**
	2.1nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**46.16**	**324**	P	**P**	**23 43 24.5**	**+0.7**
	0.3nm,0.6s,mb3.4,baz=125,slow=8.8,SNR=4.1						
MKAR				LR	LR	00 04 33.4	
	comp=Z,53nm,18.6s,MS3.5,baz=208,slow=38						
NWAO	**Narrogin (SRO)**	**46.29**	**184**	P	**P**	**23 43 25.6**	**+0.7**
	5.5nm,0.7s,mb4.6,baz=51,slow=6.5,SNR=3.2						
NWAO	**Narrogin (SRO)**	**46.29**	**184**	P	**P**	**23 43 25.8**	**+0.9**
ZAL	**Zalesovo**	**49.21**	**333**	LR	LR	00 05 09.6	
	comp=Z,64nm,20.7s,MS3.6,baz=119,slow=37						
KURK	**Kurchatov**	**50.33**	**326**	*e*P	**P**	**23 43 55.2**	**-0.9**
	2.4nm,0.7s,mb4.3						
BRVK	**Borovoye**	**55.98**	**326**	*e*P	**P**	**23 44 37.3**	**-0.3**
	2.2nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**56.07**	**327**	*e*P	**P**	**23 44 37.2**	**-1.1**
	1.3nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**56.64**	**325**	*e*P	**P**	**23 44 40.7**	**-1.6**
	1.7nm,0.6s,mb4.2						
DAVOX	**Davos**	**93.93**	**320**	LR	LR	00 30 49.3	
	comp=Z,147nm,20.0s,MS4.4,baz=282,slow=36						

*ISCJB **13** 23:44:02.2±1.4, 6.1S±0.1×151.1E±0.2, h10km, mb3.5/6, Error ellipse: s-maj=29.0km s-min=17.1km az=11.1*
*NEIC **13** 23:44:03.8±0.8, 6.10S×151.16E, h10km, mb3.8/4, Error ellipse: s-maj=19.3km s-min=11.5km az=99.0*
*IDC **13** 23:44:03.3±3.6, 6.05S×151.01E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=122.5km s-min=49.2km az=122.0*

ISC 13 23:44:03.9±1.4, 6.1S±0.1×151.2E±0.2, h10km, n15, σ0°61/14, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**231**	*e*Pn	**Pn**	**23 45 20.2**	**-1.0**
WRAB	**Tennant Creek**	**21.37**	**229**	*e*P	**P**	**23 48 55.5**	**+4.1**
	0.7nm,0.5s,mb3.2						
WB2	**Warramunga Arr**	**21.37**	**228**	*e*P	**P**	**23 48 52.2**	**+0.8**
WRA	**Warramunga Arr**	**21.38**	**229**	P	**P**	**23 48 51.9**	**+0.4**
	0.6nm,0.7s,mb3.0,baz=53,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**24.10**	**222**	P	**P**	**23 49 19.3**	**-0.3**
	0.5nm,0.4s,mb3.3,baz=56,slow=8.7,SNR=9.1						
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**23 49 47.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.64**	**242**	*e*P	**P**	**23 49 52.5**	**+0.8**
	5.3nm,1.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P	**P**	**23 49 52.2**	**+0.6**
	0.9nm,0.5s,mb3.7,baz=61,slow=11,SNR=4.6						
KKM	**Kota Kinabalu**	**36.97**	**288**	P	**P**	**23 51 12.6**	**-0.7**
NWAO	**Narrogin (SRO)**	**41.33**	**225**	P	**P**	**23 51 49.7**	**0.0**
KULM	**Kulim**	**51.74**	**282**	P	**P**	**23 53 11.2**	**-0.2**
LSA	**Lhasa**	**67.71**	**305**	P	**P**	**23 55 02.2**	**+0.9**
SBA	**Scott Base**	**72.14**	**177**	*e*P	**P**	**23 55 28.3**	**-0.3**
	0.3nm,0.5s,mb3.5						
KURK	**Kurchatov**	**83.85**	**322**	*e*P	**P**	**23 56 33.4**	**-0.3**
	0.4nm,0.4s,mb3.9						
TORD	**Torodi Ar. Bea**	**149.18**	**285**	PKPbc	PKPbc	00 03 53.9	+1.3
	0.6nm,0.9s,baz=64,slow=3.5,SNR=5.1						

*ISCJB **14** 00:06:11.5±0.7, 1.14N±0.10×973E±0.1, h10km, mb4.0/16, MS3.8/2, Error ellipse: s-maj=20.1km s-min=9.7km az=106.1*
*IDC **14** 00:06:11.7±1.0, 1.17N×9730E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML2.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/38, Error ellipse: s-maj=32.5km s-min=16.9km az=57.0*
*NEIC **14** 00:06:16.3±0.5, 1.18N×9732E, h30km, mb4.0/4, Error ellipse: s-maj=16.6km s-min=8.4km az=55.0*

ISC 14 00:06:14.0±0.7, 12N±01×974E±01, h10km, n23, σ0°86/24, mb4.0/16, MS3.8/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.21**	**44**	Pn	**Pn**	**00 06 51.7**	**+1.0**
	1.8nm,0.3s,baz=211,slow=8.3,SNR=15						
PSI				Sn	**Sn**	**00 07 30.4**	**+12**
	2.3nm,0.3s,baz=203,slow=12,SNR=4.3						
PSI	**Prapat**	**2.21**	**44**	Pn	**Pn**	**00 06 51.7**	**+1.0**
PSI				Sn	**Sn**	**00 07 30.4**	**+12**
JIRN	**Jiri**	**28.41**	**339**	*e*P	**P**	**00 12 09.8**	**+1.2**
	7.3nm,0.8s,mb4.3						
KKN	**Kakani**	**28.87**	**337**	*e*P	**P**	**00 12 13.8**	**+1.1**
LSA	**Lhasa**	**28.96**	**349**	P	**P**	**00 12 14.3**	**+0.9**
GKN	**Gorkha**	**29.31**	**337**	*e*P	**P**	**00 12 17.3**	**+0.7**
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**00 12 19.0**	**+0.4**
	6.8nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.78**	**126**	P	**P**	**00 12 55.4**	**-0.6**
	0.7nm,0.7s,mb3.7,baz=194,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**41.88**	**122**	P	**P**	**00 14 04.0**	**-0.3**
	1.0nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=8.8						
WRAB	**Tennant Creek**	**41.88**	**122**	*e*P	**P**	**00 14 04.8**	**+0.5**
	2.4nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**43.25**	**127**	P	**P**	**00 14 15.4**	**-0.1**
	0.4nm,0.7s,mb3.2,baz=301,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**45.74**	**34**	P	**P**	**00 14 35.1**	**-0.3**
	3.6nm,0.9s,mb4.3,baz=220,slow=8.3,SNR=6.2						
KSRS				LR	LR	00 37 04.4	
	comp=Z,34nm,19.5s,MS3.3,baz=190,slow=40						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**00 14 45.0**	**-1.1**
	1.7nm,0.8s,mb4.0,baz=192,slow=9.0,SNR=8.2						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**00 14 47.3**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=156,slow=7.6,SNR=11						
KURK	**Kurchatov**	**51.84**	**345**	*e*P	**P**	**00 15 21.8**	**-0.4**
	1.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**00 15 33.2**	**+0.7**
	1.3nm,0.6s,mb4.1,baz=154,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**00 15 33.2**	**+0.7**
ZAL	**Zalesovo**	**53.58**	**351**	P	**P**	**00 15 33.3**	**-1.8**
	1.2nm,0.8s,mb3.9,baz=304,slow=8.0,SNR=8.6						
BRVK	**Borovoye**	**56.37**	**341**	*e*P	**P**	**00 15 54.7**	**-0.6**
	0.9nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P	**P**	**00 15 56.8**	**-1.4**
	1.5nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**80.08**	**332**	P	**P**	**00 18 23.1**	**-0.9**
	1.9nm,0.5s,mb4.3,baz=49,slow=4.7,SNR=14						
AFI	**Afiamalu**	**91.10**	**104**	LR	LR	00 57 50.4	
	comp=Z,107nm,18.1s,MS4.3,baz=162,slow=34						
TORD	**Torodi Ar. Bea**	**95.27**	**283**	P	**P**	**00 19 39.1**	**+1.1**
	1.3nm,1.3s,mb4.2,baz=163,slow=4.1,SNR=4.5						

*CSEM **14** 00:18:34.0, 6783N×2020E, h1km, ML3.1, Mining explosion. After UPP*
*UPP **14** 00:18:34.0, 6783N×2020E, h1km, ML3.1, Mining explosion.*

HEL 14 00:18:34.6±0.1, 6783N×2020E, h0km, ML1.9, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**22**	*i*P	Pg	00 18 36.8	-0.5
KUA				*i*S	Sg	00 18 38.8	-0.3
NIKU	**Nikkaluokta**	**0.44**	**276**	*i*P	Pg	00 18 42.4	-0.7
NIKU				*i*S	Sg	00 18 48.5	-0.3
LANU	**Lannavaara**	**0.71**	**71**	*i*P	Pg	00 18 47.3	-1.0
LANU				*i*S	Sg	00 18 56.9	-0.6
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 18 47.3	-1.0
	baz=305						
LANU				S	Sg	00 18 56.9	-0.6
DUNU	**Dundret**	**0.72**	**168**	*i*P	Pg	00 18 47.4	-1.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 18 47.4	-1.1
	baz=74						
MASU	**Masugnsbyn**	**0.78**	**118**	*i*P	Pg	00 18 48.8	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	00 18 48.7	-1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 18 57.0	-0.7
KIF				*e*S	Sg	00 19 13.4	+0.1
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 18 59.2	-1.9
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 19 04.7	-0.8
HARU	**Harads**	**1.70**	**169**	P	Pn	00 19 04.7	-0.8
	baz=327						
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	00 19 15.4	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 19 15.8	-0.1
SGF				*e*S	Sn	00 19 47.5	+1.0
SGF				MSG		00 19 51.1	
	comp=Z,3.8nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 19 25.3	0.0
KEV				*e*S	Sn	00 20 03.8	+0.3
KEV				MSG		00 20 09.4	
	comp=Z,3.3nm,0.3s						
OUL	**Oulu**	**3.58**	**138**	*e*PG	Pg	00 19 37.8	-5.4
OUL				*e*SG	Sg	00 20 24.1	-5.5
MSF	**Maaselka**	**3.98**	**115**	*e*P	Pn	00 19 36.8	-0.1
MSF				*e*SG	Sg	00 20 35.5	-7.1

*NEIC **14** 00:21:47.2, 3142S×7171W, h26km, ML2.8(GUC), After GUC.*

GUC 14 00:21:47.2±0.7, 3142S×7171W, h26km±4km, MD3.8, ML2.8, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.49**	**159**	*e*P	Pb	00 21 57.1	-0.2
CHNG				*i*S	Sb	00 22 04.1	0.0
CMCH	**Combarbala**	**0.65**	**68**⇑	*i*P	Pb	00 21 59.9	-0.1
CMCH				*i*S	Sb	00 22 09.0	+0.3
CMCH				AML	AML	00 22 10.1	
	comp=N,2µm,0.3s						
CMCH	**Combarbala**	**0.65**	**68**⇑	*i*P	Pb	00 21 59.9	-0.1
CMCH				*i*S	Sb	00 22 09.0	+0.3
OVCH	**Ovalle**	**0.92**	**28**	*e*P	Pn	00 22 04.0	-0.4
OVCH				*i*S	Sb	00 22 16.3	0.0
OVCH				AML	AML	00 22 20.2	
	comp=N,316nm,0.3s						
OVCH	**Ovalle**	**0.92**	**28**	*e*P	Pn	00 22 04.0	-0.4
OVCH				*i*S	Sb	00 22 16.3	0.0
PTCH	**Petorca**	**1.07**	**142**⇓	*i*P	Pn	00 22 06.0	-0.4
PTCH				*i*S	Sn	00 22 20.1	-0.3
PTCH				AML	AML	00 22 23.2	
	comp=E,674nm,0.2s						
PTCH	**Petorca**	**1.07**	**142**⇓	*i*P	Pn	00 22 06.0	-0.4
PTCH				*i*S	Sn	00 22 20.1	-0.3
PEL	**Peldehue**	**1.92**	**154**	*e*P	Pn	00 22 18.8	+0.6
PEL				*i*S	Sn	00 22 44.0	+2.5
PEL				AML	AML	00 22 48.1	
	comp=E,250nm,0.4s						
PEL	**Peldehue**	**1.92**	**154**	*e*P	Pn	00 22 18.8	+0.6
PEL				*i*S	Sn	00 22 44.0	+2.5
FCH	**Farellones**	**2.25**	**148**	*e*P	Pn	00 22 24.3	+1.7
FCH				*i*S	Sn	00 22 53.4	+3.9
FCH				AML	AML	00 23 01.3	
	comp=E,42nm,0.2s						

*CSEM **14** 00:23:14.5, 6784N×2020E, h1km, ML3.1, Mining explosion. After UPP*
*UPP **14** 00:23:14.5, 6784N×2020E, h1km, ML3.1, Mining explosion.*

HEL 14 00:23:15.0±0.1, 6784N×2019E, h0km, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**25**	*i*P	Pg	00 23 17.1	-0.4
KUA				*i*S	Sg	00 23 18.9	-0.2
NIKU	**Nikkaluokta**	**0.44**	**274**	*i*P	Pg	00 23 22.8	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	00 23 27.7	-0.9
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 23 27.7	-0.9
	baz=308						
DUNU	**Dundret**	**0.73**	**169**	*i*P	Pg	00 23 28.0	-1.1
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 23 28.0	-1.1
	baz=73						
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	00 23 29.2	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 23 29.2	-0.9
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	00 23 29.3	-1.0
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 23 37.4	-0.5
KIF				*e*S	Sg	00 23 53.1	-0.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 23 39.7	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 23 45.4	-0.6
HARU	**Harads**	**1.71**	**169**	P	Pn	00 23 45.4	-0.7
	baz=341						
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	00 23 56.0	+0.3

*IDC **14** 00:38:25.9±1.3, 0.96N×9704E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.0/23, mbtmp4.2/10, ML3.4/1, Error ellipse: s-maj=41.4km s-min=16.3km az=61.0*
*BJI **14** 00:38:28.5, 0.75N×9722E, h43km, mB5.4, mb4.8, Ms4.1, Msz4.0*
*NEIC **14** 00:38:31.0±0.6, 1.03N×9712E, h30km, mb4.4/9, Error ellipse: s-maj=13.9km s-min=8.3km az=62.0*
*ISCJB **14** 00:38:32.0±2.8, 1.1N±0.1×973E±0.1, h50km±22km, mb4.4/22, MS4.0/1, Error ellipse: s-maj=26.7km s-min=9.4km az=105.8*

ISC 14 00:38:33.9±2.8, 11N±01×973E±01, h46km±23km, n36, σ0°81/38, mb4.4/22, MS4.0/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**44**	Pn	**Pn**	**00 39 09.2**	**-0.3**
	7.6nm,0.3s,baz=240,slow=6.3,SNR=36						
PSI		

comp=Z,1.4nm,0.6s,mb4.2
CHKZ Chkalovo 56.83 341 *e*P **P 00 48 12.6 -1.0**
comp=Z,4.2nm,0.9s,mb4.5
ARCES ARCESS Array B 82.64 340 P **P 00 50 50.9 -1.4**
comp=Z,4.6nm,1.1s,mb4.4,baz=46,slow=5.2,SNR=5.0
VNDA Vanda 85.73 169 P **P 00 51 07.6 -0.4**
TXAR Lajitas Array 143.68 32 PKP PKPdf 00 58 01.4 -2.2
comp=Z,0.2nm,0.5s,baz=177,slow=1.6,SNR=4.5

IDC ***14*** *00:45:39.3±1.4, 6.26S×151.45E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, ML2.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/24, Error ellipse: s-maj=39.4km s-min=22.3km az=106.0*
NEIC ***14*** *00:45:40.6±0.7, 6.25S×151.49E, h10km, mb4.4/9, Error ellipse: s-maj=17.3km s-min=9.5km az=103.0*
ISCJB ***14*** *00:45:44.5±3.8, 6.4S±0.1×151.4E±0.2, h49km±30km, mb4.1/12, Error ellipse: s-maj=26.7km s-min=18.4km az=155.4*
ISC 14 00:45:45.9±3.5, 6.4S±0.1×151.4E±0.2, h46km±27km, n24, σ0§72/21, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**5.21**	**234**	Pn		**Pn**	**00 47 01.6**	**+0.4**
	0.9nm,0.3s,baz=18,slow=8.0,SNR=6.3							
PMG				Sn		**Sn**	**00 48 00.6**	**+0.6**
	1.8nm,0.3s,baz=341,slow=12,SNR=3.1							
CTA	**Charters Tower**	**14.56**	**200**	LR		LR	00 54 09.6	
	comp=Z,50nm,18.7s,baz=232,slow=35							
CTAO	**Charters Tower**	**14.56**	**200**	Pn		**Pn**	**00 49 08.4**	**-0.5**
KAKA	**Kakadu**	**19.76**	**250**	*e*P		**Pn**	**00 50 11.8**	**-1.9**
	10nm,0.6s							
WRAB	**Tennant Creek**	**21.39**	**229**	*e*P		**P**	**00 50 29.8**	**+0.2**
	3.7nm,0.6s,mb3.9							
WB2	**Warramunga Arr**	**21.40**	**229**	*e*P		**P**	**00 50 29.4**	**-0.2**
WRA	**Warramunga Arr**	**21.41**	**229**	P		**P**	**00 50 29.3**	**-0.4**
	2.3nm,0.6s,mb3.7,baz=55,slow=11,SNR=24							
AS31	**Alice Springs**	**24.10**	**223**	*e*P		**P**	**00 50 57.0**	**0.0**
ASAR	**Alice Springs**	**24.10**	**223**	P		**P**	**00 50 57.3**	**+0.3**
	2.1nm,0.7s,mb3.7,baz=26,slow=12,SNR=39							
STKA	**Stephens Creek**	**27.01**	**199**	*e*P		**P**	**00 51 25.9**	**+2.4**
	4.5nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**27.01**	**199**	P		**P**	**00 51 25.3**	**+1.8**
	5.4nm,0.8s,mb4.1,baz=5.4,slow=9.4,SNR=7.7							
FITZ	**Fitzroy Crossi**	**27.74**	**243**	*e*P		**P**	**00 51 29.9**	**-0.1**
	8.8nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**27.74**	**243**	P		**P**	**00 51 30.0**	**0.0**
	4.7nm,0.7s,mb4.2,baz=59,slow=6.3,SNR=22							
MBWA	**Marble Bar**	**34.03**	**241**	*e*P		pP	00 52 33.6	-4.1
	5.1nm,0.5s							
TAU	**Tasmania Unive**	**36.59**	**185**	P		**P**	**00 52 47.2**	**-0.2**
CASY	**Casey**	**66.15**	**197**	P		**P**	**00 56 28.0**	**-0.5**
	18nm,1.3s,mb5.0							
SONM	**Songino Array**	**66.92**	**329**	P		**P**	**00 56 34.3**	**+0.9**
	0.7nm,0.6s,mb3.9,baz=139,slow=3.7,SNR=4.4							
LSA	**Lhasa**	**68.00**	**305**	P		**P**	**00 56 40.7**	**+0.5**
	2.9nm,0.3s,mb4.8							
VNDA	**Vanda**	**71.35**	**178**	P		**P**	**00 57 00.6**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=323,slow=4.8,SNR=5.5							
MKAR	**Makanchi Array**	**80.60**	**319**	P		**P**	**00 57 52.9**	**-0.6**
	0.6nm,0.7s,mb3.6,baz=101,slow=5.2,SNR=4.5							
CHKZ	**Chkalovo**	**89.65**	**324**	*e*P		**P**	**00 58 38.9**	**+0.1**
	0.4nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**90.47**	**323**	*e*P		**P**	**00 58 42.5**	**-0.1**
	0.4nm,0.3s,mb4.2							
TOA0	**Torodi Ar. Sit**	**149.44**	**285**	*e*PKP	PKPbc		01 05 31.1	+1.2
TORD	**Torodi Ar. Bea**	**149.44**	**285**	PKPbc	PKPbc		01 05 31.0	+1.2
	2.2nm,0.6s,baz=67,slow=3.0,SNR=34							

ISCJB ***14*** *00:55:43.1±0.1, 13.78N±0.002×120.60E±0.002, h113km, mb5.2/116, Error ellipse: s-maj=3.2km s-min=2.2km az=145.2*
MOS ***14*** *00:55:43.0±0.8, 13.83N×120.78E, h117km, mb5.4/60, Error ellipse: s-maj=10.8km s-min=4.5km az=120.6*
BJI ***14*** *00:55:43.6, 13.80N×120.86E, h130km, mB5.1, mb5.3*
IDC ***14*** *00:55:43.6±0.3, 13.77N×120.64E, h107km±2km, mb4.7/27, mb1 4.7/28, mb1mx4.7/31, mbtmp4.7/28, MS4.0/17, Ms1 4.0/17, ms1mx3.8/31, Error ellipse: s-maj=11.8km s-min=7.4km az=75.0*
NEIC ***14*** *00:55:44.9±0.5, 13.78N×120.69E, h122km±4km, mb5.2/55, Error ellipse: s-maj=5.4km s-min=3.5km az=76.0*
NEIC Felt [V PIVS] at Abra de Ilog. Felt [IV PIVS] at Manila; [III PIVS] at Lipa, Makati, Quezon City, Santa Rosa and Tagaytay; [II PIVS] at Antipolo, Batangas and Cabuyao, Luzon.
MAN ***14*** *00:55:44.0, 13.76N×120.49E, h90km, mb4.8, ML5.5, MS2.1*
MAN F ABRA DE ILOG - INTENSITY V MANILA - INTENSITY IV QC MAKATI PASAY CITY - INTENSITY III BATANGAS INTENSITY II.
GCMT ***14*** *00:55:44.9±0.2, 13.89N×120.61E, h113km±1km, MW5.2/90, Moment Tensor Solution. s70,c94; s90,c151; Duration: 1§0 Moment tensor: Scale 10^16^Nm; M=3.83±.16; Mrr0.26±.18; Mθθ=-4.09±.18; Mrθ5.65±.10; Mrφ1.74±.16; Mθφ=-3.59±.13; Best double couple: Mo7.95300×10^16^ NP1:φ=5.00000°,δ=24.00000°,λ=142.00000°. NP2: φ=130.00000°,δ=76.00000°,λ=71.00000°. Principal axes: T 8.2770, Plg55.0000°, Azm17.0000°; N -0.6490, Plg18.0000°, Azm135.0000°; P -7.6300, Plg28.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***14*** *00:55:52.2, 15.77N×120.35E, h104km, mb5.6, Luzon, Philippine Islands*
ISC 14 00:55:44.6±0.1, 13.79N±0.002×120.66E±0.002, h115km, h115km±1.8km:pP-P, n414, σ1§10/443, mb5.2/116, 64C-13D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LUBP	**Lubang**	**0.40**	**262**	*e*P		**Pn**	**00 55 59.3**	**-2.2**
LUBP				*e*S		**Sn**	**00 56 10.0**	**-4.2**
PGP	**Puerto Galera**	**0.41**	**135**	↑*i*P		**Pn**	**00 56 00.3**	**-1.2**
PGP				*i* S		**Sn**	**00 56 11.9**	**-2.3**
TGY	**Tagaytay City**	**0.41**	**41**	↑*i*P		**Pn**	**00 56 02.5**	**+0.9**
TGY				*i* S		**Sn**	**00 56 15.0**	**+0.7**
TGY	**Tagaytay City**	**0.41**	**41**	P		**Pn**	**00 56 01.1**	**-0.5**
	14µm,0.3s,baz=237,slow=1.5,SNR=966							
TGY				S		**Sn**	**00 56 13.6**	**-0.7**
	60µm,0.3s,baz=139,slow=19,SNR=60							
BOAC	**Boac**	**1.20**	**106**	*e*P		**Pn**	**00 56 07.9**	**-0.5**
BOAC				*e*S		**Sn**	**00 56 28.5**	**+2.2**
POLP	**Polilio Island**	**1.55**	**53**	*e*P		**Pn**	**00 56 13.4**	**+1.0**
PCPH	**Palayan**	**1.81**	**13**	↑*e*P		**Pn**	**00 56 14.1**	**-1.5**
PCPH				*e*S		**Sn**	**00 56 39.0**	**-0.1**
BUSP	**Coron**	**1.83**	**194**	*e*P		**Pn**	**00 56 13.9**	**-1.9**
BUSP				*e*S		**Sn**	**00 56 36.6**	**-2.9**
OTRP	**Odiongan**	**1.94**	**137**	*e*P		**Pn**	**00 56 17.5**	**+0.4**
OTRP				*e*S		**Sn**	**00 56 41.8**	**-0.2**
AUQP	**San Andres**	**2.02**	**103**	*e*P		**Pn**	**00 56 21.3**	**+3.2**
BALP	**Baler**	**2.13**	**24**	*e*P		**Pn**	**00 56 20.1**	**+0.6**
BCPH	**Baguio City Da**	**2.58**	**358**	↑*i*P		**Pn**	**00 56 24.1**	**-1.2**
BCPH				*i* S		**Sn**	**00 56 54.7**	**-1.7**
KALP	**Kalibo**	**2.66**	**142**	*e*P		**Pn**	**00 56 28.0**	**+1.7**
BOLP	**Bolinao**	**2.67**	**344**	*e*P		**Pn**	**00 56 25.3**	**-1.2**
ENPP	**El Nido**	**2.84**	**205**	*e*P		**Pn**	**00 56 27.2**	**-1.4**
CUYO	**Cuyo Island**	**2.94**	**173**	*e*P		**Pn**	**00 56 29.2**	**-0.8**
CUYO				*e*S		**Sn**	**00 57 04.1**	**-0.9**
RCP	**Roxas**	**3.01**	**137**	↑*i*P		**Pn**	**00 56 32.3**	**+1.4**
MMPH	**Masbate**	**3.22**	**116**	↓*i*P		**Pn**	**00 56 36.0**	**+2.3**
MMPH				*e*S		**Sn**	**00 57 15.1**	**+3.6**
CAUP	**Cauayan**	**3.33**	**20**	*e*P		**Pn**	**00 56 36.9**	**+1.7**
PVCP	**Virac**	**3.40**	**93**	↓*e*P		**Pn**	**00 56 38.0**	**+1.9**
PVCP	**Virac**	**3.40**	**93**	*e*P		**Pn**	**00 56 38.3**	**+2.2**
GUIM	**Jordan**	**3.67**	**149**	*e*P		**Pn**	**00 56 41.0**	**+1.4**
PALP	**Palanan**	**3.67**	**27**	*e*S		**Sn**	**00 57 17.4**	**-5.0**
PALP	**Palanan**	**3.67**	**27**	*e*P		**Pn**	**00 56 40.1**	**+0.5**
ABRA	**Dolores**	**3.84**	**1**	*e*P		**Pn**	**00 56 41.0**	**-0.9**
CVP	**Callao Caves**	**4.05**	**16**	*e*P		**Pn**	**00 56 44.0**	**-0.7**
APYP	**Conner**	**4.09**	**8**	*e*P		**Pn**	**00 56 46.2**	**+0.9**
APYP				*e*S		**Sn**	**00 57 35.5**	**+3.2**
PPR	**Puerto Princes**	**4.41**	**206**	↑*i*P		**Pn**	**00 56 49.1**	**-0.5**
PPR				*i* S		**Sn**	**00 57 36.8**	**-3.3**
PIP	**Pasuquin**	**4.51**	**360**	*e*P		**Pn**	**00 56 51.2**	**+0.3**
LLP	**Lapu-Lapu**	**4.73**	**136**	↓*e*P		**Pn**	**00 56 56.5**	**+2.7**
LLP				*e*S		**Sn**	**00 57 48.8**	**+1.1**
PLP	**Palo**	**4.96**	**121**	*e*P		**Pn**	**00 56 59.5**	**+2.6**
BATP	**Bataraza**	**5.70**	**210**	*e*P		**Pn**	**00 57 05.8**	**-1.1**
BATP				*e*S		**Sn**	**00 58 07.7**	**-3.4**
DCPH	**Dipolog City**	**5.81**	**153**	↑*e*P		**Pn**	**00 57 10.1**	**+1.7**
DCPH				*e*S		**Sn**	**00 58 16.1**	**+2.3**
KKM	**Kota Kinabalu**	**8.85**	**210**	P		**Pn**	**00 57 51.6**	**+2.0**
KKM	**Kota Kinabalu**	**8.85**	**210**	*e*Pn		**Pn**	**00 57 51.5**	**+1.8**
KKM				*e*			00 58 02.3	
KKM				*e*Sn		**Sn**	**00 59 22.5**	**-5.0**
TSM	**Tawau**	**9.83**	**196**	P		**Pn**	**00 58 05.8**	**+3.0**
YHNB	**Yeheng**	**10.84**	**3**	*e*Pn		**Pn**	**00 58 16.3**	**-0.2**
QZH	**Quanzhou**	**11.27**	**350**	↑*i*P		**Pn**	**00 58 21.1**	**-1.0**
QZH				AMB	AMB			
	comp=Z,230nm,1.0s							
GZH	**Guangzhou**	**11.56**	**324**	P		**Pn**	**00 58 27.4**	**+1.4**
GZH				S		**Sn**	**01 00 34.3**	**+1.2**
QIZ	**Qiongzhong**	**11.61**	**298**	P		**Pn**	**00 58 26.6**	**0.0**
QIZ				S		**Sn**	**01 00 31.9**	**-2.5**
QIZ				AMB	AMB			
	comp=Z,27nm,1.2s							
QIZ				AMB	AMB			
	comp=Z,243nm,3.0s							
JOW	**Kunigami**	**14.80**	**28**	P		**Pn**	**00 59 08.3**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=199,slow=12,SNR=17							
SSE	**Sheshan**	**17.23**	**2**	↑P		**Pn**	**00 59 38.6**	**+0.5**
SSE				XP		sP	01 00 16.1	+2.8
SSE				S		**S**	**01 02 50.1**	**-0.1**
SSE				AMB	AMB			
	comp=Z,35nm,1.1s							
SSE				AMB	AMB			
	comp=Z,497nm,9.2s							
SSE				LR	LR			
	comp=N,523nm,38.0s							
SSE				LR	LR			
	comp=E,394nm,38.0s							
SSE				LR	LR			
	comp=Z,752nm,32.3s							
SSE	**Sheshan**	**17.23**	**2**	↑P		**Pn**	**00 59 38.6**	**+0.5**
	comp=Z,35nm,1.1s							
SSE				pP	pP		01 00 00.4	+1.7
SSE				sP	sP		01 00 16.1	+2.8
SSE				S	**S**		**01 02 50.1**	**-0.1**
SSE				sS	sS		01 03 28.5	+3.0
KKTK	**Khon Kaen**	**17.41**	**281**	P		**Pn**	**00 59 42.4**	**+2.2**
WHN	**Wuhan**	**17.66**	**342**	P		**Pn**	**00 59 44.5**	**+1.2**
GYA	**Guiyang**	**18.18**	**316**	↑*i*P		**P**	**00 59 51.0**	**+2.7**
GYA				PP			01 00 09.8	
GYA				AMB	AMB			
	comp=Z,50nm,1.0s							
GYA				AMB	AMB			
	comp=Z,360nm,4.8s							
GYA				LR	LR			
	comp=N,520nm,13.8s							
GYA				LR	LR			
	comp=E,390nm,10.8s							
GYA				LR	LR			
	comp=Z,520nm,14.7s							
NJ2	**Nanjing**	**18.25**	**355**	*e*P		**P**	**00 59 50.6**	**+1.5**
NJ2				S		**S**	**01 03 05.5**	**-6.3**
NJ2				PCP	PcP		01 04 18.1	+1.8
NJ2				PCS	PcS		01 07 52.5	-0.5
NJ2				AMB	AMB			
	comp=Z,560nm,1.0s							
NJ2				AMB	AMB			
	comp=Z,590nm,4.5s							
NJ2				LR	LR			
	comp=N,1µm,19.1s							
NJ2				LR	LR			
	comp=E,770nm,16.6s							
NJ2				LR	LR			
	comp=Z,1µm,21.0s							
KAPI	**Kappang**	**18.70**	**183**	P		**P**	**00 59 55.5**	**+1.5**
	comp=Z,831nm,0.6s,SNR=12							
NANT	**Nan**	**19.79**	**287**	↑P		**P**	**01 00 03.5**	**-2.3**
	comp=Z,865nm,1.0s							
NST	**Nakhon Sawan**	**19.94**	**278**	↑P		**P**	**01 00 09.2**	**+1.8**
	comp=Z,85nm,0.8s							
KMI	**Kunming**	**20.28**	**306**	P		**P**	**01 00 13.5**	**+2.4**
KMI				PP			01 00 39.9	
KMI				S		**S**	**01 03 55.9**	**+3.7**
KMI				AMB	AMB			
	comp=Z,289nm,6.6s							
KMI				LR	LR			
	comp=N,178nm,13.2s							
KMI				LR	LR			
	comp=E,345nm,12.7s							
KMI				LR	LR			
	comp=Z,409nm,13.2s							
KMI	**Kunming**	**20.28**	**306**	P		**P**	**01 00 13.5**	**+2.4**
	comp=Z,0.3nm,6.6s							
KMI				pP			01 00 28.3	
KMI				sP	sP		01 00 37.5	-9.4
KMI				PP			01 00 39.9	
KMI				S		**S**	**01 03 55.9**	**+3.7**
KMI				sS	sS		01 04 21.1	-6.6
KMI				LR	LR			
	comp=Z,410nm,13.2s							
NNT	**Nongplab**	**20.41**	**269**	P		**P**	**01 00 15.0**	**+2.6**
KGM	**Kluang**	**20.75**	**237**	P		**P**	**01 00 17.6**	**+1.5**
SNG	**Songkhla**	**20.76**	**254**	P		**P**	**01 00 17.0**	**+0.8**
	comp=Z,230nm,0.9s							
BDT	**Bhumibol Dam**	**21.14**	**282**	P		**P**	**01 00 22.0**	**+1.7**
JNU	**Nakatsue**	**21.38**	**24**	P		**P**	**01 00 23.4**	**+0.6**
	comp=Z,67nm,1.0s,mb4.9,baz=249,slow=20,SNR=5.9							
JNU				LR	LR		01 07 43.8	
	comp=Z,637nm,19.9s,baz=69,slow=34							
CHG	**Chiang Mai**	**21.43**	**286**	↓P		**P**	**01 00 23.7**	**+0.4**
	comp=Z,30nm,1.0s,mb4.6							
CHTO	**Chiang Mai**	**21.43**	**286**	*e*P		**P**	**01 00 24.0**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,31nm,1.0s,mb4.6							
CHTO	**Chiang Mai**	**21.43**	**286**	*e*P		**P**	**01 00 24.0**	**+0.7**
	comp=Z,31nm,1.0s,mb4.6							
CHTO				*e*			01 00 44.1	
KULM	**Kulim**	**21.45**	**249**	*e*P		**P**	**01 00 24.2**	**+0.7**
KULM				*e*			01 00 42.6	
IPM	**Ipoh**	**21.46**	**246**	P		**P**	**01 00 24.3**	**+0.6**
TIA	**Tai'an**	**22.55**	**353**	↑P		**P**	**01 00 34.6**	**-0.6**
TIA				AMB	AMB			
	comp=Z,148nm,1.2s,mb5.2							
XAN	**Xi'an**	**22.80**	**334**	P		**P**	**01 00 36.8**	**-0.8**
XAN				S		**S**	**01 04 34.8**	**-2.9**
XAN				AMB	AMB			
	comp=Z,94nm,0.7s,mb5.2							
XAN				AMB	AMB			
	comp=Z,298nm,8.5s							
XAN				LR	LR			
	comp=N,93nm,11.7s							
XAN				LR	LR			
	comp=E,289nm,12.3s							
XAN				LR	LR			
	comp=Z,364nm,13.8s							
CD2	**Chengdu**	**23.07**	**320**	P		**P**	**01 00 39.3**	**-0.7**
CD2				AP			01 01 04.9	
CD2				PP			01 01 20.8	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
CD2				AMB	AMB			
	comp=Z,570nm,5.6s							
CD2				LR	LR			
	comp=N,540nm,13.8s							
CD2				LR	LR			
	comp=Z,520nm,14.4s							
GUMO	**Guam**	**23.52**	**88**	P		**P**	**01 00 45.9**	**+1.8**
	comp=Z,98nm,0.8s,mb5.2,baz=215,slow=6.0,SNR=4.6							
GUMO				LR	LR		01 08 56.9	
	comp=Z,250nm,19.3s,baz=95,slow=34							
GUMO	**Guam**	**23.52**	**88**	P		**P**	**01 00 45.9**	**+1.7**
GUMO				pmax	pmax			
	comp=Z,98nm,0.8s,mb5.2							
GUMO				MLR	MLR			
	comp=Z,250nm,19.3s							
CBIJ	**Chichi jima**	**24.07**	**53**	P		**P**	**01 00 49.5**	**+0.3**
	comp=Z,68nm,0.4s,mb5.3,baz=215,slow=3.5,SNR=12							
CBIJ				LR	LR		01 09 32.4	
	comp=Z,375nm,19.6s,baz=218,slow=34							
KSRS	**Korea Array**	**24.44**	**14**	P		**P**	**01 00 52.1**	**-0.5**
	comp=Z,10nm,0.5s,baz=199,slow=9.9,SNR=22							
KSRS				LR	LR		01 09 27.8	
	comp=Z,233nm,21.9s,baz=187,slow=34							
DL2	**Dalian**	**25.03**	**2**	P		**P**	**01 00 57.8**	**-0.1**
DL2				AMB	AMB			
	comp=Z,70nm,0.5s,mb5.3							
JHJ	**Hachijo jima 2**	**25.96**	**39**	LR	LR		01 09 01.6	
	comp=Z,499nm,21.4s,baz=240,slow=31							
BJT	**Baijiatuau**	**26.42**	**352**	*e*P		**P**	**01 01 10.6**	**+0.1**
BJT				pmax	pmax			
	comp=Z,85nm,0.8s							
BJT	**Baijiatuau**	**26.42**	**352**	*e*P		**P**	**01 01 10.6**	**+0.2**
	comp=Z,85nm,0.8s,mb5.2							
BJI	**Beijing**	**26.45**	**352**	P		**P**	**01 01 10.8**	**+0.1**
BJI				AP	pP		01 01 36.3	+0.6
BJI				XP	sP		01 01 50.8	+1.7
BJI				S	**S**		**01 05 33.8**	**-2.0**
BJI				AMB	AMB			
	comp=Z,86nm,1.1s,mb5.1							
BJI				AMB	AMB			
	comp=Z,538nm,3.5s							
BJI				LR	LR			
	comp=N,431nm,35.6s							
BJI				LR	LR			
	comp=E,312nm,30.2s							
BJI				LR	LR			
	comp=Z,498nm,38.9s							
BJI	**Beijing**	**26.45**	**352**	P		**P**	**01 01 10.7**	**0.0**
BJI				*PP	pP		01 01 36.3	+0.6
BJI				*SP	sP		01 01 50.7	+1.6
BJI				S	**S**		**01 05 33.8**	**-2.0**
BJI				pmax	pmax			
	comp=Z,86nm,1.1s,mb5.1							
BJI				MLR	MLR			
	comp=Z,500nm,38.9s							
BJI	**Beijing**	**26.45**	**352**	P		**P**	**01 01 10.7**	**0.0**
	comp=Z,86nm,1.1s,mb5.1							
BJI				pP	pP		01 01 36.3	+0.6
BJI				sP	sP		01 01 50.7	+1.6
BJI				S	**S**		**01 05 33.8**	**-2.0**
BJI				LR	LR			
	comp=Z,500nm,38.9s							
LZH	**Lanzhou**	**26.85**	**329**	↑P		**P**	**01 01 15.3**	**+1.0**
LZH				AP	pP		01 01 42.8	+3.5
LZH				XP	sP		01 01 56.5	+3.8
LZH				PP			01 02 06.0	
LZH				*eS	**S**		**01 05 39.0**	**-3.2**
LZH				XS	sS		01 06 27.0	+0.8
LZH				SS			01 07 03.0	
LZH				AMB	AMB			
	comp=Z,233nm,1.5s,mb5.5							
LZH				AMB	AMB			
	comp=Z,540nm,4.0s							
LZH	**Lanzhou**	**26.85**	**329**	↑P		**P**	**01 01 15.3**	**+1.0**
LZH				*PP	pP		01 01 42.8	+3.5
LZH				*SP	sP		01 01 56.5	+3.8
LZH							01 02 06.0	
LZH				*eS	**S**		**01 05 39.0**	**-3.2**
LZH				*SS	sS		01 06 27.0	+0.8
LZH				SS			01 07 03.0	
LZH				pmax	pmax			
	comp=Z,233nm,1.5s,mb5.5							
LZH	**Lanzhou**	**26.85**	**329**	↑P		**P**	**01 01 15.3**	**+1.0**
	comp=Z,233nm,1.5s,mb5.5							
LZH				pP	pP		01 01 42.8	+3.5
LZH				sP	sP		01 01 56.5	+3.8
LZH				PP			01 02 06.0	
LZH				*eS	**S**		**01 05 39.0**	**-3.2**
LZH				*SS	sS		01 06 27.0	+0.8
LZH				SS			01 07 03.0	
LZH				pmax	pmax			
	comp=Z,233nm,1.5s,mb5.5							
LZH	**Lanzhou**	**26.85**	**329**	↑P		**P**	**01 01 15.3**	**+1.0**
	comp=Z,233nm,1.5s,mb5.5							
LZH				pP	pP		01 01 42.8	+3.5
LZH				sP	sP		01 01 56.5	+3.8
LZH				PP			01 02 06.0	
LZH				*eS	**S**		**01 05 39.0**	**-3.2**
LZH				XS	sS		01 06 27.0	+0.8
LZH				SS			01 07 03.0	
MAT	**Matsushiro**	**27.57**	**32**	P		**P**	**01 01 18.7**	**-2.1**
MAT				S		**S**	**01 06 00.0**	**+6.4**
MJAR	**Matsushiro Arr**	**27.57**	**32**	P		**P**	**01 01 19.4**	**-1.3**
	comp=Z,5.4nm,1.0s,baz=218,slow=6.3,SNR=9.9							
MJAR				LR	LR		01 10 43.2	
	comp=Z,177nm,20.9s,baz=270,slow=33							
MJAR	**Matsushiro Arr**	**27.57**	**32**	P		**P**	**01 01 19.4**	**-1.4**
MJAR				pmax	pmax			
	comp=Z,50nm,1.0s							
MJAR				MLR	MLR			
	comp=Z,177nm,20.9s							
SNY	**Shenyang**	**28.05**	**5**	↑P		**P**	**01 01 24.0**	**-1.0**
SNY				AP	pP		01 01 50.5	+0.3
SNY				PP	PP		01 02 15.9	-15
SNY				S	**S**		**01 05 49.3**	**-12**
SNY				AMB	AMB			
	comp=Z,39nm,0.5s,mb5.2							
SNY				AMB	AMB			
	comp=Z,239nm,6.1s							
SNY				LR	LR			
	comp=N,477nm,4.7s							
SNY				LR	LR			
	comp=Z,385nm,13.2s							
HHC	**Hu-ho-hao-te**	**28.11**	**345**	↑P		**P**	**01 01 26.3**	**+0.8**
HHC				AP	pP		01 01 53.0	+2.3
HHC				XP	sP		01 02 11.8	+7.8
HHC				PP	PP		01 02 22.1	-8.9
HHC				PCP	PcP		01 04 37.1	+0.2
HHC				S	**S**		**01 06 01.8**	**-0.2**
HHC				XS	sS		01 06 47.9	+1.9
HHC				SS	SS		01 07 34.6	-31
HHC				AMB	AMB			
	comp=Z,48nm,1.3s,mb4.9							
HHC				AMB	AMB			
	comp=Z,271nm,6.0s							
HHC				LR	LR			
	comp=N,539nm,12.9s							
HHC				LR	LR			
	comp=E,414nm,14.9s							
HHC				LR	LR			
	comp=Z,376nm,16.5s							
BTO	**Baotou**	**28.29**	**343**	*e*P		**P**	**01 01 27.3**	**+0.2**
KAKA	**Kakadu**	**28.80**	**156**	*e*P		**P**	**01 01 30.2**	**-1.5**
	comp=Z,6.7nm,0.5s,mb4.5							
SHL	**Shillong**	**29.45**	**298**	*e*P		**P**	**01 01 36.1**	**-1.3**
SHL				AMb	AMB		01 01 36.5	
	comp=Z,2µm,0.7s							
SHL				*eS	**S**		**01 06 23.0**	**0.0**
CN2	**Changchun**	**30.19**	**7**	*eP		**P**	**01 01 43.0**	**-0.9**
CN2				*eAP	pP		01 02 10.0	+0.8
CN2				*eS	**S**		**01 06 31.6**	**-3.1**
CN2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
GTA	**Gaotai**	**31.44**	**328**	↑*i*P		**P**	**01 01 55.9**	**+0.9**
GTA				AP	pP		01 02 21.8	+1.5
GTA				XP	sP		01 02 38.0	+4.4

MDJ Mudanjiang 31.65 12 *e*P **P 01 01 56.8 -0.1**
comp=Z,9.7nm,0.5s,mb4.8
FITZ Fitzroy Crossi 32.07 171 *e*P **P 01 01 59.9 -0.5**
comp=Z,14nm,0.9s,mb4.7
FITZ *e*pP pP 01 02 25.3 -0.5
FITZ Fitzroy Crossi 32.07 171 P **P 01 02 00.0 -0.4**
comp=Z,10nm,0.9s,mb4.5,baz=3.0,slow=6.3,SNR=21
FITZ pP pP 01 02 23.8 -2.1
comp=Z,10nm,0.8s,baz=351,slow=9.8,SNR=6.3
BOK Bokaro 34.31 292 *e*P **P 01 02 21.3 +1.4**
BOK AMb AMB 01 02 22.8
comp=Z,43nm,0.6s,mb5.5
MBWA Marble Bar 34.74 182 *e*P **P 01 02 23.5 -0.1**
comp=Z,49nm,0.6s,mb5.5
JIRN Jiri 34.93 299 *e*P **P 01 02 26.7 +1.4**
comp=Z,346nm,0.7s,mb6.3
PMG Port Moresby 34.97 130 *e*P **P 01 02 22.9 -2.7**
GUN Gumba 35.27 299 *e*P **P 01 02 29.4 +1.3**
comp=Z,433nm,0.7s,mb6.4
HIA Hailar 35.38 359*c i*P **P 01 02 27.8 -1.3**
HIA Hailar 35.38 359⇑*i*P **P 01 02 27.9 -1.2**
ASAJ Asahikawa 35.57 28 P **P 01 02 31.6 +0.8**
comp=Z,15nm,0.8s,mb5.0,baz=226,slow=19,SNR=5.8
ASAJ Asahikawa 35.57 28 P **P 01 02 31.6 +0.8**
ASAJ pmax pmax
comp=Z,15nm,0.8s
PKI Pulchoki 35.57 298 *e*P **P 01 02 31.4 +0.6**
comp=Z,138nm,0.5s,mb6.1
KKN Kakani 35.74 299 *e*P **P 01 02 32.8 +0.6**
comp=Z,232nm,0.9s,mb6.1
DMN Daman 35.84 298 *e*P **P 01 02 33.8 +0.7**
SONM Songino Array 35.96 344 P **P 01 02 34.4 +0.4**
comp=Z,90nm,0.5s,mb5.9,baz=164,slow=9.9,SNR=434
SONM LR LR 01 19 52.2
comp=Z,158nm,19.1s,baz=258,slow=40
SONM Songino Array 35.96 344 P **P 01 02 34.4 +0.3**
SONM pmax pmax
comp=Z,90nm,0.5s
SONM MLR MLR
comp=Z,158nm,19.1s
SONM Songino Array 35.96 344 P **P 01 02 34.4 +0.4**
SONM LR LR 01 19 52.1
VIS Vishakhapatnam 36.10 281 *e*P **P 01 02 35.2 -0.1**
WRAB Tennant Creek 36.12 158 P **P 01 02 34.9 -0.5**
comp=Z,147nm,0.8s,mb6.0,SNR=32
WRAB Tennant Creek 36.12 158 *e*P **P 01 02 34.4 -1.0**
WRAB pmax pmax
comp=Z,60nm,0.9s,mb5.5
WRAB Tennant Creek 36.12 158 *e*P **P 01 02 34.4 -1.0**
comp=Z,60nm,0.9s,mb5.5
WRA Warramunga Arr 36.12 158 P **P 01 02 34.4 -1.1**
comp=Z,12nm,0.6s,mb5.0,baz=335,slow=9.5,SNR=105
WRA pP pP 01 02 58.8 -2.4
comp=Z,31nm,0.7s,baz=337,slow=9.5,SNR=14
WRA S **S 01 08 01.0 -5.5**
comp=Z,5.8nm,0.9s,baz=341,slow=15,SNR=7.9
WRA ScP ScP 01 08 33.2 -1.3
comp=Z,2.6nm,0.9s,baz=344,slow=4.1,SNR=5.3
WRA Warramunga Arr 36.12 158 P **P 01 02 34.4 -1.1**
WRA *PP pP 01 02 58.8 -2.4
WRA S **S 01 08 01.0 -5.5**
WRA pmax pmax
comp=Z,12nm,0.6s
WRA smax
comp=N,6.0nm,0.9s
WB2 Warramunga Arr 36.13 158 *e*P **P 01 02 34.2 -1.3**
WB2 *e*pP pP 01 02 59.2 -2.0
WB2 *e*S **S 01 08 00.8 -5.7**
GKN Gorkha 36.35 299 *e*P **P 01 02 37.7 +0.3**
comp=N,101nm,0.5s,mb6.0
KLR Kul'dur 36.50 12 *e*P **P 01 02 35.0 -3.7**
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,90nm,1.2s,mb5.6
KOLN Koldanda 37.17 298 *e*P **P 01 02 44.9 +0.5**
comp=Z,34nm,0.4s,mb5.7
YSS Yuzh-Sakhalins 37.89 25 *e*P **P 01 02 49.6 -0.8**
YSS pmax pmax
comp=Z,15nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 37.89 25 *e*P **P 01 02 49.7 -0.7**
CIT Chita 38.56 353 *e*P **P 01 02 56.1 +0.1**
CIT *e* pP 01 03 22.6 +0.6
CIT *e* 01 05 01.7
CIT pmax pmax
comp=Z,88nm,1.4s,mb5.4
ZAK Zakamensk 39.15 342⇓*i*P **P 01 03 00.4 -0.5**
ZAK pmax pmax
comp=Z,24nm,0.8s,mb5.1
AS31 Alice Springs 39.41 161 *e*P **P 01 03 02.8 -0.3**
AS31 *e*pP pP 01 03 28.5 -0.7
AS31 *e*S **S 01 08 52.1 -4.1**
ASAR Alice Springs 39.41 161 P **P 01 03 02.6 -0.5**
comp=Z,7.9nm,0.5s,mb4.8,baz=338,slow=7.0,SNR=120
ASAR pP pP 01 03 28.0 -1.2
comp=Z,28nm,0.8s,baz=338,slow=7.0,SNR=15
ASAR ScP ScP 01 08 46.1 -0.8
comp=Z,1.1nm,0.7s,baz=354,slow=3.4,SNR=4.6
ASAR S **S 01 08 54.1 -2.1**
comp=Z,3.5nm,0.9s,baz=349,slow=20,SNR=7.9
ASAR Alice Springs 39.41 161 P **P 01 03 02.7 -0.4**
ASAR *PP pP 01 03 28.0 -1.2
ASAR S **S 01 08 54.1 -2.1**
ASAR pmax pmax
comp=Z,8.0nm,0.5s
ASAR smax
comp=N,4.0nm,0.9s
ASPA Alice Springs 39.41 161 *e*P **P 01 03 02.8 -0.3**
ASPA *e*pP pP 01 03 28.5 -0.7
ASPA *e*S **S 01 08 52.1 -4.1**
TLY Talaya 40.20 344 P **P 01 03 10.0 +0.3**
comp=N,718nm,0.4s,mb6.8,SNR=7.7
TLY Talaya 40.20 344 *e*P **P 01 03 09.9 +0.2**
TLY pmax pmax
comp=Z,41nm,0.5s,mb5.5
TLY MLR MLR
comp=Z,198nm,20.0s
TLY Talaya 40.20 344 *e*P **P 01 03 10.0 +0.3**
NGP Nagpur 40.27 286 *e*P **P 01 03 10.4 +0.2**
NGP AMb AMB 01 03 11.6
comp=Z,41nm,0.8s,mb5.3
HYB Hyderabad 40.66 281 *i* P **P 01 03 14.5 +1.1**
HYB *e* pP 01 03 45.0 +5.4
HYB Hyderabad 40.66 281 *e*P **P 01 03 14.5 +1.1**
MOY Mondy 40.97 341 *e*P **P 01 03 16.5 +0.6**
MOY pmax pmax
comp=Z,76nm,2.8s,mb5.0
WMQ Urumqi 41.11 323⇑*i*P **P 01 03 18.3 +1.2**
WMQ AP pP 01 03 46.8 +3.5
WMQ XP sP 01 04 01.3 +4.9
WMQ PP PP 01 04 58.3 +4.1
WMQ PCP PcP 01 05 15.8 +1.3
WMQ PPP 01 05 32.3
WMQ SCP ScP 01 08 52.5 -1.1
WMQ PCS PcS 01 09 05.8 +0.1
WMQ S **S 01 09 21.8 +0.4**
WMQ XS sS 01 10 11.8 +5.0
WMQ SCS ScS 01 13 04.9 -4.5
WMQ AMB AMB
comp=Z,49nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,32nm,5.9s
WMQ LR LR
comp=N,191nm,18.4s
WMQ LR LR
comp=E,155nm,21.0s
WMQ LR LR
comp=Z,197nm,21.0s
BHPL Bhopal 41.93 289 *e*P **P 01 03 24.2 +0.4**
BHPL AMb AMB 01 03 25.2
comp=Z,40nm,0.6s,mb5.3
CTA Charters Tower 42.04 143 *e*P **P 01 03 25.9 +1.2**
comp=Z,5.4nm,0.6s,mb4.5
CTA *e*PCP PcP 01 05 19.5 +2.0
CTA Charters Tower 42.04 143 P **P 01 03 25.4 +0.7**
comp=Z,6.1nm,0.5s,mb4.6,baz=320,slow=10,SNR=16
CTA pP pP 01 03 50.3 -0.7
comp=Z,3.5nm,0.5s,baz=335,slow=11,SNR=2.5
CTA Charters Tower 42.04 143 *e*P **P 01 03 25.9 +1.2**
CTA *e* 01 05 19.5
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 42.04 143 *e*P **P 01 03 26.0 +1.3**
LATR Latur 42.54 282 *e*P **P 01 03 26.9 -1.9**
NDI New Delhi 42.87 297 *e*P **P 01 03 29.1 -2.3**
NDI AMb AMB 01 03 32.4
comp=Z,16nm,0.6s,mb4.9
SDNR Sundarnagar 43.68 301 *e*P **P 01 03 39.1 +1.2**
BOD Bodaibo 44.23 355 *e*P **P 01 03 41.6 -0.7**
BOD pmax pmax
comp=Z,15nm,1.6s,mb4.5
AJM Ajmer 44.78 294 *e*P **P 01 03 47.0 +0.3**
AJM AMb AMB 01 03 48.3
comp=Z,51nm,1.0s,mb5.2
KAD Karad 44.83 281 *e*P **P 01 03 46.4 -0.7**
FORT Forrest 44.88 171 *e*P **P 01 03 47.0 -0.5**
comp=Z,74nm,0.6s,mb5.6
FORT *e*pP pP 01 04 13.0 -1.1
FORT *e*PCP PcP 01 05 27.2 +0.1
POO Poona 45.11 282 *ex* x 01 03 47.0
KLBR Kellerberrin 45.21 183 *e*P **P 01 03 49.7 -0.4**
comp=Z,15nm,0.5s,mb5.0
MUN Mundaring 45.70 185 *e*P **P 01 03 53.7 -0.3**
MK31 Makanchi Array 45.94 324 *e*P **P 01 03 56.5 +0.7**
MK31 *e* 01 04 30.6
MKAR Makanchi Array 45.94 324 P **P 01 03 56.4 +0.6**
comp=Z,34nm,0.5s,mb5.3,baz=105,slow=10,SNR=340
MKAR LR LR 01 22 29.4
comp=Z,120nm,20.6s,baz=240,slow=35
MKAR Makanchi Array 45.94 324 P **P 01 03 56.4 +0.6**
MKAR LR LR 01 22 29.4
KSH Kashi 46.81 312⇑P **P 01 04 04.8 +2.2**
KSH *e*AP pP 01 04 32.8 +3.4
KSH *e*XP sP 01 04 47.0 +4.6
KSH *e*PCP PcP 01 05 36.3 +2.4
KSH *e*PP PP 01 05 54.6 +0.6
KSH *e*PPP 01 06 44.8
KSH *e*SCP ScP 01 09 16.6 -0.2
KSH *e*PCS PcS 01 09 26.0 -3.0
KSH *e*S **S 01 10 44.3 +0.1**
KSH *e*XS sS 01 11 34.1 +3.7
KSH *e*SCS ScS 01 13 42.6 -2.8
KSH *e*SS SS 01 14 05.4 -6.6
KSH LR LR
comp=N,1μm,5.8s
KSH LR LR
comp=E,1μm,5.1s
KSH LR LR
comp=Z,3μm,8.6s
ULHL Ulahol 47.63 315 P **P 01 04 10.7 +1.7**
SNR=63
KZA Kyzart 48.25 315 P **P 01 04 16.0 +2.3**
SNR=30
TKM2 Tokmak 2 48.33 316 P **P 01 04 15.9 +1.5**
SNR=52
YAK Yakutsk 48.60 6 *e*P **P 01 04 15.1 -1.4**
YAK pmax pmax
comp=Z,42nm,0.8s,mb5.4
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
KBK Karagaybulak 48.67 315 P **P 01 04 18.9 +1.9**
SNR=86
UCH Uchtor 48.81 315 P **P 01 04 20.3 +2.3**
SNR=137
CHMS Chumysh 48.94 316 P **P 01 04 19.9 +0.9**
SNR=37
ZAL Zalesovo 48.96 333 P **P 01 04 18.9 -0.4**
comp=E,36nm,0.4s,mb5.7,baz=352,slow=5.3,SNR=80
ZAL LR LR 01 25 40.9
comp=E,93nm,19.1s,baz=244,slow=37
ZAL Zalesovo 48.96 333 P **P 01 04 18.9 -0.3**
ZAL pmax pmax
comp=Z,36nm,0.4s
ZAL MLR MLR
comp=Z,93nm,19.1s
AAK Ala-Archa 48.97 315 P **P 01 04 19.2 -0.1**
comp=Z,274nm,0.6s,mb6.4,SNR=31
AAK Ala-Archa 48.97 315 P **P 01 04 21.0 +1.7**
SNR=39
AAK Ala-Archa 48.97 315⇑P **P 01 04 19.9 +0.6**
SNR=16
AAK Ala-Archa 48.97 315*c i*P **P 01 04 19.7 +0.4**
AAK pmax pmax
comp=Z,63nm,1.3s,mb5.4
AAK Ala-Archa 48.97 315 *e*P **P 01 04 19.9 +0.6**
USP Ospenovka 49.21 316 P **P 01 04 22.2 +1.1**
SNR=83
AML Almayashu 49.34 314 P **P 01 04 24.2 +2.0**
SNR=7.4
EKS2 Erkin-Say 49.48 315 P **P 01 04 24.8 +1.6**
SNR=13
STKA Stephens Creek 49.65 156 *e*P **P 01 04 23.7 -0.7**
comp=Z,2.8nm,0.4s,mb4.5
STKA *e*pP pP 01 04 50.3 -1.2
STKA Stephens Creek 49.65 156 P **P 01 04 23.4 -1.0**
comp=Z,3.4nm,0.6s,mb4.5,baz=350,slow=6.1,SNR=5.6
STKA pP pP 01 04 49.4 -2.1
comp=Z,12nm,0.7s,baz=322,slow=7.3,SNR=7.9
KURK Kurchatov 50.09 326 P **P 01 04 28.6 +0.8**
comp=Z,3μm,0.6s,SNR=48
KURK Kurchatov 50.09 326*c i*P **P 01 04 28.4 +0.6**
KURK Kurchatov 50.09 326 *e*P **P 01 04 28.6 +0.8**
NVS Novosibirsk 50.24 333 *e*P **P 01 04 28.5 -0.4**
NVS *i* pP 01 04 59.8 +3.8
NVS *e* 01 06 21.9
NVS pmax pmax
comp=Z,115nm,1.6s,mb5.6
NVS pmax pmax
comp=N,73nm,1.5s
NVS pmax pmax
comp=E,57nm,1.2s
SEY Seymchan 53.94 17 *e*P **P 01 04 55.4 -0.9**
BVAR Borovoye Array 55.68 326 P **P 01 05 09.2 +0.4**
comp=E,65nm,0.6s,mb5.8,baz=116,slow=8.3,SNR=369
BVAR Borovoye Array 55.68 326 P **P 01 05 09.2 +0.4**
BVAR pmax pmax
comp=Z,65nm,0.6s
BRVK Borovoye 55.75 326 P **P 01 05 09.4 +0.1**
comp=Z,1μm,0.8s,SNR=98
BRVK Borovoye 55.75 326⇑P **P 01 05 09.9 +0.6**
SNR=71
BRVK Borovoye 55.75 326⇑*i*P **P 01 05 09.4 +0.1**
CHKZ Chkalovo 55.84 327 *e*P **P 01 05 10.0 +0.1**
ZRNK Zerenda 56.41 325 *e*P **P 01 05 14.3 +0.3**
ZRNK pmax pmax
comp=Z,163nm,0.9s,mb6.1
ZRNK Zerenda 56.41 325 *e*P **P 01 05 14.3 +0.3**
comp=Z,163nm,0.9s,mb6.1
DZM Mont Dzumac 57.32 128 P **P 01 05 21.9 +1.4**
comp=Z,4.3nm,0.4s,mb4.8,baz=195,slow=15,SNR=14
DZM pP pP 01 05 47.6 -0.6
comp=Z,4.3nm,0.6s,baz=307,slow=23,SNR=2.4
AMKA Amchitka 59.91 38 *e*P **P 01 05 39.3 +0.9**
ABKT Ailbek 60.05 306 P **P 01 05 40.6 +1.3**
comp=Z,421nm,1.0s,mb6.4,SNR=34
BANOM Banah 61.21 292⇑P **P 01 05 48.4 +1.2**
HATD Hatta, Dubai 61.41 291⇑P **P 01 05 49.1 +0.6**
BILL Bilibino 61.63 18 *e*P **P 01 05 49.6 -0.5**
BILL pmax pmax
comp=Z,40nm,0.5s,mb5.7
BILL Bilibino 61.63 18 *e*P **P 01 05 49.7 -0.4**
ARU Arti 63.29 327 P **P 01 06 00.6 -0.5**
comp=Z,758nm,0.4s,SNR=30
ARU Arti 63.29 327⇑*i*P **P 01 06 00.5 -0.6**
ARU *e* pP 01 06 26.3 -3.0
ARU *e* 01 06 34.0
ARU *e* 01 08 18.6
ARU *e*S **S 01 14 24.8 +0.9**
ARU *e*SS SS 01 18 26.8 -5.5
ARU pmax pmax
comp=Z,35nm,0.6s,mb5.5
ARU Arti 63.29 327 *e*P **P 01 06 00.1 -0.9**
comp=Z,65nm,0.6s,mb5.7
GNI Garni 70.53 308 P **P 01 06 48.6 +1.7**
comp=Z,12nm,0.8s,mb4.8,baz=153,slow=5.2,SNR=11
GNI Garni 70.53 308 P **P 01 06 48.6 +1.7**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 70.53 308 *e*P **P 01 06 48.6 +1.7**
ZEI Tsey 71.09 311 *e*P **P 01 06 50.3 0.0**
ZEI *e**PP pP 01 07 19.5 +0.4
ZEI pmax pmax
comp=Z,36nm,0.9s,mb5.2
GOF Gofitskoye 71.66 313 *e*P **P 01 06 49.7 -4.0**
KIV Kislovodsk 71.94 312 P **P 01 06 56.4 +1.0**
comp=Z,612nm,0.7s,mb6.5,SNR=14
KIV Kislovodsk 71.94 312 P **P 01 06 56.7 +1.3**
SNR=6.8
KIV Kislovodsk 71.94 312 *e*P **P 01 06 55.6 +0.2**
KIV *e* 01 07 11.8
KIV *e**SP sP 01 07 38.6 +1.9
KIV *e*S S 01 16 04.6 -2.6
KIV pmax pmax
comp=Z,116nm,1.1s,mb5.6
KIV pmax pmax
comp=Z,304nm,2.8s,mb5.6
KIV Kislovodsk 71.94 312 *e*P **P 01 06 55.8 +0.4**
comp=Z,69nm,0.7s,mb5.6
VRHR Novokhopersk 72.52 320 *e*P **P 01 06 58.0 -0.9**
VRHR pmax pmax
comp=Z,80nm,0.8s,mb5.6
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.3s
VOR Voronezh 74.03 320 *e*P **P 01 07 07.0 -0.7**
VOR pmax pmax
comp=Z,190nm,1.4s,mb5.6
VRSR Storozhevoye 74.05 320 *e*P **P 01 07 07.1 -0.7**
VRSR pmax pmax
comp=Z,40nm,0.7s,mb5.3
VRSR pmax pmax
comp=N,8.0nm,0.6s
VRSR pmax pmax
comp=E,50nm,0.8s
MOS Moscow 74.81 324 *e*P **P 01 07 09.8 -2.5**
MOS *e* 01 11 53.2
MOS pmax pmax
comp=Z,88nm,0.6s,mb5.7
OBN Obninsk 75.44 324 P **P 01 07 15.8 -0.1**
comp=Z,778nm,0.5s,SNR=13
OBN Obninsk 75.44 324*c i*P **P 01 07 14.8 -1.1**
OBN *e* 01 07 25.2
OBN *i* pP 01 07 45.4 +0.5
OBN pmax pmax
comp=Z,56nm,0.6s,mb5.5
OBN Obninsk 75.44 324⇑*i*P **P 01 07 14.9 -1.0**
MALT Malatya 75.55 306⇑*i*P **P 01 07 18.0 +1.5**
MALT Malatya 75.55 306⇑P **P 01 07 18.1 +1.6**
ANN Anapa 75.65 313 *e*P **P 01 07 07.4 -10**
ANN *e**PP pP 01 07 36.0 -10
ANN *e**SS sS 01 17 24.7 -14
IMA2 Indian Mountai 75.74 25 *e*P **P 01 07 18.3 +0.7**
KDAK Kodiak Island 76.74 33 P **P 01 07 23.0 -0.2**
comp=Z,184nm,0.4s,mb6.2,SNR=19
KDAK Kodiak Island 76.74 33 P **P 01 07 23.6 +0.4**
ASF Jabal al Asfar 77.58 300 P **P 01 07 29.8 +1.9**
comp=Z,42nm,1.1s,mb5.1,baz=325,slow=3.5,SNR=39
ASF LR LR 01 44 08.5
comp=Z,60nm,18.9s,baz=295,slow=37
ASF Jabal al Asfar 77.58 300 P **P 01 07 29.8 +1.9**
ASF pmax pmax
comp=Z,42nm,1.1s
ASF MLR MLR
comp=Z,60nm,18.9s
ASF Jabal al Asfar 77.58 300 P **P 01 07 29.8 +1.9**
ASF LR LR 01 44 08.5
PMR Palmer 78.09 29 *e*P **P 01 07 30.3 -0.5**
PMR pmax pmax
comp=Z,35nm,0.6s,mb5.3
PMR Palmer 78.09 29 *e*P **P 01 07 30.3 -0.5**
comp=Z,35nm,0.6s,mb5.3
COLA College 78.27 26 *e*P **P 01 07 31.1 -0.6**
PUL Pulkovo 78.38 329⇓*e*P **P 01 07 32.1 -0.3**
PUL pmax pmax
comp=Z,58nm,0.6s,mb5.5
PUL Pulkovo 78.38 329 *e*P **P 01 07 31.8 -0.6**
KEV Kevo 78.43 339 *e*p **P 01 07 30.6 -2.0**
comp=Z,16nm,0.5s,mb5.0
KEV Kevo 78.43 339 *e*P **P 01 07 30.6 -2.0**
KEV pmax pmax
comp=Z,16nm,0.5s,mb5.0
MMAI Mount Meron Ar 78.70 301 LR LR 01 48 32.5
comp=Z,31nm,19.1s,baz=305,slow=40
ARCES ARCESS Array B 78.99 339 P **P 01 07 35.1 -0.6**
comp=Z,18nm,0.5s,mb5.1,baz=76,slow=7.0,SNR=171
ARCES LR LR 01 49 10.9
comp=Z,100nm,19.0s,baz=342,slow=41
ARE0 ARCESS Array S 78.99 339 *e*P **P 01 07 35.1 -0.5**
BRTR Keskin Array B 79.06 308 P **P 01 07 36.1 +0.1**
comp=Z,10nm,0.7s,mb4.8,baz=123,slow=3.8,SNR=47
BRTR Keskin Array B 79.06 308 P **P 01 07 36.1 0.0**
BRTR pmax pmax
comp=Z,10.0nm,0.7s
EIL Elat 79.63 298 *e*P **P 01 07 40.3 +1.1**
ANTO Ankara 79.68 309⇑*i*P **P 01 07 39.8 +0.4**
ANTO Ankara 79.68 309⇑P **P 01 07 39.8 +0.3**
KTK1 Kautokeino 79.88 339 *e*P **P 01 07 40.2 -0.3**
KTK1 AMb AMB 01 07 52.3
comp=Z,105nm,2.0s,mb5.3
KTK1 Kautokeino 79.88 339 *e*P **P 01 07 40.2 -0.3**
comp=Z,105nm,2.0s,mb5.3
CSS Prodhromos 80.08 304 *e*P **P 01 07 42.2 +0.7**
comp=Z,54nm,0.9s,mb5.4
FIA1 FINESS Array S 80.19 331 *e*P **P 01 07 41.3 -0.9**
FINES FINESS Array B 80.19 331 P **P 01 07 41.1 -1.0**
comp=Z,8.7nm,0.6s,mb4.8,baz=54,slow=7.4,SNR=64
FINES pP pP 01 08 08.7 -2.9
comp=Z,4.1nm,0.6s,baz=73,slow=6.6,SNR=3.2
FINES FINESS Array B 80.19 331 P **P 01 07 41.1 -1.1**
FINES *PP pP 01 08 08.7 -2.8
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES pmax pmax
comp=Z,4.0nm,0.6s
CASY Casey 80.19 184 *e*P **P 01 07 41.0 -1.2**
AKASG Malin Array Be 80.37 320 P **P 01 07 42.0 -1.2**
comp=Z,10nm,0.6s,mb4.8,baz=66,slow=5.2,SNR=38
AKASG PP PP 01 10 48.0 +0.5
comp=Z,0.4nm,0.3s,baz=68,slow=7.8,SNR=4.5
AKASG LR LR 01 44 13.5
comp=Z,68nm,18.8s,baz=295,slow=36
AKASG Malin Array Be 80.37 320 P **P 01 07 42.0 -1.1**
AKASG 01 10 48.0
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG MLR MLR
comp=Z,68nm,18.8s
AKBB Malin Array Si 80.37 320 *e*P **P 01 07 41.8 -1.3**
KIEV Kiev 80.38 320 *e*P **P 01 07 41.9 -1.3**
KIEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
KIEV Kiev 80.38 320 *e*P **P 01 07 41.9 -1.3**
comp=Z,8.8nm,0.8s,mb4.6
VSU Vasula 80.41 328 *e*P **P 01 07 42.5 -0.9**
EGAK Eagle 81.10 25 *e*P **P 01 07 47.1 +0.1**
comp=Z,15nm,0.6s,mb5.0
TRO Tromso 81.22 340 *e*P **P 01 07 45.6 -2.0**
TRO AMb AMB 01 07 59.4
comp=Z,116nm,2.1s,mb5.3
ISP Isparta 81.80 307 P **P 01 07 50.6 -0.1**
DAWY Dawson 82.02 26 *e*P **P 01 07 52.2 +0.4**
CFR Carcaliu 82.11 314 P **P 01 07 57.2 +4.8**
PSN Preselentsi 82.38 313 *i* P **P 01 07 53.8 +0.1**
VRI Vrincioaia 82.94 315⇑*i*P **P 01 07 57.1 +0.5**
VRI Vrincioaia 82.94 315 P **P 01 07 57.5 +0.9**
PLOR Plostina 83.00 315⇓*i*P **P 01 07 57.2 +0.3**
INK Inuvik 83.03 21 *e*P **P 01 07 56.7 -0.4**
PRD Provadia 83.04 313 *i* P **P 01 07 57.5 +0.3**
SUW Suwalki 83.31 324 *e*P **P 01 07 57.7 -0.8**
SUW Suwalki 83.31 324 *e*P **P 01 07 57.5 -1.0**
comp=Z,34nm,0.4s,mb5.5
SUW *e*P 01 07 57.7
MLR Muntele Rosu 83.56 315⇓*i*P **P 01 08 00.1 +0.3**
MLR Muntele Rosu 83.56 315 P **P 01 08 00.8 +1.0**
BURAR Bucovina Array 83.56 317⇑*i*P **P 01 08 00.1 +0.3**
JMB Yambol 83.79 312 *i* P **P 01 08 01.2 +0.2**
LVV L'vov 83.81 320 *i* P **P 01 08 00.0 -1.1**
KMBO Kilima Mbogo 83.86 267 P **P 01 08 04.0 +2.7**
comp=Z,9.2nm,0.9s,mb4.6,baz=50,slow=7.7,SNR=33
KMBO pP pP 01 08 30.6 -0.4
comp=Z,6.4nm,1.0s,baz=52,slow=8.0,SNR=5.2
KMBO Kilima Mbogo 83.86 267 P **P 01 08 04.3 +2.9**
SNR=8.7
KMBO Kilima Mbogo 83.86 267 P **P 01 08 04.1 +2.7**
KMBO *PP pP 01 08 30.6 -0.4
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO pmax pmax
comp=Z,6.0nm,1.0s
MOR8 Moi Rana 83.91 337⇑*i*P **P 01 07 59.3 -2.3**
MOR8 AMb AMB 01 08 02.8
comp=Z,31nm,1.5s,mb4.9

MOR8	**Moi Rana**	**83.91**	**337**	⇑*iP*	**P**	**01 07 59.3**	**-2.3**
	comp=Z,31nm,1.5s,mb4.9							
SZH	**Strazhica**	**84.07**	**313**	*i* P	**P**	**01 08 02.2**	**-0.2**
STOK	**Stokkvaagen**	**84.39**	**337**	⇑*iP*	**P**	**01 08 02.5**	**-1.6**
PVL	**Pavlikeni**	**84.51**	**313**	*i* P	**P**	**01 08 05.3**	**+0.7**
DIM	**Dimitrovgrad**	**84.64**	**312**	*i* P	**P**	**01 08 05.1**	**-0.2**
KWP	**Kalwaria**	**84.69**	**320**	*eP*	**P**	**01 08 05.8**	**+0.3**
KDZ	**Kurdzhali**	**84.82**	**311**	*i* P	**P**	**01 08 05.9**	**-0.3**
KOLS	**Kolonicke sedl**	**85.15**	**319**	*eP*	**P**	**01 08 07.6**	**-0.2**
UZH	**Uzhgorod**	**85.21**	**319**	*eP*	**P**	**01 08 06.4**	**-1.7**
UZH				*e*	pP	01 08 40.0	+2.2
UZH				*eS*	S	01 18 22.0	-6.7
CRAR	**CRAIOVA**	**85.32**	**314**	P	**P**	**01 08 09.3**	**+0.6**
RZN	**Rozhen**	**85.32**	**312**	*i* P	**P**	**01 08 08.2**	**-0.5**
DRGR		**85.42**	**317**	⇑*iP*	**P**	**01 08 09.4**	**+0.2**
DRGR		**85.42**	**317**	⇑P	**P**	**01 08 09.4**	**+0.2**
NSS	**Namsos**	**85.47**	**336**	*eP*	**P**	**01 08 06.7**	**-2.7**
RAR	**Rarotonga**	**85.47**	**113**	LR	LR	01 39 31.7		
	comp=Z,565nm,19.5s,baz=90,slow=31							
PGB	**Panagyurishte**	**85.50**	**313**	*i* P	**P**	**01 08 09.4**	**-0.2**
STHS	**Stebnicka Huta**	**85.67**	**320**	*i* P	**P**	**01 08 10.7**	**+0.3**
STHS				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.1							
STHS	**Stebnicka Huta**	**85.67**	**320**	*i* P	**P**	**01 08 10.7**	**+0.3**
	comp=Z,16nm,0.7s,mb5.1							
GZR	**Gura Zlata**	**85.75**	**316**	⇓*iP*	**P**	**01 08 10.8**	**0.0**
GZR	**Gura Zlata**	**85.75**	**316**	⇓P	**P**	**01 08 10.8**	**0.0**
MMB	**Musomiste**	**86.06**	**312**	*i* P	**P**	**01 08 11.5**	**-0.8**
VTS	**Vitosha**	**86.18**	**313**	⇑*iP*	**P**	**01 08 12.8**	**-0.1**
VTS	**Vitosha**	**86.18**	**313**	*i* P	**P**	**01 08 12.7**	**-0.2**
NIE	**Niedzica**	**86.25**	**320**	*eP*	**P**	**01 08 13.8**	**+0.5**
OJC	**Ojcow**	**86.33**	**321**	*eP*	**P**	**01 08 13.6**	**-0.1**
KECS	**Kecovo**	**86.41**	**319**	*i* P	**P**	**01 08 14.0**	**0.0**
KECS				*e*	pP	01 08 42.8	-1.0
KECS				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.1							
KECS	**Kecovo**	**86.41**	**319**	*i* P	**P**	**01 08 14.0**	**0.0**
	comp=Z,16nm,0.7s,mb5.1							
KECS				*e*	pP	01 08 42.8	-1.0
KKB	**Krupnik**	**86.46**	**312**	*i* P	**P**	**01 08 13.7**	**-0.6**
BZS	**Buzias**	**86.47**	**316**	⇑*iP*	**P**	**01 08 13.5**	**-0.9**
BZS	**Buzias**	**86.47**	**316**	P	**P**	**01 08 14.2**	**-0.2**
DAG	**Danmarks Havn**	**86.51**	**351**	⇑*iP*	**P**	**01 08 12.4**	**-2.2**
	comp=Z,2.5nm,0.4s,mb4.5							
DAG	**Danmarks Havn**	**86.51**	**351**	⇑*iP*	**P**	**01 08 12.4**	**-2.2**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.6							
PSZ	**Piszkesteto**	**86.95**	**319**	⇑*iP*	**P**	**01 08 16.7**	**0.0**
PSZ	**Piszkesteto**	**86.95**	**319**	⇑P	**P**	**01 08 16.7**	**0.0**
SVIS	**Svilajnac**	**87.11**	**315**	*i* P	**P**	**01 08 16.7**	**-0.7**
NB2	**NORSAR Subarra**	**87.16**	**333**	P	**P**	**01 08 16.0**	**-1.7**
	comp=Z,15nm,0.7s,mb5.0,baz=69,slow=4.8							
NOA	**NORSAR Array B**	**87.16**	**333**	P	**P**	**01 08 16.1**	**-1.6**
	comp=Z,12nm,0.7s,mb5.0,baz=68,slow=4.6,SNR=26							
NOA				pP	pP	01 08 44.2	-3.3	
	comp=Z,10.0nm,0.7s,baz=68,slow=4.6,SNR=7.3							
NOA				sP	sP	01 08 56.1	-3.6	
	comp=Z,7.2nm,0.8s,baz=68,slow=4.7,SNR=3.5							
NOA				PP	PP	01 11 39.9	-3.0	
	comp=Z,2.3nm,0.8s,baz=74,slow=8.7,SNR=4.5							
NOA				LR	LR	01 53 32.8		
	comp=Z,80nm,19.0s,baz=290,slow=40							
NOA	**NORSAR Array B**	**87.16**	**333**	P	**P**	**01 08 16.1**	**-1.6**
NOA				pP	pP	01 08 44.2	-3.3	
NOA				sP	sP	01 08 56.1	-3.6	
NOA				PP	PP	01 11 39.9	-3.0	
NOA				LR	LR	01 53 32.8		
VYHS	**Vyhne**	**87.45**	**319**	*eP*	**P**	**01 08 18.6**	**-0.5**
VYHS				pmax	pmax			
	comp=Z,21nm,1.8s,mb4.8							
VYHS	**Vyhne**	**87.45**	**319**	*eP*	**P**	**01 08 18.6**	**-0.5**
	comp=Z,21nm,1.8s,mb4.8							
OKC	**Ostrava-Krasne**	**87.47**	**321**	*eP*	**P**	**01 08 19.1**	**-0.1**
GRUS	**Gruza**	**87.47**	**315**	*i* P	**P**	**01 08 19.0**	**-0.7**
MORC	**Moravsky Berou**	**87.86**	**321**	⇑*iP*	**P**	**01 08 20.9**	**-0.1**
MORC	**Moravsky Berou**	**87.86**	**321**	⇑P	**P**	**01 08 20.9**	**-0.2**
DIVS	**Divcibare**	**88.01**	**315**	*i* P	**P**	**01 08 21.4**	**-0.4**
KSP	**Ksiaz**	**88.26**	**322**	*eP*	**P**	**01 08 23.1**	**+0.2**
KSP	**Ksiaz**	**88.26**	**322**	*eP*	**P**	**01 08 22.2**	**-0.7**
PKSM	**Moragy**	**88.28**	**317**	⇓*iP*	**P**	**01 08 24.0**	**+1.0**
PKSM	**Moragy**	**88.28**	**317**	P	**P**	**01 08 22.5**	**-0.6**
DPC	**Dobruska-Polom**	**88.41**	**322**	*eP*	**P**	**01 08 23.8**	**+0.2**
UPC	**Upice**	**88.54**	**322**	*eP*	**P**	**01 08 24.2**	**-0.1**
VRAC	**Vranov**	**88.59**	**321**	⇓*iP*	**P**	**01 08 24.6**	**+0.1**
VRAC	**Vranov**	**88.59**	**321**	P	**P**	**01 08 25.0**	**+0.5**
RES	**Resolute Bay**	**88.95**	**9**	*eP*	**P**	**01 08 25.9**	**-0.3**
CONA	**Conrad Observa**	**89.52**	**319**	⇑*eP*	**P**	**01 08 28.8**	**-0.1**
	comp=Z,5.6nm,1.2s,mb4.6							
PRU	**Pruhonice**	**89.61**	**322**	*eP*	**P**	**01 08 28.4**	**-0.9**
BRG	**Berggiesshubel**	**89.64**	**323**	*i* P	**P**	**01 08 28.9**	**-0.5**
	comp=Z,13nm,1.3s,mb4.9							
BRG				*i* pP	pP	01 09 01.4	+2.0	
	comp=Z,6.9nm,0.9s							
BRG				*e*PP	PP	01 12 07.9	+5.2	
	comp=Z,16nm,1.9s							
BRG				*e*		01 19 31.4		
	comp=Z,1.7nm,0.9s							
CLL	**Collm**	**90.03**	**323**	*i* P	**P**	**01 08 30.5**	**-0.7**
CLL				*e**PP	pP	01 08 59.0	-2.2	
CLL				pmax	pmax			
	comp=Z,21nm,1.4s,mb5.1							
CLL	**Collm**	**90.03**	**323**	*i* P	**P**	**01 08 30.5**	**-0.7**
	comp=Z,21nm,1.4s,mb5.1							
CLL				*e*pP	pP	01 08 59.0	-2.2	
PERS	**Pernice**	**90.44**	**318**	*eP*	**P**	**01 08 32.8**	**-0.3**
KHC	**Kasperske Hory**	**90.51**	**321**	*eP*	**P**	**01 08 32.9**	**-0.5**
KHC	**Kasperske Hory**	**90.51**	**321**	*eP*	**P**	**01 08 33.0**	**-0.4**
GERES	**GERESS Array B**	**90.54**	**321**	P	**P**	**01 08 32.3**	**-1.3**
	comp=Z,4.1nm,0.8s,mb4.6,baz=68,slow=5.0,SNR=14							
GERES				pP	pP	01 09 01.7	-1.8	
	comp=Z,1.9nm,0.8s,baz=74,slow=4.7,SNR=4.2							
GERES				LR	LR	01 51 33.0		
	comp=Z,128nm,18.7s,baz=54,slow=37							
GERES	**GERESS Array B**	**90.54**	**321**	P	**P**	**01 08 32.3**	**-1.3**
GERES				**PP*	pP	01 09 01.7	-1.8	
GERES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GERES				MLR	MLR			
	comp=Z,128nm,18.7s							
MOA	**Molln**	**90.55**	**320**	⇑*iP*	**P**	**01 08 33.7**	**0.0**
	comp=Z,22nm,1.0s,mb5.2							
BOJS	**Bojanci**	**90.75**	**317**	*eP*	**P**	**01 08 34.6**	**0.0**
NKC	**Novy Kostel**	**90.77**	**322**	*eP*	**P**	**01 08 34.7**	**0.0**
OBKA	**Obir**	**90.85**	**318**	⇑*iP*	**P**	**01 08 34.8**	**-0.3**
	comp=Z,12nm,1.1s,mb4.9							
VISS	**Visnje**	**90.92**	**318**	*i* P	**P**	**01 08 35.2**	**-0.1**
MOX	**Moxa**	**91.10**	**323**	*eP*	**P**	**01 08 36.6**	**+0.4**
	comp=Z,32nm,1.8s,mb5.2							
MOX	**Moxa**	**91.10**	**323**	*eP*	**P**	**01 08 36.6**	**+0.4**
MOX				pmax	pmax			
	comp=Z,32nm,1.8s,mb5.2							
MAW	**Mawson**	**91.16**	**199**	*eP*	**P**	**01 08 36.4**	**-0.1**
	comp=Z,11nm,1.8s,mb4.7							
MAW	**Mawson**	**91.16**	**199**	*eP*	**P**	**01 08 36.4**	**-0.1**
MAW				pmax	pmax			
	comp=Z,11nm,1.8s							
ROBS	**Robic**	**91.62**	**318**	*eP*	**P**	**01 08 37.5**	**-1.1**
GRA1	**Grafenberg Arr**	**91.71**	**322**	*eP*	**P**	**01 08 38.9**	**-0.1**
	comp=Z,74nm,1.9s,mb5.6							
GRA1				*e*pP	pP	01 09 06.8	-2.2	
GRA1				*e*sP	sP	01 09 16.2	-5.0	
GRF	**Grafenberg Arr**	**91.71**	**322**	*eP*	**P**	**01 08 38.9**	**-0.1**
	comp=Z,74nm,1.9s,mb5.6							
GRF				*e*pP	pP	01 09 06.8	-2.2	
GRF				*e*sP	sP	01 09 16.2	-5.0	
GRF	**Grafenberg Arr**	**91.71**	**322**	*eP*	**P**	**01 08 38.9**	**-0.1**
GRF				*e**PP	pP	01 09 06.8	-2.2	
GRF				pmax	pmax			
	comp=Z,74nm,1.9s,mb5.6							
WTTA	**Wattenberg**	**92.42**	**320**	⇑*iP*	**P**	**01 08 42.0**	**-0.3**
	comp=Z,35nm,1.2s,mb5.5							
WTTA	**Wattenberg**	**92.42**	**320**	⇑*iP*	**P**	**01 08 42.0**	**-0.3**
WTTA				pmax	pmax			
	comp=Z,35nm,1.2s,mb5.5							
WATA	**Walderalm**	**92.43**	**320**	⇑*iP*	**P**	**01 08 41.8**	**-0.6**
	comp=Z,6.9nm,0.7s,mb5.0							
WATA	**Walderalm**	**92.43**	**320**	⇑*iP*	**P**	**01 08 41.8**	**-0.5**
WATA				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb5.0							
SQTA	**Sankt Quirin**	**92.71**	**320**	⇑*iP*	**P**	**01 08 43.2**	**-0.4**
	comp=Z,7.2nm,0.5s,mb5.2							
SQTA	**Sankt Quirin**	**92.71**	**320**	⇑*iP*	**P**	**01 08 43.2**	**-0.4**
SQTA				pmax	pmax			
	comp=Z,7.0nm,0.5s,mb5.2							
SQTA	**Sankt Quirin**	**92.71**	**320**	⇑*iP*	**P**	**01 08 43.2**	**-0.4**
	comp=Z,7.2nm,0.5s,mb5.3							
YKA	**Yellowknife Ar**	**92.71**	**22**	P	**P**	**01 08 43.4**	**-0.2**
	comp=Z,4.8nm,0.4s,mb5.2,baz=308,slow=4.4,SNR=44							
YKA				PKKPbc	PKKPbc	01 25 53.3	-1.3	
	comp=Z,2.1nm,0.9s,baz=132,slow=3.0,SNR=5.9							
YKA				LR	LR	01 53 33.9		
	comp=Z,38nm,18.7s,baz=205,slow=37							
YKA	**Yellowknife Ar**	**92.71**	**22**	P	**P**	**01 08 43.4**	**-0.2**
YKA						01 25 53.3		
YKA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
YKA				MLR	MLR			
	comp=Z,38nm,18.7s							
YKA	**Yellowknife Ar**	**92.71**	**22**	P	**P**	**01 08 43.4**	**-0.2**
YKA				PKKPbc	PKKPbc	01 25 53.3	-1.3	
YKA				LR	LR	01 53 33.9		
MOTA	**Moosalm**	**92.72**	**320**	⇑*iP*	**P**	**01 08 43.1**	**-0.6**
	comp=Z,21nm,1.0s,mb5.4							
MOTA	**Moosalm**	**92.72**	**320**	⇑*iP*	**P**	**01 08 43.1**	**-0.6**
MOTA				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.4							
DAVA	**Damuels**	**93.51**	**320**	⇓*iP*	**P**	**01 08 47.0**	**-0.3**
	comp=Z,12nm,1.0s,mb5.2							
PPT	**Papeete**	**93.86**	**107**	*eS*	S	01 20 01.0	+12	
	comp=Z,78nm,25.8s							
PPT				*e*LR	LR	01 39 03.8		
	comp=Z,251nm,34.0s							
VNDA	**Vanda**	**94.14**	**172**	P	**P**	**01 08 49.2**	**-1.0**
	comp=Z,2.7nm,0.8s,mb4.6,baz=302,slow=5.4,SNR=15							
VNDA				pP	pP	01 09 17.1	-3.0	
	comp=Z,1.6nm,0.8s,baz=311,slow=6.4,SNR=4.0							
VNDA	**Vanda**	**94.14**	**172**	P	**P**	**01 08 49.2**	**-1.0**
VNDA				**PP*	pP	01 09 17.2	-3.0	
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CDF	**Champ du Feu**	**94.60**	**322**	*eP*	**P**	**01 08 51.8**	**-0.5**
	comp=Z,30nm,1.2s,mb5.3							
CDF	**Champ du Feu**	**94.60**	**322**	*eP*	**P**	**01 08 51.8**	**-0.5**
CDF				pmax	pmax			
	comp=Z,15nm,1.2s,mb5.3							
CDF	**Champ du Feu**	**94.60**	**322**	*eP*	**P**	**01 08 51.8**	**-0.5**
	comp=Z,15nm,1.2s,mb5.3							
HINF	**Hinteralfeld**	**95.12**	**322**	*eP*	**P**	**01 08 53.8**	**-0.9**
	comp=Z,39nm,1.5s,mb5.3							
HINF	**Hinteralfeld**	**95.12**	**322**	*eP*	**P**	**01 08 53.8**	**-0.9**
HINF				pmax	pmax			
	comp=Z,20nm,1.5s,mb5.3							
HINF	**Hinteralfeld**	**95.12**	**322**	*eP*	**P**	**01 08 53.8**	**-0.9**
	comp=Z,20nm,1.5s,mb5.3							
GIVF	**Givet**	**95.25**	**324**	*eP*	**P**	**01 08 54.8**	**-0.5**
TBI	**Tubuai**	**95.25**	**113**	*e*LR	LR	01 39 43.7		
	comp=Z,149nm,34.8s							
HAU	**Haudompre**	**95.34**	**322**	*eP*	**P**	**01 08 54.7**	**-1.0**
	comp=Z,22nm,1.1s,mb5.2							
HAU	**Haudompre**	**95.34**	**322**	*eP*	**P**	**01 08 54.7**	**-1.0**
HAU				pmax	pmax			
	comp=Z,11nm,1.1s,mb5.2							
HAU	**Haudompre**	**95.34**	**322**	*eP*	**P**	**01 08 54.7**	**-1.0**
	comp=Z,11nm,1.1s,mb5.2							
BAIF	**Baives**	**95.61**	**325**	*eP*	**P**	**01 08 56.7**	**-0.3**
LSZ	**Lusaka**	**95.88**	**256**	*eP*	**P**	**01 08 58.7**	**+0.5**
LSZ				pmax	pmax			
	comp=Z,20nm,1.6s,mb5.3							
LSZ	**Lusaka**	**95.88**	**256**	*eP*	**P**	**01 08 58.7**	**+0.6**
	comp=Z,20nm,1.6s,mb5.3							
PGF	**Pioggiola**	**96.05**	**316**	*eP*	**P**	**01 08 58.3**	**-0.6**
	comp=Z,28nm,0.8s,mb5.4							
PGF	**Pioggiola**	**96.05**	**316**	*eP*	**P**	**01 08 58.3**	**-0.6**
PGF				pmax	pmax			
	comp=Z,14nm,0.8s,mb5.4							
PGF	**Pioggiola**	**96.05**	**316**	*eP*	**P**	**01 08 58.3**	**-0.6**
	comp=Z,14nm,0.8s,mb5.4							
LPG	**La Plagne**	**96.23**	**320**	*eP*	**P**	**01 08 59.7**	**-0.1**
LPL	**La Plagne**	**96.24**	**320**	*eP*	**P**	**01 08 59.7**	**-0.1**
	comp=Z,13nm,0.7s,mb5.2							
LPL	**La Plagne**	**96.24**	**320**	*eP*	**P**	**01 08 59.7**	**-0.1**
LPL				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb5.1							
LPL	**La Plagne**	**96.24**	**320**	*eP*	**P**	**01 08 59.7**	**-0.1**
	comp=Z,6.4nm,0.7s,mb5.2							
SBF	**Sospel**	**96.52**	**318**	*eP*	**P**	**01 09 00.0**	**-1.1**
	comp=Z,23nm,0.9s,mb5.3							
SBF	**Sospel**	**96.52**	**318**	*eP*	**P**	**01 09 00.0**	**-1.1**
SBF				pmax	pmax			
	comp=Z,11nm,0.9s,mb5.3							
SBF	**Sospel**	**96.52**	**318**	*eP*	**P**	**01 09 00.0**	**-1.1**
	comp=Z,11nm,0.9s,mb5.3							
MBDF	**Montbardon**	**96.56**	**319**	*eP*	**P**	**01 09 02.2**	**+0.9**
	comp=Z,5.0nm,0.7s,mb4.7							
MBDF	**Montbardon**	**96.56**	**319**	*eP*	**P**	**01 09 02.2**	**+0.9**
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.8							
MBDF	**Montbardon**	**96.56**	**319**	*eP*	**P**	**01 09 02.2**	**+0.9**
	comp=Z,2.5nm,0.7s,mb4.8							
ORIF	**Oris-en-Rattie**	**97.04**	**319**	*eP*	**P**	**01 09 02.9**	**-0.5**
	comp=Z,14nm,0.8s,mb5.1							
ORIF	**Oris-en-Rattie**	**97.04**	**319**	*eP*	**P**	**01 09 02.9**	**-0.5**
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.1							
ORIF	**Oris-en-Rattie**	**97.04**	**319**	*eP*	**P**	**01 09 02.9**	**-0.5**
	comp=Z,7.0nm,0.8s,mb5.1							
FRF	**La Foret Royal**	**97.17**	**318**	*eP*	**P**	**01 09 03.9**	**-0.1**
	comp=Z,11nm,0.7s,mb5.1							
FRF	**La Foret Royal**	**97.17**	**318**	*eP*	**P**	**01 09 03.9**	**-0.1**
FRF				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb5.1							
FRF	**La Foret Royal**	**97.17**	**318**	*eP*	**P**	**01 09 03.9**	**-0.1**
	comp=Z,5.6nm,0.7s,mb5.1							
CAF	**Calviac**	**99.42**	**321**	*eP*	Pdif	01 09 13.9	-0.2	
	comp=Z,26nm,1.4s							
CAF	**Calviac**	**99.42**	**321**	*eP*	Pdif	01 09 13.9	-0.2	
CAF				pmax	pmax			
	comp=Z,13nm,1.4s,mb5.3							
CAF	**Calviac**	**99.42**	**321**	*eP*	Pdif	01 09 13.9	-0.2	
	comp=Z,13nm,1.4s							
RJF	**Les Rejaudoux**	**99.56**	**321**	*eP*	Pdif	01 09 14.5	-0.2	
	comp=Z,20nm,1.3s							
RJF	**Les Rejaudoux**	**99.56**	**321**	*eP*	Pdif	01 09 14.5	-0.2	
RJF				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb5.3							
RJF	**Les Rejaudoux**	**99.56**	**321**	*eP*	Pdif	01 09 14.5	-0.2	
	comp=Z,10nm,1.3s							
MTLF	**Montolieu**	**100.11**	**319**	*eP*	Pdif	01 09 16.7	-0.5	
ESDC	**Sonseca Array**	**105.99**	**319**	PP	PP	01 14 07.2	-0.6	
	comp=Z,1.4nm,0.8s,baz=52,slow=8.3,SNR=5.4							
MSKU	**Masuku**	**106.95**	**272**	*e*Pdif	Pdif	01 09 47.3	-0.2	
	comp=Z,0.6nm,0.8s							
RKT	**Rikitea**	**108.33**	**110**	*e*LR	LR	01 45 46.4		
	comp=Z,108nm,37.0s							
TORD	**Torodi Ar. Bea**	**113.88**	**291**	PKiKP	PKiKP	01 14 09.3	-0.4	
	comp=Z,0.7nm,0.6s,baz=48,slow=2.1,SNR=19							
TORD				PKKPbc	PKKPbc	01 24 51.7	-0.2	
	comp=Z,0.7nm,0.6s,baz=270,slow=2.9,SNR=9.8							
TORD				PKKPab	PKKPab	01 25 00.6	+1.5	
	comp=Z,2.5nm,0.6s,baz=262,slow=3.6,SNR=18							
TXAR	**Lajitas Array**	**119.44**	**44**	PKP	PKPdf	01 14 21.2	+0.7	
	comp=Z,0.7nm,0.6s,baz=194,slow=1.2,SNR=15							
TXAR				pPKP	pPKPdf	01 14 50.3	-1.4	
	comp=Z,0.6nm,0.6s,baz=217,slow=1.2,SNR=4.3							
TXAR				PKKP	PKKPdf	01 25 04.2	+1.2	
	comp=Z,0.3nm,0.8s,baz=101,slow=6.5,SNR=4.0							
WVT	**Waverly**	**123.52**	**28**	*e*PKIKP	PKPdf	01 14 28.3	0.0	
MTP	**Monte Pirata**	**147.73**	**11**	PKP	PKPdf	01 15 16.0	+3.2	
LPAZ	**La Paz**	**171.15**	**107**	PKPab	PKPab	01 17 03.8	+4.4	
	comp=Z,7.8nm,0.9s,baz=267,slow=3.5,SNR=19							

BJI 14 01:00:16.1, 2723N×11169E, h24km, ML4.2, Ms3.8, Msz3.8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**4.55**	**261**	P	Pn	01 01 26.3	+2.8
GYA				PG	Pn	01 01 39.8	+16
GYA				S	Sn	01 02 17.3	+1.6
GYA				SG	Sn	01 02 35.5	+20
GYA				Smax			
	comp=N,210nm,0.8s						
GYA				Smax			
	comp=E,170nm,0.8s						
GYA				LR	LR		
	comp=N,640nm,8.3s						
GYA				LR	LR		
	comp=E,540nm,5.2s						
GYA				LR	LR		
	comp=Z,510nm,6.0s						
QZH	**Quanzhou**	**6.61**	**109**	*e*P	Pn	01 01 56.0	+4.3
QZH				S	Sn	01 03 13.8	+7.5
QZH				Smax			
	comp=N,260nm,0.8s						
QZH				Smax			
	comp=E,300nm,1.0s						
QZH				LR	LR		
	comp=N,1μm,11.9s						
QZH				LR	LR		
	comp=E,570nm,12.2s						
QZH				LR	LR		
	comp=Z,1μm,15.2s						

*ISCJB **14** 01:16:35.5±0.6, 37.15S±0.09×96.1W±0.1, h10km, mb4.0/13, MS3.8/7, Error ellipse: s-maj=16.9km s-min=12.2km az=20.9*

*IDC **14** 01:16:36.1±1.1, 37.11S×96.07W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.3/13, mbtmp4.1/7, MS3.6/8, Ms1 3.7/8, ms1mx3.6/16, Error ellipse: s-maj=29.8km s-min=24.7km az=178.0*

*NEIC **14** 01:16:37.3±0.5, 37.11S×96.05W, h10km, mb4.2/6, Error ellipse: s-maj=13.7km s-min=9.9km az=95.0*

ISC 14 01:16:37.2±0.6, 3717S±008×961W±01, h10km, n25, σ0s75/21, mb4.0/13, MS3.8/7, 1C-1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**23.62**	**85**	P	**P**	**01 21 48.1**	**-0.4**
	0.6nm,0.8s,mb3.1,baz=245,slow=9.3,SNR=10						
CFAA				LR	LR	01 28 50.3	
	comp=Z,19nm,21.1s,baz=256,slow=31						
USHA	**Ushuaia**	**25.85**	**142**	LR	LR	01 30 22.1	
	comp=Z,146nm,18.6s,MS3.5,baz=270,slow=32						
TRQA	**Tornquist**	**26.97**	**102**	*eP*	**P**	**01 22 19.3**	**+0.4**
	6.2nm,1.0s,mb4.1						
LVC	**Limon Verde**	**27.56**	**66**	P	**P**	**01 22 24.7**	**+0.5**
	2.0nm,0.8s,mb3.8,baz=199,slow=16,SNR=2.1						
LVC				LR	LR	01 30 21.3	
	comp=Z,228nm,21.7s,MS3.7,baz=206,slow=30						
LVC	**Limon Verde**	**27.56**	**66**	*eP*	**P**	**01 22 31.2**	**+7.0**
	3.5nm,0.5s,mb4.2						
LPAZ	**La Paz**	**32.31**	**57**	P	**P**	**01 23 07.5**	**+1.2**
	4.6nm,0.9s,mb4.3,baz=211,slow=9.9,SNR=11						
LPAZ				LR	LR	01 32 21.3	
	comp=Z,69nm,21.7s,MS3.3,baz=259,slow=29						
SIV	**San Ignacio**	**37.46**	**65**	P	**P**	**01 23 51.0**	**+0.3**
	1.2nm,0.7s,mb3.8,baz=215,slow=16,SNR=3.2						
OTAV	**Otavalo**	**40.65**	**28**	*eP*	**P**	**01 24 17.0**	**-0.4**
	3.2nm,0.9s,mb4.0						
SAML	**Samuel**	**40.94**	**55**	*eP*	**P**	**01 24 19.1**	**-0.7**
	2.3nm,0.7s,mb3.9						
HOPE	**Hope Point**	**43.60**	**133**	*eP*	**P**	**01 24 40.8**	**-0.7**
	200nm,1.4s						
ROSC	**El Rosal**	**46.48**	**31**	LR	LR	01 42 10.9	
	comp=Z,109nm,20.1s,MS3.8,baz=167,slow=33						
SDV	**Santo Domingo**	**51.66**	**33**	*eP*	**P**	**01 25 44.8**	**+0.7**
	1.1nm,0.4s,mb4.1						
SBA	**Scott Base**	**55.47**	**195**	*eP*	**P**	**01 26 12.2**	**+0.3**
	5.2nm,1.0s,mb4.5						
SNAA	**Sanae**	**56.20**	**158**	P	**P**	**01 26 17.2**	**-0.1**
VNDA	**Vanda**	**56.57**	**195**	P	**P**	**01 26 20.3**	**+0.4**
	1.2nm,1.0s,mb3.9,baz=95,slow=9.8,SNR=4.8						
VNDA				LR	LR	01 45 57.5	
	comp=Z,94nm,20.6s,MS3.9,baz=294,slow=31						
TEIG	**Tepich**	**57.56**	**9**	P	**P**	**01 26 24.7**	**-2.2**
TXAR	**Lajitas Array**	**66.53**	**353**	P	**P**	**01 27 27.0**	**-0.2**
	1.4nm,0.9s,mb4.0,baz=176,slow=8.1,SNR=9.9						
SYO	**Syowa Base**	**69.20**	**164**	⇑*eP*	**P**	**01 27 43.6**	**-0.4**
SYO	**Syowa Base**	**69.20**	**164**	⇓*eP*	**P**	**01 27 50.6**	**+6.6**
**MA

az=152.0

ISC 14 01:39:16.5±0.6, 3899N×003×7062E±006, h59km±9km, n43, σ1°26/52, mb3.8/6, MS3.8/1, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.91**	**36**	P	**Pn**	**01 40 14.7**	**+0.6**
	SNR=35						
KK31	**Karatay Array**	**4.11**	**359**	Pn	**Pn**	**01 40 18.4**	**+1.7**
	6.6nm,0.3s,baz=184,slow=12,SNR=300						
KK31				⇑Sn	**Sn**	**01 41 08.4**	**+4.9**
	12nm,0.3s,baz=158,slow=18,SNR=4.2						
KK31				⇑Lg		01 41 22.4	
	28nm,0.4s,baz=172,slow=30,SNR=7.2						
EKS2	**Erkin-Say**	**4.38**	**32**	P	**Pn**	**01 40 21.6**	**+1.1**
	SNR=29						
UCH	**Uchtor**	**4.38**	**41**	P	**Pn**	**01 40 21.1**	**+0.6**
	SNR=48						
AAK	**Ala-Archa**	**4.68**	**38**	P	**Pn**	**01 40 25.5**	**+1.0**
	SNR=66						
AAK	**Ala-Archa**	**4.68**	**38**	*e*Pn	**Pn**	**01 40 24.3**	**-0.2**
AAK				*e*Sn	**Sn**	**01 41 15.1**	**-2.3**
KZA	**Kyzart**	**4.68**	**47**	P	**Pn**	**01 40 25.2**	**+0.6**
	SNR=13						
KBK	**Karagaybulak**	**4.92**	**40**	P	**Pn**	**01 40 29.1**	**+1.4**
	SNR=64						
CHMS	**Chumysh**	**5.08**	**37**	P	**Pn**	**01 40 30.8**	**+0.8**
	SNR=15						
USP	**Ospenovka**	**5.18**	**33**	P	**Pn**	**01 40 31.5**	**+0.1**
	SNR=39						
CEP	**Cherat**	**5.26**	**168**	P	**Pn**	**01 40 37.8**	**+5.3**
CEP				S	**Sn**	**01 41 32.0**	**+0.2**
ULHL	**Ulahol**	**5.37**	**51**	P	**Pn**	**01 40 33.6**	**-0.5**
	SNR=11						
TKM2	**Tokmak 2**	**5.44**	**42**	P	**Pn**	**01 40 35.3**	**+0.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**5.44**	**42**	⇑Pn	**Pn**	**01 40 34.9**	**-0.1**
	1.6nm,0.6s						
TKM2				⇓Lg		01 42 05.0	
	1.7nm,0.6s						
CHCP	**Chirah Chowk**	**5.73**	**157**	⇑P	**Pn**	**01 40 43.0**	**+4.0**
THW	**Thamme Wali**	**6.25**	**171**	P	**Pn**	**01 40 45.9**	**-0.2**
THW				S	**Sn**	**01 41 55.0**	**-1.1**
MK31	**Makanchi Array**	**11.57**	**44**	*e*P	**Pn**	**01 41 57.7**	**-1.1**
MKAR	**Makanchi Array**	**11.57**	**44**	Pn	**Pn**	**01 41 57.2**	**-1.6**
	0.4nm,0.3s,baz=230,slow=11,SNR=29						
MKAR				Lg		01 45 13.4	
	0.2nm,0.3s,baz=212,slow=27,SNR=3.3						
AB31	**Akbulak array**	**12.80**	**327**	⇑Pn	**Pn**	**01 42 14.0**	**-1.5**
	1.7nm,0.5s,baz=138,slow=11,SNR=51						
AB31				⇓Sn	**Sn**	**01 44 34.5**	**-1.8**
	3.0nm,0.5s,baz=135,slow=24,SNR=3.8						
KURK	**Kurchatov**	**13.01**	**23**	P	**Pn**	**01 42 20.8**	**+2.3**
ZRNK	**Zerenda**	**14.01**	**356**	*e*P	**Pn**	**01 42 34.1**	**+2.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**14.01**	**356**	*e*Pn	**Pn**	**01 42 34.1**	**+2.3**
	comp=Z,2.2nm,0.6s						
BVA0	**Borovoye Array**	**14.04**	**359**	P	**Pn**	**01 42 30.3**	**-2.0**
	comp=Z,1.4nm,2.4s,baz=166,slow=11,SNR=4.1						
BVAR	**Borovoye Array**	**14.04**	**359**	Pn	**Pn**	**01 42 31.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=163,slow=12,SNR=5.3						
BVAR				Sn	**Sn**	**01 45 05.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=169,slow=24,SNR=6.2						
BVAR				Lg		01 46 39.5	
	comp=Z,0.1nm,0.3s,baz=180,slow=26,SNR=2.8						
BVAR	**Borovoye Array**	**14.04**	**359**	P	**Pn**	**01 42 31.0**	**-1.3**
BVAR						01 45 05.5	
BVAR	**Borovoye Array**	**14.04**	**359**	Pn	**Pn**	**01 42 31.0**	**-1.3**
BVAR				Sn	**Sn**	**01 45 05.5**	**-1.0**
BVAR				Lg		01 46 39.5	
AKTK	**Aktyubinsk**	**14.51**	**326**	Pn	**Pn**	**01 42 38.1**	**-0.4**
AKTK				Sn	**Sn**	**01 45 18.8**	**+0.9**
AKTO	**Aktyubinsk**	**14.51**	**326**	⇓Pn	**Pn**	**01 42 38.6**	**+0.2**
	comp=Z,0.3nm,1.3s						
AKTO				⇑Sn	**Sn**	**01 45 17.6**	**-0.3**
	comp=Z,1.0nm,1.9s						
AKTO	**Aktyubinsk**	**14.51**	**326**	Pn	**Pn**	**01 42 38.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=128,slow=14,SNR=6.7						
AKTO				Sn	**Sn**	**01 45 18.8**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=134,slow=15,SNR=6.9						
AKTO	**Aktyubinsk**	**14.51**	**326**	P	**Pn**	**01 42 38.1**	**-0.3**
AKTO						01 45 18.8	
AKTO				smax			
	comp=N,1.0nm,0.3s						
ZAL	**Zalesovo**	**17.80**	**28**	P	**Pn**	**01 43 18.2**	**-1.8**
	comp=N,0.6nm,0.3s,baz=272,slow=8.6,SNR=6.4						
ZAL				LR	LR	01 50 09.5	
	comp=N,59nm,18.6s,baz=2.0,slow=37						
LSA	**Lhasa**	**19.29**	**113**	P	**Pn**	**01 43 32.2**	**-5.7**
SONM	**Songino Array**	**27.25**	**59**	P	**P**	**01 44 56.9**	**+2.0**
	comp=N,0.4nm,0.6s,mb3.1,baz=264,slow=10.0,SNR=3.1						
YAK	**Yakutsk**	**42.14**	**37**	*e*P	**P**	**01 47 03.8**	**+0.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.4s,mb4.9						
YAK	**Yakutsk**	**42.14**	**37**	*e*P	**P**	**01 47 03.8**	**+0.9**
	comp=Z,13nm,0.4s,mb4.9						
NOA	**NORSAR Array B**	**42.23**	**321**	P	**P**	**01 47 08.9**	**+5.2**
	comp=Z,0.6nm,0.7s,mb3.3,baz=107,slow=7.9,SNR=3.1						
STU	**Stuttgart**	**44.23**	**304**	*e*P	**P**	**01 47 23.3**	**+3.5**
STU				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
STU	**Stuttgart**	**44.23**	**304**	*e*P	**P**	**01 47 23.3**	**+3.4**
	comp=Z,6.8nm,0.5s,mb4.6						
MDT	**Midelt**	**59.65**	**289**	LR	LR	02 15 46.1	
	comp=Z,66nm,19.3s,MS3.8,baz=242,slow=37						
TORD	**Torodi Ar. Bea**	**65.51**	**267**	P	**P**	**01 49 55.1**	**+1.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=58,slow=5.8,SNR=5.7						
WRA	**Warramunga Arr**	**83.56**	**122**	P	**P**	**01 51 36.5**	**-1.6**
	comp=Z,0.2nm,0.4s,mb3.6,baz=328,slow=4.8,SNR=5.6						
WRAB	**Tennant Creek**	**83.56**	**122**	P	**P**	**01 51 37.5**	**-0.6**
NWAO	**Narrogin (SRO)**	**83.61**	**142**	P	**P**	**01 51 38.2**	**-0.2**

*NEIC **14** 01:46:09.5, 2964S×7191W, h41km, MD3.7(GUC), After GUC.*

GUC 14 01:46:09.5±0.6, 2964S×7191W, h41km±4km, MD3.7, ML3.4, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.64**	**115**	⇓*i*P	Pn	01 46 21.9	-0.2
LSCH				*i* S	Sn	01 46 31.8	+0.6
TLL	**Tololo Astrono**	**1.10**	**119**	*e*P	Pn	01 46 30.0	+1.6
TLL				*i* S	Sn	01 46 45.3	+3.0
TLL				AML	AML	01 46 52.3	
	comp=N,803nm,0.5s						
TLL	**Tololo Astrono**	**1.10**	**119**	*e*P	Pn	01 46 30.0	+1.6
TLL				*i* S	Sn	01 46 45.3	+3.0
OVCH	**Ovalle**	**1.15**	**148**	*e*P	Pn	01 46 29.9	+0.9
OVCH				*i* S	Sn	01 46 45.2	+1.7
OVCH				AML	AML	01 46 47.5	
	comp=E,812nm,0.4s						
OVCH	**Ovalle**	**1.15**	**148**	*e*P	Pn	01 46 29.9	+0.9
OVCH				*i* S	Sn	01 46 45.2	+1.7
CMCH	**Combarbala**	**1.72**	**153**	⇓*i*P	Pn	01 46 38.3	+1.4
CMCH				*i* S	Sn	01 46 59.7	+2.1
CMCH				AML	AML	01 47 05.5	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**1.72**	**153**	⇓*i*P	Pn	01 46 38.3	+1.4
CMCH				*i* S	Sn	01 46 59.7	+2.1
FCH	**Farellones**	**3.93**	**160**	*e*P	Pn	01 47 09.7	+2.4
FCH				*i* S	Sn	01 47 55.1	+3.0
FCH				AML	AML	01 48 32.5	
	comp=N,39nm,0.2s						

IDC 14 01:59:20.1±3.9, 497S×15185E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/13, mbtmp3.5/2, Error ellipse: s-maj=165.4km s-min=48.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.63**	**227**	P	P	02 04 22.5	0.0
	1.2nm,0.6s,baz=52,slow=9.9,SNR=9.8						
ASAR	**Alice Springs**	**25.39**	**221**	P	P	02 04 49.8	+0.7
	0.4nm,0.4s,baz=57,slow=8.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.46**	**287**	PKPbc	PKPbc	02 19 11.8	+0.7
	0.2nm,0.3s,baz=98,slow=2.1,SNR=5.9						

*NEIC **14** 02:06:16.2±0.7, 5153N×1620E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=8.9km s-min=5.9km az=51.0*

*IPEC **14** 02:06:16.1±0.3, 5152N×1616E, h0km, ML2.0/3, Error ellipse: s-maj=4.1km s-min=1.9km az=82.0*
*CSEM **14** 02:06:17.7±0.2, 5145N×1610E, h2km, ML3.0/6, Error ellipse: s-maj=3.3km s-min=2.1km az=15.0*
*PRU **14** 02:06:19.1, 5138N×1605E, h0km*

WAR 14 02:06:17.9, 5148N×1610E, ML2.4, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**169**	⇓*i*Pg	Pg	02 06 29.7	-0.6
KSP				*e*Sg	Sg	02 06 37.9	-0.8
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	Pg	02 06 29.5	-0.8
KSP				*e*Sg	Sg	02 06 37.6	-1.1
UPC	**Upice**	**0.97**	**183**	*e*PG	Pg	02 06 35.7	-0.9
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	02 06 38.5	-1.2
DPC				*e*SG	Sg	02 06 52.9	-1.6
	17nm,0.5s						
BRG	**Berggiesshubel**	**1.49**	**247**	PG	Pg	02 06 45.2	-1.2
BRG				SG	Sg	02 07 05.6	-0.2
	23nm,0.4s						
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	Pn	02 06 48.6	-1.5
PRU				*e*PG	Pg	02 06 50.2	-2.0
PRU				*e*SG	Sg	02 07 12.6	-2.9
	10nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	Pn	02 06 50.2	-1.8
MORC				*e*Sn	Sn	02 07 14.7	-2.3
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	Pn	02 06 50.2	-1.8
MORC				*e*Sn	Sn	02 07 14.7	-2.3
MORC				*e*Sg	Sg	02 07 17.5	-2.6
	10nm,0.4s						
CLL	**Collm**	**1.95**	**266**	*e*Pn	Pn	02 06 51.0	-1.2
CLL				*i* Pg	Pg	02 06 53.4	-1.9
CLL				*i* Sg	Sg	02 07 18.9	-1.7
CLL	**Collm**	**1.95**	**266**	*e*Pn	Pn	02 06 51.0	-1.2
CLL				*i* Pg	Pg	02 06 53.4	-1.9
CLL				*i* x	x	02 06 57.6	
CLL				*i* Sg	Sg	02 07 18.9	-1.7
	comp=Z,11nm,0.6s						
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	Pg	02 06 56.1	-2.0
OKC				*e*SG	Sg	02 07 22.4	-2.8
	comp=Z,20nm,0.8s						
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	Pn	02 06 54.5	-1.1
VRAC				*e*Sg	Sg	02 07 26.1	-2.3
	comp=Z,4.6nm,0.2s						
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn	Pn	02 06 57.7	-1.1
KRUC				*e*Sg	Sg	02 07 33.5	-2.4
	comp=Z,8.8nm,0.4s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	Pn	02 07 01.1	-0.5
NKC				*e*PG	Pg	02 07 07.0	-1.3
NKC				*e*SG	Sg	02 07 41.9	-0.5
	comp=Z,24nm,0.4s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	Pg	02 07 08.1	-0.8
OJC				*e*Sg	Sg	02 07 43.7	+0.4
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	Pn	02 07 03.5	-1.2
KHC				*e*PG	Pg	02 07 09.5	-3.1
KHC				*e*SG	Sg	02 07 47.5	-2.1
MOX	**Moxa**	**2.95**	**255**	*e*PG	Pg	02 07 13.1	-1.4
MOX				*e*SG	Sg	02 07 52.9	+0.1
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	Pn	02 07 07.3	-0.1
GEC2				*e*Sg	Sg	02 07 54.5	-1.6
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	Pn	02 07 13.4	-3.1
BSD				*i* S	Sn	02 07 56.2	-4.7
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PG	Pg	02 07 31.5	-0.8
STHS				*e*SG	Sg	02 08 26.1	+3.6

*ISCJB **14** 02:11:35.3±0.8, 689N×006×7301W±006, h170km±9km, mb2.9/1, Error ellipse: s-maj=12.3km s-min=6.7km az=84.3*
*FUNV **14** 02:11:35.1, 676N×7322W, h165km, MW3.6*
*IDC **14** 02:11:35.6±1.0, 672N×7293W, h168km±14km, mb2.7/1, mb1 3.3/3, mb1mx3.0/18, mbtmp3.1/3, Error ellipse: s-maj=50.5km s-min=7.6km az=132.0*

ISC 14 02:11:36.4±0.8, 688N×006×7301W±006, h164km±9km, n13, σ0°88/21, mb2.9/1, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.20**	**35**	⇓*i*P	**Pn**	**02 12 04.8**	**+0.6**
CAPV				*e*S	**Sn**	**02 12 26.2**	**+0.8**
ROSC	**El Rosal**	**2.40**	**213**	P	**Pn**	**02 12 16.6**	**-0.4**
	8.1nm,0.3s,baz=90,slow=21,SNR=60						
ROSC				S	**Sn**	**02 12 47.5**	**-0.9**
	26nm,0.3s,baz=103,slow=14,SNR=19						
VIGV	**El Vigia**	**2.54**	**40**	*e*P	**Pn**	**02 12 19.3**	**+0.7**
VIGV				*e*S	**Sn**	**02 12 52.0**	**+0.7**
SOCV	**Socops**	**2.55**	**57**	*e*P	**Pn**	**02 12 19.5**	**+0.7**
SOCV				*e*S	**Sn**	**02 12 51.8**	**+0.2**
SDV	**Santo Domingo**	**3.08**	**50**	P	**Pn**	**02 12 26.3**	**+1.0**
	9.6nm,0.3s,baz=246,slow=3.0,SNR=36						
SDV				S	**Sn**	**02 13 04.3**	**+1.0**
	9.3nm,0.3s,baz=92,slow=23,SNR=18						
ELOV	**Elorza**	**3.50**	**88**	*e*P	**Pn**	**02 12 30.8**	**+0.2**
ELOV				*e*S	**Sn**	**02 13 12.5**	**-0.3**
VIRV	**Villa del Rosa**	**3.65**	**9**	*e*P	**Pn**	**02 12 31.6**	**-0.8**
VIRV				*e*S	**Sn**	**02 13 14.4**	**-1.7**
QARV	**Quebrada Arrib**	**4.12**	**36**	⇑*i*P	**Pn**	**02 12 39.1**	**+0.7**
QARV				*e*S	**Sn**	**02 13 26.2**	**-0.7**
CURV	**Curarigua**	**4.33**	**44**	*e*P	**Pn**	**02 12 41.3**	**0.0**
CURV				*e*S	**Sn**	**02 13 30.8**	**-1.2**
TEPV	**Terepaima**	**4.86**	**51**	*e*P	**Pn**	**02 12 48.5**	**+0.3**
BAUV	**El Baul**	**5.33**	**67**	*e*S	**Sn**	**02 13 53.0**	**-2.4**
TXAR	**Laguitas Array**	**36.50**	**312**	P	**P**	**02 18 26.4**	**+0.7**
	0.2nm,0.6s,mb2.9,baz=128,slow=9.4,SNR=4.2						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	02 31 07.8	-0.5
	0.2nm,0.6s,baz=110,slow=2.3,SNR=4.7						

IDC 14 02:12:44.3±3.7, 619S×15146E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/12, mbtmp3.3/2, Error ellipse: s-maj=153.7km s-min=49.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**229**	P	P	02 17 35.6	+0.6
	0.6nm,0.5s,baz=55,slow=11,SNR=10						
ASAR	**Alice Springs**	**24.23**	**222**	P	P	02 18 03.0	+0.3
	0.3nm,0.4s,baz=56,slow=9.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc	PKPbc	02 32 36.0	+0.6
	0.7nm,0.7s,baz=63,slow=2.0,SNR=6.9						

*ISCJB **14** 02:15:47.5±0.8, 3661N±005×2709E±005, h7km±6km, Error ellipse: s-maj=8.3km s-min=7.3km az=6.3*
*ISK **14** 02:15:47.7, 3661N×2713E, h12km, MD3.2*
*CSEM **14** 02:15:47.8±0.1, 3663N×2713E, h12km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.5km az=19.0*
*NEIC **14** 02:15:48.2, 3661N×2711E, h9km, MD3.1(ATH), After ATH.*
*ATH **14** 02:15:48.2, 3661N×2711E, h9km±5km, MD3.1/4*

ISC 14 02:15:48.0±0.8, 3660N±005×2710E±005, h8km±6km, n13, σ0°57/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.02**	**60**	*e*PG	**Pg**	**02 15 49.5**	**0.0**
DAT	**Datca**	**0.40**	**71**	PG	**Pg**	**02 15 56.1**	**+0.3**
DAT				SG	**Sg**	**02 16 01.7**	**+0.6**
BODT	**Bodrum**	**0.49**	**20**	PG	**Pg**	**02 15 57.7**	**+0.2**
BODT				SG	**Sg**	**02 16 04.6**	**+0.7**
MLSB	**Milas**	**0.88**	**38**	PG	**Pg**	**02 16 04.4**	**-0.5**
ARG	**Arkhangelos**	**0.91**	**115**	*e*PG	**Pg**	**02 16 05.1**	**-0.4**
ARG				*e*SB	**Sb**	**02 16 18.0**	**-0.2**
KARP	**Karpathos**	**1.05**	**177**	*e*PN	**Pn**	**02 16 08.9**	**0.0**
YER	**Yerkesik**	**1.09**	**60**	PG	**Pg**	**02 16 08.3**	**-0.5**
SMG	**Samos**	**1.13**	**349**	*e*PN	**Pn**	**02 16 09.7**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.25**	**82**	PN	**Pn**	**02 16 11.1**	**-0.5**
APE	**Apeiranthos**	**1.35**	**291**	*e*PG	**Pg**	**02 16 12.9**	**-0.9**
FETY	**Fethiye**	**1.59**	**88**	*e*PN	**Pn**	**02 16 16.2**	**-0.2**
NPS	**Neapolis**	**1.80**	**223**	*e*PN	**Pn**	**02 16 20.9**	**+1.6**
ELL	**Elmali**	**2.26**	**85**	*e*PN	**Pn**	**02 16 25.7**	**+0.1**

*NEIC **14** 02:23:18.0±1.6, 6.15S×15154E, h10km, mb4.1/3, Error ellipse: s-maj=34.1km s-min=23.8km az=161.0*
*ISCJB **14** 02:23:23.1±5.2, 6.1S±03×1514E±02, h64km±36km, mb3.8/5, Error ellipse: s-maj=48.7km s-min=35.7km az=145.4*

*IDC **14** 02:23:29.8±8.0, 642S×15129E, h90km±59km, mb3.5/4, mb1 3.7/5, mb1mx3.5/13, mbtmp3.6/5, ML2.8/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/24, Error ellipse: s-maj=56.8km s-min=43.3km az=64.0*

ISC 14 02:23:23.6±5.0, 60S±03×1514E±02, h59km±35km, n17, σ0°88/15, mb3.8/5, MS3.3/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.38**	**231**	P	**Pn**	**02 24 43.0**	**+1.9**
	2.2nm,0.3s,baz=53,slow=7.5,SNR=11						
PMG				S	**Sn**	**02 25 41.4**	**-0.3**
	5.3nm,0.3s,baz=75,slow=21,SNR=6.4						
PMG				LR	LR	02 26 19.8	
	comp=Z,69nm,18.2s,baz=104,slow=34						
PMG	**Port Moresby**	**5.38**	**231**	*e*Pn	**Pn**	**02 24 40.1**	**-1.0**
	26nm,0.8s						
PMG				*e*Sn	**Sn**	**02 25 42.2**	**+0.5**
PMG				LR	LR	02 26 19.8	
HNR	**Honiara**	**9.14**	**112**	LR	LR	02 28 11.5	
	comp=Z,116nm,18.4s,baz=178,slow=31						
CTA	**Charters Tower**	**14.86**	**199**	LR	LR	02 31 00.9	
	comp=Z,56nm,18.1s,baz=53,slow=31						
KAKA	**Kakadu**	**19.83**	**249**	*e*P	**Pn**	**02 27 50.8**	**-0.7**
	4.1nm,0.6s						
WB2	**Warramunga Arr**	**21.58**	**229**	*e*P	**P**	**02 28 08.1**	**-0.2**
WB2	**Warramunga Arr**	**21.58**	**229**	*e*P	**P**	**02 28 06.4**	**-1.9**
WB2				*e*		02 28 21.0	
WRA	**Warramunga Arr**	**21.59**	**229**	P	**P**	**02 28 07.8**	**-0.6**
	1.8nm,0.6s,mb3.6,baz=54,slow=11,SNR=25						
DZM	**Mont Dzumac**	**21.61**	**139**	LR	LR	02 34 01.2	
	comp=Z,125nm,19.7s,MS3.3,baz=139,slow=30						
AS31	**Alice Springs**	**24.31**	**222**	*e*P	**P**	**02 28 35.3**	**-0.2**
ASAR	**Alice Springs**	**24.31**	**222**	P	**P**	**02 28 35.7**	**+0.2**
	2.0nm,0.6s,mb3.7,baz=66,slow=9.5,SNR=28						
STKA	**Stephens Creek**	**27.31**	**198**	*e*P	**P**	**02 29 03.3**	**+0.6**
	2.2nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.31**	**198**	P	**P**	**02 29 03.2**	**+0.6**
	4.0nm,0.8s,mb4.0,baz=6.8,slow=8.8,SNR=6.4						
FITZ	**Fitzroy Crossi**	**27.85**	**242**	*e*P	**P**	**02 29 09.1**	**+1.6**
	4.3nm,0.5s,mb4.3						
VNDA	**Vanda**	**71.68**	**178**	P	**P**	**02 34 38.7**	**-0.4**
	0.7nm,0.9s,mb3.6,baz=324,slow=7.5,SNR=7.9						
VNDA	**Vanda**	**71.68**	**178**	P	**P**	**02 34 38.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.31**	**286**	PKPbc	PKPbc	02 43 09.1	+3.5
	1.2nm,0.6s,baz=67,slow=2.8,SNR=20						

SKHL 14 02:55:36.8±0.2, 5522N×12299E, h11km±1km, mb3.5/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**1.93**	**247**	*e*Pn	Pn	02 56 10.1	+0.6
TUP				*e*Pg	Pg	02 56 12.4	-1.4
TUP				AMB	AMB	02 56 15.7	
	20nm,0.3s						
TUP				*e*Sg	Sg	02 56 37.4	-1.4
CLNS	**Chul'man**	**1.94**	**33**	*e*Pg	Pg	02 56 13.8	-0.2
CLNS				AMB	AMB	02 56 22.3	
	4.0nm,0.2s						
CLNS				*e*Sg	Sg	02 56 40.6	+1.4
CLNS				A		02 56 43.0	
	35nm,0.2s						
KROS	**Kirovskiy**	**2.43**	**107**	*e*Pg	Pg	02 56 20.7	-2.8
KROS				AMB	AMB	02 56 21.1	
	7.0nm,0.3s						
KROS				AMB	AMB	02 56 21.1	
	8.0nm,0.3s						
KROS				pPg		02 56 25.5	
KROS				*i* Sg	Sg	02 56 51.8	-3.2
KROS				A		02 56 55.5	
	74nm,0.4s						
KROS				A		02 56 55.5	
	42nm,0.4s						
ZEA	**Zeya**	**2.90**	**119**	*e*Sg	Sg	02 57 07.6	-2.2
ZEA				A		02 57 07.9	
	49nm,0.5s						
CRS	**Chara**	**3.14**	**304**	*e*Pg	Pg	02 56 34.2	-2.7
CRS				*e*Sg	Sg	02 57 15.4	-2.2
BMKR	**Bomnak**	**3.41**	**96**	*e*rx	rx	02 56 35.0	
BMKR				*e*Pg	Pg	02 56 38.6	-3.6
BMKR				AMB	AMB	02 56 38.8	
	5.0nm,0.5s						
BMKR				sPg		02 56 43.1	
BMKR				*e*Sg	Sg	02 57 23.0	-3.4
BMKR				A		02 57 25.0	
	24nm,0.5s						
YASR	**Yasnyy**	**3.51**	**121**	*e*rx	rx	02 56 35.5	
YASR				*e*Sg	Sg	02 57 25.8	-3.7
YASR				A		02 57 35.3	
	4.0nm,0.6s						
YASR				A		02 57 35.3	
	11nm,0.6s						
YASR				A		02 57 35.3	
	6.0nm,0.6s						
EKMR	**Ekimchan**	**6.24**	**106**	*e*Sg	Sg	02 58 52.0	-5.0

*IDC **14** 03:02:23.9±0.6, 1263N×14483E, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.4/25, mbtmp4.5/16, MS4.0/22, Ms1 4.0/22, ms1mx3.9/29, Error ellipse: s-maj=23.5km s-min=12.4km az=91.0*
*ISCJB **14** 03:02:28.7±1.2, 1261N±006×14476E±008, h49km±10km, mb4.7/34, MS4.0/22, Error ellipse: s-maj=12.9km s-min=9.5km az=169.7*
*NEIC **14** 03:02:28.9±0.3, 1264N×14478E, h35km, mb4.6/15, Error ellipse: s-maj=10.8km s-min=7.3km az=88.0*
*BJI **14** 03:02:28.8, 1260N×14480E, h35km, mB5.2, mb4.7, Ms4.7, Msz4.6*

ISC 14 03:02:30.3±1.2, 1265N±006×14486E±008, h48km±10km, h32km±1.8km:pP-P, n65, σ0°91/53, mb4.7/34, MS4.0/22, 1C-1D, South of Mariana Islands

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

	comp=Z,18nm,1.2s,mb4.7								
LZH					pP	pP	03 10 30.1	-13	
LZH					sP	sP	03 10 35.2	-13	
STKA	**Stephens Creek**	**44.38**	**184**	LR	LR	03 30 44.9			
	comp=Z,192nm,18.6s,MS4.0,baz=18,slow=38								
PSI	**Prapat**	**46.48**	**262**	P	**P**	**03 10 54.5**	**+1.9**		
	comp=Z,8.2nm,0.8s,mb4.7,baz=126,slow=4.0,SNR=10								
SONM	**Songino Array**	**47.50**	**325**	P	**P**	**03 11 00.9**	**+0.3**		
	comp=Z,1.1nm,0.8s,mb3.8,baz=125,slow=7.4,SNR=6.0								
SONM				PcP	PcP	03 12 31.3	+1.2		
	comp=Z,2.5nm,0.9s,baz=127,slow=3.7,SNR=6.8								
SONM				LR	LR	03 31 16.6			
	comp=Z,250nm,19.0s,MS4.2,baz=185,slow=36								
GTA	**Gaotai**	**47.79**	**312**	*e*P	**P**	**03 11 04.5**	**+1.7**		
GTA				AP	pP	03 11 13.8	-2.1		
GTA				XP	sP	03 11 18.9	-2.5		
GTA				AMB	AMB				
	comp=Z,4.0nm,1.0s,mb4.4								
AFI	**Afiamalu**	**50.42**	**120**	LR	LR	03 29 02.5			
	comp=Z,98nm,19.4s,MS3.8,baz=236,slow=32								
YAK	**Yakutsk**	**50.51**	**351**	*e*P	**P**	**03 11 23.1**	**-0.5**		
	comp=Z,29nm,0.6s,mb5.4								
LSA	**Lhasa**	**52.42**	**298**	*e*P	**P**	**03 11 36.0**	**-1.9**		
	comp=Z,7.5nm,0.7s,mb4.7								
JIRN	**Jiri**	**56.59**	**295**	*e*P	**P**	**03 12 08.2**	**0.0**		
GUN	**Gumba**	**56.88**	**295**	*e*P	**P**	**03 12 10.9**	**+0.7**		
PKI	**Pulchoki**	**57.28**	**295**	*e*P	**P**	**03 12 13.5**	**+0.5**		
KKN	**Kakani**	**57.40**	**295**	*e*P	**P**	**03 12 13.7**	**-0.2**		
DMN	**Daman**	**57.55**	**295**	*e*P	**P**	**03 12 15.6**	**+0.7**		
	comp=Z,25nm,0.9s,mb5.2								
WMQ	**Urumqi**	**57.78**	**314**	⇑*i*P	**P**	**03 12 16.8**	**+0.3**		
WMQ				AP	pP	03 12 27.0	-2.9		
WMQ				XP	sP	03 12 30.8	-4.5		
WMQ				PCP	PcP	03 13 09.3	+0.5		
WMQ				PP	PP	03 14 26.6	+1.7		
WMQ				SCP	ScP	03 17 05.0	+0.2		
WMQ				*e*S	**S**	**03 20 11.5**	**-0.7**		
WMQ				AMB	AMB				
	comp=Z,7.0nm,0.6s,mb4.9								
WMQ				AMB	AMB				
	comp=Z,20nm,5.4s								
WMQ				LR	LR				
	comp=N,68nm,17.1s,MS4.1								
WMQ				LR	LR				
	comp=E,119nm,17.0s,MS4.1								
WMQ				LR	LR				
	comp=Z,80nm,20.0s,MS3.8								
GKN	**Gorkha**	**57.98**	**295**	*e*P	**P**	**03 12 18.6**	**+0.6**		
	comp=Z,38nm,1.0s,mb5.4								
KOLN	**Koldanda**	**58.89**	**295**	*e*P	**P**	**03 12 24.8**	**+0.5**		
	comp=Z,23nm,1.0s,mb5.2								
MK31	**Makanchi Array**	**62.16**	**316**	*e*P	**P**	**03 12 46.5**	**-0.1**		
MKAR	**Makanchi Array**	**62.16**	**316**	P	**P**	**03 12 47.2**	**+0.6**		
	comp=Z,1.2nm,0.7s,mb4.2,baz=98,slow=7.5,SNR=10.0								
MKAR				LR	LR	03 40 36.6			
	comp=Z,121nm,18.8s,MS4.1,baz=176,slow=37								
MKAR	**Makanchi Array**	**62.16**	**316**	P	**P**	**03 12 47.2**	**+0.6**		
MKAR				LR	LR	03 40 36.6			
ZAL	**Zalesovo**	**62.39**	**325**	LR	LR	03 41 22.6			
	comp=Z,114nm,18.6s,MS4.1,baz=357,slow=38								
KDAK	**Kodiak Island**	**64.87**	**32**	P	**P**	**03 13 05.2**	**+0.7**		
	comp=Z,25nm,1.0s,mb5.2,baz=12,slow=10,SNR=3.7								
KURK	**Kurchatov**	**65.30**	**320**	*e*P	**P**	**03 13 06.2**	**-1.0**		
	comp=Z,6.1nm,0.9s,mb4.6								
PMR	**Palmer**	**67.61**	**28**	*e*P	**P**	**03 13 21.8**	**-0.2**		
	comp=Z,15nm,0.7s,mb5.1								
COLA	**College**	**69.05**	**25**	P	**P**	**03 13 29.8**	**-1.2**		
	comp=Z,2.4nm,0.7s,mb4.2								
CHKZ	**Chkalovo**	**70.58**	**323**	*e*P	**P**	**03 13 38.7**	**-1.7**		
	comp=Z,3.2nm,1.1s,mb4.2								
BRVK	**Borovoye**	**70.72**	**322**	*e*P	**P**	**03 13 41.5**	**+0.2**		
	comp=Z,3.0nm,0.9s,mb4.2								
PPT	**Papeete**	**71.34**	**114**	LR	LR	03 40 03.7			
	comp=Z,87nm,19.3s,MS4.0,baz=272,slow=32								
ZRNK	**Zerenda**	**71.49**	**322**	*e*P	**P**	**03 13 46.1**	**+0.2**		
	comp=Z,5.3nm,1.1s,mb4.4								
INK	**Inuvik**	**75.24**	**22**	*e*P	**P**	**03 14 06.2**	**-1.7**		
	comp=Z,418nm,1.3s								
YKA	**Yellowknife Ar**	**83.69**	**27**	P	**P**	**03 14 53.9**	**-0.1**		
	comp=Z,6.1nm,1.0s,mb4.7,baz=288,slow=4.9,SNR=5.0								
YKA				LR	LR	03 51 30.9			
	comp=Z,68nm,18.8s,MS4.0,baz=260,slow=35								
RES	**Resolute Bay**	**85.47**	**13**	*e*P	**P**	**03 15 02.2**	**-0.7**		
	comp=Z,152nm,0.8s								
NEW	**Newport**	**85.94**	**42**	P	**P**	**03 15 06.3**	**+1.0**		
	comp=Z,7.5nm,1.0s,mb4.9,baz=263,slow=0.8,SNR=7.4								
EDM	**Edmonton**	**86.91**	**36**	*e*P	**P**	**03 15 06.1**	**-3.9**		
NVAR	**Mina Array Bea**	**87.51**	**51**	P	**P**	**03 15 14.3**	**+1.4**		
	comp=Z,1.1nm,0.7s,mb4.2,baz=284,slow=7.9,SNR=4.1								
ARCES	**ARCESS Array B**	**87.97**	**342**	P	**P**	**03 15 15.1**	**0.0**		
	comp=Z,11nm,1.0s,mb5.1,baz=42,slow=5.6,SNR=8.5								
ARCES				LR	LR	03 55 03.2			
	comp=Z,89nm,18.1s,MS4.2,baz=282,slow=36								
HLID	**Hailey**	**89.01**	**46**	*e*P	**P**	**03 15 21.3**	**+1.3**		
	comp=Z,3.4nm,1.0s,mb4.6								
VNDA	**Vanda**	**90.53**	**176**	LR	LR	03 56 45.8			
	comp=Z,37nm,19.2s,MS3.8,baz=328,slow=36								
FINES	**FINESS Array B**	**92.01**	**335**	P	**P**	**03 15 33.1**	**-0.9**		
	comp=Z,1.1nm,0.6s,mb4.3,baz=62,slow=8.9,SNR=9.7								
FINES				LR	LR	03 59 56.6			
	comp=Z,116nm,18.2s,MS4.4,baz=359,slow=38								
LAO	**LASA Array**	**93.44**	**41**	*e*P	**P**	**03 15 41.9**	**+1.3**		
	comp=Z,10nm,0.9s,mb5.3								
AKASG	**Malin Array Be**	**95.78**	**325**	LR	LR	04 01 32.9			
	comp=Z,139nm,18.7s,MS4.5,baz=60,slow=37								
BRTR	**Keskin Array B**	**97.70**	**313**	LR	LR	04 04 34.1			
	comp=Z,57nm,19.6s,MS4.1,baz=309,slow=38								
NOA	**NORSAR Array B**	**97.92**	**339**	P	**P**	**03 16 00.7**	**-0.3**		
	comp=Z,1.3nm,0.8s,mb4.5,baz=49,slow=4.8,SNR=2.7								
NOA				LR	LR	04 04 00.0			
	comp=Z,89nm,21.5s,MS4.2,baz=150,slow=38								
MAW	**Mawson**	**98.56**	**203**	P	**P**	**03 16 02.7**	**-1.2**		
	comp=Z,3.8nm,0.6s,mb5.1,baz=74,slow=21,SNR=7.8								
TORD	**Torodi Ar. Bea**	**135.38**	**304**	PKP	PKPdf	03 21 48.4	+3.6		
	comp=Z,3.0nm,1.0s,baz=35,slow=2.6,SNR=13								
TORD				SKPbc	SKPbc	03 25 16.8	+4.9		
	comp=Z,1.7nm,1.1s,baz=101,slow=3.0,SNR=5.3								
LPAZ	**La Paz**	**147.87**	**100**	PKPbc	PKPbc	03 22 13.4	+3.4		
	comp=Z,2.1nm,0.8s,baz=326,slow=3.5,SNR=8.4								
SAML	**Samuel**	**152.22**	**85**	*e*PKPdf	PKPdf	03 22 15.9	+2.0		
SAML				*e*PKPbc	PKPbc	03 22 22.3	+1.7		
SAML				*e*PKPab	PKPab	03 22 31.0	+0.5		

*ISCJB **14** 03:12:00.7±0.4,48.40N±0.002×906E±0.003,h10km, Error ellipse: s-maj=3.2km s-min=2.5km az=135.9*
*LEDBW **14** 03:12:01.2±0.3,48.387N±0.010×9.14E±0.001,h14km±3km, ML1.4, Error ellipse: s-maj=5.2km s-min=3.0km az=68.0*
*LDG **14** 03:12:01.3±0.1,48.39N×9.12E,h16km,Md2.3/2,Ml2.1/5, Error ellipse: s-maj=1.7km s-min=1.3km az=148.0*
*STR **14** 03:12:03.2±1.0,48.40N×8.97E,h5km±1km,Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 03:12:01.4±0.4,4840N±002×909E±003,h10km,n24, σ0§70/46,1C-3D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUBL	**Tuebingen-Lenn**	**0.13**	**359**	⇓*i*P*		**Pg**	**03 12 05.6**	**+1.2**
TUBL				*i*S*		**Sg**	**03 12 07.8**	**+1.4**
BUCH	**Bad Urach**	**0.18**	**73**	⇑*i*P*		**Pg**	**03 12 05.2**	**-0.1**
BUCH				S*		**Sg**	**03 12 08.0**	**-0.1**
BUCH	**Bad Urach**	**0.18**	**73**	⇑*i*Pg		**Pg**	**03 12 05.2**	**-0.1**
BUCH				Sg		**Sg**	**03 12 08.0**	**-0.1**
GUT	**Gutenstein**	**0.33**	**177**	⇓*i*P*		**Pg**	**03 12 08.0**	**+0.1**
GUT				S*		**Sg**	**03 12 12.5**	**+0.2**
LBG	**Lerchenberg**	**0.33**	**324**	⇓*i*P*		**Pg**	**03 12 08.5**	**+0.5**
LBG				*i* S*		**Sg**	**03 12 13.4**	**+1.0**
LBG				SmS			03 12 16.9	
SPAK	**Spaichingen-Ko**	**0.36**	**214**	*S**		**Sg**	**03 12 14.0**	**+0.8**
BFO	**Black Forest**	**0.51**	**263**	*e*Pg		**Pg**	**03 12 11.7**	**+0.4**
BFO				*e*Sg		**Sg**	**03 12 18.8**	**+0.7**
SISB	**Singen-Schiene**	**0.71**	**187**	*S**		**Sg**	**03 12 25.1**	**+0.6**
HDH	**Heidenheim-Cha**	**0.77**	**75**	P*		**Pg**	**03 12 15.6**	**-0.6**
HDH				S*		**Sg**	**03 12 26.1**	**-0.2**
FELD	**Feldberg im Sc**	**0.89**	**235**	P		**Pg**	**03 12 18.3**	**-0.3**
FELD				Pg		**Pg**	**03 12 19.1**	**+0.5**
FELD				Sg		**Sg**	**03 12 30.7**	**+0.5**
FELD	**Feldberg im Sc**	**0.89**	**235**	P		**Pg**	**03 12 19.1**	**+0.5**
FELD				S		**Sg**	**03 12 30.7**	**+0.5**
FELD	**Feldberg im Sc**	**0.89**	**235**	Px		**Pg**	**03 12 18.3**	**-0.3**
KIZ	**Kirchzarten**	**0.90**	**241**	P		**Pg**	**03 12 18.2**	**-0.5**
KIZ				Pg		**Pg**	**03 12 19.1**	**+0.4**
KIZ				S		**Sg**	**03 12 30.3**	**-0.1**
KIZ	**Kirchzarten**	**0.90**	**241**	P		**Pg**	**03 12 19.1**	**+0.4**
UBR	**Ueberruh**	**0.99**	**136**	S		**Sg**	**03 12 33.4**	**0.0**
SIND	**Sindeldorf**	**1.01**	**20**	P		**Pg**	**03 12 19.1**	**-1.8**
SIND				Pg		**Pg**	**03 12 20.4**	**-0.5**
SIND				Sg		**Sg**	**03 12 33.5**	**-0.6**
SIND	**Sindeldorf**	**1.01**	**20**	P		**Pg**	**03 12 20.4**	**-0.5**
LANF	**Langenberg**	**1.03**	**305**	Pg		**Pg**	**03 12 22.0**	**+0.8**
LANF				Sg		**Sg**	**03 12 34.1**	**-0.6**
WLS	**Welschbruch**	**1.16**	**271**	Pg		**Pg**	**03 12 23.9**	**+0.3**
WLS				Sg		**Sg**	**03 12 39.0**	**+0.4**
CDF	**Champ du Feu**	**1.21**	**271**	*e*Pn		**Pn**	**03 12 22.6**	**-1.7**
CDF	**Champ du Feu**	**1.21**	**271**	*e*Pg		**Pg**	**03 12 24.3**	**-0.3**
CDF				*e*Sn		**Sn**	**03 12 36.7**	**-4.0**
CDF				*e*Sg		**Sg**	**03 12 40.3**	**0.0**
	2.4nm,0.2s							
HINF	**Hinteralfeld**	**1.60**	**250**	*e*Pg		**Pg**	**03 12 31.9**	**-0.3**
HINF				*e*Sn		**Sn**	**03 12 46.3**	**-4.3**
HINF				*e*Sg		**Sg**	**03 12 52.4**	**-0.6**
	2.4nm,0.3s							
HAU	**Haudompre**	**1.87**	**259**	*e*Pg		**Pg**	**03 12 37.0**	**-0.3**
HAU				*e*Sg		**Sg**	**03 13 01.2**	**-0.4**
	1.6nm,0.3s							
SFTF	**Sexfontaines**	**2.71**	**267**	*e*Pg		**Pg**	**03 12 52.4**	**-0.9**
SFTF				*e*Sg		**Sg**	**03 13 27.3**	**-1.2**
	4.9nm,0.3s							

WEL 14 03:12:17.1±0.1,4118S×17479E,h32km,ML3.5/23,6C-4D, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.08**	**236**	⇓P*		Pb	03 12 22.5	-0.1
MRW				S*		Sb	03 12 26.4	0.0
WEL	**Wellington**	**0.10**	**189**	⇓P*		Pb	03 12 22.7	-0.1
WEL				S*		Sb	03 12 26.8	+0.2
SNZO	**South Karori**	**0.14**	**207**	P*		Pb	03 12 22.8	-0.2
CAW	**Cannon Point**	**0.22**	**70**	⇑P*		Pb	03 12 23.1	-0.8
CAW				S*		Sb	03 12 28.2	-0.1
BHW	**Baring Head**	**0.23**	**165**	⇑P*		Pb	03 12 23.7	-0.2
KIW	**Kapiti Island**	**0.33**	**16**	⇓P*		Pb	03 12 25.2	0.0
TCW	**Tory Channel**	**0.39**	**265**	⇓P*		Pb	03 12 25.5	-0.4
MSWZ	**Moikau Station**	**0.42**	**124**	⇑P*		Pb	03 12 26.5	+0.1
PAWZ	**Paruwai Farm**	**0.52**	**113**	⇑P*		Pb	03 12 27.9	0.0
MTW	**Mount Morrison**	**0.54**	**88**	⇑P*		Pb	03 12 28.3	0.0
TRWZ	**Traveller**	**0.71**	**108**	P*		Pb	03 12 30.3	-0.8
DUWZ	**D'Urville Isla**	**0.76**	**300**	⇑P*		Pb	03 12 31.5	-0.5
MRZ	**Mangatainoka R**	**0.79**	**49**	P*		Pb	03 12 32.0	-0.5
BSWZ	**Blackbirch Sta**	**0.87**	**232**	P*		Pb	03 12 32.8	-0.9
TIWZ	**Tintock**	**0.92**	**64**	P*		Pb	03 12 33.5	-1.2
NNZ	**Nelson**	**1.06**	**268**	PN		Pn	03 12 35.6	-0.2
BFZ	**Birch Farm**	**1.21**	**66**	P*		Pb	03 12 36.9	-2.6
THZ	**Tophouse**	**1.53**	**247**	PN		Pn	03 12 41.9	-0.4
KHZ	**Kahutara**	**1.55**	**217**	PN		Pn	03 12 41.7	-0.8
WPHZ	**Waipukurau**	**1.68**	**49**	PN		Pn	03 12 43.4	-0.9
QRZ	**Quartz Range**	**1.75**	**281**	PN		Pn	03 12 45.7	+0.5
LTZ	**Lake Taylor**	**2.47**	**229**	PN		Pn	03 12 53.9	-1.3

*IDC **14** 03:25:17.7±3.1,233S×13985E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.7/13,mbtmp3.8/4,ML3.6/1,MS3.2/1, Ms1 3.2/1, ms1mx2.4/20, Error ellipse: s-maj=102.1km s-min=26.1km az=91.0*

NEIC 14 03:25:21.2±2.6,250S×14025E,h35km, Error ellipse: s-maj=80.6km s-min=20.8km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.27**	**198**	*e*P		Pn	03 29 31.7	-0.2
WB2	**Warramunga Arr**	**18.27**	**198**	*e*Pn		Pn	03 29 30.4	-1.4
WRA	**Warramunga Arr**	**18.27**	**198**	P		Pn	03 29 33.4	+1.5
	0.2nm,0.3s,baz=18,slow=12,SNR=19							
CTA	**Charters Tower**	**18.44**	**162**	LR		LR	03 36 22.4	
	comp=Z,75nm,18.8s,baz=42,slow=36							
FITZ	**Fitzroy Crossi**	**21.11**	**222**	P		P	03 30 03.3	+0.5
	2.7nm,1.0s,baz=47,slow=9.1,SNR=4.2							
AS31	**Alice Springs**	**21.92**	**196**	P		P	03 30 11.4	0.0
ASAR	**Alice Springs**	**21.92**	**196**	P		P	03 30 12.3	+0.9
	1.2nm,0.8s,baz=23,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**70.57**	**322**	P		P	03 36 32.7	0.0
	1.4nm,0.8s,baz=111,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**70.57**	**322**	P		P	03 36 32.7	0.0

*LDG **14** 03:28:56.8±0.1,43.03N×1.01W,h5km,Md1.8/2,Ml1.6/4, Error ellipse: s-maj=2.9km s-min=1.3km az=167.0*
*STR **14** 03:28:56.9±0.1,43.00N×1.05E,h5km±1km,Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 14 03:28:57.1±0.4,4302N×000E,h6km±4km,mbLg1.1/10, 1C-1D, Error ellipse: s-maj=2.7km s-min=2.3km az=146.0,PRXIMO,France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**62**	Pg		Pg	03 28 58.6	-0.1
LABF				Sg		Sg	03 28 59.9	+0.1
LABF	**Labassere**	**0.06**	**62**	Pg		Pg	03 28 58.7	0.0
LABF				Lg			03 28 60.0	
VIEF	**Viey**	**0.14**	**173**	Pg		Pg	03 28 59.8	-0.1
VIEF				Sg		Sg	03 29 01.9	+0.1
VIEF	**Viey**	**0.14**	**173**	Pg		Pg	03 28 59.9	0.0
VIEF				Lg			03 29 01.7	
EPF	**Esparros**	**0.25**	**87**	*e*Pg		Pg	03 29 01.7	-0.2
EPF				*e*Sg		Sg	03 29 05.3	0.0
	6.0nm,0.2s							
EPF	**Esparros**	**0.25**	**87**	Pg		Pg	03 29 01.7	-0.2
EPF				Lg			03 29 05.3	
	3.0nm,0.2s							
EBIE	**Bielsa**	**0.35**	**163**	⇑Pg		Pg	03 29 03.6	-0.3
	0.9nm,0.0s,SNR=18							
EBIE				Lg			03 29 08.3	
	5.8nm,0.1s,SNR=9.8							
ETSF	**Etsaut**	**0.43**	**254**	*e*Pg		Pg	03 29 05.0	-0.4
ETSF				*e*Sg		Sg	03 29 10.8	-0.2
	5.9nm,0.2s							
ETSF	**Etsaut**	**0.43**	**254**	Pg		Pg	03 29 05.0	-0.4
ETSF				Lg			03 29 10.8	
	3.0nm,0.2s							
SJPF	**Ste Jean**	**0.90**	**276**	*e*Pg		Pg	03 29 13.6	-0.8
SJPF				*e*Sg		Sg	03 29 25.0	-1.2
	0.9nm,0.2s							
SJPF	**Ste Jean**	**0.90**	**276**	Pg		Pg	03 29 13.6	-0.8
SJPF				Lg			03 29 25.0	
	0.4nm,0.2s							
EALK	**Alkurruntz**	**1.12**	**281**	Pg		Pg	03 29 19.9	+1.3
	SNR=4.0							
EALK				Lg			03 29 36.9	
	0.9nm,0.2s,SNR=4.0							
ESAC	**San Caprasio**	**1.34**	**195**	⇓Pg		Pg	03 29 23.3	+0.5
	3.2nm,0.2s,SNR=18							
ESAC				Lg			03 29 41.5	
	6.9nm,0.2s,SNR=8.7							
EMIR	**Miracle**	**1.58**	**134**	Lg			03 29 47.0	
	2.5nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg		Pg	03 29 27.7	-1.0
MTLF				*e*Sn		Sn	03 29 45.9	-2.1
MTLF				*e*Sg		Sg	03 29 50.0	-0.2
	1.8nm,0.3s							
MTLF	**Montolieu**	**1.65**	**78**	Pg		Pg	03 29 27.7	-1.0
MTLF				Sn		Sn	03 29 45.9	-2.1
MTLF				Lg			03 29 50.0	
	0.9nm,0.3s							
EPOB	**Poblet**	**1.85**	**154**	Lg			03 29 51.6	
	0.3nm,0.1s,SNR=4.0							
LFF	**La Frestale**	**1.99**	**15**	*e*Pg		Pg	03 29 33.5	-1.8
LFF				*e*Sg		Sg	03 29 59.3	-1.8
	1.2nm,0.3s							
LFF	**La Frestale**	**1.99**	**15**	Pg		Pg	03 29 33.5	-1.8
LFF				Lg			03 29 59.3	
	0.6nm,0.3s							
ERTA	**Horta de San J**	**2.08**	**173**	Lg			03 30 02.9	
	0.6nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.42**	**37**	*e*Sg		Sg	03 30 12.9	-1.9
	0.5nm,0.2s							
CAF	**Calviac**	**2.42**	**37**	Lg			03 30 12.9	
	0.2nm,0.2s							

IDC 14 03:55:38.1±3.4,651S×15159E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.6/14,mbtmp3.7/3, Error ellipse: s-maj=115.7km s-min=47.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.41**	**230**	*e*P		P	04 00 27.8	+0.4
WRA	**Warramunga Arr**	**21.42**	**230**	P		P	04 00 27.8	+0.3
	0.8nm,0.5s,baz=56,slow=11,SNR=22							
ASAR	**Alice Springs**	**24.08**	**223**	P		P	04 00 55.9	+0.8
	0.7nm,0.4s,baz=57,slow=9.1,SNR=13							
FITZ	**Fitzroy Crossi**	**27.80**	**243**	*e*P		P	04 01 28.5	-0.3
	3.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.80**	**243**	P		P	04 01 28.8	0.0
	1.7nm,0.6s,baz=53,slow=9.4,SNR=12							
TORD	**Torodi Ar. Bea**	**149.63**	**285**	PKPbc		PKPbc	04 15 30.3	+0.8
	0.4nm,0.6s,baz=73,slow=2.3,SNR=6.7							

IDC 14 04:18:57.3±6.3,1971S×17731W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/14,mbtmp4.2/3, Error ellipse: s-maj=176.9km s-min=101.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.72**	**243**	P		P	04 26 22.1	-0.9
	1.7nm,0.6s,baz=95,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**45.34**	**256**	P		P	04 27 17.6	+0.4
	3.4nm,0.8s,baz=92,slow=8.4,SNR=41							
WB2	**Warramunga Arr**	**45.35**	**261**	*e*P		P	04 27 18.3	+1.1
WRA	**Warramunga Arr**	**45.36**	**261**	P		P	04 27 18.4	+1.1
	1.0nm,0.3s,baz=95,slow=7.8,SNR=76							
FITZ	**Fitzroy Crossi**	**53.78**	**262**	*e*P		P	04 28 22.4	+0.9
	1.5nm,0.3s							
AKASG	**Malin Array Be**	**142.64**	**332**	PKP		PKPdf	04 38 31.4	-1.0
	0.9nm,0.5s,baz=41,slow=4.2,SNR=5.8							

*CSEM **14** 04:48:45.7±0.3,3727N×2091E,h2km,MD3.6, Error ellipse: s-maj=7.1km s-min=3.1km az=51.0*
*ISCJB **14** 04:48:46.9±0.8,3739N±004×2104E±006,h10km, Error ellipse: s-maj=8.3km s-min=4.4km az=107.8*
*ATH **14** 04:48:46.4,3740N×2105E,h7km±2km,MD3.6/4*
*NEIC **14** 04:48:46.4,3740N×2105E,h7km,MD3.6(ATH), After ATH.*
*THE **14** 04:48:49.0,3733N×2084E,h21km,ML3.8*

ISC 14 04:48:47.4±0.8,3739N±004×2105E±006,h10km,n21, σ1§09/27,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.73**	**106**	*e*PB		**Pg**	**04 48 59.7**	**-1.8**
ITM				*e*SB		**Sg**	**04 49 10.6**	**-0.5**
RLS	**Riolos of Patr**	**0.75**	**26**	*e*PG		**Pg**	**04 49 00.3**	**-1.5**
RLS				*e*SB		**Sg**	**04 49 10.8**	**-0.8**
VLS	**Valsamata**	**0.87**	**335**	*e*PB		**Pg**	**04 49 03.0**	**-1.1**
VLS				*e*SB		**Sg**	**04 49 15.1**	**-0.3**
LKD	**Levkas**	**1.35**	**347**	*e*Pg		**Pb**	**04 49 11.2**	**-1.7**
EVR	**Evrytania**	**1.64**	**21**	*e*PB		**Pb**	**04 49 17.4**	**-0.3**
VLI	**Velíai**	**1.65**	**113**	*e*PB		**Pb**	**04 49 18.0**	**+0.1**
AGG	**Agios Georgios**	**1.92**	**31**	*e*Pn		**Pb**	**04 49 22.1**	**-0.4**
AGG				*e*Sn		**Sb**	**04 49 47.4**	**+0.9**
AGG	**Agios Georgios**	**1.92**	**31**	*e*Pn		**Pb**	**04 49 22.0**	**-0.5**
AGG				*e*Sn		**Sb**	**04 49 47.4**	**+0.9**
KYTH	**Kithira**	**1.94**	**124**	*e*PG		**Pb**	**04 49 22.3**	**-0.5**
LKR	**Lokris**	**1.99**	**50**	*e*PN		**Pb**	**04 49 22.4**	**-1.3**
IGT	**Igoumenitsa**	**2.21**	**346**	*e*Pn		**Pn**	**04 49 24.4**	**+0.3**
THL	**Klokotos Trika**	**2.30**	**19**	*e*PN		**Pb**	**04 49 27.1**	**-1.9**
KEK	**Kerkira**	**2.52**	**338**	*e*PB		**Pn**	**04 49 29.3**	**+0.9**
NEO	**Neokhori**	**2.57**	**41**	*e*PN		**Pn**	**04 49 30.4**	**+1.4**
XOR	**Xorichti**	**2.60**	**40**	*e*Pn		**Pn**	**04 49 30.9**	**+1.5**
AOS	**Alonnisos**	**2.85**	**51**	*e*Pn		**Pn**	**04 49 33.7**	**+0.8**
KARN	**Karanos**	**3.05**	**130**	*e*Pn		**Pn**	**04 49 36.3**	**+0.7**
FNA	**Florina**	**3.40**	**4**	*e*Pn		**Pn**	**04 49 40.4**	**-0.1**
OUR

GNL				*i* S	Sn	05 01 23.0	+0.4
GNL	**Ganaly**	**1.41**	**321**	*e*P	Pn	05 01 05.4	+0.5
GNL				*i* S	Sn	05 01 23.0	+0.4
MKZ	**Mys Kozlova**	**2.38**	**34**	*e*P	Pn	05 01 18.8	+0.5
MKZ				*e*S	Sn	05 01 46.5	-0.1
MKZ	**Mys Kozlova**	**2.38**	**34**	*e*P	Pn	05 01 18.8	+0.5
MKZ				*e*S	Sn	05 01 46.5	-0.1
TUMR	**Tumrok**	**2.71**	**9**	P	Pn	05 01 25.1	+2.3
TUMR				*i* S	Sn	05 01 57.7	+3.0
TUMR	**Tumrok**	**2.71**	**9**	P	Pn	05 01 25.1	+2.3
TUMR				*i* S	Sn	05 01 57.7	+3.0
ZLN	**Zelenaya**	**3.51**	**13**	P	Pn	05 01 35.5	+1.8
ZLN				*i* S	Sn	05 02 16.3	+1.9
ZLN	**Zelenaya**	**3.51**	**13**	P	Pn	05 01 35.5	+1.8
ZLN				*i* S	Sn	05 02 16.3	+1.9
KBTR	**Krutoberegovo**	**4.11**	**27**	*e*P	Pn	05 01 43.8	+1.8
KBTR				*i* S	Sn	05 02 30.4	+1.1
KBTR	**Krutoberegovo**	**4.11**	**27**	*e*P	Pn	05 01 43.8	+1.8
KBTR				*i* S	Sn	05 02 30.4	+1.1

*ISCJB **14** 05:01:24.7±0.6,5141N×003×1614E×003, h0km, Error ellipse: s-maj=4.3km s-min=2.7km az=41.8*
*NEIC **14** 05:01:25.3±0.5,5153N×1621E, h5km, ML2.6(BRA), ML2.8(SZGRF), Error ellipse: s-maj=7.0km s-min=5.9km az=71.0*
*CSEM **14** 05:01:25.7±0.1,5147N×1624E, h2km, ML3.2/9, Error ellipse: s-maj=2.3km s-min=2.0km az=60.0*
*IPEC **14** 05:01:25.8±0.3,5148N×1631E, h0km, ML2.4/3, Error ellipse: s-maj=3.7km s-min=1.9km az=88.0*
*IDC **14** 05:01:27.3±0.9,5144N×1602E, h0km, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, ML2.9/4, Error ellipse: s-maj=20.9km s-min=8.2km az=101.0*
*WAR **14** 05:01:27.1,5144N×1617E, ML2.7, Mining Induced*
*PRU **14** 05:01:28.0,5137N×1612E, h0km*
*VIE **14** 05:01:29.5±0.9,5126N×1594E, h0km, mb2.4/1, ML2.7/3, Error ellipse: s-maj=11.3km s-min=4.5km az=80.0 77 km WNW of Breslau Suspected Mining induced.*

ISC 14 05:01:25.1±0.5, 5147N±002×1618E±003, h0km, n33, σ1§21/64, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**174**	⇓*i*Pg		**Pg**	**05 01 38.2**	**+0.9**
KSP				*e*			05 01 44.9	
KSP				*e*Sg		**Sg**	**05 01 46.4**	**+0.8**
KSP	**Ksiaz**	**0.64**	**174**	*e*Pg		**Pg**	**05 01 38.1**	**+0.8**
KSP				*e*Sg		**Sg**	**05 01 45.2**	**-0.4**
UPC	**Upice**	**0.97**	**186**	*e*PG		**Pg**	**05 01 44.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*PG		**Pg**	**05 01 47.0**	**+0.2**
DPC				*e*SG		**Sg**	**05 02 00.9**	**-0.5**
	26nm,0.4s							
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*Pg		**Pg**	**05 01 47.0**	**+0.2**
DPC				*e*Sg		**Sg**	**05 02 01.4**	**0.0**
BRG	**Berggiesshubel**	**1.53**	**248**	PN		**Pn**	**05 01 54.1**	**+0.3**
BRG				PG		**Pg**	**05 01 54.9**	**+0.4**
BRG				SG		**Sg**	**05 02 15.2**	**+0.7**
	26nm,0.7s							
BRG	**Berggiesshubel**	**1.53**	**248**	Pg		**Pg**	**05 01 54.9**	**+0.3**
PRU	**Pruhonice**	**1.82**	**216**	*e*PN		**Pn**	**05 01 58.2**	**+0.5**
PRU				*e*PG		**Pg**	**05 01 59.3**	**-0.7**
PRU				*e*SG		**Sg**	**05 02 23.1**	**-0.5**
	32nm,0.4s							
MORC	**Moravsky Berou**	**1.91**	**153**	*e*Pn		**Pn**	**05 01 59.0**	**+0.1**
MORC				*e*Sn		**Sn**	**05 02 25.0**	**+1.4**
MORC	**Moravsky Berou**	**1.91**	**153**	*e*Pn		**Pn**	**05 01 59.0**	**+0.1**
MORC				*e*Sg		**Sg**	**05 02 24.6**	**-1.8**
	16nm,0.3s							
MORC				*e*Sn		**Sn**	**05 02 25.0**	**+1.4**
CLL	**Collm**	**2.00**	**266**	*e*Pg		**Pg**	**05 02 03.0**	**-0.5**
CLL				*ex*		x	05 02 07.0	
CLL				*i* Sg		**Sg**	**05 02 30.8**	**+1.4**
	comp=Z,23nm,0.7s							
OKC	**Ostrava-Krasne**	**2.06**	**142**	*e*PG		**Pg**	**05 02 04.7**	**0.0**
OKC				*e*SG		**Sg**	**05 02 30.0**	**-1.4**
	comp=Z,24nm,0.6s							
VRAC	**Vranov**	**2.19**	**173**	Pn		**Pn**	**05 02 04.8**	**+2.1**
	comp=Z,4.0nm,0.3s,baz=348,slow=13,SNR=8.9							
VRAC				Lg			05 02 34.8	
	comp=Z,4.5nm,0.3s,baz=256,slow=22,SNR=8.1							
VRAC	**Vranov**	**2.19**	**173**	*e*Pn		**Pn**	**05 02 03.3**	**+0.6**
VRAC				*e*Sg		**Sg**	**05 02 34.0**	**-1.3**
	comp=Z,21nm,0.5s							
KRUC	**Moravsky**	**2.42**	**177**	*e*Pn		**Pn**	**05 02 07.1**	**+1.2**
KRUC				*e*Sg		**Sg**	**05 02 41.8**	**-1.1**
	comp=Z,24nm,0.9s							
OJC	**Ojcow**	**2.61**	**117**	*e*Pg		**Pg**	**05 02 14.3**	**-0.9**
OJC				*e*Sg		**Sg**	**05 02 49.3**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**244**	*e*PN		**Pn**	**05 02 10.0**	**+0.6**
NKC				*e*PG		**Pg**	**05 02 16.3**	**-0.1**
NKC				*e*SG		**Sg**	**05 02 51.2**	**+0.1**
	comp=Z,29nm,0.3s							
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN		**Pn**	**05 02 12.9**	**+0.6**
KHC				*e*PG		**Pg**	**05 02 18.7**	**-1.7**
KHC				*e*SG		**Sg**	**05 02 55.6**	**-2.1**
MOX	**Moxa**	**3.00**	**256**	*e*Pg		**Pg**	**05 02 22.9**	**+0.2**
MOX				*e*Sg		**Sg**	**05 03 02.8**	**+1.3**
MOX				*e*SG		**Sg**	**05 03 02.8**	**+1.3**
MOX	**Moxa**	**3.00**	**256**	*e*PG		**Pg**	**05 02 22.9**	**+0.2**
SMOL	**Smolenice**	**3.07**	**164**	*e*PG		**Pg**	**05 02 25.2**	**+1.2**
SMOL				*e*SG		**Sg**	**05 03 06.8**	**+3.0**
GEC2	**GERESS Array S**	**3.08**	**212**	*e*Pn		**Pn**	**05 02 16.2**	**+1.2**
GEC2				*e*Sg		**Sg**	**05 03 01.4**	**-2.7**
GERES	**GERESS Array B**	**3.08**	**212**	Pn		**Pn**	**05 02 16.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=179,slow=9.3,SNR=4.0							
GERES				Pg		**Pg**	**05 02 22.0**	**-2.1**
	comp=Z,3.3nm,0.3s,baz=33,slow=17,SNR=45							
GERES				Lg			05 03 00.8	
	comp=Z,3.4nm,0.3s,baz=39,slow=26,SNR=6.8							
GERES	**GERESS Array B**	**3.08**	**212**	Pg		**Pg**	**05 02 22.0**	**-2.2**
CONA	**Conrad Observa**	**3.56**	**184**	⇓*i*Pn		**Pn**	**05 02 23.0**	**+1.4**
CONA				⇑*e*Sg		**Sg**	**05 03 18.7**	**-0.7**
	comp=Z,9.1nm,0.4s							
BSD	**Bornholm Skovb**	**3.73**	**349**	*i* P		**Pn**	**05 02 23.3**	**-0.6**
BSD				*i* S		**Sn**	**05 03 05.8**	**-2.7**
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*PN		**Pn**	**05 02 27.7**	**+2.3**
STHS				*e*PG		**Pg**	**05 02 40.4**	**+1.8**
STHS				*e*SG		**Sg**	**05 03 34.0**	**+5.7**
MOA	**Molln**	**3.84**	**200**	⇓*i*Pn		**Pn**	**05 02 26.3**	**+0.9**
	comp=Z,1.7nm,0.2s							
MOA				⇑*e*Sg		**Sg**	**05 03 27.9**	**-0.6**
	comp=Z,8.5nm,0.4s							
ARSA	**Arzberg**	**4.25**	**186**	⇑*e*Pn		**Pn**	**05 02 28.1**	**-3.0**
	comp=Z,0.3nm,0.1s							
ARSA				⇑*e*Sg		**Sg**	**05 03 42.8**	**+1.1**
	comp=Z,6.8nm,0.6s							
NOA	**NORSAR Array B**	**9.98**	**346**	Pn		**Pn**	**05 03 49.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=2.2							
NOA	**NORSAR Array B**	**9.98**	**346**	Pn		**Pn**	**05 03 49.0**	**-0.7**
FINES	**FINESS Array B**	**11.38**	**25**	Pn		**Pn**	**05 04 07.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=5.0							
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn		**Pn**	**05 05 41.2**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=195,slow=14,SNR=6.3							

*ISCJB **14** 05:01:54.3±0.8,2020S±005×687W±02, h131km±12km, mb3.9/2, Error ellipse: s-maj=25.2km s-min=8.8km az=6.2*
*NEIC **14** 05:01:54.9±0.8,2019S×6868W, h122km±10km, mb4.2/1, Error ellipse: s-maj=18.3km s-min=12.7km az=94.0*
*IDC **14** 05:01:55.2±1.9,2019S×6870W, h115km±16km, mb3.9/1, mb1 3.8/4, mb1mx3.5/17, mbtmp3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=50.1km s-min=15.0km az=104.0*

ISC 14 05:01:55.6±0.8, 2020S±005×687W±02, h124km±12km, n9, σ0§80/10, mb4.0/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**185**	P		**Pn**	**05 02 34.2**	**0.0**
	19nm,0.3s,baz=6.0,slow=11,SNR=117							
LVC				S		**Sn**	**05 03 04.4**	**+0.4**
	66nm,0.3s,baz=110,slow=20,SNR=10.0							
LPAZ	**La Paz**	**3.93**	**8**	P		**Pn**	**05 02 54.5**	**+0.3**
	6.4nm,0.3s,baz=206,slow=6.4,SNR=164							
LPAZ	**La Paz**	**3.93**	**8**	P		**Pn**	**05 02 54.5**	**+0.3**
LPAZ				*e*Sn		**Sn**	**05 03 40.4**	**+0.7**
ARE	**Arequipa**	**4.57**	**324**	*e*P		**Pn**	**05 03 02.0**	**-0.8**
ARE				*e*S		**Sn**	**05 03 45.0**	**-10**
SIV	**San Ignacio**	**8.37**	**61**	P		**Pn**	**05 03 53.0**	**-1.0**
	2.9nm,0.3s,baz=254,slow=12,SNR=89							

PCRV	**Puerto La Cruz**	**30.45**	**8**	LR		LR	05 21 38.3	
	comp=Z,108nm,19.3s,baz=58,slow=39							
TORD	**Torodi Ar. Bea**	**76.73**	**71**	P		**P**	**05 13 34.5**	**+1.4**
	0.9nm,0.3s,mb3.9,baz=257,slow=5.3,SNR=53							
TORD				pP		pP	05 14 04.0	-0.2
	0.4nm,0.6s,baz=258,slow=5.2,SNR=2.3							
LSZ	**Lusaka**	**91.07**	**107**	P		**P**	**05 14 45.1**	**-0.8**
	0.7nm,0.4s,mb4.1							
WRA	**Warramunga Arr**	**134.17**	**211**	PKP		PKPdf	05 20 59.3	+0.8
	0.9nm,1.2s,baz=147,slow=1.6,SNR=4.9							

*NEIC **14** 05:01:53.2±1.0,633S×15160E, h10km, mb4.3/1, Error ellipse: s-maj=28.6km s-min=17.1km az=133.0*
*ISCJB **14** 05:01:56.4±5.2,645S±04×1515E±02, h41km±36km, mb3.8/5, Error ellipse: s-maj=66.5km s-min=34.4km az=133.4*
*IDC **14** 05:01:59.9±8.4,645S×15143E, h51km±64km, mb3.7/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.8/6, ML2.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=51.3km s-min=38.7km az=66.0*

ISC 14 05:01:58.1±5.1, 64S±04×1515E±03, h42km±35km, n14, σ0§25/12, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**235**	P		**Pn**	**05 03 14.4**	**+0.1**
	0.9nm,0.3s,baz=223,slow=20,SNR=2.2							
PMG				S		**Sn**	**05 04 13.9**	**+0.1**
	2.7nm,0.3s,baz=27,slow=15,SNR=4.4							
HNR	**Honiara**	**8.86**	**110**	LR		LR	05 06 46.3	
	comp=Z,107nm,18.0s,baz=178,slow=32							
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P		**P**	**05 06 42.6**	**-0.2**
WRA	**Warramunga Arr**	**21.46**	**229**	P		**P**	**05 06 42.3**	**-0.6**
	2.1nm,0.7s,mb3.6,baz=54,slow=10,SNR=9.4							
AS31	**Alice Springs**	**24.14**	**223**	*e*P		**P**	**05 07 10.1**	**0.0**
ASAR	**Alice Springs**	**24.14**	**223**	P		**P**	**05 07 10.4**	**+0.3**
	2.2nm,0.7s,mb3.7,baz=58,slow=9.4,SNR=16							
ASPA	**Alice Springs**	**24.14**	**223**	*e*P		**P**	**05 07 10.1**	**0.0**
STKA	**Stephens Creek**	**27.01**	**199**	P		**P**	**05 07 36.2**	**+0.1**
	2.4nm,0.5s,mb4.0,baz=0.9,slow=12,SNR=6.2							
STKA	**Stephens Creek**	**27.01**	**199**	P		**P**	**05 07 36.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.81**	**243**	*e*P		**P**	**05 07 43.2**	**-0.1**
	3.6nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**27.81**	**243**	P		**P**	**05 07 43.9**	**+0.6**
	1.4nm,0.4s,mb3.9,baz=52,slow=8.8,SNR=13							
VNDA	**Vanda**	**71.30**	**178**	P		**P**	**05 13 13.2**	**0.0**
	0.6nm,0.7s,mb3.6,baz=351,slow=6.2,SNR=4.0							
MDT	**Midelt**	**145.60**	**323**	PKPbc		PKPbc	05 21 33.7	+1.6
	1.4nm,0.8s,baz=75,slow=5.0,SNR=5.4							
TORD	**Torodi Ar. Bea**	**149.55**	**285**	PKPbc		PKPbc	05 21 43.6	+0.7
	1.4nm,0.6s,baz=94,slow=2.9,SNR=14							

*ISCJB **14** 05:08:32.7±0.2,4315N±002×004E±002, h4km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=141.1*
*STR **14** 05:08:34.6±0.1,4301N×001E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **14** 05:08:34.4±0.1,4304N×002W, h5km, Md2.8/2, Ml2.7/12, Error ellipse: s-maj=0.9km s-min=0.8km az=80.0*
*MDD **14** 05:08:35.0±0.2,4302N×001E, h0km, mbLg2.1/24, Error ellipse: s-maj=1.7km s-min=1.2km az=6.0, PRXIMO*
*CSEM **14** 05:08:34.9±0.0,4306N×001E, h5km, ML2.8/16, Error ellipse: s-maj=1.0km s-min=0.8km az=158.0*
*NEIC **14** 05:08:34.4,4304N×002W, h5km, ML2.6(STR), ML2.7(LDG), MN2.3(MDD), After LDG.*

ISC 14 05:08:33.9±0.2, 4309N±001×004E±002, h7km±2km, n114, σ1§05/199, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**149**	Pg		**Pg**	**05 08 36.2**	**+0.7**
LABF	**Labassere**	**0.05**	**149**	Pg		**Pg**	**05 08 36.2**	**+0.7**
LABF				Lg			05 08 37.5	
VIEF	**Viey**	**0.21**	**183**	Pg		**Pg**	**05 08 37.4**	**-0.7**
VIEF	**Viey**	**0.21**	**183**	Pg		**Pg**	**05 08 37.5**	**-0.6**
VIEF				Lg			05 08 39.6	
EPF	**Esparros**	**0.23**	**105**	*e*Pg		**Pg**	**05 08 39.2**	**+0.7**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**05 08 42.8**	**+1.2**
	161nm,0.2s							
EPF	**Esparros**	**0.23**	**105**	*e*Pg		**Pg**	**05 08 39.2**	**+0.7**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**05 08 42.8**	**+1.2**
	81nm,0.2s							
RESF	**Ens**	**0.36**	**142**	Pg		**Pg**	**05 08 40.7**	**-0.2**
RESF				Sg		**Sg**	**05 08 45.4**	**-0.2**
RESF	**Ens**	**0.36**	**142**	Pg		**Pg**	**05 08 40.7**	**-0.2**
RESF				Lg			05 08 45.2	
EBIE	**Bielsa**	**0.41**	**169**	⇑Pg		**Pg**	**05 08 41.1**	**-0.8**
	7.3nm,0.0s,SNR=18							
EBIE				Lg			05 08 45.9	
	79nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**0.41**	**169**	Pg		**Pg**	**05 08 41.1**	**-0.8**
	7.3nm,0.0s,SNR=18							
EBIE				Lg			05 08 45.9	
	79nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.48**	**247**	*e*Pg		**Pg**	**05 08 42.6**	**-0.6**
	SNR=1.0							
ETSF				*e*Sg		**Sg**	**05 08 48.3**	**-1.1**
	94nm,0.3s,SNR=1.0							
ETSF	**Etsaut**	**0.48**	**247**	*e*Pg		**Pg**	**05 08 42.6**	**-0.6**
	SNR=1.0							
ETSF				*e*Sg		**Sg**	**05 08 48.3**	**-1.1**
	47nm,0.3s,SNR=1.0							
FDAF	**Les Forges d'A**	**0.52**	**239**	Pg		**Pg**	**05 08 43.2**	**-0.8**
FDAF				Lg			05 08 49.8	
ATE	**Arette**	**0.54**	**270**	Pg		**Pg**	**05 08 44.5**	**+0.2**
ATE				Sg		**Sg**	**05 08 51.9**	**+0.5**
MELF	**Melles**	**0.57**	**112**	Pg		**Pg**	**05 08 45.1**	**+0.2**
MELF				Lg			05 08 53.2	
ORDF	**Ordiarp**	**0.72**	**280**	Pg		**Pg**	**05 08 48.7**	**+0.9**
ORDF				Lg			05 08 58.1	
LARF	**Larrau**	**0.75**	**266**	Pg		**Pg**	**05 08 48.9**	**+0.5**
LARF				Sg		**Sg**	**05 08 58.7**	**+0.5**
LARF	**Larrau**	**0.75**	**266**	Pg		**Pg**	**05 08 48.3**	**-0.1**
LARF				Lg			05 08 58.7	
MLS	**Moulis**	**0.79**	**99**	Lg			05 09 01.4	
SALF	**Salau**	**0.91**	**111**	Pg		**Pg**	**05 08 52.3**	**+1.0**
SALF	**Salau**	**0.91**	**111**	Pg		**Pg**	**05 08 51.5**	**+0.2**
SALF				Lg			05 09 04.0	
SJPF	**Ste Jean**	**0.93**	**272**	*e*Pg		**Pg**	**05 08 51.2**	**-0.5**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**05 09 02.5**	**-1.2**
	13nm,0.2s,SNR=1.0							
SJPF	**Ste Jean**	**0.93**	**272**	*e*Pg		**Pg**	**05 08 51.2**	**-0.5**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**05 09 02.5**	**-1.2**
	6.3nm,0.2s,SNR=1.0							
OSSF	**Osses**	**0.96**	**280**	Pg		**Pg**	**05 08 52.8**	**+0.3**
OSSF				Lg			05 09 04.6	
IPRE	**Itoiz**	**1.06**	**255**	Pg		**Pg**	**05 08 53.8**	**-0.5**
	3.3nm,0.2s,SNR=4.0							
IPRE				Lg			05 09 08.7	
	14nm,0.4s,SNR=6.5							
IPRE	**Itoiz**	**1.06**	**255**	Pg		**Pg**	**05 08 53.8**	**-0.5**
	3.3nm,0.2s,SNR=4.0							
CSOR	**Sort**	**1.08**	**131**	P		**Pg**	**05 08 54.0**	**-0.6**
CSOR				S		**Sg**	**05 09 08.7**	**+0.1**
CSOR	**Sort**	**1.08**	**131**	Pg		**Pg**	**05 08 53.9**	**-0.7**
CSOR				Lg			05 09 08.7	
	11nm,0.2s							
CSOR	**Sort**	**1.08**	**131**	P		**Pg**	**05 08 54.0**	**-0.6**
EALK	**Alkurruntz**	**1.14**	**277**	Pg		**Pg**	**05 08 55.5**	**-0.2**
	4.4nm,0.2s,SNR=7.9							
EALK				Lg			05 09 11.9	
	14nm,0.2s,SNR=18							
ELIZ	**Elizondo**	**1.15**	**274**	Pg		**Pg**	**05 08 56.1**	**+0.1**
	3.2nm,0.2s,SNR=13							
ELIZ				Lg			05 09 12.5	
	15nm,0.2s,SNR=10							
IUSE	**Utxeti**	**1.17**	**264**	Pg		**Pg**	**05 08 57.1**	**+0.7**
	6.0nm,0.2s,SNR=9.8							
IUSE				Lg			05 09 11.4	
	6.4nm,0.1s,SNR=5.2							
IUSE	**Utxeti**	**1.17**	**264**	Pg		**Pg**	**05 08 57.1**	**+0.7**
	6.0nm,0.2s,SNR=9.8							
EARA	**Aranguren**	**1.23**	**256**	Pg		**Pg**	**05 08 59.2**	**+1.7**
	3.1nm,0.1s,SNR=7.9							
EARA				Lg			05 09 14.7	
	11nm,0.2s,SNR=7.9							
CORG	**Organya**	**1.28**	**132**	P		**Pn**	**05 08 57.4**	**-0.7**
CORG				S		**Sb**	**05 09 15.1**	**+0.3**

CORG	**Organya**	**1.28**	**132**	Pg		**Pn**	**05 08 57.4**	**-0.7**
CORG				Lg			05 09 15.1	
	4.9nm,0.3s							
CORG	**Organya**	**1.28**	**132**	P		**Pn**	**05 08 57.4**	**-0.7**
CAVN	**Les Avellanes**	**1.32**	**156**	P		**Pn**	**05 08 58.3**	**-0.4**
CAVN				S		**Sb**	**05 09 15.7**	**-0.3**
CAVN	**Les Avellanes**	**1.32**	**156**	Pg		**Pn**	**05 08 58.3**	**-0.4**
CAVN				Lg			05 09 15.6	
	79nm,0.2s							
ESAC	**San Caprasio**	**1.42**	**196**	Pg		**Pg**	**05 09 00.6**	**-0.5**
	61nm,0.2s,SNR=44							
ESAC				Lg			05 09 18.8	
	180nm,0.2s,SNR=24							
ESAC	**San Caprasio**	**1.42**	**196**	Pg		**Pg**	**05 09 00.6**	**-0.5**
	61nm,0.2s,SNR=44							
CLLI	**Llivia**	**1.55**	**113**	P		**Pn**	**05 09 03.8**	**+1.9**
CLLI				S		**Sn**	**05 09 24.3**	**+2.1**
CLLI	**Llivia**	**1.55**	**113**	Pg		**Pg**	**05 09 03.8**	**+0.2**
CLLI				Lg			05 09 24.3	
	8.1nm,0.5s							
CLLI	**Llivia**	**1.55**	**113**	P		**Pg**	**05 09 03.8**	**+0.2**
EMIR	**Miracle**	**1.61**	**136**	Pg		**Pg**	**05 09 04.1**	**-0.6**
	9.9nm,0.2s,SNR=14							
EMIR				Lg			05 09 25.0	
	34nm,0.3s,SNR=8.9							
EMIR	**Miracle**	**1.61**	**136**	Pg		**Pg**	**05 09 04.1**	**-0.7**
	9.9nm,0.2s,SNR=14							
VALF	**Valcebollere**	**1.61**	**115**	Lg			05 09 27.4	
MTLF	**Montolieu**	**1.61**	**80**	*e*Pg		**Pg**	**05 09 05.2**	**+0.4**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**05 09 23.5**	**-0.3**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**05 09 27.7**	**+2.0**
	27nm,0.3s							
MTLF	**Montolieu**	**1.61**	**80**	*e*Pn		**Pn**	**05 09 03.0**	**+0.3**
MTLF				*e*Pg		**Pg**	**05 09 05.2**	**+0.4**
MTLF				*e*Sn		**Sn**	**05 09 23.5**	**-0.3**
MTLF				*e*Sg		**Sg**	**05 09 27.7**	**+2.0**
MTLF	**Montolieu**	**1.61**	**80**	Pn		**Pn**	**05 09 03.0**	**+0.3**
MTLF				Pg		**Pg**	**05 09 05.2**	**+0.4**
MTLF				Sn		**Sn**	**05 09 23.5**	**-0.3**
MTLF				Lg			05 09 27.7	
	14nm,0.3s							
MTLF	**Montolieu**	**1.61**	**80**	*e*Pn		**Pn**	**05 09 03.0**	**+0.3**
	SNR=1.0							
MTLF	**Montolieu**	**1.61**	**80**	*e*Pg		**Pg**	**05 09 05.2**	**+0.4**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**05 09 23.5**	**-0.3**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**05 09 27.7**	**+2.0**
	14nm,0.3s							
CBRU	**Bruguera**	**1.77**	**116**	P		**Pn**	**05 09 06.5**	**+1.5**
CBRU	**Bruguera**	**1.77**	**116**	Pg		**Pg**	**05 09 06.4**	**-1.5**
CBRU	**Bruguera**	**1.77**	**116**	P		**Pn**	**05 09 06.5**	**+1.6**
EPOB	**Poblet**	**1.90**	**156**	Pg		**Pg**	**05 09 08.7**	**-1.7**
	1.7nm,0.1s,SNR=13							
EPOB				Lg			05 09 32.5	
	10nm,0.2s,SNR=14							
EPOB	**Poblet**	**1.90**	**156**	Pg		**Pg**	**05 09 08.7**	**-1.6**
	1.7nm,0.1s,SNR=13							
LFF	**La Frestale**	**1.92**	**15**	*e*Pg		**Pg**	**05 09 10.9**	**+0.3**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**05 09 36.7**	**+1.2**
	15nm,0.2s,SNR=1.0							
LFF	**La Frestale**	**1.92**	**15**	*e*Pg		**Pg**	**05 09 10.9**	**+0.3**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**05 09 36.7**	**+1.2**
	7.3nm,0.2s,SNR=1.0							
ECRI	**Cripan**	**1.94**	**256**	⇑Pn		**Pn**	**05 09 08.7**	**+1.5**
	1.3nm,0.1s,SNR=18							
ECRI				Sn		**Sn**	**05 09 33.3**	**+1.6**
	3.6nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.14**	**174**	Pg		**Pg**	**05 09 12.2**	**-2.8**
	4.1nm,0.3s,SNR=8.1							
ERTA				Lg			05 09 40.1	
	14nm,0.3s,SNR=13							
ERTA	**Horta de San J**	**2.14**	**174**	Pg		**Pg**	**05 09 12.2**	**-2.8**
	4.1nm,0.3s,SNR=8.1							
EJON	**La Jonquera**	**2.19**	**106**	Pg		**Pg**	**05 09 15.5**	**-0.5**
	0.3nm,0.1s,SNR=7.9							
EJON				Lg			05 09 44.3	
	5.1nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**2.19**	**106**	Pg		**Pg**	**05 09 15.5**	**-0.5**
	0.3nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**2.22**	**126

LASF	**Ste Croix**	**2.94**	**69**	*e*Pn	**Pn**	**05 09 21.0**	**0.0**
LASF				*e*P		05 09 24.0	
LASF				*e*Pg	**Pg**	**05 09 30.4**	**+0.1**
LASF				*e*Sn	**Sn**	**05 09 55.3**	**-1.3**
LASF				*e*Sg	**Sg**	**05 10 08.8**	**+0.3**
LASF	**Ste Croix**	**2.94**	**69**	Pn	**Pn**	**05 09 21.0**	**0.0**
LASF				Pn	**Pn**	**05 09 24.0**	**+3.0**
LASF				Pg	**Pg**	**05 09 30.4**	**+0.1**
LASF				Sn	**Sn**	**05 09 55.3**	**-1.3**
LASF				Lg		05 10 08.8	
	2.9nm,0.3s						
LASF	**Ste Croix**	**2.94**	**69**	*e*Pn	**Pn**	**05 09 21.0**	**0.0**
LASF	**Ste Croix**	**2.94**	**69**	*e*P	**Pn**	**05 09 24.0**	**+3.0**
	SNR=1.0						
LASF	**Ste Croix**	**2.94**	**69**	*e*Pg	**Pg**	**05 09 30.4**	**+0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**05 09 55.3**	**-1.3**
LASF				*e*Sg	**Sg**	**05 10 08.8**	**+0.3**
	2.9nm,0.3s						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pg	**Pg**	**05 09 40.6**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**05 10 07.7**	**-3.0**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**05 10 25.3**	**-1.5**
	3.2nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pn	**Pn**	**05 09 28.5**	**-0.4**
MFF				*e*Pg	**Pg**	**05 09 40.6**	**-0.6**
MFF				*e*Sn	**Sn**	**05 10 07.7**	**-3.0**
MFF				*e*Sg	**Sg**	**05 10 25.3**	**-1.5**
MFF	**Saint Martin d**	**3.51**	**358**	Pn	**Pn**	**05 09 28.5**	**-0.4**
MFF				Pg	**Pg**	**05 09 40.6**	**-0.6**
MFF				Sn	**Sn**	**05 10 07.7**	**-3.0**
MFF				Lg		05 10 25.3	
	1.6nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pn	**Pn**	**05 09 28.5**	**-0.4**
	SNR=1.0						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pg	**Pg**	**05 09 40.6**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**05 10 07.7**	**-3.0**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**05 10 25.3**	**-1.5**
	1.6nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Pn	**Pn**	**05 09 29.5**	**+0.1**
TCF				*e*Sn	**Sn**	**05 10 09.9**	**-1.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**05 10 28.1**	**+0.1**
	5.0nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Pn	**Pn**	**05 09 29.5**	**+0.1**
TCF				*e*Sn	**Sn**	**05 10 09.9**	**-1.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**05 10 28.1**	**+0.1**
	2.5nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pg	**Pg**	**05 09 45.8**	**-0.6**
VIVF				*e*Sg	**Sg**	**05 10 34.8**	**-0.6**
	2.6nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pn	**Pn**	**05 09 32.3**	**-0.3**
VIVF				*e*Pg	**Pg**	**05 09 45.8**	**-0.6**
VIVF				*e*Sg	**Sg**	**05 10 34.8**	**-0.6**
VIVF	**Saint-Julien-l**	**3.78**	**61**	Pn	**Pn**	**05 09 32.3**	**-0.3**
VIVF				Pg	**Pg**	**05 09 45.8**	**-0.6**
VIVF				Lg		05 10 34.8	
	1.3nm,0.3s						
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pg	**Pg**	**05 09 45.8**	**-0.6**
VIVF				*e*Sg	**Sg**	**05 10 34.8**	**-0.6**
	1.3nm,0.3s,SNR=1.0						
EARI	**Arriondas**	**3.84**	**275**	Pn	**Pn**	**05 09 35.0**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**05 10 18.9**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.84**	**275**	Pn	**Pn**	**05 09 35.0**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**05 10 18.9**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**3.97**	**233**	Pn	**Pn**	**05 09 36.4**	**+1.2**
	SNR=7.9						
GUD				Sn	**Sn**	**05 10 20.3**	**-1.7**
	1.0nm,0.3s,SNR=7.9						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg	**Pg**	**05 09 49.9**	**-0.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**05 10 41.9**	**-0.5**
	10nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pn	**Pn**	**05 09 35.4**	**-0.2**
BGF				*e*Pg	**Pg**	**05 09 49.9**	**-0.7**
BGF				*e*Sg	**Sg**	**05 10 41.9**	**-0.5**
BGF	**Bois d'Agland**	**4.00**	**29**	Pn	**Pn**	**05 09 35.4**	**-0.2**
BGF				Pg	**Pg**	**05 09 49.9**	**-0.7**
BGF				Lg		05 10 41.9	
	5.2nm,0.3s						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg	**Pg**	**05 09 49.9**	**-0.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**05 10 41.9**	**-0.5**
	5.2nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.59**	**65**	*e*Sn	**Sn**	**05 10 34.5**	**-2.8**
	4.6nm,0.9s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.59**	**65**	Sn	**Sn**	**05 10 34.5**	**-2.8**
	2.3nm,0.9s						
ECAL	**Calabor**	**5.14**	**259**	Pn	**Pn**	**05 09 51.6**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**05 10 49.0**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.14**	**259**	Pn	**Pn**	**05 09 51.6**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**05 10 49.0**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**5.26**	**275**	Sn	**Sn**	**05 10 53.3**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.26**	**275**	Sn	**Sn**	**05 10 53.3**	**-0.4**
	0.6nm,0.1s,SNR=7.9						

IDC 14 05:13:29.7±9.9, 5521N×16204W, h0km, mb4.1/5, mb1 4.0/6, mb1mx3.7/26, mbtmp4.0/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/42, Error ellipse: s-maj=238.3km s-min=29.8km az=169.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**5.84**	**60**	Pn	**Pn**	05 14 57.4	-0.2
	0.8nm,0.3s,baz=20,slow=6.4,SNR=15						
KDAK				Sn	Sn	05 16 02.2	-2.9
	0.5nm,0.3s,baz=334,slow=8.0,SNR=2.4						
GUMO	**Guam**	**58.26**	**246**	LR	LR	05 47 35.5	
	comp=Z,44nm,18.7s,baz=66,slow=35						
FINES	**FINESS Array B**	**63.51**	**356**	P	P	05 24 01.0	-0.8
	4.3nm,1.0s,baz=57,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**64.86**	**317**	P	P	05 24 09.7	-0.9
	0.3nm,0.4s,baz=35,slow=4.7,SNR=4.4						
HFS	**Hagfors**	**64.95**	**2**	P	P	05 24 11.0	-0.2
	4.0nm,1.0s,baz=339,slow=3.7,SNR=5.2						
AKTO	**Aktyubinsk**	**69.55**	**334**	P	P	05 24 40.3	-0.1
	1.4nm,0.7s,baz=16,slow=6.4,SNR=5.3						
AKASG	**Malin Array Be**	**74.04**	**353**	P	P	05 25 06.7	-0.7
	0.3nm,0.2s,baz=5.2,slow=5.1,SNR=4.5						

*NEIC **14** 05:22:56.9, 3251S×7176W, h32km, ML2.7(GUC), After GUC.*

GUC 14 05:22:56.9±0.6, 3251S×7176W, h32km±3km, MD3.7, ML2.7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**96**	⇓*i*P	Pb	05 23 04.3	+0.1
PACH				*i* S	Sb	05 23 09.4	+0.2
PTCH	**Petorca**	**0.74**	**71**	*e*P	Pn	05 23 11.2	0.0
PTCH				*i* S	Sb	05 23 21.4	+0.1
ROCH	**El Roble**	**0.78**	**126**	*i* P	Pn	05 23 11.7	0.0
ROCH				*i* S	Sn	05 23 23.2	+0.8
JACH	**Jahuel**	**1.00**	**100**	*i* P	Pn	05 23 15.2	+0.5
JACH				*i* S	Sn	05 23 29.0	+1.3
PEL	**Peldehue**	**1.11**	**125**	*e*P	Pn	05 23 16.8	+0.6
PEL				*i* S	Sn	05 23 31.6	+1.3
PEL				AML	AML	05 23 35.2	
	comp=E,526nm,0.4s						
PEL	**Peldehue**	**1.11**	**125**	*e*P	Pn	05 23 16.8	+0.6
PEL				*i* S	Sn	05 23 31.6	+1.3
RCDM	**Rinconada Maip**	**1.27**	**141**	*e*P	Pn	05 23 19.1	+0.8
RCDM				*i* S	Sn	05 23 35.5	+1.2
RCDM				AML	AML	05 23 38.6	
	comp=E,217nm,0.2s						
RCDM	**Rinconada Maip**	**1.27**	**141**	*e*P	Pn	05 23 19.1	+0.8
RCDM				*i* S	Sn	05 23 35.5	+1.2
STL	**Santa Lucia**	**1.32**	**135**	*i* S	Sn	05 23 37.2	+1.6
TACH	**Talagante**	**1.33**	**149**	⇓*i*P	Pn	05 23 20.1	+0.8
TACH				*i* S	Sn	05 23 37.4	+1.4
CLCH	**Cerro Calan**	**1.36**	**131**	*e*P	Pn	05 23 20.3	+0.7
CLCH				*i* S	Sn	05 23 38.6	+2.1
CLCH				AML	AML	05 23 40.7	
	comp=E,158nm,0.7s						
ANTU	**Antumapu**	**1.42**	**138**	⇑*i*P	Pn	05 23 21.3	+0.9
ANTU				*i* S	Sn	05 23 40.4	+2.3
ANTU				AML	AML	05 23 45.0	
	comp=E,188nm,0.5s						
ANTU	**Antumapu**	**1.42**	**138**	⇑*i*P	Pn	05 23 21.3	+0.9
ANTU				*i* S	Sn	05 23 40.4	+2.3
CMCH	**Combarbala**	**1.48**	**26**	⇑*i*P	Pn	05 23 22.4	+1.1
CMCH				*i* S	Sn	05 23 41.8	+2.3
CMCH				AML	AML	05 23 46.3	
	comp=E,514nm,0.8s						
CMCH	**Combarbala**	**1.48**	**26**	⇑*i*P	Pn	05 23 22.4	+1.1
CMCH				*i* S	Sn	05 23 41.8	+2.3
FCH	**Farellones**	**1.48**	**124**	*e*P	Pn	05 23 23.1	+1.8
FCH				*i* S	Sn	05 23 42.8	+3.1
FCH				AML	AML	05 23 44.8	
	comp=E,114nm,0.3s						
PCH	**Pirque**	**1.53**	**137**	*e*P	Pn	05 23 23.2	+1.3
PCH				*i* S	Sn	05 23 44.2	+3.5
CHCH	**Chadas Angostu**	**1.70**	**147**	*i* P	Pn	05 23 26.4	+2.1
CACH	**El Canelo**	**1.88**	**149**	*e*P	Pn	05 23 28.8	+2.1
CACH				*i* S	Sn	05 23 53.5	+4.2

*ISCJB **14** 05:30:34.7±1.4, 647N±008×12630E±009, h20km±11km, mb3.9/8, MS2.8/2, Error ellipse: s-maj=18.7km s-min=9.4km az=101.7*
*NEIC **14** 05:30:38.8±1.1, 644N×126.13E, h35km, mb4.2/2, Error ellipse: s-maj=92.1km s-min=11.6km az=67.0*
*IDC **14** 05:30:43.9±10.0, 621N×12572E, h76km±91km, mb3.7/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=114.4km s-min=19.8km az=65.0*

ISC 14 05:30:35.2±1.3, 648N±008×12622E±008, h9km±8km, n17, σ0 71/16, mb3.9/8, MS2.8/2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.47**	**4**	*e*P	**Pg**	**05 30 44.1**	**-0.3**
DMPH	**Davao City--Mi**	**0.93**	**310**	⇓*i*P	**Pg**	**05 30 53.8**	**+0.7**
DMPH				*i* S	**Sg**	**05 31 05.3**	**-0.1**
KCP	**Kidapawan**	**1.25**	**295**	⇓*i*P	**Sb**	**05 31 14.4**	**-0.5**
BUKP	**Musuan**	**1.81**	**320**	*e*P	**Pn**	**05 31 05.8**	**-0.7**
BUKP				*e*S	**Sn**	**05 31 30.6**	**+1.0**
SCPH	**Surigao**	**3.37**	**348**	*e*P	**Pn**	**05 31 31.9**	**+4.1**
FITZ	**Fitzroy Crossi**	**24.43**	**181**	P	**P**	**05 35 53.9**	**-0.1**
	2.3nm,0.8s,mb3.7,baz=359,slow=9.2,SNR=4.6						
WRAB	**Tennant Creek**	**27.43**	**163**	*e*P	**P**	**05 36 21.3**	**+0.1**
	1.4nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**27.44**	**163**	P	**P**	**05 36 21.3**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=339,slow=10,SNR=7.8						
PSI	**Prapat**	**27.45**	**264**	LR	LR	05 46 45.4	
	comp=Z,35nm,20.5s,MS2.9,baz=8.3,slow=36						
ASAR	**Alice Springs**	**30.88**	**166**	P	**P**	**05 36 51.9**	**0.0**
	0.9nm,0.5s,mb3.9,baz=354,slow=8.5,SNR=5.6						
ASAR				PcP	PcP	05 39 48.4	-0.1
	0.5nm,0.6s,baz=353,slow=2.6,SNR=6.8						
CTA	**Charters Tower**	**32.94**	**144**	LR	LR	05 51 05.7	
	comp=Z,14nm,20.8s,MS2.6,baz=232,slow=37						
STKA	**Stephens Creek**	**40.86**	**160**	P	**P**	**05 38 17.9**	**+0.6**
	2.0nm,0.4s,mb4.1,baz=354,slow=9.2,SNR=5.2						
STKA	**Stephens Creek**	**40.86**	**160**	P	**P**	**05 38 17.9**	**+0.6**
MKAR	**Makanchi Array**	**55.04**	**324**	P	**P**	**05 40 08.2**	**+1.1**
	0.9nm,0.5s,mb4.0,baz=123,slow=8.8,SNR=9.7						
MKAR				PcP	PcP	05 41 08.6	0.0
	1.3nm,1.0s,baz=123,slow=5.3,SNR=3.6						
BVAR	**Borovoye Array**	**64.76**	**326**	P	**P**	**05 41 12.9**	**-1.0**
	0.7nm,0.6s,mb3.9,baz=125,slow=7.8,SNR=7.6						
ZRNK	**Zerenda**	**65.50**	**326**	*e*P	**P**	**05 41 17.6**	**-1.1**
	4.4nm,1.0s,mb4.4						
TORD	**Torodi Ar. Bea**	**121.56**	**290**	PKP	PKPdf	05 49 27.9	-1.3
	0.5nm,0.9s,baz=51,slow=2.1,SNR=4.4						

*NEIC **14** 05:40:45.0±3.6, 605S×151.22E, h10km, mb4.5/1, Error ellipse: s-maj=69.0km s-min=17.4km az=184.0*
*ISCJB **14** 05:40:50.4±4.8, 63S±03×1512E±01, h58km±32km, mb3.8/5, Error ellipse: s-maj=56.8km s-min=22.8km az=168.1*
*IDC **14** 05:40:53.5±6.7, 637S×151.11E, h63km±51km, mb3.7/5, mb1 3.8/6, mb1mx3.6/14, mbtmp3.7/6, ML2.5/1, Error ellipse: s-maj=54.0km s-min=26.0km az=6.0*

ISC 14 05:40:52.4±4.7, 63S±04×1512E±01, h60km±30km, n12, σ0 61/13, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.05**	**232**	P	**Pn**	**05 42 06.1**	**+0.5**
	1.2nm,0.3s,baz=62,slow=8.8,SNR=4.2						
PMG				S	**Sn**	**05 43 01.6**	**-1.0**
	1.4nm,0.3s,baz=194,slow=21,SNR=2.2						
PMG	**Port Moresby**	**5.05**	**232**	*e*Pn	**Pn**	**05 42 04.4**	**-1.2**
	29nm,0.8s						
PMG				*e*Sn	**Sn**	**05 43 04.3**	**+1.7**
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P	**P**	**05 45 33.4**	**-0.1**
WRA	**Warramunga Arr**	**21.27**	**229**	P	**P**	**05 45 33.7**	**0.0**
	2.2nm,0.7s,mb3.6,baz=51,slow=10,SNR=33						
DZM	**Mont Dzumac**	**21.55**	**138**	P	**P**	**05 45 37.0**	**+0.3**
	4.4nm,1.0s,mb3.9,baz=167,slow=16,SNR=3.1						
AS31	**Alice Springs**	**23.98**	**222**	*e*P	**P**	**05 46 01.2**	**0.0**
ASAR	**Alice Springs**	**23.98**	**222**	P	**P**	**05 46 00.8**	**-0.5**
	1.7nm,0.8s,mb3.5,baz=52,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**05 46 28.3**	**-0.3**
	2.9nm,0.8s,mb3.9,baz=0.0,slow=6.1,SNR=3.4						
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**05 46 28.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.55**	**242**	*e*P	**P**	**05 46 34.1**	**+0.6**
	5.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.55**	**242**	P	**P**	**05 46 34.0**	**+0.5**
	2.6nm,0.6s,mb4.0,baz=87,slow=8.3,SNR=13						
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc	PKPbc	06 00 35.5	+1.5
	1.0nm,0.6s,baz=52,slow=2.4,SNR=11						

NEIC 14 06:29:45.1, 5852N×15318W, h58km, ML3.3(AEIC), ML3.7(PMR), After AEIC., Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.80**	**157**	P	Pn	06 30 00.1	-0.4
KDAK				S	Sn	06 30 11.5	-0.3
AUL	**Augustine Lava**	**0.88**	**351**	P	Pn	06 30 00.9	-0.5
SEW	**Seward**	**2.49**	**49**	P	Pn	06 30 21.3	-1.8
SLKM	**Skilak Lake**	**2.50**	**36**	P	Pn	06 30 22.2	-1.2
RC01	**Rabbit Creek A**	**3.11**	**33**	P	Pn	06 30 30.6	-1.0
CHGN	**Chignik**	**3.60**	**234**	*e*P	Pn	06 30 37.7	-0.7
PMR	**Palmer**	**3.69**	**32**	P	Pn	06 30 37.8	-1.8
GHO	**Glory Hole Cre**	**3.90**	**31**	P	Pn	06 30 41.0	-1.4
EYAK	**Cordova Ski Ar**	**4.30**	**59**	*e*Pn	Pn	06 30 46.3	-1.6
TRF	**Thorofare Moun**	**5.14**	**15**	P	Pn	06 30 58.9	-0.6
KTH	**Kantishna Hill**	**5.17**	**11**	P	Pn	06 30 59.4	-0.5
MCK	**McKinley**	**5.62**	**20**	P	Pn	06 31 04.9	-1.2
COLA	**College**	**6.86**	**19**	P	Pn	06 31 20.9	-2.1
IMA2	**Indian Mountai**	**7.58**	**358**	*e*Pn	Pn	06 31 31.8	-1.2
EGAK	**Eagle**	**8.48**	**37**	P	Pn	06 31 43.2	-2.0
DAWY	**Dawson**	**8.65**	**44**	*e*Pn	Pn	06 31 46.5	-1.0
SKAG	**Skagway**	**9.26**	**77**	*e*P	Pn	06 31 57.7	+1.8
	4.1nm,0.3s						
DLBC	**Dease Lake**	**12.10**	**80**	*e*Pn	Pn	06 32 34.8	0.0

*LDG **14** 06:34:50.8±0.1, 4304N×003W, h5km, Md1.9/2, Ml2.0/5, Error ellipse: s-maj=2.8km s-min=1.4km az=160.0*
*STR **14** 06:34:50.5±0.2, 4301N×000E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 14 06:34:50.9±0.4, 4303N×000E, h7km±3km, mbLg1.3/10, 1C, Error ellipse: s-maj=2.7km s-min=2.2km az=154.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**68**	Pg	Pg	06 34 52.6	+0.1
LABF				Sg	Sg	06 34 53.8	+0.1
LABF	**Labassere**	**0.06**	**68**	Pg	Pg	06 34 52.6	+0.1
LABF				Lg		06 34 53.9	
VIEF	**Viey**	**0.14**	**173**	Pg	Pg	06 34 53.7	-0.2
VIEF				Sg	Sg	06 34 55.7	-0.2
VIEF	**Viey**	**0.14**	**173**	Pg	Pg	06 34 53.8	-0.1
VIEF				Lg		06 34 55.9	
EPF	**Esparros**	**0.25**	**89**	*e*Pg	Pg	06 34 55.5	-0.3
EPF				*e*Sg	Sg	06 34 59.1	0.0
	8.9nm,0.2s						
EPF	**Esparros**	**0.25**	**89**	Pg	Pg	06 34 55.5	-0.3
EPF				Lg		06 34 59.1	
	4.4nm,0.2s						
RESF	**Ens**	**0.33**	**131**	Pg	Pg	06 34 57.1	-0.2
RESF				Sg	Sg	06 35 01.8	+0.1
RESF	**Ens**	**0.33**	**131**	Pg	Pg	06 34 57.0	-0.3
RESF				Lg		06 35 01.8	
EBIE	**Bielsa**	**0.35**	**163**	⇑Pg	Pg	06 34 57.5	-0.3
	3.1nm,0.1s,SNR=18						
EBIE				Lg		06 35 02.2	
	5.4nm,0.0s,SNR=6.5						
ETSF	**Etsaut**	**0.43**	**253**	*e*Pg	Pg	06 34 58.9	-0.3
ETSF				*e*Sg	Sg	06 35 04.6	-0.3
	7.5nm,0.2s						
ETSF	**Etsaut**	**0.43**	**253**	Pg	Pg	06 34 58.9	-0.3
ETSF				Lg		06 35 04.6	
	3.8nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Pg	Pg	06 35 07.4	-0.8
SALF	**Salau**	**0.91**	**107**	Pg	Pg	06 35 07.8	-0.6
SALF				Lg		06 35 20.2	
ESAC	**San Caprasio**	**1.35**	**195**	Pg	Pg	06 35 17.1	+0.4
	6.9nm,0.2s,SNR=7.9						
ESAC				Lg		06 35 35.9	
	8.1nm,0.2s,SNR=8.0						
EMIR	**Miracle**	**1.58**	**134**	Pg	Pg	06 35 20.2	-1.1
	1.0nm,0.2s,SNR=4.0						
EMIR				Lg		06 35 41.7	
	0.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pn	Pn	06 35 19.2	-1.0
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	06 35 21.5	-1.0
MTLF				*e*Sn	Sn	06 35 39.8	-1.9
MTLF				*e*Sg	Sg	06 35 44.1	+0.1
	2.8nm,0.3s						
MTLF	**Montolieu**	**1.65**	**78**	Pn	Pn	06 35 19.2	-1.0
MTLF				Pg	Pg	06 35 21.5	-1.0
MTLF				Sn	Sn	06 35 39.8	-1.9
MTLF				Lg		06 35 44.1	
	1.4nm,0.3s						
EPOB	**Poblet**	**1.85**	**154**	Lg		06 35 49.5	
	1.7nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**1.99**	**15**	*e*Pg	Pg	06 35 27.4	-1.6
LFF				*e*Sg	Sg	06 35 52.9	-1.8
	2.6nm,0.3s						
LFF	**La Frestale**	**1.99**	**15**	Pg	Pg	06 35 27.4	-1.6
LFF				Lg		06 35 52.9	
	1.3nm,0.3s						
CAF	**Calviac**	**2.41**	**37**	*e*Sg	Sg	06 36 06.8	-1.6
	1.3nm,0.2s						
CAF	**Calviac**	**2.41**	**37**	Lg		06 36 06.8	
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Sg	Sg	06 36 09.9	-2.1
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**25**	Lg		06 36 09.9	
	0.4nm,0.2s						
LASF	**Ste Croix**	**2.99**	**68**	*e*Sg	Sg	06 36 25.1	-1.9
	1.1nm,0.2s						
LASF	**Ste Croix**	**2.99**	**68**	Lg		06 36 25.1	
	0.6nm,0.2s						

IDC 14 06:35:37.6±3.3, 640S×15118E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=113.9km s-min=46.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.19**	**229**	P	P	06 40 24.3	-0.2
	0.3nm,0.3s,baz=54,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**23.89**	**222**	P	P	06 40 53.3	+0.4
	0.7nm,0.5s,baz=59,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**27.49**	**243**	P	P	06 41 26.4	+0.8
	0.9nm,0.6s,baz=55,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.21**	**285**	PKPbc	PKPbc	06 55 28.6	+0.6
	0.3nm,0.5s,baz=64,slow=2.9,SNR=7.6						

*NIED **14** 06:38:00, 4250N×134.50E, h74km, Mw3.7 Best double couple: M0 3.97000×10^14 NP1: ϕs 281.00000°, δ72.00000°, λ-92.00000°. NP2: ϕs 107.00000°, δ18.00000°, λ-84.00000°.*
*MOS **14** 06:38:04.1±0.7, 4238N×143.63E, h95km, mb4.0/2, Error ellipse: s-maj=25.5km s-min=14.2km az=77.8*
*ISCJB **14** 06:38:04.5±0.5, 4247N±005×143.57E±005, h91km±3km, mb3.8/9, Error ellipse: s-maj=8.4km s-min=5.4km az=108.4*
*NEIC **14** 06:38:05.3±0.9, 4241N×143.72E, h89km±13km, mb4.0/1, Error ellipse: s-maj=23.8km s-min=14.5km az=162.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.
*IDC **14** 06:38:05.2±2.6, 4250N×143.70E, h81km±19km, mb3.6/8, mb1 3.7/9, mb1mx3.5/25, mbtmp3.6/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/39, Error ellipse: s-maj=23.0km s-min=20.9km az=109.0*
*JMA **14** 06:38:06.0±0.1, 4248N×143.53E, h80km±2km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs 123.00000°, δ18.00000°, λ-46.00000°. NP2: ϕs 257.00000°, δ77.00000°, λ-103.00000°. Principal axes: T Plg31.0000°, Azm358.0000°; N Plg13.0000°, Azm260.0000°; P Plg56.0000°, Azm151.0000°;*
JMA Felt I J1.

ISC 14 06:38:05.4±0.5, 4248N±004×14358E±005, h86km±3km, n33, σ0 60/45, mb3.8/9, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.21**	**311**	⇓P

comp=Z,1.0nm,0.7s,mb3.8
CHKZ Chkalovo 47.95 310 *e*P **P 06 46 35.4 +0.2**
comp=Z,1.5nm,0.7s,mb3.9
BVAR Borovoye Array 48.28 309 P **P 06 46 38.7 +0.9**
comp=Z,0.5nm,0.3s,mb3.8,baz=85,slow=9.2,SNR=5.1
INK Inuvik 48.81 29 P **P 06 46 41.5 -0.4**
comp=Z,1.3nm,0.6s,mb4.0,baz=298,slow=7.9,SNR=4.8
INK Inuvik 48.81 29 P **P 06 46 41.5 -0.3**
INK pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 56.92 16 *e*P **P 06 47 40.6 -0.9**
YKA Yellowknife Ar 58.30 32 P **P 06 47 49.8 -1.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=296,slow=6.9,SNR=4.5
ARCES ARCESS Array B 59.51 339 P **P 06 47 59.3 -0.2**
comp=Z,3.4nm,0.8s,mb4.4,baz=31,slow=7.6,SNR=4.7
FINES FINESS Array B 64.79 332 P **P 06 48 34.0 -0.9**
comp=Z,0.6nm,0.4s,mb3.7,baz=49,slow=8.6,SNR=4.9
FINES FINESS Array B 64.79 332 P **P 06 48 34.0 -0.9**
TXAR Lajitas Array 85.53 54 P **P 06 50 33.8 0.0**
comp=Z,0.1nm,0.5s,mb3.0,baz=287,slow=3.5,SNR=3.2
TXAR pP pP 06 50 58.9 +2.1
comp=Z,0.3nm,0.7s,baz=304,slow=2.9,SNR=3.0

ISCJB ***14*** *06:38:47.9₀0.7,2190S₀008×683W₀0.1,h117km±7km, mb3.8/9, Error ellipse: s-maj=21.6km s-min=12.1km az=26.6*
IDC ***14*** *06:38:48.6₀0.8,2187S×6832W, h108km±8km, mb3.7/9, mb1 3.8/11, mb1mx3.8/17, mbtmp3.7/11, Error ellipse: s-maj=22.1km s-min=14.3km az=89.0*
ISC 14 06:38:49.0₀0.7,2192S₀008×683W₀01,h112km±7km,n19, ₀0595/17,mb3.8/9,2C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.92**	**221**	P			**Pn**	**06 39 10.5**	**+0.9**
	380nm,0.3s,baz=30,slow=8.7,SNR=3051								
LVC				S			**Sn**	**06 39 25.0**	**-0.2**
	736nm,0.3s,baz=264,slow=22,SNR=133								
LPAZ	**La Paz**	**5.60**	**1**	P			**Pn**	**06 40 11.3**	**+1.4**
	0.6nm,0.3s,baz=199,slow=10,SNR=11								
SIV	**San Ignacio**	**8.99**	**50**	P			**Pn**	**06 40 54.9**	**-1.1**
	3.7nm,0.3s,baz=240,slow=11,SNR=126								
SIV				S			**Sn**	**06 42 29.6**	**-5.7**
	0.4nm,0.3s,baz=136,slow=21,SNR=4.7								
CFAA	**Coronel Fontan**	**9.65**	**180**	P			**Pn**	**06 41 03.4**	**-1.5**
	0.1nm,0.3s,baz=356,slow=13,SNR=5.0								
TXAR	**Lajitas Array**	**61.32**	**325**	P			**P**	**06 48 52.1**	**-0.6**
	0.2nm,0.7s,mb3.2,baz=156,slow=8.7,SNR=3.0								
SNAA	**Sanae**	**61.69**	**161**	P			**P**	**06 48 55.6**	**+0.5**
	1.2nm,0.6s,mb4.1,baz=333,slow=8.4,SNR=6.3								
PDAR	**Pinedale Array**	**74.77**	**330**	P			**P**	**06 50 16.8**	**+0.1**
	0.4nm,0.7s,mb3.3,baz=138,slow=9.3,SNR=3.1								
ULM	**Lac du Bonnet**	**75.90**	**342**	P			**P**	**06 50 21.7**	**-1.4**
	2.0nm,0.8s,mb3.9,baz=140,slow=7.9,SNR=2.4								
SYO	**Syowa Base**	**75.90**	**159⇑**	*e*P			**P**	**06 50 23.3**	**+0.1**
SYO	**Syowa Base**	**75.90**	**159⇑**	*e*P			**P**	**06 50 28.8**	**+5.6**
VNDA	**Vanda**	**76.55**	**190**	P			**P**	**06 50 27.8**	**+0.9**
	0.7nm,0.8s,mb3.4,baz=187,slow=2.7,SNR=3.6								
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P			**P**	**06 50 29.4**	**+0.5**
	2.9nm,0.7s,mb4.1,baz=258,slow=4.9,SNR=20								
TORD				pP			pP	06 51 01.6	+4.2
	1.5nm,0.6s,baz=254,slow=5.7,SNR=3.7								
BOSA	**Boshof**	**82.71**	**118**	P			**P**	**06 51 01.8**	**+1.6**
	2.4nm,0.8s,mb4.1,baz=252,slow=3.2,SNR=3.8								
MAW	**Mawson**	**83.76**	**163**	P			**P**	**06 51 05.2**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=240,slow=8.1,SNR=3.0								
YKA	**Yellowknife Ar**	**91.78**	**340**	P			**P**	**06 51 43.3**	**-0.7**
	2.1nm,0.7s,mb4.5,baz=132,slow=4.7,SNR=9.3								
ASAR	**Alice Springs**	**129.82**	**207**	PKP			PKPdf	06 57 45.6	+0.6
	1.0nm,0.8s,baz=156,slow=2.4,SNR=8.2								
WRA	**Warramunga Arr**	**132.90**	**210**	PKP			PKPdf	06 57 51.5	+0.6
	0.8nm,0.7s,baz=154,slow=1.7,SNR=1.1								
ZAL	**Zalesovo**	**142.06**	**26**	PKP			PKPdf	06 58 08.2	+0.4
	0.8nm,0.4s,baz=208,slow=7.6,SNR=3.1								
MKAR	**Makanchi Array**	**145.60**	**37**	PKPbc			PKPbc	06 58 14.7	+0.3
	0.7nm,0.5s,baz=310,slow=3.4,SNR=7.5								

BJI ***14*** *06:40:30.0,587S×15075E,h155km,mB5.1,mb5.1*
NEIC ***14*** *06:40:31.9₀0.3,546S×15034E,mb5.0/29, Error ellipse: s-maj=10.3km s-min=5.9km az=92.0*
GCMT ***14*** *06:40:31.9₀0.3,568S×15034E,h150km±3km, MW5.0/71, Moment Tensor Solution. s21,c23; s71,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.86±.14; Mθθ2.26±.18; Mφφ-0.40±.18; Mrθ-2.46±.12; Mrφ-1.17±.21; Mθφ-1.07±.11; Best double couple: Mo3.59300×10^16 NP1:φ320.00000°,δ33.00000°,λ-34.00000°. NP2: φ79.00000°,δ72.00000°,λ-118.00000°. Principal axes: T 3.5120, Plg23.0000°, Azm190.0000°; N 0.1620, Plg26.0000°, Azm89.0000°; P -3.6740, Plg54.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***14*** *06:40:32.9₀0.3,550S₀003×15029E₀005,h144km, mb4.8/62 Error ellipse: s-maj=7.6km s-min=4.2km az=17.0*
MOS ***14*** *06:40:33.6±1.0,546S×15026E,h153km,mb4.8/25, Error ellipse: s-maj=13.0km s-min=7.5km az=93.2*
IDC ***14*** *06:40:34.5±1.1,550S×15016E,h145km±9km, mb4.5/21, mb1 4.6/24, mb1mx4.6/25, mbtmp4.6/24, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=12.1km s-min=7.5km az=100.0*
ISC 14 06:40:34.9₀0.3,555S₀003×15024E₀005,h146km, h146km±3.5km:pP-P,n142,σ1°10/145,mb4.8/62,11C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**218**	P			**Pn**	**06 41 46.9**	**0.0**
	52nm,0.3s,baz=25,slow=5.6,SNR=86								
PMG				S			**Sn**	**06 42 42.6**	**-0.4**
	108nm,0.3s,baz=20,slow=7.0,SNR=20								
PMG				LR			LR	06 43 18.1	
	comp=Z,442nm,20.8s,baz=40,slow=34								
PMG	**Port Moresby**	**4.90**	**218**	*c*P			**Pn**	**06 41 46.8**	**-0.1**
PMG	**Port Moresby**	**4.90**	**218**	*e*Pn			**Pn**	**06 41 47.0**	**+0.1**
CTA	**Charters Tower**	**14.96**	**195**	*e*P			**Pn**	**06 43 59.8**	**+0.9**
	98nm,0.9s								
CTA	**Charters Tower**	**14.96**	**195**	P			**Pn**	**06 44 00.1**	**+1.2**
	1.7nm,0.3s,baz=16,slow=13,SNR=36								
CTA	**Charters Tower**	**14.96**	**195**	*e*P			**Pn**	**06 43 59.8**	**+0.9**
CTA				pmax			pmax		
	comp=Z,99nm,0.9s								
CTAO	**Charters Tower**	**14.96**	**195**	*e*P			**Pn**	**06 44 00.0**	**+1.1**
KAKA	**Kakadu**	**18.95**	**247⇓**	*i*P			**P**	**06 44 43.8**	**-0.9**
	comp=Z,12nm,0.3s								
KAKA				*e*S			**S**	**06 48 09.2**	**-3.0**
KAKA				*e*				06 48 23.0	
GUMO	**Guam**	**19.75**	**344**	P			**P**	**06 44 53.7**	**+0.4**
	comp=Z,7.2nm,0.3s,baz=173,slow=9.8,SNR=9.7								
GUMO	**Guam**	**19.75**	**344**	*e*P			**P**	**06 44 53.3**	**-0.1**
GUMO				pmax			pmax		
	comp=Z,658nm,1.3s								
GUMO	**Guam**	**19.75**	**344**	*e*P			**P**	**06 44 53.2**	**-0.1**
	comp=Z,658nm,1.3s								
WRAB	**Tennant Creek**	**21.05**	**226**	*e*P			**P**	**06 45 07.1**	**-0.2**
WRAB				*e*S			**S**	**06 48 54.0**	**+0.6**
WRAB				pmax			pmax		
	comp=Z,60nm,1.0s,mb4.9								
WRAB	**Tennant Creek**	**21.05**	**226**	*e*P			**P**	**06 45 07.1**	**-0.2**
	comp=Z,60nm,1.0s,mb4.9								
WRAB				*e*S			**S**	**06 48 54.0**	**+0.6**
WB2	**Warramunga Arr**	**21.06**	**226⇑**	*i*P			**P**	**06 45 07.2**	**-0.1**
WB2				*e*S			**S**	**06 48 52.1**	**-1.4**
WB2				*e*SCP			ScP	06 52 32.0	+1.0
WB2				*e*PCS			PcS	06 52 46.0	0.0
WRA	**Warramunga Arr**	**21.07**	**226**	P			**P**	**06 45 07.4**	**-0.1**
	comp=Z,12nm,0.5s,mb4.5,baz=49,slow=11,SNR=125								
WRA				S			**S**	**06 48 51.0**	**-2.6**
	comp=Z,25nm,1.1s,baz=53,slow=20,SNR=6.2								
WRA				PcP			PcP	06 49 08.5	+0.5
	comp=Z,10nm,0.8s,baz=43,slow=2.2,SNR=11								
WRA				ScP			ScP	06 52 31.6	+0.6
	comp=Z,5.6nm,0.7s,baz=52,slow=2.7,SNR=26								
WRA	**Warramunga Arr**	**21.07**	**226**	P			**P**	**06 45 07.4**	**0.0**
WRA				S			**S**	**06 48 51.0**	**-2.6**
WRA								06 49 08.5	
WRA				pmax			pmax		
	comp=Z,13nm,0.5s								
WRA				smax					
	comp=N,25nm,1.1s								
DZM	**Mont Dzumac**	**22.70**	**138**	*e*P			**P**	**06 45 24.3**	**+0.2**
DZM	**Mont Dzumac**	**22.70**	**138**	P			**P**	**06 45 24.2**	**+0.1**
	comp=N,99nm,0.5s,mb5.5,baz=275,slow=7.1,SNR=360								
AS31	**Alice Springs**	**23.91**	**220**	*e*P			**P**	**06 45 36.0**	**+0.8**
AS31				*e*S			**S**	**06 49 40.8**	**0.0**
AS31				*e*ScP			ScP	06 52 39.3	+0.9
ASAR	**Alice Springs**	**23.91**	**220**	P			**P**	**06 45 36.0**	**+0.8**
	comp=N,5.9nm,0.3s,mb4.6,baz=51,slow=8.9,SNR=111								
ASAR				PcP			PcP	06 49 13.6	-0.1
	comp=N,3.5nm,0.7s,baz=50,slow=2.9,SNR=5.6								
ASAR				S			**S**	**06 49 41.0**	**+0.2**
	comp=N,15nm,0.7s,baz=48,slow=14,SNR=17								
ASAR				ScP			ScP	06 52 39.2	+0.8
	comp=N,5.1nm,0.9s,baz=53,slow=3.2,SNR=13								
ASAR				LR			LR	06 55 15.4	
	comp=N,121nm,21.2s,baz=11,slow=37								
FITZ	**Fitzroy Crossi**	**27.07**	**240⇓**	*i*P			**P**	**06 46 03.5**	**-0.2**
	comp=N,25nm,0.3s,mb5.3								
FITZ				*e*pP			pP	06 46 30.9	-3.5
FITZ				*e*S			**S**	**06 50 29.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.07**	**240**	P			**P**	**06 46 03.5**	**-0.2**
	comp=N,17nm,0.3s,mb5.1,baz=69,slow=7.4,SNR=184								
FITZ				S			**S**	**06 50 30.2**	**-0.6**
	comp=N,12nm,0.8s,baz=308,slow=23,SNR=14								
FITZ				LR			LR	06 57 56.9	
	comp=N,91nm,19.6s,baz=78,slow=39								
STKA	**Stephens Creek**	**27.41**	**196**	*e*P			**P**	**06 46 06.6**	**-0.1**
	comp=N,11nm,0.6s,mb4.7								
STKA				*e*				06 46 52.1	
STKA	**Stephens Creek**	**27.41**	**196**	P			**P**	**06 46 06.7**	**0.0**
	comp=N,14nm,0.6s,mb4.8,baz=2.6,slow=8.2,SNR=25								
STKA				LR			LR	06 56 15.4	
	comp=N,140nm,19.7s,baz=24,slow=34								
CNB	**Canberra Magne**	**29.63**	**181**	*e*P			**P**	**06 46 27.5**	**+1.1**
	comp=N,31nm,0.9s,mb5.0								
TOO	**Toolangi**	**32.16**	**187⇑**	*i*P			**P**	**06 46 49.7**	**+1.1**
	comp=N,27nm,0.8s,mb5.0								
TOO	**Toolangi**	**32.16**	**187⇑**	*i*P			**P**	**06 46 49.7**	**+1.1**
TOO				pmax			pmax		
	comp=Z,27nm,0.8s,mb5.0								
FORT	**Forrest**	**32.63**	**217⇑**	*i*P			**P**	**06 46 52.8**	**+0.1**
	comp=Z,44nm,0.7s,mb5.3								
CBIJ	**Chichi jima**	**33.38**	**347**	P			**P**	**06 46 57.1**	**-2.1**
	comp=Z,31nm,0.5s,mb5.3,baz=310,slow=22,SNR=4.4								
CBIJ				LR			LR	07 00 13.9	
	comp=Z,92nm,18.9s,baz=163,slow=35								
MBWA	**Marble Bar**	**33.39**	**239**	*e*P			**P**	**06 46 59.1**	**-0.3**
	comp=Z,36nm,0.6s,mb5.3								
TGY	**Tagaytay City**	**35.03**	**304**	P			**P**	**06 47 11.6**	**-1.8**
	comp=Z,195nm,0.3s,baz=187,slow=3.6,SNR=6.1								
KKM	**Kota Kinabalu**	**35.87**	**288**	*e*P			**P**	**06 47 20.7**	**+0.1**
TAU	**Tasmania Unive**	**37.29**	**184**	*e*P			**P**	**06 47 32.5**	**-0.2**
TAU				pmax			pmax		
	comp=Z,24nm,0.7s,mb4.9								
TAU	**Tasmania Unive**	**37.29**	**184**	*e*P			**P**	**06 47 32.5**	**-0.2**
	comp=Z,24nm,0.7s,mb4.9								
JOW	**Kunigami**	**38.59**	**328**	P			**P**	**06 47 43.2**	**-0.3**
	comp=Z,35nm,0.9s,mb5.0,baz=128,slow=15,SNR=4.8								
KLBR	**Kellerberrin**	**39.95**	**226**	*e*P			**P**	**06 47 54.3**	**-0.5**
	comp=Z,16nm,0.8s,mb4.7								
NACB	**Ninganchiao**	**40.65**	**318**	*e*P			**P**	**06 48 01.2**	**+0.6**
URZ	**Urewera**	**40.69**	**147**	P			**P**	**06 48 01.0**	**+0.1**
	comp=Z,20nm,0.7s,mb4.8,baz=305,slow=3.4,SNR=6.5								
NWAO	**Narrogin (SRO)**	**41.06**	**224**	LR			LR	07 05 40.3	
	comp=Z,79nm,19.8s,baz=186,slow=37								
YHNB	**Yeheng**	**41.14**	**318**	*e*P			**P**	**06 48 05.2**	**+0.7**
TATO	**Taipei**	**41.27**	**319**	*e*P			**P**	**06 48 06.5**	**+0.8**
	comp=Z,126nm,1.0s,mb5.5								
RPZ	**Rata Peaks**	**42.20**	**157**	P			**P**	**06 48 14.1**	**+0.9**
	comp=Z,25nm,0.6s,mb5.0,baz=43,slow=5.4,SNR=4.7								
JNU	**Nakatsue**	**42.63**	**336**	P			**P**	**06 48 17.6**	**+0.9**
	comp=Z,33nm,0.8s,mb5.0,baz=260,slow=22,SNR=5.7								
QZH	**Quanzhou**	**43.21**	**316⇓**	*i*P			**P**	**06 48 22.0**	**+0.7**
QZH				AMB			AMB		
	comp=Z,240nm,0.8s,mb5.9								
MJAR	**Matsushiro Arr**	**43.36**	**346**	P			**P**	**06 48 21.0**	**-1.6**
	comp=Z,19nm,0.9s,mb4.7,baz=168,slow=7.8,SNR=24								
MJAR				LR			LR	07 04 01.5	
	comp=Z,83nm,19.9s,baz=170,slow=32								
MAJO	**Matsushiro**	**43.37**	**346**	*e*P			**P**	**06 48 21.9**	**-0.7**
MAJO				pmax			pmax		
	comp=Z,22nm,0.6s,mb5.0								
MAJO	**Matsushiro**	**43.37**	**346**	*e*P			**P**	**06 48 21.9**	**-0.7**
	comp=Z,22nm,0.6s,mb5.0								
MAT	**Matsushiro**	**43.37**	**346**	P			**P**	**06 48 21.3**	**-1.3**
KSRS	**Korea Array**	**47.58**	**336**	P			**P**	**06 48 56.5**	**+0.8**
	comp=Z,15nm,0.7s,mb4.7,baz=152,slow=9.2,SNR=27								
KS15	**Wonju Array Si**	**47.58**	**336**	*e*P			**P**	**06 48 55.5**	**-0.3**
NJ2	**Nanjing**	**47.87**	**323**	*e*P			**P**	**06 48 59.6**	**+1.6**
NJ2				AP			pP	06 49 33.9	+2.8
NJ2				XP			sP	06 49 47.6	+0.2
NJ2				PP			PP	06 50 52.3	+1.1
NJ2				S			**S**	**06 55 44.5**	**+0.6**
NJ2				AMB			AMB		
	comp=Z,80nm,1.0s,mb5.3								
NJ2				AMB			AMB		
	comp=Z,220nm,4.1s								
NJ2				LR			LR		
	comp=N,330nm,18.0s								
NJ2				LR			LR		
	comp=E,370nm,37.8s								
NJ2				LR			LR		
	comp=Z,260nm,21.2s								
WHN	**Wuhan**	**49.68**	**318**	⇑P			**P**	**06 49 13.5**	**+1.7**
VLA	**Vladivostok**	**51.22**	**343**	*i*P			**P**	**06 49 25.0**	**+1.6**
VLA				pmax			pmax		
	comp=Z,64nm,0.9s,mb5.2								
DL2	**Dalian**	**51.56**	**332**	P			**P**	**06 49 27.1**	**+1.2**
DL2				AMB			AMB		
	comp=Z,50nm,0.8s,mb5.2								
TIA	**Tai'an**	**51.85**	**326**	⇓P			**P**	**06 49 28.3**	**+0.2**
TIA				AMB			AMB		
	comp=Z,42nm,1.0s,mb5.0								
GYA	**Guiyang**	**52.86**	**309**	P			**P**	**06 49 37.5**	**+2.1**
GYA				AP			pP	06 50 13.0	+3.8
GYA				XP			sP	06 50 30.4	+5.1
GYA				PCP			PcP	06 50 44.9	+2.2
GYA				PP			PP	06 51 40.3	+4.0
GYA				SCP			ScP	06 54 26.0	-0.3
GYA				PCS			PcS	06 54 42.3	+0.8
GYA				S			**S**	**06 56 53.9**	**+1.0**
GYA				PS				06 57 30.5	
GYA				XS			sS	06 57 55.4	+4.1
GYA				SCS			ScS	06 59 08.8	-1.5
GYA				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb4.6								
GYA				AMB			AMB		
	comp=Z,70nm,4.6s								
GYA				LR			LR		
	comp=N,210nm,20.1s								
GYA				LR			LR		
	comp=E,240nm,20.7s								
GYA				LR			LR		
	comp=Z,190nm,21.0s								
SNY	**Shenyang**	**53.06**	**335**	⇓P			**P**	**06 49 37.3**	**+0.3**
SNY				AMB			AMB		
	comp=Z,26nm,1.1s,mb4.9								
MDJ	**Mudanjiang**	**53.28**	**342**	P			**P**	**06 49 39.3**	**+0.8**
MDJ				AP			pP	06 50 13.8	+1.5
MDJ				XP			sP	06 50 30.4	+1.9
MDJ				PP			PP	06 51 41.1	+1.0
MDJ				PCS			PcS	06 54 43.6	+0.2
MDJ				S			**S**	**06 56 59.5**	**+0.9**
MDJ				XS			sS	06 58 00.8	+3.8
MDJ				AMB			AMB		
	comp=Z,42nm,1.1s,mb5.1								
MDJ	**Mudanjiang**	**53.28**	**342**	*e*P			**P**	**06 49 38.8**	**+0.2**
	comp=Z,31nm,0.8s,mb5.1								
CN2	**Changchun**	**53.99**	**338**	⇓P			**P**	**06 49 44.0**	**+0.3**
CN2				AMB			AMB		
	comp=Z,30nm,1.2s,mb4.9								
BJT	**Baijiatuau**	**55.14**	**328**	*e*P			**P**	**06 49 52.3**	**+0.3**
BJT				pmax			pmax		
	comp=Z,26nm,0.8s								
BJT	**Baijiatuau**	**55.14**	**328**	*e*P			**P**	**06 49 52.3**	**+0.3**
	comp=Z,26nm,0.8s,mb5.0								
BJI	**Beijing**	**55.15**	**328**	P			**P**	**06 49 52.1**	**0.0**
BJI				AMB			AMB		
	comp=Z,31nm,0.9s,mb5.0								
BJI	**Beijing**	**55.15**	**328**	P			**P**	**06 49 52.1**	**0.0**
	comp=Z,31nm,0.9s,mb5.0								
KMI	**Kunming**	**55.32**	**306**	P			**P**	**06 49 55.3**	**+2.0**
KMI				LR			LR		
	comp=Z,67nm,36.7s								
KMI	**Kunming**	**55.32**	**306**	P			**P**	**06 49 55.2**	**+1.9**
KMI				pmax			pmax		
	comp=Z,15nm,0.9s,mb4.7								
KMI				MLR			MLR		
	comp=Z,70nm,36.7s								
KMI	**Kunming**	**55.32**	**306**	P			**P**	**06 49 55.2**	**+1.9**
	comp=Z,15nm,0.9s,mb4.7								
KMI				LR			LR		
	comp=Z,70nm,36.7s								
XAN	**Xi'an**	**55.45**	**318**	P			**P**	**06 49 54.3**	**+0.1**
XAN				AMB			AMB		
	comp=Z,27nm,1.3s,mb4.8								
CD2	**Chengdu**	**57.32**	**312**	*e*P			**P**	**06 50 08.0**	**+0.5**
CD2				AP			pP	06 50 43.5	+1.8
CD2				XP			sP	06 50 59.8	+2.1
CD2				PP			PP	06 52 18.5	+2.3
CD2				S			**S**	**06 57 51.0**	**-1.3**
CD2				SS			SS	07 01 44.0	+0.1
CD2				AMB			AMB		
	comp=Z,50nm,0.5s,mb5.6								
CD2				AMB			AMB		
	comp=Z,120nm,5.2s								
HHC	**Hu-ho-hao-te**	**58.21**	**326**	⇑P			**P**	**06 50 15.0**	**+1.4**
HHC				AP			pP	06 50 48.0	0.0
HHC				XP			sP	06 51 04.3	+0.3
HHC				PP			PP	06 52 26.4	+2.3
HHC				SCP			ScP	06 54 48.3	-1.5
HHC				PCS			PcS	06 55 04.8	-0.3
HHC				S			**S**	**06 58 04.4**	**+0.5**
HHC				SCS			ScS	06 59 46.8	-2.0
HHC				SS			SS	07 02 00.8	+3.0
HHC				AMB			AMB		
	comp=Z,124nm,8.0s								
HHC				LR			LR		
	comp=N,269nm,19.6s								
HHC				LR			LR		
	comp=E,418nm,18.0s								
HHC				LR			LR		
	comp=Z,199nm,17.7s								
BTO	**Baotou**	**58.91**	**325**	*e*P			**P**	**06 50 19.1**	**+0.6**
LZH	**Lanzhou**	**60.02**	**317**	*e*P			**P**	**06 50 27.8**	**+1.7**
LZH				AP			pP	06 51 01.8	+1.1
LZH				PCP			PcP	06 51 11.5	+0.8
LZH				XP			sP	06 51 18.4	+1.8
LZH				PP			PP	06 52 44.0	+3.9
LZH				*e*S			**S**	**06 58 25.0**	**-2.2**
LZH				XS			sS	06 59 31.0	+4.1
LZH				SS			SS	07 02 31.0	+4.7
LZH				AMB			AMB		
	comp=Z,50nm,1.5s,mb5.1								
LZH				AMB			AMB		
	comp=Z,132nm,4.7s								
LZH	**Lanzhou**	**60.02**	**317**	*e*P			**P**	**06 50 27.8**	**+1.7**
LZH				*PP			pP	06 51 01.8	+1.1
LZH								06 51 11.5	
LZH				*SP			sP	06 51 18.4	+1.8
LZH								06 52 44.0	
LZH				*e*S			**S**	**06 58 25.0**	**-2.2**
LZH				SS			SS	07 02 31.0	+4.7
LZH				pmax			pmax		
	comp=Z,50nm,1.5s,mb5.1								
LZH	**Lanzhou**	**60.02**	**317**	*e*P			**P**	**06 50 27.8**	**+1.7**
	comp=Z,50nm,1.5s,mb5.1								
LZH				pP			pP	06 51 01.8	+1.1
LZH				PcP			PcP	06 51 11.5	+0.8
LZH				sP			sP	06 51 18.4	+1.8
LZH				PP			PP	06 52 44.0	+3.9
LZH				*e*S			**S**	**06 58 25.0**	**-2.2**
LZH				sS			sS	06 59 31.0	+4.1
LZH				SS			SS	07 02 31.0	+4.7
HIA	**Hailar**	**60.71**	**338**	*e*P			**P**	**06 50 31.1**	**+0.3**
HIA				pmax			pmax		
	comp=Z,59nm,0.7s								
HIA	**Hailar**	**60.71**	**338**	*e*P			**P**	**06 50 31.1**	**+0.2**
	comp=Z,60nm,0.7s,mb5.5								
GTA	**Gaotai**	**64.50**	**319**	*e*P			**P**	**06 50 57.3**	**+1.3**
GTA				AP			pP	06 51 30.3	-0.6
GTA				XP			sP	06 51 46.9	+0.1
GTA				PP			PP	06 53 22.9	+3.3
GTA				PPP				06 54 57.6	
GTA				S			**S**	**06 59 25.3**	**+1.9**
GTA				SS			SS	07 03 37.8	+1.5
GTA				AMB			AMB		
	comp=Z,63nm,1.4s,mb5.2								
GTA				LR			LR		
	comp=N,143nm,15.2s								
GTA				LR			LR		
	comp=E,162nm,16.0s								
GTA				LR			LR		
	comp=Z,180nm,15.2s								
CIT	**Chita**	**65.31**	**336**	*e*P			**P**	**06 51 02.0**	**+0.8**
CIT				*e*			pP	06 51 41.2	+4.9
CIT				pmax			pmax		
	comp=Z,68nm,1.5s,mb5.3								
SONM	**Songino Array**	**65.63**	**329**	P			**P**	**06 51 04.4**	**+1.2**
	comp=Z,6.6nm,0.5s,mb4.7,baz=145,slow=5.1,SNR=28								
SONM	**Songino Array**	**65.63**	**329**	P			**P**	**06 51 04.4**	**+1.2**
SONM				pmax			pmax		
	comp=Z,7.0nm,0.5s								
LSA	**Lhasa**	**66.58**	**306**	*e*P			**P**	**06 51 10.3**	**+1.0**
LSA				pmax			pmax		

comp=Z,3.3nm,0.5s,mb4.2,baz=353,slow=5.8,SNR=11
ZAL Zalesovo 80.38 327 P P 06 52 28.1 -1.9
ZAL pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 82.80 323 *c iP* **P 06 52 41.7 -1.0**
KURK Kurchatov 82.80 323 *eP* **P 06 52 40.9 -1.8**
comp=Z,7.6nm,0.9s,mb4.4
AAK Ala-Archa 83.34 314 *eP* **P 06 52 44.1 -1.3**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
AAK Ala-Archa 83.34 314 *eP* **P 06 52 44.1 -1.3**
comp=Z,2.8nm,0.6s,mb4.2
COLA College 83.50 22 *c iP* **P 06 52 43.3 -2.9**
COLA College 83.50 22 *eP* **P 06 52 43.1 -3.1**
comp=Z,9.7nm,0.8s,mb4.6
MAW Mawson 83.90 203 P **P 06 52 47.6 -0.7**
comp=Z,3.6nm,0.8s,mb4.1,baz=80,slow=20,SNR=6.1
MAW LR LR 07 27 38.4
comp=Z,44nm,20.0s,baz=72,slow=34
QSPA South Pole Qui 84.41 180 *eP* **P 06 52 51.5 +0.6**
comp=Z,9.6nm,1.0s,mb4.5
QSPA *ep*P pP 06 53 22.5 -5.1
DAWY Dawson 86.52 25 *eP* **P 06 53 00.3 -1.0**
CHKZ Chkalovo 88.32 324 *eP* **P 06 53 07.8 -2.1**
CHKZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
CHKZ Chkalovo 88.32 324 *eP* **P 06 53 07.8 -2.1**
comp=Z,9.4nm,1.2s,mb4.5
BVAR Borovoye Array 88.32 323 P **P 06 53 07.2 -2.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=104,slow=6.3,SNR=10
BVAR Borovoye Array 88.32 323 P **P 06 53 07.2 -2.7**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
ZRNK Zerenda 89.13 323 *eP* **P 06 53 11.3 -2.4**
INK Inuvik 90.07 21 P **P 06 53 15.7 -2.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=253,slow=5.7,SNR=6.0
INK Inuvik 90.07 21 P **P 06 53 15.7 -2.4**
INK pmax pmax
comp=Z,2.0nm,0.6s
SYO Syowa Base 92.11 200 ||*eP* **P 06 53 28.0 +0.4**
NVAR Mina Array Bea 94.55 52 P **P 06 53 38.2 -0.5**
comp=Z,1.0nm,0.7s,mb4.2,baz=267,slow=8.6,SNR=5.0
NVAR Mina Array Bea 94.55 52 P **P 06 53 38.2 -0.6**
ARU Arti 95.52 326 *eP* **P 06 53 42.0 -1.2**
ARU *e* 06 57 34.1
ARU *eS* SKSac 07 04 03.2 -2.2
ARU *ePS* SP 07 06 09.1 +3.4
YKA Yellowknife Ar 97.28 28 P **P 06 53 49.2 -2.0**
comp=Z,1.1nm,0.6s,mb4.4,baz=272,slow=4.9,SNR=6.9
YKA Yellowknife Ar 97.28 28 P **P 06 53 49.2 -1.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 97.28 28 P **P 06 53 49.2 -2.0**
PDAR Pinedale Array 101.23 48 P Pdif 06 54 06.9 -1.9
comp=Z,0.3nm,0.7s,baz=259,slow=3.0,SNR=3.7
TXAR Lajitas Array 106.72 61 PKKP PKKPab 07 10 17.8 +0.2
comp=Z,0.8nm,0.8s,baz=111,slow=6.6,SNR=10
BOSA Boshof 117.13 234 PKP PKPdf 06 59 02.5 0.0
comp=Z,1.2nm,0.5s,baz=35,slow=2.0,SNR=3.9
BOSA Boshof 117.13 234 PKIKP PKPdf 06 59 02.6 +0.1
BOSA pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 123.33 327 PKP PKPdf 06 59 12.8 -1.6
comp=Z,1.2nm,0.6s,baz=259,slow=1.4,SNR=7.8
GERES GERESS Array B 123.33 327 PKIKP PKPdf 06 59 12.8 -1.6
GERES pmax pmax
comp=Z,1.0nm,0.6s
ATAH Atahualpa 129.89 104 PKP PKPdf 06 59 29.0 +2.1
comp=Z,12nm,0.8s,baz=293,slow=7.3,SNR=6.2
ROSC El Rosal 135.61 89 PKP PKPdf 06 59 39.1 +1.3
comp=Z,8.5nm,0.7s,baz=101,slow=10,SNR=8.6
ROSC El Rosal 135.61 89 *e*PKPdf PKPdf 06 59 39.2 +1.4
LPAZ La Paz 136.27 120 PKHKP 06 59 26.1
comp=Z,0.3nm,0.5s,baz=254,slow=4.6,SNR=3.7
LPAZ PKP PKPdf 06 59 40.6 +1.7
comp=Z,4.5nm,0.9s,baz=18,slow=2.7,SNR=6.6
LPAZ SKPbc SKPbc 07 03 00.8 +3.3
comp=Z,1.1nm,0.7s,baz=197,slow=2.5,SNR=4.8
LPAZ La Paz 136.27 120 PKHKP 06 59 26.1
LPAZ 06 59 40.6
LPAZ La Paz 136.27 120 PKP 06 59 26.1
LPAZ *e*PKPdf PKPdf 06 59 40.2 +1.2
SDV Santo Domingo 139.33 83 PKP PKPdf 06 59 45.9 +1.3
comp=Z,14nm,0.7s,baz=301,slow=2.6,SNR=3.8
SDV SKPbc SKPbc 07 03 07.8 +1.5
comp=Z,20nm,0.9s,baz=326,slow=1.8,SNR=7.4
SAML Samuel 143.70 113 *e*PKPdf PKPdf 06 59 50.6 -1.8
TOA0 Torodi Ar. Sit 148.09 286 *e*PKPdf PKPdf 07 00 01.8 +2.0
TORD Torodi Ar. Bea 148.09 286 PKPbc PKPbc 07 00 02.1 -1.1
comp=Z,1.5nm,0.3s,baz=84,slow=2.4,SNR=52

*ISCJB **14** 06:44:56.3±1.1,3726N±007×719E±02,h156km±16km, mb3.8/2,Error ellipse: s-maj=23.2km s-min=6.4km az=128.6*
*NNC **14** 06:45:04.0±5.2,3791N×7040E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=48.6km s-min=35.6km az=112.0*
*IDC **14** 06:45:06.7±21.0, 3801N×72.15E, h195km±132km, mb3.5/2, mb1 3.3/5, mb1mx3.0/24, mbtmp3.2/5, Error ellipse: s-maj=223.4km s-min=66.7km az=6.0*

ISC 14 06:44:57.4±1.1,3727N±007×720E±02,h154km±15km,n21, σ0§90/25,mb3.8/2,1C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.04**	**15**	P	**Pn**	**06 46 11.7**	**+0.3**
	SNR=45						
UCH	**Uchtor**	**5.33**	**21**	P	**Pn**	**06 46 15.6**	**+0.3**
	SNR=19						
KZA	**Kyzart**	**5.43**	**27**	P	**Pn**	**06 46 16.2**	**-0.4**
	SNR=10						
EKS2	**Erkin-Say**	**5.56**	**14**	P	**Pn**	**06 46 19.0**	**+0.7**
	SNR=7.9						
AAK	**Ala-Archa**	**5.70**	**19**	P	**Pn**	**06 46 20.5**	**+0.4**
	SNR=10.0						
THN	**Thein Dam**	**5.73**	**146**	*e*S	**Pn**	**06 46 21.0**	**+0.5**
THN				*e*S	**Sn**	**06 47 24.6**	**-0.9**
KK31	**Karatay Array**	**5.93**	**350**	P	**Pn**	**06 46 23.0**	**-0.2**
	1.4nm,0.2s,baz=119,slow=17,SNR=112						
KK31				S	**Sn**	**06 47 24.6**	**-5.7**
	33nm,0.4s,baz=152,slow=18,SNR=45						
MKAR	**Makanchi Array**	**12.22**	**36**	P	**Pn**	**06 47 45.9**	**-0.5**
	0.0nm,0.3s,baz=222,slow=13,SNR=3.5						
KOLN	**Koldanda**	**13.54**	**13**	*e*P	**Pn**	**06 48 02.8**	**-1.7**
GKN	**Gorkha**	**14.11**	**127**	*e*P	**Pn**	**06 48 11.5**	**+1.0**
KKN	**Kakani**	**14.67**	**126**	*e*P	**Pn**	**06 48 19.0**	**+1.5**
DMN	**Daman**	**14.69**	**127**	*e*P	**Pn**	**06 48 16.8**	**-0.9**
AB31	**Akbulak array**	**14.81**	**328**	⇑Pn	**Pn**	**06 48 19.6**	**+0.3**
	1.6nm,0.5s,baz=131,slow=14,SNR=24						
AB31				Sn	**Sn**	**06 50 50.6**	**-13**
	4.4nm,0.7s,baz=145,slow=22,SNR=11						
PKI	**Pulchoki**	**14.90**	**127**	*e*P	**Pn**	**06 48 21.1**	**+0.7**
GUN	**Gumba**	**14.98**	**125**	*e*P	**Pn**	**06 48 25.2**	**+3.9**
JIRN	**Jiri**	**15.35**	**125**	*e*P	**Pn**	**06 48 30.6**	**+4.7**
BVAR	**Borovoye Array**	**15.79**	**357**	P	**Pn**	**06 48 29.2**	**-2.2**
	0.3nm,0.3s,baz=159,slow=13,SNR=5.8						
AKTO	**Aktyubinsk**	**16.52**	**327**	⇓Pn	**Pn**	**06 48 39.8**	**-0.5**
	1.3nm,2.7s						
AKTO				⇓Sn	**Sn**	**06 51 33.7**	**-11**
AKTO	**Aktyubinsk**	**16.52**	**327**	P	**Pn**	**06 48 40.9**	**+0.6**
	0.8nm,0.3s,baz=154,slow=10,SNR=8.6						
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**06 51 54.8**	**+0.4**
	2.2nm,0.9s,mb3.8,baz=115,slow=13,SNR=4.0						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**06 52 22.9**	**-0.1**
	2.1nm,0.9s,mb3.8,baz=113,slow=9.3,SNR=5.8						

IDC 14 06:50:14.3±3.8,577S×15060E,h0km,mb3.5/3,mb1 3.8/3, mb1mx3.5/13,mbtmp3.6/3,Error ellipse: s-maj=123.6km s-min=51.6km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.17**	**227**	P	P	06 55 01.8	+0.7
	0.8nm,0.5s,baz=51,slow=10.0,SNR=7.9						
ASAR	**Alice Springs**	**23.98**	**220**	P	P	06 55 29.6	-0.8
	0.6nm,0.5s,baz=56,slow=8.6,SNR=7.2						
FITZ	**Fitzroy Crossi**	**27.27**	**241**	P	P	06 56 01.1	+0.8
	1.5nm,0.6s,baz=58,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.49**	**286**	PKPbc	PKPbc	07 10 03.9	+1.0
	0.4nm,0.6s,baz=70,slow=2.2,SNR=3.4						

*ISK **14** 06:57:04.4, 36.16N×2762E, h5km, MD3.0*
*CSEM **14** 06:57:04.4, 36.16N×2762E, h5km, MD3.0, After ISK*
*ATH **14** 06:57:06.3, 3592N×2802E, h44km, MD2.7/3*
*ISCJB **14** 06:57:07.4±0.9, 3621N±006×2761E±007, h21km±11km, Error ellipse: s-maj=9.9km s-min=8.7km az=83.6*

ISC 14 06:57:07.3±0.9,3622N±006×2762E±007,h19km±8km,n8, σ0§74/11,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.41**	**91**	*e*P	**Pg**	**06 57 15.6**	**-0.2**
ARG				*e*S	**Sg**	**06 57 22.0**	**+0.5**
DAT	**Datca**	**0.51**	**356**	PG	**Pg**	**06 57 16.5**	**-1.1**
DAT				SG	**Sg**	**06 57 25.3**	**+0.9**
KARP	**Karpathos**	**0.77**	**209**	*e*P	**Pb**	**06 57 22.1**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.98**	**56**	*e*PG	**Pg**	**06 57 24.9**	**-1.6**
DALT				*e*SG	**Sg**	**06 57 40.2**	**+0.8**
YER	**Yerkesik**	**1.05**	**30**	*e*PN	**Pn**	**06 57 26.6**	**-0.5**
MLSB	**Milas**	**1.08**	**7**	*e*PN	**Pn**	**06 57 27.8**	**+0.3**
FETY	**Fethiye**	**1.25**	**70**	*e*PN	**Pn**	**06 57 29.9**	**+0.1**
NPS	**Neapolis**	**1.90**	**240**	*e*P	**Pn**	**06 57 39.4**	**+0.7**

MAN 14 06:59:07.1,1678N×12026E,h29km,mb1.6,ML3.5,MS1.5, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.50**	**142**	⇑*i*P	Pb	06 59 18.5	+1.1
BCPH				*i* S	Sb	06 59 18.5	-6.0
BOLP	**Bolinao**	**0.51**	**220**	*e*P	Pb	06 59 18.6	+0.9
BOLP				*e*S	Sb	06 59 27.6	+2.7
ABRA	**Dolores**	**0.97**	**26**	*e*P	Pn	06 59 24.2	-0.5
APYP	**Conner**	**1.43**	**41**	*e*P	Pn	06 59 31.1	0.0
APYP				*e*S	Sn	06 59 48.9	0.0
CAUP	**Cauayan**	**1.51**	**83**	*e*P	Pn	06 59 35.6	+3.5
PIP	**Pasuquin**	**1.58**	**12**	||*e*P	Pn	06 59 35.0	+1.9
BALP	**Baler**	**1.63**	**129**	*e*P	Pn	06 59 36.9	+3.1
CVP	**Callao Caves**	**1.75**	**58**	*e*P	Pn	06 59 37.0	+1.5

*ISCJB **14** 07:06:27.8±0.8, 551N±02×1639W±02, h10km, mb3.8/3, Error ellipse: s-maj=34.9km s-min=8.2km az=113.2*
*NEIC **14** 07:06:29.9, 5466N×16356W, h4km, ML3.7(AEIC), After AEIC.*
*IDC **14** 07:06:29.9±3.8, 5499N×16355W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.7/24, mbtmp3.9/5, ML3.6/2, Error ellipse: s-maj=70.9km s-min=44.7km az=114.0*

ISC 14 07:06:29.3±5.4,551N±02×1639W±03,h14km±40km,n9, σ0§97/10,mb3.8/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**1.42**	**230**	P	**Pn**	**07 06 53.8**	**-0.8**
AKLV	**Akutan Long Va**	**1.48**	**234**	P	**Pn**	**07 06 55.2**	**-0.3**
UNV	**Unalaska Valle**	**1.94**	**232**	P	**Pn**	**07 07 01.5**	**-0.2**
SDPT	**Sand Point**	**2.00**	**80**	P	**Pn**	**07 07 01.9**	**-0.7**
KDAK	**Kodiak Island**	**6.86**	**62**	Pn	**Pn**	**07 08 10.1**	**+0.8**
	1.6nm,0.3s,baz=300,slow=16,SNR=11						
KDAK				Sn	**Sn**	**07 09 25.3**	**-1.8**
	0.7nm,0.3s,baz=158,slow=20,SNR=3.3						
INK	**Inuvik**	**19.30**	**35**	P	**Pn**	**07 10 54.6**	**-0.2**
	0.1nm,0.3s,baz=210,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**26.03**	**53**	P	**P**	**07 12 02.3**	**+0.4**
	1.6nm,0.8s,mb3.6,baz=272,slow=9.5,SNR=4.6						
ULM	**Lac du Bonnet**	**40.08**	**68**	P	**P**	**07 14 06.1**	**+2.0**
	3.2nm,1.0s,mb4.0,baz=301,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**49.62**	**96**	P	**P**	**07 15 21.0**	**+0.9**
	0.6nm,0.6s,mb3.8,baz=299,slow=5.7,SNR=16						

*ISCJB **14** 07:40:08.8±0.3, 4322N±002×066W±002, h21km±3km, Error ellipse: s-maj=3.5km s-min=2.6km az=153.5*
*MDD **14** 07:40:09.8±0.2, 4313N×061W, h0km, mbLg2.9/14, Error ellipse: s-maj=3.1km s-min=1.3km az=10.0, PRXIMO*
*STR **14** 07:40:09.4±0.2, 4305N×063W, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **14** 07:40:10.0±0.1, 4315N×061W, h5km, Md3.3/2, Ml3.2/22, Error ellipse: s-maj=1.3km s-min=1.0km az=140.0*
*CSEM **14** 07:40:10.0±0.0, 4316N×063W, h6km, ML3.2/30, Error ellipse: s-maj=0.8km s-min=0.6km az=140.0*
*NEIC **14** 07:40:10.0, 4315N×061W, h5km, ML3.0(STR), ML3.2(LDG), MN2.9(MDD), After LDG.*

ISC 14 07:40:08.7±0.2,4321N±001×060W±002,h13km±2km,n143, σ1§17/278,2C-1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.25**	**271**	Pg	**Pg**	**07 40 14.8**	**+0.9**
ETSF	**Etsaut**	**0.31**	**175**	*e*Pg	**Pg**	**07 40 14.1**	**-1.0**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 40 16.8**	**-2.6**
	6µm,0.2s						
ETSF	**Etsaut**	**0.31**	**175**	*e*Pg	**Pg**	**07 40 14.1**	**-1.0**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 40 16.8**	**-2.6**
	3µm,0.2s						
LARF	**Larrau**	**0.33**	**239**	Pg	**Pg**	**07 40 15.3**	**-0.1**
LARF	**Larrau**	**0.33**	**239**	Pg	**Pg**	**07 40 15.2**	**-0.2**
LARF				Lg		07 40 19.4	
FDAF	**Les Forges d'A**	**0.39**	**176**	Pg	**Pg**	**07 40 15.4**	**-1.1**
FDAF				Lg		07 40 19.4	
SJPF	**Ste Jean**	**0.47**	**258**	*e*Pg	**Pg**	**07 40 17.9**	**0.0**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 40 24.1**	**-0.1**
	256nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**0.47**	**258**	*e*Pg	**Pg**	**07 40 17.9**	**0.0**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 40 24.1**	**-0.1**
	128nm,0.2s,SNR=1.0						
OSSF	**Osses**	**0.49**	**276**	Pg	**Pg**	**07 40 18.3**	**+0.1**
OSSF	**Osses**	**0.49**	**276**	Pg	**Pg**	**07 40 18.1**	**-0.1**
OSSF				Lg		07 40 26.1	
LABF	**Labassere**	**0.52**	**108**	Pg	**Pg**	**07 40 19.5**	**+0.6**
LABF				Sg	**Sg**	**07 40 27.4**	**+1.6**
LABF	**Labassere**	**0.52**	**108**	Pg	**Pg**	**07 40 19.2**	**+0.4**
LABF				Lg		07 40 27.1	
VIEF	**Viey**	**0.56**	**125**	Pg	**Pg**	**07 40 19.5**	**-0.2**
VIEF	**Viey**	**0.56**	**125**	Pg	**Pg**	**07 40 19.4**	**-0.2**
VIEF				Lg		07 40 26.4	
EALK	**Alkurruntz**	**0.66**	**271**	Pg	**Pg**	**07 40 21.2**	**-0.4**
	7.8nm,0.1s,SNR=70						
EALK				Lg		07 40 31.5	
	80nm,0.2s,SNR=5.0						
ELIZ	**Elizondo**	**0.68**	**266**	Pg	**Pg**	**07 40 21.6**	**-0.3**
	5.8nm,0.2s,SNR=32						
ELIZ				Lg		07 40 30.7	
	121nm,0.2s,SNR=23						
IPRE	**Itoiz**	**0.69**	**234**	||Pg	**Pg**	**07 40 21.6**	**-0.5**
	29nm,0.2s,SNR=18						
IPRE				Lg		07 40 30.3	
	90nm,0.2s,SNR=45						
IPRE	**Itoiz**	**0.69**	**234**	Pg	**Pg**	**07 40 21.6**	**-0.4**
	29nm,0.2s,SNR=18						
EPF	**Esparros**	**0.71**	**104**	*e*Pg	**Pg**	**07 40 23.3**	**+0.8**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 40 33.0**	**+1.2**
	139nm,0.3s						
EPF	**Esparros**	**0.71**	**104**	*e*Pg	**Pg**	**07 40 23.3**	**+0.8**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 40 33.0**	**+1.2**
	70nm,0.3s						
IUSE	**Utxeti**	**0.74**	**250**	⇑Pg	**Pg**	**07 40 22.8**	**-0.3**
	10nm,0.2s,SNR=18						
IUSE				Lg		07 40 32.3	
	127nm,0.2s,SNR=45						
IUSE	**Utxeti**	**0.74**	**250**	Pg	**Pg**	**07 40 22.8**	**-0.3**
	10nm,0.2s,SNR=18						
EBIE	**Bielsa**	**0.76**	**134**	⇑Pg	**Pg**	**07 40 22.7**	**-0.6**
	31nm,0.1s,SNR=18						
EBIE				Lg		07 40 31.6	
	563nm,0.2s,SNR=136						
EBIE	**Bielsa**	**0.76**	**134**	Pg	**Pg**	**07 40 22.7**	**-0.6**
	31nm,0.1s,SNR=18						
RESF	**Ens**	**0.80**	**120**	Pg	**Pg**	**07 40 23.9**	**-0.2**
RESF				Sg	**Sg**	**07 40 33.5**	**-1.1**
RESF	**Ens**	**0.80**	**120**	Pg	**Pg**	**07 40 23.7**	**-0.4**
RESF				Lg		07 40 33.6	
EARA	**Aranguren**	**0.84**	**239**	Pg	**Pg**	**07 40 25.3**	**+0.4**
	16nm,0.1s,SNR=11						
EARA				Lg		07 40 36.3	
	79nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.05**	**108**	Pg	**Pg**	**07 40 29.1**	**+0.2**
MELF				Lg		07 40 43.0	
MLS	**Moulis**	**1.27**	**101**	Pg	**Pg**	**07 40 35.0**	**+2.0**
MLS				Lg		07 40 50.8	
SALF	**Salau**	**1.39**	**108**	Pg	**Pg**	**07 40 35.5**	**+0.2**
SALF				Sg	**Sg**	**07 40 53.8**	**+0.4**
SALF	**Salau**	**1.39**	**108**	Pg	**Pg**	**07 40 35.1**	**-0.2**
SALF				Lg		07 40 53.5	
ESAC	**San Caprasio**	**1.49**	**176**	Pg	**Pg**	**07 40 35.4**	**-1.9**
	294nm,0.3s,SNR=115						
ESAC				Lg		07 40 55.8	
	158nm,0.1s,SNR=9.3						
ESAC	**San Caprasio**	**1.49**	**176**	Pg	**Pg**	**07 40 35.4**	**-1.9**
	294nm,0.3s,SNR=115						
ECRI	**Cripan**	**1.53**	**247**	Pg	**Pg**	**07 40 37.9**	**-0.1**
	44nm,0.2s,SNR=7.9						
ECRI				Lg		07 40 57.4	
	45nm,0.2s,SNR=7.9						
GRBF	**Gourbit**	**1.61**	**102**	Pg	**Pg**	**07 40 39.9**	**+0.3**
LFF	**La Frestale**	**1.98**	**29**	*e*Pg	**Pg**	**07 40 48.2**	**+1.5**
LFF				*e*Sn	**Sn**	**07 41 07.4**	**+1.0**
LFF				*e*Sg	**Sg**	**07 41 14.5**	**+2.1**
	75nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**29**	*e*Pn	**Pn**	**07 40 43.4**	**+1.6**
LFF				*e*Pg	**Pg**	**07 40 48.2**	**+1.5**
LFF				*e*Sn	**Sn**	**07 41 07.4**	**+1.0**
LFF				*e*Sg	**Sg**	**07 41 14.5**	**+2.1**
LFF	**La Frestale**	**1.98**	**29**	*e*Pg	**Pg**	**07 40 48.2**	**+1.5**
LFF				*e*Sn	**Sn**	**07 41 07.4**	**+1.0**
LFF				*e*Sg	**Sg**	**07 41 14.5**	**+2.1**
	38nm,0.4s,SNR=1.0						
EMIR	**Miracle**	**2.04**	**129**	Pg	**Pg**	**07 40 46.9**	**-0.8**
	48nm,0.2s,SNR=60						
EMIR				Lg		07 41 12.9	
	40nm,0.1s,SNR=12						
EMIR	**Miracle**	**2.04**	**129**	Pg	**Pg**	**07 40 46.9**	**-0.8**
	48nm,0.2s,SNR=60						
CARF	**Carcanieres**	**2.05**	**103**	Pg	**Pg**	**07 40 48.9**	**+1.0**
CARF				Sg	**Sg**	**07 41 15.7**	**+1.2**
CARF	**Carcanieres**	**2.05**	**103**	Pg	**Pg**	**07 40 47.8**	**-0.1**
CARF				Lg		07 41 15.9	
MTLF	**Montolieu**	**2.06**	**85**	*e*P	**Pn**	**07 40 46.2**	**+3.3**
MTLF	**Montolieu**	**2.06**	**85**	*e*Pg	**Pg**	**07 40 49.0**	**+0.8**
MTLF				*e*Sn	**Sn**	**07 41 08.7**	**+0.3**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 41 14.7**	**-0.3**
	52nm,0.4s						
MTLF	**Montolieu**	**2.06**	**85**	*e*Pn	**Pn**	**07 40 44.0**	**+1.1**
MTLF				*e*P		07 40 46.2	
MTLF				*e*Pg	**Pg**	**07 40 49.0**	**+0.8**
MTLF				*e*Sn	**Sn**	**07 41 08.7**	**+0.3**
MTLF				*e*Sg	**Sg**	**07 41 14.7**	**-0.3**
MTLF	**Montolieu**	**2.06**	**85**	*e*Pn	**Pn**	**07 40 44.0**	**+1.1**
MTLF				*e*P		07 40 46.2	
MTLF				*e*Pg	**Pg**	**07 40 49.0**	**+0.8**
MTLF				*e*Sn	**Sn**	**07 41 08.7**	**+0.3**
MTLF				*e*Sg	**Sg**	**07 41 14.7**	**-0.3**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 41 14.7**	**-0.3**
	26nm,0.4s						
ELAN	**Lanestosa**	**2.07**	**272**	Pg	**Pg**	**07 40 46.2**	**-2.2**
	0.7nm,0.1s,SNR=9.3						
ELAN				Lg		07 41 14.2	
	9.7nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**2.07**	**272**	Pg	**Pg**	**07 40 46.2**	**-2.2**
	0.7nm,0.1s,SNR=9.3						
VALF	**Valcebollere**	**2.09**	**112**	Pg	**Pg**	**07 40 49.3**	**+0.6**
VALF				Sg	**Sg**	**07 41 16.4**	**+0.6**
VALF	**Valcebollere**	**2.09**	**112**	Pg	**Pg**	**07 40 47.7**	**-1.0**
VALF				Lg		07 41 16.3	
EPOB	**Poblet**	**2.23**	**146**	Pn	**Pn**	**07 40 46.5**	**+1.2**
EPOB	0.2nm,0.1s,SNR=7.9			Pg	**Pg**	**07 40 49.2**	**-2.3**
	3.1nm,0.1s,SNR=20						
EPOB				Lg		07 41 18.4	
	20nm,0.2s,SNR=7.8						
EPOB	**Poblet**	**2.23**	**146**	Pn	**Pn**	**07 40 46.5**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.23**	**146**	Pg	**Pg**	**07 40 49.2**	**-2.3**
	3.1nm,0.1s,SNR=20						
ERTA	**Horta de San J**	**2.36**	**163**	Pn	**Pn**	**07 40 48.1**	**+1.1**
	1.8nm,0.2s,SNR=7.9						
ERTA				Pg	**Pg**	**07 40 51.3**	**-2.6**
	14nm,0.2s						
ERTA				Sn	**Sn**	**07 41 16.1**	**+0.4**
	11nm,0.1s,SNR=7.9						
ERTA				Lg		07 41 21.9	
	39nm,0.3s,SNR=13						
ERTA	**Horta de San J**	**2.36**	**163**	Pn	**Pn**	**07 40 48.1**	**+1.1**
	1.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.36**	**163**	Pg	**Pg**	**07 40 51.3**	**-2.5**
	14nm,0.2s						
ERTA				Sn	**Sn**	**07 41 16.1**	**+0.4**
	11nm,0.1s,SNR=7.9						
FILF	**Fillols**	**2.41**	**105**	Pg	**Pg**	**07 40 51.9**	**-3.0**
FILF	**Fillols**	**2.41**	**105**	Pg	**Pg**	**07 40 51.3**	**-3.6**
FILF				Lg		07 41 21.9	
CAF	**Calviac**	**2.58**	**47**	*e*P	**Pn**	**07 40 53.8**	**+3.8**
	SNR=1.0						
CAF	**Calviac**	**2.58**	**47**	*e*Pg	**Pg**	**07 40 58.8**	**+0.8**
CAF				*e*Sn	**Sn**	**07 41 21.6**	**+0.5**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**07 41 32.6**	**+1.2**
	20nm,0.2s						
CAF	**Calviac**	**2.58**	**47**	*e*Pn	**Pn**	**07 40 51.2**	**+1.2**
CAF				*e*P		07 40 53.8	
CAF				*e*Pg	**Pg**	**07 40 58.8**	**+0.8**
CAF				*e*Sn	**Sn**	**07 41 21.6**	**+0.5**
CAF				*e*Sg	**Sg**	**07 41 32.6**	**+1.2**
CAF	**Calviac**	**2.58**	**47**	*e*P	**Pn**	**07 40 53.8**	**+3.8**
	SNR=1.0						
CAF	**Calviac**	**2.58**	**47**	*e*Pg	**Pg**	**07 40 58.8**	**+0.8**
CAF				*e*Sn	**Sn**	**07 41 21.6**	**+0.5**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**07 41 32.6**	**+1.2**
	9.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.59**	**35**	*e*Pg	**Pg**	**07 40 59.1**	**+0.8**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**07 41 21.

2.4nm,0.1s,SNR=5.0
LASF Ste Croix 3.35 73 *e*P **Pn 07 41 04.6 +4.0**
LASF *e*Sn **Sn 07 41 39.6 -0.6**
SNR=1.0
LASF *e*Sg **Sg 07 41 55.7 -0.5**
10nm,0.4s,SNR=1.0
LASF Ste Croix 3.35 73 *e*Pn **Pn 07 41 01.4 +0.8**
LASF *e*P 07 41 04.6
LASF *e*Sn **Sn 07 41 39.6 -0.6**
LASF *e*Sg **Sg 07 41 55.7 -0.5**
LASF Ste Croix 3.35 73 *e*P **Pn 07 41 04.6 +4.0**
LASF *e*Sn **Sn 07 41 39.6 -0.6**
SNR=1.0
LASF *e*Sg **Sg 07 41 55.7 -0.5**
5.2nm,0.4s,SNR=1.0
EARI Arriondas 3.37 273 Pn **Pn 07 41 02.1 +1.2**
0.2nm,0.1s,SNR=9.4
EARI Sn **Sn 07 41 41.5 +0.8**
1.5nm,0.2s,SNR=6.2
EARI Arriondas 3.37 273 Pn **Pn 07 41 02.1 +1.2**
0.2nm,0.1s,SNR=9.4
EARI Sn **Sn 07 41 41.5 +0.8**
1.5nm,0.2s,SNR=6.2
MFF Saint Martin d 3.41 5 *e*Pg **Pg 07 41 14.3 +0.4**
SNR=1.0
MFF *e*Sn **Sn 07 41 41.1 -0.6**
SNR=1.0
MFF *e*Sg **Sg 07 41 58.8 +0.7**
23nm,0.3s,SNR=1.0
MFF Saint Martin d 3.41 5 *e*Pn **Pn 07 41 02.5 +1.1**
MFF *e*Pg **Pg 07 41 14.3 +0.4**
MFF *e*Sn **Sn 07 41 41.1 -0.6**
MFF *e*Sg **Sg 07 41 58.8 +0.7**
MFF Saint Martin d 3.41 5 *e*Pg **Pg 07 41 14.3 +0.4**
SNR=1.0
MFF *e*Sn **Sn 07 41 41.1 -0.6**
SNR=1.0
MFF *e*Sg **Sg 07 41 58.8 +0.7**
11nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.67 32 *e*Pn **Pn 07 41 06.3 +1.3**
TCF *e*Pg **Pg 07 41 19.3 +0.3**
TCF *e*Sn **Sn 07 41 47.9 -0.3**
GUD Guadarrama 3.69 227 Pn **Pn 07 41 05.3 0.0**
2.6nm,0.4s,SNR=7.9
GUD Sn **Sn 07 41 47.1 -1.5**
6.0nm,0.3s,SNR=7.9
VIVF Saint-Julien-l 4.14 65 *e*P **Pn 07 41 16.1 +4.6**
VIVF *e*Sn **Sn 07 41 57.7 -2.1**
SNR=1.0
VIVF *e*Sg **Sg 07 42 21.0 -0.7**
3.9nm,0.2s
VIVF Saint-Julien-l 4.14 65 *e*Pn **Pn 07 41 12.5 +1.0**
VIVF *e*P 07 41 16.1
VIVF *e*Sn **Sn 07 41 57.7 -2.1**
VIVF *e*Sg **Sg 07 42 21.0 -0.7**
VIVF Saint-Julien-l 4.14 65 *e*P **Pn 07 41 16.1 +4.6**
VIVF *e*Sn **Sn 07 41 57.7 -2.1**
SNR=1.0
VIVF *e*Sg **Sg 07 42 21.0 -0.7**
2.0nm,0.2s
BGF Bois d'Agland 4.15 35 *e*Pg **Pg 07 41 27.8 -0.3**
BGF *e*Sg **Sg 07 42 21.4 -0.4**
65nm,0.4s
BGF Bois d'Agland 4.15 35 *e*Pn **Pn 07 41 12.3 +0.7**
BGF *e*Pg **Pg 07 41 27.8 -0.3**
BGF *e*Sg **Sg 07 42 21.4 -0.4**
BGF Bois d'Agland 4.15 35 *e*Pg **Pg 07 41 27.8 -0.3**
BGF *e*Sg **Sg 07 42 21.4 -0.4**
33nm,0.4s
ETOS Mallorca 4.29 142 Pn **Pn 07 41 14.6 +1.0**
2.2nm,0.2s,SNR=6.8
ETOS Sn **Sn 07 42 01.1 -2.3**
0.9nm,0.1s,SNR=7.9
ETOS Mallorca 4.29 142 Pn **Pn 07 41 14.6 +1.1**
2.2nm,0.2s,SNR=6.8
ETOS Sn **Sn 07 42 01.1 -2.3**
0.9nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.34 217 Pn **Pn 07 41 14.3 0.0**
0.8nm,0.1s,baz=40,slow=13,SNR=5.6
ESDC Sn **Sn 07 42 00.9 -3.8**
1.1nm,0.1s,baz=39,slow=24,SNR=7.3
ESDC Sonseca Array 4.34 217 Pn **Pn 07 41 14.3 0.0**
0.8nm,0.1s,SNR=5.6
ESDC Sn **Sn 07 42 00.9 -3.8**
1.1nm,0.1s,SNR=7.3
EIBI Ibiza 4.43 160 Pn **Pn 07 41 16.3 +0.9**
0.7nm,0.1s,SNR=4.0
EIBI Sn **Sn 07 42 04.1 -2.7**
1.4nm,0.1s,SNR=7.9
EIBI Ibiza 4.43 160 Pn **Pn 07 41 16.3 +0.8**
0.7nm,0.1s,SNR=4.0
EIBI Sn **Sn 07 42 04.1 -2.7**
1.4nm,0.1s,SNR=7.9
EBEN Beniarda 4.51 176 Pn **Pn 07 41 17.2 +0.7**
1.4nm,0.2s,SNR=7.9
EBEN Beniarda 4.51 176 Pn **Pn 07 41 17.2 +0.6**
1.4nm,0.2s,SNR=7.9
AVF Avril sur Loir 4.55 37 *e*Pn **Pn 07 41 18.2 +1.1**
SNR=1.0
AVF *e*Sn **Sn 07 42 09.0 -0.8**
SNR=1.0
AVF *e*Sg **Sg 07 42 34.3 -0.3**
10nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.55 37 *e*Pn **Pn 07 41 18.2 +1.1**
SNR=1.0
AVF *e*Sn **Sn 07 42 09.0 -0.8**
SNR=1.0
AVF *e*Sg **Sg 07 42 34.3 -0.3**
5.1nm,0.4s,SNR=1.0
SMRF Simiane la Rot 4.55 78 *e*P **Pn 07 41 21.5 +4.4**
SMRF *e*Sn **Sn 07 42 07.6 -2.2**
SMRF *e*Sg **Sg 07 42 33.2 -1.5**
3.4nm,0.4s
SMRF Simiane la Rot 4.55 78 *e*P **Pn 07 41 21.5 +4.4**
SMRF *e*Sn **Sn 07 42 07.6 -2.2**
SMRF *e*Sg **Sg 07 42 33.2 -1.5**
1.7nm,0.4s
ETOB Tobarra 4.62 189 Pn **Pn 07 41 19.3 +1.2**
1.5nm,0.2s,SNR=7.9
ETOB Tobarra 4.62 189 Pn **Pn 07 41 19.3 +1.3**
1.5nm,0.2s,SNR=7.9
HYF Humbligny 4.66 28 *e*Pn **Pn 07 41 19.9 +1.3**
HYF *e*Pg **Pg 07 41 36.9 -1.0**
HYF *e*Sg **Sg 07 42 38.1 -0.1**
SMF Signal de Mont 4.66 41 *e*Pn **Pn 07 41 19.8 +1.1**
SMF *e*Sg **Sg 07 42 38.0 -0.3**
7.0nm,0.3s
SMF Signal de Mont 4.66 41 *e*Pn **Pn 07 41 19.8 +1.1**
SMF *e*Sg **Sg 07 42 38.0 -0.3**
3.5nm,0.3s
ECAL Calabor 4.71 256 Pn **Pn 07 41 20.5 +1.2**
2.3nm,0.3s,SNR=10.0
ECAL Sn **Sn 07 42 13.1 -0.6**
7.2nm,0.3s,SNR=7.9
ECAL Calabor 4.71 256 Pn **Pn 07 41 20.5 +1.2**
2.3nm,0.3s,SNR=10.0
ECAL Sn **Sn 07 42 13.1 -0.6**
7.2nm,0.3s,SNR=7.9
PBRG Braganca 4.75 255 *e*Pn **Pn 07 41 20.9 +1.0**
PBRG *e*Sn **Sn 07 42 15.0 +0.2**
PBRG
3.2nm,0.5s
PBRG Braganca 4.75 255 *e*Pn **Pn 07 41 20.9 +1.0**
PBRG *e*Sn **Sn 07 42 15.0 +0.2**
3.2nm,0.5s
EPON Pontenova 4.78 274 Pn **Pn 07 41 22.4 +2.0**
0.3nm,0.1s,SNR=7.9
EPON Sn **Sn 07 42 15.2 -0.4**
0.5nm,0.1s,SNR=7.9
EPON Pontenova 4.78 274 Pn **Pn 07 41 22.4 +2.0**
0.3nm,0.1s,SNR=7.9
EPON Sn **Sn 07 42 15.2 -0.4**
0.5nm,0.1s,SNR=7.9
EVIA Vianos 4.79 198 Pn **Pn 07 41 21.9 +1.5**
1.1nm,0.1s,SNR=7.9
SSF Saint Saulge 4.82 36 *e*Pn **Pn 07 41 21.5 +0.6**
SNR=1.0
SSF *e*Sn **Sn 07 42 14.9 -1.7**
SSF *e*Sg **Sg 07 42 43.3 -0.2**
13nm,0.6s,SNR=1.0
SSF Saint Saulge 4.82 36 *e*Pn **Pn 07 41 21.5 +0.6**
SNR=1.0
SSF *e*Sn **Sn 07 42 14.9 -1.7**
SSF *e*Sg **Sg 07 42 43.3 -0.2**
6.7nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 4.97 68 *e*P **Pn 07 41 27.9 +5.0**
ORIF *e*Sn **Sn 07 42 18.5 -1.7**
QUIF Quistinic 5.04 340 *e*Pn **Pn 07 41 24.6 +0.7**
SNR=1.0
QUIF *e*Sn **Sn 07 42 20.6 -1.3**
3.8nm,0.2s,SNR=1.0
QUIF Quistinic 5.04 340 *e*Pn **Pn 07 41 24.6 +0.7**
SNR=1.0
QUIF *e*Sn **Sn 07 42 20.6 -1.3**
1.9nm,0.2s,SNR=1.0
LOR Lormes 5.14 36 *e*Pn **Pn 07 41 26.1 +0.9**
baz=219
LOR *e*Sn **Sn 07 42 22.7 -1.6**
LOR *e*Sg **Sg 07 42 51.8 -1.7**
9.5nm,0.4s,SNR=1.0
LOR Lormes 5.14 36 *e*Pn **Pn 07 41 26.1 +0.9**
LOR *e*Sn **Sn 07 42 22.7 -1.6**
LOR *e*Sg **Sg 07 42 51.8 -1.7**
4.8nm,0.4s,SNR=1.0
GRR Gorron 5.18 358 *e*Pn **Pn 07 41 26.9 +1.1**
GRR *e*Sn **Sn 07 42 24.2 -1.2**
SNR=1.0
GRR *e*Sg **Sg 07 42 54.4 -0.6**
9.3nm,0.4s
GRR Gorron 5.18 358 *e*Pn **Pn 07 41 26.9 +1.1**
GRR *e*Sn **Sn 07 42 24.2 -1.2**
SNR=1.0
GRR *e*Sg **Sg 07 42 54.4 -0.6**
4.7nm,0.4s
LMR La Mourre 5.19 86 *e*Pn **Pn 07 41 26.4 +0.4**
SGMF Saint Gilles 5.23 345 *e*P **Pn 07 41 31.4 +5.0**
SGMF *e*Sn **Sn 07 42 24.3 -2.2**
3.8nm,0.2s,SNR=1.0
SGMF Saint Gilles 5.23 345 *e*P **Pn 07 41 31.4 +5.0**
SGMF *e*Sn **Sn 07 42 24.3 -2.2**
1.9nm,0.2s,SNR=1.0
LDF La Druitiere 5.39 3 *e*Pn **Pn 07 41 29.2 +0.5**
SNR=1.0
LDF *e*Sn **Sn 07 42 28.5 -2.2**
LDF *e*Sg **Sg 07 43 00.3 -1.5**
5.5nm,0.3s
LDF La Druitiere 5.39 3 *e*Pn **Pn 07 41 29.2 +0.5**
SNR=1.0
LDF *e*Sn **Sn 07 42 28.5 -2.2**
LDF *e*Sg **Sg 07 43 00.3 -1.5**
2.8nm,0.3s
ROSF Rostrenen 5.46 341 *e*Pn **Pn 07 41 29.9 +0.3**
ROSF *e*Sn **Sn 07 42 29.5 -2.7**
21nm,1.0s,SNR=1.0
ROSF Rostrenen 5.46 341 *e*Pn **Pn 07 41 29.9 +0.3**
ROSF *e*Sn **Sn 07 42 29.5 -2.7**
10nm,1.0s,SNR=1.0
FLN La Foliniere 5.55 1 *e*Pn **Pn 07 41 32.1 +1.2**
baz=177,SNR=1.0
FLN *e*Sn **Sn 07 42 32.0 -2.6**
FLN *e*Sg **Sg 07 43 06.1 -0.8**
7.0nm,0.4s,SNR=1.0
FLN La Foliniere 5.55 1 *e*Pn **Pn 07 41 32.1 +1.2**
SNR=1.0
FLN *e*Sn **Sn 07 42 32.0 -2.6**
FLN *e*Sg **Sg 07 43 06.1 -0.8**
3.5nm,0.4s,SNR=1.0
LPG La Plagne 5.75 64 *e*P **Pn 07 41 38.8 +5.2**
EADA Adamuz 5.87 212 Pn **Pn 07 41 35.6 +0.2**
0.5nm,0.2s,SNR=7.9
EADA Sn **Sn 07 42 37.2 -5.3**
0.5nm,0.1s,SNR=7.9
EADA Adamuz 5.87 212 Pn **Pn 07 41 35.6 +0.3**
0.5nm,0.2s,SNR=7.9
EQUE Quentar 6.38 201 Pn **Pn 07 41 43.9 +1.6**
0.5nm,0.1s,SNR=7.9
EBAD Badajoz 6.58 230 Pn **Pn 07 41 46.4 +1.3**
0.8nm,0.1s,SNR=7.9
EBAD Sn **Sn 07 42 56.1 -3.8**
1.0nm,0.1s,SNR=7.9
EBAD Badajoz 6.58 230 Pn **Pn 07 41 46.4 +1.3**
0.8nm,0.1s,SNR=7.9
EBAD Sn **Sn 07 42 56.1 -3.8**
PGF Pioggiola 7.08 92 *e*Pn **Pn 07 41 52.5 +0.6**
PGF *e*Sn **Sn 07 43 08.4 -3.8**
1.4nm,0.3s
PGF Pioggiola 7.08 92 *e*Pn **Pn 07 41 52.5 +0.6**
PGF *e*Sn **Sn 07 43 08.4 -3.8**
0.7nm,0.3s
EVO Evora 7.30 233 *e*Pn **Pn 07 41 54.9 -0.1**
EVO *e*Sn **Sn 07 43 13.6 -4.1**
2.6nm,0.4s

*THR **14** 08:00:49.1±0.4, 28.11N×51.70E, h14km±6km, ML3.7*
*IDC **14** 08:00:49.1±1.4, 2809N×5189E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/26, mbtmp4.0/11, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/42, Error ellipse: s-maj=29.8km s-min=21.5km az=170.0*
*CSEM **14** 08:00:50.5±0.1, 2794N×5180E, h30km, ML3.7, Error ellipse: s-maj=2.6km s-min=1.8km az=51.0*
*ISCJB **14** 08:00:51.4±0.9, 2789N±004×51.76E±007, h43km±11km, mb3.9/9, Error ellipse: s-maj=10.7km s-min=5.8km az=151.2*
*TEH **14** 08:00:52.4, 2805N×5183E, h10km, Mn3.6*
*NEIC **14** 08:00:52.4, 2805N×5183E, h10km, ML3.7(THR), MN3.6(TEH), After TEH.*
*NAO **14** 08:01:20.7, 3071N×4942E, h33km, mb3.8*
ISC 14 08:00:50.7±1.3, 2798N±004×5179E±005, h11km±8km, n40, σ1s25/57, mb3.9/9, 3C-1D, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.10**	**74**	*e*Pg		**Pg**	**Pg**	**08 01 10.4**	**-1.5**
GHIR				*e*Sg		**Sg**	**Sg**	**08 01 26.2**	**-0.1**
GHIR	comp=E,2μm,0.2s			AML		AML	AML	08 01 32.7	
GHIR	comp=N,2μm,0.3s			AML		AML	AML	08 01 32.7	
GHIR	**Ghir-Karzin**	**1.10**	**74**	Pg		**Pg**	**Pg**	**08 01 10.0**	**-1.9**
GHIR				Sg		**Sg**	**Sg**	**08 01 26.0**	**-0.3**
GHIR	**Ghir-Karzin**	**1.10**	**74**	*e*Pg		**Pg**	**Pg**	**08 01 10.4**	**-1.5**
GHIR	SNR=90			*e*Sg		**Sg**	**Sg**	**08 01 26.2**	**-0.1**
GHIR	SNR=90								
IMOK	**Mook**	**1.34**	**37**	Pn		**Pn**	**Pn**	**08 01 14.0**	**-1.3**
IMOK				Sn		**Sn**	**Sn**	**08 01 34.8**	**+1.7**
IMOK	**Mook**	**1.34**	**37**	Pn		**Pn**	**Pn**	**08 01 14.0**	**-1.3**
IMOK				*e*Sn		**Sn**	**Sn**	**08 01 34.0**	**+0.9**
SHI	**Shiraz**	**1.78**	**21**	*e*Pn		**Pn**	**Pn**	**08 01 22.5**	**+1.2**
SHI				*e*Sn		**Sn**	**Sn**	**08 01 44.6**	**+0.8**
ISRV	**Sarvestan**	**1.82**	**40**	Pn		**Pn**	**Pn**	**08 01 23.4**	**+1.5**
ISRV				*e*Sn		**Sn**	**Sn**	**08 01 45.5**	**+0.5**
IPAR	**Pars**	**2.16**	**31**	Pn		**Pn**	**Pn**	**08 01 30.5**	**+3.9**
IPAR				Sn		**Sn**	**Sn**	**08 01 53.2**	**-0.2**
IPAR	**Pars**	**2.16**	**31**	*e*Pn		**Pn**	**Pn**	**08 01 27.6**	**+1.0**
IPAR				*e*Sn		**Sn**	**Sn**	**08 01 52.8**	**-0.6**
BNDS	**Bandar-Abbas**	**3.93**	**97**	*e*Pn		**Pn**	**Pn**	**08 01 52.6**	**+1.6**
BNDS	**Bandar-Abbas**	**3.93**	**97**	Pn		**Pn**	**Pn**	**08 01 52.0**	**+1.1**
IMEH	**Mehriz**	**4.20**	**35**	Pn		**Pn**	**Pn**	**08 01 56.6**	**+2.0**
IGAR	**Garneh**	**4.27**	**5**	*e*Pn		**Pn**	**Pn**	**08 01 58.2**	**+2.7**
IGAR				*e*Sn		**Sn**	**Sn**	**08 02 46.7**	**+1.4**
BANOM	**Banah** SNR=25	**4.52**	**116**	⇑P		**Pn**	**Pn**	**08 01 58.8**	**-0.2**
IPIR	**Pirpir**	**4.75**	**351**	*e*Pn		**Pn**	**Pn**	**08 02 02.8**	**+0.6**
IPIR				Sn		**Sn**	**Sn**	**08 02 54.9**	**-2.4**
KRBR	**Kerman**	**4.79**	**64**	*e*Pn		**Pn**	**Pn**	**08 02 03.5**	**+0.8**
KRBR	comp=E,65nm,0.4s			AML		AML	AML	08 03 03.1	
KRBR	comp=N,55nm,0.4s			AML		AML	AML	08 03 04.3	
KRBR	**Kerman**	**4.79**	**64**	Pn		**Pn**	**Pn**	**08 02 03.0**	**+0.2**
IBAF	**Bafgh**	**4.88**	**41**	Pn		**Pn**	**Pn**	**08 02 03.5**	**-0.4**
IBAF				Sn		**Sn**	**Sn**	**08 02 57.5**	**-2.8**
IBAF	**Bafgh**	**4.88**	**41**	*e*Pn		**Pn**	**Pn**	**08 02 02.8**	**-1.1**
IBAF				Sn		**Sn**	**Sn**	**08 02 57.5**	**-2.8**
ASHO	**Ashiyiah** SNR=10.0	**5.05**	**130**	⇓P		**Pn**	**Pn**	**08 02 06.6**	**+0.4**
IKLH	**Kalahroud**	**5.33**	**358**	Pn		**Pn**	**Pn**	**08 02 16.1**	**+6.0**
IKLH				Sn		**Sn**	**Sn**	**08 03 08.0**	**-3.4**
IKLH	**Kalahroud**	**5.33**	**358**	*e*Pn		**Pn**	**Pn**	**08 02 10.8**	**+0.7**
IKLH				Sn		**Sn**	**Sn**	**08 03 08.0**	**-3.4**
BSY	**Bisya** SNR=12	**7.15**	**136**	⇑P		**Pn**	**Pn**	**08 02 35.6**	**+0.5**
BSYO	**Bisya** SNR=12	**7.18**	**135**	P		**Pn**	**Pn**	**08 02 35.6**	**0.0**
SMDO	**Samad** SNR=7.5	**7.48**	**129**	⇑P		**Pn**	**Pn**	**08 02 39.9**	**+0.2**
SMDO	**Samad**	**7.48**	**129**	P		**Pn**	**Pn**	**08 02 39.9**	**+0.2**

SNR=7.5
WSAR Wadi Sarin 7.77 126 Pn **Pn 08 02 42.9 -0.8**
comp=N,1.5nm,0.3s,baz=335,slow=7.2,SNR=18
WSAR Sn **Sn 08 04 07.8 -3.9**
comp=N,1.1nm,0.3s,baz=192,slow=17,SNR=5.1
IDHR Dehrash 8.13 327 Pn **Pn 08 02 49.1 +0.5**
IDHR Sn **Sn 08 04 15.5 -5.1**
BRTR Keskin Array B 19.05 313 P **Pn 08 05 13.1 -0.5**
comp=N,0.1nm,0.3s,baz=138,slow=13,SNR=4.9
BVAR Borovoye Array 28.57 24 P **P 08 06 45.7 -0.8**
comp=N,0.3nm,0.3s,mb3.4,baz=285,slow=5.5,SNR=3.1
MKAR Makanchi Array 30.39 44 P **P 08 07 01.9 -0.7**
comp=N,0.6nm,0.6s,mb3.5,baz=231,slow=9.0,SNR=6.8
ZAL Zalesovo 35.43 34 P **P 08 07 45.5 -1.2**
comp=N,1.8nm,0.2s,mb4.6,baz=204,slow=3.6,SNR=4.3
FINES FINESS Array B 37.61 340 P **P 08 08 04.9 -0.4**
comp=N,1.1nm,0.5s,mb3.9,baz=140,slow=9.2,SNR=7.9
HFS Hagfors 41.20 332 P **P 08 08 33.7 -1.6**
comp=N,3.1nm,0.5s,mb4.2,baz=132,slow=6.4,SNR=5.3
NB2 NORSAR Subarra 42.72 332 P **P 08 08 46.4 -1.3**
comp=Z,0.9nm,0.5s,mb3.8,baz=123,slow=8.6
NOA NORSAR Array B 42.72 332 P **P 08 08 47.0 -0.7**
comp=Z,2.1nm,0.8s,mb3.9,baz=123,slow=8.4,SNR=4.0
ARCES ARCESS Array B 44.29 347 P **P 08 08 58.2 -2.2**
comp=Z,1.8nm,0.7s,mb3.9,baz=146,slow=7.1,SNR=6.0
ARCES ARCESS Array B 44.29 347 P **P 08 08 58.2 -2.2**
MDT Midelt 48.41 290 P **P 08 09 34.9 +2.2**
comp=Z,1.4nm,0.9s,mb4.0,baz=112,slow=9.9,SNR=4.7
TORD Torodi Ar. Bea 48.84 263 P **P 08 09 36.9 +0.9**
comp=Z,1.3nm,0.7s,mb4.1,baz=56,slow=7.5,SNR=12

*STR **14** 08:12:02.2±0.1, 4302N×001W, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 14 08:12:02.0±0.1, 4304N×002W, h2km, Md1.5/2, Ml1.6/2, Error ellipse: s-maj=9.0km s-min=1.6km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**86**	Pg		Pg	Pg	08 12 03.8	+0.5
LABF				Sg		Sg	Sg	08 12 05.1	+0.9
VIEF	**Viey**	**0.16**	**170**	Pg		Pg	Pg	08 12 05.1	0.0
VIEF				Sg		Sg	Sg	08 12 07.1	-0.1
EPF	**Esparros**	**0.26**	**93**	*e*Pg		Pg	Pg	08 12 06.8	-0.2
EPF	7.1nm,0.3s			*e*Sg		Sg	Sg	08 12 10.4	0.0
ETSF	**Etsaut**	**0.42**	**250**	*e*Pg		Pg	Pg	08 12 10.2	+0.1
ETSF	4.0nm,0.2s			*e*Sg		Sg	Sg	08 12 15.8	+0.1
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg		Pg	Pg	08 12 18.6	-0.4
SJPF	1.1nm,0.2s			*e*Sg		Sg	Sg	08 12 30.1	-0.5
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg		Pg	Pg	08 12 32.8	-1.0
MTLF	0.9nm,0.2s			*e*Sg		Sg	Sg	08 12 55.0	-0.3

*IDC **14** 08:12:48.6±1.5, 3025×1296.46E±02, h35km, mb3.9/4, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=65.5km s-min=24.2km az=65.0*
*ISCJB **14** 08:12:52.0±1.2, 31.5±0.1×1296.4E±02, h35km, mb3.7/2, Error ellipse: s-maj=37.1km s-min=16.3km az=141.0*
*NEIC **14** 08:12:53.0±1.2, 3025×1296.9E, h30km, mb3.9/2, Error ellipse: s-maj=37.5km s-min=16.4km az=72.0*
ISC 14 08:12:53.9±1.2, 30.5±01×1296.4E±02, h35km, n13, σ1s04/13, mb3.7/2, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.00**	**164**	*e*P		**Pn**	**Pn**	**08 15 15.2**	**+0.2**
FITZ	**Fitzroy Crossi** 3.1nm,0.3s	**15.47**	**194**	*e*P		**Pn**	**Pn**	**08 16 30.1**	**+0.8**
FITZ	**Fitzroy Crossi** 5.5nm,0.6s	**15.47**	**194**	Pn		**Pn**	**Pn**	**08 16 29.0**	**-0.3**
FITZ	0.3nm,0.3s,baz=21,slow=11,SNR=14			LR		LR	LR	08 22 56.2	
WRAB	**Tennant Creek** 5.0nm,0.6s	**17.41**	**165**	*e*P		**Pn**	**Pn**	**08 16 52.5**	**-1.4**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=346,slow=13,SNR=30	**17.41**	**165**	P		**Pn**	**Pn**	**08 16 52.9**	**-1.2**
WB2	**Warramunga Arr**	**17.42**	**165**	*e*P		**Pn**	**Pn**	**08 16 52.2**	**-1.9**
AS31	**Alice Springs**	**20.91**	**169**	*e*P		**P**	**P**	**08 17 34.5**	**+1.2**
ASAR	**Alice Springs** 10nm,0.6s,baz=346,slow=10,SNR=160	**20.91**	**169**	P		**P**	**P**	**08 17 34.5**	**+1.2**
ASPA	**Alice Springs**	**20.91**	**169**	*e*P		**P**	**P**	**08 17 34.5**	**+1.2**
CTA	**Charters Tower** 2.8nm,0.8s,mb3.7,baz=315,slow=11,SNR=3.1	**23.46**	**137**	P		**P**	**P**	**08 18 01.0**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.4s,mb3.7,baz=116,slow=7.4,SNR=5.3	**64.74**	**326**	P		**P**	**P**	**08 23 28.1**	**-0.5**
VNDA	**Vanda** 0.4nm,0.6s,baz=299,slow=7.8,SNR=3.6	**76.39**	**173**	P		**P**	**P**	**08 24 39.7**	**+0.1**
VNDA	**Vanda**	**76.39**	**173**	P		**P**	**P**	**08 24 39.7**	**+0.1**

IDC 14 08:14:26.0±8.8, 622S×15109E, h66km±62km, mb3.7/3, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=100.7km s-min=57.0km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.3nm,0.3s,baz=46,slow=10,SNR=4.1	**5.01**	**231**	P		Pn	Pn	08 15 38.7	0.0
PMG	3.7nm,0.3s,baz=211,slow=22,SNR=6.4			S		Sn	Sn	08 16 37.1	+1.8
WRA	**Warramunga Arr** 3.3nm,0.8s,baz=51,slow=10.0,SNR=11	**21.23**	**228**	P		P	P	08 19 05.5	-1.0
ASAR	**Alice Springs** 0.9nm,0.4s,baz=56,slow=8.8,SNR=7.3	**23.96**	**222**	P		P	P	08 19 34.0	-0.1
FITZ	**Fitzroy Crossi** 4.7nm,0.6s,baz=73,slow=8.1,SNR=10	**27.49**	**242**	P		P	P	08 20 06.6	+0.5
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=50,slow=3.0,SNR=5.4	**149.08**	**285**	PKPbc		PKPbc	PKPbc	08 34 08.2	+1.4

IDC 14 08:17:00.7±3.1, 598S×15091E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=115.1km s-min=38.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.1nm,0.3s,baz=32,slow=13,SNR=2.6	**5.04**	**227**	Pn		Pn	Pn	08 18 18.9	+1.4
PMG	2.7nm,0.3s,baz=69,slow=22,SNR=4.5			Sn		Sn	Sn	08 19 18.1	+1.7
WRA	**Warramunga Arr** 3.1nm,0.8s,baz=51,slow=9.7,SNR=8.6	**21.26**	**228**	P		P	P	08 21 47.9	-0.5
ASAR	**Alice Springs** 1.3nm,0.7s,baz=54,slow=9.0,SNR=7.9	**24.02**	**221**	P		P	P	08 22 16.6	-0.6
FITZ	**Fitzroy Crossi** 3.9nm,0.7s,baz=75,slow=9.6,SNR=8.2	**27.44**	**242**	P		P	P	08 22 49.4	+1.2
TORD	**Torodi Ar. Bea** 0.8nm,0.7s,baz=61,slow=2.1,SNR=5.0	**148.84**	**285**	PKPbc		PKPbc	PKPbc	08 36 51.0	+0.8

*ISCJB **14** 08:19:49.6±6.4, 02N±02×1219E±05, h213km±65km, mb3.8/6, Error ellipse: s-maj=89.5km s-min=21.1km az=140.2*
*IDC **14** 08:19:54.4±5.5, 004N×12170E, h243km±57km, mb3.5/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.4/7, Error ellipse: s-maj=85.0km s-min=14.6km az=65.0*
ISC 14 08:19:55.1±5.8, 01N±02×1219E±05, h253km±61km, n10, σ0s54/10, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 4.5nm,0.6s	**16.48**	**141**	*e*P		**P**	**P**	**08 23 30.2**	**-0.7**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=10,slow=11,SNR=4.9	**18.47**	**169**	P		**P**	**P**	**08 23 52.6**	**+0.1**
WRA	**Warramunga Arr** 5.4nm,0.5s,mb4.3,baz=326,slow=11,SNR=54	**23.36**	**149**	P		**P**	**P**	**08 24 41.6**	**+0.4**
WB2	**Warramunga Arr**	**23.36**	**149**	*e*P		**P**	**P**	**08 24 40.9**	**-0.3**
ASPA	**Alice Springs**	**26.35**	**155**	*e*P		**P**	**P**	**08 25 08.3**	**+0.2**
ASAR	**Alice Springs** 2.2nm,0.5s,mb4.0,baz=343,slow=14,SNR=42	**26.35**	**155**	P		**P**	**P**	**08 25 08.4**	**+0.3**
ASAR	0.4nm,0.3s,baz=344,slow=2.0,SNR=8.0			PcP		PcP	PcP	08 28 27.9	+1.1
STKA	**Stephens Creek** 2.7nm,0.3s,mb4.2,baz=325,slow=10.0,SNR=15	**36.87**	**151**	P		**P**	**P**	**08 26 40.5**	**+1.0**
SONM	**Songino Array**	**49.41**	**346**	P		**P**	**P**	**08 28 19.5**	**0.0**

0.9nm,0.6s,mb3.3,baz=166,slow=7.4,SNR=3.0
MKAR Makanchi Array 57.95 329 P **P** **08 29 21.3 +0.1**
1.2nm,0.3s,mb4.0,baz=125,slow=8.6,SNR=21
VNDA Vanda 80.51 172 P **P** **08 31 38.1 -1.0**
0.4nm,0.6s,mb3.2,baz=322,slow=6.6,SNR=5.3

ISCJB ***14*** *08:37:50.3±0.4, 9.33S±0.05×123.82E±0.08, h33km, mb4.4/19, Error ellipse: s-maj=12.0km s-min=4.4km az=124.4*
IDC ***14*** *08:37:50.2±0.6, 9.02S×123.40E, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML4.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/26, Error ellipse: s-maj=30.0km s-min=14.6km az=69.0*
NEIC ***14*** *08:37:54.2±0.4, 9.00S×123.61E, h30km, mb4.4/6, Error ellipse: s-maj=16.5km s-min=6.9km az=64.0*

ISC 14 08:37:55.7±2.1, 90S±01×1237E±01, h45km±23km, n36, σ1§06/43, mb4.4/19, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.21**	**169**	*e*P	**Pn**	**08 40 06.4**	**+0.5**
	29nm,0.3s						
FITZ				*e*S	**Sn**	**08 41 37.3**	**-11**
FITZ	**Fitzroy Crossi**	**9.21**	**169**	Pn	**Pn**	**08 40 06.8**	**+0.9**
	7.0nm,0.3s,baz=5.3,slow=9.6,SNR=125						
FITZ				Sn	**Sn**	**08 41 40.8**	**-7.3**
	9.1nm,0.3s,baz=176,slow=12,SNR=22						
FITZ				LR	LR	08 44 19.6	
	comp=Z,46nm,18.1s,baz=15,slow=42						
MBWA	**Marble Bar**	**12.66**	**197**	*e*Pn	**Pn**	**08 40 52.9**	**-0.3**
MBWA				*e*Sn	**Sn**	**08 43 05.1**	**-7.6**
WRA	**Warramunga Arr**	**14.92**	**138**	Pn	**Pn**	**08 41 22.7**	**-1.0**
	1.0nm,0.3s,baz=310,slow=15,SNR=49						
WRA				Sn	**Sn**	**08 43 58.8**	**-8.9**
	3.6nm,0.3s,baz=318,slow=24,SNR=11						
WRA				LR	LR	08 48 09.0	
	comp=Z,33nm,20.4s,baz=210,slow=41						
WRA	**Warramunga Arr**	**14.92**	**138**	Pn	**Pn**	**08 41 22.7**	**-1.0**
WRA				Sn	**Sn**	**08 43 58.8**	**-8.9**
WRAB	**Tennant Creek**	**14.93**	**138**	*e*P	**Pn**	**08 41 22.9**	**-0.8**
	12nm,0.7s						
WRAB				*e*Sn	**Sn**	**08 43 57.0**	**-11**
WB2	**Warramunga Arr**	**14.93**	**138**	*e*Pn	**Pn**	**08 41 23.0**	**-0.8**
WB2				*e*Sn	**Sn**	**08 43 59.0**	**-8.9**
AS31	**Alice Springs**	**17.50**	**147**	*e*P	**Pn**	**08 41 58.2**	**+1.7**
AS31				*e*Sn	**S**	**08 44 59.1**	**-17**
ASAR	**Alice Springs**	**17.50**	**147**	P	**Pn**	**08 41 58.0**	**+1.5**
	1.1nm,0.3s,baz=321,slow=12,SNR=100						
ASAR				S	**S**	**08 44 59.7**	**-17**
	1.3nm,0.3s,baz=320,slow=24,SNR=13						
ASAR				LR	LR	08 49 42.6	
	comp=Z,70nm,19.6s,baz=357,slow=40						
ASAR	**Alice Springs**	**17.50**	**147**	P	**Pn**	**08 41 58.0**	**+1.5**
ASAR				S	**S**	**08 44 59.7**	**-17**
FORT	**Forrest**	**22.01**	**170**	*e*P	**P**	**08 42 46.7**	**+0.6**
	14nm,0.6s,mb4.6						
CTA	**Charters Tower**	**24.37**	**119**	P	**P**	**08 43 13.7**	**+4.1**
	1.7nm,0.4s,mb3.8,baz=252,slow=6.4,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.53**	**193**	P	**P**	**08 43 10.0**	**-1.0**
	3.2nm,0.3s,mb4.3,baz=20,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**28.14**	**146**	P	**P**	**08 43 45.5**	**+2.0**
	3.2nm,0.7s,mb4.1,baz=302,slow=9.0,SNR=6.6						
STKA				LR	LR	08 56 20.4	
	comp=Z,55nm,20.3s,baz=220,slow=39						
STKA	**Stephens Creek**	**28.14**	**146**	P	**P**	**08 43 45.5**	**+2.0**
MJAR	**Matsushiro Arr**	**47.33**	**16**	P	**P**	**08 46 26.6**	**+1.6**
	2.1nm,0.5s,mb4.3,baz=192,slow=8.3,SNR=7.9						
GUN	**Gumba**	**51.86**	**316**	*e*P	**P**	**08 47 00.1**	**+0.6**
	53nm,0.7s						
PKI	**Pulchoki**	**51.97**	**316**	*e*P	**P**	**08 47 00.3**	**0.0**
	24nm,0.6s						
KKN	**Kakani**	**52.20**	**316**	*e*P	**P**	**08 47 02.2**	**+0.2**
	17nm,0.6s,mb5.1						
DMN	**Daman**	**52.20**	**315**	*e*P	**P**	**08 47 02.2**	**+0.2**
	25nm,0.8s,mb5.2						
GKN	**Gorkha**	**52.77**	**316**	*e*P	**P**	**08 47 06.2**	**0.0**
	23nm,0.5s,mb5.4						
KOLN	**Koldanda**	**53.35**	**315**	*e*P	**P**	**08 47 10.3**	**-0.2**
	26nm,0.8s,mb5.2						
SONM	**Songino Array**	**58.66**	**346**	P	**P**	**08 47 48.9**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=165,slow=8.7,SNR=5.0						
MK31	**Makanchi Array**	**66.71**	**330**	*e*P	**P**	**08 48 42.2**	**+0.2**
MKAR	**Makanchi Array**	**66.71**	**330**	P	**P**	**08 48 42.5**	**+0.4**
	6.7nm,0.5s,mb4.9,baz=132,slow=7.8,SNR=79						
AAK	**Ala-Archa**	**68.24**	**323**	*e*P	**P**	**08 48 50.9**	**-0.8**
	2.5nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**70.82**	**337**	P	**P**	**08 49 07.1**	**-0.5**
	6.6nm,0.4s,mb4.9,baz=356,slow=4.6,SNR=12						
KURK	**Kurchatov**	**71.17**	**332**	*e*P	**P**	**08 49 09.1**	**-0.7**
	9.3nm,0.8s,mb4.8						
VNDA	**Vanda**	**71.26**	**172**	P	**P**	**08 49 10.9**	**+0.6**
	0.4nm,0.8s,mb3.4,baz=299,slow=7.1,SNR=5.3						
OPO	**Ambohidratompo**	**74.50**	**253**	P	**P**	**08 49 30.8**	**+1.3**
	1.9nm,0.8s,mb4.1,baz=91,slow=23,SNR=3.2						
BVAR	**Borovoye Array**	**76.59**	**330**	P	**P**	**08 49 40.9**	**-0.5**
	0.7nm,0.5s,mb3.8,baz=159,slow=13,SNR=4.7						
CHKZ	**Chkalovo**	**76.86**	**331**	*e*P	**P**	**08 49 42.4**	**-0.6**
	2.1nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**77.23**	**330**	*e*P	**P**	**08 49 44.0**	**-1.0**
	0.8nm,0.5s,mb3.9						
MORC	**Moravsky Berou**	**107.30**	**319**	*e*PKPdf	PKiKP	08 56 16.1	-1.0
TORD	**Torodi Ar. Bea**	**123.08**	**280**	PKP	PKPdf	08 56 47.6	+0.4
	0.4nm,0.7s,baz=91,slow=1.7,SNR=5.7						
LPAZ	**La Paz**	**152.24**	**155**	PKPbc	PKPbc	08 57 50.4	+3.9
	0.4nm,0.4s,baz=108,slow=4.7,SNR=5.4						
LPAZ				PKPab	PKPab	08 57 59.4	+3.0
	1.0nm,0.5s,baz=167,slow=2.9,SNR=9.0						

GII 14 08:41:48.7±0.7, 2986N×3625E, h0km±16km, ML2.2/2, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.05**	**263**	Pg	Pg	08 42 09.6	+0.8
HRFI	**Mount Harif**	**1.06**	**280**	Pg	Pg	08 42 09.2	+0.1
HRFI	**Mount Harif**	**1.06**	**280**	Pg	Pg	08 42 09.5	+0.4
HRFI				Sg	Sg	08 42 26.6	+3.7
EIL	**Elat**	**1.14**	**261**	Pg	Pg	08 42 11.9	+1.3
ZFRI	**Zfri**	**1.16**	**307**	Pg	Pg	08 42 10.9	0.0
ZFRI	**Zfri**	**1.16**	**307**	Pg	Pg	08 42 11.4	+0.6
MBH	**Mount Berech**	**1.16**	**267**	Pg	Pg	08 42 11.8	+0.9
PRNI	**Paran**	**1.18**	**295**	Pg	Pg	08 42 11.9	+0.5
PRNI	**Paran**	**1.18**	**295**	Pg	Pg	08 42 11.5	+0.1
PRNI				Sg	Sg	08 42 28.9	+2.2
KMTI	**Karmit**	**1.34**	**281**	Pg	Pg	08 42 15.2	+0.7
KMTI	**Karmit**	**1.34**	**281**	Pn	Pn	08 42 14.6	-0.1
MZDA	**Masada**	**1.64**	**332**	Pn	Pn	08 42 19.1	+0.4

ISCJB ***14*** *08:46:45.6±0.7, 38.33N±0.02×23.77E±0.07, h4km±6km, Error ellipse: s-maj=8.9km s-min=3.6km az=155.1*
NEIC ***14*** *08:46:46.3, 38.32N×23.77E, h14km, ML2.8(ATH), After ATH.*
CSEM ***14*** *08:46:46.7±0.1, 38.33N×23.79E, h2km, ML2.8, Error ellipse: s-maj=2.8km s-min=1.3km az=81.0*
ATH ***14*** *08:46:46.3, 38.32N×23.77E, h14km±1km, MD3.1/10, ML2.8*
THE ***14*** *08:46:48.7, 38.41N×23.85E, h17km, ML2.8*

ISC 14 08:46:46.3±0.6, 3835N±003×2377E±007, h5km±6km, n21, σ0§71/28, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTL	**Penteli**	**0.31**	**166**	*e*PG	**Pg**	**08 46 52.0**	**-0.2**
PTL				*e*SG	**Sg**	**08 46 56.0**	**-0.3**
ATH	**Athens Observa**	**0.38**	**186**	*e*PB	**Pg**	**08 46 53.5**	**-0.1**
ATH				*e*SB	**Sg**	**08 46 58.8**	**+0.3**
KVR	**Kavouri**	**0.52**	**180**	*e*PB	**Pg**	**08 46 56.0**	**-0.3**
KVR				*e*SB	**Sg**	**08 47 03.0**	**0.0**
MGER	**Gerania Oros**	**0.54**	**228**	*e*PB	**Pg**	**08 46 56.5**	**-0.1**
NAIG	**Nisos Aigina**	**0.63**	**201**	*e*PB	**Pb**	**08 46 58.0**	**-1.8**
LKR	**Lokris**	**0.68**	**297**	*e*PG	**Pg**	**08 46 59.2**	**-0.1**
LKR				*e*SB	**Sb**	**08 47 09.5**	**-0.7**
AOS	**Alonnisos**	**0.83**	**6**	*e*Pg	**Pg**	**08 47 02.5**	**+0.4**
NEO	**Neokhori**	**1.05**	**336**	*e*PB	**Pb**	**08 47 06.7**	**-0.3**
NEO				*e*SB	**Sb**	**08 47 21.4**	**+0.4**
XOR	**Xorichti**	**1.11**	**336**	*e*Pg	**Pg**	**08 47 07.8**	**+0.1**
XOR				*e*Sg	**Sg**	**08 47 23.1**	**+1.0**
XOR	**Xorichti**	**1.11**	**336**	*e*Pg	**Pg**	**08 47 07.8**	**+0.1**
XOR				*e*Sg	**Sg**	**08 47 23.0**	**+0.9**
AGG	**Agios Georgios**	**1.31**	**301**	*e*Pg	**Pg**	**08 47 11.4**	**-0.1**
PAIG	**Paliouri**	**1.58**	**358**	*e*Pg	**Pn**	**08 47 14.3**	**-0.7**
VLI	**Veliai**	**1.75**	**202**	*e*PN	**Pn**	**08 47 18.0**	**+0.6**
ITM	**Ithomi**	**1.87**	**232**	*e*PN	**Pn**	**08 47 19.9**	**+1.0**
LOS	**Limnos**	**1.89**	**32**	*e*Pb	**Pn**	**08 47 18.8**	**-0.4**
APE	**Apeiranthos**	**1.89**	**132**	*e*Pb	**Pn**	**08 47 18.7**	**-0.6**
APE	**Apeiranthos**	**1.89**	**132**	*e*Pn	**Pn**	**08 47 20.3**	**+1.0**
OUR	**Ouranopolis**	**1.99**	**5**	*e*Pb	**Pn**	**08 47 19.8**	**-0.9**
HORT	**Hortiatis**	**2.31**	**347**	*e*Pn	**Pn**	**08 47 24.4**	**-0.6**
KNT	**Kendrikon**	**2.89**	**347**	*e*Pn	**Pn**	**08 47 33.8**	**+0.7**
KARN	**Karanos**	**2.94**	**178**	*e*Pn	**Pn**	**08 47 35.7**	**+2.0**

GUC 14 08:56:51.7±0.8, 2644S×7067W, h47km±73km, ML3.6, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.65**	**192**	⇓*i*P	Pn	08 57 05.1	+0.5
CDCH				*i* S	Sn	08 57 14.7	+0.8
CDCH				AML	AML	08 57 15.8	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**0.96**	**163**	⇓*i*P	Pn	08 57 09.6	+0.8
CPCH				*i* S	Sn	08 57 22.4	+1.1
CPCH				AML	AML	08 57 24.1	
	comp=E,23μm,0.1s						
CPN1	**Cerro Paranal**	**1.82**	**8**	*e*P	Pn	08 57 21.9	+1.3
CPN1				*i* S	Sn	08 57 44.7	+2.3
CPN1				AML	AML	08 57 51.7	
	comp=E,477nm,0.5s						
CEN1	**Los Morros**	**3.06**	**8**	⇑*i*P	Pn	08 57 35.1	-2.5
CEN1				AML	AML	08 58 25.7	
	comp=E,106nm,0.5s						

IDC 14 09:11:38.0±1.1, 2175N×14289E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/22, mbtmp4.0/6, ML3.7/1, MS3.7/18, Ms1 3.7/18, ms1mx3.5/41, Error ellipse: s-maj=47.9km s-min=18.7km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.36**	**353**	Pn	Pn	09 12 59.1	-0.2
	6.2nm,0.3s,baz=271,slow=18,SNR=6.4						
CBIJ				Sn	Sn	09 14 01.1	-0.6
	1.3nm,0.3s,baz=278,slow=19,SNR=2.4						
GUMO	**Guam**	**8.33**	**167**	LR	LR	09 16 33.0	
	comp=Z,161nm,19.1s,baz=188,slow=35						
JOW	**Kunigami**	**14.25**	**294**	LR	LR	09 19 53.5	
	comp=Z,471nm,18.7s,baz=47,slow=35						
MJAR	**Matsushiro Arr**	**15.29**	**346**	LR	LR	09 20 46.6	
	comp=Z,293nm,19.3s,baz=185,slow=36						
KSRS	**Korea Array**	**20.31**	**324**	LR	LR	09 23 16.1	
	comp=Z,150nm,18.8s,baz=325,slow=34						
ASAJ	**Asahikawa**	**22.31**	**359**	LR	LR	09 24 14.8	
	comp=Z,116nm,21.2s,baz=341,slow=34						
PMG	**Port Moresby**	**31.24**	**172**	LR	LR	09 29 14.6	
	comp=Z,44nm,18.0s,baz=308,slow=34						
HNR	**Honiara**	**35.22**	**150**	LR	LR	09 30 11.8	
	comp=Z,84nm,20.5s,baz=359,slow=32						
SONM	**Songino Array**	**39.12**	**321**	P	P	09 19 07.4	+0.2
	0.6nm,0.6s,baz=127,slow=7.3,SNR=5.5						
SONM				LR	LR	09 35 30.0	
	comp=Z,97nm,18.8s,baz=199,slow=37						
CTA	**Charters Tower**	**41.71**	**175**	LR	LR	09 33 34.1	
	comp=Z,80nm,21.3s,baz=11,slow=32						
WRA	**Warramunga Arr**	**42.27**	**192**	P	P	09 19 33.3	+0.2
	5.6nm,1.1s,baz=15,slow=9.0,SNR=14						
WRA				LR	LR	09 34 47.9	
	comp=Z,90nm,21.1s,baz=25,slow=33						
FITZ	**Fitzroy Crossi**	**43.05**	**204**	LR	LR	09 35 01.2	
	comp=Z,48nm,20.7s,baz=165,slow=33						
ASAR	**Alice Springs**	**45.98**	**191**	P	P	09 20 02.9	0.0
	2.2nm,0.7s,baz=14,slow=9.2,SNR=32						
ASAR				LR	LR	09 37 57.0	
	comp=Z,140nm,21.3s,baz=1.6,slow=34						
ZAL	**Zalesovo**	**54.01**	**322**	LR	LR	09 42 15.4	
	comp=Z,89nm,19.3s,baz=254,slow=34						
MKAR	**Makanchi Array**	**54.46**	**313**	P	P	09 21 07.2	0.0
	0.8nm,0.9s,baz=99,slow=8.9,SNR=4.9						
MKAR				LR	LR	09 44 29.6	
	comp=Z,58nm,20.1s,baz=230,slow=36						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	P	09 23 30.2	+0.1
	1.0nm,0.8s,baz=289,slow=5.7,SNR=2.6						
YKA				LR	LR	09 54 59.6	
	comp=Z,56nm,19.7s,baz=240,slow=34						
PPT	**Papeete**	**76.80**	**115**	LR	LR	09 51 25.2	
	comp=Z,80nm,19.9s,baz=290,slow=31						
PDAR	**Pinedale Array**	**87.55**	**45**	LR	LR	10 01 55.0	
	comp=Z,66nm,20.2s,baz=267,slow=34						
VNDA	**Vanda**	**99.69**	**176**	LR	LR	10 06 15.2	
	comp=Z,44nm,19.4s,baz=76,slow=33						

ISCJB ***14*** *09:16:45.9±0.6, 22.59S±0.07×68.75W±0.09, h119km±5km, mb4.0/7, Error ellipse: s-maj=15.4km s-min=9.0km az=58.1*
IDC ***14*** *09:16:47.2±0.6, 22.64S×68.89W, h111km±4km, mb3.6/4, mb1 3.7/6, mb1mx3.6/16, mbtmp3.5/6, Error ellipse: s-maj=26.6km s-min=16.5km az=73.0*
GUC ***14*** *09:16:48.0±0.4, 22.75S×68.86W, h110km, MD4.2, ML4.1*
NEIC ***14*** *09:16:48.0, 22.75S×68.86W, h110km, mb4.1/4, MD4.2(GUC), After GUC.*
NEIC Felt [II] at Calama, Chanaral, Maria Elena and Tocopilla.

ISC 14 09:16:47.1±0.6, 2262S±006×6872W±009, h113km±5km, n21, σ1§30/24, mb4.0/7, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.18**	**274**	P	**Pn**	**09 17 03.1**	**+0.3**
	787nm,0.3s,baz=330,slow=2.1,SNR=7891						
LVC				S	**Sn**	**09 17 14.8**	**+0.3**
	1μm,0.3s,baz=207,slow=22,SNR=204						
CEN1	**Los Morros**	**1.56**	**241**	⇓*e*P	**Pn**	**09 17 16.5**	**+1.7**
CEN1				*i* S	**Sn**	**09 17 37.7**	**+1.9**
CEN1				AML	AML	09 17 39.3	
	comp=N,2μm,0.6s						
ANCH	**Antofagasta**	**1.88**	**236**	⇑*i*P	**Pn**	**09 17 17.7**	**-0.9**
ANCH				*i* S	**Sn**	**09 17 40.5**	**-2.2**
CPN1	**Cerro Paranal**	**2.52**	**217**	*e*P	**Pn**	**09 17 26.9**	**+0.1**
CPN1				*i* S	**Sn**	**09 17 56.6**	**-0.8**
CPN1				AML	AML	09 17 58.8	
	comp=E,1μm,0.7s						
LPAZ	**La Paz**	**6.33**	**5**	P	**Pn**	**09 18 18.2**	**+0.4**
	comp=E,0.7nm,0.3s,baz=193,slow=7.9,SNR=22						
LPAZ	**La Paz**	**6.33**	**5**	*e*Pn	**Pn**	**09 18 17.9**	**0.0**
ARE	**Arequipa**	**6.66**	**336**	*e*P	**Pn**	**09 18 17.0**	**-5.4**
ARE				*e*S	**Sn**	**09 19 26.0**	**-11**
CFAA	**Coronel Fontan**	**8.96**	**177**	P	**Pn**	**09 18 53.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=350,slow=12,SNR=19						
CFAA				S	**Sn**	**09 20 29.6**	**-2.9**
	comp=E,0.2nm,0.3s,baz=39,slow=22,SNR=3.3						
SIV	**San Ignacio**	**9.78**	**49**	P	**Pn**	**09 19 02.5**	**-2.2**
	comp=E,3.0nm,0.3s,baz=249,slow=10,SNR=62						
SIV				S	**Sn**	**09 20 45.0**	**-7.5**
	comp=E,0.8nm,0.3s,baz=109,slow=23,SNR=9.9						
TRQA	**Tornquist**	**16.44**	**161**	*e*P	**Pn**	**09 20 32.4**	**+1.5**
	comp=E,9.8nm,0.7s						
WVT	**Waverly**	**61.17**	**342**	*e*P	**P**	**09 26 47.9**	**-1.7**
	comp=E,5.4nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**61.65**	**325**	P	**P**	**09 26 53.8**	**+0.9**
	comp=E,0.3nm,0.6s,mb3.5,baz=152,slow=8.1,SNR=4.5						
ANMO	**Albuquerque**	**67.54**	**327**	*e*P	**P**	**09 27 31.7**	**+0.6**
	comp=E,1.2nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**75.17**	**330**	P	**P**	**09 28 16.4**	**-0.6**
	comp=E,0.4nm,0.5s,mb3.4,baz=130,slow=7.8,SNR=3.7						
PDAR				pP	pP	09 28 46.6	+1.2
	comp=E,0.2nm,0.5s,baz=78,slow=35,SNR=1.8						
ULM	**Lac du Bonnet**	**76.44**	**342**	P	**P**	**09 28 22.5**	**-1.7**
	comp=E,2.6nm,0.8s,mb4.0,baz=68,slow=5.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.57**	**70**	P	**P**	**09 28 32.2**	**+1.6**
	comp=E,2.5nm,0.4s,mb4.3,baz=255,slow=5.4,SNR=42						
TORD				pP	pP	09 29 00.6	+1.4
	comp=E,2.2nm,0.7s,baz=255,slow=5.2,SNR=4.4						
HLID	**Hailey**	**78.08**	**328**	*e*P	**P**	**09 28 34.7**	**+1.3**
	comp=E,2.2nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**129.00**	**207**	PKP	PKPdf	09 35 43.0	+1.5
	comp=E,0.6nm,0.7s,baz=136,slow=2.2,SNR=11						
WRA	**Warramunga Arr**	**132.07**	**210**	PKP	PKPdf	09 35 49.4	+2.0
	comp=E,0.6nm,0.5s,baz=155,slow=1.7,SNR=20						
MKAR	**Makanchi Array**	**146.43**	**37**	PKPbc	PKPbc	09 36 14.9	+0.1
	comp=E,1.1nm,0.7s,baz=333,slow=1.6,SNR=7.8						
MKAR				pPKPbc	pPKPbc	09 36 45.5	+0.3
	comp=E,0.5nm,0.6s,baz=316,slow=3.3,SNR=2.9						
MKAR	**Makanchi Array**	**146.43**	**37**	PKPbc	PKPbc	09 36 14.9	+0.1
MKAR				pPKPbc	pPKPbc	09 36 45.5	+0.3

IDC 14 09:24:02.0±9.2, 639S×15147E, h59km±65km, mb3.3/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=96.3km s-min=57.4km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**235**	P	Pn	09 25 18.2	+0.7
	1.1nm,0.3s,baz=32,slow=9.5,SNR=3.4						
PMG				S	Sn	09 26 17.6	+1.2
	2.3nm,0.3s,baz=154,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**21.41**	**229**	P	P	09 28 44.3	-0.6
	1.0nm,0.8s,baz=54,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.09**	**223**	P	P	09 29 12.0	0.0
	1.1nm,0.8s,baz=62,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**27.76**	**243**	P	P	09 29 45.9	+0.8
	1.1nm,0.8s,baz=42,slow=15,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.49**	**285**	PKPbc	PKPbc	09 43 45.6	+1.0
	0.9nm,0.7s,baz=70,slow=2.5,SNR=5.2						

IDC 14 09:33:37.3±9.4, 2098N×14177E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/43, Error ellipse: s-maj=398.2km s-min=29.8km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.82**	**349**	LR	LR	09 42 03.2	
	comp=Z,72nm,21.6s,baz=335,slow=32						
SONM	**Songino Array**	**39.07**	**322**	P	P	09 41 06.0	+0.1
	0.3nm,0.5s,baz=108,slow=8.2,SNR=3.7						
WRA	**Warramunga Arr**	**41.31**	**191**	P	P	09 41 25.0	+0.4
	2.0nm,0.9s,baz=12,slow=8.8,SNR=9.6						
FITZ	**Fitzroy Crossi**	**41.94**	**203**	LR	LR	09 58 17.6	
	comp=Z,36nm,18.5s,baz=285,slow=35						
ASAR	**Alice Springs**	**45.03**	**190**	P	P	09 41 54.5	-0.1
	0.6nm,0.7s,baz=14,slow=9.2,SNR=13						

ISCJB ***14*** *09:49:34.7±0.5, 42.43N±0.02×44.15E±0.04, h9km, Error ellipse: s-maj=4.6km s-min=2.7km az=125.7*
MOS ***14*** *09:49:34.3±1.0, 42.41N×44.18E, h9km, mb4.6/1, Error ellipse: s-maj=12.1km s-min=5.1km az=96.6*
CSEM ***14*** *09:49:34.0, 42.41N×44.18E, h9km, mb4.6, Error ellipse: s-maj=12.1km s-min=5.1km az=66.0, After OBN*

ISC 14 09:49:35.2±0.5, 4243N±002×4422E±004, h7km±6km, n24, σ1§22/44, 1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.40**	**9**	*i* Pg	**Pg**	**09 49 42.9**	**0.0**
LACR				*i* Sg	**Sg**	**09 49 49.2**	**+1.1**
ZEI	**Tsey**	**0.41**	**325**	⇓*i*PG	**Pg**	**09 49 42.1**	**-1.1**
ZEI				*e*		09 49 48.4	
ZEI				pmax	pmax		
	comp=Z,468nm,0.1s						
ZEI				smax			
	comp=E,1μm,0.2s						
ZEI	**Tsey**	**0.41**	**325**	*i* Pg	**Pg**	**09 49 42.1**	**-1.1**
	comp=E,468nm,0.1s						
ZEI				*e*Sg	**Sg**	**09 49 48.4**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.66**	**315**	*i* Pg	**Pg**	**09 49 46.1**	**-1.8**
DIGR				*i* Sg	**Sg**	**09 49 54.8**	**-1.7**
KORR	**Kora**	**0.66**	**351**	*i* Pg	**Pg**	**09 49 47.7**	**-0.3**
KORR				*e*Sg	**Sg**	**09 49 57.1**	**+0.5**
VLKR	**Vladikavkaz**	**0.70**	**29**	*e*Pg	**Pg**	**09 49 48.5**	**-0.2**
VLKR				*e*Sg	**Sg**	**09 49 58.9**	**+1.0**
ARNR	**Ardon**	**0.76**	**4**	*i* Pg	**Pg**	**09 49 50.4**	**+0.6**
ARNR				*e*Sg	**Sg**	**09 50 01.0**	**+1.4**
SNJR	**Sundja**	**0.77**	**35**	*e*Pg	**Pg**	**09 49 49.9**	**-0.2**
SNJR				*e*Sg	**Sg**	**09 50 01.3**	**+1.2**
TBLG	**Delisi**	**0.80**	**151**	Pg	**Pg**	**09 49 50.9**	**+0.2**
TBLG				Sg	**Sg**	**09 50 02.9**	**+1.8**
MTA	**Mtatsminda**	**0.86**	**150**	PG	**Pg**	**09 49 50.8**	**-0.9**
MTA				S	**Sg**	**09 50 03.3**	**+0.5**
BTKR	**Batakoyurt**	**0.97**	**14**	*i* Pg	**Pg**	**09 49 56.9**	**+3.1**
BTKR				*e*Sg	**Sg**	**09 50 10.6**	**+4.2**
PRTR	**Priterechnaya**	**1.32**	**2**	*e*Pg	**Pg**	**09 49 59.5**	**-1.0**
PRTR				*e*Sg	**Sg**	**09 50 18.5**	**+0.9**
TRKR	**Terskaya**	**1.34**	**16**	*e*Pg	**Pg**	**09 49 58.6**	**-2.4**
TRKR				*e*Sg	**

PEL	**Peldehue**	**0.98**	**120**	*e*P	Pn	10 31 08.0	+0.7
PEL				*i* S	Sn	10 31 21.7	+1.7
FCH	**Farellones**	**1.36**	**120**	*i* P	Pn	10 31 14.0	+1.5
FCH				*i* S	Sn	10 31 32.2	+2.9
FCH				AML	AML	10 31 32.8	
	comp=N,114nm,0.3s						
CHCH	**Chadas Angostu**	**1.55**	**146**	*i* P	Pn	10 31 16.7	+1.6
CHCH				*i* S	Sn	10 31 37.1	+3.1
CMCH	**Combarbala**	**1.59**	**22**	*e*P	Pn	10 31 17.0	+1.3
CMCH				*i* S	Sn	10 31 38.4	+3.3
CMCH				AML	AML	10 31 43.1	
	comp=E,196nm,0.5s						
CMCH	**Combarbala**	**1.59**	**22**	*e*P	Pn	10 31 17.0	+1.3
CMCH				*i* S	Sn	10 31 38.4	+3.3
CACH	**El Canelo**	**1.72**	**148**	*i* P	Pn	10 31 19.9	+2.3

ISK ***14*** *10:39:45.4,39.13N×34.68E,h2km,ML3.7*
ISCJB ***14*** *10:39:46.1±0.3,39.13N±0.002×34.69E±0.003,h2km,Error ellipse: s-maj=3.6km s-min=2.6km az=105.2*
ISC 14 10:39:46.8±0.6**,3911N**±002×**3469E**±003,**h2**km±5km**,n38,** σ0**879/51,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.35**	**158**	*i* P	**Pg**	**10 39 52.9**	**-0.6**
AVNT				*i* S	**Sg**	**10 39 57.8**	**-0.3**
CDAG	**Cicekdag**	**0.57**	**335**	*i* P	**Pg**	**10 39 57.3**	**-0.3**
CDAG				*i* S	**Sg**	**10 40 06.0**	**+0.9**
YOZ	**Yozgat**	**0.72**	**43**	*i* PG	**Pg**	**10 40 00.3**	**-0.3**
BNN	**Bunyan**	**0.94**	**105**	*i* PG	**Pg**	**10 40 04.4**	**-0.4**
BNN				*i* SG	**Sg**	**10 40 18.4**	**+1.4**
CORM	**Corum**	**1.07**	**358**	PG	**Pg**	**10 40 05.7**	**-1.6**
CTKT	**Corum**	**1.52**	**3**	*i* P	**Pn**	**10 40 15.0**	**+0.2**
CTKT				*i* S	**Sn**	**10 40 38.3**	**+3.1**
ANTO	**Ankara**	**1.65**	**298**	PN	**Pn**	**10 40 16.3**	**-0.4**
ANTO				SN	**Sn**	**10 40 38.6**	**+0.1**
ELDT	**Eldivan**	**1.69**	**325**	*i* P	**Pn**	**10 40 17.4**	**+0.2**
ELDT				*i* S	**Sn**	**10 40 43.6**	**+4.3**
CANT	**Cankiri**	**1.71**	**332**	PN	**Pn**	**10 40 17.2**	**-0.3**
KOZT	**Kozan**	**1.86**	**151**	PN	**Pn**	**10 40 20.0**	**+0.5**
KARA	**Karaisali**	**1.87**	**171**	PN	**Pn**	**10 40 19.5**	**-0.2**
TOKT	**Tokat**	**1.88**	**49**	PN	**Pn**	**10 40 20.0**	**+0.2**
SVSK	**Karacayir**	**1.96**	**65**	PN	**Pn**	**10 40 21.2**	**+0.2**
TOS	**Tosya**	**1.99**	**345**	PN	**Pn**	**10 40 21.4**	**0.0**
KDHN	**Kadinhani**	**2.09**	**255**	*i* P	**Pn**	**10 40 22.2**	**-0.6**
KDHN				*i* S	**Sn**	**10 40 47.2**	**-2.1**
KONT	**Konya--Tatoy**	**2.16**	**238**	*e*PN	**Pn**	**10 40 24.1**	**+0.4**
KVT	**Kavak**	**2.23**	**27**	*e*PN	**Pn**	**10 40 23.4**	**-1.3**
MERS	**Mersin**	**2.24**	**183**	*e*PN	**Pn**	**10 40 24.9**	**+0.1**
CEYT	**Ceyhan**	**2.26**	**158**	*e*PN	**Pn**	**10 40 25.3**	**+0.3**
BOYT	**Boyabat**	**2.32**	**4**	*i* P	**Pn**	**10 40 26.3**	**+0.4**
BOYT				*i* S	**Sg**	**10 41 01.1**	**-0.1**
BYBT	**Boyabat**	**2.36**	**1**	PN	**Pn**	**10 40 25.8**	**-0.7**
KMRS	**Kahramanmaras**	**2.37**	**132**	*e*PN	**Pn**	**10 40 26.1**	**-0.4**
SGKT	**Sivrigoynuk**	**2.50**	**307**	*i* P	**Pn**	**10 40 28.7**	**+0.4**
SGKT				*i* S	**Sg**	**10 41 08.0**	**+1.0**
DIKM	**Dikmen**	**2.58**	**10**	*e*PN	**Pn**	**10 40 28.5**	**-1.0**
KRTS	**Karatas**	**2.59**	**168**	*e*PN	**Pn**	**10 40 29.7**	**+0.1**
BALT	**Daday**	**2.62**	**338**	*i* P	**Pn**	**10 40 30.3**	**+0.2**
BALT				*i* S	**Sg**	**10 41 11.0**	**+0.1**
SAFT	**Safranbolu**	**2.62**	**325**	*e*PN	**Pn**	**10 40 29.4**	**-0.7**
GAZ	**Gaziantep**	**2.77**	**133**	*e*PN	**Pn**	**10 40 32.6**	**+0.4**
GZT	**Gaziantep**	**2.86**	**127**	*i* P	**Pn**	**10 40 30.0**	**-3.4**
GZT				*i* S	**Sg**	**10 41 18.0**	**-0.8**
BZK	**Bozkurt**	**2.90**	**350**	*e*PN	**Pn**	**10 40 33.3**	**-0.6**
IKL	**Isikli**	**2.97**	**196**	*e*PN	**Pn**	**10 40 35.4**	**+0.5**
ESKT	**Eskisehir**	**3.00**	**279**	*e*PN	**Pn**	**10 40 35.7**	**+0.4**
ESKT	**Eskisehir**	**3.00**	**279**	*i* P	**Pn**	**10 40 36.1**	**+0.8**
ESKT				*i* S	**Sn**	**10 41 11.3**	**-0.6**
MYA	**Malataya**	**3.03**	**104**	*e*PN	**Pn**	**10 40 36.0**	**+0.3**
HTY	**Hatay**	**3.20**	**158**	*e*PN	**Pn**	**10 40 39.2**	**+1.2**
SHUT	**Suhut-Afyon**	**3.28**	**262**	*e*PN	**Pn**	**10 40 39.7**	**+0.6**
TKTP	**Tekketepe**	**3.58**	**254**	*i* P	**Pb**	**10 40 52.3**	**+1.4**
TKTP				*i* S	**Sg**	**10 41 46.8**	**+4.9**
PTK	**Pertek**	**3.67**	**92**	*e*PN	**Pn**	**10 40 45.3**	**+0.8**

MAN ***14*** *10:48:19.6,6.33N×123.64E,h21km,mb5.2,ML5.8,MS5.5*
MAN F INTENSITY III - COTABATO CITY TACURONG CITY SULTAN KUDARAT INTENSITY II - GENERAL SANTOS.
MOS ***14*** *10:48:23.2±0.9,6.63N×123.98E,h33km,mb5.4/40, MS4.4/12,Error ellipse: s-maj=13.2km s-min=5.9km az=113.1*
ISCJB ***14*** *10:48:24.1±0.2,6.57N±0.002×123.89E±0.003,h41km, mb5.2/85,MS4.4/35,Error ellipse: s-maj=4.2km s-min=3.2km az=6.6*
BJI ***14*** *10:48:24.7,6.39N×124.14E,h67km,mB5.2,mb4.9,Ms4.8, Msz4.6*
IDC ***14*** *10:48:25.8±3.9,6.61N×123.93E,h44km±37km,mb4.7/24, mb1 4.8/24,mb1mx4.8/26,mbtmp4.7/24,MS4.3/19, Ms1 4.3/19,ms1mx4.1/38,Error ellipse: s-maj=18.5km s-min=10.5km az=78.0*
NEIC ***14*** *10:48:26.1±0.2,6.58N×123.93E,mb5.4/31,Error ellipse: s-maj=6.1km s-min=4.2km az=72.0*
NEIC Felt [III PIVS] at Cotabato and Tacurong; [II PIVS] at General Santos, Kidapawan and Perez.
GCMT ***14*** *10:48:26.1±0.2,6.69N×123.83E,h19km,MW5.3/84, Moment Tensor Solution. s70,c108; s84,c152; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.86±.02; Mθθ-0.02±.01; Mφφ-0.83±.02; Mrθ0.01±.03; Mθφ0.17±.01; Mφr-0.72±.04; Best double couple: M0 1.12600×10^17 NP1:φs342.00000°,δ26.00000°, λ78.00000°. NP2:φs175.00000°,δ65.00000°,λ96.00000°. Principal axes: T 1.1260, Plg70.0000°, Azm97.0000°; N 0.0000, Plg5.0000°, Azm353.0000°; P -1.1260, Plg20.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 10:48:26.2±0.2**,659N**±002×**12391E**±003**,h43**km**, h43**km±2.4km**:pP-P,n261,**σ1§17/259**,mb5.2**/85**,MS4.4**/35**, 24C-14D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.71**	**28**	⇓*i*P	**Pn**	**10 48 36.5**	**-3.3**
CTBH				*i* S	**Sn**	**10 48 46.6**	**-3.1**
GSPH	**General Santos**	**1.15**	**116**	*e*P	**Pn**	**10 48 48.7**	**+2.9**
GSPH				*i* S	**Sn**	**10 49 07.8**	**+7.5**
KCP	**Kidapawan**	**1.24**	**70**	⇓*i*P	**Pn**	**10 48 46.3**	**-0.8**
KCP				*e*S	**Sn**	**10 49 07.0**	**+4.3**
DMPH	**Davao City--Mi**	**1.66**	**73**	⇑*i*P	**Pn**	**10 48 53.9**	**+1.0**
DMPH				*i* S	**Sn**	**10 49 21.0**	**+8.1**
BUKP	**Musuan**	**1.71**	**42**	*e*P	**Pn**	**10 48 53.3**	**-0.3**
BUKP				*e*S	**Sn**	**10 49 20.0**	**+5.7**
DAV	**Davao City (W)**	**1.72**	**74**	⇓*i*P	**Pn**	**10 48 55.0**	**+1.3**
DAV	**Davao City (W)**	**1.72**	**74**	*e*Pn	**Pn**	**10 48 55.0**	**+1.3**
DAV				*e*Sn	**Sn**	**10 49 18.9**	**+4.4**
CGP	**Cagayan de Oro**	**2.01**	**23**	⇑*i*P	**Pn**	**10 48 57.1**	**-0.6**
CGP				*i* S	**Sn**	**10 49 23.0**	**+1.5**
MATI	**Mati**	**2.36**	**81**	*e*P	**Pn**	**10 49 02.4**	**0.0**
SNPH	**Sibulan**	**2.81**	**346**	*i* P	**Pn**	**10 49 07.5**	**-1.2**
TBP	**Tagbilaran**	**3.08**	**359**	*e*P	**Pn**	**10 49 11.9**	**-0.5**
TBP				*e*S	**Sn**	**10 49 47.4**	**-0.5**
SCPH	**Surigao**	**3.54**	**26**	*e*P	**Pn**	**10 49 22.7**	**+4.1**
MSLP	**Maasin**	**3.64**	**15**	*e*P	**Pn**	**10 49 19.4**	**-0.7**
LLP	**Lapu-Lapu**	**3.70**	**1**	*e*P	**Pn**	**10 49 20.2**	**-0.7**
LLP				*e*S	**Sn**	**10 50 05.7**	**+2.4**
GUIM	**Jordan**	**4.22**	**342**	*e*P	**Pn**	**10 49 28.0**	**0.0**
PLP	**Palo**	**4.67**	**13**	*e*P	**Pn**	**10 49 32.9**	**-1.3**
RCP	**Roxas**	**5.07**	**347**	⇓*e*P	**Pn**	**10 49 43.2**	**+3.5**
CUYO	**Cuyo Island**	**5.11**	**326**	*e*P	**Pn**	**10 49 37.8**	**-2.4**
CUYO				*e*S	**Sn**	**10 50 34.0**	**-3.9**
CNP	**Catarman**	**5.93**	**7**	*e*P	**Pn**	**10 49 58.9**	**+7.4**
PPR	**Puerto Princes**	**6.03**	**302**	⇓*e*P	**Pn**	**10 49 49.1**	**-3.7**
PPR				*e*S	**Sn**	**10 50 52.5**	**-8.0**
OTRP	**Odiongan**	**6.03**	**342**	*e*P	**Pn**	**10 49 51.9**	**-0.9**
ENPP	**El Nido**	**6.38**	**316**	*e*P	**Pn**	**10 49 54.2**	**-3.4**
BATP	**Bataraza**	**6.44**	**290**	*e*P	**Pn**	**10 49 53.6**	**-4.8**
BATP				*e*S		10 49 59.7	
BUSP	**Coron**	**6.51**	**326**	*e*P	**Pn**	**10 49 57.2**	**-2.2**
PVCP	**Virac**	**6.97**	**2**	*e*P	**Pn**	**10 50 08.0**	**+2.3**
KKM	**Kota Kinabalu**	**7.67**	**266**	P	**Pn**	**10 50 16.5**	**+1.1**
KKM	**Kota Kinabalu**	**7.67**	**266**	*e*Pn	**Pn**	**10 50 15.1**	**-0.2**
CAUP	**Cauayan**	**10.49**	**349**	*e*P	**Pn**	**10 50 59.6**	**+5.6**
KSM	**Kuching**	**14.49**	**250**	*e*Pn	**Pn**	**10 51 48.9**	**+0.4**
QIZ	**Qiongzhong**	**18.45**	**313**	P	**Pn**	**10 52 41.4**	**+2.8**
QIZ				AP	pP	10 52 51.6	+3.1
QIZ				S	**S**	**10 56 04.9**	**-1.6**
QIZ				SS		10 56 29.9	
QIZ				AMB	AMB		
	comp=Z,63nm,1.7s						
QIZ				LR	LR		
	comp=E,1μm,12.6s						
QIZ				LR	LR		
	comp=Z,2μm,14.6s						
QZH	**Quanzhou**	**18.95**	**345**	P	**Pn**	**10 52 44.1**	**-0.5**
QZH				S	**S**	**10 56 17.0**	**+0.4**
QZH				LR	LR		
	comp=Z,4μm,15.5s						
GZH	**Guangzhou**	**19.30**	**329**	P	**Pn**	**10 52 51.0**	**+2.2**
GZH				LR	LR		
	comp=N,625nm,18.0s						
GZH				LR	LR		
	comp=E,1μm,17.1s						
GZH				LR	LR		
	comp=Z,2μm,19.9s						
JOW	**Kunigami**	**20.55**	**11**	P	**P**	**10 53 01.0**	**-0.1**
	comp=Z,39nm,0.8s,baz=191,slow=10,SNR=4.1						
JOW				LR	LR	11 01 43.8	
	comp=Z,702nm,18.4s,MS4.1,baz=83,slow=39						
KAKA	**Kakadu**	**20.96**	**156**	⇑*i*P	**P**	**10 53 05.4**	**-0.2**
	comp=Z,478nm,0.7s						
KGM	**Kluang**	**21.03**	**258**	P	**P**	**10 53 08.4**	**+2.1**
GUMO	**Guam**	**21.76**	**70**	LR	LR	11 00 14.5	
	comp=Z,751nm,20.3s,MS4.1,baz=241,slow=33						
KKTK	**Khon Kaen**	**22.80**	**297**	P	**P**	**10 53 24.0**	**-1.2**
IPM	**Ipoh**	**22.87**	**266**	P	**P**	**10 53 26.2**	**+0.3**
SNG	**Songkhla**	**23.13**	**273**	P	**P**	**10 53 31.0**	**+2.3**
	comp=Z,120nm,1.0s,mb5.3						
KULM	**Kulim**	**23.17**	**268**	*e*P	**P**	**10 53 27.9**	**-1.2**
SSE	**Sheshan**	**24.51**	**354**	*e*P	**P**	**10 53 44.0**	**+2.5**
SSE				AP		10 53 56.3	
SSE				S	**S**	**10 58 02.9**	**+3.8**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,234nm,4.3s						
SSE				LR	LR		
	comp=N,375nm,22.3s,MS4.1						
SSE				LR	LR		
	comp=E,655nm,22.3s,MS4.1						
SSE				LR	LR		
	comp=Z,683nm,19.2s,MS4.2						
SSE	**Sheshan**	**24.51**	**354**	*e*P	**P**	**10 53 44.0**	**+2.5**
	comp=Z,28nm,0.7s,mb4.9						
SSE				pP		10 53 56.3	
SSE				sP	sP	10 54 04.3	+6.2
SSE				S	**S**	**10 58 02.9**	**+3.8**
SSE				sS	sS	10 58 25.9	+7.7
SSE				LR	LR		
	comp=Z,680nm,19.2s,MS4.2						
FITZ	**Fitzroy Crossi**	**24.59**	**176**	*e*P	**P**	**10 53 41.3**	**-0.9**
	comp=Z,76nm,1.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.59**	**176**	P	**P**	**10 53 42.2**	**0.0**
	comp=Z,25nm,0.8s,mb4.8,baz=3.0,slow=8.4,SNR=64						
PSI	**Prapat**	**25.18**	**263**	P	**P**	**10 53 48.1**	**+0.6**
	comp=Z,24nm,0.9s,mb4.7,baz=98,slow=5.5,SNR=9.9						
PSI	**Prapat**	**25.18**	**263**	P	**P**	**10 53 48.2**	**+0.6**
PSI				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
WHN	**Wuhan**	**25.46**	**341**	*e*P	**P**	**10 53 51.5**	**+1.3**
NANT	**Nan**	**25.65**	**300**	⇑P	**P**	**10 53 51.0**	**-0.8**
	comp=Z,110nm,1.0s,mb5.3						
GYA	**Guiyang**	**25.70**	**322**	⇓*i*P	**P**	**10 53 55.8**	**+3.5**
GYA				AP	pP	10 54 07.8	+4.0
GYA				XP	sP	10 54 13.5	+4.6
GYA				PP		10 54 37.8	
GYA				PPP		10 54 49.3	
GYA				PCP	PcP	10 57 24.8	+3.1
GYA				S	**S**	**10 58 19.0**	**+1.0**
GYA				PCS	PcS	11 01 03.9	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,350nm,4.6s						
GYA				LR	LR		
	comp=N,1μm,13.8s,MS4.6						
GYA				LR	LR		
	comp=E,550nm,12.6s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,15.0s,MS4.6						
NJ2	**Nanjing**	**25.77**	**350**	*e*P	**P**	**10 53 54.3**	**+1.4**
NJ2				AP	pP	10 54 07.3	+2.9
NJ2				PP		10 54 35.8	
NJ2				S	**S**	**10 58 22.5**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,540nm,10.3s						
NJ2				LR	LR		
	comp=N,2μm,25.2s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,22.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,19.8s,MS4.5						
BDT	**Bhumibol Dam**	**26.54**	**296**	P	**P**	**10 54 00.0**	**+0.2**
CBIJ	**Chichi jima**	**26.79**	**38**	P	**P**	**10 54 01.5**	**-0.6**
	comp=Z,103nm,0.8s,mb5.4,baz=38,slow=5.3,SNR=5.9						
CBIJ				LR	LR	11 05 12.7	
	comp=Z,450nm,18.3s,MS4.1,baz=349,slow=38						
CHG	**Chiang Mai**	**27.17**	**299**	⇓P	**P**	**10 54 08.0**	**+2.4**
	comp=Z,14nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**27.17**	**299**	*e*P	**P**	**10 54 08.4**	**+2.8**
CHTO				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.5						
CHTO	**Chiang Mai**	**27.17**	**299**	*e*P	**P**	**10 54 08.4**	**+2.8**
	comp=Z,25nm,1.4s,mb4.5						
KMI	**Kunming**	**27.39**	**315**	P	**P**	**10 54 08.8**	**+1.3**
KMI				AP	pP	10 54 21.3	+2.3
KMI				S	**S**	**10 58 43.6**	**-1.0**
KMI				LR	LR		
	comp=N,729nm,13.2s,MS4.6						
KMI				LR	LR		
	comp=E,801nm,14.9s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,14.3s,MS4.6						
KMI	**Kunming**	**27.39**	**315**	P	**P**	**10 54 08.8**	**+1.3**
KMI				*PP	pP	10 54 21.3	+2.3
KMI				S	**S**	**10 58 43.6**	**-1.0**
KMI				SSS		11 00 21.2	
KMI				MLR	MLR		
	comp=Z,1μm,14.3s,MS4.6						
MBWA	**Marble Bar**	**27.88**	**188**	*e*P	**P**	**10 54 11.6**	**-0.3**
	comp=Z,64nm,1.1s,mb5.2						
PMG	**Port Moresby**	**28.09**	**124**	P	**P**	**10 54 12.8**	**-1.0**
	comp=Z,37nm,0.8s,mb5.1,baz=354,slow=7.3,SNR=12						
PMG				LR	LR	11 07 24.3	
	comp=Z,450nm,18.3s,MS4.1,baz=132,slow=40						
PMG	**Port Moresby**	**28.09**	**124**	*e*P	**P**	**10 54 13.3**	**-0.5**
PMG				pmax	pmax		
	comp=Z,69nm,0.9s						
PMG	**Port Moresby**	**28.09**	**124**	*e*P	**P**	**10 54 13.3**	**-0.5**
	comp=Z,69nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**28.29**	**159**	P	**P**	**10 54 14.0**	**-1.5**
	comp=Z,605nm,0.9s,mb6.2,SNR=34						
WRAB	**Tennant Creek**	**28.29**	**159**	P	**P**	**10 54 14.8**	**-0.7**
WRA	**Warramunga Arr**	**28.29**	**159**	P	**P**	**10 54 14.7**	**-0.9**
	comp=Z,54nm,0.8s,mb5.2,baz=338,slow=10.0,SNR=300						
WRA	**Warramunga Arr**	**28.29**	**159**	P	**P**	**10 54 14.7**	**-0.9**
WRA				pmax	pmax		
	comp=Z,54nm,0.8s						
WB2	**Warramunga Arr**	**28.30**	**159**	⇑*i*P	**P**	**10 54 14.7**	**-0.9**
XAN	**Xi'an**	**30.64**	**335**	P	**P**	**10 54 36.9**	**+0.6**
XAN				PP	PP	10 55 42.4	-3.6
XAN				S	**S**	**10 59 29.9**	**-5.8**
XAN				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.4						
XAN				LR	LR		
	comp=N,393nm,17.6s,MS4.5						
XAN				LR	LR		
	comp=E,645nm,13.7s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,14.8s,MS4.7						
CD2	**Chengdu**	**30.70**	**325**	*e*P	**P**	**10 54 36.3**	**-0.6**
CD2				PP	PP	10 55 36.8	-10
CD2				S	**S**	**10 59 32.4**	**-4.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,120nm,2.6s,mb5.3						
CD2				LR	LR		
	comp=N,1μm,15.0s,MS4.8						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.8						
CD2				LR	LR		
	comp=Z,1μm,17.4s,MS4.6						
KS15	**Wonju Array Si**	**30.92**	**6**	*e*P	**P**	**10 54 39.7**	**+0.9**
KSRS	**Korea Array**	**30.94**	**6**	P	**P**	**10 54 39.1**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0,baz=184,slow=10,SNR=41						
KSRS				LR	LR	11 07 41.6	
	comp=Z,451nm,19.4s,MS4.1,baz=8.1,slow=37						
AS31	**Alice Springs**	**31.61**	**162**	*e*P	**P**	**10 54 44.7**	**-0.3**
ASAR	**Alice Springs**	**31.62**	**162**	P	**P**	**10 54 44.7**	**-0.3**
	comp=Z,18nm,0.7s,mb5.0,baz=338,slow=7.0,SNR=256						
ASAR	**Alice Springs**	**31.62**	**162**	P	**P**	**10 54 44.7**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,18nm,0.7s						
MAT	**Matsushiro**	**32.55**	**22**	P	**P**	**10 54 51.5**	**-1.7**
MAT				S	**S**	**11 00 07.0**	**+1.4**
MJAR	**Matsushiro Arr**	**32.55**	**22**	P	**P**	**10 54 52.1**	**-1.1**
	comp=Z,7.9nm,0.9s,mb4.6,baz=199,slow=8.9,SNR=11						
MJAR	**Matsushiro Arr**	**32.55**	**22**	P	**P**	**10 54 52.1**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJT	**Baijiatuao**	**34.00**	**349**	*e*P	**P**	**10 55 06.0**	**+0.2**
BJT				pmax	pmax		
	comp=Z,43nm,1.1s						
BJT	**Baijiatuao**	**34.00**	**349**	*e*P	**P**	**10 55 06.0**	**+0.2**
	comp=Z,43nm,1.1s,mb5.3						
BJI	**Beijing**	**34.02**	**349**	P	**P**	**10 55 05.5**	**-0.5**
BJI				S	**S**	**11 00 28.3**	**-0.1**
BJI				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.0						
BJI				AMB	AMB		
	comp=Z,198nm,5.9s						
BJI				LR	LR		
	comp=N,557nm,16.8s,MS4.5						
BJI				LR	LR		
	comp=E,654nm,18.2s,MS4.5						
BJI				LR	LR		
	comp=Z,436nm,30.8s						
BJI	**Beijing**	**34.02**	**349**	P	**P**	**10 55 05.5**	**-0.5**
	comp=Z,22nm,1.1s,mb5.0						
BJI				S	**S**	**11 00 28.2**	**-0.2**
BJI				LR	LR		
	comp=Z,440nm,30.8s,MS4.0						
CTA	**Charters Tower**	**34.44**	**141**	*e*P	**P**	**10 55 09.8**	**+0.2**
	comp=Z,9.9nm,0.7s,mb4.8						
CTA	**Charters Tower**	**34.44**	**141**	*e*P	**P**	**10 55 09.8**	**+0.2**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CTAO	**Charters Tower**	**34.44**	**141**	*e*P	**P**	**10 55 09.9**	**+0.3**
LZH	**Lanzhou**	**34.64**	**331**	*e*P	**P**	**10 55 12.0**	**+0.6**
LZH				PP	PP	10 56 30.0	-0.4
LZH				PCP	PcP	10 57 45.8	+0.9
LZH				*e*S	**S**	**11 00 36.1**	**-1.8**
LZH				AMB	AMB		
	comp=Z,72nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,200nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,15.9s,MS4.9						
LZH	**Lanzhou**	**34.64**	**331**	*e*P	**P**	**10 55 12.0**	**+0.6**
LZH				*PP	pP	10 55 23.0	0.0
LZH				*SP	sP	10 55 28.0	-0.1
LZH						10 56 30.0	
LZH						10 57 45.8	
LZH				*e*S	**S**	**11 00 36.1**	**-1.8**
LZH				SS	SS	11 02 57.1	-12
LZH				pmax	pmax		
	comp=Z,72nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,2μm,15.9s,MS4.9						
LZH	**Lanzhou**	**34.64**	**331**	*e*P	**P**	**10 55 12.0**	**+0.6**
	comp=Z,72nm,1.5s,mb5.4						
LZH				pP	pP	10 55 23.0	0.0
LZH				sP	sP	10 55 28.0	-0.1
LZH				PP	PP	10 56 30.0	-0.4
LZH				PcP	PcP	10 57 45.8	+0.9
LZH				*e*S	**S**	**11 00 36.1**	**-1.8**
LZH				sS	sS	11 00 57.2	-0.2
LZH				SS	SS	11 02 57.1	-12
LZH				LR	LR		
	comp=Z,2μm,15.9s,MS4.9						
SNY	**Shenyang**	**35.09**	**360**	⇑P	**P**	**10 55 15.3**	**+0.1**
SNY				PP	PP	10 56 37.9	+2.6
SNY				S	**S**	**11 00 44.8**	**0.0**
SNY				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,92nm,3.7s						
SNY				LR	LR		
	comp=N,928nm,18.6s						
SNY				LR	LR		
	comp=Z,1μm,18.0s,MS4.6						
HHC	**Hu-ho-hao-te**	**35.85**	**344**	⇑P	**P**	**10 55 22.3**	**+0.5**
HHC				PP	PP	10 56 45.3	+1.5
HHC				PCP	PcP	10 57 48.6	+0.2
HHC				S	**S**	**11 00 57.3**	**+0.7**
HHC				SCP	ScP	11 01 29.4	-1.6
HHC				PCS	PcS	11 01 35.9	+0.1
HHC				SS	SS	11 03 22.1	-12
HHC				SCS	ScS	11 05 33.4	-2.9
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,439nm,7.2s						
HHC				LR	LR		
	comp=N,2μm,17.2s,MS5.1						
HHC				LR	LR		
	comp=E,757nm,16.7s,MS5.1						
HHC				LR	LR		
	comp=Z,934nm,18.6s,MS4.6						
SHL	**Shillong**	**35.94**	**305**	*e*P	**P**	**10 55 23.0**	**+0.5**
SHL				AMb	AMB	10 55 35.4	
	comp=Z,494nm,0.9s,mb6.4						
SHL				*e*S	**S**	**11 01 00.0**	**+2.2**
CN2	**Changchun**	**37.09**	**2**	⇑P	**P**	**10 55 31.8**	**-0.5**
CN2				AMB	AMB		

NWAO Narrogin (SRO) 39.81 189 *e*P **P** **10 55 54.8 -0.4**
NWAO pmax pmax
comp=Z,46nm,1.0s
NWAO Narrogin (SRO) 39.81 189 *e*P **P** **10 55 54.8 -0.3**
comp=Z,46nm,1.0s,mb5.2
BOK Bokaro 40.31 299 *e*P **P** **10 56 00.5 +1.2**
VIS Vishakhapatnam 41.09 289 *e*P **P** **10 56 06.4 +0.7**
GUN Gumba 41.79 305 *e*P **P** **10 56 12.6 +1.1**
comp=Z,84nm,0.8s,mb5.4
STKA Stephens Creek 41.81 157 P **P** **10 56 12.4 +0.8**
comp=Z,133nm,0.8s,mb5.7,baz=330,slow=7.8,SNR=157
STKA Stephens Creek 41.81 157⇑ *i*P **P** **10 56 12.3 +0.7**
comp=Z,120nm,0.8s,mb5.6
STKA *e*P 10 56 12.4
PKI Pulchoki 42.04 304 *e*P **P** **10 56 13.7 +0.2**
KKN Kakani 42.23 305 *e*P **P** **10 56 15.5 +0.4**
comp=Z,56nm,0.9s,mb5.2
DMN Daman 42.30 304 *e*P **P** **10 56 16.4 +0.7**
HIA Hailar 42.67 356 *c i*P **P** **10 56 18.9 +0.2**
HIA Hailar 42.67 356 *i*P **P** **10 56 18.0 -0.7**
GKN Gorkha 42.84 305 *e*P **P** **10 56 20.3 +0.3**
comp=Z,45nm,1.2s,mb5.1
KLR Kul'dur 43.01 8 *e*P **P** **10 56 17.4 -4.0**
MDRS Chennai 43.45 282 *ex* x 10 57 53.0
KOLN Koldanda 43.60 304 *e*P **P** **10 56 27.0 +0.8**
comp=Z,124nm,1.5s,mb5.4
SONM Songino Array 43.73 343 P **P** **10 56 27.6 +0.3**
comp=Z,17nm,1.0s,mb4.7,baz=162,slow=8.9,SNR=76
SONM LR LR 11 16 23.9
comp=Z,593nm,20.3s,MS4.5,baz=158,slow=38
SONM Songino Array 43.73 343 P **P** **10 56 27.6 +0.4**
SONM pmax pmax
comp=Z,17nm,1.0s
SONM MLR MLR
comp=Z,593nm,20.3s
HYB Hyderabad 45.54 288 *i* P **P** **10 56 44.0 +2.4**
HYB *e* pP 10 56 55.0 +1.4
HYB 10 57 33.0
HYB Hyderabad 45.54 288 *e*P **P** **10 56 44.0 +2.4**
HYB *e* 10 57 34.0
NGP Nagpur 45.72 293 *e*P **P** **10 56 43.2 +0.2**
CIT Chita 46.09 351 *e*P **P** **10 56 46.1 +0.1**
CIT pmax pmax
comp=Z,86nm,1.8s,mb5.4
TRD Trivandrum 46.56 275 *e*P **P** **10 56 48.7 -1.0**
TRD AMb AMB 10 57 04.8
comp=Z,38nm,0.8s,mb5.4
ZAK Zakamensk 46.93 342 *e*P **P** **10 56 52.6 0.0**
ZAK *e* 10 58 23.6
BHPL Bhopal 47.63 295 *e*P **P** **10 56 57.9 -0.1**
BHPL AMb AMB 10 57 10.6
comp=Z,39nm,1.2s,mb5.3
TLY Talaya 47.97 343 P **P** **10 57 01.5 +0.8**
comp=Z,142nm,1.1s,mb5.9,SNR=6.1
TLY Talaya 47.97 343⇑P **P** **10 57 01.5 +0.8**
SNR=6.8
TLY Talaya 47.97 343 *e*P **P** **10 57 00.3 -0.4**
TLY *e*S **S** **11 03 54.4 -1.0**
TLY pmax pmax
comp=Z,24nm,1.1s,mb5.1
TLY MLR MLR
comp=Z,393nm,16.0s,MS4.5
TLY Talaya 47.97 343 *e*P **P** **10 57 01.5 +0.9**
CNB Canberra Magne 48.09 152 *e*P **P** **10 57 03.1 +1.6**
comp=Z,94nm,1.0s,mb5.8
IRK Irkutsk 48.30 344 *e*P **P** **10 57 03.1 -0.1**
IRK pmax pmax
comp=Z,62nm,2.1s,mb5.3
TOO Toolangi 48.33 157 *e*P **P** **10 57 05.1 +1.7**
comp=Z,46nm,0.8s,mb5.6
TOO Toolangi 48.33 157 *e*P **P** **10 57 05.1 +1.7**
TOO pmax pmax
comp=Z,46nm,0.8s,mb5.6
MOY Mondy 48.77 341 *e*P **P** **10 57 07.6 +0.8**
MOY pmax pmax
comp=Z,72nm,2.6s,mb5.2
WMQ Urumqi 48.79 325 ⇓P **P** **10 57 08.1 +1.2**
WMQ AP pP 10 57 20.6 +1.6
WMQ PCP PcP 10 58 33.3 +2.0
WMQ PP PP 10 59 01.6 +1.3
WMQ PPP 10 59 55.3
WMQ SCP ScP 11 02 22.4 -0.3
WMQ PCS PcS 11 02 27.6 +0.1
WMQ S **S** **11 04 06.9 0.0**
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,38nm,7.6s
WMQ LR LR
comp=N,461nm,18.5s,MS4.6
WMQ LR LR
comp=E,326nm,18.5s,MS4.6
WMQ LR LR
comp=Z,342nm,18.5s,MS4.4
KAD Karad 49.67 287 *e*P **P** **10 57 13.0 -0.7**
CLNS Chul'man 50.12 1 *e*P **P** **10 57 16.4 -0.7**
CLNS *e**PP pP 10 57 25.9 -3.3
CLNS *e* 10 58 34.9
CLNS *e*SS ScS 11 07 08.8 +4.1
CLNS pmax pmax
comp=Z,28nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,21nm,0.9s
POO Poona 50.12 289 *ex* **P** **10 57 08.0 -9.1**
POO *ex* x 10 57 53.3
POO AMb AMB 10 57 57.5
comp=Z,49nm,1.2s,mb5.4
BOD Bodaibo 51.68 353⇑ *i*P **P** **10 57 28.8 0.0**
BOD pmax pmax
comp=Z,23nm,1.3s,mb5.0
MK31 Makanchi Array 53.62 325 *e*P **P** **10 57 43.6 +0.4**
MKAR Makanchi Array 53.62 325 P **P** **10 57 43.5 +0.3**
comp=Z,7.7nm,0.7s,mb4.7,baz=126,slow=7.6,SNR=56
MKAR LR LR 11 22 10.7
comp=Z,490nm,18.4s,MS4.6,baz=20,slow=38
MKAR Makanchi Array 53.62 325 P **P** **10 57 43.5 +0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR MLR MLR
comp=Z,490nm,18.4s
MKAR Makanchi Array 53.62 325 P **P** **10 57 43.5 +0.3**
MKAR LR LR 11 22 10.7
ULHL Ulahol 55.03 318 P **P** **10 57 54.9 +1.5**
SNR=11
YAK Yakutsk 55.49 3 *e*P **P** **10 57 56.5 -0.2**
YAK pmax pmax
comp=Z,39nm,0.8s,mb5.5
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK Yakutsk 55.49 3 *e*P **P** **10 57 55.5 -1.2**
comp=E,58nm,0.8s,mb5.7
KZA Kyzart 55.62 317 P **P** **10 57 59.2 +1.5**
SNR=12
TKM2 Tokmak 2 55.76 318 P **P** **10 57 59.2 +0.6**
SNR=11
UCH Uchtor 56.18 317 P **P** **10 58 03.4 +1.7**
SNR=18
AAK Ala-Archa 56.37 318 P **P** **10 58 03.1 +0.1**
comp=E,87nm,1.6s,mb5.5,SNR=5.3
AAK Ala-Archa 56.37 318 P **P** **10 58 08.2 +5.2**
SNR=6.3
AAK Ala-Archa 56.37 318⇑P **P** **10 58 03.9 +0.9**
SNR=15
AAK Ala-Archa 56.37 318 *c i*P **P** **10 58 02.9 -0.1**
AAK pmax pmax
comp=Z,19nm,1.7s,mb4.8
AAK Ala-Archa 56.37 318 *e*P **P** **10 58 03.3 +0.3**
comp=Z,39nm,1.5s,mb5.2
FRU Bishkek 56.37 318 *e*P **P** **10 58 01.0 -2.0**
USP Ospenovka 56.63 318 P **P** **10 58 05.4 +0.5**
SNR=13
AML Almayashu 56.70 317 P **P** **10 58 06.8 +1.5**
SNR=11
ZAL Zalesovo 56.79 334 P **P** **10 58 05.4 -0.6**
comp=Z,5.7nm,0.8s,mb4.7,baz=350,slow=7.6,SNR=34
ZAL LR LR 11 24 13.3
comp=Z,231nm,18.1s,MS4.3,baz=165,slow=38
ZAL Zalesovo 56.79 334 P **P** **10 58 05.4 -0.6**
ZAL pmax pmax
comp=Z,6.0nm,0.8s
ZAL MLR MLR
comp=Z,231nm,18.1s
EKS2 Erkin-Say 56.86 317 P **P** **10 58 07.4 +0.9**
SNR=8.2
KURK Kurchatov 57.84 328 P **P** **10 58 13.3 -0.1**
comp=Z,379nm,1.4s,mb6.2,SNR=37
KURK Kurchatov 57.84 328⇑P **P** **10 58 13.8 +0.4**
SNR=35
KURK Kurchatov 57.84 328 *c i*P **P** **10 58 13.4 0.0**
KURK Kurchatov 57.84 328 *e*P **P** **10 58 13.5 +0.1**
comp=Z,115nm,1.2s,mb5.8
NVS Novosibirsk 58.07 334⇑ *i*P **P** **10 58 14.2 -0.8**
NVS pmax pmax
comp=Z,50nm,1.1s,mb5.5
NVS pmax pmax
comp=N,35nm,1.5s
NVS pmax pmax
comp=E,40nm,1.3s
BRVK Borovoye 63.48 327 P **P** **10 58 51.9 +0.1**
comp=E,374nm,1.2s,mb6.4,SNR=26
BRVK Borovoye 63.48 327 P **P** **10 58 52.1 +0.3**
SNR=30
BRVK Borovoye 63.48 327 *e*P **P** **10 58 51.7 -0.1**
BRVK pmax pmax
comp=Z,115nm,1.2s,mb5.9
BRVK Borovoye 63.48 327 *e*P **P** **10 58 51.7 -0.1**
comp=Z,115nm,1.2s,mb5.9
CHKZ Chkalovo 63.58 328 *e*P **P** **10 58 52.2 -0.3**
CHKZ pmax pmax
comp=Z,73nm,1.3s,mb5.5
CHKZ Chkalovo 63.58 328 *e*P **P** **10 58 52.2 -0.3**
comp=Z,73nm,1.3s,mb5.5
ZRNK Zerenda 64.13 327 *e*P **P** **10 58 55.8 -0.3**
ZRNK pmax pmax
comp=Z,57nm,1.0s,mb5.6
ZRNK Zerenda 64.13 327 *e*P **P** **10 58 55.8 -0.3**
comp=Z,57nm,1.0s,mb5.5
JMDO Jabal Madar 65.17 292 ⇓P **P** **10 59 02.9 +0.1**
SNR=12
RPZ Rata Peaks 65.70 144 LR LR 11 29 16.3
comp=Z,334nm,18.2s,MS4.6,baz=10.0,slow=37
RAO Raoul Island 66.27 126 LR LR 11 23 44.2
comp=Z,189nm,18.2s,MS4.3,baz=144,slow=32
BANOM Banah 67.03 295 ⇓P **P** **10 59 15.1 +0.4**
BILL Bilibino 67.56 16 *i* P **P** **10 59 17.2 -0.9**
BILL Bilibino 67.56 16 *i* P **P** **10 59 17.2 -0.9**
BILL P 10 59 17.4
RBK Rabkut 68.72 286 ⇓P **P** **10 59 26.3 +0.8**
SNR=6.8
WHFO Wadi Hawf 69.13 287⇑P **P** **10 59 28.4 +0.4**
SNR=15
ARU Arti 71.03 328 *i*P **P** **10 59 38.5 -1.1**
ARU *e* 10 59 57.0
ARU *e*S S 11 08 54.1 +1.4
ARU pmax pmax
comp=Z,24nm,0.9s,mb5.1
ARU Arti 71.03 328 *e*P **P** **10 59 38.8 -0.9**
GNI Garni 77.51 310 *e*P **P** **11 00 17.5 +0.2**
ZEI Tsey 78.23 312 *e*P **P** **11 00 21.4 +0.1**
ZEI *e**PP pP 11 00 28.2 -5.9
ZEI pmax pmax
comp=Z,50nm,1.2s,mb5.3
KIV Kislovodsk 79.14 313 *e*P **P** **11 00 27.0 +0.6**
KIV *e* pP 11 00 37.5 -1.7
KIV *e*S S 11 10 24.0 +1.2
KIV pmax pmax
comp=Z,44nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,268nm,17.0s,MS4.7
KIV Kislovodsk 79.14 313 *i* P **P** **11 00 27.5 +1.1**
RAR Rarotonga 79.73 113 LR LR 11 30 08.5
comp=Z,107nm,20.1s,MS4.2,baz=270,slow=31
VRHR Novokhopersk 80.06 321 *e*P **P** **11 00 30.1 -1.3**
VRHR pmax pmax
comp=N,1.0nm,0.4s
VRHR pmax pmax
comp=E,8.0nm,0.4s
VRHR pmax pmax
comp=Z,20nm,0.4s,mb5.4
IMA2 Indian Mountai 80.93 24 *e*P **P** **11 00 34.9 -1.1**
IMA2 *e*P 11 00 35.4
KDAK Kodiak Island 81.00 33 P **P** **11 00 36.3 0.0**
comp=Z,16nm,0.7s,mb5.1,baz=186,slow=14,SNR=10
VORD Divnogorie 81.53 320 *e*P **P** **11 00 36.2 -3.0**
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VORD pmax pmax
comp=N,9.0nm,0.7s
VRSR Storozhevoye 81.60 321 *e*P **P** **11 00 38.3 -1.3**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.1s
MALT Malatya 82.42 308 *e*P **P** **11 00 45.4 +1.5**
MALT *e*PcP PcP 11 00 49.0 0.0
PMR Palmer 82.80 29 *e*P **P** **11 00 44.9 -0.9**
ANN Anapa 82.91 314 *e*P **P** **11 00 37.5 -8.9**
ANN *e**PP pP 11 00 47.7 -12
ANN pmax pmax
comp=Z,146nm,1.3s,mb5.8
OBN Obninsk 83.12 325⇑ *e*P **P** **11 00 46.2 -1.3**
OBN *i* 11 00 51.7
OBN *i* pP 11 00 58.4 -2.0
OBN pmax pmax
comp=Z,60nm,2.2s,mb5.2
COLA College 83.33 25 *e*P **P** **11 00 46.9 -1.7**
LVZ Lovozero 83.66 338⇑ *e*P **P** **11 00 49.5 -0.8**
LVZ pmax pmax
comp=Z,45nm,1.3s,mb5.4
LVZ pmax pmax
comp=N,18nm,1.4s
LVZ Lovozero 83.66 338⇑ *e*P **P** **11 00 49.1 -1.2**
APA Apatity 84.15 337 ⇓ *i*P **P** **11 00 51.0 -1.8**
APA *i* 11 00 58.4
APA *i* 11 09.7
APA *e* 11 12 05.0
APA pmax pmax
comp=Z,54nm,1.2s,mb5.5
MAW Mawson 85.47 200 P **P** **11 00 57.8 -1.6**
comp=Z,15nm,1.0s,mb5.1,baz=56,slow=7.4,SNR=14
MAW LR LR 11 37 48.2
comp=Z,108nm,20.2s,MS4.2,baz=247,slow=35
MAW Mawson 85.47 200 P **P** **11 00 57.8 -1.6**
MAW pmax pmax
comp=Z,15nm,1.0s
MAW MLR MLR
comp=Z,108nm,20.2s
EIL Elat 85.88 299 *e*P **P** **11 01 02.5 +1.0**
BR131 Keskin Array S 86.05 309 *e*P **P** **11 01 02.2 0.0**
comp=Z,6.2nm,1.0s,mb4.8
BRTR Keskin Array B 86.05 309 P **P** **11 01 02.0 -0.3**
comp=Z,1.6nm,0.7s,mb4.3,baz=111,slow=6.8,SNR=4.4
BRTR LR LR 11 46 07.2
comp=Z,129nm,18.5s,MS4.4,baz=116,slow=40
EGAK Eagle 86.19 25 *e*P **P** **11 01 02.7 -0.3**
comp=Z,17nm,1.3s,mb5.1
EGAK *e*pP pP 11 01 16.2 +0.3
VNDA Vanda 86.61 172 P **P** **11 01 04.3 -0.7**
comp=Z,17nm,1.0s,mb5.2,baz=315,slow=6.0,SNR=48
VNDA LR LR 11 39 18.4
comp=Z,139nm,20.7s,MS4.3,baz=330,slow=35
VNDA Vanda 86.61 172 P **P** **11 01 04.3 -0.7**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA MLR MLR
comp=Z,139nm,20.7s
KMBO Kilima Mbogo 86.81 269 P **P** **11 01 07.5 +1.5**
comp=Z,14nm,1.1s,mb5.1,baz=43,slow=6.5,SNR=28
KMBO LR LR 11 39 49.4
comp=Z,96nm,19.6s,MS4.2,baz=117,slow=36
KMBO Kilima Mbogo 86.81 269 ⇓P **P** **11 01 07.9 +1.8**
SNR=13
KMBO Kilima Mbogo 86.81 269 P **P** **11 01 07.6 +1.6**
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO MLR MLR
comp=Z,96nm,19.6s
KMBO Kilima Mbogo 86.81 269 *e*P **P** **11 01 07.5 +1.5**
comp=Z,22nm,1.2s,mb5.3
ARCES ARCESS Array B 86.81 340 P **P** **11 01 03.9 -2.1**
comp=Z,5.3nm,0.8s,mb4.8,baz=342,slow=7.6,SNR=9.0
ARCES ARCESS Array B 86.81 340 P **P** **11 01 03.9 -2.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
DAWY Dawson 87.05 26 *e*P **P** **11 01 10.2 +3.0**
SBA Scott Base 87.54 172 *e*P **P** **11 01 09.8 +0.2**
SBA pmax pmax
comp=Z,48nm,1.4s,mb5.5
SBA Scott Base 87.54 172 *e*P **P** **11 01 09.8 +0.2**
comp=Z,48nm,1.4s,mb5.5
AKASG Malin Array Be 87.92 321 P **P** **11 01 09.9 -1.4**
comp=Z,4.1nm,0.8s,mb4.7,baz=71,slow=4.4,SNR=6.9
AKASG LR LR 11 42 31.1
comp=Z,148nm,20.5s,MS4.4,baz=315,slow=37
AKASG Malin Array Be 87.92 321 P **P** **11 01 09.9 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG MLR MLR
comp=Z,148nm,20.5s
FINES FINESS Array B 88.00 332 P **P** **11 01 10.1 -1.7**
comp=Z,1.5nm,0.6s,mb4.4,baz=44,slow=5.8,SNR=9.5
FINES FINESS Array B 88.00 332 P **P** **11 01 10.1 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 88.54 21 P **P** **11 01 12.3 -2.0**
comp=Z,8.5nm,1.1s,mb5.0,baz=294,slow=8.2,SNR=8.9
INK Inuvik 88.54 21 *e*P **P** **11 01 12.8 -1.5**
comp=Z,283nm,1.1s,mb6.5
PPT Papeete 88.66 108 *e*LR LR 11 29 18.9
comp=Z,173nm,24.8s
TVO Taravao 88.99 108 *e*P **P** **11 01 20.4 +4.0**
comp=Z,111nm,1.2s,mb6.1
TBI Tubuai 89.50 113 *e*SS SS 11 18 05.5 +3.3
comp=Z,200nm,32.2s
TBI *e*LR LR 11 29 38.9
comp=Z,218nm,37.2s
PMOR Pomariorio Ree 89.95 105 *e*P **P** **11 01 24.7 +3.8**
comp=Z,102nm,1.1s,mb6.0
VAH Vaihoa 90.23 105 *e*P **P** **11 01 25.8 +3.6**
comp=Z,86nm,1.1s,mb6.0
SUW Suwalki 90.98 325 *e*P **P** **11 01 24.8 -0.9**
SUW *e*P 11 01 25.0
DLBC Dease Lake 92.73 30 *e*P **P** **11 01 34.0 +0.2**
SYO Syowa Base 94.07 201⇑P **P** **11 01 37.3 -2.7**
SYO Syowa Base 94.07 201 ⇓ *i*pP pP 11 01 56.4 +3.4
NOA NORSAR Array B 94.99 333 P **P** **11 01 41.8 -2.4**
comp=Z,5.5nm,1.0s,mb4.9,baz=68,slow=4.5,SNR=4.3
NOA LR LR 11 48 53.3
comp=Z,251nm,18.4s,MS4.7,baz=275,slow=38
QSPA South Pole Qui 96.48 180 *e*P **P** **11 01 50.5 -0.5**
comp=Z,13nm,0.9s,mb5.3
YKA Yellowknife Ar 98.04 24 P **P** **11 01 57.8 -0.2**
comp=Z,1.0nm,0.7s,mb4.5,baz=294,slow=5.1,SNR=3.6
GEC2 GERESS Array S 98.11 321 *e*P **P** **11 01 57.6 -0.7**
GERES GERESS Array B 98.11 321 LR LR 11 49 20.7
comp=Z,186nm,19.9s,MS4.6,baz=82,slow=37
RKT Rikitea 102.76 112 *e*LR LR 11 35 48.0
comp=Z,113nm,27.8s
RSSD Black Hills 113.59 36 *e*PKIKP PKiKP 11 06 59.0 -0.7
SDCO Great Sand Dun 116.29 42 *e*PKPdf PKPdf 11 07 05.9 +1.0
ANMO Albuquerque 117.10 45 *e*PKIKP PKPdf 11 07 07.6 +1.1
BNM Barren Site 117.38 46 *e*PKPdf PKPdf 11 07 07.7 +0.6
TORD Torodi Ar. Bea 119.35 289 PKP PKPdf 11 07 10.5 -0.3
comp=Z,1.9nm,0.8s,baz=60,slow=1.6,SNR=9.5
TORD PKKPbc PKKPbc 11 17 26.2 +3.3
comp=Z,1.4nm,0.8s,baz=260,slow=3.3,SNR=8.4
TORD Torodi Ar. Bea 119.35 289 PKP PKPdf 11 07 10.5 -0.3
TORD PKKPbc PKKPbc 11 17 26.2 +3.3
KSU1 Kansas State U 121.07 36 *e*PKPdf PKPdf 11 07 13.9 -0.2
JFWS Jewell Farm 121.78 29 *e*PKIKP PKPdf 11 07 14.0 -1.5
LTX Lajitas 121.98 49 *e*PKIKP PKPdf 11 07 16.2 +0.3
TXAR Lajitas Array 121.98 49 PKP PKPdf 11 07 16.3 +0.4
comp=Z,2.7nm,1.0s,baz=259,slow=0.9,SNR=17
TXAR Lajitas Array 121.98 49 PKIKP PKPdf 11 07 16.3 +0.4
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 121.98 49 PKP PKPdf 11 07 16.3 +0.4
WMOK Wichita Mounta 122.46 41 *e*PKIKP PKPdf 11 07 16.6 -0.2
JCT Junction City 124.22 46 *e*PKIKP PKPdf 11 07 20.7 +0.5
FVM French Village 125.33 33 *e*PKIKP PKPdf 11 07 22.0 -0.3
WCI Wyandotte Cave 127.30 30 *e*PKIKP PKPdf 11 07 25.9 -0.2
HKT Hockley 127.33 44 *e*PKIKP PKPdf 11 07 27.0 +0.9
WVT Waverly 128.10 33 *e*PKIKP PKPdf 11 07 27.3 -0.3
JTS JuntasAbangare 146.72 60 *e*PKIKP PKPdf 11 08 00.2 -1.4
JTS *e* 11 08 02.8
JCR Jicaral 146.79 61 *e*P PKPdf 11 08 05.1 +3.4
RCC Rio Carpintero 147.29 36 *e*P PKPdf 11 08 05.0 +2.4
LCR2 La Lucha 2 147.80 60 *e*P PKPdf 11 08 07.9 +4.4
SDV Santo Domingo 158.87 43 *e*PKPdf PKPdf 11 08 19.9 +0.5
LPAZ La Paz 164.77 130 PKP PKPdf 11 08 27.9 +2.5
comp=Z,8.9nm,1.0s,baz=20,slow=1.8,SNR=26
LPAZ PKPab PKPab 11 09 23.4 +2.1
comp=Z,12nm,1.0s,baz=225,slow=1.7,SNR=9.5
SAML Samuel 172.59 109 *e*PKPdf PKPdf 11 08 30.8 +0.3

MOS ***14*** *11:28:59.7±0.9,2177N×142.95E,h33km,mb5.2/23, MS4.2/6,Error ellipse: s-maj=13.6km s-min=6.4km az=107.4*
BJI ***14*** *11:28:59.9,2197N×143.16E,h31km,mB5.3,mb4.8,Ms4.6, Msz4.4*
ISCJB ***14*** *11:28:59.9±0.2,2179N±004×143.01E±.004,h32km, mb4.8/65,MS4.5/48,Error ellipse: s-maj=6.0km s-min=5.1km az=106.6*
GCMT ***14*** *11:29:01.1±0.2,2186N×143.10E,h12km,MW5.1/94, Moment Tensor Solution. s37,c50; s94,c159; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.91±.10; Mθθ2.10±.09; Mφφ3.81±.11; Mrθ-0.15±.38; Mφθ-2.51±.08; Mφr1.01±.35; Best double couple: M₀5.84700×10¹⁶ NP1:φs320.00000°,δ41.00000°,λ-96.00000°. NP2: φs149.00000°,δ50.00000°,λ-85.00000°. Principal axes: T 5.6790, Plg5.0000°, Azm235.0000°; N 0.3370, Plg4.0000°, Azm325.0000°; P -6.0150, Plg84.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *11:29:01.1±0.2,2177N×143.04E,mb4.8/28 Error ellipse: s-maj=7.4km s-min=5.9km az=81.0*
IDC ***14*** *11:29:02.2±2.5,2183N×143.11E,h44km±23km,mb4.2/19, mb1 4.4/21,mb1mx4.4/26,mbtmp4.3/21,ML4.1/2,MS4.4/34, Ms1 4.4/34,ms1mx4.3/44,Error ellipse: s-maj=23.1km s-min=12.0km az=87.0*

ISC 14 11:29:02.1±0.2,2181N±004×14305E±004,h34km, h34km±1.8km:pP-P,n176,σ1s09/164,mb4.8/65,MS4.5/48, 9C-8D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.32**	**352**	P		**Pn**	**11 30 18.9**	**-0.1**
	20nm,0.3s,baz=324,slow=22,SNR=29							
CBIJ				S		**Sn**	**11 31 19.5**	**+0.4**
	25nm,0.3s,baz=284,slow=24,SNR=8.2							
CBIJ				LR	LR	LR	11 32 00.8	
	comp=Z,2μm,21.4s,baz=153,slow=34							
GUMO	**Guam**	**8.36**	**168**	LR	LR	LR	11 33 42.2	
	comp=Z,2μm,19.3s,baz=338,slow=34							
JHJ	**Hachijo jima 2**	**11.63**	**346**	LR	LR	LR	11 36 09.3	
	comp=Z,1μm,18.2s,baz=123,slow=37							
JOW	**Kunigami**	**14.36**	**293**	LR	LR	LR	11 37 02.8	
	comp=Z,2μm,18.6s,baz=94,slow=33							
MJAR	**Matsushiro Arr**	**15.27**	**345**	P		**Pn**	**11 32 32.8**	**-2.2**
	0.6nm,0.3s,baz=157,slow=11,SNR=5.9							
MAJO	**Matsushiro**	**15.27**	**345**	P		**Pn**	**11 32 33.8**	**-1.2**
MAT	**Matsushiro**	**15.27**	**345**	P		**Pn**	**11 32 33.2**	**-1.8**
KSRS	**Korea Array**	**20.35**	**323**	P		**P**	**11 33 35.2**	**-0.2**
	6.5nm,0.9s,baz=141,slow=10,SNR=5.5							
KSRS				LR	LR	LR	11 40 33.1	
	comp=Z,658nm,20.5s,MS4.0,baz=143,slow=34							
KS15	**Wonju Array Si**	**20.36**	**323**	*e*P		**P**	**11 33 41.7**	**+6.1**
SSE	**Sheshan**	**21.62**	**300**	*e*P		**P**	**11 33 48.3**	**-0.8**
SSE				AP			11 33 58.8	
SSE				XP		sP	11 34 02.8	+0.3
SSE				S		**S**	**11 37 45.5**	**-1.1**
SSE				SCS		ScS	11 45 11.3	+2.7
SSE				AMB		AMB		
	comp=Z,31nm,0.9s,mb4.7							
SSE				AMB		AMB		
	comp=Z,102nm,3.5s							
SSE				LR		LR		
	comp=N,200nm,23.0s,MS3.8							
SSE				LR		LR		
	comp=E,436nm,23.0s,MS3.8							
SSE				LR		LR		
	comp=Z,719nm,23.0s,MS4.0							
SSE	**Sheshan**	**21.62**	**300**	*e*P		**P**	**11 33 48.3**	**-0.8**
	comp=Z,31nm,0.9s,mb4.7							

SSE pP 11 33 58.8
SSE sP sP 11 34 02.8 +0.3
SSE S **S** **11 37 45.5 -1.1**
SSE sS sS 11 38 02.1 +1.0
SSE ScS ScS 11 45 11.2 +2.6
SSE LR LR
comp=Z,720nm,23.0s,MS4.0
ASAJ Asahikawa 22.25 359 P **P** **11 33 55.5 -0.3**
comp=Z,8.9nm,0.9s,mb4.2,baz=110,slow=29,SNR=2.5
ASAJ LR LR 11 42 52.0
comp=Z,507nm,20.2s,MS3.9,baz=182,slow=37
TGY Tagaytay City 22.37 254 LR LR 11 41 27.6
comp=Z,7.1nm,19.9s,baz=84,slow=33
QZH Quanzhou 22.66 283 P **P** **11 34 02.6 +2.4**
QZH AMB AMB
comp=Z,2μm,4.0s
QZH LR LR
comp=N,5μm,18.0s
QZH LR LR
comp=E,2μm,12.9s
QZH LR LR
comp=Z,2μm,17.4s,MS4.7
VLA Vladivostok 23.20 339 *eP* **P** **11 34 03.9 -2.0**
VLA pmax pmax
comp=Z,105nm,1.7s,mb5.0
VLA MLR MLR
comp=Z,400nm,14.2s,MS4.0
NJ2 Nanjing 23.81 300 *eP* **P** **11 34 11.0 -0.8**
NJ2 AP 11 34 20.1
NJ2 XP sP 11 34 24.3 -1.4
NJ2 PP 11 34 45.3
NJ2 S **S** **11 38 22.5 -2.6**
NJ2 AMB AMB
comp=Z,870nm,4.9s
NJ2 LR LR
comp=N,1μm,21.0s,MS4.6
NJ2 LR LR
comp=E,2μm,25.0s,MS4.6
NJ2 LR LR
comp=Z,2μm,23.7s,MS4.4
MDJ Mudanjiang 25.31 337 P **P** **11 34 25.5 +0.1**
MDJ AP pP 11 34 33.8 -1.4
MDJ XP sP 11 34 37.8 -1.6
MDJ S **S** **11 38 50.0 +0.9**
MDJ SCP ScP 11 41 34.6 +0.3
MDJ PCS PcS 11 41 38.3 +0.2
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,111nm,3.7s
MDJ LR LR
comp=N,495nm,16.8s,MS4.2
MDJ LR LR
comp=E,477nm,20.6s,MS4.2
MDJ LR LR
comp=Z,782nm,18.5s,MS4.3
MDJ Mudanjiang 25.31 337 *eP* **P** **11 34 25.5 +0.1**
comp=Z,22nm,1.1s,mb4.6
SNY Shenyang 25.81 325 ⇓P **P** **11 34 28.4 -1.6**
SNY AP pP 11 34 37.5 -2.3
SNY XP sP 11 34 42.3 -1.6
SNY S **S** **11 38 51.5 -5.6**
SNY XS sS 11 39 07.6 -5.7
SNY AMB AMB
comp=Z,41nm,2.5s,mb4.5
SNY AMB AMB
comp=Z,451nm,3.5s
SNY LR LR
comp=N,667nm,13.3s
SNY LR LR
comp=Z,720nm,18.8s
CN2 Changchun 26.34 330 *eP* **P** **11 34 37.3 +2.5**
CN2 *eS* **S** **11 39 06.3 +0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,18.0s,MS4.4
CN2 LR LR
comp=E,600nm,18.0s,MS4.4
CN2 LR LR
comp=Z,800nm,19.0s,MS4.3
KLR Kul'dur 28.80 345 *eP* **P** **11 34 53.0 -3.8**
KLR pmax pmax
comp=E,54nm,2.0s
KLR pmax pmax
comp=Z,120nm,2.0s,mb5.3
KLR MLR MLR
comp=Z,2μm,13.0s,MS4.9
QIZ Qiongzhong 31.21 271 *eP* **P** **11 35 18.1 0.0**
QIZ S **S** **11 40 18.1 -3.9**
QIZ AMB AMB
comp=Z,26nm,1.7s,mb4.8
QIZ LR LR
comp=E,808nm,24.1s
QIZ LR LR
comp=Z,863nm,21.6s,MS4.4
PMG Port Moresby 31.29 172 LR LR 11 46 37.7
comp=Z,324nm,18.5s,MS4.0,baz=165,slow=34
PMG Port Moresby 31.29 172 *eP* **P** **11 35 18.0 -0.8**
PMG *e**PP pP 11 35 28.1 -0.5
HHC Hu-ho-hao-te 32.66 313 ⇑P **P** **11 35 31.6 +0.7**
HHC AP pP 11 35 41.3 +0.5
HHC XP sP 11 35 44.6 -0.3
HHC PP PP 11 36 40.8 -4.2
HHC PCP PcP 11 38 17.3 +1.1
HHC S **S** **11 40 45.5 +0.8**
HHC XS sS 11 40 59.8 -1.2
HHC SCP ScP 11 41 59.8 +2.3
HHC PCS PcS 11 42 01.3 -0.1
HHC SS SS 11 42 41.5 -24
HHC SCS ScS 11 45 55.9 -1.3
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,147nm,7.4s
HHC LR LR
comp=N,442nm,14.9s,MS4.5
HHC LR LR
comp=E,513nm,15.8s,MS4.5
HHC LR LR
comp=Z,433nm,14.1s,MS4.3
HIA Hailar 33.05 332 *eP* **P** **11 35 33.9 -0.4**
HIA pmax pmax
comp=Z,15nm,1.0s
HIA Hailar 33.05 332 *eP* **P** **11 35 33.9 -0.3**
comp=Z,15nm,1.0s,mb4.9
GYA Guiyang 33.45 285 ⇑*i*P **P** **11 35 39.4 +1.6**
GYA AP pP 11 35 49.3 +1.6
GYA XP sP 11 35 53.4 +1.6
GYA PP PP 11 36 51.8 -2.0
GYA PCP PcP 11 38 20.4 +2.0
GYA S **S** **11 40 57.0 0.0**
GYA XS sS 11 41 14.0 +0.7
GYA SCP ScP 11 42 01.0 +0.8
GYA SS SS 11 43 00.8 -21
GYA SCS ScS 11 46 00.4 -0.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,840nm,18.0s,MS4.6
GYA LR LR
comp=E,550nm,17.4s,MS4.6
GYA LR LR
comp=Z,630nm,17.1s,MS4.4
CD2 Chengdu 36.20 293 ⇑*i*P **P** **11 36 01.5 0.0**
CD2 AP pP 11 36 11.3 -0.1
CD2 XP sP 11 36 15.1 -0.5
CD2 PP PP 11 37 24.6 +0.5
CD2 S **S** **11 41 38.8 -0.5**
CD2 XS sS 11 41 54.8 -0.9
CD2 SS SS 11 44 03.4 -15
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,730nm,13.2s,MS4.8
CD2 LR LR
comp=E,1μm,16.8s,MS4.8
CD2 LR LR
comp=Z,1μm,18.0s,MS4.7

LZH Lanzhou 36.88 301 *eP* **P** **11 36 08.0 +0.7**
LZH AP pP 11 36 18.5 +1.3
LZH XP sP 11 36 23.1 +1.7
LZH PP PP 11 37 34.0 +2.4
LZH *eS* **S** **11 41 47.5 -2.1**
LZH XS sS 11 42 05.0 -1.1
LZH AMB AMB
comp=Z,54nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,280nm,4.6s
LZH LR LR
comp=N,518nm,16.7s
LZH LR LR
comp=Z,778nm,17.3s,MS4.5
LZH Lanzhou 36.88 301 *eP* **P** **11 36 08.0 +0.7**
LZH *PP pP 11 36 18.5 +1.3
LZH *SP sP 11 36 23.1 +1.7
LZH 11 37 34.0
LZH *eS* **S** **11 41 47.5 -2.1**
LZH *SS sS 11 42 05.0 -1.1
LZH SS ScS 11 46 19.0 -0.8
LZH pmax pmax
comp=Z,54nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,780nm,17.3s,MS4.5
LZH Lanzhou 36.88 301 *eP* **P** **11 36 08.0 +0.7**
comp=Z,54nm,1.5s,mb5.2
LZH pP pP 11 36 18.5 +1.3
LZH sP sP 11 36 23.1 +1.7
LZH PP PP 11 37 34.0 +2.4
LZH *eS* **S** **11 41 47.5 -2.1**
LZH sS sS 11 42 05.0 -1.1
LZH SS ScS 11 46 19.0 -0.8
LZH LR LR
comp=Z,780nm,17.3s,MS4.5
KMI Kunming 37.03 283 P **P** **11 36 11.0 +2.5**
KMI AP pP 11 36 17.8 -0.7
KMI S **S** **11 41 49.6 -2.3**
KMI AMB AMB
comp=Z,15nm,2.0s,mb4.5
KMI AMB AMB
comp=Z,211nm,7.5s
KMI LR LR
comp=N,276nm,15.9s,MS4.3
KMI LR LR
comp=E,353nm,17.9s,MS4.3
KMI LR LR
comp=Z,493nm,22.7s,MS4.2
KMI Kunming 37.03 283 P **P** **11 36 11.0 +2.5**
comp=Z,15nm,2.0s,mb4.5
KMI pP pP 11 36 17.8 -0.7
KMI S **S** **11 41 49.6 -2.3**
KMI LR LR
comp=Z,490nm,22.7s,MS4.2
CIT Chita 37.79 330 *eP* **P** **11 36 14.2 -0.8**
SONM Songino Array 39.17 320 P **P** **11 36 27.0 +0.5**
comp=Z,8.1nm,0.7s,mb4.6,baz=130,slow=7.2,SNR=48
SONM LR LR 11 53 55.1
comp=Z,443nm,19.5s,MS4.3,baz=153,slow=38
NANT Nan 39.74 274 P **P** **11 36 31.0 -0.4**
GTA Gaotai 40.71 306 P **P** **11 36 40.3 +1.0**
GTA AP pP 11 36 52.3 +2.9
GTA PP PP 11 38 19.3 +5.9
GTA PPP 11 38 47.0
GTA S **S** **11 42 48.8 +1.5**
GTA XS sS 11 43 05.5 +1.7
GTA SS SS 11 45 46.0 -2.5
GTA AMB AMB
comp=Z,15nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,283nm,6.5s
GTA LR LR
comp=N,354nm,17.9s,MS4.4
GTA LR LR
comp=E,351nm,16.7s,MS4.4
GTA LR LR
comp=Z,396nm,24.3s
NST Nakhon Sawan 41.00 269 P **P** **11 36 38.9 -2.8**
CHG Chiang Mai 41.37 274 ⇓P pP 11 36 52.9 -1.9
comp=Z,15nm,0.9s
CHTO Chiang Mai 41.37 274 ⇑P **P** **11 36 46.9 +2.1**
SNR=6.1
CHTO Chiang Mai 41.37 274 *eP* **P** **11 36 46.7 +1.9**
CHTO *e**SP sP 11 36 57.9 -1.0
CHTO pmax pmax
comp=Z,14nm,1.0s,mb4.5
CHTO Chiang Mai 41.37 274 *eP* **P** **11 36 46.7 +1.9**
comp=Z,14nm,1.0s,mb4.5
CHTO *ep*P pP 11 36 53.3 -1.6
CHTO *es*P sP 11 36 57.9 -1.1
SEY Seymchan 41.58 6 *eP* **P** **11 36 46.8 +0.3**
BOD Bodaibo 41.68 337 *eP* **P** **11 36 38.7 -8.6**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.1
CTA Charters Tower 41.76 175 *eP* **P** **11 36 45.0 -3.0**
comp=Z,10nm,1.1s,mb4.4
CTA Charters Tower 41.76 175 P **P** **11 36 47.7 -0.3**
comp=Z,15nm,1.0s,mb4.6,baz=3.4,slow=10,SNR=7.7
CTA Charters Tower 41.76 175 P **P** **11 36 47.7 -0.3**
CTA pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 41.76 175 *eP* **P** **11 36 46.1 -1.9**
CTAO *e**PP pP 11 36 55.5 -2.6
CTAO *e**SP sP 11 37 00.1 -2.1
CTAO pmax pmax
comp=Z,21nm,1.1s,mb4.7
CTAO Charters Tower 41.76 175 *eP* **P** **11 36 46.1 -1.9**
comp=Z,21nm,1.1s,mb4.7
CTAO *ep*P pP 11 36 55.5 -2.5
CTAO *es*P sP 11 37 00.1 -2.1
ZAK Zakamensk 42.18 322 ⇓*i*P **P** **11 36 51.6 +0.2**
ZAK pmax pmax
comp=Z,18nm,1.2s,mb4.6
WRAB Tennant Creek 42.35 192 *d*P **P** **11 36 52.1 -0.7**
WRAB Tennant Creek 42.35 192 *eP* **P** **11 36 52.2 -0.6**
comp=Z,23nm,1.1s,mb4.7
WB2 Warramunga Arr 42.36 192 ⇓*i*P **P** **11 36 52.0 -0.9**
WRA Warramunga Arr 42.36 192 P **P** **11 36 52.1 -0.8**
comp=Z,11nm,1.0s,mb4.4,baz=13,slow=8.7,SNR=39
WRA LR LR 11 53 54.8
comp=Z,365nm,18.7s,MS4.3,baz=335,slow=35
IRK Irkutsk 42.54 325 *eP* **P** **11 36 54.1 -0.3**
IRK *e* 11 38 32.8
IRK *e* 11 43 16.9
IRK pmax pmax
comp=Z,97nm,2.2s,mb5.1
TLY Talaya 42.60 324 ⇑P **P** **11 36 55.6 +0.8**
SNR=5.4
TLY Talaya 42.60 324 *eP* **P** **11 36 55.4 +0.6**
TLY *eS* **S** **11 43 12.5 -2.8**
TLY pmax pmax
comp=Z,41nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,345nm,21.0s,MS4.2
TLY Talaya 42.60 324 *eP* **P** **11 36 55.3 +0.5**
comp=Z,11nm,0.9s,mb4.6
FITZ Fitzroy Crossi 43.18 205 *eP* **P** **11 36 59.0 -0.5**
comp=Z,8.6nm,0.9s,mb4.5
FITZ Fitzroy Crossi 43.18 205 LR LR 11 54 03.4
comp=Z,243nm,19.4s,MS4.1,baz=31,slow=35
MOY Mondy 44.05 323 *eP* **P** **11 37 07.1 +0.6**
AS31 Alice Springs 46.07 192 *eP* **P** **11 37 21.9 -0.6**
ASAR Alice Springs 46.07 192 P **P** **11 37 21.6 -0.9**
comp=Z,3.1nm,0.7s,mb4.4,baz=14,slow=7.3,SNR=37
ASAR LR LR 11 55 50.6
comp=Z,190nm,20.2s,MS4.0,baz=15,slow=35
PSI Prapat 46.83 252 LR LR 11 57 25.5
comp=Z,270nm,18.9s,MS4.2,baz=235,slow=36
LSA Lhasa 47.08 291 *eP* **P** **11 37 32.0 +1.5**
BILL Bilibino 48.43 11 ⇑*eP* **P** **11 37 40.5 -0.5**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WMQ Urumqi 50.41 309 ⇓P **P** **11 37 56.9 +0.8**
WMQ AP pP 11 38 06.9 +0.6
WMQ XP sP 11 38 11.4 +1.0
WMQ PCP PcP 11 39 15.1 +1.0
WMQ PP PP 11 39 53.5 +1.7
WMQ PPP 11 40 57.5
WMQ SCP ScP 11 43 07.1 -0.3
WMQ S **S** **11 45 06.6 -0.5**
WMQ PS 11 45 19.3
WMQ XS sS 11 45 23.0 -1.0
WMQ AMB AMB
comp=Z,41nm,1.3s,mb5.3
WMQ AMB AMB
comp=Z,25nm,6.4s
WMQ LR LR
comp=N,150nm,21.7s,MS4.3
WMQ LR LR
comp=E,273nm,21.1s,MS4.3
WMQ LR LR
comp=Z,272nm,26.4s
GUN Gumba 51.84 289 *eP* **P** **11 38 08.1 +1.3**
DMN Daman 52.56 289 *eP* **P** **11 38 12.8 +0.7**
GKN Gorkha 52.92 289 *eP* **P** **11 38 15.3 +0.5**
STKA Stephens Creek 53.40 182 P **P** **11 38 17.4 -1.0**
comp=Z,8.9nm,0.9s,mb4.7,baz=353,slow=7.8,SNR=7.1
STKA LR LR 11 59 45.9
comp=Z,316nm,19.0s,MS4.4,baz=18,slow=34
STKA Stephens Creek 53.40 182 *eP* **P** **11 38 18.0 -0.3**
KOLN Koldanda 53.86 289 *eP* **P** **11 38 22.3 +0.6**
comp=Z,21nm,1.1s,mb5.0
ZAL Zalesovo 54.05 322 P **P** **11 38 22.5 -0.6**
comp=Z,6.6nm,0.8s,mb4.6,baz=15,slow=7.7,SNR=35
MK31 Makanchi Array 54.53 313 *eP* **P** **11 38 26.7 +0.1**
MKAR Makanchi Array 54.53 313 P **P** **11 38 27.3 +0.8**
comp=Z,3.5nm,0.6s,mb4.6,baz=90,slow=9.5,SNR=30
MKAR LR LR 12 02 01.8
comp=Z,177nm,20.7s,MS4.1,baz=248,slow=36
NVS Novosibirsk 55.14 322 *i*P **P** **11 38 29.5 -1.5**
NVS pmax pmax
comp=Z,172nm,1.9s,mb5.8
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,22nm,1.2s
KURK Kurchatov 57.31 317 P **P** **11 38 46.3 -0.1**
SNR=12
KURK Kurchatov 57.31 317 ⇓*eP* **P** **11 38 46.0 -0.5**
KURK Kurchatov 57.31 317 *eP* **P** **11 38 45.9 -0.6**
comp=E,20nm,1.0s,mb5.1
ULHL Ulahol 58.72 307 P **P** **11 38 57.7 +1.3**
SNR=15
TKM2 Tokmak 2 59.18 308 P **P** **11 39 00.5 +1.0**
SNR=12
KZA Kyzart 59.47 307 P **P** **11 39 03.1 +1.6**
SNR=24
NWAO Narrogin (SRO) 59.76 205 LR LR 12 04 02.9
comp=E,161nm,19.0s,MS4.2,baz=276,slow=35
FRU Bishkek 59.90 308 *eP* **P** **11 39 05.0 +0.5**
FRU pmax pmax
comp=Z,68nm,2.2s,mb5.3
USP Ospenovka 59.97 308 P **P** **11 39 05.9 +1.0**
SNR=10
AAK Ala-Archa 60.00 308 P **P** **11 39 05.7 +0.5**
SNR=6.8
AAK Ala-Archa 60.00 308 ⇑P **P** **11 39 05.3 +0.1**
SNR=5.8
AAK Ala-Archa 60.00 308 ⇓*eP* **P** **11 39 05.1 -0.1**
AAK pmax pmax
comp=Z,21nm,1.7s,mb4.9
AAK MLR MLR
comp=Z,300nm,19.0s,MS4.5
AAK Ala-Archa 60.00 308 *eP* **P** **11 39 04.7 -0.5**
comp=Z,7.8nm,0.9s,mb4.7
UCH Uchtor 60.01 307 P **P** **11 39 07.2 +1.9**
SNR=31
EKS2 Erkin-Say 60.53 308 P **P** **11 39 10.1 +1.3**
SNR=7.5
AML Almayashu 60.62 307 P **P** **11 39 11.1 +1.7**
SNR=15
COLA College 61.60 27 *i*P **P** **11 39 16.1 0.0**
COLA College 61.60 27 *eP* **P** **11 39 14.9 -1.1**
CHKZ Chkalovo 62.37 320 *eP* **P** **11 39 20.7 -0.5**
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb5.0
CHKZ Chkalovo 62.37 320 *eP* **P** **11 39 20.7 -0.5**
comp=Z,11nm,0.8s,mb5.0
BVAR Borovoye Array 62.50 319 LR LR 12 06 51.7
comp=Z,280nm,19.5s,MS4.4,baz=138,slow=36
BRVK Borovoye 62.57 319 ⇑P **P** **11 39 22.2 -0.4**
SNR=12
BRVK Borovoye 62.57 319 *eP* **P** **11 39 22.1 -0.5**
BRVK pmax pmax
comp=Z,18nm,0.7s,mb5.3
BRVK Borovoye 62.57 319 *eP* **P** **11 39 22.1 -0.5**
comp=Z,18nm,0.7s,mb5.3
ZRNK Zerenda 63.34 319 *eP* **P** **11 39 27.1 -0.6**
ZRNK pmax pmax
comp=Z,19nm,1.1s,mb5.1
ZRNK Zerenda 63.34 319 *eP* **P** **11 39 27.1 -0.6**
comp=Z,19nm,1.1s,mb5.1
DAWY Dawson 65.18 28 *eP* **P** **11 39 38.6 -1.1**
INK Inuvik 67.51 24 P **P** **11 39 51.3 -3.4**
comp=Z,9.3nm,1.1s,mb4.7,baz=301,slow=6.6,SNR=11
INK Inuvik 67.51 24 *eP* **P** **11 39 53.6 -1.1**
comp=Z,295nm,0.9s,mb6.3
ARU Arti 69.10 324 *eP* **P** **11 40 03.5 -1.1**
ARU Arti 69.10 324 *eP* **P** **11 40 03.5 -1.1**
AKTO Aktyubinsk 70.40 317 LR LR 12 13 12.5
comp=Z,279nm,19.0s,MS4.5,baz=286,slow=38
YKA Yellowknife Ar 76.41 28 P **P** **11 40 46.9 -1.1**
comp=Z,5.2nm,0.6s,mb4.6,baz=292,slow=5.8,SNR=17
YKA LR LR 12 11 57.0
comp=Z,321nm,21.1s,MS4.6,baz=230,slow=34
YKA Yellowknife Ar 76.41 28 P **P** **11 40 46.9 -1.1**
YKA LR LR 12 11 57.0
PPT Papeete 76.69 115 *eLR* LR 12 04 33.5
comp=Z,800nm,25.5s,baz=299
PPT Papeete 76.69 115 LR LR 12 05 44.7
comp=Z,427nm,21.6s,MS4.7,baz=285,slow=29
RES Resolute Bay 76.99 13 *eP* **P** **11 40 50.3 -1.0**
comp=Z,362nm,0.9s
RES *eP* 11 40 50.4
ARCES ARCESS Array B 78.77 341 P **P** **11 41 00.1 -1.1**
comp=Z,7.9nm,0.9s,mb4.7,baz=50,slow=9.9,SNR=5.6
ARCES LR LR 12 20 09.2
comp=Z,295nm,21.7s,MS4.6,baz=259,slow=39
TBI Tubuai 79.55 120 *eLQ* 12 01 48.5
comp=Z,280nm,32.8s
TBI *eLR* LR 12 05 26.9
comp=Z,239nm,33.2s,baz=301
NEW Newport 80.28 42 *eP* **P** **11 41 09.1 -0.3**
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 80.28 42 *eP* **P** **11 41 09.1 -0.3**
comp=Z,4.8nm,0.7s,mb4.5
EDM Edmonton 80.57 36 *eP* **P** **11 41 10.4 -0.6**
TAOE Nuku Hiva Isla 81.19 103 *eLR* LR 12 06 32.8
comp=Z,882nm,22.7s,baz=304
OBN Obninsk 81.32 326 *i*P **P** **11 41 14.3 -0.7**
OBN pmax pmax
comp=Z,16nm,1.6s,mb4.7
OBN MLR MLR
comp=Z,400nm,15.0s,MS4.9
VRSR Storozhevoye 81.54 322 *eP* **P** **11 41 15.6 -0.5**
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=E,20nm,1.0s
CMB Columbia Colle 81.79 52 *eP* **P** **11 41 17.7 +0.3**
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.7
CMB Columbia Colle 81.79 52 *eP* **P** **11 41 17.7 +0.2**
comp=Z,11nm,1.0s,mb4.7
BSMT Bassoo Peak 81.88 42 *eP* **P** **11 41 18.5 +0.6**
WALA Waterton Lakes 81.93 40 *eP* **P** **11 41 18.7 +0.5**
comp=Z,31nm,1.6s,mb5.0
KIV Kislovodsk 82.25 314 *eP* **P** **11 41 21.5 +1.6**
KIV pmax pmax
comp=Z,36nm,1.1s,mb5.2
KIV Kislovodsk 82.25 314 P **P** **11 41 21.7 +1.9**
FINES FINESS Array B 83.02 334 P **P** **11 41 22.2 -1.6**
comp=Z,1.2nm,0.5s,mb4.2,baz=45,slow=5.7,SNR=4.0
FINES LR LR 12 22 38.3
comp=Z,212nm,18.7s,MS4.5,baz=9.8,slow=39
NVAR Mina Array Bea 83.17 51 P **P** **11 41 25.5 +0.9**
comp=Z,2.6nm,0.6s,mb4.4,baz=269,slow=6.3,SNR=4.8
NVAR Mina Array Bea 83.17 51 P **P** **11 41 25.5 +0.9**
HLID Hailey 83.85 46 *eP* **P** **11 41 28.5 +0.4**
comp=Z,12nm,1.7s,mb4.8
HLID *eP* 11 41 28.7
HRY Holter Researc 84.19 42 *eP* **P** **11 41 30.2 +0.4**
QLMT Earthquake Lak 85.26 43 *eP* **P** **11 41 36.1 +0.9**
ANN Anapa 85.34 317 *eP* **P** **11 41 33.0 -2.6**
ANN *e**PP pP 11 41 45.6 -0.9
ANN *e* 11 44 52.9
ANN *eS* S 11 51 55.8 -8.1

ANN					pmax	pmax		
	comp=Z,124nm,1.0s,mb6.0							
GSC	**Goldstone**	**85.49**	**54**	*eP*	**P**		**11 41 37.6 +1.2**	
YMR	**Madison River**	**85.63**	**43**	*eP*	**P**		**11 41 38.3 +1.3**	
	comp=Z,16nm,1.0s,mb5.2							
YNR	**Norris Junctio**	**85.79**	**43**	*eP*	**P**		**11 41 39.8 +1.9**	
MOOW	**Moose Ponds**	**86.18**	**44**	*eP*	**P**		**11 41 40.3 +0.5**	
	comp=Z,3.9nm,1.0s,mb4.6							
SHPR	**Sheep Range**	**86.22**	**52**	*eP*	**P**		**11 41 40.7 +0.7**	
DUG	**Dugway**	**86.35**	**48**	*eP*	**P**		**11 41 41.0 +0.4**	
DUG					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0							
DUG	**Dugway**	**86.35**	**48**	*eP*	**P**		**11 41 41.0 +0.3**	
	comp=Z,9.9nm,0.9s,mb5.0							
PFO	**Pinyon Flat Ob**	**86.43**	**55**	*eP*	**P**		**11 41 41.2 +0.2**	
PFO					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9							
PFO	**Pinyon Flat Ob**	**86.43**	**55**	*eP*	**P**		**11 41 41.2 +0.2**	
	comp=Z,9.4nm,1.1s,mb4.9							
RLMT	**Red Lodge**	**86.50**	**43**	*eP*	**P**		**11 41 41.9 +0.5**	
	comp=Z,6.7nm,0.7s,mb5.0							
AKASG	**Malin Array Be**	**87.34**	**324**	P	**P**		**11 41 43.5 -2.0**	
	comp=Z,3.0nm,0.8s,mb4.6,baz=52,slow=5.0,SNR=12							
AKASG					LR	LR	12 24 27.4	
	comp=Z,344nm,19.2s,MS4.8,baz=65,slow=38							
AKASG	**Malin Array Be**	**87.34**	**324**	P	**P**		**11 41 43.5 -2.0**	
AKASG					LR	LR	12 24 27.4	
PDAR	**Pinedale Array**	**87.40**	**45**	P	**P**		**11 41 45.8 +0.1**	
	comp=Z,1.0nm,0.8s,mb4.1,baz=268,slow=4.5,SNR=7.0							
PDAR					LR	LR	12 13 40.4	
	comp=Z,372nm,21.8s,MS4.8,baz=334,slow=31							
PDAR	**Pinedale Array**	**87.40**	**45**	P	**P**		**11 41 45.8 +0.1**	
PDAR					LR	LR	12 13 40.4	
GLA	**Glamis**	**87.90**	**55**	*eP*	**P**		**11 41 48.7 +0.6**	
SRU	**San Rafael**	**88.41**	**48**	*eP*	**P**		**11 41 50.8 +0.2**	
SRU					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8							
SRU	**San Rafael**	**88.41**	**48**	*eP*	**P**		**11 41 50.8 +0.2**	
	comp=Z,5.0nm,0.7s,mb4.8							
HFS	**Hagfors**	**88.57**	**337**	LR	LR		12 21 41.4	
	comp=Z,334nm,18.7s,MS4.8,baz=68,slow=36							
NOA	**NORSAR Array B**	**88.79**	**339**	P	**P**		**11 41 49.5 -2.9**	
	comp=Z,1.7nm,0.8s,mb4.4,baz=48,slow=4.7,SNR=3.5							
NOA					LR	LR	12 25 53.0	
	comp=Z,168nm,18.9s,MS4.5,baz=310,slow=38							
BRTR	**Keskin Array B**	**90.17**	**313**	P	**P**		**11 41 57.8 -1.0**	
	comp=Z,3.3nm,0.9s,mb4.7,baz=104,slow=4.0,SNR=7.5							
SMCO	**Snowmass**	**90.82**	**47**	*eP*	**P**		**11 42 02.3 +0.5**	
	comp=Z,12nm,1.1s,mb5.1							
ULM	**Lac du Bonnet**	**91.41**	**33**	LR	LR		12 23 00.2	
	comp=Z,228nm,19.6s,MS4.6,baz=324,slow=35							
RKT	**Rikitea**	**91.42**	**114**	*e*SS	SS		11 59 14.1 +6.6	
	comp=Z,170nm,37.2s							
RKT				*e*LR	LR		12 11 09.9	
	comp=Z,497nm,35.5s,baz=299							
MLR	**Muntele Rosu**	**92.02**	**321**	LR	LR		12 25 55.2	
	comp=Z,312nm,19.7s,MS4.8,baz=329,slow=37							
SDCO	**Great Sand Dun**	**92.53**	**48**	*eP*	**P**		**11 42 10.2 +0.4**	
BORG	**Borgarnes**	**92.88**	**353**	LR	LR		12 27 50.9	
	comp=Z,405nm,18.6s,MS4.9,baz=44,slow=38							
ANMO	**Albuquerque**	**93.24**	**50**	*eP*	**P**		**11 42 13.5 +0.5**	
ANMO					pmax	pmax		
	comp=Z,3.0nm,1.1s							
ANMO	**Albuquerque**	**93.24**	**50**	*eP*	**P**		**11 42 13.5 +0.5**	
	comp=Z,2.7nm,1.1s,mb4.6							
VRAC	**Vranov**	**94.71**	**328**	LR	LR		12 25 15.4	
	comp=Z,247nm,18.0s,MS4.7,baz=40,slow=36							
CLL	**Collm**	**95.03**	**331**	*e*(pP)	pP		11 42 28.0 -4.2	
GERES	**GERESS Array B**	**96.42**	**329**	LR	LR		12 29 03.8	
	comp=Z,332nm,20.1s,MS4.8,baz=266,slow=37							
TXAR	**Lajitas Array**	**98.09**	**54**	P	**P**		**11 42 35.3 +0.2**	
	comp=Z,0.4nm,0.9s,mb4.0,baz=319,slow=5.0,SNR=4.7							
TXAR					LR	LR	12 19 00.3	
	comp=Z,197nm,21.3s,MS4.6,baz=355,slow=31							
SCHQ	**Schefferville**	**99.49**	**17**	LR	LR		12 25 14.0	
	comp=Z,258nm,21.5s,MS4.7,baz=328,slow=34							
DAVOX	**Davos**	**99.70**	**329**	LR	LR		12 28 47.0	
	comp=Z,233nm,20.3s,MS4.7,baz=177,slow=36							
VNDA	**Vanda**	**99.74**	**176**	LR	LR		12 25 20.1	
	comp=Z,174nm,19.7s,MS4.6,baz=324,slow=34							
TORD	**Torodi Ar. Bea**	**128.57**	**309**	PKP	PKPdf		11 48 04.1 -1.3	
	comp=Z,0.7nm,0.8s,baz=34,slow=1.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**128.57**	**309**	PKP	PKPdf		11 48 04.1 -1.4	
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	PKPbc		11 48 49.5 +0.5	
	comp=Z,3.3nm,0.8s,baz=335,slow=4.0,SNR=14							
LPAZ	**La Paz**	**150.05**	**85**	*e*PKPdf	PKPdf		11 48 45.1 +1.1	
LPAZ				*e*PKPbc	PKPbc		11 48 49.8 +0.7	
LPAZ				*e*PKPab	PKPab		11 48 56.8 +1.9	
SAML	**Samuel**	**151.72**	**67**	*e*PKPdf	PKPdf		11 48 46.4 -0.2	
SAML				*e*PKPbc	PKPbc		11 48 52.3 -0.6	
SAML				*e*PKPab	PKPab		11 49 00.2 -1.6	

*ISCJB **14** 11:40:13.5± 1.5, 647N± 004× 123.72E± 005, h15km± 11km, mb4.3/15, Error ellipse: s-maj=7.9km s-min=6.3km az=171.7*

*MAN **14** 11:40:13.9, 633N× 12371E, h60km, mb4.5, ML5.3, MS6.1*

*IDC **14** 11:40:20.2± 9.9, 655N× 12402E, h52km± 94km, mb3.9/11, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, Error ellipse: s-maj=39.5km s-min=14.7km az=64.0*

*NEIC **14** 11:40:21.6± 1.6, 655N× 12401E, h67km± 17km, mb4.7/6, Error ellipse: s-maj=19.7km s-min=6.2km az=71.0*

ISC 14 11:40:14.1±1.1, **654N**± 003× **12378E**± 004, **h3**km± 7km, **n34, s10/41, mb4.3**/15, **2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**0.82**	**34**	⇓	*i*P	**Pg**	**11 40 29.5**	**-0.4**
CTBH					*i* S	**Sg**	**11 40 39.6**	**-1.0**
GSPH	**General Santos**	**1.25**	**111**	*e*	P	**Pg**	**11 40 41.2**	**+3.2**
GSPH				*e*	S	**Sg**	**11 41 01.0**	**+6.8**
DMPH	**Davao City--Mi**	**1.80**	**72**	⇑	*i*P	**Pn**	**11 40 46.8**	**+0.7**
DMPH					*i* S	**Pg**	**11 40 52.3**	**+3.6**
BUKP	**Musuan**	**1.84**	**44**	*e*	P	**Pn**	**11 40 46.4**	**-0.3**
BUKP				*e*	S	**Sn**	**11 41 11.6**	**+1.1**
DAV	**Davao City (W)**	**1.87**	**73**	*e*	Pn	**Pn**	**11 40 48.3**	**+1.3**
DAV				*e*	Sn	**Sn**	**11 41 08.5**	**-2.6**
DCPH	**Dipolog City**	**2.08**	**348**	*e*	P	**Pn**	**11 40 49.6**	**-0.3**
DCPH				*e*	S	**Sn**	**11 41 17.7**	**+1.5**
CGP	**Cagayan de Oro**	**2.11**	**25**	⇑	*i*P	**Pn**	**11 40 51.0**	**+0.6**
CGP					*i* S	**Sn**	**11 41 17.8**	**+0.7**
MATI	**Mati**	**2.50**	**81**	*e*	P	**Pn**	**11 40 55.3**	**-0.3**
TBP	**Tagbilaran**	**3.13**	**2**	*e*	P	**Pn**	**11 41 04.7**	**+0.3**
TBP				*e*	S	**Sn**	**11 41 40.6**	**-1.8**
MSLP	**Maasin**	**3.73**	**17**	*e*	P	**Pg**	**11 41 23.1**	**-2.5**
GUIM	**Jordan**	**4.23**	**344**	*e*	P	**Pn**	**11 41 19.7**	**+0.2**
CUYO	**Cuyo Island**	**5.08**	**328**	*e*	P	**Pn**	**11 41 33.0**	**+1.8**
BATP	**Bataraza**	**6.33**	**291**	*e*	P	**Pn**	**11 41 47.1**	**-1.3**
KAKA	**Kakadu**	**20.97**	**156**	*e*	P	**P**	**11 44 58.9**	**+0.5**
	15nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.55**	**176**	*e*	P	**P**	**11 45 34.6**	**-0.5**
	11nm,1.8s,mb4.1							
FITZ	**Fitzroy Crossi**	**24.55**	**176**		P	**P**	**11 45 35.3**	**+0.3**
	1.5nm,0.5s,mb3.7,baz=23,slow=7.7,SNR=6.0							
PSI	**Prapat**	**25.04**	**263**		P	**P**	**11 45 42.5**	**+3.0**
	2.4nm,0.5s,mb4.0,baz=287,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**28.29**	**159**		P	**P**	**11 46 07.6**	**-1.2**
	3.8nm,0.9s,mb4.0,baz=338,slow=9.8,SNR=21							
WB2	**Warramunga Arr**	**28.30**	**159**	*e*	P	**P**	**11 46 07.5**	**-1.4**
AS31	**Alice Springs**	**31.61**	**162**	*e*	P	**P**	**11 46 38.6**	**+0.5**
ASAR	**Alice Springs**	**31.61**	**162**		P	**P**	**11 46 37.6**	**-0.5**
	0.7nm,0.4s,mb3.9,baz=345,slow=12,SNR=36							
STKA	**Stephens Creek**	**41.81**	**157**		P	**P**	**11 48 05.1**	**0.0**
	8.0nm,0.8s,mb4.4,baz=312,slow=5.7,SNR=8.3							
SONM	**Songino Array**	**43.74**	**343**		P	**P**	**11 48 20.5**	**-0.3**
	1.8nm,0.9s,mb3.8,baz=156,slow=9.4,SNR=8.1							
MKAR	**Makanchi Array**	**53.59**	**326**		P	**P**	**11 49 37.0**	**+0.4**
	0.9nm,0.5s,mb3.9,baz=126,slow=9.2,SNR=12							
ZAL	**Zalesovo**	**56.78**	**334**		P	**P**	**11 49 59.4**	**-0.2**
	1.1nm,0.3s,mb4.3,baz=352,slow=14,SNR=4.6							
KURK	**Kurchatov**	**57.81**	**328**	*e*	P	**P**	**11 50 06.6**	**-0.2**
	10nm,0.6s,mb5.0							
BVAR	**Borovoye Array**	**63.38**	**327**		P	**P**	**11 50 45.5**	**+0.6**
	2.5nm,0.7s,mb4.4,baz=99,slow=16,SNR=8.9							
BRVK	**Borovoye**	**63.45**	**327**	*e*	P	**P**	**11 50 45.3**	**0.0**
	9.8nm,0.8s,mb5.0							
CHKZ	**Chkalovo**	**63.56**	**328**		P	**P**	**11 50 46.0**	**0.0**
	8.5nm,0.9s,mb4.8							
ZRNK	**Zerenda**	**64.10**	**327**	*e*	P	**P**	**11 50 48.8**	**-0.7**
	8.9nm,0.9s,mb4.8							
VNDA	**Vanda**	**86.57**	**172**		P	**P**	**11 52 57.1**	**-1.7**
	1.1nm,0.9s,mb4.1,baz=306,slow=4.8,SNR=5.7							
KMBO	**Kilima Mbogo**	**86.67**	**268**		P	**P**	**11 52 59.9**	**+0.7**
	0.7nm,0.5s,mb4.2,baz=220,slow=24,SNR=3.8							
KMBO	**Kilima Mbogo**	**86.67**	**268**		P	**P**	**11 52 59.9**	**+0.7**
KHMM	**Horse Mountain**	**102.39**	**46**	*e*	P	Pdif	11 54 12.4	+1.0

*BJI **14** 11:58:53.5, 448N× 12363E, h581km, mB5.0, mb4.5*

*ISCJB **14** 11:58:54.1± 0.4, 450N± 006× 123.18E± 008, h569km± 6km, mb4.2/20, Error ellipse: s-maj=14.1km s-min=7.2km az=118.6*

*NEIC **14** 11:58:55.2± 1.0, 451N× 12310E, h566km± 13km, mb4.5/5, Error ellipse: s-maj=19.9km s-min=6.3km az=55.0*

*IDC **14** 11:58:55.6± 2.4, 449N× 12307E, h569km± 33km, mb3.5/15, mb1 3.5/15, mb1mx3.3/26, mbtmp3.5/15, Error ellipse: s-maj=19.7km s-min=10.3km az=58.0*

ISC 14 11:58:55.1±0.5, **453N**± 006× **12321E**± 008, **h560**km± 6km, **n42, σ0s82/45, mb4.2**/20, **1D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**2.86**	**21**	⇓	*i*P	**P**	**12 00 02.7**	**-7.4**
CTBH					*i* S	**S**	**12 01 12.0**	**+0.7**
BUKP	**Musuan**	**3.80**	**29**	*e*	P	**P**	**12 00 20.4**	**+4.2**
BUKP				*e*	S	S	12 01 44.8	+22
MATI	**Mati**	**3.87**	**51**	*e*	P	**P**	**12 00 11.0**	**-5.6**
MATI				*e*	S	**S**	**12 01 22.0**	**-1.2**
TSM	**Tawau**	**5.33**	**268**		P	**P**	**12 00 28.0**	**-0.2**
KKM	**Kota Kinabalu**	**7.13**	**282**		P	**P**	**12 00 44.3**	**-0.3**
KKM	**Kota Kinabalu**	**7.13**	**282**	*e*	Pn	**P**	**12 00 44.1**	**-0.5**
KAKA	**Kakadu**	**19.43**	**152**	*e*	P	**P**	**12 02 45.0**	**-0.4**
	31nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.62**	**174**	*e*	P	**P**	**12 03 14.0**	**-0.1**
	3.7nm,0.9s,mb4.0							
FITZ	**Fitzroy Crossi**	**22.62**	**174**		P	**P**	**12 03 13.8**	**-0.3**
	0.9nm,0.3s,mb3.8,baz=3.9,slow=7.9,SNR=11							
PSI	**Prapat**	**24.30**	**267**		P	**P**	**12 03 28.1**	**-0.8**
	2.5nm,0.2s,mb4.5,baz=121,slow=20,SNR=10							
WRA	**Warramunga Arr**	**26.67**	**156**		P	**P**	**12 03 49.4**	**-0.4**
	9.5nm,0.3s,mb4.9,baz=332,slow=10,SNR=203							
WB2	**Warramunga Arr**	**26.67**	**156**	*e*	P	**P**	**12 03 49.5**	**-0.4**
WB2				*e*	S	**S**	**12 07 42.2**	**-4.1**
AS31	**Alice Springs**	**29.90**	**160**	*e*	P	**P**	**12 04 18.4**	**+0.4**
AS31				*e*	S	**S**	**12 08 34.7**	**-1.7**
ASPA	**Alice Springs**	**29.90**	**160**	*e*	P	**P**	**12 04 18.4**	**+0.4**
ASPA				*e*	S	**S**	**12 08 34.7**	**-1.7**
ASAR	**Alice Springs**	**29.90**	**160**		P	**P**	**12 04 18.4**	**+0.4**
	5.2nm,0.3s,mb4.5,baz=340,slow=7.3,SNR=267							
CTA	**Charters Tower**	**33.34**	**138**	*e*	P	**P**	**12 04 48.3**	**+1.0**
	3.4nm,0.8s,mb3.9							
CTA	**Charters Tower**	**33.34**	**138**		P	**P**	**12 04 48.0**	**+0.7**
	4.0nm,0.6s,mb4.1,baz=335,slow=10,SNR=6.7							
FORT	**Forrest**	**35.41**	**173**	*e*	P	**P**	**12 05 05.2**	**+0.6**
	20nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**40.22**	**155**	*e*	P	**P**	**12 05 44.4**	**+0.8**
	4.5nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**40.22**	**155**		P	**P**	**12 05 44.5**	**+0.9**
	5.0nm,0.6s,mb4.2,baz=322,slow=8.8,SNR=12							
STKA	**Stephens Creek**	**40.22**	**155**	*e*	P	**P**	**12 05 44.4**	**+0.7**
GTA	**Gaotai**	**40.67**	**332**	*e*	P	**P**	**12 05 48.0**	**+0.7**
GTA					AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.1							
GUN	**Gumba**	**42.44**	**307**	*e*	P	**P**	**12 06 02.0**	**+0.8**
	comp=Z,34nm,0.6s,mb5.1							
PKI	**Pulchoki**	**42.66**	**307**	*e*	P	**P**	**12 06 03.0**	**+0.1**
KKN	**Kakani**	**42.86**	**307**	*e*	P	**P**	**12 06 04.8**	**+0.3**
	comp=Z,13nm,0.5s,mb4.7							
DMN	**Daman**	**42.92**	**306**	*e*	P	**P**	**12 06 05.5**	**+0.6**
ASAJ	**Asahikawa**	**42.97**	**21**		P	**P**	**12 06 05.8**	**+0.5**
	2.8nm,0.3s,mb4.2,baz=284,slow=25,SNR=7.6							
KOLN	**Koldanda**	**44.20**	**306**	*e*	P	**P**	**12 06 15.6**	**+0.7**
SONM	**Songino Array**	**45.50**	**344**		P	**P**	**12 06 24.6**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.7,baz=159,slow=8.8,SNR=13							
SONM					PcP	PcP	12 07 51.3	-0.4
	comp=Z,0.4nm,0.4s,baz=207,slow=4.8,SNR=4.2							
DZM	**Mont Dzumac**	**49.88**	**124**		P	**P**	**12 06 59.0**	**+1.5**
	comp=Z,0.9nm,0.5s,mb3.5,baz=249,slow=21,SNR=5.7							
MK31	**Makanchi Array**	**54.93**	**327**	*e*	P	**P**	**12 07 33.6**	**0.0**
MKAR	**Makanchi Array**	**54.93**	**327**		P	**P**	**12 07 33.7**	**+0.1**
	comp=Z,5.0nm,0.4s,mb4.1,baz=120,slow=7.8,SNR=85							
MKAR					PcP	PcP	12 08 26.2	-0.7
	comp=Z,1.9nm,0.6s,baz=120,slow=4.5,SNR=8.7							
MKAR	**Makanchi Array**	**54.93**	**327**		P	**P**	**12 07 33.7**	**+0.1**
MKAR					PcP	PcP	12 08 26.2	-0.7
KURK	**Kurchatov**	**59.21**	**329**	*e*	P	**P**	**12 08 02.5**	**-0.3**
	comp=Z,16nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**64.76**	**328**		P	**P**	**12 08 38.2**	**-0.6**
	comp=Z,1.9nm,0.4s,mb3.9,baz=148,slow=8.6,SNR=12							
AKTK	**Aktyubinsk**	**70.86**	**322**		P	**P**	**12 09 15.8**	**-0.2**
AKTO	**Aktyubinsk**	**70.86**	**322**		P	**P**	**12 09 15.8**	**-0.2**
	comp=Z,6.3nm,0.7s,mb4.3,baz=109,slow=7.2,SNR=16							
KMBO	**Kilima Mbogo**	**86.06**	**269**		P	**P**	**12 10 37.9**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.6,baz=57,slow=6.5,SNR=5.2							
ARCES	**ARCESS Array B**	**88.48**	**340**		P	**P**	**12 10 46.0**	**-2.2**
	comp=Z,3.5nm,0.9s,mb4.1,baz=83,slow=7.4,SNR=4.5							
FINES	**FINESS Array B**	**89.47**	**332**		P	**P**	**12 10 50.8**	**-2.0**
	comp=Z,1.0nm,0.5s,mb3.9,baz=54,slow=9.8,SNR=7.2							
SMCO	**Snowmass**	**116.54**	**42**	*e*	PKPdf	PKPdf	12 16 30.0	-5.7
TORD	**Torodi Ar. Bea**	**119.33**	**288**		PKP	PKPdf	12 16 41.3	+0.2
	comp=Z,0.6nm,0.3s,baz=77,slow=1.9,SNR=9.5							

*ISCJB **14** 12:13:07.9± 3.0, 219N± 01× 143.1E± 03, h36km± 27km, mb4.0/8, MS3.7/4, Error ellipse: s-maj=45.5km s-min=17.2km az=162.6*

*NEIC **14** 12:13:09.6± 0.6, 2187N× 143.17E, h35km, mb4.4/1, Error ellipse: s-maj=24.9km s-min=12.2km az=76.0*

*IDC **14** 12:13:10.1± 5.4, 2188N× 143.16E, h37km± 45km, mb3.7/8, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML4.0/1, MS3.7/4, Ms1 3.7/4, ms1mx2.9/37, Error ellipse: s-maj=36.5km s-min=19.3km az=80.0*

ISC 14 12:13:10.3±2.6, **219N**± 01× **1432E**± 03, **h41**km± 23km, **n14, σ0s31/12, mb4.0/8, MS3.7/4, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**5.27**	**350**		Pn	**Pn**	**12 14 26.3**	**-0.2**
	12nm,0.3s,baz=258,slow=17,SNR=11							
CBIJ					Sn	**Sn**	**12 15 26.1**	**+0.1**
	3.7nm,0.3s,baz=263,slow=16,SNR=4.2							
KSRS	**Korea Array**	**20.39**	**323**		P	**P**	**12 17 43.9**	**+0.3**
	2.7nm,0.9s,baz=140,slow=12,SNR=5.6							
KSRS					LR	LR	12 24 50.6	
	comp=Z,65nm,20.3s,MS3.0,baz=170,slow=34							
SONM	**Songino Array**	**39.22**	**320**		P	**P**	**12 20 34.6**	**+0.1**
	1.0nm,0.5s,mb3.8,baz=129,slow=7.1,SNR=12							
WRA	**Warramunga Arr**	**42.47**	**192**		P	**P**	**12 21 01.1**	**-0.2**
	1.7nm,0.9s,mb3.7,baz=12,slow=8.8,SNR=4.8							
ASAR	**Alice Springs**	**46.18**	**192**		P	**P**	**12 21 31.2**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=14,slow=11,SNR=5.1							
ZAL	**Zalesovo**	**54.09**	**322**		P	**P**	**12 22 30.1**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=17,slow=5.9,SNR=6.7							
MKAR	**Makanchi Array**	**54.60**	**313**		P	**P**	**12 22 34.8**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=94,slow=8.6,SNR=6.8							
MKAR					LR	LR	12 46 51.6	
	comp=Z,64nm,20.6s,MS3.7,baz=76,slow=37							
KDAK	**Kodiak Island**	**58.03**	**35**		LR	LR	12 45 48.7	
	comp=Z,64nm,18.6s,MS3.8,baz=290,slow=34							
BVAR	**Borovoye Array**	**62.55**	**319**		P	**P**	**12 23 29.8**	**-0.1**
	2.1nm,0.5s,mb4.5,baz=87,slow=7.9,SNR=15							
BRVK	**Borovoye**	**62.61**	**319**	*e*	P	**P**	**12 23 30.4**	**0.0**
	3.7nm,1.1s,mb4.4							
YKA	**Yellowknife Ar**	**76.27**	**28**		P	**P**	**12 24 54.8**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=293,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**76.27**	**28**		P	**P**	**12 24 54.8**	**+0.1**
PDAR	**Pinedale Array**	**87.24**	**45**		LR	LR	13 01 48.2	
	comp=Z,93nm,18.2s,MS4.2,baz=168,slow=33							
LPAZ	**La Paz**	**149.89**	**85**		PKPbc	PKPbc	12 32 57.8	+1.8
	1.3nm,1.0s,baz=310,slow=7.9,SNR=3.7							

*ISCJB **14** 12:32:58.9± 1.1, 3923N± 005× 142.3E± 0.1, h90km± 6km, mb3.5/3, Error ellipse: s-maj=19.5km s-min=6.5km az=34.6*

*IDC **14** 12:32:59.1± 2.7, 3928N× 14253E, h86km± 25km, mb3.2/3, mb1 3.3/5, mb1mx3.1/23, mbtmp3.2/5, Error ellipse: s-maj=45.2km s-min=17.6km az=98.0*

*NIED **14** 12:33:00, 3920N× 14230E, h86km, Mw3.7 Best double couple: M=4.47000×10^14 NP1:φ=61.00000°, δ51.00000°, λ-80.00000°. NP2:φ=226.00000°, δ40.00000°, λ-102.00000°.*

*JMA **14** 12:33:00.5± 0.1, 3922N× 14229E, h81km± 1km, M3.7*

JMA Felt I J1.

*NEIC **14** 12:33:00.5, 3922N× 14229E, h81km, MG3.7(JMA), After JMA.*

NEIC Recorded [1 JMA] in Iwate Prefecture.

ISC 14 12:32:59.7±1.1, **3924N**± 005× **1424E**± 02, **h84**km± 7km, **n19, σ0s67/28, mb3.5/3, 7C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.53**	**309**	⇓	P	**Pn**	**12 33 14.5**	**+0.5**
MIYJ					S	**Sn**	**12 33 24.6**	**-0.1**
OFUJ	**Ofunato**	**0.55**	**253**	⇓	P	**Pn**	**12 33 14.6**	**+0.4**
OFUJ					S	**Sn**	**12 33 24.8**	**-0.2**
JTH	**Tanohata**	**0.79**	**332**	⇓	P	**Pn**	**12 33 17.1**	**+0.5**
JTH					S	**Sn**	**12 33 29.3**	**+0.1**
JOM	**Ohasama**	**0.85**	**286**	⇓	P	**Pn**	**12 33 17.7**	**+0.4**
JOM					S	**Sn**	**12 33 30.5**	**+0.1**
JMK	**Ichinoseki**	**0.93**	**252**	⇑	P	**Pn**	**12 33 18.3**	**+0.2**
JMK					S	**Sn**	**12 33 31.2**	**-0.7**
JIO	**Ouri**	**1.11**	**225**	⇑	P	**Pn**	**12 33 19.9**	**-0.3**
JIO					S	**Sn**	**12 33 34.1**	**-1.6**
JANG	**Nango**	**1.30**	**331**	⇑	P	**Pn**	**12 33 22.9**	**+0.3**
JANG					S	**Sn**	**12 33 39.4**	**-0.5**
JOU	**Okura**	**1.58**	**237**	⇑	P	**Pn**	**12 33 25.9**	**-0.3**
JYK	**Kaneyama**	**1.58**	**259**	⇑	P	**Pn**	**12 33 26.5**	**+0.3**
JAH	**Hinai**	**1.63**	**306**	⇑	P	**Pn**	**12 33 27.2**	**+0.4**
JTM	**Tenmabayashi**	**1.83**	**328**	⇑	P	**Pn**	**12 33 29.7**	**+0.3**
MAJO	**Matsushiro**	**4.24**	**232**	*e*	Pn	**Pn**	**12 34 03.0**	**+1.0**
MAT	**Matsushiro**	**4.24**	**232**		P	**Pn**	**12 34 02.6**	**+0.7**
MAT					S	**Sn**	**12 34 49.8**	**-0.4**
MJAR	**Matsushiro Arr**	**4.24**	**232**		P	**Pn**	**12 34 02.9**	**+0.9**
	2.4nm,0.3s,baz=31,slow=14,SNR=36							
ASAJ	**Asahikawa**	**4.87**	**2**		P	**Pn**	**12 34 11.1**	**+0.6**
	4.1nm,0.3s,baz=220,slow=10,SNR=41							
ASAJ					S	**Sn**	**12 35 03.6**	**-2.0**
	1.4nm,0.3s,baz=62,slow=5.7,SNR=3.9							
MKAR	**Makanchi Array**	**43.61**	**300**		P	**P**	**12 40 55.5**	**-0.1**
	0.5nm,0.8s,mb3.3,baz=92,slow=8.5,SNR=4.7							
MKAR	**Makanchi Array**	**43.61**	**300**		P	**P**	**12 40 55.5**	**-0.1**
BVAR	**Borovoye Array**	**49.66**	**311**		P	**P**	**12 41 42.9**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=64,slow=6.4,SNR=3.8							
WRA	**Warramunga Arr**	**59.35**	**189**		P	**P**	**12 42 51.9**	**-1.1**
	0.2nm,0.5s,mb3.5,baz=6.2,slow=6.9,SNR=6.8							

*NEIC **14** 12:45:06.7± 2.0, 19.19S× 169.13E, h185km± 17km, mb4.2/4, Error ellipse: s-maj=29.1km s-min=16.2km az=168.0*

*IDC **14** 12:45:06.5± 3.4, 19.15S× 169.13E, h179km± 31km, mb4.0/8, mb1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.34**	**152**	P	**Pn**	**12 51 31.2**	**-1.0**
	0.2nm,0.3s,baz=334,slow=13,SNR=8.6						
FITZ				S	**Sn**	**12 53 29.4**	**-9.1**
	0.3nm,0.3s,baz=196,slow=20,SNR=4.4						
MBWA	**Marble Bar**	**12.98**	**181**	*e*Pn	**Pn**	**12 51 52.8**	**-0.3**
MBWA				*e*S	**Sn**	**12 54 03.8**	**-14**
WRA	**Warramunga Arr**	**18.18**	**132**	P	**P**	**12 52 54.4**	**+0.6**
	0.4nm,0.3s,baz=297,slow=11,SNR=15						
WRA				S	**S**	**12 56 10.5**	**-1.2**
	0.5nm,0.3s,baz=311,slow=23,SNR=8.3						
WRAB	**Tennant Creek**	**18.18**	**132**	*e*P	**P**	**12 52 53.6**	**-0.2**
	1.7nm,0.6s						
AS31	**Alice Springs**	**20.40**	**141**	*e*P	**P**	**12 53 18.1**	**+0.5**
ASAR	**Alice Springs**	**20.40**	**141**	P	**P**	**12 53 18.5**	**+0.8**
	2.3nm,0.4s,baz=314,slow=9.3,SNR=21						
ASAR				S	**S**	**12 56 55.3**	**0.0**
	2.4nm,0.9s,baz=316,slow=20,SNR=12						
ASAR				ScP	ScP	13 00 40.5	+0.9
	0.4nm,0.6s,baz=330,slow=1.9,SNR=7.2						
STKA	**Stephens Creek**	**31.02**	**143**	P	**P**	**12 54 56.5**	**+1.5**
	3.6nm,0.5s,mb4.2,baz=318,slow=9.2,SNR=10.0						
MKAR	**Makanchi Array**	**64.14**	**332**	P	**P**	**12 59 08.2**	**-1.0**
	0.3nm,0.6s,mb3.1,baz=153,slow=5.8,SNR=4.2						
VNDA	**Vanda**	**72.71**	**171**	P	**P**	**13 00 02.5**	**+0.2**
	0.4nm,0.6s,mb3.2,baz=324,slow=6.9,SNR=7.8						

CASC 14 13:17:36.4±1.3, 937N×8270W, h10km, MD3.5, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.19**	**74**	⇑*i*P	Pg	13 17 41.5	+1.1
CTCR	**Cotoan**	**0.47**	**187**	⇓*e*P	Pg	13 17 45.5	0.0
CTCR				*e*S	Sg	13 17 53.2	+1.4
LIO	**Limon**	**0.72**	**333**	*e*P	Pg	13 17 49.9	-0.3
LIO				*e*S	Sg	13 17 59.7	+0.1
LCR2	**La Lucha 2**	**1.34**	**286**	*e*P	Pn	13 18 00.1	-1.1
LCR2				*e*S	Sb	13 18 18.6	-0.2
OCM	**Ochomogo**	**1.35**	**293**	*e*S	Sb	13 18 20.0	+0.9
PRS1	**Puriscal**	**1.70**	**291**	*e*P	Pn	13 18 06.1	-0.1
PRS1				*e*S	Sn	13 18 29.6	+1.6

*ISCJB **14** 13:21:55.0±4.7, 2178N×005×143.1E±0.1, h30km±33km, mb4.3/20, MS3.7/10, Error ellipse: s-maj=23.1km s-min=7.8km az=165.2*

*MOS **14** 13:21:55.6±0.7, 2179N×143.04E, h33km, mb4.8/8, Error ellipse: s-maj=24.3km s-min=10.8km az=108.5*

*NEIC **14** 13:21:57.6±0.3, 2179N×143.12E, h35km, mb4.7/6, Error ellipse: s-maj=13.7km s-min=6.2km az=79.0*

*IDC **14** 13:21:58.3±3.1, 2181N×143.11E, h41km±28km, mb4.0/13, mb1 4.1/14, mb1mx4.1/22, mbtmp4.0/14, ML3.7/1, MS3.6/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=29.3km s-min=12.9km az=85.0*

*BJI **14** 13:22:02.6, 2248N×14262E, h35km, mB5.4, mb4.5*

ISC 14 13:21:58.3±1.7, 2179N±006×1431E±01, h41km±15km, n49, σ0°53/42, mb4.3/20, MS3.7/10, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.35**	**351**	P	**Pn**	**13 23 15.1**	**-0.5**
	5.7nm,0.3s,baz=306,slow=21,SNR=6.6						
CBIJ				S	**Sn**	**13 24 16.1**	**+0.3**
	1.8nm,0.3s,baz=300,slow=20,SNR=2.3						
GUMO	**Guam**	**8.32**	**168**	LR	LR	13 26 36.6	
	comp=Z,220nm,19.6s,baz=133,slow=33						
JOW	**Kunigami**	**14.45**	**293**	LR	LR	13 29 38.8	
	comp=Z,198nm,20.9s,baz=176,slow=32						
MAJO	**Matsushiro**	**15.31**	**345**	*e*P	**Pn**	**13 25 37.5**	**+6.1**
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**13 26 36.5**	**+4.7**
	5.5nm,0.9s,baz=144,slow=11,SNR=10						
KSRS				LR	LR	13 33 30.2	
	comp=Z,62nm,21.7s,MS2.9,baz=155,slow=34						
ASAJ	**Asahikawa**	**22.27**	**359**	LR	LR	13 35 11.4	
	comp=Z,57nm,20.4s,MS3.0,baz=63,slow=36						
PMG	**Port Moresby**	**31.25**	**172**	P	**P**	**13 28 13.5**	**-0.5**
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**13 29 23.0**	**+0.3**
	2.9nm,0.8s,mb4.0,baz=124,slow=7.2,SNR=20						
SONM				LR	LR	13 46 31.8	
	comp=Z,74nm,20.1s,MS3.5,baz=69,slow=38						
GTA	**Gaotai**	**40.78**	**306**	*e*P	**P**	**13 29 36.1**	**+0.7**
GTA				AP	pP	13 29 46.0	-0.9
GTA				XP	sP	13 29 50.3	-1.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.9						
CTA	**Charters Tower**	**41.74**	**176**	*e*P	**P**	**13 29 44.4**	**+1.1**
	comp=Z,10nm,1.1s,mb4.4						
CTA	**Charters Tower**	**41.74**	**176**	P	**P**	**13 29 44.1**	**+0.9**
	comp=Z,15nm,1.1s,mb4.5,baz=351,slow=9.4,SNR=5.8						
CTA	**Charters Tower**	**41.74**	**176**	*e*P	**P**	**13 29 44.4**	**+1.1**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CTAO	**Charters Tower**	**41.74**	**176**	*e*P	**P**	**13 29 44.2**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.8						
CTAO	**Charters Tower**	**41.74**	**176**	*e*P	**P**	**13 29 44.2**	**+0.9**
	comp=Z,36nm,1.4s,mb4.8						
ZAK	**Zakamensk**	**42.24**	**322**	⇓*i*P	**P**	**13 29 47.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
WRAB	**Tennant Creek**	**42.35**	**192**	*i* P	**P**	**13 29 48.5**	**+0.2**
WB2	**Warramunga Arr**	**42.36**	**192**	*e*P	**P**	**13 29 48.3**	**-0.1**
WB2	**Warramunga Arr**	**42.36**	**192**	*e*P	**P**	**13 29 48.2**	**-0.1**
WB2				*ep*P	pP	13 29 59.0	-0.9
WRA	**Warramunga Arr**	**42.36**	**192**	P	**P**	**13 29 48.4**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.3,baz=14,slow=8.8,SNR=27						
WRA				LR	LR	13 45 40.9	
	comp=Z,72nm,19.5s,MS3.6,baz=125,slow=34						
AS31	**Alice Springs**	**46.07**	**192**	*e*P	**P**	**13 30 17.9**	**-0.2**
ASAR	**Alice Springs**	**46.07**	**192**	P	**P**	**13 30 17.9**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=16,slow=9.9,SNR=43						
ASAR				LR	LR	13 48 01.6	
	comp=Z,88nm,20.1s,MS3.7,baz=8.7,slow=34						
ASPA	**Alice Springs**	**46.07**	**192**	*e*P	**P**	**13 30 17.8**	**-0.3**
STKA	**Stephens Creek**	**53.38**	**182**	P	**P**	**13 31 13.7**	**0.0**
	comp=Z,7.1nm,1.0s,mb4.6,baz=343,slow=9.5,SNR=5.1						
ZAL	**Zalesovo**	**54.12**	**322**	P	**P**	**13 31 18.8**	**-0.2**
	comp=Z,4.1nm,1.0s,mb4.3,baz=13,slow=6.9,SNR=14						
ZAL				LR	LR	13 56 24.1	
	comp=Z,82nm,19.5s,MS3.8,baz=134,slow=38						
MK31	**Makanchi Array**	**54.60**	**313**	*e*P	**P**	**13 31 23.3**	**+0.7**
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**13 31 23.1**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=98,slow=8.7,SNR=10						
NVS	**Novosibirsk**	**55.20**	**322**	*i* P	**P**	**13 31 26.6**	**-0.3**
KURK	**Kurchatov**	**57.38**	**317**	*e*P	**P**	**13 31 42.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**57.38**	**317**	*e*P	**P**	**13 31 42.5**	**+0.1**
	comp=Z,7.6nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**62.44**	**320**	*e*P	**P**	**13 32 16.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
CHKZ	**Chkalovo**	**62.44**	**320**	*e*P	**P**	**13 32 16.8**	**-0.3**
	comp=Z,4.7nm,1.0s,mb4.6						
BRVK	**Borovoye**	**62.63**	**320**	*e*P	**P**	**13 32 18.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**62.63**	**320**	*e*P	**P**	**13 32 18.7**	**+0.3**
	comp=Z,3.5nm,0.8s,mb4.5						
INK	**Inuvik**	**67.50**	**24**	P	**P**	**13 32 49.6**	**-0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=287,slow=2.0,SNR=4.9						
ARU	**Arti**	**69.16**	**324**	⇑*e*P	**P**	**13 32 59.8**	**-0.6**
ARU				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
RPZ	**Rata Peaks**	**70.04**	**159**	LR	LR	13 57 55.8	
	comp=Z,84nm,18.8s,MS4.0,baz=349,slow=31						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**13 33 43.0**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=298,slow=6.0,SNR=5.9						
YKA				LR	LR	14 03 06.4	
	comp=Z,51nm,21.5s,MS3.8,baz=90,slow=32						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**13 33 43.0**	**-0.3**
YKA				LR	LR	14 03 06.4	
PPT	**Papeete**	**76.61**	**115**	LR	LR	14 02 57.2	
	comp=Z,82nm,19.0s,MS4.1,baz=292,slow=32						
ARCES	**ARCESS Array B**	**78.82**	**341**	LR	LR	14 14 10.9	
	comp=Z,105nm,18.4s,MS4.2,baz=195,slow=40						
FINES	**FINESS Array B**	**83.08**	**334**	P	**P**	**13 34 19.3**	**-0.2**
	comp=Z,2.8nm,1.0s,mb4.2,baz=91,slow=8.0,SNR=4.8						
PDAR	**Pinedale Array**	**87.36**	**45**	P	**P**	**13 34 41.5**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.9,baz=222,slow=2.0,SNR=3.6						
AKASG	**Malin Array Be**	**87.40**	**324**	P	**P**	**13 34 39.4**	**-1.7**
	comp=Z,0.3nm,0.3s,mb4.1,baz=45,slow=6.0,SNR=4.6						
AKASG	**Malin Array Be**	**87.40**	**324**	P	**P**	**13 34 39.4**	**-1.7**
SRU	**San Rafael**	**88.37**	**48**	P	**P**	**13 34 46.7**	**+0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
SRU	**San Rafael**	**88.37**	**48**	P	**P**	**13 34 46.7**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.8						
BRTR	**Keskin Array B**	**90.25**	**313**	P	**P**	**13 34 54.4**	**-0.2**
	comp=Z,0.6nm,0.5s,mb4.2,baz=114,slow=1.7,SNR=4.3						
LPAZ	**La Paz**	**149.97**	**85**	PKPbc	PKPbc	13 41 46.2	+2.1
	comp=Z,2.1nm,0.9s,baz=341,slow=4.8,SNR=7.7						
LPAZ	**La Paz**	**149.97**	**85**	PKPbc	PKPbc	13 41 46.2	+2.0

*NEIC **14** 13:26:11.3, 3736N×829W, h0km, MN2.5(MDD), After MDD.*

*CSEM **14** 13:26:11.3±0.2, 3742N×831W, h10km, ML2.7/3, Error ellipse: s-maj=6.4km s-min=3.0km az=28.0*

*MDD **14** 13:26:11.2±0.7, 3736N×833W, h11km±1km, mbLg2.3/8, Error ellipse: s-maj=7.5km s-min=3.2km az=14.0, PRXIMO*

INMG 14 13:26:11.0±1.0, 3733N×832W, h2km±4km, MD1.7, ML2.1, 1C, Error ellipse: s-maj=3.6km s-min=2.3km az=30.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.39**	**304**	*i* Pg	Pg	13 26 18.1	-0.4
PTEO				*e*Sg	Sg	13 26 23.1	-0.4
PTEO							
	71nm,0.3s						
PTEO	**Sao Teotonio**	**0.39**	**304**	*e*Sg	Sg	13 26 23.1	-0.4
	71nm,0.3s						
EGRO	**El Granado**	**0.70**	**72**	⇑Pg	Pg	13 26 24.0	-0.4
	10.0nm,0.1s,SNR=18						
EGRO				Lg		13 26 32.7	
	55nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**0.70**	**72**	Pg	Pg	13 26 24.0	-0.3
	10.0nm,0.1s,SNR=18						
PBEJ	**Beja**	**0.79**	**27**	*e*P	Pg	13 26 25.5	-0.5
PBEJ				*e*S	Sg	13 26 36.3	+0.1
PBEJ							
	41nm,0.2s						
MOE	**Montemor**	**1.19**	**359**	*e*P	Pg	13 26 33.2	-0.7
MOE				*e*S	Sg	13 26 48.0	-1.4
EMIN	**Mina Concepcio**	**1.38**	**71**	Pg	Pg	13 26 35.4	-2.1
EMIN				Lg		13 26 53.3	
EMIN	**Mina Concepcio**	**1.38**	**71**	Pn	Pn	13 26 34.2	-3.1
	2.2nm,0.1s,SNR=40						
EMIN				Pg	Pg	13 26 35.8	-1.7
	3.8nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 26 51.0	-5.1
	2.5nm,0.1s,SNR=7.9						
EMIN				Lg		13 26 53.3	
	7.5nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.38**	**71**	Pn	Pn	13 26 34.2	-3.1
	2.2nm,0.1s,SNR=40						
EMIN	**Mina Concepcio**	**1.38**	**71**	Pg	Pg	13 26 35.8	-1.7
	3.8nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 26 51.0	-5.1
	2.5nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**1.64**	**20**	*e*Pg	Pg	13 26 41.1	-1.4
PESTR				*e*Sn	Sn	13 27 00.2	-2.4
PESTR							
	12nm,0.4s						
EBAD	**Badajoz**	**1.76**	**35**	Pg	Pg	13 26 42.9	-1.8
EBAD				Lg		13 27 05.1	
EBAD	**Badajoz**	**1.76**	**35**	Pn	Pn	13 26 39.2	-3.4
	1.4nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	13 26 42.9	-1.8
	4.1nm,0.2s,SNR=15						
EBAD				Lg		13 27 04.7	
	31nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.76**	**35**	Pn	Pn	13 26 39.2	-3.3
	1.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.76**	**35**	Pg	Pg	13 26 42.9	-1.8
	4.1nm,0.2s,SNR=15						
ESPR	**Espera**	**2.02**	**102**	Pn	Pn	13 26 44.6	-1.5
ESPR				Pg	Pg	13 26 48.4	-1.4
ESPR				Sn	Sn	13 27 09.7	-2.3
ESPR				Lg		13 27 15.6	
ESPR	**Espera**	**2.02**	**102**	Pn	Pn	13 26 44.6	-1.5
	0.7nm,0.1s,SNR=7.9						
ESPR				Pg	Pg	13 26 48.4	-1.4
	6.0nm,0.3s,SNR=8.5						
ESPR				Sn	Sn	13 27 10.9	-1.1
	6.6nm,0.2s,SNR=7.9						
ESPR				Lg		13 27 15.2	
	11nm,0.2s,SNR=4.8						
ESPR	**Espera**	**2.02**	**102**	Pn	Pn	13 26 44.6	-1.5
	0.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.02**	**102**	Pg	Pg	13 26 48.4	-1.3
	6.0nm,0.3s,SNR=8.5						
ESPR				Sn	Sn	13 27 10.9	-1.0
	6.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.59**	**14**	*e*Sg	Sg	13 27 31.9	-2.5
PCBR							
	7.3nm,0.2s						
PCBR	**Castelo Branco**	**2.59**	**14**	Lg		13 27 31.9	
	3.7nm,0.2s						
EADA	**Adamuz**	**3.08**	**73**	Pn	Pn	13 26 58.3	-2.4
EADA				Pg	Pg	13 27 07.0	-3.0
EADA				Sn	Sn	13 27 34.4	-3.7
EADA	**Adamuz**	**3.08**	**73**	Pn	Pn	13 26 58.3	-2.4
	0.9nm,0.1s,SNR=22						
EADA				Pg	Pg	13 27 07.0	-3.0
	0.9nm,0.1s,SNR=18						
EADA				Sn	Sn	13 27 34.4	-3.7
	0.6nm,0.1s,SNR=7.9						
EADA				Lg		13 27 47.2	
	1.5nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**3.08**	**73**	Pn	Pn	13 26 58.3	-2.4
	0.9nm,0.1s,SNR=22						
EADA	**Adamuz**	**3.08**	**73**	Pg	Pg	13 27 07.0	-3.1
	0.9nm,0.1s,SNR=18						
EADA				Sn	Sn	13 27 34.4	-3.7
	0.6nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.89**	**90**	Pn	Pn	13 27 09.8	-2.0
	0.7nm,0.2s,SNR=4.0						
EQUE				Sn	Sn	13 27 50.1	-8.0
	1.8nm,0.3s,SNR=4.0						
EQUE	**Quentar**	**3.89**	**90**	Pn	Pn	13 27 09.8	-2.1
	0.7nm,0.2s,SNR=4.0						

IDC 14 13:28:39.4±3.1, 604S×15094E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/12, mbtmp3.8/3, Error ellipse: s-maj=86.9km s-min=47.9km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.23**	**228**	*e*P	P	13 33 28.0	+1.2
WRA	**Warramunga Arr**	**21.24**	**228**	P	P	13 33 28.0	+1.1
	1.4nm,0.6s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.99**	**221**	P	P	13 33 55.8	+0.2
	0.8nm,0.5s,baz=58,slow=9.0,SNR=23						
ASPA	**Alice Springs**	**24.00**	**221**	*e*P	P	13 33 55.6	0.0
STKA	**Stephens Creek**	**27.15**	**198**	P	P	13 34 23.7	-0.5
	4.2nm,1.1s,baz=27,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.89**	**285**	PKPbc	PKPbc	13 48 29.9	+0.9
	0.8nm,0.7s,baz=72,slow=3.2,SNR=4.0						

*ISCJB **14** 13:32:14.0±0.3, 3273N×001×11601W±002, h12km±2km, Error ellipse: s-maj=2.5km s-min=2.3km az=113.9*

*NEIC **14** 13:32:15.0, 3269N×11604W, h8km, ML3.8(PAS), After PAS.*

NEIC Felt [IV] at Ocotillo and [II] at Alpine, Campo and Indian Wells. Felt at Boulevard, El Cajon, Escondido and San Diego.

*ECX **14** 13:32:15.1±0.6, 3271N×11604W, h2km±1km, MD3.6, ML3.8*

ISC 14 13:32:14.3±0.2, 3271N±002×11602W±002, h12km±2km, n58, σ0°92/94, 19C-37D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.08**	**234**	P	**Pg**	**13 32 16.9**	**+0.1**
	baz=0.0,SNR=1000						
DVTC				⇑S	**Sg**	**13 32 18.5**	**-0.1**
	baz=0.0						
YUH	**Yuha Desert**	**0.10**	**124**	⇓*i*P	**Pg**	**13 32 17.0**	**-0.1**
RMX	**La Rumorosa**	**0.11**	**204**	*e*P	**Pg**	**13 32 17.4**	**+0.2**
RMX				*e*S	**Sg**	**13 32 19.0**	**-0.3**
RMX				⇓*e*		13 32 19.9	
	comp=N,27μm,0.5s						
CRR	**Carrizo Plain**	**0.19**	**15**	⇓*i*P	**Pg**	**13 32 18.7**	**+0.3**
SGL	**Mount Signal**	**0.26**	**103**	⇑*i*P	**Pg**	**13 32 20.1**	**+0.5**
COK	**Cook Ranch**	**0.29**	**60**	⇑*i*P	**Pg**	**13 32 21.0**	**+0.9**
SWSC	**Sam W. Stewart**	**0.30**	**39**	P	**Pg**	**13 32 20.9**	**+0.5**
	baz=0.3,SNR=906						
SWSC				⇓S	**Sg**	**13 32 25.2**	**+0.7**
	baz=0.3						
MONP	**Monument Peak**	**0.38**	**299**	⇑P	**Pg**	**13 32 22.3**	**+0.4**
	baz=0.3,SNR=56						
MONP				⇓S	**Sg**	**13 32 27.2**	**+0.2**
	baz=0.3						
CBX	**Cerro Bola**	**0.67**	**234**	⇑*e*P	**Pg**	**13 32 27.2**	**0.0**
CBX				*e*S	**Sg**	**13 32 36.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.67**	**115**	*e*P	**Pg**	**13 32 27.6**	**+0.3**
CPBX				*e*S	**Sg**	**13 32 37.2**	**+1.0**
RDX	**Rancho Dowling**	**0.77**	**175**	*e*P	**Pg**	**13 32 29.0**	**-0.2**
RDX				*e*S	**Sg**	**13 32 39.3**	**-0.1**
RDX				⇓*e*		13 32 44.1	
	comp=E,5μm,0.4s						
RDX				*e*		13 32 45.0	
	comp=N,2μm,0.3s						
109C	**Camp Elliot, M**	**0.93**	**282**	P	**Pg**	**13 32 31.5**	**-0.6**
	baz=0.9,SNR=153						
109C				⇓S	**Sg**	**13 32 43.4**	**-0.9**
	baz=0.9						
PFO	**Pinyon Flat Ob**	**0.97**	**338**	⇓*i*Pg	**Pg**	**13 32 32.5**	**-0.4**
PFO				*e*Sg	**Sg**	**13 32 46.5**	**+0.9**
PFO	**Pinyon Flat Ob**	**0.97**	**338**	⇓P	**Pg**	**13 32 32.6**	**-0.4**
	baz=1.0,SNR=625						
PFO				⇓S	**Sg**	**13 32 46.0**	**+0.4**
	baz=1.0						
EMX	**El Mayor**	**0.97**	**137**	*e*	**Pg**	**13 32 32.3**	**-0.8**
EMX				*e*S	**Sg**	**13 32 45.8**	**0.0**
ENX	**Ensenada**	**0.98**	**214**	⇑*e*P	**Pg**	**13 32 32.8**	**-0.4**
ENX				*e*S	**Sg**	**13 32 46.0**	**-0.1**
BC3	**Big Chuckw Mtn**	**1.06**	**27**	⇑P	**Pb**	**13 32 33.7**	**-0.9**
	baz=1.1,SNR=77						
BC3				⇓S	**Sb**	**13 32 49.2**	**+0.8**
	baz=1.1						
GLA	**Glamis**	**1.06**	**71**	*e*Pg	**Pg**	**13 32 33.6**	**-1.1**
GLA				*e*Sg	**Sg**	**13 32 48.6**	**-0.1**
GLA	**Glamis**	**1.06**	**71**	P	**Pb**	**13 32 33.7**	**-1.0**
	baz=1.1,SNR=269						
GLA				⇓S	**Sb**	**13 32 47.1**	**-1.4**
	baz=1.1						
PBX	**Punta Banda**	**1.13**	**212**	*e*P	**Pb**	**13 32 35.1**	**-0.7**
PBX				*e*S	**Sb**	**13 32 50.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.15**	**205**	*e*P	**Pb**	**13 32 35.7**	**-0.4**
ECNX				*e*S	**Sb**	**13 32 51.1**	**0.0**
BELC	**Belle Mtn.**	**1.29**	**1**	⇑P	**Pn**	**13 32 37.2**	**-1.0**
	baz=1.3,SNR=24						
BELC				⇓S	**Sb**	**13 32 53.7**	**-1.4**
	baz=1.3						
MURC	**Murrieta**	**1.33**	**312**	⇓P	**Pn**	**13 32 38.1**	**-0.6**
	baz=1.3,SNR=114						
MURC				⇑S	**Sb**	**13 32 56.3**	**+0.2**
	baz=1.3						
IRM	**Iron Mountain**	**1.62**	**27**	⇓P	**Pn**	**13 32 42.0**	**-0.7**
	baz=1.7,SNR=39						
IRM				⇓S	**Sn**	**13 33 03.4**	**-0.2**
	baz=1.7						
Y12C	**Blythe**	**1.63**	**50**	⇓P	**Pn**	**13 32 41.9**	**-0.9**
	baz=1.7,SNR=12						
Y12C				⇓S	**Sn**	**13 33 03.1**	**-0.7**
	baz=1.7						
BBRC	**Big Bear Sol-O**	**1.72**	**334**	⇑P	**Pn**	**13 32 44.3**	**+0.2**
	baz=1.7,SNR=49						
SPX	**San Pedro Mart**	**1.72**	**164**	*e*S	**Sn**	**13 33 09.1**	**+3.0**
CIS	**Catalina Islan**	**2.12**	**290**	⇓P	**Pn**	**13 32 50.3**	**+0.8**
	baz=2.1,SNR=27						
CIS				⇓S	**Sn**	**13 33 16.0**	**+0.2**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.13**	**353**	⇓S	**Sn**	**13 33 15.8**	**-0.4**
	baz=2.1						
SCI	**San Clemente I**	**2.14**	**278**	⇓S	**Sn**	**13 33 16.6**	**+0.2**
	baz=2.1						
Y13A	**Salome**	**2.15**	**58**	⇓S	**Sn**	**13 33 15.9**	**-0.6**
	baz=2.2						
FMP	**Fort Macarthur**	**2.15**	**298**	⇑S	**Sn**	**13 33 17.3**	**+0.8**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.24**	**44**	⇓S	**Sn**	**13 33 17.2**	**-1.5**
	baz=2.3						
X13A	**Yucca**	**2.62**	**44**	⇓P	**Pn**	**13 32 56.4**	**-0.1**
	baz=2.7,SNR=18						
X13A				⇓S	**Sn**	**13 33 27.6**	**-0.7**
	baz=2.7						
Z14A	**Wintersburg**	**2.67**	**75**	⇑P	**Pn**	**13 32 56.7**	**-0.4**
	baz=2.7						
Z14A				⇓S	**Sn**	**13 33 28.5**	**-0.9**
	baz=2.7						
GSC	**Goldstone**	**2.67**	**346**	*e*Pn	**Pn**	**13 32 57.2**	**+0.1**
GSC				*e*Sg	**Sg**	**13 33 39.7**	**-0.3**
GSC	**Goldstone**	**2.67**	**346**	⇑P	**Pn**	**13 32 57.0**	**-0.2**
	baz=2.7						
EDW2	**Edwards Air Fo**	**2.72**	**323**	⇓P	**Pn**	**13 32 57.9**	**+0.2**
	baz=2.7						
BLG	**Laguna Peak**	**2.90**	**300**	⇑S	**Sn**	**13 33 35.6**	**+0.5**
	baz=2.9						
W13A	**Hualapai Mount**	**2.98**	**36**	⇓P	**Pn**	**13 33 01.7**	**+0.4**
	baz=3

HNR S **Sn** **13 56 28.5 -0.2**
14nm,0.3s,baz=272,slow=22,SNR=5.4
PMG **Port Moresby** **8.70 249** P **Pn** **13 56 08.4 +0.3**
23nm,0.3s,baz=64,slow=7.4,SNR=21
PMG S **Sn** **13 57 49.7 +4.8**
4.0nm,0.3s,baz=30,slow=20,SNR=2.8
PMG LR LR 13 59 22.2
comp=Z,66nm,19.4s,baz=223,slow=37
CTA **Charters Tower** **16.32 212** *e*P **Pn** **13 57 46.8 +1.2**
9.6nm,0.6s
CTA **Charters Tower** **16.32 212** P **Pn** **13 57 46.5 +0.9**
1.1nm,0.3s,baz=37,slow=12,SNR=19
CTAO **Charters Tower** **16.32 212** *e*P **Pn** **13 57 47.6 +2.0**
12nm,0.6s
DZM **Mont Dzumac** **19.00 147** *e*P **P** **13 58 15.7 +0.9**
DZM **Mont Dzumac** **19.00 147** P **P** **13 58 16.7 +1.9**
3.0nm,0.3s,baz=287,slow=7.2,SNR=56
KAKA **Kakadu** **23.48 253** *e*P **P** **13 58 59.2 -1.4**
14nm,0.4s,mb4.8
WB2 **Warramunga Arr** **24.51 234** *e*P **P** **13 59 10.2 +0.2**
WB2 **Warramunga Arr** **24.51 234** *e*P **P** **13 59 10.2 +0.2**
WRA **Warramunga Arr** **24.52 234** P **P** **13 59 10.4 +0.3**
12nm,0.7s,mb4.5,baz=56,slow=9.6,SNR=91
WRA S **S** **14 03 18.4 -0.3**
0.8nm,0.8s,baz=60,slow=13,SNR=4.1
ASAR **Alice Springs** **26.91 228** P **P** **13 59 31.9 +0.2**
2.1nm,0.6s,mb3.9,baz=60,slow=8.7,SNR=20
ASAR S **S** **14 03 55.5 -1.1**
0.2nm,0.6s,baz=56,slow=14,SNR=2.6
STKA **Stephens Creek** **28.53 205** P **P** **13 59 46.4 +0.5**
2.1nm,0.8s,mb3.9,baz=15,slow=12,SNR=3.4
STKA LR LR 14 09 41.2
comp=Z,53nm,18.2s,baz=206,slow=33
STKA **Stephens Creek** **28.53 205** P **P** **13 59 46.4 +0.5**
STKA LR LR 14 09 41.2
FITZ **Fitzroy Crossi** **31.28 245** *e*P **P** **14 00 09.3 -0.9**
11nm,0.8s,mb4.6
FITZ **Fitzroy Crossi** **31.28 245** P **P** **14 00 09.3 -1.0**
4.6nm,0.5s,mb4.4,baz=84,slow=9.7
KLBR **Kellerberrin** **43.22 230** *e*P **P** **14 01 49.7 -1.0**
32nm,1.6s,mb4.7
MJAR **Matsushiro Arr** **45.53 341** P **P** **14 02 08.5 -0.6**
3.8nm,0.9s,mb4.0,baz=161,slow=8.6,SNR=6.3
KSRS **Korea Array** **50.49 332** P **P** **14 02 47.5 +0.5**
1.5nm,0.6s,mb3.8,baz=146,slow=7.1,SNR=6.6
SONM **Songino Array** **68.94 327** P **P** **14 04 54.3 +1.1**
3.7nm,0.6s,mb4.3,baz=141,slow=6.0,SNR=27
MK31 **Makanchi Array** **83.12 319** *e*P **P** **14 06 13.4 +0.1**
MKAR **Makanchi Array** **83.12 319** P **P** **14 06 13.5 +0.2**
4.2nm,0.8s,mb4.2,baz=104,slow=5.8,SNR=27
MKAR **Makanchi Array** **83.12 319** P **P** **14 06 13.5 +0.2**
ZAL **Zalesovo** **83.81 326** P **P** **14 06 15.8 -1.0**
2.1nm,0.4s,mb4.2,baz=276,slow=3.0,SNR=5.3
MAW **Mawson** **85.19 203** P **P** **14 06 23.9 +0.2**
2.2nm,0.6s,mb4.0,baz=86,slow=8.2,SNR=11
INK **Inuvik** **88.93 21** P **P** **14 06 42.5 +0.7**
1.3nm,0.5s,mb4.1,baz=225,slow=5.2,SNR=6.9
INK **Inuvik** **88.93 21** P **P** **14 06 42.5 +0.7**
GERES **GERESS Array B** **126.64 329** PKP PKPdf 14 12 50.8 +1.1
0.6nm,0.5s,baz=119,slow=1.7,SNR=4.2
TORD **Torodi Ar. Bea** **153.18 287** PKPbc PKPbc 14 13 44.6 +0.4
1.0nm,0.6s,baz=61,slow=2.9,SNR=7.9
TORD PKPab PKPab 14 13 56.1 -0.5
0.7nm,0.5s,baz=69,slow=4.0,SNR=5.8

*KRSC **14** 13:57:39.8±0.0, 5557N×164.34E, h40km±40km, ML4.5*
*ISCJB **14** 13:57:40.1±1.1, 5555N±003×164.27E±006, h19km±9km, mb3.7/8, MS3.0/1, Error ellipse: s-maj=5.9km s-min=5.6km az=0.3*
*MOS **14** 13:57:42.8±1.6, 5566N×164.08E, h46km, mb4.4/1, Error ellipse: s-maj=21.3km s-min=11.1km az=57.1*
*NEIC **14** 13:57:43.8±0.5, 5582N×164.04E, Error ellipse: s-maj=25.8km s-min=8.5km az=143.0*
*IDC **14** 13:57:43.9±0.7, 5583N×164.08E, h34km±5km, mb3.6/8, mb1 4.0/9, mb1mx3.7/24, mbtmp3.7/9, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/39, Error ellipse: s-maj=40.2km s-min=13.9km az=145.0*
ISC 14 13:57:41.9±1.4, 5557N±004×16425E±006, h21km±11km, h36km±.6km: pP-P, n51, σ1$14/88, mb3.7/8, MS3.0/1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.03**	**309**	*e*P	**Pn**	**13 57 57.5**	**-3.5**
KBTR				*i* S	**Sb**	**13 58 11.1**	**-2.9**
KBTR	**Krutoberegovo**	**1.03**	**309**	*e*P	**Pn**	**13 57 57.5**	**-3.5**
KBTR				*i* S	**Sb**	**13 58 11.1**	**-2.9**
MKZ	**Mys Kozlova**	**1.77**	**236**	*e*P	**Pn**	**13 58 10.4**	**-0.8**
MKZ				*i* S	**Sn**	**13 58 32.2**	**-0.9**
MKZ	**Mys Kozlova**	**1.77**	**236**	*e*P	**Pn**	**13 58 10.4**	**-0.8**
MKZ				*i* S	**Sn**	**13 58 32.2**	**-0.9**
ZLN	**Zelenaya**	**2.00**	**284**	*e*P	**Pn**	**13 58 14.2**	**-0.1**
ZLN				*i* S	**Sn**	**13 58 39.4**	**+0.8**
ZLN	**Zelenaya**	**2.00**	**284**	*e*P	**Pn**	**13 58 14.2**	**-0.1**
ZLN				*i* S	**Sn**	**13 58 39.4**	**+0.8**
SRKR	**Sorokina**	**2.04**	**303**	*e*P	**Pn**	**13 58 14.1**	**-0.8**
SRKR				*i* S	**Sn**	**13 58 38.8**	**-0.8**
SRKR	**Sorokina**	**2.04**	**303**	*e*P	**Pn**	**13 58 14.1**	**-0.8**
SRKR				*i* S	**Sn**	**13 58 38.8**	**-0.8**
KLY	**Klyuchi**	**2.15**	**292**	*e*P	**Pn**	**13 58 14.7**	**-1.8**
KLY				*i* S	**Sn**	**13 58 40.5**	**-2.0**
KLY	**Klyuchi**	**2.15**	**292**	*e*P	**Pn**	**13 58 14.7**	**-1.8**
KLY				*i* S	**Sn**	**13 58 40.5**	**-2.0**
KRSR	**Krestovskiy**	**2.17**	**289**	*e*P	**Pn**	**13 58 16.1**	**-0.6**
KRSR				*i* S	**Sn**	**13 58 43.1**	**+0.1**
KRSR	**Krestovskiy**	**2.17**	**289**	*e*P	**Pn**	**13 58 16.1**	**-0.6**
KRSR				*i* S	**Sn**	**13 58 43.1**	**+0.1**
KMNR	**Kamenistaya**	**2.28**	**276**	*e*P	**Pn**	**13 58 18.5**	**+0.3**
KMNR				*i* S	**Sn**	**13 58 46.3**	**+0.7**
KMNR	**Kamenistaya**	**2.28**	**276**	*e*P	**Pn**	**13 58 18.5**	**+0.3**
KMNR				*i* S	**Sn**	**13 58 46.3**	**+0.7**
KPT	**Kopyto**	**2.31**	**281**	*e*P	**Pn**	**13 58 18.9**	**+0.3**
KPT				*i* S	**Sn**	**13 58 46.7**	**+0.3**
KPT	**Kopyto**	**2.31**	**281**	*e*P	**Pn**	**13 58 18.9**	**+0.3**
KPT				*i* S	**Sn**	**13 58 46.7**	**+0.3**
TUMR	**Tumrok**	**2.36**	**265**	*e*P	**Pn**	**13 58 20.2**	**+0.9**
TUMR				*i* S	**Sn**	**13 58 49.0**	**+1.5**
TUMR	**Tumrok**	**2.36**	**265**	*e*P	**Pn**	**13 58 20.2**	**+0.9**
TUMR				*i* S	**Sn**	**13 58 49.0**	**+1.5**
KOZR	**Kozyr**	**2.51**	**283**	PN	**Sn**	**13 58 22.4**	**+1.1**
KOZR				S	**Sn**	**13 58 52.3**	**+1.1**
KOZ	**Kozyrevsk**	**2.52**	**283**	*e*P	**Pn**	**13 58 22.4**	**+0.9**
KOZ				*i* S	**Sn**	**13 58 52.3**	**+0.8**
KOZ	**Kozyrevsk**	**2.52**	**283**	*e*P	**Pn**	**13 58 22.4**	**+0.9**
KOZ				*i* S	**Sn**	**13 58 52.3**	**+0.8**
SRDR	**Sredinnyy**	**2.66**	**288**	*e*P	**Pn**	**13 58 23.7**	**+0.3**
SRDR				*i* S	**Sn**	**13 58 55.2**	**+0.3**
SRDR	**Sredinnyy**	**2.66**	**288**	*e*P	**Pn**	**13 58 23.7**	**+0.3**
SRDR				*i* S	**Sn**	**13 58 55.2**	**+0.3**
SPN	**Mys Shipunski**	**3.50**	**227**	*e*P	**Pn**	**13 58 34.1**	**-0.9**
SPN				*i* S	**Sn**	**13 59 13.4**	**-2.4**
SPN	**Mys Shipunski**	**3.50**	**227**	*e*P	**Pn**	**13 58 34.1**	**-0.9**
SPN				*i* S	**Sn**	**13 59 13.4**	**-2.4**
NLC	**Nalytchevo**	**3.74**	**232**	*e*P	**Pn**	**13 58 38.4**	**+0.1**
NLC				*i* S	**Sn**	**13 59 19.8**	**-1.9**
NLC	**Nalytchevo**	**3.74**	**232**	*e*P	**Pn**	**13 58 38.4**	**+0.1**
NLC				*i* S	**Sn**	**13 59 19.8**	**-1.9**
AVH	**Avacha**	**3.96**	**237**	*e*P	**Pn**	**13 58 42.8**	**+1.4**
AVH				*i* S	**Sn**	**13 59 27.7**	**+0.5**
AVH	**Avacha**	**3.96**	**237**	*e*P	**Pn**	**13 58 42.8**	**+1.4**
AVH				*i* S	**Sn**	**13 59 27.7**	**+0.5**
GNL	**Ganaly**	**4.12**	**245**	*e*P	**Pn**	**13 58 45.3**	**+1.8**
GNL				*i* S	**Sn**	**13 59 32.0**	**+1.0**
GNL	**Ganaly**	**4.12**	**245**	*e*P	**Pn**	**13 58 45.3**	**+1.8**
GNL				*i* S	**Sn**	**13 59 32.0**	**+1.0**
PET	**Petropavlovsk**	**4.16**	**234**	*e*PN	**Pn**	**13 58 44.6**	**+0.6**
PET				pmax	pmax		
comp=Z,51nm,0.9s							
PET	**Petropavlovsk**	**4.16**	**234**	*e*Pn	**Pn**	**13 58 45.0**	**+1.1**
PET				*e*Sn	**Sn**	**13 59 30.8**	**-1.1**
PET	**Petropavlovsk**	**4.16**	**234**	*e*P	**Pn**	**13 58 44.7**	**+0.7**
PET				*i* S	**Sn**	**13 59 30.4**	**-1.5**
PET	**Petropavlovsk**	**4.16**	**234**	*e*P	**Pn**	**13 58 44.7**	**+0.7**
PET				*i* S	**Sn**	**13 59 30.4**	**-1.5**
RUS	**Russkaya**	**4.62**	**229**	*e*P	**Pn**	**13 58 50.4**	**0.0**
RUS				*i* S	**Sn**	**13 59 41.8**	**-1.5**
RUS	**Russkaya**	**4.62**	**229**	*e*P	**Pn**	**13 58 50.4**	**0.0**
RUS				*i* S	**Sn**	**13 59 41.8**	**-1.5**
GRL	**Gorelyy**	**4.73**	**233**	*e*P	**Pn**	**13 58 53.4**	**+1.5**
GRL				*i* S	**Sn**	**13 59 44.9**	**-1.2**
GRL	**Gorelyy**	**4.73**	**233**	*e*P	**Pn**	**13 58 53.4**	**+1.5**
GRL				*i* S	**Sn**	**13 59 44.9**	**-1.2**
ASAJ	**Asahikawa**	**17.98**	**239**	P	**Pn**	**14 01 52.5**	**+2.1**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**25.99**	**234**	P	**P**	**14 03 14.0**	**+0.9**
comp=Z,2.5nm,0.8s,mb3.8,baz=30,slow=8.3,SNR=4.6							
KSRS	**Korea Array**	**30.40**	**249**	LR	LR	14 15 34.6	
comp=Z,35nm,19.2s,MS3.0,baz=174,slow=35							
INK	**Inuvik**	**30.41**	**41**	P	**P**	**14 03 51.4**	**-1.1**
comp=Z,0.7nm,0.6s,mb3.6,baz=284,slow=4.2,SNR=5.3							
SONM	**Songino Array**	**35.73**	**282**	P	**P**	**14 04 37.7**	**-1.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=57,slow=7.9,SNR=8.0							
YKA	**Yellowknife Ar**	**39.69**	**46**	P	**P**	**14 05 11.1**	**-1.2**
comp=Z,0.9nm,0.4s,mb3.8,baz=298,slow=8.0,SNR=5.0							
YKA	**Yellowknife Ar**	**39.69**	**46**	P	**P**	**14 05 11.1**	**-1.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**54.23**	**65**	P	**P**	**14 07 05.8**	**-0.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=316,slow=4.1,SNR=6.1							
PDAR				pP	pP	14 07 16.2	+3.6
comp=Z,1.3nm,0.8s,baz=330,slow=4.0,SNR=6.7							
TXAR	**Lajitas Array**	**67.47**	**71**	P	**P**	**14 08 36.7**	**+0.7**
comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=4.8,SNR=9.2							
TXAR				pP	pP	14 08 46.8	+3.8
comp=Z,1.8nm,0.8s,baz=298,slow=4.3,SNR=11							
WRA	**Warramunga Arr**	**79.39**	**209**	P	**P**	**14 09 47.1**	**+0.9**
comp=Z,0.4nm,0.7s,mb3.4,baz=23,slow=6.1,SNR=3.8							
WRA				pP	pP	14 09 58.2	+4.9
comp=Z,0.9nm,0.8s,baz=22,slow=5.9,SNR=5.9							
ASAR	**Alice Springs**	**83.06**	**208**	P	**P**	**14 10 06.5**	**+0.8**
comp=Z,0.5nm,1.0s,mb3.5,baz=18,slow=4.2,SNR=4.5							
ASAR				pP	pP	14 10 17.1	+4.4
comp=Z,0.8nm,0.8s,baz=13,slow=4.8,SNR=6.1							

*NEIC **14** 14:18:59.6, 32.17S×71.82W, h40km, MD4.0(GUC), After GUC.*
GUC 14 14:18:59.6±0.7, 3217S×7182W, h40km±2km, MD4.0, ML3.3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.39**	**43**	*i*/*i*P	**Pn**	**14 19 08.7**	**-0.2**
CHNG				*i* S	Sn	14 19 15.5	+0.1
PTCH	**Petorca**	**0.76**	**97**	*e*P	**Pn**	**14 19 14.2**	**+0.4**
PTCH				*i* S	Sn	14 19 25.3	+1.3
PTCH				AML	AML	14 19 27.2	
comp=E,3μm,0.3s							
PTCH	**Petorca**	**0.76**	**97**	*e*P	**Pn**	**14 19 14.2**	**+0.4**
PTCH				*i* S	Sn	14 19 25.3	+1.3
JACH	**Jahuel**	**1.15**	**117**	*e*P	**Pn**	**14 19 20.3**	**+1.1**
CMCH	**Combarbala**	**1.21**	**35**	⇑*i*P	**Pn**	**14 19 21.3**	**+1.3**
CMCH				*i* S	Sn	14 19 37.6	+2.4
CMCH				AML	AML	14 19 44.9	
comp=E,3μm,0.6s							
CMCH	**Combarbala**	**1.21**	**35**	⇑*i*P	**Pn**	**14 19 21.3**	**+1.3**
CMCH				*i* S	Sn	14 19 37.6	+2.4
PEL	**Peldehue**	**1.36**	**136**	*e*P	**Pn**	**14 19 23.2**	**+1.1**
PEL				*i* S	Sn	14 19 41.1	+2.2
PEL				AML	AML	14 19 45.1	
comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.36**	**136**	*e*P	**Pn**	**14 19 23.2**	**+1.1**
PEL				*i* S	Sn	14 19 41.1	+2.2
RCDM	**Rinconada Maip**	**1.57**	**147**	*e*P	**Pn**	**14 19 26.0**	**+1.1**
RCDM				*i* S	Sn	14 19 46.4	+2.4
RCDM				AML	AML	14 19 48.5	
comp=N,353nm,0.1s							
RCDM	**Rinconada Maip**	**1.57**	**147**	*e*P	**Pn**	**14 19 26.0**	**+1.1**
RCDM				*i* S	Sn	14 19 46.4	+2.4
CLCH	**Cerro Calan**	**1.63**	**139**	*e*P	**Pn**	**14 19 27.0**	**+1.2**
CLCH				*i* S	Sn	14 19 48.3	+2.7
CLCH				AML	AML	14 19 53.0	
comp=E,401nm,0.4s							
TACH	**Talagante**	**1.65**	**154**	*e*P	**Pn**	**14 19 27.5**	**+1.4**
FCH	**Farellones**	**1.73**	**132**	*e*P	**Pn**	**14 19 28.9**	**+1.8**
FCH				*i* S	Sn	14 19 51.2	+3.3
FCH				AML	AML	14 19 54.6	
comp=E,418nm,0.2s							
PCH	**Pirque**	**1.81**	**143**	*e*P	**Pn**	**14 19 29.5**	**+1.1**
PCH				*i* S	Sn	14 19 52.5	+2.4
CHCH	**Chadas Angostu**	**2.01**	**151**	*e*P	**Pn**	**14 19 32.6**	**+1.6**
LMEL	**Las Melosas**	**2.15**	**141**	*e*P	**Pn**	**14 19 34.1**	**+1.2**
LMEL				*i* S	Sn	14 20 01.7	+3.3
LMEL				AML	AML	14 20 11.7	
comp=N,279nm,0.2s							
LMEL	**Las Melosas**	**2.15**	**141**	*e*P	**Pn**	**14 19 34.1**	**+1.2**
LMEL				S	Sn	14 20 01.7	+3.3
TLL	**Tololo Astrono**	**2.18**	**24**	*e*P	**Pn**	**14 19 35.2**	**+1.9**
TLL				*i* S	Sn	14 20 01.8	+2.8
TLL				AML	AML	14 20 15.6	
comp=E,238nm,0.3s							
TLL	**Tololo Astrono**	**2.18**	**24**	*e*P	**Pn**	**14 19 35.2**	**+1.9**
TLL				*i* S	Sn	14 20 01.8	+2.8
CICH	**Cipreses**	**2.44**	**152**	⇑*i*P	**Pn**	**14 19 38.2**	**+1.2**
SFDO	**San Fernando**	**2.53**	**165**	*e*P	**Pn**	**14 19 39.6**	**+1.4**
ZON	**Zonda**	**2.74**	**78**	*e*P	**Pn**	**14 19 46.9**	**+5.9**

*ISCJB **14** 14:20:59.0±0.1, 641S±002×12800E±003, h334km, mb5.7/133, Error ellipse: s-maj=3.6km s-min=2.1km az=133.5*
*MOS **14** 14:20:59.0±1.0, 636S×12801E, h328km, mb5.7/51, MS5.2/13, Error ellipse: s-maj=9.4km s-min=5.1km az=111.7*
*BJI **14** 14:21:00.2, 632S×12820E, h351km, mB5.5, mb5.7*
*NEIC **14** 14:21:01.3±0.1, 639S×12800E, h345km, mb5.7/64, ME5.7, MW6.1, Error ellipse: s-maj=5.1km s-min=3.0km az=63.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{18}Nm; M_{rr}0.41; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$0.24; $M_{r\theta}$-1.41; $M_{\theta\phi}$1.15; $M_{\phi r}$0.15; Best double couple: $M_0$1.90000×10^{18} NP1: ϕ_s269.00000°, δ82.00000°, λ53.00000°. NP2: ϕ_s169.00000°, δ38.00000°, λ167.00000°. Principal axes: T 1.6500, Plg41.0000°, Azm145.0000°; N 0.4500, Plg37.0000°, Azm275.0000°; P -2.0900, Plg28.0000°, Azm28.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s141.00000°, δ21.00000°, λ134.00000°. NP2: ϕ_s275.00000°, δ75.00000°, λ75.00000°. Principal axes: T Plg57.0000°, Azm165.0000°; N Plg0.0000°, Azm0.0000°; P Plg28.0000°, Azm17.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Dili, East Timor.
*IDC **14** 14:21:01.6±0.6, 641S×12798E, h349km±4km, mb5.3/18, mb1 5.4/21, mb1mx5.4/21, mbtmp5.4/21 Error ellipse: s-maj=8.3km s-min=5.4km az=57.0*
*BGS **14** 14:21:02.3, 642S×12798E, h352km, mb5.7(NEIC)*
*GCMT **14** 14:21:02.1±0.1, 634S×12799E, h353km, MW6.1/104, Moment Tensor Solution. s104, c241; s92, c135; Duration: 2^{2}7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.76±.01; $M_{\theta\theta}$-0.71±.01; $M_{\phi\phi}$-0.05±.02; $M_{r\theta}$-1.35±.01; $M_{\theta\phi}$0.80±.01; $M_{\phi r}$0.27±.01; Best double couple: $M_0$1.73400×10^{18} NP1:ϕ_s154.00000°, δ25.00000°, λ139.00000°. NP2:ϕ_s282.00000°, δ74.00000°, λ71.00000°. Principal axes: T 1.5840, Plg57.0000°, Azm167.0000°; N 0.3000, Plg19.0000°, Azm288.0000°; P -1.8840, Plg27.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
ISC 14 14:21:00.7±0.1, 642S±002×12803E±003, h336km, h336km±2.6km: pP-P, n687, σ1$10/461, mb5.7/132, 54C-52D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.72**	**3**	P	**Pn**	**14 21 58.4**	**+1.9**
19μm,0.6s							
SWI	**Sorong**	**6.39**	**30**	P	**Pn**	**14 22 35.0**	**-0.6**
3μm,0.6s							
KAKA	**Kakadu**	**7.62**	**146**	⇓*i*P	**Pn**	**14 22 51.0**	**+1.0**
911nm,0.2s							
WSI	**Waingapu**	**8.31**	**247**	P	**Pn**	**14 22 55.8**	**-2.5**
13μm,0.8s							
KAPI	**Kappang**	**8.36**	**279**	Pn	**Pn**	**14 23 00.6**	**+1.7**
7μm,1.0s							
BAKI	**Biak**	**9.59**	**58**	P	**Pn**	**14 23 14.5**	**+0.9**
20μm,1.4s							
FITZ	**Fitzroy Crossi**	**11.84**	**191**	⇓*i*P	**Pn**	**14 23 40.4**	**-0.3**
1μm,0.4s							
FITZ				*e*S	**S**	**14 25 48.9**	**-3.6**
FITZ	**Fitzroy Crossi**	**11.84**	**191**	P	**Pn**	**14 23 40.7**	**0.0**
232nm,0.3s,baz=26,slow=11,SNR=3861							
FITZ				S	**S**	**14 25 47.6**	**-4.9**
38nm,0.3s,baz=283,slow=19,SNR=5.1							
MMPI	**Merauke**	**12.42**	**100**	P	**Pn**	**14 23 49.0**	**+1.5**
16μm,0.6s							
DNP	**Denpasar**	**12.91**	**259**	P	**Pn**	**14 23 51.5**	**-1.8**
2μm,0.7s							
JAY	**Jayapura**	**13.21**	**73**	P	**Pn**	**14 23 57.5**	**+0.5**
1μm,1.4s							
MATI	**Mati**	**13.39**	**352**	*e*P	**Pn**	**14 23 59.8**	**+0.7**
NBBI	**Negara**	**13.44**	**261**	P	**Pn**	**14 24 00.7**	**+1.0**
2μm,0.9s							
DAV	**Davao City (W)**	**13.62**	**350**	*e*P	**Pn**	**14 24 00.0**	**-1.8**
DAV	**Davao City (W)**	**13.62**	**350**	*e*P	**Pn**	**14 24 02.1**	**+0.3**
4μm,0.9s							
KCP	**Kidapawan**	**13.66**	**348**	⇓*e*P	**Pn**	**14 24 02.4**	**+0.1**
KMMI	**Kalianget**	**13.98**	**267**	P	**Pn**	**14 24 07.3**	**+1.3**
4μm,1.3s							
CTBH	**Cotabato--PC H**	**14.06**	**344**	*e*P	**P**	**14 24 06.1**	**+0.4**
CTBH				*e*S		14 24 16.3	
BUKP	**Musuan**	**14.51**	**348**	*e*P	**P**	**14 24 11.3**	**+0.8**
TSM	**Tawau**	**14.70**	**316**	P	**P**	**14 24 14.5**	**+1.9**
WRAB	**Tennant Creek**	**14.77**	**156**	P	**P**	**14 24 14.1**	**+0.7**
19μm,0.4s							
WRAB	**Tennant Creek**	**14.77**	**156**	*e*P	**P**	**14 24 14.0**	**+0.6**
WRAB				*e*S	**S**	**14 26 49.1**	**-4.1**
WRAB				pmax	pmax		
comp=Z,1.0nm,0.6s							
WRAB	**Tennant Creek**	**14.77**	**156**	*e*P	**P**	**14 24 14.0**	**+0.6**
comp=Z,1.0nm,0.6s							
WRAB				*e*S	**S**	**14 26 49.1**	**-4.1**
WRA	**Warramunga Arr**	**14.77**	**156**	P	**P**	**14 24 13.7**	**+0.3**
comp=Z,814nm,0.3s,baz=334,slow=12							
WRA				S	**S**	**14 26 50.7**	**-2.6**
comp=Z,175nm,0.3s,baz=342,slow=20,SNR=22							
WRA				P3KPbc		14 59 20.3	
comp=Z,0.1nm,0.3s,baz=159,slow=3.1,SNR=5.7							
WRA	**Warramunga Arr**	**14.77**	**156**	P	**P**	**14 24 13.7**	**+0.3**
WRA				S	**S**	**14 26 50.7**	**-2.6**
WB2	**Warramunga Arr**	**14.78**	**156**	⇑*i*P	**P**	**14 24 13.7**	**+0.2**
WB2				*e*S	**S**	**14 26 44.8**	**-8.6**
WB2				*e*SCS	ScS	14 35 35.3	-4.9
CGP	**Cagayan de Oro**	**15.14**	**347**	⇓*i*P	**P**	**14 24 15.6**	**-1.9**
KRKI	**Karangkates**	**15.55**	**263**	P	**P**	**14 24 22.9**	**+1.0**
comp=Z,3μm,0.7s							
DCPH	**Dipolog City**	**15.62**	**343**	⇓*e*P	**P**	**14 24 27.1**	**+4.4**
SCPH	**Surigao**	**16.29**	**351**	*e*P	**P**	**14 24 31.5**	**+1.5**
SCPH				*e*S		14 24 36.1	
SNPH	**Sibulan**	**16.37**	**343**	*e*P	**P**	**14 24 33.0**	**+2.2**
TBP	**Tagbilaran**	**16.53**	**345**	*e*P	**P**	**14 24 34.0**	**+1.4**
MBWA	**Marble Bar**	**16.71**	**208**	*e*P	**P**	**14 24 34.4**	**-0.1**
comp=Z,465nm,0.6s							
MBWA				*e*S	**S**	**14 27 27.1**	**-4.7**
MSLP	**Maasin**	**16.74**	**349**	*e*P	**P**	**14 24 35.9**	**+1.1**
KKM	**Kota Kinabalu**	**17.10**	**316**	P	**P**	**14 24 40.3**	**+1.6**
KKM	**Kota Kinabalu**	**17.10**	**316**	*e*P	**P**	**14 24 39.8**	**+1.1**
LLP	**Lapu-Lapu**	**17.11**	**346**	⇓*e*P	**P**	**14 24 39.2**	**+0.4**
comp=Z,663μm,1.0s							
LLP				*e*S	S	14 27 15.8	-24
OCLP	**Ormoc**	**17.69**	**349**	*e*P	**P**	**14 24 45.5**	**+0.6**
PLP	**Palo**	**17.73**	**350**	*e*P	**P**	**14 24 46.0**	**+0.6**
GUIM	**Jordan**	**17.78**	**342**	*e*P	**P**	**14 24 45.1**	**-0.8**
AS31	**Alice Springs**	**18.05**	**162**	*e*P	**P**	**14 24 49.4**	**+0.5**
AS31				*e*S	**S**	**14 27 55.3**	**-2.8**
ASPA	**Alice Springs**	**18.05**	**162**	*e*P	**P**	**14 24 49.4**	**+0.5**
ASPA				*e*S	**S**	**14 27 55.5**	**-2.8**
ASAR	**Alice Springs**	**18.05**	**162**	P	**P**	**14 24 49.3**	**+0.4**
comp=Z,723nm,0.3s,baz=344,slow=13							
ASAR				S	**S**	**14 27 55.9**	**-2.2**
comp=Z,89nm,0.3s,baz=339,slow=18,SNR=46							
ASAR				ScP	ScP	14 32 06.3	-2.4
comp=Z,8.9nm,0.3s,baz=346,slow=2.0,SNR=4.7							
ASAR				P3KPbc		14 59 08.8	
comp=Z,0.1nm,0.3s,baz=156,slow=4.4,SNR=6.0							
ASAR	**Alice Springs**	**18.05**	**162**	P	**P**	**14 24 49.3**	**+0.4**
ASAR				S	**S**	**14 27 55.9**	**-2.2**
ASAR	**Alice Springs**	**18.05**	**162**	P	**P**	**14 24 49.3**	**+0.4**
ASAR				S	**S**	**14 27 55.9**	**-2.2**
ASAR				ScP	ScP	14 32 06.3	-2.4
BESP	**Borongan**	**18.09**	**352**	*e*P	**P**	**14 24 50.9**	**+1.7**
BJI	**Banjamegara**	**18.21**	**266**	P	**P**	**14 24 49.9**	**-0.7**
comp=Z,905nm,1.5s							
BATP	**Bataraza**	**18.23**	**326**	*e*P	**P**	**14 24 50.9**	**+0.1**
CUYO	**Cuyo Island**	**18.52**	**338**	*e*P	**P**	**14 24 54.5**	**+0.6**
PPR	**Puerto Princes**	**18.57**	**330**	*e*P	**P**	**14 24 55.6**	**+1.3**
RCP	**Roxas**	**18.62**	**344**	⇓*i*P	**P**	**14 24 55.0**	**+0.1**
KALP	**Kalibo**	**18.85**	**342**	*e*P	**P**	**14 25 02.3**	**+4.9**
CNP	**Catarman**	**19.10**	**350**	*e*P	**P**	**14 24 59.6**	**-0.4**
MMPH	**Masbate**	**

SGCP **Mt. Cagua** 25.20 347 *e*P **P** **14 25 55.9 -0.9**
GUMO Guam 25.97 40 P **P** **14 26 03.3 -0.4**
comp=Z,433nm,0.6s,mb5.9,baz=211,slow=2.0,SNR=19
GUMO ScP ScP 14 32 26.9 -2.1
comp=Z,96nm,0.8s,baz=211,slow=20,SNR=4.0
GUMO Guam 25.97 40 P **P** **14 26 03.5 -0.1**
GUMO pmax pmax
comp=Z,840nm,1.0s,mb5.9
GUMO Guam 25.97 40 *e*P **P** **14 26 03.2 -0.4**
comp=Z,913nm,1.0s,mb6.0
KGM Kluang 26.05 288 P **P** **14 26 06.1 +1.8**
KLBR Kellerberrin 26.82 200⇑ *i*P **P** **14 26 10.8 -0.4**
comp=Z,509nm,0.4s,mb6.1
KLBR *e*pP 14 27 06.9
KLBR *e*S **S** **14 30 18.5 -3.7**
MUN Mundaring 27.72 202⇑ *i*P **P** **14 26 18.8 -0.3**
MUN *e*pP 14 27 19.8
MUN *e*S **S** **14 30 32.8 -3.5**
NWAO Narrogin (SRO) 28.22 199 P **P** **14 26 23.4 -0.2**
comp=Z,272nm,0.4s,mb5.9,baz=34,slow=8.0,SNR=439
NWAO pP 14 27 26.8
comp=Z,768nm,1.0s,baz=26,slow=11,SNR=8.7
NWAO S **S** **14 30 41.5 -2.7**
comp=Z,138nm,0.9s,baz=302,slow=21,SNR=5.8
NWAO Narrogin (SRO) 28.22 199 *e*P **P** **14 26 23.3 -0.2**
NWAO pmax pmax
comp=Z,292nm,0.6s
NWAO Narrogin (SRO) 28.22 199 *e*P **P** **14 26 23.3 -0.3**
comp=Z,292nm,0.6s,mb5.7
STKA Stephens Creek 28.32 155⇑ *i*P **P** **14 26 24.6 +0.2**
comp=Z,540nm,0.4s,mb6.1
STKA Stephens Creek 28.32 155 P **P** **14 26 24.8 +0.3**
comp=Z,587nm,0.4s,mb6.1,baz=334,slow=9.2
STKA pP 14 27 28.6
comp=Z,145nm,0.5s,baz=321,slow=8.0,SNR=2.6
IPM Ipoh 29.05 291 P **P** **14 26 33.0 +2.1**
KULM Kulim 29.70 292 *e*P **P** **14 26 36.6 +0.1**
KULM *e*ScP ScP 14 32 38.9 -1.7
PSI Prapat 30.47 287 P **P** **14 26 42.8 -0.5**
comp=Z,106nm,0.7s,mb5.2,baz=120,slow=3.9,SNR=71
PSI pP pP 14 27 47.4 +0.7
comp=Z,26nm,0.9s,baz=98,slow=13,SNR=0.7
PSI S **S** **14 31 15.4 -3.8**
comp=Z,8.0nm,0.8s,baz=292,slow=19,SNR=2.6
PSI ScP ScP 14 32 40.5 -2.6
comp=Z,77nm,1.1s,baz=104,slow=1.5,SNR=7.7
PSI Prapat 30.47 287 P **P** **14 26 42.8 -0.5**
PSI *PP pP 14 27 47.4 +0.7
PSI S **S** **14 31 15.4 -3.8**
SNG Songkhla 30.50 296 P **P** **14 26 45.0 +1.4**
comp=Z,212nm,1.0s,mb5.3
QIZ Qiongzhong 31.00 325⇓ P **P** **14 26 47.6 -0.3**
QIZ PP PP 14 28 05.0 -1.0
QIZ XP sP 14 28 34.4 +4.0
QIZ S **S** **14 31 23.3 -4.0**
QIZ XS sS 14 33 23.0 -0.3
QIZ SS SS 14 33 42.8 -14
QIZ AMB AMB
comp=Z,96nm,0.8s,mb5.1
QIZ AMB AMB
comp=Z,1μm,7.4s
QIZ Qiongzhong 31.00 325 *e*P **P** **14 26 47.8 -0.1**
comp=Z,81nm,0.8s,mb5.0
NACB Ninganchiao 31.05 349 *e*P **P** **14 26 45.4 -3.0**
comp=Z,218nm,0.9s,mb5.4
YHNB Yeheng 31.57 348 *e*P **P** **14 26 51.1 -1.8**
comp=Z,251nm,0.8s,mb5.5
HKC Hong Kong 31.61 335 *e*P **P** **14 26 52.0 -1.2**
HKC Hong Kong 31.61 335⇓ *i*P **P** **14 26 54.0 +0.8**
HKC *i* S **S** **14 31 34.0 -2.8**
HNR Honiara 31.75 98 P **P** **14 26 54.8 +0.4**
comp=Z,273nm,0.8s,mb5.5,baz=257,slow=2.3,SNR=21
HNR PP PP 14 28 13.7 -0.5
comp=Z,110nm,0.8s,baz=14,slow=2.2,SNR=3.6
HNR S **S** **14 31 37.3 -1.6**
comp=Z,418nm,1.2s,baz=73,slow=19,SNR=4.9
HNR ScP ScP 14 32 47.8 +0.5
comp=Z,78nm,0.6s,baz=26,slow=0.3,SNR=3.7
HNR Honiara 31.75 98 *e*P **P** **14 26 54.2 -0.2**
HNR pmax pmax
comp=Z,282nm,0.9s,mb5.5
HNR Honiara 31.75 98 *e*P **P** **14 26 54.2 -0.1**
comp=Z,282nm,0.9s,mb5.5
TATO Taipei 31.85 349 *e*P **P** **14 26 53.0 -2.3**
comp=Z,248nm,1.0s,mb5.4
QZH Quanzhou 32.50 344⇓ *i*P **P** **14 27 00.0 -0.9**
QZH AP pP 14 28 08.3 +3.5
QZH PP PP 14 28 25.4 +2.8
QZH S **S** **14 31 46.0 -4.5**
QZH SS SS 14 34 20.0 -7.3
QZH AMB AMB
comp=Z,820nm,0.8s,mb6.0
QZH AMB AMB
comp=Z,3μm,2.9s,mb6.0
QZH LR LR
comp=N,2μm,6.3s
QZH LR LR
comp=E,6μm,14.3s
QZH LR LR
comp=Z,6μm,23.7s
GZH Guangzhou 32.65 334 P **P** **14 27 02.3 +0.1**
GZH S **S** **14 31 54.0 +1.1**
GZH AMB AMB
comp=Z,321nm,1.0s,mb5.5
GZH LR LR
comp=N,3μm,19.9s
GZH LR LR
comp=E,2μm,14.6s
GZH LR LR
comp=Z,6μm,20.5s
KKTK Khon Kaen 33.67 312 P **P** **14 27 11.4 +0.5**
comp=Z,741nm,0.6s,mb6.1
NNT Nongplab 33.88 304 P **P** **14 27 13.5 +0.8**
RIV Riverview 34.68 145 *e*P **P** **14 27 21.8 +2.2**
CNB Canberra Magne 34.82 149⇑ *i*P **P** **14 27 21.9 +1.2**
comp=Z,963nm,1.3s,mb5.9
TOO Toolangi 34.84 155⇑ *i*P **P** **14 27 22.5 +1.6**
comp=Z,663nm,1.3s,mb5.7
TOO *e*PP PP 14 28 46.6 -1.7
TOO *e*SCP ScP 14 32 56.3 -1.9
TOO Toolangi 34.84 155⇑ *i*P **P** **14 27 22.5 +1.6**
TOO *e* 14 28 46.6
TOO pmax pmax
comp=Z,663nm,1.3s,mb5.7
NST Nakhon Sawan 35.29 309 P **P** **14 27 25.0 +0.3**
NANT Nan 36.80 313⇓ P **P** **14 27 36.0 -1.4**
comp=Z,2μm,1.0s,mb6.2
BDT Bhumibol Dam 37.09 310⇑ P **P** **14 27 40.8 +1.0**
comp=Z,31nm,0.9s,mb4.5
SSE Sheshan 37.87 350⇓ P **P** **14 27 46.3 0.0**
SSE AP pP 14 28 49.3 -2.5
SSE PCP PcP 14 29 58.3 +3.7
SSE S **S** **14 33 09.3 -2.8**
SSE SS SS 14 36 07.5 -7.2
SSE AMB AMB
comp=Z,392nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,2μm,6.3s
SSE LR LR
comp=N,506nm,23.5s
SSE LR LR
comp=E,2μm,23.5s
SSE LR LR
comp=Z,2μm,23.5s
SSE Sheshan 37.87 350⇓ P **P** **14 27 46.2 -0.1**
comp=Z,392nm,0.9s,mb5.6
SSE pP pP 14 28 49.3 -2.5
SSE sP sP 14 29 25.7 -4.6
SSE PcP PcP 14 29 58.3 +3.7
SSE S **S** **14 33 09.2 -2.9**
SSE sS sS 14 35 01.5 -9.0
SSE SS SS 14 36 07.5 -7.2
SSE ScS ScS 14 37 21.8 +2.1
SSE LR LR
comp=Z,2μm,23.5s
CHG Chiang Mai 38.09 312⇓ P **P** **14 27 48.7 +0.6**
comp=Z,94nm,0.9s,mb5.0
CHTO Chiang Mai 38.09 312 *e*P **P** **14 27 48.6 +0.5**
CHTO *e* 14 33 09.7
CHTO pmax pmax
comp=Z,76nm,0.8s,mb5.0
CHTO Chiang Mai 38.09 312 *e*P **P** **14 27 48.5 +0.4**
comp=Z,76nm,0.8s,mb5.0
CHTO *e*ScP ScP 14 33 09.7 -0.6
GYA Guiyang 38.70 329⇓ *i*P **P** **14 27 53.8 +0.7**
GYA AP pP 14 29 03.3 +4.4
GYA PP PP 14 29 33.8 +3.7
GYA XP sP 14 29 42.5 +5.1
GYA PCP PcP 14 29 59.3 +2.1
GYA SCP ScP 14 33 11.6 -1.1
GYA S **S** **14 33 21.3 -3.1**
GYA XS sS 14 35 29.8 +6.6
GYA SCS ScS 14 37 23.3 -1.2
GYA AMB AMB
comp=Z,250nm,0.9s,mb5.4
GYA AMB AMB
comp=Z,940nm,7.8s
GYA LR LR
comp=N,2μm,15.9s
GYA LR LR
comp=E,3μm,15.3s
GYA LR LR
comp=Z,2μm,16.2s
WHN Wuhan 39.02 341⇓ P **P** **14 27 56.6 +0.8**
WHN AP pP 14 29 05.0 +3.3
WHN PP PP 14 29 34.0 +0.5
WHN SCP ScP 14 33 12.8 -1.1
WHN S **S** **14 33 28.0 -1.2**
WHN AMB AMB
comp=Z,2μm,1.1s,mb6.2
WHN AMB AMB
comp=Z,3μm,7.5s
WHN LR LR
comp=Z,4μm,14.6s
NJ2 Nanjing 39.24 348 *e*P **P** **14 27 58.1 +0.5**
NJ2 AP pP 14 29 02.3 -1.3
NJ2 PP PP 14 29 39.9 +4.0
NJ2 S **S** **14 33 31.0 -1.5**
NJ2 AMB AMB
comp=Z,2μm,0.8s,mb6.3
NJ2 AMB AMB
comp=Z,4μm,7.4s
NJ2 LR LR
comp=N,4μm,18.2s
NJ2 LR LR
comp=E,3μm,16.8s
NJ2 LR LR
comp=Z,4μm,17.9s
KMI Kunming 39.86 323⇓ P **P** **14 28 04.3 +1.7**
KMI AP pP 14 29 10.0 +1.2
KMI XP sP 14 29 46.6 -0.5
KMI SCP ScP 14 33 16.8 -0.4
KMI S **S** **14 33 41.3 -0.3**
KMI SS SS 14 36 50.4 -3.2
KMI AMB AMB
comp=Z,253nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,1μm,7.1s
KMI LR LR
comp=N,3μm,14.6s
KMI LR LR
comp=E,3μm,16.2s
KMI LR LR
comp=Z,3μm,21.9s
KMI Kunming 39.86 323⇓ P **P** **14 28 04.3 +1.7**
KMI *PP pP 14 29 10.0 +1.2
KMI *SP sP 14 29 46.6 -0.5
KMI S **S** **14 33 41.2 -0.4**
KMI *SS sS 14 35 39.0 -1.9
KMI SS SS 14 36 50.4 -3.2
KMI pmax pmax
comp=Z,253nm,1.1s,mb5.4
KMI MLR MLR
comp=Z,3μm,21.9s
KMI Kunming 39.86 323⇓ P **P** **14 28 04.3 +1.7**
comp=Z,253nm,1.1s,mb5.4
KMI pP pP 14 29 10.0 +1.2
KMI sP sP 14 29 46.6 -0.5
KMI ScP ScP 14 33 16.7 -0.5
KMI S **S** **14 33 41.2 -0.4**
KMI PcS PcS 14 33 57.1 +5.4
KMI sS sS 14 35 39.0 -1.9
KMI SS SS 14 36 50.4 -3.2
KMI LR LR
comp=Z,3μm,21.9s
TAU Tasmania Unive 40.14 158 P **P** **14 28 05.0 +0.1**
comp=Z,2μm,1.2s,mb6.1,SNR=28
TAU Tasmania Unive 40.14 158 P **P** **14 28 06.1 +1.2**
TAU pmax pmax
comp=Z,550nm,1.2s,mb5.7
TAU Tasmania Unive 40.14 158 *e*P **P** **14 28 05.8 +0.9**
comp=Z,551nm,1.3s,mb5.6
DZM Mont Dzumac 40.20 117 *e*P **P** **14 28 06.2 +0.8**
DZM Mont Dzumac 40.20 117 P **P** **14 28 06.1 +0.7**
comp=Z,40nm,0.5s,mb4.9,baz=270,slow=5.9,SNR=92
DZM ScP ScP 14 33 18.9 +0.4
comp=Z,12nm,1.0s,baz=86,slow=1.7,SNR=5.5
DZM S **S** **14 33 46.6 0.0**
comp=Z,8.7nm,0.9s,baz=81,slow=22,SNR=6.3
TIA Tai'an 43.62 347⇓ P **P** **14 28 31.8 -1.1**
TIA S **S** **14 34 31.5 -5.0**
TIA SS SS 14 37 54.0 -7.6
TIA AMB AMB
comp=Z,261nm,0.9s,mb5.4
TIA LR LR
comp=N,581nm,11.0s
TIA LR LR
comp=E,982nm,11.0s
KSRS Korea Array 43.64 360 P **P** **14 28 33.5 +0.5**
comp=E,273nm,0.8s,mb5.4,baz=177,slow=11,SNR=282
KSRS PcP PcP 14 30 14.8 +1.2
comp=E,20nm,0.7s,baz=189,slow=3.2,SNR=5.4
KSRS ScP ScP 14 33 31.1 -1.2
comp=E,19nm,0.9s,baz=174,slow=3.8,SNR=8.7
INCN Inchon 43.69 358 *e*P **P** **14 28 33.8 +0.3**
comp=E,311nm,0.9s,mb5.4
MJAR Matsushiro Arr 43.79 12 P **P** **14 28 32.7 -1.5**
comp=E,340nm,0.9s,mb5.5,baz=188,slow=8.7,SNR=184
MJAR ScP ScP 14 33 30.9 -2.1
comp=E,67nm,1.1s,baz=196,slow=4.9,SNR=20
MAJO Matsushiro 43.79 12 P **P** **14 28 32.9 -1.3**
MAJO pmax pmax
comp=Z,410nm,0.9s,mb5.6
MAJO Matsushiro 43.79 12 *e*P **P** **14 28 32.8 -1.3**
comp=Z,418nm,0.8s,mb5.6
MAJO *e*ScP ScP 14 33 29.4 -3.5
MAT Matsushiro 43.79 12 P **P** **14 28 32.8 -1.4**
MAT S **S** **14 34 33.0 -5.8**
CD2 Chengdu 43.79 329⇑ *i*P **P** **14 28 33.6 -0.6**
CD2 PP PP 14 30 21.0 -3.0
CD2 S **S** **14 34 36.9 -1.9**
CD2 SS SS 14 37 51.9 -12
CD2 AMB AMB
comp=Z,50nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,1μm,6.9s
CD2 LR LR
comp=E,5μm,14.4s
CD2 LR LR
comp=Z,6μm,22.2s
XAN Xi'an 44.12 337 P **P** **14 28 35.9 -0.9**
XAN S **S** **14 34 34.1 -9.5**
XAN AMB AMB
comp=Z,560nm,1.0s,mb5.7
XAN AMB AMB
comp=Z,1μm,12.0s
XAN LR LR
comp=N,678nm,22.9s
XAN LR LR
comp=E,1μm,20.5s
XAN LR LR
comp=Z,2μm,19.2s
XAN Xi'an 44.12 337 P **P** **14 28 35.9 -0.8**
XAN ScP ScP 14 33 33.0 -1.3
XAN S **S** **14 34 37.8 -5.8**
XAN ScS ScS 14 37 55.0 -2.7
IMP Imphal 45.43 314 *e*P **P** **14 28 46.0 -1.0**
IMP *e*S **S** **14 35 00.0 -2.3**
DL2 Dalian 45.48 353 *i* P **P** **14 28 47.5 +0.1**
DL2 AP pP 14 29 55.5 0.0
DL2 XP sP 14 30 35.3 +2.0
DL2 SCP ScP 14 33 37.5 -2.4
DL2 S **S** **14 35 00.1 -3.0**
DL2 SCS ScS 14 38 04.5 -2.0
DL2 AMB AMB
comp=Z,230nm,0.9s,mb5.3
AGT Agartala 46.85 311 *i* P **P** **14 29 00.0 +2.0**
AGT *i* x x
SHL Shillong 47.38 314 *e*P **P** **14 29 00.5 -1.6**
SHL *i* P 14 29 02.5
SHL AMb AMB 14 29 02.8
comp=Z,1μm,0.5s,mb6.3
SHL *ex* x 14 35 25.0
BJT Baijiatuau 47.48 348 *e*P **P** **14 29 02.6 -0.2**
BJT pmax pmax
comp=Z,681nm,1.0s
BJT Baijiatuau 47.48 348 *e*P **P** **14 29 02.6 -0.2**
comp=Z,681nm,1.0s,mb5.8
BJT *e*ScP ScP 14 33 47.2 -1.1
BJI Beijing 47.50 348 P **P** **14 29 02.6 -0.4**
BJI PCP PcP 14 30 28.1 +1.0
BJI SCS ScS 14 38 19.3 -0.5
BJI AMB AMB
comp=Z,689nm,0.9s,mb5.9
BJI AMB AMB
comp=Z,2μm,7.7s
BJI LR LR
comp=N,2μm,19.2s
BJI LR LR
comp=E,1μm,24.2s
BJI LR LR
comp=Z,2μm,31.7s
BJI Beijing 47.50 348 P **P** **14 29 02.6 -0.4**
comp=Z,689nm,0.9s,mb5.9
BJI PcP PcP 14 30 28.1 +1.0
BJI ScS ScS 14 38 19.2 -0.6
BJI LR LR
comp=Z,2μm,31.7s
LZH Lanzhou 47.99 333⇓ P **P** **14 29 07.6 +0.9**
LZH PCP PcP 14 30 30.8 +1.9
LZH PP PP 14 31 03.0 +0.7
LZH SCP ScP 14 33 50.5 0.0
LZH S **S** **14 35 35.0 -3.4**
LZH XS sS 14 37 44.0 +2.5
LZH SS SS 14 39 11.0 -1.1
LZH AMB AMB
comp=Z,1μm,1.2s,mb5.9
LZH AMB AMB
comp=Z,3μm,4.0s
LZH Lanzhou 47.99 333⇓ P **P** **14 29 07.6 +0.9**
LZH *PP pP 14 30 16.6 +1.0
LZH 14 30 30.7
LZH *SP sP 14 30 51.2 -1.9
LZH 14 31 03.0
LZH S **S** **14 35 35.0 -3.4**
LZH SS SS 14 39 11.0 -1.1
LZH pmax pmax
comp=Z,1μm,1.2s,mb5.9
LZH Lanzhou 47.99 333⇓ P **P** **14 29 07.6 +0.9**
comp=Z,1μm,1.2s,mb5.9
LZH pP pP 14 30 16.6 +1.0
LZH PcP PcP 14 30 30.7 +1.8
LZH sP sP 14 30 51.2 -1.9
LZH PP PP 14 31 03.0 +0.7
LZH ScP ScP 14 33 50.5 0.0
LZH S **S** **14 35 35.0 -3.4**
LZH sS sS 14 37 44.0 +2.5
LZH SS SS 14 39 11.0 -1.1
SNY Shenyang 48.19 356⇓ P **P** **14 29 07.9 -0.2**
SNY AP pP 14 30 19.4 +2.3
SNY S **S** **14 35 33.0 -8.1**
SNY AMB AMB
comp=Z,290nm,1.1s,mb5.4
SNY AMB AMB
comp=Z,3μm,9.8s
SNY LR LR
comp=N,2μm,19.6s
SNY LR LR
comp=Z,2μm,21.6s
CAL Calcutta 48.35 308 *e*P **P** **14 29 09.9 +0.6**
CAL *e*S **S** **14 35 41.6 -1.7**
PALK Pallekele 49.13 285 P **P** **14 29 15.7 +0.4**
comp=Z,251nm,0.9s,mb5.5,SNR=12
PALK Pallekele 49.13 285 *e*P **P** **14 29 13.9 -1.4**
comp=Z,32nm,0.8s,mb4.6
PALK *e*ScP ScP 14 33 54.8 -0.6
HHC Hu-ho-hao-te 49.41 344⇓ *i*P **P** **14 29 17.6 +0.2**
HHC AP pP 14 30 24.4 -2.3
HHC PCP PcP 14 30 34.3 +0.3
HHC PP PP 14 31 18.5 +3.3
HHC SCP ScP 14 33 57.0 +0.5
HHC PCS PcS 14 34 30.8 -0.4
HHC S **S** **14 35 56.9 -1.1**
HHC SCS ScS 14 38 32.6 -0.1
HHC SS SS 14 39 36.0 +1.5
HHC AMB AMB
comp=Z,253nm,1.1s,mb5.4
HHC AMB AMB
comp=Z,2μm,6.7s
HHC LR LR
comp=N,1μm,18.2s
HHC LR LR
comp=E,2μm,15.7s
HHC LR LR
comp=Z,1μm,16.2s
VLA Vladivostok 49.43 4*c* *i*P **P** **14 29 17.7 +0.2**
VLA *i* S **S** **14 35 57.8 -0.5**
VLA *i* *SS sS 14 37 59.2 -2.9
VLA *i* 14 38 31.4
VLA pmax pmax
comp=Z,466nm,0.9s,mb5.7
VLA Vladivostok 49.43 4⇑ *i*P **P** **14 29 17.9 +0.4**
CN2 Changchun 50.04 358⇓ P **P** **14 29 21.3 -0.8**
CN2 *e*AP pP 14 30 29.1 -2.5
CN2 SCP ScP 14 33 55.8 -3.4
CN2 *e*S **S** **14 36 00.9 -5.8**
CN2 XS sS 14 38 13.8 +3.0
ERM Erimo 50.14 15 P **P** **14 29 23.0 +0.2**
comp=Z,667nm,0.9s,mb5.9,SNR=6.2
ERM Erimo 50.14 15 *i* P **P** **14 29 24.7 +1.9**
ERM Erimo 50.14 15 *e*P **P** **14 29 23.6 +0.8**
comp=Z,129nm,1.0s,mb5.1
VIS Vishakhapatnam 50.23 299 *e*P **P** **14 29 23.4 -0.1**
LSA Lhasa 50.44 317 P **P** **14 29 26.6 +1.6**
LSA PCP PcP 14 30 33.4 -4.4
LSA AMB AMB
comp=Z,320nm,0.8s,mb5.6
LSA AMB AMB
comp=Z,490nm,5.0s
LSA LR LR
comp=N,520nm,21.0s
LSA LR LR
comp=E,760nm,22.0s
LSA LR LR
comp=Z,1μm,27.0s
LSA Lhasa 50.44 317 *e*P **P** **14 29 26.5 +1.5**
LSA *e* pP 14 30 37.8 +3.1
LSA pmax pmax
comp=Z,255nm,0.8s,mb5.5
LSA Lhasa 50.44 317 *e*P **P** **14 29 26.5 +1.5**
comp=Z,255nm,0.8s,mb5.5
LSA *e* pP 14 30 37.8 +3.1
MDJ Mudanjiang 50.82 1 P **P** **14 29 28.1 +0.2**
MDJ AP pP 14 30 41.3 +3.7
MDJ XP sP 14 31 20.8 +5.9
MDJ SCP ScP 14 34 00.8 -1.8
MDJ S **S** **14 36 17.6 +0.3**
MDJ AMB AMB
comp=Z,286nm,1.3s,mb5.3
MDJ AMB AMB
comp=Z,2μm,4.7s
MDJ Mudanjiang 50.82 1 *e*P **P** **14 29 27.8 -0.1**
comp=Z,416nm,1.1s,mb5.6
MDJ *e*ScP ScP 14 34 00.5 -2.1
BOK Bokaro 50.92 308 *e*P **P** **14 29 28.4 -0.2**
MDRS Chennai 51.26 292⇑ *e*P **P** **14 29 30.0 -1.1**
MDRS *ex* x 14 30 44.0
JCZ Jackson Bay 51.70 143 *e*P **P** **14 29 35.3 +1.0**
JCZ Jackson Bay 51.70 143⇑ PN **P** **14 29 35.4 +1.1**
comp=Z,497nm,0.4s,mb6.2
JCZ sP PP 14 31 37.0 +1.2
FOZ Fox Glacier 51.98 142 *e*P **P** **14 29 37.0 +0.6**
FOZ Fox Glacier 51.98 142⇑ PN **P** **14 29 37.0 +0.7**
WKZ Wanaka 52.28 144 *e*P **P** **14 29 38.6 +0.1**
WKZ Wanaka 52.28 144 PN **P** **14 29 38.6 +0.1**
WHZ Wether Hill Ro 52.28 145⇑ P **P** **14 29 38.5 -0.1**
WHZ Wether Hill Ro 52.28 145⇑ PN **P** **14 29 38.5 -0.1**
WVZ Waitaha Valley 52.36 141⇑ PN **P** **14 29 39.4 +0.2**
WVZ pP PcP 14 30 44.2 -0.9
QRZ Quartz Range 52.39 138 *e*P **P** **14 29 40.4 +1.0**
QRZ Quartz Range 52.39 138 PN **P** **14 29 40.5 +1.1**
GTA Gaotai 52.54 333⇓ *i*P **P** **14 29 41.1 +0.6**
GTA PP PP 14 31 43.8 +0.5

GTA SCP ScP 14 34 09.6 -0.4
GTA PCS PcS 14 34 46.8 +2.0
GTA S **S** **14 36 37.9 -2.8**
GTA SCS ScS 14 38 53.1 -1.3
GTA SS SS 14 40 18.6 -5.3
GTA AMB AMB
comp=Z,439nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,1μm,8.0s
GTA LR LR
comp=N,1μm,20.2s
GTA LR LR
comp=E,2μm,18.2s
GTA LR LR
comp=Z,3μm,20.9s
SALM Salem 52.72 290 *e*P **P** **14 29 42.0 +0.2**
SALM *ex* PcP 14 30 48.0 +1.6
LBZ Lake Benmore 52.72 143 *e*P **P** **14 29 40.8 -1.0**
LBZ Lake Benmore 52.72 143 *e*PN **P** **14 29 41.7 -0.1**
LBZ pP PcP 14 30 46.4 0.0
JIRN Jiri 52.74 312 *e*P **P** **14 29 42.5 +0.6**
comp=Z,281nm,0.6s,mb5.7
APZ The Paps 52.86 146 ⇑PN **P** **14 29 43.1 +0.3**
KUZ Kuaotunu 52.88 132 ⇑P **P** **14 29 44.1 +1.2**
KUZ Kuaotunu 52.88 132 ⇑PN **P** **14 29 44.1 +1.1**
RPZ Rata Peaks 52.89 142 P **P** **14 29 43.4 +0.4**
RPZ Rata Peaks 52.89 142 ⇑PN **P** **14 29 43.5 +0.4**
RPZ pP pP 14 30 57.9 +4.4
TRD Trivandrum 53.03 286 *e*P **P** **14 29 44.0 0.0**
THZ Tophouse 53.09 139 *e*P **P** **14 29 44.6 +0.2**
THZ Tophouse 53.09 139 PN **P** **14 29 44.6 +0.1**
GUN Gumba 53.11 312 *e*P **P** **14 29 45.1 +0.5**
comp=Z,433nm,0.5s,mb6.0
NNZ Nelson 53.14 138 *e*P **P** **14 29 44.5 -0.3**
NNZ Nelson 53.14 138 PN **P** **14 29 44.5 -0.3**
NNZ pP PcP 14 30 47.1 -0.9
PKI Pulchoki 53.27 311 *e*P **P** **14 29 46.0 +0.2**
comp=Z,143nm,0.5s,mb5.5
TUZ Tuapeka 53.27 145 *e*P **P** **14 29 45.4 -0.4**
TUZ Tuapeka 53.27 145 ⇑PN **P** **14 29 45.5 -0.3**
TUZ pP PcP 14 30 48.1 -0.5
KKN Kakani 53.48 312 *e*P **P** **14 29 47.5 +0.2**
comp=Z,345nm,0.9s,mb5.7
DMN Daman 53.52 311 *e*P **P** **14 29 48.1 +0.6**
comp=Z,185nm,0.7s,mb5.5
TCW Tory Channel 53.74 137 ⇑PN **P** **14 29 48.8 -0.3**
KHZ Kahutara 53.82 139 ⇓P **P** **14 29 49.6 -0.1**
KHZ Kahutara 53.82 139 ⇑PN **P** **14 29 49.7 0.0**
KHZ pP PcP 14 30 50.4 -0.2
KIW Kapiti Island 54.01 137 PN **P** **14 29 51.5 +0.4**
SNZO South Karori 54.07 137 *e*P **P** **14 29 51.2 -0.3**
comp=Z,961nm,1.4s,mb5.9
SNZO South Karori 54.07 137 *e*PN **P** **14 29 50.7 -0.9**
GKN Gorkha 54.08 311 *e*P **P** **14 29 51.8 +0.2**
comp=Z,286nm,0.5s,mb5.9
HYB Hyderabad 54.31 297 *i* P **P** **14 29 52.0 -1.2**
HYB *e* pP 14 31 06.0 +2.0
HYB *e*ScP ScP 14 34 17.0 -0.8
HYB *e*S **S** **14 37 00.0 -4.3**
HYB *e*ScS ScS 14 39 04.0 -3.0
HYB *e*SS SS 14 40 52.0 +0.3
HYB *e*PKPPKP 15 00 07.0
HYB Hyderabad 54.31 297 *e*P **P** **14 29 52.0 -1.2**
HYB *e*S **S** **14 36 54.0 -10**
BKZ Black Stump Fm 54.40 134 *e*PN **P** **14 29 53.9 0.0**
URZ Urewera 54.48 133 ⇑PN **P** **14 29 54.1 -0.4**
URZ pP PcP 14 30 51.8 -1.4
YSS Yuzh-Sakhalins 54.72 12κ *i*P **P** **14 29 56.0 -0.2**
YSS *e**PP pP 14 30 56.0 -11
YSS *i* S **S** **14 37 08.0 -1.8**
YSS *e**SS sS 14 39 05.0 -11
YSS pmax pmax
comp=Z,170nm,0.8s,mb5.4
YSS pmax pmax
comp=Z,2μm,7.0s
YSS smax
comp=N,2μm,10.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS Yuzh-Sakhalins 54.72 12 *i* P **P** **14 29 55.9 -0.3**
KOLN Koldanda 54.73 311 *e*P **P** **14 29 56.6 +0.4**
comp=N,346nm,0.8s,mb5.7
BFZ Birch Farm 54.85 136 *e*PN **P** **14 29 56.0 -1.0**
BFZ pP PcP 14 30 53.5 -1.1
ALBI Allahabad 54.89 307 *ex* **P** **14 29 53.5 -3.9**
DGAR Diego Garcia 55.15 265ο *i*P **P** **14 29 59.4 +0.2**
DGAR Diego Garcia 55.15 265 *e*P **P** **14 29 59.0 -0.2**
comp=N,132nm,0.4s,mb5.6
KNZ Kokohu 55.18 134 *e*PN **P** **14 29 59.2 -0.3**
PUZ Puketiti 55.25 132 *e*PN **P** **14 29 59.7 -0.2**
NGP Nagpur 55.32 301 *ex* **S** **14 37 10.3 -7.4**
KLR Kul'dur 55.51 3⇑*i*P **P** **14 29 57.5 -4.2**
KLR *e* 14 31 48.0
KLR *e*S **S** **14 37 14.5 -5.7**
KLR *e* 14 39 09.0
KLR pmax pmax
comp=N,2μm,8.5s
KLR pmax pmax
comp=Z,3μm,8.5s
KLR smax
comp=N,5μm,7.0s
KLR smax
comp=E,2μm,7.0s
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,3μm,14.0s
HIA Hailar 55.92 353 *e*P **P** **14 30 04.8 +0.2**
HIA pmax pmax
comp=Z,274nm,1.4s
HIA Hailar 55.92 353 *e*P **P** **14 30 04.8 +0.1**
comp=Z,274nm,1.4s,mb5.4
HIA *e*ScP ScP 14 34 23.6 -1.2
MNGI Mangalore 56.25 290 *i* P **P** **14 30 06.4 -0.5**
MNGI *i* x x 14 39 18.0
SONM Songino Array 57.29 343 P **P** **14 30 14.7 +0.5**
comp=Z,280nm,0.9s,mb5.6,baz=161,slow=6.2,SNR=736
SONM ScP ScP 14 34 29.5 -1.4
comp=Z,24nm,0.8s,baz=154,slow=4.8,SNR=8.3
SONM S **S** **14 37 41.5 -2.0**
comp=Z,3.5nm,1.1s,baz=172,slow=15,SNR=3.9
SONM PKPPKP 14 59 51.8
comp=Z,0.6nm,0.8s,baz=329,slow=5.5,SNR=3.6
SONM PKP2bc 15 00 14.0
comp=Z,3.0nm,1.1s,baz=191,slow=0.6,SNR=4.2
SONM Songino Array 57.29 343 P **P** **14 30 14.7 +0.5**
SONM S **S** **14 37 41.5 -1.9**
SONM Songino Array 57.29 343 P **P** **14 30 14.7 +0.5**
SONM ScP ScP 14 34 29.5 -1.4
SONM S **S** **14 37 41.5 -2.0**
SONM P'P' 14 59 51.8
SONM ⇑*e* 15 00 14.0
BHPL Bhopal 57.55 303 *e*P **P** **14 30 15.2 -0.7**
LGTI Lohaghat 58.12 310 *e*P **P** **14 30 19.3 -0.6**
KAD Karad 58.18 295 *e*P **P** **14 30 19.6 -0.8**
POO Poona 58.89 296⇓*ix* **P** **14 30 21.0 -4.2**
POO *ex* x 14 35 24.5
POO *i* x x 14 37 35.0
CIT Chita 59.52 350 *e*P **P** **14 30 30.0 +0.6**
CIT *e* 14 31 12.4
CIT *e* pP 14 31 45.7 +4.0
CIT *e*S **S** **14 38 14.3 +2.4**
CIT pmax pmax
comp=Z,527nm,1.9s,mb5.6
AFI Afiamalu 59.59 102 *e*P **P** **14 30 30.9 +1.0**
AFI pmax pmax
comp=Z,175nm,1.3s,mb5.3
AFI Afiamalu 59.59 102 *e*P **P** **14 30 30.9 +1.0**
comp=Z,175nm,1.3s,mb5.3
NDI New Delhi 60.09 308 *e*P **P** **14 30 31.6 -1.6**
NDI AMb AMB 14 30 35.5
comp=Z,133nm,1.1s,mb5.3
NDI *ex* x 14 38 10.5
ZAK Zakamensk 60.49 342 *e*P **P** **14 30 36.1 +0.1**
ZAK pmax pmax
comp=Z,94nm,1.1s,mb5.1
DRV Dumont d'Urvil 60.72 175 P **P** **14 30 33.0 -4.5**
DRV S **S** **14 38 19.0 -8.1**
DRV L 14 46 00.0
CASY Casey 60.99 188⇑*i*P **P** **14 30 38.6 -0.7**
CASY *e*PCP PcP 14 31 18.5 -0.4

AJM Ajmer 61.19 305 *e*P **P** **14 30 39.6 -1.0**
AJM *ex* x 14 31 53.9
TLY Talaya 61.53 343 P **P** **14 30 43.6 +0.7**
comp=Z,878nm,0.8s,mb6.3,SNR=41
TLY Talaya 61.53 343*d i*P **P** **14 30 43.4 +0.5**
TLY *e* 14 32 31.5
TLY *e*PPP 14 34 39.1
TLY *e*S **S** **14 38 35.0 -2.3**
TLY *e* 14 39 56.1
TLY pmax pmax
comp=Z,142nm,0.9s,mb5.5
TLY Talaya 61.53 343 *e*P **P** **14 30 42.9 0.0**
comp=Z,170nm,1.0s,mb5.5
SDNR Sundarnagar 61.59 311 *e*P **P** **14 30 43.5 +0.2**
SDNR *ex* x 14 32 02.0
SKR Severo-Kuril's 61.83 20 *e*P **P** **14 30 43.4 -1.5**
IRK Irkutsk 61.85 344⇓*i*P **P** **14 30 45.4 +0.3**
IRK *e*S **S** **14 38 41.8 +0.5**
IRK pmax pmax
comp=Z,553nm,1.3s,mb5.9
WMQ Urumqi 61.85 328 ⇑P **P** **14 30 45.8 +0.7**
WMQ PCP PcP 14 31 23.8 +1.3
WMQ AP pP 14 31 56.8 -1.2
WMQ PP PP 14 33 08.9 +3.1
WMQ PPP 14 34 42.0
WMQ SCP ScP 14 34 53.3 +2.2
WMQ PCS PcS 14 35 25.8 -0.1
WMQ S **S** **14 38 42.5 +1.2**
WMQ SCS ScS 14 40 02.3 -0.4
WMQ AMB AMB
comp=Z,475nm,0.9s,mb6.0
WMQ AMB AMB
comp=Z,135nm,5.3s
MOY Mondy 62.33 341 *e*P **P** **14 30 49.0 +0.8**
MOY *e* 14 38 47.6
MOY pmax pmax
comp=Z,545nm,1.9s,mb5.8
DLH Dalhousie 62.83 312 *ex* **P** **14 30 47.0 -4.5**
NRGR Nerungri 62.91 358 *e*P **P** **14 30 52.4 +0.4**
THN Thein Dam 62.97 311 *e*P **P** **14 30 51.1 -1.3**
THN *ex* x 14 38 37.6
CLNS Chul'man 63.09 358*d i*P **P** **14 30 53.6 +0.4**
CLNS *e*PPP 14 34 53.1
CLNS *e*S **S** **14 38 56.3 -0.3**
CLNS *e* 14 40 03.3
CLNS *e*SS SS 14 43 09.2 -0.1
CLNS pmax pmax
comp=Z,203nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,132nm,1.1s
CLNS pmax pmax
comp=E,51nm,0.8s
CLNS smax
comp=N,704nm,11.6s
CLNS smax
comp=Z,463nm,18.1s
CLNS smax
comp=E,2μm,13.8s
PET Petropavlovsk 64.65 20κ *i*P **P** **14 31 03.4 +0.1**
PET *e* 14 31 31.1
PET *e*PP pP 14 32 16.7 -0.2
PET *e*S **S** **14 39 16.6 +0.9**
PET *e* 14 40 19.4
PET pmax pmax
comp=Z,354nm,1.3s,mb5.8
MIR Mirnyy 64.69 195*c i*P **P** **14 31 04.5 +1.0**
MIR *i* 14 31 35.0
MIR *i* 14 32 47.0
MIR pmax pmax
comp=Z,2μm,1.5s,mb6.5
BOD Bodaibo 65.03 352⇑*i*P **P** **14 31 04.9 -0.8**
BOD *e* 14 39 18.6
BOD pmax pmax
comp=Z,236nm,1.1s,mb5.7
NIL Nilore 65.36 311 P **P** **14 31 08.9 +1.1**
comp=Z,290nm,0.7s,mb6.0,SNR=8.7
KSH Kashi 66.28 318 P **P** **14 31 15.5 +1.9**
KSH *e*PCP PcP 14 31 43.1 +2.4
KSH *e*AP pP 14 32 32.8 +5.1
KSH *e*XP sP 14 33 09.9 +6.1
KSH *e*PP PP 14 33 49.8 +5.4
KSH *e*SCP 14 35 11.5
KSH *e*PPP 14 35 29.9
KSH *e*PCS 14 35 46.8
KSH *e*S S 14 39 29.3 -6.0
KSH *e*SCS ScS 14 40 34.3 -2.4
KSH *e*XS sS 14 41 51.1 +4.5
KSH *e*SS SS 14 44 02.5 +3.8
KSH LR LR
comp=N,3μm,5.8s
KSH LR LR
comp=E,5μm,8.5s
KSH LR LR
comp=Z,23μm,22.2s
MK31 Makanchi Array 66.68 328 *e*P **P** **14 31 16.5 +0.4**
MKAR Makanchi Array 66.68 328 P **P** **14 31 16.4 +0.3**
comp=Z,193nm,0.7s,mb6.0,baz=126,slow=7.9,SNR=1144
MKAR S S 14 39 37.9 -2.2
comp=Z,12nm,1.1s,baz=142,slow=10.0,SNR=11
MKAR PKPPKP 14 59 34.8
comp=Z,1.0nm,0.6s,baz=283,slow=2.7,SNR=8.0
MKAR Makanchi Array 66.68 328 P **P** **14 31 16.4 +0.3**
MKAR S S 14 39 37.9 -2.2
MKAR Makanchi Array 66.68 328 P **P** **14 31 16.4 +0.3**
MKAR S S 14 39 37.9 -2.2
MKAR P'P' 14 59 34.8
ULHL Ulahol 67.54 321 P **P** **14 31 22.4 +0.9**
SNR=20
KZA Kyzart 68.08 320 P **P** **14 31 26.5 +1.7**
SNR=95
YAK Yakutsk 68.26 1*d i*P **P** **14 31 26.2 +0.3**
YAK *e* 14 31 45.4
YAK *e* 14 34 02.2
YAK *e*PPP 14 35 46.4
YAK *e*S S 14 39 55.5 -3.3
YAK *i* 14 40 45.4
YAK *e*SS SS 14 44 27.2 -2.0
YAK pmax pmax
comp=N,220nm,1.0s
YAK pmax pmax
comp=E,113nm,1.0s
YAK pmax pmax
comp=Z,1μm,1.0s,mb6.5
YAK pmax pmax
comp=N,537nm,2.9s
YAK pmax pmax
comp=Z,412nm,2.9s,mb5.7
YAK pmax pmax
comp=E,502nm,4.1s
YAK smax
comp=N,2μm,3.3s
YAK smax
comp=Z,597nm,3.1s
YAK smax
comp=E,696nm,2.0s
TKM2 Tokmak 2 68.30 321 P **P** **14 31 27.1 +0.9**
SNR=112
KBK Karagaybulak 68.57 321 P **P** **14 31 28.9 +1.1**
SNR=70
UCH Uchtor 68.62 320 P **P** **14 31 29.7 +1.5**
SNR=172
AAK Ala-Archa 68.84 320 P **P** **14 31 29.2 -0.3**
comp=E,840nm,0.9s,mb6.5
AAK Ala-Archa 68.84 320 P **P** **14 31 30.6 +1.1**
SNR=120
AAK Ala-Archa 68.84 320*d i*P **P** **14 31 29.5 0.0**
AAK pmax pmax
comp=Z,121nm,0.8s,mb5.7
AAK Ala-Archa 68.84 320 *e*P **P** **14 31 29.6 +0.1**
comp=Z,141nm,0.9s,mb5.7
FRU Bishkek 68.87 321⇓*i*P **P** **14 31 30.0 +0.3**
FRU *e* 14 40 05.0
FRU pmax pmax
comp=Z,250nm,1.8s,mb5.6
CHMS Chumysh 68.87 321 P **P** **14 31 30.0 +0.3**
SNR=35
AML Almayashu 69.10 320 P **P** **14 31 32.8 +1.8**
SNR=6.5
USP Ospenovka 69.17 321 P **P** **14 31 32.1 +0.6**
SNR=281
EKS2 Erkin-Say 69.31 320 P **P** **14 31 33.6 +1.3**
SNR=124
ZAL Zalesovo 70.21 335 P **P** **14 31 37.0 -0.9**
comp=Z,133nm,0.8s,mb5.7,baz=344,slow=5.3,SNR=581

ZAL S S 14 40 16.6 -4.9
comp=Z,4.7nm,0.9s,baz=19,slow=8.2,SNR=3.1
ZAL PKPPKP 14 59 32.6
comp=Z,1.9nm,0.9s,baz=143,slow=6.2,SNR=3.2
ZAL Zalesovo 70.21 335 P **P** **14 31 37.0 -0.8**
ZAL S S 14 40 16.6 -4.9
SMY Shemya 70.66 28 P **P** **14 31 41.0 +0.5**
SMY pmax pmax
comp=Z,450nm,1.1s,mb6.1
SMY Shemya 70.66 28 *e*P **P** **14 31 40.8 +0.3**
comp=Z,736nm,1.6s,mb6.2
KURK Kurchatov 71.01 329 P **P** **14 31 42.7 +0.1**
comp=Z,4μm,0.8s,mb7.2
KURK Kurchatov 71.01 329 *e*P **P** **14 31 42.6 0.0**
KURK pmax pmax
comp=Z,615nm,0.9s,mb6.3
KURK Kurchatov 71.01 329 *e*P **P** **14 31 42.6 0.0**
comp=Z,615nm,0.9s,mb6.3
NVS Novosibirsk 71.50 335 *i* P **P** **14 31 44.7 -0.8**
NVS *i* S S 14 40 29.2 -7.0
NVS pmax pmax
comp=N,164nm,0.9s
NVS pmax pmax
comp=Z,340nm,0.9s,mb6.1
NVS pmax pmax
comp=E,326nm,1.4s
NVS smax
comp=N,137nm,1.7s
NVS smax
comp=E,567nm,2.2s
SEY Seymchan 71.61 11*d i*P **P** **14 31 46.3 +0.1**
SEY Seymchan 71.61 11 *i* P **P** **14 31 46.4 +0.2**
VNDA Vanda 73.26 173 P **P** **14 31 54.6 -1.2**
comp=E,36nm,0.4s,mb5.4,baz=320,slow=5.9,SNR=342
VNDA S S 14 40 53.1 -2.9
comp=E,6.3nm,1.1s,baz=112,slow=18,SNR=6.0
VNDA Vanda 73.26 173 *e*P **P** **14 31 54.4 -1.4**
comp=E,0.5nm,0.3s,mb3.7
SBA Scott Base 74.17 172 *e*P **P** **14 32 00.6 -0.5**
MAW Mawson 74.78 201⇑*i*P **P** **14 32 04.2 -0.3**
comp=E,74nm,0.6s,mb5.6
MAW *e*S S 14 41 09.4 -3.4
MAW Mawson 74.78 201 P **P** **14 32 04.3 -0.2**
comp=E,82nm,0.5s,mb5.7,baz=67,slow=6.9,SNR=201
MAW Mawson 74.78 201⇑*i*P **P** **14 32 04.2 -0.3**
MAW *e*S S 14 41 09.4 -3.4
MAW pmax pmax
comp=Z,74nm,0.6s
BVAR Borovoye Array 76.54 328 PKKPbc PKKPbc 14 51 22.4 -0.1
comp=Z,0.5nm,0.4s,baz=264,slow=2.7,SNR=4.3
BRVK Borovoye 76.61 328 P **P** **14 32 14.3 -0.5**
comp=Z,1μm,0.8s,mb6.6,SNR=86
BRVK Borovoye 76.61 328 *e*P **P** **14 32 14.5 -0.3**
BRVK pmax pmax
comp=Z,220nm,1.0s,mb5.8
BRVK Borovoye 76.61 328 *e*P **P** **14 32 14.5 -0.4**
comp=Z,220nm,1.0s,mb5.8
CHKZ Chkalovo 76.75 329 P **P** **14 32 15.1 -0.5**
CHKZ pmax pmax
comp=Z,120nm,0.8s,mb5.7
CHKZ Chkalovo 76.75 329 *e*P **P** **14 32 15.0 -0.6**
comp=Z,119nm,0.8s,mb5.7
ZRNK Zerenda 77.23 328 *e*P **P** **14 32 17.9 -0.4**
ZRNK pmax pmax
comp=Z,220nm,0.8s,mb5.9
ZRNK Zerenda 77.23 328 *e*P **P** **14 32 17.9 -0.4**
comp=Z,220nm,0.8s,mb5.9
ABKT Ailbek 78.35 311 P **P** **14 32 25.1 +0.7**
comp=Z,356nm,0.9s,mb6.1,SNR=14
BILL Bilibino 79.01 14 *i* P **P** **14 32 26.8 -1.1**
BILL Bilibino 79.01 14 *i* P **P** **14 32 26.8 -1.1**
TBI Tubuai 80.63 113 *e*P **P** **14 32 37.9 +1.3**
comp=Z,235nm,1.1s,mb5.8
TBI *e*S S 14 42 16.2 +1.2
comp=Z,3μm,26.5s
PAE Paea 80.85 107 *e*P **P** **14 32 40.0 +2.3**
comp=Z,183nm,1.5s,mb5.6
PPT Papeete 80.86 107 *e*P **P** **14 32 40.1 +2.3**
comp=Z,62nm,1.4s,mb5.1
PPT Papeete 80.86 107 P **P** **14 32 40.3 +2.5**
comp=Z,14nm,0.4s,mb5.0,baz=288,slow=6.4,SNR=4.5
MUKL Al Mukalla 81.01 286⇑*e*P **P** **14 32 40.1 +1.5**
MUKL AMb AMB 14 32 42.5
comp=Z,1μm,1.2s,mb6.5
TVO Taravao 81.16 107 *e*P **P** **14 32 41.9 +2.6**
comp=Z,232nm,1.4s,mb5.7
TVO Taravao 81.16 107 *e*P **P** **14 32 41.9 +2.6**
TVO pmax pmax
comp=Z,232nm,1.4s,mb5.7
PMOR Pomariorio Ree 82.66 104 *e*P **P** **14 32 49.4 +2.3**
comp=Z,180nm,1.4s,mb5.7
VAH Vaihoa 82.90 105 *e*P **P** **14 32 50.5 +2.2**
comp=Z,138nm,1.4s,mb5.6
VAH *e*pP pP 14 34 09.1 +3.0
comp=Z,197nm,2.1s
SYO Syowa Base 83.49 201⇓*i*P **P** **14 32 50.0 -1.3**
QSPA South Pole Qui 83.55 180⇑*i*P **P** **14 32 50.6 -1.0**
comp=Z,188nm,0.4s,mb6.3
ARU Arti 84.19 328 P **P** **14 32 54.4 -0.4**
comp=Z,1μm,1.1s,mb6.6,SNR=53
ARU Arti 84.19 328⇓*i*P **P** **14 32 54.1 -0.7**
ARU *e* pP 14 34 08.2 -4.6
ARU *e* 14 36 13.9
ARU *e*S S 14 42 38.9 -12
ARU *e*SS SS 14 48 27.4 -1.1
ARU *e*SSS 14 51 58.6
ARU pmax pmax
comp=Z,163nm,0.9s,mb5.9
ARU Arti 84.19 328 *e*P **P** **14 32 53.4 -1.4**
comp=Z,184nm,0.9s,mb5.9
ARU *e*PP PP 14 36 13.6 -0.8
BDHA Al Bayda' **84.27 285**⇑*e*P **P** **14 32 57.0 +1.8**
BDHA *i* S S 14 42 45.3 -6.3
QRN Al-Qurain 84.45 300 *e*P **P** **14 32 56.6 +0.4**
QRN AMb AMB 14 32 58.2
comp=Z,433nm,0.6s,mb6.5
LBOS 84.56 285⇑*e*P **P** **14 32 58.6 +1.9**
LBOS AMb AMB 14 33 01.4
comp=Z,1μm,1.6s,mb6.5
KBD Kabd 84.72 300 *e*P **P** **14 32 56.9 -0.6**
KBD AMb AMB 14 33 02.0
comp=Z,417nm,0.9s,mb6.2
UMR Umm Al-Rimmam 84.77 300 *e*P **P** **14 32 58.2 +0.5**
UMR AMb AMB 14 33 00.4
comp=Z,245nm,1.0s,mb6.0
RDF Al-Radifah 84.80 300 *e*P **P** **14 32 58.0 +0.2**
RDF AMb AMB 14 32 59.9
comp=Z,304nm,0.6s,mb6.3
SDPT Sand Point 84.89 33 *e*P **P** **14 32 57.8 -0.5**
comp=Z,345nm,0.8s,mb6.2
NAY Al-Naaiem 85.12 300 *e*P **P** **14 32 59.9 +0.4**
NAY AMb AMB 14 33 01.8
comp=Z,298nm,0.7s,mb6.2
MIB Mutribah 85.14 301 *e*P **P** **14 32 59.9 +0.4**
MIB AMb AMB 14 33 02.1
comp=Z,402nm,0.8s,mb6.3
DHBB Dhamar BB 85.48 285⇑*e*P **P** **14 33 03.1 +2.0**
DHBB AMb AMB 14 33 06.7
comp=Z,2μm,1.4s,mb6.7
DHBB *i* S S 14 42 53.2 -10
TRBA At Turbah 85.56 284⇑*e*P **P** **14 33 03.4 +1.8**
TRBA AMb AMB 14 33 06.1
comp=Z,489nm,0.8s,mb6.4
SOKR Solikamsk 86.15 331 *i* P **P** **14 33 02.6 -1.9**
SOKR pmax pmax
comp=Z,100nm,1.3s,mb5.5
SOKR MLR MLR
comp=Z,600nm,19.0s
BHD Baghdad 88.20 304 *i* x x 14 33 09.5
BHD *i* x x 14 43 02.0
BHD *i* x x 14 43 22.0
GNI Garni 88.99 310*d i*P **P** **14 33 18.7 +0.8**
GNI pmax pmax
comp=Z,39nm,1.3s
GNI Garni 88.99 310 *e*P **P** **14 33 19.2 +1.3**
comp=Z,35nm,1.0s,mb5.1
MSL Mosul 89.69 306 *ex* x 14 33 22.0
MSL *ex* x 14 43 17.0
MSL *ex* x 14 43 42.0
ZEI Tsey 90.02 313 *e*P **P** **14 33 23.1 +0.4**
ZEI *e**PP pP 14 34 40.1 -1.6
ZEI pmax pmax
comp=Z,40nm,0.9s,mb5.3
KMBO Kilima Mbogo 90.65 269 P **P** **14 33 27.0 +1.4**
comp=Z,14nm,0.5s,mb5.2,baz=63,slow=7.1,SNR=61
KMBO Kilima Mbogo 90.65 269 *e*P **P** **14 33 26.8 +1.2**

KMBO pmax pmax
comp=Z,22nm,0.8s
KMBO Kilima Mbogo 90.65 269 *e*P **P 14 33 26.8 +1.2**
comp=Z,22nm,0.8s,mb5.1
TAOE Nuku Hiva Isla 90.81 99 *e*S S 14 43 53.3 0.0
comp=Z,11µm,27.5s
KIV Kislovodsk 91.06 314 *e*P **P 14 33 27.0 -0.5**
KIV *e*S SKSac 14 43 25.1 -1.6
KIV *e*SS SS 14 50 06.7 -1.5
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,437nm,19.0s
KIV Kislovodsk 91.06 314 *i* P **P 14 33 28.3 +0.8**
IMA2 Indian Mountai 91.09 24 *e*P **P 14 33 27.0 -0.6**
SLKM Skilak Lake 91.49 29 P **P 14 33 28.9 -0.6**
SLKM Skilak Lake 91.49 29 *e*P **P 14 33 28.0 -1.4**
PMR Palmer 92.19 28 *e*P **P 14 33 31.4 -1.3**
PMR pmax pmax
comp=Z,40nm,0.6s,mb5.5
PMR Palmer 92.19 28 *e*P **P 14 33 31.4 -1.3**
comp=Z,40nm,0.6s,mb5.5
NVL N'lazarevskaya 92.33 197 *e* P **P 14 33 32.2 -1.1**
NVL *i* S SKSac 14 43 28.8 -4.9
NVL *i* 14 44 01.7
NVL *i* 14 45 55.5
NVL pmax pmax
comp=Z,153nm,1.4s,mb5.7
NVL MLR MLR
comp=Z,1µm,17.6s
MAIT Maitri 92.35 197 *e*P **P 14 33 33.4 0.0**
VRHR Novokhopersk 92.69 321 *e*P **P 14 33 33.4 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.3s,mb5.6
VRHR pmax pmax
comp=N,1.0nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.5s
SOC Sochi 93.16 313 *e*P **P 14 33 34.2 -2.9**
SOC *e**PP pP 14 34 53.4 -2.9
SOC *e* 14 37 20.2
SOC *e*S SKSac 14 43 35.9 -2.4
SOC *e**SS 14 46 01.7
COLA College 93.26 25⇓ *e*P **P 14 33 35.6 -2.0**
COLA College 93.26 25 *e*P **P 14 33 34.4 -3.3**
comp=E,22nm,0.8s,mb5.2
MALT Malatya 93.62 308 P **P 14 33 40.2 +0.9**
MALT pmax pmax
comp=Z,36nm,1.3s,mb5.2
MALT Malatya 93.62 308 *e*P **P 14 33 39.9 +0.6**
comp=Z,36nm,1.3s,mb5.2
RKT Rikitea 93.90 114 *e*P **P 14 33 42.3 +1.7**
comp=Z,102nm,1.5s,mb5.6
RKT Rikitea 93.90 114 *e*P **P 14 33 42.3 +1.7**
RKT pmax pmax
comp=Z,102nm,1.5s,mb5.6
VRSR Storozhevoye 94.23 321 *e*P **P 14 33 40.7 -1.3**
VRSR *e* 14 37 34.6
VRSR *e* 14 43 39.7
VRSR pmax pmax
comp=E,50nm,0.9s
VRSR pmax pmax
comp=Z,50nm,0.9s,mb5.5
VRSR pmax pmax
comp=N,7.0nm,0.8s
VOR Voronezh 94.26 321 *e*P **P 14 33 41.0 -1.2**
VOR *e* 14 43 41.0
VOR pmax pmax
comp=N,90nm,1.4s
VOR pmax pmax
comp=Z,100nm,1.4s,mb5.7
VOR pmax pmax
comp=E,90nm,1.3s
MENT Mentasta 94.87 27 *e*P **P 14 33 44.8 -0.2**
ANN Anapa 94.90 314 *e*P **P 14 33 36.0 -9.1**
ANN *e**PP pP 14 34 53.6 -11
ANN pmax pmax
comp=Z,107nm,1.1s,mb5.8
MOS Moscow 95.48 325 *e*P **P 14 33 44.1 -3.7**
MOS *e* pP 14 35 00.7 -6.3
MOS *e* 14 35 37.9
MOS *e* 14 43 45.3
MOS *e* 14 44 21.8
SNAA Sanae 95.76 194 PKKPbc PKKPbc 14 50 36.1 -0.7
comp=Z,0.4nm,0.4s,baz=247,slow=8.1,SNR=8.4
OBN Obninsk 96.05 325⇑ *e*P **P 14 33 48.8 -1.5**
OBN *e* 14 37 45.2
OBN *i* 14 43 51.6
OBN *i* S S 14 44 30.6 -8.5
OBN *i* PS 14 46 07.5
OBN *i* SS SS 14 51 23.1 +4.1
OBN pmax pmax
comp=Z,90nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,800nm,20.0s
OBN Obninsk 96.05 325 *e*P **P 14 33 48.4 -2.0**
comp=Z,33nm,0.6s,mb5.7
EGAK Eagle 96.11 26 *e*P **P 14 33 49.5 -1.1**
comp=Z,39nm,1.4s,mb5.3
DAWY Dawson 96.86 26 *e*P **P 14 33 53.2 -0.7**
VNA2 Neumayer--Watz 97.35 193 *e*P **P 14 33 55.2 -1.0**
VNA2 *e* 14 34 00.0
VNA2 *e* 14 34 07.5
VNA2 *e* 14 34 11.6
VNA2 *e* pP 14 35 12.4 -3.1
VNA2 *e* 14 35 44.2
VNA2 *e* 14 37 56.0
BR131 Keskin Array S 97.43 309 *e*P **P 14 33 55.4 -1.2**
comp=Z,2.7nm,0.5s,mb4.6
BRTR Keskin Array B 97.43 309 P **P 14 33 55.8 -0.8**
comp=Z,2.6nm,0.6s,mb4.6,baz=133,slow=3.9,SNR=11
BRTR pP pP 14 35 18.4 +2.5
comp=Z,2.5nm,1.0s,baz=149,slow=5.0,SNR=2.5
BRTR PKKPbc PKKPbc 14 50 33.0 +0.7
comp=Z,1.3nm,0.8s,baz=202,slow=6.4,SNR=3.7
BRTR Keskin Array B 97.43 309 P **P 14 33 55.8 -0.8**
BRTR *PP pP 14 35 18.4 +2.5
VNA3 Neumayer Olymp 97.63 193 *e*P **P 14 33 57.0 -0.4**
VNA3 *e* 14 34 00.3
VNA3 *e* 14 34 03.3
VNA3 *e* 14 34 09.7
VNA3 *e* 14 34 13.8
VNA3 *e* pP 14 35 14.8 -2.0
VNA3 *e* 14 37 58.7
APA Apatity 97.66 337⇓ *e*P **P 14 33 58.2 +0.6**
APA *i* 14 44 00.0
APA *i* S S 14 44 44.0 -8.8
APA *i* SS SS 14 51 37.0 -4.5
APA pmax pmax
comp=Z,16nm,0.8s,mb5.3
APA MLR MLR
comp=Z,2µm,19.0s
VNA1 Neumayer--Stat 97.75 193 *e*P **P 14 33 57.6 -0.3**
VNA1 *e* 14 34 02.0
VNA1 *e* pP 14 35 16.6 -0.8
VNA1 *e* 14 37 59.2
LSZ Lusaka 97.75 254 P **P 14 33 58.2 +0.2**
LSZ pmax pmax
comp=Z,19nm,0.6s,mb5.5
LSZ Lusaka 97.75 254 *e*P **P 14 33 57.9 0.0**
comp=Z,19nm,0.6s,mb5.5
BOSA Boshof 98.06 240 P **P 14 33 59.4 0.0**
comp=Z,14nm,0.6s,mb5.4,baz=110,slow=3.5,SNR=45
BOSA PKKPbc PKKPbc 14 50 31.6 +0.9
comp=Z,1.8nm,0.4s,baz=244,slow=2.9,SNR=5.6
BOSA Boshof 98.06 240 P **P 14 33 59.9 +0.5**
BOSA pmax pmax
comp=Z,15nm,0.7s,mb5.3
BOSA Boshof 98.06 240 *e*P **P 14 33 59.2 -0.2**
comp=Z,15nm,0.7s,mb5.3
LBTB Lobatse 98.48 244 PKPPKP 14 58 44.9
comp=Z,12nm,0.6s,baz=358,slow=1.2,SNR=34
LBTB Lobatse 98.48 244 P **P 14 34 01.9 +0.7**
LBTB pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
LBTB Lobatse 98.48 244 *e*P **P 14 34 00.8 -0.4**
comp=Z,7.0nm,0.6s,mb5.1
INK Inuvik 99.06 22 P Pdif 14 34 02.5 -1.3
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 99.06 22 *e*Pdif Pdif 14 34 02.0 -1.8
comp=Z,567nm,0.9s
KEV Kevo 99.80 340 *ep* Pdif 14 34 03.9 -3.2
comp=Z,10nm,0.7s
KEV Kevo 99.80 340 *e*P Pdif 14 34 03.9 -3.2
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb5.3
ARCES ARCESS Array B 100.36 340 P Pdif 14 34 08.1 -1.5
comp=Z,24nm,0.8s,baz=77,slow=6.3,SNR=41
ARCES PKiKP PKiKP 14 38 33.6 -1.0
comp=Z,2.4nm,0.5s,baz=97,slow=1.3,SNR=10
ARCES S SKSac 14 44 11.2 -4.1
comp=Z,5.9nm,0.8s,baz=91,slow=12,SNR=5.5
ARCES PKKPbc PKKPbc 14 50 23.0 -1.2
comp=Z,3.2nm,0.4s,baz=266,slow=3.0,SNR=26
AKASG Malin Array Be 100.51 320 P Pdif 14 34 09.1 -1.2
comp=Z,7.1nm,0.6s,baz=69,slow=4.6,SNR=5.8
AKASG PP PP 14 38 23.5 +1.8
comp=Z,5.7nm,0.9s,baz=75,slow=6.7,SNR=4.8
AKASG PKiKP PKiKP 14 38 34.6 -0.3
comp=Z,6.1nm,0.9s,baz=61,slow=7.1,SNR=4.5
AKASG PKKPbc PKKPbc 14 50 23.9 +0.1
comp=Z,1.1nm,0.6s,baz=274,slow=3.5,SNR=5.3
AKASG Malin Array Be 100.51 320 P Pdif 14 34 09.1 -1.2
AKASG 14 38 23.5
AKASG Malin Array Be 100.51 320 P Pdif 14 34 09.1 -1.2
AKASG PP PP 14 38 23.5 +1.8
SPB4 Spitsbergen Ar 100.62 349 *e*P Pdif 14 34 09.3 -1.4
FINES FINESS Array B 101.32 331 P Pdif 14 34 11.3 -2.5
comp=Z,2.6nm,0.7s,baz=72,slow=6.2,SNR=11
FINES PP PP 14 38 24.6 -3.2
comp=Z,11nm,0.9s,baz=111,slow=11,SNR=5.2
FINES PKiKP PKiKP 14 38 35.5 -0.9
comp=Z,4.4nm,0.7s,baz=83,slow=5.2,SNR=12
FINES SKiKP 14 41 36.0
comp=Z,4.0nm,0.6s,baz=85,slow=4.4,SNR=6.1
FINES PKKPbc PKKPbc 14 50 19.3 -2.2
comp=Z,1.2nm,0.6s,baz=169,slow=1.0,SNR=5.3
FINES FINESS Array B 101.32 331 P Pdif 14 34 11.3 -2.5
FINES PP PP 14 38 24.6 -3.2
OJC Ojcow 106.55 320 *e*Pdiff Pdif 14 34 37.2 +0.1
OJC *e*PP PP 14 39 04.8 -1.6
TSUM Tsumeb 106.97 248 SKiKP 14 41 47.5
comp=Z,2.2nm,0.7s,baz=338,slow=1.6,SNR=3.8
VYHS Vyhne 107.47 319 *e*PKP PP 14 39 17.7 +4.6
HFS Hagfors 107.53 331 PKKPbc PKKPbc 14 49 59.9 -3.1
comp=Z,1.6nm,0.5s,baz=207,slow=1.7,SNR=8.2
OKC Ostrava-Krasne 107.67 320 *e*PKP PKiKP 14 38 49.0 +1.0
OKC *e*PP PP 14 39 12.6 -1.9
MORC Moravsky Berou 108.06 320 PKiKP PKiKP 14 38 47.9 -0.9
YKA Yellowknife Ar 108.09 26 Pdiff Pdif 14 34 45.5 +1.6
comp=Z,2.5nm,0.7s,baz=291,slow=4.5,SNR=5.2
YKA PKiKP PKiKP 14 38 48.0 -0.8
comp=Z,2.9nm,0.5s,baz=293,slow=2.1,SNR=34
YKA SKiKP 14 41 49.0
comp=Z,3.8nm,0.8s,baz=297,slow=2.0,SNR=5.1
YKA PKKPbc PKKPbc 14 49 60.0 -1.2
comp=Z,12nm,0.5s,baz=116,slow=3.4,SNR=53
YKA PKKPab PKKPab 14 50 14.6 -1.5
comp=Z,4.2nm,0.5s,baz=110,slow=5.2,SNR=9.1
YKA Yellowknife Ar 108.09 26 P Pdif 14 34 45.5 +1.6
YKA 14 50 00.0
YKA Yellowknife Ar 108.09 26 Pdif Pdif 14 34 45.5 +1.6
YKA PKPdf PKiKP 14 38 48.0 -0.8
YKA PKKPbc PKKPbc 14 49 60.0 -1.2
YKA PKKPab PKKPab 14 50 14.6 -1.5
HUMO Hull Mountain 108.30 47 *e*PKiKP PKiKP 14 38 50.1 +0.9
NB2 NORSAR Subarra 108.37 333 P Pdif 14 34 42.8 -2.4
comp=Z,3.0nm,0.8s
NB2 P 14 38 48.1
NB2 NORSAR Subarra 108.37 333 P Pdif 14 34 42.8 -2.4
comp=Z,3.0nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 108.37 333 P PKiKP 14 38 48.1 -1.2
comp=Z,1.4nm,0.5s,baz=39,slow=6.2
NOA NORSAR Array B 108.37 333 Pdiff Pdif 14 34 43.2 -2.0
comp=Z,1.3nm,0.6s,baz=67,slow=4.5,SNR=5.2
NOA PKiKP PKiKP 14 38 48.1 -1.2
comp=Z,2.2nm,0.6s,baz=262,slow=3.2,SNR=6.0
NOA SKiKP 14 41 50.3
comp=Z,5.4nm,0.8s,baz=261,slow=3.2,SNR=7.5
NOA PKKPbc PKKPbc 14 50 00.8 +0.4
comp=Z,1.3nm,0.7s,baz=68,slow=3.3,SNR=3.6
NOA NORSAR Array B 108.37 333 Pdif Pdif 14 34 43.2 -2.0
NOA PKPdf PKiKP 14 38 48.1 -1.2
NOA PKKPbc PKKPbc 14 50 00.8 +0.4
NAO01 NORSAR Array S 108.59 333 *e*PKiKP PKiKP 14 38 48.0 -1.7
DPC Dobruska-Polom 108.71 321 *e*PKP PKiKP 14 38 51.5 +1.5
DPC *e*PP PP 14 39 16.1 -5.9
DPC *e*SKS SKSac 14 44 49.0 -4.0
DPC *e*SP SP 14 48 07.3 -6.3
VRAC Vranov 108.77 320 PP PP 14 39 25.1 +2.6
comp=Z,3.3nm,0.6s,baz=81,slow=9.3,SNR=7.3
VRAC SKiKP 14 41 52.8
comp=Z,2.5nm,0.3s,baz=66,slow=1.3,SNR=3.3
PRU Pruhonice 109.91 321 *e*PKP PKiKP 14 38 52.2 0.0
PRU *e*PP PP 14 39 27.4 -3.2
PRU *e*SP SP 14 48 20.3 -4.4
BRG Berggiesshubel 110.06 322 *e* PKiKP 14 38 53.5 +1.0
comp=Z,3.6nm,0.9s
BRG *e* 14 39 32.8
comp=Z,9.9nm,1.2s
BRG *i* 14 41 52.2
comp=Z,19nm,1.7s
BRG S SP 14 48 17.0 -9.1
BRG SS SS 14 54 20.0 -10
BRG
comp=N,511nm,19.1s
BRG
comp=E,432nm,18.2s
BRG
comp=Z,929nm,20.2s
BRG Berggiesshubel 110.06 322 *e* PKiKP 14 38 53.5 +1.0
BRG *e* 14 39 32.8
BRG *i* 14 41 52.2
BRG S SP 14 48 17.0 -9.1
BRG SS SS 14 54 20.0 -10
BRG LR LR
comp=Z,930nm,20.2s
BOJS Bojanci 110.46 316 *e* PKiKP 14 38 53.6 +0.3
BOJS *e*PP PP 14 39 41.9 +7.4
TIP Timpagrande 110.50 309 *e*PKiKP PKiKP 14 38 53.9 +0.5
CLL Collm 110.51 323 *i* PKPdf PKiKP 14 38 54.6 +1.2
CLL *i* PP PP 14 39 34.4 -0.5
CLL *e*PKKP PKKPbc 14 49 54.0 +0.4
CLL *i* PKKP PKKPbc 14 50 06.4 +13
CLL Collm 110.51 323 *i* PKiKP PKiKP 14 38 54.6 +1.2
comp=Z,14nm,1.4s
CLL *i* PP PP 14 39 34.4 -0.5
comp=Z,14nm,0.8s
CLL *i* PPP 14 41 53.9
comp=Z,14nm,0.9s
CLL *e*PKKPbc PKKPbc 14 49 54.0 +0.4
CLL *i* PKKPab PKKPab 14 50 06.4 +1.0
comp=Z,20nm,1.2s
CLL *e*SS SS 14 54 36.0 -0.5
GEC2 GERESS Array S 110.72 320 *e*PKPdf PKiKP 14 38 53.5 -0.3
GERES GERESS Array B 110.72 320 Pdiff Pdif 14 34 56.6 +1.0
comp=Z,0.4nm,0.4s,baz=54,slow=5.0,SNR=3.8
GERES PKiKP PKiKP 14 38 53.6 -0.2
comp=Z,6.3nm,0.6s,baz=66,slow=2.0,SNR=31
GERES PP PP 14 39 31.1 -5.3
comp=Z,1.7nm,0.7s,baz=70,slow=6.4,SNR=3.2
GERES SKP 14 41 54.3
comp=Z,6.6nm,0.7s,baz=65,slow=1.8,SNR=11
GERES PKKPbc PKKPbc 14 49 53.5 +0.6
comp=Z,1.2nm,0.5s,baz=197,slow=1.9,SNR=6.2
GERES PKKPab PKKPab 14 50 04.9 +0.5
comp=Z,1.7nm,0.8s,baz=241,slow=4.4,SNR=5.8
KHC Kasperske Hory 110.73 320 *e*PKP PKiKP 14 38 54.0 +0.2
KHC *e*PP PP 14 39 33.6 -2.9
KHC *e*SKS SKSac 14 44 58.7 -2.6
KHC *e*SDIF Sdif 14 46 37.4 -4.4
KHC *e*SP SP 14 48 28.6 -3.7
LJU Ljubljana 110.84 317 *e* PKiKP 14 38 54.3 +0.3
LJU *e*PP PP 14 39 39.3 +2.1
JAVS Javornik 111.19 317 *e* PKiKP 14 38 54.0 -0.6
MOX Moxa 111.54 322 *e*(P) PP 14 39 32.6 -10
GRA1 Grafenberg Arr 112.06 321 *e*PKPdf PKiKP 14 38 56.5 +0.2
GRA1 *e*PP PP 14 39 47.9 +2.0
GRF Grafenberg Arr 112.06 321 *e*PKIKP PKiKP 14 38 56.5 +0.2
GRF *e* 14 39 47.9
MTUM Tungsten Hills 112.44 52 *e*SKPdf SKPdf 14 42 00.1 +0.3
NVAR Mina Array Bea 112.46 51 SKP SKPdf 14 42 00.1 +0.3
baz=264,slow=1.8
NVAR PKKPbc PKKPbc 14 49 49.3 +2.1
comp=Z,3.2nm,0.7s,baz=117,slow=3.1,SNR=10
WTTA Wattenberg 112.47 319⇑ *i*PKiKP PKiKP 14 38 57.3 +0.3
comp=Z,31nm,0.6s
WTTA ⇓ *i*SKPdf SKPdf 14 41 57.7 -2.2
comp=Z,41nm,0.8s
WATA Walderalm 112.49 319⇑ *i*PKiKP PKiKP 14 38 57.6 +0.5
comp=Z,11nm,0.5s
WATA ⇓ *i*SKPdf SKPdf 14 41 58.0 -1.9
comp=Z,12nm,0.6s
MOTA Moosalm 112.80 319⇑ *i*PKiKP PKiKP 14 38 57.6 -0.1
comp=Z,18nm,0.8s
MOTA ⇓ *i*SKPdf SKPdf 14 41 58.6 -1.9
comp=Z,15nm,0.9s
DAC Darwin (Calif) 113.38 53 PKiKP PKiKP 14 39 00.4 +1.6
DAC Darwin (Calif) 113.38 53 *e*PKiKP PKiKP 14 39 00.1 +1.3
DAVA Damuels 113.61 319⇓ *i*PKiKP PKiKP 14 38 59.3 +0.1
comp=Z,22nm,0.7s
DAVA ⇑ *i*SKPdf SKPdf 14 42 00.2 -1.9
comp=Z,46nm,1.3s
MSO Missoula 113.67 41 *e*PKiKP PKiKP 14 38 59.3 0.0
DAVOX Davos 113.76 319 PKKPbc PKKPbc 14 49 43.4 +0.5
comp=Z,5.3nm,0.5s,baz=261,slow=5.2,SNR=7.3
CHMT Chamberlain Mo 114.09 41 *e*PKiKP PKiKP 14 39 00.2 +0.1
HLID Hailey 114.23 45 *e*PKiKP PKiKP 14 39 01.7 +1.3
LRW Lerwick 114.24 335 *e*P PKiKP 14 38 59.9 -0.6
LRW AMb AMB 14 39 03.8
comp=Z,115nm,1.6s
BFO Black Forest 114.29 321 PKIKP PKiKP 14 39 01.6 +1.0
BFO Black Forest 114.29 321 PKiKP PKiKP 14 39 00.3 -0.3
FELD Feldberg im Sc 114.64 320 PKP PKiKP 14 39 00.9 -0.3
CDF Champ du Feu 114.92 321 *e*PKIKP PKPdf 14 39 01.4 -0.4
comp=Z,5.2nm,0.6s
MOF Molkenrain 115.20 320 PKP PKPdf 14 39 01.6 -0.7
HINF Hinteralfeld 115.39 320 *e*PKIKP PKPdf 14 39 02.0 -0.7
comp=Z,27nm,0.7s
PGF Pioggiola 115.55 314 *e*PKIKP PKPdf 14 39 02.9 -0.1
comp=Z,41nm,0.9s
LOMF Lomont 115.56 320 PKP PKPdf 14 39 02.9 -0.1
HAU Haudompre 115.65 321 *e*PKIKP PKPdf 14 39 02.8 -0.4
HAU *e*R
comp=Z,604nm,22.5s
HAU Haudompre 115.65 321 *e*PKPdf PKPdf 14 39 02.8 -0.4
HAU LR LR
comp=Z,600nm,22.5s
THEF They Montfort 115.80 321 PKP PKPdf 14 39 03.4 -0.1
GIVF Givet 115.81 323 *e*PKIKP PKPdf 14 39 03.3 -0.2
comp=Z,25nm,0.9s
EGMT Eagleton 115.97 39 *e*PKPdf PKPdf 14 39 03.4 -0.4
BAIF Baives 116.20 323 *e*PKIKP PKPdf 14 39 04.2 0.0
comp=Z,9.7nm,0.6s
LPG La Plagne 116.22 318 *e*PKIKP PKPdf 14 39 04.3 0.0
comp=Z,27nm,0.7s
LPL La Plagne 116.23 318 *e*PKIKP PKPdf 14 39 04.2 -0.1
comp=Z,26nm,0.6s
DUG Dugway 116.25 48 PKIKP PKPdf 14 39 05.6 +1.3
DUG Dugway 116.25 48 *e*PKPdf PKPdf 14 39 04.9 +0.6
SBF Sospel 116.27 316 *e*PKIKP PKPdf 14 39 04.0 -0.4
comp=Z,36nm,0.7s
CABF La Chapelle 116.29 319 *e*PKIKP PKPdf 14 39 04.2 -0.2
comp=Z,37nm,0.5s
BNI Bardonecchia 116.42 317 PKIKP PKPdf 14 39 05.1 +0.5
BNI Bardonecchia 116.42 317 *e*PKPdf PKPdf 14 39 04.7 +0.1
MBDF Montbardon 116.45 317 *e*PKIKP PKPdf 14 39 04.6 -0.1
comp=Z,17nm,0.7s
MCD Coleburn Disti 116.54 333 *e*P PKPdf 14 39 04.5 -0.4
MVH1 Achvaich 116.76 334 *e*P PKPdf 14 39 04.9 -0.4
REDW Red Top Meadow 116.78 44 *e*PKPdf PKPdf 14 39 06.3 +0.9
HWUT Hardware Ranch 116.79 46 *e*PKPdf PKPdf 14 39 05.6 +0.2
LOHW Long Hollow 116.88 44 *e*PKPdf PKPdf 14 39 05.9 +0.4
FRF La Foret Royal 116.90 316 *e*PKIKP PKPdf 14 39 05.4 -0.2
KEST Kesra 116.92 307 PKP PKPdf 14 39 06.3 +0.7
comp=Z,3.9nm,0.5s,baz=1.2,slow=1.4,SNR=17
KEST SKP 14 42 07.4
comp=Z,9.1nm,0.9s,baz=309,slow=1.5,SNR=8.9
KEST PKKPbc PKKPbc 14 49 33.2 +1.2
comp=Z,1.1nm,0.6s,baz=236,slow=7.9,SNR=4.7
ORIF Oris-en-Rattie 116.99 318 *e*PKIKP PKPdf 14 39 05.5 -0.3
comp=Z,25nm,0.6s
ORIF *e*R
comp=Z,719nm,18.2s
LMR La Mourre 117.07 316 *e*PKIKP PKPdf 14 39 05.6 -0.3
MDO Dochfour 117.11 333 *e*P PKPdf 14 39 05.1 -0.9
MSU Marysvale 117.14 50 *e*PKIKP PKPdf 14 39 07.9 +1.8
RLMT Red Lodge 117.30 42 *e*PKPdf PKPdf 14 39 08.0 +1.7
EBL Broad Law 117.43 331 *e*P PKPdf 14 39 06.2 -0.4
LOR Lormes 117.48 321 *e*PKIKP PKPdf 14 39 06.5 -0.2
comp=Z,15nm,0.6s
LOR *e*R
comp=Z,601nm,20.0s
LOR Lormes 117.48 321 *e*PKPdf PKPdf 14 39 06.5 -0.2
LOR LR LR
comp=Z,600nm,20.0s
SMRF Simiane la Rot 117.51 317 *e*PKIKP PKPdf 14 39 06.8 0.0
comp=Z,28nm,0.9s
TMUT Trail Mountain 117.68 49 *e*PKPdf PKPdf 14 39 08.5 +1.4
EKA Eskdalemuir Ar 117.72 331 PKKPbc PKKPbc 14 49 27.7 -1.5
comp=Z,3.4nm,0.8s,baz=239,slow=2.7,SNR=6.3
SMF Signal de Mont 117.73 320 *e*PKIKP PKPdf 14 39 06.7 -0.5
KPL Plockton 117.74 334 *e*P PKPdf 14 39 06.4 -0.8
KPL AMb AMB 14 39 08.9
comp=Z,300nm,1.6s
ESK Eskdalemuir 117.75 331 *e*P PKPdf 14 39 07.1 -0.1
ESK AMb AMB 14 39 16.8
comp=Z,31nm,1.6s
SSF Saint Saulge 117.78 320 *e*PKIKP PKPdf 14 39 07.0 -0.3
comp=Z,54nm,0.9s
EAB Aberfoyle 117.81 332 *e*P PKPdf 14 39 07.2 -0.1
VIVF Saint-Julien-l 117.82 318 *e*PKIKP PKPdf 14 39 07.1 -0.3
comp=Z,25nm,0.8s
PDAR Pinedale Array 117.87 45 PKP PKPdf 14 39 07.8 +0.4
comp=Z,3.3nm,0.4s,baz=88,slow=1.9,SNR=34
PDAR SKP 14 42 08.6
comp=Z,4.4nm,0.8s,baz=215,slow=1.8,SNR=5.8
PDAR PKKPbc PKKPbc 14 49 29.1 +0.3
comp=Z,6.5nm,0.5s,baz=112,slow=5.7,SNR=22
AVF Avril sur Loir 117.98 320 *e*PKIKP PKPdf 14 39 06.9 -0.8
comp=Z,31nm,0.9s
PLDF La Plantade 118.12 319 PKP PKPdf 14 39 09.3 +1.4
SRU San Rafael 118.24 49 PKIKP PKPdf 14 39 09.1 +0.9
SRU San Rafael 118.24 49 *e*PKPdf PKPdf 14 39 08.7 +0.6
BGF Bois d'Agland 118.39 320 *e*PKIKP PKPdf 14 39 08.5 0.0
comp=Z,57nm,0.6s
AGO Saint Agoulin 118.40 320 PKP PKPdf 14 39 09.4 +0.9
WUAZ Wupatki 118.48 53 *e*PKPdf PKPdf 14 39 09.8 +1.2
PYM Petit Puy Mans 118.60 319 PKP PKPdf 14 39 09.7 +0.9
FCC Fort Churchill 118.62 23 *e*PKIKP PKPdf 14 39 08.1 -0.8
LBL Lubilhac 118.63 319 PKP PKPdf 14 39 09.5 +0.6
LASF Ste Croix 118.64 317 *e*PKIKP PKPdf 14 39 08.8 -0.1
comp=Z,27nm,0.9s
GAL1 Galloway 118.72 331 *e*P PKPdf 14 39 08.6 -0.5
GAL1 AMb AMB 14 39 09.6
comp=Z,103nm,1.9s
TCF Toulx Ste Croi 118.91 320 *e*PKIKP PKPdf 14 39 09.4 0.0
comp=Z,38nm,0.8s
HLM1 Long Mynd 119.05 328 *e*P PKPdf 14 39 09.2 -0.5
WIM Isle of Man 119.10 330 *e*P PKPdf 14 39 09.6 -0.3
MCH1 Michaelchurch 119.38 328 *e*P PKPdf 14 39 09.5 -0.9
MCH1 *e*P 14 39 09.5
MCH1 AMb AMB 14 39 12.5
comp=Z,32nm,1.9s
LDF La Druitiere 119.38 323 *e*PKIKP PKPdf 14 39 10.1 -0.3
comp=Z,9.3nm,0.5s
HGH Gray Hill 119.46 327 *e*P PKPdf 14 39 10.1 -0.4
HTR Trewern Hill 119.48 328 *e*P PKPdf 14 39 10.2 -0.4
SFJD Kangerlussuaq 119.51 359 *i* P PKPdf 14 39 09.5 -1.1
FLN La Foliniere 119.52 323 *e*PKIKP PKPdf 14 39 10.4 -0.2
comp=Z,25nm,0.8s
FLN *e*R
comp=Z,945nm,22.0s
FLN La Foliniere 119.52 323 *e*PKPdf PKPdf 14 39 10.4 -0.2
FLN LR LR
comp=Z,950nm,22.0s
CAF Calviac 119.53 319 *e*PKIKP PKPdf 14 39 10.6 0.0
RJF Les Rejaudoux 119.74 319 *e*PKIKP PKPdf 14 39 11.2 +0.2
RJF *e*R
comp=Z,825nm,21.2s
RJF Les Rejaudoux 119.74 319 *e*PKPdf PKPdf 14 39 11.2 +0.2
RJF LR LR
comp=Z,830nm,21.3s
EJON La Jonquera 119.87 316 PKP PKPdf 14 39 10.5 -0.8
GRR Gorron 119.91 323 *e*PKIKP PKPdf 14 39 11.2 -0.2
comp=Z,33nm,0.9s
MTLF Montolieu 120.02 317 *e*PKIKP PKPdf 14 39 11.2 -0.4
comp=Z,34nm,0.8s
MFF Saint Martin d 120.26 321 *e*PKIKP PKPdf 14 39 11.8 -0.2
comp=Z,46nm,0.7s
MVCO Mesa Verde 120.30 50 *e*PKPdf PKPdf 14 39 13.7 +1.5
MVCO *e* 14 40 43.7
LFF La Frestale 120.39 319 *e*PKIKP PKPdf 14 39 12.1 -0.2

comp=Z,38nm,0.7s
VALF Valcebollere 120.49 316 PKP PKPdf 14 39 13.3 +0.8
DYA Yadsworthy 120.69 326 *e*P PKPdf 14 39 13.0 +0.1
HTL Hartland 120.70 327 *e*P PKPdf 14 39 12.8 -0.1
HTL AMb AMB 14 39 18.0
comp=Z,70nm,1.8s
ETOS Mallorca 120.83 313 PKP PKPdf 14 39 13.4 +0.3
SGMF Saint Gilles 120.98 324 *e*PKIKP PKPdf 14 39 13.1 -0.3
comp=Z,54nm,0.9s
EMIR Miracle 121.01 316 PKP PKPdf 14 39 13.8 +0.3
ROSF Rostrenen 121.36 324 *e*PKIKP PKPdf 14 39 13.7 -0.5
EPF Esparros 121.40 317 *e*PKIKP PKPdf 14 39 14.3 +0.1
comp=Z,22nm,0.7s
QUIF Quistinic 121.50 324 *e*PKIKP PKPdf 14 39 14.1 -0.3
comp=Z,28nm,0.7s
EPOB Poblet 121.53 315 PKP PKPdf 14 39 14.4 -0.1
EBIE Bielsa 121.67 317 PKP PKPdf 14 39 15.7 +1.0
VIEF Viey 121.67 317 PKP PKPdf 14 39 16.8 +2.0
EMHD Djebel Mahouad 121.82 309 P PKPdf 14 39 17.0 +2.0
ETSF Etsaut 122.06 317 *e*PKIKP PKPdf 14 39 15.8 +0.3
comp=Z,45nm,0.8s
LAZ Ladron 122.13 53 *e*PKPdf PKPdf 14 39 16.9 +1.2
ERTA Horta de San J 122.19 315 PKP PKPdf 14 39 15.9 +0.1
LARF Larrau 122.29 318 PKP PKPdf 14 39 17.0 +1.1
SJPF Ste Jean 122.42 318 *e*PKIKP PKPdf 14 39 16.3 +0.1
comp=Z,28nm,0.8s
ESAC San Caprasio 122.46 316 PKP PKPdf 14 39 16.2 0.0
ANMO Albuquerque 122.51 52 PKIKP PKPdf 14 39 18.0 +1.6
ANMO Albuquerque 122.51 52 *e*PKPdf PKPdf 14 39 16.7 +0.4
ANMO *e*SKPdf SKPdf 14 42 19.3 +0.2
LPM Los Pinos Moun 122.56 53 *e*PKPdf PKPdf 14 39 17.8 +1.4
EALK Alkurruntz 122.57 318 PKP PKPdf 14 39 16.8 +0.3
BNM Barren Site 122.60 53 *e*PKPdf PKPdf 14 39 18.1 +1.6
EMOS Mosqueruela 122.98 315 PKP PKPdf 14 39 18.3 +1.0
ULM Lac du Bonnet 123.01 32 PKP PKPdf 14 39 16.7 -0.7
comp=Z,5.1nm,0.4s,baz=313,slow=4.9,SNR=14
ULM SKP 14 42 18.4
comp=Z,5.4nm,0.8s,baz=317,slow=4.3,SNR=3.7
ULM PKKPab PKKPab 14 49 09.2 -1.3
comp=Z,11nm,0.7s,baz=126,slow=3.2,SNR=10.0
ULM Lac du Bonnet 123.01 32 PKP PKPdf 14 39 16.7 -0.7
ULM SKP 14 42 18.4
ULM PKKPab PKKPab 14 49 09.2 -1.3
EANR 'Ain N'Sour 123.33 309 P PKPdf 14 39 19.0 +1.1
ETRT Tiaret 123.34 308 P PKPdf 14 39 20.0 +2.0
EBEN Beniarda 123.41 313 PKP PKPdf 14 39 18.8 +0.7
ECRI Cripan 123.49 318 PKIKP PKPdf 14 39 19.6 +1.4
ELAN Lanestosa 123.83 319 PKP PKPdf 14 39 19.6 +0.7
ETOR Torete 123.92 316 PKIKP PKPdf 14 39 19.6 +0.5
MNTX Cornudas Mount 124.26 56 *e*PKPdf PKPdf 14 39 20.9 +1.2
ETOB Tobarra 124.40 313 PKP PKPdf 14 39 20.4 +0.5
EARI Arriondas 124.95 320 PKP PKPdf 14 39 21.1 +0.1
EVIA Vianos 125.09 313 PKIKP PKPdf 14 39 22.6 +1.3
GUD Guadarrama 125.44 316 PKIKP PKPdf 14 39 23.1 +1.1
EHUE Huescar 125.47 312 PKIKP PKPdf 14 39 22.1 +0.1
ENIJ Nijar 125.50 311 PKIKP PKPdf 14 39 22.9 +0.8
ESDC Sonseca Array 125.72 315 PKP PKPdf 14 39 23.3 +0.8
comp=Z,5.0nm,0.8s,baz=9.3,slow=3.8,SNR=17
ESDC SKPbc 14 42 05.3
comp=Z,1.8nm,0.7s,baz=49,slow=3.3,SNR=5.0
ESDC SKP 14 42 23.9
comp=Z,3.9nm,0.8s,baz=37,slow=3.3,SNR=4.7
ESDC Sonseca Array 125.72 315 PKP PKPdf 14 39 23.4 +0.9
EQES Quesada 125.82 313 PKP PKPdf 14 39 22.2 -0.5
EBER Berja 126.03 311 PKP PKPdf 14 39 23.9 +0.8
PAB San Pablo 126.04 315 *e*PKIKP PKPdf 14 39 24.7 +1.6
ECSD EROS,Sioux Fal 126.09 39 *e*PKPdf PKPdf 14 39 23.3 +0.1
EPON Pontenova 126.18 320 PKP PKPdf 14 39 23.9 +0.5
EBAN Banos Encina 126.20 313 PKIKP PKPdf 14 39 22.5 -0.9
AMTX Amarillo 126.27 51 *e*PKPdf PKPdf 14 39 24.7 +1.1
LTX Lajitas 126.30 58 PKIKP PKPdf 14 39 25.0 +1.4
LTX Lajitas 126.30 58 *e*PKPdf PKPdf 14 39 24.9 +1.2
TXAR Lajitas Array 126.30 58 PKhKP 14 39 17.1
comp=Z,0.3nm,0.4s,baz=243,slow=2.5,SNR=5.3
TXAR PKP PKPdf 14 39 25.1 +1.5
comp=Z,3.5nm,0.6s,baz=192,slow=2.5,SNR=31
TXAR pPKP pPKPdf 14 40 50.0 +3.0
comp=Z,0.8nm,0.7s,baz=267,slow=5.3,SNR=1.5
TXAR SKPbc 14 42 08.5
comp=Z,7.4nm,0.6s,baz=253,slow=3.0,SNR=16
TXAR PKKPab 14 48 58.0
comp=Z,0.8nm,0.4s,baz=114,slow=5.1,SNR=15
ECOG Cogollos-Vega 126.39 312 PKIKP PKPdf 14 39 23.4 -0.4
EALB Alboran 126.49 310 PKP PKPdf 14 39 24.1 +0.1
EGUA Guajares 126.56 312 PKIKP PKPdf 14 39 24.6 +0.5
ECAL Calabor 126.59 319 PKP PKPdf 14 39 24.3 +0.1
ERUA La Rua 126.64 319 PKIKP PKPdf 14 39 24.4 +0.1
PBRG Braganca 126.66 319 *e*PKP PKPdf 14 39 25.4 +1.1
ERON Agron 126.67 312 PKP PKPdf 14 39 24.5 +0.2
EADA Adamuz 126.77 314 PKP PKPdf 14 39 23.0 -1.5
TOA0 Torodi Ar. Sit 126.78 282 *e*PKPdf PKPdf 14 39 25.0 +0.5
TORD Torodi Ar. Bea 126.78 282 PKhKP 14 39 12.1
comp=Z,0.7nm,0.5s,baz=121,slow=1.2,SNR=7.1
TORD PKP PKPdf 14 39 25.0 +0.5
comp=Z,42nm,0.6s,baz=70,slow=1.8,SNR=105
TORD SKPab 14 42 07.7
comp=Z,51nm,0.9s,baz=79,slow=3.5,SNR=24
TORD SKP 14 42 26.3
comp=Z,18nm,0.9s,baz=100,slow=1.5,SNR=5.1
ELUQ Luque 126.79 313 PKIKP PKPdf 14 39 25.8 +1.2
ELOJ Sierra Loja 126.87 312 PKIKP PKPdf 14 39 25.2 +0.5
STS Santiago 127.29 321 PKIKP PKPdf 14 39 24.7 -0.8
PVRL Vila Real 127.56 318 *e*PKP PKPdf 14 39 28.0 +2.0
PVRL Vila Real 127.56 318 *e*PP SKPdf 14 42 11.6 -17
EMIJ Mijas 127.56 312 PKP PKPdf 14 39 25.2 -0.8
PVIS Viseu 127.94 318 *e*PP SKPdf 14 42 13.1 -16
PCBR Castelo Branco 128.08 317 *e*PKP PKPdf 14 39 28.3 +1.3
PCBR Castelo Branco 128.08 317 *e*PP SKPdf 14 42 12.9 -17
EJIF Jimena Fronter 128.12 312 PKIKP PKPdf 14 39 27.7 +0.6
ESPR Espera 128.23 313 PKP PKPdf 14 39 27.6 +0.3
EBAD Badajoz 128.25 315 PKP PKPdf 14 39 27.7 +0.3
KSU1 Kansas State U 128.31 44 PKPdf PKPdf 14 39 25.6 -1.9
EMIN Mina Concepcio 128.44 314 PKP PKPdf 14 39 27.6 -0.1
WMOK Wichita Mounta 128.55 50 *e*PKIKP PKPdf 14 39 25.5 -2.4
EVO Evora 129.05 315 *e*PKIKP PKPdf 14 39 29.5 +0.6
comp=Z,27nm,0.9s
EVO *e*R 14 42 19.9
comp=Z,604nm,19.2s
EGRO El Granado 129.12 314 PKP PKPdf 14 39 29.8 +0.8
PBEJ Beja 129.18 315 *e*PKP PKPdf 14 39 30.9 +1.8
PBEJ Beja 129.18 315 *e*PP SKPdf 14 42 17.3 -14
JCT Junction City 129.20 56 *e*PKIKP PKPdf 14 39 29.4 +0.3
PLOU Loures 129.67 316 *e*PP SKPdf 14 42 19.0 -14
PTEO Sao Teotonio 130.00 315 *e*PKP PKPdf 14 39 33.7 +3.0
PTEO Sao Teotonio 130.00 315 *e*PP SKPdf 14 42 20.7 -13
SCHQ Schefferville 130.27 11 PKP PKPdf 14 39 31.8 +0.6
comp=Z,9.3nm,0.6s,baz=297,slow=1.3,SNR=27
SCHQ SKPab 14 42 19.9
comp=Z,226nm,0.8s,baz=350,slow=4.2,SNR=79
SCHQ Schefferville 130.27 11 PKP PKPdf 14 39 31.8 +0.6
SCHQ SKPab 14 42 19.9
JFWS Jewell Farm 130.43 37 *e*PKIKP PKPdf 14 39 31.3 -0.2
SLM Saint Louis 132.85 41 *e*SKPbc SKPbc 14 42 29.8 -1.5
FVM French Village 133.08 42 PKIKP PKPdf 14 39 37.7 +1.2
FVM French Village 133.08 42 *e*PKPdf PKPdf 14 39 37.4 +0.9
UALR University of 133.34 47 *e*SKPbc SKPbc 14 42 32.2 -0.8
LIC Lamto 133.36 272 *e*PKIKP PKPdf 14 39 37.1 +0.1
comp=Z,101nm,0.7s
LIC *e*R 14 42 19.9
comp=Z,383nm,20.0s
LIC Lamto 133.36 272 *e*PKPdf PKPdf 14 39 37.1 +0.1
LIC LR LR
comp=Z,190nm,20.0s
SIUC Southern Illin 134.03 42 *e*SKPbc SKPbc 14 42 34.0 -1.2
HBAR Harrisburg 134.17 45 *e*SKPbc SKPbc 14 42 34.6 -1.2
PARMO Parma 134.23 43 *e*SKPbc SKPbc 14 42 34.6 -1.3
GNAR Gosnell 134.41 44 *e*SKPbc SKPbc 14 42 35.5 -1.0
USIN University of 134.91 41 *e*SKPbc SKPbc 14 42 36.7 -1.4
BLO Bloomington 134.92 39 *e*SKPbc SKPbc 14 42 36.0 -2.1
OXF Oxford 135.58 46 *e*SKPbc SKPbc 14 42 37.0 -3.2
WCI Wyandotte Cave 135.63 39 *e*SKPbc SKPbc 14 42 38.4 -2.0
WVT Waverly 135.83 43 *e*PKIKP PKPdf 14 39 43.1 +1.5
MSNY Massena 136.71 24 *e*SKPbc SKPbc 14 42 41.1 -2.5
FCH Farellones 136.81 157 *e*P SKPbc 14 42 42.1 -1.8
LONY Lake Ozonia 137.13 24 *e*SKPbc SKPbc 14 42 42.4 -2.4
FRNY Flat Rock 137.34 23 *e*SKPbc SKPbc 14 42 43.3 -2.1
NCB Newcomb 137.81 24 *e*SKPbc SKPbc 14 42 44.9 -1.8
PMAR Madeira 138.20 313 *e*PP PP 14 42 47.7 +8.7
ACCN Adirondack Com 138.52 24 *e*SKPbc SKPbc 14 42 46.4 -2.3
SSPA Standing Stone 138.79 30 *e*PKPpre 14 39 36.8
HNH Hanover 138.80 22 *e*SKPbc SKPbc 14 42 47.7 -1.8
CFAA Coronel Fontan 139.12 159 PKhKP 14 39 38.5
baz=164,slow=4.0
CFAA PKP PKPdf 14 39 49.5 +1.8
comp=Z,4.8nm,0.5s,baz=166,slow=0.9
CFAA SKPbc SKPbc 14 42 49.0 -1.4
comp=Z,2.9nm,0.5s,baz=238,slow=2.0,SNR=12
CFAA Coronel Fontan 139.12 159 PKP 14 39 38.5
CFAA PKP PKPdf 14 39 49.5 +1.8
CFAA SKPbc SKPbc 14 42 49.0 -1.4
FWV Forest Hill 139.38 36 *e*SKPbc SKPbc 14 42 49.4 -1.7
BLA Blacksburg 139.86 36 *e*PKHKP 14 39 38.1
MVL Millersville 140.04 30 *e*SKPbc SKPbc 14 42 50.8 -2.1
PAL Palisades 140.38 26 *e*SKPbc SKPbc 14 42 52.2 -1.6
JSC Jenkinsville 141.26 40 *e*PKHKP PKPdf 14 39 47.2 -4.3
COW Cow Castle Cre 142.19 41 *e*SKPbc SKPbc 14 42 58.2 -0.2
TEIG Tepich 142.21 65 *e*PKPpre PKPdf 14 39 50.6 -2.6
CPN1 Cerro Paranal 144.30 150 *e*P PKPdf 14 39 57.0 +0.1
TGUH Tegucigalpa,Un 144.48 75 *e*PKP PKPdf 14 39 58.8 +1.5
DWPF Disney 144.73 49 *e*PKP PKPdf 14 39 57.7 +0.1
CEN1 Los Morros 145.43 150 *i*eP PKPdf 14 39 59.9 +1.1
CRZC La Cruz 146.47 80 *e*P PKPbc 14 40 04.0 +1.4
LVC Limon Verde 146.72 151 PKPbc PKPbc 14 40 03.4 +0.1
comp=Z,96nm,0.4s,baz=243,slow=2.2,SNR=156
LVC SKPbc SKPbc 14 43 09.4 +0.4
comp=Z,32nm,0.7s,baz=251,slow=3.0,SNR=5.9
LVC Limon Verde 146.72 151 *e*PKPdf PKPdf 14 40 02.6 +1.6
LVC *e*PKPbc PKPbc 14 40 05.3 +2.0
JCR Jicaral 147.03 82 *e*P PKPbc 14 40 04.8 +0.7
CAO Cobano 147.04 82 *e*P PKPbc 14 40 04.4 +0.2
JTS JuntasAbangare 147.15 81 *e*P PKPdf 14 40 03.7 +1.9
JTS JuntasAbangare 147.15 81 PKP2 PKPab 14 40 04.9 -2.2
JTS JuntasAbangare 147.15 81 *e*PKPbc PKPbc 14 40 04.7 +0.2
EPA Esparza 147.52 82 *e*P PKPbc 14 40 06.8 +1.4
PRS1 Puriscal 147.80 82 *e*P PKPbc 14 40 07.6 +1.4
LCR2 La Lucha 2 148.12 82 *i*eP PKPbc 14 40 08.0 +1.0
OCM Ochomogo 148.15 82 *e*P PKPdf 14 40 06.0 +2.6
OCM *e*P 14 40 09.2
IRZ2 Volcan Irazu 2 148.21 81 *e*P PKPbc 14 40 09.4 +2.2
NNA Nana 149.24 126 PKPdf PKPdf 14 40 05.6 +0.4
NNA *e*PKPbc PKPbc 14 40 11.0 +1.2
CTCR Cotoan 149.39 83 *e*P PKPdf 14 40 07.9 +2.5
CAM4 Nova Friburgo 149.96 198 *i*↑P PKPbc 14 40 13.7
CAM4 *i* 14 40 14.8
CAM4 *i* 14 40 20.3
CAM4 *i* 14 40 24.1
ARE Arequipa 150.17 140 *e*PKIKP PKPbc 14 40 13.0 +0.9
CAM3 Guarapari 150.77 202 *i*↑P PKPbc 14 40 14.5 +1.1
CAM3 *i* 14 40 15.2
CAM3 *i* 14 40 16.8
CAM3 *i* 14 40 22.8
CAM3 *i* 14 40 23.4
CAM3 *i* 14 40 25.2
LMGC Las Mercedes 152.17 58 *e*P PKPbc 14 40 18.6 +2.0
LPAZ La Paz 152.34 145 PKP PKPdf 14 40 12.2 +2.2
comp=Z,20nm,0.8s,baz=28,slow=1.3,SNR=31
LPAZ PKPbc PKPbc 14 40 18.9 +1.8
comp=Z,59nm,0.5s,baz=177,slow=2.9,SNR=82
LPAZ PKPab PKPab 14 40 30.8 +2.2
comp=Z,97nm,0.5s,baz=226,slow=2.4,SNR=18
LPAZ La Paz 152.34 145 *e*PKPdf PKPdf 14 40 12.1 +2.2
OTAV Otavalo 152.87 102 *e*PKPdf PKPdf 14 40 13.0 +2.4
SIV San Ignacio 155.98 158 PKP PKPdf 14 40 15.9 +0.9
comp=Z,17nm,0.8s,baz=218,slow=1.2,SNR=57
SIV PKPab PKPab 14 40 44.7 +0.6
comp=Z,16nm,0.5s,baz=226,slow=5.3,SNR=21
ROSC El Rosal 157.69 93 PKP PKPdf 14 40 18.2 +1.1
comp=Z,13nm,0.6s,baz=291,slow=15,SNR=9.2
ROSC El Rosal 157.69 93 PKPdf PKPdf 14 40 17.4 +0.3
SAML Samuel 161.08 144 *e*PKPdf PKPdf 14 40 21.6 +0.6
SDV Santo Domingo 161.34 81 PKP PKPdf 14 40 21.7 +0.4
comp=Z,34nm,0.8s,baz=288,slow=3.2
SDV Santo Domingo 161.34 81 *e*PKPdf PKPdf 14 40 21.5 +0.2
MTP Monte Pirata 162.38 48 *e*PKPdf PKPdf 14 40 23.0 +0.7

IGQ 14 14:52:30.4, 181S×8036W, h12km±7km, Mb4.1, Ms3.9, 6C-6D, Error ellipse: s-maj=7.9km s-min=2.6km az=148.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.55**	**6**	P	Pn	14 52 59.0	+1.3
JAMA				S	Sn	14 53 20.4	+2.7
IGUA	**Igualata**	**1.75**	**80**	↑P	Pn	14 53 03.1	+2.6
IGUA				S	Sn	14 53 25.8	+3.1
MAG1	**Magdalena**	**1.82**	**19**	P	Pn	14 53 02.2	+0.6
MAG1				S	Sn	14 53 26.2	+1.6
ARRY	**Arrayan**	**1.93**	**81**	↓P	Sn	14 53 05.2	+2.2
ARRY				S	Pn	14 53 29.5	+2.3
JUIV	**Juive**	**1.93**	**79**	↓P	Sn	14 53 04.9	+1.8
JUIV				S	Sn	14 53 30.0	+2.7
RETU	**Refugio**	**1.95**	**79**	P	Pn	14 53 06.5	+3.3
RETU				S	Sn	14 53 31.6	+4.0
PATA	**Patacocha**	**1.95**	**81**	↓P	Pn	14 53 06.0	+2.7
PATA				S	Sn	14 53 30.4	+2.7
RUN5	**Runtun**	**1.97**	**79**	P	Pn	14 53 06.9	+3.3
RUN5				S	Sn	14 53 33.4	+5.1
ULBA	**Ulba**	**1.98**	**80**	P	Pn	14 53 07.0	+3.2
ULBA				S	Sn	14 53 32.1	+3.6
CAMI	**Rancho Maria**	**2.17**	**59**	P	Pn	14 53 09.9	+3.6
VC1	**Cotopaxi 1**	**2.27**	**59**	↑P	Pn	14 53 11.7	+3.9
VC1				S	Sn	14 53 47.2	+11
TAMB	**Tambo**	**2.28**	**61**	↑P	Pn	14 53 11.5	+3.6
TAMB				S	Sn	14 53 43.0	+7.2
JUA2	**San Juan 2**	**2.37**	**48**	↓P	Pn	14 53 11.5	+2.5
JUA2				S	Sn	14 53 44.9	+7.0
GGP	**Refugio Guagua**	**2.40**	**47**	↓P	Pn	14 53 11.7	+2.2
PINO	**Pino**	**2.40**	**47**	↑P	Pn	14 53 11.5	+2.0
PINO				S	Sn	14 53 45.3	+6.5
YANA	**Yana**	**2.45**	**47**	↓P	Pn	14 53 12.0	+1.8
YANA				S	Sn	14 53 41.4	+1.2
ANTI	**Antisana**	**2.58**	**58**	↑P	Pn	14 53 16.4	+4.4
COTA	**Cotacachi**	**2.94**	**44**	P	Pn	14 53 20.7	+3.8
COTA				S	Sn	14 53 58.4	+6.3
CAYA	**Cayambe**	**3.02**	**52**	↑P	Pn	14 53 22.1	+4.1
CAYA				S	Sn	14 54 02.5	+8.4

*ISCJB **14** 14:57:54.0±0.6, 3837N×003×22.16E×003, h8km±4km, Error ellipse: s-maj=4.6km s-min=4.0km az=116.6*
*NEIC **14** 14:57:54.7, 3836N×22.16E, h24km, ML3.0(ATH), After ATH.*
*CSEM **14** 14:57:54.9±0.1, 38.34N×2220E, h5km, ML3.0, Error ellipse: s-maj=2.5km s-min=2.3km az=172.0*
*ATH **14** 14:57:54.7, 3836N×22.16E, h24km±1km, MD3.2/11, ML3.0*
*THE **14** 14:57:56.0, 3838N×2226E, h9km, ML3.3*

ISC 14 14:57:54.9±0.5, 3836N±003×2220E±003, h9km±4km, n27, σ0°74/42, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.64**	**331**	*e*PN	**Pg**	**14 58 07.0**	**-0.3**
EVR				*e*SN	**Sg**	**14 58 16.6**	**+0.9**
RLS	**Riolos of Patr**	**0.65**	**243**	*e*PN	**Pg**	**14 58 07.4**	**-0.1**
RLS				*e*SN	**Sg**	**14 58 16.5**	**+0.5**
AGG	**Agios Georgios**	**0.67**	**8**	*e*Pg	**Pg**	**14 58 07.2**	**-0.7**
AGG				*e*Sg	**Sg**	**14 58 17.6**	**+0.9**
LKR	**Lokris**	**0.69**	**64**	*e*PN	**Pg**	**14 58 08.4**	**+0.2**
LKR				*e*SN	**Sg**	**14 58 18.8**	**+1.5**
MGER	**Gerania Oros**	**0.91**	**114**	*e*PN	**Pn**	**14 58 13.5**	**-0.3**
NAIG	**Nisos Aigina**	**1.18**	**120**	*e*PN	**Pn**	**14 58 18.0**	**+0.5**
ITM	**Ithomi**	**1.19**	**191**	*e*PN	**Pn**	**14 58 17.1**	**-0.6**
THL	**Klokotos Trika**	**1.22**	**353**	*e*PN	**Pn**	**14 58 17.9**	**-0.1**
NEO	**Neokhori**	**1.24**	**40**	*e*PN	**Pn**	**14 58 18.5**	**+0.1**
NEO				*e*SN	**Sn**	**14 58 36.0**	**+0.8**
ATH	**Athens Observa**	**1.25**	**107**	*e*PN	**Pn**	**14 58 19.2**	**+0.7**
LKD	**Levkas**	**1.27**	**287**	*e*Pg	**Pg**	**14 58 18.3**	**-0.9**
LKD				*e*Sg	**Sg**	**14 58 36.7**	**+1.0**
XOR	**Xorichti**	**1.27**	**37**	*e*Pg	**Pg**	**14 58 18.9**	**-0.4**
XOR				*e*Sg	**Sg**	**14 58 36.0**	**+0.2**
VLS	**Valsamata**	**1.28**	**263**	*e*PN	**Pn**	**14 58 18.1**	**-0.8**
VLS				*e*SN	**Sn**	**14 58 36.4**	**+0.2**
AOS	**Alonnisos**	**1.54**	**58**	*e*Pg	**Pg**	**14 58 22.4**	**-2.0**
MEV	**Metsovon**	**1.62**	**332**	*e*Pg	**Pg**	**14 58 25.2**	**-0.7**
MEV				*e*Sg	**Sg**	**14 58 46.7**	**-0.2**
VLI	**Veliai**	**1.73**	**160**	*e*PN	**Pn**	**14 58 25.6**	**+0.4**
LIT	**Litokhoron**	**1.76**	**7**	*e*Pb	**Pb**	**14 58 25.4**	**-1.8**
LIT				*e*Sb	**Sb**	**14 58 48.9**	**-0.6**
LIT	**Litokhoron**	**1.76**	**7**	*e*Pb	**Pb**	**14 58 25.5**	**-1.8**
LIT				*e*Sb	**Sb**	**14 58 48.8**	**-0.6**
PAIG	**Paliouri**	**1.94**	**36**	*e*Pb	**Pn**	**14 58 27.8**	**-0.3**
PAIG				*e*Sb	**Sn**	**14 58 51.2**	**-1.4**
PLG	**Polygyros**	**2.23**	**25**	*e*Pn	**Pn**	**14 58 31.8**	**-0.2**
HORT	**Hortiatis**	**2.34**	**17**	*e*Pn	**Pn**	**14 58 33.2**	**-0.3**
HORT				*e*Sn	**Sn**	**14 59 02.7**	**+0.3**
OUR	**Ouranopolis**	**2.41**	**34**	*e*Pn	**Pn**	**14 58 34.1**	**-0.3**
FNA	**Florina**	**2.51**	**345**	*e*Pn	**Pn**	**14 58 36.9**	**+1.1**
FNA				*e*Sn	**Sn**	**14 59 07.1**	**+0.6**
SOH	**Sokhos**	**2.62**	**19**	*e*Pn	**Pn**	**14 58 37.8**	**+0.5**
LOS	**Limnos**	**2.74**	**54**	*e*Pn	**Pn**	**14 58 38.9**	**0.0**
KNT	**Kendrikon**	**2.85**	**11**	*e*Pn	**Pn**	**14 58 40.9**	**+0.4**
KNT				*e*Sn	**Sn**	**14 59 15.3**	**+0.3**
APE	**Apeiranthos**	**2.93**	**115**	*e*Pn	**Pn**	**14 58 42.4**	**+0.7**

GUC 14 15:00:46.3±0.8, 2611S×6988W, h48km±11km, MD3.9, ML3.6, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.28**	**221**	*e*P	Pn	15 01 08.4	+0.6
CDCH				*i* S	Sn	15 01 25.2	+1.4
CPCH	**Copiapo**	**1.32**	**198**	*e*P	Pn	15 01 09.0	+0.7
CPCH				*i* S	Sn	15 01 26.0	+1.4
CPCH				AML	AML	15 01 29.8	
	comp=E,7μm,0.1s						
CPN1	**Cerro Paranal**	**1.55**	**342**	↑*e*P	Pn	15 01 13.3	+1.9
CPN1				*i* S	Sn	15 01 32.5	+2.3
CPN1				AML	AML	15 01 36.8	
	comp=N,331nm,0.3s						
ANCH	**Antofagasta**	**2.46**	**349**	*e*P	Pn	15 01 25.0	+1.1
ANCH				*i* S	Sn	15 01 54.7	+2.0
CEN1	**Los Morros**	**2.72**	**354**	*e*P	Pn	15 01 26.0	-1.5
CEN1				*i* S	Sn	15 01 57.0	-2.1

*ISCJB **14** 15:07:29.9±2.6, 2185N±008×1433E±02, h36km±24km, mb4.0/10, MS4.0/2, Error ellipse: s-maj=32.7km s-min=12.9km az=163.8*
*BJI **14** 15:07:31.0, 2190N×143.10E, h35km, mb4.3*
*IDC **14** 15:07:31.8±7.8, 2186N×143.14E, h33km±60km, mb3.9/9, mb1 4.1/10, mb1mx3.9/24, mbtmp3.9/10, ML3.6/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/36, Error ellipse: s-maj=33.6km s-min=15.0km az=85.0*
*NEIC **14** 15:07:32.0±0.6, 2187N×143.11E, h35km, mb4.4/2, Error ellipse: s-maj=26.9km s-min=11.3km az=83.0*

ISC 14 15:07:32.4±2.1, 2186N±008×1433E±02, h43km±20km, n22, σ0°71/18, mb4.0/10, MS4.0/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.32**	**349**	Pn	**Pn**	**15 08 49.4**	**+0.1**
	5.2nm,0.3s,baz=310,slow=22,SNR=6.8						
CBIJ				Sn	**Sn**	**15 09 49.0**	**-0.2**
	3.1nm,0.3s,baz=127,slow=20,SNR=2.9						
JOW	**Kunigami**	**14.56**	**293**	LR	LR	15 15 33.6	
	comp=Z,798nm,19.3s,baz=75,slow=33						
ASAJ	**Asahikawa**	**22.21**	**359**	LR	LR	15 20 49.8	
	comp=Z,288nm,18.3s,MS3.7,baz=187,slow=36						
SONM	**Songino Array**	**39.29**	**320**	P	**P**	**15 14 57.1**	**0.0**
	1.0nm,0.8s,mb3.6,baz=129,slow=7.1,SNR=6.7						
GTA	**Gaotai**	**40.87**	**305**	*e*P	**P**	**15 15 10.4**	**+0.2**
GTA				AP	pP	15 15 18.0	-4.0
GTA				XP	sP	15 15 21.8	-5.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.7						
CTA	**Charters Tower**	**41.78**	**176**	*e*P	**P**	**15 15 20.4**	**+2.7**
	comp=Z,7.0nm,1.5s,mb4.1						
CTA	**Charters Tower**	**41.78**	**176**	P	**P**	**15 15 20.1**	**+2.5**
	comp=Z,12nm,1.1s,mb4.4,baz=11,slow=3.3,SNR=5.4						
CTAO	**Charters Tower**	**41.78**	**176**	*e*P	**P**	**15 15 20.1**	**+2.4**
	comp=Z,17nm,1.2s,mb4.6						
WB2	**Warramunga Arr**	**42.45**	**193**	*e*P	**P**	**15 15 22.5**	**-0.6**
WRA	**Warramunga Arr**	**42.45**	**193**	P	**P**	**15 15 22.8**	**-0.4**
	comp=Z,8.5nm,1.1s,mb4.3,baz=14,slow=9.1,SNR=19						
AS31	**Alice Springs**	**46.16**	**192**	*e*P	**P**	**15 15 52.3**	**-0.5**
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**15 15 52.2**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=15,slow=9.5,SNR=24						
WMQ	**Urumqi**	**50.57**	**309**	P	**P**	**15 16 28.0**	**+1.3**
ZAL	**Zalesovo**	**54.17**	**322**	P	**P**	**15 16 53.0**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.2,baz=340,slow=18,SNR=3.7						
MKAR	**Makanchi Array**	**54.67**	**313**	P	**P**	**15 16 56.8**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=96,slow=8.6,SNR=5.1						
MDRS	**Chennai**	**60.44**	**273**	*ex*	x	15 17 55.0	
BVAR	**Borovoye Array**	**62.63**	**319**	P	**P**	**15 17 52.2**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=90,slow=7.2,SNR=9.7						
INK	**Inuvik**	**67.38**	**24**	P	**P**	**15 18 23.6**	**+0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=271,slow=3.8,SNR=3.6						
INK	**Inuvik**	**67.38**	**24**	*e*P	**P**	**15 18 23.4**	**+0.2**
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**15 19 16.1**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=293,slow=5.9,SNR=4.1						
PPT	**Papeete**	**76.49**	**115**	LR	LR	15 45 17.2	
	comp=Z,150nm,21.0s,MS4.3,baz=75,slow=30						
LPAZ	**La Paz**	**149.81**	**85**	PKPbc	PKPbc	15 27 20.9	+3.2
	comp=Z,0.5nm,0.6s,baz=323,slow=5.1,SNR=4.2						

*IDC **14** 15:15:12.8±1.2, 3282N×8926E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=43.0km s-min=29.3km az=24.0*
*ISCJB **14** 15:15:14.8±5.0, 330N±01×893E±02, h25km±40km, mb3.7/4, Error ellipse: s-maj=29.5km s-min=19.4km az=80.5*

ISC 14 15:15:15.8±6.8, 330N±01×893E±02, h17km±46km, n12, σ0°87/12, mb3.7/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.89**

BFZ	**Birch Farm**	**2.57**	**183**	PN	Pn	15 22 02.0	-1.6
MRZ	**Mangatainoka R**	**2.63**	**194**	⇑PN	Pn	15 22 02.4	-1.9
KIW	**Kapiti Island**	**2.99**	**203**	P	Pn	15 22 06.2	-2.7
KIW	**Kapiti Island**	**2.99**	**203**	PN	Pn	15 22 06.2	-2.6
MTW	**Mount Morrison**	**3.13**	**193**	P	Pn	15 22 07.7	-2.9
MTW	**Mount Morrison**	**3.13**	**193**	PN	Pn	15 22 07.7	-2.9
CAW	**Cannon Point**	**3.17**	**199**	PN	Pn	15 22 07.7	-3.5
DUWZ	**D'Urville Isla**	**3.32**	**215**	PN	Pn	15 22 10.1	-3.1
TRWZ	**Traveller**	**3.33**	**190**	PN	Pn	15 22 10.5	-2.8
PAWZ	**Paruwai Farm**	**3.36**	**193**	P	Pn	15 22 10.6	-3.0
PAWZ	**Paruwai Farm**	**3.36**	**193**	PN	Pn	15 22 10.6	-3.0
MRW	**Makara Radio**	**3.39**	**203**	P	Pn	15 22 10.9	-3.1
MRW	**Makara Radio**	**3.39**	**203**	PN	Pn	15 22 10.9	-3.1
WEL	**Wellington**	**3.42**	**202**	P	Pn	15 22 11.5	-2.9
WEL	**Wellington**	**3.42**	**202**	PN	Pn	15 22 11.5	-2.9
MSWZ	**Moikau Station**	**3.42**	**195**	P	Pn	15 22 11.2	-3.2
MSWZ	**Moikau Station**	**3.42**	**195**	PN	Pn	15 22 11.2	-3.2
SNZO	**South Karori**	**3.46**	**202**	P	Pn	15 22 11.5	-3.5
SNZO	**South Karori**	**3.46**	**202**	PN	Pn	15 22 11.5	-3.4
TCW	**Tory Channel**	**3.52**	**208**	P	Pn	15 22 12.3	-3.4
TCW	**Tory Channel**	**3.52**	**208**	PN	Pn	15 22 12.3	-3.4
NNZ	**Nelson**	**3.90**	**216**	*e*P	Pn	15 22 16.8	-3.9
NNZ	**Nelson**	**3.90**	**216**	PN	Pn	15 22 16.8	-3.9
BSWZ	**Blackbirch Sta**	**4.10**	**208**	P	Pn	15 22 19.8	-3.5
BSWZ	**Blackbirch Sta**	**4.10**	**208**	PN	Pn	15 22 19.8	-3.5
THZ	**Tophouse**	**4.55**	**216**	P	Pn	15 22 26.3	-2.9
THZ	**Tophouse**	**4.55**	**216**	PN	Pn	15 22 26.3	-2.9
KHZ	**Kahutara**	**4.84**	**206**	P	Pn	15 22 28.8	-4.2
KHZ	**Kahutara**	**4.84**	**206**	PN	Pn	15 22 28.8	-4.2
LTZ	**Lake Taylor**	**5.65**	**213**	*e*P	Pn	15 22 38.8	-5.0

*IDC **14** 15:32:11.6±4.9, 1748N×9630W, h0km, mb3.5/1, mb1 3.7/2, mb1mx3.6/16, mbtmp3.2/2, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx3.1/20, Error ellipse: s-maj=351.4km s-min=54.2km az=75.0*

*ISCJB **14** 15:32:21.3±0.7, 1695N±004×10087W±003, h30km±5km, mb3.1/1, MS3.2/1, Error ellipse: s-maj=7.8km s-min=3.5km az=42.1*

*MEX **14** 15:32:23.4±1.0, 1699N×10086W, h6km±9km, MD4.4*

*NEIC **14** 15:32:23.5, 1694N×10088W, h10km, mb3.9/2, MD4.4(MEX), After MEX.*

ISC 14 15:32:21.5±0.8, 1697N±005×10086W±003, h15km±4km, n38, σ1§22/66, mb3.1/1, MS3.2/1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.57**	**82**	*i* P	**Pg**	**15 32 33.4**	**+0.7**
CAIG				*i* S	**Sg**	**15 32 40.6**	**+0.3**
ZIIG	**Zihuatanejo**	**0.86**	**318**	*i* P	**Pg**	**15 32 38.1**	**-0.1**
ZIIG				*i* S	**Sg**	**15 32 48.4**	**-1.2**
ACX	**Acapulco**	**0.91**	**96**	*i* P	**Pb**	**15 32 39.0**	**+0.1**
ACX				*i* S	**Sg**	**15 32 52.0**	**+1.1**
MEIG	**Mezcala**	**1.52**	**51**	*e*P	**Pn**	**15 32 47.5**	**-0.5**
MEIG				*i* S	**Sn**	**15 33 05.7**	**-1.9**
PLIG	**Platanillo**	**1.92**	**42**	*e*P	**Pn**	**15 32 53.1**	**-0.4**
PLIG				*i* S	**Sn**	**15 33 16.3**	**-1.1**
PLIG	**Platanillo**	**1.92**	**42**	*e*P	**Pn**	**15 32 53.1**	**-0.4**
PLIG				*i* S	**Sn**	**15 33 18.7**	**+1.2**
YAIG	**Yautepec**	**2.54**	**42**	*i* P	**Pn**	**15 33 00.8**	**-1.3**
YAIG				*i* S	**Sn**	**15 33 33.0**	**+0.2**
YAIG	**Yautepec**	**2.54**	**42**	*i* P	**Pn**	**15 33 00.8**	**-1.3**
YAIG				*i* S	**Sn**	**15 33 35.1**	**+2.3**
PNIG	**Pinotepa**	**2.68**	**102**	*i* P	**Pn**	**15 33 05.1**	**+1.1**
PNIG				*i* S	**Sn**	**15 33 35.5**	**-0.7**
PNIG	**Pinotepa**	**2.68**	**102**	*i* P	**Pn**	**15 33 07.3**	**+3.3**
PNIG				*i* S	**Sn**	**15 33 37.7**	**+1.6**
MMIG	**Aquila**	**2.71**	**299**	*i* P	**Pn**	**15 33 05.1**	**+0.6**
MMIG				*i* S	**Sn**	**15 33 35.7**	**-1.3**
MOIG	**Morelia**	**2.72**	**353**	*e*P	**Pn**	**15 33 04.8**	**+0.3**
MOIG				*i* S	**Sn**	**15 33 37.5**	**+0.4**
MOIG	**Morelia**	**2.72**	**353**	*i* P	**Pn**	**15 33 07.3**	**+2.7**
MOIG				*i* S	**Sn**	**15 33 39.5**	**+2.3**
SZVM	**Salazar**	**2.73**	**31**	*e*P	**Pn**	**15 33 04.2**	**-0.6**
SZVM				*i* S	**Sn**	**15 33 35.5**	**-2.0**
UNM	**Universidad Na**	**2.84**	**34**	*e*P	**Pn**	**15 33 07.0**	**+0.8**
UNM				*e*P		15 33 11.0	
UNM				*i* S	**Sn**	**15 33 40.8**	**+0.5**
UNM				*i* S	**Sn**	**15 33 41.0**	**+0.8**
UNM	**Universidad Na**	**2.84**	**34**	*e*P	**Pn**	**15 33 11.1**	**+4.9**
UNM				*i* S	**Sn**	**15 33 41.3**	**+1.1**
PPM	**Popocatepetl**	**2.98**	**45**	*i* P	**Pn**	**15 33 07.9**	**-0.2**
PPM				*i* S	**Sn**	**15 33 44.2**	**+0.7**
PPM	**Popocatepetl**	**2.98**	**45**	*i* P	**Pn**	**15 33 07.9**	**-0.2**
PPM				*i* S	**Sg**	**15 33 53.3**	**-3.9**
UTMO	**Huajuapan**	**3.04**	**73**	*i* P	**Pn**	**15 33 07.6**	**-1.4**
UTMO				*i* S	**Sn**	**15 33 47.5**	**+2.3**
IIO	**Organos**	**3.31**	**38**	*i* P	**Pn**	**15 33 13.2**	**+0.5**
IIO				*i* S	**Sn**	**15 33 51.3**	**-0.4**
TPIG	**Tehuac#an**	**3.63**	**66**	*i* P	**Pn**	**15 33 16.6**	**-0.5**
TPIG				*i* S	**Sn**	**15 33 60.0**	**+0.2**
VHO	**Vista Hermosa**	**3.95**	**88**	*e*P	**Pn**	**15 33 22.3**	**+0.9**
VHO				*i* S	**Sn**	**15 34 07.3**	**-0.2**
VHO	**Vista Hermosa**	**3.95**	**88**	*e*P	**Pb**	**15 33 28.5**	**-2.2**
VHO				*i* S	**Sb**	**15 34 14.1**	**-4.2**
OXX	**Oaxaca**	**3.96**	**88**	*e*P	**Pb**	**15 33 29.0**	**-1.9**
SFJM	**Santa Fe**	**4.07**	**330**	*i* P	**Pn**	**15 33 25.0**	**+1.9**
SFJM				*i* S	**Sn**	**15 34 09.0**	**-1.4**
HUIG	**Huatulco**	**4.71**	**104**	*i* S	**Sn**	**15 34 25.2**	**-1.1**
LVIG	**Laguna Verde**	**5.03**	**56**	*i* P	**Pn**	**15 33 40.6**	**+4.2**
LVIG				*i* S	**Sn**	**15 34 33.8**	**-0.4**
LVIG	**Laguna Verde**	**5.03**	**56**	*i* P	**Pn**	**15 33 45.7**	**+9.3**
LVIG				*i* S	**Sn**	**15 34 33.8**	**-0.4**
ANIG	**Ahuacatlan**	**5.34**	**320**	*i* P	**Pn**	**15 33 39.4**	**-1.2**
ANIG				*i* S	**Sn**	**15 34 42.9**	**+1.0**
ZAIG	**Zacatecas**	**5.99**	**345**	*i* P	**Pn**	**15 33 50.2**	**+0.7**
ZAIG				*i* S	**Sn**	**15 34 57.3**	**-0.6**
ZAIG	**Zacatecas**	**5.99**	**345**	*i* P	**Pb**	**15 34 10.9**	**+5.3**
ZAIG				*i* S	**Sb**	**15 35 20.2**	**+3.1**
LNIG	**Linares**	**8.00**	**9**	*i* P	**Pn**	**15 34 17.7**	**+0.6**
TXAR	**Lajitas Array**	**12.58**	**349**	Pn	**Pn**	**15 35 28.8**	**+9.0**
	0.0nm,0.3s,baz=159,slow=15,SNR=2.9						
MNTX	**Cornudas Mount**	**15.23**	**345**	*e*Pn	**Pn**	**15 36 00.7**	**+4.8**
	11nm,1.1s						
ANMO	**Albuquerque**	**18.60**	**345**	P	**Pn**	**15 36 41.1**	**+2.7**
	6.5nm,1.0s						
PDAR	**Pinedale Array**	**26.77**	**346**	P	**P**	**15 38 01.2**	**+0.6**
	0.4nm,0.6s,mb3.1,baz=142,slow=11,SNR=4.3						
CFAA	**Coronel Fontan**	**57.55**	**147**	LR	LR	15 59 17.8	
	comp=Z,18nm,19.4s,MS3.2,slow=29						
WRA	**Warrumunga Arr**	**127.75**	**250**	PKP	PKPdf	15 51 27.9	+1.6
	0.4nm,0.7s,baz=86,slow=2.9,SNR=6.9						

*NEIC **14** 15:47:01.6±1.5, 6.12S×151.33E, h10km, mb4.2/2, Error ellipse: s-maj=38.4km s-min=14.0km az=173.0*

*ISCJB **14** 15:47:04.2±3.7, 6.3S±04×151.4E±0.1, h45km±27km, mb3.8/3, Error ellipse: s-maj=61.8km s-min=13.7km az=152.7*

*IDC **14** 15:47:09.1±4.8, 6.65S×151.45E, h60km±39km, mb3.7/3, mb1 4.0/5, mb1mx3.5/15, mbtmp3.9/5, Error ellipse: s-maj=75.6km s-min=20.9km az=164.0*

ISC 14 15:47:06.0±3.2, 6.2S±04×151.4E±0.1, h48km±24km, n12, σ0§66/13, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**232**	P	**Pn**	**15 48 23.0**	**+1.3**
	0.9nm,0.3s,baz=28,slow=13,SNR=4.8						
PMG				S	**Sn**	**15 49 20.1**	**-0.6**
	1.6nm,0.3s,baz=228,slow=2.0,SNR=5.4						
PMG	**Port Moresby**	**5.23**	**232**	*e*P	**Pn**	**15 48 22.8**	**+1.1**
PMG				*e*Sn	**Sn**	**15 49 20.4**	**-0.3**
HNR	**Honiara**	**9.08**	**111**	P	**Pn**	**15 49 14.2**	**-0.3**
	20nm,0.3s,baz=320,slow=11,SNR=16						
KAKA	**Kakadu**	**19.74**	**250**	*e*P	**Pn**	**15 51 32.3**	**-1.2**
	6.2nm,0.9s						
WB2	**Warramunga Arr**	**21.43**	**229**	*e*P	**P**	**15 51 49.9**	**-0.1**
WB2	**Warramunga Arr**	**21.43**	**229**	*e*P	**P**	**15 51 49.4**	**-0.6**
WRA	**Warramunga Arr**	**21.44**	**229**	P	**P**	**15 51 50.3**	**+0.2**
	2.0nm,0.6s,mb3.6,baz=56,slow=11,SNR=26						
AS31	**Alice Springs**	**24.14**	**222**	*e*P	**P**	**15 52 17.6**	**+0.1**
ASAR	**Alice Springs**	**24.14**	**222**	P	**P**	**15 52 17.6**	**+0.2**
	0.9nm,0.5s,mb3.5,baz=58,slow=8.6,SNR=38						
FITZ	**Fitzroy Crossi**	**27.73**	**243**	*e*P	**P**	**15 52 50.5**	**+0.6**
	5.3nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.73**	**243**	P	**P**	**15 52 50.6**	**+0.7**
	3.3nm,0.6s,mb4.2,baz=59,slow=9.2,SNR=16						
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc	16 06 52.5	+3.0
	0.6nm,0.6s,baz=63,slow=2.9,SNR=6.2						

IDC 14 16:10:32.6±2.0, 058S×13001E, h0km, Error ellipse: s-maj=174.8km s-min=21.8km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.70**	**168**	P	Pn	16 15 03.5	-1.3
	baz=349,slow=13						
ASAR	**Alice Springs**	**23.26**	**171**	P	P	16 15 42.0	+0.3
	0.9nm,0.6s,baz=348,slow=10,SNR=16						
SONM	**Songino Array**	**52.42**	**340**	P	P	16 19 46.2	-0.6
	baz=138,slow=7.0						
MKAR	**Makanchi Array**	**62.94**	**325**	P	P	16 21 01.6	+0.8
	baz=121,slow=7.2						

IDC 14 16:16:42.8±4.8, 127S×13937E, h38km±33km, mb3.6/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/18, Error ellipse: s-maj=109.5km s-min=16.5km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**19.20**	**194**	*e*P	Pn	16 21 02.2	-2.3
WB2				*e*S	S	16 24 22.9	-16
WRA	**Warramunga Arr**	**19.20**	**195**	P	Pn	16 21 02.6	-1.9
	0.5nm,0.3s,baz=13,slow=12,SNR=30						
WRA				S	S	16 24 23.5	-15
	0.1nm,0.3s,baz=4.4,slow=23,SNR=5.0						
CTA	**Charters Tower**	**19.88**	**161**	LR	LR	16 28 19.1	
	comp=Z,92nm,19.8s,baz=108,slow=35						
FITZ	**Fitzroy Crossi**	**21.49**	**218**	P	P	16 21 29.7	+1.5
	3.3nm,0.9s,baz=12,slow=13,SNR=4.3						
FITZ				S	S	16 25 04.4	-20
	1.0nm,0.6s,baz=164,slow=17,SNR=5.1						
ASAR	**Alice Springs**	**22.89**	**193**	P	P	16 21 43.1	+0.1
	6.5nm,0.7s,baz=22,slow=10,SNR=52						
ASAR				S	S	16 25 51.5	+1.3
	1.4nm,0.9s,baz=11,slow=24,SNR=6.8						
ASPA	**Alice Springs**	**22.89**	**193**	*e*P	P	16 21 43.5	+0.4
MKAR	**Makanchi Array**	**69.06**	**322**	P	P	16 27 44.4	-0.3
	0.2nm,0.5s,baz=112,slow=11,SNR=3.8						
BVAR	**Borovoye Array**	**78.52**	**325**	P	P	16 28 40.6	+0.5
	0.9nm,0.7s,baz=111,slow=7.9,SNR=5.9						

*NEIC **14** 17:28:09.4, 16.14N×93.51W, h135km, MD3.8(MEX), After MEX.*

MEX 14 17:28:09.4±0.7, 1614N×9351W, h134km±17km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.33**	**84**	*i* P	Pn	17 28 34.8	-1.1
CCIG				*i* S	Sn	17 28 54.8	-1.3
CMIG	**Matias Romero**	**1.62**	**306**	*i* P	Pn	17 28 37.6	-1.6
CMIG				*i* S	Sn	17 29 00.3	-1.6
HUIG	**Huatulco**	**2.53**	**262**	*i* P	Pn	17 28 48.3	-1.7
HUIG				*i* S	Sn	17 29 20.2	-1.1
OXX	**Oaxaca**	**3.22**	**287**	*i* P	Pn	17 28 59.0	0.0
OXX				*i* S	Sn	17 29 35.5	-1.8
VHO	**Vista Hermosa**	**3.23**	**287**	*i* P	Pn	17 28 59.1	+0.1
VHO				*i* S	Sn	17 29 35.5	-2.0

IDC 14 17:31:01.4±3.2, 3329S×17942W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/11, mbtmp3.7/3, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=70.2km s-min=47.1km az=110.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.22**	**18**	LR	LR	17 32 56.7	
	comp=Z,182nm,20.5s,baz=356,slow=27						
URZ	**Urewera**	**5.71**	**209**	Pn	Pn	17 32 27.1	-0.3
	3.1nm,0.3s,baz=321,slow=18,SNR=8.5						
URZ				Sn	Sn	17 33 28.9	-4.7
	1.9nm,0.3s,baz=299,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**41.84**	**271**	P	P	17 38 53.0	0.0
	0.6nm,0.6s,baz=112,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**43.10**	**276**	P	P	17 39 03.6	+0.4
	0.2nm,0.3s,baz=117,slow=8.1,SNR=7.1						
JHJ	**Hachijo jima 2**	**76.40**	**326**	LR	LR	18 14 03.7	
	comp=Z,107nm,18.8s,baz=46,slow=34						
FINES	**FINESS Array B**	**147.39**	**337**	PKPbc	PKPbc	17 50 45.6	-1.4
	6.4nm,1.2s,baz=188,slow=1.3,SNR=3.3						

PRE 14 17:46:09.9±1.3, 2077S×3297E, h5km, ML5.0, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.10**	**208**	*e*P	Pn	17 47 00.8	+1.4
MOPA				*e*S	Sn	17 47 37.6	+0.8
MOPA				AML	AML	17 47 45.2	
	comp=Z,2μm,0.3s						
KSR	**Koster**	**7.53**	**227**	*e*P	Pn	17 48 02.1	+1.7
KSR				*e*S	Sn	17 49 22.8	-3.3
KSR				AML	AML	17 50 17.3	
	comp=Z,93nm,0.5s						
PRYS	**Parys**	**7.99**	**219**	*e*P	Pn	17 48 07.8	+1.2
PRYS				*e*S	Sn	17 49 34.4	-3.0
PRYS				AML	AML	17 50 22.9	
	comp=Z,63nm,0.5s						
SEK	**Senekal**	**8.95**	**212**	*e*P	Pn	17 48 21.3	+1.5
SEK				*e*S	Sn	17 49 56.5	-4.6
SEK				AML	AML	17 50 53.0	
	comp=Z,53nm,0.7s						
SWZ	**Schweizer**	**9.46**	**226**	*e*P	Pn	17 48 28.1	+1.3
SWZ				*e*S	Sn	17 50 09.4	-4.1
SWZ				AML	AML	17 51 17.0	
	comp=Z,35nm,0.8s						
KSD	**Kokstad**	**10.24**	**198**	*e*P	Pn	17 48 38.3	+0.8
KSD				*e*S	Sn	17 50 27.2	-5.5
KSD				AML	AML	17 51 33.6	
	comp=Z,21nm,0.7s						
PKA	**Prieska**	**12.80**	**224**	*e*P	Pn	17 49 13.7	+1.2
PKA				*e*S	Sn	17 51 28.5	-6.9
PKA				AML	AML	17 53 15.6	
	comp=Z,21nm,0.5s						
UPI	**Upington**	**13.06**	**232**	*e*P	Pn	17 49 18.0	+1.9
UPI				*e*S	Sn	17 51 35.9	-5.9
UPI				AML	AML	17 53 00.7	
	comp=Z,14nm,0.6s						
CVNA	**Calvinia**	**15.94**	**225**	*e*P	Pn	17 49 57.6	+2.8
CVNA				*e*S	Sn	17 52 43.7	-8.1
CVNA				AML	AML	17 54 37.1	
	comp=Z,22nm,0.7s						

*NEIC **14** 17:54:18.7±0.5, 3479N×1575W, h10km, mb3.8/7, Error ellipse: s-maj=8.8km s-min=3.6km az=117.0*

*MDD **14** 17:54:21.8±0.6, 3479N×1572W, h40km, mb5.0/40, Error ellipse: s-maj=11.4km s-min=3.8km az=125.0, PRXIMO*

*INMG **14** 17:54:25.1±2.3, 3482N×1570W, h10km, MD4.1, ML4.2, Error ellipse: s-maj=8.8km s-min=3.0km az=119.0*

*SFS **14** 17:54:25.0, 3527N×1530W, h0km, ML5.0*

*LDG **14** 17:54:25.4±0.2, 3606N×1591W, h10km, Mb4.1/17, Ms3.0/2, Error ellipse: s-maj=8.1km s-min=5.6km az=118.0*

*IGIL **14** 17:54:26.7, 3530N×1540W, h1km, ML4.7*

*IDC **14** 17:54:29.3±1.6, 3556N×1470W, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML5.6/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/26, Error ellipse: s-maj=35.9km s-min=24.1km az=84.0*

*CNRM **14** 17:54:31.8, 3463N×1480W, h6km, MD4.5*

CSEM 14 17:54:16.8±0.1, 3504N×1571W, h2km, ML5.4/5, Ms3.0, Error ellipse: s-maj=2.3km s-min=0.9km az=1.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.04**	**195**	*i* P	Pn	17 54 50.9	-1.2
PMPS				*e*S	Sn	17 55 10.0	-8.2
PMPS							
	3μm,0.2s						
PMAR	**Madeira**	**2.52**	**204**	*i* Pn	Pn	17 54 57.5	-1.2
PMAR				*e*Sn	Sn	17 55 21.8	-8.1
PMAR							
	6μm,0.2s						
PMAR	**Madeira**	**2.52**	**204**	P	Pn	17 54 57.5	-1.2
PMAR				*e*Sn	Sn	17 55 21.8	-8.1
	6μm,0.2s						
FUL	**Funchal**	**2.59**	**203**	*e*Pn	Pn	17 54 58.3	-1.4
FUL				*e*Sn	Sn	17 55 22.0	-10
PTEO	**Sao Teotonio**	**6.17**	**64**	*e*Pn	Pn	17 55 51.9	+3.0
PTEO				*e*Sn	Sn	17 56 56.4	-3.7
PTEO							
	224nm,0.6s						
EFAM	**Famara**	**6.17**	**162**	P	Pn	17 55 47.2	-1.8
	6.7nm,0.2s,SNR=16						
EFAM				S	Sn	17 56 49.0	-11
	53nm,0.2s						
LIS	**Lisbon**	**6.41**	**53**	*e*P	Pn	17 55 54.9	+2.6
LIS				*e*S	Sn	17 56 59.0	-7.0
LIS				*e*S	Sn	17 56 59.0	-7.0
LIS				AML	AML	17 57 05.9	
	comp=N,766nm,0.7s						
LIS	**Lisbon**	**6.41**	**53**	*e*P	Pn	17 55 54.9	+2.7
LIS				*e*S	Sn	17 56 59.0	-7.0
INMG	**Instituto de M**	**6.46**	**53**	*e*Pn	Pn	17 55 56.4	+3.5
INMG				*e*Sn	Sn	17 57 02.8	-4.4
INMG							
	comp=N,427nm,0.7s						
PMAFR	**Mafra**	**6.46**	**51**	*e*Pn	Pn	17 55 55.7	+2.8
PMAFR				*e*Sn	Sn	17 57 02.5	-4.7
PMAFR							
	comp=N,467nm,0.2s						
PLML	**Palmela**	**6.49**	**55**	*e*Pn	Pn	17 55 56.2	+2.9
PLML				*e*Sn	Sn	17 57 04.1	-3.8
EBAJ	**Bajamar**	**6.50**	**185**	P	Pn	17 55 50.2	-3.2
	comp=N,11nm,0.2s,SNR=7.9						
EBAJ				S	Sn	17 56 55.4	-13
	comp=N,28nm,0.2s,SNR=7.9						
PLOU	**Loures**	**6.50**	**52**	*e*Pn	Pn	17 55 56.1	+2.6
PLOU				*e*Sn	Sn	17 57 03.3	-5.0
PLOU							
	comp=N,166nm,0.3s						
PLOU	**Loures**	**6.50**	**52**	P	Pn	17 55 56.1	+2.6
PLOU				*e*Sn	Sn	17 57 03.3	-5.0
	comp=N,166nm,0.3s						
CFUE	**Fuerteventura**	**6.55**	**166**	P	Pn	17 55 51.3	-2.8
	comp=N,16nm,0.2s,SNR=7.9						
CFUE				S	Sn	17 56 56.3	-13
	comp=N,303nm,0.2s,SNR=7.9						
CICO	**Icod de los Vi**	**6.72**	**188**	P	Pn	17 55 42.9	-14
	comp=N,0.9nm,0.2s,SNR=4.9						
CICO				S	Sn	17 57 00.6	-13
	comp=N,2.6nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**6.75**	**168**	P	Pn	17 55 55.3	-1.5
	comp=N,3.5nm,0.2s,SNR=20						
CFTV				S	Sn	17 57 00.2	-14
	comp=N,28nm,0.2s						
CRAJ	**Montana Rajada**	**6.79**	**187**	P	Pn	17 55 54.4	-3.0
	comp=N,5.8nm,0.1s,SNR=4.0						
CRAJ				S	Sn	17 57 04.5	-11
	comp=N,159nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**6.84**	**187**	P	Pn	17 55 54.5	-3.6
	comp=N,2.3nm,0.2s,SNR=10						
CCAN				S	Sn	17 57 02.5	-14
	comp=N,203nm,0.4s,SNR=79						
CHIO	**Chio**	**6.84**	**188**	P	Pn	17 55 55.4	-2.7
	comp=N,24nm,0.2s,SNR=7.6						
CHIO				S	Sn	17 57 02.9	-14
	comp=N,60nm,0.1s						
MOE	**Montemor**	**6.85**	**57**	*e*Pn	Pn	17 56 00.8	+2.5
MOE				*e*Sn	Sn	17 57 11.7	-5.2
EOSO	**Osorio**	**6.94**	**179**	P	Pn	17 55 56.4	-3.2
	comp=N,11nm,0.3s,SNR=9.5						
EOSO				S	Sn	17 57 05.9	-13
	comp=N,144nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**6.97**	**191**	P	Pn	17 55 55.2	-4.8
	comp=N,16nm,0.2s,SNR=17						
EGOM				S	Sn	17 57 06.3	-14
	comp=N,102nm,0.1s						
PBEJ	**Beja**	**6.98**	**62**	*e*Pn	Pn	17 56 02.9	+2.8
PBEJ				*e*Sn	Sn	17 57 14.8	-5.2
PBEJ							
	comp=N,82nm,0.4s						
PBEJ	**Beja**	**6.98**	**62**	P	Pn	17 56 03.1	+3.0
PBEJ				*e*Sn	Sn	17 57 14.8	-5.2
	comp=N,82nm,0.4s						
ALMR	**Almeirim**	**7.03**	**52**	*e*P	Pn	17 56 03.2	+2.6
ALMR				*e*S	Sn	17 57 13.7	-7.4
ALMR				*e*S	Sn	17 57 13.8	-7.4
ALMR				AML	AML	17 57 23.3	
	comp=E,846nm,0.7s						
ALMR	**Almeirim**	**7.03**	**52**	*e*P	Pn	17 56 03.2	+2.5
ALMR				*e*S	Sn	17 57 13.7	-7.4
EVO	**Evora**	**7.09**	**58**	*e*Pn	Pn	17 56 02.4	+0.8
EVO				*e*Sn	Sn	17 57 13.6	-9.1
	comp=E,200nm,0.4s						
EVO				*e*R			
	comp=E,183nm,21.8s						
EGRO	**El Granado**	**7.09**	**67**	P	Pn	17 56 04.9	+3.3
	comp=E,75nm,0.3s,SNR=105						
EGRO				S	Sn	17 57 17.2	-5.6
	comp=E,135nm,0.3s						
EGRO	**El Granado**	**7.09**	**67**	P	Pn	17 56 04.9	+3.3
	comp=E,75nm,0.3s,SNR=105						
YBT	**Youssef Ben Ta**	**7.27**	**134**	P	Pn	17 56 08.0	+4.0
YBT				S	Sn	17 57 19.0	-8.1
RTC	**Rabat Centre**	**7.38**	**96**	P	Pn	17 56 08.0	+2.5
RTC				S	Sn	17 57 20.0	-10
RTC	**Rabat Centre**	**7.38**	**96**	*i* P	Pn	17 56 08.0	+2.5
CHIE	**El Hierro**	**7.54**	**195**	P	Pn	17 56 05.2	-2.4
	comp=E,8.3nm,0.3s,SNR=13

PVIS Viseu 8.38 45 *e*Pn Pn 17 56 22.2 +2.9
PVIS *e*Sn Sn 17 57 48.6 -5.9
PVIS
comp=E,56nm,0.3s
CML Cha da Macela 8.39 292 *e*P Pn 17 56 22.2 +2.8
KIB El Ksiba 8.41 104 P Pn 17 56 21.0 +1.3
KIB S Sn 17 57 44.0 -11
KIB El Ksiba 8.41 104 *i* P Pn 17 56 21.0 +1.3
EJIF Jimena Fronter 8.44 77 P Pn 17 56 22.4 +2.3
comp=E,4.1nm,0.2s,SNR=17
EJIF S Sn 17 57 49.8 -6.2
comp=E,17nm,0.4s,SNR=6.0
FAC Faja de Cima 8.47 292 *e*P Pn 17 56 23.4 +2.9
DKH Dar Kharkhour 8.48 84 P Pn 17 56 26.0 +5.4
DKH S Sn 17 57 49.0 -7.8
DKH Dar Kharkhour 8.48 84 *i* P Pn 17 56 26.0 +5.4
PSAN Santo Antonio 8.55 292 *e*P Pn 17 56 24.8 +3.3
LIJA Lijar 8.56 74 P Pn 17 56 25.0 +3.3
LIJA S Sn 17 57 50.0 -8.9
LIJA Lijar 8.56 74 *i* P Pn 17 56 25.0 +3.3
PFET Feteiras 8.59 292 *e*P Pn 17 56 24.8 +2.7
SET2 Ginetes 8.61 292 *e*P Pn 17 56 25.4 +3.0
REAL Reales 8.66 77 P Pn 17 56 28.5 +5.5
REAL S Sn 17 57 56.0 -5.2
REAL Reales 8.66 77 *e*P Pn 17 56 28.5 +5.5
MIF Mishlifen 8.83 98 P Pn 17 56 29.0 +3.6
MIF S Sn 17 57 55.0 -10
MIF Mishlifen 8.83 98 *i* P Pn 17 56 29.0 +3.6
PVRL Vila Real 8.85 43 *e*Pn Pn 17 56 29.0 +3.3
PVRL *e*Sn Sn 17 58 00.4 -5.6
PVRL
comp=E,35nm,0.1s
EZAM Zamans 8.97 36 P Pn 17 56 30.3 +2.9
comp=E,23nm,0.2s,SNR=7.9
EZAM S Sn 17 58 02.9 -6.1
comp=E,19nm,0.3s,SNR=7.9
PCAB Cabril 8.98 40 *e*Pn Pn 17 56 30.4 +2.9
PCAB *e*Sn Sn 17 58 03.3 -6.0
PCAB
comp=E,51nm,0.4s
EMIJ Mijas 9.02 77 P Pn 17 56 30.4 +2.5
comp=E,7.2nm,0.3s,SNR=8.3
EMIJ S Sn 17 58 02.9 -7.2
comp=E,30nm,0.3s
CZD Col de Zad 9.07 100 P Pn 17 56 32.0 +3.2
CZD S Sn 17 58 01.0 -10
CZD Col de Zad 9.07 100 *i* P Pn 17 56 32.0 +3.2
EMAL Malaga-Limoner 9.31 76 S Sn 17 58 10.7 -6.7
EMAZ Mazaricos 9.48 32 P Pn 17 56 37.6 +3.3
comp=E,9.5nm,0.1s,SNR=18
EMAZ S Sn 17 58 14.6 -6.8
comp=E,21nm,0.1s,SNR=7.9
EMAZ Mazaricos 9.48 32 P Pn 17 56 37.6 +3.3
comp=E,9.5nm,0.1s,SNR=18
EADA Adamuz 9.48 68 P Pn 17 56 36.9 +2.6
comp=E,27nm,0.3s,SNR=100
EADA S Sn 17 58 14.7 -6.8
comp=E,188nm,0.5s,SNR=4.8
EADA Adamuz 9.48 68 P Pn 17 56 37.0 +2.7
MDT Midelt 9.48 100 Pn Pn 17 56 35.8 +1.5
comp=E,43nm,0.3s,baz=292,slow=11,SNR=643
MDT Sn Sn 17 58 12.6 -8.8
comp=E,52nm,0.3s,baz=16,slow=22,SNR=15
ELUQ Luque 9.57 71 P Pn 17 56 38.6 +3.0
comp=E,8.1nm,0.3s,SNR=13
ELUQ S Sn 17 58 16.5 -7.2
comp=E,15nm,0.2s
ELOJ Sierra Loja 9.59 74 P Pn 17 56 39.1 +3.3
comp=E,3.1nm,0.2s,SNR=7.9
ELOJ S Sn 17 58 16.2 -7.9
comp=E,14nm,0.3s,SNR=7.9
STS Santiago 9.61 33 P Pn 17 56 40.1 +3.9
comp=E,16nm,0.2s,SNR=11
STS S Sn 17 58 18.0 -6.7
comp=E,8.2nm,0.2s
PBRG Braganca 9.75 43 *e*Pn Pn 17 56 40.8 +2.8
PBRG *e*Sn Sn 17 58 21.2 -6.9
PBRG
comp=E,28nm,0.2s
PBRG Braganca 9.75 43 P Pn 17 56 40.7 +2.7
PBRG S Sn 17 58 21.2 -6.9
comp=E,14nm,0.2s
TOU Touzarine 9.81 87 P Pn 17 56 43.0 +4.2
TOU S Sn 17 58 21.0 -8.5
TOU Touzarine 9.81 87 *e*P Pn 17 56 43.0 +4.2
PFAV Pico das Favas 9.82 295 *e*P Pn 17 56 43.2 +4.2
ERON Agron 9.84 75 P Pn 17 56 42.4 +3.1
comp=E,2.7nm,0.2s,SNR=12
ERON S Sn 17 58 23.4 -6.9
comp=E,12nm,0.2s
ECAL Calabor 9.84 43 P Pn 17 56 42.2 +2.9
comp=E,45nm,0.3s,SNR=62
ECAL S Sn 17 58 23.8 -6.5
comp=E,46nm,0.3s
ECAL Calabor 9.84 43 P Pn 17 56 42.2 +2.9
comp=E,45nm,0.3s,SNR=62
RIB2 Ribeirinha 9.88 295 *e*P Pn 17 56 43.9 +4.1
PVNV Vila Nova 9.89 295 *e*P Pn 17 56 44.1 +4.1
ADH Angra Heroismo 9.92 295 *e*P Pn 17 56 43.4 +3.1
ERUA La Rua 9.93 40 P Pn 17 56 43.6 +3.0
comp=E,12nm,0.2s,SNR=12
ERUA S Sn 17 58 25.5 -7.1
comp=E,13nm,0.1s
ZFT Errachidia 9.94 104 P Pn 17 56 44.0 +3.4
ZFT S Sn 17 58 22.0 -11
ZFT Errachidia 9.94 104 *i* P Pn 17 56 44.0 +3.4
PBIS Biscoitos 9.96 295 *e*P Pn 17 56 45.5 +4.5
PPAD Pico dos Padre 9.97 295 *e*P Pn 17 56 45.3 +4.2
ASBA Santa Barbara 10.01 295 *e*P Pn 17 56 45.8 +4.3
EGUA Guajares 10.01 76 P Pn 17 56 43.5 +2.0
comp=E,9.1nm,1.8s,SNR=7.9
EGUA S Sn 17 58 24.8 -10
comp=E,49nm,1.8s,SNR=7.9
ECOG Cogollos-Vega 10.07 74 P Pn 17 56 44.6 +2.1
comp=E,3.0nm,0.2s,SNR=7.9
ECOG S Sn 17 58 28.7 -7.2
comp=E,9.7nm,0.2s,SNR=7.9
EBAN Banos Encina 10.08 68 P Pn 17 56 45.2 +2.6
comp=E,18nm,0.2s,SNR=21
EBAN S Sn 17 58 28.0 -8.2
comp=E,23nm,0.2s
PAB San Pablo 10.11 60 *e*Pn Pn 17 56 45.2 +2.3
comp=E,13nm,0.4s
PAB *e*Sn Sn 17 58 30.1 -6.8
PAB San Pablo 10.11 60 *e*Pn Pn 17 56 45.2 +2.3
comp=E,13nm,0.4s
PAB *e*Sn Sn 17 58 30.1 -6.7
EQUE Quentar 10.16 74 P Pn 17 56 46.1 +2.5
comp=E,9.8nm,0.4s,SNR=9.1
EQUE S Sn 17 58 30.6 -7.5
comp=E,14nm,0.3s,SNR=7.9
EALB Alboran 10.38 81 P Pn 17 56 50.1 +3.5
comp=E,2.4nm,0.2s,SNR=4.0
EALB S Sn 17 58 35.3 -8.1
comp=E,27nm,0.4s,SNR=7.9
EALB Alboran 10.38 81 P Pn 17 56 50.1 +3.5
comp=E,2.4nm,0.2s,SNR=4.0
ESDC Sonseca Array 10.43 60 Pn Pn 17 56 48.3 +1.0
comp=E,22nm,0.3s,baz=251,slow=13,SNR=119
ESDC Sn Sn 17 58 35.8 -8.9
comp=E,10nm,0.3s,baz=252,slow=23,SNR=9.2
ESDC Sonseca Array 10.43 60 P Pn 17 56 49.1 +1.8
comp=E,35nm,0.2s,baz=251,slow=13,SNR=77
ESDC S Sn 17 58 37.0 -7.8
comp=E,16nm,0.3s,baz=249,slow=23,SNR=7.9
ESDC Sonseca Array 10.43 60 P Pn 17 56 49.1 +1.8
comp=E,35nm,0.2s,SNR=77
ESLA Sonseca Array 10.43 60 *e*Pn Pn 17 56 49.1 +1.7
comp=E,2.5nm,0.4s
ESLA *e*Sn Sn 17 58 37.1 -7.7
ESLA Sonseca Array 10.43 60 *e*Pn Pn 17 56 49.1 +1.8
comp=E,2.5nm,0.4s
EMEL Melilla 10.44 85 P Pn 17 56 51.2 +3.7
comp=E,97nm,1.0s,SNR=7.9
EMEL S Sn 17 58 37.7 -7.4
comp=E,25nm,1.9s,SNR=7.9
EMLI Melilla 10.45 85 P Pn 17 56 51.2 +3.6
comp=E,97nm,1.0s,SNR=7.9
PID Ribeirinha 10.52 292 *e*P Pn 17 56 51.6 +3.0
EQES Quesada 10.55 71 P Pn 17 56 51.5 +2.4
comp=E,2.9nm,0.2s,SNR=14
EQES S Sn 17 58 39.8 -8.0
comp=E,18nm,0.3s
EQES Quesada 10.55 71 P Pn 17 56 51.5 +2.5
comp=E,2.9nm,0.2s,SNR=14

EBER Berja 10.55 76 P Pn 17 56 53.0 +4.0
comp=E,2.2nm,0.3s,SNR=7.9
EBER S Sn 17 58 40.5 -7.4
comp=E,24nm,0.4s,SNR=7.9
EBER Berja 10.55 76 P Pn 17 56 53.0 +3.9
comp=E,2.2nm,0.3s,SNR=7.9
EPON Pontenova 10.61 36 P Pn 17 56 52.5 +2.8
comp=E,15nm,0.4s,SNR=33
EPON S Sn 17 58 41.0 -8.2
comp=E,5.0nm,0.3s,SNR=7.9
EPON Pontenova 10.61 36 P Pn 17 56 52.5 +2.7
comp=E,15nm,0.4s,SNR=33
SRBC Serra Branca 10.63 296 *e*P Pn 17 56 54.4 +4.3
ROSA Rosais 10.69 294 *e*P Pn 17 56 54.5 +3.6
GUD Guadarrama 10.71 55 P Pn 17 56 53.7 +2.5
comp=E,24nm,0.5s,SNR=7.9
GUD S Sn 17 58 43.7 -8.0
comp=E,4.9nm,0.2s,SNR=7.9
PICO Pico 10.77 292 *e*P Pn 17 56 55.0 +3.0
EHUE Huescar 10.93 71 P Pn 17 56 57.1 +3.0
comp=E,2.6nm,0.2s,SNR=7.9
EHUE S Sn 17 58 49.4 -7.5
comp=E,5.2nm,0.2s,SNR=7.9
HOR Horta 10.93 292 *e*P Pn 17 56 58.3 +4.1
CALA Caldeira 11.00 293 *e*P Pn 17 56 58.7 +3.5
ENIJ Nijar 11.11 76 P Pn 17 56 59.5 +2.9
comp=E,55nm,3.5s,SNR=7.9
ENIJ S Sn 17 58 53.0 -8.4
comp=E,10.0nm,0.4s,SNR=4.8
EVIA Vianos 11.18 67 P Pn 17 57 00.7 +3.1
comp=E,8.4nm,0.1s,SNR=13
EVIA S Sn 17 58 55.1 -8.0
comp=E,18nm,0.3s
EARI Arriondas 11.59 41 P Pn 17 57 06.7 +3.5
comp=E,2.7nm,0.2s
EARI S Sn 17 59 04.7 -8.5
EARI Arriondas 11.59 41 P Pn 17 57 06.7 +3.5
comp=E,2.7nm,0.2s,SNR=29
EARI S Sn 17 59 04.7 -8.5
comp=E,4.2nm,0.5s
EARI Arriondas 11.59 41 P Pn 17 57 06.7 +3.5
comp=E,2.7nm,0.2s,SNR=29
ETOB Tobarra 11.90 68 P Pn 17 57 09.8 +2.3
comp=E,6.4nm,0.2s,SNR=25
ETOB S Sn 17 59 11.9 -8.9
comp=E,9.4nm,0.2s,SNR=7.9
ETOB Tobarra 11.90 68 P Pn 17 57 09.8 +2.3
comp=E,6.4nm,0.2s,SNR=25
CART Cartagena 12.13 74 S Sn 17 59 20.5 -6.1
ETOR Torete 12.22 58 P Pn 17 57 14.3 +2.4
comp=E,117nm,0.2s,SNR=143
ETOR S Sn 17 59 18.6 -10
comp=E,44nm,0.4s,SNR=7.9
ELAN Lanestosa 12.55 46 P Pn 17 57 19.0 +2.7
comp=E,5.6nm,0.7s,SNR=10.0
ELAN S Sn 17 59 26.6 -10
comp=E,3.5nm,0.3s,SNR=7.9
ELAN Lanestosa 12.55 46 P Pn 17 57 19.0 +2.6
comp=E,5.6nm,0.7s,SNR=10.0
ECRI Cripan 12.76 50 P Pn 17 57 22.1 +2.9
comp=E,5.5nm,0.2s,SNR=7.9
ECRI S Sn 17 59 31.7 -10
comp=E,1.2nm,0.2s,SNR=7.9
EBEN Beniarda 12.93 69 P Pn 17 57 24.8 +3.3
comp=E,5.6nm,0.5s,SNR=7.9
EBEN S Sn 17 59 35.5 -10
comp=E,8.7nm,0.6s,SNR=7.9
EBEN Beniarda 12.93 69 P Pn 17 57 24.8 +3.3
comp=E,5.6nm,0.5s,SNR=7.9
EMOS Mosqueruela 13.18 62 P Pn 17 57 28.4 +3.5
comp=E,3.7nm,0.3s,SNR=12
EMOS S Sn 17 59 42.2 -10
comp=E,3.8nm,0.5s,SNR=7.9
EMOS Mosqueruela 13.18 62 P Pn 17 57 28.4 +3.4
comp=E,3.7nm,0.3s,SNR=12
EARA Aranguren 13.43 51 P Pn 17 57 30.9 +2.5
comp=E,11nm,0.3s,SNR=6.1
EARA S Sn 17 59 47.8 -10
comp=E,80nm,3.6s,SNR=7.9
IUSE Utxeti 13.54 50 P Pn 17 57 32.4 +2.5
comp=E,4.1nm,0.2s,SNR=10
IUSE S Sn 17 59 50.6 -10
comp=E,6.3nm,0.5s,SNR=4.6
IUSE Utxeti 13.54 50 P Pn 17 57 32.4 +2.5
comp=E,4.1nm,0.2s,SNR=10
IPRE Itoiz 13.59 51 P Pn 17 57 33.2 +2.7
comp=E,3.5nm,0.3s,SNR=6.3
IPRE S Sn 17 59 51.2 -11
comp=E,7.4nm,3.6s,SNR=7.9
IPRE Itoiz 13.59 51 P Pn 17 57 33.2 +2.6
comp=E,3.5nm,0.3s,SNR=6.3
ELIZ Elizondo 13.67 49 P Pn 17 57 34.3 +2.7
comp=E,6.6nm,0.2s,SNR=28
ELIZ S Sn 17 59 53.3 -11
comp=E,3.7nm,0.5s,SNR=4.0
ESAC San Caprasio 13.68 56 P Pn 17 57 34.5 +2.6
comp=E,9.9nm,0.3s,SNR=5.6
ESAC S Sn 17 59 54.8 -10
comp=E,23nm,0.4s,SNR=7.9
ESAC San Caprasio 13.68 56 P Pn 17 57 34.5 +2.7
comp=E,9.9nm,0.3s
EALK Alkurruntz 13.71 49 P Pn 17 57 34.9 +2.8
comp=E,3.0nm,0.2s,SNR=7.6
EALK S Sn 17 59 55.6 -9.4
comp=E,8.6nm,0.4s,SNR=7.9
SJPF Ste Jean 13.83 50 *e*P Pn 17 57 36.6 +2.8
comp=E,52nm,0.3s
SJPF Ste Jean 13.83 50 *e*P Pn 17 57 36.6 +2.8
comp=E,26nm,0.3s
ERTA Horta de San J 13.96 60 P Pn 17 57 38.7 +3.1
comp=E,1.0nm,0.2s,SNR=7.9
ERTA S Sn 18 00 00.1 -11
comp=E,0.8nm,0.2s,SNR=7.9
ERTA Horta de San J 13.96 60 P Pn 17 57 38.7 +3.2
comp=E,1.0nm,0.2s
ETSF Etsaut 14.15 52 *e*P Pn 17 57 41.3 +3.1
comp=E,9.7nm,0.2s
ETSF Etsaut 14.15 52 *e*P Pn 17 57 41.3 +3.1
comp=E,4.8nm,0.2s
EIBI Ibiza 14.19 69 P Pn 17 57 41.0 +2.3
comp=E,6.7nm,0.6s,SNR=7.9
EIBI S Sn 18 00 05.6 -11
comp=E,4.0nm,0.4s,SNR=7.9
EIBI Ibiza 14.19 69 P Pn 17 57 41.0 +2.2
comp=E,6.7nm,0.6s
EBIE Bielsa 14.51 54 P Pn 17 57 46.2 +3.1
comp=E,8.7nm,0.3s,SNR=38
EBIE S Sn 18 00 14.7 -10
comp=E,3.2nm,0.4s,SNR=7.9
EBIE Bielsa 14.51 54 P Pn 17 57 46.2 +3.1
comp=E,8.7nm,0.3s
EPOB Poblet 14.62 59 P Pn 17 57 46.4 +1.8
comp=E,1.8nm,0.2s,SNR=7.9
EPOB S Sn 18 00 15.9 -11
comp=E,4.7nm,0.6s,SNR=7.9
EPOB Poblet 14.62 59 P Pn 17 57 46.4 +1.8
comp=E,1.8nm,0.2s
EPF Esparros 14.79 53 *e*P Pn 17 57 49.8 +2.8
comp=E,12nm,0.2s
EPF Esparros 14.79 53 *e*P Pn 17 57 49.8 +2.8
comp=E,5.9nm,0.2s
EMIR Miracle 15.13 58 P Pn 17 57 53.7 +2.1
comp=E,5.2nm,0.3s
EMIR S Sn 18 00 30.3 -9.4
EMIR Miracle 15.13 58 P Pn 17 57 53.7 +2.1
comp=E,5.2nm,0.3s,SNR=5.7
EMIR S Sn 18 00 30.3 -9.4
comp=E,2.2nm,0.3s,SNR=4.0
EMIR Miracle 15.13 58 P Pn 17 57 53.7 +2.1
comp=E,5.2nm,0.3s
ETOS Mallorca 15.46 67 P Pn 17 57 58.3 +2.5
comp=E,13nm,3.0s,SNR=7.9
ETOS S Sn 18 00 36.7 -11
comp=E,26nm,4.9s,SNR=7.9
ETOS Mallorca 15.46 67 P Pn 17 57 58.3 +2.5
comp=E,13nm,3.0s
QUIF Quistinic 15.91 32 P Pn 17 58 07.4 +5.7
LFF La Frestale 16.00 47 *e*P Pn 17 58 04.5 +1.6
comp=E,15nm,0.4s
LFF La Frestale 16.00 47 P Pn 17 58 05.9 +3.0
LFF La Frestale 16.00 47 *e*P Pn 17 58 04.5 +1.6
comp=E,7.4nm,0.4s
MTLF Montolieu 16.16 54 *e*P Pn 17 58 08.3 +3.3
ROSF Rostrenen 16.18 31 P Pn 17 58 10.4 +5.1
EJON La Jonquera 16.27 57 P Pn 17 58 09.2 +2.8
comp=E,127nm,3.6s
EJON La Jonquera 16.27 57 P Pn 17 58 09.2 +2.8
comp=E,127nm,3.6s

MFF Saint Martin d 16.47 41 *e*P Pn 17 58 10.2 +1.3
comp=E,8.3nm,0.6s
MFF Saint Martin d 16.47 41 P Pn 17 58 12.9 +4.0
MFF Saint Martin d 16.47 41 *e*P Pn 17 58 10.2 +1.3
comp=E,4.2nm,0.6s
RJF Les Rejaudoux 16.66 47 *e*P Pn 17 58 13.3 +2.0
comp=E,4.2nm,0.2s
RJF Les Rejaudoux 16.66 47 P Pn 17 58 14.3 +3.0
RJF Les Rejaudoux 16.66 47 *e*P Pn 17 58 13.3 +2.0
comp=E,2.1nm,0.2s
CAF Calviac 16.79 49 *e*P Pn 17 58 14.6 +1.5
comp=E,8.6nm,0.5s
CAF Calviac 16.79 49 P Pn 17 58 15.9 +2.8
CAF Calviac 16.79 49 *e*P Pn 17 58 14.6 +1.5
comp=E,4.3nm,0.5s
GRR Gorron 17.30 35 *e*P Pn 17 58 20.2 +0.7
GRR Gorron 17.30 35 P Pn 17 58 25.1 +5.6
LASF Ste Croix 17.55 53 *e*P Pn 17 58 25.8 +3.3
LASF Ste Croix 17.55 53 P Pn 17 58 26.5 +4.0
TCF Toulx Ste Croi 17.59 45 *e*P Pn 17 58 25.4 +2.3
comp=E,18nm,0.6s
TCF Toulx Ste Croi 17.59 45 P Pn 17 58 26.2 +3.1
TCF Toulx Ste Croi 17.59 45 *e*P Pn 17 58 25.4 +2.3
comp=E,8.8nm,0.6s
FLN La Foliniere 17.75 35 *e*P Pn 17 58 25.2 +0.2
BGF Bois d'Agland 18.11 45 *e*P Pn 17 58 31.3 +1.8
comp=E,17nm,0.6s
BGF Bois d'Agland 18.11 45 P Pn 17 58 34.8 +5.3
comp=E,8.4nm,0.6s
BGF Bois d'Agland 18.11 45 *e*P Pn 17 58 31.3 +1.8
comp=E,8.4nm,0.6s
VIVF Saint-Julien-l 18.41 52 *e*P Pn 17 58 35.9 +2.8
AVF Avril sur Loir 18.53 45 *e*P Pn 17 58 36.9 +2.3
comp=E,8.6nm,0.7s
AVF Avril sur Loir 18.53 45 P Pn 17 58 39.7 +5.1
AVF Avril sur Loir 18.53 45 *e*P Pn 17 58 36.9 +2.3
comp=E,4.3nm,0.7s
SMRF Simiane la Rot 18.65 55 *e*P Pn 17 58 40.4 +4.3
SMF Signal de Mont 18.74 46 *e*P Pn 17 58 39.4 +2.2
comp=E,6.6nm,0.7s
SMF Signal de Mont 18.74 46 P Pn 17 58 42.7 +5.5
comp=E,3.3nm,0.7s
SMF Signal de Mont 18.74 46 *e*P Pn 17 58 39.4 +2.2
comp=E,3.3nm,0.7s
SSF Saint Saulge 18.77 44 *e*P Pn 17 58 39.8 +2.3
comp=E,3.6nm,0.3s
SSF Saint Saulge 18.77 44 P Pn 17 58 43.5 +6.0
SSF Saint Saulge 18.77 44 *e*P Pn 17 58 39.8 +2.3
comp=E,1.8nm,0.3s
LMR La Mourre 19.07 58 *e*P Pn 17 58 46.1 +4.9
LOR Lormes 19.08 44 *e*P Pn 17 58 43.4 +2.1
comp=E,1.8nm,0.3s
LOR Lormes 19.08 44 P Pn 17 58 48.0 +6.7
LOR Lormes 19.08 44 *e*P Pn 17 58 43.4 +2.1
comp=E,0.9nm,0.3s
ORIF Oris-en-Rattie 19.21 53 *e*P Pn 17 58 46.4 +3.5
ORIF Oris-en-Rattie 19.21 53 P Pn 17 58 51.2 +8.3
FRF La Foret Royal 19.24 57 *e*P Pn 17 58 47.9 +4.7
MBDF Montbardon 19.73 54 *e*P Pn 17 58 52.9 +3.9
comp=E,3.1nm,0.5s
MBDF Montbardon 19.73 54 P Pn 17 58 54.7 +5.7
MBDF Montbardon 19.73 54 *e*P Pn 17 58 52.9 +3.9
comp=E,1.5nm,0.5s
LPL La Plagne 20.00 52 *e*P P 17 58 55.4 +4.7
LPG La Plagne 20.01 52 *e*P P 17 58 55.6 +4.9
KEST Kesra 20.43 81 P P 17 58 59.3 +4.0
comp=E,0.1nm,0.3s,baz=225,slow=8.6,SNR=2.6
BAIF Baives 20.90 38 *e*P P 17 59 02.8 +2.5
comp=E,4.6nm,0.3s
BAIF Baives 20.90 38 *e*P P 17 59 02.8 +2.5
comp=E,2.3nm,0.3s
CDF Champ du Feu 21.64 45 *e*P P 17 59 12.3 +3.9
EKA Eskdalemuir Ar 22.07 19 P P 17 59 17.2 +4.2
comp=E,3.0nm,0.8s,baz=205,slow=9.2,SNR=5.6
EKA Eskdalemuir Ar 22.07 19 P P 17 59 17.2 +4.2
GERES GERESS Array B 25.67 48 P P 17 59 51.3 +3.3
comp=E,0.7nm,0.7s,baz=264,slow=9.8,SNR=3.0
TORD Torodi Ar. Bea 26.88 140 P P 18 00 11.1 +12
comp=E,0.8nm,0.4s,baz=329,slow=9.0,SNR=7.2
TORD LR LR 18 10 51.1
comp=E,109nm,18.8s,baz=345,slow=37
FINES FINESS Array B 37.33 32 P P 18 01 34.4 +3.9
comp=E,1.4nm,0.6s,baz=259,slow=6.8,SNR=6.8
FINES LR LR 18 16 21.5
comp=E,142nm,18.9s,baz=358,slow=36
ARCES ARCESS Array B 41.23 21 P P 18 02 08.6 +5.6
comp=E,5.5nm,1.0s,baz=231,slow=7.7,SNR=6.7
MKAR Makanchi Array 70.32 46 P P 18 05 39.3 +7.5
comp=E,0.6nm,0.7s,baz=305,slow=5.1,SNR=6.4
SONM Songino Array 82.62 35 P P 18 06 51.4 +10
comp=E,0.7nm,0.7s,baz=298,slow=5.1,SNR=5.9
WRA Warramunga Arr 149.62 68 PKPbc PKPbc 18 14 17.9 +10
comp=E,8.8nm,0.5s,baz=322,slow=2.3,SNR=2.6
ASAR Alice Springs 151.30 75 PKPbc PKPbc 18 14 22.2 +10
comp=E,0.4nm,0.7s,baz=304,slow=1.6,SNR=2.9

NEIC ***14*** *17:55:13.3, 3859S×17580E, h151km, MG4.0(WEL), After WEL.*

WEL 14 17:55:13.6±0.4, 3860S×17580E, h149km±3km, ML3.7/13, 5C, Error ellipse: s-maj=3.0km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.55**	**198**	P		Pn	17 55 35.3	+0.3
WTVZ	**West Tongariro**	**0.55**	**198**	⇑PN		Pn	17 55 35.3	+0.3
OTVZ	**Oturere**	**0.58**	**191**	PN		Pn	17 55 35.5	+0.4
WPVZ	**Whakapapa**	**0.64**	**198**	P		Pn	17 55 35.8	+0.2
WPVZ	**Whakapapa**	**0.64**	**198**	PN		Pn	17 55 35.8	+0.3
DRZ	**Dome Shelter**	**0.71**	**195**	P		Pn	17 55 36.5	+0.5
DRZ	**Dome Shelter**	**0.71**	**195**	PN		Pn	17 55 36.5	+0.6
WNVZ	**Wahianoa**	**0.75**	**192**	P		Pn	17 55 36.6	+0.3
WNVZ	**Wahianoa**	**0.75**	**192**	PN		Pn	17 55 36.6	+0.3
BKZ	**Black Stump Fm**	**0.79**	**137**	P		Pn	17 55 36.9	+0.4
BKZ				S		Sn	17 55 54.5	+0.5
BKZ	**Black Stump Fm**	**0.79**	**137**	⇑PN		Pn	17 55 36.9	+0.4
BKZ				SN		Sn	17 55 54.5	+0.5
MOVZ	**Moawhango**	**0.81**	**183**	P		Pn	17 55 36.7	0.0
MOVZ	**Moawhango**	**0.81**	**183**	⇑PN		Pn	17 55 36.7	-0.1
MOVZ				SN		Sn	17 55 53.8	-0.6
URZ	**Urewera**	**1.08**	**72**	P		Pn	17 55 38.6	-0.3
URZ	**Urewera**	**1.08**	**72**	PN		Pn	17 55 38.6	-0.3
URZ				SN		Sn	17 55 57.9	-0.3
WAZ	**Wanganui**	**1.32**	**208**	P		Pn	17 55 40.6	-0.6
WAZ	**Wanganui**	**1.32**	**208**	PN		Pn	17 55 40.6	-0.6
MWZ	**Matawai**	**1.38**	**80**	P		Pn	17 55 41.8	0.0
MWZ				S		Sn	17 56 02.9	-0.4
MWZ	**Matawai**	**1.38**	**80**	PN		Pn	17 55 41.8	0.0
MWZ				SN		Sn	17 56 02.9	-0.4
TSZ	**Takapari Road**	**1.47**	**175**	P		Pn	17 55 42.4	-0.3
TSZ	**Takapari Road**	**1.47**	**175**	⇑PN		Pn	17 55 42.4	-0.3
KNZ	**Kokohu**	**1.52**	**107**	P		Pn	17 55 43.7	+0.5
KNZ	**Kokohu**	**1.52**	**107**	PN		Pn	17 55 43.7	+0.4
WPHZ	**Waipukurau**	**1.55**	**162**	⇑PN		Pn	17 55 43.4	-0.1
PXZ	**Pawanui**	**1.65**	**151**	PN		Pn	17 55 44.6	-0.1
PXZ				SN		Sn	17 56 08.0	-0.5
PUZ	**Puketiti**	**2.00**	**76**	P		Pn	17 55 48.1	-0.5
PUZ	**Puketiti**	**2.00**	**76**	PN		Pn	17 55 48.0	-0.5
MRZ	**Mangatainoka R**	**2.07**	**185**	P		Pn	17 55 47.8	-1.6
MRZ	**Mangatainoka R**	**2.07**	**185**	PN		Pn	17 55 47.8	-1.6
BFZ	**Birch Farm**	**2.11**	**171**	P		Pn	17 55 48.7	-1.2
BFZ	**Birch Farm**	**2.11**	**171**	PN		Pn	17 55 48.7	-1.3
TIWZ	**Tintock**	**2.18**	**178**	PN		Pn	17 55 49.3	-1.4
MXZ	**Matakaoa Point**	**2.23**	**63**	*e*P		Pn	17 55 51.0	-0.3
MXZ	**Matakaoa Point**	**2.23**	**63**	PN		Pn	17 55 51.0	-0.3
KIW	**Kapiti Island**	**2.37**	**197**	P		Pn	17 55 50.6	-2.4
KIW	**Kapiti Island**	**2.37**	**197**	PN		Pn	17 55 50.6	-2.4
MTW	**Mount Morrison**	**2.57**	**185**	P		Pn	17 55 52.9	-2.6
MTW	**Mount Morrison**	**2.57**	**185**	PN		Pn	17 55 52.9	-2.6
CAW	**Cannon Point**	**2.57**	**192**	P		Pn	17 55 52.3	-3.2
DUWZ	**D'Urville Isla**	**2.64**	**213**	PN		Pn	17 55 53.4	-2.9
MRW	**Makara Radio**	**2.77**	**198**	P		Pn	17 55 55.0	-2.9
MRW	**Makara Radio**	**2.77**	**198**	PN		Pn	17 55 55.0	-2.9
PAWZ	**Paruwai Farm**	**2.80**	**186**	P		Pn	17 55 55.5	-2.8
PAWZ	**Paruwai Farm**	**2.80**	**186**	PN		Pn	17 55 55.5	-2.8
TRWZ	**Traveller**	**2.80**	**182**	PN		Pn	17 55 55.8	-2.5
WEL	**Wellington**	**2.80**	**196**	P		Pn	17 55 55.5	-2.9
WEL	**Wellington**	**2.80**	**196**	PN		Pn	17 55 55.5	-2.9
SNZO	**South Karori**	**2.84**	**197**	PN		Pn	17 55 55.7	-3.1
MSWZ	**Moikau Station**	**2.85**	**188**	P		Pn	17 55 56.0	-3.0
MSWZ	**Moikau Station**	**2.85**	**188**	PN		Pn	17 55 56.0	-2.9
TCW	**Tory Channel**	**2.87**	**204**	P		Pn	17 55 56.2	-3.0

TCW	**Tory Channel**	**2.87**	**204**	PN	Pn	17 55 56.2 -3.0
BHW	**Baring Head**	**2.90**	**194**	P	Pn	17 55 56.4 -3.2
BHW	**Baring Head**	**2.90**	**194**	PN	Pn	17 55 56.4 -3.2
NNZ	**Nelson**	**3.22**	**215**	*e*P	Pn	17 55 59.8 -3.8
NNZ				S	Sn	17 56 37.7 -4.6
NNZ	**Nelson**	**3.22**	**215**	PN	Pn	17 55 59.8 -3.8
NNZ				*e*SN	Sn	17 56 37.6 -4.7
QRZ	**Quartz Range**	**3.37**	**228**	*e*P	Pn	17 56 01.1 -4.5
QRZ	**Quartz Range**	**3.37**	**228**	PN	Pn	17 56 01.1 -4.5
BSWZ	**Blackbirch Sta**	**3.45**	**205**	P	Pn	17 56 03.1 -3.5
BSWZ	**Blackbirch Sta**	**3.45**	**205**	PN	Pn	17 56 03.1 -3.5
THZ	**Tophouse**	**3.87**	**214**	*e*P	Pn	17 56 08.3 -3.7
THZ	**Tophouse**	**3.87**	**214**	PN	Pn	17 56 08.3 -3.7
KHZ	**Kahutara**	**4.19**	**204**	P	Pn	17 56 12.4 -3.9
KHZ	**Kahutara**	**4.19**	**204**	PN	Pn	17 56 12.4 -3.9
LTZ	**Lake Taylor**	**4.97**	**212**	*e*P	Pn	17 56 21.3 -5.2
LTZ	**Lake Taylor**	**4.97**	**212**	PN	Pn	17 56 21.3 -5.3
MQZ	**McQueen's Vall**	**5.63**	**204**	*e*P	Pn	17 56 29.2 -6.1
MQZ	**McQueen's Vall**	**5.63**	**204**	PN	Pn	17 56 29.2 -6.1

*ISCJB **14** 17:58:06.7±0.3, 6597N±003×140.11W±006, h10km, mb4.1/3, Error ellipse: s-maj=4.5km s-min=3.0km az=127.6*
*NEIC **14** 17:58:10.1, 6596N×140.57W, h19km, ML4.1(AEIC), MW4.1(PGC), After AEIC.*
*IDC **14** 17:58:11.4±1.6, 6607N×140.14W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/24, mbtmp4.1/6, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=22.1km s-min=17.6km az=31.0*
*PGC **14** 17:58:14.9±2.7, 6582N×139.59W, h14km, ML4.2/3, Mw4.1, 196km northwest of Dawson, Yt Northern Yukon Territory, Canada*

ISC 14 17:58:08.9±0.3, 6593N±003×14023W±006, h10km, n56, σ1§02/66, mb4.1/3, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**1.22**	**199**	P	**Pn**	**17 58 31.2**	**-0.7**
EGAK				S	**Sb**	**17 58 47.6**	**-0.3**
DAWY	**Dawson**	**1.91**	**169**	Trac			
DAWY	**Dawson**	**1.91**	**169**	Pn	**Pn**	**17 58 42.8**	**+1.4**
DAWY				Sg	**Sg**	**17 59 08.4**	**-1.7**
DAWY	**Dawson**	**1.91**	**169**	P	**Pn**	**17 58 42.8**	**+1.3**
DAWY				S	**Sn**	**17 59 08.0**	**+2.5**
BM3	**Burnt Mountain**	**2.30**	**313**	P	**Pn**	**17 58 45.9**	**-0.8**
BM3				S	**Sn**	**17 59 14.4**	**-0.7**
DOT	**Dot Lake**	**2.82**	**217**	P	**Pn**	**17 58 54.3**	**+0.4**
DOT				S	**Sn**	**17 59 28.1**	**+0.2**
BCA3	**Beaver Creek A**	**2.96**	**194**	P	**Pn**	**17 58 56.4**	**+0.6**
IL1	**Eielson Array**	**3.02**	**250**	P	**Pn**	**17 58 55.1**	**-1.6**
COLA	**College**	**3.36**	**255**	P	**Pn**	**17 59 00.0**	**-1.4**
MENT	**Mentasta**	**3.36**	**208**	*e*P	**Pn**	**17 59 01.6**	**+0.2**
INK	**Inuvik**	**3.54**	**45**	Pn	**Pn**	**17 59 04.7**	**+0.8**
	2.0nm,0.3s,baz=238,slow=15,SNR=48						
INK				Pg	**Pg**	**17 59 13.2**	**-3.5**
	15nm,0.3s,baz=239,slow=14,SNR=35						
INK				Sn	**Sn**	**17 59 46.9**	**+1.0**
	35nm,0.3s,baz=169,slow=21,SNR=8.8						
INK				Lg		18 00 01.4	
	51nm,0.3s,baz=244,slow=4.0,SNR=7.8						
INK	**Inuvik**	**3.54**	**45**	Trac			
INK	**Inuvik**	**3.54**	**45**	Pn	**Pn**	**17 59 05.3**	**+1.4**
INK				Sn	**Sn**	**17 59 46.9**	**+1.0**
INK				Sg	**Sg**	**18 00 02.4**	**-0.3**
COLD	**Coldfoot**	**4.19**	**293**	P	**Pn**	**17 59 12.3**	**-0.5**
MCK	**McKinley**	**4.32**	**243**	P	**Pn**	**17 59 14.3**	**-0.4**
TRF	**Thorofare Moun**	**4.98**	**245**	P	**Pn**	**17 59 23.2**	**-0.5**
KTH	**Kantishna Hill**	**5.16**	**247**	P	**Pn**	**17 59 25.2**	**-1.0**
HYT	**Haines Junctio**	**5.27**	**165**	Trac			
HYT	**Haines Junctio**	**5.27**	**165**	Pn	**Pn**	**17 59 29.6**	**+1.9**
HYT				Pg	**Pg**	**17 59 45.5**	**-4.3**
HYT				Sg	**Sg**	**18 00 56.2**	**-1.9**
IMA2	**Indian Mountai**	**5.50**	**278**	P	**Pn**	**17 59 30.0**	**-0.8**
GHO	**Glory Hole Cre**	**5.67**	**227**	P	**Pn**	**17 59 33.8**	**+0.6**
WHY	**Whitehorse**	**5.81**	**153**	Pn	**Pn**	**17 59 37.0**	**+1.9**
WHY				Sg	**Sb**	**18 01 09.2**	**+9.2**
WHY	**Whitehorse**	**5.81**	**153**	*e*P	**Pn**	**17 59 37.0**	**+1.9**
PMR	**Palmer**	**5.88**	**226**	*e*P	**Pn**	**17 59 38.1**	**+2.1**
	19nm,0.6s						
PLBC	**Pleasant Camp**	**6.74**	**163**	Sg	**Sg**	**18 01 39.4**	**-5.6**
SVW2	**Sparrevohn**	**8.39**	**242**	*e*P	**Pn**	**18 00 11.8**	**+1.4**
DLBC	**Dease Lake**	**8.89**	**143**	Pn	**Pn**	**18 00 20.8**	**+3.4**
YKR1	**Yellowknife Ar**	**11.49**	**96**	Pn	**Pn**	**18 00 52.7**	**-0.3**
YKR2	**Yellowknife Ar**	**11.52**	**96**	Pn	**Pn**	**18 00 53.0**	**-0.3**
YKR3	**Yellowknife Ar**	**11.53**	**96**	Pn	**Pn**	**18 00 53.2**	**-0.3**
YKR4	**Yellowknife Ar**	**11.55**	**95**	Pn	**Pn**	**18 00 53.7**	**-0.1**
YKR5	**Yellowknife Ar**	**11.57**	**95**	Pn	**Pn**	**18 00 54.0**	**-0.1**
YKW4	**Yellowknife Ar**	**11.58**	**95**	Pn	**Pn**	**18 00 53.8**	**-0.3**
YKB0	**Yellowknife Ar**	**11.58**	**95**	Pn	**Pn**	**18 00 54.3**	**+0.1**
YKB9	**Yellowknife Ar**	**11.59**	**95**	Pn	**Pn**	**18 00 54.4**	**+0.1**
YKR6	**Yellowknife Ar**	**11.59**	**95**	Pn	**Pn**	**18 00 54.0**	**-0.3**
YKW3	**Yellowknife Ar**	**11.60**	**95**	Pn	**Pn**	**18 00 54.0**	**-0.4**
YKB8	**Yellowknife Ar**	**11.60**	**95**	Pn	**Pn**	**18 00 54.2**	**-0.2**
YKB7	**Yellowknife Ar**	**11.61**	**95**	Pn	**Pn**	**18 00 54.4**	**-0.3**
YKR7	**Yellowknife Ar**	**11.61**	**95**	Pn	**Pn**	**18 00 54.2**	**-0.4**
YKB6	**Yellowknife Ar**	**11.62**	**95**	Pn	**Pn**	**18 00 54.6**	**-0.2**
YKA	**Yellowknife Ar**	**11.63**	**95**	Pn	**Pn**	**18 00 54.3**	**-0.6**
	2.9nm,0.3s,baz=296,slow=13,SNR=37						
YKA				Sn	**Sn**	**18 02 57.8**	**-7.0**
	1.3nm,0.3s,baz=295,slow=22,SNR=6.0						
YKA				LR	LR	18 05 55.0	
	comp=Z,62nm,19.9s,baz=275,slow=40						
YKA	**Yellowknife Ar**	**11.63**	**95**	Pn	**Pn**	**18 00 54.4**	**-0.6**
YKA				Sn	**Sn**	**18 02 57.8**	**-7.0**
YKA				LR	LR	18 05 55.0	
YKR8	**Yellowknife Ar**	**11.63**	**95**	Pn	**Pn**	**18 00 54.7**	**-0.2**
YKB4	**Yellowknife Ar**	**11.64**	**95**	Pn	**Pn**	**18 00 54.9**	**-0.2**
YKR9	**Yellowknife Ar**	**11.65**	**95**	Pn	**Pn**	**18 00 54.9**	**-0.3**
YKB3	**Yellowknife Ar**	**11.65**	**95**	Pn	**Pn**	**18 00 55.0**	**-0.2**
YKB2	**Yellowknife Ar**	**11.67**	**96**	Pn	**Pn**	**18 00 55.1**	**-0.2**
YKW2	**Yellowknife Ar**	**11.67**	**96**	Pn	**Pn**	**18 00 55.0**	**-0.4**
YKW1	**Yellowknife Ar**	**11.67**	**95**	Pn	**Pn**	**18 00 55.3**	**-0.1**
YKB1	**Yellowknife Ar**	**11.68**	**96**	Pn	**Pn**	**18 00 55.3**	**-0.2**
RES	**Resolute Bay**	**17.09**	**40**	P	**Pn**	**18 02 06.5**	**-1.2**
PDAR	**Pinedale Array**	**28.74**	**129**	P	pP	18 04 11.7	+2.2
	1.2nm,0.7s,baz=18,slow=6.2,SNR=9.0						
FINES	**FINESS Array B**	**52.53**	**8**	P	**P**	**18 07 24.2**	**+2.0**
	1.5nm,0.8s,mb4.0,baz=23,slow=10,SNR=4.5						
HFS	**Hagfors**	**52.76**	**16**	P	**P**	**18 07 26.5**	**+2.6**
	3.3nm,0.9s,mb4.3,baz=339,slow=3.7,SNR=4.0						
AKASG	**Malin Array Be**	**63.42**	**7**	P	**P**	**18 08 41.0**	**+2.4**
	0.5nm,0.4s,mb4.0,baz=353,slow=6.5,SNR=6.1						

*BJI **14** 18:05:01.7, 1.12S×134.43E, h10km, mB5.0, mb4.9*
*IDC **14** 18:05:10.0±0.9, 064S×13328E, h0km, mb4.2/8, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=40.9km s-min=15.0km az=71.0*
*ISCJB **14** 18:05:11.4±0.6, 059S±005×1337E±0.1, h31km, mb4.6/26, MS3.5/4, Error ellipse: s-maj=21.5km s-min=6.5km az=155.7*
*NEIC **14** 18:05:11.0±0.4, 055S×13345E, h10km, mb4.6/15, Error ellipse: s-maj=17.2km s-min=6.4km az=74.0*

ISC 14 18:05:13.7±0.6, 064S±005×1337E±01, h33km, h33km±6km: pP-P, n44, σ0§86/41, mb4.6/26, MS3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.06**	**186**	*e*P	**Pn**	**18 08 03.4**	**+0.3**
	14nm,0.6s						
KAKA				*e*S	**Sn**	**18 10 13.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**19.07**	**204**	*e*P	**Pn**	**18 09 34.4**	**+0.3**
	9.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.07**	**204**	P	**Pn**	**18 09 32.6**	**-1.5**
	0.3nm,0.3s,baz=54,slow=12,SNR=8.0						
WRAB	**Tennant Creek**	**19.19**	**178**	*e*P	**Pn**	**18 09 35.2**	**-0.4**
	10nm,0.8s						
WRA	**Warramunga Arr**	**19.20**	**178**	P	**Pn**	**18 09 34.7**	**-1.0**
	0.5nm,0.3s,baz=355,slow=11,SNR=28						
WB2	**Warramunga Arr**	**19.20**	**178**	*e*P	**Pn**	**18 09 35.2**	**-0.5**
AS31	**Alice Springs**	**22.89**	**179**	*e*P	**P**	**18 10 15.0**	**+0.6**
ASAR	**Alice Springs**	**22.89**	**179**	P	**P**	**18 10 15.2**	**+0.8**
	2.7nm,0.6s,mb3.9,baz=356,slow=11,SNR=63						
ASPA	**Alice Springs**	**22.89**	**179**	*e*P	**P**	**18 10 15.5**	**+1.1**
CTA	**Charters Tower**	**22.92**	**148**	P	**P**	**18 10 18.9**	**+4.3**
	3.1nm,1.0s,mb3.7,baz=162,slow=9.6,SNR=2.3						
CTAO	**Charters Tower**	**22.92**	**148**	*e*P	**P**	**18 10 19.9**	**+5.3**
	6.3nm,0.8s,mb4.1						
KSM	**Kuching**	**23.46**	**275**	P	**P**	**18 10 20.4**	**+0.1**
MBWA	**Marble Bar**	**24.52**	**213**	*e*P	**P**	**18 10 31.4**	**+1.5**
	37nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**31.96**	**167**	LR	LR	18 25 55.9	
	comp=Z,174nm,18.8s,MS3.8,baz=202,slow=39						
PSI	**Prapat**	**34.91**	**276**	P	**P**	**18 12 01.1**	**-1.0**
	3.1nm,0.6s,mb4.4,baz=105,slow=19,SNR=5.1						
MJAR	**Matsushiro Arr**	**37.23**	**6**	LR	LR	18 24 58.0	
	comp=Z,46nm,20.0s,MS3.3,baz=155,slow=32						
KSRS	**Korea Array**	**38.27**	**353**	LR	LR	18 28 00.2	
	comp=Z,38nm,19.6s,MS3.2,baz=102,slow=36						
BJT	**Baijiatuau**	**43.51**	**340**	*e*P	**P**	**18 13 11.6**	**-2.3**
	27nm,0.9s,mb5.0						
LZH	**Lanzhou**	**45.88**	**326**	*e*P	**P**	**18 13 33.5**	**+0.7**
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,96nm,4.0s						
LZH	**Lanzhou**	**45.88**	**326**	*e*P	**P**	**18 13 33.5**	**+0.7**
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	18 13 55.5	+13
LZH				sP	sP	18 14 14.9	+28
GTA	**Gaotai**	**50.48**	**326**	*e*P	**P**	**18 14 08.8**	**+0.5**
GTA				AP	pP	18 14 19.0	+0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
LSA	**Lhasa**	**50.53**	**310**	*e*P	**P**	**18 14 10.0**	**+1.3**
LSA	**Lhasa**	**50.53**	**310**	*e*P	**P**	**18 14 09.7**	**+1.0**
	comp=Z,5.5nm,0.9s,mb4.5						
SONM	**Songino Array**	**53.80**	**338**	P	**P**	**18 14 33.5**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=152,slow=7.3,SNR=19						
GUN	**Gumba**	**53.89**	**306**	*e*P	**P**	**18 14 34.1**	**+0.5**
	comp=Z,38nm,0.7s,mb5.4						
KKN	**Kakani**	**54.33**	**305**	*e*P	**P**	**18 14 36.9**	**0.0**
	comp=Z,27nm,0.9s,mb5.2						
DMN	**Daman**	**54.40**	**305**	*e*P	**P**	**18 14 37.6**	**+0.2**
	comp=Z,36nm,0.8s,mb5.3						
GKN	**Gorkha**	**54.94**	**305**	*e*P	**P**	**18 14 41.1**	**-0.2**
	comp=Z,22nm,0.8s,mb5.2						
KOLN	**Koldanda**	**55.70**	**305**	*e*P	**P**	**18 14 47.4**	**+0.7**
	comp=Z,62nm,0.8s,mb5.7						
WMQ	**Urumqi**	**60.31**	**323**	P	**P**	**18 15 19.5**	**+0.5**
YAK	**Yakutsk**	**62.58**	**358**	*e*P	**P**	**18 15 33.4**	**-1.0**
	comp=Z,7.2nm,0.6s,mb5.0						
MK31	**Makanchi Array**	**65.12**	**324**	*e*P	**P**	**18 15 51.3**	**+0.2**
MK31				*e*	pP	18 16 01.0	-0.4
MKAR	**Makanchi Array**	**65.12**	**324**	P	**P**	**18 15 51.5**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.7,baz=108,slow=8.6,SNR=58						
ZAL	**Zalesovo**	**67.67**	**331**	P	**P**	**18 16 06.8**	**-0.6**
	comp=Z,1.1nm,0.3s,mb4.3,baz=16,slow=7.7,SNR=9.4						
AAK	**Ala-Archa**	**68.25**	**317**	P	**P**	**18 16 10.4**	**-0.6**
	comp=Z,2.8nm,0.9s,mb4.3						
KURK	**Kurchatov**	**69.17**	**326**	*e*P	**P**	**18 16 16.9**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.7						
KURK				*e*	pP	18 16 26.2	-0.9
BVAR	**Borovoye Array**	**74.77**	**326**	P	**P**	**18 16 50.6**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.4,baz=111,slow=8.1,SNR=26						
BRVK	**Borovoye**	**74.84**	**326**	*e*P	**P**	**18 16 49.9**	**-0.8**
	comp=Z,8.8nm,1.0s,mb4.6						
BRVK				*e*	pP	18 17 00.2	-0.9
CHKZ	**Chkalovo**	**74.89**	**327**	*e*P	**P**	**18 16 50.3**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ				*e*	pP	18 16 59.6	-1.9
ZRNK	**Zerenda**	**75.52**	**326**	*e*P	**P**	**18 16 53.9**	**-0.7**
	comp=Z,5.1nm,1.0s,mb4.4						
ZRNK				*e*	pP	18 17 04.0	-1.1
VNDA	**Vanda**	**78.31**	**174**	P	**P**	**18 17 11.7**	**+1.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=334,slow=7.2,SNR=4.0						
VNDA				LR	LR	18 51 46.3	
	comp=Z,60nm,18.4s,MS4.0,baz=156,slow=36						
ARU	**Arti**	**82.33**	**327**	P	**P**	**18 17 31.4**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**89.30**	**180**	*e*P	**P**	**18 18 07.2**	**+0.7**
	comp=Z,4.6nm,1.0s,mb4.8						
LPAZ	**La Paz**	**152.69**	**129**	PKPbc	PKPbc	18 25 11.7	+4.9
	comp=Z,0.5nm,0.5s,baz=224,slow=5.7,SNR=3.6						

*ISCJB **14** 18:09:05.8±0.5, 4076N±002×2370E±004, h10km, Error ellipse: s-maj=4.0km s-min=3.0km az=15.1*
*ATH **14** 18:09:05.8, 4074N×2369E, h40km±2km, MD3.0/3*
*CSEM **14** 18:09:06.5±0.1, 4079N×2370E, h20km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.5km az=91.0*
*THE **14** 18:09:06.2, 4079N×2370E, h10km, ML2.3*

ISC 14 18:09:06.3±0.5, 4076N±002×2371E±004, h10km, n16, σ0§95/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.28**	**283**	*e*Pg	**Pg**	**18 09 11.9**	**+0.1**
SOH				*e*Sg	**Sg**	**18 09 15.6**	**0.0**
SRS	**Serrai**	**0.37**	**346**	*e*Pg	**Pg**	**18 09 13.7**	**+0.1**
SRS				*e*Sg	**Sg**	**18 09 18.3**	**-0.2**
SRS	**Serrai**	**0.37**	**346**	*e*Pg	**Pg**	**18 09 13.6**	**+0.1**
SRS				*e*Sg	**Sg**	**18 09 18.3**	**-0.1**
PLG	**Polygyros**	**0.44**	**208**	*e*Pg	**Pg**	**18 09 15.6**	**+0.8**
PLG				*e*Sg	**Sg**	**18 09 21.6**	**+1.0**
PLG	**Polygyros**	**0.44**	**208**	P	**Pg**	**18 09 15.6**	**+0.8**
PLG				*e*S	**Sg**	**18 09 22.1**	**+1.5**
OUR	**Ouranopolis**	**0.47**	**154**	*e*Pg	**Pg**	**18 09 16.5**	**+1.0**
OUR				*e*Sg	**Sg**	**18 09 22.3**	**+0.5**
HORT	**Hortiatis**	**0.49**	**251**	*e*Pg	**Pg**	**18 09 16.0**	**+0.1**
HORT				*e*Sg	**Sg**	**18 09 22.5**	**+0.1**
THE	**Thessaloniki**	**0.58**	**257**	*e*Pg	**Pg**	**18 09 17.5**	**-0.1**
THE				*e*Sg	**Sg**	**18 09 25.1**	**0.0**
THE	**Thessaloniki**	**0.58**	**257**	*e*Pg	**Pg**	**18 09 17.5**	**-0.1**
THE				*e*Sg	**Sg**	**18 09 25.1**	**-0.1**
NVR	**Nevrokopi**	**0.60**	**11**	*e*P	**Pg**	**18 09 19.4**	**+1.5**
NVR				*e*S	**Sg**	**18 09 28.3**	**+2.5**
KNT	**Kendrikon**	**0.73**	**303**	*e*Pg	**Pg**	**18 09 20.4**	**-0.1**
KNT				*e*Sg	**Sg**	**18 09 30.1**	**+0.1**
MMB	**Musomiste**	**0.83**	**1**	*e*Pg	**Pg**	**18 09 19.9**	**-2.4**
MMB				*e*Sg	**Sg**	**18 09 32.4**	**-0.7**
GRG	**Griva**	**1.01**	**282**	*e*Pg	**Pg**	**18 09 25.3**	**-0.5**
GRG				*e*Sg	**Sg**	**18 09 39.9**	**+1.0**
LIT	**Litokhoron**	**1.14**	**235**	*e*Pg	**Pg**	**18 09 26.4**	**-1.8**
LIT				*e*Sg	**Sg**	**18 09 43.1**	**0.0**
RDO	**Rodhopi**	**1.44**	**74**	*e*P	**Pn**	**18 09 31.1**	**-1.3**
XOR	**Xorichti**	**1.45**	**196**	*e*Pg	**Pg**	**18 09 33.1**	**-1.0**
XOR				*e*Sg	**Sg**	**18 09 52.1**	**-0.8**

IDC 14 18:47:48.6±8.4, 1649S×17218W, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/14, mbtmp4.2/3, ML1.4/1, MS3.8/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=225.9km s-min=25.0km az=116.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**9**	Pn	Pn	18 48 32.2	+0.5
	4.5nm,0.3s,baz=44,slow=22,SNR=4.6						
AFI				Sn	Sn	18 49 04.1	+0.2
	41nm,0.3s,baz=22,slow=19,SNR=13						
RAO	**Raoul Island**	**13.76**	**202**	LR	LR	18 55 25.8	
	comp=Z,234nm,19.9s,baz=269,slow=33						
STKA	**Stephens Creek**	**44.53**	**241**	P	P	18 56 02.3	+0.3
	2.9nm,1.0s,baz=114,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**50.75**	**258**	P	P	18 56 50.6	+0.4
	1.6nm,0.9s,baz=96,slow=7.1,SNR=30						
ASAR	**Alice Springs**	**50.90**	**253**	P	P	18 56 51.9	+0.4
	5.0nm,0.6s,baz=88,slow=8.6,SNR=135						
MAW	**Mawson**	**87.14**	**198**	LR	LR	19 34 01.3	
	comp=Z,74nm,22.0s,baz=48,slow=32						

MAN 14 18:49:28.8, 1430N×12448E, h48km, mb4.2, ML5.1, MS3.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.76**	**204**	*e*P	Pn	18 49 44.8	+1.6
PVCP				*e*S	Sn	18 49 55.4	+1.6
PVCP	**Virac**	**0.76**	**204**	*e*P	Pn	18 49 45.1	+1.8
PVCP				*e*S	Sn	18 49 56.1	+2.3
POLP	**Polilio Island**	**2.50**	**280**	*e*P	Pn	18 50 08.0	+1.1
POLP				*e*S	Sn	18 50 37.9	+1.7
BOAC	**Boac**	**2.69**	**252**	*e*P	Pn	18 50 10.3	+0.7
BOAC				*e*S	Sn	18 50 42.8	+1.9

IDC 14 18:50:15.3±4.6, 1788S×17443W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/15, mbtmp4.1/5, ML2.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/19, Error ellipse: s-maj=184.1km s-min=31.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.70**	**33**	Pn	Pn	18 51 27.3	-0.2
	8.0nm,0.3s,baz=15,slow=16,SNR=6.2						
DZM	**Mont Dzumac**	**18.45**	**254**	P	Pn	18 54 31.4	-1.1
	0.2nm,0.3s,baz=107,slow=15,SNR=6.0						
DZM				LR	LR	18 59 38.8	
	comp=Z,442nm,21.0s,baz=122,slow=30						
PPT	**Papeete**	**23.67**	**93**	*e*LR	LR	19 01 02.1	
	351nm,28.5s						
PPT	**Papeete**	**23.67**	**93**	LR	LR	19 01 51.6	
	comp=Z,107nm,20.3s,baz=251,slow=29						
TBI	**Tubuai**	**23.98**	**107**	*e*LR	LR	19 01 10.5	
	216nm,31.5s						
TAOE	**Nuku Hiva Isla**	**34.48**	**79**	*e*LR	LR	19 06 02.9	
	677nm,27.3s						
CTA	**Charters Tower**	**37.19**	**260**	LR	LR	19 10 16.4	
	comp=Z,196nm,21.3s,baz=74,slow=32						
PMG	**Port Moresby**	**38.20**	**278**	LR	LR	19 10 04.3	
	comp=Z,92nm,19.3s,baz=281,slow=31						
STKA	**Stephens Creek**	**41.98**	**242**	P	P	18 58 07.9	-0.1
	3.2nm,1.0s,baz=82,slow=15,SNR=3.8						
WRA	**Warramunga Arr**	**48.36**	**259**	P	P	18 58 59.3	+0.6
	1.2nm,1.0s,baz=95,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**48.45**	**254**	P	P	18 59 00.6	+1.2
	0.9nm,0.7s,baz=94,slow=7.9,SNR=5.1						

*IDC **14** 18:50:11.8±2.0, 1.17N×9703E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=52.5km s-min=23.9km az=62.0*
*ISCJB **14** 18:50:17.5±7.5, 1.3N±04×972E±04, h51km±59km, mb4.0/7, Error ellipse: s-maj=89.2km s-min=17.6km az=99.4*

ISC 14 18:50:20.3±7.0, 14N±03×974E±04, h53km±56km, n10, σ0§26/10, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.13**	**48**	Pn	**Pn**	**18 50 53.4**	**0.0**
	4.4nm,0.3s,baz=251,slow=8.3,SNR=18						
JIRN	**Jiri**	**28.25**	**339**	*e*P	**P**	**18 56 08.8**	**+0.5**
GUN	**Gumba**	**28.59**	**338**	*e*P	**P**	**18 56 11.5**	**+0.1**
	9.6nm,0.6s,mb4.7						
KKN	**Kakani**	**28.70**	**337**	*e*P	**P**	**18 56 12.2**	**-0.2**
GKN	**Gorkha**	**29.15**	**336**	*e*P	**P**	**18 56 16.1**	**-0.2**
	3.1nm,0.3s,mb4.5						
KOLN	**Koldanda**	**29.37**	**335**	*e*P	**P**	**18 56 18.3**	**0.0**
	4.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**18 58 06.0**	**-0.3**
	0.7nm,0.6s,mb3.5,baz=301,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**18 58 17.8**	**+0.3**
	0.4nm,0.8s,mb3.2,baz=301,slow=7.9,SNR=4.7						
SONM	**Songino Array**	**46.95**	**8**	P	**P**	**18 58 45.9**	**+0.2**
	1.1nm,0.3s,mb3.9,baz=193,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**18 58 46.7**	**-0.4**
	1.2nm,0.7s,mb3.9,baz=161,slow=8.3,SNR=8.0						

*STR **14** 18:59:35.5±0.1, 4544N×6.14E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **14** 18:59:35.5, 4544N×6.14E, h5km, ML2.4(LDG), ML2.6(STR), After STR.*
*LDG **14** 18:59:35.8±0.1, 4545N×6.12E, h2km, Md2.4/3, Ml2.4/23, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*

ISC 14 18:59:34.7±0.3, 4546N±001×607E±002, h8km±3km, n41, σ0§83/98, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.26**	**172**	Pg	**Pg**	**18 59 40.5**	**+0.7**
GRN	**Grenoble**	**0.31**	**227**	Pg	**Pg**	**18 59 42.3**	**+1.4**
RSL	**Roselend**	**0.46**	**59**	Pg	**Pg**	**18 59 43.8**	**+0.3**
RSL				Sg	**Sg**	**18 59 49.5**	**0.0**
LPL	**La

HINF	**Hinteralfeld**	**2.42**	**13**	*e*Pn		**Pn**	**19 00 14.5**	**-0.1**
HINF				*e*Pg		**Pg**	**19 00 20.8**	**-0.3**
HINF				*e*Sg		**Sg**	**19 00 51.2**	**-1.3**
BGF	**Bois d'Agland**	**2.50**	**297**	*e*Pg		**Pg**	**19 00 23.0**	**+0.4**
	SNR=1.0							
BGF				*e*Sg		**Sg**	**19 00 54.7**	**-0.3**
	6.5nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**2.50**	**297**	*e*Pn		**Pn**	**19 00 16.4**	**+0.7**
BGF				*e*Pg		**Pg**	**19 00 23.0**	**+0.4**
BGF				*e*Sg		**Sg**	**19 00 54.7**	**-0.3**
HAU	**Haudompre**	**2.56**	**4**	*e*Pg		**Pg**	**19 00 23.1**	**-0.6**
HAU				*e*Sg		**Sg**	**19 00 55.2**	**-1.7**
	3.8nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**2.56**	**4**	*e*Pn		**Pn**	**19 00 16.4**	**0.0**
HAU				*e*Pg		**Pg**	**19 00 23.1**	**-0.6**
HAU				*e*Sg		**Sg**	**19 00 55.2**	**-1.7**
TCF	**Toulx Ste Croi**	**2.82**	**289**	*e*Sn		**Sn**	**19 00 53.4**	**-0.8**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**19 01 05.3**	**0.0**
	1.7nm,0.2s							
SFTF	**Sexfontaines**	**2.84**	**346**	*e*Pg		**Pg**	**19 00 29.0**	**-0.1**
	baz=162							
SFTF				*e*Sg		**Sg**	**19 01 05.9**	**0.0**
	8.6nm,0.3s							
CAF	**Calviac**	**2.88**	**261**	*e*Pn		**Pn**	**19 00 21.9**	**+1.0**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**19 01 05.3**	**-1.9**
	1.3nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**3.07**	**15**	*e*Sg		**Sg**	**19 01 12.3**	**-1.0**
	1.3nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**3.21**	**269**	*e*Sg		**Sg**	**19 01 16.3**	**-1.5**
	2.2nm,0.4s,SNR=1.0							
MTLF	**Montolieu**	**3.48**	**234**	*e*Pg		**Pg**	**19 00 40.6**	**-0.7**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**19 01 09.2**	**-1.2**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**19 01 24.8**	**-1.6**
	1.4nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**3.48**	**234**	*e*Pn		**Pn**	**19 00 28.8**	**-0.3**
MTLF				*e*Pg		**Pg**	**19 00 40.6**	**-0.7**
MTLF				*e*Sn		**Sn**	**19 01 09.2**	**-1.2**
MTLF				*e*Sg		**Sg**	**19 01 24.8**	**-1.6**

NEIC **14** *19:06:16.0±2.0, 7.16S×129.33E, h114km±19km, mb4.5/7, Error ellipse: s-maj=23.4km s-min=9.0km az=53.0*
IDC **14** *19:06:16.4±5.3, 7.155S×129.29E, h115km±48km, mb3.7/5, mb1 4.0/8, mb1mx3.8/15, mbtmp3.9/8, MS3.2/3, Ms1 3.2/3, ms1mx2.7/18, Error ellipse: s-maj=52.6km s-min=18.6km az=58.0*
ISCJB **14** *19:06:17.4±1.4, 7.27S±007×129.2E±0.1, h148km±14km, mb4.1/12, Error ellipse: s-maj=21.2km s-min=7.2km az=126.2*

ISC 14 19:06:19.8±1.5,**7.43S**±008×**129.1E**±0.1,**h151**km±16km,**n35,** σ1§**35**/42,**mb4.1**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.18**	**148**	*e*P	**Pn**	**19 07 51.2**	**+2.3**
	88nm,0.6s						
KAKA				*e*S	**Sn**	**19 08 57.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.14**	**197**	*e*P	**Pn**	**19 08 55.3**	**+0.5**
	38nm,0.6s						
FITZ				*e*S	**Sn**	**19 10 54.4**	**-3.5**
FITZ	**Fitzroy Crossi**	**11.14**	**197**	P	**Pn**	**19 08 55.5**	**+0.8**
	2.4nm,0.3s,baz=25,slow=11,SNR=60						
FITZ				S	**Sn**	**19 10 56.5**	**-1.4**
	2.3nm,0.3s,baz=110,slow=17,SNR=4.1						
FITZ				LR	LR	19 14 12.1	
	comp=Z,36nm,20.8s,baz=188,slow=42						
WRAB	**Tennant Creek**	**13.42**	**158**	*e*Pn	**Pn**	**19 09 23.9**	**-0.4**
WRAB				*e*Sn	**Sn**	**19 11 41.0**	**-12**
WRA	**Warramunga Arr**	**13.43**	**158**	P	**Pn**	**19 09 23.5**	**-0.8**
	2.2nm,0.3s,baz=338,slow=12,SNR=94						
WRA				S	**Sn**	**19 11 45.5**	**-7.4**
	1.5nm,0.3s,baz=336,slow=22,SNR=6.4						
WB2	**Warramunga Arr**	**13.43**	**158**	*e*P	**Pn**	**19 09 23.9**	**-0.5**
WB2				*e*S	**Sn**	**19 11 46.6**	**-6.4**
WB2	**Warramunga Arr**	**13.43**	**158**	*e*Pn	**Pn**	**19 09 23.7**	**-0.7**
WB2				*e*Sn	**Sn**	**19 11 44.9**	**-8.1**
WB2				*e*S	**Sn**	**19 11 46.6**	**-6.4**
MBWA	**Marble Bar**	**16.40**	**213**	*e*Pn	**Pn**	**19 10 04.0**	**+2.7**
	62nm,1.5s						
AS31	**Alice Springs**	**16.78**	**165**	*e*Pn	**Pn**	**19 10 08.1**	**+2.2**
AS31				*e*Sn	**Sn**	**19 13 06.4**	**-7.0**
ASPA	**Alice Springs**	**16.78**	**165**	*e*P	**Pn**	**19 10 08.3**	**+2.4**
ASPA				*e*S	**S**	**19 13 07.1**	**-5.4**
ASAR	**Alice Springs**	**16.78**	**165**	P	**Pn**	**19 10 08.7**	**+2.7**
	1.0nm,0.3s,baz=338,slow=8.9,SNR=130						
ASAR				S	**S**	**19 13 08.8**	**-3.8**
	0.8nm,0.3s,baz=336,slow=18,SNR=6.8						
KKM	**Kota Kinabalu**	**18.58**	**316**	P	**P**	**19 10 24.2**	**-1.1**
KSM	**Kuching**	**20.75**	**294**	*e*P	**P**	**19 10 48.8**	**+0.1**
STKA	**Stephens Creek**	**26.96**	**156**	P	**P**	**19 11 49.5**	**+2.4**
	4.6nm,0.9s,mb4.1,baz=350,slow=9.6,SNR=8.2						
STKA	**Stephens Creek**	**26.96**	**156**	*e*P	**P**	**19 11 49.4**	**+2.2**
STKA				*e*	pP	19 12 17.8	-1.0
PSI	**Prapat**	**31.81**	**288**	P	**P**	**19 12 31.4**	**+1.4**
	3.0nm,0.4s,mb4.4,baz=109,slow=6.7,SNR=6.9						
CM31	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**19 13 39.2**	**+4.8**
	5.0nm,1.2s,mb4.0						
KSRS	**Korea Array**	**44.66**	**359**	LR	LR	19 32 03.9	
	comp=Z,20nm,19.9s,baz=130,slow=35						
LSA	**Lhasa**	**51.92**	**317**	*e*P	**P**	**19 15 13.9**	**+0.9**
	3.8nm,0.6s,mb4.2						
JIRN	**Jiri**	**54.22**	**312**	*e*P	**P**	**19 15 29.9**	**+0.1**
GUN	**Gumba**	**54.59**	**312**	*e*P	**P**	**19 15 32.6**	**+0.1**
	8.6nm,0.4s,mb4.8						
PKI	**Pulchoki**	**54.75**	**311**	*e*P	**P**	**19 15 33.1**	**-0.6**
KKN	**Kakani**	**54.97**	**311**	*e*P	**P**	**19 15 34.0**	**-1.2**
	4.4nm,0.5s,mb4.4						
DMN	**Daman**	**55.00**	**311**	*e*P	**P**	**19 15 35.3**	**-0.1**
GKN	**Gorkha**	**55.56**	**311**	*e*P	**P**	**19 15 39.2**	**-0.3**
	5.5nm,0.3s,mb4.9						
KOLN	**Koldanda**	**56.21**	**310**	*e*P	**P**	**19 15 44.2**	**+0.1**
SONM	**Songino Array**	**58.58**	**342**	P	**P**	**19 15 59.6**	**-1.1**
	0.1nm,0.3s,mb3.1,baz=168,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 17 03.2**	**-0.2**
	1.0nm,0.6s,mb3.7,baz=118,slow=7.5,SNR=18						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 17 03.2**	**-0.2**
ZAL	**Zalesovo**	**71.59**	**334**	LR	LR	19 54 01.1	
	comp=Z,54nm,18.6s,baz=45,slow=40						
VNDA	**Vanda**	**72.13**	**173**	P	**P**	**19 17 29.5**	**+1.6**
	0.7nm,0.8s,mb3.4,baz=304,slow=3.7,SNR=5.6						
KURK	**Kurchatov**	**72.43**	**329**	*e*P	**P**	**19 17 28.2**	**-1.4**
	0.8nm,0.5s,mb3.7						
QSPA	**South Pole Qui**	**82.55**	**180**	*e*P	**P**	**19 18 26.2**	**+0.5**
	3.2nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**128.04**	**281**	PKP	PKPdf	19 25 08.4	+0.6
	0.1nm,0.4s,baz=92,slow=2.3,SNR=4.5						
LPAZ	**La Paz**	**150.90**	**144**	*e*PKPdf	PKPdf	19 25 52.5	+3.8
LPAZ				*e*PKPab	PKPab	19 26 06.6	+4.2

GUC 14 19:38:03.0±0.8,**2462S×6782W, h216**km±109km,**MD3.6, ML3.7, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**2.35**	**269**	*e*P	Pn	19 38 48.9	+2.6
CPN1				*i* S	S	19 39 23.0	+2.8
CPN1				AML	AML	19 39 26.9	
	comp=N,128nm,0.2s						
CEN1	**Los Morros**	**2.50**	**299**	⇑*i* P	Pn	19 38 49.3	+1.4
CEN1				*i* S	S	19 39 25.3	+2.3
CEN1				AML	AML	19 39 27.4	
	comp=N,248nm,0.5s						
ANCH	**Antofagasta**	**2.55**	**291**	*e*P	Pn	19 38 50.3	+1.9
ANCH				*i* S	S	19 39 25.5	+1.6
CDCH	**Caldera**	**3.65**	**227**	⇑*i* P	Pn	19 39 03.1	+2.1
CDCH				*i* S	S	19 39 49.2	+2.4

NEIC 14 19:44:27.0, 2760S×6484W, h40km,**MD4.6**(SJA)**, After SJA., Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**6.19**	**322**	*e*P	Pn	19 46 03.5	+7.7
	9.8nm,0.7s						
TRQA	**Tornquist**	**10.70**	**168**	*e*P	Pn	19 46 58.0	+0.4
LPAZ	**La Paz**	**11.66**	**344**	*e*P	Pn	19 47 11.9	+1.1
NNA	**Nana**	**19.18**	**322**	*e*P	Pn	19 48 44.0	-4.3

2006 NOV

ISCJB **14** *19:58:05.4±1.1, 37.71S×104.4×179.39E±0.10, h42km±7km, mb4.9/18, MS4.0/16, Error ellipse: s-maj=12.6km s-min=7.4km az=177.6*
BJI **14** *19:58:08.4, 37.13S×179.28E, h25km, mB5.5, mb5.0, Ms4.9, Ms2.4*
NEIC **14** *19:58:10.4, 3746S×17890E, h23km, mb5.0/15, MS4.4/1, ML4.9(WEL), After WEL.*
WEL **14** *19:58:10.4±0.5, 3746S×17891E, h24km±1km, ML4.8/56, Error ellipse: s-maj=3.6km s-min=2.2km az=90.0*
WEL Felt from Auckland to Bay of Plenty, maximum reported intensity MM 4.
IDC **14** *19:58:13.9±4.3, 3761S×17878E, h66km±32km, mb4.5/4, mb1 4.6/5, mb1mx4.1/11, mbtmp4.4/5, ML3.8/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/30, Error ellipse: s-maj=36.0km s-min=34.0km az=55.0*

ISC 14 19:58:06.8±1.3,**3767S**±004×**17927E**±008,**h28**km±7km, **h48**km±9.4km**:pP-P, n177,** σ1§**32**/164,**mb4.9**/18,**MS4.0**/16, **5C-4D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**278**	⇑P	**Pb**	**19 58 20.0**	**-1.7**
MXZ				S	**Sb**	**19 58 26.5**	**-5.3**
MXZ	**Matakaoa Point**	**0.78**	**278**	⇑P*	**Pb**	**19 58 20.0**	**-1.7**
MXZ				S*	**Sb**	**19 58 26.5**	**-5.3**
PUZ	**Puketiti**	**0.90**	**243**	⇑P	**Pb**	**19 58 25.6**	**+1.8**
PUZ				S	**Sb**	**19 58 36.5**	**+1.1**
PUZ	**Puketiti**	**0.90**	**243**	⇑P*	**Pb**	**19 58 25.6**	**+1.8**
PUZ				S*	**Sb**	**19 58 36.5**	**+1.2**
MWZ	**Matawai**	**1.53**	**244**	P	**Pn**	**19 58 33.8**	**+1.6**
MWZ				S	**Sn**	**19 58 51.7**	**+0.5**
MWZ	**Matawai**	**1.53**	**244**	PN	**Pn**	**19 58 33.8**	**+1.6**
MWZ				*e*SN	**Sn**	**19 58 51.7**	**+0.5**
WIZ	**White Island**	**1.66**	**274**	P	**Pn**	**19 58 33.7**	**-0.3**
WIZ	**White Island**	**1.66**	**274**	PN	**Pn**	**19 58 33.7**	**-0.3**
URZ	**Urewera**	**1.81**	**250**	P	**Pn**	**19 58 37.2**	**+1.1**
	360nm,0.3s,baz=52,slow=5.0,SNR=676						
URZ				S	**Sn**	**19 58 56.8**	**-1.3**
	772nm,0.3s,baz=273,slow=22,SNR=44						
URZ	**Urewera**	**1.81**	**250**	P	**Pn**	**19 58 37.2**	**+1.1**
URZ	**Urewera**	**1.81**	**250**	⇓PN	**Pn**	**19 58 37.1**	**+1.1**
URZ				SN	**Sn**	**19 58 57.0**	**-1.1**
KNZ	**Kokohu**	**1.84**	**223**	P	**Pn**	**19 58 39.0**	**+2.5**
KNZ	**Kokohu**	**1.84**	**223**	PN	**Pn**	**19 58 38.9**	**+2.4**
EDRZ	**Edgecumbe**	**2.05**	**257**	P	**Pn**	**19 58 40.1**	**+0.7**
EDRZ	**Edgecumbe**	**2.05**	**257**	PN	**Pn**	**19 58 40.1**	**+0.7**
TAZ	**Tarawera**	**2.26**	**255**	*e*P	**Pn**	**19 58 42.7**	**+0.5**
TAZ	**Tarawera**	**2.26**	**255**	*e*PN	**Pn**	**19 58 42.7**	**+0.5**
TGRZ	**Tauranga**	**2.39**	**268**	*e*P	**Pn**	**19 58 43.2**	**-0.9**
TGRZ	**Tauranga**	**2.39**	**268**	*e*PN	**Pn**	**19 58 43.2**	**-0.9**
KARZ	**Kaharoa**	**2.42**	**261**	P	**Pn**	**19 58 44.5**	**0.0**
KARZ	**Kaharoa**	**2.42**	**261**	PN	**Pn**	**19 58 44.5**	**0.0**
PATZ	**Paeroa**	**2.48**	**252**	P	**Pn**	**19 58 46.3**	**+0.9**
PATZ	**Paeroa**	**2.48**	**252**	*e*PN	**Pn**	**19 58 46.0**	**+0.7**
BKZ	**Black Stump Fm**	**2.65**	**235**	P	**Pn**	**19 58 49.4**	**+1.8**
BKZ				S	**Sn**	**19 59 19.0**	**+0.2**
BKZ	**Black Stump Fm**	**2.65**	**235**	PN	**Pn**	**19 58 49.4**	**+1.8**
BKZ				*e*SN	**Sn**	**19 59 19.0**	**+0.3**
HATZ	**Hinemaiaia**	**2.79**	**243**	P	**Pn**	**19 58 50.6**	**+1.1**
HATZ	**Hinemaiaia**	**2.79**	**243**	PN	**Pn**	**19 58 50.6**	**+1.2**
WATZ	**Wairara**	**2.98**	**249**	PN	**Pn**	**19 58 53.2**	**+1.1**
KUZ	**Kuaotunu**	**2.98**	**287**	P	**Pn**	**19 58 50.0**	**-2.2**
KUZ	**Kuaotunu**	**2.98**	**287**	PN	**Pn**	**19 58 50.0**	**-2.2**
RITZ	**Rihia Road**	**2.99**	**243**	P	**Pn**	**19 58 53.8**	**+1.5**
RITZ	**Rihia Road**	**2.99**	**243**	PN	**Pn**	**19 58 53.8**	**+1.5**
TOZ	**Tahuroa Road**	**2.99**	**268**	P	**Pn**	**19 58 51.7**	**-0.6**
TOZ	**Tahuroa Road**	**2.99**	**268**	PN	**Pn**	**19 58 51.7**	**-0.6**
RATZ	**Rangitukua**	**3.00**	**245**	P	**Pn**	**19 58 53.9**	**+1.4**
RATZ	**Rangitukua**	**3.00**	**245**	PN	**Pn**	**19 58 53.9**	**+1.4**
PXZ	**Pawanui**	**3.02**	**218**	PN	**Pn**	**19 58 54.1**	**+1.4**
PXZ				*e*SN	**Sn**	**19 59 27.7**	**-0.2**
KATZ	**Kakaramea**	**3.10**	**244**	P	**Pn**	**19 58 55.1**	**+1.3**
KATZ	**Kakaramea**	**3.10**	**244**	PN	**Pn**	**19 58 55.1**	**+1.3**
KRVZ	**Karewarewa**	**3.19**	**242**	PN	**Pn**	**19 58 56.2**	**+1.2**
WTVZ	**West Tongariro**	**3.23**	**242**	P	**Pn**	**19 58 57.0**	**+1.3**
WTVZ	**West Tongariro**	**3.23**	**242**	PN	**Pn**	**19 58 57.0**	**+1.4**
NGZ	**Ngauruhoe**	**3.25**	**241**	P	**Pn**	**19 58 57.2**	**+1.3**
NGZ	**Ngauruhoe**	**3.25**	**241**	PN	**Pn**	**19 58 57.2**	**+1.3**
WPHZ	**Waipukurau**	**3.26**	**222**	PN	**Pn**	**19 58 57.3**	**+1.3**
MOVZ	**Moawhango**	**3.26**	**237**	P	**Pn**	**19 58 57.1**	**+1.1**
MOVZ	**Moawhango**	**3.26**	**237**	PN	**Pn**	**19 58 57.1**	**+1.1**
WPVZ	**Whakapapa**	**3.30**	**241**	P	**Pn**	**19 58 57.8**	**+1.2**
WPVZ	**Whakapapa**	**3.30**	**241**	PN	**Pn**	**19 58 57.8**	**+1.2**
MKAZ	**Moumakai**	**3.32**	**278**	PN	**Pn**	**19 58 55.7**	**-1.1**
FWVZ	**Far West T-bar**	**3.32**	**240**	P	**Pn**	**19 58 57.9**	**+1.0**
FWVZ	**Far West T-bar**	**3.32**	**240**	PN	**Pn**	**19 58 57.9**	**+1.0**
DRZ	**Dome Shelter**	**3.32**	**240**	P	**Pn**	**19 58 58.4**	**+1.5**
DRZ	**Dome Shelter**	**3.32**	**240**	PN	**Pn**	**19 58 58.4**	**+1.5**
TWVZ	**Taurewa**	**3.32**	**244**	P	**Pn**	**19 58 57.7**	**+0.8**
TWVZ	**Taurewa**	**3.32**	**244**	PN	**Pn**	**19 58 57.7**	**+0.8**
WNVZ	**Wahianoa**	**3.33**	**239**	P	**Pn**	**19 58 58.0**	**+1.1**
WNVZ	**Wahianoa**	**3.33**	**239**	PN	**Pn**	**19 58 58.0**	**+1.0**
PKVZ	**Pokaka**	**3.48**	**241**	PN	**Pn**	**19 59 00.6**	**+1.5**
TSZ	**Takapari Road**	**3.52**	**226**	P	**Pn**	**19 59 00.0**	**+0.4**
TSZ	**Takapari Road**	**3.52**	**226**	PN	**Pn**	**19 59 00.0**	**+0.5**
OTAZ	**Otara**	**3.54**	**280**	P	**Pn**	**19 58 59.7**	**-0.2**
KAAZ	**Kauri Point**	**3.74**	**282**	P	**Pn**	**19 59 01.2**	**-1.5**
BFZ	**Birch Farm**	**3.82**	**217**	P	**Pn**	**19 59 04.3**	**+0.6**
BFZ	**Birch Farm**	**3.82**	**217**	*e*PN	**Pn**	**19 59 04.3**	**+0.7**
WTAZ	**Waiatarua**	**3.82**	**280**	P	**Pn**	**19 59 03.7**	**0.0**
WTAZ	**Waiatarua**	**3.82**	**280**	*e*PN	**Pn**	**19 59 03.7**	**0.0**
VRZ	**Vera Road**	**3.83**	**246**	*e*P	**Pn**	**19 59 05.3**	**+1.4**
VRZ	**Vera Road**	**3.83**	**246**	PN	**Pn**	**19 59 05.3**	**+1.4**
WAZ	**Wanganui**	**3.95**	**237**	P	**Pn**	**19 59 07.3**	**+1.8**
WAZ	**Wanganui**	**3.95**	**237**	*e*PN	**Pn**	**19 59 06.8**	**+1.4**
TIWZ	**Tintock**	**4.07**	**219**	PN	**Pn**	**19 59 07.5**	**+0.4**
MRZ	**Mangatainoka R**	**4.14**	**223**	P	**Pn**	**19 59 07.8**	**-0.4**
MRZ	**Mangatainoka R**	**4.14**	**223**	PN	**Pn**	**19 59 07.8**	**-0.3**
WCZ	**Waipu Caves**	**4.32**	**292**	*e*P	**Pn**	**19 59 09.1**	**-1.4**
WCZ	**Waipu Caves**	**4.32**	**292**	PN	**Pn**	**19 59 09.1**	**-1.4**
NWEZ	**Newall Road**	**4.54**	**248**	P	**Pn**	**19 59 16.6**	**+3.1**
MTW	**Mount Morrison**	**4.55**	**219**	P	**Pn**	**19 59 13.0**	**-0.7**
MTW	**Mount Morrison**	**4.55**	**219**	PN	**Pn**	**19 59 13.0**	**-0.7**
TRWZ	**Traveller**	**4.64**	**216**	PN	**Pn**	**19 59 14.1**	**-0.9**
KIW	**Kapiti Island**	**4.65**	**225**	P	**Pn**	**19 59 14.4**	**-0.7**
KIW	**Kapiti Island**	**4.65**	**225**	PN	**Pn**	**19 59 14.4**	**-0.7**
CAW	**Carter Point**	**4.73**	**222**	P	**Pn**	**19 59 11.8**	**-4.5**
PAWZ	**Paruwai Farm**	**4.75**	**218**	P	**Pn**	**19 59 15.8**	**-0.7**
PAWZ	**Paruwai Farm**	**4.75**	**218**	PN	**Pn**	**19 59 15.8**	**-0.8**
MSWZ	**Moikau Station**	**4.86**	**218**	PN	**Pn**	**19 59 17.1**	**-1.0**
MRW	**Makara Radio**	**5.02**	**223**	PN	**Pn**	**19 59 18.8**	**-1.4**
SNZO	**South Karori**	**5.07**	**223**	*e*Pn	**Pn**	**19 59 18.6**	**-2.3**
	234nm,0.4s						
SNZO	**South Karori**	**5.07**	**223**	PN	**Pn**	**19 59 19.3**	**-1.6**
OUZ	**Omahuta**	**5.19**	**296**	P	**Pn**	**19 59 21.6**	**-0.9**
OUZ	**Omahuta**	**5.19**	**296**	PN	**Pn**	**19 59 21.6**	**-0.9**
DUWZ	**D'Urville Isla**	**5.20**	**231**	PN	**Pn**	**19 59 21.8**	**-0.8**
TCW	**Tory Channel**	**5.24**	**226**	P	**Pn**	**19 59 21.9**	**-1.4**
TCW	**Tory Channel**	**5.24**	**226**	PN	**Pn**	**19 59 21.9**	**-1.4**
NNZ	**Nelson**	**5.78**	**230**	*e*P	**Pn**	**19 59 29.2**	**-1.4**
NNZ	**Nelson**	**5.78**	**230**	PN	**Pn**	**19 59 29.2**	**-1.4**
BSWZ	**Blackbirch Sta**	**5.80**	**224**	P	**Pn**	**19 59 29.5**	**-1.4**
BSWZ	**Blackbirch Sta**	**5.80**	**224**	PN	**Pn**	**19 59 29.5**	**-1.4**
QRZ	**Quartz Range**	**6.11**	**237**	*e*P	**Pn**	**19 59 33.2**	**-2.0**
QRZ	**Quartz Range**	**6.11**	**237**	PN	**Pn**	**19 59 33.2**	**-1.9**
THZ	**Tophouse**	**6.39**	**228**	*e*P	**Pn**	**19 59 37.2**	**-1.8**
THZ	**Tophouse**	**6.39**	**228**	PN	**Pn**	**19 59 37.2**	**-1.8**
KHZ	**Kahutara**	**6.47**	**221**	*e*P	**Pn**	**19 59 38.2**	**-1.9**
KHZ	**Kahutara**	**6.47**	**221**	*e*PN	**Pn**	**19 59 38.2**	**-1.8**
LTZ	**Lake Taylor**	**7.40**	**224**	*e*P	**Pn**	**19 59 50.3**	**-2.6**
LTZ	**Lake Taylor**	**7.40**	**224**	*e*PN	**Pn**	**19 59 50.3**	**-2.6**
MQZ	**McQueen's Vall**	**7.85**	**218**	*e*P	**Pn**	**19 59 56.7**	**-2.4**
MQZ	**McQueen's Vall**	**7.85**	**218**	*e*PN	**Pn**	**19 59 56.7**	**-2.4**
WVZ	**Waitaha Valley**	**8.46**	**228**	*e*PN	**Pn**	**20 00 05.6**	**-1.8**
RPZ	**Rata Peaks**	**8.68**	**223**	P	**Pn**	**20 00 09.5**	**-1.0**
	4.0nm,0.3s,baz=51,slow=16,SNR=19						
RPZ				S	**Sn**	**20 01 37.3**	**-10**
	12nm,0.3s,baz=184,slow=21,SNR=15						
RPZ	**Rata Peaks**	**8.68**	**223**	*e*P	**Pn**	**20 00 09.6**	**-0.9**
RPZ	**Rata Peaks**	**8.68**	**223**	*e*PN	**Pn**	**20 00 08.5**	**-2.0**
FOZ	**Fox Glacier**	**9.37**	**228**	*e*P	**Pn**	**20 00 16.9**	**-2.9**
FOZ	**Fox Glacier**	**9.37**	**228**	*e*PN	**Pn**	**20 00 16.9**	**-2.9**
LBZ	**Lake Benmore**	**9.60**	**223**	*e*P	**Pn**	**20 00 20.3**	**-2.7**
LBZ	**Lake Benmore**	**9.60**	**223**	*e*PN	**Pn**	**20 00 20.3**	**-2.7**
ODZ	**Otahua Downs**	**9.81**	**219**	*e*P	**Pn**	**20 00 23.4**	**-2.6**
ODZ	**Otahua Downs**	**9.81**	**219**	*e*PN	**Pn**	**20 00 23.4**	**-2.6**
JCZ	**Jackson Bay**	**10.21**	**228**	*e*P	**Pn**	**20 00 28.0**	**-3.4**
JCZ	**Jackson Bay**	**10.21**	**228**	*e*PN	**Pn**	**20 00 27.7**	**-3.7**

TUZ	**Tuapeka**	**10.96**	**218**	*e*PN		**Pn**	**20 00 40.1**	**-1.6**
DZM	**Mont Dzumac**	**19.09**	**321**	P		**Pn**	**20 02 29.1**	**+1.1**
	0.3nm,0.3s,baz=109,slow=19,SNR=7.0							
DZM				LR		LR	20 08 17.5	
	comp=Z,612nm,21.3s,baz=131,slow=32							
TAU	**Tasmania Unive**	**24.84**	**248**	P		**P**	**20 03 27.9**	**+1.2**
	80nm,1.4s,mb5.1							
FUNA	**Funafuti**	**29.02**	**360**	P		**P**	**20 04 04.7**	**+0.5**
TBI	**Tubuai**	**30.32**	**71**	eLR		LR	20 12 33.9	
	283nm,25.8s,baz=234							
STKA	**Stephens Creek**	**31.34**	**269**	P		**P**	**20 04 25.4**	**+0.7**
	20nm,0.9s,mb5.0,baz=103,slow=9.7,SNR=20							
STKA				LR		LR	20 15 02.8	
	comp=Z,287nm,21.6s,MS3.9,baz=289,slow=33							
STKA	**Stephens Creek**	**31.34**	**269**	*e*P		**P**	**20 04 25.4**	**+0.7**
HNR	**Honiara**	**33.08**	**323**	LR		LR	20 14 40.5	
	comp=Z,113nm,21.4s,MS3.5,baz=193,slow=30							
HNR	**Honiara**	**33.08**	**323**	P		**P**	**20 04 42.2**	**+2.2**
	61nm,0.9s,mb5.5							
CTA	**Charters Tower**	**33.58**	**292**	*e*P		**P**	**20 04 45.3**	**+0.9**
	7.2nm,0.8s,mb4.7							
CTA	**Charters Tower**	**33.58**	**292**	P		**P**	**20 04 45.0**	**+0.6**
	baz=124,slow=12							
CTA				LR		LR	20 16 24.8	
	comp=Z,310nm,21.4s,MS4.0,baz=130,slow=33							
CTAO	**Charters Tower**	**33.58**	**292**	*e*P		**P**	**20 04 45.1**	**+0.7**
	57nm,1.6s,mb5.2							
PPT	**Papeete**	**33.86**	**62**	eLR		LR	20 14 02.5	
	329nm,26.2s,baz=229							
PPT	**Papeete**	**33.86**	**62**	LR		LR	20 14 55.7	
	comp=Z,233nm,18.9s,MS3.9,baz=218,slow=29							
PMG	**Port Moresby**	**40.36**	**306**	LR		LR	20 19 17.4	
	comp=Z,166nm,21.2s,MS3.9,baz=265,slow=32							
PMG	**Port Moresby**	**40.36**	**306**	*e*P		**P**	**20 05 42.4**	**+0.4**
	7.6nm,0.9s,mb4.4							
SBA	**Scott Base**	**40.64**	**184**	*e*P		**P**	**20 05 47.4**	**+3.1**
	3.7nm,0.5s,mb4.3							
VNDA	**Vanda**	**40.65**	**186**	LR		LR	20 19 09.9	
	comp=Z,136nm,19.8s,MS3.8,baz=24,slow=31							
AS31	**Alice Springs**	**41.06**	**277**	*e*P		**P**	**20 05 47.1**	**-0.7**
ASAR	**Alice Springs**	**41.06**	**277**	P		**P**	**20 05

5.9nm,0.3s,SNR=1.0
LPG La Plagne 0.90 208 *e*Pg **Pg** **20 06 01.8 +0.9**
SNR=1.0
LPG *e*Sg **Sg** **20 06 13.3 +0.6**
11nm,0.3s,SNR=1.0
CABF La Chapelle 0.93 290 *e*Pg **Pg** **20 06 02.4 +1.0**
SNR=1.0
CABF *e*Sg **Sg** **20 06 14.6 +1.1**
CABF *e*Sn **Sn** **20 06 16.8 +1.0**
18nm,0.4s,SNR=1.0
LOMF Lomont 1.11 341 Pg **Pg** **20 06 06.5 +1.5**
HINF Hinteralfeld 1.56 348 *e*Pn **Pn** **20 06 11.4 +0.2**
SNR=1.0
HINF Hinteralfeld 1.56 348 *e*Pg **Pg** **20 06 13.8 +0.3**
HINF *e*Sn **Sn** **20 06 30.2 -1.1**
HINF *e*Sg **Sg** **20 06 33.1 -0.6**
16nm,0.3s
MOF Molkenrain 1.56 355 Pg **Pg** **20 06 13.6 +0.1**
MOF Sg **Sg** **20 06 33.6 -0.2**
MBDF Montbardon 1.62 195 *e*Pg **Pg** **20 06 14.8 +0.2**
SNR=1.0
MBDF *e*Sg **Sg** **20 06 35.9 +0.2**
9.7nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 1.72 217 *e*Pg **Pg** **20 06 16.8 +0.2**
SNR=1.0
ORIF *e*Sg **Sg** **20 06 39.5 +0.6**
5.2nm,0.4s
HAU Haudompre 1.84 339 *e*Pn **Pn** **20 06 15.9 +0.9**
SNR=1.0
HAU Haudompre 1.84 339 *e*Pg **Pg** **20 06 18.9 0.0**
SNR=1.0
HAU *e*Sg **Sg** **20 06 42.0 -0.8**
11nm,0.2s
DAVA Damuels 2.00 59⇑ *e*Sn **Sg** **20 06 48.8 +0.9**
comp=E,4.3nm,0.2s
DAVA Damuels 2.00 59⇓ *i*Pg **Pg** **20 06 21.5 -0.4**
2.0nm,0.2s
DAVA ⇑*e*Sg **Sg** **20 06 48.8 +0.9**
4.3nm,0.2s
CDF Champ du Feu 2.12 359 *e*Pn **Pn** **20 06 18.7 -0.1**
SNR=1.0
CDF Champ du Feu 2.12 359 *e*Pg **Pg** **20 06 23.3 -0.9**
SNR=1.0
CDF *e*Sn **Sn** **20 06 44.2 -0.9**
CDF *e*Sg **Sg** **20 06 51.0 -0.6**
4.9nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 2.37 234 *e*Pn **Pn** **20 06 22.8 +0.5**
SNR=1.0
VIVF Saint-Julien-l 2.37 234 *e*Pg **Pg** **20 06 28.9 0.0**
VIVF *e*Sn **Sn** **20 06 52.0 +0.7**
SNR=1.0
VIVF *e*Sg **Sg** **20 07 00.0 +0.4**
4.8nm,0.3s,SNR=1.0
SBF Sospel 2.43 179 *e*Pg **Pg** **20 06 28.9 -1.3**
SBF *e*Sg **Sg** **20 07 00.7 -1.0**
3.7nm,0.3s
SMF Signal de Mont 2.45 279 *e*Pg **Pg** **20 06 30.5 0.0**
SMF *e*Sn **Sn** **20 06 53.0 -0.3**
SMF *e*Sg **Sg** **20 07 02.2 -0.1**
4.8nm,0.2s,SNR=1.0
SFTF Sexfontaines 2.48 321 *e*Pg **Pg** **20 06 30.7 -0.3**
SFTF *e*Sn **Sn** **20 06 53.5 -0.4**
SFTF *e*Sg **Sg** **20 07 03.1 0.0**
3.3nm,0.3s
LOR Lormes 2.59 293 *e*Pg **Pg** **20 06 32.8 -0.4**
LOR *e*Sg **Sg** **20 07 06.8 +0.1**
2.4nm,0.3s
SMRF Simiane la Rot 2.64 209 *e*Pg **Pg** **20 06 33.9 -0.2**
SMRF *e*Sg **Sg** **20 07 07.7 -0.6**
1.4nm,0.4s
SSF Saint Saulge 2.75 288 *e*Sg **Sg** **20 07 11.0 -1.0**
1.5nm,0.3s
FRF La Foret Royal 2.78 191 *e*Pg **Pg** **20 06 35.7 -1.1**
FRF *e*Sg **Sg** **20 07 11.9 -1.0**
1.3nm,0.3s
AVF Avril sur Loir 2.80 282 *e*Sg **Sg** **20 07 13.7 +0.1**
1.1nm,0.2s
WATA Walderalm 3.08 69⇑ *i*Pn **Pn** **20 06 34.1 +1.9**
comp=Z,1.3nm,0.2s
BGF Bois d'Agland 3.13 276 *e*Pn **Pn** **20 06 33.3 +0.6**
SNR=1.0
BGF *e*Sg **Sg** **20 07 23.8 -0.1**
5.4nm,0.5s
LASF Ste Croix 3.32 229 *e*Pn **Pn** **20 06 35.7 +0.3**
LASF Ste Croix 3.32 229 *e*Pg **Pg** **20 06 46.2 -1.0**
LASF *e*Sg **Sg** **20 07 28.1 -2.1**
0.7nm,0.2s
RJF Les Rejaudoux 4.20 258 *e*Pg **Pg** **20 07 02.5 -1.5**
RJF *e*Sg **Sg** **20 07 56.2 -2.2**
1.5nm,0.2s,SNR=1.0

IDC 14 20:14:22.5±8.8, 655S×15112E, h62km±63km, mb3.5/4, mb1 3.6/5, mb1mx3.4/13, mbtmp3.5/5, ML2.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/28, Error ellipse: s-maj=58.5km s-min=53.3km az=87.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85 234**		P	Pn	20 15 34.9	+2.0
	1.5nm,0.3s,baz=9.3,slow=8.0,SNR=5.1						
PMG				S	Sn	20 16 27.5	-0.1
	0.8nm,0.3s,baz=272,slow=22,SNR=1.6						
WB2	**Warramunga Arr**	**21.04 229**		*e*P	P	20 19 03.1	+2.0
WRA	**Warramunga Arr**	**21.05 229**		P	P	20 19 00.1	-1.1
	0.5nm,0.4s,baz=55,slow=10,SNR=16						
ASAR	**Alice Springs**	**23.74 222**		P	P	20 19 30.2	+1.3
	0.6nm,0.4s,baz=54,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**26.73 198**		P	P	20 19 56.1	+0.1
	5.8nm,1.1s,baz=2.4,slow=11,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.37 243**		*e*P	P	20 20 03.3	+1.5
	4.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.37 243**		P	P	20 20 03.6	+1.8
	2.8nm,1.0s,baz=58,slow=12,SNR=7.5						
NWAO	**Narrogin (SRO)**	**40.98 226**		LR	LR	20 38 20.0	
	comp=Z,112nm,18.9s,baz=328,slow=35						
TORD	**Torodi Ar. Bea**	**149.19 285**		PKPbc	PKPbc	20 34 03.6	-0.3
	0.8nm,0.6s,baz=86,slow=1.8,SNR=11						

IDC 14 20:16:13.0±14.0, 2167N×14309E, h191km±100km, mb3.2/5, mb1 3.3/5, mb1mx3.2/18, mbtmp3.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=366.9km s-min=17.7km az=75.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.42 345**		LR	LR	20 24 34.8	
	comp=Z,98nm,21.2s,baz=85,slow=33						
KSRS	**Korea Array**	**20.48 323**		P	P	20 20 36.9	+0.8
	1.4nm,0.6s,baz=144,slow=8.7,SNR=5.0						
SONM	**Songino Array**	**39.30 321**		P	P	20 23 22.5	-0.8
	1.1nm,0.8s,baz=132,slow=7.8,SNR=8.2						
WRA	**Warramunga Arr**	**42.23 192**		P	P	20 23 47.6	+0.4
	2.4nm,1.1s,baz=13,slow=8.9,SNR=7.0						
ASAR	**Alice Springs**	**45.94 192**		P	P	20 24 16.6	-0.1
	0.5nm,0.8s,baz=358,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**54.65 313**		P	P	20 25 22.5	+0.5
	0.8nm,0.6s,baz=93,slow=8.2,SNR=8.1						

IDC 14 20:21:03.2±13.0, 2284S×177.13W, h336km±119km, mb3.3/5, mb1 3.4/6, mb1mx3.3/14, mbtmp3.2/6, Error ellipse: s-maj=73.8km s-min=29.7km az=56.0
NEIC 14 20:20:55.9±8.5, 2296S×17671W, h285km±71km, mb3.7/4, Error ellipse: s-maj=54.2km s-min=29.0km az=59.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.59 270**		P	Pn	20 24 20.2	-1.5
	0.2nm,0.3s,baz=86,slow=19,SNR=4.7						
TBI	**Tubuai**	**25.05 96**		*e*LR	LR	20 31 44.5	
	114nm,24.8s						
PPT	**Papeete**	**26.00 83**		*e*LR	LR	20 32 09.4	
	77nm,22.2s						
CTA	**Charters Tower**	**34.51 268**		P	P	20 27 18.2	+0.7
	3.2nm,0.4s,baz=101,slow=11,SNR=9.2						
CTAO	**Charters Tower**	**34.51 268**		*e*P	P	20 27 18.5	+1.0
	7.7nm,0.9s						
STKA	**Stephens Creek**	**37.87 247**		P	P	20 27 47.0	+1.2
	3.3nm,1.0s,baz=103,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**37.87 247**		P	P	20 27 47.0	+1.2
RKT	**Rikitea**	**38.31 99**		*e*LR	LR	20 37 52.7	
	57nm,26.8s						
ASAR	**Alice Springs**	**45.17 259**		P	P	20 28 45.5	+0.7
	1.0nm,0.8s,baz=87,slow=8.7,SNR=8.0						
WRAB	**Tennant Creek**	**45.49 264**		*e*P	P	20 28 46.7	-0.5
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**45.49 264**		P	P	20 28 46.5	-0.7
	0.9nm,0.4s,baz=94,slow=8.4,SNR=45						
SBA	**Scott Base**	**55.51 184**		P	P	20 30 07.1	+5.4
	1.9nm,0.8s						
VNDA	**Vanda**	**55.58 186**		P	P	20 30 04.7	+2.5
	0.6nm,0.8s,baz=36,slow=8.5,SNR=5.6						
VNDA	**Vanda**	**55.58 186**		*e*P	P	20 30 01.6	-0.7
	2.2nm,1.2s						
AKASG	**Malin Array Be**	**145.73 330**		PKPbc	PKPbc	20 40 02.0	+0.7
	0.4nm,0.4s,baz=34,slow=3.4,SNR=4.1						
BRTR	**Keskin Array B**	**149.35 310**		PKPbc	PKPbc	20 40 10.8	-0.3
	1.3nm,0.9s,baz=126,slow=7.3,SNR=4.1						

ISCJB 14 20:22:02.8±2.4, 1491N±005×147.10E±009, h8km±15km, mb4.6/34, MS3.9/5, Error ellipse: s-maj=14.2km s-min=8.5km az=24.0
IDC 14 20:22:04.4±0.7, 1486N×14686E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.3/26, mbtmp4.4/14, ML4.1/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/40, Error ellipse: s-maj=25.6km s-min=13.1km az=83.0
BJI 14 20:22:05.3, 1477N×14729E, h38km, mB5.2, mb4.6, Ms4.4, Msz4.1
NEIC 14 20:22:07.1±0.5, 1485N×14691E, mb4.8/14, Error ellipse: s-maj=16.0km s-min=8.4km az=81.0
ISC 14 20:22:04.1±3.0, 1490N±005×14706E±009, h2km±19km, n51, σ0°90/50, mb4.6/34, MS3.9/5, 2C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.49 239**		Pn	**Pn**	**20 22 45.7**	**0.0**
	48nm,0.3s,baz=153,slow=5.6,SNR=20						
GUMO				Sn	**Sn**	**20 23 16.8**	**+0.1**
	65nm,0.3s,baz=211,slow=23,SNR=3.7						
GUMO				LR	LR	20 23 18.7	
	comp=Z,842nm,19.7s,baz=215,slow=32						
GUMO	**Guam**	**2.49 239**		*e*Pn	**Pn**	**20 22 45.1**	**-0.6**
MJAR	**Matsushiro Arr**	**22.95 341**		P	**P**	**20 27 10.5**	**+0.8**
	1.9nm,0.8s,mb3.6,baz=165,slow=10,SNR=5.1						
MAJO	**Matsushiro**	**22.96 341**		P	**P**	**20 27 08.1**	**-1.7**
	43nm,1.4s,mb4.7						
JNU	**Nakatsue**	**23.34 324**		P	**P**	**20 27 12.4**	**-1.3**
	20nm,0.9s,mb4.5,baz=252,slow=21,SNR=2.5						
PMG	**Port Moresby**	**24.15 180**		P	**P**	**20 27 21.3**	**-0.2**
	41nm,1.0s,mb4.8,baz=319,slow=4.0,SNR=10						
PMG	**Port Moresby**	**24.15 180**		*e*P	**P**	**20 27 18.7**	**-2.8**
	56nm,1.1s,mb4.9						
BCPH	**Baguio City Da**	**25.54 277**⇓		*e*P	**P**	**20 27 34.2**	**+0.1**
BCPH						20 27 47.4	
KSRS	**Korea Array**	**28.16 326**		P	**P**	**20 27 57.6**	**-0.2**
	2.8nm,0.7s,mb4.0,baz=145,slow=8.9,SNR=9.3						
ASAJ	**Asahikawa**	**29.37 353**		P	**P**	**20 28 09.3**	**+0.9**
	10nm,0.7s,mb4.7,baz=213,slow=18,SNR=2.3						
BJT	**Baijiatuau**	**36.79 319**		*e*P	**P**	**20 29 13.1**	**-0.1**
	23nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**36.80 200**		*e*P	**P**	**20 29 12.9**	**-0.5**
	12nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**36.81 200**		*e*P	**P**	**20 29 13.3**	**-0.1**
WRA	**Warramunga Arr**	**36.81 200**		P	**P**	**20 29 12.9**	**-0.5**
	5.8nm,0.9s,mb4.4,baz=20,slow=9.1,SNR=21						
FITZ	**Fitzroy Crossi**	**39.00 214**		*e*P	**P**	**20 29 34.4**	**+2.5**
	10nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.00 214**		P	**P**	**20 29 31.5**	**-0.5**
	5.9nm,0.8s,mb4.3,baz=27,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**40.43 199**		P	**P**	**20 29 43.5**	**-0.3**
	2.0nm,0.8s,mb3.9,baz=17,slow=6.5,SNR=12						
BTO	**Baotou**	**41.13 316**		*e*P	**P**	**20 29 50.6**	**+1.0**
DZM	**Mont Dzumac**	**41.37 152**		P	**P**	**20 29 52.3**	**+0.8**
	2.2nm,0.6s,mb4.0,baz=328,slow=14,SNR=3.4						
KMI	**Kunming**	**42.70 291**		P	**P**	**20 30 01.3**	**-1.1**
KMI				AP		20 30 08.4	
KMI				PP	PP	20 31 45.3	+4.0
KMI				S	**S**	**20 36 27.6**	**+0.9**
KMI				XS	sS	20 36 40.6	+13
KMI				SS	SS	20 39 30.3	-6.5
KMI				SSS		20 40 13.1	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb3.9						
KMI				AMB	AMB		
	comp=Z,127nm,5.0s						
KMI				LR	LR		
	comp=N,146nm,14.4s,MS4.1						
KMI				LR	LR		
	comp=E,148nm,18.2s,MS4.1						
KMI				LR	LR		
	comp=Z,120nm,18.2s,MS3.8						
KMI	**Kunming**	**42.70 291**		P	**P**	**20 30 01.2**	**-1.2**
	comp=Z,4.0nm,1.5s,mb3.9						
KMI				pP		20 30 08.4	
KMI				sP	sP	20 30 12.2	+9.1
KMI				PP	PP	20 31 45.3	+4.0
KMI				S	**S**	**20 36 27.6**	**+0.9**
KMI				sS	sS	20 36 40.6	+13
KMI				SS	SS	20 39 30.2	-6.6
KMI				SSS		20 40 13.1	
LZH	**Lanzhou**	**43.90 307**		⇑P	**P**	**20 30 13.8**	**+1.7**
LZH				AP		20 30 19.1	
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,200nm,5.1s						
LZH	**Lanzhou**	**43.90 307**		⇑P	**P**	**20 30 13.7**	**+1.6**
	comp=Z,31nm,1.2s,mb4.9						
LZH				pP		20 30 19.1	
LZH				sP	sP	20 30 22.0	+9.2
SONM	**Songino Array**	**46.93 323**		P	**P**	**20 30 36.4**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.3,baz=132,slow=6.9,SNR=28						
SONM				LR	LR	20 48 35.3	
	comp=Z,98nm,18.9s,MS3.8,baz=356,slow=34						
GTA	**Gaotai**	**47.93 310**		*e*P	**P**	**20 30 44.4**	**+0.5**
GTA				AP		20 30 54.6	
GTA				XP	sP	20 30 59.5	+15
GTA				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.3						
YAK	**Yakutsk**	**48.67 349**		P	**P**	**20 30 48.5**	**-1.2**
	comp=Z,9.6nm,0.7s,mb4.9						
AFI	**Afiamalu**	**49.78 123**		LR	LR	20 48 03.3	
	comp=Z,94nm,19.3s,MS3.8,baz=30,slow=31						
TLY	**Talaya**	**50.42 326**		*e*P	**P**	**20 31 02.7**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.7						
LSA	**Lhasa**	**53.31 296**		P	**P**	**20 31 26.1**	**+1.5**
LSA	**Lhasa**	**53.31 296**		*e*P	**P**	**20 31 26.0**	**+1.4**
	comp=Z,7.8nm,0.8s,mb4.7						
RAO	**Raoul Island**	**55.41 142**		LR	LR	20 52 54.7	
	comp=Z,82nm,18.7s,MS3.8,baz=47,slow=33						
JIRN	**Jiri**	**57.63 293**		*e*P	**P**	**20 31 56.2**	**+0.6**
	comp=Z,29nm,1.0s,mb5.3						
WMQ	**Urumqi**	**57.80 313**⇓		*i*P	**P**	**20 31 57.5**	**+0.7**
WMQ				AP		20 32 03.5	
WMQ				PCP	PcP	20 32 50.0	+0.5
WMQ				PP	PP	20 34 07.3	+2.5
WMQ				SCP	ScP	20 36 47.5	-3.1
WMQ				*e*S	**S**	**20 39 54.0**	**-2.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,17nm,5.1s						
WMQ				LR	LR		
	comp=N,122nm,19.3s,MS4.1						
WMQ				LR	LR		
	comp=E,49nm,19.3s,MS4.1						
WMQ				LR	LR		
	comp=Z,75nm,16.1s,MS3.9						
GUN	**Gumba**	**57.90 294**		*e*P	**P**	**20 31 58.5**	**+0.9**
	comp=Z,33nm,0.9s,mb5.4						
PKI	**Pulchoki**	**58.32 293**		*e*P	**P**	**20 32 00.5**	**0.0**
	comp=Z,20nm,1.0s,mb5.1						
KKN	**Kakani**	**58.43 294**		*e*P	**P**	**20 32 01.4**	**+0.1**
	comp=Z,27nm,1.1s,mb5.2						
DMN	**Daman**	**58.59 293**		*e*P	**P**	**20 32 02.7**	**+0.3**
	comp=Z,32nm,1.1s,mb5.2						
GKN	**Gorkha**	**59.00 294**		*e*P	**P**	**20 32 05.2**	**0.0**
	comp=Z,43nm,1.0s,mb5.4						
KOLN	**Kolđanda**	**59.92 294**		*e*P	**P**	**20 32 11.6**	**0.0**
	comp=Z,21nm,1.1s,mb5.1						
ZAL	**Zalesovo**	**61.83 324**		P	**P**	**20 32 23.5**	**-1.1**
	comp=Z,0.9nm,0.8s,mb4.0,baz=29,slow=6.4,SNR=3.8						
MK31	**Makanchi Array**	**62.04 315**		*e*P	**P**	**20 32 26.2**	**+0.2**
MKAR	**Makanchi Array**	**62.04 315**		P	**P**	**20 32 26.4**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.5,baz=95,slow=8.6,SNR=30						
KURK	**Kurchatov**	**64.97 319**		*e*P	**P**	**20 32 44.7**	**-0.7**
	comp=Z,16nm,1.0s,mb5.0						
BRVK	**Borovoye**	**70.29 321**		P	**P**	**20 33 15.2**	**-3.8**
	comp=Z,5.1nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**71.06 321**		*e*P	**P**	**20 33 22.5**	**-1.2**
	comp=Z,6.6nm,1.1s,mb4.5						
INK	**Inuvik**	**72.35 23**		P	**P**	**20 33 32.6**	**+1.2**
	comp=Z,1.8nm,1.0s,mb4.0,baz=294,slow=6.6,SNR=4.5						
INK	**Inuvik**	**72.35 23**		*e*P	**P**	**20 33 33.3**	**+1.9**
	comp=Z,137nm,0.9s,mb5.9						
ARU	**Arti**	**76.91 325**		*e*P	**P**	**20 33 57.1**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.2						
LVC	**Limon Verde**	**145.15 108**		PKPbc	PKPbc	20 41 45.8	+3.1
	comp=Z,8.1nm,0.8s,baz=272,slow=5.7,SNR=10						
LPAZ	**La Paz**	**146.10 97**		PKPbc	PKPbc	20 41 48.0	+2.2
	comp=Z,1.7nm,0.8s,baz=247,slow=3.0,SNR=7.0						
LPAZ	**La Paz**	**146.10 97**		*e*PKPbc	PKPbc	20 41 47.7	+2.0

MAN 14 20:27:16.0, 1752N×12076E, h32km, mb1.8, ML3.6, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.14 339**		*e*P	Pb	20 27 23.2	+1.3
ABRA				*e*S	Sb	20 27 28.9	+3.0
APYP	**Conner**	**0.57 53**		*e*P	Pb	20 27 27.6	0.0
APYP				*e*S	Sb	20 27 36.8	+1.2
CVP	**Callao Caves**	**1.02 80**		*e*P	Pn	20 27 34.0	-0.2
CAUP	**Cauayan**	**1.16 119**		*e*P	Pn	20 27 37.1	+1.0
CAUP				*e*S	Sn	20 27 54.6	+3.8
BOLP	**Bolinao**	**1.40 216**		*e*P	Pn	20 27 39.8	+0.5
SGCP	**Mt. Cagua**	**1.42 59**		*e*P	Pn	20 27 41.5	+1.9
BALP	**Baler**	**1.93 156**		*e*P	Pn	20 27 47.3	+0.7
BALP				*e*S	Sn	20 28 09.3	-0.5

IDC 14 20:38:43.0±6.4, 2174N×14296E, h170km±59km, mb3.6/11, mb1 3.7/12, mb1mx3.6/24, mbtmp3.7/12, MS3.2/4, Ms1 3.2/4, ms1mx2.8/26, Error ellipse: s-maj=32.7km s-min=11.8km az=74.0
ISCJB 14 20:38:44.8±4.1, 2173N±010×1430E±02, h208km±37km, mb3.9/16, Error ellipse: s-maj=32.3km s-min=13.3km az=146.2
NEIC 14 20:38:44.2±3.7, 2175N×14300E, h185km±34km, mb4.0/5, Error ellipse: s-maj=22.8km s-min=9.8km az=72.0
ISC 14 20:38:44.8±4.3, 2177N±009×1430E±02, h191km±39km, n22, σ0°78/18, mb4.0/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.36 293**		P	**Pn**	**20 41 59.6**	**+0.2**
	3.0nm,0.3s,baz=114,slow=19,SNR=4.1						
JOW				LR	LR	20 46 29.6	
	comp=Z,109nm,19.3s,baz=342,slow=33						
MJAR	**Matsushiro Arr**	**15.30 345**		LR	LR	20 47 18.6	
	comp=Z,121nm,20.5s,baz=150,slow=34						
KSRS	**Korea Array**	**20.37 323**		P	**P**	**20 43 06.7**	**+0.1**
	2.7nm,0.6s,baz=144,slow=8.5,SNR=9.9						
KSRS				LR	LR	20 51 02.0	
	comp=Z,29nm,21.4s,baz=140,slow=36						
SONM	**Songino Array**	**39.19 320**		P	**P**	**20 45 53.5**	**-0.7**
	1.2nm,0.5s,mb3.8,baz=133,slow=7.7,SNR=22						
WRAB	**Tennant Creek**	**42.31 192**		P	**P**	**20 46 18.5**	**-1.2**
	3.4nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**42.32 192**		P	**P**	**20 46 19.5**	**-0.2**
	1.3nm,0.7s,mb3.7,baz=16,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**46.03 192**		P	**P**	**20 46 48.9**	**-0.3**
	0.7nm,0.5s,mb3.5,baz=18,slow=12,SNR=18						
LSA	**Lhasa**	**47.08 291**		P	**P**	**20 46 59.9**	**+2.6**
	1.9nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**53.36 182**		P	**P**	**20 47 44.8**	**+0.3**
	4.2nm,1.0s,mb4.1,baz=301,slow=5.9,SNR=2.8						
ZAL	**Zalesovo**	**54.07 322**		P	**P**	**20 47 49.0**	**-0.6**
	0.9nm,0.6s,mb3.7,baz=5.5,slow=8.9,SNR=5.8						
MKAR	**Makanchi Array**	**54.54 313**		P	**P**	**20 47 53.5**	**+0.5**
	0.8nm,0.6s,mb3.6,baz=91,slow=9.2,SNR=9.6						
AFI	**Afiamalu**	**56.77 125**		LR	LR	21 08 03.4	
	comp=Z,32nm,21.5s,baz=39,slow=31						
KURK	**Kurchatov**	**57.32 317**		*e*P	**P**	**20 48 11.9**	**-0.9**
	2.9nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**62.52 319**		P	**P**	**20 48 48.6**	**+0.5**
	3.8nm,0.6s,mb4.4,baz=93,slow=7.7,SNR=24						
BRVK	**Borovoye**	**62.59 320**		*e*P	**P**	**20 48 48.1**	**-0.4**
	4.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**63.36 319**		*e*P	**P**	**20 48 53.8**	**+0.2**
	2.4nm,0.8s,mb4.1						
INK	**Inuvik**	**67.56 24**		P	**P**	**20 49 19.7**	**-0.8**
	50nm,0.9s,mb5.2						
RAR	**Rarotonga**	**70.29 124**		P	**P**	**20 49 38.8**	**+1.4**
	16nm,1.0s,mb4.7,baz=91,slow=1.8,SNR=3.1						
YKA	**Yellowknife Ar**	**76.46 28**		P	**P**	**20 50 13.6**	**+0.2**
	1.2nm,0.5s,mb3.8,baz=293,slow=6.1,SNR=5.2						
FINES	**FINESS Array B**	**83.05 334**		P	**P**	**20 50 48.8**	**0.0**
	1.9nm,0.9s,mb3.8,baz=29,slow=4.4,SNR=3.9						
LPAZ	**La Paz**	**150.08 85**		PKPbc	PKPbc	20 58 15.9	+3.2
	0.4nm,0.4s,baz=270,slow=7.1,SNR=2.2						
LPAZ				PKPab	PKPab	20 58 20.9	+1.7
	0.6nm,0.5s,baz=239,slow=2.6,SNR=5.8						
LPAZ	**La Paz**	**150.08 85**		PKPbc	PKPbc	20 58 15.9	+3.2
LPAZ				PKPab	PKPab	20 58 20.9	+1.7

IDC 14 20:50:31.6±8.1, 821S×15872E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/20, Error ellipse: s-maj=160.6km s-min=29.1km az=17.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71 135**		Pn	Pn	20 51 03.1	+0.4
	82nm,0.3s,baz=262,slow=2.7,SNR=28						
HNR				Sn	Sn	20 51 20.6	-4.7
	75nm,0.3s,baz=94,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**26.32 241**		P	P	20 56 10.5	+1.4
	0.2nm,0.3s,baz=68,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**28.31 234**		P	P	20 56 26.9	0.0
	0.2nm,0.4s,baz=62,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**28.43 212**		P	P	20 56 27.2	-0.7
	3.6nm,0.9s,baz=49,slow=9.3,SNR=4.0						
KSRS	**Korea Array**	**53.79 330**		LR	LR	21 18 51.5	
	comp=Z,43nm,20.5s,baz=80,slow=32						
SONM	**Songino Array**	**72.38 326**		LR	LR	21 31 38.0	
	comp=Z,46nm,19.1s,baz=36,slow=34						

GUC 14 20:50:44.9±0.4, 3472S×7238W, h25km, MD3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.10 47**		*e*P	Pn	20 51

HAU	**Haudompre**	**0.48**	**155**	*e*Pn	Pg	20 50 56.0	+1.3
	SNR=1.0							
HAU				*e*Sg	Sg	20 51 01.1	-0.1
	34nm,0.2s,SNR=1.0							
MEZF	**Maizieres J'vi**	**0.66**	**275**	*e*Pg	Pg	20 50 58.0	0.0
	baz=92							
MEZF	**Maizieres J'vi**	**0.66**	**275**	*e*Pn	Pn	20 50 58.5	-1.4
	SNR=1.0							
MEZF				*e*Sg	Sg	20 51 06.8	+0.1
	12nm,0.4s							
MEZF	**Maizieres J'vi**	**0.66**	**275**	*e*Pn	Pn	20 50 58.5	-1.4
	SNR=1.0							
MEZF				*e*Sg	Sg	20 51 06.8	+0.1
	6.2nm,0.4s							
SFTF	**Sexfontaines**	**0.71**	**251**	*e*Pg	Pg	20 50 58.8	-0.1
	baz=72							
SFTF	**Sexfontaines**	**0.71**	**251**	*e*Pn	Pn	20 50 59.3	-1.3
SFTF				*e*Sg	Sg	20 51 08.4	+0.1
	15nm,0.2s							
SFTF	**Sexfontaines**	**0.71**	**251**	*e*Pn	Pn	20 50 59.3	-1.3
SFTF				*e*Sg	Sg	20 51 08.4	+0.1
	7.4nm,0.2s							
ECH	**Echery**	**0.78**	**106**	Pg	Pg	20 51 00.1	-0.2
ECH				Sg	Sg	20 51 10.3	-0.3
CDF	**Champ du Feu**	**0.82**	**92**	*e*Pg	Pg	20 51 00.6	-0.5
	SNR=1.0							
CDF	**Champ du Feu**	**0.82**	**92**	*e*Pn	Pn	20 51 01.0	-1.2
	SNR=1.0							
CDF				*e*Sg	Sg	20 51 11.8	-0.2
CDF				*e*Sn	Sn	20 51 12.1	-2.0
	18nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**0.82**	**92**	*e*Pn	Pn	20 51 01.0	-1.2
	SNR=1.0							
CDF				*e*Sg	Sg	20 51 11.8	-0.2
CDF				*e*Sn	Sn	20 51 12.1	-2.0
	9.2nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**0.83**	**139**	*e*Pn	Pn	20 51 00.9	-1.4
	SNR=1.0							
HINF	**Hinteralfeld**	**0.83**	**139**	*e*Pg	Pg	20 51 01.1	-0.1
HINF				*e*Sg	Sg	20 51 11.5	-0.7
	15nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**0.83**	**139**	*e*Pg	Pg	20 51 01.1	-0.1
HINF				*e*Sg	Sg	20 51 11.5	-0.7
	7.4nm,0.2s,SNR=1.0							
WLS	**Welschbruch**	**0.88**	**91**	Pg	Pg	20 51 01.3	-0.8
WLS				Sg	Sg	20 51 13.3	-0.3
MOF	**Molkenrain**	**0.94**	**128**	Pg	Pg	20 51 03.4	+0.1
LANF	**Langenberg**	**1.29**	**65**	Pg	Pg	20 51 09.2	-0.7
BFO	**Black Forest**	**1.53**	**93**	*e*Sg	Sg	20 51 33.0	-1.4
CABF	**La Chapelle**	**1.83**	**179**	*e*Pn	Pn	20 51 15.3	-0.7
CABF	**La Chapelle**	**1.83**	**179**	*e*Pg	Pg	20 51 20.0	-0.3
CABF				*e*Sg	Sg	20 51 42.7	-1.4
	1.8nm,0.3s							
CABF	**La Chapelle**	**1.83**	**179**	*e*Pg	Pg	20 51 20.0	-0.3
CABF				*e*Sg	Sg	20 51 42.7	-1.4
	0.9nm,0.3s							
GIVF	**Givet**	**1.84**	**335**	*e*Pg	Pg	20 51 19.4	-1.1
GIVF				*e*Sn	Sn	20 51 36.0	-3.2
	SNR=1.0							
LOR	**Lormes**	**1.88**	**232**	*e*Pn	Pn	20 51 15.4	-1.3
	baz=46,SNR=1.0							
LOR				*e*Sn	Sn	20 51 37.4	-2.7
	baz=54,SNR=1.0							
LOR				*e*Sg	Sg	20 51 44.0	-1.6
	5.6nm,0.2s,SNR=1.0							
LOR	**Lormes**	**1.88**	**232**	*e*Pn	Pn	20 51 15.4	-1.3
	baz=46,SNR=1.0							
LOR				*e*Sn	Sn	20 51 37.4	-2.7
	baz=54,SNR=1.0							
LOR				*e*Sg	Sg	20 51 44.0	-1.6
	2.8nm,0.2s,SNR=1.0							
BAIF	**Baives**	**2.01**	**324**	*e*Pn	Pn	20 51 17.0	-1.5
	SNR=1.0							
BAIF	**Baives**	**2.01**	**324**	*e*Pg	Pg	20 51 22.3	-1.4
BAIF				*e*Sn	Sn	20 51 40.2	-3.2
BAIF	**Baives**	**2.01**	**324**	*e*Pg	Pg	20 51 22.3	-1.4
BAIF				*e*Sn	Sn	20 51 40.2	-3.2
SSF	**Saint Saulge**	**2.20**	**232**	*e*Pg	Pg	20 51 26.2	-1.1
	SNR=1.0							
SSF				*e*Sn	Sn	20 51 44.7	-3.3
	SNR=1.0							
SSF				*e*Sg	Sg	20 51 54.4	-1.4
	11nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**2.20**	**232**	*e*Pn	Pn	20 51 19.7	-1.3
	SNR=1.0							
SSF	**Saint Saulge**	**2.20**	**232**	*e*Pg	Pg	20 51 26.2	-1.1
	SNR=1.0							
SSF				*e*Sn	Sn	20 51 44.7	-3.3
	SNR=1.0							
SSF				*e*Sg	Sg	20 51 54.4	-1.4
	5.5nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**2.33**	**220**	*e*Pn	Pn	20 51 20.7	-2.2
	SNR=1.0							
SMF	**Signal de Mont**	**2.33**	**220**	*e*Pg	Pg	20 51 28.2	-1.7
	SNR=1.0							
SMF				*e*Sn	Sn	20 51 47.7	-3.6
SMF				*e*Sg	Sg	20 51 58.1	-2.1
	3.5nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.33**	**220**	*e*Pg	Pg	20 51 28.2	-1.7
	SNR=1.0							
SMF				*e*Sn	Sn	20 51 47.7	-3.6
SMF				*e*Sg	Sg	20 51 58.1	-2.1
	1.8nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.46**	**229**	*e*Pn	Pn	20 51 22.8	-1.8
AVF	**Avril sur Loir**	**2.46**	**229**	*e*Pg	Pg	20 51 31.5	-0.7
AVF				*e*Sn	Sn	20 51 50.9	-3.4
AVF				*e*Sg	Sg	20 52 02.0	-2.1
	1.4nm,0.2s							
AVF	**Avril sur Loir**	**2.46**	**229**	*e*Pg	Pg	20 51 31.5	-0.7
AVF				*e*Sn	Sn	20 51 50.9	-3.4
AVF				*e*Sg	Sg	20 52 02.0	-2.1
	0.7nm,0.2s							
HYF	**Humbligny**	**2.57**	**244**	*e*Pg	Pg	20 51 32.9	-1.5
HYF				*e*Sg	Sg	20 52 06.2	-1.6
BGF	**Bois d'Agland**	**2.87**	**230**	*e*Pn	Pn	20 51 28.5	-1.8
	SNR=1.0							
BGF	**Bois d'Agland**	**2.87**	**230**	*e*Pg	Pg	20 51 38.1	-2.0
BGF				*e*Sg	Sg	20 52 13.9	-3.4
	5.8nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**2.87**	**230**	*e*Pg	Pg	20 51 38.1	-2.0
BGF				*e*Sg	Sg	20 52 13.9	-3.4
	2.9nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.38**	**232**	*e*Sn	Sn	20 52 13.1	-4.0
RJF	**Les Rejaudoux**	**4.41**	**226**	*e*Sg	Sg	20 53 02.7	-4.1
	1.2nm,0.3s							
RJF	**Les Rejaudoux**	**4.41**	**226**	*e*Sg	Sg	20 53 02.7	-4.1
	0.6nm,0.3s							
EPF	**Esparros**	**6.72**	**218**	*e*Pn	Pn	20 52 20.8	-2.4
EPF				*e*Sn	Sn	20 53 33.0	-6.5
	3.2nm,0.9s,SNR=1.0							
SJPF	**Ste Jean**	**7.36**	**226**	*e*Pn	Pn	20 52 29.5	-2.5

BJI **14** *20:53:41.8, 6.25S×151.91E, h16km, mB5.6, mb4.9, Ms5.2, Msz4.6*

NEIC **14** *20:53:43.0±0.4, 6.40S×151.44E, h10km, mb4.8/15, Error ellipse: s-maj=10.7km s-min=7.6km az=106.0*

ISCJB **14** *20:53:45.8±2.0, 6.48S±007×151.43E±0.07, h42km±17km, mb4.6/27, MS3.5/4, Error ellipse: s-maj=11.9km s-min=10.5km az=91.2*

MOS **14** *20:53:45.5±1.0, 6.38S×151.32E, h33km, mb4.6/15, Error ellipse: s-maj=17.3km s-min=11.6km az=64.7*

IDC **14** *20:53:48.0±3.9, 6.47S×151.41E, h45km±33km, mb4.2/11, mb1 4.4/13, mb1mx4.3/17, mbtmp4.3/13, ML3.2/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/13, Error ellipse: s-maj=25.7km s-min=17.4km az=49.0*

ISC 14 20:53:50.2±1.7, 6.54S±007×151.38E±007, h64km±1.4km, n68, σ0.971/60, mb4.6/27, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.06**	**235**	P		**Pn**	**Pn**	**20 55 02.7**	**-0.7**
	3.0nm,0.3s,baz=60,slow=5.6,SNR=24								
PMG				S			**Sn**	**20 56 01.1**	**+0.6**
	29nm,0.3s,baz=334,slow=21,SNR=7.6								
PMG	**Port Moresby**	**5.06**	**235**	*c* *i*P			**Pn**	**20 55 02.8**	**-0.6**
PMG	**Port Moresby**	**5.06**	**235**	*e*Pn			**Pn**	**20 55 02.1**	**-1.4**
	78nm,0.6s								
HNR	**Honiara**	**8.96**	**109**	LR		LR	LR	20 59 13.9	
	comp=Z,180nm,18.2s,baz=180,slow=36								
CTA	**Charters Tower**	**14.36**	**200**	P			**Pn**	**20 57 11.0**	**+1.0**
	0.2nm,0.3s,baz=16,slow=15,SNR=2.4								
CTA	**Charters Tower**	**14.36**	**200**	P			**Pn**	**20 57 11.0**	**+1.0**
KAKA	**Kakadu**	**19.64**	**250**	*e*P			**Pn**	**20 58 13.6**	**-1.9**
	22nm,0.6s								
KAKA				*e*S			**S**	**21 01 50.8**	**-0.9**
GUMO	**Guam**	**21.01**	**342**	LR		LR		21 05 42.4	
	comp=Z,38nm,21.6s,baz=156,slow=34								
DZM	**Mont Dzumac**	**21.22**	**138**	P			**P**	**20 58 30.2**	**-0.5**
	5.9nm,0.8s,mb4.0,baz=324,slow=14,SNR=6.2								
WRAB	**Tennant Creek**	**21.23**	**230**	*d* *i*P			**P**	**20 58 30.6**	**-0.1**
WB2	**Warramunga Arr**	**21.23**	**230**	*e*P			**P**	**20 58 30.5**	**-0.3**
WRA	**Warramunga Arr**	**21.24**	**230**	P			**P**	**20 58 30.8**	**0.0**
	8.2nm,0.5s,mb4.3,baz=55,slow=11,SNR=126								
WRA				PcP		PcP	PcP	21 02 35.1	+1.5
	1.5nm,0.6s,baz=48,slow=2.3,SNR=4.8								
WRA	**Warramunga Arr**	**21.24**	**230**	P			**P**	**20 58 30.8**	**-0.1**
WRA								21 02 35.1	
WRA				pmax		pmax			
	comp=Z,8.0nm,0.5s								
AS31	**Alice Springs**	**23.92**	**223**	*e*P			**P**	**20 58 58.6**	**+0.6**
ASAR	**Alice Springs**	**23.92**	**223**	P			**P**	**20 58 58.7**	**+0.6**
	comp=Z,12nm,0.5s,mb4.6,baz=58,slow=9.1,SNR=223								
ASAR	**Alice Springs**	**23.92**	**223**	P			**P**	**20 58 58.7**	**+0.6**
ASAR				pmax		pmax			
	comp=Z,12nm,0.5s								
STKA	**Stephens Creek**	**26.82**	**199**	P			**P**	**20 59 24.6**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.4,baz=12,slow=11,SNR=15								
STKA	**Stephens Creek**	**26.82**	**199**	*e*P			**P**	**20 59 24.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.60**	**243**	*e*P			**P**	**20 59 31.8**	**+0.5**
	comp=Z,16nm,0.4s,mb5.0								
FITZ	**Fitzroy Crossi**	**27.60**	**243**	P			**P**	**20 59 31.9**	**+0.5**
	comp=Z,9.0nm,0.4s,mb4.7,baz=54,slow=8.2,SNR=63								
FORT	**Forrest**	**32.55**	**219**	*e*P			**P**	**21 00 15.0**	**-0.1**
	comp=Z,13nm,0.7s,mb5.0								
MBWA	**Marble Bar**	**33.89**	**241**	*e*P			**P**	**21 00 27.1**	**+0.4**
	comp=Z,15nm,0.7s,mb5.0								
URZ	**Urewera**	**39.26**	**147**	P			**P**	**21 01 12.2**	**-0.2**
	comp=Z,16nm,0.8s,mb4.8,baz=217,slow=10,SNR=3.3								
MJAR	**Matsushiro Arr**	**44.59**	**345**	LR		LR	LR	21 16 31.9	
	comp=Z,96nm,20.8s,baz=190,slow=31								
NJ2	**Nanjing**	**49.33**	**323**	*e*P			**P**	**21 02 32.9**	**+0.1**
NJ2				AMB		AMB	AMB		
	comp=Z,120nm,0.8s,mb6.0								
KMI	**Kunming**	**56.80**	**306**	P			**P**	**21 03 33.6**	**+5.8**
KMI				*PP		pP	pP	21 03 46.5	+1.8
KMI				pmax		pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3								
KMI	**Kunming**	**56.80**	**306**	P			**P**	**21 03 33.6**	**+5.8**
	comp=Z,3.0nm,0.9s,mb4.3								
KMI				pP		pP	pP	21 03 46.5	+1.8
KMI				sP		sP	sP	21 03 52.2	+0.3
KMI				LR		LR	LR		
	comp=Z,60nm,29.5s								
HIA	**Hailar**	**62.05**	**337**	*i* P			**P**	**21 04 03.7**	**-0.2**
CASY	**Casey**	**65.95**	**197**	*e*P			**P**	**21 04 29.2**	**-0.3**
	comp=Z,9.9nm,1.1s,mb4.8								
SONM	**Songino Array**	**67.05**	**329**	P			**P**	**21 04 37.0**	**+0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=144,slow=5.8,SNR=8.7								
SONM	**Songino Array**	**67.05**	**329**	P			**P**	**21 04 37.0**	**+0.5**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.9s								
LSA	**Lhasa**	**68.06**	**305**	*e*P			**P**	**21 04 43.9**	**+1.0**
LSA				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
LSA	**Lhasa**	**68.06**	**305**	*e*P			**P**	**21 04 43.9**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.3								
ZAK	**Zakamensk**	**70.24**	**330**	*e*P			**P**	**21 04 56.7**	**+0.3**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb4.0								
TLY	**Talaya**	**70.88**	**331**	P			**P**	**21 05 01.6**	**+1.4**
TLY				pmax		pmax			
	comp=Z,11nm,1.3s,mb4.6								
TLY	**Talaya**	**70.88**	**331**	P			**P**	**21 05 01.6**	**+1.4**
	comp=Z,11nm,1.3s,mb4.6								
VNDA	**Vanda**	**71.16**	**178**	P			**P**	**21 05 02.5**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.3,baz=331,slow=6.7,SNR=36								
VNDA	**Vanda**	**71.16**	**178**	*e*P			**P**	**21 05 02.2**	**+0.2**
VNDA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
VNDA	**Vanda**	**71.16**	**178**	*e*P			**P**	**21 05 02.2**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2								
GUN	**Gumba**	**71.82**	**302**	*e*P			**P**	**21 05 06.8**	**+0.9**
	comp=Z,12nm,0.6s,mb5.0								
KKN	**Kakani**	**72.28**	**302**	*e*P			**P**	**21 05 09.4**	**+0.7**
DMN	**Daman**	**72.38**	**302**	*e*P			**P**	**21 05 10.1**	**+0.8**
GKN	**Gorkha**	**72.89**	**302**	*e*P			**P**	**21 05 12.4**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9								
KOLN	**Koldanda**	**73.70**	**301**	*e*P			**P**	**21 05 17.3**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9								
BILL	**Bilibino**	**75.14**	**6**	*e*P			**P**	**21 05 24.9**	**-0.6**
BILL				*e*				21 05 35.9	
BILL				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
BILL	**Bilibino**	**75.14**	**6**	*e*P			**P**	**21 05 24.9**	**-0.6**
	comp=Z,11nm,1.0s,mb4.7								
BILL				*e*				21 05 35.9	
MKAR	**Makanchi Array**	**80.70**	**319**	P			**P**	**21 05 55.9**	**-0.4**
	comp=Z,2.3nm,1.0s,mb4.1,baz=100,slow=5.2,SNR=9.8								
MKAR	**Makanchi Array**	**80.70**	**319**	P			**P**	**21 05 55.9**	**-0.4**
MKAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ZAL	**Zalesovo**	**81.82**	**327**	P			**P**	**21 06 01.2**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=24,slow=7.0,SNR=5.7								
ZAL	**Zalesovo**	**81.82**	**327**	P			**P**	**21 06 01.2**	**-1.0**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAW	**Mawson**	**83.43**	**203**	P			**P**	**21 06 09.8**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.4,baz=126,slow=5.4,SNR=5.1								
MAW				LR		LR	LR	21 40 31.2	
	comp=Z,74nm,21.6s,baz=244,slow=34								
MAW	**Mawson**	**83.43**	**203**	P			**P**	**21 06 09.8**	**-0.8**
MAW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MAW				MLR		MLR			
	comp=Z,74nm,21.6s								
MAW	**Mawson**	**83.43**	**203**	*e*P			**P**	**21 06 10.7**	**+0.1**
	comp=Z,5.6nm,1.0s,mb4.5								
QSPA	**South Pole Qui**	**83.44**	**180**	*e*P			**P**	**21 06 10.8**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.5								
COLA	**College**	**83.98**	**22**	*e*P			**P**	**21 06 12.7**	**-0.7**
KURK	**Kurchatov**	**84.26**	**322**	*e*P			**P**	**21 06 13.6**	**-1.2**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.6								
KURK	**Kurchatov**	**84.26**	**322**	*e*P			**P**	**21 06 13.6**	**-1.2**
	comp=Z,5.2nm,1.0s,mb4.6								
AAK	**Ala-Archa**	**84.83**	**314**	*e*P			**P**	**21 06 18.0**	**+0.3**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**84.83**	**314**	*e*P			**P**	**21 06 18.0**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.4								
EGAK	**Eagle**	**86.50**	**23**	*e*P			**P**	**21 06 26.5**	**+0.5**
	comp=Z,7.8nm,1.0s,mb4.9								
EGAK				*e*				21 06 37.2	
ZRNK	**Zerenda**	**90.58**	**323**	*e*P			**P**	**21 06 43.8**	**-1.5**
GERES	**GERESS Array B**	**124.76**	**327**	PKP		PKIKP	PKPdf	21 12 43.4	+0.9
	comp=Z,0.9nm,0.6s,baz=46,slow=3.9,SNR=6.6								
GERES	**GERESS Array B**	**124.76**	**327**	PKIKP		PKPdf	PKPdf	21 12 43.4	+0.9
GERES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**134.81**	**121**	PKP		PKPdf	PKPdf	21 13 04.9	+3.3
	comp=Z,1.0nm,0.5s,baz=325,slow=3.5,SNR=5.0								
LPAZ	**La Paz**	**134.81**	**121**	*e*PKPdf		PKPdf	PKPdf	21 13 04.7	+3.1
TOA0	**Torodi Ar. Sit**	**149.43**	**285**	*e*PKPbc		PKPbc	PKPbc	21 13 32.9	+1.0
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc		PKPbc	PKPbc	21 13 33.2	+1.3
	comp=Z,8.0nm,0.6s,baz=49,slow=2.6,SNR=92								
TORD	**Torodi Ar. Bea**	**149.43**	**285**	PKPbc		PKPbc	PKPbc	21 13 33.2	+1.3

IDC 14 21:05:10.2±2.2, 6.11S×129.07E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=103.4km s-min=27.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.64**	**199**	Pn		Pn	Pn	21 08 13.4	+2.1
	0.5nm,0.3s,baz=36,slow=10,SNR=20								
FITZ				Sn		Sn	Sn	21 10 24.1	-8.7
	0.4nm,0.3s,baz=193,slow=23,SNR=5.5								
WRA	**Warramunga Arr**	**14.38**	**163**	Pn		Pn	Pn	21 08 33.9	-1.1
	0.2nm,0.3s,baz=332,slow=14,SNR=12								
WRA				Sn		Sn	Sn	21 10 59.6	-16
	0.6nm,0.3s,baz=342,slow=22,SNR=10								
ASAR	**Alice Springs**	**17.86**	**168**	P		Pn	Pn	21 09 19.6	-0.4
	0.3nm,0.3s,baz=350,slow=10,SNR=21								
ASAR				S		Sn	Sn	21 12 26.2	-13
	0.2nm,0.3s,baz=358,slow=28,SNR=5.4								
MKAR	**Makanchi Array**	**67.47**	**327**	P		P	P	21 16 08.0	+0.2
	0.3nm,0.3s,baz=117,slow=7.6,SNR=10.0								

NEIC **14** *21:18:29.7, 34.49S×71.85W, h38km, MD4.1(GUC), After GUC.*

GUC 14 21:18:29.7±0.9, 34.49S×71.85W, h38km±2km, MD4.1, ML3.5, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.65**	**34**	↑ *i*P		Pn	Pn	21 18 42.6	+0.3
LNV				*i* S		Sn	Sn	21 18 51.6	+0.2
SFDO	**San Fernando**	**0.70**	**100**	↑ *i*P		Pn	Pn	21 18 43.5	+0.4
SFDO				*i* S		Sn	Sn	21 18 53.5	+0.9
NICH	**Los Niches**	**0.72**	**135**	*e*P		Pn	Pn	21 18 43.9	+0.5
NICH				*i* S		Sn	Sn	21 18 54.0	+0.9
TALC	**Talca**	**0.92**	**169**	*e*P		Pn	Pn	21 18 46.7	+0.6
TALC				*i* S		Sn	Sn	21 18 58.8	+0.7
CACH	**El Canelo**	**1.10**	**70**	↓ *i*P		Pn	Pn	21 18 50.0	+1.4
CACH				*i* S		Sn	Sn	21 19 05.3	+2.8
TACH	**Talagante**	**1.13**	**42**	↓ *i*P		Pn	Pn	21 18 50.0	+1.0
TACH				*i* S		Sn	Sn	21 19 04.7	+1.4
CHCH	**Chadas Angostu**	**1.14**	**61**	↑ *i*P		Pn	Pn	21 18 50.4	+1.3
CHCH				*i* S		Sn	Sn	21 19 05.9	+2.4
CICH	**Cipreses**	**1.19**	**82**	↑ *i*P		Pn	Pn	21 18 50.9	+1.0
CICH				*i* S		Sn	Sn	21 19 06.8	+1.9
RCDM	**Rinconada Maip**	**1.32**	**41**	*e*P		Pn	Pn	21 18 52.5	+0.9
RCDM				*i* S		Sn	Sn	21 19 09.8	+1.7
RCDM				AML		AML	AML	21 19 11.2	
	comp=E,1μm,0.3s								
RCDM	**Rinconada Maip**	**1.32**	**41**	*e*P		Pn	Pn	21 18 52.5	+0.9
RCDM				*i* S		Sn	Sn	21 19 09.8	+1.7
ANTU	**Antumapu**	**1.37**	**48**	*e*P		Pn	Pn	21 18 53.4	+1.2
ANTU				*i* S		Sn	Sn	21 19 12.0	+2.8
ANTU				AML		AML	AML	21 19 13.6	
	comp=E,2μm,0.4s								
ANTU	**Antumapu**	**1.37**	**48**	*e*P		Pn	Pn	21 18 53.4	+1.2
ANTU				*i* S		Sn	Sn	21 19 12.0	+2.8
PCH	**Pirque**	**1.41**	**52**	↓ *i*P		Pn	Pn	21 18 54.0	+1.1
PCH				*i* S		Sn	Sn	21 19 13.5	+3.3
SAN	**Santiago**	**1.43**	**44**	↓ *i*P		Pn	Pn	21 18 55.2	+2.0
SAN				*i* S		Sn	Sn	21 19 13.7	+2.9
CLCH	**Cerro Calan**	**1.54**	**45**	*e*P		Pn	Pn	21 18 56.0	+1.3
CLCH				*i* S		Sn	Sn	21 19 15.9	+2.4
CLCH				AML		AML	AML	21 19 25.7	
	comp=N,1μm,0.8s								
PEL	**Peldehue**	**1.66**	**36**	*e*P		Pn	Pn	21 18 57.8	+1.6
PEL				*i* S		Sn	Sn	21 19 18.6	+2.2
PEL				AML		AML	AML	21 19 21.5	
	comp=N,1μm,0.5s								
PEL	**Peldehue**	**1.66**	**36**	*e*P		Pn	Pn	21 18 57.8	+1.6
PEL				*i* S		Sn	Sn	21 19 18.6	+2.2
YECH	**El Yeso**	**1.68**	**61**	*e*P		Pn	Pn	21 18 58.5	+1.9
YECH				*i* S		Sn	Sn	21 19 20.3	+3.4
YECH				AML		AML	AML	21 19 21.7	
	comp=N,1μm,0.4s								
FCH	**Farellones**	**1.74**	**49**	*e*P		Pn	Pn	21 18 59.2	+1.8
FCH				*i* S		Sn	Sn	21 19 20.6	+2.3
FCH				AML		AML	AML	21 19 29.0	
	comp=N,664nm,0.4s								
COCH	**Cobquecura**	**1.81**	**205**	*e*P		Pn	Pn	21 18 58.6	+0.3
CCHI	**Chillan**	**2.11**	**185**	*e*P		Pn	Pn	21 19 06.3	+3.8
PTCH	**Petorca**	**2.35**	**19**	*e*P		Pn	Pn	21 19 06.5	+0.7

IDC 14 21:48:29.8±0.9, 2166S×6811W, h131km±11km, mb3.9/3, mb1 3.8/5, mb1mx3.5/15, mbtmp3.8/5, Error ellipse: s-maj=32.0km s-min=18.6km az=115.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.21**	**218**	P			Pn	21 48 56.0	+1.2
	69nm,0.3s,baz=12,slow=8.2,SNR=580								
LVC				S			Sn	21 49 14.2	+0.5
	87nm,0.3s,baz=99,slow=23,SNR=48								
LPAZ

SLKM	**Skilak Lake**	**1.40**	**179**	P		Pn	21 59 10.5	-1.1
TRF	**Thorofare Moun**	**1.56**	**360**	P		Pn	21 59 13.4	-0.4
KTH	**Kantishna Hill**	**1.68**	**350**	P		Pn	21 59 15.3	-0.3
SEW	**Seward**	**1.85**	**167**	P		Pn	21 59 17.6	-0.2
MCK	**McKinley**	**1.94**	**18**	P		Pn	21 59 18.9	-0.1
DIV	**Divide**	**2.30**	**108**	P		Pn	21 59 23.6	-0.4
EYAK	**Cordova Ski Ar**	**2.58**	**120**	P		Pn	21 59 26.9	-0.9
SVW2	**Sparrevohn**	**2.67**	**255**	P		Pn	21 59 28.0	-1.0
TT01	**Tatalina**	**2.85**	**293**	P		Pn	21 59 30.2	-1.4
BMRM	**Bremner River**	**2.88**	**106**	P		Pn	21 59 30.7	-1.3
COLA	**College**	**3.18**	**19**	P		Pn	21 59 35.5	-0.6
IL1	**Eielson Array**	**3.26**	**27**	P		Pn	21 59 36.2	-1.0
DOT	**Dot Lake**	**3.35**	**56**	P		Pn	21 59 37.9	-0.6
BCA3	**Beaver Creek A**	**4.11**	**70**	P		Pn	21 59 47.9	-1.0
KDAK	**Kodiak Island**	**4.29**	**197**	P		Pn	21 59 50.5	-0.9
IM3	**Indian Mountai**	**4.37**	**341**	P		Pn	21 59 51.7	-0.8
IMA2	**Indian Mountai**	**4.44**	**342**	*e*P		Pn	21 59 52.8	-0.6
EGAK	**Eagle**	**5.02**	**51**	P		Pn	22 00 00.2	-1.1
COLD	**Coldfoot**	**5.35**	**0**	P		Pn	22 00 05.6	-0.3
DAWY	**Dawson**	**5.42**	**62**	P		Pn	22 00 06.2	-0.6
BM3	**Burnt Mountain**	**6.05**	**21**	P		Pn	22 00 14.9	-0.6

GUC **14** *22:22:08.9±0.6,2356S×6854W,h100km,ML5.6*
ISCJB **14** *22:22:10.7±0.1,2331S±003×6841W±003,h108km, mb5.4/157, Error ellipse: s-maj=4.5km s-min=3.4km az=49.9*
IDC **14** *22:22:11.5±0.3,2334S×6850W,h100km±2km,mb5.3/18, mb1 5.3/21,mb1mx5.3/21,mbtmp5.2/21,MS4.6/14, Ms1 4.6/14,ms1mx4.4/20, Error ellipse: s-maj=14.1km s-min=8.0km az=68.0*
LDG **14** *22:22:11.2±0.4,2316S×6821W,h107km,Mb5.3/33, Ms4.7/10, Error ellipse: s-maj=36.5km s-min=23.9km az=138.0*
GCMT **14** *22:22:12.4±0.1,2337S×6876W,h116km,MW5.7/96, Moment Tensor Solution. s96,c177; s94,c216; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr-3.00±.04; Mθθ-0.27±.05; Mϕϕ3.28±.07; Mrθ0.54±.04; Mθϕ-1.87±.05; Mϕr-2.72±.04; Best double couple: Mo4.51400×10^17 NP1:ϕs143.00000°,δ27.00000°, λ-111.00000°. NP2:ϕs346.00000°,δ64.00000°, λ-80.00000°. Principal axes: T 5.0080, Plg19.0000°, Azm69.0000°; N -0.9790, Plg9.0000°, Azm162.0000°; P -4.0210, Plg69.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI **14** *22:22:12.3,2330S×6830W,h108km,mB5.5*
MOS **14** *22:22:12.7±1.3,2304S×6839W,h115km,mb5.6/59, MS4.8/4, Error ellipse: s-maj=8.4km s-min=5.2km az=94.6*
NEIC **14** *22:22:12.4±0.1,2327S×6833W,mb5.5/137,MW5.7, Error ellipse: s-maj=4.9km s-min=3.8km az=46.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^17Nm; Mrr-2.62; Mθθ0.31; Mϕϕ2.32; Mrθ0.58; Mθϕ-1.88; Mϕr-3.66; Best double couple: Mo4.80000×10^17 NP1:ϕs347.00000°, δ71.00000°,λ-75.00000°. NP2:ϕs126.00000°,δ24.00000°, λ-128.00000°. Principal axes: T 5.0600, Plg25.0000°, Azm65.0000°; N -0.4600, Plg15.0000°, Azm162.0000°; P -4.6000, Plg61.0000°, Azm280.0000°;*
NEIC Felt [IV] at Calama; [III] at Antofagasta and San Pedro de Atacama; [II] at Baquedano, Iquique and Maria Elena.
ISC 14 22:22:12.5±0.1,2331S±003×6832W±003,h110km, h110km±.5km:pP-P,n900,σ0s85/696,mb5.4/157, 143C-130D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
LVC	**Limon Verde**	**0.88**	**322**	P		**Pn**	**22 22 30.4**	**-2.1**
	baz=178,slow=8.5							
LVC				S		**Sn**	**22 22 44.6**	**-2.8**
LVC	**Limon Verde**	**0.88**	**322**	*e*P		**Pn**	**22 22 29.8**	**-2.6**
LVC	**Limon Verde**	**0.88**	**322**	*e*Pn		**Pn**	**22 22 30.4**	**-2.0**
LVC				*e*Sn		**Sn**	**22 22 44.8**	**-2.6**
CEN1	**Los Morros**	**1.73**	**267**	*e*P		**Pn**	**22 22 37.5**	**-4.5**
CEN1				*i* S		**Sn**	**22 22 59.5**	**-5.1**
CEN1				AML		AML	22 23 00.5	
	comp=N,82μm,0.7s							
ANCH	**Antofagasta**	**1.96**	**259**	↑*i*P		**Pn**	**22 22 40.9**	**-4.0**
ANCH				*i* S		**Sn**	**22 23 03.5**	**-6.1**
ANCH				AML		AML	22 23 06.9	
	comp=E,78μm,0.6s							
ANCH	**Antofagasta**	**1.96**	**259**	↑*i*P		**Pn**	**22 22 40.9**	**-4.0**
ANCH				*i* S		**Sn**	**22 23 03.5**	**-6.1**
CPN1	**Cerro Paranal**	**2.31**	**235**	↑*i*P		**Pn**	**22 22 43.3**	**-6.1**
CPN1				*i* S		**Sn**	**22 23 08.8**	**-8.9**
CPN1				AML		AML	22 23 10.1	
	comp=E,40μm,0.5s							
CDCH	**Caldera**	**4.38**	**211**	*e*P		**Pn**	**22 23 08.6**	**-8.3**
CDCH				*i* S		**Sn**	**22 23 55.4**	**-12**
LPAZ	**La Paz**	**6.99**	**1**	Pn		**Pn**	**22 23 52.6**	**+0.5**
LPAZ				ScS		ScS	22 37 28.6	+2.3
LPAZ	**La Paz**	**6.99**	**1**	P		**Pn**	**22 23 52.8**	**+0.7**
	comp=E,38nm,0.3s,baz=191,slow=6.6,SNR=402							
LPAZ	**La Paz**	**6.99**	**1**	*e*P		**Pn**	**22 23 52.8**	**+0.6**
LPAZ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
LPAZ	**La Paz**	**6.99**	**1**	*e*Pn		**Pn**	**22 23 52.8**	**+0.6**
	comp=Z,8.8nm,0.7s							
ARE	**Arequipa**	**7.44**	**336**	*e*P		**Pn**	**22 23 54.0**	**-4.2**
ARE				*e*			22 24 05.0	
ARE				*e*S		**Sn**	**22 25 15.0**	**-6.0**
CFAA	**Coronel Fontan**	**8.26**	**180**	P		**Pn**	**22 24 04.0**	**-5.4**
	comp=Z,14nm,0.3s,baz=355,slow=13,SNR=166							
CFAA				S		**Sn**	**22 25 29.6**	**-12**
	comp=Z,7.0nm,0.3s,baz=234,slow=18,SNR=3.1							
SIV	**San Ignacio**	**9.98**	**44**	P		**Pn**	**22 24 30.7**	**-2.1**
	comp=Z,46nm,0.3s,baz=228,slow=12,SNR=394							
SIV				S		**Sn**	**22 26 20.6**	**-2.1**
	comp=Z,27nm,0.3s,baz=132,slow=20,SNR=6.7							
NNA	**Nana**	**13.88**	**323**	Pn		**Pn**	**22 25 23.5**	**-0.8**
	comp=Z,2μm,1.2s,SNR=7.0							
NNA	**Nana**	**13.88**	**323**	P		**Pn**	**22 25 22.4**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=143,slow=9.2,SNR=11							
NNA				S		**Sn**	**22 27 51.5**	**-5.7**
	comp=Z,3.1nm,0.3s,baz=220,slow=15,SNR=3.3							
NNA				LR		LR	22 30 28.8	
	comp=Z,1μm,20.3s,baz=141,slow=36							
NNA	**Nana**	**13.88**	**323**	*e*Pn		**Pn**	**22 25 22.0**	**-2.3**
LPA	**La Plata**	**14.69**	**140**	*e*P		**Pn**	**22 25 31.0**	**-3.7**
SAML	**Samuel**	**15.10**	**20**	*e*Pn		**Pn**	**22 25 37.0**	**-2.9**
TRQA	**Tornquist**	**15.67**	**161**	*e*Pn		**Pn**	**22 25 44.4**	**-2.7**
	comp=Z,284nm,0.8s							
ATAH	**Atahualpa**	**18.89**	**328**	P		**P**	**22 26 24.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=150,slow=8.9,SNR=22							
CAM4	**Nova Friburgo**	**23.75**	**93**	↑*i*P		**P**	**22 27 15.6**	**+1.0**
CAM4				*i*			22 27 16.7	
CAM4				*i*			22 27 19.2	
CAM4				*i*			22 27 40.8	
OTAV	**Otavalo**	**25.39**	**336**	*e*P		**P**	**22 27 30.7**	**+1.2**
OTAV				*e*PcP		PcP	22 31 01.1	+2.0
CAM3	**Guarapari**	**25.88**	**90**	↑*i*P		**P**	**22 27 34.2**	**+0.2**
CAM3				*i*			22 27 35.7	
CAM3				*i*			22 27 37.1	
ROSC	**El Rosal**	**28.60**	**347**	P		**P**	**22 28 00.4**	**+2.1**
	comp=Z,15nm,0.5s,mb4.9,baz=269,slow=12,SNR=9.9							
EFI	**East Falkland**	**29.40**	**167**	*e*P		**P**	**22 28 03.9**	**-1.5**
EFI				pmax		pmax		
	comp=Z,145nm,0.9s,mb5.6							
EFI	**East Falkland**	**29.40**	**167**	*e*P		**P**	**22 28 03.9**	**-1.4**
	comp=Z,145nm,0.9s,mb5.6							
PAYG	**Puerto Ayora**	**31.00**	**313**	*e*P		**P**	**22 28 20.0**	**+0.5**
	comp=Z,275nm,1.2s,mb5.9							
USHA	**Ushuaia**	**31.48**	**180**	P		**P**	**22 28 21.8**	**-1.9**
	comp=Z,38nm,0.8s,mb5.2,baz=1.5,slow=5.9,SNR=13							
SDV	**Santo Domingo**	**32.08**	**356**	*e*P		**P**	**22 28 27.6**	**-1.3**
PCRV	**Puerto La Cruz**	**33.47**	**7**	P		**P**	**22 28 43.0**	**+1.9**
	comp=Z,90nm,0.6s,mb5.8,baz=170,slow=12,SNR=47							
JTS	**JuntasAbangare**	**37.15**	**332**	*d*P		**P**	**22 29 12.8**	**+0.2**
JTS	**JuntasAbangare**	**37.15**	**332**	*e*P		**P**	**22 29 12.6**	**0.0**
	comp=Z,148nm,1.1s,mb5.8							
RPN	**Rapa Nui**	**37.19**	**255**	P		**P**	**22 29 12.7**	**-0.2**
	comp=Z,316nm,0.8s,mb6.3,baz=94,slow=3.1,SNR=14							
BIM	**Bigot**	**38.26**	**11**	*e*P		**P**	**22 29 21.7**	**-0.2**
FDF	**Fort de France**	**38.45**	**11**	*e*P		**P**	**22 29 22.9**	**-0.6**
FDF				*e*S			22 29 27.4	
HOPE	**Hope Point**	**39.04**	**151**	*e*P		**P**	**22 29 29.2**	**+0.8**
MGG	**Marie-Galante**	**39.58**	**11**	*e*P		**P**	**22 29 36.6**	**+3.7**
SCG	**Saint Claude**	**39.63**	**10**	*e*P		**P**	**22 29 31.0**	**-2.3**
DEG	**La Desirade**	**40.01**	**11**	*e*P		**P**	**22 29 34.6**	**-1.9**
CPD	**Cerro la Pandu**	**41.16**	**3**	*e*P		**P**	**22 29 44.6**	**-1.3**
MTP	**Monte Pirata**	**41.24**	**4**	*e*P		**P**	**22 29 45.0**	**-1.6**
HUMP	**Col San Antoni**	**41.27**	**4**	*e*P		**P**	**22 29 47.5**	**+0.7**
MPR	**Mayaguez**	**41.28**	**2**	*e*P		**P**	**22 29 46.1**	**-0.9**
CBYP	**Canovanas**	**41.40**	**4**	*e*P		**P**	**22 29 48.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**41.51**	**332**	*e*P		**P**	**22 29 48.7**	**-0.1**
	comp=Z,227nm,0.9s,mb5.9							
TGUH				*e*pP		pP	22 30 13.7	-0.2
TGUH				*e*sP		sP	22 30 24.4	-1.9
PMSA	**Palmer Station**	**41.55**	**177**	P		**P**	**22 29 48.2**	**-0.9**
	comp=Z,40nm,0.8s,mb5.2,baz=342,slow=6.1,SNR=9.3							
HLGC	**Holguin**	**44.57**	**350**	*e*P		**P**	**22 30 14.2**	**+0.7**
CCIG	**Comitan**	**45.72**	**327**	*i* P		**P**	**22 30 21.6**	**-0.9**
TEIG	**Tepich**	**47.45**	**334**	*e*P		**P**	**22 30 34.6**	**-1.4**
CMIG	**Matias Romero**	**47.82**	**325**	*i* P		**P**	**22 30 38.1**	**-0.8**
TUIG	**Tuzandepetl**	**48.36**	**326**	*i* P		**P**	**22 30 43.2**	**+0.2**
VHO	**Vista Hermosa**	**48.80**	**323**	*i* P		**P**	**22 30 47.7**	**+1.2**
OXX	**Oaxaca**	**48.81**	**323**	*i* P		**P**	**22 30 47.0**	**+0.5**
ACX	**Acapulco**	**50.48**	**319**	*i* P		**P**	**22 30 59.0**	**-0.1**
CAIG	**El Cayaco**	**50.83**	**319**	*i* P		**P**	**22 31 02.0**	**+0.2**
PLIG	**Platanillo**	**51.43**	**321**	*i* P		**P**	**22 31 07.9**	**+1.7**
YAIG	**Yautepec**	**51.55**	**322**	*i* P		**P**	**22 31 08.8**	**+1.6**
IIO	**Organos**	**51.94**	**323**	*i* P		**P**	**22 31 11.3**	**+1.2**
DWPF	**Disney**	**52.66**	**345**	*e*P		**P**	**22 31 15.2**	**-0.2**
	comp=Z,180nm,1.0s,mb6.0							
DWPF				*e*pP		pP	22 31 41.0	-0.5
DWPF				*e*sP		sP	22 31 53.2	-0.5
DWPF				*e*PcP		PcP	22 32 23.6	-0.3
MOIG	**Morelia**	**53.42**	**320**	*i* P		**P**	**22 31 22.8**	**+1.8**
SFJM	**Santa Fe**	**55.14**	**319**	*i* P		**P**	**22 31 33.0**	**-0.4**
BRAL	**Brewton**	**56.92**	**341**	*e*P		**P**	**22 31 46.1**	**+0.1**
	comp=Z,342nm,1.0s,mb6.3							
BRAL				*e*pP		pP	22 32 11.8	-0.7
BRAL				*e*sP		sP	22 32 24.1	-0.5
BRAL				*e*PP		PP	22 33 54.1	+0.5
COW	**Cow Castle Cre**	**57.60**	**348**	*e*P		**P**	**22 31 50.5**	**-0.3**
COW				*e*pP		pP	22 32 17.1	-0.3
COW				*e*sP		sP	22 32 29.1	-0.3
VNA3	**Neumayer Olymp**	**58.20**	**161**	↓*i*P		**P**	**22 31 54.5**	**-0.5**
VNA3				*e*			22 32 05.8	
VNA3				*e*		pP	22 32 22.3	+0.7
VNA3				*e*			22 32 32.2	
VNA3				*e*			22 32 38.6	
VNA3				*e*			22 32 44.8	
VNA1	**Neumayer--Stat**	**58.41**	**160**	↓*i*P		**P**	**22 31 56.5**	**0.0**
VNA1				*e*			22 31 58.6	
VNA1				*e*			22 32 06.6	
VNA1				*e*			22 32 45.5	
JSC	**Jenkinsville**	**58.58**	**347**	*e*P		**P**	**22 31 57.0**	**-0.7**
JSC				*e**PP		pP	22 32 23.9	-0.3
JSC				*e**SP		sP	22 32 34.7	-1.6
JSC				*e*			22 32 47.9	
LHS	**Liberty Hill**	**58.68**	**348**	*e*P		**P**	**22 31 58.7**	**+0.4**
LHS				*e*pP		pP	22 32 19.4	-5.5
VNA2	**Neumayer--Watz**	**58.77**	**160**	↓*i*P		**P**	**22 31 58.7**	**-0.3**
	baz=284,slow=8.7							
VNA2				*e*			22 32 00.2	
VNA2				*e*			22 32 11.2	
VNA2				*e*		pP	22 32 22.9	-2.7
VNA2				*e*			22 32 31.1	
VNA2				*e*			22 32 36.5	
VNA2				*e*			22 32 43.8	
VNA2				*e*			22 32 48.1	
VNA2				*e*			22 32 56.9	
CNNC	**Cliffs of the**	**58.93**	**351**	*e*P		**P**	**22 32 01.1**	**+1.0**
	comp=Z,71nm,1.0s,mb5.7							
CNNC				*e*pP		pP	22 32 26.4	-0.3
CNNC				*e*sP		sP	22 32 37.6	-1.1
SHEL	**Horse Pasture**	**59.01**	**95**	*e*P		**P**	**22 32 02.8**	**+2.1**
	comp=Z,350nm,0.8s,mb6.4							
HKT	**Hockley**	**59.19**	**332**	*e*P		**P**	**22 32 01.1**	**-0.8**
HKT				pmax		pmax		
	comp=Z,122nm,1.5s,mb5.7							
HKT	**Hockley**	**59.19**	**332**	*e*P		**P**	**22 32 01.1**	**-0.7**
	comp=Z,122nm,1.5s,mb5.7							
SNAA	**Sanae**	**60.40**	**161**	P		**P**	**22 32 09.5**	**-0.7**
	comp=Z,59nm,0.7s,mb5.7,baz=285,slow=6.9,SNR=297							
RKT	**Rikitea**	**60.72**	**256**	*e*P		**P**	**22 32 12.4**	**0.0**
	comp=Z,92nm,1.1s,mb5.7							
RKT				*e*pP		pP	22 32 38.8	-0.3
	comp=Z,99nm,1.0s							
RKT	**Rikitea**	**60.72**	**256**	*e*S		**S**	**22 40 16.7**	**-4.0**
	comp=Z,2μm,23.8s							
RKT				*e*LR		LR	22 50 15.8	
	comp=Z,4μm,36.8s,baz=114							
RKT	**Rikitea**	**60.72**	**256**	*e*P		**P**	**22 32 12.4**	**0.0**
RKT				*e**PP		pP	22 32 38.8	-0.3
RKT				*e*S		**S**	**22 40 16.7**	**-4.0**
RKT				pmax		pmax		
	comp=Z,92nm,1.1s,mb5.7							
RKT	**Rikitea**	**60.72**	**256**	*e*P		**P**	**22 32 12.4**	**0.0**
	comp=Z,92nm,1.1s,mb5.7							
RKT				*e*pP		pP	22 32 38.8	-0.3
RKT				*e*S		**S**	**22 40 16.7**	**-4.0**
OXF	**Oxford**	**60.89**	**340**	*e*P		**P**	**22 32 12.3**	**-1.2**
TZTN	**Tazewell**	**61.24**	**346**	*e*P		**P**	**22 32 14.8**	**-1.0**
TZTN				*e*pP		pP	22 32 42.4	-0.2
TZTN				*e*sP		sP	22 32 53.5	-1.2
BLA	**Blacksburg**	**61.27**	**349**	*e*P		**P**	**22 32 16.2**	**+0.2**
BLA				*e**PP		pP	22 32 43.8	+1.0
BLA				*e**SP		sP	22 32 54.9	+0.1
BLA				pmax		pmax		
	comp=Z,190nm,1.2s,mb6.0							
BLA	**Blacksburg**	**61.27**	**349**	*e*P		**P**	**22 32 16.2**	**+0.1**
	comp=Z,190nm,1.2s,mb6.0							
BLA				*e*pP		pP	22 32 43.8	+1.0
BLA				*e*sP		sP	22 32 54.9	0.0
ELN	**Prospectdale**	**61.34**	**349**	*e*P		**P**	**22 32 16.7**	**+0.1**
ELN				*e*pP		pP	22 32 43.4	+0.1
ELN				*e*sP		sP	22 32 54.8	-0.5
JCT	**Junction City**	**61.43**	**329**	*e*P		**P**	**22 32 16.1**	**-1.0**
FWV	**Forest Hill**	**61.70**	**349**	*e*P		**P**	**22 32 18.7**	**-0.2**
FWV				*e*pP		pP	22 32 46.6	+0.8
FWV				*e*sP		sP	22 32 57.4	-0.3
WVT	**Waverly**	**61.93**	**342**	*e*P		**P**	**22 32 18.6**	**-1.9**
WVT				*e**PP		pP	22 32 45.5	-1.8
WVT				*e**SP		sP	22 32 56.9	-2.4
WVT				pmax		pmax		
	comp=Z,152nm,0.8s,mb6.1							
WVT	**Waverly**	**61.93**	**342**	*e*P		**P**	**22 32 18.6**	**-1.9**
	comp=Z,152nm,0.8s,mb6.1							
WVT				*e*pP		pP	22 32 45.5	-1.8
WVT				*e*sP		sP	22 32 56.9	-2.5
UALR	**University of**	**62.10**	**338**	*e*P		**P**	**22 32 20.3**	**-1.4**
	comp=Z,92nm,0.9s,mb5.8							
LTX	**Lajitas**	**62.42**	**325**	*e*P		**P**	**22 32 22.9**	**-0.9**
LTX				pmax		pmax		
	comp=Z,64nm,1.2s,mb5.5							
LTX	**Lajitas**	**62.42**	**325**	*e*P		**P**	**22 32 22.9**	**-0.9**
	comp=Z,64nm,1.2s,mb5.5							
TXAR	**Lajitas Array**	**62.42**	**325**	P		**P**	**22 32 23.3**	**-0.4**
	comp=Z,32nm,1.0s,mb5.3,baz=150,slow=8.6,SNR=95							
UTMT	**University of**	**62.42**	**341**	*e*P		**P**	**22 32 23.8**	**0.0**
MVL	**Millersville**	**63.42**	**353**	*e*P		**P**	**22 32 30.8**	**+0.3**
WCI	**Wyandotte Cave**	**63.50**	**344**	*e*P		**P**	**22 32 29.0**	**-1.9**
WCI				*e**PP		pP	22 32 55.8	-2.0
WCI				*e*			22 33 06.9	
WCI				pmax		pmax		
	comp=Z,148nm,0.8s,mb6.0							
WCI	**Wyandotte Cave**	**63.50**	**344**	*e*P		**P**	**22 32 29.0**	**-1.9**
	comp=Z,148nm,0.8s,mb6.0							
WCI				*e*pP		pP	22 32 55.8	-2.1
WCI				*e*			22 33 06.9	
USIN	**University of**	**63.60**	**343**	*e*P		**P**	**22 32 29.8**	**-1.8**
USIN				*e*pP		pP	22 32 57.2	-1.4
SIUC	**Southern Illin**	**63.80**	**342**	*e*P		**P**	**22 32 31.6**	**-1.3**
	comp=Z,129nm,0.9s,mb5.8							
LUPA	**Lehigh Univers**	**63.91**	**354**	*e*P		**P**	**22 32 34.7**	**+1.0**
SSPA	**Standing Stone**	**64.23**	**352**	*e*P		**P**	**22 32 35.7**	**-0.1**
	comp=Z,47nm,0.8s,mb5.4							
SSPA				*e*pP		pP	22 33 01.9	-0.8
SSPA				*e*PcP		PcP	22 33 08.6	-1.1
SSPA				*e*sP		sP	22 33 15.1	+0.4
SSPA				*e*PP		PP	22 35 03.4	+5.2
FVM	**French Village**	**64.41**	**341**	*e*P		**P**	**22 32 35.3**	**-1.6**
BLO	**Bloomington**	**64.45**	**344**	*e*P		**P**	**22 32 34.5**	**-2.6**
BLO				pmax		pmax		
	comp=Z,91nm,0.6s,mb5.8							
BLO	**Bloomington**	**64.45**	**344**	*e*P		**P**	**22 32 34.5**	**-2.6**
	comp=Z,91nm,0.6s,mb5.8							
WMOK	**Wichita Mounta**	**64.57**	**332**	*e*P		**P**	**22 32 37.4**	**-0.5**
SLM	**Saint Louis**	**64.95**	**341**	*e*P		**P**	**22 32 39.3**	**-1.1**
SLM				pmax		pmax		
	comp=Z,98nm,1.0s,mb5.6							
SLM	**Saint Louis**	**64.95**	**341**	*e*P		**P**	**22 32 39.3**	**-1.2**
	comp=Z,98nm,1.0s,mb5.6							
NVL	**N'lazarevskaya**	**64.96**	**159**	*d* *i*P		**P**	**22 32 39.1**	**-1.3**
NVL				*i* *PP		pP	22 33 07.1	-0.4
NVL				*i* *SP		sP	22 33 17.0	-2.4
NVL				*i* S		**S**	**22 41 13.3**	**-0.2**
NVL				*i* *SS		sS	22 42 00.6	+0.7
NVL				*e*SS		SS	22 45 40.3	+13
NVL				pmax		pmax		
	comp=E,63nm,0.8s							
NVL				pmax		pmax		
	comp=Z,140nm,0.8s,mb5.8							
NVL				pmax		pmax		
	comp=N,24nm,0.7s							
GDL2	**Guadalupe Moun**	**65.07**	**327**	*e*P		**P**	**22 32 40.8**	**-0.4**
MNTX	**Cornudas Mount**	**65.19**	**326**	*e*P		**P**	**22 32 40.9**	**-1.1**
	comp=N,89nm,0.9s,mb5.6							
ALLY	**Alegheny Colle**	**65.55**	**350**	*e*P		**P**	**22 32 44.0**	**-0.3**
HRV	**Harvard--Oak R**	**65.55**	**357**	*e*P		**P**	**22 32 44.7**	**+0.4**
HRV				*e**PP		pP	22 33 11.9	+0.5
HRV				*e**SP		sP	22 33 23.4	+0.1
HRV				pmax		pmax		
	comp=Z,64nm,0.8s,mb5.5							
HRV	**Harvard--Oak R**	**65.55**	**357**	*e*P		**P**	**22 32 44.6**	**+0.4**
	comp=Z,64nm,0.8s,mb5.5							
HRV				*e*pP		pP	22 33 11.9	+0.5
HRV				*e*sP		sP	22 33 23.4	+0.1
BINY	**Binghamton**	**65.56**	**354**	*e*P		**P**	**22 32 44.8**	**+0.5**
	comp=Z,98nm,1.0s,mb5.6							
AMTX	**Amarillo**	**65.97**	**330**	*e*P		**P**	**22 32 46.9**	**-0.1**
FFD	**Franklin Falls**	**66.52**	**357**	*e*P		**P**	**22 32 51.5**	**+1.0**
	comp=Z,41nm,0.9s,mb5.3							
FFD				*e*pP		pP	22 33 17.1	-0.5
FFD				*e*sP		sP	22 33 30.3	+0.8
ACCN	**Adirondack Com**	**66.54**	**356**	*e*P		**P**	**22 32 51.3**	**+0.7**
HNH	**Hanover**	**66.78**	**357**	*e*P		**P**	**22 32 54.0**	**+1.9**
AAM	**Ann Arbor**	**66.80**	**348**	*e*P		**P**	**22 32 51.1**	**-1.2**
AAM				pmax		pmax		
	comp=Z,57nm,0.6s,mb5.6							
AAM	**Ann Arbor**	**66.80**	**348**	*e*P		**P**	**22 32 51.1**	**-1.2**
	comp=Z,57nm,0.6s,mb5.6							
QSPA	**South Pole Qui**	**66.89**	**180**	*e*P		**P**	**22 32 52.1**	**-0.7**
QSPA				*e*pP		pP	22 33 19.6	-0.4
QSPA				*e*sP		sP	22 33 30.6	-1.4
NCB	**Newcomb**	**67.17**	**355**	*e*P		**P**	**22 32 55.0**	**+0.5**
	comp=Z,83nm,0.9s,mb5.6							
LBNH	**Lisbon**	**67.30**	**357**	*e*P		**P**	**22 32 56.3**	**+0.9**
LBNH				pmax		pmax		
	comp=Z,75nm,0.9s,mb5.5							
LBNH	**Lisbon**	**67.30**	**357**	*e*P		**P**	**22 32 56.3**	**+0.9**
	comp=Z,75nm,0.9s,mb5.5							
KSU1	**Kansas State U**	**67.49**	**336**	*e*P		**P**	**22 32 55.3**	**-1.4**
	comp=Z,130nm,0.8s,mb5.8							
KSU1				*e*pP		pP	22 33 22.8	-1.1
KSU1				*e*sP		sP	22 33 34.1	-1.6
BNM	**Barren Site**	**67.76**	**326**	*e*P		**P**	**22 32 58.7**	**+0.4**
LONY	**Lake Ozonia**	**67.84**	**355**	*e*P		**P**	**22 32 59.0**	**+0.2**
Y22C	**IRIS PASSCAL I**	**67.85**	**326**	↑P		**P**	**22 32 59.4**	**+0.5**
	baz=68							
LPM	**Los Pinos Muon**	**67.89**	**326**	*e*P		**P**	**22 32 59.4**	**+0.3**
LPM				*e*pP		pP	22 33 26.9	+0.5
LENM	**Lemitar**	**67.95**	**326**	*e*P		**P**	**22 33 01.3**	**+1.8**
FRNY	**Flat Rock**	**67.98**	**356**	*e*P		**P**	**22 33 00.3**	**+0.6**
LAZ	**Ladron**	**68.22**	**326**	*e*P		**P**	**22 33 01.6**	**+0.4**
LAZ				*e*		pP	22 33 28.2	-0.3
LAZ				*e*sP		sP	22 33 40.4	0.0
MSNY	**Massena**	**68.24**	**355**	*e*P		**P**	**22 33 01.6**	**+0.3**
MSNY				*e*		pP	22 33 27.2	-1.3
MSNY				*

W13A **Hualapai Mount** 72.39 322 ⇑P P 22 33 27.0 +0.5
baz=72,SNR=35
IRM **Iron Mountain** 72.44 321 ⇑P P 22 33 27.0 +0.1
baz=73,SNR=68
NEE2 **Needles Airpor** 72.57 321 ⇑P P 22 33 27.9 +0.2
baz=73
109C **Camp Elliot, M** 72.72 318 ⇓P P 22 33 28.6 0.0
baz=73
PFO **Pinyon Flat Ob** 72.83 319 eP P 22 33 29.5 +0.3
PFO **Pinyon Flat Ob** 72.83 319 ⇑P P 22 33 29.6 +0.5
baz=73,SNR=25
BELC **Belle Mtn.** 72.83 320 ⇑P P 22 33 29.7 +0.5
baz=73,SNR=14
PHWY **Pilot Hill** 72.93 332 eP P 22 33 29.1 -0.6
PHWY ePcP PcP 22 33 47.1 +0.9
PHWY epP pP 22 33 57.3 0.0
PHWY esP sP 22 34 10.3 +1.2
W12A **Cal Nev Ari** 73.09 322 ⇑P P 22 33 31.0 +0.2
baz=73,SNR=9.4
MURC **Murrieta** 73.27 319 ⇑P P 22 33 32.0 +0.2
baz=73,SNR=9.8
CFTV **Fuerteventura** 73.32 48 P P 22 33 32.8 +0.8
comp=Z,17nm,0.8s,mb4.9
V12A **Nelson** 73.39 322 P P 22 33 32.6 +0.2
baz=74,SNR=64
TBI **Tubuai** 73.43 251 eS S 22 42 48.9 -4.3
comp=Z,494nm,26.0s
TBI eLR LR 22 55 59.0
comp=Z,904nm,36.5s,baz=112
TBI **Tubuai** 73.43 251 eP P 22 33 33.5 +0.8
comp=Z,326nm,1.0s,mb6.1
TBI eS S 22 42 48.9 -4.3
BBRC **Big Bear Sol-O** 73.56 320 ⇑P P 22 33 34.0 +0.5
baz=74,SNR=11
SRU **San Rafael** 73.58 327 eP P 22 33 37.7 +4.1
HEC **Hector,Ludlow** 73.60 320 ⇓P P 22 33 34.1 +0.4
baz=74,SNR=45
SCI **San Clemente I** 73.67 318 ⇑P P 22 33 34.3 +0.2
baz=74
U12A **Valley of Fire** 73.72 323 ⇓P P 22 33 34.7 +0.3
baz=74,SNR=40
TUQ **Turquoise Mtn.** 73.79 321 ⇑P P 22 33 35.1 +0.3
baz=74,SNR=16
V11A **Goodsprings** 73.80 322 ⇑P P 22 33 35.1 +0.2
baz=74,SNR=14
CIS **Catalina Islan** 73.87 318 ⇓P P 22 33 35.3 0.0
baz=74,SNR=5.1
CCUT **Cedar City** 73.89 324 eP P 22 33 34.8 -0.6
CCUT epP pP 22 34 03.5 +0.5
CCUT esP sP 22 34 15.1 +0.3
EYMN **Ely** 73.92 344 eP P 22 33 34.2 -1.4
comp=Z,100nm,0.8s,mb5.6
EYMN ePcP PcP 22 33 51.0 +0.5
EYMN epP pP 22 34 01.5 -1.8
EYMN esP sP 22 34 14.1 -0.9
MSU **Marysvale** 73.97 326 eP P 22 33 36.4 +0.5
BFSC **Mount Baldy St** 73.98 319 ⇑P P 22 33 35.5 -0.4
baz=74,SNR=32
FMP **Fort Macarthur** 74.00 318 ⇑P P 22 33 36.4 +0.3
baz=74
RWWY **Rawlins** 74.02 331 eP P 22 33 35.5 -0.7
comp=Z,177nm,1.0s,mb5.8
RRX **Edison Barstow** 74.03 320 ⇓P P 22 33 36.7 +0.5
baz=74
ARUT **Antelope Range** 74.10 324 eP P 22 33 38.1 +1.5
ARUT e*PP pP 22 34 05.4 +1.1
ARUT e*SP sP 22 34 16.7 +0.6
SHPR **Sheep Range** 74.12 322 eP P 22 33 37.1 +0.4
EFAM **Famara** 74.14 48 P P 22 33 39.0 +2.1
comp=Z,49nm,0.8s,mb5.3
SBA **Scott Base** 74.16 190 eP P 22 33 36.7 -0.2
U11A **Corn Creek** 74.19 322 ⇑P P 22 33 37.8 +0.6
baz=74,SNR=5.7
GSC **Goldstone** 74.21 320 eP P 22 33 37.6 +0.3
GSC **Goldstone** 74.21 320 ⇑P P 22 33 37.7 +0.5
baz=74,SNR=29
MWC **Mount Wilson** 74.21 319 eP P 22 33 38.0 +0.7
SHOC **Shoshone** 74.33 321 ⇓P P 22 33 37.9 0.0
baz=74,SNR=5.4
DECC **Green Verdugo** 74.40 319 ⇓P P 22 33 38.4 0.0
baz=74,SNR=7.5
SNCC **San Nicolas Is** 74.45 317 ⇑P P 22 33 38.5 -0.2
baz=75
VAH **Vaihoa** 74.49 260 eP P 22 33 39.8 +0.9
comp=Z,203nm,0.9s,mb5.8
VAH epP pP 22 34 06.8 +0.2
comp=Z,107nm,0.9s
VAH esP sP 22 34 17.4 -1.0
comp=Z,187nm,1.3s
EDW2 **Edwards Air Fo** 74.62 319 P P 22 33 39.5 -0.1
baz=75,SNR=47
SYO **Syowa Base** 74.62 159⇓eP P 22 33 38.2 -1.5
SYO **Syowa Base** 74.62 159⇓/P P 22 33 40.8 +1.1
RSSD **Black Hills** 74.65 334 eP P 22 33 39.9 +0.1
RSSD e 22 33 54.5
RSSD e*PP pP 22 34 08.8 +1.3
RSSD e*SP sP 22 34 19.0 -0.3
RSSD pmax pmax
comp=Z,109nm,0.8s,mb5.6
RSSD **Black Hills** 74.65 334 eP P 22 33 39.9 0.0
comp=Z,109nm,0.8s,mb5.6
RSSD ePcP PcP 22 33 54.5 +0.9
RSSD epP pP 22 34 08.8 +1.2
RSSD esP sP 22 34 19.0 -0.3
U10A **Ash Meadows, A** 74.72 322 ⇑P P 22 33 41.0 +0.8
baz=75,SNR=25
BLG **Laguna Peak** 74.75 318 ⇓P P 22 33 40.3 -0.1
baz=75,SNR=6.2
PMOR **Pomariorio Ree** 74.81 260 eP P 22 33 41.8 +1.1
comp=Z,170nm,1.0s,mb5.7
PMOR epP pP 22 34 08.7 +0.3
comp=Z,78nm,0.9s
PMOR esP sP 22 34 19.3 -0.9
comp=Z,147nm,1.4s
MPU **Maple Canyon** 74.83 327 eP P 22 33 41.5 +0.7
LRMC **Laurel Mountai** 74.85 320 ⇑P P 22 33 41.3 +0.3
baz=75,SNR=56
OSI **Osito Adit** 74.88 319 ⇓P P 22 33 41.2 +0.1
baz=75,SNR=7.8
DAU **Daniels Canyon** 74.94 327 eP P 22 33 42.0 +0.5
NLU **North Lily Min** 75.00 327 eP P 22 33 42.7 +0.8
BSC **Santa Cruz Isl** 75.02 318 ⇑P P 22 33 42.4 +0.5
baz=75,SNR=8.5
FURC **Furnace Creek,** 75.06 321 ⇑P P 22 33 42.7 +0.5
baz=75,SNR=42
TVO **Taravao** 75.08 257 eP P 22 33 43.3 +1.0
comp=Z,100nm,0.8s,mb5.6
TVO epP pP 22 34 10.2 +0.2
comp=Z,108nm,1.1s
TVO esP sP 22 34 20.8 -1.0
comp=Z,200nm,1.2s
TVO **Taravao** 75.08 257 eP P 22 33 43.3 +1.0
TVO e*PP pP 22 34 10.2 +0.2
TVO e*SP sP 22 34 20.8 -1.0
TVO pmax pmax
comp=Z,100nm,0.8s,mb5.6
MPMC **Manual Prospec** 75.14 321 P P 22 33 42.8 +0.1
baz=75,SNR=76
VNDA **Vanda** 75.17 190 P P 22 33 42.6 -0.2
comp=Z,43nm,0.9s,mb5.2,baz=127,slow=5.4,SNR=231
VNDA LR LR 23 05 50.3
comp=Z,257nm,20.8s,baz=36,slow=35
JLU **Jordanelle** 75.18 327 eP P 22 33 43.3 +0.4
ARVC **Arvin** 75.29 319 ⇓P P 22 33 43.7 +0.2
baz=75
DAC **Darwin (Calif)** 75.35 321 eP P 22 33 44.1 +0.3
DAC pmax pmax
comp=Z,121nm,0.8s,mb5.7
DAC **Darwin (Calif)** 75.35 321 eP P 22 33 44.1 +0.3
comp=Z,121nm,0.8s,mb5.7
CTU **Camp Tracy** 75.40 327 eP P 22 33 43.8 -0.3
PAE **Paea** 75.41 257 eP P 22 33 45.1 +0.9
comp=Z,152nm,0.8s,mb5.8
PAE **Paea** 75.41 257 eP P 22 33 45.1 +0.9
PAE pmax pmax
comp=Z,152nm,0.8s,mb5.8
AGMN **Agassiz Refuge** 75.44 341 eP P 22 33 43.2 -1.1
comp=Z,103nm,0.8s,mb5.6
AGMN ePcP PcP 22 33 57.1 +0.1
AGMN epP pP 22 34 11.1 -1.0
AGMN esP sP 22 34 22.2 -1.6
PPT **Papeete** 75.44 257 eP P 22 33 45.5 +1.1
comp=Z,88nm,1.2s,mb5.4
PPT esP sP 22 34 22.9 -1.0
comp=Z,91nm,1.4s
PPT **Papeete** 75.44 257 eS S 22 43 12.0 -3.6
comp=Z,615nm,26.0s
PPT eLR LR 22 56 55.7
comp=Z,5μm,35.5s,baz=117
PPT **Papeete** 75.44 257 P P 22 33 45.4 +1.1
comp=Z,32nm,0.3s,mb5.5,baz=99,slow=10,SNR=4.6
PPT LR LR 23 00 58.7
comp=Z,337nm,18.1s,baz=118,slow=31
ISA **Isabella** 75.44 320 eP P 22 33 44.7 +0.4
comp=Z,0.2nm,0.9s
ISA **Isabella** 75.44 320 ⇓P P 22 33 44.7 +0.4
baz=76,SNR=79
NOQ **North Oquirrh** 75.55 327 eP P 22 33 46.3 +1.3
DUG **Dugway** 75.56 326 eP P 22 33 44.9 -0.1
DUG pmax pmax
comp=Z,104nm,1.0s,mb5.5
DUG **Dugway** 75.56 326 eP P 22 33 44.9 -0.1
comp=Z,104nm,1.0s,mb5.5
TRCR **Troy Canyon** 75.67 323 eP P 22 33 46.3 +0.6
TRCR ePcP PcP 22 33 58.3 +0.3
TRCR epP pP 22 34 13.1 -0.4
TRCR esP sP 22 34 25.4 +0.2
TRCR ePP PP 22 36 39.9 +3.2
GRAC **Grapevine Rang** 75.72 321 ⇑P P 22 33 46.5 +0.5
baz=76
PKM **Peak Mountain** 75.74 318 ⇓P P 22 33 46.4 +0.3
baz=76,SNR=50
CWC **Cottonwood Cre** 75.75 321 ⇓P P 22 33 46.5 +0.4
baz=76,SNR=16
Q12A **Willow Creek R** 75.76 324 ⇓P P 22 33 46.5 +0.3
baz=76,SNR=48
VES **Vestal, Richgr** 75.93 320 P P 22 33 47.3 +0.2
baz=76,SNR=34
BW06 **Boulder Array** 75.94 330 eP P 22 33 47.0 -0.2
PDAR **Pinedale Array** 75.94 330 P P 22 33 46.7 -0.5
comp=Z,19nm,0.7s,mb5.0,baz=129,slow=7.8,SNR=96
PDAR LR LR 23 12 27.3
comp=Z,151nm,19.7s,baz=150,slow=40
HWUT **Hardware Ranch** 76.00 328 eP P 22 33 47.1 -0.4
comp=Z,104nm,0.8s,mb5.6
R10A **Warm Springs** 76.03 323 ⇓P P 22 33 48.7 +1.0
baz=76,SNR=49
Q11A **Duckwater** 76.07 324 P P 22 33 48.5 +0.6
baz=76,SNR=70
P12A **McGill** 76.12 325 P P 22 33 48.6 +0.4
baz=76,SNR=58
SMMC **Simmler** 76.12 319 ⇓P P 22 33 48.7 +0.5
baz=76,SNR=12
S09A **Goldfield** 76.14 322 P P 22 33 48.5 +0.2
baz=76,SNR=80
SPUT **South Promonto** 76.21 327 eP P 22 33 46.0 -2.7
BGU **Big Grassy Mou** 76.21 327 eP P 22 33 48.6 -0.1
BGU epP pP 22 34 16.1 -0.4
BGU esP sP 22 34 27.8 -0.5
TIN **Tinemaha** 76.25 321 ⇓P P 22 33 49.2 +0.3
baz=76,SNR=10
RCTC **Rector, Farmer** 76.34 320 ⇑P P 22 33 48.8 -0.7
baz=76
TPH **Tonopah** 76.39 322 eP P 22 33 50.5 +0.8
TPH pmax pmax
comp=Z,105nm,0.9s,mb5.6
TPH **Tonopah** 76.39 322 eP P 22 33 50.5 +0.7
comp=Z,105nm,0.9s,mb5.6
R09A **Tonopah** 76.42 322 P P 22 33 50.2 +0.3
baz=77,SNR=74
V05C **Boulder Hill,** 76.44 319 ⇑P P 22 33 50.0 0.0
baz=77
PTRM **Twissleman Ran** 76.48 319 eP P 22 33 47.9 -2.4
S08C **White Mtn Res** 76.53 321 P P 22 33 51.1 +0.6
baz=77,SNR=62
O12A **Cutie** 76.61 325 P P 22 33 51.2 +0.2
baz=77,SNR=134
P11A **Circle Ranch,** 76.63 324 ⇓P P 22 33 51.7 +0.6
baz=77,SNR=8.2
MTUM **Tungsten Hills** 76.66 321 eP P 22 33 51.8 +0.6
AHID **Auburn Hatcher** 76.66 329 eP P 22 33 51.1 -0.1
HVU **Hansel Valley** 76.72 327 eP P 22 33 53.1 +1.5
N13A **Wendover, West** 76.76 326 ⇑P P 22 33 51.7 -0.1
baz=77,SNR=30
V04C **Ramage Ranch,** 76.87 318 ⇓P P 22 33 52.4 0.0
baz=77,SNR=13
PKD **Parkfield** 76.88 319 ⇓P P 22 33 52.4 -0.1
baz=77,SNR=29
Q09A **Carvers** 76.90 323 ⇓P P 22 33 53.2 +0.6
baz=77,SNR=13
O11A **Cowboy Ranch,** 76.99 325 ⇓P P 22 33 53.4 +0.2
baz=77,SNR=76
MLAC **Mammoth Lakes** 77.00 321 ⇓P P 22 33 53.8 +0.6
baz=77
REDW **Red Top Meadow** 77.00 330 eP P 22 33 53.2 +0.1
comp=Z,141nm,0.9s,mb5.7
SNOW **Snow King Moun** 77.03 330 eP P 22 33 53.9 +0.6
P10A **Eureka** 77.06 324 ⇑P P 22 33 54.0 +0.5
baz=77,SNR=15
KCC **Kaiser Creek** 77.07 321 ⇑P P 22 33 53.3 -0.3
baz=77,SNR=37
R08A **Mina** 77.08 322 ⇓P P 22 33 53.8 +0.2
baz=77,SNR=17
LOHW **Long Hollow** 77.08 330 eP P 22 33 54.0 +0.4
comp=Z,158nm,1.0s,mb5.7
T06C **Millerton Lake** 77.09 320 P P 22 33 53.4 -0.3
baz=77,SNR=14
M13A **Montello** 77.11 326 ⇑P P 22 33 53.4 -0.4
baz=77,SNR=14
N12A **Clover Valley,** 77.19 326 ⇓P P 22 33 54.2 -0.1
baz=77,SNR=30
ULM **Lac du Bonnet** 77.20 342 P P 22 33 52.9 -1.4
comp=Z,88nm,0.6s,mb5.7,baz=154,slow=5.7,SNR=156
ULM pP pP 22 34 19.5 -2.6
comp=Z,33nm,0.5s,baz=150,slow=6.1,SNR=4.7
ULM LR LR 23 10 43.3
comp=Z,297nm,20.6s,baz=55,slow=38
ULM **Lac du Bonnet** 77.20 342 P P 22 33 52.9 -1.4
ULM pP pP 22 34 19.5 -2.6
ULM LR LR 23 10 43.2
SUR **Sutherland** 77.20 120 eP P 22 33 56.1 +1.8
ELK **Elko** 77.22 325 eP P 22 33 54.8 +0.4
ELK pmax pmax
comp=Z,88nm,0.9s
ELK **Elko** 77.22 325 eP P 22 33 54.8 +0.4
comp=Z,88nm,0.9s,mb5.5
MOOW **Moose Ponds** 77.25 330 eP P 22 33 54.6 +0.1
U04C **Hernandez Rese** 77.30 319 ⇓P P 22 33 55.2 +0.4
baz=77,SNR=46
DCID1 **Drake Creek** 77.33 330 eP P 22 33 55.9 +0.9
Q08A **Gabbs** 77.34 322 P P 22 33 55.0 -0.1
baz=78,SNR=80
V03C **Hunter Liggett** 77.35 318 ⇑P P 22 33 55.7 +0.6
baz=78,SNR=13
P09A **Austin** 77.38 323 ⇑P P 22 33 55.6 +0.3
baz=78,SNR=8.1
R07C **Lee Vining** 77.44 321 ⇓P P 22 33 55.2 -0.4
baz=78,SNR=14
IMW **Indian Meadow** 77.45 330 eP P 22 33 56.1 +0.4
comp=Z,145nm,0.9s,mb5.7
TOA0 **Torodi Ar. Sit** 77.46 70 eP P 22 33 56.8 +1.1
TOA0 epP pP 22 34 24.7 +1.1
TOA0 esP sP 22 34 35.0 -0.3
TORD **Torodi Ar. Bea** 77.46 70 P P 22 33 56.6 +0.9
comp=Z,323nm,0.7s,mb6.2,baz=253,slow=4.4,SNR=927
TORD pP pP 22 34 23.7 +0.1
comp=Z,209nm,0.8s,baz=254,slow=5.4,SNR=5.3
TORD PKKPbc PKKPbc 22 52 58.0 -1.1
comp=Z,0.6nm,0.6s,baz=38,slow=2.1,SNR=6.2
TORD LR LR 23 08 34.3
comp=Z,543nm,18.4s,baz=240,slow=36
LRV **Little Rabbit** 77.48 319 eP P 22 33 56.7 +0.8
LRV epP pP 22 34 25.2 +1.5
LRV esP sP 22 34 36.1 +0.7
FLWY **Flagg Ranch** 77.49 330 eP P 22 33 56.2 +0.4
N11A **Elko Archery C** 77.53 325 ⇓P P 22 33 56.2 +0.1
baz=78
M12A **Wells** 77.53 326 ⇑P P 22 33 56.2 0.0
baz=78,SNR=64
O10A **Cortez Mining,** 77.56 324 ⇑P P 22 33 56.4 +0.1
baz=78,SNR=27
T05C **Eagle Field, D** 77.59 319 ⇑P P 22 33 56.7 +0.3
baz=78,SNR=6.0
LAO **LASA Array** 77.64 334 eP P 22 33 57.7 +1.0
RLMT **Red Lodge** 77.66 332 eP P 22 33 56.5 -0.3
comp=Z,117nm,0.8s,mb5.7
RLMT ePcP PcP 22 34 06.2 -0.4
RLMT epP pP 22 34 25.8 +1.1
RLMT esP sP 22 34 36.3 -0.1
S05C **Merced** 77.68 320 ⇓P P 22 33 57.1 +0.2
baz=78,SNR=21
LKWY **Lake** 77.72 331 eP P 22 34 00.1 +2.9
LKWY pmax pmax
comp=Z,78nm,0.9s,mb5.4
LKWY **Lake** 77.72 331 eP P 22 34 00.1 +2.9
comp=Z,78nm,0.9s,mb5.4
HAST **UC Hastings Re** 77.78 319 ⇓P P 22 33 57.4 -0.1
baz=78,SNR=27
SCHQ **Schefferville** 77.83 1 P P 22 33 58.1 +0.3
comp=Z,24nm,0.7s,mb5.0,baz=173,slow=4.1,SNR=27
YFT **Old Faithful** 77.83 330 eP P 22 34 00.1 +2.3
O09A **Fish Creek Ran** 77.84 324 ⇑P P 22 33 58.1 +0.2
baz=78,SNR=30
N10A **Dunphy** 77.87 325 ⇑P P 22 33 58.0 0.0
baz=78,SNR=6.5
Q07A **Schurz** 77.88 322 ⇓P P 22 33 58.1 0.0
baz=78
WAKR **Walker** 77.94 321 eP P 22 33 58.9 +0.5
SAO **San Andreas Ge** 77.96 319 eP P 22 33 58.1 -0.4
R06C **Coleville** 77.97 321 ⇓P P 22 33 59.5 +0.9
baz=78,SNR=48
YNR **Norris Junctio** 77.97 331 eP P 22 34 02.8 +4.3
M11A **Holland Ranch,** 78.00 325 P P 22 33 59.2 +0.5
baz=78,SNR=85
P08A **Dixie Valley** 78.00 323 ⇑P P 22 33 59.0 +0.3
baz=78,SNR=22
PACP **Pacheco Peak** 78.03 319 ⇓P P 22 33 59.3 +0.4
baz=78,SNR=23
BMN **Battle Mountai** 78.05 324 eP P 22 33 59.4 +0.4
BMN e*PP pP 22 34 27.3 +0.4
BMN pmax pmax
comp=Z,54nm,1.2s,mb5.2
BMN **Battle Mountai** 78.05 324 eP P 22 33 59.4 +0.4
comp=Z,54nm,1.2s,mb5.2
BMN epP pP 22 34 27.3 +0.4
YMR **Madison River** 78.06 330 eP P 22 34 00.2 +1.1
comp=Z,196nm,0.9s,mb5.8
YMR ePcP PcP 22 34 07.8 -0.5
YMR epP pP 22 34 28.2 +1.3
YMR esP sP 22 34 38.0 -0.7
CMB **Columbia Colle** 78.18 320 eP P 22 33 59.3 -0.4
CMB **Columbia Colle** 78.18 320 P P 22 33 59.8 +0.1
baz=78,SNR=18
DGMT **Dagmar** 78.34 337 eP P 22 34 00.8 +0.1
P07A **Fallon** 78.34 322 ⇓P P 22 34 00.9 +0.3
baz=78
GCMT **Greycliff** 78.36 332 eP P 22 34 00.9 +0.2
GCMT epP pP 22 34 30.7 +2.1
GCMT esP sP 22 34 39.8 -0.6
S04C **Ingram Canyon,** 78.38 320 ⇑P P 22 34 01.1 +0.3
baz=78,SNR=20
QLMT **Earthquake Lak** 78.40 330 eP P 22 34 02.1 +1.1
R05C **Kirkwood Meado** 78.45 321 ⇓P P 22 34 01.6 +0.4
baz=79,SNR=44
O08A **Rochester Mine** 78.45 323 ⇓P P 22 34 01.0 -0.2
baz=79
M10A **I.L. Ranch, Tu** 78.45 325 ⇓P P 22 34 01.5 +0.2
baz=79,SNR=26
N09A **Rock Creek Ran** 78.50 324 ⇑P P 22 34 01.1 -0.4
baz=79,SNR=32
BNLO **Ben Lomond (Sa** 78.64 319 ⇓P P 22 34 02.4 +0.1
baz=79,SNR=8.9
R04C **Big Horse Ranc** 78.65 320 ⇓P P 22 34 02.6 +0.3
baz=79,SNR=13
WCN **Washoe City** 78.67 322 ⇑P P 22 34 03.1 +0.7
baz=79,SNR=17
WENL **Wente Brothers** 78.72 319 ⇑P P 22 34 02.9 +0.2
baz=79,SNR=8.3
O07A **Toulon** 78.76 323 P P 22 34 02.9 0.0
baz=79,SNR=54
N08A **GE Springer Mi** 78.78 324 ⇑P P 22 34 02.5 -0.6
baz=79,SNR=62
HLID **Hailey** 78.86 328 eP P 22 34 04.0 +0.5
JRSC **Jasper Ridge** 78.86 319 ⇓P P 22 34 03.5 0.0
baz=79,SNR=5.2
M09A **Marrel Ranch,** 78.87 325 ⇓P P 22 34 03.5 0.0
baz=79,SNR=38
BDM **Black Diamond** 79.00 320 ⇓P P 22 34 04.5 +0.2
baz=79,SNR=19
P06A **Stead Airport,** 79.01 322 ⇓P P 22 34 04.5 +0.2
baz=79
TSUM **Tsumeb** 79.01 106 eP P 22 34 05.8 +1.5
comp=Z,114nm,0.9s,mb5.7
MCMT **McKenzie Canyo** 79.05 329 eP P 22 34 05.2 +0.7
MCMT epP pP 22 34 33.6 +1.1
MCMT esP sP 22 34 44.0 -0.1
MCMT ePP PP 22 37 06.1 +1.2
P05C **Yuba Gap, Truc** 79.16 321 P P 22 34 05.5 +0.4
baz=79,SNR=52
N07B **Gerlach** 79.24 323 P P 22 34 05.5 0.0
baz=79,SNR=92
Q04C **Lincoln** 79.29 321 ⇑P P 22 34 05.9 +0.1
baz=79,SNR=11
O06A **Flanigan** 79.30 322 ⇓P P 22 34 06.0 +0.1
baz=79,SNR=24
DLMT **Dillon** 79.34 330 eP P 22 34 06.7 +0.6
comp=Z,131nm,1.0s,mb5.7
BEKR **Beckwourth** 79.39 322 ⇓P P 22 34 06.7 +0.3
baz=80,SNR=40
L09A **Wilkinson Ranc** 79.40 325 ⇑P P 22 34 06.2 -0.2
baz=80,SNR=20
FARB **Farallon Islan** 79.51 319 ⇑P P 22 34 06.8 -0.2
baz=80,SNR=6.6
Q03C **Winters** 79.53 320 ⇓P P 22 34 07.7 +0.6
baz=80,SNR=12
CVS **Carmenet Viney** 79.61 320 ⇓P P 22 34 07.3 -0.2
baz=80,SNR=23
LRM **Limekiln Ridge** 79.62 330 eP P 22 34 08.2 +0.6
F15A **Butte** 79.65 330 P P 22 34 08.0 +0.3
baz=80,SNR=77
OHCM **Honcut** 79.69 321 eP P 22 34 07.7 -0.2
N06A **Buffalo Meadow** 79.70 323 P P 22 34 08.0 0.0
baz=80,SNR=81
MCCM **Marconi Confer** 79.73 319 ⇑P P 22 34 07.8 -0.4
baz=80,SNR=8.6
M07A **Soldier Meadow** 79.77 324 ⇑P P 22 34 08.2 -0.2
baz=80,SNR=30
O05C **Quincy** 79.78 322 ⇑P P 22 34 08.5 +0.1
baz=80,SNR=49
SUTB **Sutter Butte** 79.79 321 ⇑P P 22 34 07.9 -0.6
baz=80
ORV **Oroville** 79.84 321 P P 22 34 08.8 0.0
baz=80,SNR=138
L08A **Fields** 79.88 325 P P 22 34 08.8 -0.2
baz=80,SNR=101
K09A **Rome** 79.91 325 ⇓P P 22 34 09.1 -0.1
baz=80,SNR=68
MNRC **McLaughlin Nat** 79.94 320 ⇑P P 22 34 09.5 +0.1
baz=80,SNR=10
HRY **Holter Researc** 80.02 331 eP P 22 34 03.2 -6.5
F14A **Wisdom** 80.03 330 ⇓P P 22 34 10.1 +0.2
baz=80,SNR=26
ELFS **Eagle Lake Fie** 80.11 322 ⇑P P 22 34 10.3 +0.1
baz=80,SNR=33
O04C **Chester** 80.11 322 ⇑P P 22 34 09.9 -0.4
baz=80,SNR=34
EGMT **Eagleton** 80.15 333 eP P 22 34 10.9 +0.4
comp=Z,387nm,1.7s,mb6.0
EGMT epP pP 22 34 39.0 +0.5
EGMT esP sP 22 34 50.6 +0.4
E15A **Deer Lodge** 80.16 331 P P 22 34 10.6 +0.1
baz=80,SNR=49
WVOR **Wild Horse Val** 80.21 325 eP P 22 34 11.6 +0.8
WVOR e*PP pP 22 34 39.7 +0.9
WVOR e*SP sP 22 34 49.8 -0.7
WVOR pmax pmax
comp=Z,43nm,1.1s,mb5.2
WVOR **Wild Horse Val** 80.21 325 eP P 22 34 11.6 +0.8
comp=Z,43nm,1.1s,mb5.2
WVOR epP pP 22 34 39.7 +0.9
WVOR esP sP 22 34 49.8 -0.7
L07A **Adell** 80.30 324 P P 22 34 11.6 +0.3
baz=80,SNR=62
K08A **Mann Creek Ran** 80.33 325 ⇓P P 22 34 11.3 -0.2
baz=80,SNR=14
M06C **Likely Place G** 80.36 323 P P 22 34 11.7 +0.1
baz=80,SNR=57
J09A **Fry Pan Ranch,** 80.38 326 ⇑P P 22 34 11.8 +0.1
baz=81,SNR=40
HOPS **Hopland** 80.39 320 eP P 22 34 13.0 +1.2
HOPS **Hopland** 80.39 320 ⇑P P 22 34 11.5 -0.3
baz=80
O03C **Acorn Hollow,** 80.44 321 P P 22 34 11.8 -0.2
baz=81,SNR=6.6
F13A **Darby** 80.46 329 P P 22 34 12.3 +0.1
baz=81,SNR=323
H11A **Donnelly** 80.47 328 ⇑P P 22 34 12.2 0.0
baz=81,SNR=28
E14A **Clinton** 80.54 330 ⇑P P 22 34 12.8 +0.3

baz=81,SNR=46
D15A Lincoln 80.58 331 ⇑P P 22 34 13.0 +0.2
baz=81,SNR=25
GASB Alder Springs 80.61 320 ⇓P P 22 34 13.6 +0.7
baz=81,SNR=40
HATC Hat Creek Radi 80.66 322 ⇓P P 22 34 12.8 -0.4
baz=81,SNR=36
K07A Rock Creek Ran 80.71 325 ⇑P P 22 34 13.4 0.0
baz=81,SNR=64
MOD Modoc 80.74 323 *e*P P 22 34 13.5 -0.1
MOD Modoc 80.74 323 P P 22 34 13.6 0.0
baz=81,SNR=73
J08A Circle Bar Ran 80.77 325 ⇑P P 22 34 13.7 -0.1
baz=81,SNR=45
CHMT Chamberlain Mo 80.81 331 *e*P P 22 34 14.0 0.0
I09A Lost Marbles R 80.82 326 ⇓P P 22 34 14.0 -0.1
baz=81,SNR=13
M05C Lookout 80.84 323 ⇑P P 22 34 14.2 +0.1
baz=81,SNR=33
P01C Double 8 Ranch 80.86 320 ⇓P P 22 34 14.5 +0.3
baz=81,SNR=20
F12A Elk City 80.88 329 ⇓P P 22 34 14.2 -0.1
baz=81,SNR=52
E13A Victor 80.88 330 ⇑P P 22 34 14.6 +0.3
baz=81
LTIM Timbered Crate 80.91 322 P P 22 34 14.0 -0.5
O02C Red Bluff 80.99 321 ⇑P P 22 34 14.4 -0.5
baz=81,SNR=19
D14A Greenough 81.05 331 ⇑P P 22 34 15.2 0.0
baz=81,SNR=35
MSO Missoula 81.06 330 *e*P P 22 34 15.5 +0.2
WDC Whiskeytown Da 81.11 321 *e*P P 22 34 14.1 -1.5
WDC pmax pmax
comp=Z,105nm,0.7s,mb5.8
WDC Whiskeytown Da 81.11 321 *e*P P 22 34 14.1 -1.5
comp=Z,105nm,0.7s,mb5.8
WDC Whiskeytown Da 81.11 321 ⇓P P 22 34 14.1 -1.5
baz=81,SNR=48
L05A Lakeview 81.13 323 ⇑P P 22 34 16.1 +0.4
baz=81,SNR=40
KCPM Cahto Peak 81.14 320 *e*P P 22 34 16.6 +0.9
KCPM *epP* pP 22 34 44.1 +0.3
KCPM *esP* sP 22 34 55.5 0.0
KCPM *ePP* PP 22 37 23.7 +1.5
KIPM Iron Peak 81.16 320 *e*P P 22 34 16.2 +0.3
KIPM *epP* pP 22 34 45.0 +1.1
KIPM *esP* sP 22 34 55.7 +0.1
I08A Drewsey 81.20 326 ⇑P P 22 34 16.3 +0.2
baz=81,SNR=46
J07A Hines 81.22 325 ⇓P P 22 34 16.2 +0.1
baz=81,SNR=35
BMO Blue Mountains 81.22 327 *e*P P 22 34 15.9 -0.3
comp=Z,174nm,1.3s,mb5.7
H09A Durkee 81.27 327 ⇓P P 22 34 16.5 +0.1
baz=81,SNR=25
K06A Valley Falls 81.32 324 P P 22 34 16.9 +0.2
baz=82,SNR=112
M03C McCloud 81.33 322 ⇑P P 22 34 15.7 -1.1
baz=82,SNR=16
D13A Huson 81.49 330 ⇑P P 22 34 17.7 +0.1
baz=82
M04C Macdoel 81.51 323 ⇓P P 22 34 17.2 -0.5
baz=82,SNR=27
O01C Eel River Cons 81.57 320 ⇓P P 22 34 18.4 +0.4
baz=82,SNR=8.0
J06A Christmas Vall 81.58 324 P P 22 34 17.8 -0.2
baz=82,SNR=99
K05A Summer Lake 81.62 324 P P 22 34 18.6 +0.4
baz=82,SNR=73
H08A Prairie City 81.68 326 ⇓P P 22 34 18.7 +0.2
baz=82,SNR=38
N02C Big Bar 81.71 321 ⇓P P 22 34 18.6 -0.2
baz=82,SNR=36
L04A Klamath Falls 81.80 323 ⇓P P 22 34 19.0 -0.2
baz=82,SNR=24
I07A Izee 81.81 325 ⇓P P 22 34 19.3 +0.1
baz=82,SNR=50
M02C Callahan 81.83 322 ⇓P P 22 34 18.6 -0.7
baz=82,SNR=14
YBH Yreka Blue Hor 81.97 322 *e*P P 22 34 18.9 -1.2
YBH Yreka Blue Hor 81.97 322 ⇓P P 22 34 18.7 -1.3
baz=82,SNR=19
C13A Hot Springs 81.98 330 ⇓P P 22 34 19.9 -0.2
baz=82,SNR=67
F10A Beach Ranch, E 81.98 328 ⇑P P 22 34 19.8 -0.4
baz=82,SNR=69
KHMM Horse Mountain 81.99 321 *e*P P 22 34 21.3 +1.1
K04A Chilquin 82.00 323 ⇑P P 22 34 19.7 -0.6
baz=82,SNR=5.4
I06A Prineville 82.08 325 P P 22 34 21.1 +0.5
baz=82,SNR=74
BOSA Boshof 82.12 118 P P 22 34 21.9 +1.0
comp=Z,41nm,0.8s,mb5.3,baz=257,slow=4.5,SNR=52
BOSA pP pP 22 34 50.1 +1.1
comp=Z,20nm,0.7s,baz=232,slow=5.6,SNR=2.6
BOSA LR LR 23 08 30.9
comp=Z,443nm,18.3s,baz=4.4,slow=34
BOSA Boshof 82.12 118 P P 22 34 22.0 +1.1
BOSA pmax pmax
comp=Z,46nm,0.8s,mb5.4
JCC Jacoby Creek 82.13 321 ⇑P P 22 34 20.5 -0.4
baz=82
F09A S2 Ranch, Elgi 82.13 327 ⇓P P 22 34 20.1 -0.8
baz=82,SNR=18
J05A Fort Rock 82.18 324 ⇑P P 22 34 21.3 +0.1
baz=82,SNR=45
BSMT Basoo Peak 82.20 330 *e*P P 22 34 21.6 +0.3
E10A Myers Farm, Un 82.29 328 ⇑P P 22 34 21.4 -0.4
baz=82,SNR=56
G08A Pilot Rock 82.36 327 P P 22 34 21.9 -0.2
baz=82,SNR=34
B13A Whitefish 82.45 331 P P 22 34 22.2 -0.3
baz=83,SNR=54
MAW Mawson 82.45 163 ⇓*i*P P 22 34 22.2 -0.4
comp=Z,155nm,0.6s,mb6.0
MAW *esP* sP 22 35 01.5 -0.9
MAW *eS* S 22 44 30.4 +0.4
MAW *esS* sS 22 45 18.0 -0.4
MAW Mawson 82.45 163 P P 22 34 22.3 -0.3
comp=Z,200nm,0.7s,mb6.1,baz=215,slow=6.2,SNR=520
MAW PKKPbc PKKPbc 22 52 47.0 -0.9
comp=Z,4.2nm,0.8s,baz=351,slow=3.9,SNR=9.1
MAW LR LR 23 12 13.0
comp=Z,356nm,20.6s,baz=215,slow=36
MAW Mawson 82.45 163 ⇓*i*P P 22 34 22.2 -0.4
MAW *e**SP sP 22 35 01.5 -0.9
MAW *eS* S 22 44 30.4 +0.4
MAW *e**SS sS 22 45 18.0 -0.4
MAW pmax pmax
comp=Z,155nm,0.6s
PTEO Sao Teotonio 82.47 44 *e*P P 22 34 24.1 +1.4
comp=Z,78nm,1.0s,mb5.5
PTEO *epP* pP 22 34 52.6 +1.8
F08A Pendleton 82.62 327 ⇑P P 22 34 23.0 -0.5
baz=83,SNR=15
J04A Umpqua Nationa 82.63 324 ⇓P P 22 34 23.2 -0.3
baz=83,SNR=21
HUMO Hull Mountain 82.68 323 *e*P P 22 34 23.0 -0.8
comp=Z,42nm,1.1s,mb5.2
HUMO *e*PcP PcP 22 34 29.9 +1.4
HUMO *epP* pP 22 34 51.4 -0.6
HUMO *esP* sP 22 35 02.4 -1.3
HUMO Hull Mountain 82.68 323 ⇑P P 22 34 22.9 -0.9
baz=83
VIPM Ingram Point 82.68 325 P P 22 34 24.0 +0.2
H06A Lindquist Farm 82.69 326 ⇑P P 22 34 24.3 +0.5
baz=83,SNR=34
G07A Ruggs Ranch, H 82.71 326 ⇓P P 22 34 24.4 +0.5
baz=83,SNR=34
WALA Waterton Lakes 82.71 332 *e*P P 22 34 23.5 -0.5
comp=Z,118nm,0.9s,mb5.7
L02A Cave Junction 82.75 322 ⇑P P 22 34 24.3 +0.2
baz=83,SNR=12
I05A Bend 82.79 325 ⇑P P 22 34 24.5 +0.2
baz=83,SNR=19
E09A Wood Farm, Sta 82.82 328 ⇑P P 22 34 24.1 -0.4
baz=83,SNR=21
PLOU Loures 83.01 42 *epP* pP 22 34 54.9 +1.2
B12A Libby 83.02 330 ⇓P P 22 34 25.5 -0.1
baz=83,SNR=6.2
K02A Glendale 83.08 322 ⇓P P 22 34 25.8 0.0
baz=83,SNR=13
H05A Madras 83.09 325 ⇓P P 22 34 26.0 +0.1
baz=83,SNR=6.6
BKCOR Black Crater 83.11 325 P P 22 34 26.6 +0.6
I04A Tendick Farm, 83.16 324 ⇓P P 22 34 25.2 -1.0
baz=83
G06A Carlson Farm, 83.18 326 ⇓P P 22 34 26.9 +0.6
baz=83,SNR=15
J03A Ideyld Park 83.18 323 ⇓P P 22 34 25.6 -0.8
baz=83
E08A Dider Farm, El 83.25 327 ⇑P P 22 34 26.4 -0.3
baz=83,SNR=8.6
EGRO El Granado 83.25 44 P P 22 34 29.1 +2.3
comp=Z,49nm,0.8s,mb5.4
F07A Phinny Hill Vi 83.27 327 ⇑P P 22 34 27.0 +0.2
baz=83,SNR=7.6
D09A Jones Farm, Ri 83.28 328 ⇓P P 22 34 26.7 -0.2
baz=84,SNR=26
PBEJ Beja 83.30 44 *e*P P 22 34 28.4 +1.4
comp=Z,17nm,1.3s,mb4.7
PBEJ *epP* pP 22 34 55.8 +0.6
C10A Spilker Farm, 83.34 329 P P 22 34 27.1 -0.2
baz=84,SNR=15
B11A Sandpoint 83.35 330 ⇓P P 22 34 26.5 -0.8
baz=84,SNR=10
A12A Yaak River Ran 83.39 331 ⇑P P 22 34 27.0 -0.4
baz=84,SNR=31
HAWA Hanford 83.42 327 *e*P P 22 34 27.3 -0.3
comp=Z,97nm,0.8s,mb5.7
HAWA *epP* pP 22 34 55.4 -0.4
HAWA *esP* sP 22 35 06.7 -0.8
EVO Evora 83.51 43 *e*P P 22 34 27.7 -0.3
comp=Z,29nm,0.8s,mb4.9
EVO *epP* pP 22 34 55.9 -0.4
EVO *eR*
comp=Z,446nm,18.8s
J02A Umpqua 83.52 323 ⇑P P 22 34 27.5 -0.6
baz=84,SNR=10
G05A Wamic 83.54 325 ⇓P P 22 34 28.1 -0.2
baz=84
NEW Newport 83.58 330 *e*P P 22 34 28.3 -0.1
D08A Wollman Farm, 83.58 328 ⇑P P 22 34 28.0 -0.4
baz=84,SNR=25
KEBM Edson Butte 83.62 322 *e*P P 22 34 29.8 +1.1
H04A Detroit Lake 83.63 325 ⇑P P 22 34 28.2 -0.4
baz=84,SNR=11
B10A Chitwood Farm, 83.65 330 ⇑P P 22 34 28.6 -0.1
baz=84
K01A Sixes 83.66 322 ⇑P P 22 34 28.6 -0.2
baz=84
E07A Sunnyside 83.69 327 ⇓P P 22 34 29.2 +0.2
baz=84
OD2 Odessa Site #2 83.71 328 P P 22 34 28.7 -0.4
A11A Hall Mountain, 83.73 330 P P 22 34 28.7 -0.5
baz=84,SNR=78
I03A Eugene 83.75 324 ⇓P P 22 34 29.0 -0.3
baz=84,SNR=12
HOOD Mount Hood Mea 83.77 325 *e*P P 22 34 30.7 +1.3
LBTB Lobatse 83.77 114 *e*P P 22 34 30.6 +1.2
LBTB *e**PP pP 22 34 58.0 +0.4
LBTB *e**SP sP 22 35 09.3 0.0
LBTB pmax pmax
comp=Z,62nm,0.8s,mb5.5
LBTB Lobatse 83.77 114 *e*P P 22 34 30.6 +1.2
comp=Z,62nm,0.8s,mb5.5
LBTB *e*PcP PcP 22 34 34.6 +1.3
LBTB *epP* pP 22 34 58.0 +0.4
LBTB *esP* sP 22 35 09.3 0.0
C09A Chrisman Ranch 83.79 329 ⇑P P 22 34 28.7 -0.7
baz=84
DPW Davenport 83.80 329 P P 22 34 29.3 -0.3
EMIN Mina Concepcio 83.91 45 ⇑P P 22 34 31.2 +1.1
comp=Z,30nm,1.2s,mb5.0
ESPR Espera 83.93 46 P P 22 34 31.1 +0.9
comp=Z,44nm,1.2s,mb5.2
EJIF Jimena Fronter 83.94 46 P P 22 34 32.2 +1.9
EJIF pmax pmax
comp=Z,12nm,0.6s,mb4.9
EJIF Jimena Fronter 83.94 46 P P 22 34 32.2 +1.9
comp=Z,12nm,0.6s,mb4.9
PESTR Estremoz 83.97 43 *e*P P 22 34 31.6 +1.2
comp=Z,39nm,1.1s,mb5.2
PESTR *epP* pP 22 34 58.9 +0.2
F05A White Salmon 84.05 326 ⇓P P 22 34 30.1 -0.7
baz=84
I02A Mapleton 84.07 323 ⇓P P 22 34 30.6 -0.4
baz=84,SNR=5.9
G04A Mulino 84.13 325 ⇓P P 22 34 30.9 -0.3
baz=84,SNR=7.4
C08A Higginbotham F 84.15 328 ⇓P P 22 34 31.1 -0.2
baz=84,SNR=13
B09A Rice 84.17 329 ⇓P P 22 34 30.7 -0.7
baz=84,SNR=40
D07A Quincy 84.19 327 ⇑P P 22 34 31.1 -0.4
baz=84,SNR=16
H03A Soap Creek Ran 84.22 324 ⇓P P 22 34 31.4 -0.3
baz=84,SNR=12
E06A Yakima 84.25 327 ⇑P P 22 34 31.3 -0.5
baz=84
EBAD Badajoz 84.27 44 ⇑P P 22 34 33.2 +1.3
comp=Z,100nm,1.4s,mb5.5
A10A Northport 84.29 330 ⇓P P 22 34 31.6 -0.5
baz=84
EBG Ellensburg 84.29 327 P P 22 34 32.2 +0.1
EMIJ Mijas 84.47 46 P P 22 34 33.5 +0.5
comp=Z,35nm,1.0s,mb5.1
TBM Table Mountain 84.48 327 P P 22 34 34.1 +1.1
FCC Fort Churchill 84.51 347 *e*P P 22 34 32.7 -0.4
FCC pmax pmax
comp=Z,103nm,0.8s,mb5.8
FCC Fort Churchill 84.51 347 *e*P P 22 34 32.7 -0.4
comp=Z,103nm,0.8s,mb5.8
WTV Waterville 84.53 328 P P 22 34 32.5 -0.7
C07A Waterville 84.58 328 ⇓P P 22 34 32.9 -0.6
baz=85,SNR=66
F04A Amboy 84.58 325 ⇑P P 22 34 32.8 -0.6
baz=85,SNR=16
PCBR Castelo Branco 84.62 42 *e*P P 22 34 34.1 +0.4
comp=Z,24nm,1.1s,mb5.0
PCBR *epP* pP 22 35 02.6 +0.7
D06A Cle Elum 84.62 327 ⇑P P 22 34 33.2 -0.6
baz=85,SNR=12
G03A Yamhill 84.63 325 ⇓P P 22 34 33.6 -0.2
baz=85,SNR=9.7
A09A Danville 84.76 329 ⇑P P 22 34 33.3 -1.1
baz=85
PVIS Viseu 84.88 42 *e*P P 22 34 36.3 +1.3
comp=Z,27nm,1.3s,mb5.0
PVIS *epP* pP 22 35 04.0 +0.7
A08A Turner Farm, O 85.07 329 ⇑P P 22 34 35.1 -0.9
baz=85,SNR=74
B07A Winthrop 85.14 328 ⇑P P 22 34 35.3 -1.0
baz=85,SNR=73
D05A Enumclaw 85.19 327 ⇓P P 22 34 35.9 -0.7
baz=85,SNR=16
ELOJ Sierra Loja 85.21 46 P P 22 34 37.7 +1.1
ELOJ pmax pmax
comp=Z,22nm,0.9s,mb5.1
ELOJ Sierra Loja 85.21 46 P P 22 34 37.7 +1.0
comp=Z,22nm,0.9s,mb5.1
EALB Alboran 85.30 48 P P 22 34 37.0 0.0
comp=Z,38nm,1.0s,mb5.3
PVRL Vila Real 85.32 41 *e*P P 22 34 37.8 +0.6
comp=Z,20nm,1.0s,mb5.0
PVRL *epP* pP 22 35 06.3 +0.8
ELUQ Luque 85.36 46 ⇑P P 22 34 38.6 +1.2
ELUQ pmax pmax
comp=Z,56nm,0.9s,mb5.5
ELUQ Luque 85.36 46 ⇑P P 22 34 38.6 +1.2
comp=Z,56nm,0.9s,mb5.5
ERON Agron 85.37 46 P P 22 34 38.0 +0.5
comp=Z,4.2nm,0.5s,mb4.6
C05A Tolt Reservoir 85.38 327 ⇑P P 22 34 36.1 -1.4
baz=86
PCAB Cabril 85.39 41 *e*P P 22 34 37.9 +0.4
comp=Z,40nm,1.2s,mb5.2
PCAB *epP* pP 22 35 06.6 +0.7
EADA Adamuz 85.50 45 P P 22 34 38.4 +0.3
comp=Z,38nm,1.0s,mb5.3
D04A Dobbs Creek Ra 85.56 326 ⇑P P 22 34 37.5 -0.9
baz=86
E03A Lebam 85.58 325 ⇓P P 22 34 37.3 -1.2
baz=86
EDM Edmonton 85.62 335 *e*P P 22 34 37.1 -1.6
A07A Ashnola River, 85.67 329 ⇓P P 22 34 38.2 -0.7
baz=86
ECOG Cogollos-Vega 85.67 46 P P 22 34 39.2 +0.3
ECOG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ECOG Cogollos-Vega 85.67 46 P P 22 34 39.2 +0.2
comp=Z,7.3nm,0.8s,mb4.7
GNW Green Mountain 85.87 326 *e*P P 22 34 39.9 0.0
EBER Berja 85.92 47 P P 22 34 40.5 +0.4
comp=Z,23nm,1.1s,mb5.0
EBAN Banos Encina 86.02 46 P P 22 34 42.0 +1.4
EBAN pmax pmax
comp=Z,92nm,1.2s,mb5.6
EBAN Banos Encina 86.02 46 P P 22 34 42.0 +1.4
comp=Z,92nm,1.2s,mb5.6
C04A Brinnon 86.05 326 ⇑P P 22 34 39.9 -0.9
baz=86,SNR=13
D03A Wishkah Elem. 86.06 326 ⇑P P 22 34 40.2 -0.7
baz=86
PBRG Braganca 86.22 41 *e*P P 22 34 43.3 +1.6
comp=Z,20nm,1.2s,mb4.9
PBRG *epP* pP 22 35 10.6 +0.6
A06A Chilliwack 86.23 328 ⇓P P 22 34 40.5 -1.1
baz=86
EQES Quesada 86.29 46 P P 22 34 42.0 +0.1
comp=Z,40nm,1.1s,mb5.3
ENIJ Nijar 86.41 47 P P 22 34 42.8 +0.2
ENIJ pmax pmax
comp=Z,11nm,0.9s,mb4.8
ENIJ Nijar 86.41 47 P P 22 34 42.8 +0.2
comp=Z,11nm,0.9s,mb4.8
PAB San Pablo 86.42 44 *e*P P 22 34 43.3 +0.7
PAB *e**PP pP 22 35 12.1 +1.1
PAB *e**SP sP 22 35 24.0 +1.4
PAB pmax pmax
comp=Z,198nm,1.5s,mb5.8
PAB San Pablo 86.42 44 *e*P P 22 34 43.3 +0.7
comp=Z,198nm,1.5s,mb5.8
PAB *epP* pP 22 35 12.1 +1.2
PAB *esP* sP 22 35 24.0 +1.4
A05A Maple Falls 86.45 328 ⇓P P 22 34 41.7 -1.1
baz=87
B04A Port Angeles 86.54 327 ⇓P P 22 34 42.6 -0.6
baz=87
A04A Legoe Bay, Lum 86.58 327 ⇑P P 22 34 42.7 -0.7
baz=87
EHUE Huescar 86.61 46 P P 22 34 43.7 +0.1
comp=Z,4.2nm,0.7s,mb4.5
ESDC Sonseca Array 86.74 44 P P 22 34 45.3 +1.1
comp=Z,15nm,1.0s,mb4.9,baz=240,slow=4.7,SNR=35
ESDC pP pP 22 35 12.5 0.0
comp=Z,7.0nm,0.7s,baz=254,slow=5.2,SNR=3.5
ESDC PKKP PKKPbc 22 52 39.2 +1.2
comp=Z,0.7nm,0.7s,baz=42,slow=1.2,SNR=5.4
ESDC LR LR 23 14 02.8
comp=Z,433nm,18.3s,baz=240,slow=36
ESDC Sonseca Array 86.74 44 P P 22 34 44.8 +0.7
comp=Z,34nm,1.6s,mb5.0
ESLA Sonseca Array 86.74 44 *e*P P 22 34 45.5 +1.3
EPON Pontenova 86.88 40 P P 22 34 45.7 +0.9
comp=Z,190nm,2.0s,mb5.7
PGC Sidney 86.90 327 *e*P P 22 34 45.5 +0.6
C03A Quillayute Air 87.01 326 ⇓P P 22 34 45.1 -0.4
baz=87
EVIA Vianos 87.12 46 P P 22 34 48.0 +2.0
EVIA pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
EVIA Vianos 87.12 46 P P 22 34 48.0 +2.0
comp=Z,9.1nm,0.5s,mb5.0
GUD Guadarrama 87.16 43 P P 22 34 46.7 +0.5
comp=Z,2.2nm,0.6s,mb4.3
CART Cartagena 87.56 47 *e*P P 22 34 48.2 +0.1
comp=Z,9.2nm,0.7s,mb4.9
DRV Dumont d'Urvil 87.79 191 P P 22 34 48.0 -1.2
DRV Dumont d'Urvil 87.79 191 PP PP 22 38 14.0 -2.4
DRV S S 22 45 23.0 +0.3
DRV SS SS 22 51 14.0 +2.3
DRV L 22 59 00.0
ETOR Torete 88.59 44 P P 22 34 53.5 +0.5
ETOR pmax pmax
comp=Z,11nm,0.5s,mb5.1
ETOR Torete 88.59 44 P P 22 34 53.5 +0.5
comp=Z,11nm,0.5s,mb5.1
ECRI Cripan 89.27 42 P P 22 34 57.1 +0.9
ECRI pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ECRI Cripan 89.27 42 P P 22 34 57.1 +0.9
comp=Z,3.9nm,0.5s,mb4.7
LSZ Lusaka 89.86 106 *e*P P 22 35 02.2 +3.3
LSZ pmax pmax
comp=Z,60nm,1.3s,mb5.6
LSZ Lusaka 89.86 106 *e*P P 22 35 02.2 +3.2
comp=Z,60nm,1.3s,mb5.6
ESAC San Caprasio 90.08 44 P P 22 35 00.7 +0.7
comp=Z,12nm,0.4s,mb5.4
ERTA Horta de San J 90.20 45 P P 22 35 01.2 +0.7
comp=Z,38nm,1.1s,mb5.4
SJPF Ste Jean 90.34 42 *e*P P 22 35 00.5 -0.7
comp=Z,22nm,0.7s,mb5.1
SJPF *epP* pP 22 35 29.2 -0.5
SJPF Ste Jean 90.34 42 *e*P P 22 35 00.5 -0.7
SJPF *e**PP pP 22 35 29.2 -0.5
SJPF pmax pmax
comp=Z,11nm,0.7s,mb5.1
SJPF Ste Jean 90.34 42 *e*P P 22 35 00.5 -0.7
comp=Z,11nm,0.7s,mb5.1
SJPF *epP* pP 22 35 29.2 -0.5
ETSF Etsaut 90.64 43 *e*P P 22 35 02.2 -0.4
comp=Z,17nm,0.7s,mb5.0
ETSF Etsaut 90.64 43 *e*P P 22 35 02.2 -0.4
ETSF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ETSF Etsaut 90.64 43 *e*P P 22 35 02.2 -0.4
comp=Z,8.7nm,0.7s,mb5.0
CASY Casey 90.69 180 ⇓*i*P P 22 35 02.5 -0.3
CASY *epP* pP 22 35 30.4 -1.0
EBIE Bielsa 90.97 43 P P 22 35 05.1 +1.0
comp=Z,24nm,1.0s,mb5.3
EPF Esparros 91.27 43 *e*P P 22 35 05.1 -0.4
comp=Z,17nm,0.8s,mb4.9
EPF Esparros 91.27 43 *e*P P 22 35 05.1 -0.4
EPF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
EPF Esparros 91.27 43 *e*P P 22 35 05.1 -0.4
comp=Z,8.6nm,0.8s,mb4.9
QUIF Quistinic 91.79 38 *e*P P 22 35 07.2 -0.7
QUIF *epP* pP 22 35 34.5 -2.0
ROSF Rostrenen 91.96 37 *e*P P 22 35 07.3 -1.4
comp=Z,39nm,1.0s,mb5.3
ROSF Rostrenen 91.96 37 *e*P P 22 35 07.3 -1.4
ROSF pmax pmax
comp=Z,20nm,1.0s,mb5.3
ROSF Rostrenen 91.96 37 *e*P P 22 35 07.3 -1.4
comp=Z,20nm,1.0s,mb5.3
SGMF Saint Gilles 92.32 38 *e*P P 22 35 08.9 -1.4
comp=Z,31nm,0.9s,mb5.2
SGMF Saint Gilles 92.32 38 *e*P P 22 35 08.9 -1.4
SGMF pmax pmax
comp=Z,16nm,0.9s,mb5.2
SGMF Saint Gilles 92.32 38 *e*P P 22 35 08.9 -1.4
comp=Z,16nm,0.9s,mb5.2
LFF La Frestale 92.50 42 *e*P P 22 35 10.1 -1.1
comp=Z,29nm,0.7s,mb5.3
LFF La Frestale 92.50 42 *e*P P 22 35 10.1 -1.1
LFF pmax pmax
comp=Z,14nm,0.7s,mb5.3
LFF La Frestale 92.50 42 *e*P P 22 35 10.1 -1.1
comp=Z,14nm,0.7s,mb5.3
MTLF Montolieu 92.61 44 *e*P P 22 35 09.8 -1.9
comp=Z,17nm,0.9s,mb5.1
MTLF *epP* pP 22 35 39.0 -1.3
MTLF Montolieu 92.61 44 *e*P P 22 35 09.8 -1.9
MTLF *e**PP pP 22 35 39.0 -1.3
MTLF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
MTLF Montolieu 92.61 44 *e*P P 22 35 09.8 -1.9
comp=Z,8.5nm,0.9s,mb5.1
MTLF *epP* pP 22 35 39.0 -1.3
MFF Saint Martin d 92.83 40 *e*P P 22 35 11.4 -1.3
comp=Z,26nm,0.7s,mb5.4
MFF *epP* pP 22 35 39.8 -1.5
MFF Saint Martin d 92.83 40 *e*P P 22 35 11.4 -1.3
MFF *e**PP pP 22 35 39.8 -1.5
MFF pmax pmax
comp=Z,13nm,0.7s,mb5.4
MFF Saint Martin d 92.83 40 *e*P P 22 35 11.4 -1.3
comp=Z,13nm,0.7s,mb5.4
MFF *epP* pP 22 35 39.8 -1.5
YKA Yellowknife Ar 93.06 340 P P 22 35 12.8 -1.0
comp=Z,70nm,0.8s,mb6.1,baz=137,slow=4.5,SNR=103
YKA pP pP 22 35 40.1 -2.3
comp=Z,23nm,0.9s,baz=119,slow=5.5,SNR=4.5
YKA LR LR 23 20 20.5
comp=Z,203nm,18.4s,baz=155,slow=38
YKA Yellowknife Ar 93.06 340 P P 22 35 12.8 -1.0

YKA *PP pP 22 35 40.1 -2.3
YKW3 Yellowknife Ar 93.12 340 *e*P **P** **22 35 12.8 -1.2**
YKW3 *e*pP pP 22 35 41.2 -1.4
CAF Calviac 93.31 42 *e*P **P** **22 35 13.6 -1.3**
comp=Z,10nm,0.6s,mb5.0
CAF *e*pP pP 22 35 42.3 -1.2
CAF Calviac 93.31 42 *e*P **P** **22 35 13.6 -1.3**
CAF *e**PP pP 22 35 42.3 -1.2
CAF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
CAF Calviac 93.31 42 *e*P **P** **22 35 13.6 -1.3**
comp=Z,5.2nm,0.6s,mb5.0
CAF *e*pP pP 22 35 42.3 -1.2
URZ Urewera 93.34 226 LR LR 23 11 21.3
comp=Z,291nm,19.3s,baz=130,slow=32
GRR Gorron 93.35 38 *e*P **P** **22 35 13.6 -1.5**
comp=Z,20nm,0.7s,mb5.3
GRR Gorron 93.35 38 *e*P **P** **22 35 13.6 -1.5**
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
GRR Gorron 93.35 38 *e*P **P** **22 35 13.6 -1.5**
comp=Z,9.9nm,0.7s,mb5.2
FLN La Foliniere 93.76 38 *e*P **P** **22 35 15.5 -1.5**
comp=Z,155nm,1.5s,mb5.8
FLN *e*R
comp=Z,447nm,21.5s
FLN La Foliniere 93.76 38 *e*P **P** **22 35 15.5 -1.5**
FLN pmax pmax
comp=Z,77nm,1.5s,mb5.8
FLN MLR MLR
comp=Z,450nm,21.5s
FLN La Foliniere 93.76 38 *e*P **P** **22 35 15.5 -1.5**
comp=Z,77nm,1.5s,mb5.8
FLN LR LR
comp=Z,450nm,21.5s
LDF La Druitiere 93.87 38 *e*P **P** **22 35 15.9 -1.6**
comp=Z,46nm,1.0s,mb5.5
LDF La Druitiere 93.87 38 *e*P **P** **22 35 15.9 -1.6**
LDF pmax pmax
comp=Z,23nm,1.0s,mb5.5
LDF La Druitiere 93.87 38 *e*P **P** **22 35 15.9 -1.6**
comp=Z,23nm,1.0s,mb5.5
RPZ Rata Peaks 93.94 219 LR LR 23 10 48.9
comp=Z,217nm,18.6s,baz=124,slow=31
KEST Kesra 93.95 53 P **P** **22 35 19.4 +1.5**
comp=Z,2.0nm,0.7s,mb4.5,baz=256,slow=2.0,SNR=5.5
KEST PKKPbc PKKPbc 22 52 22.2 +2.3
comp=Z,0.8nm,0.7s,baz=158,slow=5.0,SNR=5.3
KEST LR LR 23 21 33.6
comp=Z,425nm,18.0s,baz=2.4,slow=38
LASF Ste Croix 94.01 43 *e*P **P** **22 35 16.3 -1.8**
comp=Z,78nm,1.6s,mb5.5
TCF Toulx Ste Croi 94.07 41 *e*P **P** **22 35 17.8 -0.6**
comp=Z,5.9nm,0.7s,mb4.7
TCF *e*pP pP 22 35 45.3 -1.7
TCF Toulx Ste Croi 94.07 41 *e*P **P** **22 35 17.8 -0.6**
TCF *e**PP pP 22 35 45.3 -1.7
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
TCF Toulx Ste Croi 94.07 41 *e*P **P** **22 35 17.8 -0.6**
comp=Z,3.0nm,0.7s,mb4.7
TCF *e*pP pP 22 35 45.3 -1.7
BGF Bois d'Agland 94.59 41 *e*P **P** **22 35 19.5 -1.3**
comp=Z,24nm,0.9s,mb5.3
BGF *e*pP pP 22 35 47.8 -1.6
BGF Bois d'Agland 94.59 41 *e*P **P** **22 35 19.5 -1.3**
BGF *e**PP pP 22 35 47.8 -1.6
BGF pmax pmax
comp=Z,12nm,0.9s,mb5.3
BGF Bois d'Agland 94.59 41 *e*P **P** **22 35 19.5 -1.3**
comp=Z,12nm,0.9s,mb5.3
BGF *e*pP pP 22 35 47.8 -1.6
GELF Grande-Etoile 94.69 45 *e*P pP 22 35 50.0 +0.2
PRAF Pradon 94.72 44 *e*P pP 22 35 51.3 +1.3
VIVF Saint-Julien-l 94.89 43 *e*P **P** **22 35 20.7 -1.5**
comp=Z,17nm,1.1s,mb5.1
VIVF *e*pP pP 22 35 49.8 -1.0
VIVF Saint-Julien-l 94.89 43 *e*P **P** **22 35 20.7 -1.5**
VIVF *e**PP pP 22 35 49.8 -1.0
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
VIVF Saint-Julien-l 94.89 43 *e*P **P** **22 35 20.7 -1.5**
comp=Z,8.6nm,1.1s,mb5.1
VIVF *e*pP pP 22 35 49.8 -1.0
BORG Borgarnes 94.96 18 P **P** **22 35 20.5 -1.9**
AVF Avril sur Loir 95.00 41 *e*P **P** **22 35 22.2 -0.5**
comp=Z,9.5nm,0.9s,mb4.9
AVF Avril sur Loir 95.00 41 *e*P **P** **22 35 22.2 -0.5**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
AVF Avril sur Loir 95.00 41 *e*P **P** **22 35 22.2 -0.5**
comp=Z,4.8nm,0.9s,mb4.9
SMRF Simiane la Rot 95.06 44 *e*P **P** **22 35 20.5 -2.4**
comp=Z,31nm,1.3s,mb5.3
SMRF Simiane la Rot 95.06 44 *e*P **P** **22 35 20.5 -2.4**
comp=Z,31nm,1.3s,mb5.6
TAVF Tavernes 95.20 45 *e*P pP 22 35 53.5 +1.3
SSF Saint Saulge 95.23 41 *e*P **P** **22 35 22.7 -1.0**
comp=Z,8.4nm,0.7s,mb5.0
SSF Saint Saulge 95.23 41 *e*P **P** **22 35 22.7 -1.0**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
SSF Saint Saulge 95.23 41 *e*P **P** **22 35 22.7 -1.0**
comp=Z,4.2nm,0.7s,mb5.0
SMF Signal de Mont 95.23 41 *e*P **P** **22 35 23.0 -0.7**
comp=Z,22nm,1.0s,mb5.3
SMF *e*pP pP 22 35 50.9 -1.4
SMF Signal de Mont 95.23 41 *e*P **P** **22 35 23.0 -0.7**
SMF *e**PP pP 22 35 50.9 -1.4
SMF pmax pmax
comp=Z,11nm,1.0s,mb5.2
SMF Signal de Mont 95.23 41 *e*P **P** **22 35 23.0 -0.7**
comp=Z,11nm,1.0s,mb5.2
SMF *e*pP pP 22 35 50.9 -1.4
STOF St-Etienne Org 95.28 44 *e*P pP 22 35 54.2 +1.7
LMR La Mourre 95.36 45 *e*P **P** **22 35 22.8 -1.5**
comp=Z,27nm,1.0s,mb5.3
LMR *e*pP pP 22 35 52.1 -0.8
LMR La Mourre 95.36 45 *e*P **P** **22 35 22.8 -1.5**
LMR *e**PP pP 22 35 52.1 -0.8
LMR pmax pmax
comp=Z,13nm,1.0s,mb5.3
LMR La Mourre 95.36 45 *e*P **P** **22 35 22.8 -1.5**
comp=Z,13nm,1.0s,mb5.3
LMR *e*pP pP 22 35 52.1 -0.8
LOR Lormes 95.54 41 *e*P **P** **22 35 24.2 -0.9**
comp=Z,10nm,0.8s,mb5.0
LOR *e*pP pP 22 35 51.8 -1.9
LOR *e*R
comp=Z,347nm,21.2s
LOR Lormes 95.54 41 *e*P **P** **22 35 24.2 -0.9**
LOR *e**PP pP 22 35 51.8 -1.9
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
LOR MLR MLR
comp=Z,350nm,21.2s
LOR Lormes 95.54 41 *e*P **P** **22 35 24.2 -0.9**
comp=Z,5.1nm,0.8s,mb5.0
LOR *e*pP pP 22 35 51.8 -1.9
LOR LR LR
comp=Z,350nm,21.2s
FRF La Foret Royal 95.56 45 *e*P **P** **22 35 23.4 -1.8**
comp=Z,12nm,0.8s,mb5.0
FRF La Foret Royal 95.56 45 *e*P **P** **22 35 23.4 -1.8**
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
FRF La Foret Royal 95.56 45 *e*P **P** **22 35 23.4 -1.8**
comp=Z,5.8nm,0.8s,mb5.1
ORIF Oris-en-Rattie 95.68 43 *e*P **P** **22 35 24.2 -1.6**
comp=Z,17nm,0.7s,mb5.3
ORIF *e*R
comp=Z,666nm,18.2s
ORIF Oris-en-Rattie 95.68 43 *e*P **P** **22 35 24.2 -1.6**
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
ORIF Oris-en-Rattie 95.68 43 *e*P **P** **22 35 24.2 -1.6**
comp=Z,8.5nm,0.7s,mb5.3
MVIF Mont Vial 96.03 45 *e*P pP 22 35 57.4 +1.4
DLBC Dease Lake 96.05 332 *e*P **P** **22 35 27.8 +0.3**
REVF Revere 96.10 45 *e*P pP 22 35 56.7 +0.4
MENF Mencas 96.14 37 *e*P pP 22 35 56.1 -0.4
TOUF Mont Tournerai 96.15 45 *e*P pP 22 35 57.5 +1.0
LUCF Luceram 96.16 45 *e*P pP 22 35 57.1 +0.5
MBDF Montbardon 96.16 44 *e*P **P** **22 35 26.4 -1.6**
comp=Z,23nm,0.9s,mb5.3
MBDF Montbardon 96.16 44 *e*P **P** **22 35 26.4 -1.6**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb5.3
MBDF Montbardon 96.16 44 *e*P **P** **22 35 26.4 -1.6**
comp=Z,11nm,0.9s,mb5.3
SBF Sospel 96.20 45 *e*P **P** **22 35 26.2 -1.9**
SBF *e*pP pP 22 35 55.9 -0.9
BNI Bardonecchia 96.25 44 *e*P **P** **22 35 30.0 +1.7**
AUTN L'Aution 96.26 45 *e*P pP 22 35 58.2 +1.2
SAOF Saorge 96.33 45 *e*P pP 22 35 57.5 +0.1
LPL La Plagne 96.49 43 *e*P **P** **22 35 28.0 -1.4**
comp=Z,12nm,0.8s,mb5.1
LPL La Plagne 96.49 43 *e*P **P** **22 35 28.0 -1.4**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
LPL La Plagne 96.49 43 *e*P **P** **22 35 28.0 -1.4**
comp=Z,6.0nm,0.8s,mb5.1
LPG La Plagne 96.49 43 *e*P **P** **22 35 27.9 -1.6**
comp=Z,22nm,0.9s,mb5.3
LPG *e*pP pP 22 35 57.9 -0.2
LPG La Plagne 96.49 43 *e*P **P** **22 35 27.9 -1.6**
LPG *e**PP pP 22 35 57.9 -0.2
LPG pmax pmax
comp=Z,11nm,0.9s,mb5.3
LPG La Plagne 96.49 43 *e*P **P** **22 35 27.9 -1.6**
comp=Z,11nm,0.9s,mb5.3
LPG *e*pP pP 22 35 57.9 -0.2
AFI Afiamalu 96.53 252 LR LR 23 09 38.7
comp=Z,204nm,19.2s,baz=120,slow=30
CABF La Chapelle 96.58 42 *e*P **P** **22 35 29.5 -0.4**
PGF Pioggiola 96.66 47 *e*P **P** **22 35 28.0 -2.2**
PGF *e*pP pP 22 35 58.4 -0.4
MEZF Maizieres J'vi 96.82 40 *e*P **P** **22 35 30.2 -0.8**
BAIF Baives 97.06 38 *e*P **P** **22 35 31.5 -0.5**
HAU Haudompre 97.37 41 *e*P **P** **22 35 32.8 -0.6**
HAU *e*R
comp=Z,363nm,20.2s
HAU Haudompre 97.37 41 *e*P **P** **22 35 32.8 -0.6**
HAU LR LR
comp=Z,360nm,20.3s
GIVF Givet 97.43 38 *e*P **P** **22 35 33.0 -0.7**
GIVF *e*pP pP 22 36 00.7 -1.6
HINF Hinteralfeld 97.59 41 *e*P **P** **22 35 33.6 -0.8**
HINF *e*pP pP 22 36 01.3 -1.8
WLF Walferdange 98.00 39 P **P** **22 35 36.9 +0.7**
CDF Champ du Feu 98.11 41 *e*P **P** **22 35 36.2 -0.5**
DAVA Damuels 99.22 42 ⇑*i* PP 22 39 42.9 -2.7
comp=Z,16nm,1.1s
DAVA Damuels 99.22 42 ⇓*i* Pdiff **P** **22 35 43.7 +2.0**
comp=Z,9.5nm,0.7s,mb5.5
DAVA ⇑*i* PP PP 22 39 42.9 -2.7
comp=Z,16nm,1.1s
RES Resolute Bay 99.25 353 ⇑*e*P **P** **22 35 40.9 -0.9**
RES Resolute Bay 99.25 353 *e*PcP PcP 22 35 40.9 -0.9
STU Stuttgart 99.41 41 P Pdif 22 35 43.4 +0.8
AQU L'Aquila 99.55 48 *e*P Pdif 22 35 49.3 +6.1
AQU pmax pmax
comp=Z,21nm,1.0s,mb5.7
AQU L'Aquila 99.55 48 *e*Pdif Pdif 22 35 49.2 +6.1
comp=Z,21nm,1.0s
MOTA Moosalm 100.00 43 ⇓*i* PP 22 39 49.0 -2.6
comp=Z,5.0nm,0.9s
MOTA Moosalm 100.00 43 ⇑*i* Pdiff Pdif 22 35 46.1 +0.9
comp=Z,9.5nm,1.2s
MOTA ⇓*i* PP PP 22 39 49.0 -2.6
comp=Z,5.0nm,0.9s
MOTA Moosalm 100.00 43 ⇑*i* P Pdif 22 35 46.1 +0.9
MOTA *i* 22 39 49.0
MOTA pmax pmax
comp=Z,10.0nm,1.2s
SQTA Sankt Quirin 100.02 43 ⇑*i* PP 22 39 48.9 -2.8
comp=Z,8.0nm,1.0s
SQTA Sankt Quirin 100.02 43 ⇑*i* Pdiff Pdif 22 35 45.9 +0.7
comp=Z,11nm,0.7s
SQTA ⇑*i* PP PP 22 39 48.9 -2.8
comp=Z,8.0nm,1.0s
SQTA Sankt Quirin 100.02 43 ⇑*i* P Pdif 22 35 45.9 +0.6
SQTA *i* 22 39 48.9
SQTA pmax pmax
comp=Z,11nm,0.7s
WATA Walderalm 100.30 43 ⇑*i* P Pdif 22 35 46.9 +0.4
comp=Z,7.6nm,0.9s
WATA Walderalm 100.30 43 ⇑*i* P Pdif 22 35 46.9 +0.4
WATA pmax pmax
comp=Z,8.0nm,0.9s
WTTA Wattenberg 100.30 43 ⇑*i* P Pdif 22 35 48.0 +1.5
comp=Z,15nm,0.8s
WTTA Wattenberg 100.30 43 ⇑*i* P Pdif 22 35 48.0 +1.5
WTTA pmax pmax
comp=Z,15nm,0.8s
TIP Timpagrande 100.73 52 Pdif Pdif 22 35 49.1 +0.6
KBA Koelnbreinsper 101.31 44 ⇓*i* PP 22 40 00.2 -1.3
comp=Z,19nm,1.2s
KBA Koelnbreinsper 101.31 44 ⇓*i* Pdiff Pdif 22 35 55.3 +4.3
comp=Z,6.1nm,1.0s
KBA ⇓*i* PP PP 22 40 00.2 -1.3
comp=Z,19nm,1.2s
KBA Koelnbreinsper 101.31 44 ⇓*i* P Pdif 22 35 55.3 +4.3
KBA *i* 22 40 00.2
KBA pmax pmax
comp=Z,6.0nm,1.0s
OBKA Obir 101.87 44 ⇑*i* PP 22 40 00.1 -5.6
comp=Z,5.6nm,0.8s
OBKA Obir 101.87 44 ⇑*i* Pdiff Pdif 22 35 54.9 +1.4
comp=Z,6.8nm,1.3s
OBKA ⇑*i* PP PP 22 40 00.1 -5.6
comp=Z,5.6nm,0.8s
GERES GERESS Array B 102.19 42 Pdiff Pdif 22 35 55.1 +0.2
comp=Z,0.3nm,0.4s,baz=267,slow=10,SNR=2.6
GERES PKiKP PKiKP 22 40 15.8 -0.7
comp=Z,0.8nm,0.7s,baz=132,slow=2.0,SNR=3.6
GERES PKKPbc PKKPbc 22 51 58.0 +0.8
comp=Z,1.5nm,0.7s,baz=90,slow=2.7,SNR=9.1
CLL Collm 102.66 39 *e*Pdif Pdif 22 35 59.0 +2.0
CLL *e*SP SP 22 49 12.0 +4.5
INK Inuvik 102.82 340 PKKPbc PKKPbc 22 51 55.5 +0.2
comp=Z,2.7nm,0.7s,baz=130,slow=3.6,SNR=7.7
INK PKKPab 22 52 15.8
comp=Z,3.7nm,0.8s,baz=305,slow=8.3,SNR=7.0
INK Inuvik 102.82 340 *e*P Pdif 22 35 57.8 +0.1
EGAK Eagle 103.84 335 *e*Pdif Pdif 22 36 01.7 -0.6
comp=Z,3.4nm,0.7s
ZST Bratislava 104.08 43 *e*PP PP 22 40 21.6 -0.6
MORC Moravsky Berou 104.87 42 *e*P Pdif 22 36 08.6 +1.8
NOA NORSAR Array B 105.21 30 PP PP 22 40 30.4 -0.2
comp=Z,2.6nm,0.9s,baz=244,slow=7.0,SNR=3.3
NOA PKKPab PKKPab 22 52 04.3 -1.8
comp=Z,1.8nm,0.8s,baz=70,slow=4.6,SNR=4.2
VYHS Vyhne 105.27 44 *e*PKP PKiKP 22 40 22.7 +0.5
VYHS *e* 22 40 50.5
VYHS *e* 22 50 54.7
LIKS Likavka 105.61 43 *e*PP PP 22 40 32.0 -1.5
PSZ Piszkesteto 105.77 44 *e*PKiKP PKiKP 22 40 25.1 +2.0
KECS Kecovo 106.32 44 *e*PP PP 22 40 38.9 +0.2
COLA College 106.53 334 *e*P Pdif 22 36 13.7 -0.5
COLA pmax pmax
comp=Z,7.0nm,1.1s
COLA College 106.53 334 *e*Pdif Pdif 22 36 13.7 -0.5
comp=Z,7.4nm,1.1s
MCK McKinley 106.60 333 *e*P Pdif 22 36 12.9 -1.6
STHS Stebnicka Huta 107.06 43 *e*PP PP 22 40 42.4 -1.7
STHS Stebnicka Huta 107.06 43 *e*PKP PP 22 40 56.7 +13
KOLS Kolonicke sedl 107.58 44 *e*PP PP 22 40 47.3 -0.6
FINES FINESS Array B 112.27 31 PKiKP PKiKP 22 40 34.7 -0.6
comp=Z,1.2nm,0.7s,baz=347,slow=7.8,SNR=3.9
FINES PKKPbc PKKPbc 22 51 25.0 -0.8
comp=Z,3.4nm,0.9s,baz=70,slow=6.7,SNR=5.4
FINES FINESS Array B 112.27 31 PKPdf PKiKP 22 40 34.7 -0.6
FINES PKKPbc PKKPbc 22 51 25.0 -0.8
AKASG Malin Array Be 112.36 43 PKiKP PKiKP 22 40 34.9 -0.6
comp=Z,7.0nm,0.8s,baz=263,slow=2.9,SNR=18
AKASG PP PP 22 41 21.1 -1.3
comp=Z,3.8nm,0.8s,baz=248,slow=8.9,SNR=7.7
AKASG PKKPbc PKKPbc 22 51 25.1 -0.4
comp=Z,3.8nm,0.7s,baz=65,slow=3.8,SNR=13
AKASG Malin Array Be 112.36 43 PKiKP PKiKP 22 40 34.9 -0.5
AKASG 22 41 21.1
AKBB Malin Array Si 112.36 43 *e*PKiKP PKiKP 22 40 33.9 -1.5
ARCES ARCESS Array B 112.95 22 PKiKP PKiKP 22 40 36.2 -0.3
comp=Z,1.9nm,1.0s,baz=21,slow=7.1,SNR=3.6
ARCES PKKPbc PKKPbc 22 51 22.7 -0.8
comp=Z,4.0nm,0.6s,baz=72,slow=4.0,SNR=15
ARCES PKKPab PKKPab 22 51 30.1 -1.6
comp=Z,5.2nm,0.7s,baz=76,slow=6.7,SNR=9.3
BR131 Keskin Array S 113.41 55 *e*PKiKP PKiKP 22 40 37.8 +0.4
BRTR Keskin Array B 113.41 55 PKiKP PKiKP 22 40 38.0 +0.6
comp=Z,4.5nm,0.7s,baz=177,slow=2.0,SNR=17
BRTR pPKiKP 22 41 05.8
comp=Z,7.4nm,1.0s,baz=195,slow=3.3,SNR=6.1
BRTR PP PP 22 41 29.3 -0.6
comp=Z,3.8nm,0.8s,baz=226,slow=6.6,SNR=5.4
BRTR PKKPab PKKPab 22 51 29.6 -0.2
comp=Z,4.2nm,0.7s,baz=102,slow=4.6,SNR=17
BRTR Keskin Array B 113.41 55 PKIKP PKiKP 22 40 38.0 +0.6
BRTR 22 41 29.3
MALT Malatya 116.83 58 *e*PKIKP PKPdf 22 40 45.1 +1.1
MALT *e* 22 41 14.4
ANN Anapa 117.00 50 *i* PKIKP PKPdf 22 40 48.9 +4.6
ANN pmax pmax
comp=Z,123nm,1.4s
OBN Obninsk 117.24 39 ⇑*i* PKIKP PKPdf 22 40 44.4 -0.4
OBN *i* 22 41 14.0
OBN pmax pmax
comp=Z,24nm,1.1s
OBN Obninsk 117.24 39 *i* PKP PKPdf 22 40 44.4 -0.4
STKA Stephens Creek 118.11 209 *e*P PKPdf 22 40 46.4 -0.1
comp=Z,7.9nm,0.9s
STKA Stephens Creek 118.11 209 PKiKP PKiKP 22 40 46.3 -0.2
comp=Z,8.7nm,0.8s,baz=100,slow=2.3,SNR=9.1
STKA pPKiKP 22 41 15.1
comp=Z,5.0nm,0.9s,baz=53,slow=7.8,SNR=2.3
STKA PKKPbc PKKPbc 22 51 06.0 +0.3
comp=Z,4.3nm,0.9s,baz=336,slow=11,SNR=3.9
STKA Stephens Creek 118.11 209 *e*PKPdf PKPdf 22 40 46.5 0.0
STKA *e*pPKPdf pPKPdf 22 41 16.2 0.0
VRHR Novokhopersk 120.21 43 *e*PKIKP PKPdf 22 40 50.9 +0.4
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.7s
KIV Kislovodsk 120.67 52 *i* PKIKP PKPdf 22 40 51.1 -0.3
KIV *e* 22 42 23.1
KIV *e*SS SS 22 58 43.8 +1.8
KIV pmax pmax
comp=Z,22nm,0.7s
KIV MLR MLR
comp=Z,165nm,20.0s
KIV Kislovodsk 120.67 52 ⇑*e*PKP PKPdf 22 40 52.1 +0.7
ZEI Tsey 121.48 53 *e*PKIKP PKPdf 22 40 53.4 +0.5
ZEI *e* 22 42 29.7
GNI Garni 121.92 56 *e*PKIKP PKPdf 22 40 55.2 +1.4
GNI *e* 22 41 24.5
RST Umm Al-Ruwaisa 122.38 69 *e*P PKPdf 22 40 55.2 +0.5
RST AMb AMB 22 40 56.6
comp=Z,62nm,0.6s
NAAY Al-Naaiem 122.54 69 *e*P PKPdf 22 40 54.4 -0.6
MIB Mutribah 122.72 69 *e*P PKPdf 22 40 55.9 +0.6
MIB AMb AMB 22 40 56.7
comp=Z,24nm,0.7s
UMR Umm Al-Rimmam 123.00 69 *e*P PKPdf 22 40 56.9 +1.0
UMR AMb AMB 22 40 58.8
comp=Z,71nm,0.8s
NWAO Narrogin (SRO) 123.83 186 PKP PKPdf 22 40 57.0 -0.4
comp=Z,16nm,0.7s,baz=206,slow=3.6,SNR=12
FORT Forrest 123.97 197 *e*PKP PKPdf 22 40 57.3 -0.4
comp=Z,30nm,0.6s
FORT *e*pPKP pPKPdf 22 41 28.1 +0.6
BILL Bilibino 124.40 338 *d* PKIKP PKPdf 22 40 58.4 -0.1
BILL Bilibino 124.40 338 *i* PKP PKPdf 22 40 58.5 0.0
MUN Mundaring 124.86 185 *e*PKP PKPdf 22 40 59.3 -0.1
MUN *e*pPKP pPKPdf 22 41 29.4 +0.2
KLBR Kellerberrin 125.10 186 *e*PKP PKPdf 22 40 59.7 -0.2
comp=Z,37nm,0.6s
KLBR *e*pPKP pPKPdf 22 41 30.4 +0.7
CTA Charters Tower 125.25 221 *e*PKP PKPdf 22 41 00.8 +0.6
comp=Z,17nm,0.8s
CTA *e*pPKP pPKPdf 22 41 32.0 +2.0
CTA Charters Tower 125.25 221 PKP PKPdf 22 41 00.3 +0.1
comp=Z,22nm,0.7s,baz=110,slow=1.3,SNR=10
CTAO Charters Tower 125.25 221 *e*PKIKP PKPdf 22 41 00.8 +0.6
CTAO *e* 22 41 31.5
SOKR Solikamsk 127.43 32 *e*PKIKP PKPdf 22 41 05.5 +1.2
SOKR *e* 22 41 34.2
SOKR pmax pmax
comp=Z,30nm,1.1s
ASAR Alice Springs 128.56 206 PKhKP 22 40 50.3
comp=Z,1.1nm,0.7s,baz=151,slow=1.2,SNR=11
ASAR PKP PKPdf 22 41 06.5 0.0
comp=Z,43nm,0.8s,baz=174,slow=0.8,SNR=118
ASAR pPKP pPKPdf 22 41 33.2 -3.1
comp=Z,20nm,0.8s,baz=169,slow=1.9,SNR=3.4
ASAR Alice Springs 128.56 206 PKP 22 40 50.3
ASAR PKP PKPdf 22 41 06.5 0.0
ASAR pPKP pPKPdf 22 41 33.2 -3.1
AS31 Alice Springs 128.56 206 *e*PKPdf PKPdf 22 41 06.3 -0.2
AS31 *e*pPKPdf pPKPdf 22 41 36.5 +0.2
ARU Arti 129.32 35 *i* PKIKP PKPdf 22 41 08.8 +0.9
ARU *e* 22 41 37.4
ARU *e* 22 43 18.4
ARU *e*PPP 22 46 07.7
ARU *e* 22 48 03.6
ARU *e*SS SS 23 00 34.6 +4.1
ARU *e*SSS 23 05 16.8
ARU Arti 129.32 35 ⇑*e*PKP PKPdf 22 41 08.7 +0.8
WSAR Wadi Sarin 131.50 79 SKPab 22 44 32.2
comp=Z,13nm,0.9s,baz=246,slow=5.5,SNR=7.5
WB2 Warramunga Arr 131.66 209 *e*PKP PKPdf 22 40 58.9 -13
WB2 *e* 22 41 12.8
WB2 *e*pPKP pPKPdf 22 41 41.8 -0.4
WB2 *e*SKP 22 44 27.7
WB2 *e*PKS 22 44 37.7
WB2 *e* 22 45 06.0
WRA Warramunga Arr 131.66 209 PKhKP 22 40 56.9
comp=Z,2.2nm,0.7s,baz=154,slow=3.6,SNR=9.9
WRA PKP PKPdf 22 41 12.7 +0.3
comp=Z,51nm,1.0s,baz=156,slow=1.7,SNR=53
WRA pPKP pPKPdf 22 41 39.9 -2.3
comp=Z,14nm,0.5s,baz=154,slow=1.6,SNR=4.8
WRA PP PP 22 43 28.4 -4.8
comp=Z,1.5nm,0.8s,baz=167,slow=4.9,SNR=5.2
WRA SKPab 22 44 28.6
comp=Z,22nm,1.0s,baz=154,slow=3.6,SNR=14
WRA SKP 22 44 37.6
comp=Z,4.3nm,0.8s,baz=158,slow=2.4,SNR=4.9
WRA Warramunga Arr 131.66 209 PKHKP 22 40 56.9
WRA 22 41 12.7
WRA 22 41 39.9
WRAB Tennant Creek 131.67 209 ⇓*i* PKIKP PKPdf 22 41 12.3 -0.1
SEY Seymchan 131.97 336 ⇑*e*PKPdf PKPdf 22 41 13.4 +0.4
PMG Port Moresby 132.44 231 PKP PKPdf 22 41 15.4 +1.5
comp=Z,33nm,0.9s,baz=339,slow=2.5,SNR=17
PMG pPKP pPKPdf 22 41 40.7 -2.9
comp=Z,4.6nm,0.7s,baz=323,slow=15,SNR=1.2
PMG SKPab 22 44 33.0
comp=Z,8.4nm,0.8s,baz=0.1,slow=2.6,SNR=3.3
MBWA Marble Bar 135.11 191 *e*PKPdf PKPdf 22 41 19.8 +1.0
ZRNK Zerenda 136.24 36 *e*PKIKP PKPdf 22 41 21.5 +0.5
ZRNK *e* 22 41 51.2
ZRNK Zerenda 136.24 36 *e*PKPdf PKPdf 22 41 21.5 +0.5
ZRNK *e*pPKPdf pPKPdf 22 41 51.2 +0.4
ZRNK *e*SKPdf SKPdf 22 44 45.9 0.0
FITZ Fitzroy Crossi 136.64 200 *e*PKP 22 41 09.8
comp=Z,16nm,0.7s
FITZ *e* 22 41 20.9
FITZ *e*pPKP pPKPdf 22 41 53.6 +2.1
FITZ *e*SKP 22 44 45.2
FITZ *e*PKS 22 44 54.4
FITZ Fitzroy Crossi 136.64 200 PKhKP 22 41 10.2
comp=Z,8.9nm,0.7s,baz=183,slow=5.5,SNR=16
FITZ PKP PKPdf 22 41 22.6 +0.9
comp=Z,33nm,0.7s,baz=235,slow=3.1,SNR=14
FITZ Fitzroy Crossi 136.64 200 *e*PKP 22 41 09.8
FITZ *e* 22 41 20.9
FITZ PKP PKPdf 22 41 22.6 +0.9
FITZ *e*pPKP pPKPdf 22 41 53.6 +2.1
FITZ *e*SKP 22 44 45.2
FITZ *e*PKS 22 44 54.4
CHKZ Chkalovo 136.77 35 *e*PKIKP PKPdf 22 41 22.4 +0.4
CHKZ *e* 22 41 51.9
CHKZ Chkalovo 136.77 35 *e*PKPdf PKPdf 22 41 22.4 +0.5
CHKZ *e*pPKPdf pPKPdf 22 41 51.9 +0.1
CHKZ *e*SKP 22 44 48.1
BRVK Borovoye 136.88 36 ⇓*e*PKIKP PKPdf 22 41 23.1 +0.9
BVAR Borovoye Array 136.95 36 SKP 22 44 47.0
comp=Z,2.8nm,0.9s,baz=202,slow=5.9,SNR=4.4
KAKA Kakadu 138.84 212 *e*P PKPdf 22 41 17.2 -8.6
comp=Z,20nm,0.7s
YAK Yakutsk 139.39 347 *e*PKHKP 22 41 19.1

YAK					pmax	pmax		
	comp=Z,33nm,0.9s							
NVS	**Novosibirsk**	**142.05**	**27**	*e*PKIKP	PKPdf	22 41 27.7	-3.9	
NVS				*i*		22 42 01.5		
NVS				pmax	pmax			
	comp=Z,68nm,1.5s							
NVS				pmax	pmax			
	comp=N,4.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,22nm,1.2s							
KURK	**Kurchatov**	**142.52**	**35**	*e*PKPdf	PKPdf	22 41 29.0	-3.4	
KURK				*i* PKP	PKPdf	22 41 33.3	+0.9	
KURK				*e*pPKPdf	pPKPdf	22 42 01.9	-0.3	
EKS2	**Erkin-Say**	**143.20**	**49**	P	PKPdf	22 41 32.1	-1.5	
	SNR=10							
AML	**Almayashu**	**143.32**	**50**	P	PKPdf	22 41 32.9	-0.9	
	SNR=22							
ZAL	**Zalesovo**	**143.34**	**27**	PKP	PKPdf	22 41 31.2	-2.6	
	comp=E,31nm,0.8s,baz=177,slow=3.2,SNR=76							
ZAL				pPKP	pPKPdf	22 42 01.1	-2.5	
	comp=E,31nm,1.0s,baz=162,slow=2.1,SNR=3.9							
USP	**Ospenovka**	**143.49**	**48**	P	PKPdf	22 41 32.9	-1.2	
	SNR=18							
TRD	**Trivandrum**	**143.63**	**108**	*e*P	PKPdf	22 41 33.8	-0.6	
TRD				*i* x	x	22 42 01.4		
AAK	**Ala-Archa**	**143.71**	**49**	P	PKPdf	22 41 34.1	-0.4	
	SNR=39							
AAK	**Ala-Archa**	**143.71**	**49**⇓	*e*PKP	PKPdf	22 41 35.1	+0.6	
FRU	**Bishkek**	**143.72**	**49**	*e*PKIKP	PKPdf	22 41 33.5	-1.0	
FRU				*i*		22 42 02.5		
FRU				pmax	pmax			
	comp=Z,162nm,2.0s							
CHMS	**Chumysh**	**143.76**	**48**	P	PKPdf	22 41 33.5	-1.0	
	SNR=23							
UCH	**Uchtor**	**143.86**	**50**	P	PKPdf	22 41 35.1	+0.3	
	SNR=44							
KBK	**Karagaybulak**	**144.01**	**49**	P	PKPdf	22 41 34.8	-0.2	
	SNR=62							
TKM2	**Tokmak 2**	**144.36**	**48**	P	PKPdf	22 41 35.5	-0.1	
	SNR=52							
KAD	**Karad**	**144.40**	**93**	*e*P	PKPdf	22 41 34.3	-1.4	
KAD				*e*P		22 41 34.8		
POO	**Poona**	**144.41**	**90**⇓	*i*P	PKPdf	22 41 33.0	-2.7	
KZA	**Kyzart**	**144.43**	**49**	P	PKPdf	22 41 36.3	+0.6	
	SNR=36							
ULHL	**Ulahol**	**145.06**	**49**	P	PKPbc	22 41 38.9	+2.4	
	SNR=8.3							
CLNS	**Chul'man**	**145.15**	**347**	*e*PKIKP	PKPdf	22 41 36.3	-0.7	
CLNS				pmax	pmax			
	comp=Z,54nm,0.6s							
CLNS				pmax	pmax			
	comp=N,23nm,0.7s							
CLNS				pmax	pmax			
	comp=E,35nm,0.9s							
NRGR	**Nerungri**	**145.35**	**347**	*i* PKIKP	PKPdf	22 41 38.1	+0.8	
BOD	**Bodaibo**	**145.48**	**358**	*e*PKIKP	PKPdf	22 41 36.9	-0.7	
BOD				*e*		22 42 06.4		
BOD				pmax	pmax			
	comp=Z,350nm,1.0s							
YSS	**Yuzh-Sakhalins**	**145.69**	**321**⇑	*i*PKP2	PKPab	22 41 38.8	-0.2	
YSS				pmax	pmax			
	comp=Z,410nm,0.9s							
YSS	**Yuzh-Sakhalins**	**145.69**	**321**⇑	*i*PKP	PKPdf	22 41 40.4	+2.5	
KSH	**Kashi**	**145.77**	**53**	*e*PKP	PKPdf	22 41 40.6	+2.5	
KSH				*e*APKP		22 42 08.8		
KSH				*e*XPKP		22 42 16.4		
KSH				*e*PKS		22 45 15.6		
KSH				*e*PPP		22 47 31.1		
KSH				PP	PP			
	comp=Z,2μm,4.7s							
KSH				LR	LR			
	comp=N,3μm,6.1s							
KSH				LR	LR			
	comp=E,3μm,6.6s							
KSH				LR	LR			
	comp=Z,23μm,22.2s							
SALM	**Salem**	**146.11**	**104**	*e*P	PKPdf	22 41 40.0	+1.4	
SALM				*ex*	x	22 42 10.0		
PALK	**Pallekele**	**146.25**	**113**	*e*PKP	PKPdf	22 41 41.1	+2.2	
PALK				*ep*PKPdf	pPKPdf	22 42 09.5	+0.8	
AJM	**Ajmer**	**146.33**	**77**	*e*P	PKPdf	22 41 38.7	-0.3	
AJM				*e*P		22 41 40.5		
MK31	**Makanchi Array**	**146.75**	**38**	*e*PKP2	PKPab	22 41 40.6	-2.4	
MKAR	**Makanchi Array**	**146.75**	**38**	PKPbc	PKPbc	22 41 40.3	-1.3	
	comp=Z,75nm,0.8s,baz=334,slow=1.3,SNR=58							
MKAR				pPKPbc	pPKPbc	22 42 08.9	-2.2	
	comp=Z,76nm,0.7s,baz=330,slow=2.2,SNR=6.4							
MKAR				PKKP		22 50 43.2		
	comp=Z,1.2nm,0.9s,baz=142,slow=6.1,SNR=3.7							
LATR	**Latur**	**146.88**	**92**	*e*P	PKPdf	22 41 38.1	-1.8	
THN	**Thein Dam**	**147.06**	**66**	*e*P	PKPdf	22 41 41.0	+0.8	
GUMO	**Guam**	**147.14**	**259**	PKPbc	PKPbc	22 41 42.6	-0.1	
	comp=Z,871nm,0.9s,baz=155,slow=4.2,SNR=27							
GUMO	**Guam**	**147.14**	**259**	*e*PKPdf	PKPdf	22 41 42.6	+2.2	
ASAJ	**Asahikawa**	**147.25**	**317**	PKPbc	PKPbc	22 41 42.0	-0.9	
	comp=Z,166nm,0.7s,baz=54,slow=3.8,SNR=12							
DLH	**Dalhousie**	**147.26**	**66**	*e*P	PKPdf	22 41 40.0	-0.6	
DLH				*ex*	x	22 42 09.0		
KHET	**Khetri**	**147.40**	**74**	*e*P	PKPdf	22 41 41.4	+0.6	
ERM	**Erimo**	**147.85**	**313**	*e*PKIKP	PKPdf	22 41 42.7	+1.2	
SDNR	**Sundarnagar**	**148.22**	**67**	*e*P	PKPdf	22 41 43.5	+1.3	
HYB	**Hyderabad**	**148.44**	**95**	*i* PKP	PKPdf	22 41 44.0	+1.5	
HYB				*e*		22 42 02.0		
HYB				*e*		22 42 16.0		
HYB				*es*PKP		22 42 27.0		
HYB	**Hyderabad**	**148.44**	**95**	*e*P	PKPdf	22 41 44.0	+1.5	
SONA	**Sohna**	**148.53**	**74**	*e*P	PKPdf	22 41 43.4	+0.8	
AYAN	**Aya Nagar**	**148.56**	**73**	*e*P	PKPdf	22 41 43.4	+0.7	
BHPL	**Bhopal**	**148.57**	**83**	*e*P	PKPdf	22 41 43.4	+0.7	
BHPL				*e*P		22 41 44.0		
BHPL				*i* x	x	22 42 01.8		
NDI	**New Delhi**	**148.63**	**73**	*e*P	PKPdf	22 41 42.5	-0.3	
NDI				*e*P		22 41 44.5		
NDI				*ex*	x	22 42 02.0		
BISR	**Bishrakh**	**148.83**	**73**	*e*P	PKPdf	22 41 41.2	-2.0	
BISR				AMS	AMS	22 49 58.2		
	comp=Z,558nm,16.4s							
AGRA	**Agra**	**149.30**	**76**	*i* P	PKPdf	22 41 43.2	-0.7	
KLP	**Kalpa**	**149.31**	**67**	*e*P	PKPdf	22 41 44.1	+0.2	
KLP				AMS	AMS	22 50 39.7		
	comp=Z,289nm,16.8s							
KLR	**Kul'dur**	**149.68**	**334**	*e*PKIKP	PKPdf	22 41 42.0	-2.5	
KLR				pmax	pmax			
	comp=E,45nm,1.6s							
KLR				pmax	pmax			
	comp=Z,260nm,1.6s							
KLR				MLR	MLR			
	comp=Z,900nm,14.0s							
NGP	**Nagpur**	**149.75**	**88**	*e*P	PKPdf	22 41 44.1	-0.5	
NGP				AMS	AMS	23 06 39.2		
	comp=Z,274nm,24.9s							
MOY	**Mondy**	**150.51**	**14**	*e*PKIKP	PKPdf	22 41 48.4	+2.6	
MOY				pmax	pmax			
	comp=Z,227nm,1.9s							
IRK	**Irkutsk**	**150.56**	**9**	*e*PKIKP	PKPdf	22 41 47.4	+1.5	
IRK				*e*		22 42 15.8		
IRK				*e*		22 58 16.7		
IRK				pmax	pmax			
	comp=Z,276nm,1.4s							
TLY	**Talaya**	**151.00**	**10**	*i* PKIKP	PKPdf	22 41 48.4	+1.8	
TLY				*e*		22 42 16.9		
TLY				*e*PPS		22 58 05.7		
TLY				pmax	pmax			
	comp=Z,44nm,0.7s							
TLY	**Talaya**	**151.00**	**10**	*e*PKPdf	PKPdf	22 41 48.2	+1.7	
TLY				*e*PKPbc	PKPbc	22 41 53.5	+1.0	
TLY				*ep*PKPdf	pPKPdf	22 42 17.4	+0.9	
LGTI	**Lohaghat**	**151.24**	**71**	*ex*	x	22 41 53.5		
CIT	**Chita**	**151.30**	**358**	*e*PKIKP	PKPdf	22 41 48.4	+1.4	
CIT				*e*		22 42 22.7		
CIT				pmax	pmax			
	comp=Z,325nm,1.0s							
WMQ	**Urumqi**	**151.58**	**38**	PKP	PKPdf	22 41 48.8	+1.4	
WMQ				PKP2	PKPab	22 42 06.3	+3.6	
WMQ				APKP		22 42 16.6		
WMQ				XPKP		22 42 32.3		
WMQ				PKS		22 45 22.0		
WMQ				PP	PP	22 45 38.4	+4.3	
WMQ				SKS	SKSdf	22 48 44.3	-0.5	
WMQ				SKKS	SKKSac	22 52 16.1	+1.7	
WMQ				SS	SS	23 04 54.3	+4.0	
WMQ				PP	PP			
	comp=Z,52nm,6.9s							
WMQ				LR	LR			
	comp=N,412nm,26.0s							
WMQ				LR	LR			
	comp=E,381nm,30.1s							
WMQ				LR	LR			
	comp=Z,412nm,26.0s							
CBIJ	**Chichi jima**	**152.18**	**284**	PKPbc	PKPbc	22 41 54.5	-0.6	
	comp=Z,161nm,0.8s,baz=333,slow=6.0,SNR=8.1							
CBIJ				PKPab	PKPab	22 42 04.3	-0.8	
	comp=Z,111nm,0.7s,baz=318,slow=14,SNR=4.5							
ZAK	**Zakamensk**	**152.19**	**12**	*e*PKIKP	PKPdf	22 41 49.8	+1.4	
ZAK				*e*		22 42 19.3		
ZAK				*e*		22 45 39.3		
ZAK				pmax	pmax			
	comp=Z,23nm,0.8s							
ALBI	**Allahabad**	**152.73**	**80**	*ex*	x	22 41 54.5		
ALBI				*ex*	x	22 42 09.5		
VIS	**Vishakhapatnam**	**152.90**	**97**	*e*P	PKPdf	22 41 49.7	+0.3	
VIS				*i* x	x	22 42 13.7		
HIA	**Hailar**	**153.32**	**348**	*e*PKPdf	PKPdf	22 41 49.7	-0.3	
HIA				*e*PKPbc	PKPbc	22 41 57.6	0.0	
MJAR	**Matsushiro Arr**	**153.59**	**306**	PKP	PKPdf	22 41 51.3	+0.9	
	comp=Z,5.9nm,0.8s,baz=298,slow=0.5,SNR=10							
MJAR				PKPbc	PKPbc	22 41 58.5	+0.3	
	comp=Z,39nm,0.9s,baz=82,slow=1.7,SNR=41							
MJAR				PKPab	PKPab	22 42 11.8	+0.7	
	comp=Z,47nm,0.9s,baz=52,slow=2.3,SNR=17							
MAJO	**Matsushiro**	**153.60**	**306**	*e*PKPdf	PKPdf	22 41 51.8	+1.3	
MAJO				*e*PKPbc	PKPbc	22 41 58.2	0.0	
MAJO				*e*PKPab	PKPab	22 42 11.6	+0.4	
MAT	**Matsushiro**	**153.60**	**306**	PKP	PKPdf	22 41 51.3	+0.9	
VLA	**Vladivostok**	**154.12**	**325**	*i* PKP2	PKPab	22 42 13.8	+0.4	
VLA				pmax	pmax			
	comp=Z,119nm,1.3s							
MDJ	**Mudanjiang**	**154.18**	**330**	PKP	PKPdf	22 41 52.0	+0.8	
MDJ				PP	PP	22 45 47.1	-1.7	
MDJ				SS	SS	23 05 20.5	+1.8	
MDJ				PP	PP			
	comp=Z,223nm,10.0s							
MDJ	**Mudanjiang**	**154.18**	**330**	*e*PKPdf	PKPdf	22 41 51.9	+0.7	
MDJ				*ep*PKPdf	pPKPdf	22 42 14.3	-6.8	
KOLN	**Koldanda**	**154.30**	**74**	*e*P	PKPdf	22 41 52.0	+0.6	
SONM	**Songino Array**	**155.16**	**8**	PKP	PKPdf	22 41 53.7	+1.1	
	comp=Z,13nm,0.8s,baz=319,slow=1.2,SNR=103							
SONM				PKPab	PKPab	22 42 18.3	+0.4	
	comp=Z,14nm,0.7s,baz=292,slow=1.3,SNR=7.9							
GKN	**Gorkha**	**155.20**	**73**	*e*P	PKPdf	22 41 53.1	+0.5	
DMN	**Daman**	**155.65**	**74**	*e*P	PKPdf	22 41 54.0	+0.8	
KKN	**Kakani**	**155.79**	**74**	*e*P	PKPdf	22 41 53.7	+0.3	
PKI	**Pulchoki**	**155.92**	**74**	*e*P	PKPdf	22 41 54.1	+0.5	
PSI	**Prapat**	**156.16**	**147**	PKP	PKPdf	22 41 54.6	+0.7	
	comp=Z,3.7nm,0.4s,baz=193,slow=5.5,SNR=6.3							
PSI				PKPab	PKPab	22 42 23.1	+1.0	
	comp=Z,62nm,0.8s,baz=202,slow=3.3,SNR=30							
GUN	**Gumba**	**156.31**	**73**	*e*P	PKPdf	22 41 55.0	+0.9	
BOK	**Bokaro**	**156.36**	**84**	*e*P	PKPdf	22 41 53.9	-0.3	
BOK				*i* pP		22 42 22.1		
CN2	**Changchun**	**156.62**	**334**	*e*PKP	PKPdf	22 41 55.0	+0.5	
CN2				APKP		22 42 21.9		
CN2				PP	PP	22 46 06.5	+4.1	
CN2				PP	PP			
	comp=Z,200nm,4.0s							
KSM	**Kuching**	**158.25**	**176**	*e*PKPdf	PKPdf	22 41 58.0	+1.4	
KSM				*ep*PKPdf	pPKPdf	22 42 26.7	+0.2	
KULM	**Kulim**	**159.16**	**148**	*e*PKPdf	PKPdf	22 41 59.0	+1.3	
KULM				*e*PKPab	PKPab	22 42 35.1	0.0	
KSRS	**Korea Array**	**160.16**	**319**	PKP	PKPdf	22 42 00.0	+1.2	
	comp=Z,34nm,1.0s,baz=86,slow=0.9,SNR=58							
KSRS				pPKP	pPKPdf	22 42 27.4	-1.3	
	comp=Z,21nm,1.0s,baz=98,slow=0.9,SNR=5.9							
KSRS				PKPab	PKPab	22 42 40.1	+0.7	
	comp=Z,29nm,0.8s,baz=53,slow=4.7,SNR=25							
LSA	**Lhasa**	**160.57**	**67**	PKP	PKPdf	22 42 00.6	+1.4	
LSA	**Lhasa**	**160.57**	**67**	*e*PKPdf	PKPdf	22 42 01.1	+1.9	
LSA				*ep*PKPdf	pPKPdf	22 42 30.2	+1.0	
GTA	**Gaotai**	**161.05**	**29**	PKP	PKPdf	22 42 00.6	+0.9	
GTA				APKP		22 42 28.9		
GTA				XPKP		22 42 38.0		
GTA				PP	PP	22 46 26.5	0.0	
GTA				PPP		22 50 12.0		
GTA				SKKS	SKKSac	22 53 01.1	-3.6	
GTA				SS	SS	23 06 34.1	+2.2	
GTA				PP	PP			
	comp=Z,234nm,10.6s							
GTA				LR	LR			
	comp=N,199nm,17.5s							
GTA				LR	LR			
	comp=E,225nm,16.7s							
GTA				LR	LR			
	comp=Z,134nm,20.9s							
SHL	**Shillong**	**161.83**	**79**	*e*P	PKPdf	22 42 02.0	+1.4	
SHL				*ex*	x	22 53 09.0		
SHL				AMS	AMS	23 33 41.0		
	comp=Z,3μm,18.1s							
KKM	**Kota Kinabalu**	**162.29**	**195**	*e*PKPdf	PKPdf	22 42 02.2	+1.2	
KKM				*e*PKPab	PKPab	22 42 48.7	0.0	
HHC	**Hu-ho-hao-te**	**162.51**	**0**	*e*PKP	PKPdf	22 42 00.0	-1.2	
HHC				XPKP		22 42 37.3		
HHC				PKP2	PKPab	22 42 50.8	+1.1	
HHC				PKS		22 45 32.3		
HHC				PP	PP	22 46 34.0	-0.3	
HHC				SKS	SKSdf	22 48 53.8	-2.1	
HHC				SKKS	SKKSac	22 53 12.1	-0.1	
HHC				SS	SS	23 06 46.9	-0.3	
HHC				PP	PP			
	comp=Z,276nm,7.1s							
HHC				LR	LR			
	comp=N,142nm,20.6s							
HHC				LR	LR			
	comp=E,283nm,21.8s							
HHC				LR	LR			
	comp=Z,384nm,23.5s							
BJI	**Beijing**	**162.89**	**348**	PKP	PKPdf	22 42 01.0	-0.6	
BJI				APKP		22 42 30.6		
BJI				LR	LR			
	comp=N,270nm,15.8s							
BJI				LR	LR			
	comp=E,278nm,15.5s							
BJI				LR	LR			
	comp=Z,429nm,34.5s							
LZH	**Lanzhou**	**165.57**	**26**	*e*PKP	PKPdf	22 42 05.9	+1.9	
LZH				APKP		22 42 35.0		
LZH				XPKP		22 42 43.0		
LZH				PP	PP	22 46 58.0	+7.7	
LZH				SKS	SKSdf	22 48 58.0	-0.1	
LZH				SKKS	SKKSac	22 53 31.4	+3.8	
LZH				SS	SS	23 07 21.0	+2.4	
LZH				PP	PP			
	comp=Z,280nm,5.7s							
LZH	**Lanzhou**	**165.57**	**26**	*e*PKP	PKPdf	22 42 05.9	+1.9	
LZH				pPKP	pPKPdf	22 42 35.0	+1.0	
LZH				sPKP		22 42 43.0		
NST	**Nakhon Sawan**	**166.73**	**123**	P	PKPdf	22 42 06.1	+1.2	
CHG	**Chiang Mai**	**167.30**	**108**	⇑P	PKPdf	22 42 06.4	+1.1	
	comp=Z,22nm,0.9s							
CHTO	**Chiang Mai**	**167.30**	**108**	*e*PKPdf	PKPdf	22 42 05.9	+0.6	
CHTO				*ep*PKPdf	pPKPdf	22 42 35.5	+0.2	
CHTO				*e*PKPab	PKPab	22 43 11.7	+0.9	
SSE	**Sheshan**	**168.53**	**315**	*e*PKP	PKPdf	22 42 07.0	+0.8	
SSE				PP	PP	22 47 07.9	+2.4	
SSE				SS	SS	23 07 45.1	-3.3	
SSE				PP	PP			
	comp=Z,111nm,12.0s							
NANT	**Nan**	**168.81**	**112**	⇓P	PKPdf	22 42 05.0	-1.4	
	comp=Z,110nm,1.0s							
XAN	**Xi'an**	**169.04**	**12**	PKP	PKPdf	22 42 07.3	+0.8	
XAN				PP	PP	22 47 08.6	+0.6	
XAN				LR	LR			
	comp=N,84nm,21.9s							
XAN				LR	LR			
	comp=E,102nm,18.4s							
XAN				LR	LR			
	comp=Z,262nm,20.0s							
NJ2	**Nanjing**	**169.22**	**325**	*e*PKP	PKPdf	22 42 08.3	+1.7	
NJ2				APKP		22 42 36.8		
NJ2				XPKP		22 42 46.4		
NJ2				PKP2	PKPab	22 43 21.8	+2.5	
NJ2				PKS		22 45 38.5		
NJ2				PP	PP	22 47 13.0	+4.0	
NJ2				PP	PP			
	comp=Z,460nm,5.8s							
NJ2				LR	LR			
	comp=N,690nm,32.6s							
NJ2				LR	LR			
	comp=E,950nm,36.7s							
NJ2				LR	LR			
	comp=Z,510nm,23.2s							
CD2	**Chengdu**	**169.65**	**41**	*e*PKP	PKPdf	22 42 07.3	+0.4	
CD2				APKP		22 42 34.3		
CD2				XPKP		22 42 44.8		
CD2				PKP2	PKPab	22 43 24.3	+3.0	
CD2				PP	PP	22 47 14.8	+3.7	
CD2				SKS	SKSdf	22 48 59.6	-0.8	
CD2				SKKS	SKKSac	22 53 50.6	+2.7	
CD2				PP	PP			
	comp=Z,420nm,8.4s							
CD2				LR	LR			
	comp=N,390nm,26.4s							
CD2				LR	LR			
	comp=E,540nm,26.4s							
CD2				LR	LR			
	comp=Z,250nm,20.4s							
KMI	**Kunming**	**171.64**	**76**	PKIKP	PKPdf	22 42 08.2	+0.2	
KMI						22 42 37.6		
WHN	**Wuhan**	**172.41**	**342**	⇑PKP	PKPdf	22 42 10.4	+2.1	
GYA	**Guiyang**	**174.47**	**54**⇓	*i*P	PKPdf	22 42 09.5	+0.4	
GYA				APKP		22 42 39.5		
GYA				XPKP		22 42 50.9		
GYA				PKP2	PKPab	22 43 45.0	+2.4	
GYA				PKS		22 45 40.1		
GYA				PP	PP	22 47 38.3	+3.4	
GYA				SKS	SKSdf	22 48 59.6	-2.5	
GYA				SKKS	SKKSac	22 54 12.0	+1.0	
GYA				SS	SS	23 08 46.6	0.0	
GYA				PP	PP			
	comp=Z,310nm,7.8s							
GYA				LR	LR			
	comp=N,580nm,21.0s							
GYA				LR	LR			
	comp=E,640nm,20.8s							
GYA				LR	LR			
	comp=Z,570nm,21.2s							
QIZ	**Qiongzhong**	**175.41**	**158**	PKP	PKPdf	22 42 10.6	+1.2	
QIZ				APKP		22 42 39.8		
QIZ				PP	PP	22 47 42.3	+2.9	
QIZ				SKS	SKSdf	22 49 03.3	+1.0	
QIZ				SS	SS	23 08 52.3	-3.3	

NEIC ***14*** *22:48:30.7,2358S×6874W,h110km,mb4.1/2,After GUC.*
GUC 14 22:48:30.7±0.4,2358S×6874W,h110km,ML4.0,3C-1D,
Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.98**	**351**⇑	*i*P		Pn	22 48 49.8	-1.8
LVC				*e*S		Sn	22 49 04.3	-3.1
CEN1	**Los Morros**	**1.35**	**278**⇓	*i*P		Pn	22 48 57.6	+1.8
CEN1				*i* S		Sn	22 49 18.1	+3.3
ANCH	**Antofagasta**	**1.54**	**266**⇑	*i*P		Pn	22 49 00.3	+2.4
ANCH				*i* S		Sn	22 49 21.3	+2.7
CPN1	**Cerro Paranal**	**1.84**	**235**⇑	*i*P		Pn	22 49 02.9	+1.2
CPN1				*i* S		Sn	22 49 27.9	+2.6
CPN1				AML	AML	22 49 28.9		
	comp=N,1μm,0.6s							
CDCH	**Caldera**	**3.96**	**208**	*e*P		Pn	22 49 28.7	-0.7
CDCH				*i* S		Sn	22 50 14.4	-0.5
LPAZ	**La Paz**	**7.28**	**5**	*e*Pn		Pn	22 50 13.2	-1.2
	comp=N,6.4nm,0.8s							
TRQA	**Tornquist**	**15.54**	**160**	*e*Pn		Pn	22 52 03.8	+0.1
	comp=N,6.0nm,0.6s							

IDC 14 23:05:50.9±37.0,356S×12656E,h220km±188km,mb3.2/2,
mb1 3.1/4,mb1mx2.9/18,mbtmp3.0/4,ML3.6/1,Error
ellipse: s-maj=351.9km s-min=31.1km az=176.0,Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.48**	**183**	*e*P		Pn	23 09 06.3	+0.5
	2.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**14.48**	**183**	P		Pn	23 09 06.2	+0.4
	0.2nm,0.3s,baz=6.3,slow=9.2,SNR=6.3							
WRA	**Warramunga Arr**	**17.96**	**156**	P		P	23 09 45.1	+0.3
	0.3nm,0.3s,baz=328,slow=12,SNR=22							
WB2	**Warramunga Arr**	**17.97**	**156**	*e*P		P	23 09 45.2	+0.3
ASAR	**Alice Springs**	**21.21**	**161**	P		P	23 10 19.5	-0.1
	0.5nm,0.3s,baz=336,slow=11,SNR=13							
STKA	**Stephens Creek**	**31.52**	**155**	P		P	23 11 54.2	+1.9
	1.4nm,0.6s,baz=317,slow=8.3,SNR=4.2							

ISCJB ***14*** *23:06:45.3±1.0,299S±004×12969E±006,h45km±10km,*
mb4.2/14,MS3.4/1,Error ellipse: s-maj=11.0km
s-min=6.7km az=145.0
NEIC ***14*** *23:06:46.6±1.2,296S×12970E,h37km±12km,mb4.2/10,*
Error ellipse: s-maj=12.1km s-min=5.8km az=58.0
IDC ***14*** *23:06:47.5±3.2,299S×12966E,h46km±32km,mb3.9/8,*
mb1 4.2/11,mb1mx4.0/20,mbtmp4.0/11,ML4.2/3,MS3.5/1,
Ms1 3.5/1,ms1mx2.6/31,Error ellipse: s-maj=29.5km
s-min=10.6km az=73.0
ISC 14 23:06:47.1±0.8,300S±004×12969E±006,h42km±9km,n40,
o084/42,mb4.2/14,MS3.4/1,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.64**	**245**	P		Pn	**23 07 13.0**	**-0.4**
	0.0nm,0.0s							
SWI	**Sorong**	**2.64**	**37**	P		Pn	**23 07 25.9**	**-1.3**
	0.0nm,0.0s							
TLE	**Tual**	**4.01**	**131**	P		Pn	**23 07 54.1**	**+8.1**
	0.0nm,0.0s							
BAKI	**Biak**	**6.66**	**74**	P		Pn	**23 08 23.4**	**+1.0**
	0.0nm,0.0s							
KAKA	**Kakadu**	**10.02**	**164**	*e*P		Pn	**23 09 09.6**	**+1.1**
	9.5nm,0.4s							
FITZ	**Fitzroy Crossi**	**15.52**	**195**	*e*P		Pn	**23 10 24.6**	**+1.7**
	10nm,0.6s							
FITZ	**Fitzroy Crossi**	**15.52**	**195**	P		Pn	**23 10 22.3**	**-0.6**
	0.5nm,0.3s,baz=47,slow=12,SNR=9.5							
KKM	**Kota Kinabalu**	**16.18**	**304**	Pn		Pn	**23 10 31.3**	**0.0**
WRAB	**Tennant Creek**	**17.43**	**165**	*e*Pn		Pn	**23 10 46.9**	**-0.2**
	5.6nm,0.5s							
WRAB				*e*Sn		Sn	**23 13 57.0**	**-3.1**
WRA	**Warramunga Arr**	**17.44**	**165**	P

1.6nm,0.7s,mb4.1
CHKZ *e* pP 23 18 35.2 +0.3
ZRNK Zerenda 75.26 327 *e*P **P** **23 18 25.5 -0.1**
1.8nm,0.7s,mb4.1
VNDA Vanda 76.43 173 P **P** **23 18 32.0 -0.1**
0.7nm,0.4s,mb3.9,baz=308,slow=7.8,SNR=19
VNDA Vanda 76.43 173 *e*P **P** **23 18 32.1 -0.1**
0.7nm,0.4s,mb3.9
MAW Mawson 78.54 201 *e*P **P** **23 18 44.0 0.0**
0.9nm,0.4s,mb4.0
LPAZ La Paz 153.97 138 PKPbc PKPbc 23 26 46.1 +4.2
0.4nm,0.5s,baz=316,slow=2.4,SNR=3.7

NEIC 14 23:11:39.4, 6308N×15155W, h10km, ML4.0(AEIC), **ML4.2**(PMR), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.55**	**30**	P	Pg	23 11 50.4	+0.3
KTH				S	Sg	23 11 58.2	+0.8
TRF	**Thorofare Moun**	**0.68**	**56**	P	Pg	23 11 52.7	+0.1
TRF				S	Sg	23 12 02.4	+0.9
MCK	**McKinley**	**1.35**	**60**	P	Pn	23 12 04.3	0.0
GHO	**Glory Hole Cre**	**1.79**	**136**	P	Pn	23 12 10.2	-0.2
PMR	**Palmer**	**1.87**	**142**	P	Pn	23 12 11.5	+0.1
SML	**Sawmill**	**1.96**	**129**	*e*Pn	Pn	23 12 12.6	-0.2
SML				*e*Pg	Pg	23 12 16.7	-0.4
SML				*e*Sn	Sn	23 12 37.8	-0.2
SML				*e*Sg	Sg	23 12 39.8	-2.8
FIB	**Fire Island**	**2.03**	**161**	P	Pn	23 12 13.7	+0.1
RC01	**Rabbit Creek A**	**2.17**	**156**	P	Pn	23 12 16.4	+0.8
COLA	**College**	**2.43**	**41**	P	Pn	23 12 18.2	-0.9
SLKM	**Skilak Lake**	**2.66**	**166**	P	Pn	23 12 23.0	+0.8
SVW2	**Sparrevohn**	**2.75**	**225**	*e*P	Pn	23 12 23.7	+0.2
IMA2	**Indian Mountai**	**3.14**	**344**	P	Pn	23 12 29.0	+0.1
DIV	**Divide**	**3.35**	**123**	P	Pn	23 12 32.7	+1.0
DOT	**Dot Lake**	**3.42**	**77**	P	Pn	23 12 33.2	+0.5
MENT	**Mentasta**	**3.57**	**89**	*e*P	Pn	23 12 36.8	+2.0
EYAK	**Cordova Ski Ar**	**3.74**	**130**	*e*Pn	Pn	23 12 42.0	+4.8
EYAK				*e*Sn	Sn	23 13 21.8	+0.4
EYAK				*e*Sg	Sg	23 13 35.9	-3.7
EGAK	**Eagle**	**4.89**	**65**	*e*Pn	Pn	23 12 53.2	+0.3
EGAK				*e*Pg	Pg	23 13 11.3	-1.8
EGAK				Sn	Sn	23 13 49.8	+0.2
EGAK				*e*Sg	Sg	23 14 15.2	-1.2
KDAK	**Kodiak Island**	**5.34**	**186**	*e*Pn	Pn	23 13 02.7	+3.5
KDAK				*e*Sn	Sn	23 14 03.2	+2.5
DAWY	**Dawson**	**5.52**	**74**	*e*Pn	Pn	23 13 01.9	+0.3
DAWY				*e*Pg	Pg	23 13 24.7	-0.4
DAWY				*e*Sg	Sg	23 14 33.8	-2.9

ISCJB 14 23:30:42.9±0.3, 4839N×002×911E×003, h16km, Error ellipse: s-maj=3.3km s-min=2.6km az=67.5
LEDBW 14 23:30:42.7±0.1, 4838.9N×0004×9.130E×0006, h13km±2km, ML1.8, Error ellipse: s-maj=2.2km s-min=1.4km az=94.0
LDG 14 23:30:42.8±0.1, 4839N×9.13E, h16km, Md2.5/2, Ml2.3/8, Error ellipse: s-maj=1.1km s-min=0.9km az=142.0
BGR 14 23:30:42.3±0.5, 4841N×9.16E, h15km, ML2.0/3, Error ellipse: s-maj=7.8km s-min=3.3km az=158.0
STR 14 23:30:52.7±0.2, 4820N×827E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 14 23:30:41.9±0.2, 4841N±002×911E±002, h16km, n46, σ0§98/82, 1C-10D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUND	**Jungingen**	**0.09**	**211**	⇓*e*Pg	**Pg**	**23 30 45.7**	**+0.4**
JUND				*e*Sg	**Sg**	**23 30 47.7**	**+0.2**
TUBL	**Tuebingen-Lenn**	**0.11**	**350**	⇓*i*P*	**Pg**	**23 30 47.0**	**+1.6**
TUBL				*i* S*	**Sg**	**23 30 49.3**	**+1.4**
BUCH	**Bad Urach**	**0.16**	**76**	⇑*i*P*	**Pg**	**23 30 46.7**	**+0.5**
BUCH				S*	**Sg**	**23 30 49.2**	**+0.5**
BUCH	**Bad Urach**	**0.16**	**76**	⇑*i*Pg	**Pg**	**23 30 46.7**	**+0.5**
BUCH				Sg	**Sg**	**23 30 49.5**	**+0.5**
MSS	**Messtetten**	**0.25**	**204**	⇓*e*Pg	**Pg**	**23 30 48.1**	**+0.6**
MSS				*e*Sg	**Sg**	**23 30 51.8**	**+0.4**
MSS	**Messtetten**	**0.25**	**204**	⇓*e*Pg	**Pg**	**23 30 48.1**	**+0.6**
MSS				*e*Sg	**Sg**	**23 30 51.8**	**+0.4**
LBG	**Lerchenberg**	**0.33**	**320**	⇓*i*P*	**Pg**	**23 30 50.0**	**+1.1**
LBG				*i* S*	**Sg**	**23 30 54.9**	**+1.4**
LBG				SmS		23 30 58.3	
GUT	**Gutenstein**	**0.34**	**180**	⇓*i*P*	**Pg**	**23 30 49.4**	**+0.4**
GUT				*i* S*	**Sg**	**23 30 53.9**	**+0.1**
STU	**Stuttgart**	**0.36**	**8**	*e*Sg	**Sg**	**23 30 55.2**	**+0.7**
	SNR=4.8						
SPAK	**Spaichingen-Ko**	**0.38**	**215**	S*	**Sg**	**23 30 55.5**	**+0.6**
BFO	**Black Forest**	**0.53**	**262**	*e*Pg	**Pg**	**23 30 53.2**	**+0.7**
	SNR=12						
BFO				*e*Sg	**Sg**	**23 31 00.3**	**+0.7**
	SNR=10						
SISB	**Singen-Schiene**	**0.73**	**188**	⇓P*	**Pb**	**23 30 56.6**	**+0.4**
SISB				S*	**Sb**	**23 31 06.5**	**+0.6**
SISB	**Singen-Schiene**	**0.73**	**188**	⇓Pg	**Pb**	**23 30 56.6**	**+0.4**
SISB				Sg	**Sb**	**23 31 06.5**	**+0.6**
HDH	**Heidenheim-Cha**	**0.75**	**76**	P*	**Pb**	**23 30 56.9**	**+0.4**
HDH				S*	**Sb**	**23 31 06.8**	**+0.3**
HDH				Sg	**Sg**	**23 31 07.5**	**+1.1**
FELD	**Feldberg im Sc**	**0.92**	**235**	P	**Pb**	**23 30 59.8**	**+0.4**
FELD				Pg	**Pg**	**23 31 00.6**	**+0.9**
FELD				S	**Sb**	**23 31 11.9**	**+0.6**
FELD	**Feldberg im Sc**	**0.92**	**235**	P	**Pg**	**23 31 00.6**	**+0.9**
KIZ	**Kirchzarten**	**0.92**	**241**	*e*P	**Pb**	**23 30 59.5**	**+0.1**
KIZ				Pg	**Pg**	**23 31 00.3**	**+0.5**
KIZ				S	**Sb**	**23 31 11.8**	**+0.4**
KIZ	**Kirchzarten**	**0.92**	**241**	P	**Pg**	**23 31 00.3**	**+0.5**
UBR	**Ueberruh**	**0.99**	**137**	P	**Pb**	**23 31 00.5**	**-0.2**
UBR				*i* Sg	**Sg**	**23 31 14.8**	**+0.8**
UBR	**Ueberruh**	**0.99**	**137**	Px	Px	23 31 00.5	
UBR				*i* S	**Sg**	**23 31 14.8**	**+0.8**
SIND	**Sindeldorf**	**0.99**	**19**	⇓P	**Pb**	**23 31 00.5**	**-0.2**
SIND				Pg	**Pg**	**23 31 02.0**	**+0.8**
SIND				S	**Sb**	**23 31 13.5**	**0.0**
SIND				Sg	**Sg**	**23 31 15.0**	**+0.8**
SIND	**Sindeldorf**	**0.99**	**19**	⇓Pn	**Pb**	**23 31 00.5**	**-0.2**
SIND				Sn	**Sb**	**23 31 13.5**	**0.0**
SIND	**Sindeldorf**	**0.99**	**19**	P	**Pg**	**23 31 02.0**	**+0.8**
SIND				S	**Sg**	**23 31 15.0**	**+0.8**
LANF	**Langenberg**	**1.04**	**304**	Pg	**Pg**	**23 31 08.6**	**+6.6**
SWS	**Schriesheim-Wi**	**1.11**	**346**	Pg	**Pg**	**23 31 03.8**	**+0.5**
SWS				Sg	**Sg**	**23 31 19.4**	**+1.6**
SWS	**Schriesheim-Wi**	**1.11**	**346**	Px	Px	23 31 03.8	
SWS				S	**Sg**	**23 31 19.4**	**+1.6**
WLS	**Welschbruch**	**1.17**	**271**	Pg	**Pg**	**23 31 05.4**	**+0.8**
WLS				Sg	**Sg**	**23 31 14.3**	**-5.6**
CDF	**Champ du Feu**	**1.22**	**271**	*e*Pn	**Pn**	**23 31 04.1**	**-0.2**
CDF	**Champ du Feu**	**1.22**	**271**	*e*Pg	**Pg**	**23 31 06.0**	**+0.5**
CDF				*e*Sn	**Sn**	**23 31 18.1**	**-2.4**
CDF				*e*Sg	**Sg**	**23 31 21.7**	**+0.2**
	4.6nm,0.2s						
HINF	**Hinteralfeld**	**1.63**	**249**	*e*Pn	**Pn**	**23 31 09.2**	**-0.6**
HINF	**Hinteralfeld**	**1.63**	**249**	*e*Pg	**Pg**	**23 31 13.4**	**+0.2**
HINF				*e*Sn	**Sn**	**23 31 27.9**	**-2.5**
HINF				*e*Sg	**Sg**	**23 31 33.8**	**-0.6**
	3.7nm,0.2s						
GRF	**Grafenberg Arr**	**1.89**	**46**	*e*Pg	**Pg**	**23 31 18.5**	**+0.3**
	SNR=2.5						
GRF				*e*Sg	**Sg**	**23 31 41.2**	**-1.5**
	SNR=3.5						
HAU	**Haudompre**	**1.89**	**259**	*e*Pn	**Pn**	**23 31 12.9**	**-0.6**
HAU	**Haudompre**	**1.89**	**259**	*e*P	**Pn**	**23 31 15.5**	**+2.0**
HAU	**Haudompre**	**1.89**	**259**	*e*Pg	**Pg**	**23 31 18.5**	**+0.2**
HAU				*e*Sn	**Sn**	**23 31 34.6**	**-2.4**
HAU				*e*Sg	**Sg**	**23 31 42.7**	**-0.2**
	3.3nm,0.2s						
WET	**Wettzell**	**2.60**	**72**	*e*Sg	**Sg**	**23 32 04.0**	**-1.4**
	SNR=3.8						
MEZF	**Maizieres J'vi**	**2.71**	**273**	*e*Pn	**Pn**	**23 31 24.0**	**-0.7**
MEZF	**Maizieres J'vi**	**2.71**	**273**	*e*Pg	**Pg**	**23 31 33.3**	**-0.5**
MEZF				*e*Sg	**Sg**	**23 32 08.0**	**-0.8**
	1.1nm,0.2s						
SFTF	**Sexfontaines**	**2.73**	**267**	*e*Pn	**Pn**	**23 31 24.0**	**-1.0**
SFTF	**Sexfontaines**	**2.73**	**267**	*e*Pg	**Pg**	**23 31 33.9**	**-0.3**
SFTF				*e*Sn	**Sn**	**23 31 54.8**	**-2.8**
SFTF				*e*Sg	**Sg**	**23 32 08.7**	**-0.9**
	1.5nm,0.3s						
CABF	**La Chapelle**	**2.73**	**230**	*e*Pn	**Pn**	**23 31 24.0**	**-1.0**
CABF	**La Chapelle**	**2.73**	**230**	*e*Pg	**Pg**	**23 31 34.1**	**-0.1**
CABF				*e*Sg	**Sg**	**23 32 08.2**	**-1.4**
	1.5nm,0.3s						
MOX	**Moxa**	**2.77**	**35**	*e*Sg	**Sg**	**23 32 09.5**	**-1.3**
	SNR=2.4						
WERD	**Werda**	**2.92**	**44**	*e*Sg	**Sg**	**23 32 13.1**	**-2.5**
	SNR=2.7						
TANN	**Tannenbergstha**	**2.97**	**46**	*e*Sg	**Sg**	**23 32 15.6**	**-1.6**
	SNR=2.4						
GEC2	**GERESS Array S**	**3.07**	**80**	*e*Sg	**Sg**	**23 32 19.0**	**-1.7**
	SNR=2.2						

CSEM 14 23:41:39.1±1.1, 4045N×29.18W, h0km±53km, ML3.6, Error ellipse: s-maj=63.0km s-min=6.3km az=142.0, After PDA
PDA 14 23:41:39.1±1.1, 4045N×29.18W, h0km±53km, MD3.6, ML3.6, Error ellipse: s-maj=63.0km s-min=6.3km az=142.0
SVSA 14 23:41:39.1±1.1, 4045N×2918W, h0km±53km, MD3.6, ML3.6, Error ellipse: s-maj=63.0km s-min=6.3km az=142.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**1.63**	**147**	*e*S	Sn	23 42 22.7	-7.9
STGR	**Santa Cruz**	**1.64**	**146**	*e*P	Pn	23 42 03.9	-5.2
SRBC	**Serra Branca**	**1.66**	**148**	*e*P	Pn	23 42 04.0	-5.4
PGRA	**Graciosa**	**1.69**	**147**	*e*P	Pn	23 42 05.5	-4.3
PCED	**Cedros**	**1.85**	**168**	*e*P	Pn	23 42 07.2	-4.9
PCED				*e*S	Sn	23 42 28.4	-7.8
PCED							
	97nm,0.3s						
PCED	**Cedros**	**1.85**	**168**	*e*P	Pn	23 42 07.2	-4.9
PCED				*e*S	Sn	23 42 28.4	-7.8
ROSA	**Rosais**	**1.87**	**157**	*e*P	Pn	23 42 07.1	-5.2
ROSA				*e*S	Sn	23 42 29.2	-7.4
CALA	**Caldeira**	**1.90**	**169**	*e*P	Pn	23 42 08.3	-4.4
CALA				*e*S	Sn	23 42 29.8	-7.5
PAMA	**Santo Amaro**	**1.92**	**156**	*e*S	Sn	23 42 30.2	-7.8
HOR	**Horta**	**1.96**	**167**	*e*P	Pn	23 42 08.9	-4.7
HOR				*e*S	Sn	23 42 30.9	-8.0
PMAN	**Manadas**	**2.00**	**155**	*e*P	Pn	23 42 08.3	-5.8
PMAN				*e*S	Sn	23 42 31.9	-7.8
PMAN							
	89nm,0.2s						
PMAN	**Manadas**	**2.00**	**155**	*e*P	Pn	23 42 08.3	-5.8
PMAN				*e*S	Sn	23 42 31.9	-7.8
PICO	**Pico**	**2.03**	**163**	*e*P	Pn	23 42 09.8	-4.7
PICO				*e*S	Sn	23 42 32.7	-7.8
PTEI	**Pico do Teixo**	**2.05**	**162**	*e*S	Sn	23 42 33.5	-7.5
PCND	**Candelaria**	**2.05**	**164**	*e*S	Sn	23 42 33.6	-7.5
PBOI	**Pico dos Bois**	**2.10**	**163**	*e*S	Sn	23 42 34.5	-7.8
PID	**Ribeirinha**	**2.16**	**157**	*e*P	Pn	23 42 11.6	-4.7
PBIS	**Biscoitos**	**2.24**	**138**	*e*P	Pn	23 42 12.7	-4.8
PPAD	**Pico dos Padre**	**2.27**	**139**	*e*P	Pn	23 42 13.1	-4.8
PVNV	**Vila Nova**	**2.29**	**136**	*e*P	Pn	23 42 13.4	-4.8
PVNV				*e*S	Sn	23 42 39.4	-7.7
ADH	**Angra Heroismo**	**2.33**	**139**	*e*P	Pn	23 42 13.0	-5.7
PFAV	**Pico das Favas**	**2.37**	**136**	*e*P	Pn	23 42 14.3	-4.9
PFAV				*e*S	Sn	23 42 41.0	-8.0
SET4	**Mosteiros**	**3.67**	**133**	*e*P	Pn	23 42 33.0	-4.1
SET4				*e*P		23 43 16.1	
SET2	**Ginetes**	**3.69**	**134**	*e*P	Pn	23 42 33.0	-4.4
SET2				*e*P		23 43 16.0	
PFET	**Feteiras**	**3.72**	**134**	*e*P	Pn	23 42 33.6	-4.2
PFET				*e*P		23 43 16.3	
PSAN	**Santo Antonio**	**3.73**	**133**	*e*P	Pn	23 42 33.5	-4.4
PSAN				*e*P		23 43 16.1	
FAC	**Faja de Cima**	**3.83**	**133**	*e*P	Pn	23 42 34.6	-4.6
FAC				*e*P		23 43 18.2	
CML	**Cha da Macela**	**3.89**	**132**	*e*P	Pn	23 42 35.4	-4.7
CML				*e*P		23 43 20.3	
PMAT	**Coroa da Mata**	**3.90**	**131**	*e*P	Pn	23 42 36.7	-3.5
LFA	**Lagoa do Fogo**	**3.92**	**132**	*e*P	Pn	23 42 36.4	-4.1
MESC	**Monte Escuro**	**3.93**	**131**	*e*P	Pn	23 42 36.4	-4.2
PRCH	**Ribeira Ch**	**3.95**	**132**	*e*P	Pn	23 42 38.2	-2.8
PFAD	**Fenais da Ajud**	**3.97**	**130**	*e*P	Pn	23 42 36.9	-4.3
FRA1	**Furnas**	**4.01**	**131**	*e*P	Pn	23 42 37.6	-4.2
MIRA	**Miradouro**	**4.03**	**130**	*e*P	Pn	23 42 37.9	-4.1
MIRA				*e*S	Sn	23 43 21.2	-8.8
PSMN	**Pico do Norte,**	**4.71**	**136**	*e*P	Pn	23 42 47.4	-3.9

ISCJB 15 00:01:07.4±7.8, 3.12N±008×6562E±009, h3km±50km, mb4.2/13, MS3.6/6, Error ellipse: s-maj=16.9km s-min=11.7km az=113.8
IDC 15 00:01:09.1±0.8, 308N×6558E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, MS3.7/6, Ms1 3.7/6, ms1mx3.3/36, Error ellipse: s-maj=30.5km s-min=24.5km az=3.0
NEIC 15 00:01:10.3±0.3, 3.10N×6556E, h10km, mb4.3/7, Error ellipse: s-maj=10.8km s-min=7.6km az=57.0
ISC 15 00:01:12.3±7.7, 315N±008×6562E±009, h19km±48km, n37, σ0§88/26, mb4.2/13, MS3.6/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**12.51**	**147**	*e*Pn	**Pn**	**00 04 08.4**	**-0.8**
WSAR	**Wadi Sarin**	**21.09**	**342**	LR	LR	00 12 33.3	
	comp=Z,161nm,18.8s,MS3.4,baz=69,slow=32						
KMBO	**Kilima Mbogo**	**28.68**	**262**	LR	LR	00 15 32.1	
	comp=Z,77nm,22.0s,MS3.3,baz=97,slow=30						
KMBO	**Kilima Mbogo**	**28.68**	**262**	P	**P**	**00 07 08.7**	**+0.9**
COCO	**West Island**	**34.56**	**117**	*e*P	**P**	**00 07 59.9**	**+0.4**
	41nm,0.7s,mb5.5						
KULM	**Kulim**	**34.99**	**85**	P	**P**	**00 08 06.6**	**+3.3**
AAK	**Ala-Archa**	**40.11**	**10**	P	**P**	**00 08 46.0**	**-0.6**
MALT	**Malatya**	**42.92**	**328**	P	**P**	**00 09 10.3**	**+0.6**
	0.9nm,0.6s,mb3.7						
KIV	**Kislovodsk**	**45.42**	**337**	P	**P**	**00 09 30.1**	**+0.4**
MKAR	**Makanchi Array**	**45.83**	**16**	LR	LR	00 29 33.8	
	comp=Z,80nm,19.5s,MS3.7,baz=204,slow=37						
LBTB	**Lobatse**	**47.87**	**232**	P	**P**	**00 09 50.1**	**+1.3**
	6.2nm,1.0s,mb4.6,baz=90,slow=4.7,SNR=4.6						
LBTB	**Lobatse**	**47.87**	**232**	*e*P	**P**	**00 09 49.0**	**+0.1**
	5.4nm,0.9s,mb4.6						
KURK	**Kurchatov**	**48.65**	**11**	P	**P**	**00 09 54.7**	**-0.2**
	1.7nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**49.72**	**3**	*e*P	**P**	**00 10 03.0**	**-0.1**
	3.5nm,1.0s,mb4.3						
BRVK	**Borovoye**	**49.90**	**4**	*e*P	**P**	**00 10 04.2**	**-0.2**
	1.5nm,0.5s,mb4.3						
KKM	**Kota Kinabalu**	**50.50**	**85**	*e*P	**P**	**00 10 09.1**	**+0.2**
CHKZ	**Chkalovo**	**50.53**	**4**	*e*P	**P**	**00 10 09.1**	**-0.2**
	20nm,1.9s,mb4.7						
ZAL	**Zalesovo**	**53.02**	**14**	P	**P**	**00 10 26.9**	**-0.9**
	0.9nm,0.2s,mb4.3,baz=264,slow=18,SNR=3.0						
ZAL				LR	LR	00 31 06.2	
	comp=Z,63nm,19.9s,MS3.7,baz=90,slow=34						
ARU	**Arti**	**53.43**	**355**	P	**P**	**00 10 30.6**	**-0.2**
SONM	**Songino Array**	**56.65**	**32**	P	**P**	**00 10 56.7**	**+2.7**
	0.9nm,0.9s,mb3.8,baz=231,slow=8.6,SNR=6.4						
SONM				LR	LR	00 35 12.1	
	comp=Z,96nm,18.4s,MS3.9,baz=312,slow=36						
OBN	**Obninsk**	**56.90**	**341**	P	**P**	**00 10 55.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**63.91**	**283**	P	**P**	**00 11 43.5**	**-0.3**
	0.3nm,0.7s,mb3.4,baz=100,slow=6.3,SNR=3.4						
KSRS	**Korea Array**	**66.27**	**50**	LR	LR	00 41 46.1	
	comp=Z,63nm,19.9s,MS3.8,baz=185,slow=37						
WRA	**Warramunga Arr**	**71.19**	**112**	P	**P**	**00 12 30.2**	**+0.5**
	3.4nm,1.0s,mb4.2,baz=287,slow=5.7,SNR=15						
WRAB	**Tennant Creek**	**71.19**	**112**	*e*P	**P**	**00 12 30.4**	**+0.6**
	3.7nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**71.20**	**112**	*e*P	**P**	**00 12 30.3**	**+0.5**
ASAR	**Alice Springs**	**71.52**	**116**	P	**P**	**00 12 32.2**	**+0.5**
	2.2nm,1.0s,mb4.0,baz=290,slow=5.6,SNR=11						
YAK	**Yakutsk**	**75.28**	**26**	*e*P	**P**	**00 12 52.8**	**-1.1**
TAU	**Tasmania Unive**	**86.05**	**133**	P	**P**	**00 13 50.6**	**-0.9**
VNDA	**Vanda**	**94.40**	**167**	*e*P	**P**	**00 14 28.7**	**-2.1**
COLA	**College**	**107.84**	**14**	*e*PKiKP	PKiKP	00 19 38.0	-0.3
LVC	**Limon Verde**	**131.91**	**242**	PKPdf	PKPdf	00 20 25.3	+1.1
BW06	**Boulder Array**	**134.09**	**355**	PKPdf	PKPdf	00 20 27.7	-0.6
SDCO	**Great Sand Dun**	**138.49**	**349**	*e*PKPdf	PKPdf	00 20 37.5	+1.0
WMOK	**Wichita Mounta**	**139.56**	**340**	PKPdf	PKPdf	00 20 38.6	+0.2
LTX	**Lajitas**	**146.11**	**343**	PKPdf	PKPdf	00 20 51.4	+1.4
TXAR	**Lajitas Array**	**146.11**	**343**	PKPbc	PKPbc	00 20 51.2	+0.2
	1.5nm,1.1s,baz=50,slow=2.0,SNR=8.6						

NEIC 15 00:13:21.0, 3130S×7162W, h34km, ML2.8(GUC), After GUC.
GUC 15 00:13:21.0±0.6, 3130S×7162W, h34km±3km, MD3.8, ML2.8, 1C-1D, Near coast of central Chile

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.54**	**76**	⇑*i*P	Pb	00 13 32.3	0.0
CMCH				*i* S	Sb	00 13 40.6	+0.6
CHNG	**Los Chungos**	**0.58**	**170**	⇓*i*P	Pn	00 13 32.7	-0.3
CHNG				*i* S	Sb	00 13 41.0	-0.1
CHNG				AML	AML	00 13 42.1	
	comp=E,302nm,0.2s						
OVCH	**Ovalle**	**0.78**	**27**	*e*P	Pn	00 13 35.4	-0.2
OVCH				*i* S	Sn	00 13 46.5	+0.4
OVCH				AML	AML	00 13 47.1	
	comp=E,955nm,0.2s						
OVCH	**Ovalle**	**0.78**	**27**	*e*P	Pn	00 13 35.4	-0.2
OVCH				*i* S	Sn	00 13 46.5	+0.4
PTCH	**Petorca**	**1.12**	**149**	*i* P	Pn	00 13 40.7	+0.4
PTCH				*i* S	Sn	00 13 55.6	+1.1
PTCH				AML	AML	00 13 59.3	
	comp=N,1μm,0.2s						
PTCH	**Petorca**	**1.12**	**149**	*i* P	Pn	00 13 40.7	+0.4
PTCH				*i* S	Sn	00 13 55.6	+1.1
TLL	**Tololo Astrono**	**1.33**	**32**	*i* P	Pn	00 13 44.9	+1.7
TLL				*i* S	Sn	00 14 02.6	+2.8
TLL				AML	AML	00 14 07.1	
	comp=E,204nm,0.4s						
TLL	**Tololo Astrono**	**1.33**	**32**	*i* P	Pn	00 13 44.9	+1.7
TLL				*i* S	Sn	00 14 02.6	+2.8
PEL	**Peldehue**	**2.00**	**157**	*e*P	Pn	00 13 53.9	+1.5
PEL				AML	AML	00 14 23.4	
	comp=N,307nm,0.4s						
RCDM	**Rinconada Maip**	**2.28**	**163**	*e*P	Pn	00 13 57.4	+1.1
RCDM				*e*S	Sn	00 14 25.7	+2.4
RCDM				AML	AML	00 14 32.9	
	comp=E,80nm,0.2s						
RCDM	**Rinconada Maip**	**2.28**	**163**	*e*P	Pn	00 13 57.4	+1.1
RCDM				*e*S	Sn	00 14 25.7	+2.4
FCH	**Farellones**	**2.31**	**151**	*e*P	Pn	00 13 59.2	+2.5
FCH				AML	AML	00 14 37.7	
	comp=N,65nm,0.6s						

IDC 15 00:18:43.3±1.6, 1020S×10850E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/35, Error ellipse: s-maj=72.1km s-min=19.8km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.37**	**117**	P	Pn	00 23 00.3	+0.8
	0.4nm,0.3s,baz=285,slow=12,SNR=14						
NWAO	**Narrogin (SRO)**	**24.01**	**162**	LR	LR	00 32 23.0	
	comp=Z,121nm,18.6s,baz=111,slow=34						
WRA	**Warramunga Arr**	**26.73**	**114**	P	P	00 24 24.5	+0.1
	4.1nm,1.1s,baz=286,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.69**	**122**	P	P	00 24 33.2	+0.3
	0.4nm,0.5s,baz=293,slow=9.3,SNR=5.9						
CBIJ	**Chichi jima**	**49.42**	**41**	LR	LR	00 47 30.9	
	comp=Z,128nm,20.7s,baz=164,slow=35						
SONM	**Songino Array**	**57.80**	**358**	P	P	00 28 37.0	+0.7
	0.7nm,0.5s,baz=177,slow=9.0,SNR=8.4						
MKAR	**Makanchi Array**	**61.38**	**340**	P	P	00 29 01.1	+0.1
	1.3nm,0.6s,baz=151,slow=8.6,SNR=12						
BRTR	**Keskin Array B**	**85.05**	**312**	P	P	00 31 20.7	0.0
	1.1nm,1.0s,baz=104,slow=3.7,SNR=4.3						

CSEM 15 00:18:49.0, 6784N×2019E, h3km, ML2.8, Mining explosion. After UPP
UPP 15 00:18:49.0, 6784N×2019E, h3km, ML2.8, Mining explosion.
HEL 15 00:18:49.4±0.1, 6784N×2019E, h0km, ML1.8, ML2.8(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**26**	*i* P	Pg	00 18 51.3	-0.5
KUA				*i* S	Sg	00 18 53.0	-0.4
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 18 57.2	-0.6
NIKU				*i* S	Sg	00 19 03.2	-0.3
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	00 19 02.3	-0.7
LANU				*i* S	Sg	00 19 11.4	-0.8
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 19 02.3	-0.7
LANU				S	Sg	00 19 11.4	-0.8
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	00 19 02.4	-1.2
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 19 02.4	-1.2
	baz=78						
MASU	**Masugnsby

*ISCJB **15** 00:40:59.4±2.0, 1878N×006×1465E±02, h74km±16km, mb4.3/16, Error ellipse: s-maj=33.0km s-min=8.9km az=165.9*

*NEIC **15** 00:41:02.8±1.7, 1869N×14635E, h87km±15km, mb4.4/8, Error ellipse: s-maj=22.0km s-min=7.4km az=79.0*

*IDC **15** 00:41:02.3±3.4, 1878N×14644E, h83km±27km, mb3.8/9, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, Error ellipse: s-maj=48.6km s-min=12.2km az=82.0*

ISC 15 00:41:01.1±1.7, 1876N±006×1464E±02, h71km±13km, n29, σ0°74/29, mb4.3/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**196**	P		**Pn**		**00 42 18.4**	**0.0**
	16nm,0.3s,baz=8.4,slow=19,SNR=3.3								
GUMO				S		**Sn**		**00 43 23.8**	**+5.1**
	29nm,0.3s,baz=2.5,slow=22,SNR=3.7								
CBIJ	**Chichi jima**	**9.17**	**336**	P		**Pn**		**00 43 10.0**	**-0.5**
	3.1nm,0.3s,baz=289,slow=17,SNR=3.7								
MJAR	**Matsushiro Arr**	**19.13**	**339**	P		**Pn**		**00 45 19.9**	**-0.1**
	0.6nm,0.3s,baz=156,slow=7.8,SNR=6.0								
MAJO	**Matsushiro**	**19.14**	**339**	*eP*		**Pn**		**00 45 21.0**	**+1.1**
	7.6nm,0.3s								
NACB	**Ninganchiao**	**23.71**	**287**	P		**P**		**00 46 07.0**	**+0.5**
TATO	**Taipei**	**23.93**	**289**	*eP*		**P**		**00 46 07.8**	**-0.7**
	44nm,0.7s,mb4.9								
KSRS	**Korea Array**	**24.68**	**323**	P		**P**		**00 46 15.6**	**+0.3**
	9.7nm,0.7s,mb4.3,baz=148,slow=8.8,SNR=21								
CTAO	**Charters Tower**	**38.61**	**180**	P		**P**		**00 48 17.1**	**-0.1**
WRAB	**Tennant Creek**	**40.23**	**198**	*eP*		**P**		**00 48 29.8**	**-1.0**
	2.1nm,0.5s,mb4.2								
WB2	**Warramunga Arr**	**40.24**	**198**	*eP*		**P**		**00 48 31.7**	**+0.9**
WRA	**Warramunga Arr**	**40.25**	**198**	P		**P**		**00 48 30.3**	**-0.6**
	1.1nm,0.5s,mb3.9,baz=22,slow=8.5,SNR=9.5								
SONM	**Songino Array**	**43.53**	**321**	P		**P**		**00 48 57.8**	**+0.1**
	2.0nm,0.7s,mb4.0,baz=137,slow=8.1,SNR=19								
ASAR	**Alice Springs**	**43.90**	**197**	P		**P**		**00 49 00.1**	**-0.6**
	0.9nm,0.6s,mb3.6,baz=20,slow=7.9,SNR=9.1								
YAK	**Yakutsk**	**44.79**	**349**	*eP*		**P**		**00 49 07.4**	**-0.3**
	20nm,0.4s,mb5.2								
TLY	**Talaya**	**46.91**	**325**	P		**P**		**00 49 24.2**	**-0.2**
STKA	**Stephens Creek**	**50.56**	**185**	P		**P**		**00 49 53.7**	**+1.4**
	2.0nm,0.6s,mb4.3,baz=351,slow=9.1,SNR=3.6								
STKA	**Stephens Creek**	**50.56**	**185**	P		**P**		**00 49 53.7**	**+1.3**
LSA	**Lhasa**	**51.16**	**293**	P		**P**		**00 49 58.4**	**+1.5**
ZAL	**Zalesovo**	**58.40**	**322**	P		**P**		**00 50 48.3**	**-0.9**
	1.2nm,0.7s,mb4.0,baz=11,slow=6.7,SNR=9.1								
MKAR	**Makanchi Array**	**58.92**	**314**	P		**P**		**00 50 53.0**	**+0.2**
	2.0nm,0.8s,mb4.2,baz=90,slow=11,SNR=9.0								
MKAR	**Makanchi Array**	**58.92**	**314**	P		**P**		**00 50 53.0**	**+0.2**
KURK	**Kurchatov**	**61.69**	**318**	*eP*		**P**		**00 51 11.4**	**-0.3**
	3.5nm,0.6s,mb4.6								
CHKZ	**Chkalovo**	**66.72**	**321**	*eP*		**P**		**00 51 44.8**	**+0.2**
	4.2nm,1.1s,mb4.2								
BRVK	**Borovoye**	**66.93**	**320**	*eP*		**P**		**00 51 45.5**	**-0.5**
	6.4nm,1.8s,mb4.2								
ZRNK	**Zerenda**	**67.70**	**320**	*eP*		**P**		**00 51 49.6**	**-1.2**
	2.2nm,0.6s,mb4.2								
ARU	**Arti**	**73.41**	**325**	*eP*		**P**		**00 52 25.7**	**+0.1**
ARCES	**ARCESS Array B**	**82.64**	**342**	P		**P**		**00 53 18.1**	**+1.5**
	6.8nm,1.0s,mb4.4,baz=62,slow=8.4,SNR=4.7								
FINES	**FINESS Array B**	**87.12**	**335**	P		**P**		**00 53 38.5**	**-0.6**
	2.6nm,0.9s,mb4.2,baz=248,slow=2.1,SNR=9.9								
LPAZ	**La Paz**	**146.99**	**91**	PKPbc		PKPbc		01 00 36.1	+0.5
	1.1nm,0.7s,baz=351,slow=3.3,SNR=6.1								

*ISCJB **15** 00:53:25.4±1.4, 5049S±005×16259E±007, h24km±10km, mb4.8/19, MS4.9/136, Error ellipse: s-maj=10.2km s-min=4.5km az=100.0*

*NEIC **15** 00:53:25.1±0.3, 5060S×16233E, h10km, mb4.9/13, MS5.0/122, MW5.5, Error ellipse: s-maj=7.7km s-min=5.5km az=132.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.17; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-2.43; $M_{r\theta}$0.76; $M_{\theta\phi}$0.58; $M_{\phi r}$-0.14; Best double couple: M_o2.50000×10^{17} NP1:ϕ_s129.00000°, δ81.00000°, λ16.00000°. NP2:ϕ_s37.00000°, δ74.00000°, λ171.00000°. Principal axes: T 2.5600, Plg17.0000°, Azm354.0000°; N -0.0400, Plg72.0000°, Azm157.0000°; P -2.5200, Plg5.0000°, Azm262.0000°;*

*BJI **15** 00:53:25.1, 5060S×16230E, h10km, mB5.4, mb5.4, Ms5.2, Msz5.0*

*GCMT **15** 00:53:25.1±0.1, 5080S×16198E, h24km±1km, MW5.5/92, Moment Tensor Solution. s79,c135; s92,c158; Duration: 1ś4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.20±.03; $M_{\theta\theta}$1.96±.04; $M_{\phi\phi}$-2.16±.03; $M_{r\theta}$0.44±.05; $M_{\theta\phi}$0.33±.03; $M_{\phi r}$0.03±.05; Best double couple: M_o2.13800×10^{17} NP1:ϕ_s40.00000°, δ81.00000°, λ171.00000°. NP2:ϕ_s131.00000°, δ81.00000°, λ10.00000°. Principal axes: T 2.0900, Plg13.0000°, Azm355.0000°; N 0.0980, Plg77.0000°, Azm175.0000°; P -2.1860, Plg0.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **15** 00:53:29.5±5.9, 5060S×16225E, h33km±46km, mb4.4/10, mb1 4.5/12, mb1mx4.4/15, mbtmp4.4/12, ML4.3/2, MS4.8/20, Ms1 4.8/20, ms1mx4.6/25 Error ellipse: s-maj=28.1km s-min=17.9km az=79.0*

ISC 15 00:53:27.7±1.5, 5056S±005×16256E±007, h30km±10km, h15km±1.4km; pP-P, n206, σ1ś27/82, mb4.8/19, MS4.9/136, 2C-1D, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APZ	**The Paps**	**5.18**	**46**	*e*PN		**Pn**		**00 54 42.6**	**-0.5**
APZ				SN		**Sn**		**00 55 40.0**	**-1.9**
WHZ	**Wether Hill Ro**	**5.89**	**40**	*e*P		**Pn**		**00 54 52.8**	**-0.2**
WHZ				S		**Sn**		**00 55 57.3**	**-2.2**
WHZ	**Wether Hill Ro**	**5.89**	**40**	PN		**Pn**		**00 54 52.6**	**-0.4**
WHZ				SN		**Sn**		**00 55 57.3**	**-2.2**
SYZ	**Scrubby Hill**	**5.94**	**50**	PN		**Pn**		**00 54 53.5**	**-0.1**
SYZ				SN		**Sn**		**00 55 56.6**	**-4.0**
DCZ	**Deep Cove**	**5.95**	**33**	*e*P		**Pn**		**00 54 53.7**	**0.0**
DCZ	**Deep Cove**	**5.95**	**33**	PN		**Pn**		**00 54 53.7**	**0.0**
MLZ	**Mavora Lakes**	**6.43**	**38**	*e*P		**Pn**		**00 55 00.7**	**+0.3**
MLZ	**Mavora Lakes**	**6.43**	**38**	PN		**Pn**		**00 55 00.6**	**+0.2**
MLZ				SN		**Sn**		**00 56 12.3**	**-0.5**
TUZ	**Tuapeka**	**6.59**	**48**	*e*P		**Pn**		**00 55 03.0**	**+0.4**
TUZ	**Tuapeka**	**6.59**	**48**	PN		**Pn**		**00 55 02.8**	**+0.2**
TUZ				SN		**Sn**		**00 56 16.8**	**0.0**
EAZ	**Earnscleugh**	**7.00**	**43**	P		**Pn**		**00 55 09.0**	**+0.8**
EAZ	**Earnscleugh**	**7.00**	**43**	PN		**Pn**		**00 55 09.0**	**+0.8**
EAZ				SN		**Sn**		**00 56 26.4**	**-0.3**
HHSZ	**Highcliff Hill**	**7.12**	**52**	SN		**Sn**		**00 56 23.6**	**-6.1**
WKZ	**Wanaka**	**7.20**	**40**	P		**Pn**		**00 55 12.3**	**+1.4**
WKZ	**Wanaka**	**7.20**	**40**	PN		**Pn**		**00 55 12.3**	**+1.3**
WKZ				SN		**Sn**		**00 56 32.8**	**+1.1**
JCZ	**Jackson Bay**	**7.73**	**35**	*e*P		**Pn**		**00 55 20.1**	**+1.9**
JCZ	**Jackson Bay**	**7.73**	**35**	*e*PN		**Pn**		**00 55 20.1**	**+1.9**
JCZ				SN		**Sn**		**00 56 49.4**	**+4.6**
ODZ	**Otahua Downs**	**7.75**	**48**	P		**Pn**		**00 55 17.7**	**-0.7**
ODZ	**Otahua Downs**	**7.75**	**48**	PN		**Pn**		**00 55 17.7**	**-0.7**
LBZ	**Lake Benmore**	**8.05**	**43**	*e*P		**Pn**		**00 55 19.5**	**-3.1**
LBZ	**Lake Benmore**	**8.05**	**43**	*e*PN		**Pn**		**00 55 19.5**	**-3.0**
FOZ	**Fox Glacier**	**8.52**	**38**	SN		**Sn**		**00 57 04.6**	**+0.5**
RPZ	**Rata Peaks**	**8.96**	**43**	Pn		**Pn**		**00 55 37.9**	**+2.8**
	2.4nm,0.3s,baz=162,slow=6.3,SNR=6.5								
RPZ				Sn		**Sn**		**00 57 12.5**	**-2.4**
	9.2nm,0.3s,baz=0.9,slow=22,SNR=13								
RPZ				LR		LR		00 58 33.2	
	comp=Z,6μm,21.3s,baz=212,slow=33								
WVZ	**Waitaha Valley**	**9.35**	**40**	SN		**Sn**		**00 57 24.4**	**0.0**
SNZO	**South Karori**	**12.52**	**47**	*e*Pn		**Pn**		**00 56 30.7**	**+7.0**
SNZO				*e*Sn		**Sn**		**00 58 31.2**	**-11**
TAU	**Tasmania Unive**	**12.94**	**300**	*e*Pn		**Pn**		**00 56 26.3**	**-3.2**
	125nm,1.0s								
TAU				*e*Sn		**Sn**		**00 58 39.3**	**-13**
URZ	**Urewera**	**16.07**	**46**	Pn		**Pn**		**00 57 16.9**	**+5.5**
	1.4nm,0.3s,baz=231,slow=6.0,SNR=12								
URZ				LR		LR		01 03 54.6	
	comp=Z,11μm,18.2s,baz=41,slow=38								
STKA	**Stephens Creek**	**24.29**	**312**	P		**P**		**00 58 43.6**	**+1.2**
	7.2nm,0.7s,mb4.2,baz=135,slow=11,SNR=9.3								
STKA				LR		LR		01 06 22.3	
	comp=Z,2μm,20.2s,MS4.7,baz=239,slow=32								
STKA	**Stephens Creek**	**24.29**	**312**	*e*P		**P**		**00 58 44.6**	**+2.2**
RAO	**Raoul Island**	**25.87**	**42**	LR		LR		01 08 48.8	
	comp=Z,2μm,19.4s,MS4.6,baz=2.0,slow=35								
RAO	**Raoul Island**	**25.87**	**42**	PFAKE				00 59 10.0	+13
RAO					LR		LR		
	comp=Z,2μm,22.0s,MS4.7								
VNDA	**Vanda**	**27.07**	**180**	P		**P**		**00 59 06.9**	**-0.7**
	comp=Z,2.9nm,1.1s,mb3.7,baz=344,slow=9.3,SNR=7.4								
VNDA					LR		LR	01 07 32.4	
	comp=Z,2μm,18.8s,MS4.7,baz=67,slow=31								
VNDA	**Vanda**	**27.07**	**180**	*e*P		**P**		**00 59 05.7**	**-1.9**
	comp=Z,19nm,1.5s,mb4.4								
VNDA					LR		LR		
	comp=Z,2μm,22.0s,MS4.7								
SBA	**Scott Base**	**27.45**	**178**	*e*P		**P**		**00 59 11.3**	**+0.3**
	comp=Z,67nm,1.9s,mb4.8								
SBA					LR		LR		
	comp=Z,2μm,19.0s,MS4.7								
DZM	**Mont Dzumac**	**28.60**	**8**	P		**P**		**00 59 24.2**	**+3.0**
	comp=Z,9.9nm,0.8s,mb4.6,baz=175,slow=11,SNR=11								
DZM					LR		LR	01 08 59.2	
	comp=Z,3μm,18.5s,MS4.9,baz=256,slow=32								
CASY	**Casey**	**30.33**	**219**	P		**P**		**00 59 34.3**	**-2.3**
CASY					LR		LR		
	comp=Z,2μm,20.0s,MS4.7								
CTA	**Charters Tower**	**33.03**	**331**	P		**P**		**01 00 01.1**	**+0.8**
	comp=Z,8.9nm,0.8s,mb4.8,baz=130,slow=10,SNR=6.3								
CTA					LR		LR	01 11 16.5	
	comp=Z,2μm,19.8s,MS4.9,baz=156,slow=32								
CTAO	**Charters Tower**	**33.03**	**331**	*e*P		**P**		**01 00 01.2**	**+0.8**
	comp=Z,22nm,1.1s,mb5.0								
CTAO					LR		LR		
	comp=Z,3μm,21.0s,MS5.0								
AS31	**Alice Springs**	**34.85**	**310**	*e*P		**P**		**01 00 15.6**	**-0.6**
ASAR	**Alice Springs**	**34.85**	**310**	P		**P**		**01 00 16.0**	**-0.2**
	comp=Z,9.5nm,0.6s,mb4.9,baz=147,slow=8.4,SNR=125								
ASAR					LR		LR	01 12 48.0	
	comp=Z,2μm,18.5s,MS5.0,baz=161,slow=33								
ASAR	**Alice Springs**	**34.85**	**310**	P		**P**		**01 00 16.0**	**-0.2**
ASAR					LR		LR	01 12 48.0	
ASPA	**Alice Springs**	**34.86**	**310**	*e*P		**P**		**01 00 16.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.46**	**280**	LR		LR		01 11 46.3	
	comp=Z,625nm,20.4s,MS4.4,baz=131,slow=29								
NWAO	**Narrogin (SRO)**	**37.46**	**280**	PFAKE				01 00 50.0	+12
NWAO					LR		LR		
	comp=Z,719nm,20.0s,MS4.5								
WB2	**Warramunga Arr**	**37.82**	**314**	*e*P		**P**		**01 00 40.1**	**-1.4**
WRA	**Warramunga Arr**	**37.83**	**314**	P		**P**		**01 00 40.3**	**-1.2**
	comp=Z,12nm,0.8s,mb4.7,baz=144,slow=8.0,SNR=77								
WRA					PcP		PcP	01 02 56.6	-1.0
	comp=Z,1.7nm,0.9s,baz=148,slow=2.8,SNR=5.4								
WRA					LR		LR	01 17 12.1	
	comp=Z,696nm,20.1s,MS4.5,baz=155,slow=38								
WRAB	**Tennant Creek**	**37.83**	**314**	*e*P		**P**		**01 00 40.4**	**-1.1**
	comp=Z,15nm,0.8s,mb4.8								
WRAB					LR		LR		
	comp=Z,427nm,19.0s,MS4.3								
QSPA	**South Pole Qui**	**39.56**	**180**	*e*P		**P**		**01 00 55.3**	**-0.8**
	comp=Z,19nm,1.0s,mb4.8								
QSPA					LR		LR		
	comp=Z,1μm,20.0s,MS4.7								
HNR	**Honiara**	**41.06**	**356**	LR		LR		01 15 31.7	
	comp=Z,979nm,20.2s,MS4.7,baz=178,slow=32								
HNR	**Honiara**	**41.06**	**356**	PFAKE				01 01 20.0	+12
HNR					LR		LR		
	comp=Z,1μm,19.0s,MS4.8								
RAR	**Rarotonga**	**41.57**	**59**	LR		LR		01 15 53.9	
	comp=Z,1μm,21.4s,MS4.7,baz=273,slow=32								
RAR	**Rarotonga**	**41.57**	**59**	PFAKE				01 01 30.0	+17
RAR					LR		LR		
	comp=Z,1.0nm,20.0s								
AFI	**Afiamalu**	**42.08**	**39**	LR		LR		01 15 15.7	
	comp=Z,165nm,21.6s,MS3.9,baz=195,slow=31								
PMG	**Port Moresby**	**42.96**	**337**	P		**P**		**01 01 25.0**	**+1.0**
	comp=Z,10nm,0.8s,mb4.6,baz=188,slow=6.9,SNR=5.6								
PMG					LR		LR	01 16 34.5	
	comp=Z,2μm,20.7s,MS5.0,baz=159,slow=32								
PMG	**Port Moresby**	**42.96**	**337**	*e*P		**P**		**01 01 24.3**	**+0.2**
	comp=Z,24nm,1.2s,mb4.8								
PMG					LR		LR		
	comp=Z,2μm,20.0s,MS5.0								
FITZ	**Fitzroy Crossi**	**43.71**	**304**	*e*P		**P**		**01 01 29.3**	**-0.8**
	comp=Z,9.1nm,0.9s,mb4.5								
FITZ	**Fitzroy Crossi**	**43.71**	**304**	P		**P**		**01 01 30.2**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.2,baz=160,slow=10,SNR=7.9								
FITZ					LR		LR	01 18 30.6	
	comp=Z,2μm,19.9s,MS5.0,baz=151,slow=34								
FUNA	**Funafuti**	**44.12**	**24**	PFAKE				01 01 50.0	+17
FUNA					LR		LR		
	comp=Z,3μm,19.0s,MS5.3								
MBWA	**Marble Bar**	**44.52**	**295**	*e*P		**P**		**01 01 35.3**	**-1.3**
	comp=Z,60nm,1.4s,mb5.2								
MBWA					LR		LR		
	comp=Z,2μm,21.0s,MS5.0								
TBI	**Tubuai**	**45.90**	**72**	*e*S		**S**		**01 08 30.0**	**0.0**
	comp=Z,966nm,29.5s								
TBI					*e*LR		LR	01 14 34.0	
	comp=Z,1μm,31.5s								
MAW	**Mawson**	**47.91**	**211**	P		**P**		**01 02 03.9**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=133,slow=10,SNR=4.4								
MAW					LR		LR	01 20 05.2	
	comp=Z,2μm,19.7s,MS5.0,baz=296,slow=33								
MAW	**Mawson**	**47.91**	**211**	*e*P		**P**		**01 02 01.9**	**-1.4**
	comp=Z,27nm,1.5s,mb5.0								
MAW					LR		LR		
	comp=Z,3μm,20.0s,MS5.2								
PPT	**Papeete**	**50.26**	**67**	*e*S		**S**		**01 09 31.2**	**-0.5**
	comp=Z,903nm,28.0s								
PPT					*e*LR		LR	01 16 44.9	
	comp=Z,2μm,23.2s,baz=227								
PPT	**Papeete**	**50.26**	**67**	LR		LR		01 19 09.2	
	comp=Z,993nm,20.3s,MS4.8,baz=227,slow=30								
SYO	**Syowa Base**	**53.60**	**202**	*e*P		**P**		**01 02 43.3**	**-2.8**
SYO	**Syowa Base**	**53.60**	**202**	*e*P		**P**		**01 02 46.4**	**+0.3**
RKT	**Rikitea**	**55.10**	**84**	*e*S		**S**		**01 10 37.3**	**-0.5**
	comp=Z,1μm,31.2s								
RKT					*e*SS		SS	01 14 21.6	-0.2
	comp=Z,486nm,27.0s								
RKT					*e*LR		LR	01 18 56.0	
	comp=Z,1μm,29.5s,baz=218								
SNAA	**Sanae**	**57.63**	**185**	*e*P		**P**		**01 03 13.5**	**-1.5**
	comp=Z,14nm,1.2s,mb4.9								
PMSA	**Palmer Station**	**59.46**	**159**	PFAKE				01 03 40.0	+12
PMSA					LR		LR		
	comp=Z,1μm,22.0s,MS5.0								
TAOE	**Nuku Hiva Isla**	**62.72**	**69**	*e*LR		LR		01 22 31.8	
	comp=Z,3μm,24.0s								
COCO	**West Island**	**65.29**	**281**	P		**P**		**01 04 06.7**	**-0.1**
POHA	**Pohakuloa**	**79.15**	**40**	P		**P**		**01 05 31.3**	**+1.7**
CBIJ	**Chichi jima**	**79.39**	**342**	LR		LR		01 34 18.6	
	comp=Z,233nm,20.4s,MS4.5,baz=163,slow=31								
MIDW	**Midway**	**80.42**	**18**	P		**P**		**01 05 37.7**	**+1.3**
YHNB	**Yeheng**	**83.28**	**323**	*e*P		**P**		**01 05 52.4**	**+0.9**
QIZ	**Qiongzhong**	**83.34**	**311**	PFAKE				01 06 00.0	+8.2
QIZ					LR		LR		
	comp=Z,234nm,21.0s,MS4.5								
TRQA	**Tornquist**	**83.46**	**146**	PFAKE				01 06 00.0	+7.6
TRQA					LR		LR		
	comp=Z,881nm,21.0s,MS5.1								
CM31	**Chiang Mai Arr**	**88.47**	**302**	PFAKE				01 06 30.0	+13
CM31					LR		LR		
	comp=Z,335nm,20.0s,MS4.8								
CHTO	**Chiang Mai**	**88.76**	**302**	PFAKE				01 06 30.0	+11
CHTO					LR		LR		
	comp=Z,252nm,20.0s,MS4.6								
PALK	**Pallekele**	**90.41**	**281**	PFAKE				01 06 40.0	+14
PALK					LR		LR		
	comp=Z,83nm,19.0s,MS4.2								
NJ2	**Nanjing**	**90.87**	**324**	*e*P		**P**		**01 06 30.3**	**+1.9**
NJ2					AP		pP	01 06 33.9	-4.1
NJ2					XP		sP	01 06 37.5	-3.9
NJ2					PP		PP	01 10 09.1	+4.7
NJ2					AMB		AMB		
	comp=Z,30nm,1.0s,mb5.6								
NJ2					AMB		AMB		
	comp=Z,340nm,7.3s								
NJ2					LR		LR		
	comp=N,690nm,14.9s,MS5.4								
NJ2					LR		LR		
	comp=E,800nm,18.0s,MS5.4								
NJ2					LR		LR		
	comp=Z,900nm,19.7s,MS5.2								
KMI	**Kunming**	**91.98**	**308**	P		**P**		**01 06 32.6**	**-0.9**
KMI					AP		pP	01 06 37.6	-5.5
KMI					PP		PP	01 10 17.5	+4.4
KMI					S		S	01 17 35.9	+2.6
KMI					AMB		AMB		
	comp=Z,13nm,0.8s,mb5.3								
KMI					AMB		AMB		
	comp=Z,119nm,3.7s								
KMI					LR		LR		
	comp=N,227nm,39.6s,MS4.5								
KMI					LR		LR		
	comp=E,221nm,36.2s,MS4.5								
KMI					LR		LR		
	comp=Z,172nm,28.3s								
KMI	**Kunming**	**91.98**	**308**	P		**P**		**01 06 32.6**	**-0.9**
	comp=Z,13nm,0.8s,mb5.3								
KMI					pP		pP	01 06 37.6	-5.5
KMI					sP		sP	01 06 39.6	-7.0
KMI					PP		PP	01 10 17.5	+4.4
KMI					S		S	01 17 35.9	+2.6
KMI					sS		sS	01 17 41.1	-8.1
KMI					PS		PS	01 18 49.7	+3.0
KMI					SS		SS	01 23 50.1	+8.0
KMI					LR		LR		
	comp=Z,170nm,28.3s,MS4.3								
BOSA	**Boshof**	**92.59**	**217**	P		**P**		**01 06 38.8**	**+2.4**
	comp=Z,1.6nm,0.7s,mb4.6,baz=137,slow=5.3,SNR=3.8								
BOSA					LR		LR	01 40 07.1	
	comp=Z,385nm,21.3s,MS4.8,baz=159,slow=30								
BOSA	**Boshof**	**92.59**	**217**	P		**P**		**01 06 36.5**	**+0.1**
	comp=Z,19nm,1.6s,mb5.3								
BOSA					LR		LR		
	comp=Z,600nm,20.0s,MS5.0								
KSRS	**Korea Array**	**92.79**	**333**	LR		LR		01 45 19.3	
	comp=Z,316nm,22.0s,MS4.7,baz=167,slow=34								
ENH	**Enshi**	**93.14**	**316**	*e*P		**P**		**01 06 40.3**	**+1.4**
	comp=Z,0.2nm,0.4s,mb3.9								
INCN	**Inchon**	**93.20**	**332**	PFAKE				01 06 50.0	+11
INCN					LR		LR		
	comp=Z,382nm,20.0s,MS4.8								
ERM	**Erimo**	**93.74**	**346**	PFAKE				01 06 50.0	+8.3
ERM					LR		LR		
	comp=Z,85nm,21.0s,MS4.2								
LVC	**Limon Verde**	**94.17**	**134**	P		**P**		**01 06 45.6**	**+2.0**
LBTB	**Lobatse**	**95.69**	**218**	PFAKE				01 07 00.0	+9.4
LBTB					LR		LR		
	comp=Z,621nm,20.0s,MS5.1								
CD2	**Chengdu**	**96.30**	**312**	*e*P		**P**		**01 06 54.1**	**+0.8**
CD2					AP		pP	01 06 58.9	-4.1
CD2					XP		sP	01 07 01.5	-4.9
CD2					PP		PP	01 10 50.4	+3.5
CD2					SKS			01 17 28.9	
CD2					S		S	01 18 10.9	-0.2
CD2					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2								
CD2					AMB		AMB		
	comp=Z,30nm,9.2s								
CD2					LR		LR		
	comp=E,290nm,18.0s								
CD2					LR		LR		
	comp=Z,270nm,19.2s,MS4.7								
MSEY	**Mahe Island**	**97.14**	**254**	PFAKE				01 07 10.0	+13
MSEY					LR		LR		
	comp=Z,99nm,21.0s,MS4.3								
YSS	**Yuzh-Sakhalins**	**98.63**	**346**	PFAKE				01 07 10.0	+6.2
YSS					LR		LR		
	comp=Z,465nm,22.0s,MS4.9								
BJT	**Baijiatuau**	**98.94**	**326**	PFAKE				01 07 20.0	+15
BJT					LR		LR		
	comp=Z,548nm,22.0s,MS5.0								
MDJ	**Mudanjiang**	**99.03**	**337**	PFAKE				01 07 20.0	+14
MDJ					LR		LR		
	comp=Z,298nm,21.0s,MS4.8								
NNA	**Nana**	**99.13**	**121**	P		**P**		**01 07 08.2**	**+2.0**
NNA					LR		LR		
	comp=Z,79nm,22.0s,MS4.2								
LPAZ	**La Paz**	**99.98**	**131**	P		Pdif		01 07 12.7	+2.8
LPAZ					LR		LR		
	comp=Z,89nm,19.0s,MS4.3								
PAYG	**Puerto Ayora**	**100.32**	**104**	PFAKE				01 07 20.0	+8.6
PAYG					LR		LR		
	comp=Z,205nm,19.0s,MS4.7								
LSA	**Lhasa**	**101.70**	**303**	PFAKE				01 07 30.0	+12
LSA					LR		LR		
	comp=Z,164nm,20.0s,MS4.5								
LSZ	**Lusaka**	**103.23**	**225**	Pdif		Pdif		01 07 25.5	+1.2
LSZ					LR		LR		
	comp=Z,878nm,19.0s,MS5.3								
SMY	**Shemya**	**103.37**	**7**	PFAKE				01 07 40.0	+15
SMY					LR		LR		
	com

comp=Z,242nm,20.0s,MS4.8
MVU Marysvale 115.84 60 PFAKE 01 12 20.0 +13
MVU LR LR
comp=Z,417nm,19.0s,MS5.1
ANMO Albuquerque 116.63 67 PFAKE 01 12 20.0 +11
ANMO LR LR
comp=Z,637nm,20.0s,MS5.2
KVTX Kingsville 116.63 78 PFAKE 01 12 20.0 +11
KVTX LR LR
comp=Z,538nm,19.0s,MS5.2
DUG Dugway 116.70 59 PFAKE 01 12 20.0 +11
DUG LR LR
comp=Z,393nm,21.0s,MS5.0
MVCO Mesa Verde 117.02 64 PFAKE 01 12 20.0 +10
MVCO LR LR
comp=Z,379nm,20.0s,MS5.0
MPU Maple Canyon 117.22 59 PFAKE 01 12 20.0 +10
MPU LR LR
comp=Z,825nm,22.0s,MS5.3
TEIG Tepich 117.47 91 PFAKE 01 12 20.0 +10
TEIG LR LR
comp=Z,203nm,19.0s,MS4.8
JCT Junction City 117.51 75 PFAKE 01 12 20.0 +9.4
JCT LR LR
comp=Z,586nm,19.0s,MS5.2
HAWA Hanford 117.61 50 PFAKE 01 12 20.0 +9.3
HAWA LR LR
comp=Z,410nm,20.0s,MS5.0
BMO Blue Mountains 117.62 52 PFAKE 01 12 20.0 +9.2
BMO LR LR
comp=Z,529nm,20.0s,MS5.2
TNA Tin City 118.00 13 PFAKE 01 12 20.0 +8.5
TNA LR LR
comp=Z,178nm,20.0s,MS4.7
HLID Hailey 118.20 55 PFAKE 01 12 20.0 +8.1
HLID LR LR
comp=Z,317nm,19.0s,MS5.0
PMR Palmer 118.26 24 PFAKE 01 12 20.0 +8.0
PMR LR LR
comp=Z,429nm,22.0s,MS5.0
BILL Bilibino 118.31 2 PFAKE 01 12 20.0 +7.9
BILL LR LR
comp=Z,352nm,20.0s,MS5.0
HWUT Hardware Ranch 118.36 58 PFAKE 01 12 20.0 +7.8
HWUT LR LR
comp=Z,501nm,20.0s,MS5.1
DIV Divide 118.78 26 PFAKE 01 12 20.0 +7.0
DIV LR LR
comp=Z,2µm,20.0s,MS5.7
SDCO Great Sand Dun 119.12 65 PFAKE 01 12 30.0 +16
SDCO LR LR
comp=Z,337nm,20.0s,MS5.0
AHID Auburn Hatcher 119.41 58 PFAKE 01 12 30.0 +16
AHID LR LR
comp=Z,316nm,20.0s,MS5.0
AMTX Amarillo 119.41 70 PFAKE 01 12 30.0 +16
AMTX LR LR
comp=Z,446nm,19.0s,MS5.1
HKT Hockley 119.60 78 PFAKE 01 12 30.0 +15
HKT LR LR
comp=Z,476nm,19.0s,MS5.2
SDV Santo Domingo 119.72 114 PFAKE 01 12 30.0 +15
SDV LR LR
comp=Z,171nm,19.0s,MS4.7
NEW Newport 120.09 50 PFAKE 01 12 30.0 +14
NEW LR LR
comp=Z,740nm,19.0s,MS5.3
MCK McKinley 120.11 23 PFAKE 01 12 30.0 +14
MCK LR LR
comp=Z,298nm,20.0s,MS4.9
BW06 Boulder Array 120.25 58 PFAKE 01 12 30.0 +14
BW06 LR LR
comp=Z,411nm,20.0s,MS5.1
AAK Ala-Archa 120.25 301 PKPdf PKPdf 01 12 16.7 +0.9
AAK LR LR
comp=Z,75nm,22.0s,MS4.3
MSO Missoula 120.69 52 PFAKE 01 12 30.0 +13
MSO LR LR
comp=Z,473nm,19.0s,MS5.2
YMR Madison River 120.77 56 PFAKE 01 12 30.0 +13
YMR LR LR
comp=Z,1µm,20.0s,MS5.5
LKWY Lake 121.00 56 PFAKE 01 12 30.0 +13
LKWY LR LR
comp=Z,486nm,20.0s,MS5.1
WMOK Wichita Mounta 121.06 72 PFAKE 01 12 30.0 +13
WMOK LR LR
comp=Z,723nm,21.0s,MS5.3
COLA College 121.33 22 PFAKE 01 12 30.0 +12
COLA LR LR
comp=Z,445nm,20.0s,MS5.1
MSKU Masuku 121.61 217 PFAKE 01 12 30.0 +12
MSKU LR LR
comp=Z,8.0nm,20.0s
DLBC Dease Lake 121.75 35 *e*PKPdf PKPdf 01 12 18.0 -0.7
CBKS Cedar Bluff 123.20 68 PFAKE 01 12 30.0 +8.5
CBKS LR LR
comp=Z,607nm,20.0s,MS5.2
KURK Kurchatov 123.48 311 PKPdf PKPdf 01 12 22.6 +0.6
KURK LR LR
comp=Z,35nm,19.0s,MS4.0
EGMT Eagleton 123.61 54 PFAKE 01 12 30.0 +7.7
EGMT LR LR
comp=Z,465nm,20.0s,MS5.1
RSSD Black Hills 124.17 60 *e*PKPdf PKPdf 01 12 22.8 -0.6
RSSD LR LR
comp=Z,1µm,22.0s,MS5.5
TIXI Tiksi 124.22 348 PFAKE 01 12 30.0 +6.6
TIXI LR LR
comp=Z,6µm,21.0s
LAO LASA Array 124.61 57 PFAKE 01 12 40.0 +16
LAO LR LR
comp=Z,331nm,20.0s,MS5.0
KSU1 Kansas State U 125.24 69 PFAKE 01 12 40.0 +15
KSU1 LR LR
comp=Z,461nm,20.0s,MS5.1
BRAL Brewton 125.84 83 PFAKE 01 12 40.0 +13
BRAL LR LR
comp=Z,351nm,19.0s,MS5.0
OXF Oxford 126.68 78 PFAKE 01 12 40.0 +12
OXF LR LR
comp=Z,308nm,20.0s,MS5.0
DWPF Disney 127.45 90 PFAKE 01 12 40.0 +10
DWPF LR LR
comp=Z,177nm,20.0s,MS4.7
ECSD EROS,Sioux Fal 128.13 65 PFAKE 01 12 40.0 +9.1
ECSD LR LR
comp=Z,415nm,19.0s,MS5.1
WVT Waverly 128.71 78 PFAKE 01 12 40.0 +8.0
WVT LR LR
comp=Z,332nm,20.0s,MS5.0
BRVK Borovoye 129.00 309 PFAKE 01 12 40.0 +7.4
BRVK LR LR
comp=Z,177nm,21.0s,MS4.7
SCIA State Center 129.01 69 PFAKE 01 12 40.0 +7.4
SCIA LR LR
comp=Z,543nm,19.0s,MS5.3
BBGH Gun Hill 129.41 122 PFAKE 01 12 50.0 +17
BBGH LR LR
comp=Z,876nm,19.0s,MS5.5
HDIL Hopedale 130.56 72 PFAKE 01 12 50.0 +14
HDIL LR LR
comp=Z,556nm,20.0s,MS5.3
WCI Wyandotte Cave 130.98 77 PFAKE 01 12 50.0 +14
WCI LR LR
comp=Z,273nm,20.0s,MS5.0
AGMN Agassiz Refuge 131.21 60 PFAKE 01 12 50.0 +13
AGMN LR LR
comp=Z,356nm,19.0s,MS5.1
JFWS Jewell Farm 131.38 69 PFAKE 01 12 50.0 +13
JFWS LR LR
comp=Z,496nm,20.0s,MS5.2
ULM Lac du Bonnet 132.27 58 PFAKE 01 12 50.0 +11
ULM LR LR
comp=Z,433nm,21.0s,MS5.1
EYMN Ely 133.47 63 PFAKE 01 12 50.0 +9.0
EYMN LR LR
comp=Z,455nm,20.0s,MS5.2
BLA Blacksburg 134.04 82 PFAKE 01 12 50.0 +7.9
BLA LR LR
comp=Z,317nm,19.0s,MS5.0
AAM Ann Arbor 135.01 74 PFAKE 01 13 00.0 +16
AAM LR LR
comp=Z,846nm,22.0s,MS5.4
MCWV Mont Chateau 135.86 79 PFAKE 01 13 00.0 +14
MCWV LR LR
comp=Z,528nm,20.0s,MS5.3
EIL Elat 135.90 262 *e*PKPpre 01 12 40.5
GNI Garni 136.28 281 PFAKE 01 13 00.0 +14
GNI LR LR
comp=Z,207nm,20.0s,MS4.9
CBN Corbin 136.56 83 PFAKE 01 13 00.0 +13
CBN LR LR
comp=Z,353nm,21.0s,MS5.1
SSPA Standing Stone 137.65 79 PFAKE 01 13 00.0 +11
SSPA LR LR
comp=Z,354nm,21.0s,MS5.1
TOA0 Torodi Ar. Sit 139.56 209 *e*PKPpre 01 12 45.1
TORD Torodi Ar. Bea 139.56 209 PKhKP 01 12 47.6
comp=Z,0.8nm,0.7s,baz=168,slow=1.7,SNR=6.3
TORD PKP PKPdf 01 12 54.4 +2.0
comp=Z,0.9nm,0.7s,baz=172,slow=0.9,SNR=6.2
KIV Kislovodsk 139.65 285 PFAKE 01 13 00.0 +7.5
KIV LR LR
comp=Z,49nm,20.0s,MS4.2
BINY Binghamton 139.71 79 PFAKE 01 13 00.0 +7.4
BINY LR LR
comp=Z,552nm,22.0s,MS5.3
NCB Newcomb 141.73 77 PFAKE 01 13 10.0 +14
NCB LR LR
comp=Z,441nm,20.0s,MS5.2
WES Weston 142.73 81 PFAKE 01 13 10.0 +12
WES LR LR
comp=Z,1µm,22.0s,MS5.6
BR131 Keskin Array S 143.06 273 PFAKE 01 13 10.0 +11
BR131 LR LR
comp=Z,959nm,21.0s,MS5.5
BRTR Keskin Array B 143.06 273 PKhKP 01 12 54.2
comp=Z,0.5nm,0.7s,baz=51,slow=2.9,SNR=2.6
LBNH Lisbon 143.30 78 PFAKE 01 13 10.0 +11
LBNH LR LR
comp=Z,572nm,21.0s,MS5.3
ANTO Ankara 143.68 273 PFAKE 01 13 10.0 +10
ANTO LR LR
comp=Z,208nm,22.0s,MS4.9
OBN Obninsk 147.75 299 *e*PKPbc PKPbc 01 13 10.5 +1.0
SCHQ Schefferville 150.27 62 PFAKE 01 13 20.0 +9.3
SCHQ LR LR
comp=Z,570nm,19.0s,MS5.4
AKASG Malin Array Be 150.78 289 PKPbc PKPbc 01 13 16.4 -0.7
comp=Z,3.7nm,0.8s,baz=87,slow=2.5,SNR=8.8
AKASG PKPab PKPab 01 13 23.7 -0.6
comp=Z,5.2nm,0.8s,baz=89,slow=2.7,SNR=9.9
ARCES ARCESS Array B 152.27 329 PKPbc PKPbc 01 13 18.9 -1.6
comp=Z,2.8nm,0.8s,baz=100,slow=1.4,SNR=9.8
ARCES PKPab PKPab 01 13 29.9 -0.5
comp=Z,2.9nm,0.6s,baz=94,slow=1.1,SNR=7.7
FINES FINESS Array B 153.86 311 PKPbc PKPbc 01 13 22.2 -1.8
comp=Z,2.3nm,0.8s,baz=134,slow=6.0,SNR=4.0
FINES PKPab PKPab 01 13 35.8 -1.4
comp=Z,1.9nm,0.8s,baz=83,slow=4.4,SNR=3.7
GERES GERESS Array B 159.86 277 PKPab PKPab 01 14 04.6 +1.6
comp=Z,0.6nm,0.8s,baz=72,slow=4.3,SNR=4.3
ESLA Sonseca Array 165.57 226 PFAKE 01 13 40.0 +11
ESLA LR LR
comp=Z,2µm,19.0s
PAB San Pablo 165.64 225 PFAKE 01 13 40.0 +11
PAB LR LR
comp=Z,357nm,20.0s

*NEIC **15** 00:56:40.6±2.5, 566S×11071E, h502km±32km, mb3.8/7, Error ellipse: s-maj=20.2km s-min=8.0km az=72.0*
*ISCJB **15** 00:56:41.2±2.2, 565S±0.0×1108E±0.1, h521km±29km, mb4.0/18, Error ellipse: s-maj=24.9km s-min=9.4km az=115.9*
*IDC **15** 00:56:41.2±3.0, 567S×11071E, h510km±36km, mb3.3/9, mb1 3.4/10, mb1mx3.2/21, mbtmp3.3/10, Error ellipse: s-maj=19.5km s-min=10.7km az=49.0*
ISC 15 00:56:41.9±2.4, 57S±0.1×1107E±0.1, h515km±31km, n26, σ0§58/27, mb4.0/18, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**17.68**	**151**	*e*P		**P**	**01 00 18.8**	**+0.4**
	3.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**19.08**	**132**	P		**P**	**01 00 30.8**	**-0.5**
	0.1nm,0.3s,baz=145,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**26.97**	**124**	P		**P**	**01 01 41.8**	**-0.1**
	1.2nm,0.6s,mb3.7,baz=304,slow=9.1,SNR=4.7							
WRA				PcP	PcP		01 04 46.2	-0.5
	0.5nm,0.8s,baz=315,slow=1.4,SNR=5.5							
WRA				S		**S**	**01 05 44.3**	**+1.7**
	0.4nm,0.9s,baz=287,slow=16,SNR=2.7							
NWAO	**Narrogin (SRO)**	**27.70**	**168**	P		**P**	**01 01 48.2**	**-0.6**
STKA	**Stephens Creek**	**38.88**	**136**	P		**P**	**01 03 22.9**	**+0.3**
	3.6nm,0.3s,mb4.3,baz=320,slow=8.6,SNR=13							
STKA	**Stephens Creek**	**38.88**	**136**	P		**P**	**01 03 22.9**	**+0.3**
LSA	**Lhasa**	**39.90**	**333**	*e*P		**P**	**01 03 31.5**	**+0.6**
	2.7nm,0.5s,mb4.0							
JIRN	**Jiri**	**40.76**	**326**	*e*P		**P**	**01 03 38.2**	**+0.4**
	16nm,0.5s,mb4.8							
GUN	**Gumba**	**41.13**	**326**	*e*P		**P**	**01 03 41.4**	**+0.7**
	18nm,0.4s,mb4.9							
DMN	**Daman**	**41.34**	**324**	*e*P		**P**	**01 03 42.8**	**+0.4**
	9.2nm,0.4s,mb4.7							
GKN	**Gorkha**	**41.91**	**324**	*e*P		**P**	**01 03 47.2**	**+0.3**
	15nm,0.3s,mb5.0							
KOLN	**Koldanda**	**42.34**	**323**	*e*P		**P**	**01 03 50.3**	**0.0**
	8.6nm,0.3s,mb4.7							
SONM	**Songino Array**	**53.44**	**356**	P		**P**	**01 05 13.6**	**+0.2**
	0.6nm,0.6s,mb3.1,baz=176,slow=9.4,SNR=3.7							
MKAR	**Makanchi Array**	**58.02**	**337**	P		**P**	**01 05 44.1**	**-1.1**
	0.9nm,0.4s,mb3.4,baz=154,slow=7.3,SNR=31							
OPO	**Ambohidratompo**	**63.14**	**252**	P		**P**	**01 06 19.6**	**+0.6**
	2.1nm,0.6s,mb3.7,baz=73,slow=11,SNR=9.6							
CHKZ	**Chkalovo**	**68.07**	**336**	*e*P		**P**	**01 06 48.8**	**-1.1**
	0.5nm,0.4s,mb3.4							
ZRNK	**Zerenda**	**68.23**	**334**	*e*P		**P**	**01 06 50.0**	**-0.8**
	0.9nm,0.4s,mb3.6							
MAW	**Mawson**	**69.70**	**198**	P		**P**	**01 06 59.5**	**-0.2**
	3.5nm,0.8s,mb4.0,baz=62,slow=5.6,SNR=8.1							
MAW	**Mawson**	**69.70**	**198**	*e*P		**P**	**01 06 59.4**	**-0.3**
	2.9nm,0.6s,mb4.0							
VNDA	**Vanda**	**76.58**	**170**	P		**P**	**01 07 38.3**	**-0.8**
	1.2nm,0.4s,mb3.6,baz=321,slow=5.9,SNR=17							
VNDA	**Vanda**	**76.58**	**170**	*e*P		**P**	**01 07 38.5**	**-0.6**
	1.1nm,0.4s,mb3.6							
SBA	**Scott Base**	**77.63**	**170**	*e*P		**P**	**01 07 45.0**	**+0.1**
	1.7nm,0.6s,mb3.5							
BOSA	**Boshof**	**83.33**	**242**	P		**P**	**01 08 14.8**	**+0.3**
	1.4nm,0.6s,mb3.7,baz=93,slow=3.0,SNR=6.5							
BOSA	**Boshof**	**83.33**	**242**	P		**P**	**01 08 14.8**	**+0.3**
BRTR	**Keskin Array B**	**83.76**	**311**	P		**P**	**01 08 16.4**	**-0.3**
	0.5nm,0.9s,mb3.1,baz=115,slow=6.5,SNR=3.8							
SNAA	**Sanae**	**91.85**	**197**	P		**P**	**01 08 54.9**	**+0.1**

*IDC **15** 01:04:44.9±35.0, 24.14S×179.93W, h517km±153km, mb3.2/5, mb1 3.3/6, mb1mx3.1/14, mbtmp3.2/6, Error ellipse: s-maj=436.0km s-min=101.0km az=83.0*
NEIC 15 01:04:44.6±4.3, 2417S×17991W, h518km±34km, mb4.2/2, Error ellipse: s-maj=50.8km s-min=29.6km az=126.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.73**	**277**	P		P	**01 07 30.9**	**+0.2**
	0.3nm,0.3s,baz=97,slow=17,SNR=4.9							
CTA	**Charters Tower**	**31.56**	**271**	P		P	**01 10 25.1**	**+0.9**
	4.9nm,0.4s,baz=94,slow=11,SNR=12							
CTAO	**Charters Tower**	**31.56**	**271**	*e*P		P	**01 10 25.1**	**+0.8**
	4.7nm,0.3s							
PMG	**Port Moresby**	**34.66**	**289**	P		P	**01 10 50.9**	**+0.4**
STKA	**Stephens Creek**	**34.70**	**248**	P		P	**01 10 51.2**	**+0.4**
	4.7nm,1.1s,baz=76,slow=8.3,SNR=3.2							
STKA	**Stephens Creek**	**34.70**	**248**	P		P	**01 10 51.2**	**+0.4**
ASAR	**Alice Springs**	**42.08**	**261**	P		P	**01 11 50.8**	**+0.1**
	0.4nm,0.3s,baz=97,slow=7.5,SNR=11							
WB2	**Warramunga Arr**	**42.46**	**266**	*e*P		P	**01 11 53.6**	**-0.2**
WRAB	**Tennant Creek**	**42.47**	**266**	*e*P		P	**01 11 53.6**	**-0.2**
	2.7nm,0.7s							
WRA	**Warramunga Arr**	**42.47**	**266**	P		P	**01 11 53.7**	**-0.1**
	1.4nm,0.3s,baz=103,slow=8.3,SNR=34							
FITZ	**Fitzroy Crossi**	**50.89**	**266**	P		P	**01 12 58.4**	**+0.9**
	1.3nm,0.9s,baz=96,slow=9.2,SNR=4.4							
NWAO	**Narrogin (SRO)**	**55.20**	**246**	*e*P		P	**01 13 28.6**	**+0.4**
KURK	**Kurchatov**	**115.45**	**316**	*e*PKPdf	PKPdf		**01 22 27.1**	**-0.3**
ZRNK	**Zerenda**	**121.53**	**319**	PKPdf	PKPdf		**01 22 38.9**	**-0.2**

*BJI **15** 01:10:29.9, 4820N×15489E, h13km, mB4.9, mb5.1, Ms4.4, Msz3.9*
*SKHL **15** 01:10:30.0±4.2, 4834N×15599E, h58km±9km*
*ISCJB **15** 01:10:32.2±2.3, 490N±0.1×1549E±0.2, h15km±15km, mb4.4/35, MS4.2/3, Error ellipse: s-maj=25.0km s-min=7.4km az=83.1*
*NEIC **15** 01:10:34.3±3.3, 4873N×15534E, h29km±22km, mb4.5/20, Error ellipse: s-maj=24.6km s-min=9.6km az=135.0*
*MOS **15** 01:10:36.6±1.4, 4898N×15491E, h44km, mb4.7/18, Error ellipse: s-maj=12.3km s-min=7.5km az=99.0*
*IDC **15** 01:10:36.8±7.2, 4849N×15560E, h75km±57km, mb3.9/12, mb1 4.0/14, mb1mx3.8/25, mbtmp3.9/14, ML3.9/2, MS4.2/2, Ms1 4.2/2, ms1mx3.3/37, Error ellipse: s-maj=49.5km s-min=23.7km az=93.0*
ISC 15 01:10:32.3±2.5, 4887N±009×1551E±02, h9km±16km, n98, σ1§18/102, mb4.4/35, MS4.2/3, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.93**	**19**	*e*P		**Pn**	**01 11 06.0**	**+0.8**
SKR				AMB		AMB	01 11 06.6	
	60nm,0.5s							
SKR				*e*S		**Sn**	**01 11 33.0**	**+3.5**
SKR				A			01 11 36.0	
	2µm,0.2s							
SKR				A			01 11 36.0	
	1µm,0.2s							
SKR				A			01 11 36.0	
	220nm,0.5s							
PET	**Petropavlovsk**	**4.72**	**27**	*e*Pn		**Pn**	**01 11 42.6**	**-1.0**
PET				*e*Sn		**Sn**	**01 12 37.9**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.53**	**262**	PN		**Pn**	**01 12 40.6**	**+4.7**
ASAJ	**Asahikawa**	**9.86**	**246**	P		**Pn**	**01 12 57.0**	**+2.8**
	1.2nm,0.3s,baz=81,slow=11,SNR=10							
ASAJ	**Asahikawa**	**9.86**	**246**	PN		**Pn**	**01 12 57.0**	**+2.9**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
HABR	**Khabarovsk**	**13.27**	**276**	*e*PN		**Pn**	**01 13 38.8**	**-2.1**
MJAR	**Matsushiro Arr**	**17.45**	**231**	P		**Pn**	**01 14 35.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=15,slow=16,SNR=4.5							
MAJO	**Matsushiro**	**17.45**	**231**	P		**Pn**	**01 14 35.8**	**-0.1**
MDJ	**Mudanjiang**	**17.97**	**266**	P		**Pn**	**01 14 44.4**	**+2.1**
	comp=Z,4.3nm,0.3s							
YAK	**Yakutsk**	**19.37**	**322**	*e*P		**Pn**	**01 15 00.0**	**+0.7**
YAK				pmax		pmax		
	comp=Z,24nm,0.6s							
YAK	**Yakutsk**	**19.37**	**322**	*e*P		**Pn**	**01 15 00.4**	**+1.2**
	comp=Z,50nm,0.6s							
BILL	**Bilibino**	**20.03**	**12**	*e*P		**P**	**01 15 07.2**	**+1.8**
KSRS	**Korea Array**	**22.76**	**250**	P		**P**	**01 15 36.8**	**+2.0**
	comp=Z,1.6nm,0.7s,mb3.6,baz=39,slow=9.8,SNR=3.4							
INCN	**Inchon**	**23.55**	**252**	P		**P**	**01 15 41.8**	**-1.3**
BJT	**Baijiatuan**	**28.91**	**267**	P		**P**	**01 16 31.3**	**-0.2**
SSE	**Sheshan**	**31.14**	**248**	P		**P**	**01 16 45.8**	**-5.4**
SSE				AP		pP	01 16 54.4	+0.3
SSE				S		**S**	**01 21 48.8**	**-8.2**
SSE				XS		sS	01 22 01.6	-0.1
SSE				AMB		AMB		
	comp=Z,34nm,0.8s,mb5.2							
SSE				LR		LR		
	comp=N,93nm,16.3s,MS4.3							
SSE				LR		LR		
	comp=E,556nm,16.3s,MS4.3							
SSE				LR		LR		
	comp=Z,285nm,23.0s							
SSE	**Sheshan**	**31.14**	**248**	P		**P**	**01 16 45.7**	**-5.5**
	comp=Z,34nm,0.8s,mb5.2							
SSE				pP		pP	01 16 54.4	+0.3
SSE				PP		PP	01 17 57.0	-4.5
SSE				S		**S**	**01 21 48.8**	**-8.2**
SSE				sS		sS	01 22 01.6	-0.1
SSE				SS		SS	01 24 01.7	-8.3
SSE				LR		LR		
	comp=Z,290nm,23.0s,MS3.9							
NJ2	**Nanjing**	**31.93**	**252**	*e*P		**P**	**01 16 53.5**	**-4.7**
NJ2				AMB		AMB		
	comp=Z,40nm,1.1s,mb5.2							
SONM	**Songino Array**	**31.96**	**287**	P		**P**	**01 16 58.7**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=59,slow=9.9,SNR=4.9							
ZAK	**Zakamensk**	**33.06**	**293**	*e*P		**P**	**01 17 08.6**	**+0.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
COLA	**College**	**33.64**	**40**	P		**P**	**01 17 10.4**	**-2.7**
TATO	**Taipei**	**35.48**	**240**	P		**P**	**01 17 26.7**	**-2.4**
WHN	**Wuhan**	**35.79**	**254**	*e*P		**P**	**01 17 30.9**	**-0.8**
MKAR	**Makanchi Array**	**47.19**	**297**	P		**P**	**01 19 04.5**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.6,baz=64,slow=8.2,SNR=38							
KURK	**Kurchatov**	**47.34**	**303**	*e*P		**P**	**01 19 05.8**	**-0.6**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
KURK	**Kurchatov**	**47.34**	**303**	*e*P		**P**	**01 19 05.8**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**50.12**	**309**	*e*P		**P**	**01 19 26.6**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**50.12**	**309**	*e*P		**P**	**01 19 26.6**	**-1.2**
	comp=Z,3.9nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**50.57**	**309**	P		**P**	**01 19 30.7**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=59,slow=9.2,SNR=11							
BVAR				LR		LR	01 40 59.5	
	comp=Z,74nm,18.2s,MS3.7,baz=139,slow=36							
BRVK	**Borovoye**	**50.61**	**309**	*e*P		**P**	**01 19 31.0**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**50.61**	**309**	*e*P		**P**	**01 19 31.0**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**51.32**	**309**	*e*P		**P**	**01 19 36.2**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
ZRNK	**Zerenda**	**51.32**	**309**	*e*P		**P**	**01 19 36.2**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.3							
LSA	**Lhasa**	**51.52**	**273**	*e*P		**P**	**01 19 40.3**	**+2.0**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.7							
LSA	**Lhasa**	**51.52**	**273**	*e*P		**P**	**01 19 40.3**	**+2.0**
	comp=Z,3.8nm,0.4s,mb4.7							
AAK	**Ala-Archa**	**54.12**	**296**	⇑*i*P		**P**	**01 19 56.3**	**-1.2**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.3							
AAK	**Ala-Archa**	**54.12**	**296**	*e*P		**P**	**01 19 56.7**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0							
ARU	**Arti**	**54.37**	**317**	⇑*i*P		**P**	**01 19 58.3**	**-1.0**
ARU				*e*			01 20 57.5	
ARU				*e*S		**S**	**01 27 38.1**	**+0.5**
ARU				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
ARU	**Arti**	**54.37**	**317**	*e*P		**P**	**01 19 58.4**	**-0.9**
	comp=Z,8.9nm,0.7s,mb4.8							
JIRN	**Jiri**	**56.13**	**275**	*e*P		**P**	**01 20 12.3**	**+0.3**
GUN	**Gumba**	**56.17**	**275**	*e*P		**P**	**01 20 12.6**	**+0.3**
ARCES	**ARCESS Array B**	**56.29**	**341**	P		**P**	**01 20 12.6**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.5,baz=38,slow=7.1,SNR=5.6							
ARCES	**ARCESS Array B**	**56.29**	**341**	P		**P**	**01 20 12.6**	**-0.6**
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GKN	**Gorkha**	**56.92**	**276**	*e*P		**P**	**01 20 17.9**	**+0.2**
KOLN	**Koldanda**	**57.76**	**276**	*e*P		**P**	**01 20 24.1**	**+0.5**
	comp=Z,17nm,0.9s,mb5.0							
AKTK	**Aktyubinsk**	**58.32**	**312**	P		**P**	**01 20 26.0**	**-1.6**
AKTO	**Aktyubinsk**	**58.32**	**312**	P		**P**	**01 20 26.0**	**-1.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=41,slow=9.3,SNR=4.7							
AKTO	**Aktyubinsk**	**58.32**	**312**	P		**P**	**01 20 26.0**	**-1.5**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**62.69**	**335**	P		**P**	**01 20 56.1**	**-1.3**
	comp=Z,2.6nm,0.6s,mb4.5,baz=38,slow=9.6,SNR=12							
OBN	**Obninsk**	**64.32**	**326**	*e*P		**P**	**01 21 07.1**	**-1.0**
OBN				pmax		pmax		
	comp=Z,24nm,1.8s,mb4.9							
NB2	**NORSAR Subarra**	**66.65**	**342**	P		**P**	**01 21 21.7**	**-1.5**
	comp=Z,2.8nm,0.6s,mb4.5,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**66.65**	**342**	P		**P**	**01 21 22.2**	**-1.0**
	comp=Z,5.4nm,0.8s,mb4.6,baz=25,slow=6.4,SNR=13							
KIV	**Kislovodsk**	**70.28**	**315**	*e*P		**P**	**01 21 47.7**	**+1.8**
KIV				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
KIV	**Kislovodsk**	**70.28**	**315**	P		**P**	**01 21 45.9**	**0.0**
AKASG	**Malin Array Be**	**70.53**	**327**	P		**P**	**01 21 46.0**	**-1.4**
	comp=Z,5.3nm,0.7s,mb4.6,baz=32,slow=6.1,SNR=20							
KIEV	**Kiev**	**70.54**	**327**	*e*P		**P**	**01 21 46.2**	**-1.3**
KIEV				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
KIEV	**Kiev**	**70.54**	**327**	*e*P		**P**	**01 21 46.2**	**-1.3**

comp=Z,5.5nm,1.0s,mb4.4
KWP Kalwaria 73.68 330 *e*P **P 01 22 06.1 -0.2**
KWP Kalwaria 73.68 330 *e*P **P 01 22 05.5 -0.8**
comp=Z,13nm,0.6s,mb5.0
STHS Stebnicka Huta 74.35 331 *e*P **P 01 22 13.3 +3.1**
KOLS Kolonicke sedl 74.43 330 *e*P **P 01 22 10.6 -0.1**
ASAR Alice Springs 74.66 200 P **P 01 22 05.8 -6.2**
comp=Z,0.2nm,0.5s,mb3.3,baz=7.0,slow=5.1,SNR=6.4
ASAR Alice Springs 74.66 200 *e*P **P 01 22 06.8 -5.2**
TXAR Lajitas Array 75.29 62 LR LR 01 53 02.7
comp=Z,369nm,19.1s,MS4.7,baz=190,slow=34
KECS Kecovo 75.41 331 *e*P **P 01 22 14.4 -1.9**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 75.41 331 *e*P **P 01 22 14.4 -1.9**
comp=Z,2.1nm,1.0s,mb4.0
KHC Kasperske Hory 76.90 335⇑*e*P **P 01 22 24.3 -0.6**
GERES GERESS Array B 77.13 335 P **P 01 22 25.2 -0.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=36,slow=5.7,SNR=9.4
BRTR Keskin Array B 77.75 318 P **P 01 22 29.1 -0.5**
comp=Z,0.7nm,0.7s,mb3.7,baz=48,slow=3.1,SNR=3.9
BAIF Baives 78.33 341 *e*P **P 01 22 33.4 +0.6**
CDF Champ du Feu 79.19 339 *e*P **P 01 22 38.1 +0.5**
HAU Haudompre 79.79 339 *e*P **P 01 22 41.8 +1.0**
HINF Hinteralfeld 79.85 339 *e*P **P 01 22 42.4 +1.3**
SSF Saint Saulge 81.32 341 *e*P **P 01 22 50.0 +1.0**
comp=Z,5.8nm,0.8s,mb4.2
SSF Saint Saulge 81.32 341 *e*P **P 01 22 50.0 +1.0**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 81.32 341 *e*P **P 01 22 50.0 +1.0**
comp=Z,2.9nm,0.8s,mb4.3
AVF Avril sur Loir 81.61 341 *e*P **P 01 22 51.6 +1.0**
comp=Z,3.2nm,0.6s,mb4.1
AVF Avril sur Loir 81.61 341 *e*P **P 01 22 51.6 +1.0**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AVF Avril sur Loir 81.61 341 *e*P **P 01 22 51.6 +1.0**
comp=Z,1.6nm,0.6s,mb4.1
SMF Signal de Mont 81.64 340 *e*P **P 01 22 51.8 +1.1**
LPL La Plagne 82.03 338 *e*P **P 01 22 53.9 +1.1**
comp=Z,6.8nm,0.8s,mb4.4
LPL La Plagne 82.03 338 *e*P **P 01 22 53.9 +1.1**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LPL La Plagne 82.03 338 *e*P **P 01 22 53.9 +1.1**
comp=Z,3.4nm,0.8s,mb4.3
LPG La Plagne 82.04 338 *e*P **P 01 22 54.1 +1.2**
comp=Z,6.9nm,0.6s,mb4.4
LPG La Plagne 82.04 338 *e*P **P 01 22 54.1 +1.2**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LPG La Plagne 82.04 338 *e*P **P 01 22 54.1 +1.2**
comp=Z,3.5nm,0.6s,mb4.5
MBDF Montbardon 82.76 338 *e*P **P 01 22 57.7 +1.1**
comp=Z,12nm,1.0s,mb4.6
MBDF Montbardon 82.76 338 *e*P **P 01 22 57.7 +1.1**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MBDF Montbardon 82.76 338 *e*P **P 01 22 57.7 +1.1**
comp=Z,5.8nm,1.0s,mb4.6
ORIF Oris-en-Rattie 82.80 339 *e*P **P 01 22 57.8 +1.0**
comp=Z,7.5nm,0.8s,mb4.5
ORIF Oris-en-Rattie 82.80 339 *e*P **P 01 22 57.8 +1.0**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 82.80 339 *e*P **P 01 22 57.8 +1.0**
comp=Z,3.8nm,0.8s,mb4.5
SBF Sospel 83.40 337 *e*P **P 01 23 00.0 +0.1**
FRF La Foret Royal 83.89 338 *e*P **P 01 23 04.1 +1.7**
LMR La Mourre 84.13 338 *e*P **P 01 23 05.0 +1.3**
PGF Pioggiola 84.21 336 *e*P **P 01 23 04.3 +0.2**
comp=Z,34nm,1.0s,mb5.1
PGF Pioggiola 84.21 336 *e*P **P 01 23 04.3 +0.2**
PGF pmax pmax
comp=Z,17nm,1.0s,mb5.1
PGF Pioggiola 84.21 336 *e*P **P 01 23 04.3 +0.2**
comp=Z,17nm,1.0s,mb5.1

*IDC **15** 01:25:18.6±7.5, 35.86N×69.49E, h78km±68km, mb3.6/10, mb1 3.8/13, mb1mx3.6/24, mbtmp3.7/13, ML4.2/3, Error ellipse: s-maj=31.4km s-min=17.6km az=8.0*
*MOS **15** 01:25:20.6±1.0, 3601N×6944E, h110km, mb4.1/1, Error ellipse: s-maj=19.9km s-min=8.2km az=81.5*
*NEIC **15** 01:25:20.2±2.4, 3595N×6944E, h93km±21km, mb3.8/4, Error ellipse: s-maj=17.3km s-min=10.4km az=203.0*
*ISCJB **15** 01:25:22.7±0.6, 3609N±003×6959E±007, h132km±7km, mb3.6/9, Error ellipse: s-maj=9.3km s-min=4.3km az=158.6*
ISC 15 01:25:23.8±0.6,**3609N**±003×**6959E**±007,**h127**km±6km, **n57,σ1°03/71,mb3.7/9,1C-5D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.96**	**139**	⇓P	**Pn**	**01 26 11.2**	**+1.5**
CEP				S	**Sn**	**01 26 47.0**	**+1.9**
THW	**Thamme Wali**	**3.74**	**151**	P	**Pn**	**01 26 20.2**	**+0.2**
CHCP	**Chirah Chowk**	**3.87**	**128**	⇑P	**Pn**	**01 26 23.5**	**+1.7**
SBDP	**Sheikh Budin**	**3.91**	**165**	P	**Pn**	**01 26 22.5**	**+0.2**
DRP	**Derazinda**	**4.36**	**173**	⇓P	**Pn**	**01 26 29.4**	**+1.1**
DRP				S	**Sn**	**01 27 17.0**	**-1.3**
SARP	**Sargodha**	**4.88**	**147**	⇓P	**Pn**	**01 26 35.2**	**0.0**
THN	**Thein Dam**	**6.25**	**124**	*e*P	**Pn**	**01 26 53.8**	**+0.2**
THN				*e*S	**Sn**	**01 28 03.6**	**0.0**
DLH	**Dalhousie**	**6.35**	**122**	*e*P	**Pn**	**01 27 01.0**	**+6.0**
DLH				*e*S	**Sn**	**01 28 05.0**	**-1.2**
AML	**Almayashu** SNR=86	**6.83**	**27**	P	**Pn**	**01 27 01.3**	**-0.1**
KK31	**Karatay Array** 4.3nm,0.2s,baz=199,slow=16,SNR=356	**7.04**	**6**	⇓P	**Pn**	**01 27 03.5**	**-0.8**
KK31				⇓S	**Sn**	**01 28 18.1**	**-4.8**
	5.2nm,0.3s,baz=192,slow=24						
UCH	**Uchtor** SNR=62	**7.23**	**30**	P	**Pn**	**01 27 07.0**	**+0.2**
EKS2	**Erkin-Say** SNR=43	**7.32**	**25**	P	**Pn**	**01 27 08.0**	**-0.1**
KZA	**Kyzart** SNR=14	**7.43**	**35**	P	**Pn**	**01 27 09.4**	**-0.1**
AAK	**Ala-Archa** SNR=60	**7.56**	**29**	P	**Pn**	**01 27 11.5**	**+0.2**
AAK	**Ala-Archa**	**7.56**	**29**	*e*PN	**Pn**	**01 27 10.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,37nm,0.3s						
AAK	**Ala-Archa** comp=Z,37nm,0.3s	**7.56**	**29**	*e*Pn	**Pn**	**01 27 10.3**	**-1.0**
AAK				*e*Sn	**Sn**	**01 28 36.3**	**+0.9**
SDNR	**Sundarnagar**	**7.66**	**125**	*e*P	**Pn**	**01 27 14.0**	**+1.4**
SDNR				*e*S	**Sn**	**01 28 35.0**	**-2.8**
KBK	**Karagaybulak** SNR=14	**7.76**	**31**	P	**Pn**	**01 27 14.1**	**0.0**
CHMS	**Chumysh** SNR=18	**7.97**	**28**	P	**Pn**	**01 27 16.6**	**-0.2**
ULHL	**Ulahol** SNR=19	**8.03**	**38**	P	**Pn**	**01 27 18.0**	**+0.4**
USP	**Ospenovka** SNR=108	**8.11**	**26**	P	**Pn**	**01 27 17.9**	**-0.8**
TKM2	**Tokmak 2** SNR=11	**8.25**	**32**	P	**Pn**	**01 27 20.6**	**-0.1**
KLP	**Kalpa**	**8.52**	**120**	*e*P	**Pn**	**01 27 27.4**	**+3.1**
KLP				*e*S	**Sn**	**01 28 55.1**	**-3.5**
KLP				AML	AML	01 29 09.2	
	comp=N,85nm,0.5s						
KLP				AML	AML	01 29 09.7	
	comp=E,57nm,0.5s						
KHET	**Khetri**	**9.57**	**145**	*e*S	**Sn**	**01 29 15.7**	**-8.4**
KHET				AML	AML	01 29 18.6	
	comp=E,17nm,0.4s						
KHET				AML	AML	01 29 20.0	
	comp=N,33nm,0.3s						
NDI	**New Delhi**	**9.80**	**137**	*e*S	**Sn**	**01 29 22.0**	**-7.6**
SONA	**Sohna**	**10.06**	**139**	*e*P	**Pn**	**01 27 42.9**	**-2.1**
SONA				*e*S	**Sn**	**01 29 28.6**	**-7.5**
SONA				AML	AML	01 29 34.4	
	comp=E,52nm,0.5s						
SONA				AML	AML	01 29 36.3	
	comp=N,21nm,0.4s						
MK31	**Makanchi Array**	**14.30**	**38**	*e*P	**Pn**	**01 28 41.9**	**+1.5**
MKAR	**Makanchi Array**	**14.30**	**38**	P	**Pn**	**01 28 40.7**	**+0.3**
	comp=N,0.7nm,0.3s,baz=219,slow=14,SNR=15						
MKAR	**Makanchi Array**	**14.30**	**38**	P	**Pn**	**01 28 40.7**	**+0.3**
KOLN	**Koldanda**	**14.49**	**121**	*e*P	**Pn**	**01 28 40.5**	**-2.3**
KOLN				*e*S	**Sn**	**01 31 09.3**	**-14**
GKN	**Gorkha**	**15.08**	**118**	*e*P	**Pn**	**01 28 48.7**	**-1.5**
	comp=N,18nm,0.3s						
KURK	**Kurchatov**	**16.01**	**21**	*e*P	**Pn**	**01 29 01.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**16.01**	**21**	*e*Pn	**Pn**	**01 29 01.5**	**-0.2**
	comp=Z,3.2nm,0.8s						
GUN	**Gumba**	**16.03**	**116**	*e*P	**Pn**	**01 29 02.5**	**+0.5**
	comp=Z,9.7nm,0.4s						
JIRN	**Jiri**	**16.40**	**116**	*e*P	**Pn**	**01 29 06.7**	**+0.2**
	comp=Z,18nm,0.5s						
AKTK	**Aktyubinsk**	**16.60**	**333**	P	**Pn**	**01 29 08.6**	**-0.3**
AKTK				S	**S**	**01 32 02.6**	**-11**
AKTO	**Aktyubinsk**	**16.60**	**333**	P	**Pn**	**01 29 08.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=140,slow=12,SNR=11						
AKTO				S	**S**	**01 32 02.6**	**-11**
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=3.5						
AKTO	**Aktyubinsk**	**16.60**	**333**	P	**Pn**	**01 29 08.6**	**-0.4**
AKTO				S	**S**	**01 32 02.6**	**-11**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**16.87**	**359**	*e*P	**Pn**	**01 29 11.1**	**-1.1**
ZRNK						01 32 12.8	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**16.87**	**359**	*e*Pn	**Pn**	**01 29 11.1**	**-1.0**
	comp=Z,2.7nm,0.5s						
ZRNK				Sn	**Sn**	**01 32 12.8**	**-7.3**
BVAR	**Borovoye Array**	**16.95**	**2**	P	**Pn**	**01 29 12.2**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=168,slow=12,SNR=22						
BRVK	**Borovoye**	**16.98**	**1**	*e*P	**Pn**	**01 29 12.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**16.98**	**1**	*e*Pn	**Pn**	**01 29 12.6**	**-0.9**
	comp=Z,4.2nm,0.6s						
CHKZ	**Chkalovo**	**17.60**	**2**	*e*P	**Pn**	**01 29 20.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHKZ	**Chkalovo**	**17.60**	**2**	*e*Pn	**Pn**	**01 29 20.2**	**-0.9**
	comp=Z,4.5nm,0.6s						
ZAL	**Zalesovo**	**20.76**	**26**	P	**Pn**	**01 29 55.0**	**+0.6**
	comp=Z,12nm,0.4s,baz=252,slow=6.4,SNR=28						
SONM	**Songino Array**	**29.51**	**55**	P	**Pn**	**01 31 18.3**	**+2.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=274,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**37.20**	**327**	P	**Pn**	**01 32 23.1**	**+0.5**
	comp=Z,3.1nm,0.9s,mb4.2,baz=120,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**Pn**	**01 32 56.0**	**+1.0**
	comp=Z,2.8nm,0.9s,mb4.1,baz=98,slow=8.9,SNR=16						
NB2	**NORSAR Subarra**	**44.03**	**323**	P	**Pn**	**01 33 18.7**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=100,slow=8.6						
NOA	**NORSAR Array B**	**44.03**	**323**	P	**Pn**	**01 33 18.8**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.3,baz=104,slow=7.3,SNR=2.8						
MJAR	**Matsushiro Arr**	**54.17**	**68**	P	**Pn**	**01 34 37.1**	**+1.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=54,slow=6.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**64.56**	**268**	P	**Pn**	**01 35 46.6**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.6,baz=50,slow=5.6,SNR=9.4						
BOSA	**Boshof**	**76.70**	**219**	P	**Pn**	**01 37 01.2**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=51,slow=6.5,SNR=3.7						
NWAO	**Narrogin (SRO)**	**81.85**	**141**	P	**Pn**	**01 37 28.9**	**+0.1**
WRA	**Warramunga Arr**	**82.75**	**121**	P	**Pn**	**01 37 33.0**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.3,baz=321,slow=4.8,SNR=3.1						
ASAR	**Alice Springs**	**84.96**	**124**	P	**Pn**	**01 37 44.9**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=316,slow=5.1,SNR=3.8						

*NEIC **15** 01:25:24.7±1.9, 7.96S×153.40E, h10km, mb3.5/1, Error ellipse: s-maj=58.1km s-min=28.1km az=149.0*
IDC 15 01:25:49.9±7.7,**692S**×**15097E,h146**km±49km,**mb3.2**/3, **mb1 3.3**/4,**mb1mx3.1**/14,**mbtmp3.1**/4,**Error ellipse: s-maj=92.0km s-min=54.9km az=122.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.51**	**236**	P	Pn	01 26 58.2	+1.5
	1.1nm,0.3s,baz=24,slow=19,SNR=2.8						
PMG				S	Sn	01 27 48.4	-0.3
	1.6nm,0.3s,baz=322,slow=20,SNR=3.9						
WRAB	**Tennant Creek**	**20.68**	**230**	P	P	01 30 18.5	+0.2
	1.3nm,0.6s						
WB2	**Warramunga Arr**	**20.68**	**230**	*e*P	P	01 30 19.5	+1.2
WRA	**Warramunga Arr**	**20.69**	**230**	P	P	01 30 18.6	+0.2
	0.6nm,0.6s,baz=58,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**23.37**	**223**	P	P	01 30 46.2	+1.0
	0.7nm,0.4s,baz=55,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**27.07**	**243**	P	P	01 31 19.1	+0.4
	1.6nm,0.6s,baz=73,slow=14,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.14**	**284**	PKPbc	PKPbc	01 45 21.0	0.0
	0.4nm,0.6s,baz=65,slow=2.4,SNR=6.5						

*NEIC **15** 01:51:05.9, 3029S×7150W, h32km±2km, ML3.3(GUC), After GUC.*
GUC 15 01:51:05.9±0.5,**3029S**×**7150W,h32**km±2km,**MD3.9, ML3.3,4C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.41**	**141**	⇑*i*P	Pb	01 51 14.7	-0.4
OVCH				*i* S	Sb	01 51 21.6	+0.3
OVCH				AML	AML	01 51 22.1	
	comp=N,3μm,0.4s						
OVCH	**Ovalle**	**0.41**	**141**	⇑*i*P	Pb	01 51 14.7	-0.4
OVCH				*i* S	Sb	01 51 21.6	+0.3
LSCH	**La Serena**	**0.44**	**30**	⇓*i*P	Pb	01 51 15.3	-0.3
LSCH				*i* S	Sb	01 51 22.5	+0.4
TLL	**Tololo Astrono**	**0.61**	**79**	⇓*i*P	Pb	01 51 18.4	+0.1
TLL				*i* S	Sb	01 51 27.7	+1.0
TLL				AML	AML	01 51 31.5	
	comp=E,2μm,0.4s						
TLL	**Tololo Astrono**	**0.61**	**79**	⇓*i*P	Pb	01 51 18.4	+0.1
TLL				*i* S	Sb	01 51 27.7	+1.0
CMCH	**Combarbala**	**0.98**	**154**	⇓*i*P	Pn	01 51 22.4	-1.0
CMCH				*i* S	Sn	01 51 36.1	0.0
CMCH				AML	AML	01 51 38.1	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**0.98**	**154**	⇓*i*P	Pn	01 51 22.4	-1.0
CMCH				*i* S	Sn	01 51 36.1	0.0
CHNG	**Los Chungos**	**1.59**	**180**	*e*P	Pn	01 51 32.6	+0.9
CHNG				*i* S	Sn	01 51 53.5	+2.4
PTCH	**Petorca**	**2.03**	**166**	⇑*i*P	Pn	01 51 39.1	+1.3
PTCH				*i* S	Sn	01 52 04.4	+2.5
PTCH				AML	AML	01 52 10.2	
	comp=E,548nm,1.0s						
PTCH	**Petorca**	**2.03**	**166**	⇑*i*P	Pn	01 51 39.1	+1.3
PTCH				*i* S	Sn	01 52 04.4	+2.5

*IDC **15** 02:07:26.2±4.8, 2580S×67.13W, h0km, mb3.8/1, mb1 3.8/2, mb1mx3.5/15, mbtmp3.7/2, ML3.6/1, Error ellipse: s-maj=145.2km s-min=55.2km az=61.0*
*ISCJB **15** 02:07:50.4±1.0, 2437S±008×675W±02, h200km±23km, mb3.4/1, Error ellipse: s-maj=29.3km s-min=10.6km az=27.7*
*NEIC **15** 02:07:51.0±1.2, 2433S×6749W, h186km±21km, mb3.9/1, Error ellipse: s-maj=35.9km s-min=13.7km az=92.0*
*GUC **15** 02:07:51.6±0.9, 2442S×6757W, h180km, ML4.1*
ISC 15 02:07:51.2±1.1,**2439S**±008×**675W**±02,**h186**km±23km,**n11, σ1°06/16,mb3.4/1,2C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.21**	**323**	*e*Pn	**Pn**	**02 08 30.9**	**0.0**
LVC				*e*Sn	**Sn**	**02 09 00.5**	**-1.2**
CPN1	**Cerro Paranal**	**2.69**	**264**	*e*P	**Pn**	**02 08 37.3**	**+1.0**
CPN1				*i* S	**Sn**	**02 09 12.2**	**+0.7**
CPN1				AML	AML	02 09 14.3	
	comp=E,508nm,0.4s						
CEN1	**Los Morros**	**2.69**	**291**	⇓*i*P	**Pn**	**02 08 38.1**	**+1.7**
CEN1				*i* S	**Sn**	**02 09 12.9**	**+1.3**
CEN1				AML	AML	02 09 14.7	
	comp=N,271nm,1.1s						
ANCH	**Antofagasta**	**2.78**	**284**	⇑*i*P	**Pn**	**02 08 37.5**	**+0.1**
ANCH				*i* S	**Sn**	**02 09 12.6**	**-0.9**
ANCH				AML	AML	02 09 15.5	
	comp=N,514nm,0.2s						
ANCH	**Antofagasta**	**2.78**	**284**	⇑*i*P	**Pn**	**02 08 37.5**	**+0.1**
ANCH				*i* S	**Sn**	**02 09 12.6**	**-0.9**
CDCH	**Caldera**	**4.04**	**228**	⇓*i*P	**Pn**	**02 08 52.0**	**-1.0**
CDCH				*i* S	**Sn**	**02 09 39.6**	**-1.8**
LPAZ	**La Paz**	**8.08**	**355**	Pn	**Pn**	**02 09 45.1**	**-0.3**
	comp=N,0.3nm,0.3s,baz=160,slow=12,SNR=5.6						
LPAZ	**La Paz**	**8.08**	**355**	*e*Pn	**Pn**	**02 09 44.8**	**-0.7**
TRQA	**Tornquist**	**14.41**	**162**	*e*P	**Pn**	**02 11 07.9**	**+1.3**
	comp=N,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.11**	**69**	P	**P**	**02 19 23.3**	**-0.7**
	comp=N,0.5nm,0.5s,mb3.4,baz=252,slow=5.3,SNR=13						
MKAR	**Makanchi Array**	**147.09**	**40**	PKPbc	PKPbc	02 27 12.8	+0.7
	comp=N,1.0nm,0.5s,baz=316,slow=2.5,SNR=8.0						

*NEIC **15** 02:27:05.1, 3403S×7008W, h10km, ML3.0(GUC), After GUC.*
GUC 15 02:27:05.1±0.8,**3403S**×**7008W,h10**km±5km,**MD3.7, ML3.0,6C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YECH	**El Yeso**	**0.37**	**359**	⇑*i*P	Pg	02 27 12.8	+0.5
YECH				*i* S	Sg	02 27 18.6	+1.4
YECH				AML	AML	02 27 19.9	
	comp=N,4μm,0.3s						
CICH	**Cipreses**	**0.40**	**225**	⇑*i*P	Pg	02 27 12.9	-0.1
CICH				*i* S	Sg	02 27 18.6	+0.2
CACH	**El Canelo**	**0.44**	**259**	⇓*i*P	Pg	02 27 13.5	-0.2
CACH				*i* S	Sg	02 27 19.6	0.0
CHCH	**Chadas Angostu**	**0.49**	**282**	⇑*i*P	Pg	02 27 14.7	+0.1
CHCH				*i* S	Sg	02 27 21.7	+0.7
ANTU	**Antumapu**	**0.65**	**315**	*e*P	Pg	02 27 18.1	+0.3
ANTU				*i* S	Sg	02 27 27.1	+0.8
ANTU				AML	AML	02 27 27.8	
	comp=N,2μm,0.3s						
LACH	**Colegio Las Am**	**0.69**	**327**	⇑*i*P	Pg	02 27 17.8	-0.7
LACH				*i* S	Sg	02 27 27.8	+0.3
FCH	**Farellones**	**0.72**	**346**	⇑*i*P	Pg	02 27 19.0	-0.1
FCH				*i* S	Sg	02 27 29.4	+0.9
FCH				AML	AML	02 27 31.0	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**0.74**	**329**	⇑*i*P	Pg	02 27 19.5	+0.1
CLCH				*i* S	Sg	02 27 29.7	+0.6
CLCH				AML	AML	02 27 31.0	
	comp=E,1μm,0.4s						
DSCH	**Colegio Aleman**	**0.75**	**327**	*e*P	Pg	02 27 19.2	-0.4
DSCH				*i* S	Sg	02 27 29.8	+0.3
STL	**Santa Lucia**	**0.76**	**322**	*i* P	Pg	02 27 19.1	-0.6
STL				*i* S	Sg	02 27 29.4	-0.2
RCDM	**Rinconada Maip**	**0.81**	**312**	⇓*i*P	Pg	02 27 20.6	-0.1
RCDM				*i* S	Sg	02 27 32.0	+0.6
RCDM				AML	AML	02 27 32.7	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**0.81**	**312**	⇓*i*P	Pg	02 27 20.6	-0.1
RCDM				*i* S	Sg	02 27 32.0	+0.6
PEL	**Peldehue**	**1.02**	**330**	*e*P	Pg	02 27 24.2	-0.5
PEL				*i* S	Sg	02 27 37.9	-0.1
PEL				AML	AML	02 27 41.2	
	comp=E,524nm,0.6s						
PEL	**Peldehue**	**1.02**	**330**	*e*P	Pg	02 27 24.2	-0.5
PEL				*i* S	Sg	02 27 37.9	-0.1
LNV	**Longovilo**	**1.11**	**274**	⇓*i*P	Pb	02 27 25.1	-1.3
NICH	**Los Niches**	**1.36**	**224**	⇓*i*P	Pn	02 27 29.8	-0.3

*IDC **15** 03:08:10.1±2.7, 653S×1518E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML2.3/1, Error ellipse: s-maj=103.8km s-min=37.8km az=133.0*
*NEIC **15** 03:08:11.0±1.6, 628S×1515E, h10km, mb4.4/2, Error ellipse: s-maj=64.2km s-min=16.4km az=123.0*
*ISCJB **15** 03:08:15.0±5.3, 625S±03×1513E±04, h49km±37km, mb3.8/4, Error ellipse: s-maj=74.2km s-min=31.7km az=68.1*
ISC 15 03:08:15.9±5.1,**63S**±03×**1514E**±04,**h46**km±36km,**n11, σ0°27/9,mb3.8/4,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**233**	Pn	**Pn**	**03 09 31.6**	**-0.1**
	0.7nm,0.3s,baz=30,slow=20,SNR=3.4						
PMG				Sn	**Sn**	**03 10 31.1**	**+0.2**
	1.8nm,0.3s,baz=5.5,slow=23,SNR=3.4						
WB2	**Warramunga Arr**	**21.44**	**229**	*e*P	**P**	**03 12 59.8**	**-0.2**
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**	**03 12 60.0**	**-0.1**
	1.6nm,0.7s,mb3.4,baz=57,slow=11,SNR=7.0						
AS31	**Alice Springs**	**24.14**	**222**	*e*P	**P**	**03 13 27.6**	**+0.2**
ASAR	**Alice Springs**	**24.14**	**222**	P	**P**	**03 13 27.8**	**+0.3**
	0.8nm,0.5s,mb3.4,baz=54,slow=9.0,SNR=17						
FITZ	**Fitzroy Crossi**	**27.77**	**243**	*e*P	**P**	**03 13 59.7**	**-0.5**
	2.9nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.77**	**243**	P	**P**	**03 13 59.6**	**-0.6**
	1.8nm,0.6s,mb3.9,baz=89,slow=8.4,SNR=7.5						
KURK	**Kurchatov**	**84.09**	**322**	*e*P	**P**	**03 20 42.0**	**+0.3**
	1.7nm,0.6s,mb4.3						
TOA0	**Torodi Ar. Sit**	**149.42**	**285**	*e*PKPbc	PKPbc	03 28 02.5	+2.8
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKPbc	03 28 02.7	+2.9
	0.2nm,0.4s,baz=75,slow=2.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKPbc	03 28 02.7	+2.9

*MOS **15** 03:52:23.0±1.0, 4.97N×127.40E, h47km, mb5.8/50, MS4.1/5, Error ellipse: s-maj=9.3km s-min=4.7km az=112.0*
*IDC **15** 03:52:25.9±1.2, 4.90N×127.38E, h61km±9km, mb5.1/35, mb1 5.2/37, mb1mx5.1/38, mbtmp5.1/37, MS4.2/17, Ms1 4.2/17, ms1mx4.0/34, Error ellipse: s-maj=13.3km s-min=7.2km az=73.0*
*ISCJB **15** 03:52:25.2±0.4, 4.86N±002×127.41E±003, h72km±3km, mb5.5/155, Error ellipse: s-maj=5.3km s-min=3.5km az=146.8*
*BJI **15** 03:52:26.2, 4.85N×127.43E, h86km, mB5.3, mb5.6, Ms4.5, Msz4.3*
*MAN **15** 03:52:27.6, 4.98N×127.16E, h148km, mb5.3, ML5.8, MS4.2*
MAN F DAVAO CITY - INTENSITY II GEN SANTOS CITY - INTENSITY I.
*NEIC **15** 03:52:28.0±0.7, 4.89N×127.39E, h83km±6km, mb5.4/59, Error ellipse: s-maj=5.9km s-min=3.9km az=76.0*
NEIC Felt [II PIVS] at Davao and [I PIVS] at General Santos, Mindanao, Philippines.
*GCMT **15** 03:52:28.0±0.2, 4.94N×127.44E, h68km±1km, MW5.3/91, Moment Tensor Solution. s70,c93; s91,c150; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_r0.53±.02; $M_{\theta\theta}$0.42±.02; $M_{\phi\phi}$-0.95±.02; $M_{r\theta}$0.44

CNP Catarman 8.06 340 *e*P **Pn 03 54 19.7 -1.8**
RCP Roxas 8.10 325 *e*P **Pn 03 54 23.5 +1.5**
CUYO Cuyo Island 8.69 313 *e*P **Pn 03 54 27.1 -3.0**
OTRP Odiongan 9.16 325 *e*P **Pn 03 54 34.4 -2.0**
PVCP Virac 9.25 340⇑*i*P **Pn 03 54 37.6 0.0**
PVCP Virac 9.25 340 *e*P **Pn 03 54 32.8 -4.9**
PCI Palu 9.52 233 P **Pn 03 54 39.8 -1.5**
0.0nm,0.0s
TSM Tawau 9.54 267 P **Pn 03 54 42.9 +1.2**
PPR Puerto Princes 9.91 300⇓*i*P **Pn 03 54 46.8 +0.2**
ENPP El Nido 10.12 309 *e*P **Pn 03 54 47.9 -1.7**
BATP Bataraza 10.32 293 *e*P **Pn 03 54 51.0 -1.3**
BAKI Biak 10.56 125 P **Pn 03 54 54.9 -0.7**
0.0nm,0.0s
TGY Tagaytay City 11.18 326 P **Pn 03 55 04.2 +0.1**
33nm,0.3s,baz=155,slow=8.7,SNR=2.1
KKM Kota Kinabalu 11.22 276 P **Pn 03 55 06.6 +1.9**
KKM Kota Kinabalu 11.22 276 *e*Pn **Pn 03 55 05.0 +0.3**
LUBP Lubang 11.30 322 *e*P **Pn 03 55 02.2 -3.4**
CVP Callao Caves 13.88 337 *e*P **Pn 03 55 46.0 +5.6**
KSM Kuching 17.43 259 *e*P **Pn 03 56 25.1 -0.3**
DNP Denpasar 18.16 222 P **Pn 03 56 34.4 +0.2**
1µm,1.0s
KAKA Kakadu 18.17 164 *e*P **Pn 03 56 32.1 -2.2**
77nm,0.6s
NBBI Negara 18.34 224 P **Pn 03 56 36.7 +0.3**
336nm,1.1s
GUMO Guam 19.25 62 P **Pn 03 56 47.6 +0.3**
11nm,0.3s,baz=190,slow=20,SNR=2.8
GUMO LR LR 04 02 53.1
comp=Z,1µm,20.5s,baz=241,slow=32
KRKI Karangkates 19.77 229 P **Pn 03 56 50.0 -3.4**
456nm,0.8s
NACB Ninganchiao 19.99 344 *e*P **Pn 03 56 55.0 -1.0**
YHNB Yeheng 20.52 344 *e*P **P 03 56 59.4 0.0**
YHNB *e*Pn **P 03 57 02.4 +3.0**
BJII Banjamegara 21.44 236 P **P 03 57 08.7 -0.6**
304nm,1.4s,mb5.4
QZH Quanzhou 21.68 338⇓*i*P **P 03 57 11.6 -0.2**
QZH S **S 04 01 04.0 -3.5**
QZH AMB AMB
comp=Z,250nm,0.7s,mb5.7
QZH AMB AMB
comp=Z,1µm,4.2s
QZH LR LR
comp=Z,2µm,26.7s
JOW Kunigami 21.85 2 P **P 03 57 14.1 +0.5**
comp=Z,114nm,0.4s,mb5.5,baz=173,slow=12,SNR=26
JOW LR LR 04 04 30.7
comp=Z,276nm,20.3s,baz=149,slow=33
QIZ Qiongzhong 22.19 311⇓P **P 03 57 16.1 -1.1**
QIZ AP 03 57 33.8
QIZ XP sP 03 57 42.1 +0.3
QIZ S **S 04 01 16.0 -1.1**
QIZ XS sS 04 01 41.4 -1.5
QIZ AMB AMB
comp=Z,141nm,4.7s
QIZ LR LR
comp=N,1µm,22.4s
QIZ LR LR
comp=E,875nm,23.0s
QIZ LR LR
comp=Z,908nm,19.1s
QIZ Qiongzhong 22.19 311 *e*P **P 03 57 16.3 -0.9**
comp=Z,58nm,1.1s,mb4.8
JCJI Jatiwangi 22.21 240 P **P 03 57 19.3 +1.9**
comp=Z,402nm,1.6s,mb5.5
GZH Guangzhou 22.65 324 P **P 03 57 22.4 +0.4**
GZH S **S 04 01 23.8 -0.8**
GZH LR LR
comp=N,636nm,18.0s
GZH LR LR
comp=E,731nm,18.3s
GZH LR LR
comp=Z,1µm,16.8s
FITZ Fitzroy Crossi 22.90 184 *e*P **P 03 57 23.7 -1.0**
comp=Z,152nm,1.3s,mb5.2
FITZ Fitzroy Crossi 22.90 184 P **P 03 57 25.4 +0.7**
comp=Z,15nm,0.4s,mb4.7,baz=5.1,slow=9.6,SNR=49
FITZ ScP ScP 04 04 45.6 +1.6
comp=Z,7.2nm,0.8s,baz=67,slow=5.8,SNR=3.2
LEM Lembang 22.94 240 P **P 03 57 25.2 +0.1**
comp=Z,295nm,0.8s,mb5.7
SBJI Serang 23.91 243 P **P 03 57 33.5 -0.6**
comp=Z,246nm,1.5s,mb5.3
KGM Kluang 24.23 264 P **P 03 57 37.3 +0.2**
PMG Port Moresby 24.25 126 P **P 03 57 38.7 +1.6**
comp=Z,4.5nm,0.8s,baz=235,slow=10,SNR=2.5
PMG LR LR 04 07 47.7
comp=Z,412nm,20.5s,baz=291,slow=38
PMG Port Moresby 24.25 126 *i* P **P 03 57 38.9 +1.7**
PMG Port Moresby 24.25 126 *e*P **P 03 57 38.0 +0.8**
comp=Z,41nm,1.0s,mb4.7
KLI Kotabumi 24.54 247 P **P 03 57 39.0 -0.8**
comp=Z,262nm,0.9s,mb5.7
WRAB Tennant Creek 25.58 165 P **P 03 57 49.8 +0.6**
comp=Z,727nm,0.6s,mb6.3,SNR=16
WRAB Tennant Creek 25.58 165⇑*e*P **P 03 57 50.5 +1.3**
WRAB Tennant Creek 25.58 165 P **P 03 57 49.2 -0.1**
WRA Warramunga Arr 25.58 165 P **P 03 57 49.5 +0.2**
comp=Z,16nm,0.6s,mb4.6,baz=346,slow=9.4,SNR=45
WRA S **S 04 02 14.1 +2.4**
comp=Z,15nm,1.2s,baz=345,slow=16,SNR=4.5
WRA ScP ScP 04 04 52.9 +1.6
comp=Z,7.5nm,0.8s,baz=339,slow=3.4,SNR=7.9
WRA Warramunga Arr 25.58 165 P **P 03 57 49.5 +0.2**
WRA S **S 04 02 14.1 +2.3**
WB2 Warramunga Arr 25.59 165⇑*i*P **P 03 57 48.5 -0.8**
CBIJ Chichi jima 26.20 31 P **P 03 57 53.3 -1.6**
comp=Z,357nm,0.5s,mb6.1,baz=218,slow=2.3,SNR=46
IPM Ipoh 26.32 270 P **P 03 57 53.3 -2.6**
KULM Kulim 26.68 272 *e*P **P 03 57 57.8 -1.3**
KKTK Khon Kaen 26.69 297 P **P 03 58 00.0 +0.7**
comp=Z,1µm,0.4s
SSE Sheshan 26.73 348 P **P 03 58 01.1 +1.4**
SSE AP pP 03 58 19.8 +2.8
SSE XP sP 03 58 29.6 +3.9
SSE S **S 04 02 30.0 0.0**
SSE XS sS 04 03 02.3 +2.4
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,251nm,7.0s
SSE LR LR
comp=N,292nm,17.2s
SSE LR LR
comp=E,193nm,17.2s
SSE LR LR
comp=Z,383nm,18.2s
SSE Sheshan 26.73 348 P **P 03 58 01.1 +1.4**
comp=Z,41nm,0.8s,mb5.0
SSE pP pP 03 58 19.7 +2.7
SSE sP sP 03 58 29.6 +3.9
SSE S **S 04 02 30.0 0.0**
SSE sS sS 04 03 02.3 +2.4
SSE LR LR
comp=Z,380nm,18.2s
SNG Songkhla 26.76 276 P **P 03 57 59.0 -0.9**
comp=Z,18nm,13.1s
MBWA Marble Bar 26.95 196 *e*P **P 03 58 01.9 +0.3**
comp=Z,95nm,0.8s,mb5.4
MBWA *e*pP pP 03 58 20.1 +1.1
PPI Padang Panjang 27.52 260 P **P 03 58 07.0 +0.3**
comp=Z,71nm,1.1s,mb5.1
NJ2 Nanjing 28.20 344 *e*P **P 03 58 11.8 -1.0**
NJ2 AP pP 03 58 28.0 -2.2
NJ2 PP PP 03 59 03.8 -14
NJ2 S **S 04 02 49.5 -3.6**
NJ2 AMB AMB
comp=Z,220nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,430nm,5.0s
NJ2 LR LR
comp=N,2µm,30.8s
NJ2 LR LR
comp=E,2µm,23.8s
NJ2 LR LR
comp=Z,1µm,22.7s
JNU Nakatsue 28.29 6 P **P 03 58 12.8 -0.8**
comp=Z,82nm,0.7s,mb5.4,baz=229,slow=19,SNR=25
WHN Wuhan 28.35 336⇓P **P 03 58 15.6 +1.5**
WHN S **S 04 02 58.0 +2.6**
WHN LR LR
comp=Z,1µm,22.3s
PSI Prapat 28.52 267 P **P 03 58 14.6 -1.0**
comp=Z,21nm,0.7s,mb4.9,baz=84,slow=4.6,SNR=31
PSI ScP ScP 04 05 01.9 +1.8
comp=Z,7.4nm,0.7s,baz=153,slow=3.4,SNR=7.0
PSI LR LR 04 10 16.9
comp=Z,664nm,21.3s,baz=250,slow=38
NST Nakhon Sawan 28.88 294 P **P 03 58 17.5 -1.3**
comp=Z,70nm,0.7s,mb5.4
AS31 Alice Springs 29.06 168 *e*P **P 03 58 20.8 +0.3**
AS31 *e*pP pP 03 58 34.9 -3.0
ASAR Alice Springs 29.06 168 P **P 03 58 20.8 +0.4**
comp=Z,18nm,0.7s,mb4.8,baz=6.5,slow=7.5,SNR=79
ASAR PcP PcP 04 01 28.2 +1.3
comp=Z,3.3nm,0.5s,baz=349,slow=2.4,SNR=4.3
ASAR ScP ScP 04 05 04.0 +2.1
comp=Z,7.2nm,0.9s,baz=346,slow=3.0,SNR=9.3
GYA Guiyang 29.23 319⇓*i*P **P 03 58 23.0 +1.1**
GYA AP pP 03 58 41.9 +2.5
GYA XP sP 03 58 51.9 +3.9
GYA PP PP 03 59 20.6 -8.5
GYA PCP PcP 04 01 28.0 +0.7
GYA S **S 04 03 08.8 -0.5**
GYA XS sS 04 03 41.8 +2.5
GYA SS SS 04 04 45.3 -31
GYA SCP ScP 04 05 00.9 -1.5
GYA SCS ScS 04 08 53.9 -2.8
GYA AMB AMB
comp=Z,50nm,0.6s,mb5.3
GYA AMB AMB
comp=Z,180nm,4.2s
GYA LR LR
comp=N,1µm,19.8s
GYA LR LR
comp=E,950nm,17.7s
GYA LR LR
comp=Z,670nm,19.2s
NANT Nan 29.53 300⇑P **P 03 58 21.0 -3.6**
comp=Z,444nm,1.0s,mb6.0
CTA Charters Tower 30.95 144 *e*P **P 03 58 40.5 +3.4**
comp=Z,3.7nm,0.6s
CTA Charters Tower 30.95 144 P **P 03 58 38.8 +1.7**
comp=Z,3.9nm,0.6s,baz=350,slow=11,SNR=3.6
CTA ScP ScP 04 05 10.4 +2.4
comp=Z,4.6nm,0.7s,baz=288,slow=6.4,SNR=3.9
CTA LR LR 04 10 18.3
comp=Z,467nm,19.6s,baz=44,slow=35
CTA Charters Tower 30.95 144 P **P 03 58 38.8 +1.7**
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTA pmax pmax
comp=N,5.0nm,0.7s
CTA MLR MLR
comp=Z,467nm,19.6s
CTAO Charters Tower 30.95 144 *e*P **P 03 58 38.8 +1.7**
CTAO pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 30.95 144 *e*P **P 03 58 38.8 +1.7**
comp=Z,6.6nm,0.8s
CHG Chiang Mai 31.06 299⇑P **P 03 58 37.4 -0.7**
comp=Z,32nm,0.7s,mb5.2
CHTO Chiang Mai 31.06 299⇓P **P 03 58 38.2 +0.1**
SNR=8.2
CHTO Chiang Mai 31.06 299 P **P 03 58 37.4 -0.7**
CHTO pmax pmax
comp=Z,23nm,0.6s,mb5.1
CHTO Chiang Mai 31.06 299 *e*P **P 03 58 37.0 -1.1**
comp=Z,23nm,0.6s,mb5.1
KMI Kunming 31.09 313 P **P 03 58 39.3 +0.9**
KMI S **S 04 03 37.4 -1.0**
KMI SS SS 04 05 25.8 -28
KMI AMB AMB
comp=Z,29nm,0.8s,mb5.1
KMI LR LR
comp=N,453nm,21.7s
KMI LR LR
comp=E,388nm,15.5s
KMI LR LR
comp=Z,602nm,34.1s
KMI Kunming 31.09 313 P **P 03 58 39.3 +0.9**
KMI *PP pP 03 58 52.1 -3.8
KMI S **S 04 03 37.4 -1.0**
KMI SS SS 04 05 25.8 -28
KMI pmax pmax
comp=Z,29nm,0.8s,mb5.1
KMI MLR MLR
comp=Z,600nm,34.1s
KMI Kunming 31.09 313 P **P 03 58 39.3 +0.9**
comp=Z,29nm,0.8s,mb5.1
KMI pP pP 03 58 52.1 -3.8
KMI S **S 04 03 37.4 -1.0**
KMI SS SS 04 05 25.8 -28
KMI LR LR
comp=Z,600nm,34.1s
KSRS Korea Array 32.43 1 P **P 03 58 50.8 +0.7**
comp=Z,66nm,0.7s,mb5.5,baz=178,slow=9.8,SNR=150
KSRS PcP PcP 04 01 36.8 +0.9
comp=Z,8.2nm,0.7s,baz=178,slow=2.6,SNR=9.3
KSRS ScP ScP 04 05 15.4 +2.4
comp=Z,2.5nm,0.7s,baz=185,slow=3.5,SNR=4.7
KSRS LR LR 04 14 03.5
comp=Z,228nm,18.4s,baz=160,slow=40
TIA Tai'an 32.59 344⇑P **P 03 58 51.3 -0.2**
TIA AMB AMB
comp=Z,81nm,0.8s,mb5.6
MJAR Matsushiro Arr 33.03 16 P **P 03 58 53.5 -1.8**
comp=Z,13nm,0.5s,mb5.1,baz=189,slow=8.2,SNR=40
MJAR PcP PcP 04 01 38.3 +0.8
comp=Z,8.2nm,0.7s,baz=179,slow=3.0,SNR=6.0
MAJO Matsushiro 33.03 16 *e*P **P 03 58 53.3 -2.1**
MAJO pmax pmax
comp=Z,36nm,0.7s,mb5.3
MAJO Matsushiro 33.03 16 *e*P **P 03 58 53.2 -2.1**
comp=Z,36nm,0.7s,mb5.3
XAN Xi'an 33.73 332 P **P 03 59 01.1 -0.3**
XAN S **S 04 04 15.4 -4.0**
XAN AMB AMB
comp=Z,307nm,1.1s,mb6.0
XAN LR LR
comp=N,217nm,27.6s
XAN LR LR
comp=E,395nm,30.0s
XAN LR LR
comp=Z,558nm,30.6s
CD2 Chengdu 34.16 322⇑*i*P **P 03 59 05.3 +0.2**
CD2 AP pP 03 59 23.5 +0.8
CD2 XP sP 03 59 32.8 +1.5
CD2 PP PP 04 00 25.1 +1.4
CD2 S **S 04 04 23.8 -2.2**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CD2 AMB AMB
comp=Z,120nm,5.3s
DL2 Dalian 34.28 352 P **P 03 59 07.3 +1.1**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.6
HNR Honiara 35.39 114 LR LR 04 12 20.1
comp=Z,306nm,18.7s,baz=359,slow=34
FORT Forrest 35.46 179 *e*P **P 03 59 16.5 +0.2**
comp=Z,46nm,0.6s,mb5.5
FORT *e* pP 03 59 29.7 -4.3
BJT Baijiatuao 36.43 345 *e*P **P 03 59 24.6 -0.1**
BJT pmax pmax
comp=Z,180nm,0.9s
BJT Baijiatuao 36.43 345 *e*P **P 03 59 24.6 0.0**
comp=Z,180nm,0.9s,mb6.0
BJI Beijing 36.45 345 *e*P **P 03 59 25.0 +0.2**
BJI AP pP 03 59 44.4 +1.8
BJI XP sP 03 59 53.6 +2.5
BJI XS sS 04 05 39.0 +7.4
BJI AMB AMB
comp=Z,174nm,0.9s,mb6.0
BJI LR LR
comp=N,197nm,12.4s
BJI LR LR
comp=E,274nm,12.0s
BJI LR LR
comp=Z,348nm,24.2s
SNY Shenyang 36.95 355⇓P **P 03 59 29.9 +0.8**
SNY AMB AMB
comp=Z,210nm,0.5s,mb6.3
SNY AMB AMB
comp=Z,199nm,3.5s
SNY LR LR
comp=N,657nm,14.4s
SNY LR LR
comp=E,568nm,13.2s
SNY LR LR
comp=Z,515nm,22.8s
KLBR Kellerberrin 37.42 194 *e*P **P 03 59 34.2 +1.2**
comp=Z,32nm,0.7s,mb5.4
IMP Imphal 37.77 305 *i* P **P 03 59 34.0 -2.0**
IMP *ex* x 04 01 52.0
LZH Lanzhou 37.89 328⇑*i*P **P 03 59 38.0 +1.0**
LZH AP pP 03 59 53.5 -1.3
LZH XP sP 04 00 07.3 +3.9
LZH PP PP 04 01 10.1 +5.3
LZH *e*S **S 04 05 19.0 -4.0**
LZH AMB AMB
comp=Z,495nm,1.2s,mb6.2
LZH AMB AMB
comp=Z,2µm,4.3s
LZH LR LR
comp=N,3µm,13.8s
LZH Lanzhou 37.89 328⇑*i*P **P 03 59 38.0 +1.0**
LZH *PP pP 03 59 53.5 -1.3
LZH 04 01 10.1
LZH *e*S **S 04 05 19.0 -4.0**
LZH pmax pmax
comp=Z,495nm,1.2s,mb6.2
LZH MLR MLR
comp=Z,5µm,15.5s
LZH Lanzhou 37.89 328⇑*i*P **P 03 59 38.0 +1.0**
comp=Z,495nm,1.2s,mb6.2
LZH pP pP 03 59 53.5 -1.3
LZH sP sP 04 00 07.3 +3.9
LZH PP PP 04 01 10.1 +5.3
LZH *e*S **S 04 05 19.0 -4.0**
LZH sS sS 04 05 50.1 -3.4
LZH *e*SS SS 04 07 53.3 -19
LZH LR LR
comp=Z,5µm,15.5s
MUN Mundaring 38.18 196 *e*P **P 03 59 40.3 +0.9**
MUN *e* 03 59 48.9
HHC Hu-ho-hao-te 38.55 341⇑P **P 03 59 42.8 +0.3**
HHC AP pP 04 00 00.3 -0.1
HHC XP sP 04 00 10.6 +1.7
HHC PP PP 04 01 16.3 +4.3
HHC S **S 04 05 33.6 +0.6**
HHC PCS PcS 04 05 42.0 -1.1
HHC XS sS 04 06 04.3 +0.8
HHC AMB AMB
comp=Z,104nm,1.3s,mb5.5
HHC AMB AMB
comp=Z,226nm,7.7s
HHC LR LR
comp=N,306nm,13.5s
HHC LR LR
comp=E,352nm,15.7s
HHC LR LR
comp=Z,327nm,17.2s
CN2 Changchun 38.80 358 *e*P **P 03 59 44.6 -0.1**
CN2 *e*XP sP 04 00 16.6 +5.5
CN2 *e*S **S 04 05 44.3 +7.5**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
NWAO Narrogin (SRO) 38.82 194 P **P 03 59 45.0 +0.2**
comp=Z,33nm,0.9s,mb5.2,baz=36,slow=9.1,SNR=10
NWAO Narrogin (SRO) 38.82 194 P **P 03 59 45.7 +0.9**
NWAO pmax pmax
comp=Z,65nm,1.2s
NWAO Narrogin (SRO) 38.82 194 *e*P **P 03 59 45.3 +0.5**
comp=Z,66nm,1.2s,mb5.3
BTO Baotou 38.86 339 *e*P **P 03 59 45.3 +0.1**
STKA Stephens Creek 38.96 161⇑*i*P **P 03 59 45.6 -0.4**
comp=Z,58nm,0.5s,mb5.7
STKA Stephens Creek 38.96 161 P **P 03 59 45.9 -0.1**
comp=Z,89nm,0.6s,mb5.8,baz=335,slow=8.0,SNR=95
STKA LR LR 04 16 18.3
comp=Z,273nm,20.8s,baz=346,slow=37
ERM Erimo 39.55 18 P **P 03 59 51.8 +0.9**
comp=Z,365nm,1.0s,mb6.2,SNR=6.5
ERM Erimo 39.55 18 P **P 03 59 52.7 +1.8**
ERM pmax pmax
comp=Z,46nm,0.9s,mb5.3
ERM Erimo 39.55 18 *e*P **P 03 59 52.0 +1.1**
comp=Z,48nm,0.8s,mb5.4
MDJ Mudanjiang 39.62 2 P **P 03 59 52.3 +0.8**
MDJ AP pP 04 00 11.9 +2.5
MDJ XP sP 04 00 21.3 +3.3
MDJ PP PP 04 01 25.6 +1.9
MDJ SCP ScP 04 05 38.8 -0.6
MDJ PCS PcS 04 05 47.6 +0.3
MDJ S **S 04 05 51.5 +2.3**
MDJ XS sS 04 06 24.8 +5.0
MDJ AMB AMB
comp=Z,114nm,0.9s,mb5.7
MDJ AMB AMB
comp=Z,129nm,3.2s
MDJ LR LR
comp=N,115nm,32.3s
MDJ LR LR
comp=E,229nm,37.6s
MDJ LR LR
comp=Z,604nm,31.3s
MDJ Mudanjiang 39.62 2 *e*P **P 03 59 51.4 -0.1**
comp=Z,93nm,0.8s,mb5.7
MDJ *e*PcP PcP 04 01 56.8 -0.5
SHL Shillong 39.78 305⇓*e*P **P 03 59 52.0 -0.8**
comp=Z,373nm,0.6s,mb6.4
SHL *e*S **S 04 05 49.5 -2.0**
ASAJ Asahikawa 41.30 17 P **P 04 00 05.7 +0.4**
comp=Z,135nm,0.7s,mb5.9,baz=226,slow=10,SNR=68
ASAJ Asahikawa 41.30 17 P **P 04 00 05.7 +0.4**
ASAJ pmax pmax
comp=Z,135nm,0.7s
LSA Lhasa 42.23 310 *e*P **P 04 00 14.5 +1.6**
LSA Lhasa 42.23 310 *e*P **P 04 00 14.6 +1.7**
LSA *e* 04 02 07.6
LSA pmax pmax
comp=Z,55nm,0.6s,mb5.5
LSA Lhasa 42.23 310 *e*P **P 04 00 14.6 +1.7**
comp=Z,55nm,0.6s,mb5.5
LSA *e*PcP PcP 04 02 07.6 +1.9
GTA Gaotai 42.49 328 *i* P **P 04 00 15.8 +0.8**
GTA AP pP 04 00 36.3 +3.2
GTA XP sP 04 00 45.5 +3.9
GTA PP PP 04 01 59.0 +4.3
GTA PCP PcP 04 02 06.4 -0.2
GTA PPP 04 02 25.6
GTA SCP ScP 04 05 47.8 -2.9
GTA PCS PcS 04 05 55.9 -2.7
GTA S **S 04 06 32.5 +0.8**
GTA SCS ScS 04 10 03.9 -5.4
GTA AMB AMB
comp=Z,97nm,0.7s,mb5.6
GTA AMB AMB
comp=Z,404nm,5.7s
GTA LR LR
comp=N,464nm,22.4s
GTA LR LR
comp=E,424nm,25.8s
GTA LR LR
comp=Z,779nm,27.0s
HABR Khabarovsk 43.92 7⇓*i*P **P 04 00 28.0 +1.4**
HABR *e*S **S 04 07 01.9 +9.3**
HABR pmax pmax
comp=Z,138nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 43.96 15 *i* P **P 04 00 26.0 -0.9**
YSS *e* pP 04 00 42.1 -3.0
YSS pmax pmax
comp=Z,170nm,0.8s,mb5.8
YSS Yuzh-Sakhalins 43.96 15 *e*P **P 04 00 26.4 -0.5**
comp=Z,147nm,0.6s,mb5.9
BOK Bokaro 44.19 299 *e*P **P 04 00 29.1 +0.4**
BOK AMb AMB 04 00 31.1
comp=Z,45nm,0.9s,mb5.2
KLR Kul'dur 44.35 4 *e*P **P 04 00 25.8 -4.2**
KLR *e* 04 02 09.3
KLR pmax pmax
comp=E,30nm,1.0s
KLR pmax pmax
comp=Z,100nm,1.0s,mb5.5
HIA Hailar 44.71 353 *e*P **P 04 00 32.8 -0.1**
HIA *e* 04 02 14.4

HIA pmax pmax
comp=Z,32nm,0.8s
HIA Hailar 44.71 353 *e*P **P** **04 00 32.8 -0.1**
comp=Z,32nm,0.8s,mb5.1
HIA *e*PcP PcP 04 02 14.4 +0.3
VIS Vishakhapatnam 44.96 290 *e*P **P** **04 00 35.0 +0.1**
VIS AMb AMB 04 00 35.5
comp=Z,50nm,0.8s,mb5.3
CNB Canberra Magne 44.98 154 *e*P **P** **04 00 38.6 +3.6**
comp=Z,29nm,1.0s,mb5.0
JIRN Jiri 45.28 305 *e*P **P** **04 00 37.7 +0.3**
comp=Z,84nm,0.5s,mb5.7
GUN Gumba 45.63 305 *e*P **P** **04 00 40.1 -0.1**
comp=Z,386nm,0.6s,mb6.3
PKI Pulchoki 45.89 304 *e*P **P** **04 00 41.6 -0.6**
comp=Z,76nm,0.6s,mb5.6
KKN Kakani 46.08 304 *e*P **P** **04 00 43.1 -0.6**
comp=Z,116nm,0.6s,mb5.8
DMN Daman 46.16 304 *e*P **P** **04 00 43.8 -0.5**
comp=Z,114nm,0.7s,mb5.7
SONM Songino Array 46.45 341 P **P** **04 00 47.0 +0.4**
comp=Z,40nm,0.8s,mb5.2,baz=155,slow=8.8,SNR=250
PALK Pallekele 46.51 275 *e*P **P** **04 00 45.4 -1.7**
comp=Z,37nm,1.0s,mb5.1
DZM Mont Dzumac 46.64 127 *e*P **P** **04 00 46.2 -1.8**
DZM Mont Dzumac 46.64 127 LR LR 04 19 37.5
comp=Z,164nm,19.0s,baz=160,slow=35
GKN Gorkha 46.69 304 *e*P **P** **04 00 47.8 -0.6**
comp=Z,99nm,0.5s,mb5.8
MDRS Chennai 47.24 283 *e*P **P** **04 00 52.8 0.0**
KOLN Koldanda 47.46 304 *e*P **P** **04 00 54.4 -0.1**
comp=Z,336nm,0.7s,mb6.2
DANN Dangsing 47.53 304 *e*P **P** **04 00 55.2 +0.2**
comp=Z,4.4nm,0.6s,mb4.5
ALBI Allahabad 48.19 300 *e*P **P** **04 01 00.0 -0.1**
CIT Chita 48.38 349 *e*P **P** **04 01 02.7 +1.1**
CIT pmax pmax
comp=Z,155nm,1.0s,mb5.8
NGP Nagpur 49.60 294 *e*P **P** **04 01 09.8 -1.2**
NGP AMb AMB 04 01 11.1
comp=Z,58nm,0.9s,mb5.5
ZAK Zakamensk 49.69 340 *e*P **P** **04 01 11.5 0.0**
ZAK *e* 04 02 32.4
ZAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
ZAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TRD Trivandrum 50.23 277 *e*P **P** **04 01 15.1 -0.5**
TRD AMb AMB 04 01 16.2
comp=Z,143nm,0.9s,mb5.9
TLY Talaya 50.67 341 P **P** **04 01 19.8 +0.8**
comp=Z,442nm,0.6s,SNR=16
TLY Talaya 50.67 341 ⇑P **P** **04 01 20.5 +1.5**
SNR=11
TLY Talaya 50.67 341 *e*P **P** **04 01 19.0 0.0**
TLY *e*S **S** **04 08 25.9 -2.6**
TLY pmax pmax
comp=Z,75nm,1.0s,mb5.7
TLY Talaya 50.67 341 *e*P **P** **04 01 18.9 -0.1**
comp=Z,48nm,0.7s,mb5.6
LGTI Lohaghat 50.80 304 *i*P **P** **04 01 20.0 0.0**
IRK Irkutsk 50.96 342 *e*P **P** **04 01 21.5 +0.4**
IRK *e* pP 04 01 41.3 +1.6
IRK pmax pmax
comp=Z,83nm,1.5s,mb5.5
LATR Latur 51.43 290 *ex* x 04 01 14.0
BHPL Bhopal 51.52 296 *e*P **P** **04 01 24.9 -0.5**
BHPL AMb AMB 04 01 26.5
comp=Z,94nm,0.8s,mb5.9
MOY Mondy 51.56 339 *e*P **P** **04 01 25.7 +0.1**
MOY pmax pmax
comp=Z,100nm,1.7s,mb5.6
CLNS Chul'man 51.85 358 *e*P **P** **04 01 28.3 +0.5**
CLNS *e*PP PP 04 03 23.0 -3.3
CLNS *e*S **S** **04 08 45.0 +0.2**
CLNS *e*SS SS 04 12 22.0 -0.2
CLNS pmax pmax
comp=Z,100nm,0.8s,mb5.9
WMQ Urumqi 52.20 324⇑ *i*P **P** **04 01 31.5 +1.1**
WMQ AP pP 04 01 50.5 +1.4
WMQ XP sP 04 01 59.3 +1.9
WMQ PCP PcP 04 02 42.0 +0.9
WMQ PP PP 04 03 31.5 +2.1
WMQ PPP 04 04 36.5
WMQ SCP ScP 04 06 31.3 -0.2
WMQ PCS PcS 04 06 39.3 -0.1
WMQ S **S** **04 08 48.5 -1.0**
WMQ PS 04 09 10.8
WMQ XS sS 04 09 21.6 +0.4
WMQ SCS ScS 04 11 10.9 -2.4
WMQ SS SS 04 12 24.8 -2.9
WMQ AMB AMB
comp=Z,156nm,1.0s,mb6.0
WMQ LR LR
comp=N,956nm,23.1s
WMQ LR LR
comp=E,430nm,22.0s
WMQ LR LR
comp=Z,684nm,27.8s
MNGI Mangalore 52.50 283 *e*P **P** **04 01 32.0 -0.7**
MNGI AMb AMB 04 01 33.2
comp=Z,139nm,0.6s,mb6.2
NDI New Delhi 53.09 302 *e*P **P** **04 01 35.0 -2.0**
comp=Z,24nm,0.5s,mb5.5
NDI *e*P 04 01 35.3
NDI AMb AMB 04 01 36.5
comp=Z,77nm,0.7s,mb5.8
KAD Karad 53.52 288 *e*P **P** **04 01 38.0 -2.1**
KAD *e*P 04 01 38.8
KAD AMb AMB 04 01 39.8
comp=Z,44nm,0.6s,mb5.7
BOD Bodaibo 53.84 351⇑ *i*P **P** **04 01 42.5 0.0**
BOD pmax pmax
comp=Z,96nm,1.0s,mb5.8
PET Petropavlovsk 54.41 23 *i*P **P** **04 01 47.9 +1.3**
PET pmax pmax
comp=Z,123nm,0.7s,mb6.0
PET Petropavlovsk 54.41 23 *e*P **P** **04 01 46.9 +0.3**
comp=Z,79nm,0.5s,mb6.0
AJM Ajmer 54.72 299 *e*P **P** **04 01 48.3 -0.6**
AJM *e*P 04 01 48.3
AJM AMb AMB 04 01 49.3
comp=Z,48nm,0.8s,mb5.6
DLH Dalhousie 55.28 307 *ex* **P** **04 01 49.0 -3.9**
DLH *ex* x 04 01 56.0
THN Thein Dam 55.45 306 *e*P **P** **04 01 52.3 -1.8**
MK31 Makanchi Array 57.02 325 P **P** **04 02 06.1 +0.8**
MK31 Makanchi Array 57.02 325 *e*P **P** **04 02 05.8 +0.5**
MKAR Makanchi Array 57.02 325 P **P** **04 02 06.0 +0.7**
comp=Z,158nm,0.6s,mb6.2,baz=124,slow=6.5,SNR=806
MKAR S **S** **04 09 55.8 +1.6**
comp=Z,1.2nm,0.8s,baz=118,slow=15,SNR=4.1
MKAR LR LR 04 29 49.7
comp=Z,216nm,19.7s,baz=116,slow=39
MKAR Makanchi Array 57.02 325 P **P** **04 02 06.0 +0.7**
MKAR S **S** **04 09 55.8 +1.6**
MKAR Makanchi Array 57.02 325 P **P** **04 02 06.0 +0.7**
MKAR S **S** **04 09 55.8 +1.6**
MKAR LR LR 04 29 49.7
YAK Yakutsk 57.05 1*d* *i*P **P** **04 02 05.5 0.0**
YAK pmax pmax
comp=Z,226nm,0.8s,mb6.2
YAK pmax pmax
comp=N,152nm,1.0s
YAK pmax pmax
comp=E,21nm,0.9s
YAK Yakutsk 57.05 1 *e*P **P** **04 02 04.6 -0.9**
comp=E,479nm,0.8s,mb6.6
MA2 Magadan 57.43 14 *i*P **P** **04 02 09.1 +0.9**
MA2 pmax pmax
comp=Z,180nm,1.5s,mb5.9
MA2 Magadan 57.43 14 *e*P **P** **04 02 08.6 +0.5**
comp=Z,73nm,0.6s,mb5.9
ULHL Ulahol 58.65 317 P **P** **04 02 18.3 +1.6**
SNR=28
KZA Kyzart 59.25 317 P **P** **04 02 22.6 +1.8**
SNR=67
TKM2 Tokmak 2 59.36 318 P **P** **04 02 22.7 +1.0**
SNR=68
KBK Karagaybulak 59.69 317 P **P** **04 02 25.2 +1.4**
SNR=48
UCH Uchtor 59.81 317 P **P** **04 02 26.6 +1.8**
SNR=150

ZAL Zalesovo 59.90 332 P **P** **04 02 24.9 -0.4**
comp=Z,42nm,0.6s,mb5.7,baz=359,slow=6.8,SNR=78
ZAL S **S** **04 10 32.9 +1.3**
comp=Z,1.6nm,0.3s,baz=103,slow=23,SNR=12
ZAL LR LR 04 31 47.2
comp=Z,263nm,20.3s,baz=343,slow=40
ZAL Zalesovo 59.90 332 P **P** **04 02 24.9 -0.4**
ZAL S **S** **04 10 32.9 +1.3**
ZAL Zalesovo 59.90 332 P **P** **04 02 24.9 -0.4**
ZAL S **S** **04 10 32.9 +1.3**
ZAL LR LR 04 31 47.2
CHMS Chumysh 59.96 318 P **P** **04 02 26.3 +0.6**
SNR=23
FRU Bishkek 59.98 317 *e*P **P** **04 02 25.0 -0.9**
FRU *e* pP 04 02 43.0 -2.0
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.3
AAK Ala-Archa 59.99 317 P **P** **04 02 26.2 +0.3**
comp=Z,413nm,0.5s,SNR=36
AAK Ala-Archa 59.99 317 P **P** **04 02 27.1 +1.2**
SNR=52
AAK Ala-Archa 59.99 317 P **P** **04 02 26.4 +0.4**
SNR=22
AAK Ala-Archa 59.99 317 *e*P **P** **04 02 25.7 -0.2**
AAK *e* 04 03 11.5
AAK pmax pmax
comp=Z,32nm,0.5s,mb5.6
AAK Ala-Archa 59.99 317 *e*P **P** **04 02 25.7 -0.2**
comp=Z,32nm,0.5s,mb5.6
AAK *e*PcP PcP 04 03 11.4 +0.1
USP Ospenovka 60.24 318 P **P** **04 02 28.4 +0.8**
SNR=176
AML Almayashu 60.34 316 P **P** **04 02 29.9 +1.6**
SNR=95
EKS2 Erkin-Say 60.49 317 P **P** **04 02 30.4 +1.1**
SNR=90
SEY Seymchan 60.77 13 *i*P **P** **04 02 31.8 +0.6**
KURK Kurchatov 61.16 327 P **P** **04 02 34.9 +1.0**
comp=Z,4μm,0.5s
KURK Kurchatov 61.16 327 ⇓P **P** **04 02 34.9 +1.0**
SNR=130
KURK Kurchatov 61.16 327 *e*P **P** **04 02 34.2 +0.3**
KURK pmax pmax
comp=Z,282nm,0.6s,mb6.5
KURK Kurchatov 61.16 327 *e*P **P** **04 02 34.2 +0.3**
comp=Z,282nm,0.6s,mb6.5
NVS Novosibirsk 61.18 333 *i*P **P** **04 02 33.0 -1.0**
NVS *i*S **S** **04 10 47.5 -0.4**
NVS pmax pmax
comp=Z,74nm,0.8s,mb5.8
NVS pmax pmax
comp=N,41nm,0.9s
NVS pmax pmax
comp=E,85nm,1.2s
NVS smax
comp=N,49nm,2.0s
NVS smax
comp=E,90nm,2.0s
AFI Afiamalu 63.13 108 P **P** **04 02 55.2 +8.1**
TIXI Tiksi 66.69 0 *e*P **P** **04 03 08.6 -1.6**
TIXI pmax pmax
comp=Z,75nm,0.5s,mb5.8
TIXI Tiksi 66.69 0 *e*P **P** **04 03 08.6 -1.6**
comp=Z,75nm,0.5s,mb5.8
BVAR Borovoye Array 66.75 327 P **P** **04 03 11.1 +0.5**
comp=Z,89nm,0.5s,mb5.8,baz=128,slow=8.8,SNR=241
BRVK Borovoye 66.82 327 P **P** **04 03 11.7 +0.7**
comp=Z,1μm,0.7s,SNR=94
BRVK Borovoye 66.82 327 ⇑P **P** **04 03 11.5 +0.5**
SNR=82
BRVK Borovoye 66.82 327 P **P** **04 03 11.2 +0.2**
BRVK pmax pmax
comp=Z,87nm,0.7s,mb5.7
BRVK Borovoye 66.82 327 *e*P **P** **04 03 11.1 +0.1**
comp=Z,136nm,0.7s,mb5.9
CHKZ Chkalovo 66.90 327 P **P** **04 03 11.3 -0.2**
CHKZ pmax pmax
comp=Z,110nm,1.0s,mb5.6
CHKZ Chkalovo 66.90 327 *e*P **P** **04 03 11.0 -0.5**
comp=Z,106nm,1.0s,mb5.6
ZRNK Zerenda 67.48 326 P **P** **04 03 15.3 +0.1**
ZRNK pmax pmax
comp=Z,220nm,0.6s,mb6.2
ZRNK Zerenda 67.48 326 *e*P **P** **04 03 15.1 -0.1**
comp=Z,224nm,0.6s,mb6.2
BILL Bilibino 68.27 15*c* *i*P **P** **04 03 19.0 -1.2**
BILL pmax pmax
comp=Z,31nm,1.3s,mb5.0
BILL Bilibino 68.27 15 *e*P **P** **04 03 18.4 -1.7**
comp=Z,19nm,0.8s,mb5.0
WSAR Wadi Sarin 68.62 293 P **P** **04 03 21.4 -1.0**
comp=Z,5.5nm,0.5s,mb4.7,baz=134,slow=6.7,SNR=11
WSAR LR LR 04 32 34.9
comp=Z,87nm,21.1s,baz=116,slow=35
JMDO Jabal Madar 69.05 292⇑P **P** **04 03 24.4 -0.5**
SNR=5.1
SMDO Samad 69.14 293⇑P **P** **04 03 25.4 -0.1**
SNR=5.1
ABKT Ailbek 70.73 308 P **P** **04 03 36.8 +1.5**
comp=Z,402nm,0.8s,mb6.3,SNR=7.2
CASY Casey 72.03 187 *e*P **P** **04 03 43.1 0.0**
comp=Z,26nm,0.7s,mb5.2
UNV Unalaska Vale 72.09 35 *e*P **P** **04 03 43.2 -0.2**
comp=Z,125nm,0.8s,mb5.8
WHFO Wadi Hawf 72.98 287⇑P **P** **04 03 48.4 -0.4**
SNR=15
AKTK Aktyubinsk 73.20 321 P **P** **04 03 50.2 +0.2**
AKTK S S 04 13 13.8 +1.4
AKTO Aktyubinsk 73.20 321 P **P** **04 03 50.2 +0.2**
comp=Z,100nm,0.5s,mb5.9,baz=96,slow=7.4,SNR=265
AKTO S S 04 13 13.8 +1.4
comp=Z,6.2nm,1.1s,baz=182,slow=23,SNR=11
AKTO Aktyubinsk 73.20 321 P **P** **04 03 50.3 +0.2**
AKTO S S 04 13 13.8 +1.4
AKTO pmax pmax
comp=Z,101nm,0.5s,mb5.9
AKTO smax
comp=N,6.0nm,1.2s
ARU Arti 74.35 327 P **P** **04 03 56.2 -0.6**
comp=N,878nm,0.5s,SNR=7.5
ARU Arti 74.35 327⇑ *i*P **P** **04 03 55.8 -1.0**
ARU *e* 04 04 07.7
ARU *e*S S 04 13 26.0 +0.8
ARU pmax pmax
comp=Z,54nm,0.6s,mb5.5
ARU Arti 74.35 327 *e*P **P** **04 03 56.2 -0.6**
comp=Z,80nm,0.6s,mb5.6
MIR Mirnyy 75.43 194*d* *i*P **P** **04 04 05.0 +2.0**
MIR *i* 04 04 17.0
MIR *i* pP 04 04 28.0 +5.3
MIR pmax pmax
comp=Z,420nm,1.0s,mb6.1
SOKR Solikamsk 76.06 330 *e*P **P** **04 04 06.2 -0.4**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.0
SOKR MLR MLR
comp=Z,320nm,28.0s
UMR Umm Al-Rimmam 78.67 299 *e*P **P** **04 04 21.2 +0.1**
UMR AMb AMB 04 04 22.5
comp=Z,198nm,0.7s,mb6.0
KBD Kabd 78.69 299 *e*P **P** **04 04 21.1 -0.2**
RDF Al-Radifah 78.81 298 *e*P **P** **04 04 21.9 0.0**
RDF AMb AMB 04 04 23.2
comp=Z,181nm,0.8s,mb6.0
MIB Mutribah 79.00 299 *e*P **P** **04 04 22.9 -0.2**
MIB AMb AMB 04 04 24.3
comp=Z,481nm,0.7s,mb6.4
NAY Al-Naaiem 79.08 299 *e*P **P** **04 04 23.2 -0.2**
NAY AMb AMB 04 04 24.6
comp=Z,150nm,0.7s,mb6.0
KDAK Kodiak Island 80.55 32 P **P** **04 04 31.2 -0.2**
comp=Z,19nm,0.4s,mb5.3,baz=326,slow=4.4,SNR=27
IMA2 Indian Mountai 81.06 24 *e*P **P** **04 04 34.3 +0.2**
LBOS 81.27 283⇓ *e*P **P** **04 04 37.4 +2.2**
LBOS AMb AMB 04 04 37.8
comp=Z,40nm,0.7s,mb5.3
GNI Garni 81.29 310 P **P** **04 04 37.6 +2.3**
comp=Z,22nm,0.7s,mb5.1,baz=208,slow=1.6,SNR=9.0
GNI Garni 81.29 310 P **P** **04 04 37.6 +2.3**
GNI pmax pmax
comp=Z,23nm,0.7s
GNI Garni 81.29 310 *e*P **P** **04 04 37.2 +1.9**
comp=Z,62nm,0.9s,mb5.4
TBLG Delisi 81.32 311 P **P** **04 04 38.1 +2.6**
ZEI Tsey 81.97 312 *e*P **P** **04 04 39.7 +0.8**
ZEI *e*PP pP 04 04 53.0 -5.8
ZEI *e* 04 07 49.0
ZEI pmax pmax
comp=Z,77nm,0.7s,mb5.6
SLKM Skilak Lake 82.01 30 *e*P **P** **04 04 37.7 -1.4**
HAKT HAKKARI 82.08 307 *i*P **P** **04 04 40.2 +0.8**
TRBA At Turbah 82.41 283⇑ *e*P **P** **04 04 43.3 +2.1**
TRBA AMb AMB 04 04 43.8
comp=Z,8.9nm,0.4s,mb4.9
MSL Mosul 82.58 306 *ex* x 04 04 44.0
PMR Palmer 82.61 29 *e*P **P** **04 04 41.1 -1.1**
PMR pmax pmax
comp=Z,52nm,1.1s,mb5.3
PMR Palmer 82.61 29 *e*P **P** **04 04 41.0 -1.2**
comp=Z,52nm,1.1s,mb5.3
HAJJ Hajjah 82.77 285⇑ *e*P **P** **04 04 45.2 +2.1**
HAJJ AMb AMB 04 04 46.1
comp=Z,102nm,0.9s,mb5.7
MCK McKinley 82.83 26 *e*P **P** **04 04 42.3 -1.1**
MCK *e**PP pP 04 05 04.1 +0.7
MCK pmax pmax
comp=Z,74nm,1.2s,mb5.4
MCK McKinley 82.83 26 *e*P **P** **04 04 42.3 -1.1**
comp=Z,74nm,1.2s,mb5.4
MCK *e*pP pP 04 05 04.1 +0.7
KIV Kislovodsk 82.86 314 P **P** **04 04 44.8 +1.3**
comp=Z,325nm,0.7s,mb6.3,SNR=6.3
KIV Kislovodsk 82.86 314⇑ *e*P **P** **04 04 45.3 +1.8**
KIV pmax pmax
comp=Z,53nm,1.0s,mb5.3
KIV Kislovodsk 82.86 314 *e*P **P** **04 04 45.0 +1.4**
comp=Z,36nm,0.7s,mb5.3
SML Sawmill 83.00 28 P **P** **04 04 44.3 0.0**
SML Sawmill 83.00 28 *e*P **P** **04 04 44.1 -0.2**
COLA College 83.37 25⇓ *e*P **P** **04 04 45.3 -0.8**
COLA College 83.37 25 *e*P **P** **04 04 44.7 -1.5**
comp=Z,13nm,0.8s,mb4.8
VRHR Novokhopersk 83.60 321 *e*P **P** **04 04 47.4 +0.1**
VRHR pmax pmax
comp=Z,90nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.8s
ERZM Erzurum 83.88 309 *i*P **P** **04 04 51.4 +2.6**
DIV Divide 84.21 29 *e*P **P** **04 04 50.8 +0.4**
comp=E,550nm,1.2s,mb6.3
MARD Mardin 84.41 307 *i*P **P** **04 04 52.9 +1.4**
VNDA Vanda 84.47 173 P **P** **04 04 51.4 -0.4**
comp=E,10nm,0.8s,mb4.7,baz=320,slow=5.8,SNR=62
VNDA LR LR 04 42 03.4
comp=E,129nm,20.7s,baz=327,slow=35
VNDA Vanda 84.47 173 P **P** **04 04 51.4 -0.4**
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA MLR MLR
comp=Z,129nm,20.7s
VNDA Vanda 84.47 173 *e*P **P** **04 04 50.8 -1.0**
comp=Z,14nm,0.9s,mb4.8
PPT Papeete 84.80 108 *e*SS SS 04 21 07.9 +19
comp=Z,155nm,31.2s
PPT *e*LR LR 04 31 50.6
comp=Z,432nm,28.8s,baz=288
MAW Mawson 85.06 200 P **P** **04 04 55.4 +0.6**
comp=Z,14nm,0.8s,mb5.0,baz=63,slow=6.0,SNR=34
MAW LR LR 04 41 16.7
comp=Z,84nm,21.6s,baz=190,slow=34
MAW Mawson 85.06 200 P **P** **04 04 56.2 +1.4**
MAW pmax pmax
comp=Z,19nm,0.9s
MAW Mawson 85.06 200 *e*P **P** **04 04 55.5 +0.8**
comp=Z,19nm,0.9s,mb5.0
VORD Divnogorie 85.07 321 *e*P **P** **04 04 52.1 -2.7**
VORD pmax pmax
comp=Z,80nm,0.8s,mb5.7
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VOR Voronezh 85.11 321 *e*P **P** **04 04 55.0 0.0**
VOR *e**SP sP 04 05 15.0 -8.1
VOR *e*S S 04 15 17.0 -1.6
VOR pmax pmax
comp=E,70nm,1.3s
VOR pmax pmax
comp=Z,240nm,1.3s,mb6.0
VOR smax
comp=N,150nm,1.6s
VRSR Storozhevoye 85.13 321*c* *i*P **P** **04 04 54.6 -0.5**
VRSR *e*S S 04 15 16.7 -2.1
VRSR pmax pmax
comp=Z,80nm,0.9s,mb5.7
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,30nm,0.6s
VRSR smax
comp=N,60nm,1.1s
VRSR smax
comp=E,20nm,1.0s
VRSR smax
comp=Z,4.0nm,1.0s
SBA Scott Base 85.37 172 P **P** **04 04 58.5 +2.2**
SBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SBA Scott Base 85.37 172 *e*P **P** **04 04 58.2 +1.9**
comp=Z,8.8nm,0.8s,mb4.7
KELT Kelkit 85.49 310 *i*P **P** **04 04 58.5 +1.6**
TBI Tubuai 85.61 114 *e*LR LR 04 32 06.4
comp=Z,452nm,29.5s,baz=282
ELZG Elazig 85.78 308 *i*P **P** **04 05 00.1 +1.8**
MOS Moscow 85.90 325 *e*P **P** **04 04 56.5 -2.4**
MOS *e*S S 04 15 20.7 -5.6
MOS pmax pmax
comp=Z,93nm,1.1s,mb5.6
EGAK Eagle 86.23 25 *e*P **P** **04 04 59.4 -1.1**
comp=Z,7.3nm,0.8s,mb4.7
MALT Malatya 86.23 308⇑ *i*P **P** **04 05 01.8 +1.3**
MALT Malatya 86.23 308 *e*P **P** **04 05 02.1 +1.6**
MALT pmax pmax
comp=Z,42nm,0.9s,mb5.4
MALT Malatya 86.23 308 *e*P **P** **04 05 02.1 +1.6**
comp=Z,42nm,0.9s,mb5.4
ATAB Bozova 86.38 307 *i*P **P** **04 05 02.6 +1.4**
OBN Obninsk 86.53 325 P **P** **04 05 01.9 -0.1**
comp=Z,488nm,1.1s,mb6.3,SNR=6.7
OBN Obninsk 86.53 325 *e*P **P** **04 05 01.9 -0.1**
OBN *e* 04 08 21.8
OBN *e*S S 04 15 30.8 -1.7
OBN pmax pmax
comp=Z,178nm,1.9s,mb5.7
OBN Obninsk 86.53 325 *e*P **P** **04 05 01.3 -0.7**
comp=Z,38nm,0.6s,mb5.5
ANN Anapa 86.60 315 *e*P **P** **04 05 02.1 -0.2**
ANN *e* 04 15 31.7
ANN pmax pmax
comp=Z,263nm,1.0s,mb6.1
GZT Gaziantep 86.97 307 *i*P **P** **04 05 04.9 +0.8**
DAWY Dawson 87.05 26 *e*P **P** **04 05 03.5 -1.0**
APA Apatity 87.07 337⇓ *e*P **P** **04 05 03.6 -1.0**
APA *i* 04 05 13.6
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
ASF Jabal al Asfar 87.89 302 P **P** **04 05 10.1 +1.5**
comp=Z,43nm,0.8s,mb5.5,baz=318,slow=3.4,SNR=50
BOYT Boyabat 88.70 311 *i*P **P** **04 05 13.2 +0.8**
CTKT Corum 88.86 310 *i*P **P** **04 05 14.0 +0.9**
SIM Simferopol' 88.94 315 *e*P **P** **04 05 13.8 +0.3**
SIM *e*S S 04 15 57.0 +1.5
SIM pmax pmax
comp=Z,53nm,0.8s,mb5.6
AVNT Avonos 88.99 309 *i*P **P** **04 05 14.4 +0.7**
MMAI Mount Meron Ar 89.07 303 P **P** **04 05 15.2 +1.0**
comp=Z,8.0nm,0.6s,mb5.0,baz=82,slow=9.3,SNR=10
ARCES ARCESS Array B 89.62 340 P **P** **04 05 15.1 -1.6**
comp=Z,20nm,0.6s,mb5.5,baz=82,slow=6.8,SNR=48
ARCES PKiKP PKiKP 04 10 13.4 -0.3
comp=Z,3.8nm,0.9s,baz=160,slow=2.6,SNR=6.4
EIL Elat 89.77 300 *e*P **P** **04 05 18.8 +1.4**
comp=Z,249nm,0.8s,mb6.4
BALT Daday 89.83 312 *i*P **P** **04 05 18.3 +0.6**
BRTR Keskin Array B 89.83 310 P **P** **04 05 17.6 0.0**
comp=Z,17nm,0.7s,mb5.3,baz=125,slow=4.2,SNR=60
BRTR LR LR 04 50 25.9
comp=Z,452nm,21.0s,baz=137,slow=39
ELDT Eldivan 89.91 310 *i*P **P** **04 05 18.2 +0.1**
KMBO Kilima Mbogo 90.27 269 P **P** **04 05 21.1 +1.4**

comp=Z,11nm,0.9s,mb5.0,baz=46,slow=7.5,SNR=35
KMBO LR LR 04 41 41.6
comp=Z,143nm,20.8s,baz=275,slow=33
KMBO Kilima Mbogo 90.27 269 *e*P **P 04 05 21.8 +2.1**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 90.27 269 *e*P **P 04 05 21.8 +2.0**
comp=Z,11nm,0.9s,mb5.0
ANTO Ankara 90.46 310⇑ *i*P **P 04 05 21.3 +0.7**
ANTO Ankara 90.46 310 *e*P **P 04 05 21.2 +0.6**
comp=Z,21nm,1.3s,mb5.1
CSS Prodhromos 90.59 305 *e*P **P 04 05 22.1 +0.8**
comp=Z,36nm,0.7s,mb5.6
SGKT Sivrigoynuk 90.94 311 *i*P **P 04 05 23.7 +0.8**
FIA1 FINESS Array S 91.16 332 *e*P **P 04 05 22.1 -1.7**
FINES FINESS Array B 91.16 332 P **P 04 05 22.6 -1.2**
comp=Z,5.8nm,0.6s,mb4.9,baz=57,slow=6.7,SNR=35
AKASG Malin Array Be 91.45 321 P **P 04 05 24.3 -0.9**
comp=Z,11nm,0.5s,mb5.3,baz=66,slow=5.1,SNR=47
AKASG PKiKP PKiKP 04 10 18.1 +1.3
comp=Z,0.5nm,0.4s,baz=68,slow=1.6,SNR=4.7
AKBB Malin Array Si 91.45 321 P **P 04 05 24.3 -0.9**
AKBB Malin Array Si 91.45 321 *e*P **P 04 05 23.7 -1.5**
KIEV Kiev 91.46 321 *e*P **P 04 05 23.9 -1.3**
KIEV pmax pmax
comp=Z,7.0nm,0.4s,mb5.1
KIEV Kiev 91.46 321 *e*P **P 04 05 23.9 -1.3**
comp=Z,6.9nm,0.4s,mb5.1
MNK Minsk 91.62 325 *e*P **P 04 05 22.0 -4.0**
TKTP Tekketepe 92.61 308 *i*P **P 04 05 30.1 -0.5**
TIRR Tirgusor 93.03 315⇑ *i*P **P 04 05 32.5 0.0**
TIRR Tirgusor 93.03 315⇑ P **P 04 05 32.5 -0.1**
TAOE Nuku Hiva Isla 93.12 99 *e*S S 04 16 43.2 +10
comp=Z,1μm,33.0s
TAOE *e*LR LR 04 35 34.4
comp=Z,1μm,27.5s
SYO Syowa Base 93.74 201⇑ *e*P **P 04 05 36.0 +0.2**
VRI Vrincioaia 93.95 317⇓ *i*P **P 04 05 37.9 +1.2**
VRI Vrincioaia 93.95 317 ⇓P **P 04 05 37.9 +1.1**
PLOR Plostina 94.01 317⇓ *i*P **P 04 05 37.5 +0.5**
SUW Suwalki 94.39 325 *e*P **P 04 05 38.2 -0.6**
MLR Muntele Rosu 94.56 316 P **P 04 05 39.8 +0.3**
comp=Z,15nm,0.7s,mb5.5,baz=230,slow=0.5,SNR=18
MLR Muntele Rosu 94.56 316⇓ *i*P **P 04 05 40.4 +0.9**
MLR Muntele Rosu 94.56 316 ⇓P **P 04 05 40.4 +0.8**
BURAR Bucovina Array 94.61 318⇓ *i*P **P 04 05 40.3 +0.5**
BURAR Bucovina Array 94.61 318 ⇓P **P 04 05 40.3 +0.5**
VOIR 95.19 316⇓ *i*P **P 04 05 42.3 -0.1**
VOIR 95.19 316 ⇓P **P 04 05 42.3 -0.1**
ALN Alexandroupoli 95.40 312 *e*P **P 04 05 42.6 -0.7**
KWP Kalwaria 95.77 321 *e*P **P 04 05 45.6 +0.5**
KWP Kalwaria 95.77 321 P **P 04 05 45.8 +0.7**
KWP pmax pmax
comp=Z,11nm,0.7s,mb5.4
DAG Danmarks Havn 96.22 353⇓ *i*P **P 04 05 45.7 -1.4**
comp=Z,7.6nm,0.4s,mb5.5
DAG Danmarks Havn 96.22 353⇓ *i*P **P 04 05 45.7 -1.4**
DAG pmax pmax
comp=Z,8.0nm,0.4s,mb5.5
KOLS Kolonicke sedl 96.22 320 *e*P **P 04 05 47.5 +0.4**
UZH Uzhgorod 96.28 320⇑ *i*P **P 04 05 46.0 -1.4**
UZH *i* pP 04 06 05.4 -2.3
DRGR 96.47 318⇑ *i*P **P 04 05 48.3 +0.1**
DRGR 96.47 318 ⇑P **P 04 05 48.3 +0.1**
RES Resolute Bay 96.57 10 *e*P **P 04 05 47.4 -1.3**
RES pmax pmax
comp=Z,282nm,0.9s
RES Resolute Bay 96.57 10 *e*P **P 04 05 47.4 -1.3**
comp=Z,282nm,0.9s
STHS Stebnicka Huta 96.75 321 *e*P **P 04 05 49.8 +0.3**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
STHS Stebnicka Huta 96.75 321 *e*P **P 04 05 49.8 +0.3**
comp=Z,5.3nm,0.7s,mb5.1
GZR Gura Zlata 96.76 317⇑ *i*P **P 04 05 50.3 +0.8**
GZR Gura Zlata 96.76 317 ⇑P **P 04 05 50.3 +0.8**
OUR Ouranopolis 97.05 311 *e*P **P 04 05 50.0 -0.8**
VTS Vitosha 97.11 314 *e*P **P 04 05 51.2 +0.1**
VTS Vitosha 97.11 314⇑ *i*P **P 04 05 50.9 -0.3**
VTS Vitosha 97.11 314 ⇑P **P 04 05 50.9 -0.2**
HFS Hagfors 97.33 332 P **P 04 05 50.3 -1.9**
comp=Z,8.2nm,0.5s,mb5.5,baz=99,slow=4.7,SNR=58
PAIG Paliouri 97.36 311 *e*P **P 04 05 51.3 -1.0**
IDI Anoyia 97.38 306 P **P 04 05 52.8 +0.5**
comp=Z,11nm,0.8s,mb5.3,baz=21,slow=9.9,SNR=10
PLG Polygyros 97.44 312 *e*P **P 04 05 52.0 -0.6**
KECS Kecovo 97.48 320 *e*P **P 04 05 52.9 +0.1**
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
KECS Kecovo 97.48 320 *e*P **P 04 05 52.9 +0.1**
comp=Z,6.6nm,0.9s,mb5.1
BZS Buzias 97.50 317⇑ *i*P **P 04 05 52.9 0.0**
SIVA Sivas 97.50 306 *e*P **P 04 05 53.7 +0.8**
KNT Kendrikon 97.67 312 *e*P **P 04 05 51.8 -1.9**
XOR Xorichti 97.85 311 *e*P **P 04 05 53.7 -0.8**
VAY Valandovo 97.87 313 *e*P **P 04 05 53.2 -1.4**
PSZ Piszkesteto 98.02 320 *e*P **P 04 05 54.9 -0.3**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
PSZ Piszkesteto 98.02 320 *e*P **P 04 05 54.9 -0.3**
comp=Z,4.4nm,0.8s,mb5.0
NB2 NORSAR Subarra 98.08 334 P **P 04 05 53.3 -2.2**
comp=Z,5.1nm,0.9s,mb5.0,baz=66,slow=4.6
NOA NORSAR Array B 98.08 334 P **P 04 05 53.6 -1.8**
comp=Z,3.0nm,0.7s,mb4.9,baz=66,slow=4.5,SNR=8.1
NOA LR LR 04 53 31.9
comp=Z,250nm,20.6s,baz=50,slow=37
GRG Griva 98.08 312 *e*P **P 04 05 54.1 -1.4**
SVIS Svilajnac 98.10 316 *i*P **P 04 05 55.6 0.0**
YKA Yellowknife Ar 98.17 24 P **P 04 05 54.4 -1.5**
comp=Z,2.6nm,0.6s,mb4.9,baz=298,slow=4.4,SNR=4.5
YKA PKiKP PKiKP 04 10 29.9 +1.5
comp=Z,1.6nm,0.8s,baz=307,slow=2.0,SNR=4.7
LIT Litokhoron 98.21 312 *e*P **P 04 05 55.2 -0.9**
VYHS Vyhne 98.53 320 PDIF **P 04 05 57.0 -0.5**
VYHS Vyhne 98.53 320 *e*P **P 04 05 57.0 -0.5**
OKC Ostrava-Krasne 98.55 322 *e*P **P 04 05 57.0 -0.6**
GRUS Gruza 98.56 316 *i*P **P 04 05 57.9 +0.2**
AGG Agios Georgios 98.58 310 *e*P **P 04 05 56.5 -1.3**
RKT Rikitea 98.87 113 *e*SS SS 04 24 19.6 +8.5
comp=Z,109nm,36.0s
RKT *e*LR LR 04 38 15.1
comp=Z,185nm,37.0s
MORC Moravsky Berou 98.94 322⇑ *i*P **P 04 05 58.5 -0.9**
MORC Moravsky Berou 98.94 322 P **P 04 05 59.9 +0.5**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
MORC Moravsky Berou 98.94 322 *e*P **P 04 05 59.3 0.0**
comp=Z,3.0nm,0.8s,mb4.9
DIVS Divcibare 99.01 316 *i*P **P 04 05 60.0 +0.3**
DIVS Divcibare 99.01 316 *e*P **P 04 05 59.7 0.0**
PKSM Moragy 99.33 318⇑ *i*P **P 04 06 00.8 -0.3**
PKSM Moragy 99.33 318 ⇑P **P 04 06 00.8 -0.3**
DPC Dobruska-Polom 99.50 323 *e*P Pdif 04 06 02.4 +0.6
UPC Upice 99.63 323 *e*P Pdif 04 06 02.0 -0.4
VRAC Vranov 99.68 322 P Pdif 04 06 02.5 -0.2
comp=Z,5.6nm,0.7s,baz=96,slow=4.4,SNR=7.7
VRAC Vranov 99.68 322⇑ *i*P Pdif 04 06 03.2 +0.6
VRAC Vranov 99.68 322 ⇑P Pdif 04 06 03.2 +0.5
IGT Igoumenitsa 99.96 311 *e*P Pdif 04 06 03.1 -0.8
LSZ Lusaka 100.17 255 P Pdif 04 06 05.2 +0.4
LSZ pmax pmax
comp=Z,24nm,1.4s
LSZ Lusaka 100.17 255 *e*Pdif Pdif 04 06 04.9 +0.1
comp=Z,24nm,1.4s
PVCC Panska Ves 100.49 323 *e*PDIF Pdif 04 06 06.7 +0.5
PRU Pruhonice 100.70 323 *e*PDIF Pdif 04 06 07.1 -0.1
BRG Berggiesshubel 100.74 324 *e*P Pdif 04 06 06.6 -0.7
comp=Z,5.8nm,1.3s
BRG *e* 04 06 33.0
comp=Z,5.7nm,1.2s
BRG *e*PP PP 04 10 18.4 +3.0
comp=Z,3.4nm,1.2s
BRG Berggiesshubel 100.74 324 *e*P Pdif 04 06 06.6 -0.7
BRG *e* 04 10 18.5
BRG pmax pmax
comp=Z,6.0nm,1.3s
CLL Collm 101.12 324 *e*Pdif Pdif 04 06 10.0 +0.9
CLL *i* PP PP 04 10 22.9 +4.5
PERS Pernice 101.51 319 *e*PP PP 04 10 23.3 +2.0
KHC Kasperske Hory 101.59 322 *e*PDIF Pdif 04 06 11.1 -0.1
KHC Kasperske Hory 101.59 322 *i*P Pdif 04 06 11.7 +0.5
GERES GERESS Array B 101.62 322 P Pdif 04 06 11.6 +0.4
comp=Z,2.3nm,0.9s,baz=64,slow=6.1,SNR=12

VISS Visnje 101.97 319 *e*PP PP 04 10 27.8 +3.0
LJU Ljubljana 102.09 319 *e*PP PP 04 10 28.7 +3.0
GRA1 Grafenberg Arr 102.80 323 *e*P Pdif 04 06 17.7 +1.2
comp=Z,3.0nm,1.0s
GRF Grafenberg Arr 102.80 323 *e*P Pdif 04 06 17.7 +1.2
comp=Z,3.0nm,1.0s
GRF Grafenberg Arr 102.80 323 *e*P Pdif 04 06 17.7 +1.2
GRF pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 102.90 38 *e*P Pdif 04 06 16.6 -0.4
CDF Champ du Feu 105.69 323 *e*PKiKP PKiKP 04 10 40.5 -1.5
HAU Haudompre 106.43 323 *e*PKiKP PKiKP 04 10 41.7 -1.7
HLID Hailey 106.49 42 *e*PKP PKiKP 04 10 44.5 +1.0
LPG La Plagne 107.31 321 *e*PKiKP PKiKP 04 10 43.9 -1.1
LPL La Plagne 107.31 321 *e*PKiKP PKiKP 04 10 44.0 -1.0
MBDF Montbardon 107.64 320 *e*PKiKP PKiKP 04 10 44.8 -0.8
SSF Saint Saulge 108.58 323 *e*PKiKP PKiKP 04 10 46.4 -1.0
comp=Z,8.6nm,1.1s
MOOW Moose Ponds 108.82 41 *e*PKP PKiKP 04 10 48.4 +0.5
LOHW Long Hollow 108.97 41 *e*PKP PKiKP 04 10 48.5 +0.4
PDAR Pinedale Array 110.04 41 PKiKP PKiKP 04 10 51.0 +0.9
comp=Z,0.4nm,0.4s,baz=132,slow=2.2,SNR=4.0
PDAR PKKPbc PKKPbc 04 21 52.5 +0.4
comp=Z,0.6nm,0.7s,baz=107,slow=5.1,SNR=4.4
MFF Saint Martin d 110.97 324 *e*PKiKP PKiKP 04 10 51.6 -0.3
comp=Z,18nm,1.0s
SMCO Snowmass 113.43 44 *e*PKP PKiKP 04 10 54.9 -1.7
ULM Lac du Bonnet 113.63 29 Pdiff Pdif 04 07 06.2 +1.6
comp=Z,2.7nm,0.9s,baz=326,slow=8.6,SNR=3.1
ULM PKiKP PKiKP 04 10 56.5 -0.5
comp=Z,1.3nm,0.8s,baz=56,slow=6.0,SNR=6.2
ULM Lac du Bonnet 113.63 29 Pdif Pdif 04 07 06.2 +1.6
ULM *e*PKP PKiKP 04 10 56.2 -0.8
SDCO Great Sand Dun 115.13 44 *e*PKP PKiKP 04 11 01.4 +1.5
ANMO Albuquerque 115.74 47⇑ *i*PKiKP PKPdf 04 11 03.5 +2.5
ANMO Albuquerque 115.74 47 *e*PKP PKPdf 04 11 02.8 +1.8
ESDC Sonseca Array 117.05 319 PP PP 04 12 16.4 +2.5
comp=Z,2.9nm,0.7s,baz=49,slow=6.6,SNR=7.8
ECSD EROS,Sioux Fal 117.45 35 *e*PKPdf PKPdf 04 11 03.9 -0.4
MNTX Cornudas Mount 117.98 50 *e*PKPdf PKPdf 04 11 06.6 +1.3
SCHQ Schefferville 119.33 9 PKP PKPdf 04 11 07.8 -0.1
comp=Z,9.1nm,0.6s,baz=334,slow=0.6,SNR=22
KSU1 Kansas State U 120.29 39 *e*PKPdf PKPdf 04 11 10.1 +0.4
LTX Lajitas 120.35 52 *e*PKiKP PKPdf 04 11 11.0 +1.1
TXAR Lajitas Array 120.35 52 PKP PKPdf 04 11 11.0 +1.2
comp=Z,2.4nm,0.7s,baz=314,slow=0.2,SNR=25
TXAR PKKPbc PKKPbc 04 21 20.3 +3.8
comp=Z,0.9nm,0.8s,baz=110,slow=7.0,SNR=5.3
TXAR Lajitas Array 120.35 52 PKP PKPdf 04 11 11.0 +1.2
TXAR PKKPbc PKKPbc 04 21 20.3 +3.8
WMOK Wichita Mounta 121.33 44 *e*PKiKP PKPdf 04 11 12.3 +0.5
JFWS Jewell Farm 121.47 32 PKiKP PKPdf 04 11 11.6 -0.4
JFWS Jewell Farm 121.47 32 *e*PKPdf PKPdf 04 11 11.0 -1.0
JCT Junction City 122.78 49 PKiKP PKPdf 04 11 16.0 +1.5
JCT Junction City 122.78 49 *e*PKPdf PKPdf 04 11 15.6 +1.1
TOA0 Torodi Ar. Sit 123.22 289 *e*PKPdf PKPdf 04 11 15.6 +0.2
TORD Torodi Ar. Bea 123.22 289 PKP PKPdf 04 11 16.1 +0.8
comp=Z,10nm,0.7s,baz=47,slow=2.0,SNR=68
TORD PKKPbc PKKPbc 04 21 10.6 +5.1
comp=Z,0.6nm,0.9s,baz=263,slow=2.8,SNR=5.2
FVM French Village 124.74 36 PKiKP PKPdf 04 11 19.0 +0.7
FVM French Village 124.74 36 *e*PKPdf PKPdf 04 11 18.3 0.0
WCI Wyandotte Cave 126.92 33 PKiKP PKPdf 04 11 23.7 +1.2
WCI Wyandotte Cave 126.92 33 *e*PKPdf PKPdf 04 11 23.4 +0.9
WVT Waverly 127.53 36 PKiKP PKPdf 04 11 24.4 +0.8
WVT Waverly 127.53 36 *e*PKPdf PKPdf 04 11 24.0 +0.4
ELN Prospectdale 130.56 30 *e*PKPdf PKPdf 04 11 29.4 +0.1
ELN *e*SKPbc SKPbc 04 14 46.9 +0.4
LIC Lamto 131.27 283 *e*PKiKP PKPdf 04 11 32.4 +1.7
comp=Z,29nm,0.8s
BRAL Brewton 131.44 40 *e*PKPdf PKPdf 04 11 30.4 -0.7
TGUH Tegucigalpa,Un 140.77 61 *e*PKPdf PKPdf 04 11 49.8 +1.5
JTS Juntas Abangare 144.40 65 *e*PKiKP PKPdf 04 11 54.0 -0.8
LMGC Las Mercedes 145.49 43 *e*P PKiKP 04 11 59.7 -1.0
HLGC Holguin 145.54 41 *e*P PKPdf 04 11 58.0 +1.2
TRQA Tornquist 145.88 167 *e*PKPbc PKPbc 04 11 59.0 +0.9
RCC Rio Carpintero 146.42 42 *e*P PKPbc 04 12 00.5 +0.9
OTAV Otavalo 153.65 80 *e*PKPdf PKPdf 04 12 11.0 +1.4
CPD Cerro la Pandu 153.70 30 *e*PKiKP PKPbc 04 12 18.2 +0.7
CPD *e* 04 12 30.9
MTP Monte Pirata 153.82 29 *e*PKPbc PKPbc 04 12 19.1 +1.3
MTP *e*PKPab PKPab 04 12 31.4 +0.4
ROSC El Rosal 156.21 66 PKP PKPdf 04 12 15.5 +2.4
comp=Z,1.6nm,0.4s,baz=276,slow=1.1,SNR=3.7
ROSC PKPab PKPab 04 12 43.7 +2.5
comp=Z,7.2nm,0.7s,baz=110,slow=7.8,SNR=6.6
SDV Santo Domingo 157.39 53 *e*PKPdf PKPdf 04 12 16.1 +1.5
SDV *e*PKPab PKPab 04 12 47.4 +1.0
LPAZ La Paz 160.98 128 PKP PKPdf 04 12 22.1 +3.3
comp=Z,3.1nm,0.9s,baz=217,slow=2.1,SNR=13
LPAZ PKPab PKPab 04 13 03.4 +1.5
comp=Z,3.0nm,0.9s,baz=335,slow=2.7,SNR=3.5
LPAZ La Paz 160.98 128 PKiKP PKPdf 04 12 22.1 +3.3
LPAZ 04 13 03.4
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 160.98 128 *e*PKPdf PKPdf 04 12 21.0 +2.2
SAML Samuel 168.72 112 *e*PKPdf PKPdf 04 12 26.7 +1.3

CASC 15 03:56:59.5±2.0, **834N**×**8292W, h10**km±16km, **MD3.7, 1C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.47**	**79**⇓	*e*P		Pg 03 57 08.6	-0.1
CTCR	**Cotoan**	**0.57**	**16**⇓	*e*P		Pg 03 57 10.6	+0.1
CTCR				*e*S		Sg 03 57 20.2	+2.2
CNI	**Changuinola**	**1.14**	**20**	*e*P		Pb 03 57 20.4	-0.9
PRS1	**Puriscal**	**2.13**	**320**	*e*P		Pn 03 57 35.5	+0.4
PRS1				*e*S		Sn 03 58 00.5	-1.2
PTP	**Ponta Puerca**	**19.48**	**58**⇑	*i*P			03 57 02.8

BJI ***15*** *04:10:59.9, 2125N×143.85E, h35km, mB5.2, mb4.7, Ms4.5, Msz4.3*
MOS ***15*** *04:11:08.1±1.4, 2175N×142.95E, h48km, mb5.1/22, MS4.4/5, Error ellipse: s-maj=11.9km s-min=7.2km az=109.8*
NEIC ***15*** *04:11:08.2±0.3, 2178N×143.02E, h35km, mb5.0/27, Error ellipse: s-maj=8.7km s-min=7.4km az=83.0*
GCMT ***15*** *04:11:08.2±0.2, 2185N×143.17E, h12km, MW5.1/91, Moment Tensor Solution. s34,c45; s91,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.58±.12; Mθθ=0.92±.10; Mφφ=4.66±.11; Mrθ=0.76±.42; Mrφ=-2.22±.09; Mθφ=1.66±.34; Best double couple: M=5.92300×10^16 NP1:φs=322.00000°, δ41.00000°, λ-110.00000°. NP2: φs=168.00000°, δ52.00000°, λ-74.00000°. Principal axes: T 5.8190, Plg6.0000°, Azm246.0000°; N 0.2080, Plg13.0000°, Azm338.0000°; P -6.0270, Plg76.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***15*** *04:11:08.5±1.7, 2171N±004×14298E±006, h51km±15km, mb4.7/57, MS4.3/22 Error ellipse: s-maj=9.8km s-min=7.5km az=0.8*
IDC ***15*** *04:11:09.6±2.2, 2178N×14298E, h47km±21km, mb4.1/21, mb1 4.2/23, mb1mx4.2/30, mbtmp4.1/23, ML4.2/2, MS4.2/13, Ms1 4.2/13, ms1mx4.0/37, Error ellipse: s-maj=18.0km s-min=10.5km az=86.0*

ISC 15 04:11:10.3±1.4, **2176N**±004×**14305E**±006, **h50**km±12km, **n126,** σ**1§20**/115, **mb4.7**/57, **MS4.3**/22, **2C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.37**	**352**	P		**Pn 04 12 26.8**	**-1.0**
	24nm,0.3s,baz=103,slow=12,SNR=10						
CBIJ				S		**Sn 04 13 26.0**	**-2.3**
	14nm,0.3s,baz=270,slow=20,SNR=5.3						
CBIJ				LR	LR	04 14 10.2	
	comp=Z,914nm,19.7s,baz=14,slow=34						
GUMO	**Guam**	**8.31**	**168**	LR	LR	04 15 59.5	
	comp=Z,1μm,19.1s,baz=10,slow=35						
JHJ	**Hachijo jima 2**	**11.68**	**346**	LR	LR	04 18 07.3	
	comp=Z,2μm,20.4s,baz=242,slow=36						
JOW	**Kunigami**	**14.38**	**293**	LR	LR	04 19 10.6	
	comp=Z,2μm,18.9s,baz=106,slow=34						
MJAR	**Matsushiro Arr**	**15.32**	**345**	P		**Pn 04 14 43.6**	**+0.4**
	0.7nm,0.3s,baz=183,slow=11,SNR=4.0						
MJAR				LR	LR	04 20 11.5	
	comp=Z,1μm,20.0s,baz=155,slow=36						
MAJO	**Matsushiro**	**15.32**	**345**	P		**Pn 04 14 45.1**	**+1.9**
MAT	**Matsushiro**	**15.32**	**345**	P		**Pn 04 14 46.4**	**+3.2**
KSRS	**Korea Array**	**20.39**	**323**	P		**P 04 15 43.6**	**+0.8**
	8.1nm,0.7s,baz=144,slow=8.8,SNR=22						
KSRS				LR	LR	04 22 31.5	
	comp=Z,746nm,19.1s,MS4.1,baz=138,slow=34						
ASAJ	**Asahikawa**	**22.30**	**359**	LR	LR	04 24 47.4	
	comp=Z,278nm,19.7s,MS3.7,baz=45,slow=37						
TGY	**Tagaytay City**	**22.36**	**254**	P		**P 04 16 04.8**	**+0.8**
	110nm,0.3s,baz=169,slow=16,SNR=2.9						
QZH	**Quanzhou**	**22.67**	**283**	P		**P 04 16 09.6**	**+2.3**
QZH				LR	LR		
	comp=Z,2μm,24.1s,MS4.5						
NJ2	**Nanjing**	**23.84**	**301**	*e*P		**P 04 16 20.3**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
MDJ	**Mudanjiang**	**25.35**	**337**	P		**P 04 16 33.6**	**+1.0**
MDJ				PCP	PcP	04 20 02.0	-2.1
MDJ				AMB	AMB		
	comp=Z,169nm,4.9s						
MDJ				LR	LR		
	comp=N,255nm,14.4s,MS4.2						
MDJ				LR	LR		
	comp=E,555nm,18.6s,MS4.2						
MDJ				LR	LR		
	comp=Z,421nm,19.8s,MS4.0						
CN2	**Changchun**	**26.39**	**330**	*e*P		**P 04 16 44.4**	**+2.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
KLR	**Kul'dur**	**28.84**	**345**	*e*P		**P 04 17 00.0**	**-3.9**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.8						
BJI	**Beijing**	**29.22**	**315**	*e*P		**P 04 17 04.5**	**-2.7**
BJI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
BJI				AMB	AMB		
	comp=Z,277nm,3.2s						
BJI				LR	LR		
	comp=N,462nm,14.6s,MS4.3						
BJI				LR	LR		
	comp=E,437nm,16.2s,MS4.3						
BJI				LR	LR		
	comp=Z,304nm,26.8s						
BJI	**Beijing**	**29.22**	**315**	*e*P		**P 04 17 04.5**	**-2.7**
	comp=Z,16nm,1.1s,mb4.7						
BJI				LR	LR		
	comp=Z,300nm,26.8s,MS3.8						
QIZ	**Qiongzhong**	**31.21**	**271**	P		**P 04 17 24.0**	**-0.8**
QIZ				SS	SS	04 24 22.3	-20
QIZ				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.7						
QIZ				LR	LR		
	comp=E,571nm,22.8s						
QIZ				LR	LR		
	comp=Z,633nm,22.3s,MS4.2						
PMG	**Port Moresby**	**31.24**	**172**	P		**P 04 17 24.3**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.4,baz=346,slow=12,SNR=2.6						
PMG	**Port Moresby**	**31.24**	**172**	P		**P 04 17 24.3**	**-0.7**
PMG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PMG	**Port Moresby**	**31.24**	**172**	*e*P		**P 04 17 24.0**	**-1.1**
	comp=Z,33nm,1.2s,mb5.0						
HHC	**Hu-ho-hao-te**	**32.70**	**313**	*e*P		**P 04 17 39.3**	**+1.4**
HHC				PP	PP	04 18 53.8	+1.4
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,172nm,8.8s						
HHC				LR	LR		
	comp=N,361nm,14.7s,MS4.4						
HHC				LR	LR		
	comp=E,419nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=Z,402nm,19.6s,MS4.1						
HIA	**Hailar**	**33.10**	**332**	*i*P		**P 04 17 42.0**	**+0.7**
GYA	**Guiyang**	**33.47**	**285**⇓	*i*P		**P 04 17 45.5**	**+0.9**
GYA				PP	PP	04 19 02.4	+1.5
GYA				PCP	PcP	04 20 25.0	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,340nm,17.8s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,17.9s,MS4.3						
GYA				LR	LR		
	comp=Z,420nm,16.9s,MS4.2						
HNR	**Honiara**	**35.16**	**150**	LR	LR	04 31 06.8	
	comp=Z,292nm,19.6s,MS4.0,baz=0.5,slow=34						
CD2	**Chengdu**	**36.22**	**293**	*e*P		**P 04 18 08.3**	**0.0**
CD2				PP	PP	04 19 34.8	+3.5
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
CD2				LR	LR		
	comp=N,670nm,14.4s						
CD2				LR	LR		
	comp=Z,880nm,13.2s,MS4.7						
LZH	**Lanzhou**	**36.91**	**301**	*e*P		**P 04 18 14.5**	**+0.4**
LZH				PP	PP	04 19 43.0	+4.1
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,127nm,4.0s						
LZH				LR	LR		
	comp=N,353nm,13.2s						
LZH				LR	LR		
	comp=Z,798nm,16.9s,MS4.6						
LZH	**Lanzhou**	**36.91**	**301**	*e*P		**P 04 18 14.5**	**+0.4**
LZH						04 19 43.0	
LZH				S		**S 04 23 45.0**	**-10**
LZH				*e*SS		SS 04 26 19.2	-19
LZH				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.9						
LZH				MLR	MLR		
	comp=Z,800nm,16.9s,MS4.6						
LZH	**Lanzhou**	**36.91**	**301**	*e*P		**P 04 18 14.5**	**+0.4**
	comp=Z,34nm,1.6s,mb4.9						
LZH				pP	pP	04 18 45.1	+18
LZH				sP	sP	04 19 00.9	+28
LZH				PP	PP	04 19 43.0	+4.1
LZH				S		**S 04 23 45.0**	**-10**
LZH				sS	sS	04 24 38.7	+21
LZH				*e*SS	SS	04 26 19.2	-19
LZH				LR	LR		
	comp=Z,800nm,16.9s,MS4.6						
KMI	**Kunming**	**37.04**	**283**	P		**P 04 18 16.1**	**+0.8**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.6						
KMI				LR	LR		
	comp=N,317nm,17.3s,MS4.3						
KMI				LR	LR		
	comp=E,375nm,19.2s,MS4.3						
KMI				LR	LR		
	comp=Z,391nm,21.2s,MS4.2						
KMI	**Kunming**	**37.04**	**283**	P		**P 04 18 16.1**	**+0.8**
	comp=Z,11nm,1.2s,mb4.6						
KMI				pP	pP	04 18 51.2	+23
KMI				S		**S 04 23 51.3**	**-6.2**
KMI				LR	LR		
	comp=Z,390nm,21.2s,MS4.2						
SONM	**Songino Array**	**39.21**	**320**	P		**P 04 18 33.0**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.3,baz=138,slow=7.9,SNR=26						
SONM				LR	LR	04 34 44.8	
	comp=Z,345nm,18.6s,MS4.2,baz=278,slow=36						
GTA	**Gaotai**	**40.73**	**306**	*e*P		**P 04 18 46.3**	**+0.1**
GTA				PP	PP	04 20 26.8	+6.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,296nm,8.0s						
GTA				LR	LR		
	comp=N,534nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=E,465nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=Z,517nm,21.3s,

YAK					pmax	pmax			
	comp=Z,14nm,0.6s,mb4.8								
YAK					MLR	MLR			
	comp=Z,500nm,27.0s,MS4.2								
CHTO	**Chiang Mai**	**41.37**	**274**	*eP*	**P**		**04**	**18**	**52.4** **+1.0**
CHTO					pmax	pmax			
	comp=Z,23nm,1.4s,mb4.6								
CHTO	**Chiang Mai**	**41.37**	**274**	*eP*	**P**		**04**	**18**	**52.4** **+1.0**
	comp=Z,23nm,1.4s,mb4.6								
CTA	**Charters Tower**	**41.71**	**175**	*eP*	**P**		**04**	**18**	**55.4** **+1.2**
	comp=Z,17nm,1.1s,mb4.6								
CTA	**Charters Tower**	**41.71**	**175**	P	**P**		**04**	**18**	**55.0** **+0.8**
	comp=Z,18nm,1.0s,mb4.7,baz=360,slow=7.6,SNR=6.0								
CTA	**Charters Tower**	**41.71**	**175**	*eP*	**P**		**04**	**18**	**55.4** **+1.2**
CTA					pmax	pmax			
	comp=Z,17nm,1.1s								
CTAO	**Charters Tower**	**41.71**	**175**	*eP*	**P**		**04**	**18**	**54.1** **-0.1**
CTAO					pmax	pmax			
	comp=Z,41nm,1.3s,mb4.9								
CTAO	**Charters Tower**	**41.71**	**175**	*eP*	**P**		**04**	**18**	**54.1** **-0.1**
	comp=Z,41nm,1.3s,mb4.9								
ZAK	**Zakamensk**	**42.22**	**322**	*eP*	**P**		**04**	**18**	**57.5** **-0.8**
ZAK					pmax	pmax			
	comp=Z,11nm,1.4s,mb4.3								
WRAB	**Tennant Creek**	**42.30**	**192**⇑	*eP*	**P**		**04**	**18**	**58.8** **-0.2**
WB2	**Warramunga Arr**	**42.31**	**192**	*eP*	**P**		**04**	**18**	**58.7** **-0.4**
WB2				*e*	pP		04	19	07.4 -5.1
WRA	**Warramunga Arr**	**42.31**	**192**	P	**P**		**04**	**18**	**58.8** **-0.3**
	comp=Z,13nm,1.1s,mb4.5,baz=14,slow=8.5,SNR=31								
TLY	**Talaya**	**42.64**	**324**	*eP*	**P**		**04**	**19**	**08.8** **+7.1**
TLY				*e*			04	19	29.7
TLY					pmax	pmax			
	comp=Z,25nm,1.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**43.13**	**205**	*eP*	**P**		**04**	**19**	**04.9** **-0.8**
	comp=Z,6.5nm,0.8s,mb4.4								
AS31	**Alice Springs**	**46.02**	**192**	*eP*	**P**		**04**	**19**	**28.2** **-0.6**
ASAR	**Alice Springs**	**46.02**	**192**	P	**P**		**04**	**19**	**27.7** **-1.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=13,slow=7.7,SNR=21								
ASPA	**Alice Springs**	**46.02**	**192**	*eP*	**P**		**04**	**19**	**28.2** **-0.6**
PSI	**Prapat**	**46.81**	**253**	P	**P**		**04**	**19**	**33.7** **-1.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=32,slow=9.5,SNR=3.5								
PSI	**Prapat**	**46.81**	**253**	P	**P**		**04**	**19**	**33.7** **-1.3**
BILL	**Bilibino**	**48.48**	**11**	*i* P	**P**		**04**	**19**	**46.4** **-1.5**
DZM	**Mont Dzumac**	**49.18**	**151**	P	**P**		**04**	**19**	**54.0** **+0.8**
	comp=Z,4.8nm,0.9s,mb4.5,baz=82,slow=22,SNR=3.5								
WMQ	**Urumqi**	**50.44**	**309**⇑	*i* P	**P**		**04**	**20**	**03.8** **+0.9**
WMQ					PCP	PcP	04	21	21.1 +0.6
WMQ					PP	PP	04	22	02.3 +3.5
WMQ					AMB	AMB			
	comp=Z,31nm,1.6s,mb5.1								
WMQ					AMB	AMB			
	comp=Z,193nm,2.5s,mb5.7								
WMQ					LR	LR			
	comp=N,166nm,20.4s,MS4.2								
WMQ					LR	LR			
	comp=E,234nm,25.1s,MS4.2								
WMQ					LR	LR			
	comp=Z,234nm,26.6s,MS4.1								
STKA	**Stephens Creek**	**53.35**	**182**	P	**P**		**04**	**20**	**24.5** **0.0**
	comp=Z,6.4nm,0.8s,mb4.6,baz=339,slow=13,SNR=5.1								
STKA	**Stephens Creek**	**53.35**	**182**	*eP*	**P**		**04**	**20**	**25.0** **+0.4**
ZAL	**Zalesovo**	**54.09**	**322**	P	**P**		**04**	**20**	**29.1** **-0.8**
	comp=Z,2.5nm,0.8s,mb4.2,baz=25,slow=7.5,SNR=11								
MK31	**Makanchi Array**	**54.56**	**313**	*eP*	**P**		**04**	**20**	**33.0** **-0.3**
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**		**04**	**20**	**33.0** **-0.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=89,slow=8.6,SNR=20								
AFI	**Afiamalu**	**56.75**	**125**	LR	LR		04	42	22.7
	comp=Z,179nm,19.1s,MS4.2,baz=323,slow=33								
KURK	**Kurchatov**	**57.34**	**317**	*i* P	**P**		**04**	**20**	**52.0** **-1.2**
KURK	**Kurchatov**	**57.34**	**317**	*eP*	**P**		**04**	**20**	**51.5** **-1.7**
	comp=Z,17nm,1.2s,mb5.0								
KDAK	**Kodiak Island**	**58.22**	**35**	LR	LR		04	42	09.8
	comp=Z,883nm,21.6s,MS4.8,baz=283,slow=32								
FRU	**Bishkek**	**59.93**	**308**	*eP*	**P**		**04**	**21**	**13.0** **+1.8**
AAK	**Ala-Archa**	**60.03**	**308**	*i* P	**P**		**04**	**21**	**11.1** **-0.8**
AAK					pmax	pmax			
	comp=Z,8.0nm,1.5s,mb4.5								
AAK	**Ala-Archa**	**60.03**	**308**	*eP*	**P**		**04**	**21**	**11.6** **-0.3**
	comp=Z,15nm,1.4s,mb4.8								
CHKZ	**Chkalovo**	**62.41**	**320**	*eP*	**P**		**04**	**21**	**26.3** **-1.7**
CHKZ					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.9								
CHKZ	**Chkalovo**	**62.41**	**320**	*eP*	**P**		**04**	**21**	**26.3** **-1.7**
	comp=Z,11nm,1.0s,mb5.0								
BVAR	**Borovoye Array**	**62.54**	**319**	P	**P**		**04**	**21**	**28.2** **-0.7**
	comp=Z,8.0nm,0.6s,mb5.0,baz=93,slow=8.0,SNR=26								
BRVK	**Borovoye**	**62.61**	**320**	*eP*	**P**		**04**	**21**	**28.1** **-1.2**
BRVK					pmax	pmax			
	comp=Z,31nm,1.3s,mb5.3								
BRVK	**Borovoye**	**62.61**	**320**	*eP*	**P**		**04**	**21**	**28.1** **-1.2**
	comp=Z,31nm,1.3s,mb5.3								
RAO	**Raoul Island**	**63.14**	**142**	LR	LR		04	43	46.0
	comp=Z,212nm,18.6s,MS4.3,baz=318,slow=31								
ZRNK	**Zerenda**	**63.38**	**319**	*eP*	**P**		**04**	**21**	**33.2** **-1.2**
ZRNK					pmax	pmax			
	comp=Z,21nm,1.3s,mb5.1								
ZRNK	**Zerenda**	**63.38**	**319**	*eP*	**P**		**04**	**21**	**33.1** **-1.3**
	comp=Z,21nm,1.3s,mb5.1								
ARU	**Arti**	**69.14**	**324**⇓	*i* P	**P**		**04**	**22**	**09.9** **-1.4**
ARU				*eS*	S		04	31	14.4 +1.3
ARU				*eSS*	SS		04	35	37.3 -2.7
ARU					pmax	pmax			
	comp=Z,24nm,1.5s,mb4.9								
ARU	**Arti**	**69.14**	**324**	*eP*	**P**		**04**	**22**	**09.6** **-1.7**
	comp=Z,54nm,1.4s,mb5.3								
RAR	**Rarotonga**	**70.27**	**124**	LR	LR		04	45	47.4
	comp=Z,166nm,21.1s,MS4.3,baz=269,slow=30								
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**		**04**	**22**	**53.2** **-1.4**
	comp=Z,2.6nm,0.6s,mb4.3,baz=293,slow=5.9,SNR=7.1								
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**		**04**	**22**	**53.2** **-1.4**
RES	**Resolute Bay**	**77.04**	**13**	*eP*	**P**		**04**	**22**	**57.6** **-0.4**
RES					pmax	pmax			
	comp=Z,214nm,0.8s,mb6.1								
RES	**Resolute Bay**	**77.04**	**13**	*eP*	**P**		**04**	**22**	**57.5** **-0.4**
	comp=Z,214nm,0.8s,mb6.1								
ARCES	**ARCESS Array B**	**78.82**	**341**	P	**P**		**04**	**23**	**05.2** **-2.6**
	comp=Z,4.8nm,0.9s,mb4.4,baz=74,slow=13,SNR=4.8								
YBH	**Yreka Blue Hor**	**78.87**	**50**	P	**P**		**04**	**23**	**09.1** **+0.9**
	comp=Z,3.0nm,0.9s,mb4.2,baz=265,slow=2.3,SNR=4.4								
NEW	**Newport**	**80.31**	**42**	P	**P**		**04**	**23**	**16.2** **+0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=302,slow=2.9,SNR=4.3								
NEW	**Newport**	**80.31**	**42**	P	**P**		**04**	**23**	**16.3** **+0.3**
NEW					pmax	pmax			
	comp=Z,3.0nm,0.8s								
NEW	**Newport**	**80.31**	**42**	*eP*	**P**		**04**	**23**	**14.8** **-1.2**
	comp=Z,34nm,1.8s,mb5.0								
OBN	**Obninsk**	**81.36**	**326**	*eP*	**P**		**04**	**23**	**21.6** **0.0**
OBN					pmax	pmax			
	comp=Z,29nm,1.9s,mb4.9								
WVOR	**Wild Horse Val**	**81.47**	**48**	*eP*	**P**		**04**	**23**	**22.3** **+0.2**
WVOR					pmax	pmax			
	comp=Z,28nm,1.9s,mb4.9								
WVOR	**Wild Horse Val**	**81.47**	**48**	*eP*	**P**		**04**	**23**	**22.3** **+0.2**
	comp=Z,28nm,1.9s,mb4.9								
KIV	**Kislovodsk**	**82.29**	**314**	*i* P	**P**		**04**	**23**	**28.4** **+2.0**
KIV					pmax	pmax			
	comp=Z,23nm,1.3s,mb5.0								
KIV					MLR	MLR			
	comp=Z,100nm,15.0s,MS4.3								
GNI	**Garni**	**82.31**	**310**	*i* P	**P**		**04**	**23**	**29.8** **+3.3**
GNI					pmax	pmax			
	comp=Z,30nm,1.9s								
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**		**04**	**23**	**28.9** **-1.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=92,slow=4.4,SNR=5.3								
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**		**04**	**23**	**28.9** **-1.6**
HLID	**Hailey**	**83.89**	**46**	*eP*	**P**		**04**	**23**	**34.5** **-0.2**
	comp=Z,61nm,2.5s,mb5.3								
EGMT	**Eagleton**	**84.91**	**40**	*eP*	**P**		**04**	**23**	**43.1** **+3.3**
	comp=Z,23nm,1.5s,mb5.1								
QLMT	**Earthquake Lak**	**85.30**	**43**	*eP*	**P**		**04**	**23**	**42.3** **+0.5**
GSC	**Goldstone**	**85.52**	**54**	*eP*	**P**		**04**	**23**	**40.5** **-2.4**
FLWY	**Flagg Ranch**	**86.10**	**44**	*eP*	**P**		**04**	**23**	**46.6** **+0.9**
	comp=Z,6.0nm,0.9s,mb4.8								
SPUT	**South Promonto**	**86.16**	**47**	*eP*	**P**		**04**	**23**	**46.1** **0.0**
MOOW	**Moose Ponds**	**86.22**	**44**	*eP*	**P**		**04**	**23**	**44.7** **-1.6**
	comp=Z,14nm,1.7s,mb4.9								
LOHW	**Long Hollow**	**86.37**	**44**	*eP*	**P**		**04**	**23**	**47.5** **+0.4**
	comp=Z,11nm,1.4s,mb4.9								
DUG	**Dugway**	**86.39**	**48**	*eP*	**P**		**04**	**23**	**47.4** **+0.2**
DUG					pmax	pmax			
	comp=Z,17nm,1.3s,mb5.1								
DUG	**Dugway**	**86.39**	**48**	*eP*	**P**		**04**	**23**	**47.4** **+0.2**
	comp=Z,17nm,1.3s,mb5.1								
PFO	**Pinyon Flat Ob**	**86.46**	**55**	P	**P**		**04**	**23**	**49.2** **+1.6**
	comp=Z,3.7nm,1.0s,mb4.6,baz=45,slow=2.9,SNR=2.3								
PFO	**Pinyon Flat Ob**	**86.46**	**55**	P	**P**		**04**	**23**	**49.2** **+1.6**
HWUT	**Hardware Ranch**	**86.62**	**46**	*eP*	**P**		**04**	**23**	**48.0** **-0.3**
	comp=Z,15nm,1.2s,mb5.1								
DAU	**Daniels Canyon**	**87.36**	**47**	*eP*	**P**		**04**	**23**	**52.4** **+0.5**
AKASG	**Malin Array Be**	**87.38**	**324**	P	**P**		**04**	**23**	**51.0** **-1.0**
	comp=Z,0.5nm,0.4s,mb4.1,baz=52,slow=4.6,SNR=5.3								
AKBB	**Malin Array Si**	**87.38**	**324**	*eP*	**P**		**04**	**23**	**50.3** **-1.7**
PDAR	**Pinedale Array**	**87.43**	**45**	P	**P**		**04**	**23**	**53.9** **+1.6**
	comp=Z,1.2nm,1.1s,mb4.0,baz=318,slow=2.6,SNR=3.2								
MSU	**Marysvale**	**87.56**	**49**	*eP*	**P**		**04**	**23**	**53.9** **+1.0**
LAO	**LASA Array**	**87.66**	**40**	*eP*	**P**		**04**	**23**	**54.3** **+0.9**
	comp=Z,24nm,1.2s,mb5.3								
NOA	**NORSAR Array B**	**88.84**	**339**	P	**P**		**04**	**23**	**59.6** **+0.7**
	comp=Z,1.0nm,0.8s,mb4.2,baz=48,slow=4.7,SNR=2.9								
TUC	**Tucson**	**91.32**	**54**	*eP*	**P**		**04**	**24**	**12.8** **+2.3**
TUC					pmax	pmax			
	comp=Z,12nm,1.6s,mb5.0								
TUC	**Tucson**	**91.32**	**54**	*eP*	**P**		**04**	**24**	**12.8** **+2.3**
	comp=Z,12nm,1.6s,mb5.0								
SDCO	**Great Sand Dun**	**92.56**	**48**	*eP*	**P**		**04**	**24**	**16.2** **0.0**
	comp=Z,5.3nm,1.2s,mb4.8								
ANMO	**Albuquerque**	**93.27**	**50**	*eP*	**P**		**04**	**24**	**19.8** **+0.3**
ANMO					pmax	pmax			
	comp=Z,11nm,1.6s								
ANMO	**Albuquerque**	**93.27**	**50**	*eP*	**P**		**04**	**24**	**19.8** **+0.3**
	comp=Z,11nm,1.6s,mb5.0								
VYHS	**Vyhne**	**94.16**	**327**	*eP*	**P**		**04**	**24**	**25.5** **+1.9**
VYHS				*e*			04	27	04.8
TORD	**Torodi Ar. Bea**	**128.60**	**309**	PKP	PKPdf		04	30	11.8 +0.1
	comp=Z,0.3nm,0.7s,baz=27,slow=0.8,SNR=5.5								
TORD	**Torodi Ar. Bea**	**128.60**	**309**	PKP	PKPdf		04	30	11.8 0.0
SDV	**Santo Domingo**	**135.06**	**51**	*e*PKPdf	PKPdf		04	30	23.4 -0.5
LPAZ	**La Paz**	**150.06**	**85**	PKPbc	PKPbc		04	30	54.3 -1.0
	comp=Z,4.6nm,1.1s,baz=297,slow=4.5,SNR=4.6								
LPAZ	**La Paz**	**150.06**	**85**	*e*PKPdf	PKPdf		04	30	53.2 +3.0
LPAZ				*e*PKPbc	PKPbc		04	30	58.3 +3.0
SAML	**Samuel**	**151.74**	**67**	PKPdf	PKPdf		04	30	56.3 +3.5
SAML				*e*PKPab	PKPab		04	31	07.9 -0.3

FUNV 15 04:21:20.0, 699N×7304W, h162km, MW3.6, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.12**	**40**⇑	*e*P		Pn	04 21 46.4	-0.4
CAPV				*e*S		Sn	04 22 05.9	-1.6
VIGV	**El Vigia**	**2.47**	**42**	*e*P		Pn	04 22 00.4	-0.9
VIGV				*e*S		Sn	04 22 30.3	-3.0
SOCV	**Socops**	**2.51**	**59**⇑	*e*P		Pn	04 22 01.2	-0.6
ELOV	**Elorza**	**3.53**	**90**	*e*P		Pn	04 22 13.1	-1.3
VIRV	**Villa del Rosa**	**3.54**	**10**	*e*P		Pn	04 22 13.3	-1.3
VIRV				*e*S		Sn	04 22 53.0	-4.1
QARV	**Quebrada Arrib**	**4.04**	**38**	*e*P		Pn	04 22 19.8	-1.3
CURV	**Curarigua**	**4.27**	**45**	*e*P		Pn	04 22 22.7	-1.3
DABV	**Dabajuro**	**4.57**	**31**	*e*P		Pn	04 22 26.4	-1.5
SIQV	**Siquisique**	**4.83**	**41**	*e*P		Pn	04 22 29.6	-1.7

ISCJB ***15*** *04:25:49.0±1.4, 63S±02×151.1E±02, h10km, mb4.0/4, Error ellipse: s-maj=31.2km s-min=17.2km az=93.1*

IDC ***15*** *04:25:50.5±2.3, 643S×151.09E, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/15, mbtmp4.1/5, ML2.8/1, Error ellipse: s-maj=64.4km s-min=35.2km az=127.0*

NEIC ***15*** *04:25:51.2±1.1, 637S×151.12E, h10km, mb4.5/2, Error ellipse: s-maj=25.0km s-min=15.6km az=118.0*

ISC 15 04:25:50.7±1.4, 63S±02×151.2E±02, h10km, n15, σ0$ 40/14, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.03**	**232**	Pn		**Pn**	**04**	**27**	**05.9** **-0.3**
	2.8nm,0.3s,baz=68,slow=12,SNR=7.1								
PMG				Sn		**Sn**	**04**	**28**	**04.6** **+0.3**
	16nm,0.3s,baz=180,slow=20,SNR=8.5								
KAKA	**Kakadu**	**19.54**	**250**	*eP*		**Pn**	**04**	**30**	**19.3** **-0.3**
	6.6nm,0.4s								
WB2	**Warramunga Arr**	**21.23**	**229**	*eP*		**P**	**04**	**30**	**37.0** **+0.3**
WB2	**Warramunga Arr**	**21.23**	**229**	*eP*		**P**	**04**	**30**	**36.4** **-0.3**
WRA	**Warramunga Arr**	**21.24**	**229**	P		**P**	**04**	**30**	**36.6** **-0.1**
	2.0nm,0.4s,mb3.8,baz=54,slow=11,SNR=26								
AS31	**Alice Springs**	**23.95**	**222**	*eP*		**P**	**04**	**31**	**04.4** **-0.5**
ASAR	**Alice Springs**	**23.95**	**222**	P		**P**	**04**	**31**	**04.8** **-0.1**
	1.8nm,0.6s,mb3.7,baz=55,slow=8.6,SNR=31								
ASPA	**Alice Springs**	**23.95**	**222**	*eP*		**P**	**04**	**31**	**04.6** **-0.4**
STKA	**Stephens Creek**	**26.95**	**198**	P		**P**	**04**	**31**	**32.9** **+0.6**
	2.1nm,0.5s,mb3.9,baz=22,slow=15,SNR=3.1								
STKA	**Stephens Creek**	**26.95**	**198**	P		**P**	**04**	**31**	**32.9** **+0.6**
FITZ	**Fitzroy Crossi**	**27.53**	**243**	*eP*		**P**	**04**	**31**	**38.1** **+0.6**
	7.4nm,0.4s,mb4.7								
FITZ				*e*			04	31	48.2
FITZ	**Fitzroy Crossi**	**27.53**	**243**	P		**P**	**04**	**31**	**38.1** **+0.7**
	3.5nm,0.4s,mb4.4,baz=64,slow=7.8,SNR=41								
KULM	**Kulim**	**51.75**	**282**	*eP*		**P**	**04**	**34**	**58.5** **+0.3**
TOA0	**Torodi Ar. Sit**	**149.20**	**285**	*e*PKPbc	PKPbc	PKPbc	04	45	41.4 +2.0
TORD	**Torodi Ar. Bea**	**149.20**	**285**	PKPbc	PKPbc	PKPbc	04	45	41.7 +2.3
	0.6nm,0.4s,baz=95,slow=1.8,SNR=22								

IDC ***15*** *04:28:05.0±2.5, 2181N×143.13E, h41km±23km, mb4.3/21, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.3/2, MS4.5/29, Ms1 4.5/29, ms1mx4.4/36, Error ellipse: s-maj=22.9km s-min=10.0km az=83.0*

MOS ***15*** *04:28:05.0±1.1, 2182N×14298E, h52km, mb5.4/31, MS4.3/7, Error ellipse: s-maj=11.1km s-min=5.9km az=107.2*

ISCJB ***15*** *04:28:06.8±1.1, 2175N±004×14301E±003, h67km±9km, mb5.0/98, Error ellipse: s-maj=6.5km s-min=4.4km az=30.3*

BJI ***15*** *04:28:08.9, 2197N×143.14E, h84km, mB5.3, mb5.0, Ms4.7, Msz4.6*

NEIC ***15*** *04:28:10.2±1.0, 2178N×14302E, h87km±9km, mb5.2/59, Error ellipse: s-maj=5.8km s-min=4.6km az=73.0*

GCMT ***15*** *04:28:10.2±0.2, 2183N×143.13E, h12km, MW5.3/98, Moment Tensor Solution. s48,c63; s98,c187; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-1.01±.02; Mθθ 0.42±.01; Mφφ 0.58±.02; Mrθ 0.08±.05; Mrφ-0.45±.01; Mθφ 0.22±.05; Best double couple: Mo 1.01200×10^17 NP1: φ310.00000°, δ43.00000°, λ-105.00000°. NP2: φ150.00000°, δ49.00000°, λ-76.00000°. Principal axes: T 0.9710, Plg3.0000°, Azm231.0000°; N 0.0820, Plg10.0000°, Azm321.0000°; P -1.0530, Plg79.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 04:28:11.0±0.9, 2177N±004×14300E±003, h90km±8km, h103km±5.2km: pP-P, n399, σ0$ 85/399, mb5.0/98, 69C-89D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.36**	**352**	P		**Pn**	**04**	**29**	**21.9** **-6.6**
	28nm,0.3s,baz=327,slow=13,SNR=10								
CBIJ				S		**Sn**	**04**	**30**	**21.9** **-6.9**
	25nm,0.3s,baz=287,slow=19,SNR=2.7								
GUMO	**Guam**	**8.33**	**167**	P		**Pn**	**04**	**30**	**08.2** **-0.7**
	5.2nm,0.3s,baz=346,slow=19,SNR=3.9								
GUMO				LR		LR	04	32	45.0
	comp=Z,3μm,20.0s,baz=162,slow=34								
GUMO	**Guam**	**8.33**	**167**	*eP*		**Pn**	**04**	**30**	**09.1** **+0.2**
GUMO					pmax	pmax			
	comp=Z,315nm,1.2s								
GUMO	**Guam**	**8.33**	**167**	*e*Pn		**Pn**	**04**	**30**	**09.1** **+0.2**
	comp=Z,315nm,1.2s								
JHJ	**Hachijo jima 2**	**11.66**	**347**	LR		LR	04	35	02.8
	comp=Z,3μm,20.5s,baz=73,slow=36								
JOW	**Kunigami**	**14.34**	**293**	LR		LR	04	36	06.4
	comp=Z,3μm,19.0s,baz=117,slow=33								
MJAR	**Matsushiro Arr**	**15.30**	**345**	P		**Pn**	**04**	**31**	**39.1** **-2.8**
	comp=Z,0.6nm,0.3s,baz=153,slow=9.3,SNR=8.8								
MAJO	**Matsushiro**	**15.30**	**345**	*eP*		**Pn**	**04**	**31**	**41.4** **-0.5**
MAJO					pmax	pmax			
	comp=Z,23nm,0.8s								
MAJO	**Matsushiro**	**15.30**	**345**	*e*Pn		**Pn**	**04**	**31**	**41.4** **-0.5**
	comp=Z,24nm,0.8s								
MAT	**Matsushiro**	**15.30**	**345**	P		**Pn**	**04**	**31**	**43.6** **+1.7**
YHNB	**Yeheng**	**20.08**	**282**	*eP*		**P**	**04**	**32**	**39.4** **+2.2**
KSRS	**Korea Array**	**20.36**	**323**	P		**P**	**04**	**32**	**39.4** **-0.8**
	comp=Z,13nm,0.7s,baz=140,slow=12,SNR=5.7								
KSRS				LR		LR	04	39	36.5
	comp=Z,1μm,19.9s,baz=136,slow=34								
SSE	**Sheshan**	**21.60**	**300**	P		**P**	**04**	**32**	**52.9** **-0.6**
SSE				S		**S**	**04**	**36**	**44.3** **-3.2**
SSE					AMB	AMB			
	comp=Z,32nm,0.9s,mb4.7								
SSE					AMB	AMB			
	comp=Z,420nm,6.0s								
SSE					LR	LR			
	comp=N,753nm,15.4s								
SSE					LR	LR			
	comp=E,728nm,15.4s								
SSE					LR	LR			
	comp=Z,1μm,17.6s								
SSE	**Sheshan**	**21.60**	**300**	P		**P**	**04**	**32**	**52.9** **-0.6**
	comp=Z,32nm,0.9s,mb4.7								
SSE					pP		04	33	05.5
SSE					sP	sP	04	33	14.0 -8.6
SSE					S	**S**	**04**	**36**	**44.3** **-3.2**
SSE					sS	sS	04	37	05.3 -12
SSE					LR	LR			
	comp=Z,1μm,17.6s								
ASAJ	**Asahikawa**	**22.29**	**359**	P		**P**	**04**	**32**	**59.1** **-1.7**
	comp=Z,12nm,0.7s,mb4.3,baz=259,slow=30,SNR=3.7								
ASAJ					LR	LR	04	41	56.4
	comp=Z,857nm,21.2s,baz=176,slow=37								
ASAJ	**Asahikawa**	**22.29**	**359**	P		**P**	**04**	**32**	**59.1** **-1.7**
ASAJ					pmax	pmax			
	comp=Z,13nm,0.7s								
ASAJ					MLR	MLR			
	comp=Z,857nm,21.2s								
TGY	**Tagaytay City**	**22.32**	**254**	LR		LR	04	40	31.5
	comp=Z,15nm,21.2s,baz=135,slow=33								
QZH	**Quanzhou**	**22.62**	**283**⇑	*i* P		**P**	**04**	**33**	**05.5** **+1.2**
QZH					AMB	AMB			
	comp=Z,130nm,1.0s,mb5.2								
QZH					AMB	AMB			
	comp=Z,3μm,3.2s								
QZH					LR	LR			
	comp=N,2μm,5.6s								
QZH					LR	LR			
	comp=E,2μm,13.3s								
QZH					LR	LR			
	comp=Z,4μm,18.6s								
NJ2	**Nanjing**	**23.79**	**301**	*eP*		**P**	**04**	**33**	**16.6** **+1.2**
NJ2					AP		04	33	38.6
NJ2					XP	sP	04	33	49.6 +3.6
NJ2					PP		04	33	53.3
NJ2					S	**S**	**04**	**37**	**23.5** **-0.9**
NJ2					AMB	AMB			
	comp=Z,250nm,0.8s,mb5.6								
NJ2					AMB	AMB			
	comp=Z,2μm,4.0s								
NJ2					LR	LR			
	comp=N,2μm,11.6s								
NJ2					LR	LR			
	comp=E,2μm,17.5s								
NJ2					LR	LR			
	comp=Z,3μm,24.7s								
DL2	**Dalian**	**25.04**	**318**	P		**P**	**04**	**33**	**27.8** **+1.1**
DL2					S	**S**	**04**	**37**	**45.8** **+1.5**
DL2					AMB	AMB			
	comp=Z,70nm,1.3s,mb4.9								
DL2					AMB	AMB			
	comp=Z,380nm,7.0s								
YSS	**Yuzh-Sakhalins**	**25.12**	**360**	*eP*		**P**	**04**	**33**	**33.0** **+5.5**
YSS				*e*		pP	04	33	50.0 +2.3
YSS				*e*			04	34	02.0
YSS				*e*PPP			04	34	22.0
YSS				*e*S		**S**	**04**	**37**	**51.0** **+5.4**
YSS				*e*			04	38	10.0
YSS				*e*SSS			04	39

HHC SS SS 04 41 50.4 -17
HHC SCS ScS 04 44 49.6 -4.3
HHC AMB AMB
comp=Z,12nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,438nm,5.1s
HHC LR LR
comp=N,626nm,12.7s
HHC LR LR
comp=E,561nm,12.9s
HHC LR LR
comp=Z,586nm,13.1s
HIA Hailar 33.07 332⇑ *e*P **P 04 34 37.3 -0.7**
HIA Hailar 33.07 332 *e*P **P 04 34 36.8 -1.1**
comp=Z,30nm,1.3s,mb5.0
GYA Guiyang 33.42 285⇑ *i*P **P 04 34 41.6 +0.6**
GYA AP pP 04 35 06.8 +5.1
GYA PP PP 04 35 57.5 -0.7
GYA PCP PcP 04 37 21.4 +1.0
GYA S **S 04 39 54.3 -1.4**
GYA XS sS 04 40 37.4 +5.9
GYA SCP ScP 04 40 54.9 -1.8
GYA SS SS 04 42 04.3 -19
GYA SCS ScS 04 44 54.3 -3.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,500nm,16.2s
GYA LR LR
comp=E,940nm,18.4s
GYA LR LR
comp=Z,1μm,18.4s
PET Petropavlovsk 33.43 17 *i*P **P 04 34 32.6 -8.6**
PET pmax pmax
comp=Z,53nm,1.3s,mb5.2
HNR Honiara 35.19 150 LR LR 04 48 01.4
comp=Z,567nm,19.6s,baz=359,slow=34
CD2 Chengdu 36.17 293 *e*P **P 04 35 05.5 +0.8**
CD2 AP pP 04 35 30.6 +5.0
CD2 PP PP 04 36 30.8 +2.2
CD2 S **S 04 40 35.4 -2.6**
CD2 XS sS 04 41 18.9 +4.9
CD2 SS SS 04 43 04.4 -15
CD2 AMB AMB
comp=Z,40nm,2.0s,mb5.0
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,1μm,16.8s
CD2 LR LR
comp=E,2μm,20.4s
CD2 LR LR
comp=Z,2μm,18.0s
LZH Lanzhou 36.86 302 *e*P **P 04 35 13.0 +2.4**
LZH AP pP 04 35 33.8 +2.3
LZH *e*S **S 04 40 52.0 +3.5**
LZH AMB AMB
comp=Z,100nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,418nm,5.1s
LZH LR LR
comp=E,549nm,13.0s
LZH LR LR
comp=Z,686nm,15.2s
LZH Lanzhou 36.86 302 *e*P **P 04 35 13.0 +2.4**
LZH *PP pP 04 35 33.8 +2.3
LZH 04 36 43.8
LZH *e*S **S 04 40 52.0 +3.5**
LZH SS SS 04 43 27.1 -4.5
LZH pmax pmax
comp=Z,100nm,1.6s,mb5.5
LZH MLR MLR
comp=Z,690nm,15.2s
LZH Lanzhou 36.86 302 *e*P **P 04 35 13.0 +2.4**
comp=Z,100nm,1.6s,mb5.5
LZH pP pP 04 35 33.8 +2.3
LZH sP sP 04 35 53.2 +11
LZH PP PP 04 36 43.8 +7.6
LZH *e*S **S 04 40 52.0 +3.5**
LZH sS sS 04 41 34.0 +9.4
LZH SS SS 04 43 27.1 -4.5
LZH LR LR
comp=Z,690nm,15.2s
KMI Kunming 36.99 283 P **P 04 35 13.8 +2.1**
KMI S **S 04 40 48.9 -1.6**
KMI AMB AMB
comp=Z,23nm,2.0s,mb4.8
KMI AMB AMB
comp=Z,342nm,4.7s
KMI LR LR
comp=N,438nm,15.0s
KMI LR LR
comp=E,608nm,16.6s
KMI LR LR
comp=Z,708nm,21.4s
KMI Kunming 36.99 283 P **P 04 35 13.7 +2.0**
KMI S **S 04 40 48.9 -1.6**
KMI SS SS 04 43 16.0 -19
KMI pmax pmax
comp=Z,23nm,2.0s,mb4.8
KMI MLR MLR
comp=Z,710nm,21.4s
KMI Kunming 36.99 283 P **P 04 35 13.7 +2.0**
comp=Z,23nm,2.0s,mb4.8
KMI pP pP 04 35 39.4 +6.7
KMI sP sP 04 35 51.3 +8.3
KMI S **S 04 40 48.9 -1.6**
KMI SS SS 04 43 16.0 -19
KMI LR LR
comp=Z,710nm,21.4s
CIT Chita 37.81 330 *e*P **P 04 35 17.7 -0.9**
CIT *e* 04 41 07.3
SONM Songino Array 39.17 321 P **P 04 35 29.8 -0.3**
comp=Z,8.5nm,0.6s,mb4.8,baz=132,slow=8.6,SNR=55
SONM LR LR 04 52 59.0
comp=Z,616nm,20.4s,baz=166,slow=38
NANT Nan 39.70 274 ⇑P **P 04 35 34.0 -0.4**
comp=Z,104nm,0.8s,mb5.7
GTA Gaotai 40.69 306 *e*P **P 04 35 42.6 0.0**
GTA AP pP 04 36 06.4 +2.6
GTA XP sP 04 36 17.6 +3.5
GTA PP PP 04 37 21.4 +3.4
GTA S **S 04 41 44.5 -1.6**
GTA XS sS 04 42 25.5 +2.9
GTA SS SS 04 44 42.8 -7.0
GTA AMB AMB
comp=Z,31nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,408nm,6.8s
GTA LR LR
comp=N,325nm,16.7s
GTA LR LR
comp=E,344nm,18.6s
GTA LR LR
comp=Z,398nm,19.0s
YAK Yakutsk 41.27 351 *e*P **P 04 35 47.4 +0.1**
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.0
YAK Yakutsk 41.27 351 *i*P **P 04 35 45.8 -1.5**
CHG Chiang Mai 41.33 274 ⇓P **P 04 35 49.5 +1.7**
comp=Z,22nm,1.2s,mb4.9
CHTO Chiang Mai 41.33 274 ⇑P **P 04 35 50.1 +2.3**
SNR=12
CHTO Chiang Mai 41.33 274 *e*P **P 04 35 49.0 +1.2**
CHTO pmax pmax
comp=Z,79nm,1.8s,mb5.2
CHTO Chiang Mai 41.33 274 *e*P **P 04 35 49.0 +1.2**
comp=Z,79nm,1.8s,mb5.2
SEY Seymchan 41.63 6 *i*P **P 04 35 48.1 -2.2**
BOD Bodaibo 41.70 337 *e*P **P 04 35 49.0 -1.9**
BOD pmax pmax
comp=Z,17nm,2.6s,mb4.3
CTA Charters Tower 41.72 175 *e*P **P 04 35 51.7 +0.7**
comp=Z,30nm,1.2s,mb4.9
CTA Charters Tower 41.72 175 P **P 04 35 50.9 -0.2**
comp=Z,42nm,1.1s,mb5.1,baz=351,slow=8.6,SNR=11
CTA LR LR 04 52 04.6
comp=Z,478nm,19.7s,baz=126,slow=34
CTA Charters Tower 41.72 175 *e*P **P 04 35 51.7 +0.7**
CTA pmax pmax
comp=Z,30nm,1.2s
CTAO Charters Tower 41.72 175 *e*P **P 04 35 50.4 -0.6**
CTAO pmax pmax
comp=Z,83nm,1.3s,mb5.3
CTAO Charters Tower 41.72 175 *e*P **P 04 35 50.4 -0.6**
comp=Z,83nm,1.3s,mb5.3
ZAK Zakamensk 42.18 322 *e*P **P 04 35 53.7 -1.1**
ZAK pmax pmax
comp=Z,25nm,1.8s,mb4.6
WRAB Tennant Creek 42.30 192 P **P 04 35 54.9 -0.8**
comp=Z,180nm,1.5s,mb5.6,SNR=5.6
WRAB Tennant Creek 42.30 192 *d*/*i*P **P 04 35 55.1 -0.6**
WRAB Tennant Creek 42.30 192 P **P 04 35 54.5 -1.2**
WB2 Warramunga Arr 42.31 192 *e*P **P 04 35 55.2 -0.6**
WRA Warramunga Arr 42.31 192 P **P 04 35 55.3 -0.6**
comp=Z,13nm,1.0s,mb4.6,baz=11,slow=8.6,SNR=45
WRA LR LR 04 53 06.5
comp=Z,694nm,18.5s,baz=15,slow=35
IRK Irkutsk 42.55 325 *e*P **P 04 35 57.7 -0.1**
IRK pmax pmax
comp=Z,162nm,2.3s,mb5.3
TLY Talaya 42.61 324 P **P 04 35 58.7 +0.5**
comp=Z,123nm,0.9s,mb5.6,SNR=8.0
TLY Talaya 42.61 324 *e*P **P 04 35 56.4 -1.8**
TLY *e*S **S 04 42 19.7 +5.4**
TLY *e* 04 42 45.5
TLY *e*SS SS 04 45 49.0 +21
TLY pmax pmax
comp=Z,58nm,2.0s,mb5.0
TLY MLR MLR
comp=Z,584nm,22.0s
TLY Talaya 42.61 324 *e*P **P 04 35 58.6 +0.5**
comp=Z,66nm,1.5s,mb5.1
FITZ Fitzroy Crossi 43.12 205 *e*P **P 04 36 01.6 -0.7**
comp=Z,11nm,1.0s,mb4.5
FITZ Fitzroy Crossi 43.12 205 P **P 04 36 01.7 -0.6**
comp=Z,1.8nm,0.6s,mb4.0,baz=4.0,slow=4.0,SNR=4.9
FITZ LR LR 04 53 06.4
comp=Z,454nm,18.6s,baz=24,slow=35
MOY Mondy 44.06 323 *e*P **P 04 36 09.8 -0.1**
MOY pmax pmax
comp=Z,120nm,2.7s,mb5.2
AS31 Alice Springs 46.02 192 *e*P **P 04 36 25.1 -0.3**
ASAR Alice Springs 46.02 192 P **P 04 36 24.9 -0.5**
comp=Z,5.7nm,0.6s,mb4.5,baz=17,slow=9.3,SNR=60
ASAR LR LR 04 54 42.3
comp=Z,808nm,20.9s,baz=15,slow=35
PSI Prapat 46.77 252 LR LR 04 54 41.0
comp=Z,458nm,20.7s,baz=106,slow=34
LSA Lhasa 47.05 291 *e*P **P 04 36 35.9 +2.4**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LSA Lhasa 47.05 291 *e*P **P 04 36 35.9 +2.5**
comp=Z,6.5nm,0.6s,mb4.5
MBWA Marble Bar 48.34 210 *e*P **P 04 36 43.0 -0.4**
comp=Z,10nm,0.7s,mb4.8
BILL Bilibino 48.48 11⇑ *e*P **P 04 36 45.0 +0.5**
BILL pmax pmax
comp=Z,57nm,2.9s,mb4.9
BILL Bilibino 48.48 11 *e*P **P 04 36 43.8 -0.8**
comp=Z,37nm,1.5s,mb5.0
DZM Mont Dzumac 49.21 151 P **P 04 36 49.0 -1.1**
comp=Z,7.9nm,0.9s,mb4.6,baz=348,slow=9.5,SNR=7.6
DZM LR LR 04 55 07.7
comp=Z,610nm,20.6s,baz=16,slow=33
WMQ Urumqi 50.40 309 P **P 04 37 00.3 +1.2**
STKA Stephens Creek 53.36 181 P **P 04 37 20.1 -1.0**
comp=Z,16nm,1.0s,mb5.0,baz=7.1,slow=10,SNR=6.4
STKA LR LR 04 58 23.0
comp=Z,600nm,21.5s,baz=263,slow=34
STKA Stephens Creek 53.36 181 *e*P **P 04 37 20.3 -0.8**
ZAL Zalesovo 54.06 322 P **P 04 37 25.6 -0.6**
comp=Z,6.7nm,0.7s,mb4.8,baz=4.2,slow=7.9,SNR=26
MK31 Makanchi Array 54.52 313 *e*P **P 04 37 29.5 -0.1**
MKAR Makanchi Array 54.52 313 P **P 04 37 29.8 +0.2**
comp=Z,5.9nm,0.6s,mb4.8,baz=90,slow=9.2,SNR=51
MKAR LR LR 05 01 14.6
comp=Z,353nm,19.9s,baz=106,slow=36
NVS Novosibirsk 55.14 322 *i*P **P 04 37 33.1 -0.9**
NVS *e*S **S 04 45 20.9 +11**
NVS pmax pmax
comp=Z,128nm,1.9s,mb5.6
NVS pmax pmax
comp=N,27nm,1.7s
NVS pmax pmax
comp=E,113nm,2.0s
NVS smax
comp=N,21nm,1.6s
NVS smax
comp=E,1.0nm,0.4s
KURK Kurchatov 57.31 317 P **P 04 37 49.0 -0.4**
comp=E,162nm,1.6s,mb5.8,SNR=16
KURK Kurchatov 57.31 317 ⇑P **P 04 37 49.4 -0.1**
SNR=31
KURK Kurchatov 57.31 317 *i*P **P 04 37 49.0 -0.4**
KURK Kurchatov 57.31 317 *e*P **P 04 37 48.9 -0.5**
comp=E,35nm,1.2s,mb5.3
TKM2 Tokmak 2 59.17 308 P **P 04 38 03.7 +1.3**
SNR=13
KZA Kyzart 59.46 307 P **P 04 38 06.9 +2.5**
SNR=11
KBK Karagaybulak 59.65 308 P **P 04 38 07.0 +1.3**
SNR=6.7
NWAO Narrogin (SRO) 59.70 205 LR LR 05 00 27.7
comp=E,365nm,21.5s,baz=360,slow=32
FRU Bishkek 59.89 308 *e*P **P 04 38 06.0 -1.3**
FRU pmax pmax
comp=Z,170nm,2.2s,mb5.7
USP Ospenovka 59.96 308 P **P 04 38 08.7 +0.9**
SNR=7.9
AAK Ala-Archa 59.99 308 P **P 04 38 08.9 +0.9**
comp=Z,59nm,1.7s,mb5.3,SNR=6.3
AAK Ala-Archa 59.99 308 ⇑P **P 04 38 08.3 +0.3**
SNR=10
AAK Ala-Archa 59.99 308 *d*/*i*P **P 04 38 07.8 -0.2**
AAK pmax pmax
comp=Z,22nm,1.4s,mb5.0
AAK MLR MLR
comp=Z,300nm,15.0s
AAK Ala-Archa 59.99 308 *e*P **P 04 38 07.7 -0.4**
comp=Z,42nm,1.6s,mb5.2
UCH Uchtor 60.00 307 P **P 04 38 10.3 +2.3**
SNR=23
AML Almayashu 60.61 307 P **P 04 38 14.1 +1.9**
SNR=12
MCK McKinley 61.01 28 *e*P **P 04 38 15.2 +0.3**
MCK pmax pmax
comp=Z,16nm,1.5s,mb4.8
MCK McKinley 61.01 28 *e*P **P 04 38 15.2 +0.2**
comp=Z,16nm,1.5s,mb4.8
COLA College 61.66 27 *e*P **P 04 38 18.0 -1.4**
COLA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
COLA College 61.66 27 *e*P **P 04 38 18.0 -1.4**
comp=Z,3.6nm,0.7s,mb4.5
CHKZ Chkalovo 62.37 320 *e*P **P 04 38 23.4 -0.7**
CHKZ *e* 04 39 03.7
CHKZ pmax pmax
comp=Z,22nm,1.0s,mb5.1
CHKZ Chkalovo 62.37 320 *e*P **P 04 38 23.4 -0.8**
comp=Z,22nm,1.0s,mb5.1
CHKZ *e*pP pP 04 38 30.6 -16
CHKZ *e*PcP PcP 04 39 03.7 +0.8
BRVK Borovoye 62.57 320 P **P 04 38 25.1 -0.3**
comp=Z,194nm,1.3s,mb5.9,SNR=9.7
BRVK Borovoye 62.57 320 ⇑P **P 04 38 25.8 +0.4**
SNR=23
BRVK Borovoye 62.57 320 *e*P **P 04 38 24.6 -0.8**
BRVK pmax pmax
comp=Z,69nm,1.3s,mb5.4
BRVK Borovoye 62.57 320 *e*P **P 04 38 24.6 -0.9**
comp=Z,69nm,1.3s,mb5.4
ZRNK Zerenda 63.34 319 *e*P **P 04 38 29.8 -0.8**
ZRNK pmax pmax
comp=Z,211nm,2.0s,mb5.7
ZRNK Zerenda 63.34 319 *e*P **P 04 38 29.8 -0.8**
comp=Z,211nm,2.0s,mb5.7
ARU Arti 69.11 324 ⇓*i*P **P 04 39 06.6 -0.8**
ARU *e*S S 04 48 09.4 +3.7
ARU *e*SS SS 04 52 33.9 +0.6
ARU pmax pmax
comp=Z,41nm,1.8s,mb5.0
ARU Arti 69.11 324 *e*P **P 04 39 06.4 -1.0**
comp=Z,175nm,1.9s,mb5.6
YKA Yellowknife Ar 76.47 28 P **P 04 39 49.6 -1.4**
comp=Z,3.8nm,0.6s,mb4.3,baz=292,slow=5.9,SNR=10
YKA LR LR 05 11 22.1
comp=Z,556nm,21.2s,baz=230,slow=34
PPT Papeete 76.71 115 *e*LR LR 05 03 34.3
comp=Z,1μm,25.8s,baz=301
PPT Papeete 76.71 115 LR LR 05 06 01.0
comp=Z,549nm,19.9s,baz=292,slow=30
PMOR Pomariorio Ree 76.97 112 *e*T 06 04 05.8
comp=Z,2.6nm,0.3s
RES Resolute Bay 77.05 13 *e*P **P 04 39 53.3 -0.9**
RES pmax pmax
comp=Z,2μm,1.6s
RES Resolute Bay 77.05 13 *e*P **P 04 39 53.3 -0.8**
comp=Z,2μm,1.6s
APA Apatity 77.24 338⇑ *e*P PcP 04 40 04.0 -1.6
APA pmax pmax
comp=Z,69nm,1.6s,mb5.1
F05A White Salmon 78.40 45 ⇑P **P 04 40 01.8 +0.1**
baz=78
B07A Winthrop 78.40 42 ⇓P **P 04 40 01.1 -0.6**
baz=78
I04A Tendick Farm, 78.44 47 ⇓P **P 04 40 02.0 +0.1**
baz=78
HUMO Hull Mountain 78.44 49 ⇑P **P 04 40 02.1 +0.1**
baz=78
E06A Yakima 78.49 44 ⇓P **P 04 40 03.3 +1.0**
baz=78
C07A Waterville 78.70 43 ⇓P **P 04 40 02.8 -0.6**
baz=79
A08A Turner Farm, O 78.76 42 ⇑P **P 04 40 02.8 -0.9**
baz=79
N02C Big Bar 78.78 51 ⇑P **P 04 40 03.5 -0.2**
baz=79
ARCES ARCESS Array B 78.80 341 P **P 04 40 02.8 -1.1**
comp=Z,4.1nm,0.7s,mb4.4,baz=60,slow=4.8,SNR=10
ARCES LR LR 05 19 21.6
comp=Z,497nm,18.7s,baz=61,slow=39
YBH Yreka Blue Hor 78.90 50 ⇑P **P 04 40 04.6 +0.1**
baz=79
M02C Callahan 78.91 50 ⇓P **P 04 40 04.3 -0.2**
baz=79
D07A Quincy 78.92 44 ⇑P **P 04 40 04.0 -0.6**
baz=79
B08A Colville Reser 78.93 42 ⇓P **P 04 40 04.7 0.0**
baz=79
I05A Bend 79.10 47 ⇓P **P 04 40 06.6 +1.0**
baz=79
G06A Carlson Farm, 79.16 46 ⇑P **P 04 40 05.9 +0.1**
baz=79,SNR=5.3
A09A Danville 79.18 42 ⇓P **P 04 40 06.0 0.0**
baz=79
E07A Sunnyside 79.22 44 ⇓P **P 04 40 06.2 +0.1**
baz=79
C08A Higginbotham F 79.31 43 ⇑P **P 04 40 06.1 -0.6**
baz=79
L04A Klamath Falls 79.33 49 ⇑P **P 04 40 06.6 -0.2**
baz=79
O02C Red Bluff 79.36 51 ⇓P **P 04 40 07.7 +0.7**
baz=79
WDC Whiskeytown Da 79.40 51 ⇑P **P 04 40 07.3 +0.1**
baz=79
J05A Fort Rock 79.41 48 P **P 04 40 07.9 +0.7**
baz=79,SNR=7.3
M03C McCloud 79.47 50 ⇓P **P 04 40 07.6 +0.1**
baz=79
HAWA Hanford 79.48 44 *e*P **P 04 40 07.2 -0.4**
comp=Z,24nm,1.4s,mb4.8
M04C Macdoel 79.50 49 ⇑P **P 04 40 07.8 +0.1**
baz=79
H06A Lindquist Farm 79.53 46 ⇑P **P 04 40 07.6 -0.3**
baz=79
TBI Tubuai 79.57 120 *e*LQ 05 01 23.5
comp=Z,509nm,29.2s
TBI *e*LR LR 05 04 53.0
comp=Z,388nm,27.0s,baz=293
D08A Wollman Farm, 79.64 43 ⇑P **P 04 40 08.5 0.0**
baz=80
B09A Rice 79.65 42 ⇑P **P 04 40 07.6 -0.9**
baz=80
E08A Dider Farm, El 79.76 44 ⇓P **P 04 40 08.2 -0.9**
baz=80
G07A Ruggs Ranch, H 79.79 45 ⇓P **P 04 40 09.3 0.0**
baz=80
C09A Chrisman Ranch 79.79 43 ⇓P **P 04 40 08.7 -0.6**
baz=80
K05A Summer Lake 79.84 48 ⇑P **P 04 40 09.6 +0.1**
baz=80
I06A Prineville 79.89 47 ⇑P **P 04 40 09.9 +0.1**
baz=80
D09A Jones Farm, Ri 80.03 43 ⇓P **P 04 40 10.3 -0.3**
baz=80
MNRC McLaughlin Nat 80.05 52 ⇓P **P 04 40 11.1 +0.4**
baz=80
HATC Hat Creek Radi 80.10 50 ⇑P **P 04 40 11.0 +0.1**
baz=80
L05A Lakeview 80.12 49 ⇑P **P 04 40 11.4 +0.4**
baz=80
M05C Lookout 80.13 49 ⇓P **P 04 40 11.2 +0.1**
baz=80
J06A Christmas Vall 80.17 47 ⇓P **P 04 40 12.0 +0.7**
baz=80
F08A Pendleton 80.19 45 ⇓P **P 04 40 11.4 0.0**
baz=80
G08A Pilot Rock 80.25 45 ⇓P **P 04 40 12.1 +0.4**
baz=80
K06A Valley Falls 80.26 48 ⇓P **P 04 40 11.5 -0.3**
baz=80
I07A Izee 80.31 46 ⇓P **P 04 40 11.5 -0.6**
baz=80
E09A Wood Farm, Sta 80.34 44 ⇓P **P 04 40 12.2 0.0**
baz=80
NEW Newport 80.34 42 *e*P **P 04 40 12.0 -0.3**
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 80.34 42 *e*P **P 04 40 12.0 -0.2**
comp=Z,6.7nm,0.8s,mb4.5
C10A Spilker Farm, 80.39 42 ⇑P **P 04 40 12.2 -0.3**
baz=80
MOS Moscow 80.52 326 *e*P **P 04 40 09.8 -3.4**
MOS *e* 04 43 15.5
MOD Modoc 80.54 49 *e*P **P 04 40 12.9 -0.4**
comp=Z,56nm,2.1s,mb5.0
MOD Modoc 80.54 49 ⇓P **P 04 40 13.0 -0.3**
baz=80
O04C Chester 80.54 50 ⇑P **P 04 40 13.4 +0.1**
baz=80,SNR=9.2
A11A Hall Mountain, 80.55 41 ⇓P **P 04 40 13.7 +0.3**
baz=80
OHCM Honcut 80.59 51 *e*P **P 04 40 13.2 -0.4**
M06C Likely Place G 80.66 49 ⇓P **P 04 40 14.7 +0.7**
baz=80
ELFS Eagle Lake Fie 80.69 50 ⇓P **P 04 40 14.2 +0.1**
baz=81
J07A Hines 80.70 47 ⇑P **P 04 40 13.5 -0.6**
baz=81
H08A Prairie City 80.72 46 ⇑P **P 04 40 14.6 +0.3**
baz=81
O05C Quincy 80.78 51 ⇑P **P 04 40 14.0 -0.6**
baz=81
F09A S2 Ranch, Elgi 80.78 45 ⇓P **P 04 40 13.7 -1.0**
baz=81
K07A Rock Creek Ran 80.99 48 P **P 04 40 16.2 +0.5**
baz=81,SNR=8.4
A12A Yaak River Ran 80.99 41 ⇑P **P 04 40 16.0 +0.3**
baz=81
I08A Drewsey 81.01 46 ⇑P **P 04 40 15.8 0.0**
baz=81
E10A Myers Farm, Un 81.01 44 ⇓P **P 04 40 15.5 -0.3**
baz=81
F10A Beach Ranch, E 81.13 44 ⇑P **P 04 40 15.8 -0.6**
baz=81
L07A Adell 81.17 48 P **P 04 40 17.3 +0.7**
baz=81,SNR=7.2
B12A Libby 81.21 41 ⇑P **P 04 40 16.9 0.0**
baz=81
BEKR Beckwourth 81.22 51 ⇓P **P 04 40 16.6 -0.3**
baz=81
TAOE Nuku Hiva Isla 81.22 103 *e*LR LR 05 05 38.4
comp=Z,1μm,22.5s
P05C Yuba Gap, Truc 81.24 51 ⇓P **P 04 40 17.4 +0.4**
baz=81
J08A Circle Bar Ran 81.27 47 P **P 04 40 17.7 +0.5**
baz=81,SNR=8.4
N06A Buffalo Meadow 81.28 50 ⇓P **P 04 40 16.3 -0.9**
baz=81
D11A Klaveano Farm, 81.29 43 ⇓P **P 04 40 16.0 -1.3**
baz=81
VOR Voronezh 81.33 322 *e*P **P 04 40 16.5 -1.0**
VOR *e**PP pP 04 40 31.0 -10
VOR pmax pmax
comp=Z,250nm,2.5s,mb5.6
H09A Durkee 81.33 45 ⇓P **P 04 40 16.9 -0.6**
baz=81

OBN	**Obninsk**	**81.33**	**326**	*i* P		**P**	**04 40 16.6**	**-0.9**
OBN	comp=Z,70nm,1.6s,mb5.2			pmax		pmax		
OBN	comp=Z,600nm,16.0s			MLR		MLR		
OBN	**Obninsk**	**81.33**	**326**	*i* P		**P**	**04 40 16.7**	**-0.8**
OBN	comp=Z,900nm,22.0s			LR		LR		
R04C	**Big Horse Ranc** baz=81	**81.37**	**52**	⇓P		**P**	**04 40 17.8**	**+0.1**
O06A	**Flanigan** baz=81	**81.49**	**50**	⇑P		**P**	**04 40 18.7**	**+0.4**
K08A	**Mann Creek Ran** baz=81,SNR=7.6	**81.50**	**47**	P		**P**	**04 40 17.9**	**-0.5**
BMO	**Blue Mountains** comp=Z,90nm,2.1s,mb5.2	**81.50**	**45**	*e*P		**P**	**04 40 17.9**	**-0.5**
WVOR	**Wild Horse Val**	**81.50**	**48**	*e*P		**P**	**04 40 18.4**	**0.0**
WVOR	comp=Z,95nm,2.2s,mb5.2			pmax		pmax		
WVOR	**Wild Horse Val** comp=Z,95nm,2.2s,mb5.2	**81.50**	**48**	*e*P		**P**	**04 40 18.4**	**-0.1**
M07A	**Soldier Meadow** baz=81	**81.51**	**49**	⇓P		**P**	**04 40 18.8**	**+0.4**
I09A	**Lost Marbles R** baz=81	**81.54**	**46**	⇓P		**P**	**04 40 18.6**	**0.0**
PACP	**Pacheco Peak** baz=81	**81.55**	**54**	⇓P		**P**	**04 40 19.4**	**+0.7**
HAST	**UC Hastings Re** baz=82	**81.57**	**54**	⇓P		**P**	**04 40 19.5**	**+0.7**
P06A	**Stead Airport,** baz=82	**81.62**	**51**	⇓P		**P**	**04 40 20.0**	**+1.0**
J09A	**Fry Pan Ranch,** baz=82,SNR=6.4	**81.77**	**47**	P		**P**	**04 40 20.2**	**+0.4**
L08A	**Fields** baz=82,SNR=8.1	**81.79**	**48**	P		**P**	**04 40 20.4**	**+0.4**
R05C	**Kirkwood Meado** baz=82	**81.84**	**52**	⇑P		**P**	**04 40 19.6**	**-0.6**
F11A	**Grangeville** baz=82	**81.85**	**44**	⇓P		**P**	**04 40 19.9**	**-0.3**
CMB	**Columbia Colle** baz=82,SNR=8.8	**81.85**	**52**	P		**P**	**04 40 20.6**	**+0.4**
WCN	**Washoe City** baz=82	**81.86**	**51**	⇑P		**P**	**04 40 20.3**	**0.0**
N07B	**Gerlach** baz=82	**81.88**	**49**	⇑P		**P**	**04 40 21.1**	**+0.7**
ZEI	**Tsey**	**81.88**	**313**	*e*P		**P**	**04 40 18.8**	**-1.6**
ZEI				*e**PP		pP	04 40 38.2	-5.9
ZEI	comp=Z,25nm,1.8s,mb4.7			pmax		pmax		
B13A	**Whitefish** baz=82	**81.93**	**41**	⇑P		**P**	**04 40 20.6**	**0.0**
G11A	**Walters Elk Ra** baz=82	**81.97**	**44**	⇑P		**P**	**04 40 20.2**	**-0.7**
WALA	**Waterton Lakes**	**82.00**	**40**	*e*P		**P**	**04 40 19.8**	**-1.2**
K09A	**Rome** baz=82	**82.03**	**47**	⇓P		**P**	**04 40 19.9**	**-1.3**
S05C	**Merced** baz=82	**82.14**	**53**	⇓P		**P**	**04 40 21.2**	**-0.6**
C13A	**Hot Springs** baz=82	**82.15**	**42**	⇓P		**P**	**04 40 20.8**	**-1.0**
U04C	**Hernandez Rese** baz=82	**82.16**	**54**	⇓P		**P**	**04 40 21.9**	**+0.1**
KIV	**Kislovodsk** comp=Z,191nm,1.0s,mb5.9,SNR=8.5	**82.25**	**314**	P		**P**	**04 40 24.9**	**+2.6**
KIV	**Kislovodsk** SNR=8.4	**82.25**	**314**	P		**P**	**04 40 25.0**	**+2.7**
KIV	**Kislovodsk**	**82.25**	**314**	*d i*P		**P**	**04 40 22.9**	**+0.6**
KIV	comp=Z,200nm,3.0s			pmax		pmax		
KIV	**Kislovodsk** comp=Z,62nm,1.3s,mb5.3	**82.25**	**314**	*e*P		**P**	**04 40 22.0**	**-0.4**
GNI	**Garni** SNR=6.9	**82.27**	**310**	P		**P**	**04 40 24.9**	**+2.4**
GNI	**Garni**	**82.27**	**310**	*d i*P		**P**	**04 40 23.8**	**+1.3**
GNI	comp=Z,74nm,2.3s			pmax		pmax		
GNI	**Garni** comp=Z,227nm,2.3s,mb5.6	**82.27**	**310**	*e*P		**P**	**04 40 20.9**	**-1.5**
S06C	**San Francisco** baz=82	**82.31**	**52**	⇓P		**P**	**04 40 22.7**	**0.0**
L09A	**Wilkinson Ranc** baz=82	**82.33**	**48**	⇑P		**P**	**04 40 23.1**	**+0.3**
R06C	**Coleville** baz=82	**82.36**	**52**	⇓P		**P**	**04 40 22.3**	**-0.6**
H11A	**Donnelly** baz=82	**82.41**	**45**	⇑P		**P**	**04 40 22.5**	**-0.7**
D13A	**Huson** baz=82	**82.45**	**42**	⇓P		**P**	**04 40 22.7**	**-0.7**
N08A	**GE Springer Mi** baz=82	**82.47**	**49**	⇓P		**P**	**04 40 22.8**	**-0.6**
F12A	**Elk City** baz=82	**82.48**	**44**	⇓P		**P**	**04 40 23.2**	**-0.4**
PKD	**Parkfield** baz=82	**82.49**	**54**	⇓P		**P**	**04 40 24.3**	**+0.7**
C14A	**Swan Lake** baz=82	**82.62**	**41**	⇓P		**P**	**04 40 23.9**	**-0.4**
M09A	**Marrel Ranch,** baz=83	**82.70**	**48**	⇓P		**P**	**04 40 25.0**	**+0.3**
T06C	**Millerton Lake** baz=83,SNR=7.7	**82.73**	**53**	P		**P**	**04 40 25.3**	**+0.4**
N09A	**Rock Creek Ran** baz=83	**82.87**	**49**	⇓P		**P**	**04 40 26.2**	**+0.6**
E13A	**Victor** baz=83	**82.89**	**43**	⇓P		**P**	**04 40 24.9**	**-0.7**
KCC	**Kaiser Creek** baz=83	**82.90**	**53**	⇑P		**P**	**04 40 26.4**	**+0.7**
FINES	**FINESS Array B** comp=Z,2.3nm,0.6s,mb4.2,baz=72,slow=5.5,SNR=14	**83.04**	**334**	P		**P**	**04 40 25.9**	**-0.6**
FINES	comp=Z,286nm,19.6s,baz=161,slow=37			LR		LR	05 19 38.3	
D14A	**Greenough** baz=83	**83.05**	**42**	⇓P		**P**	**04 40 25.1**	**-1.4**
F13A	**Darby** baz=83	**83.06**	**43**	⇓P		**P**	**04 40 25.2**	**-1.4**
MLAC	**Mammoth Lakes** baz=83	**83.14**	**52**	⇓P		**P**	**04 40 27.6**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,2.7nm,0.7s,mb4.2,baz=278,slow=6.3,SNR=19	**83.23**	**51**	P		**P**	**04 40 27.5**	**+0.1**
CHMT	**Chamberlain Mo**	**83.28**	**42**	*e*P		**P**	**04 40 27.3**	**-0.4**
M10A	**I.L. Ranch, Tu** baz=83	**83.29**	**48**	⇓P		**P**	**04 40 28.7**	**+0.9**
E14A	**Clinton** baz=83	**83.34**	**43**	⇓P		**P**	**04 40 28.2**	**+0.3**
Q08A	**Gabbs** baz=83,SNR=6.4	**83.34**	**51**	P		**P**	**04 40 28.4**	**+0.4**
HELL	**Mitchell Peak,** baz=83	**83.36**	**53**	⇑P		**P**	**04 40 28.8**	**+0.7**
O09A	**Fish Creek Ran** baz=83	**83.36**	**49**	⇑P		**P**	**04 40 28.4**	**+0.3**
VES	**Vestal, Richgr** baz=84	**83.64**	**54**	⇑P		**P**	**04 40 29.5**	**0.0**
S08C	**White Mtn Res** baz=84,SNR=6.6	**83.68**	**52**	P		**P**	**04 40 30.6**	**+0.9**
O10A	**Cortez Mining,** baz=84	**83.80**	**49**	⇑P		**P**	**04 40 30.7**	**+0.3**
M11A	**Holland Ranch,** baz=84	**83.85**	**48**	⇓P		**P**	**04 40 31.2**	**+0.6**
E15A	**Deer Lodge** baz=84,SNR=7.7	**83.87**	**42**	P		**P**	**04 40 30.7**	**0.0**
HLID	**Hailey** comp=Z,116nm,2.5s,mb5.3	**83.92**	**46**	*e*P		**P**	**04 40 31.1**	**+0.2**
HLID	**Hailey** baz=84,SNR=8.3	**83.92**	**46**	P		**P**	**04 40 32.2**	**+1.3**
P10A	**Eureka** baz=84	**84.09**	**50**	⇓P		**P**	**04 40 32.4**	**+0.6**
N11A	**Elko Archery C** baz=84	**84.13**	**48**	⇓P		**P**	**04 40 32.6**	**+0.6**
CWC	**Cottonwood Cre** baz=84	**84.16**	**53**	⇑P		**P**	**04 40 33.1**	**+1.0**
ISA	**Isabella** baz=84	**84.16**	**54**	⇓P		**P**	**04 40 32.2**	**0.0**
R09A	**Tonopah** baz=84,SNR=11	**84.20**	**51**	P		**P**	**04 40 32.9**	**+0.5**
F15A	**Butte** baz=84,SNR=7.0	**84.21**	**43**	P		**P**	**04 40 32.9**	**+0.5**
S09A	**Goldfield** baz=84,SNR=7.4	**84.29**	**52**	P		**P**	**04 40 33.6**	**+0.8**
DLMT	**Dillon** comp=Z,158nm,2.3s,mb5.4	**84.35**	**43**	*e*P		**P**	**04 40 33.2**	**+0.1**
MCMT	**McKenzie Canyo**	**84.41**	**44**	*e*P		**P**	**04 40 33.8**	**+0.4**
M12A	**Wells** baz=84,SNR=10	**84.46**	**48**	P		**P**	**04 40 34.3**	**+0.7**
O11A	**Cowboy Ranch,** baz=84	**84.46**	**49**	⇑P		**P**	**04 40 33.0**	**-0.7**
GRAC	**Grapevine Rang** baz=84	**84.47**	**52**	⇓P		**P**	**04 40 34.4**	**+0.7**
G15A	**Dillon** baz=84	**84.50**	**43**	⇓P		**P**	**04 40 33.8**	**-0.1**
ELK	**Elko**	**84.50**	**48**	*e*P		**P**	**04 40 34.4**	**+0.5**
DAC	**Darwin (Calif)**	**84.58**	**53**	*e*P		**P**	**04 40 34.6**	**+0.3**
DAC	comp=Z,21nm,1.5s,mb4.8			pmax		pmax		
DAC	**Darwin (Calif)** comp=Z,21nm,1.5s,mb4.8	**84.58**	**53**	*e*P		**P**	**04 40 34.5**	**+0.3**
N12A	**Clover Valley,** baz=84,SNR=8.3	**84.60**	**48**	P		**P**	**04 40 34.9**	**+0.5**
R10A	**Warm Springs** baz=85	**84.74**	**51**	⇓P		**P**	**04 40 35.0**	**0.0**
MPMC	**Manual Prospec** baz=85,SNR=6.7	**84.74**	**53**	P		**P**	**04 40 35.5**	**+0.4**
LRMC	**Laurel Mountai** baz=85,SNR=7.8	**84.82**	**54**	P		**P**	**04 40 35.9**	**+0.4**
EDW2	**Edwards Air Fo** baz=85	**84.82**	**55**	⇑P		**P**	**04 40 34.5**	**-1.0**
EGMT	**Eagleton** comp=Z,180nm,2.1s,mb5.6	**84.94**	**40**	*e*P		**P**	**04 40 35.9**	**-0.2**
EGMT	**Eagleton** baz=85	**84.94**	**40**	⇑P		**P**	**04 40 35.6**	**-0.5**
Q11A	**Duckwater** baz=85,SNR=5.8	**84.98**	**50**	⇑P		**P**	**04 40 35.9**	**-0.4**
M13A	**Montello** baz=85,SNR=7.0	**84.99**	**47**	P		**P**	**04 40 36.9**	**+0.5**
O12A	**Currie** baz=85,SNR=7.7	**85.04**	**49**	P		**P**	**04 40 37.4**	**+0.7**
FURC	**Furnace Creek,** baz=85,SNR=6.9	**85.05**	**53**	P		**P**	**04 40 37.2**	**+0.5**
N13A	**Wendover, West** baz=85	**85.17**	**48**	⇓P		**P**	**04 40 36.9**	**-0.4**
TRCR	**Troy Canyon**	**85.23**	**51**	*e*P		**P**	**04 40 37.7**	**+0.1**
P12A	**McGill** baz=85	**85.25**	**49**	⇓P		**P**	**04 40 37.6**	**-0.1**
QLMT	**Earthquake Lak**	**85.32**	**43**	*e*P		**P**	**04 40 39.0**	**+0.9**
U10A	**Ash Meadows, A** baz=85	**85.46**	**53**	⇑P		**P**	**04 40 38.7**	**0.0**
Q12A	**Willow Creek R** baz=85,SNR=5.5	**85.49**	**50**	⇓P		**P**	**04 40 38.8**	**-0.1**
GSC	**Goldstone**	**85.55**	**54**	*e*P		**P**	**04 40 39.4**	**+0.3**
GSC	**Goldstone** baz=85	**85.55**	**54**	⇑P		**P**	**04 40 39.1**	**0.0**
YMR	**Madison River** comp=Z,22nm,1.1s,mb5.0	**85.69**	**43**	*e*P		**P**	**04 40 40.7**	**+0.9**
HVU	**Hansel Valley**	**85.76**	**47**	*e*P		**P**	**04 40 40.1**	**-0.1**
HVU	comp=Z,265nm,2.4s,mb5.7			pmax		pmax		
HVU	**Hansel Valley** comp=Z,265nm,2.4s,mb5.7	**85.76**	**47**	*e*P		**P**	**04 40 40.1**	**-0.1**
YNR	**Norris Junctio**	**85.85**	**43**	*e*P		**P**	**04 40 42.3**	**+1.7**
YFT	**Old Faithful**	**85.87**	**44**	*e*P		**P**	**04 40 43.2**	**+2.5**
MURC	**Murrieta** baz=86	**85.93**	**56**	⇑P		**P**	**04 40 40.3**	**-0.6**
BGU	**Big Grassy Mou**	**85.95**	**47**	*e*P		**P**	**04 40 41.2**	**0.0**
IMW	**Indian Meadow** comp=Z,12nm,0.9s,mb4.8	**86.05**	**44**	*e*P		**P**	**04 40 42.5**	**+0.9**
HEC	**Hector,Ludlow** baz=86	**86.10**	**54**	⇓P		**P**	**04 40 40.5**	**-1.3**
FLWY	**Flagg Ranch** comp=Z,137nm,1.9s,mb5.6	**86.12**	**44**	*e*P		**P**	**04 40 42.9**	**+0.9**
TUQ	**Turquoise Mtn.** baz=86	**86.16**	**53**	⇓P		**P**	**04 40 42.4**	**+0.3**
SPUT	**South Promonto**	**86.19**	**47**	*e*P		**P**	**04 40 40.5**	**-1.8**
MOOW	**Moose Ponds** comp=Z,77nm,2.1s,mb5.3	**86.24**	**44**	*e*P		**P**	**04 40 43.2**	**+0.6**
109C	**Camp Elliot, M** baz=86	**86.28**	**56**	⇓P		**P**	**04 40 43.0**	**+0.3**
REDW	**Red Top Meadow** comp=Z,90nm,2.0s,mb5.3	**86.35**	**45**	*e*P		**P**	**04 40 43.7**	**+0.7**
V11A	**Goodsprings** baz=86	**86.36**	**53**	⇓P		**P**	**04 40 42.1**	**-1.0**
SNOW	**Snow King Moun** comp=Z,18nm,1.4s,mb4.8	**86.36**	**44**	*e*P		**P**	**04 40 43.8**	**+0.6**
LOHW	**Long Hollow** comp=Z,130nm,2.5s,mb5.4	**86.40**	**44**	*e*P		**P**	**04 40 43.5**	**+0.2**
DUG	**Dugway**	**86.42**	**48**	*e*P		**P**	**04 40 43.8**	**+0.4**
DUG	comp=Z,23nm,1.0s,mb5.1			pmax		pmax		
DUG	**Dugway** comp=Z,23nm,1.0s,mb5.1	**86.42**	**48**	*e*P		**P**	**04 40 43.8**	**+0.4**
DUG	**Dugway** baz=86	**86.42**	**48**	⇓P		**P**	**04 40 43.6**	**+0.2**
PFO	**Pinyon Flat Ob**	**86.49**	**55**	*e*P		**P**	**04 40 43.6**	**-0.2**
PFO	comp=Z,17nm,1.2s,mb4.8			pmax		pmax		
PFO	**Pinyon Flat Ob** comp=Z,17nm,1.2s,mb4.9	**86.49**	**55**	*e*P		**P**	**04 40 43.6**	**-0.2**
PFO	**Pinyon Flat Ob** baz=86	**86.49**	**55**	⇑P		**P**	**04 40 43.7**	**0.0**
RLMT	**Red Lodge** comp=Z,14nm,0.8s,mb4.9	**86.56**	**42**	*e*P		**P**	**04 40 45.0**	**+0.8**
HWUT	**Hardware Ranch** comp=Z,15nm,1.0s,mb4.9	**86.65**	**46**	*e*P		**P**	**04 40 44.5**	**-0.1**
BELC	**Belle Mtn.** baz=87	**86.68**	**55**	⇑P		**P**	**04 40 44.7**	**0.0**
U12A	**Valley of Fire** baz=87	**86.78**	**52**	⇑P		**P**	**04 40 45.7**	**+0.6**
V12A	**Nelson** baz=87,SNR=6.7	**86.84**	**53**	P		**P**	**04 40 46.0**	**+0.6**
CTU	**Camp Tracy** comp=Z,19nm,1.1s,mb4.9	**86.93**	**47**	*e*P		**P**	**04 40 46.1**	**+0.2**
ARUT	**Antelope Range**	**87.00**	**50**	*e*P		**P**	**04 40 46.5**	**+0.2**
NLU	**North Lily Min**	**87.03**	**48**	*e*P		**P**	**04 40 46.6**	**+0.2**
JLU	**Jordanelle**	**87.17**	**47**	*e*P		**P**	**04 40 46.9**	**-0.2**
BC3	**Big Chuckw Mtn** baz=87	**87.24**	**55**	⇑P		**P**	**04 40 47.3**	**-0.1**
IRM	**Iron Mountain**	**87.26**	**54**	⇑P		**P**	**04 40 47.8**	**+0.3**
SWSC	**Sam W. Stewart** baz=87	**87.27**	**56**	⇓P		**P**	**04 40 46.8**	**-0.7**
MPU	**Maple Canyon** comp=Z,17nm,1.2s,mb4.8	**87.31**	**48**	*e*P		**P**	**04 40 47.9**	**+0.2**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,mb4.0,baz=54,slow=4.8,SNR=8.8	**87.35**	**324**	P		**P**	**04 40 46.6**	**-1.3**
AKASG	comp=Z,593nm,19.4s,baz=65,slow=38			LR		LR	05 23 21.1	
AKBB	**Malin Array Si**	**87.35**	**324**	*e*P		**P**	**04 40 46.3**	**-1.6**
DAU	**Dauis Canyon**	**87.39**	**47**	*e*P		**P**	**04 40 48.1**	**0.0**
BW06	**Boulder Array** comp=Z,85nm,2.5s,mb5.2	**87.46**	**45**	*e*P		**P**	**04 40 48.0**	**-0.5**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.7s,baz=298,slow=3.2,SNR=6.8	**87.46**	**45**	P		**P**	**04 40 47.8**	**-0.7**
PDAR	comp=Z,625nm,21.4s,baz=330,slow=31			LR		LR	05 12 43.6	
MSU	**Marysvale**	**87.59**	**49**	*e*P		**P**	**04 40 49.5**	**+0.4**
W13A	**Hualapai Mount** baz=88	**87.82**	**53**	⇑P		**P**	**04 40 50.7**	**+0.6**
Y12C	**Blythe** baz=88,SNR=5.2	**87.90**	**54**	P		**P**	**04 40 51.4**	**+0.9**
PDMCI	**Parker Dam,Lak** baz=88,SNR=7.8	**87.96**	**54**	P		**P**	**04 40 51.4**	**+0.6**
GLA	**Glamis**	**87.96**	**55**	*e*P		**P**	**04 40 51.4**	**+0.5**
GLA	**Glamis** baz=88	**87.96**	**55**	⇓P		**P**	**04 40 51.1**	**+0.3**
X13A	**Yucca** baz=88,SNR=7.2	**88.07**	**53**	P		**P**	**04 40 51.9**	**+0.5**
W14A	**Seligman** baz=88,SNR=7.5	**88.36**	**53**	⇑P		**P**	**04 40 53.3**	**+0.5**
Y13A	**Salome** baz=88	**88.40**	**54**	⇑P		**P**	**04 40 52.8**	**-0.1**
SRU	**San Rafael**	**88.48**	**48**	*e*P		**P**	**04 40 53.0**	**-0.3**
SRU	comp=Z,17nm,1.1s,mb5.0			pmax		pmax		
SRU	**San Rafael** comp=Z,17nm,1.1s,mb5.0	**88.48**	**48**	*e*P		**P**	**04 40 53.0**	**-0.3**
SUW	**Suwalki**	**88.58**	**329**	*e*P		**P**	**04 40 53.4**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=44,slow=4.7,SNR=2.7	**88.82**	**339**	P		**P**	**04 40 52.9**	**-2.0**
NOA	comp=Z,231nm,18.3s,baz=60,slow=38			LR		LR	05 23 50.1	
X14A	**Yava** baz=89,SNR=8.6	**88.83**	**53**	⇓P		**P**	**04 40 55.5**	**+0.5**
Y14A	**Wickenburg** baz=89,SNR=9.7	**88.97**	**54**	P		**P**	**04 40 56.3**	**+0.7**
W15A	**Williams** baz=89	**88.98**	**52**	⇓P		**P**	**04 40 56.8**	**+1.2**
Z14A	**Wintersburg** baz=89	**89.26**	**54**	⇑P		**P**	**04 40 57.5**	**+0.6**
X15A	**Humboldt** baz=89,SNR=12	**89.30**	**53**	⇓P		**P**	**04 40 57.7**	**+0.5**
WUAZ	**Wupatki** comp=Z,14nm,1.2s,mb4.9	**89.48**	**52**	*e*P		**P**	**04 40 58.4**	**+0.3**
WUAZ	**Wupatki** baz=89	**89.48**	**52**	⇑P		**P**	**04 40 58.5**	**+0.5**
115A	**Sonoran Desert** baz=90	**90.09**	**55**	⇓P		**P**	**04 41 01.4**	**+0.5**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.8s,mb4.1,baz=96,slow=2.5,SNR=5.4	**90.17**	**313**	P		**P**	**04 41 00.5**	**-0.7**
116A	**Eloy** baz=90	**90.55**	**55**	⇓P		**P**	**04 41 03.8**	**+0.9**
MVCO	**Mesa Verde** comp=Z,20nm,1.4s,mb5.0	**90.77**	**49**	*e*P		**P**	**04 41 04.3**	**+0.3**
MVCO	**Mesa Verde** baz=91	**90.77**	**49**	⇑P		**P**	**04 41 04.2**	**+0.1**
PHWY	**Pilot Hill**	**90.84**	**44**	*e*P		**P**	**04 41 05.0**	**+0.7**
CASY	**Casey** comp=Z,72nm,1.9s,mb5.5	**91.14**	**193**	*e*P		**P**	**04 41 04.4**	**-1.4**
TUC	**Tucson**	**91.36**	**54**	*e*P		**P**	**04 41 07.5**	**+0.8**
TUC	comp=Z,46nm,2.0s,mb5.3			pmax		pmax		
TUC	**Tucson** comp=Z,46nm,2.0s,mb5.3	**91.36**	**54**	*e*P		**P**	**04 41 07.5**	**+0.8**
KWP	**Kalwaria**	**91.42**	**326**	*e*P		**P**	**04 41 05.9**	**-1.1**
RKT	**Rikitea** comp=Z,781nm,35.8s,baz=295	**91.45**	**114**	*e*LR		LR	05 10 15.6	
ULM	**Lac du Bonnet** comp=Z,1.4nm,0.6s,mb4.2,baz=302,slow=5.7,SNR=3.7	**91.48**	**33**	P		**P**	**04 41 05.6**	**-1.7**
ULM	comp=Z,300nm,19.8s,baz=293,slow=36			LR		LR	05 22 14.3	
SDCO	**Great Sand Dun** comp=Z,49nm,2.0s,mb5.5	**92.60**	**48**	*e*P		**P**	**04 41 13.3**	**+0.8**
ANMO	**Albuquerque** comp=Z,24nm,1.8s	**93.30**	**50**	*e*P		**P**	**04 41 16.4**	**+0.7**
ANMO				pmax		pmax		
ANMO	**Albuquerque** comp=Z,24nm,1.8s,mb5.2	**93.30**	**50**	*e*P		**P**	**04 41 16.4**	**+0.6**
KSP	**Ksiaz**	**93.85**	**329**	*e*P		**P**	**04 41 16.8**	**-1.4**
BRG	**Berggiesshubel** comp=Z,2.2nm,0.9s,mb4.6	**94.92**	**330**	*e*P		**P**	**04 41 20.9**	**-2.3**
BRG	**Berggiesshubel**	**94.92**	**330**	*e*P		**P**	**04 41 20.9**	**-2.2**
BRG	comp=Z,2.0nm,0.9s,mb4.5			pmax		pmax		
MNTX	**Cornudas Mount** comp=Z,23nm,1.9s,mb5.3	**95.69**	**53**	*e*P		**P**	**04 41 27.2**	**+0.6**
GERES	**GERESS Array B** comp=Z,375nm,19.9s,baz=78,slow=37	**96.44**	**329**	LR		LR	05 28 17.5	
SCHQ	**Schefferville** comp=Z,254nm,19.7s,baz=333,slow=35	**99.54**	**17**	LR		LR	05 26 13.3	
VNDA	**Vanda** comp=Z,231nm,19.3s,baz=336,slow=35	**99.70**	**176**	LR		LR	05 25 35.4	
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.9s,baz=9.9,slow=2.9,SNR=3.6	**128.56**	**309**	PKP		PKPdf	04 47 09.1	+1.7
TORD	comp=Z,0.7nm,0.8s,baz=49,slow=4.1,SNR=3.6			PP		PP	04 49 16.2	+2.4
SDV	**Santo Domingo**	**135.09**	**51**	*e*PKPdf		PKPdf	04 47 20.2	+0.5
LPAZ	**La Paz** comp=Z,2.7nm,1.0s,baz=288,slow=5.1,SNR=6.0	**150.10**	**85**	PKP		PKPdf	04 47 48.5	+2.4
LPAZ	comp=Z,6.0nm,1.0s,baz=282,slow=3.5,SNR=24			PKPbc		PKPbc	04 47 52.9	+1.7
LPAZ	**La Paz**	**150.10**	**85**	*e*PKPdf		PKPdf	04 47 48.6	+2.5
LPAZ				*e*PKPbc		PKPbc	04 47 53.1	+1.9
LPAZ				*e*PKPab		PKPab	04 47 59.6	+2.2
LVC	**Limon Verde**	**150.47**	**98**	*e*PKPdf		PKPdf	04 47 46.9	+0.2
SAML	**Samuel**	**151.78**	**67**	*e*PKPdf		PKPdf	04 47 50.1	+1.4
SAML				*e*PKPbc		PKPbc	04 47 55.5	+0.3
SAML				*e*PKPab		PKPab	04 48 03.4	-1.0

IDC 15 04:40:13.2±3.7, 611N×9479E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=148.3km s-min=23.6km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 1.3nm,0.7s,baz=164,slow=8.5,SNR=9.4	**41.94**	**347**	P	P	04 48 05.4	-0.2
SONM	**Songino Array** 0.8nm,0.6s,baz=188,slow=9.1,SNR=9.1	**42.74**	**12**	P	P	04 48 12.4	+0.3
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=301,slow=11,SNR=7.1	**46.73**	**125**	P	P	04 48 43.4	-0.5
ASAR	**Alice Springs** 0.5nm,0.7s,baz=301,slow=8.2,SNR=2.5	**48.30**	**129**	P	P	04 48 57.4	+1.2

*MAN **15** 04:43:10.2, 654N×12363E, h5km, mb5.5, ML5.9, MS2.4*
MAN F COTABATO CITY - INTENSITY III.
*ISCJB **15** 04:43:15.7±0.6, 659N×003×12392E±005, h45km±5km, mb4.8/56, MS4.2/11, Error ellipse: s-maj=7.6km s-min=4.8km az=156.3*
*MOS **15** 04:43:15.9±1.1, 663N×12383E, h45km, mb5.1/18, Error ellipse: s-maj=15.8km s-min=7.2km az=114.0*
*BJI **15** 04:43:17.4, 639N×124.16E, h78km, mB5.3, mb4.9, Ms4.8, Ms24.3*
*NEIC **15** 04:43:18.8±0.8, 660N×12393E, h60km±7km, mb5.0/19, Error ellipse: s-maj=7.0km s-min=4.4km az=70.0*
*IDC **15** 04:43:20.3±4.8, 662N×12399E, h75km±45km, mb4.3/20, mb1 4.4/20, mb1mx4.4/23, mbtmp4.3/20, MS4.0/3, Ms1 4.0/3, ms1mx3.4/43, Error ellipse: s-maj=22.2km s-min=10.2km az=78.0*
ISC 15 04:43:17.7±0.6, 661N±003×12395E±004, h46km±5km, h63km±2.8km:pP-P, n138, σ1§03/143, mb4.8/56, MS4.2/11, 8C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.67**	**26**	⇓*i*P	**Pn**	**04 43 27.6**	**-3.3**
CTBH				*i* S	**Sn**	**04 43 37.3**	**-3.1**
GSPH	**General Santos**	**1.12**	**118**	⇑*e*P	**Pn**	**04 43 39.9**	**+3.0**
GSPH				*e*S	**Sn**	**04 43 59.0**	**+7.8**
KCP	**Kidapawan**	**1.20**	**71**	⇑*i*P	**Pn**	**04 43 37.4**	**-0.6**
KCP				*i* S	**Sn**	**04 43 57.8**	**+4.7**
DMPH	**Davao City--Mi**	**1.61**	**73**	⇓*i*P	**Pn**	**04 43 44.6**	**+0.9**
DMPH				*i* S	**Sn**	**04 44 11.6**	**+8.3**
BUKP	**Musuan**	**1.67**	**41**	*e*P	**Pn**	**04 43 44.0**	**-0.5**
BUKP				*e*S	**Sn**	**04 44 02.3**	**-2.5**
DAV	**Davao City (W)**	**1.68**	**74**	⇓*i*P	**Pn**	**04 43 46.0**	**+1.4**
DAV	**Davao City (W)** SNR=198	**1.68**	**74**	⇓P	**Pn**	**04 43 46.9**	**+2.3**
DAV	**Davao City (W)**	**1.68**	**74**	*e*Pn	**Pn**	**04 43 46.4**	**+1.8**
CGP	**Cagayan de Oro**	**1.97**	**22**	⇑*i*P	**Pn**	**04 43 48.4**	**-0.2**
CGP				*i* S	**Sn**	**04 44 15.3**	**+3.2**
DCPH	**Dipolog City**	**2.05**	**343**	⇑*i*P	**Pn**	**04 43 49.5**	**-0.2**
DCPH				*i* S	**Sn**	**04 44 19.0**	**+5.0**
MATI	**Mati**	**2.31**	**82**	*e*P	**Pn**	**04 43 53.1**	**-0.2**
SCPH	**Surigao**	**3.50**	**26**	*e*P	**Pn**	**04 44 15.1**	**+5.6**
SCPH						04 45 02.4	
LLP	**Lapu-Lapu**	**3.68**	**0**	*e*P	**Pn**	**04 44 12.5**	**+0.4**
LLP				*e*S	**Sn**	**04 44 53.4**	**-0.8**
GUIM	**Jordan**	**4.21**	**341**	*e*P	**Pn**	**04 44 18.8**	**-0.5**
RCP	**Roxas**	**5.06**	**346**	⇑*e*P	**Pn**	**04 44 37.1**	**+6.1**
PPR	**Puerto Princes**	**6.05**	**302**	*i*

NJ2 AMB AMB
comp=Z,530nm,6.7s
NJ2 LR LR
comp=N,760nm,24.1s,MS4.3
NJ2 LR LR
comp=E,850nm,24.6s,MS4.3
NJ2 LR LR
comp=Z,830nm,24.4s,MS4.2
CBIJ Chichi jima 26.75 38 LR LR 04 57 43.4
comp=Z,303nm,21.1s,MS3.8,baz=155,slow=32
JNU Nakatsue 27.15 13 P **P 04 48 56.5 -0.1**
baz=215,slow=12
CHTO Chiang Mai 27.20 299 *e*P **P 04 48 57.0 0.0**
KMI Kunming 27.40 315 P **P 04 48 58.9 +0.1**
KMI AMB AMB
comp=Z,12nm,1.2s,mb4.3
KMI LR LR
comp=N,336nm,13.7s,MS4.2
KMI LR LR
comp=E,303nm,15.0s,MS4.2
KMI LR LR
comp=Z,461nm,15.0s,MS4.2
KMI Kunming 27.40 315 P **P 04 48 58.9 +0.1**
comp=Z,12nm,1.2s,mb4.3
KMI LR LR
comp=Z,460nm,15.0s,MS4.2
MBWA Marble Bar 27.91 188 *e*P **P 04 49 03.3 0.0**
comp=Z,76nm,1.4s,mb5.1
PMG Port Moresby 28.07 124 P **P 04 49 04.2 -0.6**
comp=Z,4.8nm,0.6s,mb4.3,baz=343,slow=15,SNR=4.1
PMG LR LR 04 59 20.9
comp=Z,392nm,19.5s,MS4.0,baz=350,slow=34
PMG Port Moresby 28.07 124⇑ *e*P **P 04 49 09.0 +4.2**
PMG Port Moresby 28.07 124 *e*P **P 04 49 04.5 -0.3**
comp=Z,22nm,1.0s,mb4.8
WRAB Tennant Creek 28.29 159 P **P 04 49 06.9 +0.1**
comp=Z,169nm,0.8s,mb5.7,SNR=8.3
WRAB Tennant Creek 28.29 159 P **P 04 49 06.0 -0.8**
WRA Warramunga Arr 28.30 159 P **P 04 49 06.1 -0.7**
comp=Z,15nm,0.8s,mb4.7,baz=337,slow=9.8,SNR=67
WB2 Warramunga Arr 28.30 159 *e*P **P 04 49 06.0 -0.8**
WB2 *e* 04 49 42.8
CD2 Chengdu 30.70 324 *e*P **P 04 49 28.4 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
KSRS Korea Array 30.91 6 P **P 04 49 30.4 +0.4**
comp=Z,8.8nm,0.8s,mb4.6,baz=182,slow=9.5,SNR=21
KSRS LR LR 05 03 39.1
comp=Z,183nm,18.8s,MS3.8,baz=190,slow=40
AS31 Alice Springs 31.62 162 *e*P **P 04 49 35.6 -0.6**
ASAR Alice Springs 31.62 162 P **P 04 49 36.0 -0.2**
comp=Z,5.3nm,0.7s,mb4.5,baz=333,slow=7.1,SNR=43
ASAR PcP PcP 04 52 27.3 -0.2
comp=Z,1.4nm,0.6s,baz=343,slow=2.8,SNR=5.2
MJAR Matsushiro Arr 32.52 22 P **P 04 49 43.2 -0.8**
comp=Z,2.1nm,0.4s,mb4.5,baz=186,slow=7.9,SNR=5.1
LZH Lanzhou 34.64 331 *e*P **P 04 50 03.5 +1.0**
LZH AP pP 04 50 19.6 +4.7
LZH PP PP 04 51 22.0 +0.4
LZH *e*S **S 04 55 28.9 +0.1**
LZH *e*SS SS 04 57 45.3 -15
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,112nm,4.6s
LZH LR LR
comp=E,1μm,13.1s
LZH LR LR
comp=Z,2μm,15.8s,MS4.9
LZH Lanzhou 34.64 331 *e*P **P 04 50 03.5 +1.0**
comp=Z,28nm,1.5s,mb5.0
LZH pP pP 04 50 19.6 +4.7
LZH sP sP 04 50 25.1 +4.7
LZH PP PP 04 51 22.0 +0.4
LZH PPP 04 51 51.7
LZH *e*S **S 04 55 28.9 +0.1**
LZH *e*SS SS 04 57 45.3 -15
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,2μm,15.8s,MS4.9
LZH Lanzhou 34.64 331 *e*P **P 04 50 03.5 +1.0**
comp=Z,28nm,1.5s,mb5.0
LZH pP pP 04 50 19.6 +4.7
LZH sP sP 04 50 25.1 +4.7
LZH PP PP 04 51 22.0 +0.4
LZH PPP 04 51 51.7
LZH *e*S **S 04 55 28.9 +0.1**
LZH *e*SS SS 04 57 45.3 -15
LZH LR LR
comp=Z,2μm,15.8s,MS4.9
HHC Hu-ho-hao-te 35.84 344 *e*P **P 04 50 15.5 +2.6**
HHC PP PP 04 51 39.8 +4.9
HHC PCP PcP 04 52 39.1 -0.4
HHC S **S 04 55 46.8 -0.5**
HHC SCP ScP 04 56 16.8 -5.0
HHC XS sS 04 56 25.6 +18
HHC SS SS 04 58 14.1 -11
HHC SSS ScS 05 00 20.6 -6.4
HHC AMB AMB
comp=Z,7.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,572nm,8.3s
HHC LR LR
comp=N,406nm,12.7s,MS4.5
HHC LR LR
comp=E,383nm,12.2s,MS4.5
HHC LR LR
comp=Z,290nm,13.1s,MS4.2
CN2 Changchun 37.06 2 *e*P **P 04 50 22.8 -0.5**
CN2 *e*S **S 04 56 08.1 +2.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,11.0s,MS4.4
CN2 LR LR
comp=E,300nm,11.0s,MS4.4
CN2 LR LR
comp=Z,200nm,12.0s,MS4.1
FORT Forrest 37.38 174 *e*P **P 04 50 26.1 +0.1**
comp=Z,24nm,0.7s,mb5.1
MDJ Mudanjiang 38.17 7 P **P 04 50 32.3 -0.4**
MDJ PP PP 04 52 00.5 0.0
MDJ S **S 04 56 21.6 -1.2**
MDJ SCP ScP 04 56 29.9 -0.5
MDJ AMB AMB
comp=Z,25nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,64nm,3.1s
MDJ LR LR
comp=N,88nm,25.7s
MDJ LR LR
comp=E,188nm,32.9s
MDJ LR LR
comp=Z,112nm,19.5s
KLBR Kellerberrin 38.45 189 *e*P **P 04 50 34.9 -0.1**
comp=Z,6.4nm,0.6s,mb4.5
MUN Mundaring 39.08 190 *e*P **P 04 50 40.5 +0.3**
GTA Gaotai 39.23 330 *e*P **P 04 50 42.4 +0.9**
GTA AP pP 04 50 57.9 +3.9
GTA PP PP 04 52 16.6 +4.6
GTA S **S 04 56 39.4 +0.8**
GTA SS SS 04 59 24.8 -8.2
GTA AMB AMB
comp=Z,14nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,409nm,4.9s
GTA LR LR
comp=N,215nm,15.6s,MS4.2
GTA LR LR
comp=E,246nm,18.3s,MS4.2
GTA LR LR
comp=Z,285nm,11.4s
NWAO Narrogin (SRO) 39.84 189 P **P 04 50 47.5 +0.9**
comp=Z,14nn,0.9s,mb4.7,baz=22,slow=7.1,SNR=5.5
NWAO Narrogin (SRO) 39.84 189 P **P 04 50 47.5 +0.9**
GUN Gumba 41.81 305 *e*P **P 04 51 04.0 +1.2**
comp=Z,21nn,0.7s,mb4.9
STKA Stephens Creek 41.81 157 P **P 04 51 03.4 +0.5**
comp=Z,37nn,0.7s,mb5.1,baz=327,slow=7.5,SNR=43
STKA Stephens Creek 41.81 157 *e*P **P 04 51 03.8 +0.9**
PKI Pulchoki 42.06 304 *e*P **P 04 51 05.7 +0.8**
KKN Kakani 42.25 305 *e*P **P 04 51 07.2 +0.8**
DMN Daman 42.33 304 *e*P **P 04 51 07.9 +0.9**
HIA Hailar 42.66 356 *e*P **P 04 51 10.0 +0.3**
HIA pmax pmax
comp=Z,27nm,0.9s
HIA Hailar 42.66 356 *e*P **P 04 51 10.0 +0.3**
comp=Z,28nn,0.9s,mb5.0
GKN Gorkha 42.86 305 *e*P **P 04 51 11.8 +0.5**
KOLN Koldanda 43.63 304 *e*P **P 04 51 18.3 +0.8**
comp=Z,36nn,1.3s,mb5.0
SONM Songino Array 43.72 343 P **P 04 51 18.6 +0.2**
comp=Z,7.6nm,0.9s,mb4.4,baz=159,slow=9.3,SNR=30
ZAK Zakamensk 46.93 342 *e*P **P 04 51 43.2 -0.5**
ZAK *e* 04 53 10.2
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
TLY Talaya 47.97 343 *e*P **P 04 51 52.4 +0.7**
TLY *e* 04 52 11.1
TLY pmax pmax
comp=Z,12nn,0.7s,mb5.0
TLY Talaya 47.97 343 *e*P **P 04 51 53.0 +1.3**
IRK Irkutsk 48.29 344 *e*P **P 04 51 47.0 -7.2**
IRK pmax pmax
comp=Z,54nn,1.9s,mb5.2
MOY Mondy 48.76 341 *e*P **P 04 51 59.0 +1.1**
WMQ Urumqi 48.80 325⇓ *i*P **P 04 52 00.3 +2.2**
WMQ AP pP 04 52 24.3 +13
WMQ PCP PcP 04 53 17.4 -5.0
WMQ PP PP 04 53 58.3 +6.7
WMQ S **S 04 59 04.6 +6.7**
WMQ AMB AMB
comp=Z,14nn,0.6s,mb5.2
WMQ AMB AMB
comp=Z,142nn,3.6s
WMQ LR LR
comp=N,178nn,17.5s,MS4.3
WMQ LR LR
comp=E,212nn,15.9s,MS4.3
WMQ LR LR
comp=Z,127nn,16.7s,MS4.0
BOD Bodaibo 51.66 353 *e*P **P 04 52 19.9 +0.1**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MK31 Makanchi Array 53.63 325 *e*P **P 04 52 34.4 0.0**
MKAR Makanchi Array 53.63 325 P **P 04 52 34.9 +0.5**
comp=Z,2.9nm,0.6s,mb4.4,baz=124,slow=8.4,SNR=21
YAK Yakutsk 55.47 3 *e*P **P 04 52 47.4 -0.3**
YAK pmax pmax
comp=Z,25nn,1.0s,mb5.2
YAK Yakutsk 55.47 3 *e*P **P 04 52 46.7 -1.0**
comp=Z,32nn,0.6s,mb5.5
AAK Ala-Archa 56.38 318⇓⇓ *i*P **P 04 52 55.3 +1.1**
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
AAK Ala-Archa 56.38 318 *e*P **P 04 52 54.3 +0.1**
ZAL Zalesovo 56.79 333 P **P 04 52 56.6 -0.5**
comp=Z,3.4nm,0.6s,mb4.5,baz=359,slow=8.6,SNR=16
KURK Kurchatov 57.84 328 P **P 04 53 04.1 -0.5**
comp=Z,206nm,0.7s,SNR=10
KURK Kurchatov 57.84 328⇓⇓ P **P 04 53 05.1 +0.5**
SNR=12
KURK Kurchatov 57.84 328 *e*P **P 04 53 04.7 +0.2**
NVS Novosibirsk 58.07 334 *i* P **P 04 53 05.3 -0.9**
NVS pmax pmax
comp=Z,25nm,1.2s,mb5.1
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
BRVK Borovoye 63.48 327 P **P 04 53 43.4 +0.4**
comp=E,182nm,0.9s,SNR=15
BRVK Borovoye 63.48 327⇓⇓ P **P 04 53 43.3 +0.3**
SNR=14
BRVK Borovoye 63.48 327 *e*P **P 04 53 43.1 +0.1**
BRVK pmax pmax
comp=Z,28nn,0.9s,mb5.4
BRVK Borovoye 63.48 327 *e*P **P 04 53 43.0 +0.1**
comp=Z,28nn,0.9s,mb5.4
CHKZ Chkalovo 63.59 328 *e*P **P 04 53 43.7 +0.1**
CHKZ pmax pmax
comp=Z,15nn,1.0s,mb5.0
CHKZ Chkalovo 63.59 328 *e*P **P 04 53 43.7 +0.1**
comp=Z,15nn,1.0s,mb5.0
ZRNK Zerenda 64.13 327 *e*P **P 04 53 46.8 -0.4**
ZRNK pmax pmax
comp=Z,20nn,0.8s,mb5.2
ZRNK Zerenda 64.13 327 *e*P **P 04 53 46.8 -0.5**
comp=Z,20nn,0.8s,mb5.2
ARU Arti 71.04 328⇓ *i*P **P 04 54 29.6 -1.2**
ARU *e*S S 05 03 42.9 -0.6
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ARU Arti 71.04 328 *e*P **P 04 54 30.3 -0.5**
comp=Z,9.6nm,0.6s,mb4.9
CASY Casey 73.36 186 *e*P **P 04 54 44.2 -0.5**
comp=Z,39nn,1.7s,mb5.1
RDF Al-Radifah 74.94 298 *e*P **P 04 54 54.0 +0.1**
MIB Mutribah 75.14 299 *e*P **P 04 54 55.0 0.0**
MIB AMb AMB 04 54 56.0
comp=Z,59nn,0.6s,mb5.7
NAY Al-Naaiem 75.22 298 *e*P **P 04 54 55.2 -0.2**
NAY AMb AMB 04 54 56.4
comp=Z,21nn,1.1s,mb5.0
GNI Garni 77.53 310 *i* P **P 04 55 09.0 +0.5**
GNI pmax pmax
comp=Z,8.0nm,1.7s
GNI Garni 77.53 310 *e*P **P 04 55 10.2 +1.6**
comp=Z,77nn,1.6s,mb5.4
ZEI Tsey 78.25 312 *e*P **P 04 55 12.5 0.0**
ZEI *e**PP pP 04 55 21.1 -5.0
ZEI pmax pmax
comp=Z,12nn,0.8s,mb4.9
KIV Kislovodsk 79.16 313 *e*P **P 04 55 16.3 -1.3**
KIV pmax pmax
comp=Z,11nn,0.6s,mb5.0
KIV Kislovodsk 79.16 313 *e*P **P 04 55 16.8 -0.8**
comp=Z,15nn,0.8s,mb5.0
MCK McKinley 82.83 27 *e*P **P 04 55 36.7 -0.5**
MCK *e*PP PP 04 58 41.7 -6.1
COLA College 83.29 25 *e*P **P 04 55 41.2 +1.7**
APA Apatity 84.15 337⇑ *e*P pP 04 55 56.4 -1.2
APA pmax pmax
comp=Z,31nn,0.7s,mb5.5
MAW Mawson 85.50 200 P **P 04 55 49.4 -1.2**
comp=Z,3.1nn,1.0s,mb4.5,baz=61,slow=9.5,SNR=6.0
BRTR Keskin Array B 86.07 309 P **P 04 55 52.5 -0.9**
comp=Z,0.8nn,0.7s,mb4.0,baz=132,slow=6.8,SNR=3.9
VNDA Vanda 86.62 172 P **P 04 55 55.5 -0.7**
comp=Z,5.2nn,1.0s,mb4.7,baz=312,slow=5.0,SNR=23
VNDA Vanda 86.62 172 P **P 04 55 55.5 -0.7**
VNDA pmax pmax
comp=Z,5.0nn,1.0s
VNDA Vanda 86.62 172 *e*P **P 04 55 55.2 -1.0**
comp=Z,7.2nn,1.1s,mb4.8
ARCES ARCESS Array B 86.80 340 P **P 04 55 56.4 -0.7**
comp=Z,2.3nn,0.8s,mb4.5,baz=90,slow=6.1,SNR=3.9
KMBO Kilima Mbogo 86.85 269 P **P 04 55 58.6 +1.3**
comp=Z,3.0nn,0.8s,mb4.6,baz=56,slow=6.6,SNR=9.9
KMBO Kilima Mbogo 86.85 269 P **P 04 55 58.7 +1.4**
KMBO pmax pmax
comp=Z,3.0nn,0.8s
KMBO Kilima Mbogo 86.85 269 *e*P **P 04 55 58.0 +0.7**
SBA Scott Base 87.56 172 *e*P **P 04 56 01.5 +0.8**
SBA pmax pmax
comp=Z,20nn,1.5s,mb5.1
SBA Scott Base 87.56 172 *e*P **P 04 56 01.5 +0.8**
comp=Z,20nn,1.5s,mb5.1
AKASG Malin Array Be 87.93 321 P **P 04 56 00.9 -1.6**
comp=Z,0.2nn,0.3s,mb3.9,baz=74,slow=4.0,SNR=4.0
FINES FINESS Array B 89.00 332 P **P 04 56 00.2 -2.6**
comp=Z,4.3nn,0.9s,mb4.7,baz=131,slow=10,SNR=4.8
FINES FINESS Array B 88.00 332 P **P 04 56 00.2 -2.6**
NOA NORSAR Array B 94.99 333 P **P 04 56 34.0 -1.3**
comp=Z,2.1nn,0.8s,mb4.6,baz=67,slow=4.5,SNR=3.5
NOA NORSAR Array B 94.99 333 P **P 04 56 34.0 -1.3**
SDCO Great Sand Dun 116.24 42 *e*PKPdf PKPdf 05 01 56.9 +1.0
ANMO Albuquerque 117.05 45⇑ *i*PKIKP PKPdf 05 01 58.6 +1.1
TORD Torodi Ar. Bea 119.39 289 PKP PKPdf 05 02 01.2 -0.7
comp=Z,0.9nn,0.8s,baz=73,slow=1.7,SNR=4.8
MNTX Cornudas Mount 119.47 48 *e*PKPdf PKPdf 05 02 02.7 +0.5
JCT Junction City 124.18 46 *e*PKIKP PKPdf 05 02 11.6 +0.4
WVT Waverly 128.06 33 *e*PKIKP PKPdf 05 02 18.6 0.0
TRQA Tornquist 148.24 171 *e*PKPbc PKPbc 05 02 57.9 -0.7
SDV Santo Domingo 158.82 44 *e*PKPdf PKPdf 05 03 10.8 +0.4
LPAZ La Paz 164.75 130 PKIKP PKPdf 05 03 18.4 +1.9
comp=Z,3.0nn,1.0s,baz=252,slow=2.7,SNR=8.5
LPAZ La Paz 164.75 130 PKIKP PKPdf 05 03 18.4 +2.0
LPAZ pmax pmax
comp=Z,3.0nm,1.0s

LPAZ La Paz 164.75 130 *e*PKPdf PKPdf 05 03 18.1 +1.6

NEIC ***15*** *05:22:33.5±1.2, 6.09S×151.19E, h10km, mb4.3/3, Error ellipse: s-maj=28.6km s-min=16.0km az=109.0*
ISCJB ***15*** *05:22:36.4±4.9, 6.1S±0.3×151.2E±0.2, h51km±33km, mb4.0/4, Error ellipse: s-maj=46.5km s-min=34.2km az=154.4*
IDC ***15*** *05:22:38.6±8.7, 6.73S×151.63E, h48km±63km, mb3.8/3, mb1 4.1/4, mb1mx3.6/14, mbtmp3.9/4, ML2.7/1, Error ellipse: s-maj=88.2km s-min=58.9km az=130.0*
ISC 15 05:22:37.1±4.7, 61S±03×151.3E±02, h47km±31km, n14, σ0.957/13, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**231**	P	**Pn**		**Pn**	**05 23 53.8**	**+0.7**
	1.9nm,0.3s,baz=67,slow=13,SNR=7.2								
PMG				S	**Sn**		**Pn**	**05 24 52.5**	**+0.1**
	4.6nm,0.3s,baz=129,slow=22,SNR=8.1								
CTAO	**Charters Tower**	**14.76**	**199**	*e*Pn	**Pn**		**Pn**	**05 26 02.4**	**-0.5**
KAKA	**Kakadu**	**19.71**	**249**	*e*P	**Pn**		**Pn**	**05 27 03.0**	**-1.4**
	5.6nm,0.4s								
WRAB	**Tennant Creek**	**21.46**	**228**	*e*P	**P**		**05 27 21.3**		**-0.1**
	5.9nm,0.8s,mb4.0								
WB2	**Warramunga Arr**	**21.46**	**228**	*e*P	**P**		**05 27 21.5**		**0.0**
WB2	**Warramunga Arr**	**21.46**	**228**	*e*P	**P**		**05 27 21.3**		**-0.2**
WRA	**Warramunga Arr**	**21.47**	**228**	P	**P**		**05 27 21.7**		**+0.1**
	2.0nm,0.5s,mb3.7,baz=57,slow=11,SNR=13								
AS31	**Alice Springs**	**24.19**	**222**	*e*P	**P**		**05 27 49.1**		**0.0**
ASAR	**Alice Springs**	**24.20**	**222**	P	**P**		**05 27 49.4**		**+0.2**
	1.4nm,0.5s,mb3.6,baz=57,slow=8.8,SNR=28								
ASPA	**Alice Springs**	**24.20**	**222**	*e*P	**P**		**05 27 49.1**		**0.0**
FITZ	**Fitzroy Crossi**	**27.73**	**242**	*e*P	**P**		**05 28 22.0**		**+0.9**
	8.2nm,0.5s,mb4.6								
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**		**05 28 22.0**		**+1.0**
	4.8nm,0.6s,mb4.3,baz=86,slow=8.3,SNR=23								
TOA0	**Torodi Ar. Sit**	**149.22**	**285**	*e*PKPbc	PKPbc		05 42 23.6		+3.2
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc	PKPbc		05 42 23.9		+3.4
	0.8nm,0.6s,baz=62,slow=3.0,SNR=9.5								

MOS ***15*** *05:32:31.7±1.7, 35.24N×28.90E, h33km, mb4.0/4, Error ellipse: s-maj=9.8km s-min=7.7km az=125.3*
ISCJB ***15*** *05:32:32.9±0.3, 35.30N±003×29.04E±002, h56km±5km, mb3.8/8, Error ellipse: s-maj=5.2km s-min=2.9km az=8.5*
NEIC ***15*** *05:32:33.9, 35.43N×28.95E, h33km, mb3.9/4, MD3.9(ATH), ML3.7(NIC), After ATH.*
CSEM ***15*** *05:32:33.7±0.1, 35.51N×29.10E, h60km, Mw3.3, Error ellipse: s-maj=2.5km s-min=1.4km az=7.0*
ATH ***15*** *05:32:33.9, 35.43N×28.95E, h33km±7km, MD3.9/9*
IDC ***15*** *05:32:34.1±1.5, 35.19N×29.04E, h41km±21km, mb3.6/6, mb1 3.9/11, mb1mx3.7/23, mbtmp3.8/11, ML3.9/5, Error ellipse: s-maj=23.9km s-min=9.6km az=4.0*
ISK ***15*** *05:32:35.2, 35.59N×29.08E, h86km, MD3.7*
NIC ***15*** *05:32:37.7±0.2, 35.44N×29.29E, h25km, mb4.1, ML3.7, MW3.3*
ISC 15 05:32:34.3±0.3, 3533N±003×2902E±002, h44km±5km, n102, σ1.918/122, mb3.8/8, 3C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.93**	**29**	*e*PN	**Pn**		**Pn**	**05 32 51.0**	**0.0**
ARG	**Arkhangelos**	**1.14**	**321**	*e*PN	**Pn**		**Pn**	**05 32 53.5**	**-0.3**
FETY	**Fethiye**	**1.30**	**2**	*i* PG	**Pn**		**Pn**	**05 32 55.4**	**-0.6**
FETY				*i* SG	**Sn**		**Pn**	**05 33 10.5**	**-1.7**
DALT	**Dalyan (Mudla)**	**1.47**	**348**	PN	**Pn**		**Pn**	**05 32 57.8**	**-0.5**
KARP	**Karpathos**	**1.54**	**279**⇑	*i*PN	**Pn**		**Pn**	**05 33 00.0**	**+0.8**
KARP	**Karpathos**	**1.54**	**279**	*i* Pnu				05 33 00.0	
ELL	**Elmali**	**1.58**	**27**	PN	**Pn**		**Pn**	**05 32 59.8**	**-0.1**
DAT	**Datca**	**1.82**	**320**	PN	**Pn**		**Pn**	**05 33 03.5**	**+0.4**
YER	**Yerkesik**	**1.89**	**342**	PN	**Pn**		**Pn**	**05 33 04.3**	**+0.2**
GOLH	**Golhisar**	**1.95**	**13**	*i* P	**Pn**		**Pn**	**05 33 06.5**	**+1.6**
GOLH				*i* S	**Sn**		**Pn**	**05 33 31.6**	**+3.5**
ANTB	**Antalya**	**2.05**	**40**	PN	**Pn**		**Pn**	**05 33 05.9**	**-0.3**
BDRM	**Kayabasi**	**2.15**	**324**	*i* P	**Pn**		**Pn**	**05 33 08.0**	**+0.4**
BDRM				*i* S	**Sn**		**Pn**	**05 33 31.6**	**-1.5**
MLSB	**Milas**	**2.20**	**333**	PN	**Pn**		**Pn**	**05 33 08.8**	**+0.5**
ZKR	**Zakros**	**2.31**	**265**	*i* P	**Pn**		**Pn**	**05 33 10.6**	**+0.8**
ZKR				*i* S	**Sn**		**Pn**	**05 33 37.5**	**+0.6**
DENT	**Denizli**	**2.42**	**0**	PN	**Pn**		**Pn**	**05 33 11.8**	**+0.5**
BCK	**Bucak**	**2.47**	**30**	PN	**Pn**		**Pn**	**05 33 11.9**	**-0.2**
AKMC	**Akamas**	**2.73**	**95**⇑	*i*P	**Pn**		**Pn**	**05 33 15.8**	**+0.2**
PPCY	**Paphos**	**2.76**	**98**⇑	P	**Pn**		**Pn**	**05 33 16.2**	**+0.2**
ISP	**Isparta**	**2.78**	**25**	PN	**Pn**		**Pn**	**05 33 16.2**	**0.0**
ISP	**Isparta**	**2.78**	**25**	*e*Pn	**Pn**		**Pn**	**05 33 17.2**	**+0.9**
NPS	**Neapolis**	**2.79**	**270**	*e*PN	**Pn**		**Pn**	**05 33 17.9**	**+1.5**
TKTP	**Tekketepe**	**2.90**	**21**	*i* P	**Pn**		**Pn**	**05 33 18.8**	**+0.9**
TKTP				*i* S	**Sn**		**Pn**	**05 33 54.6**	**+3.2**
ALFC	**Alevga**	**2.93**	**92**⇑	*e*P	**Pn**		**Pn**	**05 33 18.7**	**+0.3**
	10nm,0.2s								
ALFC				S	**Sn**			**05 33 50.3**	**-2.1**
SMG	**Samos**	**2.95**	**324**	*e*PN	**Pn**		**Pn**	**05 33 19.6**	**+0.9**
SANT	**Santorini**	**3.07**	**291**	*e*Pn	**Pn**		**Pn**	**05 33 19.7**	**-0.6**
SANT	**Santorini**	**3.07**	**291**	*e*Pn	**Pn**		**Pn**	**05 33 19.7**	**-0.6**
SZAC	**Souni-Zanaja**	**3.22**	**99**	P	**Pn**		**Pn**	**05 33 22.8**	**+0.5**
SZAC				S	**Sn**		**Pn**	**05 33 58.5**	**-0.9**
APE	**Apeiranthos**	**3.31**	**303**	*i* P	**Pn**		**Pn**	**05 33 23.6**	**0.0**
APE				*i* S	**Sn**		**Pn**	**05 33 58.8**	**-2.9**
APE	**Apeiranthos**	**3.31**	**303**	*e*Pn	**Pn**		**Pn**	**05 33 23.7**	**+0.1**
IZM	**Izmir**	**3.37**	**336**	*e*PN	**Pn**		**Pn**	**05 33 24.9**	**+0.5**
IDI	**Anoyia**	**3.38**	**270**	P	**Pn**		**Pn**	**05 33 25.3**	**+0.8**
	12nm,0.3s,baz=91,slow=14,SNR=63								
IDI				S	**Sn**			**05 34 04.0**	**+0.6**
	9.5nm,0.3s,baz=315,slow=19,SNR=6.3								
MAMC	**Mammari**	**3.44**	**91**	P	**Pn**		**Pn**	**05 33 26.0**	**+0.7**
SHUT	**Suhut-Afyon**	**3.44**	**20**	*e*PN	**Pn**		**Pn**	**05 33 25.6**	**+0.3**
CSS	**Prodhromos**	**3.55**	**95**	P	**Pn**		**Pn**	**05 33 27.1**	**+0.2**
	3.6nm,0.5s								
CSS				S	**Sn**			**05 34 06.1**	**-1.5**
CSS	**Prodhromos**	**3.55**	**95**	*e*Pn	**Pn**		**Pn**	**05 33 26.4**	**-0.4**
CSS				*e*Sn	**Sn**		**Pn**	**05 34 05.6**	**-2.0**
CSS	**Prodhromos**	**3.55**	**95**	*e*Pn	**Pn**		**Pn**	**05 33 26.5**	**-0.4**
CSS				*e*Sn	**Sn**		**Pn**	**05 34 05.6**	**-2.0**
KONT	**Konya--Tatoy**	**3.74**	**45**	*e*PN	**Pn**		**Pn**	**05 33 30.0**	**+0.5**
IKL	**Isikli**	**3.90**	**75**	*e*PN	**Pn**		**Pn**	**05 33 32.8**	**+1.2**
VAM	**Vamos**	**3.94**	**272**	*e*PN	**Pn**		**Pn**	**05 33 34.2**	**+2.0**
KDHN	**Kadinhani**	**4.03**	**37**	*i* P	**Pn**		**Pn**	**05 33 35.1**	**+1.6**
KDHN				*i* S	**Sn**		**Pn**	**05 34 20.2**	**+0.7**
GVD	**Gavdhos**	**4.08**	**264**	*i* P	**Pn**		**Pn**	**05 33 34.8**	**+0.7**
GVD				*i* S	**Sn**		**Pn**	**05 34 20.1**	**-0.5**
GVD	**Gavdhos**	**4.08**	**264**	*e*Pn	**Pn**		**Pn**	**05 33 33.1**	**-1.0**
GVD				*e*Sn	**Sn**		**Pn**	**05 34 21.4**	**+0.9**
GVD	**Gavdhos**	**4.08**	**264**	*e*Pn	**Pn**		**Pn**	**05 33 35.3**	**+1.2**
GVD				*e*Sn	**Sn**		**Pn**	**05 34 21.4**	**+0.9**
PHNC	**Paralimni**	**4.12**	**93**	P	**Pn**		**Pn**	**05 33 36.0**	**+1.3**
ESKT	**Eskisehir**	**4.42**	**19**	*i* P	**Pn**		**Pn**	**05 33 38.8**	**-0.1**
ESKT				*i* S	**Sn**		**Pn**	**05 34 26.4**	**-2.7**
ESKT	**Eskisehir**	**4.42**	**19**	*e*Pn	**Pn**		**Pn**	**05 33 38.6**	**-0.3**
SEYT	**Eskypehyr**	**4.42**	**19**	*i* P	**Pn**		**Pn**	**05 33 38.8**	**-0.1**
SEYT				*i* S	**Sn**		**Pn**	**05 34 26.4**	**-2.7**
MERS	**Mersin**	**4.71**	**69**	*e*PN	**Pn**		**Pn**	**05 33 43.3**	**+0.5**
KYTH	**Kithira**	**4.96**	**283**	*e*PN	**Pn**		**Pn**	**05 33 46.8**	**+0.6**
VLI	**Veliai**	**5.12**	**287**	*e*PN	**Pn**		**Pn**	**05 33 48.9**	**+0.5**
KARA	**Karaisali**	**5.24**	**67**	*e*PN	**Pn**		**Pn**	**05 33 50.8**	**+0.8**
OSMT	**Osmaniye**	**5.29**	**6**	*e*PN	**Pn**		**Pn**	**05 33 50.0**	**-0.7**
BR131	**Keskin Array S**	**5.72**	**39**	*e*Pn	**Pn**		**Pn**	**05 33 57.4**	**+0.8**
	8.3nm,0.3s								
BR131	**Keskin Array S**	**5.72**	**39**	*e*Pn	**Pn**			**05 33 57.4**	**+0.8**
	8.3nm,0.3s								
BRTR	**Keskin Array B**	**5.72**	**39**	P	**Pn**		**Pn**	**05 33 57.6**	**+1.0**
	3.1nm,0.3s,baz=228,slow=15,SNR=61								
BRTR				S	**Sn**		**05 35 00.1**		**-0.8**
	1.4nm,0.3s,baz=216,slow=27,SNR=12								
MMAI	**Mount Meron Ar**	**5.77**	**112**	P	**Pn**		**Pn**	**05 33 56.7**	**-0.7**
	8.8nm,0.3s,baz=304,slow=11,SNR=23								
MMAI				S			**Sn**	**05 35 00.2**	**-2.1**
	12nm,0.3s,baz=296,slow=23,SNR=9.2								
HWQ	**Hawqa**	**5.79**	**98**	*e*Pn	**Pn**		**Pn**	**05 33 56.6**	**-1.1**
KOZT	**Kozan**	**5.89**	**67**	*e*Pn	**Pn**		**Pn**	**05 33 59.8**	**+0.8**
RCY	**Rachaya**	**5.91**	**106**	*e*Pn	**Pn**		**Pn**	**05 33 59.3**	**0.0**
ITM	**Ithomi**	**6.02**	**290**	*e*PN	**Pn**		**Pn**	**05 34 02.0**	**+1.2**
CORM	**Corum**	**6.57**	**41**	*e*PN	**Pn**		**Pn**	**05 34 07.9**	**-0.4**
YOZ	**Yozgat**	**6.60**	**47**	*e*PN	**Pn**		**Pn**	**05 34 08.3**	**-0.4**
ASF	**Jabal al Asfar**	**7.28**	**113**	P	**Pn**		**Pn**	**05 34 17.6**	**-0.4**
	0.9nm,0.3s,baz=323,slow=19,SNR=4.6								
EIL	**Elat**	**7.55**	**137**	*e*Pn

TIP				*e*Sn		**Sn**	**05 36 49.0**	**-9.4**
TIP	**Timpagrande**	**10.50**	**295**	*e*Pn		**Pn**	**05 34 59.9**	**-2.3**
HAVL	**Avola**	**11.35**	**282**	Pn		**Pn**	**05 35 11.3**	**-2.5**
	52nm,0.3s							
SSY	**Sortino**	**11.41**	**283**	Pn		**Pn**	**05 35 11.8**	**-2.8**
	48nm,0.4s							
CUC	**Castrocucco**	**11.45**	**298**	Pn		**Pn**	**05 35 13.9**	**-1.3**
	35nm,0.5s							
SLCN	**Sala Consilina**	**11.72**	**299**	Pn		**Pn**	**05 35 17.8**	**-1.1**
	32nm,0.3s							
GNI	**Garni**	**13.33**	**64**	*e*P		**Pn**	**05 35 45.1**	**+4.2**
AQU	**L'Aquila**	**14.04**	**305**	*e*P		**Pn**	**05 35 50.1**	**-0.4**
KEST	**Kesra**	**16.03**	**277**	P		**Pn**	**05 36 18.9**	**+2.4**
	0.3nm,0.3s,baz=62,slow=6.6,SNR=16							
PGF	**Pioggiola**	**17.14**	**301**	*e*P		**Pn**	**05 36 23.3**	**-7.2**
	45nm,1.1s							
PGF	**Pioggiola**	**17.14**	**301**	*e*P		**Pn**	**05 36 23.3**	**-7.2**
PGF				pmax	pmax			
	comp=Z,23nm,1.1s							
PGF	**Pioggiola**	**17.14**	**301**	*e*P		**Pn**	**05 36 23.3**	**-7.2**
	comp=Z,22nm,1.1s							
LPG	**La Plagne**	**19.70**	**308**	*e*P		**Pn**	**05 36 58.8**	**-2.8**
LPL	**La Plagne**	**19.73**	**308**	*e*P		**Pn**	**05 36 58.7**	**-3.2**
	comp=Z,7.7nm,0.7s							
LPL	**La Plagne**	**19.73**	**308**	*e*P		**Pn**	**05 36 58.7**	**-3.2**
LPL				pmax	pmax			
	comp=Z,4.0nm,0.7s							
LPL	**La Plagne**	**19.73**	**308**	*e*P		**Pn**	**05 36 58.7**	**-3.2**
	comp=Z,3.8nm,0.7s							
OBN	**Obninsk**	**20.46**	**12**	*e*P		**P**	**05 37 11.8**	**+3.7**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CABF	**La Chapelle**	**20.58**	**310**	*e*P		**P**	**05 37 07.7**	**-1.7**
SSF	**Saint Saulge**	**22.39**	**309**	*e*P		**P**	**05 37 25.9**	**-2.8**
BGF	**Bois d'Agland**	**22.62**	**308**	*e*P		**P**	**05 37 28.0**	**-3.3**
LDF	**La Druitiere**	**25.22**	**311**	*e*P		**P**	**05 37 55.5**	**-0.4**
FLN	**La Foliniere**	**25.51**	**311**	*e*P		**P**	**05 37 57.7**	**-0.8**
GRR	**Gorron**	**25.61**	**310**	*e*P		**P**	**05 37 57.8**	**-1.6**
AKTK	**Aktyubinsk**	**25.85**	**45**	P		**P**	**05 38 02.6**	**+1.1**
AKTO	**Aktyubinsk**	**25.85**	**45**	P		**P**	**05 38 02.6**	**+1.1**
	comp=Z,0.9nm,0.5s,mb3.6,baz=243,slow=10,SNR=5.3							
AKTO	**Aktyubinsk**	**25.85**	**45**	P		**P**	**05 38 02.7**	**+1.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.6							
FINES	**FINESS Array B**	**26.20**	**357**	P		**P**	**05 38 06.8**	**+2.1**
	comp=Z,3.9nm,0.9s,mb3.9,baz=192,slow=17,SNR=3.7							
ESDC	**Sonseca Array**	**26.44**	**289**	P		**P**	**05 38 07.3**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.8,baz=84,slow=9.3,SNR=9.7							
KONO	**Kongsberg**	**27.43**	**338**	*e*P		**P**	**05 38 18.8**	**+3.0**
TORD	**Torodi Ar. Bea**	**33.10**	**235**	P		**P**	**05 39 05.6**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=43,slow=8.7,SNR=4.4							
ZRNK	**Zerenda**	**33.13**	**45**	*e*P		**P**	**05 39 07.6**	**+1.5**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**33.13**	**45**	*e*P		**P**	**05 39 07.5**	**+1.4**
	comp=Z,0.9nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**34.25**	**45**	*e*P		**P**	**05 39 16.9**	**+1.0**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**34.25**	**45**	*e*P		**P**	**05 39 16.9**	**+0.9**
	comp=Z,1.3nm,0.6s,mb4.0							
ARCES	**ARCESS Array B**	**34.31**	**358**	P		**P**	**05 39 16.2**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=163,slow=8.7,SNR=5.1							
ARCES	**ARCESS Array B**	**34.31**	**358**	P		**P**	**05 39 16.2**	**-0.3**
MK31	**Makanchi Array**	**41.03**	**57**	*e*P		**P**	**05 40 12.9**	**-0.3**
SONM	**Songino Array**	**56.92**	**52**	P		**P**	**05 42 16.1**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=290,slow=6.8,SNR=4.0							

CASC 15 05:36:54.2±2.7, 837N×8291W, h0km±8km, MD3.9, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.38**	**318**	*e*P	Pg	05 37 01.9	+0.5
ACR				*e*S	Sg	05 37 08.6	+2.1
DVD	**David**	**0.46**	**82**	↓*i*P	Pg	05 37 03.7	+0.7
CTCR	**Cotoan**	**0.54**	**16**	↓*e*P	Pg	05 37 06.2	+1.5
CTCR				*e*S	Sg	05 37 15.3	+3.7
CNI	**Changuinola**	**1.11**	**20**	*e*P	Pg	05 37 15.5	+0.1
OCM	**Ochomogo**	**1.84**	**326**	*e*P	Pn	05 37 26.7	-0.3
VTU	**Volcan Turrial**	**1.84**	**333**	*e*P	Pn	05 37 26.7	-0.3
IRZ2	**Volcan Irazu 2**	**1.86**	**329**	*e*P	Pn	05 37 29.4	+2.0
LAJ	**Bijagual**	**1.91**	**321**	*e*P	Pn	05 37 30.7	+2.7
PRS1	**Puriscal**	**2.12**	**319**	*e*P	Pn	05 37 29.9	-1.0
PRS1				*e*S	Sn	05 37 57.0	-0.8
EPA	**Esparza**	**2.31**	**314**	*e*P	Pn	05 37 36.0	+2.5
EPA				*e*S	Sn	05 38 05.1	+2.4
AZU	**Azuero**	**2.67**	**102**	*e*P	Pn	05 37 37.7	-0.7
ACH	**Altos**	**2.96**	**84**	*e*P	Pn	05 37 43.9	+1.4
PTP	**Ponta Puerca**	**19.46**	**58**	↑*i*P		05 36 57.9	

*ISCJB **15** 05:43:20.3±0.4, 48.29N±0.004×668E±0.003, h23km±5km, Error ellipse: s-maj=6.2km s-min=3.8km az=177.7*
*STR **15** 05:43:20.3±0.3, 48.32N×668E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 05:43:20.7±0.1, 48.31N×667E, h10km, Md2.4/2, Ml2.4/9, Error ellipse: s-maj=1.3km s-min=0.8km az=167.0*
ISC 15 05:43:19.9±0.4, 4830N±003×666E±003, h19km±3km, n20, σ0.968/40, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECH	**Echery**	**0.35**	**104**	Pg	**Pg**	**05 43 27.5**	**+0.2**
ECH				Sg	**Sg**	**05 43 32.1**	**-0.2**
HAU	**Haudompre**	**0.36**	**215**	*e*Pg	**Pg**	**05 43 28.3**	**+0.8**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**05 43 33.2**	**+0.5**
	15nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**75**	*e*Pg	**Pg**	**05 43 28.8**	**+0.1**
CDF				*e*Sg	**Sg**	**05 43 34.1**	**-0.6**
	65nm,0.4s						
THEF	**They Montfort**	**0.45**	**261**	Pg	**Pg**	**05 43 29.3**	**+0.1**
WLS	**Welschbruch**	**0.48**	**76**	Pg	**Pg**	**05 43 29.7**	**+0.1**
WLS				Sg	**Sg**	**05 43 36.0**	**-0.2**
HINF	**Hinteralfeld**	**0.51**	**165**	*e*Pg	**Pg**	**05 43 30.7**	**+0.6**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.51**	**165**	*e*Pn	**Pg**	**05 43 32.4**	**+2.3**
HINF				*e*Sg	**Sg**	**05 43 37.5**	**+0.6**
	18nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**05 43 40.5**	**+3.6**
RFYF	**Reffroy**	**0.85**	**293**	*e*Pn	**Pn**	**05 43 37.5**	**+0.7**
	baz=114						
RFYF				*e*Sg	**Sg**	**05 43 48.2**	**+0.4**
	12nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pn	**Pn**	**05 43 40.8**	**+0.8**
	baz=85						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	**Pg**	**05 43 41.3**	**+0.4**
SFTF				*e*Sg	**Sg**	**05 43 55.6**	**+0.4**
	10nm,0.2s						
MEZF	**Maizieres J'vi**	**1.09**	**281**	*e*Pg	**Pg**	**05 43 41.2**	**+0.2**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**05 43 55.3**	**+0.1**
	13nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**1.12**	**88**	*e*Pg	**Pg**	**05 43 42.0**	**+0.4**
BFO				*e*Sg	**Sg**	**05 43 54.2**	**-2.0**
CABF	**La Chapelle**	**1.74**	**193**	*e*Pn	**Pn**	**05 43 50.0**	**+1.0**
	SNR=1.0						
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	**Pg**	**05 43 53.3**	**0.0**
CABF				*e*Sn	**Sn**	**05 44 10.9**	**+0.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**05 44 16.3**	**+0.4**
	3.1nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**05 43 55.0**	**+0.3**
	baz=64,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**05 44 00.5**	**-0.7**
	baz=64,SNR=1.0						
LOR				*e*Sn	**Sn**	**05 44 20.4**	**-0.4**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**05 44 28.1**	**-1.0**
	4.5nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pn	**Pn**	**05 43 59.4**	**+0.4**
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**05 44 06.6**	**-0.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**05 44 27.9**	**-0.6**
SSF				*e*Sg	**Sg**	**05 44 38.5**	**-0.6**
	2.2nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**05 44 07.6**	**-0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 44 29.8**	**-0.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**05 44 40.3**	**-0.9**
	3.3nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn	**Pn**	**05 44 02.7**	**+0.5**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**05 44 33.4**	**-1.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**05 44 46.4**	**-0.3**
	0.9nm,0.2s,SNR=1.0						

*IDC **15** 06:00:33.1±2.0, 697S×129.18E, h0km, mb4.1/1, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, ML4.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/29, Error ellipse: s-maj=88.4km s-min=26.7km az=76.0*
*ISCJB **15** 06:00:46.8±4.1, 76S±02×1289E±02, h142km±44km, mb3.8/1, Error ellipse: s-maj=38.9km s-min=29.6km az=62.6*
*NEIC **15** 06:00:47.9±3.2, 763S×12877E, h137km±33km, Error ellipse: s-maj=36.1km s-min=26.5km az=57.0*
ISC 15 06:00:47.5±3.5, 76S±02×1289E±02, h130km±37km, n13, σ0.992/13, mb3.8/1, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.21**	**146**	↓*i*P	**Pn**	**06 02 18.2**	**+1.3**
	57nm,0.3s						
KAKA				*e*S	**Sn**	**06 03 26.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.92**	**196**	*e*P	**Pn**	**06 03 19.6**	**-0.4**
	5.9nm,0.3s						
FITZ				*e*S	Sx	06 05 12.8	
FITZ	**Fitzroy Crossi**	**10.92**	**196**	Pn	**Pn**	**06 03 19.8**	**-0.3**
	1.4nm,0.3s,baz=27,slow=14,SNR=36						
FITZ				Sn	Sx	06 05 14.7	
	2.3nm,0.3s,baz=155,slow=22,SNR=5.6						
WRAB	**Tennant Creek**	**13.40**	**157**	*e*Pn	**Pn**	**06 03 51.7**	**-0.7**
WRAB				*e*Sn	Sx	06 06 12.7	
WRA	**Warramunga Arr**	**13.40**	**157**	Pn	**Pn**	**06 03 50.9**	**-1.5**
	2.0nm,0.3s,baz=342,slow=13,SNR=7.2						
WRA				Sn	Sx	06 06 13.9	
	1.5nm,0.3s,baz=330,slow=23,SNR=6.7						
WB2	**Warramunga Arr**	**13.40**	**157**	↓*i*P	**Pn**	**06 03 51.8**	**-0.7**
WB2				*e*S	Sx	06 06 14.3	
WB2	**Warramunga Arr**	**13.40**	**157**	*e*Pn	**Pn**	**06 03 51.9**	**-0.6**
WB2				*e*S	Sx	06 06 14.3	
AS31	**Alice Springs**	**16.72**	**164**	*e*P	**Pn**	**06 04 35.0**	**+1.0**
AS31				*e*S	Sx	06 07 33.1	
ASAR	**Alice Springs**	**16.72**	**164**	P	**Pn**	**06 04 34.9**	**+0.9**
	0.7nm,0.3s,baz=339,slow=10,SNR=41						
ASAR				S	Sx	06 07 31.4	
	0.3nm,0.3s,baz=197,slow=30,SNR=4.5						
ASPA	**Alice Springs**	**16.72**	**164**	*e*P	**Pn**	**06 04 35.0**	**+1.0**
ASPA				*e*S	Sx	06 07 33.1	
GUMO	**Guam**	**26.37**	**37**	LR	LR	06 14 58.9	
	comp=Z,99nm,19.1s,baz=295,slow=34						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**06 11 32.7**	**-0.4**
	0.9nm,0.5s,mb3.8,baz=120,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**06 11 32.7**	**-0.4**

*ISCJB **15** 06:08:34.6±0.7, 2177N±008×1430E±02, h35km, mb4.2/14, MS3.4/5, Error ellipse: s-maj=23.4km s-min=11.0km az=152.8*
*NEIC **15** 06:08:36.1±0.5, 2181N×14301E, h35km, mb4.7/2, Error ellipse: s-maj=18.5km s-min=9.8km az=79.0*
*BJI **15** 06:08:40.6, 2235N×14246E, h35km, mB4.9, mb4.5*
*IDC **15** 06:08:49.0±8.1, 2171N×14284E, h152km±74km, mb3.7/12, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, MS3.4/8, Ms1 3.4/8, ms1mx3.2/33, Error ellipse: s-maj=30.6km s-min=13.1km az=76.0*
ISC 15 06:08:36.4±0.7, 2181N±008×1431E±02, h35km, n28, σ0.997/21, mb4.2/14, MS3.4/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.32**	**352**	LR	LR	06 11 38.1	
	comp=Z,102nm,20.8s,baz=352,slow=31						
JHJ	**Hachijo jima 2**	**11.63**	**346**	LR	LR	06 15 11.2	
	comp=Z,171nm,18.6s,baz=68,slow=33						
JOW	**Kunigami**	**14.38**	**293**	LR	LR	06 16 27.2	
	comp=Z,284nm,18.9s,baz=329,slow=32						
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**06 13 14.1**	**+4.3**
	1.8nm,0.7s,baz=134,slow=8.9,SNR=6.4						
KSRS				LR	LR	06 19 58.1	
	comp=Z,99nm,19.5s,MS3.2,baz=145,slow=33						
ASAJ	**Asahikawa**	**22.25**	**359**	LR	LR	06 21 18.5	
	comp=Z,71nm,21.2s,MS3.1,baz=156,slow=34						
HNR	**Honiara**	**35.19**	**150**	LR	LR	06 29 39.0	
	comp=Z,74nm,18.4s,MS3.5,baz=359,slow=36						
LZH	**Lanzhou**	**36.89**	**301**	*e*P	**P**	**06 15 41.0**	**-0.6**
LZH				AP	pP	06 15 48.5	-3.3
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
LZH	**Lanzhou**	**36.89**	**301**	*e*P	**P**	**06 15 41.0**	**-0.6**
	comp=Z,18nm,1.2s,mb4.8						
LZH				pP	pP	06 15 48.5	-3.3
LZH				sP	sP	06 15 51.3	-4.7
SONM	**Songino Array**	**39.18**	**320**	P	**P**	**06 16 01.2**	**+0.3**
	comp=Z,12nm,0.6s,mb3.8,baz=126,slow=7.5,SNR=11						
SONM				LR	LR	06 31 19.6	
	comp=Z,105nm,19.7s,MS3.7,baz=58,slow=34						
GTA	**Gaotai**	**40.72**	**306**	*e*P	**P**	**06 16 15.3**	**+1.6**
GTA				AP	pP	06 16 22.0	-1.9
GTA				XP	sP	06 16 26.5	-1.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
CTA	**Charters Tower**	**41.76**	**175**	P	**P**	**06 16 23.9**	**+1.6**
	comp=Z,6.4nm,1.0s,mb4.2,baz=17,slow=17,SNR=3.1						
WB2	**Warramunga Arr**	**42.37**	**192**	*e*P	**P**	**06 16 27.0**	**-0.2**
WRA	**Warramunga Arr**	**42.37**	**192**	P	**P**	**06 16 26.4**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.2,baz=14,slow=8.6,SNR=21						
AS31	**Alice Springs**	**46.07**	**192**	*e*P	**P**	**06 16 56.7**	**-0.2**
ASAR	**Alice Springs**	**46.08**	**192**	P	**P**	**06 16 56.3**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=14,slow=10.0,SNR=40						
PSI	**Prapat**	**46.84**	**252**	P	**P**	**06 17 03.0**	**+0.1**
	comp=Z,4.1nm,0.5s,mb4.7,baz=73,slow=4.1,SNR=4.4						
PSI	**Prapat**	**46.84**	**252**	P	**P**	**06 17 03.0**	**+0.1**
WMQ	**Urumqi**	**50.42**	**309**	P	**P**	**06 17 31.5**	**+1.1**
ZAL	**Zalesovo**	**54.06**	**322**	P	**P**	**06 17 57.4**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=333,slow=4.8,SNR=5.5						
ZAL				LR	LR	06 39 27.2	
	comp=Z,45nm,19.1s,MS3.5,baz=331,slow=34						
ZAL	**Zalesovo**	**54.06**	**322**	P	**P**	**06 17 57.4**	**0.0**
ZAL				LR	LR	06 39 27.2	
MKAR	**Makanchi Array**	**54.54**	**313**	P	**P**	**06 18 00.3**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=90,slow=9.8,SNR=6.6						
CHKZ	**Chkalovo**	**62.38**	**320**	*e*P	**P**	**06 18 55.2**	**-0.3**
	comp=Z,6.0nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**62.51**	**319**	P	**P**	**06 18 56.3**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.6,baz=98,slow=7.8,SNR=15						
YKA	**Yellowknife Ar**	**76.41**	**28**	P	**P**	**06 20 21.0**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=293,slow=5.7,SNR=5.2						
FINES	**FINESS Array B**	**83.03**	**334**	P	**P**	**06 20 56.2**	**-1.9**
	comp=Z,4.4nm,0.9s,mb4.5,baz=160,slow=6.1,SNR=3.8						
PDAR	**Pinedale Array**	**87.39**	**45**	P	**P**	**06 21 21.7**	**+1.7**
	comp=Z,0.2nm,0.6s,mb3.5,baz=257,slow=8.2,SNR=3.0						
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	PKPbc	06 28 23.6	+0.3
	comp=Z,0.6nm,0.6s,baz=162,slow=3.2,SNR=2.8						
LPAZ				PKPab	PKPab	06 28 30.0	+0.9
	comp=Z,2.6nm,0.9s,baz=301,slow=2.6,SNR=9.4						
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	PKPbc	06 28 23.6	+0.4
LPAZ				PKPab	PKPab	06 28 30.0	+0.9
LPAZ				*e*PKPab	PKPab	06 28 31.4	+2.3

IDC 15 06:13:15.8±12.0, 2182N×14315E, h98km±112km, mb3.4/6, mb1 3.5/6, mb1mx3.4/22, mbtmp3.4/6, Error ellipse: s-maj=79.8km s-min=18.3km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.40**	**323**	P	P	06 17 45.3	+0.5
	1.2nm,0.6s,baz=144,slow=8.7,SNR=2.5						
SONM	**Songino Array**	**39.23**	**320**	P	P	06 20 34.2	-0.2
	0.8nm,0.6s,baz=134,slow=7.6,SNR=7.1						
WRA	**Warramunga Arr**	**42.39**	**192**	P	P	06 21 00.5	+0.1
	1.2nm,0.9s,baz=16,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**46.10**	**192**	P	P	06 21 30.2	+0.3
	0.4nm,0.6s,baz=14,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**54.59**	**313**	P	P	06 22 33.6	-0.4
	0.5nm,0.7s,baz=90,slow=8.6,SNR=5.6						
BVAR	**Borovoye Array**	**62.56**	**319**	P	P	06 23 29.8	+0.5
	2.0nm,0.6s,baz=93,slow=8.9,SNR=8.8						
LPAZ	**La Paz**	**149.96**	**85**	PKPbc	PKPbc	06 32 55.9	+1.2
	0.5nm,0.8s,baz=270,slow=7.1,SNR=2.5						

*NEIC **15** 07:05:14.5, 1863N×6497W, h36km, MD3.0(RSPR), After RSPR.*
RSPR 15 07:05:14.5, 1863N×6497W, h36km±7km, MD3.0/6, MD3.0/6, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.28**	**177**	↑*e*P	Pn	07 05 21.1	-1.2
STVI				*e*S	Sn	07 05 25.9	-1.7
TBVI	**Tortola**	**0.40**	**123**	↑*e*P	Pn	07 05 22.8	-1.0
TBVI				*e*S	Sn	07 05 28.9	-1.2
MTP	**Monte Pirata**	**0.77**	**226**	↑*e*P	Pn	07 05 28.1	-0.8
MTP				*e*S	Sn	07 05 37.8	-1.4
CBYP	**Canovanas**	**0.92**	**247**	↑*e*P	Pn	07 05 29.3	-1.5
CBYP				*e*S	Sn	07 05 41.5	-1.3
HUMP	**Col San Antoni**	**0.97**	**240**	↑*e*P	Pn	07 05 30.2	-1.4
HUMP				*e*S	Sn	07 05 42.7	-1.5
CPD	**Cerro la Pandu**	**1.08**	**237**	↑*e*P	Pn	07 05 32.4	-0.7
CPD	**Cerro la Pandu**	**1.08**	**237**	*e*S	Sn	07 05 45.6	-1.2
CPD	**Cerro la Pandu**	**1.08**	**237**	*e*Pn	Pn	07 05 32.5	-0.6
CPD				*e*S	Sn	07 05 45.6	-1.2
TGUH	**Tegucigalpa,Un**	**21.88**	**261**	*e*P	P	07 10 00.8	-3.4

CASC 15 07:16:57.3±1.9, 1462N×9110W, h20km±999km, MD3.5, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TER	**Terranova**	**0.51**	**128**	↑*e*P	Pb	07 17 01.6	-5.9
JAT	**Jato**	**0.60**	**240**	*e*P	Pb	07 17 08.8	-0.3
RBDL	**Robledal**	**1.46**	**110**	↓*e*P	x	07 17 56.0	
RBDL				*e*S	x	07 18 18.7	
RTR	**El Retiro**	**1.58**	**117**	*e*P	x	07 17 58.2	
RTR				*e*S	x	07 18 19.5	
SBLS	**San Blas**	**1.63**	**118**	*e*P	x	07 17 59.0	
SBLS				*e*S	x	07 18 19.9	
SNJE	**San Jose**	**1.63**	**117**	*e*P	x	07 17 59.1	
SNJE				*e*S	x	07 18 20.3	
MTO2	**Montecristo 2**	**1.70**	**97**	*e*P	x	07 17 59.9	
SNET	**Serv Nac Est T**	**2.04**	**117**	*e*P	x	07 17 31.0	

*NEIC **15** 07:25:22.0, 31.36S×71.65W, h31km, ML2.9(GUC), After GUC.*
GUC 15 07:25:22.0±0.7, 3136S×7165W, h31km±3km, MD3.8, ML2.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.54**	**166**	↓*i*P	Pb	07 25 32.6	-0.5
CHNG				*i* S	Sb	07 25 40.5	-0.2
CMCH	**Combarbala**	**0.58**	**72**	↑*i*P	Pb	07 25 33.6	-0.3
CMCH				*i* S	Sb	07 25 42.5	+0.6
CMCH				AML	AML	07 25 43.3	
	comp=E,2µm,0.7s						
CMCH	**Combarbala**	**0.58**	**72**	↑*i*P	Pb	07 25 33.6	-0.3
CMCH				*i* S	Sb	07 25 42.5	+0.6
PTCH	**Petorca**	**1.09**	**146**	↓*i*P	Pn	07 25 41.1	0.0
PTCH				*i* S	Sn	07 25 56.1	+1.0
PTCH				AML	AML	07 25 58.9	
	comp=E,1µm,0.2s						
PTCH	**Petorca**	**1.09**	**146**	↓*i*P	Pn	07 25 41.1	0.0
PTCH				*i* S	Sn	07 25 56.1	+1.0
TLL	**Tololo Astrono**	**1.39**	**32**	*e*P	Pn	07 25 46.6	+1.3
TLL				*i* S	Sn	07 26 05.1	+2.5
TLL				AML	AML	07 26 08.4	
	comp=E,76nm,0.2s						
TLL	**Tololo Astrono**	**1.39**	**32**	*e*P	Pn	07 25 46.6	+1.3
TLL				*i* S	Sn	07 26 05.1	+2.5
PEL	**Peldehue**	**1.96**	**156**	*e*P	Pn	07 25 54.7	+1.6
PEL				*i* S	Sn	07 26 19.4	+2.9
PEL				AML	AML	07 26 23.7	
	comp=N,246nm,0.3s						
PEL	**Peldehue**	**1.96**	**156**	*e*P	Pn	07 25 54.7	+1.6
PEL				*i* S	Sn	07 26 19.4	+2.9
CLCH	**Cerro Calan**	**2.24**	**155**	*e*P	Pn	07 25 58.7	+1.8
CLCH				*i* S	Sn	07 26 25.9	+2.4
CLCH				AML	AML	07 26 38.4	
	comp=E,118nm,0.8s						
FCH	**Farellones**	**2.27**	**150**	*e*P	Pn	07 26 00.7	+3.3
FCH				*i* S	Sn	07 26 28.9	+4.6

CASC 15 07:33:55.2±2.3, 1131N×8597W, h70km±9km, MD3.5, ML3.2, 6C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**0.12**	**99**	↑*i*P	Pn	07 34

18nm,0.3s,baz=354,slow=9.2,SNR=12
GUMO S Sn 07 58 01.8 -1.0
43nm,0.3s,baz=139,slow=23,SNR=7.6
WB2 Warramunga Arr 38.10 198 *eP* **P 08 03 45.3 +0.6**
WRA Warramunga Arr 38.11 198 P **P 08 03 45.1 +0.3**
0.5nm,0.4s,mb3.7,baz=30,slow=8.9,SNR=8.4
FITZ Fitzroy Crossi 39.97 211 *eP* **P 08 04 00.7 +0.4**
6.3nm,1.5s,mb4.2
ASAR Alice Springs 41.75 197 P **P 08 04 16.1 +1.2**
0.1nm,0.3s,mb3.0,baz=22,slow=11,SNR=4.3
BVAR Borovoye Array 68.47 321 P **P 08 07 26.5 -0.5**
0.6nm,0.5s,mb3.7,baz=102,slow=6.1,SNR=4.1
YKA Yellowknife Ar 79.63 28 P **P 08 08 33.0 +1.1**
1.1nm,0.6s,mb3.9,baz=288,slow=5.7,SNR=4.2
YKA Yellowknife Ar 79.63 28 P **P 08 08 33.0 +1.1**
PTRM Twissleman Ran 83.33 55 *eP* **P 08 08 50.1 -1.3**
CASY Casey 86.78 194 *eP* **P 08 09 06.3 -2.3**

ISCJB ***15*** *08:13:17.1±1.5,3265S±009×1775W±03,h111km±13km, mb4.3/6, Error ellipse: s-maj=38.1km s-min=9.0km az=36.1*
NEIC ***15*** *08:13:21.3±1.3,3240S×17805W,h89km±11km,mb4.5/1, Error ellipse: s-maj=27.1km s-min=11.7km az=108.0*
IDC ***15*** *08:13:21.6±2.3,3231S×17837W,h72km±16km,mb4.0/5, mb1 4.2/7,mb1mx3.9/16,mbtmp4.1/7, Error ellipse: s-maj=42.3km s-min=11.8km az=112.0*
ISC 15 08:13:22.3±1.0,322S±02×1789W±06,h41km±36km,n37, σ1§25/45,mb4.3/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.07**	**17**	P	**Pn**	**08 14 08.2**	**-0.1**
	58nm,0.3s,baz=286,slow=20,SNR=5.8						
RAO				S	**Sn**	**08 14 43.7**	**0.0**
	86nm,0.3s,baz=90,slow=20,SNR=4.5						
MXZ	**Matakaoa Point**	**5.81**	**202**	P	**Pn**	**08 14 47.1**	**+1.2**
MXZ				S	**Sn**	**08 15 52.3**	**+1.1**
MXZ	**Matakaoa Point**	**5.81**	**202**	PN	**Pn**	**08 14 47.1**	**+1.2**
MXZ				SN	**Sn**	**08 15 52.3**	**+1.1**
PUZ	**Puketiti**	**6.29**	**201**	*eP*	**Pn**	**08 14 53.6**	**+1.1**
PUZ				S	**Sn**	**08 16 03.3**	**+0.2**
PUZ	**Puketiti**	**6.29**	**201**	PN	**Pn**	**08 14 53.6**	**+1.1**
PUZ				SN	**Sn**	**08 16 03.3**	**+0.2**
MWZ	**Matawai**	**6.77**	**204**	P	**Pn**	**08 14 59.9**	**+0.9**
MWZ				S	**Sn**	**08 16 18.4**	**+3.6**
MWZ	**Matawai**	**6.77**	**204**	PN	**Pn**	**08 14 59.9**	**+0.9**
MWZ				SN	**Sn**	**08 16 18.3**	**+3.5**
URZ	**Urewera**	**6.85**	**207**	P	**Pn**	**08 15 01.3**	**+1.1**
	4.7nm,0.3s,baz=290,slow=0.4,SNR=40						
URZ				S	**Sn**	**08 16 19.6**	**+2.6**
	11nm,0.3s,baz=305,slow=23,SNR=14						
URZ	**Urewera**	**6.85**	**207**	P	**Pn**	**08 15 01.3**	**+1.1**
URZ	**Urewera**	**6.85**	**207**	PN	**Pn**	**08 15 01.3**	**+1.0**
URZ				SN	**Sn**	**08 16 16.9**	**0.0**
OUZ	**Omahuta**	**6.92**	**242**	*eP*	**Pn**	**08 15 10.8**	**+10**
OUZ	**Omahuta**	**6.92**	**242**	*e*PN	**Pn**	**08 15 10.8**	**+10**
KNZ	**Kokohu**	**7.34**	**201**	*eP*	**Pn**	**08 15 06.4**	**-0.5**
KNZ	**Kokohu**	**7.34**	**201**	*e*PN	**Pn**	**08 15 06.4**	**-0.5**
BKZ	**Black Stump Fm**	**7.88**	**207**	PN	**Pn**	**08 15 14.7**	**+0.3**
BKZ				SN	**Sn**	**08 16 42.1**	**-0.1**
PXZ	**Pawanui**	**8.52**	**202**	PN	**Pn**	**08 15 20.7**	**-2.4**
PXZ				SN	**Sn**	**08 16 52.7**	**-5.1**
TSZ	**Takapari Road**	**8.86**	**206**	SN	**Sn**	**08 17 04.2**	**-2.0**
MRZ	**Mangatainoka R**	**9.53**	**206**	*e*PN	**Pn**	**08 15 33.3**	**-3.6**
MRZ				SN	**Sn**	**08 17 16.4**	**-6.2**
KIW	**Kapiti Island**	**9.96**	**208**	PN	**Pn**	**08 15 39.4**	**-3.4**
KIW				SN	**Sn**	**08 17 29.9**	**-3.2**
NNZ	**Nelson**	**10.90**	**212**	SN	Sx	08 17 51.6	
QRZ	**Quartz Range**	**11.01**	**216**	SN	Sx	08 17 56.3	
THZ	**Tophouse**	**11.55**	**212**	PN	**Pn**	**08 16 02.7**	**-1.9**
THZ				SN	**Sn**	**08 18 07.2**	**-5.0**
KHZ	**Kahutara**	**11.82**	**208**	PN	**Pn**	**08 16 04.1**	**-4.2**
KHZ				SN	**Sn**	**08 18 10.9**	**-7.8**
LTZ	**Lake Taylor**	**12.65**	**211**	SN	Sx	08 18 31.0	
MQZ	**McQueen's Vall**	**13.25**	**208**	SN	Sx	08 18 42.0	
STKA	**Stephens Creek**	**33.34**	**260**	P	**P**	**08 19 58.0**	**+1.7**
	3.3nm,1.0s,mb4.2,baz=102,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**33.34**	**260**	P	**P**	**08 19 58.0**	**+1.7**
CTA	**Charters Tower**	**33.36**	**283**	P	**P**	**08 19 58.0**	**+1.5**
	7.1nm,0.9s,mb4.6,baz=106,slow=15,SNR=4.7						
CTA	**Charters Tower**	**33.36**	**283**	P	**P**	**08 19 58.0**	**+1.5**
ASAR	**Alice Springs**	**42.26**	**269**	P	**P**	**08 21 11.2**	**-0.3**
	2.0nm,0.6s,mb3.9,baz=107,slow=7.5,SNR=30						
WB2	**Warramunga Arr**	**43.40**	**275**	*eP*	**P**	**08 21 20.3**	**-0.5**
WRAB	**Tennant Creek**	**43.40**	**275**	*eP*	**P**	**08 21 20.4**	**-0.5**
	3.5nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**43.41**	**275**	P	**P**	**08 21 20.4**	**-0.5**
	5.4nm,0.3s,mb4.7,baz=112,slow=8.1,SNR=240						
FITZ	**Fitzroy Crossi**	**51.59**	**272**	P	**P**	**08 22 23.9**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=114,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**146.55**	**338**	PKPbc	PKPbc	08 32 54.0	-5.2
	1.9nm,0.7s,baz=38,slow=3.9,SNR=6.8						
NOA	**NORSAR Array B**	**150.40**	**350**	PKPbc	PKPbc	08 33 04.1	-5.2
	1.1nm,0.7s,baz=14,slow=4.2,SNR=3.4						
NOA	**NORSAR Array B**	**150.40**	**350**	PKPbc	PKPbc	08 33 04.1	-5.2

NIED ***15*** *08:39:00,3650N×14060E,h74km,Mw3.7 Best double couple: M○4.36000×10^14 NP1:φ○190.34.00000°,δ77.00000°, λ107.00000°. NP2:φ○159.00000°,δ21.00000°,λ38.00000°.*
IDC ***15*** *08:39:04.7±2.4,3663N×14100E,h42km±22km,mb3.6/4, mb1 3.9/8,mb1mx3.6/24,mbtmp3.9/8,ML3.7/4,MS3.6/1, Ms1 3.6/1,ms1mx2.5/34,Error ellipse: s-maj=20.0km s-min=11.2km az=59.0*
ISCJB ***15*** *08:39:07.1±0.5,3650N±004×14067E±005,h65km±4km, mb3.7/4, Error ellipse: s-maj=8.0km s-min=5.0km az=60.8*
NEIC ***15*** *08:39:08.9,3652N×14057E,h56km,MG3.9(JMA),After JMA.*
JMA ***15*** *08:39:08.8±0.1,3652N×14057E,h58km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φ○s182.00000°,δ33.00000°,λ76.00000°. NP2:φ○s19.00000°, δ58.00000°,λ99.00000°. Principal axes: T Plg75.0000°, Azm314.0000°; N Plg8.0000°, Azm194.0000°; P Plg13.0000°, Azm102.0000°;*
JMA Felt III J1.
ISC 15 08:39:08.1±0.5,3651N±003×14066E±005,h59km±4km, n26,σ0§81/40,mb3.7/4,MS3.7/1,3C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.13**	**324**	↑P	**Pn**	**08 39 17.6**	**+0.5**
JHO				S	**Sn**	**08 39 23.4**	**-0.1**
JYT	**Yasato**	**0.47**	**233**	P	**Pn**	**08 39 19.8**	**+0.2**
JYT				S	**Sn**	**08 39 27.5**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.60**	**11**	↑P	**Pn**	**08 39 21.4**	**+0.3**
ONAJ				S	**Sn**	**08 39 30.4**	**-0.2**
JFK	**Kawauchi**	**0.87**	**11**	↑P	**Pn**	**08 39 24.8**	**+0.3**
JFK				S	**Sn**	**08 39 36.0**	**-0.5**
JAG	**Ashikaga**	**0.98**	**265**	↓P	**Pn**	**08 39 25.7**	**-0.1**
JAG				S	**Sn**	**08 39 37.7**	**-1.1**
JFT	**Otama**	**1.04**	**346**	↓P	**Pn**	**08 39 26.9**	**+0.3**
JFT				S	**Sn**	**08 39 40.0**	**-0.3**
JKT	**Katashina**	**1.16**	**283**	P	**Pn**	**08 39 28.3**	**+0.1**
JKT				S	**Sn**	**08 39 42.9**	**-0.3**
JFY	**Yanaizu**	**1.18**	**320**	↓P	**Pn**	**08 39 28.6**	**+0.2**
JFY				S	**Sn**	**08 39 43.2**	**-0.4**
JMM	**Marumori**	**1.36**	**4**	↓P	**Pn**	**08 39 31.3**	**+0.4**
JMM				S	**Sn**	**08 39 47.9**	**0.0**
JRY	**Ryogami san**	**1.50**	**251**	↓P	**Pn**	**08 39 32.9**	**+0.1**
JRY				S	**Sn**	**08 39 49.9**	**-1.5**
JHK	**Hiroka**	**1.51**	**300**	↓P	**Pn**	**08 39 33.1**	**+0.2**
MJAR	**Matsushiro Arr**	**1.97**	**272**	P	**Pn**	**08 39 39.5**	**+0.3**
	31nm,0.3s,baz=78,slow=17,SNR=167						
MJAR				S	**Sn**	**08 40 06.0**	**+3.2**
	24nm,0.3s,baz=92,slow=27,SNR=7.4						
MJAR	**Matsushiro Arr**	**1.97**	**272**	P	**Pn**	**08 39 39.5**	**+0.3**
MJAR				S	**Sn**	**08 40 06.0**	**+3.2**
MAJO	**Matsushiro**	**1.98**	**272**	*e*Pn	**Pn**	**08 39 40.0**	**+0.7**
MAJO				*e*Sn	**Sn**	**08 39 54.3**	**-8.5**
MAT	**Matsushiro**	**1.98**	**272**	P	**Pn**	**08 39 40.0**	**+0.8**
MAT				*e*S	**Sn**	**08 40 04.4**	**+1.5**
JHJ	**Hachijo jima 2**	**3.46**	**192**	P	**Pn**	**08 40 00.3**	**+0.8**
	12nm,0.3s,baz=266,slow=21,SNR=14						
JHJ				S	**Sn**	**08 40 39.5**	**+0.4**
	35nm,0.3s,baz=259,slow=22,SNR=7.6						
ERM	**Erimo**	**5.83**	**19**	*e*Pn	**Pn**	**08 40 32.0**	**0.0**
ASAJ	**Asahikawa**	**7.74**	**10**	P	**Pn**	**08 40 52.0**	**-6.1**
	0.5nm,0.3s,baz=60,slow=20,SNR=3.9						
CBIJ	**Chichi jima**	**9.47**	**172**	P	**Pn**	**08 41 19.4**	**-2.4**
	6.0nm,0.3s,baz=306,slow=19,SNR=3.9						
SONM	**Songino Array**	**27.58**	**305**	P	**P**	**08 44 49.2**	**-0.5**
	0.6nm,0.5s,mb3.5,baz=110,slow=9.3,SNR=6.2						
ZAL	**Zalesovo**	**41.84**	**313**	P	**P**	**08 46 49.7**	**-2.5**
	1.7nm,0.5s,mb3.9,baz=26,slow=6.7,SNR=4.4						
ZAL	**Zalesovo**	**41.84**	**313**	P	**P**	**08 46 49.7**	**-2.5**
MKAR	**Makanchi Array**	**43.89**	**302**	P	**P**	**08 47 08.5**	**-0.2**
	0.9nm,0.6s,mb3.7,baz=89,slow=9.1,SNR=9.6						
PSI	**Prapat**	**51.00**	**239**	LR	LR	09 09 15.1	
	comp=Z,66nm,19.8s,MS3.7,baz=6.9,slow=35						
WRA	**Warramunga Arr**	**56.46**	**187**	P	**P**	**08 48 44.0**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=3.0,slow=7.3,SNR=18						
GCMT	**Greycliff**	**76.50**	**43**	*e*P	**P**	**08 50 52.6**	**+0.9**

KRSC 15 08:43:43.9±0.7,5040N×15785E,h5km±5km,ML3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.08**	**11**	*e*P	Pn	08 44 20.9	+1.5
RUS				*e*S	Sn	08 44 48.4	+2.8
RUS	**Russkaya**	**2.08**	**11**	*e*P	Pn	08 44 20.9	+1.5
RUS				*e*S	Sn	08 44 48.4	+2.8
GRL	**Gorelyy**	**2.16**	**4**	*e*P	Pn	08 44 22.2	+1.7
GRL				*e*S	Sn	08 44 49.5	+1.8
GRL	**Gorelyy**	**2.16**	**4**	*e*P	Pn	08 44 22.2	+1.7
GRL				*e*S	Sn	08 44 49.5	+1.8
PET	**Petropavlovsk**	**2.67**	**10**	*e*P	Pn	08 44 29.1	+1.5
PET				*e*S	Sn	08 45 02.0	+1.6
PET	**Petropavlovsk**	**2.67**	**10**	*e*P	Pn	08 44 29.1	+1.5
PET				*e*S	Sn	08 45 02.0	+1.6
AVH	**Avacha**	**2.92**	**11**	*e*P	Pn	08 44 32.3	+1.3
AVH				*e*S	Sn	08 45 08.5	+2.0
AVH	**Avacha**	**2.92**	**11**	*e*P	Pn	08 44 32.3	+1.3
AVH				*e*S	Sn	08 45 08.5	+2.0
NLC	**Nalytchevo**	**2.93**	**18**	*e*S	Sn	08 45 07.9	+1.3
NLC	**Nalytchevo**	**2.93**	**18**	*e*S	Sn	08 45 07.9	+1.3
SPN	**Mys Shipunski**	**3.02**	**26**	*e*P	Pn	08 44 34.9	+2.5
SPN	**Mys Shipunski**	**3.02**	**26**	*e*P	Pn	08 44 34.9	+2.5
GNL	**Ganaly**	**3.30**	**1**	*e*P	Pn	08 44 36.0	-0.2
GNL	**Ganaly**	**3.30**	**1**	*e*P	Pn	08 44 36.0	-0.2
MKZ	**Mys Kozlova**	**4.79**	**28**	*e*P	Pn	08 44 57.3	+0.6
MKZ				*e*S	Sn	08 45 52.5	-0.1
MKZ	**Mys Kozlova**	**4.79**	**28**	*e*P	Pn	08 44 57.3	+0.6
MKZ				*e*S	Sn	08 45 52.5	-0.1
KBTR	**Krutoberegovo**	**6.54**	**25**	*e*P	Pn	08 45 21.9	+1.2
KBTR	**Krutoberegovo**	**6.54**	**25**	*e*P	Pn	08 45 21.9	+1.2

IDC 15 08:58:53.4±3.5,1045N×9182E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/21,mbtmp3.5/4,MS3.3/1,Ms1 3.3/1, ms1mx2.5/35,Error ellipse: s-maj=133.2km s-min=23.5km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.50**	**37**	*e*P	x	08 59 10.3	
PBA				*e*S	x	08 59 26.9	
PBA				*ex*	x	08 59 33.8	
	comp=E,4μm,0.6s						
PBA				*ex*	x	08 59 34.8	
	comp=N,2μm,0.4s						
MKAR	**Makanchi Array**	**37.12**	**349**	P	P	09 06 05.5	0.0
	comp=N,0.3nm,0.6s,baz=179,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**39.24**	**16**	P	P	09 06 23.7	+0.2
	comp=N,0.1nm,0.3s,baz=189,slow=7.3,SNR=2.4						
ZAL	**Zalesovo**	**43.74**	**354**	LR	LR	09 28 11.5	
	comp=N,34nm,18.2s,baz=351,slow=40						
WRA	**Warramunga Arr**	**51.61**	**126**	P	P	09 08 01.6	0.0
	comp=N,0.8nm,0.5s,baz=306,slow=8.5,SNR=9.5						
ASAR	**Alice Springs**	**53.31**	**130**	P	P	09 08 14.9	+0.8
	comp=N,0.7nm,0.8s,baz=306,slow=7.1,SNR=9.6						

ISCJB ***15*** *09:10:50.1±0.7,2719N±007×1408E±02,h445km±8km, mb3.5/6, Error ellipse: s-maj=33.1km s-min=9.0km az=158.3*
IDC ***15*** *09:10:51.2±1.2,2705N×14061E,h441km±14km,mb3.2/6, mb1 3.3/8,mb1mx3.1/21,mbtmp3.2/8, Error ellipse: s-maj=41.9km s-min=20.7km az=70.0*
NEIC ***15*** *09:10:52.2,2735N×14098E,h436km,MG3.9(JMA),After JMA.*
JMA ***15*** *09:10:52.1±0.2,2735N×14098E,h436km,M3.9*
ISC 15 09:10:51.0±0.7,2726N±007×1410E±02,h444km±8km,n17, σ1§19/21,mb3.5/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.07**	**98**	P	**P**	**09 11 47.5**	**+0.8**
	22nm,0.3s,baz=247,slow=18,SNR=16						
CBIJ				S	**S**	**09 12 30.9**	**-1.1**
	40nm,0.3s,baz=274,slow=24,SNR=16						
CBIJ	**Chichi jima**	**1.07**	**98**	P	**P**	**09 11 47.5**	**+0.7**
CBIJ				*e*S	**S**	**09 12 30.6**	**-1.4**
JHHJ	**Haha-jima-NKT**	**1.23**	**121**	P	**P**	**09 11 48.3**	**+1.0**
JHHJ				*e*S	**S**	**09 12 32.9**	**-0.1**
JHJ2	**Mitsune**	**5.92**	**350**	*e*S	**S**	**09 13 40.0**	**-0.4**
BSO3	**Boso 3**	**7.53**	**357**	*e*S	**S**	**09 14 11.3**	**-0.2**
BSO4	**Boso 4**	**7.73**	**356**	*e*S	**S**	**09 14 17.3**	**+1.9**
JHU	**Hanno**	**8.69**	**351**	*e*S	**S**	**09 14 31.3**	**-3.3**
JAG	**Ashikaga**	**9.23**	**352**	P	**P**	**09 13 00.5**	**+0.9**
JAG				*e*S	**S**	**09 14 42.5**	**-2.9**
JNU	**Nakatsue**	**10.52**	**306**	P	**P**	**09 13 14.1**	**+0.4**
	1.1nm,0.3s,baz=279,slow=26,SNR=5.5						
KSRS	**Korea Array**	**15.00**	**316**	P	**P**	**09 14 03.6**	**+1.5**
	baz=110,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**47.36**	**189**	P	**P**	**09 18 42.1**	**-1.1**
	0.3nm,0.6s,mb2.8,baz=5.6,slow=7.6,SNR=5.3						
ZAL	**Zalesovo**	**48.68**	**319**	P	**P**	**09 18 51.8**	**-1.4**
	0.8nm,0.5s,mb3.3,baz=347,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**49.56**	**310**	P	**P**	**09 18 58.4**	**-1.3**
	0.7nm,0.5s,mb3.3,baz=88,slow=10,SNR=9.5						
ARCES	**ARCESS Array B**	**73.04**	**341**	P	**P**	**09 21 35.7**	**+1.2**
	2.0nm,0.6s,mb3.9,baz=74,slow=7.8,SNR=13						
ARCES	**ARCESS Array B**	**73.04**	**341**	P	**P**	**09 21 35.7**	**+1.2**
FINES	**FINESS Array B**	**77.33**	**333**	P	**P**	**09 21 59.0**	**+0.4**
	1.2nm,0.3s,mb4.0,baz=61,slow=5.3,SNR=12						
NOA	**NORSAR Array B**	**83.06**	**338**	P	**P**	**09 22 29.1**	**+0.3**
	1.5nm,0.6s,mb3.9,baz=44,slow=5.1,SNR=3.7						

NEIC ***15*** *09:17:55.3,3041S×7124W,h53km,MG2.9(GUC),After GUC.*
GUC 15 09:17:55.3±0.8,3041S×7124W,h53km±4km,MD3.8, ML2.9,5C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.20**	**170**	↑*i*P	Pn	09 18 04.0	0.0
OVCH				*i* S	Sn	09 18 10.7	+0.6
OVCH				AML	AML	09 18 11.1	
	comp=E,2μm,0.4s						
OVCH	**Ovalle**	**0.20**	**170**	↑*i*P	Pn	09 18 04.0	0.0
OVCH				*i* S	Sn	09 18 10.7	+0.6
TLL	**Tololo Astrono**	**0.45**	**57**	↑*i*P	Pn	09 18 07.1	+0.9
TLL				*i* S	Sn	09 18 15.9	+1.9
TLL				AML	AML	09 18 16.4	
	comp=E,505nm,0.5s						
TLL	**Tololo Astrono**	**0.45**	**57**	↑*i*P	Pn	09 18 07.1	+0.9
TLL				*i* S	Sn	09 18 15.9	+1.9
LSCH	**La Serena**	**0.50**	**359**	↑*i*P	Pn	09 18 06.8	0.0
LSCH				*i* S	Sn	09 18 15.6	+0.5
CMCH	**Combarbala**	**0.79**	**165**	↓*i*P	Pn	09 18 09.7	-0.5
CMCH				*i* S	Sn	09 18 20.9	-0.2
CMCH				AML	AML	09 18 24.4	
	comp=E,709nm,0.8s						
CMCH	**Combarbala**	**0.79**	**165**	↓*i*P	Pn	09 18 09.7	-0.5
CMCH				*i* S	Sn	09 18 20.9	-0.2
CHNG	**Los Chungos**	**1.48**	**189**	*e*P	Pn	09 18 19.9	+0.4
CHNG				*i* S	Sn	09 18 38.7	+0.9
PTCH	**Petorca**	**1.86**	**172**	↓*i*P	Pn	09 18 25.2	+0.4
PTCH				*i* S	Sn	09 18 48.3	+1.1
PTCH				AML	AML	09 18 55.1	
	comp=N,386nm,0.2s						
PTCH	**Petorca**	**1.86**	**172**	↓*i*P	Pn	09 18 25.2	+0.4
PTCH				*i* S	Sn	09 18 48.3	+1.1
PEL	**Peldehue**	**2.76**	**170**	*i* S	Sn	09 19 09.7	+0.4
PEL				AML	AML	09 19 19.9	
	comp=N,81nm,0.5s						

IDC ***15*** *09:31:50.8±2.3,953N×12256E,h0km,mb3.9/4,mb1 4.1/4, mb1mx3.8/20,mbtmp3.9/4,MS3.5/1,Ms1 3.5/1, ms1mx2.7/37,Error ellipse: s-maj=183.2km s-min=25.4km az=65.0*
ISCJB ***15*** *09:32:41.8±1.0,437N±005×1242E±02,h35km,mb3.7/3, MS3.2/1,Error ellipse: s-maj=35.8km s-min=7.2km az=5.9*
ISC 15 09:32:43.7±1.0,441N±005×1242E±02,h35km,n8, σ1§16/10,mb3.7/3,MS3.2/1,1C-2D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.82**	**24**	‖*eP*	**Sn**	**09 33 34.3**	**0.0**
CTBH	**Cotabato--PC H**	**2.79**	**1**	‖*eP*	**Pn**	**09 33 25.7**	**-0.1**
CTBH				*i* S	**Sn**	**09 33 56.4**	**-1.9**
BUKP	**Musuan**	**3.55**	**14**	*eP*	**Pn**	**09 33 37.3**	**+1.1**
BUKP				*eS*	**Sn**	**09 34 09.3**	**-7.6**
CGP	**Cagayan de Oro**	**4.04**	**7**	‖*eP*	**Pn**	**09 33 45.4**	**+2.3**
FITZ	**Fitzroy Crossi**	**22.41**	**176**	P	**P**	**09 37 40.1**	**+1.0**
	0.9nm,0.4s,mb3.5,baz=345,slow=6.2,SNR=6.4						
FITZ				LR	LR	09 48 05.6	
	comp=Z,105nm,21.6s,MS3.2,baz=270,slow=35						
WRA	**Warramunga Arr**	**26.17**	**158**	P	**P**	**09 38 14.1**	**-0.6**
	4.1nm,0.6s,mb4.2,baz=338,slow=9.8,SNR=64						
WB2	**Warramunga Arr**	**26.17**	**158**	*eP*	**P**	**09 38 13.4**	**-1.3**
ASAR	**Alice Springs**	**29.46**	**162**	P	**P**	**09 38 44.1**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=343,slow=7.6,SNR=16						

ISCJB ***15*** *09:57:55.0±0.7,2443S±004×6703W±008,h158km±10km, mb3.6/5, Error ellipse: s-maj=12.1km s-min=7.0km az=26.0*
IDC ***15*** *09:57:56.6±1.4,2425S×6692W,h161km±15km,mb3.6/5, mb1 3.8/8,mb1mx3.6/17,mbtmp3.7/8, Error ellipse: s-maj=20.4km s-min=15.1km az=106.0*
NEIC ***15*** *09:57:58.3,2459S×6759W,h200km,MG4.6(GUC),After GUC.*
GUC ***15*** *09:57:58.3±0.8,2459S×6759W,h200km,MD4.0,ML4.6*
ISC 15 09:57:55.7±0.6,2443S±004×6699W±007,h150km±9km, n26,σ1§27/35,mb3.6/5,3C-2D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.52**	**315**	P	**Pn**	**09 58 39.0**	**+1.9**
	20nm,0.3s,baz=90,slow=5.5,SNR=290						
LVC				S	**Sn**	**09 59 10.2**	**+1.2**
	142nm,0.3s,baz=270,slow=21,SNR=114						
LVC	**Limon Verde**	**2.52**	**315**	*e*Pn	**Pn**	**09 58 38.9**	**+1.9**
LVC				S	**Sn**	**09 59 10.2**	**+1.2**
CEN1	**Los Morros**	**3.11**	**289**	↓*i*P	**Pn**	**09 58 46.1**	**+1.7**
CEN1				*i* S	**Sn**	**09 59 22.2**	**0.0**
CEN1				AML	AML	09 59 23.6	
	comp=N,1μm,0.5s						
CPN1	**Cerro Paranal**	**3.11**	**266**	↑*i*P	**Pn**	**09 58 45.3**	**+0.8**
CPN1				*i* S	**Sn**	**09 59 20.8**	**-1.4**
CPN1				AML	AML	09 59 22.9	
	comp=E,1μm,0.5s						
ANCH	**Antofagasta**	**3.21**	**283**	↑*i*P	**Pn**	**09 58 46.4**	**+0.7**
ANCH				*i* S	**Sn**	**09 59 22.3**	**-2.2**
ANCH				AML	AML	09 59 25.9	
	comp=N,2μm,0.2s						
ANCH	**Antofagasta**	**3.21**	**283**	↑*i*P	**Pn**	**09 58 46.4**	**+0.7**
ANCH				*i* S	**Sn**	**09 59 22.3**	**-2.2**
CPCH	**Copiapo**	**4.20**	**225**	*e*P	**Pn**	**09 58 57.4**	**-1.2**
CDCH	**Caldera**	**4.35**	**232**	*e*P	**Pn**	**09 58 59.6**	**-0.9**
CDCH				*i* S	**Sn**	**09 59 47.1**	**-3.7**
CDCH				AML	AML	09 59 52.4	
	comp=N,186nm,0.3s						
CDCH	**Caldera**	**4.35**	**232**	*eP*	**Pn**	**09 58 59.6**	**-0.9**
CDCH				*i* S	**Sn**	**09 59 47.1**	**-3.7**
CFAA	**Coronel Fontan**	**7.23**	**188**	P	**Pn**	**09 59 41.0**	**+2.2**
	comp=N,0.1nm,0.3s,baz=355,slow=13,SNR=12						
CFAA				S	**Sn**	**10 00 58.4**	**-1.3**
	comp=N,0.3nm,0.3s,baz=188,slow=19,SNR=7.4						
CFAA	**Coronel Fontan**	**7.23**	**188**	P	**Pn**	**09 59 41.0**	**+2.2**
CFAA				S	**Sn**	**10 00 58.4**	**-1.3**
LPAZ	**La Paz**	**8.17**	**352**	P	**Pn**	**09 59 52.2**	**+0.9**
	comp=N,1.7nm,0.3s,baz=173,slow=9.1,SNR=52						
LPAZ				S	**Sn**	**10 01 17.1**	**-5.1**
	comp=N,0.2nm,0.3s,baz=188,slow=19,SNR=2.3						
LPAZ	**La Paz**	**8.17**	**352**	P	**Pn**	**09 59 52.2**	**+0.9**
LPAZ				S	**Sn**	**10 01 17.1**	**-5.1**
SIV	**San Ignacio**	**10.06**	**35**	P	**Pn**	**10 00 15.3**	**-1.2**
	comp=N,3.7nm,0.3s,baz=218,slow=14,SNR=71						
SIV				S	**Sn**	**10 02 06.1**	**-1.7**
	baz=283,slow=22,SNR=3.5						
TRQA	**Tornquist**	**14.24**	**164**	*eP*	**Pn**	**10 01 12.6**	**+2.0**
SYO	**Sy

FINES					Lg			10 02 09.9	
	comp=Z,3.1nm,0.3s,baz=35,slow=28,SNR=20								
VAF	**Ylistaro**	**3.97**	**249**	*e*P		**Pn**		**10 01 10.0**	**+2.1**
VAF				*e*S		**Sn**		**10 01 54.2**	**-0.9**
ARA0	**ARCESS Array S**	**5.26**	**339**	Pn		**Pn**		**10 01 24.9**	**-0.7**
	baz=153,slow=14								
ARA0				Sn		**Sn**		**10 02 24.7**	**-2.2**
	baz=153,slow=22								
ARA0				Lg				10 02 48.6	
	baz=157,slow=28								
ARA0	**ARCESS Array S**	**5.26**	**339**	*e*P		**Pn**		**10 01 24.9**	**-0.7**
ARA0				*e*S		**Sn**		**10 02 24.7**	**-2.2**
ARA0				*e*SG		**Sg**		**10 02 48.6**	**-6.1**
ARA0	**ARCESS Array S**	**5.26**	**339**	Pn		**Pn**		**10 01 24.9**	**-0.7**
	baz=153,slow=14,SNR=9.9								
ARA0				Sn		**Sn**		**10 02 24.7**	**-2.2**
	baz=153,slow=20								
ARA0				Lg				10 02 48.6	
	baz=157,slow=28								
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn		**Pn**		**10 01 25.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=1.0								
ARCES				Pg		**Pg**		**10 01 39.5**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=149,slow=13,SNR=6.3								
ARCES				Sn		**Sn**		**10 02 27.9**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=155,slow=25,SNR=4.7								
ARCES				Lg				10 02 52.4	
	comp=Z,1.0nm,0.3s,baz=147,slow=32,SNR=6.5								
HFS	**Hagfors**	**9.15**	**248**	Pn		**Pn**		**10 02 17.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=63,slow=16,SNR=2.5								
HFS				Lg				10 04 49.6	
	comp=Z,0.5nm,0.3s,baz=75,slow=28,SNR=3.9								
HFS	**Hagfors**	**9.15**	**248**	Pn		**Pn**		**10 02 14.1**	**-4.9**
HFS				Sn		**Sn**		**10 03 55.2**	**-7.5**
HFS				Lg				10 04 48.9	
	baz=62,slow=37								
HFS	**Hagfors**	**9.15**	**248**	*e*P		**Pn**		**10 02 14.1**	**-4.9**
HFS				*e*S		**Sn**		**10 03 55.2**	**-7.5**
HFS				*e*SG		Sn		10 04 48.9	+46
HFS	**Hagfors**	**9.15**	**248**	Pn		**Pn**		**10 02 14.1**	**-4.9**
HFS				Sn		**Sn**		**10 03 55.2**	**-7.5**
HFS				Lg				10 04 48.9	
	baz=62,slow=28								
NB2	**NORSAR Subarra**	**9.66**	**257**	Pn		**Pn**		**10 02 26.7**	**+0.8**
	baz=58,slow=14								
NB2	**NORSAR Subarra**	**9.66**	**257**	*e*P		**Pn**		**10 02 26.7**	**+0.8**
NB2	**NORSAR Subarra**	**9.66**	**257**	Pn		**Pn**		**10 02 26.7**	**+0.8**
	baz=58,slow=14,SNR=9.6								
NOA	**NORSAR Array B**	**9.66**	**257**	Pn		**Pn**		**10 02 26.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=57,slow=11,SNR=3.0								
NOA				Sn		**Sn**		**10 04 10.9**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=21,slow=20,SNR=2.7								

CASC 15 10:03:44.7±3.3, 1344N×9008W, h84km±28km, MD3.7, ML3.6, 2C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.60**	**48**	Op *e*P		x	10 04 39.2	
SBLS				*e*S		x	10 04 51.8	
RTR	**El Retiro**	**0.62**	**43**	*e*P		x	10 04 39.3	
RTR				*e*S		x	10 04 51.9	
SNJE	**San Jose**	**0.63**	**47**	*e*P		x	10 04 39.6	
SNJE				*e*S		x	10 04 51.9	
RBDL	**Robledal**	**0.77**	**30**	*i*P		x	10 04 40.1	
RBDL				*e*S		x	10 04 53.2	
BOQS	**Boqueron**	**0.83**	**69**	*e*P		x	10 04 41.6	
BOQS				*e*S		x	10 04 56.9	
SNET	**Serv Nac Est T**	**0.86**	**73**	*e*P		x	10 04 02.9	
SNET				*e*S		x	10 04 16.8	
SNET				*i*			10 04 17.8	
	comp=N,2μm,0.4s							
LFU	**La Fuente**	**0.99**	**72**	*e*P		x	10 04 43.2	
LFU				*e*S		x	10 05 02.0	
LFRS	**El Faro**	**1.01**	**79**	*e*P		x	10 04 43.8	
LFRS				*e*S		x	10 04 59.7	
TER	**Terranova**	**1.04**	**326**	*e*P		Pn	10 04 05.9	+1.4
LBRS	**Las Brisas**	**1.05**	**73**	*e*P		x	10 04 44.1	
LBRS				*e*S		x	10 05 00.4	
LCBS	**La Ceiba**	**1.09**	**79**	*e*P		x	10 04 44.9	
LCBS				*e*S		x	10 05 01.6	
MTO2	**Montecristo 2**	**1.18**	**36**	*i*P		x	10 04 44.3	
MTO2				*e*S		x	10 04 59.6	
SNVI	**San Vicente**	**1.22**	**82**	*e*P		x	10 04 46.5	
SNVI				*e*S		x	10 05 04.1	
FUG	**Fuego 3**	**1.25**	**324**	*e*P		Pn	10 04 07.7	+0.7
FUG				*e*S		Sn	10 04 24.5	+0.8
JAT	**Jato**	**1.75**	**300**	*e*P		Pn	10 04 14.5	+1.1
JAT				*e*S		Sn	10 04 35.6	+0.5
CNCH	**Conchagua**	**2.19**	**94**	*e*P		x	10 04 58.4	
CNCH				*e*S		x	10 05 31.7	
LEON	**Leon**	**3.27**	**108**	*e*P		Pn	10 04 34.8	+1.1
LEON				*e*S		Sn	10 05 11.6	0.0
MIRN	**Miramar**	**3.43**	**106**	*e*P		Pn	10 04 37.9	+1.9
MIRN				*e*S		Sn	10 05 15.5	0.0
MIRN				*i*			10 05 23.6	
	comp=Z,156nm,0.2s							
MOMJ	**Momotombo**	**3.60**	**106**	*e*P		Pn	10 04 40.0	+1.8
MOMJ				*e*S		Sn	10 05 19.8	+0.1
COPN	**Copaltepe**	**3.63**	**110**	*e*P		Pn	10 04 40.0	+1.4
COPN				*e*S		Sn	10 05 19.8	-0.4
APYN	**Apoyeque**	**3.83**	**108**	*e*P		Pn	10 04 43.3	+2.0
APYN				*e*S		Sn	10 05 28.4	+3.2
XAVN	**Gruta Xavier**	**3.88**	**109**	*i*P		Pn	10 04 43.9	+1.9
XAVN				*e*S		Sn	10 05 27.1	+0.7
TISN	**Laguna Tiscapa**	**3.94**	**109**	*e*P		Pn	10 04 44.6	+1.9
MGAN	**Managua**	**3.95**	**109**	*e*S		Sn	10 05 28.1	-0.1
MGAN				*i*			10 05 32.6	
	comp=E,146nm,0.3s							
TICN	**Ticuantepe**	**4.01**	**110**	*e*P		Pn	10 04 45.7	+2.0
TICN				*e*S		Sn	10 05 28.5	-1.0
SSNN	**San Juan del S**	**4.65**	**117**	*e*P		Pn	10 04 54.4	+1.8
CONN	**Concepcion**	**4.73**	**113**	*e*P		Pn	10 04 55.2	+1.6

*BJI **15** 10:12:07.1, 1530N×12000E, h30km, mB4.1, mb4.4, Ms4.2, Msz4.1*

*ISCJB **15** 10:12:08.0±0.4, 1530N±004×11980E±005, h30km, mb4.3/21, MS3.5/15, Error ellipse: s-maj=6.9km s-min=6.0km az=18.6*

*IDC **15** 10:12:09.8±0.6, 1546N×12010E, h30km±3km, mb4.0/13, mb1 4.1/13, mb1mx3.9/25, mbtmp4.0/13, MS3.6/14, Ms1 3.6/14, ms1mx3.5/33, Error ellipse: s-maj=24.9km s-min=11.9km az=72.0*

*NEIC **15** 10:12:10.1±0.5, 1534N×12000E, mb4.5/7, Error ellipse: s-maj=21.0km s-min=9.2km az=66.0*

NEIC Felt [III PIVS] at Clark Field.

*MAN **15** 10:12:11.2, 1552N×11985E, h22km, mb3.9, ML4.9, MS2.0*

MAN F CLARKFIELD PAMPANGA - INTENSITY III.

ISC 15 10:12:10.3±0.4, 1534N±004×11988E±005, h32km, h32km±1.6km:pP-P,n51,σ1s06/45,mb4.3/21,MS3.5/15, 6C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.20**	**79**	Op *e*P		**Pn**	**10 12 32.1**	**+1.3**
PCPH				*e*S		**Sn**	**10 12 47.1**	**+1.1**
BCPH	**Baguio City Da**	**1.24**	**33**	*e*P		**Pn**	**10 12 30.9**	**-0.5**
BCPH				*i* S		**Sn**	**10 12 45.3**	**-1.7**
TGY	**Tagaytay City**	**1.60**	**140**	Pg		**Pn**	**10 12 42.8**	**+6.5**
	2μm,0.3s,baz=304,slow=1.9,SNR=118							
TGY				Lg			10 13 08.3	
	2μm,0.3s,baz=124,slow=22,SNR=17							
LQP	**Lukban**	**2.02**	**127**	*e*P		**Pn**	**10 12 46.4**	**+4.3**
PGP	**Puerto Galera**	**2.10**	**150**	*e*P		**Pn**	**10 12 49.2**	**+6.0**
GQP	**Guinayangan**	**2.87**	**119**	*e*P		**Pn**	**10 12 58.4**	**+4.6**
PALP	**Palanan**	**2.99**	**55**	*i*P		**Pn**	**10 13 00.3**	**+4.9**
PALP				*i* S		**Sn**	**10 13 14.8**	**-15**
CVP	**Callao Caves**	**3.00**	**38**	*e*P		**Pn**	**10 12 56.5**	**+0.8**
YHNB	**Yeheng**	**9.39**	**8**	*e*Pn		**Pn**	**10 14 25.5**	**+2.1**
QIZ	**Qiongzhong**	**10.27**	**292**	*e*Pn		**Pn**	**10 14 35.5**	**+0.2**
JOW	**Kunigami**	**13.86**	**33**	LR		LR	10 20 14.8	
	comp=Z,210nm,21.5s,baz=145,slow=36							
KSM	**Kuching**	**16.70**	**215**	*e*Pn		**Pn**	**10 16 10.2**	**+8.4**
JNU	**Nakatsue**	**20.32**	**27**	LR		LR	10 24 57.8	
	comp=Z,238nm,20.5s,MS3.5,baz=141,slow=38							
CD2	**Chengdu**	**21.40**	**319**	*i*P		**P**	**10 16 56.1**	**+0.8**
CD2				AP			10 17 05.3	
CD2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.4							
CD2				AMB		AMB		
	comp=Z,40nm,4.8s							
CD2				LR		LR		
	comp=N,380nm,15.5s,MS4.0							
CD2				LR		LR		
	comp=E,340nm,14.4s,MS4.0							
CD2				LR		LR		
	comp=Z,420nm,13.2s,MS4.0							
KSRS	**Korea Array**	**23.16**	**16**	P		**P**	**10 17 12.4**	**-1.6**
	comp=Z,1.5nm,0.8s,mb3.5,baz=202,slow=12,SNR=3.1							
KSRS				LR		LR	10 26 06.0	
	comp=Z,107nm,19.5s,MS3.3,baz=33,slow=36							
CBIJ	**Chichi jima**	**23.82**	**57**	LR		LR	10 25 21.7	
	comp=Z,100nm,21.5s,MS3.2,baz=12,slow=34							
PSI	**Prapat**	**24.11**	**241**	P		**P**	**10 17 27.6**	**+4.5**
	comp=Z,5.3nm,0.7s,mb4.1,baz=73,slow=10,SNR=6.2							
PSI				LR		LR	10 26 45.8	
	comp=Z,95nm,18.3s,MS3.3,baz=167,slow=36							
GUMO	**Guam**	**24.26**	**91**	LR		LR	10 25 16.7	
	comp=Z,56nm,18.6s,MS3.1,baz=229,slow=33							
BJI	**Beijing**	**24.82**	**353**	*e*P		pP	10 17 42.0	+3.2
BJI				S		**S**	**10 21 52.2**	**+2.1**
BJI				LR		LR		
	comp=Z,180nm,24.0s,MS3.5							
LZH	**Lanzhou**	**25.14**	**328**	*e*P		**P**	**10 17 33.1**	**+0.7**
LZH				AP		pP	10 17 42.5	+0.8
LZH				XP		sP	10 17 45.5	-0.1
LZH				AMB		AMB		
	comp=Z,18nm,1.2s,mb4.5							
LZH	**Lanzhou**	**25.14**	**328**	*e*P		**P**	**10 17 33.1**	**+0.7**
	comp=Z,18nm,1.2s,mb4.5							
LZH				pP		pP	10 17 42.5	+0.8
LZH				sP		sP	10 17 45.5	-0.1
JHJ	**Hachijo jima 2**	**25.28**	**42**	LR		LR	10 26 35.3	
	comp=Z,99nm,20.1s,MS3.3,baz=308,slow=34							
MJAR	**Matsushiro Arr**	**26.70**	**34**	LR		LR	10 26 49.8	
	comp=Z,67nm,21.0s,MS3.2,baz=355,slow=33							
KAKA	**Kakadu**	**30.52**	**155**	*e*P		**P**	**10 18 20.3**	**-0.2**
	comp=Z,4.5nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.71**	**170**	*e*P		**P**	**10 18 48.9**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.4							
SONM	**Songino Array**	**34.27**	**344**	P		**P**	**10 18 52.4**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=164,slow=10.0,SNR=12							
SONM				LR		LR	10 33 41.8	
	comp=Z,116nm,19.2s,MS3.6,baz=37,slow=38							
ASAJ	**Asahikawa**	**34.58**	**29**	P		**P**	**10 18 55.3**	**-0.8**
	comp=Z,6.2nm,0.8s,mb4.6,baz=211,slow=12,SNR=3.7							
ASAJ				LR		LR	10 32 01.9	
	comp=Z,91nm,20.8s,MS3.5,baz=46,slow=35							
PMG	**Port Moresby**	**36.54**	**131**	P		**P**	**10 19 12.3**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.6,baz=344,slow=7.7,SNR=5.3							
WRA	**Warramunga Arr**	**37.83**	**157**	P		**P**	**10 19 23.4**	**-0.4**
	comp=Z,3.3nm,0.5s,mb4.3,baz=335,slow=9.6,SNR=31							
WRA				PcP		PcP	10 21 40.3	+0.4
	comp=Z,0.9nm,0.5s,baz=340,slow=3.0,SNR=5.6							
WB2	**Warramunga Arr**	**37.84**	**157**	*e*P		**P**	**10 19 23.1**	**-0.8**
AS31	**Alice Springs**	**41.12**	**160**	*e*P		**P**	**10 19 51.0**	**-0.2**
ASPA	**Alice Springs**	**41.12**	**160**	*e*P		**P**	**10 19 51.0**	**-0.2**
ASAR	**Alice Springs**	**41.12**	**160**	P		**P**	**10 19 50.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=57,slow=8.8,SNR=4.4							
ASAR				sP		sP	10 20 04.6	-0.1
	comp=Z,1.5nm,0.6s,baz=339,slow=6.9,SNR=3.7							
ASAR				PcP		PcP	10 21 50.8	+0.5
	comp=Z,1.1nm,0.5s,baz=340,slow=3.2,SNR=5.2							
MKAR	**Makanchi Array**	**44.25**	**323**	P		**P**	**10 20 16.5**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.5,baz=134,slow=8.1,SNR=7.1							
MKAR				pP		pP	10 20 25.8	-0.4
	comp=Z,0.8nm,0.6s,baz=123,slow=8.8,SNR=4.9							
MKAR				PcP		PcP	10 22 00.5	-0.3
	comp=Z,2.2nm,0.7s,baz=117,slow=4.3,SNR=8.1							
MKAR				LR		LR	10 40 10.4	
	comp=Z,72nm,19.1s,MS3.6,baz=238,slow=38							
MKAR	**Makanchi Array**	**44.25**	**323**	P		**P**	**10 20 16.5**	**-0.2**
MKAR				pP		pP	10 20 25.8	-0.4
MKAR				PcP		PcP	10 22 00.5	-0.3
KMBL	**Kambalda**	**46.47**	**178**	*e*P		**P**	**10 20 34.2**	**-0.1**
	comp=Z,40nm,0.4s							
KLBR	**Kellerberrin**	**46.70**	**182**	*e*P		**P**	**10 20 36.4**	**+0.3**
	comp=Z,5.6nm,0.4s,mb4.8							
ZAL	**Zalesovo**	**47.25**	**332**	LR		LR	10 41 53.2	
	comp=Z,129nm,18.8s,MS3.9,baz=139,slow=38							
NWAO	**Narrogin (SRO)**	**48.06**	**183**	P		**P**	**10 20 47.6**	**+1.0**
	comp=Z,16nm,1.0s,mb5.0,baz=18,slow=5.7,SNR=3.7							
KURK	**Kurchatov**	**48.39**	**326**	*e*P		**P**	**10 20 48.9**	**-0.3**
	comp=Z,9.8nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**51.36**	**156**	LR		LR	10 42 03.9	
	comp=Z,126nm,21.2s,MS3.9,baz=209,slow=35							
BVAR	**Borovoye Array**	**53.98**	**325**	P		**P**	**10 21 32.3**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=123,slow=4.3,SNR=2.7							
BVAR				pP		pP	10 21 40.0	-0.9
	comp=Z,1.3nm,0.7s,baz=83,slow=12,SNR=4.8							
BVAR				sP		sP	10 21 44.1	-0.6
	comp=Z,1.7nm,0.7s,baz=109,slow=8.0,SNR=7.1							
BVAR				PcP		PcP	10 22 34.7	-1.3
	comp=Z,2.4nm,0.7s,baz=108,slow=4.8,SNR=6.5							
BRVK	**Borovoye**	**54.05**	**325**	*e*P		**P**	**10 21 31.2**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**54.13**	**326**	*e*P		**P**	**10 21 35.0**	**+2.7**
	comp=Z,3.3nm,0.6s,mb4.4							
ZRNK	**Zerenda**	**54.71**	**325**	*e*P		**P**	**10 21 39.7**	**+3.3**
	comp=Z,4.8nm,0.8s,mb4.6							
ARCES	**ARCESS Array B**	**77.28**	**339**	P		**P**	**10 24 00.2**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=69,slow=6.6,SNR=8.4							
ARCES				pP		pP	10 24 10.7	-1.0
	comp=Z,2.6nm,0.8s,baz=101,slow=6.3,SNR=2.3							
ARCES				LR		LR	10 58 57.4	
	comp=Z,107nm,19.5s,MS4.2,baz=225,slow=36							
ARCES	**ARCESS Array B**	**77.28**	**339**	P		**P**	**10 24 00.2**	**-1.3**
ARCES				pP		pP	10 24 10.7	-1.0
FINES	**FINESS Array B**	**78.47**	**331**	P		**P**	**10 24 07.0**	**-1.1**
	comp=Z,3.1nm,1.1s,mb4.2,baz=56,slow=7.1,SNR=4.1							
FINES				pP		pP	10 24 16.7	-1.6
	comp=Z,1.1nm,0.6s,baz=76,slow=8.0,SNR=1.5							
NB2	**NORSAR Subarra**	**85.45**	**332**	P		**P**	**10 24 42.7**	**-2.0**
	comp=Z,1.7nm,0.7s,mb4.3,baz=69,slow=4.8							
NOA	**NORSAR Array B**	**85.45**	**332**	P		**P**	**10 24 43.4**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.4,baz=68,slow=4.8,SNR=6.0							
NOA				sP		sP	10 24 58.6	-0.1
	comp=Z,2.5nm,0.7s,baz=67,slow=4.8,SNR=5.4							
TXAR	**Lajitas Array**	**118.86**	**43**	PKP		PKPdf	10 30 55.4	0.0
	comp=Z,0.5nm,0.6s,baz=210,slow=4.3,SNR=3.8							

*ISCJB **15** 10:44:15.3±0.3, 2509S±005×11206W±006, h10km, mb5.0/74, MS4.9/9, Error ellipse: s-maj=7.7km s-min=7.1km az=120.1*

*IDC **15** 10:44:15.0±0.9, 2491S×11240W, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.6/15, mbtmp4.5/9, MS4.8/7, Ms1 4.8/7, ms1mx4.6/23, Error ellipse: s-maj=27.5km s-min=22.6km az=77.0*

*NEIC **15** 10:44:17.0±0.3, 2509S×11216W, h10km, mb5.2/70, Error ellipse: s-maj=7.7km s-min=6.7km az=86.0*

*BJI **15** 10:44:17.0, 2510S×11220W, h10km, mB5.3, Ms5.6, Msz5.5*

*GCMT **15** 10:44:17.0±0.7, 2508S×11218W, h19km±2km, MW5.5/29, Moment Tensor Solution. s9,c10; s29,c46; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr-0.42±.16; Mθθ-0.75±.14; Mϕϕ 1.18±.14; Mrθ-0.03±.32; Mϕθ2.19±.12; Mϕr0.56±.36; Best double couple: M0 2.45900×10^17 NP1:ϕs78.00000°, δ76.00000°, λ-2.00000°. NP2: ϕs168.00000°, δ89.00000°, λ-166.00000°. Principal axes: T 2.6750, Plg8.0000°, Azm303.0000°; N -0.4270, Plg76.0000°, Azm175.0000°; P -2.2430, Plg11.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 10:44:17.2±0.3, 2515S±005×11206W±006, h10km, n314, σ0s80/290, mb5.0/74, MS4.9/9, 73C-68D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.14**	**129**	Op Pn		**Pn**	**10 45 05.0**	**-1.7**
	17nm,0.3s,baz=334,slow=6.2,SNR=7.7							
RPN	**Rapa Nui**	**3.14**	**129**	*e*Pn		**Pn**	**10 45 05.3**	**-1.4**
RPN				*e*Sn		**Sn**	**10 45 53.0**	**+8.8**
RKT	**Rikitea**	**21.01**	**271**	*e*P		**P**	**10 49 01.1**	**+0.3**
	182nm,1.6s,mb5.2							
RKT	**Rikitea**	**21.01**	**271**	*e*LR		LR	10 53 56.9	
	12μm,26.8s,baz=107							
TAOE	**Nuku Hiva Isla**	**31.27**	**296**	*e*S		**S**	**10 55 44.7**	**+1.1**
	1μm,26.9s							
TAOE				*e*LR		LR	10 58 40.3	
	25μm,26.3s,baz=134							
TBI	**Tubuai**	**34.08**	**265**	*e*P		**P**	**10 51 01.8**	**0.0**
	311nm,1.3s,mb6.1							
TBI				*e*S		**S**	**10 56 29.1**	**+1.7**
	236nm,29.2s							
TBI				*e*LR		LR	10 59 53.5	
	2μm,30.8s,baz=113							
TBI	**Tubuai**	**34.08**	**265**	*e*P		**P**	**10 51 01.8**	**0.0**
	311nm,1.3s,mb6.1							
TBI				*e*S		**S**	**10 56 29.1**	**+1.7**
TVO	**Taravao**	**35.30**	**275**	*e*P		**P**	**10 51 12.5**	**+0.2**
	58nm,1.2s,mb5.4							
PAE	**Paea**	**35.63**	**275**	*e*P		**P**	**10 51 15.3**	**+0.2**
	67nm,1.0s,mb5.5							
PPT	**Papeete**	**35.66**	**275**	*e*S		**S**	**10 56 53.6**	**+1.9**
	470nm,24.2s							
PPT				*e*LR		LR	11 00 36.9	
	7μm,27.0s,baz=109							
PPT	**Papeete**	**35.66**	**275**	LR		LR	11 01 39.3	
	comp=Z,2μm,18.8s,MS4.8,baz=110,slow=30							
LVC	**Limon Verde**	**39.41**	**96**	P		**P**	**10 51 49.9**	**+2.8**
	13nm,1.0s,mb4.6,baz=270,slow=9.0,SNR=8.7							
LVC	**Limon Verde**	**39.41**	**96**	*e*P		**P**	**10 51 50.2**	**+3.1**
	55nm,1.5s,mb5.1							
OTAV	**Otavalo**	**41.15**	**57**	*e*P		**P**	**10 52 05.1**	**+3.5**
	7.4nm,1.1s,mb4.2							
LPAZ	**La Paz**	**41.87**	**87**	P		**P**	**10 52 09.8**	**+2.4**
	9.4nm,1.1s,mb4.3,baz=267,slow=7.2,SNR=20							
LPAZ				LR		LR	11 06 25.3	
	comp=Z,544nm,18.1s,MS4.5,baz=256,slow=32							
LPAZ	**La Paz**	**41.87**	**87**	*e*P		**P**	**10 52 09.8**	**+2.4**
	16nm,1.1s,mb4.5							
RAR	**Rarotonga**	**43.86**	**265**	LR		LR	11 05 01.7	
	comp=Z,844nm,21.6s,MS4.6,baz=90,slow=29							
JTS	**JuntasAbangare**	**44.03**	**40**	P		**P**	**10 52 24.2**	**-0.8**
	27nm,1.1s,mb4.9,baz=235,slow=3.2,SNR=6.9							
JTS	**JuntasAbangare**	**44.03**	**40**	*e*P		**P**	**10 52 26.2**	**+1.2**
	31nm,1.0s,mb5.0							
TRQA	**Tornquist**	**44.06**	**119**	*e*P		**P**	**10 52 27.1**	**+1.8**
	12nm,0.7s,mb4.7							
TGUH	**Tegucigalpa,Un**	**45.86**	**35**	*e*P		**P**	**10 52 41.8**	**+2.3**
	44nm,1.0s,mb5.3							
ROSC	**El Rosal**	**47.26**	**56**	P		**P**	**10 52 53.0**	**+2.5**
	3.5nm,0.5s,mb4.6,baz=86,slow=20,SNR=4.6							
ROSC				LR		LR	11 09 17.2	
	comp=Z,1μm,18.1s,MS5.0,baz=206,slow=32							
SAML	**Samuel**	**49.14**	**80**	*e*P		**P**	**10 53 05.2**	**+0.2**
	5.9nm,0.8s,mb4.7							
TEIG	**Tepich**	**50.69**	**29**	*e*P		**P**	**10 53 17.7**	**+0.9**
	24nm,0.9s,mb5.1							
SDV	**Santo Domingo**	**52.65**	**55**	*e*P		**P**	**10 53 32.4**	**+0.9**
	14nm,1.2s,mb4.8							
TXAR	**Lajitas Array**	**54.77**	**9**	P		**P**	**10 53 45.8**	**-1.2**
	3.7nm,1.0s,mb4.4,baz=172,slow=10.0,SNR=13							
LTX	**Lajitas**	**54.77**	**9**	*e*P		**P**	**10 53 45.8**	**-1.2**
	11nm,1.1s,mb4.8							
JCT	**Junction City**	**56.55**	**13**	*e*P		**P**	**10 54 00.0**	**+0.3**
	49nm,0.9s,mb5.5							
MNTX	**Cornudas Mount**	**56.89**	**7**	*e*P		**P**	**10 54 01.2**	**-1.0**
	12nm,1.1s,mb4.8							
HKT	**Hockley**	**56.95**	**17**	*e*P		**P**	**10 54 03.0**	**+0.3**
	45nm,1.4s,mb5.3							
TUC	**Tucson**	**57.15**	**1**	*e*P		**P**	**10 54 02.8**	**-1.3**
	17nm,1.1s,mb5.0							
116A	**Eloy**	**57.39**	**0**	*i*P		**P**	**10 54 06.0**	**+0.2**
	baz=58							
GDL2	**Guadalupe Moun**	**57.50**	**8**	*e*P		**P**	**10 54 06.8**	**+0.2**
115A	**Sonoran Desert**	**57.53**	**360**	*i*P		**P**	**10 54 07.3**	**+0.6**
	baz=58							
DVTC	**Desert V Tower**	**57.62**	**356**	*i*P		**P**	**10 54 07.8**	**+0.5**
	baz=58							
BAR	**Barrett**	**57.68**	**355**	*e*P		**P**	**10 54 07.4**	**-0.4**
RAO	**Raoul Island**	**58.04**	**250**	LR		LR	11 12 26.4	
	comp=Z,418nm,18.7s,MS4.6,baz=96,slow=29							
BC3	**Big Chuckw Mtn**	**58.57**	**357**	P		**P**	**10 54 15.0**	**+1.0**
	baz=59,SNR=5.9							
Y12C	**Blythe**	**58.62**	**358**	*i*P		**P**	**10 54 13.9**	**-0.5**
	baz=59							
Y13A	**Salome**	**58.66**	**358**	*i*P		**P**	**10 54 14.2**	**-0.4**
	baz=59							
Y14A	**Wickenburg**	**58.77**	**359**	*i*P		**P**	**10 54 14.7**	**-0.8**
	baz=59							
BELC	**Belle Mtn.**	**58.94**	**356**	*i*P		**P**	**10 54 16.8**	**+0.2**
	baz=59,SN

baz=63,SNR=11
SDCO **Great Sand Dun** 62.87 6 *e*P P 10 54 43.2 -0.1
16nm,1.1s,mb5.1
S04C **Ingram Canyon,** 62.93 352 ⇓P P 10 54 44.1 +0.4
baz=63
TPH **Tonopah** 63.08 355 *e*P P 10 54 44.1 -0.6
25nm,1.2s,mb5.2
OXF **Oxford** 63.11 21 *e*P P 10 54 44.7 -0.2
S06C **San Francisco** 63.12 353 ⇑P P 10 54 44.8 -0.2
baz=63
R10A **Warm Springs** 63.23 356 ⇑P P 10 54 46.5 +0.8
baz=64
R09A **Tonopah** 63.23 356 P P 10 54 44.9 -0.8
baz=64,SNR=16
R07C **Lee Vining** 63.25 354 ⇑P P 10 54 46.9 +1.1
baz=64
MSU **Marysvale** 63.33 360 *e*P P 10 54 46.9 +0.6
CMB **Columbia Colle** 63.34 353 *e*P P 10 54 46.5 +0.1
19nm,1.3s,mb5.1
CMB **Columbia Colle** 63.34 353 ⇑P P 10 54 46.8 +0.4
baz=64
R08A **Mina** 63.42 355 ⇑P P 10 54 46.8 -0.2
baz=64
NVAR **Mina Array Bea** 63.52 355 P P 10 54 46.5 -1.2
7.8nm,0.9s,mb4.7,baz=202,slow=6.9,SNR=32
WAKR **Walker** 63.70 354 *e*P P 10 54 54.2 +5.4
R06C **Coleville** 63.72 354 ⇓P P 10 54 49.4 +0.4
baz=64
SBA **Scott Base** 63.74 193 *e*P P 10 54 48.4 -0.7
15nm,1.3s,mb4.9
Q11A **Duckwater** 63.75 357 P P 10 54 50.0 +0.8
baz=64,SNR=12
Q09A **Carvers** 63.83 356 P P 10 54 51.4 +1.7
baz=64,SNR=6.2
RPZ **Rata Peaks** 63.89 232 LR LR 11 18 38.8
comp=Z,1µm,18.2s,MS5.1,baz=284,slow=32
Q12A **Willow Creek R** 63.91 358 ⇓P P 10 54 50.7 +0.5
baz=64
Q08A **Gabbs** 63.91 355 P P 10 54 50.5 +0.3
baz=64,SNR=5.4
SRU **San Rafael** 63.94 1 *e*P P 10 54 48.7 -1.7
32nm,1.0s,mb5.3
R05C **Kirkwood Meado** 63.96 353 P P 10 54 51.1 +0.5
baz=64,SNR=7.5
NSHM **Saint Helena R** 64.10 351 *e*P P 10 54 51.5 0.0
TMUT **Trail Mountain** 64.11 1 *e*P P 10 54 51.3 -0.3
Q04C **Lincoln** 64.25 352 ⇓P P 10 54 52.5 +0.1
baz=64
P12A **McGill** 64.34 358 ⇑P P 10 54 52.6 -0.5
baz=65,SNR=8.1
MNRC **McLaughlin Nat** 64.43 351 ⇓P P 10 54 54.3 +0.7
baz=65
P11A **Circle Ranch,** 64.46 357 ⇑P P 10 54 54.6 +0.8
baz=65
WCN **Washoe City** 64.52 353 ⇑P P 10 54 55.0 +0.8
baz=65
P09A **Austin** 64.54 356 ⇓P P 10 54 55.2 +0.8
baz=65
P10A **Eureka** 64.56 356 ⇑P P 10 54 55.3 +0.8
baz=65
P05C **Yuba Gap, Truc** 64.61 353 ⇑P P 10 54 55.2 +0.4
baz=65
OHCM **Honcut** 64.75 352 *e*P P 10 54 54.8 -1.0
P08A **Dixie Valley** 64.75 355 ⇓P P 10 54 57.2 +1.4
baz=65
NLU **North Lily Min** 64.77 360 *e*P P 10 54 55.0 -0.9
VNDA **Vanda** 64.79 194 P P 10 54 55.9 -0.1
2.2nm,1.1s,mb4.1,baz=70,slow=4.2,SNR=7.8
VNDA **Vanda** 64.79 194 *e*P P 10 54 55.6 -0.3
5.9nm,1.2s,mb4.5
MPU **Maple Canyon** 64.83 0 *e*P P 10 54 56.1 -0.2
26nm,1.2s,mb5.1
DUG **Dugway** 65.01 359 *e*P P 10 54 55.9 -1.5
21nm,1.1s,mb5.1
QSPA **South Pole Qui** 65.01 180 *e*P P 10 54 57.7 +0.3
60nm,0.8s,mb5.7
O11A **Cowboy Ranch,** 65.03 357 ⇑P P 10 54 58.4 +0.8
baz=65
WVT **Waverly** 65.11 21 *e*P P 10 54 56.9 -1.2
10nm,0.8s,mb4.9
O12A **Currie** 65.13 358 ⇓P P 10 54 58.1 -0.1
baz=65
O09A **Fish Creek Ran** 65.16 356 P P 10 54 58.5 +0.1
baz=65,SNR=6.4
GASB **Alder Springs** 65.23 351 P P 10 54 59.9 +1.1
baz=66,SNR=9.6
DAU **Daniels Canyon** 65.23 1 *e*P P 10 54 59.0 +0.2
O10A **Cortez Mining,** 65.24 356 ⇓P P 10 54 59.7 +0.8
baz=66
O07A **Toulon** 65.28 354 P P 10 54 58.4 -0.8
baz=66,SNR=8.9
O05C **Quincy** 65.30 353 ⇑P P 10 54 59.4 +0.1
baz=66
JLU **Jordanelle** 65.42 1 *e*P P 10 54 59.9 -0.1
BMN **Battle Mountai** 65.42 356 *e*P P 10 54 59.5 -0.6
CTU **Camp Tracy** 65.50 0 *e*P P 10 55 01.1 +0.4
N10A **Dunphy** 65.66 356 ⇓P P 10 55 01.8 +0.2
baz=66
O04C **Chester** 65.67 352 ⇓P P 10 55 02.8 +1.1
baz=66
N13A **Wendover, West** 65.70 358 ⇓P P 10 55 02.4 +0.5
baz=66
N12A **Clover Valley,** 65.72 358 ⇓P P 10 55 02.2 +0.2
baz=66,SNR=8.7
O02C **Red Bluff** 65.75 351 ⇑P P 10 55 02.3 0.0
baz=66
N08A **GE Springer Mi** 65.84 355 ⇑P P 10 55 02.6 -0.2
baz=66
N09A **Rock Creek Ran** 65.86 355 ⇓P P 10 55 02.7 -0.2
baz=66,SNR=6.9
N07B **Gerlach** 65.91 354 ⇓P P 10 55 03.7 +0.4
baz=66
JSC **Jenkinsville** 65.94 28 *e*P P 10 55 03.3 -0.1
N06A **Buffalo Meadow** 65.96 354 P P 10 55 03.9 +0.3
baz=66,SNR=6.9
FVM **French Village** 66.00 19 *e*P P 10 55 03.5 -0.4
8.9nm,0.7s,mb4.9
SIUC **Southern Illin** 66.11 20 *e*P P 10 55 04.8 +0.3
16nm,0.6s,mb5.2
WDC **Whiskeytown Da** 66.12 351 *e*P P 10 55 03.8 -0.8
25nm,1.2s,mb5.1
WDC **Whiskeytown Da** 66.12 351 ⇓P P 10 55 04.0 -0.6
baz=66
SPUT **South Promonto** 66.12 360 *e*P P 10 54 58.6 -6.0
M13A **Montello** 66.20 358 ⇓P P 10 55 04.0 -1.1
baz=66,SNR=8.3
HATC **Hat Creek Radi** 66.21 352 ⇑P P 10 55 04.6 -0.6
baz=66
M12A **Wells** 66.28 358 ⇓P P 10 55 05.8 +0.2
baz=67,SNR=14
M11A **Holland Ranch,** 66.33 357 P P 10 55 06.6 +0.6
baz=67,SNR=8.0
HWUT **Hardware Ranch** 66.42 0 *e*P P 10 55 09.8 +3.3
14nm,1.2s,mb4.8
M09A **Marrel Ranch,** 66.42 356 ⇑P P 10 55 06.7 +0.1
baz=67
N02C **Big Bar** 66.46 351 P P 10 55 07.2 +0.4
baz=67,SNR=5.9
M10A **I.L. Ranch, Tu** 66.46 356 ⇓P P 10 55 06.9 +0.2
baz=67,SNR=5.7
M06C **Likely Place G** 66.48 353 ⇑P P 10 55 07.6 +0.7
baz=67
M07A **Soldier Meadow** 66.53 354 ⇓P P 10 55 07.6 +0.4
baz=67
KHMM **Horse Mountain** 66.58 350 *e*P P 10 55 08.5 +1.0
M05C **Lookout** 66.71 353 ⇑P P 10 55 08.1 -0.3
baz=67
M03C **McCloud** 66.74 352 ⇑P P 10 55 08.6 +0.1
baz=67
USIN **University of** 66.83 21 *e*P P 10 55 09.3 +0.1
23nm,0.7s,mb5.3
M02C **Callahan** 66.96 351 P P 10 55 10.0 0.0
baz=67,SNR=5.9
TZTN **Tazewell** 67.00 25 *e*P P 10 55 10.0 -0.2
24nm,1.0s,mb5.2
L09A **Wilkinson Ranc** 67.03 355 ⇓P P 10 55 09.9 -0.5
baz=67,SNR=7.0
MOD **Modoc** 67.15 353 *e*P P 10 55 10.1 -1.0
13nm,1.1s,mb4.9
MOD **Modoc** 67.15 353 ⇑P P 10 55 11.6 +0.4
baz=67,SNR=8.4
L07A **Adell** 67.17 354 ⇓P P 10 55 11.7 +0.4
baz=68,SNR=9.0
M04C **Macdoel** 67.21 352 ⇑P P 10 55 11.6 +0.1
baz=68
L08A **Fields** 67.25 355 P P 10 55 12.8 +1.0
baz=68,SNR=8.2
YBH **Yreka Blue Hor** 67.27 351 *e*P P 10 55 11.7 -0.3
15nm,1.3s,mb4.8
YBH **Yreka Blue Hor** 67.27 351 ⇑P P 10 55 12.0 0.0
baz=68
L05A **Lakeview** 67.35 353 ⇑P P 10 55 12.8 +0.4
baz=68
WVOR **Wild Horse Val** 67.52 355 *e*P P 10 55 12.0 -1.5
33nm,1.1s,mb5.3
WCI **Wyandotte Cave** 67.52 22 *e*P P 10 55 11.8 -1.8
10nm,0.8s,mb4.9
L04A **Klamath Falls** 67.60 352 ⇓P P 10 55 13.7 -0.3
baz=68
BW06 **Boulder Array** 67.62 2 *e*P P 10 55 12.6 -1.5
19nm,1.3s,mb5.0
PDAR **Pinedale Array** 67.62 2 P P 10 55 11.2 -2.9
4.5nm,1.1s,mb4.4,baz=186,slow=6.0,SNR=16
K09A **Rome** 67.71 355 P P 10 55 15.6 +0.9
baz=68,SNR=12
K08A **Mann Creek Ran** 67.80 355 P P 10 55 14.4 -0.9
baz=68,SNR=8.2
L02A **Cave Junction** 67.81 351 ⇓P P 10 55 16.7 +1.3
baz=68
K07A **Rock Creek Ran** 67.83 354 ⇑P P 10 55 15.2 -0.2
baz=68
K05A **Summer Lake** 68.03 353 ⇓P P 10 55 17.1 +0.4
baz=68
K06A **Vale Falls** 68.03 354 ⇓P P 10 55 16.8 +0.1
baz=68,SNR=5.2
HUMO **Hull Mountain** 68.16 351 *e*P P 10 55 17.2 -0.4
25nm,1.1s,mb5.2
HUMO **Hull Mountain** 68.16 351 ⇓P P 10 55 17.9 +0.4
baz=68
REDW **Red Top Meadow** 68.18 1 *e*P P 10 55 16.5 -1.2
26nm,1.3s,mb5.1
J09A **Fry Pan Ranch,** 68.36 356 P P 10 55 19.7 +0.9
baz=69,SNR=7.5
HLID **Hailey** 68.41 358 *e*P P 10 55 17.6 -1.5
26nm,1.1s,mb5.2
DCID1 **Drake Creek** 68.41 1 *e*P P 10 55 19.1 0.0
J08A **Circle Bar Ran** 68.42 355 ⇑P P 10 55 19.0 -0.2
baz=69,SNR=7.5
LOHW **Long Hollow** 68.44 1 *e*P P 10 55 18.1 -1.1
26nm,1.3s,mb5.1
J07A **Hines** 68.51 354 ⇓P P 10 55 20.5 +0.7
baz=69
MOOW **Moose Ponds** 68.57 1 *e*P P 10 55 18.6 -1.5
16nm,1.1s,mb4.9
J05A **Fort Rock** 68.62 353 ⇑P P 10 55 21.1 +0.7
baz=69
BLA **Blacksburg** 68.81 27 *e*P P 10 55 21.4 -0.2
30nm,1.0s,mb5.2
FLWY **Flagg Ranch** 68.90 1 *e*P P 10 55 21.6 -0.5
20nm,0.9s,mb5.0
J03A **Ideyld Park** 68.92 351 ⇑P P 10 55 22.6 +0.3
baz=69
FWV **Forest Hill** 68.97 26 *e*P P 10 55 22.2 -0.4
I08A **Drewsey** 68.98 355 ⇑P P 10 55 23.7 +1.1
baz=69
I09A **Lost Marbles R** 68.98 356 ⇑P P 10 55 23.8 +1.1
baz=69
I06A **Prineville** 69.16 354 ⇑P P 10 55 23.8 +0.1
baz=69
I07A **Izee** 69.23 354 ⇓P P 10 55 24.3 +0.1
baz=70,SNR=5.1
I04A **Tendick Farm,** 69.26 352 ⇓P P 10 55 24.4 0.0
baz=70
RSSD **Black Hills** 69.32 6 *e*P P 10 55 24.6 -0.2
16nm,1.0s,mb4.9
YMR **Madison River** 69.49 1 *e*P P 10 55 22.6 -3.2
12nm,1.0s,mb4.8
H08A **Prairie City** 69.59 355 ⇑P P 10 55 26.9 +0.4
baz=70
H11A **Donnelly** 69.61 357 ⇓P P 10 55 27.0 +0.5
baz=70
MCMT **McKenzie Canyo** 69.64 359 *e*P P 10 55 26.7 -0.1
QLMT **Earthquake Lak** 69.64 0 *e*P P 10 55 27.1 +0.3
H09A **Durkee** 69.66 356 ⇑P P 10 55 28.0 +1.1
baz=70
BMO **Blue Mountains** 69.83 356 *e*P P 10 55 28.0 +0.1
H06A **Lindquist Farm** 69.95 354 ⇓P P 10 55 30.0 +1.4
baz=70
G15A **Dillon** 69.98 360 ⇓P P 10 55 28.7 -0.2
baz=70
RLMT **Red Lodge** 69.98 2 *e*P P 10 55 27.5 -1.3
12nm,1.1s,mb4.8
ECSD **EROS,Sioux Fal** 70.00 12 *e*P P 10 55 27.8 -1.1
10nm,0.9s,mb4.8
DLMT **Dillon** 70.17 360 *e*P P 10 55 28.3 -1.7
21nm,1.2s,mb5.0
G08A **Pilot Rock** 70.38 355 ⇑P P 10 55 31.7 +0.4
baz=71
G07A **Ruggs Ranch, H** 70.42 354 ⇓P P 10 55 31.6 +0.1
baz=71
G06A **Canon Farm,** 70.48 354 ⇑P P 10 55 30.7 -1.3
baz=71
G05A **Wamic** 70.56 353 ⇓P P 10 55 32.4 0.0
baz=71
F12A **Elk City** 70.63 358 P P 10 55 32.9 +0.1
baz=71,SNR=5.5
F13A **Darby** 70.63 358 P P 10 55 32.7 -0.1
baz=71,SNR=8.8
F14A **Wisdom** 70.63 359 ⇑P P 10 55 32.7 -0.2
baz=71
F15A **Butte** 70.65 360 ⇓P P 10 55 32.8 -0.2
baz=71
F09A **S2 Ranch, Elgi** 70.72 356 ⇑P P 10 55 32.8 -0.6
baz=71
F11A **Grangeville** 70.80 357 P P 10 55 33.1 -0.7
baz=71,SNR=6.0
G03A **Yamhill** 70.87 352 ⇑P P 10 55 34.3 0.0
baz=71
F08A **Pendleton** 70.87 355 P P 10 55 34.8 +0.5
baz=71,SNR=6.2
F10A **Beach Ranch, E** 70.94 356 ⇑P P 10 55 34.5 -0.2
baz=71
F06A **Goldendale** 71.02 354 ⇓P P 10 55 36.2 +1.0
baz=71
F07A **Phinny Hill Vi** 71.07 354 ⇓P P 10 55 35.2 -0.3
baz=71
E15A **Deer Lodge** 71.24 360 ⇓P P 10 55 36.0 -0.5
baz=72
E14A **Clinton** 71.24 359 P P 10 55 36.5 0.0
baz=72,SNR=5.2
E13A **Victor** 71.28 358 P P 10 55 36.0 -0.8
baz=72,SNR=5.3
E10A **Myers Farm, Un** 71.44 356 ⇑P P 10 55 37.5 -0.2
baz=72
E09A **Wood Farm, Sta** 71.54 356 ⇑P P 10 55 37.4 -0.9
baz=72
E08A **Dider Farm, El** 71.58 355 ⇑P P 10 55 37.4 -1.2
baz=72
MSO **Missoula** 71.66 359 *e*P P 10 55 38.9 -0.2
LAO **LASA Array** 71.69 4 *e*P P 10 55 38.4 -0.9
27nm,1.0s,mb5.1
E07A **Sunnyside** 71.72 354 ⇑P P 10 55 38.5 -0.9
baz=72
CHMT **Chamberlain Mo** 71.73 359 *e*P P 10 55 39.1 -0.4
D15A **Lincoln** 71.85 360 ⇑P P 10 55 41.0 +0.8
baz=72
D14A **Greenough** 71.90 359 ⇑P P 10 55 40.6 +0.1
baz=72
E05A **Randle** 71.91 353 ⇑P P 10 55 40.9 +0.3
baz=72
D13A **Huson** 71.94 358 ⇓P P 10 55 41.2 +0.4
baz=72
D11A **Klaveano Farm,** 71.96 357 ⇑P P 10 55 41.0 +0.1
baz=72
AAM **Ann Arbor** 72.06 22 *e*P P 10 55 41.4 -0.1
52nm,1.2s,mb5.3
D09A **Jones Farm, Ri** 72.09 356 ⇑P P 10 55 41.4 -0.3
baz=72
D08A **Wollman Farm,** 72.14 355 ⇓P P 10 55 42.3 +0.4
baz=72
SNAA **Sanae** 72.15 162 *e*P P 10 55 41.2 -0.8
41nm,1.6s,mb5.1
D07A **Quincy** 72.36 354 ⇑P P 10 55 42.9 -0.3
baz=73
D06A **Cle Elum** 72.44 354 ⇑P P 10 55 43.7 0.0
baz=73
C13A **Hot Springs** 72.53 358 ⇑P P 10 55 43.4 -0.9
baz=73
D05A **Enumclaw** 72.56 353 ⇓P P 10 55 44.4 0.0
baz=73
C10A **Spilker Farm,** 72.78 356 ⇑P P 10 55 45.2 -0.6
baz=73
C09A **Chrisman Ranch** 72.83 356 P P 10 55 46.4 +0.4
baz=73,SNR=5.7
C07A **Waterville** 72.86 354 ⇑P P 10 55 46.6 +0.3
baz=73
MVL **Millersville** 72.86 28 *e*P P 10 55 46.9 +0.7
EGMT **Eagleton** 72.86 2 *e*P P 10 55 46.3 0.0
30nm,1.1s,mb5.1
B13A **Whitefish** 73.22 358 ⇓P P 10 55 47.5 -0.9
baz=74
NEW **Newport** 73.22 356 *e*P P 10 55 48.4 +0.1
27nm,1.1s,mb5.1
B10A **Chitwood Farm,** 73.26 356 ⇑P P 10 55 48.3 -0.3
baz=74
B11A **Sandpoint** 73.35 357 ⇑P P 10 55 48.5 -0.6
baz=74
B09A **Rice** 73.44 356 ⇓P P 10 55 49.7 0.0
baz=74
B08A **Colville Reser** 73.46 355 ⇑P P 10 55 49.1 -0.6
baz=74
DGMT **Dagmar** 73.62 5 *e*P P 10 55 51.0 +0.2
48nm,1.1s,mb5.3
LUPA **Lehigh Univers** 73.78 28 *e*P P 10 55 52.4 +0.8
A11A **Hall Mountain,** 73.87 357 ⇑P P 10 55 51.6 -0.6
baz=74
A10A **Northport** 73.96 356 ⇓P P 10 55 52.7 0.0
baz=74
A09A **Danville** 74.02 356 ⇑P P 10 55 52.4 -0.6
baz=74
A08A **Turner Farm, O** 74.05 355 ⇓P P 10 55 52.9 -0.3
baz=74
A07A **Ashnola River,** 74.23 354 ⇓P P 10 55 53.7 -0.7
baz=74
AGMN **Agassiz Refuge** 74.54 11 *e*P P 10 55 53.8 -2.3
19nm,1.1s,mb4.9
BINY **Binghamton** 74.84 27 *e*P P 10 55 58.2 +0.4
19nm,0.9s,mb5.0
EYMN **Ely** 75.07 14 *e*P P 10 55 58.7 -0.4
18nm,1.0s,mb5.0
ULM **Lac du Bonnet** 76.42 11 P P 10 56 03.6 -3.3
5.4nm,0.9s,mb4.5,baz=234,slow=2.7,SNR=6.2
ULM **Lac du Bonnet** 76.42 11 *e*P P 10 56 04.0 -3.0
28nm,1.3s,mb5.0
NCB **Newcomb** 77.03 27 *e*P P 10 56 08.6 -1.8
23nm,1.0s,mb5.1
LONY **Lake Ozonia** 77.42 26 *e*P P 10 56 13.2 +0.6
17nm,1.0s,mb4.9
EDM **Edmonton** 78.05 359 *e*P P 10 56 13.9 -2.2
CASY **Casey** 83.30 196 *e*P P 10 56 43.2 -1.0
8.3nm,0.9s,mb4.8
SYO **Syowa Base** 83.86 170 *i*PP PP 10 59 54.9 -5.4
DLBC **Dease Lake** 84.61 351 *e*P P 10 56 49.3 -1.5
NJ2 **Nanjing** 135.11 291 *e*PKP PKPdf 11 03 33.4 -3.4
NJ2 PP PP 11 06 12.0 +0.1
NJ2 PKS 11 07 09.5
NJ2 PP PP
comp=Z,540nm,5.5s
NJ2 LR LR
comp=N,600nm,27.7s,MS5.4
NJ2 LR LR
comp=E,640nm,23.7s,MS5.4
NJ2 LR LR
comp=Z,2µm,30.8s
HHC **Hu-ho-hao-te** 140.63 304 *e*PKP PKPdf 11 03 45.1 -1.8
HHC PP PP 11 06 47.8 +1.6
HHC PKS 11 07 19.8
HHC SKS SKSdf 11 10 53.1 -4.1
HHC SKKS SKKSac 11 13 38.9 -1.2
HHC PP PP
comp=Z,116nm,6.6s
SONM **Songino Array** 142.23 317 PKhKP 11 03 43.5
comp=Z,0.6nm,0.9s,baz=69,slow=2.9,SNR=3.8
SONM PKP PKPdf 11 03 49.2 -0.6
comp=Z,1.5nm,0.9s,baz=90,slow=1.5,SNR=8.5
SONM **Songino Array** 142.23 317 PKP PKPdf 11 03 49.2 -0.6
GYA **Guiyang** 145.20 281 *i* PKP PKPdf 11 03 55.1 +0.1
GYA PKP2 PKPab 11 03 56.3 +1.6
GYA APKP 11 03 58.0
GYA PP PP 11 07 16.8 +3.0
GYA PKS 11 07 28.8
GYA SKS SKSdf 11 11 01.3 -3.0
GYA SKKS SKKSac 11 14 04.9 -1.5
GYA PP PP
comp=Z,120nm,8.2s
GYA LR LR
comp=N,250nm,20.8s,MS5.1
GYA LR LR
comp=E,270nm,21.4s,MS5.1
GYA LR LR
comp=Z,180nm,20.6s,MS4.8
LZH **Lanzhou** 147.40 298 *e*PKP PKPdf 11 03 56.0 -2.7
LZH APKP 11 04 06.8
LZH PP PP 11 07 33.1 +6.2
LZH PP PP
comp=Z,256nm,4.2s
LZH **Lanzhou** 147.40 298 *e*PKP PKPdf 11 03 56.0 -2.7
LZH pPKP pPKPdf 11 04 06.7 +4.5
LZH sPKP 11 04 10.4
LZH PP PP 11 07 33.1 +6.2
LZH SKKS SKKSac 11 14 25.0 +6.1
BR131 **Keskin Array S** 147.83 55 *e*PKPbc PKPbc 11 04 02.9 +0.5
BRTR **Keskin Array B** 147.83 55 PKPbc PKPbc 11 04 02.1 -0.3
comp=Z,4.0nm,1.0s,baz=209,slow=2.3,SNR=11
CD2 **Chengdu** 147.96 289 *e*PKP PKPdf 11 03 59.9 +0.2
ARU **Arti** 148.01 10 *e*PKPbc PKPbc 11 04 02.5 -0.4
KMI **Kunming** 148.55 277 PKP PKPdf 11 04 03.4 +2.8
ZAL **Zalesovo** 148.62 341 PKPbc PKPbc 11 04 02.9 -1.5
comp=Z,1.2nm,0.3s,baz=53,slow=5.3,SNR=6.5
CHTO **Chiang Mai** 150.61 264 *e*PKPbc PKPbc 11 04 10.7 +1.3
CHTO *e*PKPab PKPab 11 04 13.6 -2.5
CHKZ **Chkalovo** 151.44 357 *e*PKPbc PKPbc 11 04 10.7 -0.6
CHKZ *e*PKPab PKPab 11 04 15.7 -3.9
BRVK **Borovoye** 152.07 357 *e*PKPdf PKPdf 11 04 07.0 +0.9
BRVK *e*PKPbc PKPbc 11 04 12.1 -0.7
ZRNK **Zerenda** 152.23 359 *e*PKPdf PKPdf 11 04 06.9 +0.6
ZRNK *e*PKPbc PKPbc 11 04 12.1 -0.9
ZRNK *e*PKPab PKPab 11 04 18.1 -4.7
KURK **Kurchatov** 153.18 345 *e*PKPbc PKPbc 11 04 14.7 -0.5
WMQ **Urumqi** 155.37 324 PKP PKPdf 11 04 06.9 -3.9
WMQ APKP 11 04 11.9
WMQ XPKP 11 04 15.1
WMQ PKP2 PKPab 11 04 34.3 -1.9
WMQ PP PP 11 08 11.4 -1.1
WMQ PP PP
comp=Z,30nm,9.0s
MKAR **Makanchi Array** 155.56 336 PKPbc PKPdf 11 04 16.7 +5.6
comp=Z,0.2nm,0.3s,baz=25,slow=2.2,SNR=3.5

JMA 15 10:59:14.7±0.1,2578N×12351E,h201km,M3.7,
Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
IRIF	**Iriomote-Funau**	**1.45**	**172**	P		Pn		10 59 48.1	+0.1
IRIF				*e*S		Sn		11 00 14.2	+0.3
JIJ	**Ishigaki jima**	**1.52**	**158**	P		Pn		10 59 48.6	0.0
JIJ				*e*S		Sn		11 00 15.1	+0.1
JTJ	**Tarama**	**1.57**	**136**	P		Pn		10 59 49.3	+0.3
JTJ				*e*S		Sn		11 00 16.0	+0.3
JKRS	**Kuro-shima**	**1.60**	**163**	P		Pn		10 59 49.7	+0.3
JKRS				*e*S		Sn		11 00 16.5	+0.2
HATJ	**Hateruma jima**	**1.74**	**171**	P		Pn		10 59 50.9	+0.3
HATJ				*e*S		Sn		11 00 18.5	-0.1
JMJ	**Miyako jima 2**	**1.88**	**120**	P		Pn		10 59 52.3	+0.3
JMJ				*e*S		Sn		11 00 20.7	-0.4
JOGS	**Gusukube**	**2.00**	**120**	P		Pn		10 59 53.5	+0.3
JOGS				*e*S		Sn		11 00 22.8	-0.4

IDC 15 11:02:53.7±8.3,645S×15077E,h66km±63km,mb3.0/2,
mb1 3.4/4,mb1mx3.2/14,mbtmp3.3/4,ML2.9/2,MS3.1/1,
Ms1 3.1/1,ms1mx2.6/29,Error ellipse: s-maj=60.2km
s-min=35.6km az=19.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**4.63**	**230**	P		Pn		11 04 01.5	+0.5
	0.7nm,0.3s,baz=76,slow=8.3,SNR=2.8								
PMG				S		Sn		11 04 54.7	+1.2
	2.4nm,0.3s,baz=120,slow=10,SNR=4.5								
HNR	**Honiara**	**9.56**	**109**	LR				11 08 16.5	
	comp=Z,110nm,19.3s,baz=179,slow=34								
CTA	**Charters Tower**	**14.25**	**197**	P		Pn		11 06 11.8	-0.2
	0.3nm,0.3s,baz=119,slow=10,SNR=3.1								
WRA	**Warramunga Arr**	**20.84**	**228**	P				11 07 29.6	-0.3
	1.2nm,0.7s,baz=54,slow=9.8,SNR=13								
ASAR	**Alice Springs**	**23.58**	**222**	P		P		11 07 58.6	+0.3
	0.5nm,0.5s,baz=55,slow=9.5,SNR=11								
RPZ	**Rata Peaks**	**41.17**	**158**	P		P		11 10 31.7	+0.2

22nm,0.9s,baz=344,slow=15,SNR=3.0
TORD Torodi Ar. Bea 148.83 285 PKPbc PKPbc 11 22 34.5 +0.8
0.3nm,0.4s,baz=99,slow=2.9,SNR=5.2

*IDC **15** 11:05:26.9±6.6,36.18S×179.11E,h222km±36km,mb3.4/3, mb1 3.7/4,mb1mx3.5/11,mbtmp3.4/4,Error ellipse: s-maj=84.6km s-min=26.6km az=52.0*
*NEIC **15** 11:05:28.4,3588S×17850E,h222km,MG4.2(WEL),After WEL.*
*WEL **15** 11:05:29.5±0.6,3590S×17848E,h213km±8km,ML4.2/5, Error ellipse: s-maj=22.2km s-min=12.3km az=90.0*
*ISCJB **15** 11:05:30.3±1.5,3645S±0.1×1787E±0.2,h251km±7km, mb3.6/3,Error ellipse: s-maj=30.7km s-min=23.1km az=34.8*

ISC 15 11:05:31.2±1.5,364S±01×1787E±02,h248km±7km,n31, σ0892/37,mb3.6/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.17**	**196**	P	**Pn**	**11 06 05.8**	**-1.2**
MXZ				S	**S**	**11 06 34.3**	**-0.8**
MXZ	**Matakaoa Point**	**1.17**	**196**	PN	**Pn**	**11 06 05.8**	**-1.1**
MXZ				SN	**S**	**11 06 33.2**	**-1.9**
PUZ	**Puketiti**	**1.68**	**193**	*e*P	**Pn**	**11 06 11.3**	**+0.7**
PUZ	**Puketiti**	**1.68**	**193**	PN	**Pn**	**11 06 11.3**	**+0.6**
PUZ				SN	**S**	**11 06 42.0**	**+0.3**
MWZ	**Matawai**	**2.12**	**206**	P	**Pn**	**11 06 15.0**	**+0.5**
MWZ				S	**S**	**11 06 50.7**	**+2.0**
MWZ	**Matawai**	**2.12**	**206**	PN	**Pn**	**11 06 15.0**	**+0.5**
MWZ				SN	**S**	**11 06 50.2**	**+1.5**
URZ	**Urewera**	**2.23**	**215**	P	**Pn**	**11 06 14.7**	**-0.9**
	4.4nm,0.3s,baz=305,slow=14,SNR=33						
URZ				S	**S**	**11 06 50.1**	**-0.5**
	8.3nm,0.3s,baz=87,slow=23,SNR=14						
URZ	**Urewera**	**2.23**	**215**	P	**Pn**	**11 06 15.1**	**-0.5**
URZ	**Urewera**	**2.23**	**215**	PN	**Pn**	**11 06 15.1**	**-0.4**
KNZ	**Kokohu**	**2.71**	**198**	P	**Pn**	**11 06 21.6**	**+1.2**
KNZ	**Kokohu**	**2.71**	**198**	PN	**Pn**	**11 06 21.6**	**+1.2**
BKZ	**Black Stump Fm**	**3.25**	**212**	P	**Pn**	**11 06 27.3**	**+1.1**
BKZ	**Black Stump Fm**	**3.25**	**212**	PN	**Pn**	**11 06 27.3**	**+1.1**
PXZ	**Pawanui**	**3.88**	**202**	PN	**Pn**	**11 06 34.6**	**+1.2**
TSZ	**Takapari Road**	**4.22**	**210**	*e*P	**Pn**	**11 06 37.9**	**+0.4**
TSZ	**Takapari Road**	**4.22**	**210**	*e*PN	**Pn**	**11 06 37.9**	**+0.4**
MRZ	**Mangatainoka R**	**4.89**	**209**	P	**Pn**	**11 06 45.6**	**+0.1**
MRZ	**Mangatainoka R**	**4.89**	**209**	PN	**Pn**	**11 06 45.6**	**+0.2**
KIW	**Kapiti Island**	**5.33**	**213**	P	**Pn**	**11 06 50.7**	**-0.2**
KIW	**Kapiti Island**	**5.33**	**213**	PN	**Pn**	**11 06 50.7**	**-0.3**
MTW	**Mount Morrison**	**5.34**	**207**	P	**Pn**	**11 06 51.2**	**+0.1**
CAW	**Cannon Point**	**5.47**	**210**	P	**Pn**	**11 06 51.3**	**-1.3**
WEL	**Wellington**	**5.74**	**211**	P	**Pn**	**11 06 52.5**	**-3.5**
TCW	**Tory Channel**	**5.90**	**215**	P	**Pn**	**11 06 56.9**	**-1.1**
TCW	**Tory Channel**	**5.90**	**215**	PN	**Pn**	**11 06 56.9**	**-1.0**
THZ	**Tophouse**	**6.98**	**219**	*e*P	**Pn**	**11 07 10.4**	**-1.2**
KHZ	**Kahutara**	**7.19**	**212**	*e*P	**Pn**	**11 07 13.7**	**-0.5**
ODZ	**Otahua Downs**	**10.55**	**213**	*e*P	**Pn**	**11 07 57.5**	**+0.8**
ASAR	**Alice Springs**	**40.49**	**276**	P	**P**	**11 12 46.8**	**+0.7**
	1.8nm,0.6s,mb3.7,baz=114,slow=7.8,SNR=34						
VNDA	**Vanda**	**41.84**	**185**	P	**P**	**11 12 56.4**	**-0.5**
	0.3nm,0.4s,mb3.0,baz=0.5,slow=4.1,SNR=5.2						
WRA	**Warramunga Arr**	**42.04**	**281**	P	**P**	**11 12 58.8**	**+0.2**
	4.0nm,0.5s,mb4.1,baz=118,slow=7.8,SNR=61						

*IDC **15** 11:13:32.7±0.6,4651N×15329E,h0km,mb4.6/22, mb1 4.7/23,mb1mx4.7/28,mbtmp4.6/23,ML3.9/1,Error ellipse: s-maj=17.5km s-min=13.4km az=136.0*
*ISCJB **15** 11:13:33.5±1.7,4650N±004×15336E±005,h13km±10km, mb4.9/118,Error ellipse: s-maj=8.0km s-min=4.4km az=116.7*
*BJI **15** 11:13:33.0,4677N×15349E,h17km,mB5.2,mb5.0*
*MOS **15** 11:13:34.7±1.0,4647N×15325E,h23km,mb5.2/47,Error ellipse: s-maj=8.1km s-min=5.1km az=96.4*
*NEIC **15** 11:13:34.4±0.2,4648N×15330E,h10km,mb5.0/78,Error ellipse: s-maj=7.0km s-min=4.3km az=156.0*

ISC 15 11:13:37.8±1.3,4657N±004×15332E±005,h30km±9km, n312,σ1906/309,mb4.9/118,35C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.03**	**253**	⇑*i*PN	**Pn**	**11 14 35.8**	**-1.6**
KUR				pmax	pmax		
	comp=N,700nm,0.8s						
KUR				pmax	pmax		
	comp=E,540nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3μm,0.8s						
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
SKR	**Severo-Kuril's**	**4.52**	**23**	*e*PN	**Pn**	**11 14 44.9**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**5.83**	**247**	*e*PN	**Pn**	**11 15 03.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.27**	**277**	⇑*i*PN	**Pn**	**11 15 26.3**	**+4.4**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**277**	*e*Pn	**Pn**	**11 15 26.4**	**+4.5**
	comp=Z,596nm,3.1s						
PET	**Petropavlovsk**	**7.33**	**26**	*e*PN	**Pn**	**11 15 24.1**	**+1.4**
PET	**Petropavlovsk**	**7.33**	**26**	Pn	**Pn**	**11 15 24.5**	**+1.7**
JMP	**Maruseppu**	**7.47**	**254**	P	**Pn**	**11 15 26.6**	**+1.9**
ASAJ	**Asahikawa**	**7.94**	**256**	Pn	**Pn**	**11 15 33.4**	**+2.3**
	comp=Z,8.9nm,0.3s,baz=96,slow=16,SNR=44						
ASAJ	**Asahikawa**	**7.94**	**256**	P	**Pn**	**11 15 33.8**	**+2.7**
ASAJ	**Asahikawa**	**7.94**	**256**	PN	**Pn**	**11 15 33.4**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
UGL	**Uglegorsk**	**7.98**	**292**	*e*PN	**Pn**	**11 15 36.6**	**+4.9**
UGL				pmax	pmax		
	comp=Z,800nm,1.4s						
UGL				pmax	pmax		
	comp=Z,260nm,0.9s						
JWK2	**Keihoku**	**8.06**	**265**	P	**Pn**	**11 15 38.9**	**+6.2**
JEM	**Erimo**	**8.59**	**242**	P	**Pn**	**11 15 39.3**	**-0.7**
ERM	**Erimo**	**8.59**	**242**	*e*PN	**Pn**	**11 15 39.4**	**-0.6**
ERM				pmax	pmax		
	comp=Z,134nm,0.8s						
ERM	**Erimo**	**8.59**	**242**	*e*Pn	**Pn**	**11 15 39.4**	**-0.6**
	comp=Z,134nm,0.8s						
JEW	**Eniwo**	**9.23**	**250**	P	**Pn**	**11 15 50.6**	**+1.7**
JSH	**Shimam**	**10.24**	**252**	P	**Pn**	**11 16 04.5**	**+1.8**
JOT	**Ohata**	**10.24**	**244**	P	**Pn**	**11 16 00.2**	**-2.5**
JTM	**Tenmabayashi**	**10.58**	**241**	P	**Pn**	**11 16 04.3**	**-3.0**
JOM	**Ohasama**	**11.29**	**235**	P	**Pn**	**11 16 13.6**	**-3.5**
HABR	**Khabarovsk**	**12.50**	**285**	*e*PN	**Pn**	**11 16 37.7**	**+5.2**
JYA	**Atsumi**	**12.79**	**236**	P	**Pn**	**11 16 35.9**	**-1.7**
MA2	**Magadan**	**13.12**	**354**	*e*PN	**Pn**	**11 16 44.1**	**+2.0**
KLR	**Kul'dur**	**14.70**	**288**	*e*P	**Pn**	**11 17 02.0**	**-1.6**
MJAR	**Matsushiro Arr**	**15.08**	**234**	Pn	**Pn**	**11 17 05.2**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=27,slow=12,SNR=11						
MAJO	**Matsushiro**	**15.08**	**234**	*e*P	**Pn**	**11 17 04.8**	**-3.9**
MAJO				pmax	pmax		
	comp=Z,41nm,0.6s						
MAJO	**Matsushiro**	**15.08**	**234**	*e*P	**Pn**	**11 17 04.8**	**-3.9**
	comp=Z,41nm,0.6s						
MAT	**Matsushiro**	**15.08**	**234**	P	**Pn**	**11 17 05.0**	**-3.7**
MAT	**Matsushiro**	**15.08**	**234**	P	**Pn**	**11 17 05.1**	**-3.6**
JRY	**Ryogami san**	**15.09**	**231**	P	**Pn**	**11 17 07.3**	**-1.5**
JOD2	**Odawara 2**	**15.56**	**229**	P	**Pn**	**11 17 15.3**	**+0.3**
JGF	**Kuroka**	**16.24**	**233**	P	**Pn**	**11 17 22.7**	**-1.0**
SEY	**Seymchan**	**16.41**	**358**	⇑*i*P	**Pn**	**11 17 26.6**	**+0.7**
JSG	**Sagara**	**16.49**	**229**	P	**Pn**	**11 17 31.4**	**+4.6**
MDJ	**Mudanjiang**	**16.71**	**272**	*e*P	**Pn**	**11 17 29.4**	**-0.2**
	comp=Z,42nm,0.9s						
JWT	**Wachi**	**17.57**	**236**	P	**Pn**	**11 17 39.2**	**-1.2**
JWZ	**Kozaga**	**18.68**	**232**	P	**Pn**	**11 17 54.0**	**0.0**
JHS	**Saijyo**	**19.11**	**240**	P	**Pn**	**11 17 58.6**	**-0.5**
CN2	**Changchun**	**19.80**	**272**	*e*P	**Pn**	**11 18 02.6**	**-4.7**
CN2				AMB	AMB		
	comp=Z,40nm,0.9s						
YAK	**Yakutsk**	**20.55**	**327**	*e*P	**P**	**11 18 13.8**	**-0.1**
YAK				pmax	pmax		
	comp=Z,31nm,0.6s						
YAK	**Yakutsk**	**20.55**	**327**	*e*P	**P**	**11 18 14.2**	**+0.3**
	comp=Z,65nm,0.8s						
KSRS	**Korea Array**	**20.88**	**253**	P	**P**	**11 18 18.0**	**+0.6**
	comp=Z,25nm,0.9s,baz=59,slow=9.5,SNR=52						
INCN	**Inchon**	**21.72**	**255**	*e*P	**P**	**11 18 27.8**	**+1.4**
	comp=Z,103nm,1.0s,mb5.2						
JNU	**Nakatsue**	**21.75**	**240**	P	**P**	**11 18 24.0**	**-2.7**
	comp=Z,20nm,0.9s,mb4.6,baz=249,slow=20,SNR=2.5						
JNU	**Nakatsue**	**21.75**	**240**	P	**P**	**11 18 27.5**	**+0.8**
BILL	**Bilibino**	**22.54**	**13**	*e*P	**P**	**11 18 35.4**	**+0.2**
BILL	**Bilibino**	**22.54**	**13**	*e*P	**P**	**11 18 33.6**	**-1.6**
	comp=Z,110nm,0.5s,mb4.5						
HIA	**Hailar**	**22.56**	**289**	*e*P	**P**	**11 18 32.9**	**-2.5**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**22.56**	**289**	*e*P	**P**	**11 18 32.9**	**-2.5**
	comp=Z,12nm,0.6s,mb4.5						
JSU	**Suzuyama**	**23.15**	**238**	P	**P**	**11 18 42.1**	**+0.4**
JFU	**Fukue jima 2**	**23.36**	**242**	P	**P**	**11 18 44.6**	**+0.8**
BOD	**Bodaibo**	**26.21**	**310**	*e*P	**P**	**11 19 07.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
BJI	**Beijing**	**27.62**	**270**	*e*P	**P**	**11 19 25.8**	**+3.3**
BJI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
BJI	**Beijing**	**27.62**	**270**	*e*P	**P**	**11 19 25.7**	**+3.2**
BJI				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
BJI	**Beijing**	**27.62**	**270**	*e*P	**P**	**11 19 25.7**	**+3.2**
	comp=Z,20nm,1.0s,mb4.7						
BJT	**Baijiatuan**	**27.63**	**270**	*e*P	**P**	**11 19 25.6**	**+3.0**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuan**	**27.63**	**270**	*e*P	**P**	**11 19 25.6**	**+3.0**
	comp=Z,25nm,0.8s,mb4.9						
NJ2	**Nanjing**	**30.08**	**253**	*e*P	**P**	**11 19 42.4**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
HHC	**Hu-ho-hao-te**	**30.45**	**275**	⇓P	**P**	**11 19 49.3**	**+1.7**
HHC				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,224nm,5.0s						
SONM	**Songino Array**	**31.53**	**290**	P	**P**	**11 19 56.5**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.1,baz=71,slow=8.6,SNR=16						
TLY	**Talaya**	**32.39**	**298**	P	**P**	**11 20 04.3**	**-0.5**
	SNR=6.0						
TLY	**Talaya**	**32.39**	**298**	*e*P	**P**	**11 20 03.6**	**-1.1**
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
TLY	**Talaya**	**32.39**	**298**	*e*P	**P**	**11 20 03.6**	**-1.1**
	comp=Z,8.9nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**32.88**	**295**	⇑*e*P	**P**	**11 20 08.2**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
IMA2	**Indian Mountai**	**33.87**	**36**	*e*P	**P**	**11 20 19.0**	**+1.3**
XAN	**Xi'an**	**35.64**	**266**	P	**P**	**11 20 33.3**	**+0.4**
XAN				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
COLA	**College**	**36.20**	**38**	*e*P	**P**	**11 20 37.1**	**-0.6**
LZH	**Lanzhou**	**38.03**	**272**	⇑P	**P**	**11 20 55.0**	**+1.7**
LZH				AMB	AMB		
	comp=Z,106nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,463nm,4.5s						
LZH	**Lanzhou**	**38.03**	**272**	⇑P	**P**	**11 20 55.0**	**+1.7**
	comp=Z,106nm,1.3s,mb5.4						
LZH				pP	pP	11 21 10.2	+8.0
LZH				sP	sP	11 21 17.1	+11
EGAK	**Eagle**	**39.06**	**38**	*e*P	**P**	**11 21 00.7**	**-1.2**
	comp=Z,16nm,1.2s,mb4.6						
GTA	**Gaotai**	**39.14**	**279**	⇓*e*P	**P**	**11 21 03.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.8						
CD2	**Chengdu**	**41.00**	**266**	*e*P	**P**	**11 21 18.1**	**0.0**
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.0						
INK	**Inuvik**	**41.73**	**32**	P	**P**	**11 21 23.4**	**-0.6**
	comp=Z,2.0nm,0.4s,mb4.1,baz=328,slow=6.4,SNR=12						
INK	**Inuvik**	**41.73**	**32**	P	**P**	**11 21 23.4**	**-0.6**
GYA	**Guiyang**	**41.81**	**258**	⇑*i*P	**P**	**11 21 25.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
ZAL	**Zalesovo**	**42.85**	**306**	P	**P**	**11 21 31.4**	**-1.7**
	comp=Z,2.5nm,0.5s,mb4.2,baz=48,slow=6.6,SNR=9.5						
ZAL	**Zalesovo**	**42.85**	**306**	P	**P**	**11 21 31.4**	**-1.7**
MK31	**Makanchi Array**	**47.15**	**298**	*e*P	**P**	**11 22 06.6**	**-0.7**
MKAR	**Makanchi Array**	**47.15**	**298**	*e*P	**P**	**11 22 06.3**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0,baz=64,slow=8.2,SNR=96						
KURK	**Kurchatov**	**47.58**	**304**	P	**P**	**11 22 09.5**	**-1.1**
	SNR=6.9						
KURK	**Kurchatov**	**47.58**	**304**	*e*P	**P**	**11 22 09.5**	**-1.2**
KURK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
KURK	**Kurchatov**	**47.58**	**304**	*e*P	**P**	**11 22 09.5**	**-1.2**
	comp=Z,26nm,0.8s,mb5.3						
LSA	**Lhasa**	**50.42**	**273**	*e*P	**P**	**11 22 34.8**	**+2.3**
LSA	**Lhasa**	**50.42**	**273**	*e*P	**P**	**11 22 35.0**	**+2.5**
LSA				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.5						
LSA	**Lhasa**	**50.42**	**273**	*e*P	**P**	**11 22 35.0**	**+2.5**
	comp=Z,35nm,0.7s,mb5.5						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**11 22 32.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**11 22 32.5**	**-1.7**
	comp=Z,28nm,0.7s,mb5.3						
RES	**Resolute Bay**	**50.97**	**19**	*e*P	**P**	**11 22 35.7**	**-0.8**
	comp=Z,180nm,0.8s,mb6.0						
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**11 22 36.5**	**-0.2**
	comp=Z,8.1nm,0.9s,mb4.7,baz=297,slow=7.1,SNR=8.9						
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**11 22 36.5**	**-0.2**
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**11 22 36.4**	**-1.0**
	comp=Z,4.6nm,0.3s,mb4.8,baz=53,slow=8.4,SNR=48						
BRVK	**Borovoye**	**51.12**	**310**	P	**P**	**11 22 37.0**	**-0.7**
	SNR=14						
BRVK	**Borovoye**	**51.12**	**310**	*e*P	**P**	**11 22 36.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
BRVK	**Borovoye**	**51.12**	**310**	*e*P	**P**	**11 22 36.7**	**-1.1**
	comp=Z,14nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**51.85**	**310**	*e*P	**P**	**11 22 41.9**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
ZRNK	**Zerenda**	**51.85**	**310**	*e*P	**P**	**11 22 41.9**	**-1.3**
	comp=Z,11nm,0.6s,mb5.0						
CHG	**Chiang Mai**	**52.21**	**257**	⇑P	**P**	**11 22 47.3**	**+1.4**
	comp=Z,150nm,0.9s,mb5.9						
CHTO	**Chiang Mai**	**52.21**	**257**	P	**P**	**11 22 47.6**	**+1.7**
	SNR=16						
CM31	**Chiang Mai Arr**	**52.46**	**257**	*e*P	**P**	**11 22 49.7**	**+2.0**
	comp=Z,10.0nm,0.6s,mb4.9						
ULHL	**Ulahol**	**53.17**	**295**	P	**P**	**11 22 53.4**	**+0.4**
	SNR=25						
TKM2	**Tokmak 2**	**53.21**	**296**	P	**P**	**11 22 53.2**	**0.0**
	SNR=7.9						
USP	**Ospenovka**	**53.70**	**297**	P	**P**	**11 22 56.8**	**+0.1**
	SNR=30						
KBK	**Karagaybulak**	**53.75**	**296**	P	**P**	**11 22 57.8**	**+0.6**
	SNR=7.5						
KZA	**Kyzart**	**53.88**	**296**	P	**P**	**11 22 59.2**	**+1.0**
	SNR=13						
AAK	**Ala-Archa**	**54.04**	**297**	P	**P**	**11 22 59.8**	**+0.5**
	SNR=20						
AAK	**Ala-Archa**	**54.04**	**297**	P	**P**	**11 22 59.1**	**-0.3**
	SNR=6.4						
AAK	**Ala-Archa**	**54.04**	**297**	⇑*i*P	**P**	**11 22 58.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**54.04**	**297**	*e*P	**P**	**11 22 58.3**	**-1.0**
	comp=Z,14nm,0.8s,mb4.9						
EKS2	**Erkin-Say**	**54.47**	**297**	P	**P**	**11 23 02.8**	**+0.4**
	SNR=11						
AML	**Almayashu**	**54.81**	**296**	P	**P**	**11 23 06.1**	**+1.2**
	SNR=13						
JIRN	**Jiri**	**55.10**	**275**	*e*P	**P**	**11 23 08.8**	**+1.8**
	comp=Z,7.0nm,0.2s,mb5.3						
GUN	**Gumba**	**55.16**	**275**	*e*P	**P**	**11 23 08.8**	**+1.4**
	comp=Z,41nm,0.5s,mb5.7						
ARU	**Arti**	**55.24**	**318**	⇑*i*P	**P**	**11 23 06.5**	**-1.5**
ARU				*e*		11 25 08.8	
ARU				*e*S	**S**	**11 30 49.1**	**-0.5**
ARU				*e*SS	SS	11 34 30.3	-3.7
ARU				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
ARU	**Arti**	**55.24**	**318**	*e*P	**P**	**11 23 06.6**	**-1.4**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**55.64**	**276**	*e*P	**P**	**11 23 12.3**	**+1.4**
	comp=Z,77nm,0.7s,mb5.8						
PKI	**Pulchoki**	**55.69**	**275**	*e*P	**P**	**11 23 12.6**	**+1.3**
	comp=Z,26nm,0.5s,mb5.5						
DMN	**Daman**	**55.88**	**276**	*e*P	**P**	**11 23 14.2**	**+1.6**
	comp=Z,70nm,0.7s,mb5.8						
GKN	**Gorkha**	**55.95**	**276**	*e*P	**P**	**11 23 14.2**	**+1.1**
	comp=Z,82nm,0.7s,mb5.9						
EDM	**Edmonton**	**56.34**	**46**	*e*P	**P**	**11 23 14.9**	**-1.0**
KOLN	**Koldanda**	**56.81**	**277**	*e*P	**P**	**11 23 20.7**	**+1.5**
	comp=Z,142nm,1.2s,mb5.9						
YBH	**Yreka Blue Hor**	**57.71**	**62**	P	**P**	**11 23 26.1**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=246,slow=1.4,SNR=4.1						
ARCES	**ARCESS Array B**	**58.07**	**341**	P	**P**	**11 23 27.5**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=31,slow=6.7,SNR=10						
BMO	**Blue Mountains**	**59.06**	**56**	*e*P	**P**	**11 23 35.9**	**+0.9**
	comp=Z,4.0nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**59.73**	**59**	*e*P	**P**	**11 23 40.2**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**59.73**	**59**	*e*P	**P**	**11 23 40.2**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.5						
SUMG	**Summit**	**60.88**	**4**	*e*P	**P**	**11 23 47.2**	**-0.3**
	comp=Z,34nm,1.0s,mb5.4						
KULM	**Kulim**	**61.12**	**245**	*e*P	**P**	**11 23 50.6**	**+1.4**
MCMT	**McKenzie Canyo**	**61.59**	**54**	*e*P	**P**	**11 23 52.1**	**-0.3**
QLMT	**Earthquake Lak**	**62.38**	**53**	*e*P	**P**	**11 23 58.3**	**+0.7**
FLWY	**Flagg Ranch**	**63.26**	**53**	*e*P	**P**	**11 24 06.1**	**+2.6**
	comp=Z,32nm,1.7s,mb5.2						
RLMT	**Red Lodge**	**63.38**	**52**	*e*P	**P**	**11 24 05.2**	**+0.9**
	comp=Z,4.3nm,0.8s,mb4.6						
MOOW	**Moose Ponds**	**63.45**	**54**	*e*P	**P**	**11 24 06.0**	**+1.2**
	comp=Z,7.5nm,1.4s,mb4.6						
LOHW	**Long Hollow**	**63.61**	**54**	*e*P	**P**	**11 24 06.3**	**+0.5**
	comp=Z,9.8nm,1.3s,mb4.7						
REDW	**Red Top Meadow**	**63.63**	**54**	*e*P	**P**	**11 24 06.6**	**+0.6**
	comp=Z,9.3nm,0.8s,mb4.9						
DGMT	**Dagmar**	**63.83**	**46**	P	**P**	**11 24 07.3**	**0.0**
	comp=Z,5.4nm,0.3s,mb5.1						
LAO	**LASA Array**	**63.97**	**49**	*e*P	**P**	**11 24 08.6**	**+0.4**
	comp=Z,8.5nm,0.9s,mb4.8						
PSI	**Prapat**	**64.13**	**244**	P	**P**	**11 24 09.2**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.6,baz=311,slow=5.3,SNR=5.1						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**11 24 09.2**	**-0.9**
	comp=Z,14nm,0.7s,mb5.1,baz=37,slow=8.8,SNR=43						
HWUT	**Hardware Ranch**	**64.36**	**56**	*e*P	**P**	**11 24 08.5**	**-2.3**
	comp=Z,6.1nm,1.3s,mb4.5						
DUG	**Dugway**	**64.56**	**58**	*e*P	**P**	**11 24 11.4**	**-0.6**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
DUG	**Dugway**	**64.56**	**58**	*e*P	**P**	**11 24 11.4**	**-0.6**
	comp=Z,5.1nm,0.9s,mb4.5						
BW06	**Boulder Array**	**64.74**	**54**	*e*P	**P**	**11 24 12.9**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**64.74**	**54**	P	**P**	**11 24 13.1**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.3,baz=282,slow=2.7,SNR=10						
NLU	**North Lily Min**	**65.14**	**58**	*e*P	**P**	**11 24 14.9**	**-0.9**
MPU	**Maple Canyon**	**65.36**	**57**	*e*P	**P**	**11 24 18.9**	**+1.7**
	comp=Z,7.1nm,1.0s,mb4.7						
OBN	**Obninsk**	**65.54**	**326**	⇓*i*P	**P**	**11 24 17.6**	**-0.8**
OBN				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
ARUT	**Antelope Range**	**65.75**	**60**	*e*P	**P**	**11 24 20.8**	**+1.1**
CCUT	**Cedar City**	**65.95**	**60**	*e*P	**P**	**11 24 21.3**	**+0.2**
MVU	**Marysvale**	**66.01**	**59**	*e*P	**P**	**11 24 16.6**	**-4.8**
	comp=Z,157nm,1.6s,mb5.8						
ULM	**Lac du Bonnet**	**66.57**	**41**	P	**P**	**11 24 23.7**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.5,baz=275,slow=7.0,SNR=6.0						
SRU	**San Rafael**	**66.60**	**57**	*e*P	**P**	**11 24 25.5**	**+0.3**
SRU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SRU	**San Rafael**	**66.60**	**57**	*e*P	**P**	**11 24 25.5**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.8						
RSSD	**Black Hills**	**66.84**	**50**	*e*P	**P**	**11 24 26.0**	**-0.7**
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
RSSD	**Black Hills**	**66.84**	**50**	*e*P	**P**	**11 24 26.0**	**-0.7**
	comp=Z,7.5nm,0.9s,mb4.7						
HYB	**Hyderabad**	**67.14**	**271**	*i*P	**P**	**11 24 29.0**	**+0.3**
**HY

LTX	Lajitas	77.46	61	*e*P		P	11 25 29.5	-0.8	
	comp=Z,870nm,1.4s								
PSZ	Piszkesteto	77.49	330	*e*P		P	11 25 30.6	+0.2	
PSZ					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
PSZ	Piszkesteto	77.49	330	*e*P		P	11 25 30.6	+0.2	
	comp=Z,9.9nm,0.9s,mb4.7								
JMDO	Jabal Madar	77.53	289	P		P	11 25 32.3	+1.6	
	SNR=8.2								
BSY	Bisya	77.86	290	P		P	11 25 34.1	+1.7	
	SNR=9.9								
GZR	Gura Zlata	78.60	327	P		P	11 25 36.7	+0.1	
BR131	Keskin Array S	78.62	317	*e*P		P	11 25 36.4	-0.3	
	comp=Z,6.8nm,0.9s,mb4.6								
BRTR	Keskin Array B	78.62	317	P		P	11 25 37.4	+0.7	
	comp=Z,6.0nm,0.9s,mb4.5,baz=71,slow=2.8,SNR=16								
GRFO	Grafenberg	78.65	336	*e*P		P	11 25 37.1	+0.3	
GRFO					pmax	pmax			
	comp=Z,16nm,0.8s,mb5.0								
GRFO	Grafenberg	78.65	336	*e*P		P	11 25 37.1	+0.2	
	comp=Z,16nm,0.8s,mb5.0								
GERES	GERESS Array B	78.68	334	P		P	11 25 36.9	-0.1	
	comp=Z,4.1nm,0.7s,mb4.5,baz=35,slow=4.9,SNR=26								
BZS	Buzias	78.85	328	P		P	11 25 37.4	-0.5	
ANTO	Ankara	78.90	317	*e*P		P	11 25 39.1	+0.9	
ANTO					pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9								
ANTO	Ankara	78.90	317	*e*P		P	11 25 39.1	+0.9	
	comp=Z,13nm,0.8s,mb4.8								
MEM	Membach	79.17	339	P		P	11 25 39.4	-0.3	
	comp=Z,11nm,0.9s,mb4.8								
BCLA	Clavier	79.52	340	P		P	11 25 41.4	-0.2	
	comp=Z,7.4nm,1.0s,mb4.6								
GIVF	Givet	79.92	340	*e*P		P	11 25 43.4	-0.4	
DOU	Dourbes	79.98	340	P		P	11 25 42.6	-1.5	
WLF	Walferdange	80.01	339	E		P	11 25 47.6	+3.4	
BAIF	Baives	80.11	340	*e*P		P	11 25 44.5	-0.3	
KBA	Koelnbreinsper	80.37	334	*i* P		P	11 25 47.2	+1.0	
	comp=Z,26nm,1.1s,mb5.1,SNR=12								
BFO	Black Forest	80.68	337	*e*P		P	11 25 47.4	-0.5	
BFO					pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9								
BFO	Black Forest	80.68	337	*e*P		P	11 25 47.4	-0.5	
	comp=Z,16nm,1.0s,mb4.9								
WTTA	Wattenberg	80.72	335	⇓*i*P		P	11 25 49.0	+0.9	
	comp=Z,19nm,0.7s,mb5.2								
VTS	Vitosha	80.80	325	P		P	11 25 48.9	+0.4	
CDF	Champ du Feu	80.88	338	⇑*i*P		P	11 25 48.8	-0.1	
	comp=Z,47nm,1.3s,mb5.0								
CDF	Champ du Feu	80.88	338	⇑*i*P		P	11 25 48.8	-0.1	
CDF					pmax	pmax			
	comp=Z,23nm,1.3s,mb5.0								
CDF	Champ du Feu	80.88	338	⇑*i*P		P	11 25 48.8	-0.1	
	comp=Z,24nm,1.3s,mb5.0								
MEZF	Maizieres J'vi	81.36	339	*e*P		P	11 25 51.5	0.0	
	comp=Z,49nm,1.0s,mb5.1								
MEZF	Maizieres J'vi	81.36	339	*e*P		P	11 25 51.5	0.0	
	comp=Z,49nm,1.0s,mb5.4								
HAU	Haudompre	81.50	338	*e*P		P	11 25 51.8	-0.4	
	comp=Z,38nm,1.2s,mb4.9								
HAU	Haudompre	81.50	338	*e*P		P	11 25 51.8	-0.4	
HAU					pmax	pmax			
	comp=Z,19nm,1.2s,mb4.9								
HAU	Haudompre	81.50	338	*e*P		P	11 25 51.8	-0.4	
	comp=Z,19nm,1.2s,mb4.9								
HINF	Hinteralfeld	81.54	338	*e*P		P	11 25 51.8	-0.6	
FLN	La Foliniere	82.35	343	*e*P		P	11 25 56.2	-0.5	
	comp=Z,20nm,0.9s,mb4.7								
FLN	La Foliniere	82.35	343	*e*P		P	11 25 56.2	-0.5	
FLN					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
FLN	La Foliniere	82.35	343	*e*P		P	11 25 56.2	-0.5	
	comp=Z,9.9nm,0.9s,mb4.7								
LDF	La Druitiere	82.44	343	*e*P		P	11 25 56.5	-0.7	
GRR	Gorron	82.78	343	*e*P		P	11 25 58.7	-0.3	
	comp=Z,113nm,1.2s,mb5.5								
GRR	Gorron	82.78	343	*e*P		P	11 25 58.7	-0.3	
GRR					pmax	pmax			
	comp=Z,56nm,1.2s,mb5.5								
GRR	Gorron	82.78	343	*e*P		P	11 25 58.7	-0.3	
	comp=Z,56nm,1.2s,mb5.5								
LOR	Lormes	82.80	340	⇑*i*P		P	11 25 58.7	-0.3	
	comp=Z,43nm,1.1s,mb5.1								
LOR	Lormes	82.80	340	⇑*i*P		P	11 25 58.7	-0.3	
LOR					pmax	pmax			
	comp=Z,21nm,1.1s,mb5.1								
LOR	Lormes	82.80	340	⇑*i*P		P	11 25 58.7	-0.3	
	comp=Z,21nm,1.1s,mb5.1								
CABF	La Chapelle	82.86	338	*e*P		P	11 25 59.4	+0.1	
	comp=Z,11nm,0.9s,mb4.6								
CABF	La Chapelle	82.86	338	*e*P		P	11 25 59.4	+0.1	
CABF					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
CABF	La Chapelle	82.86	338	*e*P		P	11 25 59.4	+0.1	
	comp=Z,5.7nm,0.9s,mb4.6								
SSF	Saint Saulge	83.08	340	⇑*i*P		P	11 26 00.2	-0.3	
	comp=Z,21nm,1.0s,mb4.8								
SSF	Saint Saulge	83.08	340	⇑*i*P		P	11 26 00.2	-0.3	
SSF					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.8								
SSF	Saint Saulge	83.08	340	⇑*i*P		P	11 26 00.2	-0.3	
	comp=Z,10nm,1.0s,mb4.8								
HYF	Humbligny	83.09	340	*e*P		P	11 26 00.8	+0.3	
SGMF	Saint Gilles	83.25	344	*e*P		P	11 26 01.1	-0.2	
	comp=Z,64nm,1.0s,mb5.3								
SGMF	Saint Gilles	83.25	344	*e*P		P	11 26 01.1	-0.2	
SGMF					pmax	pmax			
	comp=Z,32nm,1.0s,mb5.3								
SGMF	Saint Gilles	83.25	344	*e*P		P	11 26 01.1	-0.2	
	comp=Z,32nm,1.0s,mb5.3								
ROSF	Rostrenen	83.30	345	*e*P		P	11 26 01.4	-0.2	
	comp=Z,36nm,0.9s,mb5.1								
ROSF	Rostrenen	83.30	345	*e*P		P	11 26 01.4	-0.2	
ROSF					pmax	pmax			
	comp=Z,18nm,0.9s,mb5.1								
ROSF	Rostrenen	83.30	345	*e*P		P	11 26 01.4	-0.2	
	comp=Z,18nm,0.9s,mb5.1								
AVF	Avril sur Loir	83.37	340	⇑*i*P		P	11 26 01.9	-0.1	
	comp=Z,34nm,0.9s,mb5.1								
AVF	Avril sur Loir	83.37	340	⇑*i*P		P	11 26 01.9	-0.1	
AVF					pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1								
AVF	Avril sur Loir	83.37	340	⇑*i*P		P	11 26 01.9	-0.1	
	comp=Z,17nm,0.9s,mb5.1								
SDMD	Soldier's Deli	83.38	37	*e*P		P	11 26 05.8	+3.8	
SMF	Signal de Mont	83.39	339	⇑*i*P		P	11 26 02.1	0.0	
	comp=Z,63nm,1.0s,mb5.3								
SMF	Signal de Mont	83.39	339	⇑*i*P		P	11 26 02.1	0.0	
SMF					pmax	pmax			
	comp=Z,31nm,1.0s,mb5.3								
SMF	Signal de Mont	83.39	339	⇑*i*P		P	11 26 02.1	0.0	
	comp=Z,31nm,1.0s,mb5.3								
QUIF	Quistinic	83.69	344	*e*P		P	11 26 03.1	-0.5	
LPL	La Plagne	83.70	337	⇑*i*P		P	11 26 04.4	+0.7	
	comp=Z,18nm,0.9s,mb4.9								
LPL	La Plagne	83.70	337	⇑*i*P		P	11 26 04.4	+0.7	
LPL					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.9								
LPL	La Plagne	83.70	337	⇑*i*P		P	11 26 04.4	+0.7	
	comp=Z,8.8nm,0.9s,mb4.9								
BGF	Bois d'Agland	83.71	340	*e*P		P	11 26 03.7	0.0	
	comp=Z,8.7nm,0.6s,mb4.8								
BGF	Bois d'Agland	83.71	340	*e*P		P	11 26 03.7	0.0	
BGF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.7								
BGF	Bois d'Agland	83.71	340	*e*P		P	11 26 03.7	0.0	
	comp=Z,4.3nm,0.6s,mb4.8								
LPG	La Plagne	83.71	337	⇑*i*P		P	11 26 04.6	+0.9	
	comp=Z,22nm,0.9s,mb5.0								
LPG	La Plagne	83.71	337	⇑*i*P		P	11 26 04.6	+0.9	
LPG					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.0								
LPG	La Plagne	83.71	337	⇑*i*P		P	11 26 04.6	+0.9	
	comp=Z,11nm,0.9s,mb5.0								
TCF	Toulx Ste Croi	84.11	340	*e*P		P	11 26 05.8	0.0	
MFF	Saint Martin d	84.34	342	*e*P		P	11 26 06.5	-0.4	
	comp=Z,27nm,1.0s,mb5.0								
MFF	Saint Martin d	84.34	342	*e*P		P	11 26 06.5	-0.4	
MFF					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0								
MFF	Saint Martin d	84.34	342	*e*P		P	11 26 06.5	-0.4	
	comp=Z,13nm,1.0s,mb5.0								
MBDF	Montbardon	84.42	337	*e*P		P	11 26 07.4	+0.1	
ORIF	Oris-en-Rattie	84.48	337	*e*P		P	11 26 08.3	+0.7	
	comp=Z,29nm,0.9s,mb5.1								
ORIF	Oris-en-Rattie	84.48	337	*e*P		P	11 26 08.3	+0.7	
ORIF					pmax	pmax			
	comp=Z,15nm,0.9s,mb5.1								
ORIF	Oris-en-Rattie	84.48	337	*e*P		P	11 26 08.3	+0.7	
	comp=Z,15nm,0.9s,mb5.1								
VIVF	Saint-Julien-l	84.85	338	*e*P		P	11 26 09.9	+0.4	
	comp=Z,28nm,1.0s,mb5.0								
VIVF	Saint-Julien-l	84.85	338	*e*P		P	11 26 09.9	+0.4	
VIVF					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0								
VIVF	Saint-Julien-l	84.85	338	*e*P		P	11 26 09.9	+0.4	
	comp=Z,14nm,1.0s,mb5.0								
SBF	Sospel	85.03	336	*e*P		P	11 26 10.0	-0.4	
RJF	Les Rejaudoux	85.20	340	*e*P		P	11 26 10.7	-0.6	
CAF	Calviac	85.43	340	*e*P		P	11 26 12.2	-0.2	
SMRF	Simiane la Rot	85.44	337	*e*P		P	11 26 13.3	+0.9	
FRF	La Foret Royal	85.53	336	*e*P		P	11 26 12.6	-0.3	
	comp=Z,39nm,1.2s,mb5.2								
FRF	La Foret Royal	85.53	336	*e*P		P	11 26 12.6	-0.3	
FRF					pmax	pmax			
	comp=Z,19nm,1.2s,mb5.2								
FRF	La Foret Royal	85.53	336	*e*P		P	11 26 12.6	-0.3	
	comp=Z,19nm,1.2s,mb5.2								
LFF	La Frestale	85.72	341	*e*P		P	11 26 13.4	-0.5	
LMR	La Mourre	85.78	336	*e*P		P	11 26 14.2	+0.1	
	comp=Z,64nm,1.2s,mb5.4								
LMR	La Mourre	85.78	336	*e*P		P	11 26 14.2	+0.1	
LMR					pmax	pmax			
	comp=Z,32nm,1.2s,mb5.4								
LMR	La Mourre	85.78	336	*e*P		P	11 26 14.2	+0.1	
	comp=Z,32nm,1.2s,mb5.4								
PGF	Pioggiola	85.78	334	*e*P		P	11 26 14.0	-0.2	
	comp=Z,7.7nm,0.8s,mb4.7								
PGF	Pioggiola	85.78	334	*e*P		P	11 26 14.0	-0.2	
PGF					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7								
PGF	Pioggiola	85.78	334	*e*P		P	11 26 14.0	-0.2	
	comp=Z,3.8nm,0.8s,mb4.7								
EIL	Elat	85.92	310	*e*P		P	11 26 15.3	+0.4	
	comp=Z,162nm,0.7s								
TIP	Timpagrande	86.21	328	*e*P		P	11 26 15.5	-0.8	
MTLF	Motolieu	86.89	339	*e*P		P	11 26 19.1	-0.5	
EPF	Esparros	87.62	341	*e*P		P	11 26 22.0	-1.2	
SJPF	Ste Jean	87.90	342	*e*P		P	11 26 23.5	-1.0	
ETSF	Etsaut	87.95	341	*e*P		P	11 26 23.9	-0.8	
KEST	Kesra	91.90	331	P		P	11 26 43.8	+0.6	
	comp=Z,1.7nm,0.9s,mb4.4,baz=327,slow=9.3,SNR=4.0								
PGRA	Graciosa	94.78	1	*e*P		P	11 26 57.5	+1.1	
LVC	Limon Verde	138.49	70	PKPdf		PKPdf	11 32 57.9	-2.5	
CFAA	Coronel Fontan	144.89	80	PKP		PKPdf	11 33 09.9	-1.9	
	comp=Z,0.4nm,0.4s,baz=188,slow=20,SNR=18								
SNAA	Sanae	152.41	196	PKPbc		PKPbc	11 33 28.3	-2.5	
	comp=Z,0.8nm,0.8s,baz=303,slow=5.4,SNR=4.9								
SNAA	Sanae	152.41	196	PKIKP		PKPbc	11 33 28.3	-2.6	
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.9s								

JMA ***15*** *11:14:09.6±3.0, 46.70N×154.05E, h30km, M7.9*
JMA Felt II J1.
BJI ***15*** *11:14:11.9, 46.69N×153.27E, h9km, mB7.2, mb6.3, Ms8.0, Msz7.9*
IDC ***15*** *11:14:11.4±0.3, 46.62N×153.42E, h0km, mb5.6/38, mb1 5.6/40, mb1mx5.6/40, mbtmp5.6/40, ML4.8/2, MS7.8/28, Ms1 7.8/28, ms1mx7.5/49, Error ellipse: s-maj=10.9km s-min=7.0km az=122.0*
ISCJB ***15*** *11:14:12.3±0.1, 46.55N±0.002×153.26E±0.01, h10km, mb6.4/369, MS7.8/218, Error ellipse: s-maj=2.7km s-min=1.2km az=147.0*
BGS ***15*** *11:14:12.7, 46.46N×153.43E, h10km, mb6.0, MS7.7*
SZGRF ***15*** *11:14:13.6, 46.50N×155.00E, h33km, mb7.4, MS8.2, East of Kuril Islands, Russia*
NEIC ***15*** *11:14:13.6±0.1, 46.59N×153.27E, h10km, mb6.5/252, ME7.8, MS7.8/153, MW7.9, MW7.7(MOS), Error ellipse: s-maj=3.8km s-min=2.7km az=174.0, Moment Tensor Solution. s92 Moment tensor: Scale 10^{20}Nm; M_T3.58; $M_{\theta\theta}$-4.14; $M_{\phi\phi}$0.56; $M_{r\theta}$6.36; $M_{\theta\phi}$-1.87; $M_{\phi r}$4.16; Best double couple: M_o8.70000×10^{20} NP1:ϕ_s58.00000°, δ76.00000°, λ.81.00000°. NP2:ϕ_s270.00000°, δ16.00000°, λ121.00000°. Principal axes: T 8.2300, Plg58.0000°, Azm316.0000°; N 0.9400, Plg8.0000°, Azm60.0000°; P -9.1700, Plg31.0000°, Azm155.0000°; Complex earthquake, with at least one larger event occurring about 14 seconds after the onset observed on broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt IV MMS.
MOS ***15*** *11:14:14.5±1.0, 46.57N×153.29E, h26km, mb6.7/113, MS8.0/61 Error ellipse: s-maj=5.9km s-min=3.4km az=101.3 Broadband fault plane solution: P waves. M_o5.20000×10^{20} NP1:ϕ_s38.00000°, δ84.00000°, λ.81.00000°. NP2:ϕ_s274.00000°, δ11.00000°, λ146.00000°. Principal axes: T Plg50.0000°, Azm297.0000°; N Plg9.0000°, Azm39.0000°; P Plg38.0000°, Azm136.0000°;*
MOS Fault plane solution : P-wave C48, D15 . Felt (III-IV) at Kuril'sk; (III) at Severo-Kuril'sk; (II-III) at Yuzhno-Kuril'sk.
SKHL ***15*** *11:14:15.7, 46.64N×153.31E, h41km±8km, mb7.5/5, mbh7.1/5, Ms8.0/1, msh8.1/1*
SKHL Felt (III-IV) at Kurilsk, (III) at Severo-Kurilsk, (II) at Yushno-Kurilsk.
GCMT ***15*** *11:14:17.8±0.1, 46.71N×154.33E, h14km, MW8.3/108, Moment Tensor Solution. s108,c283; Duration: 34±4 Moment tensor: Scale 10^{21}Nm; M_T1.74±.01; $M_{\theta\theta}$-0.56±.01; $M_{\phi\phi}$-1.18±.01; $M_{r\theta}$1.64±.10; $M_{\theta\phi}$-0.77±.00; $M_{\phi r}$2.58±.14; Best double couple: M_o3.50800×10^{21} NP1:ϕ_s215.00000°, δ15.00000°, λ92.00000°. NP2: ϕ_s33.00000°, δ75.00000°, λ89.00000°. Principal axes: T 3.5280, Plg60.0000°, Azm302.0000°; N -0.0360, Plg1.0000°, Azm33.0000°; P -3.4870, Plg30.0000°, Azm123.0000°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=200s.*
NIED ***15*** *11:15:00, 46.60N×153.60E, h8km, Mw7.8 Best double couple: M_o6.21000×10^{20} NP1:ϕ_s28.00000°, δ56.00000°, λ87.00000°. NP2:ϕ_s214.00000°, δ35.00000°, λ95.00000°.*

ISC 15 11:14:14.5±0.3, 46.68N±0.002×153.21E±0.02, h12km±2km, h29km±1.7km: pP-P, n1803, σ1.907/1957, mb6.4/369, MS7.8/218, 515C-220D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.00	251	⇓*i*P			Pn	11 15 15.0	-0.6
KUR				⇓*i*P				11 15 15.0	
KUR					AMB	AMB		11 15 24.0	
	66μm,3.0s								
KUR					AMB	AMB		11 15 24.0	
	173μm,3.0s								
KUR					AMB	AMB		11 15 24.0	
	143μm,3.0s								
KUR					A			11 16 05.3	
	4250μm,6.0s								
KUR					A			11 16 05.3	
	2150μm,6.0s								
SKR	Severo-Kuril's	4.44	25	⇑*i*P			Pn	11 15 21.0	-0.7
SKR				⇑*i*P				11 15 21.0	
SKR					AMB	AMB		11 15 25.0	
	690nm,0.5s								
SKR					AMB	AMB		11 15 25.0	
	320nm,0.5s								
SKR					AMB	AMB		11 15 25.0	
	2μm,0.5s								
SKR					AMB	AMB		11 15 28.0	
	99μm,10.0s								
SKR					AMB	AMB		11 15 28.0	
	78μm,10.0s								
SKR					AMB	AMB		11 15 28.0	
	71μm,12.0s								
SKR					AMB	AMB		11 15 28.0	
	100μm,10.0s								
SKR					AMB	AMB		11 15 28.0	
	76μm,10.0s								
SKR					AMB	AMB		11 15 28.0	
	61μm,12.0s								
SKR					A			11 16 46.5	
	284μm,1.5s								
SKR					A			11 16 46.5	
	2347μm,1.5s								
SKR					A			11 16 46.5	
	151μm,1.5s								

YUK	Yuzh-Kuril'sk	5.81	246	⇑*i*P			Pn	11 15 41.0	+0.5
YUK	Yuzh-Kuril'sk	5.81	246	⇑*i*PN			Pn	11 15 41.0	+0.5
YUK					pmax	pmax			
	comp=N,65μm,9.0s								
YUK					pmax	pmax			
	comp=E,130μm,9.0s								
YUK					pmax	pmax			
	comp=Z,130μm,9.0s								
NEM2	Nemuro 2	6.24	241	P			Pn	11 15 45.7	-0.7
NEM2				*e*S			Sn	11 16 59.8	+2.1
JRA	Rausu	6.33	247	P			Pn	11 15 49.5	+1.9
JNK	Nakash	6.76	246	P			Pn	11 15 54.7	+1.2
JAK	Akkeshi	7.08	242	P			Pn	11 15 57.5	-0.5
JTKR	Abashiri--Toko	7.09	251	P			Pn	11 16 01.3	+3.2
YSS	Yuzh-Sakhalins	7.18	276	⇑*i*P			Pn	11 16 05.0	+5.7
YSS					AMB	AMB		11 16 06.0	
	comp=Z,440nm,1.1s								
YSS					AMB	AMB		11 16 06.0	
	comp=Z,420nm,1.1s								
YSS					AMB	AMB		11 16 07.0	
	comp=Z,1μm,1.2s								
YSS					AMB	AMB		11 16 07.0	
	comp=Z,220nm,1.0s								
YSS					AMB	AMB		11 16 07.0	
	comp=Z,960nm,1.0s								
YSS					AMB	AMB		11 16 16.0	
	comp=Z,143μm,17.0s								
YSS					AMB	AMB		11 16 16.0	
	comp=Z,165μm,12.0s								
YSS					AMB	AMB		11 16 16.0	
	comp=Z,20μm,12.0s								
YSS					AMB	AMB		11 16 16.0	
	comp=Z,214μm,17.0s								
YSS					*e*S		Sn	11 17 22.0	+1.2
YSS					A			11 17 23.0	
	comp=Z,6μm,1.6s								
YSS					*e*LQ			11 18 01.0	
YSS					AMS	AMS		11 20 21.0	
	comp=Z,2881μm,16.0s								
YSS					AMS	AMS		11 20 21.0	
	comp=Z,6516μm,16.0s								
YSS					AMS	AMS		11 20 21.0	
	comp=Z,7696μm,16.0s								
YSS	Yuzh-Sakhalins	7.18	276	α*i*PN			Pn	11 16 05.0	+5.7
YSS					pmax	pmax			
	comp=Z,1μm,1.2s								
YSS					pmax	pmax			
	comp=N,220nm,1.0s								
YSS					pmax	pmax			
	comp=E,960nm,1.0s								
YSS					pmax	pmax			
	comp=E,214μm,17.0s								
YSS					pmax	pmax			
	comp=Z,143μm,17.0s								
YSS					pmax	pmax			
	comp=N,20μm,12.0s								
YSS					MLR	MLR			
	comp=E,6516μm,16.0s								
YSS					MLR	MLR			
	comp=Z,7696μm,16.0s								
YSS					MLR	MLR			
	comp=N,2881μm,14.0s								
YSS	Yuzh-Sakhalins	7.18	276	*e*Pn			Pn	11 16 04.8	+5.5
PET	Petropavlovsk	7.26	27	*e*PN			Pn	11 16 01.8	+1.5
PET					pmax	pmax			
	comp=Z,2μm,1.0s								
PET					MLR	MLR			
	comp=Z,8790μm,19.0s								
PET					MLR	MLR			
	comp=Z,7162μm,19.0s								
PET	Petropavlovsk	7.26	27	*e*Pn			Pn	11 16 00.2	-0.1
PET				*e*Sn			Sb	11 17 41.5	-5.4
JMP	Maruseppu	7.44	252	P			Pn	11 16 06.1	+3.3
JAR	Ashorobuto	7.50	247	P			Pn	11 16 05.5	+1.8
JSE	Soyaes	7.62	261	P			Pn	11 16 10.4	+5.0
JOB	Onbets	7.66	244	P			Pn	11 16 06.5	+0.6
UGL	Uglegorsk	7.87	292	*i* P			Pn	11 16 15.9	+7.2
UGL					AMB	AMB		11 16 19.5	
	comp=Z,4μm,1.3s								
UGL					AMB	AMB		11 16 19.5	
	comp=Z,4μm,1.3s								
UGL					AMB	AMB		11 16 19.5	
	comp=Z,13μm,1.3s								
UGL					AMB	AMB		11 16 20.0	
	comp=Z,20μm,1.3s								
JKK2	Kamakawa 2	7.89	253	P			Pn	11 16 12.0	+2.9
ASAJ	Asahikawa	7.90	255	Pn			Pn	11 16 13.0	+3.9
	comp=Z,71nm,0.3s,baz=74,slow=14,SNR=32								
ASAJ	Asahikawa	7.90	255	P			Pn	11 16 13.5	+4.3
ASAJ	Asahikawa	7.90	255	PN			Pn	11 16 13.0	+3.9
ASAJ					pmax	pmax			
	comp=Z,71nm,0.3s								
JWK2	Keihoku	8.00	264	⇑P			Pn	11 16 17.3	+6.8
JCH	Churui	8.11	243	P			Pn	11 16 12.6	+0.5
JSS	Shosan	8.29	258	P			Pn	11 16 20.3	+5.7
JFR	Furan	8.31	249	P			Pn	11 16 18.2	+3.4
JAB	Ashibetsu	8.40	252	P			Pn	11 16 19.2	+3.2
JEM	Erimo	8.58	241	⇓P			Pn	11 16 19.0	+0.5
ERM	Erimo	8.58	241	Pn			Pn	11 16 19.5	+1.0
	comp=Z,12μm,0.9s,SNR=15								
ERM	Erimo	8.58	241	*e*P			Pn	11 16 19.2	+0.7
JHR	Hokuryu	8.62	254	P			Pn	11 16 23.3	+4.2
JBT2	Biratori 2	8.65	247	P			Pn	11 16 21.3	+1.8
JNBK	Urakawa-nobuka	8.67	243	P			Pn	11 16 19.7	-0.1
JEW	Eniwo	9.21	250	P			Pn	11 16 28.8	+1.7
OKH	Okha	9.53	320	*i* P			Pn	11 16 33.1	+1.6
OKH				⇑*i*P				11 16 34.2	
OKH					AMB	AMB		11 16 36.3	
	comp=Z,6μm,1.5s								
OKH					AMB	AMB		11 16 53.0	
	comp=Z,134μm,8.0s								
OKH					AMB	AMB		11 16 53.0	
	comp=Z,334μm,8.0s								
OKH					AMB	AMB		11 16 53.0	
	comp=Z,479μm,14.0s								
OKH			

SEY	**Seymchan**	**16.30**	**359**	⇑*i*P	**Pn**	**11 18 02.5**	**-0.6**
MDJ	**Mudanjiang**	**16.63**	**271**	P	**Pn**	**11 18 08.3**	**+0.9**
MDJ				AP	pP	11 18 16.3	+3.0
MDJ				XP	sP	11 18 19.0	+4.1
MDJ				SCP	ScP	11 26 30.5	-1.1
MDJ				AMB	AMB		
	comp=Z,330nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,51µm,10.9s						
MDJ				LR	LR		
	comp=N,3822µm,24.3s						
MDJ				LR	LR		
	comp=E,1531µm,29.0s						
MDJ				LR	LR		
	comp=Z,4289µm,17.5s						
MDJ	**Mudanjiang**	**16.63**	**271**	*e*P	**Pn**	**11 18 08.6**	**+1.2**
	comp=Z,2µm,0.9s						
JHJ	**Hachijo jima 2**	**16.98**	**222**	P	**Pn**	**11 18 11.4**	**-0.5**
	comp=Z,21nm,0.3s,baz=134,slow=11,SNR=8.4						
JHJ				S	**Sn**	**11 21 21.5**	**+1.0**
	comp=Z,73nm,0.3s,baz=261,slow=22,SNR=2.8						
AMKA	**Amchitka**	**17.70**	**65**	*e*P	**Pn**	**11 18 20.8**	**-0.1**
ZEA	**Zeya**	**17.99**	**303**	⇑*i*P	**Pn**	**11 18 22.7**	**-1.6**
ZEA				⇑*i*P		11 18 22.7	
ZEA				AMB	AMB	11 18 30.3	
	comp=Z,1µm,1.6s						
ZEA				AMB	AMB	11 18 30.3	
	comp=Z,150nm,1.0s						
ZEA				AMB	AMB	11 18 33.0	
	comp=Z,31µm,12.0s						
ZEA				AMB	AMB	11 18 33.0	
	comp=Z,120µm,12.0s						
ZEA				AMB	AMB	11 18 33.0	
	comp=Z,130µm,11.0s						
CN2	**Changchun**	**19.72**	**272**	⇑P	**Pn**	**11 18 41.8**	**-3.5**
CN2				*e*XP	sP	11 18 53.8	+4.9
CN2				*e*S	**Sn**	**11 22 26.1**	**-0.6**
CLNS	**Chul'man**	**20.12**	**311**	*e*P	**P**	**11 18 53.6**	**+5.4**
CLNS				*e*		11 19 08.3	
CLNS				*e*S	**S**	**11 22 40.5**	**+6.6**
CLNS				*e*		11 23 03.6	
CLNS				*e*SS		11 23 09.3	
CLNS				pmax	pmax		
	comp=N,430nm,1.1s						
CLNS				pmax	pmax		
	comp=E,305nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,645nm,1.1s						
NRGR	**Nerungri**	**20.15**	**310**	*e*P	**P**	**11 18 52.0**	**+3.5**
NRGR				S	**S**	**11 22 37.4**	**+2.9**
NRGR				smax			
	comp=E,242nm,0.4s						
YAK	**Yakutsk**	**20.42**	**327**	*c i*P	**P**	**11 18 50.5**	**-0.9**
YAK				*e*		11 19 15.1	
YAK				*e*PPP		11 19 22.2	
YAK				*e*S	**S**	**11 22 39.3**	**-0.5**
YAK				*e*SS		11 23 03.3	
YAK				*e*SSS		11 23 18.1	
YAK				pmax	pmax		
	comp=Z,445nm,0.8s						
YAK				pmax	pmax		
	comp=N,476nm,1.4s						
YAK				pmax	pmax		
	comp=E,625nm,1.5s						
YAK				pmax	pmax		
	comp=Z,539µm,18.2s						
YAK				pmax	pmax		
	comp=N,333µm,17.2s						
YAK				pmax	pmax		
	comp=E,698µm,23.5s						
YAK				smax			
	comp=N,53µm,7.7s						
YAK				smax			
	comp=Z,48µm,6.8s						
YAK				smax			
	comp=E,99µm,10.2s						
YAK				MLR	MLR		
	comp=Z,3933µm,16.0s,MS7.9						
YAK				MLR	MLR		
	comp=N,3124µm,14.0s						
YAK				MLR	MLR		
	comp=E,3749µm,21.0s						
YAK	**Yakutsk**	**20.42**	**327**	⇑*e*P	**P**	**11 18 50.2**	**-1.2**
	comp=E,3µm,0.8s						
YAK				LR	LR		
	comp=Z,1826µm,20.0s,MS7.4						
KSRS	**Korea Array**	**20.84**	**253**	P	**P**	**11 18 57.1**	**+1.1**
	comp=Z,258nm,0.8s,baz=59,slow=10,SNR=64						
KSRS				S	**S**	**11 23 02.9**	**+15**
	comp=Z,69nm,1.0s,baz=77,slow=15,SNR=1.8						
KS15	**Wonju Array Si**	**20.87**	**253**	*e*P	**P**	**11 18 57.5**	**+1.1**
CBIJ	**Chichi jima**	**21.41**	**208**	P	**P**	**11 19 00.9**	**-1.2**
	comp=Z,281nm,1.0s,mb5.5,baz=45,slow=8.3,SNR=6.6						
CBIJ				S	**S**	**11 23 02.3**	**+2.9**
	comp=Z,488nm,1.0s,baz=112,slow=22,SNR=3.5						
CBIJ				LR	LR	11 28 29.2	
	comp=Z,612µm,18.1s,MS7.0,baz=7.8,slow=40						
INCN	**Inchon**	**21.68**	**254**	P	**P**	**11 19 06.5**	**+1.5**
	SNR=30						
INCN	**Inchon**	**21.68**	**254**	⇑*e*P	**P**	**11 19 06.3**	**+1.2**
	comp=Z,4µm,0.9s,mb6.8						
INCN				LR	LR		
	comp=Z,1606µm,20.0s,MS7.4						
SNY	**Shenyang**	**21.70**	**268**	⇑P	**P**	**11 19 05.4**	**+0.1**
SNY				AP		11 19 12.4	
SNY				XP	sP	11 19 15.8	+5.4
SNY				PP		11 19 32.5	
SNY				S	**S**	**11 23 10.8**	**+5.6**
SNY				AMB	AMB		
	comp=Z,423nm,1.1s,mb5.8						
SNY				LR	LR		
	comp=N,1891µm,11.4s,MS7.9						
SNY				LR	LR		
	comp=E,2392µm,12.6s,MS7.9						
SNY				LR	LR		
	comp=Z,3302µm,13.2s,MS7.9						
JNU	**Nakatsue**	**21.74**	**239**	P	**P**	**11 19 06.5**	**+0.8**
	comp=Z,264nm,0.9s,mb5.7,baz=261,slow=22,SNR=18						
JNU				LR	LR	11 28 50.5	
	comp=Z,6731µm,19.0s,MS8.1,baz=262,slow=40						
BILL	**Bilibino**	**22.44**	**13**	*c i*P	**P**	**11 19 09.8**	**-3.4**
BILL				MLR	MLR		
	comp=Z,3733µm,20.0s,MS7.8						
BILL	**Bilibino**	**22.44**	**13**	⇑*e*P	**P**	**11 19 12.2**	**-1.0**
	comp=Z,2µm,1.2s,mb6.3						
BILL				LR	LR		
	comp=Z,3487µm,19.0s,MS7.8						
HIA	**Hailar**	**22.45**	**289**	⇑*e*P	**P**	**11 19 10.9**	**-2.4**
HIA				pmax	pmax		
	comp=Z,925nm,1.0s						
HIA				MLR	MLR		
	comp=Z,6497µm,21.0s						
HIA	**Hailar**	**22.45**	**289**	⇑*e*P	**P**	**11 19 10.9**	**-2.4**
	comp=Z,925nm,1.0s,mb6.2						
HIA				LR	LR		
	comp=Z,6497µm,21.0s,MS8.0						
DL2	**Dalian**	**24.32**	**263**	⇑*i*P	**P**	**11 19 32.8**	**+0.9**
DL2				S	**S**	**11 23 52.3**	**+1.5**
DL2				AMB	AMB		
	comp=Z,2µm,1.5s,mb6.3						
DL2				AMB	AMB		
	comp=Z,171µm,9.2s						
DL2				LR	LR		
	comp=N,466µm,14.4s,MS7.3						
DL2				LR	LR		
	comp=E,623µm,16.7s,MS7.3						
DL2				LR	LR		
	comp=Z,797µm,16.8s,MS7.3						
BOD	**Bodaibo**	**26.08**	**310**	⇑*i*P	**P**	**11 19 47.1**	**-0.9**
BOD				*e*		11 20 01.6	
BOD				*e*		11 20 25.1	
BOD				pmax	pmax		
	comp=Z,299nm,1.9s,mb5.5						
BOD				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.3						
CIT	**Chita**	**26.14**	**296**	*e*P	**P**	**11 19 47.5**	**-0.9**
CIT				*e*		11 20 28.8	
CIT				*e*		11 25 29.3	
UNV	**Unalaska Valle**	**26.44**	**59**	*e*P	**P**	**11 19 51.3**	**+0.1**
	comp=Z,4µm,1.7s,mb6.7						
UNV				LR	LR		
	comp=Z,8118µm,19.0s,MS8.3						
BJI	**Beijing**	**27.54**	**270**	P	**P**	**11 20 02.0**	**+0.9**
BJI				AMB	AMB		
	comp=Z,459nm,1.0s,mb6.1						
BJI				AMB	AMB		
	comp=Z,77µm,6.6s						
BJI				LR	LR		
	comp=N,1869µm,14.1s,MS7.9						
BJI				LR	LR		
	comp=E,1409µm,15.1s,MS7.9						
BJI				LR	LR		
	comp=Z,2186µm,22.3s						
BJI	**Beijing**	**27.54**	**270**	P	**P**	**11 20 02.0**	**+0.9**
	comp=Z,459nm,1.0s,mb6.1						
BJI				S	**S**	**11 24 56.4**	**+14**
BJI				SS		11 27 22.0	
BJI				LR	LR		
	comp=Z,2186µm,22.3s,MS7.7						
BJT	**Baijiatuan**	**27.56**	**270**	⇑*e*P	**P**	**11 20 01.5**	**+0.3**
BJT				pmax	pmax		
	comp=Z,527nm,1.1s						
BJT				MLR	MLR		
	comp=Z,2251µm,20.0s						
BJT	**Baijiatuan**	**27.56**	**270**	⇑*e*P	**P**	**11 20 01.5**	**+0.3**
	comp=Z,527nm,1.1s,mb6.1						
BJT				LR	LR		
	comp=Z,2251µm,20.0s,MS7.7						
JOW	**Kunigami**	**27.94**	**234**	P	**P**	**11 20 03.8**	**-0.8**
	comp=Z,211nm,0.9s,mb5.8,baz=59,slow=7.9,SNR=25						
TNA	**Tin City**	**28.05**	**34**	*e*P	**P**	**11 20 07.9**	**+2.3**
TNA				LR	LR		
	comp=Z,1211µm,19.0s,MS7.5						
TIA	**Tai'an**	**28.77**	**262**	⇑P	**P**	**11 20 13.0**	**+0.9**
TIA				AP	pP	11 20 21.0	+5.2
TIA				XP	sP	11 20 24.0	+6.7
TIA				LR	LR		
	comp=N,833µm,17.0s,MS7.8						
TIA				LR	LR		
	comp=E,1845µm,17.0s,MS7.8						
SSE	**Sheshan**	**29.14**	**249**	P	**P**	**11 20 16.3**	**+1.0**
SSE				XP	sP	11 20 28.8	+8.2
SSE				S	**S**	**11 25 05.0**	**-2.1**
SSE				XS	sS	11 25 20.4	+7.2
SSE				AMB	AMB		
	comp=Z,145nm,1.2s,mb5.6						
SSE				AMB	AMB		
	comp=Z,26µm,10.5s						
SSE				LR	LR		
	comp=N,1137µm,18.4s,MS7.7						
SSE				LR	LR		
	comp=E,1267µm,18.4s,MS7.7						
SSE				LR	LR		
	comp=Z,1359µm,13.5s,MS7.7						
SSE	**Sheshan**	**29.14**	**249**	P	**P**	**11 20 16.2**	**+0.9**
	comp=Z,145nm,1.2s,mb5.6						
SSE				sP	sP	11 20 28.8	+8.2
SSE				S	**S**	**11 25 05.0**	**-2.1**
SSE				sS	sS	11 25 20.4	+7.2
SSE				LR	LR		
	comp=Z,1360µm,13.5s,MS7.7						
MIDW	**Midway**	**29.50**	**118**	PFAKE		11 20 30.0	+11
MIDW				LR	LR		
	comp=Z,820µm,19.0s,MS7.4						
NJ2	**Nanjing**	**30.04**	**253**	*e*P	**P**	**11 20 24.3**	**+1.0**
NJ2				AP	pP	11 20 33.8	+6.8
NJ2				XP	sP	11 20 37.4	+8.8
NJ2				PP	PP	11 21 17.8	-13
NJ2				S	**S**	**11 25 18.0**	**-3.2**
NJ2				XS	sS	11 25 36.0	+8.6
NJ2				AMB	AMB		
	comp=Z,460nm,1.1s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,52µm,11.2s						
NJ2				LR	LR		
	comp=N,2949µm,16.4s,MS8.3						
NJ2				LR	LR		
	comp=E,4539µm,16.6s,MS8.3						
NJ2				LR	LR		
	comp=Z,6448µm,16.9s,MS8.3						
HHC	**Hu-ho-hao-te**	**30.36**	**274**	⇑*i*P	**P**	**11 20 26.9**	**+0.7**
HHC				AP	pP	11 20 34.9	+5.0
HHC				PP	PP	11 21 29.8	-4.9
HHC				PCP	PcP	11 23 27.3	+1.3
HHC				S	**S**	**11 25 26.8**	**+0.5**
HHC				XS	sS	11 25 38.6	+6.1
HHC				SS	SS	11 27 05.6	-30
HHC				SCP	ScP	11 27 06.6	-1.6
HHC				PCS	PcS	11 27 09.8	+0.2
HHC				SCS	ScS	11 30 59.8	-4.3
HHC				AMB	AMB		
	comp=Z,617nm,1.3s,mb6.2						
HHC				LR	LR		
	comp=N,934µm,15.7s,MS7.9						
HHC				LR	LR		
	comp=E,1984µm,15.2s,MS7.9						
HHC				LR	LR		
	comp=Z,2292µm,16.9s,MS7.9						
ULN	**Ulaanbaatar**	**30.98**	**289**	PFAKE		11 20 40.0	+8.4
ULN				LR	LR		
	comp=Z,4543µm,20.0s,MS8.1						
SONM	**Songino Array**	**31.42**	**290**	P	**P**	**11 20 35.7**	**+0.3**
	comp=Z,29nm,0.9s,baz=68,slow=8.5,SNR=37						
SONM				LR	LR	11 34 30.6	
	comp=Z,1636µm,21.7s,MS7.7,baz=81,slow=39						
BTO	**Baotou**	**31.53**	**275**	*e*P	**P**	**11 20 36.3**	**-0.1**
BTO				S	**S**	**11 25 49.6**	**+5.0**
BTO				LR	LR		
	comp=N,555µm,17.2s,MS7.3						
BTO				LR	LR		
	comp=E,380µm,19.6s,MS7.3						
IRK	**Irkutsk**	**31.79**	**298**	*e*P	**P**	**11 20 37.4**	**-1.3**
IRK				pmax	pmax		
	comp=Z,200nm,1.6s,mb5.7						
TLY	**Talaya**	**32.27**	**297**	P	**P**	**11 20 43.9**	**+0.9**
	comp=Z,778nm,1.2s,mb6.4,SNR=41						
TLY	**Talaya**	**32.27**	**297**	*c i*P	**P**	**11 20 42.1**	**-0.9**
TLY				*e*		11 22 06.6	
TLY				*e*S	**S**	**11 25 57.2**	**+1.1**
TLY				*e*SS	SS	11 27 56.5	-18
TLY				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.5						
TLY	**Talaya**	**32.27**	**297**	⇑*e*P	**P**	**11 20 42.1**	**-0.9**
	comp=Z,181nm,0.8s,mb6.0						
TLY				LR	LR		
	comp=Z,1039µm,20.0s,MS7.5						
TLY	**Talaya**	**32.27**	**297**	P	**P**	**11 20 43.0**	**0.0**
	SNR=56						
ZAK	**Zakamensk**	**32.77**	**295**	⇑*i*P	**P**	**11 20 47.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,157nm,1.7s,mb5.7						
TATO	**Taipei**	**33.28**	**240**	*e*P	**P**	**11 20 50.2**	**-1.5**
	comp=Z,123nm,0.9s,mb5.8						
TATO				LR	LR		
	comp=Z,974µm,20.0s,MS7.5						
YHNB	**Yeheng**	**33.57**	**240**	⇑*e*P	**P**	**11 20 53.2**	**-1.2**
GUMO	**Guam**	**33.73**	**195**	PFAKE		11 21 10.0	+14
GUMO				LR	LR		
	comp=Z,908µm,19.0s,MS7.5						
NACB	**Ninganchiao**	**33.82**	**239**	⇑*e*P	**P**	**11 20 53.1**	**-3.4**
IMA2	**Indian Mountai**	**33.82**	**36**	*e*P	**P**	**11 20 55.8**	**-0.7**
MOY	**Mondy**	**33.89**	**298**	*e*P	**P**	**11 20 56.2**	**-0.9**
MOY				pmax	pmax		
	comp=Z,1µm,2.4s,mb6.3						
WHN	**Wuhan**	**33.98**	**256**	P	**P**	**11 20 57.3**	**-0.6**
WHN				LR	LR		
	comp=Z,3629µm,18.0s,MS8.2						
KDAK	**Kodiak Island**	**34.09**	**51**	P	**P**	**11 20 58.0**	**-0.9**
	comp=Z,1µm,1.1s,mb6.8,SNR=9.7						
KDAK	**Kodiak Island**	**34.09**	**51**	P	**P**	**11 20 55.8**	**-3.1**
	comp=Z,182nm,0.9s,mb6.0,baz=278,slow=5.6,SNR=26						
KDAK				S	**S**	**11 26 25.1**	**+0.7**
	comp=Z,81nm,0.9s,baz=357,slow=0.9,SNR=2.4						
KDAK	**Kodiak Island**	**34.09**	**51**	*e*P	**P**	**11 20 57.1**	**-1.8**
	comp=Z,393nm,1.0s,mb6.3						
KDAK				LR	LR		
	comp=Z,484µm,21.0s,MS7.2						
QZH	**Quanzhou**	**35.06**	**244**	⇑*i*P	**P**	**11 21 07.9**	**+0.6**
QZH				S	**S**	**11 26 39.8**	**+0.4**
QZH				AMB	AMB		
	comp=Z,4µm,2.2s,mb7.0						
QZH				AMB	AMB		
	comp=Z,46µm,9.7s						
QZH				LR	LR		
	comp=N,1325µm,16.3s,MS8.0						
QZH				LR	LR		
	comp=E,1682µm,18.1s,MS8.0						
QZH				LR	LR		
	comp=Z,1685µm,16.1s,MS7.9						
SLKM	**Skilak Lake**	**35.12**	**46**	*e*P	**P**	**11 21 07.5**	**-0.3**
XAN	**Xi'an**	**35.58**	**265**	P	**P**	**11 21 12.4**	**+0.7**
XAN				AMB	AMB		
	comp=Z,351nm,1.9s,mb6.0						
XAN				LR	LR		
	comp=N,1080µm,15.7s,MS7.8						
XAN				LR	LR		
	comp=E,975µm,15.3s,MS7.8						
XAN				LR	LR		
	comp=Z,1950µm,15.7s,MS8.0						
PMR	**Palmer**	**35.60**	**44**	*e*P	**P**	**11 21 11.4**	**-0.5**
PMR				pmax	pmax		
	comp=Z,250nm,1.4s,mb6.0						
PMR				MLR	MLR		
	comp=Z,2319µm,22.0s,MS7.9						
PMR	**Palmer**	**35.60**	**44**	*e*P	**P**	**11 21 11.4**	**-0.5**
	comp=Z,250nm,1.4s,mb6.0						
PMR				LR	LR		
	comp=Z,2319µm,22.0s,MS7.9						
MCK	**McKinley**	**35.66**	**40**	*e*P	**P**	**11 21 11.3**	**-1.1**
MCK				pmax	pmax		
	comp=Z,116nm,0.9s,mb5.8						
MCK				MLR	MLR		
	comp=Z,911µm,20.0s,MS7.5						
MCK	**McKinley**	**35.66**	**40**	*e*P	**P**	**11 21 11.3**	**-1.1**
	comp=Z,116nm,0.9s,mb5.8						
MCK				LR	LR		
	comp=Z,911µm,20.0s,MS7.5						
SML	**Sawmill**	**35.97**	**44**	*e*P	**P**	**11 21 14.5**	**-0.6**
SML	**Sawmill**	**35.97**	**44**	⇑*e*P	**P**	**11 21 13.5**	**-1.6**
COLA	**College**	**36.15**	**38**	*e*P	**P**	**11 21 16.1**	**-0.5**
COLA				pmax	pmax		
	comp=Z,488nm,1.1s,mb6.3						
COLA				MLR	MLR		
	comp=Z,1526µm,20.0s,MS7.8						
COLA	**College**	**36.15**	**38**	*e*P	**P**	**11 21 16.1**	**-0.5**
	comp=Z,488nm,1.1s,mb6.3						
COLA				LR	LR		
	comp=Z,1526µm,20.0s,MS7.8						
DIV	**Divide**	**37.25**	**45**	*e*P	**P**	**11 21 25.8**	**-0.2**
	comp=Z,536nm,0.6s,mb6.5						
DIV				LR	LR		
	comp=Z,7269µm,21.0s,MS8.4						
EYAK	**Cordova Ski Ar**	**37.32**	**45**	*e*P	**P**	**11 21 26.8**	**+0.2**
LZH	**Lanzhou**	**37.96**	**272**	⇑P	**P**	**11 21 33.6**	**+1.6**
LZH				AP	pP	11 21 42.3	+6.6
LZH				XP	sP	11 21 45.5	+8.2
LZH				PP	PP	11 23 03.4	+4.7
LZH				PCP	PcP	11 23 48.6	+0.9
LZH				S	**S**	**11 27 22.0**	**-1.6**
LZH				XS	sS	11 27 36.0	+6.2
LZH				SS	SS	11 29 59.0	-11
LZH				AMB	AMB		
	comp=Z,73µm,8.9s						
LZH				LR	LR		
	comp=E,1722µm,15.0s						
LZH				LR	LR		
	comp=Z,1880µm,15.6s,MS8.0						
LZH	**Lanzhou**	**37.96**	**272**	⇑P	**P**	**11 21 33.6**	**+1.6**
LZH				*PP	pP	11 21 42.2	+6.5
LZH				*SP	sP	11 21 45.5	+8.2
LZH						11 23 03.4	
LZH						11 23 48.6	
LZH				S	**S**	**11 27 22.0**	**-1.6**
LZH				*SS	sS	11 27 36.0	+6.2
LZH				SS	SS	11 29 59.0	-11
LZH				pmax	pmax		
	comp=Z,7µm,1.3s,mb7.2						
LZH				MLR	MLR		
	comp=Z,1881µm,15.6s,MS8.0						
LZH	**Lanzhou**	**37.96**	**272**	⇑P	**P**	**11 21 33.6**	**+1.6**
	comp=Z,7µm,1.3s,mb7.2						
LZH				pP	pP	11 21 42.2	+6.5
LZH				sP	sP	11 21 45.5	+8.2
LZH				PP	PP	11 23 03.4	+4.7
LZH				PcP	PcP	11 23 48.6	+0.9
LZH				S	**S**	**11 27 22.0**	**-1.6**
LZH				sS	sS	11 27 36.0	+6.2
LZH				SS	SS	11 29 59.0	-11
LZH				LR	LR		
	comp=Z,1881µm,15.6s,MS8.0						
MENT	**Mentasta**	**38.04**	**41**	*e*P	**P**	**11 21 33.9**	**+1.2**
CVP	**Callao Caves**	**38.79**	**232**	*e*P	**P**	**11 21 39.0**	**0.0**
	comp=Z,70µm,26.0s						
APYP	**Conner**	**38.98**	**233**	*e*P	**P**	**11 21 37.5**	**-3.0**
PALP	**Palanan**	**38.99**	**231**	⇑*e*P	**P**	**11 21 39.5**	**-1.1**
PALP	**Palanan**	**38.99**	**231**	*e*P	**P**	**11 21 38.9**	**-1.7**
EGAK	**Eagle**	**39.01**	**38**	*e*P	**P**	**11 21 39.3**	**-1.5**
	comp=Z,3µm,1.2s,mb6.9						
GTA	**Gaotai**	**39.05**	**279**	⇑P	**P**	**11 21 42.3**	**+1.2**
GTA				AP	pP	11 21 50.0	+5.1
GTA				XP	sP	11 21 53.8	+7.4
GTA				AMB	AMB		
	comp=Z,380nm,1.6s,mb5.9						
GTA				AMB	AMB		
	comp=Z,28µm,6.1s						
GTA				LR	LR		
	comp=N,1227µm,14.1s,MS8.0						
GTA				LR	LR		
	comp=E,1183µm,16.0s,MS8.0						
GTA				LR	LR		
	comp=Z,1470µm,14.4s,MS8.0						
CAUP	**Cauayan**	**39.41**	**232**	*e*P	**P**	**11 21 43.6**	**-0.6**
ABRA	**Dolores**	**39.45**	**234**	*e*P	**P**	**11 21 43.1**	**-1.4**
GZH	**Guangzhou**	**39.70**	**248**	P	**P**	**11 21 42.3**	**-4.3**
GZH				S	**S**	**11 27 40.8**	**-9.1**
GZH				LR	LR		
	comp=N,806µm,18.3s,MS7.8						
GZH				LR	LR		
	comp=E,891µm,19.3s,MS7.8						
GZH				LR	LR		
	comp=Z,2571µm,17.7s,MS8.1						
HKC	**Hong Kong**	**39.74**	**246**	⇑*i*P	**P**	**11 21 48.0**	**+1.1**
DAWY	**Dawson**	**39.85**	**39**	*e*P	**P**	**11 21 47.1**	**-0.7**
BALP	**Baler**	**40.53**	**231**	*e*P	**P**	**11 21 51.3**	**-2.2**
BCPH	**Baguio City Da**	**40.55**	**233**	‖*i*P	**P**	**11 21 51.7**	**-1.9**
BOLP	**Bolinao**	**40.92**	**234**	*e*P	**P**	**11 21 54.5**	**-2.2**
CD2	**Chengdu**	**40.94**	**265**	P	**P**	**11 21 57.9**	**+1.1**
CD2				AP	pP	11 22 06.3	+5.7
CD2				XP	sP	11 22 08.8	+6.6
CD2				PP	PP	11 23 32.5	+1.3
CD2				PCP	PcP	11 23 58.4	+1.3
CD2				PCS	PcS	11 27 48.5	+0.5
CD2				S	**S**	**11 28 08.3**	**-0.1**
CD2				XS	sS	11 28 22.1	+7.5
CD2				SS	SS	11 31 05.6	-4.5
CD2				SCS	ScS	11 31 58.4	-3.3
CD2				AMB	AMB		
	comp=Z,4µm,1.0s,mb7.0						
CD2				AMB	AMB		
	comp=Z,48µm,7.9s						
CD2				LR	LR		
	comp=N,1411µm,20.2s,MS7.9						
CD2				LR	LR		
	comp=E,793µm,15.5s,MS7.9						
CD2				LR	LR		
	comp=Z,1406µm,14.3s,MS8.0						
PCPH	**Palayan**	**40.94**	**231**	*e*P	**P**	**11 21 56.2**	**-0.6**
PVCP	**Virac**	**41.01**	**226**	⇑*e*P	**P**	**11 21 55.4**	**-2.0**
PVCP	**Virac**	**41.01**	**226**	*e*P	**P**	**11 21 56.4**	**-1.0**
POLP	**Polilio Island**	**41.18**	**230**	*e*P	**P**	**11 21 57.5**	**-1.4**
GQP	**Guinayangan**	**41.61**	**228**	‖*e*P	**P**	**11 22 02.0**	**-0.4**
INK	**Inuvik**	**41.67**	**32**	P	**P**	**11 22 02.7**	**-0.2**
	comp=Z,74nm,0.9s,mb5.3,baz=293,slow=5.7,SNR=26						
INK				S	**S**	**11 28 17.3**	**-2.0**
	comp=Z,29nm,0.8s,baz=91,slow=23,SNR=2.7						
INK	**Inuvik**	**41.67**	**32**	P	**P**	**11 22 02.7**	**-0.2**
INK				S	**S**	**11 28 17.3**	**-2.0**
CNP	**Catarman**	**41.69**	**225**	*e*P	**P**	**11 22 02.1**	**-0.9**
GYA	**Guiyang**	**41.77**	**258**	⇑*i*P	**P**	**11 22 03.9**	**+0.3**
GYA				AP	pP	11 22 12.4	+5.0
GYA				XP	sP	11 22 15.8	+6.9
GYA				PP	PP	11 23 43.8	+3.6
GYA				PCP	PcP	11 24 00.8	+1.0
GYA				SCP	ScP	11 27 47.8	-2.0
GYA				PCS	PcS	11 27 51.0	-0.3
GYA				S	**S**	**11 28 16.1**	**-4.5**
GYA				XS	sS	11 28 32.8	+5.9
GYA				SS	SS	11 31 18.3	-8.1
GYA				SCS	ScS	11 32 01.8	-4.9
GYA				AMB	AMB		
	comp=Z,36µm,12.3s						
GYA				LR	LR		
	comp=N,1070µm,17.0s,MS7.8						
GYA				LR	LR		
	comp=E,746µm,19.0s,MS7.8						
GYA				LR	LR		

comp=Z,379µm,20.0s,MS7.3
TGY Tagaytay City 42.23 230 P P 11 22 08.3 +0.8
comp=Z,217nm,0.8s,baz=158,slow=12,SNR=9.8
BOAC Boac 42.30 229 eP P 11 22 05.5 -2.4
SKAG Skagway 42.66 46 eP P 11 22 11.8 +0.9
comp=Z,9µm,3.5s
PLP Palo 42.71 223 eP P 11 22 09.3 -2.0
ZAL Zalesovo 42.72 306 P P 11 22 10.2 -1.2
comp=Z,26nm,0.5s,baz=50,slow=6.8,SNR=50
ZAL LR LR 11 41 56.3
comp=Z,305µm,18.5s,MS7.2,baz=49,slow=39
PGP Puerto Galera 42.73 230 eP P 11 22 10.4 -1.1
LUBP Lubang 42.91 231 eP P 11 22 10.1 -2.8
OCLP Ormoc 42.98 224 eP P 11 22 12.7 -0.9
OTRP Odiongan 43.13 228 eP P 11 22 13.9 -0.9
NVS Novosibirsk 43.28 308 ⇓iP P 11 22 14.5 -1.5
NVS e*PP pP 11 22 28.9 +9.1
NVS eS **S** **11 28 43.0 0.0**
NVS pmax pmax
comp=Z,745nm,2.2s,mb6.0
NVS pmax pmax
comp=N,250nm,2.0s
NVS pmax pmax
comp=E,411nm,2.0s
NVS smax
comp=N,2µm,2.5s
NVS smax
comp=E,2µm,2.9s
SIT Sitka 43.37 49 eP P 11 22 16.5 -0.1
SIT pmax pmax
comp=Z,2µm,1.5s,mb6.7
SIT MLR MLR
comp=Z,1813µm,19.0s,MS8.0
SIT Sitka 43.37 49 eP P 11 22 16.5 -0.1
comp=Z,2µm,1.5s,mb6.7
SIT LR LR
comp=Z,1813µm,19.0s,MS8.0
RCP Roxas 43.45 226 ⇑eP P 11 22 16.2 -1.1
MSLP Maasin 43.67 223 eP P 11 22 17.2 -1.9
SCPH Surigao 43.69 222 eP P 11 22 18.3 -0.9
SCPH 11 22 48.5
LLP Lapu-Lapu 43.93 224 eP P 11 22 20.6 -0.6
GUIM Jordan 44.33 226 eP P 11 22 22.8 -1.6
BUSP Coron 44.38 230 eP P 11 22 23.3 -1.5
QIZ Qiongzhong 44.88 247 P P 11 22 30.5 +1.7
QIZ S **S** **11 29 05.5 -0.8**
QIZ LR LR
comp=N,955µm,19.2s,MS7.8
QIZ LR LR
comp=E,461µm,18.2s,MS7.8
QIZ LR LR
comp=Z,1181µm,17.5s,MS7.9
QIZ Qiongzhong 44.88 247 eP P 11 22 29.8 +1.0
comp=Z,227nm,1.2s,mb5.9
QIZ LR LR
comp=Z,1016µm,20.0s,MS7.8
CUYO Cuyo Island 44.93 228 eP P 11 22 28.1 -1.1
WMQ Urumqi 45.01 291 ⇑iP P 11 22 30.8 +1.0
WMQ AP pP 11 22 38.8 +5.1
WMQ XP sP 11 22 42.3 +7.1
WMQ PCP PcP 11 24 12.0 +1.2
WMQ PP PP 11 24 16.8 +1.8
WMQ PPP 11 24 57.6
WMQ SCP ScP 11 28 01.3 -1.7
WMQ PCS PcS 11 28 04.0 -0.5
WMQ S **S** **11 29 07.3 -0.9**
WMQ XS sS 11 29 20.9 +6.4
WMQ SS SS 11 32 20.3 -10
WMQ SCS ScS 11 32 23.3 -3.7
WMQ AMB AMB
comp=Z,792nm,1.1s,mb6.5
WMQ AMB AMB
comp=Z,13µm,7.3s
WMQ LR LR
comp=N,1976µm,18.3s,MS8.1
WMQ LR LR
comp=E,1071µm,19.2s,MS8.1
WMQ LR LR
comp=Z,2155µm,19.4s,MS8.1
CRAG Craig 45.06 51 eP P 11 22 31.8 +1.6
comp=Z,2µm,1.8s,mb6.7
SNPH Sibulan 45.12 224 eP P 11 22 35.0 +4.3
WRAK Wrangell Islan 45.12 49 eP P 11 22 32.1 +1.4
comp=Z,1µm,1.5s,mb6.6
CGP Cagayan de Oro 45.22 222 ⇓eP P 11 22 35.0 +3.6
KMI Kunming 45.30 260 ⇑P P 11 22 33.3 +1.2
KMI PP PP 11 24 20.4 +2.4
KMI S **S** **11 29 09.3 -3.0**
KMI XS sS 11 29 28.8 +10
KMI AMB AMB
comp=Z,1µm,1.9s,mb6.4
KMI LR LR
comp=N,714µm,16.2s,MS7.8
KMI LR LR
comp=E,629µm,15.9s,MS7.8
KMI LR LR
comp=Z,923µm,17.1s,MS7.8
KMI Kunming 45.30 260 ⇑P P 11 22 33.2 +1.1
KMI *PP pP 11 22 44.7 +8.8
KMI 11 24 06.4
KMI 11 24 20.4
KMI PPP 11 24 59.8
KMI S **S** **11 29 09.3 -3.0**
KMI *SS sS 11 29 28.8 +10
KMI SS SS 11 32 19.9 -16
KMI pmax pmax
comp=Z,1µm,1.9s,mb6.4
KMI MLR MLR
comp=Z,923µm,17.1s,MS7.8
KMI Kunming 45.30 260 ⇑P P 11 22 33.2 +1.1
comp=Z,1µm,1.9s,mb6.4
KMI pP pP 11 22 44.7 +8.8
KMI sP sP 11 22 49.8 +12
KMI PcP PcP 11 24 06.4 -5.3
KMI PP PP 11 24 20.4 +2.4
KMI PPP 11 24 59.8
KMI S **S** **11 29 09.3 -3.0**
KMI sS sS 11 29 28.8 +10
KMI SS SS 11 32 19.9 -16
KMI LR LR
comp=Z,923µm,17.1s,MS7.8
ENPP El Nido 45.45 230 eP P 11 22 32.5 -0.8
BUKP Musuan 45.56 221 eP P 11 22 32.6 -1.6
DLBC Dease Lake 45.59 46 eP P 11 22 35.5 +1.0
DCPH Dipolog City 45.73 223 eP P 11 22 33.2 -2.3
DAV Davao City (W) 46.05 220 P P 11 22 38.0 0.0
SNR=10
DAV Davao City (W) 46.05 220 PFAKE 11 22 50.0 +12
DAV LR LR
comp=Z,481µm,19.0s,MS7.5
DMPH Davao City--Mi 46.07 220 ⇑eP P 11 22 37.3 -0.8
CTBH Cotabato--PC H 46.51 221 ⇑eP P 11 22 41.7 +0.1
HON Honolulu 46.76 106 eP P 11 22 43.5 -0.1
PPR Puerto Princes 47.02 230 ⇑iP P 11 22 46.7 +1.0
MKAR Makanchi Array 47.03 297 P P 11 22 45.3 -0.5
comp=Z,152nm,0.7s,mb6.0,baz=64,slow=8.2,SNR=139
MKAR LR LR 11 44 13.6
comp=Z,5044µm,19.1s,MS8.5,baz=68,slow=38
KURK Kurchatov 47.46 304 P P 11 22 48.6 -0.5
comp=Z,2µm,0.8s,mb7.2,SNR=76
KURK Kurchatov 47.46 304 eP P 11 22 47.9 -1.2
KURK pmax pmax
comp=Z,247nm,0.6s,mb6.3
KURK Kurchatov 47.46 304 eP P 11 22 47.9 -1.2
comp=Z,247nm,0.6s,mb6.3
KURK Kurchatov 47.46 304 P P 11 22 48.1 -0.9
SNR=41
BATP Bataraza 48.33 230 eP P 11 22 55.5 -0.3
LKP Lekhapani 48.43 267 ex x 11 23 02.0
LKP ex x 11 23 47.0
POHA Pohakuloa 49.49 105 eP P 11 23 01.5 -3.3
comp=Z,195nm,0.9s,mb6.1
POHA LR LR
comp=Z,1362µm,19.0s,MS8.0
KHU Kahuku 49.80 105 eP P 11 23 04.8 -2.2
KHU e 11 23 45.3
ALE Alert 49.81 6 P P 11 23 06.3 -0.8
comp=Z,1µm,1.2s,mb6.8,SNR=40
LSA Lhasa 50.34 273 P P 11 23 13.8 +2.6
LSA AMB AMB
comp=Z,3µm,1.0s,mb7.2
LSA AMB AMB
comp=Z,34µm,13.0s
LSA Lhasa 50.34 273 eP P 11 23 13.9 +2.7
LSA e 11 23 28.4
LSA pmax pmax
comp=Z,333nm,0.7s,mb6.5
LSA MLR MLR
comp=Z,931µm,20.0s,MS7.8
LSA Lhasa 50.34 273 eP P 11 23 13.8 +2.6
comp=Z,333nm,0.7s,mb6.5
LSA e 11 23 28.4
LSA LR LR
comp=Z,931µm,20.0s,MS7.8
CHKZ Chkalovo 50.53 310 eP P 11 23 11.3 -1.3
CHKZ pmax pmax
comp=Z,456nm,0.8s,mb6.5
CHKZ Chkalovo 50.53 310 eP P 11 23 11.3 -1.3
comp=Z,456nm,0.8s,mb6.5
CHKZ e 11 23 33.0
RES Resolute Bay 50.88 19 eP P 11 23 15.2 -0.1
comp=Z,11µm,1.0s
YKW3 Yellowknife Ar 50.90 37 eP P 11 23 14.7 -0.8
YKA Yellowknife Ar 50.94 37 P P 11 23 14.4 -1.3
comp=Z,52nm,0.7s,mb5.6,baz=298,slow=7.1,SNR=37
YKA LR LR 11 46 52.6
comp=Z,668µm,20.7s,MS7.6,baz=225,slow=38
BVAR Borovoye Array 50.95 309 P P 11 23 15.2 -0.6
comp=Z,157nm,0.8s,mb6.0,baz=56,slow=9.1,SNR=120
BVAR LR LR 11 47 56.8
comp=Z,2657µm,18.1s,MS8.3,baz=139,slow=40
BRVK Borovoye 50.99 310 P P 11 23 15.8 -0.3
comp=Z,2µm,0.9s,mb6.9,SNR=69
BRVK Borovoye 50.99 310 eP P 11 23 15.5 -0.7
comp=Z,1µm,0.9s,mb6.8
BRVK e 11 23 27.5
BRVK LR LR
comp=Z,425µm,22.0s,MS7.4
BRVK P 11 23 15.7
SNR=52
BRVK Borovoye 50.99 310 P P 11 23 15.5 -0.6
SNR=41
NANT Nan 51.00 255 ⇑P P 11 23 16.0 -0.2
comp=Z,2µm,1.0s,mb6.9
KKM Kota Kinabalu 51.48 230 P P 11 23 20.7 +0.9
KKM Kota Kinabalu 51.48 230 eP P 11 23 19.9 +0.1
IMP Imphal 51.53 266 *iP P 11 23 21.0 +0.8**
IMP ex x 11 31 00.0
ZRNK Zerenda 51.72 310 eP P 11 23 20.7 -0.9
ZRNK pmax pmax
comp=Z,270nm,0.8s,mb6.2
ZRNK Zerenda 51.72 310 eP P 11 23 20.7 -0.9
comp=Z,270nm,0.8s,mb6.2
AAA Alma-Ata 52.07 296 *iP P 11 23 24.3 +0.2**
AAA pmax pmax
comp=Z,37µm,11.2s
TSM Tawau 52.12 227 P P 11 23 24.7 +0.1
CHTO Chiang Mai 52.17 257 eP P 11 23 26.2 +1.3
CHTO pmax pmax
comp=Z,481nm,0.8s,mb6.5
CHTO MLR MLR
comp=Z,982µm,19.0s,MS7.9
CHTO Chiang Mai 52.17 257 eP P 11 23 26.2 +1.3
comp=Z,481nm,0.8s,mb6.5
CHTO LR LR
comp=Z,982µm,19.0s,MS7.9
CHTO Chiang Mai 52.17 257 P P 11 23 26.9 +2.0
SNR=11
CM31 Chiang Mai Arr 52.42 256 eP P 11 23 28.0 +1.2
comp=Z,156nm,0.7s,mb6.0
CM31 LR LR
comp=Z,751µm,19.0s,MS7.8
SHL Shillong 52.44 269 ⇑iP P 11 23 28.0 +1.1
comp=Z,640nm,1.0s,mb6.5
SHL eS **S** **11 30 55.4 +2.6**
SHL AMS AMS 11 47 16.6
comp=Z,1729µm,15.1s,MS8.2
KBS Kingsbay 52.58 351 eP P 11 23 27.3 -0.7
KBS AMb AMB 11 25 07.0
comp=Z,790nm,1.6s,mb6.4
KBS eS **S** **11 30 56.4 +1.8**
KBS Kingsbay 52.58 351 ⇑eP P 11 23 28.3 +0.4
KBS Kingsbay 52.58 351 eP P 11 23 27.5 -0.4
comp=Z,205nm,0.8s,mb6.1
KBS e 11 23 46.4
KBS LR LR
comp=Z,667µm,19.0s,MS7.7
SPB4 Spitsbergen Ar 52.70 350 eP P 11 23 28.2 -0.6
SPB4 e 11 23 45.0
ULHL Ulahol 53.05 295 P P 11 23 32.4 +0.9
SNR=23
TKM2 Tokmak 2 53.09 296 P P 11 23 32.3 +0.5
SNR=44
C03A Quillayute Air 53.16 56 ⇓P P 11 23 33.4 +1.1
baz=53
C03A ⇓S **S** **11 31 04.6 +1.9**
baz=53
PGC Sidney 53.43 55 eP P 11 23 33.4 -0.8
comp=Z,4µm,2.1s,mb7.0
TURI Tura 53.51 270 eP P 11 23 34.0 -0.9
GTK Gangtok 53.56 273 eP P 11 23 34.0 -1.2
GTK ex x 11 23 56.0
CHMS Chumysh 53.57 297 P P 11 23 35.6 +0.3
SNR=40
USP Ospenovka 53.58 297 P P 11 23 35.9 +0.6
SNR=96
NST Nakhon Sawan 53.62 253 ⇓P P 11 23 37.3 +1.7
comp=Z,762nm,1.3s,mb6.5
KBK Karagaybulak 53.63 296 P P 11 23 37.1 +1.4
SNR=44
B04A Port Angeles 53.71 56 ⇑P P 11 23 37.1 +0.8
baz=54
B04A ⇑S **S** **11 31 09.8 -0.3**
baz=54
FRU Bishkek 53.74 297 *αeP P 11 23 37.0 +0.5**
FRU e 11 24 46.0
FRU e 11 31 00.0
FRU eS **S** **11 31 20.0 +9.5**
FRU i 11 31 24.0
FRU pmax pmax
comp=N,38µm,18.0s
FRU MLR MLR
comp=Z,1680µm,16.0s,MS8.2
KZA Kyzart 53.76 295 P P 11 23 38.4 +1.7
SNR=66
A04A Legoe Bay, Lum 53.81 55 ⇓P P 11 23 38.1 +1.1
baz=54
A04A ⇓S **S** **11 31 10.6 -0.9**
baz=54
AAK Ala-Archa 53.93 296 P P 11 23 37.5 -0.4
comp=Z,1µm,0.7s,mb7.0,SNR=63
AAK Ala-Archa 53.93 296 P P 11 23 39.0 +1.1
SNR=7.5
AAK Ala-Archa 53.93 296 eP P 11 23 37.0 -0.9
AAK e 11 23 52.8
AAK pmax pmax
comp=Z,171nm,0.9s,mb6.0
AAK MLR MLR
comp=Z,736µm,19.0s,MS7.8
AAK Ala-Archa 53.93 296 eP P 11 23 37.0 -0.9
comp=Z,171nm,0.9s,mb6.0
AAK e 11 23 52.8
AAK LR LR
comp=Z,736µm,19.0s,MS7.8
AAK Ala-Archa 53.93 296 P P 11 23 38.0 +0.1
SNR=15
AGT Agartala 53.97 268 *iP P 11 23 40.0 +1.8**
AGT *ix x 11 28 59.0
VDB Vedder Mountai 53.99 54 P P 11 23 37.8 -0.5
A05A Maple Falls 54.01 54 ⇑P P 11 23 38.3 -0.2
baz=54
A05A ⇓S **S** **11 31 10.8 -3.4**
baz=54
D03A Wishkah Elem. 54.06 57 ⇓P P 11 23 38.0 -0.9
baz=54
D03A ⇑S **S** **11 31 13.6 -1.3**
baz=54
SLGI Shiliguri 54.10 272 ex x 11 23 50.5
UCH Uchtor 54.14 296 P P 11 23 40.6 +1.2
SNR=13
SOKR Solikamsk 54.19 321 ⇓iP P 11 23 38.7 -1.1
SOKR e 11 23 54.4
SOKR S **S** **11 31 26.5 +10**
SOKR SSS 11 36 58.7
SOKR pmax pmax
comp=Z,110nm,0.9s,mb5.8
SOKR MLR MLR
comp=Z,1181µm,14.0s,MS8.1
C04A Brinnon 54.20 56 ⇓P P 11 23 41.3 +1.4
baz=54
C04A ⇑S **S** **11 31 14.6 -2.1**
baz=54
A06A Chilliwack 54.30 54 ⇓P P 11 23 41.0 +0.4
baz=54
A06A ⇑S **S** **11 31 15.3 -2.7**
baz=54
EKS2 Erkin-Say 54.35 297 P P 11 23 41.7 +0.8
SNR=10
E03A Lebam 54.49 57 ⇓P P 11 23 42.8 +0.8
baz=54
E03A ⇓S **S** **11 31 21.0 +0.4**
baz=54
JCW Jim Creek 54.53 55 P P 11 23 42.5 +0.2
D04A Dobbs Creek Ra 54.62 56 ⇓P P 11 23 42.7 -0.2
baz=54
D04A ⇑S **S** **11 31 22.6 +0.1**
baz=54
AML Almayashu 54.70 296 P P 11 23 44.8 +1.3
SNR=36
KSH Kashi 54.74 292 ⇑P P 11 23 45.8 +2.0
KSH eAP pP 11 23 54.0 +6.3
KSH eXP sP 11 23 56.5 +7.3
KSH ePCP PcP 11 24 48.8 +2.5
KSH ePP PP 11 25 49.8 +3.4
KSH eSCP ScP 11 28 44.1 -0.5
KSH eS **S** **11 31 22.3 -1.7**
KSH eXS sS 11 31 32.3 +1.9
KSH ePS 11 31 42.8
KSH eSCS ScS 11 33 30.4 -2.5
KSH eSS SS 11 35 05.0 -2.0
KSH AMB AMB
comp=Z,444nm,0.7s,mb6.6
KSH LR LR
comp=N,3138µm,15.3s,MS8.5
KSH LR LR
comp=E,759µm,14.2s,MS8.5
KSH LR LR
comp=Z,3762µm,13.9s,MS8.6
A07A Ashnola River, 54.93 53 ⇓P P 11 23 45.9 +0.8
baz=55,SNR=20
A07A ⇑S **S** **11 31 24.8 -1.8**
baz=55
C05A Tolt Reservoir 54.94 55 ⇓P P 11 23 46.0 +0.8
baz=55
C05A ⇑S **S** **11 31 25.5 -1.2**
baz=55
E04A Onalaska 54.95 57 ⇑P P 11 23 46.8 +1.4
baz=55
E04A ⇑S **S** **11 31 26.2 -0.7**
baz=55
JIRN Jiri 55.02 275 eP P 11 23 47.7 +1.9
comp=Z,7µm,1.0s
JIRN Jiri 55.02 275 eP P 11 23 46.8 +1.0
comp=Z,607nm,0.5s,mb6.9
D05A Enumclaw 55.05 56 ⇓P P 11 23 47.4 +1.4
baz=55
D05A ⇓S **S** **11 31 26.9 -1.3**
baz=55
GUN Gumba 55.07 275 eP P 11 23 48.9 +2.7
comp=Z,2µm,1.2s,mb7.1
GUN Gumba 55.07 275 eP P 11 23 47.7 +1.5
comp=Z,554nm,0.7s,mb6.7
ARU Arti 55.11 318 P P 11 23 45.5 -1.0
comp=Z,2µm,0.9s,mb7.1,SNR=17
ARU Arti 55.11 318 eP P 11 23 44.3 -2.2
ARU eS **S** **11 31 26.1 -2.9**
ARU e 11 33 28.3
ARU eSSS 11 37 09.5
ARU MLR MLR
comp=E,1361µm,17.0s,MS8.2
ARU MLR MLR
comp=Z,1932µm,17.0s,MS8.2
ARU MLR MLR
comp=N,866µm,18.0s,MS8.2
BJO Bjornoya 55.26 346 eP P 11 23 47.7 +0.2
BJO eS **S** **11 31 37.6 +6.6**
BJO AMS AMS 11 53 54.4
comp=Z,1192µm,19.4s,MS8.0
H02A Toledo 55.26 59 ⇓P P 11 23 48.4 +0.8
baz=55
H02A ⇑S **S** **11 31 30.9 -0.1**
baz=55
BJO1 Bjornoya 55.29 346 eP P 11 23 47.7 0.0
BJO1 LR LR
comp=Z,1192µm,19.4s,MS8.0
G03A Yamhill 55.33 58 ⇓P P 11 23 48.5 +0.5
baz=55
G03A ⇑S **S** **11 31 28.9 -3.0**
baz=55
B07A Winthrop 55.40 54 P P 11 23 48.8 +0.2
baz=55,SNR=15
B07A ⇓S **S** **11 31 32.5 -0.4**
baz=55
NLW Nelson Butte 55.49 54 P P 11 23 49.4 +0.2
F04A Amboy 55.49 57 ⇑P P 11 23 48.7 -0.5
baz=55,SNR=7.8
F04A ⇓S **S** **11 31 31.9 -2.2**
baz=55
E05A Randle 55.52 57 ⇓P P 11 23 49.3 -0.2
baz=55
E05A ⇓S **S** **11 31 33.4 -1.1**
baz=55
KKN Kakani 55.56 275 eP P 11 23 51.3 +1.6
comp=Z,18µm,1.4s
KKN Kakani 55.56 275 eP P 11 23 50.3 +0.6
WPW White Pass 55.57 56 P P 11 23 50.1 +0.3
A08A Turner Farm, O 55.60 53 ⇑P P 11 23 50.4 +0.4
baz=55,SNR=28
A08A ⇓S **S** **11 31 34.5 -1.0**
baz=55
PKI Pulchoki 55.61 275 eP P 11 23 51.3 +1.2
comp=Z,6µm,0.9s
PKI Pulchoki 55.61 275 eP P 11 23 51.4 +1.3
comp=Z,409nm,0.6s,mb6.6
H03A Soap Creek Ran 55.68 59 ⇓P P 11 23 51.1 +0.5
baz=56
H03A ⇑S **S** **11 31 38.2 +1.6**
baz=56
D06A Cle Elum 55.69 55 P P 11 23 51.0 +0.4
baz=56,SNR=13
D06A ⇓S **S** **11 31 35.8 -1.0**
baz=56
TWW Teanaway 55.71 56 P P 11 23 51.5 +0.7
COR Corvallis 55.73 59 P P 11 23 52.0 +1.1
COR pmax pmax
comp=Z,2µm,1.5s,mb7.0
COR Corvallis 55.73 59 eP P 11 23 50.7 -0.2
comp=Z,2µm,1.5s,mb6.9
COR LR LR
comp=Z,840µm,21.0s,MS7.8
I02A Mapleton 55.74 60 ⇓P P 11 23 51.8 +0.8
baz=56
I02A ⇑S **S** **11 31 38.6 +1.2**
baz=56
DMN Daman 55.79 275 eP P 11 23 52.5 +1.1
DMN Daman 55.79 275 eP P 11 23 53.0 +1.6
TBM Table Mountain 55.85 55 P P 11 23 51.9 +0.1
C07A Waterville 55.86 55 ⇓P P 11 23 52.6 +0.8
baz=56,SNR=14
C07A ⇑S **S** **11 31 38.2 -0.8**
baz=56
G04A Mulino 55.86 58 ⇑P P 11 23 52.4 +0.5
baz=56
G04A ⇑S **S** **11 31 38.9 -0.2**
baz=56
GKN Gorkha 55.87 276 eP P 11 23 52.0 +0.1
GKN Gorkha 55.87 276 eP P 11 23 53.3 +1.4
comp=Z,15µm,1.2s
GKN Gorkha 55.87 276 eP P 11 23 53.3 +1.4
B08A Colville Reser 55.89 54 ⇑P P 11 23 53.2 +1.1
baz=56,SNR=27
B08A ⇑S **S** **11 31 37.8 -1.6**
baz=56
WTV Waterville 55.91 55 P P 11 23 51.9 -0.3
A09A Danville 55.96 53 P P 11 23 53.1 +0.5
baz=56,SNR=26
A09A ⇓S **S** **11 31 38.3 -2.0**
baz=56
E06A Yakima 55.98 56 ⇑P P 11 23 53.2 +0.5
baz=56,SNR=9.4
E06A ⇑S **S** **11 31 40.3 -0.3**
baz=56
EBG Ellensburg 56.01 56 P P 11 23 53.4 +0.4
K01A Sixes 56.03 62 ⇑P P 11 23 53.3 +0.2
baz=56
K01A ⇓S **S** **11 31 41.9 +0.7**
baz=56

F05A **White Salmon** 56.08 57 ⇓P P 11 23 54.2 +0.8
baz=56
F05A ⇑S S 11 31 41.6 -0.3
baz=56
KEBM **Edson Butte** 56.08 61 *e*P P 11 23 54.9 +1.5
I03A **Eugene** 56.09 60 P P 11 23 54.4 +0.9
baz=56,SNR=9.6
I03A ⇑S S 11 31 41.7 -0.3
baz=56
PMG **Port Moresby** 56.09 187 P P 11 23 51.7 -1.8
comp=Z,29nm,1.0s,mb5.3,baz=352,slow=7.3,SNR=15
PMG LR LR 11 44 53.5
comp=Z,430µm,20.0s,MS7.5,baz=218,slow=33
PMG **Port Moresby** 56.09 187 P P 11 23 51.7 -1.8
PMG **Port Moresby** 56.09 187 *e*P P 11 23 50.9 -2.7
comp=Z,1µm,1.6s,mb6.7
PMG LR LR
comp=Z,413µm,20.0s,MS7.5
NNT **Nongplab** 56.14 251 P P 11 23 56.3 +2.4
HNR **Honiara** 56.18 172 P P 11 23 51.2 -3.0
comp=Z,36nm,0.4s,mb5.8,baz=268,slow=6.8,SNR=3.6
HNR **Honiara** 56.18 172 *e*P P 11 23 55.9 +1.7
comp=Z,1µm,1.0s,mb6.9
HNR LR LR
comp=Z,1057µm,19.0s,MS8.0
D07A **Quincy** 56.19 55 P P 11 23 54.3 +0.1
baz=56,SNR=9.7
D07A ⇑S S 11 31 38.7 -4.6
baz=56
J02A **Umpqua** 56.25 61 P P 11 23 55.2 +0.5
baz=56,SNR=19
J02A ⇓S S 11 31 43.5 -0.7
baz=56
HOOD **Mount Hood Mea** 56.28 58 *e*P P 11 23 55.7 +0.8
EDM **Edmonton** 56.31 46 *e*P P 11 23 53.8 -1.3
H04A **Detroit Lake** 56.33 59 P P 11 23 56.0 +0.7
baz=56,SNR=13
H04A ⇓S S 11 31 44.0 -1.2
baz=56
C08A **Higginbotham F** 56.37 54 P P 11 23 55.5 -0.1
baz=56,SNR=11
C08A ⇓S S 11 31 43.1 -2.7
baz=56
B09A **Rice** 56.51 53 P P 11 23 56.8 +0.3
baz=56,SNR=21
B09A ⇑S S 11 31 45.3 -2.3
baz=56
A10A **Northport** 56.52 52 P P 11 23 56.8 +0.2
baz=56,SNR=17
A10A ⇓S S 11 31 46.6 -1.2
baz=56
KBO **Bosley Butte** 56.52 62 *e*P P 11 23 57.4 +0.8
G05A **Wamic** 56.52 58 P P 11 23 57.5 +0.9
baz=56,SNR=9.0
G05A ⇓S S 11 31 47.2 -0.5
baz=56
F06A **Goldendale** 56.53 57 P P 11 23 57.4 +0.7
baz=56,SNR=14
F06A ⇓S S 11 31 47.3 -0.6
baz=56
E07A **Sunnyside** 56.61 56 ⇑P P 11 23 58.4 +1.1
baz=56,SNR=16
E07A ⇑S S 11 31 49.7 +0.7
baz=56
J03A **Ideyld Park** 56.62 60 P P 11 23 58.5 +1.2
baz=56,SNR=13
J03A ⇑S S 11 31 48.5 -0.5
baz=56
K02A **Glendale** 56.65 61 ⇑P P 11 23 57.7 +0.2
baz=56,SNR=10
K02A ⇑S S 11 31 50.0 +0.5
baz=56
I04A **Tendick Farm,** 56.70 60 P P 11 23 58.3 +0.4
baz=56,SNR=19
I04A ⇑S S 11 31 49.8 -0.4
baz=56
DAG **Danmarks Havn** 56.72 358 ⇓*i*P P 11 23 56.7 -1.3
comp=Z,1µm,1.6s,mb6.7
KOLN **Koldanda** 56.72 277 *e*P P 11 23 58.4 +0.4
KOLN **Koldanda** 56.72 277 *e*P P 11 23 58.4 +0.4
M01C **Crescent City** 56.79 62 ⇑P P 11 23 59.0 +0.5
baz=57
M01C ⇓S S 11 31 52.9 +1.5
baz=57
C09A **Chrisman Ranch** 56.79 54 P P 11 23 58.4 -0.2
baz=57,SNR=22
C09A ⇑S S 11 31 49.8 -1.6
baz=57
D08A **Wollman Farm,** 56.86 55 P P 11 23 58.6 -0.3
baz=57,SNR=15
D08A ⇑S S 11 31 50.8 -1.4
baz=57
LVZ **Lovozero** 56.86 337 P P 11 23 58.3 -0.7
comp=Z,1µm,0.9s,mb7.0,SNR=6.8
LVZ **Lovozero** 56.86 337 *c i*P P 11 23 57.6 -1.4
LVZ *e*PPP 11 27 33.6
LVZ *i* S S 11 32 05.2 +13
LVZ *e*SSS 11 38 01.4
LVZ pmax pmax
comp=Z,776nm,1.2s,mb6.6
LVZ pmax pmax
comp=N,433nm,1.6s
LVZ pmax pmax
comp=E,58nm,0.6s
LVZ MLR MLR
comp=N,1074µm,17.0s,MS8.1
LVZ MLR MLR
comp=Z,1295µm,17.0s,MS8.1
LVZ MLR MLR
comp=E,937µm,18.0s,MS8.1
LVZ **Lovozero** 56.86 337 ⇑*i*P P 11 23 57.1 -1.9
CAL **Calcutta** 56.87 268 *e*P P 11 23 58.2 -0.8
CAL *ex* x 11 32 08.3
CAL AMP 11 58 40.3
comp=Z,503µm,18.0s
WRD **Warden** 56.88 55 P P 11 23 58.2 -0.9
HAWA **Hanford** 56.89 56 *e*P P 11 23 59.1 -0.1
comp=Z,2µm,1.4s,mb6.8
HAWA *e* 11 24 12.6
HAWA LR LR
comp=Z,577µm,21.0s,MS7.7
H05A **Madras** 56.91 58 P P 11 23 59.4 +0.1
baz=57,SNR=24
H05A ⇑S S 11 31 53.7 +0.7
baz=57
G06A **Carlson Farm,** 56.92 57 ⇓P P 11 24 00.5 +1.1
baz=57,SNR=13
G06A ⇑S S 11 31 53.1 +0.1
baz=57
L02A **Cave Junction** 56.93 62 ⇑P P 11 23 59.4 -0.1
baz=57,SNR=14
L02A ⇓S S 11 31 54.5 +1.3
baz=57
F07A **Phinny Hill Vi** 56.95 56 P P 11 24 00.0 +0.4
baz=57,SNR=23
F07A ⇑S S 11 31 53.3 -0.1
baz=57
HUMO **Hull Mountain** 57.06 61 *e*P P 11 24 00.6 +0.2
comp=Z,788nm,1.5s,mb6.5
HUMO LR LR
comp=Z,838µm,20.0s,MS7.8
HUMO **Hull Mountain** 57.06 61 P P 11 24 01.0 +0.6
baz=57,SNR=12
HUMO ⇑S S 11 31 54.1 -0.8
baz=57
B10A **Chitwood Farm,** 57.09 53 ⇓P P 11 24 01.1 +0.5
baz=57
B10A ⇓S S 11 31 52.5 -2.8
baz=57
E08A **Dider Farm, El** 57.10 55 ⇓P P 11 24 00.9 +0.1
baz=57
E08A ⇓S S 11 31 54.4 -1.1
baz=57
KRMB **Red Mountain** 57.11 63 *e*P P 11 24 00.6 -0.2
NEW **Newport** 57.16 53 P P 11 23 59.3 -1.9
comp=Z,68nm,1.1s,mb5.6,baz=310,slow=6.2,SNR=26
NEW LR LR 11 49 44.1
comp=Z,661µm,19.0s,MS7.8,baz=315,slow=37
NEW **Newport** 57.16 53 P P 11 24 01.2 0.0
NEW pmax pmax
comp=Z,1µm,1.4s
NEW **Newport** 57.16 53 *e*P P 11 24 00.7 -0.4
comp=Z,1µm,1.5s,mb6.6
NEW *e* 11 24 21.7
NEW LR LR
comp=Z,886µm,22.0s,MS7.8
I05A **Bend** 57.17 59 P P 11 24 02.1 +0.9
baz=57,SNR=14
I05A ⇑S S 11 31 57.3 +1.0
baz=57
A11A **Hall Mountain,** 57.18 52 P P 11 24 02.2 +1.0
baz=57,SNR=27
A11A ⇑S S 11 31 56.1 -0.3
baz=57
D09A **Jones Farm, Ri** 57.20 54 P P 11 24 01.1 -0.3
baz=57,SNR=12
D09A ⇑S S 11 31 54.5 -2.3
baz=57
J04A **Umpqua Nationa** 57.20 60 ⇓P P 11 24 01.3 -0.1
baz=57,SNR=7.7
J04A ⇓S S 11 31 55.7 -1.0
baz=57
KTRM **Thompson Ridge** 57.21 62 P P 11 24 02.5 +1.0
C10A **Spilker Farm,** 57.32 53 P P 11 24 02.5 +0.2
baz=57,SNR=16
C10A ⇓S S 11 31 57.1 -1.2
baz=57
H06A **Lindquist Farm** 57.38 58 P P 11 24 03.3 +0.6
baz=57,SNR=18
H06A ⇓S S 11 31 58.8 -0.3
baz=57
APA **Apatity** 57.43 337 *e*P P 11 24 00.0 -3.0
APA pmax pmax
comp=Z,78nm,1.0s,mb5.7
APA pmax pmax
comp=Z,36µm,12.0s
KEV **Kevo** 57.43 341 *ep* P 11 24 01.4 -1.6
KEV **Kevo** 57.43 341 P P 11 24 02.5 -0.5
KEV pmax pmax
comp=Z,230nm,0.7s,mb6.3
JCC **Jacoby Creek** 57.45 63 ⇓P P 11 24 03.4 +0.2
baz=57
JCC ⇑S S 11 32 00.6 +0.6
baz=57
G07A **Ruggs Ranch, H** 57.46 57 P P 11 24 03.8 +0.6
baz=57,SNR=9.5
G07A ⇑S S 11 32 00.6 +0.4
baz=57
B11A **Sandpoint** 57.48 52 P P 11 24 04.0 +0.6
baz=57,SNR=15
B11A ⇓S S 11 32 00.1 -0.3
baz=57
A12A **Yaak River Ran** 57.58 51 P P 11 24 04.8 +0.7
baz=57,SNR=14
A12A ⇑S S 11 31 59.6 -2.1
baz=57
KHMM **Horse Mountain** 57.60 63 *e*P P 11 24 05.8 +1.6
E09A **Wood Farm, Sta** 57.60 55 P P 11 24 04.5 +0.3
baz=57,SNR=25
E09A ⇑S S 11 32 00.4 -1.7
baz=57
F08A **Pendleton** 57.66 56 P P 11 24 05.3 +0.7
baz=58,SNR=22
F08A ⇑S S 11 32 02.0 -0.8
baz=58
J05A **Fort Rock** 57.70 59 P P 11 24 05.8 +1.0
baz=58,SNR=22
J05A ⇓S S 11 32 02.9 -0.4
baz=58
BOK **Bokaro** 57.72 271 *e*P P 11 24 06.4 +1.4
BOK AMb AMB 11 24 40.3
comp=Z,2µm,1.5s,mb7.0
BOK *e*S S 11 32 06.8 +3.2
YBH **Yreka Blue Hor** 57.72 62 P P 11 24 04.7 -0.4
comp=Z,31nm,0.9s,mb5.3,baz=325,slow=4.0,SNR=24
YBH LR LR 11 47 25.8
comp=Z,401µm,18.3s,MS7.6,baz=308,slow=35
YBH **Yreka Blue Hor** 57.72 62 *e*P P 11 24 05.4 +0.3
comp=Z,1µm,1.7s,mb6.7
YBH LR LR
comp=Z,552µm,19.0s,MS7.7
YBH **Yreka Blue Hor** 57.72 62 P P 11 24 05.5 +0.4
baz=58,SNR=17
YBH ⇑S S 11 32 03.7 +0.1
baz=58
K04A **Chilquin** 57.79 60 P P 11 24 06.7 +1.1
baz=58,SNR=5.9
K04A ⇑S S 11 32 04.2 -0.3
baz=58
M02C **Callahan** 57.83 62 P P 11 24 06.9 +1.1
baz=58,SNR=18
M02C ⇑S S 11 32 06.9 +1.9
baz=58
G08A **Pilot Rock** 57.85 56 P P 11 24 06.6 +0.6
baz=58,SNR=20
G08A ⇓S S 11 32 05.2 -0.1
baz=58
B12A **Libby** 57.88 52 ⇑P P 11 24 07.3 +1.1
baz=58
B12A ⇑S S 11 32 04.8 -0.9
baz=58
N02C **Big Bar** 57.89 63 ⇓P P 11 24 06.8 +0.5
baz=58
N02C ⇓S S 11 32 06.7 +0.9
baz=58
PTH **Pithoragarh** 57.91 280 *e*P P 11 24 07.9 +1.5
I06A **Prineville** 57.91 58 P P 11 24 07.6 +1.1
baz=58,SNR=17
I06A ⇓S S 11 32 05.0 -1.1
baz=58
ARCES **ARCESS Array B** 57.94 341 P P 11 24 04.8 -1.9
comp=Z,50nm,0.7s,mb5.6,baz=40,slow=7.1,SNR=45
ARCES LR LR 11 57 41.3
comp=Z,914µm,18.1s,MS7.9,baz=37,slow=45
ARE0 **ARCESS Array S** 57.94 341 *e*P P 11 24 06.1 -0.5
LGTI **Lohaghat** 57.95 280 *e*P P 11 24 08.3 +1.6
LGTI *ex* x 11 27 33.0
L04A **Klamath Falls** 57.95 61 P P 11 24 07.4 +0.7
baz=58,SNR=12
L04A ⇑S S 11 32 05.3 -1.3
baz=58
O01C **Eel River Cons** 57.98 64 ⇑P P 11 24 07.1 +0.2
baz=58,SNR=7.0
O01C ⇓S S 11 32 09.2 +2.2
baz=58
KLP **Kalpa** 57.99 283 *e*P P 11 24 07.4 +0.4
KLP AMb AMB 11 24 11.3
comp=Z,678nm,1.1s,mb6.6
E10A **Myers Farm, Un** 58.20 54 P P 11 24 08.8 +0.4
baz=58,SNR=14
E10A ⇑S S 11 32 07.6 -2.3
baz=58
F09A **S2 Ranch, Elgi** 58.21 56 P P 11 24 09.3 +0.9
baz=58,SNR=18
F09A ⇓S S 11 32 09.5 -0.5
baz=58
M04C **Macdoel** 58.22 61 ⇓P P 11 24 09.7 +1.2
baz=58,SNR=16
M04C ⇑S S 11 32 10.8 +0.8
baz=58
K05A **Summer Lake** 58.23 60 P P 11 24 09.6 +1.0
baz=58,SNR=20
K05A ⇓S S 11 32 09.1 -1.1
baz=58
I07A **Izee** 58.25 58 ⇑P P 11 24 09.6 +0.8
baz=58,SNR=14
I07A ⇓S S 11 32 10.4 -0.1
baz=58
D11A **Klaveano Farm,** 58.30 53 P P 11 24 09.1 -0.1
baz=58,SNR=29
D11A ⇑S S 11 32 08.3 -2.9
baz=58
M03C **McCloud** 58.34 62 ⇑P P 11 24 09.3 -0.1
baz=58,SNR=14
M03C ⇑S S 11 32 10.5 -1.2
baz=58
KIPM **Iron Peak** 58.38 64 *e*P P 11 24 10.3 +0.6
KCPM **Cahto Peak** 58.39 64 *e*P P 11 24 09.6 -0.2
TMCR **Tamitsa** 58.43 332 ⇑*i*P P 11 24 09.2 -0.8
WALA **Waterton Lakes** 58.43 50 *e*P P 11 24 09.8 -0.3
comp=Z,92nm,0.8s,mb5.9
WALA *e* 11 24 35.5
F10A **Beach Ranch, E** 58.44 55 ⇑P P 11 24 10.6 +0.5
baz=58,SNR=14
F10A ⇑S S 11 32 12.3 -0.6
baz=58
H08A **Prairie City** 58.47 57 ⇑P P 11 24 11.5 +1.1
baz=58,SNR=16
H08A ⇑S S 11 32 12.6 -0.8
baz=58
KSM **Kuching** 58.49 233 *e*P P 11 24 11.1 +0.6
KSM *e*PcP PcP 11 25 03.8 +2.9
WDC **Whiskeytown Da** 58.50 63 *e*P P 11 24 11.1 +0.6
WDC pmax pmax
comp=Z,1µm,1.6s,mb6.6
WDC **Whiskeytown Da** 58.50 63 *e*P P 11 24 10.3 -0.2
comp=Z,1µm,1.7s,mb6.6
WDC LR LR
comp=Z,455µm,20.0s,MS7.6
WDC **Whiskeytown Da** 58.50 63 P P 11 24 11.5 +1.0
baz=58,SNR=7.7
WDC ⇑S S 11 32 15.3 +1.5
baz=58
B13A **Whitefish** 58.54 51 P P 11 24 10.8 0.0
baz=58,SNR=48
B13A ⇓S S 11 32 11.8 -2.5
baz=58
K06A **Valley Falls** 58.56 59 P P 11 24 12.2 +1.2
baz=58,SNR=29
K06A ⇑S S 11 32 15.1 +0.5
baz=58
O02C **Red Bluff** 58.59 63 ⇑P P 11 24 12.4 +1.2
baz=58,SNR=8.1
O02C ⇓S S 11 32 17.1 +2.2
baz=58
L05A **Lakeview** 58.66 60 P P 11 24 12.6 +0.9
baz=58,SNR=15
L05A ⇓S S 11 32 17.6 +1.7
baz=58
P01C **Double 8 Ranch** 58.67 64 ⇓P P 11 24 11.7 -0.1
baz=58,SNR=7.4
P01C ⇓S S 11 32 17.1 +1.1
baz=58
BSMT **Bassoo Peak** 58.68 52 *e*P P 11 24 11.7 -0.1
J07A **Hines** 58.78 58 P P 11 24 13.2 +0.7
baz=59,SNR=14
J07A ⇑S S 11 32 17.8 +0.4
baz=59
KTK1 **Kautokeino** 58.86 341 ⇓*i*P P 11 24 13.8 +0.8
KTK1 **Kautokeino** 58.86 341 *e*P P 11 24 12.6 -0.4
SDNR **Sundarnagar** 58.87 284 *e*P P 11 24 14.0 +0.9
DDI **Dehra Dun** 58.88 282 *e*P P 11 24 14.8 +1.6
M05C **Lookout** 58.88 61 P P 11 24 14.1 +0.9
baz=59,SNR=17
M05C ⇑S S 11 32 20.4 +1.6
baz=59
I08A **Drewsey** 58.89 58 P P 11 24 14.2 +1.0
baz=59,SNR=19
I08A ⇓S S 11 32 21.0 +2.1
baz=59
DLH **Dalhousie** 58.89 286 *e*P P 11 24 12.0 -1.3
C13A **Hot Springs** 58.90 52 P P 11 24 14.0 +0.7
baz=59,SNR=24
C13A ⇑S S 11 32 17.3 -1.6
baz=59
GASB **Alder Springs** 58.95 64 P P 11 24 14.5 +0.9
baz=59,SNR=14
GASB ⇓S S 11 32 21.5 +1.9
baz=59
H09A **Durkee** 58.96 56 P P 11 24 14.8 +1.1
baz=59,SNR=25
H09A ⇓S S 11 32 20.9 +1.1
baz=59
HATC **Hat Creek Radi** 59.02 62 P P 11 24 14.6 +0.4
baz=59,SNR=12
HATC ⇑S S 11 32 20.7 +0.2
baz=59
BMO **Blue Mountains** 59.06 56 *e*P P 11 24 14.7 +0.2
BMO LR LR
comp=Z,664µm,22.0s,MS7.7
MOD **Modoc** 59.07 60 *e*P P 11 24 14.4 -0.1
comp=Z,85nm,1.1s,mb5.7
MOD LR LR
comp=Z,455µm,19.0s,MS7.6
MOD **Modoc** 59.07 60 P P 11 24 14.5 0.0
baz=59,SNR=30
MOD ⇓S S 11 32 22.9 +1.7
baz=59
F11A **Grangeville** 59.09 54 P P 11 24 15.0 +0.3
baz=59,SNR=32
F11A ⇑S S 11 32 23.6 +2.1
baz=59
HOPS **Hopland** 59.12 64 *e*P P 11 24 14.7 -0.2
comp=Z,938nm,1.5s,mb6.6
HOPS LR LR
comp=Z,931µm,19.0s,MS7.9
HOPS **Hopland** 59.12 64 ⇓P P 11 24 15.5 +0.6
baz=59
HOPS ⇓S S 11 32 25.8 +3.9
baz=59
THN **Thein Dam** 59.12 286 *e*P P 11 24 14.9 0.0
THN *ex* x 11 35 06.6
O03C **Acorn Hollow,** 59.16 63 ⇑P P 11 24 14.4 -0.7
baz=59
O03C ⇓S S 11 32 23.0 +0.6
baz=59
K07A **Rock Creek Ran** 59.22 59 ⇓P P 11 24 16.4 +0.9
baz=59,SNR=32
K07A ⇑S S 11 32 25.2 +2.0
baz=59
TRO **Tromso** 59.27 343 *e*P P 11 24 14.2 -1.7
TRO AMb AMB 11 24 45.8
comp=Z,3µm,1.1s,mb7.2
TRO *e*S S 11 32 41.5 +18
TRO AMS AMS 11 56 15.2
comp=Z,924µm,20.5s,MS7.9
TRO **Tromso** 59.27 343 *e*P P 11 24 14.2 -1.7
TRO pmax pmax
comp=Z,3µm,1.1s,mb7.2
TRO MLR MLR
comp=Z,924µm,20.5s,MS7.9
TRO **Tromso** 59.27 343 *e*P P 11 24 14.2 -1.7
comp=Z,3µm,1.1s,mb7.2
TRO LR LR
comp=Z,924µm,20.5s,MS7.9
J08A **Circle Bar Ran** 59.28 58 P P 11 24 16.9 +1.0
baz=59,SNR=23
J08A ⇑S S 11 32 23.1 -0.8
baz=59
BHK **Bhakra** 59.29 285 *e*P P 11 24 17.0 +1.0
D13A **Huson** 59.31 53 P P 11 24 16.5 +0.4
baz=59,SNR=21
D13A ⇓S S 11 32 21.4 -2.8
baz=59
G11A **Walters Elk Ra** 59.32 55 ⇓P P 11 24 15.3 -0.9
baz=59
I09A **Lost Marbles R** 59.33 57 P P 11 24 17.1 +0.8
baz=59,SNR=28
I09A ⇓S S 11 32 27.1 +2.5
baz=59
M06C **Likely Place G** 59.38 61 P P 11 24 17.9 +1.2
baz=59,SNR=9.2
M06C ⇑S S 11 32 27.5 +2.3
baz=59
KAPI **Kappang** 59.38 220 P P 11 24 14.0 -2.7
comp=Z,618nm,1.5s,mb6.4,SNR=13
JMU **Jammu** 59.49 287 *ex* x 11 24 25.0
ALBI **Allahabad** 59.53 276 *e*P P 11 24 15.0 -2.7
ALBI *ex* x 11 25 35.5
O04C **Chester** 59.55 62 P P 11 24 17.9 +0.1
baz=59,SNR=20
O04C ⇓S S 11 32 29.3 +1.9
baz=59
L07A **Adell** 59.57 60 P P 11 24 19.1 +1.2
baz=59,SNR=21
L07A ⇓S S 11 32 29.4 +1.7
baz=59
ELFS **Eagle Lake Fie** 59.58 62 P P 11 24 18.7 +0.6
baz=59,SNR=17
ELFS ⇑S S 11 32 28.9 +1.1
baz=59
MNRC **McLaughlin Nat** 59.58 64 P P 11 24 18.2 +0.2
baz=59,SNR=18
MNRC ⇑S S 11 32 31.4 +3.6
baz=59
FUNA **Funafuti** 59.65 150 *e*P P 11 24 17.5 -0.9
comp=Z,2µm,2.0s,mb6.7
FUNA LR LR
comp=Z,602µm,19.0s,MS7.8
K08A **Mann Creek Ran** 59.65 59 P P 11 24 18.8 +0.3
baz=60,SNR=34
K08A ⇓S S 11 32 29.3 +0.7
baz=60
SNG **Songkhla** 59.67 246 P P 11 24 20.0 +1.4
comp=Z,1µm,1.0s,mb6.9
NSHM **Saint Helena R** 59.70 65 *e*P P 11 24 18.3 -0.5
J09A **Fry Pan Ranch,** 59.70 58 ⇑P P 11 24 20.7 +1.8
baz=60,SNR=21
J09A ⇓S S 11 32 31.5 +2.2
baz=60
WVOR **Wild Horse Val** 59.74 59 PFAKE 11 24 30.0 +11

WVOR LR LR
comp=Z,465µm,21.0s,MS7.6
ORR Orenburg 59.74 314 *i* P **P 11 24 17.5 -1.6**
ORR 11 26 29.6
ORR S **S 11 32 31.4 +1.5**
ORR SSS 11 38 58.6
ORR pmax pmax
comp=Z,160nm,0.7s,mb6.2
MSO Missoula 59.75 53 *eP* **P 11 24 19.0 -0.2**
comp=Z,1µm,1.5s,mb6.8
MSO *e* 11 24 50.4
MSO LR LR
comp=Z,623µm,19.0s,MS7.8
MCCM Marconi Confer 59.76 65 *eP* **P 11 24 17.9 -1.3**
comp=Z,503nm,1.3s,mb6.4
MCCM Marconi Confer 59.76 65 ⇓P **P 11 24 18.2 -1.0**
baz=60
MCCM ⇓S **S 11 32 30.8 +0.7**
baz=60
I10A Payette 59.81 56 P **P 11 24 19.0 -0.6**
baz=60
D14A Greenough 59.84 52 P **P 11 24 20.3 +0.5**
baz=60,SNR=44
D14A ⇓S **S 11 32 30.6 -0.5**
baz=60
E13A Victor 59.85 53 ⇑P **P 11 24 20.7 +0.8**
baz=60,SNR=38
E13A ⇑S **S 11 32 31.9 +0.6**
baz=60
O05C Quincy 59.86 62 P **P 11 24 19.6 -0.3**
baz=60,SNR=16
O05C ⇓S **S 11 32 32.7 +1.2**
baz=60
H11A Donnelly 59.88 56 P **P 11 24 20.6 +0.5**
baz=60,SNR=31
H11A ⇑S **S 11 32 32.1 +0.4**
baz=60
CVS Carmenet Viney 59.90 65 ⇓P **P 11 24 20.5 +0.3**
baz=60
CVS ⇑S **S 11 32 34.2 +2.3**
baz=60
OHCM Honcut 59.90 63 *eP* **P 11 24 19.1 -1.2**
KKR Kurukshetra 59.94 283 *eP* **P 11 24 21.8 +1.3**
KKR AMb AMB 11 24 43.6
comp=Z,4µm,1.0s,mb7.4
FARB Farallon Islan 59.95 66 ⇓P **P 11 24 20.9 +0.3**
baz=60
FARB ⇑S **S 11 32 34.6 +2.0**
baz=60
NIL Nilore 59.99 288 P **P 11 24 22.5 +1.6**
comp=Z,2µm,0.7s,mb7.2,SNR=21
Q03C Winters 60.00 64 ⇓P **P 11 24 22.2 +1.3**
baz=60
Q03C ⇓S **S 11 32 34.9 +1.7**
baz=60
N06A Buffalo Meadow 60.04 61 ⇓P **P 11 24 22.1 +0.9**
baz=60,SNR=25
N06A ⇑S **S 11 32 34.5 +0.8**
baz=60
M07A Soldier Meadow 60.05 60 P **P 11 24 21.6 +0.3**
baz=60,SNR=27
M07A ⇓S **S 11 32 35.8 +1.9**
baz=60
L08A Fields 60.06 59 P **P 11 24 21.4 +0.1**
baz=60,SNR=30
L08A ⇑S **S 11 32 34.0 0.0**
baz=60
ASOR Ausora 60.06 281 *eP* **P 11 24 23.2 +1.9**
CHMT Chamberlain Mo 60.08 52 *eP* **P 11 24 20.9 -0.6**
BWNR Bhubaneshwar 60.11 268 *ex* x 11 21 22.0
BWNR *ex* x 11 26 10.0
K09A Rome 60.11 58 P **P 11 24 22.4 +0.7**
baz=60,SNR=26
K09A ⇑S **S 11 32 35.6 +0.9**
baz=60
F13A Darby 60.17 54 P **P 11 24 22.4 +0.3**
baz=60,SNR=43
F13A ⇓S **S 11 32 34.7 -0.7**
baz=60
E14A Clinton 60.25 53 P **P 11 24 23.2 +0.6**
baz=60,SNR=33
E14A ⇓S **S 11 32 35.8 -0.5**
baz=60
BEKR Beckwourth 60.26 62 ⇑P **P 11 24 23.3 +0.6**
baz=60,SNR=27
BEKR ⇓S **S 11 32 37.3 +0.7**
baz=60
Q04C Lincoln 60.27 64 ⇓P **P 11 24 22.4 -0.4**
baz=60
Q04C ⇑S **S 11 32 37.9 +1.3**
baz=60
D15A Lincoln 60.39 52 P **P 11 24 24.3 +0.7**
baz=60,SNR=20
D15A ⇑S **S 11 32 38.1 -0.2**
baz=60
BISR Bishrakh 60.40 281 *eP* **P 11 24 22.6 -1.1**
O06A Flanigan 60.40 62 P **P 11 24 24.4 +0.7**
baz=60,SNR=12
O06A ⇑S **S 11 32 38.8 +0.5**
baz=60
P05C Yuba Gap, Truc 60.46 63 ⇑P **P 11 24 24.3 +0.3**
baz=60
P05C ⇓S **S 11 32 38.6 -0.5**
baz=60
NDI New Delhi 60.48 282 *eP* **P 11 24 24.5 +0.2**
NDI AMb AMB 11 24 49.0
comp=Z,5µm,1.9s,mb7.2
NDI *ex* x 11 33 00.0
BDM Black Diamond 60.51 65 ⇑P **P 11 24 23.4 -1.0**
baz=60
BDM ⇓S **S 11 32 40.2 +0.5**
baz=60
N07B Gerlach 60.54 61 P **P 11 24 24.6 -0.1**
baz=60,SNR=22
N07B ⇓S **S 11 32 39.8 -0.4**
baz=60
L09A Wilkinson Ranc 60.56 59 P **P 11 24 25.7 +0.9**
baz=60,SNR=17
L09A ⇓S **S 11 32 41.1 +0.7**
baz=60
JRSC Jasper Ridge 60.61 65 ⇓P **P 11 24 25.1 0.0**
baz=60
JRSC ⇑S **S 11 32 40.9 -0.1**
baz=60
P06A Stead Airport, 60.66 62 ⇑P **P 11 24 25.7 +0.3**
baz=60,SNR=8.0
P06A ⇑S **S 11 32 41.8 +0.2**
baz=60
AYAN Aya Nagar 60.67 281 *eP* **P 11 24 25.0 -0.5**
AYAN AMb AMB 11 24 50.1
comp=Z,2µm,1.6s,mb7.1
F14A Wisdom 60.69 53 ⇑P **P 11 24 26.4 +0.8**
baz=60
F14A ⇓S **S 11 32 42.5 +0.5**
baz=60
E15A Deer Lodge 60.71 52 P **P 11 24 26.4 +0.6**
baz=60,SNR=40
E15A ⇓S **S 11 32 42.0 -0.2**
baz=60
FFC Flin Flon 60.75 40 P **P 11 24 25.3 -0.7**
comp=Z,1µm,0.8s,mb7.1,SNR=23
FFC Flin Flon 60.75 40 P **P 11 24 25.8 -0.2**
SUMG Summit 60.77 4 *eP* **P 11 24 26.2 0.0**
WENL Wente Brothers 60.78 65 P **P 11 24 27.0 +0.7**
baz=61,SNR=7.8
WENL ⇓S **S 11 32 43.3 +0.1**
baz=61
BNLO Ben Lomond (Sa 60.82 66 ⇓P **P 11 24 26.2 -0.3**
baz=61
BNLO ⇑S **S 11 32 44.2 +0.5**
baz=61
R04C Big Horse Ranc 60.90 64 P **P 11 24 26.6 -0.5**
baz=61,SNR=7.8
R04C ⇓S **S 11 32 43.5 -1.2**
baz=61
AGRA Agra 60.92 280 *eP* **P 11 24 27.1 -0.1**
AGRA AMb AMB 11 24 51.9
comp=Z,3µm,1.5s,mb7.2
HRY Holter Researc 60.97 52 *eP* **P 11 24 30.6 +3.0**
WCN Washoe City 60.98 62 P **P 11 24 28.0 +0.4**
baz=61,SNR=34
WCN ⇑S **S 11 32 47.0 +1.3**
baz=61
O07A Toulon 60.98 61 P **P 11 24 28.5 +0.9**
baz=61,SNR=24
O07A ⇑S **S 11 32 47.6 +1.9**
baz=61
N08A GE Springer Mi 61.04 60 P **P 11 24 28.0 -0.1**
baz=61,SNR=23
N08A ⇓S **S 11 32 48.7 +2.1**
baz=61
M09A Marrel Ranch, 61.05 59 P **P 11 24 29.1 +1.0**
baz=61,SNR=23
M09A ⇓S **S 11 32 48.7 +2.0**
baz=61
KULM Kulim 61.10 245 *eP* **P 11 24 29.1 +0.6**
S04C Ingram Canyon, 61.12 65 ⇓P **P 11 24 28.6 0.0**
baz=61
S04C ⇓S **S 11 32 49.3 +1.7**
baz=61
F15A Butte 61.15 53 ⇑P **P 11 24 29.9 +1.2**
baz=61,SNR=43
F15A ⇓S **S 11 32 49.3 +1.4**
baz=61
R05C Kirkwood Meado 61.15 63 P **P 11 24 28.4 -0.4**
baz=61,SNR=14
R05C ⇓S **S 11 32 48.2 +0.3**
baz=61
LRM Limekiln Ridge 61.18 53 *eP* **P 11 24 28.4 -0.5**
EGMT Eagleton 61.26 49 *eP* **P 11 24 28.4 -1.0**
EGMT LR LR
comp=Z,1161µm,19.0s,MS8.1
FCC Fort Churchill 61.28 33 *eP* **P 11 24 28.5 -1.2**
FCC pmax pmax
comp=Z,127nm,0.8s,mb6.1
FCC Fort Churchill 61.28 33 *eP* **P 11 24 28.5 -1.2**
comp=Z,127nm,0.8s,mb6.1
O08A Rochester Mine 61.34 61 ⇑P **P 11 24 30.6 +0.6**
baz=61
O08A ⇑S **S 11 32 51.3 +1.0**
baz=61
P07A Fallon 61.36 62 ⇑P **P 11 24 31.1 +0.9**
baz=61
P07A ⇓S **S 11 32 53.3 +2.7**
baz=61
N09A Rock Creek Ran 61.36 60 P **P 11 24 31.1 +0.9**
baz=61,SNR=29
N09A ⇑S **S 11 32 52.7 +2.0**
baz=61
CMB Columbia Colle 61.38 64 *eP* **P 11 24 29.7 -0.6**
CMB pmax pmax
comp=Z,1µm,1.6s,mb6.7
CMB Columbia Colle 61.38 64 *eP* **P 11 24 29.4 -0.9**
comp=Z,1µm,1.6s,mb6.8
CMB *e* 11 24 56.7
CMB LR LR
comp=Z,539µm,20.0s,MS7.7
CMB Columbia Colle 61.38 64 ⇑P **P 11 24 30.3 0.0**
baz=61,SNR=25
CMB ⇓S **S 11 32 51.0 +0.2**
baz=61
DLMT Dillon 61.39 53 *eP* **P 11 24 30.5 +0.1**
comp=Z,2µm,1.8s,mb7.0
DLMT *e* 11 25 02.1
PBA Port Blair 61.44 256 *ex* x 11 24 23.8
PBA *ex* x 11 24 26.7
comp=Z,960nm,1.6s
PBA *ex* x 11 33 01.8
PACP Pacheco Peak 61.45 65 P **P 11 24 30.5 -0.4**
baz=61,SNR=15
PACP ⇓S **S 11 32 54.6 +2.8**
baz=61
HLID Hailey 61.49 56 *eP* **P 11 24 31.9 +0.8**
comp=Z,1µm,1.5s,mb6.7
HLID LR LR
comp=Z,724µm,20.0s,MS7.8
IPM Ipoh 61.50 244 P **P 11 24 32.5 +1.3**
SAO San Andreas Ge 61.51 66 P **P 11 24 31.4 +0.2**
SAO pmax pmax
comp=Z,210nm,1.0s,mb6.2
SAO San Andreas Ge 61.51 66 *eP* **P 11 24 31.1 -0.1**
comp=Z,50nm,0.9s,mb5.6
SAO LR LR
comp=Z,433µm,19.0s,MS7.6
M10A I.L. Ranch, Tu 61.53 59 P **P 11 24 32.5 +1.2**
baz=61,SNR=26
M10A ⇑S **S 11 32 55.0 +2.3**
baz=61
PECR Pechory 61.54 323 *d* iP **P 11 24 30.0 -1.4**
PECR pmax pmax
comp=Z,33µm,11.0s
PECR pmax pmax
comp=E,8µm,10.0s
G15A Dillon 61.57 53 P **P 11 24 32.1 +0.5**
baz=61,SNR=32
G15A ⇓S **S 11 32 54.0 +0.7**
baz=61
MCMT McKenzie Canyo 61.58 54 *eP* **P 11 24 31.9 +0.2**
LOF Lofoten 61.59 344 *eP* **P 11 24 31.7 0.0**
LOF AMb AMB 11 25 04.3
comp=Z,4µm,1.5s,mb7.3
LOF Lofoten 61.59 344 *eP* **P 11 24 31.7 0.0**
comp=Z,4µm,1.5s,mb7.3
R06C Coleville 61.65 63 ⇓P **P 11 24 32.8 +0.6**
baz=62,SNR=28
R06C ⇓S **S 11 32 56.5 +2.2**
baz=62
WAKR Walker 61.67 63 *eP* **P 11 24 32.2 -0.1**
HAST UC Hastings Re 61.67 66 P **P 11 24 32.7 +0.4**
baz=62,SNR=7.1
HAST ⇓S **S 11 32 57.3 +2.7**
baz=62
P08A Dixie Valley 61.75 61 ⇓P **P 11 24 33.8 +0.9**
baz=62,SNR=9.6
P08A ⇑S **S 11 32 59.0 +3.4**
baz=62
Q07A Schurz 61.78 62 ⇓P **P 11 24 33.7 +0.6**
baz=62,SNR=5.4
Q07A ⇑S **S 11 32 57.4 +1.4**
baz=62
S06C San Francisco 61.80 64 ⇑P **P 11 24 33.5 +0.3**
baz=62,SNR=21
S06C ⇑S **S 11 32 57.5 +1.3**
baz=62
BMN Battle Mountai 61.81 60 *eP* **P 11 24 33.0 -0.2**
comp=Z,241nm,1.3s,mb6.2
BMN LR LR
comp=Z,316µm,19.0s,MS7.5
KHET Khetri 61.82 282 *eP* **P 11 24 32.2 -1.1**
KHET AMb AMB 11 24 57.2
comp=Z,2µm,1.2s,mb7.0
S05C Merced 61.84 64 ⇓P **P 11 24 33.8 +0.3**
baz=62,SNR=29
S05C ⇓S **S 11 32 59.0 +2.4**
baz=62
JNW Jan Mayen West 61.86 353 *eP* **P 11 24 35.0 +1.4**
JMIC Jan Mayen 61.91 353 *eP* **P 11 24 34.1 +0.2**
T05C Eagle Field, D 61.91 65 ⇑P **P 11 24 33.6 -0.3**
baz=62
T05C ⇑S **S 11 32 55.8 -1.7**
baz=62
LRV Little Rabbit 61.99 66 *eP* **P 11 24 35.2 +0.7**
O09A Fish Creek Ran 61.99 60 P **P 11 24 35.5 +1.1**
baz=62,SNR=19
O09A ⇓S **S 11 32 57.5 -1.0**
baz=62
KAKA Kakadu 61.99 203 *eP* **P 11 24 32.0 -2.4**
comp=Z,87nm,0.9s,mb5.9
M11A Holland Ranch, 62.03 58 P **P 11 24 36.0 +1.3**
baz=62,SNR=23
M11A ⇓S **S 11 32 59.6 +0.5**
baz=62
N10A Dunphy 62.05 59 ⇑P **P 11 24 35.8 +0.9**
baz=62
N10A ⇓S **S 11 33 00.4 +1.0**
baz=62
KGM Kluang 62.05 240 P **P 11 24 36.7 +1.9**
V03C Hunter Liggett 62.10 66 ⇑P **P 11 24 35.6 +0.4**
baz=62
V03C ⇓S **S 11 33 02.0 +2.0**
baz=62
R07C Lee Vining 62.17 63 ⇑P **P 11 24 36.3 +0.7**
baz=62,SNR=28
R07C ⇓S **S 11 33 01.8 +1.0**
baz=62
U04C Hernandez Rese 62.17 66 ⇑P **P 11 24 36.0 +0.4**
baz=62,SNR=8.7
U04C ⇓S **S 11 33 03.1 +2.2**
baz=62
JBP Jabalpur 62.19 275 ⇑*eP* **P 11 24 38.4 +2.6**
JBP *ex* x 11 27 43.2
comp=Z,964nm,1.6s
JBP *ex* x 11 33 06.4
O10A Cortez Mining, 62.32 60 P **P 11 24 37.9 +1.2**
baz=62,SNR=19
O10A ⇓S **S 11 33 03.4 +0.7**
baz=62
Q08A Gabbs 62.36 62 ⇑P **P 11 24 37.6 +0.6**
baz=62,SNR=31
Q08A ⇑S **S 11 33 03.7 +0.5**
baz=62
QLMT Earthquake Lak 62.37 53 *eP* **P 11 24 37.0 0.0**
P09A Austin 62.41 61 P **P 11 24 38.2 +1.0**
baz=62,SNR=12
P09A ⇑S **S 11 33 03.4 -0.4**
baz=62
T06C Millerton Lake 62.44 64 P **P 11 24 37.6 +0.2**
baz=62,SNR=13
T06C ⇑S **S 11 33 03.7 -0.6**
baz=62
N11A Elko Archery C 62.45 59 P **P 11 24 38.4 +0.9**
baz=62,SNR=21
N11A ⇑S **S 11 33 04.8 +0.5**
baz=62
KCC Kaiser Creek 62.48 64 ⇓P **P 11 24 38.4 +0.7**
baz=62,SNR=23
KCC ⇓S **S 11 33 07.0 +2.2**
baz=62
M12A Wells 62.55 58 ⇓P **P 11 24 38.4 +0.3**
baz=62,SNR=33
M12A ⇓S **S 11 33 07.4 +1.7**
baz=62
V04C Ramage Ranch, 62.58 66 ⇑P **P 11 24 38.5 +0.1**
baz=62,SNR=7.0
V04C ⇓S **S 11 33 07.7 +1.7**
baz=62
R08A Mina 62.58 62 P **P 11 24 39.2 +0.8**
baz=62,SNR=17
R08A ⇓S **S 11 33 07.0 +1.0**
baz=62
MLAC Mammoth Lakes 62.58 63 ⇓P **P 11 24 39.7 +1.3**
baz=62,SNR=17
MLAC ⇑S **S 11 33 07.7 +1.6**
baz=62
PKD Parkfield 62.59 66 P **P 11 24 38.5 +0.1**
baz=62,SNR=8.1
PKD ⇓S **S 11 33 05.9 -0.2**
baz=62
U05C Westside ANR, 62.60 65 ⇑P **P 11 24 39.3 +0.7**
baz=62
U05C ⇓S **S 11 33 08.4 +2.1**
baz=62
YMR Madison River 62.73 53 *eP* **P 11 24 39.8 +0.4**
comp=Z,189nm,1.0s,mb6.2
P10A Eureka 62.77 60 P **P 11 24 40.3 +0.6**
baz=63,SNR=13
P10A ⇑S **S 11 33 07.6 -0.7**
baz=63
ELK Elko 62.78 59 P **P 11 24 41.0 +1.3**
ELK pmax pmax
comp=Z,800nm,1.5s
ELK Elko 62.78 59 *eP* **P 11 24 40.3 +0.5**
comp=Z,798nm,1.5s,mb6.6
ELK LR LR
comp=Z,725µm,20.0s,MS7.8
N12A Clover Valley, 62.83 58 P **P 11 24 41.1 +1.0**
baz=63,SNR=24
N12A ⇑S **S 11 33 09.3 +0.1**
baz=63
Q09A Carvers 62.83 61 P **P 11 24 40.9 +0.8**
baz=63,SNR=10
Q09A ⇓S **S 11 33 08.1 -1.1**
baz=63
YNR Norris Junctio 62.85 53 *eP* **P 11 24 41.4 +1.2**
YNR *e* 11 25 06.8
YNR *e* 11 25 48.5
O11A Cowboy Ranch, 62.92 59 P **P 11 24 41.5 +0.9**
baz=63,SNR=18
O11A ⇑S **S 11 33 09.3 -1.0**
baz=63
MTUM Tungsten Hills 62.93 63 *eP* **P 11 24 41.1 +0.4**
YFT Old Faithful 62.94 53 *eP* **P 11 24 42.9 +2.1**
PTRM Twissleman Ran 62.98 66 *eP* **P 11 24 40.4 -0.6**
M13A Montello 63.02 58 P **P 11 24 42.2 +0.9**
baz=63,SNR=29
M13A ⇓S **S 11 33 12.9 +1.4**
baz=63
V05C Boulder Hill, 63.04 66 ⇓P **P 11 24 42.2 +0.7**
baz=63
V05C ⇓S **S 11 33 12.6 +0.8**
baz=63
HELL Mitchell Peak, 63.07 64 ⇓P **P 11 24 41.4 -0.3**
baz=63,SNR=30
HELL ⇑S **S 11 33 09.7 -2.4**
baz=63
S08C White Mtn Res 63.08 63 ⇓P **P 11 24 42.7 +1.0**
baz=63,SNR=18
S08C ⇓S **S 11 33 12.2 0.0**
baz=63
LKWY Lake 63.10 53 *eP* **P 11 24 44.8 +2.9**
LKWY pmax pmax
comp=Z,910nm,1.4s,mb6.7
LKWY Lake 63.10 53 *eP* **P 11 24 43.6 +1.7**
comp=Z,690nm,1.4s,mb6.6
LKWY LR LR
comp=Z,1111µm,21.0s,MS8.0
MOR8 Moi Rana 63.11 343 *eP* **P 11 24 39.9 -2.0**
RCTC Rector, Farmer 63.17 65 P **P 11 24 42.5 +0.2**
baz=63,SNR=11
RCTC ⇑S **S 11 33 11.6 -1.8**
baz=63
P11A Circle Ranch, 63.23 60 ⇑P **P 11 24 42.7 0.0**
baz=63
P11A ⇑S **S 11 33 13.2 -1.0**
baz=63
FLWY Flagg Ranch 63.25 53 *eP* **P 11 24 44.5 +1.7**
FLWY *e* 11 25 15.5
STOK Stokkvaagen 63.26 343 *eP* **P 11 24 41.8 -1.1**
R09A Tonopah 63.28 62 P **P 11 24 42.8 -0.2**
baz=63,SNR=38
R09A ⇓S **S 11 33 13.5 -1.2**
baz=63
TPH Tonopah 63.29 62 *eP* **P 11 24 43.3 +0.2**
TPH pmax pmax
comp=Z,2µm,1.7s,mb7.0
TPH Tonopah 63.29 62 *eP* **P 11 24 43.2 +0.1**
comp=Z,2µm,1.7s,mb6.9
DCID1 Drake Creek 63.29 54 *eP* **P 11 24 44.5 +1.3**
DCID1 *e* 11 25 08.2
N13A Wendover, West 63.32 58 ⇓P **P 11 24 43.6 +0.3**
baz=63,SNR=17
N13A ⇓S **S 11 33 14.9 -0.3**
baz=63
TIN Tinemaha 63.32 64 ⇑P **P 11 24 43.7 +0.4**
baz=63
TIN ⇓S **S 11 33 15.6 +0.3**
baz=63
SMMC Simmler 63.33 66 ⇑P **P 11 24 43.5 +0.1**
baz=63
SMMC ⇑S **S 11 33 13.9 -1.5**
baz=63
RLMT Red Lodge 63.36 52 *eP* **P 11 24 43.8 +0.2**
comp=Z,2µm,1.4s,mb7.0
O12A Currie 63.38 59 P **P 11 24 44.4 +0.7**
baz=63,SNR=23
O12A ⇑S **S 11 33 15.3 -0.6**
baz=63
MOOW Moose Ponds 63.44 54 *eP* **P 11 24 44.6 +0.5**
S09A Goldfield 63.51 62 P **P 11 24 44.3 -0.3**
baz=63,SNR=18
S09A ⇓S **S 11 33 17.5 -0.2**
baz=63
HVU Hansel Valley 63.55 56 *eP* **P 11 24 45.6 +0.8**
comp=Z,190nm,1.1s,mb6.0
VES Vestal, Richgr 63.57 65 P **P 11 24 44.1 -0.9**
baz=63,SNR=14
VES ⇓S **S 11 33 14.2 -4.1**
baz=63
VIS Vishakhapatnam 63.57 268 *eP* **P 11 24 46.5 +1.5**
VIS AMb AMB 11 25 10.2
comp=Z,2µm,2.3s,mb6.8
LOHW Long Hollow 63.60 54 *eP* **P 11 24 45.7 +0.6**
comp=Z,619nm,1.6s,mb6.4
LOHW *e* 11 25 08.3
SNOW Snow King Moun 63.62 54 *eP* **P 11 24 46.1 +0.9**
comp=Z,1µm,1.3s,mb6.9
AJM Ajmer 63.65 281 *eP* **P 11 24 46.4 +1.0**
AJM AMS AMS 11 47 37.6
comp=Z,102µm,21.1s,MS7.0
PKM Peak Mountain 63.71 66 ⇑P **P 11 24 46.0 +0.2**
baz=64,SNR=6.8

PKM ⇑S S 11 33 18.3 -1.8
baz=64
R10A Warm Springs 63.71 61 P **P** 11 24 46.1 +0.3
baz=64,SNR=16
R10A ⇓S S 11 33 19.4 -0.7
baz=64
Q11A Duckwater 63.74 61 P **P** 11 24 46.5 +0.4
baz=64,SNR=16
Q11A ⇓S S 11 33 19.0 -1.6
baz=64
P12A McGill 63.79 60 P **P** 11 24 47.0 +0.6
baz=64,SNR=21
P12A ⇑S S 11 33 21.1 0.0
baz=64
CWC Cottonwood Cre 63.81 64 ⇓P **P** 11 24 46.6 +0.1
baz=64,SNR=21
CWC ⇑S S 11 33 19.5 -1.9
baz=64
DGMT Dagmar 63.81 46 *e*P **P** 11 24 45.6 -0.9
comp=Z,2μm,1.4s,mb6.9
DGMT LR LR
comp=Z,1226μm,21.0s,MS8.1
AHID Auburn Hatcher 63.87 55 *e*P **P** 11 24 47.7 +0.7
comp=Z,1μm,1.6s,mb6.7
AHID *e* 11 25 10.8
AHID LR LR
comp=Z,571μm,20.0s,MS7.8
GRAC Grapevine Rang 63.89 63 P **P** 11 24 47.0 0.0
baz=64,SNR=19
GRAC ⇓S S 11 33 20.6 -1.7
baz=64
BHPL Bhopal 63.89 277 *e*P **P** 11 24 48.6 +1.5
BHPL AMb AMB 11 25 06.6
comp=Z,2μm,1.5s,mb6.8
LAO LASA Array 63.95 49 *e*P **P** 11 24 47.2 -0.3
comp=Z,456nm,1.3s,mb6.3
LAO LR LR
comp=Z,1573μm,20.0s,MS8.2
BGU Big Grassy Mou 63.96 57 *e*P **P** 11 24 47.8 +0.2
SPUT South Promonto 64.05 57 *e*P **P** 11 24 45.5 -2.6
ISA Isabella 64.06 65 *e*P **P** 11 24 46.6 -1.6
ISA MLR MLR
comp=Z,118μm,20.0s,MS7.1
ISA Isabella 64.06 65 ⇓P **P** 11 24 47.3 -0.9
baz=64,SNR=18
ISA ⇑S S 11 33 20.6 -3.9
baz=64
SBC Santa Barbara 64.07 67 ⇑P **P** 11 24 48.4 +0.1
baz=64
SBC ⇑S S 11 33 21.2 -3.3
baz=64
TRCR Troy Canyon 64.11 61 *e*P **P** 11 24 48.8 +0.3
TRCR *e* 11 25 13.2
Q12A Willow Creek R 64.11 60 P **P** 11 24 49.3 +0.7
baz=64,SNR=14
Q12A ⇓S S 11 33 24.5 -0.6
baz=64
FIA1 FINESS Array S 64.13 335 *e*P **P** 11 24 47.7 -0.9
FIA1 *e* 11 25 05.7
FINES FINESS Array B 64.13 335 P **P** 11 24 47.9 -0.8
comp=Z,175nm,0.7s,mb6.2,baz=37,slow=8.4,SNR=158
FINES LR LR 11 56 04.5
comp=Z,1324μm,21.2s,MS8.1,baz=206,slow=39
PUL Pulkovo 64.13 332⇑ *i*P **P** 11 24 48.4 -0.3
PUL pmax pmax
comp=Z,2μm,1.4s,mb7.0
PUL pmax pmax
comp=N,2μm,0.7s
PUL pmax pmax
comp=E,1μm,0.8s
PUL MLR MLR
comp=E,1326μm,16.0s,MS8.3
PUL MLR MLR
comp=Z,1356μm,16.0s,MS8.2
PUL MLR MLR
comp=N,530μm,14.0s,MS8.3
PUL Pulkovo 64.13 332⇑ *e*P **P** 11 24 48.5 -0.2
NGP Nagpur 64.18 274⇑ *i*P **P** 11 24 48.5 -0.5
NGP AMb AMB 11 25 12.5
comp=Z,2μm,1.8s,mb6.8
NGP *i* x x 11 33 37.2
NGP *ex* x 11 58 07.3
comp=Z,639μm,16.9s
ARVC Arvin 64.18 66 P **P** 11 24 48.4 -0.6
baz=64,SNR=13
ARVC ⇑S S 11 33 25.0 -1.0
baz=64
DAC Darwin (Calif) 64.21 64 *e*P **P** 11 24 48.6 -0.6
comp=Z,32nm,0.7s,mb5.5
DAC LR LR
comp=Z,455μm,19.0s,MS7.7
HWUT Hardware Ranch 64.36 56 *e*P **P** 11 24 50.6 +0.4
comp=Z,968nm,1.1s,mb6.7
HWUT *e* 11 25 14.4
HWUT LR LR
comp=Z,741μm,20.0s,MS7.9
BSC Santa Cruz Isl 64.41 67 ⇓P **P** 11 24 49.9 -0.5
baz=64
BSC ⇓S S 11 33 25.9 -2.8
baz=64
MPMC Manual Prospec 64.42 64 ⇑P **P** 11 24 50.3 -0.2
baz=64,SNR=29
MPMC ⇑S S 11 33 28.4 -0.5
baz=64
MOS Moscow 64.54 326α *i*P **P** 11 24 50.1 -1.2
MOS *i* 11 25 28.8
MOS *e* 11 27 18.6
MOS *i* S S 11 33 46.3 +16
MOS pmax pmax
comp=Z,2μm,1.8s,mb6.7
MOS pmax pmax
comp=Z,14μm,3.7s
MOS pmax pmax
comp=N,10μm,4.0s
MOS pmax pmax
comp=E,3μm,4.0s
MOS MLR MLR
comp=N,780μm,18.0s,MS8.0
MOS MLR MLR
comp=E,301μm,18.0s,MS8.0
MOS MLR MLR
comp=Z,1023μm,18.0s,MS8.1
FURC Furnace Creek, 64.54 63 P **P** 11 24 51.3 0.0
baz=64,SNR=28
FURC ⇓S S 11 33 30.4 0.0
baz=64
DUG Dugway 64.56 58 *e*P **P** 11 24 52.3 +0.9
DUG *e* 11 25 07.4
DUG pmax pmax
comp=Z,680nm,1.1s,mb6.6
DUG Dugway 64.56 58 *e*P **P** 11 24 52.2 +0.8
comp=Z,684nm,1.2s,mb6.6
DUG LR LR
comp=Z,490μm,20.0s,MS7.7
OSI Osito Adit 64.58 66 ⇓P **P** 11 24 51.4 -0.2
baz=64
OSI ⇑S S 11 33 30.7 -0.2
baz=64
NOQ North Oquirrh 64.66 57 *e*P **P** 11 24 52.6 +0.5
comp=Z,7μm,1.7s,mb7.4
LRMC Laurel Mountai 64.67 65 P **P** 11 24 52.2 +0.1
baz=64,SNR=23
LRMC ⇑S S 11 33 31.9 -0.1
baz=64
BLG Laguna Peak 64.69 67 ⇑P **P** 11 24 52.1 -0.2
baz=64
BLG ⇑S S 11 33 32.7 +0.4
baz=64
BW06 Boulder Array 64.73 54 *e*P **P** 11 24 52.1 -0.5
comp=Z,257nm,1.2s,mb6.1
BW06 *e* 11 25 17.2
BW06 LR LR
comp=Z,600μm,19.0s,MS7.8
PDAR Pinedale Array 64.73 54 P **P** 11 24 51.3 -1.3
comp=Z,60nm,1.1s,mb5.5,baz=275,slow=1.1,SNR=41
CTU Camp Tracy 64.85 57 *e*P **P** 11 24 53.9 +0.5
comp=Z,161nm,1.0s,mb6.0
EDW2 Edwards Air Fo 64.87 65 P **P** 11 24 52.8 -0.7
baz=65,SNR=31
EDW2 ⇓S S 11 33 35.0 +0.5
baz=65
U10A Ash Meadows, A 64.90 63 P **P** 11 24 54.0 +0.4
baz=65,SNR=22
U10A ⇓S S 11 33 35.2 +0.3
baz=65
SNCC San Nicolas Is 64.96 68 *e*P **P** 11 24 55.8 +1.7
comp=Z,0.7nm,1.3s
SNCC LR LR
comp=Z,466μm,21.0s
SNCC San Nicolas Is 64.96 68 ⇓P **P** 11 24 54.2 +0.2
baz=65
SNCC ⇓S S 11 33 35.7 +0.1
baz=65
NSS Namsos 65.05 343 *e*P **P** 11 24 52.1 -2.6
NSS AMb AMB 11 25 36.7
comp=Z,3μm,1.1s,mb7.2
NSS *e*S S 11 33 41.0 +4.2
NSS AMS AMS 11 56 35.2
comp=Z,1077μm,21.6s,MS8.0
NSS Namsos 65.05 343 *e*P **P** 11 24 52.1 -2.6
comp=Z,3μm,1.1s,mb7.2
NSS LR LR
comp=Z,1077μm,21.6s,MS8.0
DECC Green Verdugo 65.06 66 P **P** 11 24 54.8 0.0
baz=65,SNR=7.2
DECC ⇑S S 11 33 36.3 -0.6
baz=65
JLU Jordanelle 65.08 57 *e*P **P** 11 24 55.4 +0.6
NLU North Lily Min 65.14 58 *e*P **P** 11 24 55.2 0.0
SFJD Kangerlussuaq 65.21 10 *i*P **P** 11 24 54.5 -1.2
SFJD *i* 11 25 29.1
SFJD *i* S S 11 33 41.5 +2.9
MWC Mount Wilson 65.25 66 *e*P **P** 11 24 55.3 -0.7
SHOC Shoshone 65.27 63 P **P** 11 24 56.0 0.0
baz=65,SNR=13
SHOC ⇓S S 11 33 38.8 -0.5
baz=65
DAU Daniels Canyon 65.31 57 P **P** 11 24 57.5 +1.1
DAU Daniels Canyon 65.31 57 *e*P **P** 11 24 57.2 +0.8
GSC Goldstone 65.33 64 *e*P **P** 11 24 56.6 +0.1
GSC Goldstone 65.33 64 P **P** 11 24 56.3 -0.2
baz=65,SNR=20
GSC ⇓S S 11 33 40.5 +0.3
baz=65
MPU Maple Canyon 65.36 57 *e*P **P** 11 24 56.6 -0.1
comp=Z,45μm,0.5s
MPU LR LR
comp=Z,921μm,20.0s
OBN Obninsk 65.41 326 P **P** 11 24 56.0 -1.0
comp=Z,2μm,1.1s,mb7.0,SNR=17
OBN Obninsk 65.41 326*c i*P **P** 11 24 55.6 -1.4
OBN *e*S S 11 33 45.3 +4.2
OBN pmax pmax
comp=Z,1μm,2.5s,mb6.5
OBN pmax pmax
comp=Z,16μm,9.8s
OBN MLR MLR
comp=Z,1239μm,17.0s,MS8.2
OBN Obninsk 65.41 326 *e*P **P** 11 24 55.4 -1.5
comp=Z,381nm,0.8s,mb6.5
OBN *e* 11 25 36.2
OBN LR LR
comp=Z,174μm,20.0s,MS7.2
FMP Fort Macarthur 65.44 66 ⇓P **P** 11 24 57.0 -0.2
baz=65
FMP ⇓S S 11 33 40.6 -0.9
baz=65
U11A Corn Creek 65.47 62 P **P** 11 24 58.0 +0.6
baz=65,SNR=15
U11A ⇓S S 11 33 43.2 +1.3
baz=65
RRX Edison Barstow 65.48 65 ⇑P **P** 11 24 57.6 +0.2
baz=65
RRX ⇑S S 11 33 41.5 -0.5
baz=65
BFSC Mount Baldy St 65.49 66 P **P** 11 24 57.3 -0.2
baz=65,SNR=12
BFSC ⇑S S 11 33 42.8 +0.6
baz=65
SHPR Sheep Range 65.56 62 *e*P **P** 11 24 58.2 +0.3
CIS Catalina Islan 65.57 67 ⇓P **P** 11 24 57.8 -0.2
baz=65
CIS ⇓S S 11 33 42.6 -0.4
baz=65
SCI San Clemente I 65.75 67 ⇓P **P** 11 24 58.8 -0.5
baz=66
SCI ⇓S S 11 33 46.9 +1.6
baz=66
ARUT Antelope Range 65.75 60 *e*P **P** 11 24 59.7 +0.5
ARUT Antelope Range 65.75 60 *e*P **P** 11 24 59.5 +0.3
TUQ Turquoise Mtn. 65.79 64 P **P** 11 24 59.8 +0.4
baz=66,SNR=19
TUQ ⇑S S 11 33 46.5 +0.7
baz=66
V11A Goodsprings 65.83 63 P **P** 11 24 59.5 -0.3
baz=66,SNR=22
V11A ⇓S S 11 33 46.1 -0.1
baz=66
JASL Jaisalmer 65.86 284 *ex* x 11 24 57.5
JASL AMb AMB 11 25 20.4
comp=Z,3μm,1.9s,mb7.0
HEC Hector,Ludlow 65.93 64 P **P** 11 25 00.3 -0.1
baz=66,SNR=26
HEC ⇑S S 11 33 46.8 -0.7
baz=66
BBRC Big Bear Sol-O 65.94 65 P **P** 11 25 00.7 +0.3
baz=66,SNR=14
BBRC ⇑S S 11 33 46.9 -0.7
baz=66
U12A Valley of Fire 65.98 62 P **P** 11 25 01.4 +0.8
baz=66,SNR=11
U12A ⇑S S 11 33 49.5 +1.4
baz=66
MVU Marysvale 66.01 59 PFAKE
MVU LR LR
comp=Z,660μm,20.0s,MS7.8
MSU Marysvale 66.03 59 P **P** 11 25 06.3 +5.3
MSU Marysvale 66.03 59 *e*P **P** 11 25 01.4 +0.4
TMUT Trail Mountain 66.08 58 *e*P **P** 11 25 02.0 +0.7
TMUT *e* 11 25 26.6
MURC Murrieta 66.20 66 ⇓P **P** 11 25 02.3 +0.2
baz=66,SNR=16
MURC ⇑S S 11 33 51.6 +0.9
baz=66
VRHR Novokhopersk 66.23 320 *e*P **P** 11 25 01.6 -0.7
VRHR *e*S S 11 33 52.0 +0.9
VRHR pmax pmax
comp=Z,150nm,0.7s,mb6.1
VRHR smax
comp=E,9μm,11.6s
VRHR smax
comp=Z,5μm,6.7s
VRHR smax
comp=N,20nm,7.3s
VRHR MLR MLR
comp=Z,177μm,23.0s,MS7.2
VRHR MLR MLR
comp=E,185μm,26.0s
V12A Nelson 66.26 63 P **P** 11 25 03.0 +0.6
baz=66,SNR=16
V12A ⇑S S 11 33 51.9 +0.5
baz=66
VSU Vasula 66.31 333⇑ *i*P **P** 11 25 00.3 -2.5
W12A Cal Nev Ari 66.53 63 P **P** 11 25 04.7 +0.6
baz=66,SNR=6.5
W12A ⇑S S 11 33 54.9 +0.2
baz=66
ULM Lac du Bonnet 66.53 41 P **P** 11 25 02.6 -1.6
comp=E,43nm,0.8s,mb5.5,baz=316,slow=6.7,SNR=21
ULM LR LR 11 56 53.9
comp=E,854μm,20.4s,MS8.0,baz=323,slow=38
ULM Lac du Bonnet 66.53 41 *e*P **P** 11 25 02.7 -1.5
comp=E,83nm,1.0s,mb5.7
ULM LR LR
comp=Z,1263μm,20.0s,MS8.1
PFO Pinyon Flat Ob 66.66 65 P **P** 11 25 12.0 +7.0
SNR=7.0
PFO Pinyon Flat Ob 66.66 65 *e*P **P** 11 25 04.9 -0.1
PFO pmax pmax
comp=Z,950nm,1.8s,mb6.5
PFO Pinyon Flat Ob 66.66 65 *e*P **P** 11 25 04.6 -0.4
comp=Z,932nm,1.8s,mb6.5
PFO LR LR
comp=Z,86μm,20.0s,MS7.0
PFO Pinyon Flat Ob 66.66 65 P **P** 11 25 05.2 +0.2
baz=66,SNR=11
PFO ⇑S S 11 33 55.7 -0.6
baz=66
BELC Belle Mtn. 66.69 65 P **P** 11 25 04.9 -0.3
baz=66,SNR=17
BELC ⇑S S 11 33 54.7 -1.9
baz=66
VAN Vannovskaya 66.69 301 *e*P **P** 11 25 06.0 +0.8
VAN *e*S SKSac 11 35 00.0 -1.8
ABKT Ailbek 66.70 301 P **P** 11 25 06.1 +0.8
comp=Z,2μm,0.7s,mb7.2,SNR=61
109C Camp Elliot, M 66.73 66 P **P** 11 25 05.8 +0.3
baz=66,SNR=10
109C ⇓S S 11 33 56.2 -0.9
baz=66
CTA Charters Tower 66.75 187 *e*P **P** 11 25 04.0 -1.6
comp=Z,60nm,1.4s,mb5.4
CTA *e*S S 11 33 52.9 -4.5
CTA Charters Tower 66.75 187 P **P** 11 25 03.8 -1.8
comp=Z,39nm,1.0s,mb5.4,baz=337,slow=6.0,SNR=8.7
CTA Charters Tower 66.75 187 *e*P **P** 11 25 04.0 -1.6
CTA *e*S S 11 33 52.9 -4.5
CTA pmax pmax
comp=Z,60nm,1.4s
CTAO Charters Tower 66.75 187 P **P** 11 25 03.8 -1.8
CTAO pmax pmax
comp=Z,540nm,1.5s,mb6.4
CTAO Charters Tower 66.75 187 *e*P **P** 11 25 03.7 -1.9
comp=Z,538nm,1.5s,mb6.3
CTAO LR LR
comp=Z,416μm,20.0s,MS7.7
RWWY Rawlins 66.75 53 *e*P **P** 11 25 05.2 -0.4
comp=Z,727nm,1.6s,mb6.5
VOR Voronezh 66.82 322⇑ *i*P **P** 11 25 05.0 -1.0
VOR pmax pmax
comp=Z,6μm,2.0s,mb7.3
RSSD Black Hills 66.82 50 *e*P **P** 11 25 05.3 -0.7
RSSD pmax pmax
comp=Z,218nm,0.8s,mb6.2
RSSD MLR MLR
comp=Z,666μm,20.0s,MS7.8
RSSD Black Hills 66.82 50 *e*P **P** 11 25 05.3 -0.7
comp=Z,218nm,0.8s,mb6.2
RSSD LR LR
comp=Z,666μm,20.0s,MS7.8
NEE2 Needles Airpor 67.03 63 ⇓P **P** 11 25 07.5 +0.1
baz=67
NEE2 ⇓S S 11 33 60.0 -0.9
baz=67
HYB Hyderabad 67.07 271⇑ *i*P **P** 11 25 08.5 +0.9
comp=Z,860nm,1.0s,mb6.7
HYB *e*S S 11 34 04.0 +2.8
HYB Hyderabad 67.07 271⇑ *e*P **P** 11 25 08.5 +0.9
HYB pmax pmax
comp=Z,860nm,1.0s,mb6.7
HYB Hyderabad 67.07 271⇑ *e*P **P** 11 25 08.5 +0.9
comp=Z,860nm,1.0s,mb6.7
HYB *e*S S 11 34 13.0 +12
HYB *e* 11 51 55.0
IRM Iron Mountain 67.11 64 P **P** 11 25 07.7 -0.2
baz=67,SNR=23
IRM ⇑S S 11 34 01.7 0.0
baz=67
BAR Barrett 67.14 66 *e*P **P** 11 25 07.8 -0.3
MONP Monument Peak 67.16 66 P **P** 11 25 08.5 +0.3
baz=67,SNR=8.7
MONP ⇓S S 11 34 02.0 -0.3
baz=67
VRSR Storozhevoye 67.20 321*c i*P **P** 11 25 08.0 -0.5
VRSR pmax pmax
comp=N,180nm,0.8s
VRSR pmax pmax
comp=Z,180nm,0.8s,mb6.2
VRSR pmax pmax
comp=E,130nm,0.9s
BC3 Big Chuckw Mtn 67.25 65 P **P** 11 25 08.8 -0.1
baz=67,SNR=24
BC3 ⇓S S 11 34 03.2 -0.3
baz=67
W13A Hualapai Mount 67.26 63 P **P** 11 25 09.0 +0.1
baz=67,SNR=21
W13A ⇓S S 11 34 06.9 +3.3
baz=67
VORD Divnogorie 67.34 321 *e*P **P** 11 25 05.6 -3.7
VORD *e* 11 27 46.5
VORD *e*S S 11 33 59.6 -4.9
VORD *e*PPS 11 34 55.3
VORD *e*SS SS 11 38 28.5 +4.3
VORD pmax pmax
comp=Z,90nm,0.8s,mb5.8
VORD pmax pmax
comp=N,90nm,1.2s
VORD pmax pmax
comp=E,60nm,1.4s
VORD smax
comp=Z,97μm,23.8s
VORD smax
comp=E,121μm,24.3s
DVTC Desert V Tower 67.51 66 P **P** 11 25 10.5 0.0
baz=67,SNR=8.3
DVTC ⇑S S 11 34 09.1 +2.5
baz=67
SWSC Sam W. Stewart 67.52 65 P **P** 11 25 10.0 -0.5
baz=67,SNR=9.2
SWSC ⇑S S 11 34 07.9 +1.3
baz=67
X13A Yucca 67.63 63 P **P** 11 25 11.1 -0.1
baz=67,SNR=31
X13A ⇓S S 11 34 09.9 +1.8
baz=67
PDMCI Parker Dam,Lak 67.64 63 P **P** 11 25 11.1 -0.2
baz=67,SNR=24
PDMCI ⇓S S 11 34 09.9 +1.8
baz=67
W14A Seligman 67.67 62 P **P** 11 25 12.0 +0.5
baz=68,SNR=33
W14A ⇑S S 11 34 11.3 +2.8
baz=68
MOL Molde 67.70 344 *e*P **P** 11 25 11.2 -0.4
MOL AMb AMB 11 25 51.3
comp=Z,3μm,0.4s
MOL *e*S S 11 34 18.5 +10
LATR Latur 67.75 274 *ex* x 11 25 02.8
Y12C Blythe 67.77 64 P **P** 11 25 11.9 -0.1
baz=68,SNR=20
Y12C ⇓S S 11 34 10.1 +0.5
baz=68
DOMB Dombas 67.87 343 *e*P **P** 11 25 12.0 -0.8
AGMN Agassiz Refuge 67.94 42 *e*P **P** 11 25 11.8 -1.3
comp=Z,387nm,1.3s,mb6.3
PHWY Pilot Hill 67.98 53 *e*P **P** 11 25 12.1 -1.3
AFI Afiamalu 68.02 143 P **P** 11 25 11.5 -2.1
comp=Z,28nm,0.8s,mb5.3,baz=252,slow=20,SNR=3.1
AFI Afiamalu 68.02 143 P **P** 11 25 11.5 -2.1
AFI Afiamalu 68.02 143 *e*P **P** 11 25 11.2 -2.4
comp=Z,1μm,1.8s,mb6.7
AFI LR LR
comp=Z,533μm,20.0s,MS7.8
GLA Glamis 68.05 65 *e*P **P** 11 25 13.8 0.0
GLA Glamis 68.05 65 P **P** 11 25 13.8 0.0
baz=68,SNR=16
GLA ⇓S S 11 34 13.7 +0.7
baz=68
Y13A Salome 68.16 64 ⇓P **P** 11 25 15.0 +0.5
baz=68
Y13A ⇓S S 11 34 16.2 +1.9
baz=68
W15A Williams 68.19 62 P **P** 11 25 15.9 +1.2
baz=68,SNR=16
W15A ⇑S S 11 34 17.0 +2.3
baz=68
X14A Yava 68.29 63 P **P** 11 25 15.9 +0.5
baz=68,SNR=31
X14A ⇓S S 11 34 16.5 +0.5
baz=68
NB2 NORSAR Subarra 68.32 341 P **P** 11 25 15.4 -0.1
comp=Z,2μm,1.1s,mb7.1,baz=30,slow=6.5
NOA NORSAR Array B 68.32 341 P **P** 11 25 15.1 -0.5
comp=Z,167nm,0.6s,mb6.3,baz=28,slow=6.3,SNR=105
NOA LR LR 11 59 52.2
comp=Z,812μm,18.4s,MS8.0,baz=20,slow=40
WRAB Tennant Creek 68.46 199 P **P** 11 25 14.0 -2.4
SNR=30
WRAB Tennant Creek 68.46 199 *e*P **P** 11 25 14.4 -2.0
WRAB *e* 11 25 23.6
WRAB pmax pmax
comp=Z,1μm,1.3s,mb6.8
WRAB MLR MLR
comp=Z,107μm,21.0s,MS7.0
WRAB Tennant Creek 68.46 199 *e*P **P** 11 25 14.4 -1.9
comp=Z,1μm,1.3s,mb6.8
WRAB *e* 11 25 23.6
WRAB LR LR
comp=Z,107μm,21.0s,MS7.0
WB2 Warramunga Arr 68.47 199 *e*P **P** 11 25 13.2 -3.2
WB2 *es*P sP 11 25 23.7 +1.8

WB2 eS S 11 34 02.4 -16
WRA Warramunga Arr 68.47 199 P **P** **11 25 13.5 -3.0**
comp=Z,79nm,0.9s,mb5.8,baz=17,slow=7.0,SNR=50
WRA LR LR 11 54 10.5
comp=Z,324μm,21.2s,MS7.5,baz=40,slow=35
BHV Bhavnagar 68.50 279 *e*P **P** **11 25 18.0 +1.4**
WUAZ Wupatki 68.50 61 *e*P **P** **11 25 17.4 +0.7**
comp=Z,1μm,1.6s,mb6.6
WUAZ *e* 11 25 41.7
WUAZ LR LR
comp=Z,685μm,20.0s,MS7.9
WUAZ Wupatki 68.50 61 P **P** **11 25 17.5 +0.8**
baz=68,SNR=18
WUAZ ⇑S S 11 34 19.0 +0.5
baz=68
NAO01 NORSAR Array S 68.56 341 *e*P **P** **11 25 17.0 0.0**
comp=Z,797nm,0.8s,mb6.7
NAO01 LR LR
comp=Z,833μm,20.0s,MS8.0
Y14A Wickenburg 68.58 63 P **P** **11 25 17.2 0.0**
baz=68,SNR=26
Y14A ⇑S S 11 34 19.5 +0.1
baz=68
SMCO Snowmass 68.59 55 *e*P **P** **11 25 08.7 -8.5**
comp=Z,980nm,1.4s,mb6.5
IZAR Zarasai 68.65 331 *e*P **P** **11 25 16.9 -0.6**
IZAR AMb AMB 11 25 51.5
comp=Z,10μm,0.8s
X15A Humboldt 68.68 62 P **P** **11 25 18.5 +0.8**
baz=68,SNR=45
X15A ⇓S S 11 34 21.9 +1.4
baz=68
BORG Borgarnes 68.83 357 P **P** **11 25 20.0 +1.3**
comp=Z,1μm,1.0s,mb6.9,SNR=13
BORG Borgarnes 68.83 357 P **P** **11 25 15.6 -3.1**
comp=Z,68nm,0.9s,mb5.6,baz=69,slow=8.6,SNR=1.8
BORG Borgarnes 68.83 357 *e*P **P** **11 25 20.5 +1.8**
comp=Z,2μm,1.1s,mb7.0
BORG LR LR
comp=Z,147μm,19.0s,MS7.2
IDID Didziasalis 68.83 330 *i* P **P** **11 25 18.2 -0.5**
IDID AMb AMB 11 25 45.4
comp=Z,14μm,1.1s
MDRS Chennai 68.93 267 *e*P **P** **11 25 20.0 +0.7**
MDRS AMb AMB 11 25 44.6
comp=Z,2μm,1.7s,mb6.7
MDRS *ex* x 11 39 14.1
IIGN Ignalina 68.98 331⇑ *i*P **P** **11 25 19.2 -0.5**
IIGN AMb AMB 11 25 46.4
comp=Z,16μm,1.3s
Z14A Wintersburg 69.00 63 P **P** **11 25 20.0 +0.2**
baz=69,SNR=8.7
Z14A ⇓S S 11 34 26.4 +2.0
baz=69
MVCO Mesa Verde 69.06 58 *e*P **P** **11 25 19.8 -0.3**
comp=Z,5μm,0.8s
FOO Floro 69.07 344⇓ *i*P **P** **11 25 20.0 -0.2**
FOO Floro 69.07 344 *e*P **P** **11 25 19.8 -0.4**
MNK Minsk 69.11 329*c i*P **P** **11 25 16.0 -4.5**
MNK *e* 11 25 38.0
MNK *e*PPP 11 29 28.0
MNK *e*S S 11 34 15.0 -11
MNK pmax pmax
comp=N,1μm,1.5s
MNK pmax pmax
comp=Z,1μm,1.5s,mb6.7
MNK pmax pmax
comp=E,2μm,1.5s
MNK pmax pmax
comp=Z,25μm,8.0s
MNK smax
comp=Z,70μm,20.0s
FITZ Fitzroy Crossi 69.11 208 *e*P **P** **11 25 18.9 -1.6**
comp=Z,124nm,0.8s,mb5.9
FITZ *e*sP sP 11 25 31.3 +5.4
FITZ *e*S S 11 34 26.1 +0.4
MAK Makhachkala 69.17 311 *e*P **P** **11 25 22.5 +1.7**
MAK *i* 11 25 47.0
MAK *i* 11 27 59.9
MAK *i* S S 11 34 30.6 +4.3
MAK *i* 11 35 22.1
MAK pmax pmax
comp=Z,1μm,2.1s
MAK pmax pmax
comp=N,1μm,1.7s
MAK pmax pmax
comp=E,1μm,2.2s
MAK pmax pmax
comp=Z,36μm,9.8s
MAK smax
comp=E,108μm,23.8s
MAK smax
comp=Z,123μm,22.8s
MAK smax
comp=N,61μm,11.4s
MAK MLR MLR
comp=Z,5892μm,15.0s
MAK MLR MLR
comp=N,3367μm,14.0s
MAK MLR MLR
comp=E,6731μm,18.0s
OSL Oslo 69.41 341 *e*P **P** **11 25 22.7 +0.4**
DZM Mont Dzumac 69.47 167 *e*P **P** **11 25 20.0 -2.7**
DZM Mont Dzumac 69.47 167 P **P** **11 25 20.8 -1.9**
comp=E,32nm,0.9s,baz=51,slow=8.1,SNR=9.9
POO Poona 69.53 276⇑ *i*P **P** **11 25 23.0 -0.1**
POO *i* x x 11 28 05.3
POO *i* x x 11 29 49.0
SUE Sulen 69.62 344 *e*P **P** **11 25 23.6 -0.1**
115A Sonoran Desert 69.89 64 P **P** **11 25 26.0 +0.7**
baz=70,SNR=17
115A ⇑S S 11 34 35.0 +0.1
baz=70
KONO Kongsberg 69.92 341 *e*P **P** **11 25 24.9 -0.6**
KONO *e*S S 11 34 48.0 +13
KONO Kongsberg 69.92 341 *e*P **P** **11 25 25.4 -0.1**
comp=E,3μm,1.2s,mb7.1
KONO LR LR
comp=Z,1245μm,19.0s,MS8.2
ASK Askoy 70.07 344 *e*P **P** **11 25 27.0 +0.6**
ASK AMb AMB 11 25 31.1
comp=Z,1μm,1.8s,mb6.5
ASK Askoy 70.07 344 *e*P **P** **11 25 27.0 +0.6**
comp=Z,1μm,1.8s,mb6.5
BER Bergen 70.14 344 *e*P **P** **11 25 26.5 -0.3**
BER ⇓ *i*P 11 25 27.8
BER *e*S S 11 34 47.8 +10
BER Bergen 70.14 344 *e*P **P** **11 25 27.8 +1.0**
KAD Karad 70.15 274 *e*P **P** **11 25 27.5 +0.6**
KAD AMb AMB 11 25 51.7
comp=Z,3μm,1.9s,mb6.9
KAD *ex* x 11 34 45.8
EYMN Ely 70.18 40 *e*P **P** **11 25 25.2 -1.9**
comp=Z,411nm,0.9s,mb6.4
EYMN LR LR
comp=Z,846μm,20.0s,MS8.0
FSV Svinoy 70.18 350 *e*P **P** **11 25 26.6 -0.4**
EGD Espegrend 70.26 344⇓ *i*P **P** **11 25 28.7 +1.2**
EGD Espegrend 70.26 344 *e*P **P** **11 25 28.7 +1.2**
116A Eloy 70.31 63 P **P** **11 25 28.2 +0.3**
baz=70,SNR=13
116A ⇓S S 11 34 40.0 +0.2
baz=70
ODD1 Odda 70.31 343 *e*P **P** **11 25 27.5 -0.3**
SDCO Great Sand Dun 70.41 56 *e*P **P** **11 25 28.2 -0.2**
comp=Z,1μm,1.6s,mb6.5
SDCO LR LR
comp=Z,966μm,20.0s,MS8.1
BLS5 Blasjo 70.80 343 *e*P **P** **11 25 32.3 +1.5**
KIV Kislovodsk 70.90 314 P **P** **11 25 32.3 +0.9**
comp=Z,2μm,0.8s,mb7.0,SNR=45
KIV Kislovodsk 70.90 314 P **P** **11 25 32.4 +0.9**
SNR=69
KIV P 11 25 32.9
SNR=22
KIV Kislovodsk 70.90 314*c i*P **P** **11 25 32.1 +0.7**
KIV pmax pmax
comp=Z,1μm,2.5s,mb6.4
KIV Kislovodsk 70.90 314 *e*P **P** **11 25 31.9 +0.5**
comp=Z,1μm,0.9s,mb6.8
KIV LR LR
comp=Z,696μm,19.0s,MS7.9
TUC Tucson 71.05 63 *e*P **P** **11 25 32.1 -0.3**
TUC pmax pmax
comp=Z,180nm,1.1s,mb5.9
TUC MLR MLR
comp=Z,458μm,19.0s,MS7.8
TUC Tucson 71.05 63 *e*P **P** **11 25 32.1 -0.3**
comp=Z,180nm,1.1s,mb5.9
TUC LR LR
comp=Z,458μm,19.0s,MS7.8
SUW Suwalki 71.09 331 *e*P **P** **11 25 31.8 -0.8**
comp=Z,4.9nm,2.9s
SUW *ep*P pP 11 25 42.9 +6.3
SUW *es*P sP 11 25 46.6 +8.5
SUW *e*PcP PcP 11 25 55.7 +2.9
SUW *e*S S 11 35 04.5 +16
SUW *e*SKS 11 35 50.9
SUW Suwalki 71.09 331 *e*P **P** **11 25 31.8 -0.8**
SUW *e**PP pP 11 25 42.9 +6.3
SUW *e* 11 25 55.7
SUW pmax pmax
comp=Z,5μm,2.9s,mb6.9
ZEI Tsey 71.16 313 *e*P **P** **11 25 31.1 -1.9**
ZEI *e**PP pP 11 25 39.1 +2.1
ZEI *i* 11 25 48.0
ZEI *e* 11 28 11.2
ZEI pmax pmax
comp=Z,159nm,1.2s,mb5.8
ZEI MLR MLR
comp=Z,3593μm,16.0s,MS8.7
STAV Stavanger 71.40 343 *e*P **P** **11 25 34.5 0.0**
WAL1 Walls 71.46 347 *e*P **P** **11 25 34.8 -0.1**
LRW Lerwick 71.51 347 P **P** **11 25 34.3 -0.8**
LRW AMb AMB 11 25 39.4
comp=Z,246nm,1.9s,mb5.8
LRW Lerwick 71.51 347 *e*P **P** **11 25 34.3 -0.8**
LRW *e*P 11 25 34.3
LRW ⇑*e*P 11 25 34.3
LRW AMb AMB 11 25 39.4
comp=Z,246nm,1.9s,mb5.8
SNART Snartemo 71.64 342 *e*P **P** **11 25 36.1 +0.2**
AKASG Malin Array Be 71.64 326 P **P** **11 25 35.2 -0.7**
comp=Z,107nm,0.5s,mb6.1,baz=33,slow=6.1,SNR=177
AKASG LR LR 12 00 47.0
comp=Z,1012μm,19.3s,MS8.1,baz=25,slow=39
AKASG Malin Array Be 71.64 326 P **P** **11 25 35.2 -0.7**
AKASG LR LR 12 00 47.0
AKBB Malin Array Si 71.64 326 *e*P **P** **11 25 35.0 -0.9**
KIEV Kiev 71.65 326 *e*P **P** **11 25 37.9 +1.9**
KIEV pmax pmax
comp=Z,970nm,0.9s,mb6.7
KIEV Kiev 71.65 326 *e*P **P** **11 25 34.8 -1.2**
comp=Z,972nm,0.8s,mb6.8
KIEV LR LR
comp=Z,1062μm,19.0s,MS8.1
LAZ Ladron 71.79 59 *e*P **P** **11 25 36.9 0.0**
ANMO Albuquerque 71.81 58 *e*P **P** **11 25 38.6 +1.6**
ANMO pmax pmax
comp=Z,410nm,1.3s
ANMO Albuquerque 71.81 58 *e*P **P** **11 25 36.7 -0.2**
comp=Z,159nm,1.4s,mb5.8
ANMO LR LR
comp=Z,423μm,20.0s,MS7.7
LENM Lemitar 72.06 59 *e*P **P** **11 25 38.7 +0.3**
Y22C IRIS PASSCAL I 72.15 59⇓P **P** **11 25 39.9 +0.9**
baz=72
Y22C ⇑S S 11 35 03.9 +2.8
baz=72
LPM Los Pinos Moun 72.16 59 *e*P **P** **11 25 39.1 +0.1**
AS31 Alice Springs 72.16 199 *e*P **P** **11 25 38.0 -1.1**
ASAR Alice Springs 72.16 199 P **P** **11 25 37.6 -1.4**
comp=Z,76nm,0.8s,mb5.7,baz=14,slow=5.8,SNR=77
ASAR LR LR 11 56 28.2
comp=Z,527μm,20.8s,MS7.8,baz=17,slow=35
BNM Barren Site 72.27 59 *e*P **P** **11 25 39.9 +0.2**
SOC Sochi 72.62 316*c i*P **P** **11 25 41.7 -0.1**
SOC *e* 11 25 57.1
SOC *e* 11 28 22.9
SOC *e*PPP 11 30 14.3
SOC *i* S S 11 35 07.6 +1.2
SOC *e* 11 35 55.8
SOC pmax pmax
comp=Z,18μm,8.0s
SOC pmax pmax
comp=Z,805nm,1.6s,mb6.4
SOC MLR MLR
comp=Z,387μm,20.0s,MS7.7
GNI Garni 72.63 310 P **P** **11 25 44.1 +2.3**
SNR=31
GNI P 11 25 44.3
SNR=57
GNI Garni 72.63 310*c i*P **P** **11 25 41.8 0.0**
GNI pmax pmax
comp=Z,292nm,1.3s
GNI Garni 72.63 310 *e*P **P** **11 25 43.5 +1.7**
comp=Z,8μm,1.6s,mb7.4
GNI LR LR
comp=Z,1448μm,22.0s,MS8.2
BSD Bornholm Skovb 72.65 336⇑ *i*P **P** **11 25 41.2 -0.8**
comp=Z,4μm,1.4s,mb7.2
BSD *i* S S 11 35 15.2 +8.4
BSD Bornholm Skovb 72.65 336⇑ *i*P **P** **11 25 41.2 -0.8**
BSD pmax pmax
comp=Z,4μm,1.4s,mb7.2
PALK Pallekele 72.75 262 P **P** **11 25 43.4 +0.8**
comp=Z,1μm,0.9s,mb6.8,SNR=18
PALK Pallekele 72.75 262 P **P** **11 25 43.4 +0.8**
SNR=23
PALK P 11 25 43.8
SNR=20
PALK Pallekele 72.75 262 *e*P **P** **11 25 43.2 +0.6**
comp=Z,774nm,1.1s,mb6.5
PALK LR LR
comp=Z,83μm,20.0s,MS7.0
MNGI Mangalore 72.75 271 *i* P **P** **11 25 42.5 0.0**
MNGI AMb AMB 11 26 06.4
comp=Z,1μm,3.7s
MNGI *i* x x 11 35 24.5
MNGI *ex* x 12 06 28.4
comp=Z,416μm,19.4s
ANN Anapa 72.78 318*c i*P **P** **11 25 42.7 0.0**
ANN *e* 11 28 21.0
ANN *e*PPP 11 30 14.1
ANN *e*S S 11 35 10.2 +2.0
ANN *e*SS SS 11 39 53.6 +5.6
ANN pmax pmax
comp=Z,94μm,10.2s
COP Copenhagen 72.80 338⇑ *i*P **P** **11 25 42.2 -0.7**
comp=Z,2μm,1.0s,mb7.0
COP *i* S S 11 35 30.4 +22
COP *i* 11 40 39.6
COP
comp=Z,456μm,20.0s
COP Copenhagen 72.80 338⇑ *i*P **P** **11 25 42.2 -0.7**
COP pmax pmax
comp=Z,2μm,1.0s,mb7.0
COP MLR MLR
comp=Z,460μm,20.0s,MS7.8
CBKS Cedar Bluff 72.84 51 *e*P **P** **11 25 41.5 -1.6**
comp=Z,1μm,1.4s,mb6.6
CBKS *e* 11 26 06.4
CBKS LR LR
comp=Z,1162μm,22.0s,MS8.1
MUD Monsted U'grnd 72.91 340⇑ *i*P **P** **11 25 45.0 +1.5**
comp=Z,2μm,1.5s,mb6.9
MUD *i* S S 11 35 23.1 +13
MUD Monsted U'grnd 72.91 340⇑ *i*P **P** **11 25 45.0 +1.5**
MUD pmax pmax
comp=Z,2μm,1.5s,mb6.9
KARS Kars 73.14 312 P **P** **11 25 47.0 +2.1**
BCA Borcka 73.28 313 P **P** **11 25 46.7 +1.0**
WAR Warsaw 73.29 332 *e*P **P** **11 25 46.1 +0.4**
comp=Z,8.6nm,3.0s
WAR *ep*P pP 11 25 55.2 +5.5
WAR *es*P sP 11 25 58.1 +6.9
WAR *e*PcP PcP 11 26 01.1 -1.0
WAR *e*S S 11 35 34.3 +20
WAR *e*SKS 11 36 15.0
WAR Warsaw 73.29 332 *e*P **P** **11 25 46.1 +0.4**
WAR *e**PP pP 11 25 55.2 +5.5
WAR *e**SP sP 11 25 58.1 +6.9
WAR *e* 11 26 01.1
WAR pmax pmax
comp=Z,9μm,3.0s
SCHQ Schefferville 73.35 23 P **P** **11 25 44.9 -1.2**
comp=Z,33nm,1.0s,baz=347,slow=6.2,SNR=14
SCHQ LR LR 12 01 38.9
comp=Z,524μm,20.0s,MS7.8,baz=340,slow=39
SCHQ Schefferville 73.35 23 *e*P **P** **11 25 45.3 -0.8**
comp=Z,18nm,1.1s
SCHQ LR LR
comp=Z,773μm,20.0s
RGN Rugen 73.58 337 *e*P **P** **11 25 46.9 -0.6**
RGN *e*L 12 03 23.2
comp=Z,1304μm,18.7s
RGN Rugen 73.58 337 *e*P **P** **11 25 48.2 +0.7**
comp=Z,2μm,0.8s,mb7.1
GKP Gorka Klasztor 73.59 334 *e*P **P** **11 25 47.5 0.0**
GKP *ep*P pP 11 25 56.4 +4.8
GKP *es*P sP 11 25 59.1 +6.1
GKP *e*PcP PcP 11 26 02.4 -1.0
GKP *e*S S 11 35 34.8 +17
GKP *e*SKS 11 36 16.1
GKP Gorka Klasztor 73.59 334 *e*P **P** **11 25 47.5 0.0**
GKP *e**PP pP 11 25 56.4 +4.8
GKP *e**SP sP 11 25 59.1 +6.1
GKP *e* 11 26 02.4
MLA1 Latheron 73.60 347⇑ *e*P **P** **11 25 46.9 -0.7**
CLDR Caldiran 73.80 310 P **P** **11 25 51.1 +2.3**
SCIA State Center 73.92 45 *e*P **P** **11 25 48.1 -1.3**
comp=Z,1μm,1.0s,mb6.8
AGRT Agri 73.94 311 P **P** **11 25 52.1 +2.5**
MBWA Marble Bar 73.99 212 *e*P **P** **11 25 48.0 -1.9**
comp=Z,214nm,1.0s,mb6.0
MBWA LR LR
comp=Z,164μm,19.0s,MS7.3
MVH1 Achvaich 74.09 348 *e*P **P** **11 25 49.8 -0.7**
SIM Simferopol' 74.16 320*c i*P **P** **11 25 51.2 +0.3**
SIM *e*S S 11 35 25.0 +1.1
SIM pmax pmax
comp=Z,27μm,13.0s
SIM MLR MLR
comp=Z,2515μm,17.0s,MS8.6
MCD Coleburn Disti 74.28 347⇑ *e*P **P** **11 25 51.0 -0.6**
LVV L'vov 74.29 329⇑ *i*P **P** **11 25 51.2 -0.4**
LVV *e* 11 26 07.1
LVV *e* 11 30 25.3
LVV *e*S S 11 35 23.1 -2.3
LVV *e* 11 35 50.3
KSU1 Kansas State U 74.29 49 *e*P **P** **11 25 49.4 -2.3**
comp=Z,357nm,0.8s,mb6.3
TRD Trivandrum 74.43 266 *e*P **P** **11 25 53.5 +1.1**
TRD AMS AMS 11 49 59.0
comp=Z,81μm,20.1s,MS7.0
MME1 Meikle Cairn 74.49 347 *e*P **P** **11 25 52.3 -0.4**
TVAN Van 74.52 310 *i* P **P** **11 25 55.1 +2.1**
KTUT Trabzon 74.55 314 P **P** **11 25 56.6 +3.5**
ERZM Erzurum 74.55 312 *i* P **P** **11 25 55.6 +2.4**
EZM Erzurum 74.56 312 P **P** **11 25 56.1 +3.0**
JFWS Jewell Farm 74.57 43 P **P** **11 25 51.5 -1.8**
JFWS *e**PP pP 11 26 01.6 +4.3
JFWS pmax pmax
comp=Z,690nm,1.0s,mb6.5
JFWS Jewell Farm 74.57 43 *e*P **P** **11 25 51.4 -1.9**
comp=Z,657nm,1.0s,mb6.5
JFWS LR LR
comp=Z,633μm,19.0s,MS7.9
MACK Trabzon 74.58 314 *i* P **P** **11 25 53.9 +0.6**
MDO Dochfour 74.58 348 *e*P **P** **11 25 52.4 -0.9**
AMTX Amarillo 74.61 55 *e*P **P** **11 25 53.1 -0.4**
comp=Z,233nm,1.0s,mb6.1
AMTX LR LR
comp=Z,537μm,20.0s,MS7.8
KAC Achnashellach 74.66 348⇑ *e*P **P** **11 25 52.9 -0.8**
MNTX Cornudas Mount 74.74 60 *e*P **P** **11 25 53.6 -0.7**
comp=Z,1μm,1.8s,mb6.6
MNTX LR LR
comp=Z,351μm,20.0s,MS7.7
KIS Kishinev 74.78 324⇑ *i*P **P** **11 25 53.0 -1.5**
KIS *i* 11 26 14.0
KIS *i* S S 11 35 20.0 -11
KIS pmax pmax
comp=E,800nm,1.4s
KIS pmax pmax
comp=Z,2μm,1.4s,mb6.8
KIS pmax pmax
comp=N,1μm,1.8s
KIS pmax pmax
comp=N,11μm,10.0s
KIS pmax pmax
comp=E,7μm,10.0s
KIS pmax pmax
comp=Z,28μm,10.0s
KIS smax
comp=N,33μm,21.0s
KIS smax
comp=E,25μm,20.0s
KIS Kishinev 74.78 324⇑ *i*P **P** **11 25 53.0 -1.5**
comp=E,2μm,1.4s,mb6.8
KIS Kishinev 74.78 324 *i* PcP PcP 11 26 14.0 +5.5
KIS Kishinev 74.78 324 *i* PP PP 11 28 30.0 -12
comp=E,37μm,13.0s
KPL Plockton 74.86 348 P **P** **11 25 54.1 -0.8**
KPL AMb AMB 11 25 57.4
comp=E,301nm,1.1s,mb6.1
KPL Plockton 74.86 348 *e*P **P** **11 25 54.1 -0.8**
KPL ⇑*e*P 11 25 54.1
KPL AMb AMB 11 25 57.4
comp=Z,301nm,1.1s,mb6.1
KPL AMS AMS 12 05 54.1
comp=Z,387μm,18.0s,MS7.7
KWP Kalwaria 74.92 329 *e*P **P** **11 25 55.6 +0.3**
comp=Z,8.6nm,2.6s
KWP *ep*P pP 11 26 03.9 +4.6
KWP *es*P sP 11 26 07.6 +6.8
KWP *e*PcP PcP 11 26 11.5 +2.4
KWP *e*S S 11 35 49.6 +17
KWP *e*SKS 11 36 33.8
KWP Kalwaria 74.92 329 *e*P **P** **11 25 55.6 +0.3**
KWP *e**PP pP 11 26 03.9 +4.6
KWP *e**SP sP 11 26 07.6 +6.8
KWP *e* 11 26 11.5
KWP pmax pmax
comp=Z,9μm,2.6s,mb7.2
BSEG Bad Segeberg 74.92 338 *e*P **P** **11 25 55.3 0.0**
comp=Z,17μm,3.0s
BSEG *e*L 12 02 50.0
comp=Z,1004μm,21.7s
BSEG Bad Segeberg 74.92 338 *e*P **P** **11 25 55.3 0.0**
BSEG pmax pmax
comp=Z,17μm,3.0s
BSEG MLR MLR
comp=Z,1004μm,21.7s,MS8.1
KSB Sheil Bridge 74.96 348⇑ *e*P **P** **11 25 54.9 -0.6**
GDL2 Guadalupe Moun 74.99 59 *e*P **P** **11 25 55.1 -0.6**
HKR Hakkari 75.04 309 P **P** **11 25 58.0 +2.0**
HAKT HAKKARI 75.08 309 *i* P **P** **11 25 57.4 +1.2**
HLG Helgoland 75.29 340 *e*P **P** **11 25 56.6 -0.8**
HLG *e*L 12 06 36.1
comp=Z,890μm,18.2s
RUE Ruedersdorf 75.29 336 *e*P **P** **11 25 57.4 0.0**
RUE *e*L 12 03 23.6
comp=Z,1087μm,19.5s
KAR1 Arisaig 75.30 348⇑ *e*P **P** **11 25 56.5 -0.9**
GRSN GIRESUNGRSN 75.33 315 *i* P **P** **11 25 58.4 +0.7**
CUKT Cukurca 75.36 309 P **P** **11 25 59.3 +1.5**
BNGL BINGOL 75.38 312 *i* P **P** **11 26 00.0 +2.1**
OJC Ojcow 75.41 331 *e*P **P** **11 25 58.3 +0.2**
OJC *e*S S 11 35 36.2 -1.7
OJC *e*SS SS 11 40 23.9 -4.2
OJC L 12 02 53.3
comp=Z,521nm,18.5s
KELT Kelkit 75.43 314 *i* P **P** **11 25 59.9 +1.7**
EZC Erzincan 75.46 313 P **P** **11 26 02.2 +3.8**
STHS Stebnicka Huta 75.61 330 *e*P **P** **11 26 00.1 +0.8**
STHS *e* 11 36 08.0
STHS pmax pmax
comp=Z,120nm,0.9s,mb5.8
STHS Stebnicka Huta 75.61 330 *e*P **P** **11 26 00.1 +0.8**
comp=Z,120nm,0.9s,mb5.8
STHS *e* 11 26 26.7
STHS *e* 11 36 08.0
KOLS Kolonicke sedl 75.66 329 *e*P **P** **11 25 59.6 +0.1**
KOLS *e*PCP PcP 11 26 25.7 +13
KOLS *e*S S 11 35 44.7 +4.1
KOLS *e* 11 41 17.9
KOLS Kolonicke sedl 75.66 329 *e*P **P** **11 25 59.6 +0.1**
KOLS *e*S S 11 35 44.7 +4.1
BURAR Bucovina Array 75.68 327⇑ *i*P **P** **11 25 59.7 0.0**
BURAR Bucovina Array 75.68 327⇑P **P** **11 25 59.7 0.0**
BTMT Batman 75.77 311 P **P** **11 26 02.8 +2.6**
ESY Stoneypath 75.77 346⇑ *e*P **P** **11 25 59.2 -1.0**
BINT Bingol 75.78 312 P **P** **11 26 02.8 +2.6**
EAB Aberfoyle 75.78 347⇑ *e*P **P** **11 25 59.5 -0.8**

SIRT	**Sirnak**	**75.79**	**310**	P	**P**	**11 26 07.8**	**+7.5**
EDI	**Edinburgh**	**75.86**	**347**	P	**P**	**11 25 59.8**	**-0.9**
EDI				AMb	AMB	11 26 00.4	
	comp=Z,222nm,1.5s,mb5.9						
EDI	**Edinburgh**	**75.86**	**347**	*e*P	**P**	**11 25 59.8**	**-0.9**
EDI				*e*P		11 25 59.8	
EDI				AMb	AMB	11 26 00.4	
	comp=Z,222nm,1.5s,mb5.9						
EDI				AMS	AMS	12 02 57.4	
	comp=Z,473µm,20.0s,MS7.8						
UZH	**Uzhgorod**	**75.91**	**329**	⇓*i*P	**P**	**11 26 00.6**	**-0.4**
UZH				*e*S	S	11 35 42.8	-0.6
UZH				*i*		11 36 06.0	
UZH				*e*PS		11 36 30.0	
NIE	**Niedzica**	**75.93**	**330**	*e*P	**P**	**11 26 01.5**	**+0.4**
EAU	**Auchinoon**	**75.98**	**347**	⇑*e*P	**P**	**11 26 00.9**	**-0.4**
EBL	**Broad Law**	**75.98**	**346**	⇑*e*P	**P**	**11 26 00.5**	**-0.8**
KSP	**Ksiaz**	**75.99**	**333**	*e*P	**P**	**11 26 01.9**	**+0.4**
	comp=Z,12nm,4.8s						
KSP				*e*PcP	PcP	11 26 16.7	+2.9
KSP	**Ksiaz**	**75.99**	**333**	⇑*e*P	**P**	**11 26 01.4**	**-0.1**
KSP				*e*		11 26 14.2	
KSP				*e*		11 36 03.0	
KSP				MLR	MLR		
	comp=Z,3532µm,18.0s,MS8.7						
KSP	**Ksiaz**	**75.99**	**333**	⇑*e*P	**P**	**11 26 01.4**	**-0.1**
KSP				*e*		11 26 14.2	
KSP				*e*PP	PP	11 29 09.0	+17
KSP				*e*SKS		11 36 03.0	
KSP				*e*SS	SS	11 41 24.0	+47
KSP				LR	LR		
	comp=Z,3532µm,18.0s,MS8.7						
RAC	**Raciborz**	**76.06**	**332**	*e*P	**P**	**11 26 01.9**	**+0.1**
RAC				*e*S	S	11 36 00.2	+15
RAC				MLR	MLR		
	comp=Z,1500µm,19.4s,MS8.3						
BANOM	**Banah**	**76.07**	**293**	⇑P	**P**	**11 26 03.5**	**+1.6**
	SNR=25						
PGBU	**Glenifferbraes**	**76.17**	**347**	⇑*e*P	**P**	**11 26 02.0**	**-0.5**
PGBU				*e*P		11 26 02.0	
PGBU				AMb	AMB	11 26 05.2	
	comp=Z,245nm,1.3s,mb6.0						
DIKM	**Dikmen**	**76.22**	**317**	P	**P**	**11 26 04.2**	**+1.5**
KVT	**Kavak**	**76.28**	**316**	P	**P**	**11 26 04.9**	**+1.8**
OKC	**Ostrava-Krasne**	**76.28**	**332**	*e*P	**P**	**11 26 03.2**	**+0.1**
OKC				*e*PCP	PcP	11 26 17.6	+2.6
OKC				*ex*	x	11 36 53.3	
OKC				*ex*	x	11 41 30.3	
OKC				AMS	AMS	12 03 40.0	
	comp=Z,1161µm,18.8s						
OKC	**Ostrava-Krasne**	**76.28**	**332**	*e*P	**P**	**11 26 03.2**	**+0.1**
OKC				*e*		11 26 17.6	
OKC				MLR	MLR		
	comp=Z,1161µm,18.8s,MS8.2						
OKC	**Ostrava-Krasne**	**76.28**	**332**	*e*P	**P**	**11 26 03.2**	**+0.1**
OKC				*e*		11 26 17.6	
OKC				*e*ScS	ScS	11 36 53.3	+35
OKC				*e*		11 41 30.3	
PTK	**Pertek**	**76.32**	**313**	P	**P**	**11 26 05.2**	**+1.8**
WMOK	**Wichita Mounta**	**76.34**	**54**	*e*P	**P**	**11 26 03.0**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,270nm,1.0s,mb6.1						
WMOK	**Wichita Mounta**	**76.34**	**54**	*e*P	**P**	**11 26 02.5**	**-1.0**
	comp=Z,491nm,1.1s,mb6.3						
WMOK				LR	LR		
	comp=Z,438µm,19.0s,MS7.8						
MSL	**Mosul**	**76.35**	**309**	*i* x	x	11 26 04.0	
MSL				*i* x	x	11 36 01.0	
UPC	**Upice**	**76.38**	**333**	*e*P	**P**	**11 26 03.6**	**0.0**
UPC				*e*PCP	PcP	11 26 16.8	+1.4
UPC				*ex*	x	11 36 49.6	
DPC	**Dobruska-Polom**	**76.42**	**333**	*e*P	**P**	**11 26 04.2**	**+0.3**
DPC				*ex*	x	11 26 26.6	
DPC				*e*SKS		11 36 10.4	
DPC				*ex*	x	11 36 53.5	
DPC				*ex*	x	11 41 36.4	
DPC				AMS	AMS	12 04 30.0	
	comp=Z,2060µm,17.4s						
DPC	**Dobruska-Polom**	**76.42**	**333**	*e*P	**P**	**11 26 04.2**	**+0.3**
DPC				*e*S	S	11 36 10.4	+21
DPC				MLR	MLR		
	comp=Z,2060µm,17.4s,MS8.5						
ESK	**Eskdalemuir**	**76.45**	**346**	P	**P**	**11 26 03.6**	**-0.4**
	comp=Z,539nm,1.2s,mb6.3,SNR=7.4						
ESK	**Eskdalemuir**	**76.45**	**346**	P	**P**	**11 26 02.9**	**-1.1**
ESK				AMb	AMB	11 26 06.0	
	comp=Z,157nm,1.2s,mb5.8						
ESK	**Eskdalemuir**	**76.45**	**346**	*e*P	**P**	**11 26 02.9**	**-1.1**
ESK				⇑*e*P		11 26 02.9	
ESK				AMb	AMB	11 26 06.0	
	comp=Z,157nm,1.2s,mb5.8						
ESK				AMS	AMS	12 17 14.2	
	comp=Z,571µm,17.5s,MS7.9						
ESK	**Eskdalemuir**	**76.45**	**346**	*e*P	**P**	**11 26 03.5**	**-0.6**
	comp=Z,669nm,1.0s,mb6.5						
ESK				LR	LR		
	comp=Z,109µm,20.0s,MS7.2						
WSAR	**Wadi Sarin**	**76.47**	**289**	P	**P**	**11 26 05.3**	**+1.1**
	comp=Z,93nm,1.1s,mb5.6,baz=68,slow=5.4,SNR=32						
WSAR				LR	LR	12 04 30.9	
	comp=Z,1141µm,20.0s,MS8.2,baz=339,slow=39						
MORC	**Moravsky Berou**	**76.53**	**332**	⇑*i*P	**P**	**11 26 05.0**	**+0.5**
MORC	**Moravsky Berou**	**76.53**	**332**	*e*P	**P**	**11 26 04.2**	**-0.3**
MORC				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.8						
MORC	**Moravsky Berou**	**76.53**	**332**	*e*P	**P**	**11 26 04.8**	**+0.3**
	comp=Z,3µm,1.3s,mb7.0						
VRI	**Vrincioaia**	**76.54**	**325**	⇑*i*P	**P**	**11 26 05.0**	**+0.4**
VRI	**Vrincioaia**	**76.54**	**325**	⇑P	**P**	**11 26 05.0**	**+0.4**
BZK	**Bozkurt**	**76.56**	**318**	P	**P**	**11 26 05.9**	**+1.3**
CLL	**Collm**	**76.56**	**336**	⇑*i*P	**P**	**11 26 04.0**	**-0.7**
	comp=Z,8µm,1.8s,mb7.3						
CLL				*e*PP	PP	11 29 31.9	+35
CLL				*e*PPP		11 31 09.1	
CLL				*e*S	S	11 36 02.4	+12
CLL				*e*PS		11 36 32.4	
CLL				*e*SS	SS	11 40 44.3	-1.2
CLL				*e*SSS		11 44 17.9	
CLL				*e*LR	LR	11 50 58.2	
CLL				*e*L		12 04 10.9	
	comp=Z,1318µm,18.0s						
CLL	**Collm**	**76.56**	**336**	*e*P	**P**	**11 26 04.0**	**-0.7**
	comp=Z,463nm,0.9s,mb6.4						
CLL				*i*		11 26 24.6	
CLL	**Collm**	**76.56**	**336**	*e*P	**P**	**11 26 04.0**	**-0.7**
	comp=Z,463nm,0.9s,mb6.4						
CLL				*e*PcP	PcP	11 26 18.0	+1.8
CLL				*i* P(2)		11 26 24.6	
	comp=Z,1µm,0.8s						
CLL				*i* x	x	11 26 30.4	
	comp=Z,2µm,1.1s						
CLL				*e*Pmlp		11 26 38.0	
	comp=Z,180µm,17.4s						
CLL				*e*Pmax		11 26 47.0	
	comp=Z,2µm,0.9s						
CLL				*e*PPmax		11 29 36.0	
CLL				*e*PPPmax		11 31 13.0	
CLL				*e*Smax		11 35 59.0	
	comp=N,30µm,15.2s						
CLL				*e*Smax		11 35 59.0	
	comp=E,194µm,26.1s						
CLL				*e*PS		11 36 43.0	
CLL				*e*(SS)		11 41 36.0	
CLL				*e*SSS		11 44 24.0	
CLL				*e*SSSS		11 46 00.0	
CLL				Lm		12 03 00.0	
	comp=Z,1190µm,18.1s						
BOYT	**Boyabat**	**76.56**	**317**	*i* P	**P**	**11 26 06.4**	**+1.7**
PLOR	**Plostina**	**76.58**	**325**	⇓*i*P	**P**	**11 26 05.4**	**+0.6**
BYBT	**Boyabat**	**76.59**	**317**	P	**P**	**11 26 06.5**	**+1.6**
BIDO	**Bidbid**	**76.60**	**290**	⇑P	**P**	**11 26 07.2**	**+2.3**
	SNR=24						
DIY	**Diyarbakir**	**76.65**	**312**	P	**P**	**11 26 07.9**	**+2.7**
LIKS	**Likavka**	**76.65**	**331**	*e*P	**P**	**11 26 06.1**	**+0.9**
LIKS				*e*		11 26 21.6	
LIKS				pmax	pmax		
	comp=Z,130nm,0.9s,mb5.9						
LIKS	**Likavka**	**76.65**	**331**	*e*P	**P**	**11 26 06.1**	**+0.9**
	comp=Z,130nm,0.9s,mb5.9						
LIKS				*e*		11 26 21.6	
KECS	**Kecovo**	**76.67**	**330**	*e*P	**P**	**11 26 05.4**	**+0.1**
KECS				*e*PCP	PcP	11 26 26.4	+10
KECS				*e*		11 36 13.1	
KECS	**Kecovo**	**76.67**	**330**	*e*P	**P**	**11 26 05.4**	**+0.1**
KECS				*e*		11 36 13.1	
KECS				pmax	pmax		
	comp=Z,82nm,0.9s,mb5.7						
KECS	**Kecovo**	**76.67**	**330**	*e*P	**P**	**11 26 05.4**	**+0.1**
	comp=Z,82nm,0.9s,mb5.7						
KECS				*e*		11 26 26.5	
KECS				*e*		11 36 13.1	
BRG	**Berggiesshubel**	**76.67**	**335**	⇑*i*P	**P**	**11 26 04.8**	**-0.5**
	comp=Z,4µm,2.1s,mb7.0						
BRG				*e*L		12 04 20.1	
	comp=Z,1127µm,18.4s						
BRG	**Berggiesshubel**	**76.67**	**335**	*i* P	**P**	**11 26 05.2**	**-0.1**
	comp=Z,76nm,0.9s,mb5.6						
BRG				*i*		11 26 13.0	
	comp=Z,67nm,1.1s						
BRG				*i*		11 26 33.3	
	comp=Z,306nm,1.1s						
BRG	**Berggiesshubel**	**76.67**	**335**	*i* P	**P**	**11 26 05.2**	**-0.1**
BRG				*i*		11 26 13.0	
WBK	**Wadi Bani Khal**	**76.69**	**289**	⇑P	**P**	**11 26 07.9**	**+2.5**
	SNR=37						
SVSK	**Karacayir**	**76.72**	**315**	P	**P**	**11 26 07.4**	**+1.8**
GMK	**Mull of Kintyr**	**76.79**	**348**	⇑*e*P	**P**	**11 26 05.9**	**0.0**
PVCC	**Panska Ves**	**76.79**	**334**	*e*P	**P**	**11 26 05.9**	**-0.1**
PVCC				*e*PCP	PcP	11 26 19.6	+2.4
PVCC				*e*SKS		11 36 12.1	
PVCC				*ex*	x	11 36 55.3	
PVCC				*ex*	x	11 41 44.4	
PVCC				AMS	AMS	12 04 50.0	
	comp=Z,1279µm,16.2s						
PVCC	**Panska Ves**	**76.79**	**334**	*e*P	**P**	**11 26 05.9**	**-0.1**
PVCC				*e*		11 26 19.6	
PVCC				*e*S	S	11 36 12.1	+19
PVCC				*e*		11 36 55.3	
PVCC				MLR	MLR		
	comp=Z,1279µm,16.2s,MS8.3						
FBE	**Freiberg**	**76.80**	**335**	*e*P	**P**	**11 26 06.1**	**+0.1**
MARD	**Mardin**	**76.80**	**311**	*i* P	**P**	**11 26 07.8**	**+1.7**
ELZG	**Elazig**	**76.83**	**313**	*i* P	**P**	**11 26 08.4**	**+2.2**
WIT	**Witteveen**	**76.84**	**340**	⇑*e*P	**P**	**11 26 07.4**	**+1.1**
WIT				*ex*	x	11 26 23.6	
HATD	**Hatta, Dubai**	**76.95**	**292**	⇑P	**P**	**11 26 08.4**	**+1.5**
	SNR=42						
SMDO	**Samad**	**76.97**	**290**	⇓P	**P**	**11 26 09.2**	**+2.2**
	SNR=22						
SMDO				P		11 46 59.6	
	SNR=8.8						
GCD	**Castle Douglas**	**77.00**	**347**	*e*P	**P**	**11 26 06.6**	**-0.6**
TIRR	**Tirgusor**	**77.01**	**323**	⇑*i*P	**P**	**11 26 07.2**	**0.0**
TIRR	**Tirgusor**	**77.01**	**323**	⇑P	**P**	**11 26 07.2**	**0.0**
IBBN	**Ibbenburen**	**77.04**	**339**	*e*P	**P**	**11 26 07.3**	**-0.1**
IBBN				*e*L		12 06 29.8	
	comp=Z,934µm,18.2s						
HOQ	**Hoqain**	**77.08**	**291**	P	**P**	**11 26 09.1**	**+1.4**
	SNR=48						
HOQ				P		11 26 09.3	
	SNR=32						
ASHO	**Ashiyiah**	**77.10**	**292**	P	**P**	**11 26 08.7**	**+1.0**
	SNR=60						
GAL1	**Galloway**	**77.12**	**347**	P	**P**	**11 26 06.9**	**-0.9**
GAL1				AMb	AMB	11 26 10.3	
	comp=Z,239nm,1.3s,mb6.0						
GAL1	**Galloway**	**77.12**	**347**	*e*P	**P**	**11 26 06.9**	**-0.9**
GAL1				⇑*e*P		11 26 06.9	
GAL1				*e*P		11 26 06.9	
GAL1				AMb	AMB	11 26 10.3	
	comp=Z,239nm,1.3s,mb6.0						
GCL	**Cushendall**	**77.12**	**348**	*e*P	**P**	**11 26 07.4**	**-0.5**
MLR	**Muntele Rosu**	**77.16**	**325**	⇑*i*P	**P**	**11 26 08.8**	**+0.7**
MLR	**Muntele Rosu**	**77.16**	**325**	⇑P	**P**	**11 26 08.8**	**+0.7**
BALT	**Daday**	**77.17**	**318**	*i* P	**P**	**11 26 09.7**	**+1.5**
VYHS	**Vyhne**	**77.22**	**331**	*e*P	**P**	**11 26 08.8**	**+0.4**
VYHS				*e*PCP	PcP	11 26 29.0	+10
VYHS				*e*S	S	11 35 55.7	-2.0
VYHS				*e*		11 41 43.2	
VYHS	**Vyhne**	**77.22**	**331**	*e*P	**P**	**11 26 08.8**	**+0.4**
VYHS				*e*S	S	11 35 55.7	-2.0
VYHS				pmax	pmax		
	comp=Z,127nm,1.0s,mb5.8						
VYHS	**Vyhne**	**77.22**	**331**	*e*P	**P**	**11 26 08.8**	**+0.4**
	comp=Z,127nm,1.0s,mb5.8						
VYHS				*e*		11 26 29.0	
VYHS				*e*S	S	11 35 55.7	-2.0
VYHS				*e*SS	SS	11 41 43.2	+48
VYHS				LR	LR		
	comp=Z,1068µm,50.2s,MS7.8						
CTKT	**Corum**	**77.24**	**317**	*i* P	**P**	**11 26 10.1**	**+1.6**
PRA	**Prague**	**77.24**	**334**	P	**P**	**11 26 08.0**	**-0.5**
PRA				*ex*	x	11 26 23.0	
PRA				*ex*	x	11 36 43.0	
PRA				SCS	ScS	11 36 58.0	+32
PRA				*ex*	x	11 37 07.0	
MYA	**Malataya**	**77.24**	**313**	P	**P**	**11 26 11.3**	**+2.8**
VRAC	**Vranov**	**77.24**	**333**	⇑*i*P	**P**	**11 26 08.8**	**+0.3**
VRAC	**Vranov**	**77.24**	**333**	⇑P	**P**	**11 26 08.8**	**+0.3**
MALT	**Malatya**	**77.25**	**313**	⇑*i*P	**P**	**11 26 10.5**	**+1.9**
MALT	**Malatya**	**77.25**	**313**	*e*P	**P**	**11 26 10.3**	**+1.7**
MALT				*e*'PP	pP	11 26 19.8	+7.2
MALT				pmax	pmax		
	comp=Z,2µm,1.3s,mb6.8						
MALT	**Malatya**	**77.25**	**313**	*e*P	**P**	**11 26 10.2**	**+1.7**
	comp=Z,2µm,1.3s,mb6.8						
COCO	**West Island**	**77.25**	**237**	PFAKE		11 26 20.0	+11
COCO				LR	LR		
	comp=Z,47µm,19.0s,MS6.8						
PRU	**Pruhonice**	**77.28**	**334**	*e*P	**P**	**11 26 08.7**	**0.0**
PRU				*ex*	x	11 26 24.1	
PRU				*e*SKS		11 36 19.7	
PRU				*e*SCS	ScS	11 36 58.1	+32
PRU				*ex*	x	11 41 59.3	
PRU				AMS	AMS	12 04 20.0	
	comp=Z,876µm,17.1s						
DRGR		**77.31**	**328**	⇑*i*P	**P**	**11 26 08.6**	**-0.3**
DRGR		**77.31**	**328**	⇑P	**P**	**11 26 08.7**	**-0.2**
PSZ	**Piszkesteto**	**77.36**	**330**	⇑*i*P	**P**	**11 26 09.7**	**+0.6**
PSZ	**Piszkesteto**	**77.36**	**330**	*e*P	**P**	**11 26 09.6**	**+0.5**
	comp=Z,230nm,0.8s,mb6.2						
PSZ	**Piszkesteto**	**77.36**	**330**	⇑*e*P	**P**	**11 26 09.8**	**+0.7**
SNX	**Sinaia**	**77.44**	**325**	⇓*i*P	**P**	**11 26 12.2**	**+2.6**
LTX	**Lajitas**	**77.47**	**61**	*e*P	**P**	**11 26 09.6**	**-0.2**
LTX				pmax	pmax		
	comp=Z,3µm,2.0s,mb6.9						
LTX				MLR	MLR		
	comp=Z,486µm,20.0s,MS7.8						
LTX	**Lajitas**	**77.47**	**61**	*e*P	**P**	**11 26 09.6**	**-0.2**
	comp=Z,3µm,2.0s,mb6.9						
LTX				LR	LR		
	comp=Z,486µm,20.0s,MS7.8						
TXAR	**Lajitas Array**	**77.47**	**61**	P	**P**	**11 26 08.7**	**-1.1**
	comp=Z,52nm,0.6s,mb5.7,baz=298,slow=3.5,SNR=52						
TANN	**Tannenbergstha**	**77.51**	**336**	*e*P	**P**	**11 26 10.0**	**0.0**
WERD	**Werda**	**77.52**	**336**	*e*P	**P**	**11 26 10.4**	**+0.3**
MOX	**Moxa**	**77.54**	**336**	*e*P	**P**	**11 26 10.1**	**-0.1**
	comp=Z,18µm,3.4s						
MOX				*e*L		12 09 42.5	
	comp=Z,1006µm,18.5s						
MOX	**Moxa**	**77.54**	**336**	*e*P	**P**	**11 26 10.0**	**-0.2**
MOX				*e*		11 26 25.6	
VOIR		**77.56**	**325**	⇑*i*P	**P**	**11 26 11.2**	**+0.9**
VOIR		**77.56**	**325**	⇑P	**P**	**11 26 11.2**	**+0.9**
WTSB	**Winterswijk**	**77.59**	**339**	⇑*e*P	**P**	**11 26 10.2**	**-0.3**
	comp=Z,693nm,1.5s,mb6.4						
WTSB				*ex*	x	11 26 27.9	
GUNZ	**Gunzen**	**77.59**	**336**	*e*P	**P**	**11 26 10.7**	**+0.2**
GUNZ				*e*L		12 02 24.6	
	comp=Z,885µm,21.1s						
WERN	**Wernitzgruen**	**77.65**	**335**	*e*P	**P**	**11 26 10.9**	**+0.1**
WERN				*e*L		12 05 56.0	
	comp=Z,942µm,18.0s						
DRBT	**Darb Altahta**	**77.66**	**311**	⇑P	**P**	**11 26 17.9**	**+7.0**
CORM	**Corum**	**77.66**	**316**	P	**P**	**11 26 12.2**	**+1.4**
SMOL	**Smolenice**	**77.67**	**332**	*e*P	**P**	**11 26 12.0**	**+1.1**
SMOL				*e*PCP	PcP	11 26 32.8	+12
SMOL	**Smolenice**	**77.67**	**332**	*e*P	**P**	**11 26 12.1**	**+1.2**
SMOL				*e*		11 26 32.8	
NKC	**Novy Kostel**	**77.68**	**335**	*e*P	**P**	**11 26 10.8**	**-0.1**
NKC				*ex*	x	11 26 26.4	
NKC				*e*SKS		11 36 15.0	
NKC				*ex*	x	11 36 58.9	
NKC				*ex*	x	11 42 03.1	
NKC				AMS	AMS	12 05 50.0	
	comp=Z,1156µm,17.2s						
NKC	**Novy Kostel**	**77.68**	**335**	*e*P	**P**	**11 26 10.8**	**-0.1**
NKC				*e*		11 26 26.4	
NKC				*e*S	S	11 36 15.0	+12
NKC				*e*		11 36 58.9	
NKC				MLR	MLR		
	comp=Z,1156µm,17.2s,MS8.3						
NKC	**Novy Kostel**	**77.68**	**335**	*e*P	**P**	**11 26 10.8**	**-0.1**
NKC				*e*		11 26 26.4	
NKC				*e*S	S	11 36 15.0	+12
NKC				*e*ScS	ScS	11 36 58.9	+29
NKC				*e*		11 42 03.1	
MTUR	**Matau**	**77.73**	**325**	⇑*i*P	**P**	**11 26 12.2**	**+1.0**
SAFT	**Safranbolu**	**77.73**	**318**	P	**P**	**11 26 13.3**	**+2.0**
PSN	**Preselentsi**	**77.74**	**323**	*i* P	**P**	**11 26 12.7**	**+1.4**
ARQ	**Araqi**	**77.76**	**291**	P	**P**	**11 26 13.0**	**+1.6**
	SNR=27						
CANT	**Cankiri**	**77.80**	**317**	P	**P**	**11 26 14.2**	**+2.6**
SLM	**Saint Louis**	**77.88**	**46**	*e*P	**P**	**11 26 11.0**	**-1.1**
	comp=Z,7µm,2.5s,mb7.1						
BHD	**Baghdad**	**77.89**	**306**	*i* x	x	11 26 08.5	
BHD				*i* x	x	11 26 15.0	
BHD				*i* x	x	11 36 10.0	
BHD				*i* x	x	11 36 21.5	
BHD				*i* x	x	11 37 05.0	
BHD				*i* x	x	11 41 24.0	
GMM	**Mts of Mourne**	**77.91**	**348**	⇑*e*P	**P**	**11 26 11.4**	**-0.8**
LHO	**Holmfirth**	**77.92**	**345**	P	**P**	**11 26 12.3**	**0.0**
BUG	**Bochum--Univer**	**77.96**	**339**	*e*P	**P**	**11 26 12.2**	**-0.3**
	comp=Z,3µm,1.5s,mb7.0						
BUG				*e*L		12 06 58.0	
	comp=Z,1297µm,18.1s						
ATAB	**Bozova**	**77.96**	**312**	*i* P	**P**	**11 26 14.5**	**+2.0**
ELDT	**Eldivan**	**77.98**	**317**	*i* P	**P**	**11 26 14.1**	**+1.4**
BUD	**Budapest**	**78.03**	**330**	⇑*e*P	**P**	**11 26 13.7**	**+0.8**
AAM	**Ann Arbor**	**78.05**	**39**	*e*P	**P**	**11 26 12.2**	**-0.8**
	comp=Z,930nm,1.4s,mb6.5						
AAM				LR	LR		
	comp=Z,796µm,20.0s,MS8.0						
ZST	**Bratislava**	**78.05**	**332**	*e*P	**P**	**11 26 14.3**	**+1.3**
ZST				*e*PCP	PcP	11 26 34.5	+12
ZST				*e*S	S	11 36 21.0	+14
ZST				*e*		11 42 09.2	
ZST	**Bratislava**	**78.05**	**332**	*e*P	**P**	**11 26 14.3**	**+1.3**
ZST				*e*S	S	11 36 21.0	+14
ZST				pmax	pmax		
	comp=Z,96nm,0.8s,mb5.8						
ZST				MLR	MLR		
	comp=Z,1452µm,18.8s,MS8.3						
ZST	**Bratislava**	**78.05**	**332**	*e*P	**P**	**11 26 14.3**	**+1.3**
	comp=Z,96nm,0.8s,mb5.8						
ZST				*e*		11 26 34.5	
ZST				*e*S	S	11 36 21.0	+14
ZST				*e*SS	SS	11 42 09.2	+61
ZST				LR	LR		
	comp=Z,1452µm,18.8s,MS8.3						
BNN	**Bunyan**	**78.11**	**315**	P	**P**	**11 26 15.1**	**+1.8**
ROTZ	**Rotzenmuhle**	**78.16**	**335**	*e*P	**P**	**11 26 14.0**	**+0.3**
CDAG	**Cicekdag**	**78.22**	**316**	*i* P	**P**	**11 26 14.4**	**+0.4**
KDZE	**Karadeniz Ereo**	**78.23**	**319**	P	**P**	**11 26 14.3**	**+0.2**
VKA	**Vienna**	**78.25**	**332**	*i* P	**P**	**11 26 14.3**	**+0.2**
FVM	**French Village**	**78.30**	**46**	P	**P**	**11 26 12.0**	**-2.4**
FVM				pmax	pmax		
	comp=Z,540nm,1.2s,mb6.3						
FVM	**French Village**	**78.30**	**46**	*e*P	**P**	**11 26 12.4**	**-1.9**
	comp=Z,264nm,1.0s,mb6.1						
KHC	**Kasperske Hory**	**78.33**	**334**	*e*P	**P**	**11 26 14.8**	**+0.2**
KHC				*ex*	x	11 26 30.5	
KHC				*e*SKS		11 36 19.1	
KHC				*ex*	x	11 37 04.8	
KHC				*ex*	x	11 42 17.6	
KHC				AMS	AMS	12 05 00.0	
	comp=Z,1292µm,17.4s						
KHC	**Kasperske Hory**	**78.33**	**334**	*e*P	**P**	**11 26 14.8**	**+0.2**
KHC				*e*		11 26 30.5	
KHC				*e*S	S	11 36 19.1	+9.4
KHC				*e*		11 37 04.8	
KHC				MLR	MLR		
	comp=Z,1292µm,17.4s,MS8.3						
GZT	**Gaziantep**	**78.42**	**313**	*i* P	**P**	**11 26 16.5**	**+1.4**
PRD	**Provadia**	**78.46**	**323**	*i* P	**P**	**11 26 15.3**	**0.0**
GZR	**Gura Zlata**	**78.47**	**327**	⇑*i*P	**P**	**11 26 15.1**	**-0.2**
GZR	**Gura Zlata**	**78.47**	**327**	⇑P	**P**	**11 26 15.1**	**-0.2**
BR131	**Keskin Array S**	**78.49**	**317**	*e*P	**P**	**11 26 16.5**	**+1.1**
	comp=Z,869nm,1.1s,mb6.6						
BR131				LR	LR		
	comp=Z,512µm,20.0s,MS7.8						
BRTR	**Keskin Array B**	**78.49**	**317**	P	**P**	**11 26 16.0**	**+0.6**
	comp=Z,51nm,0.7s,mb5.6,baz=59,slow=2.1,SNR=53						
BRTR				LR	LR	12 10 03.0	
	comp=Z,536µm,18.1s,MS7.9,baz=41,slow=43						
GRA1	**Grafenberg Arr**	**78.51**	**336**	*e*P	**P**	**11 26 16.0**	**+0.4**
	comp=Z,3µm,1.1s,mb7.1						
GRA1				*e*S	S	11 36 16.1	+4.4
GRA1				*e*SS	SS	11 41 20.8	+5.9
GRA1				LR	LR		
	comp=Z,871µm,20.5s,MS8.1						
GRF	**Grafenberg Arr**	**78.51**	**336**	*e*P	**P**	**11 26 16.0**	**+0.4**
	comp=Z,3µm,1.1s,mb7.1						
GRF				*e*S	S	11 36 16.1	+4.4
GRF				*e*SS	SS	11 41 20.8	+5.9
GRF				*e*L		12 02 43.4	
	comp=Z,871µm,20.5s						
GRF	**Grafenberg Arr**	**78.51**	**336**	*e*P	**P**	**11 26 16.0**	**+0.4**
GRF				*e*S	S	11 36 16.1	+4.4
GRF				*e*SS	SS	11 41 20.8	+5.9
GRF				pmax	pmax		
	comp=Z,3µm,1.1s,mb7.1						
GRF				MLR	MLR		
	comp=Z,871µm,20.5s,MS8.1						
GRFO	**Grafenberg**	**78.51**	**336**	*e*P	**P**	**11 26 16.0**	**+0.4**
GRFO	**Grafenberg**	**78.51**	**336**	*e*P	**P**	**11 26 16.1**	**+0.5**
GRFO				pmax	pmax		
	comp=

STKA eS S 11 36 00.2 -16
STKA Stephens Creek 78.89 190 P **P 11 26 15.5 -2.2**
comp=Z,21nm,0.9s,baz=350,slow=7.7,SNR=12
JCT Junction City 78.91 57 *e*P **P 11 26 16.7 -1.0**
comp=Z,845nm,1.3s,mb6.5
JCT LR LR
comp=Z,631µm,20.0s,MS8.0
HGN Heimansgroeve 78.91 340⇑*e*P **P 11 26 16.9 -0.8**
comp=Z,723nm,1.2s,mb6.5
HGN *ex* x 11 26 42.1
HGN *e*PP PP 11 29 51.2 +35
HGN *e*PPP 11 31 42.8
HGN *e*S S 11 36 23.8 +7.8
HGN *e*P 11 40 46.4
comp=Z,260nm,2.5s
HGN *ex* x 11 41 29.4
HGN *e*SS SS 11 42 03.7 +43
HGN *e*SSS 11 46 07.0
HGN *e*P 11 47 04.4
comp=Z,525nm,1.5s
HGN *e*P 11 53 01.1
comp=Z,603nm,1.6s
DLF Lyons Farm 78.91 348⇑*i*P **P 11 26 16.4 -1.4**
DSB Dublin 78.94 348 *e*P **P 11 26 17.4 -0.5**
comp=Z,3µm,3.4s
BEBN Eben Emael 78.94 340 ⇑P **P 11 26 17.7 -0.2**
BEBN S pP 11 26 20.9 -1.1
BEBN E 11 26 32.8
BEBN E 11 26 38.1
DCN Croghan 78.97 348⇑*i*P **P 11 26 16.4 -1.7**
SZH Strazhica 79.01 324 *i* P **P 11 26 18.4 +0.1**
KBD Kabd 79.01 301 *e*P **P 11 26 19.0 +0.7**
KBD AMb AMB 11 26 50.9
comp=Z,9µm,1.3s
MEM Membach 79.04 339 ⇑P **P 11 26 18.2 -0.3**
comp=Z,925nm,1.0s,mb6.7
MEM E pP 11 26 21.5 -1.0
MEM E 11 27 11.4
MEM APKiKP 11 32 01.4
HLM1 Long Mynd 79.08 345⇑*e*P **P 11 26 18.2 -0.5**
SIUC Southern Illin 79.10 46 *e*P **P 11 26 17.8 -1.0**
comp=Z,1µm,1.3s,mb6.7
SLMH Al Salmeh 79.12 312 ⇑P **P 11 26 20.3 +1.4**
QRN Al-Qurain 79.19 300 *e*P **P 11 26 20.2 +0.9**
KOZT Kozan 79.19 314 P **P 11 26 20.8 +1.5**
DJES Djerdap 79.20 327 *i* P **P 11 26 19.5 +0.1**
NAY Al-Naaiem 79.22 301 *e*P **P 11 26 19.9 +0.5**
NAY AMb AMB 11 27 06.8
comp=Z,3µm,1.3s,mb7.1
UCC Uccle 79.25 340 ⇑P **P 11 26 19.0 -0.6**
UCC E 11 26 52.4
TOD Tromm 79.25 337 *e*P **P 11 26 19.8 +0.2**
BLO Bloomington 79.25 43 *e*P **P 11 26 17.9 -1.7**
MOA Molln 79.26 333⇑*i*P **P 11 26 20.2 +0.5**
comp=Z,111nm,0.8s,mb5.8,SNR=50
MOA Molln 79.26 333 P **P 11 26 20.2 +0.5**
MOA *e* 11 26 42.9
PKSM Moragy 79.26 330⇑*i*P **P 11 26 18.8 -0.9**
PKSM Moragy 79.26 330 ⇑P **P 11 26 18.8 -0.9**
JHLN Al Jahlan 79.27 311 ⇑P **P 11 26 21.5 +1.8**
RDF Al-Radifah 79.28 301 *e*P **P 11 26 20.9 +1.1**
RDF AMb AMB 11 27 07.4
comp=Z,9µm,1.3s
PVL Pavlikeni 79.29 324 *i* P **P 11 26 22.0 +2.1**
ABH Alteburg 79.32 338⇑*e*P **P 11 26 20.1 +0.1**
KLYT Kilyos 79.35 321 P **P 11 26 20.6 +0.4**
MSNY Massena 79.36 32 *e*P **P 11 26 18.0 -2.2**
BCLA Clavier 79.38 340 P **P 11 26 20.1 -0.2**
comp=Z,515nm,1.3s,mb6.3
BCLA E 11 26 35.9
BCLA E 11 26 58.5
BCLA E 11 27 14.5
ARSA Arzberg 79.39 332⇑*i*P **P 11 26 20.8 +0.4**
comp=Z,264nm,1.5s,mb6.0,SNR=35
ARSA Arzberg 79.39 332 P **P 11 26 20.8 +0.4**
ARSA *e* 11 26 41.4
JMB Yambol 79.40 323 *e*P **P 11 26 20.7 +0.2**
JMB Yambol 79.40 323 *i* P **P 11 26 20.7 +0.2**
HRT Hereke 79.42 320 P **P 11 26 21.2 +0.6**
SSW Stow on the Wo 79.43 345⇑*e*P **P 11 26 20.9 +0.3**
DRWC Darouich 79.44 313 ⇑P **P 11 26 22.0 +1.3**
SKP1 Kophill 79.47 344 *e*P **P 11 26 19.9 -0.9**
ISK Istanbul-Kandi 79.50 320 P **P 11 26 21.5 +0.6**
ISK Istanbul-Kandi 79.50 320 *e*P **P 11 26 21.2 +0.2**
SNF Seneffe 79.54 340 ⇓P **P 11 26 20.8 -0.4**
comp=Z,306nm,0.9s,mb6.2
SNF E 11 26 37.1
SNF E 11 27 09.0
GPA Golpazari 79.57 319 P **P 11 26 22.3 +1.0**
HTR Trewern Hill 79.57 345⇑*e*P **P 11 26 21.1 -0.3**
CEYT Ceyhan 79.60 314 P **P 11 26 23.5 +1.9**
MCH1 Michaelchurch 79.60 345 P **P 11 26 20.6 -1.0**
MCH1 AMb AMB 11 26 24.5
comp=Z,225nm,1.2s,mb6.0
MCH1 Michaelchurch 79.60 345 *e*P **P 11 26 20.6 -1.0**
MCH1 *e*P 11 26 20.6
MCH1 ⇑*e*P 11 26 20.6
MCH1 AMb AMB 11 26 24.5
comp=Z,225nm,1.2s,mb6.0
MCH1 AMS AMS 12 06 46.5
comp=Z,296µm,20.1s,MS7.6
RUP Ruppelstein 79.61 338 *e*P **P 11 26 21.8 +0.2**
USIN University of 79.66 45 *e*P **P 11 26 21.0 -0.9**
comp=Z,2µm,1.3s,mb6.8
KTD Kalmit 79.70 338⇑*e*P **P 11 26 22.1 0.0**
CTT Catalca 79.70 321 P **P 11 26 22.7 +0.6**
ELBA Catalca 79.70 321 *i* P **P 11 26 22.3 +0.2**
ADVT Abdulvahap 79.71 320 P **P 11 26 22.7 +0.5**
COBT Iskenderun 79.73 313 *i* P **P 11 26 23.7 +1.5**
KARA Karaisali 79.75 314 P **P 11 26 23.9 +1.5**
LONY Lake Ozonia 79.79 33 *e*P **P 11 26 20.8 -1.8**
comp=Z,710nm,1.7s,mb6.3
GIVF Givet 79.79 340⇑*i*P **P 11 26 22.1 -0.5**
comp=Z,2µm,1.4s,mb6.5
GIVF Givet 79.79 340⇑*i*P **P 11 26 22.1 -0.5**
GIVF pmax pmax
comp=Z,939nm,1.4s,mb6.5
GIVF Givet 79.79 340⇑*i*P **P 11 26 22.1 -0.5**
comp=Z,939nm,1.4s,mb6.5
UALR University of 79.79 50 *e*P **P 11 26 21.9 -0.7**
comp=Z,482nm,1.5s,mb6.2
RAR Rarotonga 79.80 136 P **P 11 26 19.5 -3.1**
comp=Z,30nm,1.1s,baz=270,slow=18,SNR=2.5
BEO Belgrade 79.81 328 *i* P **P 11 26 22.2 -0.5**
BORA Eskisehir 79.83 319 *i* P **P 11 26 23.4 +0.5**
EDRB Edirne 79.85 322 P **P 11 26 23.3 +0.4**
DOU Dourbes 79.85 340 ⇑P **P 11 26 22.1 -0.8**
comp=Z,205nm,1.2s,mb5.9
DOU E 11 26 38.6
DOU E 11 26 58.8
SWN1 Swindon 79.85 344 *e*P **P 11 26 22.9 0.0**
SWN1 *e*P 11 26 22.9
SWN1 *e*P 11 26 22.9
SWN1 AMb AMB 11 26 26.1
comp=Z,536nm,1.4s,mb6.3
KOGS Kog 79.86 331⇑*e*P **P 11 26 22.6 -0.3**
KOGS eS SKSac 11 36 42.9 +3.0
KOGS eSS 11 42 31.3
FUR Furstenfeldbru 79.87 335 *e*P **P 11 26 23.4 +0.4**
comp=Z,2µm,1.2s,mb6.9
FUR eL 12 03 42.7
comp=Z,862µm,21.5s
FUR Furstenfeldbru 79.87 335 *e*P **P 11 26 23.4 +0.4**
FUR pmax pmax
comp=Z,2µm,1.2s,mb6.9
FUR MLR MLR
comp=Z,862µm,21.5s,MS8.1
WLF Walferdange 79.88 339 *e*P **P 11 26 23.1 +0.1**
WLF eL 12 04 59.5
comp=Z,950µm,20.6s
WLF Walferdange 79.88 339 ⇓P **P 11 26 22.9 -0.2**
comp=Z,254nm,1.2s,mb6.0
WLF E pP 11 26 27.8 +0.7
WLF E 11 26 40.8
WLF E 11 26 45.0
WLF E 11 27 18.2
WLF Walferdange 79.88 339 *e*P **P 11 26 23.6 +0.6**
WLF pmax pmax
comp=Z,1µm,1.2s,mb6.6
WLF Walferdange 79.88 339 *e*P **P 11 26 23.6 +0.6**
comp=Z,1µm,1.3s,mb6.6
IZI Iznik 79.91 320 P **P 11 26 24.4 +1.2**
STU Stuttgart 79.91 337 *e*P **P 11 26 23.3 +0.1**
STU *e*L 12 10 08.8
comp=Z,783µm,18.3s
STU Stuttgart 79.91 337 *e*P **P 11 26 23.2 0.0**
STU pmax pmax
comp=Z,2µm,1.2s,mb6.8
STU Stuttgart 79.91 337 *e*P **P 11 26 23.2 0.0**
comp=Z,2µm,1.3s,mb6.8
HGH Gray Hill 79.91 345⇑*e*P **P 11 26 22.4 -0.8**
ESKT Eskisehir 79.94 318 P **P 11 26 24.6 +1.1**
ESKT Eskisehir 79.94 318 *i* P **P 11 26 23.4 0.0**
GEMT Gemlik 79.95 320 P **P 11 26 23.9 +0.4**
RAO Raoul Island 79.96 155 PFAKE 11 26 30.0 +6.5
RAO LR LR
comp=Z,624µm,20.0s,MS8.0
MENF Mencas 79.97 342⇑*e*P **P 11 26 23.5 0.0**
BAIF Baives 79.97 340⇑*i*P **P 11 26 23.3 -0.3**
comp=Z,1µm,1.1s,mb6.4
BAIF Baives 79.97 340⇑*i*P **P 11 26 23.3 -0.3**
BAIF pmax pmax
comp=Z,518nm,1.1s,mb6.4
BAIF Baives 79.97 340⇑*i*P **P 11 26 23.3 -0.3**
comp=Z,518nm,1.1s,mb6.4
BTCH Batrach 80.00 313 ⇑P **P 11 26 25.1 +1.4**
PERS Pernice 80.07 332⇑*e*P **P 11 26 23.5 -0.5**
ALLY Alegheny Colle 80.09 38 *e*P **P 11 26 22.8 -1.3**
LANF Langenberg 80.09 338⇑*e*P **P 11 26 24.4 +0.2**
GROS Grobnik 80.10 332 *e*P **P 11 26 23.9 -0.3**
BOLS Boljevac 80.10 326⇓*i*P **P 11 26 23.3 -0.9**
HTY Hatay 80.10 313 P **P 11 26 26.2 +2.0**
WCI Wyandotte Cave 80.11 44 *e*P **P 11 26 23.2 -1.1**
WCI pmax pmax
comp=Z,3µm,1.8s,mb7.0
WCI MLR MLR
comp=Z,655µm,20.0s,MS8.0
WCI Wyandotte Cave 80.11 44 *e*P **P 11 26 23.2 -1.1**
comp=Z,3µm,1.8s,mb7.0
WCI LR LR
comp=Z,655µm,20.0s,MS8.0
KRTS Karatas 80.13 314 P **P 11 26 28.6 +4.2**
RIV Riverview 80.16 182 *e*P **P 11 26 26.0 +1.4**
KDHN Kadinhani 80.16 317 *i* P **P 11 26 25.0 +0.4**
KBA Koelnbreinsper 80.23 333⇑*i*P **P 11 26 25.8 +0.8**
comp=Z,579nm,0.8s,mb6.5
KBA Koelnbreinsper 80.23 333 P **P 11 26 25.8 +0.8**
KBA *e* 11 26 49.7
KBA *e* 11 27 51.9
MERS Mersin 80.32 314 P **P 11 26 28.6 +3.2**
PGB Panagyurishte 80.32 324 *i* P **P 11 26 26.5 +1.1**
UTMT University of 80.35 46 *e*P **P 11 26 25.0 -0.6**
comp=Z,1µm,1.0s,mb6.8
OBKA Obir 80.36 332⇑*i*P **P 11 26 26.1 +0.5**
comp=Z,214nm,1.4s,mb5.9,SNR=33
OBKA Obir 80.36 332 P **P 11 26 26.1 +0.5**
OBKA *e* 11 26 51.1
FORT Forrest 80.38 202 *e*P **P 11 26 24.8 -1.0**
comp=Z,105nm,0.9s,mb5.8
FORT *es*P sP 11 26 37.1 +5.8
FORT eS S 11 36 32.0 +0.5
DOBS Dobrina 80.38 332 *e*P **P 11 26 25.2 -0.6**
ARNB Al Arnab 80.39 313 ⇑P **P 11 26 27.0 +1.2**
WRDH Warideh 80.44 312 ⇑P **P 11 26 27.0 +0.9**
STR Strasbourg 80.46 338 *e*P **P 11 26 26.9 +0.7**
SLNF Slenfeh 80.47 313 ⇑P **P 11 26 27.1 +0.8**
KFRA Kufra 80.47 312 ⇑P PcP 11 26 38.6 +5.4
NCB Newcomb 80.47 33 *e*P **P 11 26 24.8 -1.5**
NCB LR LR
comp=Z,607µm,20.0s,MS8.0
PLD Plovdiv 80.48 324 *e*P **P 11 26 26.3 0.0**
PLD Plovdiv 80.48 324 *i* P **P 11 26 24.7 -1.6**
MFT Murefte 80.49 321 P **P 11 26 27.0 +0.6**
KONT Konya--Tatoy 80.51 317 P **P 11 26 27.2 +0.7**
MRMT Marmara Adasi 80.51 321 P **P 11 26 26.0 -0.4**
WATA Walderalm 80.53 335⇑*i*P **P 11 26 27.5 +1.0**
comp=Z,456nm,1.2s,mb6.3,SNR=26
WATA Walderalm 80.53 335 P **P 11 26 27.5 +0.9**
WATA *e* 11 26 51.0
BFO Black Forest 80.54 337 P **P 11 26 26.7 +0.1**
comp=Z,1µm,0.9s,mb6.8,SNR=30
BFO Black Forest 80.54 337 *e*P **P 11 26 26.8 +0.2**
comp=Z,23µm,3.5s
BFO *e*L 12 05 42.6
comp=Z,622µm,21.4s
KDZ Kurdzhali 80.56 323 *i* P **P 11 26 27.1 +0.4**
WTTA Wattenberg 80.58 335⇑*i*P **P 11 26 28.1 +1.2**
comp=Z,407nm,0.7s,mb6.5,SNR=68
EDC Edincik 80.60 321 P **P 11 26 27.6 +0.7**
DIVS Divcibare 80.61 328 *i* P **P 11 26 26.5 -0.5**
DIVS Divcibare 80.61 328 *e*P **P 11 26 26.5 -0.4**
SART Tekirdag 80.62 321 *i* P **P 11 26 27.3 +0.3**
RKY Sarkoy-Tekirda 80.62 321 P **P 11 26 27.5 +0.5**
SPAK Spaichingen-Ko 80.63 337 *e*P **P 11 26 27.5 +0.4**
MOTA Moosalm 80.67 335⇓*i*P **P 11 26 28.3 +1.0**
comp=Z,444nm,1.2s,mb6.3,SNR=46
VTS Vitosha 80.67 325 *e*P **P 11 26 27.3 0.0**
VTS Vitosha 80.67 325⇑*i*P **P 11 26 27.4 +0.1**
VTS Vitosha 80.67 325 *i* P **P 11 26 27.0 -0.3**
SISC Sisak 80.68 331 P **P 11 26 24.6 -2.8**
LSR Lussari 80.71 333⇑*i*PN **P 11 26 26.9 -0.6**
WLS Welschbruch 80.72 338⇑*e*P **P 11 26 27.8 +0.2**
VAL Valentia 80.74 350 *e*P **P 11 26 24.1 -3.6**
VAL *i* S ScS 11 36 56.0 +1.6
SQTA Sankt Quirin 80.75 335⇓*i*P **P 11 26 28.9 +1.1**
comp=Z,190nm,0.8s,mb6.0,SNR=46
CDF Champ du Feu 80.75 338⇑*i*P **P 11 26 27.6 -0.1**
comp=Z,1µm,1.0s,mb6.4
CDF Champ du Feu 80.75 338⇑*i*P **P 11 26 27.6 -0.1**
CDF pmax pmax
comp=Z,553nm,1.0s,mb6.4
CDF Champ du Feu 80.75 338⇑*i*P **P 11 26 27.6 -0.1**
comp=Z,553nm,1.0s,mb6.4
PLRO Paularo 80.77 333⇑*i*PN **P 11 26 27.2 -0.6**
LJU Ljubljana 80.78 332⇑*e*P **P 11 26 27.2 -0.7**
LJU *e* 11 26 43.5
LJU *e* 11 27 02.1
LJU *e* 11 29 49.0
LJU *e* 11 33 30.6
LJU eS SKSac 11 36 50.6 +4.3
LJU eSS 11 42 42.5
ZOU Zoufplan 80.81 333⇑*i*PN **P 11 26 27.4 -0.7**
HTL Hartland 80.82 346 P **P 11 26 27.4 -0.7**
HTL AMb AMB 11 26 29.6
comp=Z,118nm,1.1s,mb5.7
HTL Hartland 80.82 346 *e*P **P 11 26 27.4 -0.7**
HTL *e*P 11 26 27.4
HTL AMb AMB 11 26 29.6
comp=Z,118nm,1.1s,mb5.7
HTL AMS AMS 12 11 48.0
comp=Z,233µm,17.9s,MS7.6
TAOE Nuku Hiva Isla 80.86 113 *e*S S 11 36 32.7 -3.8
comp=Z,4511µm,31.8s
TAOE *e*LR LR 11 51 28.2
comp=Z,6491µm,34.8s
TAOE Nuku Hiva Isla 80.86 113 *e*P **P 11 26 28.9 +0.6**
comp=Z,1µm,1.7s,mb6.5
TAOE *e*S S 11 36 32.7 -3.8
SHUT Suhut-Afyon 80.86 318 P **P 11 26 29.4 +1.0**
CADS Cadrg 80.87 333⇑*i*P **P 11 26 27.0 -1.4**
CADS *e* 11 30 04.0
CADS *e* 11 32 04.2
BIDA Albida 80.87 312 ⇑P **P 11 26 29.1 +0.7**
LIBD Limburg 80.90 337 *e*P **P 11 26 28.8 +0.2**
GDZ Gediz 80.92 319 *i* P **P 11 26 28.9 +0.3**
ALN Alexandroupoli 80.93 322 *e*P **P 11 26 28.6 -0.1**
RDO Rodhopi 80.93 323 *e*P **P 11 26 28.9 +0.2**
DRE Drenchia 80.95 333⇑*i*PN **P 11 26 27.7 -1.1**
CSMI Casera Mimoias 80.95 334⇑*i*PN **P 11 26 28.2 -0.6**
ECH Echery 80.96 338⇑*e*P **P 11 26 28.8 -0.1**
PMOR Pomariorio Ree 80.96 123 *e*P **P 11 26 29.2 +0.3**
comp=Z,56nm,1.0s,mb5.5
BOO Bordano 80.99 333 *e*PN **P 11 26 27.5 -1.5**
VOY Vojsko 81.00 333 *e*P **P 11 26 24.7 -4.4**
VOY *e* pP 11 26 27.4 -5.7
VOY Vojsko 81.00 333 *e*P **P 11 26 27.4 -1.7**
RFYF Reffroy 81.00 339⇑*i*P **P 11 26 29.3 +0.2**
comp=Z,2µm,1.2s,mb6.6
RFYF Reffroy 81.00 339⇑*i*P **P 11 26 29.3 +0.2**
comp=Z,2µm,1.3s,mb6.9
BARS Barje 81.01 326 *i* P **P 11 26 28.9 -0.2**
BTOK Tokmak 81.01 320 *i* P **P 11 26 29.4 +0.3**
BAD Bernadia 81.02 333⇑*i*PN **P 11 26 27.8 -1.4**
BOJS Bojanci 81.03 332⇑*e*P **P 11 26 28.5 -0.7**
BOJS *e* 11 27 02.9
ROOS tl_alroos 81.03 311 ⇑P **P 11 26 31.1 +1.9**
WVT Waverly 81.03 46 *e*P **P 11 26 27.8 -1.5**
WVT pmax pmax
comp=Z,432nm,1.1s,mb6.3
WVT MLR MLR
comp=Z,887µm,20.0s,MS8.1
WVT Waverly 81.03 46 *e*P **P 11 26 27.8 -1.5**
comp=Z,432nm,1.1s,mb6.3
WVT LR LR
comp=Z,887µm,20.0s,MS8.1
FELD Feldberg im Sc 81.05 337⇑*e*P **P 11 26 29.2 -0.1**
COLI Coloredo 81.07 333⇑*i*PN **P 11 26 28.5 -0.9**
DAVA Damuels 81.07 336⇑*i*P **P 11 26 29.9 +0.5**
comp=Z,211nm,1.0s,mb6.0,SNR=38
LBNH Lisbon 81.08 31 P **P 11 26 28.6 -0.9**
LBNH pmax pmax
comp=Z,390nm,1.3s,mb6.2
LBNH Lisbon 81.08 31 *e*P **P 11 26 28.5 -0.9**
LBNH LR LR
comp=Z,698µm,19.0s,MS8.0
AFL Alpe Faloria 81.08 334 *e*PN **P 11 26 29.3 -0.2**
PKME Peaks-Kenny Pk 81.08 29 *e*P **P 11 26 28.5 -1.1**
comp=Z,344nm,1.1s,mb6.2
MPRI Monte Prat 81.09 333⇑*i*PN **P 11 26 28.4 -1.1**
ACCN Adirondack Com 81.18 33 *e*P **P 11 26 28.8 -1.3**
HAWK Haweek 81.21 312 ⇑P PcP 11 26 46.0 +10
CANB Canakkale 81.22 321 P **P 11 26 30.2 -0.1**
CANB Canakkale 81.22 321 *i* P **P 11 26 30.4 +0.1**
MEZF Maizieres J'vi 81.22 339⇑*i*P **P 11 26 30.3 0.0**
comp=Z,863nm,1.0s,mb6.3,baz=9,1
MEZF Maizieres J'vi 81.22 339⇑*i*P **P 11 26 30.3 0.0**
comp=Z,863nm,1.0s,mb6.6
IKL Isikli 81.23 315 P **P 11 26 30.7 +0.4**
THEF They Montfort 81.25 339 *e*P **P 11 26 30.5 +0.1**
DYA Yadsworthy 81.27 345⇑*e*P **P 11 26 29.9 -0.6**
KNDS Knezji Dol 81.29 332⇑*e*P **P 11 26 29.8 -0.9**
MLNI Malnisio 81.29 333⇑*i*PN **P 11 26 30.0 -0.6**
VAH Vaihoa 81.30 123 *e*P **P 11 26 30.9 +0.2**
comp=Z,61nm,1.1s,mb5.5
MOF Molkenrain 81.30 338 *e*P **P 11 26 30.7 0.0**
MMB Musomiste 81.31 324 *e*P **P 11 26 30.6 -0.1**
MMB Musomiste 81.31 324 *i* P **P 11 26 30.6 -0.1**
BINY Binghamton 81.31 35 *e*P **P 11 26 29.5 -1.2**
BINY LR LR
comp=Z,433µm,20.0s,MS7.8
KKB Krupnik 81.33 325 *i* P **P 11 26 30.5 -0.3**
HAU Haudompre 81.36 338⇑*i*P **P 11 26 30.6 -0.4**
comp=Z,2µm,1.4s,mb6.5
HAU *e*R
comp=Z,1076µm,21.0s
HAU Haudompre 81.36 338⇑*i*P **P 11 26 30.6 -0.4**
HAU pmax pmax
comp=Z,810nm,1.4s,mb6.5
HAU MLR MLR
comp=Z,1076µm,21.0s,MS8.2
HAU Haudompre 81.36 338⇑*i*P **P 11 26 30.6 -0.4**
comp=Z,810nm,1.4s,mb6.5
HAU LR LR
comp=Z,1076µm,21.0s,MS8.2
TKTP Tekketepe 81.38 318 *i* P **P 11 26 31.3 +0.1**
HINF Hinteralfeld 81.41 338⇑*i*P **P 11 26 30.8 -0.4**
comp=Z,691nm,1.1s,mb6.2
HINF Hinteralfeld 81.41 338⇑*i*P **P 11 26 30.8 -0.4**
HINF pmax pmax
comp=Z,346nm,1.1s,mb6.2
HINF Hinteralfeld 81.41 338⇑*i*P **P 11 26 30.8 -0.4**
comp=Z,346nm,1.1s,mb6.2
FAU Forcella Aurin 81.41 334 *e*PN **P 11 26 30.8 -0.5**
NVR Nevrokopi 81.45 324 *e*P **P 11 26 32.8 +1.3**
ISP Isparta 81.46 318 P **P 11 26 30.9 -0.6**
ISP Isparta 81.46 318 *e*P **P 11 26 31.5 0.0**
ISP Isparta 81.46 318 *e*P **P 11 26 31.6 +0.1**
ISP pmax pmax
comp=Z,760nm,1.0s,mb6.6
ISP Isparta 81.46 318 *e*P **P 11 26 31.6 +0.1**
comp=Z,764nm,1.0s,mb6.6
CAE Caneva 81.47 334⇑*i*PN **P 11 26 30.9 -0.7**
PLE Pljevlja 81.49 328⇑*i*P **P 11 26 32.0 +0.3**
SFTF Sexfontaines 81.50 339⇑*i*P **P 11 26 31.6 -0.2**
comp=Z,3µm,1.0s,mb6.8,baz=8.8
SFTF Sexfontaines 81.50 339⇑*i*P **P 11 26 31.6 -0.2**
comp=Z,3µm,1.0s,mb7.1
OXF Oxford 81.52 48 P **P 11 26 30.6 -1.2**
OXF pmax pmax
comp=Z,2µm,1.5s,mb6.9
OXF Oxford 81.52 48 *e*P **P 11 26 30.5 -1.3**
comp=Z,2µm,1.5s,mb6.9
OXF LR LR
comp=Z,681µm,19.0s,MS8.0
BBS Basel-Blauen 81.56 337 *e*P **P 11 26 32.3 +0.3**
MARH Ras Al Marh 81.56 311 ⇑P **P 11 26 33.7 +1.6**
HKT Hockley 81.58 55 *e*P **P 11 26 31.3 -0.8**
HKT pmax pmax
comp=Z,4µm,2.8s,mb6.8
HKT MLR MLR
comp=Z,545µm,20.0s,MS7.9
HKT Hockley 81.58 55 *e*P **P 11 26 31.3 -0.9**
comp=Z,4µm,2.8s,mb6.8
HKT LR LR
comp=Z,545µm,20.0s,MS7.9
WVL Waterville 81.58 29 *e*P **P 11 26 31.8 -0.4**
BRMO Bormio 81.66 335 P **P 11 26 33.3 +0.7**
comp=Z,288nm,0.8s,mb6.3
CNB Canberra Magne 81.69 183 *e*P **P 11 26 28.1 -4.7**
comp=Z,42nm,1.1s,mb5.3
IVA Berane 81.70 327⇑*i*P **P 11 26 32.0 -0.8**
EZN Ezine 81.70 322 P **P 11 26 32.8 0.0**
BCK Bucak 81.73 317 P **P 11 26 33.2 +0.2**
UPM Unac-Piva 81.77 328⇑*i*P **P 11 26 32.5 -0.7**
CGRP Cima Grappa 81.78 334⇑*i*PN **P 11 26 32.6 -0.6**
STIP Stip 81.83 325 *i* P **P 11 26 33.0 -0.4**
LOMF Lomont 81.84 338 *e*P **P 11 26 33.7 +0.2**
MCWV Mont Chateau 81.86 39 *e*P **P 11 26 32.5 -1.2**
comp=Z,51nm,0.4s,mb5.8
MCWV LR LR
comp=Z,1125µm,20.0s,MS8.2
SSPA Standing Stone 81.87 37 *e*P **P 11 26 32.5 -1.2**
comp=Z,2µm,1.9s,mb6.8
SSPA LR LR
comp=Z,543µm,19.0s,MS7.9
SKO Skopje 81.88 326 *e*P **P 11 26 34.5 +0.7**
SKO Skopje 81.88 326 *i* P **P 11 26 34.7 +0.9**
comp=Z,33µm,3.9s
SKO *i* PcP PcP 11 27 07.8 +28
SKO *i* S S 11 36 57.8 +11
SKO *i* PS 11 37 52.8
PVY Plav 81.91 327⇑*i*P **P 11 26 32.6 -1.3**
AYVA Ayvalik 81.97 321 *i* P **P 11 26 34.3 +0.1**
ZALF Zalf 81.98 310 ⇑P **P 11 26 35.5 +1.2**
NVLJ Novalja 81.98 331 *i* P **P 11 26 32.2 -2.1**
VAY Valandovo 82.00 325 *e*P **P 11 26 34.8 +0.4**
VAY Valandovo 82.00 325 *i* P **P 11 26 34.3 -0.1**
comp=Z,32µm,3.9s
VAY *i* PcP PcP 11 27 06.0 +26
VAY *i* S S 11 37 00.1 +12
KNT Kendrikon 82.00 324 *e*P **P 11 26 34.3 -0.1**
MABI Malga Bissina 82.00 335 P **P 11 26 34.1 -0.3**
QASN Qassioun 82.05 311 ⇑P **P 11 26 35.8 +1.2**
PPT Papeete 82.06 126 *e*P **P 11 26 35.0 +0.3**
comp=Z,114nm,1.4s,mb5.6
PPT Papeete 82.06 126 *e*PP PP 11 29 41.9 -0.6
comp=Z,78µm,28.5s
PPT Papeete 82.06 126 *e*S S 11 36 44.6 -4.4
comp=Z,2107µm,33.5s
PPT Papeete 82.06 126 P **P 11 26 33.3 -1.4**
comp=Z,12nm,0.5s,baz=99,slow=5.5,SNR=4.4
PPT LR LR 11 59 56.2
comp=Z,327µm,19.5s,MS7.7,baz=296,slow=34
BCI Bajram Curri 82.07 327 *i* Pn **P 11 26 33.7 -1.0**
NKY Niksic 82.08 328⇑*i*P **P 11 26 33.7 -1.1**
BHL Bhannes 82.08 312 *e*P **P 11 26 34.8 0.0**
SOH Sokhos 82.10 324 *e*P **P 11 26 34.6 -0.3**
TOTH TOTAH 82.11 311 ⇑P **P 11 26 36.1 +1.1**
LIA Limnos Island 82.12 322 *e*P **P 11 26 34.8 -0.2**
PAE Paea 82.14 126 *e*P **P 11 26 35.2 +0.1**
comp=Z,103nm,1.3s,mb5.6
PAE Paea 82.14 126 *e*P **P 11 26 35.2 +0.1**
PAE pmax pmax
comp=Z,103nm,1.3s,mb5.6
LOS Limnos 82.14 322 *e*P **P 11 26 34.7 -0.4**
ANTB Antalya 82.15 317 P **P 11 26 33.4 -1.8**
SHAO Shalim 82.15 288 P **P 11 26 36.1 +0.9**
SNR=14
SHAO P 11 47 26.5
SNR=14
BRY Bratogost 82.17 328⇑*i*P **P 11 26 33.7 -1.5**

EMMW **East Machias** 82.18 28 *eP* P 11 26 34.6 -0.7
PRK **Paraskevi** 82.20 321 *eP* P 11 26 35.2 -0.2
KVTX **Kingsville** 82.20 58 *eP* P 11 26 40.7 +5.2
comp=Z,866nm,1.1s,mb6.6
DENT **Denizli** 82.21 319 P P 11 26 36.4 +1.0
FLN **La Foliniere** 82.22 343⇑*iP* P 11 26 35.0 -0.5
comp=Z,1µm,1.0s,mb6.5,baz=23
FLN *eR*
comp=Z,1122µm,19.8s
FLN **La Foliniere** 82.22 343⇑*iP* P 11 26 35.0 -0.5
FLN pmax pmax
comp=Z,645nm,1.0s,mb6.5
FLN MLR MLR
comp=Z,1122µm,19.8s,MS8.2
FLN **La Foliniere** 82.22 343⇑*iP* P 11 26 35.0 -0.5
comp=Z,645nm,1.0s,mb6.5
FLN LR LR
comp=Z,1122µm,19.8s,MS8.2
DNZL **Cakiroluk** 82.25 319 *i* P P 11 26 42.2 +6.5
OUR **Ouranopolis** 82.26 323 *eP* P 11 26 34.9 -0.8
LDF **La Druitiere** 82.31 343⇑*iP* P 11 26 35.4 -0.6
comp=Z,790nm,1.1s,mb6.3
LDF **La Druitiere** 82.31 343⇑*iP* P 11 26 35.4 -0.6
LDF pmax pmax
comp=Z,395nm,1.1s,mb6.3
LDF **La Druitiere** 82.31 343⇑*iP* P 11 26 35.4 -0.6
comp=Z,395nm,1.1s,mb6.3
TTG **Podgorica** 82.31 327⇑*iP* P 11 26 35.3 -0.7
BRBR **Barbar** 82.32 311 ⇑P P 11 26 37.6 +1.5
RCY **Rachaya** 82.33 312 *eP* P 11 26 36.6 +0.5
GRG **Griva** 82.37 325 *eP* P 11 26 35.9 -0.4
GOLH **Golhisar** 82.39 318 *iP* P 11 26 36.6 +0.2
HORT **Hortiatis** 82.40 324 *eP* P 11 26 35.8 -0.6
PUK **Puka** 82.41 327 *i* Pn P 11 26 36.4 -0.1
CSS **Prodhromos** 82.42 314 ⇑P P 11 26 37.1 +0.5
comp=Z,23nm,1.1s
CSS **Prodhromos** 82.42 314 *eP* P 11 26 36.8 +0.3
CSS **Prodhromos** 82.42 314⇑*eP* P 11 26 37.1 +0.5
TVO **Taravao** 82.42 126 *eP* P 11 26 36.9 +0.3
comp=Z,178nm,1.4s,mb5.8
TVO **Taravao** 82.42 126 *eP* P 11 26 36.9 +0.3
TVO pmax pmax
comp=Z,178nm,1.4s,mb5.8
PLG **Polygyros** 82.44 324 *eP* P 11 26 36.0 -0.7
PLG **Polygyros** 82.44 324 *eP* P 11 26 36.0 -0.7
SALA **Sala** 82.46 310 ⇑P P 11 26 38.1 +1.4
KDAG **Bornova** 82.47 320 *iP* P 11 26 37.0 +0.2
KRUS **Krusevo** 82.47 326 *iP* P 11 26 36.9 0.0
STON **Ston** 82.50 329⇑*iP* P 11 26 34.4 -2.6
PHP **Peshkopia** 82.51 326 *i* Pn P 11 26 36.7 -0.4
BUM **Brajici-Budva** 82.56 328⇑*iP* P 11 26 36.4 -0.9
HCY **Herceg Novi** 82.58 328⇑*iP* P 11 26 36.0 -1.4
ALFC **Alevga** 82.62 315 ⇑P P 11 26 37.5 -0.1
comp=Z,30nm,0.8s,mb5.4
ALFC **Alevga** 82.62 315⇑*eP* P 11 26 37.5 -0.1
ELL **Elmali** 82.62 317 P P 11 26 38.0 +0.4
GRR **Gorron** 82.65 343⇑*iP* P 11 26 37.5 -0.3
comp=Z,2µm,1.1s,mb6.7
GRR **Gorron** 82.65 343⇑*iP* P 11 26 37.5 -0.3
GRR pmax pmax
comp=Z,936nm,1.1s,mb6.7
GRR **Gorron** 82.65 343⇑*iP* P 11 26 37.5 -0.3
comp=Z,936nm,1.1s,mb6.7
LOR **Lormes** 82.67 340⇑*iP* P 11 26 37.6 -0.3
comp=Z,2µm,1.2s,mb6.7,baz=30
LOR *eR*
comp=Z,1292µm,18.8s
LOR **Lormes** 82.67 340⇑*iP* P 11 26 37.6 -0.3
LOR pmax pmax
comp=Z,993nm,1.2s,mb6.7
LOR MLR MLR
comp=Z,1292µm,18.8s,MS8.3
LOR **Lormes** 82.67 340⇑*iP* P 11 26 37.6 -0.3
comp=Z,993nm,1.2s,mb6.7
LOR LR LR
comp=Z,1292µm,18.8s,MS8.3
HRV **Harvard--Oak R** 82.72 32 *eP* P 11 26 36.9 -1.2
HRV pmax pmax
comp=Z,334nm,1.1s,mb6.3
HRV MLR MLR
comp=Z,691µm,21.0s,MS8.0
HRV **Harvard--Oak R** 82.72 32 *eP* P 11 26 36.9 -1.3
comp=Z,334nm,1.1s,mb6.3
HRV LR LR
comp=Z,691µm,21.0s,MS8.0
CABF **La Chapelle** 82.72 338⇑*iP* P 11 26 38.2 +0.1
comp=Z,716nm,1.1s,mb6.3
CABF **La Chapelle** 82.72 338⇑*iP* P 11 26 38.2 +0.1
CABF pmax pmax
comp=Z,358nm,1.1s,mb6.3
CABF **La Chapelle** 82.72 338⇑*iP* P 11 26 38.2 +0.1
comp=Z,358nm,1.1s,mb6.3
ULC **Ulcinj** 82.72 327⇑*iP* P 11 26 37.6 -0.6
PAIG **Paliouri** 82.73 323 *eP* P 11 26 37.2 -0.9
TZTN **Tazewell** 82.76 43 *eP* P 11 26 37.0 -1.4
ASF **Jabal al Asfar** 82.79 310 LR LR 12 10 38.0
comp=Z,891µm,18.0s,MS8.2,baz=265,slow=41
URLA **Izmir** 82.80 321 *iP* P 11 26 38.0 -0.5
SZAC **Souni-Zanaja** 82.80 311 P P 11 26 38.9 +0.3
AKMC **Akamas** 82.86 315 ⇑P P 11 26 38.5 -0.3
AKMC **Akamas** 82.86 315⇑*eP* P 11 26 38.5 -0.3
OHR **Ohrid** 82.87 326 *eP* P 11 26 38.8 -0.1
OHR **Ohrid** 82.87 326 *iP* P 11 26 38.4 -0.5
comp=Z,14µm,2.8s
OHR *i* PcP PcP 11 27 12.1 +28
OHR *i* S S 11 37 15.2 +18
WES **Weston** 82.91 32 *eP* P 11 26 38.2 -0.9
comp=Z,1µm,1.5s,mb6.8
WES LR LR
comp=Z,416µm,22.0s,MS7.8
MMAI **Mount Meron Ar** 82.91 312 LR LR 12 09 29.8
comp=Z,1226µm,18.6s,MS8.3,baz=15,slow=40
LUPA **Lehigh Univers** 82.92 35 *eP* P 11 26 38.0 -1.1
FNA **Florina** 82.92 325 *eP* P 11 26 38.6 -0.6
ZAIG **Zacatecas** 82.94 64 *iP* P 11 26 36.4 -2.8
SSF **Saint Saulge** 82.94 340⇑*iP* P 11 26 39.1 -0.2
comp=Z,850nm,0.9s,mb6.5
SSF **Saint Saulge** 82.94 340⇑*iP* P 11 26 39.1 -0.2
SSF pmax pmax
comp=Z,425nm,0.9s,mb6.5
SSF **Saint Saulge** 82.94 340⇑*iP* P 11 26 39.1 -0.2
comp=Z,425nm,0.9s,mb6.5
HYF **Humbligny** 82.95 340⇑*iP* P 11 26 39.5 +0.1
PPCY **Paphos** 82.96 315 ⇑P P 11 26 39.3 -0.1
PPCY **Paphos** 82.96 315⇑*eP* P 11 26 39.3 -0.1
TIR **Tirane** 83.02 327 *i* Pn P 11 26 38.9 -0.8
MVL **Millersville** 83.04 36 *eP* P 11 26 38.6 -1.2
LIT **Litokhoron** 83.06 324 *eP* P 11 26 38.9 -1.0
FETY **Fethiye** 83.10 318 P P 11 26 40.2 +0.1
SGMF **Saint Gilles** 83.11 344⇑*iP* P 11 26 39.8 -0.4
comp=Z,1µm,1.1s,mb6.5
SGMF **Saint Gilles** 83.11 344⇑*iP* P 11 26 39.8 -0.4
SGMF pmax pmax
comp=Z,529nm,1.1s,mb6.5
SGMF **Saint Gilles** 83.11 344⇑*iP* P 11 26 39.8 -0.4
comp=Z,529nm,1.1s,mb6.5
PAL **Palisades** 83.14 34 *eP* P 11 26 39.3 -1.0
MLSB **Milas** 83.15 319 P P 11 26 41.3 +1.0
BRNJ **Basking Ridge** 83.16 35 *eP* P 11 26 40.0 -0.5
ROSF **Rostrenen** 83.17 344⇑*iP* P 11 26 40.2 -0.3
comp=Z,2µm,1.1s,mb6.8
ROSF **Rostrenen** 83.17 344⇑*iP* P 11 26 40.2 -0.3
ROSF pmax pmax
comp=Z,1µm,1.1s,mb6.8
ROSF **Rostrenen** 83.17 344⇑*iP* P 11 26 40.2 -0.3
comp=Z,1µm,1.1s,mb6.8
KZN **Kozani** 83.18 325 *eP* P 11 26 39.4 -1.1
DALT **Dalyan (Mudla)** 83.19 318 P P 11 26 41.1 +0.5
SMG **Samos** 83.23 320 *eP* P 11 26 40.2 -0.6
AVF **Avril sur Loir** 83.23 340⇑*iP* P 11 26 40.7 -0.1
comp=Z,3µm,1.2s,mb6.9
AVF **Avril sur Loir** 83.23 340⇑*iP* P 11 26 40.7 -0.1
AVF pmax pmax
comp=Z,2µm,1.2s,mb6.9
AVF **Avril sur Loir** 83.23 340⇑*iP* P 11 26 40.7 -0.1
comp=Z,2µm,1.2s,mb6.9
SMF **Signal de Mont** 83.25 339⇑*iP* P 11 26 40.8 -0.1
comp=Z,5µm,1.2s,mb7.1
SMF **Signal de Mont** 83.25 339⇑*iP* P 11 26 40.8 -0.1
SMF pmax pmax
comp=Z,2µm,1.2s,mb7.1
SMF **Signal de Mont** 83.25 339⇑*iP* P 11 26 40.8 -0.1
comp=Z,2µm,1.2s,mb7.1
AOS **Alonnisos** 83.28 323 *eP* P 11 26 40.6 -0.4
KBN **Korca** 83.29 326 *i* p P 11 26 41.4 +0.3

CPNY **Central Park** 83.31 34 *eP* P 11 26 40.1 -1.0
XOR **Xorichti** 83.40 323 *eP* P 11 26 40.5 -1.2
NEO **Neokhori** 83.44 323 *eP* P 11 26 40.7 -1.1
WHFO **Wadi Hawf** 83.44 289 P P 11 26 42.1 +0.3
SNR=39
WHFO P 11 47 32.6
SNR=23
ELN **Prospectdale** 83.48 41 *eP* P 11 26 40.6 -1.5
BOB **Bobbio (Coli)** 83.49 335 P P 11 26 42.8 +0.7
BDRM **Kayabasi** 83.49 319 *iP* P 11 26 42.0 -0.2
GSCL **Gusciola** 83.53 334 P P 11 26 43.2 +0.9
comp=Z,354nm,0.8s,mb6.5
QUIF **Quistinic** 83.55 344⇑*iP* P 11 26 41.9 -0.5
comp=Z,1µm,1.3s,mb6.6
QUIF **Quistinic** 83.55 344⇑*iP* P 11 26 41.9 -0.5
QUIF pmax pmax
comp=Z,586nm,1.3s,mb6.5
QUIF **Quistinic** 83.55 344⇑*iP* P 11 26 41.9 -0.5
comp=Z,586nm,1.3s,mb6.5
LPL **La Plagne** 83.56 337⇑*iP* P 11 26 43.2 +0.7
comp=Z,1µm,1.1s,mb6.6
LPL **La Plagne** 83.56 337⇑*iP* P 11 26 43.2 +0.7
LPL pmax pmax
comp=Z,604nm,1.1s,mb6.6
LPL **La Plagne** 83.56 337⇑*iP* P 11 26 43.2 +0.7
comp=Z,604nm,1.1s,mb6.6
OUZ **Omahuta** 83.57 163 *eP** P 11 26 45.5 +3.0
BGF **Bois d'Agland** 83.57 340⇑*iP* P 11 26 42.5 -0.1
comp=Z,1µm,1.1s,mb6.6
BGF **Bois d'Agland** 83.57 340⇑*iP* P 11 26 42.5 -0.1
BGF pmax pmax
comp=Z,521nm,1.1s,mb6.6
BGF **Bois d'Agland** 83.57 340⇑*iP* P 11 26 42.5 -0.1
comp=Z,521nm,1.1s,mb6.6
LPG **La Plagne** 83.57 337⇑*iP* P 11 26 43.5 +0.9
comp=Z,2µm,1.1s,mb6.7
LPG **La Plagne** 83.57 337⇑*iP* P 11 26 43.5 +0.9
LPG pmax pmax
comp=Z,770nm,1.1s,mb6.8
LPG **La Plagne** 83.57 337⇑*iP* P 11 26 43.5 +0.9
comp=Z,770nm,1.1s,mb6.8
BLA **Blacksburg** 83.64 40 *eP* P 11 26 41.4 -1.5
BLA pmax pmax
comp=Z,389nm,1.0s,mb6.5
BLA MLR MLR
comp=Z,593µm,19.0s,MS8.0
BLA **Blacksburg** 83.64 40 *eP* P 11 26 41.4 -1.5
comp=Z,389nm,1.0s,mb6.5
BLA LR LR
comp=Z,593µm,19.0s,MS8.0
DAT **Datca** 83.71 319 P P 11 26 43.0 -0.3
THL **Klokotos Trika** 83.71 324 *eP* P 11 26 41.7 -1.6
VLC **Villacollemand** 83.76 334 *eP* P 11 26 44.5 +1.0
comp=Z,512nm,0.8s,mb6.7
CJM **Chamela** 83.78 68 *eP* P 11 26 42.9 -0.7
SNTG **Esanatoglia** 83.78 332 P P 11 26 43.7 +0.1
comp=Z,4µm,2.4s,mb7.2
BDI **Bagni Di Lucca** 83.79 334 P P 11 26 43.3 -0.3
ARG **Arkhangelos** 83.88 318 *eP* P 11 26 44.1 0.0
PLDF **La Plantade** 83.94 339 *eP* P 11 26 44.9 +0.5
TCF **Toulx Ste Croi** 83.98 340⇑*iP* P 11 26 44.6 0.0
comp=Z,1µm,1.1s,mb6.6
TCF **Toulx Ste Croi** 83.98 340⇑*iP* P 11 26 44.6 0.0
TCF pmax pmax
comp=Z,586nm,1.1s,mb6.6
TCF **Toulx Ste Croi** 83.98 340⇑*iP* P 11 26 44.6 0.0
comp=Z,586nm,1.1s,mb6.6
AGO **Saint Agoulin** 83.98 340 *eP* P 11 26 45.1 +0.5
BNI **Bardonecchia** 84.01 337 *eP* P 11 26 45.5 +0.7
BNI pmax pmax
comp=Z,2µm,1.3s,mb7.0
BNI **Bardonecchia** 84.01 337 *eP* P 11 26 45.5 +0.7
comp=Z,1µm,1.3s,mb7.0
GDM **Grand'Maison** 84.02 337 *eP* P 11 26 45.6 +0.8
GDM **Grand'Maison** 84.02 337 *eP* P 11 26 45.3 +0.5
GDM **Grand'Maison** 84.02 337 *eP* P 11 26 45.3 +0.5
AGG **Agios Georgios** 84.05 324 *eP* P 11 26 42.8 -2.2
ASS **Assisi** 84.05 332 P P 11 26 45.1 +0.1
ASS pmax pmax
comp=Z,33nm,0.9s,mb5.5
ASS **Assisi** 84.05 332 P P 11 26 45.1 +0.1
comp=Z,33nm,0.9s,mb5.5
GRN **Grenoble** 84.08 338 *eP* P 11 26 45.8 +0.7
LKR **Lokris** 84.09 323 *eP* P 11 26 43.6 -1.6
JAN **Janina** 84.10 325 *eP* P 11 26 45.1 -0.1
CSNT **Castellina Chi** 84.11 333 P P 11 26 44.6 -0.7
comp=Z,705nm,1.0s,mb6.8
CBN **Corbin** 84.13 38 *eP* P 11 26 44.8 -0.6
comp=Z,900nm,1.4s,mb6.7
CBN LR LR
comp=Z,1115µm,21.0s,MS8.2
FGMS **Monte Sant'Ang** 84.14 329 P P 11 26 44.7 -0.7
comp=Z,356nm,0.6s,mb6.7
TOO **Toolangi** 84.16 186 *eP* P 11 26 43.7 -1.8
comp=Z,21nm,1.4s
TOO *ep*P pP 11 26 53.1 +3.5
TOO *es*P sP 11 26 57.5 +6.4
TOO **Toolangi** 84.16 186 *e*S S 11 37 07.4 -2.9
TOO **Toolangi** 84.16 186 *eP* P 11 26 43.7 -1.8
comp=Z,21nm,1.4s
TOO *ep*P pP 11 26 53.1 +3.5
TOO *es*P sP 11 26 57.5 +6.4
TOO *e*S S 11 37 07.4 -2.9
MFF **Saint Martin d** 84.21 342⇑*iP* P 11 26 45.2 -0.6
comp=Z,614nm,1.0s,mb6.4
MFF **Saint Martin d** 84.21 342⇑*iP* P 11 26 45.2 -0.6
MFF pmax pmax
comp=Z,307nm,1.0s,mb6.4
MFF **Saint Martin d** 84.21 342⇑*iP* P 11 26 45.2 -0.6
comp=Z,307nm,1.0s,mb6.4
SRN **Sarande** 84.24 326 *i* p P 11 26 45.8 -0.1
MBDF **Montbardon** 84.28 337⇑*iP* P 11 26 46.2 0.0
comp=Z,1µm,1.1s,mb6.6
MBDF **Montbardon** 84.28 337⇑*iP* P 11 26 46.2 0.0
MBDF pmax pmax
comp=Z,512nm,1.1s,mb6.6
MBDF **Montbardon** 84.28 337⇑*iP* P 11 26 46.2 0.0
comp=Z,512nm,1.1s,mb6.6
PYM **Petit Puy Mans** 84.29 340 *eP* P 11 26 46.5 +0.3
SFJM **Santa Fe** 84.32 66 *eP* P 11 26 44.0 -2.4
APE **Apeiranthos** 84.34 320 *eP* P 11 26 44.7 -1.8
APE **Apeiranthos** 84.34 320 *eP* P 11 26 44.7 -1.8
APE **Apeiranthos** 84.34 320⇑*iP* P 11 26 44.4 -2.1
APE **Apeiranthos** 84.34 320*c iP* P 11 26 44.8 -1.7
ORIF **Oris-en-Rattie** 84.34 337⇑*iP* P 11 26 47.1 +0.6
comp=Z,2µm,1.4s,mb6.7
ORIF *eR*
comp=Z,856µm,20.2s
ORIF **Oris-en-Rattie** 84.34 337⇑*iP* P 11 26 47.1 +0.6
ORIF pmax pmax
comp=Z,939nm,1.4s,mb6.7
ORIF **Oris-en-Rattie** 84.34 337⇑*iP* P 11 26 47.1 +0.6
comp=Z,939nm,1.4s,mb6.7
COLF **Collangettes** 84.34 339 *eP* P 11 26 47.7 +1.2
EVR **Evrytania** 84.35 324 *eP* P 11 26 45.3 -1.2
DOI **San Damiano** 84.36 336 P P 11 26 45.0 -1.5
ATH **Athens Observa** 84.36 322 *eP* P 11 26 45.0 -1.6
IGT **Igoumenitsa** 84.41 325 *eP* P 11 26 45.9 -0.9
WCZ **Waipu Caves** 84.41 163 *eP** P 11 26 46.7 -0.2
VERF **Verneugheol** 84.42 340 *eP* P 11 26 46.4 -0.5
AQU **L'Aquila** 84.44 331 *i*P P 11 26 47.3 +0.3
AQU **L'Aquila** 84.44 331 *eP* P 11 26 47.8 +0.9
comp=Z,1µm,0.9s,mb7.0
KEK **Kerkira** 84.46 326 *eP* P 11 26 46.3 -0.8
SURF **Saint Ours** 84.50 337 *eP* P 11 26 48.1 +0.8
GRFL **Gerfalco** 84.50 333 P P 11 26 46.8 -0.5
comp=Z,274nm,1.0s,mb6.3
LRYF **La Roche-sur-Y** 84.52 343 *eP* P 11 26 47.3 -0.1
VIVF **Saint-Julien-l** 84.72 338⇑*iP* P 11 26 48.8 +0.4
comp=Z,2µm,1.1s,mb6.8
VIVF **Saint-Julien-l** 84.72 338⇑*iP* P 11 26 48.8 +0.4
VIVF pmax pmax
comp=Z,881nm,1.1s,mb6.8
VIVF **Saint-Julien-l** 84.72 338⇑*iP* P 11 26 48.8 +0.4
comp=Z,882nm,1.1s,mb6.8
LBL **Lubilhac** 84.72 339 *eP* P 11 26 48.9 +0.5
SAOF **Saorge** 84.75 336⇑*eP* P 11 26 48.6 +0.1
AUTN **L'Aution** 84.77 336⇑*eP* P 11 26 48.8 +0.1
MIDA **Miranda** 84.79 330 P P 11 26 48.7 0.0
TOUF **Mont Tournerai** 84.81 336⇑*eP* P 11 26 49.0 +0.2
KAP **Karpathos** 84.87 319 *eP* P 11 26 48.3 -0.8
LUCF **Luceram** 84.89 336⇑*eP* P 11 26 49.3 +0.1
SBF **Sospel** 84.89 336⇑*iP* P 11 26 48.8 -0.5
comp=Z,3µm,1.3s,mb7.0
SBF **Sospel** 84.89 336⇑*iP* P 11 26 48.8 -0.5

SBF pmax pmax
comp=Z,2µm,1.3s,mb7.0
SBF **Sospel** 84.89 336⇑*iP* P 11 26 48.8 -0.5
comp=Z,2µm,1.3s,mb7.0
MVIF **Mont Vial** 84.94 336 *eP* P 11 26 49.8 +0.3
LKD **Levkas** 84.99 325 *eP* P 11 26 48.6 -1.1
REVF **Revere** 85.03 336⇑*eP* P 11 26 49.8 -0.1
RJF **Les Rejaudoux** 85.07 340⇑*iP* P 11 26 49.6 -0.5
comp=Z,538nm,1.0s,mb6.3
RJF *eR*
comp=Z,1046µm,22.0s
RJF **Les Rejaudoux** 85.07 340⇑*iP* P 11 26 49.6 -0.5
RJF pmax pmax
comp=Z,269nm,1.0s,mb6.3
RJF MLR MLR
comp=Z,1046µm,22.0s,MS8.2
RJF **Les Rejaudoux** 85.07 340⇑*iP* P 11 26 49.6 -0.5
comp=Z,269nm,1.0s,mb6.3
RJF LR LR
comp=Z,1046µm,22.0s,MS8.2
MUN **Mundaring** 85.12 211 *eP* P 11 26 48.6 -1.8
MUN *eS* S 11 37 18.9 -0.9
TOLF **Tolfa** 85.16 332 P P 11 26 50.1 -0.5
RFI **Roccamonfina** 85.18 330 P P 11 26 50.7 0.0
comp=Z,379nm,1.4s,mb6.3
STOF **St-Etienne Org** 85.19 337 *eP* P 11 26 51.3 +0.6
MA9 **Marino** 85.20 332 P P 11 26 50.3 -0.5
comp=Z,408nm,1.0s,mb6.5
CSSN **Cassano Irpino** 85.22 330 P P 11 26 50.0 -0.9
comp=Z,5µm,2.7s,mb7.2
RLS **Riolos of Patr** 85.22 324 *eP* P 11 26 50.5 -0.4
CAF **Calviac** 85.30 340⇑*iP* P 11 26 51.1 -0.2
comp=Z,702nm,1.0s,mb6.4
CAF **Calviac** 85.30 340⇑*iP* P 11 26 51.1 -0.2
CAF pmax pmax
comp=Z,351nm,1.0s,mb6.5
CAF **Calviac** 85.30 340⇑*iP* P 11 26 51.1 -0.2
comp=Z,351nm,1.0s,mb6.5
SMRF **Simiane la Rot** 85.30 337⇑*iP* P 11 26 51.8 +0.5
comp=Z,2µm,1.5s,mb6.7
SMRF **Simiane la Rot** 85.30 337⇑*iP* P 11 26 51.8 +0.5
comp=Z,2µm,1.5s,mb7.0
FRF **La Foret Royal** 85.39 336⇑*iP* P 11 26 51.4 -0.4
comp=Z,942nm,1.3s,mb6.5
FRF **La Foret Royal** 85.39 336⇑*iP* P 11 26 51.4 -0.4
FRF pmax pmax
comp=Z,471nm,1.3s,mb6.5
FRF **La Foret Royal** 85.39 336⇑*iP* P 11 26 51.4 -0.4
comp=Z,471nm,1.3s,mb6.5
ORI **Oriolo Calabro** 85.41 328 P P 11 26 52.1 +0.2
VLS **Valsamata** 85.47 324 *eP* P 11 26 51.2 -0.9
BRAL **Brewton** 85.49 48 *eP* P 11 26 51.2 -1.0
comp=Z,2µm,1.4s,mb7.1
TAVF **Tavernes** 85.50 337⇑*eP* P 11 26 52.7 +0.4
PRAF **Pradon** 85.57 337⇑*eP* P 11 26 53.8 +1.2
LFF **La Frestale** 85.59 341⇑*iP* P 11 26 52.2 -0.5
comp=Z,1µm,1.2s,mb6.7
LFF **La Frestale** 85.59 341⇑*iP* P 11 26 52.2 -0.5
LFF pmax pmax
comp=Z,586nm,1.2s,mb6.7
LFF **La Frestale** 85.59 341⇑*iP* P 11 26 52.2 -0.5
comp=Z,586nm,1.2s,mb6.7
NWAO **Narrogin (SRO)** 85.63 210 *eP* P 11 26 51.9 -1.0
NWAO pmax pmax
comp=Z,1µm,1.5s
NWAO MLR MLR
comp=Z,239µm,19.0s
NWAO **Narrogin (SRO)** 85.63 210 *eP* P 11 26 51.9 -1.1
comp=Z,1µm,1.5s,mb6.9
NWAO LR LR
comp=Z,239µm,19.0s,MS7.6
LMR **La Mourre** 85.64 336⇑*iP* P 11 26 52.9 -0.1
comp=Z,818nm,0.9s,mb6.7
LMR **La Mourre** 85.64 336⇑*iP* P 11 26 52.9 -0.1
LMR pmax pmax
comp=Z,409nm,0.9s,mb6.7
LMR **La Mourre** 85.64 336⇑*iP* P 11 26 52.9 -0.1
comp=Z,409nm,0.9s,mb6.7
PGF **Pioggiola** 85.65 334⇑*iP* P 11 26 52.7 -0.3
comp=Z,1µm,1.2s,mb6.6
PGF **Pioggiola** 85.65 334⇑*iP* P 11 26 52.7 -0.3
PGF pmax pmax
comp=Z,528nm,1.2s,mb6.6
PGF **Pioggiola** 85.65 334⇑*iP* P 11 26 52.7 -0.3
comp=Z,528nm,1.2s,mb6.6
LASF **Ste Croix** 85.65 338⇑*iP* P 11 26 53.0 -0.1
comp=Z,744nm,1.3s,mb6.5
ZKR **Zakros** 85.66 319 *eP* P 11 26 51.4 -1.7
PUYF **Puyloubier** 85.68 337 *eP* P 11 26 53.8 +0.6
JSC **Jenkinsville** 85.68 43 P P 11 26 52.0 -1.2
LHS **Liberty Hill** 85.73 42 *eP* P 11 26 52.4 -1.0
LHS **Liberty Hill** 85.73 42 *eP* P 11 26 52.6 -0.8
VLI **Valiai** 85.75 322 *eP* P 11 26 50.9 -2.6
ITM **Ithomi** 85.78 323 *eP* P 11 26 52.3 -1.4
EIL **Elat** 85.79 310 *eP* P 11 26 54.2 +0.5
NPS **Neapolis** 85.81 319 *eP* P 11 26 52.2 -1.6
CORF **Corte** 85.83 334⇑*eP* P 11 26 54.0 +0.1
GELF **Grande-Etoile** 85.89 337 *eP* P 11 26 54.6 +0.4
TIP **Timpagrande** 86.08 328 *eP* P 11 26 54.9 -0.3
MOIG **Morelia** 86.08 65 *iP* P 11 26 56.5 +1.3
VAM **Vamos** 86.31 321 *eP* P 11 26 54.9 -1.4
SIVA **Sivas** 86.37 320 *eP* P 11 26 55.8 -0.9
KARN **Karanos** 86.44 321 *eP* P 11 26 55.9 -1.1
GRI **Girifalco** 86.52 328 P P 11 26 57.0 -0.3
MTLF **Montolieu** 86.75 339⇑*iP* P 11 26 57.9 -0.6
comp=Z,456nm,1.1s,mb6.3
MTLF **Montolieu** 86.75 339⇑*iP* P 11 26 57.9 -0.6
MTLF pmax pmax
comp=Z,228nm,1.1s,mb6.3
MTLF **Montolieu** 86.75 339⇑*iP* P 11 26 57.9 -0.6
comp=Z,228nm,1.1s,mb6.3
TBI **Tubuai** 86.80 129 *e*PP PP 11 30 21.4 +0.2
comp=Z,37µm,28.2s
TBI **Tubuai** 86.80 129 *e*S S 11 37 31.2 -5.1
comp=Z,731µm,31.0s
TBI **Tubuai** 86.80 129 *eP* P 11 26 58.3 -0.4
TBI *e*PP PP 11 30 21.4 +0.2
TBI *e*S S 11 37 31.2 -5.1
LRDF **Laroque-de-Fa** 87.05 339 *eP* P 11 26 59.7 -0.2
CARF **Carcanieres** 87.37 339 *eP* P 11 27 00.8 -0.7
MLS **Moulis** 87.38 340 *eP* P 11 27 01.2 -0.3
SJAF **Saint Jean de** 87.39 338 *eP* P 11 27 00.6 -1.0
EJON **La Jonquera** 87.42 338 P P 11 26 59.6 -2.1
comp=Z,24nm,0.7s,mb5.5
ZIIG **Zihuatanejo** 87.45 67 *eP* P 11 26 59.6 -2.3
EPF **Esparros** 87.49 340⇑*iP* P 11 27 00.6 -1.5
comp=Z,132nm,1.1s,mb5.8
EPF **Esparros** 87.49 340⇑*iP* P 11 27 00.6 -1.5
EPF pmax pmax
comp=Z,66nm,1.1s,mb5.8
EPF **Esparros** 87.49 340⇑*iP* P 11 27 00.6 -1.5
comp=Z,66nm,1.1s,mb5.8
MTTG **Motta San Giov** 87.51 328 P P 11 27 01.6 -0.5
comp=Z,190nm,0.8s,mb6.4
LABF **Labassere** 87.54 341 *eP* P 11 27 00.6 -1.7
MELF **Melles** 87.54 340 *eP* P 11 27 01.0 -1.3
SALF **Salau** 87.55 340 *eP* P 11 27 01.2 -1.1
IIO **Organos** 87.68 64 *eP* P 11 27 00.3 -2.6
RESF **Ens** 87.70 340 *eP* P 11 27 03.0 -0.1
VIEF **Viey** 87.70 341 *eP* P 11 27 03.0 -0.1
SJPF **Ste Jean** 87.76 342⇑*iP* P 11 27 02.1 -1.3
USI **Ustica** 87.78 330 P P 11 27 03.0 -0.4
ELIZ **Elizondo** 87.78 342 P P 11 27 01.1 -2.4
ELIZ pmax pmax
comp=Z,73nm,1.0s,mb5.9
ELIZ **Elizondo** 87.78 342 P P 11 27 01.1 -2.3
comp=Z,73nm,1.0s,mb5.9
ETSF **Etsaut** 87.82 341⇑*iP* P 11 27 02.9 -0.7
comp=Z,106nm,0.8s,mb5.8
ETSF **Etsaut** 87.82 341⇑*iP* P 11 27 02.9 -0.7
ETSF pmax pmax
comp=Z,53nm,0.8s,mb5.8
ETSF **Etsaut** 87.82 341⇑*iP* P 11 27 02.9 -0.7
comp=Z,53nm,0.8s,mb5.8
EBIE **Bielsa** 87.86 340 P P 11 27 02.2 -1.7
comp=Z,26nm,0.7s,mb5.6
PLIG **Platanillo** 88.10 65 *eP* P 11 26 59.6 -5.3
ELAN **Lanestosa** 88.11 343 P P 11 27 03.0 -2.0
comp=Z,33nm,0.9s,mb5.6
EMIR **Miracle** 88.27 339 P P 11 27 04.4 -1.4
comp=Z,38nm,0.8s,mb5.7
EGRA **Graus** 88.29 340 P P 11 27 04.2 -1.6
comp=Z,6.7nm,2.5s
VSL **Villasalto** 88.32 333 *eP* P 11 27 05.7 -0.3
comp=Z,572nm,1.0s,mb6.8

EARI Arriondas 88.39 344 P **P** **11 27 04.1 -2.2**
comp=Z,136nm,1.4s,mb6.0
SSY Sortino 88.48 328 P **P** **11 27 06.6 -0.2**
ECRI Cripan 88.52 342 P **P** **11 27 05.7 -1.3**
ECRI pmax pmax
comp=Z,32nm,0.9s,mb5.7
ECRI Cripan 88.52 342 P **P** **11 27 05.7 -1.3**
comp=Z,32nm,0.9s,mb5.7
CAIG El Cayaco 88.52 67 *i* P **P** **11 27 04.5 -3.0**
EPON Pontenova 88.70 346 P **P** **11 27 05.0 -2.8**
comp=Z,355nm,1.1s,mb6.6
EPOB Poblet 88.91 339 P **P** **11 27 07.3 -1.5**
comp=Z,32nm,1.0s,mb5.6
ESAC San Caprasio 88.92 341 P **P** **11 27 07.1 -1.8**
comp=Z,66nm,0.8s,mb6.0
ACX Acapulco 88.98 66 *e*P **P** **11 27 10.0 +0.9**
MUKL Al Mukalla 89.04 290⇓ *e*P **P** **11 27 10.4 +1.0**
DGAR Diego Garcia 89.04 258 *c i*P **P** **11 27 08.7 -0.7**
DGAR Diego Garcia 89.04 258 PFAKE 11 27 20.0 +11
DGAR LR LR
comp=Z,70µm,20.0s,MS7.1
TAU Tasmania Unive 89.36 184 PFAKE 11 27 20.0 +9.1
TAU LR LR
comp=Z,128µm,19.0s,MS7.4
STS Santiago 89.36 347 P **P** **11 27 08.5 -2.4**
STS pmax pmax
comp=Z,128nm,1.0s,mb6.2
STS Santiago 89.36 347 P **P** **11 27 08.5 -2.4**
comp=Z,128nm,1.0s,mb6.2
EMAZ Mazaricos 89.37 347 P **P** **11 27 08.3 -2.6**
comp=Z,141nm,1.1s,mb6.2
ERTA Horta de San J 89.46 340 P **P** **11 27 09.2 -2.2**
comp=Z,27nm,1.2s,mb5.5
ERUA La Rua 89.61 346 P **P** **11 27 09.0 -3.1**
ERUA pmax pmax
comp=Z,31nm,0.9s,mb5.6
ERUA La Rua 89.61 346 P **P** **11 27 09.0 -3.1**
comp=Z,31nm,0.9s,mb5.6
SNZO South Karori 89.67 164 *e*P **P** **11 27 11.7 -0.7**
comp=Z,915nm,1.4s,mb6.9
SNZO LR LR
comp=Z,557µm,19.0s,MS8.0
PTS Pantelleria 89.89 330 P **P** **11 27 12.6 -0.8**
PTS pmax pmax
comp=Z,2µm,1.9s,mb7.1
PTS Pantelleria 89.89 330 P **P** **11 27 12.6 -0.8**
comp=Z,2µm,1.9s,mb7.1
ETOS Mallorca 89.96 338 P **P** **11 27 12.0 -1.7**
comp=Z,32nm,0.8s,mb5.7
ECAL Calabor 89.98 345 P **P** **11 27 11.6 -2.2**
comp=Z,31nm,1.0s,mb5.6
EZAM Zamans 90.10 347 P **P** **11 27 11.8 -2.6**
EZAM pmax pmax
comp=Z,91nm,1.0s,mb6.1
EZAM Zamans 90.10 347 P **P** **11 27 11.8 -2.6**
comp=Z,91nm,1.0s,mb6.1
PBRG Braganca 90.11 345 *e*P **P** **11 27 13.4 -1.0**
ETOR Torete 90.14 341 P **P** **11 27 13.1 -1.4**
ETOR pmax pmax
comp=Z,29nm,0.8s,mb5.7
ETOR Torete 90.14 341 P **P** **11 27 13.1 -1.5**
comp=Z,29nm,0.8s,mb5.7
EMOS Mosqueruela 90.21 340 P **P** **11 27 12.9 -2.0**
comp=Z,19nm,0.7s,mb5.5
PCAB Cabril 90.42 346 *e*P **P** **11 27 15.0 -0.9**
PCAB Cabril 90.42 346 *e*PP PP 11 31 17.8 +28
DWPF Disney 90.69 46 PFAKE 11 27 30.0 +13
DWPF LR LR
comp=Z,925µm,21.0s,MS8.2
GUD Guadarrama 90.75 343 P **P** **11 27 14.9 -2.5**
comp=Z,4.6nm,3.4s
PVRL Vila Real 90.80 346 *e*P **P** **11 27 16.8 -0.8**
OXX Oaxaca 90.81 64 *e*P **P** **11 27 17.0 -0.7**
VHO Vista Hermosa 90.82 64 *i*P **P** **11 27 15.3 -2.4**
EIBI Ibiza 91.04 338 P **P** **11 27 17.4 -1.4**
comp=Z,80nm,0.8s,mb6.1
PVIS Viseu 91.37 346 *e*P **P** **11 27 19.4 -0.9**
PVIS Viseu 91.37 346 *e*PP PP 11 31 16.7 +19
CMAH Djebel Manchou 91.56 333 P **P** **11 27 20.5 -0.7**
HAJJ Hajjah 91.58 295⇑ *e*P **P** **11 27 22.5 +1.2**
HAJJ AMb AMB 11 27 27.1
comp=Z,5µm,2.4s,mb7.4
CAEH 'Ain El Ouahch 91.60 334 P **P** **11 27 25.5 +4.2**
BDHA Al Bayda' 91.64 292⇓ *e*P **P** **11 27 22.8 +1.3**
ESDC Sonseca Array 91.64 343 P **P** **11 27 20.7 -0.8**
comp=Z,22nm,0.9s,mb5.5,baz=8.1,slow=3.8,SNR=44
ESDC LR LR 12 15 02.4
comp=Z,716µm,20.1s,MS8.1,baz=10.0,slow=40
ESDC Sonseca Array 91.64 343 P **P** **11 27 18.7 -2.9**
comp=Z,22nm,0.9s,mb5.5
ESLA Sonseca Array 91.64 343 *e*P **P** **11 27 20.1 -1.4**
comp=Z,156nm,1.4s,mb6.2
ESLA LR LR
comp=Z,5039µm,20.0s
CGMA Guelma 91.73 333 P **P** **11 27 21.5 -0.4**
EBEN Beniarda 91.73 340 P **P** **11 27 19.3 -2.7**
comp=Z,24nm,0.9s,mb5.5
KEST Kesra 91.76 331 P **P** **11 27 21.1 -1.0**
comp=Z,18nm,0.9s,mb5.4,baz=353,slow=0.1,SNR=28
KEST LR LR 12 14 40.2
comp=Z,399µm,18.4s,MS7.9,baz=323,slow=40
PAB San Pablo 91.84 343 *e*P **P** **11 27 21.0 -1.5**
PAB pmax pmax
comp=Z,500nm,1.8s,mb6.5
PAB MLR MLR
comp=Z,916µm,19.0s,MS8.2
PAB San Pablo 91.84 343 *e*P **P** **11 27 21.0 -1.5**
comp=Z,500nm,1.8s,mb6.5
PAB LR LR
comp=Z,916µm,19.0s,MS8.2
ABSA Djebel Ababsia 91.87 333 P **P** **11 27 20.5 -2.1**
LBOS 91.92 292⇑ *e*P **P** **11 27 24.1 +1.3**
LBOS AMb AMB 11 27 28.6
comp=Z,3µm,2.1s,mb7.2
CMIG Matias Romero 91.94 63 LR LR 12 02 38.3
comp=Z,333µm,21.9s,MS7.7,baz=342,slow=32
CMIG Matias Romero 91.94 63 *i*P **P** **11 27 20.9 -2.0**
CKFL Kef-Lekhel 91.99 334 P **P** **11 27 24.0 +0.9**
ETOB Tobarra 92.10 340 P **P** **11 27 21.4 -2.3**
comp=Z,16nm,0.7s,mb5.5
DFRA Djebel Bou Aff 92.11 334 P **P** **11 27 24.5 +0.8**
PCBR Castelo Branco 92.15 345 *e*P **P** **11 27 22.9 -1.0**
CASM Ain Smara 92.19 334 P **P** **11 27 23.5 -0.6**
EVIA Vianos 92.32 341 P **P** **11 27 22.3 -2.4**
EVIA pmax pmax
comp=Z,25nm,0.8s,mb5.6
EVIA Vianos 92.32 341 P **P** **11 27 22.3 -2.4**
comp=Z,25nm,0.8s,mb5.6
CTEI Djebel Teioual 92.39 334 P **P** **11 27 23.5 -1.5**
SET Setif 92.57 334 P **P** **11 27 27.0 +1.2**
ABA Alger-Bouzarea 92.69 336 P **P** **11 27 27.2 +0.8**
CKHR Kef el Ahmar 92.71 334 P **P** **11 27 26.0 -0.5**
CMER Merouana 92.96 334 P **P** **11 27 27.5 -0.1**
EBAN Banos Encina 93.06 342 P **P** **11 27 25.2 -2.9**
EBAN pmax pmax
comp=Z,13nm,0.6s,mb5.5
EBAN Banos Encina 93.06 342 P **P** **11 27 25.2 -2.9**
comp=Z,13nm,0.6s,mb5.5
PESTR Estremoz 93.12 345 *e*P **P** **11 27 27.1 -1.2**
PESTR Estremoz 93.12 345 *e*PP PP 11 31 22.4 +11
PESTR *e*SKS 11 38 13.0
PESTR Estremoz 93.12 345 *e*LQ 11 52 12.4
PESTR *e*LR LR 11 58 59.6
comp=Z,647µm,16.0s
TRBA At Turbah 93.12 293⇑ *e*P **P** **11 27 29.6 +1.3**
EBAD Badajoz 93.12 345 P **P** **11 27 25.0 -3.4**
comp=Z,8.5nm,0.7s,mb5.3
EHUE Huescar 93.13 341 P **P** **11 27 25.9 -2.5**
EHUE pmax pmax
comp=Z,33nm,1.3s,mb5.6
EHUE Huescar 93.13 341 P **P** **11 27 25.9 -2.5**
comp=Z,33nm,1.3s,mb5.6
AKET Djebel Ketaf 93.16 336 P **P** **11 27 29.0 +0.5**
ADJB Djebel Djouab 93.18 336 P **P** **11 27 28.6 0.0**
ATAF Djebel Tarf 93.20 335 P **P** **11 27 28.7 0.0**
EADA Adamuz 93.22 343 P **P** **11 27 26.1 -2.7**
comp=Z,12nm,0.9s,mb5.3
EQES Quesada 93.25 341 P **P** **11 27 26.4 -2.6**
comp=Z,20nm,1.1s,mb5.5
EMHD Djebel Mahouad 93.27 336 P **P** **11 27 29.5 +0.4**
PLOU Loures 93.36 346 *e*PP PP 11 31 50.0 +37
TEIG Tepich 93.41 56 PFAKE 11 27 40.0 +10
TEIG LR LR
comp=Z,362µm,22.0s,MS7.8
EVO Evora 93.52 345 *e*P **P** **11 27 29.0 -1.2**

LIS Lisbon 93.53 346 *e*P **P** **11 27 29.2 -1.1**
LIS *e*S S 11 38 17.7 -21
LIS *e*S S 11 38 19.0 -19
LIS AMS AMS 12 13 19.2
comp=N,162µm,23.1s
EBNR Beni Rached 93.57 337 P **P** **11 27 33.0 +2.6**
ELUQ Luque 93.74 342 P **P** **11 27 28.7 -2.5**
ELUQ pmax pmax
comp=Z,16nm,0.9s,mb5.5
ELUQ Luque 93.74 342 P **P** **11 27 28.7 -2.5**
comp=Z,16nm,0.9s,mb5.4
ECOG Cogollos-Vega 93.86 342 P **P** **11 27 29.2 -2.6**
comp=Z,6.5nm,0.6s
PBEJ Beja 93.98 345 *e*P **P** **11 27 31.0 -1.3**
PBEJ Beja 93.98 345 *e*PP PP 11 31 51.3 +33
EANR 'Ain N'Sour 94.01 338 P **P** **11 27 32.2 -0.2**
EMIN Mina Concepcio 94.02 344 P **P** **11 27 30.0 -2.5**
comp=Z,26nm,0.8s,mb5.7
EBER Berja 94.08 341 P **P** **11 27 30.0 -2.7**
comp=Z,22nm,0.8s,mb5.6
ELOJ Sierra Loja 94.11 342 P **P** **11 27 30.6 -2.3**
ELOJ pmax pmax
comp=Z,28nm,1.0s,mb5.7
ELOJ Sierra Loja 94.11 342 P **P** **11 27 30.6 -2.3**
comp=Z,28nm,1.0s,mb5.6
BBSR BB Station 94.20 31 PFAKE 11 27 40.0 +6.7
BBSR LR LR
comp=Z,370µm,21.0s,MS7.8
CCIG Comitan 94.23 61 *i*P **P** **11 27 30.3 -3.1**
SOR Soroa 94.24 50 *e*P **P** **11 27 33.3 -0.2**
EGUA Guajares 94.29 342 P **P** **11 27 31.4 -2.3**
comp=Z,5.0nm,0.8s
EGRO El Granado 94.39 345 P **P** **11 27 30.3 -4.0**
comp=Z,52nm,1.0s,mb5.9
ETRT Tiaret 94.48 337 P **P** **11 27 30.0 -4.6**
PTEO Sao Teotonio 94.60 346 *e*P **P** **11 27 36.2 +1.0**
PTEO Sao Teotonio 94.60 346 *e*PP PP 11 31 54.8 +32
ESPR Espera 94.73 343 P **P** **11 27 32.6 -3.2**
comp=Z,33nm,1.0s,mb5.7
EMIJ Mijas 94.80 342 P **P** **11 27 33.4 -2.7**
comp=Z,15nm,0.8s,mb5.5
RKT Rikitea 94.89 119 *e*PP PP 11 31 24.5 -0.9
comp=Z,37µm,29.8s
RKT Rikitea 94.89 119 *e*PS PS 11 40 26.1 +18
comp=Z,786µm,27.0s
RKT Rikitea 94.89 119 *e*SS SS 11 45 12.9 -2.0
comp=Z,366µm,28.5s
EALB Alboran 95.03 341 P **P** **11 27 33.6 -3.5**
comp=Z,34nm,2.6s,mb5.3
EJIF Jimena Fronter 95.06 343 P **P** **11 27 34.1 -3.2**
EJIF pmax pmax
comp=Z,60nm,1.0s,mb6.0
EJIF Jimena Fronter 95.06 343 P **P** **11 27 34.1 -3.1**
comp=Z,60nm,1.0s,mb6.0
ATD Arta Tunnel 95.21 293 LR LR 12 13 20.4
comp=Z,387µm,20.8s,MS7.8,baz=25,slow=37
PDA Ponta Delgada 95.95 359 *i* PP PP 11 31 52.0 +18
PDA *e*P 11 38 46.0
DESE Dese 97.55 295 *i*P **P** **11 27 49.9 +1.4**
baz=53
SLAT Slait 98.03 303 *i*P **P** **11 27 49.2 -1.5**
baz=27,slow=5.3
SLAT AMb AMB 11 27 54.8
comp=Z,70nm,1.9s,mb5.9
SLAT *i*S SKSac 11 38 39.4 +11
MSEY Mahe Island 98.69 272 PFAKE 11 28 00.0 +6.3
MSEY LR LR
comp=Z,99µm,20.0s,MS7.3
TGUH Tegucigalpa,Un 98.87 59 *e*P **P** **11 27 57.6 +3.1**
comp=Z,159nm,1.1s,mb6.5
LMGC Las Mercedes 99.60 47 *e*P **P** **11 28 00.1 +2.3**
FURI Furi 99.85 294 *e*P Pdif 11 28 01.1 +2.3
FURI S PP 11 31 58.4 -5.1
PMPS Porto Santo 100.07 351 *e*PP PP 11 32 26.1 +21
MOAC Moa 100.12 45 *e*P Pdif 11 28 01.1 +1.1
RCC Rio Carpintero 100.32 46 *e*P Pdif 11 28 01.0 0.0
PMAR Madeira 100.46 352 *e*PP PP 11 32 44.9 +37
JTS JuntasAbangare 103.22 59 PFAKE 11 28 20.0 +6.1
JTS LR LR
comp=Z,67µm,21.0s,MS7.2
EFAM Famara 103.60 348 P Pdif 11 28 10.9 -4.6
comp=Z,42nm,1.0s
CFTV Fuerteventura 104.38 348 P Pdif 11 28 14.3 -4.7
comp=Z,6.5nm,0.6s
KMBO Kilima Mbogo 108.39 289 Pdiff Pdif 11 28 37.5 +0.7
comp=Z,0.6nm,0.6s,baz=35,slow=20,SNR=5.4
KMBO PKiKP PKiKP 11 32 42.6 -0.2
comp=Z,10nm,1.0s,baz=32,slow=9.2,SNR=3.5
KMBO Kilima Mbogo 108.39 289 *e*P Pdif 11 28 37.9 +1.1
KMBO pmax pmax
comp=Z,437nm,2.8s
KMBO MLR MLR
comp=Z,712µm,19.0s
KMBO Kilima Mbogo 108.39 289 *e*Pdif Pdif 11 28 37.9 +1.1
comp=Z,437nm,2.8s
KMBO PKPdf PKiKP 11 32 42.6 -0.2
KMBO LR LR
comp=Z,712µm,19.0s,MS8.2
PAYG Puerto Ayora 108.40 71 PFAKE 11 32 50.0 +7.2
PAYG LR LR
comp=Z,179µm,20.0s,MS7.6
SDV Santo Domingo 112.30 48 PFAKE 11 33 00.0 +10
SDV LR LR
comp=Z,146µm,20.0s,MS7.6
DRV Dumont d'Urvil 113.46 186 PP PP 11 33 39.0 -4.6
DRV SKS SKSac 11 39 37.0 -0.4
DRV SP SP 11 43 16.0 -2.1
DRV SS SS 11 49 39.0 +9.2
RPN Rapa Nui 114.11 104 PFAKE 11 33 00.0 +6.3
RPN LR LR
comp=Z,55µm,20.0s,MS7.2
OTAV Otavalo 115.09 60 PFAKE 11 33 10.0 +14
OTAV LR LR
comp=Z,153µm,20.0s,MS7.6
TORD Torodi Ar. Bea 115.19 329 PKiKP PKiKP 11 32 54.5 -1.2
comp=Z,6.0nm,0.6s,baz=32,slow=1.6,SNR=11
TORD PKKP PKKPbc 11 43 47.1 +17
comp=Z,7.5nm,0.9s,baz=20,slow=2.3,SNR=5.5
CASY Casey 117.29 198 *e*PDIF PKPdf 11 32 56.6 -3.2
LIC Lamto 123.89 334⇑ *i*PKIKP PKPdf 11 33 11.2 -1.2
comp=Z,70nm,0.9s
LIC *e*R
comp=Z,702µm,20.0s
LIC Lamto 123.89 334⇑ *i*PKPdf PKPdf 11 33 11.2 -1.2
LIC LR LR
comp=Z,351µm,20.0s,MS8.0
VNDA Vanda 124.04 178 PKP PKPdf 11 33 08.5 -4.2
comp=Z,6.1nm,0.8s,baz=320,slow=4.7,SNR=20
VNDA PKKP PKKPbc 11 43 40.8 +43
comp=Z,5.4nm,0.9s,baz=219,slow=4.3,SNR=4.1
VNDA Vanda 124.04 178 *e*PKPdf PKPdf 11 33 08.9 -3.8
VNDA LR LR
comp=Z,179µm,20.0s,MS7.7
SBA Scott Base 124.54 177 *e*PKIKP PKPdf 11 33 10.8 -2.9
SBA MLR MLR
comp=Z,159µm,19.0s,MS7.7
LSZ Lusaka 124.84 286 *e*PKIKP PKPdf 11 33 14.4 +0.1
LSZ MLR MLR
comp=Z,776µm,19.0s,MS8.4
NNA Nana 125.61 67 PFAKE 11 33 30.0 +14
NNA LR LR
comp=Z,40µm,21.0s,MS7.1
SAML Samuel 131.27 51 PFAKE 11 33 40.0 +13
SAML LR LR
comp=Z,215µm,20.0s,MS7.8
MAW Mawson 132.18 211 *e*PDIF PKPdf 11 33 26.0 -2.2
comp=Z,12nm,0.7s
MAW Mawson 132.18 211 PKP PKPdf 11 33 26.1 -2.1
comp=Z,19nm,0.9s,baz=62,slow=1.9,SNR=22
MAW Mawson 132.18 211 PKIKP PKPdf 11 33 26.1 -2.1
MAW pmax pmax
comp=Z,19nm,0.9s
LBTB Lobatse 133.33 279 *e*PKIKP PKPdf 11 33 30.7 +0.3
LBTB MLR MLR
comp=Z,213µm,19.0s,MS7.9
LPAZ La Paz 134.31 62 PKP PKPdf 11 33 32.1 -0.1
comp=Z,3.3nm,0.7s,baz=321,slow=2.9,SNR=8.6
LPAZ La Paz 134.31 62 *e*PKPdf PKPdf 11 33 32.3 0.0
LPAZ LR LR
comp=Z,217µm,22.0s,MS7.8
TSUM Tsumeb 134.60 292 PFAKE 11 33 40.0 +7.2
TSUM LR LR
comp=Z,269µm,19.0s,MS8.0
BOSA Boshof 135.88 275 PKP PKPdf 11 33 34.3 -0.9
comp=Z,16nm,0.8s,baz=117,slow=4.2,SNR=6.8
BOSA Boshof 135.88 275 *e*PKPdf PKPdf 11 33 33.5 -1.7
BOSA LR LR
comp=Z,296µm,19.0s,MS8.0
QSPA South Pole Qui 136.42 180 *e*P PKPdf 11 33 33.5 -2.7
LVC Limon Verde 138.52 69 *e*PKPdf PKPdf 11 33 39.7 -0.4
LVC LR LR
comp=Z,249µm,20.0s,MS8.0
RCBR Riachuelo 138.55 14 PFAKE 11 33 50.0 +10
RCBR LR LR
comp=Z,222µm,20.0s,MS7.9
ASCN Ascension 139.95 341 PFAKE 11 33 50.0 +7.3
ASCN LR LR
comp=Z,38µm,19.0s,MS7.2
SYO Syowa Base 140.89 212⇓ *i*PKPdf PKPdf 11 33 42.0 -2.4
SUR Sutherland 141.20 274 *e*PKPdf PKPdf 11 33 41.7 -3.2
SUR LR LR
comp=Z,102µm,20.0s,MS7.6
TLL Tololo Astrono 142.32 80 *e*P PKPdf 11 33 37.2 -10
CLCH Cerro Calan 144.43 84 *e*P PKPdf 11 33 48.4 -2.3
FCH Farellones 144.56 84 *e*P PKPdf 11 33 47.4 -3.5
SHEL Horse Pasture 144.72 323 *e*PKPdf PKPdf 11 33 50.8 -0.4
SHEL LR LR
comp=Z,61µm,20.0s,MS7.4
LMEL Las Melosas 144.91 84 *e*P PKPdf 11 33 48.7 -2.8
CFAA Coronel Fontan 144.94 79 PKP PKPdf 11 33 49.7 -1.8
comp=Z,7.6nm,0.9s,baz=268,slow=2.6,SNR=19
CCHI Chillan 145.12 90 *e*P PKPdf 11 33 43.8 -8.1
NVL N'lazarevskaya 149.60 204 *d i*PKHKP 11 33 57.6
NVL *i* 11 50 25.8
NVL *i*SS SS 11 56 49.6 -1.3
NVL pmax pmax
comp=Z,1µm,1.5s
NVL MLR MLR
comp=Z,224µm,19.0s,MS8.0
MAIT Maitri 149.62 204 *e*PKPdf PKPdf 11 34 02.2 +2.9
CAM3 Guarapari 151.79 28⇑ *i*P PKPbc 11 34 07.0 -2.1
CAM3 *i* 11 34 13.4
CAM3 *i* 11 34 27.2
CAM3 *i* 11 34 34.3
CAM3 *i* 11 34 43.1
CAM3 *i* 11 34 46.0
CAM3 *i* 11 35 01.6
CAM3 *i* 11 35 30.0
SNAA Sanae 152.50 196 PKP PKPdf 11 33 59.5 -4.3
comp=Z,6.3nm,1.2s,baz=266,slow=0.6,SNR=5.0
SNAA PKPbc PKPbc 11 34 06.8 -3.9
comp=Z,9.6nm,0.7s,baz=155,slow=1.8,SNR=22
SNAA Sanae 152.50 196 *e*PKPdf PKPdf 11 33 59.5 -4.2
SNAA *e* 11 34 07.2
SNAA *e* 11 34 09.8
SNAA *e* 11 34 15.4
SNAA *e* 11 34 21.0
SNAA *e* 11 34 23.8
SNAA *e* 11 34 27.6
SNAA *e* 11 34 29.5
SNAA *e* 11 34 34.9
SNAA *e* 11 34 41.2
SNAA *e* 11 34 44.2
SNAA *e* 11 34 48.1
SNAA *e* 11 34 52.9
SNAA *e* 11 34 59.2
SNAA *e* 11 35 02.2
SNAA *e* 11 35 28.4
SNAA *e* 11 35 37.3
SNAA *e* 11 37 20.0
SNAA *e* 11 38 42.2
SNAA *e* 11 41 03.8
CAM4 Nova Friburgo 152.58 33 *e*P PKPbc 11 34 08.6 -2.2
CAM4 *i* 11 34 09.8
CAM4 *i* 11 34 15.3
CAM4 *i* 11 34 30.0
CAM4 *i* 11 34 33.9
TRQA Tornquist 152.79 84 *e*PKPdf PKPdf 11 34 05.3 +1.2
TRQA LR LR
comp=Z,388µm,20.0s,MS8.2
PMSA Palmer Station 152.88 145 PKP PKPdf 11 34 02.4 -1.9
comp=Z,12nm,0.9s,baz=86,slow=13,SNR=1.9
PMSA PKPbc PKPbc 11 34 09.2 -2.3
comp=Z,116nm,1.1s,baz=177,slow=4.4,SNR=5.1
PMSA Palmer Station 152.88 145 PKP PKPdf 11 34 02.4 -1.9
PMSA PKPbc PKPbc 11 34 09.2 -2.3
PMSA LR LR
comp=Z,202µm,22.0s,MS7.9
LPA La Plata 153.83 74 *ce*PKP PKPdf 11 34 03.0 -2.7
LPA *es*PKP 11 34 26.0
LPA *ep*PKP pPKPdf 11 34 36.0 +26
VNA2 Neumayer--Watz 153.95 194 *e*PKPdf PKPdf 11 34 02.3 -3.5
VNA2 *e* 11 34 11.7
VNA2 *e* 11 34 13.2
VNA2 *e* 11 34 17.9
VNA2 *e* 11 34 22.7
VNA2 *e* 11 34 25.8
VNA2 *e* 11 34 32.4
VNA2 *e* 11 34 38.0
VNA2 *e* 11 34 43.4
VNA2 *e* 11 34 44.9
VNA2 *e* 11 34 52.8
VNA2 *e* 11 34 58.3
VNA2 *e* 11 35 05.9
VNA2 *e* 11 35 27.7
VNA2 *e* 11 35 34.2
VNA2 *e* 11 35 55.7
VNA2 *e* 11 36 08.7
VNA2 *e* 11 37 35.6
VNA2 *e* 11 37 44.9
VNA2 *e* 11 37 57.9
VNA2 *e* 11 38 49.3
VNA2 *e* 11 41 08.2
VNA3 Neumayer Olymp 154.04 193 *e*PKPdf PKPdf 11 34 03.8 -2.2
VNA3 *e* 11 34 12.0
VNA3 *e* 11 34 15.9
VNA3 *e* 11 34 19.0
VNA3 *e* 11 34 24.7
VNA3 *e* 11 34 27.5
VNA3 *e* 11 34 33.3
VNA3 *e* 11 34 37.2
VNA3 *e* 11 34 43.4
VNA3 *e* 11 34 45.5
VNA3 *e* 11 34 53.6
VNA3 *e* 11 34 58.5
VNA3 *e* 11 35 02.3
VNA3 *e* 11 35 05.7
VNA3 *e* 11 35 27.7
VNA3 *e* 11 35 34.2
VNA3 *e* 11 35 55.5
VNA3 *e* 11 37 44.2
VNA3 *e* 11 37 57.0
VNA3 *e* 11 38 50.3
VNA3 *e* 11 41 07.7
VNA1 Neumayer--Stat 154.34 194 *e*PKPdf PKPdf 11 34 02.8 -3.6
VNA1 *e* 11 34 11.9
VNA1 *e* 11 34 14.1
VNA1 *e* 11 34 18.3
VNA1 *e* 11 34 24.0
VNA1 *e* 11 34 26.8
VNA1 *e* 11 34 35.6
VNA1 *e* 11 34 38.2
VNA1 *e* 11 34 44.2
VNA1 *e* 11 34 47.2
VNA1 *e* 11 34 51.1
VNA1 *e* 11 35 00.0
VNA1 *e* 11 35 03.8
VNA1 *e* 11 35 29.3
VNA1 *e* 11 35 35.5
VNA1 *e* 11 35 57.0
VNA1 *e* 11 38 54.2
EFI East Falkland 159.05 115 PFAKE 11 34 20.0 +7.5
EFI LR LR
comp=Z,127µm,20.0s,MS7.8
TRIS Tristan da Cun 165.58 307 PFAKE 11 34 30.0 +11
TRIS LR LR
comp=Z,245µm,19.0s
HOPE Hope Point 170.20 145 *e*PKPdf PKPdf 11 34 19.7 -2.5
HOPE LR LR
comp=Z,104µm,22.0s

IDC 15 11:18:47.9±10.0, 4745N×15409E, h0km, mb5.4/4, mb1 5.5/4, mb1mx5.1/22, mbtmp5.4/4, Error ellipse: s-maj=210.4km s-min=42.3km az=129.0, Kuril Islands

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

KSRS **Korea Array** **21.65 252** P P 11 23 39.9 +0.1
83nm,0.9s,baz=53,slow=10,SNR=6.2
MKAR **Makanchi Array** **47.21 297** P P 11 27 22.8 +0.4
26nm,0.5s,baz=75,slow=8.6,SNR=4.8
BVAR **Borovoye Array** **50.93 309** P P 11 27 49.7 -1.2
55nm,0.6s,baz=56,slow=6.8,SNR=6.6
ARCES **ARCESS Array B** **57.41 341** P P 11 28 37.6 -0.5
63nm,1.0s,baz=43,slow=5.4,SNR=2.5

ISCJB ***15*** *11:23:04.9±0.4, 46.13N±008×154.69E±008, h10km, mb5.3/51, Error ellipse: s-maj=12.8km s-min=6.9km az=130.9*
IDC ***15*** *11:23:04.8±0.6, 46.49N×154.51E, h0km, mb5.0/21, mb1 5.1/22, mb1mx5.0/28, mbtmp5.0/22, ML4.9/1, Error ellipse: s-maj=17.0km s-min=13.3km az=148.0*
NEIC ***15*** *11:23:06.9±0.5, 46.30N×154.61E, h10km, mb5.6/29, Error ellipse: s-maj=15.6km s-min=10.6km az=169.0*
MOS ***15*** *11:23:08.5±2.2, 46.21N×154.36E, h33km, mb5.7/22, Error ellipse: s-maj=11.3km s-min=8.7km az=94.8*
BJI ***15*** *11:23:08.1, 46.42N×154.11E, h10km, mB5.9, mb5.5, Ms5.6, Msz5.6*
ISC 15 11:23:06.7±0.4, **4629N**±008×**15459E**±008, **h10km, n112,**
σ**1**§**50**/111, **mb5.3**/51, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.83**	**260**	PN	**Pn**	**11 24 15.0**	**-4.4**
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.57**	**253**	PN	**Pn**	**11 24 42.5**	**-0.9**
ASAJ	**Asahikawa**	**8.75**	**260**	Pn	**Pn**	**11 25 12.4**	**-0.9**
	comp=Z,15nm,0.3s,baz=185,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**8.75**	**260**	PN	**Pn**	**11 25 12.4**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
MJAR	**Matsushiro Arr**	**15.66**	**237**	Pn	**Pn**	**11 26 44.4**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=192,slow=17,SNR=3.7						
MDJ	**Mudanjiang**	**17.60**	**274**	*eP*	**Pn**	**11 27 09.8**	**-2.3**
	comp=Z,25nm,0.5s						
KSRS	**Korea Array**	**21.65**	**255**	P	**P**	**11 27 58.7**	**+1.4**
	comp=Z,57nm,0.7s,mb5.1,baz=58,slow=9.5,SNR=14						
BILL	**Bilibino**	**22.62**	**11**	P	**P**	**11 28 04.2**	**-3.5**
BILL	**Bilibino**	**22.62**	**11**	P	**P**	**11 28 04.2**	**-3.5**
HIA	**Hailar**	**23.48**	**290**	P	**P**	**11 28 12.8**	**-3.9**
BJT	**Baijiatuan**	**28.52**	**271**	P	**P**	**11 29 03.8**	**+1.5**
NJ2	**Nanjing**	**30.86**	**255**	*eP*	**P**	**11 29 24.4**	**+1.4**
NJ2				AP	pP	11 29 27.6	+1.5
NJ2				XP	sP	11 29 30.9	+3.5
NJ2				PP	PP	11 30 25.3	-7.4
NJ2				AMB	AMB		
	comp=Z,80nm,0.5s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,2μm,7.0s						
SONM	**Songino Array**	**32.45**	**291**	P	**P**	**11 29 35.2**	**-1.9**
	comp=Z,10nm,0.9s,mb4.6,baz=98,slow=8.9,SNR=3.8						
KDAK	**Kodiak Island**	**33.60**	**50**	P	**P**	**11 29 44.8**	**-2.4**
	comp=Z,35nm,0.8s,mb5.3,baz=252,slow=3.2,SNR=3.1						
COLA	**College**	**35.87**	**38**	*eP*	**P**	**11 30 05.1**	**-1.6**
COLA				pmax	pmax		
	comp=Z,73nm,0.7s,mb5.7						
COLA	**College**	**35.87**	**38**	*eP*	**P**	**11 30 05.1**	**-1.6**
	comp=Z,73nm,0.7s,mb5.7						
INK	**Inuvik**	**41.49**	**32**	P	**P**	**11 30 52.6**	**-1.3**
	comp=Z,39nm,0.9s,mb5.0,baz=265,slow=7.1,SNR=3.6						
ZAL	**Zalesovo**	**43.72**	**307**	P	**P**	**11 31 08.8**	**-3.3**
	comp=Z,10nm,0.4s,mb4.9,baz=62,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**48.06**	**298**	P	**P**	**11 31 43.9**	**-2.4**
	comp=Z,6.6nm,0.4s,mb5.0,baz=68,slow=7.4,SNR=8.8						
KURK	**Kurchatov**	**48.47**	**305**	*eP*	**P**	**11 31 46.5**	**-2.9**
YKA	**Yellowknife Ar**	**50.68**	**37**	P	**P**	**11 32 05.4**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0,baz=294,slow=7.0,SNR=7.1						
YKA	**Yellowknife Ar**	**50.68**	**37**	P	**P**	**11 32 05.4**	**-0.9**
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**11 32 13.7**	**-2.0**
	comp=Z,14nm,0.4s,mb5.3,baz=51,slow=8.4,SNR=13						
ZRNK	**Zerenda**	**52.70**	**311**	*eP*	**P**	**11 32 19.3**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,84nm,1.1s,mb5.6						
ZRNK	**Zerenda**	**52.70**	**311**	*eP*	**P**	**11 32 19.2**	**-2.2**
	comp=Z,84nm,1.1s,mb5.6						
AAK	**Ala-Archa**	**54.95**	**297**	*eP*	**P**	**11 32 36.1**	**-1.8**
AAK				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.5						
AAK	**Ala-Archa**	**54.95**	**297**	*eP*	**P**	**11 32 36.1**	**-1.8**
	comp=Z,51nm,1.0s,mb5.5						
ARU	**Arti**	**56.04**	**318**	*eP*	**P**	**11 32 43.6**	**-2.1**
ARU				pmax	pmax		
	comp=Z,39nm,0.5s,mb5.7						
ARU	**Arti**	**56.04**	**318**	*eP*	**P**	**11 32 43.6**	**-2.1**
	comp=Z,39nm,0.5s,mb5.7						
HUMO	**Hull Mountain**	**56.41**	**61**	*eP*	**P**	**11 32 48.3**	**-0.1**
	comp=Z,45nm,1.2s,mb5.4						
YBH	**Yreka Blue Hor**	**57.06**	**62**	P	**P**	**11 32 51.7**	**-1.2**
	comp=Z,20nm,1.1s,mb5.0,baz=183,slow=1.3,SNR=3.9						
CMB	**Columbia Colle**	**60.68**	**64**	*eP*	**P**	**11 33 16.9**	**-1.3**
CMB				pmax	pmax		
	comp=Z,147nm,2.1s,mb5.8						
CMB	**Columbia Colle**	**60.68**	**64**	*eP*	**P**	**11 33 16.9**	**-1.3**
	comp=Z,147nm,2.1s,mb5.7						
HLID	**Hailey**	**60.92**	**56**	P	**P**	**11 33 19.2**	**-0.5**
	comp=Z,25nm,1.1s,mb5.3						
SUMG	**Summit**	**61.08**	**4**	*eP*	**P**	**11 33 21.4**	**+0.5**
	comp=Z,4μm,3.2s						
QLMT	**Earthquake Lak**	**61.83**	**54**	*eP*	**P**	**11 33 25.8**	**-0.1**
LOHW	**Long Hollow**	**63.06**	**54**	*eP*	**P**	**11 33 34.4**	**+0.3**
	comp=Z,159nm,1.8s,mb5.8						
REDW	**Red Top Meadow**	**63.08**	**55**	*eP*	**P**	**11 33 34.3**	**+0.1**
	comp=Z,160nm,1.5s,mb5.9						
BW06	**Boulder Array**	**64.19**	**54**	*eP*	**P**	**11 33 38.4**	**-3.2**
	comp=Z,34nm,1.0s,mb5.3						
PDAR	**Pinedale Array**	**64.19**	**54**	P	**P**	**11 33 41.0**	**-0.6**
	comp=Z,12nm,0.9s,mb5.0,baz=278,slow=3.6,SNR=5.8						
FINES	**FINESS Array B**	**64.89**	**335**	P	**P**	**11 33 44.6**	**-1.6**
	comp=Z,21nm,0.7s,mb5.3,baz=34,slow=6.8,SNR=7.5						
ULM	**Lac du Bonnet**	**66.19**	**41**	P	**P**	**11 33 53.0**	**-1.6**
	comp=Z,10nm,0.8s,mb4.8,baz=290,slow=15,SNR=2.3						
CTA	**Charters Tower**	**66.49**	**189**	P	**P**	**11 33 58.3**	**+1.8**
	comp=Z,12nm,1.0s,mb4.8,baz=322,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	**68.43**	**201**	P	**P**	**11 34 07.8**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.6,baz=22,slow=7.0,SNR=5.0						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**11 34 10.0**	**-2.3**
	comp=Z,6.6nm,0.9s,mb4.6,baz=41,slow=15,SNR=2.6						
ASAR	**Alice Springs**	**72.11**	**200**	P	**P**	**11 34 31.1**	**-0.3**
	comp=Z,8.3nm,0.7s,mb4.8,baz=18,slow=6.3,SNR=7.8						
AKASG	**Malin Array Be**	**72.49**	**327**	P	**P**	**11 34 33.0**	**-0.6**
	comp=Z,3.5nm,0.4s,mb4.7,baz=34,slow=6.4,SNR=4.8						
LTX	**Lajitas**	**76.82**	**61**	*eP*	**P**	**11 34 57.9**	**-0.8**
LTX				pmax	pmax		
	comp=Z,19nm,0.5s,mb5.3						
LTX	**Lajitas**	**76.82**	**61**	*eP*	**P**	**11 34 57.9**	**-0.9**
	comp=Z,19nm,0.5s,mb5.3						
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**	**11 34 58.1**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2,baz=302,slow=4.4,SNR=16						
CLL	**Collm**	**77.30**	**336**	*i* P	**P**	**11 35 04.3**	**+2.9**
WSAR	**Wadi Sarin**	**77.50**	**290**	P	**P**	**11 35 01.4**	**-1.1**
	comp=Z,26nm,1.1s,mb5.1,baz=148,slow=6.1,SNR=2.4						
STKA	**Stephens Creek**	**78.69**	**191**	P	**P**	**11 35 10.8**	**+1.7**
	comp=Z,11nm,0.8s,mb4.8,baz=74,slow=7.0,SNR=4.7						
STKA	**Stephens Creek**	**78.69**	**191**	P	**P**	**11 35 10.8**	**+1.7**
GERES	**GERESS Array B**	**79.31**	**335**	P	**P**	**11 35 10.7**	**-1.8**
	comp=Z,7.8nm,1.1s,baz=20,slow=4.3,SNR=5.1						
MEM	**Membach**	**79.73**	**340**	XP	**P**	**11 35 17.5**	**+2.7**
	comp=Z,21nm,1.0s,mb5.0						
MEM				E		11 36 38.2	
GIVF	**Givet**	**80.48**	**341**	*eP*	**P**	**11 35 19.8**	**+1.0**
	comp=Z,105nm,1.2s,mb5.4						
GIVF	**Givet**	**80.48**	**341**	*eP*	**P**	**11 35 19.8**	**+1.0**
GIVF				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.3						
GIVF	**Givet**	**80.48**	**341**	*eP*	**P**	**11 35 19.8**	**+1.0**
	comp=Z,53nm,1.2s,mb5.3						
BAIF	**Baives**	**80.66**	**341**	*eP*	**P**	**11 35 20.9**	**+1.1**
	comp=Z,63nm,1.1s,mb5.2						
BAIF	**Baives**	**80.66**	**341**	*eP*	**P**	**11 35 20.9**	**+1.1**
BAIF				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
BAIF	**Baives**	**80.66**	**341**	*eP*	**P**	**11 35 20.9**	**+1.1**
	comp=Z,32nm,1.1s,mb5.2						
CDF	**Champ du Feu**	**81.46**	**339**	*eP*	**P**	**11 35 25.2**	**+1.1**
	comp=Z,187nm,1.4s,mb5.5						
CDF	**Champ du Feu**	**81.46**	**339**	*eP*	**P**	**11 35 25.2**	**+1.1**
CDF				pmax	pmax		
	comp=Z,93nm,1.4s,mb5.5						
CDF	**Champ du Feu**	**81.46**	**339**	*eP*	**P**	**11 35 25.2**	**+1.1**
	comp=Z,93nm,1.4s,mb5.5						
MEZF	**Maizieres J'vi**	**81.92**	**340**	*eP*	**P**	**11 35 28.1**	**+1.6**
HAU	**Haudompre**	**82.07**	**339**	*eP*	**P**	**11 35 28.3**	**+1.0**
	comp=Z,66nm,1.2s,mb5.1						
HAU	**Haudompre**	**82.07**	**339**	*eP*	**P**	**11 35 28.3**	**+1.0**
HAU				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.1						
HAU	**Haudompre**	**82.07**	**339**	*eP*	**P**	**11 35 28.3**	**+1.0**
	comp=Z,33nm,1.2s,mb5.1						
HINF	**Hinteralfeld**	**82.12**	**339**	*eP*	**P**	**11 35 28.3**	**+0.7**
	comp=Z,83nm,1.3s,mb5.2						
HINF	**Hinteralfeld**	**82.12**	**339**	*eP*	**P**	**11 35 28.3**	**+0.7**
HINF				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
HINF	**Hinteralfeld**	**82.12**	**339**	*eP*	**P**	**11 35 28.3**	**+0.7**
	comp=Z,42nm,1.3s,mb5.2						
FLN	**La Foliniere**	**82.87**	**344**	*eP*	**P**	**11 35 33.0**	**+1.5**
	comp=Z,71nm,1.0s,mb5.3						
FLN	**La Foliniere**	**82.87**	**344**	*eP*	**P**	**11 35 33.0**	**+1.5**
FLN				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
FLN	**La Foliniere**	**82.87**	**344**	*eP*	**P**	**11 35 33.0**	**+1.5**
	comp=Z,36nm,1.0s,mb5.3						
LDF	**La Druitiere**	**82.96**	**343**	*eP*	**P**	**11 35 33.3**	**+1.4**
	comp=Z,147nm,1.3s,mb5.5						
LDF	**La Druitiere**	**82.96**	**343**	*eP*	**P**	**11 35 33.3**	**+1.4**
LDF				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.6						
LDF	**La Druitiere**	**82.96**	**343**	*eP*	**P**	**11 35 33.3**	**+1.4**
	comp=Z,74nm,1.3s,mb5.5						
GRR	**Gorron**	**83.30**	**344**	*eP*	**P**	**11 35 35.4**	**+1.7**
	comp=Z,259nm,1.4s,mb5.8						
GRR	**Gorron**	**83.30**	**344**	*eP*	**P**	**11 35 35.4**	**+1.7**
GRR				pmax	pmax		
	comp=Z,129nm,1.4s,mb5.8						
GRR	**Gorron**	**83.30**	**344**	*eP*	**P**	**11 35 35.4**	**+1.7**
	comp=Z,129nm,1.4s,mb5.8						
LOR	**Lormes**	**83.36**	**340**	*eP*	**P**	**11 35 35.4**	**+1.4**
	comp=Z,143nm,1.2s,mb5.6						
LOR	**Lormes**	**83.36**	**340**	*eP*	**P**	**11 35 35.4**	**+1.4**
LOR				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.6						
LOR	**Lormes**	**83.36**	**340**	*eP*	**P**	**11 35 35.4**	**+1.4**
	comp=Z,72nm,1.2s,mb5.6						
SSF	**Saint Saulge**	**83.64**	**341**	*eP*	**P**	**11 35 36.6**	**+1.2**
	comp=Z,61nm,1.0s,mb5.4						
SSF	**Saint Saulge**	**83.64**	**341**	*eP*	**P**	**11 35 36.6**	**+1.2**
SSF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
SSF	**Saint Saulge**	**83.64**	**341**	*eP*	**P**	**11 35 36.6**	**+1.2**
	comp=Z,30nm,1.0s,mb5.4						
AVF	**Avril sur Loir**	**83.93**	**341**	*eP*	**P**	**11 35 38.6**	**+1.7**
SMF	**Signal de Mont**	**83.95**	**340**	*eP*	**P**	**11 35 38.8**	**+1.8**
	comp=Z,170nm,1.1s,mb5.8						
SMF	**Signal de Mont**	**83.95**	**340**	*eP*	**P**	**11 35 38.8**	**+1.8**
	comp=Z,85nm,1.1s,mb5.8						
QUIF	**Quistinic**	**84.18**	**345**	*eP*	**P**	**11 35 39.3**	**+1.1**
LPL	**La Plagne**	**84.29**	**338**	*eP*	**P**	**11 35 41.1**	**+2.3**
LPG	**La Plagne**	**84.30**	**338**	*eP*	**P**	**11 35 41.2**	**+2.4**
	comp=Z,97nm,1.2s,mb5.5						
LPG	**La Plagne**	**84.30**	**338**	*eP*	**P**	**11 35 41.2**	**+2.4**
LPG				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.5						
LPG	**La Plagne**	**84.30**	**338**	*eP*	**P**	**11 35 41.2**	**+2.4**
	comp=Z,48nm,1.2s,mb5.5						
MFF	**Saint Martin d**	**84.87**	**343**	*eP*	**P**	**11 35 42.8**	**+1.1**
	comp=Z,132nm,1.3s,mb5.6						
MFF	**Saint Martin d**	**84.87**	**343**	*eP*	**P**	**11 35 42.8**	**+1.1**
MFF				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.6						
MFF	**Saint Martin d**	**84.87**	**343**	*eP*	**P**	**11 35 42.8**	**+1.1**
	comp=Z,66nm,1.3s,mb5.6						
MBDF	**Montbardon**	**85.01**	**338**	*eP*	**P**	**11 35 43.4**	**+1.0**
	comp=Z,25nm,0.7s,mb5.2						
MBDF	**Montbardon**	**85.01**	**338**	*eP*	**P**	**11 35 43.4**	**+1.0**
MBDF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
MBDF	**Montbardon**	**85.01**	**338**	*eP*	**P**	**11 35 43.4**	**+1.0**
	comp=Z,12nm,0.7s,mb5.1						
RJF	**Les Rejaudoux**	**85.75**	**341**	*eP*	**P**	**11 35 47.4**	**+1.3**
	comp=Z,92nm,1.2s,mb5.6						
RJF	**Les Rejaudoux**	**85.75**	**341**	*eP*	**P**	**11 35 47.4**	**+1.3**
RJF				pmax	pmax		
	comp=Z,46nm,1.2s,mb5.6						
RJF	**Les Rejaudoux**	**85.75**	**341**	*eP*	**P**	**11 35 47.4**	**+1.3**
	comp=Z,46nm,1.2s,mb5.6						
CAF	**Calviac**	**85.98**	**341**	*eP*	**P**	**11 35 48.9**	**+1.6**
	comp=Z,132nm,1.4s,mb5.7						
CAF	**Calviac**	**85.98**	**341**	*eP*	**P**	**11 35 48.9**	**+1.6**
CAF				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.7						
CAF	**Calviac**	**85.98**	**341**	*eP*	**P**	**11 35 48.9**	**+1.6**
	comp=Z,66nm,1.4s,mb5.7						
LFF	**La Frestale**	**86.27**	**342**	*eP*	**P**	**11 35 49.5**	**+0.9**
	comp=Z,107nm,1.1s,mb5.7						
LFF	**La Frestale**	**86.27**	**342**	*eP*	**P**	**11 35 49.5**	**+0.9**
LFF				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.7						
LFF	**La Frestale**	**86.27**	**342**	*eP*	**P**	**11 35 49.5**	**+0.9**
	comp=Z,54nm,1.1s,mb5.7						
LASF	**Ste Croix**	**86.36**	**339**	*eP*	**P**	**11 35 50.0**	**+0.9**
	comp=Z,54nm,1.1s,mb5.4						
SNAA	**Sanae**	**152.39**	**195**	*e*PKIKP	PKPbc	11 43 01.6	-1.4

ISCJB ***15*** *11:24:27.9±0.3, 46.21N±005×154.63E±005, h10km, mb5.4/80, Error ellipse: s-maj=7.9km s-min=4.8km az=177.6*
IDC ***15*** *11:24:27.6±0.5, 46.25N×154.49E, h0km, mb5.1/22, mb1 5.2/24, mb1mx5.1/29, mbtmp5.1/24, ML4.7/2, Error ellipse: s-maj=16.0km s-min=12.5km az=148.0*
NEIC ***15*** *11:24:29.9±0.3, 46.27N×154.52E, h10km, mb5.6/56, Error ellipse: s-maj=7.9km s-min=6.2km az=148.0*
MOS ***15*** *11:24:32.4±1.2, 46.11N×154.52E, h46km, mb5.7/38, Error ellipse: s-maj=12.5km s-min=7.9km az=77.5*
ISC 15 11:24:29.7±0.3, **4630N**±005×**15447E**±005, **h10km, n418,**
σ**0**§**67**/403, **mb5.4**/80, **111C-102D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**7.26**	**20**	Pn	**Pn**	**11 26 13.4**	**-2.3**
MA2	**Magadan**	**13.48**	**352**	*eP*	**Pn**	**11 27 40.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,30nm,0.5s						
YAK	**Yakutsk**	**21.21**	**327**	*eP*	**P**	**11 29 20.0**	**+4.6**
BILL	**Bilibino**	**22.63**	**12**	*eP*	**P**	**11 29 32.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,243nm,1.7s,mb5.4						
BILL	**Bilibino**	**22.63**	**12**	*eP*	**P**	**11 29 30.4**	**-0.3**
	comp=Z,263nm,1.1s,mb5.6						
KDAK	**Kodiak Island**	**33.66**	**50**	P	**P**	**11 31 08.7**	**-1.9**
	comp=Z,83nm,1.0s,mb5.6,baz=353,slow=6.4,SNR=6.9						
MCK	**McKinley**	**35.39**	**40**	*eP*	**P**	**11 31 25.2**	**-0.4**
MCK				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.5						
MCK	**McKinley**	**35.39**	**40**	*eP*	**P**	**11 31 25.8**	**+0.2**
	comp=Z,76nm,1.2s,mb5.5						
SML	**Sawmill**	**35.65**	**43**	*eP*	**P**	**11 31 26.5**	**-1.3**
COLA	**College**	**35.91**	**38**	*eP*	**P**	**11 31 29.6**	**-0.4**
COLA				pmax	pmax		
	comp=Z,150nm,0.9s,mb5.9						
COLA	**College**	**35.91**	**38**	*eP*	**P**	**11 31 29.6**	**-0.4**
	comp=Z,150nm,0.9s,mb5.9						
DIV	**Divide**	**36.91**	**44**	*eP*	**P**	**11 31 39.5**	**+0.9**
	comp=Z,254nm,1.0s,mb6.0						
EGAK	**Eagle**	**38.77**	**38**	*eP*	**P**	**11 31 53.0**	**-1.3**
	comp=Z,197nm,0.9s,mb5.8						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**11 32 17.5**	**+0.4**
	comp=Z,35nm,0.6s,mb5.2,baz=299,slow=7.3,SNR=15						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**11 32 17.5**	**+0.3**
ZAL	**Zalesovo**	**43.65**	**307**	P	**P**	**11 32 32.7**	**-1.7**
	comp=Z,11nm,0.7s,mb4.7,baz=52,slow=12,SNR=3.7						
ZAL	**Zalesovo**	**43.65**	**307**	P	**P**	**11 32 32.7**	**-1.7**
ZAL				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**11 33 08.0**	**-0.6**
	comp=Z,30nm,0.8s,mb5.4,baz=69,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**11 33 08.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,30nm,0.8s						
POHA	**Pohakuloa**	**48.55**	**106**	*eP*	**P**	**11 33 12.9**	**-0.1**
	comp=Z,86nm,0.8s,mb5.8						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**11 33 29.0**	**-0.5**
	comp=Z,41nm,1.0s,mb5.3,baz=295,slow=7.0,SNR=9.4						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**11 33 29.0**	**-0.6**
YKA				pmax	pmax		
	comp=Z,41nm,1.0s						
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**11 33 38.0**	**-0.1**
	comp=Z,14nm,0.6s,mb5.0,baz=57,slow=5.6,SNR=4.8						
A05A	**Maple Falls**	**53.53**	**54**	⇑P	**P**	**11 33 50.3**	**-0.1**
	baz=52						
D03A	**Wishkah Elem.**	**53.54**	**57**	⇑P	**P**	**11 33 50.8**	**+0.3**
	baz=52						
C05A	**Tolt Reservoir**	**54.44**	**56**	⇑P	**P**	**11 33 56.0**	**-1.1**
	baz=53						
A07A	**Ashnola River,**	**54.46**	**54**	⇓P	**P**	**11 33 56.9**	**-0.3**
	baz=53						
D05A	**Enumclaw**	**54.54**	**56**	⇓P	**P**	**11 33 57.9**	**+0.2**
	baz=53						
B07A	**Winthrop**	**54.92**	**54**	⇓P	**P**	**11 34 00.3**	**-0.3**
	baz=54						
F04A	**Amboy**	**54.96**	**58**	⇓P	**P**	**11 34 00.0**	**-0.8**
	baz=54						
H03A	**Soap Creek Ran**	**55.13**	**60**	⇓P	**P**	**11 34 02.8**	**+0.7**
	baz=54						
A08A	**Turner Farm, O**	**55.13**	**53**	⇓P	**P**	**11 34 01.5**	**-0.6**
	baz=54						
I02A	**Mapleton**	**55.17**	**60**	⇑P	**P**	**11 34 02.4**	**0.0**
	baz=54						
D06A	**Cle Elum**	**55.19**	**56**	⇑P	**P**	**11 34 02.8**	**+0.3**
	baz=54						
G04A	**Mulino**	**55.32**	**59**	⇑P	**P**	**11 34 04.2**	**+0.8**
	baz=54						
C07A	**Waterville**	**55.37**	**55**	⇑P	**P**	**11 34 02.5**	**-1.3**
	baz=54						
B08A	**Colville Reser**	**55.42**	**54**	⇓P	**P**	**11 34 03.9**	**-0.2**
	baz=54						
A09A	**Danville**	**55.50**	**53**	⇑P	**P**	**11 34 04.9**	**+0.2**
	baz=54,SNR=9.4						
I03A	**Eugene**	**55.52**	**60**	⇓P	**P**	**11 34 05.0**	**+0.1**
	baz=54						
J02A	**Umpqua**	**55.68**	**61**	⇑P	**P**	**11 34 06.4**	**+0.4**
	baz=54,SNR=8.7						
D07A	**Quincy**	**55.69**	**55**	⇑P	**P**	**11 34 06.1**	**0.0**
	baz=54						
H04A	**Detroit Lake**	**55.78**	**59**	P	**P**	**11 34 07.7**	**+0.9**
	baz=55,SNR=6.6						
C08A	**Higginbotham F**	**55.89**	**54**	⇓P	**P**	**11 34 07.0**	**-0.5**
	baz=55						
KBO	**Bosley Butte**	**55.93**	**62**	*eP*	**P**	**11 34 08.8**	**+1.0**
G05A	**Wamic**	**55.99**	**58**	⇓P	**P**	**11 34 08.5**	**+0.2**
	baz=55						
F06A	**Goldendale**	**56.01**	**57**	⇑P	**P**	**11 34 08.0**	**-0.4**
	baz=55						
B09A	**Rice**	**56.04**	**53**	⇓P	**P**	**11 34 08.8**	**+0.2**
	baz=55						
J03A	**Ideyld Park**	**56.05**	**61**	⇓P	**P**	**11 34 08.8**	**+0.1**
	baz=55						
A10A	**Northport**	**56.06**	**53**	⇑P	**P**	**11 34 08.7**	**-0.1**
	baz=55						
K02A	**Glendale**	**56.06**	**62**	⇑P	**P**	**11 34 08.6**	**-0.2**
	baz=55						
E07A	**Sunnyside**	**56.11**	**56**	⇑P	**P**	**11 34 08.2**	**-0.9**
	baz=55						
I04A	**Tendick Farm,**	**56.14**	**60**	⇑P	**P**	**11 34 09.2**	**-0.2**
	baz=55,SNR=8.0						
M01C	**Crescent City**	**56.20**	**63**	⇑P	**P**	**11 34 10.4**	**+0.7**
	baz=55						
C09A	**Chrisman Ranch**	**56.32**	**54**	⇓P	**P**	**11 34 10.1**	**-0.5**
	baz=55						
L02A	**Cave Junction**	**56.34**	**62**	⇓P	**P**	**11 34 11.2**	**+0.4**
	baz=55						
D08A	**Wollman Farm,**	**56.36**	**55**	⇓P	**P**	**11 34 10.4**	**-0.5**
	baz=55						
H05A	**Madras**	**56.37**	**59**	⇑P	**P**	**11 34 10.6**	**-0.4**
	baz=55						
G06A	**Carlson Farm,**	**56.39**	**58**	⇓P	**P**	**11 34 11.1**	**0.0**
	baz=55						
F07A	**Phinny Hill Vi**	**56.43**	**57**	⇑P	**P**	**11 34 12.1**	**+0.7**
	baz=55						
HUMO	**Hull Mountain**	**56.48**	**61**	⇓P	**P**	**11 34 11.9**	**+0.1**
	baz=55						
I05A	**Bend**	**56.62**	**59**	⇑P	**P**	**11 34 12.7**	**-0.1**
	baz=56						
B10A	**Chitwood Farm,**	**56.62**	**53**	⇓P

L05A **Lakeview** 58.09 61 ⇑P P 11 34 23.5 +0.4
baz=57
B13A **Whitefish** 58.10 52 ⇑P P 11 34 22.7 -0.4
baz=57,SNR=6.5
J07A **Hines** 58.23 59 ⇑P P 11 34 23.6 -0.5
baz=57
M05C **Lookout** 58.30 62 ⇑P P 11 34 24.7 0.0
baz=57
GASB **Alder Springs** 58.33 64 ⇓P P 11 34 24.8 0.0
baz=57
I08A **Drewsey** 58.36 58 ⇓P P 11 34 25.5 +0.5
baz=57
HATC **Hat Creek Radi** 58.43 62 ⇓P P 11 34 25.8 +0.3
baz=57
C13A **Hot Springs** 58.44 52 ⇑P P 11 34 25.8 +0.2
baz=57
H09A **Durkee** 58.45 57 ⇑P P 11 34 26.2 +0.6
baz=57
MOD **Modoc** 58.50 61 ⇑P P 11 34 26.4 +0.4
baz=57
BMO **Blue Mountains** 58.55 56 *eP* P 11 34 26.4 0.0
comp=Z,39nm,1.0s,mb5.4
O03C **Acorn Hollow,** 58.56 63 ⇑P P 11 34 26.4 0.0
baz=57
ARCES **ARCESS Array B** 58.58 341 P P 11 34 25.6 -1.1
comp=Z,42nm,1.1s,mb5.4,baz=28,slow=8.1,SNR=3.6
ARCES **ARCESS Array B** 58.58 341 P P 11 34 25.6 -1.0
ARCES pmax pmax
comp=Z,42nm,1.1s
F11A **Grangeville** 58.60 55 ⇓P P 11 34 27.4 +0.7
baz=57
K07A **Rock Creek Ran** 58.67 59 ⇓P P 11 34 28.0 +0.8
baz=58
J08A **Circle Bar Ran** 58.74 58 ⇓P P 11 34 26.6 -1.1
baz=58
M06C **Likely Place G** 58.80 62 ⇓P P 11 34 27.9 -0.2
baz=58
I09A **Lost Marbles R** 58.81 58 ⇑P P 11 34 28.1 -0.1
baz=58
D13A **Huson** 58.85 53 ⇓P P 11 34 27.6 -0.8
baz=58
O04C **Chester** 58.95 63 ⇑P P 11 34 28.2 -0.9
baz=58,SNR=5.7
MNRC **McLaughlin Nat** 58.96 65 ⇑P P 11 34 28.6 -0.6
baz=58
ELFS **Eagle Lake Fie** 58.99 62 ⇓P P 11 34 29.9 +0.4
baz=58,SNR=5.9
L07A **Adell** 59.01 60 ⇑P P 11 34 29.4 -0.2
baz=58
K08A **Mann Creek Ran** 59.10 59 P P 11 34 30.9 +0.7
baz=58,SNR=8.5
MCCM **Marconi Confer** 59.12 66 ⇓P P 11 34 30.4 0.0
baz=58
J09A **Fry Pan Ranch,** 59.17 58 ⇑P P 11 34 31.6 +0.9
baz=58
O05C **Quincy** 59.27 63 ⇑P P 11 34 31.8 +0.4
baz=58,SNR=5.4
MSO **Missoula** 59.29 53 *eP* P 11 34 31.0 -0.5
comp=Z,51nm,1.2s,mb5.4
FARB **Farallon Islan** 59.31 66 ⇑P P 11 34 32.7 +1.0
baz=58
D14A **Greenough** 59.38 53 ⇓P P 11 34 32.7 +0.6
baz=58,SNR=5.7
H11A **Donnelly** 59.38 56 P P 11 34 32.2 +0.1
baz=58,SNR=5.8
E13A **Victor** 59.38 53 ⇑P P 11 34 32.7 +0.6
baz=58
AB31 **Akbulak array** 59.43 311 ⇓P P 11 34 32.8 +0.3
comp=Z,9.1nm,0.5s,mb5.1,baz=71,slow=7.5,SNR=8.4
N06A **Buffalo Meadow** 59.46 62 ⇑P P 11 34 32.2 -0.5
baz=58,SNR=5.4
M07A **Soldier Meadow** 59.48 61 P P 11 34 33.7 +0.8
baz=58,SNR=8.9
L08A **Fields** 59.50 59 ⇑P P 11 34 33.2 +0.3
baz=58,SNR=5.5
K09A **Rome** 59.57 59 ⇓P P 11 34 33.7 +0.3
baz=58
CHMT **Chamberlain Mo** 59.62 53 *eP* P 11 34 34.0 +0.2
BEKR **Beckwourth** 59.67 63 ⇓P P 11 34 34.6 +0.5
baz=58
F13A **Darby** 59.69 54 ⇑P P 11 34 34.5 +0.2
baz=58
E14A **Clinton** 59.78 53 ⇑P P 11 34 34.9 0.0
baz=59
O06A **Flanigan** 59.81 62 ⇑P P 11 34 35.3 +0.2
baz=59
P05C **Yuba Gap, Truc** 59.85 63 ⇑P P 11 34 35.5 +0.2
baz=59
N07B **Gerlach** 59.97 61 ⇓P P 11 34 35.8 -0.4
baz=59
JRSC **Jasper Ridge** 59.98 66 ⇓P P 11 34 35.4 -0.8
baz=59
L09A **Wilkinson Ranc** 60.01 59 ⇓P P 11 34 36.1 -0.3
baz=59
P06A **Stead Airport,** 60.06 63 ⇑P P 11 34 36.1 -0.8
baz=59
WENL **Wente Brothers** 60.15 66 ⇑P P 11 34 37.9 +0.5
baz=59
BNLO **Ben Lomond (Sa** 60.18 66 ⇑P P 11 34 37.8 +0.2
baz=59
F14A **Wisdom** 60.21 54 ⇓P P 11 34 38.5 +0.6
baz=59
E15A **Deer Lodge** 60.25 53 P P 11 34 38.2 +0.1
baz=59,SNR=7.8
R04C **Big Horse Ranc** 60.28 64 ⇑P P 11 34 38.5 +0.2
baz=59
WCN **Washoe City** 60.38 63 ⇑P P 11 34 39.2 +0.2
baz=59,SNR=5.6
O07A **Toulon** 60.40 62 ⇓P P 11 34 38.8 -0.4
baz=59,SNR=8.1
N08A **GE Springer Mi** 60.48 61 ⇑P P 11 34 40.0 +0.3
baz=59,SNR=5.1
S04C **Ingram Canyon,** 60.49 65 ⇓P P 11 34 39.6 -0.1
baz=59
M09A **Marrel Ranch,** 60.50 60 ⇑P P 11 34 40.5 +0.7
baz=59
R05C **Kirkwood Meado** 60.55 64 ⇓P P 11 34 40.7 +0.6
baz=59
F15A **Butte** 60.69 53 P P 11 34 41.5 +0.4
baz=60,SNR=10
CMB **Columbia Colle** 60.76 64 *eP* P 11 34 39.5 -2.1
CMB pmax pmax
comp=Z,32nm,1.2s,mb5.3
CMB **Columbia Colle** 60.76 64 *eP* P 11 34 39.5 -2.0
comp=Z,32nm,1.2s,mb5.3
CMB **Columbia Colle** 60.76 64 ⇑P P 11 34 41.5 -0.1
baz=60
P07A **Fallon** 60.77 62 ⇑P P 11 34 41.0 -0.7
baz=60
N09A **Rock Creek Ran** 60.80 60 ⇑P P 11 34 41.6 -0.3
baz=60,SNR=7.1
PACP **Pacheco Peak** 60.82 66 ⇓P P 11 34 40.6 -1.4
baz=60
EGMT **Eagleton** 60.84 50 *eP* P 11 34 42.1 -0.1
comp=Z,139nm,1.4s,mb5.9
M10A **I.L. Ranch, Tu** 60.98 59 ⇑P P 11 34 43.2 +0.1
baz=60,SNR=6.3
HLID **Hailey** 60.98 56 *eP* P 11 34 44.1 +1.0
comp=Z,14nm,0.9s,mb5.1
HAST **UC Hastings Re** 61.03 67 ⇓P P 11 34 43.7 +0.3
baz=60
R06C **Coleville** 61.04 63 ⇓P P 11 34 43.2 -0.3
baz=60
G15A **Dillon** 61.10 54 ⇓P P 11 34 43.6 -0.2
baz=60
MCMT **McKenzie Canyo** 61.10 54 *eP* P 11 34 43.4 -0.6
P08A **Dixie Valley** 61.17 62 ⇑P P 11 34 44.4 +0.1
baz=60
S06C **San Francisco** 61.19 64 ⇑P P 11 34 45.1 +0.6
baz=60
S05C **Merced** 61.22 65 ⇓P P 11 34 44.3 -0.3
baz=60
BMN **Battle Mountai** 61.24 61 *eP* P 11 34 45.2 +0.4
BMN pmax pmax
comp=Z,48nm,0.9s,mb5.6
BMN **Battle Mountai** 61.24 61 *eP* P 11 34 45.2 +0.4
comp=Z,48nm,0.9s,mb5.6
O09A **Fish Creek Ran** 61.42 61 ⇑P P 11 34 46.5 +0.4
baz=60
V03C **Hunter Liggett** 61.46 67 ⇓P P 11 34 46.3 0.0
baz=60
M11A **Holland Ranch,** 61.48 59 ⇑P P 11 34 47.3 +0.8
baz=60
N10A **Dunphy** 61.49 60 ⇑P P 11 34 47.4 +0.8
baz=60
U04C **Hernandez Rese** 61.53 66 ⇓P P 11 34 47.5 +0.7
baz=60
R07C **Lee Vining** 61.56 64 ⇑P P 11 34 47.1 +0.1
baz=60
O10A **Cortez Mining,** 61.76 60 ⇑P P 11 34 48.9 +0.5
baz=61
Q08A **Gabbs** 61.77 62 ⇑P P 11 34 47.9 -0.5
baz=61
NVAR **Mina Array Bea** 61.81 63 P P 11 34 49.0 +0.3
comp=Z,24nm,0.8s,mb5.4,baz=295,slow=5.4,SNR=18
T06C **Millerton Lake** 61.81 65 ⇑P P 11 34 48.8 +0.1
baz=61
P09A **Austin** 61.83 61 ⇑P P 11 34 49.3 +0.5
baz=61,SNR=5.1
KCC **Kaiser Creek** 61.86 64 ⇓P P 11 34 49.1 +0.1
baz=61
N11A **Elko Archery C** 61.89 59 ⇑P P 11 34 50.1 +0.9
baz=61
QLMT **Earthquake Lak** 61.90 54 *eP* P 11 34 48.3 -1.0
V04C **Ramage Ranch,** 61.93 67 ⇓P P 11 34 50.2 +0.7
baz=61
PKD **Parkfield** 61.95 66 ⇓P P 11 34 49.0 -0.6
baz=61
MLAC **Mammoth Lakes** 61.97 64 ⇓P P 11 34 50.2 +0.4
baz=61
R08A **Mina** 61.98 63 ⇑P P 11 34 49.3 -0.5
baz=61
KAKA **Kakadu** 61.99 204 *eP* P 11 34 49.3 -0.6
comp=Z,39nm,0.6s,mb5.7
M12A **Wells** 62.01 58 ⇑P P 11 34 50.0 0.0
baz=61
LOF **Lofoten** 62.19 345 *e* P 11 34 53.8 +2.5
LOF *eP* 11 35 24.5
P10A **Eureka** 62.20 61 ⇑P P 11 34 51.5 +0.2
baz=61
ELK **Elko** 62.23 59 *eP* P 11 34 53.3 +1.7
ELK pmax pmax
comp=Z,18nm,0.9s
ELK **Elko** 62.23 59 *eP* P 11 34 53.3 +1.7
comp=Z,18nm,0.9s,mb5.2
Q09A **Carvers** 62.25 62 ⇑P P 11 34 51.2 -0.5
baz=61,SNR=5.6
N12A **Clover Valley,** 62.29 59 ⇑P P 11 34 51.5 -0.4
baz=61
MTUM **Tungsten Hills** 62.31 64 *eP* P 11 34 53.7 +1.6
PTRM **Twissleman Ran** 62.34 66 *eP* P 11 34 53.9 +1.6
O11A **Cowboy Ranch,** 62.37 60 ⇑P P 11 34 52.7 +0.3
baz=61
V05C **Boulder Hill,** 62.40 66 ⇓P P 11 34 51.5 -1.2
baz=61
HELL **Mitchell Peak,** 62.45 65 P P 11 34 52.7 -0.3
baz=61,SNR=6.9
S08C **White Mtn Res** 62.47 64 ⇑P P 11 34 53.0 -0.2
baz=61
M13A **Montello** 62.49 58 ⇓P P 11 34 53.3 0.0
baz=61,SNR=5.1
RCTC **Rector, Farmer** 62.54 65 ⇓P P 11 34 53.8 +0.2
baz=61
LKWY **Lake** 62.64 53 *eP* P 11 34 57.4 +3.2
LKWY pmax pmax
comp=Z,26nm,0.9s,mb5.4
LKWY **Lake** 62.64 53 *eP* P 11 34 57.4 +3.1
comp=Z,26nm,0.9s,mb5.3
P11A **Circle Ranch,** 62.67 60 ⇓P P 11 34 53.8 -0.7
baz=62
R09A **Tonopah** 62.69 62 P P 11 34 54.8 +0.3
baz=62,SNR=8.0
SMMC **Simmler** 62.69 67 ⇓P P 11 34 54.7 +0.2
baz=62
TPH **Tonopah** 62.70 63 *eP* P 11 34 54.5 -0.1
TPH pmax pmax
comp=Z,53nm,0.9s,mb5.7
TPH **Tonopah** 62.70 63 *eP* P 11 34 54.5 -0.2
comp=Z,53nm,0.9s,mb5.7
TIN **Tinemaha** 62.71 64 ⇓P P 11 34 54.9 +0.2
baz=62
N13A **Wendover, West** 62.78 59 ⇓P P 11 34 55.6 +0.4
baz=62
DCID1 **Drake Creek** 62.81 55 *eP* P 11 34 56.5 +1.1
O12A **Currie** 62.83 59 ⇑P P 11 34 55.5 0.0
baz=62
RLMT **Red Lodge** 62.91 52 *eP* P 11 34 57.3 +1.3
comp=Z,75nm,1.3s,mb5.7
S09A **Goldfield** 62.91 63 ⇑P P 11 34 56.3 +0.2
baz=62
VES **Vestal, Richgr** 62.94 66 ⇓P P 11 34 56.1 -0.1
baz=62
PKM **Peak Mountain** 63.06 67 ⇓P P 11 34 57.7 +0.6
baz=62
LOHW **Long Hollow** 63.12 54 *eP* P 11 34 59.4 +2.0
comp=Z,88nm,1.3s,mb5.7
R10A **Warm Springs** 63.13 62 ⇓P P 11 34 57.8 +0.3
baz=62
REDW **Red Top Meadow** 63.14 55 *eP* P 11 34 58.2 +0.6
comp=Z,130nm,1.1s,mb6.0
Q11A **Duckwater** 63.17 61 ⇓P P 11 34 57.5 -0.3
baz=62
CWC **Cottonwood Cre** 63.19 65 ⇓P P 11 34 57.8 -0.1
baz=62
P12A **McGill** 63.23 60 ⇑P P 11 34 57.9 -0.3
baz=62
GRAC **Grapevine Rang** 63.28 64 ⇑P P 11 34 59.2 +0.6
baz=62
ISA **Isabella** 63.43 65 ⇓P P 11 34 59.8 +0.3
baz=62
SPUT **South Promonto** 63.52 57 *eP* P 11 34 58.0 -2.1
TRCR **Troy Canyon** 63.53 61 *eP* P 11 35 00.2 +0.1
ARVC **Arvin** 63.55 66 ⇓P P 11 35 00.2 -0.1
baz=62
Q12A **Willow Creek R** 63.55 60 ⇑P P 11 35 00.7 +0.4
baz=62
MOR8 **Moi Rana** 63.73 343 *e* P 11 35 02.9 +1.4
MOR8 *eP* 11 35 33.0
MPMC **Manual Prospec** 63.80 64 ⇓P P 11 35 01.6 -0.3
baz=63
HWUT **Hardware Ranch** 63.85 56 *eP* P 11 35 02.7 +0.4
comp=Z,29nm,0.8s,mb5.4
FURC **Furnace Creek,** 63.93 64 P P 11 35 03.0 +0.2
baz=63,SNR=8.2
DUG **Dugway** 64.02 58 *eP* P 11 35 04.0 +0.6
DUG pmax pmax
comp=Z,79nm,1.3s,mb5.6
DUG **Dugway** 64.02 58 *eP* P 11 35 04.0 +0.6
comp=Z,79nm,1.3s,mb5.6
BLG **Laguna Peak** 64.04 67 ⇑P P 11 35 03.2 -0.3
baz=63
LRMC **Laurel Mountai** 64.04 65 ⇑P P 11 35 03.3 -0.3
baz=63
NOQ **North Oquirrh** 64.13 58 *eP* P 11 35 04.2 0.0
comp=Z,46nm,0.9s,mb5.5
EDW2 **Edwards Air Fo** 64.23 66 ⇑P P 11 35 04.8 0.0
baz=63
BW06 **Boulder Array** 64.25 54 *eP* P 11 35 05.8 +0.9
comp=Z,46nm,0.9s,mb5.5
PDAR **Pinedale Array** 64.25 54 P P 11 35 04.8 -0.1
comp=Z,36nm,0.9s,mb5.4,baz=275,slow=1.8,SNR=14
U10A **Ash Meadows, A** 64.29 64 ⇑P P 11 35 03.3 -1.9
baz=63
SNCC **San Nicolas Is** 64.30 68 ⇓P P 11 35 05.3 0.0
baz=63
DECC **Green Verdugo** 64.42 67 ⇓P P 11 35 05.7 -0.3
baz=63
NLU **North Lily Min** 64.61 58 *eP* P 11 35 07.7 +0.4
SHOC **Shoshone** 64.66 64 ⇓P P 11 35 07.4 -0.2
baz=64
GSC **Goldstone** 64.71 65 ⇓P P 11 35 07.7 -0.2
baz=64
FMP **Fort Macarthur** 64.79 67 ⇑P P 11 35 08.2 -0.2
baz=64
MPU **Maple Canyon** 64.83 58 *eP* P 11 35 09.4 +0.7
comp=Z,44nm,0.9s,mb5.5
FINES **FINESS Array B** 64.84 335 P P 11 35 08.8 0.0
comp=Z,12nm,0.6s,mb5.1,baz=34,slow=6.8,SNR=6.7
FINES **FINESS Array B** 64.84 335 P P 11 35 08.9 +0.1
FINES pmax pmax
comp=Z,12nm,0.6s
BFSC **Mount Baldy St** 64.85 66 ⇓P P 11 35 08.3 -0.5
baz=64
RRX **Edison Barstow** 64.86 65 ⇓P P 11 35 07.8 -1.1
baz=64
U11A **Corn Creek** 64.88 63 ⇑P P 11 35 07.9 -1.1
baz=64,SNR=7.1
SCI **San Clemente I** 65.10 68 ⇑P P 11 35 08.6 -1.8
baz=64
TUQ **Turquoise Mtn.** 65.17 64 P P 11 35 11.0 +0.1
baz=64,SNR=7.3
ARUT **Antelope Range** 65.19 61 *eP* P 11 35 11.2 +0.2
V11A **Goodsprings** 65.22 63 ⇑P P 11 35 10.5 -0.8
baz=64,SNR=5.2
BBRC **Big Bear Sol-O** 65.31 66 ⇑P P 11 35 11.3 -0.5
baz=64
HEC **Hector,Ludlow** 65.31 65 P P 11 35 11.8 0.0
baz=64,SNR=6.2
CCUT **Cedar City** 65.39 61 *eP* P 11 35 12.4 +0.1
U12A **Valley of Fire** 65.39 62 ⇑P P 11 35 11.6 -0.7
baz=64
MVU **Marysvale** 65.46 59 *eP* P 11 35 13.0 +0.2
comp=Z,62nm,1.2s,mb5.5
TMUT **Trail Mountain** 65.54 58 *eP* P 11 35 14.6 +1.3
MURC **Murrieta** 65.56 66 ⇑P P 11 35 13.3 -0.1
baz=64
V12A **Nelson** 65.65 63 ⇑P P 11 35 13.7 -0.4
baz=64
W12A **Cal Nev Ari** 65.92 64 P P 11 35 15.9 +0.1
baz=65,SNR=9.1
PFO **Pinyon Flat Ob** 66.02 66 ⇓P P 11 35 15.4 -1.0
baz=65
BELC **Belle Mtn.** 66.06 65 ⇑P P 11 35 16.3 -0.4
baz=65
SRU **San Rafael** 66.07 58 *eP* P 11 35 16.6 -0.1
SRU pmax pmax
comp=Z,71nm,0.8s,mb5.8
SRU **San Rafael** 66.07 58 *eP* P 11 35 16.6 -0.1
comp=Z,71nm,0.8s,mb5.8
109C **Camp Elliot, M** 66.08 67 ⇓P P 11 35 16.7 0.0
baz=65
ULM **Lac du Bonnet** 66.25 41 P P 11 35 16.9 -1.0
comp=Z,14nm,0.9s,mb5.0,baz=329,slow=11,SNR=2.6
RSSD **Black Hills** 66.39 50 *eP* P 11 35 20.0 +1.2
RSSD pmax pmax
comp=Z,48nm,0.8s,mb5.6
RSSD **Black Hills** 66.39 50 *eP* P 11 35 20.0 +1.2
comp=Z,48nm,0.8s,mb5.6
NEE2 **Needles Airpor** 66.42 64 ⇓P P 11 35 19.0 0.0
baz=65
IRM **Iron Mountain** 66.49 65 ⇓P P 11 35 19.5 +0.1
baz=65
CTA **Charters Tower** 66.49 188 *eP* P 11 35 18.7 -0.7
comp=Z,16nm,1.4s,mb4.9
CTA **Charters Tower** 66.49 188 *eP* P 11 35 18.7 -0.7
CTA pmax pmax
comp=Z,16nm,1.4s
BC3 **Big Chuckw Mtn** 66.63 65 ⇓P P 11 35 20.3 0.0
baz=66
W13A **Hualapai Mount** 66.66 63 ⇑P P 11 35 20.6 +0.1
baz=66
PDMCI **Parker Dam,Lak** 67.03 64 ⇑P P 11 35 22.9 +0.1
baz=66
X13A **Yucca** 67.03 64 ⇑P P 11 35 23.0 +0.1
baz=66,SNR=6.5
W14A **Seligman** 67.08 63 P P 11 35 23.7 +0.5
baz=66,SNR=12
Y12C **Blythe** 67.15 65 ⇓P P 11 35 23.1 -0.5
baz=66
GLA **Glamis** 67.42 65 P P 11 35 25.2 -0.1
GLA *e* 11 35 55.1
GLA **Glamis** 67.42 65 *eP* P 11 35 25.3 -0.1
GLA **Glamis** 67.42 65 ⇓P P 11 35 25.5 +0.2
baz=66
Y13A **Salome** 67.54 64 ⇑P P 11 35 26.3 +0.2
baz=66
W15A **Williams** 67.61 62 ⇓P P 11 35 26.4 -0.1
baz=66
X14A **Yava** 67.69 63 ⇑P P 11 35 26.3 -0.8
baz=66
WUAZ **Wupatki** 67.93 61 ⇓P P 11 35 28.2 -0.4
baz=67
Y14A **Wickenburg** 67.97 64 ⇑P P 11 35 27.8 -1.0
baz=67,SNR=6.5
X15A **Humboldt** 68.08 63 ⇑P P 11 35 28.2 -1.3
baz=67,SNR=8.5
Z14A **Wintersburg** 68.39 64 ⇓P P 11 35 30.5 -1.0
baz=67
WB2 **Warramunga Arr** 68.40 200 *eP* P 11 35 31.8 +0.3
WRA **Warramunga Arr** 68.40 200 P P 11 35 30.8 -0.7
comp=Z,17nm,0.8s,mb5.2,baz=21,slow=6.9,SNR=8.8
NOA **NORSAR Array B** 68.95 342 P P 11 35 33.8 -1.1
comp=Z,5.1nm,0.7s,mb4.6,baz=27,slow=6.3,SNR=3.6
NOA **NORSAR Array B** 68.95 342 P P 11 35 33.8 -1.2
NOA pmax pmax
comp=Z,5.0nm,0.7s
FITZ **Fitzroy Crossi** 69.20 209 *eP* P 11 35 37.3 +0.8
comp=Z,14nm,0.8s,mb5.0
115A **Sonoran Desert** 69.28 64 ⇑P P 11 35 36.4 -0.6
baz=68
116A **Eloy** 69.70 64 ⇓P P 11 35 40.1 +0.5
baz=68
SDCO **Great Sand Dun** 69.91 56 *eP* P 11 35 41.1 +0.2
comp=Z,22nm,0.8s,mb5.1
LAZ **Ladron** 71.24 60 *eP* P 11 35 49.6 +0.7
ANMO **Albuquerque** 71.27 59 *eP* P 11 35 49.0 -0.2
ANMO pmax pmax
comp=Z,32nm,0.9s
ANMO **Albuquerque** 71.27 59 *eP* P 11 35 49.0 -0.2
comp=Z,32nm,0.9s,mb5.3
Y22C **IRIS PASSCAL I** 71.59 60 ⇑P P 11 35 53.2 +2.1
baz=70
AS31 **Alice Springs** 72.09 200 P P 11 35 55.0 +0.9
ASAR **Alice Springs** 72.09 200 P P 11 35 54.1 0.0
comp=Z,21nm,0.9s,mb5.1,baz=9.1,slow=5.6,SNR=9.7
AKASG **Malin Array Be** 72.44 327 P P 11 35 55.5 -0.7
comp=Z,3.4nm,0.6s,mb4.5,baz=214,slow=12,SNR=3.8
AKASG **Malin Array Be** 72.44 327 P P 11 35 55.5 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.6s
SCIA **State Center** 73.56 46 *eP* P 11 36 03.3 +0.5
comp=Z,84nm,1.0s,mb5.6
MNTX **Cornudas Mount** 74.18 61 *eP* P 11 36 06.0 -0.5
comp=Z,15nm,0.7s,mb5.0
KIS **Kishinev** 75.60 325 *i* PS 11 35 34.0
KIS LRM 12 13 40.0
comp=Z,1258µm,17.0s
LTX **Lajitas** 76.89 61 P P 11 36 21.6 -0.4
LTX pmax pmax
comp=Z,72nm,0.7s,mb5.7
LTX **Lajitas** 76.89 61 *eP* P 11 36 21.6 -0.5
comp=Z,72nm,0.7s,mb5.7
TXAR **Lajitas Array** 76.89 61 P P 11 36 21.6 -0.4
comp=Z,62nm,0.6s,mb5.7,baz=302,slow=3.6,SNR=27
OKC **Ostrava-Krasne** 77.03 333 *eP* P 11 36 15.3 -7.5
UPC **Upice** 77.10 334 *eP* P 11 36 21.7 -1.5
DPC **Dobruska-Polom** 77.15 334 *eP* P 11 36 17.0 -6.5
CLL **Collm** 77.26 336 *eP* P 11 36 24.0 -0.1
JCT **Junction City** 78.38 58 *eP* P 11 36 29.3 -1.0
JCT pmax pmax
comp=Z,44nm,0.8s,mb5.4
JCT **Junction City** 78.38 58 *eP* P 11 36 29.3 -1.0
comp=Z,44nm,0.8s,mb5.4
STKA **Stephens Creek** 78.68 191 *eP* P 11 36 31.1 -0.9
comp=Z,7.6nm,1.1s,mb4.5
STKA **Stephens Creek** 78.68 191 P P 11 36 30.6 -1.4
comp=Z,13nm,0.8s,mb4.9,baz=323,slow=8.2,SNR=6.6
GERES **GERESS Array B** 79.27 335 P P 11 36 35.0 -0.3
comp=Z,6.6nm,0.8s,mb4.6,baz=33,slow=5.1,SNR=2.8
GERES **GERESS Array B** 79.27 335 P P 11 36 35.0 -0.2
GERES pmax pmax
comp=Z,7.0nm,0.8s
BRTR **Keskin Array B** 79.36 318 P P 11 36 35.5 -0.2
comp=Z,8.7nm,0.9s,mb4.7,baz=74,slow=2.5,SNR=3.5
BRTR **Keskin Array B** 79.36 318 P P 11 36 35.5 -0.2
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BEBN **Eben Emael** 79.60 340 P PcP 11 36 44.2 -0.6
ANTO **Ankara** 79.64 318 P PcP 11 36 42.3 -2.8
ANTO pmax pmax
comp=Z,17nm,0.7s,mb5.1
ANTO **Ankara** 79.64 318 P PcP 11 36 42.3 -2.8
comp=Z,17nm,0.7s
MEM **Membach** 79.69 340 P PcP 11 36 42.6 -2.7
comp=Z,33nm,0.9s
MEM E 11 37 00.7
BCLA **Clavier** 80.03 341 P PcP 11 36 45.9 -0.9
comp=Z,22nm,1.0s
GIVF **Givet** 80.44 341 *eP* P 11 36 41.6 0.0
DOU **Dourbes** 80.50 341 P PcP 11 36 47.9 -0.9
comp=Z,7.2nm,0.9s
DIVS **Divcibare** 81.39 329 *i* P P 11 36 46.1 -0.5
CDF **Champ du Feu** 81.42 339 *eP* P 11 36 47.1 +0.3
comp=Z,114nm,1.1s,mb5.4
CDF **Champ du Feu** 81.42 339 *eP* P 11 36 47.1 +0.3
CDF pmax pmax
comp=Z,57nm,1.1s,mb5.4
CDF **Champ du Feu** 81.42 339 *eP* P 11 36 47.1 +0.3
comp=Z,57nm,1.1s,mb5.4
MEZF **Maizieres J'vi** 81.89 340 *eP* P 11 36 49.6 +0.3
comp=Z,79nm,0.9s,mb5.3
MEZF **Maizieres J'vi** 81.89 340 *eP* P 11 36 49.6 +0.3
comp=Z,79nm,0.9s,mb5.6

HAU	**Haudompre**	**82.03**	**339**	*e*P		**P**	**11 36 50.0**	**0.0**
	comp=Z,59nm,1.1s,mb5.1								
HAU	**Haudompre**	**82.03**	**339**	*e*P		**P**	**11 36 50.0**	**0.0**
HAU				pmax	pmax				
	comp=Z,29nm,1.1s,mb5.1								
HAU	**Haudompre**	**82.03**	**339**	*e*P		**P**	**11 36 50.0**	**0.0**
	comp=Z,29nm,1.1s,mb5.1								
HINF	**Hinteralfeld**	**82.08**	**339**	*e*P		**P**	**11 36 50.2**	**-0.1**
	comp=Z,82nm,1.2s,mb5.2								
HINF	**Hinteralfeld**	**82.08**	**339**	*e*P		**P**	**11 36 50.2**	**-0.1**
HINF				pmax	pmax				
	comp=Z,41nm,1.2s,mb5.2								
HINF	**Hinteralfeld**	**82.08**	**339**	*e*P		**P**	**11 36 50.2**	**-0.1**
	comp=Z,41nm,1.2s,mb5.2								
APPI	**Appiano**	**82.13**	**335**	P		PcP	11 36 55.9	0.0	
NVR	**Nevrokopi**	**82.27**	**325**	*e*P		PcP	11 36 57.3	+0.7	
FLN	**La Foliniere**	**82.84**	**344**	*e*P		**P**	**11 36 54.2**	**0.0**	
LDF	**La Druitiere**	**82.93**	**343**	*e*P		**P**	**11 36 54.6**	**-0.1**	
	comp=Z,84nm,1.3s,mb5.3								
LDF	**La Druitiere**	**82.93**	**343**	*e*P		**P**	**11 36 54.6**	**-0.1**	
LDF				pmax	pmax				
	comp=Z,42nm,1.3s,mb5.3								
LDF	**La Druitiere**	**82.93**	**343**	*e*P		**P**	**11 36 54.6**	**-0.1**	
	comp=Z,42nm,1.3s,mb5.3								
LIA	**Limnos Island**	**82.95**	**323**	*e*P		PcP	11 37 01.0	+1.4	
GRR	**Gorron**	**83.27**	**344**	*e*P		**P**	**11 36 56.4**	**-0.1**	
	comp=Z,149nm,1.2s,mb5.6								
GRR	**Gorron**	**83.27**	**344**	*e*P		**P**	**11 36 56.4**	**-0.1**	
GRR				pmax	pmax				
	comp=Z,74nm,1.2s,mb5.6								
GRR	**Gorron**	**83.27**	**344**	*e*P		**P**	**11 36 56.4**	**-0.1**	
	comp=Z,74nm,1.2s,mb5.6								
LOR	**Lormes**	**83.32**	**340**	*e*P		**P**	**11 36 56.8**	**+0.1**	
	comp=Z,71nm,0.9s,mb5.4								
LOR	**Lormes**	**83.32**	**340**	*e*P		**P**	**11 36 56.8**	**+0.1**	
LOR				pmax	pmax				
	comp=Z,36nm,0.9s,mb5.4								
LOR	**Lormes**	**83.32**	**340**	*e*P		**P**	**11 36 56.8**	**+0.1**	
	comp=Z,36nm,0.9s,mb5.4								
CABF	**La Chapelle**	**83.40**	**339**	*e*P		**P**	**11 36 57.6**	**+0.5**	
SSF	**Saint Saulge**	**83.60**	**340**	*e*P		**P**	**11 36 58.3**	**+0.1**	
	comp=Z,35nm,0.8s,mb5.3								
HYF	**Humbligny**	**83.60**	**341**	*e*P		**P**	**11 36 58.7**	**+0.5**	
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**	**11 36 58.9**	**+0.2**	
	comp=Z,14nm,1.0s,mb5.0,baz=235,slow=5.4,SNR=5.4								
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**	**11 36 58.9**	**+0.2**	
ASF				pmax	pmax				
	comp=Z,14nm,1.0s								
SGMF	**Saint Gilles**	**83.72**	**345**	*e*P		**P**	**11 36 59.0**	**+0.2**	
	comp=Z,140nm,1.1s,mb5.7								
SGMF	**Saint Gilles**	**83.72**	**345**	*e*P		**P**	**11 36 59.0**	**+0.2**	
SGMF				pmax	pmax				
	comp=Z,70nm,1.1s,mb5.7								
SGMF	**Saint Gilles**	**83.72**	**345**	*e*P		**P**	**11 36 59.0**	**+0.2**	
	comp=Z,70nm,1.1s,mb5.7								
AVF	**Avril sur Loir**	**83.89**	**341**	*e*P		**P**	**11 36 59.8**	**+0.1**	
	comp=Z,84nm,1.1s,mb5.5								
AVF	**Avril sur Loir**	**83.89**	**341**	*e*P		**P**	**11 36 59.8**	**+0.1**	
AVF				pmax	pmax				
	comp=Z,42nm,1.1s,mb5.5								
AVF	**Avril sur Loir**	**83.89**	**341**	*e*P		**P**	**11 36 59.8**	**+0.1**	
	comp=Z,42nm,1.1s,mb5.5								
SMF	**Signal de Mont**	**83.91**	**340**	*e*P		**P**	**11 37 00.1**	**+0.3**	
	comp=Z,104nm,1.0s,mb5.6								
LPL	**La Plagne**	**84.25**	**338**	*e*P		**P**	**11 37 02.7**	**+1.2**	
	comp=Z,79nm,0.9s,mb5.5								
LPL	**La Plagne**	**84.25**	**338**	*e*P		**P**	**11 37 02.7**	**+1.2**	
LPL				pmax	pmax				
	comp=Z,39nm,0.9s,mb5.5								
LPL	**La Plagne**	**84.25**	**338**	*e*P		**P**	**11 37 02.7**	**+1.2**	
	comp=Z,39nm,0.9s,mb5.5								
LPG	**La Plagne**	**84.26**	**338**	*e*P		**P**	**11 37 02.9**	**+1.4**	
	comp=Z,191nm,1.2s,mb5.8								
LPG	**La Plagne**	**84.26**	**338**	*e*P		**P**	**11 37 02.9**	**+1.4**	
LPG				pmax	pmax				
	comp=Z,95nm,1.2s,mb5.8								
LPG	**La Plagne**	**84.26**	**338**	*e*P		**P**	**11 37 02.9**	**+1.4**	
	comp=Z,95nm,1.2s,mb5.8								
KLBR	**Kellerberrin**	**84.34**	**211**	*e*P		**P**	**11 37 01.4**	**-0.6**	
	comp=Z,29nm,0.9s,mb5.4								
TCF	**Toulx Ste Croi**	**84.62**	**341**	*e*P		**P**	**11 37 03.9**	**+0.5**	
	comp=Z,196nm,1.5s,mb5.7								
TCF	**Toulx Ste Croi**	**84.62**	**341**	*e*P		**P**	**11 37 03.9**	**+0.5**	
TCF				pmax	pmax				
	comp=Z,98nm,1.5s,mb5.7								
TCF	**Toulx Ste Croi**	**84.62**	**341**	*e*P		**P**	**11 37 03.9**	**+0.5**	
	comp=Z,98nm,1.5s,mb5.7								
MFF	**Saint Martin d**	**84.83**	**343**	*e*P		**P**	**11 37 04.7**	**+0.3**	
	comp=Z,68nm,0.9s,mb5.5								
MFF	**Saint Martin d**	**84.83**	**343**	*e*P		**P**	**11 37 04.7**	**+0.3**	
MFF				pmax	pmax				
	comp=Z,34nm,0.9s,mb5.5								
MFF	**Saint Martin d**	**84.83**	**343**	*e*P		**P**	**11 37 04.7**	**+0.3**	
	comp=Z,34nm,0.9s,mb5.5								
ORIF	**Oris-en-Rattie**	**85.03**	**338**	*e*P		**P**	**11 37 06.4**	**+1.0**	
	comp=Z,110nm,1.1s,mb5.6								
ORIF	**Oris-en-Rattie**	**85.03**	**338**	*e*P		**P**	**11 37 06.4**	**+1.0**	
ORIF				pmax	pmax				
	comp=Z,55nm,1.1s,mb5.6								
ORIF	**Oris-en-Rattie**	**85.03**	**338**	*e*P		**P**	**11 37 06.4**	**+1.0**	
	comp=Z,55nm,1.1s,mb5.6								
CAF	**Calviac**	**85.95**	**341**	*e*P		**P**	**11 37 10.6**	**+0.6**	
	comp=Z,58nm,0.9s,mb5.5								
SMRF	**Simiane la Rot**	**85.98**	**338**	*e*P		**P**	**11 37 11.4**	**+1.2**	
	comp=Z,24nm,0.9s,mb5.1								
SMRF	**Simiane la Rot**	**85.98**	**338**	*e*P		**P**	**11 37 11.4**	**+1.2**	
	comp=Z,24nm,0.9s,mb5.4								
LMR	**La Mourre**	**86.33**	**337**	*e*P		**P**	**11 37 12.4**	**+0.5**	
	comp=Z,118nm,1.1s,mb5.8								
LMR	**La Mourre**	**86.33**	**337**	*e*P		**P**	**11 37 12.4**	**+0.5**	
LMR				pmax	pmax				
	comp=Z,59nm,1.1s,mb5.7								
LMR	**La Mourre**	**86.33**	**337**	*e*P		**P**	**11 37 12.4**	**+0.5**	
	comp=Z,59nm,1.1s,mb5.7								
VLI	**Velíai**	**86.58**	**323**	*e*P		**P**	**11 37 11.9**	**-1.2**	
VAM	**Vamos**	**87.16**	**321**	*e*P		**P**	**11 37 18.5**	**+2.5**	
NOV	**Novara**	**88.47**	**329**	P		**P**	**11 37 20.3**	**-1.9**	
CFAA	**Coronel Fontan**	**144.15**	**81**	PKP		PKPdf	11 44 02.1	-3.5	
	comp=Z,0.9nm,0.6s,baz=234,slow=3.3,SNR=3.8								
USHA	**Ushuaia**	**151.84**	**123**	PKPbc		PKPbc	11 44 22.6	-2.0	
	comp=Z,27nm,0.8s,baz=292,slow=3.7,SNR=5.3								
SNAA	**Sanae**	**152.37**	**195**	PKPbc		PKPbc	11 44 22.4	-3.4	
	comp=Z,4.4nm,0.7s,baz=170,slow=1.5,SNR=4.6								
SNAA				PKPab		PKPab	11 44 33.8	-2.1	
	comp=Z,11nm,0.7s,baz=166,slow=4.0,SNR=9.0								
VNA2	**Neumayer--Watz**	**153.79**	**193**	*e*PKPdf		PKPbc	11 44 27.9	-1.1	
VNA2				*e*			11 44 40.8		
VNA2				*e*			11 44 44.9		
VNA2				*e*			11 45 02.6		
VNA3	**Neumayer Olymp**	**153.85**	**192**	*e*PKPdf		PKPbc	11 44 27.6	-1.5	
VNA3				*e*			11 44 40.2		
VNA3				*e*			11 44 44.5		

ISCJB ***15*** *11:24:55.8±0.3, 47.16N±006×15366E±006, h10km, mb5.4/35, Error ellipse: s-maj=9.8km s-min=3.6km az=116.8*

NEIC ***15*** *11:24:57.5±0.3, 4777N×153.18E, h10km, mb5.5/15, Error ellipse: s-maj=25.2km s-min=6.4km az=144.0*

IDC ***15*** *11:24:57.4±0.5, 4640N×15454E, h0km, mb5.3/28, mb1 5.4/31, mb1mx5.3/33, mbtmp5.3/31, ML4.9/3, Error ellipse: s-maj=16.2km s-min=11.9km az=136.0*

MOS ***15*** *11:25:00.7±1.5, 4737N×15351E, h39km, mb5.8/17, Error ellipse: s-maj=15.1km s-min=11.7km az=62.9*

SZGRF ***15*** *11:25:01.1, 46.19N×156.58E, h33km, mb6.2, East of Kuril Islands, Russia*

BJI ***15*** *11:25:04.1, 4746N×152.36E, h10km, mb5.8, Ms5.7, Msz5.4*

ISC 15 11:24:56.6±3.1, 4715N±007×15374E±008, h2km±20km, n135, σ1§45/132, mb5.4/35, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.51**	**247**	PN		**Pn**	**11 26 04.5**		**-1.4**
KUR				S		**Sn**	**11 26 50.0**		**-8.9**
KUR				pmax	pmax				
	comp=N,2μm,0.7s								
KUR				pmax	pmax				
	comp=E,2μm,0.7s								
KUR				pmax	pmax				
	comp=Z,9μm,0.7s								
KUR				smax					
	comp=N,10μm,0.8s								
KUR				smax					
	comp=E,9μm,0.8s								
PET	**Petropavlovsk**	**6.68**	**26**	*e*PN		**Pn**	**11 26 31.0**		**-4.7**
PET	**Petropavlovsk**	**6.68**	**26**	Pn		**Pn**	**11 26 44.7**		**+9.0**
NEM2	**Nemuro 2**	**6.79**	**239**	P		**Pn**	**11 26 35.0**		**-2.3**
NEM2	**Nemuro 2**	**6.79**	**239**	*e*S		**Sn**	**11 27 39.7**		**-16**
JRA	**Rausu**	**6.85**	**245**	P		**Pn**	**11 26 38.8**		**+0.7**
JNK	**Nakash**	**7.28**	**244**	P		**Pn**	**11 26 43.9**		**-0.1**
YSS	**Yuzh-Sakhalins**	**7.51**	**273**	*e*PN		**Pn**	**11 26 45.4**		**-1.8**
JTKR	**Abashiri--Toko**	**7.60**	**249**	P		**Pn**	**11 26 49.6**		**+1.3**
JAK	**Akkeshi**	**7.63**	**240**	P		**Pn**	**11 26 47.5**		**-1.3**
JAK	**Akkeshi**	**7.63**	**240**	*e*S		**Sn**	**11 28 00.6**		**-15**
JMP	**Maruseppu**	**7.93**	**250**	P		**Pn**	**11 26 55.1**		**+2.2**
JAR	**Asahorobuto**	**8.02**	**245**	P		**Pn**	**11 26 54.5**		**+0.3**
ASAJ	**Asahikawa**	**8.38**	**253**	P		**Pn**	**11 27 01.4**		**+2.3**
JKK2	**Kamakawa 2**	**8.39**	**251**	P		**Pn**	**11 27 01.6**		**+2.4**
JCH	**Churui**	**8.65**	**242**	P		**Pn**	**11 27 02.4**		**-0.4**
JCH	**Churui**	**8.65**	**242**	*e*S		**Sn**	**11 28 26.3**		**-15**
JFR	**Furan**	**8.83**	**247**	P		**Pn**	**11 27 03.7**		**-1.5**
JAB	**Ashibetsu**	**8.89**	**250**	P		**Pn**	**11 27 07.7**		**+1.6**
JEM	**Erimo**	**9.13**	**240**	P		**Pn**	**11 27 08.5**		**-0.8**
JBT2	**Biratori 2**	**9.17**	**246**	P		**Pn**	**11 27 09.8**		**-0.1**
JNBK	**Urakawa-nobuka**	**9.21**	**242**	P		**Pn**	**11 27 11.0**		**+0.5**
JEW	**Eniwo**	**9.71**	**248**	P		**Pn**	**11 27 18.8**		**+1.4**
JNB	**Noboribetsu**	**10.16**	**247**	P		**Pn**	**11 27 23.8**		**+0.2**
JKB	**Kayabe**	**10.48**	**245**	P		**Pn**	**11 27 25.4**		**-2.5**
JSH	**Shimam**	**10.71**	**250**	P		**Pn**	**11 27 32.2**		**+1.2**
JOT	**Ohata**	**10.77**	**242**	P		**Pn**	**11 27 28.5**		**-3.3**
JYM2	**Yakumo 2**	**10.77**	**247**	P		**Pn**	**11 27 31.1**		**-0.8**
JTM	**Tenmabayashi**	**11.12**	**240**	P		**Pn**	**11 27 32.6**		**-4.1**
JANG	**Nango**	**11.13**	**237**	P		**Pn**	**11 27 32.3**		**-4.5**
JOSM	**Okushiri--Mats**	**11.36**	**249**	P		**Pn**	**11 27 39.3**		**-0.6**
JOM	**Ohasama**	**11.87**	**234**	P		**Pn**	**11 27 42.1**		**-4.7**
JYA	**Atsumi**	**13.36**	**235**	P		**Pn**	**11 28 03.2**		**-4.1**
JFK	**Kawauchi**	**13.63**	**229**	P		**Pn**	**11 28 07.6**		**-3.4**
JFY	**Yanaizu**	**14.22**	**232**	P		**Pn**	**11 28 15.4**		**-3.5**
SMY	**Shemya**	**14.23**	**59**	P		**Pn**	**11 28 22.6**		**+3.5**
JSD	**Sado**	**14.57**	**237**	P		**Pn**	**11 28 20.0**		**-3.8**
JYT	**Yasato**	**14.86**	**228**	P		**Pn**	**11 28 25.5**		**-2.2**
MJAR	**Matsushiro Arr**	**15.66**	**233**	Pn		**Pn**	**11 28 37.5**		**-0.8**
	comp=E,3.1nm,0.3s,baz=36,slow=10,SNR=6.2								
MAJO	**Matsushiro**	**15.66**	**233**	*e*P		**Pn**	**11 28 39.7**		**+1.3**
MAJO				pmax	pmax				
	comp=Z,2μm,1.8s								
MAJO	**Matsushiro**	**15.66**	**233**	*e*P		**Pn**	**11 28 41.1**		**+2.7**
	comp=Z,203nm,0.9s								
MAJO	**Matsushiro**	**15.66**	**233**	*e*P		**Pn**	**11 28 39.7**		**+1.3**
	comp=Z,2μm,1.8s								
MAT	**Matsushiro**	**15.66**	**233**	P		**Pn**	**11 28 41.2**		**+2.8**
MAT	**Matsushiro**	**15.66**	**233**	P		**Pn**	**11 28 33.7**		**-4.7**
JRY	**Ryogami san**	**15.68**	**230**	P		**Pn**	**11 28 37.4**		**-1.3**
SEY	**Seymchan**	**15.84**	**358**	*e*P		**Pn**	**11 28 37.5**		**-3.2**
JOD2	**Odawara 2**	**16.17**	**228**	P		**Pn**	**11 28 45.7**		**+0.7**
JGF	**Kuroka**	**16.82**	**233**	P		**Pn**	**11 28 55.0**		**+1.7**
JSG	**Sagara**	**17.09**	**229**	P		**Pn**	**11 28 59.3**		**+2.6**
JHJ2	**Mitsune**	**17.56**	**222**	P		**Pn**	**11 29 03.4**		**+0.8**
JHJ	**Hachijo jima 2**	**17.57**	**222**	P		**Pn**	**11 29 00.8**		**-1.8**
	comp=Z,5.9nm,0.3s,baz=245,slow=20,SNR=2.7								
JIE	**Ise**	**18.08**	**231**	P		**Pn**	**11 29 07.1**		**-1.9**
JWT	**Wachi**	**18.14**	**236**	P		**Pn**	**11 29 08.0**		**-1.7**
CN2	**Changchun**	**20.07**	**271**	*e*P		**P**	**11 29 32.9**		**+1.6**
YAK	**Yakutsk**	**20.23**	**326**	P		**P**	**11 29 34.0**		**+1.1**
YAK				pmax	pmax				
	comp=Z,690nm,1.0s								
KSRS	**Korea Array**	**21.33**	**252**	P		**P**	**11 29 48.0**		**+3.1**
	comp=Z,104nm,1.0s,mb5.1,baz=60,slow=9.9,SNR=12								
JTU	**Tsushima**	**22.21**	**244**	P		**P**	**11 29 57.3**		**+2.9**
JNU	**Nakatsue**	**22.29**	**239**	P		**P**	**11 29 55.8**		**+0.5**
	comp=Z,52nm,0.8s,mb5.0,baz=240,slow=12,SNR=3.0								
JNU	**Nakatsue**	**22.29**	**239**	P		**P**	**11 29 56.4**		**+1.2**
JSU	**Suzuyama**	**23.71**	**237**	P		**P**	**11 30 10.4**		**+0.4**
JFU	**Fukue jima 2**	**23.89**	**242**	P		**P**	**11 30 13.0**		**+1.4**
BJT	**Baijiatuau**	**27.93**	**269**	*e*P		**P**	**11 30 48.6**		**+0.4**
BJT				pmax	pmax				
	comp=Z,190nm,0.8s								
JOW	**Kunigami**	**28.51**	**234**	P		**P**	**11 30 53.3**		**-0.1**
	comp=Z,39nm,0.8s,mb5.2,baz=5.9,slow=9.4,SNR=3.8								
HHC	**Hu-ho-hao-te**	**30.70**	**274**	*e*P		**P**	**11 31 13.9**		**+1.1**
HHC				AMB	AMB				
	comp=Z,260nm,1.6s,mb5.8								
YHNB	**Yeheng**	**34.12**	**240**	P		**P**	**11 31 41.3**		**-1.4**
WHN	**Wuhan**	**34.45**	**255**	⇓P		**P**	**11 31 48.0**		**+2.4**
MCK	**McKinley**	**35.07**	**41**	*e*P		**P**	**11 31 45.9**		**-5.1**
MCK				pmax	pmax				
	comp=Z,29nm,1.0s,mb5.2								
MCK	**McKinley**	**35.07**	**41**	*e*P		**P**	**11 31 45.9**		**-5.1**
	comp=Z,29nm,1.0s,mb5.2								
QZH	**Quanzhou**	**35.59**	**244**	*e*P		**P**	**11 31 58.3**		**+2.8**
CD2	**Chengdu**	**41.34**	**265**	*e*P		**P**	**11 32 42.5**		**-1.4**
CD2				AMB	AMB				
	comp=Z,440nm,1.3s,mb5.9								
GYA	**Guiyang**	**42.22**	**258**	⇑*i*P		**P**	**11 32 50.0**		**-1.1**
GYA				AP			11 32 54.8		
GYA				XP		sP	11 32 57.6		+5.8
GYA				PP		PP	11 34 34.3		+5.6
GYA				AMB	AMB				
	comp=Z,240nm,0.9s,mb5.8								
TGY	**Tagaytay City**	**42.81**	**231**	P		**P**	**11 32 56.3**		**+0.4**
	comp=Z,93nm,0.3s,baz=126,slow=14,SNR=2.3								
WMQ	**Urumqi**	**45.19**	**291**	⇑P		**P**	**11 33 14.1**		**-0.8**
WMQ				AP			11 33 19.1		
WMQ				XP		sP	11 33 21.1		+5.5
WMQ				AMB	AMB				
	comp=Z,136nm,1.1s,mb5.7								
KMI	**Kunming**	**45.74**	**260**	P		**P**	**11 33 21.1**		**+1.8**
KMI				AMB	AMB				
	comp=Z,70nm,0.7s,mb5.7								
KURK	**Kurchatov**	**47.51**	**304**	*e*P		**P**	**11 33 32.4**		**-0.8**
KURK				pmax	pmax				
	comp=Z,300nm,1.2s,mb6.2								
YKA	**Yellowknife Ar**	**50.35**	**37**	P		**P**	**11 33 56.0**		**+1.1**
	comp=Z,34nm,1.0s,mb5.3,baz=295,slow=7.2,SNR=4.5								
YKA	**Yellowknife Ar**	**50.35**	**37**	P		**P**	**11 33 56.0**		**+1.0**
YKA				pmax	pmax				
	comp=Z,34nm,1.0s								
BRVK	**Borovoye**	**50.98**	**309**	*e*P		**P**	**11 33 58.3**		**-1.5**
BRVK				pmax	pmax				
	comp=Z,56nm,0.9s,mb5.5								
BRVK	**Borovoye**	**50.98**	**309**	*e*P		**P**	**11 33 58.3**		**-1.5**
	comp=Z,89nm,0.9s,mb5.7								
YBH	**Yreka Blue Hor**	**57.18**	**62**	P		**P**	**11 34 44.9**		**-0.1**
	comp=Z,39nm,1.1s,mb5.3,baz=8.8,slow=2.9,SNR=4.8								
WDC	**Whiskeytown Da**	**57.97**	**63**	*e*P		**P**	**11 34 49.9**		**-0.7**
WDC				pmax	pmax				
	comp=Z,40nm,1.2s,mb5.3								
WDC	**Whiskeytown Da**	**57.97**	**63**	*e*P		**P**	**11 34 49.9**		**-0.7**
	comp=Z,40nm,1.2s,mb5.3								
BMO	**Blue Mountains**	**58.50**	**57**	*e*P		**P**	**11 34 53.2**		**-1.1**
	comp=Z,41nm,1.2s,mb5.3								
CMB	**Columbia Colle**	**60.84**	**64**	*e*P		**P**	**11 35 09.7**		**-0.7**
CMB				pmax	pmax				
	comp=Z,42nm,1.2s,mb5.4								
CMB	**Columbia Colle**	**60.84**	**64**	*e*P		**P**	**11 35 09.7**		**-0.7**
	comp=Z,42nm,1.2s,mb5.4								
HLID	**Hailey**	**60.93**	**56**	*e*P		**P**	**11 35 10.3**		**-0.7**
	comp=Z,36nm,1.1s,mb5.4								
SAO	**San Andreas Ge**	**60.98**	**66**	*e*P		**P**	**11 35 10.8**		**-0.6**
SAO				pmax	pmax				
	comp=Z,45nm,1.3s,mb5.4								
SAO	**San Andreas Ge**	**60.98**	**66**	*e*P		**P**	**11 35 10.8**		**-0.6**
	comp=Z,45nm,1.3s,mb5.4								
MCMT	**McKenzie Canyo**	**61.02**	**54**	*e*P		**P**	**11 35 11.0**		**-0.6**
BMN	**Battle Mountai**	**61.26**	**61**	*e*P		**P**	**11 35 12.7**		**-0.6**
BMN				pmax	pmax				
	comp=Z,17nm,0.7s,mb5.3								
BMN	**Battle Mountai**	**61.26**	**61**	*e*P		**P**	**11 35 12.7**		**-0.6**
	comp=Z,17nm,0.7s,mb5.3								
NVAR	**Mina Array Bea**	**61.87**	**63**	P		**P**	**11 35 17.6**		**+0.2**
	comp=Z,14nm,0.9s,mb5.1,baz=288,slow=11,SNR=4.2								
MTUM	**Tungsten Hills**	**62.39**	**64**	*e*P		**P**	**11 35 21.6**		**+0.7**
PTRM	**Twissleman Ran**	**62.46**	**66**	*e*P		**P**	**11 35 21.9**		**+0.5**
RLMT	**Red Lodge**	**62.79**	**52**	*e*P		**P**	**11 35 21.3**		**-2.3**
	comp=Z,68nm,1.1s,mb5.7								
PDAR	**Pinedale Array**	**64.17**	**54**	P		**P**	**11 35 32.1**		**-0.6**
	comp=Z,22nm,1.0s,mb5.2,baz=300,slow=2.9,SNR=5.1								
CCUT	**Cedar City**	**65.41**	**61**	*e*P		**P**	**11 35 40.5**		**-0.3**
ULM	**Lac du Bonnet**	**65.94**	**41**	P		**P**	**11 35 44.3**		**+0.1**
	comp=Z,17nm,0.9s,mb5.1,baz=299,slow=11,SNR=3.9								
GLA	**Glamis**	**67.52**	**65**	*e*P		**P**	**11 35 54.0**		**-0.3**
WRA	**Warramunga Arr**	**69.03**	**200**	P		**P**	**11 36 02.8**		**-1.0**
	comp=Z,16nm,0.8s,mb5.0,baz=16,slow=6.5,SNR=4.1								
WRA	**Warramunga Arr**	**69.03**	**200**	P		**P**	**11 36 02.8**		**-0.9**
WRA				pmax	pmax				
	comp=Z,16nm,0.8s								
ASAR	**Alice Springs**	**72.72**	**199**	P		**P**	**11 36 22.9**		**-3.2**
	comp=Z,8.0nm,0.8s,mb4.7,baz=6.9,slow=4.9,SNR=3.0								
ASAR	**Alice Springs**	**72.72**	**199**	P		**P**	**11 36 23.0**		**-3.2**
ASAR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
WMOK	**Wichita Mounta**	**75.78**	**54**	*e*P		**P**	**11 36 44.5**		**+0.5**
WMOK				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.2								
WMOK	**Wichita Mounta**	**75.78**	**54**	*e*P		**P**	**11 36 44.5**		**+0.5**
	comp=Z,30nm,1.0s,mb5.2								
CLL	**Collm**	**76.28**	**336**	*e*P		**P**	**11 36 44.0**		**-2.9**
MORC	**Moravsky Berou**	**76.29**	**332**	P		**P**	**11 36 44.8**		**-2.1**
MORC				pmax	pmax				
	comp=Z,330nm,1.2s,mb6.1								
PLOR	**Plostina**	**76.41**	**325**	⇑*i*P		**P**	**11 36 49.7**		**+2.1**
LTX	**Lajitas**	**76.92**	**61**	*e*P		**P**	**11 36 51.4**		**+0.9**
LTX				pmax	pmax				
	comp=Z,63nm,1.2s,mb5.4								
LTX	**Lajitas**	**76.92**	**61**	*e*P		**P**	**11 36 51.4**		**+0.9**
	comp=Z,63nm,1.2s,mb5.4								
TXAR	**Lajitas Array**	**76.92**	**61**	P		**P**	**11 36 50.7**		**+0.2**
	comp=Z,21nm,0.8s,mb5.1,baz=306,slow=4.2,SNR=4.6								
MALT	**Malatya**	**77.20**	**313**	*e*P		**P**	**11 36 52.7**		**+0.6**
MALT				pmax	pmax				
	comp=Z,200nm,1.2s,mb5.9								
JCT	**Junction City**	**78.35**	**58**	*e*P		**P**	**11 36 59.2**		**+0.7**
JCT				pmax	pmax				
	comp=Z,121nm,1.3s,mb5.7								
JCT	**Junction City**	**78.35**	**58**	*e*P		**P**	**11 36 59.2**		**+0.7**
	comp=Z,121nm,1.3s,mb5.7								
STKA	**Stephens Creek**	**79.42**	**190**	P		**P**	**11 37 03.2**		**-1.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=353,slow=14,SNR=2.0								
WLF	**Walferdange**	**79.57**	**339**	E		**P**	**11 36 58.9**		**-6.3**
PMOR	**Pomariorio Ree**	**80.91**	**124**	*e*P		**P**	**11 37 15.4**		**+3.0**
	comp=Z,55nm,1.0s,mb5.4								
PPT	**Papeete**	**82.04**	**126**	*e*P		**P**	**11 37 21.4**		**+3.0**
PRK	**Paraskevi**	**82.07**	**322**	*e*P		**P**	**11 37 10.9**		**-7.6**
PAE	**Paea**	**82.12**	**126**	*e*P		**P**	**11 37 21.7**		**+2.9**
	comp=Z,133nm,1.4s,mb5.7								
PAE	**Paea**	**82.12**	**126**	*e*P		**P**	**11 37 21.7**		**+2.9**
PAE				pmax	pmax				
	comp=Z,133nm,1.4s,mb5.7								
TVO	**Taravao**	**82.39**	**126**	*e*P		**P**	**11 37 23.1**		**+2.8**
	comp=Z,127nm,1.3s,mb5.7								
TVO	**Taravao**	**82.39**	**126**	*e*P		**P**	**11 37 23.1**		**+2.8**
TVO				pmax	pmax				
	comp=Z,127nm,1.3s,mb5.7								
FIU	**Minerbio Fiu**	**82.74**	**334**	P		**P**	**11 37 12.3**		**-10

LZH sP sP 11 32 31.7 +0.6
EGAK Eagle 38.51 39 *e*P **P 11 32 31.9 0.0**
comp=Z,159nm,1.0s,mb5.7
GTA Gaotai 38.54 278 *e*P **P 11 32 33.1 +1.0**
GTA AP pP 11 32 40.8 +3.5
GTA XP sP 11 32 44.1 +4.8
GTA AMB AMB
comp=Z,135nm,1.0s,mb5.6
ZAL Zalesovo 41.87 305 P **P 11 33 01.9 +2.1**
comp=Z,24nm,1.0s,mb4.8,baz=6.4,slow=13,SNR=3.1
ZAL Zalesovo 41.87 305 P **P 11 33 01.9 +2.2**
ZAL pmax pmax
comp=Z,24nm,1.0s
WRAK Wrangell Islan 44.80 50 *e*P **P 11 33 24.5 +1.1**
comp=Z,203nm,1.2s,mb5.8
DLBC Dease Lake 45.21 46 *e*P **P 11 33 25.0 -1.6**
MK31 Makanchi Array 46.27 296 *e*P **P 11 33 36.0 +1.0**
MKAR Makanchi Array 46.27 296 P **P 11 33 36.0 +1.0**
comp=Z,104nm,0.9s,mb5.8,baz=65,slow=7.6,SNR=11
MKAR Makanchi Array 46.27 296 P **P 11 33 36.1 +1.1**
MKAR pmax pmax
comp=Z,104nm,0.9s
KURK Kurchatov 46.63 303 *e*P **P 11 33 38.3 +0.5**
KURK pmax pmax
comp=Z,195nm,1.0s,mb6.0
KURK Kurchatov 46.63 303 *e*P **P 11 33 38.3 +0.5**
comp=Z,195nm,1.0s,mb6.0
CHKZ Chkalovo 49.63 309 *e*P **P 11 34 01.7 +0.6**
CHKZ pmax pmax
comp=Z,175nm,0.9s,mb6.1
CHKZ Chkalovo 49.63 309 *e*P **P 11 34 01.7 +0.7**
comp=Z,175nm,0.9s,mb6.1
LSA Lhasa 49.93 272 P **P 11 33 59.7 -3.6**
LSA pmax pmax
comp=Z,45nm,0.7s,mb5.6
LSA Lhasa 49.93 272 P **P 11 33 59.7 -3.6**
comp=Z,45nm,0.7s,mb5.6
BVAR Borovoye Array 50.07 309 P **P 11 34 07.2 +2.9**
comp=Z,26nm,0.5s,mb5.5,baz=62,slow=7.6,SNR=11
BVAR Borovoye Array 50.07 309 P **P 11 34 07.2 +2.8**
BVAR pmax pmax
comp=Z,26nm,0.5s
ZRNK Zerenda 50.83 309 *e*P **P 11 34 11.9 +1.8**
CHTO Chiang Mai 52.03 256 *e*P **P 11 34 16.6 -2.5**
CHTO pmax pmax
comp=Z,100nm,0.9s,mb5.8
CM31 Chiang Mai Arr 52.29 255 *e*P **P 11 34 17.8 -3.2**
comp=Z,21nm,0.6s,mb5.2
AAK Ala-Archa 53.17 296 *e*P **P 11 34 28.8 +1.2**
AAK pmax pmax
comp=Z,120nm,0.9s,mb5.8
AAK Ala-Archa 53.17 296 *e*P **P 11 34 27.7 +0.1**
AAK pmax pmax
comp=Z,144nm,0.9s,mb5.9
AAK Ala-Archa 53.17 296 *e*P **P 11 34 27.7 +0.1**
comp=Z,144nm,0.9s,mb5.9
COR Corvallis 55.57 60 *e*P **P 11 34 45.8 +0.8**
COR pmax pmax
comp=Z,534nm,1.7s,mb6.3
COR Corvallis 55.57 60 *e*P **P 11 34 45.8 +0.8**
comp=Z,534nm,1.7s,mb6.3
KEBM Edson Butte 55.96 62 *e*P **P 11 34 48.4 +0.6**
KBO Bosley Butte 56.41 62 *e*P **P 11 34 53.4 +2.4**
HAWA Hanford 56.67 56 *e*P **P 11 34 52.2 -0.7**
comp=Z,227nm,1.5s,mb6.0
NEW Newport 56.89 53 *e*P **P 11 34 56.9 +2.5**
NEW pmax pmax
comp=Z,221nm,1.6s
NEW Newport 56.89 53 *e*P **P 11 34 56.9 +2.5**
comp=Z,221nm,1.6s,mb5.9
ARCES ARCESS Array B 56.93 340 P **P 11 34 56.2 +1.6**
comp=Z,37nm,0.9s,mb5.4,baz=24,slow=6.3,SNR=7.5
HUMO Hull Mountain 56.93 61 *e*P **P 11 34 56.2 +1.5**
comp=Z,162nm,1.4s,mb5.9
KRMB Red Mountain 57.01 63 *e*P **P 11 34 55.5 +0.2**
YBH Yreka Blue Hor 57.60 62 *e*P **P 11 34 59.9 +0.4**
YBH pmax pmax
comp=Z,108nm,1.1s
YBH Yreka Blue Hor 57.60 62 *e*P **P 11 34 59.9 +0.5**
comp=Z,108nm,1.1s,mb5.8
AB31 Akbulak array 57.63 309 ⇑S **P 11 35 01.6 +1.9**
comp=Z,24nm,0.6s,mb5.4,baz=69,slow=7.8,SNR=5.2
WALA Waterton Lakes 58.12 51 *e*P **P 11 35 06.0 +2.9**
comp=Z,90nm,1.0s,mb5.8
KCPM Cahto Peak 58.32 64 *e*P **P 11 35 04.2 -0.3**
WDC Whiskeytown Da 58.40 63 *e*P **P 11 35 03.8 -1.3**
WDC pmax pmax
comp=Z,197nm,1.4s,mb6.0
WDC Whiskeytown Da 58.40 63 *e*P **P 11 35 03.8 -1.3**
comp=Z,197nm,1.4s,mb6.0
BMO Blue Mountains 58.84 56 *e*P **P 11 35 07.4 -0.7**
BMO pmax pmax
comp=Z,237nm,1.5s,mb6.0
BMO Blue Mountains 58.84 56 *e*P **P 11 35 07.4 -0.8**
comp=Z,237nm,1.5s,mb6.0
MOD Modoc 58.93 61 *e*P **P 11 35 07.3 -1.4**
comp=Z,58nm,1.0s,mb5.6
HOPS Hopland 59.06 65 *e*P **P 11 35 11.4 +1.7**
comp=Z,153nm,1.3s,mb5.9
MSO Missoula 59.48 53 *e*P **P 11 35 13.5 +0.9**
comp=Z,169nm,1.4s,mb5.9
WVOR Wild Horse Val 59.57 59 *e*P **P 11 35 12.0 -1.2**
WVOR pmax pmax
comp=Z,89nm,1.0s,mb5.8
WVOR Wild Horse Val 59.57 59 *e*P **P 11 35 12.0 -1.2**
comp=Z,89nm,1.0s,mb5.8
CHMT Chamberlain Mo 59.79 52 *e*P **P 11 35 14.6 -0.1**
SUMG Summit 59.85 4 *e*P **P 11 35 20.1 +5.0**
comp=Z,128nm,0.9s,mb6.0
EGMT Eagleton 60.93 50 *e*P **P 11 35 24.2 +1.7**
comp=Z,107nm,1.0s,mb5.9
HLID Hailey 61.27 56 *e*P **P 11 35 26.5 +1.7**
comp=Z,56nm,0.9s,mb5.7
CMB Columbia Colle 61.30 64 *e*P **P 11 35 25.8 +0.8**
CMB pmax pmax
comp=Z,147nm,1.4s,mb5.9
CMB Columbia Colle 61.30 64 *e*P **P 11 35 25.8 +0.8**
comp=Z,147nm,1.4s,mb5.9
MCMT McKenzie Canyo 61.33 54 *e*P **P 11 35 26.5 +1.3**
SAO San Andreas Ge 61.46 66 *e*P **P 11 35 25.8 -0.3**
SAO pmax pmax
comp=Z,89nm,1.2s,mb5.8
SAO San Andreas Ge 61.46 66 *e*P **P 11 35 25.8 -0.3**
comp=Z,89nm,1.2s,mb5.8
QLMT Earthquake Lak 62.10 53 *e*P **P 11 35 31.5 +1.1**
YMR Madison River 62.46 53 *e*P **P 11 35 32.7 0.0**
comp=Z,119nm,1.1s,mb5.9
YNR Norris Junctio 62.58 53 *e*P **P 11 35 36.9 +3.3**
ELK Elko 62.61 59 *e*P **P 11 35 33.7 -0.1**
ELK pmax pmax
comp=Z,235nm,1.6s
ELK Elko 62.61 59 *e*P **P 11 35 33.7 -0.2**
comp=Z,235nm,1.6s,mb6.1
YFT Old Faithful 62.67 53 *e*P **P 11 35 37.2 +3.0**
MTUM Tungsten Hills 62.84 64 *e*P **P 11 35 35.4 +0.1**
PTRM Twissleman Ran 62.94 66 *e*P **P 11 35 36.5 +0.6**
DCID1 Drake Creek 63.04 54 *e*P **P 11 35 40.3 +3.6**
RLMT Red Lodge 63.07 52 *e*P **P 11 35 40.7 +3.9**
comp=Z,113nm,1.2s,mb5.9
FINES FINESS Array B 63.12 334 P **P 11 35 35.8 -1.4**
comp=Z,19nm,0.7s,mb5.3,baz=36,slow=10,SNR=4.5
TPH Tonopah 63.18 62 *e*P **P 11 35 35.9 -1.7**
TPH pmax pmax
comp=Z,147nm,1.1s,mb6.0
TPH Tonopah 63.18 62 *e*P **P 11 35 35.9 -1.7**
comp=Z,147nm,1.1s,mb6.0
MOOW Moose Ponds 63.18 54 *e*P **P 11 35 38.4 +0.8**
comp=Z,80nm,1.1s,mb5.8
HVU Hansel Valley 63.35 57 *e*P **P 11 35 37.9 -0.8**
HVU pmax pmax
comp=Z,67nm,1.1s,mb5.7
HVU Hansel Valley 63.35 57 *e*P **P 11 35 37.9 -0.8**
comp=Z,67nm,1.1s,mb5.7
LOHW Long Hollow 63.35 54 *e*P **P 11 35 40.6 +1.9**
comp=Z,487nm,1.8s,mb6.3
REDW Red Top Meadow 63.38 54 *e*P **P 11 35 40.5 +1.6**
comp=Z,286nm,1.2s,mb6.3
AHID Auburn Hatcher 63.63 55 *e*P **P 11 35 41.3 -0.7**
comp=Z,79nm,1.1s,mb5.7
BGU Big Grassy Mou 63.76 57 *e*P **P 11 35 40.5 -0.9**
SPUT South Promonto 63.84 57 *e*P **P 11 35 41.0 -0.9**
TRCR Troy Canyon 63.97 61 *e*P **P 11 35 42.7 -0.1**
ISA Isabella 64.00 65 *e*P **P 11 35 40.4 -2.7**
comp=Z,0.4nm,1.5s
HWUT Hardware Ranch 64.14 56 *e*P **P 11 35 43.0 -0.9**
comp=Z,163nm,1.4s,mb5.9

DUG Dugway 64.37 58 *e*P **P 11 35 45.2 -0.2**
DUG pmax pmax
comp=Z,142nm,1.1s,mb5.9
DUG Dugway 64.37 58 *e*P **P 11 35 45.2 -0.3**
comp=Z,142nm,1.1s,mb5.9
NOQ North Oquirrh 64.46 57 *e*P **P 11 35 45.8 -0.2**
comp=Z,171nm,1.0s,mb6.0
BW06 Boulder Array 64.48 54 *e*P **P 11 35 45.6 -0.6**
comp=Z,212nm,1.4s,mb6.0
CTU Camp Tracy 64.64 57 *e*P **P 11 35 46.4 -0.8**
comp=Z,72nm,1.1s,mb5.6
JLU Jordanelle 64.88 57 *e*P **P 11 35 47.1 -1.7**
NLU North Lily Min 64.95 58 *e*P **P 11 35 49.6 +0.4**
DAU Daniels Canyon 65.11 57 P **P 11 35 49.7 -0.6**
MPU Maple Canyon 65.16 57 *e*P **P 11 35 50.0 -0.6**
comp=Z,81nm,0.9s,mb5.8
ARUT Antelope Range 65.61 60 *e*P **P 11 35 53.7 +0.2**
CCUT Cedar City 65.82 60 *e*P **P 11 35 55.7 +0.9**
MSU Marysvale 65.86 59 *e*P **P 11 35 54.9 -0.2**
TMUT Trail Mountain 65.89 58 *e*P **P 11 35 56.4 +1.1**
SRU San Rafael 66.41 57 *e*P **P 11 35 57.8 -0.8**
SRU pmax pmax
comp=Z,148nm,1.0s,mb6.0
SRU San Rafael 66.41 57 *e*P **P 11 35 57.8 -0.8**
comp=Z,148nm,1.0s,mb6.0
RWWY Rawlins 66.49 54 *e*P **P 11 35 59.8 +0.6**
comp=Z,393nm,1.6s,mb6.2
PFO Pinyon Flat Ob 66.61 65 *e*P **P 11 36 00.9 +1.0**
PFO pmax pmax
comp=Z,406nm,2.0s,mb6.1
PFO Pinyon Flat Ob 66.61 65 *e*P **P 11 36 00.9 +1.0**
comp=Z,406nm,2.0s,mb6.1
DOMB Dombas 66.86 342 *e*P **P 11 35 59.4 -2.2**
DOMB AMb AMB 11 36 01.2
comp=Z,190nm,1.6s,mb5.9
DOMB Dombas 66.86 342 *e*P **P 11 35 59.4 -2.2**
comp=Z,190nm,1.5s,mb5.9
NB2 NORSAR Subarra 67.30 341 P **P 11 36 02.4 -1.9**
comp=Z,132nm,0.9s,mb6.0,baz=25,slow=6.5
NOA NORSAR Array B 67.30 341 P **P 11 36 02.6 -1.7**
comp=Z,84nm,0.8s,mb5.8,baz=25,slow=6.4,SNR=15
AGMN Agassiz Refuge 67.49 42 *e*P **P 11 36 07.7 +2.2**
comp=Z,114nm,1.3s,mb5.7
BORG Borgarnes 67.87 357 P **P 11 36 05.0 -2.9**
comp=Z,52nm,0.9s,mb5.6,baz=22,slow=4.1,SNR=4.5
GLA Glamis 67.98 65 *e*P **P 11 36 06.9 -1.7**
WUAZ Wupatki 68.37 61 *e*P **P 11 36 12.2 +1.2**
comp=Z,136nm,1.2s,mb5.8
OSL Oslo 68.40 340 *e*P **P 11 36 10.2 -1.1**
MVCO Mesa Verde 68.87 58 *e*P **P 11 36 13.4 -0.8**
comp=Z,76nm,0.9s,mb5.6
WB2 Warramunga Arr 69.24 198 *e*P **P 11 36 09.3 -7.2**
BLS5 Blasjo 69.78 342 *e*P **P 11 36 19.3 -0.5**
KIV Kislovodsk 69.97 314 *e*P **P 11 36 26.8 +5.8**
KIV pmax pmax
comp=Z,267nm,1.2s,mb6.0
SUW Suwalki 70.08 331 *e*P **P 11 36 21.7 0.0**
SDCO Great Sand Dun 70.19 56 *e*P **P 11 36 20.7 -1.6**
comp=Z,56nm,1.1s,mb5.4
ZEI Tsey 70.24 312 *e*P **P 11 36 25.9 +3.3**
AKASG Malin Array Be 70.65 326 P **P 11 36 25.3 +0.2**
comp=Z,129nm,0.8s,mb5.9,baz=35,slow=6.3,SNR=17
AKBB Malin Array Si 70.65 326 *e*P **P 11 36 25.6 +0.5**
KIEV Kiev 70.66 326 *e*P **P 11 36 25.5 +0.3**
LAZ Ladron 71.63 59 *e*P **P 11 36 32.1 +1.1**
ANMO Albuquerque 71.63 58 *e*P **P 11 36 30.6 -0.5**
ANMO pmax pmax
comp=Z,102nm,1.3s
ANMO Albuquerque 71.63 58 *e*P **P 11 36 30.6 -0.5**
comp=Z,102nm,1.3s,mb5.6
BSD Bornholm Skovb 71.63 336 *i*P **P 11 36 30.3 -0.8**
SOC Sochi 71.68 315 *e*P **P 11 36 32.3 +0.9**
SOC pmax pmax
comp=Z,420nm,1.5s,mb6.2
LENM Lemitar 71.89 59 *e*P **P 11 36 33.1 +0.4**
LPM Los Pinos Moun 71.99 59 *e*P **P 11 36 33.5 +0.3**
BNM Barren Site 72.11 59 *e*P **P 11 36 32.3 -1.7**
WAR Warsaw 72.28 331 *e*P **P 11 36 35.8 +0.8**
PALK Pallekele 72.52 261 *e*P **P 11 36 33.5 -2.9**
comp=Z,103nm,1.2s,mb5.6
LVV L'vov 73.29 328 *e*P **P 11 36 41.3 +0.3**
SCIA State Center 73.52 45 *e*P **P 11 36 41.7 -0.6**
comp=Z,221nm,1.0s,mb6.0
KWP Kalwaria 73.92 329 *e*P **P 11 36 46.2 +1.6**
KSU1 Kansas State U 73.96 49 *e*P **P 11 36 46.5 +1.6**
comp=Z,58nm,0.8s,mb5.6
RUE Ruedersdorf 74.28 335 *e*P **P 11 36 46.2 -0.6**
comp=Z,821nm,1.7s,mb6.4
OJC Ojcow 74.41 331 *e*P **P 11 36 47.7 +0.2**
MNTX Cornudas Mount 74.60 60 *e*P **P 11 36 48.9 +0.3**
comp=Z,246nm,1.7s,mb5.9
STHS Stebnicka Huta 74.61 329 *e*P **P 11 36 50.4 +1.7**
STHS pmax pmax
comp=Z,120nm,1.1s,mb5.7
STHS Stebnicka Huta 74.61 329 *e*P **P 11 36 50.4 +1.7**
comp=Z,120nm,1.1s,mb5.7
KOLS Kolonicke sedl 74.66 329 *e*P **P 11 36 50.3 +1.3**
BURAR Bucovina Array 74.69 326 ⇑*i*P **P 11 36 50.4 +1.2**
BURAR Bucovina Array 74.69 326 ⇑P **P 11 36 50.4 +1.2**
UZH Uzhgorod 74.91 328 ⇓*i*P **P 11 36 50.0 -0.4**
KSP Ksiaz 74.98 333 *e*P **P 11 36 50.5 -0.3**
KSP Ksiaz 74.98 333 *e*P **P 11 36 51.5 +0.7**
MORC Moravsky Berou 75.52 332 *e*P **P 11 36 53.8 -0.2**
MORC pmax pmax
comp=Z,335nm,1.3s,mb6.1
MORC Moravsky Berou 75.52 332 *e*P **P 11 36 53.8 -0.1**
comp=Z,335nm,1.3s,mb6.1
CLL Collm 75.54 335 *e*P **P 11 36 53.0 -1.1**
comp=Z,618nm,1.5s,mb6.3
CLL Collm 75.54 335 *i*P **P 11 36 53.1 -1.0**
comp=Z,276nm,1.3s,mb6.0
CLL *i*pP pP 11 36 57.8 -1.8
CLL *e*(PcP) PcP 11 37 04.0 -3.0
comp=Z,619nm,1.5s
VRI Vrincioaia 75.55 324 ⇑*i*P **P 11 36 57.0 +2.9**
VRI Vrincioaia 75.55 324 ⇑P **P 11 36 57.0 +2.9**
LIKS Likavka 75.64 331 *e*P **P 11 36 56.2 +1.6**
LIKS Likavka 75.64 331 *e*P **P 11 36 56.3 +1.7**
LIKS pmax pmax
comp=Z,103nm,1.2s,mb5.6
LIKS Likavka 75.64 331 *e*P **P 11 36 56.3 +1.7**
comp=Z,103nm,1.2s,mb5.6
BRG Berggiesshubel 75.66 334 *e*P **P 11 36 54.1 -0.6**
comp=Z,213nm,1.4s,mb5.9
KECS Kecovo 75.66 329 *e*P **P 11 36 55.9 +1.1**
KECS pmax pmax
comp=Z,47nm,1.2s,mb5.3
KECS Kecovo 75.66 329 *e*P **P 11 36 55.9 +1.1**
comp=Z,47nm,1.2s,mb5.3
CLZ Clausthal 75.78 337 *e*P **P 11 36 53.6 -1.9**
comp=Z,331nm,1.2s,mb6.1
CLZ Clausthal 75.78 337 *e*P **P 11 36 53.6 -1.9**
CLZ pmax pmax
comp=Z,331nm,1.2s,mb6.1
FBE Freiberg 75.79 335 *e*P **P 11 36 55.1 -0.4**
comp=Z,714nm,1.8s,mb6.3
WSAR Wadi Sarin 75.81 289 P **P 11 36 56.0 +0.5**
comp=Z,59nm,1.0s,mb5.5,baz=58,slow=4.9,SNR=6.8
IBBN Ibbenburen 76.03 339 *e*P **P 11 36 55.8 -1.0**
comp=Z,167nm,1.1s,mb5.9
TIRR Tirgusor 76.03 322 *e*P **P 11 36 58.0 +1.1**
TIRR pmax pmax
comp=Z,284nm,1.4s,mb6.0
TIRR Tirgusor 76.03 322 *e*P **P 11 36 58.0 +1.2**
comp=Z,284nm,1.4s,mb6.0
MLR Muntele Rosu 76.17 324 ⇓*i*P **P 11 37 00.0 +2.3**
MLR Muntele Rosu 76.17 324 ⇓P **P 11 37 00.0 +2.4**
VYHS Vyhne 76.21 330 *e*P **P 11 36 58.8 +0.9**
VYHS pmax pmax
comp=Z,73nm,1.2s,mb5.5
VYHS Vyhne 76.21 330 *e*P **P 11 36 58.8 +0.9**
comp=Z,73nm,1.2s,mb5.5
VRAC Vranov 76.23 332 ⇑*i*P **P 11 36 59.1 +1.1**
VRAC Vranov 76.23 332 ⇑P **P 11 36 59.1 +1.1**
DRGR 76.31 327 ⇑*i*P **P 11 36 59.7 +1.2**
DRGR 76.31 327 ⇑P **P 11 36 59.7 +1.2**
MALT Malatya 76.33 312 ⇑*i*P **P 11 37 02.9 +4.3**
MALT Malatya 76.33 312 *e*P **P 11 37 01.6 +3.0**
MALT pmax pmax
comp=Z,198nm,1.2s,mb5.9
MALT Malatya 76.33 312 *e*P **P 11 37 01.6 +3.0**
comp=Z,198nm,1.2s,mb5.9
PSZ Piszkesteto 76.35 329 ⇑*i*P **P 11 37 00.2 +1.5**
PSZ Piszkesteto 76.35 329 *e*P **P 11 37 00.0 +1.3**
PSZ pmax pmax
comp=Z,132nm,1.1s,mb5.8
PSZ Piszkesteto 76.35 329 *e*P **P 11 37 00.0 +1.3**
comp=Z,132nm,1.1s,mb5.8
WERD Werda 76.51 335 *e*P **P 11 36 59.5 -0.1**
comp=Z,344nm,1.4s,mb6.1
MOX Moxa 76.53 336 *e*P **P 11 36 59.0 -0.7**
comp=Z,590nm,1.7s,mb6.2
MOX Moxa 76.53 336 *e*P **P 11 36 58.8 -0.9**
MOX *e* 11 37 09.8
VOIR 76.57 325 ⇓*i*P **P 11 37 02.7 +2.8**
VOIR 76.57 325 ⇓P **P 11 37 02.7 +2.8**
GUNZ Gunzen 76.58 335 *e*P **P 11 36 59.7 -0.3**
comp=Z,543nm,1.6s,mb6.2
WERN Wernitzgruen 76.63 335 *e*P **P 11 37 00.0 -0.3**
comp=Z,347nm,1.4s,mb6.1
UBBA Unterbreizbach 76.81 337 *e*P **P 11 37 00.5 -0.8**
comp=Z,655nm,2.1s,mb6.2
BUG Bochum--Univer 76.94 339 *e*P **P 11 37 01.1 -0.9**
comp=Z,347nm,1.5s,mb6.1
MANZ Manzenberg 76.98 335 *e*P **P 11 37 01.9 -0.3**
comp=Z,237nm,1.5s,mb5.9
ZST Bratislava 77.04 331 *e*P **P 11 37 04.6 +2.0**
ZST pmax pmax
comp=Z,90nm,1.1s,mb5.6
ZST Bratislava 77.04 331 *e*P **P 11 37 04.6 +2.0**
comp=Z,90nm,1.1s,mb5.6
ROTZ Rotzenmuhle 77.15 335 *e*P **P 11 37 03.4 +0.2**
comp=Z,408nm,1.5s,mb6.1
GZR Gura Zlata 77.47 326 ⇑*i*P **P 11 37 06.7 +1.7**
GZR Gura Zlata 77.47 326 ⇑P **P 11 37 06.7 +1.7**
SLM Saint Louis 77.49 46 *e*P **P 11 37 06.9 +1.8**
SLM pmax pmax
comp=Z,63nm,0.8s,mb5.6
SLM Saint Louis 77.49 46 *e*P **P 11 37 06.9 +1.8**
comp=Z,63nm,0.8s,mb5.6
GRA1 Grafenberg Arr 77.50 336 *e*P **P 11 37 04.9 -0.2**
comp=Z,712nm,1.5s,mb6.4
GRA1 *e* 11 37 16.0
GRF Grafenberg Arr 77.50 336 *e*P **P 11 37 04.9 -0.2**
comp=Z,712nm,1.5s,mb6.4
GRF *e* 11 37 16.0
GRF Grafenberg Arr 77.50 336 *e*P **P 11 37 04.9 -0.2**
GRF *e* 11 37 16.0
GRF pmax pmax
comp=Z,712nm,1.5s,mb6.4
GRFO Grafenberg 77.50 336 *e*P **P 11 37 05.7 +0.6**
WET Wettzell 77.51 334 *e*P **P 11 37 05.5 +0.3**
comp=Z,317nm,1.2s,mb6.1
WET Wettzell 77.51 334 *e*P **P 11 37 05.5 +0.3**
WET pmax pmax
comp=Z,317nm,1.2s,mb6.1
GEC2 GERESS Array S 77.53 334 *e*P **P 11 37 05.3 -0.1**
comp=Z,214nm,1.4s,mb5.9
GEC2 GERESS Array S 77.53 334 *e*P **P 11 37 05.3 -0.1**
GEC2 pmax pmax
comp=Z,214nm,1.4s,mb5.9
GERES GERESS Array B 77.53 334 P **P 11 37 05.5 +0.2**
comp=Z,28nm,0.8s,mb5.2,baz=32,slow=5.3,SNR=10
BR131 Keskin Array S 77.54 316 *e*P **P 11 37 07.0 +1.6**
comp=Z,42nm,0.9s,mb5.4
BRTR Keskin Array B 77.54 316 P **P 11 37 06.4 +1.0**
comp=Z,33nm,0.9s,mb5.3,baz=61,slow=2.4,SNR=8.5
CONA Conrad Observa 77.68 332 ⇑*i*P **P 11 37 07.9 +1.8**
comp=Z,83nm,1.1s,mb5.6
BZS Buzias 77.71 327 ⇑*i*P **P 11 37 07.7 +1.4**
BZS Buzias 77.71 327 ⇑P **P 11 37 07.7 +1.3**
TNS Taunus Mts 77.76 337 *e*P **P 11 37 06.3 -0.3**
comp=Z,206nm,1.1s,mb6.0
TNS Taunus Mts 77.76 337 *e*P **P 11 37 06.3 -0.3**
TNS pmax pmax
comp=Z,206nm,1.1s,mb6.0
ANTO Ankara 77.82 317 ⇑*i*P **P 11 37 10.4 +3.5**
ANTO Ankara 77.82 317 *e*P **P 11 37 09.3 +2.4**
ANTO pmax pmax
comp=Z,99nm,1.1s,mb5.7
ANTO Ankara 77.82 317 *e*P **P 11 37 09.3 +2.3**
comp=Z,99nm,1.1s,mb5.7
DLF Lyons Farm 77.91 347 *e*P **P 11 37 04.2 -3.2**
FVM French Village 77.91 46 *e*P **P 11 37 07.3 -0.2**
FVM pmax pmax
comp=Z,93nm,1.1s,mb5.6
FVM French Village 77.91 46 *e*P **P 11 37 07.3 -0.2**
comp=Z,93nm,1.1s,mb5.6
BEBN Eben Emael 77.93 339 P **P 11 37 07.5 -0.1**
comp=Z,54nm,0.9s,mb5.5
BEBN AP pP 11 37 10.5 -2.5
BEBN E 11 37 16.8
DCN Croghan 77.97 348 *e*P **P 11 37 04.4 -3.4**
MEM Membach 78.02 339 P **P 11 37 06.8 -1.2**
comp=Z,123nm,0.9s,mb5.8
TOD Tromm 78.23 337 *e*P **P 11 37 09.3 +0.1**
PKSM Moragy 78.26 329 ⇑*i*P **P 11 37 09.3 -0.1**
PKSM Moragy 78.26 329 ⇑P **P 11 37 09.3 0.0**
ABH Alteburg 78.31 338 *e*P **P 11 37 09.8 +0.2**
BCLA Clavier 78.36 339 P **P 11 37 08.6 -1.4**
comp=Z,59nm,1.1s,mb5.4
ARSA Arzberg 78.39 332 ⇓*i*P **P 11 37 11.7 +1.7**
comp=Z,104nm,1.2s,mb5.6
SNF Seneffe 78.52 340 AP pP 11 37 13.6 -2.8
comp=Z,38nm,1.1s
SNF E 11 37 19.4
RUP Ruppelstein 78.60 338 *e*P **P 11 37 14.1 +2.9**
JCT Junction City 78.71 57 *e*P **P 11 37 14.3 +2.4**
JCT pmax pmax
comp=Z,206nm,1.4s,mb5.9
JCT Junction City 78.71 57 *e*P **P 11 37 14.3 +2.4**
comp=Z,206nm,1.4s,mb5.9
GIVF Givet 78.77 340 *e*P **P 11 37 10.8 -1.4**
comp=Z,774nm,1.8s,mb6.0
GIVF Givet 78.77 340 *e*P **P 11 37 10.8 -1.4**
GIVF pmax pmax
comp=Z,387nm,1.8s,mb6.0
GIVF Givet 78.77 340 *e*P **P 11 37 10.8 -1.4**
comp=Z,387nm,1.8s,mb6.0
DOU Dourbes 78.83 340 P **P 11 37 11.3 -1.3**
comp=Z,27nm,1.3s,mb5.0
DOU E 11 37 21.2
FUR Furstenfeldbru 78.86 335 *e*P **P 11 37 12.7 0.0**
comp=Z,660nm,1.3s,mb6.4
FUR Furstenfeldbru 78.86 335 *e*P **P 11 37 12.7 0.0**
FUR pmax pmax
comp=Z,660nm,1.3s,mb6.4
WLF Walferdange 78.86 339 *e*P **P 11 37 11.8 -0.9**
comp=Z,1µm,2.5s,mb6.3
WLF Walferdange 78.86 339 E pP 11 37 20.9 +2.7
WLF Walferdange 78.86 339 *e*P **P 11 37 12.7 0.0**
WLF pmax pmax
comp=Z,549nm,1.9s,mb6.2
WLF Walferdange 78.86 339 *e*P **P 11 37 12.7 0.0**
comp=Z,549nm,1.9s,mb6.2
STU Stuttgart 78.89 336 *e*P **P 11 37 12.3 -0.6**
comp=Z,446nm,1.5s,mb6.2
BAIF Baives 78.96 340 *e*P **P 11 37 11.5 -1.7**
comp=Z,454nm,1.5s,mb5.9
BAIF Baives 78.96 340 *e*P **P 11 37 11.5 -1.7**
BAIF pmax pmax
comp=Z,227nm,1.5s,mb5.9
BAIF Baives 78.96 340 *e*P **P 11 37 11.5 -1.7**
comp=Z,227nm,1.5s,mb5.9
LANF Langenberg 79.07 337 *e*P **P 11 37 14.1 +0.3**
KBA Koelnbreinsper 79.22 333 ⇑*i*P **P 11 37 16.9 +2.2**
comp=Z,277nm,1.0s,mb6.2
OBKA Obir 79.35 332 ⇑*i*P **P 11 37 16.7 +1.4**
comp=Z,91nm,1.2s,mb5.6
BFO Black Forest 79.53 337 P **P 11 37 17.7 +1.4**
comp=Z,613nm,1.1s,mb5.5,SNR=5.2
BFO Black Forest 79.53 337 *e*P **P 11 37 15.9 -0.4**
comp=Z,261nm,1.4s,mb6.0
BFO Black Forest 79.53 337 *e*P **P 11 37 15.9 -0.4**
BFO pmax pmax
comp=Z,261nm,1.4s,mb6.0
WTTA Wattenberg 79.57 334 ⇑*i*P **P 11 37 18.5 +1.9**
comp=Z,214nm,0.9s,mb6.1
SPAK Spaichingen-Ko 79.61 336 *e*P **P 11 37 17.8 +1.0**
MOTA Moosalm 79.65 335 ⇓*i*P **P 11 37 18.5 +1.4**
comp=Z,192nm,1.0s,mb6.0,SNR=9.4
VTS Vitosha 79.68 325 ⇓*i*P **P 11 37 19.9 +2.7**
WLS Welschbruch 79.71 337 *e*P **P 11 37 17.4 +0.1**
CDF Champ du Feu 79.73 337 *e*P **P 11 37 16.2 -1.2**
comp=Z,242nm,1.0s,mb5.8
CDF Champ du Feu 79.73 337 *e*P **P 11 37 16.2 -1.2**
CDF pmax pmax
comp=Z,121nm,1.0s,mb5.8
CDF Champ du Feu 79.73 337 *e*P **P 11 37 16.2 -1.2**
comp=Z,121nm,1.0s,mb5.8
SQTA Sankt Quirin 79.73 334 ⇑*i*P **P 11 37 18.1 +0.6**

comp=Z,268nm,1.0s,mb6.1
LIBD Limburg 79.89 337 *e*P **P 11 37 15.8 -2.5**
ECH Echery 79.94 337 *e*P **P 11 37 16.7 -1.9**
FELD Feldberg im Sc 80.03 337 *e*P **P 11 37 18.7 -0.4**
DAVA Damuels 80.05 335 ⇑*i*P **P 11 37 20.6 +1.4**
comp=Z,223nm,1.0s,mb6.0,SNR=10
MEZF Maizieres J'vi 80.21 339 *e*P **P 11 37 18.9 -1.1**
comp=Z,390nm,1.1s,mb6.0
MEZF Maizieres J'vi 80.21 339 *e*P **P 11 37 18.9 -1.1**
comp=Z,390nm,1.1s,mb6.2
THEF They Montfort 80.23 338 *e*P **P 11 37 19.3 -0.9**
MOF Molkenrain 80.28 337 *e*P **P 11 37 19.5 -0.9**
HAU Haudompre 80.35 338 *e*P **P 11 37 19.3 -1.5**
comp=Z,249nm,1.3s,mb5.7
HAU Haudompre 80.35 338 *e*P **P 11 37 19.3 -1.5**
HAU pmax pmax
comp=Z,124nm,1.3s,mb5.7
HAU Haudompre 80.35 338 *e*P **P 11 37 19.3 -1.5**
comp=Z,124nm,1.3s,mb5.7
HINF Hinteralfeld 80.39 337 *e*P **P 11 37 19.5 -1.5**
comp=Z,166nm,1.2s,mb5.5
HINF Hinteralfeld 80.39 337 *e*P **P 11 37 19.5 -1.5**
HINF pmax pmax
comp=Z,83nm,1.2s,mb5.5
HINF Hinteralfeld 80.39 337 *e*P **P 11 37 19.5 -1.5**
comp=Z,83nm,1.2s,mb5.5
LOMF Lomont 80.83 337 *e*P **P 11 37 23.0 -0.3**
SKO Skopje 80.89 325 *i*P **P 11 37 26.5 +2.8**
VAY Valandovo 81.01 324 *i*P **P 11 37 26.2 +1.9**
FLN La Foliniere 81.21 342 *e*P **P 11 37 23.4 -2.0**
comp=Z,546nm,1.5s,mb6.0
FLN La Foliniere 81.21 342 *e*P **P 11 37 23.4 -2.0**
FLN pmax pmax
comp=Z,273nm,1.5s,mb6.0
FLN La Foliniere 81.21 342 *e*P **P 11 37 23.4 -2.0**
comp=Z,273nm,1.5s,mb6.0
LDF La Druitiere 81.29 342 *e*P **P 11 37 23.8 -2.0**
comp=Z,688nm,1.8s,mb6.0
LDF La Druitiere 81.29 342 *e*P **P 11 37 23.8 -2.0**
LDF pmax pmax
comp=Z,344nm,1.8s,mb6.0
LDF La Druitiere 81.29 342 *e*P **P 11 37 23.8 -2.0**
comp=Z,344nm,1.8s,mb6.0
KRUS Krusevo 81.48 325 *i*P **P 11 37 28.3 +1.5**
CSS Prodhromos 81.49 314 *e*P **P 11 37 29.0 +2.1**
comp=Z,13μm,3.3s
GRR Gorron 81.64 343 *e*P **P 11 37 25.9 -1.8**
comp=Z,336nm,1.1s,mb5.9
GRR Gorron 81.64 343 *e*P **P 11 37 25.9 -1.8**
GRR pmax pmax
comp=Z,168nm,1.1s,mb5.9
GRR Gorron 81.64 343 *e*P **P 11 37 25.9 -1.8**
comp=Z,168nm,1.1s,mb5.9
LOR Lormes 81.65 339 *e*P **P 11 37 26.2 -1.5**
comp=Z,918nm,1.8s,mb6.1
LOR Lormes 81.65 339 *e*P **P 11 37 26.2 -1.5**
LOR pmax pmax
comp=Z,459nm,1.8s,mb6.1
LOR Lormes 81.65 339 *e*P **P 11 37 26.2 -1.5**
comp=Z,459nm,1.8s,mb6.1
CABF La Chapelle 81.70 337 *e*P **P 11 37 27.2 -0.8**
comp=Z,186nm,1.2s,mb5.6
CABF La Chapelle 81.70 337 *e*P **P 11 37 27.2 -0.8**
CABF pmax pmax
comp=Z,93nm,1.2s,mb5.6
CABF La Chapelle 81.70 337 *e*P **P 11 37 27.2 -0.8**
comp=Z,93nm,1.2s,mb5.6
OHR Ohrid 81.88 325 *i*P **P 11 37 31.0 +2.1**
ASF Jabal al Asfar 81.90 310 P **P 11 37 29.8 +0.7**
comp=Z,46nm,0.9s,mb5.4,baz=345,slow=23,SNR=12
SSF Saint Saulge 81.93 339 *e*P **P 11 37 27.8 -1.4**
comp=Z,230nm,1.2s,mb5.7
SSF Saint Saulge 81.93 339 *e*P **P 11 37 27.8 -1.4**
SSF pmax pmax
comp=Z,115nm,1.2s,mb5.7
SSF Saint Saulge 81.93 339 *e*P **P 11 37 27.8 -1.4**
comp=Z,115nm,1.2s,mb5.7
HYF Humbligny 81.94 340 *e*P **P 11 37 28.0 -1.2**
SGMF Saint Gilles 82.10 344 *e*P **P 11 37 28.3 -1.8**
comp=Z,138nm,0.8s,mb5.6
SGMF Saint Gilles 82.10 344 *e*P **P 11 37 28.3 -1.8**
SGMF pmax pmax
comp=Z,69nm,0.8s,mb5.6
SGMF Saint Gilles 82.10 344 *e*P **P 11 37 28.3 -1.8**
comp=Z,69nm,0.8s,mb5.6
ROSF Rostrenen 82.16 344 *e*P **P 11 37 28.5 -1.9**
comp=Z,339nm,1.1s,mb5.9
ROSF Rostrenen 82.16 344 *e*P **P 11 37 28.5 -1.9**
ROSF pmax pmax
comp=Z,170nm,1.1s,mb5.9
ROSF Rostrenen 82.16 344 *e*P **P 11 37 28.5 -1.9**
comp=Z,170nm,1.1s,mb5.9
AVF Avril sur Loir 82.22 339 *e*P **P 11 37 29.2 -1.5**
comp=Z,424nm,1.3s,mb5.9
AVF Avril sur Loir 82.22 339 *e*P **P 11 37 29.2 -1.5**
AVF pmax pmax
comp=Z,212nm,1.3s,mb5.9
AVF Avril sur Loir 82.22 339 *e*P **P 11 37 29.2 -1.5**
comp=Z,212nm,1.3s,mb5.9
SMF Signal de Mont 82.24 339 *e*P **P 11 37 29.3 -1.5**
comp=Z,720nm,1.2s,mb6.2
SMF Signal de Mont 82.24 339 *e*P **P 11 37 29.3 -1.5**
SMF pmax pmax
comp=Z,360nm,1.2s,mb6.2
SMF Signal de Mont 82.24 339 *e*P **P 11 37 29.3 -1.5**
comp=Z,360nm,1.2s,mb6.2
GSCL Gusciola 82.52 344 P **P 11 37 31.8 -0.5**
QUIF Quistinic 82.54 344 *e*P **P 11 37 30.3 -2.1**
comp=Z,566nm,1.6s,mb6.0
QUIF Quistinic 82.54 344 *e*P **P 11 37 30.3 -2.1**
QUIF pmax pmax
comp=Z,283nm,1.6s,mb6.0
QUIF Quistinic 82.54 344 *e*P **P 11 37 30.3 -2.1**
comp=Z,283nm,1.6s,mb6.0
LPL La Plagne 82.55 337 *e*P **P 11 37 31.8 -0.6**
comp=Z,316nm,1.1s,mb6.0
LPL La Plagne 82.55 337 *e*P **P 11 37 31.8 -0.6**
LPL pmax pmax
comp=Z,158nm,1.1s,mb6.0
LPL La Plagne 82.55 337 *e*P **P 11 37 31.8 -0.6**
comp=Z,158nm,1.1s,mb6.0
SEI Scarperia 82.55 333 P **P 11 37 35.1 +2.7**
comp=Z,486nm,0.8s,mb6.6
BGF Bois d'Agland 82.56 340 *e*P **P 11 37 31.1 -1.4**
LPG La Plagne 82.56 337 *e*P **P 11 37 32.1 -0.4**
comp=Z,284nm,1.0s,mb5.9
LPG La Plagne 82.56 337 *e*P **P 11 37 32.1 -0.4**
LPG pmax pmax
comp=Z,142nm,1.0s,mb6.0
LPG La Plagne 82.56 337 *e*P **P 11 37 32.1 -0.4**
comp=Z,142nm,1.0s,mb6.0
VLC Villacollemand 82.75 334 *e*P **P 11 37 35.2 +1.7**
comp=Z,431nm,1.5s,mb6.3
SNTG Esanatoglia 82.77 332 P **P 11 37 35.3 +1.7**
comp=Z,137nm,1.0s,mb5.9
PLDF La Plantade 82.92 339 *e*P **P 11 37 33.0 -1.4**
TCF Toulx Ste Croi 82.96 340 *e*P **P 11 37 33.1 -1.5**
comp=Z,203nm,1.2s,mb5.7
TCF Toulx Ste Croi 82.96 340 *e*P **P 11 37 33.1 -1.5**
TCF pmax pmax
comp=Z,101nm,1.2s,mb5.7
TCF Toulx Ste Croi 82.96 340 *e*P **P 11 37 33.1 -1.5**
comp=Z,101nm,1.2s,mb5.7
AGO Saint Agoulin 82.97 339 *e*P **P 11 37 34.0 -0.6**
BNI Bardonecchia 82.99 336 *e*P **P 11 37 35.1 +0.4**
BNI pmax pmax
comp=Z,191nm,1.4s,mb5.9
BNI Bardonecchia 82.99 336 *e*P **P 11 37 35.1 +0.4**
comp=Z,191nm,1.4s,mb5.9
FGMS Monte Sant'Ang 83.14 329 P **P 11 37 36.2 +0.7**
comp=Z,6μm,4.2s
MFF Saint Martin d 83.19 341 *e*P **P 11 37 34.1 -1.7**
comp=Z,852nm,1.8s,mb6.2
MFF Saint Martin d 83.19 341 *e*P **P 11 37 34.1 -1.7**
MFF pmax pmax
comp=Z,426nm,1.8s,mb6.2
MFF Saint Martin d 83.19 341 *e*P **P 11 37 34.1 -1.7**
comp=Z,426nm,1.8s,mb6.2
MBDF Montbardon 83.27 336 *e*P **P 11 37 34.6 -1.6**
PYM Petit Puy Mans 83.28 339 *e*P **P 11 37 36.5 +0.3**
ORIF Oris-en-Rattie 83.33 337 *e*P **P 11 37 35.8 -0.7**
comp=Z,262nm,1.2s,mb5.8
ORIF Oris-en-Rattie 83.33 337 *e*P **P 11 37 35.8 -0.7**
ORIF pmax pmax
comp=Z,131nm,1.2s,mb5.8
ORIF Oris-en-Rattie 83.33 337 *e*P **P 11 37 35.8 -0.7**
comp=Z,131nm,1.2s,mb5.8
AQU L'Aquila 83.43 331 P **P 11 37 37.2 +0.2**
AQU pmax pmax
comp=Z,300nm,1.2s,mb6.2
AQU L'Aquila 83.43 331 P **P 11 37 37.2 +0.2**
comp=Z,300nm,1.2s,mb6.2
VIVF Saint-Julien-l 83.70 338 *e*P **P 11 37 37.6 -0.8**
comp=Z,288nm,1.2s,mb6.0
VIVF Saint-Julien-l 83.70 338 *e*P **P 11 37 37.6 -0.8**
VIVF pmax pmax
comp=Z,144nm,1.2s,mb6.0
VIVF Saint-Julien-l 83.70 338 *e*P **P 11 37 37.6 -0.8**
comp=Z,144nm,1.2s,mb6.0
SAOF Saorge 83.73 335 *e*P **P 11 37 39.5 +0.9**
AUTN L'Aution 83.76 336 *e*P **P 11 37 38.7 0.0**
FG4 Candela 83.80 329 P **P 11 37 40.9 +2.0**
comp=Z,15μm,3.7s
LUCF Luceram 83.88 336 *e*P **P 11 37 39.2 -0.1**
SBF Sospel 83.88 335 *e*P **P 11 37 37.3 -2.0**
comp=Z,348nm,1.0s,mb6.1
SBF Sospel 83.88 335 *e*P **P 11 37 37.3 -2.0**
SBF pmax pmax
comp=Z,174nm,1.0s,mb6.1
SBF Sospel 83.88 335 *e*P **P 11 37 37.3 -2.0**
comp=Z,174nm,1.0s,mb6.1
MVIF Mont Vial 83.93 336 *e*P **P 11 37 36.6 -3.0**
GUAR Guarcino 83.96 331 P **P 11 37 41.1 +1.4**
REVF Revere 84.01 335 *e*P **P 11 37 39.5 -0.5**
RJF Les Rejaudoux 84.05 340 *e*P **P 11 37 38.2 -2.0**
CAF Calviac 84.28 339 *e*P **P 11 37 39.5 -1.8**
comp=Z,113nm,0.9s,mb5.7
CAF Calviac 84.28 339 *e*P **P 11 37 39.5 -1.8**
CAF pmax pmax
comp=Z,57nm,0.9s,mb5.7
CAF Calviac 84.28 339 *e*P **P 11 37 39.5 -1.8**
comp=Z,57nm,0.9s,mb5.7
SMRF Simiane la Rot 84.28 337 *e*P **P 11 37 40.6 -0.8**
comp=Z,356nm,1.4s,mb6.0
SMRF Simiane la Rot 84.28 337 *e*P **P 11 37 40.6 -0.8**
comp=Z,356nm,1.4s,mb6.3
FRF La Foret Royal 84.38 336 *e*P **P 11 37 39.8 -2.0**
comp=Z,590nm,1.8s,mb6.1
FRF La Foret Royal 84.38 336 *e*P **P 11 37 39.8 -2.0**
FRF pmax pmax
comp=Z,295nm,1.8s,mb6.1
FRF La Foret Royal 84.38 336 *e*P **P 11 37 39.8 -2.0**
comp=Z,295nm,1.8s,mb6.1
ORI Oriolo Calabro 84.41 328 P **P 11 37 43.8 +1.8**
LFF La Frestale 84.57 340 *e*P **P 11 37 40.7 -2.1**
comp=Z,183nm,1.2s,mb5.8
LFF La Frestale 84.57 340 *e*P **P 11 37 40.7 -2.1**
LFF pmax pmax
comp=Z,92nm,1.2s,mb5.8
LFF La Frestale 84.57 340 *e*P **P 11 37 40.7 -2.1**
comp=Z,92nm,1.2s,mb5.8
LMR La Mourre 84.63 336 *e*P **P 11 37 42.0 -1.1**
comp=Z,417nm,1.3s,mb6.1
LMR La Mourre 84.63 336 *e*P **P 11 37 42.0 -1.1**
LMR pmax pmax
comp=Z,208nm,1.3s,mb6.1
LMR La Mourre 84.63 336 *e*P **P 11 37 42.0 -1.1**
comp=Z,208nm,1.3s,mb6.1
PGF Pioggiola 84.63 334 *e*P **P 11 37 41.3 -1.8**
comp=Z,209nm,1.2s,mb5.8
PGF Pioggiola 84.63 334 *e*P **P 11 37 41.3 -1.8**
PGF pmax pmax
comp=Z,104nm,1.2s,mb5.8
PGF Pioggiola 84.63 334 *e*P **P 11 37 41.3 -1.8**
comp=Z,104nm,1.2s,mb5.8
LASF Ste Croix 84.64 338 *e*P **P 11 37 41.4 -1.8**
comp=Z,297nm,1.5s,mb5.9
ITM Ithomi 84.80 323 *e*P **P 11 37 40.8 -3.2**
VENT Ventotene 84.82 330 P **P 11 37 43.1 -1.0**
TIP Timpagrande 85.08 327 *e*P **P 11 37 46.0 +0.6**
GRI Girifalco 85.52 327 P **P 11 37 49.6 +2.0**
MTLF Montolieu 85.74 339 *e*P **P 11 37 46.7 -2.0**
comp=Z,92nm,1.1s,mb5.6
MTLF Montolieu 85.74 339 *e*P **P 11 37 46.7 -2.0**
MTLF pmax pmax
comp=Z,46nm,1.1s,mb5.6
MTLF Montolieu 85.74 339 *e*P **P 11 37 46.7 -2.0**
comp=Z,46nm,1.1s,mb5.6
SOI Samo 86.31 327 P **P 11 37 51.6 +0.1**
EPF Esparros 86.47 340 *e*P **P 11 37 49.3 -3.0**
comp=Z,70nm,1.1s,mb5.5
EPF Esparros 86.47 340 *e*P **P 11 37 49.3 -3.0**
EPF pmax pmax
comp=Z,35nm,1.1s,mb5.5
EPF Esparros 86.47 340 *e*P **P 11 37 49.3 -3.0**
comp=Z,35nm,1.1s,mb5.5
VSL Villasalto 87.31 332 *e*P **P 11 37 57.8 +1.4**
comp=Z,77nm,1.1s,mb5.8
ERC Erice 87.58 330 P **P 11 37 55.6 -2.1**
ESDC Sonseca Array 90.63 342 P **P 11 38 09.4 -2.6**
comp=Z,11nm,0.9s,mb5.2,baz=4.2,slow=4.6,SNR=5.9
KEST Kesra 90.76 331 P **P 11 38 11.8 -0.9**
comp=Z,6.8nm,0.7s,mb5.1,baz=228,slow=5.5,SNR=4.3

NEIC ***15*** *11:27:41.9, 45.10S×167.33E, h84km, ML4.3(WEL), After WEL.*
NEIC Felt at Te Anau.
WEL 15 11:27:42.0±0.2, 45.10S×167.34E, h84km±1km, ML4.3/17, 3C-5D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**199**	⇓P		Pn	11 27 55.1	-0.3
DCZ				S		Sn	11 28 05.0	-0.3
DCZ	**Deep Cove**	**0.40**	**199**	⇓PN		Pn	11 27 55.1	-0.3
DCZ				SN		Sn	11 28 05.0	-0.3
MSZ	**Milford Sound**	**0.60**	**45**	P		Pn	11 27 56.9	-0.1
MSZ				S		Sn	11 28 07.8	-0.4
MSZ	**Milford Sound**	**0.60**	**45**	⇑PN		Pn	11 27 56.9	-0.1
MSZ				SN		Sn	11 28 07.8	-0.3
MLZ	**Mavora Lakes**	**0.64**	**113**	⇓PN		Pn	11 27 57.0	-0.4
MLZ				SN		Sn	11 28 08.2	-0.6
WHZ	**Wether Hill Ro**	**0.90**	**152**	P		Pn	11 28 00.1	-0.1
WHZ				S		Sn	11 28 13.5	-0.2
WHZ	**Wether Hill Ro**	**0.90**	**152**	⇓PN		Pn	11 28 00.1	-0.1
WHZ				SN		Sn	11 28 13.5	-0.2
WKZ	**Wanaka**	**1.22**	**78**	P		Pn	11 28 04.0	0.0
WKZ	**Wanaka**	**1.22**	**78**	⇑PN		Pn	11 28 04.0	0.0
EAZ	**Earnscleugh**	**1.40**	**96**	P		Pn	11 28 06.1	-0.1
EAZ	**Earnscleugh**	**1.40**	**96**	PN		Pn	11 28 06.1	-0.1
JCZ	**Jackson Bay**	**1.44**	**45**	P		Pn	11 28 06.1	-0.6
JCZ	**Jackson Bay**	**1.44**	**45**	PN		Pn	11 28 06.0	-0.7
APZ	**The Paps**	**1.79**	**166**	PN		Pn	11 28 10.9	-0.3
TUZ	**Tuapeka**	**1.82**	**119**	P		Pn	11 28 11.5	-0.2
TUZ	**Tuapeka**	**1.82**	**119**	PN		Pn	11 28 11.4	-0.3
TUZ				SN		Sn	11 28 31.9	-2.4
SYZ	**Scrubby Hill**	**1.91**	**139**	⇓PN		Pn	11 28 12.5	-0.3
SYZ				SN		Sn	11 28 34.8	-1.5
LBZ	**Lake Benmore**	**2.15**	**72**	P		Pn	11 28 14.5	-1.5
LBZ	**Lake Benmore**	**2.15**	**72**	⇑PN		Pn	11 28 14.5	-1.5
LBZ				SN		Sn	11 28 38.4	-3.5
FOZ	**Fox Glacier**	**2.28**	**48**	eP		Pn	11 28 16.9	-0.8
FOZ	**Fox Glacier**	**2.28**	**48**	PN		Pn	11 28 16.9	-0.8
ODZ	**Otahua Downs**	**2.34**	**90**	PN		Pn	11 28 17.4	-1.1
HHSZ	**Highcliff Hill**	**2.42**	**110**	PN		Pn	11 28 19.2	-0.4
RPZ	**Rata Peaks**	**3.00**	**64**	eP		Pn	11 28 25.2	-2.2
RPZ	**Rata Peaks**	**3.00**	**64**	PN		Pn	11 28 25.2	-2.2
LTZ	**Lake Taylor**	**4.25**	**59**	eP		Pn	11 28 41.2	-3.1
LTZ	**Lake Taylor**	**4.25**	**59**	PN		Pn	11 28 41.2	-3.1
QRZ	**Quartz Range**	**5.72**	**44**	eP		Pn	11 29 02.6	-1.8
QRZ	**Quartz Range**	**5.72**	**44**	PN		Pn	11 29 02.6	-1.8

ISCJB ***15*** *11:28:36.9±0.1, 46.05N×154.16E±0.02, h10km, mb5.8/231, Error ellipse: s-maj=4.4km s-min=2.1km az=163.7*
IDC ***15*** *11:28:36.4±0.4, 46.05N×154.04E, h0km, mb5.3/31, mb1 5.4/33, mb1mx5.4/34, mbtmp5.3/33, ML4.5/2, Error ellipse: s-maj=12.6km s-min=10.5km az=129.0*
MOS ***15*** *11:28:37.8±0.9, 46.11N×154.16E, h15km, mb6.2/81, Error ellipse: s-maj=7.3km s-min=4.2km az=98.3*
BJI ***15*** *11:28:38.3, 46.18N×153.80E, h10km, mb5.7*
NEIC ***15*** *11:28:38.5±0.1, 46.09N×154.10E, h10km, mb6.0/157, Error ellipse: s-maj=3.9km s-min=2.5km az=171.0*
SZGRF ***15*** *11:28:45.2, 46.61N×154.61E, h33km, mb6.0, East of Kuril Islands, Russia*

ISC 15 11:28:38.9±2.0, 46.16N±0.03×154.05E±0.02, h11km±12km, h13km±2.6km: pP-P, n=908, σ=0.80/893, mb5.8/231, 89C-54D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**7.49**	**22**	*e*PN		Pn	**11 30 27.9**	**-0.2**
PET					MLR	MLR		
	comp=Z,789μm,15.2s							
PET	**Petropavlovsk**	**7.49**	**22**	*e*Pn		Pn	**11 30 26.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**7.83**	**280**	*e*PN		Pn	**11 30 34.5**	**+1.8**
YSS					pmax	pmax		
	comp=Z,250nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.83**	**280**	*e*Pn		Pn	**11 30 35.4**	**+2.7**
JMP	**Maruseppu**	**7.87**	**258**	P		Pn	**11 30 35.8**	**+2.6**
ASAJ	**Asahikawa**	**8.35**	**260**	Pn		Pn	**11 30 37.0**	**-2.8**
	comp=Z,8.9nm,0.3s,baz=299,slow=28,SNR=7.7							
ASAJ	**Asahikawa**	**8.35**	**260**	P		Pn	**11 30 41.2**	**+1.4**
ASAJ	**Asahikawa**	**8.35**	**260**	PN		Pn	**11 30 37.1**	**-2.7**
ASAJ					pmax	pmax		
	comp=Z,9.0nm,0.3s							
JEM	**Erimo**	**8.86**	**246**	P		Pn	**11 30 46.0**	**-0.9**
JTM	**Tenmabayashi**	**10.85**	**245**	P		Pn	**11 31 11.2**	**-2.9**
HABR	**Khabarovsk**	**13.10**	**287**	*e*PN		Pn	**11 31 48.2**	**+3.4**
MA2	**Magadan**	**13.58**	**353**	*e*P		Pn	**11 31 51.9**	**+0.4**
MA2					pmax	pmax		
	comp=Z,60nm,0.6s							
MA2	**Magadan**	**13.58**	**353**	*e*Pn		Pn	**11 31 52.2**	**+0.8**
MJAR	**Matsushiro Arr**	**15.27**	**237**	Pn		Pn	**11 32 12.1**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=32,slow=12,SNR=4.5							
MAT	**Matsushiro**	**15.27**	**237**	P		Pn	**11 32 14.1**	**-0.2**
MAT	**Matsushiro**	**15.27**	**237**	P		Pn	**11 32 13.8**	**-0.5**
JGF	**Kuroka**	**16.42**	**236**	P		Pn	**11 32 28.1**	**-1.1**
SEY	**Seymchan**	**16.84**	**357**	*e*P		Pn	**11 32 31.1**	**-3.4**
MDJ	**Mudanjiang**	**17.23**	**274**	P		Pn	**11 32 39.9**	**+0.4**
MDJ					AMB	AMB		
	comp=Z,589nm,2.1s							
MDJ	**Mudanjiang**	**17.23**	**274**	*e*P		Pn	**11 32 39.5**	**0.0**
JIE	**Ise**	**17.65**	**234**	P		Pn	**11 32 47.5**	**+2.8**
JWZ	**Kozaga**	**18.84**	**234**	P		Pn	**11 32 59.3**	**0.0**
JMN	**Monobe**	**19.77**	**238**	P		Pn	**11 33 07.5**	**-2.9**
CN2	**Changchun**	**20.32**	**274**	*e*P		P	**11 33 11.4**	**-3.6**
CN2					AMB	AMB		
	comp=Z,40nm,0.9s							
YAK	**Yakutsk**	**21.17**	**327**	*e*P		P	**11 33 23.1**	**-1.0**
YAK	**Yakutsk**	**21.17**	**327**	*e*P		P	**11 33 21.6**	**-2.5**
KSRS	**Korea Array**	**21.25**	**255**	P		P	**11 33 23.8**	**-1.2**
	comp=Z,19nm,0.6s,baz=61,slow=10,SNR=9.6							
JNU	**Nakatsue**	**21.99**	**242**	P		P	**11 33 31.2**	**-1.7**
	comp=Z,37nm,1.0s,mb4.8,baz=247,slow=20,SNR=1.6							
INCN	**Inchon**	**22.11**	**257**	*e*P		P	**11 33 34.9**	**+0.7**
BILL	**Bilibino**	**22.83**	**12**	*e*P		P	**11 33 41.6**	**-0.3**
BILL					pmax	pmax		
	comp=Z,1μm,1.4s,mb6.1							
BILL	**Bilibino**	**22.83**	**12**	*e*P		P	**11 33 42.5**	**+0.6**
	comp=Z,432nm,1.1s,mb5.8							
HIA	**Hailar**	**23.17**	**290**	P		P	**11 33 43.3**	**-2.2**
	comp=Z,7.4nm,0.4s							
JFU	**Fukue jima 2**	**23.62**	**244**	P		P	**11 33 49.9**	**-0.2**
DL2	**Dalian**	**24.84**	**265**	P		P	**11 34 05.9**	**+4.7**
DL2					AMB	AMB		
	comp=Z,280nm,1.4s,mb5.6							
BOD	**Bodaibo**	**26.86**	**310**	*e*P		P	**11 34 17.6**	**-1.9**
BOD				*e*			11 35 01.7	
BOD					pmax	pmax		
	comp=Z,224nm,1.2s,mb5.6							
BOD					pmax	pmax		
	comp=Z,479nm,1.4s,mb5.8							
BJT	**Baijiatuao**	**28.14**	**271**	*e*P		P	**11 34 31.6**	**+0.6**
BJT					pmax	pmax		
	comp=Z,1μm,2.1s							
BJT	**Baijiatuao**	**28.14**	**271**	*e*P		P	**11 34 31.6**	**+0.6**
	comp=Z,1μm,2.1s,mb6.2							
TNA	**Tin City**	**28.17**	**33**	*e*P		P	**11 34 31.7**	**+0.5**
	comp=Z,281nm,1.5s,mb5.7							
NJ2	**Nanjing**	**30.45**	**255**	*e*P		P	**11 34 52.8**	**+1.3**
NJ2					AP	pP	11 34 56.1	+1.2
NJ2					XP	sP	11 34 58.6	+2.4
NJ2					AMB	AMB		
	comp=Z,120nm,1.2s,mb5.5							
HHC	**Hu-ho-hao-te**	**30.99**	**276**	*e*P		P	**11 34 57.9**	**+1.7**
SONM	**Songino Array**	**32.14**	**291**	P		P	**11 35 05.2**	**-1.1**
	comp=Z,18nm,0.6s,mb5.1,baz=82,slow=7.3,SNR=10.0							
TLY	**Talaya**	**33.03**	**298**	*e*P		P	**11 35 15.2**	**+1.1**
KDAK	**Kodiak Island**	**33.98**	**50**	P		P	**11 35 21.3**	**-1.1**
	comp=Z,906nm,1.2s,mb6.6,SNR=7.7							
KDAK	**Kodiak Island**	**33.98**	**50**	P		P	**11 35 21.1**	**-1.3**
	comp=Z,96nm,0.8s,mb5.8,baz=304,slow=4.2,SNR=13							
QZH	**Quanzhou**	**35.36**	**245**	⇑*i*P		P	**11 35 35.3**	**+0.9**
PMR	**Palmer**	**35.58**	**43**	*e*P		P	**11 35 35.4**	**-0.9**
PMR					pmax	pmax		
	comp=Z,380nm,1.4s,mb6.1							
PMR	**Palmer**	**35.58**	**43**	*e*P		P	**11 35 35.6**	**-0.6**
	comp=Z,385nm,1.4s,mb6.1							
MCK	**McKinley**	**35.69**	**40**	P		P	**11 35 37.5**	**+0.3**
MCK					pmax	pmax		
	comp=Z,250nm,1.2s,mb6.0							
MCK	**McKinley**	**35.69**	**40**	*e*P		P	**11 35 37.2**	**0.0**
	comp=Z,250nm,1.3s,mb6.0							
SML	**Sawmill**	**35.96**	**43**	*e*P		P	**11 35 39.2**	**-0.3**
COLA	**College**	**36.20**	**38**	*e*P		P	**11 35 40.9**	**-0.7**
COLA	**College**	**36.20**	**38**	*e*P		P	**11 35 40.6**	**-1.0**
DIV	**Divide**	**37.22**	**44**	*e*P		P	**11 35 50.6**	**+0.3**
	comp=Z,1μm,1.3s,mb6.6							
EYAK	**Cordova Ski Ar**	**37.28**	**45**	*e*P		P	**11 35 50.3**	**-0.5**
MENT	**Mentasta**	**38.05**	**41**	*e*P		P	**11 35 59.6**	**+2.3**
LZH	**Lanzhou**	**38.56**	**273**	⇑P		P	**11 36 03.6**	**+2.0**
LZH					*PP	pP	11 36 14.9	+10
LZH					pmax	pmax		
	comp=Z,1μm,1.8s,mb6.3							
LZH	**Lanzhou**	**38.56**	**273**	⇑P		P	**11 36 03.6**	**+2.0**
	comp=Z,1μm,1.8s,mb6.3							
LZH					pP	pP	11 36 14.9	+10
LZH					sP	sP	11 36 19.7	+13
EGAK	**Eagle**	**39.07**	**38**	*e*P		P	**11 36 05.0**	**-0.8**
	comp=Z,675nm,1.3s,mb6.2							
GTA	**Gaotai**	**39.71**	**280**	*e*P		P	**11 36 12.9**	**+1.7**
GTA					AP	pP	11 36 20.5	+5.9
GTA					XP	sP	11 36 24.3	+8.4
GTA					AMB	AMB		
	comp=Z,165nm,1.9s,mb5.4							
DAWY	**Dawson**	**39.89**	**39**	*e*P		P	**11 36 13.2**	**+0.5**
CD2	**Chengdu**	**41.48**	**267**	*e*P		P	**11 36 26.3**	**+0.5**
CD2					AMB	AMB		
	comp=Z,230nm,1.2s,mb5.7							
INK	**Inuvik**	**41.81**	**32**	P		P	**11 36 29.1**	**+0.5**
	comp=Z,86nm,0.9s,mb5.4,baz=272,slow=7.3,SNR=15							
GYA	**Guiyang**	**42.23**	**259**	⇑*i*P		P	**11 36 32.8**	**+0.9**
GYA					XP	sP	11 36 44.9	+8.2
GYA					AMB	AMB		
	comp=Z,460nm,1.0s,mb6.1							
ZAL	**Zalesovo**	**42.50**	**307**	P		P	**11 36 40.4**	**-1.9**
	comp=Z,12nm,0.5s,mb4.9,baz=49,slow=6.8,SNR=7.6							
NVS	**Novosibirsk**	**44.06**	**308**	*e*P		P	**11 36 46.5**	**-0.3**
NVS					pmax	pmax		
	comp=N,508nm,2.3s							
NVS					pmax	pmax		
	comp=E,789nm,2.3s							
NVS					pmax	pmax		
	comp=Z,908nm,2.3s,mb6.1							
CRAG	**Craig**	**44.94**	**50**	*e*P		P	**11 36 55.5**	**+1.6**
WRAK	**Wrangell Islan**	**45.03**	**49**	*e*P		P	**11 36 56.8**	**+2.2**
	comp=Z,146nm,1.4s,mb5.6							
QIZ	**Qiongzhong**	**45.22**	**248**	P		P	**11 36 53.8**	**-2.2**
QIZ					AMB	AMB		
	comp=Z,44nm,1.7s,mb5.0							
DLBC	**Dease Lake**	**45.55**	**46**	*e*P		P	**11 37 00.1**	**+1.5**
WMQ	**Urumqi**	**45.75**	**292**	P		P	**11

comp=Z,149nm,1.1s,mb5.9
POHA **Pohakuloa** 48.80 105 *e*P P 11 37 23.7 -0.3
KHU **Kahuku** 49.10 106 *e*P P 11 37 26.3 0.0
LSA **Lhasa** 50.96 274 *e*P P 11 37 42.3 +1.9
LSA pmax pmax
comp=Z,125nm,0.9s,mb5.8
LSA **Lhasa** 50.96 274 *e*P P 11 37 42.3 +1.9
comp=Z,125nm,0.9s,mb5.8
YKA **Yellowknife Ar** 51.01 37 P P 11 37 39.0 -1.8
comp=Z,36nm,0.9s,mb5.3,baz=297,slow=7.3,SNR=9.8
RES **Resolute Bay** 51.19 19 P P 11 37 42.8 +0.6
RES pmax pmax
comp=Z,360nm,1.0s,mb6.3
RES **Resolute Bay** 51.19 19 *e*P P 11 37 42.0 -0.1
comp=Z,12µm,1.0s
CHKZ **Chkalovo** 51.31 311 P P 11 37 42.2 -0.8
CHKZ pmax pmax
comp=Z,180nm,0.6s,mb6.2
CHKZ **Chkalovo** 51.31 311 *e*P P 11 37 42.2 -0.8
comp=Z,183nm,0.6s,mb6.2
KKM **Kota Kinabalu** 51.60 231 P P 11 37 46.7 +1.5
KKM **Kota Kinabalu** 51.60 231 *e*P P 11 37 45.9 +0.7
BVAR **Borovoye Array** 51.73 310 P P 11 37 42.5 -3.7
comp=Z,18nm,0.4s,mb5.3,baz=50,slow=7.9,SNR=17
BRVK **Borovoye** 51.77 310 *e*P P 11 37 44.9 -1.6
BRVK pmax pmax
comp=Z,598nm,1.8s,mb6.2
BRVK **Borovoye** 51.77 310 *e*P P 11 37 44.9 -1.6
comp=Z,598nm,1.8s,mb6.2
TSM **Tawau** 52.19 228 P P 11 37 50.6 +0.9
ZRNK **Zerenda** 52.50 311 *e*P P 11 37 50.7 -1.2
ZRNK pmax pmax
comp=Z,281nm,1.5s,mb6.0
ZRNK **Zerenda** 52.50 311 *e*P P 11 37 50.7 -1.2
comp=Z,281nm,1.5s,mb6.0
CHTO **Chiang Mai** 52.62 258 *e*P P 11 37 53.6 +0.8
CHTO pmax pmax
comp=Z,88nm,1.4s,mb5.5
CHTO **Chiang Mai** 52.62 258 *e*P P 11 37 53.6 +0.8
comp=Z,88nm,1.4s,mb5.5
CM31 **Chiang Mai Arr** 52.87 258 P P 11 37 56.0 +1.4
comp=Z,70nm,1.3s,mb5.4
C03A **Quillayute Air** 52.97 56 ⇑P P 11 37 55.3 -0.1
baz=53
KBS **Kingsbay** 53.18 351 *e*P P 11 37 54.3 -2.7
KBS **Kingsbay** 53.18 351 *e*P P 11 37 56.6 -0.3
SPB4 **Spitsbergen Ar** 53.31 350 *e*P P 11 37 56.8 -1.1
B04A **Port Angeles** 53.53 56 ⇑P P 11 37 59.1 -0.4
baz=53
A05A **Maple Falls** 53.85 54 ⇓P P 11 38 01.0 -0.9
baz=54
D03A **Wishkah Elem.** 53.86 57 ⇑P P 11 38 01.7 -0.2
baz=54
C04A **Brinnon** 54.01 56 ⇑P P 11 38 02.4 -0.7
baz=54
E03A **Lebam** 54.28 57 ⇓P P 11 38 04.5 -0.5
baz=54
D04A **Dobbs Creek Ra** 54.43 56 ⇓P P 11 38 05.5 -0.5
baz=54
AAK **Ala-Archa** 54.68 297 *e*P P 11 38 08.0 +0.1
AAK pmax pmax
comp=Z,171nm,1.3s,mb5.9
AAK **Ala-Archa** 54.68 297 *e*P P 11 38 08.0 +0.1
comp=Z,171nm,1.3s,mb5.9
E04A **Onalaska** 54.75 57 ⇓P P 11 38 07.9 -0.5
baz=54
C05A **Tolt Reservoir** 54.76 55 ⇓P P 11 38 07.9 -0.6
baz=54,SNR=10.0
A07A **Ashnola River,** 54.78 53 ⇓P P 11 38 07.6 -1.0
baz=54
D05A **Enumclaw** 54.86 56 ⇓P P 11 38 08.2 -1.0
baz=55,SNR=6.3
G03A **Yamhill** 55.11 59 ⇓P P 11 38 10.1 -1.0
baz=55
B07A **Winthrop** 55.24 54 ⇑P P 11 38 11.2 -0.7
baz=55
F04A **Amboy** 55.28 58 ⇑P P 11 38 11.3 -1.0
baz=55
NLW **Nelson Butte** 55.32 54 P P 11 38 12.4 -0.2
E05A **Randle** 55.33 57 ⇑P P 11 38 11.6 -1.0
baz=55
SLFW **Sugar Loaf** 55.39 55 P P 11 38 12.9 -0.1
A08A **Turner Farm, O** 55.45 53 ⇑P P 11 38 12.3 -1.2
baz=55,SNR=8.5
H03A **Soap Creek Ran** 55.45 59 ⇓P P 11 38 12.4 -1.1
baz=55,SNR=6.8
KSH **Kashi** 55.48 293 *e*P P 11 38 12.8 -0.9
KSH *e*AP pP 11 38 25.4 +8.2
KSH *e*PCP PcP 11 39 14.6 +0.9
KSH *e*PP PP 11 40 15.6 -2.0
KSH *e*SCP ScP 11 43 10.6 -1.9
KSH *e*PCS PcS 11 43 18.1 +4.3
KSH *e*S S 11 45 49.0 -10
KSH *e*XS sS 11 46 07.9 +3.6
KSH *e*PS 11 46 16.0
I02A **Mapleton** 55.50 60 ⇑P P 11 38 13.0 -0.8
baz=55
D06A **Cle Elum** 55.51 56 ⇓P P 11 38 12.8 -1.2
baz=55,SNR=6.1
HNR **Honiara** 55.59 173 P P 11 38 11.2 -3.3
comp=Z,33nm,0.7s,mb5.5,baz=266,slow=2.6,SNR=2.1
JIRN **Jiri** 55.64 276 *e*P P 11 38 16.2 +1.3
comp=Z,404nm,0.8s,mb6.5
G04A **Mulino** 55.65 58 ⇓P P 11 38 14.4 -0.5
baz=55
PMG **Port Moresby** 55.65 188 P P 11 38 12.8 -2.1
comp=Z,31nm,1.1s,mb5.2,baz=351,slow=6.3,SNR=3.6
PMG **Port Moresby** 55.65 188 P P 11 38 12.8 -2.1
PMG pmax pmax
comp=Z,31nm,1.1s
PMG **Port Moresby** 55.65 188 *e*P P 11 38 15.4 +0.4
TBM **Table Mountain** 55.67 55 P P 11 38 14.7 -0.3
C07A **Waterville** 55.69 55 ⇑P P 11 38 14.0 -1.2
baz=56,SNR=6.9
GUN **Gumba** 55.70 276 *e*P P 11 38 16.3 +1.0
comp=Z,336nm,1.0s,mb6.3
B08A **Colville Reser** 55.74 54 ⇓P P 11 38 14.5 -1.0
baz=56,SNR=9.1
K01A **Sixes** 55.77 62 ⇑P P 11 38 15.6 -0.1
baz=56
E06A **Yakima** 55.79 56 ⇑P P 11 38 15.5 -0.4
baz=56
KEBM **Edson Butte** 55.82 62 *e*P P 11 38 16.8 +0.7
A09A **Danville** 55.82 53 ⇑P P 11 38 15.2 -0.9
baz=56,SNR=13
EBG **Ellensburg** 55.83 56 P P 11 38 16.1 0.0
I03A **Eugene** 55.85 60 ⇑P P 11 38 16.0 -0.3
baz=56,SNR=8.3
SSOR **Sweet Springs** 55.85 59 P P 11 38 16.9 +0.6
F05A **White Salmon** 55.87 57 ⇓P P 11 38 16.1 -0.4
baz=56
ARU **Arti** 55.88 318 *e*P P 11 38 16.0 -0.6
ARU *e* 11 40 20.0
ARU *e*S S 11 46 00.3 -3.7
ARU **Arti** 55.88 318 *e*P P 11 38 15.7 -0.9
comp=Z,452nm,1.4s,mb6.3
J02A **Umpqua** 56.00 61 ⇓P P 11 38 17.6 +0.1
baz=56,SNR=16
D07A **Quincy** 56.01 55 ⇑P P 11 38 16.6 -0.9
baz=56
H04A **Detroit Lake** 56.11 59 P P 11 38 18.5 +0.3
baz=56,SNR=21
VFP **Flag Point** 56.18 58 P P 11 38 19.0 +0.3
KKN **Kakani** 56.19 276 *e*P P 11 38 19.5 +0.7
comp=Z,1µm,1.3s,mb6.7
C08A **Higginbotham F** 56.21 54 P P 11 38 18.3 -0.6
baz=56,SNR=5.3
PKI **Pulchoki** 56.24 276 *e*P P 11 38 18.9 -0.2
comp=Z,579nm,1.3s,mb6.5
EDM **Edmonton** 56.26 46 *e*P P 11 38 18.8 -0.5
G05A **Wamic** 56.31 58 ⇓P P 11 38 19.6 -0.1
baz=56,SNR=8.7
F06A **Goldendale** 56.33 57 P P 11 38 20.5 +0.7
baz=56,SNR=5.4
B09A **Rice** 56.36 53 P P 11 38 19.9 -0.1
baz=56,SNR=9.0
J03A **Ideyld Park** 56.37 60 P P 11 38 20.8 +0.8
baz=56,SNR=10
A10A **Northport** 56.38 52 P P 11 38 19.8 -0.3
baz=56,SNR=7.2
K02A **Glendale** 56.39 61 P P 11 38 20.9 +0.7
baz=56,SNR=9.4
DMN **Daman** 56.42 276 *e*P P 11 38 20.8 +0.4
comp=Z,735nm,1.0s,mb6.7
E07A **Sunnyside** 56.43 56 P P 11 38 20.6 +0.1
baz=56,SNR=7.7
I04A **Tendick Farm,** 56.47 60 P P 11 38 21.2 +0.4
baz=56,SNR=25
GKN **Gorkha** 56.50 277 *e*P P 11 38 21.7 +0.7
comp=Z,498nm,0.8s,mb6.6
M01C **Crescent City** 56.52 62 ⇑P P 11 38 21.5 +0.3
baz=56
BKCOR **Black Crater** 56.61 59 P P 11 38 22.2 +0.4
C09A **Chrisman Ranch** 56.64 54 P P 11 38 21.5 -0.4
baz=56,SNR=8.4
L02A **Cave Junction** 56.67 62 ⇑P P 11 38 22.6 +0.5
baz=56,SNR=9.7
D08A **Wollman Farm,** 56.69 55 ⇑P P 11 38 22.2 -0.1
baz=56
H05A **Madras** 56.69 58 P P 11 38 22.8 +0.4
baz=56,SNR=10
HAWA **Hanford** 56.71 56 *e*P P 11 38 22.0 -0.5
comp=Z,77nm,1.2s,mb5.6
G06A **Carlson Farm,** 56.71 57 P P 11 38 23.2 +0.7
baz=56,SNR=8.3
F07A **Phinny Hill Vi** 56.76 56 P P 11 38 23.1 +0.3
baz=56,SNR=10
HUMO **Hull Mountain** 56.80 61 *e*P P 11 38 23.4 +0.2
comp=Z,183nm,1.2s,mb6.0
HUMO **Hull Mountain** 56.80 61 P P 11 38 23.9 +0.7
baz=57,SNR=12
E08A **Dider Farm, El** 56.92 55 ⇓P P 11 38 23.6 -0.4
baz=57
B10A **Chitwood Farm,** 56.94 53 ⇓P P 11 38 23.7 -0.5
baz=57
I05A **Bend** 56.94 59 P P 11 38 24.8 +0.7
baz=57,SNR=9.4
KTRM **Thompson Ridge** 56.95 62 P P 11 38 25.0 +0.8
J04A **Umpqua Nationa** 56.96 60 P P 11 38 25.2 +1.0
baz=57,SNR=8.0
NEW **Newport** 57.02 53 P P 11 38 23.9 -0.8
comp=Z,38nm,1.0s,mb5.4,baz=301,slow=7.6,SNR=7.6
NEW **Newport** 57.02 53 *e*P P 11 38 23.8 -0.9
NEW pmax pmax
comp=Z,69nm,1.2s
NEW **Newport** 57.02 53 *e*P P 11 38 23.8 -0.8
comp=Z,69nm,1.2s,mb5.6
D09A **Jones Farm, Ri** 57.03 55 ⇑P P 11 38 24.2 -0.6
baz=57
A11A **Hall Mountain,** 57.05 52 ⇑P P 11 38 24.6 -0.3
baz=57,SNR=7.7
VIPM **Ingram Point** 57.13 58 P P 11 38 25.9 +0.4
JCC **Jacoby Creek** 57.16 63 ⇑P P 11 38 25.9 +0.2
baz=57
C10A **Spilker Farm,** 57.17 53 P P 11 38 25.4 -0.3
baz=57,SNR=9.0
H06A **Lindquist Farm** 57.17 58 P P 11 38 26.0 +0.2
baz=57,SNR=10
G07A **Ruggs Ranch, H** 57.26 57 ⇓P P 11 38 25.8 -0.5
baz=57
B11A **Sandpoint** 57.34 52 P P 11 38 27.1 +0.1
baz=57,SNR=7.4
KOLN **Koldanda** 57.36 277 *e*P P 11 38 28.4 +1.3
comp=Z,396nm,0.9s,mb6.5
E09A **Wood Farm, Sta** 57.43 55 P P 11 38 27.5 -0.1
baz=57,SNR=7.4
A12A **Yaak River Ran** 57.45 51 ⇑P P 11 38 27.4 -0.3
baz=57
YBH **Yreka Blue Hor** 57.45 62 P P 11 38 27.5 -0.3
comp=Z,38nm,1.0s,mb5.4,baz=274,slow=1.0,SNR=15
YBH **Yreka Blue Hor** 57.45 62 P P 11 38 27.5 -0.2
YBH pmax pmax
comp=Z,38nm,1.0s
YBH **Yreka Blue Hor** 57.45 62 *e*P P 11 38 28.4 +0.7
comp=Z,54nm,1.1s,mb5.5
YBH **Yreka Blue Hor** 57.45 62 P P 11 38 28.7 +1.0
baz=57,SNR=14
J05A **Fort Rock** 57.46 60 P P 11 38 28.7 +0.9
baz=57,SNR=9.9
F08A **Pendleton** 57.48 56 P P 11 38 28.2 +0.3
baz=57,SNR=9.6
K04A **Chilquin** 57.55 61 P P 11 38 29.2 +0.8
baz=57,SNR=6.3
M02C **Callahan** 57.56 62 ⇑P P 11 38 29.4 +0.9
baz=57,SNR=12
LVZ **Lovozero** 57.57 337 ⇑*e*P P 11 38 25.1 -3.4
LVZ pmax pmax
comp=Z,129nm,0.9s,mb6.0
LVZ pmax pmax
comp=N,60nm,1.0s
LVZ **Lovozero** 57.57 337 *e*P P 11 38 27.4 -1.1
N02C **Big Bar** 57.61 63 ⇑P P 11 38 28.7 -0.1
baz=57
G08A **Pilot Rock** 57.66 57 P P 11 38 29.7 +0.5
baz=57,SNR=9.9
O01C **Eel River Cons** 57.69 64 ⇑P P 11 38 29.7 +0.4
baz=58
I06A **Prineville** 57.69 58 P P 11 38 30.1 +0.6
baz=58,SNR=16
L04A **Klamath Falls** 57.70 61 ⇑P P 11 38 29.5 0.0
baz=58,SNR=9.5
B12A **Libby** 57.75 52 ⇑P P 11 38 29.6 -0.2
baz=58
M04C **Macdoel** 57.96 61 P P 11 38 31.9 +0.7
baz=58,SNR=13
K05A **Summer Lake** 57.99 60 ⇑P P 11 38 31.9 +0.4
baz=58,SNR=11
F09A **S2 Ranch, Elgi** 58.02 56 ⇓P P 11 38 31.8 0.0
baz=58,SNR=7.5
I07A **Izee** 58.03 58 P P 11 38 32.6 +0.8
baz=58,SNR=7.9
E10A **Myers Farm, Un** 58.03 55 P P 11 38 31.8 0.0
baz=58,SNR=13
M03C **McCloud** 58.08 62 P P 11 38 33.1 +1.0
baz=58,SNR=8.3
KEV **Kevo** 58.12 341 *e*P P 11 38 31.9 -0.5
KEV *e* 11 38 42.6
KEV **Kevo** 58.12 341 *e*P P 11 38 31.8 -0.6
APA **Apatity** 58.14 337 ⇓*i*P P 11 38 32.0 -0.5
APA *i* pP 11 38 35.0 -1.0
D11A **Klaveano Farm,** 58.15 54 P P 11 38 32.0 -0.6
baz=58,SNR=9.0
WDC **Whiskeytown Da** 58.22 63 *e*P P 11 38 32.8 -0.4
WDC pmax pmax
comp=Z,59nm,1.0s,mb5.6
WDC **Whiskeytown Da** 58.22 63 *e*P P 11 38 32.8 -0.3
comp=Z,59nm,1.0s,mb5.6
WDC **Whiskeytown Da** 58.22 63 P P 11 38 33.5 +0.3
baz=58,SNR=11
F10A **Beach Ranch, E** 58.26 55 ⇑P P 11 38 33.3 -0.1
baz=58
H08A **Prairie City** 58.27 57 ⇓P P 11 38 33.7 +0.2
baz=58,SNR=13
O02C **Red Bluff** 58.31 63 P P 11 38 34.6 +0.9
baz=58,SNR=11
WALA **Waterton Lakes** 58.32 51 *e*P P 11 38 33.0 -0.8
comp=Z,101nm,1.1s,mb5.8
K06A **Valley Falls** 58.33 60 P P 11 38 34.7 +0.8
baz=58,SNR=15
P01C **Double 8 Ranch** 58.38 64 P P 11 38 34.5 +0.3
baz=58,SNR=12
B13A **Whitefish** 58.41 51 P P 11 38 34.8 +0.3
baz=58,SNR=13
L05A **Lakeview** 58.41 61 ⇓P P 11 38 34.9 +0.4
baz=58,SNR=11
J07A **Hines** 58.56 59 P P 11 38 36.2 +0.8
baz=58,SNR=7.6
ARCES **ARCESS Array B** 58.62 341 P P 11 38 36.0 0.0
comp=Z,103nm,1.0s,mb5.8,baz=21,slow=6.6,SNR=32
ARE0 **ARCESS Array S** 58.62 341 *e*P P 11 38 35.2 -0.7
M05C **Lookout** 58.63 61 P P 11 38 36.4 +0.5
baz=58,SNR=9.7
KSM **Kuching** 58.64 234 *e*P P 11 38 36.5 +0.4
GASB **Alder Springs** 58.66 64 P P 11 38 37.2 +1.1
baz=58,SNR=15
I08A **Drewsey** 58.68 58 P P 11 38 37.0 +0.6
baz=58,SNR=9.0
HATC **Hat Creek Radi** 58.75 62 P P 11 38 37.7 +0.9
baz=58,SNR=8.3
C13A **Hot Springs** 58.76 52 ⇓P P 11 38 36.9 0.0
baz=58
H09A **Durkee** 58.77 57 P P 11 38 37.6 +0.7
baz=58,SNR=13
MOD **Modoc** 58.82 60 *e*P P 11 38 37.1 -0.2
comp=Z,152nm,1.1s,mb5.9
MOD **Modoc** 58.82 60 P P 11 38 37.7 +0.4
baz=59,SNR=14
HOPS **Hopland** 58.82 65 *e*P P 11 38 37.0 -0.3
comp=Z,75nm,1.2s,mb5.6
HOPS **Hopland** 58.82 65 ⇑P P 11 38 37.1 -0.2
baz=59,SNR=7.3
BMO **Blue Mountains** 58.87 56 *e*P P 11 38 37.7 +0.1
comp=Z,68nm,1.1s,mb5.6
O03C **Acorn Hollow,** 58.88 63 P P 11 38 37.6 -0.1
baz=59,SNR=8.1
F11A **Grangeville** 58.92 55 ⇓P P 11 38 38.2 +0.2
baz=59,SNR=8.5
K07A **Rock Creek Ran** 58.99 59 ⇓P P 11 38 38.3 -0.2
baz=59,SNR=11
J08A **Circle Bar Ran** 59.06 58 P P 11 38 39.6 +0.6
baz=59,SNR=12
M06C **Likely Place G** 59.12 61 ⇑P P 11 38 39.7 +0.3
baz=59,SNR=8.8
I09A **Lost Marbles R** 59.13 57 P P 11 38 39.9 +0.4
baz=59,SNR=11
TMCR **Tamitsa** 59.16 333 *e*P P 11 38 39.6 -0.1
TMCR pmax pmax
comp=Z,300nm,1.3s,mb6.2
D13A **Huson** 59.16 53 P P 11 38 39.6 -0.1
baz=59,SNR=8.0
O04C **Chester** 59.27 62 P P 11 38 41.0 +0.5
baz=59,SNR=10
MNRC **McLaughlin Nat** 59.29 64 ⇑P P 11 38 40.9 +0.4
baz=59,SNR=12
ELFS **Eagle Lake Fie** 59.32 62 P P 11 38 41.6 +0.8
baz=59,SNR=12
L07A **Adell** 59.33 60 P P 11 38 41.5 +0.7
baz=59,SNR=9.9
NSHM **Saint Helena R** 59.40 65 *e*P P 11 38 40.0 -1.3
K08A **Mann Creek Ran** 59.42 59 P P 11 38 42.0 +0.6
baz=59,SNR=15
J09A **Fry Pan Ranch,** 59.49 58 ⇓P P 11 38 42.1 +0.1
baz=59,SNR=13
WVOR **Wild Horse Val** 59.51 59 *e*P P 11 38 42.0 -0.1
WVOR pmax pmax
comp=Z,53nm,1.0s,mb5.5
WVOR **Wild Horse Val** 59.51 59 *e*P P 11 38 42.0 -0.1
comp=Z,53nm,1.0s,mb5.5
KTK1 **Kautokeino** 59.54 342 *e*P P 11 38 42.3 0.0
KTK1 *e*pP pP 11 38 45.7 -0.1
KTK1 *e* 11 43 22.3
O05C **Quincy** 59.59 63 P P 11 38 42.8 +0.1
baz=59,SNR=9.2
CVS **Carmenet Viney** 59.59 65 ⇑P P 11 38 42.5 -0.2
baz=59,SNR=7.0
MSO **Missoula** 59.61 53 *e*P P 11 38 42.1 -0.7
comp=Z,391nm,1.4s,mb6.2
FARB **Farallon Islan** 59.64 66 ⇑P P 11 38 43.0 0.0
baz=59
D14A **Greenough** 59.70 52 P P 11 38 43.4 0.0
baz=59,SNR=12
E13A **Victor** 59.70 53 P P 11 38 43.8 +0.4
baz=60,SNR=10
H11A **Donnelly** 59.70 56 P P 11 38 43.4 0.0
baz=60,SNR=13
Q03C **Winters** 59.70 64 ⇑P P 11 38 44.0 +0.5
baz=60
N06A **Buffalo Meadow** 59.79 61 P P 11 38 44.3 +0.3
baz=60,SNR=11
M07A **Soldier Meadow** 59.81 60 P P 11 38 44.9 +0.7
baz=60,SNR=15
L08A **Fields** 59.83 59 P P 11 38 44.9 +0.6
baz=60,SNR=8.7
K09A **Rome** 59.89 58 P P 11 38 45.0 +0.3
baz=60,SNR=7.8
CHMT **Chamberlain Mo** 59.94 52 *e*P P 11 38 44.4 -0.7
Q04C **Lincoln** 59.98 64 ⇑P P 11 38 45.2 -0.1
baz=60
BEKR **Beckwourth** 59.99 62 P P 11 38 45.4 0.0
baz=60,SNR=19
F13A **Darby** 60.01 54 P P 11 38 45.5 -0.1
baz=60,SNR=9.7
E14A **Clinton** 60.10 53 P P 11 38 46.3 +0.1
baz=60,SNR=8.3
O06A **Flanigan** 60.14 62 P P 11 38 47.1 +0.6
baz=60,SNR=9.8
P05C **Yuba Gap, Truc** 60.18 63 ⇓P P 11 38 47.0 +0.4
baz=60
BDM **Black Diamond** 60.20 65 ⇑P P 11 38 47.6 +0.7
baz=60
D15A **Lincoln** 60.26 52 ⇑P P 11 38 47.4 +0.1
baz=60
N07B **Gerlach** 60.29 61 P P 11 38 48.0 +0.5
baz=60,SNR=12
JRSC **Jasper Ridge** 60.30 66 ⇑P P 11 38 47.9 +0.4
baz=60
L09A **Wilkinson Ranc** 60.33 59 P P 11 38 47.8 0.0
baz=60,SNR=12
P06A **Stead Airport,** 60.39 62 P P 11 38 48.9 +0.8
baz=60,SNR=7.4
WENL **Wente Brothers** 60.47 65 P P 11 38 48.9 +0.2
baz=60,SNR=5.7
BNLO **Ben Lomond (Sa** 60.51 66 P P 11 38 49.2 +0.3
baz=60,SNR=5.4
F14A **Wisdom** 60.53 53 ⇑P P 11 38 49.0 -0.1
baz=60
E15A **Deer Lodge** 60.57 52 P P 11 38 49.5 +0.1
baz=60,SNR=8.1
R04C **Big Horse Ranc** 60.60 64 P P 11 38 49.1 -0.5
baz=60,SNR=6.9
WCN **Washoe City** 60.70 63 P P 11 38 50.6 +0.4
baz=60,SNR=16
O07A **Toulon** 60.72 61 P P 11 38 51.0 +0.6
baz=60,SNR=16
FFC **Flin Flon** 60.78 40 P P 11 38 50.6 -0.2
comp=Z,756nm,0.8s,SNR=11
FFC **Flin Flon** 60.78 40 P P 11 38 50.9 +0.2
N08A **GE Springer Mi** 60.80 60 P P 11 38 51.0 0.0
baz=61,SNR=14
S04C **Ingram Canyon,** 60.81 65 P P 11 38 51.4 +0.4
baz=61,SNR=5.7
M09A **Marrel Ranch,** 60.82 59 ⇑P P 11 38 51.4 +0.3
baz=61
R05C **Kirkwood Meado** 60.87 63 P P 11 38 51.5 0.0
baz=61,SNR=11
F15A **Butte** 61.00 53 P P 11 38 52.6 +0.3
baz=61,SNR=17
CMB **Columbia Colle** 61.08 64 *e*P P 11 38 52.7 -0.2
CMB pmax pmax
comp=Z,72nm,1.2s,mb5.7
CMB **Columbia Colle** 61.08 64 *e*P P 11 38 52.7 -0.2
comp=Z,72nm,1.2s,mb5.7
CMB **Columbia Colle** 61.08 64 P P 11 38 52.9 0.0
baz=61,SNR=18
O08A **Rochester Mine** 61.09 61 ⇓P P 11 38 52.9 0.0
baz=61
P07A **Fallon** 61.09 62 ⇑P P 11 38 53.0 0.0
baz=61
N09A **Rock Creek Ran** 61.12 60 P P 11 38 53.7 +0.6
baz=61,SNR=12
PACP **Pacheco Peak** 61.14 66 P P 11 38 53.5 +0.2
baz=61,SNR=12
EGMT **Eagleton** 61.15 50 *e*P P 11 38 53.0 -0.4
comp=Z,103nm,1.1s,mb5.9
SAO **San Andreas Ge** 61.19 66 *e*P P 11 38 53.2 -0.4
SAO pmax pmax
comp=Z,50nm,1.4s,mb5.5
SAO **San Andreas Ge** 61.19 66 *e*P P 11 38 53.2 -0.4
comp=Z,50nm,1.4s,mb5.5
DLMT **Dillon** 61.24 53 *e*P P 11 38 53.6 -0.3
comp=Z,146nm,1.4s,mb5.9
SUMG **Summit** 61.24 4 *e*P P 11 38 54.6 +0.6
comp=Z,788nm,1.1s,mb6.8
M10A **I.L. Ranch, Tu** 61.31 59 P P 11 38 55.5 +1.1
baz=61,SNR=8.2
HLID **Hailey** 61.31 56 *e*P P 11 38 54.3 -0.1
comp=Z,275nm,1.3s,mb6.2
HAST **UC Hastings Re** 61.36 66 P P 11 38 54.5 -0.2
baz=61,SNR=8.1
R06C **Coleville** 61.37 63 P P 11 38 55.4 +0.6
baz=61,SNR=18
FCC **Fort Churchill** 61.40 33 *e*P P 11 38 53.9 -1.1
FCC pmax pmax
comp=Z,439nm,1.6s,mb6.3
FCC **Fort Churchill** 61.40 33 *e*P P 11 38 53.9 -1.1
comp=Z,439nm,1.6s,mb6.3
G15A **Dillon** 61.42 54 P P 11 38 55.0 -0.1
baz=61,SNR=8.0
MCMT **McKenzie Canyo** 61.42 54 *e*P P 11 38 55.2 0.0
P08A **Dixie Valley** 61.49 61 ⇓P P 11 38 56.6 +0.9
baz=61
Q07A **Schurz** 61.51 62 ⇑P P 11 38 55.8 +0.1
baz=61
S06C **San Francisco** 61.51 64 P P 11 38 55.7 0.0
baz=61,SNR=13
S05C **Merced** 61.54 65 P P 11 38 55.5 -0.4
baz=61,SNR=17
BMN **Battle Mountai** 61.56 60 *e*P P 11 38 56.0 -0.1
BMN pmax pmax
comp=Z,293nm,1.2s,mb6.3
BMN **Battle Mountai** 61.56 60 *e*P P 11 38 56.0 -0.1
comp=Z,293nm,1.2s,mb6.3

T05C **Eagle Field, D** 61.60 65 ⇑P P 11 38 56.8 +0.4
baz=61
LRV **Little Rabbit** 61.67 66 eP P 11 38 57.1 +0.3
KAKA **Kakadu** 61.74 204 eP P 11 38 55.9 -1.4
comp=Z,188nm,1.5s,mb6.0
O09A **Fish Creek Ran** 61.74 60 P P 11 38 57.9 +0.6
baz=62,SNR=11
V03C **Hunter Liggett** 61.78 66 ⇓P P 11 38 57.9 +0.3
baz=62
IPM **Ipoh** 61.80 245 P P 11 38 59.3 +1.6
M11A **Holland Ranch,** 61.81 59 P P 11 38 58.7 +0.9
baz=62,SNR=11
N10A **Dunphy** 61.82 60 P P 11 38 58.5 +0.6
baz=62,SNR=6.6
U04C **Hernandez Rese** 61.86 66 P P 11 38 58.9 +0.8
baz=62,SNR=8.0
R07C **Lee Vining** 61.88 63 P P 11 38 58.9 +0.7
baz=62,SNR=20
O10A **Cortez Mining,** 62.08 60 P P 11 39 00.1 +0.4
baz=62,SNR=11
Q08A **Gabbs** 62.10 62 P P 11 39 00.1 +0.3
baz=62,SNR=20
NVAR **Mina Array Bea** 62.13 63 P P 11 39 00.0 0.0
comp=Z,6.9nm,0.6s,mb5.0,baz=52,slow=20,SNR=22
T06C **Millerton Lake** 62.14 65 P P 11 38 59.5 -0.4
baz=62,SNR=14
P09A **Austin** 62.15 61 P P 11 39 00.8 +0.7
baz=62,SNR=11
KCC **Kaiser Creek** 62.19 64 P P 11 39 00.2 -0.1
baz=62,SNR=14
QLMT **Earthquake Lak** 62.22 53 eP P 11 39 00.7 +0.2
N11A **Elko Archery C** 62.22 59 P P 11 39 01.4 +0.9
baz=62,SNR=10
LOF **Lofoten** 62.25 344 eP P 11 39 01.6 +0.9
LOF epP pP 11 39 04.3 0.0
LOF AMb AMB 11 39 08.6
comp=Z,399nm,1.8s,mb6.3
LOF **Lofoten** 62.25 344 eP P 11 39 01.6 +0.9
comp=Z,399nm,1.8s,mb6.2
V04C **Ramage Ranch,** 62.26 66 ⇑P P 11 39 01.1 +0.3
baz=62
PKD **Parkfield** 62.27 66 ⇑P P 11 39 00.7 -0.2
baz=62
U05C **Westside ANR,** 62.30 65 ⇑P P 11 39 02.1 +1.0
baz=62
MLAC **Mammoth Lakes** 62.30 64 P P 11 39 02.6 +1.5
baz=62,SNR=8.8
KGM **Kluang** 62.30 241 P P 11 39 02.9 +1.8
R08A **Mina** 62.31 63 ⇓P P 11 39 01.9 +0.8
baz=62
M12A **Wells** 62.33 58 P P 11 39 02.1 +0.8
baz=62,SNR=16
P10A **Eureka** 62.52 61 ⇑P P 11 39 03.2 +0.6
baz=62
ELK **Elko** 62.56 59 eP P 11 39 03.7 +0.9
ELK pmax pmax
comp=Z,100nm,1.6s
ELK **Elko** 62.56 59 eP P 11 39 03.5 +0.7
comp=Z,51nm,1.2s,mb5.5
Q09A **Carvers** 62.57 62 P P 11 39 03.3 +0.4
baz=62,SNR=13
YMR **Madison River** 62.58 53 eP P 11 39 03.4 +0.5
comp=Z,426nm,1.2s,mb6.5
N12A **Clover Valley,** 62.61 59 P P 11 39 04.0 +0.9
baz=62,SNR=9.1
MTUM **Tungsten Hills** 62.64 64 eP P 11 39 03.8 +0.5
O11A **Cowboy Ranch,** 62.69 60 P P 11 39 04.2 +0.6
baz=62,SNR=10
V05C **Boulder Hill,** 62.73 66 ⇓P P 11 39 03.9 0.0
baz=62
HELL **Mitchell Peak,** 62.77 65 P P 11 39 03.7 -0.5
baz=62,SNR=17
YFT **Old Faithful** 62.78 53 eP P 11 39 05.6 +1.3
S08C **White Mtn Res** 62.79 63 P P 11 39 05.0 +0.6
baz=63,SNR=12
M13A **Montello** 62.81 58 P P 11 39 05.0 +0.5
baz=63,SNR=14
RCTC **Rector, Farmer** 62.87 65 P P 11 39 04.8 -0.1
baz=63,SNR=8.8
LKWY **Lake** 62.95 53 eP P 11 39 07.3 +1.9
LKWY pmax pmax
comp=Z,53nm,1.1s,mb5.6
LKWY **Lake** 62.95 53 eP P 11 39 07.3 +1.9
comp=Z,53nm,1.1s,mb5.6
P11A **Circle Ranch,** 62.99 60 ⇓P P 11 39 05.4 -0.3
baz=63
R09A **Tonopah** 63.01 62 P P 11 39 06.0 +0.1
baz=63,SNR=24
SMMC **Simmler** 63.01 66 ⇑P P 11 39 05.8 0.0
baz=63
TPH **Tonopah** 63.02 62 eP P 11 39 05.9 0.0
TPH pmax pmax
comp=Z,291nm,1.0s,mb6.4
TPH **Tonopah** 63.02 62 eP P 11 39 05.9 0.0
comp=Z,291nm,1.0s,mb6.4
TIN **Tinemaha** 63.04 64 ⇓P P 11 39 06.5 +0.5
baz=63
FLWY **Flagg Ranch** 63.09 54 eP P 11 39 07.2 +0.8
comp=Z,412nm,1.3s,mb6.4
N13A **Wendover, West** 63.10 58 P P 11 39 06.8 +0.4
baz=63,SNR=12
DCID1 **Drake Creek** 63.13 54 eP P 11 39 07.7 +1.1
O12A **Currie** 63.15 59 P P 11 39 07.2 +0.4
baz=63,SNR=17
RLMT **Red Lodge** 63.23 52 eP P 11 39 07.8 +0.6
comp=Z,255nm,1.5s,mb6.1
S09A **Goldfield** 63.24 63 P P 11 39 07.5 +0.2
baz=63,SNR=9.9
VES **Vestal, Richgr** 63.26 65 ⇓P P 11 39 07.1 -0.3
baz=63,SNR=18
MOOW **Moose Ponds** 63.28 54 eP P 11 39 08.0 +0.4
comp=Z,181nm,1.6s,mb6.0
HVU **Hansel Valley** 63.36 57 eP P 11 39 08.4 +0.3
HVU pmax pmax
comp=Z,49nm,1.0s,mb5.6
HVU **Hansel Valley** 63.36 57 eP P 11 39 08.2 +0.1
comp=Z,49nm,1.1s,mb5.5
PKM **Peak Mountain** 63.39 67 ⇑P P 11 39 08.1 -0.2
baz=63,SNR=9.1
LOHW **Long Hollow** 63.44 54 eP P 11 39 09.3 +0.7
comp=Z,691nm,1.4s,mb6.6
R10A **Warm Springs** 63.45 62 ⇑P P 11 39 08.5 -0.3
baz=63
SNOW **Snow King Moun** 63.45 54 eP P 11 39 09.6 +0.9
comp=Z,399nm,1.1s,mb6.5
REDW **Red Top Meadow** 63.46 54 eP P 11 39 09.5 +0.7
comp=Z,909nm,1.3s,mb6.7
Q11A **Duckwater** 63.50 61 ⇓P P 11 39 08.8 -0.3
baz=63,SNR=9.7
CWC **Cottonwood Cre** 63.51 64 ⇑P P 11 39 09.1 0.0
baz=63,SNR=14
P12A **McGill** 63.55 60 P P 11 39 09.7 +0.3
baz=63,SNR=7.5
GRAC **Grapevine Rang** 63.60 63 P P 11 39 10.1 +0.4
baz=63,SNR=11
AHID **Auburn Hatcher** 63.70 55 eP P 11 39 10.4 0.0
comp=Z,158nm,1.6s,mb5.8
SBC **Santa Barbara** 63.74 67 ⇓P P 11 39 10.2 -0.4
baz=64
DGMT **Dagmar** 63.75 47 eP P 11 39 10.0 -0.7
comp=Z,389nm,1.6s,mb6.2
BGU **Big Grassy Mou** 63.75 58 eP P 11 39 10.1 -0.6
ISA **Isabella** 63.76 65 eP P 11 39 10.2 -0.5
ISA **Isabella** 63.76 65 eP P 11 39 09.5 -1.2
comp=Z,0.1nm,1.1s
ISA **Isabella** 63.76 65 P P 11 39 09.8 -1.0
baz=64,SNR=10
MOR8 **Moi Rana** 63.78 343 eP P 11 39 09.5 -1.4
MOR8 **Moi Rana** 63.78 343 eP P 11 39 07.5 -3.4
SPUT **South Promonto** 63.85 57 eP P 11 39 08.8 -2.6
TRCR **Troy Canyon** 63.85 61 eP P 11 39 11.3 -0.1
LAO **LASA Array** 63.86 49 eP P 11 39 11.2 -0.2
comp=Z,396nm,1.6s,mb6.2
ARVC **Arvin** 63.87 66 P P 11 39 11.3 -0.2
baz=64,SNR=13
Q12A **Willow Creek R** 63.87 60 ⇓P P 11 39 11.7 +0.2
baz=64,SNR=7.8
DAC **Darwin (Calif)** 63.92 64 eP P 11 39 11.2 -0.6
DAC pmax pmax
comp=Z,343nm,1.7s,mb6.1
DAC **Darwin (Calif)** 63.92 64 eP P 11 39 11.2 -0.6
comp=Z,343nm,1.7s,mb6.1
BSC **Santa Cruz Isl** 64.08 67 ⇑P P 11 39 12.6 -0.3
baz=64
MPMC **Manual Prospec** 64.12 64 P P 11 39 13.3 +0.2
baz=64,SNR=20
HWUT **Hardware Ranch** 64.17 56 eP P 11 39 12.9 -0.5
comp=Z,403nm,1.4s,mb6.3
FURC **Furnace Creek,** 64.26 63 P P 11 39 14.1 +0.1
baz=64,SNR=25
OSI **Osito Adit** 64.26 66 ⇓P P 11 39 13.9 -0.1
baz=64
DUG **Dugway** 64.34 58 eP P 11 39 14.6 0.0
DUG pmax pmax
comp=Z,99nm,1.1s,mb5.8
DUG **Dugway** 64.34 58 eP P 11 39 14.6 0.0
comp=Z,99nm,1.1s,mb5.8
BLG **Laguna Peak** 64.37 67 ⇓P P 11 39 14.3 -0.4
baz=64
LRMC **Laurel Mountai** 64.37 65 P P 11 39 14.3 -0.5
baz=64,SNR=18
NOQ **North Oquirrh** 64.46 57 eP P 11 39 15.2 -0.1
comp=Z,157nm,1.1s,mb6.0
EDW2 **Edwards Air Fo** 64.56 65 P P 11 39 15.9 -0.1
baz=64,SNR=28
BW06 **Boulder Array** 64.57 54 eP P 11 39 16.1 0.0
comp=Z,420nm,1.3s,mb6.3
PDAR **Pinedale Array** 64.57 54 P P 11 39 16.0 -0.1
comp=Z,49nm,1.0s,mb5.5,baz=326,slow=1.7,SNR=18
PDAR PKP2bc 12 08 06.0
comp=Z,1.6nm,1.1s,baz=142,slow=5.1,SNR=4.2
PDAR **Pinedale Array** 64.57 54 P P 11 39 16.0 -0.1
PDAR ⇑e 12 08 06.0
U10A **Ash Meadows, A** 64.62 63 P P 11 39 16.8 +0.4
baz=64,SNR=13
SNCC **San Nicolas Is** 64.62 68 ⇑P P 11 39 16.2 -0.2
baz=64
CTU **Camp Tracy** 64.65 57 eP P 11 39 16.3 -0.3
comp=Z,169nm,1.7s,mb5.8
DECC **Green Verdugo** 64.75 66 ⇓P P 11 39 17.2 0.0
baz=64
FIA1 **FINESS Array S** 64.85 335 eP P 11 39 17.4 -0.5
FINES **FINESS Array B** 64.85 335 P P 11 39 17.9 0.0
comp=Z,311nm,0.6s,mb5.5,baz=36,slow=7.1,SNR=34
JLU **Jordanelle** 64.88 57 eP P 11 39 18.2 +0.1
NLU **North Lily Min** 64.93 58 eP P 11 39 18.3 -0.1
SHOC **Shoshone** 64.98 64 ⇑P P 11 39 18.9 +0.1
baz=65
GSC **Goldstone** 65.03 64 eP P 11 39 18.6 -0.5
GSC **Goldstone** 65.03 64 P P 11 39 19.3 +0.2
baz=65,SNR=10.0
DAU **Daniels Canyon** 65.11 57 eP P 11 39 20.0 +0.4
FMP **Fort Macarthur** 65.12 67 ⇓P P 11 39 19.5 -0.1
baz=65
MPU **Maple Canyon** 65.15 58 eP P 11 39 19.9 0.0
comp=Z,54nm,0.9s,mb5.6
BFSC **Mount Baldy St** 65.18 66 P P 11 39 19.2 -0.8
baz=65,SNR=14
U11A **Corn Creek** 65.20 63 P P 11 39 20.8 +0.6
baz=65,SNR=16
CIS **Catalina Islan** 65.24 67 P P 11 39 19.8 -0.7
baz=65,SNR=7.0
MOS **Moscow** 65.29 326 eP P 11 39 19.6 -1.2
MOS pmax pmax
comp=Z,714nm,1.7s,mb6.4
SCI **San Clemente I** 65.42 67 ⇓P P 11 39 20.9 -0.7
baz=65
TUQ **Turquoise Mtn.** 65.50 64 P P 11 39 22.1 0.0
baz=65,SNR=17
ARUT **Antelope Range** 65.51 60 eP P 11 39 22.3 +0.1
V11A **Goodsprings** 65.55 63 P P 11 39 22.6 +0.2
baz=65,SNR=10
BBRC **Big Bear Sol-O** 65.63 65 P P 11 39 23.1 +0.1
baz=65,SNR=12
HEC **Hector,Ludlow** 65.64 65 P P 11 39 23.0 0.0
baz=65,SNR=20
CCUT **Cedar City** 65.71 61 eP P 11 39 23.7 +0.2
U12A **Valley of Fire** 65.72 62 P P 11 39 23.7 +0.2
baz=66,SNR=9.2
MSU **Marysvale** 65.80 59 eP P 11 39 24.4 +0.3
TMUT **Trail Mountain** 65.87 58 eP P 11 39 24.2 -0.3
MURC **Murrieta** 65.88 66 P P 11 39 24.1 -0.5
baz=66,SNR=16
V12A **Nelson** 65.98 63 P P 11 39 25.5 +0.3
baz=66,SNR=14
OBN **Obninsk** 66.16 326 eP P 11 39 24.3 -2.1
OBN pmax pmax
comp=Z,730nm,1.8s,mb6.4
OBN **Obninsk** 66.16 326 eP P 11 39 26.1 -0.3
comp=Z,1μm,1.8s,mb6.7
W12A **Cal Nev Ari** 66.24 63 ⇓P P 11 39 26.9 0.0
baz=66
CTA **Charters Tower** 66.31 188 eP P 11 39 26.1 -1.2
comp=Z,17nm,1.1s,mb5.0
CTA **Charters Tower** 66.31 188 eP P 11 39 26.1 -1.2
CTA pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flat Ob** 66.35 66 P P 11 39 27.0 -0.6
comp=Z,200nm,1.5s,mb5.9,SNR=7.5
PFO **Pinyon Flat Ob** 66.35 66 eP P 11 39 27.5 -0.1
PFO pmax pmax
comp=Z,244nm,1.6s,mb6.0
PFO **Pinyon Flat Ob** 66.35 66 eP P 11 39 27.4 -0.1
comp=Z,244nm,1.6s,mb6.0
PFO **Pinyon Flat Ob** 66.35 66 P P 11 39 27.6 0.0
baz=66,SNR=11
BELC **Belle Mtn.** 66.38 65 P P 11 39 27.2 -0.6
baz=66,SNR=7.7
SRU **San Rafael** 66.39 58 eP P 11 39 27.6 -0.3
SRU pmax pmax
comp=Z,255nm,1.5s,mb6.0
SRU **San Rafael** 66.39 58 eP P 11 39 27.6 -0.3
comp=Z,256nm,1.5s,mb6.0
109C **Camp Elliot, M** 66.40 67 P P 11 39 27.4 -0.6
baz=66,SNR=13
ULM **Lac du Bonnet** 66.55 41 P P 11 39 28.2 -0.7
comp=Z,33nm,0.8s,mb5.4,baz=310,slow=6.9,SNR=13
ULM **Lac du Bonnet** 66.55 41 eP P 11 39 27.7 -1.2
comp=Z,96nm,1.1s,mb5.7
RWWY **Rawlins** 66.59 54 eP P 11 39 28.7 -0.5
comp=Z,72nm,1.0s,mb5.7
RSSD **Black Hills** 66.71 50 eP P 11 39 29.7 -0.2
RSSD **Black Hills** 66.71 50 eP P 11 39 29.8 -0.1
NEE2 **Needles Airpor** 66.75 64 ⇑P P 11 39 30.0 -0.2
baz=66
IRM **Iron Mountain** 66.81 64 P P 11 39 30.4 -0.1
baz=67,SNR=22
MONP **Monument Peak** 66.84 66 P P 11 39 30.9 +0.2
baz=67,SNR=6.2
BC3 **Big Chuckw Mtn** 66.95 65 P P 11 39 31.4 0.0
baz=67,SNR=12
W13A **Hualapai Mount** 66.99 63 P P 11 39 32.2 +0.5
baz=67,SNR=13
VSU **Vasula** 67.04 333 eP P 11 39 29.0 -3.0
DVTC **Desert V Tower** 67.19 66 P P 11 39 33.1 +0.1
baz=67,SNR=7.1
SWSC **Sam W. Stewart** 67.20 66 P P 11 39 32.8 -0.3
baz=67,SNR=7.3
PDMCI **Parker Dam,Lak** 67.35 64 P P 11 39 33.8 -0.2
baz=67,SNR=24
X13A **Yucca** 67.35 63 P P 11 39 33.9 -0.1
baz=67,SNR=22
W14A **Seligman** 67.41 62 P P 11 39 34.9 +0.5
baz=67,SNR=21
ABKT **Ailbek** 67.46 302 P P 11 39 36.5 +1.8
comp=Z,680nm,1.4s,mb6.5,SNR=7.1
Y12C **Blythe** 67.47 64 P P 11 39 34.6 -0.1
baz=67,SNR=12
VOR **Voronezh** 67.58 322 P P 11 39 36.0 +0.5
VOR pmax pmax
comp=E,350nm,2.0s
VOR pmax pmax
comp=Z,680nm,2.0s,mb6.3
GLA **Glamis** 67.74 65 eP P 11 39 35.8 -0.7
GLA **Glamis** 67.74 65 P P 11 39 36.4 -0.1
baz=68,SNR=13
PHWY **Pilot Hill** 67.83 53 eP P 11 39 37.0 -0.1
Y13A **Salome** 67.87 64 ⇓P P 11 39 37.4 +0.2
baz=68
AGMN **Agassiz Refuge** 67.93 43 eP P 11 39 37.0 -0.6
comp=Z,307nm,1.4s,mb6.1
W15A **Williams** 67.93 62 P P 11 39 38.5 +0.9
baz=68,SNR=12
X14A **Yavapai** 68.02 63 P P 11 39 38.7 +0.5
baz=68,SNR=19
WRAB **Tennant Creek** 68.16 200 P P 11 39 38.9 -0.2
comp=Z,1μm,1.2s,mb6.8,SNR=21
WRAB **Tennant Creek** 68.16 200 eP P 11 39 38.1 -1.0
comp=Z,172nm,0.9s,mb6.1
WB2 **Warramunga Arr** 68.17 200 eP P 11 39 37.9 -1.2
WRA **Warramunga Arr** 68.17 200 P P 11 39 38.1 -1.1
comp=Z,114nm,1.0s,mb5.8,baz=18,slow=6.7,SNR=25
WRA PKP2bc 12 07 56.4
comp=Z,3.8nm,1.2s,baz=210,slow=2.9,SNR=4.9
WRA **Warramunga Arr** 68.17 200 P P 11 39 38.1 -1.1
WRA ⇑e 12 07 56.4
WUAZ **Wupatki** 68.25 61 eP P 11 39 39.8 +0.1
comp=Z,198nm,1.0s,mb6.1
WUAZ **Wupatki** 68.25 61 ⇑P P 11 39 39.6 -0.1
baz=68
Y14A **Wickenburg** 68.30 63 P P 11 39 39.9 -0.1
baz=68,SNR=20
SMCO **Snowmass** 68.41 56 eP P 11 39 31.1 -9.5
comp=Z,212nm,1.1s,mb6.2
X15A **Humboldt** 68.41 62 P P 11 39 41.3 +0.6
baz=68,SNR=18
Z14A **Wintersburg** 68.72 64 P P 11 39 42.7 +0.1
baz=68,SNR=5.2
DZM **Mont Dzumac** 68.83 168 P P 11 39 41.8 -1.4
comp=Z,52nm,1.1s,mb5.4,baz=87,slow=18,SNR=14
MVCO **Mesa Verde** 68.84 58 eP P 11 39 43.4 +0.1
comp=Z,126nm,1.2s,mb5.7
FITZ **Fitzroy Crossi** 68.93 209 eP P 11 39 43.6 -0.3
comp=Z,74nm,0.9s,mb5.6
NB2 **NORSAR Subarra** 69.00 342 P P 11 39 44.0 -0.3
comp=Z,68nm,0.8s,mb5.6,baz=29,slow=6.5
NOA **NORSAR Array B** 69.00 342 P P 11 39 44.0 -0.3
comp=Z,18nm,0.5s,mb5.2,baz=26,slow=6.3,SNR=25
BORG **Borgarnes** 69.38 358 eP P 11 39 52.1 +5.5
comp=Z,154nm,1.0s,mb5.9
115A **Sonoran Desert** 69.61 64 P P 11 39 48.3 +0.2
baz=69,SNR=8.0
FOO **Floro** 69.72 345 eP P 11 39 53.0 +4.2
116A **Eloy** 70.03 64 P P 11 39 50.7 0.0
baz=70,SNR=9.2
EYMN **Ely** 70.20 41 eP P 11 39 50.6 -1.1
comp=Z,341nm,1.6s,mb6.0
SDCO **Great Sand Dun** 70.23 56 eP P 11 39 51.6 -0.3
comp=Z,192nm,1.0s,mb6.0
KONO **Kongsberg** 70.60 342 eP P 11 39 54.3 +0.1
KONO pmax pmax
comp=Z,234nm,1.6s,mb5.9
KONO **Kongsberg** 70.60 342 eP P 11 39 54.3 +0.1
comp=Z,234nm,1.6s,mb5.9
TUC **Tucson** 70.77 63 eP P 11 39 55.2 0.0
ECSD **EROS,Sioux Fal** 70.83 46 eP P 11 39 54.3 -1.3
comp=Z,216nm,0.9s,mb6.1
LAZ **Ladron** 71.56 59 eP P 11 40 00.9 +0.9
ANMO **Albuquerque** 71.59 59 eP P 11 40 00.3 +0.1
ANMO pmax pmax
comp=Z,50nm,1.1s
ANMO **Albuquerque** 71.59 59 eP P 11 40 00.3 +0.2
comp=Z,50nm,1.1s,mb5.4
KIV **Kislovodsk** 71.68 315 eP P 11 40 02.4 +1.7
comp=Z,1μm,1.9s,mb6.5,SNR=5.1
KIV **Kislovodsk** 71.68 315 eP P 11 40 02.1 +1.4
KIV pmax pmax
comp=Z,260nm,0.9s,mb6.2
KIV **Kislovodsk** 71.68 315 eP P 11 40 03.0 +2.3
comp=Z,1μm,1.9s,mb6.6
LENM **Lemitar** 71.82 60 eP P 11 40 01.8 +0.2
AS31 **Alice Springs** 71.86 199 eP P 11 40 01.8 0.0
ASAR **Alice Springs** 71.86 199 P P 11 40 02.2 +0.4
comp=Z,86nm,1.0s,mb5.7,baz=12,slow=5.2,SNR=30
ASAR **Alice Springs** 71.86 199 P P 11 40 02.1 +0.4
Y22C **IRIS PASSCAL I** 71.92 60 ⇑P P 11 40 03.3 +1.2
baz=72
LPM **Los Pinos Moun** 71.93 59 eP P 11 40 02.1 -0.1
ZEI **Tsey** 71.94 313 eP P 11 40 02.0 -0.3
ZEI pmax pmax
comp=Z,101nm,1.3s,mb5.6
BNM **Barren Site** 72.04 59 eP P 11 40 03.2 +0.3
AKASG **Malin Array Be** 72.40 327 P P 11 40 04.0 -1.1
comp=Z,22nm,0.6s,mb5.3,baz=34,slow=6.2,SNR=12
AKBB **Malin Array Si** 72.40 327 eP P 11 40 04.4 -0.6
KIEV **Kiev** 72.41 327 eP P 11 40 04.4 -0.7
KIEV pmax pmax
comp=Z,2μm,2.1s,mb6.7
KIEV **Kiev** 72.41 327 eP P 11 40 05.1 0.0
comp=Z,2μm,2.1s,mb6.7
CBKS **Cedar Bluff** 72.71 52 eP P 11 40 05.6 -1.3
CBKS pmax pmax
comp=Z,133nm,1.2s,mb5.7
CBKS **Cedar Bluff** 72.71 52 eP P 11 40 05.6 -1.3
comp=Z,133nm,1.2s,mb5.8
PALK **Pallekele** 73.26 263 eP P 11 40 10.1 -0.1
comp=Z,39nm,1.1s,mb5.2
GNI **Garni** 73.41 311 eP P 11 40 13.4 +2.4
GNI pmax pmax
comp=Z,518nm,1.4s
GNI **Garni** 73.41 311 eP P 11 40 13.4 +2.4
comp=Z,518nm,1.4s,mb6.3
ANN **Anapa** 73.55 318 eP P 11 40 11.0 -0.9
ANN pmax pmax
comp=Z,324nm,1.4s,mb6.1
SCHQ **Schefferville** 73.60 23 P P 11 40 11.4 -0.7
comp=Z,38nm,0.9s,mb5.3,baz=352,slow=5.5,SNR=10
SCHQ **Schefferville** 73.60 23 eP P 11 40 11.5 -0.7
comp=Z,116nm,1.1s,mb5.7
MBWA **Marble Bar** 73.87 213 eP P 11 40 12.9 -0.8
comp=Z,82nm,1.3s,mb5.5
SCIA **State Center** 73.87 46 eP P 11 40 12.9 -0.8
comp=Z,483nm,0.9s,mb6.4
KSU1 **Kansas State U** 74.19 50 eP P 11 40 13.6 -2.0
comp=Z,94nm,1.2s,mb5.6
AMTX **Amarillo** 74.43 56 eP P 11 40 17.2 +0.2
comp=Z,341nm,1.6s,mb6.0
MNTX **Cornudas Mount** 74.50 60 eP P 11 40 17.2 -0.3
comp=Z,103nm,1.3s,mb5.6
JFWS **Jewell Farm** 74.56 43 eP P 11 40 16.2 -1.5
JFWS pmax pmax
comp=Z,208nm,1.6s,mb5.8
JFWS **Jewell Farm** 74.56 43 eP P 11 40 16.2 -1.5
comp=Z,208nm,1.6s,mb5.8
SIM **Simferopol'** 74.94 320 eP P 11 40 20.8 +0.9
SIM pmax pmax
comp=Z,55nm,1.1s,mb5.4
TVAN **Van** 75.30 311 iP P 11 40 19.8 -2.2
ERZM **Erzurum** 75.33 313 iP P 11 40 24.6 +2.3
KWP **Kalwaria** 75.66 330 eP P 11 40 25.0 +0.9
WMOK **Wichita Mounta** 76.19 54 eP P 11 40 27.1 0.0
WMOK e 11 40 39.4
WMOK pmax pmax
comp=Z,120nm,1.4s,mb5.6
WMOK **Wichita Mounta** 76.19 54 eP P 11 40 26.9 -0.2
comp=Z,120nm,1.4s,mb5.6
STHS **Stebnicka Huta** 76.35 330 eP P 11 40 28.9 +0.9
STHS pmax pmax
comp=Z,30nm,1.1s,mb5.1
STHS **Stebnicka Huta** 76.35 330 eP P 11 40 28.9 +0.9
comp=Z,30nm,1.1s,mb5.1
KOLS **Kolonicke sedl** 76.40 330 eP P 11 40 28.7 +0.4
BURAR **Bucovina Array** 76.44 327 ⇑iP P 11 40 29.0 +0.5
BURAR **Bucovina Array** 76.44 327 ⇑P P 11 40 28.9 +0.4
UZH **Uzhgorod** 76.65 329 eP P 11 40 29.0 -0.8
KSP **Ksiaz** 76.72 334 eP P 11 40 30.0 -0.1
KSP **Ksiaz** 76.72 334 eP P 11 40 29.8 -0.3
OKC **Ostrava-Krasne** 77.02 332 eP P 11 40 31.7 -0.1
ESK **Eskdalemuir** 77.09 347 P P 11 40 37.2 +5.0
comp=Z,438nm,0.5s,mb6.6,SNR=15
UPC **Upice** 77.10 334 eP P 11 40 32.2 -0.1
DPC **Dobruska-Polom** 77.14 334 eP P 11 40 32.2 -0.3
WSAR **Wadi Sarin** 77.19 290 P P 11 40 32.6 -0.2
comp=Z,44nm,1.1s,mb5.3,baz=81,slow=3.7,SNR=5.5
LTX **Lajitas** 77.22 61 eP P 11 40 32.7 -0.2
LTX pmax pmax
comp=Z,237nm,0.7s,mb6.2
LTX **Lajitas** 77.22 61 eP P 11 40 32.7 -0.2
comp=Z,237nm,0.7s,mb6.2
TXAR **Lajitas Array** 77.22 61 P P 11 40 32.8 -0.2
comp=Z,104nm,1.0s,mb5.7,baz=303,slow=4.4,SNR=49
MORC **Moravsky Berou** 77.26 333 ⇑iP P 11 40 33.4 +0.2
MORC **Moravsky Berou** 77.26 333 eP P 11 40 33.5 +0.3
MORC pmax pmax
comp=Z,123nm,1.3s,mb5.7
MORC **Moravsky Berou** 77.26 333 eP P 11 40 33.5 +0.3
comp=Z,123nm,1.3s,mb5.7
CLL **Collm** 77.27 336 iP P 11 40 32.6 -0.6
CLL i 11 40 39.0
CLL i 11 40 48.3
CLL pmax pmax
comp=Z,276nm,1.8s,mb5.9
CLL **Collm** 77.27 336 iP P 11 40 32.6 -0.6
comp=Z,344nm,1.8s,mb6.0
CLL iSP sP 11 40 39.0 +0.9
CLL i (PcP) PcP 11 40 48.3 +4.5
BOYT **Boyabat** 77.34 318 iP P 11 40 35.0 +1.4
PLOR **Plostina** 77.34 325 ⇓iP P 11 40 34.3 +0.7
LIKS **Likavka** 77.39 331 eP P 11 40 34.4 +0.5
LIKS pmax pmax

comp=Z,49nm,1.2s,mb5.3
LIKS Likavka 77.39 331 *e*P **P** 11 40 34.4 +0.5
comp=Z,48nm,1.2s,mb5.3
KECS Kecovo 77.41 330 *e*P **P** 11 40 34.2 +0.2
KECS pmax pmax
comp=Z,23nm,1.2s,mb5.0
KECS Kecovo 77.41 330 *e*P **P** 11 40 34.2 +0.2
comp=Z,23nm,1.2s,mb5.0
WBK P 11 46 58.7
SNR=8.4
WBK Wadi Bani Khal 77.41 289 P **P** 11 40 36.0 +2.0
SNR=9.1
PVCC Panska Ves 77.51 335 *e*P **P** 11 40 34.1 -0.5
WIT Witteveen 77.53 340 *e*P **P** 11 40 38.8 +4.2
ELZG Elazig 77.61 313 *i*P **P** 11 40 36.9 +1.8
TIRR Tirgusor 77.77 323 ⇑*i*P **P** 11 40 36.5 +0.5
TIRR Tirgusor 77.77 323 *e*P **P** 11 40 35.9 -0.1
TIRR pmax pmax
comp=Z,109nm,1.3s,mb5.6
TIRR Tirgusor 77.77 323 *e*P **P** 11 40 35.9 -0.1
comp=Z,109nm,1.3s,mb5.6
SLM Saint Louis 77.83 46 *e*P **P** 11 40 35.4 -1.0
SLM pmax pmax
comp=Z,300nm,1.3s,mb6.1
SLM Saint Louis 77.83 46 *e*P **P** 11 40 35.5 -0.9
comp=Z,297nm,1.4s,mb6.0
MLR Muntele Rosu 77.92 326 ⇓*i*P **P** 11 40 37.6 +0.7
MLR Muntele Rosu 77.92 326 ⇓P **P** 11 40 37.6 +0.8
BALT Daday 77.95 319 *i*P **P** 11 40 38.0 +1.0
VYHS Vyhne 77.96 331 *e*P **P** 11 40 37.4 +0.3
VYHS pmax pmax
comp=Z,132nm,1.9s,mb5.5
VYHS Vyhne 77.96 331 *e*P **P** 11 40 37.4 +0.3
comp=Z,132nm,1.9s,mb5.5
PRA Prague 77.96 335 P **P** 11 40 38.0 +0.9
VRAC Vranov 77.97 333 ⇑*i*P **P** 11 40 37.7 +0.5
VRAC Vranov 77.97 333 ⇑P **P** 11 40 37.7 +0.6
PRU Pruhonice 78.00 335 *e*P **P** 11 40 37.2 -0.1
CTKT Corum 78.01 317 *i*P **P** 11 40 38.6 +1.2
MALT Malatya 78.03 314 ⇑*i*P **P** 11 40 39.3 +1.8
MALT Malatya 78.03 314 *e*P **P** 11 40 39.3 +1.8
MALT pmax pmax
comp=Z,240nm,1.5s,mb5.9
MALT Malatya 78.03 314 *e*P **P** 11 40 39.3 +1.8
comp=Z,239nm,1.5s,mb5.9
DRGR 78.06 328 ⇑*i*P **P** 11 40 37.7 +0.1
DRGR 78.06 328 ⇑P **P** 11 40 37.7 +0.1
AAM Ann Arbor 78.08 40 P **P** 11 40 37.2 -0.5
AAM pmax pmax
comp=Z,410nm,1.5s,mb6.1
AAM Ann Arbor 78.08 40 *e*P **P** 11 40 37.4 -0.4
comp=Z,410nm,1.5s,mb6.1
PSZ Piszkesteto 78.10 330 ⇓*i*P **P** 11 40 38.4 +0.6
PSZ Piszkesteto 78.10 330 *e*P **P** 11 40 38.0 +0.2
PSZ pmax pmax
comp=Z,212nm,1.6s,mb5.8
PSZ Piszkesteto 78.10 330 *e*P **P** 11 40 38.0 +0.2
comp=Z,212nm,1.6s,mb5.8
FVM French Village 78.23 47 *e*P **P** 11 40 37.4 -1.2
FVM pmax pmax
comp=Z,303nm,1.6s,mb6.0
FVM French Village 78.23 47 *e*P **P** 11 40 37.4 -1.2
comp=Z,304nm,1.6s,mb6.0
MOX Moxa 78.25 337 *e*P **P** 11 40 38.7 0.0
WTSB Winterswijk 78.28 340 *e*P **P** 11 40 42.9 +4.0
comp=Z,206nm,1.5s,mb5.8
VOIR 78.31 326 ⇓*i*P **P** 11 40 35.4 -3.6
NKC Novy Kostel 78.39 336 *e*P **P** 11 40 39.1 -0.4
SMOL Smolenice 78.40 332 *e*P **P** 11 40 40.8 +1.3
STKA Stephens Creek 78.48 191 *e*P **P** 11 40 39.8 -0.2
comp=Z,10nm,0.9s,mb4.8
STKA Stephens Creek 78.48 191 P **P** 11 40 38.7 -1.3
comp=Z,15nm,1.0s,mb4.9,baz=347,slow=11,SNR=5.0
JCT Junction City 78.70 58 *e*P **P** 11 40 41.1 -0.1
JCT pmax pmax
comp=Z,221nm,1.3s,mb5.9
JCT Junction City 78.70 58 *e*P **P** 11 40 41.1 -0.1
comp=Z,221nm,1.3s,mb5.9
ELDT Eldivan 78.76 318 *i*P **P** 11 40 42.5 +1.0
ZST Bratislava 78.79 332 *e*P **P** 11 40 43.1 +1.5
ZST Bratislava 78.79 332 *e*P **P** 11 40 43.2 +1.6
ZST pmax pmax
comp=Z,43nm,1.3s,mb5.2
ZST Bratislava 78.79 332 *e*P **P** 11 40 43.2 +1.6
comp=Z,43nm,1.3s,mb5.2
KHC Kasperske Hory 79.05 335 *e*P **P** 11 40 43.2 +0.1
GZR Gura Zlata 79.22 327 ⇑*i*P **P** 11 40 44.7 +0.7
GZR Gura Zlata 79.22 327 ⇑P **P** 11 40 44.6 +0.6
GZR Gura Zlata 79.22 327 ⇑P **P** 11 40 44.7 +0.7
GRA1 Grafenberg Arr 79.22 336 *e*P **P** 11 40 44.1 +0.1
comp=Z,249nm,1.7s,mb5.9
GRF Grafenberg Arr 79.22 336 *e*P **P** 11 40 44.1 +0.1
comp=Z,249nm,1.7s,mb5.9
GRF Grafenberg Arr 79.22 336 *e*P **P** 11 40 44.1 +0.1
GRF pmax pmax
comp=Z,249nm,1.7s,mb5.9
GRFO Grafenberg 79.22 336 *e*P **P** 11 40 44.4 +0.4
BR131 Keskin Array S 79.26 317 *e*P **P** 11 40 44.8 +0.5
comp=Z,36nm,0.9s,mb5.3
BRTR Keskin Array B 79.26 317 P **P** 11 40 43.7 -0.6
comp=Z,30nm,1.0s,mb5.2,baz=60,slow=3.0,SNR=16
GEC2 GERESS Array S 79.27 335 *e*P **P** 11 40 44.1 -0.2
GERES GERESS Array B 79.27 335 P **P** 11 40 43.6 -0.7
comp=Z,14nm,0.8s,mb4.9,baz=32,slow=5.2,SNR=9.3
SGKT Sivrigoynuk 79.32 319 *i*P **P** 11 40 45.9 +1.3
CONA Conrad Observa 79.42 333 ⇓*i*P **P** 11 40 45.8 +0.7
comp=Z,88nm,1.6s,mb5.4
AVNT Avonos 79.43 316 *i*P **P** 11 40 46.1 +0.9
BZS Buzias 79.46 328 ⇑*i*P **P** 11 40 44.9 -0.4
BZS Buzias 79.46 328 ⇑P **P** 11 40 44.9 -0.4
UMR Umm Al-Rimmam 79.49 302 *e*P **P** 11 40 45.6 +0.1
UMR AMb AMB 11 41 34.0
comp=Z,465nm,0.9s,mb6.4
MIB Mutribah 79.53 302 *e*P **P** 11 40 45.8 +0.1
MIB AMb AMB 11 41 34.1
comp=Z,593nm,0.8s,mb6.5
DLF Lyons Farm 79.54 348 *e*P **P** 11 40 43.2 -2.6
ANTO Ankara 79.55 318 ⇑*i*P **P** 11 40 46.8 +1.0
ANTO Ankara 79.55 318 *e*P **P** 11 40 46.5 +0.7
ANTO pmax pmax
comp=Z,224nm,1.5s,mb5.9
ANTO Ankara 79.55 318 *e*P **P** 11 40 46.5 +0.7
comp=Z,224nm,1.5s,mb5.9
DSB Dublin 79.57 348 *e*P **P** 11 40 45.4 -0.5
comp=Z,82nm,1.0s,mb5.6
DCN Croghan 79.60 349 *e*P **P** 11 40 43.6 -2.5
BEBN Eben Emael 79.63 340 P **P** 11 40 46.0 -0.3
comp=Z,44nm,0.9s,mb5.4
BEBN AP pP 11 40 49.9 0.0
MEM Membach 79.73 340 P **P** 11 40 46.4 -0.4
comp=Z,94nm,0.9s,mb5.7
MEM E 11 40 52.6
LONY Lake Ozonia 79.91 33 *e*P **P** 11 40 46.2 -1.6
comp=Z,118nm,1.5s,mb5.6
UCC Uccle 79.93 341 P **P** 11 40 48.0 +0.1
UCC XP sP 11 40 51.7 -1.1
TOD Tromm 79.95 338 *e*P **P** 11 40 48.4 +0.4
QRN Al-Qurain 79.96 301 *e*P **P** 11 40 47.8 -0.3
QRN AMb AMB 11 41 36.6
comp=Z,526nm,0.9s,mb6.5
MOA Molln 79.99 334 ⇓*i*P **P** 11 40 48.3 +0.2
comp=Z,86nm,1.2s,mb5.6
MOA Molln 79.99 334 P **P** 11 40 48.4 +0.2
NAY Al-Naaiem 79.99 302 *e*P **P** 11 40 48.2 0.0
NAY AMb AMB 11 41 36.6
comp=Z,272nm,0.9s,mb6.2
PKSM Moragy 80.00 330 ⇓*i*P **P** 11 40 46.2 -2.1
ABH Alteburg 80.02 339 *e*P **P** 11 40 48.6 +0.2
RDF Al-Radifah 80.04 301 *e*P **P** 11 40 48.6 +0.1
RDF AMb AMB 11 41 43.3
comp=Z,1μm,1.3s,mb6.6
BCLA Clavier 80.07 340 P **P** 11 40 48.2 -0.4
comp=Z,65nm,1.0s,mb5.5
WCI Wyandotte Cave 80.09 44 *e*P **P** 11 40 48.1 -0.6
WCI pmax pmax
comp=Z,270nm,1.0s,mb6.1
WCI Wyandotte Cave 80.09 44 *e*P **P** 11 40 48.4 -0.3
comp=Z,271nm,1.0s,mb6.1
FORT Forrest 80.11 203 *e*P **P** 11 40 49.1 +0.2
comp=Z,70nm,1.2s,mb5.5
ARSA Arzberg 80.13 333 ⇑*i*P **P** 11 40 49.8 +0.9
comp=Z,66nm,1.1s,mb5.5
ALLY Alegheny Colle 80.14 38 *e*P **P** 11 40 48.3 -0.7
SNF Seneffe 80.22 341 P **P** 11 40 49.7 +0.3
comp=Z,33nm,1.2s,mb5.1
SNF XP sP 11 40 53.5 -0.9
UTMT University of 80.29 47 *e*P **P** 11 40 49.4 -0.4
comp=Z,588nm,1.4s,mb6.3
RUP Ruppelstein 80.31 339 *e*P **P** 11 40 50.3 +0.4
KTD Kalmit 80.40 338 *e*P **P** 11 40 50.8 +0.4
GIVF Givet 80.48 340 *e*P **P** 11 40 50.1 -0.7
COBT Iskenderun 80.51 314 *i*P **P** 11 40 52.1 +1.1
DOU Dourbes 80.54 341 P **P** 11 40 50.9 -0.2
comp=Z,25nm,1.1s,mb5.1
WLF Walferdange 80.57 340 P **P** 11 40 51.7 +0.3
WLF XP sP 11 40 55.6 -0.6
WLF Walferdange 80.57 340 *e*P **P** 11 40 52.1 +0.8
WLF pmax pmax
comp=Z,542nm,2.0s,mb6.1
WLF Walferdange 80.57 340 *e*P **P** 11 40 52.1 +0.8
comp=Z,542nm,2.0s,mb6.1
NCB Newcomb 80.60 33 *e*P **P** 11 40 50.3 -1.2
comp=Z,80nm,1.1s,mb5.6
STU Stuttgart 80.61 337 *e*P **P** 11 40 52.4 +0.8
STU pmax pmax
comp=Z,102nm,1.0s,mb5.7
STU Stuttgart 80.61 337 *e*P **P** 11 40 52.4 +0.9
comp=Z,102nm,1.0s,mb5.7
BAIF Baives 80.66 341 *e*P **P** 11 40 51.2 -0.6
ESKT Eskisehir 80.72 319 *i*P **P** 11 40 51.7 -0.4
LANF Langenberg 80.79 338 *e*P **P** 11 40 52.7 +0.2
KBA Koelnbreinsper 80.96 334 *i*P **P** 11 40 53.9 +0.5
comp=Z,130nm,1.0s,mb5.8,SNR=12
KBA Koelnbreinsper 80.96 334 P **P** 11 40 53.9 +0.5
WVT Waverly 80.98 46 *e*P **P** 11 40 52.7 -0.8
OBKA Obir 81.09 333 ⇑*i*P **P** 11 40 54.4 +0.3
comp=Z,39nm,1.1s,mb5.3
OBKA Obir 81.09 333 P **P** 11 40 54.4 +0.3
STR Strasbourg 81.16 338 *e*P **P** 11 40 55.5 +1.0
BFO Black Forest 81.25 338 P **P** 11 40 55.7 +0.7
comp=Z,433nm,1.1s,mb6.3,SNR=9.7
BFO Black Forest 81.25 338 *e*P **P** 11 40 54.7 -0.3
BFO pmax pmax
comp=Z,108nm,1.1s,mb5.7
BFO Black Forest 81.25 338 *e*P **P** 11 40 54.7 -0.3
comp=Z,108nm,1.1s,mb5.7
WATA Walderalm 81.25 335 ⇑*i*P **P** 11 40 56.5 +1.5
comp=Z,203nm,1.5s,mb5.8,SNR=6.6
PKME Peaks-Kenny Pk 81.26 29 *e*P **P** 11 40 54.3 -0.7
comp=Z,234nm,1.6s,mb5.9
WTTA Wattenberg 81.30 335 *i*P **P** 11 40 56.0 +0.7
comp=Z,210nm,1.3s,mb5.9,SNR=10
WTTA Wattenberg 81.30 335 P **P** 11 40 56.0 +0.7
ACCN Adirondack Com 81.31 33 *e*P **P** 11 40 53.8 -1.5
SPAK Spaichingen-Ko 81.34 337 *e*P **P** 11 40 55.7 +0.3
MOTA Moosalm 81.38 336 *i*P **P** 11 40 56.7 +1.0
comp=Z,148nm,1.1s,mb5.8,SNR=10
VTS Vitosha 81.43 326 ⇑*i*P **P** 11 40 56.4 +0.5
VTS Vitosha 81.43 326 ⇑P **P** 11 40 56.4 +0.5
WLS Welschbruch 81.43 338 *e*P **P** 11 40 56.4 +0.5
OXF Oxford 81.43 48 *e*P **P** 11 40 54.4 -1.5
OXF pmax pmax
comp=Z,224nm,1.1s,mb6.0
OXF Oxford 81.43 48 *e*P **P** 11 40 54.4 -1.5
comp=Z,224nm,1.1s,mb6.0
CDF Champ du Feu 81.45 338 *e*P **P** 11 40 55.6 -0.4
comp=Z,210nm,1.1s,mb5.7
CDF Champ du Feu 81.45 338 *e*P **P** 11 40 55.6 -0.4
CDF pmax pmax
comp=Z,105nm,1.1s,mb5.7
CDF Champ du Feu 81.45 338 *e*P **P** 11 40 55.6 -0.4
comp=Z,105nm,1.1s,mb5.7
SQTA Sankt Quirin 81.46 335 *i*P **P** 11 40 56.9 +0.8
comp=Z,116nm,1.2s,mb5.7,SNR=13
LIBD Limburg 81.61 338 *e*P **P** 11 40 57.3 +0.5
ECH Echery 81.66 338 *e*P **P** 11 40 57.0 -0.1
FELD Feldberg im Sc 81.75 338 *e*P **P** 11 40 57.7 +0.1
DAVA Damuels 81.78 336 *i*P **P** 11 40 58.7 +0.9
comp=Z,83nm,1.2s,mb5.5,SNR=7.3
BTOK Tokmak 81.78 321 *i*P **P** 11 40 57.8 0.0
MEZF Maizieres J'vi 81.92 340 *e*P **P** 11 40 58.1 -0.4
comp=Z,361nm,1.2s,mb5.8
MEZF Maizieres J'vi 81.92 340 *e*P **P** 11 40 58.1 -0.4
comp=Z,361nm,1.2s,mb6.2
SSPA Standing Stone 81.94 37 *e*P **P** 11 40 58.1 -0.5
THEF They Montfort 81.94 339 *e*P **P** 11 40 58.6 0.0
KVTX Kingsville 81.99 58 *e*P **P** 11 41 00.2 +1.3
comp=Z,214nm,1.3s,mb5.9
MOF Molkenrain 82.00 338 *e*P **P** 11 40 59.0 +0.1
HAU Haudompre 82.06 339 *e*P **P** 11 40 58.6 -0.6
comp=Z,75nm,0.8s,mb5.4
HAU Haudompre 82.06 339 *e*P **P** 11 40 58.6 -0.6
HAU pmax pmax
comp=Z,38nm,0.8s,mb5.4
HAU Haudompre 82.06 339 *e*P **P** 11 40 58.6 -0.6
comp=Z,38nm,0.8s,mb5.4
HINF Hinteralfeld 82.11 338 *e*P **P** 11 40 58.7 -0.8
comp=Z,148nm,1.4s,mb5.4
HINF Hinteralfeld 82.11 338 *e*P **P** 11 40 58.7 -0.8
HINF pmax pmax
comp=Z,74nm,1.4s,mb5.4
HINF Hinteralfeld 82.11 338 *e*P **P** 11 40 58.7 -0.8
comp=Z,74nm,1.4s,mb5.4
TKTP Tekketepe 82.16 318 *i*P **P** 11 41 00.1 +0.3
BBS Basel-Blauen 82.26 338 *e*P **P** 11 41 00.7 +0.4
LOMF Lomont 82.54 338 *e*P **P** 11 41 02.5 +0.7
SKO Skopje 82.64 326 *i*P **P** 11 41 03.6 +1.3
AYVA Ayvalik 82.74 322 *i*P **P** 11 41 01.6 -1.2
TZTN Tazewell 82.75 43 *e*P **P** 11 41 02.3 -0.5
comp=Z,284nm,1.5s,mb6.1
VAY Valandovo 82.75 325 *i*P **P** 11 41 02.7 -0.2
BHL Bhannes 82.86 312 *e*Pn **P** 11 41 03.8 +0.3
FLN La Foliniere 82.89 343 *e*P **P** 11 41 02.7 -0.9
PRK Paraskevi 82.97 322 *e*P **P** 11 41 04.1 +0.1
LDF La Druitiere 82.98 343 *e*P **P** 11 41 03.1 -0.9
comp=Z,94nm,1.1s,mb5.4
LDF La Druitiere 82.98 343 *e*P **P** 11 41 03.1 -0.9
LDF pmax pmax
comp=Z,47nm,1.1s,mb5.4
LDF La Druitiere 82.98 343 *e*P **P** 11 41 03.1 -0.9
comp=Z,47nm,1.1s,mb5.4
LUPA Lehigh Univers 83.01 36 *e*P **P** 11 41 03.4 -0.8
DNZL Cakiroluk 83.03 319 *i*P **P** 11 41 08.7 +4.4
RCY Rachaya 83.11 312 *e*Pn **P** 11 41 05.2 +0.5
FWV Forest Hill 83.18 41 *e*P **P** 11 41 04.4 -0.6
CSS Prodhromos 83.20 315 *e*P **P** 11 41 05.6 +0.5
comp=Z,667nm,0.4s
PLG Polygyros 83.21 324 *e*P **P** 11 41 04.5 -0.7
KRUS Krusevo 83.23 326 *i*P **P** 11 41 05.9 +0.5
KDAG Bornova 83.24 321 *i*P **P** 11 41 05.2 -0.1
PAL Palisades 83.25 34 P **P** 11 41 04.6 -0.8
PAL pmax pmax
comp=Z,160nm,1.2s,mb5.9
PAL Palisades 83.25 34 *e*P **P** 11 41 04.7 -0.8
comp=Z,162nm,1.3s,mb5.9
BRNJ Basking Ridge 83.26 35 *e*P **P** 11 41 05.1 -0.4
GRR Gorron 83.32 343 *e*P **P** 11 41 05.1 -0.7
comp=Z,589nm,1.6s,mb6.1
GRR Gorron 83.32 343 *e*P **P** 11 41 05.1 -0.7
GRR pmax pmax
comp=Z,295nm,1.6s,mb6.1
GRR Gorron 83.32 343 *e*P **P** 11 41 05.1 -0.7
comp=Z,295nm,1.6s,mb6.1
LOR Lormes 83.36 340 *e*P **P** 11 41 05.3 -0.7
comp=Z,249nm,1.1s,mb5.8
LOR Lormes 83.36 340 *e*P **P** 11 41 05.3 -0.7
LOR pmax pmax
comp=Z,125nm,1.1s,mb5.9
LOR Lormes 83.36 340 *e*P **P** 11 41 05.3 -0.7
comp=Z,124nm,1.1s,mb5.8
SDMD Soldier's Deli 83.40 37 *e*P **P** 11 41 11.7 +5.5
CPNY Central Park 83.41 35 *e*P **P** 11 41 05.5 -0.8
CABF La Chapelle 83.42 338 *e*P **P** 11 41 06.1 -0.2
comp=Z,610nm,1.7s,mb6.0
CABF La Chapelle 83.42 338 *e*P **P** 11 41 06.1 -0.2
CABF pmax pmax
comp=Z,305nm,1.7s,mb6.0
CABF La Chapelle 83.42 338 *e*P **P** 11 41 06.1 -0.2
comp=Z,305nm,1.7s,mb6.0
ELN Prospectdale 83.50 41 *e*P **P** 11 41 06.0 -0.8
ASF Jabal al Asfar 83.57 311 P **P** 11 41 08.1 +1.0
comp=Z,104nm,1.1s,mb5.9,baz=238,slow=1.7,SNR=20
OHR Ohrid 83.62 326 *i*P **P** 11 41 06.5 -0.9
SSF Saint Saulge 83.63 340 *e*P **P** 11 41 06.8 -0.6
comp=Z,101nm,0.9s,mb5.6
SSF Saint Saulge 83.63 340 *e*P **P** 11 41 06.8 -0.6
SSF pmax pmax
comp=Z,51nm,0.9s,mb5.7
SSF Saint Saulge 83.63 340 *e*P **P** 11 41 06.8 -0.6
comp=Z,51nm,0.9s,mb5.7
HYF Humbligny 83.64 341 *e*P **P** 11 41 07.2 -0.2
BLA Blacksburg 83.66 41 *e*P **P** 11 41 06.9 -0.7
BLA pmax pmax
comp=Z,216nm,1.0s,mb6.2
BLA Blacksburg 83.66 41 *e*P **P** 11 41 06.9 -0.7
comp=Z,216nm,1.0s,mb6.2
SGMF Saint Gilles 83.78 345 *e*P **P** 11 41 07.5 -0.6
ROSF Rostrenen 83.83 345 *e*P **P** 11 41 07.8 -0.6
comp=Z,279nm,1.3s,mb5.9
ROSF Rostrenen 83.83 345 *e*P **P** 11 41 07.8 -0.6
ROSF pmax pmax
comp=Z,139nm,1.3s,mb5.9
ROSF Rostrenen 83.83 345 *e*P **P** 11 41 07.8 -0.6
comp=Z,139nm,1.3s,mb5.9
AVF Avril sur Loir 83.92 340 *e*P **P** 11 41 08.3 -0.6
comp=Z,323nm,1.2s,mb6.0
AVF Avril sur Loir 83.92 340 *e*P **P** 11 41 08.3 -0.6
AVF pmax pmax
comp=Z,161nm,1.2s,mb6.0
AVF Avril sur Loir 83.92 340 *e*P **P** 11 41 08.3 -0.6
comp=Z,161nm,1.2s,mb6.0
SMF Signal de Mont 83.94 340 *e*P **P** 11 41 08.5 -0.5
comp=Z,710nm,1.3s,mb6.3
SMF Signal de Mont 83.94 340 *e*P **P** 11 41 08.5 -0.5
SMF pmax pmax
comp=Z,355nm,1.3s,mb6.3
SMF Signal de Mont 83.94 340 *e*P **P** 11 41 08.5 -0.5
comp=Z,355nm,1.3s,mb6.3
SFJM Santa Fe 84.00 67 *e*P **P** 11 41 09.0 -0.3
KSL Kastellorizon 84.04 318 *e*P **P** 11 41 09.5 0.0
KLBR Kellerberrin 84.07 211 *e*P **P** 11 41 08.7 -0.9
comp=Z,164nm,1.7s,mb5.9
CBN Corbin 84.19 38 *e*P **P** 11 41 09.8 -0.4
comp=Z,231nm,1.1s,mb6.2
NEO Neokhori 84.20 324 *e*P **P** 11 41 10.6 +0.3
QUIF Quistinic 84.21 345 *e*P **P** 11 41 09.7 -0.7
BGF Bois d'Agland 84.26 340 *e*P **P** 11 41 10.2 -0.4
BDRM Kayabasi 84.27 320 *i*P **P** 11 41 09.9 -0.7
LPL La Plagne 84.27 338 *e*P **P** 11 41 11.1 +0.5
comp=Z,319nm,1.1s,mb6.0
LPL La Plagne 84.27 338 *e*P **P** 11 41 11.1 +0.5
LPL pmax pmax
comp=Z,159nm,1.1s,mb6.1
LPL La Plagne 84.27 338 *e*P **P** 11 41 11.1 +0.5
comp=Z,159nm,1.1s,mb6.1
LPG La Plagne 84.28 338 *e*P **P** 11 41 11.3 +0.6
comp=Z,512nm,1.2s,mb6.2
LPG La Plagne 84.28 338 *e*P **P** 11 41 11.3 +0.6
LPG pmax pmax
comp=Z,256nm,1.2s,mb6.2
LPG La Plagne 84.28 338 *e*P **P** 11 41 11.3 +0.6
comp=Z,256nm,1.2s,mb6.2
PLDF La Plantade 84.63 340 *e*P **P** 11 41 13.1 +0.6
ARG Arkhangelos 84.66 319 *e*P **P** 11 41 12.5 -0.1
TCF Toulx Ste Croi 84.66 341 *e*P **P** 11 41 12.4 -0.2
AGO Saint Agoulin 84.67 340 *e*P **P** 11 41 14.9 +2.2
BNI Bardonecchia 84.71 337 *e*P **P** 11 41 13.6 +0.7
BNI pmax pmax
comp=Z,156nm,0.8s,mb6.2
BNI Bardonecchia 84.71 337 *e*P **P** 11 41 13.6 +0.7
comp=Z,156nm,0.8s,mb6.2
GDM Grand'Maison 84.72 338 ⇑*e*P **P** 11 41 13.9 +1.0
GRN Grenoble 84.78 338 ⇑*e*P **P** 11 41 14.4 +1.2
JAN Janina 84.86 326 *e*P **P** 11 41 13.5 -0.1
MFF Saint Martin d 84.88 342 *e*P **P** 11 41 13.2 -0.5
comp=Z,48nm,0.9s,mb5.3
MFF Saint Martin d 84.88 342 *e*P **P** 11 41 13.2 -0.5
MFF pmax pmax
comp=Z,24nm,0.9s,mb5.3
MFF Saint Martin d 84.88 342 *e*P **P** 11 41 13.2 -0.5
comp=Z,24nm,0.9s,mb5.3
MUN Mundaring 84.97 212 *e*P **P** 11 41 12.7 -1.5
PYM Petit Puy Mans 84.98 340 *e*P **P** 11 41 15.7 +1.4
MBDF Montbardon 84.99 337 *e*P **P** 11 41 14.1 -0.2
PTL Penteli 85.00 323 *e*P **P** 11 41 12.9 -1.4
ORIF Oris-en-Rattie 85.05 338 *e*P **P** 11 41 14.9 +0.3
comp=Z,136nm,0.7s,mb5.9
ORIF Oris-en-Rattie 85.05 338 *e*P **P** 11 41 14.9 +0.3
ORIF pmax pmax
comp=Z,68nm,0.7s,mb5.9
ORIF Oris-en-Rattie 85.05 338 *e*P **P** 11 41 14.9 +0.3
comp=Z,68nm,0.7s,mb5.9
ATH Athens Observa 85.13 323 *e*P **P** 11 41 14.0 -1.0
AQU L'Aquila 85.17 332 ⇑*i*P **P** 11 41 17.1 +1.9
AQU L'Aquila 85.17 332 ⇑P **P** 11 41 17.1 +1.9
SURF Saint Ours 85.20 337 ⇑*e*P **P** 11 41 16.5 +1.1
KEK Kerkira 85.22 326 *e*P **P** 11 41 15.0 -0.4
KVR Kavouri 85.23 323 *e*P **P** 11 41 14.5 -1.0
BRAL Brewton 85.40 49 *e*P **P** 11 41 15.9 -0.4
comp=Z,96nm,0.8s,mb6.0
NAIG Nisos Aigina 85.40 323 *e*P **P** 11 41 14.5 -1.9
VIVF Saint-Julien-l 85.42 339 *e*P **P** 11 41 16.6 +0.2
comp=Z,116nm,1.0s,mb5.7
VIVF Saint-Julien-l 85.42 339 *e*P **P** 11 41 16.6 +0.2
VIVF pmax pmax
comp=Z,58nm,1.0s,mb5.7
VIVF Saint-Julien-l 85.42 339 *e*P **P** 11 41 16.6 +0.2
comp=Z,58nm,1.0s,mb5.7
SAOF Saorge 85.46 336 *e*P **P** 11 41 16.7 +0.1
NWAO Narrogin (SRO) 85.46 210 P **P** 11 41 16.3 -0.4
NWAO pmax pmax
comp=Z,110nm,1.1s
NWAO Narrogin (SRO) 85.46 210 *e*P **P** 11 41 16.0 -0.7
comp=Z,106nm,1.1s,mb5.9
AUTN L'Aution 85.49 337 *e*P **P** 11 41 17.0 +0.2
TOUF Mont Tournerai 85.52 337 *e*P **P** 11 41 17.5 +0.6
LUCF Luceram 85.60 337 *e*P **P** 11 41 17.6 +0.2
SBF Sospel 85.61 336 *e*P **P** 11 41 16.8 -0.6
comp=Z,381nm,0.9s,mb6.3
SBF Sospel 85.61 336 *e*P **P** 11 41 16.8 -0.6
SBF pmax pmax
comp=Z,191nm,0.9s,mb6.3
SBF Sospel 85.61 336 *e*P **P** 11 41 16.8 -0.6
comp=Z,191nm,0.9s,mb6.3
MVIF Mont Vial 85.65 337 *e*P **P** 11 41 17.6 0.0
LHS Liberty Hill 85.73 43 *e*P **P** 11 41 17.5 -0.5
REVF Revere 85.74 336 *e*P **P** 11 41 18.1 +0.1
STOF St-Etienne Org 85.89 338 *e*P **P** 11 41 20.0 +1.2
CAF Calviac 85.98 340 *e*P **P** 11 41 18.6 -0.6
comp=Z,58nm,1.1s,mb5.4
CAF Calviac 85.98 340 *e*P **P** 11 41 18.6 -0.6
CAF pmax pmax
comp=Z,29nm,1.1s,mb5.4
CAF Calviac 85.98 340 *e*P **P** 11 41 18.6 -0.6
comp=Z,29nm,1.1s,mb5.4
SMRF Simiane la Rot 86.00 338 *e*P **P** 11 41 19.8 +0.5
comp=Z,86nm,1.1s,mb5.6
SMRF Simiane la Rot 86.00 338 *e*P **P** 11 41 19.8 +0.5
comp=Z,86nm,1.1s,mb5.9
VILF Villemus 86.08 338 *e*P **P** 11 41 20.9 +1.2
FRF La Foret Royal 86.10 337 *e*P **P** 11 41 19.4 -0.4
comp=Z,357nm,1.5s,mb6.1
FRF La Foret Royal 86.10 337 *e*P **P** 11 41 19.4 -0.4
FRF pmax pmax
comp=Z,179nm,1.5s,mb6.1
FRF La Foret Royal 86.10 337 *e*P **P** 11 41 19.4 -0.4
comp=Z,179nm,1.5s,mb6.1
TAVF Tavernes 86.21 337 *e*P **P** 11 41 21.3 +0.9
VLS Valsamata 86.23 325 *e*P **P** 11 41 19.0 -1.5
LFF La Frestale 86.27 341 *e*P **P** 11 41 19.6 -1.1
PRAF Pradon 86.27 338 *e*P **P** 11 41 19.5 -1.2
LMR La Mourre 86.35 337 *e*P **P** 11 41 20.8 -0.3
comp=Z,381nm,1.1s,mb6.2
LMR La Mourre 86.35 337 *e*P **P** 11 41 20.8 -0.3
LMR pmax pmax
comp=Z,191nm,1.1s,mb6.2
LMR La Mourre 86.35 337 *e*P **P** 11 41 20.8 -0.3
comp=Z,191nm,1.1s,mb6.2
LASF Ste Croix 86.35 339 *e*P **P** 11 41 20.3 -0.8
comp=Z,272nm,1.7s,mb5.9
PGF Pioggiola 86.37 335 *e*P **P** 11 41 20.6 -0.5
comp=Z,511nm,1.6s,mb6.2
PGF Pioggiola 86.37 335 *e*P **P** 11 41 20.6 -0.5
PGF pmax pmax
comp=Z,256nm,1.6s,mb6.2
PGF Pioggiola 86.37 335 *e*P **P** 11 41 20.6 -0.5
comp=Z,256nm,1.6s,mb6.2
TREF Trevaresse 86.38 338 *e*P **P** 11 41 22.8 +1.6
PUYF Puyloubier 86.38 338 *e*P **P** 11 41 21.2 0.0
VLI Veliai 86.52 323 *e*P **P** 11 41 20.0 -1.9
ITM Ithomi 86.55 324 *e*P **P** 11 41 20.5 -1.5
NPS Neapolis 86.58 320 *e*P **P** 11 41 21.0 -1.2
BERF Bertagne 86.59 337 *e*P **P** 11 41 23.3 +1.1
GELF Grande-Etoile 86.59 338 *e*P **P** 11 41 21.7 -0.6
COW Cow Castle Cre 86.67 43 *e*P **P** 11 41 22.7 0.0

TIP	Timpagrande	86.83	328	*e*P		P		11 41 23.7	+0.3
KYTH	Kithira	86.85	322	*e*P		P		11 41 22.1	-1.4
XRY	Khrisi	86.87	320	*e*P		P		11 41 23.5	-0.1
VAM	Vamos	87.09	321	*e*P		P		11 41 23.5	-1.2
IIO	Organos	87.39	64	*i* P		P		11 41 27.2	+1.0
MTLF	Montolieu	87.44	340	*e*P		P		11 41 25.3	-1.1
	comp=Z,63nm,1.2s,mb5.4								
MTLF	Montolieu	87.44	340	*e*P		P		11 41 25.3	-1.1
MTLF				pmax	pmax				
	comp=Z,31nm,1.2s,mb5.4								
MTLF	Montolieu	87.44	340	*e*P		P		11 41 25.3	-1.1
	comp=Z,31nm,1.2s,mb5.4								
EPF	Esparros	88.17	341	*e*P		P		11 41 28.1	-1.8
	comp=Z,228nm,1.8s,mb5.8								
EPF	Esparros	88.17	341	*e*P		P		11 41 28.1	-1.8
EPF				pmax	pmax				
	comp=Z,114nm,1.8s,mb5.8								
EPF	Esparros	88.17	341	*e*P		P		11 41 28.1	-1.8
	comp=Z,114nm,1.8s,mb5.8								
ETSF	Etsaut	88.50	342	*e*P		P		11 41 30.4	-1.0
	comp=Z,162nm,1.7s,mb5.8								
ETSF	Etsaut	88.50	342	*e*P		P		11 41 30.4	-1.0
ETSF				pmax	pmax				
	comp=Z,81nm,1.7s,mb5.8								
ETSF	Etsaut	88.50	342	*e*P		P		11 41 30.4	-1.0
	comp=Z,81nm,1.7s,mb5.8								
OXX	Oaxaca	90.52	65	*e*P		P		11 41 41.0	+0.1
CMIG	Matias Romero	91.66	63	*e*P		P		11 41 45.2	-1.0
ESDC	Sonseca Array	92.31	343	P		P		11 41 48.7	-0.5
	comp=Z,10nm,1.0s,mb5.1,baz=11,slow=4.6,SNR=7.7								
KEST	Kesra	92.50	332	P		P		11 41 50.9	+0.8
	comp=Z,10nm,0.9s,mb5.2,baz=94,slow=1.4,SNR=5.7								
TGUH	Tegucigalpa,Un	98.64	59	*e*P		P		11 42 17.7	-0.3
	comp=Z,62nm,1.1s,mb6.0								
VNDA	Vanda	123.50	178	PKP	PKPdf			11 47 33.1	-3.1
	comp=Z,15nm,1.0s,baz=317,slow=5.4,SNR=3.4								
LPAZ	La Paz	134.03	64	PKP	PKPdf			11 47 57.0	+0.8
	comp=Z,20nm,1.2s,baz=22,slow=7.8,SNR=4.9								
CFAA	Coronel Fontan	144.46	81	PKP	PKPdf			11 48 12.2	-3.0
	comp=Z,11nm,1.2s,baz=307,slow=2.5,SNR=10								
NVL	N'lazarevskaya	149.36	203	*e*PKP2	PKPdf			11 48 25.0	+1.5
NVL				pmax	pmax				
	comp=Z,239nm,1.5s								
MAIT	Maitri	149.38	203	*e*PKPdf	PKPdf			11 48 23.5	0.0
USHA	Ushuaia	152.00	124	PKPbc	PKPbc			11 48 31.5	-2.6
	comp=Z,28nm,0.9s,baz=300,slow=4.3,SNR=4.8								
PMSA	Palmer Station	152.13	146	PKPbc	PKPdf			11 48 30.7	+2.9
	comp=Z,85nm,1.1s,baz=155,slow=2.3,SNR=5.4								
SNAA	Sanae	152.16	195	PKP	PKPdf			11 48 24.4	-3.4
	comp=Z,4.1nm,1.1s,baz=334,slow=7.0,SNR=3.6								
SNAA				PKPbc	PKPbc			11 48 31.9	-2.5
	comp=Z,22nm,1.1s,baz=79,slow=3.3,SNR=9.7								
SNAA				PKPab	PKPab			11 48 42.6	-1.5
	comp=Z,28nm,1.1s,baz=95,slow=2.4,SNR=7.1								
SNAA	Sanae	152.16	195	*e*PKPdf	PKPbc			11 48 32.1	-2.4
SNAA	Sanae	152.16	195	*e*PKPdf	PKPbc			11 48 32.1	-2.4
SNAA				*e*				11 48 42.4	
SNAA				*e*				11 48 44.8	
SNAA				*e*				11 48 55.0	
SNAA	Sanae	152.16	195	PKIKP	PKPdf			11 48 24.4	-3.4
SNAA								11 48 31.9	
VNA2	Neumayer--Watz	153.59	194	*e*PKPdf	PKPdf			11 48 27.5	-2.4
VNA2	Neumayer--Watz	153.59	194	*e*PKPdf	PKPdf			11 48 27.5	-2.4
VNA2				*e*				11 48 36.2	
VNA2				*e*				11 48 42.0	
VNA2				*e*				11 48 50.8	
VNA2				*e*				11 49 03.0	
VNA3	Neumayer Olymp	153.65	192	*e*PKPdf	PKPdf			11 48 27.7	-2.3
VNA3	Neumayer Olymp	153.65	192	*e*PKPdf	PKPdf			11 48 27.7	-2.3
VNA3				*e*				11 48 35.9	
VNA3				*e*				11 48 42.3	
VNA3				*e*				11 48 50.3	
VNA3				*e*				11 49 02.3	
VNA1	Neumayer--Stat	153.97	193	*e*PKPdf	PKPdf			11 48 26.6	-3.8
VNA1	Neumayer--Stat	153.97	193	*e*PKPdf	PKPdf			11 48 26.6	-3.8
VNA1				*e*				11 48 36.6	
VNA1				*e*				11 48 50.4	
VNA1				*e*				11 49 03.7	

IDC 15 11:28:49.1±0.7,4612N×15418E,h0km,mb5.4/19, mb1 5.5/19,mb1mx5.4/27,mbtmp5.4/19,Error ellipse: s-maj=21.0km s-min=14.6km az=166.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	21.33	255	P	P	11 33 38.3	+0.8
	55nm,0.8s,baz=57,slow=11,SNR=10						
SONM	Songino Array	32.24	291	P	P	11 35 19.7	+0.6
	51nm,1.1s,baz=80,slow=9.1,SNR=8.7						
KDAK	Kodiak Island	33.94	50	P	P	11 35 33.2	-0.7
	91nm,0.8s,baz=283,slow=6.6,SNR=7.6						
ZAL	Zalesovo	43.59	307	P	P	11 36 53.5	-1.4
	16nm,0.4s,baz=41,slow=8.2,SNR=7.8						
MKAR	Makanchi Array	47.89	298	P	P	11 37 28.0	-0.9
	69nm,0.9s,baz=66,slow=6.4,SNR=8.3						
BVAR	Borovoye Array	51.83	310	P	P	11 37 58.7	-0.1
	20nm,0.6s,baz=54,slow=7.0,SNR=8.7						
NEW	Newport	56.99	53	P	P	11 38 35.7	-0.6
	34nm,1.0s,baz=297,slow=3.1,SNR=5.6						
YBH	Yreka Blue Hor	57.40	62	P	P	11 38 39.1	-0.2
	31nm,1.0s,baz=178,slow=5.7,SNR=7.0						
ARCES	ARCESS Array B	58.69	341	P	P	11 38 47.4	-0.9
	102nm,0.9s,baz=29,slow=8.3,SNR=10						
PDAR	Pinedale Array	64.53	54	P	P	11 39 28.3	+0.6
	42nm,0.9s,baz=274,slow=2.6,SNR=9.8						
FINES	FINESS Array B	64.93	335	P	P	11 39 30.2	-0.2
	48nm,0.8s,baz=40,slow=10.0,SNR=8.8						
ULM	Lac du Bonnet	66.52	41	P	P	11 39 40.4	-0.2
	15nm,0.8s,baz=322,slow=5.1,SNR=5.3						
WRA	Warramunga Arr	68.16	200	P	P	11 39 50.3	-0.7
	72nm,1.1s,baz=15,slow=6.7,SNR=7.4						
ASAR	Alice Springs	71.85	200	P	P	11 40 13.9	+0.3
	51nm,1.0s,baz=12,slow=5.4,SNR=6.4						
AKASG	Malin Array Be	72.48	327	P	P	11 40 17.5	0.0
	30nm,0.6s,baz=34,slow=6.3,SNR=6.8						
SCHQ	Schefferville	73.61	23	P	P	11 40 23.8	-0.4
	18nm,0.8s,baz=344,slow=9.1,SNR=6.2						
TXAR	Lajitas Array	77.16	61	P	P	11 40 45.2	+0.6
	66nm,0.8s,baz=296,slow=4.5,SNR=12						
ASF	Jabal al Asfar	83.67	311	P	P	11 41 20.3	+0.7
	76nm,1.1s,baz=225,slow=4.2,SNR=5.6						
ESDC	Sonseca Array	92.38	343	P	P	11 42 00.6	-0.9
	1.7nm,0.6s,baz=42,slow=4.0,SNR=3.7						

*IDC **15** 11:29:21.0±0.3,4639N×15452E,h0km,mb5.7/36, mb1 5.7/39,mb1mx5.7/39,mbtmp5.7/39,ML5.0/3,MS6.9/1, Ms1 6.9/1,ms1mx6.0/52,Error ellipse: s-maj=11.7km s-min=9.0km az=127.0*

*NEIC **15** 11:29:22.8±0.1,4637N×15448E,h10km,mb6.2/200,Error ellipse: s-maj=4.3km s-min=3.5km az=165.0*

*ISCJB **15** 11:29:22.0±0.1,4629N±003×15447E±002,h16km, mb6.1/282,Error ellipse: s-maj=3.7km s-min=1.9km az=150.0*

*BJI **15** 11:29:23.3,4653N×154.17E,h10km,mb6.1*

*MOS **15** 11:29:23.1±0.9,4634N×15444E,h23km,mb6.4/105,Error ellipse: s-maj=7.5km s-min=4.2km az=98.1*

*SZGRF **15** 11:29:30.4,4734N×15623E,h33km,mb6.4,East of Kuril Islands, Russia*

ISC 15 11:29:24.0±0.1,4640N±003×15437E±002,h17km, h17km±2.2km:pP-P,n951,σθ90/933,mb6.1/282, 131C-127D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	4.70	258	PN	Pn	11 30 34.0	-0.1
YUK	Yuzh-Kuril'sk	6.46	252	PN	Pn	11 31 01.0	+2.6
NEM2	Nemuro 2	6.84	247	P	Pn	11 31 02.4	-1.2
NEM2				*e*S	Sn	11 32 15.2	-5.8
JRA	Rausu	6.99	253	*e*S	Sn	11 32 25.0	+0.3
PET	Petropavlovsk	7.19	21	*e*PN	Pn	11 31 04.4	-4.0
PET	Petropavlovsk	7.19	21	Pn	Pn	11 31 05.1	-3.4
	2μm,0.8s						
JNK	Nakash	7.40	251	P	Pn	11 31 11.0	-0.3
JNK				*e*S	Sn	11 32 32.4	-2.4
JAK	Akkeshi	7.69	247	P	Pn	11 31 14.8	-0.4
JAK				*e*S	Sn	11 32 36.8	-5.1
JTKR	Abashiri--Toko	7.78	256	P	Pn	11 31 17.2	+0.7
YSS	Yuzh-Sakhalins	8.01	278	*e*PN	Pn	11 31 17.6	-2.1
YSS	Yuzh-Sakhalins	8.01	278	*e*Pn	Pn	11 31 23.6	+4.0
JAR	Ashorobuto	8.15	251	P	Pn	11 31 21.8	+0.3
JAR				*e*S	Sn	11 32 52.3	-0.9
JOB	Onbets	8.28	249	*e*S	Sn	11 32 51.9	-4.7
JKK2	Kamakawa 2	8.60	257	P	Pn	11 31 28.9	+1.2
ASAJ	Asahikawa	8.62	259	Pn	Pn	11 31 30.0	+2.0
	30nm,0.3s,baz=106,slow=17,SNR=4.6						
ASAJ				LR	LR	11 35 30.5	
	comp=Z,695μm,19.0s,baz=292,slow=42						
ASAJ	Asahikawa	8.62	259	PN	Pn	11 31 30.0	+2.0
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,695μm,19.0s						
JCH	Churui	8.73	248	P	Pn	11 31 28.9	-0.6
JCH				*e*S	Sn	11 33 01.7	-5.8
JFR	Furan	8.98	253	P	Pn	11 31 34.1	+1.1
JNBK	Urakawa-nobuka	9.29	248	*e*S	Sn	11 33 15.6	-5.6
JBT2	Biratori 2	9.30	251	P	Pn	11 31 38.0	+0.6
JBT2				*e*S	Sn	11 33 20.5	-1.1
JNB	Noboribetsu	10.31	252	P	Pn	11 31 50.8	-0.4
JNB				*e*S	Sn	11 33 41.5	-4.9
JKB	Kayabe	10.59	250	*e*S	Sn	11 33 44.4	-8.9
JSH	Shimam	10.90	255	P	Pn	11 31 59.9	+0.7
JYM2	Yakumo 2	10.91	252	⇓P	Pn	11 31 58.1	-1.4
JANG	Nango	11.12	242	P	Pn	11 31 59.1	-3.2
JANG				*e*S	Sn	11 33 54.0	-12
JTM	Tenmabayashi	11.15	245	P	Pn	11 32 00.3	-2.4
JTM				*e*S	Sn	11 33 56.6	-10
JSR	Shiriuchi	11.17	249	*e*S	Sn	11 33 58.5	-8.9
JTH	Tanohata	11.18	239	*e*S	Sn	11 33 55.0	-13
JOSM	Okushiri--Mats	11.52	253	P	Pn	11 32 05.7	-2.1
OFUJ	Ofunato	11.85	236	*e*S	Sn	11 34 11.7	-12
JRG	Rokugo	12.26	240	*e*S	Sn	11 34 24.8	-9.2
JOG2	Oga 2	12.45	244	P	Pn	11 32 17.1	-3.4
JIO	Ouri	12.46	235	*e*S	Sn	11 34 26.8	-12
MA2	Magadan	13.38	352	*e*Pn	Pn	11 32 34.7	+1.6
MA2				pmax	pmax		
	comp=Z,100nm,0.5s						
MA2	Magadan	13.38	352	*e*Pn	Pn	11 32 35.6	+2.5
JFK	Kawauchi	13.49	233	P	Pn	11 32 30.4	-4.3
JFK				*e*S	Sn	11 34 52.1	-12
JFY	Yanaizu	14.12	236	P	Pn	11 32 40.9	-2.4
JFY				*e*S	Sn	11 35 11.3	-8.3
MAJO	Matsushiro	15.58	237	*e*P	Pn	11 33 02.1	-0.8
MAT	Matsushiro	15.58	237	P	Pn	11 33 02.1	-0.8
MJAR	Matsushiro Arr	15.58	237	Pn	Pn	11 33 02.1	-0.8
	comp=Z,6.0nm,0.3s,baz=30,slow=14,SNR=6.3						
MJAR				Sn	Sn	11 35 57.6	+2.4
	comp=Z,3.7nm,0.3s,baz=248,slow=31,SNR=5.1						
SEY	Seymchan	16.61	357	*e*P	Pn	11 33 13.1	-3.0
JHJ	Hachijo jima 2	17.33	225	P	Pn	11 33 24.9	-0.2
	comp=Z,6.0nm,0.3s,baz=237,slow=15,SNR=2.0						
JHJ				S	Sn	11 36 24.6	-13
	comp=Z,52nm,0.3s,baz=214,slow=22,SNR=4.6						
MDJ	Mudanjiang	17.45	273	P	Pn	11 33 28.0	+1.4
MDJ	Mudanjiang	17.45	273	*e*P	Pn	11 33 29.2	+2.6
YAK	Yakutsk	21.09	327	*e*P	P	11 34 06.6	-1.0
YAK				*e**PP		11 34 13.1	
YAK				*e*S	S	11 37 57.5	-4.2
YAK				*e**SS	sS	11 38 07.7	-1.6
YAK				*e*SS		11 38 13.1	
YAK				*e*SSS		11 38 32.3	
YAK				pmax	pmax		
	comp=Z,163nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=N,193nm,1.0s						
YAK				pmax	pmax		
	comp=E,195nm,1.4s						
YAK				smax			
	comp=N,147nm,1.3s						
YAK				smax			
	comp=Z,123nm,1.3s						
YAK				smax			
	comp=E,166nm,1.0s						
YAK	Yakutsk	21.09	327	*e*P	P	11 34 06.5	-1.2
KSRS	Korea Array	21.53	255	P	P	11 34 14.8	+2.5
	comp=E,183nm,0.7s,mb5.6,baz=58,slow=9.4,SNR=17						
CBIJ	Chichi jima	21.55	211	P	P	11 34 14.2	+1.6
	comp=E,314nm,0.7s,mb5.8,baz=319,slow=7.1,SNR=5.5						
CBIJ				S	S	11 38 02.5	-8.2
	comp=E,67nm,0.5s,baz=257,slow=23,SNR=3.9						
JNU	Nakatsue	22.30	242	P	P	11 34 22.5	+1.9
	comp=E,132nm,0.7s,mb5.5,baz=287,slow=30,SNR=6.3						
INCN	Inchon	22.38	257	*e*P	P	11 34 23.3	+1.8
	comp=E,2μm,2.0s,mb6.2						
SNY	Shenyang	22.50	269	⇑P	P	11 34 23.5	+0.8
SNY				AMB	AMB		
	comp=Z,384nm,0.7s,mb5.9						
BILL	Bilibino	22.55	12	*e*P	P	11 34 21.5	-1.8
BILL				pmax	pmax		
	comp=Z,336nm,1.0s,mb5.7						
BILL	Bilibino	22.55	12	*e*P	P	11 34 22.3	-0.9
	comp=Z,2μm,1.7s,mb6.3						
HIA	Hailar	23.30	290	*e*P	P	11 34 29.1	-2.1
	comp=Z,18μm,3.6s						
DL2	Dalian	25.09	264	P	P	11 34 52.5	+4.7
DL2				AMB	AMB		
	comp=Z,430nm,1.5s,mb5.8						
TNA	Tin City	27.85	33	*e*P	P	11 35 12.3	-0.4
	comp=Z,210nm,1.1s,mb5.7						
BJI	Beijing	28.35	271	*e*P	P	11 35 22.0	+4.9
BJI				pmax	pmax		
	comp=Z,404nm,0.9s,mb6.0						
BJI	Beijing	28.35	271	*e*P	P	11 35 22.0	+4.9
	comp=Z,404nm,0.9s,mb6.0						
BJT	Baijiatuan	28.36	271	*e*P	P	11 35 19.1	+1.8
	comp=Z,99μm,3.9s						
JOW	Kunigami	28.43	236	P	P	11 35 18.9	+1.1
	comp=Z,106nm,1.0s,mb5.4,baz=62,slow=7.1,SNR=6.7						
NJ2	Nanjing	30.73	255	*e*P	P	11 35 40.8	+2.5
NJ2				AP	pP	11 35 44.1	+0.8
NJ2				XP	sP	11 35 47.6	+2.2
NJ2				PP	PP	11 36 41.6	-6.1
NJ2				AMB	AMB		
	comp=Z,540nm,1.0s,mb6.3						
HHC	Hu-ho-hao-te	31.19	275	*e*P	P	11 35 44.1	+1.8
HHC				PP	PP	11 36 46.3	-6.4
SONM	Songino Array	32.27	290	P	P	11 35 51.2	-0.6
	comp=Z,43nm,0.9s,mb5.3,baz=69,slow=8.9,SNR=6.6						
TLY	Talaya	33.11	298	P	P	11 35 58.9	-0.3
	comp=Z,1μm,0.7s,mb7.0,SNR=9.3						
TLY	Talaya	33.11	298	*e*P	P	11 35 59.0	-0.2
TLY				pmax	pmax		
	comp=Z,557nm,1.9s,mb6.2						
TLY	Talaya	33.11	298	*e*P	P	11 35 59.0	-0.1
	comp=Z,371nm,1.4s,mb6.1						
ZAK	Zakamensk	33.62	296	*e*P	P	11 36 02.6	-1.0
ZAK				pmax	pmax		
	comp=Z,138nm,1.3s,mb5.7						
KDAK	Kodiak Island	33.66	51	P	P	11 36 00.9	-3.0
	comp=Z,412nm,1.2s,mb6.2,baz=209,slow=1.8,SNR=7.0						
GUMO	Guam	33.67	197	P	P	11 36 02.0	-2.0
	comp=Z,54nm,0.6s,mb5.7,baz=215,slow=15,SNR=4.4						
GUMO	Guam	33.67	197	P	P	11 36 02.0	-2.0
GUMO				pmax	pmax		
	comp=Z,54nm,0.6s,mb5.7						
WHN	Wuhan	34.69	257	⇑P	P	11 36 13.3	+0.4
PMR	Palmer	35.25	44	*e*P	P	11 36 16.1	-1.6
PMR				pmax	pmax		
	comp=Z,294nm,1.3s,mb6.0						
PMR	Palmer	35.25	44	*e*P	P	11 36 16.1	-1.7
	comp=Z,294nm,1.3s,mb6.0						
MCK	McKinley	35.36	40	*e*P	P	11 36 18.3	-0.4
MCK				pmax	pmax		
	comp=Z,301nm,1.3s,mb6.1						
MCK	McKinley	35.36	40	*e*P	P	11 36 18.3	-0.3
	comp=Z,301nm,1.3s,mb6.1						
QZH	Quanzhou	35.67	246	⇑*i*P	P	11 36 22.3	+1.0
QZH				AMB	AMB		
	comp=Z,1μm,1.8s,mb6.6						
COLA	College	35.88	38	*e*P	P	11 36 22.8	-0.3
COLA				pmax	pmax		
	comp=Z,642nm,1.2s,mb6.4						
COLA	College	35.88	38	*e*P	P	11 36 22.8	-0.3
	comp=Z,642nm,1.2s,mb6.4						
EYAK	Cordova Ski Ar	36.95	45	*e*P	P	11 36 31.0	-1.3
LZH	Lanzhou	38.77	273	*e*P	P	11 36 50.6	+3.0
LZH				AP	pP	11 36 57.9	+5.1
LZH				XP	sP	11 37 01.8	+7.0
LZH				PP	PP	11 38 20.5	+4.0
LZH				AMB	AMB		
	comp=Z,3μm,1.6s,mb6.7						
LZH	Lanzhou	38.77	273	*e*P	P	11 36 50.6	+3.0
LZH				*PP	pP	11 36 57.9	+5.1
LZH				*SP	sP	11 37 01.7	+6.9
LZH						11 38 20.5	
LZH				pmax	pmax		
	comp=Z,3μm,1.6s,mb6.7						
LZH	Lanzhou	38.77	273	*e*P	P	11 36 50.6	+3.0
	comp=Z,3μm,1.6s,mb6.7						
LZH				pP	pP	11 36 57.9	+5.1
LZH				sP	sP	11 37 01.7	+6.9
LZH				PP	PP	11 38 20.5	+4.0
DAWY	Dawson	39.56	39	*e*P	P	11 36 52.6	-1.7
GTA	Gaotai	39.89	280	*e*P	P	11 36 59.8	+2.9
GTA				AP	pP	11 37 07.1	+5.0
GTA				XP	sP	11 37 10.8	+6.7
GTA				AMB	AMB		
	comp=Z,172nm,1.5s,mb5.6						
INK	Inuvik	41.49	32	P	P	11 37 09.5	-0.7
	comp=Z,94nm,0.6s,mb5.6,baz=277,slow=6.3,SNR=12						
CD2	Chengdu	41.72	267	*e*P	P	11 37 12.4	+0.3
CD2				PCP	PP	11 38 52.5	+3.9
CD2				AMB	AMB		
	comp=Z,720nm,1.3s,mb6.1						
GYA	Guiyang	42.49	259	⇑*i*P	P	11 37 19.8	+1.4
GYA				AP	pP	11 37 23.8	+0.2
GYA				XP	sP	11 37 26.6	+1.0
GYA				PP	PP	11 39 01.5	+4.6
GYA				PCP	PcP	11 39 13.4	+2.4
TGY	Tagaytay City	42.68	232	P	P	11 37 20.0	+0.1
	comp=Z,68nm,0.3s,baz=270,slow=10,SNR=2.4						
PLP	Palo	43.06	225	*e*P	P	11 37 23.2	+0.2
ZAL	Zalesovo	43.54	306	P	P	11 37 26.0	-0.8
	comp=Z,39nm,0.7s,mb5.2,baz=37,slow=6.8,SNR=8.8						
ZAL	Zalesovo	43.54	306	P	P	11 37 26.0	-0.8
MSLP	Maasin	44.01	224	*e*P	P	11 37 30.3	-0.3
SCPH	Surigao	44.02	223	*e*P	P	11 37 29.9	-0.7
NVS	Novosibirsk	44.09	308	*e*P	P	11 37 32.6	+1.3
NVS				pmax	pmax		
	comp=N,770nm,2.3s						
NVS				pmax	pmax		
	comp=E,708nm,2.3s						
NVS				pmax	pmax		
	comp=Z,1μm,2.3s,mb6.1						
CRAG	Craig	44.62	51	*e*P	P	11 37 35.3	-0.2
	comp=Z,565nm,1.4s,mb6.2						
WRAK	Wrangell Islan	44.71	49	*e*P	P	11 37 37.0	+0.8
	comp=Z,456nm,1.4s,mb6.1						
DLBC	Dease Lake	45.22	46	*e*P	P	11 37 41.2	+0.9
SNPH	Sibulan	45.49	226	*e*P	P	11 37 45.0	+2.6
QIZ	Qiongzhong	45.52	248	⇑P	P	11 37 42.0	-0.7
WMQ	Urumqi	45.87	292	⇓P	P	11 37 47.4	+2.0
WMQ				AP	pP	11 37 52.4	+1.8
WMQ				XP	sP	11 37 54.6	+2.0
WMQ				PCP	PcP	11 39 24.4	+1.9
WMQ				PP	PP	11 39 35.6	+2.7
WMQ				PPP		11 40 19.3	
WMQ				SCP	ScP	11 43 15.8	+1.0
WMQ				AMB	AMB		
	comp=Z,247nm,0.8s,mb6.2						
BUKP	Musuan	45.88	222	*e*P	P	11 37 43.8	-1.7
KMI	Kunming	46.04	261	P	P	11 37 47.8	+1.0
KMI				AMB	AMB		
	comp=Z,152nm,1.7s,mb5.7						
KMI	Kunming	46.04	261	P	P	11 37 47.7	+0.9
KMI				pmax	pmax		
	comp=Z,152nm,1.7s,mb5.7						
KMI	Kunming	46.04	261	P	P	11 37 47.7	+0.9
	comp=Z,152nm,1.7s,mb5.7						
MKAR	Makanchi Array	47.88	298	P	P	11 37 59.8	-1.3
	comp=Z,191nm,0.9s,mb6.1,baz=66,slow=7.2,SNR=12						
KURK	Kurchatov	48.28	304	P	P	11 38 04.2	-0.1
	comp=Z,2μm,0.8s,mb7.1,SNR=7.3						
KURK	Kurchatov	48.28	304	*e*P	P	11 38 03.9	-0.4
KURK				pmax	pmax		
	comp=Z,280nm,0.9s,mb6.3						
KURK	Kurchatov	48.28	304	*e*P	P	11 38 03.9	-0.4
	comp=Z,280nm,0.9s,mb6.3						
POHA	Pohakuloa	48.65	106	*e*P	P	11 38 06.8	-0.3
	comp=Z,272nm,0.7s,mb6.4						
KHU	Kahuku	48.95	106	*e*P	P	11 38 07.8	-1.6
YKA	Yellowknife Ar	50.69	37	P	P	11 38 21.5	-1.1
	comp=Z,156nm,0.8s,mb6.0,baz=296,slow=7.1,SNR=23						
RES	Resolute Bay	50.90	19	*e*P	P	11 38 23.8	-0.4
	comp=Z,12μm,1.0s						
LSA	Lhasa	51.16	274	*e*P	P	11 38 30.6	+4.4
LSA				pmax	pmax		
	comp=Z,338nm,1.0s,mb6.2						
LSA	Lhasa	51.16	274	*e*P	P	11 38 30.6	+4.3
	comp=Z,338nm,1.0s,mb6.2						
CHKZ	Chkalovo	51.32	311	*e*P	P	11 38 26.6	-0.8
BVAR	Borovoye Array	51.75	310	P	P	11 38 30.8	+0.2
	comp=Z,62nm,0.5s,mb5.8,baz=52,slow=7.6,SNR=17						
BRVK	Borovoye	51.79	310	P	P	11 38 31.0	+0.1
	comp=Z,1μm,0.8s,mb6.9,SNR=5.3						
BRVK	Borovoye	51.79	310	*e*P	P	11 38 30.4	-0.5
BRVK				pmax	pmax		
	comp=Z,98nm,0.8s,mb5.8						
BRVK	Borovoye	51.79	310	*e*P	P	11 38 30.4	-0.6
	comp=Z,154nm,0.8s,mb6.0						
KKM	Kota Kinabalu	51.92	231	P	P	11 38 34.9	+3.0
KKM	Kota Kinabalu	51.

baz=55,SNR=8.9
E05A **Randle** 55.01 57 ⇓P P 11 38 54.5 0.0
baz=55
A08A **Turner Farm, O** 55.13 53 ⇑P P 11 38 55.0 -0.4
baz=55,SNR=8.0
H03A **Soap Creek Ran** 55.14 60 ⇑P P 11 38 55.3 -0.1
baz=55,SNR=7.3
I02A **Mapleton** 55.18 60 ⇓P P 11 38 55.7 -0.1
baz=55,SNR=6.4
D06A **Cle Elum** 55.19 56 ⇓P P 11 38 55.9 0.0
baz=55
EKS2 **Erkin-Say** 55.20 298 P P 11 38 57.1 +1.2
SNR=8.6
G04A **Mulino** 55.33 59 ⇓P P 11 38 56.7 -0.2
baz=55
C07A **Waterville** 55.37 55 ⇑P P 11 38 56.8 -0.4
baz=55,SNR=6.5
B08A **Colville Reser** 55.41 54 ⇓P P 11 38 57.3 -0.2
baz=55,SNR=7.3
K01A **Sixes** 55.46 62 ⇑P P 11 38 58.2 +0.4
baz=55,SNR=6.5
E06A **Yakima** 55.47 57 ⇓P P 11 38 58.6 +0.7
baz=55
A09A **Danville** 55.49 53 P P 11 38 57.7 -0.3
baz=55,SNR=11
KEBM **Edson Butte** 55.51 62 *eP* P 11 38 59.7 +1.6
I03A **Eugene** 55.53 60 ⇓P P 11 38 58.7 +0.4
baz=55,SNR=7.4
F05A **White Salmon** 55.55 57 ⇓P P 11 38 58.5 0.0
baz=55
D07A **Quincy** 55.69 55 ⇑P P 11 38 59.3 -0.2
baz=55
J02A **Umpqua** 55.69 61 ⇑P P 11 38 59.7 +0.2
baz=55,SNR=13
H04A **Detroit Lake** 55.79 59 ⇑P P 11 39 00.0 -0.1
baz=56,SNR=14
HNR **Honiara** 55.80 173 P P 11 39 00.1 -0.1
comp=Z,46nm,0.7s,mb5.6,baz=259,slow=4.6,SNR=2.7
HNR **Honiara** 55.80 173 P P 11 39 00.1 -0.1
HNR pmax pmax
comp=Z,46nm,0.7s,mb5.6
JIRN **Jiri** 55.84 276 *eP* P 11 39 02.6 +2.0
comp=Z,1µm,0.8s,mb6.9
JIRN **Jiri** 55.84 276 *eP* P 11 39 02.6 +2.0
ARU **Arti** 55.86 318 P P 11 39 00.2 -0.5
comp=Z,3µm,0.8s,mb7.4,SNR=6.5
ARU **Arti** 55.86 318 *eP* P 11 38 59.9 -0.8
ARU pmax pmax
comp=Z,368nm,0.7s,mb6.5
ARU **Arti** 55.86 318 *eP* P 11 38 59.9 -0.7
comp=Z,368nm,0.7s,mb6.5
C08A **Higginbotham F** 55.89 54 ⇑P P 11 39 00.3 -0.6
baz=56,SNR=5.7
GUN **Gumba** 55.90 276 *eP* P 11 39 02.7 +1.7
GUN **Gumba** 55.90 276 *eP* P 11 39 02.8 +1.8
PMG **Port Moresby** 55.92 189 P P 11 39 00.5 -0.6
comp=Z,81nm,0.8s,mb5.8,baz=6.8,slow=4.0,SNR=13
PMG **Port Moresby** 55.92 189 *eP* P 11 39 00.4 -0.7
PMG pmax pmax
comp=Z,130nm,1.0s
PMG **Port Moresby** 55.92 189 *eP* P 11 38 59.6 -1.5
comp=Z,135nm,1.0s,mb5.9
G05A **Wamic** 55.99 58 ⇑P P 11 39 01.5 -0.2
baz=56
F06A **Goldendale** 56.01 57 ⇑P P 11 39 01.4 -0.3
baz=56,SNR=6.0
B09A **Rice** 56.04 53 ⇑P P 11 39 01.6 -0.4
baz=56,SNR=10
A10A **Northport** 56.06 53 ⇓P P 11 39 02.0 -0.1
baz=56,SNR=6.3
J03A **Ideyld Park** 56.06 61 ⇓P P 11 39 02.5 +0.4
baz=56,SNR=7.4
K02A **Glendale** 56.08 62 ⇑P P 11 39 02.3 +0.1
baz=56,SNR=8.5
E07A **Sunnyside** 56.11 56 P P 11 39 02.1 -0.3
baz=56,SNR=7.9
I04A **Tendick Farm,** 56.15 60 ⇑P P 11 39 03.2 +0.4
baz=56,SNR=12
M01C **Crescent City** 56.21 63 ⇓P P 11 39 03.6 +0.5
baz=56
C09A **Chrisman Ranch** 56.31 54 ⇓P P 11 39 03.4 -0.6
baz=56,SNR=6.9
L02A **Cave Junction** 56.36 62 ⇑P P 11 39 04.8 +0.6
baz=56,SNR=8.9
D08A **Wollman Farm,** 56.36 55 P P 11 39 03.7 -0.6
baz=56,SNR=6.2
H05A **Madras** 56.38 59 P P 11 39 04.7 +0.3
baz=56,SNR=7.2
HAWA **Hanford** 56.39 56 *eP* P 11 39 03.3 -1.1
comp=Z,274nm,1.4s,mb6.1
KKN **Kakani** 56.39 276 *eP* P 11 39 06.7 +2.3
KKN **Kakani** 56.39 276 *eP* P 11 39 06.8 +2.4
G06A **Carlson Farm,** 56.40 58 P P 11 39 04.8 +0.3
baz=56,SNR=7.9
PKI **Pulchoki** 56.44 276 *eP* P 11 39 05.7 +0.9
comp=Z,2µm,1.3s,mb6.9
PKI **Pulchoki** 56.44 276 *eP* P 11 39 06.8 +2.0
comp=Z,2µm,1.3s,mb6.9
F07A **Phinny Hill Vi** 56.44 57 ⇓P P 11 39 04.8 0.0
baz=56,SNR=8.4
HUMO **Hull Mountain** 56.49 61 ⇓P P 11 39 05.3 +0.1
baz=56,SNR=8.7
E08A **Dider Farm, El** 56.60 56 ⇑P P 11 39 05.6 -0.4
baz=56,SNR=5.8
B10A **Chitwood Farm,** 56.62 53 ⇑P P 11 39 06.4 +0.3
baz=56
DMN **Daman** 56.62 276 *eP* P 11 39 07.7 +1.6
DMN **Daman** 56.62 276 *eP* P 11 39 08.2 +2.1
I05A **Bend** 56.63 59 ⇓P P 11 39 06.0 -0.1
baz=56,SNR=6.7
J04A **Umpqua Nationa** 56.65 60 ⇑P P 11 39 06.4 +0.1
baz=56,SNR=11
GKN **Gorkha** 56.70 277 *eP* P 11 39 08.2 +1.6
comp=Z,3µm,1.3s,mb7.2
GKN **Gorkha** 56.70 277 *eP* P 11 39 08.4 +1.8
comp=Z,3µm,1.3s,mb7.2
NEW **Newport** 56.70 53 P P 11 39 05.5 -1.1
comp=Z,175nm,1.3s,mb5.9,baz=310,slow=6.8,SNR=12
NEW **Newport** 56.70 53 *eP* P 11 39 04.9 -1.7
NEW pmax pmax
comp=Z,250nm,1.4s
NEW **Newport** 56.70 53 *eP* P 11 39 04.9 -1.8
comp=Z,245nm,1.4s,mb6.0
D09A **Jones Farm, Ri** 56.71 55 ⇑P P 11 39 06.0 -0.7
baz=56,SNR=6.0
A11A **Hall Mountain,** 56.72 52 ⇑P P 11 39 06.4 -0.4
baz=56,SNR=8.2
C10A **Spilker Farm,** 56.84 54 ⇓P P 11 39 07.1 -0.6
baz=56,SNR=10
H06A **Lindquist Farm** 56.85 58 ⇓P P 11 39 07.6 -0.1
baz=57,SNR=6.3
JCC **Jacoby Creek** 56.86 64 ⇓P P 11 39 08.4 +0.7
baz=57,SNR=8.9
G07A **Ruggs Ranch, H** 56.94 57 ⇑P P 11 39 08.6 +0.2
baz=57
B11A **Sandpoint** 57.02 53 P P 11 39 08.8 -0.1
baz=57,SNR=8.9
E09A **Wood Farm, Sta** 57.11 55 ⇑P P 11 39 09.4 -0.2
baz=57,SNR=8.6
A12A **Yaak River Ran** 57.12 52 ⇓P P 11 39 10.0 +0.3
baz=57
YBH **Yreka Blue Hor** 57.14 62 P P 11 39 09.8 0.0
comp=Z,113nm,0.9s,mb5.9,baz=278,slow=2.4,SNR=16
YBH **Yreka Blue Hor** 57.14 62 ⇓P P 11 39 10.8 +1.0
baz=57,SNR=12
J05A **Fort Rock** 57.15 60 ⇓P P 11 39 10.8 +0.9
baz=57,SNR=9.0
F08A **Pendleton** 57.16 56 ⇑P P 11 39 10.4 +0.5
baz=57,SNR=6.8
K04A **Chiluqin** 57.23 61 ⇓P P 11 39 11.2 +0.8
baz=57,SNR=6.2
M02C **Callahan** 57.25 63 ⇓P P 11 39 11.2 +0.6
baz=57,SNR=8.8
N02C **Big Bar** 57.30 63 ⇓P P 11 39 11.2 +0.3
baz=57,SNR=9.2
G08A **Pilot Rock** 57.34 57 ⇑P P 11 39 11.6 +0.4
baz=57,SNR=7.8
I06A **Prineville** 57.38 59 ⇓P P 11 39 11.9 +0.4
baz=57,SNR=7.1
O01C **Eel River Cons** 57.38 64 ⇓P P 11 39 12.3 +0.9
baz=57,SNR=8.1
L04A **Klamath Falls** 57.39 61 ⇓P P 11 39 12.2 +0.6
baz=57,SNR=8.6
B12A **Libby** 57.42 52 ⇓P P 11 39 11.9 +0.1
baz=57
LVZ **Lovozero** 57.44 337 P P 11 39 11.3 -0.6
comp=Z,3µm,1.3s,mb7.1,SNR=7.0
LVZ **Lovozero** 57.44 337 ⇓*eP* P 11 39 11.5 -0.4
LVZ pmax pmax
comp=N,237nm,1.3s
LVZ pmax pmax
comp=Z,648nm,1.3s,mb6.5
LVZ pmax pmax
comp=E,174nm,1.4s
LVZ **Lovozero** 57.44 337 *eP* P 11 39 08.7 -3.2
KOLN **Koldanda** 57.55 277 *eP* P 11 39 13.9 +1.2
comp=E,2µm,0.9s,mb7.0
KOLN **Koldanda** 57.55 277 *eP* P 11 39 14.9 +2.2
comp=E,2µm,0.9s,mb7.0
M04C **Macdoel** 57.65 62 ⇑P P 11 39 13.8 +0.5
baz=57,SNR=11
K05A **Summer Lake** 57.67 60 ⇓P P 11 39 14.0 +0.4
baz=57,SNR=7.8
F09A **S2 Ranch, Elgi** 57.71 56 ⇓P P 11 39 13.8 0.0
baz=57,SNR=8.1
E10A **Myers Farm, Un** 57.71 55 ⇑P P 11 39 13.3 -0.5
baz=57,SNR=6.9
I07A **Izee** 57.72 58 ⇓P P 11 39 14.4 +0.6
baz=57,SNR=7.9
M03C **McCloud** 57.77 62 ⇓P P 11 39 14.5 +0.3
baz=58
D11A **Klaveano Farm,** 57.83 54 P P 11 39 15.0 +0.3
baz=58,SNR=6.8
WDC **Whiskeytown Da** 57.92 63 *eP* P 11 39 14.7 -0.6
WDC **Whiskeytown Da** 57.92 63 ⇑P P 11 39 15.7 +0.5
baz=58,SNR=11
F10A **Beach Ranch, E** 57.94 55 ⇓P P 11 39 15.4 0.0
baz=58
H08A **Prairie City** 57.95 57 ⇓P P 11 39 15.9 +0.4
baz=58,SNR=7.9
KEV **Kevo** 57.97 341 *eP* P 11 39 12.8 -2.8
KEV pmax pmax
comp=Z,230nm,1.0s,mb6.2
KEV **Kevo** 57.97 341 *eP* P 11 39 16.2 +0.6
comp=Z,228nm,1.0s,mb6.2
WALA **Waterton Lakes** 57.99 51 *eP* P 11 39 15.1 -0.7
comp=Z,366nm,1.2s,mb6.3
O02C **Red Bluff** 58.00 64 ⇓P P 11 39 16.5 +0.7
baz=58,SNR=9.4
APA **Apatity** 58.01 337 ⇓*iP* P 11 39 15.0 -0.9
APA pmax pmax
comp=Z,190nm,1.0s,mb6.1
K06A **Valley Falls** 58.02 60 ⇑P P 11 39 16.2 +0.3
baz=58,SNR=8.9
P01C **Double 8 Ranch** 58.07 65 ⇓P P 11 39 16.7 +0.3
baz=58,SNR=11
B13A **Whitefish** 58.09 52 ⇑P P 11 39 17.1 +0.7
baz=58,SNR=9.4
L05A **Lakeview** 58.10 61 ⇑P P 11 39 17.4 +0.8
baz=58,SNR=7.3
J07A **Hines** 58.24 59 ⇓P P 11 39 18.1 +0.6
baz=58,SNR=6.5
M05C **Lookout** 58.32 62 ⇑P P 11 39 18.9 +0.8
baz=58,SNR=8.5
GASB **Alder Springs** 58.35 64 ⇑P P 11 39 19.3 +1.0
baz=58,SNR=12
I08A **Drewsey** 58.37 58 ⇑P P 11 39 19.2 +0.8
baz=58,SNR=6.9
C13A **Hot Springs** 58.44 52 ⇓P P 11 39 19.0 +0.2
baz=58
HATC **Hat Creek Radi** 58.44 62 ⇓P P 11 39 19.8 +0.8
baz=58,SNR=7.1
H09A **Durkee** 58.45 57 ⇑P P 11 39 19.7 +0.7
baz=58,SNR=7.6
ARCES **ARCESS Array B** 58.47 341 P P 11 39 18.6 -0.5
comp=Z,170nm,0.9s,mb6.1,baz=19,slow=7.7,SNR=16
ARE0 **ARCESS Array S** 58.47 341 *eP* P 11 39 21.2 +2.1
MOD **Modoc** 58.51 61 ⇑P P 11 39 19.9 +0.5
baz=58,SNR=11
HOPS **Hopland** 58.52 65 *eP* P 11 39 20.2 +0.7
comp=Z,309nm,1.4s,mb6.1
HOPS **Hopland** 58.52 65 ⇑P P 11 39 19.8 +0.4
baz=58,SNR=9.0
O03C **Acorn Hollow,** 58.57 63 ⇓P P 11 39 19.8 0.0
baz=58,SNR=8.2
F11A **Grangeville** 58.60 55 P P 11 39 20.8 +0.8
baz=58,SNR=5.6
K07A **Rock Creek Ran** 58.68 59 P P 11 39 20.8 +0.2
baz=58,SNR=9.4
J08A **Circle Bar Ran** 58.74 58 ⇑P P 11 39 21.5 +0.4
baz=58,SNR=7.3
I09A **Lost Marbles R** 58.81 58 ⇑P P 11 39 21.9 +0.4
baz=58,SNR=6.6
M06C **Likely Place G** 58.81 62 ⇑P P 11 39 22.5 +1.0
baz=58
D13A **Huson** 58.84 53 P P 11 39 22.5 +0.8
baz=58,SNR=6.3
O04C **Chester** 58.97 63 ⇓P P 11 39 23.3 +0.7
baz=59,SNR=9.4
MNRC **McLaughlin Nat** 58.98 65 ⇓P P 11 39 23.4 +0.7
baz=59,SNR=10
ELFS **Eagle Lake Fie** 59.01 62 ⇑P P 11 39 23.9 +1.0
baz=59,SNR=8.7
L07A **Adell** 59.02 60 ⇑P P 11 39 23.8 +0.8
baz=59,SNR=9.8
TMCR **Tamitsa** 59.05 333 *eP* P 11 39 22.1 -1.1
TMCR pmax pmax
comp=Z,962nm,1.2s,mb6.7
NSHM **Saint Helena R** 59.09 65 *eP* P 11 39 22.4 -1.1
K08A **Mann Creek Ran** 59.11 59 ⇓P P 11 39 23.8 +0.3
baz=59,SNR=8.0
MCCM **Marconi Confer** 59.15 66 *eP* P 11 39 22.5 -1.3
comp=Z,301nm,1.5s,mb6.1
MCCM **Marconi Confer** 59.15 66 P P 11 39 24.3 +0.5
baz=59,SNR=5.5
J09A **Fry Pan Ranch,** 59.17 58 ⇑P P 11 39 24.5 +0.4
baz=59,SNR=7.8
O05C **Quincy** 59.28 63 P P 11 39 25.6 +0.8
baz=59,SNR=9.8
CVS **Camenet Viney** 59.29 65 ⇓P P 11 39 24.9 0.0
baz=59,SNR=7.4
FARB **Farallon Islan** 59.34 66 ⇑P P 11 39 24.9 -0.3
baz=59,SNR=7.6
D14A **Greenough** 59.38 53 ⇑P P 11 39 25.0 -0.4
baz=59,SNR=13
E13A **Victor** 59.38 53 ⇑P P 11 39 25.1 -0.4
baz=59,SNR=8.6
H11A **Donnelly** 59.38 56 ⇓P P 11 39 25.1 -0.3
baz=59,SNR=10
Q03C **Winters** 59.40 65 ⇓P P 11 39 25.8 +0.2
baz=59
N06A **Buffalo Meadow** 59.48 62 ⇑P P 11 39 26.8 +0.7
baz=59,SNR=8.8
M07A **Soldier Meadow** 59.50 61 ⇓P P 11 39 27.1 +0.8
baz=59,SNR=12
L08A **Fields** 59.51 59 ⇑P P 11 39 26.6 +0.3
baz=59,SNR=6.5
K09A **Rome** 59.58 59 P P 11 39 27.3 +0.5
baz=59,SNR=6.9
Q04C **Lincoln** 59.67 64 P P 11 39 28.4 +0.9
baz=59,SNR=7.2
BEKR **Beckwourth** 59.68 63 ⇑P P 11 39 27.9 +0.3
baz=59,SNR=13
KAPI **Kappang** 59.69 221 P P 11 39 26.3 -1.3
comp=Z,2µm,1.3s,mb6.9,SNR=8.5
F13A **Darby** 59.69 54 ⇓P P 11 39 27.9 +0.4
baz=59
TRO **Tromso** 59.77 343 *eP* P 11 39 25.9 -2.2
E14A **Clinton** 59.78 53 P P 11 39 29.2 +1.0
baz=60,SNR=10
O06A **Flanigan** 59.83 62 ⇑P P 11 39 29.1 +0.5
baz=60,SNR=11
P05C **Yuba Gap, Truc** 59.87 63 ⇑P P 11 39 27.9 -0.9
baz=60
BDM **Black Diamond** 59.90 65 ⇓P P 11 39 28.9 -0.1
baz=60
D15A **Lincoln** 59.94 52 ⇓P P 11 39 29.1 -0.2
baz=60,SNR=6.1
N07B **Gerlach** 59.98 61 ⇓P P 11 39 29.7 +0.1
baz=60,SNR=7.3
JRSC **Jasper Ridge** 60.00 66 P P 11 39 30.2 +0.5
baz=60,SNR=6.0
L09A **Wilkinson Ranc** 60.02 59 ⇑P P 11 39 30.3 +0.5
baz=60
P06A **Stead Airport,** 60.08 63 ⇓P P 11 39 30.3 0.0
baz=60
WENL **Wente Brothers** 60.17 66 ⇓P P 11 39 30.9 +0.1
baz=60,SNR=6.7
BNLO **Ben Lomond (Sa** 60.21 66 ⇓P P 11 39 30.9 -0.3
baz=60,SNR=8.7
F14A **Wisdom** 60.21 54 ⇑P P 11 39 31.2 0.0
baz=60
E15A **Deer Lodge** 60.24 53 P P 11 39 31.5 +0.1
baz=60,SNR=12
R04C **Big Horse Ranc** 60.30 64 ⇑P P 11 39 31.3 -0.5
baz=60,SNR=7.3
WCN **Washoe City** 60.40 63 ⇑P P 11 39 32.6 +0.2
baz=60,SNR=9.5
O07A **Toulon** 60.41 62 ⇓P P 11 39 33.2 +0.7
baz=60,SNR=9.3
N08A **GE Springer Mi** 60.49 61 ⇓P P 11 39 33.0 0.0
baz=60,SNR=12
M09A **Marrel Ranch,** 60.51 60 ⇑P P 11 39 33.5 +0.3
baz=60,SNR=5.8
S04C **Ingram Canyon,** 60.51 65 ⇑P P 11 39 32.8 -0.5
baz=60
R05C **Kirkwood Meado** 60.56 64 ⇑P P 11 39 33.6 0.0
baz=60,SNR=7.1
F15A **Butte** 60.68 53 ⇓P P 11 39 34.4 0.0
baz=60,SNR=12
O08A **Rochester Mine** 60.77 61 ⇑P P 11 39 35.5 +0.5
baz=60
CMB **Columbia Colle** 60.78 64 ⇓P P 11 39 35.1 0.0
baz=60,SNR=11
P07A **Fallon** 60.78 62 ⇑P P 11 39 35.4 +0.4
baz=60
N09A **Rock Creek Ran** 60.81 60 ⇓P P 11 39 35.4 +0.1
baz=60,SNR=10
PACP **Pacheco Peak** 60.84 66 ⇓P P 11 39 35.7 +0.3
baz=61,SNR=11
SAO **San Andreas Ge** 60.89 66 *eP* P 11 39 36.0 +0.2
SAO pmax pmax
comp=Z,97nm,1.1s,mb5.8
SAO **San Andreas Ge** 60.89 66 *eP* P 11 39 36.0 +0.2
comp=Z,97nm,1.1s,mb5.8
DLMT **Dillon** 60.92 54 *eP* P 11 39 33.4 -2.6
comp=Z,512nm,1.5s,mb6.4
M10A **I.L. Ranch, Tu** 60.99 59 ⇓P P 11 39 37.0 +0.5
baz=61,SNR=8.6
HAST **UC Hastings Re** 61.05 67 P P 11 39 37.6 +0.7
baz=61,SNR=10
R06C **Coleville** 61.06 63 ⇓P P 11 39 37.7 +0.7
baz=61,SNR=9.6
FCC **Fort Churchill** 61.08 34 *eP* P 11 39 36.1 -1.0
FCC pmax pmax
comp=Z,316nm,1.0s,mb6.4
FCC **Fort Churchill** 61.08 34 *eP* P 11 39 36.1 -1.0
comp=Z,316nm,1.0s,mb6.4
G15A **Dillon** 61.10 54 ⇓P P 11 39 37.6 +0.4
baz=61
P08A **Dixie Valley** 61.18 62 ⇑P P 11 39 38.0 +0.2
baz=61
Q07A **Schurz** 61.20 63 ⇓P P 11 39 37.9 0.0
baz=61
S06C **San Francisco** 61.21 64 ⇓P P 11 39 38.2 +0.2
baz=61,SNR=10
S05C **Merced** 61.24 65 ⇓P P 11 39 38.2 +0.1
baz=61,SNR=10
T05C **Eagle Field, D** 61.30 66 ⇑P P 11 39 39.0 +0.4
baz=61
O09A **Fish Creek Ran** 61.43 61 ⇓P P 11 39 39.8 +0.3
baz=61,SNR=9.4
V03C **Hunter Liggett** 61.48 67 ⇑P P 11 39 39.6 -0.2
baz=61,SNR=6.2
M11A **Holland Ranch,** 61.49 59 ⇓P P 11 39 40.5 +0.7
baz=61,SNR=8.1
N10A **Dunphy** 61.50 60 ⇑P P 11 39 39.9 0.0
baz=61,SNR=8.8
U04C **Hernandez Rese** 61.56 66 P P 11 39 40.0 -0.3
baz=61,SNR=6.5
R07C **Lee Vining** 61.58 64 ⇓P P 11 39 41.4 +0.9
baz=61,SNR=7.2
O10A **Cortez Mining,** 61.77 60 ⇓P P 11 39 42.6 +0.9
baz=62,SNR=10
Q08A **Gabbs** 61.79 62 ⇑P P 11 39 42.4 +0.6
baz=62,SNR=10
NVAR **Mina Array Bea** 61.83 63 P P 11 39 42.4 +0.2
comp=Z,98nm,0.9s,mb5.9,baz=289,slow=9.4,SNR=20
T06C **Millerton Lake** 61.83 65 P P 11 39 40.7 -1.5
baz=62,SNR=9.1
P09A **Austin** 61.84 61 ⇓P P 11 39 42.8 +0.5
baz=62,SNR=8.4
KCC **Kaiser Creek** 61.88 64 ⇑P P 11 39 42.6 +0.1
baz=62,SNR=6.5
N11A **Elko Archery C** 61.90 59 ⇓P P 11 39 42.8 +0.2
baz=62,SNR=6.5
V04C **Ramage Ranch,** 61.95 67 ⇑P P 11 39 43.0 0.0
baz=62,SNR=5.5
PKD **Parkfield** 61.97 66 ⇑P P 11 39 42.9 -0.2
baz=62,SNR=6.7
MLAC **Mammoth Lakes** 61.99 64 ⇑P P 11 39 43.8 +0.6
baz=62
U05C **Westside ANR,** 61.99 66 ⇑P P 11 39 43.5 +0.3
baz=62
R08A **Mina** 62.00 63 ⇑P P 11 39 43.2 -0.1
baz=62,SNR=6.3
M12A **Wells** 62.02 58 ⇑P P 11 39 43.7 +0.3
baz=62,SNR=7.8
KAKA **Kakadu** 62.05 204 *eP* P 11 39 43.2 -0.4
comp=Z,388nm,0.9s,mb6.5
IPM **Ipoh** 62.10 245 P P 11 39 49.4 +5.4
P10A **Eureka** 62.21 61 ⇑P P 11 39 45.1 +0.4
baz=62
ELK **Elko** 62.24 59 *eP* P 11 39 45.6 +0.7
ELK pmax pmax
comp=Z,59nm,0.9s
ELK **Elko** 62.24 59 *eP* P 11 39 45.6 +0.7
comp=Z,59nm,0.9s,mb5.7
Q09A **Carvers** 62.26 62 ⇑P P 11 39 45.1 0.0
baz=62,SNR=6.5
N12A **Clover Valley,** 62.30 59 ⇑P P 11 39 45.3 0.0
baz=62,SNR=6.9
PTRM **Twissleman Ran** 62.36 66 *eP* P 11 39 46.0 +0.3
O11A **Cowboy Ranch,** 62.38 60 ⇑P P 11 39 46.0 +0.2
baz=62,SNR=7.5
V05C **Boulder Hill,** 62.42 66 ⇑P P 11 39 45.9 -0.2
baz=62,SNR=7.2
YFT **Old Faithful** 62.46 54 *eP* P 11 39 45.6 -0.8
HELL **Mitchell Peak,** 62.47 65 ⇓P P 11 39 46.2 -0.2
baz=62,SNR=10
S08C **White Mtn Res** 62.49 64 ⇑P P 11 39 46.6 +0.1
baz=62,SNR=9.0
M13A **Montello** 62.49 58 ⇓P P 11 39 46.4 -0.2
baz=62,SNR=6.7
RCTC **Rector, Farmer** 62.56 65 P P 11 39 48.1 +1.1
baz=62,SNR=6.2
KGM **Kluang** 62.61 241 P P 11 39 49.3 +1.9
LKWY **Lake** 62.63 53 *eP* P 11 39 49.5 +2.0
LKWY pmax pmax
comp=Z,200nm,1.0s,mb6.2
LKWY **Lake** 62.63 53 *eP* P 11 39 49.7 +2.1
comp=Z,150nm,1.0s,mb6.1
P11A **Circle Ranch,** 62.68 60 ⇑P P 11 39 48.6 +0.7
baz=62
R09A **Tonopah** 62.70 62 ⇓P P 11 39 48.2 +0.2
baz=62,SNR=9.6
SMMC **Simmler** 62.71 67 ⇑P P 11 39 48.4 +0.3
baz=62,SNR=5.5
TPH **Tonopah** 62.71 63 *eP* P 11 39 48.5 +0.4
TPH pmax pmax
comp=Z,250nm,1.0s,mb6.3
TPH **Tonopah** 62.71 63 *eP* P 11 39 48.5 +0.4
comp=Z,250nm,1.0s,mb6.3
TIN **Tinemaha** 62.73 64 ⇑P P 11 39 48.6 +0.4
baz=62
N13A **Wendover, West** 62.79 59 ⇑P P 11 39 50.0 +1.4
baz=62
O12A **Currie** 62.84 59 ⇑P P 11 39 49.4 +0.5
baz=62,SNR=8.4
RLMT **Red Lodge** 62.91 52 *eP* P 11 39 50.1 +0.8
comp=Z,381nm,1.2s,mb6.4
S09A **Goldfield** 62.93 63 ⇑P P 11 39 49.8 +0.2
baz=63,SNR=7.1
MOOW **Moose Ponds** 62.96 54 *eP* P 11 39 50.6 +0.9
comp=Z,490nm,1.4s,mb6.4
VES **Vestal, Richgr** 62.96 66 P P 11 39 49.8 +0.1
baz=63,SNR=10.0
PKM **Peak Mountain** 63.09 67 ⇑P P 11 39 50.6 0.0
baz=63
R10A **Warm Springs** 63.14 62 ⇓P P 11 39 51.2 +0.2
baz=63
Q11A **Duckwater** 63.18 61 P P 11 39 51.9 +0.7
baz=63,SNR=6.0
CWC **Cottonwood Cre** 63.21 64 ⇓P P 11 39 51.3 -0.1
baz=63,SNR=9.0
P12A **McGill** 63.24 60 ⇓P P 11 39 52.1 +0.6
baz=63
GRAC **Grapevine Rang** 63.30 64 ⇑P P 11 39 52.4 +0.5
baz=63,SNR=7.1
AHID **Auburn Hatcher** 63.38 55 *eP* P 11 39 53.4 +0.9
comp=Z,276nm,1.4s,mb6.2
DGMT **Dagmar** 63.42 47 *eP* P 11 39 52.7 -0.1
comp=Z,1µm,1.5s,mb6.8

SBC Santa Barbara 63.44 67 ⇓P P 11 39 53.4 +0.5
baz=63
ISA Isabella 63.45 65 eP P 11 39 52.1 -0.9
comp=Z,0.4nm,1.4s
ISA Isabella 63.45 65 P P 11 39 53.0 +0.1
baz=63,SNR=7.7
LAO LASA Array 63.53 49 eP P 11 39 54.0 +0.4
comp=Z,401nm,1.0s,mb6.4
TRCR Troy Canyon 63.54 61 eP P 11 39 53.1 -0.5
Q12A Willow Creek R 63.56 60 ⇓P P 11 39 54.3 +0.6
baz=63,SNR=6.8
ARVC Arvin 63.57 66 P P 11 39 54.7 +0.9
baz=63,SNR=5.8
STOK Stokkvaagen 63.76 344 eP P 11 39 56.6 +1.5
STOK AMb AMB 11 40 03.3
comp=Z,658nm,2.4s,mb6.2
STOK Stokkvaagen 63.76 344 eP P 11 39 56.6 +1.5
comp=Z,658nm,2.4s,mb6.2
BSC Santa Cruz Isl 63.78 68 ⇓P P 11 39 55.1 0.0
baz=64
MPMC Manual Prospec 63.82 64 P P 11 39 56.4 +1.0
baz=64,SNR=9.4
HWUT Hardware Ranch 63.85 56 eP P 11 39 55.8 +0.2
FURC Furnace Creek, 63.95 64 ⇓P P 11 39 56.2 -0.1
baz=64,SNR=7.5
OSI Osito Adit 63.96 66 ⇑P P 11 39 56.2 -0.2
baz=64
DUG Dugway 64.03 58 eP P 11 39 57.0 +0.2
DUG pmax pmax
comp=Z,308nm,1.2s,mb6.2
DUG Dugway 64.03 58 eP P 11 39 57.0 +0.2
comp=Z,308nm,1.2s,mb6.2
LRMC Laurel Mountai 64.06 65 ⇑P P 11 39 56.8 -0.2
baz=64,SNR=7.4
BLG Laguna Peak 64.07 67 ⇑P P 11 39 56.9 -0.2
baz=64
NOQ North Oquirrh 64.14 58 eP P 11 39 58.1 +0.6
BW06 Boulder Array 64.25 54 eP P 11 39 58.8 +0.6
comp=Z,443nm,1.2s,mb6.4
PDAR Pinedale Array 64.25 54 P P 11 39 57.8 -0.4
comp=Z,153nm,1.0s,mb6.0,baz=307,slow=1.3,SNR=28
EDW2 Edwards Air Fo 64.26 66 ⇓P P 11 39 58.3 0.0
baz=64,SNR=9.5
U10A Ash Meadows, A 64.31 64 ⇑P P 11 39 59.1 +0.5
baz=64
SNCC San Nicolas Is 64.32 68 P P 11 39 58.9 +0.2
comp=Z,0.3nm,1.0s
SNCC San Nicolas Is 64.32 68 ⇓P P 11 39 58.8 +0.1
baz=64
CTU Camp Tracy 64.33 57 eP P 11 39 58.4 -0.3
comp=Z,158nm,1.1s,mb6.0
DECC Green Verdugo 64.44 67 ⇓P P 11 39 59.0 -0.5
baz=64,SNR=5.2
SHOC Shoshone 64.67 64 ⇑P P 11 40 01.0 0.0
baz=64
FINES FINESS Array B 64.73 335 P P 11 40 00.3 -1.0
comp=Z,127nm,0.8s,mb6.0,baz=34,slow=7.5,SNR=14
GSC Goldstone 64.73 65 ⇓P P 11 40 01.4 0.0
baz=64
PUL Pulkovo 64.76 332 ⇑iP P 11 40 01.5 -0.1
PUL pmax pmax
comp=N,484nm,1.1s
PUL pmax pmax
comp=Z,502nm,1.1s,mb6.5
PUL pmax pmax
comp=E,504nm,1.0s
PUL Pulkovo 64.76 332 eP P 11 40 00.5 -1.1
FMP Fort Macarthur 64.82 67 ⇑P P 11 40 02.0 0.0
baz=64
BFSC Mount Baldy St 64.88 66 P P 11 40 02.3 -0.1
baz=65,SNR=9.4
RRX Edison Barstow 64.88 65 ⇓P P 11 40 01.7 -0.7
baz=65
U11A Corn Creek 64.89 63 ⇓P P 11 40 03.1 +0.7
baz=65
CIS Catalina Islan 64.94 67 ⇓P P 11 40 01.9 -0.9
baz=65
SCI San Clemente I 65.12 68 ⇓P P 11 40 03.5 -0.5
baz=65
TUQ Turquoise Mtn. 65.19 64 ⇓P P 11 40 04.4 0.0
baz=65,SNR=8.8
ARUT Antelope Range 65.20 61 eP P 11 40 04.7 +0.3
MOS Moscow 65.22 326 eP P 11 40 02.0 -2.6
MOS e 11 42 25.5
MOS eS S 11 48 45.4 -1.8
MOS pmax pmax
comp=Z,999nm,1.8s,mb6.5
MOS Moscow 65.22 326 eP P 11 40 03.4 -1.2
V11A Goodsprings 65.24 63 ⇓P P 11 40 04.5 -0.2
baz=65,SNR=8.0
BBRC Big Bear Sol-O 65.33 66 ⇓P P 11 40 05.1 -0.2
baz=65,SNR=6.9
HEC Hector,Ludlow 65.33 65 ⇓P P 11 40 05.3 0.0
baz=65,SNR=7.9
U12A Valley of Fire 65.41 62 ⇑P P 11 40 05.5 -0.2
baz=65
MSU Marysvale 65.49 59 eP P 11 40 07.3 +1.0
TMUT Trail Mountain 65.55 58 eP P 11 40 07.5 +0.8
NSS Namsos 65.56 343 eP P 11 40 08.5 +1.7
MURC Murrieta 65.58 66 ⇓P P 11 40 06.8 -0.1
baz=65,SNR=11
V12A Nelson 65.67 63 ⇓P P 11 40 07.5 0.0
baz=65,SNR=7.9
W12A Cal Nev Ari 65.94 64 ⇓P P 11 40 09.0 -0.2
baz=66,SNR=8.1
PFO Pinyon Flat Ob 66.05 66 ⇑P P 11 40 09.4 -0.5
baz=66,SNR=5.7
BELC Belle Mtn. 66.08 65 ⇓P P 11 40 09.3 -0.8
baz=66,SNR=8.6
OBN Obninsk 66.09 326 eP P 11 40 07.3 -2.9
OBN e 11 40 33.7
OBN e 11 42 33.0
OBN pmax pmax
comp=Z,409nm,2.5s,mb6.0
OBN Obninsk 66.09 326 eP P 11 40 11.8 +1.7
comp=Z,2μm,1.7s,mb6.8
109C Camp Elliot, M 66.10 67 ⇓P P 11 40 10.3 +0.1
baz=66,SNR=8.2
ULM Lac du Bonnet 66.22 41 P P 11 40 09.8 -1.2
comp=Z,124nm,0.8s,mb6.0,baz=307,slow=6.7,SNR=23
ULM Lac du Bonnet 66.22 41 eP P 11 40 09.7 -1.3
comp=Z,175nm,0.9s,mb6.1
RWWY Rawlins 66.27 54 eP P 11 40 11.1 -0.3
comp=Z,258nm,1.1s,mb6.2
RSSD Black Hills 66.39 50 eP P 11 40 12.1 0.0
RSSD pmax pmax
comp=Z,366nm,1.0s,mb6.4
RSSD Black Hills 66.39 50 eP P 11 40 12.1 +0.1
comp=Z,366nm,1.0s,mb6.4
NEE2 Needles Airpor 66.44 64 ⇓P P 11 40 12.3 -0.2
baz=66
IRM Iron Mountain 66.51 65 P P 11 40 12.6 -0.2
baz=66,SNR=9.2
MONP Monument Peak 66.54 67 ⇑P P 11 40 12.6 -0.5
baz=66
CTA Charters Tower 66.57 188 eP P 11 40 10.8 -2.5
comp=Z,71nm,1.3s,mb5.5
CTA Charters Tower 66.57 188 eP P 11 40 10.8 -2.5
CTA pmax pmax
comp=Z,71nm,1.3s
CTAO Charters Tower 66.57 188 eP P 11 40 11.9 -1.4
CTAO pmax pmax
comp=Z,221nm,1.3s,mb6.0
CTAO Charters Tower 66.57 188 eP P 11 40 11.9 -1.4
comp=Z,221nm,1.3s,mb6.0
BC3 Big Chuckw Mtn 66.65 65 ⇑P P 11 40 12.9 -0.8
baz=66,SNR=8.5
W13A Hualapai Mount 66.68 63 ⇑P P 11 40 13.2 -0.7
baz=66,SNR=8.6
DVTC Desert V Tower 66.89 67 ⇓P P 11 40 14.9 -0.4
baz=67,SNR=5.0
SWSC Sam W. Stewart 66.90 66 ⇓P P 11 40 14.7 -0.6
baz=67
VSU Vasula 66.93 333 eP P 11 40 14.8 -0.7
VSU Vasula 66.93 333 eP P 11 40 14.9 -0.6
X13A Yucca 67.04 64 ⇑P P 11 40 15.8 -0.5
baz=67,SNR=11
PDMCI Parker Dam,Lak 67.05 64 ⇑P P 11 40 15.8 -0.5
baz=67,SNR=9.2
W14A Seligman 67.10 63 ⇓P P 11 40 16.6 0.0
baz=67,SNR=12
Y12C Blythe 67.17 65 ⇓P P 11 40 16.9 -0.1
baz=67,SNR=8.4
GLA Glamis 67.44 65 ⇓P P 11 40 18.3 -0.5
baz=67,SNR=12
PHWY Pilot Hill 67.51 53 eP P 11 40 19.5 +0.3
VOR Voronezh 67.53 322 P P 11 40 17.0 -2.4
VOR pmax pmax
comp=Z,2μm,2.5s,mb6.6
Y13A Salome 67.56 64 ⇓P P 11 40 19.6 0.0
baz=67
AGMN Agassiz Refuge 67.61 43 eP P 11 40 19.6 -0.2
comp=Z,298nm,1.0s,mb6.3
W15A Williams 67.62 62 ⇓P P 11 40 20.3 +0.4
baz=67,SNR=11
X14A Yava 67.71 63 ⇓P P 11 40 20.7 +0.2
baz=67,SNR=12
WUAZ Wupatki 67.94 61 eP P 11 40 21.6 -0.3
WUAZ Wupatki 67.94 61 ⇑P P 11 40 22.5 +0.5
baz=68
Y14A Wickenburg 67.99 64 ⇓P P 11 40 22.7 +0.4
baz=68,SNR=12
X15A Humboldt 68.10 63 ⇑P P 11 40 22.8 -0.1
baz=68,SNR=12
DOMB Dombas 68.38 343 eP P 11 40 27.2 +2.5
DOMB AMb AMB 11 40 34.2
comp=Z,595nm,1.8s,mb6.3
DOMB Dombas 68.38 343 eP P 11 40 27.2 +2.5
comp=Z,595nm,1.8s,mb6.3
Z14A Wintersburg 68.41 64 ⇑P P 11 40 23.9 -1.0
baz=68
WRAB Tennant Creek 68.46 200 eP P 11 40 24.8 -0.4
WRAB pmax pmax
comp=Z,597nm,1.4s,mb6.4
WRAB Tennant Creek 68.46 200 eP P 11 40 24.8 -0.4
comp=Z,597nm,1.4s,mb6.4
WB2 Warramunga Arr 68.47 200 eP P 11 40 24.2 -1.0
WB2 Warramunga Arr 68.47 200 eP P 11 40 27.9 +2.7
WRA Warramunga Arr 68.47 200 P P 11 40 24.0 -1.3
comp=Z,55nm,0.8s,mb5.6,baz=27,slow=7.3,SNR=18
NB2 NORSAR Subarra 68.84 342 P P 11 40 31.4 +3.8
comp=Z,494nm,1.2s,mb6.3,baz=26,slow=6.5
NOA NORSAR Array B 68.84 342 P P 11 40 26.9 -0.6
comp=Z,31nm,0.8s,mb5.3,baz=26,slow=6.3,SNR=4.9
DZM Mont Dzumac 69.01 169 P P 11 40 28.4 -0.2
comp=Z,32nm,0.9s,mb5.2,baz=46,slow=12,SNR=5.3
NAO01 NORSAR Array S 69.09 342 eP P 11 40 33.0 +3.9
comp=Z,330nm,1.3s,mb6.1
BORG Borgarnes 69.15 358 eP P 11 40 30.4 +0.9
comp=Z,548nm,1.2s,mb6.4
FITZ Fitzroy Crossi 69.25 209 eP P 11 40 29.8 -0.3
comp=Z,171nm,1.0s,mb5.9
115A Sonoran Desert 69.30 64 ⇑P P 11 40 30.5 +0.1
baz=69,SNR=6.2
116A Eloy 69.72 64 ⇑P P 11 40 33.1 +0.1
baz=69,SNR=9.8
HYA Hoyanger 69.75 344 eP P 11 40 36.7 +3.5
EYMN Ely 69.88 41 eP P 11 40 34.1 +0.2
comp=Z,190nm,1.0s,mb6.0
SDCO Great Sand Dun 69.91 56 eP P 11 40 34.3 +0.1
comp=Z,159nm,0.9s,mb6.0
OSL Oslo 69.94 341 eP P 11 40 39.8 +5.4
OSL AMb AMB 11 40 41.9
comp=Z,583nm,1.6s,mb6.2
SUE Sulen 70.11 345 eP P 11 40 37.4 +2.0
SUE AMb AMB 11 40 45.6
comp=Z,956nm,1.5s,mb6.5
SUE Sulen 70.11 345 eP P 11 40 37.4 +2.0
comp=Z,956nm,1.5s,mb6.5
KONO Kongsberg 70.45 342 eP P 11 40 42.3 +4.8
KONO Kongsberg 70.45 342 eP P 11 40 39.7 +2.2
KONO pmax pmax
comp=Z,306nm,1.1s,mb6.1
KONO Kongsberg 70.45 342 eP P 11 40 39.7 +2.2
comp=Z,306nm,1.1s,mb6.1
TUC Tucson 70.46 64 eP P 11 40 37.6 0.0
TUC pmax pmax
comp=Z,221nm,1.6s,mb5.8
TUC Tucson 70.46 64 eP P 11 40 37.6 0.0
comp=Z,221nm,1.6s,mb5.8
ASK Askoy 70.56 344 eP P 11 40 38.8 +0.6
ASK epP pP 11 40 41.6 -2.0
BER Bergen 70.63 344 eP P 11 40 41.5 +2.8
EGD Espegrend 70.75 344 eP P 11 40 42.2 +2.9
LAZ Ladron 71.25 60 eP P 11 40 42.9 +0.6
ANMO Albuquerque 71.27 59 eP P 11 40 41.9 -0.6
ANMO pmax pmax
comp=Z,142nm,1.0s
ANMO Albuquerque 71.27 59 eP P 11 40 41.9 -0.6
comp=Z,142nm,1.0s,mb5.8
BLS5 Blasjo 71.31 343 eP P 11 40 43.4 +0.7
BLS5 AMb AMB 11 40 51.8
comp=Z,224nm,1.9s,mb5.8
Y22C IRIS PASSCAL I 71.61 60 ⇓P P 11 40 45.1 +0.6
baz=71
LPM Los Pinos Moun 71.61 59 eP P 11 40 44.6 +0.1
KIV Kislovodsk 71.67 315 eP P 11 40 40.9 -4.0
KIV pmax pmax
comp=Z,256nm,2.5s,mb5.7
KIV Kislovodsk 71.67 315 eP P 11 40 47.6 +2.8
comp=Z,344nm,0.9s,mb6.3
SUW Suwalki 71.72 332 eP P 11 40 44.0 -1.2
BNM Barren Site 71.73 60 eP P 11 40 46.5 +1.3
STAV Stavanger 71.91 344 eP P 11 40 49.9 +3.6
ZEI Tsey 71.94 313 eP P 11 40 43.8 -2.7
ZEI e*PP pP 11 40 52.9 +1.0
ZEI pmax pmax
comp=Z,139nm,1.1s,mb5.8
SNART Snartemo 72.15 343 eP P 11 40 47.6 -0.2
SNART epP pP 11 40 51.2 -2.0
ASAR Alice Springs 72.16 200 P P 11 40 47.9 0.0
comp=Z,80nm,0.8s,mb5.7,baz=19,slow=6.4,SNR=21
ASAR PKPPKP 12 08 37.8
comp=Z,3.7nm,0.9s,baz=195,slow=2.3,SNR=5.7
AKASG Malin Array Be 72.32 327 P P 11 40 48.0 -0.9
comp=Z,78nm,0.7s,mb5.8,baz=34,slow=6.1,SNR=9.9
CBKS Cedar Bluff 72.39 52 eP P 11 40 47.2 -2.0
CBKS pmax pmax
comp=Z,342nm,1.1s,mb6.2
CBKS Cedar Bluff 72.39 52 eP P 11 40 47.2 -2.0
comp=Z,342nm,1.1s,mb6.2
BSD Bornholm Skovb 73.23 337 iP P 11 40 53.8 -0.4
comp=Z,263nm,1.1s,mb6.1
BSD Bornholm Skovb 73.23 337 eP P 11 40 53.8 -0.4
BSD pmax pmax
comp=Z,260nm,1.1s,mb6.1
BSD Bornholm Skovb 73.23 337 eP P 11 40 53.8 -0.4
comp=Z,263nm,1.1s,mb6.1
SCHQ Schefferville 73.30 23 P P 11 40 53.8 -0.8
comp=Z,81nm,1.0s,mb5.6,baz=335,slow=6.2,SNR=7.7
SCHQ Schefferville 73.30 23 eP P 11 40 54.9 +0.3
comp=Z,110nm,1.0s,mb5.7
COP Copenhagen 73.37 339 iP P 11 40 58.6 +3.6
comp=Z,172nm,0.7s,mb6.1
COP Copenhagen 73.37 339 iP P 11 40 58.6 +3.6
COP pmax pmax
comp=Z,170nm,0.7s,mb6.1
SOC Sochi 73.38 316 eP P 11 40 57.1 +2.0
SOC pmax pmax
comp=Z,167nm,0.8s,mb6.0
GNI Garni 73.42 311 eP P 11 40 53.1 -2.2
GNI pmax pmax
comp=Z,413nm,2.5s
GNI Garni 73.42 311 eP P 11 40 53.2 -2.1
MUD Monsted U'grnd 73.45 341 iP P 11 40 57.7 +2.2
MUD Monsted U'grnd 73.45 341 eP P 11 40 57.7 +2.2
PALK Pallekele 73.51 263 eP P 11 40 56.6 +0.8
comp=Z,282nm,1.4s,mb6.0
KSU1 Kansas State U 73.87 50 eP P 11 40 55.6 -2.4
comp=Z,136nm,0.8s,mb5.9
AMTX Amarillo 74.11 56 eP P 11 40 58.7 -0.6
comp=Z,396nm,1.2s,mb6.2
RGN Rugen 74.16 338 eP P 11 40 59.3 -0.3
comp=Z,792nm,1.4s,mb6.5
RGN Rugen 74.16 338 eP P 11 40 59.0 -0.7
comp=Z,841nm,0.9s,mb6.7
MBWA Marble Bar 74.19 213 eP P 11 40 59.0 -0.8
comp=Z,328nm,1.5s,mb6.0
JFWS Jewell Farm 74.23 44 eP P 11 40 59.2 -0.9
JFWS pmax pmax
comp=Z,99nm,0.9s,mb5.7
JFWS Jewell Farm 74.23 44 eP P 11 40 59.2 -0.9
comp=Z,100nm,0.9s,mb5.7
SIM Simferopol' 74.90 321 eP P 11 41 03.9 0.0
SIM pmax pmax
comp=Z,115nm,0.9s,mb5.8
LVV L'vov 74.95 329 eP P 11 41 03.5 -0.7
BSEG Bad Segeberg 75.48 339 eP P 11 41 07.1 -0.2
comp=Z,446nm,1.2s,mb6.3
BSEG Bad Segeberg 75.48 339 eP P 11 41 07.1 -0.2
BSEG pmax pmax
comp=Z,446nm,1.2s,mb6.3
HLG Helgoland 75.83 340 eP P 11 41 09.3 0.0
comp=Z,586nm,1.2s,mb6.4
WMOK Wichita Mounta 75.86 54 eP P 11 41 08.8 -0.7
WMOK pmax pmax
comp=Z,180nm,1.1s,mb5.9
WMOK Wichita Mounta 75.86 54 eP P 11 41 08.1 -1.4
comp=Z,182nm,1.1s,mb5.9
RUE Ruedersdorf 75.88 336 eP P 11 41 09.2 -0.4
comp=Z,384nm,1.2s,mb6.2
OJC Ojcow 76.05 332 eP P 11 41 08.8 -1.7
STHS Stebnicka Huta 76.25 331 eP P 11 41 12.6 +0.9
STHS Stebnicka Huta 76.25 331 eP P 11 41 12.7 +1.0
STHS pmax pmax
comp=Z,68nm,1.2s,mb5.5
STHS Stebnicka Huta 76.25 331 eP P 11 41 12.7 +1.0
comp=Z,68nm,1.2s,mb5.5
KOLS Kolonicke sedl 76.31 330 eP P 11 41 12.4 +0.3
KSP Ksiaz 76.60 334 eP P 11 41 13.0 -0.7
LTX Lajitas 76.91 61 eP P 11 41 14.7 -0.7
LTX pmax pmax
comp=Z,203nm,0.6s,mb6.2
LTX Lajitas 76.91 61 eP P 11 41 14.7 -0.7
comp=Z,204nm,0.6s,mb6.2
TXAR Lajitas Array 76.91 61 P P 11 41 14.5 -0.9
comp=Z,164nm,0.6s,mb6.2,baz=303,slow=3.8,SNR=54
OKC Ostrava-Krasne 76.91 333 eP P 11 41 15.0 -0.4
UPC Upice 76.98 334 eP P 11 41 16.3 +0.4
DPC Dobruska-Polom 77.03 334 eP P 11 41 15.8 -0.3
CLL Collm 77.14 336 eP P 11 41 16.0 -0.7
comp=Z,352nm,0.9s,mb6.3
CLL Collm 77.14 336 ⇑iP P 11 41 16.3 -0.4
CLL i pP 11 41 21.2 -1.0
CLL i 11 41 26.0
CLL pmax pmax
comp=Z,344nm,0.9s,mb6.3
CLL Collm 77.14 336 ⇑iP P 11 41 16.3 -0.4
comp=Z,194nm,0.9s,mb6.0
CLL i pP 11 41 21.2 -1.0
CLL i 11 41 26.0
CLL Collm 77.14 336 ⇑iP P 11 41 16.3 -0.4
comp=Z,194nm,0.9s,mb6.0
CLL iSP SP 11 41 21.2 -3.0
CLL iPcP PcP 11 41 26.0 -1.5
comp=Z,356nm,0.9s
CLL ePP PP 11 44 05.0 -5.5
MORC Moravsky Berou 77.16 333 eP P 11 41 16.9 +0.1
MORC pmax pmax
comp=Z,159nm,1.0s,mb5.9
MORC Moravsky Berou 77.16 333 eP P 11 41 16.9 +0.1
comp=Z,158nm,1.0s,mb5.9
BRG Berggiesshubel 77.27 336 eP P 11 41 16.8 -0.6
comp=Z,150nm,1.1s,mb5.8
LIKS Likavka 77.28 332 eP P 11 41 18.1 +0.6
LIKS pmax pmax
comp=Z,71nm,1.1s,mb5.5
LIKS Likavka 77.28 332 eP P 11 41 18.1 +0.6
comp=Z,71nm,1.1s,mb5.5
KECS Kecovo 77.31 331 eP P 11 41 18.4 +0.7
KECS pmax pmax
comp=Z,25nm,1.0s,mb5.1
KECS Kecovo 77.31 331 eP P 11 41 18.4 +0.7
comp=Z,25nm,1.0s,mb5.1
WSAR Wadi Sarin 77.32 290 P P 11 41 18.0 +0.2
comp=Z,73nm,1.1s,mb5.5,baz=102,slow=8.2,SNR=2.8
CLZ Clausthal 77.37 338 eP P 11 41 18.2 +0.2
comp=Z,498nm,1.0s,mb6.4
CLZ Clausthal 77.37 338 eP P 11 41 18.2 +0.2
CLZ pmax pmax
comp=Z,498nm,1.0s,mb6.4
FBE Freiberg 77.39 336 eP P 11 41 17.8 -0.3
comp=Z,318nm,1.2s,mb6.1
PVCC Panska Ves 77.39 335 eP P 11 41 18.2 0.0
IBBN Ibbenburen 77.59 340 eP P 11 41 19.1 -0.2
comp=Z,813nm,1.3s,mb6.5
TIRR Tirgusor 77.72 324 eP P 11 41 20.5 +0.5
AAM Ann Arbor 77.75 40 eP P 11 41 20.5 +0.3
AAM pmax pmax
comp=Z,158nm,1.0s,mb5.9
AAM Ann Arbor 77.75 40 eP P 11 41 20.5 +0.3
comp=Z,158nm,1.0s,mb5.9
PRA Prague 77.84 335 ex P 11 41 23.0 +2.3
VYHS Vyhne 77.86 332 eP P 11 41 21.2 +0.5
VYHS Vyhne 77.86 332 eP P 11 41 21.3 +0.6
VYHS pmax pmax
comp=Z,46nm,1.2s,mb5.3
VYHS Vyhne 77.86 332 eP P 11 41 21.3 +0.6
comp=Z,46nm,1.2s,mb5.3
PRU Pruhonice 77.88 335 eP P 11 41 20.9 0.0
PSZ Piszkesteto 78.00 331 eP P 11 41 22.2 +0.7
MALT Malatya 78.03 314 eP P 11 41 23.7 +2.0
MALT pmax pmax
comp=Z,117nm,0.9s,mb5.8
MALT Malatya 78.03 314 eP P 11 41 23.7 +2.0
comp=Z,116nm,0.9s,mb5.8
TANN Tannenbergstha 78.10 336 eP P 11 41 22.1 0.0
comp=Z,619nm,1.9s,mb6.2
WERD Werda 78.11 336 eP P 11 41 22.1 0.0
comp=Z,623nm,1.7s,mb6.3
MOX Moxa 78.12 337 eP P 11 41 22.1 -0.1
comp=Z,418nm,1.2s,mb6.2
MOX Moxa 78.12 337 eP P 11 41 22.2 0.0
GUNZ Gunzen 78.18 336 eP P 11 41 22.5 0.0
comp=Z,240nm,1.1s,mb6.0
WERN Wernitzgruen 78.24 336 eP P 11 41 22.9 +0.1
comp=Z,340nm,1.1s,mb6.2
NKC Novy Kostel 78.27 336 eP P 11 41 22.9 -0.1
SMOL Smolenice 78.30 332 eP P 11 41 23.9 +0.7
JCT Junction City 78.39 58 eP P 11 41 24.0 +0.3
JCT pmax pmax
comp=Z,390nm,1.0s,mb6.3
JCT Junction City 78.39 58 eP P 11 41 24.0 +0.4
comp=Z,390nm,1.1s,mb6.2
UBBA Unterbreizbach 78.40 338 eP P 11 41 23.7 0.0
comp=Z,700nm,1.8s,mb6.3
BUG Bochum--Univer 78.51 340 eP P 11 41 24.3 -0.1
comp=Z,709nm,1.4s,mb6.4
MANZ Manzenberg 78.58 336 eP P 11 41 24.8 0.0
comp=Z,244nm,1.1s,mb6.0
ZST Bratislava 78.68 332 eP P 11 41 26.5 +1.2
ZST pmax pmax
comp=Z,54nm,1.1s,mb5.4
ZST Bratislava 78.68 332 eP P 11 41 26.5 +1.2
comp=Z,54nm,1.1s,mb5.4
SIUC Southern Illin 78.72 46 eP P 11 41 24.5 -1.0
comp=Z,250nm,1.1s,mb6.1
ROTZ Rotzenmuhle 78.75 336 eP P 11 41 26.1 +0.4
comp=Z,815nm,1.9s,mb6.3
STKA Stephens Creek 78.76 191 eP P 11 41 23.8 -1.9
comp=Z,42nm,0.8s,mb5.4
STKA Stephens Creek 78.76 191 P P 11 41 24.8 -1.0
comp=Z,73nm,0.9s,mb5.6,baz=353,slow=7.3,SNR=19
KHC Kasperske Hory 78.93 335 eP P 11 41 26.5 -0.2
GRA1 Grafenberg Arr 79.09 337 eP P 11 41 28.0 +0.4
comp=Z,597nm,1.3s,mb6.4
GRF Grafenberg Arr 79.09 337 eP P 11 41 28.0 +0.4
comp=Z,597nm,1.3s,mb6.4
GRF Grafenberg Arr 79.09 337 eP P 11 41 28.0 +0.4
GRF pmax pmax
comp=Z,597nm,1.3s,mb6.4
GRFO Grafenberg 79.10 337 eP P 11 41 27.6 0.0
WET Wettzell 79.12 335 eP P 11 41 28.2 +0.5
comp=Z,592nm,1.6s,mb6.3
WET Wettzell 79.12 335 eP P 11 41 28.2 +0.5
WET pmax pmax
comp=Z,592nm,1.6s,mb6.3
GEC2 GERESS Array S 79.15 335 eP P 11 41 27.9 0.0
comp=Z,698nm,2.2s,mb6.2
GEC2 GERESS Array S 79.15 335 eP P 11 41 27.9 0.0
GEC2 pmax pmax
comp=Z,698nm,2.2s,mb6.2
GERES GERESS Array B 79.15 335 P P 11 41 27.8 0.0
comp=Z,32nm,0.8s,mb5.3,baz=35,slow=4.5,SNR=12
BRTR Keskin Array B 79.24 318 P P 11 41 29.3 +0.9
comp=Z,50nm,0.8s,mb5.5,baz=59,slow=3.3,SNR=7.4
CONA Conrad Observa 79.31 333 P 11 41 28.6 -0.2
comp=Z,58nm,0.7s,mb5.6
TNS Taunus Mts 79.34 339 eP P 11 41 29.2 +0.3
comp=Z,303nm,1.0s,mb6.2
TNS Taunus Mts 79.34 339 eP P 11 41 29.2 +0.3
TNS pmax pmax
comp=Z,303nm,1.0s,mb6.2
DLF Lyons Farm 79.36 348 eP P 11 41 26.4 -2.6
DSB Dublin 79.39 348 eP P 11 41 29.6 +0.5
comp=Z,387nm,1.4s,mb6.1
DCN Croghan 79.41 349 eP P 11 41 26.9 -2.4
BEBN Eben Emael 79.48 340 P P 11 41 29.6 -0.1
comp=Z,102nm,0.9s,mb5.8

BEBN AP pP 11 41 32.2 -3.0
BEBN E 11 41 37.4
BEBN E 11 41 48.9
ANTO Ankara 79.52 318 *eP* **P 11 41 31.7 +1.8**
ANTO pmax pmax
comp=Z,237nm,1.1s,mb6.0
ANTO Ankara 79.52 318 *eP* **P 11 41 31.7 +1.8**
comp=Z,237nm,1.1s,mb6.0
MEM Membach 79.58 340 P **P 11 41 30.3 +0.1**
comp=Z,217nm,0.9s,mb6.1
MEM E pP 11 41 35.6 0.0
MEM E 11 41 40.1
MEM E 11 41 49.4
SZH Strazhica 79.71 324 *eP* **P 11 41 34.0 +3.1**
UCC Uccle 79.78 341 P **P 11 41 32.6 +1.3**
UCC E pP 11 41 37.3 +0.5
ALLY Alegheny Colle 79.82 38 *eP* **P 11 41 31.1 -0.4**
MOA Molln 79.87 334 ⇑*i* **P 11 41 33.6 +1.8**
comp=Z,83nm,0.8s,mb5.7
MOA Molln 79.87 334 P 11 41 33.6 +1.8
comp=Z,83nm,0.8s,mb5.7
RIV Riverview 79.91 183 *eP* **P 11 41 32.1 +0.1**
BCLA Clavier 79.92 340 P **P 11 41 32.0 -0.1**
comp=Z,148nm,1.1s,mb5.8
UTMT University of 79.97 47 *eP* **P 11 41 32.1 -0.2**
comp=Z,636nm,1.1s,mb6.5
PVL Pavlikeni 79.99 325 *eP* **P 11 41 35.0 +2.6**
TAOE Nuku Hiva Isla 80.01 114 *eP* **P 11 41 32.8 +0.3**
comp=Z,621nm,1.4s,mb6.3
SNF Seneffe 80.07 341 P **P 11 41 32.6 -0.2**
comp=Z,104nm,1.2s,mb5.6
SNF E 11 41 40.3
JMB Yambol 80.11 324 *eP* **P 11 41 33.0 -0.1**
PMOR Pomariorio Ree 80.13 124 *eP* **P 11 41 33.3 +0.1**
comp=Z,106nm,1.0s,mb5.7
NCB Newcomb 80.28 33 *eP* **P 11 41 33.8 -0.2**
comp=Z,67nm,1.0s,mb5.5
GIVF Givet 80.33 341 *eP* **P 11 41 33.8 -0.5**
comp=Z,645nm,1.1s,mb6.2
GIVF Givet 80.33 341 *eP* **P 11 41 33.8 -0.5**
GIVF pmax pmax
comp=Z,322nm,1.1s,mb6.2
GIVF Givet 80.33 341 *eP* **P 11 41 33.8 -0.5**
comp=Z,322nm,1.1s,mb6.2
DOU Dourbes 80.39 341 P **P 11 41 34.2 -0.3**
comp=Z,70nm,1.3s,mb5.4
DOU XP sP 11 41 40.5 -1.5
FORT Forrest 80.42 203 *eP* **P 11 41 33.7 -1.1**
comp=Z,203nm,0.7s,mb6.2
WLF Walferdange 80.42 340 *eP* **P 11 41 33.8 -1.0**
comp=Z,1μm,1.9s,mb6.5
WLF Walferdange 80.42 340 P **P 11 41 35.1 +0.3**
WLF E 11 41 42.3
WLF Walferdange 80.42 340 *eP* **P 11 41 36.7 +1.9**
WLF pmax pmax
comp=Z,1μm,1.8s,mb6.5
WLF Walferdange 80.42 340 *eP* pP 11 41 42.8 +2.5
comp=Z,1μm,1.8s
FUR Furstenfeldbru 80.47 336 *eP* **P 11 41 35.5 +0.5**
comp=Z,2μm,2.1s,mb6.6
FUR Furstenfeldbru 80.47 336 *eP* **P 11 41 35.5 +0.5**
FUR pmax pmax
comp=Z,2μm,2.1s,mb6.6
VAH Vaihoa 80.47 124 *eP* **P 11 41 35.0 0.0**
comp=Z,126nm,1.0s,mb5.8
STU Stuttgart 80.48 337 *eP* **P 11 41 35.4 +0.3**
comp=Z,289nm,1.2s,mb6.1
STU Stuttgart 80.48 337 *eP* **P 11 41 34.7 -0.4**
STU pmax pmax
comp=Z,179nm,0.9s,mb6.0
STU Stuttgart 80.48 337 *eP* **P 11 41 34.7 -0.4**
comp=Z,179nm,0.9s,mb6.0
BAIF Baives 80.51 341 *eP* **P 11 41 34.8 -0.4**
comp=Z,886nm,1.4s,mb6.2
BAIF Baives 80.51 341 *eP* **P 11 41 34.8 -0.4**
BAIF pmax pmax
comp=Z,443nm,1.4s,mb6.2
BAIF Baives 80.51 341 *eP* **P 11 41 34.8 -0.4**
comp=Z,443nm,1.4s,mb6.2
WVT Waverly 80.65 47 *eP* **P 11 41 35.0 -1.0**
BOLS Boljevac 80.78 327 ⇓*i*P **P 11 41 36.0 -0.6**
KBA Koelnbreinsper 80.84 334 ⇑*i* **P 11 41 41.0 +4.0**
comp=Z,298nm,0.8s,mb6.3
KBA Koelnbreinsper 80.84 334 P 11 41 41.0 +4.0
comp=Z,298nm,0.8s,mb6.3
DIM Dimitrovgrad 80.89 324 *eP* **P 11 41 38.0 +0.7**
PKME Peaks-Kenny Pk 80.94 30 *eP* **P 11 41 37.4 -0.1**
comp=Z,73nm,1.0s,mb5.6
OBKA Obir 80.98 333 ⇑*i* **P 11 41 39.2 +1.4**
comp=Z,88nm,0.9s,mb5.7
OBKA Obir 80.98 333 P 11 41 39.2 +1.4
comp=Z,88nm,0.9s,mb5.7
ACCN Adirondack Com 80.99 33 *eP* **P 11 41 37.2 -0.6**
OXF Oxford 81.11 49 *eP* **P 11 41 38.0 -0.4**
OXF pmax pmax
comp=Z,410nm,1.1s,mb6.3
OXF Oxford 81.11 49 *eP* **P 11 41 37.2 -1.2**
comp=Z,411nm,1.1s,mb6.3
BFO Black Forest 81.11 338 *eP* **P 11 41 41.1 +2.6**
comp=Z,387nm,1.2s,mb6.2
BFO Black Forest 81.11 338 *eP* **P 11 41 41.1 +2.6**
BFO pmax pmax
comp=Z,387nm,1.2s,mb6.2
VAL Valentia 81.16 350 ⇑*i*P **P 11 41 38.4 -0.3**
WTTA Wattenberg 81.18 335 ⇓*i* **P 11 41 39.4 +0.6**
comp=Z,221nm,0.8s,mb6.1
WTTA Wattenberg 81.18 335 P 11 41 39.4 +0.6
comp=Z,221nm,0.8s,mb6.1
PPT Papeete 81.25 127 *eP* **P 11 41 39.3 +0.1**
comp=Z,112nm,1.5s,mb5.6
PPT Papeete 81.25 127 P **P 11 41 38.5 -0.7**
comp=Z,66nm,1.0s,mb5.5,baz=304,slow=1.4,SNR=5.5
CDF Champ du Feu 81.31 339 *eP* **P 11 41 39.3 -0.2**
comp=Z,713nm,1.1s,mb6.2
CDF Champ du Feu 81.31 339 *eP* **P 11 41 39.3 -0.2**
CDF pmax pmax
comp=Z,357nm,1.1s,mb6.2
CDF Champ du Feu 81.31 339 *eP* **P 11 41 39.3 -0.2**
comp=Z,357nm,1.1s,mb6.2
PAE Paea 81.32 127 *eP* **P 11 41 39.4 -0.2**
comp=Z,108nm,1.2s,mb5.7
PAE Paea 81.32 127 *eP* **P 11 41 39.4 -0.2**
PAE pmax pmax
comp=Z,108nm,1.2s,mb5.7
PTCC Patocco-Chiusa 81.44 334 P **P 11 41 39.4 -0.8**
comp=Z,117nm,0.7s,mb5.9
CNB Canberra Magne 81.46 184 *eP* **P 11 41 39.5 -0.8**
comp=Z,48nm,1.2s,mb5.3
GMNA Gemona 81.60 334 P **P 11 41 40.2 -0.8**
comp=Z,943nm,0.8s,mb6.8
TVO Taravao 81.60 127 *eP* **P 11 41 41.4 +0.4**
comp=Z,137nm,1.1s,mb5.8
TVO Taravao 81.60 127 *eP* **P 11 41 41.4 +0.4**
TVO pmax pmax
comp=Z,137nm,1.1s,mb5.8
KVTX Kingsville 81.67 59 *eP* **P 11 41 42.9 +1.5**
comp=Z,229nm,0.9s,mb6.1
MEZF Maizieres J'vi 81.77 340 *eP* **P 11 41 41.8 -0.2**
comp=Z,2μm,1.3s,mb6.5
MEZF Maizieres J'vi 81.77 340 *eP* **P 11 41 41.8 -0.2**
comp=Z,2μm,1.3s,mb6.8
HAU Haudompre 81.92 339 *eP* **P 11 41 42.3 -0.4**
comp=Z,587nm,1.2s,mb6.1
HAU Haudompre 81.92 339 *eP* **P 11 41 42.3 -0.4**
HAU pmax pmax
comp=Z,294nm,1.2s,mb6.1
HAU Haudompre 81.92 339 *eP* **P 11 41 42.3 -0.4**
comp=Z,294nm,1.2s,mb6.1
HINF Hinteralfeld 81.97 339 *eP* **P 11 41 42.4 -0.6**
comp=Z,421nm,1.2s,mb6.0
HINF Hinteralfeld 81.97 339 *eP* **P 11 41 42.4 -0.6**
HINF pmax pmax
comp=Z,210nm,1.2s,mb5.9
HINF Hinteralfeld 81.97 339 *eP* **P 11 41 42.4 -0.6**
comp=Z,210nm,1.2s,mb5.9
MMB Musomiste 82.00 325 *eP* **P 11 41 43.0 -0.2**
PLE Pljevlja 82.15 329 ⇑*i*P **P 11 41 44.3 +0.3**
IVA Berane 82.37 328 ⇑*i*P **P 11 41 44.3 -0.8**
TZTN Tazewell 82.42 44 *eP* **P 11 41 44.1 -1.2**
comp=Z,87nm,0.9s,mb5.7
UPM Unac-Piva 82.44 329 ⇑*i*P **P 11 41 44.7 -0.7**
PVY Plav 82.58 328 ⇑*i*P **P 11 41 45.7 -0.5**
LUPA Lehigh Univers 82.68 36 *eP* **P 11 41 46.3 -0.5**
FLN La Foliniere 82.73 344 *eP* **P 11 41 46.2 -0.7**
NKY Niksic 82.75 329 ⇑*i*P **P 11 41 45.6 -1.5**
MVL Millersville 82.79 37 *eP* **P 11 41 46.7 -0.6**

LDF La Druitiere 82.82 343 *eP* **P 11 41 46.7 -0.7**
comp=Z,1μm,1.6s,mb6.5
LDF La Druitiere 82.82 343 *eP* **P 11 41 46.7 -0.7**
LDF pmax pmax
comp=Z,743nm,1.6s,mb6.5
LDF La Druitiere 82.82 343 *eP* **P 11 41 46.7 -0.7**
comp=Z,743nm,1.6s,mb6.5
BRY Bratogost 82.83 329 ⇑*i*P **P 11 41 45.9 -1.6**
FWV Forest Hill 82.85 41 *eP* **P 11 41 46.9 -0.7**
PAL Palisades 82.92 35 *eP* **P 11 41 47.2 -0.8**
PAL pmax pmax
comp=Z,97nm,1.0s,mb5.8
PAL Palisades 82.92 35 *eP* **P 11 41 46.3 -1.7**
comp=Z,97nm,1.0s,mb5.8
BRNJ Basking Ridge 82.94 35 *eP* **P 11 41 48.2 +0.2**
TTG Podgorica 82.98 328 ⇑*i*P **P 11 41 47.7 -0.6**
CPNY Central Park 83.09 35 *eP* **P 11 41 47.7 -1.1**
GRR Gorron 83.16 344 *eP* **P 11 41 48.7 -0.5**
comp=Z,1μm,1.2s,mb6.5
GRR Gorron 83.16 344 *eP* **P 11 41 48.7 -0.5**
GRR pmax pmax
comp=Z,578nm,1.2s,mb6.5
GRR Gorron 83.16 344 *eP* **P 11 41 48.7 -0.5**
comp=Z,578nm,1.2s,mb6.5
ELN Prospectdale 83.17 41 *eP* **P 11 41 47.9 -1.3**
LOR Lormes 83.21 340 *eP* **P 11 41 49.0 -0.5**
comp=Z,664nm,0.9s,mb6.3
LOR Lormes 83.21 340 *eP* **P 11 41 49.0 -0.5**
LOR pmax pmax
comp=Z,332nm,0.9s,mb6.4
LOR Lormes 83.21 340 *eP* **P 11 41 49.0 -0.5**
comp=Z,332nm,0.9s,mb6.4
BUM Brajici-Budva 83.23 328 ⇑*i*P **P 11 41 48.8 -0.7**
HCY Herceg Novi 83.24 329 ⇑*i*P **P 11 41 48.9 -0.7**
CABF La Chapelle 83.28 339 *eP* **P 11 41 49.9 +0.1**
comp=Z,1μm,1.7s,mb6.4
CABF La Chapelle 83.28 339 *eP* **P 11 41 49.9 +0.1**
CABF pmax pmax
comp=Z,738nm,1.7s,mb6.4
CABF La Chapelle 83.28 339 *eP* **P 11 41 49.9 +0.1**
comp=Z,738nm,1.7s,mb6.4
ULC Ulcinj 83.39 328 ⇑*i*P **P 11 41 49.5 -0.9**
SSF Saint Saulge 83.49 340 *eP* **P 11 41 50.4 -0.5**
comp=Z,342nm,0.9s,mb6.1
SSF Saint Saulge 83.49 340 *eP* **P 11 41 50.4 -0.5**
SSF pmax pmax
comp=Z,171nm,0.9s,mb6.1
SSF Saint Saulge 83.49 340 *eP* **P 11 41 50.4 -0.5**
comp=Z,171nm,0.9s,mb6.1
HYF Humbligny 83.49 341 *eP* **P 11 41 50.9 0.0**
ASF Jabal al Asfar 83.59 311 P **P 11 41 52.1 +0.7**
comp=Z,123nm,0.9s,mb6.0,baz=201,slow=1.5,SNR=12
SGMF Saint Gilles 83.61 345 *eP* **P 11 41 51.1 -0.4**
comp=Z,947nm,1.1s,mb6.5
SGMF Saint Gilles 83.61 345 *eP* **P 11 41 51.1 -0.4**
SGMF pmax pmax
comp=Z,474nm,1.1s,mb6.5
SGMF Saint Gilles 83.61 345 *eP* **P 11 41 51.1 -0.4**
comp=Z,474nm,1.1s,mb6.5
ROSF Rostrenen 83.66 345 *eP* **P 11 41 51.4 -0.3**
comp=Z,927nm,1.1s,mb6.5
ROSF Rostrenen 83.66 345 *eP* **P 11 41 51.4 -0.3**
ROSF pmax pmax
comp=Z,464nm,1.1s,mb6.5
ROSF Rostrenen 83.66 345 *eP* **P 11 41 51.4 -0.3**
comp=Z,464nm,1.1s,mb6.5
ORO Oropa 83.70 337 P **P 11 41 52.5 +0.5**
ORO pmax pmax
comp=Z,197nm,1.0s,mb6.2
ORO Oropa 83.70 337 P **P 11 41 52.5 +0.5**
comp=Z,197nm,1.0s,mb6.2
AVF Avril sur Loir 83.78 340 *eP* **P 11 41 52.1 -0.3**
comp=Z,1μm,1.1s,mb6.6
AVF Avril sur Loir 83.78 340 *eP* **P 11 41 52.1 -0.3**
AVF pmax pmax
comp=Z,504nm,1.1s,mb6.6
AVF Avril sur Loir 83.78 340 *eP* **P 11 41 52.1 -0.3**
comp=Z,504nm,1.1s,mb6.6
SMF Signal de Mont 83.80 340 *eP* **P 11 41 52.2 -0.3**
comp=Z,2μm,1.2s,mb6.8
SMF Signal de Mont 83.80 340 *eP* **P 11 41 52.2 -0.3**
SMF pmax pmax
comp=Z,1μm,1.2s,mb6.9
SMF Signal de Mont 83.80 340 *eP* **P 11 41 52.2 -0.3**
comp=Z,1μm,1.2s,mb6.9
TOO Toolangi 83.97 187 *eP* **P 11 41 53.3 0.0**
comp=Z,34nm,1.2s,mb5.4
TOO Toolangi 83.97 187 *eP* **P 11 41 53.3 0.0**
TOO pmax pmax
comp=Z,34nm,1.2s,mb5.3
QUIF Quistinic 84.04 345 *eP* **P 11 41 53.1 -0.6**
BGF Bois d'Agland 84.11 341 *eP* **P 11 41 54.0 -0.1**
comp=Z,208nm,0.7s,mb6.1
BGF Bois d'Agland 84.11 341 *eP* **P 11 41 54.0 -0.1**
BGF pmax pmax
comp=Z,104nm,0.7s,mb6.1
BGF Bois d'Agland 84.11 341 *eP* **P 11 41 54.0 -0.1**
comp=Z,104nm,0.7s,mb6.1
LPL La Plagne 84.13 338 *eP* **P 11 41 54.8 +0.6**
comp=Z,682nm,0.9s,mb6.5
LPL La Plagne 84.13 338 *eP* **P 11 41 54.8 +0.6**
LPL pmax pmax
comp=Z,341nm,0.9s,mb6.5
LPL La Plagne 84.13 338 *eP* **P 11 41 54.8 +0.6**
comp=Z,341nm,0.9s,mb6.5
LPG La Plagne 84.15 338 *eP* **P 11 41 55.0 +0.7**
comp=Z,1μm,1.1s,mb6.6
LPG La Plagne 84.15 338 *eP* **P 11 41 55.0 +0.7**
LPG pmax pmax
comp=Z,504nm,1.1s,mb6.6
LPG La Plagne 84.15 338 *eP* **P 11 41 55.0 +0.7**
comp=Z,504nm,1.1s,mb6.6
SEI Scarperia 84.17 334 P **P 11 41 56.3 +1.9**
comp=Z,771nm,0.8s,mb6.9
VLC Villacollemand 84.37 335 *eP* **P 11 41 55.9 +0.6**
comp=Z,442nm,1.4s,mb6.4
KLBR Kellerberrin 84.39 211 *eP* **P 11 41 55.1 -0.4**
comp=Z,125nm,0.9s,mb6.0
TCF Toulx Ste Croi 84.51 341 *eP* **P 11 41 56.1 0.0**
comp=Z,366nm,0.8s,mb6.2
TCF Toulx Ste Croi 84.51 341 *eP* **P 11 41 56.1 0.0**
TCF pmax pmax
comp=Z,183nm,0.8s,mb6.3
TCF Toulx Ste Croi 84.51 341 *eP* **P 11 41 56.1 0.0**
comp=Z,183nm,0.8s,mb6.3
MFF Saint Martin d 84.72 343 *eP* **P 11 41 56.8 -0.4**
comp=Z,605nm,1.1s,mb6.3
MFF Saint Martin d 84.72 343 *eP* **P 11 41 56.8 -0.4**
MFF pmax pmax
comp=Z,302nm,1.1s,mb6.3
MFF Saint Martin d 84.72 343 *eP* **P 11 41 56.8 -0.4**
comp=Z,302nm,1.1s,mb6.3
FGMS Monte Sant'Ang 84.79 330 P **P 11 41 57.6 +0.1**
comp=Z,483nm,1.2s,mb6.5
MBDF Montbardon 84.86 337 *eP* **P 11 41 57.7 -0.1**
comp=Z,801nm,1.1s,mb6.5
MBDF Montbardon 84.86 337 *eP* **P 11 41 57.7 -0.1**
MBDF pmax pmax
comp=Z,401nm,1.1s,mb6.5
MBDF Montbardon 84.86 337 *eP* **P 11 41 57.7 -0.1**
comp=Z,401nm,1.1s,mb6.5
ORIF Oris-en-Rattie 84.91 338 *eP* **P 11 41 58.5 +0.4**
comp=Z,508nm,0.9s,mb6.3
ORIF Oris-en-Rattie 84.91 338 *eP* **P 11 41 58.5 +0.4**
ORIF pmax pmax
comp=Z,254nm,0.9s,mb6.3
ORIF Oris-en-Rattie 84.91 338 *eP* **P 11 41 58.5 +0.4**
comp=Z,254nm,0.9s,mb6.3
RGNG Rignano Grg 84.95 330 P **P 11 41 57.1 -1.2**
BRAL Brewton 85.08 49 *eP* **P 11 41 57.9 -1.0**
comp=Z,177nm,0.8s,mb6.2
LCI Lecce 85.23 328 P **P 11 41 58.9 -0.8**
LCI pmax pmax
comp=Z,212nm,1.0s,mb6.2
LCI Lecce 85.23 328 P **P 11 41 58.9 -0.8**
comp=Z,212nm,1.0s,mb6.2
VIVF Saint-Julien-l 85.28 339 *eP* **P 11 42 00.2 +0.2**
comp=Z,1μm,1.5s,mb6.6
VIVF Saint-Julien-l 85.28 339 *eP* **P 11 42 00.2 +0.2**
VIVF pmax pmax
comp=Z,714nm,1.5s,mb6.6
VIVF Saint-Julien-l 85.28 339 *eP* **P 11 42 00.2 +0.2**
comp=Z,714nm,1.5s,mb6.6
MUN Mundaring 85.29 212 *eP* **P 11 42 00.2 +0.2**
JSC Jenkinsville 85.34 43 P **P 11 41 59.6 -0.7**
JSC Jenkinsville 85.34 43 *eP* **P 11 41 59.0 -1.3**

LHS Liberty Hill 85.40 43 *eP* **P 11 42 00.2 -0.4**
LHS Liberty Hill 85.40 43 *eP* **P 11 42 00.3 -0.3**
FG4 Candela 85.45 330 P **P 11 42 00.5 -0.3**
FG4 pmax pmax
comp=Z,667nm,0.9s,mb6.8
FG4 Candela 85.45 330 P **P 11 42 00.5 -0.3**
comp=Z,667nm,0.9s,mb6.8
SBF Sospel 85.48 337 *eP* **P 11 42 00.5 -0.5**
comp=Z,728nm,0.8s,mb6.5
SBF Sospel 85.48 337 *eP* **P 11 42 00.5 -0.5**
SBF pmax pmax
comp=Z,364nm,0.8s,mb6.6
SBF Sospel 85.48 337 *eP* **P 11 42 00.5 -0.5**
comp=Z,364nm,0.8s,mb6.6
SDI San Donato 85.52 332 P **P 11 41 59.5 -1.6**
SDI pmax pmax
comp=Z,190nm,0.9s,mb6.3
SDI San Donato 85.52 332 P **P 11 41 59.5 -1.6**
comp=Z,190nm,0.9s,mb6.3
RJF Les Rejaudoux 85.60 341 *eP* **P 11 42 01.3 -0.3**
comp=Z,1μm,1.4s,mb6.6
RJF Les Rejaudoux 85.60 341 *eP* **P 11 42 01.3 -0.3**
RJF pmax pmax
comp=Z,593nm,1.4s,mb6.6
RJF Les Rejaudoux 85.60 341 *eP* **P 11 42 01.3 -0.3**
comp=Z,593nm,1.4s,mb6.6
NWAO Narrogin (SRO) 85.78 211 *eP* **P 11 42 01.8 -0.7**
NWAO pmax pmax
comp=Z,205nm,1.0s
NWAO Narrogin (SRO) 85.78 211 *eP* **P 11 42 01.8 -0.7**
comp=Z,205nm,1.0s,mb6.3
CAF Calviac 85.83 341 *eP* **P 11 42 02.1 -0.6**
comp=Z,573nm,1.1s,mb6.4
CAF Calviac 85.83 341 *eP* **P 11 42 02.1 -0.6**
CAF pmax pmax
comp=Z,287nm,1.1s,mb6.4
CAF Calviac 85.83 341 *eP* **P 11 42 02.1 -0.6**
comp=Z,286nm,1.1s,mb6.4
MA9 Marino 85.83 332 P **P 11 42 03.8 +1.1**
comp=Z,401nm,1.2s,mb6.5
SMRF Simiane la Rot 85.87 338 *eP* **P 11 42 03.5 +0.6**
comp=Z,713nm,1.4s,mb6.4
SMRF Simiane la Rot 85.87 338 *eP* **P 11 42 03.5 +0.6**
comp=Z,713nm,1.4s,mb6.7
FRF La Foret Royal 85.97 337 *eP* **P 11 42 03.0 -0.4**
comp=Z,553nm,1.3s,mb6.3
FRF La Foret Royal 85.97 337 *eP* **P 11 42 03.0 -0.4**
FRF pmax pmax
comp=Z,277nm,1.3s,mb6.3
FRF La Foret Royal 85.97 337 *eP* **P 11 42 03.0 -0.4**
comp=Z,276nm,1.3s,mb6.3
LFF La Frestale 86.12 342 *eP* **P 11 42 03.2 -0.9**
comp=Z,1μm,1.3s,mb6.6
LFF La Frestale 86.12 342 *eP* **P 11 42 03.2 -0.9**
LFF pmax pmax
comp=Z,514nm,1.3s,mb6.6
LFF La Frestale 86.12 342 *eP* **P 11 42 03.2 -0.9**
comp=Z,514nm,1.3s,mb6.6
LASF Ste Croix 86.21 339 *eP* **P 11 42 03.8 -0.8**
comp=Z,604nm,1.4s,mb6.3
LMR La Mourre 86.22 337 *eP* **P 11 42 04.5 -0.1**
comp=Z,576nm,0.9s,mb6.5
LMR La Mourre 86.22 337 *eP* **P 11 42 04.5 -0.1**
LMR pmax pmax
comp=Z,288nm,0.9s,mb6.5
LMR La Mourre 86.22 337 *eP* **P 11 42 04.5 -0.1**
comp=Z,288nm,0.9s,mb6.5
PGF Pioggiola 86.25 335 *eP* **P 11 42 04.4 -0.4**
comp=Z,490nm,1.1s,mb6.3
PGF Pioggiola 86.25 335 *eP* **P 11 42 04.4 -0.4**
PGF pmax pmax
comp=Z,245nm,1.1s,mb6.3
PGF Pioggiola 86.25 335 *eP* **P 11 42 04.4 -0.4**
comp=Z,245nm,1.1s,mb6.3
COW Cow Castle Cre 86.35 43 *eP* **P 11 42 04.8 -0.5**
MTLF Montolieu 87.30 340 *eP* **P 11 42 09.0 -0.9**
comp=Z,318nm,1.1s,mb6.1
MTLF Montolieu 87.30 340 *eP* **P 11 42 09.0 -0.9**
MTLF pmax pmax
comp=Z,159nm,1.1s,mb6.2
MTLF Montolieu 87.30 340 *eP* **P 11 42 09.0 -0.9**
comp=Z,159nm,1.1s,mb6.2
SLNA Salina 87.98 329 P **P 11 42 13.3 +0.1**
comp=Z,979nm,1.5s,mb6.8
SOI Samo 87.98 328 P **P 11 42 12.9 -0.3**
SOI pmax pmax
comp=Z,132nm,0.7s,mb6.3
SOI Samo 87.98 328 P **P 11 42 12.9 -0.3**
comp=Z,132nm,0.7s,mb6.3
EJON La Jonquera 87.98 339 P **P 11 42 11.7 -1.5**
comp=Z,103nm,0.8s,mb6.1
EPF Esparros 88.02 341 *eP* **P 11 42 11.6 -1.8**
comp=Z,97nm,1.0s,mb5.7
EPF Esparros 88.02 341 *eP* **P 11 42 11.6 -1.8**
EPF pmax pmax
comp=Z,49nm,1.0s,mb5.7
EPF Esparros 88.02 341 *eP* **P 11 42 11.6 -1.8**
comp=Z,49nm,1.0s,mb5.7
SJPF Ste Jean 88.28 342 *eP* **P 11 42 13.6 -1.0**
ELIZ Elizondo 88.30 343 P **P 11 42 13.9 -0.8**
ELIZ pmax pmax
comp=Z,96nm,1.1s,mb5.9
ELIZ Elizondo 88.30 343 P **P 11 42 13.9 -0.8**
comp=Z,96nm,1.1s,mb5.9
ETSF Etsaut 88.35 342 *eP* **P 11 42 13.8 -1.1**
comp=Z,235nm,1.1s,mb6.0
ETSF Etsaut 88.35 342 *eP* **P 11 42 13.8 -1.1**
ETSF pmax pmax
comp=Z,118nm,1.1s,mb6.0
ETSF Etsaut 88.35 342 *eP* **P 11 42 13.8 -1.1**
comp=Z,118nm,1.1s,mb6.0
EBIE Bielsa 88.39 341 P **P 11 42 16.4 +1.2**
comp=Z,42nm,0.9s,mb5.7
USI Ustica 88.42 331 P **P 11 42 15.4 +0.1**
comp=Z,2μm,2.0s,mb7.0
ELAN Lanestosa 88.61 344 P **P 11 42 16.9 +0.7**
comp=Z,1μm,4.1s
EMIR Miracle 88.81 340 P **P 11 42 17.3 +0.2**
comp=Z,33nm,0.8s,mb5.7
EARI Arriondas 88.87 345 P **P 11 42 15.2 -2.2**
comp=Z,54nm,1.0s,mb5.8
VSL Villasalto 88.94 334 *eP* **P 11 42 18.0 +0.3**
comp=Z,232nm,1.1s,mb6.4
ECRI Cripan 89.03 343 P **P 11 42 19.4 +1.3**
ECRI pmax pmax
comp=Z,2μm,5.4s
ECRI Cripan 89.03 343 P **P 11 42 19.4 +1.2**
comp=Z,2μm,5.4s
TAU Tasmania Unive 89.14 185 *eP* **P 11 42 18.7 +0.1**
EPON Pontenova 89.17 347 P **P 11 42 18.0 -0.8**
comp=Z,162nm,0.7s,mb6.5
ERC Erice 89.23 331 P **P 11 42 19.4 +0.3**
comp=Z,3μm,1.1s
EPOB Poblet 89.45 340 P **P 11 42 20.9 +0.8**
comp=Z,106nm,1.1s,mb6.1
ESAC San Caprasio 89.45 341 P **P 11 42 19.8 -0.3**
comp=Z,147nm,0.9s,mb6.3
STS Santiago 89.82 348 P **P 11 42 20.1 -1.7**
STS pmax pmax
comp=Z,60nm,0.8s,mb6.0
STS Santiago 89.82 348 P **P 11 42 20.1 -1.7**
comp=Z,60nm,0.8s,mb6.0
EMAZ Mazaricos 89.82 348 P **P 11 42 20.7 -1.1**
comp=Z,82nm,1.1s,mb6.0
ERTA Horta de San J 90.00 341 P **P 11 42 24.5 +1.9**
comp=Z,51nm,1.2s,mb5.7
ERUA La Rua 90.08 346 P **P 11 42 22.9 -0.2**
ERUA pmax pmax
comp=Z,60nm,0.8s,mb6.0
ERUA La Rua 90.08 346 P **P 11 42 22.9 -0.1**
comp=Z,60nm,0.8s,mb6.0
ECAL Calabor 90.45 346 P **P 11 42 25.1 +0.3**
comp=Z,28nm,0.7s,mb5.7
ETOS Mallorca 90.53 338 P **P 11 42 23.4 -1.7**
comp=Z,41nm,0.8s,mb5.8
EZAM Zamans 90.56 347 P **P 11 42 23.4 -1.9**
EZAM pmax pmax
comp=Z,168nm,1.8s,mb6.1
EZAM Zamans 90.56 347 P **P 11 42 23.4 -1.9**
comp=Z,168nm,1.8s,mb6.1
ETOR Torete 90.66 342 P **P 11 42 26.8 +1.1**
ETOR pmax pmax
comp=Z,29nm,0.8s,mb5.7
ETOR Torete 90.66 342 P **P 11 42 26.8 +1.1**
comp=Z,29nm,0.8s,mb5.7
GUD Guadarrama 91.25 344 P **P 11 42 27.3 -1.2**
GUD pmax pmax

*NEIC **15** 11:33:23.8±0.3,4686N×15373E,h10km,mb5.5/33, Error ellipse: s-maj=10.9km s-min=5.7km az=166.0*
*ISCJB **15** 11:33:26.6±1.4,4680N±007×15378E±006,h44km±12km, mb5.3/61, Error ellipse: s-maj=11.8km s-min=6.4km az=141.5*
*MOS **15** 11:33:26.2±1.2,4679N×15379E,h41km,mb5.7/20, Error ellipse: s-maj=11.2km s-min=7.3km az=99.5*
*IDC **15** 11:33:29.5±3.7,4677N×15372E,h62km±33km,mb4.8/20, mb1 5.0/22,mb1mx4.9/28,mbtmp4.8/22,ML4.8/2, Error ellipse: s-maj=17.6km s-min=14.4km az=136.0*

ISC 15 11:33:29.6±1.1,4687N±007×15373E±006,h55km±10km, h22km±11.4km:pP-P,n155,σ1ϑ03/152,mb5.3/61,12C-9D,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	comp=Z,20nm,0.9s,mb5.5								
GUD	**Guadarrama**	**91.25**	**344**	P		**P**		**11 42 27.3**	**-1.2**
	comp=Z,20nm,0.9s,mb5.5								
EIBI	**Ibiza**	**91.59**	**339**	P		**P**		**11 42 30.1**	**0.0**
	comp=Z,62nm,1.0s,mb5.9								
ESDC	**Sonseca Array**	**92.15**	**343**	P		**P**		**11 42 32.1**	**-0.5**
	comp=Z,21nm,0.8s,mb5.5,baz=9.9,slow=3.4,SNR=13								
ESDC	**Sonseca Array**	**92.15**	**343**	P		**P**		**11 42 30.9**	**-1.8**
	comp=Z,9.0nm,1.0s,mb5.0								
ESLA	**Sonseca Array**	**92.15**	**343**	*e*P		**P**		**11 42 31.8**	**-0.9**
	comp=Z,21nm,1.1s,mb5.4								
EBEN	**Beniarda**	**92.28**	**340**	P		**P**		**11 42 34.4**	**+1.2**
	comp=Z,64nm,1.0s,mb5.9								
PAB	**San Pablo**	**92.35**	**344**	*e*P		**P**		**11 42 32.9**	**-0.7**
PAB				pmax	pmax				
	comp=Z,64nm,1.1s,mb5.9								
PAB	**San Pablo**	**92.35**	**344**	*e*P		**P**		**11 42 32.9**	**-0.7**
	comp=Z,64nm,1.1s,mb5.9								
KEST	**Kesra**	**92.39**	**332**	P		**P**		**11 42 34.4**	**+0.6**
	comp=Z,11nm,0.7s,mb5.3,baz=328,slow=5.2,SNR=3.7								
ETOB	**Tobarra**	**92.63**	**341**	P		**P**		**11 42 35.4**	**+0.6**
	comp=Z,34nm,0.8s,mb5.8								
EVIA	**Vianos**	**92.84**	**342**	P		**P**		**11 42 36.1**	**+0.2**
EVIA				pmax	pmax				
	comp=Z,25nm,0.8s,mb5.7								
EVIA	**Vianos**	**92.84**	**342**	P		**P**		**11 42 36.1**	**+0.2**
	comp=Z,25nm,0.8s,mb5.7								
EBAN	**Banos Encina**	**93.57**	**343**	P		**P**		**11 42 40.3**	**+1.1**
EBAN				pmax	pmax				
	comp=Z,17nm,0.8s,mb5.5								
EBAN	**Banos Encina**	**93.57**	**343**	P		**P**		**11 42 40.3**	**+1.1**
	comp=Z,17nm,0.8s,mb5.5								
EBAD	**Badajoz**	**93.60**	**346**	P		**P**		**11 42 37.7**	**-1.7**
	comp=Z,30nm,1.0s,mb5.7								
EHUE	**Huescar**	**93.66**	**342**	P		**P**		**11 42 39.3**	**-0.3**
EHUE				pmax	pmax				
	comp=Z,34nm,1.2s,mb5.7								
EHUE	**Huescar**	**93.66**	**342**	P		**P**		**11 42 39.3**	**-0.3**
	comp=Z,34nm,1.2s,mb5.7								
EADA	**Adamuz**	**93.72**	**344**	P		**P**		**11 42 40.5**	**+0.6**
	comp=Z,21nm,0.9s,mb5.6								
EVO	**Evora**	**93.99**	**346**	*e*P		**P**		**11 42 40.8**	**-0.3**
	comp=Z,50nm,0.9s,mb5.7								
ELUQ	**Luque**	**94.25**	**343**	P		**P**		**11 42 40.6**	**-1.7**
ELUQ				pmax	pmax				
	comp=Z,209nm,1.4s,mb6.4								
ELUQ	**Luque**	**94.25**	**343**	P		**P**		**11 42 40.6**	**-1.7**
	comp=Z,209nm,1.4s,mb6.4								
ENIJ	**Nijar**	**94.38**	**341**	P		**P**		**11 42 42.0**	**-0.9**
ENIJ				pmax	pmax				
	comp=Z,24nm,1.0s,mb5.6								
ENIJ	**Nijar**	**94.38**	**341**	P		**P**		**11 42 42.0**	**-1.0**
	comp=Z,24nm,1.0s,mb5.6								
EMIN	**Mina Concepcio**	**94.50**	**345**	P		**P**		**11 42 41.9**	**-1.6**
	comp=Z,33nm,0.8s,mb5.8								
ELOJ	**Sierra Loja**	**94.62**	**343**	P		**P**		**11 42 42.4**	**-1.7**
ELOJ				pmax	pmax				
	comp=Z,34nm,1.0s,mb5.7								
ELOJ	**Sierra Loja**	**94.62**	**343**	P		**P**		**11 42 42.4**	**-1.7**
	comp=Z,34nm,1.0s,mb5.7								
ERON	**Agron**	**94.68**	**343**	P		**P**		**11 42 41.9**	**-2.4**
	comp=Z,18nm,0.7s,mb5.6								
EGUA	**Guajares**	**94.81**	**342**	P		**P**		**11 42 45.4**	**+0.5**
ESPR	**Espera**	**95.23**	**344**	P		**P**		**11 42 46.5**	**-0.3**
	comp=Z,33nm,0.9s,mb5.8								
EMIJ	**Mijas**	**95.31**	**343**	P		**P**		**11 42 47.1**	**-0.1**
	comp=Z,22nm,0.8s,mb5.7								
EJIF	**Jimena Fronter**	**95.56**	**344**	P		**P**		**11 42 48.6**	**+0.3**
EJIF				pmax	pmax				
	comp=Z,167nm,2.3s,mb6.1								
EJIF	**Jimena Fronter**	**95.56**	**344**	P		**P**		**11 42 48.6**	**+0.3**
	comp=Z,167nm,2.3s,mb6.1								
TGUH	**Tegucigalpa,Un**	**98.32**	**60**	*e*P		**P**		**11 43 01.0**	**+0.2**
	comp=Z,71nm,1.1s,mb6.1								
TORD	**Torodi Ar. Bea**	**115.84**	**330**	PKP	PKPdf			11 48 07.0	+1.2
	comp=Z,8.0nm,0.6s,baz=47,slow=0.9,SNR=10								
TORD	**Torodi Ar. Bea**	**115.84**	**330**	PKP	PKPdf			11 48 07.0	+1.2
LIC	**Lamto**	**124.50**	**335**	*e*PKIKP	PKPdf			11 48 22.6	+0.2
	comp=Z,94nm,1.0s								
SAML	**Samuel**	**130.81**	**53**	*e*PKPdf	PKPdf			11 48 34.2	-0.2
ARE	**Arequipa**	**131.74**	**67**	*e*PKIKP	PKPdf			11 48 37.0	+0.8
MAW	**Mawson**	**132.35**	**211**	*e*P				PKPdf	11 48 34.8 -2.5
	comp=Z,18nm,0.8s								
MAW	**Mawson**	**132.35**	**211**	PKP	PKPdf			11 48 35.8	-1.5
	comp=Z,38nm,1.1s,baz=4.0,slow=1.4,SNR=10								
MAW	**Mawson**	**132.35**	**211**	PKIKP	PKPdf			11 48 35.8	-1.5
MAW				pmax	pmax				
	comp=Z,38nm,1.1s								
LPAZ	**La Paz**	**133.73**	**64**	PKP	PKPdf			11 48 40.8	+0.9
	comp=Z,16nm,0.6s,baz=46,slow=1.6,SNR=14								
LPAZ	**La Paz**	**133.73**	**64**	PKIKP	PKPdf			11 48 40.8	+0.9
LPAZ				pmax	pmax				
	comp=Z,16nm,0.6s								
LPAZ	**La Paz**	**133.73**	**64**	*e*PKPdf	PKPdf			11 48 41.2	+1.3
LBTB	**Lobatse**	**134.17**	**280**	*e*PKIKP	PKPdf			11 48 40.9	+0.2
TSUM	**Tsumeb**	**135.45**	**293**	*e*PKPdf	PKPdf			11 48 36.0	-7.2
QSPA	**South Pole Qui**	**136.13**	**180**	*e*P				PKPdf	11 48 43.9 -0.5
BOSA	**Boshof**	**136.70**	**276**	PKP	PKPdf			11 48 45.6	+0.2
	comp=Z,16nm,0.8s,baz=9.0,slow=1.4,SNR=7.0								
LVC	**Limon Verde**	**137.86**	**71**	*e*PKPdf	PKPdf			11 48 47.5	-0.1
RCBR	**Riachuelo**	**138.62**	**16**	*e*PKPdf	PKPdf			11 48 50.0	+1.0
CFAA	**Coronel Fontan**	**144.20**	**81**	PKP	PKPdf			11 48 55.7	-3.3
	comp=Z,8.4nm,0.6s,baz=262,slow=3.4,SNR=20								
NVL	**N'lazarevskaya**	**149.66**	**204**	⇓*i*PKP2	PKPab			11 49 10.3	-7.7
NVL				*e*				11 52 53.8	
NVL				pmax	pmax				
	comp=Z,230nm,1.1s								
USHA	**Ushuaia**	**151.94**	**123**	PKPbc	PKPbc			11 49 16.0	-2.2
	comp=Z,178nm,0.9s,baz=275,slow=2.3,SNR=18								
PMSA	**Palmer Station**	**152.19**	**145**	PKPbc	PKPbc			11 49 16.2	-2.5
	comp=Z,302nm,0.9s,baz=218,slow=2.2,SNR=21								
PMSA	**Palmer Station**	**152.19**	**145**	*e*PKPbc	PKPbc			11 49 15.7	-3.0
SNAA	**Sanae**	**152.45**	**195**	PKPbc	PKPbc			11 49 17.0	-2.3
	comp=Z,23nm,0.8s,baz=175,slow=3.9,SNR=13								
SNAA				PKPab	PKPab			11 49 28.5	-1.0
	comp=Z,61nm,1.0s,baz=116,slow=2.0,SNR=8.7								
SNAA	**Sanae**	**152.45**	**195**	*e*PKPdf	PKPdf			11 49 12.1	-0.3
SNAA	**Sanae**	**152.45**	**195**	*e*PKPdf	PKPdf			11 49 12.1	-0.3
SNAA				*e*				11 49 20.3	
SNAA				*e*				11 49 31.5	
SNAA				*e*				11 49 37.7	
SNAA				*e*				11 49 50.4	
SNAA				*e*				11 49 56.0	
SNAA				*e*				11 53 03.9	
SNAA				*e*				11 53 08.3	
SNAA	**Sanae**	**152.45**	**195**	PKIKP	PKPdf			11 49 17.0	+4.6
SNAA								11 49 28.5	
SNAA				pmax	pmax				
	comp=Z,23nm,0.8s								
VNA2	**Neumayer--Watz**	**153.87**	**194**	*e*PKPdf	PKPdf			11 49 13.9	-0.6
VNA2	**Neumayer--Watz**	**153.87**	**194**	*e*PKPdf	PKPdf			11 49 13.9	-0.6
VNA2				*e*				11 49 23.1	
VNA2				*e*				11 49 28.5	
VNA2				*e*				11 49 34.2	
VNA2				*e*				11 49 37.4	
VNA2				*e*				11 49 42.5	
VNA2				*e*				11 49 55.1	
VNA2				*e*				11 50 06.4	
VNA2				*e*				11 53 09.1	
VNA2				*e*				11 53 13.2	
VNA2				*e*				11 53 21.0	
VNA3	**Neumayer Olymp**	**153.93**	**192**	*e*PKPdf	PKPdf			11 49 13.6	-1.0
VNA3	**Neumayer Olymp**	**153.93**	**192**	*e*PKPdf	PKPdf			11 49 13.6	-1.0
VNA3				*e*				11 49 22.7	
VNA3				*e*				11 49 28.4	
VNA3				*e*				11 49 33.4	
VNA3				*e*				11 49 37.7	
VNA3				*e*				11 49 42.6	
VNA3				*e*				11 49 54.5	
VNA3				*e*				11 50 05.2	
VNA3				*e*				11 53 08.5	
VNA3				*e*				11 53 13.1	
VNA1	**Neumayer--Stat**	**154.25**	**193**	*e*PKPdf	PKPdf			11 49 13.7	-1.3
VNA1	**Neumayer--Stat**	**154.25**	**193**	*e*PKPdf	PKPdf			11 49 13.7	-1.3
VNA1				*e*				11 49 23.3	
VNA1				*e*				11 49 28.6	
VNA1				*e*				11 49 35.3	
VNA1				*e*				11 49 38.6	
VNA1				*e*				11 49 44.1	
VNA1				*e*				11 49 58.2	
VNA1				*e*				11 50 08.2	

*BJI **15** 11:33:22.4,4691N×15365E,h7km,mB5.6,mb5.6*

LOHW	**Long Hollow**	**63.20**	**54**	*e*P		**P**		**11 43 53.3**	**+1.3**
SNOW	**Snow King Moun**	**63.22**	**54**	*e*P		**P**		**11 43 53.0**	**+0.9**
REDW	**Red Top Meadow**	**63.23**	**54**	*e*P		**P**		**11 43 52.5**	**+0.3**
HWUT	**Hardware Ranch**	**63.96**	**56**	*e*P		**P**		**11 43 59.9**	**+2.9**
	comp=Z,38nm,1.2s,mb5.3								
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**		**11 43 57.2**	**-0.8**
	comp=Z,30nm,0.6s,mb5.5,baz=34,slow=9.2,SNR=9.3								
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**		**11 43 57.2**	**-0.9**
DUG	**Dugway**	**64.15**	**58**	*e*P		**P**		**11 43 59.0**	**+0.7**
DUG				pmax	pmax				
	comp=Z,41nm,1.0s,mb5.4								
DUG	**Dugway**	**64.15**	**58**	*e*P		**P**		**11 43 59.0**	**+0.7**
	comp=Z,41nm,1.0s,mb5.4								
BW06	**Boulder Array**	**64.34**	**54**	*e*P		**P**		**11 43 58.7**	**-0.8**
	comp=Z,35nm,1.1s,mb5.3								
PDAR	**Pinedale Array**	**64.34**	**54**	P		**P**		**11 43 59.1**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.8,baz=336,slow=3.3,SNR=4.3								
CTU	**Camp Tracy**	**64.45**	**57**	*e*P		**P**		**11 44 01.1**	**+0.9**
	comp=Z,12nm,0.8s,mb5.0								
NLU	**North Lily Min**	**64.74**	**58**	*e*P		**P**		**11 44 02.6**	**+0.5**
MPU	**Maple Canyon**	**64.96**	**58**	*e*P		**P**		**11 44 04.1**	**+0.5**
	comp=Z,25nm,0.9s,mb5.2								
ULM	**Lac du Bonnet**	**66.16**	**41**	P		**P**		**11 44 10.4**	**-0.9**
	comp=Z,11nm,0.7s,mb5.0,baz=311,slow=9.3,SNR=6.0								
RSSD	**Black Hills**	**66.42**	**50**	*e*P		**P**		**11 44 12.5**	**-0.5**
AGMN	**Agassiz Refuge**	**67.56**	**43**	*e*P		**P**		**11 44 19.9**	**-0.3**
	comp=Z,42nm,1.1s,mb5.4								
SMCO	**Snowmass**	**68.19**	**56**	*e*P		**P**		**11 44 15.6**	**-8.5**
NB2	**NORSAR Subarra**	**68.26**	**341**	P		**P**		**11 44 23.9**	**-0.7**
	comp=Z,51nm,0.7s,mb5.7,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.26**	**341**	P		**P**		**11 44 23.8**	**-0.8**
	comp=Z,34nm,0.6s,mb5.5,baz=27,slow=6.4,SNR=15								
WRA	**Warramunga Arr**	**68.76**	**200**	P		**P**		**11 44 25.9**	**-1.9**
	comp=Z,30nm,1.0s,mb5.2,baz=18,slow=6.5,SNR=5.6								
SDCO	**Great Sand Dun**	**70.01**	**56**	*e*P		**P**		**11 44 34.5**	**-1.0**
	comp=Z,32nm,1.3s,mb5.1								
ANMO	**Albuquerque**	**71.41**	**59**	*e*P		**P**		**11 44 45.2**	**+1.2**
AKASG	**Malin Array Be**	**71.69**	**326**	P		**P**		**11 44 44.7**	**-0.9**
	comp=Z,15nm,0.5s,mb5.2,baz=35,slow=6.3,SNR=12								
ASAR	**Alice Springs**	**72.45**	**199**	P		**P**		**11 44 49.0**	**-1.2**
	comp=Z,51nm,1.1s,mb5.4,baz=14,slow=6.0,SNR=9.4								
SCIA	**State Center**	**73.53**	**46**	*e*P		**P**		**11 44 55.9**	**-0.7**
	comp=Z,40nm,0.7s,mb5.5								
STHS	**Stebnicka Huta**	**75.63**	**330**	*e*P		**P**		**11 45 11.1**	**+2.4**
STHS	**Stebnicka Huta**	**75.63**	**330**	*e*P		**P**		**11 45 11.1**	**+2.4**
OKC	**Ostrava-Krasne**	**76.29**	**332**	*e*P		**P**		**11 45 13.5**	**+1.0**
DPC	**Dobruska-Polom**	**76.41**	**334**	*e*P		**P**		**11 45 11.2**	**-2.0**
CLL	**Collm**	**76.53**	**336**	*i*P		**P**		**11 45 13.3**	**-0.6**
CLL				*i*		pP		11 45 23.9	-5.5
CLL				pmax	pmax				
	comp=Z,194nm,0.8s,mb6.1								
CLL	**Collm**	**76.53**	**336**	*i*P		**P**		**11 45 13.3**	**-0.6**
	comp=Z,66nm,0.8s,mb5.6								
CLL				*i*				11 45 15.9	
CLL				*i*		pP		11 45 23.9	-5.5
MORC	**Moravsky Berou**	**76.53**	**333**	⇓*i*P		**P**		**11 45 14.3**	**+0.4**
MORC	**Moravsky Berou**	**76.53**	**333**	⇓P		**P**		**11 45 14.3**	**+0.4**
VRI	**Vrincioaia**	**76.59**	**325**	⇓*i*P		**P**		**11 45 16.3**	**+2.1**
VRI	**Vrincioaia**	**76.59**	**325**	⇓P		**P**		**11 45 16.3**	**+2.0**
KECS	**Kecovo**	**76.69**	**330**	*e*P		**P**		**11 45 15.1**	**+0.4**
KECS				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
KECS	**Kecovo**	**76.69**	**330**	*e*P		**P**		**11 45 15.1**	**+0.4**
	comp=Z,6.0nm,0.9s,mb4.5								
LTX	**Lajitas**	**77.07**	**61**	*e*P		**P**		**11 45 16.5**	**-0.4**
LTX				pmax	pmax				
	comp=Z,19nm,0.7s,mb5.1								
LTX	**Lajitas**	**77.07**	**61**	*e*P		**P**		**11 45 16.5**	**-0.4**
	comp=Z,19nm,0.7s,mb5.1								
TXAR	**Lajitas Array**	**77.07**	**61**	P		**P**		**11 45 16.7**	**-0.2**
	comp=Z,16nm,0.7s,mb5.0,baz=302,slow=5.1,SNR=7.7								
TIRR	**Tirgusor**	**77.08**	**323**	⇓*i*P		**P**		**11 45 17.9**	**+1.0**
TIRR	**Tirgusor**	**77.08**	**323**	⇓P		**P**		**11 45 17.9**	**+1.0**
MLR	**Muntele Rosu**	**77.21**	**325**	⇓*i*P		**P**		**11 45 19.2**	**+1.5**
MLR	**Muntele Rosu**	**77.21**	**325**	⇓P		**P**		**11 45 19.2**	**+1.5**
VYHS	**Vyhne**	**77.23**	**331**	*e*P		**P**		**11 45 18.5**	**+0.7**
VRAC	**Vranov**	**77.24**	**333**	⇑*i*P		**P**		**11 45 19.0**	**+1.1**
VRAC	**Vranov**	**77.24**	**333**	⇑P		**P**		**11 45 19.0**	**+1.1**
PRU	**Pruhonice**	**77.27**	**334**	*e*P		**P**		**11 45 18.1**	**+0.1**
DRGR		**77.34**	**328**	⇓*i*P		**P**		**11 45 18.3**	**-0.1**
MALT	**Malatya**	**77.38**	**313**	⇑*i*P		**P**		**11 45 20.3**	**+1.6**
MALT	**Malatya**	**77.38**	**313**	*e*P		**P**		**11 45 20.0**	**+1.3**
MALT				pmax	pmax				
	comp=Z,57nm,1.0s,mb5.5								
MALT	**Malatya**	**77.38**	**313**	*e*P		**P**		**11 45 20.0**	**+1.3**
	comp=Z,57nm,1.0s,mb5.5								
VOIR		**77.61**	**326**	⇑*i*P		**P**		**11 45 20.4**	**+0.5**
VOIR		**77.61**	**326**	⇑P		**P**		**11 45 20.4**	**+0.5**
KHC	**Kasperske Hory**	**78.32**	**335**	*e*P		**P**		**11 45 23.9**	**0.0**
GZR	**Gura Ziata**	**78.51**	**327**	⇑*i*P		**P**		**11 45 23.4**	**-1.5**
GERES	**GERESS Array B**	**78.54**	**334**	P		**P**		**11 45 25.8**	**+0.8**
	comp=Z,8.2nm,0.5s,mb4.9,baz=36,slow=5.8,SNR=16								
BRTR	**Keskin Array B**	**78.60**	**317**	P		**P**		**11 45 25.5**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0,baz=84,slow=2.8,SNR=14								
DLF	**Lyons Farm**	**78.81**	**348**	*e*P		**P**		**11 45 24.6**	**-1.9**
DCN	**Croghan**	**78.86**	**349**	*e*P		**P**		**11 45 25.1**	**-1.8**
ANTO	**Ankara**	**78.87**	**318**	⇑*i*P		**P**		**11 45 29.1**	**+2.2**
ANTO	**Ankara**	**78.87**	**318**	⇑P		**P**		**11 45 29.1**	**+2.2**
UMR	**Umm Al-Rimmam**	**78.93**	**301**	*e*P		**P**		**11 45 28.0**	**+0.8**
MIB	**Mutribah**	**78.97**	**302**	*e*P		**P**		**11 45 27.7**	**+0.3**
MEM	**Membach**	**78.99**	**340**	P		**P**		**11 45 25.1**	**-2.5**
	comp=Z,34nm,0.9s,mb5.3								
PKSM	**Moragy**	**79.28**	**330**	⇑*i*P		**P**		**11 45 30.0**	**+0.9**
PKSM	**Moragy**	**79.28**	**330**	⇑P		**P**		**11 45 30.0**	**+0.8**
BCLA	**Clavier**	**79.33**	**340**	P		**P**		**11 45 29.3**	**-0.1**
	comp=Z,22nm,1.0s,mb5.0								
QRN	**Al-Qurain**	**79.41**	**301**	*e*P		**P**		**11 45 30.3**	**+0.5**
NAY	**Al-Naaiem**	**79.43**	**302**	*e*P		**P**		**11 45 29.4**	**-0.5**
SNF	**Seneffe**	**79.48**	**341**	P		**P**		**11 45 30.3**	**+0.1**
	comp=Z,13nm,1.0s,mb4.8								
RDF	**Al-Radifah**	**79.49**	**301**	*e*P		**P**		**11 45 30.8**	**+0.5**
CDF	**Champ du Feu**	**80.71**	**338**	*e*P		**P**		**11 45 36.5**	**-0.3**
	comp=Z,84nm,1.0s,mb5.3								
CDF	**Champ du Feu**	**80.71**	**338**	*e*P		**P**		**11 45 36.5**	**-0.3**
CDF				pmax	pmax				
	comp=Z,42nm,1.0s,mb5.3								
CDF	**Champ du Feu**	**80.71**	**338**	*e*P		**P**		**11 45 36.5**	**-0.3**
	comp=Z,42nm,1.0s,mb5.3								
VTS	**Vitosha**	**80.72**	**325**	⇑*i*P		**P**		**11 45 37.0**	**+0.1**
GRR	**Gorron**	**82.58**	**343**	*e*P		**P**		**11 45 46.3**	**-0.4**
	comp=Z,56nm,0.9s,mb5.3								
GRR	**Gorron**	**82.58**	**343**	*e*P		**P**		**11 45 46.3**	**-0.4**
GRR				pmax	pmax				
	comp=Z,28nm,0.9s,mb5.3								
GRR	**Gorron**	**82.58**	**343**	*e*P		**P**		**11 45 46.3**	**-0.4**
	comp=Z,28nm,0.9s,mb5.3								
ASF	**Jabal al Asfar**	**82.95**	**310**	P		**P**		**11 45 47.7**	**-0.9**
	comp=Z,22nm,0.9s,mb5.2,baz=5.8,slow=2.8,SNR=4.3								
SMF	**Signal de Mont**	**83.21**	**340**	*e*P		**P**		**11 45 49.7**	**-0.2**
	comp=Z,234nm,1.1s,mb5.8								
SMF	**Signal de Mont**	**83.21**	**340**	*e*P		**P**		**11 45 49.7**	**-0.2**
SMF				pmax	pmax				
	comp=Z,117nm,1.1s,mb5.8								
SMF	**Signal de Mont**	**83.21**	**340**	*e*P		**P**		**11 45 49.7**	**-0.2**
	comp=Z,117nm,1.1s,mb5.8								
LPG	**La Plagne**	**83.54**	**337**	*e*P		**P**		**11 45 52.5**	**+0.8**
	comp=Z,79nm,1.0s,mb5.5								
LPG	**La Plagne**	**83.54**	**337**	*e*P		**P**		**11 45 52.5**	**+0.8**
LPG				pmax	pmax				
	comp=Z,39nm,1.0s,mb5.5								
LPG	**La Plagne**	**83.54**	**337**	*e*P		**P**		**11 45 52.5**	**+0.8**
	comp=Z,39nm,1.0s,mb5.5								
CAF	**Calviac**	**85.24**	**340**	*e*P		**P**		**11 45 59.8**	**-0.5**
	comp=Z,33nm,0.9s,mb5.1								
CAF	**Calviac**	**85.24**	**340**	*e*P		**P**		**11 45 59.8**	**-0.5**
CAF				pmax	pmax				
	comp=Z,16nm,0.9s,mb5.2								
CAF	**Calviac**	**85.24**	**340**	*e*P		**P**		**11 45 59.8**	**-0.5**
	comp=Z,16nm,0.9s,mb5.2								
CFAA	**Coronel Fontan**	**144.56**	**80**	PKP	PKPdf			11 52 57.0	-2.8
	comp=Z,2.3nm,0.9s,baz=272,slow=2.5,SNR=3.8								
SNAA	**Sanae**	**152.78**	**196**	PKPbc	PKPbc			11 53 17.6	-2.7
	comp=Z,4.3nm,0.6s,baz=349,slow=1.6,SNR=8.3								
SNAA	**Sanae**	**152.78**	**196**	PKIKP	PKPbc			11 53 17.6	-2.7
SNAA				pmax	pmax				
	comp=Z,4.0nm,0.6s								

*NEIC **15** 11:33:35.3,1633N×99.13W,h12km,MD4.0(MEX),After MEX.*

MEX 15 11:33:35.8±1.1,1635N×9913W,h21km±44km,MD4.0,
Near coast of Guerrero

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

ACX	**Acapulco**	**0.91**	**304**	*i* P	Pb	11 33 49.0	-4.0
ACX				*i* S	Sb	11 34 02.0	-2.7
PNIG	**Pinotepa**	**0.96**	**87**	*i* P	Pb	11 33 51.2	-2.6
PNIG				*i* S	Sb	11 34 02.2	-3.9
CAIG	**El Cayaco**	**1.29**	**303**	*i* P	Pn	11 33 56.1	-2.5
CAIG				*i* S	Sn	11 34 11.1	-4.1
CAIG	**El Cayaco**	**1.29**	**303**	*i* P	Pn	11 33 56.1	-2.5
CAIG				*i* S	Sn	11 34 13.1	-2.2
MEIG	**Mezcala**	**1.64**	**343**	*i* P	Pn	11 34 01.3	-2.1
MEIG				*i* S	Sn	11 34 19.5	-4.2
PLIG	**Platanillo**	**2.06**	**350**	*e*P	Pn	11 34 07.8	-1.4
PLIG				*i* S	Sn	11 34 29.7	-4.6
PLIG				*e*S	Sn	11 34 32.4	-1.9
VHO	**Vista Hermosa**	**2.41**	**72**	*i* P	Pn	11 34 12.7	-1.2
VHO				*i* S	Sn	11 34 39.8	-3.0
OXX	**Oaxaca**	**2.42**	**72**	*e*P	Pn	11 34 13.0	-1.1
OXX				*i* S	Sn	11 34 37.0	-6.0
YAIG	**Yautepec**	**2.50**	**1**	*e*P	Pn	11 34 12.3	-2.9
YAIG				*i* S	Sn	11 34 43.4	-1.7
YAIG	**Yautepec**	**2.50**	**1**	*e*P	Pn	11 34 16.3	+1.1
YAIG				*i* S	Sn	11 34 43.4	-1.7
TPIG	**Tehuac#an**	**2.66**	**39**	*e*P	Pn	11 34 16.1	-1.3
TPIG				*i* S	Sn	11 34 46.2	-2.9
UNM	**Universidad Na**	**2.96**	**359**	*e*P	Pn	11 34 34.0	+12
UNM				*i* S	Sn	11 35 06.5	+10
SZVM	**Salazar**	**2.97**	**355**	*e*S	Sn	11 34 54.9	-1.7
PTVM	**Pico Tres Padr**	**3.23**	**0**	*e*P	Pn	11 34 23.7	-1.5
PTVM				*i* S	Sn	11 35 00.1	-2.9
IIO	**Organos**	**3.25**	**7**	*e*P	Pn	11 34 25.4	-0.1
IIO				*i* S	Sn	11 34 59.7	-3.8
IIO				*i* S	Sn	11 35 03.7	+0.2

ISCJB ***15*** *11:34:56.4±0.1, 4659N±002×15531E±002, h10km, mb6.2/366, Error ellipse: s-maj=3.4km s-min=1.6km az=159.8*

IDC ***15*** *11:34:56.4±0.3, 4661N×15541E, h0km, mb5.8/34, mb1 5.9/36, mb1mx5.9/36, mbtmp5.8/36, ML5.2/2, Error ellipse: s-maj=11.9km s-min=9.1km az=136.0*

BGS ***15*** *11:34:57.8, 4665N×15531E, h10km, mb6.2*

NEIC ***15*** *11:34:58.1±0.1, 4665N×15531E, h10km, mb6.4/270, Error ellipse: s-maj=3.1km s-min=2.2km az=175.0*

MOS ***15*** *11:34:59.9±0.8, 4664N×15537E, h32km, mb6.5/133, Error ellipse: s-maj=6.5km s-min=3.5km az=101.0*

BJI ***15*** *11:35:00.5, 4683N×15465E, h10km, mb6.0*

SZGRF ***15*** *11:35:04.3, 4693N×15564E, h33km, mb6.5, East of Kuril Islands, Russia*

ISC 15 11:34:58.7±1.2, 4671N±003×15522E±002, h12km±7km, h17km±1.0km; pP-P, n1341, σ0s85/1317, mb6.2/366, 65C-196D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.70**	**18**	*e*PN	**Pn**	**11 36 34.2**	**-2.6**
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
PET	**Petropavlovsk**	**6.70**	**18**	*e*Pn	**Pn**	**11 36 34.0**	**-2.8**
	comp=Z,1μm,0.6s						
NEM2	**Nemuro 2**	**7.50**	**247**	P	**Pn**	**11 36 47.8**	**0.0**
NEM2				*e*S	**Sn**	**11 38 06.3**	**-6.4**
JRA	**Rausu**	**7.64**	**252**	P	**Pn**	**11 36 50.6**	**+0.9**
JRA				*e*S	**Sn**	**11 38 14.9**	**-1.3**
JNK	**Nakash**	**8.05**	**251**	P	**Pn**	**11 36 55.2**	**-0.2**
JNK				*e*S	**Sn**	**11 38 21.4**	**-5.0**
JAK	**Akkeshi**	**8.35**	**247**	P	**Pn**	**11 36 58.9**	**-0.5**
JAK				*e*S	**Sn**	**11 38 27.3**	**-6.3**
JTKR	**Abashiri--Toko**	**8.43**	**255**	P	**Pn**	**11 37 01.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**8.55**	**276**	*d* iPN	**Pn**	**11 37 05.9**	**+3.6**
YSS	**Yuzh-Sakhalins**	**8.55**	**276**	*e*Pn	**Pn**	**11 37 05.0**	**+2.7**
	comp=Z,885nm,1.1s						
JMP	**Maruseppu**	**8.78**	**256**	P	**Pn**	**11 37 07.9**	**+2.5**
JAR	**Ashorobuto**	**8.80**	**251**	P	**Pn**	**11 37 06.5**	**+0.8**
JAR				*e*S	**Sn**	**11 38 40.6**	**-4.2**
JOB	**Onbets**	**8.94**	**249**	*e*S	**Sn**	**11 38 42.2**	**-6.0**
JSE	**Soyaes**	**9.00**	**263**	P	**Pn**	**11 37 10.8**	**+2.4**
JKK2	**Kamakawa 2**	**9.24**	**257**	P	**Pn**	**11 37 12.4**	**+0.7**
ASAJ	**Asahikawa**	**9.25**	**258**	Pn	**Pn**	**11 37 13.4**	**+1.6**
	comp=Z,32nm,0.3s,baz=77,slow=16,SNR=8.3						
ASAJ	**Asahikawa**	**9.25**	**258**	P	**Pn**	**11 37 13.0**	**+1.2**
JWK2	**Keihoku**	**9.38**	**266**	P	**Pn**	**11 37 17.6**	**+4.0**
JCH	**Churui**	**9.39**	**248**	P	**Pn**	**11 37 13.3**	**-0.4**
JCH				*e*S	**Sn**	**11 38 51.6**	**-7.6**
JFR	**Furan**	**9.63**	**253**	P	**Pn**	**11 37 18.5**	**+1.5**
JFR				*e*S	**Sn**	**11 39 02.3**	**-2.8**
JAB	**Ashibetsu**	**9.73**	**255**	P	**Pn**	**11 37 21.9**	**+3.5**
JEM	**Erimo**	**9.83**	**246**	*e*S	**Sn**	**11 39 04.5**	**-5.5**
JNBK	**Urakawa-nobuka**	**9.95**	**248**	P	**Pn**	**11 37 19.9**	**-1.5**
JNBK				*e*S	**Sn**	**11 39 06.0**	**-6.9**
JBT2	**Biratori 2**	**9.96**	**251**	P	**Pn**	**11 37 20.7**	**-0.8**
JHR	**Hokuryu**	**9.97**	**258**	P	**Pn**	**11 37 25.1**	**+3.3**
JEW	**Eniwo**	**10.53**	**253**	P	**Pn**	**11 37 29.9**	**+0.6**
JSK	**Shakotan**	**10.96**	**258**	P	**Pn**	**11 37 36.4**	**+1.1**
JNB	**Noboribetsu**	**10.96**	**252**	P	**Pn**	**11 37 33.9**	**-1.4**
JNB				*e*S	**Sn**	**11 39 30.2**	**-7.7**
JKB	**Kayabe**	**11.25**	**250**	P	**Pn**	**11 37 37.2**	**-2.0**
JKB				*e*S	**Sn**	**11 39 34.1**	**-11**
JSH	**Shimam**	**11.54**	**255**	P	**Pn**	**11 37 42.8**	**-0.4**
JYM2	**Yakumo 2**	**11.57**	**252**	P	**Pn**	**11 37 42.0**	**-1.6**
JYM2				*e*S	**Sn**	**11 39 47.0**	**-5.6**
JANG	**Nango**	**11.78**	**242**	P	**Pn**	**11 37 42.9**	**-3.6**
JANG				*e*S	**Sn**	**11 39 43.7**	**-14**
JTM	**Tenmabayashi**	**11.82**	**245**	P	**Pn**	**11 37 44.5**	**-2.5**
JTM				*e*S	**Sn**	**11 39 47.0**	**-12**
JSR	**Shiriuchi**	**11.83**	**249**	P	**Pn**	**11 37 44.3**	**-2.8**
JSR				*e*S	**Sn**	**11 39 49.2**	**-10**
JTH	**Tanohata**	**11.84**	**240**	P	**Pn**	**11 37 43.5**	**-3.8**
JTH				*e*S	**Sn**	**11 39 44.9**	**-14**
JOSM	**Okushiri--Mats**	**12.17**	**253**	P	**Pn**	**11 37 49.9**	**-1.9**
OFUJ	**Ofunato**	**12.51**	**237**	P	**Pn**	**11 37 53.6**	**-2.9**
OFUJ				*e*S	**Sn**	**11 40 01.8**	**-14**
JRG	**Rokugo**	**12.92**	**241**	P	**Pn**	**11 38 00.7**	**-1.3**
JRG				*e*S	**Sn**	**11 40 15.0**	**-11**
JOG2	**Oga 2**	**13.12**	**244**	P	**Pn**	**11 38 02.7**	**-2.0**
JIO	**Ouri**	**13.12**	**236**	P	**Pn**	**11 38 03.1**	**-1.7**
JIO				*e*S	**Sn**	**11 40 16.2**	**-14**
MA2	**Magadan**	**13.16**	**350**	*e*PN	**Pn**	**11 38 05.1**	**-0.2**
MA2				pmax	pmax		
	comp=Z,200nm,1.0s						
MA2	**Magadan**	**13.16**	**350**	*e*Pn	**Pn**	**11 38 04.5**	**-0.9**
	comp=Z,853nm,1.4s						
SMY	**Shemya**	**13.60**	**57**	*e*P	**Pn**	**11 38 07.2**	**-4.1**
SMY				pmax	pmax		
	comp=Z,142nm,0.4s						
SMY	**Shemya**	**13.60**	**57**	*e*P	**Pn**	**11 38 07.2**	**-4.1**
	comp=Z,142nm,0.4s						
HABR	**Khabarovsk**	**13.73**	**285**	*e*P	**Pn**	**11 38 14.7**	**+1.6**
JYA	**Atsumi**	**13.98**	**240**	P	**Pn**	**11 38 14.2**	**-2.4**
JYA				*e*S	**Sn**	**11 40 43.1**	**-8.6**
JFK	**Kawauchi**	**14.15**	**234**	P	**Pn**	**11 38 15.9**	**-3.0**
JFK				*e*S	**Sn**	**11 40 40.6**	**-15**
JFY	**Yanaizu**	**14.78**	**237**	P	**Pn**	**11 38 25.0**	**-2.5**
JFY				*e*S	**Sn**	**11 41 00.6**	**-11**
MJAR	**Matsushiro Arr**	**16.25**	**237**	Pn	**Pn**	**11 38 46.6**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=30,slow=12,SNR=9.2						
MAJO	**Matsushiro**	**16.25**	**237**	*e*P	**Pn**	**11 38 46.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,2μm,1.4s						
MAJO	**Matsushiro**	**16.25**	**237**	*e*Pn	**Pn**	**11 38 46.5**	**-0.1**
	comp=Z,2μm,1.4s						
MAT	**Matsushiro**	**16.25**	**237**	P	**Pn**	**11 38 46.0**	**-0.7**
SEY	**Seymchan**	**16.34**	**355**	*e*P	**Pn**	**11 38 47.3**	**-0.6**
JHJ	**Hachijo jima 2**	**17.97**	**226**	S	**Sn**	**11 42 12.2**	**-16**
	comp=Z,74nm,0.3s,baz=80,slow=24,SNR=8.4						
MDJ	**Mudanjiang**	**18.02**	**273**	P	**Pn**	**11 39 07.6**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,138nm,1.1s						
MDJ	**Mudanjiang**	**18.02**	**273**	*e*Pn	**Pn**	**11 39 07.3**	**-1.5**
	comp=Z,341nm,1.1s						
CN2	**Changchun**	**21.10**	**273**	P	**P**	**11 39 40.6**	**-2.4**
YAK	**Yakutsk**	**21.16**	**326**	*e*P	**P**	**11 39 44.4**	**+0.8**
YAK				*e*		11 40 05.4	
YAK				*e*S	**S**	**11 43 36.3**	**-2.3**
YAK				*e*SS	sS	11 43 51.5	+7.2
YAK				*e*SSS		11 44 14.1	
YAK				pmax	pmax		
	comp=E,1μm,1.3s						
YAK				pmax	pmax		
	comp=Z,2μm,1.3s,mb6.3						
YAK				pmax	pmax		
	comp=N,1μm,1.2s						
YAK				pmax	pmax		
	comp=Z,398nm,1.0s,mb5.7						
YAK				pmax	pmax		
	comp=N,425nm,1.6s						
YAK				pmax	pmax		
	comp=E,659nm,1.2s						
YAK				smax			
	comp=E,1μm,1.2s						
YAK				smax			
	comp=N,681nm,1.0s						
YAK	**Yakutsk**	**21.16**	**326**	*e*P	**P**	**11 39 41.9**	**-1.7**
	comp=N,1μm,1.0s,mb6.2						
CBIJ	**Chichi jima**	**22.12**	**212**	P	**P**	**11 39 55.0**	**+1.1**
	comp=N,343nm,0.9s,mb5.8,baz=83,slow=20,SNR=4.7						
BILL	**Bilibino**	**22.13**	**11**	*i* P	**P**	**11 39 55.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,3μm,1.7s,mb6.4						
BILL	**Bilibino**	**22.13**	**11**	*e*P	**P**	**11 39 54.3**	**+0.3**
	comp=Z,2μm,1.1s,mb6.3						
KSRS	**Korea Array**	**22.18**	**255**	P	**P**	**11 39 57.0**	**+2.5**
	comp=Z,250nm,0.8s,mb5.7,baz=52,slow=11,SNR=28						
KSRS				PcP	PcP	11 43 50.8	-0.4
	comp=Z,19nm,1.0s,baz=27,slow=0.6,SNR=5.9						
JNU	**Nakatsue**	**22.97**	**242**	P	**P**	**11 40 04.2**	**+1.3**
	comp=Z,281nm,0.8s,mb5.8,baz=270,slow=24,SNR=13						
INCN	**Inchon**	**23.02**	**257**	*e*P	**P**	**11 40 05.1**	**+1.6**
	comp=Z,467nm,0.8s,mb6.0						
SNY	**Shenyang**	**23.09**	**269**	⇓P	**P**	**11 40 04.1**	**-0.1**
SNY				AMB	AMB		
	comp=Z,3μm,0.7s,mb6.8						
HIA	**Hailar**	**23.75**	**289**	*e*P	**P**	**11 40 12.0**	**+1.1**
HIA				pmax	pmax		
	comp=Z,7μm,2.8s						
HIA	**Hailar**	**23.75**	**289**	*e*P	**P**	**11 40 12.0**	**+1.1**
	comp=Z,7μm,2.8s,mb6.6						
UNV	**Unalaska Valle**	**25.23**	**59**	*e*P	**P**	**11 40 23.0**	**-1.3**
	comp=Z,543nm,1.2s,mb6.0						
DL2	**Dalian**	**25.70**	**265**	P	**P**	**11 40 31.4**	**+2.8**
DL2				AMB	AMB		
	comp=Z,230nm,0.8s,mb5.8						
BOD	**Bodaibo**	**27.14**	**309**	*e*P	**P**	**11 40 40.1**	**-1.5**
BOD				pmax	pmax		
	comp=Z,319nm,1.2s,mb5.7						
TNA	**Tin City**	**27.27**	**33**	*e*P	**P**	**11 40 41.9**	**-0.9**
	comp=Z,356nm,1.0s,mb5.8						
BJI	**Beijing**	**28.93**	**271**	*e*P	**P**	**11 41 02.3**	**+4.7**
BJI				AMB	AMB		
	comp=Z,166nm,0.8s,mb5.8						
BJI	**Beijing**	**28.93**	**271**	*e*P	**P**	**11 41 02.3**	**+4.7**
	comp=Z,166nm,0.8s,mb5.8						
BJT	**Baijiatuan**	**28.94**	**271**	*e*P	**P**	**11 41 01.3**	**+3.6**
BJT				pmax	pmax		
	comp=Z,348nm,1.0s						
BJT	**Baijiatuan**	**28.94**	**271**	*e*P	**P**	**11 41 01.2**	**+3.5**
	comp=Z,348nm,1.0s,mb6.0						
JOW	**Kunigami**	**29.09**	**236**	P	**P**	**11 40 59.0**	**+0.1**
	comp=Z,109nm,0.8s,mb5.6,baz=59,slow=8.4,SNR=9.4						
NJ2	**Nanjing**	**31.38**	**255**	*e*P	**P**	**11 41 20.8**	**+1.5**
NJ2				AP	pP	11 41 24.1	+1.0
NJ2				XP	sP	11 41 27.6	+3.0
NJ2				PP	PP	11 42 24.6	-5.5
NJ2				AMB	AMB		
	comp=Z,530nm,1.0s,mb6.3						
HHC	**Hu-ho-hao-te**	**31.74**	**275**	*e*P	**P**	**11 41 24.1**	**+1.6**
HHC				XP	sP	11 41 31.1	+3.3
HHC				PP	PP	11 42 30.5	-3.6
HHC				AMB	AMB		
	comp=Z,625nm,1.4s,mb6.2						
SONM	**Songino Array**	**32.71**	**290**	P	**P**	**11 41 31.2**	**+0.3**
	comp=Z,80nm,0.8s,mb5.7,baz=65,slow=7.6,SNR=21						
SONM				PcP	PcP	11 44 13.9	-2.6
	comp=Z,15nm,0.8s,baz=80,slow=2.9,SNR=3.6						
IRK	**Irkutsk**	**32.99**	**299**	*e*P	**P**	**11 41 35.9**	**+2.5**
IRK				pmax	pmax		
	comp=Z,228nm,1.1s,mb6.0						
KDAK	**Kodiak Island**	**33.00**	**51**	P	**P**	**11 41 31.0**	**-2.5**
	comp=Z,3μm,1.1s,mb7.2,SNR=20						
KDAK	**Kodiak Island**	**33.00**	**51**	P	**P**	**11 41 31.8**	**-1.7**
	comp=Z,481nm,1.1s,mb6.3,baz=290,slow=4.6,SNR=36						
KDAK				PcP	PcP	11 44 15.7	-1.5
	comp=Z,60nm,1.0s,baz=324,slow=4.4,SNR=4.4						
KDAK	**Kodiak Island**	**33.00**	**51**	P	**P**	**11 41 31.8**	**-1.7**
KDAK				PcP	PcP	11 44 15.7	-1.5
TLY	**Talaya**	**33.48**	**298**	P	**P**	**11 41 37.1**	**-0.6**
	comp=Z,1μm,0.7s,mb6.9,SNR=9.5						
TLY	**Talaya**	**33.48**	**298**	*e*P	**P**	**11 41 37.1**	**-0.6**
TLY				*e*		11 41 46.7	
TLY				pmax	pmax		
	comp=Z,228nm,1.1s,mb6.0						
TLY	**Talaya**	**33.48**	**298**	*e*P	**P**	**11 41 37.2**	**-0.6**
	comp=Z,226nm,1.0s,mb6.0						
ZAK	**Zakamensk**	**34.01**	**296**	*e*P	**P**	**11 41 42.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,86nm,1.3s,mb5.5						
GUMO	**Guam**	**34.14**	**198**	P	**P**	**11 41 40.7**	**-2.7**
	comp=Z,96nm,0.9s,mb5.7,baz=12,slow=15,SNR=3.9						
PMR	**Palmer**	**34.62**	**44**	*e*P	**P**	**11 41 46.0**	**-1.6**
PMR				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.7						
PMR	**Palmer**	**34.62**	**44**	*e*P	**P**	**11 41 46.1**	**-1.5**
	comp=Z,538nm,1.7s,mb6.2						
MCK	**McKinley**	**34.75**	**40**	*e*P	**P**	**11 41 47.2**	**-1.5**
MCK				pmax	pmax		
	comp=Z,410nm,1.6s,mb6.1						
MCK	**McKinley**	**34.75**	**40**	*e*P	**P**	**11 41 47.1**	**-1.5**
	comp=Z,410nm,1.7s,mb6.1						
SML	**Sawmill**	**35.00**	**44**	*e*P	**P**	**11 41 49.7**	**-1.2**
COLA	**College**	**35.27**	**38**	*e*P	**P**	**11 41 52.6**	**-0.6**
COLA				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.6						
COLA	**College**	**35.27**	**38**	*e*P	**P**	**11 41 52.6**	**-0.6**
	comp=Z,1μm,1.8s,mb6.6						
WHN	**Wuhan**	**35.33**	**257**	⇓P	**P**	**11 41 54.5**	**+0.8**
DIV	**Divide**	**36.26**	**45**	*e*P	**P**	**11 42 00.5**	**-1.2**
	comp=Z,2μm,1.7s,mb6.8						
EYAK	**Cordova Ski Ar**	**36.32**	**46**	*e*P	**P**	**11 42 01.3**	**-0.9**
QZH	**Quanzhou**	**36.33**	**246**	*i* P	**P**	**11 42 03.8**	**+1.5**
QZH				AMB	AMB		
	comp=Z,2μm,2.0s,mb6.7						
MENT	**Mentasta**	**37.11**	**42**	*e*P	**P**	**11 42 10.6**	**+1.7**
EGAK	**Eagle**	**38.13**	**38**	*e*P	**P**	**11 42 15.4**	**-2.1**
	comp=Z,202nm,0.8s,mb5.9						
DAWY	**Dawson**	**38.95**	**39**	*e*P	**P**	**11 42 24.0**	**-0.4**
LZH	**Lanzhou**	**39.34**	**273**	*e*P	**P**	**11 42 30.1**	**+2.4**
LZH				AP	pP	11 42 34.4	+2.9
LZH				XP	sP	11 42 37.5	+4.4
LZH				AMB	AMB		
	comp=Z,789nm,1.2s,mb6.3						
GTA	**Gaotai**	**40.41**	**280**	P	**P**	**11 42 40.6**	**+4.0**
GTA				AP	pP	11 42 46.9	+6.5
GTA				XP	sP	11 42 49.6	+7.6
GTA				AMB	AMB		
	comp=Z,388nm,1.8s,mb5.8						
INK	**Inuvik**	**40.91**	**33**	P	**P**	**11 42 39.6**	**-1.1**
	comp=Z,145nm,0.9s,mb5.6,baz=287,slow=4.9,SNR=21						
SKAG	**Skagway**	**41.65**	**46**	*e*P	**P**	**11 42 47.9**	**+1.1**
	comp=Z,2μm,2.8s,mb6.3						
SIT	**Sitka**	**42.30**	**49**	*e*P	**P**	**11 42 52.4**	**+0.3**
SIT				pmax	pmax		
	comp=Z,1μm,1.9s,mb6.2						
SIT	**Sitka**	**42.30**	**49**	*e*P	**P**	**11 42 52.4**	**+0.3**
	comp=Z,1μm,1.9s,mb6.2						
CD2	**Chengdu**	**42.32**	**267**	*e*P	**P**	**11 42 52.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,480nm,1.1s,mb6.0						
GYA	**Guiyang**	**43.13**	**259**	*i* P	**P**	**11 42 59.6**	**+0.8**
GYA				AP	pP	11 43 03.8	+1.1
GYA				XP	sP	11 43 06.9	+2.7
GYA				PP	PP	11 44 42.5	+3.5
GYA				PCP	PcP	11 44 50.3	+1.8
GYA				SCP	ScP	11 48 40.3	+0.9
GYA				AMB	AMB		
	comp=Z,670nm,1.0s,mb6.3						
TGY	**Tagaytay City**	**43.34**	**233**	P	**P**	**11 43 00.6**	**+0.1**
	comp=Z,115nm,0.3s,baz=98,slow=6.1,SNR=8.9						
PLP	**Palo**	**43.70**	**226**	*e*P	**P**	**11 43 03.9**	**+0.5**
ZAL	**Zalesovo**	**43.82**	**306**	P	**P**	**11 43 04.4**	**0.0**
	comp=Z,65nm,0.8s,mb5.4,baz=49,slow=8.0,SNR=30						
ZAL				PcP	PcP	11 44 50.9	+0.1
	comp=Z,27nm,0.9s,baz=70,slow=0.5,SNR=3.1						
ZAL	**Zalesovo**	**43.82**	**306**	P	**P**	**11 43 04.4**	**0.0**
ZAL				PcP	PcP	11 44 50.9	+0.1
CRAG	**Craig**	**43.97**	**51**	*e*P	**P**	**11 43 06.1**	**+0.5**
	comp=Z,1μm,1.8s,mb6.4						
WRAK	**Wrangell Islan**	**44.06**	**50**	*e*P	**P**	**11 43 07.1**	**+0.7**
	comp=Z,994nm,1.8s,mb6.2						
DLBC	**Dease Lake**	**44.58**	**46**	*e*P	**P**	**11 43 11.2**	**+0.7**
QIZ	**Qiongzhong**	**46.18**	**249**	⇓P	**P**	**11 43 24.8**	**+1.6**
QIZ				AMB	AMB		
	comp=Z,125nm,2.1s,mb5.5						
QIZ	**Qiongzhong**	**46.18**	**249**	*e*P	**P**	**11 43 25.2**	**+2.0**
	comp=Z,558nm,1.8s,mb6.2						
WMQ	**Urumqi**	**46.29**	**292**	⇓P	**P**	**11 43 25.8**	**+1.7**
WMQ				AP	pP	11 43 30.8	+2.9
WMQ				XP	sP	11 43 33.0	+3.5
WMQ				PCP	PcP	11 45 02.8	+3.5
WMQ				PP	PP	11 45 14.0	+1.3
WMQ				PPP		11 45 57.6	
WMQ				SCP	ScP	11 48 54.1	+1.7
WMQ				AMB	AMB		
	comp=Z,112nm,0.7s,mb5.9						
KMI	**Kunming**	**46.66**	**261**	P	**P**	**11 43 28.3**	**+1.3**
KMI				AMB	AMB		
	comp=Z,173nm,1.6s,mb5.7						
KMI	**Kunming**	**46.66**	**261**	P	**P**	**11 43 28.2**	**+1.2**
KMI				pmax	pmax		
	comp=Z,173nm,1.6s,mb5.7						
KMI	**Kunming**	**46.66**	**261**	P	**P**	**11 43 28.2**	**+1.2**
	comp=Z,173nm,1.6s,mb5.7						
HKL	**Haleakala**	**47.02**	**107**	*e*P	**P**	**11 43 30.0**	**+0.2**
KKH	**Kailua Kona**	**47.92**	**107**	*e*P	**P**	**11 43 36.8**	**0.0**
MK31	**Makanchi Array**	**48.24**	**298**	*e*P	**P**	**11 43 39.9**	**+0.6**
MKAR	**Makanchi Array**	**48.24**	**298**	P	**P**	**11 43 39.7**	**+0.4**
	comp=Z,48nm,0.5s,mb5.8,baz=70,slow=6.4,SNR=23						
MKAR	**Makanchi Array**	**48.24**	**298**	P	**P**	**11 43 39.7**	**+0.4**
KHU	**Kahuku**	**48.48**	**107**	*e*P	**P**	**11 43 41.3**	**+0.2**
KURK	**Kurchatov**	**48.59**	**304**	P	**P**	**11 43 42.0**	**0.0**
	comp=Z,4μm,1.0s,SNR=28						
KURK	**Kurchatov**	**48.59**	**304**	*e*P	**P**	**11 43 41.8**	**-0.2**
ALE	**Alert**	**49.64**	**6**	P	**P**	**11 43 49.0**	**-1.0**
	comp=Z,1μm,1.2s,mb6.7,SNR=9.8						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**11 43 52.6**	**-0.8**
	comp=Z,73nm,0.9s,mb5.7,baz=297,slow=7.5,SNR=18						
YKA				PcP	PcP	11 45 12.2	-0.8
	comp=Z,39nm,0.9s,baz=299,slow=3.5,SNR=8.7						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**11 43 52.6**	**-0.8**
YKA				PcP	PcP	11 45 12.2	-0.8
RES	**Resolute Bay**	**50.41**	**19**	*e*P	**P**	**11 43 55.9**	**0.0**
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**11 44 04.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2μm,1.0s,mb6.9						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**11 44 04.2**	**-0.3**
	comp=Z,2μm,1.0s,mb6.9						
LSA	**Lhasa**	**51.72**	**275**	*e*P	**P**	**11 44 09.1**	**+3.4**
LSA				pmax	pmax		
	comp=Z,404nm,1.2s,mb6.2						
LSA	**Lhasa**	**51.72**	**275**	*e*P	**P**	**11 44 09.1**	**+3.4**
	comp=Z,404nm,1.2s,mb6.2						
C03A	**Quillayute Air**	**51.99**	**57**	⇓P	**P**	**11 44 08.4**	**+0.6**
	baz=52,SNR=8.4						
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**11 44 09.6**	**+1.8**
	comp=Z,314nm,0.7s,mb6.3,baz=48,slow=7.7,SNR=54						
BRVK	**Borovoye**	**52.04**	**310**	P	**P**	**11 44 08.3**	**+0.2**
	comp=Z,4μm,0.9s,SNR=27						
BRVK	**Borovoye**	**52.04**	**310**	*e*P	**P**	**11 44 07.6**	**-0.4**
PGC	**Sidney**	**52.27**	**56**	*e*P	**P**	**11 44 09.2**	**-0.7**
	comp=Z,2μm,1.6s,mb6.7						
B04A	**Port Angeles**	**52.55**	**57**	P	**P**	**11 44 11.7**	**-0.2**
	baz=52,SNR=17						
KKM	**Kota Kinabalu**	**52.58**	**232**	P	**P**	**11 44 12.8**	**+0.8**
KKM	**Kota Kinabalu**	**52.58**	**232**	*e*P	**P**	**11 44 13.2**	**+1.1**
A04A	**Legoe Bay, Lum**	**52.66**	**56**	⇑P	**P**	**11 44 12.6**	**-0.1**
	baz=52,SNR=7.5						
KBS	**Kingsbay**	**52.76**	**352**	*e*P	**P**	**11 44 13.4**	**0.0**
KBS	**Kingsbay**	**52.76**	**352**	*e*P	**P**	**11 44 13.5**	**+0.1**
KBS				pmax	pmax		
	comp=Z,340nm,1.0s,mb6.2						
KBS	**Kingsbay**	**52.76**	**352**	*e*P	**P**	**11 44 13.4**	**0.0**
	comp=Z,345nm,0.9s,mb6.3						
ZRNK	**Zerenda**	**52.76**	**311**	*e*P	**P**	**11 44 13.5**	**+0.1**
A05A	**Maple Falls**	**52.87**	**55**	⇑P	**P**	**11 44 13.4**	**-0.9**
	baz=53,SNR=25						
**D03

AAK **Ala-Archa** 55.15 297 P P 11 44 31.2 +0.3
comp=Z,2µm,0.7s,mb7.2,SNR=19
AAK **Ala-Archa** 55.15 297 P P 11 44 32.6 +1.8
SNR=22
AAK **Ala-Archa** 55.15 297⇑ *iP* P 11 44 31.6 +0.7
AAK pmax pmax
comp=Z,197nm,0.8s,mb6.2
AAK **Ala-Archa** 55.15 297 *eP* P 11 44 31.2 +0.3
comp=Z,16µm,1.0s
EPH **Ephrata** 55.16 56 P P 11 44 29.9 -1.0
C08A **Higginbotham F** 55.23 55⇓ P 11 44 30.8 -0.7
baz=55
KBO **Bosley Butte** 55.28 63 *eP* P 11 44 32.5 +0.7
EDM **Edmonton** 55.29 47 *eP* P 11 44 31.2 -0.7
EDM **Edmonton** 55.29 47 *eP* P 11 44 30.9 -1.0
G05A **Wamic** 55.33 59⇑ P P 11 44 32.7 +0.5
baz=55
F06A **Goldendale** 55.35 58 P P 11 44 32.4 0.0
baz=55,SNR=28
B09A **Rice** 55.38 54⇓ P P 11 44 32.3 -0.3
baz=55
J03A **Ideyld Park** 55.39 61 P P 11 44 33.4 +0.7
baz=55,SNR=80
A10A **Northport** 55.40 53⇑ P P 11 44 32.6 -0.1
baz=55
K02A **Glendale** 55.41 62 P P 11 44 33.4 +0.6
baz=55,SNR=81
E07A **Sunnyside** 55.45 57 P P 11 44 32.9 -0.2
baz=55,SNR=34
I04A **Tendick Farm,** 55.49 61⇑ P P 11 44 34.0 +0.7
baz=55
HBO **Huckleberry Mo** 55.52 60 P P 11 44 34.0 +0.5
M01C **Crescent City** 55.55 63 P P 11 44 34.4 +0.6
baz=55,SNR=21
EKS2 **Erkin-Say** 55.57 298 P P 11 44 35.3 +1.4
SNR=17
BKCOR **Black Crater** 55.63 60 P P 11 44 34.7 +0.3
OD2 **Odessa Site #2** 55.64 55 P P 11 44 33.3 -1.1
C09A **Chrisman Ranch** 55.66 55⇓ P P 11 44 34.2 -0.4
baz=55
RSW **Rattlesnake Hi** 55.69 57 P P 11 44 34.6 -0.2
L02A **Cave Junction** 55.69 63 P P 11 44 35.5 +0.7
baz=56,SNR=74
D08A **Wollman Farm,** 55.70 56 P P 11 44 34.1 -0.7
baz=56,SNR=26
H05A **Madras** 55.72 59⇓ P P 11 44 35.3 +0.4
baz=56
WRD **Warden** 55.72 56 P P 11 44 33.5 -1.5
HAWA **Hanford** 55.73 57 *eP* P 11 44 34.8 -0.3
comp=Z,784nm,1.4s,mb6.5
G06A **Carlson Farm,** 55.73 58⇓ P P 11 44 35.4 +0.4
baz=56
F07A **Phinny Hill Vi** 55.78 57⇓ P P 11 44 35.7 +0.3
baz=56
HUMO **Hull Mountain** 55.83 62 *eP* P 11 44 36.3 +0.5
comp=Z,1µm,1.5s,mb6.7
HUMO **Hull Mountain** 55.83 62⇑ P P 11 44 36.7 +0.9
baz=56
KRMB **Red Mountain** 55.86 64 *eP* P 11 44 36.8 +0.8
AML **Almayashu** 55.92 297 P P 11 44 38.4 +2.0
SNR=10
E08A **Dider Farm, El** 55.94 56 P P 11 44 36.0 -0.6
baz=56,SNR=36
B10A **Chitwood Farm,** 55.96 54 P P 11 44 36.3 -0.4
baz=56,SNR=16
I05A **Bend** 55.96 60 P P 11 44 37.2 +0.5
baz=56,SNR=65
KTRM **Thompson Ridge** 55.97 63 P P 11 44 37.7 +0.9
J04A **Umpqua Nationa** 55.98 61 P P 11 44 37.8 +0.9
baz=56,SNR=55
ARU **Arti** 56.02 318 P P 11 44 37.9 +0.8
comp=Z,4µm,0.6s,SNR=28
ARU **Arti** 56.02 318⇑ *iP* P 11 44 37.7 +0.6
ARU *e* 11 46 41.6
ARU *eS* S 11 52 26.7 +1.5
ARU pmax pmax
comp=Z,510nm,0.8s,mb6.6
ARU **Arti** 56.02 318 *eP* P 11 44 37.4 +0.3
comp=Z,439nm,0.7s,mb6.6
NEW **Newport** 56.04 54 P P 11 44 36.3 -1.0
comp=Z,142nm,1.1s,mb5.9,baz=309,slow=6.6,SNR=27
NEW **Newport** 56.04 54 *eP* P 11 44 36.3 -1.0
NEW pmax pmax
comp=Z,870nm,1.6s
NEW **Newport** 56.04 54 *eP* P 11 44 36.4 -0.9
comp=Z,849nm,1.6s,mb6.5
HNR **Honiara** 56.04 174 P P 11 44 37.8 +0.5
HNR pmax pmax
comp=Z,206nm,1.1s,mb6.1
HNR **Honiara** 56.04 174 P P 11 44 37.8 +0.5
comp=Z,206nm,1.1s,mb6.1
D09A **Jones Farm, Ri** 56.05 55 P P 11 44 36.6 -0.8
baz=56,SNR=21
A11A **Hall Mountain,** 56.07 53⇑ P P 11 44 37.9 +0.4
baz=56
VIPM **Ingram Point** 56.15 59 P P 11 44 38.4 +0.3
C10A **Spilker Farm,** 56.19 54 P P 11 44 37.8 -0.6
baz=56,SNR=23
H06A **Lindquist Farm** 56.19 59 P P 11 44 38.5 +0.1
baz=56,SNR=74
JCC **Jacoby Creek** 56.19 64⇑ P P 11 44 39.7 +1.3
baz=56
G07A **Ruggs Ranch, H** 56.28 58 P P 11 44 38.9 -0.1
baz=56,SNR=22
PMG **Port Moresby** 56.32 190 P P 11 44 39.8 +0.5
comp=Z,33nm,0.9s,mb5.3,baz=18,slow=8.5,SNR=7.0
PMG **Port Moresby** 56.32 190 P P 11 44 39.8 +0.5
PMG pmax pmax
comp=Z,33nm,0.9s
PMG **Port Moresby** 56.32 190 *eP* P 11 44 38.7 -0.6
KHMM **Horse Mountain** 56.35 64 *eP* P 11 44 40.7 +1.2
B11A **Sandpoint** 56.36 53⇓ P P 11 44 39.6 0.0
baz=56
JIRN **Jiri** 56.39 276 *eP* P 11 44 41.5 +1.7
GUN **Gumba** 56.45 276 *eP* P 11 44 41.7 +1.5
comp=Z,664nm,1.0s,mb6.6
BUOR **Burton Butte** 56.45 62 P P 11 44 40.8 +0.6
E09A **Wood Farm, Sta** 56.45 56⇓ P P 11 44 40.2 -0.1
baz=56
A12A **Yaak River Ran** 56.47 52 P P 11 44 40.3 -0.1
baz=56,SNR=24
YBH **Yreka Blue Hor** 56.48 63 P P 11 44 41.2 +0.8
comp=Z,398nm,1.1s,mb6.4,baz=304,slow=1.4,SNR=78
YBH **Yreka Blue Hor** 56.48 63 P P 11 44 41.2 +0.8
YBH pmax pmax
comp=Z,398nm,1.1s
YBH **Yreka Blue Hor** 56.48 63 *eP* P 11 44 41.3 +0.9
comp=Z,467nm,1.4s,mb6.3
YBH **Yreka Blue Hor** 56.48 63 P P 11 44 41.3 +0.9
baz=56,SNR=122
J05A **Fort Rock** 56.48 60 P P 11 44 41.5 +1.0
baz=56,SNR=99
F08A **Pendleton** 56.50 57⇓ P P 11 44 41.0 +0.4
baz=56
K04A **Chilquin** 56.57 61⇓ P P 11 44 42.0 +0.9
baz=56
M02C **Callahan** 56.59 63⇓ P P 11 44 42.5 +1.3
baz=56
N02C **Big Bar** 56.64 64 P P 11 44 42.1 +0.6
baz=56,SNR=40
G08A **Pilot Rock** 56.68 57⇑ P P 11 44 41.8 0.0
baz=56
I06A **Prineville** 56.72 59 P P 11 44 42.6 +0.5
baz=56,SNR=108
O01C **Eel River Cons** 56.72 65 P P 11 44 43.3 +1.2
baz=56,SNR=29
L04A **Klamath Falls** 56.72 62⇓ P P 11 44 43.0 +0.8
baz=56
B12A **Libby** 56.77 53⇓ P P 11 44 42.5 0.0
baz=56
KKN **Kakani** 56.93 277 *eP* P 11 44 44.9 +1.2
comp=Z,1µm,1.2s,mb6.9
M04C **Macdoel** 56.98 62⇑ P P 11 44 45.0 +1.0
baz=57
PKI **Pulchoki** 56.98 276 *eP* P 11 44 45.1 +1.1
comp=Z,2µm,1.8s,mb6.9
K05A **Summer Lake** 57.01 61 P P 11 44 45.1 +1.0
baz=57,SNR=78
F09A **S2 Ranch, Elgi** 57.05 56 P P 11 44 44.4 0.0
baz=57,SNR=43
I07A **Izee** 57.05 59 P P 11 44 44.9 +0.3
baz=57,SNR=82
E10A **Myers Farm, Un** 57.05 55⇑ P P 11 44 44.6 0.0
baz=57
M03C **McCloud** 57.10 63 P P 11 44 45.4 +0.6
baz=57,SNR=59
KIPM **Iron Peak** 57.12 65 *eP* P 11 44 45.5 +0.5

KCPM **Cahto Peak** 57.13 65 *eP* P 11 44 45.9 +0.8
DMN **Daman** 57.17 277 *eP* P 11 44 46.8 +1.5
comp=Z,781nm,1.0s,mb6.7
D11A **Klaveano Farm,** 57.17 54⇓ P P 11 44 44.9 -0.5
baz=57
GKN **Gorkha** 57.24 277 *eP* P 11 44 46.8 +1.0
comp=Z,1µm,1.2s,mb6.9
WDC **Whiskeytown Da** 57.25 64 *eP* P 11 44 46.2 +0.3
WDC pmax pmax
comp=Z,996nm,1.5s,mb6.6
WDC **Whiskeytown Da** 57.25 64 *eP* P 11 44 46.2 +0.3
comp=Z,996nm,1.5s,mb6.6
WDC **Whiskeytown Da** 57.25 64 P P 11 44 46.3 +0.4
baz=57,SNR=53
F10A **Beach Ranch, E** 57.28 56⇓ P P 11 44 46.1 -0.1
baz=57
H08A **Prairie City** 57.29 58 P P 11 44 46.4 +0.2
baz=57,SNR=83
O02C **Red Bluff** 57.34 64 P P 11 44 47.3 +0.8
baz=57,SNR=73
WALA **Waterton Lakes** 57.34 51 *eP* P 11 44 46.2 -0.3
comp=Z,750nm,1.4s,mb6.5
K06A **Valley Falls** 57.35 60 P P 11 44 47.5 +0.8
baz=57,SNR=89
LVZ **Lovozero** 57.38 337 P P 11 44 46.5 -0.3
comp=Z,3µm,1.4s,mb7.1,SNR=11
LVZ **Lovozero** 57.38 337⇑ *eP* P 11 44 46.5 -0.3
LVZ pmax pmax
comp=Z,675nm,1.4s,mb6.5
LVZ pmax pmax
comp=N,133nm,1.0s
LVZ pmax pmax
comp=E,113nm,1.2s
LVZ **Lovozero** 57.38 337⇑ *eP* P 11 44 46.8 0.0
P01C **Double 8 Ranch** 57.41 65⇓ P P 11 44 47.5 +0.5
baz=57
B13A **Whitefish** 57.44 52⇓ P P 11 44 47.3 +0.1
baz=57
L05A **Lakeview** 57.44 61 P P 11 44 48.2 +1.0
baz=57,SNR=69
J07A **Hines** 57.58 59 P P 11 44 48.9 +0.7
baz=57,SNR=71
M05C **Lookout** 57.65 62⇑ P P 11 44 49.2 +0.4
baz=57
GASB **Alder Springs** 57.69 65 P P 11 44 49.9 +0.9
baz=58,SNR=78
I08A **Drewey** 57.70 59 P P 11 44 49.4 +0.3
baz=58,SNR=73
HATC **Hat Creek Radi** 57.78 63⇓ P P 11 44 50.2 +0.5
baz=58
C13A **Hot Springs** 57.78 53 P P 11 44 49.5 -0.2
baz=58,SNR=13
H09A **Durkee** 57.79 57⇑ P P 11 44 50.4 +0.6
baz=58
MOD **Modoc** 57.84 61 *eP* P 11 44 50.3 +0.2
comp=E,126nm,1.1s,mb5.9
MOD **Modoc** 57.84 61 P P 11 44 50.5 +0.4
baz=58,SNR=74
HOPS **Hopland** 57.86 66 *eP* P 11 44 50.2 +0.1
comp=E,2µm,1.7s,mb6.8
HOPS **Hopland** 57.86 66 P P 11 44 50.3 +0.1
baz=58,SNR=45
KEV **Kevo** 57.86 341 *eP* P 11 44 49.9 -0.3
KEV pmax pmax
comp=Z,286nm,1.3s,mb6.1
KEV **Kevo** 57.86 341 *eP* P 11 44 49.9 -0.3
comp=Z,286nm,1.3s,mb6.1
BMO **Blue Mountains** 57.89 57 *eP* P 11 44 50.1 -0.3
comp=Z,382nm,1.4s,mb6.2
O03C **Acorn Hollow,** 57.91 64⇑ P P 11 44 50.6 +0.1
baz=58
F11A **Grangeville** 57.94 55⇑ P P 11 44 50.7 -0.1
baz=58
APA **Apatity** 57.94 337⇑ *iP* P 11 44 50.0 -0.8
APA pmax pmax
comp=Z,650nm,1.6s,mb6.4
K07A **Rock Creek Ran** 58.02 60 P P 11 44 51.6 +0.4
baz=58,SNR=63
J08A **Circle Bar Ran** 58.08 59 P P 11 44 52.2 +0.5
baz=58,SNR=55
KOLN **Koldanda** 58.09 278 *eP* P 11 44 53.0 +1.2
comp=Z,892nm,1.1s,mb6.7
M06C **Likely Place G** 58.15 62⇑ P P 11 44 53.1 +0.8
baz=58
I09A **Lost Marbles R** 58.15 58 P P 11 44 52.5 +0.2
baz=58,SNR=53
D13A **Huson** 58.19 54 P P 11 44 52.0 -0.4
baz=58,SNR=24
O04C **Chester** 58.30 63⇑ P P 11 44 54.2 +0.9
baz=58
MNRC **McLaughlin Nat** 58.32 65 P P 11 44 54.2 +0.8
baz=58,SNR=65
ELFS **Eagle Lake Fie** 58.34 63 P P 11 44 54.4 +0.8
baz=58,SNR=68
L07A **Adell** 58.36 61 P P 11 44 54.4 +0.7
baz=58,SNR=70
ARCES **ARCESS Array B** 58.36 341 P P 11 44 53.8 +0.1
comp=Z,86nm,0.7s,mb5.9,baz=35,slow=6.9,SNR=21
ARE0 **ARCESS Array S** 58.36 341 *eP* P 11 44 53.4 -0.3
NSHM **Saint Helena R** 58.43 66 *eP* P 11 44 54.3 +0.1
K08A **Mann Creek Ran** 58.44 60 P P 11 44 54.8 +0.5
baz=58,SNR=55
MCCM **Marconi Confer** 58.48 66 *eP* P 11 44 54.1 -0.4
comp=Z,366nm,1.1s,mb6.3
MCCM **Marconi Confer** 58.48 66 P P 11 44 54.8 +0.2
baz=58,SNR=12
J09A **Fry Pan Ranch,** 58.51 59 P P 11 44 55.3 +0.6
baz=58,SNR=80
WVOR **Wild Horse Val** 58.53 60 *eP* P 11 44 54.8 -0.1
WVOR pmax pmax
comp=Z,790nm,1.4s,mb6.5
WVOR **Wild Horse Val** 58.53 60 *eP* P 11 44 54.9 +0.1
comp=Z,730nm,1.4s,mb6.5
O05C **Quincy** 58.62 64 P P 11 44 55.7 +0.2
baz=58,SNR=49
CVS **Carmenet Viney** 58.63 66 P P 11 44 55.4 -0.2
baz=58,SNR=35
MSO **Missoula** 58.63 54 *eP* P 11 44 55.3 -0.3
comp=Z,314nm,1.4s,mb6.2
OHCM **Honcut** 58.64 64 *eP* P 11 44 55.4 -0.3
FARB **Farallon Islan** 58.68 67 P P 11 44 55.7 -0.2
baz=58,SNR=27
D14A **Greenough** 58.72 53 P P 11 44 55.9 -0.3
baz=58,SNR=43
E13A **Victor** 58.72 54 P P 11 44 55.8 -0.4
baz=58,SNR=45
H11A **Donnelly** 58.72 57 P P 11 44 56.1 -0.1
baz=58,SNR=68
Q03C **Winters** 58.73 65⇑ P P 11 44 57.4 +1.1
baz=58
N06A **Buffalo Meadow** 58.81 62 P P 11 44 57.2 +0.3
baz=59,SNR=79
M07A **Soldier Meadow** 58.83 61 P P 11 44 57.7 +0.7
baz=59,SNR=83
L08A **Fields** 58.85 60 P P 11 44 57.5 +0.4
baz=59,SNR=41
K09A **Rome** 58.91 59 P P 11 44 57.8 +0.2
baz=59,SNR=41
CHMT **Chamberlain Mo** 58.96 53 *eP* P 11 44 57.3 -0.5
Q04C **Lincoln** 59.01 65 P P 11 44 58.2 0.0
baz=59,SNR=35
BEKR **Beckwourth** 59.02 63 P P 11 44 58.3 0.0
baz=59,SNR=97
F13A **Darby** 59.03 55 P P 11 44 58.0 -0.4
baz=59,SNR=34
TMCR **Tamitsa** 59.04 333 *eP* P 11 44 58.9 +0.5
TMCR pmax pmax
comp=Z,1µm,1.4s,mb6.8
SAC **San Andreas** 59.12 67 *eP* P 11 44 58.9 -0.1
E14A **Clinton** 59.12 54 P P 11 44 58.9 -0.2
baz=59,SNR=27
O06A **Flanigan** 59.17 63 P P 11 44 59.7 +0.4
baz=59,SNR=37
P05C **Yuba Gap, Truc** 59.21 64 P P 11 44 59.5 -0.1
baz=59,SNR=40
BDM **Black Diamond** 59.24 66 P P 11 44 59.9 +0.1
baz=59,SNR=17
KTK1 **Kautokeino** 59.27 342 *eP* P 11 45 00.5 +0.5
KTK1 AMb AMB 11 45 04.3
comp=Z,917nm,1.8s,mb6.5
KTK1 **Kautokeino** 59.27 342 *eP* P 11 45 00.5 +0.5
comp=Z,917nm,1.8s,mb6.5
D15A **Lincoln** 59.28 53 P P 11 44 59.9 -0.3
baz=59,SNR=18
LGTI **Lohaghat** 59.30 282 *eP* P 11 45 01.7 +1.5
N07B **Gerlach** 59.32 62 P P 11 45 00.8 +0.4
baz=59,SNR=36
KLP **Kalpa** 59.33 285 *eP* P 11 45 02.0 +1.6

KLP AMb AMB 11 45 07.7
comp=Z,216nm,1.1s,mb6.1
JRSC **Jasper Ridge** 59.34 67 P P 11 45 00.3 -0.2
baz=59,SNR=24
L09A **Wilkinson Ranc** 59.36 60 P P 11 45 01.1 +0.5
baz=59,SNR=41
P06A **Stead Airport,** 59.42 63 P P 11 45 01.6 +0.5
baz=59,SNR=45
WENL **Wente Brothers** 59.51 66 P P 11 45 01.9 +0.2
baz=59,SNR=40
BNLO **Ben Lomond (Sa** 59.54 67 P P 11 45 01.7 -0.2
baz=59,SNR=46
F14A **Wisdom** 59.55 54⇑ P P 11 45 02.0 0.0
baz=59
E15A **Deer Lodge** 59.59 53 P P 11 45 02.1 -0.2
baz=59,SNR=44
KSM **Kuching** 59.62 235 *eP* P 11 45 03.4 +1.0
R04C **Big Horse Ranc** 59.63 65 P P 11 45 02.2 -0.4
baz=59,SNR=35
TRO **Tromso** 59.64 344 *eP* P 11 45 01.1 -1.5
WCN **Washoe City** 59.73 64 P P 11 45 03.6 +0.3
baz=60,SNR=90
O07A **Toulon** 59.75 62 P P 11 45 03.9 +0.6
baz=60,SNR=66
N08A **GE Springer Mi** 59.82 61 P P 11 45 04.2 +0.4
baz=60,SNR=52
FFC **Flin Flon** 59.83 41 P P 11 45 03.2 -0.7
comp=Z,2µm,1.1s,mb7.1,SNR=33
FFC **Flin Flon** 59.83 41 P P 11 45 03.1 -0.7
M09A **Marrel Ranch,** 59.84 60 P P 11 45 04.6 +0.6
baz=60,SNR=48
S04C **Ingram Canyon,** 59.85 66 P P 11 45 03.9 -0.1
baz=60,SNR=41
R05C **Kirkwood Meado** 59.90 64 P P 11 45 04.5 +0.2
baz=60,SNR=67
F15A **Butte** 60.02 54 P P 11 45 05.0 -0.2
baz=60,SNR=57
O08A **Rochester Mine** 60.11 62 P P 11 45 07.0 +1.2
baz=60,SNR=7.0
CMB **Columbia Colle** 60.11 65 *eP* P 11 45 05.9 +0.1
CMB pmax pmax
comp=Z,361nm,1.4s,mb6.2
CMB **Columbia Colle** 60.11 65 *eP* P 11 45 05.9 +0.1
comp=Z,361nm,1.4s,mb6.2
CMB **Columbia Colle** 60.11 65 P P 11 45 05.7 -0.2
baz=60,SNR=119
P07A **Fallon** 60.12 63 P P 11 45 06.3 +0.5
baz=60,SNR=26
N09A **Rock Creek Ran** 60.15 61 P P 11 45 06.6 +0.5
baz=60,SNR=86
EGMT **Eagleton** 60.18 50 *eP* P 11 45 05.9 -0.4
comp=Z,2µm,1.7s,mb6.8
PACP **Pacheco Peak** 60.18 66 P P 11 45 06.6 +0.3
baz=60,SNR=75
DDI **Dehra Dun** 60.22 284 *eP* P 11 45 08.6 +2.0
SAO **San Andreas Ge** 60.23 67 *eP* P 11 45 06.0 -0.6
SAO pmax pmax
comp=Z,684nm,1.7s,mb6.4
SAO **San Andreas Ge** 60.23 67 *eP* P 11 45 06.0 -0.6
comp=Z,684nm,1.7s,mb6.4
DLMT **Dillon** 60.26 54 *eP* P 11 45 06.8 -0.1
KAPI **Kappang** 60.31 222 P P 11 45 06.4 -0.8
comp=Z,828nm,1.7s,mb6.5,SNR=11
HLID **Hailey** 60.33 57 *eP* P 11 45 07.3 0.0
comp=Z,603nm,1.5s,mb6.4
M10A **I.L. Ranch, Tu** 60.33 60 P P 11 45 08.0 +0.7
baz=60,SNR=51
HAST **UC Hastings Re** 60.39 67 P P 11 45 07.7 -0.1
baz=60,SNR=53
R06C **Coleville** 60.40 64 P P 11 45 08.4 +0.6
baz=60,SNR=93
G15A **Dillon** 60.44 54 P P 11 45 07.9 -0.1
baz=60,SNR=26
MCMT **McKenzie Canyo** 60.44 55 *eP* P 11 45 07.9 -0.2
THN **Thein Dam** 60.45 287 *eP* P 11 45 08.6 +0.5
FCC **Fort Churchill** 60.49 34 *eP* P 11 45 07.4 -1.0
FCC pmax pmax
comp=Z,241nm,1.1s,mb6.1
FCC **Fort Churchill** 60.49 34 *eP* P 11 45 07.4 -1.1
comp=Z,241nm,1.1s,mb6.1
P08A **Dixie Valley** 60.52 62 P P 11 45 09.6 +1.0
baz=60,SNR=30
Q07A **Schurz** 60.54 63 P P 11 45 09.8 +1.0
baz=60,SNR=20
S06C **San Francisco** 60.54 65 P P 11 45 08.7 -0.1
baz=60,SNR=80
S05C **Merced** 60.57 66 P P 11 45 08.8 -0.2
baz=60,SNR=44
BMN **Battle Mountai** 60.59 61 *eP* P 11 45 09.1 0.0
BMN pmax pmax
comp=Z,809nm,1.4s,mb6.7
BMN **Battle Mountai** 60.59 61 *eP* P 11 45 09.1 +0.1
comp=Z,809nm,1.4s,mb6.7
SUMG **Summit** 60.63 5 *eP* P 11 45 09.7 +0.3
comp=Z,604nm,1.2s,mb6.6
T05C **Eagle Field, D** 60.63 66 P P 11 45 10.5 +1.1
baz=60,SNR=9.7
LRV **Little Rabbit** 60.71 67 *eP* P 11 45 10.3 +0.4
O09A **Fish Creek Ran** 60.77 61 P P 11 45 11.0 +0.7
baz=60,SNR=68
V03C **Hunter Liggett** 60.82 67 P P 11 45 11.0 +0.3
baz=61,SNR=27
M11A **Holland Ranch,** 60.83 59 P P 11 45 11.6 +0.9
baz=61,SNR=65
N10A **Dunphy** 60.84 60 P P 11 45 11.1 +0.3
baz=61,SNR=51
U04C **Hernandez Rese** 60.90 67 P P 11 45 11.5 +0.3
baz=61,SNR=44
R07C **Lee Vining** 60.91 64 P P 11 45 12.1 +0.8
baz=61,SNR=73
O10A **Cortez Mining,** 61.11 61 P P 11 45 13.4 +0.8
baz=61,SNR=63
Q08A **Gabbs** 61.12 63 P P 11 45 13.1 +0.3
baz=61,SNR=81
NVAR **Mina Airway Bea** 61.16 63 P P 11 45 13.1 +0.1
comp=Z,122nm,0.8s,mb6.1,baz=294,slow=6.8
T06C **Millerton Lake** 61.17 66 P P 11 45 12.4 -0.6
baz=61,SNR=73
P09A **Austin** 61.18 62 P P 11 45 13.7 +0.6
baz=61,SNR=44
KCC **Kaiser Creek** 61.22 65 P P 11 45 13.4 0.0
baz=61,SNR=81
QLMT **Earthquake Lak** 61.24 54 *eP* P 11 45 13.6 +0.1
N11A **Elko Archery C** 61.24 60 P P 11 45 14.1 +0.6
baz=61,SNR=37
KKR **Kurukshetra** 61.28 284 *eP* P 11 45 14.3 +0.5
KKR AMb AMB 11 45 20.2
comp=Z,384nm,0.8s,mb6.6
V04C **Ramage Ranch,** 61.29 67 P P 11 45 14.4 +0.6
baz=61,SNR=24
PKD **Parkfield** 61.31 67 P P 11 45 13.9 -0.1
baz=61,SNR=34
MLAC **Mammoth Lakes** 61.33 65 P P 11 45 14.9 +0.8
baz=61,SNR=39
U05C **Westside ANR,** 61.33 66 P P 11 45 15.3 +1.2
baz=61,SNR=18
R08A **Mina** 61.33 63 P P 11 45 14.6 +0.5
baz=61,SNR=63
M12A **Wells** 61.35 59 P P 11 45 15.1 +0.8
baz=61,SNR=80
P10A **Eureka** 61.55 61 P P 11 45 16.2 +0.6
baz=61,SNR=30
ELK **Elko** 61.58 60 P P 11 45 16.2 +0.4
ELK pmax pmax
comp=Z,290nm,1.1s
ELK **Elko** 61.58 60 *eP* P 11 45 16.2 +0.4
comp=Z,294nm,1.2s,mb6.3
YMR **Madison River** 61.60 54 *eP* P 11 45 16.3 +0.4
comp=Z,782nm,1.3s,mb6.7
Q09A **Carvers** 61.60 63 P P 11 45 16.5 +0.6
baz=61,SNR=34
N12A **Clover Valley,** 61.63 60 P P 11 45 16.6 +0.5
baz=61,SNR=50
MTUM **Tungsten Hills** 61.67 65 *eP* P 11 45 17.0 +0.6
O11A **Cowboy Ranch,** 61.71 61 P P 11 45 17.1 +0.4
baz=62,SNR=62
YNR **Norris Junctio** 61.73 54 *eP* P 11 45 17.9 +1.0
BISR **Bishrakh** 61.75 283 *eP* P 11 45 16.4 -0.5
V05C **Boulder Hill,** 61.76 67 P P 11 45 17.6 +0.6
baz=62,SNR=27
HELL **Mitchell Peak,** 61.80 65 P P 11 45 17.0 -0.4
baz=62,SNR=95
YFT **Old Faithful** 61.80 54 *eP* P 11 45 19.0 +1.7
S08C **White Mtn Res** 61.82 64 P P 11 45 18.1 +0.6
baz=62,SNR=77
M13A **Montello** 61.83 59 P P 11 45 17.9 +0.4
baz=62,SNR=67

RCTC **Rector, Farmer** 61.90 66 P P 11 45 17.3 -0.7
baz=62,SNR=72
LOF **Lofoten** 61.94 345 eP P 11 45 19.3 +1.1
LOF epP pP 11 45 21.4 -0.8
LOF AMb AMB 11 45 26.0
comp=Z,921nm,1.1s,mb6.8
LOF **Lofoten** 61.94 345 eP P 11 45 19.3 +1.1
comp=Z,921nm,1.1s,mb6.8
LKWY **Lake** 61.98 54 eP P 11 45 20.1 +1.6
LKWY pmax pmax
comp=Z,341nm,1.1s,mb6.4
LKWY **Lake** 61.98 54 eP P 11 45 20.1 +1.6
comp=Z,341nm,1.1s,mb6.4
BHGR **Bahadurgarh** 62.01 283 eP P 11 45 19.2 +0.5
BHGR AMb AMB 11 45 26.1
comp=Z,518nm,0.8s,mb6.7
P11A **Circle Ranch,** 62.02 61 ⇓P P 11 45 19.3 +0.6
baz=62
R09A **Tonopah** 62.04 63 P P 11 45 19.0 +0.1
baz=62,SNR=97
TPH **Tonopah** 62.05 63 eP P 11 45 19.0 0.0
TPH pmax pmax
comp=Z,2µm,1.6s,mb6.9
TPH **Tonopah** 62.05 63 eP P 11 45 19.1 +0.2
comp=Z,2µm,1.6s,mb6.9
SMMC **Simmler** 62.05 67 P P 11 45 19.1 +0.1
baz=62,SNR=53
TIN **Tinemaha** 62.07 65 P P 11 45 19.8 +0.7
baz=62,SNR=20
FLWY **Flagg Ranch** 62.11 54 eP P 11 45 20.4 +1.0
N13A **Wendover, West** 62.12 59 P P 11 45 20.0 +0.5
baz=62,SNR=61
RTK **Rohtak** 62.14 284 eP P 11 45 19.3 -0.3
DCID1 **Drake Creek** 62.15 55 eP P 11 45 20.6 +0.9
O12A **Currie** 62.17 60 P P 11 45 20.2 +0.4
baz=62,SNR=56
SONA **Sohna** 62.20 283 eP P 11 45 20.1 +0.1
SONA AMb AMB 11 45 28.6
comp=Z,231nm,0.6s,mb6.5
RLMT **Red Lodge** 62.25 53 eP P 11 45 20.8 +0.5
comp=Z,912nm,1.5s,mb6.7
S09A **Goldfield** 62.27 64 P P 11 45 20.4 0.0
baz=62,SNR=69
AGRA **Agra** 62.28 281 eP P 11 45 21.1 +0.5
AGRA AMb AMB 11 45 25.5
comp=Z,300nm,1.7s,mb6.2
VES **Vestal, Richgr** 62.30 66 P P 11 45 19.5 -1.1
baz=62,SNR=110
MOOW **Moose Ponds** 62.30 55 eP P 11 45 21.4 +0.8
comp=Z,694nm,1.5s,mb6.6
HVU **Hansel Valley** 62.38 58 eP P 11 45 21.2 0.0
HVU pmax pmax
comp=Z,264nm,1.3s,mb6.2
HVU **Hansel Valley** 62.38 58 eP P 11 45 21.2 0.0
comp=Z,264nm,1.3s,mb6.2
PKM **Peak Mountain** 62.43 67 P P 11 45 22.0 +0.5
baz=62,SNR=53
LOHW **Long Hollow** 62.46 55 eP P 11 45 22.3 +0.6
comp=Z,982nm,1.4s,mb6.8
SNOW **Snow King Moun** 62.47 55 eP P 11 45 22.6 +0.8
R10A **Warm Springs** 62.48 63 ⇓P P 11 45 22.0 +0.1
baz=62,SNR=24
REDW **Red Top Meadow** 62.48 55 eP P 11 45 22.8 +0.9
Q11A **Duckwater** 62.52 62 P P 11 45 22.1 -0.1
baz=62,SNR=39
CWC **Cottonwood Cre** 62.55 65 P P 11 45 22.4 +0.1
baz=62,SNR=90
P12A **McGill** 62.58 61 P P 11 45 22.6 +0.2
baz=62,SNR=39
KAKA **Kakadu** 62.58 205 eP P 11 45 21.3 -1.2
comp=Z,168nm,0.6s,mb6.3
GRAC **Grapevine Rang** 62.63 64 P P 11 45 23.3 +0.4
baz=62,SNR=48
AHID **Auburn Hatcher** 62.72 56 eP P 11 45 23.8 +0.3
comp=Z,927nm,1.7s,mb6.6
IPM **Ipoh** 62.76 245 P P 11 45 24.6 +0.9
BGU **Big Grassy Mou** 62.77 58 eP P 11 45 23.8 0.0
DGMT **Dagmar** 62.78 47 eP P 11 45 23.9 +0.1
comp=Z,963nm,1.2s,mb6.8
SBC **Santa Barbara** 62.78 68 P P 11 45 24.0 +0.1
baz=63,SNR=19
ISA **Isabella** 62.79 66 eP P 11 45 22.7 -1.2
ISA **Isabella** 62.79 66 eP P 11 45 22.9 -1.0
comp=Z,0.9nm,1.4s
ISA **Isabella** 62.79 66 P P 11 45 23.0 -0.9
baz=63,SNR=66
SPUT **South Promonto** 62.87 58 eP P 11 45 21.6 -2.8
TRCR **Troy Canyon** 62.88 62 eP P 11 45 24.5 0.0
LAO **LASA Array** 62.88 50 eP P 11 45 24.7 +0.2
comp=Z,784nm,1.1s,mb6.8
Q12A **Willow Creek R** 62.90 61 P P 11 45 25.0 +0.4
baz=63,SNR=46
ARVC **Arvin** 62.91 67 P P 11 45 24.0 -0.7
baz=63,SNR=58
DAC **Darwin (Calif)** 62.95 65 eP P 11 45 24.6 -0.4
DAC pmax pmax
comp=Z,180nm,1.8s,mb5.9
DAC **Darwin (Calif)** 62.95 65 eP P 11 45 24.9 -0.1
comp=Z,178nm,1.8s,mb5.9
BSC **Santa Cruz Isl** 63.12 68 ⇑P P 11 45 25.4 -0.7
baz=63,SNR=22
MPMC **Manual Prospec** 63.16 65 P P 11 45 26.5 +0.1
baz=63,SNR=82
KHET **Khetri** 63.17 283 eP P 11 45 27.2 +0.8
HWUT **Hardware Ranch** 63.19 57 eP P 11 45 26.6 +0.1
comp=Z,2µm,1.8s,mb6.8
KGM **Kluang** 63.28 242 P P 11 45 29.3 +2.1
FURC **Furnace Creek,** 63.29 64 P P 11 45 27.3 +0.1
baz=63,SNR=81
OSI **Osito Adit** 63.30 67 ⇓P P 11 45 27.6 +0.2
baz=63,SNR=5.1
DUG **Dugway** 63.36 59 eP P 11 45 28.0 +0.3
DUG pmax pmax
comp=Z,770nm,1.3s,mb6.7
DUG **Dugway** 63.36 59 eP P 11 45 28.0 +0.2
comp=Z,768nm,1.4s,mb6.6
LRMC **Laurel Mountai** 63.40 66 P P 11 45 27.6 -0.4
baz=63,SNR=82
BLG **Laguna Peak** 63.41 68 P P 11 45 27.7 -0.3
baz=63,SNR=14
MOR8 **Moi Rana** 63.49 343 ⇓iP P 11 45 26.8 -1.8
MOR8 AMb AMB 11 45 33.8
comp=Z,574nm,1.7s,mb6.4
MOR8 **Moi Rana** 63.49 343 ⇓iP P 11 45 26.8 -1.8
comp=Z,574nm,1.7s,mb6.4
BW06 **Boulder Array** 63.59 55 eP P 11 45 29.1 -0.1
comp=Z,467nm,1.1s,mb6.4
PDAR **Pinedale Array** 63.59 55 P P 11 45 29.1 -0.2
comp=Z,196nm,0.9s,mb6.1,baz=285,slow=2.3,SNR=63
EDW2 **Edwards Air Fo** 63.59 66 P P 11 45 29.2 -0.1
baz=63,SNR=111
STOK **Stokkvaagen** 63.62 344 eP P 11 45 29.0 -0.5
STOK AMb AMB 11 45 34.1
comp=Z,389nm,2.1s,mb6.1
STOK **Stokkvaagen** 63.62 344 eP P 11 45 29.0 -0.5
comp=Z,389nm,2.1s,mb6.1
U10A **Ash Meadows, A** 63.65 64 P P 11 45 29.9 +0.3
baz=63,SNR=40
SNCC **San Nicolas Is** 63.66 69 eP P 11 45 29.5 -0.2
comp=Z,3.8nm,1.7s
SNCC **San Nicolas Is** 63.66 69 P P 11 45 29.7 0.0
baz=63,SNR=9.1
CTU **Camp Tracy** 63.67 58 eP P 11 45 29.7 0.0
comp=Z,2µm,1.9s,mb6.7
DECC **Green Verdugo** 63.78 67 P P 11 45 30.3 -0.2
baz=64,SNR=38
JLU **Jordanelle** 63.90 58 eP P 11 45 31.3 +0.1
NLU **North Lily Min** 63.95 59 eP P 11 45 31.8 +0.2
SHOC **Shoshone** 64.01 65 P P 11 45 32.0 -0.1
baz=64,SNR=39
GSC **Goldstone** 64.07 65 eP P 11 45 32.0 -0.4
GSC **Goldstone** 64.07 65 P P 11 45 32.2 -0.2
baz=64,SNR=55
DAU **Daniels Canyon** 64.14 58 eP P 11 45 33.2 +0.4
FMP **Fort Macarthur** 64.16 68 P P 11 45 32.6 -0.3
baz=64,SNR=13
MPU **Maple Canyon** 64.17 58 eP P 11 45 33.2 +0.2
comp=Z,559nm,1.3s,mb6.4
BFSC **Mount Baldy St** 64.22 67 P P 11 45 32.3 -1.1
baz=64,SNR=88
RRX **Edison Barstow** 64.22 66 ⇑P P 11 45 33.2 -0.1
baz=64,SNR=6.9
U11A **Corn Creek** 64.23 64 P P 11 45 34.0 +0.6
baz=64,SNR=48
CIS **Catalina Islan** 64.28 68 P P 11 45 33.3 -0.5
baz=64,SNR=33
SCI **San Clemente I** 64.46 68 P P 11 45 34.6 -0.3
baz=64,SNR=17
TUQ **Turquoise Mtn.** 64.53 65 P P 11 45 35.5 +0.1
baz=64,SNR=66
ARUT **Antelope Range** 64.53 61 eP P 11 45 35.6 +0.2
V11A **Goodsprings** 64.58 64 P P 11 45 36.0 +0.2
baz=64,SNR=43
BBRC **Big Bear Sol-O** 64.67 66 P P 11 45 36.3 0.0
baz=64,SNR=89
HEC **Hector,Ludlow** 64.67 65 P P 11 45 36.4 +0.1
baz=64,SNR=47
FIA1 **FINESS Array S** 64.69 336 eP P 11 45 36.4 0.0
FINES **FINESS Array B** 64.69 336 P P 11 45 36.3 -0.1
comp=Z,136nm,0.6s,mb6.2,baz=38,slow=7.6,SNR=38
CCUT **Cedar City** 64.73 61 eP P 11 45 37.1 +0.4
U12A **Valley of Fire** 64.74 63 P P 11 45 37.1 +0.3
baz=64,SNR=52
PUL **Pulkovo** 64.75 333 ⇑iP P 11 45 36.8 -0.1
PUL pmax pmax
comp=Z,868nm,1.2s,mb6.7
PUL pmax pmax
comp=N,544nm,0.6s
PUL pmax pmax
comp=E,735nm,1.3s
PUL **Pulkovo** 64.75 333 ⇓iP P 11 45 36.6 -0.3
MSU **Marysvale** 64.82 60 eP P 11 45 37.5 +0.2
TMUT **Trail Mountain** 64.89 59 eP P 11 45 38.1 +0.4
MURC **Murrieta** 64.92 67 P P 11 45 37.6 -0.3
baz=65,SNR=95
SFJD **Kangerlussuaq** 64.93 11 iP P 11 45 37.3 -0.7
SFJD i 11 45 45.4
AJM **Ajmer** 64.99 283 iP P 11 45 39.0 +0.6
V12A **Nelson** 65.01 64 P P 11 45 38.8 +0.3
baz=65,SNR=75
W12A **Cal Nev Ari** 65.27 64 P P 11 45 40.4 +0.2
baz=65,SNR=39
MOS **Moscow** 65.29 327 eP P 11 45 37.8 -2.5
MOS eS S 11 54 19.6 -4.1
MOS pmax pmax
comp=Z,647nm,1.1s,mb6.6
PFO **Pinyon Flat Ob** 65.38 67 P P 11 45 40.0 -1.0
comp=Z,1µm,1.5s,mb6.7,SNR=47
PFO **Pinyon Flat Ob** 65.38 67 eP P 11 45 40.4 -0.6
PFO **Pinyon Flat Ob** 65.38 67 eP P 11 45 40.7 -0.3
PFO **Pinyon Flat Ob** 65.38 67 P P 11 45 40.5 -0.5
baz=65,SNR=65
SRU **San Rafael** 65.41 59 eP P 11 45 41.0 -0.1
SRU pmax pmax
comp=Z,410nm,1.0s,mb6.4
SRU **San Rafael** 65.41 59 eP P 11 45 41.0 -0.1
comp=Z,410nm,1.0s,mb6.4
BELC **Belle Mtn.** 65.42 66 P P 11 45 40.6 -0.5
baz=65,SNR=51
NSS **Namsos** 65.43 343 eP P 11 45 41.8 +0.5
109C **Camp Elliot, M** 65.44 68 P P 11 45 41.1 -0.2
baz=65,SNR=54
ULM **Lac du Bonnet** 65.60 42 P P 11 45 41.4 -1.0
comp=Z,107nm,0.9s,mb5.9,baz=312,slow=6.7,SNR=30
ULM **Lac du Bonnet** 65.60 42 eP P 11 45 41.2 -1.1
comp=Z,258nm,1.0s,mb6.2
RWWY **Rawlins** 65.62 55 eP P 11 45 42.1 -0.4
comp=Z,504nm,1.2s,mb6.4
RSSD **Black Hills** 65.73 51 eP P 11 45 42.8 -0.4
RSSD pmax pmax
comp=Z,254nm,1.0s,mb6.2
RSSD **Black Hills** 65.73 51 eP P 11 45 42.8 -0.4
comp=Z,254nm,1.0s,mb6.2
NEE2 **Needles Airpor** 65.78 65 ⇑P P 11 45 43.4 -0.1
baz=66
IRM **Iron Mountain** 65.84 65 P P 11 45 43.9 0.0
baz=66,SNR=91
MONP **Monument Peak** 65.88 67 P P 11 45 43.9 -0.3
baz=66,SNR=41
BC3 **Big Chuckw Mtn** 65.98 66 P P 11 45 44.5 -0.4
baz=66,SNR=63
W13A **Hualapai Mount** 66.01 64 P P 11 45 45.1 +0.1
baz=66,SNR=87
OBN **Obninsk** 66.16 327 P P 11 45 48.4 +2.5
comp=Z,4µm,0.7s,SNR=12
OBN **Obninsk** 66.16 327 ciP P 11 45 47.1 +1.2
OBN e 11 48 08.7
OBN pmax pmax
comp=Z,634nm,1.0s,mb6.6
OBN **Obninsk** 66.16 327 eP P 11 45 46.3 +0.3
comp=Z,504nm,0.8s,mb6.6
DVTC **Desert V Tower** 66.23 67 P P 11 45 46.2 -0.2
baz=66,SNR=42
SWSC **Sam W. Stewart** 66.24 67 P P 11 45 45.8 -0.7
baz=66,SNR=55
X13A **Yucca** 66.38 64 P P 11 45 47.4 0.0
baz=66,SNR=88
PDMCI **Parker Dam,Lak** 66.38 65 P P 11 45 47.2 -0.2
baz=66,SNR=110
W14A **Seligman** 66.43 63 P P 11 45 48.2 +0.5
baz=66,SNR=127
Y12C **Blythe** 66.50 65 P P 11 45 48.1 0.0
baz=66,SNR=66
GLA **Glamis** 66.78 66 eP P 11 45 49.6 -0.3
GLA **Glamis** 66.78 66 P P 11 45 49.9 0.0
baz=66,SNR=121
PHWY **Pilot Hill** 66.85 54 eP P 11 45 50.0 -0.4
Y13A **Salome** 66.90 65 ⇓P P 11 45 51.1 +0.5
baz=67
W15A **Williams** 66.96 63 P P 11 45 52.0 +0.9
baz=67,SNR=88
CTA **Charters Tower** 66.97 189 eP P 11 45 49.8 -1.4
comp=Z,52nm,1.2s,mb5.4
CTA **Charters Tower** 66.97 189 eP P 11 45 49.8 -1.4
CTA pmax pmax
comp=Z,52nm,1.2s
CTAO **Charters Tower** 66.97 189 eP P 11 45 50.0 -1.2
CTAO pmax pmax
comp=Z,138nm,1.3s,mb5.8
CTAO **Charters Tower** 66.97 189 eP P 11 45 50.0 -1.1
comp=Z,138nm,1.3s,mb5.8
AGMN **Agassiz Refuge** 66.98 43 eP P 11 45 50.0 -1.2
comp=Z,843nm,1.2s,mb6.7
X14A **Yava** 67.04 64 P P 11 45 52.1 +0.5
baz=67,SNR=116
WUAZ **Wupatki** 67.28 62 eP P 11 45 53.6 +0.5
comp=Z,µm,1.8s,mb6.8
WUAZ **Wupatki** 67.28 62 ⇓P P 11 45 53.8 +0.7
baz=67
Y14A **Wickenburg** 67.33 64 P P 11 45 53.5 +0.1
baz=67,SNR=101
SMCO **Snowmass** 67.43 57 eP P 11 45 44.8 -9.3
X15A **Humboldt** 67.44 63 P P 11 45 54.7 +0.6
baz=67,SNR=126
VOR **Voronezh** 67.64 323 P P 11 45 54.0 -1.4
VOR pmax pmax
comp=Z,750nm,2.5s,mb6.3
Z14A **Wintersburg** 67.75 65 P P 11 45 56.0 -0.1
baz=68,SNR=33
ABKT **Ailbek** 67.86 302 P P 11 45 57.4 +0.6
comp=Z,1µm,0.7s,mb7.1,SNR=5.5
MVCO **Mesa Verde** 67.86 59 eP P 11 45 56.9 0.0
comp=Z,605nm,1.3s,mb6.5
DOMB **Dombas** 68.25 344 ⇓iP P 11 45 58.9 -0.4
DOMB AMb AMB 11 46 02.3
comp=Z,352nm,1.9s,mb6.1
DOMB **Dombas** 68.25 344 ⇓iP P 11 45 58.9 -0.4
comp=Z,352nm,1.9s,mb6.1
HYB **Hyderabad** 68.45 273 iP P 11 46 00.5 0.0
115A **Sonoran Desert** 68.64 65 P P 11 46 01.9 +0.2
baz=68,SNR=89
NB2 **NORSAR Subarra** 68.73 342 P P 11 46 01.9 -0.3
comp=Z,66nm,0.6s,mb5.7,baz=26,slow=6.5
NOA **NORSAR Array B** 68.73 342 P P 11 46 02.5 +0.3
comp=Z,274nm,1.0s,mb6.1,baz=26,slow=6.3,SNR=17
BORG **Borgarnes** 68.85 358 P P 11 46 04.6 +1.6
comp=Z,µm,1.4s,mb6.7,SNR=10
BORG **Borgarnes** 68.85 358 eP P 11 46 04.7 +1.7
comp=Z,446nm,1.3s,mb6.2
WRAB **Tennant Creek** 68.96 201 P P 11 46 02.5 -1.1
comp=Z,901nm,1.1s,mb6.6,SNR=13
WRAB **Tennant Creek** 68.96 201 eP P 11 46 02.1 -1.5
WRAB pmax pmax
comp=Z,260nm,1.0s,mb6.1
WRAB **Tennant Creek** 68.96 201 eP P 11 46 02.5 -1.1
comp=Z,181nm,1.0s,mb6.0
WB2 **Warramunga Arr** 68.97 201 eP P 11 46 02.4 -1.3
WRA **Warramunga Arr** 68.97 201 P P 11 46 02.5 -1.2
comp=Z,104nm,1.0s,mb5.7,baz=18,slow=6.3,SNR=25
NAO01 **NORSAR Array S** 68.97 342 eP P 11 46 03.1 -0.6
comp=Z,136nm,0.9s,mb5.9
116A **Eloy** 69.06 65 P P 11 46 04.3 +0.1
baz=69,SNR=62
LATR **Latur** 69.13 275 ex x 11 45 53.6
SDCO **Great Sand Dun** 69.25 57 eP P 11 46 05.5 +0.1
comp=Z,1µm,1.7s,mb6.5
EYMN **Ely** 69.25 41 eP P 11 46 04.4 -1.1
comp=Z,439nm,1.2s,mb6.3
FOO **Floro** 69.40 345 eP P 11 46 05.7 -0.7
FOO epP pP 11 46 09.2 -1.2
FOO AMb AMB 11 46 13.4
comp=Z,372nm,1.1s,mb6.2
FOO **Floro** 69.40 345 eP P 11 46 05.7 -0.7
comp=Z,372nm,1.1s,mb6.2
HYA **Hoyanger** 69.60 345 eP P 11 46 07.8 +0.1
HYA epP pP 11 46 11.3 -0.4
HYA AMb AMB 11 46 11.4
comp=Z,437nm,1.7s,mb6.1
HYA **Hoyanger** 69.60 345 eP P 11 46 07.8 +0.1
comp=Z,437nm,1.7s,mb6.1
TUC **Tucson** 69.80 64 eP P 11 46 08.7 -0.1
FITZ **Fitzroy Crossi** 69.81 210 eP P 11 46 08.5 -0.4
comp=Z,102nm,0.9s,mb5.8
OSL **Oslo** 69.83 342 eP P 11 46 09.2 +0.1
OSL AMb AMB 11 46 12.0
comp=Z,397nm,1.8s,mb6.0
OSL **Oslo** 69.83 342 eP P 11 46 09.2 +0.1
comp=Z,397nm,1.8s,mb6.0
ECSD **EROS,Sioux Fal** 69.86 47 eP P 11 46 07.7 -1.5
comp=Z,694nm,1.4s,mb6.4
SUE **Sulen** 69.96 345 eP P 11 46 09.5 -0.4
KONO **Kongsberg** 70.33 342 eP P 11 46 12.0 -0.1
KONO pmax pmax
comp=Z,257nm,1.0s,mb6.1
KONO **Kongsberg** 70.33 342 eP P 11 46 12.0 -0.1
comp=Z,257nm,1.0s,mb6.1
ASK **Askoy** 70.42 345 eP P 11 46 12.6 -0.1
ASK AMb AMB 11 46 16.4
comp=Z,703nm,2.1s,mb6.2
ASK **Askoy** 70.42 345 eP P 11 46 12.6 -0.1
comp=Z,703nm,2.1s,mb6.2
BER **Bergen** 70.49 345 eP P 11 46 13.5 +0.4
BER AMb AMB 11 46 20.8
comp=Z,554nm,1.1s,mb6.4
BER **Bergen** 70.49 345 eP P 11 46 13.5 +0.4
comp=Z,554nm,1.1s,mb6.4
LAZ **Ladron** 70.58 60 eP P 11 46 14.3 +0.6
ANMO **Albuquerque** 70.61 60 P P 11 46 13.9 +0.1
ANMO pmax pmax
comp=Z,390nm,1.3s
ANMO **Albuquerque** 70.61 60 eP P 11 46 14.1 +0.3
comp=Z,14nm,1.1s
EGD **Espegrend** 70.61 345 eP P 11 46 13.8 -0.1
EGD AMb AMB 11 46 22.7
comp=Z,1µm,1.5s,mb6.5
EGD **Espegrend** 70.61 345 eP P 11 46 13.8 -0.1
comp=Z,1µm,1.5s,mb6.5
LENM **Lemitar** 70.85 60 eP P 11 46 15.7 +0.4
POO **Poona** 70.91 277 iP P 11 46 15.0 -0.6
comp=Z,2µm,1.5s,mb6.8
Y22C **IRIS PASSCAL I** 70.94 60 ⇓P P 11 46 16.9 +1.0
baz=71,SNR=13
LPM **Los Pinos Moun** 70.95 60 eP P 11 46 16.1 +0.2
BNM **Barren Site** 71.06 60 eP P 11 46 16.9 +0.3
BLS5 **Blasjo** 71.17 344 eP P 11 46 18.1 +0.9
BLS5 AMb AMB 11 46 26.8
comp=Z,223nm,1.2s,mb6.0
BLS5 **Blasjo** 71.17 344 eP P 11 46 18.1 +0.9
comp=Z,223nm,1.2s,mb6.0
SUW **Suwalki** 71.72 333 eP P 11 46 20.0 -0.5
CBKS **Cedar Bluff** 71.74 53 P P 11 46 19.1 -1.5
CBKS pmax pmax
comp=Z,570nm,1.1s,mb6.4
CBKS **Cedar Bluff** 71.74 53 eP P 11 46 19.1 -1.5
comp=Z,573nm,1.2s,mb6.4
LRW **Lerwick** 71.79 348 eP P 11 46 20.1 -0.8
LRW AMb AMB 11 46 23.1
comp=Z,200nm,1.9s,mb5.7
KIV **Kislovodsk** 71.86 315 P P 11 46 23.0 +1.6
comp=Z,4µm,0.8s,SNR=11
KIV **Kislovodsk** 71.86 315 eP P 11 46 22.6 +1.2
KIV pmax pmax
comp=Z,711nm,1.1s,mb6.5
KIV **Kislovodsk** 71.86 315 eP P 11 46 23.4 +2.0
comp=Z,608nm,0.9s,mb6.5
ZEI **Tsey** 72.14 314 eP P 11 46 23.0 -0.1
ZEI e*PP pP 11 46 32.1 +5.0
ZEI e 11 46 40.8
ZEI e 11 49 04.6
ZEI pmax pmax
comp=Z,205nm,1.0s,mb6.0
AKASG **Malin Array Be** 72.38 327 P P 11 46 24.9 +0.4
comp=Z,100nm,0.6s,mb6.0,baz=33,slow=6.0,SNR=24
AKBB **Malin Array Si** 72.38 327 eP P 11 46 23.9 -0.6
KIEV **Kiev** 72.39 327 eP P 11 46 23.9 -0.7
KIEV pmax pmax
comp=Z,383nm,0.9s,mb6.3
KIEV **Kiev** 72.39 327 eP P 11 46 23.9 -0.7
comp=Z,383nm,0.9s,mb6.3
AS31 **Alice Springs** 72.65 200 eP P 11 46 25.6 -0.5
ASAR **Alice Springs** 72.65 200 P P 11 46 25.8 -0.3
comp=Z,72nm,0.9s,mb5.6,baz=18,slow=5.3,SNR=21
SCHQ **Schefferville** 72.77 24 P P 11 46 26.1 -0.7
comp=Z,69nm,0.9s,mb5.6,baz=349,slow=6.7,SNR=19
SCHQ **Schefferville** 72.77 24 eP P 11 46 26.2 -0.7
comp=Z,965nm,1.8s,mb6.4
SCIA **State Center** 72.90 47 eP P 11 46 26.6 -1.0
comp=Z,719nm,1.0s,mb6.6
BSD **Bornholm Skovb** 73.17 337 iP P 11 46 31.9 +2.7
comp=Z,441nm,1.0s,mb6.3
BSD **Bornholm Skovb** 73.17 337 iP P 11 46 31.9 +2.7
BSD pmax pmax
comp=Z,440nm,1.0s,mb6.3
KSU1 **Kansas State U** 73.22 51 eP P 11 46 27.3 -2.1
comp=Z,250nm,0.9s,mb6.1
COP **Copenhagen** 73.29 339 iP P 11 46 30.3 +0.4
comp=Z,311nm,0.8s,mb6.3
COP **Copenhagen** 73.29 339 eP P 11 46 30.3 +0.4
COP pmax pmax
comp=Z,310nm,0.8s,mb6.3
COP **Copenhagen** 73.29 339 eP P 11 46 30.3 +0.4
comp=Z,311nm,0.8s,mb6.3
MUD **Monsted U'grnd** 73.35 341 iP P 11 46 30.2 -0.1
comp=Z,299nm,1.3s,mb6.1
MUD **Monsted U'grnd** 73.35 341 iP P 11 46 30.2 -0.1
MUD pmax pmax
comp=Z,300nm,1.3s,mb6.1
AMTX **Amarillo** 73.45 57 eP P 11 46 30.7 -0.1
comp=Z,2µm,1.8s,mb6.8
MNTX **Cornudas Mount** 73.52 61 eP P 11 46 31.1 -0.1
comp=Z,746nm,1.4s,mb6.4
SOC **Sochi** 73.56 317 eP P 11 46 30.6 -0.9
SOC pmax pmax
comp=Z,113nm,0.7s,mb5.9
JFWS **Jewell Farm** 73.60 44 eP P 11 46 29.9 -1.8
JFWS pmax pmax
comp=Z,153nm,0.9s,mb5.9
JFWS **Jewell Farm** 73.60 44 eP P 11 46 29.9 -1.8
comp=Z,153nm,0.9s,mb5.9
GNI **Garni** 73.66 312 ⇑eP P 11 46 34.7 +2.6
GNI pmax pmax
comp=Z,344nm,1.7s
GNI **Garni** 73.66 312 ⇑eP P 11 46 34.8 +2.7
GNI **Garni** 73.66 312 P P 11 46 34.5 +2.5
SNR=7.4
ANN **Anapa** 73.67 319 eP P 11 46 31.0 -1.2
ANN pmax pmax
comp=Z,556nm,2.1s,mb6.1
RGN **Rugen** 74.09 338 eP P 11 46 35.1 +0.6
comp=Z,431nm,0.8s,mb6.4
PALK **Pallekele** 74.13 264 P P 11 46 35.5 +0.7
SNR=13
PALK **Pallekele** 74.13 264 P P 11 46 35.2 +0.4
comp=Z,891nm,1.2s,mb6.6,SNR=13
PALK **Pallekele** 74.13 264 eP P 11 46 35.6 +0.8
comp=Z,635nm,1.6s,mb6.3
GKP **Gorka Klasztor** 74.16 335 eP P 11 46 35.6 +0.6
MCD **Coleburn Disti** 74.55 348 eP P 11 46 36.1 -1.2
MME1 **Meikle Cairn** 74.76 348 eP P 11 46 37.0 -1.5
MBWA **Marble Bar** 74.77 214 eP P 11 46 38.1 -0.5
comp=Z,239nm,1.2s,mb6.0
MDO **Dochfour** 74.84 349 eP P 11 46 38.0 -1.0
KAC **Achnashellach** 74.90 349 eP P 11 46 38.2 -1.1
LVV **L'vov** 74.98 330 eP P 11 46 38.7 -1.1
SIM **Simferopol'** 75.03 321 eP P 11 46 40.7 +0.7
SIM pmax pmax
comp=Z,292nm,1.0s,mb6.2
KPL **Plockton** 75.10 349 eP P 11 46 39.6 -0.9
KPL AMb AMB 11 46 51.7
comp=Z,611nm,1.3s,mb6.4

KSB **Sheil Bridge** 75.20 349 *e*P P 11 46 40.1 -0.9
WMOK **Wichita Mounta** 75.20 55 *e*P P 11 46 40.3 -0.8
WMOK pmax pmax
comp=Z,384nm,1.2s,mb6.2
WMOK **Wichita Mounta** 75.20 55 *e*P P 11 46 40.3 -0.7
comp=Z,384nm,1.2s,mb6.2
BSEG **Bad Segeberg** 75.39 339 *e*P P 11 46 42.1 0.0
comp=Z,751nm,1.6s,mb6.4
BSEG **Bad Segeberg** 75.39 339 *e*P P 11 46 42.1 0.0
BSEG pmax pmax
comp=Z,751nm,1.6s,mb6.4
KAR1 **Arisaig** 75.54 349 *e*P P 11 46 42.4 -0.6
KIS **Kishinev** 75.56 325 *e*P P 11 46 40.0 -3.1
KIS **Kishinev** 75.56 325 ⇓*i*P P 11 46 40.0 -3.1
KWP **Kalwaria** 75.59 330 *e*P P 11 46 44.0 +0.7
OJC **Ojcow** 76.05 332 *e*P P 11 46 45.2 -0.7
EAB **Aberfoyle** 76.05 348 *e*P P 11 46 45.3 -0.7
ESY **Stoneypath** 76.06 347 *e*P P 11 46 44.9 -1.1
EDI **Edinburgh** 76.14 348 *e*P P 11 46 46.3 -0.1
EDI AMb AMB 11 46 46.6
comp=Z,774nm,1.7s,mb6.4
LTX **Lajitas** 76.24 62 *e*P P 11 46 46.9 -0.1
LTX pmax pmax
comp=Z,1µm,1.2s,mb6.7
LTX **Lajitas** 76.24 62 *e*P P 11 46 46.9 -0.1
comp=Z,1µm,1.2s,mb6.7
TXAR **Lajitas Array** 76.24 62 P P 11 46 47.0 0.0
comp=Z,472nm,0.9s,mb6.4,baz=296,slow=4.0,SNR=101
TXAR **Lajitas Array** 76.24 62 P P 11 46 47.0 0.0
EAU **Auchinoon** 76.26 348 *e*P P 11 46 45.9 -1.2
EBL **Broad Law** 76.27 348 *e*P P 11 46 46.9 -0.3
STHS **Stebnicka Huta** 76.27 331 *e*P P 11 46 47.9 +0.8
STHS pmax pmax
comp=Z,143nm,1.7s,mb5.6
STHS **Stebnicka Huta** 76.27 331 *e*P P 11 46 47.9 +0.8
comp=Z,143nm,1.7s,mb5.6
KOLS **Kolonicke sedl** 76.34 330 *e*P P 11 46 47.7 +0.2
KOLS *e*pP pP 11 46 53.5 +1.9
KOLS *e*PP PP 11 49 31.8 -7.2
KOLS **Kolonicke sedl** 76.34 330 *e*P P 11 46 47.7 +0.2
KOLS *e* 11 46 53.5
POB1 **Observatory** 76.39 348 *e*P P 11 46 47.5 -0.4
BURAR **Bucovina Array** 76.41 328⇑*i*P P 11 46 48.2 +0.2
BURAR **Bucovina Array** 76.41 328⇑P P 11 46 48.2 +0.3
PGBU **Glenifferbraes** 76.44 348 *e*P P 11 46 47.8 -0.3
PGBU AMb AMB 11 46 59.2
comp=Z,460nm,1.1s,mb6.3
KSP **Ksiaz** 76.58 335 *e*P P 11 46 49.4 +0.5
KSP **Ksiaz** 76.58 335 *e*P P 11 46 48.8 -0.1
KSP *e*pP pP 11 46 55.0 +2.0
UZH **Uzhgorod** 76.59 330⇑*i*P P 11 46 48.2 -0.8
ESK **Eskdalemuir** 76.73 348 P P 11 46 50.3 +0.5
comp=Z,1µm,0.9s,mb6.8,SNR=5.9
ESK **Eskdalemuir** 76.73 348 *e*P P 11 46 48.8 -1.0
ESK AMb AMB 11 46 49.3
comp=Z,481nm,1.6s,mb6.2
ESK **Eskdalemuir** 76.73 348 P P 11 46 50.1 +0.3
SLM **Saint Louis** 76.86 47 P P 11 46 49.5 -1.0
SLM pmax pmax
comp=Z,2µm,1.7s,mb6.7
SLM **Saint Louis** 76.86 47 *e*P P 11 46 49.5 -1.0
comp=Z,2µm,1.8s,mb6.6
OKC **Ostrava-Krasne** 76.90 333 *e*P P 11 46 51.1 +0.4
OKC *e*pP pP 11 46 55.8 +1.0
UPC **Upice** 76.96 335 *e*P P 11 46 50.8 -0.2
UPC *e*pP pP 11 46 56.3 +1.2
DPC **Dobruska-Polom** 77.00 334 *e*P P 11 46 51.6 +0.3
DPC *e*pP pP 11 46 56.8 +1.4
GMK **Mull of Kintyr** 77.04 349 *e*P P 11 46 50.8 -0.7
CLL **Collm** 77.09 337 *e*P P 11 46 51.1 -0.7
comp=Z,643nm,0.9s,mb6.5
CLL **Collm** 77.09 337 ⇓*i*P P 11 46 51.4 -0.4
CLL *i* 11 46 57.4
CLL *i* 11 47 00.3
CLL pmax pmax
comp=Z,66nm,2.1s,mb5.2
CLL **Collm** 77.09 337 ⇓*i*P P 11 46 51.4 -0.4
comp=Z,1µm,2.1s,mb6.5
CLL *i* pP pP 11 46 57.4 +1.5
CLL *i* PcP PcP 11 47 00.3 -2.3
comp=Z,646nm,0.9s
AAM **Ann Arbor** 77.14 41 P P 11 46 51.6 -0.5
AAM pmax pmax
comp=Z,1µm,1.7s,mb6.5
AAM **Ann Arbor** 77.14 41 *e*P P 11 46 51.6 -0.4
comp=Z,1µm,1.7s,mb6.5
MORC **Moravsky Berou** 77.14 333⇓*i*P P 11 46 52.5 +0.4
MORC **Moravsky Berou** 77.14 333 *e*P P 11 46 53.0 +0.9
MORC pmax pmax
comp=Z,270nm,1.0s,mb6.1
MORC **Moravsky Berou** 77.14 333 *e*P P 11 46 52.5 +0.5
comp=Z,266nm,1.0s,mb6.1
BRG **Berggiesshubel** 77.22 336 *e*P P 11 46 52.0 -0.5
comp=Z,209nm,1.1s,mb6.0
BRG **Berggiesshubel** 77.22 336 *i*P P 11 46 52.5 -0.1
comp=Z,429nm,2.1s,mb6.0
BRG *i* 11 46 58.7
comp=Z,120nm,1.1s
BRG *i* 11 49 39.0
comp=Z,35nm,1.3s
FVM **French Village** 77.27 48 P P 11 46 51.5 -1.3
FVM pmax pmax
comp=Z,500nm,1.3s,mb6.3
FVM **French Village** 77.27 48 *e*P P 11 46 51.8 -1.0
comp=Z,552nm,1.4s,mb6.3
WIT *e*P 11 52 51.0
WIT **Witteveen** 77.28 341 *e*P P 11 46 53.6 +0.8
GCD **Castle Douglas** 77.28 348 *e*P P 11 46 51.6 -1.2
LIKS **Likavka** 77.29 332 *e*P P 11 46 53.7 +0.8
LIKS *e* pP 11 46 58.9 +1.9
LIKS pmax pmax
comp=Z,114nm,1.5s,mb5.6
LIKS **Likavka** 77.29 332 *e*P P 11 46 53.7 +0.8
comp=Z,114nm,1.5s,mb5.6
LIKS *e* pP 11 46 58.9 +1.9
CLZ **Clausthal** 77.29 339 *e*P P 11 46 53.3 +0.4
comp=Z,834nm,1.3s,mb6.5
CLZ **Clausthal** 77.29 339 *e*P P 11 46 53.3 +0.4
CLZ pmax pmax
comp=Z,834nm,1.3s,mb6.5
VRI **Vrincioaia** 77.31 326⇑*i*P P 11 46 53.3 +0.3
VRI **Vrincioaia** 77.31 326⇑P P 11 46 53.3 +0.3
CFR **Carcaliu** 77.33 325⇑*i*P P 11 46 53.8 +0.7
CFR **Carcaliu** 77.33 325⇑P P 11 46 53.8 +0.7
KECS **Kecovo** 77.33 331 *e*P P 11 46 53.2 +0.1
KECS *e* 11 46 59.1
KECS *e* 11 49 43.2
KECS pmax pmax
comp=Z,51nm,1.5s,mb5.2
KECS **Kecovo** 77.33 331 *e*P P 11 46 53.2 +0.1
comp=Z,51nm,1.5s,mb5.2
KECS *e* 11 46 59.1
KECS *e*PP PP 11 49 43.2 -4.1
PLOR **Plostina** 77.35 326⇓*i*P P 11 46 53.7 +0.5
PVCC **Panska Ves** 77.36 335 *e*P P 11 46 53.5 +0.2
PVCC *e*pP pP 11 46 59.5 +2.1
GCL **Cushendall** 77.37 349 *e*P P 11 46 52.6 -0.8
GAL1 **Galloway** 77.39 348 *e*P P 11 46 52.2 -1.3
GAL1 *e*P 11 46 52.2
GAL1 AMb AMB 11 47 00.4
comp=Z,399nm,1.5s,mb6.1
IBBN **Ibbenburen** 77.50 340 *e*P P 11 46 54.0 -0.1
comp=Z,660nm,1.2s,mb6.4
JCT **Junction City** 77.72 59 *e*P P 11 46 54.8 -0.5
JCT pmax pmax
comp=Z,2µm,1.4s,mb6.8
JCT **Junction City** 77.72 59 *e*P P 11 46 54.8 -0.6
comp=Z,2µm,1.4s,mb6.8
WSAR **Wadi Sarin** 77.76 291 P P 11 46 56.8 +1.2
comp=Z,35nm,0.9s,mb5.3,baz=88,slow=6.1,SNR=7.2
WTSB *e*x x 11 41 27.6
PRA **Prague** 77.81 335 P P 11 46 56.0 +0.2
PRA pP pP 11 47 01.0 +1.1
TIRR **Tirgusor** 77.81 324⇓*i*P P 11 46 56.0 +0.2
TIRR **Tirgusor** 77.81 324 *e*P P 11 46 55.5 -0.3
TIRR pmax pmax
comp=Z,462nm,1.3s,mb6.2
TIRR **Tirgusor** 77.81 324 *e*P P 11 46 55.5 -0.3
comp=Z,462nm,1.3s,mb6.2
HARR **Harsova** 77.81 325 P P 11 46 55.8 0.0
VRAC **Vranov** 77.85 334⇓*i*P P 11 46 56.7 +0.7
VRAC **Vranov** 77.85 334 ⇓P P 11 46 56.7 +0.7
PRU **Pruhonice** 77.85 335 *e*P P 11 46 56.1 +0.1
PRU *e*pP pP 11 47 02.4 +2.3

VYHS **Vyhne** 77.86 332 *e*P P 11 46 56.0 -0.1
VYHS *e* 11 49 51.8
VYHS pmax pmax
comp=Z,208nm,1.8s,mb5.8
VYHS **Vyhne** 77.86 332 *e*P P 11 46 56.0 -0.1
comp=Z,208nm,1.8s,mb5.8
VYHS *e*PP PP 11 49 51.8 0.0
MLR **Muntele Rosu** 77.92 326⇑*i*P P 11 46 56.7 +0.3
MLR **Muntele Rosu** 77.92 326 ⇑P P 11 46 56.7 +0.3
PSZ **Piszkesteto** 78.01 331⇑*i*P P 11 46 57.7 +0.7
PSZ **Piszkesteto** 78.01 331 *e*P P 11 46 57.4 +0.4
PSZ pmax pmax
comp=Z,286nm,1.1s,mb6.1
PSZ **Piszkesteto** 78.01 331 *e*P P 11 46 57.4 +0.4
comp=Z,286nm,1.1s,mb6.1
DRGR 78.02 329⇑*i*P P 11 46 57.2 +0.2
DRGR 78.02 329 P P 11 46 57.0 0.0
DRGR 78.02 329 ⇑P P 11 46 57.2 +0.2
WTSB *e*P 11 52 53.6
comp=Z,445nm,1.1s
WTSB **Winterswijk** 78.04 341 *e*P P 11 46 57.0 -0.1
comp=Z,432nm,1.5s,mb6.2
TANN **Tannenbergstha** 78.05 337 *e*P P 11 46 57.2 +0.1
comp=Z,538nm,1.9s,mb6.2
MOX **Moxa** 78.06 337 *e*P P 11 46 57.1 -0.1
comp=Z,937nm,2.0s,mb6.4
MOX **Moxa** 78.06 337 *e*P P 11 46 57.4 +0.2
WIM **Isle of Man** 78.08 348 *e*P P 11 46 56.0 -1.3
WIT *e*x x 11 41 18.5
NKC **Novy Kostel** 78.21 337 *e*P P 11 46 58.1 0.0
NKC *e*pP pP 11 47 03.2 +1.1
LHO **Holmfirth** 78.23 346 P P 11 46 57.7 -0.5
MALT **Malatya** 78.23 314⇑*i*P P 11 47 00.2 +2.0
MALT **Malatya** 78.23 314 *e*P P 11 46 59.9 +1.7
MALT pmax pmax
comp=Z,218nm,1.0s,mb6.0
MALT **Malatya** 78.23 314 *e*P P 11 46 59.9 +1.7
comp=Z,218nm,1.0s,mb6.0
SMOL **Smolenice** 78.29 333 *e*P P 11 46 59.4 +0.9
VOIR 78.31 327⇑*i*P P 11 46 59.4 +0.8
VOIR 78.31 327 ⇑P P 11 46 59.4 +0.8
UBBA **Unterbreizbach** 78.33 338 *e*P P 11 46 58.6 -0.1
comp=Z,779nm,1.8s,mb6.3
AWI1 **Witton** 78.33 344 *e*P P 11 46 58.1 -0.6
ABA1 **Baconsthorpe** 78.34 344 *e*P P 11 46 58.8 +0.1
HOQ **Hoqain** 78.36 292 P P 11 46 59.8 +0.9
SNR=15
BUG **Bochum--Univer** 78.42 340 *e*P P 11 46 59.1 -0.1
comp=Z,984nm,1.8s,mb6.4
MANZ **Manzenberg** 78.53 337 *e*P P 11 46 59.9 +0.1
comp=Z,677nm,2.1s,mb6.2
PSN **Preselentsi** 78.54 324 *i*P P 11 47 00.0 +0.1
AEU **East Anglia Un** 78.58 344 *e*P P 11 46 59.9 -0.1
MSNY **Massena** 78.58 34 *e*P P 11 46 58.8 -1.3
DRBT **Darb Altahta** 78.67 312 ⇓P sP 11 47 07.2 +1.0
ZST **Bratislava** 78.67 333 *e*P P 11 47 01.5 +0.9
ZST *e* 11 47 08.0
ZST pmax pmax
comp=Z,96nm,1.3s,mb5.6
ZST **Bratislava** 78.67 333 *e*P P 11 47 01.5 +0.9
comp=Z,96nm,1.3s,mb5.6
ZST *e* 11 47 08.0
ROTZ **Rotzenmuhle** 78.70 337 *e*P P 11 47 01.2 +0.4
comp=Z,1µm,2.2s,mb6.4
UALR **University of** 78.71 51 *e*P P 11 46 60.0 -0.8
comp=Z,3µm,2.7s,mb6.7
JMDO **Jabal Madar** 78.72 291 P P 11 47 01.9 +1.0
SNR=25
WCB1 **Church Bay** 78.81 348 *e*P P 11 46 59.8 -1.5
PVMO **Portageville** 78.84 48 *e*P P 11 47 01.9 +0.4
comp=Z,506nm,0.9s,mb6.5
BUC1 **Bucharest** 78.85 325 P P 11 47 02.0 +0.4
KHC **Kasperske Hory** 78.89 335 *e*P P 11 47 02.1 +0.3
KHC *e*pP pP 11 47 07.2 +1.3
YRC **Rhoscolyn** 78.94 348 *e*P P 11 47 00.9 -1.2
LONY **Lake Ozonia** 79.01 34 *e*P P 11 47 00.9 -1.6
comp=Z,422nm,1.8s,mb6.1
BSY **Bisya** 79.03 291 P P 11 47 03.8 +1.2
SNR=14
GRA1 **Grafenberg Arr** 79.04 337 *e*P P 11 47 03.1 +0.5
comp=Z,2µm,2.0s,mb6.6
GRF **Grafenberg Arr** 79.04 337 *e*P P 11 47 03.1 +0.5
comp=Z,2µm,2.0s,mb6.6
GRF **Grafenberg Arr** 79.04 337 *e*P P 11 47 03.1 +0.5
GRF pmax pmax
comp=Z,2µm,2.0s,mb6.6
GRFO **Grafenberg** 79.04 337 P P 11 47 03.2 +0.6
GRFO pmax pmax
comp=Z,700nm,1.2s,mb6.5
GRFO **Grafenberg** 79.04 337 *e*P P 11 47 03.7 +1.1
comp=Z,695nm,1.2s,mb6.5
SBD1 **Bryn Du** 79.08 347 *e*P P 11 47 02.2 -0.6
WET **Wettzell** 79.08 336 *e*P P 11 47 03.4 +0.6
comp=Z,1µm,2.1s,mb6.5
WET **Wettzell** 79.08 336 *e*P P 11 47 03.4 +0.6
WET pmax pmax
comp=Z,1µm,2.1s,mb6.5
GEC2 **GERESS Array S** 79.12 335 *e*P P 11 47 03.0 0.0
comp=Z,524nm,2.0s,mb6.1
GEC2 **GERESS Array S** 79.12 335 *e*P P 11 47 03.0 0.0
GEC2 pmax pmax
comp=Z,524nm,2.0s,mb6.1
GERES **GERESS Array B** 79.12 335 P P 11 47 03.2 +0.1
comp=Z,25nm,0.8s,mb5.2,baz=34,slow=5.1,SNR=12
WCI **Wyandotte Cave** 79.13 45 P P 11 47 02.4 -0.7
WCI pmax pmax
comp=Z,2µm,1.7s,mb6.8
WCI **Wyandotte Cave** 79.13 45 *e*P P 11 47 02.4 -0.7
comp=Z,2µm,1.8s,mb6.8
DLF **Lyons Farm** 79.17 349⇓*i*P P 11 47 03.4 +0.1
YRE **Yr Eifi** 79.18 348 *e*P P 11 47 02.3 -1.1
STKA **Stephens Creek** 79.18 192 *e*P P 11 47 02.2 -1.2
comp=Z,52nm,1.2s,mb5.3
STKA **Stephens Creek** 79.18 192 P P 11 47 02.3 -1.1
comp=Z,44nm,1.0s,mb5.3,baz=349,slow=6.9,SNR=12
GZR **Gura Zlata** 79.19 328⇑*i*P P 11 47 03.5 +0.1
GZR **Gura Zlata** 79.19 328 P P 11 47 04.0 +0.6
GZR **Gura Zlata** 79.19 328 ⇑P P 11 47 03.5 +0.1
DSB **Dublin** 79.19 349 *e*P P 11 47 04.3 +0.8
comp=Z,264nm,0.9s,mb6.2
ALLY **Alegheny Colle** 79.21 39 *e*P P 11 47 03.0 -0.5
DCN **Croghan** 79.21 349⇓*i*P P 11 47 03.7 +0.1
TNS **Taunus Mts** 79.26 339 *e*P P 11 47 04.1 +0.3
comp=Z,856nm,1.8s,mb6.4
TNS **Taunus Mts** 79.26 339 *e*P P 11 47 04.1 +0.3
TNS pmax pmax
comp=Z,856nm,1.8s,mb6.4
CONA **Conrad Observa** 79.30 334⇑*i*P P 11 47 05.2 +1.2
comp=Z,157nm,1.7s,mb5.7
UTMT **University of** 79.32 48 *e*P P 11 47 03.8 -0.4
comp=Z,1µm,1.1s,mb6.7
BEBN **Eben Emael** 79.38 341 P P 11 47 04.5 0.0
comp=Z,140nm,0.9s,mb5.9
HLM1 **Long Mynd** 79.39 347 *e*P P 11 47 03.8 -0.8
BR131 **Keskin Array S** 79.40 318 *e*P P 11 47 05.1 +0.5
comp=Z,181nm,1.1s,mb5.9
BRTR **Keskin Array B** 79.40 318 P P 11 47 05.7 +1.1
comp=Z,62nm,0.9s,mb5.5,baz=65,slow=3.2,SNR=17
BRTR **Keskin Array B** 79.40 318 P P 11 47 05.7 +1.1
BRTR pmax pmax
comp=Z,62nm,0.9s
BZS **Buzias** 79.41 329 P P 11 47 04.8 +0.1
MEM **Membach** 79.48 341 P P 11 47 04.8 -0.3
comp=Z,279nm,0.9s,mb6.2
MEM XP sP 11 47 10.1 -0.5
UCC **Uccle** 79.67 342 P P 11 47 05.7 -0.4
UCC XP sP 11 47 10.7 -0.9
UCC E 11 47 14.7
ANTO **Ankara** 79.67 319⇓*i*P P 11 47 07.1 +1.0
ANTO **Ankara** 79.67 319 ⇓P P 11 47 07.1 +1.0
ZIMR 79.69 326 P P 11 47 06.5 +0.3
NCB **Newcomb** 79.69 34 *e*P P 11 47 05.0 -1.2
comp=Z,796nm,1.8s,mb6.3
CRAR **CRAIOVA** 79.72 327 P P 11 47 06.6 +0.3
TOD **Tromm** 79.74 339 *e*P P 11 47 06.8 +0.3
SSW **Stow on the Wo** 79.75 346 *e*P P 11 47 04.9 -1.6
ABH **Alteburg** 79.80 339 *e*P P 11 47 07.0 +0.2
SKP1 **Kozhill** 79.81 345 *e*P P 11 47 05.5 -1.4
BCLA **Clavier** 79.82 341 P P 11 47 06.7 -0.2
comp=Z,174nm,0.8s,mb6.0
PMOR **Pomariorio Ree** 79.82 125 *e*P P 11 47 06.0 -0.9
comp=Z,166nm,1.2s,mb5.8
MOA **Molln** 79.85 334⇓*i*P P 11 47 07.9 +0.9
comp=Z,146nm,1.1s,mb5.8,SNR=9.0
HTR **Trewern Hill** 79.88 347 *e*P P 11 47 06.3 -0.8

UMR **Umm Al-Rimmam** 79.88 302 *e*P P 11 47 07.4 +0.2
MCH1 **Michaelchurch** 79.91 347 *e*P P 11 47 06.8 -0.6
MCH1 *e*P 11 47 06.8
MCH1 AMb AMB 11 47 09.9
comp=Z,338nm,1.6s,mb6.0
MIB **Mutribah** 79.92 303 *e*P P 11 47 07.7 +0.3
PKSM **Moragy** 79.92 331⇑*i*P P 11 47 06.9 -0.5
PKSM **Moragy** 79.92 331 P P 11 47 07.3 -0.1
PKSM **Moragy** 79.92 331 ⇑P P 11 47 06.9 -0.5
SNF **Seneffe** 79.96 342 P P 11 47 07.6 0.0
comp=Z,97nm,1.2s,mb5.6
SNF E 11 47 15.8
ARSA **Arzberg** 80.00 333 *i*P P 11 47 08.8 +0.9
comp=Z,109nm,1.0s,mb5.7,SNR=12
WVT **Waverly** 80.01 47 *e*P P 11 47 07.2 -0.7
WVT pmax pmax
comp=Z,286nm,1.1s,mb6.1
WVT **Waverly** 80.01 47 *e*P P 11 47 07.2 -0.7
comp=Z,286nm,1.1s,mb6.1
PVL **Pavlikeni** 80.07 325 *i*P P 11 47 08.0 -0.2
RUP **Ruppelstein** 80.08 340 *e*P P 11 47 08.5 +0.2
SLMH **Al Salmeh** 80.12 313 ⇓P P 11 47 09.6 +1.1
VAH **Vaihoa** 80.16 125 *e*P P 11 47 07.6 -1.1
comp=Z,206nm,1.4s,mb5.9
SWN1 **Swindon** 80.18 346 *e*P P 11 47 08.8 0.0
KTD **Kalmit** 80.19 339 *e*P P 11 47 09.2 +0.3
JMB **Yambol** 80.20 324 *e*P P 11 47 08.3 -0.6
JMB **Yambol** 80.20 324 *i*P P 11 47 08.0 -1.0
GIVF **Givet** 80.22 341⇓*i*P P 11 47 08.6 -0.5
comp=Z,871nm,1.3s,mb6.2
GIVF **Givet** 80.22 341⇓*i*P P 11 47 08.6 -0.5
GIVF pmax pmax
comp=Z,436nm,1.3s,mb6.2
GIVF **Givet** 80.22 341⇓*i*P P 11 47 08.6 -0.5
comp=Z,436nm,1.3s,mb6.2
HGH **Gray Hill** 80.23 346 *e*P P 11 47 08.4 -0.7
RIV **Riverview** 80.25 183 *e*P P 11 47 11.4 +2.2
DOU **Dourbes** 80.28 341 ⇓P P 11 47 09.3 0.0
comp=Z,81nm,1.0s,mb5.6
JHLN **Al Jahlan** 80.28 312 ⇓P P 11 47 10.2 +0.8
WLF **Walferdange** 80.33 340 *e*P P 11 47 10.3 +0.7
comp=Z,783nm,1.7s,mb6.4
WLF **Walferdange** 80.33 340 P P 11 47 10.8 +1.1
comp=Z,100nm,1.2s,mb5.6
WLF E 11 47 16.8
WLF **Walferdange** 80.33 340 *e*P P 11 47 10.4 +0.8
WLF pmax pmax
comp=Z,941nm,1.8s,mb6.4
WLF **Walferdange** 80.33 340 *e*P P 11 47 10.4 +0.8
comp=Z,941nm,1.8s,mb6.4
MENF **Mencas** 80.36 343 *e*P P 11 47 09.9 +0.1
QRN **Al-Qurain** 80.36 302 *e*P P 11 47 10.2 +0.4
PKME **Peaks-Kenny Pk** 80.38 30 *e*P P 11 47 09.2 -0.7
comp=Z,1µm,1.9s,mb6.5
NAY **Al-Naaiem** 80.38 303 *e*P P 11 47 10.0 +0.1
BAIF **Baives** 80.40 342⇓*i*P P 11 47 09.8 -0.2
comp=Z,294nm,0.8s,mb5.9
BAIF **Baives** 80.40 342⇓*i*P P 11 47 09.8 -0.2
BAIF pmax pmax
comp=Z,147nm,0.8s,mb6.0
BAIF **Baives** 80.40 342⇓*i*P P 11 47 09.8 -0.2
comp=Z,147nm,0.8s,mb6.0
STU **Stuttgart** 80.41 338 *e*P P 11 47 10.3 +0.2
comp=Z,1µm,1.8s,mb6.5
STU **Stuttgart** 80.41 338 *e*P P 11 47 10.4 +0.3
STU pmax pmax
comp=Z,224nm,0.9s,mb6.1
STU **Stuttgart** 80.41 338 *e*P P 11 47 10.4 +0.3
comp=Z,224nm,0.9s,mb6.1
FUR **Furstenfeldbru** 80.42 336 *e*P P 11 47 10.5 +0.4
comp=Z,2µm,2.0s,mb6.7
FUR **Furstenfeldbru** 80.42 336 *e*P P 11 47 10.5 +0.4
FUR pmax pmax
comp=Z,2µm,2.0s,mb6.7
DRWC **Darouich** 80.43 314 ⇓P P 11 47 11.4 +1.3
RDF **Al-Radifah** 80.44 302 *e*P P 11 47 10.7 +0.5
OXF **Oxford** 80.46 49 *e*P P 11 47 09.4 -0.9
OXF pmax pmax
comp=Z,1µm,1.2s,mb6.6
OXF **Oxford** 80.46 49 *e*P P 11 47 09.4 -0.9
comp=Z,1µm,1.2s,mb6.6
BINY **Binghamton** 80.49 36 *e*P P 11 47 09.3 -1.2
comp=Z,441nm,1.8s,mb6.1
LANF **Langenberg** 80.57 339 *e*P P 11 47 11.5 +0.6
PERS **Pernice** 80.68 333 *e*P P 11 47 11.5 0.0
KBA **Koelnbreinsper** 80.81 335 *i*P P 11 47 13.1 +0.8
comp=Z,854nm,1.1s,mb6.6,SNR=32
BOLS **Boljevac** 80.83 328⇓*i*P P 11 47 10.7 -1.6
FORT **Forrest** 80.94 203 *e*P P 11 47 12.2 -0.7
comp=Z,167nm,1.0s,mb5.9
VAL **Valentia** 80.94 351 *e*P P 11 47 11.4 -1.5
STR **Strasbourg** 80.95 339 *e*P P 11 47 13.9 +1.0
OBKA **Obir** 80.97 334 *i*P P 11 47 13.1 +0.1
comp=Z,192nm,1.1s,mb5.9,SNR=8.6
PPT **Papeete** 80.97 128 *e*P P 11 47 12.1 -0.9
comp=Z,230nm,1.6s,mb5.9
PPT **Papeete** 80.97 128 P P 11 47 12.8 -0.3
comp=Z,42nm,0.9s,mb5.3,baz=13,slow=2.1,SNR=7.0
PPT PKiKP PKiKP 11 52 39.2 -0.4
comp=Z,9.4nm,0.5s,baz=189,slow=2.7,SNR=4.1
DIM **Dimitrovgrad** 80.98 325 *i*P P 11 47 12.4 -0.7
BTCH **Batrach** 80.99 314 ⇓P P 11 47 13.5 +0.4
SSPA **Standing Stone** 81.01 38 *e*P P 11 47 12.6 -0.6
KVTX **Kingsville** 81.01 59 *e*P P 11 47 14.2 +0.9
comp=Z,1µm,1.3s,mb6.7
PAE **Paea** 81.04 128 *e*P P 11 47 12.5 -0.9
comp=Z,288nm,1.5s,mb6.0
PAE **Paea** 81.04 128 *e*P P 11 47 12.5 -0.9
PAE pmax pmax
comp=Z,288nm,1.5s,mb6.0
BFO **Black Forest** 81.04 338 P P 11 47 13.7 +0.3
comp=Z,1µm,1.0s,mb6.8,SNR=19
BFO **Black Forest** 81.04 338 *e*P P 11 47 13.5 +0.1
comp=Z,349nm,1.3s,mb6.1
BFO **Black Forest** 81.04 338 *e*P P 11 47 13.5 +0.1
BFO pmax pmax
comp=Z,349nm,1.3s,mb6.1
WATA **Walderalm** 81.09 336 *i*P P 11 47 14.5 +0.8
comp=Z,759nm,1.2s,mb6.5,SNR=27
HTL **Hartland** 81.12 347 *e*P P 11 47 12.4 -1.5
SPAK **Spaichingen-Ko** 81.14 338 *e*P P 11 47 14.3 +0.4
WTTA **Wattenberg** 81.14 336 *i*P P 11 47 14.6 +0.7
comp=Z,391nm,0.7s,mb6.4,SNR=26
WLS **Welschbruch** 81.21 339 *e*P P 11 47 14.8 +0.5
MOTA **Moosalm** 81.21 336 *i*P P 11 47 15.3 +1.0
comp=Z,782nm,1.2s,mb6.5,SNR=24
CDF **Champ du Feu** 81.23 339⇓*i*P P 11 47 14.3 -0.1
comp=Z,1µm,1.2s,mb6.4
CDF **Champ du Feu** 81.23 339⇓*i*P P 11 47 14.3 -0.1
CDF pmax pmax
comp=Z,553nm,1.2s,mb6.4
CDF **Champ du Feu** 81.23 339⇓*i*P P 11 47 14.3 -0.1
comp=Z,553nm,1.2s,mb6.4
SQTA **Sankt Quirin** 81.30 336⇓*i*P P 11 47 15.6 +0.8
comp=Z,475nm,1.1s,mb6.3,SNR=18
DIVS **Divcibare** 81.31 329 *i*P P 11 47 14.7 -0.1
DIVS **Divcibare** 81.31 329 *e*P P 11 47 14.4 -0.5
TVO **Taravao** 81.32 127 *e*P P 11 47 14.1 -0.8
comp=Z,324nm,1.5s,mb6.0
TVO **Taravao** 81.32 127 *e*P P 11 47 14.1 -0.8
TVO pmax pmax
comp=Z,324nm,1.5s,mb6.0
KDZ **Kurdzhali** 81.36 324 *i*P P 11 47 15.0 -0.1
ARNB **Al Arnab** 81.37 314 ⇓P P 11 47 16.0 +0.8
LJU **Ljubljana** 81.39 333 *e*P P 11 47 14.8 -0.5
LIBD **Limburg** 81.39 339 *e*P P 11 47 16.1 +0.8
VTS **Vitosha** 81.42 326 *e*P P 11 47 15.6 +0.1
VTS **Vitosha** 81.42 326⇑*i*P P 11 47 15.9 +0.4
VTS **Vitosha** 81.42 326 *i*P P 11 47 16.0 +0.5
WRDH **Warideh** 81.43 314 ⇓P P 11 47 16.1 +0.6
ECH **Echery** 81.44 339 *e*P P 11 47 16.1 +0.5
SLNF **Slenfeh** 81.46 314 ⇓P P 11 47 16.1 +0.4
FELD **Feldberg im Sc** 81.55 338⇓*e*P P 11 47 16.3 +0.2
DYA **Yadsworthy** 81.57 347 *e*P P 11 47 15.7 -0.6
DAVA **Damuels** 81.60 337 *i*P P 11 47 17.2 +0.8
comp=Z,309nm,1.0s,mb5.2,SNR=16
BOJS **Bojanci** 81.65 333 *e*P P 11 47 16.4 -0.2
MEZF **Maizieres J'vi** 81.68 340⇓*i*P P 11 47 16.8 0.0
comp=Z,870nm,1.1s,mb6.3
MEZF **Maizieres J'vi** 81.68 340⇓*i*P P 11 47 16.8 0.0
comp=Z,870nm,1.1s,mb6.6
THEF **They Montfort** 81.72 340 *e*P P 11 47 17.4 +0.4
RDO **Rodhopi** 81.74 324 *e*P P 11 47 17.0 -0.1
ALN **Alexandroupoli** 81.74 324 *e*P P 11 47 16.9 -0.2
BARS **Barje** 81.75 327 *i*P P 11 47 17.9 +0.7

MOF Molkenrain 81.79 339 eP P 11 47 18.0 +0.6
TZTN Tazewell 81.79 44 eP P 11 47 16.6 -0.8
comp=Z,1µm,1.8s,mb6.5
CNB Canberra Magne 81.82 185 eP P 11 47 15.9 -1.6
comp=Z,89nm,1.3s,mb5.5
HAU Haudompre 81.84 339⇓iP P 11 47 17.4 -0.2
comp=Z,511nm,1.0s,mb6.1
HAU Haudompre 81.84 339⇓iP P 11 47 17.4 -0.2
HAU pmax pmax
comp=Z,255nm,1.0s,mb6.1
HAU Haudompre 81.84 339⇓iP P 11 47 17.4 -0.2
comp=Z,255nm,1.0s,mb6.1
BIDA Albida 81.87 313 ⇓P P 11 47 18.7 +0.9
HINF Hinteralfeld 81.89 339⇓iP P 11 47 17.5 -0.4
comp=Z,240nm,0.9s,mb5.8
HINF Hinteralfeld 81.89 339⇓iP P 11 47 17.5 -0.4
HINF pmax pmax
comp=Z,120nm,0.9s,mb5.8
HINF Hinteralfeld 81.89 339⇓iP P 11 47 17.5 -0.4
comp=Z,120nm,0.9s,mb5.8
ROOS tl_alroos 82.05 312 ⇓P P 11 47 17.1 -1.6
BBS Basel-Blauen 82.05 339 eP P 11 47 19.1 +0.3
MMB Musomiste 82.08 325 eP P 11 47 18.7 -0.3
MMB Musomiste 82.08 325 iP P 11 47 18.0 -0.9
LUPA Lehigh Univers 82.09 36 eP P 11 47 18.1 -0.9
MVL Millersville 82.19 37 eP P 11 47 19.0 -0.5
PLE Pljevlja 82.19 329⇓iP P 11 47 20.0 +0.5
BRMO Bormio 82.21 336 P P 11 47 20.6 +1.0
comp=Z,553nm,1.4s,mb6.3
FWV Forest Hill 82.23 42 eP P 11 47 19.0 -0.7
LOMF Lomont 82.33 339 eP P 11 47 20.8 +0.6
PAL Palisades 82.33 35 P P 11 47 19.2 -1.1
PAL pmax pmax
comp=Z,980nm,1.7s,mb6.5
PAL Palisades 82.33 35 eP P 11 47 19.0 -1.2
comp=Z,977nm,1.7s,mb6.5
BRNJ Basking Ridge 82.34 36 eP P 11 47 20.4 0.0
ISP Isparta 82.36 319 P P 11 47 21.9 +1.5
IVA Berane 82.41 329⇓iP P 11 47 20.5 -0.2
UPM Unac-Piva 82.47 329⇓iP P 11 47 20.0 -1.0
SRS Serrai 82.54 325 eP P 11 47 20.9 -0.4
ELN Prospectdale 82.55 42 eP P 11 47 20.4 -1.0
MARH Ras Al Marh 82.57 313 ⇓P P 11 47 23.1 +1.6
FLN La Foliniere 82.59 344⇓iP P 11 47 21.2 -0.4
comp=Z,1µm,1.3s,mb6.5
FLN La Foliniere 82.59 344⇓iP P 11 47 21.2 -0.4
FLN pmax pmax
comp=Z,630nm,1.3s,mb6.5
FLN La Foliniere 82.59 344⇓iP P 11 47 21.2 -0.4
comp=Z,630nm,1.3s,mb6.5
PVY Plav 82.62 328⇓iP P 11 47 20.9 -0.8
SKO Skopje 82.63 327 iP P 11 47 22.8 +1.0
LDF La Druitiere 82.68 344⇓iP P 11 47 21.5 -0.6
comp=Z,570nm,1.1s,mb6.2
LDF La Druitiere 82.68 344⇓iP P 11 47 21.5 -0.6
LDF pmax pmax
comp=Z,285nm,1.1s,mb6.2
LDF La Druitiere 82.68 344⇓iP P 11 47 21.5 -0.6
comp=Z,285nm,1.1s,mb6.2
BLA Blacksburg 82.71 42 P P 11 47 21.4 -0.8
BLA pmax pmax
comp=Z,41nm,1.2s,mb5.3
BLA Blacksburg 82.71 42 eP P 11 47 21.4 -0.8
comp=Z,558nm,1.2s,mb6.5
VAY Valandovo 82.76 326 eP P 11 47 22.9 +0.4
VAY Valandovo 82.76 326⇓iP P 11 47 21.8 -0.7
KNT Kendrikon 82.77 326 eP P 11 47 21.1 -0.4
NKY Niksic 82.78 329⇓iP P 11 47 20.9 -1.7
BRY Bratogost 82.86 329⇓iP P 11 47 21.9 -1.2
ZALF Zalf 83.01 311 ⇓P P 11 47 24.8 +1.0
GRR Gorron 83.02 344⇓iP P 11 47 23.6 -0.2
comp=Z,2µm,1.3s,mb6.6
GRR Gorron 83.02 344⇓iP P 11 47 23.6 -0.2
GRR pmax pmax
comp=Z,843nm,1.3s,mb6.6
GRR Gorron 83.02 344⇓iP P 11 47 23.6 -0.2
comp=Z,843nm,1.3s,mb6.6
TTG Podgorica 83.02 329⇓iP P 11 47 23.1 -0.8
PRK Paraskevi 83.04 323 eP P 11 47 24.0 +0.1
SFJM Santa Fe 83.04 68 eP P 11 47 23.0 -0.9
QASN Qassioun 83.07 313 ⇓P P 11 47 23.6 -0.5
LOR Lormes 83.11 341⇓iP P 11 47 24.0 -0.3
comp=Z,494nm,0.8s,mb6.3
LOR Lormes 83.11 341⇓iP P 11 47 24.0 -0.3
LOR pmax pmax
comp=Z,247nm,0.8s,mb6.3
LOR Lormes 83.11 341⇓iP P 11 47 24.0 -0.3
comp=Z,247nm,0.8s,mb6.3
TOTH TOTAH 83.12 312 ⇓P P 11 47 25.2 +0.9
GRG Griva 83.14 326 eP P 11 47 24.4 -0.1
CABF La Chapelle 83.20 339⇓iP P 11 47 24.9 +0.1
comp=Z,2µm,1.8s,mb6.6
CABF La Chapelle 83.20 339⇓iP P 11 47 24.9 +0.1
CABF pmax pmax
comp=Z,1µm,1.8s,mb6.6
CABF La Chapelle 83.20 339⇓iP P 11 47 24.9 +0.1
comp=Z,1µm,1.8s,mb6.6
KRUS Krusevo 83.22 327⇑iP P 11 47 25.4 +0.5
PLG Polygyros 83.23 325 eP P 11 47 24.6 -0.3
PLG Polygyros 83.23 325 eP P 11 47 24.0 -0.9
BUM Brajici-Budva 83.27 329⇓iP P 11 47 24.4 -0.7
HCY Herceg Novi 83.28 329⇓iP P 11 47 24.0 -1.1
BRBR Barbar 83.33 313 ⇓P P 11 47 26.5 +1.1
CSS Prodhromos 83.38 315 eP P 11 47 25.9 +0.2
HYF Humbligny 83.38 342⇓iP P 11 47 25.8 +0.1
SSF Saint Saulge 83.39 341⇓iP P 11 47 25.4 -0.3
comp=Z,482nm,0.9s,mb6.2
SSF Saint Saulge 83.39 341⇓iP P 11 47 25.4 -0.3
SSF pmax pmax
comp=Z,241nm,0.9s,mb6.2
SSF Saint Saulge 83.39 341⇓iP P 11 47 25.4 -0.3
comp=Z,241nm,0.9s,mb6.2
ULC Ulcinj 83.44 329⇓iP P 11 47 25.1 -0.9
SGMF Saint Gilles 83.46 345⇓iP P 11 47 25.9 -0.2
comp=Z,788nm,0.9s,mb6.4
SGMF Saint Gilles 83.46 345⇓iP P 11 47 25.9 -0.2
SGMF pmax pmax
comp=Z,394nm,0.9s,mb6.4
SGMF Saint Gilles 83.46 345⇓iP P 11 47 25.9 -0.2
comp=Z,394nm,0.9s,mb6.4
SALA Sala 83.48 312 ⇓P P 11 47 27.4 +1.2
ROSF Rostrenen 83.50 346⇓iP P 11 47 26.2 -0.1
comp=Z,705nm,0.8s,mb6.5
ROSF Rostrenen 83.50 346⇓iP P 11 47 26.2 -0.1
ROSF pmax pmax
comp=Z,352nm,0.8s,mb6.5
ROSF Rostrenen 83.50 346⇓iP P 11 47 26.2 -0.1
comp=Z,352nm,0.8s,mb6.5
PAIG Paliouri 83.52 325 eP P 11 47 25.4 -1.0
OHR Ohrid 83.61 327 eP P 11 47 30.7 +3.8
OHR Ohrid 83.61 327⇑iP P 11 47 26.1 -0.7
AVF Avril sur Loir 83.68 341⇓iP P 11 47 27.0 -0.2
comp=Z,1µm,1.1s,mb6.7
AVF Avril sur Loir 83.68 341⇓iP P 11 47 27.0 -0.2
AVF pmax pmax
comp=Z,679nm,1.1s,mb6.7
AVF Avril sur Loir 83.68 341⇓iP P 11 47 27.0 -0.2
comp=Z,679nm,1.1s,mb6.7
FNA Florina 83.68 327 eP P 11 47 34.7 +7.5
SMF Signal de Mont 83.70 341⇓iP P 11 47 27.2 -0.1
comp=Z,2µm,1.2s,mb6.9
SMF Signal de Mont 83.70 341⇓iP P 11 47 27.2 -0.1
SMF pmax pmax
comp=Z,1µm,1.2s,mb6.9
SMF Signal de Mont 83.70 341⇓iP P 11 47 27.2 -0.1
comp=Z,1µm,1.2s,mb6.9
BRSN Barisano 83.72 334 P P 11 47 28.8 +1.4
comp=Z,1µm,1.2s,mb7.0
ASF Jabal al Asfar 83.83 311 P P 11 47 29.1 +1.1
comp=Z,80nm,0.9s,mb5.9,baz=277,slow=1.4,SNR=19
QUIF Quistinic 83.89 346⇓iP P 11 47 27.9 -0.4
comp=Z,585nm,1.3s,mb6.2
QUIF Quistinic 83.89 346⇓iP P 11 47 27.9 -0.4
QUIF pmax pmax
comp=Z,293nm,1.3s,mb6.2
QUIF Quistinic 83.89 346⇓iP P 11 47 27.9 -0.4
comp=Z,293nm,1.3s,mb6.2
RSM Repubblica di 83.93 334 P P 11 47 29.7 +1.2
BGF Bois d'Agland 84.01 341⇓iP P 11 47 28.7 -0.2
comp=Z,265nm,0.7s,mb6.2
BGF Bois d'Agland 84.01 341⇓iP P 11 47 28.7 -0.2
BGF pmax pmax
comp=Z,133nm,0.7s,mb6.2
BGF Bois d'Agland 84.01 341⇓iP P 11 47 28.7 -0.2
comp=Z,133nm,0.7s,mb6.2

LPL La Plagne 84.06 338⇓iP P 11 47 29.9 +0.7
comp=Z,568nm,0.7s,mb6.5
LPL La Plagne 84.06 338⇓iP P 11 47 29.9 +0.7
LPL pmax pmax
comp=Z,284nm,0.7s,mb6.5
LPL La Plagne 84.06 338⇓iP P 11 47 29.9 +0.7
comp=Z,284nm,0.7s,mb6.5
LPG La Plagne 84.08 338⇓iP P 11 47 30.2 +0.9
comp=Z,1µm,0.9s,mb6.7
LPG La Plagne 84.08 338⇓iP P 11 47 30.2 +0.9
LPG pmax pmax
comp=Z,537nm,0.9s,mb6.7
LPG La Plagne 84.08 338⇓iP P 11 47 30.2 +0.9
comp=Z,538nm,0.9s,mb6.7
ERBM Eremo 84.08 335 P P 11 47 30.8 +1.5
comp=Z,2µm,1.9s,mb6.9
SMG Samos 84.09 321 eP P 11 47 29.0 -0.3
GSCL Gusciola 84.10 335 P P 11 47 30.6 +1.2
comp=Z,371nm,1.0s,mb6.5
SEI Scarperia 84.14 335 P P 11 47 31.5 +1.9
comp=Z,1µm,1.0s,mb7.0
KSL Kastellorizon 84.17 319 eP P 11 47 29.0 -0.7
VMG Vicchio 84.17 335 P P 11 47 31.5 +1.7
comp=Z,2µm,1.8s,mb6.9
NEO Neokhori 84.23 325 eP P 11 47 29.0 -1.0
VLC Villacollemand 84.33 335 eP P 11 47 31.5 +1.0
comp=Z,3µm,2.0s,mb7.0
TOO Toolangi 84.35 188 eP P 11 47 29.9 -0.8
comp=Z,26nm,1.2s,mb5.2
TOO Toolangi 84.35 188 eP P 11 47 29.9 -0.8
TOO pmax pmax
comp=Z,26nm,1.2s,mb5.2
PLDF La Plantade 84.39 341 eP P 11 47 31.6 +0.7
SNTG Esanatoglia 84.39 333 P P 11 47 31.3 +0.4
comp=Z,621nm,1.4s,mb6.5
TCF Toulx Ste Croi 84.40 342⇓iP P 11 47 30.8 -0.1
comp=Z,871nm,1.3s,mb6.4
TCF Toulx Ste Croi 84.40 342⇓iP P 11 47 30.8 -0.1
TCF pmax pmax
comp=Z,435nm,1.3s,mb6.4
TCF Toulx Ste Croi 84.40 342⇓iP P 11 47 30.8 -0.1
comp=Z,435nm,1.3s,mb6.4
AGO Saint Agoulin 84.42 341 eP P 11 47 32.3 +1.3
BRAL Brewton 84.43 50 eP P 11 47 30.7 -0.3
comp=Z,555nm,1.0s,mb6.6
BNI Bardonecchia 84.51 338 eP P 11 47 32.6 +1.1
GDM Grand'Maison 84.51 339 eP P 11 47 32.6 +1.1
GRN Grenoble 84.57 339 eP P 11 47 33.1 +1.4
MFF Saint Martin d 84.59 343⇓iP P 11 47 31.7 -0.2
comp=Z,629nm,1.3s,mb6.3
MFF Saint Martin d 84.59 343⇓iP P 11 47 31.7 -0.2
MFF pmax pmax
comp=Z,314nm,1.3s,mb6.3
MFF Saint Martin d 84.59 343⇓iP P 11 47 31.7 -0.2
comp=Z,314nm,1.3s,mb6.3
ASS Assisi 84.66 333 P P 11 47 32.2 0.0
ASS pmax pmax
comp=Z,113nm,2.2s,mb5.6
ASS Assisi 84.66 333 P P 11 47 32.2 0.0
comp=Z,113nm,2.2s,mb5.6
PII Pisa 84.69 335 P P 11 47 31.8 -0.6
PII pmax pmax
comp=Z,775nm,1.8s,mb6.5
PII Pisa 84.69 335 P P 11 47 31.8 -0.6
comp=Z,775nm,1.8s,mb6.5
JSC Jenkinsville 84.71 44 eP P 11 47 31.7 -0.8
PYM Petit Puy Mans 84.74 341 eP P 11 47 32.6 0.0
ARG Arkhangelos 84.77 320 eP P 11 47 33.0 +0.2
LHS Liberty Hill 84.77 43 eP P 11 47 32.4 -0.4
MBDF Montbardon 84.79 338⇓iP P 11 47 33.0 +0.1
comp=Z,690nm,1.1s,mb6.4
MBDF Montbardon 84.79 338⇓iP P 11 47 33.0 +0.1
MBDF pmax pmax
comp=Z,345nm,1.1s,mb6.4
MBDF Montbardon 84.79 338⇓iP P 11 47 33.0 +0.1
comp=Z,345nm,1.1s,mb6.4
MOIG Morelia 84.81 67 iP P 11 47 33.2 +0.3
FGMS Monte Sant'Ang 84.81 331 P P 11 47 32.5 -0.5
comp=Z,382nm,1.2s,mb6.4
ORIF Oris-en-Rattie 84.84 339⇓iP P 11 47 33.6 +0.5
comp=Z,1µm,1.1s,mb6.6
ORIF Oris-en-Rattie 84.84 339⇓iP P 11 47 33.6 +0.5
ORIF pmax pmax
comp=Z,552nm,1.1s,mb6.6
ORIF Oris-en-Rattie 84.84 339⇓iP P 11 47 33.6 +0.5
comp=Z,552nm,1.1s,mb6.6
JAN Janina 84.86 326 eP P 11 47 33.0 -0.2
KLBR Kellerberrin 84.96 211 eP P 11 47 32.5 -1.2
comp=Z,147nm,1.0s,mb6.1
RGNG Rignano Grg 84.96 331 P P 11 47 33.3 -0.4
SURF Saint Ours 85.01 338 eP P 11 47 35.2 +1.2
PTL Penteli 85.05 324 eP P 11 47 32.5 -1.7
AQU L'Aquila 85.06 333⇑iP P 11 47 35.2 +0.9
AQU L'Aquila 85.06 333⇑iP P 11 47 35.2 +0.9
EVR Evrytania 85.13 325 eP P 11 47 33.5 -1.1
LBL Lubilhac 85.17 341 eP P 11 47 35.4 +0.6
ATH Athens Observa 85.17 324 eP P 11 47 33.5 -1.3
VIVF Saint-Julien-l 85.19 339⇓iP P 11 47 35.1 +0.2
comp=Z,573nm,1.0s,mb6.3
VIVF Saint-Julien-l 85.19 339⇓iP P 11 47 35.1 +0.2
VIVF pmax pmax
comp=Z,287nm,1.0s,mb6.4
VIVF Saint-Julien-l 85.19 339⇓iP P 11 47 35.1 +0.2
comp=Z,287nm,1.0s,mb6.4
KEK Kerkira 85.20 327 eP P 11 47 34.5 -0.4
SAOF Saorge 85.27 337 eP P 11 47 35.8 +0.5
KVR Kavouri 85.28 323 eP P 11 47 33.5 -1.8
LCI Lecce 85.28 329 P P 11 47 35.1 -0.2
LCI pmax pmax
comp=Z,139nm,0.9s,mb6.1
LCI Lecce 85.28 329 P P 11 47 35.1 -0.2
comp=Z,139nm,0.9s,mb6.1
AUTN L'Aution 85.30 337 eP P 11 47 36.3 +0.9
TOUF Mont Tournerai 85.33 337 eP P 11 47 36.3 +0.7
LUCF Luceram 85.42 337 eP P 11 47 36.5 +0.5
SBF Sospel 85.42 337⇓iP P 11 47 35.6 -0.4
comp=Z,1µm,1.1s,mb6.7
SBF Sospel 85.42 337⇓iP P 11 47 35.6 -0.4
SBF pmax pmax
comp=Z,660nm,1.1s,mb6.7
SBF Sospel 85.42 337⇓iP P 11 47 35.6 -0.4
comp=Z,660nm,1.1s,mb6.7
NAIG Nisos Aigina 85.45 324 eP P 11 47 34.0 -2.2
MVIF Mont Vial 85.46 337 eP P 11 47 36.8 +0.6
FG4 Candela 85.47 331 P P 11 47 36.6 +0.3
comp=Z,10µm,2.6s
RJF Les Rejaudoux 85.49 342⇓iP P 11 47 35.7 -0.7
comp=Z,759nm,1.2s,mb6.4
RJF Les Rejaudoux 85.49 342⇓iP P 11 47 35.7 -0.7
RJF pmax pmax
comp=Z,379nm,1.2s,mb6.4
RJF Les Rejaudoux 85.49 342⇓iP P 11 47 35.7 -0.7
comp=Z,379nm,1.2s,mb6.4
SDI San Donato 85.52 332 P P 11 47 36.3 -0.2
SDI pmax pmax
comp=Z,484nm,1.4s,mb6.5
SDI San Donato 85.52 332 P P 11 47 36.3 -0.2
comp=Z,484nm,1.4s,mb6.5
REVF Revere 85.55 337 eP P 11 47 37.4 +0.7
GUAR Guarcino 85.60 332 P P 11 47 36.7 -0.2
STOF St-Etienne Org 85.69 338 eP P 11 47 38.8 +1.4
COW Cow Castle Cre 85.72 44 eP P 11 47 37.3 -0.2
CAF Calviac 85.73 341⇓iP P 11 47 37.2 -0.4
comp=Z,510nm,0.9s,mb6.4
CAF Calviac 85.73 341⇓iP P 11 47 37.2 -0.4
CAF pmax pmax
comp=Z,255nm,0.9s,mb6.5
CAF Calviac 85.73 341⇓iP P 11 47 37.2 -0.4
comp=Z,255nm,0.9s,mb6.5
LKD Levkas 85.76 326 eP P 11 47 38.2 +0.5
SMRF Simiane la Rot 85.80 339⇓iP P 11 47 38.4 +0.5
comp=Z,697nm,1.4s,mb6.4
SMRF Simiane la Rot 85.80 339⇓iP P 11 47 38.4 +0.5
comp=Z,697nm,1.4s,mb6.7
MA9 Marino 85.83 333 P P 11 47 37.9 -0.2
comp=Z,184nm,0.9s,mb6.3
RFI Roccamonfina 85.83 332 P P 11 47 38.3 +0.2
comp=Z,266nm,1.6s,mb6.2
MUN Mundaring 85.87 212 eP P 11 47 37.0 -1.3
CSSN Cassano Irpino 85.88 331 P P 11 47 38.2 -0.1
comp=Z,2µm,2.7s,mb6.8
LAV9 Lanuvio 85.90 333 P P 11 47 38.3 -0.1
comp=Z,408nm,1.0s,mb6.6
FRF La Foret Royal 85.91 338⇓iP P 11 47 38.1 -0.4
comp=Z,969nm,1.5s,mb6.5

FRF La Foret Royal 85.91 338⇓iP P 11 47 38.1 -0.4
FRF pmax pmax
comp=Z,484nm,1.5s,mb6.5
FRF La Foret Royal 85.91 338⇓iP P 11 47 38.1 -0.4
comp=Z,484nm,1.5s,mb6.5
LFF La Frestale 86.00 342⇓iP P 11 47 38.3 -0.6
comp=Z,874nm,1.1s,mb6.6
LFF La Frestale 86.00 342⇓iP P 11 47 38.3 -0.6
LFF pmax pmax
comp=Z,437nm,1.1s,mb6.6
LFF La Frestale 86.00 342⇓iP P 11 47 38.3 -0.6
comp=Z,437nm,1.1s,mb6.6
TAVF Tavernes 86.01 338 eP P 11 47 37.5 -1.5
SGO Sicignano 86.05 331 P P 11 47 38.3 -0.9
SGO pmax pmax
comp=Z,400nm,1.6s,mb6.4
SGO Sicignano 86.05 331 P P 11 47 38.3 -0.9
comp=Z,400nm,1.6s,mb6.4
PRAF Pradon 86.06 339 eP P 11 47 41.2 +2.0
ORI Oriolo Calabro 86.11 330 P P 11 47 40.1 +0.7
LASF Ste Croix 86.12 340⇓iP P 11 47 39.1 -0.4
comp=Z,512nm,1.1s,mb6.4
LMR La Mourre 86.16 338⇓iP P 11 47 39.6 -0.1
comp=Z,726nm,1.1s,mb6.5
LMR La Mourre 86.16 338⇓iP P 11 47 39.6 -0.1
LMR pmax pmax
comp=Z,363nm,1.1s,mb6.5
LMR La Mourre 86.16 338⇓iP P 11 47 39.6 -0.1
comp=Z,363nm,1.1s,mb6.5
TREF Trevarese 86.17 339 eP P 11 47 40.3 +0.5
PTVM Pico Tres Padr 86.18 65 iP P 11 47 39.9 +0.1
PGF Pioggiola 86.21 336⇓iP P 11 47 39.6 -0.3
comp=Z,510nm,1.1s,mb6.3
PGF Pioggiola 86.21 336⇓iP P 11 47 39.6 -0.3
PGF pmax pmax
comp=Z,255nm,1.1s,mb6.4
PGF Pioggiola 86.21 336⇓iP P 11 47 39.6 -0.3
comp=Z,255nm,1.1s,mb6.4
VLS Valsamata 86.24 326 eP P 11 47 39.0 -1.1
NWAO Narrogin (SRO) 86.35 211 eP P 11 47 39.7 -0.9
NWAO pmax pmax
comp=Z,257nm,1.0s
NWAO Narrogin (SRO) 86.35 211 eP P 11 47 39.7 -1.0
comp=Z,257nm,1.0s,mb6.4
BERF Bertagne 86.39 338 eP P 11 47 39.7 -1.1
GELF Grande-Etoile 86.39 338 eP P 11 47 38.1 -2.7
IIO Organos 86.42 65 iP P 11 47 41.7 +0.7
VENT Ventotene 86.47 332 P P 11 47 40.9 -0.3
ZKR Zakros 86.54 320 eP P 11 47 40.8 -0.7
VLI Veliai 86.57 323 eP P 11 47 39.0 -2.7
ITM Ithomi 86.58 324 eP P 11 47 41.0 -0.8
NPS Neapolis 86.68 321 eP P 11 47 40.0 -2.2
TIP Timpagrande 86.78 329 eP P 11 47 42.8 +0.1
PLIG Platanillo 86.83 67 iP P 11 47 42.2 -0.7
KYTH Kithira 86.90 323 eP P 11 47 41.5 -1.8
XRY Khrisi 86.97 321 eP P 11 47 42.5 -1.2
VAM Vamos 87.16 322 eP P 11 47 47.0 +2.4
MTLF Montolieu 87.20 341⇓iP P 11 47 44.1 -0.7
comp=Z,215nm,1.0s,mb6.0
MTLF Montolieu 87.20 341⇓iP P 11 47 44.1 -0.7
MTLF pmax pmax
comp=Z,107nm,1.0s,mb6.0
MTLF Montolieu 87.20 341⇓iP P 11 47 44.1 -0.7
comp=Z,107nm,1.0s,mb6.0
GRI Girifalco 87.22 329 P P 11 47 44.9 0.0
SIVA Sivas 87.23 321 eP P 11 47 44.4 -0.6
KARN Karanos 87.29 322 eP P 11 47 43.2 -2.0
CAIG El Cayaco 87.34 68 eP P 11 47 45.3 -0.1
ACX Acapulco 87.69 68 iP P 11 47 45.0 -2.2
LVIG Laguna Verde 87.75 63 eP P 11 47 44.4 -3.0
MLS Moulis 87.82 341 eP P 11 47 46.3 -1.5
SJAF Saint Jean de 87.86 340 eP P 11 47 47.2 -0.8
EJON La Jonquera 87.89 340 P P 11 47 47.0 -1.1
comp=Z,26nm,0.9s,mb5.5
EPF Esparros 87.91 342⇓iP P 11 47 46.7 -1.5
comp=Z,85nm,0.6s,mb5.9
EPF Esparros 87.91 342⇓iP P 11 47 46.7 -1.5
EPF pmax pmax
comp=Z,43nm,0.6s,mb5.9
EPF Esparros 87.91 342⇓iP P 11 47 46.7 -1.5
comp=Z,43nm,0.6s,mb5.8
SLNA Salina 88.00 330 P P 11 47 47.7 -1.0
comp=Z,262nm,0.8s,mb6.5
SOI Samo 88.02 329 P P 11 47 48.0 -0.7
RESF Ens 88.13 342 eP P 11 47 48.9 -0.3
SJPF Ste Jean 88.16 343⇓iP P 11 47 48.3 -1.1
ELIZ Elizondo 88.17 343 P P 11 47 49.0 -0.4
ELIZ pmax pmax
comp=Z,20nm,0.5s,mb5.6
ELIZ Elizondo 88.17 343 P P 11 47 49.0 -0.4
comp=Z,20nm,0.5s,mb5.6
MTTG Motta San Giov 88.21 329 P P 11 47 48.6 -1.0
comp=Z,230nm,1.0s,mb6.4
ETSF Etsaut 88.23 342⇓iP P 11 47 48.9 -0.8
comp=Z,448nm,1.2s,mb6.3
ETSF Etsaut 88.23 342⇓iP P 11 47 48.9 -0.8
ETSF pmax pmax
comp=Z,224nm,1.2s,mb6.3
ETSF Etsaut 88.23 342⇓iP P 11 47 48.9 -0.8
comp=Z,224nm,1.2s,mb6.3
EBIE Bielsa 88.28 342 P P 11 47 50.5 +0.5
comp=Z,198nm,1.4s,mb6.2
USI Ustica 88.43 331 P P 11 47 50.1 -0.6
comp=Z,1µm,1.6s,mb6.9
ELAN Lanestosa 88.47 345 P P 11 47 50.6 -0.3
comp=Z,90nm,1.0s,mb6.0
MNO Monte Soro 88.62 330 P P 11 47 51.2 -0.4
MNO pmax pmax
comp=Z,2µm,2.0s,mb7.1
MNO Monte Soro 88.62 330 P P 11 47 51.2 -0.4
comp=Z,2µm,2.0s,mb7.1
EARI Arriondas 88.71 346 P P 11 47 51.6 -0.4
comp=Z,104nm,1.2s,mb6.0
EMIR Miracle 88.72 341 P P 11 47 51.4 -0.6
comp=Z,24nm,1.0s,mb5.5
EGRA Graus 88.72 342 P P 11 47 50.8 -1.3
comp=Z,12nm,1.8s
CSLB Castelbuono 88.83 330 P P 11 47 51.5 -1.1
comp=Z,148nm,1.3s,mb6.2
ECRI Cripan 88.90 344 P P 11 47 52.1 -0.8
ECRI pmax pmax
comp=Z,129nm,1.8s,mb6.0
ECRI Cripan 88.90 344 P P 11 47 52.1 -0.7
comp=Z,128nm,1.8s,mb6.0
VSL Villasalto 88.91 334 eP P 11 47 52.8 -0.1
comp=Z,286nm,1.1s,mb6.5
EPON Pontenova 89.00 347 P P 11 47 52.9 -0.4
comp=Z,233nm,0.9s,mb6.5
AGST Augusta-Monte 89.04 329 P P 11 47 52.5 -1.0
PNIG Pinoteca 89.19 67 iP P 11 47 54.3 +0.1
ESAC San Caprasio 89.34 342 P P 11 47 55.2 +0.3
comp=Z,62nm,0.9s,mb5.9
EPOB Poblet 89.35 341 P P 11 47 54.2 -0.8
comp=Z,22nm,0.9s,mb5.5
TAU Tasmania Unive 89.51 186 eP P 11 47 55.4 -0.3
TAU pmax pmax
comp=Z,274nm,1.4s,mb6.4
TAU Tasmania Unive 89.51 186 eP P 11 47 55.4 -0.4
comp=Z,274nm,1.4s,mb6.4
OXX Oaxaca 89.55 65 iP P 11 47 55.0 -0.9
VHO Vista Hermosa 89.55 65 iP P 11 47 56.8 +0.8
EMAZ Mazaricos 89.64 348 P P 11 47 55.8 -0.6
comp=Z,86nm,1.1s,mb6.0
STS Santiago 89.64 348 P P 11 47 55.7 -0.6
STS pmax pmax
comp=Z,68nm,0.9s,mb6.0
STS Santiago 89.64 348 P P 11 47 55.7 -0.6
comp=Z,68nm,0.9s,mb6.0
ERTA Horta de San J 89.90 341 P P 11 47 55.3 -2.2
comp=Z,34nm,1.1s,mb5.6
ERUA La Rua 89.91 347 P P 11 47 57.4 -0.2
ERUA pmax pmax
comp=Z,98nm,1.0s,mb6.1
ERUA La Rua 89.91 347 P P 11 47 57.4 -0.2
comp=Z,98nm,1.0s,mb6.1
TUIG Tuzandepetl 90.26 63 iP P 11 48 00.1 +0.9
ECAL Calabor 90.29 347 P P 11 47 59.0 -0.4
comp=Z,92nm,1.1s,mb6.0
EZAM Zamans 90.38 348 P P 11 47 58.9 -0.9
comp=Z,5.6nm,1.2s
ETOS Mallorca 90.45 339 P P 11 48 00.3 +0.2
comp=Z,22nm,0.8s,mb5.5
ETOR Torete 90.53 343 P P 11 48 00.2 -0.3
ETOR pmax pmax
comp=Z,35nm,1.0s,mb5.6

ETOR Torete 90.53 343 P **P** 11 48 00.2 -0.3
comp=Z,35nm,1.0s,mb5.7
EMOS Mosqueruela 90.64 342 P **P** 11 48 02.2 +1.2
comp=Z,28nm,1.1s,mb5.5
CMIG Matias Romero 90.69 64 *i* P **P** 11 48 00.6 -0.6
HUIG Huatulco 90.93 66 *e*P **P** 11 48 02.5 +0.2
GUD Guadarrama 91.11 344 P **P** 11 48 02.1 -1.1
GUD pmax pmax
comp=Z,203nm,1.8s,mb6.2
GUD Guadarrama 91.11 344 P **P** 11 48 02.1 -1.1
comp=Z,203nm,1.8s,mb6.2
ESDC Sonseca Array 92.01 344 P **P** 11 48 06.5 -0.8
comp=Z,46nm,1.0s,mb5.8,baz=8.7,slow=3.7,SNR=16
ESDC Sonseca Array 92.01 344 P **P** 11 48 06.1 -1.3
comp=Z,44nm,1.0s,mb5.7
EBEN Beniarda 92.17 341 P **P** 11 48 08.7 +0.6
comp=Z,25nm,0.9s,mb5.5
PAB San Pablo 92.21 344 *e*P **P** 11 48 07.4 -0.9
PAB pmax pmax
comp=Z,280nm,1.7s,mb6.3
PAB San Pablo 92.21 344 *e*P **P** 11 48 07.8 -0.5
comp=Z,282nm,1.7s,mb6.3
KEST Kesra 92.39 333 P **P** 11 48 09.1 0.0
comp=Z,23nm,1.0s,mb5.5,baz=308,slow=2.7,SNR=9.4
ETOB Tobarra 92.52 342 P **P** 11 48 10.1 +0.3
comp=Z,18nm,0.8s,mb5.5
EVIA Vianos 92.72 343 P **P** 11 48 10.6 -0.1
EVIA pmax pmax
comp=Z,40nm,1.0s,mb5.8
EVIA Vianos 92.72 343 P **P** 11 48 10.6 -0.1
comp=Z,40nm,1.0s,mb5.8
CCIG Comitan 93.00 63 *i* P **P** 11 48 11.7 -0.2
EBAN Banos Encina 93.44 344 P **P** 11 48 13.8 -0.2
EBAN pmax pmax
comp=Z,42nm,1.0s,mb5.8
EBAN Banos Encina 93.44 344 P **P** 11 48 13.8 -0.2
comp=Z,42nm,1.0s,mb5.8
EBAD Badajoz 93.44 346 P **P** 11 48 13.1 -0.8
comp=Z,41nm,1.0s,mb5.8
EHUE Huescar 93.54 343 P **P** 11 48 14.2 -0.2
EHUE pmax pmax
comp=Z,348nm,2.8s,mb6.3
EHUE Huescar 93.54 343 P **P** 11 48 14.2 -0.2
comp=Z,348nm,2.8s,mb6.3
EADA Adamuz 93.59 344 P **P** 11 48 14.4 -0.2
comp=Z,25nm,0.9s,mb5.7
EQES Quesada 93.65 343 P **P** 11 48 15.0 +0.1
comp=Z,27nm,1.1s,mb5.6
EVO Evora 93.82 347 *e*P **P** 11 48 14.2 -1.5
comp=Z,294nm,1.4s,mb6.2
ELUQ Luque 94.12 344 P **P** 11 48 17.0 -0.1
ELUQ pmax pmax
comp=Z,112nm,1.4s,mb6.1
ELUQ Luque 94.12 344 P **P** 11 48 17.0 0.0
comp=Z,112nm,1.4s,mb6.1
ECOG Cogollos-Vega 94.25 343 P **P** 11 48 17.7 0.0
ECOG pmax pmax
comp=Z,669nm,3.6s
ECOG Cogollos-Vega 94.25 343 P **P** 11 48 17.7 0.0
comp=Z,669nm,3.6s
EMIN Mina Concepcio 94.35 346 P **P** 11 48 15.6 -2.6
comp=Z,61nm,1.0s,mb6.0
EBER Berja 94.48 343 P **P** 11 48 16.7 -2.0
comp=Z,32nm,1.0s,mb5.7
ELOJ Sierra Loja 94.49 344 P **P** 11 48 17.2 -1.6
ELOJ pmax pmax
comp=Z,123nm,1.8s,mb6.0
ELOJ Sierra Loja 94.49 344 P **P** 11 48 17.2 -1.6
comp=Z,122nm,1.8s,mb6.0
ERON Agron 94.55 343 P **P** 11 48 17.4 -1.7
comp=Z,6.3nm,0.6s,mb5.2
EGUA Guajares 94.68 343 P **P** 11 48 16.9 -2.8
comp=Z,4.0nm,1.6s
EGRO El Granado 94.71 346 P **P** 11 48 19.4 -0.4
comp=Z,35nm,0.9s,mb5.8
ESPR Espera 95.08 345 P **P** 11 48 17.8 -3.7
comp=Z,40nm,0.9s,mb5.8
EMIJ Mijas 95.18 344 P **P** 11 48 22.5 +0.5
comp=Z,23nm,0.8s,mb5.7
EJIF Jimena Fronter 95.42 344 P **P** 11 48 22.0 -1.0
EJIF pmax pmax
comp=Z,145nm,1.2s,mb6.3
EJIF Jimena Fronter 95.42 344 P **P** 11 48 22.0 -1.0
comp=Z,145nm,1.2s,mb6.3
TGUH Tegucigalpa,Un 97.66 60 *e*P **P** 11 48 33.0 -0.2
comp=Z,617nm,1.7s,mb6.9
EFAM Famara 103.84 350 P Pdif 11 49 00.6 -0.2
comp=Z,47nm,2.4s
CFTV Fuerteventura 104.61 350 P Pdif 11 49 04.5 +0.3
comp=Z,43nm,1.6s
CCAN Las Canadas 105.06 353 P Pdif 11 49 08.6 +2.4
comp=Z,25nm,1.0s
TOA0 Torodi Ar. Sit 115.85 331 *e*PKPdf PKPdf 11 53 39.9 -1.2
TORD Torodi Ar. Bea 115.85 331 PKiKP PKiKP 11 53 40.1 -1.0
comp=Z,7.7nm,0.8s,baz=349,slow=3.5,SNR=6.3
CASY Casey 117.75 199 *e*P PKPdf 11 53 41.7 -3.1
MIR Mirnyy 122.45 205 *c i*PKIKP PKPdf 11 53 54.0 +0.2
MIR pmax pmax
comp=Z,500nm,1.5s
VNDA Vanda 124.02 178 PKP PKPdf 11 53 53.6 -3.2
comp=Z,9.7nm,0.9s,baz=326,slow=5.4,SNR=8.7
VNDA Vanda 124.02 178 PKIKP PKPdf 11 53 53.7 -3.1
VNDA pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 124.02 178 *e*PKPdf PKPdf 11 53 53.5 -3.4
NNA Nana 124.31 69 PKP PKPdf 11 53 56.5 -0.9
comp=Z,22nm,1.1s,baz=285,slow=7.5,SNR=4.2
NNA Nana 124.31 69 *e*PKPdf PKPdf 11 53 56.4 -1.0
LIC Lamto 124.46 336 *e*PKIKP PKPdf 11 53 56.6 -1.1
comp=Z,132nm,1.2s
SBA Scott Base 124.49 177 *e*PKIKP PKPdf 11 53 54.5 -3.2
LSZ Lusaka 126.16 287 PKP PKPdf 11 54 01.4 +0.5
comp=Z,11nm,0.7s,baz=53,slow=2.1,SNR=10
MATP Matopo 129.62 283 PKP PKPdf 11 54 07.5 -0.1
comp=Z,31nm,1.1s,baz=64,slow=2.6,SNR=12
SAML Samuel 130.16 53 *e*PKPdf PKPdf 11 54 07.9 -0.7
MAW Mawson 132.92 212 *e*P PKPdf 11 54 11.2 -2.6
comp=Z,196nm,18.5s
MAW Mawson 132.92 212 PKP PKPdf 11 54 11.6 -2.2
comp=Z,12nm,0.7s,baz=328,slow=4.8,SNR=8.6
MAW Mawson 132.92 212 PKIKP PKPdf 11 54 11.6 -2.2
MAW pmax pmax
comp=Z,12nm,0.7s
LPAZ La Paz 133.06 64 PKP PKPdf 11 54 14.6 +0.6
comp=Z,47nm,1.2s,baz=353,slow=4.8,SNR=16
LPAZ La Paz 133.06 64 PKIKP PKPdf 11 54 14.6 +0.6
LPAZ pmax pmax
comp=Z,47nm,1.2s
LPAZ La Paz 133.06 64 *e*PKPdf PKPdf 11 54 14.7 +0.6
LBTB Lobatse 134.69 281 PKP PKPdf 11 54 18.0 +0.9
comp=Z,23nm,0.8s,baz=87,slow=1.0,SNR=7.7
LBTB PP PP 11 56 54.2 +3.9
comp=Z,16nm,1.1s,baz=359,slow=3.7,SNR=3.7
TSUM Tsumeb 135.87 294 PKP PKPdf 11 54 19.2 -0.1
comp=Z,22nm,1.1s,baz=73,slow=2.0,SNR=4.7
QSPA South Pole Qui 136.44 180 *e*PKPdf PKPdf 11 54 18.5 -1.8
SIV San Ignacio 137.06 57 PKP PKPdf 11 54 21.1 -0.4
comp=Z,31nm,1.0s,baz=333,slow=1.7,SNR=9.6
LVC Limon Verde 137.20 71 PKP PKPdf 11 54 23.0 +1.2
comp=Z,17nm,0.9s,baz=271,slow=0.9,SNR=8.3
LVC Limon Verde 137.20 71 *e*PKPdf PKPdf 11 54 22.4 +0.6
BOSA Boshof 137.25 277 PKP PKPdf 11 54 20.6 -1.3
comp=Z,12nm,0.8s,baz=1.6,slow=3.0,SNR=4.4
BOSA PP PP 11 57 08.1 +1.6
comp=Z,8.4nm,0.8s,baz=64,slow=8.3,SNR=4.3
SYO Syowa Base 141.63 212 *j,e*X 11 54 20.8
SUR Sutherland 142.58 276 PKhKP 11 54 28.5
comp=Z,19nm,0.8s,baz=352,slow=9.2,SNR=7.5
SUR PKP PKPdf 11 54 32.1 +0.6
comp=Z,19nm,0.8s,baz=56,slow=4.1,SNR=7.5
CFAA Coronel Fontan 143.57 81 PKhKP 11 54 28.5
comp=Z,3.6nm,0.9s,baz=295,slow=2.4,SNR=13
NVL N'lazarevskaya 150.18 203 *i* PKIKP PKPdf 11 54 46.5 +2.2
NVL *e* 12 11 16.3
NVL pmax pmax
comp=Z,467nm,1.8s
MAIT Maitri 150.20 203 *e*PKPdf PKPdf 11 54 47.3 +2.9
USHA Ushuaia 151.62 123 PKPbc PKPbc 11 54 50.5 -2.3
comp=Z,75nm,1.0s,baz=303,slow=1.5,SNR=12
CAM4 Nova Friburgo 151.76 37 *j,i*P PKPdf 11 54 52.4 +5.6
CAM4 *i* 11 54 57.2
CAM4 *i* 11 55 02.0
PMSA Palmer Station 152.11 145 PKPbc PKPbc 11 54 51.3 -2.7
comp=Z,85nm,1.0s,baz=194,slow=1.3,SNR=7.7
PMSA PKPab PKPab 11 55 01.4 -2.1
comp=Z,35nm,0.8s,baz=91,slow=2.9,SNR=3.8
SNAA Sanae 152.90 195 PKP PKPdf 11 54 44.1 -4.4
comp=Z,9.0nm,1.2s,baz=44,slow=1.4,SNR=4.4
SNAA PKPbc PKPbc 11 54 52.7 -3.0
comp=Z,19nm,1.0s,baz=216,slow=3.9,SNR=10
SNAA PKPab PKPab 11 55 04.6 -2.2
comp=Z,54nm,1.0s,baz=172,slow=4.5,SNR=14
SNAA Sanae 152.90 195 *e*PKPdf PKPdf 11 54 45.9 -2.6
SNAA *e* 11 54 52.8
SNAA *e* 11 54 55.6
SNAA *e* 11 55 04.9
SNAA *e* 11 55 08.2
SNAA *e* 11 55 10.0
SNAA *e* 11 55 12.9
SNAA *e* 11 58 39.8
SNAA Sanae 152.90 195 PKIKP PKPdf 11 54 44.1 -4.4
SNAA 11 54 52.7
SNAA 11 55 04.6
SNAA pmax pmax
comp=Z,9.0nm,1.2s
SNAA pmax pmax
comp=Z,54nm,1.0s
SNAA Sanae 152.90 195 *e*PKPdf PKPdf 11 54 45.9 -2.5
SNAA *e*PKPbc PKPbc 11 54 53.0 -2.7
SNAA *e*PKPab PKPab 11 55 04.8 -2.0
VNA2 Neumayer--Watz 154.31 193 *e*PKPdf PKPdf 11 54 48.5 -2.0
VNA2 *e* 11 54 50.6
VNA2 *e* 11 54 52.7
VNA2 *e* 11 54 56.6
VNA2 *e* 11 55 11.1
VNA2 *e* 11 55 14.5
VNA2 *e* 11 55 17.9
VNA2 *e* 11 55 21.5
VNA2 *e* 11 58 44.1
VNA2 *e* 11 58 48.2
VNA3 Neumayer Olymp 154.35 191 *e*PKPdf PKPdf 11 54 48.1 -2.4
VNA3 *e* 11 54 50.6
VNA3 *e* 11 54 53.7
VNA3 *e* 11 54 56.6
VNA3 *e* 11 55 11.2
VNA3 *e* 11 55 14.2
VNA3 *e* 11 55 17.6
VNA3 *e* 11 55 21.5
VNA3 *e* 11 58 43.7
VNA3 *e* 11 58 48.0
VNA1 Neumayer--Stat 154.69 193 *e*PKPdf PKPdf 11 54 48.9 -2.1
VNA1 *e* 11 54 51.4
VNA1 *e* 11 54 55.1
VNA1 *e* 11 54 57.8
VNA1 *e* 11 55 12.3
VNA1 *e* 11 55 14.4
VNA1 *e* 11 55 16.3
VNA1 *e* 11 55 19.4
VNA1 *e* 11 58 44.9
VNA1 *e* 11 58 50.4

IDC 15 11:38:24.8±0.7, 4672N×15375E, h0km, mb4.8/10, mb1 5.1/10, mb1mx4.7/24, mbtmp4.8/10, Error ellipse: s-maj=35.8km s-min=18.2km az=133.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**50.68**	**37**	P		P	11 47 27.4	+1.4
	8.0nm,0.6s,baz=295,slow=7.1,SNR=7.3							
YBH	**Yreka Blue Hor**	**57.37**	**62**	P		P	11 48 15.3	+0.5
	7.8nm,0.9s,baz=36,slow=8.7,SNR=3.1							
NVAR	**Mina Array Bea**	**62.06**	**63**	P		P	11 48 47.0	-0.2
	6.9nm,0.8s,baz=295,slow=8.6							
PDAR	**Pinedale Array**	**64.41**	**54**	P		P	11 49 02.0	-0.7
	7.6nm,0.9s,baz=1.9,slow=2.7,SNR=4.4							
WRA	**Warramunga Arr**	**68.63**	**200**	P		P	11 49 29.9	+0.1
	6.7nm,0.7s,baz=22,slow=7.0,SNR=5.9							
ASAR	**Alice Springs**	**72.32**	**199**	P		P	11 49 53.0	+0.7
	4.1nm,0.5s,baz=18,slow=6.4,SNR=5.3							
WSAR	**Wadi Sarin**	**76.81**	**290**	P		P	11 50 18.5	+0.2
	4.8nm,1.0s,baz=108,slow=13,SNR=1.7							
TXAR	**Lajitas Array**	**77.12**	**61**	P		P	11 50 20.1	0.0
	14nm,0.5s,baz=303,slow=4.4,SNR=12							
STKA	**Stephens Creek**	**79.00**	**191**	P		P	11 50 30.4	-0.2
	4.9nm,0.6s,baz=293,slow=5.9,SNR=3.5							
ESDC	**Sonseca Array**	**91.71**	**343**	P		P	11 51 33.4	-0.8
	6.8nm,0.9s,baz=19,slow=7.1,SNR=4.6							
CFAA	**Coronel Fontan**	**144.56**	**80**	PKP		PKPdf	11 58 00.9	-2.3
	1.4nm,0.9s,baz=353,slow=3.2,SNR=3.6							
USHA	**Ushuaia**	**152.48**	**123**	PKPbc		PKPbc	11 58 21.3	-1.7
	10.0nm,0.7s,baz=129,slow=6.5,SNR=3.7							
SNAA	**Sanae**	**152.65**	**196**	PKPbc		PKPbc	11 58 21.5	-1.8
	1.6nm,0.9s,baz=255,slow=12,SNR=2.2							

*IDC **15** 11:39:51.7±0.7, 4633N×15309E, h0km, mb4.8/18, mb1 4.9/20, mb1mx4.8/29, mbtmp4.8/20, ML4.3/1, Error ellipse: s-maj=19.5km s-min=16.2km az=129.0*
*ISCJB **15** 11:39:59.0±1.1, 4677N±0.1×1524E±0.2, h33km, mb5.1/33, Error ellipse: s-maj=25.6km s-min=8.2km az=92.7*
*BJI **15** 11:40:02.8, 4770N×15150E, h10km, mB5.7, mb5.6*
*NEIC **15** 11:40:03.9±0.9, 4767N×15153E, h10km, mb5.3/15, Error ellipse: s-maj=25.3km s-min=10.7km az=161.0*
*MOS **15** 11:40:05.2±1.5, 4692N×15149E, h59km, mb5.4/11, Error ellipse: s-maj=13.8km s-min=9.3km az=96.4*

ISC 15 11:40:01.4±1.8, 4657N±01×1526E±02, h55km±12km, n82, σ1§24/78, mb5.1/33, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.34**	**245**	*e*PN		**Pn**	**11 41 16.5**	**-2.1**
YSS	**Yuzh-Sakhalins**	**6.77**	**277**	*e*PN		**Pn**	**11 41 39.8**	**+1.7**
ASAJ	**Asahikawa**	**7.43**	**255**	Pn		**Pn**	**11 41 47.4**	**+0.2**
	4.3nm,0.3s,baz=93,slow=20,SNR=3.0							
ASAJ	**Asahikawa**	**7.43**	**255**	PN		**Pn**	**11 41 47.4**	**+0.2**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MA2	**Magadan**	**13.14**	**356**	*e*PN		**Pn**	**11 43 06.8**	**+1.5**
MA2				pmax	pmax			
	comp=Z,40nm,0.5s							
MJAR	**Matsushiro Ar**	**14.63**	**232**	Pn		**Pn**	**11 43 24.3**	**-0.9**
	baz=334,slow=9.3,SNR=2.1							
MDJ	**Mudanjiang**	**16.20**	**272**	*e*P		**Pn**	**11 43 43.5**	**-1.8**
	comp=Z,38nm,0.7s							
YAK	**Yakutsk**	**20.34**	**328**	*e*P		**P**	**11 44 30.0**	**-3.1**
YAK				pmax	pmax			
	comp=Z,149nm,0.5s							
YAK	**Yakutsk**	**20.34**	**328**	*e*P		**P**	**11 44 30.0**	**-3.1**
	comp=Z,149nm,0.5s							
KSRS	**Korea Array**	**20.37**	**253**	P		**P**	**11 44 33.9**	**+0.4**
	comp=Z,11nm,0.8s,baz=56,slow=11,SNR=5.5							
INCN	**Inchon**	**21.21**	**254**	*e*P		**P**	**11 44 45.7**	**+3.3**
	comp=Z,205nm,1.6s,mb5.2							
BILL	**Bilibino**	**22.72**	**13**	P		**P**	**11 44 59.2**	**+0.7**
BILL	**Bilibino**	**22.72**	**13**	P		**P**	**11 44 59.2**	**+0.6**
BJT	**Baijiatuan**	**27.12**	**269**	*e*P		**P**	**11 45 42.1**	**+2.9**
NJ2	**Nanjing**	**29.57**	**253**	*e*P		**P**	**11 46 06.8**	**+5.8**
NJ2				AP	pP		11 46 11.1	-3.7
NJ2				XP	sP		11 46 17.6	-3.7
NJ2				PP	PP		11 47 01.6	-6.9
NJ2				AMB	AMB			
	comp=Z,890nm,4.6s							
SONM	**Songino Array**	**31.07**	**290**	P		**P**	**11 46 14.3**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.3,baz=66,slow=15,SNR=2.7							
SONM	**Songino Array**	**31.07**	**290**	P		**P**	**11 46 14.3**	**+0.1**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KDAK	**Kodiak Island**	**34.55**	**51**	P		**P**	**11 46 39.4**	**-5.2**
	comp=Z,22nm,0.9s,mb5.1,baz=272,slow=10,SNR=5.0							
LZH	**Lanzhou**	**37.53**	**272**	*e*P		**P**	**11 47 10.9**	**+0.8**
LZH				AP	pP		11 47 15.3	-8.8
LZH				XP	sP		11 47 18.6	-12
LZH				AMB	AMB			
	comp=Z,110nm,1.0s,mb5.5							
LZH				AMB	AMB			
	comp=Z,614nm,5.0s							
CD2	**Chengdu**	**40.49**	**265**	*e*P		**P**	**11 47 34.9**	**+0.1**
CD2				AMB	AMB			
	comp=Z,210nm,1.0s,mb5.8							
INK	**Inuvik**	**42.06**	**32**	P		**P**	**11 47 46.0**	**-1.7**
	comp=Z,6.9nm,0.5s,mb4.5,baz=111,slow=26,SNR=6.5							
INK	**Inuvik**	**42.06**	**32**	P		**P**	**11 47 46.0**	**-1.7**
INK				pmax	pmax			
	comp=Z,7.0nm,0.5s							
ZAL	**Zalesovo**	**42.48**	**306**	P		**P**	**11 47 50.1**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.3,baz=107,slow=23,SNR=4.8							
ZAL	**Zalesovo**	**42.48**	**306**	P		**P**	**11 47 50.1**	**-1.0**
ZAL				pmax	pmax			
	comp=Z,7.0nm,0.8s							

MKAR Makanchi Array 46.73 297 P **P** 11 48 24.2 -0.8
comp=Z,19nm,0.8s,mb5.1,baz=45,slow=5.1,SNR=6.0
MKAR Makanchi Array 46.73 297 P **P** 11 48 24.2 -0.8
MKAR pmax pmax
comp=Z,19nm,0.8s
KURK Kurchatov 47.20 304 *e*P **P** 11 48 27.6 -1.0
LSA Lhasa 49.92 273 *e*P **P** 11 48 51.7 +2.2
LSA pmax pmax
comp=Z,38nm,1.0s,mb5.4
LSA Lhasa 49.92 273 *e*P **P** 11 48 51.7 +2.2
comp=Z,38nm,1.0s,mb5.4
BVAR Borovoye Array 50.73 309 P **P** 11 48 55.0 -0.7
comp=Z,19nm,0.6s,mb5.2,baz=39,slow=7.2,SNR=10
BVAR Borovoye Array 50.73 309 P **P** 11 48 55.0 -0.7
BVAR pmax pmax
comp=Z,19nm,0.6s
ZRNK Zerenda 51.51 310 *e*P **P** 11 49 00.8 -0.7
ZRNK pmax pmax
comp=Z,17nm,0.6s,mb5.2
ZRNK Zerenda 51.51 310 *e*P **P** 11 49 00.8 -0.6
comp=Z,17nm,0.6s,mb5.1
AAK Ala-Archa 53.62 296 *e*P **P** 11 49 16.6 -0.5
AAK pmax pmax
comp=Z,46nm,0.9s,mb5.4
AAK Ala-Archa 53.62 296 *e*P **P** 11 49 16.6 -0.5
comp=Z,46nm,0.9s,mb5.4
ARCES ARCESS Array B 57.97 341 P **P** 11 49 47.1 -1.1
comp=Z,7.9nm,0.6s,mb4.9,baz=40,slow=7.5,SNR=8.6
WVOR Wild Horse Val 60.20 59 *e*P **P** 11 50 12.3 +8.6
LOF Lofoten 61.64 344 *e*P **P** 11 50 14.3 +0.9
LOF AMb AMB 11 50 22.1
comp=Z,187nm,1.3s,mb6.1
LOF Lofoten 61.64 344 *e*P **P** 11 50 14.3 +0.9
comp=Z,187nm,1.3s,mb6.1
FINES FINESS Array B 64.11 335 P **P** 11 50 28.9 -1.0
comp=Z,13nm,0.6s,mb5.2,baz=38,slow=7.3,SNR=12
DUG Dugway 65.02 57 *e*P **P** 11 50 45.1 +9.3
MPU Maple Canyon 65.82 57 *e*P **P** 11 50 49.4 +8.4
comp=Z,11nm,0.9s,mb4.9
SRU San Rafael 67.06 57 *e*P **P** 11 50 57.5 +8.6
SRU pmax pmax
comp=Z,13nm,0.9s,mb5.0
SRU San Rafael 67.06 57 *e*P **P** 11 50 57.5 +8.6
comp=Z,13nm,0.9s,mb5.0
WRA Warramunga Arr 68.16 198 P **P** 11 50 52.4 -3.3
comp=Z,2.4nm,0.9s,mb4.2,baz=14,slow=6.7,SNR=3.5
NB2 NORSAR Subarra 68.35 341 P **P** 11 50 56.1 -0.9
comp=Z,12nm,0.5s,mb5.2,baz=28,slow=6.2
NOA NORSAR Array B 68.35 341 P **P** 11 50 56.2 -0.7
comp=Z,15nm,0.4s,mb5.3,baz=28,slow=6.4,SNR=11
BORG Borgarnes 68.99 357 *e*P **P** 11 51 03.3 +2.3
comp=Z,289nm,1.7s,mb5.9
AKASG Malin Array Be 71.55 326 P **P** 11 51 15.8 -0.8
comp=Z,31nm,0.4s,mb5.5,baz=36,slow=6.4,SNR=33
AKASG Malin Array Be 71.55 326 P **P** 11 51 15.8 -0.8
AKBB Malin Array Si 71.55 326 *e*P **P** 11 51 15.9 -0.7
ASAR Alice Springs 71.85 198 P **P** 11 51 16.6 -1.9
comp=Z,1.7nm,0.6s,mb4.1,baz=11,slow=5.2,SNR=4.5
ASAR Alice Springs 71.85 198 P **P** 11 51 16.6 -1.8
ASAR pmax pmax
comp=Z,2.0nm,0.6s
SCHQ Schefferville 73.68 23 P **P** 11 51 26.8 -2.5
comp=Z,7.7nm,0.9s,mb4.6,baz=227,slow=19,SNR=2.0
WSAR Wadi Sarin 76.12 289 P **P** 11 51 45.1 +1.7
comp=Z,6.7nm,0.8s,mb4.6,baz=124,slow=3.6,SNR=7.0
CLL Collm 76.54 335 *i* P **P** 11 51 44.6 -1.1
comp=Z,45nm,1.1s,mb5.3
PSZ Piszkesteto 77.29 330 P **P** 11 51 51.9 +1.9
BRTR Keskin Array B 78.32 316 P **P** 11 51 56.3 +0.6
comp=Z,14nm,0.9s,mb4.9,baz=77,slow=2.8,SNR=7.1
GERES GERESS Array B 78.52 334 P **P** 11 51 56.6 -0.2
comp=Z,7.5nm,0.7s,mb4.7,baz=37,slow=5.8,SNR=11
BEBN Eben Emael 78.96 339 P **P** 11 51 59.6 +0.5
MEM Membach 79.05 339 P **P** 11 51 59.3 -0.4
BCLA Clavier 79.40 339 P **P** 11 52 01.6 +0.1
CDF Champ du Feu 80.75 337 *e*P **P** 11 52 08.8 -0.1
comp=Z,101nm,1.3s,mb5.3
CDF Champ du Feu 80.75 337 *e*P **P** 11 52 08.8 -0.1
CDF pmax pmax
comp=Z,51nm,1.3s,mb5.3
CDF Champ du Feu 80.75 337 *e*P **P** 11 52 08.8 -0.1
comp=Z,51nm,1.3s,mb5.3
ASF Jabal al Asfar 82.57 310 P **P** 11 52 19.4 +0.9
comp=Z,7.5nm,0.8s,mb4.8,baz=251,slow=3.4,SNR=3.2
GRR Gorron 82.70 343 *e*P **P** 11 52 18.8 -0.3
comp=Z,253nm,1.5s,mb5.7
GRR Gorron 82.70 343 *e*P **P** 11 52 18.8 -0.3
GRR pmax pmax
comp=Z,127nm,1.5s,mb5.7
GRR Gorron 82.70 343 *e*P **P** 11 52 18.8 -0.3
comp=Z,127nm,1.5s,mb5.7
SMF Signal de Mont 83.27 339 *e*P **P** 11 52 22.0 -0.1
comp=Z,29nm,0.5s,mb5.2
SMF Signal de Mont 83.27 339 *e*P **P** 11 52 22.0 -0.1
SMF pmax pmax
comp=Z,14nm,0.5s,mb5.2
SMF Signal de Mont 83.27 339 *e*P **P** 11 52 22.0 -0.1
comp=Z,14nm,0.5s,mb5.3
LPG La Plagne 83.57 337 *e*P **P** 11 52 24.5 +0.9
comp=Z,21nm,0.6s,mb5.2
LPG La Plagne 83.57 337 *e*P **P** 11 52 24.5 +0.9
LPG pmax pmax
comp=Z,11nm,0.6s,mb5.2
LPG La Plagne 83.57 337 *e*P **P** 11 52 24.5 +0.9
comp=Z,10nm,0.6s,mb5.1
CAF Calviac 85.31 339 *e*P **P** 11 52 32.8 +0.4
comp=Z,43nm,0.8s,mb5.3
CAF Calviac 85.31 339 *e*P **P** 11 52 32.8 +0.4
CAF pmax pmax
comp=Z,22nm,0.8s,mb5.3
CAF Calviac 85.31 339 *e*P **P** 11 52 32.8 +0.4
comp=Z,22nm,0.8s,mb5.3
TORD Torodi Ar. Bea 115.12 328 PKiKP PKiKP 11 58 35.2 -1.2
comp=Z,6.4nm,0.8s,baz=218,slow=1.3,SNR=8.0
CFAA Coronel Fontan 145.40 79 PKPbc PKPbc 11 59 29.4 -3.7
comp=Z,1.0nm,0.6s,baz=303,slow=5.2,SNR=5.4
SNAA Sanae 152.21 196 PKPbc PKPbc 11 59 46.6 -4.2
comp=Z,3.1nm,0.9s,baz=218,slow=7.4,SNR=3.6
SNAA Sanae 152.21 196 PKIKP PKPdf 11 59 46.6 +2.5
SNAA pmax pmax
comp=Z,3.0nm,1.0s

*SKHL **15** 11:40:49.5±0.8, 4612N×155.11E, h58km±27km, mb6.5/5*
*NIC **15** 11:40:53.5±0.5, 4649N×154.78E, h10km, Earthquake East of the Kuril Islands 210 km SE Sarychevo.*
*IDC **15** 11:40:53.4±0.3, 4646N×154.76E, h0km, mb6.0/35, mb1 6.1/38, mb1mx6.1/38, mbtmp6.0/38, ML5.3/3, Error ellipse: s-maj=11.6km s-min=8.9km az=132.0*
*ISCJB **15** 11:40:53.4±0.1, 4639N±002×15472E±002, h10km, mb6.3/349, MS7.0/2, Error ellipse: s-maj=3.2km s-min=1.6km az=154.3*
*MOS **15** 11:40:54.6±0.9, 4644N×154.73E, h18km, mb6.6/119, Error ellipse: s-maj=6.7km s-min=3.5km az=102.1*
*NEIC **15** 11:40:55.0±0.1, 4648N×154.73E, h10km, mb6.4/249, Error ellipse: s-maj=3.3km s-min=2.5km az=172.0*
*GCMT **15** 11:40:55.1±0.6, 4647N×154.83E, h23km±1km, MW6.7/60, Moment Tensor Solution. s15,c16; s60,c93; Duration: 5s4 Moment tensor: Scale 10^19Nm; Mrr-1.47±.13; Mθθ 0.72±.08; Mφφ 0.74±.08; Mrθ -0.19±.11; Mφθ 0.44±.03; Mφr 0.27±.12; Best double couple: Mo1.35400×10^19 NP1:φs54.00000°, δ45.00000°, λ-76.00000°. NP2: φs214.00000°, δ47.00000°, λ-104.00000°. Principal axes: T 1.1780, Plg1.0000°, Azm314.0000°; N 0.3540, Plg10.0000°, Azm223.0000°; P -1.5290, Plg80.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **15** 11:40:56.0, 4659N×154.28E, h10km, mb6.2*
*BGS **15** 11:40:56.5, 4648N×154.73E, h10km, mb6.4*
*JMA **15** 11:40:57.1±0.9, 4664N×154.54E, h30km, M6.6 JMA Felt I J1.*
*SZGRF **15** 11:41:02.1, 4697N×154.69E, h33km, mb6.5, East of Kuril Islands, Russia*

ISC 15 11:40:55.0±0.9, 4652N±002×15463E±002, h8km±5km, h18km±1.9km:pP-P, n1583, σ0§94/1581, mb6.3/349, MS7.0/2, 160C-258D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.89**	**257**	*e*P		**Pn**	**11 42 04.0**	**-4.9**
KUR				AMB	AMB		11 42 11.0	
	16μm,0.9s							

KUR eS Sn 11 43 00.5 -5.2
PET Petropavlovsk 7.01 20 ePN Pn 11 42 35.4 -2.5
PET pmax pmax
comp=Z,870nm,0.7s
PET Petropavlovsk 7.01 20 ePn Pn 11 42 35.2 -2.7
NEM2 Nemuro 2 7.05 247 P Pn 11 42 36.9 -1.6
NEM2 eS Sn 11 43 51.9 -6.9
JRA Rausu 7.19 252 P Pn 11 42 41.1 +0.6
JRA eS Sn 11 43 59.6 -2.7
JNK Nakash 7.61 251 P Pn 11 42 46.3 +0.2
JNK eS Sn 11 44 06.8 -5.7
JAK Akkeshi 7.90 247 eS Sn 11 44 11.6 -8.1
JTKR Abashiri--Toko 7.98 255 P Pn 11 42 52.0 +0.7
JTKR eS Sn 11 44 21.9 +0.1
YSS Yuzh-Sakhalins 8.17 277 eP Pn 11 42 57.0 +3.1
YSS AMB AMB 11 42 59.0
comp=Z,340nm,0.9s
YSS Yuzh-Sakhalins 8.17 277 ePn Pn 11 42 57.5 +3.7
comp=Z,2µm,0.8s
JMP Maruseppu 8.34 257 P Pn 11 42 57.4 +1.2
JAR Ashorobuto 8.36 251 P Pn 11 42 56.7 +0.3
JAR eS Sn 11 44 28.1 -2.8
JOB Onbets 8.49 249 P Pn 11 42 58.2 -0.1
JOB eS Sn 11 44 27.2 -7.2
JSE Soyaes 8.57 264 P Pn 11 43 02.8 +3.4
JSE eS Sn 11 44 37.7 +1.5
JKK2 Kamakawa 2 8.80 257 P Pn 11 43 03.7 +1.2
ASAJ Asahikawa 8.81 259 Pn Pn 11 43 02.0 -0.6
comp=Z,82nm,0.3s,baz=99,slow=14,SNR=15
ASAJ Asahikawa 8.81 259 P Pn 11 43 04.9 +2.2
ASAJ Asahikawa 8.81 259 PN Pn 11 43 02.1 -0.6
ASAJ pmax pmax
comp=Z,82nm,0.3s
UGL Uglegorsk 8.84 291 eP Pn 11 43 08.0 +5.0
UGL AMB AMB 11 43 13.0
comp=Z,580nm,0.8s
UGL AMB AMB 11 43 13.0
comp=Z,260nm,0.8s
UGL AMB AMB 11 43 13.0
comp=Z,1µm,0.8s
UGL AMB AMB 11 43 14.0
comp=Z,2µm,0.8s
JCH Churui 8.94 248 P Pn 11 43 03.5 -0.9
JCH eS Sn 11 44 37.8 -7.5
JWK2 Keihoku 8.96 267 P Pn 11 43 10.4 +5.7
JFR Furan 9.19 253 P Pn 11 43 09.3 +1.5
JFR eS Sn 11 44 49.3 -2.0
JSS Shosan 9.23 261 P Pn 11 43 13.0 +4.6
JAB Ashibetsu 9.29 256 P Pn 11 43 11.1 +1.9
ERM Erimo 9.38 245 Pn Pn 11 43 10.7 +0.2
comp=Z,9µm,0.5s,SNR=7.8
ERM Erimo 9.38 245 ePN Pn 11 43 11.4 +0.9
ERM Erimo 9.38 245 eP Pn 11 43 11.5 +1.0
JEM Erimo 9.38 245 P Pn 11 43 09.9 -0.6
JEM eS Sn 11 44 49.8 -6.3
JNBK Urakawa-nobuka 9.50 248 P Pn 11 43 12.1 0.0
JNBK eS Sn 11 44 51.3 -7.7
JBT2 Biratori 2 9.51 251 P Pn 11 43 11.8 -0.4
JBT2 eS Sn 11 44 52.6 -6.7
JHR Hokuryu 9.54 258 P Pn 11 43 16.8 +4.2
JEW Eniwo 10.08 253 P Pn 11 43 21.2 +1.1
JEW eS Sn 11 45 11.2 -2.2
OKH Okha 10.29 317 *i* P Pn 11 43 22.2 -0.7
OKH AMB AMB 11 43 25.1
comp=Z,4µm,1.0s
OKH eS Sn 11 45 16.1 -2.4
OKH A 11 45 19.2
comp=Z,2µm,1.0s
JNB Noboribetsu 10.52 252 P Pn 11 43 25.2 -0.9
JNB eS Sn 11 45 17.5 -6.6
JSK Shakotan 10.52 258 P Pn 11 43 27.4 +1.3
JKB Kayabe 10.80 249 P Pn 11 43 27.7 -2.2
JKB eS Sn 11 45 19.7 -11
JSH Shimam 11.10 255 P Pn 11 43 34.0 0.0
JYM2 Yakumo 2 11.12 252 ⇑P Pn 11 43 33.3 -1.0
JYM2 eS Sn 11 45 32.6 -6.3
NKL Nikolayevsk 11.18 311 eP Pn 11 43 35.0 0.0
NKL AMB AMB 11 43 40.5
comp=Z,3µm,1.8s
NKL AMB AMB 11 43 40.5
comp=Z,5µm,1.8s
JANG Nango 11.34 242 P Pn 11 43 33.1 -4.1
JANG eS Sn 11 45 30.3 -14
JTM Tenmabayashi 11.37 245 P Pn 11 43 34.7 -3.0
JTM eS Sn 11 45 33.0 -12
JSR Shiriuchi 11.38 249 P Pn 11 43 35.2 -2.6
JSR eS Sn 11 45 34.9 -10
JTH Tanohata 11.39 239 P Pn 11 43 33.6 -4.5
JTH eS Sn 11 45 30.5 -15
JOSM Okushiri--Mats 11.73 253 P Pn 11 43 41.3 -1.3
JOSM eS Sn 11 45 45.5 -8.2
OFUJ Ofunato 12.07 237 P Pn 11 43 43.5 -3.8
OFUJ eS Sn 11 45 48.0 -14
JRG Rokugo 12.47 240 P Pn 11 43 49.7 -3.1
JRG eS Sn 11 46 00.1 -12
JOG2 Oga 2 12.67 244 P Pn 11 43 52.3 -3.2
JOG2 eS Sn 11 46 07.6 -9.1
JIO Ouri 12.68 235 P Pn 11 43 51.8 -3.8
JIO eS Sn 11 46 02.3 -15
MA2 Magadan 13.28 351 ePN Pn 11 44 04.3 +0.5
MA2 pmax pmax
comp=Z,300nm,0.6s
MA2 pmax pmax
comp=N,100nm,0.5s
MA2 Magadan 13.28 351 ePn Pn 11 44 04.3 +0.5
comp=N,306nm,0.7s
HABR Khabarovsk 13.38 286 ePN Pn 11 44 07.3 +2.1
JYA Atsumi 13.54 240 P Pn 11 44 05.2 -2.1
JYA eS Sn 11 46 27.9 -10
JFK Kawauchi 13.71 233 P Pn 11 44 05.5 -4.2
JFK eS Sn 11 46 26.6 -16
SMY Shemya 14.04 57 eP Pn 11 44 13.5 -0.7
SMY pmax pmax
comp=Z,330nm,0.5s
SMY Shemya 14.04 57 eP Pn 11 44 13.5 -0.7
comp=Z,330nm,0.5s
JFY Yanaizu 14.34 236 P Pn 11 44 15.5 -2.8
JFY eS Sn 11 46 47.9 -10
MAJO Matsushiro 15.80 237 eP Pn 11 44 34.7 -3.1
MAJO pmax pmax
comp=Z,2µm,1.1s
MAJO Matsushiro 15.80 237 eP Pn 11 44 34.7 -3.1
comp=Z,2µm,1.1s
MAT Matsushiro 15.80 237 P Pn 11 44 33.9 -3.9
MJAR Matsushiro Arr 15.80 237 Pn Pn 11 44 35.5 -2.3
comp=Z,5.5nm,0.3s,baz=27,slow=13,SNR=19
SEY Seymchan 16.50 356⇑ eP Pn 11 44 44.6 -2.1
JHJ Hachijo jima 2 17.54 226 P Pn 11 44 59.6 -0.3
comp=Z,15nm,0.3s,baz=91,slow=9.3,SNR=6.1
JHJ S Sn 11 47 59.0 -16
comp=Z,76nm,0.3s,baz=33,slow=24,SNR=5.3
MDJ Mudanjiang 17.62 273 P Pn 11 45 00.9 +0.1
MDJ AMB AMB
comp=Z,865nm,1.8s
MDJ Mudanjiang 17.62 273 eP Pn 11 45 01.7 +0.9
comp=Z,1µm,1.1s
ZEA Zeya 18.89 302 eP Pn 11 45 14.0 -2.5
ZEA AMB AMB 11 45 15.5
comp=Z,820nm,1.4s
ZEA AMB AMB 11 45 15.5
comp=Z,290nm,1.2s
ZEA AMB AMB 11 45 15.5
comp=Z,370nm,1.2s
CN2 Changchun 20.70 273 eP P 11 45 33.8 -1.8
YAK Yakutsk 21.08 326 eP P 11 45 37.3 -2.4
YAK eS S 11 49 28.2 -6.3
YAK eSS 11 49 48.4
YAK eSSS 11 50 04.4
YAK pmax pmax
comp=Z,1µm,1.3s,mb6.0
YAK pmax pmax
comp=N,704nm,1.4s
YAK pmax pmax
comp=E,936nm,1.4s
YAK smax
comp=N,701nm,1.1s
YAK smax
comp=E,441nm,1.2s
YAK MLR MLR
comp=Z,216µm,11.0s,MS6.8
YAK MLR MLR
comp=N,105µm,10.0s,MS6.9
YAK MLR MLR
comp=E,312µm,14.0s,MS6.9
YAK Yakutsk 21.08 326 eP P 11 45 38.7 -1.0
comp=E,636nm,0.6s,mb6.1
KSRS Korea Array 21.74 255 P P 11 45 48.7 +1.9
comp=E,340nm,0.8s,mb5.8,baz=55,slow=10,SNR=36
CBIJ Chichi jima 21.75 211 P P 11 45 48.1 +1.2
comp=E,608nm,0.7s,mb6.1,baz=64,slow=11,SNR=9.5
CBIJ S S 11 49 36.5 -11
comp=E,124nm,0.7s,baz=113,slow=22,SNR=4.1
BILL Bilibino 22.39 11 eP P 11 45 54.4 +0.6
BILL pmax pmax
comp=Z,2µm,1.7s,mb6.3
BILL Bilibino 22.39 11 eP P 11 45 52.4 -1.3
JNU Nakatsue 22.52 242 P P 11 45 56.0 +0.8
comp=Z,438nm,1.0s,mb5.8,baz=260,slow=22,SNR=15
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.4 +1.6
SNR=60
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 P P 11 45 57.9 +2.1
SNR=33
INCN Inchon 22.58 256 eP P 11 45 58.6 +2.8
comp=Z,2µm,1.0s,mb6.5
SNY Shenyang 22.68 269 ⇑P P 11 45 56.9 +0.1
SNY AMB AMB
comp=Z,928nm,0.9s,mb6.2
HIA Hailar 23.43 290 eP P 11 46 02.8 -1.9
HIA pmax pmax
comp=Z,490nm,1.2s
HIA Hailar 23.43 290 eP P 11 46 02.8 -2.0
comp=Z,490nm,1.2s,mb5.8
DL2 Dalian 25.28 264 P P 11 46 24.8 +3.1
DL2 S S 11 50 51.3 +3.6
DL2 AMB AMB
comp=Z,700nm,0.9s,mb6.2
UNV Unalaska Valle 25.68 59 eP P 11 46 21.9 -3.5
comp=Z,615nm,1.1s,mb6.0
BOD Bodaibo 26.94 310 eP P 11 46 35.4 -1.4
BOD pmax pmax
comp=Z,678nm,1.2s,mb6.0
TNA Tin City 27.65 33 eP P 11 46 42.3 -0.9
comp=Z,418nm,2.0s,mb5.7
BJI Beijing 28.52 271 eP P 11 46 56.1 +5.1
BJI pmax pmax
comp=Z,718nm,1.0s,mb6.4
BJI MLR MLR
comp=Z,563µm,17.1s,MS7.2
BJI Beijing 28.52 271 eP P 11 46 56.1 +5.1
comp=Z,718nm,1.0s,mb6.4
BJI LR LR
comp=Z,563µm,17.1s,MS7.2
BJT Baijiatuau 28.54 271 eP P 11 46 54.8 +3.7
BJT pmax pmax
comp=Z,634nm,0.9s
BJT Baijiatuau 28.54 271 eP P 11 46 54.8 +3.7
comp=Z,634nm,0.9s,mb6.3
JOW Kunigami 28.64 236 P P 11 46 52.0 0.0
comp=Z,234nm,1.0s,mb5.9,baz=44,slow=8.3,SNR=14
TIA Tai'an 29.72 263 eP P 11 47 02.6 +1.0
TIA S S 11 52 00.5 +2.7
NJ2 Nanjing 30.94 255 eP P 11 47 13.8 +1.4
NJ2 AP pP 11 47 17.1 +2.3
NJ2 XP sP 11 47 21.6 +5.8
NJ2 PP PP 11 48 15.6 -6.5
NJ2 S S 11 52 15.5 -1.4
NJ2 XS sS 11 52 23.0 +2.2
NJ2 AMB AMB
comp=Z,560nm,0.7s,mb6.5
HHC Hu-ho-hao-te 31.35 275 eP P 11 47 17.5 +1.5
HHC XP sP 11 47 25.1 +5.7
HHC PP PP 11 48 22.3 -4.4
HHC AMB AMB
comp=Z,481nm,1.1s,mb6.2
SONM Songino Array 32.39 290 P P 11 47 25.9 +0.7
comp=Z,43nm,0.7s,mb5.4,baz=54,slow=4.2,SNR=17
IRK Irkutsk 32.72 299 eP P 11 47 28.1 +0.1
IRK pmax pmax
comp=Z,251nm,1.2s,mb6.0
TLY Talaya 33.21 298 P P 11 47 31.0 -1.3
comp=Z,2µm,1.5s,mb6.9,SNR=15
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
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TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 P P 11 47 33.6 +1.3
SNR=18
TLY Talaya 33.21 298 eP P 11 47 31.9 -0.4
TLY *e* 11 47 42.1
TLY pmax pmax
comp=Z,341nm,0.9s,mb6.3
TLY Talaya 33.21 298 eP P 11 47 31.4 -0.9
comp=Z,592nm,1.1s,mb6.4
KDAK Kodiak Island 33.44 51 P P 11 47 33.3 -1.0
comp=Z,2µm,1.0s,mb6.9,SNR=11
KDAK Kodiak Island 33.44 51 P P 11 47 33.5 -0.8
comp=Z,223nm,0.8s,mb6.1,baz=288,slow=4.1,SNR=14
KDAK Kodiak Island 33.44 51 P P 11 47 33.5 -0.8
ZAK Zakamensk 33.72 296 eP P 11 47 35.8 -1.0
ZAK *e* 11 50 15.1
ZAK pmax pmax
comp=Z,204nm,1.4s,mb5.9
GUMO Guam 33.84 197 P P 11 47 36.5 -1.3
comp=Z,134nm,0.8s,mb5.9,baz=64,slow=6.1,SNR=5.0
GUMO Guam 33.84 197 eP P 11 47 36.1 -1.7
GUMO pmax pmax
comp=Z,317nm,1.3s,mb6.1
GUMO Guam 33.84 197 eP P 11 47 36.1 -1.8
comp=Z,317nm,1.3s,mb6.1
SLKM Skilak Lake 34.53 46 eP P 11 47 42.3 -1.5
MOY Mondy 34.83 299 eP P 11 47 47.2 +0.9
WHN Wuhan 34.89 257 ⇑P P 11 47 47.5 +0.6
PMR Palmer 35.04 44 eP P 11 47 46.8 -1.4
PMR pmax pmax
comp=Z,260nm,1.2s,mb6.0
PMR Palmer 35.04 44 eP P 11 47 46.9 -1.3
comp=Z,274nm,1.5s,mb6.0
MCK McKinley 35.15 40 eP P 11 47 47.3 -1.9
MCK pmax pmax
comp=Z,220nm,1.2s,mb6.0
MCK McKinley 35.15 40 eP P 11 47 47.3 -1.8
comp=Z,224nm,1.2s,mb6.0
COLA College 35.67 38 eP P 11 47 52.3 -1.3
COLA pmax pmax
comp=Z,670nm,1.2s,mb6.5
COLA College 35.67 38 eP P 11 47 52.3 -1.3
comp=Z,668nm,1.3s,mb6.4
QZH Quanzhou 35.88 246⇑ *i*P P 11 47 56.5 +1.1
QZH PCP PcP 11 50 24.4 +1.8
QZH AMB AMB
comp=Z,3µm,1.8s,mb6.8
DIV Divide 36.68 44 eP P 11 48 00.4 -1.8
comp=Z,793nm,1.2s,mb6.4
EYAK Cordova Ski Ar 36.74 45 eP P 11 48 01.7 -1.0
MENT Mentasta 37.52 41 eP P 11 48 10.2 +0.8
EGAK Eagle 38.53 38 eP P 11 48 16.1 -1.8
comp=Z,552nm,0.3s,mb6.8
LZH Lanzhou 38.94 273⇑ P P 11 48 23.8 +2.4
LZH AP pP 11 48 28.3 +4.5
LZH XP sP 11 48 32.5 +7.7
LZH PP PP 11 49 53.5 +3.0
LZH S **S** **11 54 20.3 +0.3**
LZH XS sS 11 54 25.9 +1.9
LZH AMB AMB
comp=Z,690nm,1.2s,mb6.3
LZH Lanzhou 38.94 273⇑ P P **11 48 23.8 +2.4**
LZH *PP pP 11 48 28.2 +4.4
LZH *SP sP 11 48 32.5 +7.7
LZH 11 49 53.5
LZH S **S** **11 54 20.3 +0.3**
LZH *SS sS 11 54 25.9 +1.9
LZH pmax pmax
comp=Z,690nm,1.2s,mb6.3
LZH Lanzhou 38.94 273⇑ P P **11 48 23.8 +2.4**
comp=Z,690nm,1.2s,mb6.3
LZH pP pP 11 48 28.2 +4.4
LZH sP sP 11 48 32.5 +7.7
LZH PP PP 11 49 53.5 +3.0
LZH S **S** **11 54 20.3 +0.3**
LZH sS sS 11 54 25.9 +1.9
DAWY Dawson 39.35 39 eP P **11 48 24.1 -0.8**
APYP Conner 39.68 235 eP P **11 48 25.4 -2.1**
GTA Gaotai 40.04 280 eP P **11 48 32.8 +2.3**
GTA AP pP 11 48 39.4 +6.4
GTA XP sP 11 48 43.0 +9.1
GTA PP PP 11 50 10.0 +7.5
GTA PPP 11 50 36.3
GTA S **S** **11 54 38.5 +2.0**
GTA XS sS 11 54 50.3 +10
GTA AMB AMB
comp=Z,702nm,1.3s,mb6.2
INK Inuvik 41.28 32 P P **11 48 40.7 -0.1**
comp=Z,290nm,0.8s,mb5.9,baz=277,slow=6.6,SNR=41
INK Inuvik 41.28 32 P P **11 48 40.6 -0.2**
INK pmax pmax
comp=Z,370nm,1.0s
PVCP Virac 41.62 228 eP P **11 48 42.5 -1.1**
CD2 Chengdu 41.91 267 eP P **11 48 46.3 +0.4**
CD2 S **S** **11 55 05.0 +0.7**
CD2 AMB AMB
comp=Z,2µm,1.1s,mb6.6
SKAG Skagway 42.08 46 eP P **11 48 48.2 +0.9**
comp=Z,281nm,1.2s,mb5.8
CNP Catarman 42.28 226 eP P **11 48 48.9 -0.1**
GYA Guiyang 42.69 259⇑ *i*P P **11 48 53.8 +1.5**
GYA AP pP 11 49 01.6 +6.8
GYA XP sP 11 49 04.8 +9.0
GYA PP PP 11 50 36.6 +5.3
GYA PCP PcP 11 50 46.9 +2.8
GYA SCP ScP 11 54 35.1 -0.2
GYA S **S** **11 55 16.8 +0.9**
GYA XS sS 11 58 28.3 +8.4
GYA SS SS 11 58 20.8 -5.4
GYA SCS ScS 11 58 52.3 -1.7
GYA AMB AMB
comp=Z,570nm,1.0s,mb6.3
TGY Tagaytay City 42.90 232 P P **11 48 54.8 +0.8**
comp=Z,103nm,0.3s,baz=164,slow=6.2,SNR=14
ZAL Zalesovo 43.60 306 P P **11 48 58.5 -1.2**
comp=Z,169nm,1.1s,mb5.7,baz=41,slow=9.9,SNR=21
OTRP Odiongan 43.76 230 eP P **11 49 00.0 -0.9**
RCP Roxas 44.06 228‖ eP P **11 49 04.7 +1.3**
MSLP Maasin 44.23 224 eP P **11 49 03.7 -1.0**
SCPH Surigao 44.23 223 eP P **11 49 05.0 +0.3**
CRAG Craig 44.40 51 eP P **11 49 06.9 +0.9**
comp=Z,368nm,1.2s,mb6.0
WRAK Wrangell Islan 44.49 49 eP P **11 49 07.0 +0.2**
comp=Z,225nm,1.0s,mb5.8
LLP Lapu-Lapu 44.51 226‖ eP P **11 49 07.5 +0.5**
GUIM Jordan 44.93 228 eP P **11 49 09.4 -1.0**
DLBC Dease Lake 45.00 46 eP P **11 49 11.8 +0.9**
BUSP Coron 45.03 231 eP P **11 49 10.0 -1.1**
CUYO Cuyo Island 45.56 230 eP P **11 49 14.5 -0.8**
SNPH Sibulan 45.70 226 eP P **11 49 17.5 +1.0**
QIZ Qiongzhong 45.73 249 ‖P P **11 49 18.3 +1.6**
QIZ S **S** **11 56 02.9 +2.8**
QIZ AMB AMB
comp=Z,149nm,2.3s,mb5.5
QIZ Qiongzhong 45.73 249 eP P **11 49 18.3 +1.7**
comp=Z,647nm,2.0s,mb6.2
WMQ Urumqi 45.98 292⇑ *i*P P **11 49 21.3 +2.7**
WMQ AP pP 11 49 28.3 +7.2
WMQ XP sP 11 49 31.8 +10
WMQ PCP PcP 11 50 57.9 +2.6
WMQ PP PP 11 51 09.3 +2.9
WMQ PPP 11 51 53.0
WMQ SCP ScP 11 54 48.3 -0.4
WMQ S **S** **11 56 03.9 +0.2**
WMQ XS sS 11 56 16.4 +8.6
WMQ AMB AMB
comp=Z,451nm,1.1s,mb6.3
BUKP Musuan 46.09 223 eP P **11 49 18.4 -1.2**
KMI Kunming 46.23 261 P P **11 49 21.3 +0.7**
KMI AMB AMB
comp=Z,210nm,2.0s,mb5.7
KMI Kunming 46.23 261 P P **11 49 21.3 +0.7**
comp=Z,210nm,2.0s,mb5.7
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 P P **11 49 24.0 +0.8**
SNR=18
DAV Davao City (W) 46.56 222 eP P **11 49 23.9 +0.6**
comp=Z,366nm,0.8s,mb6.4
CTBH Cotabato--PC H 47.05 223‖ eP P **11 49 28.5 +1.4**
HKL Haleakala 47.36 106 eP P **11 49 30.7 +1.3**
PPR Puerto Princes 47.67 231 eP P **11 49 33.6 +1.7**
MK31 Makanchi Array 47.97 298 eP P **11 49 33.6 -0.6**
MKAR Makanchi Array 47.97 298 P P **11 49 34.0 -0.3**
comp=Z,347nm,1.1s,mb6.3,baz=66,slow=7.6,SNR=26
KKH Kailua Kona 48.26 107 eP P **11 49 37.1 +0.7**
KURK Kurchatov 48.36 304 P P **11 49 37.7 +0.5**
comp=Z,4µm,1.0s,mb7.4,SNR=16
KURK Kurchatov 48.36 304 P P **11 49 37.8 +0.6**
SNR=37
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 38.5 +1.3**
SNR=21
KURK Kurchatov 48.36 304 P P **11 49 36.9 -0.3**
KURK pmax pmax
comp=Z,810nm,1.0s,mb6.7
KURK Kurchatov 48.36 304 eP P **11 49 37.7 +0.5**
comp=Z,642nm,0.9s,mb6.7
POHA Pohakuloa 48.51 106 eP P **11 49 38.1 -0.3**
comp=Z,1µm,0.9s,mb6.8
KHU Kahuku 48.81 107 eP P **11 49 40.6 -0.1**
ALE Alert 49.86 6 P P **11 49 48.0 -0.7**
comp=Z,2µm,1.0s,mb7.0,SNR=16
YKA Yellowknife Ar 50.48 37 P P **11 49 52.8 -0.6**

comp=Z,188nm,0.8s,mb6.2,baz=296,slow=7.4,SNR=55
YKA **Yellowknife Ar** 50.48 37 P P 11 49 52.8 -0.6
RES **Resolute Bay** 50.72 19 eP P 11 49 55.0 -0.2
comp=Z,7µm,1.0s
LSA **Lhasa** 51.33 274 eP P 11 50 03.0 +3.2
LSA pmax pmax
comp=Z,743nm,1.0s,mb6.6
LSA **Lhasa** 51.33 274 eP P 11 50 03.0 +3.2
comp=Z,743nm,1.0s,mb6.6
BVAR **Borovoye Array** 51.81 310 P P 11 50 03.6 +0.3
comp=Z,280nm,0.8s,mb6.2,baz=54,slow=8.0,SNR=63
BRVK **Borovoye** 51.85 310 P P 11 50 03.6 -0.1
comp=Z,3µm,1.0s,mb7.2,SNR=22
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 04.1 +0.4
SNR=45
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 03.9 +0.2
SNR=13
BRVK **Borovoye** 51.85 310 P P 11 50 04.1 +0.4
SNR=45
BRVK **Borovoye** 51.85 310 P P 11 50 04.1 +0.4
SNR=45
BRVK **Borovoye** 51.85 310 P P 11 50 04.1 +0.4
SNR=45
BRVK **Borovoye** 51.85 310 eP P 11 50 03.4 -0.3
KKM **Kota Kinabalu** 52.14 232 P P 11 50 07.6 +1.7
KKM **Kota Kinabalu** 52.14 232 eP P 11 50 06.2 +0.3
C03A **Quillayute Air** 52.44 57 ⇓P P 11 50 08.2 +0.2
baz=52,SNR=8.9
IMP **Imphal** 52.50 268 *i* P P 11 50 09.0 +0.5
ZRNK **Zerenda** 52.57 311 eP P 11 50 09.1 0.0
ZRNK pmax pmax
comp=Z,319nm,0.8s,mb6.3
ZRNK **Zerenda** 52.57 311 eP P 11 50 09.1 +0.1
comp=Z,319nm,0.8s,mb6.3
PGC **Sidney** 52.72 56 eP P 11 50 09.3 -0.8
comp=Z,597nm,1.3s,mb6.4
TSM **Tawau** 52.74 229 P P 11 50 11.3 +1.0
KBS **Kingsbay** 52.88 352 eP P 11 50 11.0 -0.4
KBS **Kingsbay** 52.88 352 eP P 11 50 12.8 +1.5
KBS **Kingsbay** 52.88 352 eP P 11 50 11.3 0.0
B04A **Port Angeles** 52.99 56 P P 11 50 12.2 +0.1
baz=53,SNR=19
SPB4 **Spitsbergen Ar** 53.02 350 eP P 11 50 12.1 -0.2
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO P pP 11 50 14.7 -0.7
SNR=15
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO P pP 11 50 14.7 -0.7
SNR=15
CHTO **Chiang Mai** 53.09 258 P P 11 50 14.2 +1.3
SNR=23
CHTO **Chiang Mai** 53.09 258 eP P 11 50 14.3 +1.4
A04A **Legoe Bay, Lum** 53.10 55 ⇓P P 11 50 13.1 +0.1
baz=53,SNR=7.2
A05A **Maple Falls** 53.31 55 P P 11 50 14.9 +0.4
baz=53,SNR=23
D03A **Wishkah Elem.** 53.33 57 P P 11 50 15.4 +0.8
baz=53,SNR=11
CM31 **Chiang Mai Arr** 53.34 258 eP P 11 50 15.8 +1.1
comp=Z,30nm,0.6s,mb5.4
C04A **Brinnon** 53.48 56 P P 11 50 15.9 +0.2
baz=53,SNR=30
A06A **Chilliwack** 53.60 54 ⇑P P 11 50 16.9 +0.3
baz=53,SNR=6.8
E03A **Lebam** 53.75 58 P P 11 50 18.1 +0.4
baz=54,SNR=24
D04A **Dobbs Creek Ra** 53.89 57 ⇓P P 11 50 19.2 +0.4
baz=54,SNR=7.8
ULHL **Ulahol** 54.01 296 P P 11 50 20.2 +0.6
SNR=20
TKM2 **Tokmak 2** 54.03 297 P P 11 50 21.6 +1.8
SNR=11
E04A **Onalaska** 54.22 57 P P 11 50 21.9 +0.7
baz=54,SNR=21
C05A **Tolt Reservoir** 54.22 56 ⇓P P 11 50 20.9 -0.3
baz=54,SNR=41
A07A **Ashnola River,** 54.24 54 P P 11 50 20.6 -0.7
baz=54,SNR=31
D05A **Enumclaw** 54.32 57 P P 11 50 21.9 0.0
baz=54,SNR=38
H02A **Toledo** 54.50 60 ⇓P P 11 50 23.4 +0.2
baz=54,SNR=7.4
CHMS **Chumysh** 54.51 297 P P 11 50 24.6 +1.3
SNR=16
USP **Ospenovka** 54.52 298 P P 11 50 25.9 +2.5
SNR=22
G03A **Yamhill** 54.58 59 ⇓P P 11 50 24.1 +0.3
baz=54,SNR=12
KBK **Karagaybulak** 54.58 297 P P 11 50 25.5 +1.7
SNR=17
B07A **Winthrop** 54.70 54 P P 11 50 24.0 -0.7
baz=54,SNR=27
KZA **Kyzart** 54.71 296 P P 11 50 26.6 +1.8
SNR=23
F04A **Amboy** 54.75 58 P P 11 50 24.6 -0.4
baz=54,SNR=34
NLW **Nelson Butte** 54.78 55 P P 11 50 24.6 -0.7
E05A **Randle** 54.79 57 ⇑P P 11 50 24.7 -0.6
baz=54
AAK **Ala-Archa** 54.87 297 P P 11 50 26.1 +0.2
comp=Z,1µm,1.1s,mb6.8,SNR=11
AAK **Ala-Archa** 54.87 297 P P 11 50 29.0 +3.1
SNR=2162
AAK **Ala-Archa** 54.87 297 P P 11 50 26.4 +0.5
SNR=16
AAK **Ala-Archa** 54.87 297 P P 11 50 26.4 +0.5
SNR=16
AAK **Ala-Archa** 54.87 297 P P 11 50 26.4 +0.5
SNR=16
AAK **Ala-Archa** 54.87 297 P P 11 50 26.4 +0.5
SNR=16
AAK **Ala-Archa** 54.87 297 eP P 11 50 26.0 +0.1
AAK pmax pmax
comp=Z,136nm,1.0s,mb5.9
AAK **Ala-Archa** 54.87 297 eP P 11 50 26.0 +0.1
comp=Z,136nm,1.0s,mb5.9
A08A **Turner Farm, O** 54.91 53 P P 11 50 25.5 -0.6
baz=55,SNR=47
H03A **Soap Creek Ran** 54.92 60 ⇑P P 11 50 25.8 -0.4
baz=55,SNR=21
COR **Corvallis** 54.96 60 eP P 11 50 27.0 +0.4
I02A **Mapleton** 54.97 61 ⇓P P 11 50 26.5 -0.1
baz=55,SNR=16
D06A **Cle Elum** 54.98 56 ⇓P P 11 50 26.1 -0.5
baz=55,SNR=38
SLGI **Shiliguri** 55.08 273 eP P 11 50 29.5 +2.1
G04A **Mulino** 55.11 59 P P 11 50 27.6 0.0
baz=55,SNR=13
C07A **Waterville** 55.15 55 P P 11 50 26.8 -1.2
baz=55,SNR=39
B08A **Colville Reser** 55.20 54 ⇑P P 11 50 27.0 -1.2
baz=55,SNR=44
K01A **Sixes** 55.24 62 ⇓P P 11 50 28.5 -0.1
baz=55,SNR=20
E06A **Yakima** 55.25 57 ⇑P P 11 50 28.4 -0.3
baz=55
A09A **Danville** 55.28 53 ⇓P P 11 50 28.4 -0.5
baz=55
EKS2 **Erkin-Say** 55.29 298 P P 11 50 30.2 +1.2
SNR=20
SSOR **Sweet Springs** 55.31 59 P P 11 50 29.2 +0.1
I03A **Eugene** 55.32 60 ⇑P P 11 50 29.1 0.0
baz=55,SNR=56
F05A **White Salmon** 55.34 58 ⇓P P 11 50 28.8 -0.5
baz=55,SNR=17
D07A **Quincy** 55.47 56 ⇑P P 11 50 29.3 -0.9
baz=55,SNR=23
J02A **Umpqua** 55.48 61 ⇓P P 11 50 30.9 +0.6
baz=55,SNR=81
H04A **Detroit Lake** 55.57 59 P P 11 50 31.0 0.0
baz=55,SNR=82
AML **Almayashu** 55.64 297 P P 11 50 35.0 +3.6
SNR=190
C08A **Higginbotham F** 55.67 55 P P 11 50 30.8 -0.9
baz=55,SNR=25
EDM **Edmonton** 55.72 47 eP P 11 50 31.1 -0.9
KBO **Bosley Butte** 55.73 63 eP P 11 50 32.5 +0.4
G05A **Wamic** 55.77 58 ⇑P P 11 50 32.3 -0.2
baz=56,SNR=22
F06A **Goldendale** 55.80 57 P P 11 50 32.5 -0.1
baz=56,SNR=34
B09A **Rice** 55.82 54 P P 11 50 32.1 -0.6
baz=56,SNR=46
A10A **Northport** 55.84 53 ⇓P P 11 50 32.3 -0.6
baz=56
J03A **Ideyld Park** 55.84 61 P P 11 50 33.4 +0.5
baz=56,SNR=60
K02A **Glendale** 55.86 62 P P 11 50 33.5 +0.5
baz=56,SNR=54
ARU **Arti** 55.88 318 P P 11 50 32.0 -1.2
comp=Z,8µm,1.1s,SNR=20
ARU **Arti** 55.88 318 ⇑ *iP* P 11 50 32.9 -0.3
ARU *e* 11 52 35.6
ARU *eS* S 11 58 19.0 -1.9
ARU pmax pmax
comp=Z,2µm,1.1s,mb6.9
ARU **Arti** 55.88 318 eP P 11 50 33.4 +0.2
comp=Z,1µm,0.9s,mb7.0
E07A **Sunnyside** 55.89 56 P P 11 50 32.8 -0.5
baz=56,SNR=45
HNR **Honiara** 55.90 174 P P 11 50 31.5 -1.8
comp=Z,68nm,1.0s,mb5.6,baz=282,slow=6.7,SNR=4.0
HNR **Honiara** 55.90 174 P P 11 50 31.5 -1.8
HNR pmax pmax
comp=Z,68nm,1.0s,mb5.6
HNR **Honiara** 55.90 174 eP P 11 50 36.5 +3.1
comp=Z,4µm,2.3s,mb7.1
I04A **Tendick Farm,** 55.94 60 ⇓P P 11 50 33.5 -0.1
baz=56
M01C **Crescent City** 56.00 63 P P 11 50 35.1 +1.1
baz=56,SNR=9.4
JIRN **Jiri** 56.01 276 eP P 11 50 35.8 +1.7
comp=Z,3µm,1.0s,mb7.2
GUN **Gumba** 56.06 276 eP P 11 50 35.6 +1.1
PMG **Port Moresby** 56.07 189 P P 11 50 33.9 -0.7
comp=Z,147nm,1.1s,mb6.0,baz=6.4,slow=6.1,SNR=21
PMG **Port Moresby** 56.07 189 eP P 11 50 33.8 -0.8
PMG pmax pmax
comp=Z,523nm,1.5s
PMG **Port Moresby** 56.07 189 eP P 11 50 33.8 -0.7
comp=Z,524nm,1.5s,mb6.3
BKCOR **Black Crater** 56.08 59 P P 11 50 34.8 +0.2
OD2 **Odessa Site #2** 56.08 55 P P 11 50 33.3 -1.3
C09A **Chrisman Ranch** 56.10 54 P P 11 50 33.9 -0.8
baz=56,SNR=50
L02A **Cave Junction** 56.14 62 ⇑P P 11 50 35.7 +0.6
baz=56,SNR=52
D08A **Wollman Farm,** 56.15 55 P P 11 50 34.1 -0.9
baz=56,SNR=24
H05A **Madras** 56.16 59 ⇑P P 11 50 35.0 -0.1
baz=56
HAWA **Hanford** 56.17 56 eP P 11 50 34.9 -0.4
comp=Z,2µm,1.0s,mb7.0
G06A **Carlson Farm,** 56.18 58 ⇓P P 11 50 35.5 +0.2
baz=56,SNR=32
F07A **Phinny Hill Vi** 56.22 57 ⇓P P 11 50 35.3 -0.3
baz=56
H2OWA **Water** 56.23 56 P P 11 50 35.1 -0.6
HUMO **Hull Mountain** 56.28 62 eP P 11 50 36.4 +0.4
comp=Z,382nm,1.2s,mb6.3
HUMO **Hull Mountain** 56.28 62 P P 11 50 36.4 +0.4
baz=56,SNR=90
BBOR **Butler Butte** 56.29 61 P P 11 50 36.5 +0.4
E08A **Dietz Farm, El** 56.38 56 P P 11 50 36.1 -0.7
baz=56,SNR=28
B10A **Chitwood Farm,** 56.40 53 P P 11 50 36.8 -0.1
baz=56,SNR=13
I05A **Bend** 56.41 59 P P 11 50 37.2 +0.2
baz=56,SNR=44
KTRM **Thompson Ridge** 56.42 63 P P 11 50 37.6 +0.6
J04A **Umpqua Nationa** 56.43 61 P P 11 50 37.8 +0.7
baz=56,SNR=44
NEW **Newport** 56.48 53 P P 11 50 36.3 -1.1
comp=Z,257nm,1.1s,mb6.2,baz=306,slow=7.2,SNR=33
NEW **Newport** 56.48 53 eP P 11 50 36.5 -0.9
NEW pmax pmax
comp=Z,121nm,1.1s
NEW **Newport** 56.48 53 eP P 11 50 36.5 -0.9
comp=Z,121nm,1.1s,mb5.8
D09A **Jones Farm, Ri** 56.49 55 P P 11 50 36.5 -1.0
baz=56,SNR=28
A11A **Hall Mountain,** 56.51 52 ⇑P P 11 50 37.9 +0.2
baz=56
KKN **Kakani** 56.55 276 eP P 11 50 38.9 +0.9
VIPM **Ingram Point** 56.60 59 P P 11 50 38.4 +0.1
PKI **Pulchoki** 56.60 276 eP P 11 50 39.3 +1.0
comp=Z,2µm,1.1s,mb7.0
C10A **Spilker Farm,** 56.63 54 P P 11 50 37.9 -0.6
baz=56,SNR=33
H06A **Lindquist Farm** 56.64 58 ⇑P P 11 50 38.5 -0.1
baz=56
JCC **Jacoby Creek** 56.64 64 ⇓P P 11 50 38.9 +0.3
baz=56
G07A **Ruggs Ranch, H** 56.72 57 ⇑P P 11 50 39.0 -0.2
baz=56
DMN **Daman** 56.78 276 eP P 11 50 40.5 +0.9
comp=Z,4µm,1.2s,mb7.3
KHMM **Horse Mountain** 56.79 64 eP P 11 50 40.3 +0.7
B11A **Sandpoint** 56.80 53 P P 11 50 39.4 -0.3
baz=56,SNR=51
GKN **Gorkha** 56.86 277 eP P 11 50 41.1 +1.0
comp=Z,2µm,1.0s,mb7.2
E09A **Wood Farm, Sta** 56.89 55 ⇑P P 11 50 40.1 -0.3
baz=57
A12A **Yaak River Ran** 56.91 52 ⇓P P 11 50 40.6 +0.1
baz=57
YBH **Yreka Blue Hor** 56.93 62 P P 11 50 40.9 +0.3
comp=Z,354nm,1.1s,mb6.3,baz=337,slow=2.6,SNR=64
YBH **Yreka Blue Hor** 56.93 62 eP P 11 50 41.0 +0.4
YBH pmax pmax
comp=Z,230nm,1.2s
YBH **Yreka Blue Hor** 56.93 62 eP P 11 50 41.3 +0.7
comp=Z,234nm,1.2s,mb6.1
YBH **Yreka Blue Hor** 56.93 62 ⇓P P 11 50 41.8 +1.1
baz=57
J05A **Fort Rock** 56.93 60 ⇑P P 11 50 41.6 +1.0
baz=57
F08A **Pendleton** 56.94 56 ⇑P P 11 50 40.9 +0.2
baz=57
K04A **Chilquin** 57.02 61 ⇓P P 11 50 42.1 +0.8
baz=57
M02C **Callahan** 57.04 63 ⇓P P 11 50 42.4 +0.9
baz=57
N02C **Big Bar** 57.09 64 ⇓P P 11 50 42.0 +0.3
baz=57
G08A **Pilot Rock** 57.12 57 P P 11 50 41.8 -0.2
baz=57,SNR=58
I06A **Prineville** 57.16 59 ⇓P P 11 50 43.0 +0.7
baz=57
O01C **Eel River Cons** 57.16 64 ⇑P P 11 50 43.1 +0.8
baz=57
L04A **Klamath Falls** 57.17 62 ⇓P P 11 50 42.8 +0.4
baz=57
B12A **Libby** 57.21 52 P P 11 50 43.0 +0.4
baz=57,SNR=11
LVZ **Lovozero** 57.39 337 P P 11 50 43.9 0.0
comp=Z,3µm,1.0s,mb7.3,SNR=19
LVZ **Lovozero** 57.39 337 ⇑ eP P 11 50 43.3 -0.6
LVZ pmax pmax
comp=Z,674nm,1.4s,mb6.5
LVZ **Lovozero** 57.39 337 ⇑ eP P 11 50 43.4 -0.5
M04C **Macdoel** 57.43 62 P P 11 50 44.4 +0.2
baz=57,SNR=84
K05A **Summer Lake** 57.46 60 ⇑P P 11 50 45.2 +0.8
baz=57
F09A **S2 Ranch, Elgi** 57.49 56 ⇓P P 11 50 45.1 +0.5
baz=57
E10A **Myers Farm, Un** 57.50 55 P P 11 50 44.1 -0.5
baz=57,SNR=47
I07A **Izee** 57.50 58 ⇓P P 11 50 44.5 -0.1
baz=57
M03C **McCloud** 57.55 62 ⇑P P 11 50 45.5 +0.4
baz=57
KCPM **Cahto Peak** 57.58 65 eP P 11 50 45.6 +0.3
D11A **Klaveano Farm,** 57.61 54 ⇑P P 11 50 44.9 -0.5
baz=57
WDC **Whiskeytown Da** 57.70 63 eP P 11 50 46.2 +0.1
WDC pmax pmax
comp=Z,225nm,1.1s,mb6.1
WDC **Whiskeytown Da** 57.70 63 eP P 11 50 46.2 +0.1
comp=Z,224nm,1.1s,mb6.1
WDC **Whiskeytown Da** 57.70 63 ⇓P P 11 50 46.2 +0.1
baz=57
KOLN **Koldanda** 57.71 278 eP P 11 50 46.9 +0.7
comp=Z,2µm,1.0s,mb7.2
F10A **Beach Ranch, E** 57.73 56 ⇓P P 11 50 46.2 -0.1
baz=57
H08A **Prairie City** 57.73 58 ⇑P P 11 50 46.7 +0.3
baz=58
WALA **Waterton Lakes** 57.78 51 eP P 11 50 46.3 -0.3
comp=Z,511nm,1.0s,mb6.5
O02C **Red Bluff** 57.78 64 ⇑P P 11 50 47.5 +0.8
baz=58
K06A **Valley Falls** 57.80 60 ⇑P P 11 50 47.6 +0.8
baz=58
P01C **Double 8 Ranch** 57.86 65 P P 11 50 47.3 +0.1
baz=58,SNR=59
B13A **Whitefish** 57.87 52 ⇓P P 11 50 47.6 +0.3
baz=58
L05A **Lakeview** 57.89 61 ⇑P P 11 50 48.3 +0.9
baz=58
KEV **Kevo** 57.90 341 eP P 11 50 47.6 +0.1
KEV pmax pmax
comp=Z,159nm,0.8s,mb6.1
KEV **Kevo** 57.90 341 eP P 11 50 47.6 +0.1
comp=Z,159nm,0.8s,mb6.1
J07A **Hines** 58.02 59 ⇓P P 11 50 49.3 +1.0
baz=58
M05C **Lookout** 58.10 62 ⇑P P 11 50 49.6 +0.7
baz=58
GASB **Alder Springs** 58.14 64 ⇑P P 11 50 50.1 +0.9
baz=58
I08A **Drewsey** 58.15 58 ⇑P P 11 50 49.6 +0.4
baz=58
C13A **Hot Springs** 58.22 53 ⇑P P 11 50 50.2 +0.4
baz=58
HATC **Hat Creek Radi** 58.23 63 ⇓P P 11 50 50.3 +0.6
baz=58
H09A **Durkee** 58.23 57 ⇓P P 11 50 50.5 +0.6
baz=58
MOD **Modoc** 58.29 61 eP P 11 50 50.4 +0.1
comp=Z,218nm,1.2s,mb6.1
MOD **Modoc** 58.29 61 ⇑P P 11 50 50.7 +0.4
baz=58
HOPS **Hopland** 58.30 65 eP P 11 50 49.7 -0.7
HOPS **Hopland** 58.30 65 ⇑P P 11 50 51.0 +0.6
baz=58
BMO **Blue Mountains** 58.33 57 eP P 11 50 50.3 -0.2
comp=Z,173nm,1.1s,mb6.0
O03C **Acorn Hollow,** 58.36 64 ⇓P P 11 50 50.3 -0.4
baz=58
F11A **Grangeville** 58.38 55 ⇑P P 11 50 51.0 +0.1
baz=58
ARCES **ARCESS Array B** 58.41 341 P P 11 50 50.6 -0.4
comp=Z,309nm,1.0s,mb6.3,baz=37,slow=6.2,SNR=30
ARE0 **ARCESS Array S** 58.41 341 eP P 11 50 50.4 -0.7
K07A **Rock Creek Ran** 58.46 60 ⇑P P 11 50 51.9 +0.5
baz=58
J08A **Circle Bar Ran** 58.53 59 ⇓P P 11 50 52.3 +0.4
baz=58
I09A **Lost Marbles R** 58.59 58 ⇓P P 11 50 52.7 +0.3
baz=58
M06C **Likely Place G** 58.60 62 ⇑P P 11 50 52.9 +0.5
baz=58
D13A **Huson** 58.62 53 ⇓P P 11 50 52.5 0.0
baz=58
O04C **Chester** 58.75 63 ⇑P P 11 50 53.8 +0.4
baz=58
MNRC **McLaughlin Nat** 58.77 65 ⇑P P 11 50 54.4 +0.8
baz=58
ELFS **Eagle Lake Fie** 58.79 62 ⇑P P 11 50 54.6 +0.9
baz=58
L07A **Adell** 58.80 60 ⇓P P 11 50 54.4 +0.6
baz=58
NSHM **Saint Helena R** 58.88 65 eP P 11 50 54.2 -0.2
K08A **Mann Creek Ran** 58.89 59 ⇓P P 11 50 55.1 +0.7
baz=59
PTH **Pithoragarh** 58.90 281 eP P 11 50 55.2 +0.7
MCCM **Marconi Confer** 58.93 66 eP P 11 50 54.2 -0.5
comp=Z,285nm,1.0s,mb6.2
MCCM **Marconi Confer** 58.93 66 ⇓P P 11 50 55.4 +0.7
baz=59
LGTI **Lohaghat** 58.94 281 eP P 11 50 56.0 +1.2
J09A **Fry Pan Ranch,** 58.96 58 ⇓P P 11 50 55.6 +0.8
baz=59
WVOR **Wild Horse Val** 58.98 60 eP P 11 50 54.7 -0.3
KLP **Kalpa** 58.98 284 eP P 11 50 56.5 +1.5
KLP AMb AMB 11 51 12.0
comp=Z,856nm,1.7s,mb6.5
TMCR **Tamitsa** 59.02 333 *i* P P 11 50 55.4 +0.1
TMCR pmax pmax
comp=Z,1µm,1.4s,mb6.8
MSO **Missoula** 59.07 53 eP P 11 50 55.0 -0.6
comp=Z,645nm,1.3s,mb6.5
O05C **Quincy** 59.07 63 ⇑P P 11 50 56.2 +0.6
baz=59
CVS **Carmenet Viney** 59.08 65 ⇑P P 11 50 56.3 +0.5
baz=59
FARB **Farallon Islan** 59.12 66 ⇑P P 11 50 56.7 +0.7
baz=59
D14A **Greenough** 59.16 53 ⇑P P 11 50 56.7 +0.5
baz=59
E13A **Victor** 59.16 54 ⇓P P 11 50 56.6 +0.3
baz=59
H11A **Donnelly** 59.16 56 ⇓P P 11 50 56.3 0.0
baz=59
KSM **Kuching** 59.18 234 eP P 11 50 57.5 +1.0
Q03C **Winters** 59.18 65 ⇑P P 11 50 57.5 +1.0
baz=59
N06A **Buffalo Meadow** 59.26 62 ⇑P P 11 50 57.8 +0.8
baz=59
M07A **Soldier Meadow** 59.28 61 ⇑P P 11 50 58.1 +1.0
baz=59
L08A **Fields** 59.30 60 ⇓P P 11 50 57.7 +0.5
baz=59
KTK1 **Kautokeino** 59.32 342 eP P 11 50 57.6 +0.2
KTK1 AMb AMB 11 51 02.6
comp=Z,782nm,1.4s,mb6.6
KTK1 **Kautokeino** 59.32 342 eP P 11 50 57.6 +0.2
comp=Z,782nm,1.4s,mb6.5
K09A **Rome** 59.36 59 ⇓P P 11 50 58.2 +0.5
baz=59
CHMT **Chamberlain Mo** 59.40 53 eP P 11 50 57.5 -0.4
Q04C **Lincoln** 59.46 64 ⇓P P 11 50 58.6 +0.2
baz=59
BEKR **Beckwourth** 59.47 63 ⇓P P 11 50 58.5 +0.1
baz=59
F13A **Darby** 59.47 54 ⇑P P 11 50 58.8 +0.4
baz=59
E14A **Clinton** 59.56 53 ⇑P P 11 50 59.2 +0.2
baz=59
SAC **San Andreas** 59.56 66 eP P 11 50 58.7 -0.4
O06A **Flanigan** 59.62 62 ⇑P P 11 50 59.9 +0.5
baz=59
P05C **Yuba Gap, Truc** 59.65 64 ⇓P P 11 50 59.8 +0.1
baz=59
BDM **Black Diamond** 59.69 65 ⇓P P 11 51 00.4 +0.5
baz=59
TRO **Tromso** 59.70 344 eP P 11 50 58.2 -1.8
TRO AMb AMB 11 51 03.0
comp=Z,629nm,1.5s,mb6.4
TRO **Tromso** 59.70 344 eP P 11 50 58.2 -1.8
comp=Z,629nm,1.5s,mb6.4
D15A **Lincoln** 59.72 52 ⇓P P 11 51 00.4 +0.3
baz=59
N07B **Gerlach** 59.77 61 ⇑P P 11 51 01.1 +0.6
baz=60
JRSC **Jasper Ridge** 59.78 66 ⇓P P 11 51 00.9 +0.3
baz=60
L09A **Wilkinson Ranc** 59.80 59 ⇑P P 11 51 01.2 +0.5
baz=60

P06A Stead Airport, 59.87 63 ⇑P P 11 51 01.7 +0.6
baz=60
DDI Dehra Dun 59.87 283 eP P 11 51 02.6 +1.4
DLH Dalhousie 59.88 287 eP P 11 50 59.0 -2.2
KAPI Kappang 59.90 221 P P 11 51 00.5 -0.9
comp=Z,1μm,1.8s,mb6.6,SNR=18
WENL Wente Brothers 59.96 66 ⇑P P 11 51 02.2 +0.5
baz=60
BNLO Ben Lomond (Sa 59.99 66 ⇓P P 11 51 02.0 0.0
baz=60
F14A Wisdom 59.99 54 ⇑P P 11 51 02.3 +0.3
baz=60
E15A Deer Lodge 60.03 53 ⇑P P 11 51 02.3 +0.1
baz=60
R04C Big Horse Ranc 60.08 65 ⇓P P 11 51 02.5 -0.2
baz=60
THN Thein Dam 60.11 287 eP P 11 51 03.1 +0.3
WCN Washoe City 60.18 63 ⇑P P 11 51 04.1 +0.8
baz=60
O07A Toulon 60.20 62 ⇓P P 11 51 04.1 +0.7
baz=60
FFC Flin Flon 60.24 41 P P 11 51 03.7 0.0
comp=Z,5μm,1.1s,SNR=70
FFC Flin Flon 60.24 41 P P 11 51 03.5 -0.2
N08A GE Springer Mi 60.27 61 ⇑P P 11 51 04.5 +0.5
baz=60
M09A Marrel Ranch, 60.29 60 ⇑P P 11 51 04.9 +0.8
baz=60
S04C Ingram Canyon, 60.30 66 ⇓P P 11 51 04.2 +0.1
baz=60
R05C Kirkwood Meado 60.35 64 ⇓P P 11 51 04.7 +0.2
baz=60
F15A Butte 60.46 53 ⇓P P 11 51 05.4 +0.2
baz=60
ALBI Allahabad 60.52 277 eP P 11 51 04.5 -1.1
O08A Rochester Mine 60.56 61 ⇓P P 11 51 06.8 +0.9
baz=60
CMB Columbia Colle 60.56 65 eP P 11 51 05.3 -0.6
CMB Columbia Colle 60.56 65 ⇓P P 11 51 06.0 +0.1
baz=60
P07A Fallon 60.57 62 ⇓P P 11 51 06.9 +0.9
baz=60
N09A Rock Creek Ran 60.59 60 ⇓P P 11 51 07.1 +0.9
baz=60
EGMT Eagleton 60.61 50 eP P 11 51 06.0 -0.3
comp=Z,10μm,0.3s
PACP Pacheco Peak 60.63 66 ⇑P P 11 51 06.8 +0.4
baz=60
SAO San Andreas Ge 60.68 66 eP P 11 51 05.8 -0.9
HLID Hailey 60.77 56 eP P 11 51 07.2 -0.1
comp=Z,18μm,1.0s
M10A I.L. Ranch, Tu 60.77 59 ⇑P P 11 51 08.1 +0.7
baz=60
HAST UC Hastings Re 60.84 67 ⇓P P 11 51 08.0 +0.2
baz=61
R06C Coleville 60.84 64 ⇑P P 11 51 08.6 +0.7
baz=61
SUMG Summit 60.85 4 eP P 11 51 08.5 +0.6
comp=Z,656nm,0.9s,mb6.8
FCC Fort Churchill 60.88 34 eP P 11 51 07.1 -1.0
FCC pmax pmax
comp=Z,648nm,1.2s,mb6.6
FCC Fort Churchill 60.88 34 eP P 11 51 07.1 -0.9
comp=Z,648nm,1.2s,mb6.6
G15A Dillon 60.88 54 ⇑P P 11 51 08.6 +0.5
baz=61
KKR Kurukshetra 60.92 284 eP P 11 51 09.1 +0.7
KKR AMb AMB 11 51 17.4
comp=Z,2μm,2.2s,mb6.8
P08A Dixie Valley 60.97 62 ⇓P P 11 51 09.3 +0.6
baz=61
NIL Nilore 60.97 289 P P 11 51 12.3 +3.6
comp=Z,1μm,1.1s,mb7.0,SNR=6.7
Q07A Schurz 60.99 63 ⇑P P 11 51 09.2 +0.4
baz=61
S06C San Francisco 60.99 64 ⇓P P 11 51 08.9 +0.1
baz=61
S05C Merced 61.02 65 ⇑P P 11 51 09.5 +0.5
baz=61
BMN Battle Mountai 61.03 61 eP P 11 51 09.0 -0.1
BMN pmax pmax
comp=Z,590nm,1.2s,mb6.6
BMN Battle Mountai 61.03 61 eP P 11 51 09.0 -0.1
comp=Z,590nm,1.2s,mb6.6
ASOR Ausora 61.05 282 eP P 11 51 10.5 +1.2
ASOR AMb AMB 11 51 27.4
comp=Z,1μm,1.3s,mb6.9
T05C Eagle Field, D 61.08 66 ⇓P P 11 51 10.1 +0.6
baz=61
LRV Little Rabbit 61.16 66 eP P 11 51 10.3 +0.3
O09A Fish Creek Ran 61.21 61 ⇓P P 11 51 11.0 +0.7
baz=61
V03C Hunter Liggett 61.27 67 ⇑P P 11 51 11.3 +0.5
baz=61
M11A Holland Ranch, 61.27 59 ⇓P P 11 51 11.8 +1.0
baz=61
N10A Dunphy 61.29 60 ⇓P P 11 51 11.5 +0.6
baz=61
U04C Hernandez Rese 61.34 66 ⇑P P 11 51 12.1 +0.8
baz=61
R07C Lee Vining 61.36 64 ⇑P P 11 51 12.1 +0.7
baz=61
BISR Bishrakh 61.39 282 eP P 11 51 10.8 -0.8
O10A Cortez Mining, 61.55 60 ⇑P P 11 51 13.6 +1.0
baz=61
Q08A Gabbs 61.57 62 ⇑P P 11 51 13.5 +0.7
baz=61
NVAR Mina Array Bea 61.61 63 P P 11 51 13.0 0.0
comp=Z,183nm,0.8s,mb6.2,baz=296,slow=7.6,SNR=72
NVAR Mina Array Bea 61.61 63 P P 11 51 13.0 0.0
T06C Millerton Lake 61.62 65 ⇓P P 11 51 13.1 0.0
baz=61
P09A Austin 61.63 61 ⇓P P 11 51 13.7 +0.6
baz=61
KCC Kaiser Creek 61.67 65 ⇑P P 11 51 13.9 +0.5
baz=61
N11A Elko Archery C 61.69 60 ⇑P P 11 51 14.3 +0.7
baz=61
V04C Ramage Ranch, 61.74 67 ⇑P P 11 51 14.5 +0.5
baz=62
PKD Parkfield 61.76 67 ⇑P P 11 51 13.7 -0.4
baz=62
MLAC Mammoth Lakes 61.78 64 ⇑P P 11 51 15.4 +1.2
baz=62
U05C Westside ANR, 61.78 66 ⇓P P 11 51 14.7 +0.5
baz=62
R08A Mina 61.78 63 ⇑P P 11 51 14.7 +0.5
baz=62
RTK Rohtak 61.79 283 eP P 11 51 14.0 -0.2
RTK AMb AMB 11 51 22.6
comp=Z,443nm,2.6s,mb6.1
M12A Wells 61.80 59 ⇑P P 11 51 15.0 +0.7
baz=62
SONA Sohna 61.84 282 eP P 11 51 15.3 +0.8
SONA AMb AMB 11 51 23.4
comp=Z,534nm,1.3s,mb6.5
AGRA Agra 61.91 281 eP P 11 51 15.7 +0.6
AGRA AMb AMB 11 51 24.3
comp=Z,714nm,1.8s,mb6.5
P10A Eureka 61.99 61 ⇓P P 11 51 16.3 +0.7
baz=62
LOF Lofoten 62.01 345 eP P 11 51 18.3 +2.5
LOF AMb AMB 11 51 21.6
comp=Z,484nm,0.8s,mb6.7
LOF Lofoten 62.01 345 eP P 11 51 18.3 +2.5
comp=Z,484nm,0.8s,mb6.7
ELK Elko 62.03 59 eP P 11 51 15.9 +0.1
ELK pmax pmax
comp=Z,200nm,1.1s
ELK Elko 62.03 59 eP P 11 51 15.9 0.0
comp=Z,198nm,1.1s,mb6.2
Q09A Carvers 62.05 62 ⇓P P 11 51 16.6 +0.6
baz=62
N12A Clover Valley, 62.08 59 ⇑P P 11 51 16.8 +0.6
baz=62
O11A Cowboy Ranch, 62.16 60 ⇑P P 11 51 17.3 +0.6
baz=62
V05C Boulder Hill, 62.21 66 ⇑P P 11 51 17.6 +0.5
baz=62
KAKA Kakadu 62.24 205 eP P 11 51 16.4 -0.9
comp=Z,1μm,1.5s,mb6.8
HELL Mitchell Peak, 62.25 65 ⇓P P 11 51 17.7 +0.3
baz=62
S08C White Mtn Res 62.27 64 ⇑P P 11 51 18.1 +0.7
baz=62
M13A Montello 62.28 58 ⇑P P 11 51 18.0 +0.5
baz=62

IPM Ipoh 62.31 245 P P 11 51 18.7 +1.0
RCTC Rector, Farmer 62.35 65 ⇑P P 11 51 18.5 +0.5
baz=62
LKWY Lake 62.41 53 eP P 11 51 20.2 +1.7
P11A Circle Ranch, 62.46 61 ⇑P P 11 51 19.5 +0.7
baz=62
R09A Tonopah 62.48 63 ⇑P P 11 51 19.5 +0.5
baz=62
TPH Tonopah 62.50 63 eP P 11 51 19.0 0.0
TPH pmax pmax
comp=Z,692nm,1.1s,mb6.7
TPH Tonopah 62.50 63 eP P 11 51 19.0 0.0
comp=Z,692nm,1.1s,mb6.7
SMMC Simmler 62.50 67 ⇑P P 11 51 19.6 +0.5
baz=62
TIN Tinemaha 62.52 64 ⇑P P 11 51 19.8 +0.7
baz=62
N13A Wendover, West 62.57 59 ⇑P P 11 51 19.6 +0.1
baz=62
O12A Currie 62.62 60 ⇑P P 11 51 20.5 +0.7
baz=62
RLMT Red Lodge 62.69 52 eP P 11 51 20.6 +0.3
comp=Z,1μm,1.4s,mb6.8
S09A Goldfield 62.72 63 ⇑P P 11 51 20.7 +0.3
baz=62
VES Vestal, Richgr 62.75 66 ⇓P P 11 51 20.5 -0.2
baz=62
KHET Khetri 62.81 283 eP P 11 51 21.4 +0.3
KHET AMb AMB 11 51 29.2
comp=Z,374nm,2.5s,mb6.1
KGM Kluang 62.83 241 P P 11 51 23.6 +2.3
PKM Peak Mountain 62.87 67 ⇓P P 11 51 21.9 +0.4
baz=63
R10A Warm Springs 62.92 62 ⇓P P 11 51 22.2 +0.3
baz=63
Q11A Duckwater 62.97 61 ⇑P P 11 51 22.4 +0.3
baz=63
CWC Cottonwood Cre 62.99 65 ⇑P P 11 51 22.7 +0.4
baz=63
P12A McGill 63.02 60 ⇑P P 11 51 22.9 +0.4
baz=63
GRAC Grapevine Rang 63.08 64 ⇓P P 11 51 23.3 +0.4
baz=63
AHID Auburn Hatcher 63.16 55 eP P 11 51 23.5 +0.1
comp=Z,366nm,1.2s,mb6.4
DGMT Dagmar 63.20 47 eP P 11 51 23.2 -0.5
comp=Z,1μm,1.3s,mb6.9
SBC Santa Barbara 63.23 67 ⇑P P 11 51 24.1 +0.2
baz=63
ISA Isabella 63.24 66 eP P 11 51 22.7 -1.3
comp=Z,0.5nm,1.1s
ISA Isabella 63.24 66 ⇓P P 11 51 23.4 -0.6
baz=63
LAO LASA Array 63.32 50 eP P 11 51 24.5 +0.1
Q12A Willow Creek R 63.34 61 ⇑P P 11 51 25.1 +0.5
baz=63
ARVC Arvin 63.35 66 ⇑P P 11 51 24.3 -0.4
baz=63
MOR8 Moi Rana 63.55 343 eP P 11 51 23.3 -2.6
MOR8 AMb AMB 11 51 31.6
comp=Z,698nm,1.9s,mb6.4
MOR8 Moi Rana 63.55 343 eP P 11 51 23.3 -2.6
comp=Z,698nm,1.9s,mb6.4
BSC Santa Cruz Isl 63.56 68 ⇓P P 11 51 26.0 -0.1
baz=63
MPMC Manual Prospec 63.60 65 ⇑P P 11 51 26.7 +0.3
baz=63
HWUT Hardware Ranch 63.63 57 eP P 11 51 26.6 +0.1
comp=Z,370nm,1.1s,mb6.3
STOK Stokkvaagen 63.69 344 eP P 11 51 27.1 +0.2
FURC Furnace Creek, 63.73 64 ⇑P P 11 51 27.3 +0.1
baz=64
OSI Osito Adit 63.75 67 ⇑P P 11 51 27.2 -0.1
baz=64
DUG Dugway 63.81 59 eP P 11 51 27.7 0.0
DUG pmax pmax
comp=Z,120nm,0.4s,mb6.3
DUG Dugway 63.81 59 eP P 11 51 27.8 +0.1
comp=Z,123nm,0.4s,mb6.3
LRMC Laurel Mountai 63.85 65 ⇓P P 11 51 27.6 -0.3
baz=64
BLG Laguna Peak 63.85 67 ⇑P P 11 51 27.5 -0.5
baz=64
BW06 Boulder Array 64.03 55 eP P 11 51 28.9 -0.2
comp=Z,588nm,1.1s,mb6.5
PDAR Pinedale Array 64.03 55 P P 11 51 28.8 -0.4
comp=Z,336nm,1.0s,mb6.3,baz=299,slow=3.1,SNR=94
EDW2 Edwards Air Fo 64.04 66 ⇓P P 11 51 29.4 +0.1
baz=64
U10A Ash Meadows, A 64.09 64 ⇑P P 11 51 29.8 +0.2
baz=64
SNCC San Nicolas Is 64.11 68 eP P 11 51 29.2 -0.5
comp=Z,0.8nm,1.2s
SNCC San Nicolas Is 64.11 68 ⇑P P 11 51 30.0 +0.3
baz=64
DECC Green Verdugo 64.23 67 ⇑P P 11 51 30.4 0.0
baz=64
SHOC Shoshone 64.46 64 ⇓P P 11 51 32.0 0.0
baz=64
GSC Goldstone 64.52 65 ⇓P P 11 51 32.2 -0.2
baz=64
DAU Daniels Canyon 64.58 57 eP P 11 51 33.6 +0.8
FMP Fort Macarthur 64.60 67 ⇓P P 11 51 32.7 -0.2
baz=64
AJM Ajmer 64.63 282 i P P 11 51 33.0 -0.1
BFSC Mount Baldy St 64.66 66 ⇓P P 11 51 32.7 -0.6
baz=64
RRX Edison Barstow 64.67 65 ⇑P P 11 51 33.8 +0.5
baz=64
U11A Corn Creek 64.68 63 ⇑P P 11 51 34.4 +1.0
baz=64
FINES FINESS Array B 64.69 335 P P 11 51 32.9 -0.6
comp=Z,191nm,0.7s,mb6.2,baz=40,slow=5.7,SNR=51
CIS Catalina Islan 64.73 67 ⇑P P 11 51 33.1 -0.6
baz=64
PUL Pulkovo 64.73 332⇓ eP P 11 51 35.3 +1.6
PUL pmax pmax
comp=Z,407nm,0.7s,mb6.6
PUL pmax pmax
comp=N,1μm,1.2s
PUL pmax pmax
comp=E,856nm,1.2s
PUL Pulkovo 64.73 332⇑ eP P 11 51 35.3 +1.6
SCI San Clemente I 64.91 68 ⇓P P 11 51 35.0 0.0
baz=65
TUQ Turquoise Mtn. 64.98 64 ⇓P P 11 51 35.4 0.0
baz=65
V11A Goodsprings 65.03 64 ⇓P P 11 51 36.1 +0.4
baz=65
BBRC Big Bear Sol-O 65.11 66 ⇓P P 11 51 36.4 +0.2
baz=65
HEC Hector,Ludlow 65.12 65 ⇓P P 11 51 36.5 +0.2
baz=65
SFJD Kangerlussuaq 65.19 11 i P P 11 51 36.0 -0.7
U12A Valley of Fire 65.19 63 ⇑P P 11 51 37.1 +0.4
baz=65
MOS Moscow 65.22 326 eP P 11 51 32.9 -4.0
MOS e 11 53 58.7
MOS eS S 12 00 15.6 -4.8
MOS pmax pmax
comp=Z,1μm,1.4s,mb6.7
MOS Moscow 65.22 326 eP P 11 51 36.4 -0.5
MSU Marysvale 65.27 60 eP P 11 51 36.8 -0.5
MSU Marysvale 65.27 60 eP P 11 51 36.9 -0.4
MURC Murrieta 65.37 67 ⇓P P 11 51 37.8 -0.1
baz=65
V12A Nelson 65.46 63 ⇑P P 11 51 38.7 +0.2
baz=65
NSS Namsos 65.49 343 eP P 11 51 38.3 -0.4
W12A Cal Nev Ari 65.72 64 ⇓P P 11 51 40.3 +0.1
baz=66
PFO Pinyon Flat Ob 65.83 66 P P 11 51 40.0 -0.9
comp=Z,911nm,1.3s,mb6.7,SNR=33
PFO Pinyon Flat Ob 65.83 66 eP P 11 51 39.7 -1.2
PFO Pinyon Flat Ob 65.83 66 eP P 11 51 39.8 -1.1
PFO Pinyon Flat Ob 65.83 66 ⇓P P 11 51 40.2 -0.7
baz=66
BELC Belle Mtn. 65.86 66 ⇑P P 11 51 40.6 -0.5
baz=66
109C Camp Elliot, M 65.89 67 ⇑P P 11 51 41.2 -0.1
baz=66
ULM Lac du Bonnet 66.01 41 P P 11 51 40.8 -1.2
comp=Z,169nm,0.9s,mb6.1,baz=312,slow=7.2,SNR=44
ULM Lac du Bonnet 66.01 41 eP P 11 51 41.0 -1.1
comp=Z,16nm,0.4s,mb5.4
OBN Obninsk 66.08 326 eP P 11 51 41.6 -0.9
OBN e 11 51 52.9

OBN e 11 52 11.4
OBN pmax pmax
comp=Z,1μm,1.5s,mb6.7
OBN Obninsk 66.08 326 eP P 11 51 42.0 -0.5
comp=Z,2μm,1.4s,mb6.9
RSSD Black Hills 66.17 51 eP P 11 51 42.6 -0.5
RSSD pmax pmax
comp=Z,648nm,1.0s,mb6.6
RSSD Black Hills 66.17 51 eP P 11 51 42.6 -0.5
comp=Z,648nm,1.0s,mb6.6
NEE2 Needles Airpor 66.23 64 ⇑P P 11 51 43.7 +0.3
baz=66
IRM Iron Mountain 66.29 65 ⇓P P 11 51 44.1 +0.2
baz=66
MONP Monument Peak 66.33 67 ⇑P P 11 51 43.9 -0.2
baz=66
BC3 Big Chuckw Mtn 66.43 66 ⇓P P 11 51 44.6 -0.2
baz=66
W13A Hualapai Mount 66.46 63 ⇓P P 11 51 45.3 +0.3
baz=66
DVTC Desert V Tower 66.68 67 ⇑P P 11 51 46.3 -0.1
baz=66
SWSC Sam W. Stewart 66.69 66 ⇑P P 11 51 45.7 -0.7
baz=66
CTA Charters Tower 66.73 189 eP P 11 51 45.1 -1.5
comp=Z,118nm,1.5s,mb5.7
CTA Charters Tower 66.73 189 eP P 11 51 45.1 -1.5
CTA pmax pmax
comp=Z,118nm,1.5s
CTAO Charters Tower 66.73 189 eP P 11 51 45.3 -1.3
CTAO pmax pmax
comp=Z,483nm,1.4s,mb6.3
CTAO Charters Tower 66.73 189 eP P 11 51 45.3 -1.3
comp=Z,483nm,1.4s,mb6.3
X13A Yucca 66.83 64 ⇑P P 11 51 47.2 0.0
baz=67
PDMCI Parker Dam,Lak 66.83 64 ⇑P P 11 51 47.1 -0.1
baz=67
JASL Jaisalmer 66.85 285 eP P 11 51 46.5 -0.9
W14A Seligman 66.88 63 ⇓P P 11 51 48.4 +0.8
baz=67
VSU Vasula 66.89 333 eP P 11 51 46.0 -1.7
Y12C Blythe 66.95 65 ⇑P P 11 51 48.2 +0.1
baz=67
GLA Glamis 67.22 66 ⇑P P 11 51 50.2 +0.4
baz=67
Y13A Salome 67.34 64 ⇓P P 11 51 50.6 0.0
baz=67
AGMN Agassiz Refuge 67.39 43 eP P 11 51 49.9 -1.0
W15A Williams 67.41 62 ⇑P P 11 51 51.9 +0.9
baz=67
X14A Yava 67.49 63 ⇓P P 11 51 52.4 +0.9
baz=67
VOR Voronezh 67.54 323 eP P 11 51 50.5 -1.3
VOR pmax pmax
comp=E,400nm,1.8s
VOR pmax pmax
comp=Z,2μm,1.8s,mb6.7
ABKT Ailbek 67.61 302 P P 11 51 53.7 +1.4
comp=Z,1μm,1.1s,mb6.9,SNR=7.6
WUAZ Wupatki 67.72 62 eP P 11 51 53.1 +0.1
comp=Z,556nm,1.1s,mb6.5
WUAZ Wupatki 67.72 62 ⇓P P 11 51 53.8 +0.8
baz=67
Y14A Wickenburg 67.77 64 ⇑P P 11 51 53.6 +0.3
baz=68
X15A Humboldt 67.88 63 ⇑P P 11 51 54.6 +0.7
baz=68
Z14A Wintersburg 68.19 64 ⇑P P 11 51 56.1 +0.2
baz=68
MVCO Mesa Verde 68.31 59 eP P 11 51 56.4 -0.3
DOMB Dombas 68.31 343 eP P 11 51 57.1 +0.4
DOMB AMb AMB 11 52 08.9
comp=Z,505nm,1.4s,mb6.4
DOMB Dombas 68.31 343 eP P 11 51 57.1 +0.4
comp=Z,505nm,1.4s,mb6.4
WRAB Tennant Creek 68.64 200 P P 11 51 57.0 -1.7
comp=Z,3μm,1.2s,mb7.0,SNR=52
WRAB Tennant Creek 68.64 200 eP P 11 51 57.4 -1.3
WRAB pmax pmax
comp=Z,996nm,1.4s,mb6.5
WRAB Tennant Creek 68.64 200 eP P 11 51 57.4 -1.3
comp=Z,996nm,1.4s,mb6.5
WB2 Warramunga Arr 68.65 200 eP P 11 51 57.5 -1.3
WRA Warramunga Arr 68.65 201 P P 11 51 57.6 -1.2
comp=Z,364nm,1.2s,mb6.2,baz=16,slow=6.4,SNR=48
LATR Latur 68.74 275 ex x 11 51 49.7
NB2 NORSAR Subarra 68.78 342 P P 11 51 59.2 -0.4
comp=Z,505nm,0.9s,mb6.5,baz=29,slow=6.5
NOA NORSAR Array B 68.78 342 P P 11 51 59.5 -0.1
comp=Z,382nm,1.1s,mb6.3,baz=26,slow=6.4,SNR=26
NAO01 NORSAR Array S 69.02 342 eP P 11 52 02.9 +1.8
comp=Z,293nm,0.9s,mb6.2
BORG Borgarnes 69.03 358 P P 11 52 07.9 +6.8
comp=Z,2μm,1.2s,mb6.9,SNR=7.0
BORG Borgarnes 69.03 358 eP P 11 52 01.9 +0.8
comp=Z,486nm,1.1s,mb6.3
115A Sonoran Desert 69.08 64 ⇓P P 11 52 02.1 +0.6
baz=69
IZAR Zarasai 69.26 332 eP P 11 52 02.1 -0.4
IZAR AMb AMB 11 52 09.9
comp=Z,3μm,0.6s,mb7.4
FITZ Fitzroy Crossi 69.45 209 eP P 11 52 03.4 -0.3
comp=Z,210nm,1.1s,mb6.0
IDID Didziasalis 69.45 331 eP P 11 52 03.5 -0.2
IDID AMb AMB 11 52 09.0
comp=Z,3μm,0.7s,mb7.3
BHV Bhavnagar 69.49 280 eP P 11 52 05.0 +1.0
116A Eloy 69.50 64 ⇓P P 11 52 04.2 +0.1
baz=69
IIGN Ignalina 69.59 331 eP P 11 52 04.3 -0.3
IIGN AMb AMB 11 52 12.2
comp=Z,8μm,0.5s
EYMN Ely 69.66 41 eP P 11 52 03.9 -1.2
SDCO Great Sand Dun 69.69 56 eP P 11 52 05.3 +0.1
comp=Z,659nm,1.5s,mb6.3
OSL Oslo 69.88 342 eP P 11 52 05.7 -0.7
OSL AMb AMB 11 52 12.3
comp=Z,485nm,1.0s,mb6.4
OSL Oslo 69.88 342 eP P 11 52 05.7 -0.7
comp=Z,485nm,1.0s,mb6.4
SUE Sulen 70.03 345 eP P 11 52 09.4 +2.1
SUE AMb AMB 11 52 14.8
comp=Z,843nm,0.8s,mb6.7
SUE Sulen 70.03 345 eP P 11 52 09.4 +2.1
comp=Z,843nm,0.8s,mb6.7
TUC Tucson 70.25 64 eP P 11 52 08.6 0.0
TUC pmax pmax
comp=Z,212nm,1.3s,mb5.9
TUC Tucson 70.25 64 eP P 11 52 08.6 -0.1
comp=Z,212nm,1.3s,mb5.9
ECSD EROS,Sioux Fal 70.29 47 eP P 11 52 07.5 -1.4
comp=Z,711nm,1.2s,mb6.5
KONO Kongsberg 70.38 342 eP P 11 52 12.4 +2.9
KONO Kongsberg 70.38 342 eP P 11 52 09.4 -0.1
KONO pmax pmax
comp=Z,386nm,0.8s,mb6.4
KONO Kongsberg 70.38 342 eP P 11 52 09.4 -0.1
comp=Z,386nm,0.8s,mb6.4
ASK Askoy 70.49 345 eP P 11 52 10.4 +0.3
ASK AMb AMB 11 52 17.9
comp=Z,1μm,0.9s,mb6.9
ASK Askoy 70.49 345 eP P 11 52 10.4 +0.3
comp=Z,1μm,0.9s,mb6.9
POO Poona 70.52 277⇓ iP P 11 52 09.0 -1.3
comp=Z,909nm,1.2s,mb6.6
RUND Rundenannen 70.52 344 eP P 11 52 12.0 +1.6
RUND AMb AMB 11 52 19.0
comp=Z,2μm,1.0s,mb7.0
RUND Rundenannen 70.52 344 eP P 11 52 12.0 +1.6
comp=Z,2μm,1.0s,mb7.0
BER Bergen 70.56 344 eP P 11 52 11.5 +1.0
BER AMb AMB 11 52 18.7
comp=Z,1μm,0.8s,mb6.8
BER Bergen 70.56 344 eP P 11 52 11.5 +1.0
comp=Z,1μm,0.8s,mb6.8
EGD Espegrend 70.68 344 eP P 11 52 15.4 +4.1
EGD AMb AMB 11 52 20.6
comp=Z,1μm,2.0s,mb6.4
EGD Espegrend 70.68 344 eP P 11 52 15.4 +4.1
comp=Z,1μm,2.0s,mb6.5
ANMO Albuquerque 71.06 59 eP P 11 52 13.3 -0.3
ANMO pmax pmax
comp=Z,19nm,0.5s
ANMO Albuquerque 71.06 59 eP P 11 52 13.6 0.0
comp=Z,19nm,0.5s,mb5.3
BLS5 Blasjo 71.23 343 eP P 11 52 17.1 +2.4

BLS5 AMb AMB 11 52 28.0
comp=Z,292nm,0.9s,mb6.2
BLS5 Blasjo 71.23 343 eP P 11 52 17.1 +2.4
comp=Z,292nm,0.9s,mb6.2
Y22C IRIS PASSCAL I 71.39 60 ⇓P P 11 52 16.5 +0.9
baz=71
SUW Suwalki 71.69 332 eP P 11 52 16.8 -0.6
SUW L 12 00 47.5
comp=Z,2µm,19.4s
KIV Kislovodsk 71.70 315 P P 11 52 18.0 +0.5
comp=Z,4µm,1.0s,mb7.3,SNR=15
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV P 11 52 18.9
SNR=24
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV Kislovodsk 71.70 315 P P 11 52 18.7 +1.2
SNR=28
KIV Kislovodsk 71.70 315⇑eP P 11 52 18.2 +0.7
KIV pmax pmax
comp=Z,634nm,1.0s,mb6.5
KIV Kislovodsk 71.70 315 eP P 11 52 18.8 +1.3
comp=Z,611nm,0.9s,mb6.5
WAL1 Walls 71.83 348 eP P 11 52 19.0 +0.7
STAV Stavanger 71.83 344 eP P 11 52 22.5 +4.2
STAV AMb AMB 11 52 25.0
comp=Z,644nm,1.4s,mb6.3
STAV Stavanger 71.83 344 eP P 11 52 22.5 +4.2
comp=Z,644nm,1.4s,mb6.4
LRW Lerwick 71.88 348 P P 11 52 19.3 +0.8
LRW AMb AMB 11 52 24.2
comp=Z,240nm,1.4s,mb5.9
LRW AMS AMS 12 00 20.2
LRW Lerwick 71.88 348 eP P 11 52 19.3 +0.8
LRW AMb AMB 11 52 24.2
comp=Z,240nm,1.4s,mb5.9
ZEI Tsey 71.98 314 eP P 11 52 18.8 -0.3
ZEI e*PP pP 11 52 27.1 +5.4
ZEI e 11 52 34.5
ZEI pmax pmax
comp=Z,325nm,0.9s,mb6.3
SNART Snartemo 72.08 343 eP P 11 52 23.0 +3.2
SNART AMb AMB 11 52 27.7
comp=Z,802nm,0.9s,mb6.6
CBKS Cedar Bluff 72.17 52 eP P 11 52 18.5 -1.8
CBKS pmax pmax
comp=Z,923nm,1.3s,mb6.5
CBKS Cedar Bluff 72.17 52 eP P 11 52 18.5 -1.8
comp=Z,923nm,1.3s,mb6.5
AKASG Malin Array Be 72.31 327 P P 11 52 20.9 -0.2
comp=Z,111nm,0.6s,mb6.0,baz=35,slow=6.1,SNR=16
AKBB Malin Array Si 72.31 327 eP P 11 52 20.1 -1.0
KIEV Kiev 72.32 327 eP P 11 52 21.4 +0.2
KIEV pmax pmax
comp=Z,290nm,1.0s,mb6.2
KIEV Kiev 72.32 327 eP P 11 52 20.1 -1.1
comp=Z,294nm,1.0s,mb6.2
AS31 Alice Springs 72.33 200 eP P 11 52 21.0 -0.3
ASAR Alice Springs 72.34 200 P P 11 52 21.1 -0.2
comp=Z,192nm,0.8s,mb6.1,baz=15,slow=5.3,SNR=46
SCHQ Schefferville 73.11 24 P P 11 52 25.1 -0.8
comp=Z,242nm,1.1s,mb6.1,baz=346,slow=5.8,SNR=31
SCHQ Schefferville 73.11 24 eP P 11 52 25.0 -0.8
comp=Z,70nm,1.1s,mb5.5
BSD Bornholm Skovb 73.18 337 iP P 11 52 27.4 +1.1
comp=Z,267nm,0.7s,mb6.3
BSD
comp=Z,822µm,18.0s
BSD Bornholm Skovb 73.18 337 eP P 11 52 27.4 +1.1
BSD pmax pmax
comp=Z,270nm,0.7s
BSD Bornholm Skovb 73.18 337 eP P 11 52 27.4 +1.1
comp=Z,267nm,0.7s,mb6.3
COP Copenhagen 73.31 339 iP P 11 52 31.6 +4.5
comp=Z,391nm,0.7s,mb6.5
COP Copenhagen 73.31 339 iP P 11 52 31.6 +4.5
COP pmax pmax
comp=Z,390nm,0.7s,mb6.5
SCIA State Center 73.33 46 eP P 11 52 26.1 -1.0
comp=Z,1µm,1.3s,mb6.7
MUD Monsted U'grnd 73.39 341 iP P 11 52 29.7 +2.2
comp=Z,282nm,1.1s,mb6.1
MUD
comp=Z,1045µm,18.0s
MUD Monsted U'grnd 73.39 341 iP P 11 52 29.7 +2.2
MUD pmax pmax
comp=Z,280nm,1.1s
SOC Sochi 73.41 317 eP P 11 52 29.6 +2.0
SOC pmax pmax
comp=Z,227nm,0.7s,mb6.2
GNI Garni 73.47 311 P P 11 52 30.3 +2.3
SNR=12
GNI Garni 73.47 311 P P 11 52 30.3 +2.3
SNR=12
GNI Garni 73.47 311 P P 11 52 30.3 +2.3
SNR=12
GNI Garni 73.47 311 P P 11 52 30.3 +2.3
SNR=12
GNI Garni 73.47 311⇑eP P 11 52 28.7 +0.7
GNI pmax pmax
comp=Z,556nm,1.8s
GNI Garni 73.47 311⇑eP P 11 52 28.8 +0.8
ANN Anapa 73.54 319 eP P 11 52 28.4 0.0
ANN pmax pmax
comp=Z,461nm,1.6s,mb6.2
KSU1 Kansas State U 73.65 50 eP P 11 52 26.7 -2.4
comp=Z,15nm,1.3s
PALK Pallekele 73.70 263 P P 11 52 30.6 +1.2
comp=Z,620nm,1.1s,mb6.5,SNR=9.3
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 P P 11 52 30.4 +1.0
SNR=10
PALK Pallekele 73.70 263 eP P 11 52 29.9 +0.5
comp=Z,651nm,1.8s,mb6.3
MNGI Mangalore 73.73 272 iP P 11 52 29.8 +0.2
WAR Warsaw 73.89 332 eP P 11 52 34.6 +4.2
WAR L 12 03 41.0
comp=Z,1µm,17.0s
MLA1 Latheron 73.96 348 eP P 11 52 31.9 +1.1
MNTX Cornudas Mount 73.97 61 eP P 11 52 30.6 -0.4
comp=Z,536nm,1.3s,mb6.3
JFWS Jewell Farm 74.02 44 eP P 11 52 29.4 -1.8
RGN Rugen 74.11 338 eP P 11 52 31.5 -0.2
comp=Z,24µm,2.3s
GKP Gorka Klasztor 74.15 335 eP P 11 52 32.0 0.0
GKP L 12 02 56.7
comp=Z,2µm,18.9s
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA P pP 11 52 33.4 -2.6
SNR=14
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA P pP 11 52 33.4 -2.6
SNR=14
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA P pP 11 52 33.4 -2.6
SNR=14
MBWA Marble Bar 74.39 214 P P 11 52 32.9 -0.5
SNR=23
MBWA P pP 11 52 33.4 -2.6
SNR=14
MBWA Marble Bar 74.39 214 eP P 11 52 32.8 -0.6
comp=Z,246nm,0.2s,mb6.8
MVH1 Achvaich 74.44 348 eP P 11 52 34.7 +1.0
MCD Coleburn Disti 74.64 348 eP P 11 52 36.0 +1.1
MME1 Meikle Cairn 74.86 348 eP P 11 52 36.6 +0.5
SIM Simferopol' 74.91 321 eP P 11 52 37.4 +1.0
SIM pmax pmax
comp=Z,198nm,0.8s,mb6.1
LVV L'vov 74.93 329 eP P 11 52 34.9 -1.6
MDO Dochfour 74.94 348 eP P 11 52 37.6 +1.0
KAC Achnashellach 75.01 349 eP P 11 52 38.1 +1.1
KPL Plockton 75.21 349 eP P 11 52 39.1 +1.0
KPL AMb AMB 11 52 46.3
comp=Z,952nm,1.1s,mb6.7
KSB Sheil Bridge 75.31 349 eP P 11 52 39.8 +1.1
TVAN Van 75.36 311 iP P 11 52 40.7 +1.6
ERZM Erzurum 75.38 313 iP P 11 52 40.5 +1.4
BSEG Bad Segeberg 75.42 339 eP P 11 52 38.2 -1.2
comp=Z,296nm,1.0s,mb6.2
BSEG Bad Segeberg 75.42 339 eP P 11 52 38.2 -1.2
BSEG pmax pmax
comp=Z,296nm,1.0s,mb6.2
KIS Kishinev 75.48 325 eP P 11 52 40.0 +0.3
KIS Kishinev 75.48 325⇓iP P 11 52 40.0 +0.3
KWP Kalwaria 75.55 330 eP P 11 52 40.4 +0.3
KWP L 12 03 29.9
comp=Z,2µm,20.7s
KAR1 Arisaig 75.64 349 eP P 11 52 41.8 +1.2
WMOK Wichita Mounta 75.64 55 P P 11 52 39.8 -0.8
WMOK pmax pmax
comp=Z,410nm,1.1s,mb6.3
WMOK Wichita Mounta 75.64 55 eP P 11 52 40.0 -0.7
comp=Z,406nm,1.1s,mb6.3
OJC Ojcow 76.02 332 eP P 11 52 42.0 -0.8
GRSN GIRESUNGRSN 76.13 316 iP P 11 52 43.4 0.0
EAB Aberfoyle 76.15 348 eP P 11 52 43.2 -0.3
ESY Stoneypath 76.15 347 eP P 11 52 44.5 +0.9
STHS Stebnicka Huta 76.23 331 eP P 11 52 45.3 +1.3
STHS epP pP 11 52 50.9 +4.3
STHS Stebnicka Huta 76.23 331 eP P 11 52 45.3 +1.3
STHS e 11 52 50.9
STHS pmax pmax
comp=Z,69nm,1.1s,mb5.5
STHS Stebnicka Huta 76.23 331 eP P 11 52 45.3 +1.3
comp=Z,69nm,1.1s,mb5.5
STHS e 11 52 50.9
EDI Edinburgh 76.23 347 eP P 11 52 45.0 +1.0
EDI AMb AMB 11 52 53.7
comp=Z,416nm,1.0s,mb6.3
KOLS Kolonicke sedl 76.29 330 eP P 11 52 44.4 +0.1
KOLS epP pP 11 52 51.3 +4.4
KOLS ePCP PcP 11 53 00.9 +4.7
KOLS Kolonicke sedl 76.29 330 eP P 11 52 44.4 +0.1
KOLS e pP 11 52 51.3 +4.4
KOLS e PcP 11 53 00.9 +4.7
BURAR Bucovina Array 76.35 327⇓iP P 11 52 45.2 +0.5
BURAR Bucovina Array 76.35 327 ⇓P P 11 52 45.2 +0.6
EAU Auchinoon 76.35 347 eP P 11 52 45.9 +1.2
EBL Broad Law 76.36 347 eP P 11 52 44.4 -0.3
POB1 Observatory 76.49 348 eP P 11 52 45.3 -0.2
PGBU Glenifferbraes 76.53 348 eP P 11 52 46.9 +1.2
PGBU AMb AMB 11 52 54.3
comp=Z,630nm,1.2s,mb6.4
PMSU Muirshiel 76.54 348 eP P 11 52 46.7 +0.9
NIE Niedzica 76.54 331 eP P 11 52 46.2 +0.5
UZH Uzhgorod 76.54 330⇓iP P 11 52 45.6 -0.2
KSP Ksiaz 76.57 334 eP P 11 52 46.2 +0.3
KSP L 12 04 34.6
comp=Z,3µm,18.0s
KSP Ksiaz 76.57 334 eP P 11 52 45.6 -0.3
KSP epP pP 11 52 50.5 +2.0
LTX Lajitas 76.69 61 eP P 11 52 46.2 -0.4
LTX pmax pmax
comp=Z,925nm,1.1s,mb6.6
LTX Lajitas 76.69 61 eP P 11 52 46.1 -0.4
comp=Z,925nm,1.1s,mb6.6
TXAR Lajitas Array 76.69 61 P P 11 52 46.1 -0.5
comp=Z,387nm,0.8s,mb6.4,baz=301,slow=3.9,SNR=104
ESK Eskdalemuir 76.82 347 P P 11 52 48.0 +0.7
comp=Z,2µm,0.6s,mb7.3,SNR=9.8
ESK Eskdalemuir 76.82 347 eP P 11 52 48.3 +0.9
ESK AMb AMB 11 52 54.7
comp=Z,401nm,1.6s,mb6.1
ESK Eskdalemuir 76.82 347 P P 11 52 48.5 +1.1
OKC Ostrava-Krasne 76.88 333 eP P 11 52 47.7 0.0
OKC epP pP 11 52 52.3 +2.1
UPC Upice 76.95 334 eP P 11 52 47.8 -0.2
UPC epP pP 11 52 53.1 +2.5
DPC Dobruska-Polom 76.99 334 eP P 11 52 48.5 +0.2
DPC epP pP 11 52 53.9 +3.0
BANOM Banah 77.03 294 P P 11 52 49.6 +1.1
SNR=8.0
BANOM Banah 77.03 294 P P 11 52 49.9 +1.3
SNR=12
BANOM Banah 77.03 294 P P 11 52 49.9 +1.3
SNR=12
CLL Collm 77.10 336 eP P 11 52 47.2 -1.7
comp=Z,741nm,0.8s,mb6.7
CLL Collm 77.10 336 iP P 11 52 47.7 -1.2
CLL i 11 52 53.4
CLL i 11 52 55.8
CLL pmax pmax
comp=Z,1µm,1.4s,mb6.6
CLL Collm 77.10 336 iP P 11 52 47.7 -1.2
comp=Z,216nm,1.4s,mb5.9
CLL ipP pP 11 52 53.4 +1.9
CLL i(PcP) PcP 11 52 55.8 -3.9
comp=Z,744nm,0.8s
MORC Moravsky Berou 77.12 333⇓iP P 11 52 49.7 +0.7
MORC Moravsky Berou 77.12 333 eP P 11 52 49.6 +0.5
comp=Z,5µm,0.6s
GMK Mull of Kintyr 77.14 349 eP P 11 52 50.4 +1.3
BRG Berggiesshubel 77.22 336 eP P 11 52 48.1 -1.5
comp=Z,192nm,1.0s,mb6.0
BRG Berggiesshubel 77.22 336 iP P 11 52 49.4 -0.2
comp=Z,81nm,1.5s,mb5.4
BRG i 11 52 54.4
comp=Z,114nm,0.9s
BRG i 11 55 43.0
comp=Z,62nm,1.4s
BRG S S 12 02 52.0 +13
BRG i 12 03 44.0
VRI Vrincioaia 77.23 326⇓iP P 11 52 51.1 +1.5
VRI Vrincioaia 77.23 326 P P 11 52 50.4 +0.8
VRI Vrincioaia 77.23 326 ⇓P P 11 52 51.1 +1.5
LIKS Likavka 77.26 332 eP P 11 52 50.8 +1.0
LIKS e 11 52 56.0
LIKS pmax pmax
comp=Z,204nm,1.7s,mb5.8
LIKS Likavka 77.26 332 eP P 11 52 50.8 +1.0
comp=Z,204nm,1.7s,mb5.8
LIKS e 11 52 56.0
PLOR Plostina 77.27 326⇓iP P 11 52 53.1 +3.2
KECS Kecovo 77.29 331 eP P 11 52 50.3 +0.3
KECS epP pP 11 52 55.9 +3.3
KECS ePCP PcP 11 53 06.8 +6.2
KECS Kecovo 77.29 331 eP P 11 52 50.3 +0.3
KECS e 11 52 55.9
KECS pmax pmax
comp=Z,42nm,1.1s,mb5.3
KECS Kecovo 77.29 331 eP P 11 52 50.3 +0.3
comp=Z,42nm,1.1s,mb5.3
KECS e 11 52 55.9
KECS e 11 53 06.8
CLZ Clausthal 77.31 338 eP P 11 52 49.4 -0.7
comp=Z,510nm,1.0s,mb6.4
CLZ Clausthal 77.31 338 eP P 11 52 49.4 -0.7
CLZ pmax pmax
comp=Z,510nm,1.0s,mb6.4
BOYT Boyabat 77.34 318 iP P 11 52 50.8 +0.5
BOYT Boyabat 77.34 318 iP P 11 52 50.8 +0.5
PVCC Panska Ves 77.35 335 eP P 11 52 49.4 -0.9
PVCC epP pP 11 52 54.9 +2.0
GCD Castle Douglas 77.37 347 eP P 11 52 51.6 +1.2
WSAR Wadi Sarin 77.44 290 P P 11 52 51.7 +0.9
comp=Z,35nm,1.0s,baz=70,slow=5.2,SNR=9.6
WSAR Wadi Sarin 77.44 290 P P 11 52 51.7 +0.9
GCL Cushendall 77.48 349 eP P 11 52 52.2 +1.2
GAL1 Galloway 77.48 348 eP P 11 52 51.9 +0.9
GAL1 AMb AMB 11 52 58.8
comp=Z,658nm,1.2s,mb6.5
IBBN Ibbenburen 77.53 340 eP P 11 52 50.3 -1.0
comp=Z,1µm,1.4s,mb6.6
AAM Ann Arbor 77.54 40 eP P 11 52 50.9 -0.5
AAM pmax pmax
comp=Z,330nm,1.0s,mb6.2
AAM Ann Arbor 77.54 40 eP P 11 52 50.9 -0.5
comp=Z,330nm,1.0s,mb6.2
BIDO Bidbid 77.57 291 P P 11 52 53.6 +2.1
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
BIDO Bidbid 77.57 291 P P 11 52 53.4 +1.8
SNR=21
BIDO P 11 52 53.6
SNR=9.1
ELZG Elazig 77.65 314 iP P 11 52 53.5 +1.5
WBK Wadi Bani Khal 77.67 290 P P 11 52 54.6 +2.5
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
WBK Wadi Bani Khal 77.67 290 P P 11 52 53.8 +1.7
SNR=27
WBK P pP 11 52 54.6 -0.1
SNR=14
TIRR Tirgusor 77.72 324⇑iP P 11 52 52.0 -0.4
TIRR Tirgusor 77.72 324 P P 11 52 51.9 -0.5
TIRR Tirgusor 77.72 324 ⇑P P 11 52 52.0 -0.3
PRA Prague 77.80 335 P P 11 52 52.0 -0.8
PRA pP pP 11 52 58.0 +2.6
VRAC Vranov 77.83 333⇓iP P 11 52 53.9 +0.9
VRAC Vranov 77.83 333 P P 11 52 53.4 +0.4
VRAC Vranov 77.83 333 ⇓P P 11 52 53.9 +0.9
VYHS Vyhne 77.83 332 eP P 11 52 53.3 +0.3
VYHS epP pP 11 52 59.1 +3.5
VYHS Vyhne 77.83 332 eP P 11 52 53.3 +0.3
VYHS e 11 52 59.1
VYHS pmax pmax
comp=Z,94nm,1.3s,mb5.6
VYHS Vyhne 77.83 332 eP P 11 52 53.3 +0.3
comp=Z,94nm,1.3s,mb5.6
VYHS e 11 52 59.1
PRU Pruhonice 77.84 335 eP P 11 52 53.0 -0.1
PRU epP pP 11 52 57.7 +2.0
MLR Muntele Rosu 77.85 326⇑iP P 11 52 53.3 +0.2
MLR Muntele Rosu 77.85 326 ⇑P P 11 52 53.3 +0.2
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.8 +1.3
SNR=20
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.6 +1.1
SNR=13
HATD Hatta, Dubai 77.92 293 P P 11 52 54.8 +1.3
SNR=20
HATD Hatta, Dubai 77.92 293 P P 11 52 54.8 +1.3
SNR=20
HATD Hatta, Dubai 77.92 293 P P 11 52 54.8 +1.3
SNR=20
BALT Daday 77.94 319 iP P 11 52 54.3 +0.7
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
SMDO Samad 77.95 291 P P 11 52 55.2 +1.6
SNR=8.2
DRGR 77.96 328⇓iP P 11 52 54.0 +0.3
DRGR 77.96 328 P P 11 52 53.7 0.0
DRGR 77.96 328 ⇓P P 11 52 54.0 +0.3
PSZ Piszkesteto 77.98 331⇓iP P 11 52 54.5 +0.7
PSZ Piszkesteto 77.98 331 eP P 11 52 53.7 -0.1
comp=Z,3µm,0.6s,mb7.4
COCO West Island 77.99 238 P P 11 52 56.1 +2.2
SNR=6.0
COCO West Island 77.99 238 P P 11 52 56.1 +2.2
SNR=6.0
COCO West Island 77.99 238 P P 11 52 56.1 +2.2
SNR=6.0
COCO West Island 77.99 238 P P 11 52 56.1 +2.2
SNR=6.0
COCO West Island 77.99 238 P P 11 52 56.1 +2.2

SNR=6.0
CTKT Corum 78.02 318 *i* P **P 11 52 54.9 +0.8**
HOQ Hoqain 78.05 292 P **P 11 52 55.6 +1.4**
SNR=27
HOQ Hoqain 78.05 292 P **P 11 52 55.6 +1.4**
SNR=27
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
HOQ Hoqain 78.05 292 P **P 11 52 55.1 +0.9**
SNR=24
TANN Tannenbergstha 78.05 336 *eP* **P 11 52 53.2 -1.0**
comp=Z,278nm,1.6s,mb5.9
ASHO Ashiyiah 78.07 293 P **P 11 52 55.2 +0.9**
SNR=9.5
ASHO Ashiyiah 78.07 293 P **P 11 52 55.6 +1.3**
SNR=15
ASHO Ashiyiah 78.07 293 P **P 11 52 55.2 +0.9**
SNR=9.5
ASHO Ashiyiah 78.07 293 P **P 11 52 55.2 +0.9**
SNR=9.5
ASHO Ashiyiah 78.07 293 P **P 11 52 55.6 +1.3**
SNR=15
ASHO Ashiyiah 78.07 293 P **P 11 52 55.6 +1.3**
SNR=15
ASHO Ashiyiah 78.07 293 P **P 11 52 55.6 +1.3**
SNR=15
MALT Malatya 78.07 314 ⇓*iP* **P 11 52 56.5 +2.2**
MALT Malatya 78.07 314 *eP* **P 11 52 55.8 +1.5**
MALT pmax pmax
comp=Z,256nm,0.9s,mb6.2
MALT Malatya 78.07 314 *eP* **P 11 52 55.8 +1.4**
comp=Z,256nm,0.9s,mb6.2
MOX Moxa 78.08 337 *eP* **P 11 52 53.3 -1.1**
comp=Z,427nm,1.0s,mb6.3
MOX Moxa 78.08 337 *eP* **P 11 52 54.2 -0.1**
comp=Z,54nm,1.4s,mb5.3
JCT Junction City 78.17 58 *eP* **P 11 52 54.1 -0.8**
JCT pmax pmax
comp=Z,368nm,0.9s,mb6.3
JCT Junction City 78.17 58 *eP* **P 11 52 54.1 -0.8**
comp=Z,368nm,0.9s,mb6.3
WIM Isle of Man 78.18 348 *eP* **P 11 52 56.1 +1.2**
NKC Novy Kostel 78.22 336 *eP* **P 11 52 54.9 -0.2**
VOIR 78.24 326 ⇑*iP* **P 11 52 56.2 +1.0**
VOIR 78.24 326 ⇑*iP* **P 11 52 56.2 +0.9**
SMOL Smolenice 78.27 333 *eP* **P 11 52 56.5 +1.1**
SMOL *epP* pP 11 53 02.2 +4.2
GMM Mts of Mourne 78.27 349 *eP* **P 11 52 56.3 +0.9**
LHO Holmfirth 78.31 346 P **P 11 52 55.3 -0.4**
UBBA Unterbreizbach 78.34 338 *eP* **P 11 52 54.7 -1.1**
comp=Z,284nm,1.1s,mb6.1
AWI1 Witton 78.40 344 *eP* **P 11 52 57.0 +0.8**
JMDO Jabal Madar 78.40 290 P **P 11 52 57.2 +1.0**
SNR=15
JMDO Jabal Madar 78.40 290 P **P 11 52 57.2 +1.0**
SNR=15
JMDO Jabal Madar 78.40 290 P **P 11 52 57.2 +1.0**
SNR=15
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
JMDO Jabal Madar 78.40 290 P **P 11 52 56.9 +0.7**
SNR=29
ABA1 Baconsthorpe 78.40 344 *eP* **P 11 52 57.5 +1.4**
MTUR Matau 78.41 326 ⇓*iP* **P 11 52 58.4 +2.2**
BUG Bochum--Univer 78.45 340 *eP* **P 11 52 55.4 -1.0**
comp=Z,546nm,1.0s,mb6.4
PSN Preselentsi 78.45 323 *i* P **P 11 52 54.0 -2.4**
MANZ Manzenberg 78.54 336 *eP* **P 11 52 56.1 -0.8**
comp=Z,378nm,1.0s,mb6.3
AEU East Anglia Un 78.64 344 *eP* **P 11 52 57.7 +0.2**
ZST Bratislava 78.65 333 *eP* **P 11 52 58.7 +1.2**
ZST *epP* pP 11 53 05.7 +5.6
ZST *ePCP* PcP 11 53 17.0 +11
ZST Bratislava 78.65 333 *eP* **P 11 52 58.7 +1.2**
ZST *e* 11 53 05.7
ZST pmax pmax
comp=Z,80nm,1.2s,mb5.5
ZST Bratislava 78.65 333 *eP* **P 11 52 58.7 +1.2**
comp=Z,80nm,1.2s,mb5.5
ZST *e* 11 53 05.7
ZST *e* 11 53 17.0
ROTZ Rotzenmuhle 78.71 336 *eP* **P 11 52 57.4 -0.4**
comp=Z,388nm,1.1s,mb6.2
BSY Bisya 78.72 291 P **P 11 52 58.9 +1.0**
SNR=18
BSY Bisya 78.72 291 P **P 11 52 58.9 +1.0**
SNR=18
BSY Bisya 78.72 291 P **P 11 52 58.9 +1.0**
SNR=18
BSY Bisya 78.72 291 P **P 11 52 59.3 +1.4**
SNR=23
BSY Bisya 78.72 291 P **P 11 52 58.9 +1.0**
SNR=18
BSY Bisya 78.72 291 P **P 11 52 58.9 +1.0**
SNR=18
BSY Bisya 78.72 291 P **P 11 52 59.3 +1.4**
SNR=23
BSY Bisya 78.72 291 P **P 11 52 59.3 +1.4**
SNR=23
BSY Bisya 78.72 291 P **P 11 52 59.3 +1.4**
SNR=23
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ARQ Araqi 78.73 292 P **P 11 52 59.5 +1.5**
SNR=11
ELDT Eldivan 78.75 318 *i* P **P 11 52 58.6 +0.5**
BUC1 Bucharest 78.77 325 P **P 11 52 59.1 +0.9**
KHC Kasperske Hory 78.89 335 *eP* **P 11 52 58.7 -0.2**
KHC *epP* pP 11 53 04.2 +2.7
STKA Stephens Creek 78.92 191 *eP* **P 11 52 57.8 -1.2**
comp=Z,86nm,0.9s,mb5.7
STKA Stephens Creek 78.92 191 P **P 11 52 57.9 -1.1**
comp=Z,90nm,0.8s,mb5.7,baz=350,slow=7.2,SNR=33
GRA1 Grafenberg Arr 79.05 337 *eP* **P 11 52 59.3 -0.4**
comp=Z,794nm,0.9s,mb6.7
GRF Grafenberg Arr 79.05 337 *eP* **P 11 52 59.3 -0.4**
comp=Z,794nm,0.9s,mb6.7
GRF Grafenberg Arr 79.05 337 *eP* **P 11 52 59.3 -0.4**
GRF pmax pmax
comp=Z,794nm,0.9s,mb6.7
GRFO Grafenberg 79.05 337 *eP* **P 11 53 00.3 +0.6**
GRFO pmax pmax
comp=Z,707nm,0.8s,mb6.7
GRFO Grafenberg 79.05 337 *eP* **P 11 53 00.3 +0.6**
comp=Z,706nm,0.8s,mb6.7
WET Wettzell 79.08 336 *eP* **P 11 52 59.5 -0.4**
comp=Z,618nm,1.2s,mb6.4
WET Wettzell 79.08 336 *eP* **P 11 52 59.5 -0.4**
WET pmax pmax
comp=Z,618nm,1.2s,mb6.4
GEC2 GERESS Array S 79.11 335 *eP* **P 11 52 59.1 -1.0**
comp=Z,519nm,1.6s,mb6.2
GEC2 GERESS Array S 79.11 335 *eP* **P 11 52 59.1 -1.0**
GEC2 pmax pmax
comp=Z,519nm,1.6s,mb6.2
GERES GERESS Array B 79.11 335 P **P 11 53 00.2 +0.2**
comp=Z,79nm,0.7s,mb5.8,baz=27,slow=4.6,SNR=17
GZR Gura Zlata 79.13 328 ⇓*iP* **P 11 53 00.3 +0.2**
GZR Gura Zlata 79.13 328 ⇓*iP* **P 11 53 00.3 +0.2**
SBD1 Bryn Du 79.16 347 *eP* **P 11 53 00.4 0.0**
GZT Gaziantep 79.24 314 *i* P **P 11 53 01.7 +0.9**
BR131 Keskin Array S 79.27 318 *eP* **P 11 53 01.5 +0.6**
comp=Z,159nm,0.9s,mb6.0
BRTR Keskin Array B 79.27 318 P **P 11 53 01.8 +0.9**
comp=Z,102nm,1.0s,mb7.7,baz=78,slow=3.6,SNR=25
DLF Lyons Farm 79.27 349 ⇑*iP* **P 11 53 00.7 -0.2**
YRE Yr Eifl 79.27 347 *eP* **P 11 53 01.2 +0.3**
CONA Conrad Observa 79.28 333 ⇑*iP* **P 11 53 01.6 +0.6**
comp=Z,397nm,1.4s,mb6.1
TNS Taunus Mts 79.29 339 *eP* **P 11 53 00.4 -0.6**
comp=Z,384nm,0.9s,mb6.3
TNS Taunus Mts 79.29 339 *eP* **P 11 53 00.4 -0.6**
TNS pmax pmax
comp=Z,384nm,0.9s,mb6.3
DSB Dublin 79.30 349 *eP* **P 11 53 01.1 +0.1**
comp=Z,262nm,0.8s,mb6.2
SGKT Sivrigoynuk 79.31 319 *i* P **P 11 53 01.2 +0.1**
DCN Croghan 79.32 349 ⇑*iP* **P 11 53 01.1 -0.1**
BZS Buzias 79.36 329 ⇓*iP* **P 11 53 01.2 -0.2**
BZS Buzias 79.36 329 ⇓*iP* **P 11 53 01.2 -0.2**
LONY Lake Ozonia 79.39 33 *eP* **P 11 52 59.0 -2.5**
comp=Z,201nm,1.3s,mb5.9
BEBN Eben Emael 79.42 341 P **P 11 53 01.8 0.0**
comp=Z,212nm,0.8s,mb6.1
BEBN AP pP 11 53 06.9 +2.5
BEBN XP sP 11 53 08.5 +3.2
AVNT Avonos 79.44 316 *iP* **P 11 53 01.8 -0.1**
HLM1 Long Mynd 79.47 346 *eP* **P 11 53 02.0 -0.1**
MEM Membach 79.52 340 P **P 11 53 01.8 -0.5**
comp=Z,424nm,1.0s,mb6.3
MEM AP pP 11 53 07.8 +2.9
MEM XP sP 11 53 09.1 +3.2
ANTO Ankara 79.54 318 P **P 11 53 03.6 +1.2**
SNR=20
ANTO Ankara 79.54 318 P **P 11 53 03.9 +1.5**
SNR=12
ANTO Ankara 79.54 318 P **P 11 53 03.6 +1.2**
SNR=20
ANTO Ankara 79.54 318 P **P 11 53 03.6 +1.2**
SNR=20
ANTO Ankara 79.54 318 P **P 11 53 03.9 +1.5**
SNR=12
ANTO Ankara 79.54 318 P **P 11 53 03.9 +1.5**
SNR=12
ANTO Ankara 79.54 318 P **P 11 53 03.9 +1.5**
SNR=12
ANTO Ankara 79.54 318 ⇓*iP* **P 11 53 03.8 +1.4**
ANTO Ankara 79.54 318 P **P 11 53 02.9 +0.5**
ANTO pmax pmax
comp=Z,380nm,1.0s,mb6.3
ANTO Ankara 79.54 318 *eP* **P 11 53 02.9 +0.5**
comp=Z,384nm,0.9s,mb6.3
WCI Wyandotte Cave 79.55 44 *eP* **P 11 53 01.4 -1.0**
ZIMR 79.61 325 P **P 11 53 02.4 -0.4**
HENT Hendek 79.63 320 *iP* **P 11 53 02.5 -0.4**
UMR Umm Al-Rimmam 79.64 302 *eP* **P 11 53 03.2 +0.3**
CRAR CRAIOVA 79.65 326 P **P 11 53 03.0 0.0**
MIB Mutribah 79.67 302 *eP* **P 11 53 03.5 +0.4**
SZH Strazhica 79.71 325 *iP* **P 11 53 05.0 +1.7**
UCC Uccle 79.72 341 P **P 11 53 03.2 -0.1**
comp=Z,192nm,0.8s,mb6.1
UCC AP pP 11 53 08.4 +2.5
UCC XP sP 11 53 09.5 +2.6
TOD Tromm 79.77 338 *eP* **P 11 53 03.7 +0.1**
ABH Alteburg 79.83 339 *eP* **P 11 53 03.9 -0.1**
SSW Stow on the Wo 79.83 345 *eP* **P 11 53 04.2 +0.2**
MOA Molln 79.84 334 ⇓*iP* **P 11 53 04.4 +0.4**
comp=Z,290nm,1.4s,mb6.0,SNR=16
BCLA Clavier 79.86 341 P **P 11 53 04.0 -0.2**
comp=Z,279nm,1.1s,mb6.1
BCLA AP pP 11 53 09.0 +2.3
BCLA XP sP 11 53 10.9 +3.2
SKP1 Kophill 79.88 345 *eP* **P 11 53 05.2 +1.0**
PKSM Moragy 79.89 331 ⇓*iP* **P 11 53 04.1 -0.2**
PKSM Moragy 79.89 331 ⇓*iP* **P 11 53 04.0 -0.2**
TAOE Nuku Hiva Isla 79.90 114 *eP* **P 11 53 03.1 -1.3**
comp=Z,973nm,1.3s,mb6.6
SLMH Al Salmeh 79.95 313 ⇑*iP* **P 11 53 06.1 +1.5**
ARSA Arzberg 79.98 333 ⇑*iP* **P 11 53 05.3 +0.5**
comp=Z,220nm,1.1s,mb6.0,SNR=17
PVL Pavlikeni 79.99 325 *iP* **P 11 53 04.0 -0.8**
MCH1 Michaelchurch 80.00 346 *eP* **P 11 53 05.7 +0.8**
MCH1 AMb AMB 11 53 08.5
comp=Z,237nm,1.4s,mb5.9
SNF Seneffe 80.01 341 P **P 11 53 04.2 -0.7**
comp=Z,160nm,0.9s,mb6.0
SNF AP pP 11 53 09.5 +2.0
RIV Riverview 80.04 183 *eP* **P 11 53 04.2 -0.9**
PMOR Pomariorio Ree 80.06 124 *eP* **P 11 53 03.9 -1.3**
comp=Z,335nm,1.2s,mb6.1
NCB Newcomb 80.07 34 *eP* **P 11 53 04.2 -1.1**
comp=Z,242nm,1.3s,mb6.0
JHLN Al Jahlan 80.11 312 ⇑*iP* **P 11 53 05.9 +0.4**
JMB Yambol 80.11 324 *eP* **P 11 53 04.7 -0.8**
JMB Yambol 80.11 324 *iP* **P 11 53 04.0 -1.5**
QRN Al-Qurain 80.11 301 *eP* **P 11 53 05.3 -0.2**
RUP Ruppelstein 80.11 339 *eP* **P 11 53 05.4 -0.1**
NAY Al-Naaiem 80.11 302 *eP* **P 11 53 05.4 -0.2**
RDF Al-Radifah 80.20 302 *eP* **P 11 53 05.8 -0.1**
KTD Kalmit 80.21 339 *eP* **P 11 53 05.8 -0.2**
SWN1 Swindon 80.26 345 *eP* **P 11 53 07.2 +0.9**
SWN1 AMb AMB 11 53 14.6
comp=Z,1µm,0.9s,mb6.8
DRWC Darouich 80.26 314 ⇑*iP* **P 11 53 06.9 +0.6**
GIVF Givet 80.27 341 ⇓*iP* **P 11 53 05.6 -0.7**
comp=Z,795nm,1.0s,mb6.3
GIVF Givet 80.27 341 ⇓*iP* **P 11 53 05.6 -0.7**
GIVF pmax pmax
comp=Z,398nm,1.0s,mb6.3
GIVF Givet 80.27 341 ⇓*iP* **P 11 53 05.6 -0.7**
comp=Z,398nm,1.0s,mb6.3
HGH Gray Hill 80.31 346 *eP* **P 11 53 07.9 +1.3**
DOU Dourbes 80.32 341 P **P 11 53 05.8 -0.8**
comp=Z,129nm,1.1s,mb5.8
DOU AP pP 11 53 12.1 +2.8
DOU XP sP 11 53 13.5 +3.3
WLF Walferdange 80.37 340 *eP* **P 11 53 06.5 -0.4**
comp=Z,514nm,1.2s,mb6.3
WLF Walferdange 80.37 340 P **P 11 53 06.0 -0.9**
comp=Z,130nm,1.1s,mb5.8
WLF XP sP 11 53 15.2 +4.8
WLF Walferdange 80.37 340 *eP* **P 11 53 07.0 +0.1**
comp=Z,5µm,0.6s
VAH Vaihoa 80.40 124 *eP* **P 11 53 05.5 -1.5**
comp=Z,244nm,1.2s,mb6.0
FUR Furstenfeldbru 80.42 336 *eP* **P 11 53 06.7 -0.5**
comp=Z,865nm,1.0s,mb6.6
FUR Furstenfeldbru 80.42 336 *eP* **P 11 53 06.7 -0.5**
FUR pmax pmax
comp=Z,865nm,1.0s,mb6.6
STU Stuttgart 80.43 338 *eP* **P 11 53 06.6 -0.6**
comp=Z,490nm,1.0s,mb6.4
STU Stuttgart 80.43 338 *eP* **P 11 53 07.5 +0.3**
STU pmax pmax
comp=Z,352nm,0.9s,mb6.3
STU Stuttgart 80.43 338 *eP* **P 11 53 07.5 +0.2**
comp=Z,352nm,0.9s,mb6.3
WVT Waverly 80.44 47 *eP* **P 11 53 07.3 +0.1**
WVT pmax pmax
comp=Z,250nm,1.0s,mb6.1
WVT Waverly 80.44 47 *eP* **P 11 53 06.0 -1.2**
comp=Z,252nm,1.0s,mb6.1
BAIF Baives 80.45 341 ⇓*iP* **P 11 53 06.7 -0.6**
comp=Z,1µm,1.2s,mb6.4
BAIF Baives 80.45 341 ⇓*iP* **P 11 53 06.7 -0.6**
BAIF pmax pmax
comp=Z,564nm,1.2s,mb6.4
BAIF Baives 80.45 341 ⇓*iP* **P 11 53 06.7 -0.6**
comp=Z,564nm,1.2s,mb6.4
COBT Iskenderun 80.55 314 *iP* **P 11 53 08.5 +0.7**
LANF Langenberg 80.60 339 *eP* **P 11 53 08.4 +0.3**
FORT Forrest 80.61 203 *eP* **P 11 53 07.3 -0.9**
comp=Z,311nm,0.7s,mb6.3
ESKT Eskisehir 80.71 319 *iP* **P 11 53 08.4 -0.3**
PKME Peaks-Kenny Pk 80.74 30 *eP* **P 11 53 08.3 -0.5**
comp=Z,235nm,1.2s,mb6.0
BOLS Boljevac 80.77 327 ⇑*iP* **P 11 53 07.6 -1.4**
KBA Koelnbreinsper 80.81 334 ⇓*iP* **P 11 53 10.5 +1.3**
comp=Z,1µm,0.9s,mb6.8,SNR=32
BTCH Batrach 80.82 314 ⇑*iP* **P 11 53 10.5 +1.2**
HKT Hockley 80.86 56 *eP* **P 11 53 08.5 -1.0**
HKT pmax pmax
comp=Z,276nm,1.4s,mb6.0
HKT Hockley 80.86 56 *eP* **P 11 53 08.5 -1.0**
comp=Z,276nm,1.4s,mb6.0
BINY Binghamton 80.88 36 *eP* **P 11 53 07.8 -1.9**
comp=Z,135nm,1.2s,mb5.8
DIM Dimitrovgrad 80.89 324 *iP* **P 11 53 09.0 -0.7**
OXF Oxford 80.89 49 *eP* **P 11 53 08.6 -1.1**
OXF pmax pmax
comp=Z,978nm,1.2s,mb6.6
OXF Oxford 80.89 49 *eP* **P 11 53 08.6 -1.1**
comp=Z,978nm,1.2s,mb6.6
OBKA Obir 80.95 333 ⇑*iP* **P 11 53 10.1 +0.2**
comp=Z,163nm,1.0s,mb5.9,SNR=16
STR Strasbourg 80.97 338 *eP* **P 11 53 10.4 +0.3**
VAL Valentia 81.06 351 *eP* **P 11 53 11.3 +0.7**
BFO Black Forest 81.06 338 P **P 11 53 10.7 +0.1**
comp=Z,3µm,0.9s,mb7.2,SNR=18
BFO Black Forest 81.06 338 *eP* **P 11 53 10.0 -0.6**
comp=Z,632nm,1.0s,mb6.5
BFO Black Forest 81.06 338 *eP* **P 11 53 10.0 -0.6**
BFO pmax pmax
comp=Z,632nm,1.0s,mb6.5
WATA Walderalm 81.09 336 ⇓*iP* **P 11 53 10.8 +0.1**
comp=Z,730nm,1.0s,mb6.5,SNR=31
WTTA Wattenberg 81.14 335 ⇓*iP* **P 11 53 11.6 +0.6**
comp=Z,879nm,0.9s,mb6.7,SNR=18
SPAK Spaichingen-Ko 81.15 338 *eP* **P 11 53 11.0 -0.1**
PLD Plovdiv 81.18 325 *eP* **P 11 53 10.5 -0.7**
PPT Papeete 81.18 127 *eP* **P 11 53 09.9 -1.3**
comp=Z,225nm,1.3s,mb5.9
PPT Papeete 81.18 127 P **P 11 53 10.2 -1.1**
comp=Z,172nm,1.1s,mb5.9,baz=28,slow=4.1,SNR=15
ARNB Al Arnab 81.21 314 ⇑*iP* **P 11 53 12.6 +1.3**
HTL Hartland 81.21 347 *eP* **P 11 53 12.4 +1.1**
HTL AMb AMB 11 53 19.7
comp=Z,284nm,0.9s,mb6.2
MOTA Moosalm 81.22 336 ⇓*iP* **P 11 53 11.4 -0.1**
comp=Z,791nm,0.9s,mb6.6,SNR=18
WLS Welschbruch 81.24 339 *eP* **P 11 53 11.7 +0.2**
DIVS Divcibare 81.25 329 *iP* **P 11 53 11.6 0.0**
DIVS Divcibare 81.25 329 *eP* **P 11 53 10.4 -1.3**
CDF Champ du Feu 81.26 339 ⇓*iP* **P 11 53 11.2 -0.4**
comp=Z,1µm,1.0s,mb6.5
CDF Champ du Feu 81.26 339 ⇓*iP* **P 11 53 11.2 -0.4**
CDF pmax pmax
comp=Z,585nm,1.0s,mb6.5
CDF Champ du Feu 81.26 339 ⇓*iP* **P 11 53 11.2 -0.4**
comp=Z,585nm,1.0s,mb6.5
PAE Paea 81.26 127 *eP* **P 11 53 10.0 -1.6**
comp=Z,453nm,1.3s,mb6.2
PAE Paea 81.26 127 *eP* **P 11 53 10.0 -1.6**
PAE pmax pmax
comp=Z,453nm,1.3s,mb6.2
WRDH Warideh 81.26 313 ⇑*iP* **P 11 53 12.6 +0.9**
KDZ Kurdzhali 81.27 324 *iP* **P 11 53 11.0 -0.7**
SLNF Slenfeh 81.29 314 ⇑*iP* **P 11 53 13.0 +1.2**
SQTA Sankt Quirin 81.30 336 ⇑*iP* **P 11 53 12.5 +0.6**
comp=Z,526nm,1.0s,mb6.4,SNR=25
VTS Vitosha 81.35 326 *eP* **P 11 53 11.9 -0.3**
VTS Vitosha 81.35 326 ⇓*iP* **P 11 53 12.5 +0.4**
VTS Vitosha 81.35 326 *iP* **P 11 53 11.0 -1.1**
VTS Vitosha 81.35 326 P **P 11 53 12.2 +0.1**
SSPA Standing Stone 81.41 38 *eP* **P 11 53 11.2 -1.2**
comp=Z,495nm,1.3s,mb6.3
FVI Forni Avoltri 81.41 334 P **P 11 53 11.7 -0.7**
FVI pmax pmax
comp=Z,53nm,0.5s,mb5.7
FVI Forni Avoltri 81.41 334 P **P 11 53 11.7 -0.7**
comp=Z,53nm,0.5s,mb5.7
LIBD Limburg 81.42 338 *eP* **P 11 53 12.5 0.0**
KVTX Kingsville 81.45 59 *eP* **P 11 53 13.8 +1.2**
comp=Z,628nm,1.1s,mb6.5
ECH Echery 81.47 339 *eP* **P 11 53 13.2 +0.5**
TVO Taravao 81.53 127 *eP* **P 11 53 11.8 -1.3**
comp=Z,434nm,1.3s,mb6.2
TVO Taravao 81.53 127 *eP* **P 11 53 11.8 -1.3**
TVO pmax pmax
comp=Z,434nm,1.3s,mb6.2
FELD Feldberg im Sc 81.57 338 *eP* **P 11 53 13.2 -0.1**
CNB Canberra Magne 81.60 184 *eP* **P 11 53 13.1 -0.4**
comp=Z,156nm,1.5s,mb5.7
DAVA Damuels 81.61 337 ⇓*iP* **P 11 53 14.0 +0.5**
comp=Z,686nm,1.1s,mb6.5,SNR=17
ALN Alexandroupoli 81.65 323 *eP* **P 11 53 13.3 -0.4**
RDO Rodhopi 81.65 324 *eP* **P 11 53 13.5 -0.2**
DYA Yadsworthy 81.66 346 *eP* **P 11 53 13.6 -0.2**
BARS Barje 81.68 327 *iP* **P 11 53 12.9 -1.0**
BIDA Albida 81.70 313 ⇑*iP* **P 11 53 15.0 +1.0**
MEZF Maizieres J'vi 81.71 340 ⇓*iP* **P 11 53 13.6 -0.4**
comp=Z,920nm,0.9s,mb6.4
MEZF Maizieres J'vi 81.71 340 ⇓*iP* **P 11 53 13.6 -0.4**
comp=Z,920nm,0.9s,mb6.7
THEF They Montfort 81.75 339 *eP* **P 11 53 14.3 +0.1**
BTOK Tokmak 81.75 321 *iP* **P 11 53 14.7 +0.4**
MOF Molkenrain 81.81 339 *eP* **P 11 53 14.3 -0.3**
HAU Haudompre 81.86 339 ⇓*iP* **P 11 53 14.1 -0.7**
comp=Z,900nm,1.1s,mb6.3
HAU Haudompre 81.86 339 ⇓*iP* **P 11 53 14.1 -0.7**
HAU pmax pmax
comp=Z,450nm,1.1s,mb6.3
HAU Haudompre 81.86 339 ⇓*iP* **P 11 53 14.1 -0.7**
comp=Z,450nm,1.1s,mb6.3
ROOS tl_alroos 81.87 312 ⇑*iP* **P 11 53 15.2 +0.3**
HINF Hinteralfeld 81.92 339 ⇓*iP* **P 11 53 14.3 -0.8**
comp=Z,624nm,1.1s,mb6.2
HINF Hinteralfeld 81.92 339 ⇓*iP* **P 11 53 14.3 -0.8**
HINF pmax pmax
comp=Z,312nm,1.1s,mb6.2
HINF Hinteralfeld 81.92 339 ⇓*iP* **P 11 53 14.3 -0.8**
comp=Z,312nm,1.1s,mb6.2
MMB Musomiste 82.00 325 *eP* **P 11 53 15.0 -0.5**
MMB Musomiste 82.00 325 *iP* **P 11 53 15.6 0.0**
BBS Basel-Blauen 82.08 338 *eP* **P 11 53 16.2 +0.2**
PLE Pljevlja 82.14 329 ⇓*iP* **P 11 53 15.8 -0.5**
TKTP Tekketepe 82.15 319 *iP* **P 11 53 15.1 -1.3**
BRMO Bormio 82.21 336 P **P 11 53 17.4 +0.7**
comp=Z,466nm,1.1s,mb6.3
ISP Isparta 82.23 319 P **P 11 53 17.2 +0.5**
IVA Berane 82.35 328 ⇓*iP* **P 11 53 16.7 -0.7**
LOMF Lomont 82.35 339 *eP* **P 11 53 18.0 +0.6**
MARH Ras Al Marh 82.39 312 ⇑*iP* **P 11 53 19.4 +1.8**
UPM Unac-Piva 82.42 329 ⇓*iP* **P 11 53 15.9 -1.9**
SRS Serrai 82.45 325 *eP* **P 11 53 16.9 -1.1**
SKO Skopje 82.56 327 *eP* **P 11 53 18.9 +0.4**
SKO Skopje 82.56 327 ⇑*iP* **P 11 53 18.9 +0.4**
PVY Plav 82.56 328 ⇓*iP* **P 11 53 17.2 -1.3**
FWV Forest Hill 82.64 41 *eP* **P 11 53 18.1 -0.8**
VAY Valandovo 82.68 326 *eP* **P 11 53 17.9 -1.3**
VAY Valandovo 82.68 326 ⇑*iP* **P 11 53 18.5 -0.6**
KNT Kendrikon 82.69 325 *eP* **P 11 53 18.5 -0.6**
AYVA Ayvalik 82.70 322 *iP* **P 11 53 18.0 -1.3**
NKY Niksic 82.73 329 ⇓*iP* **P 11 53 17.6 -1.8**
LDF La Druitiere 82.75 343 ⇓*iP* **P 11 53 18.4 -1.1**
comp=Z,507nm,1.0s,mb6.2
LDF La Druitiere 82.75 343 ⇓*iP* **P 11 53 18.4 -1.1**
LDF pmax pmax
comp=Z,253nm,1.0s,mb6.2
LDF La Druitiere 82.75 343 ⇓*iP* **P 11 53 18.4 -1.1**
comp=Z,253nm,1.0s,mb6.2
SOH Sokhos 82.80 325 *eP* **P 11 53 18.5 -1.2**
BRY Bratogost 82.81 329 ⇓*iP* **P 11 53 18.3 -1.5**
ZALF Zalf 82.82 311 ⇑*iP* **P 11 53 21.1 +1.2**
LOS Limnos 82.85 323 *eP* **P 11 53 19.2 -0.8**
QASN Qassioun 82.89 312 ⇑*iP* **P 11 53 21.7 +1.5**
CJM Chamela 82.92 69 *eP* **P 11 53 18.4 -1.9**
PRK Paraskevi 82.93 322 *eP* **P 11 53 20.0 -0.4**
TOTH TOTAH 82.95 312 ⇑*iP* **P 11 53 21.4 +0.9**
ELN Prospectdale 82.96 41 *eP* **P 11 53 19.4 -1.1**
OUR Ouranopolis 82.96 324 *eP* **P 11 53 19.4 -1.2**
TTG Podgorica 82.97 328 ⇓*iP* **P 11 53 19.4 -1.2**
DNZL Cakiroluk 83.02 319 *iP* **P 11 53 27.8 +7.0**
GRG Griva 83.06 326 *eP* **P 11 53 20.2 -0.9**
GRR Gorron 83.08 344 ⇓*iP* **P 11 53 20.6 -0.6**
comp=Z,2µm,1.1s,mb6.7
GRR Gorron 83.08 344 ⇓*iP* **P 11 53 20.6 -0.6**
GRR pmax pmax
comp=Z,866nm,1.1s,mb6.7
GRR Gorron 83.08 344 ⇓*iP* **P 11 53 20.6 -0.6**
comp=Z,866nm,1.1s,mb6.7
HORT Hortiatis 83.09 325 *eP* **P 11 53 19.9 -1.4**
BLA Blacksburg 83.12 41 *eP* **P 11 53 21.2 -0.2**
BLA pmax pmax

comp=Z,556nm,1.1s,mb6.5
BLA Blacksburg 83.12 41 eP P 11 53 21.2 -0.2
comp=Z,556nm,1.1s,mb6.5
SHAO Shalim 83.13 289 P P 11 53 22.3 +0.8
SNR=16
SHAO Shalim 83.13 289 P P 11 53 22.3 +0.8
SNR=16
SHAO Shalim 83.13 289 P P 11 53 22.3 +0.8
SNR=16
SHAO Shalim 83.13 289 P P 11 53 22.3 +0.8
SNR=16
SHAO Shalim 83.13 289 P P 11 53 22.3 +0.8
SNR=16
PLG Polygyros 83.14 325 eP P 11 53 20.7 -0.8
PLG Polygyros 83.14 325 eP P 11 53 20.5 -1.0
LOR Lormes 83.15 340⇓iP P 11 53 20.9 -0.6
comp=Z,1µm,1.0s,mb6.7
LOR Lormes 83.15 340⇓iP P 11 53 20.9 -0.6
LOR pmax pmax
comp=Z,743nm,1.0s,mb6.7
LOR Lormes 83.15 340⇓iP P 11 53 20.9 -0.6
comp=Z,743nm,1.0s,mb6.7
KRUS Krusevo 83.15 327 iP P 11 53 21.3 -0.2
BRBR Barbar 83.15 312 ⇑P P 11 53 22.9 +1.4
KDAG Bornova 83.21 321 iP P 11 53 20.8 -1.1
BUM Brajici-Budva 83.21 329⇓iP P 11 53 21.2 -0.7
CSS Prodhromos 83.22 315 P P 11 53 20.9 -1.0
comp=Z,6.8nm,1.0s
CSS Prodhromos 83.22 315 eP P 11 53 21.4 -0.6
HCY Herceg Novi 83.23 329⇓iP P 11 53 20.2 -1.7
CABF La Chapelle 83.23 339⇓iP P 11 53 21.6 -0.4
comp=Z,325nm,0.8s,mb6.1
CABF La Chapelle 83.23 339⇓iP P 11 53 21.6 -0.4
CABF pmax pmax
comp=Z,162nm,0.8s,mb6.1
CABF La Chapelle 83.23 339⇓iP P 11 53 21.6 -0.4
comp=Z,162nm,0.8s,mb6.1
SALA Sala 83.30 311 ⇑P P 11 53 23.8 +1.5
ULC Ulcinj 83.38 328⇓iP P 11 53 21.5 -1.2
ALFC Alevga 83.42 316 ⇑P P 11 53 21.1 -1.9
comp=Z,9.6nm,0.8s
ALFC Alevga 83.42 316⇑eP P 11 53 21.1 -1.9
SSF Saint Saulge 83.42 341⇓iP P 11 53 22.3 -0.7
comp=Z,531nm,0.8s,mb6.3
SSF Saint Saulge 83.42 341⇓iP P 11 53 22.3 -0.7
SSF pmax pmax
comp=Z,266nm,0.8s,mb6.3
SSF Saint Saulge 83.42 341⇓iP P 11 53 22.3 -0.7
comp=Z,266nm,0.8s,mb6.3
HYF Humbligny 83.43 341⇓iP P 11 53 22.7 -0.3
PAIG Paliouri 83.43 324 eP P 11 53 21.5 -1.5
SFJM Santa Fe 83.49 67 eP P 11 53 22.0 -1.3
SGMF Saint Gilles 83.53 345⇓iP P 11 53 22.9 -0.6
comp=Z,909nm,0.7s,mb6.7
SGMF Saint Gilles 83.53 345⇓iP P 11 53 22.9 -0.6
SGMF pmax pmax
comp=Z,455nm,0.7s,mb6.7
SGMF Saint Gilles 83.53 345⇓iP P 11 53 22.9 -0.6
comp=Z,455nm,0.7s,mb6.7
OHR Ohrid 83.54 327 eP P 11 53 22.2 -1.4
OHR Ohrid 83.54 327⇑iP P 11 53 22.1 -1.5
ROSF Rostrenen 83.58 345⇓iP P 11 53 23.1 -0.7
comp=Z,1µm,0.9s,mb6.7
ROSF Rostrenen 83.58 345⇓iP P 11 53 23.1 -0.7
ROSF pmax pmax
comp=Z,583nm,0.9s,mb6.7
ROSF Rostrenen 83.58 345⇓iP P 11 53 23.1 -0.7
comp=Z,583nm,0.9s,mb6.7
FNA Florina 83.61 326 eP P 11 53 22.9 -1.0
ASF Jabal al Asfar 83.64 311 P P 11 53 24.6 +0.6
comp=Z,149nm,1.0s,mb6.3,baz=265,slow=1.3,SNR=23
CBN Corbin 83.65 39 eP P 11 53 23.8 -0.4
comp=Z,704nm,1.3s,mb6.6
ORO Oropa 83.65 337 P P 11 53 24.3 +0.2
ORO pmax pmax
comp=Z,134nm,0.7s,mb6.2
ORO Oropa 83.65 337 P P 11 53 24.3 +0.2
comp=Z,134nm,0.7s,mb6.2
AKMC Akamas 83.66 316 P P 11 53 23.6 -0.6
AKMC Akamas 83.66 316 eP P 11 53 23.6 -0.6
TIR Tirane 83.69 327 eP P 11 53 23.2 -1.1
AVF Avril sur Loir 83.72 341⇓iP P 11 53 23.9 -0.6
comp=Z,1µm,0.8s,mb6.8
AVF Avril sur Loir 83.72 341⇓iP P 11 53 23.9 -0.6
AVF pmax pmax
comp=Z,624nm,0.8s,mb6.8
AVF Avril sur Loir 83.72 341⇓iP P 11 53 23.9 -0.6
comp=Z,624nm,0.8s,mb6.8
SMF Signal de Mont 83.74 340⇓iP P 11 53 24.0 -0.6
comp=Z,3µm,1.1s,mb7.0
SMF Signal de Mont 83.74 340⇓iP P 11 53 24.0 -0.6
SMF pmax pmax
comp=Z,1µm,1.1s,mb7.0
SMF Signal de Mont 83.74 340⇓iP P 11 53 24.0 -0.6
comp=Z,1µm,1.1s,mb7.0
LIT Litokhoron 83.76 325 eP P 11 53 26.5 +1.8
PPCY Paphos 83.77 316 P P 11 53 23.1 -1.6
PESA Pesaro 83.79 333 P P 11 53 25.5 +0.7
KZN Kozani 83.86 326 eP P 11 53 24.0 -1.2
QUIF Quistinic 83.96 345⇓iP P 11 53 24.9 -0.8
comp=Z,268nm,0.8s,mb6.2
QUIF Quistinic 83.96 345⇓iP P 11 53 24.9 -0.8
QUIF pmax pmax
comp=Z,134nm,0.8s,mb6.1
QUIF Quistinic 83.96 345⇓iP P 11 53 24.9 -0.8
comp=Z,134nm,0.8s,mb6.1
SMG Samos 83.97 321 eP P 11 53 26.0 +0.2
ZCCA Zocca 83.98 335 P P 11 53 26.8 +1.0
comp=Z,445nm,1.0s,mb6.5
AOS Alonnisos 83.99 324 eP P 11 53 25.0 -0.9
KSL Kastellorizon 84.04 318 eP P 11 53 26.5 +0.4
BGF Bois d'Agland 84.05 341⇓iP P 11 53 25.7 -0.5
comp=Z,670nm,0.7s,mb6.6
BGF Bois d'Agland 84.05 341⇓iP P 11 53 25.7 -0.5
BGF pmax pmax
comp=Z,335nm,0.7s,mb6.6
BGF Bois d'Agland 84.05 341⇓iP P 11 53 25.7 -0.5
comp=Z,335nm,0.7s,mb6.6
LPL La Plagne 84.08 338⇓iP P 11 53 26.7 +0.4
comp=Z,696nm,0.8s,mb6.5
LPL La Plagne 84.08 338⇓iP P 11 53 26.7 +0.4
LPL pmax pmax
comp=Z,348nm,0.8s,mb6.5
LPL La Plagne 84.08 338⇓iP P 11 53 26.7 +0.4
comp=Z,348nm,0.8s,mb6.5
GSCL Gusciola 84.09 335 P P 11 53 27.5 +1.1
comp=Z,593nm,1.1s,mb6.6
LPG La Plagne 84.09 338⇓iP P 11 53 26.9 +0.5
comp=Z,962nm,0.9s,mb6.7
LPG La Plagne 84.09 338⇓iP P 11 53 26.9 +0.5
LPG pmax pmax
comp=Z,481nm,0.9s,mb6.6
LPG La Plagne 84.09 338⇓iP P 11 53 26.9 +0.5
comp=Z,481nm,0.9s,mb6.6
XOR Xorichti 84.11 324 eP P 11 53 24.9 -1.6
TOO Toolangi 84.12 187 eP P 11 53 25.9 -0.6
comp=Z,67nm,1.3s,mb5.6
TOO Toolangi 84.12 187 eP P 11 53 25.9 -0.6
TOO pmax pmax
comp=Z,67nm,1.3s,mb5.6
SEI Scarperia 84.14 334 P P 11 53 28.1 +1.5
comp=Z,1µm,0.7s,mb7.1
VMG Vicchio 84.16 334 P P 11 53 27.5 +0.7
comp=Z,2µm,1.7s,mb7.0
BDRM Kayabasi 84.25 320 iP P 11 53 26.2 -0.9
VLC Villacollemand 84.33 335 eP P 11 53 28.8 +1.2
comp=Z,313nm,1.0s,mb6.4
CRE Caprese Michel 84.35 334 P P 11 53 27.7 0.0
CRE pmax pmax
comp=Z,243nm,1.0s,mb6.3
CRE Caprese Michel 84.35 334 P P 11 53 27.7 0.0
comp=Z,243nm,1.0s,mb6.3
SNTG Esanatoglia 84.37 333 P P 11 53 28.5 +0.7
comp=Z,249nm,1.0s,mb6.3
CDCA Citt' di Caste 84.41 333 P P 11 53 29.2 +1.2
comp=Z,2µm,1.0s,mb7.1
WHFO Wadi Hawf 84.41 290 P P 11 53 28.1 +0.1
SNR=33
WHFO Wadi Hawf 84.41 290 P P 11 53 28.4 +0.3
SNR=23
WHFO Wadi Hawf 84.41 290 P P 11 53 28.4 +0.3
SNR=23
WHFO Wadi Hawf 84.41 290 P P 11 53 28.1 +0.1
SNR=33
WHFO P 11 53 28.4
SNR=23
WHFO Wadi Hawf 84.41 290 P P 11 53 28.1 +0.1
SNR=33
WHFO P 11 53 28.4
SNR=23
WHFO Wadi Hawf 84.41 290 P P 11 53 28.1 +0.1
SNR=33
WHFO P 11 53 28.4
SNR=23
PLDF La Plantade 84.43 340 eP P 11 53 28.5 +0.4
RBK Rabkut 84.43 289 P P 11 53 27.9 -0.2
SNR=25
RBK Rabkut 84.43 289 P P 11 53 28.7 +0.6
SNR=18
RBK Rabkut 84.43 289 P P 11 53 28.7 +0.6
SNR=18
RBK Rabkut 84.43 289 P P 11 53 27.9 -0.2
SNR=25
RBK P pP 11 53 28.7 -2.0
SNR=18
RBK Rabkut 84.43 289 P P 11 53 27.9 -0.2
SNR=25
RBK P pP 11 53 28.7 -2.0
SNR=18
RBK Rabkut 84.43 289 P P 11 53 28.7 +0.6
SNR=18
TCF Toulx Ste Croi 84.45 341⇓iP P 11 53 27.7 -0.5
comp=Z,1µm,1.0s,mb6.6
TCF Toulx Ste Croi 84.45 341⇓iP P 11 53 27.7 -0.5
TCF pmax pmax
comp=Z,543nm,1.0s,mb6.6
TCF Toulx Ste Croi 84.45 341⇓iP P 11 53 27.7 -0.5
comp=Z,542nm,1.0s,mb6.6
AGO Saint Agoulin 84.46 340 eP P 11 53 29.4 +1.1
BNI Bardonecchia 84.53 338 eP P 11 53 29.2 +0.6
BNI pmax pmax
comp=Z,264nm,0.9s,mb6.4
BNI Bardonecchia 84.53 338 eP P 11 53 29.2 +0.6
comp=Z,264nm,0.9s,mb6.4
GDM Grand'Maison 84.53 338 eP P 11 53 29.1 +0.5
KLBR Kellerberrin 84.59 211 eP P 11 53 27.6 -1.3
comp=Z,195nm,1.0s,mb6.2
GRN Grenoble 84.59 338 eP P 11 53 29.6 +0.7
ASS Assisi 84.64 333 P P 11 53 29.6 +0.4
comp=Z,19nm,0.8s,mb5.3
ARG Arkhangelos 84.64 319 eP P 11 53 29.0 -0.2
MFF Saint Martin d 84.65 343⇓iP P 11 53 28.7 -0.5
comp=Z,696nm,0.8s,mb6.5
MFF Saint Martin d 84.65 343⇓iP P 11 53 28.7 -0.5
MFF pmax pmax
comp=Z,348nm,0.8s,mb6.5
MFF Saint Martin d 84.65 343⇓iP P 11 53 28.7 -0.5
comp=Z,348nm,0.8s,mb6.5
CSNT Castellina Chi 84.69 334 P P 11 53 28.5 -0.9
comp=Z,249nm,0.8s,mb6.4
AGG Agios Georgios 84.75 325 eP P 11 53 26.1 -3.6
FGMS Monte Sant'Ang 84.77 330 P P 11 53 28.8 -1.0
comp=Z,78nm,1.1s,mb6.7
PYM Petit Puy Mans 84.78 340 eP P 11 53 29.0 -0.9
JAN Janina 84.78 326 eP P 11 53 29.5 -0.4
MBDF Montbardon 84.81 338⇓iP P 11 53 29.7 -0.3
comp=Z,400nm,0.8s,mb6.3
MBDF Montbardon 84.81 338⇓iP P 11 53 29.7 -0.3
MBDF pmax pmax
comp=Z,200nm,0.8s,mb6.3
MBDF Montbardon 84.81 338⇓iP P 11 53 29.7 -0.3
comp=Z,200nm,0.8s,mb6.3
COLF Compettes 84.84 340 eP P 11 53 30.1 -0.1
BRAL Brewton 84.86 49 eP P 11 53 29.4 -0.8
comp=Z,622nm,0.9s,mb6.7
ORIF Oris-en-Rattie 84.86 338⇓iP P 11 53 30.4 +0.1
comp=Z,1µm,0.8s,mb6.7
ORIF Oris-en-Rattie 84.86 338⇓iP P 11 53 30.4 +0.1
ORIF pmax pmax
comp=Z,523nm,0.8s,mb6.7
ORIF Oris-en-Rattie 84.86 338⇓iP P 11 53 30.4 +0.1
comp=Z,523nm,0.8s,mb6.7
RGNG Rignano Grg 84.92 330 P P 11 53 30.1 -0.5
FG2 Serracapriola 84.95 331 P P 11 53 31.7 +1.0
comp=Z,669nm,1.4s,mb6.7
PTL Penteli 84.95 323 eP P 11 53 29.0 -1.7
SURF Saint Ours 85.02 337 eP P 11 53 29.7 -1.4
AQU L'Aquila 85.04 332⇑iP P 11 53 32.1 +0.9
AQU L'Aquila 85.04 332⇑P P 11 53 32.1 +0.9
EVR Evrytania 85.04 325 eP P 11 53 30.6 -0.6
APE Apeiranthos 85.08 321 eP P 11 53 34.9 +3.5
APE Apeiranthos 85.08 321⇓iP P 11 53 28.1 -3.3
APE Apeiranthos 85.08 321 P P 11 53 35.8 +4.4
ATH Athens Observa 85.08 323 eP P 11 53 30.5 -0.9
IGT Igoumenitsa 85.09 326 eP P 11 53 29.9 -1.6
ABTO Aybut 85.13 290 P P 11 53 32.7 +1.1
SNR=16
ABTO Aybut 85.13 290 P P 11 53 31.8 +0.2
SNR=21
ABTO Aybut 85.13 290 P P 11 53 31.8 +0.2
SNR=21
ABTO Aybut 85.13 290 P P 11 53 32.7 +1.1
SNR=16
ABTO Aybut 85.13 290 P P 11 53 32.7 +1.1
SNR=16
ABTO Aybut 85.13 290 P P 11 53 32.7 +1.1
SNR=16
KEK Kerkira 85.14 327 eP P 11 53 30.5 -1.2
KVR Kavouri 85.18 323 eP P 11 53 30.0 -1.9
LBL Lubilhac 85.21 340 eP P 11 53 32.2 +0.2
LCI Lecce 85.22 328 P P 11 53 31.5 -0.6
LCI pmax pmax
comp=Z,166nm,0.7s,mb6.3
LCI Lecce 85.22 328 P P 11 53 31.5 -0.6
comp=Z,166nm,0.7s,mb6.3
VIVF Saint-Julien-l 85.22 339⇓iP P 11 53 31.8 -0.3
comp=Z,676nm,1.0s,mb6.4
VIVF Saint-Julien-l 85.22 339⇓iP P 11 53 31.8 -0.3
VIVF pmax pmax
comp=Z,338nm,1.0s,mb6.4
VIVF Saint-Julien-l 85.22 339⇓iP P 11 53 31.8 -0.3
comp=Z,338nm,1.0s,mb6.4
MOIG Morelia 85.26 66 eP P 11 53 32.0 -0.2
SAOF Saorge 85.28 337 eP P 11 53 32.3 -0.1
AUTN L'Aution 85.31 337 eP P 11 53 32.6 +0.1
TOUF Mont Tournerai 85.34 337 eP P 11 53 32.7 0.0
NAIG Nisos Aigina 85.36 323 eP P 11 53 30.5 -2.3
FG5 Orsara di Pugl 85.38 330 P P 11 53 32.8 -0.1
FG5 pmax pmax
comp=Z,389nm,0.7s,mb6.6
FG5 Orsara di Pugl 85.38 330 P P 11 53 32.8 -0.1
comp=Z,389nm,0.7s,mb6.6
MATF Mathat 85.42 343 eP P 11 53 36.1 +3.0
LUCF Luceram 85.43 337 eP P 11 53 32.9 -0.2
FG4 Candela 85.43 330 P P 11 53 32.6 -0.5
FG4 pmax pmax
comp=Z,857nm,0.8s,mb6.9
FG4 Candela 85.43 330 P P 11 53 32.6 -0.5
comp=Z,857nm,0.8s,mb6.9
SBF Sospel 85.43 337⇓iP P 11 53 32.2 -0.9
comp=Z,1µm,1.1s,mb6.7
SBF Sospel 85.43 337⇓iP P 11 53 32.2 -0.9
SBF pmax pmax
comp=Z,613nm,1.1s,mb6.7
SBF Sospel 85.43 337⇓iP P 11 53 32.2 -0.9
comp=Z,613nm,1.1s,mb6.7
MVIF Mont Vial 85.48 337 eP P 11 53 33.5 +0.1
SDI San Donato 85.49 332 P P 11 53 32.6 -0.8
SDI pmax pmax
comp=Z,330nm,1.0s,mb6.4
SDI San Donato 85.49 332 P P 11 53 32.6 -0.8
comp=Z,330nm,1.0s,mb6.4
MUN Mundaring 85.50 212 eP P 11 53 32.3 -1.2
OLEF Ile d'Oleron 85.52 343 eP P 11 53 36.4 +2.8
RJF Les Rejaudoux 85.54 341⇓iP P 11 53 32.8 -0.9
comp=Z,1µm,1.1s,mb6.7
RJF Les Rejaudoux 85.54 341⇓iP P 11 53 32.8 -0.9
RJF pmax pmax
comp=Z,574nm,1.1s,mb6.7
RJF Les Rejaudoux 85.54 341⇓iP P 11 53 32.8 -0.9
comp=Z,574nm,1.1s,mb6.7
REVF Revere 85.56 337 eP P 11 53 33.5 -0.3
GUAR Guarcino 85.57 332 P P 11 53 33.0 -0.8
LKD Levkas 85.68 326 eP P 11 53 34.4 0.0
SANT Santorini 85.69 321 eP P 11 53 30.2 -4.3
SANT Santorini 85.69 321 eP P 11 53 33.3 -1.2
comp=Z,442nm,1.0s,mb6.7
STOF St-Etienne Org 85.71 338 eP P 11 53 35.3 +0.8
CAF Calviac 85.77 341⇓iP P 11 53 34.3 -0.5
comp=Z,1µm,1.0s,mb6.7
CAF Calviac 85.77 341⇓iP P 11 53 34.3 -0.5
CAF pmax pmax
comp=Z,507nm,1.0s,mb6.7
CAF Calviac 85.77 341⇓iP P 11 53 34.3 -0.5
comp=Z,507nm,1.0s,mb6.7
RFI Roccamonfina 85.80 331 P P 11 53 34.5 -0.5
comp=Z,210nm,1.5s,mb6.2
MA9 Marino 85.80 332 P P 11 53 34.3 -0.7
comp=Z,466nm,1.1s,mb6.6
SMRF Simiane la Rot 85.82 338⇓iP P 11 53 35.1 0.0
comp=Z,751nm,1.2s,mb6.5
SMRF Simiane la Rot 85.82 338⇓iP P 11 53 35.1 0.0
comp=Z,751nm,1.2s,mb6.8
CSSN Cassano Irpino 85.84 330 P P 11 53 34.8 -0.4
comp=Z,95nm,0.8s,mb6.1
FRF La Foret Royal 85.92 337⇓iP P 11 53 34.9 -0.7
comp=Z,510nm,1.2s,mb6.3
FRF La Foret Royal 85.92 337⇓iP P 11 53 34.9 -0.7
FRF pmax pmax
comp=Z,255nm,1.2s,mb6.3
FRF La Foret Royal 85.92 337⇓iP P 11 53 34.9 -0.7
comp=Z,255nm,1.2s,mb6.3
NWAO Narrogin (SRO) 85.98 211 P P 11 53 34.7 -1.2
NWAO pmax pmax
comp=Z,390nm,1.1s
NWAO Narrogin (SRO) 85.98 211 eP P 11 53 34.9 -0.9
comp=Z,387nm,1.1s,mb6.5
SGO Sicignano 86.01 330 P P 11 53 34.5 -1.5
SGO pmax pmax
comp=Z,315nm,1.5s,mb6.3
SGO Sicignano 86.01 330 P P 11 53 34.5 -1.5
comp=Z,315nm,1.5s,mb6.3
TAVF Tavernes 86.03 338 eP P 11 53 36.1 0.0
LFF La Frestale 86.05 342⇓iP P 11 53 35.1 -1.1
comp=Z,1µm,1.0s,mb6.8
LFF La Frestale 86.05 342⇓iP P 11 53 35.1 -1.1
LFF pmax pmax
comp=Z,634nm,1.0s,mb6.8
LFF La Frestale 86.05 342⇓iP P 11 53 35.1 -1.1
comp=Z,634nm,1.0s,mb6.8
ORI Oriolo Calabro 86.06 329 P P 11 53 36.4 +0.2
PRAF Pradon 86.08 338 eP P 11 53 37.7 +1.3
LASF Ste Croix 86.15 339⇓iP P 11 53 36.3 -0.4
comp=Z,813nm,1.1s,mb6.6
VLS Valsamata 86.16 325 eP P 11 53 35.5 -1.3
LMR La Mourre 86.17 337⇓iP P 11 53 36.3 -0.5
comp=Z,822nm,1.1s,mb6.6
LMR La Mourre 86.17 337⇓iP P 11 53 36.3 -0.5
LMR pmax pmax
comp=Z,411nm,1.1s,mb6.6
LMR La Mourre 86.17 337⇓iP P 11 53 36.3 -0.5
comp=Z,411nm,1.1s,mb6.6
PGF Pioggiola 86.21 335⇓iP P 11 53 36.2 -0.8
comp=Z,526nm,1.0s,mb6.4
PGF Pioggiola 86.21 335⇓iP P 11 53 36.2 -0.8
PGF pmax pmax
comp=Z,263nm,1.0s,mb6.4
PGF Pioggiola 86.21 335⇓iP P 11 53 36.2 -0.8
comp=Z,263nm,1.0s,mb6.4
GELF Grande-Etoile 86.41 338 eP P 11 53 39.4 +1.4
ZKR Zakros 86.42 320 eP P 11 53 37.4 -0.7
VLI Veliai 86.47 323 eP P 11 53 35.0 -3.3
ITM Ithomi 86.49 324 eP P 11 53 37.5 -0.9
NPS Neapolis 86.56 320 eP P 11 53 37.0 -1.7
KYTH Kithira 86.80 323 eP P 11 53 37.6 -2.3
XRY Khrisi 86.85 320 eP P 11 53 43.5 +3.4
IIO Organos 86.87 65 iP P 11 53 40.2 -0.1
VAM Vamos 87.05 321 eP P 11 53 41.0 -0.1
SIVA Sivas 87.12 321 eP P 11 53 40.2 -1.3
GRI Girifalco 87.17 329 P P 11 53 41.2 -0.5
KARN Karanos 87.18 322 eP P 11 53 40.7 -1.1
MTLF Montolieu 87.24 340⇓iP P 11 53 41.0 -1.0
comp=Z,549nm,1.1s,mb6.4
MTLF Montolieu 87.24 340⇓iP P 11 53 41.0 -1.0
MTLF pmax pmax
comp=Z,274nm,1.1s,mb6.4
MTLF Montolieu 87.24 340⇓iP P 11 53 41.0 -1.0
comp=Z,274nm,1.1s,mb6.4
PLIG Platanillo 87.27 66 eP P 11 53 41.9 -0.3
LRDF Laroque-de-Fa 87.55 340 eP P 11 53 43.5 0.0
CAIG El Cayaco 87.79 68 eP P 11 53 45.1 +0.4
CARF Carcanieres 87.86 340 eP P 11 53 44.8 -0.2
MLS Moulis 87.86 341 eP P 11 53 44.5 -0.5
SJAF Saint Jean de 87.89 339 eP P 11 53 44.8 -0.4
SCLL Scilla 87.92 329 P P 11 53 43.2 -2.1
comp=Z,100nm,0.8s,mb6.1
EJON La Jonquera 87.92 339 P P 11 53 46.5 +1.2
comp=Z,64nm,1.3s,mb5.7
EPF Esparros 87.96 341⇓iP P 11 53 43.7 -1.8
comp=Z,141nm,0.7s,mb6.0
EPF Esparros 87.96 341⇓iP P 11 53 43.7 -1.8
EPF pmax pmax
comp=Z,70nm,0.7s,mb6.0
EPF Esparros 87.96 341⇓iP P 11 53 43.7 -1.8
comp=Z,70nm,0.7s,mb6.0
SLNA Salina 87.96 330 P P 11 53 44.5 -1.0
comp=Z,251nm,0.6s,mb6.6
MSI Messina ING 88.02 329 P P 11 53 45.3 -0.5
MSI pmax pmax
comp=Z,1µm,0.8s,mb7.1
MSI Messina ING 88.02 329 P P 11 53 45.3 -0.5
comp=Z,1µm,0.8s,mb7.1
MTTG Motta San Giov 88.16 329 P P 11 53 45.6 -0.8
comp=Z,286nm,0.8s,mb6.5
VIEF Viey 88.17 342 eP P 11 53 45.3 -1.2
RESF Ens 88.17 341 eP P 11 53 46.2 -0.3
LVIG Laguna Verde 88.20 63 eP P 11 53 42.0 -4.6
SJPF Ste Jean 88.21 343⇓iP P 11 53 46.7 0.0
comp=Z,62nm,0.8s,mb5.6
SJPF Ste Jean 88.21 343⇓iP P 11 53 46.7 0.0
SJPF pmax pmax
comp=Z,31nm,0.8s,mb5.6
SJPF Ste Jean 88.21 343⇓iP P 11 53 46.7 0.0
comp=Z,31nm,0.8s,mb5.6
ELIZ Elizondo 88.23 343 P P 11 53 47.9 +1.1
ELIZ pmax pmax
comp=Z,29nm,0.9s,mb5.5
ELIZ Elizondo 88.23 343 P P 11 53 47.9 +1.1
comp=Z,29nm,0.9s,mb5.5
ETSF Etsaut 88.28 342⇓iP P 11 53 45.8 -1.2
comp=Z,222nm,0.9s,mb6.1
ETSF Etsaut 88.28 342⇓iP P 11 53 45.8 -1.2
ETSF pmax pmax
comp=Z,111nm,0.9s,mb6.1
ETSF Etsaut 88.28 342⇓iP P 11 53 45.8 -1.2
comp=Z,111nm,0.9s,mb6.1
EBIE Bielsa 88.33 341 P P 11 53 48.3 +1.1
comp=Z,31nm,1.0s,mb5.5
USI Ustica 88.40 331 P P 11 53 47.2 -0.4
comp=Z,676nm,1.2s,mb6.8
ELAN Lanestosa 88.54 344 P P 11 53 47.0 -1.2
comp=Z,149nm,0.9s,mb6.3
MNO Monte Soro 88.57 329 P P 11 53 47.6 -0.8
MNO pmax pmax
comp=Z,557nm,1.0s,mb6.8
MNO Monte Soro 88.57 329 P P 11 53 47.6 -0.8
comp=Z,556nm,1.0s,mb6.8
EMIR Miracle 88.75 340 P P 11 53 49.6 +0.4
comp=Z,48nm,1.0s,mb5.8
EARI Arriondas 88.79 345 P P 11 53 48.7 -0.7
comp=Z,274nm,1.3s,mb6.4
ECRI Cripan 88.96 343 P P 11 53 50.1 -0.1
ECRI pmax pmax
comp=Z,26nm,1.2s,mb5.4
ECRI Cripan 88.96 343 P P 11 53 50.1 -0.2
comp=Z,26nm,1.2s,mb5.4
EPON Pontenova 89.09 347 P P 11 53 50.0 -0.8
comp=Z,262nm,1.0s,mb6.5
ERC Erice 89.20 331 P P 11 53 51.2 -0.2
TAU Tasmania Unive 89.28 185 eP P 11 53 51.5 -0.2
TAU pmax pmax
comp=Z,404nm,1.4s,mb6.6
TAU Tasmania Unive 89.28 185 eP P 11 53 51.5 -0.2
comp=Z,404nm,1.4s,mb6.6
ESAC San Caprasio 89.39 342 P P 11 53 52.9 +0.7
comp=Z,86nm,1.0s,mb6.0
EPOB Poblet 89.39 340 P P 11 53 53.7 +1.5
comp=Z,28nm,0.9s,mb5.6
CLTB Caltabellotta 89.40 330 P P 11 53 52.6 +0.3
comp=Z,346nm,1.3s,mb6.5
FAVR Favara 89.53 330 P P 11 53 53.2 +0.3
comp=Z,123nm,0.9s,mb6.2
EMAZ Mazaricos 89.73 348 P P 11 53 53.7 -0.2
comp=Z,117nm,1.1s,mb6.1
STS Santiago 89.73 348 P P 11 53 52.3 -1.5
STS pmax pmax

	comp=Z,63nm,0.9s,mb6.0								
STS	Santiago	89.73	348	P		P	11 53 52.3	-1.5	
	comp=Z,63nm,0.9s,mb6.0								
ERTA	Horta de San J	89.94	341	P		P	11 53 53.4	-1.4	
	comp=Z,52nm,3.9s								
ERUA	La Rua	90.00	347	P		P	11 53 53.8	-1.3	
ERUA				pmax	pmax				
	comp=Z,94nm,0.8s,mb6.2								
ERUA	La Rua	90.00	347	P		P	11 53 53.8	-1.2	
	comp=Z,94nm,0.8s,mb6.2								
OXX	Oaxaca	90.00	65	*e*P		P	11 53 56.0	+0.9	
VHO	Vista Hermosa	90.00	65	*e*P		P	11 53 56.2	+1.1	
ECAL	Calabor	90.37	346	P		P	11 53 56.0	-0.8	
	comp=Z,68nm,1.1s,mb5.9								
ETOS	Mallorca	90.47	339	P		P	11 53 58.0	+0.7	
	comp=Z,51nm,1.0s,mb5.8								
EZAM	Zamans	90.48	348	P		P	11 53 56.2	-1.1	
EZAM				pmax	pmax				
	comp=Z,365nm,2.6s,mb6.2								
EZAM	Zamans	90.48	348	P		P	11 53 56.2	-1.1	
	comp=Z,365nm,2.6s,mb6.2								
ETOR	Torete	90.59	343	P		P	11 53 58.6	+0.8	
ETOR				pmax	pmax				
	comp=Z,36nm,0.8s,mb5.8								
ETOR	Torete	90.59	343	P		P	11 53 58.6	+0.8	
	comp=Z,36nm,0.8s,mb5.8								
TUIG	Tuzandepetl	90.71	63	*e*P		P	11 54 00.2	+1.8	
CMIG	Matias Romero	91.14	64	*e*P		P	11 53 58.8	-1.5	
GUD	Guadarrama	91.18	344	P		P	11 53 59.4	-1.2	
GUD				pmax	pmax				
	comp=Z,46nm,1.1s,mb5.7								
GUD	Guadarrama	91.18	344	P		P	11 53 59.4	-1.1	
	comp=Z,46nm,1.1s,mb5.7								
EIBI	Ibiza	91.54	339	P		P	11 54 03.0	+0.8	
	comp=Z,36nm,1.7s,mb5.4								
ESDC	Sonseca Array	92.08	344	P		P	11 54 03.6	-1.1	
	comp=Z,47nm,1.0s,mb5.8,baz=10,slow=3.7,SNR=20								
ESDC	Sonseca Array	92.08	344	P		P	11 54 03.7	-1.1	
	comp=Z,44nm,1.0s,mb5.7								
CMAH	Djebel Manchou	92.14	334	P		P	11 54 05.0	0.0	
EBEN	Beniarda	92.21	341	P		P	11 54 05.7	+0.3	
	comp=Z,20nm,1.0s,mb5.4								
PAB	San Pablo	92.27	344	*e*P		P	11 54 04.4	-1.2	
PAB				pmax	pmax				
	comp=Z,107nm,1.3s,mb6.0								
PAB	San Pablo	92.27	344	*e*P		P	11 54 04.4	-1.2	
	comp=Z,107nm,1.3s,mb6.0								
CGMA	Guelma	92.30	334	P		P	11 54 04.0	-1.8	
KEST	Kesra	92.36	332	P		P	11 54 05.5	-0.6	
	comp=Z,32nm,0.9s,mb5.7,baz=336,slow=2.1,SNR=15								
ABSA	Djebel Ababsia	92.45	334	P		P	11 54 06.0	-0.4	
ETOB	Tobarra	92.57	342	P		P	11 54 07.3	+0.3	
	comp=Z,26nm,0.7s,mb5.8								
DFRA	Djebel Bou Aff	92.67	335	P		P	11 54 12.0	+4.5	
CASM	Ain Smara	92.75	335	P		P	11 54 07.0	-0.9	
EVIA	Vianos	92.78	342	P		P	11 54 07.9	-0.1	
EVIA				pmax	pmax				
	comp=Z,27nm,0.7s,mb5.8								
EVIA	Vianos	92.78	342	P		P	11 54 07.9	-0.1	
	comp=Z,27nm,0.7s,mb5.8								
CTEI	Djebel Teioual	92.96	335	P		P	11 54 08.0	-0.8	
CCIG	Comitan	93.44	62	*e*P		P	11 54 09.8	-1.2	
EBAN	Banos Encina	93.50	343	P		P	11 54 10.6	-0.7	
EBAN				pmax	pmax				
	comp=Z,32nm,0.9s,mb5.8								
EBAN	Banos Encina	93.50	343	P		P	11 54 10.6	-0.7	
	comp=Z,32nm,0.9s,mb5.8								
EBAD	Badajoz	93.52	346	P		P	11 54 09.4	-2.0	
	comp=Z,20nm,0.8s,mb5.6								
EHUE	Huescar	93.59	342	P		P	11 54 10.3	-1.4	
EHUE				pmax	pmax				
	comp=Z,96nm,1.6s,mb6.0								
EHUE	Huescar	93.59	342	P		P	11 54 10.3	-1.4	
	comp=Z,96nm,1.6s,mb6.0								
EADA	Adamuz	93.65	344	P		P	11 54 13.2	+1.2	
	comp=Z,27nm,1.0s,mb5.6								
EQES	Quesada	93.70	342	P		P	11 54 12.3	+0.1	
	comp=Z,32nm,1.1s,mb5.7								
EVO	Evora	93.91	346	*e*P		P	11 54 11.3	-1.9	
	comp=Z,206nm,1.3s,mb6.1								
ELUQ	Luque	94.18	343	P		P	11 54 13.2	-1.2	
ELUQ				pmax	pmax				
	comp=Z,173nm,3.6s								
ELUQ	Luque	94.18	343	P		P	11 54 13.2	-1.2	
	comp=Z,173nm,3.6s								
ENIJ	Nijar	94.32	342	P		P	11 54 14.2	-0.9	
ENIJ				pmax	pmax				
	comp=Z,17nm,0.8s,mb5.5								
ENIJ	Nijar	94.32	342	P		P	11 54 14.2	-0.9	
	comp=Z,17nm,0.8s,mb5.5								
EMIN	Mina Concepcio	94.43	345	P		P	11 54 15.8	+0.2	
	comp=Z,30nm,0.9s,mb5.7								
EBER	Berja	94.53	342	P		P	11 54 16.1	0.0	
	comp=Z,33nm,3.2s								
ELOJ	Sierra Loja	94.56	343	P		P	11 54 15.2	-1.0	
	comp=Z,5.6nm,1.2s								
ERON	Agron	94.61	343	P		P	11 54 15.1	-1.3	
	comp=Z,4.9nm,0.6s								
EGUA	Guajares	94.74	343	P		P	11 54 16.8	-0.1	
	comp=Z,20nm,2.5s								
EGRO	El Granado	94.80	346	P		P	11 54 16.4	-0.8	
	comp=Z,17nm,0.9s,mb5.5								
ESPR	Espera	95.15	344	P		P	11 54 18.6	-0.3	
	comp=Z,33nm,0.9s,mb5.8								
EMIJ	Mijas	95.24	343	P		P	11 54 18.4	-0.8	
	comp=Z,17nm,0.9s,mb5.5								
EJIF	Jimena Fronter	95.49	344	P		P	11 54 19.4	-1.0	
EJIF				pmax	pmax				
	comp=Z,401nm,2.3s,mb6.4								
EJIF	Jimena Fronter	95.49	344	P		P	11 54 19.4	-1.0	
	comp=Z,400nm,2.3s,mb6.4								
TGUH	Tegucigalpa,Un	98.11	60	*e*P		P	11 54 30.9	-1.4	
	comp=Z,172nm,1.3s,mb6.4								
TOA0	Torodi Ar. Sit	115.82	331	*e*PKPdf	PKPdf		11 59 38.2	+0.1	
TORD	Torodi Ar. Bea	115.82	331	PKiKP	PKiKP		11 59 37.4	-0.7	
	comp=Z,12nm,0.7s,baz=20,slow=2.0,SNR=14								
TORD	Torodi Ar. Bea	115.82	331	PKPdf	PKPdf		11 59 37.4	-0.7	
ATAH	Atahualpa	119.99	66	PKP	PKPdf		11 59 47.3	+1.1	
	comp=Z,18nm,1.0s,baz=346,slow=21,SNR=6.4								
MIR	Mirnyy	122.11	205	*c i* PKIKP	PKPdf		11 59 50.0	-0.2	
MIR				*i*			12 01 25.0		
MIR				pmax	pmax				
	comp=Z,800nm,1.5s								
VNDA	Vanda	123.85	178	PKP	PKPdf		11 59 50.9	-2.7	
	comp=Z,22nm,0.9s,baz=322,slow=4.2,SNR=16								
VNDA				PKKPbc	PKKPbc		12 09 40.1	+0.3	
	comp=Z,6.5nm,1.1s,baz=216,slow=3.6,SNR=5.2								
SBA	Scott Base	124.33	177	*e*PKIKP	PKPdf		11 59 52.1	-2.4	
LIC	Lamto	124.45	335	*e*PKIKP	PKPdf		11 59 53.1	-1.6	
	comp=Z,269nm,1.2s								
NNA	Nana	124.76	69	PKP	PKPdf		11 59 55.3	0.0	
	comp=Z,44nm,1.1s,baz=299,slow=4.9,SNR=6.1								
NNA	Nana	124.76	69	*e*PKPdf	PKPdf		11 59 55.3	0.0	
LSZ	Lusaka	125.82	287	P	PKPdf		11 59 58.2	+0.9	
	SNR=8.9								
MATP	Matopo	129.26	282	PKP	PKPdf		12 00 03.9	-0.1	
	comp=Z,70nm,1.1s,baz=32,slow=2.4,SNR=12								
SAML	Samuel	130.60	53	*e*PKPdf	PKPdf		12 00 05.7	-0.7	
ARE	Arequipa	131.53	67	*e*PKIKP	PKPdf		12 00 09.0	+0.8	
MAW	Mawson	132.55	211	PKP	PKPdf		12 00 08.2	-1.9	
	comp=Z,62nm,1.1s,baz=359,slow=1.5,SNR=19								
LPAZ	La Paz	133.51	64	PKP	PKPdf		12 00 12.5	+0.5	
	comp=Z,108nm,1.3s,baz=1.5,slow=5.9,SNR=25								
LPAZ	La Paz	133.51	64	PKIKP	PKPdf		12 00 12.5	+0.5	
LPAZ				pmax	pmax				
	comp=Z,108nm,1.3s								
LPAZ	La Paz	133.51	64	*e*PKPdf	PKPdf		12 00 12.1	+0.1	
TSUM	Tsumeb	135.57	293	PKhKP			12 00 07.8		
	comp=Z,33nm,1.1s,baz=152,slow=2.6,SNR=7.9								
TSUM				PKP	PKPdf		12 00 16.0	+0.2	
	comp=Z,39nm,1.1s,baz=47,slow=3.1,SNR=6.6								
TSUM	Tsumeb	135.57	293	*e*PKP			12 00 07.9		
TSUM				PKP	PKPdf		12 00 16.0	+0.2	
QSPA	South Pole Qui	136.26	180	*e*PKPdf	PKPdf		12 00 15.6	-1.5	
BOSA	Boshof	136.86	276	PKhKP			12 00 08.2		
	comp=Z,4.0nm,0.5s,baz=358,slow=5.2,SNR=3.7								
BOSA				PKP	PKPdf		12 00 17.1	-1.1	
	comp=Z,25nm,1.1s,baz=88,slow=0.2,SNR=5.7								
BOSA				PP	PP		12 03 01.4	+0.3	
	comp=Z,31nm,1.0s,baz=50,slow=5.2,SNR=6.5								
BOSA	Boshof	136.86	276	PKP	PKPdf		12 00 17.1	-1.1	
BOSA				PP	PP		12 03 01.4	+0.3	
SIV	San Ignacio	137.51	56	PKhKP			12 00 09.8		
	comp=Z,9.5nm,1.0s,baz=324,slow=5.3,SNR=4.6								
SIV				PKP	PKPdf		12 00 19.3	-0.1	
	comp=Z,90nm,1.0s,baz=345,slow=1.3,SNR=22								
SIV	San Ignacio	137.51	56	PKP	PKPdf		12 00 19.3	-0.1	
LVC	Limon Verde	137.65	71	PKP	PKPdf		12 00 19.6	0.0	
	comp=Z,24nm,1.0s,baz=270,slow=3.8,SNR=10.0								
LVC	Limon Verde	137.65	71	*e*PKPdf	PKPdf		12 00 19.9	+0.2	
SYO	Syowa Base	141.26	211	*i* PKP	PKPdf		12 00 17.6	-8.7	
SYO	Syowa Base	141.26	211	*i* PKiKP	PKiKP		12 00 28.0	-1.0	
SUR	Sutherland	142.19	275	PKP	PKPdf		12 00 25.7	-2.2	
	comp=Z,24nm,0.9s,baz=22,slow=12,SNR=7.4								
CFAA	Coronel Fontan	144.00	81	PKhKP			12 00 27.0		
	comp=Z,9.8nm,0.8s,baz=304,slow=6.6,SNR=17								
SHEL	Horse Pasture	145.41	325	*e*PKPdf	PKPdf		12 00 33.8	+0.2	
NVL	N'lazarevskaya	149.85	204	*d* PKP2	PKPbc		12 00 42.2	-3.5	
NVL				pmax	pmax				
	comp=Z,818nm,1.6s								
NVL				MLR	MLR				
	comp=Z,153μm,17.0s								
MAIT	Maitri	149.87	203	*e*PKPdf	PKPdf		12 00 39.5	-1.4	
CAM3	Guarapari	151.45	31	*i* P	PKPdf		12 00 43.0	-0.3	
CAM3				*i*			12 00 48.8		
CAM3				*i*			12 01 07.4		
CAM3				*i*			12 01 25.9		
CAM3				*i*			12 01 59.7		
USHA	Ushuaia	151.87	123	PKP	PKPdf		12 00 42.9	-1.1	
	comp=Z,56nm,1.1s,baz=285,slow=9.1,SNR=3.5								
USHA				PKPbc	PKPbc		12 00 48.1	-2.4	
	comp=Z,74nm,1.2s,baz=297,slow=9.8,SNR=3.5								
CAM4	Nova Friburgo	152.15	36	*i* P	PKPdf		12 00 44.3	-0.2	
CAM4				*i*			12 00 50.9		
CAM4				*i*			12 01 51.5		
CAM4				*i*			12 01 51.8		
CAM4				*i*			12 00 55.5		
CAM4				*i*			12 01 03.9		
CAM4				*i*			12 01 10.5		
PMSA	Palmer Station	152.20	145	PKPbc	PKPbc		12 00 48.3	-2.9	
	comp=Z,772nm,1.2s,baz=237,slow=2.1,SNR=32								
PMSA	Palmer Station	152.20	145	*e*PKPbc	PKPbc		12 00 48.2	-3.0	
SNAA	Sanae	152.62	195	PKP	PKPdf		12 00 42.4	-2.8	
	comp=Z,22nm,1.2s,baz=118,slow=1.1,SNR=8.8								
SNAA				PKPbc	PKPbc		12 00 49.0	-3.1	
	comp=Z,46nm,0.9s,baz=177,slow=0.8,SNR=26								
SNAA	Sanae	152.62	195	*e*PKPdf	PKPdf		12 00 44.2	-0.9	
SNAA				*e*			12 00 49.8		
SNAA				*e*			12 00 55.6		
SNAA				*e*			12 01 02.7		
SNAA				*e*			12 01 14.7		
SNAA				*e*			12 01 28.9		
SNAA				*e*			12 01 35.6		
SNAA				*e*			12 01 52.6		
SNAA				*e*			12 02 04.0		
SNAA				*e*			12 02 28.0		
SNAA				*e*			12 04 35.9		
SNAA				*e*			12 04 42.0		
SNAA	Sanae	152.62	195	PKIKP	PKPdf		12 00 42.4	-2.7	
SNAA							12 00 49.0		
SNAA				pmax	pmax				
	comp=Z,23nm,1.2s								
SNAA	Sanae	152.62	195	*e*PKPdf	PKPdf		12 00 42.0	-3.1	
SNAA				*e*PKPbc	PKPbc		12 00 49.4	-2.7	
VNA2	Neumayer--Watz	154.03	193	*e*PKPdf	PKPdf		12 00 45.3	-1.9	
VNA2				*e*			12 00 56.0		
VNA2				*e*			12 01 01.0		
VNA2				*e*			12 01 10.6		
VNA2				*e*			12 01 19.8		
VNA2				*e*			12 01 32.7		
VNA2				*e*			12 01 38.4		
VNA2				*e*			12 01 56.4		
VNA2				*e*			12 02 04.2		
VNA2				*e*			12 04 44.6		
VNA2				*e*			12 04 50.0		
VNA2				*e*			12 05 56.0		
VNA3	Neumayer Olymp	154.09	192	*e*PKPdf	PKPdf		12 00 45.1	-2.1	
VNA3				*e*			12 00 56.4		
VNA3				*e*			12 01 00.5		
VNA3				*e*			12 01 10.0		
VNA3				*e*			12 01 19.7		
VNA3				*e*			12 01 32.4		
VNA3				*e*			12 01 38.9		
VNA3				*e*			12 01 57.0		
VNA3				*e*			12 02 05.4		
VNA3				*e*			12 04 44.6		
VNA3				*e*			12 04 49.8		
VNA3				*e*			12 05 56.5		
VNA1	Neumayer--Stat	154.41	193	*e*PKPdf	PKPdf		12 00 46.2	-1.5	
VNA1				*e*			12 00 57.7		
VNA1				*e*			12 01 11.8		
VNA1				*e*			12 01 21.0		
VNA1				*e*			12 01 33.8		
VNA1				*e*			12 01 41.5		
VNA1				*e*			12 04 40.8		
VNA1				*e*			12 04 47.4		
VNA1				*e*			12 04 52.1		
VNA1				*e*			12 05 57.4		

IDC 15 11:45:39.0±1.1, 4736N×15439E, h0km, mb4.8/9, mb1 4.9/10, mb1mx4.7/26, mbtmp4.9/10, Error ellipse: s-maj=31.4km s-min=20.9km az=139.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	16.14	234	Pn	Pn	11 49 28.7	+1.5
	baz=29,slow=11,SNR=4.0						
KSRS	Korea Array	21.81	253	P	P	11 50 33.7	+1.1
	17nm,0.8s,baz=55,slow=10.0,SNR=4.5						
KDAK	Kodiak Island	33.04	52	P	P	11 52 16.5	+0.5
	13nm,0.8s,baz=262,slow=9.9,SNR=3.3						
INK	Inuvik	40.67	33	P	P	11 53 19.4	-1.6
	10nm,0.8s,baz=284,slow=4.6,SNR=3.0						
MKAR	Makanchi Array	47.44	297	P	P	11 54 14.1	-1.2
	6.4nm,0.7s,baz=64,slow=6.7,SNR=2.9						
BVAR	Borovoye Array	51.15	310	P	P	11 54 43.0	-0.6
	10nm,0.6s,baz=47,slow=6.6,SNR=6.7						
FINES	FINESS Array B	63.86	335	P	P	11 56 13.0	-0.3
	8.1nm,0.6s,baz=38,slow=6.8,SNR=3.5						
NOA	NORSAR Array B	67.94	342	P	P	11 56 40.0	+0.4
	14nm,0.6s,baz=26,slow=6.3,SNR=5.4						
AKASG	Malin Array Be	71.53	327	P	P	11 57 01.2	-0.5
	7.2nm,0.5s,baz=32,slow=6.1,SNR=4.2						
ASAR	Alice Springs	73.06	200	P	P	11 57 10.3	-0.6
	13nm,0.9s,baz=12,slow=5.1,SNR=6.9						

IDC 15 11:46:38.6±1.6, 4664N×15349E, h0km, mb4.9/9, mb1 5.1/11, mb1mx4.8/25, mbtmp4.9/11, ML4.4/2, Error ellipse: s-maj=42.4km s-min=25.2km az=151.0

ISCJB 15 11:46:40.0±1.3, 467N±02×1533E±03, h10km, mb5.0/9, Error ellipse: s-maj=34.1km s-min=12.8km az=92.2

ISC 15 11:46:41.3±1.3, 467N±02×1534E±03, h10km, n28, σ0s71/27, mb5.0/9, 5C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	8.03	255	Pn	Pn	11 48 38.5	+0.5
	5.2nm,0.3s,baz=126,slow=13,SNR=2.5						
MJAR	Matsushiro Arr	15.23	233	Pn	Pn	11 50 16.5	+0.1
	1.4nm,0.3s,baz=24,slow=12,SNR=4.2						
KSRS	Korea Array	20.98	253	P	P	11 51 23.4	-1.2
	16nm,0.8s,baz=62,slow=9.5,SNR=5.2						
MKAR	Makanchi Array	47.11	297	P	P	11 55 12.0	-1.5
	12nm,0.8s,mb4.9,baz=66,slow=7.3,SNR=4.8						
ARCES	ARCESS Array B	57.92	341	P	P	11 56 32.8	-0.7
	5.0nm,0.7s,mb4.7,baz=17,slow=6.3,SNR=6.1						
FINES	FINESS Array B	64.13	335	P	P	11 57 14.9	-0.8
	12nm,0.5s,mb5.2,baz=43,slow=6.0,SNR=6.2						
NB2	NORSAR Subarra	68.30	341	P	P	11 57 42.1	-0.4
	comp=Z,8.8nm,0.6s,mb5.0,baz=28,slow=6.5						
NOA	NORSAR Array B	68.30	341	P	P	11 57 42.2	-0.3
	comp=Z,15nm,0.7s,mb5.1,baz=28,slow=6.3,SNR=6.7						
AKASG	Malin Array Be	71.66	326	P	P	11 58 02.1	-1.1
	comp=Z,18nm,0.5s,mb5.2,baz=34,slow=6.2,SNR=11						
BURAR	Bucovina Array	75.70	327	*i* P	P	11 58 26.8	-0.1
MORC	Moravsky Berou	76.53	332	*i* P	P	11 58 32.3	+0.7
CLL	Collm	76.55	336	*i* P	P	11 58 31.6	-0.1
	comp=Z,26nm,0.7s,mb5.3						
TIRR	Tirgusor	77.03	323	*i* P	P	11 58 35.7	+1.3
MLR	Muntele Rosu	77.18	325	P	P	11 58 36.0	+0.7
	comp=Z,27nm,0.8s,mb5.2,baz=202,slow=3.9,SNR=5.7						
VRAC	Vranov	77.25	333	*i* P	P	11 58 35.9	+0.3
MALT	Malatya	77.30	313	*i* P	P	11 58 37.6	+1.7
DRGR		77.32	328	*i* P	P	11 58 35.9	-0.2
TXAR	Lajitas Array	77.33	61	P	P	11 58 35.6	-0.5
	comp=Z,5.8nm,0.7s,mb4.6,baz=301,slow=3.4,SNR=3.9						
PSZ	Piszkesteto	77.36	330	*i* P	P	11 58 36.7	+0.4
VOIR		77.58	326	*i* P	P	11 58 38.2	+0.7
GERES	GERESS Array B	78.55	334	P	P	11 58 42.3	-0.6
	comp=Z,4.3nm,0.7s,mb4.5,baz=36,slow=6.0,SNR=5.3						
BZS	Buzias	78.72	328	*i* P	P	11 58 43.8	0.0
UMR	Umm Al-Rimmam	78.79	301	*e*P	P	11 58 44.6	+0.4
MIB	Mutribah	78.83	302	*e*P	P	11 58 44.6	+0.2
QRN	Al-Qurain	79.27	301	*e*P	P	11 58 47.0	+0.2
RDF	Al-Radifah	79.35	301	*e*P	P	11 58 46.9	-0.4
VTS	Vitosha	80.69	325	*i* P	P	11 58 54.8	+0.3
CFAA	Coronel Fontan	144.81	80	PKP	PKPdf	12 06 15.2	-3.3
	comp=Z,0.6nm,0.7s,baz=288,slow=8.7,SNR=2.9						

ISCJB 15 11:47:52.3±6.4, 46.1N±0.1×153.1E±0.1, h10km±40km, mb4.8/26, Error ellipse: s-maj=19.2km s-min=13.8km az=140.9

IDC 15 11:47:52.0±0.6, 46.16N×15288E, h0km, mb4.7/22, mb1 4.9/22, mb1mx4.8/29, mbtmp4.7/22, Error ellipse: s-maj=18.8km s-min=14.0km az=156.0

ISC 15 11:47:58.3±2.1, 462N±01×1530E±01, h40km±19km, n65, σ0s87/59, mb4.8/26, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	7.62	258	Pn	Pn	11 49 48.0	+1.2
	5.3nm,0.3s,baz=53,slow=8.6,SNR=2.4						
MJAR	Matsushiro Arr	14.66	234	Pn	Pn	11 51 23.3	+0.3
	0.4nm,0.3s,baz=30,slow=11,SNR=3.3						
KSRS	Korea Array	20.54	254	P	P	11 52 32.1	-1.1
	13nm,0.7s,baz=57,slow=11,SNR=5.5						
JNU	Nakatsue	21.35	240	P	P	11 52 41.2	-0.7
	40nm,0.9s,mb4.7,baz=244,slow=12,SNR=1.7						
SONM	Songino Array	31.43	290	P	P	11 54 13.1	-2.6
	8.9nm,1.0s,mb4.5,baz=294,slow=2.4,SNR=3.0						
SONM	Songino Array	31.43	290	P	P	11 54 13.1	-2.6
SONM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KDAK	Kodiak Island	34.54	50	P	P	11 54 42.0	-0.7
	comp=Z,20nm,1.0s,mb5.0,baz=202,slow=11,SNR=2.9						
INK	Inuvik	42.18	32	P	P	11 55 45.3	-1.7
	comp=Z,18nm,1.1s,mb4.6,baz=255,slow=7.7,SNR=4.4						
MKAR	Makanchi Array	47.12	298	P	P	11 56 25.0	-1.3
	comp=Z,4.2nm,0.6s,mb4.6,baz=54,slow=6.0,SNR=7.2						
MKAR	Makanchi Array	47.12	298	P	P	11 56 25.0	-1.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	Borovoye Array	51.14	310	P	P	11 56 56.2	-1.0
	comp=Z,9.0nm,0.6s,mb4.8,baz=32,slow=9.0,SNR=7.6						
BVAR	Borovoye Array	51.14	310	P	P	11 56 56.2	-0.9
BVAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NEW	Newport	57.60	52	P	P	11 57 44.9	+0.9
	comp=Z,8.8nm,1.1s,mb4.7,baz=16,slow=7.4,SNR=2.3						
YBH	Yreka Blue Hor	58.10	61	P	P	11 57 48.5	+0.9
	comp=Z,3.1nm,0.6s,mb4.5,baz=333,slow=6.8,SNR=3.2						
ARCES	ARCESS Array B	58.35	341	P	P	11 57 48.4	-1.0
	comp=Z,9.1nm,0.9s,mb4.8,baz=35,slow=7.2,SNR=8.1						
ARCES	ARCESS Array B	58.35	341	P	P	11 57 48.4	-0.9
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FINES	FINESS Array B	64.51	335	P	P	11 58 29.9	-1.0
	comp=Z,3.2nm,0.4s,mb4.7,baz=34,slow=8.0,SNR=5.4						
FINES	FINESS Array B	64.51	335	P	P	11 58 29.9	-1.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PDAR	Pinedale Array	65.16	54	P	P	11 58 35.8	+0.7
	comp=Z,3.8nm,0.9s,mb4.5,baz=270,slow=0.8,SNR=3.9						
WRA	Warramunga Arr	67.95	199	P	P	11 58 52.3	-0.7
	comp=Z,3.2nm,0.7s,mb4.4,baz=16,slow=6.6,SNR=4.6						
NB2	NORSAR Subarra	68.73	341	P	P	11 58 57.3	-0.5
	comp=Z,11nm,0.5s,mb5.0,baz=29,slow=6.5						
NOA	NORSAR Array B	68.73	341	P	P	11 58 57.3	-0.5
	comp=Z,18nm,0.9s,mb5.0,baz=27,slow=6.3,SNR=4.7						
NOA	NORSAR Array B	68.73	341	P	P	11 58 57.3	-0.5
NOA				pmax	pmax		
	comp=Z,18nm,0.9s						
ASAR	Alice Springs	71.64	198	P	P	11 59 15.8	+0.1
	comp=Z,2.7nm,0.7s,mb4.3,baz=14,slow=5.7,SNR=4.0						
AKASG	Malin Array Be	71.96	326	P	P	11 59 17.0

σ1º03/50, **mb5.2**/31, **1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**7.19**	**25**	*e*PN	**Pb**	**11 50 16.1**	**+0.2**
MJAR	**Matsushiro Arr**	**15.32**	**235**	Pn	**Pn**	**11 51 47.7**	**+0.6**
	0.4nm,0.3s,baz=26,slow=12,SNR=4.1						
KSRS	**Korea Array**	**21.15**	**254**	P	**P**	**11 52 58.6**	**+2.6**
	40nm,1.1s,mb4.7,baz=57,slow=10,SNR=6.4						
NJ2	**Nanjing**	**30.35**	**254**	*e*P	**P**	**11 54 20.8**	**-2.0**
NJ2				AP	pP	11 54 24.1	-1.7
NJ2				XP	sP	11 54 26.6	-0.5
NJ2				PP	PP	11 55 21.6	-10
NJ2				AMB	AMB		
	comp=Z,670nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,740nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,15.3s						
NJ2				LR	LR		
	comp=E,5μm,13.6s						
NJ2				LR	LR		
	comp=Z,3μm,14.3s						
DLBC	**Dease Lake**	**45.41**	**46**	*e*P	**P**	**11 56 31.3**	**+1.6**
MKAR	**Makanchi Array**	**47.39**	**298**	P	**P**	**11 56 44.0**	**-1.3**
	comp=Z,7.3nm,0.8s,mb4.7,baz=69,slow=6.6,SNR=3.8						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**11 57 10.1**	**-1.4**
	comp=Z,13nm,1.0s,mb4.8,baz=301,slow=8.0,SNR=5.2						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**11 57 10.1**	**-1.4**
YKA				pmax	pmax		
	comp=Z,13nm,1.0s						
CHKZ	**Chkalovo**	**50.86**	**310**	*e*P	**P**	**11 57 20.1**	**+8.3**
	comp=Z,95nm,1.2s,mb5.6						
BRVK	**Borovoye**	**51.33**	**310**	*e*P	**P**	**11 57 24.1**	**+8.7**
	comp=Z,90nm,1.3s,mb5.5						
EDM	**Edmonton**	**56.13**	**46**	*e*P	**P**	**11 57 50.3**	**-0.2**
NEW	**Newport**	**56.94**	**53**	*e*P	**P**	**11 57 57.1**	**+0.8**
NEW				pmax	pmax		
	comp=Z,36nm,1.3s						
NEW	**Newport**	**56.94**	**53**	*e*P	**P**	**11 57 57.1**	**+0.7**
	comp=Z,36nm,1.3s,mb5.2						
WALA	**Waterton Lakes**	**58.22**	**51**	*e*P	**P**	**11 58 06.1**	**+0.8**
	comp=Z,43nm,1.3s,mb5.3						
BMO	**Blue Mountains**	**58.82**	**56**	*e*P	**P**	**11 58 11.4**	**+1.9**
	comp=Z,69nm,1.6s,mb5.4						
EGMT	**Eagleton**	**61.05**	**50**	*e*P	**P**	**11 58 24.4**	**-0.4**
	comp=Z,44nm,1.0s,mb5.5						
CMB	**Columbia Colle**	**61.10**	**64**	*e*P	**P**	**11 58 25.1**	**-0.1**
CMB				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
CMB	**Columbia Colle**	**61.10**	**64**	*e*P	**P**	**11 58 25.1**	**-0.1**
	comp=Z,17nm,1.2s,mb5.0						
RLMT	**Red Lodge**	**63.15**	**52**	*e*P	**P**	**11 58 40.4**	**+1.5**
	comp=Z,43nm,1.3s,mb5.4						
LOHW	**Long Hollow**	**63.38**	**54**	*e*P	**P**	**11 58 42.1**	**+1.7**
	comp=Z,66nm,1.5s,mb5.5						
DUG	**Dugway**	**64.31**	**58**	*e*P	**P**	**11 58 47.9**	**+1.3**
DUG				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
DUG	**Dugway**	**64.31**	**58**	*e*P	**P**	**11 58 47.9**	**+1.3**
	comp=Z,23nm,1.1s,mb5.1						
FINES	**FINESS Array B**	**64.37**	**335**	P	**P**	**11 58 46.0**	**-0.9**
	comp=Z,17nm,1.0s,mb5.0,baz=45,slow=8.4,SNR=5.0						
PDAR	**Pinedale Array**	**64.51**	**54**	P	**P**	**11 58 48.2**	**+0.4**
	comp=Z,8.6nm,1.0s,mb4.7,baz=318,slow=2.0,SNR=4.7						
MPU	**Maple Canyon**	**65.11**	**58**	*e*P	**P**	**11 58 52.2**	**+0.4**
	comp=Z,22nm,1.1s,mb5.1						
AGMN	**Agassiz Refuge**	**67.77**	**43**	*e*P	**P**	**11 59 08.0**	**-0.8**
	comp=Z,57nm,1.3s,mb5.4						
WRA	**Warramunga Arr**	**68.49**	**200**	P	**P**	**11 59 12.8**	**-0.6**
	comp=Z,13nm,0.9s,mb4.9,baz=16,slow=6.8,SNR=6.0						
NOA	**NORSAR Array B**	**68.52**	**341**	P	**P**	**11 59 13.2**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=27,slow=6.4,SNR=4.2						
EYMN	**Ely**	**70.03**	**40**	*e*P	**P**	**11 59 22.8**	**-0.1**
	comp=Z,104nm,1.7s,mb5.5						
SDCO	**Great Sand Dun**	**70.18**	**56**	*e*P	**P**	**11 59 23.4**	**-0.4**
	comp=Z,25nm,1.2s,mb5.0						
LAZ	**Ladron**	**71.54**	**59**	*e*P	**P**	**11 59 30.8**	**-1.3**
ASAR	**Alice Springs**	**72.18**	**199**	P	**P**	**11 59 36.2**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9,baz=9.8,slow=5.4,SNR=11						
SCIA	**State Center**	**73.73**	**46**	*e*P	**P**	**11 59 44.6**	**-0.6**
	comp=Z,78nm,1.2s,mb5.5						
MNTX	**Cornudas Mount**	**74.49**	**60**	*e*P	**P**	**11 59 48.3**	**-1.2**
	comp=Z,36nm,1.4s,mb5.1						
OKC	**Ostrava-Krasne**	**76.54**	**332**	*ex*	**P**	**12 00 02.0**	**+0.7**
UPC	**Upice**	**76.62**	**334**	*ex*	**P**	**12 00 00.3**	**-1.4**
MORC	**Moravsky Berou**	**76.78**	**333**	⇑*i*P	**P**	**12 00 02.6**	**-0.1**
TXAR	**Lajitas Array**	**77.21**	**61**	P	**P**	**12 00 03.8**	**-1.2**
	comp=Z,9.7nm,0.7s,mb4.8,baz=306,slow=4.3,SNR=8.3						
PRU	**Pruhonice**	**77.52**	**334**	*ex*	**P**	**12 00 07.3**	**+0.5**
KHC	**Kasperske Hory**	**78.57**	**335**	*ex*	**P**	**12 00 12.6**	**0.0**
JCT	**Junction City**	**78.67**	**58**	*e*P	**P**	**12 00 12.0**	**-1.2**
JCT				pmax	pmax		
	comp=Z,57nm,1.3s,mb5.3						
JCT	**Junction City**	**78.67**	**58**	*e*P	**P**	**12 00 12.0**	**-1.2**
	comp=Z,56nm,1.3s,mb5.3						
GRFO	**Grafenberg**	**78.74**	**336**	*e*P	**P**	**12 00 14.3**	**+0.7**
	comp=Z,36nm,0.9s,mb5.3						
GERES	**GERESS Array B**	**78.79**	**334**	P	**P**	**12 00 13.9**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.5,baz=46,slow=3.9,SNR=4.1						
BRTR	**Keskin Array B**	**78.80**	**317**	P	**P**	**12 00 16.0**	**+2.1**
	comp=Z,7.0nm,0.9s,mb4.6,baz=72,slow=4.7,SNR=4.5						
SIUC	**Southern Illin**	**78.92**	**46**	*e*P	**P**	**12 00 14.0**	**-0.6**
	comp=Z,61nm,1.1s,mb5.4						
ALLY	**Alegheny Colle**	**79.95**	**38**	*e*P	**P**	**12 00 20.0**	**-0.2**
OXF	**Oxford**	**81.32**	**48**	*e*P	**P**	**12 00 26.1**	**-1.4**
OXF				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.5						
OXF	**Oxford**	**81.32**	**48**	*e*P	**P**	**12 00 26.1**	**-1.5**
	comp=Z,62nm,1.1s,mb5.5						
LUPA	**Lehigh Univers**	**82.80**	**35**	*e*P	**P**	**12 00 35.7**	**+0.4**
VNDA	**Vanda**	**123.93**	**178**	PKP	PKPdf	12 07 08.1	-1.2
	comp=Z,3.8nm,0.9s,baz=76,slow=2.0,SNR=4.2						
SNAA	**Sanae**	**152.51**	**196**	*e*PKPbc	PKPdf	12 07 53.6	-6.9

IDC 15 11:49:07.0±1.9, 4678N×15374E, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.5/22, mbtmp4.6/10, Error ellipse: s-maj=50.8km s-min=27.6km az=171.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.45**	**234**	Pn	Pn	11 52 49.7	+3.6
	1.1nm,0.3s,baz=47,slow=10.0,SNR=4.1						
KSRS	**Korea Array**	**21.22**	**253**	P	P	11 53 55.3	+1.0
	6.0nm,0.8s,baz=60,slow=10,SNR=3.4						
ZAL	**Zalesovo**	**42.96**	**306**	P	P	11 57 06.3	-1.4
	8.1nm,1.1s,baz=248,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**47.31**	**298**	P	P	11 57 41.8	-0.5
	5.7nm,0.8s,baz=67,slow=6.9,SNR=4.1						
BVAR	**Borovoye Array**	**51.17**	**310**	P	P	11 58 11.5	-0.3
	2.0nm,0.3s,baz=55,slow=8.5,SNR=6.6						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	P	11 59 01.1	0.0
	10nm,1.0s,baz=25,slow=9.0,SNR=3.1						
FINES	**FINESS Array B**	**64.20**	**335**	P	P	11 59 43.0	-0.5
	5.4nm,0.4s,baz=38,slow=6.9,SNR=6.4						
NOA	**NORSAR Array B**	**68.34**	**341**	P	P	12 00 10.5	+0.4
	9.6nm,0.7s,baz=27,slow=6.4,SNR=3.5						
AKASG	**Malin Array Be**	**71.76**	**327**	P	P	12 00 30.2	-0.9
	2.2nm,0.4s,baz=34,slow=6.2,SNR=3.3						
TXAR	**Lajitas Array**	**77.10**	**61**	P	P	12 01 02.1	0.0
	3.2nm,0.6s,baz=304,slow=5.1,SNR=2.0						
GERES	**GERESS Array B**	**78.62**	**334**	P	P	12 01 10.6	0.0
	2.1nm,0.6s,baz=41,slow=9.1,SNR=3.4						

*IDC **15** 11:51:17.5±1.4, 4631N×15308E, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.4/24, mbtmp4.5/10, ML4.0/1, Error ellipse: s-maj=41.8km s-min=22.1km az=168.0*
*ISCJB **15** 11:51:18.2±1.6, 462N±0.3×1530E±0.2, h10km, mb4.6/11, Error ellipse: s-maj=43.5km s-min=14.6km az=123.5*

ISC 15 11:51:19.9±1.6, 463N±0.3×1530E±0.2, h10km, n18, σ1º26/16, mb4.6/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.69**	**257**	Pn	**Pn**	**11 53 12.3**	**+0.3**
	2.1nm,0.3s,baz=84,slow=30,SNR=2.8						
KSRS	**Korea Array**	**20.62**	**254**	P	P	11 55 59.1	-0.2
	6.6nm,0.8s,baz=56,slow=11,SNR=4.9						
INK	**Inuvik**	**42.04**	**32**	P	P	11 59 11.2	-0.4
	5.7nm,0.9s,mb4.2,baz=74,slow=3.0,SNR=5.1						
ZAL	**Zalesovo**	**42.83**	**306**	P	P	11 59 15.2	-2.9
	3.3nm,0.8s,mb4.1,baz=204,slow=17,SNR=4.8						
MKAR	**Makanchi Array**	**47.09**	**298**	P	P	11 59 51.0	-0.9
	7.0nm,0.9s,mb4.6,baz=72,slow=6.5,SNR=5.1						
FINES	**FINESS Array B**	**64.40**	**335**	P	P	12 01 55.2	-1.0
	6.1nm,0.6s,mb4.8,baz=36,slow=6.4,SNR=5.7						
NB2	**NORSAR Subarra**	**68.61**	**341**	P	P	12 02 22.3	-0.8
	comp=Z,7.2nm,0.7s,mb4.7,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.61**	**341**	P	P	12 02 22.3	-0.8
	comp=Z,2.7nm,0.7s,mb4.3,baz=27,slow=6.1,SNR=3.6						
AKASG	**Malin Array Be**	**71.87**	**326**	P	P	12 02 42.3	-0.8
	comp=Z,9.5nm,0.5s,mb5.0,baz=34,slow=6.1,SNR=16						
MLR	**Muntele Rosu**	**77.38**	**325**	P	P	12 03 14.5	-0.5
	comp=Z,4.5nm,0.5s,mb4.7,baz=294,slow=19,SNR=3.9						
TXAR	**Lajitas Array**	**77.75**	**60**	P	P	12 03 15.6	-1.6
	comp=Z,2.3nm,0.6s,mb4.3,baz=309,slow=5.1,SNR=4.9						
CDF	**Champ du Feu**	**81.03**	**338**	*e*P	P	12 03 36.1	+1.1
	comp=Z,7.5nm,0.5s,mb4.6						
GRR	**Gorron**	**82.95**	**343**	*e*P	P	12 03 46.6	+1.5
SMF	**Signal de Mont**	**83.54**	**339**	*e*P	P	12 03 49.7	+1.6
	comp=Z,58nm,1.2s,mb5.3						
LPG	**La Plagne**	**83.85**	**337**	*e*P	P	12 03 52.1	+2.4
	comp=Z,5.3nm,0.5s,mb4.6						
CAF	**Calviac**	**85.58**	**340**	*e*P	P	12 04 00.1	+1.6
	comp=Z,42nm,1.4s						
TORD	**Torodi Ar. Bea**	**115.43**	**329**	PKiKP	PKiKP	12 10 03.3	+1.4
	comp=Z,2.6nm,0.9s,baz=207,slow=3.7,SNR=4.2						
CFAA	**Coronel Fontan**	**145.13**	**80**	PKPbc	PKPbc	12 10 54.6	-2.5
	comp=Z,0.4nm,0.6s,baz=280,slow=12,SNR=3.2						

*ISCJB **15** 11:51:37.6±0.6, 466N±0.1×1550E±0.1, h10km, mb4.7/19, Error ellipse: s-maj=17.7km s-min=10.1km az=108.3*
*IDC **15** 11:51:37.4±0.7, 4655N×15504E, h0km, mb4.7/18, mb1 4.9/20, mb1mx4.8/27, mbtmp4.7/20, ML4.4/2, Error ellipse: s-maj=20.8km s-min=16.3km az=155.0*
*MOS **15** 11:51:39.2±0.9, 4663N×15476E, h19km, mb5.0/12, Error ellipse: s-maj=18.4km s-min=15.4km az=71.1*

ISC 15 11:51:39.2±0.6, 466N±0.1×1550E±0.1, h10km, n38, σ0º81/36, mb4.7/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.18**	**257**	PN	**Pn**	**11 52 53.0**	**-3.7**
ASAJ	**Asahikawa**	**9.09**	**258**	Pn	**Pn**	**11 53 50.9**	**+0.4**
	6.5nm,0.3s,baz=28,slow=5.6,SNR=3.6						
ASAJ	**Asahikawa**	**9.09**	**258**	PN	**Pn**	**11 53 50.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.08**	**237**	Pn	**Pn**	**11 55 25.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=32,slow=10,SNR=5.6						
MJAR	**Matsushiro Arr**	**16.08**	**237**	P	**Pn**	**11 55 25.4**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.02**	**255**	P	P	**11 56 34.9**	**+1.2**
	comp=Z,21nm,0.8s,mb4.6,baz=55,slow=11,SNR=8.3						
BILL	**Bilibino**	**22.24**	**11**	*e*P	P	**11 56 35.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**43.76**	**306**	P	P	**11 59 43.5**	**-1.3**
	comp=Z,4.5nm,0.4s,mb4.6,baz=31,slow=7.6,SNR=8.0						
ZAL	**Zalesovo**	**43.76**	**306**	P	P	**11 59 43.5**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	**12 00 18.7**	**-0.8**
	comp=Z,7.3nm,0.8s,mb4.7,baz=66,slow=6.3,SNR=4.1						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	**12 00 18.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.24**	**37**	P	P	**12 00 35.5**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.6,baz=296,slow=7.0,SNR=4.0						
YKA	**Yellowknife Ar**	**50.24**	**37**	P	P	**12 00 35.5**	**+0.1**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**51.94**	**310**	P	P	**12 00 48.6**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0,baz=46,slow=8.6,SNR=9.1						
BVAR	**Borovoye Array**	**51.94**	**310**	P	P	**12 00 48.6**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,15nm,0.8s						
ARCES	**ARCESS Array B**	**58.39**	**341**	P	P	**12 01 35.2**	**+0.4**
	comp=Z,12nm,0.8s,mb5.0,baz=22,slow=6.9,SNR=13						
ARCES	**ARCESS Array B**	**58.39**	**341**	P	P	**12 01 35.2**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,12nm,0.8s						
PDAR	**Pinedale Array**	**63.76**	**55**	P	P	**12 02 12.1**	**+0.9**
	comp=Z,5.2nm,0.8s,mb4.6,baz=275,slow=2.1,SNR=7.5						
FINES	**FINESS Array B**	**64.70**	**336**	P	P	**12 02 18.2**	**+0.8**
	comp=Z,21nm,0.7s,mb5.2,baz=51,slow=10.0,SNR=11						
FINES	**FINESS Array B**	**64.70**	**336**	P	P	**12 02 18.2**	**+0.8**
FINES				pmax	pmax		
	comp=Z,21nm,0.7s						
ULM	**Lac du Bonnet**	**65.75**	**42**	P	P	**12 02 23.4**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.5,baz=338,slow=10,SNR=4.9						
AKASG	**Malin Array Be**	**72.37**	**327**	P	P	**12 03 04.5**	**-0.8**
	comp=Z,4.5nm,0.8s,mb4.5,baz=216,slow=21,SNR=4.7						
AKASG	**Malin Array Be**	**72.37**	**327**	P	P	**12 03 04.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**72.53**	**200**	P	P	**12 03 06.3**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.5,baz=16,slow=4.9,SNR=7.2						
ASAR	**Alice Springs**	**72.53**	**200**	P	P	**12 03 06.4**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SCHQ	**Schefferville**	**72.90**	**24**	P	P	**12 03 07.9**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.7,baz=23,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**76.41**	**62**	P	P	**12 03 29.6**	**+0.8**
	comp=Z,15nm,0.6s,mb5.1,baz=304,slow=4.5,SNR=27						
TXAR	**Lajitas Array**	**76.41**	**62**	P	P	**12 03 29.6**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,15nm,0.6s						
STKA	**Stephens Creek**	**79.08**	**192**	P	P	**12 03 42.4**	**-1.3**
	comp=Z,4.8nm,1.1s,mb4.3,baz=250,slow=18,SNR=2.9						
GERES	**GERESS Array B**	**79.13**	**335**	P	P	**12 03 43.9**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=34,slow=7.5,SNR=2.6						
GERES	**GERESS Array B**	**79.13**	**335**	P	P	**12 03 43.9**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.37**	**318**	P	P	**12 03 45.6**	**+0.4**
	comp=Z,5.8nm,0.9s,mb4.5,baz=95,slow=2.4,SNR=6.1						
BRTR	**Keskin Array B**	**79.37**	**318**	P	P	**12 03 45.6**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASF	**Jabal al Asfar**	**83.77**	**311**	P	P	**12 04 07.6**	**-0.9**
	comp=Z,6.4nm,0.9s,mb4.7,baz=222,slow=12,SNR=3.6						
ASF	**Jabal al Asfar**	**83.77**	**311**	P	P	**12 04 07.6**	**-1.0**
ASF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MMAI	**Mount Meron Ar**	**83.87**	**313**	P	P	**12 04 10.4**	**+1.3**
	comp=Z,6.8nm,0.5s,mb5.1,baz=34,slow=6.1,SNR=6.7						
SNAA	**Sanae**	**152.79**	**195**	PKPbc	PKPbc	12 11 32.5	-3.8
	comp=Z,2.7nm,1.1s,baz=284,slow=11,SNR=5.4						
SNAA	**Sanae**	**152.79**	**195**	PKIKP	PKPdf	12 11 32.5	+3.3
SNAA				pmax	pmax		
	comp=Z,3.0nm,1.1s						

*ISCJB **15** 11:52:53.3±0.4, 47.16N±0.006×154.50E±0.08, h10km, mb5.0/32, MS5.9/2, Error ellipse: s-maj=10.5km s-min=5.5km az=102.4*
*IDC **15** 11:52:53.8±0.8, 47.35N×154.29E, h0km, mb4.7/20, mb1 4.9/22, mb1mx4.7/31, mbtmp4.7/22, ML4.4/2, Error ellipse: s-maj=14.1km s-min=14.3km az=152.0*
*NEIC **15** 11:52:55.9±0.6, 47.36N×154.41E, h10km, mb5.0/10, Error ellipse: s-maj=17.1km s-min=8.3km az=147.0*
*BJI **15** 11:52:55.8, 47.40N×154.40E, h10km, mB5.3, mb5.4, Ms5.3, Ms5.2*
*MOS **15** 11:52:56.0±1.6, 47.37N×154.33E, h23km, mb5.2/6, Error ellipse: s-maj=11.8km s-min=8.3km az=84.4*

ISC 15 11:52:56.3±2.9, 4724N±007×15447E±008, h17km±18km, n86, σ1º23/87, mb5.0/32, MS5.9/2, 12C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.38**	**23**	*e*PN	**Pn**	**11 54 28.7**	**-0.8**
PET				*e*S	**Sn**	**11 55 46.6**	**+4.6**
PET				smax			
	comp=N,1μm,1.4s						
PET				smax			
	comp=E,667nm,1.1s						
PET	**Petropavlovsk**	**6.38**	**23**	*e*Pn	**Pn**	**11 54 27.9**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**6.83**	**245**	PN	**Pn**	**11 54 33.5**	**-2.2**
YUK				pmax	pmax		
	comp=Z,460nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.00**	**272**	*e*PN	**Pn**	**11 54 55.0**	**+3.3**
ASAJ	**Asahikawa**	**8.88**	**254**	Pn	**Pn**	**11 55 04.1**	**+0.4**
	comp=Z,6.3nm,0.3s,baz=103,slow=14,SNR=3.2						
ASAJ	**Asahikawa**	**8.88**	**254**	PN	**Pn**	**11 55 04.1**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MA2	**Magadan**	**12.55**	**351**	*e*PN	**Pn**	**11 55 54.2**	**+0.2**
MJAR	**Matsushiro Arr**	**16.12**	**234**	Pn	**Pn**	**11 56 42.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=32,slow=12,SNR=6.3						
MAJO	**Matsushiro**	**16.12**	**234**	*e*P	**Pn**	**11 56 45.7**	**+3.7**
MAJO				pmax	pmax		
	comp=Z,40nm,0.8s						
MAJO	**Matsushiro**	**16.12**	**234**	*e*P	**Pn**	**11 56 45.7**	**+3.8**
	comp=Z,40nm,0.8s						
MDJ	**Mudanjiang**	**17.48**	**271**	P	**Pn**	**11 57 01.7**	**+2.4**
	comp=Z,39nm,1.1s						
YAK	**Yakutsk**	**20.43**	**326**	*e*P	**P**	**11 57 33.3**	**+0.7**
YAK				*e*		11 57 49.4	
YAK				*e*S	**S**	**12 01 20.2**	**-0.5**
YAK				pmax	pmax		
	comp=Z,70nm,1.4s						
YAK				pmax	pmax		
	comp=N,54nm,1.3s						
YAK				pmax	pmax		
	comp=E,69nm,1.7s						
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				smax			
	comp=N,46nm,1.4s						
YAK				smax			
	comp=Z,30nm,1.5s						
YAK				smax			
	comp=E,41nm,1.1s						
YAK				MLR	MLR		
	comp=Z,247μm,15.0s,MS6.7						
YAK				MLR	MLR		
	comp=N,225μm,17.0s,MS6.7						
YAK				MLR	MLR		
	comp=E,168μm,17.0s,MS6.7						
KSRS	**Korea Array**	**21.83**	**253**	P	**P**	**11 57 47.5**	**-0.2**
	comp=E,12nm,0.9s,mb4.3,baz=58,slow=9.7,SNR=5.0						
JNU	**Nakatsue**	**22.77**	**240**	P	**P**	**11 57 58.4**	**+0.7**
	comp=E,30nm,0.9s,mb4.7,baz=255,slow=21,SNR=2.2						
NJ2	**Nanjing**	**31.02**	**254**	*e*P	**P**	**11 59 17.8**	**+4.8**
NJ2				AP	pP	11 59 22.1	+3.9
NJ2				XP	sP	11 59 25.6	+5.2
NJ2				PP	PP	12 00 20.6	-2.5
NJ2				S	**S**	**12 04 21.5**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,340nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,15.3s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,14.6s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,13.7s,MS5.2						
SONM	**Songino Array**	**32.05**	**289**	P	**P**	**11 59 19.5**	**-2.5**
	comp=Z,2.2nm,0.7s,mb4.1,baz=63,slow=8.0,SNR=3.5						
KDAK	**Kodiak Island**	**33.07**	**52**	P	**P**	**11 59 30.2**	**-0.8**
	comp=Z,38nm,1.0s,mb5.3,baz=342,slow=6.3,SNR=6.3						
KDAK	**Kodiak Island**	**33.07**	**52**	P	**P**	**11 59 30.2**	**-0.8**
MCK	**McKinley**	**34.68**	**41**	*e*P	**P**	**11 59 44.5**	**-0.4**
MCK				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
MCK	**McKinley**	**34.68**	**41**	*e*P	**P**	**11 59 44.5**	**-0.4**
	comp=Z,29nm,1.1s,mb5.1						
SML	**Sawmill**	**34.97**	**44**	*e*P	**P**	**11 59 47.7**	**+0.2**
DIV	**Divide**	**36.25**	**45**	*e*P	**P**	**11 59 58.3**	**-0.1**
	comp=Z,82nm,0.7s,mb5.8						
EGAK	**Eagle**	**38.04**	**39**	*e*P	**P**	**12 00 13.1**	**-0.5**
	comp=Z,60nm,1.0s,mb5.3						
LZH	**Lanzhou**	**38.80**	**272**	*e*P	**P**	**12 00 21.0**	**+1.0**
LZH				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,223nm,5.0s						
LZH	**Lanzhou**	**38.80**	**272**	*e*P	**P**	**12 00 21.0**	**+1.0**
LZH				*e*SP	sP	12 00 27.6	+0.2
LZH						12 01 50.9	
LZH				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.1						
LZH	**Lanzhou**	**38.80**	**272**	*e*P	**P**	**12 00 21.0**	**+1.0**
	comp=Z,40nm,1.1s,mb5.1						
LZH				pP	pP	12 00 25.2	-0.1
LZH				sP	sP	12 00 27.6	+0.2
LZH				PP	PP	12 01 50.9	+2.0
INK	**Inuvik**	**40.74**	**33**	P	P	**12 00 36.8**	**+0.6**
	comp=Z,19nm,1.0s,mb4.7,baz=254,slow=8.6,SNR=5.5						
CD2	**Chengdu**	**41.84**	**266**	*e*P	**P**	**12 00 44.5**	**-0

VTS	Vitosha	80.69 326	⇑ *i*P	P	P	12 05 10.7	+2.3
VTS	Vitosha	80.69 326	P	P	P	12 05 10.7	+2.3
ASF	Jabal al Asfar	83.08 311	P	P	P	12 05 21.7	+0.8
	comp=Z,5.2nm,0.8s,mb4.6,baz=37,slow=0.7,SNR=4.8						
MMAI	Mount Meron Ar	83.18 312	P	P	P	12 05 20.1	-1.3
	comp=Z,12nm,0.8s,mb5.0,baz=39,slow=6.8,SNR=5.7						
QSPA	South Pole Qui	136.98 180	*e*P		PKPdf	12 12 22.6	+4.5
SYO	Syowa Base	141.82 212	⇑ *e*PKPdf		PKPdf	12 12 29.4	+2.5

IDC 15 11:56:39.5±9.3, 4734N×15731E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/24, mbtmp4.3/5, ML4.7/1, Error ellipse: s-maj=177.3km s-min=42.3km az=105.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	19.45	229	P	Pn	12 01 06.0	-2.7
	9.9nm,0.3s,baz=238,slow=23,SNR=6.7						
KSRS	Korea Array	23.72	256	P	P	12 01 55.2	+1.9
	1.7nm,0.6s,baz=44,slow=11,SNR=5.0						
SONM	Songino Array	33.84	290	P	P	12 03 22.3	-1.2
	0.6nm,0.8s,baz=38,slow=2.6,SNR=2.2						
MKAR	Makanchi Array	49.20	299	P	P	12 05 28.9	-0.5
	2.1nm,0.7s,baz=60,slow=7.8,SNR=3.6						
BVAR	Borovoye Array	52.68	311	P	P	12 05 55.7	+0.1
	1.3nm,0.4s,baz=70,slow=4.7,SNR=4.2						

*BJI **15** 11:58:04.8, 4799N×15447E, h16km, mb5.2*
*IDC **15** 11:58:06.3±0.8, 4796N×15424E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.2/29, mbtmp4.2/17, Error ellipse: s-maj=25.2km s-min=15.3km az=160.0*
*NEIC **15** 11:58:07.5±0.6, 4751N×15455E, h10km, mb4.9/7, Error ellipse: s-maj=17.4km s-min=9.9km az=156.0*
*ISCJB **15** 11:58:12.4±1.2, 4772N±009×1543E±01, h62km±10km, mb4.5/23, Error ellipse: s-maj=17.2km s-min=7.2km az=109.1*
*MOS **15** 11:58:12.8±1.3, 4773N×15420E, h67km, mb5.0/3, Error ellipse: s-maj=16.5km s-min=9.5km az=64.1*
ISC 15 11:58:14.5±1.0, 4773N±009×1543E±01, h65km±9km, n45, σ1§28/46, mb4.4/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	3.19	22	*e*PN	Pn	11 59 02.8	+0.5
SKR				*e*		11 59 35.0	
PET	Petropavlovsk	6.00	26	*e*PN	Pn	11 59 40.5	-0.1
PET				pmax	pmax		
	comp=Z,363nm,1.4s						
PET	Petropavlovsk	6.00	26	*e*Pn	Pn	11 59 40.5	-0.1
	comp=Z,363nm,1.4s						
YUK	Yuzh-Kuril'sk	6.93	241	*e*PN	Pn	11 59 52.8	-0.6
YUK				S	Sn	12 01 15.0	+4.2
YSS	Yuzh-Sakhalins	7.86	269	PN	Pn	12 00 05.0	-1.1
ASAJ	Asahikawa	8.90	250	Pn	Pn	12 00 21.2	+0.9
	comp=Z,1nm,0.3s,baz=85,slow=10,SNR=5.9						
ASAJ	Asahikawa	8.90	250	PN	Pn	12 00 21.2	+0.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	Magadan	12.04	351	*e*PN	Pn	12 01 03.8	+0.6
MJAR	Matsushiro Arr	16.30	233	Pn	Pn	12 01 57.6	-1.5
	baz=34,slow=12,SNR=4.1						
YAK	Yakutsk	19.94	325	*e*P	Pn	12 02 47.4	+4.1
YAK				pmax	pmax		
	comp=N,19nm,1.4s						
YAK				pmax	pmax		
	comp=Z,42nm,1.4s						
YAK				pmax	pmax		
	comp=E,33nm,1.7s						
YAK				MLR	MLR		
	comp=N,235μm,15.0s						
YAK				MLR	MLR		
	comp=Z,207μm,15.0s						
YAK				MLR	MLR		
	comp=E,223μm,16.0s						
YAK	Yakutsk	19.94	325	*e*P	Pn	12 02 47.0	+3.8
	comp=E,31nm,0.6s						
KSRS	Korea Array	21.85	252	P	P	12 03 01.1	-0.4
	comp=E,4.7nm,0.9s,mb3.8,baz=54,slow=10,SNR=5.6						
NJ2	Nanjing	31.04	253	*e*P	P	12 04 26.4	+0.4
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
MCK	McKinley	34.40	41	*e*P	P	12 04 57.9	+2.5
	comp=Z,581nm,0.7s						
COLA	College	34.88	39	*e*P	P	12 04 59.6	+0.1
COLA				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
COLA	College	34.88	39	*e*P	P	12 04 59.6	0.0
	comp=Z,15nm,0.9s,mb4.8						
DIV	Divide	36.00	46	*e*P	P	12 05 12.2	+3.1
	comp=Z,72μm,1.2s						
EGAK	Eagle	37.74	39	*e*P	P	12 05 23.6	-0.4
	comp=E,8.1nm,0.8s,mb4.6						
INK	Inuvik	40.40	33	P	P	12 05 44.8	-1.3
	comp=Z,5.6nm,1.1s,mb4.3,baz=278,slow=6.4,SNR=6.5						
MK31	Makanchi Array	47.19	297	*e*P	P	12 06 41.4	+0.8
MKAR	Makanchi Array	47.19	297	P	P	12 06 41.4	+0.8
	comp=Z,4.1nm,0.7s,mb4.3,baz=67,slow=7.8,SNR=10.0						
BVAR	Borovoye Array	50.84	309	P	P	12 07 07.5	-1.0
	comp=Z,1.5nm,0.6s,mb4.2,baz=69,slow=9.6,SNR=2.8						
ZRNK	Zerenda	51.60	310	P	P	12 07 15.7	+1.5
NEW	Newport	55.96	54	P	P	12 07 45.8	-0.2
	comp=Z,2.1nm,0.7s,mb4.3,baz=278,slow=16,SNR=3.3						
YBH	Yreka Blue Hor	56.59	63	P	P	12 07 50.4	-0.1
	comp=Z,7.1nm,1.1s,mb4.6,baz=99,slow=13,SNR=3.2						
WVOR	Wild Horse Val	58.58	60	*e*P	P	12 08 05.3	+0.8
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
WVOR	Wild Horse Val	58.58	60	*e*P	P	12 08 05.3	+0.8
	comp=Z,9.5nm,1.2s,mb4.7						
NVAR	Mina Array Bea	61.29	63	P	P	12 08 22.9	-0.1
	comp=Z,2.4nm,0.9s,mb4.2,baz=297,slow=8.0,SNR=8.0						
PTRM	Twissleman Ran	61.90	67	*e*P	P	12 08 29.8	+2.7
REDW	Red Top Meadow	62.43	55	*e*P	P	12 08 32.3	+1.6
	comp=Z,1nm,1.2s,mb4.8						
HWUT	Hardware Ranch	63.18	57	*e*P	P	12 08 34.1	-1.5
	comp=Z,52nm,1.9s,mb5.1						
DUG	Dugway	63.39	59	*e*P	P	12 08 36.9	-0.2
DUG				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
DUG	Dugway	63.39	59	*e*P	P	12 08 36.9	-0.2
	comp=Z,15nm,1.2s,mb4.8						
FINES	FINESS Array B	63.48	335	P	P	12 08 35.0	-2.7
	comp=Z,2.7nm,0.7s,mb4.3,baz=33,slow=6.9,SNR=4.2						
PDAR	Pinedale Array	63.54	55	P	P	12 08 37.3	-0.7
	comp=Z,4.2nm,0.9s,mb4.2,baz=222,slow=0.6,SNR=8.1						
CCUT	Cedar City	64.82	61	*e*P	P	12 08 43.4	-3.0
MSU	Marysvale	64.87	60	*e*P	P	12 08 45.7	-1.1
TMUT	Trail Mountain	64.91	59	*e*P	P	12 08 45.4	-1.7
PSI	Prapat	65.21	245	P	P	12 08 50.2	+1.3
	comp=Z,9.1nm,1.0s,mb4.6,baz=216,slow=7.5,SNR=4.6						
NOA	NORSAR Array B	67.55	342	P	P	12 09 01.8	-2.1
	comp=Z,2.2nm,0.9s,mb4.0,baz=204,slow=3.6,SNR=2.4						
ASAR	Alice Springs	73.39	199	P	P	12 09 41.4	+1.9
	comp=Z,0.8nm,0.6s,mb3.7,baz=12,slow=6.1,SNR=5.7						
TXAR	Lajitas Array	76.33	61	P	P	12 09 57.0	+0.5
	comp=Z,1.7nm,0.5s,mb4.1,baz=307,slow=5.1,SNR=9.7						
GERES	GERESS Array B	77.91	335	P	P	12 10 03.1	-2.2
	comp=Z,0.7nm,0.4s,mb3.7,baz=28,slow=4.4,SNR=3.3						
MMAI	Mount Meron Ar	82.75	312	P	P	12 10 31.6	+0.4
	comp=Z,2.1nm,0.6s,mb4.2,baz=58,slow=6.3,SNR=3.2						
ESDC	Sonseca Array	90.85	343	P	P	12 11 12.0	+1.3
	comp=Z,0.4nm,0.3s,mb4.0,baz=198,slow=24,SNR=3.2						

*IDC **15** 12:01:21.5±0.6, 4781N×154.13E, h0km, mb4.3/26, mb1 4.5/27, mb1mx4.5/32, mbtmp4.3/27, ML3.8/1, Error ellipse: s-maj=20.0km s-min=13.6km az=155.0*
*BJI **15** 12:01:23.3, 4780N×154.10E, h10km, mB4.9, mb4.9*
*NEIC **15** 12:01:23.3±0.3, 4781N×15406E, h10km, mb4.8/14, Error ellipse: s-maj=10.6km s-min=6.1km az=158.0*
*ISCJB **15** 12:01:25.8±1.2, 4781N±008×154.17E±009, h39km±9km, mb4.5/44, Error ellipse: s-maj=14.7km s-min=7.0km az=111.7*
*MOS **15** 12:01:25.9±1.2, 4779N×154.13E, h41km, mb4.9/12, Error ellipse: s-maj=12.5km s-min=8.0km az=75.6*
ISC 15 12:01:29.2±1.0, 4791N±008×15415E±009, h52km±8km, n83, σ1§04/80, mb4.5/44, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	3.06	24	*e*PN	Pn	12 02 15.0	-0.1
SKR				*e*		12 02 50.0	
PET	Petropavlovsk	5.87	28	*e*PN	Pn	12 02 52.1	-1.6
YUK	Yuzh-Kuril'sk	6.95	239	PN	Pn	12 03 06.3	-2.1
YSS	Yuzh-Sakhalins	7.79	267	⇑ *i*PN	Pn	12 03 22.0	+2.1
YSS				pmax	pmax		
	comp=Z,100nm,0.7s						
YSS	Yuzh-Sakhalins	7.79	267	*e*Pn	Pn	12 03 22.2	+2.4
	comp=Z,10μm,3.5s						
ASAJ	Asahikawa	8.89	249	Pn	Pn	12 03 36.4	+1.5
	comp=Z,1.6nm,0.3s,baz=72,slow=12,SNR=4.3						
ASAJ	Asahikawa	8.89	249	PN	Pn	12 03 36.4	+1.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	Magadan	11.86	352	*e*PN	Pn	12 04 16.3	+0.7
MAJO	Matsushiro	16.34	232	*e*P	Pn	12 05 17.5	+2.4
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	Matsushiro	16.34	232	*e*P	Pn	12 05 17.5	+2.4
	comp=Z,16nm,0.7s						
MJAR	Matsushiro Arr	16.34	232	Pn	Pn	12 05 10.4	-4.7
	comp=Z,0.3nm,0.3s,baz=27,slow=12,SNR=4.0						
KSRS	Korea Array	21.83	251	P	P	12 06 16.6	-0.5
	comp=Z,7.4nm,0.7s,mb4.2,baz=76,slow=7.1,SNR=14						
JNU	Nakatsue	22.92	238	P	P	12 06 27.4	-1.3
	comp=Z,37nm,1.0s,mb4.8,baz=182,slow=14,SNR=3.0						
NJ2	Nanjing	31.02	252	*e*P	P	12 07 44.4	+2.6
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.3						
SONM	Songino Array	31.63	288	P	P	12 07 46.5	-0.7
	comp=Z,0.4nm,0.4s,mb3.6,baz=66,slow=9.1,SNR=3.6						
SONM	Songino Array	31.63	288	P	P	12 07 46.5	-0.7
COLA	College	34.79	39	*e*P	P	12 08 14.8	0.0
COLA				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
COLA	College	34.79	39	*e*P	P	12 08 14.8	+0.1
	comp=Z,18nm,1.1s,mb4.9						
LZH	Lanzhou	38.56	271	*e*P	P	12 08 44.3	-2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,79nm,4.0s						
LZH	Lanzhou	38.56	271	*e*P	P	12 08 44.2	-2.6
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
INK	Inuvik	40.30	33	P	P	12 09 01.1	-0.2
	comp=Z,2.4nm,0.6s,mb4.1,baz=304,slow=7.5,SNR=7.2						
MK31	Makanchi Array	47.04	297	*e*P	P	12 09 54.5	-1.0
MKAR	Makanchi Array	47.04	297	P	P	12 09 54.8	-0.7
	comp=Z,2.4nm,0.6s,mb4.3,baz=69,slow=8.9,SNR=7.3						
KURK	Kurchatov	47.32	303	*e*P	P	12 09 57.2	-0.4
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
KURK	Kurchatov	47.32	303	*e*P	P	12 09 57.2	-0.4
	comp=Z,4.1nm,0.5s,mb4.6						
RES	Resolute Bay	49.51	19	*e*P	P	12 10 14.4	-0.1
RES				pmax	pmax		
	comp=Z,121nm,0.7s						
RES	Resolute Bay	49.51	19	*e*P	P	12 10 14.4	-0.1
	comp=Z,121nm,0.7s						
YKA	Yellowknife Ar	49.58	38	P	P	12 10 15.1	+0.1
	comp=Z,2.9nm,0.8s,mb4.4,baz=297,slow=7.3,SNR=3.2						
BVAR	Borovoye Array	50.67	309	P	P	12 10 22.3	-1.0
	comp=Z,3.7nm,0.7s,mb4.4,baz=57,slow=7.2,SNR=10.0						
ZRNK	Zerenda	51.43	310	*e*P	P	12 10 27.5	-1.5
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZRNK	Zerenda	51.43	310	*e*P	P	12 10 27.4	-1.5
	comp=Z,3.9nm,0.7s,mb4.5						
CM31	Chiang Mai Arr	53.33	256	*e*P	P	12 10 43.2	+0.2
	comp=Z,6.9nm,0.9s,mb4.6						
JIRN	Jiri	55.56	274	*e*P	P	12 10 59.8	+0.6
	comp=Z,17nm,0.5s,mb5.4						
GUN	Gumba	55.60	275	*e*P	P	12 10 59.9	+0.4
	comp=Z,9.3nm,0.3s,mb5.3						
KKN	Kakani	56.08	275	*e*P	P	12 11 03.4	+0.4
DMN	Daman	56.32	275	*e*P	P	12 11 05.6	+0.9
	comp=Z,12nm,0.3s,mb5.4						
GKN	Gorkha	56.37	276	*e*P	P	12 11 05.4	+0.3
	comp=Z,33nm,0.7s,mb5.5						
YBH	Yreka Blue Hor	56.58	63	P	P	12 11 07.0	+0.5
	comp=Z,9.6nm,0.8s,mb4.3,baz=3.5,slow=5.1,SNR=4.0						
KOLN	Koldanda	57.22	276	*e*P	P	12 11 11.1	+0.1
WVOR	Wild Horse Val	58.56	60	*e*P	P	12 11 20.7	+0.2
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WVOR	Wild Horse Val	58.56	60	*e*P	P	12 11 20.7	+0.2
	comp=Z,3.4nm,0.8s,mb4.4						
SUMG	Summit	59.50	4	*e*P	P	12 11 27.7	+0.8
	comp=Z,17nm,0.8s,mb5.1						
NVAR	Mina Array Bea	61.28	63	P	P	12 11 39.6	+0.6
	comp=Z,2.2nm,0.7s,mb4.4,baz=292,slow=8.0,SNR=9.3						
FINES	FINESS Array B	63.29	335	P	P	12 11 51.7	-0.9
	comp=Z,1.5nm,0.5s,mb4.4,baz=40,slow=8.2,SNR=7.0						
DUG	Dugway	63.37	59	*e*P	P	12 11 53.3	+0.2
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
DUG	Dugway	63.37	59	*e*P	P	12 11 53.3	+0.2
	comp=Z,8.4nm,1.3s,mb4.7						
PDAR	Pinedale Array	63.50	55	P	P	12 11 54.0	+0.1
	comp=Z,2.1nm,0.9s,mb4.7,baz=316,slow=2.9,SNR=5.7						
ULM	Lac du Bonnet	65.19	42	P	P	12 12 03.5	-1.4
	comp=Z,2.6nm,0.7s,mb4.4,baz=314,slow=13,SNR=3.9						
SRU	San Rafael	65.41	58	*e*P	P	12 12 06.6	+0.2
SRU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
SRU	San Rafael	65.41	58	*e*P	P	12 12 06.5	+0.2
	comp=Z,6.4nm,0.9s,mb4.7						
NOA	NORSAR Array B	67.36	341	P	P	12 12 17.4	-1.4
	comp=Z,1.0nm,0.6s,mb4.0,baz=30,slow=5.1,SNR=3.3						
WRA	Warramunga Arr	69.84	200	P	P	12 12 32.4	-2.0
	comp=Z,2.1nm,0.8s,mb4.1,baz=20,slow=6.3,SNR=5.4						
AKASG	Malin Array Be	70.97	327	P	P	12 12 39.8	-1.4
	comp=Z,1.5nm,0.4s,mb4.3,baz=34,slow=6.2,SNR=5.2						
SCHQ	Schefferville	71.97	24	P	P	12 12 47.0	-0.2
	comp=Z,5.0nm,0.9s,mb4.4,baz=354,slow=7.8,SNR=2.8						
ASAR	Alice Springs	73.53	199	P	P	12 12 55.3	-1.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=11,slow=5.2,SNR=5.9						
WMOK	Wichita Mounta	75.11	55	*e*P	P	12 13 08.2	+2.5
WMOK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
WMOK	Wichita Mounta	75.11	55	*e*P	P	12 13 08.2	+2.6
	comp=Z,13nm,0.7s,mb5.0						
EKA	Eskdalemuir Ar	75.38	347	P	P	12 13 06.9	-0.3
	comp=Z,1.6nm,0.5s,mb4.2,baz=17,slow=5.0,SNR=7.0						
CLL	Collm	75.70	336	*e*(P)	P	12 13 09.0	-0.1
TXAR	Lajitas Array	76.32	61	P	P	12 13 12.8	+0.3
	comp=Z,2.4nm,0.6s,mb4.3,baz=306,slow=5.1,SNR=7.5						
MLR	Muntele Rosu	76.52	325	P	P	12 13 14.6	+0.9
	comp=Z,2.6nm,0.5s,mb4.7,baz=14,slow=6.8,SNR=4.4						
WSAR	Wadi Sarin	76.66	290	P	P	12 13 14.6	+0.1
	comp=Z,4.6nm,0.9s,mb4.4,baz=68,slow=0.8,SNR=3.1						
WSAR	Wadi Sarin	76.66	290	P	P	12 13 14.6	+0.1
GERES	GERESS Array B	77.72	334	P	P	12 13 20.2	-0.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=35,slow=4.9,SNR=5.8						
BRTR	Keskin Array B	78.03	317	P	P	12 13 22.1	0.0
	comp=Z,2.5nm,0.9s,mb4.1,baz=46,slow=4.2,SNR=4.4						
BRTR	Keskin Array B	78.03	317	P	P	12 13 22.1	0.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CDF	Champ du Feu	79.85	338	*e*P	P	12 13 32.0	-0.1
	comp=Z,4.5nm,0.6s,mb4.3						
CDF	Champ du Feu	79.85	338	*e*P	P	12 13 32.0	-0.1
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CDF	Champ du Feu	79.85	338	*e*P	P	12 13 32.0	-0.1
	comp=Z,2.3nm,0.6s,mb4.3						
DAVOX	Davos	80.67	336	P	P	12 13 36.7	+0.1
	comp=Z,4.9nm,0.7s,mb4.5,baz=5.8,slow=9.7,SNR=3.5						
GRR	Gorron	81.66	343	*e*P	P	12 13 41.8	0.0
SMF	Signal de Mont	82.33	340	*e*P	P	12 13 46.6	+1.3
	comp=Z,18nm,0.8s,mb4.7						
SMF	Signal de Mont	82.33	340	*e*P	P	12 13 46.6	+1.3
SMF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SMF	Signal de Mont	82.33	340	*e*P	P	12 13 46.6	+1.3
	comp=Z,9.2nm,0.8s,mb4.8						
ASF	Jabal al Asfar	82.49	310	P	P	12 13 47.1	+1.0
	comp=Z,1.4nm,0.3s,mb4.3,baz=51,slow=15,SNR=3.1						
MMAI	Mount Meron Ar	82.57	312	P	P	12 13 47.6	+1.0
	comp=Z,6.0nm,0.5s,mb4.8,baz=33,slow=3.5,SNR=8.4						
LPG	La Plagne	82.69	338	*e*P	P	12 13 48.3	+1.1
	comp=Z,18nm,0.9s,mb4.8						
LPG	La Plagne	82.69	338	*e*P	P	12 13 48.3	+1.1
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
LPG	La Plagne	82.69	338	*e*P	P	12 13 48.3	+1.1
	comp=Z,9.1nm,0.9s,mb4.8						
CAF	Calviac	84.36	340	*e*P	P	12 13 57.5	+1.7
BOSA	Boshof	136.38	277	PKP	PKPdf	12 20 43.2	-1.8
	comp=Z,5.4nm,1.0s,baz=63,slow=4.5,SNR=3.5						
BOSA	Boshof	136.38	277	PKIKP	PKPdf	12 20 43.2	-1.8
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CFAA	Coronel Fontan	144.08	79	PKP	PKPdf	12 20 56.2	-2.8
	comp=Z,0.3nm,0.4s,baz=283,slow=4.5,SNR=5.5						

*IDC **15** 12:01:53.5±1.0, 4567N×15258E, h0km, mb4.6/12, mb1 4.7/14, mb1mx4.5/27, mbtmp4.6/14, ML4.2/2, Error ellipse: s-maj=25.6km s-min=24.8km az=144.0*
*ISCJB **15** 12:01:54.2±0.9, 4577N±01×1525E±02, h10km, mb4.5/12, Error ellipse: s-maj=23.6km s-min=11.6km az=83.3*
ISC 15 12:01:55.5±0.9, 4577N±01×1526E±02, h10km, n33, σ1§06/32, mb4.5/12, 1C-10D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	7.29	261	Pn	Pn	12 03 41.7	-0.3
	5.8nm,0.3s,baz=86,slow=14,SNR=7.7						
MJAR	Matsushiro Arr	14.18	235	Pn	Pn	12 05 17.1	+0.7
	0.7nm,0.3s,baz=38,slow=10.0,SNR=9.9						
MJAR	Matsushiro Arr	14.18	235	Pn	Pn	12 05 17.1	+0.7
MAT	Matsushiro	14.19	235	P	Pn	12 05 16.9	+0.5
SONM	Songino Array	31.36	291	P	P	12 08 14.7	-1.6
	0.9nm,0.6s,mb3.8,baz=79,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	47.12	298	P	P	12 10 26.4	-1.4
	3.3nm,0.7s,mb4.4,baz=69,slow=7.2,SNR=4.5						
BVAR	Borovoye Array	51.26	310	P	P	12 10 58.4	-1.0
	4.1nm,0.7s,mb4.5,baz=60,slow=8.8,SNR=5.7						
WRA	Warramunga Arr	67.41	199	P	P	12 12 49.4	-1.8
	2.4nm,0.8s,mb4.3,baz=18,slow=6.8,SNR=6.6						
NB2	NORSAR Subarra	69.10	341	P	P	12 13 00.3	-1.4
	comp=Z,14nm,0.9s,mb4.9,baz=29,slow=6.5						
NOA	NORSAR Array B	69.10	341	P	P	12 13 00.5	-1.2
	comp=Z,9.7nm,0.9s,mb4.8,baz=28,slow=6.2,SNR=9.1						
HFS	Hagfors	69.31	339	P	P	12 13 01.8	-1.3
	baz=39,slow=5.5						
AKASG	Malin Array Be	72.22	326	P	P	12 13 19.5	-1.2
	comp=Z,15nm,0.8s,mb5.0,baz=34,slow=6.3,SNR=15						
STHS	Stebnicka Huta	76.24	330	*e*	P	12 13 45.5	+1.3
BURAR	Bucovina Array	76.27	326	⇓ *i*P	P	12 13 44.8	+0.5
CFR	Carcaliu	77.07	323	⇓ *i*P	P	12 13 52.1	+3.2
MORC	Moravsky Berou	77.20	332	⇓ *i*P	P	12 13 49.9	+0.3
CLL	Collm	77.27	335	*i* P	P	12 13 49.5	-0.5
EKA	Eskdalemuir Ar	77.27	346	P	P	12 13 49.9	-0.1
	comp=Z,1.9nm,0.5s,mb4.2,baz=22,slow=4.8,SNR=6.6						
KECS	Kecovo	77.30	330	*e*	P	12 13 50.2	+0.1
TIRR	Tirgusor	77.53	323	⇓ *i*P	P	12 13 51.8	+0.3
MALT	Malatya	77.61	313	⇓ *i*P	P	12 13 54.8	+2.9
MLR	Muntele Rosu	77.72	325	P	P	12 13 53.3	+0.8
	comp=Z,5.9nm,0.7s,mb4.7,baz=304,slow=3.7,SNR=4.8						
MLR	Muntele Rosu	77.72	325	⇓ *i*P	P	12 13 54.5	+2.0
DRGR		77.91	327	⇓ *i*P	P	12 13 53.4	-0.1
VOIR		78.12	325	⇑ *i*P	P	12 13 55.2	+0.5
TXAR	Lajitas Array	78.31	60	P	P	12 13 55.7	-0.1
	comp=Z,2.2nm,0.7s,mb4.2,baz=280,slow=2.7,SNR=4.6						
BRTR	Keskin Array B	78.91	317	P	P	12 14 00.4	+1.4
	comp=Z,8.2nm,1.0s,mb4.6,baz=44,slow=4.3,SNR=7.9						
GZR	Gura Zlata	79.05	327	⇓ *i*P	P	12 14 00.2	+0.3
GERES	GERESS Array B	79.24	334	P	P	12 13 60.0	-0.9
	comp=Z,1.8nm,0.6s,mb4.2,baz=28,slow=6.0,SNR=5.8						
BZS	Buzias	79.31	327	⇓ *i*P	P	12 14 01.8	+0.5
PKSM	Moragy	79.89	329	⇓ *i*P	P	12 14 04.2	-0.2
MMAI	Mount Meron Ar	83.24	311	P	P	12 14 23.8	+1.7
	comp=Z,5.7nm,0.5s,mb4.8,baz=40,slow=6.6,SNR=5.5						
CFAA	Coronel Fontan	145.52	80	PKPbc	PKPbc	12 21 34.0	0.0
	comp=Z,0.8nm,0.7s,baz=309,slow=4.6,SNR=6.1						

IDC 15 12:02:52.5±1.0, 4632N×15328E, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, Error ellipse: s-maj=30.7km s-min=20.3km az=9.0, Kuril Islands

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

comp=Z,19nm,1.0s
BVAR Borovoye Array 51.78 310 P **P** 12 12 50.7 0.0
comp=Z,14nm,0.5s,mb5.1,baz=64,slow=7.6,SNR=18
BVAR Borovoye Array 51.78 310 P **P** 12 12 50.7 0.0
BVAR pmax pmax
comp=Z,14nm,0.5s
ARU Arti 55.74 318 *e*P **P** 12 13 18.8 -0.9
YBH Yreka Blue Hor 56.20 63 P **P** 12 13 23.0 0.0
comp=Z,6.8nm,1.0s,mb4.6,baz=226,slow=5.6,SNR=4.6
YBH Yreka Blue Hor 56.20 63 P **P** 12 13 23.0 0.0
YBH pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 57.97 341 P **P** 12 13 35.8 +0.3
comp=Z,5.9nm,1.0s,mb4.6,baz=23,slow=12,SNR=3.5
ARCES ARCESS Array B 57.97 341 P **P** 12 13 35.8 +0.3
ARCES pmax pmax
comp=Z,6.0nm,1.0s
NVAR Mina Array Bea 60.89 64 P **P** 12 13 55.5 -0.2
comp=Z,0.7nm,0.3s,mb4.3,baz=297,slow=8.0,SNR=15
PDAR Pinedale Array 63.27 55 P **P** 12 14 11.3 -0.3
comp=Z,4.8nm,0.9s,mb4.7,baz=275,slow=2.0,SNR=7.6
FINES FINESS Array B 64.32 336 P **P** 12 14 18.3 -0.3
comp=Z,5.0nm,0.7s,mb4.7,baz=46,slow=11,SNR=6.1
FINES FINESS Array B 64.32 336 P **P** 12 14 18.3 -0.3
FINES pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 68.33 342 P **P** 12 14 43.6 -0.7
comp=Z,3.5nm,0.7s,mb4.5,baz=26,slow=6.5
NOA NORSAR Array B 68.33 342 P **P** 12 14 43.7 -0.5
comp=Z,7.0nm,0.9s,mb4.7,baz=26,slow=6.3,SNR=3.6
NOA NORSAR Array B 68.33 342 P **P** 12 14 43.7 -0.6
NOA pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 68.61 341 P **P** 12 14 45.5 -0.5
comp=Z,6.5nm,0.7s,mb4.7,baz=46,slow=4.5,SNR=3.8
HFS Hagfors 68.61 341 P **P** 12 14 45.5 -0.5
HFS pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 69.41 201 P **P** 12 14 51.4 +0.5
comp=Z,2.2nm,0.8s,mb4.2,baz=22,slow=6.5,SNR=3.3
WRA Warramunga Arr 69.41 201 P **P** 12 14 51.4 +0.4
WRA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 72.05 327 P **P** 12 15 06.3 -0.7
comp=Z,2.3nm,0.5s,mb4.3,baz=34,slow=6.1,SNR=3.5
AKASG Malin Array Be 72.05 327 P **P** 12 15 06.3 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 73.09 201 P **P** 12 15 14.1 +0.8
comp=Z,2.5nm,1.0s,mb4.1,baz=10,slow=5.2,SNR=3.9
ASAR Alice Springs 73.09 201 P **P** 12 15 14.1 +0.8
ASAR pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 75.92 331 *e*P **P** 12 15 30.6 +0.9
STHS *e*pP pP 12 15 36.3 +3.3
STHS Stebnicka Huta 75.92 331 *e*P **P** 12 15 30.6 +0.9
STHS *e* 12 15 36.3
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TXAR Lajitas Array 75.96 62 P **P** 12 15 29.4 -0.6
comp=Z,6.1nm,0.8s,mb4.6,baz=292,slow=3.7,SNR=6.6
TXAR Lajitas Array 75.96 62 P **P** 12 15 29.4 -0.5
TXAR pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 76.00 330 *e*P **P** 12 15 30.4 +0.3
EKA Eskdalemuir Ar 76.30 348 P **P** 12 15 31.6 -0.2
comp=Z,2.3nm,0.8s,mb4.2,baz=29,slow=4.9,SNR=3.5
EKA Eskdalemuir Ar 76.30 348 P **P** 12 15 31.7 -0.1
EKA pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 76.72 337 *e*(P) **P** 12 15 39.0 +4.8
KECS Kecovo 76.98 331 *e*pP **P** 12 15 41.3 +5.6
MLR Muntele Rosu 77.60 326 P **P** 12 15 40.1 +0.9
comp=Z,7.2nm,0.8s,mb4.7,baz=249,slow=20,SNR=3.0
MLR Muntele Rosu 77.60 326 P **P** 12 15 40.1 +0.9
MLR pmax pmax
comp=Z,7.0nm,0.8s
GERES GERESS Array B 78.75 335 P **P** 12 15 45.7 +0.1
comp=Z,1.6nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=4.4
GERES GERESS Array B 78.75 335 P **P** 12 15 45.7 +0.1
GERES pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 79.13 318 P **P** 12 15 48.7 +1.0
comp=Z,2.6nm,0.9s,mb4.2,baz=46,slow=4.7,SNR=4.0
BRTR Keskin Array B 79.13 318 P **P** 12 15 48.7 +1.0
BRTR pmax pmax
comp=Z,3.0nm,0.9s
CDF Champ du Feu 80.85 339 *e*P **P** 12 15 56.6 -0.3
comp=Z,30nm,1.3s,mb4.8
DAVOX Davos 81.69 337 P **P** 12 16 02.7 +1.2
comp=Z,4.9nm,0.8s,mb4.5,baz=26,slow=3.2,SNR=3.4
GRR Gorron 82.62 344 *e*P **P** 12 16 06.8 +0.5
comp=Z,124nm,1.6s,mb5.4
SMF Signal de Mont 83.31 341 *e*P **P** 12 16 09.7 -0.2
comp=Z,28nm,0.9s,mb5.0
MMAI Mount Meron Ar 83.68 313 P **P** 12 16 13.1 +1.4
comp=Z,3.7nm,0.6s,mb4.7,baz=46,slow=8.4,SNR=3.6
LPG La Plagne 83.70 338 *e*P **P** 12 16 12.6 +0.7
comp=Z,41nm,1.1s,mb5.2
CAF Calviac 85.34 341 *e*P **P** 12 16 20.2 0.0
KEST Kesra 92.03 333 P **P** 12 16 51.0 -1.0
comp=Z,2.1nm,1.1s,mb4.4,baz=26,slow=6.0,SNR=3.4
MAW Mawson 133.34 212 PKP PKPdf 12 22 59.1 0.0
comp=Z,1.1nm,0.6s,baz=53,slow=3.5,SNR=6.2
MAW Mawson 133.34 212 PKIKP PKPdf 12 22 59.1 0.0
MAW pmax pmax
comp=Z,1.0nm,0.6s
CFAA Coronel Fontan 143.42 81 PKP PKPdf 12 23 18.9 +1.4
comp=Z,0.2nm,0.4s,baz=270,slow=2.0,SNR=2.1
SNAA Sanae 153.35 195 PKPbc PKPbc 12 23 39.7 -1.6
comp=Z,0.7nm,0.8s,baz=220,slow=6.5,SNR=3.6
SNAA Sanae 153.35 195 PKIKP PKPbc 12 23 39.7 -1.5
SNAA pmax pmax
comp=Z,1.0nm,0.8s

IDC ***15*** *12:09:14.7±0.4, 4725N×155.18E, h0km, mb5.0/35, mb1 5.1/37, mb1mx5.1/39, mbtmp5.0/37, ML4.4/2, Error ellipse: s-maj=13.6km s-min=11.4km az=162.0*
ISCJB ***15*** *12:09:16.0±0.1, 4710N×003×155 40E×002, h16km, mb5.3/160, Error ellipse: s-maj=5.1km s-min=2.0km az=154.5*
BJI ***15*** *12:09:17.7, 4752N×15504E, h10km, mb5.3*
NEIC ***15*** *12:09:17.4±0.2, 4732N×15536E, h10km, mb5.4/101, Error ellipse: s-maj=5.4km s-min=3.4km az=171.0*
MOS ***15*** *12:09:18.4±0.9, 4733N×15542E, h26km, mb5.5/76, Error ellipse: s-maj=8.2km s-min=4.5km az=98.7*
SKHL ***15*** *12:09:22.1±3.9, 4751N×155.17E, h67±7km, 30km*
SZGRF ***15*** *12:09:23.7, 4748N×155.35E, h33km, mb5.5, East of Kuril Islands, Russia*
ISC 15 12:09:18.3±0.1, 4726N±003×15532E±002, h17km, h17km±.9km:pP-P, n654, σ0s90/656, mb5.3/160, 87C-106D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.47**	**8**	*e*P		**Pn**	**12 10 09.5**	**-2.0**
SKR				AMB		AMB	12 10 12.5	
	230nm,0.9s							
SKR				AMB		AMB	12 10 12.5	
	160nm,0.9s							
SKR				AMB		AMB	12 10 12.5	
	140nm,0.6s							
SKR				*i* S		**Sn**	**12 10 48.0**	**-4.2**
SKR				A			12 10 51.3	
	3μm,0.2s							
SKR				A			12 10 51.3	
	2μm,0.2s							
SKR				A			12 10 51.3	
	240nm,0.2s							
PET	**Petropavlovsk**	**6.16**	**19**	⇓*i*PN		**Pn**	**12 10 46.4**	**-2.1**
PET				pmax		pmax		
	comp=Z,197nm,0.9s							
PET	**Petropavlovsk**	**6.16**	**19**	*e*Pn		**Pn**	**12 10 45.6**	**-2.9**
	comp=Z,551nm,1.4s							
YUK	**Yuzh-Kuril'sk**	**7.37**	**248**	*e*P		**Pn**	**12 11 06.0**	**+0.8**
NEM2	**Nemuro 2**	**7.79**	**244**	P		**Pn**	**12 11 09.4**	**-1.6**
NEM2				*e*S		**Sn**	**12 12 29.9**	**-8.9**
JRA	**Rausu**	**7.89**	**249**	P		**Pn**	**12 11 13.6**	**+1.4**
JRA				*e*S		**Sn**	**12 12 37.9**	**-3.2**
JNK	**Nakash**	**8.31**	**248**	P		**Pn**	**12 11 18.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**8.58**	**273**	⇓*i*P		**Pn**	**12 11 25.0**	**+3.2**
YSS	**Yuzh-Sakhalins**	**8.58**	**273**	*i*PN		**Pn**	**12 11 25.9**	**+4.1**
YSS	**Yuzh-Sakhalins**	**8.58**	**273**	*e*Pn		**Pn**	**12 11 25.5**	**+3.8**
	comp=Z,95nm,0.6s							
JAK	**Akkeshi**	**8.63**	**244**	P		**Pn**	**12 11 21.6**	**-0.9**
JAK				*e*S		**Sn**	**12 12 51.5**	**-8.0**
JTKR	**Abashiri--Toko**	**8.65**	**252**	P		**Pn**	**12 11 23.6**	**+0.9**
JMP	**Maruseppu**	**8.99**	**253**	P		**Pn**	**12 11 28.5**	**+1.1**
UGL	**Uglegorsk**	**9.05**	**286**	*e*P		**Pn**	**12 11 32.0**	**+3.9**
UGL				AMB		AMB	12 11 35.0	
	comp=Z,170nm,0.7s							
JAR	**Ashorobuto**	**9.06**	**248**	P		**Pn**	**12 11 28.2**	**-0.1**
JAR				*e*S		**Sn**	**12 13 05.7**	**-4.2**
JOB	**Onbets**	**9.22**	**246**	P		**Pn**	**12 11 30.1**	**-0.4**
JOB				*e*S		**Sn**	**12 13 06.0**	**-7.8**
ASAJ	**Asahikawa**	**9.44**	**255**	Pn		**Pn**	**12 11 30.1**	**-3.5**
	comp=Z,6.3nm,0.3s,baz=70,slow=12,SNR=12							
ASAJ	**Asahikawa**	**9.44**	**255**	P		**Pn**	**12 11 35.9**	**+2.3**
ASAJ	**Asahikawa**	**9.44**	**255**	PN		**Pn**	**12 11 30.1**	**-3.5**
ASAJ				pmax		pmax		
	comp=Z,6.0nm,0.3s							
JKK2	**Kamakawa 2**	**9.45**	**254**	P		**Pn**	**12 11 33.4**	**-0.2**
JWK2	**Keihoku**	**9.50**	**263**	P		**Pn**	**12 11 41.4**	**+7.1**
JCH	**Churui**	**9.67**	**246**	P		**Pn**	**12 11 35.8**	**-0.8**
JCH				*e*S		**Sn**	**12 13 16.4**	**-8.4**
JAB	**Ashibetsu**	**9.95**	**253**	P		**Pn**	**12 11 42.2**	**+1.7**
JEM	**Erimo**	**10.13**	**243**	P		**Pn**	**12 11 42.4**	**-0.6**
JEM				*e*S		**Sn**	**12 13 27.8**	**-8.4**
JBT2	**Biratori 2**	**10.21**	**249**	P		**Pn**	**12 11 43.5**	**-0.6**
JBT2				*e*S		**Sn**	**12 13 31.7**	**-6.4**
JNBK	**Urakawa-nobuka**	**10.23**	**245**	*e*S		**Sn**	**12 13 29.3**	**-9.3**
JEW	**Eniwo**	**10.76**	**251**	P		**Pn**	**12 11 51.6**	**0.0**
JNB	**Noboribetsu**	**11.21**	**250**	P		**Pn**	**12 11 56.5**	**-1.3**
JNB				*e*S		**Sn**	**12 13 54.7**	**-8.0**
JKB	**Kayabe**	**11.52**	**247**	P		**Pn**	**12 11 59.2**	**-2.8**
JKB				*e*S		**Sn**	**12 13 57.9**	**-12**
JSH	**Shimam**	**11.76**	**252**	P		**Pn**	**12 12 02.4**	**-3.0**
JOT	**Ohata**	**11.79**	**245**	P		**Pn**	**12 12 02.2**	**-3.4**
JOT				S		**Sn**	**12 14 03.9**	**-13**
JYM2	**Yakumo 2**	**11.81**	**250**	P		**Pn**	**12 12 03.5**	**-2.5**
JANG	**Nango**	**12.11**	**240**	*e*S		**Sn**	**12 14 05.3**	**-19**
JTM	**Tenmabayashi**	**12.12**	**243**	P		**Pn**	**12 12 07.9**	**-2.3**
JTM				*e*S		**Sn**	**12 14 10.9**	**-14**
JTH	**Tanohata**	**12.18**	**238**	P		**Pn**	**12 12 06.8**	**-4.3**
JTH				*e*S		**Sn**	**12 14 10.7**	**-16**
MA2	**Magadan**	**12.63**	**349**	*e*PN		**Pn**	**12 12 17.1**	**-0.1**
MA2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
JOM	**Ohasama**	**12.82**	**238**	P		**Pn**	**12 12 18.1**	**-1.7**
JOM				S		**Sn**	**12 14 28.1**	**-14**
OFUJ	**Ofunato**	**12.88**	**236**	*e*S		**Sn**	**12 14 28.6**	**-15**
JRG	**Rokugo**	**13.26**	**239**	P		**Pn**	**12 12 23.5**	**-2.2**
JRG				*e*S		**Sn**	**12 14 39.8**	**-13**
HABR	**Khabarovsk**	**13.66**	**283**	*e*P		**Pn**	**12 12 34.4**	**+3.1**
HABR				*e*S		**Sn**	**12 15 05.0**	**+2.3**
JMM	**Marumori**	**14.22**	**234**	P		**Pn**	**12 12 34.8**	**-4.1**
JFK	**Kawauchi**	**14.54**	**232**	*e*S		**Sn**	**12 15 08.1**	**-16**
JFY	**Yanaizu**	**15.15**	**235**	P		**Pn**	**12 12 49.1**	**-2.4**
SEY	**Seymchan**	**15.80**	**355**⇑	*e*P		**Pn**	**12 12 58.4**	**-1.5**
AMKA	**Amchitka**	**16.14**	**66**	*e*Pn		**Pn**	**12 13 04.2**	**-0.2**
MJAR	**Matsushiro Arr**	**16.61**	**236**	Pn		**Pn**	**12 13 06.4**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=26,slow=13,SNR=7.9							
MAJO	**Matsushiro**	**16.61**	**236**	*e*P		**Pn**	**12 13 11.8**	**+1.5**
MAJO				pmax		pmax		
	comp=Z,103nm,1.1s							
MAJO	**Matsushiro**	**16.61**	**236**	*e*P		**Pn**	**12 13 11.8**	**+1.4**
	comp=Z,103nm,1.1s							
MAT	**Matsushiro**	**16.61**	**236**	P		**Pn**	**12 13 04.3**	**-6.0**
MAT	**Matsushiro**	**16.61**	**236**	P		**Pn**	**12 13 03.9**	**-6.4**
MDJ	**Mudanjiang**	**18.07**	**271**	P		**Pn**	**12 13 29.3**	**+0.8**
MDJ	**Mudanjiang**	**18.07**	**271**	*e*P		**Pn**	**12 13 28.3**	**-0.2**
	comp=Z,1μm,2.8s							
ZEA	**Zeya**	**18.92**	**300**	*e*P		**Pn**	**12 13 36.0**	**-2.9**
JWT	**Wachi**	**19.10**	**238**	P		**Pn**	**12 13 41.1**	**0.0**
JWZ	**Kozaga**	**20.20**	**234**	P		**P**	**12 13 55.9**	**+3.7**
YAK	**Yakutsk**	**20.74**	**325**	*e*P		**P**	**12 13 58.5**	**+0.4**
YAK				*e**PP			12 14 07.7	
YAK				*e*			12 14 14.1	
YAK				*e*S		**S**	**12 17 43.4**	**-5.7**
YAK				*e**SS		sS	12 17 54.5	-2.2
YAK				*e*SSS			12 18 14.1	
YAK				pmax		pmax		
	comp=Z,101nm,1.0s							
YAK				pmax		pmax		
	comp=N,29nm,1.3s							
YAK				pmax		pmax		
	comp=E,74nm,1.4s							
YAK				pmax		pmax		
	comp=Z,49nm,0.7s							
YAK				pmax		pmax		
	comp=N,29nm,1.1s							
YAK				pmax		pmax		
	comp=E,50nm,1.0s							
YAK				smax				
	comp=N,74nm,1.6s							
YAK				smax				
	comp=Z,14nm,0.9s							
YAK				smax				
	comp=E,101nm,1.2s							
YAK	**Yakutsk**	**20.74**	**325**	*e*P		**P**	**12 13 56.8**	**-1.3**
	comp=E,86nm,0.7s							
CN2	**Changchun**	**21.15**	**272**	*e*P		**P**	**12 14 03.3**	**+0.8**
BILL	**Bilibino**	**21.58**	**11**	⇓*i*P		**P**	**12 14 07.8**	**+0.7**
BILL				pmax		pmax		
	comp=Z,262nm,1.3s,mb5.5							
BILL	**Bilibino**	**21.58**	**11**	*e*P		**P**	**12 14 03.9**	**-3.2**
	comp=Z,378nm,1.3s,mb5.7							
KSRS	**Korea Array**	**22.39**	**254**	P		**P**	**12 14 09.3**	**-6.5**
	comp=Z,2.6nm,0.6s,baz=58,slow=9.7,SNR=8.7							
KSRS				PcP		PcP	12 18 08.6	-1.9
	comp=Z,5.4nm,0.9s,baz=28,slow=2.1,SNR=6.7							
INCN	**Inchon**	**23.22**	**256**	*e*P		**P**	**12 14 25.1**	**+0.5**
	comp=Z,48nm,0.8s,mb5.0							
JNU	**Nakatsue**	**23.29**	**241**	P		**P**	**12 14 26.5**	**+1.2**
	comp=Z,41nm,0.9s,mb4.9,baz=236,slow=19,SNR=5.1							
JNU	**Nakatsue**	**23.29**	**241**	P		**P**	**12 14 26.9**	**+1.6**
HIA	**Hailar**	**23.64**	**288**	*e*P		**P**	**12 14 26.5**	**-2.3**
HIA				pmax		pmax		
	comp=Z,30nm,1.3s							
HIA	**Hailar**	**23.64**	**288**	*e*P		**P**	**12 14 26.5**	**-2.3**
	comp=Z,30nm,1.3s,mb4.6							
DL2	**Dalian**	**25.83**	**264**	P		**P**	**12 14 52.6**	**+3.9**
DL2				AMB		AMB		
	comp=Z,70nm,0.9s,mb5.2							
BOD	**Bodaibo**	**26.84**	**309**	*e*P		**P**	**12 14 55.4**	**-2.5**
BOD				pmax		pmax		
	comp=Z,32nm,0.8s,mb4.9							
BJT	**Baijiatuan**	**29.01**	**270**	*e*P		**P**	**12 15 20.1**	**+2.9**
BJT				pmax		pmax		
	comp=Z,45nm,1.2s							
BJT	**Baijiatuan**	**29.01**	**270**	*e*P		**P**	**12 15 20.1**	**+2.9**
	comp=Z,45nm,1.2s,mb5.1							
NJ2	**Nanjing**	**31.59**	**254**	*e*P		**P**	**12 15 42.8**	**+2.7**
NJ2				AP		pP	12 15 46.3	+1.1
NJ2				XP		sP	12 15 49.8	+2.5
NJ2				PP		PP	12 16 48.8	-2.7
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.1							
HHC	**Hu-ho-hao-te**	**31.76**	**275**	*e*P		**P**	**12 15 42.4**	**+0.8**
HHC				AP		pP	12 15 46.9	+0.2
HHC				PP		PP	12 16 46.6	-6.8
HHC				AMB		AMB		
	comp=Z,419nm,2.3s,mb5.9							
ULN	**Ulaanbaatar**	**32.16**	**289**	*e*P		**P**	**12 15 45.0**	**-0.1**
ULN				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.1							
ULN	**Ulaanbaatar**	**32.16**	**289**	*e*P		**P**	**12 15 45.0**	**-0.1**
	comp=Z,24nm,0.8s,mb5.1							
SONM	**Songino Array**	**32.59**	**289**	P		**P**	**12 15 47.8**	**-1.0**
	comp=Z,18nm,0.7s,mb5.1,baz=61,slow=9.3,SNR=47							
SONM				PcP		PcP	12 18 34.9	-0.1
	comp=Z,8.1nm,0.9s,baz=78,slow=1.8,SNR=9.7							
KDAK	**Kodiak Island**	**32.60**	**52**	P		**P**	**12 15 47.2**	**-1.8**
	comp=Z,16nm,0.5s,mb5.2,baz=291,slow=7.9,SNR=14							
TLY	**Talaya**	**33.29**	**297**	P		**P**	**12 15 54.2**	**-0.8**
	comp=Z,216nm,0.7s,mb6.2,SNR=5.3							
TLY	**Talaya**	**33.29**	**297**	⇓*i*P		**P**	**12 15 55.4**	**+0.4**
TLY				pmax		pmax		
	comp=Z,43nm,0.7s,mb5.5							
TLY	**Talaya**	**33.29**	**297**	*e*P		**P**	**12 15 52.9**	**-2.1**
	comp=Z,20nm,0.8s,mb5.1							
ZAK	**Zakamensk**	**33.83**	**295**	*e*P		**P**	**12 15 59.3**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
PMR	**Palmer**	**34.18**	**45**	*e*P		**P**	**12 16 00.8**	**-1.9**
PMR				pmax		pmax		
	comp=Z,26nm,1.0s,mb5.1							
PMR	**Palmer**	**34.18**	**45**	*e*P		**P**	**12 16 00.8**	**-2.0**
	comp=Z,26nm,1.0s,mb5.1							
MCK	**McKinley**	**34.28**	**41**	*e*P		**P**	**12 16 02.4**	**-1.2**
MCK				pmax		pmax		
	comp=Z,27nm,1.2s,mb5.0							
MCK	**McKinley**	**34.28**	**41**	*e*P		**P**	**12 16 02.4**	**-1.2**
	comp=Z,27nm,1.2s,mb5.0							
COLA	**College**	**34.80**	**39**	*e*P		**P**	**12 16 07.3**	**-0.8**
COLA				pmax		pmax		
	comp=Z,67nm,1.1s,mb5.5							
COLA	**College**	**34.80**	**39**	*e*P		**P**	**12 16 07.3**	**-0.8**
	comp=Z,67nm,1.1s,mb5.5							
DIV	**Divide**	**35.82**	**45**	*e*P		**P**	**12 16 15.8**	**-1.0**
	comp=Z,198nm,1.5s,mb5.8							
XAN	**Xi'an**	**37.06**	**266**	P		**P**	**12 16 28.6**	**+1.1**
EGAK	**Eagle**	**37.66**	**39**	*e*P		**P**	**12 16 29.6**	**-3.0**
	comp=Z,64nm,0.9s,mb5.3							
DAWY	**Dawson**	**38.48**	**40**	*e*P		**P**	**12 16 38.9**	**-0.6**
LZH	**Lanzhou**	**39.38**	**273**	*e*P		**P**	**12 16 49.0**	**+2.0**
LZH				AP		pP	12 16 51.4	-0.7
LZH				XP		sP	12 16 54.1	-0.1
LZH				AMB		AMB		
	comp=Z,50nm,1.1s,mb5.2							
LZH	**Lanzhou**	**39.38**	**273**	*e*P		**P**	**12 16 49.0**	**+2.0**
	comp=Z,50nm,1.1s,mb5.2							
LZH				pP		pP	12 16 51.4	-0.7
LZH				sP		sP	12 16 54.1	-0.1
GTA	**Gaotai**	**40.38**	**280**	*e*P		**P**	**12 16 57.5**	**+2.2**
GTA				AP		pP	12 17 03.9	+3.4
GTA				XP		sP	12 17 08.4	+5.9
GTA				AMB		AMB		
	comp=Z,53nm,0.8s,mb5.3							
INK	**Inuvik**	**40.41**	**33**	P		**P**	**12 16 54.0**	**-1.5**
	comp=Z,39nm,0.8s,mb5.2,baz=277,slow=7.1,SNR=54							
INK	**Inuvik**	**40.41**	**33**	*e*P		**P**	**12 16 54.1**	**-1.4**
INK				pmax		pmax		
	comp=Z,71nm,1.0s							
INK	**Inuvik**	**40.41**	**33**	*e*P		**P**	**12 16 54.1**	**-1.4**
	comp=Z,2μm,1.0s							
SKAG	**Skagway**	**41.22**	**46**	*e*P		**P**	**12 17 02.5**	**+0.2**
	comp=Z,205nm,1.6s,mb5.5							
CD2	**Chengdu**	**42.42**	**266**	*e*P		**P**	**12 17 13.0**	**+0.9**
CD2				AMB		AMB		
	comp=Z,190nm,1.2s,mb5.6							
GYA	**Guiyang**	**43.30**	**259**⇑	*i*P		**P**	**12 17 20.3**	**+1.1**
GYA				AP		pP	12 17 24.8	+0.4
GYA				XP		sP	12 17 27.4	+1.0
GYA				PP		PP	12 19 04.0	+4.2
GYA				PCP		PcP	12 19 10.8	+2.9
GYA				SCP		ScP	12 23 00.9	+2.4
GYA				AMB		AMB		
	comp=Z,70nm,1.0s,mb5.3							
DLBC	**Dease Lake**	**44.15**	**47**	*e*P		**P**	**12 17 27.1**	**+1.1**
WMQ	**Urumqi**	**46.15**	**292**	⇑P		**P**	**12 17 42.6**	**+0.7**
WMQ				AP		pP	12 17 47.6	+0.5
WMQ				XP		sP	12 17 49.6	+0.4
WMQ				PCP		PcP	12 19 19.8	+2.1
WMQ				PP		PP	12 19 30.8	+0.6
WMQ				PPP			12 20 14.3	
WMQ				AMB		AMB		
	comp=Z,76nm,0.8s,mb5.7							
QIZ	**Qiongzhong**	**46.44**	**249**	*e*P		**P**	**12 17 43.3**	**-0.9**
QIZ				AMB		AMB		
	comp=Z,21nm,1.8s,mb4.8							
KMI	**Kunming**	**46.82**	**261**	P		**P**	**12 17 49.4**	**+2.2**
KMI				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.1							
KMI	**Kunming**	**46.82**	**261**	P		**P**	**12 17 49.4**	**+2.2**
	comp=Z,30nm,1.2s,mb5.1							
MK31	**Makanchi Array**	**48.05**	**298**	*e*P		**P**	**12 17 56.4**	**-0.3**
MKAR	**Makanchi Array**	**48.05**	**298**	P		**P**	**12 17 56.2**	**-0.5**
	comp=Z,38nm,0.7s,mb5.5,baz=64,slow=8.2,SNR=37							
MKAR				PcP		PcP	12 19 23.9	-0.6
	comp=Z,8.0nm,0.9s,baz=62,slow=5.3,SNR=2.7							
KURK	**Kurchatov**	**48.34**	**304**	P		**P**	**12 17 54.0**	**-5.0**
	comp=Z,622nm,1.1s,SNR=8.4							
KURK	**Kurchatov**	**48.34**	**304**	*e*P		**P**	**12 17 54.4**	**-4.6**
KURK				pmax		pmax		
	comp=Z,107nm,0.8s,mb5.9							
KURK	**Kurchatov**	**48.34**	**304**	*e*P		**P**	**12 17 54.4**	**-4.5**
	comp=Z,107nm,0.8s,mb5.9							
ALE	**Alert**	**49.08**	**6**	P		**P**	**12 18 05.0**	**+0.3**
	comp=Z,209nm,0.9s,mb6.2,SNR=14							
YKA	**Yellowknife Ar**	**49.61**	**38**	P		**P**	**12 18 08.4**	**-0.2**
	comp=Z,42nm,0.8s,mb5.5,baz=295,slow=7.1,SNR=33							
YKA	**Yellowknife Ar**	**49.61**	**38**	P		**P**	**12 18 08.4**	**-0.3**
RES	**Resolute Bay**	**49.87**	**19**	*e*P		**P**	**12 18 10.5**	**-0.2**
RES				pmax		pmax		
	comp=Z,46nm,1.1s,mb5.4							
RES	**Resolute Bay**	**49.87**	**19**	*e*P		**P**	**12 18 10.5**	**-0.2**
	comp=Z,1μm,1.2s							
CHKZ	**Chkalovo**	**51.26**	**311**	*e*P		**P**	**12 18 20.7**	**-0.5**
CHKZ				pmax		pmax		
	comp=Z,59nm,0.6s,mb5.7							
CHKZ	**Chkalovo**	**51.26**	**311**	*e*P		**P**	**12 18 20.7**	**-0.4**
	comp=Z,59nm,0.6s,mb5.7							
BVAR	**Borovoye Array**	**51.70**	**310**	P		**P**	**12 18 21.6**	**-2.8**
	comp=Z,24nm,0.6s,mb5.3,baz=62,slow=10,SNR=43							
BRVK	**Borovoye**	**51.74**	**310**	P		**P**	**12 18 25.6**	**+0.8**
	comp=Z,418nm,0.6s,SNR=16							
BRVK	**Borovoye**	**51.74**	**310**	*e*P		**P**	**12 18 25.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,52nm,0.8s,mb5.5							
BRVK	**Borovoye**	**51.74**	**310**	*e*P		**P**	**12 18 25.1**	**+0.3**
	comp=Z,52nm,0.8s,mb5.5							
LSA	**Lhasa**	**51.75**	**274**	*e*P		**P**	**12 18 27.3**	**+2.4**
LSA				pmax		pmax		
	comp=Z,74nm,1.2s,mb5.5							
LSA	**Lhasa**	**51.75**	**274**	*e*P		**

H04A Detroit Lake 54.79 60 ⇑P P 12 18 46.3 -0.9
baz=54
KZA Kyzart 54.81 296 P P 12 18 48.4 +1.0
SNR=16
C08A Higginbotham F 54.86 55 ⇑P P 12 18 47.5 -0.3
baz=55
EDM Edmonton 54.87 47 eP P 12 18 47.2 -0.6
AAK Ala-Archa 54.96 297 P P 12 18 49.9 +1.5
comp=Z,241nm,0.7s,mb6.3,SNR=11
AAK Ala-Archa 54.96 297 P P 12 18 50.0 +1.6
SNR=13
AAK Ala-Archa 54.96 297 i P P 12 18 49.0 +0.6
AAK pmax pmax
comp=Z,26nm,0.7s,mb5.4
AAK Ala-Archa 54.96 297 eP P 12 18 48.6 +0.2
comp=Z,38nm,0.9s,mb5.4
F06A Goldendale 55.00 58 ⇓P P 12 18 48.3 -0.4
baz=55
B09A Rice 55.00 54 ⇑P P 12 18 48.7 -0.1
baz=55
A10A Northport 55.02 53 ⇑P P 12 18 48.3 -0.6
baz=55
J03A Ideyld Park 55.07 62 P P 12 18 50.4 +1.1
baz=55,SNR=6.1
E07A Sunnyside 55.09 57 ⇑P P 12 18 49.1 -0.3
baz=55
K02A Glendale 55.10 63 ⇑P P 12 18 49.0 -0.5
baz=55
I04A Tendick Farm, 55.16 61 ⇓P P 12 18 49.1 -0.8
baz=55
C09A Chrisman Ranch 55.28 55 P P 12 18 50.1 -0.7
baz=55,SNR=6.0
D08A Wollman Farm, 55.34 56 ⇓P P 12 18 49.8 -1.3
baz=55
HAWA Hanford 55.37 57 eP P 12 18 50.7 -0.7
comp=Z,32nm,1.3s,mb5.2
EKS2 Erkin-Say 55.37 298 P P 12 18 53.1 +1.6
SNR=20
H05A Madras 55.38 60 ⇑P P 12 18 51.5 0.0
baz=55
L02A Cave Junction 55.38 63 ⇓P P 12 18 52.1 +0.6
baz=55
G06A Carlson Farm, 55.39 59 ⇑P P 12 18 50.3 -1.2
baz=55
F07A Phinny Hill Vi 55.42 58 ⇑P P 12 18 51.0 -0.8
baz=55
HUMO Hull Mountain 55.51 62 P P 12 18 53.3 +0.9
baz=55,SNR=5.5
E08A Dider Farm, El 55.58 57 ⇓P P 12 18 52.6 -0.3
baz=55
B10A Chitwood Farm, 55.58 54 ⇓P P 12 18 52.0 -1.0
baz=55
I05A Bend 55.63 60 ⇓P P 12 18 53.1 -0.2
baz=55
ARU Arti 55.65 318 P P 12 18 53.5 +0.1
comp=Z,656nm,0.5s,SNR=13
ARU Arti 55.65 318 ⇓i P P 12 18 53.2 -0.2
ARU e 12 20 56.5
ARU eS S 12 26 39.6 +0.8
ARU eSS SS 12 30 19.0 -5.0
ARU pmax pmax
comp=Z,67nm,0.7s,mb5.8
ARU Arti 55.65 318 eP P 12 18 53.3 -0.1
comp=Z,69nm,0.7s,mb5.8
J04A Umpqua Nationa 55.66 61 ⇓P P 12 18 53.9 +0.4
baz=55
NEW Newport 55.66 54 P P 12 18 52.7 -0.8
comp=Z,12nm,1.2s,mb4.8,baz=313,slow=7.1,SNR=7.5
NEW Newport 55.66 54 P P 12 18 53.1 -0.4
NEW pmax pmax
comp=Z,37nm,1.5s
NEW Newport 55.66 54 eP P 12 18 52.5 -0.9
comp=Z,36nm,1.5s,mb5.2
A11A Hall Mountain, 55.68 53 P P 12 18 53.8 +0.2
baz=55,SNR=7.2
D09A Jones Farm, Ri 55.68 56 ⇓P P 12 18 53.1 -0.5
baz=55
AML Almayashu 55.73 297 P P 12 18 56.2 +2.2
SNR=10
C10A Spilker Farm, 55.81 54 ⇓P P 12 18 53.3 -1.3
baz=56
H06A Lindquist Farm 55.85 59 P P 12 18 54.9 0.0
baz=56,SNR=6.9
KSH Kashi 55.85 293 eP P 12 18 57.3 +2.4
KSH eAP pP 12 19 02.1 +1.9
KSH eXP sP 12 19 05.3 +3.1
KSH ePP PP 12 21 01.0 +1.6
KSH ePPP 12 22 12.9
KSH eSCP ScP 12 23 57.5 +5.6
G07A Ruggs Ranch, H 55.93 58 ⇓P P 12 18 54.8 -0.6
baz=56
B11A Sandpoint 55.98 53 P P 12 18 55.8 +0.1
baz=56,SNR=6.9
KHMM Horse Mountain 56.05 65 eP P 12 18 57.0 +0.8
A12A Yaak River Ran 56.08 53 ⇓P P 12 18 56.6 +0.1
baz=56
E09A Wood Farm, Sta 56.09 56 P P 12 18 56.0 -0.5
baz=56,SNR=10
F08A Pendleton 56.14 57 ⇓P P 12 18 57.1 +0.2
baz=56
J05A Fort Rock 56.15 61 P P 12 18 58.0 +0.9
baz=56,SNR=12
YBH Yreka Blue Hor 56.17 63 P P 12 18 57.4 +0.2
comp=Z,19nm,1.0s,mb5.1,baz=338,slow=4.3,SNR=14
YBH Yreka Blue Hor 56.17 63 P P 12 18 58.3 +1.2
YBH pmax pmax
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 56.17 63 eP P 12 18 57.8 +0.7
comp=Z,12nm,0.9s,mb4.9
YBH Yreka Blue Hor 56.17 63 P P 12 18 58.0 +0.9
baz=56,SNR=11
K04A Chilquin 56.25 62 ⇑P P 12 18 57.5 -0.2
baz=56
M02C Callahan 56.28 64 P P 12 18 59.2 +1.3
baz=56,SNR=7.2
G08A Pilot Rock 56.33 58 ⇑P P 12 18 57.9 -0.4
baz=56
I06A Prineville 56.38 60 P P 12 18 59.5 +0.8
baz=56,SNR=8.1
JIRN Jiri 56.41 276 eP P 12 19 00.0 +1.2
comp=Z,81nm,0.7s,mb5.9
L04A Klamath Falls 56.41 62 P P 12 18 59.5 +0.7
baz=56,SNR=8.3
GUN Gumba 56.46 276 eP P 12 19 00.9 +1.7
comp=Z,50nm,0.6s,mb5.7
M04C Macdoel 56.67 63 P P 12 19 01.2 +0.6
baz=56,SNR=10
K05A Summer Lake 56.68 61 P P 12 19 01.9 +1.0
baz=56,SNR=11
F09A S2 Ranch, Elgi 56.69 57 ⇓P P 12 19 01.0 +0.2
baz=56
E10A Myers Farm, Un 56.69 56 ⇓P P 12 19 00.2 -0.6
baz=56
I07A Izee 56.71 59 P P 12 19 01.6 +0.6
baz=56,SNR=9.8
D11A Klaveano Farm, 56.79 55 P P 12 19 00.7 -0.9
baz=56,SNR=8.1
M03C McCloud 56.79 63 ⇑P P 12 19 01.7 +0.1
baz=56
PMG Port Moresby 56.88 190 P P 12 19 01.1 -1.0
comp=Z,5.1nm,0.9s,mb4.5,baz=327,slow=8.5,SNR=3.6
PMG Port Moresby 56.88 190 ⇓eP P 12 19 03.9 +1.7
LVZ Lovozero 56.89 337 ⇑iP P 12 19 00.4 -1.9
LVZ pmax pmax
comp=Z,51nm,1.1s,mb5.5
LVZ pmax pmax
comp=N,23nm,1.0s
LVZ pmax pmax
comp=E,19nm,1.3s
LVZ Lovozero 56.89 337 eP P 12 19 00.8 -1.5
F10A Beach Ranch, E 56.92 56 ⇓P P 12 19 02.8 +0.4
baz=57
KKN Kakani 56.94 276 eP P 12 19 04.4 +1.8
comp=E,67nm,0.6s,mb5.8
H08A Prairie City 56.94 58 P P 12 19 03.0 +0.3
baz=57,SNR=7.8
WALA Waterton Lakes 56.95 52 eP P 12 19 02.5 -0.2
PKI Pulchoki 56.99 276 eP P 12 19 04.0 +1.0
comp=E,48nm,0.7s,mb5.6
K06A Valley Falls 57.02 61 P P 12 19 04.0 +0.8
baz=57,SNR=14
O02C Red Bluff 57.04 65 ⇓P P 12 19 04.6 +1.2
baz=57
B13A Whitefish 57.05 53 P P 12 19 03.5 +0.1
baz=57,SNR=18
L05A Lakeview 57.12 62 P P 12 19 04.6 +0.7
baz=57,SNR=9.7

P01C Double 8 Ranch 57.12 66 ⇓P P 12 19 04.0 +0.1
baz=57
DMN Daman 57.17 276 eP P 12 19 05.6 +1.3
comp=E,93nm,0.7s,mb5.9
GKN Gorkha 57.24 277 eP P 12 19 06.0 +1.3
comp=E,112nm,0.6s,mb6.0
J07A Hines 57.24 60 P P 12 19 05.7 +0.9
baz=57,SNR=7.9
M05C Lookout 57.34 63 P P 12 19 06.2 +0.7
baz=57,SNR=7.4
I08A Drewsey 57.36 59 P P 12 19 06.3 +0.7
baz=57,SNR=14
GASB Alder Springs 57.39 65 ⇑P P 12 19 07.0 +1.1
baz=57
C13A Hot Springs 57.40 53 ⇓P P 12 19 05.9 0.0
baz=57
H09A Durkee 57.44 58 P P 12 19 06.6 +0.5
baz=57,SNR=15
APA Apatity 57.46 337 ⇓iP P 12 19 07.6 +1.3
APA pmax pmax
comp=Z,65nm,1.2s,mb5.5
HATC Hat Creek Radi 57.47 63 ⇓P P 12 19 07.1 +0.8
baz=57
MOD Modoc 57.52 62 eP P 12 19 06.5 -0.2
comp=Z,19nm,1.3s,mb5.0
MOD Modoc 57.52 62 P P 12 19 07.1 +0.3
baz=57,SNR=12
BMO Blue Mountains 57.53 57 eP P 12 19 06.8 0.0
comp=Z,15nm,1.1s,mb4.9
HOPS Hopland 57.57 66 ⇑P P 12 19 06.8 -0.3
baz=57
F11A Grangeville 57.57 56 P P 12 19 06.5 -0.6
baz=57,SNR=7.0
O03C Acorn Hollow, 57.61 64 ⇓P P 12 19 07.3 0.0
baz=57
K07A Rock Creek Ran 57.68 60 P P 12 19 08.2 +0.4
baz=57,SNR=5.7
J08A Circle Bar Ran 57.74 59 P P 12 19 08.8 +0.5
baz=58,SNR=7.6
I09A Lost Marbles R 57.80 58 P P 12 19 09.0 +0.3
baz=58,SNR=10
D13A Huson 57.80 54 P P 12 19 08.2 -0.5
baz=58,SNR=5.7
M06C Likely Place G 57.83 62 ⇑P P 12 19 08.9 0.0
baz=58
ARCES ARCESS Array B 57.86 341 P P 12 19 05.6 -3.5
comp=Z,22nm,0.8s,mb5.2,baz=29,slow=6.7,SNR=31
ARE0 ARCESS Array S 57.86 341 eP P 12 19 08.9 -0.2
O04C Chester 57.99 64 P P 12 19 10.6 +0.5
baz=58,SNR=8.0
L07A Adell 58.03 61 P P 12 19 10.9 +0.6
baz=58,SNR=7.3
MNRC McLaughlin Nat 58.03 66 ⇓P P 12 19 10.9 +0.6
baz=58
ELFS Eagle Lake Fie 58.03 63 P P 12 19 11.3 +0.9
baz=58,SNR=7.3
KOLN Koldanda 58.09 278 eP P 12 19 12.0 +1.3
comp=Z,101nm,0.8s,mb5.9
K08A Mann Creek Ran 58.11 60 P P 12 19 11.4 +0.5
baz=58,SNR=6.8
J09A Fry Pan Ranch, 58.17 59 P P 12 19 11.8 +0.5
baz=58,SNR=9.7
WVOR Wild Horse Val 58.20 60 eP P 12 19 13.0 +1.5
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WVOR Wild Horse Val 58.20 60 eP P 12 19 11.6 +0.1
comp=Z,9.1nm,0.9s,mb4.8
MCCM Marconi Confer 58.20 67 ⇓P P 12 19 11.3 -0.2
baz=58
MSO Missoula 58.25 54 eP P 12 19 11.4 -0.4
comp=Z,438nm,1.3s,mb6.3
O05C Quincy 58.31 64 ⇑P P 12 19 12.3 0.0
baz=58
D14A Greenough 58.33 53 P P 12 19 12.2 -0.2
baz=58,SNR=21
E13A Victor 58.34 54 P P 12 19 12.4 -0.1
baz=58,SNR=8.0
OHCM Honcut 58.34 65 eP P 12 19 12.0 -0.6
H11A Donnelly 58.36 57 P P 12 19 12.5 -0.1
baz=58,SNR=22
FARB Farallon Islan 58.40 67 ⇑P P 12 19 13.2 +0.3
baz=58
Q03C Winters 58.44 66 ⇑P P 12 19 13.4 +0.2
baz=58
N06A Buffalo Meadow 58.50 63 P P 12 19 13.8 +0.2
baz=58,SNR=8.4
M07A Soldier Meadow 58.51 62 P P 12 19 14.2 +0.6
baz=58,SNR=18
L08A Fields 58.52 60 P P 12 19 13.8 +0.1
baz=58,SNR=8.4
K09A Rome 58.58 60 ⇓P P 12 19 14.2 +0.1
baz=58
TMCR Tamitsa 58.58 333 eP P 12 19 14.0 -0.2
TMCR pmax pmax
comp=Z,201nm,1.5s,mb5.9
F13A Darby 58.66 55 P P 12 19 14.7 0.0
baz=58,SNR=8.7
BEKR Beckwourth 58.71 64 ⇑P P 12 19 15.0 -0.1
baz=58
Q04C Lincoln 58.71 65 ⇑P P 12 19 14.7 -0.4
baz=58
E14A Clinton 58.74 54 P P 12 19 15.2 -0.1
baz=58,SNR=13
O06A Flanigan 58.85 63 P P 12 19 16.6 +0.6
baz=59,SNR=5.3
D15A Lincoln 58.90 53 P P 12 19 16.3 0.0
baz=59,SNR=7.0
P05C Yuba Gap, Truc 58.90 64 ⇑P P 12 19 17.0 +0.6
baz=59
N07B Gerlach 59.00 62 ⇓P P 12 19 16.7 -0.3
baz=59
L09A Wilkinson Ranc 59.02 60 P P 12 19 17.6 +0.4
baz=59,SNR=7.1
P06A Stead Airport, 59.11 64 ⇑P P 12 19 18.5 +0.7
baz=59
F14A Wisdom 59.18 55 ⇓P P 12 19 19.4 +1.1
baz=59
E15A Deer Lodge 59.20 54 P P 12 19 18.3 -0.2
baz=59,SNR=11
R04C Big Horse Ranc 59.34 65 ⇓P P 12 19 18.8 -0.6
baz=59
FFC Flin Flon 59.37 41 P P 12 19 19.1 -0.5
comp=Z,378nm,0.8s,SNR=12
FFC Flin Flon 59.37 41 P P 12 19 19.7 0.0
WCN Washoe City 59.43 64 P P 12 19 20.2 +0.2
baz=59,SNR=6.6
O07A Toulon 59.43 63 P P 12 19 20.4 +0.3
baz=59,SNR=10
N08A GE Springer Mi 59.50 62 P P 12 19 20.6 +0.1
baz=59,SNR=9.5
AKTK Aktubinsk 59.51 313 P P 12 19 17.2 -3.3
AKTO Aktyubinsk 59.51 313 P P 12 19 17.2 -3.3
comp=Z,26nm,0.8s,mb5.3,baz=64,slow=7.8,SNR=40
AKTO Aktyubinsk 59.51 313 P P 12 19 17.2 -3.4
AKTO pmax pmax
comp=Z,27nm,0.8s,mb5.3
M09A Marrel Ranch, 59.51 61 P P 12 19 21.1 +0.5
baz=59,SNR=8.4
S04C Ingram Canyon, 59.56 66 ⇑P P 12 19 22.1 +1.1
baz=59
R05C Kirkwood Meado 59.60 65 ⇑P P 12 19 21.9 +0.7
baz=59
F15A Butte 59.64 54 P P 12 19 21.6 +0.1
baz=59,SNR=14
EGMT Eagleton 59.77 51 eP P 12 19 22.1 -0.4
comp=Z,88nm,1.6s,mb5.5
CMB Columbia Colle 59.82 65 P P 12 19 22.9 +0.1
CMB pmax pmax
comp=Z,18nm,1.3s,mb4.9
CMB Columbia Colle 59.82 65 eP P 12 19 22.6 -0.1
comp=Z,18nm,1.4s,mb4.9
CMB Columbia Colle 59.82 65 P P 12 19 23.0 +0.2
baz=60,SNR=7.2
N09A Rock Creek Ran 59.82 61 P P 12 19 23.1 +0.3
baz=60,SNR=6.5
PACP Pacheco Peak 59.90 67 ⇑P P 12 19 24.0 +0.7
baz=60
SAO San Andreas Ge 59.95 67 P P 12 19 24.2 +0.6
SAO pmax pmax
comp=Z,15nm,1.1s,mb4.9
SAO San Andreas Ge 59.95 67 eP P 12 19 23.5 -0.1
comp=Z,15nm,1.1s,mb4.9
HLID Hailey 59.97 57 eP P 12 19 23.8 0.0
comp=Z,15nm,1.3s,mb4.9
M10A I.L. Ranch, Tu 59.99 60 P P 12 19 24.3 +0.3
baz=60,SNR=9.2
KSM Kuching 59.99 235 eP P 12 19 25.5 +1.6
FCC Fort Churchill 60.00 34 P P 12 19 23.9 -0.1

FCC pmax pmax
comp=Z,66nm,1.1s,mb5.6
FCC Fort Churchill 60.00 34 eP P 12 19 23.3 -0.7
comp=Z,66nm,1.1s,mb5.6
G15A Dillon 60.06 55 P P 12 19 24.4 -0.1
baz=60,SNR=12
MCMT McKenzie Canyo 60.07 55 eP P 12 19 24.1 -0.3
SUMG Summit 60.08 5 eP P 12 19 24.9 +0.4
comp=Z,52nm,1.0s,mb5.5
R06C Coleville 60.09 64 P P 12 19 24.9 +0.3
baz=60,SNR=11
P08A Dixie Valley 60.20 63 ⇓P P 12 19 25.4 0.0
baz=60
S06C San Francisco 60.25 65 P P 12 19 25.5 -0.2
baz=60,SNR=8.2
BMN Battle Mountai 60.26 61 P P 12 19 26.1 +0.3
BMN pmax pmax
comp=Z,13nm,1.0s,mb4.9
BMN Battle Mountai 60.26 61 eP P 12 19 25.9 +0.2
comp=Z,13nm,1.0s,mb4.9
S05C Merced 60.28 66 ⇓P P 12 19 25.8 -0.1
baz=60
O09A Fish Creek Ran 60.44 62 P P 12 19 27.4 +0.4
baz=60,SNR=8.8
M11A Holland Ranch, 60.49 60 P P 12 19 28.0 +0.7
baz=60,SNR=11
R07C Lee Vining 60.61 65 ⇑P P 12 19 28.5 +0.3
baz=60
O10A Cortez Mining, 60.78 61 P P 12 19 30.1 +0.8
baz=60,SNR=6.4
Q08A Gabbs 60.81 63 P P 12 19 29.6 0.0
baz=60,SNR=16
NVAR Mina Array Bea 60.86 64 P P 12 19 29.9 +0.1
comp=Z,5.9nm,0.9s,mb4.7,baz=293,slow=8.3,SNR=23
NVAR Mina Array Bea 60.86 64 P P 12 19 29.9 +0.1
P09A Austin 60.86 62 ⇑P P 12 19 30.5 +0.6
baz=61
QLMT Earthquake Lak 60.86 54 eP P 12 19 30.0 +0.2
T06C Millerton Lake 60.88 66 ⇑P P 12 19 30.2 +0.2
baz=61
KCC Kaiser Creek 60.92 65 ⇓P P 12 19 30.2 -0.1
baz=61
M12A Wells 61.01 59 P P 12 19 31.6 +0.7
baz=61,SNR=13
MLAC Mammoth Lakes 61.03 65 ⇓P P 12 19 32.2 +1.1
baz=61
P10A Eureka 61.22 62 ⇑P P 12 19 32.2 -0.1
baz=61
Q09A Carvers 61.28 63 ⇑P P 12 19 32.4 -0.4
baz=61
N12A Clover Valley, 61.30 60 P P 12 19 33.5 +0.7
baz=61,SNR=7.2
YNR Norris Junctio 61.35 54 eP P 12 19 34.4 +1.3
MTUM Tungsten Hills 61.37 65 eP P 12 19 33.6 +0.3
O11A Cowboy Ranch, 61.38 61 P P 12 19 33.8 +0.3
baz=61,SNR=6.0
YFT Old Faithful 61.43 54 eP P 12 19 35.5 +1.8
M13A Montello 61.49 59 P P 12 19 34.3 +0.2
baz=61,SNR=10
HELL Mitchell Peak, 61.52 66 P P 12 19 33.8 -0.5
baz=61,SNR=8.1
S08C White Mtn Res 61.52 65 ⇓P P 12 19 35.4 +1.1
baz=61
RCTC Rector, Farmer 61.61 66 ⇑P P 12 19 35.3 +0.3
baz=61
P11A Circle Ranch, 61.69 61 ⇑P P 12 19 35.6 +0.1
baz=61
R09A Tonopah 61.73 63 P P 12 19 35.6 -0.1
baz=62,SNR=15
FLWY Flagg Ranch 61.74 55 eP P 12 19 36.7 +0.9
comp=Z,79nm,1.6s,mb5.6
DCID1 Drake Creek 61.78 55 eP P 12 19 36.8 +0.7
N13A Wendover, West 61.78 59 ⇑P P 12 19 36.3 +0.2
baz=62
O12A Currie 61.84 60 P P 12 19 36.8 +0.3
baz=62,SNR=16
RLMT Red Lodge 61.86 53 eP P 12 19 37.1 +0.5
comp=Z,38nm,1.4s,mb5.3
MOOW Moose Ponds 61.92 55 eP P 12 19 37.8 +0.7
comp=Z,32nm,1.4s,mb5.3
S09A Goldfield 61.96 64 ⇓P P 12 19 37.6 +0.3
baz=62
VES Vestal, Richgr 62.01 67 ⇓P P 12 19 37.6 -0.1
baz=62
LOHW Long Hollow 62.09 55 eP P 12 19 38.8 +0.6
comp=Z,58nm,1.5s,mb5.5
SNOW Snow King Moun 62.10 55 eP P 12 19 39.2 +1.0
comp=Z,43nm,1.2s,mb5.5
REDW Red Top Meadow 62.11 55 eP P 12 19 38.9 +0.5
comp=Z,37nm,1.0s,mb5.5
R10A Warm Springs 62.16 63 ⇑P P 12 19 38.4 -0.2
baz=62
Q11A Duckwater 62.20 62 ⇓P P 12 19 39.0 +0.1
baz=62
P12A McGill 62.25 61 ⇑P P 12 19 39.3 +0.1
baz=62
CWC Cottonwood Cre 62.25 65 ⇓P P 12 19 39.8 +0.6
baz=62
GRAC Grapevine Rang 62.33 65 ⇑P P 12 19 40.1 +0.3
baz=62
AHID Auburn Hatcher 62.35 56 eP P 12 19 40.2 +0.3
comp=Z,16nm,1.2s,mb5.0
DGMT Dagmar 62.35 48 eP P 12 19 39.8 -0.1
comp=Z,26nm,0.6s,mb5.5
LAO LASA Array 62.48 50 eP P 12 19 41.0 +0.2
comp=Z,45nm,1.0s,mb5.5
ISA Isabella 62.51 66 ⇑P P 12 19 41.1 +0.2
baz=62
Q12A Willow Creek R 62.57 61 ⇓P P 12 19 42.0 +0.6
baz=62
ARVC Arvin 62.63 67 ⇓P P 12 19 41.7 0.0
baz=62
DAC Darwin (Calif) 62.66 65 eP P 12 19 42.0 0.0
DAC pmax pmax
comp=Z,24nm,1.8s,mb5.0
DAC Darwin (Calif) 62.66 65 eP P 12 19 41.7 -0.3
comp=Z,24nm,1.9s,mb5.0
HWUT Hardware Ranch 62.83 57 eP P 12 19 43.2 +0.1
comp=Z,13nm,1.1s,mb5.0
MPMC Manual Prospec 62.86 65 ⇑P P 12 19 43.3 0.0
baz=63
FURC Furnace Creek, 62.99 65 ⇑P P 12 19 43.5 -0.7
baz=63
DUG Dugway 63.02 59 eP P 12 19 44.3 -0.1
DUG pmax pmax
comp=Z,24nm,1.2s,mb5.2
DUG Dugway 63.02 59 eP P 12 19 43.9 -0.5
comp=Z,24nm,1.2s,mb5.2
LRMC Laurel Mountai 63.11 66 ⇓P P 12 19 45.2 +0.2
baz=63
BW06 Boulder Array 63.22 55 eP P 12 19 45.5 -0.3
comp=Z,34nm,1.3s,mb5.3
PDAR Pinedale Array 63.22 55 P P 12 19 45.6 -0.1
comp=Z,12nm,0.8s,mb5.1,baz=285,slow=2.2,SNR=50
EDW2 Edwards Air Fo 63.31 67 ⇑P P 12 19 46.6 +0.3
baz=63
U10A Ash Meadows, A 63.35 64 ⇑P P 12 19 46.4 -0.2
baz=63
DECC Green Verdugo 63.51 67 ⇑P P 12 19 48.4 +0.8
baz=63
JLU Jordanelle 63.55 58 eP P 12 19 47.7 -0.2
NLU North Lily Min 63.61 59 eP P 12 19 48.1 -0.2
SHOC Shoshone 63.71 65 ⇓P P 12 19 49.4 +0.4
baz=63
GSC Goldstone 63.78 66 eP P 12 19 49.4 0.0
GSC e 12 20 18.5
GSC Goldstone 63.78 66 eP P 12 19 48.6 -0.8
GSC Goldstone 63.78 66 ⇓P P 12 19 50.2 +0.8
baz=64
U11A Corn Creek 63.92 64 ⇑P P 12 19 50.5 +0.1
baz=64
BFSC Mount Baldy St 63.94 67 ⇓P P 12 19 50.2 -0.3
baz=64
SCI San Clemente I 64.20 69 ⇓P P 12 19 51.9 -0.3
baz=64
FINES FINESS Array B 64.21 336 P P 12 19 48.9 -3.4
comp=Z,15nm,0.6s,mb5.2,baz=42,slow=6.7,SNR=18
TUQ Turquoise Mtn. 64.23 65 ⇑P P 12 19 52.1 -0.3
baz=64
V11A Goodsprings 64.28 64 ⇑P P 12 19 52.7 0.0
baz=64
HEC Hector,Ludlow 64.38 66 ⇓P P 12 19 53.2 -0.2
baz=64
BBRC Big Bear Sol-O 64.38 67 ⇑P P 12 19 53.3 -0.1
baz=64
CCUT Cedar City 64.41 62 eP P 12 19 53.3 -0.3
TMUT Trail Mountain 64.54 59 eP P 12 19 54.7 +0.3

MURC Murrieta 64.64 67 ⇓P P 12 19 54.3 -0.8
baz=64
V12A Nelson 64.70 64 ⇓P P 12 19 56.3 +0.8
baz=64
MOS Moscow 64.87 326 *eP* P 12 19 55.4 -1.1
W12A Cal Nev Ari 64.97 65 ⇑P P 12 19 57.9 +0.7
baz=65
SRU San Rafael 65.06 59 P P 12 19 58.1 +0.3
SRU pmax pmax
comp=Z,110nm,1.5s,mb5.7
SRU San Rafael 65.06 59 *eP* P 12 19 57.7 -0.1
comp=Z,112nm,1.5s,mb5.7
PFO Pinyon Flat Ob 65.10 67 *eP* P 12 19 57.9 -0.2
BELC Belle Mtn. 65.13 66 ⇓P P 12 19 57.9 -0.3
baz=65
ULM Lac du Bonnet 65.14 42 P P 12 19 57.6 -0.7
comp=Z,12nm,0.7s,mb5.0,baz=310,slow=8.1,SNR=20
ULM Lac du Bonnet 65.14 42 *eP* P 12 19 57.6 -0.7
comp=Z,121nm,1.9s,mb5.6
RWWY Rawlins 65.24 55 *eP* P 12 19 58.1 -0.9
comp=Z,16nm,0.9s,mb5.0
RSSD Black Hills 65.33 51 *eP* P 12 19 59.4 -0.2
RSSD pmax pmax
comp=Z,98nm,1.5s,mb5.6
RSSD Black Hills 65.33 51 *eP* P 12 19 59.4 -0.1
comp=Z,98nm,1.5s,mb5.6
NEE2 Needles Airpor 65.48 65 ⇑P P 12 20 01.2 +0.7
baz=65
IRM Iron Mountain 65.55 66 ⇓P P 12 19 59.9 -1.1
baz=65
MONP Monument Peak 65.60 67 ⇓P P 12 20 00.4 -0.9
baz=65
BC3 Big Chuckw Mtn 65.70 66 ⇓P P 12 20 01.6 -0.4
baz=65
W13A Hualapai Mount 65.71 64 ⇑P P 12 20 02.1 +0.1
baz=65
OBN Obninsk 65.73 326 ⇑*iP* P 12 20 00.9 -1.3
OBN *i* 12 20 12.1
OBN pmax pmax
comp=Z,123nm,2.5s,mb5.5
DVTC Desert V Tower 65.95 67 ⇓P P 12 20 03.2 -0.4
baz=66
SWSC Sam W. Stewart 65.96 67 ⇑P P 12 20 03.5 -0.1
baz=66
X13A Yucca 66.08 64 ⇓P P 12 20 03.8 -0.6
baz=66
PDMCI Parker Dam,Lak 66.08 65 ⇓P P 12 20 04.1 -0.3
baz=66
W14A Seligman 66.12 64 ⇑P P 12 20 04.0 -0.6
baz=66
Y12C Blythe 66.21 66 ⇑P P 12 20 06.0 +0.8
baz=66
PHWY Pilot Hill 66.47 54 *eP* P 12 20 06.7 -0.2
GLA Glamis 66.49 66 *eP* P 12 20 07.4 +0.4
GLA Glamis 66.49 66 ⇑P P 12 20 07.1 +0.1
baz=66
Y13A Salome 66.60 65 ⇓P P 12 20 07.4 -0.3
baz=66
W15A Williams 66.64 63 ⇓P P 12 20 08.6 +0.6
baz=66
X14A Yava 66.74 64 ⇑P P 12 20 09.3 +0.7
baz=66
WUAZ Wupatki 66.96 62 *eP* P 12 20 10.8 +0.8
comp=Z,61nm,1.4s,mb5.4
WUAZ Wupatki 66.96 62 ⇑P P 12 20 10.1 +0.1
baz=67
Y14A Wickenburg 67.03 65 ⇓P P 12 20 09.4 -1.0
baz=67
X15A Humboldt 67.13 64 ⇑P P 12 20 10.7 -0.4
baz=67
Z14A Wintersburg 67.45 65 ⇓P P 12 20 12.8 -0.3
baz=67
MVCO Mesa Verde 67.52 59 *eP* P 12 20 12.3 -1.3
comp=Z,7.6nm,1.3s,mb4.6
CTA Charters Tower 67.53 189 *eP* P 12 20 16.9 +3.3
comp=Z,19nm,1.3s,mb5.0
CTA Charters Tower 67.53 189 *eP* P 12 20 16.9 +3.3
CTA pmax pmax
comp=Z,19nm,1.3s
CTAO Charters Tower 67.53 189 *eP* P 12 20 13.8 +0.2
CTAO pmax pmax
comp=Z,55nm,1.4s,mb5.4
CTAO Charters Tower 67.53 189 *eP* P 12 20 13.8 +0.2
comp=Z,55nm,1.4s,mb5.4
ABKT Ailbek 67.63 302 P P 12 20 15.0 +0.8
comp=Z,266nm,0.8s,mb6.3,SNR=7.8
NB2 NORSAR Subarra 68.22 342 P P 12 20 17.6 -0.4
comp=Z,11nm,0.7s,mb5.0,baz=26,slow=6.5
NOA NORSAR Array B 68.22 342 P P 12 20 16.1 -1.9
comp=Z,27nm,0.9s,mb5.3,baz=26,slow=6.3,SNR=25
HFS Hagfors 68.50 340 P P 12 20 17.5 -2.2
comp=Z,2.7nm,0.4s,mb4.6,baz=70,slow=4.7,SNR=3.8
WRAB Tennant Creek 69.50 201 *eP* P 12 20 25.0 -0.9
WRA Warramunga Arr 69.51 201 P P 12 20 24.3 -1.7
comp=Z,9.9nm,0.8s,mb4.8,baz=20,slow=7.2,SNR=28
KONO Kongsberg 69.83 342 *eP* P 12 20 26.5 -1.4
SUW Suwalki 71.26 332 *eP* P 12 20 36.1 -0.6
KIV Kislovodsk 71.51 315 *eP* P 12 20 40.2 +2.0
KIV pmax pmax
comp=Z,43nm,0.8s,mb5.4
ZEI Tsey 71.81 314 *eP* P 12 20 40.1 +0.1
ZEI *e**PP pP 12 20 55.1 +10
AKASG Malin Array Be 71.95 327 P P 12 20 39.3 -1.5
comp=Z,11nm,0.7s,mb4.9,baz=33,slow=6.1,SNR=22
AKBB Malin Array Si 71.95 327 *eP* P 12 20 40.1 -0.8
SCHQ Schefferville 72.24 24 P P 12 20 42.1 -0.5
comp=Z,4.4nm,0.7s,mb4.5,baz=276,slow=14,SNR=5.1
SCIA State Center 72.47 47 *eP* P 12 20 43.3 -0.7
comp=Z,126nm,1.4s,mb5.7
ASAR Alice Springs 73.19 200 P P 12 20 47.9 -0.3
comp=Z,5.4nm,0.8s,mb4.5,baz=13,slow=5.4,SNR=21
MNTX Cornudas Mount 73.20 61 *eP* P 12 20 47.8 -0.5
comp=Z,43nm,1.9s,mb5.1
GNI Garni 73.34 311 ⇑*iP* P 12 20 50.7 +1.6
GNI pmax pmax
comp=Z,129nm,2.5s
GNI Garni 73.34 311 *eP* P 12 20 51.4 +2.3
comp=Z,2µm,2.9s
SIM Simferopol' 74.64 321 *eP* P 12 20 56.9 +0.2
KWP Kalwaria 75.15 330 *eP* P 12 21 00.0 +0.4
KWP Kalwaria 75.15 330 P P 12 21 00.1 +0.5
KWP pmax pmax
comp=Z,36nm,0.9s,mb5.3
MBWA Marble Bar 75.27 214 *eP* P 12 20 59.8 -0.5
comp=Z,9.6nm,0.7s,mb4.8
OJC Ojcow 75.59 332 *eP* P 12 21 02.6 +0.4
STHS Stebnicka Huta 75.82 331 *eP* P 12 21 04.5 +1.0
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS Stebnicka Huta 75.82 331 *eP* P 12 21 04.5 +1.0
comp=Z,9.8nm,0.8s,mb4.8
KOLS Kolonicke sedl 75.89 330 *eP* P 12 21 04.1 +0.2
KOLS *ep*P pP 12 21 09.5 +0.1
TXAR Lajitas Array 75.92 62 P P 12 21 03.8 -0.3
comp=Z,11nm,0.7s,mb4.9,baz=303,slow=4.6,SNR=32
BURAR Bucovina Array 75.98 328 ⇓*iP* P 12 21 04.6 +0.2
BURAR Bucovina Array 75.98 328 ⇓P P 12 21 04.6 +0.1
EKA Eskdalemuir Ar 76.19 348 P P 12 21 05.3 -0.3
comp=Z,6.7nm,0.5s,mb4.8,baz=21,slow=5.2,SNR=13
OKC Ostrava-Krasne 76.44 333 *eP* P 12 21 07.3 +0.3
OKC *ep*P pP 12 21 12.4 -0.1
UPC Upice 76.49 335 *eP* P 12 21 07.5 +0.2
UPC *ep*P pP 12 21 12.7 -0.1
DPC Dobruska-Polom 76.54 334 *eP* P 12 21 08.1 +0.5
DPC *ep*P pP 12 21 13.0 -0.1
CLL Collm 76.61 337 *i* P P 12 21 07.5 -0.5
CLL *i* sP sP 12 21 13.6 -1.9
CLL *i* (sPcP) 12 21 23.9
MORC Moravsky Berou 76.68 333 ⇓*iP* P 12 21 08.8 +0.4
MORC Moravsky Berou 76.68 333 ⇓P P 12 21 08.8 +0.4
KECS Kecovo 76.88 331 *eP* P 12 21 08.8 -0.7
KECS *ep*P pP 12 21 13.2 -1.8
KECS Kecovo 76.88 331 *eP* P 12 21 08.8 -0.7
KECS *e* pP 12 21 13.3 -1.7
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 76.88 331 *eP* P 12 21 08.8 -0.7
comp=Z,5.3nm,0.9s,mb4.5
KECS *e* pP 12 21 13.3 -1.7
PVCC Panska Ves 76.88 336 *eP* P 12 21 09.6 +0.1
PVCC *ep*P pP 12 21 14.9 -0.1
PRU Pruhonice 77.38 335 *eP* P 12 21 12.7 +0.4
PRU *ep*P pP 12 21 18.0 +0.2
VRAC Vranov 77.38 334 P P 12 21 11.6 -0.7
comp=Z,25nm,1.0s,mb5.1,baz=50,slow=5.3,SNR=4.8
VRAC Vranov 77.38 334 ⇑*iP* P 12 21 13.1 +0.8
VRAC pmax pmax
comp=Z,25nm,1.0s
VRAC Vranov 77.38 334 ⇑P P 12 21 13.1 +0.8
TIRR Tirgusor 77.40 324 ⇑*iP* P 12 21 12.9 +0.4
TIRR Tirgusor 77.40 324 ⇑P P 12 21 12.9 +0.4
VYHS Vyhne 77.40 332 *eP* P 12 21 12.5 0.0
MLR Muntele Rosu 77.50 326 P P 12 21 12.3 -0.7
comp=Z,12nm,0.6s,mb5.0,baz=129,slow=6.1,SNR=11
MLR Muntele Rosu 77.50 326 ⇑*iP* P 12 21 13.9 +0.9
MLR Muntele Rosu 77.50 326 P P 12 21 12.3 -0.7
MLR pmax pmax
comp=Z,12nm,0.6s
PSZ Piszkesteto 77.56 331 ⇓*iP* P 12 21 13.2 -0.2
PSZ Piszkesteto 77.56 331 ⇓P P 12 21 13.2 -0.2
DRGR 77.58 329 ⇓*iP* P 12 21 12.7 -0.8
MOX Moxa 77.58 337 *eP* P 12 21 13.6 +0.1
WSAR Wadi Sarin 77.63 291 P P 12 21 12.2 -1.5
comp=Z,3.2nm,0.9s,baz=68,slow=6.1,SNR=2.4
NKC Novy Kostel 77.73 337 *eP* P 12 21 14.1 -0.2
NKC *ep*P pP 12 21 19.2 -0.6
VOIR 77.88 327 ⇑*iP* P 12 21 15.8 +0.6
VOIR 77.88 327 ⇑P P 12 21 15.8 +0.7
MALT Malatya 77.90 314 *eP* P 12 21 16.9 +1.6
comp=Z,3µm,3.8s
PSN Preselentsi 78.14 324 *eP* P 12 21 12.0 -4.6
ZST Bratislava 78.21 333 *eP* P 12 21 18.3 +1.3
ZST Bratislava 78.21 333 *e* P 12 21 18.3 +1.3
KHC Kasperske Hory 78.42 335 *eP* P 12 21 18.1 0.0
KHC *ep*P pP 12 21 24.1 +0.5
GRA1 Grafenberg Arr 78.56 337 *eP* P 12 21 19.3 +0.4
comp=Z,34nm,0.9s,mb5.3
GRF Grafenberg Arr 78.56 337 *eP* P 12 21 19.3 +0.4
comp=Z,34nm,0.9s,mb5.3
GRF Grafenberg Arr 78.56 337 *eP* P 12 21 19.3 +0.4
GRF pmax pmax
comp=Z,34nm,0.9s,mb5.3
GRFO Grafenberg 78.56 337 *eP* P 12 21 19.5 +0.6
GRFO pmax pmax
comp=Z,100nm,1.4s,mb5.5
GRFO Grafenberg 78.56 337 *eP* P 12 21 19.5 +0.6
comp=Z,100nm,1.4s,mb5.5
DLF Lyons Farm 78.64 349 ⇑*iP* pP 12 21 26.2 +1.4
GERES GERESS Array B 78.64 335 P P 12 21 18.9 -0.4
comp=Z,4.8nm,0.8s,mb4.5,baz=32,slow=5.5,SNR=12
DCN Croghan 78.69 349 *eP* pP 12 21 26.4 +1.3
ALLY Allegheny Colle 78.74 39 *eP* P 12 21 19.6 -0.2
GZR Gura Zlata 78.76 328 ⇓*iP* P 12 21 19.7 -0.3
GZR Gura Zlata 78.76 328 ⇓P P 12 21 19.7 -0.3
BZS Buzias 78.98 329 ⇓*iP* P 12 21 21.4 +0.2
BZS Buzias 78.98 329 ⇓P P 12 21 21.4 +0.2
MEM Membach 78.99 341 P P 12 21 21.7 +0.4
comp=Z,20nm,0.8s,mb5.1
MEM AP pP 12 21 25.1 -1.7
MEM E 12 21 37.6
BR131 Keskin Array S 79.04 318 *eP* P 12 21 22.2 +0.7
comp=Z,27nm,0.9s,mb5.2
BRTR Keskin Array B 79.04 318 P P 12 21 20.6 -0.9
comp=Z,8.1nm,0.9s,mb4.6,baz=59,slow=2.2,SNR=15
ANTO Ankara 79.31 319 ⇓*iP* pP 12 21 28.7 +0.2
ANTO Ankara 79.31 319 *eP* P 12 21 23.3 +0.3
ANTO pmax pmax
comp=Z,31nm,0.8s,mb5.3
ANTO Ankara 79.31 319 *eP* P 12 21 23.3 +0.3
comp=Z,31nm,0.8s,mb5.3
BCLA Clavier 79.32 341 P P 12 21 23.2 +0.1
comp=Z,16nm,1.0s,mb4.9
BCLA E pP 12 21 29.1 +0.6
BCLA E 12 21 38.8
PKSM Moragy 79.47 331 ⇓*iP* P 12 21 23.6 -0.3
PKSM Moragy 79.47 331 ⇓P P 12 21 23.6 -0.3
GIVF Givet 79.72 341 *eP* P 12 21 24.9 -0.4
BAIF Baives 79.90 342 *eP* P 12 21 26.1 -0.1
comp=Z,59nm,1.2s,mb5.1
BAIF Baives 79.90 342 *eP* P 12 21 26.1 -0.1
BAIF pmax pmax
comp=Z,30nm,1.2s,mb5.1
BAIF Baives 79.90 342 *eP* P 12 21 26.1 -0.1
comp=Z,30nm,1.2s,mb5.1
PMOR Pomariorio Ree 80.08 125 *eP* P 12 21 26.8 -0.4
comp=Z,55nm,1.0s,mb5.5
KBA Konbreinspaer 80.34 335 *iP* P 12 21 29.5 +0.9
comp=Z,58nm,0.7s,mb5.6,SNR=12
WTTA Wattenberg 80.66 336 ⇑*iP* P 12 21 31.3 +1.0
comp=Z,63nm,0.9s,mb5.6,SNR=8.6
MOTA Moosalm 80.73 336 *iP* P 12 21 31.7 +0.9
comp=Z,43nm,0.9s,mb5.4,SNR=9.3
CDF Champ du Feu 80.74 339 ⇓*iP* P 12 21 30.6 -0.1
comp=Z,79nm,1.2s,mb5.2
CDF Champ du Feu 80.74 339 ⇓*iP* P 12 21 30.6 -0.1
CDF pmax pmax
comp=Z,40nm,1.2s,mb5.2
CDF Champ du Feu 80.74 339 ⇓*iP* P 12 21 30.6 -0.1
comp=Z,40nm,1.2s,mb5.2
VTS Vitosha 81.00 326 ⇑*iP* P 12 21 32.5 +0.3
VTS Vitosha 81.00 326 *iP* P 12 21 31.0 -1.2
MEZF Maizieres J'vi 81.18 341 *eP* P 12 21 33.1 0.0
PPT Papeete 81.25 128 *eP* P 12 21 33.0 -0.5
comp=Z,21nm,1.2s,mb5.0
PPT Papeete 81.25 128 *eP* P 12 21 33.0 -0.5
PPT pmax pmax
comp=Z,21nm,1.2s
PAE Paea 81.33 128 *eP* P 12 21 33.2 -0.7
comp=Z,62nm,1.3s,mb5.4
PAE Paea 81.33 128 *eP* P 12 21 33.2 -0.7
PAE pmax pmax
comp=Z,62nm,1.3s,mb5.4
HAU Haudompre 81.34 340 *eP* P 12 21 33.6 -0.4
comp=Z,36nm,0.9s,mb5.0
HAU Haudompre 81.34 340 *eP* P 12 21 33.6 -0.4
HAU pmax pmax
comp=Z,18nm,0.9s,mb5.0
HAU Haudompre 81.34 340 *eP* P 12 21 33.6 -0.4
comp=Z,18nm,0.9s,mb5.0
HINF Hinteralfeld 81.40 339 *eP* P 12 21 33.7 -0.5
DAVOX Davos 81.59 337 P P 12 21 35.3 +0.1
comp=Z,12nm,0.7s,mb4.9,baz=4.4,slow=20,SNR=8.1
DAVOX Davos 81.59 337 P P 12 21 35.3 +0.1
MMB Musomiste 81.67 325 *iP* P 12 21 35.0 -0.7
TKL Tuckaleechee C 81.95 45 P P 12 21 36.0 -1.1
comp=Z,5.4nm,0.9s,mb4.5,baz=309,slow=8.8,SNR=4.3
FLN La Foliniere 82.08 344 *eP* P 12 21 37.5 -0.3
comp=Z,119nm,1.4s,mb5.3
FLN La Foliniere 82.08 344 *eP* P 12 21 37.5 -0.3
FLN pmax pmax
comp=Z,59nm,1.4s,mb5.3
FLN La Foliniere 82.08 344 *eP* P 12 21 37.5 -0.3
comp=Z,59nm,1.4s,mb5.3
LDF La Druitiere 82.17 344 *eP* P 12 21 37.9 -0.4
comp=Z,112nm,1.5s,mb5.3
LDF La Druitiere 82.17 344 *eP* P 12 21 37.9 -0.4
LDF pmax pmax
comp=Z,56nm,1.5s,mb5.3
LDF La Druitiere 82.17 344 *eP* P 12 21 37.9 -0.4
comp=Z,56nm,1.5s,mb5.3
VAY Valandovo 82.34 326 *eP* P 12 21 42.7 +3.5
GRR Gorron 82.51 344 *eP* P 12 21 40.1 0.0
comp=Z,129nm,1.3s,mb5.5
GRR Gorron 82.51 344 *eP* P 12 21 40.1 0.0
GRR pmax pmax
comp=Z,65nm,1.3s,mb5.5
GRR Gorron 82.51 344 *eP* P 12 21 40.1 0.0
comp=Z,65nm,1.3s,mb5.5
LOR Lormes 82.61 341 ⇓*iP* P 12 21 40.3 -0.3
comp=Z,75nm,1.3s,mb5.2
LOR Lormes 82.61 341 ⇓*iP* P 12 21 40.3 -0.3
LOR pmax pmax
comp=Z,37nm,1.3s,mb5.2
LOR Lormes 82.61 341 ⇓*iP* P 12 21 40.3 -0.3
comp=Z,37nm,1.3s,mb5.3
CABF La Chapelle 82.71 339 *eP* P 12 21 41.1 0.0
comp=Z,45nm,0.9s,mb5.2
CABF La Chapelle 82.71 339 *eP* P 12 21 41.1 0.0
CABF pmax pmax
comp=Z,23nm,0.9s,mb5.2
CABF La Chapelle 82.71 339 *eP* P 12 21 41.1 0.0
comp=Z,23nm,0.9s,mb5.2
KRUS Krusevo 82.80 327 ⇑*iP* P 12 21 41.9 +0.4
SSF Saint Saulge 82.89 341 ⇓*iP* P 12 21 41.8 -0.2
comp=Z,41nm,1.1s,mb5.1
SSF Saint Saulge 82.89 341 ⇓*iP* P 12 21 41.8 -0.2
SSF pmax pmax
comp=Z,21nm,1.1s,mb5.1
SSF Saint Saulge 82.89 341 ⇓*iP* P 12 21 41.8 -0.2
comp=Z,21nm,1.1s,mb5.1
SGMF Saint Gilles 82.94 345 *eP* P 12 21 42.3 0.0
comp=Z,149nm,1.2s,mb5.6
SGMF Saint Gilles 82.94 345 *eP* P 12 21 42.3 0.0
SGMF pmax pmax
comp=Z,75nm,1.2s,mb5.6
SGMF Saint Gilles 82.94 345 *eP* P 12 21 42.3 0.0
comp=Z,74nm,1.2s,mb5.6
ROSF Rostrenen 82.98 346 *eP* P 12 21 42.5 0.0
comp=Z,166nm,1.2s,mb5.6
ROSF Rostrenen 82.98 346 *eP* P 12 21 42.5 0.0
ROSF pmax pmax
comp=Z,83nm,1.2s,mb5.6
ROSF Rostrenen 82.98 346 *eP* P 12 21 42.5 0.0
comp=Z,83nm,1.2s,mb5.6
CSS Prodhromos 83.04 315 *eP* P 12 21 47.2 +4.4
comp=Z,37nm,0.8s,mb5.5
AVF Avril sur Loir 83.18 341 ⇓*iP* P 12 21 43.5 -0.1
comp=Z,89nm,1.1s,mb5.4
AVF Avril sur Loir 83.18 341 ⇓*iP* P 12 21 43.5 -0.1
AVF pmax pmax
comp=Z,44nm,1.1s,mb5.4
AVF Avril sur Loir 83.18 341 ⇓*iP* P 12 21 43.5 -0.1
comp=Z,44nm,1.1s,mb5.4
OHR Ohrid 83.19 327 ⇑*iP* P 12 21 48.8 +5.2
SMF Signal de Mont 83.20 341 ⇓*iP* P 12 21 43.7 0.0
comp=Z,156nm,1.1s,mb5.6
SMF Signal de Mont 83.20 341 ⇓*iP* P 12 21 43.7 0.0
SMF pmax pmax
comp=Z,78nm,1.1s,mb5.7
SMF Signal de Mont 83.20 341 ⇓*iP* P 12 21 43.7 0.0
comp=Z,78nm,1.1s,mb5.7
BGF Bois d'Agland 83.51 341 *eP* P 12 21 45.1 -0.2
ASF Jabal al Asfar 83.51 311 P P 12 21 45.6 +0.3
comp=Z,13nm,1.0s,mb5.0,baz=251,slow=2.6,SNR=6.8
LPL La Plagne 83.58 338 ⇓*iP* P 12 21 46.5 +0.9
comp=Z,65nm,1.1s,mb5.4
LPL La Plagne 83.58 338 ⇓*iP* P 12 21 46.5 +0.9
LPL pmax pmax
comp=Z,32nm,1.1s,mb5.4
LPL La Plagne 83.58 338 ⇓*iP* P 12 21 46.5 +0.9
comp=Z,32nm,1.1s,mb5.4
LPG La Plagne 83.59 338 ⇓*iP* P 12 21 46.7 +1.0
comp=Z,85nm,1.1s,mb5.5
LPG La Plagne 83.59 338 ⇓*iP* P 12 21 46.7 +1.0
LPG pmax pmax
comp=Z,42nm,1.1s,mb5.5
LPG La Plagne 83.59 338 ⇓*iP* P 12 21 46.7 +1.0
comp=Z,42nm,1.1s,mb5.5
MMAI Mount Meron Ar 83.59 313 P P 12 21 44.3 -1.4
comp=Z,22nm,0.8s,mb5.3,baz=42,slow=8.9,SNR=11
TCF Toulx Ste Croi 83.90 342 ⇓*iP* P 12 21 47.3 0.0
comp=Z,47nm,1.2s,mb5.2
TCF Toulx Ste Croi 83.90 342 ⇓*iP* P 12 21 47.3 0.0
TCF pmax pmax
comp=Z,24nm,1.2s,mb5.2
TCF Toulx Ste Croi 83.90 342 ⇓*iP* P 12 21 47.3 0.0
comp=Z,24nm,1.2s,mb5.2
MFF Saint Martin d 84.09 343 *eP* P 12 21 48.3 +0.1
comp=Z,23nm,0.7s,mb5.1
MFF Saint Martin d 84.09 343 *eP* P 12 21 48.3 +0.1
MFF pmax pmax
comp=Z,12nm,0.7s,mb5.1
MFF Saint Martin d 84.09 343 *eP* P 12 21 48.3 +0.1
comp=Z,12nm,0.7s,mb5.1
MBDF Montbardon 84.30 338 *eP* P 12 21 49.5 +0.2
comp=Z,29nm,0.8s,mb5.2
MBDF Montbardon 84.30 338 *eP* P 12 21 49.5 +0.2
MBDF pmax pmax
comp=Z,15nm,0.8s,mb5.2
MBDF Montbardon 84.30 338 *eP* P 12 21 49.5 +0.2
comp=Z,14nm,0.8s,mb5.2
ORIF Oris-en-Rattie 84.35 339 *eP* P 12 21 50.2 +0.7
comp=Z,79nm,1.2s,mb5.4
ORIF Oris-en-Rattie 84.35 339 *eP* P 12 21 50.2 +0.7
ORIF pmax pmax
comp=Z,40nm,1.2s,mb5.4
ORIF Oris-en-Rattie 84.35 339 *eP* P 12 21 50.2 +0.7
comp=Z,40nm,1.2s,mb5.4
VIVF Saint-Julien-l 84.70 340 *eP* P 12 21 51.7 +0.4
comp=Z,71nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.70 340 *eP* P 12 21 51.7 +0.4
VIVF pmax pmax
comp=Z,35nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.70 340 *eP* P 12 21 51.7 +0.4
comp=Z,35nm,1.3s,mb5.3
SBF Sospel 84.94 337 *eP* P 12 21 52.2 -0.3
comp=Z,66nm,0.8s,mb5.5
SBF Sospel 84.94 337 *eP* P 12 21 52.2 -0.3
SBF pmax pmax
comp=Z,33nm,0.8s,mb5.5
SBF Sospel 84.94 337 *eP* P 12 21 52.2 -0.3
comp=Z,33nm,0.8s,mb5.5
CAF Calviac 85.23 341 *eP* P 12 21 53.9 -0.1
comp=Z,56nm,0.9s,mb5.4
CAF Calviac 85.23 341 *eP* P 12 21 53.9 -0.1
CAF pmax pmax
comp=Z,28nm,0.9s,mb5.4
CAF Calviac 85.23 341 *eP* P 12 21 53.9 -0.1
comp=Z,28nm,0.9s,mb5.4
FRF La Foret Royal 85.42 338 *eP* P 12 21 54.7 -0.3
comp=Z,71nm,1.4s,mb5.3
FRF La Foret Royal 85.42 338 *eP* P 12 21 54.7 -0.3
FRF pmax pmax
comp=Z,35nm,1.4s,mb5.3
FRF La Foret Royal 85.42 338 *eP* P 12 21 54.7 -0.3
comp=Z,35nm,1.4s,mb5.3
LFF La Frestale 85.50 342 *eP* P 12 21 55.0 -0.3
comp=Z,105nm,1.1s,mb5.6
LFF La Frestale 85.50 342 *eP* P 12 21 55.0 -0.3
LFF pmax pmax
comp=Z,53nm,1.1s,mb5.6
LFF La Frestale 85.50 342 *eP* P 12 21 55.0 -0.3
comp=Z,53nm,1.1s,mb5.6
LASF Ste Croix 85.63 340 *eP* P 12 21 55.9 -0.1
comp=Z,87nm,1.4s,mb5.5
LMR La Mourre 85.67 338 *eP* P 12 21 56.2 0.0
comp=Z,41nm,1.0s,mb5.3
LMR La Mourre 85.67 338 *eP* P 12 21 56.2 0.0
LMR pmax pmax
comp=Z,20nm,1.0s,mb5.3
LMR La Mourre 85.67 338 *eP* P 12 21 56.2 0.0
comp=Z,20nm,1.0s,mb5.3
PGF Pioggiola 85.73 336 *eP* P 12 21 56.4 -0.1
comp=Z,37nm,1.1s,mb5.2
PGF Pioggiola 85.73 336 *eP* P 12 21 56.4 -0.1
PGF pmax pmax
comp=Z,18nm,1.0s,mb5.3
PGF Pioggiola 85.73 336 *eP* P 12 21 56.4 -0.1
comp=Z,18nm,1.0s,mb5.3
IDI Anoyia 86.58 321 P P 12 21 59.1 -1.5
comp=Z,12nm,1.0s,mb5.1,baz=12,slow=6.3,SNR=3.0
MTLF Montolieu 86.70 341 *eP* P 12 22 01.6 +0.3
comp=Z,54nm,1.3s,mb5.3
MTLF Montolieu 86.70 341 *eP* P 12 22 01.6 +0.3
MTLF pmax pmax
comp=Z,27nm,1.3s,mb5.3
MTLF Montolieu 86.70 341 *eP* P 12 22 01.6 +0.3
comp=Z,27nm,1.3s,mb5.3
EPF Esparros 87.41 342 *eP* P 12 22 03.4 -1.3
SJPF Ste Jean 87.65 343 *eP* P 12 22 05.4 -0.5
comp=Z,23nm,1.1s,mb5.0
SJPF Ste Jean 87.65 343 *eP* P 12 22 05.4 -0.5
SJPF pmax pmax
comp=Z,12nm,1.1s,mb5.0
SJPF Ste Jean 87.65 343 *eP* P 12 22 05.4 -0.5
comp=Z,12nm,1.1s,mb5.0
ETSF Etsaut 87.72 343 *eP* P 12 22 05.5 -0.7
ESDC Sonseca Array 91.50 344 P P 12 22 22.6 -1.3
comp=Z,0.8nm,0.4s,mb4.4,baz=4.3,slow=5.1,SNR=7.4
KEST Kesra 91.93 333 P P 12 22 25.8 -0.1
comp=Z,2.8nm,0.9s,mb4.6,baz=325,slow=4.1,SNR=5.9
TORD Torodi Ar. Bea 115.40 331 PKP PKPdf 12 27 58.0 -1.2
comp=Z,1.3nm,1.1s,baz=16,slow=1.8,SNR=6.1
VNDA Vanda 124.57 178 PKP PKPdf 12 28 13.1 -3.7
comp=Z,2.6nm,0.9s,baz=304,slow=5.3,SNR=11
SBA Scott Base 125.04 177 *e*PKIKP PKPdf 12 28 15.5 -2.2
LPAZ La Paz 132.76 64 PKP PKPdf 12 28 32.9 +0.6
comp=Z,1.4nm,0.8s,baz=355,slow=7.4,SNR=6.1
MAW Mawson 133.43 212 PKP PKPdf 12 28 30.9 -2.7
comp=Z,2.5nm,0.7s,baz=69,slow=3.0,SNR=8.5
CFAA Coronel Fontan 143.41 81 PKP PKPdf 12 28 52.3 +0.4
comp=Z,0.3nm,0.5s,baz=315,slow=8.6,SNR=1.9
USHA Ushuaia 151.86 122 PKPbc PKPbc 12 29 10.4 -1.8
comp=Z,20nm,0.9s,baz=277,slow=1.8,SNR=5.2
PMSA Palmer Station 152.52 144 PKPbc PKPbc 12 29 10.3 -3.5
comp=Z,31nm,0.8s,baz=246,slow=3.3,SNR=7.0
SNAA Sanae 153.45 195 PKPbc PKPbc 12 29 11.4 -4.4

comp=Z,3.6nm,0.8s,baz=176,slow=1.7,SNR=25
SNAA Sanae 153.45 195 *e*PKPdf PKPdf 12 29 06.0 -2.2
SNAA *e* 12 29 13.1
SNAA *e* 12 29 26.2
SNAA *e* 12 29 42.7
SNAA Sanae 153.45 195 PKIKP PKPdf 12 29 11.4 +3.2
SNAA pmax pmax
comp=Z,4.0nm,0.8s
SNAA Sanae 153.45 195 *e*PKPbc PKPbc 12 29 12.7 -3.1
VNA2 Neumayer--Watz 154.86 193 *e*PKPdf PKPdf 12 29 08.4 -1.7
VNA2 *e* 12 29 16.4
VNA2 *e* 12 29 32.7
VNA2 *e* 12 29 45.2
VNA3 Neumayer Olymp 154.91 191 *e*PKPdf PKPdf 12 29 07.8 -2.4
VNA3 *e* 12 29 17.2
VNA3 *e* 12 29 32.5
VNA3 *e* 12 29 44.6

CSEM ***15*** *12:10:15.5, 5969N× 1849E, h0km, ML4.2, Mining explosion. After UPP*

UPP 15 12:10:15.5, 5969N×1849E, h0km, ML4.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.07**	**96**	P	Pg	12 10 17.2	+0.3
FLYU	**Flymyra**	**0.54**	**326**	P	Pg	12 10 25.6	-0.2
GRAU	**Graesoe**	**0.65**	**2**	P	Pg	12 10 27.9	-0.1
	baz=92						
BACU	**Backbrunna**	**0.72**	**284**	P	Pg	12 10 29.3	0.0
NYNU	**Nynaeshamn**	**0.73**	**200**	P	Pg	12 10 29.1	-0.3
OSTU	**Oestervaala**	**0.87**	**309**	P	Pg	12 10 31.6	-0.6

ISCJB ***15*** *12:13:58.5±0.6, 460N±0.1× 1544E±0.1, h10km, mb4.5/24, Error ellipse: s-maj=15.3km s-min=8.8km az=131.5*
IDC ***15*** *12:13:58.7±0.7, 4596N× 15447E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/27, mbtmp4.2/18, ML3.9/2, Error ellipse: s-maj=20.7km s-min=16.5km az=156.0*
NEIC ***15*** *12:14:00.3±0.7, 4596N× 15438E, h10km, mb4.9/8, Error ellipse: s-maj=17.5km s-min=10.7km az=156.0*
BJI ***15*** *12:14:01.8, 4656N× 15407E, h10km, mB4.9, mb5.0*
MOS ***15*** *12:14:01.3±1.3, 4596N× 15422E, h26km, mb5.1/5, Error ellipse: s-maj=15.0km s-min=11.8km az=112.3*

ISC 15 12:14:02.3±4.2, 460N±0.1×1544E±0.1, h23km±29km, n46, σ1f21/45, mb4.5/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.07**	**281**	*e*P	**Pn**	**12 15 59.5**	**+1.4**
ASAJ	**Asahikawa**	**8.54**	**261**	Pn	**Pn**	**12 16 04.1**	**-0.5**
	1.9nm,0.3s,baz=69,slow=16,SNR=5.4						
ASAJ	**Asahikawa**	**8.54**	**261**	P	**Pn**	**12 16 04.1**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.37**	**238**	Pn	**Pn**	**12 17 35.3**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=12,slow=16,SNR=3.5						
MDJ	**Mudanjiang**	**17.46**	**274**	*e*P	**Pn**	**12 18 02.9**	**-1.4**
	comp=Z,58nm,1.4s						
KSRS	**Korea Array**	**21.43**	**256**	P	**P**	**12 18 49.6**	**+0.8**
	comp=Z,5.9nm,1.1s,mb3.9,baz=70,slow=11,SNR=4.1						
BILL	**Bilibino**	**22.93**	**11**	*e*P	**P**	**12 19 06.0**	**+1.4**
BILL				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5						
BILL	**Bilibino**	**22.93**	**11**	*e*P	**P**	**12 19 05.7**	**+1.0**
	comp=Z,51nm,1.6s,mb4.7						
NJ2	**Nanjing**	**30.63**	**255**	*e*P	**P**	**12 20 19.4**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SONM	**Songino Array**	**32.40**	**291**	P	**P**	**12 20 32.4**	**+2.0**
	comp=Z,3.0nm,1.0s,mb4.1,baz=81,slow=6.8,SNR=3.8						
KDAK	**Kodiak Island**	**33.90**	**50**	P	**P**	**12 20 41.7**	**-1.7**
	comp=Z,18nm,1.0s,mb5.0,baz=309,slow=5.9,SNR=3.6						
LZH	**Lanzhou**	**38.79**	**274**	*e*P	**P**	**12 21 26.8**	**+1.7**
LZH				AP	pP	12 21 30.5	-1.5
LZH				XP	sP	12 21 32.3	-2.5
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,80nm,5.0s						
LZH	**Lanzhou**	**38.79**	**274**	*e*P	**P**	**12 21 26.8**	**+1.7**
	comp=Z,18nm,1.2s,mb4.7						
LZH				pP	pP	12 21 30.5	-1.5
LZH				sP	sP	12 21 32.3	-2.5
INK	**Inuvik**	**41.81**	**32**	*e*P	**P**	**12 21 53.0**	**+2.8**
INK				pmax	pmax		
	comp=Z,108nm,0.6s						
INK	**Inuvik**	**41.81**	**32**	*e*P	**P**	**12 21 53.0**	**+2.8**
	comp=Z,108nm,0.6s,mb5.7						
MKAR	**Makanchi Array**	**49.05**	**298**	P	**P**	**12 22 38.8**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.7,baz=72,slow=7.3,SNR=11						
LSA	**Lhasa**	**51.19**	**275**	*e*P	**P**	**12 23 06.0**	**+2.3**
CHKZ	**Chkalovo**	**51.57**	**311**	*e*P	**P**	**12 23 05.3**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**51.57**	**311**	*e*P	**P**	**12 23 05.2**	**-1.3**
	comp=Z,7.6nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**12 23 09.5**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.4,baz=56,slow=6.6,SNR=5.0						
BRVK	**Borovoye**	**52.03**	**310**	*e*P	**P**	**12 23 09.4**	**-0.7**
ZRNK	**Zerenda**	**52.76**	**311**	*e*P	**P**	**12 23 14.8**	**-0.7**
ARCES	**ARCESS Array B**	**58.83**	**341**	P	**P**	**12 23 58.3**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.5,baz=22,slow=7.8,SNR=4.1						
NVAR	**Mina Array Bea**	**62.00**	**63**	P	**P**	**12 24 21.4**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.9,baz=297,slow=7.9,SNR=4.4						
PDAR	**Pinedale Array**	**64.48**	**54**	P	**P**	**12 24 37.1**	**+0.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=249,slow=3.0,SNR=3.6						
FINES	**FINESS Array B**	**65.07**	**335**	P	**P**	**12 24 40.6**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=35,slow=8.8,SNR=6.8						
WRA	**Warramunga Ar**	**68.11**	**200**	P	**P**	**12 25 00.5**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=21,slow=6.6,SNR=5.7						
NB2	**NORSAR Subarra**	**69.20**	**342**	P	**P**	**12 25 10.9**	**+3.8**
	comp=Z,3.1nm,0.7s,mb4.3,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.20**	**342**	P	**P**	**12 25 08.6**	**+1.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=3.8						
HFS	**Hagfors**	**69.44**	**340**	P	**P**	**12 25 10.3**	**+1.7**
	comp=Z,2.7nm,0.4s,mb4.5,baz=57,slow=5.7,SNR=9.5						
ASAR	**Alice Springs**	**71.80**	**200**	P	**P**	**12 25 23.9**	**+0.9**
	comp=Z,1.6nm,0.9s,mb4.0,baz=19,slow=5.7,SNR=6.3						
TXAR	**Lajitas Array**	**77.09**	**61**	P	**P**	**12 25 53.5**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=306,slow=4.1,SNR=5.6						
TXAR	**Lajitas Array**	**77.09**	**61**	P	**P**	**12 25 53.5**	**-0.3**
MLR	**Muntele Rosu**	**78.16**	**326**	P	**P**	**12 25 59.8**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=123,slow=8.4,SNR=3.7						
BRTR	**Keskin Array B**	**79.52**	**318**	P	**P**	**12 26 07.0**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.1,baz=88,slow=1.0,SNR=5.3						
CDF	**Champ du Feu**	**81.66**	**339**	*e*P	**P**	**12 26 17.3**	**-1.4**
	comp=Z,25nm,1.1s,mb4.8						
CDF	**Champ du Feu**	**81.66**	**339**	*e*P	**P**	**12 26 17.3**	**-1.4**
CDF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
CDF	**Champ du Feu**	**81.66**	**339**	*e*P	**P**	**12 26 17.3**	**-1.4**
	comp=Z,13nm,1.1s,mb4.8						
GRR	**Gorron**	**83.52**	**344**	*e*P	**P**	**12 26 26.8**	**-1.5**
	comp=Z,64nm,1.4s,mb5.3						
GRR	**Gorron**	**83.52**	**344**	*e*P	**P**	**12 26 26.8**	**-1.5**
GRR				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.3						
GRR	**Gorron**	**83.52**	**344**	*e*P	**P**	**12 26 26.8**	**-1.5**
	comp=Z,32nm,1.4s,mb5.3						
SMF	**Signal de Mont**	**84.15**	**340**	*e*P	**P**	**12 26 30.4**	**-1.2**
LPG	**La Plagne**	**84.50**	**338**	*e*P	**P**	**12 26 33.2**	**-0.1**
	comp=Z,22nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.50**	**338**	*e*P	**P**	**12 26 33.2**	**-0.1**
LPG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.50**	**338**	*e*P	**P**	**12 26 33.2**	**-0.1**
	comp=Z,11nm,1.1s,mb4.9						
SNAA	**Sanae**	**152.08**	**195**	PKPbc	PKPbc	12 33 52.2	-3.6
	comp=Z,0.4nm,0.7s,baz=101,slow=14,SNR=3.5						

ISCJB ***15*** *12:15:22.5±0.2, 4630N×004×15441E±0.04, h13km, mb5.1/18, Error ellipse: s-maj=6.3km s-min=3.0km az=133.7*
IDC ***15*** *12:15:22.2±0.4, 4628N× 15447E, h0km, mb4.7/30, mb1 4.8/32, mb1mx4.8/36, mbtmp4.7/32, ML4.5/1, Error ellipse: s-maj=13.8km s-min=11.0km az=140.0*
MOS ***15*** *12:15:23.9±1.0, 4632N× 15432E, h25km, mb5.3/37, Error ellipse: s-maj=8.4km s-min=6.0km az=81.4*
NEIC ***15*** *12:15:23.8±0.2, 4630N× 15441E, h10km, mb5.3/74, Error ellipse: s-maj=6.1km s-min=3.4km az=161.0*
BJI ***15*** *12:15:23.8, 4630N× 15440E, h10km, mb5.3*

ISC 15 12:15:24.5±0.2, 4635N×004×15438E±004, h14km, h14km±1.7km; pP-P, n262, σ0.98/252, mb5.1/118, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.49**	**14**	*e*PN	**Pn**	**12 16 33.0**	**+0.9**
PET	**Petropavlovsk**	**7.23**	**21**	*e*PN	**Pn**	**12 17 06.0**	**-3.8**
PET				pmax	pmax		
	comp=Z,441nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.03**	**279**	*e*PN	**Pn**	**12 17 23.4**	**+2.7**
JMP	**Maruseppu**	**8.13**	**257**	P	**Pn**	**12 17 22.5**	**+0.4**
ASAJ	**Asahikawa**	**8.61**	**259**	Pn	**Pn**	**12 17 30.4**	**+1.6**
	comp=Z,6.6nm,0.3s,baz=83,slow=26,SNR=10						
ASAJ	**Asahikawa**	**8.61**	**259**	P	**Pn**	**12 17 33.3**	**+4.6**
ASAJ	**Asahikawa**	**8.61**	**259**	PN	**Pn**	**12 17 30.4**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
JEM	**Erimo**	**9.15**	**246**	P	**Pn**	**12 17 36.8**	**+0.7**
ERM	**Erimo**	**9.15**	**246**	*e*PN	**Pn**	**12 17 36.7**	**+0.6**
ERM				pmax	pmax		
	comp=Z,456nm,0.9s						
ERM	**Erimo**	**9.15**	**246**	*e*Pn	**Pn**	**12 17 36.7**	**+0.5**
	comp=Z,456nm,0.9s						
JEW	**Eniwo**	**9.87**	**254**	P	**Pn**	**12 17 46.9**	**+1.0**
JSH	**Shimam**	**10.89**	**255**	P	**Pn**	**12 18 00.4**	**+0.5**
JTM	**Tenmabayashi**	**11.14**	**245**	P	**Pn**	**12 18 00.8**	**-2.5**
JTM				*e*S	**Sn**	**12 19 57.7**	**-10**
JOM	**Ohasama**	**11.80**	**239**	P	**Pn**	**12 18 09.3**	**-3.0**
JOM				*e*S	**Sn**	**12 20 13.4**	**-10**
MA2	**Magadan**	**13.42**	**352**	*e*PN	**Pn**	**12 18 34.5**	**-0.1**
MA2				pmax	pmax		
	comp=N,20nm,0.6s						
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
JYT	**Yasato**	**14.68**	**231**	S	Sx	12 21 20.9	
JRY	**Ryogami san**	**15.54**	**234**	P	**Pn**	**12 19 01.1**	**-2.1**
MJAR	**Matsushiro Arr**	**15.56**	**237**	Pn	**Pn**	**12 19 01.5**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=35,slow=13,SNR=5.9						
MAJO	**Matsushiro**	**15.56**	**237**	*e*P	**Pn**	**12 19 01.2**	**-2.3**
MAT	**Matsushiro**	**15.56**	**237**	P	**Pn**	**12 19 01.1**	**-2.4**
MAT	**Matsushiro**	**15.56**	**237**	P	**Pn**	**12 19 01.0**	**-2.5**
JOD2	**Odawara 2**	**15.99**	**251**	P	**Pn**	**12 19 07.4**	**-1.6**
SEY	**Seymchan**	**16.66**	**357**	*e*P	**Pn**	**12 19 16.3**	**-1.2**
MDJ	**Mudanjiang**	**17.45**	**273**	P	**Pn**	**12 19 27.4**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,40nm,1.3s						
MDJ	**Mudanjiang**	**17.45**	**273**	*e*P	**Pn**	**12 19 27.2**	**-0.3**
	comp=Z,77nm,1.0s						
JWT	**Wachi**	**18.08**	**239**	P	**Pn**	**12 19 34.2**	**-1.0**
JWZ	**Kozaga**	**19.14**	**235**	P	**Pn**	**12 19 49.2**	**+1.0**
YAK	**Yakutsk**	**21.13**	**327**	*e*P	**P**	**12 20 06.6**	**-2.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**21.13**	**327**	*e*P	**P**	**12 20 06.0**	**-2.9**
KSRS	**Korea Array**	**21.53**	**255**	P	**P**	**12 20 15.1**	**+1.9**
	comp=Z,20nm,0.8s,mb4.6,baz=56,slow=11,SNR=22						
JNU	**Nakatsue**	**22.29**	**242**	P	**P**	**12 20 22.8**	**+1.5**
	comp=Z,26nm,0.9s,mb4.7,baz=227,slow=19,SNR=2.4						
INCN	**Inchon**	**22.38**	**257**	*e*P	**P**	**12 20 21.6**	**-0.7**
	comp=Z,26nm,0.6s,mb4.8						
SNY	**Shenyang**	**22.50**	**270**	⇑P	**P**	**12 20 24.3**	**+0.7**
SNY				AMB	AMB		
	comp=Z,206nm,0.7s,mb5.7						
BILL	**Bilibino**	**22.60**	**12**	*e*P	**P**	**12 20 22.5**	**-2.1**
BILL				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.5						
BILL	**Bilibino**	**22.60**	**12**	*e*P	**P**	**12 20 23.6**	**-1.0**
	comp=Z,119nm,1.3s,mb5.2						
HIA	**Hailar**	**23.33**	**290**	*e*P	**P**	**12 20 30.6**	**-1.7**
BOD	**Bodaibo**	**26.92**	**310**	*e*P	**P**	**12 21 03.4**	**-1.8**
BOD				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
BJT	**Baijiatuan**	**28.37**	**271**	*e*P	**P**	**12 21 21.1**	**+2.9**
BJT				pmax	pmax		
	comp=Z,44nm,1.1s						
BJT	**Baijiatuan**	**28.37**	**271**	*e*P	**P**	**12 21 21.1**	**+2.9**
	comp=Z,44nm,1.1s,mb5.0						
NJ2	**Nanjing**	**30.73**	**255**	*e*P	**P**	**12 21 41.8**	**+2.7**
NJ2				AP	pP	12 21 45.3	+2.0
NJ2				XP	sP	12 21 47.8	+2.8
NJ2				PP	PP	12 22 42.8	-5.7
HHC	**Hu-ho-hao-te**	**31.20**	**276**	*e*P	**P**	**12 21 43.3**	**0.0**
HHC				XP	sP	12 21 50.3	+1.1
HHC				PP	PP	12 22 45.9	-7.8
HHC				AMB	AMB		
	comp=Z,363nm,2.0s,mb5.9						
ULN	**Ulaanbaatar**	**31.86**	**290**	*e*P	**P**	**12 21 47.8**	**-1.3**
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**12 21 52.5**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.2,baz=70,slow=9.6,SNR=5.7						
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**12 21 58.6**	**-1.7**
TLY				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**12 21 58.6**	**-1.7**
	comp=Z,14nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**33.64**	**296**	*e*P	**P**	**12 22 03.7**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
KDAK	**Kodiak Island**	**33.68**	**51**	P	**P**	**12 22 04.0**	**-1.0**
	comp=Z,18nm,0.7s,mb5.1,baz=277,slow=3.8,SNR=6.7						
PMR	**Palmer**	**35.28**	**44**	P	**P**	**12 22 18.0**	**-0.9**
PMR				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
PMR	**Palmer**	**35.28**	**44**	P	**P**	**12 22 18.0**	**-0.9**
	comp=Z,38nm,1.3s,mb5.2						
MCK	**McKinley**	**35.39**	**40**	*e*P	**P**	**12 22 19.5**	**-0.3**
MCK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
MCK	**McKinley**	**35.39**	**40**	*e*P	**P**	**12 22 19.5**	**-0.4**
	comp=Z,22nm,1.2s,mb5.0						
COLA	**College**	**35.91**	**38**	*e*P	**P**	**12 22 24.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,82nm,0.9s,mb5.7						
COLA	**College**	**35.91**	**38**	*e*P	**P**	**12 22 24.4**	**+0.1**
	comp=Z,82nm,0.8s,mb5.7						
EGAK	**Eagle**	**38.77**	**38**	*e*P	**P**	**12 22 47.8**	**-0.7**
	comp=Z,92nm,0.9s,mb5.5						
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**12 22 51.4**	**+2.8**
LZH				AP	pP	12 22 54.8	+2.0
LZH				XP	sP	12 22 56.4	+1.9
LZH				AMB	AMB		
	comp=Z,90nm,1.5s,mb5.3						
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**12 22 51.4**	**+2.8**
	comp=Z,90nm,1.5s,mb5.3						
LZH				pP	pP	12 22 54.7	+1.9
LZH				sP	sP	12 22 56.4	+1.9
DAWY	**Dawson**	**39.60**	**39**	*e*P	**P**	**12 22 55.6**	**+0.2**
INK	**Inuvik**	**41.52**	**32**	P	**P**	**12 23 11.8**	**+0.5**
	comp=Z,15nm,0.7s,mb4.7,baz=288,slow=6.1,SNR=26						
INK	**Inuvik**	**41.52**	**32**	*e*P	**P**	**12 23 12.1**	**+0.8**
	comp=Z,480nm,0.6s						
CD2	**Chengdu**	**41.72**	**267**	*e*P	**P**	**12 23 13.0**	**0.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
GYA	**Guiyang**	**42.49**	**259**	⇑P	**P**	**12 23 20.3**	**+1.0**
GYA				AP	pP	12 23 24.5	+1.0
GYA				XP	sP	12 23 27.5	+2.3
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
DLBC	**Dease Lake**	**45.24**	**46**	*e*P	**P**	**12 23 42.8**	**+1.4**
QIZ	**Qiongzhong**	**45.51**	**248**	*e*P	**P**	**12 23 43.5**	**0.0**
QIZ				AMB	AMB		
	comp=Z,30nm,2.5s,mb4.8						
WMQ	**Urumqi**	**45.89**	**292**	⇑P	**P**	**12 23 47.0**	**+0.5**
WMQ				AP	pP	12 23 52.0	+1.2
WMQ				XP	sP	12 23 54.0	+1.5
WMQ				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.2						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**12 24 02.1**	**-0.1**
	comp=Z,9.9nm,0.8s,mb4.9,baz=64,slow=6.8,SNR=20						
KURK	**Kurchatov**	**48.31**	**304**	*e*P	**P**	**12 24 04.7**	**-0.7**
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**12 24 23.4**	**-0.3**
	comp=Z,6.0nm,0.5s,mb4.8,baz=296,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**12 24 23.4**	**-0.3**
RES	**Resolute Bay**	**50.94**	**19**	*e*P	**P**	**12 24 25.6**	**+0.3**
	comp=Z,23nm,0.7s,mb5.2						
CHKZ	**Chkalovo**	**51.36**	**311**	*e*P	**P**	**12 24 28.1**	**-0.5**
BVAR	**Borovoye Array**	**51.79**	**310**	P	**P**	**12 24 30.8**	**-0.9**
	comp=Z,3.2nm,0.3s,mb4.7,baz=53,slow=8.3,SNR=13						
BRVK	**Borovoye**	**51.83**	**310**	*e*P	**P**	**12 24 32.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
BRVK	**Borovoye**	**51.83**	**310**	*e*P	**P**	**12 24 32.0**	**-0.1**
	comp=Z,18nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**12 24 37.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**12 24 37.5**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.3						
CM31	**Chiang Mai Arr**	**53.13**	**258**	*e*P	**P**	**12 24 42.4**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**54.80**	**297**	P	**P**	**12 24 54.2**	**+0.3**
	comp=Z,70nm,0.8s,mb5.7,SNR=6.2						
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**12 24 51.9**	**-2.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**12 24 53.7**	**-0.2**
	comp=Z,10nm,0.8s,mb4.9						
KSH	**Kashi**	**55.62**	**293**	*e*P	**P**	**12 25 03.5**	**+3.7**
KSH				*e*AP	pP	12 25 08.8	+4.6
KSH				*e*XP	sP	12 25 11.9	+6.0
KSH				*e*PCP	PcP	12 26 02.0	+2.6
JIRN	**Jiri**	**55.85**	**276**	*e*P	**P**	**12 25 03.5**	**+2.0**
	comp=Z,21nm,0.4s,mb5.5						
PMG	**Port Moresby**	**55.88**	**189**	P	**P**	**12 25 01.1**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.5,baz=333,slow=9.6,SNR=4.2						
PMG	**Port Moresby**	**55.88**	**189**	*e*P	**P**	**12 25 01.1**	**-0.6**
PMG				pmax	pmax		
	comp=Z,17nm,1.4s						
PMG	**Port Moresby**	**55.88**	**189**	*e*P	**P**	**12 25 01.1**	**-0.6**
	comp=Z,17nm,1.4s,mb4.9						
ARU	**Arti**	**55.90**	**318**	P	**P**	**12 25 01.6**	**-0.2**
	comp=Z,243nm,0.5s,SNR=5.3						
ARU	**Arti**	**55.90**	**318**	⇓*i*P	**P**	**12 24 59.1**	**-2.7**
ARU				*e*		12 27 02.1	
ARU				*e*S	**S**	**12 32 45.6**	**-3.4**
ARU				*e*SS	SS	12 36 27.9	-6.9
ARU				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
ARU	**Arti**	**55.90**	**318**	*e*P	**P**	**12 25 01.6**	**-0.3**
GUN	**Gumba**	**55.91**	**276**	*e*P	**P**	**12 25 04.0**	**+2.1**
	comp=Z,46nm,0.6s,mb5.7						
EDM	**Edmonton**	**55.96**	**46**	*e*P	**P**	**12 25 01.8**	**-0.5**
KKN	**Kakani**	**56.40**	**276**	*e*P	**P**	**12 25 07.2**	**+1.8**
	comp=Z,35nm,0.6s,mb5.5						
HAWA	**Hanford**	**56.41**	**56**	*e*P	**P**	**12 25 04.8**	**-0.7**
	comp=Z,26nm,1.3s,mb5.1						
PKI	**Pulchoki**	**56.45**	**276**	*e*P	**P**	**12 25 07.7**	**+1.9**
HUMO	**Hull Mountain**	**56.51**	**61**	*e*P	**P**	**12 25 06.2**	**0.0**
	comp=Z,24nm,1.4s,mb5.0						
DMN	**Daman**	**56.63**	**276**	*e*P	**P**	**12 25 09.0**	**+1.9**
	comp=Z,61nm,0.9s,mb5.6						
GKN	**Gorkha**	**56.71**	**277**	*e*P	**P**	**12 25 09.4**	**+1.8**
	comp=Z,24nm,0.4s,mb5.6						
NEW	**Newport**	**56.72**	**53**	P	**P**	**12 25 07.2**	**-0.6**
	comp=Z,14nm,1.2s,mb4.9,baz=311,slow=7.5,SNR=9.0						
NEW	**Newport**	**56.72**	**53**	P	**P**	**12 25 07.2**	**-0.5**
NEW				pmax	pmax		
	comp=Z,14nm,1.2s						
NEW	**Newport**	**56.72**	**53**	*e*P	**P**	**12 25 07.1**	**-0.6**
	comp=Z,26nm,1.3s,mb5.1						
YBH	**Yreka Blue Hor**	**57.16**	**62**	P	**P**	**12 25 11.4**	**+0.5**
	comp=Z,17nm,1.1s,mb5.0,baz=331,slow=10,SNR=11						
YBH	**Yreka Blue Hor**	**57.16**	**62**	*e*P	**P**	**12 25 11.8**	**+1.0**
YBH				pmax	pmax		
	comp=Z,26nm,1.3s						
YBH	**Yreka Blue Hor**	**57.16**	**62**	*e*P	**P**	**12 25 11.8**	**+0.9**
	comp=Z,26nm,1.3s,mb5.1						
KOLN	**Koldanda**	**57.57**	**278**	*e*P	**P**	**12 25 15.7**	**+2.0**
	comp=Z,38nm,0.7s,mb5.5						
WDC	**Whiskeytown Da**	**57.93**	**63**	*e*P	**P**	**12 25 16.6**	**+0.3**
WDC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WDC	**Whiskeytown Da**	**57.93**	**63**	*e*P	**P**	**12 25 16.6**	**+0.4**
	comp=Z,7.3nm,0.9s,mb4.7						
WALA	**Waterton Lakes**	**58.02**	**51**	*e*P	**P**	**12 25 16.8**	**-0.1**
	comp=Z,40nm,1.3s,mb5.3						
ARCES	**ARCESS Array B**	**58.52**	**341**	P	**P**	**12 25 20.6**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.7,baz=35,slow=7.1,SNR=9.2						
MOD	**Modoc**	**58.52**	**61**	*e*P	**P**	**12 25 21.0**	**+0.6**
	comp=Z,20nm,1.3s,mb5.0						
BMO	**Blue Mountains**	**58.57**	**56**	*e*P	**P**	**12 25 20.8**	**+0.1**
	comp=Z,33nm,1.3s,mb5.6						
WVOR	**

comp=Z,49nm,1.8s,mb5.2
HWUT Hardware Ranch 63.87 56 *e*P **P 12 25 57.0 +0.3**
comp=Z,29nm,1.3s,mb5.2
DUG Dugway 64.04 58 *e*P **P 12 25 57.9 +0.1**
DUG pmax pmax
comp=Z,44nm,1.3s,mb5.3
DUG Dugway 64.04 58 *e*P **P 12 25 57.9 +0.1**
comp=Z,44nm,1.3s,mb5.3
BW06 Boulder Array 64.27 54 *e*P **P 12 25 59.1 -0.2**
comp=Z,40nm,1.2s,mb5.3
PDAR Pinedale Array 64.27 54 P **P 12 25 59.0 -0.3**
comp=Z,15nm,0.9s,mb5.0,baz=273,slow=1.9,SNR=44
JLU Jordanelle 64.58 57 *e*P **P 12 26 01.5 +0.2**
NLU North Lily Min 64.63 58 *e*P **P 12 26 01.7 0.0**
GSC Goldstone 64.74 65 *e*P **P 12 26 01.9 -0.5**
FINES FINESS Array B 64.77 335 P **P 12 26 03.0 +0.5**
comp=Z,4.7nm,0.4s,mb4.9,baz=38,slow=9.0,SNR=13
DAU Daniels Canyon 64.82 57 *e*P **P 12 26 03.7 +0.9**
ARUT Antelope Range 65.22 61 *e*P **P 12 26 05.5 +0.1**
CCUT Cedar City 65.42 61 *e*P **P 12 26 07.2 +0.4**
MSU Marysvale 65.50 59 *e*P **P 12 26 07.8 +0.5**
TMUT Trail Mountain 65.57 58 *e*P **P 12 26 08.0 +0.3**
PFO Pinyon Flat Ob 66.06 66 *e*P **P 12 26 10.6 -0.3**
PFO pmax pmax
comp=Z,27nm,1.6s,mb5.0
PFO Pinyon Flat Ob 66.06 66 *e*P **P 12 26 10.6 -0.3**
comp=Z,27nm,1.6s,mb5.0
SRU San Rafael 66.09 58 P **P 12 26 11.1 0.0**
SRU pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
SRU San Rafael 66.09 58 *e*P **P 12 26 11.1 0.0**
comp=Z,8.4nm,0.4s,mb5.1
OBN Obninsk 66.13 326 *e*P **P 12 26 09.1 -2.3**
OBN *e* 12 26 39.9
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.9
OBN Obninsk 66.13 326 *e*P **P 12 26 10.7 -0.6**
comp=Z,68nm,1.9s,mb5.4
ULM Lac du Bonnet 66.25 41 P **P 12 26 11.4 -0.7**
comp=Z,5.0nm,1.0s,mb4.5,baz=338,slow=5.8,SNR=3.7
ULM Lac du Bonnet 66.25 41 *e*P **P 12 26 11.4 -0.7**
comp=Z,13nm,1.1s,mb4.9
RWWY Rawlins 66.30 54 *e*P **P 12 26 12.1 -0.3**
comp=Z,70nm,1.8s,mb5.4
RSSD Black Hills 66.41 50 *e*P **P 12 26 13.0 -0.1**
RSSD pmax pmax
comp=Z,32nm,1.0s,mb5.3
RSSD Black Hills 66.41 50 *e*P **P 12 26 13.0 -0.2**
comp=Z,32nm,1.0s,mb5.3
GLA Glamis 67.45 65 *e*P **P 12 26 17.5 -2.3**
GLA Glamis 67.45 65 *e*P **P 12 26 19.7 -0.1**
PHWY Pilot Hill 67.53 53 *e*P **P 12 26 20.2 -0.1**
AGMN Agassiz Refuge 67.63 43 *e*P **P 12 26 20.2 -0.7**
comp=Z,36nm,1.4s,mb5.2
WUAZ Wupatki 67.96 61 *e*P **P 12 26 23.4 +0.5**
comp=Z,46nm,1.5s,mb5.3
SMCO Snowmass 68.11 56 *e*P **P 12 26 15.2 -8.8**
comp=Z,28nm,1.3s,mb5.1
WRAB Tennant Creek 68.42 200 P **P 12 26 25.3 -0.5**
comp=Z,113nm,0.8s,mb6.0,SNR=7.3
WRAB Tennant Creek 68.42 200 *e*P **P 12 26 25.3 -0.5**
WRAB pmax pmax
comp=Z,39nm,1.4s,mb5.2
WRAB Tennant Creek 68.42 200 *e*P **P 12 26 25.3 -0.6**
comp=Z,39nm,1.4s,mb5.2
WB2 Warramunga Arr 68.43 200 *e*P **P 12 26 25.4 -0.5**
WRA Warramunga Arr 68.43 200 P **P 12 26 25.0 -1.0**
comp=Z,8.0nm,0.7s,mb4.9,baz=20,slow=6.9,SNR=36
MVCO Mesa Verde 68.55 58 *e*P **P 12 26 26.9 +0.2**
comp=Z,40nm,1.3s,mb5.2
NB2 NORSAR Subarra 68.89 342 P **P 12 26 30.2 +1.4**
comp=Z,6.1nm,0.8s,mb4.6,baz=28,slow=6.5
NOA NORSAR Array B 68.89 342 P **P 12 26 28.5 -0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=27,slow=6.4,SNR=6.8
NOA NORSAR Array B 68.89 342 P **P 12 26 28.5 -0.3**
HFS Hagfors 69.14 340 P **P 12 26 29.8 -0.5**
comp=Z,5.1nm,0.4s,mb4.8,baz=56,slow=5.6,SNR=16
FITZ Fitzroy Crossi 69.21 209 *e*P **P 12 26 31.0 +0.2**
comp=Z,11nm,0.7s,mb4.9
EYMN Ely 69.91 41 *e*P **P 12 26 33.7 -1.4**
comp=Z,61nm,1.8s,mb5.2
SDCO Great Sand Dun 69.93 56 *e*P **P 12 26 35.4 +0.2**
comp=Z,29nm,1.4s,mb5.0
ECSD EROS,Sioux Fal 70.53 47 *e*P **P 12 26 37.8 -1.1**
comp=Z,61nm,1.2s,mb5.4
LAZ Ladron 71.27 60 *e*P **P 12 26 43.9 +0.5**
ANMO Albuquerque 71.29 59 *e*P **P 12 26 43.6 +0.1**
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO Albuquerque 71.29 59 *e*P **P 12 26 43.8 +0.3**
comp=Z,16nm,1.1s,mb4.8
KIV Kislovodsk 71.70 315 *e*P **P 12 26 44.2 -1.8**
KIV pmax pmax
comp=Z,31nm,1.7s,mb5.0
AS31 Alice Springs 72.11 200 *e*P **P 12 26 48.9 +0.4**
ASAR Alice Springs 72.11 200 P **P 12 26 48.8 +0.3**
comp=Z,9.4nm,0.9s,mb4.7,baz=17,slow=6.3,SNR=44
ASPA Alice Springs 72.12 200 *e*P **P 12 26 48.9 +0.4**
AKASG Malin Array Be 72.36 327 P **P 12 26 50.3 +0.4**
comp=Z,1.9nm,0.4s,mb4.4,baz=33,slow=6.2,SNR=8.6
AKBB Malin Array Si 72.36 327 *e*P **P 12 26 50.9 +0.9**
SCIA State Center 73.57 46 *e*P **P 12 26 56.4 -0.7**
comp=Z,120nm,1.5s,mb5.1
MNTX Cornudas Mount 74.20 61 *e*P **P 12 27 00.5 -0.3**
comp=Z,2μm,1.4s
KWP Kalwaria 75.61 330 *e*P **P 12 27 07.5 -1.5**
KWP pmax pmax
comp=Z,43nm,0.6s,mb5.6
KWP Kalwaria 75.61 330 *e*P **P 12 27 07.5 -1.4**
comp=Z,44nm,0.6s,mb5.6
WMOK Wichita Mounta 75.89 54 *e*P **P 12 27 10.0 -0.5**
WMOK pmax pmax
comp=Z,40nm,1.4s,mb5.2
WMOK Wichita Mounta 75.89 54 *e*P **P 12 27 10.0 -0.5**
comp=Z,40nm,1.4s,mb5.2
LTX Lajitas 76.92 61 *e*P **P 12 27 16.2 -0.2**
LTX pmax pmax
comp=Z,86nm,1.3s,mb5.5
LTX Lajitas 76.92 61 *e*P **P 12 27 16.2 -0.2**
comp=Z,86nm,1.3s,mb5.5
TXAR Lajitas Array 76.92 61 P **P 12 27 16.6 +0.2**
comp=Z,24nm,0.7s,mb5.5,baz=302,slow=4.1,SNR=64
EKA Eskdalemuir Ar 76.93 347 P **P 12 27 18.3 +1.8**
comp=Z,4.4nm,0.5s,mb4.6,baz=18,slow=4.6,SNR=17
CLL Collm 77.19 336 *e*P **P 12 27 18.0 +0.1**
CLL *es*P sP 12 27 22.0 -2.1
MORC Moravsky Berou 77.20 333 P **P 12 27 18.2 +0.2**
MORC pmax pmax
comp=Z,20nm,1.5s,mb4.8
MORC Moravsky Berou 77.20 333 P **P 12 27 18.2 +0.2**
comp=Z,20nm,1.5s,mb4.8
BRG Berggiesshubel 77.31 336 *e*P **P 12 27 22.9 +4.3**
comp=Z,5.9nm,1.7s,mb4.2
BRG Berggiesshubel 77.31 336 *e*P **P 12 27 22.9 +4.3**
BRG pmax pmax
comp=Z,62nm,1.7s,mb5.3
MLR Muntele Rosu 77.89 326 P **P 12 27 22.2 +0.4**
comp=Z,4.4nm,0.5s,mb4.7,baz=21,slow=8.4,SNR=4.0
VRAC Vranov 77.91 333 P **P 12 27 21.5 -0.4**
comp=Z,5.1nm,0.7s,mb4.5,baz=74,slow=12,SNR=2.6
JCT Junction City 78.40 58 *e*P **P 12 27 24.1 -0.6**
JCT pmax pmax
comp=Z,47nm,1.3s,mb5.3
JCT Junction City 78.40 58 *e*P **P 12 27 24.1 -0.5**
comp=Z,47nm,1.3s,mb5.3
STKA Stephens Creek 78.72 191 P **P 12 27 25.8 -0.6**
comp=Z,4.9nm,0.6s,mb4.7,baz=343,slow=5.4,SNR=12
STKA Stephens Creek 78.72 191 *e*P **P 12 27 25.6 -0.8**
SIUC Southern Illin 78.75 46 *e*P **P 12 27 26.0 -0.6**
comp=Z,14nm,0.8s,mb4.9
GERES GERESS Array B 79.20 335 P **P 12 27 29.0 -0.1**
comp=Z,1.3nm,0.6s,baz=66,slow=3.6,SNR=5.8
BRTR Keskin Array B 79.28 318 P **P 12 27 30.1 +0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=22,slow=1.3,SNR=4.8
BRTR Keskin Array B 79.28 318 P **P 12 27 30.1 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CDF Champ du Feu 81.36 339 *e*P **P 12 27 39.7 -1.0**
comp=Z,43nm,1.2s,mb5.0
CDF Champ du Feu 81.36 339 *e*P **P 12 27 39.7 -1.0**
CDF pmax pmax
comp=Z,21nm,1.2s,mb4.9
CDF Champ du Feu 81.36 339 *e*P **P 12 27 39.7 -1.0**
comp=Z,21nm,1.2s,mb5.0
TKL Tuckaleechee C 83.05 44 P **P 12 27 48.4 -1.2**
comp=Z,13nm,1.1s,mb4.9,baz=117,slow=2.7,SNR=5.8
GRR Gorron 83.20 344 *e*P **P 12 27 49.5 -0.8**
comp=Z,138nm,1.7s,mb5.4
GRR Gorron 83.20 344 *e*P **P 12 27 49.5 -0.8**
GRR pmax pmax
comp=Z,69nm,1.7s,mb5.4
GRR Gorron 83.20 344 *e*P **P 12 27 49.5 -0.8**
comp=Z,69nm,1.7s,mb5.4
BLA Blacksburg 83.36 41 *e*P **P 12 27 50.8 -0.4**
BLA pmax pmax
comp=Z,11nm,0.9s,mb4.9
BLA Blacksburg 83.36 41 *e*P **P 12 27 50.8 -0.3**
comp=Z,11nm,0.9s,mb4.9
ASF Jabal al Asfar 83.62 311 P **P 12 27 52.1 -0.4**
comp=Z,3.0nm,0.6s,mb4.6,baz=114,slow=19,SNR=3.4
SMF Signal de Mont 83.84 340 *e*P **P 12 27 52.8 -0.8**
comp=Z,82nm,1.3s,mb5.4
SMF Signal de Mont 83.84 340 *e*P **P 12 27 52.8 -0.8**
SMF pmax pmax
comp=Z,41nm,1.3s,mb5.4
SMF Signal de Mont 83.84 340 *e*P **P 12 27 52.8 -0.8**
comp=Z,41nm,1.3s,mb5.4
LPG La Plagne 84.19 338 *e*P **P 12 27 55.6 +0.2**
comp=Z,79nm,1.3s,mb5.4
LPG La Plagne 84.19 338 *e*P **P 12 27 55.6 +0.2**
LPG pmax pmax
comp=Z,40nm,1.3s,mb5.4
LPG La Plagne 84.19 338 *e*P **P 12 27 55.6 +0.2**
comp=Z,40nm,1.3s,mb5.4
LHS Liberty Hill 85.43 43 *e*P **P 12 28 01.5 -0.1**
VNDA Vanda 123.68 178 PKP PKPdf 12 34 19.3 -2.4
comp=Z,1.0nm,1.0s,baz=339,slow=4.2,SNR=2.9
LPAZ La Paz 133.74 64 PKP PKPdf 12 34 41.7 +0.8
comp=Z,0.9nm,0.7s,baz=75,slow=4.1,SNR=3.6
LPAZ La Paz 133.74 64 PKIKP PKPdf 12 34 41.7 +0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 133.74 64 *e*PKPdf PKPdf 12 34 41.8 +0.9
CFAA Coronel Fontan 144.20 81 PKP PKPdf 12 34 57.1 -2.8
comp=Z,0.5nm,0.5s,baz=296,slow=3.9,SNR=6.1
SNAA Sanae 152.41 195 PKPbc PKPbc 12 35 17.8 -2.3
comp=Z,1.3nm,0.7s,baz=236,slow=4.1,SNR=7.5
SNAA PKPab PKPab 12 35 28.4 -1.9
comp=Z,4.0nm,0.8s,baz=153,slow=4.2,SNR=12
SNAA Sanae 152.41 195 *e*PKPdf PKPab 12 35 28.8 -1.5
SNAA *e* 12 36 02.9
SNAA *e* 12 36 06.0
SNAA *e* 12 36 15.4
SNAA *e* 12 36 24.8
VNA2 Neumayer--Watz 153.83 193 *e*PKPdf PKPab 12 35 35.1 -1.2
baz=139,slow=1.4
VNA2 *e* 12 36 06.1
VNA2 *e* 12 36 20.7
VNA2 *e* 12 36 23.9
VNA2 *e* 12 36 31.4
VNA3 Neumayer Olymp 153.89 192 *e*PKPdf PKPab 12 35 35.0 -1.5
VNA3 *e* 12 36 06.3
VNA3 *e* 12 36 21.2
VNA3 *e* 12 36 31.2
VNA1 Neumayer--Stat 154.21 193 *e*PKPdf PKPab 12 35 37.1 -0.8
VNA1 *e* 12 36 08.5
VNA1 *e* 12 36 23.4
VNA1 *e* 12 36 26.7
VNA1 *e* 12 36 33.2

*ISCJB **15** 12:16:02.0±1.7, 4698N±004×15445E±005, h0km±10km, mb5.6/156, Error ellipse: s-maj=7.4km s-min=4.9km az=115.7*
*IDC **15** 12:16:03.6±0.4, 47.16N×154.38E, h0km, mb5.1/37, mb1 5.2/37, mb1mx5.2/37, mbtmp5.1/37, Error ellipse: s-maj=13.7km s-min=11.0km az=101.0*
*BJI **15** 12:16:03.7, 47.47N×154.85E, h27km, mB5.8, mb5.4*
*NEIC **15** 12:16:05.5±0.3, 47.11N×154.42E, h10km, mb5.7/84, Error ellipse: s-maj=8.2km s-min=6.3km az=157.0*
*MOS **15** 12:16:09.5±1.7, 46.96N×154.29E, h53km, mb5.9/68, Error ellipse: s-maj=8.5km s-min=4.8km az=103.7*
*SZGRF **15** 12:16:09.8, 46.97N×155.21E, h33km, mb6.0, East of Kuril Islands, Russia*

ISC 15 12:16:07.7±1.4, 4705N±004×15441E±005, h26km±9km, h23km±1.5km: pP-P, n447, σ1.139/428, mb5.5/156, 21C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.58**	**23**	*e*PN	**Pn**	**12 17 52.1**	**+9.3**
PET				*e*S	**Sn**	**12 19 12.5**	**+16**
PET				pmax	pmax		
	comp=Z,441nm,1.1s						
PET				smax			
	comp=N,2μm,1.6s						
PET				smax			
	comp=E,1μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**6.71**	**246**	*e*PN	**Pn**	**12 17 46.0**	**+1.4**
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
NEM2	**Nemuro 2**	**7.14**	**242**	P	**Pn**	**12 17 48.9**	**-1.6**
NEM2				*e*S	**Sn**	**12 19 06.5**	**-4.2**
JRA	**Rausu**	**7.23**	**248**	P	**Pn**	**12 17 52.7**	**+1.0**
JRA				*e*S	**Sn**	**12 19 10.8**	**-2.1**
JNK	**Nakash**	**7.66**	**247**	P	**Pn**	**12 17 57.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.97**	**274**	i*e*PN	**Pn**	**12 18 03.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,250nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.97**	**274**	*e*Pn	**Pn**	**12 18 03.6**	**+1.8**
JAK	**Akkeshi**	**7.98**	**243**	*e*S	**Sn**	**12 19 27.9**	**-3.5**
JTKR	**Abashiri--Toko**	**7.99**	**251**	P	**Pn**	**12 18 03.3**	**+1.2**
JMP	**Maruseppu**	**8.33**	**253**	P	**Pn**	**12 18 09.7**	**+2.9**
JAR	**Ashorobuto**	**8.40**	**247**	P	**Pn**	**12 18 07.9**	**+0.2**
JSE	**Soyaes**	**8.49**	**260**	P	**Pn**	**12 18 14.9**	**+5.9**
JOB	**Onbets**	**8.56**	**245**	P	**Pn**	**12 18 09.7**	**-0.3**
JOB				*e*S	**Sn**	**12 19 42.9**	**-2.8**
ASAJ	**Asahikawa**	**8.79**	**255**	Pn	**Pn**	**12 18 15.4**	**+2.4**
	comp=Z,8.7nm,0.3s,baz=110,slow=8.4,SNR=14						
ASAJ	**Asahikawa**	**8.79**	**255**	P	**Pn**	**12 18 16.2**	**+3.2**
ASAJ	**Asahikawa**	**8.79**	**255**	PN	**Pn**	**12 18 15.5**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.79**	**253**	P	**Pn**	**12 18 15.3**	**+2.2**
JWK2	**Keihoku**	**8.85**	**263**	P	**Pn**	**12 18 16.5**	**+2.5**
JCH	**Churui**	**9.01**	**245**	P	**Pn**	**12 18 15.5**	**-0.6**
JCH				*e*S	**Sn**	**12 19 51.4**	**-5.3**
JSS	**Shosan**	**9.17**	**258**	P	**Pn**	**12 18 22.5**	**+4.2**
JFR	**Furan**	**9.21**	**249**	P	**Pn**	**12 18 22.4**	**+3.5**
JAB	**Ashibetsu**	**9.29**	**252**	P	**Pn**	**12 18 22.8**	**+1.8**
JBT2	**Biratori 2**	**9.55**	**248**	P	**Pn**	**12 18 23.4**	**-0.1**
JNBK	**Urakawa-nobuka**	**9.57**	**244**	P	**Pn**	**12 18 23.9**	**+0.1**
JNBK				*e*S	**Sn**	**12 20 08.0**	**-2.5**
JEW	**Eniwo**	**10.10**	**250**	P	**Pn**	**12 18 34.0**	**+2.9**
JKB	**Kayabe**	**10.86**	**247**	P	**Pn**	**12 18 38.8**	**-2.6**
JKB				*e*S	**Sn**	**12 20 33.4**	**-8.6**
JSH	**Shimam**	**11.11**	**252**	P	**Pn**	**12 18 44.5**	**-0.3**
JYM2	**Yakumo 2**	**11.15**	**249**	P	**Pn**	**12 18 45.2**	**-0.3**
JSR	**Shiriuchi**	**11.44**	**246**	P	**Pn**	**12 18 48.0**	**-1.4**
JANG	**Nango**	**11.46**	**239**	P	**Pn**	**12 18 45.4**	**-4.3**
JANG				*e*S	**Sn**	**12 20 44.5**	**-12**
JTM	**Tenmabayashi**	**11.47**	**242**	P	**Pn**	**12 18 46.8**	**-3.0**
JTM				*e*S	**Sn**	**12 20 49.1**	**-7.9**
JTH	**Tanohata**	**11.54**	**237**	P	**Pn**	**12 18 47.6**	**-3.2**
JTH				*e*S	**Sn**	**12 20 49.6**	**-9.2**
JOSM	**Okushiri--Mats**	**11.75**	**250**	P	**Pn**	**12 18 51.3**	**-2.3**
OFUJ	**Ofunato**	**12.24**	**234**	P	**Pn**	**12 18 56.6**	**-3.8**
OFUJ				*e*S	**Sn**	**12 21 04.7**	**-11**
JRU	**Rokugo**	**12.61**	**238**	P	**Pn**	**12 19 02.7**	**-2.7**
MA2	**Magadan**	**12.74**	**352**	*e*PN	**Pn**	**12 19 06.7**	**-0.4**
MA2				pmax	pmax		
	comp=Z,40nm,0.6s						
JOG2	**Oga 2**	**12.77**	**241**	P	**Pn**	**12 19 05.2**	**-2.4**
HABR	**Khabarovsk**	**13.10**	**283**	*e*PN	**Pn**	**12 19 14.5**	**+2.4**
MJAR	**Matsushiro Arr**	**15.97**	**235**	Pn	**Pn**	**12 19 47.1**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=31,slow=11,SNR=9.3						
MAT	**Matsushiro**	**15.97**	**235**	P	**Pn**	**12 19 47.1**	**-3.5**
MDJ	**Mudanjiang**	**17.45**	**271**	*e*P	**Pn**	**12 20 10.5**	**+1.3**
YAK	**Yakutsk**	**20.57**	**326**	*e*P	**P**	**12 20 49.4**	**+5.0**
YAK				pmax	pmax		
	comp=N,119nm,1.3s						
YAK				pmax	pmax		
	comp=Z,229nm,1.3s						
YAK				pmax	pmax		
	comp=E,193nm,1.4s						
YAK	**Yakutsk**	**20.57**	**326**	*e*P	**P**	**12 20 44.7**	**+0.3**
KSRS	**Korea Array**	**21.73**	**253**	P	**P**	**12 20 57.6**	**+0.6**
	comp=E,107nm,1.1s,mb5.2,baz=60,slow=10,SNR=14						
SNY Shenyang 22.54 268 ⇑P **P 12 21 03.6 -2.0**
SNY AMB AMB
comp=Z,48nm,1.0s,mb4.9
INCN Inchon 22.57 255 *e*P **P 12 21 05.0 -0.9**
comp=Z,215nm,0.9s,mb5.6
JNU Nakatsue 22.64 241 P **P 12 21 09.8 +3.2**
comp=Z,112nm,0.8s,mb5.3,baz=260,slow=22,SNR=8.6
HIA Hailar 23.11 288 *e*P **P 12 21 11.9 +0.2**
HIA pmax pmax
comp=Z,73nm,1.2s
HIA Hailar 23.11 288 *e*P **P 12 21 11.9 +0.2**
comp=Z,73nm,1.2s,mb5.0
DL2 Dalian 25.18 263 P **P 12 21 31.1 +0.1**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.3
JOW Kunigami 28.82 235 P **P 12 22 03.4 -0.3**
comp=Z,27nm,0.9s,mb5.0,baz=62,slow=7.9,SNR=4.4
TIA Tai'an 29.64 262 *e*P **P 12 22 11.3 +0.4**
ULN Ulaanbaatar 31.64 289 *e*P **P 12 22 28.2 -0.4**
ULN pmax pmax
comp=Z,15nm,0.9s,mb4.8
ULN Ulaanbaatar 31.64 289 *e*P **P 12 22 28.2 -0.4**
comp=Z,15nm,0.9s,mb4.8
SONM Songino Array 32.07 289 P **P 12 22 31.7 -0.7**
comp=Z,15nm,1.0s,mb4.8,baz=66,slow=8.6,SNR=14
KDAK Kodiak Island 33.23 51 P **P 12 22 40.2 -2.4**
comp=Z,22nm,0.7s,mb5.2,baz=332,slow=2.9,SNR=5.3
KDAK Kodiak Island 33.23 51 P **P 12 22 40.2 -2.4**
ZAK Zakamensk 33.36 295 *e*P **P 12 22 42.0 -1.7**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MCK McKinley 34.85 41 *e*P **P 12 22 55.1 -1.5**
MCK pmax pmax
comp=Z,47nm,1.1s,mb5.3
MCK McKinley 34.85 41 *e*P **P 12 22 55.1 -1.6**
comp=Z,47nm,1.1s,mb5.3
WHN Wuhan 34.86 256 *e*P **P 12 22 56.5 -0.2**
XAN Xi'an 36.42 266 P **P 12 23 10.3 +0.2**
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
LZH Lanzhou 38.77 272 *e*P **P 12 23 31.3 +1.4**
LZH AP pP 12 23 35.8 -1.9
LZH AMB AMB
comp=Z,150nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,800nm,5.0s
LZH Lanzhou 38.77 272 *e*P **P 12 23 31.2 +1.3**
LZH 12 25 00.9
LZH pmax pmax
comp=Z,150nm,1.0s,mb5.7
LZH Lanzhou 38.77 272 *e*P **P 12 23 31.2 +1.3**
comp=Z,150nm,1.0s,mb5.7
LZH pP pP 12 23 35.8 -1.9
LZH sP sP 12 23 37.5 -3.4
LZH PP PP 12 25 00.9 +2.0
DAWY Dawson 39.05 40 *e*P **P 12 23 31.1 -1.2**
GTA Gaotai 39.80 279 *e*P **P 12 23 39.3 +0.7**
GTA AP pP 12 23 43.9 -2.5
GTA XP sP 12 23 48.3 -1.3
GTA AMB AMB
comp=Z,65nm,1.0s,mb5.3
INK Inuvik 40.93 33 P **P 12 23 47.0 -0.9**
comp=Z,19nm,0.7s,mb4.8,baz=279,slow=9.1,SNR=11
INK Inuvik 40.93 33 P **P 12 23 47.0 -0.9**
CD2 Chengdu 41.79 266 P **P 12 23 55.0 0.0**
CD2 S **S 12 30 11.8 +1.0**
CD2 AMB AMB
comp=Z,340nm,1.0s,mb5.9
TGY Tagaytay City 43.10 232 P **P 12 24 06.6 +0.9**
comp=Z,117nm,0.4s,baz=16,slow=7.4,SNR=4.1
NVS Novosibirsk 43.71 308 *e*P **P 12 24 12.7 +2.1**
NVS pmax pmax
comp=N,107nm,2.4s
NVS pmax pmax
comp=E,262nm,2.4s
NVS pmax pmax
comp=Z,244nm,2.4s,mb5.5
DLBC Dease Lake 44.75 46 *e*P **P 12 24 20.1 +1.2**
WMQ Urumqi 45.65 292 P **P 12 24 26.5 +0.5**
KMI Kunming 46.17 260 P **P 12 24 30.3 +0.2**
KMI AP pP 12 24 36.4 -1.6
KMI AMB AMB
comp=Z,33nm,1.3s,mb5.1
KMI Kunming 46.17 260 P **P 12 24 30.2 +0.1**
KMI pmax pmax
comp=Z,33nm,1.3s,mb5.1
KMI Kunming 46.17 260 P **P 12 24 30.2 +0.1**
comp=Z,33nm,1.3s,mb5.1
KMI pP pP 12 24 36.4 -1.6
MKAR Makanchi Array 47.59 298 P **P 12 24 39.9 -1.4**
comp=Z,53nm,1.0s,mb5.5,baz=68,slow=8.0,SNR=18
KURK Kurchatov 47.94 304 *e*P **P 12 24 42.4 -1.6**
KURK pmax pmax
comp=Z,230nm,1.0s,mb6.2
KURK Kurchatov 47.94 304 *e*P **P 12 24 42.4 -1.6**
comp=Z,230nm,1.0s,mb6.2
YKA Yellowknife Ar 50.16 37 P **P 12 25 00.5 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=296,slow=7.1,SNR=6.6
YKA Yellowknife Ar 50.16 37 P **P 12 25 00.5 -0.4**
YKA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 51.14 274 *e*P **P 12 25 10.0 +1.6**
LSA pmax pmax
comp=Z,125nm,0.6s,mb6.0
LSA Lhasa 51.14 274 *e*P **P 12 25 09.9 +1.6**
comp=Z,125nm,0.6s,mb6.0
BVAR Borovoye Array 51.36 310 P **P 12 25 07.5 -2.5**
comp=Z,11nm,0.4s,mb5.1,baz=60,slow=7.6,SNR=14
ZRNK Zerenda 52.12 310 *e*P **P 12 25 12.8 -2.9**
ZRNK pmax pmax
comp=Z,39nm,1.0s,mb5.3
ZRNK Zerenda 52.12 310 *e*P **P 12 25 12.8 -2.8**
comp=Z,39nm,1.0s,mb5.3
IMP Imphal 52.38 267 *e*P **P 12 25 18.0 +0.4**
CHTO Chiang Mai 53.05 258 *e*P **P 12 25 23.2 +0.6**
CHTO pmax pmax
comp=Z,83nm,1.0s,mb5.6
CHTO Chiang Mai 53.05 258 *e*P **P 12 25 23.2 +0.6**
comp=Z,83nm,1.0s,mb5.6
SOKR Solikamsk 54.42 322 *e*P **P 12 25 31.7 -0.9**
SOKR pmax pmax
comp=Z,40nm,1.4s,mb5.2
AAK Ala-Archa 54.50 297 *e*P **P 12 25 30.5 -2.7**
AAK pmax pmax
comp=Z,75nm,0.9s,mb5.6
AAK Ala-Archa 54.50 297 *e*P **P 12 25 30.5 -2.7**
comp=Z,75nm,0.9s,mb5.6
ARU Arti 55.39 318 *e*P **P 12 25 37.8 -1.8**
ARU Arti 55.39 318 *e*P **P 12 25 37.8 -1.8**
EDM Edmonton 55.47 47 *e*P **P 12 25 39.8 -0.4**
JIRN Jiri 55.81 275 *e*P **P 12 25 43.2 +0.6**
comp=Z,666nm,0.9s
GUN Gumba 55.86 276 *e*P **P 12 25 43.2 +0.2**
HAWA Hanford 56.01 56 *e*P **P 12 25 45.2 +1.2**
comp=Z,19nm,1.1s,mb5.0
NEW Newport 56.29 53 *e*P **P 12 25 46.6 +0.6**
NEW pmax pmax
comp=Z,32nm,1.3s
NEW Newport 56.29 53 *e*P **P 12 25 46.6 +0.6**
comp=Z,32nm,1.3s,mb5.2
KKN Kakani 56.34 276 *e*P **P 12 25 47.1 +0.7**
comp=Z,621nm,1.2s,mb6.5
PKI Pulchoki 56.40 276 *e*P **P 12 25 47.8 +1.0**
comp=Z,387nm,0.9s,mb6.4
HNR Honiara 56.44 173 P **P 12 25 47.5 +0.4**
comp=Z,23nm,0.5s,mb5.5,baz=132,slow=7.5,SNR=4.3
HNR Honiara 56.44 173 P **P 12 25 47.5 +0.4**
HNR pmax pmax
comp=Z,23nm,0.5s,mb5.5
PMG Port Moresby 56.57 189 P **P 12 25 48.8 +0.7**
comp=Z,6.5nm,1.0s,mb4.6,baz=340,slow=9.4,SNR=3.8
DMN Daman 56.58 276 *e*P **P 12 25 49.4 +1.3**
comp=Z,681nm,1.1s,mb6.6
GKN Gorkha 56.64 277 *e*P **P 12 25 48.9 +0.3**
comp=Z,491nm,0.8s,mb6.6
YBH Yreka Blue Hor 56.82 63 *e*P **P 12 25 52.7 +2.9**
YBH pmax pmax
comp=Z,35nm,1.4s
YBH Yreka Blue Hor 56.82 63 *e*P **P 12 25 52.7 +2.9**
comp=Z,35nm,1.4s,mb5.2
KOLN Koldanda 57.50 277 *e*P **P 12 25 55.0 +0.4**
comp=Z,638nm,1.0s,mb6.6
ARCES ARCESS Array B 57.87 341 P **P 12 25 55.1 -2.1**
comp=Z,7.5nm,0.7s,mb4.8,baz=30,slow=8.2,SNR=8.1
MOD Modoc 58.17 61 *e*P **P 12 25 59.7 +0.4**
comp=Z,22nm,1.4s,mb5.0

BOK Bokaro 58.53 272 *e*P **P** **12 26 03.0 +1.1**
BOK AMb AMB 12 26 14.3
comp=Z,119nm,1.0s,mb5.9
LGTI Lohaghat 58.69 281 *ex* x 12 25 26.0
KTK1 Kautokeino 58.78 342 *e*P **P** **12 26 05.1 +1.6**
AKTK Aktyubinsk 59.19 312 P **P** **12 26 05.5 -0.9**
AKTO Aktyubinsk 59.19 312 P **P** **12 26 05.5 -0.9**
comp=Z,33nm,1.1s,mb5.3,baz=66,slow=5.8,SNR=4.0
AKTO Aktyubinsk 59.19 312 P **P** **12 26 05.5 -0.9**
AKTO pmax pmax
comp=Z,33nm,1.2s,mb5.2
KSM Kuching 59.36 234 *e*P **P** **12 26 08.6 +0.9**
DLH Dalhousie 59.58 286 *e*P **P** **12 26 09.0 -0.1**
THN Thein Dam 59.81 286 *ex* x 12 25 45.2
EGMT Eagleton 60.39 50 *e*P **P** **12 26 14.2 -0.5**
comp=Z,68nm,1.2s,mb5.5
BMN Battle Mountai 60.91 61 *e*P **P** **12 26 20.3 +2.1**
BMN pmax pmax
comp=Z,66nm,1.7s,mb5.5
BMN Battle Mountai 60.91 61 *e*P **P** **12 26 20.3 +2.0**
comp=Z,66nm,1.7s,mb5.5
NDI New Delhi 61.21 282 *e*P **P** **12 26 19.5 -0.7**
NDI AMb AMB 12 26 31.4
comp=Z,187nm,1.9s,mb5.9
LOF Lofoten 61.47 344 *e*P **P** **12 26 22.6 +0.6**
LOF AMb AMB 12 26 30.1
comp=Z,225nm,1.3s,mb6.1
KULM Kulim 62.00 245 *e*P **P** **12 26 26.6 +1.0**
MOR8 Moi Rana 63.01 343 *e*P **P** **12 26 30.6 -1.7**
MOR8 AMb AMB 12 26 34.1
comp=Z,86nm,1.2s,mb5.8
ISA Isabella 63.16 66 *e*P **P** **12 26 32.5 -0.8**
comp=Z,0.7nm,2.6s
PDAR Pinedale Array 63.85 55 P **P** **12 26 38.0 0.0**
comp=Z,3.5nm,0.8s,baz=302,slow=3.3,SNR=4.4
FINES FINESS Array B 64.15 335 P **P** **12 26 38.0 -1.8**
comp=Z,12nm,0.5s,mb5.2,baz=37,slow=8.8,SNR=13
AJM Ajmer 64.38 282 *e*P **P** **12 26 42.5 +1.2**
AJM AMb AMB 12 26 53.1
comp=Z,212nm,1.1s,mb6.1
VIS Vishakhapatnam 64.40 269 *e*P **P** **12 26 41.3 -0.2**
VIS AMb AMB 12 26 54.1
comp=Z,93nm,1.5s,mb5.6
NSS Namsos 64.95 343 *e*P **P** **12 26 44.6 -0.4**
NSS Namsos 64.95 343 *i*P **P** **12 26 45.0 0.0**
NGP Nagpur 64.97 275 *e*P **P** **12 26 44.8 -0.5**
NGP AMb AMB 12 26 50.8
comp=Z,108nm,1.3s,mb5.7
ULM Lac du Bonnet 65.72 42 P **P** **12 26 49.9 -0.2**
comp=Z,1.6nm,0.5s,baz=346,slow=4.0,SNR=3.0
AGMN Agassiz Refuge 67.11 43 *e*P **P** **12 26 57.6 -1.3**
comp=Z,69nm,1.3s,mb5.5
GLA Glamis 67.15 66 *e*P **P** **12 26 59.0 -0.2**
WUAZ Wupatki 67.61 62 *e*P **P** **12 27 03.5 +1.4**
comp=Z,40nm,1.6s,mb5.2
HYB Hyderabad 67.88 272 *i*P **P** **12 27 06.0 +2.2**
NB2 NORSAR Subarra 68.23 342 P **P** **12 27 04.3 -1.8**
comp=Z,154nm,1.1s,mb6.0,baz=29,slow=6.5
NOA NORSAR Array B 68.23 342 P **P** **12 27 04.5 -1.6**
comp=Z,40nm,0.7s,mb5.5,baz=26,slow=6.4,SNR=18
HFS Hagfors 68.49 340 P **P** **12 27 06.0 -1.6**
comp=Z,64nm,0.7s,mb5.8,baz=46,slow=6.4,SNR=24
LATR Latur 68.55 274 *ex* x 12 27 00.5
WRAB Tennant Creek 69.08 200 *e*P **P** **12 27 10.5 -0.8**
WRAB pmax pmax
comp=Z,350nm,1.4s,mb6.1
WB2 Warramunga Arr 69.08 200 *e*P **P** **12 27 11.0 -0.4**
WRA Warramunga Arr 69.09 200 P **P** **12 27 11.1 -0.2**
comp=Z,49nm,1.0s,mb5.4,baz=17,slow=6.4,SNR=24
MNK Minsk 69.21 330⇑ *e*P **P** **12 27 06.0 -6.2**
MNK pmax pmax
comp=Z,330nm,1.0s,mb6.2
EYMN Ely 69.37 41 *e*P **P** **12 27 13.1 0.0**
comp=Z,38nm,1.2s,mb5.2
FITZ Fitzroy Crossi 69.83 209 *e*P **P** **12 27 15.3 -0.7**
comp=Z,38nm,1.1s,mb5.2
KONO Kongsberg 69.84 342 *e*P **P** **12 27 16.4 +0.4**
KONO pmax pmax
comp=Z,153nm,1.1s,mb5.8
KONO Kongsberg 69.84 342 *e*P **P** **12 27 16.4 +0.3**
comp=Z,153nm,1.1s,mb5.8
ANMO Albuquerque 70.92 59 *e*P **P** **12 27 25.1 +2.5**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 70.92 59 *e*P **P** **12 27 25.1 +2.5**
comp=Z,16nm,1.2s,mb4.8
KAD Karad 70.94 275 *e*P **P** **12 27 22.0 -0.7**
KAD AMb AMB 12 27 34.6
comp=Z,104nm,1.3s,mb5.6
SUW Suwalki 71.16 332 *e*P **P** **12 27 22.1 -2.0**
SUW Suwalki 71.16 332 P **P** **12 27 23.9 -0.2**
SUW pmax pmax
comp=Z,260nm,1.1s,mb6.1
KIV Kislovodsk 71.23 315 *e*P **P** **12 27 25.0 +0.5**
KIV pmax pmax
comp=Z,129nm,1.2s,mb5.7
KIV Kislovodsk 71.23 315 *e*P **P** **12 27 25.6 +1.1**
comp=Z,170nm,1.4s,mb5.8
ZEI Tsey 71.51 313 *e*P **P** **12 27 23.5 -2.7**
AKASG Malin Array Be 71.79 327 P **P** **12 27 25.6 -2.4**
comp=Z,27nm,0.5s,mb5.4,baz=34,slow=6.2,SNR=22
AKBB Malin Array Si 71.79 327 *e*P **P** **12 27 25.8 -2.1**
AKBB Malin Array Si 71.79 327 *e*P **P** **12 27 26.7 -1.2**
KIEV Kiev 71.80 327 *e*P **P** **12 27 33.2 +5.2**
KIEV pmax pmax
comp=Z,92nm,1.0s,mb5.7
BSD Bornholm Skovb 72.64 337 *i*P **P** **12 27 31.1 -1.9**
comp=Z,205nm,1.1s,mb6.0
BSD *e* 12 37 33.0
BSD Bornholm Skovb 72.64 337 *e*P **P** **12 27 31.1 -1.9**
BSD *e* 12 37 33.0
BSD pmax pmax
comp=Z,200nm,1.1s,mb6.0
BSD Bornholm Skovb 72.64 337 *e*P **P** **12 27 31.1 -1.9**
comp=Z,205nm,1.1s,mb6.0
BSD *e* 12 37 33.0
SCHQ Schefferville 72.69 24 P **P** **12 27 31.8 -1.5**
comp=Z,18nm,1.0s,mb5.0,baz=356,slow=7.0,SNR=7.0
SCHQ Schefferville 72.69 24 *e*P **P** **12 27 33.1 -0.1**
comp=Z,65nm,1.4s,mb5.4
COP Copenhagen 72.77 339 *i*P pP 12 27 42.6 +0.6
comp=Z,160nm,1.4s
COP *i* 12 28 23.6
COP Copenhagen 72.77 339 *e*P pP 12 27 42.6 +0.6
COP pmax pmax
comp=Z,160nm,1.4s,mb5.8
AS31 Alice Springs 72.77 200 *e*P **P** **12 27 34.4 +0.6**
ASAR Alice Springs 72.78 200 P **P** **12 27 34.0 +0.2**
comp=Z,67nm,1.0s,mb5.5,baz=13,slow=5.3,SNR=33
ASPA Alice Springs 72.78 200 *e*P **P** **12 27 34.4 +0.6**
MUD Monsted U'grnd 72.85 341 *i*P pP 12 27 44.6 +2.1
comp=Z,129nm,1.4s
MUD Monsted U'grnd 72.85 341 *i*P pP 12 27 44.6 +2.1
MUD pmax pmax
comp=Z,130nm,1.4s,mb5.7
GNI Garni 73.01 311 *e*P pP 12 27 44.3 +0.8
GNI pmax pmax
comp=Z,65nm,0.9s
SCIA State Center 73.07 46 *e*P **P** **12 27 38.0 +2.4**
comp=Z,103nm,1.1s,mb5.7
GKP Gorka Klasztor 73.62 335 *e*P **P** **12 27 39.7 +1.0**
JFWS Jewell Farm 73.75 44 P pP 12 27 49.1 +1.3
LVV L'vov 74.40 329 *e*P **P** **12 27 47.3 +4.0**
LVV *e* pP 12 27 53.1 +1.5
SIM Simferopol' 74.41 320 *e*P pP 12 27 52.3 +0.6
SIM pmax pmax
comp=Z,91nm,1.1s,mb5.6
ERZM Erzurum 74.91 313 *i*P **P** **12 27 48.6 +2.3**
KWP Kalwaria 75.02 330 *e*P **P** **12 27 46.3 -0.6**
KWP Kalwaria 75.02 330 *e*P **P** **12 27 46.1 -0.8**
KWP pmax pmax
comp=Z,460nm,1.2s,mb6.3
TRD Trivandrum 75.27 267 *e*P **P** **12 27 49.4 +1.0**
TRD AMb AMB 12 28 00.7
comp=Z,78nm,1.3s,mb5.5
OJC Ojcow 75.49 332 *e*P **P** **12 27 49.2 -0.4**
STHS Stebnicka Huta 75.70 331 *e*P **P** **12 27 52.7 +1.9**
STHS *es*P sP 12 28 01.8 -0.4
STHS Stebnicka Huta 75.70 331 *e*P **P** **12 27 52.7 +1.9**
STHS *e* pP 12 28 01.8 +2.7
STHS pmax pmax
comp=Z,47nm,1.3s,mb5.3
STHS Stebnicka Huta 75.70 331 *e*P **P** **12 27 52.7 +1.9**
comp=Z,47nm,1.3s,mb5.3
STHS *e* pP 12 28 01.8 +2.7

KOLS Kolonicke sedl 75.77 330 *e*P **P** **12 27 52.5 +1.3**
KOLS *es*P sP 12 28 00.2 -2.4
KOLS Kolonicke sedl 75.77 330 *e*P **P** **12 27 52.5 +1.3**
KOLS *e* pP 12 28 00.2 +0.7
UZH Uzhgorod 76.02 330 *e*P **P** **12 27 52.4 -0.2**
KSP Ksiaz 76.03 334 *e*P **P** **12 27 52.3 -0.4**
KSP Ksiaz 76.03 334 *e*P **P** **12 27 53.8 +1.1**
KSP *e**PP pP 12 28 01.3 +0.3
EKA Eskdalemuir Ar 76.26 347 P **P** **12 27 54.6 +0.6**
comp=Z,6.7nm,0.5s,mb4.8,baz=20,slow=5.0,SNR=12
ESK Eskdalemuir 76.28 347 P pP 12 28 04.8 +2.3
ESK pmax pmax
comp=Z,190nm,1.8s,mb5.7
OKC Ostrava-Krasne 76.35 333 *e*P **P** **12 27 55.4 +0.9**
OKC *e*PCP PcP 12 28 03.0 -3.3
UPC Upice 76.41 334 *e*P **P** **12 27 54.5 -0.4**
UPC *e*pP pP 12 28 03.1 -0.1
DPC Dobruska-Polom 76.46 334 *e*P **P** **12 27 55.9 +0.8**
DPC *e*PCP PcP 12 28 03.8 -3.0
CLL Collm 76.56 336 *i*P **P** **12 27 57.5 +1.8**
CLL *i* pP 12 28 04.3 +0.3
CLL pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLL Collm 76.56 336 *i* Pmax 12 27 57.5
comp=Z,88nm,0.9s
CLL *i* pP pP 12 28 04.3 +0.3
comp=Z,282nm,1.1s
LTX Lajitas 76.57 61 *e*P **P** **12 27 54.9 -0.9**
LTX pmax pmax
comp=Z,537nm,1.4s,mb6.3
LTX Lajitas 76.57 61 *e*P **P** **12 27 54.9 -0.9**
comp=Z,537nm,1.4s,mb6.3
TXAR Lajitas Array 76.57 61 P **P** **12 27 55.3 -0.5**
comp=Z,11nm,0.6s,mb4.9,baz=298,slow=2.7,SNR=9.8
MORC Moravsky Berou 76.59 333⇑ *i*P **P** **12 27 54.9 -1.0**
MORC Moravsky Berou 76.59 333 *e*P **P** **12 27 56.4 +0.5**
MORC pmax pmax
comp=Z,160nm,1.1s,mb5.9
MORC Moravsky Berou 76.59 333 *e*P **P** **12 27 56.4 +0.6**
comp=Z,160nm,1.1s,mb5.9
BRG Berggiesshubel 76.69 336 *i*P **P** **12 27 55.1 -1.3**
comp=Z,19nm,1.4s,mb4.8
BRG *i* 12 28 05.8
comp=Z,91nm,1.3s
VRI Vrincioaia 76.71 325 P **P** **12 27 59.8 +3.2**
LIKS Likavka 76.73 332 *e*P **P** **12 27 59.2 +2.6**
LIKS *e* pP 12 28 06.9 +1.9
LIKS pmax pmax
comp=Z,37nm,1.1s,mb5.2
LIKS Likavka 76.73 332 *e*P **P** **12 27 59.2 +2.6**
comp=Z,37nm,1.1s,mb5.2
LIKS *e* pP 12 28 06.9 +1.9
CFR Carcaliu 76.73 324 P **P** **12 28 00.0 +3.3**
KECS Kecovo 76.76 331 *e*P **P** **12 27 58.3 +1.5**
KECS *es*P sP 12 28 05.4 -2.8
KECS Kecovo 76.76 331 *e*P **P** **12 27 58.3 +1.5**
KECS *e* pP 12 28 05.5 +0.3
KECS pmax pmax
comp=Z,16nm,1.3s,mb4.8
KECS Kecovo 76.76 331 *e*P **P** **12 27 58.3 +1.5**
comp=Z,16nm,1.3s,mb4.8
KECS *e* pP 12 28 05.5 +0.3
WIT Witteveen 76.78 341 *e*P **P** **12 27 57.9 +1.0**
WIT *ex* x 12 28 08.9
BOYT Boyabat 76.85 318 *i*P **P** **12 27 57.5 +0.2**
WSAR Wadi Sarin 77.12 290 P **P** **12 28 00.5 +1.6**
comp=Z,33nm,1.0s,mb5.2,baz=12,slow=2.8,SNR=13
ELZG Elazig 77.18 313 *i*P **P** **12 27 59.8 +0.6**
TIRR Tirgusor 77.21 324⇑ *i*P **P** **12 27 59.1 -0.3**
TIRR Tirgusor 77.21 324 *e*P **P** **12 27 59.2 -0.2**
TIRR pmax pmax
comp=Z,139nm,1.1s,mb5.8
TIRR Tirgusor 77.21 324 *e*P **P** **12 27 59.2 -0.1**
comp=Z,139nm,1.1s,mb5.8
VRAC Vranov 77.30 333 P **P** **12 27 59.1 -0.8**
comp=Z,36nm,1.0s,mb5.3,baz=20,slow=6.5,SNR=10
VRAC Vranov 77.30 333⇓ *i*P **P** **12 27 59.9 +0.1**
VYHS Vyhne 77.30 331 *e*P **P** **12 28 01.8 +1.9**
VYHS *es*P sP 12 28 08.3 -2.9
VYHS Vyhne 77.30 331 *e*P **P** **12 28 01.8 +1.9**
VYHS *e* pP 12 28 08.3 +0.1
VYHS pmax pmax
comp=Z,39nm,1.5s,mb5.1
VYHS Vyhne 77.30 331 *e*P **P** **12 28 01.8 +1.9**
comp=Z,39nm,1.5s,mb5.1
VYHS *e* pP 12 28 08.3 +0.1
PRU Pruhonice 77.31 335 *e*P **P** **12 27 59.7 -0.2**
PRU *e*PCP PcP 12 28 08.7 -1.7
PRU Pruhonice 77.31 335 *e*P **P** **12 28 00.4 +0.5**
MLR Muntele Rosu 77.33 326 P **P** **12 27 59.8 -0.3**
comp=Z,34nm,0.7s,mb5.4,baz=28,slow=7.1,SNR=14
MLR Muntele Rosu 77.33 326⇓ *i*P **P** **12 28 01.3 +1.3**
DRGR 77.44 328⇑ *i*P **P** **12 28 02.0 +1.4**
DRGR 77.44 328 P **P** **12 28 03.1 +2.5**
PSZ Piszkesteto 77.45 331⇓ *i*P **P** **12 28 01.7 +1.0**
PSZ Piszkesteto 77.45 331 *e*P **P** **12 28 03.2 +2.5**
comp=Z,3µm,3.0s
BALT Daday 77.45 319 *i*P **P** **12 28 01.9 +1.2**
CTKT Corum 77.53 317 *i*P **P** **12 28 03.0 +1.8**
WTSB Winterswijk 77.53 340 *ex* pP 12 28 11.6 +2.1
comp=Z,152nm,1.2s
MALT Malatya 77.60 314⇑ *i*P **P** **12 28 04.4 +2.9**
MALT Malatya 77.60 314 *e*P **P** **12 28 02.6 +1.1**
MALT pmax pmax
comp=Z,180nm,1.2s,mb5.9
MALT Malatya 77.60 314 *e*P **P** **12 28 02.5 +1.0**
comp=Z,180nm,1.2s,mb5.9
NKC Novy Kostel 77.68 336 *e*P **P** **12 28 04.0 +2.0**
NKC *e*PCP PcP 12 28 10.9 -1.2
VOIR 77.72 326⇓ *i*P **P** **12 28 04.0 +1.8**
JCT Junction City 78.02 58 *e*P **P** **12 28 03.3 -0.6**
JCT pmax pmax
comp=Z,68nm,1.5s,mb5.4
JCT Junction City 78.02 58 *e*P **P** **12 28 03.3 -0.6**
comp=Z,68nm,1.5s,mb5.4
ZST Bratislava 78.12 332 *e*P **P** **12 28 08.6 +4.2**
ZST *es*P sP 12 28 14.7 -1.1
ZST Bratislava 78.12 332 *e*P **P** **12 28 08.6 +4.2**
ZST *e* pP 12 28 14.7 +1.9
SIUC Southern Illin 78.26 47 *e*P **P** **12 28 06.3 +1.1**
comp=Z,61nm,1.1s,mb5.5
ELDT Eldivan 78.27 318 *i*P **P** **12 28 05.2 -0.1**
KHC Kasperske Hory 78.36 335 *e*P **P** **12 28 05.9 +0.2**
GRA1 Grafenberg Arr 78.51 337 *e*P **P** **12 28 07.7 +1.1**
comp=Z,218nm,1.3s,mb5.9
GRF Grafenberg Arr 78.51 337 *e*P **P** **12 28 07.7 +1.1**
comp=Z,218nm,1.3s,mb5.9
GRF Grafenberg Arr 78.51 337 *e*P **P** **12 28 07.7 +1.1**
GRF pmax pmax
comp=Z,218nm,1.3s,mb5.9
GRFO Grafenberg 78.51 337 *e*P **P** **12 28 10.1 +3.5**
GRFO pmax pmax
comp=Z,232nm,1.3s,mb6.0
GRFO Grafenberg 78.51 337 *e*P **P** **12 28 10.1 +3.5**
comp=Z,232nm,1.3s,mb6.0
GEC2 GERESS Array S 78.58 335 *e*P **P** **12 28 09.1 +2.1**
GERES GERESS Array B 78.58 335 P **P** **12 28 05.4 -1.5**
comp=Z,3.6nm,0.5s,mb4.5,baz=32,slow=5.3,SNR=5.7
GZR Gura Zlata 78.61 328⇓ *i*P **P** **12 28 06.2 -0.9**
GZR Gura Zlata 78.61 328 P **P** **12 28 10.7 +3.6**
DLF Lyons Farm 78.73 348⇑ *i*P pP 12 28 18.2 +2.1
CONA Conrad Observa 78.74 333⇑ *i*P **P** **12 28 11.0 +3.1**
comp=Z,94nm,1.2s,mb5.6
GZT Gaziantep 78.77 314 *i*P **P** **12 28 10.5 +2.5**
BR131 Keskin Array S 78.78 318 *e*P **P** **12 28 08.9 +0.9**
comp=Z,81nm,1.1s,mb5.6
BRTR Keskin Array B 78.78 318 P **P** **12 28 07.4 -0.7**
comp=Z,22nm,1.0s,mb5.0,baz=63,slow=3.4,SNR=8.4
DCN Croghan 78.78 349⇑ *i*P pP 12 28 18.5 +2.1
SGKT Sivrigoynuk 78.82 319 *i*P **P** **12 28 08.8 +0.5**
USIN University of 78.83 45 *e*P **P** **12 28 07.6 -0.7**
comp=Z,91nm,1.1s,mb5.6
BZS Buzias 78.84 328 P **P** **12 28 11.2 +2.8**
HGN Heimansgroeve 78.85 340 *e*P **P** **12 28 10.0 +1.5**
comp=Z,137nm,0.9s,mb5.9
HGN *ex* x 12 28 19.7
AVNT Avonos 78.96 316 *i*P **P** **12 28 11.1 +2.0**
ANTO Ankara 79.05 318⇓ *i*P **P** **12 28 09.6 0.0**
ANTO Ankara 79.05 318 *e*P pP 12 28 16.4 -1.5
ANTO pmax pmax
comp=Z,200nm,1.4s,mb5.8
ZIMR 79.09 325 P **P** **12 28 12.3 +2.5**
CRAR CRAIOVA 79.13 326 P pP 12 28 21.3 +2.9
TOD Tromm 79.22 338 *e*P **P** **12 28 12.0 +1.5**

WCI Wyandotte Cave 79.28 44 *e*P **P** **12 28 11.0 +0.2**
WCI pmax pmax
comp=Z,63nm,1.0s,mb5.5
WCI Wyandotte Cave 79.28 44 *e*P **P** **12 28 11.0 +0.1**
comp=Z,63nm,1.0s,mb5.5
MOA Molln 79.30 334⇑ *i*P **P** **12 28 14.5 +3.5**
comp=Z,43nm,1.1s,mb5.3
PKSM Moragy 79.36 330⇓ *i*P **P** **12 28 11.8 +0.6**
PKSM Moragy 79.36 330 P **P** **12 28 14.4 +3.2**
STKA Stephens Creek 79.40 191 *e*P **P** **12 28 12.4 +0.9**
comp=Z,14nm,1.0s,mb4.8
STKA Stephens Creek 79.40 191 P **P** **12 28 11.6 +0.1**
comp=Z,17nm,0.9s,mb5.0,baz=333,slow=10.0,SNR=9.2
ARSA Arzberg 79.45 333⇑ *i*P **P** **12 28 11.5 -0.3**
comp=Z,76nm,1.2s,mb5.5
GIVF Givet 79.72 341 *e*P **P** **12 28 11.4 -1.8**
comp=Z,412nm,1.6s,mb5.8
GIVF Givet 79.72 341 *e*P **P** **12 28 11.4 -1.8**
GIVF pmax pmax
comp=Z,206nm,1.6s,mb5.8
GIVF Givet 79.72 341 *e*P **P** **12 28 11.4 -1.8**
comp=Z,206nm,1.6s,mb5.8
BAIF Baives 79.90 341 *e*P **P** **12 28 12.5 -1.7**
comp=Z,269nm,1.6s,mb5.6
BAIF Baives 79.90 341 *e*P **P** **12 28 12.5 -1.7**
BAIF pmax pmax
comp=Z,134nm,1.6s,mb5.6
BAIF Baives 79.90 341 *e*P **P** **12 28 12.5 -1.7**
comp=Z,134nm,1.6s,mb5.6
LANF Langenberg 80.06 338 *e*P **P** **12 28 16.9 +1.9**
COBT Iskenderun 80.08 314 *i*P **P** **12 28 15.9 +0.7**
ESKT Eskisehir 80.21 319 *i*P **P** **12 28 14.7 -1.2**
KBA Koelnbreinsper 80.27 334⇑ *i*P **P** **12 28 18.4 +2.2**
KBA Koelnbreinsper 80.27 334 P **P** **12 28 18.4 +2.2**
OBKA Obir 80.42 333⇑ *i*P **P** **12 28 19.9 +2.9**
WATA Walderalm 80.55 335⇓ *i*P **P** **12 28 19.1 +1.4**
comp=Z,53nm,1.0s,mb5.4
WTTA Wattenberg 80.60 335⇑ *i*P **P** **12 28 17.9 -0.1**
comp=Z,174nm,1.3s,mb5.8
SPAK Spaichingen-Ko 80.61 337 *e*P **P** **12 28 19.8 +1.8**
OXF Oxford 80.66 49 *e*P **P** **12 28 17.9 -0.4**
OXF pmax pmax
comp=Z,58nm,1.2s,mb5.4
OXF Oxford 80.66 49 *e*P **P** **12 28 17.9 -0.4**
comp=Z,58nm,1.2s,mb5.4
MOTA Moosalm 80.68 336⇑ *i*P **P** **12 28 18.7 +0.3**
comp=Z,106nm,1.2s,mb5.6
WLS Welschbruch 80.69 338 *e*P **P** **12 28 20.0 +1.5**
CDF Champ du Feu 80.72 339 *e*P **P** **12 28 16.8 -1.8**
comp=Z,353nm,1.5s,mb5.8
CDF Champ du Feu 80.72 339 *e*P **P** **12 28 16.8 -1.8**
CDF pmax pmax
comp=Z,177nm,1.5s,mb5.8
CDF Champ du Feu 80.72 339 *e*P **P** **12 28 16.8 -1.8**
comp=Z,177nm,1.5s,mb5.8
DIVS Divcibare 80.73 329 *i*P **P** **12 28 18.2 -0.4**
SQTA Sankt Quirin 80.76 336⇑ *i*P **P** **12 28 18.6 -0.2**
VTS Vitosha 80.83 326⇓ *i*P **P** **12 28 18.0 -1.2**
VTS Vitosha 80.83 326 P **P** **12 28 21.0 +1.8**
LIBD Limburg 80.88 338 *e*P **P** **12 28 21.5 +2.1**
ECH Echery 80.93 339 *e*P **P** **12 28 21.3 +1.6**
FELD Feldberg im Sc 81.03 338 *e*P **P** **12 28 21.5 +1.3**
DAVA Damuels 81.07 336⇑ *i*P **P** **12 28 20.0 -0.4**
comp=Z,98nm,1.4s,mb5.6
MEZF Maizieres J'vi 81.17 340 *e*P **P** **12 28 19.5 -1.5**
comp=Z,124nm,1.1s,mb5.5
MEZF Maizieres J'vi 81.17 340 *e*P **P** **12 28 19.5 -1.5**
comp=Z,124nm,1.1s,mb5.8
THEF They Montfort 81.20 339 *e*P **P** **12 28 22.8 +1.6**
HAU Haudompre 81.32 339 *e*P **P** **12 28 19.8 -2.0**
comp=Z,208nm,1.5s,mb5.5
HAU Haudompre 81.32 339 *e*P **P** **12 28 19.8 -2.0**
HAU pmax pmax
comp=Z,104nm,1.5s,mb5.5
HAU Haudompre 81.32 339 *e*P **P** **12 28 19.8 -2.0**
comp=Z,104nm,1.5s,mb5.5
HINF Hinteralfeld 81.37 339 *e*P **P** **12 28 20.1 -2.0**
comp=Z,118nm,1.4s,mb5.3
HINF Hinteralfeld 81.37 339 *e*P **P** **12 28 20.1 -2.0**
HINF pmax pmax
comp=Z,59nm,1.4s,mb5.3
HINF Hinteralfeld 81.37 339 *e*P **P** **12 28 20.1 -2.0**
comp=Z,59nm,1.4s,mb5.3
DAVOX Davos 81.53 336 P **P** **12 28 23.9 +1.0**
comp=Z,10.0nm,0.7s,mb4.9,baz=326,slow=2.2,SNR=6.7
BBS Basel-Blauen 81.53 338 *e*P **P** **12 28 24.3 +1.4**
PPT Papeete 81.62 127 P **P** **12 28 23.8 +0.4**
comp=Z,12nm,0.7s,mb4.9,baz=184,slow=13,SNR=2.9
TKTP Tekketepe 81.66 319 *i*P **P** **12 28 24.0 +0.4**
LOMF Lomont 81.81 338 *e*P **P** **12 28 25.4 +1.0**
TZTN Tazewell 81.93 44 *e*P **P** **12 28 24.6 -0.4**
comp=Z,27nm,1.1s,mb5.1
LDF La Druitiere 82.20 343 *e*P **P** **12 28 24.5 -2.0**
comp=Z,77nm,1.1s,mb5.2
LDF La Druitiere 82.20 343 *e*P **P** **12 28 24.5 -2.0**
LDF pmax pmax
comp=Z,38nm,1.1s,mb5.2
LDF La Druitiere 82.20 343 *e*P **P** **12 28 24.5 -2.0**
comp=Z,38nm,1.1s,mb5.2
MVL Millersville 82.25 37 *e*P **P** **12 28 25.4 -1.3**
DNZL Cakiroluk 82.52 319 *i*P pP 12 28 36.0 -0.5
GRR Gorron 82.54 344 *e*P **P** **12 28 26.5 -1.7**
comp=Z,362nm,1.3s,mb5.9
GRR Gorron 82.54 344 *e*P **P** **12 28 26.5 -1.7**
GRR pmax pmax
comp=Z,181nm,1.3s,mb5.9
GRR Gorron 82.54 344 *e*P **P** **12 28 26.5 -1.7**
comp=Z,181nm,1.3s,mb5.9
TKL Tuckaleechee C 82.54 44 P **P** **12 28 28.5 +0.2**
comp=Z,6.7nm,0.9s,mb4.7,baz=358,slow=1.6,SNR=4.1
LOR Lormes 82.61 340 *e*P **P** **12 28 26.6 -2.0**
comp=Z,254nm,1.5s,mb5.7
LOR Lormes 82.61 340 *e*P **P** **12 28 26.6 -2.0**
LOR pmax pmax
comp=Z,127nm,1.5s,mb5.7
LOR Lormes 82.61 340 *e*P **P** **12 28 26.6 -2.0**
comp=Z,127nm,1.5s,mb5.7
KRUS Krusevo 82.63 326⇑ *i*P **P** **12 28 30.1 +1.4**
CABF La Chapelle 82.69 339 *e*P **P** **12 28 27.7 -1.3**
comp=Z,105nm,1.3s,mb5.4
CABF La Chapelle 82.69 339 *e*P **P** **12 28 27.7 -1.3**
CABF pmax pmax
comp=Z,53nm,1.3s,mb5.4
CABF La Chapelle 82.69 339 *e*P **P** **12 28 27.7 -1.3**
comp=Z,53nm,1.3s,mb5.4
CSS Prodhromos 82.75 315 *e*P PcP 12 28 34.0 -0.2
comp=Z,6µm,3.4s
BLA Blacksburg 82.83 41 *e*P **P** **12 28 28.7 -1.0**
BLA pmax pmax
comp=Z,29nm,1.1s,mb5.2
BLA Blacksburg 82.83 41 *e*P **P** **12 28 28.7 -1.0**
comp=Z,29nm,1.1s,mb5.2
HYF Humbligny 82.88 341 *e*P **P** **12 28 28.6 -1.4**
SSF Saint Saulge 82.88 340 *e*P **P** **12 28 28.0 -2.0**
comp=Z,67nm,1.1s,mb5.3
SSF Saint Saulge 82.88 340 *e*P **P** **12 28 28.0 -2.0**
SSF pmax pmax
comp=Z,33nm,1.1s,mb5.3
SSF Saint Saulge 82.88 340 *e*P **P** **12 28 28.0 -2.0**
comp=Z,33nm,1.1s,mb5.3
SGMF Saint Gilles 82.99 345 *e*P **P** **12 28 29.0 -1.5**
comp=Z,265nm,1.4s,mb5.8
SGMF Saint Gilles 82.99 345 *e*P **P** **12 28 29.0 -1.5**
comp=Z,132nm,1.4s,mb5.8
OHR Ohrid 83.02 327⇑ *i*P **P** **12 28 30.8 0.0**
ROSF Rostrenen 83.03 345 *e*P **P** **12 28 29.3 -1.5**
comp=Z,255nm,1.3s,mb5.8
ROSF Rostrenen 83.03 345 *e*P **P** **12 28 29.3 -1.5**
ROSF pmax pmax
comp=Z,128nm,1.3s,mb5.8
ROSF Rostrenen 83.03 345 *e*P **P** **12 28 29.3 -1.5**
comp=Z,128nm,1.3s,mb5.8
AVF Avril sur Loir 83.17 340 *e*P **P** **12 28 29.7 -1.8**
comp=Z,266nm,1.3s,mb5.8
AVF Avril sur Loir 83.17 340 *e*P **P** **12 28 29.7 -1.8**
AVF pmax pmax
comp=Z,133nm,1.3s,mb5.8
AVF Avril sur Loir 83.17 340 *e*P **P** **12 28 29.7 -1.8**
comp=Z,133nm,1.3s,mb5.8
ASF Jabal al Asfar 83.18 311 P **P** **12 28 30.8 -0.7**
comp=Z,25nm,1.0s,mb5.2,baz=298,slow=2.6,SNR=8.1
SMF Signal de Mont 83.20 340 *e*P **P** **12 28 30.0 -1.6**
comp=Z,536nm,1.4s,mb6.1
SMF Signal de Mont 83.20 340 *e*P **P** **12 28 30.0 -1.6**
SMF pmax pmax
comp=Z,268nm,1.4s,mb6.1

SMF	**Signal de Mont**	**83.20**	**340**	*eP*		**P**	**12 28 30.0**	**-1.6**
	comp=Z,268nm,1.4s,mb6.1								
QUIF	**Quistinic**	**83.42**	**345**	*eP*		**P**	**12 28 30.9**	**-1.9**
	comp=Z,201nm,1.5s,mb5.6								
QUIF	**Quistinic**	**83.42**	**345**	*eP*		**P**	**12 28 30.9**	**-1.9**
QUIF				pmax	pmax				
	comp=Z,101nm,1.5s,mb5.6								
QUIF	**Quistinic**	**83.42**	**345**	*eP*		**P**	**12 28 30.9**	**-1.9**
	comp=Z,100nm,1.5s,mb5.6								
BGF	**Bois d'Agland**	**83.51**	**341**	*eP*		**P**	**12 28 31.5**	**-1.7**
	comp=Z,210nm,1.4s,mb5.8								
BGF	**Bois d'Agland**	**83.51**	**341**	*eP*		**P**	**12 28 31.5**	**-1.7**
BGF				pmax	pmax				
	comp=Z,105nm,1.4s,mb5.8								
BGF	**Bois d'Agland**	**83.51**	**341**	*eP*		**P**	**12 28 31.5**	**-1.7**
	comp=Z,105nm,1.4s,mb5.8								
LPL	**La Plagne**	**83.54**	**338**	*eP*		**P**	**12 28 32.7**	**-0.7**
	comp=Z,97nm,1.0s,mb5.6								
LPL	**La Plagne**	**83.54**	**338**	*eP*		**P**	**12 28 32.7**	**-0.7**
LPL				pmax	pmax				
	comp=Z,48nm,1.0s,mb5.6								
LPL	**La Plagne**	**83.54**	**338**	*eP*		**P**	**12 28 32.7**	**-0.7**
	comp=Z,48nm,1.0s,mb5.6								
LPG	**La Plagne**	**83.56**	**338**	*eP*		**P**	**12 28 32.8**	**-0.7**
	comp=Z,357nm,1.5s,mb6.0								
LPG	**La Plagne**	**83.56**	**338**	*eP*		**P**	**12 28 32.8**	**-0.7**
LPG				pmax	pmax				
	comp=Z,178nm,1.5s,mb6.0								
LPG	**La Plagne**	**83.56**	**338**	*eP*		**P**	**12 28 32.8**	**-0.7**
	comp=Z,178nm,1.5s,mb6.0								
PLDF	**La Plantade**	**83.89**	**340**	*eP*		**P**	**12 28 37.5**	**+2.3**
TCF	**Toulx Ste Croi**	**83.91**	**341**	*eP*		**P**	**12 28 33.7**	**-1.6**
	comp=Z,160nm,1.3s,mb5.7								
TCF	**Toulx Ste Croi**	**83.91**	**341**	*eP*		**P**	**12 28 33.7**	**-1.6**
TCF				pmax	pmax				
	comp=Z,80nm,1.3s,mb5.7								
TCF	**Toulx Ste Croi**	**83.91**	**341**	*eP*		**P**	**12 28 33.7**	**-1.6**
	comp=Z,80nm,1.3s,mb5.7								
AGO	**Saint Agoulin**	**83.92**	**340**	*eP*		**P**	**12 28 37.8**	**+2.5**
BNI	**Bardonecchia**	**83.99**	**338**	P		pP	12 28 46.9	+2.8
BNI				pmax	pmax				
	comp=Z,170nm,1.2s,mb6.0								
MFF	**Saint Martin d**	**84.11**	**343**	*eP*		**P**	**12 28 34.7**	**-1.6**
	comp=Z,223nm,1.5s,mb5.8								
MFF	**Saint Martin d**	**84.11**	**343**	*eP*		**P**	**12 28 34.7**	**-1.6**
MFF				pmax	pmax				
	comp=Z,111nm,1.5s,mb5.8								
MFF	**Saint Martin d**	**84.11**	**343**	*eP*		**P**	**12 28 34.7**	**-1.6**
	comp=Z,111nm,1.5s,mb5.8								
MBDF	**Montbardon**	**84.27**	**337**	*eP*		**P**	**12 28 35.6**	**-1.5**
	comp=Z,154nm,1.4s,mb5.7								
MBDF	**Montbardon**	**84.27**	**337**	*eP*		**P**	**12 28 35.6**	**-1.5**
MBDF				pmax	pmax				
	comp=Z,77nm,1.4s,mb5.6								
MBDF	**Montbardon**	**84.27**	**337**	*eP*		**P**	**12 28 35.6**	**-1.5**
	comp=Z,77nm,1.4s,mb5.6								
ORIF	**Oris-en-Rattie**	**84.32**	**338**	*eP*		**P**	**12 28 36.2**	**-1.2**
	comp=Z,172nm,1.2s,mb5.8								
ORIF	**Oris-en-Rattie**	**84.32**	**338**	*eP*		**P**	**12 28 36.2**	**-1.2**
ORIF				pmax	pmax				
	comp=Z,86nm,1.2s,mb5.8								
ORIF	**Oris-en-Rattie**	**84.32**	**338**	*eP*		**P**	**12 28 36.2**	**-1.2**
	comp=Z,86nm,1.2s,mb5.8								
LBL	**Lubilhac**	**84.67**	**340**	*eP*		**P**	**12 28 42.4**	**+3.3**
VIVF	**Saint-Julien-l**	**84.68**	**339**	*eP*		**P**	**12 28 38.0**	**-1.2**
	comp=Z,193nm,1.4s,mb5.8								
VIVF	**Saint-Julien-l**	**84.68**	**339**	*eP*		**P**	**12 28 38.0**	**-1.2**
VIVF				pmax	pmax				
	comp=Z,96nm,1.4s,mb5.7								
VIVF	**Saint-Julien-l**	**84.68**	**339**	*eP*		**P**	**12 28 38.0**	**-1.2**
	comp=Z,96nm,1.4s,mb5.7								
AUTN	**L'Aution**	**84.77**	**337**	*eP*		**P**	**12 28 41.2**	**+1.5**
TOUF	**Mont Tournerai**	**84.80**	**337**	*eP*		**P**	**12 28 41.2**	**+1.4**
SBF	**Sospel**	**84.89**	**337**	*eP*		**P**	**12 28 38.1**	**-2.2**
	comp=Z,255nm,1.3s,mb5.9								
SBF	**Sospel**	**84.89**	**337**	*eP*		**P**	**12 28 38.1**	**-2.2**
SBF				pmax	pmax				
	comp=Z,128nm,1.3s,mb5.9								
SBF	**Sospel**	**84.89**	**337**	*eP*		**P**	**12 28 38.1**	**-2.2**
	comp=Z,128nm,1.3s,mb5.9								
MVIF	**Mont Vial**	**84.94**	**337**	*eP*		**P**	**12 28 42.2**	**+1.7**
KLBR	**Kellerberrin**	**84.96**	**211**	*eP*		**P**	**12 28 41.3**	**+0.7**
	comp=Z,46nm,1.1s,mb5.5								
REVF	**Revere**	**85.02**	**337**	*eP*		**P**	**12 28 41.4**	**+0.5**
CAF	**Calviac**	**85.23**	**341**	*eP*		**P**	**12 28 40.3**	**-1.7**
	comp=Z,80nm,1.1s,mb5.5								
CAF	**Calviac**	**85.23**	**341**	*eP*		**P**	**12 28 40.3**	**-1.7**
CAF				pmax	pmax				
	comp=Z,40nm,1.1s,mb5.5								
CAF	**Calviac**	**85.23**	**341**	*eP*		**P**	**12 28 40.3**	**-1.7**
	comp=Z,40nm,1.1s,mb5.5								
SMRF	**Simiane la Rot**	**85.28**	**338**	*eP*		**P**	**12 28 41.2**	**-1.0**
	comp=Z,103nm,1.3s,mb5.5								
SMRF	**Simiane la Rot**	**85.28**	**338**	*eP*		**P**	**12 28 41.2**	**-1.0**
	comp=Z,103nm,1.3s,mb5.8								
FRF	**La Foret Royal**	**85.38**	**337**	*eP*		**P**	**12 28 40.8**	**-1.9**
	comp=Z,170nm,1.4s,mb5.7								
FRF	**La Foret Royal**	**85.38**	**337**	*eP*		**P**	**12 28 40.8**	**-1.9**
FRF				pmax	pmax				
	comp=Z,85nm,1.4s,mb5.7								
FRF	**La Foret Royal**	**85.38**	**337**	*eP*		**P**	**12 28 40.8**	**-1.9**
	comp=Z,85nm,1.4s,mb5.7								
LFF	**La Frestale**	**85.51**	**342**	*eP*		**P**	**12 28 41.4**	**-2.0**
	comp=Z,180nm,1.3s,mb5.8								
LFF	**La Frestale**	**85.51**	**342**	*eP*		**P**	**12 28 41.4**	**-2.0**
LFF				pmax	pmax				
	comp=Z,90nm,1.3s,mb5.8								
LFF	**La Frestale**	**85.51**	**342**	*eP*		**P**	**12 28 41.4**	**-2.0**
	comp=Z,90nm,1.3s,mb5.8								
LASF	**Ste Croix**	**85.61**	**339**	*eP*		**P**	**12 28 41.9**	**-2.0**
	comp=Z,148nm,1.5s,mb5.7								
LMR	**La Mourre**	**85.63**	**337**	*eP*		**P**	**12 28 42.3**	**-1.7**
	comp=Z,331nm,1.4s,mb6.1								
LMR	**La Mourre**	**85.63**	**337**	*eP*		**P**	**12 28 42.3**	**-1.7**
LMR				pmax	pmax				
	comp=Z,166nm,1.4s,mb6.1								
LMR	**La Mourre**	**85.63**	**337**	*eP*		**P**	**12 28 42.3**	**-1.7**
	comp=Z,166nm,1.4s,mb6.1								
PGF	**Pioggiola**	**85.67**	**335**	*eP*		**P**	**12 28 42.0**	**-2.1**
	comp=Z,118nm,1.5s,mb5.6								
PGF	**Pioggiola**	**85.67**	**335**	*eP*		**P**	**12 28 42.0**	**-2.1**
PGF				pmax	pmax				
	comp=Z,59nm,1.5s,mb5.6								
PGF	**Pioggiola**	**85.67**	**335**	*eP*		**P**	**12 28 42.0**	**-2.1**
	comp=Z,59nm,1.5s,mb5.6								
EIL	**Elat**	**86.18**	**311**	*eP*		**P**	**12 28 47.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**86.35**	**211**	*eP*		**P**	**12 28 47.0**	**-0.5**
NWAO				pmax	pmax				
	comp=Z,78nm,1.1s								
NWAO	**Narrogin (SRO)**	**86.35**	**211**	*eP*		**P**	**12 28 47.0**	**-0.5**
	comp=Z,78nm,1.1s,mb5.8								
IDI	**Anoyia**	**86.36**	**321**	P		**P**	**12 28 46.8**	**-0.7**
	comp=Z,5.7nm,0.4s,mb5.2,baz=40,slow=18,SNR=2.9								
MTLF	**Montolieu**	**86.70**	**340**	*eP*		**P**	**12 28 46.8**	**-2.4**
	comp=Z,74nm,1.4s,mb5.4								
MTLF	**Montolieu**	**86.70**	**340**	*eP*		**P**	**12 28 46.8**	**-2.4**
MTLF				pmax	pmax				
	comp=Z,37nm,1.4s,mb5.4								
MTLF	**Montolieu**	**86.70**	**340**	*eP*		**P**	**12 28 46.8**	**-2.4**
	comp=Z,37nm,1.4s,mb5.4								
EPF	**Esparros**	**87.42**	**341**	*eP*		**P**	**12 28 49.8**	**-2.9**
	comp=Z,33nm,1.0s,mb5.2								
EPF	**Esparros**	**87.42**	**341**	*eP*		**P**	**12 28 49.8**	**-2.9**
EPF				pmax	pmax				
	comp=Z,17nm,1.0s,mb5.2								
EPF	**Esparros**	**87.42**	**341**	*eP*		**P**	**12 28 49.8**	**-2.9**
	comp=Z,16nm,1.0s,mb5.2								
ESDC	**Sonseca Array**	**91.53**	**343**	P		**P**	**12 29 11.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=5.6,slow=5.9,SNR=5.1								
KEST	**Kesra**	**91.83**	**332**	P		**P**	**12 29 12.5**	**-0.9**
	comp=Z,12nm,1.2s,mb5.1,baz=261,slow=2.5,SNR=6.3								
TORD	**Torodi Ar. Bea**	**115.29**	**330**	PKP		PKPdf	12 34 49.0	+2.2
	comp=Z,0.4nm,0.3s,baz=11,slow=1.7,SNR=6.2								
TORD						PKKPbc PKKPbc	12 45 21.5	+0.3
	comp=Z,1.3nm,0.6s,baz=258,slow=0.3,SNR=4.0								
VNDA	**Vanda**	**124.37**	**178**	PKP		PKPdf	12 35 01.7	-2.6
	comp=Z,6.0nm,1.1s,baz=309,slow=3.6,SNR=11								
SBA	**Scott Base**	**124.86**	**177**	PKIKP		PKPdf	12 35 04.1	-1.1
MAW	**Mawson**	**132.92**	**212**	PKP		PKPdf	12 35 19.3	-1.3
	comp=Z,3.2nm,0.9s,baz=103,slow=7.5,SNR=3.8								
LPAZ	**La Paz**	**133.42**	**63**	PKP		PKPdf	12 35 22.4	+0.9
	comp=Z,3.9nm,0.8s,baz=1.7,slow=8.3,SNR=10								
BOSA	**Boshof**	**136.66**	**277**	PKP		PKPdf	12 35 28.9	+1.3
	comp=Z,3.1nm,1.0s,baz=45,slow=8.6,SNR=2.4								
LVC	**Limon Verde**	**137.62**	**70**	PKP		PKPdf	12 35 30.0	+0.6
	comp=Z,11nm,1.1s,baz=270,slow=3.1,SNR=4.2								
SYO	**Syowa Base**	**141.63**	**212**	*eP*		PKPdf	12 35 28.6	-8.0
CFAA	**Coronel Fontan**	**144.07**	**80**	PKP		PKPdf	12 35 38.0	-3.0
	comp=Z,5.4nm,1.0s,baz=315,slow=2.1,SNR=11								
PMSA	**Palmer Station**	**152.71**	**144**	PKPbc		PKPbc	12 36 01.6	-0.5
	comp=Z,58nm,1.1s,baz=298,slow=11,SNR=4.1								
SNAA	**Sanae**	**153.08**	**196**	PKP		PKPdf	12 35 55.6	+0.1
	comp=Z,1.6nm,0.9s,baz=214,slow=6.0,SNR=2.7								
SNAA				PKPbc		PKPbc	12 36 01.9	-1.0
	comp=Z,7.1nm,1.0s,baz=223,slow=1.5,SNR=8.0								
SNAA				PKPab		PKPab	12 36 13.6	-0.8
	comp=Z,25nm,1.0s,baz=127,slow=3.0,SNR=18								

ISCJB ***15*** *12:16:42.6±0.1, 46.18N±.003×154.72E±.002, h10km, mb5.7/202, MS5.6/1, Error ellipse: s-maj=4.9km s-min=2.4km az=166.0*

IDC ***15*** *12:16:42.4±0.4, 46.19N×154.68E, h0km, mb5.4/35, mb1 5.5/37, mb1mx5.5/37, mbtmp5.4/37, ML5.1/2, Error ellipse: s-maj=12.5km s-min=11.1km az=121.0*

BJI ***15*** *12:16:43.5, 46.40N×154.44E, h10km, mB5.8, mb5.6, Ms5.7, Msz5.4*

NEIC ***15*** *12:16:44.1±0.1, 46.20N×154.67E, h10km, mb5.9/146, Error ellipse: s-maj=3.9km s-min=2.8km az=167.0*

MOS ***15*** *12:16:44.2±0.9, 46.18N×154.67E, h21km, mb6.1/89, Error ellipse: s-maj=7.4km s-min=4.8km az=95.8*

SZGRF ***15*** *12:16:52.0, 46.54N×153.97E, h33km, mb6.1, Kuril Islands, Russia*

ISC 15 12:16:46.5±1.4, 46.27N±.003×154.63E±.002, h23km±10km, h19km±1.6km:pP-P, n737, σ0.973/724, mb5.7/202, MS5.6/1, 86C-169D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**6.59**	**253**			PN	**Pn**	**12 18 21.9**	**-0.1**
YUK						pmax	pmax		
	comp=Z,1μm,0.3s								
PET	**Petropavlovsk**	**7.25**	**20**	*e*	PN		**Pn**	**12 18 26.9**	**-4.1**
ASAJ	**Asahikawa**	**8.77**	**260**		Pn		**Pn**	**12 18 52.5**	**+0.6**
	comp=Z,37nm,0.3s,baz=3.9,slow=19,SNR=6.4								
ASAJ	**Asahikawa**	**8.77**	**260**		PN		**Pn**	**12 18 52.5**	**+0.6**
ASAJ					pmax	pmax			
	comp=Z,37nm,0.3s								
MA2	**Magadan**	**13.53**	**352**	*e*	P		**Pn**	**12 19 56.8**	**-0.2**
MA2					pmax	pmax			
	comp=Z,50nm,0.7s								
MA2	**Magadan**	**13.53**	**352**	*e*	P		**Pn**	**12 19 56.5**	**-0.5**
	comp=Z,113nm,1.0s								
SMY	**Shemya**	**14.18**	**56**	*e*	P		**Pn**	**12 20 04.8**	**-1.1**
SMY					pmax	pmax			
	comp=Z,97nm,0.7s								
SMY	**Shemya**	**14.18**	**56**	*e*	P		**Pn**	**12 20 04.8**	**-1.1**
	comp=Z,102nm,0.6s								
MJAR	**Matsushiro Arr**	**15.67**	**237**		Pn		**Pn**	**12 20 22.5**	**-3.2**
	comp=Z,2.0nm,0.3s,baz=30,slow=13,SNR=6.7								
MDJ	**Mudanjiang**	**17.63**	**274**		P		**Pn**	**12 20 49.9**	**-0.7**
MDJ					AMB	AMB			
	comp=Z,230nm,1.3s								
MDJ	**Mudanjiang**	**17.63**	**274**	*e*	P		**Pn**	**12 20 50.0**	**-0.6**
	comp=Z,490nm,1.1s								
YAK	**Yakutsk**	**21.29**	**327**	*e*	P		**P**	**12 21 29.3**	**-2.1**
YAK					pmax	pmax			
	comp=Z,255nm,0.9s,mb5.5								
YAK	**Yakutsk**	**21.29**	**327**	*e*	P		**P**	**12 21 29.3**	**-2.2**
	comp=Z,255nm,0.9s,mb5.5								
CBIJ	**Chichi jima**	**21.54**	**212**		P		**P**	**12 21 35.5**	**+1.5**
	comp=Z,190nm,0.8s,mb5.6,baz=93,slow=22,SNR=4.4								
KSRS	**Korea Array**	**21.67**	**256**		P		**P**	**12 21 36.2**	**+0.7**
	comp=Z,52nm,0.9s,mb5.0,baz=54,slow=9.3,SNR=4.8								
KSRS					PcP		PcP	12 25 34.1	-2.1
	comp=Z,11nm,1.0s,baz=53,slow=2.3,SNR=5.4								
INCN	**Inchon**	**22.53**	**257**	*e*	P		**P**	**12 21 44.6**	**-0.1**
	comp=Z,489nm,1.4s,mb5.7								
BILL	**Bilibino**	**22.64**	**11**	*e*	P		**P**	**12 21 45.1**	**-0.7**
BILL	**Bilibino**	**22.64**	**11**	*e*	P		**P**	**12 21 45.1**	**-0.7**
SNY	**Shenyang**	**22.68**	**270**	⇓	P		**P**	**12 21 46.1**	**-0.1**
SNY					AMB	AMB			
	comp=Z,485nm,0.9s,mb5.9								
HIA	**Hailar**	**23.52**	**290**	*e*	P		**P**	**12 21 52.2**	**-2.8**
HIA					pmax	pmax			
	comp=Z,45nm,0.7s								
HIA	**Hailar**	**23.52**	**290**	*e*	P		**P**	**12 21 52.1**	**-2.8**
	comp=Z,45nm,0.7s,mb5.0								
DL2	**Dalian**	**25.25**	**265**		P		**P**	**12 22 12.3**	**+1.5**
DL2					S		**S**	**12 26 38.3**	**+3.1**
DL2					AMB	AMB			
	comp=Z,170nm,1.4s,mb5.4								
UNV	**Unalaska Valle**	**25.81**	**59**		P		**P**	**12 22 15.6**	**-0.3**
	comp=Z,15μm,1.2s								
BJI	**Beijing**	**28.53**	**271**	*e*	P		**P**	**12 22 42.8**	**+2.5**
BJI					AMB	AMB			
	comp=Z,154nm,1.8s,mb5.4								
BJI	**Beijing**	**28.53**	**271**	*e*	P		**P**	**12 22 42.7**	**+2.4**
BJI					pmax	pmax			
	comp=Z,154nm,1.8s,mb5.4								
BJI	**Beijing**	**28.53**	**271**	*e*	P		**P**	**12 22 42.7**	**+2.4**
	comp=Z,154nm,1.8s,mb5.4								
BJT	**Baijiatuau**	**28.54**	**271**	*e*	P		**P**	**12 22 41.5**	**+1.1**
BJT					pmax	pmax			
	comp=Z,210nm,1.0s								
BJT	**Baijiatuau**	**28.54**	**271**	*e*	P		**P**	**12 22 42.3**	**+1.9**
	comp=Z,206nm,1.0s,mb5.8								
NJ2	**Nanjing**	**30.88**	**255**	*e*	P		**P**	**12 23 02.8**	**+1.7**
NJ2					AP	pP		12 23 06.3	-1.7
NJ2					XP	sP		12 23 09.8	-1.0
NJ2					PP	PP		12 24 05.8	-5.1
NJ2					S	**S**		**12 28 04.0**	**+0.3**
NJ2					XS	sS		12 28 12.0	-3.0
NJ2					AMB	AMB			
	comp=Z,330nm,0.5s,mb6.4								
NJ2					AMB	AMB			
	comp=Z,640nm,4.6s								
HHC	**Hu-ho-hao-te**	**31.38**	**276**	⇑	*iP*		**P**	**12 23 06.8**	**+1.3**
HHC					AP	pP		12 23 11.5	-0.9
HHC					PP	PP		12 24 08.8	-7.7
HHC					AMB	AMB			
	comp=Z,346nm,1.5s,mb6.0								
ULN	**Ulaanbaatar**	**32.05**	**290**	*e*	P		**P**	**12 23 12.8**	**+1.4**
ULN					pmax	pmax			
	comp=Z,148nm,1.1s,mb5.7								
ULN	**Ulaanbaatar**	**32.05**	**290**	*e*	P		**P**	**12 23 12.8**	**+1.3**
	comp=Z,148nm,1.1s,mb5.7								
SONM	**Songino Array**	**32.48**	**291**		P		**P**	**12 23 14.2**	**-1.0**
	comp=Z,15nm,0.8s,mb4.9,baz=66,slow=7.4,SNR=8.2								
SONM					PcP		PcP	12 26 01.1	-0.8
	comp=Z,11nm,1.0s,baz=68,slow=2.9,SNR=4.5								
IRK	**Irkutsk**	**32.85**	**299**	*e*	P		**P**	**12 23 18.0**	**-0.4**
IRK					pmax	pmax			
	comp=Z,135nm,1.2s,mb5.8								
TLY	**Talaya**	**33.33**	**298**		P		**P**	**12 23 23.9**	**+1.3**
	comp=Z,522nm,1.0s,mb6.4,SNR=5.6								
TLY	**Talaya**	**33.33**	**298**	*e*	P		**P**	**12 23 21.4**	**-1.2**
TLY				*e*				12 23 35.4	
TLY					pmax	pmax			
	comp=Z,161nm,1.5s,mb5.7								
TLY	**Talaya**	**33.33**	**298**	*e*	P		**P**	**12 23 22.0**	**-0.6**
	comp=Z,135nm,1.1s,mb5.8								
KDAK	**Kodiak Island**	**33.60**	**50**		P		**P**	**12 23 23.3**	**-1.6**
	comp=Z,1μm,1.2s,mb6.7,SNR=7.0								
KDAK	**Kodiak Island**	**33.60**	**50**		P		**P**	**12 23 23.7**	**-1.3**
	comp=Z,187nm,1.0s,mb6.0,baz=292,slow=4.1,SNR=12								
KDAK	**Kodiak Island**	**33.60**	**50**	*e*	P		**P**	**12 23 23.0**	**-2.0**
	comp=Z,246nm,1.1s,mb6.0								
ZAK	**Zakamensk**	**33.83**	**296**	*e*	P		**P**	**12 23 26.1**	**-0.9**
ZAK				*e*				12 26 03.7	
ZAK					pmax	pmax			
	comp=Z,61nm,1.2s,mb5.4								
MOY	**Mondy**	**34.95**	**299**	*e*	P		**P**	**12 23 36.6**	**-0.1**
MOY					pmax	pmax			
	comp=Z,288nm,2.0s,mb5.9								
PMR	**Palmer**	**35.22**	**44**	*e*	P		**P**	**12 23 38.2**	**-0.8**
PMR					pmax	pmax			
	comp=Z,120nm,1.2s,mb5.7								
PMR	**Palmer**	**35.22**	**44**	*e*	P		**P**	**12 23 38.2**	**-0.8**
	comp=Z,124nm,1.2s,mb5.7								
MCK	**McKinley**	**35.34**	**40**	*e*	P		**P**	**12 23 39.7**	**-0.4**
MCK					pmax	pmax			
	comp=Z,173nm,1.2s,mb5.9								
MCK	**McKinley**	**35.34**	**40**	*e*	P		**P**	**12 23 39.7**	**-0.4**
	comp=Z,173nm,1.2s,mb5.9								
COLA	**College**	**35.87**	**38**	*e*	P		**P**	**12 23 44.5**	**-0.1**
LZH	**Lanzhou**	**38.96**	**273**	*e*	P		**P**	**12 24 11.8**	**+1.0**
LZH					AP	pP		12 24 15.8	-1.9
LZH					XP	sP		12 24 19.1	-1.4
LZH					PP	PP		12 25 41.3	+1.1
LZH				*e*	S	**S**		**12 30 08.1**	**+0.1**
LZH					AMB	AMB			
	comp=Z,260nm,1.2s,mb5.8								
LZH					AMB	AMB			
	comp=Z,1μm,5.0s								
LZH	**Lanzhou**	**38.96**	**273**	*e*	P		**P**	**12 24 11.7**	**+0.9**
LZH					*SP	sP		12 24 19.1	-1.4
LZH								12 25 41.2	
LZH				*e*	S		**S**	**12 30 08.1**	**+0.1**
LZH					pmax	pmax			
	comp=Z,260nm,1.2s,mb5.8								
LZH	**Lanzhou**	**38.96**	**273**	*e*	P		**P**	**12 24 11.7**	**+0.9**
	comp=Z,260nm,1.2s,mb5.8								
LZH					pP	pP		12 24 15.7	-2.0
LZH					sP	sP		12 24 19.1	-1.4
LZH					PP	PP		12 25 41.2	+1.0
LZH				*e*	S	**S**		**12 30 08.1**	**+0.1**
LZH					sS	sS		12 30 12.9	-6.6
GTA	**Gaotai**	**40.09**	**280**	*e*	P		**P**	**12 24 21.4**	**+1.3**
GTA					AP	pP		12 24 29.6	+2.5
GTA					XP	sP		12 24 33.8	+3.9
GTA					PP	PP		12 25 57.8	+5.3
GTA					PPP			12 26 22.4	
GTA					S	**S**		**12 30 24.3**	**-0.7**
GTA					XS	sS		12 30 35.8	-0.7
GTA					SS	SS		12 33 13.5	-9.2
GTA					AMB	AMB			
	comp=Z,98nm,1.3s,mb5.4								
INK	**Inuvik**	**41.50**	**32**	P		**P**	**12 24 32.5**	**+0.7**
	comp=Z,95nm,0.7s,mb5.5,baz=290,slow=6.4,SNR=19								
INK	**Inuvik**	**41.50**	**32**	*e*	P		**P**	**12 24 32.2**	**+0.4**
	comp=Z,4μm,0.8s								
SKAG	**Skagway**	**42.25**	**46**	*e*	P		**P**	**12 24 39.3**	**+1.3**
	comp=Z,551nm,1.7s,mb5.9								
GYA	**Guiyang**	**42.65**	**259**	⇑	*iP*		**P**	**12 24 40.8**	**-0.4**
GYA					AP	pP		12 24 44.8	-3.4
GYA					XP	sP		12 24 47.9	-3.1
GYA					PP	PP		12 26 24.3	+4.1
GYA					SCP	ScP		12 30 25.3	+2.9
GYA					AMB	AMB			
	comp=Z,970nm,1.0s,mb6.5								
GYA					LR	LR			
	comp=N,5μm,17.8s,MS5.7								
GYA					LR	LR			
	comp=E,6μm,18.4s,MS5.7								
GYA					LR	LR			
	comp=Z,6μm,18.6s,MS5.5								
SIT	**Sitka**	**42.89**	**49**	*e*	P		**P**	**12 24 42.3**	**-0.9**
SIT					pmax	pmax			
	comp=Z,849nm,2.0s,mb6.1								
SIT	**Sitka**	**42.89**	**49**	*e*	P		**P**	**12 24 42.3**	**-0.9**
	comp=Z,849nm,2.0s,mb6.1								
NVS	**Novosibirsk**	**44.31**	**308**	*e*	P		**P**	**12 24 53.4**	**-1.2**
NVS					pmax	pmax			
	comp=Z,258nm,1.9s,mb5.6								
NVS					pmax	pmax			
	comp=N,286nm,2.3s								
NVS					pmax	pmax			
	comp=E,448nm,2.3s								
CRAG	**Craig**	**44.56**	**51**	*e*	P		**P**	**12 24 56.8**	**+0.3**
	comp=E,226nm,1.4s,mb5.8								
WRAK	**Wrangell Islan**	**44.65**	**49**	*e*	P		**P**	**12 24 58.5**	**+1.2**
	comp=E,146nm,1.3s,mb5.7								
DLBC	**Dease Lake**	**45.18**	**46**	*e*	P		**P**	**12 25 03.0**	**+1.6**
QIZ	**Qiongzhong**	**45.64**	**249**		P		**P**	**12 25 05.3**	**+0.1**
QIZ					S		**S**	**12 31 47.8**	**+1.3**
QIZ					AMB	AMB			
	comp=Z,36nm,1.2s,mb5.2								
WMQ	**Urumqi**	**46.08**	**292**	⇑	*iP*		**P**	**12 25 11.8**	**+3.2**
WMQ					AP	pP		12 25 16.3	+0.6
WMQ					X

baz=55
A08A Turner Farm, O 55.06 53 ⇑P P 12 26 15.1 -1.3
baz=55,SNR=5.7
I02A Mapleton 55.09 61 ⇓P P 12 26 16.6 -0.1
baz=55
D06A Cle Elum 55.12 56 ⇑P P 12 26 16.3 -0.5
baz=55,SNR=5.0
G04A Mulino 55.24 59 ⇓P P 12 26 17.6 -0.1
baz=55
C07A Waterville 55.29 55 P P 12 26 18.0 -0.1
baz=55,SNR=6.3
B08A Colville Reser 55.34 54 P P 12 26 18.4 -0.1
baz=55,SNR=6.3
K01A Sixes 55.36 62 ⇑P P 12 26 19.6 +1.0
baz=55
E06A Yakima 55.39 57 P P 12 26 19.5 +0.7
baz=55,SNR=5.5
A09A Danville 55.43 53 P P 12 26 19.4 +0.3
baz=55,SNR=8.4
I03A Eugene 55.44 60 ⇑P P 12 26 19.1 -0.1
baz=55,SNR=5.7
F05A White Salmon 55.47 57 ⇑P P 12 26 19.3 -0.1
baz=55
J02A Umpqua 55.60 61 P P 12 26 21.6 +1.3
baz=55,SNR=7.6
D07A Quincy 55.61 55 ⇑P P 12 26 19.9 -0.5
baz=55
HNR Honiara 55.65 174 *e*P P 12 26 20.3 -0.4
HNR pmax pmax
comp=Z,152nm,1.0s,mb6.0
HNR Honiara 55.65 174 *e*P P 12 26 20.3 -0.4
comp=Z,152nm,1.0s,mb6.0
H04A Detroit Lake 55.70 59 P P 12 26 21.6 +0.6
baz=56,SNR=10
KSH Kashi 55.81 294 *e*P P 12 26 18.5 -3.3
KSH *e*AP pP 12 26 24.3 -4.7
KSH *e*XP sP 12 26 27.4 -4.4
KSH *e*PCP PcP 12 27 19.3 -1.3
KSH *e*PP PP 12 28 24.4 -2.0
KSH eSCP ScP 12 31 18.3 +0.1
C08A Higginbotham F 55.82 54 P P 12 26 21.9 0.0
baz=56,SNR=5.3
PMG Port Moresby 55.83 189 P P 12 26 21.2 -0.7
comp=Z,43nm,0.8s,mb5.5,baz=346,slow=4.8,SNR=14
PMG Port Moresby 55.83 189 *e*P P 12 26 20.7 -1.2
PMG pmax pmax
comp=Z,130nm,1.2s
PMG Port Moresby 55.83 189 *e*P P 12 26 20.7 -1.3
comp=Z,131nm,1.3s,mb5.8
EDM Edmonton 55.89 47 *e*P P 12 26 22.4 0.0
EDM Edmonton 55.89 47 *e*P P 12 26 21.6 -0.8
G05A Wamic 55.91 58 P P 12 26 23.4 +0.9
baz=56,SNR=6.2
F06A Goldendale 55.93 57 ⇑P P 12 26 23.3 +0.6
baz=56
J03A Ideyld Park 55.96 61 ⇓P P 12 26 23.6 +0.7
baz=56
B09A Rice 55.97 53 ⇑P P 12 26 22.8 -0.2
baz=56,SNR=6.6
K02A Glendale 55.98 62 ⇑P P 12 26 22.3 -0.7
baz=56,SNR=6.3
A10A Northport 55.99 53 P P 12 26 23.1 0.0
baz=56,SNR=6.1
E07A Sunnyside 56.03 56 P P 12 26 23.3 -0.1
baz=56,SNR=9.4
I04A Tendick Farm, 56.06 60 ⇑P P 12 26 24.3 +0.6
baz=56
ARU Arti 56.07 318 P P 12 26 23.6 -0.1
comp=Z,960nm,0.7s,SNR=7.7
ARU Arti 56.07 318 *e*P P 12 26 23.3 -0.4
ARU Arti 56.07 318 *e*P P 12 26 23.6 -0.1
M01C Crescent City 56.11 63 ⇓P P 12 26 23.3 -0.7
baz=56
C09A Chrisman Ranch 56.24 54 P P 12 26 24.8 -0.2
baz=56,SNR=8.0
L02A Cave Junction 56.26 62 ⇓P P 12 26 25.4 +0.3
baz=56
D08A Wollman Farm, 56.29 55 P P 12 26 24.7 -0.6
baz=56,SNR=5.8
H05A Madras 56.29 59 P P 12 26 25.9 +0.6
baz=56,SNR=7.2
HAWA Hanford 56.31 56 *e*P P 12 26 25.5 +0.1
comp=Z,134nm,1.4s,mb5.8
G06A Carlson Farm, 56.31 58 P P 12 26 25.7 +0.3
baz=56,SNR=11
F07A Phinny Hill Vi 56.36 57 P P 12 26 26.1 +0.4
baz=56,SNR=10
HUMO Hull Mountain 56.40 61 *e*P P 12 26 26.9 +0.9
comp=Z,110nm,1.4s,mb5.7
HUMO Hull Mountain 56.40 61 ⇓P P 12 26 26.0 0.0
baz=56,SNR=7.1
E08A Dider Farm, El 56.52 56 P P 12 26 26.9 -0.1
baz=56,SNR=6.4
I05A Bend 56.54 59 P P 12 26 27.6 +0.5
baz=56,SNR=8.4
B10A Chitwood Farm, 56.55 53 ⇑P P 12 26 26.2 -0.9
baz=56
J04A Umpqua Nationa 56.55 60 P P 12 26 28.6 +1.5
baz=56,SNR=5.0
NEW Newport 56.63 53 P P 12 26 27.3 -0.4
comp=Z,67nm,1.2s,mb5.5,baz=298,slow=6.6,SNR=13
NEW Newport 56.63 53 *e*P P 12 26 27.3 -0.4
NEW pmax pmax
comp=Z,136nm,1.4s
NEW Newport 56.63 53 *e*P P 12 26 27.3 -0.4
comp=Z,136nm,1.4s,mb5.8
D09A Jones Farm, Ri 56.63 55 P P 12 26 27.4 -0.3
baz=56,SNR=5.5
A11A Hall Mountain, 56.66 52 P P 12 26 28.5 +0.6
baz=56,SNR=9.2
JCC Jacoby Creek 56.75 64 ⇑P P 12 26 29.6 +1.1
baz=57
H06A Lindquist Farm 56.77 58 P P 12 26 29.5 +0.8
baz=57,SNR=6.1
C10A Spiker Farm, 56.77 54 ⇓P P 12 26 28.5 -0.2
baz=57
G07A Ruggs Ranch, H 56.86 57 P P 12 26 29.7 +0.4
baz=57,SNR=6.7
B11A Sandpoint 56.95 53 P P 12 26 30.2 +0.3
baz=57,SNR=8.0
E09A Wood Farm, Sta 57.03 55 P P 12 26 30.9 +0.4
baz=57,SNR=8.5
YBH Yreka Blue Hor 57.04 62 P P 12 26 31.6 +1.0
comp=Z,77nm,1.3s,mb5.6,baz=3.0,slow=2.1,SNR=12
YBH Yreka Blue Hor 57.04 62 *e*P P 12 26 31.6 +1.0
YBH pmax pmax
comp=Z,100nm,1.3s
YBH Yreka Blue Hor 57.04 62 *e*P P 12 26 31.6 +1.0
comp=Z,104nm,1.4s,mb5.7
YBH Yreka Blue Hor 57.04 62 P P 12 26 31.9 +1.2
baz=57,SNR=7.4
J05A Fort Rock 57.05 60 P P 12 26 32.0 +1.3
baz=57,SNR=6.8
A12A Yaak River Ran 57.06 52 ⇓P P 12 26 30.9 +0.1
baz=57
F08A Pendleton 57.08 56 P P 12 26 31.2 +0.4
baz=57,SNR=9.2
K04A Chilquin 57.14 61 ⇑P P 12 26 31.6 +0.3
baz=57
M02C Callahan 57.15 63 ⇑P P 12 26 31.7 +0.4
baz=57,SNR=6.3
N02C Big Bar 57.20 63 ⇑P P 12 26 31.8 0.0
baz=57
G08A Pilot Rock 57.26 57 P P 12 26 32.3 +0.2
baz=57,SNR=12
O01C Eel River Cons 57.27 64 ⇑P P 12 26 33.0 +0.8
baz=57
I06A Prineville 57.29 59 P P 12 26 33.7 +1.4
baz=57,SNR=7.3
L04A Klamath Falls 57.29 61 P P 12 26 33.2 +0.8
baz=57,SNR=7.3
B12A Libby 57.36 52 ⇓P P 12 26 32.6 -0.2
baz=57
M04C Macdoel 57.55 62 P P 12 26 35.0 +0.8
baz=57,SNR=7.5
K05A Summer Lake 57.58 60 ⇑P P 12 26 34.7 +0.3
baz=57,SNR=7.0
LVZ Lovozero 57.62 337 P P 12 26 34.6 -0.1
comp=Z,690nm,1.1s,mb6.6,SNR=7.8
F09A S2 Ranch, Elgi 57.63 56 P P 12 26 35.2 +0.5
baz=57,SNR=9.2
I07A Izee 57.63 58 P P 12 26 35.9 +1.1
baz=57,SNR=6.6
E10A Myers Farm, Un 57.64 55 P P 12 26 35.2 +0.4
baz=57,SNR=8.0
M03C McCloud 57.67 62 ⇑P P 12 26 34.7 -0.3
baz=58,SNR=5.3
D11A Klaveano Farm, 57.76 54 P P 12 26 35.6 -0.1
baz=58,SNR=5.6
WDC Whiskeytown Da 57.81 63 *e*P P 12 26 36.1 +0.1
WDC pmax pmax
comp=Z,85nm,1.4s,mb5.6
WDC Whiskeytown Da 57.81 63 *e*P P 12 26 36.1 +0.1
comp=Z,85nm,1.4s,mb5.6
WDC Whiskeytown Da 57.81 63 ⇑P P 12 26 36.4 +0.4
baz=58
F10A Beach Ranch, E 57.87 55 ⇑P P 12 26 35.9 -0.5
baz=58
H08A Prairie City 57.87 57 P P 12 26 37.5 +1.0
baz=58,SNR=7.3
O02C Red Bluff 57.89 64 ⇑P P 12 26 37.0 +0.4
baz=58,SNR=5.3
K06A Valley Falls 57.92 60 ⇑P P 12 26 36.8 0.0
baz=58,SNR=8.5
WALA Waterton Lakes 57.93 51 *e*P P 12 26 36.8 -0.1
comp=Z,134nm,1.1s,mb5.9
P01C Double 8 Ranch 57.96 65 ⇑P P 12 26 36.9 -0.3
baz=58
L05A Lakeview 58.01 61 P P 12 26 38.6 +1.2
baz=58,SNR=5.4
B13A Whitefish 58.03 52 P P 12 26 38.2 +0.7
baz=58,SNR=9.0
J07A Hines 58.15 59 ⇓P P 12 26 38.0 -0.4
baz=58
APA Apatity 58.19 337 ⇓/P P 12 26 37.0 -1.7
APA pmax pmax
comp=Z,140nm,1.3s,mb5.8
M05C Lookout 58.22 62 ⇓P P 12 26 38.9 0.0
baz=58,SNR=8.6
GASB Alder Springs 58.24 64 ⇑P P 12 26 39.1 +0.1
baz=58,SNR=5.3
I08A Drewsey 58.28 58 ⇓P P 12 26 40.3 +1.0
baz=58
HATC Hat Creek Radi 58.34 62 ⇑P P 12 26 39.8 0.0
baz=58
C13A Hot Springs 58.37 53 ⇓P P 12 26 39.4 -0.6
baz=58
H09A Durkee 58.37 57 P P 12 26 40.7 +0.7
baz=58,SNR=9.4
HOPS Hopland 58.41 65 *e*P P 12 26 39.2 -1.0
comp=Z,92nm,1.4s,mb5.6
HOPS Hopland 58.41 65 ⇓P P 12 26 40.3 +0.1
baz=58
MOD Modoc 58.41 61 *e*P P 12 26 40.3 +0.1
comp=Z,62nm,1.3s,mb5.5
MOD Modoc 58.41 61 P P 12 26 40.7 +0.5
baz=58,SNR=9.0
O03C Acorn Hollow, 58.47 64 ⇑P P 12 26 40.4 -0.3
baz=58
F11A Grangeville 58.53 55 P P 12 26 41.0 0.0
baz=58,SNR=7.7
K07A Rock Creek Ran 58.59 60 P P 12 26 42.2 +0.8
baz=58,SNR=10.0
ARCES ARCESS Array B 58.65 341 P P 12 26 40.3 -1.6
comp=Z,38nm,0.9s,mb5.4,baz=36,slow=6.3,SNR=13
ARE0 ARCESS Array S 58.65 341 *e*P P 12 26 41.3 -0.6
J08A Circle Bar Ran 58.66 59 P P 12 26 42.8 +0.8
baz=58,SNR=5.3
M06C Likely Place G 58.72 62 P P 12 26 43.1 +0.8
baz=58,SNR=6.0
I09A Lost Marbles R 58.73 58 P P 12 26 43.0 +0.5
baz=58,SNR=7.8
G11A Walters Elk Ra 58.75 55 ⇓P P 12 26 42.4 -0.1
baz=58
C14A Swan Lake 58.77 52 ⇑P P 12 26 42.8 0.0
baz=58
D13A Huson 58.77 53 P P 12 26 42.7 0.0
baz=59,SNR=7.6
O04C Chester 58.86 63 ⇑P P 12 26 43.1 -0.3
baz=59,SNR=7.7
MNRC McLaughlin Nat 58.87 65 P P 12 26 44.8 +1.3
baz=59,SNR=6.2
ELFS Eagle Lake Fie 58.91 62 P P 12 26 44.6 +1.0
baz=59,SNR=7.0
L07A Adell 58.93 60 P P 12 26 44.8 +0.9
baz=59,SNR=8.8
K08A Mann Creek Ran 59.02 59 P P 12 26 45.2 +0.7
baz=59,SNR=8.6
KSM Kuching 59.04 235 *e*P P 12 26 44.7 +0.1
ORV Oroville 59.06 64 ⇓P P 12 26 44.8 0.0
baz=59
J09A Fry Pan Ranch, 59.09 58 P P 12 26 46.1 +1.2
baz=59,SNR=5.7
O05C Quincy 59.18 63 P P 12 26 46.0 +0.4
baz=59,SNR=5.5
CVS Carmenet Viney 59.18 65 ⇓P P 12 26 46.4 +0.8
baz=59
TMCR Tamitsa 59.24 333 *e*P P 12 26 45.6 -0.4
TMCR pmax pmax
comp=Z,323nm,1.5s,mb6.1
Q03C Winters 59.29 65 ⇓P P 12 26 47.1 +0.7
baz=59
H11A Donnelly 59.30 56 P P 12 26 46.6 +0.2
baz=59,SNR=7.5
D14A Greenough 59.31 53 P P 12 26 46.7 +0.2
baz=59,SNR=11
E13A Victor 59.31 54 P P 12 26 47.0 +0.5
baz=59,SNR=9.4
N06A Buffalo Meadow 59.38 62 P P 12 26 47.5 +0.6
baz=59,SNR=9.2
M07A Soldier Meadow 59.40 61 P P 12 26 48.1 +1.0
baz=59,SNR=8.0
L08A Fields 59.42 60 P P 12 26 47.9 +0.7
baz=59,SNR=7.1
K09A Rome 59.49 59 P P 12 26 48.2 +0.5
baz=59,SNR=6.9
CHMT Chamberlain Mo 59.55 53 *e*P P 12 26 48.2 +0.1
KTK1 Kautokeino 59.56 342 *e*P P 12 26 48.5 +0.2
comp=Z,201nm,1.7s,mb5.9
Q04C Linln 59.56 64 P P 12 26 48.3 +0.1
baz=59,SNR=5.8
BEKR Beckwourth 59.58 63 ⇑P P 12 26 48.1 -0.3
baz=59
F13A Darby 59.62 54 ⇑P P 12 26 48.2 -0.4
baz=59,SNR=9.5
E14A Clinton 59.71 53 ⇓P P 12 26 48.8 -0.4
baz=60,SNR=7.6
O06A Flanigan 59.73 62 ⇓P P 12 26 49.4 +0.1
baz=60
P05C Yuba Gap, Truc 59.77 63 ⇑P P 12 26 49.6 0.0
baz=60
BDM Black Diamond 59.79 65 ⇓P P 12 26 49.9 +0.1
baz=60
AKTK Aktyubinsk 59.83 313 P P 12 26 50.1 +0.1
AKTO Aktyubinsk 59.83 313 P P 12 26 50.1 +0.1
comp=Z,43nm,0.8s,mb5.5,baz=87,slow=3.1,SNR=8.0
AKTO Aktyubinsk 59.83 313 P P 12 26 50.1 +0.1
AKTO pmax pmax
comp=Z,43nm,0.8s,mb5.5
D15A Lincoln 59.87 52 ⇓P P 12 26 50.5 +0.1
baz=60
JRSC Jasper Ridge 59.88 66 ⇓P P 12 26 50.3 -0.2
baz=60
N07B Gerlach 59.88 61 ⇓P P 12 26 50.7 +0.3
baz=60,SNR=6.6
L09A Wilkinson Ranc 59.93 59 ⇓P P 12 26 51.2 +0.4
baz=60,SNR=6.0
P06A Stead Airport, 59.98 63 ⇑P P 12 26 51.5 +0.4
baz=60
WENL Wente Brothers 60.06 66 ⇓P P 12 26 51.7 +0.1
baz=60
BNLO Ben Lomond (Sa 60.09 66 ⇑P P 12 26 51.7 -0.2
baz=60
F14A Wisdom 60.14 54 ⇓P P 12 26 52.0 -0.2
baz=60
E15A Deer Lodge 60.18 53 P P 12 26 52.5 +0.1
baz=60,SNR=12
R04C Big Horse Ranc 60.19 65 ⇓P P 12 26 52.0 -0.6
baz=60
WCN Washoe City 60.29 63 ⇓P P 12 26 53.4 +0.2
baz=60,SNR=5.9
O07A Toulon 60.31 62 P P 12 26 54.2 +0.8
baz=60,SNR=7.2
N08A GE Springer Mi 60.39 61 P P 12 26 54.4 +0.5
baz=60,SNR=9.4
S04C Ingram Canyon, 60.40 65 ⇑P P 12 26 53.9 -0.1
baz=60
M09A Marrel Ranch, 60.42 60 P P 12 26 55.2 +1.1
baz=60,SNR=5.2
FFC Flin Flon 60.43 40 P P 12 26 54.2 0.0
comp=Z,936nm,1.3s,mb6.7,SNR=8.7
FFC Flin Flon 60.43 40 P P 12 26 54.5 +0.4
R05C Kirkwood Meado 60.46 64 ⇑P P 12 26 54.4 0.0
baz=60,SNR=7.2
F15A Butte 60.61 53 ⇑P P 12 26 55.4 -0.1
baz=60,SNR=15
CMB Columbia Colle 60.67 64 *e*P P 12 26 55.6 -0.2
CMB pmax pmax
comp=Z,92nm,1.5s,mb5.7
CMB Columbia Colle 60.67 64 *e*P P 12 26 55.9 +0.1
comp=Z,92nm,1.5s,mb5.7
CMB Columbia Colle 60.67 64 ⇑P P 12 26 55.4 -0.4
baz=60,SNR=7.5
O08A Rochester Mine 60.68 61 ⇑P P 12 26 55.8 0.0
baz=60
P07A Fallon 60.68 62 ⇑P P 12 26 55.7 -0.2
baz=60
N09A Rock Creek Ran 60.72 60 ⇑P P 12 26 56.1 0.0
baz=60,SNR=8.2
PACP Pacheco Peak 60.73 66 ⇓P P 12 26 56.0 -0.2
baz=60
EGMT Eagleton 60.77 50 *e*P P 12 26 56.5 0.0
comp=Z,219nm,1.5s,mb6.1
DLMT Dillon 60.85 54 *e*P P 12 26 56.4 -0.6
comp=Z,32nm,1.2s,mb5.3
M10A I.L. Ranch, Tu 60.90 59 ⇑P P 12 26 56.7 -0.7
baz=61
HLID Hailey 60.91 56 *e*P P 12 26 57.2 -0.2
comp=Z,98nm,1.4s,mb5.7
HAST UC Hastings Re 60.94 67 ⇓P P 12 26 57.9 +0.2
baz=61
R06C Coleville 60.96 64 ⇓P P 12 26 57.5 -0.3
baz=61,SNR=5.5
G15A Dillon 61.03 54 ⇓P P 12 26 58.0 -0.2
baz=61,SNR=6.0
MCMT McKenzie Canyo 61.03 54 *e*P P 12 26 58.3 +0.1
FCC Fort Churchill 61.09 34 *e*P P 12 26 57.7 -0.9
FCC pmax pmax
comp=Z,192nm,1.3s,mb6.1
FCC Fort Churchill 61.09 34 *e*P P 12 26 57.7 -0.9
comp=Z,192nm,1.3s,mb6.1
P08A Dixie Valley 61.09 62 ⇑P P 12 26 58.5 -0.2
baz=61
S06C San Francisco 61.10 64 P P 12 26 58.8 +0.1
baz=61,SNR=5.9
Q07A Schurz 61.10 63 ⇑P P 12 26 58.8 0.0
baz=61
SUMG Summit 61.10 4 *e*P P 12 26 59.4 +0.6
comp=Z,66nm,1.0s,mb5.7
S05C Merced 61.13 65 ⇑P P 12 26 58.5 -0.4
baz=61
BMN Battle Mountai 61.16 61 *e*P P 12 26 59.6 +0.5
BMN pmax pmax
comp=Z,190nm,1.5s,mb6.0
BMN Battle Mountai 61.16 61 *e*P P 12 26 59.6 +0.5
comp=Z,189nm,1.5s,mb6.0
O09A Fish Creek Ran 61.34 61 P P 12 27 01.2 +0.9
baz=61,SNR=7.6
V03C Hunter Liggett 61.37 67 ⇓P P 12 27 00.7 +0.2
baz=61
M11A Holland Ranch, 61.40 59 ⇑P P 12 27 01.1 +0.3
baz=61,SNR=6.3
N10A Dunphy 61.41 60 ⇓P P 12 27 01.0 +0.1
baz=61,SNR=6.6
U04C Hernandez Rese 61.44 66 ⇓P P 12 27 01.2 +0.1
baz=61
R07C Lee Vining 61.47 64 ⇑P P 12 27 01.3 +0.1
baz=61,SNR=7.5
O10A Cortez Mining, 61.68 60 ⇑P P 12 27 02.8 +0.1
baz=62,SNR=9.5
Q08A Gabbs 61.69 62 ⇑P P 12 27 02.4 -0.3
baz=62,SNR=6.5
T06C Millerton Lake 61.73 65 P P 12 27 02.6 -0.4
baz=62,SNR=6.1
P09A Austin 61.75 61 ⇑P P 12 27 03.1 0.0
baz=62,SNR=8.8
KCC Kaiser Creek 61.77 65 P P 12 27 03.5 +0.2
baz=62,SNR=5.2
N11A Elko Archery C 61.81 59 ⇓P P 12 27 03.5 -0.1
baz=62,SNR=7.5
QLMT Earthquake Lak 61.82 54 *e*P P 12 27 04.3 +0.6
KULM Kulim 61.83 246 *e*P P 12 27 04.5 +0.9
PKD Parkfield 61.86 66 ⇓P P 12 27 03.3 -0.5
baz=62
U05C Westside ANR, 61.88 66 ⇓P P 12 27 04.3 +0.3
baz=62
MLAC Mammoth Lakes 61.89 64 ⇓P P 12 27 04.1 +0.1
baz=62
R08A Mina 61.90 63 P P 12 27 04.6 +0.5
baz=62,SNR=5.9
M12A Wells 61.93 58 ⇓P P 12 27 04.4 +0.1
baz=62,SNR=7.4
KAKA Kakadu 62.01 205 *e*P P 12 27 04.1 -0.8
comp=Z,75nm,0.8s,mb5.9
P10A Eureka 62.11 61 ⇑P P 12 27 05.4 -0.2
baz=62
ELK Elko 62.15 59 *e*P P 12 27 06.0 +0.2
ELK pmax pmax
comp=Z,36nm,1.2s
ELK Elko 62.15 59 *e*P P 12 27 06.0 +0.2
comp=Z,36nm,1.2s,mb5.4
Q09A Carvers 62.16 62 ⇓P P 12 27 06.1 +0.2
baz=62,SNR=6.0
N12A Clover Valley, 62.21 59 ⇓P P 12 27 06.1 -0.1
baz=62,SNR=6.5
MTUM Tungsten Hills 62.23 64 *e*P P 12 27 06.8 +0.5
LOF Lofoten 62.25 345 *e*P P 12 27 09.2 +2.7
comp=Z,306nm,2.0s,mb6.1
O11A Cowboy Ranch, 62.28 60 P P 12 27 07.2 +0.5
baz=62,SNR=8.1
V05C Boulder Hill, 62.31 66 ⇑P P 12 27 06.9 0.0
baz=62
YNR Norris Junctio 62.31 53 *e*P P 12 27 08.3 +1.4
HELL Mitchell Peak, 62.36 65 P P 12 27 07.0 -0.2
baz=62,SNR=5.3
S08C White Mtn Res 62.38 64 ⇑P P 12 27 07.4 +0.1
baz=62,SNR=8.4
YFT Old Faithful 62.39 54 *e*P P 12 27 09.0 +1.6
M13A Montello 62.41 58 ⇓P P 12 27 07.5 -0.1
baz=62,SNR=6.1
RCTC Rector, Farmer 62.45 65 ⇑P P 12 27 07.6 -0.2
baz=62
P11A Circle Ranch, 62.59 61 ⇓P P 12 27 08.7 0.0
baz=62
SMMC Simmler 62.60 67 ⇓P P 12 27 09.3 +0.5
baz=62
R09A Tonopah 62.60 62 P P 12 27 09.1 +0.3
baz=62,SNR=10
TPH Tonopah 62.61 63 *e*P P 12 27 08.8 -0.1
TPH pmax pmax
comp=Z,163nm,1.6s,mb5.9
TPH Tonopah 62.61 63 *e*P P 12 27 08.8 -0.1
comp=Z,163nm,1.6s,mb5.9
TIN Tinemaha 62.62 64 ⇑P P 12 27 08.4 -0.6
baz=62
N13A Wendover, West 62.70 59 P P 12 27 10.6 +1.1
baz=62,SNR=5.9
FLWY Flagg Ranch 62.70 54 *e*P P 12 27 11.1 +1.6
comp=Z,136nm,1.3s,mb5.9
DCID1 Drake Creek 62.73 55 *e*P P 12 27 10.9 +1.2
O12A Currie 62.74 59 P P 12 27 10.4 +0.6
baz=62,SNR=8.3
S09A Goldfield 62.83 63 P P 12 27 10.7 +0.3
baz=63,SNR=7.6
VES Vestal, Richgr 62.85 66 ⇓P P 12 27 10.4 0.0
baz=63
PKM Peak Mountain 62.97 67 ⇓P P 12 27 11.0 -0.3
baz=63
R10A Warm Springs 63.04 62 ⇓P P 12 27 10.8 -1.0
baz=63,SNR=6.6
SNOW Snow King Moun 63.06 55 *e*P P 12 27 13.3 +1.4
comp=Z,218nm,1.2s,mb6.2
Q11A Duckwater 63.09 61 ⇑P P 12 27 12.1 0.0
baz=63,SNR=5.8
CWC Cottonwood Cre 63.10 65 ⇓P P 12 27 11.9 -0.2
baz=63
P12A McGill 63.15 60 ⇑P P 12 27 11.9 -0.5
baz=63
GRAC Grapevine Rang 63.19 64 ⇑P P 12 27 12.9 +0.1
baz=63
AHID Auburn Hatcher 63.30 55 *e*P P 12 27 13.9 +0.4
comp=Z,141nm,1.5s,mb5.9
SBC Santa Barbara 63.33 67 ⇑P P 12 27 13.5 -0.1
baz=63
ISA Isabella 63.34 65 *e*P P 12 27 12.9 -0.9
comp=Z,0.1nm,1.5s
ISA Isabella 63.34 65 ⇓P P 12 27 13.6 -0.2
baz=63
BGU Big Grassy Mou 63.35 58 *e*P P 12 27 14.0 +0.2
DGMT Dagmar 63.38 47 *e*P P 12 27 13.7 -0.3
comp=Z,404nm,1.5s,mb6.3
TRCR Troy Canyon 63.44 62 *e*P P 12 27 14.2 -0.3
SPUT South Promonto 63.45 57 *e*P P 12 27 12.0 -2.5
ARVC Arvin 63.45 66 ⇑P P 12 27 14.2 -0.3

baz=63
Q12A Willow Creek R 63.47 61 ⇑P **P** 12 27 14.2 -0.3
baz=63
LAO LASA Array 63.48 49 *e*P **P** 12 27 15.3 +0.7
comp=Z,435nm,1.6s,mb6.3
DAC Darwin (Calif) 63.51 64 *e*P **P** 12 27 14.4 -0.5
DAC pmax pmax
comp=Z,75nm,1.6s,mb5.5
DAC Darwin (Calif) 63.51 64 *e*P **P** 12 27 14.4 -0.4
comp=Z,76nm,1.6s,mb5.5
MPMC Manual Prospec 63.71 65 ⇑P **P** 12 27 16.2 0.0
baz=64
HWUT Hardware Ranch 63.77 57 *e*P **P** 12 27 16.8 +0.2
comp=Z,108nm,1.2s,mb5.8
MOR8 Moi Rana 63.79 343 *e*P **P** 12 27 17.0 +0.3
FURC Furnace Creek, 63.84 64 ⇑P **P** 12 27 16.5 -0.6
baz=64,SNR=6.2
DUG Dugway 63.94 58 *e*P **P** 12 27 17.9 +0.2
DUG pmax pmax
comp=Z,91nm,1.1s,mb5.7
DUG Dugway 63.94 58 *e*P **P** 12 27 17.9 +0.2
comp=Z,91nm,1.1s,mb5.7
LRMC Laurel Mountai 63.95 65 ⇓P **P** 12 27 16.4 -1.4
baz=64
EDW2 Edwards Air Fo 64.14 66 ⇓P **P** 12 27 18.2 -0.9
baz=64
BW06 Boulder Array 64.18 54 *e*P **P** 12 27 19.4 +0.1
comp=Z,146nm,1.2s,mb5.9
PDAR Pinedale Array 64.18 54 P **P** 12 27 18.6 -0.6
comp=Z,65nm,1.1s,mb5.6,baz=304,slow=2.7,SNR=19
U10A Ash Meadows, A 64.21 64 ⇓P **P** 12 27 18.2 -1.3
baz=64
DECC Green Verdugo 64.33 67 ⇓P **P** 12 27 19.2 -1.0
baz=64
NLU North Lily Min 64.53 58 *e*P **P** 12 27 21.9 +0.3
SHOC Shoshone 64.57 64 ⇓P **P** 12 27 20.8 -1.0
baz=64
GSC Goldstone 64.62 65 *e*P **P** 12 27 19.4 -2.8
GSC Goldstone 64.62 65 *e*P **P** 12 27 21.9 -0.2
GSC Goldstone 64.62 65 ⇓P **P** 12 27 21.5 -0.7
baz=64
DAU Daniels Canyon 64.71 57 *e*P **P** 12 27 23.8 +1.0
BFSC Mount Baldy St 64.76 66 ⇓P **P** 12 27 21.9 -1.2
baz=65
U11A Corn Creek 64.79 63 ⇓P **P** 12 27 22.9 -0.4
baz=65
CIS Catalina Islan 64.82 67 ⇓P **P** 12 27 22.2 -1.3
baz=65
FINES FINESS Array B 64.92 335 P **P** 12 27 22.7 -1.4
comp=Z,23nm,0.5s,mb5.5,baz=38,slow=8.3,SNR=7.5
TUQ Turquoise Mtn. 65.09 64 P **P** 12 27 25.4 +0.2
baz=65,SNR=5.1
ARUT Antelope Range 65.10 61 *e*P **P** 12 27 25.5 +0.2
V11A Goodsprings 65.14 64 ⇓P **P** 12 27 25.5 0.0
baz=65,SNR=6.5
BBRC Big Bear Sol-O 65.22 66 ⇑P **P** 12 27 25.7 -0.3
baz=65
HEC Hector,Ludlow 65.22 65 ⇑P **P** 12 27 25.9 -0.2
baz=65
U12A Valley of Fire 65.31 63 ⇓P **P** 12 27 26.4 -0.2
baz=65
MOS Moscow 65.43 326 *e*P **P** 12 27 24.9 -2.5
MOS pmax pmax
comp=Z,145nm,1.7s,mb5.7
TMUT Trail Mountain 65.46 58 *e*P **P** 12 27 27.9 +0.3
MURC Murrieta 65.47 66 P **P** 12 27 27.7 +0.1
baz=65,SNR=5.5
V12A Nelson 65.57 63 P **P** 12 27 29.1 +0.8
baz=65,SNR=5.7
W12A Cal Nev Ari 65.83 64 ⇑P **P** 12 27 30.0 0.0
baz=66
PFO Pinyon Flat Ob 65.93 66 ⇑P **P** 12 27 30.4 -0.3
baz=66
BELC Belle Mtn. 65.97 65 ⇑P **P** 12 27 30.8 -0.1
baz=66
109C Camp Elliot, M 65.99 67 ⇑P **P** 12 27 31.1 +0.1
baz=66
ULM Lac du Bonnet 66.19 41 P **P** 12 27 31.3 -1.1
comp=Z,40nm,1.0s,mb5.4,baz=316,slow=6.2,SNR=15
ULM Lac du Bonnet 66.19 41 *e*P **P** 12 27 31.9 -0.4
comp=Z,138nm,1.3s,mb5.8
RWWY Rawlins 66.20 54 *e*P **P** 12 27 32.4 0.0
comp=Z,127nm,1.3s,mb5.8
OBN Obninsk 66.30 326 *e*P **P** 12 27 30.2 -2.8
OBN pmax pmax
comp=Z,65nm,1.0s,mb5.6
OBN Obninsk 66.30 326 *e*P **P** 12 27 30.7 -2.3
comp=Z,106nm,1.1s,mb5.8
RSSD Black Hills 66.33 50 *e*P **P** 12 27 33.0 -0.2
RSSD pmax pmax
comp=Z,112nm,1.0s,mb5.8
RSSD Black Hills 66.33 50 *e*P **P** 12 27 33.0 -0.2
comp=Z,112nm,1.0s,mb5.8
IRM Iron Mountain 66.40 65 ⇓P **P** 12 27 33.7 +0.1
baz=66
MONP Monument Peak 66.42 67 ⇓P **P** 12 27 33.4 -0.4
baz=66
CTA Charters Tower 66.48 189 *e*P **P** 12 27 32.9 -1.3
comp=Z,28nm,1.2s,mb5.2
CTA Charters Tower 66.48 189 *e*P **P** 12 27 32.9 -1.3
CTA pmax pmax
comp=Z,28nm,1.2s
CTAO Charters Tower 66.48 189 *e*P **P** 12 27 32.8 -1.4
CTAO pmax pmax
comp=Z,129nm,1.4s,mb5.8
CTAO Charters Tower 66.48 189 *e*P **P** 12 27 32.8 -1.4
comp=Z,129nm,1.4s,mb5.8
BC3 Big Chuckw Mtn 66.54 65 ⇓P **P** 12 27 34.3 -0.3
baz=66
W13A Hualapai Mount 66.57 63 P **P** 12 27 34.9 +0.1
baz=66,SNR=7.2
DVTC Desert V Tower 66.78 67 ⇑P **P** 12 27 36.0 -0.1
baz=67
SWSC Sam W. Stewart 66.79 66 ⇑P **P** 12 27 36.2 +0.1
baz=67
PDMCI Parker Dam,Lak 66.94 64 P **P** 12 27 37.1 0.0
baz=67,SNR=6.1
X13A Yucca 66.94 64 P **P** 12 27 37.2 +0.1
baz=67,SNR=7.6
W14A Seligman 67.00 63 P **P** 12 27 38.1 +0.7
baz=67,SNR=8.6
Y12C Blythe 67.06 65 ⇑P **P** 12 27 38.1 +0.2
baz=67
GLA Glamis 67.33 66 *e*P **P** 12 27 39.6 0.0
GLA Glamis 67.33 66 ⇓P **P** 12 27 40.0 +0.4
baz=67
PHWY Pilot Hill 67.44 53 *e*P **P** 12 27 40.2 -0.1
Y13A Salome 67.45 64 ⇓P **P** 12 27 40.6 +0.2
baz=67
W15A Williams 67.52 62 P **P** 12 27 41.8 +1.0
baz=67,SNR=6.4
X14A Yava 67.60 63 P **P** 12 27 42.0 +0.7
baz=67,SNR=6.6
ABKT Ailbek 67.75 302 P **P** 12 27 43.2 +1.0
comp=Z,416nm,1.0s,mb6.4,SNR=5.4
WUAZ Wupatki 67.84 61 *e*P **P** 12 27 42.7 -0.1
comp=Z,98nm,1.4s,mb5.7
WUAZ Wupatki 67.84 61 ⇓P **P** 12 27 43.7 +0.8
baz=68
Y14A Wickenburg 67.88 64 P **P** 12 27 43.2 +0.1
baz=68,SNR=5.4
X15A Humboldt 68.00 63 P **P** 12 27 44.6 +0.8
baz=68,SNR=8.1
Z14A Wintersburg 68.30 64 ⇑P **P** 12 27 45.9 +0.2
baz=68
WRAB Tennant Creek 68.40 201 P **P** 12 27 45.2 -1.1
comp=Z,528nm,0.9s,mb6.6,SNR=5.2
WRAB Tennant Creek 68.40 201 *e*P **P** 12 27 45.3 -1.0
WRAB pmax pmax
comp=Z,251nm,1.5s,mb6.0
WRAB Tennant Creek 68.40 201 *e*P **P** 12 27 45.3 -1.0
comp=Z,251nm,1.5s,mb6.0
WB2 Warramunga Arr 68.41 201 *e*P **P** 12 27 45.0 -1.4
WRA Warramunga Arr 68.42 201 P **P** 12 27 45.3 -1.1
comp=Z,41nm,0.7s,mb5.5,baz=20,slow=6.8,SNR=22
MVCO Mesa Verde 68.44 58 *e*P **P** 12 27 47.0 +0.5
comp=Z,133nm,1.4s,mb5.8
NB2 NORSAR Subarra 69.02 342 P **P** 12 27 49.4 -0.8
comp=Z,108nm,1.1s,mb5.7,baz=30,slow=6.5
NOA NORSAR Array B 69.02 342 P **P** 12 27 50.0 -0.2
comp=Z,31nm,0.8s,mb5.3,baz=27,slow=6.2,SNR=5.2
115A Sonoran Desert 69.19 64 ⇑P **P** 12 27 52.0 +0.8
baz=69
FITZ Fitzroy Crossi 69.23 210 *e*P **P** 12 27 50.7 -0.8
comp=Z,45nm,0.7s,mb5.5
HFS Hagfors 69.27 340 P **P** 12 27 50.9 -0.8
comp=Z,39nm,0.7s,mb5.5,baz=54,slow=7.5,SNR=4.1

BORG Borgarnes 69.28 358 P **P** 12 27 51.2 -0.5
comp=Z,99nm,1.1s,mb5.7,baz=335,slow=2.6,SNR=5.5
BORG Borgarnes 69.28 358 *e*P **P** 12 27 53.6 +1.8
comp=Z,91nm,1.0s,mb5.7
116A Eloy 69.61 64 ⇓P **P** 12 27 54.1 +0.3
baz=69
SDCO Great Sand Dun 69.83 56 *e*P **P** 12 27 55.4 +0.2
comp=Z,86nm,1.3s,mb5.5
KONO Kongsberg 70.62 342 *e*P **P** 12 27 58.1 -1.9
KONO pmax pmax
comp=Z,135nm,1.3s,mb5.7
KONO Kongsberg 70.62 342 *e*P **P** 12 27 58.1 -1.9
comp=Z,135nm,1.3s,mb5.7
RUND Rundenannen 70.77 344 *e*P **P** 12 28 00.7 -0.2
comp=Z,280nm,0.9s,mb6.2
LAZ Ladron 71.16 60 *e*P **P** 12 28 03.7 +0.4
ANMO Albuquerque 71.19 59 *e*P **P** 12 28 03.6 +0.1
ANMO pmax pmax
comp=Z,18nm,0.7s
ANMO Albuquerque 71.19 59 *e*P **P** 12 28 03.6 +0.1
comp=Z,18nm,0.7s,mb5.1
LENM Lemitar 71.42 60 *e*P **P** 12 28 05.1 +0.2
Y22C IRIS PASSCAL I 71.51 60 ⇓P **P** 12 28 05.8 +0.3
baz=71
LPM Los Pinos Moun 71.52 60 *e*P **P** 12 28 05.8 +0.3
BNM Barren Site 71.64 60 *e*P **P** 12 28 06.3 +0.1
KIV Kislovodsk 71.88 315 *e*P **P** 12 28 09.0 +1.3
KIV pmax pmax
comp=Z,177nm,1.1s,mb5.9
KIV Kislovodsk 71.88 315 *e*P **P** 12 28 09.2 +1.5
comp=Z,324nm,1.5s,mb6.0
SUW Suwalki 71.92 332 *e*P **P** 12 28 06.9 -1.0
SUW Suwalki 71.92 332 *e*P **P** 12 28 07.3 -0.6
SUW pmax pmax
comp=Z,230nm,1.2s,mb6.0
AS31 Alice Springs 72.10 200 *e*P **P** 12 28 08.6 -0.4
ASAR Alice Springs 72.10 200 P **P** 12 28 09.4 +0.5
comp=Z,24nm,0.7s,mb5.2,baz=12,slow=4.6,SNR=8.6
ASPA Alice Springs 72.10 200 *e*P **P** 12 28 08.6 -0.4
CBKS Cedar Bluff 72.33 52 *e*P **P** 12 28 09.0 -1.3
CBKS pmax pmax
comp=Z,222nm,1.3s,mb5.9
CBKS Cedar Bluff 72.33 52 *e*P **P** 12 28 08.9 -1.4
comp=Z,222nm,1.3s,mb5.9
AKASG Malin Array Be 72.53 327 P **P** 12 28 10.1 -1.4
comp=Z,40nm,0.7s,mb5.4,baz=33,slow=6.1,SNR=10
AKASG PP PP 12 30 48.2 -4.7
comp=Z,10nm,1.0s,baz=36,slow=9.0,SNR=4.3
AKASG Malin Array Be 72.53 327 P **P** 12 28 10.1 -1.4
AKASG PP PP 12 30 48.2 -4.7
SCHQ Schefferville 73.34 24 P **P** 12 28 16.0 -0.3
comp=Z,22nm,1.0s,mb5.0,baz=336,slow=7.7,SNR=6.6
SCHQ Schefferville 73.34 24 *e*P **P** 12 28 16.2 -0.1
comp=Z,130nm,1.5s,mb5.6
SCIA State Center 73.50 46 *e*P **P** 12 28 16.6 -0.7
comp=Z,318nm,1.2s,mb6.1
PALK Pallekele 73.67 263 *e*P **P** 12 28 18.8 +0.5
KSU1 Kansas State U 73.81 50 *e*P **P** 12 28 17.1 -2.0
comp=Z,135nm,1.2s,mb5.8
MBWA Marble Bar 74.18 214 *e*P **P** 12 28 20.3 -0.9
comp=Z,32nm,0.8s,mb5.3
GKP Gorka Klasztor 74.38 335 *e*P **P** 12 28 22.2 -0.3
LVV L'vov 75.15 329 *e*P **P** 12 28 26.1 -0.8
KIS Kishinev 75.68 325 *e*P **P** 12 28 29.0 -1.0
KIS Kishinev 75.68 325 ⇓*i*P **P** 12 28 28.0 -2.0
KWP Kalwaria 75.77 330 *e*P **P** 12 28 30.9 +0.5
KWP Kalwaria 75.77 330 *e*P **P** 12 28 31.0 +0.6
KWP pmax pmax
comp=Z,620nm,1.3s,mb6.4
WMOK Wichita Mounta 75.79 55 *e*P **P** 12 28 30.1 -0.5
WMOK pmax pmax
comp=Z,63nm,1.2s,mb5.4
WMOK Wichita Mounta 75.79 55 *e*P **P** 12 28 30.1 -0.4
comp=Z,63nm,1.2s,mb5.4
OJC Ojcow 76.24 332 *e*P **P** 12 28 32.7 -0.4
STHS Stebnicka Huta 76.45 331 *e*P **P** 12 28 34.9 +0.6
STHS Stebnicka Huta 76.45 331 *e* **P** 12 28 34.9 +0.6
KOLS Kolonicke sedl 76.51 330 *e*P **P** 12 28 34.8 +0.1
KOLS Kolonicke sedl 76.51 330 *e* **P** 12 28 34.8 +0.1
KSP Ksiaz 76.80 334 *e*P **P** 12 28 36.3 0.0
KSP Ksiaz 76.80 334 *e*P **P** 12 28 35.9 -0.4
KSP *e*pP pP 12 28 42.2 -1.5
LTX Lajitas 76.81 61 *e*P **P** 12 28 36.3 0.0
LTX pmax pmax
comp=Z,63nm,0.7s,mb5.7
LTX Lajitas 76.81 61 *e*P **P** 12 28 36.2 -0.1
comp=Z,63nm,0.7s,mb5.7
EKA Eskdalemuir Ar 77.05 347 P **P** 12 28 37.6 -0.1
comp=Z,8.9nm,0.7s,mb4.8,baz=21,slow=7.3,SNR=7.6
ESK Eskdalemuir 77.07 347 *e*P **P** 12 28 37.3 -0.5
ESK pmax pmax
comp=Z,463nm,1.9s,mb6.1
ESK Eskdalemuir 77.07 347 *e*P **P** 12 28 37.3 -0.5
comp=Z,463nm,1.9s,mb6.1
OKC Ostrava-Krasne 77.10 333 *e*P **P** 12 28 37.7 -0.3
OKC *e*PCP PcP 12 28 47.6 -1.2
UPC Upice 77.17 334 *e*P **P** 12 28 38.5 +0.1
UPC *e*PCP PcP 12 28 46.4 -2.7
DPC Dobruska-Polom 77.22 334 *e*P **P** 12 28 38.8 +0.1
CLL Collm 77.33 336 ⇓*i*P **P** 12 28 38.7 -0.6
CLL *i* pP 12 28 44.9 -1.8
CLL pmax pmax
comp=Z,88nm,1.6s,mb5.4
CLL Collm 77.33 336 ⇓*i*P **P** 12 28 38.7 -0.6
comp=Z,346nm,1.6s,mb6.0
CLL *i* pP 12 28 44.9 -1.8
CLL Collm 77.33 336 ⇓*i*P **P** 12 28 38.7 -0.6
comp=Z,346nm,1.6s,mb6.0
CLL *i* pP pP 12 28 44.9 -1.8
MORC Moravsky Berou 77.35 333 *e*P **P** 12 28 39.8 +0.4
MORC pmax pmax
comp=Z,209nm,1.2s,mb5.9
MORC Moravsky Berou 77.35 333 *e*P **P** 12 28 39.8 +0.4
comp=Z,209nm,1.2s,mb5.9
BRG Berggiesshubel 77.46 336 *i* P **P** 12 28 39.0 -1.0
comp=Z,52nm,1.2s,mb5.3
BRG *i* 12 28 51.9
comp=Z,103nm,0.7s
BRG *i* 12 31 37.5
comp=Z,29nm,1.2s
BRG Berggiesshubel 77.46 336 *i* P **P** 12 28 39.0 -1.0
BRG *i* 12 28 51.9
BRG *i* 12 31 37.5
BRG pmax pmax
comp=Z,91nm,1.2s,mb5.6
BRG pmax pmax
comp=Z,103nm,1.2s,mb5.6
KECS Kecovo 77.51 331 *e*P **P** 12 28 40.4 +0.1
KECS Kecovo 77.51 331 *e* **P** 12 28 40.4 +0.1
WSAR Wadi Sarin 77.53 290 P **P** 12 28 40.2 -0.2
comp=Z,46nm,1.1s,mb5.3,baz=5.4,slow=6.3,SNR=5.7
PVCC Panska Ves 77.58 335 *e*P **P** 12 28 41.0 +0.3
AAM Ann Arbor 77.73 40 *e*P **P** 12 28 40.9 -0.6
AAM pmax pmax
comp=Z,20nm,0.3s,mb5.5
AAM Ann Arbor 77.73 40 *e*P **P** 12 28 40.9 -0.7
comp=Z,20nm,0.3s,mb5.5
FVM French Village 77.86 47 *e*P **P** 12 28 41.2 -1.0
FVM pmax pmax
comp=Z,138nm,1.2s,mb5.8
FVM French Village 77.86 47 *e*P **P** 12 28 41.2 -1.0
comp=Z,138nm,1.2s,mb5.8
VYHS Vyhne 78.05 332 *e*P **P** 12 28 43.7 +0.4
VYHS Vyhne 78.05 332 *e* **P** 12 28 43.7 +0.4
MLR Muntele Rosu 78.06 326 P **P** 12 28 44.3 +1.0
comp=Z,87nm,0.8s,mb5.7,baz=116,slow=13,SNR=7.4
VRAC Vranov 78.06 333 P **P** 12 28 43.7 +0.4
comp=Z,124nm,1.2s,mb5.7,baz=26,slow=5.8,SNR=11
PRU Pruhonice 78.07 335 *e*P **P** 12 28 43.4 0.0
PRU *e*pP pP 12 28 50.0 -0.9
PSZ Piszkesteto 78.20 331 *e*P **P** 12 28 44.4 +0.3
MALT Malatya 78.25 314 *e*P **P** 12 28 46.0 +1.6
MALT pmax pmax
comp=Z,147nm,1.3s,mb5.8
MALT Malatya 78.25 314 *e*P **P** 12 28 46.0 +1.6
comp=Z,147nm,1.3s,mb5.8
JCT Junction City 78.30 58 *e*P **P** 12 28 44.3 -0.4
JCT pmax pmax
comp=Z,240nm,1.3s,mb6.0
JCT Junction City 78.30 58 *e*P **P** 12 28 44.2 -0.4
comp=Z,236nm,1.4s,mb5.9
NKC Novy Kostel 78.45 336 *e*P **P** 12 28 45.0 -0.5
STKA Stephens Creek 78.67 191 *e*P **P** 12 28 45.4 -1.3
comp=Z,17nm,0.8s,mb5.0
STKA Stephens Creek 78.67 191 P **P** 12 28 45.6 -1.1

comp=Z,22nm,0.9s,mb5.1,baz=346,slow=8.7,SNR=13
SIUC Southern Illin 78.68 47 *e*P **P** 12 28 46.0 -0.8
comp=Z,205nm,1.3s,mb5.9
ZST Bratislava 78.88 333 *e*P **P** 12 28 49.1 +1.3
ZST Bratislava 78.88 333 *e* **P** 12 28 49.1 +1.3
KHC Kasperske Hory 79.12 335 *e*P **P** 12 28 49.6 +0.4
GRA1 Grafenberg Arr 79.28 337 *e*P **P** 12 28 50.3 +0.2
comp=Z,275nm,1.4s,mb6.0
GRF Grafenberg Arr 79.28 337 *e*P **P** 12 28 50.3 +0.2
comp=Z,275nm,1.4s,mb6.0
GRF Grafenberg Arr 79.28 337 *e*P **P** 12 28 50.3 +0.2
GRF pmax pmax
comp=Z,275nm,1.4s,mb6.0
UALR University of 79.31 50 *e*P **P** 12 28 49.4 -0.8
comp=Z,7μm,3.7s
GERES GERESS Array B 79.34 335 P **P** 12 28 50.6 +0.2
comp=Z,18nm,0.8s,mb5.1,baz=35,slow=4.9,SNR=10.0
BR131 Keskin Array S 79.45 318 *e*P **P** 12 28 51.6 +0.6
BRTR Keskin Array B 79.45 318 P **P** 12 28 51.4 +0.3
comp=Z,23nm,0.9s,mb5.1,baz=83,slow=3.9,SNR=4.0
CONA Conrad Observa 79.50 333 ⇓*i*P **P** 12 28 51.5 +0.2
comp=Z,64nm,1.1s,mb5.5
DLF Lyons Farm 79.52 349 *e*P **P** 12 28 49.8 -1.5
DSB Dublin 79.54 349 *e*P **P** 12 28 52.4 +0.9
comp=Z,126nm,1.3s,mb5.7
DCN Croghan 79.57 349 *e*P **P** 12 28 49.8 -1.8
LONY Lake Ozonia 79.60 33 *e*P **P** 12 28 50.4 -1.4
comp=Z,18nm,1.1s,mb4.9
HGN Heimansgroeve 79.63 340 *ex* **P** 12 28 52.3 +0.4
BEBN Eben Emael 79.66 341 P **P** 12 28 52.0 -0.2
BEBN PCP PcP 12 28 58.9 -1.0
ANTO Ankara 79.73 318 *e*P **P** 12 28 53.1 +0.6
ANTO pmax pmax
comp=Z,2μm,2.8s,mb6.5
ANTO Ankara 79.73 318 *e*P **P** 12 28 53.7 +1.2
comp=Z,2μm,2.8s,mb6.5
MEM Membach 79.76 340 P **P** 12 28 52.6 -0.1
comp=Z,48nm,1.2s,mb5.3
MEM PCP PcP 12 28 59.4 -1.0
UMR Umm Al-Rimmam 79.77 302 *e*P **P** 12 28 53.2 +0.4
MIB Mutribah 79.81 303 *e*P **P** 12 28 53.4 +0.4
PMOR Pomariorio Ree 79.91 124 *e*P **P** 12 28 52.9 -0.6
comp=Z,75nm,1.1s,mb5.5
UTMT University of 79.92 47 *e*P **P** 12 28 53.1 -0.4
comp=Z,239nm,1.0s,mb6.1
UCC Uccle 79.96 341 P **P** 12 28 53.8 0.0
UCC PCP PcP 12 29 00.4 -0.8
BCLA Clavier 80.10 341 P **P** 12 28 54.5 0.0
comp=Z,50nm,1.2s,mb5.3
BCLA PCP PcP 12 29 01.2 -0.6
ARSA Arzberg 80.21 333 ⇑*i*P **P** 12 28 55.8 +0.7
comp=Z,95nm,1.3s,mb5.5
QRN Al-Qurain 80.25 301 *e*P **P** 12 28 55.7 +0.4
SNF Seneffe 80.25 341 P **P** 12 28 55.2 -0.1
comp=Z,28nm,1.3s,mb5.0
SNF PCP PcP 12 29 02.5 0.0
VAH Vaihoa 80.25 124 *e*P **P** 12 28 54.7 -0.6
comp=Z,76nm,0.9s,mb5.6
NAY Al-Naaiem 80.27 302 *e*P **P** 12 28 55.8 +0.3
NCB Newcomb 80.28 33 *e*P **P** 12 28 54.0 -1.5
comp=Z,75nm,1.4s,mb5.4
RDF Al-Radifah 80.33 302 *e*P **P** 12 28 56.2 +0.4
FORT Forrest 80.37 203 *e*P **P** 12 28 55.5 -0.5
comp=Z,70nm,0.7s,mb5.7
GIVF Givet 80.51 341 ⇓*i*P **P** 12 28 56.3 -0.4
comp=Z,329nm,1.4s,mb5.8
GIVF Givet 80.51 341 ⇓*i*P **P** 12 28 56.3 -0.4
GIVF pmax pmax
comp=Z,164nm,1.4s,mb5.8
GIVF Givet 80.51 341 ⇓*i*P **P** 12 28 56.3 -0.4
comp=Z,164nm,1.4s,mb5.8
DOU Dourbes 80.56 341 P **P** 12 28 55.0 -2.1
comp=Z,24nm,1.2s,mb5.0
DOU PCP PcP 12 29 04.1 +0.2
WLF Walferdange 80.61 340 P **P** 12 28 57.3 0.0
WLF PCP PcP 12 29 03.6 -0.4
WLF Walferdange 80.61 340 *e*P **P** 12 28 57.8 +0.6
WLF pmax pmax
comp=Z,392nm,1.9s,mb6.0
WLF Walferdange 80.61 340 *e*P **P** 12 28 57.8 +0.6
comp=Z,392nm,1.9s,mb6.0
WVT Waverly 80.61 47 *e*P **P** 12 28 56.6 -0.7
STU Stuttgart 80.67 338 *e*P **P** 12 28 57.0 -0.6
STU pmax pmax
comp=Z,167nm,1.1s,mb5.9
STU Stuttgart 80.67 338 *e*P **P** 12 28 57.0 -0.6
comp=Z,167nm,1.1s,mb5.9
BAIF Baives 80.69 341 ⇓*i*P **P** 12 28 57.4 -0.3
comp=Z,298nm,1.2s,mb5.8
BAIF Baives 80.69 341 ⇓*i*P **P** 12 28 57.4 -0.3
BAIF pmax pmax
comp=Z,149nm,1.2s,mb5.8
BAIF Baives 80.69 341 ⇓*i*P **P** 12 28 57.4 -0.3
comp=Z,149nm,1.2s,mb5.8
PKME Peaks-Kenny Pk 80.96 30 *e*P **P** 12 28 58.5 -0.6
comp=Z,38nm,1.1s,mb5.2
ACCN Adirondack Com 80.99 33 *e*P **P** 12 28 58.0 -1.3
PPT Papeete 81.03 127 *e*P **P** 12 28 58.7 -0.8
comp=Z,53nm,1.3s,mb5.3
PPT Papeete 81.03 127 P **P** 12 28 58.6 -0.9
comp=Z,41nm,1.1s,mb5.3,baz=2.1,slow=6.3,SNR=4.4
KBA Koelnbreinsper 81.03 334 ⇑*i*P **P** 12 29 00.7 +1.2
comp=Z,249nm,1.1s,mb6.0
OXF Oxford 81.06 49 *e*P **P** 12 28 58.7 -0.9
OXF pmax pmax
comp=Z,193nm,1.2s,mb5.9
OXF Oxford 81.06 49 *e*P **P** 12 28 58.7 -0.9
comp=Z,193nm,1.2s,mb5.9
BINY Binghamton 81.08 36 *e*P **P** 12 28 58.8 -1.0
comp=Z,24nm,1.2s,mb5.0
PAE Paea 81.10 127 *e*P **P** 12 28 58.9 -1.0
comp=Z,140nm,1.3s,mb5.7
PAE Paea 81.10 127 *e*P **P** 12 28 58.9 -1.0
PAE pmax pmax
comp=Z,140nm,1.3s,mb5.7
OBKA Obir 81.17 333 ⇓*i*P **P** 12 29 00.4 +0.1
BFO Black Forest 81.30 338 P **P** 12 29 01.6 +0.7
comp=Z,664nm,1.2s,mb6.4,SNR=8.9
BFO Black Forest 81.30 338 *e*P **P** 12 29 01.1 +0.2
BFO pmax pmax
comp=Z,134nm,1.1s,mb5.8
BFO Black Forest 81.30 338 *e*P **P** 12 29 01.1 +0.1
comp=Z,134nm,1.1s,mb5.8
TVO Taravao 81.38 127 *e*P **P** 12 29 00.9 -0.5
comp=Z,128nm,1.3s,mb5.7
TVO Taravao 81.38 127 *e*P **P** 12 29 00.9 -0.5
TVO pmax pmax
comp=Z,128nm,1.3s,mb5.7
MOTA Moosalm 81.45 336 *i* P **P** 12 29 02.6 +0.9
comp=Z,262nm,1.1s,mb6.1,SNR=11
DIVS Divcibare 81.47 329 *i* P **P** 12 29 01.6 -0.2
CDF Champ du Feu 81.49 339 ⇓*i*P **P** 12 29 01.9 -0.1
comp=Z,412nm,1.3s,mb5.9
CDF Champ du Feu 81.49 339 ⇓*i*P **P** 12 29 01.9 -0.1
CDF pmax pmax
comp=Z,206nm,1.3s,mb5.9
CDF Champ du Feu 81.49 339 ⇓*i*P **P** 12 29 01.9 -0.1
comp=Z,206nm,1.3s,mb5.9
SQTA Sankt Quirin 81.53 336 ⇓*i*P **P** 12 29 03.2 +1.0
comp=Z,153nm,1.1s,mb5.8,SNR=7.3
SSPA Standing Stone 81.60 38 *e*P **P** 12 29 01.8 -0.7
comp=Z,125nm,1.3s,mb5.7
MEZF Maizieres J'vi 81.95 340 ⇓*i*P **P** 12 29 04.5 +0.1
comp=Z,198nm,0.9s,mb5.7
MEZF Maizieres J'vi 81.95 340 ⇓*i*P **P** 12 29 04.5 +0.1
comp=Z,198nm,0.9s,mb6.0
HAU Haudompre 82.10 339 ⇓*i*P **P** 12 29 04.9 -0.3
comp=Z,274nm,1.3s,mb5.7
HAU Haudompre 82.10 339 ⇓*i*P **P** 12 29 04.9 -0.3
HAU pmax pmax
comp=Z,137nm,1.3s,mb5.7
HAU Haudompre 82.10 339 ⇓*i*P **P** 12 29 04.9 -0.3
comp=Z,137nm,1.3s,mb5.7
HINF Hinteralfeld 82.15 339 ⇓*i*P **P** 12 29 05.0 -0.4
comp=Z,143nm,1.2s,mb5.5
HINF Hinteralfeld 82.15 339 ⇓*i*P **P** 12 29 05.0 -0.4
HINF pmax pmax
comp=Z,71nm,1.2s,mb5.5
HINF Hinteralfeld 82.15 339 ⇓*i*P **P** 12 29 05.0 -0.4
comp=Z,71nm,1.2s,mb5.5
DAVOX Davos 82.31 336 P **P** 12 29 06.3 +0.1
baz=313,slow=5.5
TZTN Tazewell 82.39 44 *e*P **P** 12 29 05.9 -0.8
comp=Z,69nm,1.2s,mb5.5
LUPA Lehigh Univers 82.68 36 *e*P **P** 12 29 07.3 -0.9
MVL Millersville 82.78 37 *e*P **P** 12 29 08.2 -0.5

FLN La Foliniere 82.90 344 ⇓ iP P 12 29 08.9 -0.4
comp=Z,363nm,1.2s,mb6.0
FLN La Foliniere 82.90 344 ⇓ iP P 12 29 08.9 -0.4
FLN pmax pmax
comp=Z,181nm,1.2s,mb6.0
FLN La Foliniere 82.90 344 ⇓ iP P 12 29 08.9 -0.4
comp=Z,181nm,1.2s,mb6.0
PAL Palisades 82.92 35 eP P 12 29 08.4 -1.1
PAL pmax pmax
comp=Z,131nm,1.5s,mb5.7
PAL Palisades 82.92 35 eP P 12 29 08.4 -1.1
comp=Z,131nm,1.5s,mb5.7
LDF La Druitiere 82.99 343 ⇓ iP P 12 29 09.2 -0.6
comp=Z,184nm,1.2s,mb5.7
LDF La Druitiere 82.99 343 ⇓ iP P 12 29 09.2 -0.6
LDF pmax pmax
comp=Z,92nm,1.2s,mb5.7
LDF La Druitiere 82.99 343 ⇓ iP P 12 29 09.2 -0.6
comp=Z,92nm,1.2s,mb5.7
TKL Tuckaleechee C 82.99 44 P P 12 29 09.2 -0.6
comp=Z,58nm,1.1s,mb5.5,baz=69,slow=0.4,SNR=12
ELN Prospectdale 83.14 41 eP P 12 29 09.9 -0.7
GRR Gorron 83.33 344 ⇓ iP P 12 29 11.3 -0.2
comp=Z,337nm,1.1s,mb6.0
GRR Gorron 83.33 344 ⇓ iP P 12 29 11.3 -0.2
GRR pmax pmax
comp=Z,169nm,1.1s,mb6.0
GRR Gorron 83.33 344 ⇓ iP P 12 29 11.3 -0.2
comp=Z,169nm,1.1s,mb6.0
LOR Lormes 83.39 340 ⇓ iP P 12 29 11.5 -0.3
comp=Z,508nm,1.3s,mb6.1
LOR Lormes 83.39 340 ⇓ iP P 12 29 11.5 -0.3
LOR pmax pmax
comp=Z,254nm,1.3s,mb6.1
LOR Lormes 83.39 340 ⇓ iP P 12 29 11.5 -0.3
comp=Z,254nm,1.3s,mb6.1
CABF La Chapelle 83.46 339 ⇓ iP P 12 29 12.4 +0.2
comp=Z,532nm,1.5s,mb6.0
CABF La Chapelle 83.46 339 ⇓ iP P 12 29 12.4 +0.2
CABF pmax pmax
comp=Z,266nm,1.5s,mb6.0
CABF La Chapelle 83.46 339 ⇓ iP P 12 29 12.4 +0.2
comp=Z,266nm,1.5s,mb6.0
SSF Saint Saulge 83.66 341 ⇓ iP P 12 29 13.1 -0.2
comp=Z,157nm,1.0s,mb5.8
SSF Saint Saulge 83.66 341 ⇓ iP P 12 29 13.1 -0.2
SSF pmax pmax
comp=Z,79nm,1.0s,mb5.8
SSF Saint Saulge 83.66 341 ⇓ iP P 12 29 13.1 -0.2
comp=Z,79nm,1.0s,mb5.8
HYF Humbligny 83.67 341 ⇓ iP P 12 29 13.4 +0.1
SGMF Saint Gilles 83.77 345 ⇓ iP P 12 29 13.6 -0.2
comp=Z,155nm,0.9s,mb5.8
SGMF Saint Gilles 83.77 345 ⇓ iP P 12 29 13.6 -0.2
SGMF pmax pmax
comp=Z,77nm,0.9s,mb5.8
SGMF Saint Gilles 83.77 345 ⇓ iP P 12 29 13.6 -0.2
comp=Z,77nm,0.9s,mb5.8
ASF Jabal al Asfar 83.81 311 P P 12 29 15.5 +1.5
comp=Z,92nm,1.2s,mb5.8,baz=255,slow=2.1,SNR=12
ROSF Rostrenen 83.82 345 ⇓ iP P 12 29 14.0 -0.1
comp=Z,250nm,1.1s,mb6.0
ROSF Rostrenen 83.82 345 ⇓ iP P 12 29 14.0 -0.1
ROSF pmax pmax
comp=Z,125nm,1.1s,mb6.0
ROSF Rostrenen 83.82 345 ⇓ iP P 12 29 14.0 -0.1
comp=Z,125nm,1.1s,mb6.0
AVF Avril sur Loir 83.95 341 ⇓ iP P 12 29 14.5 -0.3
comp=Z,287nm,1.2s,mb6.0
AVF Avril sur Loir 83.95 341 ⇓ iP P 12 29 14.5 -0.3
AVF pmax pmax
comp=Z,144nm,1.2s,mb6.0
AVF Avril sur Loir 83.95 341 ⇓ iP P 12 29 14.5 -0.3
comp=Z,144nm,1.2s,mb6.0
SMF Signal de Mont 83.98 340 ⇓ iP P 12 29 14.7 -0.2
comp=Z,810nm,1.4s,mb6.3
SMF Signal de Mont 83.98 340 ⇓ iP P 12 29 14.7 -0.2
SMF pmax pmax
comp=Z,405nm,1.4s,mb6.4
SMF Signal de Mont 83.98 340 ⇓ iP P 12 29 14.7 -0.2
comp=Z,405nm,1.4s,mb6.4
QUIF Quistinic 84.21 345 eP P 12 29 15.6 -0.4
BGF Bois d'Agland 84.29 341 eP P 12 29 16.3 -0.2
comp=Z,81nm,0.8s,mb5.6
BGF Bois d'Agland 84.29 341 eP P 12 29 16.3 -0.2
BGF pmax pmax
comp=Z,41nm,0.8s,mb5.6
BGF Bois d'Agland 84.29 341 eP P 12 29 16.3 -0.2
comp=Z,41nm,0.8s,mb5.6
LPL La Plagne 84.32 338 ⇓ iP P 12 29 17.5 +0.9
comp=Z,361nm,1.1s,mb6.1
LPL La Plagne 84.32 338 ⇓ iP P 12 29 17.5 +0.9
LPL pmax pmax
comp=Z,180nm,1.1s,mb6.1
LPL La Plagne 84.32 338 ⇓ iP P 12 29 17.5 +0.9
comp=Z,180nm,1.1s,mb6.1
LPG La Plagne 84.33 338 ⇓ iP P 12 29 17.7 +1.0
comp=Z,495nm,1.2s,mb6.2
LPG La Plagne 84.33 338 ⇓ iP P 12 29 17.7 +1.0
LPG pmax pmax
comp=Z,248nm,1.2s,mb6.2
LPG La Plagne 84.33 338 ⇓ iP P 12 29 17.7 +1.0
comp=Z,248nm,1.2s,mb6.2
KLBR Kellerberrin 84.37 211 eP P 12 29 15.8 -1.1
comp=Z,42nm,0.6s,mb5.8
VLC Villacollemand 84.56 335 eP P 12 29 19.1 +1.3
comp=Z,75nm,1.1s,mb5.7
TCF Toulx Ste Croi 84.69 341 eP P 12 29 18.4 -0.1
comp=Z,273nm,1.2s,mb6.0
TCF Toulx Ste Croi 84.69 341 eP P 12 29 18.4 -0.1
TCF pmax pmax
comp=Z,136nm,1.2s,mb6.0
TCF Toulx Ste Croi 84.69 341 eP P 12 29 18.4 -0.1
comp=Z,136nm,1.2s,mb6.0
MFF Saint Martin d 84.89 343 eP P 12 29 19.4 -0.1
comp=Z,300nm,1.2s,mb6.0
MFF Saint Martin d 84.89 343 eP P 12 29 19.4 -0.1
MFF pmax pmax
comp=Z,150nm,1.2s,mb6.0
MFF Saint Martin d 84.89 343 eP P 12 29 19.4 -0.1
comp=Z,150nm,1.2s,mb6.0
MBDF Montbardon 85.04 338 ⇓ iP P 12 29 20.5 +0.3
comp=Z,282nm,1.3s,mb5.9
MBDF Montbardon 85.04 338 ⇓ iP P 12 29 20.5 +0.3
MBDF pmax pmax
comp=Z,141nm,1.3s,mb5.9
MBDF Montbardon 85.04 338 ⇓ iP P 12 29 20.5 +0.3
comp=Z,141nm,1.3s,mb5.9
ORIF Oris-en-Rattie 85.09 338 ⇓ iP P 12 29 21.3 +0.8
comp=Z,186nm,0.9s,mb5.9
ORIF Oris-en-Rattie 85.09 338 ⇓ iP P 12 29 21.3 +0.8
ORIF pmax pmax
comp=Z,93nm,0.9s,mb5.9
ORIF Oris-en-Rattie 85.09 338 ⇓ iP P 12 29 21.3 +0.8
comp=Z,93nm,0.9s,mb5.9
AQU L'Aquila 85.26 332 eP P 12 29 21.7 +0.3
AQU L'Aquila 85.26 332 eP P 12 29 22.0 +0.6
comp=Z,5μm,2.9s
JSC Jenkinsville 85.31 43 P P 12 29 21.4 -0.2
JSC e 12 29 31.7
JSC Jenkinsville 85.31 43 eP P 12 29 21.4 -0.2
LHS Liberty Hill 85.37 43 eP P 12 29 21.7 -0.2
VIVF Saint-Julien-l 85.46 339 ⇓ iP P 12 29 22.8 +0.5
comp=Z,113nm,0.9s,mb5.7
VIVF Saint-Julien-l 85.46 339 ⇓ iP P 12 29 22.8 +0.5
VIVF pmax pmax
comp=Z,56nm,0.9s,mb5.7
VIVF Saint-Julien-l 85.46 339 ⇓ iP P 12 29 22.8 +0.5
comp=Z,56nm,0.9s,mb5.7
SBF Sospel 85.66 337 ⇓ iP P 12 29 23.2 -0.2
comp=Z,240nm,0.8s,mb6.2
SBF Sospel 85.66 337 ⇓ iP P 12 29 23.2 -0.2
SBF pmax pmax
comp=Z,120nm,0.8s,mb6.2
SBF Sospel 85.66 337 ⇓ iP P 12 29 23.2 -0.2
comp=Z,120nm,0.8s,mb6.2
NWAO Narrogin (SRO) 85.77 211 eP P 12 29 23.3 -0.6
NWAO pmax pmax
comp=Z,177nm,1.5s
NWAO Narrogin (SRO) 85.77 211 eP P 12 29 23.3 -0.6
comp=Z,177nm,1.5s,mb6.1
CAF Calviac 86.01 341 ⇓ iP P 12 29 24.7 -0.4
comp=Z,257nm,1.2s,mb6.0
CAF Calviac 86.01 341 ⇓ iP P 12 29 24.7 -0.4
CAF pmax pmax
comp=Z,129nm,1.2s,mb6.0
CAF Calviac 86.01 341 ⇓ iP P 12 29 24.7 -0.4
comp=Z,128nm,1.2s,mb6.0
SMRF Simiane la Rot 86.05 338 ⇓ iP P 12 29 26.0 +0.7
comp=Z,251nm,1.5s,mb5.9
SMRF Simiane la Rot 86.05 338 ⇓ iP P 12 29 26.0 +0.7
comp=Z,251nm,1.5s,mb6.2
FRF La Foret Royal 86.16 337 ⇓ iP P 12 29 25.7 -0.1
comp=Z,275nm,1.3s,mb6.0
FRF La Foret Royal 86.16 337 ⇓ iP P 12 29 25.7 -0.1
FRF pmax pmax
comp=Z,138nm,1.3s,mb6.0
FRF La Foret Royal 86.16 337 ⇓ iP P 12 29 25.7 -0.1
comp=Z,138nm,1.3s,mb6.0
LFF La Frestale 86.29 342 eP P 12 29 26.7 +0.2
comp=Z,265nm,1.2s,mb6.0
LFF La Frestale 86.29 342 eP P 12 29 26.7 +0.2
LFF pmax pmax
comp=Z,132nm,1.2s,mb6.0
LFF La Frestale 86.29 342 eP P 12 29 26.7 +0.2
comp=Z,132nm,1.2s,mb6.0
COW Cow Castle Cre 86.31 44 eP P 12 29 26.4 -0.1
LASF Ste Croix 86.39 339 eP P 12 29 27.7 +0.8
comp=Z,167nm,1.2s,mb5.8
LMR La Mourre 86.41 337 ⇓ iP P 12 29 27.1 +0.1
comp=Z,498nm,1.3s,mb6.3
LMR La Mourre 86.41 337 ⇓ iP P 12 29 27.1 +0.1
LMR pmax pmax
comp=Z,249nm,1.3s,mb6.3
LMR La Mourre 86.41 337 ⇓ iP P 12 29 27.1 +0.1
comp=Z,249nm,1.3s,mb6.3
PGF Pioggiola 86.44 335 ⇓ iP P 12 29 27.0 -0.2
comp=Z,367nm,1.3s,mb6.1
PGF Pioggiola 86.44 335 ⇓ iP P 12 29 27.0 -0.2
PGF pmax pmax
comp=Z,184nm,1.3s,mb6.2
PGF Pioggiola 86.44 335 ⇓ iP P 12 29 27.0 -0.2
comp=Z,184nm,1.3s,mb6.2
TIP Timpagrande 86.94 329 eP P 12 29 29.6 -0.1
IDI Anoyia 87.05 321 P P 12 29 30.7 +0.5
comp=Z,22nm,0.8s,mb5.4,baz=206,slow=2.5,SNR=4.3
RKGY Rocky Gully 87.38 210 eP P 12 29 31.6 -0.2
comp=Z,167nm,1.7s,mb6.0
MTLF Montolieu 87.48 340 eP P 12 29 31.5 -0.7
comp=Z,149nm,1.3s,mb5.8
MTLF Montolieu 87.48 340 eP P 12 29 31.5 -0.7
MTLF pmax pmax
comp=Z,74nm,1.3s,mb5.8
MTLF Montolieu 87.48 340 eP P 12 29 31.5 -0.7
comp=Z,74nm,1.3s,mb5.8
EPF Esparros 88.20 341 eP P 12 29 35.1 -0.6
comp=Z,26nm,0.9s,mb5.2
EPF Esparros 88.20 341 eP P 12 29 35.1 -0.6
EPF pmax pmax
comp=Z,13nm,0.9s,mb5.2
EPF Esparros 88.20 341 eP P 12 29 35.1 -0.6
comp=Z,13nm,0.9s,mb5.2
SJPF Ste Jean 88.46 343 eP P 12 29 36.1 -0.8
comp=Z,106nm,1.5s,mb5.5
SJPF Ste Jean 88.46 343 eP P 12 29 36.1 -0.8
SJPF pmax pmax
comp=Z,53nm,1.5s,mb5.5
SJPF Ste Jean 88.46 343 eP P 12 29 36.1 -0.8
comp=Z,53nm,1.5s,mb5.5
ETSF Etsaut 88.52 342 eP P 12 29 36.3 -0.9
comp=Z,40nm,1.0s,mb5.4
ETSF Etsaut 88.52 342 eP P 12 29 36.3 -0.9
ETSF pmax pmax
comp=Z,20nm,1.0s,mb5.4
ETSF Etsaut 88.52 342 eP P 12 29 36.3 -0.9
comp=Z,20nm,1.0s,mb5.4
ESDC Sonseca Array 92.32 344 P P 12 29 53.5 -1.4
comp=Z,7.5nm,0.8s,mb5.1,baz=12,slow=4.2,SNR=9.1
KEST Kesra 92.59 332 P P 12 29 55.3 -0.9
comp=Z,3.4nm,0.8s,mb4.8,baz=174,slow=1.5,SNR=4.6
TORD Torodi Ar. Bea 116.04 330 PKP PKPdf 12 35 26.6 -0.9
comp=Z,1.8nm,0.5s,baz=1.4,slow=1.8,SNR=7.2
TORD PKKPbc PKKPbc 12 45 56.5 -1.3
comp=Z,2.3nm,1.0s,baz=207,slow=2.7,SNR=4.0
MIR Mirnyy 121.88 204 c iPKIKP PKPdf 12 35 33.0 -5.8
MIR pmax pmax
comp=Z,250nm,1.5s
VNDA Vanda 123.59 178 PKP PKPdf 12 35 38.8 -3.3
comp=Z,5.3nm,0.9s,baz=328,slow=4.7,SNR=9.0
SBA Scott Base 124.07 177 ePKIKP PKPdf 12 35 40.4 -2.6
SAML Samuel 130.75 53 ePKPdf PKPdf 12 35 55.1 -0.6
MAW Mawson 132.34 211 PKP PKPdf 12 35 57.1 -1.6
comp=Z,5.8nm,0.7s,baz=340,slow=3.4,SNR=11
LPAZ La Paz 133.62 64 PKP PKPdf 12 36 02.4 +1.3
comp=Z,13nm,1.1s,baz=349,slow=4.6,SNR=10
LPAZ La Paz 133.62 64 ePKPdf PKPdf 12 36 01.9 +0.7
BOSA Boshof 136.89 276 PKP PKPdf 12 36 05.5 -1.7
comp=Z,6.6nm,0.8s,baz=289,slow=3.2,SNR=5.8
LVC Limon Verde 137.73 71 PKP PKPdf 12 36 06.4 -2.4
comp=Z,12nm,1.0s,baz=270,slow=6.1,SNR=2.5
SYO Syowa Base 141.05 211 ⇓ ePKPdf PKPdf 12 36 12.4 -2.5
CFAA Coronel Fontan 144.04 81 PKP PKPdf 12 36 17.1 -3.0
comp=Z,1.5nm,0.2s,baz=284,slow=3.4,SNR=5.0
USHA Ushuaia 151.73 123 PKPbc PKPbc 12 36 37.3 -1.8
comp=Z,88nm,1.0s,baz=240,slow=2.2,SNR=13
PMSA Palmer Station 151.99 145 PKPbc PKPbc 12 36 37.2 -2.5
comp=Z,134nm,1.0s,baz=200,slow=1.9,SNR=13
SNAA Sanae 152.38 195 PKPbc PKPbc 12 36 37.8 -2.8
comp=Z,6.7nm,0.6s,baz=164,slow=3.4,SNR=15
SNAA PKPab PKPab 12 36 48.3 -2.4
comp=Z,26nm,0.9s,baz=132,slow=5.1,SNR=11
SNAA Sanae 152.38 195 ePKPdf PKPbc 12 36 38.0 -2.6
SNAA e 12 36 48.7
SNAA e 12 36 51.3
SNAA e 12 36 59.4
SNAA Sanae 152.38 195 ePKIKP PKPbc 12 36 37.8 -2.8
SNAA e 12 36 48.3
VNA2 Neumayer--Watz 153.79 193 ePKPdf PKPbc 12 36 41.7 -2.0
baz=288,slow=0.8
VNA2 e 12 36 44.1
VNA2 e 12 36 55.0
VNA2 e 12 36 58.4
VNA2 e 12 37 05.1
VNA3 Neumayer Olymp 153.84 191 ePKPdf PKPbc 12 36 41.6 -2.2
VNA3 e 12 36 43.8
VNA3 e 12 36 54.8
VNA3 e 12 36 57.8
VNA3 e 12 37 05.0
VNA1 Neumayer--Stat 154.17 193 ePKPdf PKPbc 12 36 43.0 -1.5
VNA1 e 12 36 56.8
VNA1 e 12 36 59.4
VNA1 e 12 37 05.4

*ISCJB **15** 12:23:00.8₀0.3, 46°47'N₆006×153°46'E₆006, h10^km, mb4.9/74, MS5.0/1, Error ellipse: s-maj=10.0km s-min=4.0km az=120.4*
*IDC **15** 12:23:00.0₀0.6, 46°34'N×153°42'E, h0^km, mb4.5/24, mb1 4.7/25, mb1mx4.6/30, mbtmp4.5/25, ML3.6/1, Error ellipse: s-maj=17.1km s-min=14.3km az=153.0*
*BJI **15** 12:23:01.3, 46°91'N×153°35'E, h7^km, mB5.6, mb5.1, Ms5.9, Msz5.6*
*MOS **15** 12:23:04.0₀1.2, 46°72'N×153°27'E, h23^km, mb5.1/26, Error ellipse: s-maj=9.3km s-min=6.6km az=88.5*
*NEIC **15** 12:23:04.1₀0.5, 46°79'N×153°40'E, h10^km, mb5.0/39, Error ellipse: s-maj=13.3km s-min=5.9km az=166.0*
ISC 15 12:23:03.0₀2.5, 46°56'N₆006×153°43'E₆006, h11^km±16^km, h16^km±1.9^km; pP-P, n191, σ1°9'00/188, mb4.9/74, MS5.0/1, 13C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.49	22	ePN		Pn		12 24 11.5	+0.6
YUK	Yuzh-Kuril'sk	5.91	247	ePN		Pn		12 24 29.5	-0.9
YUK				S		Sn		12 25 42.0	+4.0
YUK				pmax	pmax				
	comp=Z,360nm,0.5s								
YUK				smax					
	comp=N,1μm,0.9s								
YUK				smax					
	comp=E,1μm,0.8s								
PET	Petropavlovsk	7.30	26	ePN		Pn		12 24 49.9	+0.5
PET				pmax	pmax				
	comp=Z,34nm,0.6s								
PET	Petropavlovsk	7.30	26	Pn		Pn		12 24 51.2	+1.8
	comp=Z,274nm,1.4s								
YSS	Yuzh-Sakhalins	7.34	277	ePN		Pn		12 24 53.1	+3.0
JMP	Maruseppu	7.55	254	P		Pn		12 24 52.9	0.0
ASAJ	Asahikawa	8.01	256	Pn		Pn		12 25 00.6	+1.3
	comp=Z,3.8nm,0.3s,baz=91,slow=26,SNR=8.5								
ASAJ	Asahikawa	8.01	256	P		Pn		12 25 00.5	+1.2
ASAJ				PN		Pn		12 25 00.6	+1.3
				pmax	pmax				
	comp=Z,4.0nm,0.3s								
JWK2	Keihoku	8.13	265	P		Pn		12 25 06.3	+5.3
JEM	Erimo	8.65	242	P		Pn		12 25 06.7	-1.4
ERM	Erimo	8.65	242	ePN		Pn		12 25 08.7	+0.6
JEW	Eniwo	9.31	251	P		Pn		12 25 17.1	+0.1
JOT	Ohata	10.31	244	P		Pn		12 25 27.2	-3.6
JSH	Shimam	10.32	252	P		Pn		12 25 30.4	-0.5
JTM	Tenmabayashi	10.65	242	P		Pn		12 25 31.5	-3.9
JOM	Ohasama	11.36	236	P		Pn		12 25 41.0	-4.1
MAJO	Matsushiro	15.14	234	eP		Pn		12 26 40.7	+3.9
MAJO	Matsushiro	15.14	234	eP		Pn		12 26 43.2	+6.4
MAT	Matsushiro	15.14	234	P		Pn		12 26 40.4	+3.6
MAT	Matsushiro	15.14	234	P		Pn		12 26 40.5	+3.7
MJAR	Matsushiro Arr	15.14	234	Pn		Pn		12 26 34.6	-2.1
	comp=Z,0.3nm,0.3s,baz=21,slow=16,SNR=5.0								
MDJ	Mudanjiang	16.79	272	P		Pn		12 26 57.8	-0.2
MDJ				AMB	AMB				
	comp=Z,32nm,1.6s								
MDJ	Mudanjiang	16.79	272	eP		Pn		12 26 58.0	+0.1
	comp=Z,27nm,0.9s								
JWT	Wachi	17.64	237	P		Pn		12 27 09.7	+1.1
JWZ	Kozaga	18.74	232	P		Pn		12 27 21.2	-0.9
YAK	Yakutsk	20.59	327	eP		P		12 27 39.8	-2.2
KSRS	Korea Array	20.95	253	P		P		12 27 45.9	+0.1
	comp=Z,7.4nm,0.8s,baz=60,slow=9.9,SNR=14								
JNU	Nakatsue	21.81	240	P		P		12 27 55.7	+0.6
	comp=Z,38nm,0.9s,mb4.8,baz=248,slow=12,SNR=3.9								
SNY	Shenyang	21.85	268	⇓ P		P		12 27 55.4	-0.1
SNY				AMB	AMB				
	comp=Z,33nm,1.1s,mb4.7								
BILL	Bilibino	22.53	13	eP		P		12 28 03.3	+0.6
BILL				pmax	pmax				
	comp=Z,36nm,1.5s,mb4.6								
BILL	Bilibino	22.53	13	eP		P		12 28 02.9	+0.2
BJT	Baijiatuan	27.71	270	eP		P		12 28 53.3	+2.1
NJ2	Nanjing	30.15	254	eP		P		12 29 17.8	+4.9
NJ2				AP		pP		12 29 21.3	+4.9
NJ2				XP		sP		12 29 24.8	+7.0
NJ2				PP		PP		12 30 16.8	-4.1
NJ2				AMB	AMB				
	comp=Z,250nm,0.7s,mb6.0								
NJ2				AMB	AMB				
	comp=Z,550nm,4.6s								
NJ2				LR	LR				
	comp=Z,2μm,13.3s,MS5.0								
HHC	Hu-ho-hao-te	30.52	275	eP		P		12 29 17.1	+0.9
HHC				XP		sP		12 29 24.3	+3.2
HHC				PP		PP		12 30 14.5	-11
SONM	Songino Array	31.60	290	P		P		12 29 24.8	-0.8
	comp=Z,1.7nm,0.8s,mb3.9,baz=64,slow=6.6,SNR=3.7								
TLY	Talaya	32.46	298	eP		P		12 29 32.9	-0.3
TLY				pmax	pmax				
	comp=Z,17nm,1.3s,mb4.7								
TLY	Talaya	32.46	298	eP		P		12 29 32.9	-0.3
	comp=Z,17nm,1.3s,mb4.7								
SML	Sawmill	35.96	43	eP		P		12 30 03.8	+0.3
COLA	College	36.15	38	eP		P		12 30 05.8	+0.6
COLA				pmax	pmax				
	comp=Z,14nm,0.9s,mb4.9								
COLA	College	36.15	38	eP		P		12 30 05.8	+0.6
	comp=Z,14nm,0.9s,mb4.9								
LZH	Lanzhou	38.11	272	eP		P		12 30 21.8	-0.1
LZH				AP		pP		12 30 26.3	+0.9
LZH				XP		sP		12 30 28.5	+1.7
LZH				PP		PP		12 31 52.4	+3.5
LZH				AMB	AMB				
	comp=Z,130nm,1.3s,mb5.5								
LZH				AMB	AMB				
	comp=Z,529nm,5.0s								
LZH	Lanzhou	38.11	272	eP		P		12 30 21.7	-0.2
LZH				*SP		sP		12 30 28.5	+1.7
LZH								12 31 52.4	
LZH				pmax	pmax				
	comp=Z,130nm,1.3s,mb5.5								
LZH	Lanzhou	38.11	272	eP		P		12 30 21.7	-0.2
	comp=Z,130nm,1.3s,mb5.5								
LZH				pP	pP			12 30 26.2	+0.8
LZH				sP	sP			12 30 28.5	+1.7
LZH				PP	PP			12 31 52.4	+3.5
EGAK	Eagle	39.01	38	eP		P		12 30 28.7	-0.7
	comp=Z,34nm,1.4s,mb4.9								
CD2	Chenggdu	41.08	266	eP		P		12 30 49.0	+2.4
INK	Inuvik	41.69	32	P		P		12 30 52.4	+0.7
	comp=Z,7.5nm,0.6s,mb4.5,baz=293,slow=6.7,SNR=21								
INK	Inuvik	41.69	32	eP		P		12 30 52.2	+0.6
	comp=Z,203nm,0.5s,mb6.0								
GYA	Guiyang	41.89	258	⇑ iP		P		12 30 52.5	-0.7
GYA				AP		pP		12 31 02.8	+6.0
GYA				XP		sP		12 31 05.4	+7.2
GYA				PP		PP		12 32 36.0	+5.9
GYA				PCP		PcP		12 32 55.4	+6.6
GYA				AMB	AMB				
	comp=Z,30nm,1.0s,mb4.9								
GYA				AMB	AMB				
	comp=Z,120nm,4.6s								
WMQ	Urumqi	45.20	292	⇑ P		P		12 31 19.8	-0.1
WMQ				AP		pP		12 31 24.3	+0.8
WMQ				XP		sP		12 31 26.8	+1.9
WMQ				PCP		PcP		12 33 03.6	+3.6
WMQ				PP		PP		12 33 04.8	-0.7
WMQ				S		S		12 37 53.8	-5.7
WMQ				AMB	AMB				
	comp=Z,119nm,1.1s,mb5.6								
KMI	Kunming	45.42	260	P		P		12 31 21.5	-0.2
KMI				AMB	AMB				
	comp=Z,16nm,1.4s,mb4.7								
KMI	Kunming	45.42	260	P		P		12 31 21.5	-0.2
	comp=Z,16nm,1.4s,mb4.7								
MKAR	Makanchi Array	47.22	298	P		P		12 31 34.5	-1.3
	comp=Z,7.6nm,0.8s,mb4.7,baz=69,slow=7.7,SNR=7.4								
MKAR	Makanchi Array	47.22	298	P		P		12 31 34.5	-1.3
LSA	Lhasa	50.50	274	eP		P		12 32 02.6	+1.6
LSA				pmax	pmax				
	comp=Z,15nm,1.0s,mb4.9								
LSA	Lhasa	50.50	274	eP		P		12 32 02.6	+1.6
	comp=Z,15nm,1.0s,mb4.9								
CHKZ	Chkalovo	50.72	310	eP		P		12 32 00.6	-2.0
CHKZ				pmax	pmax				
	comp=Z,15nm,1.0s,mb4.9								
CHKZ	Chkalovo	50.72	310	eP		P		12 32 00.6	-2.0
	comp=Z,15nm,1.0s,mb4.9								
RES	Resolute Bay	50.95	19	eP		P		12 32 04.9	+0.6
YKA	Yellowknife Ar	50.95	37	P		P		12 32 04.4	+0.1
	comp=Z,4.2nm,0.6s,mb4.6,baz=298,slow=7.1,SNR=9.2								
YKA	Yellowknife Ar	50.95	37	P		P		12 32 04.4	+0.1
YKA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
BVAR	Borovoye Array	51.15	310	P		P		12 32 04.4	-1.4
	comp=Z,1.8nm,0.4s,mb4.3,baz=63,slow=7.0,SNR=5.4								
ZRNK	Zerenda	51.91	310	eP		P		12 32 10.2	-1.4
ZRNK				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6								
ZRNK	Zerenda	51.91	310	eP		P		12 32 10.2	-1.4
	comp=Z,5.7nm,0.7s,mb4.6								
AAK	Ala-Archa	54.11	297	P		P		12 32 26.4	-1.4
KSH	Kashi	54.92	293	eP		P		12 32 36.1	+2.4
KSH				eAP		pP		12 32 41.3	+3.9
KSH				eXP		sP		12 32 44.3	+5.5
KSH				LR	LR				
	comp=Z,3μm,8.6s								
JIRN	Jiri	55.18	275	eP		P		12 32 35.9	+0.3
	comp=Z,52nm,0.9s,mb5.6								
GUN	Gumba	55.23	275	eP		P		12 32 36.7	+0.7
ARU	Arti	55.30	318	eP		P		12 32 36.1	-0.3
ARU				pmax	pmax				
	comp=Z,26nm,1.2s,mb5.1								
ARU	Arti	55.30	318	eP		P		12 32 36.1	-0.3
	comp=Z,26nm,1.2s,mb5.1								
KKN	Kakani	55.72	276	eP		P		12 32 40.5	+1.0
	comp=Z,178nm,1.5s,mb5.9								
PKI	Pulchoki	55.77	275	eP		P		12 32 40.4	+0.6
DMN	Daman	55.95	276	eP		P		12 32 41.5	+0.4
	comp=Z,61nm,1.0s,mb5.6								
GKN	Gorkha	56.03	276	eP		P		12 32 41.9	+0.2
	comp=Z,51nm,0.9s,mb5.6								
EDM	Edmonton	56.29	46	eP		P		12 32 43.3	-0.2
DAG	Danmarks Havn	56.84	358	⇓ iP		P		12 32 46.0	-1.5
	comp=Z,25nm,1.2s,mb5.1								
DAG	Danmarks Havn	56.84	358	⇑ eP		P		12 32 46.0	-1.5
DAG				pmax	pmax				
	comp=Z,25nm,1.2s,mb5.1								
DAG	Danmarks Havn	56.84	358	⇑ eP		P		12 32 46.0	-1.5

comp=Z,25nm,1.2s,mb5.1
KOLN Koldanda 56.89 277 *e*P **P 12 32 48.2 +0.4**
comp=Z,84nm,1.1s,mb5.7
NEW Newport 57.12 53 P **P 12 32 49.0 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=61,slow=4.0,SNR=3.0
NEW Newport 57.12 53 P **P 12 32 49.0 -0.4**
ARCES ARCESS Array B 58.10 341 P **P 12 32 55.9 -0.5**
comp=Z,4.0nm,0.7s,mb4.6,baz=49,slow=8.2,SNR=6.8
AKTK Aktyubinsk 59.01 312 P **P 12 33 01.5 -1.2**
AKTO Aktyubinsk 59.01 312 P **P 12 33 01.5 -1.2**
comp=Z,3.5nm,0.7s,mb4.5,baz=76,slow=7.9,SNR=5.1
AKTO Aktyubinsk 59.01 312 P **P 12 33 01.5 -1.2**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MSO Missoula 59.70 53 *e*P **P 12 33 07.2 -0.2**
comp=Z,21nm,1.5s,mb5.0
SUMG Summit 60.87 4 *e*P **P 12 33 16.5 +1.0**
comp=Z,57nm,1.3s,mb5.5
EGMT Eagleton 61.22 50 *e*P **P 12 33 22.6 +4.8**
comp=Z,34nm,1.5s,mb5.2
CMB Columbia Colle 61.29 64 *e*P **P 12 33 25.0 +6.7**
CMB pmax pmax
comp=Z,11nm,1.3s,mb4.8
CMB Columbia Colle 61.29 64 *e*P **P 12 33 25.0 +6.7**
comp=Z,11nm,1.3s,mb4.8
NVAR Mina Array Bea 62.33 62 P **P 12 33 25.4 0.0**
comp=Z,1.9nm,0.8s,mb4.3,baz=289,slow=8.1,SNR=6.9
RLMT Red Lodge 63.32 52 *e*P **P 12 33 37.2 +5.3**
comp=Z,25nm,1.5s,mb5.1
REDW Red Top Meadow 63.57 54 *e*P **P 12 33 34.2 +0.6**
comp=Z,20nm,1.1s,mb5.1
ISA Isabella 63.98 65 *e*P **P 12 33 42.0 +5.8**
HWUT Hardware Ranch 64.30 56 *e*P **P 12 33 38.5 +0.1**
comp=Z,19nm,1.5s,mb4.9
FINES FINESS Array B 64.30 335 P **P 12 33 37.7 -0.7**
comp=Z,7.5nm,0.6s,mb4.9,baz=34,slow=8.7,SNR=12
FINES FINESS Array B 64.30 335 P **P 12 33 37.7 -0.7**
DUG Dugway 64.49 58 *e*P **P 12 33 40.0 +0.4**
DUG pmax pmax
comp=Z,61nm,2.0s,mb5.3
DUG Dugway 64.49 58 *e*P **P 12 33 40.0 +0.3**
comp=Z,61nm,2.0s,mb5.3
BW06 Boulder Array 64.68 54 *e*P **P 12 33 40.8 -0.1**
comp=Z,6.3nm,1.0s,mb4.6
PDAR Pinedale Array 64.68 54 P **P 12 33 40.8 -0.1**
comp=Z,2.4nm,0.8s,mb4.3,baz=277,slow=2.1,SNR=12
DAU Daniels Canyon 65.25 57 *e*P **P 12 33 48.5 +3.9**
OBN Obninsk 65.59 326 *e*P **P 12 33 44.4 -2.3**
OBN pmax pmax
comp=Z,20nm,1.5s,mb4.9
ULM Lac du Bonnet 66.52 41 P **P 12 33 51.9 -0.9**
comp=Z,2.8nm,0.8s,mb4.3,baz=262,slow=1.9,SNR=3.2
RSSD Black Hills 66.78 50 *e*P **P 12 33 54.0 -0.4**
RSSD pmax pmax
comp=Z,18nm,1.3s,mb4.9
RSSD Black Hills 66.78 50 *e*P **P 12 33 54.0 -0.4**
comp=Z,18nm,1.3s,mb5.0
WRA Warramunga Arr 68.41 199 P **P 12 34 01.7 -3.0**
comp=Z,4.3nm,0.9s,mb4.5,baz=18,slow=6.6,SNR=9.6
WRA Warramunga Arr 68.41 199 P **P 12 34 01.7 -3.0**
WRA pmax pmax
comp=Z,4.0nm,0.9s
WUAZ Wupatki 68.43 61 *e*P **P 12 34 09.6 +4.8**
comp=Z,25nm,1.5s,mb5.0
NB2 NORSAR Subarra 68.47 341 P **P 12 34 04.5 -0.6**
comp=Z,12nm,0.7s,mb5.0,baz=26,slow=6.5
NOA NORSAR Array B 68.47 341 P **P 12 34 04.8 -0.4**
comp=Z,8.7nm,0.6s,mb5.0,baz=27,slow=6.3,SNR=30
HFS Hagfors 68.71 340 P **P 12 34 06.0 -0.6**
comp=Z,9.3nm,0.5s,mb5.0,baz=51,slow=5.9,SNR=16
MVCO Mesa Verde 68.99 58 *e*P **P 12 34 08.4 +0.1**
comp=Z,27nm,1.5s,mb5.0
ECSD EROS,Sioux Fal 70.86 46 *e*P **P 12 34 18.6 -1.2**
comp=Z,23nm,1.3s,mb5.0
ANMO Albuquerque 71.74 58 P **P 12 34 25.7 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 71.74 58 *e*P **P 12 34 25.8 +0.7**
comp=Z,7.1nm,1.4s,mb4.4
AKASG Malin Array Be 71.82 326 P **P 12 34 24.8 -0.9**
comp=Z,17nm,0.8s,mb5.0,baz=34,slow=6.2,SNR=31
AKASG Malin Array Be 71.82 326 P **P 12 34 24.8 -0.9**
AKBB Malin Array Si 71.82 326 *e*P **P 12 34 24.5 -1.1**
KIEV Kiev 71.83 326 *e*P **P 12 34 24.7 -1.0**
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV Kiev 71.83 326 *e*P **P 12 34 24.6 -1.1**
comp=Z,8.1nm,0.6s,mb4.8
ASAR Alice Springs 72.10 199 P **P 12 34 25.6 -1.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=16,slow=6.0,SNR=7.1
SCIA State Center 73.89 46 *e*P **P 12 34 41.7 +3.8**
comp=Z,17nm,0.8s,mb5.0
MNTX Cornudas Mount 74.67 60 *e*P **P 12 34 41.4 -1.1**
comp=Z,18nm,1.4s,mb4.8
KWP Kalwaria 75.09 329 *e*P **P 12 34 46.0 +1.1**
KWP Kalwaria 75.09 329 *e*P **P 12 34 45.5 +0.6**
KWP pmax pmax
comp=Z,40nm,1.0s,mb5.3
STHS Stebnicka Huta 75.79 330 *e*P **P 12 34 44.1 -4.8**
STHS *e* pP 12 34 47.8 -4.8
STHS Stebnicka Huta 75.79 330 *e*P **P 12 34 49.7 +0.8**
comp=Z,7.5nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.84 329 *e*P **P 12 34 49.4 +0.2**
KOLS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.84 329 *e*P **P 12 34 49.4 +0.2**
comp=Z,6.2nm,0.9s,mb4.5
BURAR Bucovina Array 75.86 327 ⇓*i*P **P 12 34 49.4 +0.1**
BURAR Bucovina Array 75.86 327 ⇓P **P 12 34 49.4 +0.1**
WMOK Wichita Mounta 76.29 54 *e*P **P 12 34 52.0 +0.2**
WMOK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WMOK Wichita Mounta 76.29 54 *e*P **P 12 34 52.0 +0.3**
comp=Z,7.2nm,0.6s,mb4.8
MORC Moravsky Berou 76.71 332 ⇓*i*P **P 12 34 47.8 -6.3**
MORC Moravsky Berou 76.71 332 *e*P **P 12 34 50.1 -3.9**
CLL Collm 76.72 336 *e*P **P 12 34 54.0 -0.2**
comp=Z,14nm,0.8s,mb4.9
KECS Kecovo 76.84 330 *e*P **P 12 34 54.9 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.84 330 *e*P **P 12 34 54.9 0.0**
comp=Z,3.3nm,0.9s,mb4.3
TIRR Tirgusor 77.19 323 ⇑*i*P **P 12 34 56.8 0.0**
TIRR Tirgusor 77.19 323 ⇑P **P 12 34 56.8 -0.1**
MLR Muntele Rosu 77.34 325 P **P 12 34 57.6 -0.1**
comp=Z,9.5nm,0.7s,mb4.8,baz=188,slow=6.9,SNR=9.1
MLR Muntele Rosu 77.34 325 ⇓*i*P **P 12 34 57.6 -0.1**
MLR Muntele Rosu 77.34 325 ⇓P **P 12 34 57.6 -0.1**
LTX Lajitas 77.39 61 *e*P **P 12 34 57.9 -0.1**
TXAR Lajitas Array 77.39 61 P **P 12 34 57.6 -0.3**
comp=Z,5.3nm,0.6s,mb4.6,baz=309,slow=4.1,SNR=17
VYHS Vyhne 77.40 331 *e*P **P 12 34 58.5 +0.5**
VYHS *e* 12 35 04.2
VRAC Vranov 77.42 333 ⇑*i*P **P 12 34 58.6 +0.5**
VRAC Vranov 77.42 333 ⇑P **P 12 34 58.6 +0.5**
MALT Malatya 77.44 313 ⇑*i*P **P 12 34 59.8 +1.6**
MALT Malatya 77.44 313 *e*P **P 12 34 59.9 +1.7**
DRGR 77.49 328 ⇓*i*P **P 12 34 58.5 0.0**
DRGR 77.49 328 ⇓P **P 12 34 58.5 0.0**
PSZ Piszkesteto 77.53 330 *e*P **P 12 35 00.8 +2.1**
VOIR 77.74 326 ⇑*i*P **P 12 35 00.3 +0.4**
VOIR 77.74 326 ⇑P **P 12 35 00.3 +0.4**
GZR Gura Zlata 78.65 327 ⇓*i*P **P 12 35 06.3 +1.4**
GZR Gura Zlata 78.65 327 ⇓P **P 12 35 06.3 +1.4**
BRTR Keskin Array B 78.67 317 P **P 12 35 05.9 +0.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=76,slow=4.7,SNR=6.0
GERES GERESS Array B 78.72 334 P **P 12 35 05.2 -0.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=42,slow=6.1,SNR=6.7
JCT Junction City 78.85 57 *e*P **P 12 35 09.1 +3.1**
JCT pmax pmax
comp=Z,25nm,1.4s,mb5.0
JCT Junction City 78.85 57 *e*P **P 12 35 09.1 +3.1**
comp=Z,25nm,1.4s,mb5.0
BZS Buzias 78.89 328 ⇓*i*P **P 12 35 06.5 +0.2**
BZS Buzias 78.89 328 ⇓P **P 12 35 06.5 +0.2**
MEM Membach 79.20 340 P **P 12 35 08.1 +0.2**
PKSM Moragy 79.44 330 ⇑*i*P **P 12 35 08.5 -0.8**
BCLA Clavier 79.54 340 P **P 12 35 10.1 +0.3**
VTS Vitosha 80.85 325 ⇓*i*P **P 12 35 16.7 -0.2**
VTS Vitosha 80.85 325 ⇓P **P 12 35 16.7 -0.2**
CDF Champ du Feu 80.91 338 *e*P **P 12 35 16.7 -0.5**
comp=Z,75nm,1.3s,mb5.2
CDF Champ du Feu 80.91 338 *e*P **P 12 35 16.7 -0.5**
CDF pmax pmax
comp=Z,38nm,1.3s,mb5.2
CDF Champ du Feu 80.91 338 *e*P **P 12 35 16.7 -0.5**
comp=Z,38nm,1.3s,mb5.2
GRR Gorron 82.81 343 *e*P **P 12 35 26.5 -0.7**
comp=Z,68nm,1.2s,mb5.2
GRR Gorron 82.81 343 *e*P **P 12 35 26.5 -0.7**
GRR pmax pmax
comp=Z,34nm,1.2s,mb5.2
GRR Gorron 82.81 343 *e*P **P 12 35 26.5 -0.7**
comp=Z,34nm,1.2s,mb5.2
ASF Jabal al Asfar 82.98 310 P **P 12 35 29.4 +1.3**
comp=Z,4.1nm,1.0s,mb4.4,baz=81,slow=0.2,SNR=2.4
SMF Signal de Mont 83.42 339 *e*P **P 12 35 29.9 -0.4**
comp=Z,110nm,1.3s,mb5.4
SMF Signal de Mont 83.42 339 *e*P **P 12 35 29.9 -0.4**
SMF pmax pmax
comp=Z,55nm,1.3s,mb5.4
SMF Signal de Mont 83.42 339 *e*P **P 12 35 29.9 -0.4**
comp=Z,55nm,1.3s,mb5.4
LPG La Plagne 83.74 337 *e*P **P 12 35 32.6 +0.6**
comp=Z,73nm,1.5s,mb5.3
LPG La Plagne 83.74 337 *e*P **P 12 35 32.6 +0.6**
LPG pmax pmax
comp=Z,36nm,1.5s,mb5.3
LPG La Plagne 83.74 337 *e*P **P 12 35 32.6 +0.6**
comp=Z,36nm,1.5s,mb5.3
NWAO Narrogin (SRO) 85.60 210 *e*P **P 12 35 49.5 +8.1**
NWAO pmax pmax
comp=Z,30nm,1.3s
NWAO Narrogin (SRO) 85.60 210 *e*P **P 12 35 49.5 +8.1**
comp=Z,30nm,1.3s,mb5.4
EIL Elat 85.98 310 *e*P **P 12 35 44.9 +1.6**
comp=Z,4μm,2.3s
IDI Anoyia 86.30 320 P **P 12 35 45.4 +0.6**
comp=Z,5.8nm,0.5s,mb5.1,baz=36,slow=12,SNR=4.4
CFAA Coronel Fontan 144.81 80 PKP PKPdf 12 42 36.5 -3.4
comp=Z,0.6nm,0.7s,baz=262,slow=4.6,SNR=5.7
SNAA Sanae 152.43 196 PKPbc PKPbc 12 42 54.8 -4.3
comp=Z,0.9nm,0.8s,baz=352,slow=2.5,SNR=4.1
SNAA PKPab PKPab 12 43 05.3 -4.0
comp=Z,6.3nm,1.2s,baz=69,slow=1.6,SNR=6.5
SNAA Sanae 152.43 196 PKIKP PKPbc 12 42 54.8 -4.3
SNAA 12 43 05.3
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA pmax pmax
comp=Z,6.0nm,1.3s
VNA3 Neumayer Olymp 153.96 192 *e*PKPdf PKPbc 12 42 58.2 -4.3
VNA1 Neumayer--Stat 154.26 194 *e*PKPdf PKPbc 12 43 00.0 -3.1

*ISCJB **15** 12:24:15.5±0.5, 4686N±009×1556E±0.1, h10km, mb4.6/23, Error ellipse: s-maj=14.2km s-min=9.0km az=114.8*
*IDC **15** 12:24:16.0±0.6, 4689N×15557E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.6/31, mbtmp4.6/24, ML4.4/2, Error ellipse: s-maj=18.5km s-min=13.4km az=156.0*
*MOS **15** 12:24:18.4±1.2, 4692N×15541E, h27km, mb4.8/19, Error ellipse: s-maj=18.1km s-min=13.6km az=90.1*
ISC 15 12:24:17.5±7.1, 4691N±009×1556E±01, h11km±44km**, n50, σ0§94/48, mb4.6/23, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.51**	**258**	Pn		**Pn**	**12 26 36.0**	**+1.6**
	6.3nm,0.3s,baz=65,slow=20,SNR=6.4							
ASAJ	**Asahikawa**	**9.51**	**258**	PN		**Pn**	**12 26 36.0**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.54**	**237**	Pn		**Pn**	**12 28 07.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=30,slow=14,SNR=4.0							
MJAR	**Matsushiro Arr**	**16.54**	**237**	P		**Pn**	**12 28 07.4**	**-2.0**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**22.45**	**255**	P		**P**	**12 29 17.2**	**+0.9**
	comp=Z,6.3nm,0.8s,mb4.1,baz=62,slow=9.5,SNR=3.9							
KDAK	**Kodiak Island**	**32.70**	**51**	P		**P**	**12 30 48.6**	**-1.2**
	comp=Z,8.3nm,0.5s,mb4.9,baz=290,slow=10,SNR=10							
SONM	**Songino Array**	**32.85**	**290**	P		**P**	**12 30 50.6**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.4,baz=61,slow=7.6,SNR=6.4							
SONM	**Songino Array**	**32.85**	**290**	P		**P**	**12 30 50.6**	**-0.6**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**40.62**	**33**	P		**P**	**12 31 57.3**	**+0.1**
	comp=Z,9.6nm,0.5s,mb4.7,baz=278,slow=6.9,SNR=20							
INK	**Inuvik**	**40.62**	**33**	P		**P**	**12 31 57.3**	**0.0**
INK				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MKAR	**Makanchi Array**	**48.34**	**298**	P		**P**	**12 32 59.2**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.5,baz=61,slow=4.9,SNR=6.5							
MKAR	**Makanchi Array**	**48.34**	**298**	P		**P**	**12 32 59.2**	**+0.2**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
YKA	**Yellowknife Ar**	**49.79**	**37**	P		**P**	**12 33 09.3**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.5,baz=294,slow=7.2,SNR=7.6							
YKA	**Yellowknife Ar**	**49.79**	**37**	P		**P**	**12 33 09.3**	**-0.8**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**12 33 27.2**	**+0.2**
	comp=Z,8.2nm,0.4s,mb5.0,baz=61,slow=7.1,SNR=17							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**12 33 27.2**	**+0.2**
BVAR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
ARU	**Arti**	**56.01**	**318**	*e*P		**P**	**12 33 53.5**	**-2.6**
YBH	**Yreka Blue Hor**	**56.19**	**63**	P		**P**	**12 33 58.4**	**+1.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=80,slow=5.3,SNR=4.3							
YBH	**Yreka Blue Hor**	**56.19**	**63**	P		**P**	**12 33 58.4**	**+1.1**
YBH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.24**	**342**	P		**P**	**12 34 10.8**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.6,baz=32,slow=6.8,SNR=9.2							
ARCES	**ARCESS Array B**	**58.24**	**342**	P		**P**	**12 34 10.8**	**-1.0**
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AKTO	**Aktyubinsk**	**59.85**	**313**	P		**P**	**12 34 23.6**	**+0.6**
	comp=Z,4.2nm,0.5s,mb4.7,baz=85,slow=7.1,SNR=8.5							
AKTO	**Aktyubinsk**	**59.85**	**313**	P		**P**	**12 34 23.6**	**+0.6**
AKTO				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7							
NVAR	**Mina Array Bea**	**60.87**	**64**	P		**P**	**12 34 31.6**	**+1.6**
	comp=Z,1.8nm,0.5s,mb4.4,baz=298,slow=8.8,SNR=7.1							
KAKA	**Kakadu**	**62.86**	**205**	*e*P		**P**	**12 34 43.3**	**-0.1**
	comp=Z,15nm,0.6s,mb5.3							
PDAR	**Pinedale Array**	**63.29**	**55**	P		**P**	**12 34 46.0**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.2,baz=304,slow=2.5,SNR=4.6							
FINES	**FINESS Array B**	**64.59**	**336**	P		**P**	**12 34 54.4**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.7,baz=39,slow=7.7,SNR=5.0							
FINES	**FINESS Array B**	**64.59**	**336**	P		**P**	**12 34 54.4**	**-0.4**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.5s							
NB2	**NORSAR Subarra**	**68.60**	**342**	P		**P**	**12 35 14.6**	**-5.8**
	comp=Z,2.9nm,0.7s,mb4.3,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.60**	**342**	P		**P**	**12 35 21.4**	**+1.0**
	comp=Z,3.3nm,0.8s,mb4.3,baz=25,slow=6.2,SNR=2.5							
NOA	**NORSAR Array B**	**68.60**	**342**	P		**P**	**12 35 21.4**	**+1.0**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HFS	**Hagfors**	**68.88**	**341**	P		**P**	**12 35 23.3**	**+1.2**
	comp=Z,5.3nm,0.4s,mb4.8,baz=57,slow=4.2,SNR=13							
HFS	**Hagfors**	**68.88**	**341**	P		**P**	**12 35 23.3**	**+1.2**
HFS				pmax	pmax			
	comp=Z,5.0nm,0.4s							
WB2	**Warramunga Arr**	**69.24**	**201**	*e*P		**P**	**12 35 23.9**	**-0.5**
WRA	**Warramunga Arr**	**69.24**	**201**	P		**P**	**12 35 24.0**	**-0.3**
	comp=Z,6.5nm,0.7s,mb4.7,baz=21,slow=6.8,SNR=14							
WRA	**Warramunga Arr**	**69.24**	**201**	P		**P**	**12 35 24.0**	**-0.4**
WRA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AKASG	**Malin Array Be**	**72.33**	**327**	P		**P**	**12 35 42.3**	**-0.9**
	comp=Z,5.6nm,0.6s,mb4.7,baz=34,slow=6.0,SNR=4.7							
AKASG	**Malin Array Be**	**72.33**	**327**	P		**P**	**12 35 42.3**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ASAR	**Alice Springs**	**72.92**	**201**	P		**P**	**12 35 47.0**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.6,baz=17,slow=5.2,SNR=11							
ASAR	**Alice Springs**	**72.92**	**201**	P		**P**	**12 35 47.0**	**+0.3**
ASAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
TXAR	**Lajitas Array**	**75.95**	**62**	P		**P**	**12 36 04.4**	**+0.1**
	comp=Z,3.2nm,0.5s,mb4.5,baz=304,slow=4.8,SNR=10.0							
TXAR	**Lajitas Array**	**75.95**	**62**	P		**P**	**12 36 04.4**	**+0.1**
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MLR	**Muntele Rosu**	**77.88**	**326**	P		**P**	**12 36 15.5**	**+0.3**
	comp=Z,5.9nm,0.7s,mb4.7,baz=355,slow=22,SNR=3.1							
MLR	**Muntele Rosu**	**77.88**	**326**	P		**P**	**12 36 15.5**	**+0.3**
MLR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GERES	**GERESS Array B**	**79.02**	**335**	P		**P**	**12 36 21.4**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=43,slow=6.2,SNR=3.7							
GERES	**GERESS Array B**	**79.02**	**335**	P		**P**	**12 36 21.4**	**-0.1**
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASF	**Jabal al Asfar**	**83.86**	**312**	P		**P**	**12 36 48.1**	**+1.0**
	comp=Z,5.2nm,0.9s,mb4.7,baz=124,slow=2.3,SNR=5.1							
ASF	**Jabal al Asfar**	**83.86**	**312**	P		**P**	**12 36 48.1**	**+1.0**
ASF				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MAW	**Mawson**	**133.21**	**212**	PKP		PKPdf	12 43 32.8	-0.5
	comp=Z,1.3nm,0.7s,baz=31,slow=5.8,SNR=3.2							
MAW	**Mawson**	**133.21**	**212**	PKIKP		PKPdf	12 43 32.8	-0.5
MAW				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*NEIC **15** 12:24:20.9, 3269S×7175W, h21km, ML3.6(GUC), After GUC.*
GUC 15 12:24:20.9±0.7, 3269S×7175W, h21km±9km**, MD4.1, ML3.6, 8C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PACH	**Papudo**	**0.31**	**60**	⇓*i*P		Pb	12 24 27.8	0.0
IHA	**Instituto Hidr**	**0.34**	**164**	*e*P		Pb	12 24 28.5	+0.1
IHA				*i* S		Sb	12 24 33.8	+0.3
PTCH	**Petorca**	**0.82**	**59**	*e*P		Pb	12 24 36.3	-0.1
PTCH				*i* S		Sb	12 24 47.0	+0.1
PTCH				AML		AML	12 24 48.2	
	comp=E,3μm,0.1s							
PTCH	**Petorca**	**0.82**	**59**	*e*P		Pb	12 24 36.3	-0.1
PTCH				*i* S		Sb	12 24 47.0	+0.1
CHNG	**Los Chungos**	**0.84**	**15**	*e*P		Pb	12 24 36.0	-0.7
CHNG				*i* S		Sb	12 24 47.2	-0.3
PEL	**Peldehue**	**1.00**	**117**	⇑*e*P		Pb	12 24 39.2	-0.4
PEL				*i* S		Sb	12 24 52.7	+0.3
PEL				AML		AML	12 24 54.6	
	comp=E,5μm,0.2s							
PEL	**Peldehue**	**1.00**	**117**	⇑*e*P		Pb	12 24 39.2	-0.4
PEL				*i* S		Sb	12 24 52.7	+0.3
RCDM	**Rinconada Maip**	**1.12**	**135**	⇑*i*P		Pn	12 24 40.4	-1.0
RCDM				*i* S		Sb	12 24 54.8	-1.0
RCDM				AML		AML	12 25 00.6	
	comp=E,2μm,0.2s							
RCDM	**Rinconada Maip**	**1.12**	**135**	⇑*i*P		Pn	12 24 40.4	-1.0
RCDM				S		Sb	12 24 54.8	-1.0
TACH	**Talagante**	**1.18**	**145**	*e*P		Pn	12 24 41.4	-0.7
SAN	**Santiago**	**1.19**	**130**	⇓*e*P		Pn	12 24 41.5	-0.8
SAN				*i* S		Sb	12 24 57.2	-0.5
CLCH	**Cerro Calan**	**1.24**	**125**	*e*P		Pn	12 24 42.6	-0.4
CLCH				*i* S		Sn	12 24 59.1	0.0
CLCH				AML		AML	12 25 03.0	
	comp=E,2μm,0.4s							
ANTU	**Antumapu**	**1.28**	**133**	⇑*i*P		Pn	12 24 43.9	+0.2
ANTU				*i* S		Sn	12 25 00.0	-0.2
ANTU				AML		AML	12 25 06.1	
	comp=N,2μm,0.2s							
ANTU	**Antumapu**	**1.28**	**133**	P		Pn	12 24 43.9	+0.2
ANTU				*i* S		Sn	12 25 00.0	-0.2
LNV	**Longovilo**	**1.29**	**167**	*e*P		Pn	12 24 43.1	-0.6
LNV				*i* S		Sn	12 24 59.9	-0.5
FCH	**Farellones**	**1.38**	**118**	⇓*e*P		Pn	12 24 45.1	+0.2
FCH				*i* S		Sn	12 25 03.1	+0.5
FCH				AML		AML	12 25 03.8	
	comp=N,2μm,0.4s							
PCH	**Pirque**	**1.39**	**132**	⇓*i*P		Pn	12 24 45.3	+0.2
CHCH	**Chadas Angostu**	**1.54**	**144**	*e*P		Pn	12 24 47.6	+0.5
CHCH				*i* S		Sn	12 25 07.6	+1.0
CMCH	**Combarbala**	**1.65**	**23**	⇑*i*P		Pn	12 24 49.0	+0.4
CMCH				*i* S		Sn	12 25 10.3	+1.2
CMCH				AML		AML	12 25 15.1	
	comp=E,5μm,0.8s							
CMCH	**Combarbala**	**1.65**	**23**	⇑*i*P		Pn	12 24 49.0	+0.4
CMCH				*i* S		Sn	12 25 10.3	+1.2
CACH	**El Canelo**	**1.72**	**146**	⇑*i*P		Pn	12 24 50.8	+1.2
CACH				*i* S		Sn	12 25 13.6	+2.7
LMEL	**Las Melosas**	**1.74**	**132**	*e*P		Pn	12 24 50.6	+0.8
LMEL				*i* S		Sn	12 25 13.1	+1.8
LMEL				AML		AML	12 25 16.4	
	comp=N,1μm,0.2s							
LMEL	**Las Melosas**	**1.74**	**132**	*e*P		Pn	12 24 50.6	+0.8
LMEL				*i* S		Sn	12 25 13.1	+1.8
SFDO	**San Fernando**	**2.01**	**162**	*e*P		Pn	12 24 53.6	0.0
TLL	**Tololo Astrono**	**2.65**	**18**	*e*P		Pn	12 25 02.9	+0.6
TLL				*i* S		Sn	12 25 37.1	+3.3
TLL				AML		AML	12 25 47.1	
	comp=N,296nm,0.7s							
TLL				AML		AML	12 25 47.6	
	comp=E,297nm,0.7s							
TLL	**Tololo Astrono**	**2.65**	**18**	P		Pn	12 25 02.9	+0.6
TLL				S		Sn	12 25 37.1	+3.3

*BJI **15** 12:26:09.4, 4758N×15471E, h10km, mB6.0, mb5.5, Ms5.6, Msz5.3*
*IDC **15** 12:26:13.7±0.4, 4740N×15389E, h0km, mb5.2/36, mb1 5.3/37, mb1mx5.3/37, mbtmp5.2/37, ML4.6/1, Error ellipse: s-maj=13.5km s-min=10.3km az=145.0*
*ISCJB **15** 12:26:14.7±0.9, 4739N±003×15390E±002, h15km±6km, mb5.5/244, MS6.4/1, Error ellipse: s-maj=4.5km s-min=2.1km az=152.1*
*BGS **15** 12:26:14.7, 4754N×15557E, h10km, mb5.7*
*NEIC **15** 12:26:15.8±0.1, 4742N×15386E, h10km, mb5.7/159, Error ellipse: s-maj=3.6km s-min=2.4km az=162.0*
*SKHL **15** 12:26:18.1±1.9, 4745N×15395E, h65km±28km*
*MOS **15** 12:26:18.6±0.9, 4742N×15393E, h41km, mb5.8/91, Error ellipse: s-maj=6.5km s-min=3.8km az=97.0*
*SZGRF **15** 12:26:22.6, 4784N×15399E, h33km, mb5.9, Kuril Islands, Russia*
ISC 15 12:26:20.0±0.4, 4748N±002×15382E±002, h37km±3km**, h31**km±3.8km**:pP-P, n948,** σ0§**80**/954**, mb5.5**/244**, 161C-78D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.54**	**24**	*e*P		**Pn**	**12 27 12.0**	**-0.5**
SKR				AMB		AMB	12 27 15.0	
	850nm,0.5s							
SKR				AMB		AMB	12 27 15.0	
	340nm,0.5s							
SKR				AMB		AMB	12 27 15.0	
	3μm,0.5s							
SKR			

comp=N,1µm,0.5s
YUK pmax pmax
comp=E,3µm,0.5s
YUK pmax pmax
comp=Z,4µm,0.5s
NEM2 Nemuro 2 7.01 237 P **Pn** **12 27 58.4 -1.8**
NEM2 eS **Sn** **12 29 15.3 -3.4**
JRA Rausu 7.04 243 P **Pn** **12 28 02.3 +1.7**
JNK Nakash 7.48 242 P **Pn** **12 28 07.3 +0.7**
JNK eS **Sn** **12 29 30.7 +0.5**
YSS Yuzh-Sakhalins 7.55 270 eP **Pn** **12 28 12.4 +4.8**
YSS AMB AMB 12 28 14.0
comp=Z,590nm,1.0s
YSS eS **Sn** **12 29 36.0 +4.1**
YSS A 12 29 43.0
comp=Z,2µm,1.0s
YSS Yuzh-Sakhalins 7.55 270 eP **Pn** **12 28 12.5 +4.9**
comp=Z,672nm,0.6s
JTKR Abashiri--Toko 7.77 247 P **Pn** **12 28 13.6 +3.0**
JAK Akkeshi 7.84 238 eS **Sn** **12 29 35.3 -3.8**
UGL Uglegorsk 8.00 286 ePN **Pn** **12 28 19.0 +5.3**
UGL S **Sn** **12 29 51.0 +8.0**
UGL pmax pmax
comp=Z,400nm,0.6s
UGL pmax pmax
comp=N,92nm,0.5s
UGL pmax pmax
comp=E,100nm,0.5s
UGL smax
comp=N,170nm,0.5s
UGL smax
comp=E,250nm,0.5s
TYV Tymovskoe 8.06 299 eP **Pn** **12 28 17.2 +2.7**
TYV AMB AMB 12 28 19.2
comp=E,368nm,1.0s
JMP Maruseppu 8.10 248 P **Pn** **12 28 18.9 +3.9**
JSE Soyaes 8.19 256 P **Pn** **12 28 21.8 +5.5**
JOB Onbets 8.40 241 eS **Sn** **12 29 50.5 -2.3**
JWK2 Keihoku 8.52 260 P **Pn** **12 28 27.1 +6.3**
ASAJ Asahikawa 8.53 251 Pn **Pn** **12 28 25.1 +4.1**
comp=E,40nm,0.3s,baz=81,slow=14,SNR=30
ASAJ Asahikawa 8.53 251 P **Pn** **12 28 26.3 +5.3**
ASAJ Asahikawa 8.53 251 PN **Pn** **12 28 25.1 +4.1**
ASAJ pmax pmax
comp=Z,40nm,0.3s
JKK2 Kamakawa 2 8.55 249 P **Pn** **12 28 24.2 +3.0**
JCH Churui 8.86 240 eS **Sn** **12 30 01.4 -2.5**
JFR Furan 9.01 245 P **Pn** **12 28 28.2 +0.7**
JFR eS **Sn** **12 30 19.0 +11**
JAB Ashibetsu 9.06 248 P **Pn** **12 28 33.0 +4.7**
OKH Okha 9.21 315 eP **Pn** **12 28 31.9 +1.6**
OKH eS **Sn** **12 30 13.2 +0.5**
JHR Hokuryu 9.26 251 P **Pn** **12 28 37.6 +6.6**
ERM Erimo 9.35 238 Pn **Pn** **12 28 33.8 +1.7**
comp=Z,5µm,0.5s,SNR=6.3
ERM Erimo 9.35 238 ePN **Pn** **12 28 32.8 +0.7**
ERM pmax pmax
comp=Z,748nm,0.8s
ERM Erimo 9.35 238 ePn **Pn** **12 28 32.8 +0.7**
comp=Z,748nm,0.8s
JEM Erimo 9.35 238 eS **Sn** **12 30 16.9 +1.0**
JNBK Urakawa-nobuka 9.42 241 eS **Sn** **12 30 19.0 +1.3**
JEW Eniwo 9.89 247 P **Pn** **12 28 43.0 +3.4**
NKL Nikolayevsk 10.13 309 eP **Pn** **12 28 44.8 +1.9**
NKL AMB AMB 12 28 47.0
comp=Z,1µm,1.8s
NKL AMB AMB 12 28 47.0
comp=Z,2µm,1.8s
JNB Noboribetsu 10.35 246 P **Pn** **12 28 45.5 -0.3**
JKB Kayabe 10.68 243 P **Pn** **12 28 47.5 -2.9**
JKB eS **Sn** **12 30 41.4 -7.3**
JSH Shimam 10.87 249 P **Pn** **12 28 53.0 -0.1**
JYM2 Yakumo 2 10.95 246 P **Pn** **12 28 54.0 -0.2**
JTM Tenmabayashi 11.34 238 P **Pn** **12 28 56.7 -2.7**
JANG Nango 11.36 236 P **Pn** **12 28 54.7 -5.0**
JANG eS **Sn** **12 30 54.0 -11**
JTH Tanohata 11.47 233 eS **Sn** **12 30 55.6 -12**
JOSM Okushiri--Mats 11.53 247 P **Pn** **12 29 01.0 -1.0**
OFUJ Ofunato 12.19 231 P **Pn** **12 29 06.4 -4.7**
OFUJ eS **Sn** **12 31 12.4 -13**
MA2 Magadan 12.25 353 ePN **Pn** **12 29 12.2 +0.3**
MA2 pmax pmax
comp=Z,55nm,0.8s
MA2 Magadan 12.25 353 ePn **Pn** **12 29 14.2 +2.3**
comp=Z,116nm,0.6s
JRG Rokugo 12.52 235 P **Pn** **12 29 14.4 -1.2**
JRG eS **Sn** **12 31 25.7 -8.1**
HABR Khabarovsk 12.62 281 ePN **Pn** **12 29 21.3 +4.4**
JOG2 Oga 2 12.64 238 P **Pn** **12 29 15.2 -2.1**
JIO Ouri 12.82 230 P **Pn** **12 29 15.6 -4.1**
JIO eS **Sn** **12 31 30.5 -11**
JYA Atsumi 13.60 234 P **Pn** **12 29 26.9 -3.4**
JFK Kawauchi 13.89 228 P **Pn** **12 29 30.0 -4.3**
JFK eS **Sn** **12 31 53.7 -14**
SMY Shemya 14.02 60 eP **Pn** **12 29 32.4 -3.6**
SMY pmax pmax
comp=Z,130nm,0.6s
SMY Shemya 14.02 60 eP **Pn** **12 29 32.3 -3.7**
comp=Z,111nm,0.8s
JFY Yanaizu 14.47 231 P **Pn** **12 29 38.4 -3.7**
SEY Seymchan 15.51 358 eP **Pn** **12 29 54.5 -1.4**
MAJO Matsushiro 15.91 232 eP **Pn** **12 29 59.9 -1.2**
MAJO pmax pmax
comp=Z,239nm,0.8s
MAJO Matsushiro 15.91 232 eP **Pn** **12 29 59.9 -1.2**
comp=Z,239nm,0.8s
MAT Matsushiro 15.91 232 P **Pn** **12 29 59.4 -1.7**
MJAR Matsushiro Arr 15.91 232 Pn **Pn** **12 29 58.1 -3.0**
comp=Z,4nm,0.3s,baz=26,slow=12,SNR=27
MDJ Mudanjiang 17.04 269 P **Pn** **12 30 18.3 +2.9**
MDJ AMB AMB
comp=Z,168nm,1.0s
MDJ Mudanjiang 17.04 269 eP **Pn** **12 30 17.8 +2.3**
comp=Z,174nm,0.9s
JHJ Hachijo jima 2 17.86 222 P **Pn** **12 30 26.6 +1.2**
comp=Z,4.4nm,0.3s,baz=54,slow=15,SNR=2.8
ZEA Zeya 17.92 300 eP **Pn** **12 30 27.0 +0.7**
ZEA AMB AMB 12 30 28.8
comp=Z,170nm,1.2s
ZEA AMB AMB 12 30 28.8
comp=Z,320nm,1.2s
ZEA AMB AMB 12 30 28.8
comp=Z,220nm,1.4s
CLNS Chul'man 19.92 309 eP **Pn** **12 30 53.8 +3.4**
CLNS pmax pmax
comp=E,137nm,1.1s
CLNS pmax pmax
comp=Z,196nm,1.1s
CLNS pmax pmax
comp=N,136nm,0.9s
YAK Yakutsk 19.98 326 eP **Pn** **12 30 51.5 +0.5**
YAK e 12 31 05.5
YAK eS **S** **12 34 36.3 +4.5**
YAK eSS 12 34 57.5
YAK e 12 35 04.4
YAK eSSS 12 35 09.9
YAK e 12 42 17.1
YAK pmax pmax
comp=Z,401nm,1.5s
YAK pmax pmax
comp=N,226nm,1.4s
YAK pmax pmax
comp=E,307nm,1.4s
YAK pmax pmax
comp=E,353nm,1.4s
YAK pmax pmax
comp=Z,381nm,1.4s
YAK pmax pmax
comp=N,288nm,1.6s
YAK smax
comp=N,203nm,1.4s
YAK smax
comp=Z,91nm,1.6s
YAK smax
comp=E,311nm,1.5s
YAK MLR MLR
comp=Z,112µm,13.0s
YAK MLR MLR
comp=N,84µm,14.0s
YAK MLR MLR
comp=E,105µm,16.0s
YAK Yakutsk 19.98 326 eP **Pn** **12 30 51.3 +0.3**
comp=E,470nm,1.1s
CN2 Changchun 20.12 270 eP **P** **12 30 49.8 -0.9**

KSRS Korea Array 21.48 252 P **P** **12 31 06.0 +0.6**
comp=E,75nm,0.8s,mb5.1,baz=58,slow=10,SNR=71
BILL Bilibino 21.57 13 eP **P** **12 31 04.6 -1.7**
BILL pmax pmax
comp=Z,69nm,1.0s,mb5.0
BILL Bilibino 21.57 13 eP **P** **12 31 04.5 -1.9**
comp=Z,62nm,0.9s,mb5.0
SNY Shenyang 22.16 266 ⇑P **P** **12 31 13.6 +1.0**
SNY AMB AMB
comp=Z,181nm,0.8s,mb5.5
INCN Inchon 22.30 253 eP **P** **12 31 12.2 -1.9**
comp=Z,220nm,0.9s,mb5.6
JNU Nakatsue 22.51 239 P **P** **12 31 16.8 +0.4**
comp=Z,58nm,0.8s,mb5.0,baz=261,slow=22,SNR=9.4
HIA Hailar 22.60 287 eP **P** **12 31 16.8 -0.5**
HIA Hailar 22.60 287 eP **P** **12 31 17.2 -0.1**
comp=Z,202nm,1.4s,mb5.4
DL2 Dalian 24.84 262 P **P** **12 31 43.5 +4.6**
DL2 AMB AMB
comp=Z,90nm,1.0s,mb5.2
BOD Bodaibo 25.90 308 eP **P** **12 31 47.9 -0.6**
BOD pmax pmax
comp=Z,62nm,2.0s,mb4.8
BJI Beijing 27.97 269 eP **P** **12 32 11.1 +4.0**
BJI AMB AMB
comp=Z,95nm,1.0s,mb5.4
BJI Beijing 27.97 269 eP **P** **12 32 11.1 +4.0**
comp=Z,95nm,1.0s,mb5.4
BJT Baijiatuan 27.99 268 eP **P** **12 32 09.6 +2.4**
BJT pmax pmax
comp=Z,110nm,1.0s
BJT Baijiatuan 27.99 268 eP **P** **12 32 09.0 +1.7**
comp=Z,109nm,0.9s,mb5.5
JOW Kunigami 28.75 233 P **P** **12 32 13.5 -0.5**
comp=Z,52nm,1.1s,mb5.2,baz=103,slow=4.8,SNR=3.3
NJ2 Nanjing 30.67 253 eP **P** **12 32 32.8 +1.7**
NJ2 PP PP 12 33 33.8 -6.8
NJ2 AMB AMB
comp=Z,560nm,0.8s,mb6.5
NJ2 AMB AMB
comp=Z,740nm,4.7s
HHC Hu-ho-hao-te 30.73 273 eP **P** **12 32 34.1 +2.6**
HHC AP pP 12 32 38.5 -3.4
HHC PP PP 12 33 37.6 -3.6
HHC AMB AMB
comp=Z,108nm,1.4s,mb5.5
ULN Ulaanbaatar 31.12 288 eP **P** **12 32 35.5 +0.5**
ULN pmax pmax
comp=Z,37nm,1.4s,mb5.0
ULN Ulaanbaatar 31.12 288 eP **P** **12 32 35.5 +0.5**
comp=Z,37nm,1.4s,mb5.0
SONM Songino Array 31.55 289 P **P** **12 32 38.8 0.0**
comp=Z,5.9nm,0.6s,mb4.6,baz=56,slow=9.0,SNR=9.7
TLY Talaya 32.28 296 eP **P** **12 32 45.7 +0.5**
TLY pmax pmax
comp=Z,420nm,2.5s,mb5.8
TLY Talaya 32.28 296 eP **P** **12 32 44.7 -0.5**
comp=Z,420nm,2.5s,mb5.8
ZAK Zakamensk 32.81 294 eP **P** **12 32 51.4 +1.6**
IMA2 Indian Mountai 32.93 37 eP **P** **12 32 50.8 -0.1**
KDAK Kodiak Island 33.27 52 P **P** **12 32 52.8 -1.1**
comp=Z,85nm,0.8s,mb5.7,baz=287,slow=3.6,SNR=24
WHN Wuhan 34.58 255 eP **P** **12 33 05.4 +0.2**
PMR Palmer 34.74 45 eP **P** **12 33 06.1 -0.5**
PMR pmax pmax
comp=Z,153nm,1.6s,mb5.7
PMR Palmer 34.74 45 eP **P** **12 33 06.1 -0.5**
comp=Z,153nm,1.6s,mb5.7
MCK McKinley 34.78 41 eP **P** **12 33 06.4 -0.6**
MCK pmax pmax
comp=Z,68nm,1.0s,mb5.5
MCK McKinley 34.78 41 eP **P** **12 33 06.4 -0.5**
comp=Z,68nm,1.0s,mb5.5
SML Sawmill 35.11 44 P **P** **12 33 09.1 -0.7**
SML Sawmill 35.11 44 eP **P** **12 33 09.3 -0.4**
COLA College 35.27 39 eP **P** **12 33 10.7 -0.4**
COLA pmax pmax
comp=Z,160nm,0.9s,mb6.0
COLA College 35.27 39 eP **P** **12 33 10.4 -0.7**
comp=Z,164nm,0.8s,mb6.0
QZH Quanzhou 35.79 244 P **P** **12 33 15.8 +0.2**
QZH AMB AMB
comp=Z,110nm,0.9s,mb5.8
XAN Xi'an 36.06 265 P **P** **12 33 16.9 -1.0**
XAN AMB AMB
comp=Z,74nm,1.4s,mb5.4
DIV Divide 36.39 45 eP **P** **12 33 19.7 -1.0**
comp=Z,497nm,1.1s,mb6.3
EGAK Eagle 38.13 39 eP **P** **12 33 33.5 -1.9**
comp=Z,15nm,1.1s,mb4.6
LZH Lanzhou 38.35 271 eP **P** **12 33 38.8 +1.4**
LZH AMB AMB
comp=Z,130nm,1.4s,mb5.5
LZH Lanzhou 38.35 271 eP **P** **12 33 38.7 +1.3**
LZH 12 35 08.6
LZH eS **S** **12 39 33.7 +4.3**
LZH pmax pmax
comp=Z,130nm,1.4s,mb5.5
LZH Lanzhou 38.35 271 eP **P** **12 33 38.7 +1.3**
comp=Z,130nm,1.4s,mb5.5
LZH pP pP 12 33 41.5 -6.4
LZH sP sP 12 33 42.8 -9.5
LZH PP PP 12 35 08.6 +3.2
LZH eS **S** **12 39 33.7 +4.3**
LZH sS sS 12 39 39.9 -6.9
DAWY Dawson 38.97 40 eP **P** **12 33 42.2 -0.3**
GTA Gaotai 39.34 279 eP **P** **12 33 49.0 +3.4**
GTA AP pP 12 33 55.4 -0.8
GTA XP sP 12 33 59.4 -1.1
GTA PP PP 12 35 25.8 +10
GTA S **S** **12 39 51.3 +7.1**
GTA XS sS 12 40 05.6 +3.9
GTA SS SS 12 42 41.9 +3.2
GTA AMB AMB
comp=Z,91nm,1.3s,mb5.3
INK Inuvik 40.78 33 P **P** **12 33 57.4 -0.1**
comp=Z,72nm,0.6s,mb5.5,baz=297,slow=6.2,SNR=80
INK Inuvik 40.78 33 P **P** **12 33 57.4 -0.2**
INK pmax pmax
comp=Z,72nm,0.6s
INK Inuvik 40.78 33 eP **P** **12 33 57.1 -0.5**
comp=Z,3.5nm,0.4s,mb4.3
CD2 Chengdu 41.42 265 ⇑*i*P **P** **12 34 03.4 +0.5**
CD2 S **S** **12 40 16.5 +1.1**
CD2 AMB AMB
comp=Z,240nm,1.2s,mb5.7
SKAG Skagway 41.81 46 eP **P** **12 34 07.1 +1.0**
comp=Z,421nm,1.9s,mb5.8
GYA Guiyang 42.34 257 ⇑*i*P **P** **12 34 10.8 +0.4**
GYA PP PP 12 35 53.5 +4.6
GYA PCP PcP 12 36 06.3 +2.9
GYA S **S** **12 40 33.8 +4.8**
GYA SS SS 12 43 36.0 -2.5
GYA AMB AMB
comp=Z,100nm,0.8s,mb5.5
SIT Sitka 42.53 50 eP **P** **12 34 12.9 +1.0**
SIT pmax pmax
comp=Z,561nm,1.5s,mb6.1
SIT Sitka 42.53 50 eP **P** **12 34 12.8 +0.9**
comp=Z,561nm,1.5s,mb6.1
TGY Tagaytay City 43.06 230 P **P** **12 34 14.5 -1.7**
comp=Z,88nm,0.4s,baz=44,slow=17,SNR=2.3
NVS Novosibirsk 43.13 307 eP **P** **12 34 14.1 -2.7**
NVS eS **S** **12 40 34.6 -6.0**
NVS pmax pmax
comp=N,80nm,2.4s
NVS pmax pmax
comp=E,133nm,2.4s
NVS pmax pmax
comp=Z,209nm,2.4s,mb5.4
NVS smax
comp=N,105nm,2.4s
NVS smax
comp=E,65nm,2.4s
WRAK Wrangell Islan 44.29 50 eP **P** **12 34 27.2 +1.1**
comp=E,169nm,1.3s,mb5.6
DLBC Dease Lake 44.74 47 eP **P** **12 34 30.7 +1.0**
QIZ Qiongzhong 45.58 247 P **P** **12 34 37.4 +1.0**
QIZ S **S** **12 41 19.4 +3.3**
QIZ AMB AMB
comp=Z,36nm,1.7s,mb5.0
QIZ Qiongzhong 45.58 247 eP **P** **12 34 35.9 -0.5**
comp=Z,244nm,1.8s,mb5.8
KMI Kunming 45.85 259 P **P** **12 34 39.3 +0.8**
KMI AMB AMB
comp=Z,105nm,1.2s,mb5.6
KMI Kunming 45.85 259 P **P** **12 34 39.2 +0.7**
KMI *PP pP 12 34 53.1 +3.9
KMI *SP sP 12 34 59.6 +6.1
KMI pmax pmax
comp=Z,105nm,1.2s,mb5.6
KMI Kunming 45.85 259 P **P** **12 34 39.2 +0.7**
comp=Z,105nm,1.2s,mb5.6
KMI pP pP 12 34 53.1 +3.9
KMI sP sP 12 34 59.6 +6.1
MKAR Makanchi Array 47.04 297 P **P** **12 34 46.8 -1.0**
comp=Z,12nm,0.6s,mb5.0,baz=68,slow=5.8,SNR=15
KURK Kurchatov 47.36 303 P **P** **12 34 49.8 -0.5**
comp=Z,546nm,1.1s,mb6.4,SNR=20
KURK Kurchatov 47.36 303 ⇓P **P** **12 34 49.3 -1.1**
SNR=12
KURK Kurchatov 47.36 303 eP **P** **12 34 49.2 -1.1**
KURK pmax pmax
comp=Z,83nm,0.9s,mb5.7
KURK Kurchatov 47.36 303 eP **P** **12 34 49.2 -1.2**
comp=Z,83nm,0.9s,mb5.7
ALE Alert 48.97 6 P **P** **12 35 02.0 -0.7**
comp=Z,240nm,0.6s,mb6.4,SNR=15
POHA Pohakuloa 49.31 106 eP **P** **12 35 04.2 -1.1**
comp=Z,114nm,0.9s,mb5.9
RES Resolute Bay 49.99 19 eP **P** **12 35 09.9 -0.7**
comp=Z,51nm,1.3s,mb5.4
YKA Yellowknife Ar 50.05 37 P **P** **12 35 10.9 -0.1**
comp=Z,34nm,0.7s,mb5.5,baz=295,slow=7.1,SNR=22
CHKZ Chkalovo 50.33 310 eP **P** **12 35 11.8 -1.3**
CHKZ pmax pmax
comp=Z,65nm,0.6s,mb5.8
CHKZ Chkalovo 50.33 310 eP **P** **12 35 11.8 -1.3**
comp=Z,65nm,0.6s,mb5.8
LSA Lhasa 50.72 273 eP **P** **12 35 17.7 +1.7**
LSA pmax pmax
comp=Z,40nm,0.6s,mb5.5
LSA Lhasa 50.72 273 eP **P** **12 35 17.7 +1.7**
comp=Z,40nm,0.6s,mb5.5
BVAR Borovoye Array 50.77 309 P **P** **12 35 15.6 -0.9**
comp=Z,26nm,0.6s,mb5.3,baz=56,slow=7.5,SNR=14
BRVK Borovoye 50.81 309 P **P** **12 35 15.6 -1.1**
comp=Z,399nm,0.6s,mb6.5,SNR=8.5
BRVK Borovoye 50.81 309 P **P** **12 35 15.8 -0.9**
SNR=8.8
BRVK Borovoye 50.81 309 eP **P** **12 35 16.6 -0.1**
BRVK pmax pmax
comp=Z,27nm,0.7s,mb5.3
BRVK Borovoye 50.81 309 eP **P** **12 35 15.2 -1.5**
comp=Z,43nm,0.7s,mb5.5
ZRNK Zerenda 51.53 310 eP **P** **12 35 20.6 -1.5**
ZRNK pmax pmax
comp=Z,49nm,0.9s,mb5.4
ZRNK Zerenda 51.53 310 eP **P** **12 35 20.6 -1.6**
comp=Z,49nm,0.9s,mb5.4
CHTO Chiang Mai 52.76 257 ⇓P **P** **12 35 32.5 +1.3**
SNR=35
CHTO Chiang Mai 52.76 257 eP **P** **12 35 31.9 +0.7**
CHTO pmax pmax
comp=Z,146nm,1.1s,mb5.8
CHTO Chiang Mai 52.76 257 eP **P** **12 35 31.9 +0.6**
comp=Z,146nm,1.1s,mb5.8
SHL Shillong 52.87 268 eP **P** **12 35 30.9 -1.2**
B04A Port Angeles 52.92 57 ⇓P **P** **12 35 32.2 -0.3**
baz=53
CM31 Chiang Mai Arr 53.01 256 eP **P** **12 35 34.7 +1.6**
comp=Z,78nm,1.2s,mb5.5
A04A Legoe Bay, Lum 53.02 55 ⇑P **P** **12 35 32.7 -0.4**
baz=53
A05A Maple Falls 53.21 55 P **P** **12 35 34.3 -0.3**
baz=53,SNR=7.7
D03A Wishkah Elem. 53.28 58 ⇓P **P** **12 35 34.8 -0.3**
baz=53
C04A Brinnon 53.41 57 ⇑P **P** **12 35 35.9 -0.2**
baz=53
A06A Chilliwack 53.49 55 ⇓P **P** **12 35 36.5 -0.2**
baz=53
E03A Lebam 53.71 58 ⇓P **P** **12 35 38.5 +0.3**
baz=54
JCW Jim Creek 53.73 56 P **P** **12 35 38.3 -0.1**
D04A Dobbs Creek Ra 53.84 57 ⇑P **P** **12 35 39.5 +0.3**
baz=54
AAK Ala-Archa 53.94 296 P **P** **12 35 38.0 -2.0**
comp=Z,141nm,0.7s,mb6.0,SNR=8.0
AAK Ala-Archa 53.94 296 P **P** **12 35 39.0 -1.0**
SNR=6.4
AAK Ala-Archa 53.94 296⇑eP **P** **12 35 38.4 -1.6**
AAK pmax pmax
comp=Z,36nm,1.7s,mb5.0
AAK Ala-Archa 53.94 296 eP **P** **12 35 38.6 -1.4**
comp=Z,11nm,0.8s,mb4.8
A07A Ashnola River, 54.12 54 P **P** **12 35 41.0 -0.3**
baz=54,SNR=20
C05A Tolt Reservoir 54.15 56 P **P** **12 35 41.6 +0.1**
baz=54,SNR=8.6
E04A Onalaska 54.17 58 ⇓P **P** **12 35 42.4 +0.8**
baz=54
D05A Enumclaw 54.26 57 P **P** **12 35 43.0 +0.8**
baz=54,SNR=7.0
G03A Yamhill 54.56 59 ⇓P **P** **12 35 44.2 -0.3**
baz=54
B07A Winthrop 54.59 55 P **P** **12 35 44.9 +0.1**
baz=54,SNR=13
F04A Amboy 54.71 58 P **P** **12 35 45.7 +0.2**
baz=54,SNR=8.1
E05A Randle 54.74 57 P **P** **12 35 45.5 -0.2**
baz=54,SNR=5.9
WPW White Pass 54.78 57 P **P** **12 35 46.0 0.0**
A08A Turner Farm, O 54.78 54 P **P** **12 35 45.8 -0.3**
baz=55,SNR=29
ARU Arti 54.80 317 P **P** **12 35 45.8 -0.4**
comp=Z,464nm,0.6s,SNR=9.2
ARU Arti 54.80 317⇑*i*P **P** **12 35 44.7 -1.5**
ARU *e* **12 37 44.6**
ARU eS **S** **12 43 24.9 +0.4**
ARU eSS SS 12 47 08.7 +0.8
ARU pmax pmax
comp=Z,74nm,1.0s,mb5.7
ARU Arti 54.80 317 eP **P** **12 35 44.5 -1.7**
comp=Z,294nm,2.6s,mb5.8
KSH Kashi 54.82 292 eP **P** **12 35 47.1 +0.8**
KSH ePCP PcP 12 36 50.3 +2.0
KSH ePP PP 12 37 51.1 +1.8
KSH eS **S** **12 43 25.5 +0.7**
KSH eSCS ScS 12 45 32.0 -0.6
D06A Cle Elum 54.90 56 P **P** **12 35 46.8 -0.1**
baz=55,SNR=17
H03A Soap Creek Ran 54.92 60 ⇑P **P** **12 35 47.1 +0.1**
baz=55
ETW Entiat 54.96 56 P **P** **12 35 47.4 +0.1**
TBM Table Mountain 55.05 56 P **P** **12 35 47.5 -0.5**
C07A Waterville 55.06 55 P **P** **12 35 47.9 -0.2**
baz=55,SNR=16
B08A Colville Reser 55.09 54 P **P** **12 35 47.9 -0.4**
baz=55,SNR=33
G04A Mulino 55.09 59 ⇓P **P** **12 35 47.9 -0.4**
baz=55
WTV Waterville 55.12 55 P **P** **12 35 48.1 -0.4**
A09A Danville 55.15 53 P **P** **12 35 49.2 +0.5**
baz=55,SNR=42
E06A Yakima 55.19 57 P **P** **12 35 49.2 +0.2**
baz=55,SNR=8.6
EBG Ellensburg 55.22 56 P **P** **12 35 48.6 -0.6**
K01A Sixes 55.29 62 ⇓P **P** **12 35 49.6 -0.1**
baz=55
F05A White Salmon 55.29 58 ⇑P **P** **12 35 49.7 0.0**
baz=55
I03A Eugene 55.33 61 ⇑P **P** **12 35 50.4 +0.4**
baz=55
JIRN Jiri 55.37 275 eP **P** **12 35 51.4 +1.1**
comp=Z,256nm,0.8s,mb6.3
D07A Quincy 55.39 56 P **P** **12 35 50.4 -0.1**
baz=55,SNR=10
GUN Gumba 55.42 275 eP **P** **12 35 51.4 +0.8**
comp=Z,122nm,0.5s,mb6.2
TDH Tom, Dick, Har 55.44 59 P **P** **12 35 51.0 +0.2**
EDM Edmonton 55.46 47 eP **P** **12 35 50.1 -0.9**
EDM Edmonton 55.46 47 eP **P** **12 35 49.8 -1.2**
J02A Umpqua 55.50 61 P **P** **12 35 52.4 +1.1**
baz=55,SNR=10
H04A Detroit Lake 55.56 59 P **P** **12 35 51.9 +0.2**
baz=55,SNR=10
MXC Moxie City 55.56 57 P **P** **12 35 51.8 +0.1**
C08A Higginbotham F 55.57 55 P **P** **12 35 51.6 -0.1**
baz=55,SNR=14
B09A Rice 55.70 54 ⇓P **P** **12 35 52.8 +0.1**
baz=56,SNR=23

A10A **Northport** 55.70 53 P P 12 35 52.9 +0.2
baz=56,SNR=17
G05A **Wamic** 55.74 58 P P 12 35 53.7 +0.7
baz=56,SNR=7.4
F06A **Goldendale** 55.75 58 P P 12 35 53.5 +0.5
baz=56,SNR=7.0
E07A **Sunnyside** 55.82 56 ⇑P P 12 35 53.6 0.0
baz=56,SNR=19
J03A **Ideyld Park** 55.86 61 P P 12 35 54.9 +1.0
baz=56,SNR=10
K02A **Glendale** 55.90 62 P P 12 35 55.0 +0.8
baz=56,SNR=6.7
KKN **Kakani** 55.90 275 *e*P P 12 35 54.9 +0.8
comp=Z,220nm,0.8s,mb6.3
GBB **Gable Butte** 55.92 56 P P 12 35 54.1 -0.2
I04A **Tendick Farm,** 55.94 60 ⇓P P 12 35 54.8 +0.3
baz=56,SNR=12
PKI **Pulchoki** 55.95 275 *e*P P 12 35 55.3 +0.8
comp=Z,111nm,0.6s,mb6.1
C09A **Chrisman Ranch** 55.99 54 ⇓P P 12 35 54.4 -0.3
baz=56,SNR=25
D08A **Wollman Farm,** 56.06 55 P P 12 35 54.7 -0.6
baz=56,SNR=20
WRD **Warden** 56.08 56 P P 12 35 54.5 -0.9
HAWA **Hanford** 56.10 56 *e*P P 12 35 55.2 -0.3
comp=Z,103nm,1.3s,mb5.7
DMN **Daman** 56.13 275 *e*P P 12 35 56.8 +1.0
comp=Z,316nm,0.8s,mb6.4
H05A **Madras** 56.14 59 P P 12 35 56.4 +0.6
baz=56,SNR=5.7
G06A **Carlson Farm,** 56.14 58 P P 12 35 56.0 +0.2
baz=56,SNR=9.4
F07A **Phinny Hill Vi** 56.16 57 P P 12 35 56.2 +0.2
baz=56,SNR=20
L02A **Cave Junction** 56.19 63 ⇑P P 12 35 56.4 +0.2
baz=56,SNR=7.6
GKN **Gorkha** 56.20 276 *e*P P 12 35 57.0 +0.8
comp=Z,379nm,0.9s,mb6.4
B10A **Chitwood Farm,** 56.27 53 P P 12 35 57.0 +0.2
baz=56,SNR=6.2
LVZ **Lovozero** 56.29 337 *e*P P 12 35 56.6 -0.3
LVZ pmax pmax
comp=Z,15nm,1.3s,mb4.9
E08A **Dider Farm, El** 56.31 56 P P 12 35 56.8 -0.3
baz=56,SNR=15
HUMO **Hull Mountain** 56.31 62 *e*P P 12 35 57.1 +0.1
comp=Z,32nm,1.3s,mb5.2
HUMO **Hull Mountain** 56.31 62 P P 12 35 57.6 +0.6
baz=56,SNR=7.5
NEW **Newport** 56.35 53 P P 12 35 56.0 -1.3
comp=Z,39nm,1.0s,mb5.4,baz=302,slow=6.3,SNR=31
NEW **Newport** 56.35 53 P P 12 35 56.2 -1.1
NEW pmax pmax
comp=Z,110nm,1.3s
NEW **Newport** 56.35 53 *e*P P 12 35 56.5 -0.8
comp=Z,111nm,1.3s,mb5.7
A11A **Hall Mountain,** 56.36 52 P P 12 35 57.9 +0.5
baz=56,SNR=27
D09A **Jones Farm, Ri** 56.40 55 P P 12 35 57.2 -0.4
baz=56,SNR=16
I05A **Bend** 56.40 59 P P 12 35 58.2 +0.6
baz=56,SNR=11
J04A **Umpqua Nationa** 56.44 61 P P 12 35 59.0 +1.0
baz=56,SNR=5.6
C10A **Spilker Farm,** 56.51 54 P P 12 35 58.2 -0.3
baz=56,SNR=11
VIPM **Ingram Point** 56.57 59 P P 12 35 59.6 +0.7
H06A **Lindquist Farm** 56.60 58 P P 12 35 59.1 0.0
baz=56,SNR=19
YPT **Yellepit** 56.62 56 P P 12 35 59.4 +0.1
B11A **Sandpoint** 56.66 53 P P 12 36 00.1 +0.5
baz=56,SNR=14
G07A **Ruggs Ranch, H** 56.68 58 P P 12 35 59.9 +0.3
baz=56,SNR=7.2
A12A **Yaak River Ran** 56.75 52 P P 12 36 00.3 +0.2
baz=56,SNR=16
E09A **Wood Farm, Sta** 56.81 56 ⇑P P 12 36 00.7 +0.1
baz=57,SNR=49
APA **Apatity** 56.86 337 *i* P P 12 36 03.2 +2.3
APA pmax pmax
comp=Z,69nm,1.6s,mb5.4
F08A **Pendleton** 56.87 57 P P 12 36 01.1 0.0
baz=57,SNR=13
BUOR **Burton Butte** 56.93 62 P P 12 36 02.1 +0.7
J05A **Fort Rock** 56.93 60 P P 12 36 02.6 +1.2
baz=57,SNR=24
PMG **Port Moresby** 56.94 188 P P 12 36 00.8 -0.7
YBH **Yreka Blue Hor** 56.98 62 P P 12 36 01.5 -0.2
comp=Z,19nm,1.0s,mb5.1,baz=301,slow=2.1,SNR=13
YBH **Yreka Blue Hor** 56.98 62 P P 12 36 01.5 -0.3
YBH pmax pmax
comp=Z,19nm,1.0s
YBH **Yreka Blue Hor** 56.98 62 *e*P P 12 36 02.6 +0.8
comp=Z,57nm,1.4s,mb5.4
YBH **Yreka Blue Hor** 56.98 62 P P 12 36 02.5 +0.7
baz=57,SNR=13
K04A **Chilquin** 57.04 61 ⇑P P 12 36 02.7 +0.5
baz=57
KOLN **Koldanda** 57.05 276 *e*P P 12 36 03.2 +0.9
comp=Z,286nm,0.9s,mb6.3
B12A **Libby** 57.06 52 ⇑P P 12 36 03.0 +0.6
baz=57
G08A **Pilot Rock** 57.07 57 P P 12 36 02.5 0.0
baz=57,SNR=17
M02C **Callahan** 57.09 63 P P 12 36 03.6 +1.0
baz=57,SNR=7.7
I06A **Prineville** 57.14 59 P P 12 36 03.5 +0.6
baz=57,SNR=25
N02C **Big Bar** 57.16 64 ⇑P P 12 36 03.5 +0.4
baz=57
L04A **Klamath Falls** 57.20 62 ⇓P P 12 36 03.8 +0.4
baz=57,SNR=6.0
O01C **Eel River Cons** 57.25 65 ⇓P P 12 36 04.3 +0.6
baz=57
ARCES **ARCESS Array B** 57.32 341 P P 12 36 03.1 -1.1
comp=Z,11nm,0.8s,mb4.9,baz=47,slow=7.5,SNR=12
E10A **Myers Farm, Un** 57.40 55 P P 12 36 05.0 +0.2
baz=57,SNR=12
F09A **S2 Ranch, Elgi** 57.41 56 P P 12 36 05.5 +0.7
baz=57,SNR=12
K05A **Summer Lake** 57.47 61 P P 12 36 06.1 +0.8
baz=57,SNR=16
M04C **Macdoel** 57.47 62 P P 12 36 06.0 +0.8
baz=57,SNR=16
I07A **Izee** 57.47 59 P P 12 36 05.7 +0.4
baz=57,SNR=24
D11A **Klaveano Farm,** 57.50 54 ⇓P P 12 36 05.4 0.0
baz=57,SNR=37
M03C **McCloud** 57.60 63 P P 12 36 06.8 +0.6
baz=57,SNR=6.1
WALA **Waterton Lakes** 57.60 51 *e*P P 12 36 06.7 +0.5
comp=Z,66nm,0.6s,mb5.8
F10A **Beach Ranch, E** 57.64 56 P P 12 36 06.5 0.0
baz=57,SNR=16
H08A **Prairie City** 57.69 58 ⇑P P 12 36 07.5 +0.7
baz=58,SNR=32
B13A **Whitefish** 57.72 52 ⇓P P 12 36 07.3 +0.3
baz=58,SNR=58
WDC **Whiskeytown Da** 57.77 63 *e*P P 12 36 07.6 +0.2
WDC pmax pmax
comp=Z,18nm,1.0s,mb5.1
WDC **Whiskeytown Da** 57.77 63 *e*P P 12 36 07.6 +0.3
comp=Z,18nm,1.0s,mb5.0
WDC **Whiskeytown Da** 57.77 63 ⇓P P 12 36 07.5 +0.2
baz=58
K06A **Valley Falls** 57.80 60 P P 12 36 08.3 +0.7
baz=58,SNR=28
O02C **Red Bluff** 57.86 64 P P 12 36 08.8 +0.8
baz=58,SNR=6.0
L05A **Lakeview** 57.91 61 P P 12 36 09.2 +0.9
baz=58,SNR=15
TMCR **Tamitsa** 57.91 332 *e*P P 12 36 09.2 +0.8
TMCR pmax pmax
comp=Z,40nm,1.2s,mb5.3
P01C **Double 8 Ranch** 57.95 65 ⇑P P 12 36 08.6 -0.1
baz=58
J07A **Hines** 58.01 59 P P 12 36 09.8 +0.7
baz=58,SNR=18
LTIM **Timbered Crate** 58.04 62 P P 12 36 09.8 +0.5
C13A **Hot Springs** 58.08 53 P P 12 36 09.7 +0.2
baz=58,SNR=17
I08A **Drewsey** 58.11 58 ⇑P P 12 36 10.7 +1.0
baz=58,SNR=46
BOK **Bokaro** 58.12 271 *e*P P 12 36 10.9 +1.2
BOK AMb AMB 12 36 13.5
comp=Z,113nm,1.7s,mb5.6
M05C **Lookout** 58.14 62 ⇑P P 12 36 10.6 +0.7
baz=58,SNR=14

H09A **Durkee** 58.18 57 P P 12 36 10.9 +0.7
baz=58,SNR=24
LGTI **Lohaghat** 58.22 280 *e*P P 12 36 11.0 +0.5
GASB **Alder Springs** 58.22 64 P P 12 36 11.6 +1.1
baz=58,SNR=9.2
KTK1 **Kautokeino** 58.23 341 *e*P P 12 36 10.8 +0.2
KTK1 **Kautokeino** 58.23 341 *e*P P 12 36 11.3 +0.7
BMO **Blue Mountains** 58.27 57 *e*P P 12 36 10.4 -0.5
comp=Z,129nm,1.4s,mb5.8
HATC **Hat Creek Radi** 58.28 63 P P 12 36 11.6 +0.7
baz=58,SNR=6.8
F11A **Grangeville** 58.29 55 P P 12 36 10.8 -0.2
baz=58,SNR=26
MOD **Modoc** 58.31 61 *e*P P 12 36 11.0 -0.1
comp=Z,35nm,1.2s,mb5.3
MOD **Modoc** 58.31 61 P P 12 36 11.4 +0.2
baz=58,SNR=27
HOPS **Hopland** 58.41 65 ⇓P P 12 36 11.7 -0.2
baz=58
O03C **Acorn Hollow,** 58.43 64 ⇓P P 12 36 11.6 -0.4
baz=58
K07A **Rock Creek Ran** 58.46 60 P P 12 36 12.7 +0.6
baz=58,SNR=21
D13A **Huson** 58.49 53 P P 12 36 12.7 +0.2
baz=58,SNR=22
J08A **Circle Bar Ran** 58.50 59 P P 12 36 13.2 +0.7
baz=58,SNR=26
G11A **Walters Elk Ra** 58.52 56 ⇓P P 12 36 12.9 +0.3
baz=58
I09A **Lost Marbles R** 58.55 58 P P 12 36 13.2 +0.3
baz=58,SNR=28
AKTK **Aktyubinsk** 58.60 312 P P 12 36 12.2 -0.9
AKTO **Aktyubinsk** 58.60 312 P P 12 36 12.2 -0.9
comp=Z,26nm,1.0s,mb5.2,baz=51,slow=7.4,SNR=8.9
AKTO **Aktyubinsk** 58.60 312 P P 12 36 12.2 -1.0
AKTO pmax pmax
comp=Z,26nm,1.0s,mb5.2
M06C **Likely Place G** 58.63 62 P P 12 36 13.9 +0.5
baz=58,SNR=9.5
O04C **Chester** 58.81 63 P P 12 36 14.9 +0.3
baz=59,SNR=15
L07A **Adell** 58.81 60 P P 12 36 15.6 +1.0
baz=59,SNR=21
ELFS **Eagle Lake Fie** 58.84 62 P P 12 36 15.2 +0.4
baz=59,SNR=14
MNRC **McLaughlin Nat** 58.87 65 P P 12 36 15.5 +0.5
baz=59,SNR=7.4
K08A **Mann Creek Ran** 58.88 59 P P 12 36 15.5 +0.4
baz=59,SNR=32
J09A **Fry Pan Ranch,** 58.93 58 P P 12 36 15.8 +0.4
baz=59,SNR=28
MSO **Missoula** 58.94 53 *e*P P 12 36 14.7 -0.9
comp=Z,2μm,1.1s
WVOR **Wild Horse Val** 58.97 60 *e*P P 12 36 15.6 -0.1
WVOR pmax pmax
comp=Z,54nm,1.0s,mb5.5
WVOR **Wild Horse Val** 58.97 60 *e*P P 12 36 15.6 -0.1
comp=Z,54nm,1.0s,mb5.5
D14A **Greenough** 59.02 53 ⇑P P 12 36 16.4 +0.4
baz=59,SNR=61
ORV **Oroville** 59.03 64 ⇓P P 12 36 15.6 -0.5
baz=59
E13A **Victor** 59.04 54 ⇑P P 12 36 16.7 +0.5
baz=59,SNR=38
H11A **Donnelly** 59.09 56 ⇑P P 12 36 16.5 -0.1
baz=59,SNR=75
O05C **Quincy** 59.13 63 ⇓P P 12 36 16.8 0.0
baz=59,SNR=9.1
OHCM **Honcut** 59.17 64 *e*P P 12 36 16.4 -0.8
CVS **Carmenet Viney** 59.18 66 ⇑P P 12 36 17.0 -0.3
baz=59
FARB **Farallon Islan** 59.25 66 ⇓P P 12 36 17.3 -0.3
baz=59
CHMT **Chamberlain Mo** 59.26 53 P P 12 36 16.9 -0.8
Q03C **Winters** 59.28 65 ⇓P P 12 36 18.3 +0.4
baz=59
L08A **Fields** 59.29 60 P P 12 36 18.3 +0.4
baz=59,SNR=24
N06A **Buffalo Meadow** 59.30 62 P P 12 36 18.1 +0.1
baz=59,SNR=23
M07A **Soldier Meadow** 59.30 61 P P 12 36 18.4 +0.4
baz=59,SNR=28
KSM **Kuching** 59.30 233 *e*P P 12 36 18.8 +0.8
K09A **Rome** 59.34 59 P P 12 36 18.7 +0.4
baz=59,SNR=16
F13A **Daryl** 59.36 54 ⇑P P 12 36 18.5 0.0
baz=59,SNR=36
E14A **Clinton** 59.44 53 P P 12 36 19.1 +0.1
baz=59,SNR=37
BEKR **Beckwourth** 59.53 63 ⇑P P 12 36 19.3 -0.3
baz=59
Q04C **Lincoln** 59.54 64 ⇓P P 12 36 19.5 -0.2
baz=59
D15A **Lincoln** 59.57 52 ⇑P P 12 36 20.3 +0.4
baz=59,SNR=28
O06A **Flanigan** 59.66 62 P P 12 36 20.9 +0.4
baz=59,SNR=10
P05C **Yuba Gap, Truc** 59.73 64 ⇑P P 12 36 20.4 -0.6
baz=60,SNR=5.3
N07B **Gerlach** 59.79 61 ⇑P P 12 36 21.5 +0.1
baz=60,SNR=12
L09A **Wilkinson Ranc** 59.79 60 P P 12 36 22.0 +0.6
baz=60,SNR=18
FFC **Flin Flon** 59.87 41 P P 12 36 21.0 -0.9
comp=Z,875nm,0.7s,SNR=16
FFC **Flin Flon** 59.87 41 P P 12 36 21.5 -0.4
F14A **Wisdom** 59.88 54 ⇑P P 12 36 22.6 +0.6
baz=60
E15A **Deer Lodge** 59.89 53 ⇑P P 12 36 22.7 +0.6
baz=60,SNR=33
P06A **Stead Airport,** 59.92 63 ⇑P P 12 36 22.5 +0.2
baz=60
SUMG **Summit** 59.94 4 *e*P P 12 36 22.4 -0.1
comp=Z,133nm,1.0s,mb5.9
WENL **Wente Brothers** 60.07 66 ⇓P P 12 36 23.1 -0.2
baz=60
BNLO **Ben Lomond (Sa** 60.12 66 ⇓P P 12 36 23.0 -0.7
baz=60
R04C **Big Horse Ranc** 60.18 65 ⇓P P 12 36 23.2 -0.9
baz=60
O07A **Toulon** 60.23 62 P P 12 36 24.7 +0.3
baz=60,SNR=25
WCN **Washoe City** 60.24 63 P P 12 36 24.5 0.0
baz=60,SNR=16
N08A **GE Springer Mi** 60.29 61 P P 12 36 25.3 +0.5
baz=60,SNR=25
M09A **Marrel Ranch,** 60.29 60 P P 12 36 25.7 +0.9
baz=60,SNR=19
F15A **Butte** 60.34 53 ⇑P P 12 36 26.2 +1.0
baz=60,SNR=68
FCC **Fort Churchill** 60.39 34 *e*P P 12 36 24.7 -0.8
FCC pmax pmax
comp=Z,70nm,0.8s,mb5.7
FCC **Fort Churchill** 60.39 34 *e*P P 12 36 24.7 -0.8
comp=Z,70nm,0.8s,mb5.7
S04C **Ingram Canyon,** 60.41 66 ⇑P P 12 36 25.0 -0.7
baz=60
EGMT **Eagleton** 60.42 50 *e*P P 12 36 25.7 0.0
comp=Z,207nm,1.1s,mb6.1
R05C **Kirkwood Meado** 60.42 64 P P 12 36 25.6 -0.1
baz=60,SNR=13
O08A **Rochester Mine** 60.58 61 ⇑P P 12 36 27.2 +0.4
baz=60
N09A **Rock Creek Ran** 60.60 61 P P 12 36 27.4 +0.4
baz=60,SNR=30
P07A **Fallon** 60.62 62 ⇓P P 12 36 26.9 -0.1
baz=60
CMB **Columbia Colle** 60.65 65 *e*P P 12 36 26.9 -0.4
CMB pmax pmax
comp=Z,59nm,1.5s,mb5.5
CMB **Columbia Colle** 60.65 65 *e*P P 12 36 26.9 -0.4
comp=Z,58nm,1.5s,mb5.5
CMB **Columbia Colle** 60.65 65 P P 12 36 27.2 -0.1
baz=60,SNR=13
HLID **Hailey** 60.70 56 *e*P P 12 36 27.9 +0.2
comp=Z,68nm,1.3s,mb5.6
NDI **New Delhi** 60.73 282 *e*P P 12 36 27.3 -0.5
NDI AMb AMB 12 36 30.2
comp=Z,84nm,0.7s,mb6.0
PACP **Pacheco Peak** 60.74 66 P P 12 36 28.1 +0.2
baz=60,SNR=7.8
M10A **I.L. Ranch, Tu** 60.76 59 P P 12 36 28.6 +0.5
baz=60,SNR=32
G15A **Dillon** 60.76 54 ⇑P P 12 36 28.8 +0.8
baz=60,SNR=48
MCMT **McKenzie Canyo** 60.78 54 *e*P P 12 36 28.3 +0.1
R06C **Coleville** 60.92 64 P P 12 36 29.3 +0.2
baz=61,SNR=21

LOF **Lofoten** 60.94 344 *e*P P 12 36 30.2 +1.0
LOF **Lofoten** 60.94 344 *e*P P 12 36 30.9 +1.7
HAST **UC Hastings Re** 60.97 67 ⇑P P 12 36 29.2 -0.3
baz=61
P08A **Dixie Valley** 61.00 62 ⇑P P 12 36 30.6 +0.9
baz=61
Q07A **Schurz** 61.04 63 ⇓P P 12 36 30.0 0.0
baz=61
S06C **San Francisco** 61.08 64 P P 12 36 30.0 -0.2
baz=61,SNR=18
S05C **Merced** 61.12 65 P P 12 36 29.9 -0.5
baz=61,SNR=7.2
T05C **Eagle Field, D** 61.20 66 ⇑P P 12 36 31.0 0.0
baz=61
O09A **Fish Creek Ran** 61.23 61 P P 12 36 31.8 +0.5
baz=61,SNR=26
M11A **Holland Ranch,** 61.26 59 ⇑P P 12 36 32.5 +1.1
baz=61,SNR=32
N10A **Dunphy** 61.29 60 ⇓P P 12 36 32.4 +0.8
baz=61
V03C **Hunter Liggett** 61.40 67 ⇓P P 12 36 32.1 -0.3
baz=61
R07C **Lee Vining** 61.44 64 ⇓P P 12 36 32.8 +0.1
baz=61,SNR=17
U04C **Hernandez Rese** 61.47 66 ⇑P P 12 36 33.2 +0.4
baz=61
O10A **Cortez Mining,** 61.56 60 P P 12 36 34.4 +0.9
baz=61,SNR=14
Q08A **Gabbs** 61.62 62 P P 12 36 33.9 0.0
baz=61,SNR=25
P09A **Austin** 61.66 61 ⇓P P 12 36 34.6 +0.5
baz=61
NVAR **Mina Array Bea** 61.67 63 P P 12 36 33.5 -0.7
comp=Z,8.6nm,0.8s,mb4.9,baz=289,slow=11,SNR=4.2
N11A **Elko Archery C** 61.68 60 P P 12 36 34.8 +0.5
baz=61,SNR=11
T06C **Millers Lake** 61.72 65 P P 12 36 33.9 -0.6
baz=62,SNR=10.0
KCC **Kaiser Creek** 61.76 65 P P 12 36 34.8 +0.1
baz=62,SNR=10
M12A **Wells** 61.77 59 P P 12 36 35.6 +0.8
baz=62,SNR=42
KULM **Kulim** 61.82 245 *e*P P 12 36 35.8 +0.6
R08A **Mina** 61.84 63 P P 12 36 35.9 +0.6
baz=62,SNR=8.2
MLAC **Mammoth Lakes** 61.86 64 ⇓P P 12 36 36.0 +0.6
baz=62
PKD **Parkfield** 61.88 67 ⇓P P 12 36 35.2 -0.4
baz=62
U05C **Westside ANR,** 61.90 66 ⇑P P 12 36 36.1 +0.4
baz=62
P10A **Eureka** 62.01 61 P P 12 36 37.4 +0.8
baz=62,SNR=7.3
ELK **Elko** 62.02 59 *e*P P 12 36 36.8 +0.3
ELK pmax pmax
comp=Z,15nm,0.9s
ELK **Elko** 62.02 59 *e*P P 12 36 36.8 +0.3
comp=Z,15nm,0.9s,mb5.1
N12A **Clover Valley,** 62.06 59 P P 12 36 37.3 +0.5
baz=62,SNR=23
Q09A **Carvers** 62.09 62 P P 12 36 37.8 +0.8
baz=62,SNR=5.0
YFT **Old Faithful** 62.13 54 *e*P P 12 36 39.3 +2.0
O11A **Cowboy Ranch,** 62.16 60 P P 12 36 38.2 +0.7
baz=62,SNR=21
MTUM **Tungsten Hills** 62.20 64 *e*P P 12 36 37.6 -0.1
M13A **Montello** 62.24 58 P P 12 36 38.6 +0.5
baz=62,SNR=14
PTRM **Twissleman Ran** 62.28 67 *e*P P 12 36 38.3 0.0
LKWY **Lake** 62.29 53 *e*P P 12 36 40.6 +2.2
LKWY pmax pmax
comp=Z,43nm,1.1s,mb5.5
LKWY **Lake** 62.29 53 *e*P P 12 36 40.6 +2.2
comp=Z,43nm,1.1s,mb5.5
V05C **Boulder Hill,** 62.33 66 ⇓P P 12 36 38.5 -0.2
baz=62
S08C **White Mtn Res** 62.35 64 P P 12 36 39.0 +0.2
baz=62,SNR=16
HELL **Mitchell Peak,** 62.35 65 ⇑P P 12 36 38.3 -0.4
baz=62,SNR=17
RCTC **Rector, Farmer** 62.46 65 ⇓P P 12 36 39.3 -0.2
baz=62
MOR8 **Moi Rana** 62.47 343 *e*P P 12 36 38.6 -1.0
MOR8 AMb AMB 12 36 39.8
comp=Z,87nm,1.1s,mb5.8
P11A **Circle Ranch,** 62.48 61 P P 12 36 40.5 +0.9
baz=62,SNR=6.3
DCID1 **Drake Creek** 62.49 55 *e*P P 12 36 40.4 +0.7
R09A **Tonopah** 62.54 63 P P 12 36 39.9 -0.1
baz=62,SNR=31
RLMT **Red Lodge** 62.54 52 *e*P P 12 36 40.3 +0.2
comp=Z,147nm,1.2s,mb6.0
N13A **Wendover, West** 62.55 59 P P 12 36 40.9 +0.9
baz=62,SNR=23
TPH **Tonopah** 62.55 63 P P 12 36 40.2 +0.1
TPH pmax pmax
comp=Z,42nm,1.1s,mb5.5
TIN **Tinemaha** 62.60 64 ⇓P P 12 36 40.6 +0.2
baz=62
O12A **Currie** 62.61 59 P P 12 36 40.7 +0.2
baz=62,SNR=43
SMMC **Simmler** 62.63 67 ⇑P P 12 36 40.7 +0.1
baz=62
S09A **Goldfield** 62.78 63 P P 12 36 41.5 0.0
baz=62,SNR=21
LOHW **Long Hollow** 62.80 54 *e*P P 12 36 42.4 +0.6
comp=Z,32nm,1.5s,mb5.2
REDW **Red Top Meadow** 62.82 55 *e*P P 12 36 42.5 +0.5
comp=Z,241nm,1.3s,mb6.2
VES **Vestal, Richgr** 62.86 66 P P 12 36 41.3 -0.9
baz=63,SNR=11
DGMT **Dagmar** 62.96 47 *e*P P 12 36 42.7 -0.1
comp=Z,120nm,0.6s,mb6.2
R10A **Warm Springs** 62.97 62 P P 12 36 43.1 +0.3
baz=63,SNR=12
Q11A **Duckwater** 62.99 61 P P 12 36 42.9 -0.1
baz=63,SNR=12
PKM **Peak Mountain** 63.01 67 ⇑P P 12 36 43.5 +0.4
baz=63
P12A **McGill** 63.03 60 P P 12 36 43.4 +0.1
baz=63,SNR=12
AHID **Auburn Hatcher** 63.07 55 *e*P P 12 36 44.0 +0.5
comp=Z,85nm,1.4s,mb5.7
CWC **Cottonwood Cre** 63.09 65 P P 12 36 43.4 -0.2
baz=63,SNR=17
LAO **LASA Array** 63.12 49 *e*P P 12 36 43.8 0.0
comp=Z,227nm,1.2s,mb6.2
GRAC **Grapevine Rang** 63.16 64 P P 12 36 44.7 +0.6
baz=63,SNR=5.2
ISA **Isabella** 63.35 66 *e*P P 12 36 44.0 -1.4
comp=Z,0.5nm,1.3s
ISA **Isabella** 63.35 66 P P 12 36 44.5 -0.9
baz=63,SNR=10
Q12A **Willow Creek R** 63.35 61 P P 12 36 45.7 +0.3
baz=63,SNR=15
TRCR **Troy Canyon** 63.35 62 *e*P P 12 36 45.6 +0.1
SBC **Santa Barbara** 63.37 67 ⇓P P 12 36 45.5 0.0
baz=63
ARVC **Arvin** 63.48 66 ⇑P P 12 36 46.0 -0.3
baz=63,SNR=5.9
HWUT **Hardware Ranch** 63.57 57 *e*P P 12 36 47.0 +0.1
comp=Z,84nm,1.3s,mb5.6
FINES **FINESS Array B** 63.58 335 P P 12 36 46.0 -1.0
comp=Z,18nm,0.5s,mb5.4,baz=36,slow=9.1,SNR=38
MPMC **Manual Prospec** 63.70 65 P P 12 36 47.4 -0.2
baz=64,SNR=18
DUG **Dugway** 63.78 58 *e*P P 12 36 48.2 0.0
DUG pmax pmax
comp=Z,110nm,1.3s,mb5.7
DUG **Dugway** 63.78 58 *e*P P 12 36 48.5 +0.3
comp=Z,114nm,1.3s,mb5.7
FURC **Furnace Creek,** 63.81 64 P P 12 36 48.7 +0.3
baz=64,SNR=21
AJM **Ajmer** 63.89 281 *e*P P 12 36 49.0 -0.1
AJM AMb AMB 12 36 51.5
comp=Z,104nm,0.5s,mb6.2
BW06 **Boulder Array** 63.93 55 *e*P P 12 36 48.6 -0.6
comp=Z,120nm,1.3s,mb5.8
PDAR **Pinedale Array** 63.93 55 P P 12 36 48.5 -0.7
comp=Z,39nm,0.9s,mb5.4,baz=294,slow=2.2,SNR=82
LRMC **Laurel Mountai** 63.95 65 P P 12 36 49.1 -0.2
baz=64,SNR=15
VIS **Vishakhapatnam** 64.01 268 *e*P P 12 36 50.5 +0.7
VIS AMb AMB 12 36 53.3
comp=Z,140nm,1.2s,mb5.8
EDW2 **Edwards Air Fo** 64.16 66 ⇑P P 12 36 50.6 -0.1
baz=64,SNR=23
U10A **Ash Meadows, A** 64.17 64 ⇑P P 12 36 51.4 +0.6

baz=64,SNR=14
DECC Green Verdugo 64.36 67 ⇓P **P 12 36 51.9 -0.2**
baz=64,SNR=5.7
NGP Nagpur 64.54 274 *e*P **P 12 36 52.8 -0.4**
NGP AMb AMB 12 36 55.0
comp=Z,176nm,1.8s,mb5.8
SHOC Shoshone 64.54 64 ⇓P **P 12 36 53.4 +0.2**
baz=64
GSC Goldstone 64.61 65 P **P 12 36 53.0 -0.7**
GSC Goldstone 64.61 65 P **P 12 36 53.6 -0.1**
baz=64,SNR=12
U11A Corn Creek 64.74 63 ⇑P **P 12 36 54.6 0.0**
baz=64
RRX Edison Barstow 64.77 65 ⇓P **P 12 36 54.7 0.0**
baz=64
BFSC Mount Baldy St 64.79 66 ⇑P **P 12 36 54.3 -0.5**
baz=65,SNR=8.0
CIS Catalina Islan 64.87 67 ⇓P **P 12 36 54.6 -0.7**
baz=65
OBN Obninsk 64.98 326 *e*P **P 12 36 55.1 -1.0**
OBN pmax pmax
comp=Z,21nm,1.2s,mb5.0
TUQ Turquoise Mtn. 65.06 64 P **P 12 36 56.3 -0.3**
baz=65,SNR=15
V11A Goodsprings 65.10 64 P **P 12 36 57.2 +0.3**
baz=65,SNR=10
HEC Hector,Ludlow 65.22 65 P **P 12 36 57.3 -0.3**
baz=65,SNR=12
BBRC Big Bear Sol-O 65.23 66 P **P 12 36 57.8 +0.1**
baz=65,SNR=13
U12A Valley of Fire 65.24 63 ⇓P **P 12 36 58.1 +0.3**
baz=65
MSU Marysvale 65.26 60 *e*P **P 12 36 58.5 +0.6**
MURC Murrieta 65.50 67 P **P 12 36 59.1 -0.3**
baz=65,SNR=7.5
V12A Nelson 65.52 63 P **P 12 36 59.7 +0.1**
baz=65,SNR=9.5
ULM Lac du Bonnet 65.66 41 P **P 12 36 59.0 -1.5**
comp=Z,27nm,0.7s,mb5.4,baz=313,slow=7.0,SNR=32
ULM Lac du Bonnet 65.66 41 *e*P **P 12 36 58.8 -1.6**
comp=Z,48nm,0.9s,mb5.5
W12A Cal Nev Ari 65.80 64 ⇓P **P 12 37 01.7 +0.3**
baz=66
PFO Pinyon Flat Ob 65.95 66 P **P 12 37 01.9 -0.5**
baz=66,SNR=5.0
BELC Belle Mtn. 65.97 65 P **P 12 37 02.0 -0.6**
baz=66,SNR=8.4
RSSD Black Hills 65.99 50 *e*P **P 12 37 02.0 -0.6**
RSSD pmax pmax
comp=Z,145nm,1.0s,mb6.0
RSSD Black Hills 65.99 50 *e*P **P 12 37 02.0 -0.6**
comp=Z,145nm,1.0s,mb6.0
109C Camp Elliot, M 66.03 67 ⇓P **P 12 37 02.6 -0.3**
baz=66
NEE2 Needles Airpor 66.31 64 ⇑P **P 12 37 04.8 +0.2**
baz=66
IRM Iron Mountain 66.39 65 P **P 12 37 05.2 0.0**
baz=66,SNR=17
MONP Monument Peak 66.45 67 P **P 12 37 05.3 -0.2**
baz=66,SNR=5.6
W13A Hualapai Mount 66.53 63 P **P 12 37 06.3 +0.2**
baz=66,SNR=9.4
BC3 Big Chuckw Mtn 66.54 65 P **P 12 37 05.9 -0.2**
baz=66,SNR=8.4
DVTC Desert V Tower 66.81 67 ⇓P **P 12 37 07.8 -0.1**
baz=67
SWSC Sam W. Stewart 66.81 66 ⇓P **P 12 37 07.3 -0.6**
baz=67,SNR=5.1
X13A Yucca 66.90 64 P **P 12 37 08.4 0.0**
baz=67,SNR=18
PDMCI Parker Dam,Lak 66.91 64 P **P 12 37 08.2 -0.4**
baz=67,SNR=11
W14A Seligman 66.94 63 P **P 12 37 08.9 +0.3**
baz=67,SNR=17
Y12C Blythe 67.05 65 P **P 12 37 09.4 0.0**
baz=67,SNR=13
AGMN Agassiz Refuge 67.07 43 *e*P **P 12 37 08.0 -1.5**
comp=Z,170nm,1.4s,mb5.9
GLA Glamis 67.33 65 P **P 12 37 11.3 +0.1**
baz=67,SNR=7.7
Y13A Salome 67.43 64 ⇓P **P 12 37 11.5 -0.3**
baz=67
W15A Williams 67.45 62 P **P 12 37 12.9 +0.9**
baz=67,SNR=13
HYB Hyderabad 67.46 271 *i* P **P 12 37 12.0 0.0**
X14A Yava 67.56 63 P **P 12 37 13.2 +0.5**
baz=67,SNR=23
CTA Charters Tower 67.60 188 *e*P **P 12 37 13.4 +0.5**
comp=Z,11nm,0.9s,mb4.9
CTA Charters Tower 67.60 188 *e*P **P 12 37 13.4 +0.5**
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 67.60 188 P **P 12 37 11.3 -1.5**
comp=Z,3μm,3.6s
NB2 NORSAR Subarra 67.69 341 P **P 12 37 12.7 -0.8**
comp=Z,29nm,0.6s,mb5.5,baz=29,slow=6.5
NOA NORSAR Array B 67.69 341 P **P 12 37 12.9 -0.5**
comp=Z,24nm,0.6s,mb5.4,baz=26,slow=6.4,SNR=47
WUAZ Wupatki 67.75 61 *e*P **P 12 37 13.8 -0.1**
comp=Z,89nm,1.6s,mb5.5
WUAZ Wupatki 67.75 61 P **P 12 37 14.4 +0.6**
baz=68,SNR=17
Y14A Wickenburg 67.85 64 P **P 12 37 14.2 -0.2**
baz=68,SNR=19
NAO01 NORSAR Array S 67.94 341 *e*P **P 12 37 15.0 0.0**
comp=Z,61nm,1.1s,mb5.5
X15A Humboldt 67.94 63 P **P 12 37 15.4 +0.4**
baz=68,SNR=33
HFS Hagfors 67.94 340 P **P 12 37 14.3 -0.7**
comp=Z,37nm,0.5s,mb5.7,baz=65,slow=3.6,SNR=33
BORG Borgarnes 68.05 358 P **P 12 37 16.1 +0.4**
comp=Z,54nm,0.9s,mb5.6,baz=28,slow=4.2,SNR=6.3
Z14A Wintersburg 68.28 64 ⇑P **P 12 37 17.6 +0.5**
baz=68
MVCO Mesa Verde 68.28 58 *e*P **P 12 37 16.6 -0.5**
comp=Z,105nm,1.4s,mb5.7
115A Sonoran Desert 69.17 64 P **P 12 37 23.8 +1.1**
baz=69,SNR=11
KONO Kongsberg 69.30 341 *e*P **P 12 37 22.7 -0.8**
KONO pmax pmax
comp=Z,67nm,1.1s,mb5.5
KONO Kongsberg 69.30 341 *e*P **P 12 37 22.7 -0.8**
comp=Z,67nm,1.1s,mb5.5
WRAB Tennant Creek 69.35 200 *e*P **P 12 37 22.4 -1.4**
WRAB pmax pmax
comp=Z,60nm,1.2s,mb5.4
WRAB Tennant Creek 69.35 200 *e*P **P 12 37 22.4 -1.5**
comp=Z,60nm,1.2s,mb5.4
WB2 Warramunga Arr 69.36 200 *e*P **P 12 37 21.8 -2.1**
WRA Warramunga Arr 69.36 200 P **P 12 37 21.9 -2.0**
comp=Z,6.6nm,1.0s,mb4.5,baz=17,slow=6.7,SNR=17
MDRS Chennai 69.39 267 *ex* x 12 36 33.9
RUND Rundenannen 69.45 344 *e*P **P 12 37 23.9 -0.5**
RUND AMb AMB 12 37 26.5
comp=Z,384nm,1.7s,mb6.1
RUND Rundenannen 69.45 344 *e*P **P 12 37 23.9 -0.5**
comp=Z,384nm,1.7s,mb6.0
116A Eloy 69.58 64 ⇑P **P 12 37 25.5 +0.3**
baz=69,SNR=9.2
SDCO Great Sand Dun 69.62 56 *e*P **P 12 37 24.9 -0.5**
comp=Z,86nm,1.4s,mb5.5
POO Poona 69.87 276 *ex* x 12 38 01.1
POO AMb AMB 12 38 04.5
comp=Z,140nm,1.3s,mb5.7
FITZ Fitzroy Crossi 70.02 209 *e*P **P 12 37 27.1 -0.8**
comp=Z,63nm,1.1s,mb5.5
ECSD EROS,Sioux Fal 70.03 47 *e*P **P 12 37 26.2 -1.8**
comp=Z,113nm,0.8s,mb5.8
TUC Tucson 70.32 64 *e*P **P 12 37 29.8 0.0**
TUC pmax pmax
comp=Z,22nm,1.2s,mb5.0
TUC Tucson 70.32 64 *e*P **P 12 37 29.8 0.0**
comp=Z,22nm,1.2s,mb5.0
KAD Karad 70.50 275 *e*P **P 12 37 31.1 +0.2**
KAD AMb AMB 12 37 37.3
comp=Z,197nm,1.7s,mb5.8
SUW Suwalki 70.58 332 *e*P **P 12 37 30.5 -0.9**
KIV Kislovodsk 70.63 314⇑*e*P **P 12 37 31.9 +0.2**
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.2
KIV Kislovodsk 70.63 314 *e*P **P 12 37 32.4 +0.7**
comp=Z,83nm,1.2s,mb5.5
ZEI Tsey 70.92 313 *e*P **P 12 37 33.3 -0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SNART Snartemo 71.00 342 *e*P **P 12 37 33.8 -0.1**
SNART AMb AMB 12 37 37.6
comp=Z,139nm,1.8s,mb5.6
ANMO Albuquerque 71.04 59 *e*P **P 12 37 34.2 +0.1**
ANMO pmax pmax
comp=Z,21nm,1.3s
ANMO Albuquerque 71.04 59 *e*P **P 12 37 34.2 +0.1**
comp=Z,21nm,1.3s,mb4.9
AKASG Malin Array Be 71.21 326 P **P 12 37 33.3 -1.8**
comp=Z,6.7nm,0.3s,mb5.0,baz=32,slow=6.3,SNR=30
AKBB Malin Array Si 71.21 326 *e*P **P 12 37 33.6 -1.6**
KIEV Kiev 71.22 326 *e*P **P 12 37 34.2 -1.0**
comp=Z,4μm,3.2s
Y22C IRIS PASSCAL I 71.39 60 ⇑P **P 12 37 37.7 +1.5**
baz=71
CBKS Cedar Bluff 72.02 52 *e*P **P 12 37 39.1 -1.0**
CBKS pmax pmax
comp=Z,137nm,1.4s,mb5.7
CBKS Cedar Bluff 72.02 52 *e*P **P 12 37 39.0 -1.0**
comp=Z,137nm,1.4s,mb5.7
BSD Bornholm Skovb 72.08 337 *i* P **P 12 37 40.0 -0.4**
COP Copenhagen 72.22 338 *i* P **P 12 37 42.4 +1.2**
comp=Z,106nm,1.0s,mb5.7
COP Copenhagen 72.22 338 *e*P **P 12 37 42.4 +1.2**
COP pmax pmax
comp=Z,110nm,1.0s,mb5.7
COP Copenhagen 72.22 338 *e*P **P 12 37 42.4 +1.2**
comp=Z,106nm,1.0s,mb5.7
MUD Monsted U'grnd 72.30 340 *i* P **P 12 37 42.3 +0.6**
comp=Z,99nm,1.5s,mb5.5
MUD Monsted U'grnd 72.30 340 *e*P **P 12 37 42.3 +0.6**
MUD pmax pmax
comp=Z,99nm,1.5s,mb5.5
MUD Monsted U'grnd 72.30 340 *e*P **P 12 37 42.3 +0.6**
comp=Z,99nm,1.5s,mb5.5
GNI Garni 72.42 311 P **P 12 37 44.5 +2.0**
SNR=6.5
GNI Garni 72.42 311⇑*e*P **P 12 37 41.8 -0.7**
GNI pmax pmax
comp=Z,33nm,1.5s
SCHQ Schefferville 72.45 23 P **P 12 37 41.8 -0.9**
comp=Z,28nm,0.8s,mb5.2,baz=341,slow=5.3,SNR=17
SCHQ Schefferville 72.45 23 *e*P **P 12 37 42.4 -0.3**
comp=Z,77nm,1.1s,mb5.5
AS31 Alice Springs 73.05 199 *e*P **P 12 37 45.4 -0.8**
ASAR Alice Springs 73.06 199 P **P 12 37 45.5 -0.8**
comp=Z,16nm,0.8s,mb5.0,baz=14,slow=5.6,SNR=32
SCIA State Center 73.06 46 *e*P **P 12 37 45.6 -0.6**
comp=Z,748nm,1.3s,mb6.5
MNGI Mangalore 73.16 271 *e*P **P 12 37 45.5 -1.3**
MNGI AMb AMB 12 37 48.9
comp=Z,79nm,2.0s,mb5.3
PALK Pallekele 73.27 262 *e*P **P 12 37 47.6 +0.1**
comp=Z,67nm,1.1s,mb5.5
KSU1 Kansas State U 73.46 50 *e*P **P 12 37 47.0 -1.6**
comp=Z,66nm,0.8s,mb5.6
MCD Coleburn Disti 73.59 347 *e*P **P 12 37 48.4 -1.0**
JFWS Jewell Farm 73.71 43 *e*P **P 12 37 48.4 -1.7**
JFWS pmax pmax
comp=Z,45nm,0.8s,mb5.5
JFWS Jewell Farm 73.71 43 *e*P **P 12 37 48.4 -1.6**
comp=Z,45nm,0.8s,mb5.5
SIM Simferopol' 73.82 320 *e*P **P 12 37 51.4 +0.7**
SIM pmax pmax
comp=Z,36nm,1.7s,mb5.0
LVV L'vov 73.82 329 *e*P **P 12 37 49.3 -1.4**
MDO Dochfour 73.89 348 *e*P **P 12 37 50.1 -1.0**
MNTX Cornudas Mount 73.99 61 *e*P **P 12 37 51.0 -0.6**
comp=Z,12nm,1.0s,mb4.8
KPL Plockton 74.16 349 *e*P **P 12 37 51.4 -1.3**
KPL AMb AMB 12 37 54.3
comp=Z,234nm,1.7s,mb5.8
KSB Sheil Bridge 74.26 348 *e*P **P 12 37 52.0 -1.3**
TVAN Van 74.32 310 *i* P **P 12 37 52.6 -1.0**
ERZM Erzurum 74.32 312 *i* P **P 12 37 54.8 +1.2**
KIS Kishinev 74.37 324 *e*P **P 12 37 53.0 -1.0**
KIS Kishinev 74.37 324⇓*i*P **P 12 37 53.0 -1.0**
KWP Kalwaria 74.44 329 *e*P **P 12 37 54.5 +0.2**
KAR1 Arisaig 74.59 349 *e*P **P 12 37 54.7 -0.6**
TRD Trivandrum 74.90 266 *e*P **P 12 37 59.1 +2.2**
TRD AMb AMB 12 38 03.7
comp=Z,89nm,0.8s,mb5.8
OJC Ojcow 74.91 331 *e*P **P 12 37 56.5 -0.6**
STHS Stebnicka Huta 75.12 330 *e*P **P 12 37 58.9 +0.6**
STHS pmax pmax
comp=Z,33nm,1.1s,mb5.2
STHS Stebnicka Huta 75.12 330 *e*P **P 12 37 58.9 +0.6**
comp=Z,33nm,1.1s,mb5.2
EDI Edinburgh 75.18 347 *e*P **P 12 37 58.3 -0.3**
EDI AMb AMB 12 38 04.4
comp=Z,93nm,1.5s,mb5.5
KOLS Kolonicke sedl 75.19 329 *e*P **P 12 37 58.2 -0.4**
BURAR Bucovina Array 75.24 327⇓*i*P **P 12 37 58.7 -0.3**
BURAR Bucovina Array 75.24 327 P **P 12 37 58.6 -0.4**
BURAR Bucovina Array 75.24 327 ⇓P **P 12 37 58.7 -0.2**
NIE Niedzica 75.43 331 *e*P **P 12 37 59.8 -0.3**
UZH Uzhgorod 75.44 329⇑*i*P **P 12 37 59.6 -0.5**
KSP Ksiaz 75.46 334 *e*P **P 12 37 59.9 -0.3**
KSP Ksiaz 75.46 334 *e*P **P 12 37 59.4 -0.8**
PGBU Glenifferbraes 75.48 348 *e*P **P 12 37 59.2 -1.1**
PGBU AMb AMB 12 38 02.1
comp=Z,115nm,1.7s,mb5.5
WMOK Wichita Mounta 75.54 54 *e*P **P 12 38 00.1 -0.6**
WMOK pmax pmax
comp=Z,58nm,1.1s,mb5.4
WMOK Wichita Mounta 75.54 54 *e*P **P 12 38 00.1 -0.5**
comp=Z,58nm,1.1s,mb5.4
ESK Eskdalemuir 75.77 347 *e*P **P 12 38 01.0 -0.9**
ESK AMb AMB 12 38 02.2
comp=Z,133nm,1.6s,mb5.6
OKC Ostrava-Krasne 75.77 332 *e*P **P 12 38 01.6 -0.4**
UPC Upice 75.84 334 *e*P **P 12 38 02.3 -0.1**
DPC Dobruska-Polom 75.89 333 *e*P **P 12 38 02.5 -0.2**
CLL Collm 76.00 336⇑*i*P **P 12 38 02.4 -0.9**
CLL *i* pP 12 38 11.2 -3.4
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.7
CLL Collm 76.00 336⇑*i*P **P 12 38 02.4 -0.9**
comp=Z,179nm,1.3s,mb5.8
CLL *i* pP 12 38 11.2 -3.4
CLL Collm 76.00 336⇑*i*P **P 12 38 02.4 -0.9**
comp=Z,179nm,1.3s,mb5.8
CLL *i* pP pP 12 38 11.2 -3.4
MORC Moravsky Berou 76.02 332⇓*i*P **P 12 38 03.5 +0.1**
MORC Moravsky Berou 76.02 332 *e*P **P 12 38 02.9 -0.5**
MORC pmax pmax
comp=Z,162nm,1.4s,mb5.8
MORC Moravsky Berou 76.02 332 *e*P **P 12 38 02.9 -0.5**
comp=Z,162nm,1.4s,mb5.8
BRG Berggiesshubel 76.12 335 *i* P **P 12 38 03.2 -0.8**
comp=Z,52nm,1.5s,mb5.2
BRG *i* 12 40 13.3
comp=Z,17nm,1.4s
VRI Vrincioaia 76.13 325⇓*i*P **P 12 38 05.7 +1.7**
VRI Vrincioaia 76.13 325 P **P 12 38 04.0 0.0**
CFR Carcaliu 76.14 324⇓*i*P **P 12 38 03.8 -0.3**
CFR Carcaliu 76.14 324 P **P 12 38 05.1 +1.0**
CFR Carcaliu 76.14 324 ⇓P **P 12 38 03.8 -0.3**
BANOM Banah 76.14 293 P **P 12 38 04.7 +0.6**
SNR=6.8
LIKS Likavka 76.15 331 *e*P **P 12 38 05.0 +0.8**
LIKS pmax pmax
comp=Z,44nm,1.1s,mb5.3
LIKS Likavka 76.15 331 *e*P **P 12 38 05.0 +0.8**
comp=Z,44nm,1.1s,mb5.3
PLOR Plostina 76.17 325⇑*i*P **P 12 38 05.3 +1.0**
KECS Kecovo 76.18 330 *e*P **P 12 38 04.2 -0.1**
KECS pmax pmax
comp=Z,36nm,1.7s,mb5.0
KECS Kecovo 76.18 330 *e*P **P 12 38 04.2 -0.1**
comp=Z,36nm,1.7s,mb5.0
WIT Witteveen 76.23 340 *e*P **P 12 38 06.5 +1.9**
PVCC Panska Ves 76.25 335 *e*P **P 12 38 04.4 -0.3**
BOYT Boyabat 76.25 317 *i* P **P 12 38 06.2 +1.4**
GAL1 Galloway 76.43 347 *e*P **P 12 38 04.5 -1.2**
GAL1 AMb AMB 12 38 14.9
comp=Z,98nm,1.5s,mb5.5
ELZG Elazig 76.59 313 *i* P **P 12 38 07.8 +1.2**
WSAR Wadi Sarin 76.59 290 P **P 12 38 07.7 +1.0**
comp=Z,10nm,0.6s,mb4.9,baz=62,slow=1.9,SNR=11
TIRR Tirgusor 76.62 323⇓*i*P **P 12 38 06.5 -0.3**
TIRR Tirgusor 76.62 323 P **P 12 38 07.0 +0.2**
TIRR Tirgusor 76.62 323 ⇓P **P 12 38 06.5 -0.3**
BIDO Bidbid 76.71 290 P **P 12 38 09.1 +1.7**
SNR=8.8
LTX Lajitas 76.72 61 *e*P **P 12 38 06.7 -0.7**
LTX pmax pmax
comp=Z,90nm,1.1s,mb5.6
LTX Lajitas 76.72 61 *e*P **P 12 38 06.7 -0.7**
comp=Z,90nm,1.1s,mb5.6
TXAR Lajitas Array 76.72 61 P **P 12 38 07.3 0.0**
comp=Z,36nm,0.8s,mb5.4,baz=296,slow=4.0,SNR=51
VYHS Vyhne 76.72 331 *e*P **P 12 38 07.5 +0.1**
VYHS pmax pmax
comp=Z,78nm,1.7s,mb5.4
VYHS Vyhne 76.72 331 *e*P **P 12 38 07.5 +0.1**
comp=Z,78nm,1.7s,mb5.4
VRAC Vranov 76.72 333⇓*i*P **P 12 38 07.6 +0.2**
VRAC Vranov 76.72 333 P **P 12 38 07.5 +0.1**
VRAC Vranov 76.72 333 ⇓P **P 12 38 07.6 +0.2**
PRU Pruhonice 76.74 334 *e*P **P 12 38 07.5 0.0**
PRU *e*pP pP 12 38 15.9 -2.9
MLR Muntele Rosu 76.74 325 P **P 12 38 08.0 +0.5**
comp=Z,37nm,0.7s,mb5.5,baz=26,slow=1.6,SNR=19
MLR Muntele Rosu 76.74 325⇑*i*P **P 12 38 08.2 +0.7**
MLR Muntele Rosu 76.74 325⇑P **P 12 38 08.2 +0.7**
WBK Wadi Bani Khal 76.83 289 P **P 12 38 10.0 +2.0**
SNR=11
DRGR 76.85 328⇑*i*P **P 12 38 07.9 -0.2**
DRGR 76.85 328⇑P **P 12 38 07.9 -0.3**
BALT Daday 76.86 318 *i* P **P 12 38 08.8 +0.6**
PSZ Piszkesteto 76.87 330⇓*i*P **P 12 38 08.5 +0.3**
PSZ Piszkesteto 76.87 330 *e*P **P 12 38 08.1 -0.1**
PSZ pmax pmax
comp=Z,58nm,1.1s,mb5.4
PSZ Piszkesteto 76.87 330 *e*P **P 12 38 08.1 -0.2**
comp=Z,58nm,1.1s,mb5.4
CTKT Corum 76.94 317 *i* P **P 12 38 09.2 +0.6**
MOX Moxa 76.98 336 *e*P **P 12 38 08.2 -0.6**
comp=Z,137nm,1.6s,mb5.6
MOX Moxa 76.98 336 *e*P **P 12 38 08.2 -0.6**
MOX pmax pmax
comp=Z,54nm,1.6s,mb5.2
WTSB Winterswijk 76.98 340 *e*P **P 12 38 08.5 -0.4**
MALT Malatya 77.01 313⇓*i*P **P 12 38 10.6 +1.6**
MALT Malatya 77.01 313 *e*P **P 12 38 10.1 +1.1**
HATD Hatta, Dubai 77.03 292 ⇓P **P 12 38 09.8 +0.7**
SNR=13
SMDO Samad 77.09 290 P **P 12 38 10.6 +1.1**
SNR=13
NKC Novy Kostel 77.12 336 *e*P **P 12 38 09.0 -0.6**
WIM Isle of Man 77.12 347 *e*P **P 12 38 09.1 -0.6**
VOIR 77.13 326⇓*i*P **P 12 38 10.1 +0.4**
VOIR 77.13 326 ⇓P **P 12 38 10.1 +0.4**
SMOL Smolenice 77.16 332 *e*P **P 12 38 11.3 +1.4**
AAM Ann Arbor 77.17 40 *e*P **P 12 38 10.2 +0.3**
AAM pmax pmax
comp=Z,62nm,0.6s,mb5.7
AAM Ann Arbor 77.17 40 *e*P **P 12 38 10.2 +0.3**
comp=Z,62nm,0.6s,mb5.7
HOQ Hoqain 77.19 291 P **P 12 38 10.8 +0.8**
SNR=18
ZST Bratislava 77.54 332 *e*P **P 12 38 12.7 +0.7**
ZST pmax pmax
comp=Z,71nm,1.5s,mb5.4
ZST Bratislava 77.54 332 *e*P **P 12 38 12.7 +0.7**
comp=Z,71nm,1.5s,mb5.4
JMDO Jabal Madar 77.55 289 ⇑P **P 12 38 13.2 +1.1**
SNR=21
BUC1 Bucharest 77.67 325 P **P 12 38 13.0 +0.3**
ELDT Eldivan 77.67 318 *i* P **P 12 38 13.4 +0.7**
KHC Kasperske Hory 77.79 335 *e*P **P 12 38 13.1 -0.3**
KHC *e*pP pP 12 38 21.9 -2.8
BSY Bisya 77.86 290 P **P 12 38 15.0 +1.2**
SNR=23
ARQ Araqi 77.86 291 ⇑P **P 12 38 14.8 +1.0**
SNR=21
GRA1 Grafenberg Arr 77.95 336 *e*P **P 12 38 14.3 0.0**
comp=Z,143nm,1.4s,mb5.7
GRA1 *e*pP pP 12 38 25.6 0.0
GRF Grafenberg Arr 77.95 336 *e*P **P 12 38 14.3 0.0**
comp=Z,143nm,1.4s,mb5.7
GRF *e*pP pP 12 38 25.6 0.0
GRF Grafenberg Arr 77.95 336 *e*P **P 12 38 14.3 0.0**
GRF *e**PP pP 12 38 25.6 0.0
GRF pmax pmax
comp=Z,143nm,1.4s,mb5.7
GRFO Grafenberg 77.95 336 P **P 12 38 14.9 +0.6**
GRFO pmax pmax
comp=Z,140nm,1.1s,mb5.8
GRFO Grafenberg 77.95 336 *e*P **P 12 38 14.9 +0.7**
comp=Z,136nm,1.1s,mb5.8
GEC2 GERESS Array S 78.01 334 *e*P **P 12 38 14.3 -0.3**
GERES GERESS Array B 78.01 334 P **P 12 38 14.6 0.0**
comp=Z,8.4nm,0.6s,mb4.8,baz=44,slow=4.1,SNR=22
GZR Gura Zlata 78.02 327⇓*i*P **P 12 38 14.4 -0.3**
GZR Gura Zlata 78.02 327 ⇓P **P 12 38 14.4 -0.3**
JCT Junction City 78.13 58 *e*P **P 12 38 14.6 -0.7**
JCT pmax pmax
comp=Z,130nm,1.2s,mb5.7
JCT Junction City 78.13 58 *e*P **P 12 38 15.0 -0.3**
comp=Z,127nm,1.3s,mb5.7
BRTR Keskin Array B 78.19 317 P **P 12 38 16.1 +0.5**
comp=Z,17nm,0.8s,mb5.0,baz=72,slow=2.0,SNR=30
DLF Lyons Farm 78.22 348⇑*i*P **P 12 38 14.8 -1.0**
SGKT Sivrigoynuk 78.22 319 *i* P **P 12 38 16.4 +0.6**
BZS Buzias 78.25 328⇓*i*P **P 12 38 15.4 -0.6**
BZS Buzias 78.25 328 ⇓P **P 12 38 15.4 -0.5**
DCN Croghan 78.27 349⇑*i*P **P 12 38 15.1 -1.0**
HGN Heimansgroeve 78.30 340 *e*P **P 12 38 16.0 -0.3**
comp=Z,89nm,1.2s,mb5.6
BEBN Eben Emael 78.33 340 P **P 12 38 16.0 -0.4**
BEBN PCP PcP 12 38 28.8 +3.2
AVNT Avonos 78.37 316 *i* P **P 12 38 16.7 +0.1**
MEM Membach 78.43 340 P **P 12 38 16.6 -0.3**
comp=Z,30nm,1.1s,mb5.1
MEM AP pP 12 38 19.4 -8.8
MEM XP sP 12 38 21.1 -11
MEM PCP PcP 12 38 27.0 +1.0
ANTO Ankara 78.46 318 ⇑P **P 12 38 18.4 +1.3**
SNR=11
ANTO Ankara 78.46 318⇑*i*P **P 12 38 18.6 +1.5**
ANTO Ankara 78.46 318 *e*P **P 12 38 18.0 +0.9**
ANTO pmax pmax
comp=Z,47nm,0.8s,mb5.5
ANTO Ankara 78.46 318 *e*P **P 12 38 18.0 +0.9**
comp=Z,47nm,0.8s,mb5.5
ZIMR 78.50 325 P **P 12 38 17.0 -0.3**
CRAR CRAIOVA 78.55 326 P **P 12 38 18.1 +0.5**
TOD Tromm 78.67 338 *e*P **P 12 38 17.6 -0.7**
MIB Mutribah 78.69 302 *e*P **P 12 38 18.8 +0.4**
MOA Molln 78.73 334⇑*i*P **P 12 38 18.8 +0.2**
comp=Z,52nm,1.9s,mb5.1,SNR=7.2
ABH Alteburg 78.73 339 *e*P **P 12 38 18.0 -0.6**
BCLA Clavier 78.77 340 P **P 12 38 18.9 +0.1**
BCLA PCP PcP 12 38 29.0 +1.5
PKSM Moragy 78.78 330⇓*i*P **P 12 38 18.0 -0.8**
PKSM Moragy 78.78 330 ⇓P **P 12 38 18.0 -0.8**
ARSA Arzberg 78.88 332⇑*i*P **P 12 38 19.5 +0.1**
comp=Z,63nm,1.5s,mb5.3,SNR=15
LONY Lake Ozonia 78.89 33 *e*P **P 12 38 17.9 -1.5**
comp=Z,17nm,0.8s,mb5.0
SNF Seneffe 78.92 341 P **P 12 38 19.5 -0.1**
SNF E pP 12 38 30.9 -0.1
MCH1 Michaelchurch 78.93 346 *e*P **P 12 38 18.8 -0.9**
MCH1 AMb AMB 12 38 19.4
comp=Z,184nm,1.7s,mb5.7
RUP Ruppelstein 79.02 339 *e*P **P 12 38 20.2 0.0**
KTD Kalmit 79.12 338 *e*P **P 12 38 20.2 -0.5**
QRN Al-Qurain 79.14 301 *e*P **P 12 38 21.5 +0.6**
NAY Al-Naaiem 79.16 301 *e*P **P 12 38 21.2 +0.3**
GIVF Givet 79.18 340⇑*i*P **P 12 38 20.5 -0.5**
comp=Z,127nm,1.2s,mb5.4
GIVF Givet 79.18 340⇑*i*P **P 12 38 20.5 -0.5**
GIVF pmax pmax
comp=Z,63nm,1.2s,mb5.4
GIVF Givet 79.18 340⇑*i*P **P 12 38 20.5 -0.5**
comp=Z,63nm,1.2s,mb5.4
RDF Al-Radifah 79.22 301 *e*P **P 12 38 21.9 +0.6**
DOU Dourbes 79.24 340 P **P 12 38 20.4 -1.0**
comp=Z,10nm,1.5s,mb4.5
DOU PCP PcP 12 38 32.5 +3.0
DOU E 12 38 48.7
WCI Wyandotte Cave 79.25 44 P **P 12 38 23.2 +1.8**
WCI pmax pmax
comp=Z,120nm,1.1s,mb5.7
WCI Wyandotte Cave 79.25 44 *e*P **P 12 38 21.4 0.0**
comp=Z,122nm,1.1s,mb5.8
WLF Walferdange 79.28 339 P **P 12 38 22.2 +0.6**
WLF E pP 12 38 31.9 -1.0
STU Stuttgart 79.33 337 *e*P **P 12 38 22.3 +0.4**

STU pmax pmax
comp=Z,146nm,1.7s,mb5.6
STU Stuttgart 79.33 337 *e*P P 12 38 22.3 +0.4
comp=Z,146nm,1.7s,mb5.6
BAIF Baives 79.36 341⇑ *i*P P 12 38 21.6 -0.4
comp=Z,265nm,1.5s,mb5.6
BAIF Baives 79.36 341⇑ *i*P P 12 38 21.6 -0.4
BAIF pmax pmax
comp=Z,133nm,1.5s,mb5.7
BAIF Baives 79.36 341⇑ *i*P P 12 38 21.6 -0.4
comp=Z,133nm,1.5s,mb5.7
KOGS Kog 79.36 332 *e*P P 12 38 21.2 -0.9
COBT Iskenderun 79.48 313 *i*P P 12 38 23.8 +1.1
LANF Langenberg 79.50 338 *e*P P 12 38 21.7 -1.1
PERS Pernice 79.55 332 *e*P P 12 38 22.7 -0.4
NCB Newcomb 79.58 33 *e*P P 12 38 21.8 -1.4
comp=Z,121nm,1.6s,mb5.6
ESKT Eskisehir 79.62 319 *i*P P 12 38 22.9 -0.6
KBA Koelnbreinsper 79.70 334⇓ *i*P P 12 38 24.6 +0.7
comp=Z,77nm,1.1s,mb5.5,SNR=23
KBA Koelnbreinsper 79.70 334 P P 12 38 24.6 +0.7
STKA Stephens Creek 79.75 191 *e*P P 12 38 22.8 -1.4
comp=Z,12nm,1.1s,mb4.7
STKA Stephens Creek 79.75 191 P P 12 38 22.6 -1.5
comp=Z,5.5nm,0.7s,mb4.6,baz=329,slow=7.4,SNR=8.8
STR Strasbourg 79.88 338 *e*P P 12 38 25.2 +0.4
BFO Black Forest 79.97 337 P P 12 38 25.6 +0.3
comp=Z,231nm,1.1s,mb6.0,SNR=10
BFO Black Forest 79.97 337 P P 12 38 25.4 +0.1
WATA Walderalm 79.99 335⇑ *i*P P 12 38 26.0 +0.6
comp=Z,110nm,1.4s,mb5.6,SNR=6.1
WTTA Wattenberg 80.03 335⇑ *i*P P 12 38 26.6 +0.9
comp=Z,164nm,1.5s,mb5.7,SNR=27
SPAK Spaichingen-Ko 80.06 337 *e*P P 12 38 25.8 0.0
MOTA Moosalm 80.11 335⇑ *i*P P 12 38 27.0 +0.9
comp=Z,106nm,1.3s,mb5.6,SNR=19
WLS Welschbruch 80.14 338 *e*P P 12 38 25.8 -0.5
DIVS Divcibare 80.15 328 *i*P P 12 38 26.3 0.0
DIVS Divcibare 80.15 328 *e*P P 12 38 26.3 0.0
CDF Champ du Feu 80.16 338⇑ *i*P P 12 38 25.9 -0.5
comp=Z,177nm,1.2s,mb5.6
CDF Champ du Feu 80.16 338⇑ *i*P P 12 38 25.9 -0.5
CDF pmax pmax
comp=Z,89nm,1.2s,mb5.6
CDF Champ du Feu 80.16 338⇑ *i*P P 12 38 25.9 -0.5
comp=Z,89nm,1.2s,mb5.6
WVT Waverly 80.18 46 P P 12 38 26.9 +0.4
WVT pmax pmax
comp=Z,30nm,1.0s,mb5.2
WVT Waverly 80.18 46 *e*P P 12 38 26.3 -0.2
comp=Z,30nm,1.0s,mb5.2
SQTA Sankt Quirin 80.20 335 *i*P P 12 38 27.4 +0.9
comp=Z,75nm,1.2s,mb5.5,SNR=8.8
SQTA Sankt Quirin 80.20 335 P P 12 38 27.4 +0.8
VTS Vitosha 80.25 325 *e*P P 12 38 27.6 +0.8
VTS Vitosha 80.25 325⇓ *i*P P 12 38 26.9 +0.1
VTS Vitosha 80.25 325 ⇓P P 12 38 26.9 +0.1
PTCC Patocco-Chiusa 80.30 333 P P 12 38 26.6 -0.5
comp=Z,102nm,1.6s,mb5.5
LIBD Limburg 80.32 338 *e*P P 12 38 26.9 -0.3
ECH Echery 80.37 338 *e*P P 12 38 27.1 -0.4
BINY Binghamton 80.42 35 *e*P P 12 38 27.3 -0.4
comp=Z,15nm,1.0s,mb4.9
GMNA Gemona 80.46 333 P P 12 38 27.3 -0.7
comp=Z,166nm,0.8s,mb6.0
FELD Feldberg im Sc 80.47 337 *e*P P 12 38 27.7 -0.3
DAVA Damuels 80.51 336⇑ *i*P P 12 38 28.6 +0.3
comp=Z,82nm,1.6s,mb5.4,SNR=11
BOJS Bojanci 80.52 332 *e*P P 12 38 27.6 -0.7
ALN Alexandroupoli 80.55 323 *e*P P 12 38 27.9 -0.6
MEZF Maizieres J'vi 80.62 340 *e*P P 12 38 28.5 -0.4
comp=Z,198nm,1.1s,mb5.7
MEZF Maizieres J'vi 80.62 340 *e*P P 12 38 28.5 -0.4
comp=Z,198nm,1.1s,mb6.0
THEF They Montfort 80.65 339 *e*P P 12 38 28.4 -0.6
OXF Oxford 80.67 48 P P 12 38 28.3 -0.8
OXF pmax pmax
comp=Z,220nm,1.2s,mb6.0
OXF Oxford 80.67 48 *e*P P 12 38 28.6 -0.5
comp=Z,224nm,1.3s,mb5.9
MOF Molkenrain 80.72 338 *e*P P 12 38 29.0 -0.4
HAU Haudompre 80.77 339⇑ *i*P P 12 38 29.1 -0.6
comp=Z,58nm,0.9s,mb5.2
HAU Haudompre 80.77 339⇑ *i*P P 12 38 29.1 -0.6
HAU pmax pmax
comp=Z,29nm,0.9s,mb5.2
HAU Haudompre 80.77 339⇑ *i*P P 12 38 29.1 -0.6
comp=Z,29nm,0.9s,mb5.2
HINF Hinteralfeld 80.82 338⇑ *i*P P 12 38 29.1 -0.8
comp=Z,127nm,1.4s,mb5.4
HINF Hinteralfeld 80.82 338⇑ *i*P P 12 38 29.1 -0.8
HINF pmax pmax
comp=Z,64nm,1.4s,mb5.4
HINF Hinteralfeld 80.82 338⇑ *i*P P 12 38 29.1 -0.8
comp=Z,64nm,1.4s,mb5.4
MMB Musomiste 80.90 324 *e*P P 12 38 30.4 0.0
BBS Basel-Blauen 80.98 338 *e*P P 12 38 29.7 -1.1
MCWV Mont Chateau 80.98 39 *e*P P 12 38 30.5 -0.3
comp=Z,104nm,0.8s,mb5.8
SSPA Standing Stone 80.98 37 *e*P P 12 38 30.6 -0.2
comp=Z,50nm,0.8s,mb5.5
PMOR Pomariorio Ree 81.05 124 *e*P P 12 38 30.9 -0.2
comp=Z,52nm,1.0s,mb5.4
TKTP Tekketepe 81.07 318 *i*P P 12 38 31.4 +0.1
BRMO Bormio 81.11 335 P P 12 38 32.1 +0.6
comp=Z,49nm,1.0s,mb5.4
LOMF Lomont 81.26 338 *e*P P 12 38 31.4 -0.8
FORT Forrest 81.28 202 *e*P P 12 38 31.4 -1.0
comp=Z,58nm,0.7s,mb5.6
FLN La Foliniere 81.58 343⇑ *i*P P 12 38 33.4 -0.5
comp=Z,382nm,1.8s,mb5.7
FLN La Foliniere 81.58 343⇑ *i*P P 12 38 33.4 -0.5
FLN pmax pmax
comp=Z,191nm,1.8s,mb5.7
FLN La Foliniere 81.58 343⇑ *i*P P 12 38 33.4 -0.5
comp=Z,191nm,1.8s,mb5.7
VAY Valandovo 81.58 325 *i*P P 12 38 33.4 -0.5
KNT Kendrikon 81.59 325 *e*P P 12 38 33.8 -0.2
LDF La Druitiere 81.67 343⇑ *i*P P 12 38 33.8 -0.6
comp=Z,189nm,1.6s,mb5.5
LDF La Druitiere 81.67 343⇑ *i*P P 12 38 33.8 -0.6
LDF pmax pmax
comp=Z,95nm,1.6s,mb5.5
LDF La Druitiere 81.67 343⇑ *i*P P 12 38 33.8 -0.6
comp=Z,95nm,1.6s,mb5.5
DNZL Cakiroluk 81.93 319 *i*P P 12 38 39.2 +3.5
GRG Griva 81.96 325 *e*P P 12 38 35.6 -0.3
GRR Gorron 82.01 343 *e*P P 12 38 35.8 -0.4
comp=Z,372nm,1.4s,mb5.8
GRR Gorron 82.01 343 *e*P P 12 38 35.8 -0.4
GRR pmax pmax
comp=Z,186nm,1.4s,mb5.8
GRR Gorron 82.01 343 *e*P P 12 38 35.8 -0.4
comp=Z,186nm,1.4s,mb5.8
LUPA Lehigh Univers 82.03 36 *e*P P 12 38 35.9 -0.4
KRUS Krusevo 82.05 326 *i*P P 12 38 37.0 +0.6
LOR Lormes 82.06 340⇑ *i*P P 12 38 35.9 -0.6
comp=Z,169nm,1.2s,mb5.5
LOR Lormes 82.06 340⇑ *i*P P 12 38 35.9 -0.6
LOR pmax pmax
comp=Z,85nm,1.2s,mb5.5
LOR Lormes 82.06 340⇑ *i*P P 12 38 35.9 -0.6
comp=Z,84nm,1.2s,mb5.5
CABF La Chapelle 82.13 338⇑ *i*P P 12 38 36.6 -0.3
comp=Z,179nm,1.4s,mb5.5
CABF La Chapelle 82.13 338⇑ *i*P P 12 38 36.6 -0.3
CABF pmax pmax
comp=Z,90nm,1.4s,mb5.5
CABF La Chapelle 82.13 338⇑ *i*P P 12 38 36.6 -0.3
comp=Z,90nm,1.4s,mb5.5
MVL Millersville 82.14 37 *e*P P 12 38 36.8 -0.2
CSS Prodhromos 82.16 314 *e*P P 12 38 37.5 +0.5
comp=Z,49nm,0.8s,mb5.5
PPT Papeete 82.20 126 *e*P P 12 38 36.9 -0.3
comp=Z,35nm,1.3s,mb5.1
PPT Papeete 82.20 126 P P 12 38 37.1 -0.1
comp=Z,16nm,0.9s,mb5.0,baz=60,slow=16,SNR=3.6
PAE Paea 82.27 127 *e*P P 12 38 37.2 -0.4
comp=Z,61nm,1.3s,mb5.4
PAE Paea 82.27 127 *e*P P 12 38 37.2 -0.4
PAE pmax pmax
comp=Z,61nm,1.3s,mb5.4
FWV Forest Hill 82.28 41 *e*P P 12 38 37.5 -0.1
PAIG Paliouri 82.33 324 *e*P P 12 38 37.0 -0.9
SSF Saint Saulge 82.34 340⇑ *i*P P 12 38 37.5 -0.4
comp=Z,33nm,0.8s,mb5.0
SSF Saint Saulge 82.34 340⇑ *i*P P 12 38 37.5 -0.4
SSF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SSF Saint Saulge 82.34 340⇑ *i*P P 12 38 37.5 -0.4
comp=Z,16nm,0.8s,mb5.0
OHR Ohrid 82.44 326 *i*P P 12 38 38.1 -0.3
SGMF Saint Gilles 82.46 344⇑ *i*P P 12 38 38.2 -0.4
comp=Z,71nm,0.8s,mb5.4
SGMF Saint Gilles 82.46 344⇑ *i*P P 12 38 38.2 -0.4
SGMF pmax pmax
comp=Z,36nm,0.8s,mb5.3
SGMF Saint Gilles 82.46 344⇑ *i*P P 12 38 38.2 -0.4
comp=Z,36nm,0.8s,mb5.3
FNA Florina 82.50 326 *e*P P 12 38 37.7 -1.1
ROSF Rostrenen 82.51 345⇑ *i*P P 12 38 38.4 -0.4
comp=Z,234nm,1.2s,mb5.8
ROSF Rostrenen 82.51 345⇑ *i*P P 12 38 38.4 -0.4
ROSF pmax pmax
comp=Z,117nm,1.2s,mb5.8
ROSF Rostrenen 82.51 345⇑ *i*P P 12 38 38.4 -0.4
comp=Z,117nm,1.2s,mb5.8
TVO Taravao 82.55 126 *e*P P 12 38 38.8 -0.2
comp=Z,89nm,1.3s,mb5.7
TVO Taravao 82.55 126 *e*P P 12 38 38.8 -0.2
TVO pmax pmax
comp=Z,89nm,1.3s,mb5.6
ASF Jabal al Asfar 82.59 310 P P 12 38 39.8 +0.5
comp=Z,22nm,0.9s,mb5.2,baz=278,slow=3.1,SNR=14
AVF Avril sur Loir 82.63 340⇑ *i*P P 12 38 39.1 -0.3
comp=Z,221nm,1.4s,mb5.7
AVF Avril sur Loir 82.63 340⇑ *i*P P 12 38 39.1 -0.3
AVF pmax pmax
comp=Z,111nm,1.4s,mb5.7
AVF Avril sur Loir 82.63 340⇑ *i*P P 12 38 39.1 -0.3
comp=Z,111nm,1.4s,mb5.7
SMF Signal de Mont 82.65 340⇑ *i*P P 12 38 39.2 -0.4
comp=Z,391nm,1.3s,mb6.0
SMF Signal de Mont 82.65 340⇑ *i*P P 12 38 39.2 -0.4
SMF pmax pmax
comp=Z,196nm,1.3s,mb6.0
SMF Signal de Mont 82.65 340⇑ *i*P P 12 38 39.2 -0.4
comp=Z,196nm,1.3s,mb6.0
BLA Blacksburg 82.76 41 *e*P P 12 38 39.5 -0.6
BLA pmax pmax
comp=Z,60nm,0.9s,mb5.6
BLA Blacksburg 82.76 41 *e*P P 12 38 39.5 -0.7
comp=Z,60nm,0.9s,mb5.6
RSM Repubblica di 82.81 333 P P 12 38 41.6 +1.2
RSM pmax pmax
comp=Z,208nm,1.2s,mb6.0
RSM Repubblica di 82.81 333 P P 12 38 41.6 +1.2
comp=Z,208nm,1.2s,mb6.0
AOS Alonnisos 82.89 323 *e*P P 12 38 40.0 -0.8
QUIF Quistinic 82.89 345⇑ *i*P P 12 38 40.2 -0.6
comp=Z,194nm,1.4s,mb5.6
QUIF Quistinic 82.89 345⇑ *i*P P 12 38 40.2 -0.6
QUIF pmax pmax
comp=Z,97nm,1.4s,mb5.6
QUIF Quistinic 82.89 345⇑ *i*P P 12 38 40.2 -0.6
comp=Z,97nm,1.4s,mb5.6
BGF Bois d'Agland 82.96 340⇑ *i*P P 12 38 41.0 -0.2
comp=Z,200nm,1.4s,mb5.7
BGF Bois d'Agland 82.96 340⇑ *i*P P 12 38 41.0 -0.2
BGF pmax pmax
comp=Z,100nm,1.4s,mb5.7
BGF Bois d'Agland 82.96 340⇑ *i*P P 12 38 41.0 -0.2
comp=Z,100nm,1.4s,mb5.7
LPL La Plagne 82.99 337⇑ *i*P P 12 38 42.0 +0.7
GSCL Gusciola 82.99 334 P P 12 38 42.6 +1.3
comp=Z,110nm,1.1s,mb5.8
LPG La Plagne 83.00 337⇑ *i*P P 12 38 42.0 +0.6
comp=Z,124nm,0.9s,mb5.6
LPG La Plagne 83.00 337⇑ *i*P P 12 38 42.0 +0.6
LPG pmax pmax
comp=Z,62nm,0.9s,mb5.6
LPG La Plagne 83.00 337⇑ *i*P P 12 38 42.0 +0.6
comp=Z,62nm,0.9s,mb5.6
XOR Xorichti 83.00 324 *e*P P 12 38 40.3 -1.1
BDRM Kayabasi 83.16 320 *i*P P 12 38 42.0 -0.2
VLC Villacollemand 83.22 334 *e*P P 12 38 43.0 +0.4
comp=Z,79nm,1.1s,mb5.7
PLDF La Plantade 83.34 340 *e*P P 12 38 44.4 +1.3
TCF Toulx Ste Croi 83.36 341⇑ *i*P P 12 38 43.0 -0.2
comp=Z,97nm,1.1s,mb5.5
TCF Toulx Ste Croi 83.36 341⇑ *i*P P 12 38 43.0 -0.2
TCF pmax pmax
comp=Z,49nm,1.1s,mb5.5
TCF Toulx Ste Croi 83.36 341⇑ *i*P P 12 38 43.0 -0.2
comp=Z,49nm,1.1s,mb5.5
AGO Saint Agoulin 83.37 340 *e*P P 12 38 44.0 +0.7
MEV Metsovon 83.42 325 *e*P P 12 38 43.1 -0.4
ASS Assisi 83.53 332 P P 12 38 46.5 +2.4
comp=Z,2.6nm,0.7s,mb4.5
WHFO Wadi Hawf 83.57 289 ⇑P P 12 38 44.5 +0.2
SNR=17
MFF Saint Martin d 83.57 342⇑ *i*P P 12 38 44.0 -0.3
comp=Z,37nm,0.7s,mb5.3
MFF Saint Martin d 83.57 342⇑ *i*P P 12 38 44.0 -0.3
MFF pmax pmax
comp=Z,18nm,0.7s,mb5.3
MFF Saint Martin d 83.57 342⇑ *i*P P 12 38 44.0 -0.3
comp=Z,18nm,0.7s,mb5.3
RBK Rabkut 83.60 289 ⇓P P 12 38 44.6 +0.2
SNR=7.7
AGG Agios Georgios 83.64 324 *e*P P 12 38 42.6 -2.1
FGMS Monte Sant'Ang 83.66 330 P P 12 38 44.5 -0.3
comp=Z,80nm,1.1s,mb5.8
PYM Petit Puy Mans 83.69 340 *e*P P 12 38 45.4 +0.5
MBDF Montbardon 83.71 337⇑ *i*P P 12 38 45.0 0.0
comp=Z,51nm,0.8s,mb5.4
MBDF Montbardon 83.71 337⇑ *i*P P 12 38 45.0 0.0
MBDF pmax pmax
comp=Z,26nm,0.8s,mb5.4
MBDF Montbardon 83.71 337⇑ *i*P P 12 38 45.0 0.0
comp=Z,26nm,0.8s,mb5.4
ORIF Oris-en-Rattie 83.76 338⇑ *i*P P 12 38 45.7 +0.4
comp=Z,243nm,1.2s,mb5.9
ORIF Oris-en-Rattie 83.76 338⇑ *i*P P 12 38 45.7 +0.4
ORIF pmax pmax
comp=Z,122nm,1.2s,mb5.9
ORIF Oris-en-Rattie 83.76 338⇑ *i*P P 12 38 45.7 +0.4
comp=Z,122nm,1.2s,mb5.9
AQU L'Aquila 83.93 332 P P 12 38 47.0 +0.8
AQU pmax pmax
comp=Z,98nm,1.1s,mb5.8
AQU L'Aquila 83.93 332 P P 12 38 47.0 +0.8
comp=Z,98nm,1.1s,mb5.8
LBL Lubilhac 84.12 340 *e*P P 12 38 48.3 +1.2
VIVF Saint-Julien-l 84.13 338⇑ *i*P P 12 38 47.3 +0.1
comp=Z,255nm,1.4s,mb5.8
VIVF Saint-Julien-l 84.13 338⇑ *i*P P 12 38 47.3 +0.1
VIVF pmax pmax
comp=Z,128nm,1.4s,mb5.9
VIVF Saint-Julien-l 84.13 338⇑ *i*P P 12 38 47.3 +0.1
comp=Z,128nm,1.4s,mb5.9
SAOF Saorge 84.18 336 *e*P P 12 38 46.5 -0.9
AUTN L'Aution 84.21 336 *e*P P 12 38 47.2 -0.4
TOUF Mont Tournerai 84.24 336 *e*P P 12 38 47.5 -0.2
ABTO Aybut 84.29 289 ⇑P P 12 38 48.2 +0.2
SNR=14
FG4 Candela 84.32 330 P P 12 38 48.5 +0.3
FG4 pmax pmax
comp=Z,445nm,1.3s,mb6.4
FG4 Candela 84.32 330 P P 12 38 48.5 +0.3
comp=Z,445nm,1.3s,mb6.4
LUCF Luceram 84.33 336 *e*P P 12 38 47.8 -0.4
SBF Sospel 84.33 336 *e*P P 12 38 47.4 -0.8
comp=Z,208nm,1.2s,mb5.8
SBF Sospel 84.33 336 *e*P P 12 38 47.4 -0.8
SBF pmax pmax
comp=Z,104nm,1.2s,mb5.8
SBF Sospel 84.33 336 *e*P P 12 38 47.4 -0.8
comp=Z,104nm,1.2s,mb5.8
MVIF Mont Vial 84.38 336 *e*P P 12 38 47.8 -0.6
RJF Les Rejaudoux 84.45 341⇑ *i*P P 12 38 48.3 -0.5
comp=Z,149nm,1.4s,mb5.6
RJF Les Rejaudoux 84.45 341⇑ *i*P P 12 38 48.3 -0.5
RJF pmax pmax
comp=Z,75nm,1.4s,mb5.6
RJF Les Rejaudoux 84.45 341⇑ *i*P P 12 38 48.3 -0.5
comp=Z,75nm,1.4s,mb5.6
REVF Revere 84.46 336 *e*P P 12 38 48.3 -0.6
LKD Levkas 84.58 325 *e*P P 12 38 48.5 -1.0
RFI Roccamonfina 84.69 331 P P 12 38 50.3 +0.3
comp=Z,31nm,1.4s,mb5.2
SMRF Simiane la Rot 84.72 338 *e*P P 12 38 50.4 +0.2
comp=Z,124nm,1.1s,mb5.6
SMRF Simiane la Rot 84.72 338 *e*P P 12 38 50.4 +0.2
comp=Z,124nm,1.1s,mb6.0
FRF La Foret Royal 84.83 337⇑ *i*P P 12 38 50.1 -0.6
comp=Z,243nm,1.6s,mb5.8
FRF La Foret Royal 84.83 337⇑ *i*P P 12 38 50.1 -0.6
FRF pmax pmax
comp=Z,121nm,1.6s,mb5.8
FRF La Foret Royal 84.83 337⇑ *i*P P 12 38 50.1 -0.6
comp=Z,121nm,1.6s,mb5.8
SGO Sicignano 84.91 330 P P 12 38 50.3 -0.8
SGO pmax pmax
comp=Z,50nm,1.4s,mb5.5
SGO Sicignano 84.91 330 P P 12 38 50.3 -0.8
comp=Z,50nm,1.4s,mb5.5
LASF Ste Croix 85.06 339⇑ *i*P P 12 38 52.2 +0.3
comp=Z,88nm,1.2s,mb5.5
LMR La Mourre 85.07 337⇑ *i*P P 12 38 51.6 -0.3
comp=Z,311nm,1.2s,mb6.0
LMR La Mourre 85.07 337⇑ *i*P P 12 38 51.6 -0.3
LMR pmax pmax
comp=Z,156nm,1.2s,mb6.0
LMR La Mourre 85.07 337⇑ *i*P P 12 38 51.6 -0.3
comp=Z,156nm,1.2s,mb6.0
PGF Pioggiola 85.10 335⇑ *i*P P 12 38 51.6 -0.5
comp=Z,109nm,1.3s,mb5.5
PGF Pioggiola 85.10 335⇑ *i*P P 12 38 51.6 -0.5
PGF pmax pmax
comp=Z,54nm,1.3s,mb5.5
PGF Pioggiola 85.10 335⇑ *i*P P 12 38 51.6 -0.5
comp=Z,54nm,1.3s,mb5.5
KLBR Kellerberrin 85.13 210 *e*P P 12 38 51.4 -0.8
ZKR Zakros 85.33 319 *e*P P 12 38 52.9 -0.3
EIL Elat 85.59 310 *e*P P 12 38 55.5 +1.0
comp=Z,3μm,1.4s
TIP Timpagrande 85.62 328 *e*P P 12 38 54.8 +0.1
IDI Anoyia 85.76 320 P P 12 38 53.7 -1.7
comp=Z,24nm,0.6s,mb5.6,baz=36,slow=8.9,SNR=13
MUN Mundaring 86.02 211 *e*P P 12 38 55.9 -0.7
GRI Girifalco 86.06 328 P P 12 38 57.1 +0.3
GRI pmax pmax
comp=Z,182nm,1.5s,mb6.1
GRI Girifalco 86.06 328 P P 12 38 57.1 +0.3
comp=Z,182nm,1.5s,mb6.1
KARN Karanos 86.08 321 *e*P P 12 38 56.3 -0.6
MTLF Montolieu 86.15 340 *e*P P 12 38 56.3 -1.0
comp=Z,18nm,0.7s,mb5.1
MTLF Montolieu 86.15 340 *e*P P 12 38 56.3 -1.0
MTLF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
MTLF Montolieu 86.15 340 *e*P P 12 38 56.3 -1.0
comp=Z,9.2nm,0.7s,mb5.1
NWAO Narrogin (SRO) 86.53 210 *e*P P 12 38 57.6 -1.5
NWAO pmax pmax
comp=Z,242nm,1.8s
NWAO Narrogin (SRO) 86.53 210 *e*P P 12 38 57.6 -1.5
comp=Z,242nm,1.8s,mb6.1
VSL Villasalto 87.80 333 *e*P P 12 39 07.5 +2.2
comp=Z,46nm,1.1s,mb5.6
ESDC Sonseca Array 91.00 343 P P 12 39 18.9 -1.4
comp=Z,1.2nm,0.6s,mb4.4,baz=38,slow=7.5,SNR=6.8
KEST Kesra 91.26 332 P P 12 39 21.1 -0.3
comp=Z,9.7nm,1.1s,mb5.0,baz=188,slow=1.1,SNR=4.3
TORD Torodi Ar. Bea 114.71 330 PKP PKiKP 12 44 55.4 -1.0
comp=Z,1.9nm,0.6s,baz=18,slow=2.1,SNR=14
TORD PKKPbc PKKPbc 12 55 28.5 -5.4
comp=Z,0.6nm,0.7s,baz=180,slow=2.6,SNR=7.0
LIC Lamto 123.35 335 *e*PKIKP PKPdf 12 45 12.2 -0.9
comp=Z,13nm,0.7s
VNDA Vanda 124.83 178 PKP PKPdf 12 45 13.1 -2.8
comp=Z,1.1nm,0.7s,baz=324,slow=4.5,SNR=7.0
VNDA Vanda 124.83 178 PKP PKPdf 12 45 13.1 -2.8
SAML Samuel 130.45 51 *e*PKPdf PKPdf 12 45 26.6 0.0
MAW Mawson 133.08 212 PKP PKPdf 12 45 28.7 -2.9
comp=Z,2.5nm,0.9s,baz=258,slow=14,SNR=3.6
LPAZ La Paz 133.57 62 PKP PKPdf 12 45 31.1 -1.4
comp=Z,5.6nm,1.2s,baz=8.4,slow=4.9,SNR=7.2
LPAZ La Paz 133.57 62 PKIKP PKPdf 12 45 31.1 -1.4
LPAZ pmax pmax
comp=Z,6.0nm,1.3s
LPAZ La Paz 133.57 62 *e*PKPdf PKPdf 12 45 33.1 +0.6
SYO Syowa Base 141.79 212⇑ *e*PKPdf PKPdf 12 45 44.8 -2.8
CAM4 Nova Friburgo 151.68 33⇓ *i*P PKPbc 12 46 10.3 -0.2
CAM4 *i* 12 46 14.9
CAM4 *i* 12 46 19.4
CAM4 *i* 12 46 53.9
SNAA Sanae 153.39 196 PKPbc PKPbc 12 46 11.0 -3.2
comp=Z,1.3nm,0.6s,baz=152,slow=1.5,SNR=8.4
SNAA Sanae 153.39 196 *e*PKPdf PKPab 12 46 25.0 -1.5
SNAA *e* 12 46 33.0
SNAA *e* 12 46 36.4
SNAA *e* 12 46 53.5
SNAA *e* 12 47 04.9
SNAA Sanae 153.39 196 PKIKP PKPbc 12 46 11.0 -3.3
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 153.39 196 *e*PKPab PKPab 12 46 23.8 -2.7
VNA3 Neumayer Olymp 154.91 193 *e*PKPdf PKPab 12 46 31.3 -1.6
VNA3 *e* 12 46 38.9
VNA3 *e* 12 46 42.2
VNA1 Neumayer--Stat 155.22 194 *e*PKPdf PKPab 12 46 33.2 -1.0
VNA1 *e* 12 46 40.6
VNA1 *e* 12 46 44.7
VNA1 *e* 12 47 01.2
VNA1 *e* 12 47 13.2

*IDC **15** 12:28:19.6± 0.5, 47.05N× 155.48E, h0km, mb5.1/25, mb1 5.3/26, mb1mx5.2/28, mbtmp5.1/26, Error ellipse: s-maj=16.2km s-min=14.3km az=172.0*

*ISCJB **15** 12:28:20.5± 0.3, 47.15N± 007.7× 155.66E± 006, h10km, mb5.4/113, Error ellipse: s-maj=10.2km s-min=5.4km az=140.2*

*BJI **15** 12:28:20.1, 47.60N× 155.35E, h3km, mB5.7, mb5.4, Ms5.4, Msz5.0*

*NEIC **15** 12:28:21.3± 0.2, 47.06N× 155.53E, h10km, mb5.5/65, Error ellipse: s-maj=7.2km s-min=4.8km az=161.0*

*MOS **15** 12:28:23.0± 1.0, 47.15N× 155.47E, h29km, mb5.7/63, Error ellipse: s-maj=11.8km s-min=5.8km az=105.9*

*SZGRF **15** 12:28:29.8, 47.21N× 155.88E, h33km, mb5.8, Kuril Islands, Russia*

ISC 15 12:28:23.0± 2.9, 47.20N± 007.0× 155.58E± 006, h17km± 17km, h16km± 1.3km: pP-P, n312, σ1§16/300, mb5.4/113, 18C-53D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.76**	**273**	*e*PN		**Pn**		**12 30 30.1**	**+1.3**
SMY	**Shemya**	**13.13**	**58**	*e*PN		**Pn**		**12 31 29.7**	**+1.0**
MJAR	**Matsushiro Arr**	**16.71**	**237**	Pn		**Pn**		**12 32 12.3**	**-4.0**
	0.8nm,0.3s,baz=26,slow=8.6,SNR=3.0								
MJAR	**Matsushiro Arr**	**16.71**	**237**	Pn		**Pn**		**12 32 12.3**	**-4.0**
MAT	**Matsushiro**	**16.71**	**237**	P		**Pn**		**12 32 09.8**	**-6.6**
YAK	**Yakutsk**	**20.89**	**325**	*e*P		**P**		**12 33 04.0**	**-0.4**
YAK				pmax	pmax				
	comp=Z,148nm,0.7s								
YAK	**Yakutsk**	**20.89**	**325**	*e*P		**P**		**12 33 04.0**	**-0.4**
	comp=Z,148nm,0.7s								
BILL	**Bilibino**	**21.61**	**11**	*e*P		**P**		**12 33 11.7**	**-0.4**
BILL				pmax	pmax				
	comp=Z,138nm,1.0s,mb5.3								
BILL	**Bilibino**	**21.61**	**11**	*e*P		**P**		**12 33 13.3**	**+1.3**
	comp=Z,73nm,0.6s,mb5.3								
KSRS	**Korea Array**	**22.54**	**254**	P		**P**		**12 33 22.2**	**+0.2**
	comp=Z,44nm,0.7s,mb5.0,baz=54,slow=10,SNR=8.4								
INCN	**Inchon**	**23.38**	**256**	*e*P		**P**		**12 33 30.9**	**0.0**
DL2	**Dalian**	**25.99**	**264**	P		**P**		**12 33 56.0**	**+1.1**
DL2				AMB	AMB				
	comp=Z,60nm,1.0s,mb5.1								
NJ2	**Nanjing**	**31.74**	**255**	*e*P		**P**		**12 34 48.8**	**+2.7**
NJ2				AP	pP			12 34 53.3	+2.1
NJ2				XP	sP			12 34 57.8	+4.5
NJ2				PP	PP			12 35 53.8	-4.0
NJ2				S	**S**			**12 39 56.0**	**+0.8**
NJ2				XS	sS			12 40 04.0	+0.4
NJ2				AMB	AMB				
	comp=Z,430nm,0.6s								
NJ2				AMB	AMB				
	comp=Z,540nm,4.3s								
NJ2				LR	LR				
	comp=N,3μm,13.5s								
NJ2				LR	LR				
	comp=E,4μm,14.5s								

NJ2 LR LR
comp=Z,2µm,15.3s
ULN Ulaanbaatar 32.34 289 *e*P **P 12 34 49.3 -2.0**
ULN pmax pmax
comp=Z,22nm,0.8s,mb5.0
ULN Ulaanbaatar 32.34 289 *e*P **P 12 34 49.3 -2.0**
comp=Z,22nm,0.8s,mb5.0
KDAK Kodiak Island 32.51 52 P **P 12 34 52.5 -0.3**
comp=Z,51nm,0.9s,mb5.5,baz=286,slow=1.7,SNR=4.2
SONM Songino Array 32.77 290 P **P 12 34 53.4 -1.8**
comp=Z,16nm,0.8s,mb5.0,baz=66,slow=9.4,SNR=6.9
SONM PcP PcP 12 37 39.6 -0.6
comp=Z,10nm,0.9s,baz=95,slow=3.9,SNR=5.1
TLY Talaya 33.47 297 *e*P **P 12 35 00.4 -0.8**
PMR Palmer 34.10 45 *e*P **P 12 35 06.0 -0.7**
MCK McKinley 34.22 41 *e*P **P 12 35 07.0 -0.7**
MCK pmax pmax
comp=Z,17nm,1.1s,mb4.9
MCK McKinley 34.22 41 *e*P **P 12 35 07.0 -0.7**
comp=Z,17nm,1.1s,mb4.9
COLA College 34.74 39 *e*P **P 12 35 12.3 +0.1**
COLA pmax pmax
comp=Z,86nm,0.9s,mb5.7
COLA College 34.74 39 *e*P **P 12 35 12.3 +0.1**
comp=Z,86nm,0.9s,mb5.7
DIV Divide 35.74 45 *e*P **P 12 35 20.6 -0.3**
LZH Lanzhou 39.55 273 *e*P **P 12 35 53.8 +0.7**
LZH AP pP 12 35 56.8 -1.5
LZH XP sP 12 35 59.1 -1.3
LZH PP PP 12 37 23.5 -0.5
LZH AMB AMB
comp=Z,80nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,420nm,5.0s
LZH Lanzhou 39.55 273 *e*P **P 12 35 53.7 +0.6**
LZH *SP sP 12 35 59.1 -1.3
LZH 12 37 23.5
LZH pmax pmax
comp=Z,80nm,1.0s,mb5.4
LZH Lanzhou 39.55 273 *e*P **P 12 35 53.7 +0.6**
comp=Z,80nm,1.0s,mb5.4
LZH pP pP 12 35 56.8 -1.5
LZH sP sP 12 35 59.1 -1.3
LZH PP PP 12 37 23.5 -0.5
INK Inuvik 40.37 33 P **P 12 36 00.3 +0.5**
comp=Z,68nm,0.9s,mb5.4,baz=290,slow=7.4,SNR=6.5
INK Inuvik 40.37 33 P **P 12 36 00.3 +0.5**
ZAL Zalesovo 43.73 306 P **P 12 36 25.9 -1.4**
comp=Z,27nm,0.8s,mb5.0,baz=43,slow=7.5,SNR=11
ZAL PcP PcP 12 38 13.6 -0.5
comp=Z,21nm,1.0s,baz=52,slow=2.9,SNR=7.0
DLBC Dease Lake 44.07 47 *e*P **P 12 36 31.0 +1.0**
NVS Novosibirsk 44.25 308 *e*P **P 12 36 29.4 -2.1**
NVS *e* 12 38 12.0
NVS *e*S **S 12 42 58.8 -5.6**
NVS pmax pmax
comp=E,110nm,0.9s
NVS pmax pmax
comp=Z,118nm,0.9s,mb5.6
NVS pmax pmax
comp=N,75nm,1.5s
NVS smax
comp=N,32nm,1.4s
NVS smax
comp=E,59nm,1.9s
MKAR Makanchi Array 48.23 298 P **P 12 37 01.8 -1.0**
comp=E,72nm,0.8s,mb5.8,baz=64,slow=6.6,SNR=20
MKAR PcP PcP 12 38 29.0 -0.8
comp=E,9.2nm,0.7s,baz=63,slow=4.4,SNR=3.9
KURK Kurchatov 48.52 304 P **P 12 37 03.0 -2.0**
comp=E,2µm,0.6s,SNR=12
KURK Kurchatov 48.52 304 *e*P **P 12 37 03.5 -1.5**
YKA Yellowknife Ar 49.55 38 P **P 12 37 12.6 -0.3**
comp=E,35nm,0.8s,mb5.7,baz=297,slow=7.6,SNR=7.2
YKA Yellowknife Ar 49.55 38 P **P 12 37 12.6 -0.3**
YKA pmax pmax
comp=Z,35nm,0.8s
RES Resolute Bay 49.87 19 *e*P **P 12 37 15.3 -0.1**
comp=Z,2µm,1.3s
CHKZ Chkalovo 51.43 311 *e*P **P 12 37 25.1 -2.0**
BVAR Borovoye Array 51.87 310 P **P 12 37 29.1 -1.4**
comp=Z,68nm,0.6s,mb5.8,baz=55,slow=7.4,SNR=32
BRVK Borovoye 51.91 310 P **P 12 37 29.9 -0.8**
comp=Z,878nm,0.6s,SNR=16
BRVK Borovoye 51.91 310 *e*P **P 12 37 28.7 -2.0**
BRVK pmax pmax
comp=Z,87nm,0.6s,mb5.9
BRVK Borovoye 51.91 310 *e*P **P 12 37 28.7 -2.0**
comp=Z,87nm,0.6s,mb5.9
LSA Lhasa 51.93 274 *e*P **P 12 37 32.4 +1.6**
ZRNK Zerenda 52.63 311 *e*P **P 12 37 34.5 -1.5**
ZRNK pmax pmax
comp=Z,62nm,0.6s,mb5.7
ZRNK Zerenda 52.63 311 *e*P **P 12 37 34.5 -1.6**
comp=Z,62nm,0.6s,mb5.7
ULHL Ulahol 54.29 296 P **P 12 37 48.8 +0.5**
SNR=9.6
CHMS Chumysh 54.77 298 P **P 12 37 55.1 +3.3**
SNR=6.0
USP Ospenovka 54.78 298 P **P 12 37 55.5 +3.7**
SNR=13
SOKR Solikamsk 54.79 322 *e*P **P 12 37 49.4 -2.5**
SOKR pmax pmax
comp=Z,110nm,1.4s,mb5.7
KZA Kyzart 55.00 296 P **P 12 37 58.0 +4.6**
SNR=5.2
AAK Ala-Archa 55.14 297 P **P 12 37 53.0 -1.4**
comp=Z,421nm,0.7s,SNR=8.6
AAK Ala-Archa 55.14 297 P **P 12 37 54.9 +0.5**
SNR=5.6
AAK Ala-Archa 55.14 297 *e*P **P 12 37 53.4 -1.0**
AAK pmax pmax
comp=Z,42nm,0.6s,mb5.7
AAK Ala-Archa 55.14 297 *e*P **P 12 37 53.4 -1.0**
comp=Z,42nm,0.6s,mb5.7
EKS2 Erkin-Say 55.56 298 P **P 12 37 58.0 +0.6**
SNR=7.3
ARU Arti 55.81 318 P **P 12 37 58.8 -0.5**
comp=Z,1µm,0.6s,SNR=8.1
ARU Arti 55.81 318 ⇓*i*P **P 12 37 57.9 -1.4**
ARU *e*S **S 12 45 42.0 -3.6**
ARU pmax pmax
comp=Z,125nm,0.7s,mb6.0
ARU Arti 55.81 318 *e*P **P 12 37 58.3 -1.0**
comp=Z,110nm,0.6s,mb6.1
AML Almayashu 55.91 297 P **P 12 38 04.0 +4.1**
SNR=6.0
YBH Yreka Blue Hor 56.04 63 P **P 12 38 00.7 -0.2**
comp=Z,14nm,1.0s,mb5.0,baz=38,slow=3.1,SNR=3.9
JIRN Jiri 56.58 276 *e*P **P 12 38 08.4 +3.6**
comp=Z,100nm,0.7s,mb6.0
GUN Gumba 56.63 276 *e*P **P 12 38 08.8 +3.7**
comp=Z,53nm,0.4s,mb5.9
KKN Kakani 57.12 277 *e*P **P 12 38 11.8 +3.3**
comp=Z,84nm,0.6s,mb5.9
PKI Pulchoki 57.17 276 *e*P **P 12 38 12.0 +3.1**
comp=Z,52nm,0.5s,mb5.8
DMN Daman 57.35 277 *e*P **P 12 38 13.8 +3.6**
comp=Z,296nm,1.1s,mb6.2
GKN Gorkha 57.42 277 *e*P **P 12 38 13.6 +2.9**
comp=Z,126nm,0.6s,mb6.1
APA Apatity 57.59 337 ⇑*i*P **P 12 38 11.0 -0.8**
APA pmax pmax
comp=Z,72nm,1.0s,mb5.7
ARCES ARCESS Array B 57.98 341 P **P 12 38 14.2 -0.4**
comp=Z,39nm,0.9s,mb5.5,baz=34,slow=7.6,SNR=13
ARCES PcP PcP 12 39 05.9 -0.7
comp=Z,8.4nm,0.8s,baz=21,slow=8.3,SNR=2.9
ARE0 ARCESS Array S 57.98 341 *e*P **P 12 38 13.7 -0.9**
KOLN Koldanda 58.27 278 *e*P **P 12 38 19.8 +3.2**
comp=Z,136nm,0.8s,mb6.0
TMCR Tamitsa 58.72 333 *e*P **P 12 38 19.4 -0.4**
TMCR pmax pmax
comp=Z,159nm,1.1s,mb6.0
SUMG Summit 60.13 5 *e*P **P 12 38 30.2 +0.7**
DGMT Dagmar 62.27 48 *e*P **P 12 38 44.3 +0.3**
HWUT Hardware Ranch 62.72 57 P **P 12 38 46.9 -0.2**
comp=Z,18nm,1.3s,mb5.0
KULM Kulim 62.79 246 *e*P **P 12 38 46.6 -0.9**
BW06 Boulder Array 63.11 55 *e*P **P 12 38 49.7 +0.1**
comp=Z,16nm,1.0s,mb5.1
PDAR Pinedale Array 63.11 55 P **P 12 38 50.1 +0.5**
comp=Z,13nm,1.0s,mb5.0,baz=300,slow=1.8,SNR=3.8
FINES FINESS Array B 64.34 336 P **P 12 38 56.9 -0.8**
comp=Z,50nm,0.9s,mb5.6,baz=37,slow=6.8,SNR=11
FINES FINESS Array B 64.34 336 P **P 12 38 56.9 -0.8**

MOS Moscow 65.01 327 *e*P **P 12 38 59.0 -3.1**
ULM Lac du Bonnet 65.07 42 P **P 12 39 02.5 0.0**
comp=Z,5.8nm,0.7s,mb4.7,baz=342,slow=9.6,SNR=2.8
RSSD Black Hills 65.24 51 *e*P **P 12 39 04.0 +0.4**
RSSD pmax pmax
comp=Z,27nm,1.0s,mb5.2
RSSD Black Hills 65.24 51 *e*P **P 12 39 04.0 +0.4**
comp=Z,27nm,1.0s,mb5.2
OBN Obninsk 65.88 327 *e*P **P 12 39 08.0 +0.2**
OBN pmax pmax
comp=Z,56nm,1.0s,mb5.5
OBN Obninsk 65.88 327 *e*P **P 12 39 08.0 +0.3**
comp=Z,61nm,0.9s,mb5.6
AGMN Agassiz Refuge 66.45 44 *e*P **P 12 39 10.8 -0.6**
comp=Z,24nm,1.2s,mb5.1
NB2 NORSAR Subarra 68.33 342 P **P 12 39 22.6 -0.7**
comp=Z,34nm,0.8s,mb5.4,baz=28,slow=6.5
NOA NORSAR Array B 68.33 342 P **P 12 39 23.0 -0.3**
comp=Z,28nm,0.8s,mb5.3,baz=26,slow=6.5,SNR=6.4
SDCO Great Sand Dun 68.78 57 *e*P **P 12 39 28.1 +2.0**
comp=Z,28nm,1.6s,mb4.9
WRAB Tennant Creek 69.50 201 *e*P **P 12 39 28.8 -1.8**
WRAB pmax pmax
comp=Z,31nm,1.1s,mb5.2
WRAB Tennant Creek 69.50 201 *e*P **P 12 39 28.8 -1.8**
comp=Z,31nm,1.1s,mb5.2
WB2 Warramunga Arr 69.51 201 *e*P **P 12 39 28.7 -2.0**
WRA Warramunga Arr 69.51 201 P **P 12 39 29.0 -1.7**
comp=Z,8.9nm,0.8s,mb4.7,baz=20,slow=6.8,SNR=5.1
KIV Kislovodsk 71.68 316 *e*P **P 12 39 45.3 +1.4**
KIV pmax pmax
comp=Z,61nm,0.9s,mb5.5
KIV Kislovodsk 71.68 316 *e*P **P 12 39 45.1 +1.3**
comp=Z,59nm,0.9s,mb5.5
ZEI Tsey 71.98 314 *e*P **P 12 39 45.4 -0.3**
ZEI pmax pmax
comp=Z,33nm,0.9s,mb5.3
AKASG Malin Array Be 72.10 327 P **P 12 39 45.0 -1.4**
comp=Z,12nm,0.6s,mb5.0,baz=32,slow=6.2,SNR=6.3
ASAR Alice Springs 73.19 201 P **P 12 39 50.8 -2.2**
comp=Z,12nm,0.9s,mb4.8,baz=12,slow=5.8,SNR=4.8
TXAR Lajitas Array 75.80 62 P **P 12 40 08.8 +0.8**
comp=Z,11nm,0.7s,mb4.9,baz=299,slow=4.4,SNR=3.6
STHS Stebnicka Huta 75.96 331 *e*P **P 12 40 12.9 +4.0**
STHS pmax pmax
comp=Z,22nm,0.7s,mb5.2
STHS Stebnicka Huta 75.96 331 *e*P **P 12 40 12.9 +4.0**
comp=Z,22nm,0.7s,mb5.2
KOLS Kolonicke sedl 76.03 330 *e*P **P 12 40 10.1 +0.7**
KOLS *e* 13 01 55.4
KOLS Kolonicke sedl 76.03 330 *e*P **P 12 40 10.2 +0.8**
KOLS *e* 13 01 55.4
BURAR Bucovina Array 76.13 328 ⇑*i*P **P 12 40 09.6 -0.3**
BURAR Bucovina Array 76.13 328 ⇑P **P 12 40 09.6 -0.3**
KSP Ksiaz 76.24 335 *e*P **P 12 40 09.7 -0.8**
KSP *e**PP pP 12 40 13.8 -2.3
CLL Collm 76.74 337 *i* P **P 12 40 12.3 -1.1**
CLL *i* pP pP 12 40 16.3 -2.6
CLL *i* pP pP 12 40 18.6 -0.3
CLL pmax pmax
comp=Z,179nm,1.4s,mb5.8
CLL Collm 76.74 337 *i* P **P 12 40 12.3 -1.1**
comp=Z,68nm,1.4s,mb5.4
CLL *i* pP pP 12 40 16.3 -2.6
CLL *i* sP sP 12 40 18.6 -2.3
comp=Z,93nm,1.0s
MORC Moravsky Berou 76.81 334 ⇓*i*P **P 12 40 17.6 +3.8**
MORC Moravsky Berou 76.81 334 *e*P **P 12 40 16.2 +2.4**
MORC pmax pmax
comp=Z,118nm,1.3s,mb5.7
MORC Moravsky Berou 76.81 334 *e*P **P 12 40 16.2 +2.4**
comp=Z,118nm,1.3s,mb5.7
LIKS Likavka 76.97 332 *e*P **P 12 40 20.5 +5.8**
LIKS pmax pmax
comp=Z,30nm,0.7s,mb5.3
KECS Kecovo 77.02 331 *e*P **P 12 40 18.4 +3.5**
KECS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KECS Kecovo 77.02 331 *e*P **P 12 40 18.4 +3.5**
comp=Z,6.6nm,0.6s,mb4.7
KECS *e* 13 02 01.5
VRI Vrincioaia 77.04 326 ⇓*i*P **P 12 40 17.9 +2.8**
VRI Vrincioaia 77.04 326 ⇓P **P 12 40 17.9 +2.8**
VRAC Vranov 77.51 334 ⇓*i*P **P 12 40 17.2 -0.5**
VRAC Vranov 77.51 334 ⇓P **P 12 40 17.2 -0.6**
VYHS Vyhne 77.54 332 *e*P **P 12 40 21.7 +3.8**
VYHS pmax pmax
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 77.54 332 *e*P **P 12 40 21.7 +3.8**
comp=Z,18nm,1.1s,mb4.9
TIRR Tirgusor 77.56 324 ⇑*i*P **P 12 40 19.9 +1.9**
TIRR Tirgusor 77.56 324 *e*P **P 12 40 19.6 +1.6**
TIRR pmax pmax
comp=Z,83nm,0.9s,mb5.7
TIRR Tirgusor 77.56 324 *e*P **P 12 40 19.6 +1.6**
comp=Z,83nm,0.9s,mb5.7
MLR Muntele Rosu 77.65 326 P **P 12 40 18.9 +0.4**
comp=Z,46nm,0.7s,mb5.5,baz=241,slow=5.0,SNR=8.9
MLR Muntele Rosu 77.65 326 ⇑*i*P **P 12 40 19.0 +0.5**
MLR Muntele Rosu 77.65 326 P **P 12 40 18.9 +0.4**
MLR pmax pmax
comp=Z,46nm,0.7s
MLR Muntele Rosu 77.65 326 ⇑P **P 12 40 19.0 +0.5**
PSZ Piszkesteto 77.70 331 ⇓*i*P **P 12 40 22.8 +4.0**
PSZ Piszkesteto 77.70 331 *e*P **P 12 40 22.9 +4.1**
PSZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
PSZ Piszkesteto 77.70 331 *e*P **P 12 40 22.9 +4.1**
comp=Z,14nm,0.8s,mb5.0
MOX Moxa 77.71 337 *e*P **P 12 40 18.7 -0.1**
comp=Z,68nm,1.4s,mb5.4
MOX Moxa 77.71 337 *e*P **P 12 40 18.7 -0.1**
MOX pmax pmax
comp=Z,137nm,1.4s,mb5.7
DRGR 77.72 329 ⇑*i*P **P 12 40 18.4 -0.5**
DRGR 77.72 329 ⇑P **P 12 40 18.4 -0.5**
VOIR 78.03 327 ⇓*i*P **P 12 40 24.8 +4.2**
VOIR 78.03 327 ⇓P **P 12 40 24.8 +4.2**
MALT Malatya 78.07 314 ⇑*i*P **P 12 40 22.0 +1.2**
MALT Malatya 78.07 314 *e*P **P 12 40 21.9 +1.1**
MALT pmax pmax
comp=Z,1µm,2.6s,mb6.4
MALT Malatya 78.07 314 *e*P **P 12 40 21.9 +1.1**
comp=Z,1µm,2.6s,mb6.4
ZST Bratislava 78.35 333 *e*P **P 12 40 28.8 +6.4**
ZST pmax pmax
comp=Z,31nm,1.1s,mb5.2
GRA1 Grafenberg Arr 78.68 337 *e*P **P 12 40 24.6 +0.4**
comp=Z,75nm,1.0s,mb5.6
GRA1 *e* pP 12 40 30.5 +0.7
GRF Grafenberg Arr 78.68 337 *e*P **P 12 40 24.6 +0.4**
comp=Z,75nm,1.0s,mb5.6
GRF *e* pP 12 40 30.5 +0.7
GRF Grafenberg Arr 78.68 337 *e*P **P 12 40 24.6 +0.4**
GRF *e* pP 12 40 30.5 +0.7
GRF pmax pmax
comp=Z,75nm,1.0s,mb5.6
GRFO Grafenberg 78.68 337 *e*P **P 12 40 24.7 +0.5**
GRFO pmax pmax
comp=Z,50nm,0.8s,mb5.5
GRFO Grafenberg 78.68 337 *e*P **P 12 40 24.7 +0.5**
comp=Z,50nm,0.8s,mb5.5
DLF Lyons Farm 78.73 349 *e*P **P 12 40 27.5 +3.0**
GEC2 GERESS Array S 78.77 335 *e*P **P 12 40 24.4 -0.3**
GERES GERESS Array B 78.77 335 P **P 12 40 24.0 -0.7**
comp=Z,5.9nm,0.5s,mb4.8,baz=46,slow=3.9,SNR=13
DCN Croghan 78.78 350 *e*P **P 12 40 27.7 +3.0**
GZR Gura Zlata 78.90 328 ⇓*i*P **P 12 40 27.9 +2.5**
GZR Gura Zlata 78.90 328 ⇓P **P 12 40 27.9 +2.4**
BEBN Eben Emael 79.00 341 P **P 12 40 26.2 +0.3**
BEBN AP pP 12 40 30.0 -1.5
MEM Membach 79.10 341 P **P 12 40 26.1 -0.4**
comp=Z,38nm,0.8s,mb5.4
MEM AP pP 12 40 30.7 -1.4
MEM XP sP 12 40 32.7 -1.3
MEM PCP PcP 12 40 35.1 +0.1
BZS Buzias 79.12 329 ⇓*i*P **P 12 40 29.9 +3.3**
BZS Buzias 79.12 329 ⇓P **P 12 40 29.9 +3.3**
BRTR Keskin Array B 79.20 318 P **P 12 40 27.3 +0.2**
comp=Z,11nm,1.0s,mb4.7,baz=81,slow=3.8,SNR=4.6
BCLA Clavier 79.44 341 P **P 12 40 28.4 0.0**
BCLA AP pP 12 40 32.7 -1.2
BCLA XP sP 12 40 34.5 -1.4
BCLA E 12 40 47.1
ANTO Ankara 79.47 319 *e*P **P 12 40 28.8 +0.3**

SNF Seneffe 79.57 342 P **P 12 40 28.1 -0.9**
comp=Z,11nm,0.8s,mb4.8
SNF AP pP 12 40 33.2 -1.5
SNF E 12 40 43.2
PKSM Moragy 79.61 331 ⇓*i*P **P 12 40 32.5 +3.2**
PKSM Moragy 79.61 331 ⇓P **P 12 40 32.5 +3.2**
GIVF Givet 79.84 341 *e*P **P 12 40 30.0 -0.5**
comp=Z,135nm,1.3s,mb5.4
GIVF Givet 79.84 341 *e*P **P 12 40 30.0 -0.5**
GIVF pmax pmax
comp=Z,68nm,1.3s,mb5.4
GIVF Givet 79.84 341 *e*P **P 12 40 30.0 -0.5**
comp=Z,68nm,1.3s,mb5.4
DOU Dourbes 79.90 341 AP pP 12 40 34.1 -2.3
comp=Z,7.4nm,0.8s
DOU PCP PcP 12 40 38.9 +0.5
BAIF Baives 80.01 342 *e*P **P 12 40 30.7 -0.8**
comp=Z,47nm,0.9s,mb5.1
BAIF Baives 80.01 342 *e*P **P 12 40 30.7 -0.8**
BAIF pmax pmax
comp=Z,24nm,0.9s,mb5.1
BAIF Baives 80.01 342 *e*P **P 12 40 30.7 -0.8**
comp=Z,24nm,0.9s,mb5.1
STU Stuttgart 80.05 338 *e*P **P 12 40 32.8 +1.1**
comp=Z,4µm,1.4s
PERS Pernice 80.35 334 *e*P **P 12 40 37.6 +4.3**
KBA Koelnbreinsper 80.47 335 ⇑*i*P **P 12 40 39.1 +5.1**
comp=Z,84nm,0.8s,mb5.7
KBA Koelnbreinsper 80.47 335 ⇓*i*P **P 12 40 35.0 +1.0**
comp=Z,84nm,0.8s,mb5.7
OBKA Obir 80.63 334 ⇑*i*P **P 12 40 39.2 +4.4**
comp=Z,26nm,0.8s,mb5.2
WATA Walderalm 80.74 336 ⇑*i*P **P 12 40 39.4 +4.0**
comp=Z,25nm,0.5s,mb5.4
WATA Walderalm 80.74 336 ⇓*i*P **P 12 40 36.4 +1.0**
comp=Z,25nm,0.5s,mb5.4
WTTA Wattenberg 80.79 336 ⇑*i*P **P 12 40 41.0 +5.3**
comp=Z,52nm,0.6s,mb5.7
WTTA Wattenberg 80.79 336 ⇓*i*P **P 12 40 36.3 +0.6**
comp=Z,52nm,0.6s,mb5.7
CDF Champ du Feu 80.86 339 ⇓*i*P **P 12 40 35.6 -0.4**
comp=Z,169nm,1.3s,mb5.5
CDF Champ du Feu 80.86 339 ⇓*i*P **P 12 40 35.6 -0.4**
CDF pmax pmax
comp=Z,85nm,1.3s,mb5.5
CDF Champ du Feu 80.86 339 ⇓*i*P **P 12 40 35.6 -0.4**
comp=Z,84nm,1.3s,mb5.5
MOTA Moosalm 80.86 336 ⇓*i*P **P 12 40 41.2 +5.1**
comp=Z,55nm,0.8s,mb5.5
MOTA Moosalm 80.86 336 ⇓*i*P **P 12 40 36.6 +0.5**
comp=Z,55nm,0.8s,mb5.5
GCIS Gornji Cirnik 80.88 333 *e*P **P 12 40 40.0 +3.8**
SQTA Sankt Quirin 80.95 336 ⇑*i*P **P 12 40 39.6 +3.1**
comp=Z,51nm,0.9s,mb5.5
SQTA Sankt Quirin 80.95 336 ⇑*i*P **P 12 40 37.4 +0.9**
comp=Z,51nm,0.9s,mb5.5
DIVS Divcibare 81.01 329 *i* P **P 12 40 39.5 +2.7**
PPT Papeete 81.08 128 P **P 12 40 37.3 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=354,slow=8.1,SNR=1.9
VTS Vitosha 81.15 326 ⇑*i*P **P 12 40 40.0 +2.4**
VTS Vitosha 81.15 326 ⇑P **P 12 40 40.0 +2.4**
MEZF Maizieres J'vi 81.30 341 *e*P **P 12 40 38.2 -0.2**
comp=Z,108nm,0.9s,mb5.5
MEZF Maizieres J'vi 81.30 341 *e*P **P 12 40 38.2 -0.2**
comp=Z,108nm,0.9s,mb5.8
HAU Haudompre 81.46 340 *e*P **P 12 40 38.7 -0.5**
comp=Z,68nm,1.0s,mb5.2
HAU Haudompre 81.46 340 *e*P **P 12 40 38.7 -0.5**
HAU pmax pmax
comp=Z,34nm,1.0s,mb5.2
HAU Haudompre 81.46 340 *e*P **P 12 40 38.7 -0.5**
comp=Z,34nm,1.0s,mb5.2
HINF Hinteralfeld 81.52 339 *e*P **P 12 40 38.7 -0.8**
comp=Z,39nm,1.0s,mb5.0
HINF Hinteralfeld 81.52 339 *e*P **P 12 40 38.7 -0.8**
HINF pmax pmax
comp=Z,20nm,1.0s,mb5.0
HINF Hinteralfeld 81.52 339 *e*P **P 12 40 38.7 -0.8**
comp=Z,20nm,1.0s,mb5.0
FLN La Foliniere 82.19 344 *e*P **P 12 40 42.6 -0.4**
comp=Z,51nm,0.8s,mb5.2
FLN La Foliniere 82.19 344 *e*P **P 12 40 42.6 -0.4**
FLN pmax pmax
comp=Z,25nm,0.8s,mb5.2
FLN La Foliniere 82.19 344 *e*P **P 12 40 42.6 -0.4**
comp=Z,25nm,0.8s,mb5.2
LDF La Druitiere 82.28 344 *e*P **P 12 40 43.0 -0.5**
comp=Z,105nm,1.3s,mb5.3
LDF La Druitiere 82.28 344 *e*P **P 12 40 43.0 -0.5**
LDF pmax pmax
comp=Z,53nm,1.3s,mb5.3
LDF La Druitiere 82.28 344 *e*P **P 12 40 43.0 -0.5**
comp=Z,52nm,1.3s,mb5.3
VAY Valandovo 82.49 326 *i* P **P 12 40 47.2 +2.6**
GRR Gorron 82.61 344 *e*P **P 12 40 45.0 -0.3**
comp=Z,83nm,0.8s,mb5.5
GRR Gorron 82.61 344 *e*P **P 12 40 45.0 -0.3**
GRR pmax pmax
comp=Z,42nm,0.8s,mb5.5
GRR Gorron 82.61 344 *e*P **P 12 40 45.0 -0.3**
comp=Z,42nm,0.8s,mb5.5
LOR Lormes 82.73 341 ⇓*i*P **P 12 40 45.4 -0.5**
comp=Z,59nm,0.8s,mb5.4
LOR Lormes 82.73 341 ⇓*i*P **P 12 40 45.4 -0.5**
LOR pmax pmax
comp=Z,29nm,0.8s,mb5.4
LOR Lormes 82.73 341 ⇓*i*P **P 12 40 45.4 -0.5**
comp=Z,29nm,0.8s,mb5.4
CABF La Chapelle 82.83 339 ⇓*i*P **P 12 40 46.3 -0.1**
comp=Z,111nm,1.2s,mb5.5
CABF La Chapelle 82.83 339 ⇓*i*P **P 12 40 46.3 -0.1**
CABF pmax pmax
comp=Z,56nm,1.2s,mb5.5
CABF La Chapelle 82.83 339 ⇓*i*P **P 12 40 46.3 -0.1**
comp=Z,56nm,1.2s,mb5.5
KRUS Krusevo 82.94 327 *i* P **P 12 40 47.0 0.0**
SSF Saint Saulge 83.00 341 ⇓*i*P **P 12 40 46.8 -0.5**
comp=Z,34nm,0.8s,mb5.1
SSF Saint Saulge 83.00 341 ⇓*i*P **P 12 40 46.8 -0.5**
SSF pmax pmax
comp=Z,17nm,0.8s,mb5.1
SSF Saint Saulge 83.00 341 ⇓*i*P **P 12 40 46.8 -0.5**
comp=Z,17nm,0.8s,mb5.1
SGMF Saint Gilles 83.05 345 *e*P **P 12 40 47.3 -0.2**
comp=Z,123nm,1.0s,mb5.6
SGMF Saint Gilles 83.05 345 *e*P **P 12 40 47.3 -0.2**
SGMF pmax pmax
comp=Z,62nm,1.0s,mb5.6
SGMF Saint Gilles 83.05 345 *e*P **P 12 40 47.3 -0.2**
comp=Z,62nm,1.0s,mb5.6
ROSF Rostrenen 83.09 346 ⇓*i*P **P 12 40 47.5 -0.2**
comp=Z,167nm,1.0s,mb5.7
ROSF Rostrenen 83.09 346 ⇓*i*P **P 12 40 47.5 -0.2**
ROSF pmax pmax
comp=Z,84nm,1.0s,mb5.7
ROSF Rostrenen 83.09 346 ⇓*i*P **P 12 40 47.5 -0.2**
comp=Z,84nm,1.0s,mb5.7
CSS Prodhromos 83.20 316 *e*P **P 12 40 50.4 +2.1**
AVF Avril sur Loir 83.29 341 ⇓*i*P **P 12 40 48.3 -0.5**
comp=Z,84nm,0.8s,mb5.5
AVF Avril sur Loir 83.29 341 ⇓*i*P **P 12 40 48.3 -0.5**
AVF pmax pmax
comp=Z,42nm,0.8s,mb5.5
AVF Avril sur Loir 83.29 341 ⇓*i*P **P 12 40 48.3 -0.5**
comp=Z,42nm,0.8s,mb5.5
SMF Signal de Mont 83.32 341 ⇓*i*P **P 12 40 48.7 -0.2**
comp=Z,196nm,1.2s,mb5.7
SMF Signal de Mont 83.32 341 ⇓*i*P **P 12 40 48.7 -0.2**
SMF pmax pmax
comp=Z,98nm,1.2s,mb5.7
SMF Signal de Mont 83.32 341 ⇓*i*P **P 12 40 48.7 -0.2**
comp=Z,98nm,1.2s,mb5.7
OHR Ohrid 83.33 327 *i* P **P 12 40 52.2 +3.2**
QUIF Quistinic 83.47 346 *e*P **P 12 40 49.7 0.0**
comp=Z,46nm,0.9s,mb5.2
QUIF Quistinic 83.47 346 *e*P **P 12 40 49.7 0.0**
QUIF pmax pmax
comp=Z,23nm,0.9s,mb5.2
QUIF Quistinic 83.47 346 *e*P **P 12 40 49.7 0.0**
comp=Z,23nm,0.9s,mb5.2
BGF Bois d'Agland 83.62 341 *e*P **P 12 40 50.1 -0.4**
comp=Z,28nm,0.6s,mb5.3
BGF Bois d'Agland 83.62 341 *e*P **P 12 40 50.1 -0.4**
BGF pmax pmax
comp=Z,14nm,0.6s,mb5.3
BGF Bois d'Agland 83.62 341 *e*P **P 12 40 50.1 -0.4**
comp=Z,14nm,0.6s,mb5.3

ASF	**Jabal al Asfar**	**83.68**	**312**	P	**P**	**12 40 51.3 +0.5**
	comp=Z,19nm,1.1s,mb5.2,baz=227,slow=4.9,SNR=4.4					
LPL	**La Plagne**	**83.70**	**339**	*iP*	**P**	**12 40 51.5 +0.6**
	comp=Z,54nm,0.6s,mb5.5					
LPL	**La Plagne**	**83.70**	**339**	*iP*	**P**	**12 40 51.5 +0.6**
LPL				pmax	pmax	
	comp=Z,27nm,0.6s,mb5.5					
LPL	**La Plagne**	**83.70**	**339**	*iP*	**P**	**12 40 51.5 +0.6**
	comp=Z,27nm,0.6s,mb5.5					
LPG	**La Plagne**	**83.71**	**339**	*iP*	**P**	**12 40 51.7 +0.7**
	comp=Z,142nm,1.0s,mb5.7					
LPG	**La Plagne**	**83.71**	**339**	*iP*	**P**	**12 40 51.7 +0.7**
LPG				pmax	pmax	
	comp=Z,71nm,1.0s,mb5.8					
LPG	**La Plagne**	**83.71**	**339**	*iP*	**P**	**12 40 51.7 +0.7**
	comp=Z,71nm,1.0s,mb5.8					
TCF	**Toulx Ste Croi**	**84.02**	**342**	*eP*	**P**	**12 40 52.3 -0.2**
	comp=Z,62nm,1.0s,mb5.4					
TCF	**Toulx Ste Croi**	**84.02**	**342**	*eP*	**P**	**12 40 52.3 -0.2**
TCF				pmax	pmax	
	comp=Z,31nm,1.0s,mb5.4					
TCF	**Toulx Ste Croi**	**84.02**	**342**	*eP*	**P**	**12 40 52.3 -0.2**
	comp=Z,31nm,1.0s,mb5.4					
MFF	**Saint Martin d**	**84.20**	**343**	*eP*	**P**	**12 40 53.3 -0.1**
	comp=Z,50nm,1.1s,mb5.3					
MFF	**Saint Martin d**	**84.20**	**343**	*eP*	**P**	**12 40 53.3 -0.1**
MFF				pmax	pmax	
	comp=Z,25nm,1.1s,mb5.3					
MFF	**Saint Martin d**	**84.20**	**343**	*eP*	**P**	**12 40 53.3 -0.1**
	comp=Z,25nm,1.1s,mb5.2					
MBDF	**Montbardon**	**84.43**	**338**	*eP*	**P**	**12 40 54.5 -0.1**
	comp=Z,79nm,1.1s,mb5.5					
MBDF	**Montbardon**	**84.43**	**338**	*eP*	**P**	**12 40 54.5 -0.1**
MBDF				pmax	pmax	
	comp=Z,40nm,1.1s,mb5.5					
MBDF	**Montbardon**	**84.43**	**338**	*eP*	**P**	**12 40 54.5 -0.1**
	comp=Z,40nm,1.1s,mb5.5					
ORIF	**Oris-en-Rattie**	**84.47**	**339**	*iP*	**P**	**12 40 54.9 +0.1**
	comp=Z,55nm,0.7s,mb5.5					
ORIF	**Oris-en-Rattie**	**84.47**	**339**	*iP*	**P**	**12 40 54.9 +0.1**
ORIF				pmax	pmax	
	comp=Z,28nm,0.7s,mb5.5					
ORIF	**Oris-en-Rattie**	**84.47**	**339**	*iP*	**P**	**12 40 54.9 +0.1**
	comp=Z,28nm,0.7s,mb5.5					
AQU	**L'Aquila**	**84.74**	**333**	*eP*	**P**	**12 40 57.8 +1.6**
AQU				pmax	pmax	
	comp=Z,39nm,0.8s,mb5.6					
AQU	**L'Aquila**	**84.74**	**333**	*eP*	**P**	**12 40 57.8 +1.6**
	comp=Z,39nm,0.8s,mb5.6					
VIVF	**Saint-Julien-l**	**84.82**	**340**	*eP*	**P**	**12 40 56.9 +0.3**
	comp=Z,71nm,1.0s,mb5.5					
VIVF	**Saint-Julien-l**	**84.82**	**340**	*eP*	**P**	**12 40 56.9 +0.3**
VIVF				pmax	pmax	
	comp=Z,36nm,1.0s,mb5.5					
VIVF	**Saint-Julien-l**	**84.82**	**340**	*eP*	**P**	**12 40 56.9 +0.3**
	comp=Z,36nm,1.0s,mb5.5					
SBF	**Sospel**	**85.06**	**337**	*eP*	**P**	**12 40 57.1 -0.7**
	comp=Z,134nm,0.9s,mb5.8					
SBF	**Sospel**	**85.06**	**337**	*eP*	**P**	**12 40 57.1 -0.7**
SBF				pmax	pmax	
	comp=Z,67nm,0.9s,mb5.8					
SBF	**Sospel**	**85.06**	**337**	*eP*	**P**	**12 40 57.1 -0.7**
	comp=Z,67nm,0.9s,mb5.8					
RJF	**Les Rejaudoux**	**85.10**	**342**	*eP*	**P**	**12 40 57.7 -0.3**
	comp=Z,73nm,0.9s,mb5.5					
RJF	**Les Rejaudoux**	**85.10**	**342**	*eP*	**P**	**12 40 57.7 -0.3**
RJF				pmax	pmax	
	comp=Z,37nm,0.9s,mb5.5					
RJF	**Les Rejaudoux**	**85.10**	**342**	*eP*	**P**	**12 40 57.7 -0.3**
	comp=Z,36nm,0.9s,mb5.5					
CAF	**Calviac**	**85.34**	**341**	*eP*	**P**	**12 40 58.8 -0.4**
SMRF	**Simiane la Rot**	**85.43**	**339**	*eP*	**P**	**12 41 00.1 +0.5**
	comp=Z,114nm,1.4s,mb5.5					
SMRF	**Simiane la Rot**	**85.43**	**339**	*eP*	**P**	**12 41 00.1 +0.5**
	comp=Z,114nm,1.4s,mb5.8					
FRF	**La Foret Royal**	**85.55**	**338**	*eP*	**P**	**12 40 59.7 -0.5**
	comp=Z,31nm,0.8s,mb5.3					
FRF	**La Foret Royal**	**85.55**	**338**	*eP*	**P**	**12 40 59.7 -0.5**
FRF				pmax	pmax	
	comp=Z,16nm,0.8s,mb5.3					
FRF	**La Foret Royal**	**85.55**	**338**	*eP*	**P**	**12 40 59.7 -0.5**
	comp=Z,16nm,0.8s,mb5.3					
LFF	**La Frestale**	**85.61**	**342**	*eP*	**P**	**12 41 00.0 -0.5**
	comp=Z,114nm,0.9s,mb5.8					
LFF	**La Frestale**	**85.61**	**342**	*eP*	**P**	**12 41 00.0 -0.5**
LFF				pmax	pmax	
	comp=Z,57nm,0.9s,mb5.8					
LFF	**La Frestale**	**85.61**	**342**	*eP*	**P**	**12 41 00.0 -0.5**
	comp=Z,57nm,0.9s,mb5.8					
LASF	**Ste Croix**	**85.75**	**340**	*eP*	**P**	**12 41 00.9 -0.3**
	comp=Z,75nm,1.1s,mb5.5					
LMR	**La Mourre**	**85.80**	**338**	*iP*	**P**	**12 41 01.3 -0.2**
	comp=Z,88nm,0.9s,mb5.7					
LMR	**La Mourre**	**85.80**	**338**	*iP*	**P**	**12 41 01.3 -0.2**
LMR				pmax	pmax	
	comp=Z,44nm,0.9s,mb5.7					
LMR	**La Mourre**	**85.80**	**338**	*iP*	**P**	**12 41 01.3 -0.2**
	comp=Z,44nm,0.9s,mb5.7					
PGF	**Pioggiola**	**85.86**	**336**	*eP*	**P**	**12 41 01.3 -0.5**
	comp=Z,34nm,0.7s,mb5.4					
PGF	**Pioggiola**	**85.86**	**336**	*eP*	**P**	**12 41 01.3 -0.5**
PGF				pmax	pmax	
	comp=Z,17nm,0.7s,mb5.4					
PGF	**Pioggiola**	**85.86**	**336**	*eP*	**P**	**12 41 01.3 -0.5**
	comp=Z,17nm,0.7s,mb5.4					
EIL	**Elat**	**86.68**	**311**	*eP*	**P**	**12 41 05.6 -0.2**
IDI	**Anoyia**	**86.74**	**322**	P	**P**	**12 41 06.9 +0.8**
MTLF	**Montolieu**	**86.82**	**341**	*eP*	**P**	**12 41 05.7 -0.8**
	comp=Z,23nm,0.8s,mb5.1					
MTLF	**Montolieu**	**86.82**	**341**	*eP*	**P**	**12 41 05.7 -0.8**
MTLF				pmax	pmax	
	comp=Z,12nm,0.8s,mb5.2					
MTLF	**Montolieu**	**86.82**	**341**	*eP*	**P**	**12 41 05.7 -0.8**
	comp=Z,12nm,0.8s,mb5.2					
EPF	**Esparros**	**87.52**	**342**	*eP*	**P**	**12 41 09.2 -0.7**
	comp=Z,12nm,0.5s,mb5.0					
EPF	**Esparros**	**87.52**	**342**	*eP*	**P**	**12 41 09.2 -0.7**
EPF				pmax	pmax	
	comp=Z,6.0nm,0.5s,mb5.1					
EPF	**Esparros**	**87.52**	**342**	*eP*	**P**	**12 41 09.2 -0.7**
	comp=Z,5.9nm,0.5s,mb5.1					
SJPF	**Ste Jean**	**87.76**	**343**	*eP*	**P**	**12 41 09.9 -1.2**
ETSF	**Etsaut**	**87.83**	**343**	*eP*	**P**	**12 41 10.5 -0.9**
	comp=Z,18nm,0.6s,mb5.2					
ETSF	**Etsaut**	**87.83**	**343**	*eP*	**P**	**12 41 10.5 -0.9**
ETSF				pmax	pmax	
	comp=Z,9.0nm,0.6s,mb5.2					
ETSF	**Etsaut**	**87.83**	**343**	*eP*	**P**	**12 41 10.5 -0.9**
	comp=Z,8.8nm,0.6s,mb5.2					
ESDC	**Sonseca Array**	**91.61**	**344**	P	**P**	**12 41 28.2 -0.9**
	comp=Z,3.0nm,0.7s,mb4.7,baz=19,slow=4.3,SNR=4.5					
KEST	**Kesra**	**92.06**	**333**	P	**P**	**12 41 30.9 -0.3**
	comp=Z,2.5nm,0.8s,mb4.6,baz=114,slow=6.9,SNR=2.5					
TORD	**Torodi Ar. Bea**	**115.54**	**332**	PKP	PKPdf	12 47 03.3 -0.8
	comp=Z,3.3nm,0.9s,baz=9.7,slow=1.5,SNR=4.1					
TORD				PP	PP	12 48 04.2 -1.8
	comp=Z,3.2nm,1.0s,baz=11,slow=7.0,SNR=3.7					
TORD				PKKPbc	PKKPbc	12 57 34.5 -2.4
	comp=Z,0.7nm,0.8s,baz=212,slow=2.3,SNR=2.5					
VNDA	**Vanda**	**124.50**	**178**	PKP	PKPdf	12 47 17.6 -3.7
	comp=Z,2.7nm,0.9s,baz=299,slow=3.9,SNR=4.6					
SBA	**Scott Base**	**124.97**	**177**	*e*PKIKP	PKPdf	12 47 19.6 -2.6
LPAZ	**La Paz**	**132.63**	**64**	PKP	PKPdf	12 47 36.4 -0.4
	comp=Z,3.2nm,0.9s,baz=359,slow=2.7,SNR=3.6					
LPAZ	**La Paz**	**132.63**	**64**	PKIKP	PKPdf	12 47 36.4 -0.4
LPAZ				pmax	pmax	
	comp=Z,3.0nm,0.9s					
LPAZ	**La Paz**	**132.63**	**64**	*e*PKPdf	PKPdf	12 47 37.4 +0.6
MAW	**Mawson**	**133.46**	**212**	PKP	PKPdf	12 47 35.7 -2.6
	comp=Z,5.5nm,0.8s,baz=50,slow=1.7,SNR=7.9					
LBTB	**Lobatse**	**134.84**	**281**	*e*PKIKP	PKPdf	12 47 40.6 -0.3
BOSA	**Boshof**	**137.43**	**278**	PKP	PKPdf	12 47 46.5 +0.7
	comp=Z,5.4nm,1.1s,baz=341,slow=1.3,SNR=3.2					
SYO	**Syowa Base**	**142.18**	**212**	*e*Pdiff	Pdif	12 45 13.2 -1.5
USHA	**Ushuaia**	**151.68**	**122**	PKPbc	PKPbc	12 48 14.6 -1.9
	comp=Z,41nm,1.1s,baz=251,slow=2.4,SNR=6.7					
PMSA	**Palmer Station**	**152.37**	**144**	PKPbc	PKPbc	12 48 15.0 -3.0
	comp=Z,22nm,0.8s,baz=206,slow=5.0,SNR=3.7					
SNAA	**Sanae**	**153.44**	**195**	PKPbc	PKPbc	12 48 17.5 -2.9
	comp=Z,5.8nm,0.9s,baz=292,slow=2.4,SNR=6.7					
SNAA	**Sanae**	**153.44**	**195**	PKIKP	PKPdf	12 48 17.5 +4.7
SNAA				pmax	pmax	
	comp=Z,6.0nm,0.9s					

*ISCJB **15** 12:31:56.7±1.3, 465N±03×1532E±02, h10km, mb4.2/6,*

Error ellipse: s-maj=39.7km s-min=14.9km az=129.5
*IDC **15** 12:31:56.6±1.7, 4649N×15335E, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/21, mbtmp4.2/7, Error ellipse: s-maj=55.3km s-min=27.1km az=175.0*
*MOS **15** 12:31:59.1±1.0, 4643N×153.15E, h33km, mb4.5/5, Error ellipse: s-maj=42.6km s-min=41.6km az=21.8*

ISC 15 12:31:58.5±1.3, 466N±03×1532E±02, h10km, n14, σ0§82/13, mb4.2/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.96**	**252**	P		PN	**Pn**	**12 32 58.0**	**-1.2**
KSRS	**Korea Array**	**20.80**	**253**	P		P	**P**	**12 36 41.5**	**+1.6**
	2.0nm,0.8s,baz=61,slow=10,SNR=3.2								
MKAR	**Makanchi Array**	**47.08**	**298**	P		P	**P**	**12 40 30.3**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=72,slow=9.6,SNR=2.5								
MKAR	**Makanchi Array**	**47.08**	**298**	P		P	**P**	**12 40 30.3**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**64.23**	**335**	P		P	**P**	**12 42 33.6**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=31,slow=8.3,SNR=4.2								
FINES	**FINESS Array B**	**64.23**	**335**	P		P	**P**	**12 42 33.6**	**0.0**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
PDAR	**Pinedale Array**	**64.81**	**54**	P		P	**P**	**12 42 38.0**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=241,slow=1.9,SNR=5.5								
NOA	**NORSAR Array B**	**68.42**	**341**	P		P	**P**	**12 43 00.3**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.3,SNR=3.3								
NOA	**NORSAR Array B**	**68.42**	**341**	P		P	**P**	**12 43 00.3**	**-0.2**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**71.73**	**326**	P		P	**P**	**12 43 21.1**	**+0.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=34,slow=6.2,SNR=4.4								
AKASG	**Malin Array Be**	**71.73**	**326**	P		P	**P**	**12 43 21.1**	**+0.3**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
TXAR	**Lajitas Array**	**77.53**	**61**	P		P	**P**	**12 43 53.6**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=304,slow=4.4,SNR=4.1								
TXAR	**Lajitas Array**	**77.53**	**61**	P		P	**P**	**12 43 53.6**	**-0.9**
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CFAA	**Coronel Fontan**	**144.97**	**80**	PKP		PKPdf		12 51 33.3	-2.6
	comp=Z,0.5nm,0.6s,baz=293,slow=4.0,SNR=4.1								

*IDC **15** 12:34:35.8±0.8, 4678N×15301E, h0km, mb4.2/16, mb1 4.5/16, mb1mx4.3/24, mbtmp4.3/16, Error ellipse: s-maj=22.8km s-min=18.6km az=175.0*
*MOS **15** 12:34:39.8±0.9, 4683N×15281E, h33km, mb4.8/9, Error ellipse: s-maj=33.0km s-min=16.0km az=92.2*
*ISCJB **15** 12:34:41.9±2.6, 469N±01×1530E±02, h53km±21km, mb4.2/15, Error ellipse: s-maj=25.9km s-min=16.1km az=136.2*

ISC 15 12:34:44.3±2.3, 469N±01×1529E±02, h59km±19km, n33, σ0§56/30, mb4.2/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.32**	**28**	*e*P		N	**Pn**	**12 35 47.5**	**+0.1**
YAK	**Yakutsk**	**20.11**	**327**	*e*P		P	**P**	**12 39 21.2**	**+8.0**
YAK				pmax		pmax			
	comp=Z,45nm,1.0s								
KSRS	**Korea Array**	**20.73**	**252**	P		P	**P**	**12 39 19.4**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=42,slow=12,SNR=2.8								
INK	**Inuvik**	**41.58**	**32**	P		P	**P**	**12 42 26.6**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.1,baz=289,slow=7.9,SNR=14								
INK	**Inuvik**	**41.58**	**32**	P		P	**P**	**12 42 26.6**	**+0.4**
INK				pmax		pmax			
	comp=Z,3.0nm,0.5s								
ZAL	**Zalesovo**	**42.42**	**306**	P		P	**P**	**12 42 32.9**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.7,baz=39,slow=11,SNR=3.4								
ZAL	**Zalesovo**	**42.42**	**306**	P		P	**P**	**12 42 32.9**	**-0.2**
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**46.75**	**297**	P		P	**P**	**12 43 08.9**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=73,slow=7.8,SNR=2.4								
MKAR	**Makanchi Array**	**46.75**	**297**	P		P	**P**	**12 43 08.9**	**+1.3**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**57.65**	**341**	P		P	**P**	**12 44 28.2**	**-0.3**
	comp=Z,5.6nm,1.1s,mb4.5,baz=21,slow=7.6,SNR=6.4								
ARCES	**ARCESS Array B**	**57.65**	**341**	P		P	**P**	**12 44 28.2**	**-0.3**
ARCES				pmax		pmax			
	comp=Z,6.0nm,1.1s								
NVAR	**Mina Array Bea**	**62.47**	**62**	P		P	**P**	**12 45 01.9**	**+0.4**
	comp=Z,0.1nm,0.3s,mb3.5,baz=46,slow=10,SNR=2.0								
FINES	**FINESS Array B**	**63.83**	**335**	P		P	**P**	**12 45 10.0**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.7,baz=38,slow=8.3,SNR=12								
FINES	**FINESS Array B**	**63.83**	**335**	P		P	**P**	**12 45 10.0**	**-0.5**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.4s								
PDAR	**Pinedale Array**	**64.75**	**54**	P		P	**P**	**12 45 16.7**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=315,slow=2.0,SNR=9.5								
ULM	**Lac du Bonnet**	**66.48**	**41**	P		P	**P**	**12 45 26.5**	**-1.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=289,slow=5.3,SNR=3.0								
NB2	**NORSAR Subarra**	**68.03**	**341**	P		P	**P**	**12 45 36.8**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.7,baz=27,slow=6.2								
NOA	**NORSAR Array B**	**68.03**	**341**	P		P	**P**	**12 45 37.2**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.8,baz=27,slow=6.3,SNR=12								
NOA	**NORSAR Array B**	**68.03**	**341**	P		P	**P**	**12 45 37.2**	**-0.2**
NOA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
AKASG	**Malin Array Be**	**71.34**	**326**	P		P	**P**	**12 45 57.2**	**-0.5**
	comp=Z,4.6nm,0.5s,mb4.7,baz=34,slow=6.2,SNR=12								
AKASG	**Malin Array Be**	**71.34**	**326**	P		P	**P**	**12 45 57.2**	**-0.6**
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ASAR	**Alice Springs**	**72.33**	**198**	P		P	**P**	**12 46 03.6**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=357,slow=4.5,SNR=4.1								
ASAR	**Alice Springs**	**72.33**	**198**	P		P	**P**	**12 46 03.7**	**0.0**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MLR	**Muntele Rosu**	**76.85**	**325**	P		P	**P**	**12 46 29.8**	**-0.1**
	comp=Z,6.7nm,0.9s,mb4.6,baz=215,slow=7.3,SNR=5.2								
MLR	**Muntele Rosu**	**76.85**	**325**	P		P	**P**	**12 46 29.8**	**-0.1**
MLR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
TXAR	**Lajitas Array**	**77.52**	**60**	P		P	**P**	**12 46 33.8**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=301,slow=4.5,SNR=11								
TXAR	**Lajitas Array**	**77.52**	**60**	P		P	**P**	**12 46 33.8**	**+0.1**
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BRTR	**Keskin Array B**	**78.18**	**317**	P		P	**P**	**12 46 38.4**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=73,slow=3.2,SNR=7.9								
BRTR	**Keskin Array B**	**78.18**	**317**	P		P	**P**	**12 46 38.4**	**+1.1**
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GERES	**GERESS Array B**	**78.25**	**334**	P		P	**P**	**12 46 37.8**	**+0.1**
	comp=Z,0.4nm,0.2s,mb3.9,baz=101,slow=6.9,SNR=3.4								
SNAA	**Sanae**	**152.68**	**196**	PKPbc		PKPbc		12 54 32.0	-2.2
	comp=Z,0.5nm,0.6s,baz=214,slow=5.5,SNR=6.1								
SNAA	**Sanae**	**152.68**	**196**	PKIKP		PKPbc		12 54 32.0	-2.3
SNAA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
PMSA	**Palmer Station**	**153.19**	**145**	PKPbc		PKPbc		12 54 32.0	-3.4
	comp=Z,34nm,1.0s,baz=298,slow=3.9,SNR=10								

*IDC **15** 12:35:24.9±1.9, 4656N×15367E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/23, mbtmp4.2/10, Error ellipse: s-maj=52.7km s-min=24.0km az=171.0*
*MOS **15** 12:35:26.9±1.0, 4632N×15350E, h33km, mb4.4/8, Error ellipse: s-maj=39.3km s-min=20.3km az=98.1*
*ISCJB **15** 12:35:31.4±3.1, 466N±02×1536E±02, h59km±23km, mb4.6/16, Error ellipse: s-maj=39.9km s-min=16.2km az=126.6*

ISC 15 12:35:33.9±2.7, 467N±02×1536E±02, h62km±21km, n27, σ0§65/27, mb4.6/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.33**	**22**	*e*P		N	**Pn**	**12 36 37.5**	**+0.3**
KSRS	**Korea Array**	**21.10**	**253**	P		P	**P**	**12 40 11.7**	**-1.6**
	2.9nm,0.7s,mb3.7,baz=55,slow=9.9,SNR=4.8								
SONM	**Songino Array**	**31.67**	**290**	P		P	**P**	**12 41 51.5**	**+0.2**
	3.3nm,0.9s,mb4.1,baz=94,slow=2.7,SNR=4.2								
SONM	**Songino Array**	**31.67**	**290**	P		P	**P**	**12 41 51.5**	**+0.2**
SONM				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MKAR	**Makanchi Array**	**47.27**	**298**	P		P	**P**	**12 43 59.8**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=64,slow=6.9,SNR=3.5								
MKAR	**Makanchi Array**	**47.27**	**298**	P		P	**P**	**12 43 59.8**	**-1.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								

JIRN	**Jiri**	**55.29**	**275**	*e*P	**P**	**12 45 01.3 +0.4**
	comp=Z,10nm,0.5s,mb5.1					
GUN	**Gumba**	**55.34**	**275**	*e*P	**P**	**12 45 01.6 +0.3**
KKN	**Kakani**	**55.83**	**276**	*e*P	**P**	**12 45 05.8 +1.0**
	comp=Z,15nm,0.6s,mb5.2					
PKI	**Pulchoki**	**55.88**	**275**	*e*P	**P**	**12 45 05.5 +0.4**
	comp=Z,13nm,0.6s,mb5.1					
DMN	**Daman**	**56.06**	**276**	*e*P	**P**	**12 45 07.1 +0.6**
	comp=Z,43nm,1.1s,mb5.4					
GKN	**Gorkha**	**56.14**	**276**	*e*P	**P**	**12 45 07.5 +0.5**
	comp=Z,21nm,0.6s,mb5.4					
KOLN	**Koldanda**	**56.99**	**277**	*e*P	**P**	**12 45 13.7 +0.6**
	comp=Z,15nm,0.8s,mb5.1					
ARCES	**ARCESS Array B**	**58.02**	**341**	P	**P**	**12 45 20.4 +0.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=16,slow=6.8,SNR=3.1					
ARCES	**ARCESS Array B**	**58.02**	**341**	P	**P**	**12 45 20.4 +0.1**
ARCES				pmax	pmax	
	comp=Z,3.0nm,0.8s					
AKTO	**Aktyubinsk**	**59.02**	**312**	P	**P**	**12 45 26.1 -1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=358,slow=12,SNR=2.0					
AKTO	**Aktyubinsk**	**59.02**	**312**	P	**P**	**12 45 26.2 -1.0**
AKTO				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.3					
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**12 46 02.0 -0.3**
	comp=Z,2.2nm,0.5s,mb4.5,baz=33,slow=8.6,SNR=6.2					
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**12 46 02.0 -0.4**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.5s					
PDAR	**Pinedale Array**	**64.51**	**54**	P	**P**	**12 46 04.1 0.0**
	comp=Z,1.0nm,0.9s,mb3.9,baz=346,slow=1.6,SNR=3.4					
NB2	**NORSAR Subarra**	**68.40**	**341**	P	**P**	**12 46 28.6 -0.3**
	comp=Z,8.5nm,1.2s,mb4.7,baz=30,slow=6.5					
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**12 46 29.0 +0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=27,slow=6.3,SNR=2.3					
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**12 46 29.0 +0.1**
NOA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**12 46 49.5 -0.2**
	comp=Z,1.7nm,0.4s,mb4.3,baz=35,slow=6.4,SNR=4.2					
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**12 46 49.5 -0.2**
AKASG				pmax	pmax	
	comp=Z,2.0nm,0.4s					
TXAR	**Lajitas Array**	**77.23**	**61**	P	**P**	**12 47 20.9 -0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=303,slow=4.3,SNR=3.6					
TXAR	**Lajitas Array**	**77.23**	**61**	P	**P**	**12 47 20.9 -0.3**
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					

*IDC **15** 12:37:19.4±1.1, 4652N×15333E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/25, mbtmp4.2/13, ML3.4/1, Error ellipse: s-maj=28.4km s-min=23.9km az=148.0*
*ISCJB **15** 12:37:23.7±1.8, 465N±01×1533E±02, h40km±14km, mb4.5/15, Error ellipse: s-maj=25.9km s-min=11.8km az=97.1*
*MOS **15** 12:37:24.5±0.9, 4656N×15323E, h50km, mb4.6/9, Error ellipse: s-maj=24.1km s-min=15.6km az=78.7*

ISC 15 12:37:25.9±1.6, 466N±01×1534E±02, h44km±13km, n33, σ0§79/33, mb4.5/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.52**	**23**	*e*P		N	**Pn**	**12 38 32.0**	**+0.2**
SKR				*e*				12 39 22.5	
ASAJ	**Asahikawa**	**7.97**	**256**	Pn			**Pn**	**12 39 19.6**	**+0.4**
	3.5nm,0.3s,baz=261,slow=17,SNR=6.0								
ASAJ	**Asahikawa**	**7.97**	**256**	PN		P	**Pn**	**12 39 19.6**	**+0.4**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.10**	**234**	Pn			**Pn**	**12 40 55.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=57,slow=11,SNR=3.2								
KSRS	**Korea Array**	**20.91**	**253**	P		P	**P**	**12 42

SONM pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.36 298 P **P** **12 47 28.0 -0.7**
comp=Z,3.6nm,0.7s,mb4.4,baz=69,slow=6.8,SNR=8.2
MKAR Makanchi Array 47.36 298 P **P** **12 47 28.0 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 51.30 310 P **P** **12 47 57.6 -1.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=42,slow=7.3,SNR=5.1
BVAR Borovoye Array 51.30 310 P **P** **12 47 57.6 -1.1**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
JIRN Jiri 55.28 275 *eP* **P** **12 48 29.2 +1.2**
comp=Z,20nm,0.7s,mb5.3
GUN Gumba 55.34 276 *eP* **P** **12 48 29.5 +1.1**
comp=Z,10nm,0.5s,mb5.1
KKN Kakani 55.83 276 *eP* **P** **12 48 33.5 +1.5**
comp=Z,21nm,0.6s,mb5.3
PKI Pulchoki 55.87 276 *eP* **P** **12 48 33.1 +0.8**
comp=Z,14nm,0.6s,mb5.2
DMN Daman 56.06 276 *eP* **P** **12 48 34.8 +1.2**
comp=Z,17nm,0.6s,mb5.2
GKN Gorkha 56.13 276 *eP* **P** **12 48 35.1 +0.9**
comp=Z,27nm,0.6s,mb5.5
KOLN Koldanda 56.99 277 *eP* **P** **12 48 41.4 +1.1**
comp=Z,23nm,0.8s,mb5.3
ARCES ARCESS Array B 59.25 341 P **P** **12 48 47.6 -1.6**
comp=Z,14nm,0.7s,mb4.1,baz=52,slow=9.3,SNR=3.4
ARCES ARCESS Array B 58.25 341 P **P** **12 48 47.6 -1.5**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 59.16 312 P **P** **12 48 54.9 -0.6**
comp=Z,1.5nm,0.5s,mb4.3,baz=80,slow=8.6,SNR=5.0
AKTO Aktyubinsk 59.16 312 P **P** **12 48 54.9 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
NVAR Mina Array Bea 62.31 62 P **P** **12 49 17.0 +0.1**
comp=Z,3.9nm,0.5s,mb3.7,baz=308,slow=3.0,SNR=2.0
FINES FINESS Array B 64.45 335 P **P** **12 49 30.4 -0.7**
comp=Z,3.6nm,0.5s,mb4.7,baz=36,slow=9.2,SNR=17
FINES FINESS Array B 64.45 335 P **P** **12 49 30.4 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.5s
PDAR Pinedale Array 64.68 54 P **P** **12 49 33.3 +0.7**
comp=Z,0.8nm,0.8s,mb3.8,baz=310,slow=1.2,SNR=4.0
WRA Warramunga Arr 68.32 199 P **P** **12 49 54.4 -1.5**
comp=Z,1.0nm,0.9s,mb3.9,baz=14,slow=6.7,SNR=3.7
WRA Warramunga Arr 68.32 199 P **P** **12 49 54.4 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.9s
NB2 NORSAR Subarra 68.62 341 P **P** **12 49 57.2 -0.6**
comp=Z,3.9nm,0.6s,mb4.5,baz=27,slow=6.5
NOA NORSAR Array B 68.62 341 P **P** **12 49 57.3 -0.5**
comp=Z,4.2nm,0.6s,mb4.5,baz=26,slow=6.3,SNR=13
NOA NORSAR Array B 68.62 341 P **P** **12 49 57.3 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 71.98 326 P **P** **12 50 17.4 -0.9**
comp=Z,5.9nm,0.5s,mb4.7,baz=34,slow=6.2,SNR=19
AKASG Malin Array Be 71.98 326 P **P** **12 50 17.4 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 72.01 199 P **P** **12 50 18.1 -0.4**
comp=Z,0.8nm,0.7s,mb3.7,baz=18,slow=5.6,SNR=4.1
ASAR Alice Springs 72.01 199 P **P** **12 50 18.1 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
STHS Stebnicka Huta 75.94 330 *e* **P** **12 50 42.7 +1.2**
STHS *e* 12 51 27.3
STHS *e* 13 01 56.1
TXAR Lajitas Array 77.38 61 P **P** **12 50 50.0 +0.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=234,slow=4.3,SNR=3.9
TXAR Lajitas Array 77.38 61 P **P** **12 50 50.0 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.83 317 P **P** **12 50 58.7 +1.0**
comp=Z,2.0nm,0.9s,mb4.0,baz=80,slow=3.7,SNR=4.6
BRTR Keskin Array B 78.83 317 P **P** **12 50 58.7 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 78.87 334 P **P** **12 50 57.7 -0.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=46,slow=5.8,SNR=5.2
GERES GERESS Array B 78.87 334 P **P** **12 50 57.7 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s

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*CSEM **15** 12:39:00.8, 5904N×1506E, h0km, ML4.4, Mining explosion. After UPP*

UPP 15 12:39:00.8, 5904N×1506E, h0km, ML4.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.19**	**220**	P	Pg	12 39 04.6	+0.1
NRAU	**Nora**	**0.53**	**359**	P	Pg	12 39 10.9	-0.1
ESKU	**Eskilstuna**	**0.71**	**74**	P	Pg	12 39 14.2	-0.2
LNKU	**Linkoeping**	**0.85**	**164**	P	Pg	12 39 16.7	-0.4
NASU	**Vaermlandsnaes**	**0.98**	**264**	P	Pg	12 39 19.1	-0.5
VIKU	**Vikbolandet**	**1.01**	**122**	P	Pg	12 39 19.5	-0.6
BACU	**Backbrunna**	**1.32**	**51**	P	Pg	12 39 25.3	-0.9
OSTU	**Oestervaala**	**1.59**	**41**	P	Pn	12 39 30.1	-0.1
FLYU	**Flymyra**	**1.80**	**52**	P	Pn	12 39 33.8	+0.7

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*IDC **15** 12:39:34.8±1.4, 4736N×15654E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, ML4.2/1, Error ellipse: s-maj=46.2km s-min=18.8km az=174.0*
*ISCJB **15** 12:39:38.0±0.9, 473N±02×1564E±0.1, h33km, mb4.3/13, Error ellipse: s-maj=22.8km s-min=11.7km az=139.6*
*MOS **15** 12:39:38.4±1.6, 4736N×15624E, h33km, mb4.5/8, Error ellipse: s-maj=22.8km s-min=16.4km az=111.9*

ISC 15 12:39:38.7±4.5, 474N±02×1564E±02, h22km±31km, n28, σ1§19/28, mb4.3/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.26**	**356**	*e*PN	**Pn**	**12 40 28.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.34**	**272**	PN	**Pn**	**12 41 51.5**	**-0.3**
ASAJ	**Asahikawa**	**10.22**	**256**	Pn	**Pn**	**12 42 04.6**	**+0.6**
	2.2nm,0.3s,baz=93,slow=19,SNR=4.5						
ASAJ	**Asahikawa**	**10.22**	**256**	PN	**Pn**	**12 42 04.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**23.17**	**255**	P	**P**	**12 44 44.9**	**+1.2**
	comp=Z,5.7nm,0.7s,mb4.1,baz=48,slow=9.9,SNR=6.7						
SONM	**Songino Array**	**33.25**	**290**	P	**P**	**12 46 11.8**	**-2.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=62,slow=7.5,SNR=3.8						
SONM	**Songino Array**	**33.25**	**290**	P	**P**	**12 46 11.8**	**-2.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.64**	**298**	P	**P**	**12 48 18.9**	**-1.8**
	comp=Z,4.5nm,0.7s,mb4.6,baz=63,slow=7.9,SNR=8.7						
MKAR	**Makanchi Array**	**48.64**	**298**	P	**P**	**12 48 19.0**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**12 48 45.7**	**-1.8**
	comp=Z,3.0nm,0.5s,mb4.5,baz=56,slow=7.6,SNR=7.5						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**12 48 45.7**	**-1.8**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NVAR	**Mina Array Bea**	**60.10**	**65**	P	**P**	**12 49 44.4**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=292,slow=35,SNR=8.9						
PDAR	**Pinedale Array**	**62.49**	**56**	P	**P**	**12 49 59.7**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.2,baz=302,slow=3.3,SNR=6.0						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**12 50 13.5**	**+0.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=50,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**12 50 13.5**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.29**	**343**	P	**P**	**12 50 39.3**	**+1.4**
	comp=Z,2.4nm,0.6s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.29**	**343**	P	**P**	**12 50 39.6**	**+1.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=25,slow=6.4,SNR=5.2						
NOA	**NORSAR Array B**	**68.29**	**343**	P	**P**	**12 50 39.6**	**+1.7**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**72.22**	**328**	P	**P**	**12 51 02.6**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=29,slow=5.7,SNR=4.7						
AKASG	**Malin Array Be**	**72.22**	**328**	P	**P**	**12 51 02.6**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.17**	**63**	P	**P**	**12 51 18.1**	**-1.2**
	comp=Z,2.5nm,0.7s,mb4.3,baz=300,slow=4.4,SNR=7.1						
TXAR	**Lajitas Array**	**75.17**	**63**	P	**P**	**12 51 18.1**	**-1.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**76.75**	**337**	*i* P	**P**	**12 51 30.4**	**+2.1**
CLL				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.5						
CLL	**Collm**	**76.75**	**337**	*i* P	**P**	**12 51 30.4**	**+2.1**
	comp=Z,21nm,1.2s,mb4.9						
GERES	**GERESS Array B**	**78.80**	**336**	P	**P**	**12 51 40.5**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=21,slow=4.9,SNR=8.4						
GERES	**GERESS Array B**	**78.80**	**336**	P	**P**	**12 51 40.5**	**+0.8**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**79.42**	**319**	P	**P**	**12 51 42.8**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=295,slow=32,SNR=6.0						
BRTR	**Keskin Array B**	**79.42**	**319**	P	**P**	**12 51 42.8**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

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*ISCJB **15** 12:40:18.3±1.6, 452N±02×1533E±02, h10km, mb4.2/7, Error ellipse: s-maj=37.5km s-min=10.7km az=122.1*
*IDC **15** 12:40:19.0±4.0, 4526N×15333E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.0/25, mbtmp4.2/8, ML3.6/1, Error ellipse: s-maj=95.6km s-min=35.1km az=151.0*
*MOS **15** 12:40:22.0±1.7, 4520N×15290E, h33km, mb4.5/7, Error ellipse: s-maj=26.9km s-min=23.2km az=72.0*

ISC 15 12:40:19.7±1.6, 452N±02×1533E±02, h10km, n16, σ0§67/17, mb4.2/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.46**	**261**	PN	**Pn**	**12 41 36.0**	**-5.1**
YUK				*e*S	**Sn**	**12 42 43.8**	**-0.1**
YUK				smax			
	comp=N,400nm,0.5s						
YUK				smax			
	comp=E,270nm,0.5s						
MJAR	**Matsushiro Arr**	**14.31**	**238**	Pn	**Pn**	**12 43 42.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=28,slow=12,SNR=5.2						
INK	**Inuvik**	**42.91**	**32**	P	**P**	**12 48 18.7**	**+0.2**
	comp=E,2.0nm,0.6s,mb4.0,baz=296,slow=6.0,SNR=4.2						
INK	**Inuvik**	**42.91**	**32**	P	**P**	**12 48 18.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.83**	**299**	P	**P**	**12 48 59.0**	**+1.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=57,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.83**	**299**	P	**P**	**12 48 59.0**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**12 49 29.0**	**-0.1**
	comp=Z,1.2nm,0.3s,mb4.2,baz=41,slow=7.0,SNR=3.9						
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**12 49 29.0**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**59.40**	**341**	P	**P**	**12 50 21.5**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.3,baz=40,slow=7.2,SNR=3.7						
ARCES	**ARCESS Array B**	**59.40**	**341**	P	**P**	**12 50 21.5**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**65.54**	**335**	P	**P**	**12 51 02.7**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.3,baz=42,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**65.54**	**335**	P	**P**	**12 51 02.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**69.78**	**341**	P	**P**	**12 51 29.8**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=29,slow=6.5,SNR=3.2						
NOA	**NORSAR Array B**	**69.78**	**341**	P	**P**	**12 51 29.8**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.95**	**327**	P	**P**	**12 51 49.8**	**+0.5**
	comp=Z,2.8nm,0.5s,mb4.4,baz=33,slow=6.0,SNR=5.9						
AKASG	**Malin Array Be**	**72.95**	**327**	P	**P**	**12 51 49.8**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						

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*IDC **15** 12:43:17.6±0.7, 4618N×153.17E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/26, mbtmp4.1/16, ML3.0/1, Error ellipse: s-maj=20.0km s-min=16.4km az=160.0*
*NEIC **15** 12:43:18.9±0.4, 4620N×15321E, h10km, mb4.6/6, Error ellipse: s-maj=11.0km s-min=7.6km az=169.0*
*ISCJB **15** 12:43:21.3±1.5, 4625N±009×153.15E±0.10, h37km±13km, mb4.4/25, Error ellipse: s-maj=16.4km s-min=9.6km az=123.6*
*MOS **15** 12:43:22.1±0.7, 4624N×15306E, h46km, mb4.6/6, Error ellipse: s-maj=14.4km s-min=11.0km az=97.3*

ISC 15 12:43:23.8±1.3, 4627N±009×15317E±010, h42km±11km, n45, σ0§92/44, mb4.4/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.83**	**23**	*e*PN	**Pn**	**12 44 34.0**	**+0.1**
SKR				*e*		12 45 32.0	
YSS	**Yuzh-Sakhalins**	**7.21**	**279**	PN	**Pn**	**12 45 05.8**	**-0.8**
ASAJ	**Asahikawa**	**7.78**	**258**	Pn	**Pn**	**12 45 15.8**	**+1.5**
	1.3nm,0.3s,baz=240,slow=24,SNR=5.3						
ASAJ	**Asahikawa**	**7.78**	**258**	PN	**Pn**	**12 45 15.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.83**	**234**	Pn	**Pn**	**12 46 49.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=3.6						
KSRS	**Korea Array**	**20.70**	**254**	P	**P**	**12 48 00.8**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=54,slow=11,SNR=5.7						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**12 48 00.8**	**0.0**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**12 48 00.8**	**0.0**
	comp=Z,14nm,0.6s						
SONM	**Songino Array**	**31.53**	**290**	P	**P**	**12 49 42.0**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.6,baz=64,slow=6.7,SNR=3.2						
ZAK	**Zakamensk**	**32.92**	**296**	*e*P	**P**	**12 49 53.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.8						
INK	**Inuvik**	**42.03**	**32**	P	**P**	**12 51 11.8**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.2,baz=295,slow=6.8,SNR=13						
MKAR	**Makanchi Array**	**47.20**	**298**	P	**P**	**12 51 51.9**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=67,slow=7.2,SNR=9.7						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**12 52 18.4**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**12 52 18.4**	**-1.3**
	comp=Z,3.7nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.19**	**310**	P	**P**	**12 52 22.2**	**-0.6**
	comp=Z,1.1nm,0.3s,mb4.2,baz=50,slow=7.4,SNR=5.1						
ZRNK	**Zerenda**	**51.97**	**310**	*e*P	**P**	**12 52 27.7**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
ZRNK	**Zerenda**	**51.97**	**310**	*e*P	**P**	**12 52 27.7**	**-0.8**
	comp=Z,1.6nm,0.3s,mb4.4						
JIRN	**Jiri**	**55.03**	**275**	*e*P	**P**	**12 52 52.2**	**+1.2**
	comp=Z,22nm,0.9s,mb5.2						
KKN	**Kakani**	**55.57**	**276**	*e*P	**P**	**12 52 55.6**	**+0.7**
	comp=Z,18nm,0.7s,mb5.2						
DMN	**Daman**	**55.81**	**276**	*e*P	**P**	**12 52 57.7**	**+1.1**
	comp=Z,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**55.88**	**276**	*e*P	**P**	**12 52 58.9**	**+1.7**
	comp=Z,11nm,0.5s,mb5.1						
KOLN	**Koldanda**	**56.74**	**277**	*e*P	**P**	**12 53 05.2**	**+1.9**
	comp=Z,12nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.32**	**341**	P	**P**	**12 53 13.8**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.3,baz=26,slow=7.5,SNR=6.3						
AKTK	**Aktyubinsk**	**59.08**	**312**	P	**P**	**12 53 19.7**	**+0.1**
AKTO	**Aktyubinsk**	**59.08**	**312**	P	**P**	**12 53 19.7**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=92,slow=6.7,SNR=3.8						
AKTO	**Aktyubinsk**	**59.08**	**312**	P	**P**	**12 53 19.7**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**62.62**	**62**	P	**P**	**12 53 44.5**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.2,baz=297,slow=7.2,SNR=7.9						
MOOW	**Moose Ponds**	**63.70**	**53**	*e*P	**P**	**12 53 51.2**	**+0.3**
	comp=Z,3.6nm,1.1s,mb4.3						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**12 53 56.2**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=32,slow=9.1,SNR=9.6						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**12 53 56.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DUG	**Dugway**	**64.80**	**58**	*e*P	**P**	**12 53 58.6**	**+0.6**
PDAR	**Pinedale Array**	**65.00**	**54**	P	**P**	**12 53 59.7**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=293,slow=2.0,SNR=14						
RSSD	**Black Hills**	**67.10**	**50**	P	**P**	**12 54 13.1**	**+0.2**
WRA	**Warramunga Arr**	**68.07**	**199**	P	**P**	**12 54 17.5**	**-1.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=6.7,SNR=5.3						
NB2	**NORSAR Subarra**	**68.69**	**341**	P	**P**	**12 54 22.8**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**	**12 54 23.1**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**71.77**	**199**	P	**P**	**12 54 41.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=14,slow=5.1,SNR=9.3						
AKASG	**Malin Array Be**	**71.97**	**326**	P	**P**	**12 54 42.7**	**-0.2**
	comp=Z,4.8nm,0.5s,mb4.7,baz=34,slow=6.3,SNR=16						
AKASG	**Malin Array Be**	**71.97**	**326**	P	**P**	**12 54 42.7**	**-0.2**
AKBB	**Malin Array Si**	**71.97**	**326**	*e*P	**P**	**12 54 41.1**	**-1.8**
KIEV	**Kiev**	**71.98**	**326**	*e*P	**P**	**12 54 42.5**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
KIEV	**Kiev**	**71.98**	**326**	*e*P	**P**	**12 54 42.5**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.7						
MNTX	**Cornudas Mount**	**74.97**	**60**	*e*P	**P**	**12 54 58.3**	**-2.2**
	comp=Z,38nm,2.4s,mb4.9						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**12 55 16.4**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.4,baz=304,slow=4.2,SNR=16						
CFAA	**Coronel Fontan**	**145.04**	**80**	PKPbc	PKPbc	13 02 55.1	-0.7
	comp=Z,0.6nm,0.5s,baz=299,slow=2.8,SNR=8.2						

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*NEIC **15** 12:44:18.5, 3271S×7121W, h49km, MD4.0(GUC), After GUC.*
NEIC Felt [III] at La Cruz, La Ligua, Quillota and Papudo. Also felt at Vina del Mar.

GUC 15 12:44:18.5±0.6, 3271S×7121W, h49km±4km, MD4.0, ML3.6, 10C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.31**	**147**	⇑*i*P	Pn	12 44 28.5	+0.9
ROCH				*i* S	Sn	12 44 35.6	+1.6
IHA	**Instituto Hidr**	**0.48**	**229**	⇓*i*P	Pn	12 44 29.5	+0.1
IHA				*i* S	Sn	12 44 38.2	+1.0
JACH	**Jahuel**	**0.52**	**87**	⇑*i*P	Pn	12 44 30.7	+0.8
LCCH	**Las Cruces**	**0.82**	**202**	⇓*i*P	Pn	12 44 34.0	+0.3
LCCH				*i* S	Sn	12 44 45.8	+1.0
CHNG	**Los Chungos**	**0.86**	**343**	⇓*i*P	Pn	12 44 34.6	+0.3
CHNG				*i* S	Sn	12 44 46.8	+0.9
STL	**Santa Lucia**	**0.86**	**147**	⇑*i*P	Pn	12 44 34.0	-0.3
STL				*i* S	Sn	12 44 46.5	+0.5
SAN	**Santiago**	**0.87**	**148**	*e*P	Pn	12 44 34.7	+0.3
SAN				*i* S	Sn	12 44 47.3	+1.2
DSCH	**Colegio Aleman**	**0.87**	**142**	*i* P	Pn	12 44 34.4	0.0
DSCH				*i* S	Sn	12 44 46.7	+0.6
CLCH	**Cerro Calan**	**0.89**	**141**	⇑*i*P	Pn	12 44 35.5	+0.9
CLCH				*i* S	Sn	12 44 48.0	+1.6
CLCH				AML	AML	12 44 48.7	
	comp=N,4μm,0.4s						
LACH	**Colegio Las Am**	**0.93**	**142**	⇓*i*P	Pn	12 44 35.3	+0.1
LACH				*i* S	Sn	12 44 48.5	+1.0
FSR	**Penalolen**	**0.95**	**143**	⇑*i*P	Pn	12 44 36.5	+1.0
FSR				*i* S	Sn	12 44 49.5	+1.4
FSR				AML	AML	12 44 54.4	
	comp=N,2μm,0.3s						
FSR	**Penalolen**	**0.95**	**143**	⇑*i*P	Pn	12 44 36.5	+1.0
FSR				*i* S	Sn	12 44 49.5	+1.4
TACH	**Talagante**	**0.96**	**166**	⇓*i*P	Pn	12 44 36.4	+0.7
TACH				*i* S	Sn	12 44 49.7	+1.3
ANTU	**Antumapu**	**0.98**	**151**	⇑*i*P	Pn	12 44 36.4	+0.5
ANTU				*i* S	Sn	12 44 50.1	+1.4
ANTU				AML	AML	12 44 51.4	
	comp=E,3μm,0.1s						
ANTU	**Antumapu**	**0.98**	**151**	⇑*i*P	Pn	12 44 36.4	+0.5
ANTU				*i* S	Sn	12 44 50.1	+1.4
FCH	**Farellones**	**0.98**	**129**	⇑*i*P	Pn	12 44 34.5	-1.4
FCH				*i* S	Sn	12 44 48.8	-0.1
PCH	**Pirque**	**1.08**	**147**	⇓*i*P	Pn	12 44 37.7	+0.5
PCH				*i* S	Sn	12 44 52.3	+1.3
LNV	**Longovilo**	**1.25**	**188**	*e*P	Pn	12 44 39.8	+0.2
CHCH	**Chadas Angostu**	**1.30**	**159**	⇑*i*P	Pn	12 44 41.0	+0.7
CHCH				*i* S	Sn	12 44 58.4	+1.8
CACH	**El Canelo**	**1.49**	**160**	*e*P	Pn	12 44 44.2	+1.4
CACH				*i* S	Sn	12 45 03.6	+2.5
CICH	**Cipreses**	**1.73**	**158**	*e*P	Pn	12 44 47.4	+1.2
CICH				*i* S	Sn	12 45 08.8	+1.8
SFDO	**San Fernando**	**1.90**	**175**	⇓*i*P	Pn	12 44 49.3	+0.8

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*IDC **15** 12:45:03.1±0.6, 4659N×15376E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.2/24, mbtmp4.1/15, Error ellipse: s-maj=21.2km s-min=17.6km az=101.0*
*ISCJB **15** 12:45:04.5±7.2, 466N±0.1×1538E±02, h20km±51km, mb4.0/14, Error ellipse: s-maj=23.9km s-min=22.0km az=161.8*

ISC 15 12:45:09.6±3.0, 466N±01×1537E±02, h45km±27km, n19, σ0§82/18, mb4.0/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.19**	**256**	Pn	**Pn**	**12 47 07.0**	**+1.1**
	2.5nm,0.3s,baz=106,slow=21,SNR=6.3						
MJAR	**Matsushiro Arr**	**15.30**	**235**	Pn	**Pn**	**12 48 40.4**	**-2.0**
	baz=38,slow=12,SNR=3.0						
KSRS	**Korea Array**	**21.13**	**254**	P	**P**	**12 49 51.6**	**+1.1**
	2.0nm,0.8s,mb3.5,baz=62,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**47.36**	**298**	P	**P**	**12 53 38.3**	**-0.8**
	1.0nm,0.5s,mb4.0,baz=69,slow=7.9,SNR=8.7						
BVAR	**Borovoye Array**	**51.26**	**310**	P	**P**	**12 54 08.0**	**-0.8**
	0.9nm,0.3s,mb4.1,baz=46,slow=7.4,SNR=4.4						
ARCES	**ARCESS Array B**	**58.13**	**341**	P	**P**	**12 54

comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 59.52 313 P **P** **12 55 48.0 +0.3**
comp=Z,1.7nm,0.7s,mb4.2,baz=87,slow=8.6,SNR=4.2
AKTO Aktyubinsk 59.52 313 P **P** **12 55 48.0 +0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NVAR Mina Array Bea 61.61 63 P **P** **12 56 01.4 -0.5**
comp=Z,0.5nm,0.6s,mb3.8,baz=330,slow=5.2,SNR=4.5
PDAR Pinedale Array 64.01 55 P **P** **12 56 18.9 +0.9**
comp=Z,0.6nm,0.6s,mb3.8,baz=303,slow=3.3,SNR=3.7
FINES FINESS Array B 64.55 335 P **P** **12 56 20.3 -1.2**
comp=Z,3.5nm,1.0s,mb4.4,baz=46,slow=4.4,SNR=2.2
FINES FINESS Array B 64.55 335 P **P** **12 56 20.3 -1.1**
FINES pmax pmax
comp=Z,4.0nm,1.0s
ASAR Alice Springs 72.43 200 P **P** **12 57 08.9 -1.8**
comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=6.0,SNR=4.5
ASAR Alice Springs 72.43 200 P **P** **12 57 08.9 -1.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.69 61 P **P** **12 57 36.2 +0.8**
comp=Z,2.3nm,0.5s,mb4.3,baz=302,slow=3.8,SNR=8.4
TXAR Lajitas Array 76.69 61 P **P** **12 57 36.2 +0.8**
TXAR pmax pmax
comp=Z,2.0nm,0.5s

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*IDC **15** 12:49:52.7±1.8, 47.29N×154.12E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/24, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=64.9km s-min=25.0km az=84.0*
*MOS **15** 12:49:54.3±1.9, 47.28N×154.66E, h33km, mb4.1/7, Error ellipse: s-maj=27.1km s-min=25.2km az=114.7*
*ISCJB **15** 12:49:55.0±1.1, 47.2N±0.1×154.6E±0.2, h35km, mb4.5/12, Error ellipse: s-maj=20.8km s-min=17.5km az=63.8*
ISC 15 12:49:56.6±1.1, 473N±01×1547E±02, h35km, n25, σ1°25/25, mb4.5/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.18**	**272**	*e*PN		**Pn**		**12 51 54.0**	**+1.2**
JMP	**Maruseppu**	**8.61**	**252**	P		**Pn**		**12 51 53.0**	**-5.6**
JWK2	**Keihoku**	**9.10**	**262**	P		**Pn**		**12 52 05.8**	**+0.4**
JSH	**Shimam**	**11.38**	**251**	P		**Pn**		**12 52 30.2**	**-6.4**
MJAR	**Matsushiro Arr**	**16.27**	**235**	Pn		**Pn**		**12 53 39.7**	**-2.6**
	0.5nm,0.3s,baz=35,slow=8.7,SNR=5.8								
MJAR	**Matsushiro Arr**	**16.27**	**235**	P		**Pn**		**12 53 39.7**	**-2.6**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ZAK	**Zakamensk**	**33.47**	**295**	*e*P		**P**		**12 56 34.8**	**+2.4**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.0								
MKAR	**Makanchi Array**	**47.70**	**298**	P		**P**		**12 58 27.1**	**-2.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=66,slow=7.2,SNR=3.4								
MKAR	**Makanchi Array**	**47.70**	**298**	P		**P**		**12 58 27.1**	**-2.6**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**51.40**	**310**	P		**P**		**12 58 56.3**	**-1.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=50,slow=7.0,SNR=4.0								
BVAR	**Borovoye Array**	**51.40**	**310**	P		**P**		**12 58 56.3**	**-1.6**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
JIRN	**Jiri**	**56.01**	**275**	*e*P		**P**		**12 59 32.2**	**+0.6**
	comp=Z,25nm,0.5s,mb5.5								
GUN	**Gumba**	**56.06**	**276**	*e*P		**P**		**12 59 33.0**	**+1.0**
	comp=Z,17nm,0.5s,mb5.3								
KKN	**Kakani**	**56.54**	**276**	*e*P		**P**		**12 59 35.7**	**+0.3**
	comp=Z,16nm,0.5s,mb5.3								
DMN	**Daman**	**56.78**	**276**	*e*P		**P**		**12 59 37.2**	**+0.1**
GKN	**Gorkha**	**56.84**	**277**	*e*P		**P**		**12 59 37.6**	**0.0**
	comp=Z,22nm,0.5s,mb5.5								
KOLN	**Koldanda**	**57.69**	**277**	*e*P		**P**		**12 59 43.0**	**-0.6**
	comp=Z,31nm,0.8s,mb5.4								
FINES	**FINESS Array B**	**64.06**	**335**	P		**P**		**13 00 26.0**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=41,slow=9.2,SNR=3.1								
FINES	**FINESS Array B**	**64.06**	**335**	P		**P**		**13 00 26.0**	**-0.8**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**68.11**	**342**	P		**P**		**13 00 53.5**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.3,SNR=3.5								
NOA	**NORSAR Array B**	**68.11**	**342**	P		**P**		**13 00 53.5**	**+0.7**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**69.36**	**201**	P		**P**		**13 01 00.9**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=15,slow=6.4,SNR=4.3								
WRA	**Warramunga Arr**	**69.36**	**201**	P		**P**		**13 01 00.9**	**+0.3**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**73.04**	**200**	P		**P**		**13 01 23.9**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=9.4,slow=4.8,SNR=9.8								
ASAR	**Alice Springs**	**73.04**	**200**	P		**P**		**13 01 24.0**	**+1.1**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								

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*ISCJB **15** 12:50:05.8±0.6, 4599N±008×1527E±0.1, h10km, mb4.3/20, Error ellipse: s-maj=14.8km s-min=6.4km az=97.9*
*IDC **15** 12:50:06.0±0.7, 4609N×152.70E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/26, mbtmp4.2/17, Error ellipse: s-maj=19.8km s-min=17.6km az=113.0*
*MOS **15** 12:50:12.1±1.1, 46.12N×152.52E, h58km, mb4.6/13, Error ellipse: s-maj=15.7km s-min=13.1km az=95.2*
ISC 15 12:50:06.1±2.9, 4613N±009×15279E±010, h0km±19km, n65, σ1°05/68, mb4.4/20, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.56**	**257**	⇧*i*PN			**Pn**	**12 51 02.5**	**-0.1**
KUR				*i*	S		**Sn**	**12 51 46.0**	**+0.6**
KUR				pmax	pmax				
	comp=N,190nm,0.6s								
KUR				pmax	pmax				
	comp=E,230nm,0.6s								
KUR				pmax	pmax				
	comp=Z,480nm,0.6s								
KUR				smax					
	comp=N,600nm,0.7s								
KUR				smax					
	comp=E,1μm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.33**	**249**	*e*PN			**Pn**	**12 51 29.4**	**+2.5**
YUK				*e*S			**Sn**	**12 52 29.0**	**0.0**
YUK				pmax	pmax				
	comp=Z,600nm,0.4s								
YUK				smax					
	comp=N,770nm,0.5s								
YUK				smax					
	comp=E,390nm,0.5s								
ASAJ	**Asahikawa**	**7.48**	**258**	Pn			**Pn**	**12 51 59.9**	**+3.4**
	comp=E,12nm,0.3s,baz=118,slow=20,SNR=25								
ASAJ	**Asahikawa**	**7.48**	**258**	P			**Pn**	**12 52 00.2**	**+3.7**
ASAJ	**Asahikawa**	**7.48**	**258**	PN			**Pn**	**12 51 59.9**	**+3.4**
ASAJ				pmax	pmax				
	comp=Z,12nm,0.3s								
JEM	**Erimo**	**8.06**	**243**	P			**Pn**	**12 52 06.2**	**+1.8**
JEW	**Eniwo**	**8.75**	**252**	P			**Pn**	**12 52 13.6**	**-0.2**
JOT	**Ohata**	**9.73**	**245**	P			**Pn**	**12 52 26.4**	**-0.8**
JOT				*e*S			**Sn**	**12 54 07.2**	**-10**
JTM	**Tenmabayashi**	**10.05**	**242**	P			**Pn**	**12 52 30.5**	**-1.2**
JTM				S			**Sn**	**12 54 15.9**	**-9.2**
JOM	**Ohasama**	**10.74**	**236**	P			**Pn**	**12 52 39.0**	**-2.2**
JOM				S			**Sn**	**12 54 31.6**	**-11**
JMM	**Marumori**	**12.14**	**231**	S			**Sn**	**12 55 04.7**	**-12**
JYA	**Atsumi**	**12.24**	**237**	P			**Pn**	**12 53 01.8**	**+0.1**
JYT	**Yasato**	**13.69**	**228**	S			**Sn**	**12 55 39.7**	**-14**
MAT	**Matsushiro**	**14.53**	**234**	P			**Pn**	**12 53 25.9**	**-7.0**
MJAR	**Matsushiro Arr**	**14.53**	**234**	Pn			**Pn**	**12 53 29.6**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=14,SNR=4.7								
KSRS	**Korea Array**	**20.40**	**254**	P			**P**	**12 54 45.9**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=56,slow=11,SNR=11								
BILL	**Bilibino**	**23.05**	**13**	*e*P			**P**	**12 55 14.5**	**+1.5**
BILL				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.1								
BOD	**Bodaibo**	**26.22**	**311**	*e*P			**P**	**12 55 40.4**	**-2.2**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.4s,mb4.2								
SONM	**Songino Array**	**31.33**	**290**	P			**P**	**12 56 27.4**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=69,slow=9.4,SNR=4.5								
SONM	**Songino Array**	**31.33**	**290**	P			**P**	**12 56 27.4**	**-0.7**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.8s								
INK	**Inuvik**	**42.30**	**32**	P			**P**	**12 58 02.4**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.0,baz=274,slow=7.8,SNR=7.4								
INK	**Inuvik**	**42.30**	**32**	P			**P**	**12 58 02.4**	**+1.0**
INK				pmax	pmax				
	comp=Z,2.0nm,0.7s								

MKAR	**Makanchi Array**	**47.03**	**298**	P		**P**		**12 58 38.4**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.5,baz=68,slow=6.9,SNR=13								
MKAR	**Makanchi Array**	**47.03**	**298**	P		**P**		**12 58 38.4**	**-0.8**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BVAR	**Borovoye Array**	**51.08**	**310**	P		**P**		**12 59 09.0**	**-1.2**
	comp=Z,1.6nm,0.3s,mb4.4,baz=44,slow=8.0,SNR=10								
BVAR	**Borovoye Array**	**51.08**	**310**	P		**P**		**12 59 09.0**	**-1.3**
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ULHL	**Ulahol**	**53.03**	**295**	P		**P**		**12 59 25.2**	**+0.4**
	SNR=9.9								
USP	**Ospenovka**	**53.57**	**297**	P		**P**		**12 59 29.0**	**+0.3**
	SNR=9.5								
KZA	**Kyzart**	**53.74**	**296**	P		**P**		**12 59 31.2**	**+1.2**
	SNR=6.1								
AAK	**Ala-Archa**	**53.91**	**297**	P		**P**		**12 59 31.5**	**+0.3**
	SNR=6.4								
EKS2	**Erkin-Say**	**54.34**	**297**	P		**P**		**12 59 35.3**	**+0.9**
	SNR=6.2								
KEV	**Kevo**	**57.86**	**341**	*ep*		**P**		**12 59 57.6**	**-1.9**
	comp=Z,2.5nm,0.5s,mb4.5								
KEV	**Kevo**	**57.86**	**341**	*e*P		**P**		**12 59 57.6**	**-1.9**
KEV				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.6								
ARCES	**ARCESS Array B**	**58.37**	**341**	P		**P**		**13 00 02.6**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.6,baz=33,slow=7.3,SNR=13								
ARCES	**ARCESS Array B**	**58.37**	**341**	P		**P**		**13 00 02.6**	**-0.5**
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**58.98**	**312**	P		**P**		**13 00 06.5**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.2,baz=57,slow=6.1,SNR=4.1								
AKTO	**Aktyubinsk**	**58.98**	**312**	P		**P**		**13 00 06.6**	**-0.8**
AKTO				pmax	pmax				
	comp=Z,900nm,0.3s								
NVAR	**Mina Array Bea**	**62.92**	**62**	P		**P**		**13 00 35.8**	**+1.6**
	comp=Z,0.5nm,0.6s,mb3.8,baz=311,slow=6.9,SNR=3.5								
FINES	**FINESS Array B**	**64.51**	**335**	P		**P**		**13 00 43.6**	**-1.1**
	comp=Z,2.7nm,0.4s,mb4.8,baz=35,slow=8.7,SNR=13								
FINES	**FINESS Array B**	**64.51**	**335**	P		**P**		**13 00 43.6**	**-1.1**
FINES				pmax	pmax				
	comp=Z,3.0nm,0.4s								
WRA	**Warramunga Arr**	**67.85**	**199**	P		**P**		**13 01 05.5**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.2,baz=14,slow=6.5,SNR=7.6								
WRA	**Warramunga Arr**	**67.85**	**199**	P		**P**		**13 01 05.5**	**-0.6**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NB2	**NORSAR Subarra**	**68.75**	**341**	P		**P**		**13 01 11.2**	**-0.5**
	comp=Z,8.2nm,0.6s,mb5.1,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.75**	**341**	P		**P**		**13 01 11.4**	**-0.3**
	comp=Z,6.2nm,0.6s,mb5.0,baz=27,slow=6.4,SNR=35								
NOA	**NORSAR Array B**	**68.75**	**341**	P		**P**		**13 01 11.4**	**-0.3**
NOA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
ASAR	**Alice Springs**	**71.54**	**198**	P		**P**		**13 01 28.6**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.9,baz=13,slow=6.0,SNR=10								
ASAR	**Alice Springs**	**71.54**	**198**	P		**P**		**13 01 28.6**	**-0.3**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**71.94**	**326**	P		**P**		**13 01 30.5**	**-0.8**
	comp=Z,3.3nm,0.4s,mb4.9,baz=34,slow=6.0,SNR=11								
AKASG	**Malin Array Be**	**71.94**	**326**	P		**P**		**13 01 30.5**	**-0.8**
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.4s								
VYHS	**Vyhne**	**77.56**	**331**	*e*P		**P**		**13 02 04.3**	**+0.4**
TXAR	**Lajitas Array**	**78.00**	**60**	P		**P**		**13 02 05.4**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.2,baz=296,slow=4.1,SNR=10								
TXAR	**Lajitas Array**	**78.00**	**60**	P		**P**		**13 02 05.4**	**-0.9**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**78.69**	**317**	P		**P**		**13 02 10.7**	**+0.6**
	comp=Z,2.9nm,0.9s,mb4.3,baz=52,slow=4.7,SNR=7.4								
BRTR	**Keskin Array B**	**78.69**	**317**	P		**P**		**13 02 10.7**	**+0.6**
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MIB	**Mutribah**	**78.80**	**301**	*e*P		**P**		**13 02 11.4**	**+0.7**
GERES	**GERESS Array B**	**78.92**	**334**	P		**P**		**13 02 11.6**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=42,slow=5.6,SNR=7.8								
GERES	**GERESS Array B**	**78.92**	**334**	P		**P**		**13 02 11.6**	**+0.2**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NAY	**Al-Naaiem**	**79.26**	**301**	*e*P		**P**		**13 02 13.7**	**+0.5**
RDF	**Al-Radifah**	**79.31**	**301**	*e*P		**P**		**13 02 14.5**	**+0.9**
CDF	**Champ du Feu**	**81.15**	**338**	*e*P		**P**		**13 02 23.6**	**+0.2**
	comp=Z,24nm,1.1s,mb4.8								
GRR	**Gorron**	**83.10**	**343**	*e*P		**P**		**13 02 33.1**	**-0.6**
AVF	**Avril sur Loir**	**83.65**	**339**	*e*P		**P**		**13 02 36.2**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9								
LPG	**La Plagne**	**83.97**	**337**	*e*P		**P**		**13 02 38.7**	**+0.5**
SNAA	**Sanae**	**151.89**	**196**	PKPbc		PKPbc		13 10 00.7	-2.2
	comp=Z,0.6nm,0.9s,baz=209,slow=4.6,SNR=3.4								
SNAA	**Sanae**	**151.89**	**196**	PKIKP		PKPbc		13 10 00.7	-2.2
SNAA				pmax	pmax				
	comp=Z,1.0nm,0.9s								

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*IDC **15** 12:50:43.4±0.7, 4603N×154.66E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/27, mbtmp4.2/17, ML3.4/1, Error ellipse: s-maj=21.5km s-min=16.4km az=146.0*
*ISCJB **15** 12:50:44.9±7.6, 4604N±0.1×1547E±0.2, h22km±55km, mb4.2/16, Error ellipse: s-maj=23.2km s-min=17.0km az=121.0*
ISC 15 12:50:46.7±7.4, 461N±01×1547E±02, h21km±53km, n18, σ0°84/17, mb4.2/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.58**	**238**	Pn			**Pn**	**12 54 24.0**	**-0.9**
	0.1nm,0.3s,baz=32,slow=12,SNR=3.4								
KSRS	**Korea Array**	**21.64**	**256**	P			**P**	**12 55 36.9**	**+1.3**
	3.2nm,0.7s,mb3.9,baz=56,slow=9.4,SNR=2.9								
SONM	**Songino Array**	**32.57**	**291**	P			**P**	**12 57 18.1**	**+1.7**
	1.0nm,0.8s,mb3.8,baz=64,slow=6.8,SNR=2.5								
KDAK	**Kodiak Island**	**33.71**	**50**	P			**P**	**12 57 25.8**	**-0.5**
	7.0nm,0.7s,mb4.7,baz=281,slow=7.1,SNR=5.3								
INK	**Inuvik**	**41.65**	**32**	P			**P**	**12 58 34.3**	**+0.8**
	5.1nm,0.7s,mb4.3,baz=293,slow=9.2,SNR=8.3								
MKAR	**Makanchi Array**	**48.20**	**299**	P			**P**	**12 59 25.4**	**-0.2**
	2.5nm,0.7s,mb4.3,baz=66,slow=8.4,SNR=6.8								
BVAR	**Borovoye Array**	**52.11**	**310**	P			**P**	**12 59 55.1**	**-0.2**
	1.7nm,0.4s,mb4.3,baz=53,slow=7.2,SNR=4.9								
ARCES	**ARCESS Array B**	**58.84**	**341**	P			**P**	**13 00 42.0**	**-1.6**
	2.6nm,0.7s,mb4.4,baz=38,slow=10,SNR=3.8								
AKTO	**Aktyubinsk**	**59.97**	**313**	P			**P**	**13 00 51.4**	**-0.1**
	1.5nm,0.5s,mb4.3,baz=53,slow=5.5,SNR=4.4								
PDAR	**Pinedale Array**	**64.28**	**54**	P			**P**	**13 01 21.4**	**+1.0**
	1.1nm,0.8s,mb4.0,baz=293,slow=2.0,SNR=6.3								
FINES	**FINESS Array B**	**65.10**	**336**	P			**P**	**13 01 24.7**	**-1.0**
	1.3nm,0.4s,mb4.4,baz=37,slow=9.6,SNR=2.5								
ULM	**Lac du Bonnet**	**66.33**	**41**	P			**P**	**13 01 33.1**	**-0.5**
	2.1nm,0.7s,mb4.3,baz=253,slow=4.0,SNR=3.5								
WRA	**Warramunga Arr**	**68.24**	**201**	P			**P**	**13 01 45.2**	**-0.5**
	1.8nm,0.6s,mb4.3,baz=20,slow=6.9,SNR=12								
ASAR	**Alice Springs**	**71.92**	**200**	P			**P**	**13 02 08.3**	**0.0**
	0.9nm,0.6s,mb3.9,baz=18,slow=5.1,SNR=4.6								
TXAR	**Lajitas Array**	**76.89**	**61**	P			**P**	**13 02 37.9**	**+0.6**
	2.9nm,0.7s,mb4.3,baz=318,slow=3.9,SNR=7.4								
GERES	**GERESS Array B**	**79.52**	**335**	P			**P**	**13 02 51.9**	**+0.1**
	0.3nm,0.3s,mb3.7,baz=35,slow=4.9,SNR=3.6								
BRTR	**Keskin Array B**	**79.61**	**318**	P			**P**	**13 02 52.3**	**0.0**
	2.4nm,0.9s,mb4.1,baz=68,slow=6.8,SNR=4.1								
SNAA	**Sanae**	**152.19**	**195**	PKPbc		PKPbc		13 10 38.4	-2.2
	1.0nm,0.8s,baz=247,slow=3.8,SNR=4.2								

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*ISCJB **15** 12:51:36.0±5.0, 46.1N±0.1×154.60E±0.08, h6km±31km, mb4.5/41, Error ellipse: s-maj=18.1km s-min=8.6km az=155.7*
*IDC **15** 12:51:36.7±0.7, 4608N×154.58E, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.3/25, mbtmp4.3/15, Error ellipse: s-maj=21.3km s-min=17.9km az=161.0*
*BJI **15** 12:51:37.4, 46.10N×154.60E, h10km, mb4.7*
*MOS **15** 12:51:38.4±1.1, 46.17N×154.56E, h21km, mb4.8/14, Error ellipse: s-maj=13.0km s-min=9.6km az=92.1*
*NEIC **15** 12:51:38.5±0.4, 46.10N×154.60E, h10km, mb4.7/26, Error ellipse: s-maj=11.6km s-min=5.4km az=172.0*
ISC 15 12:51:41.8±3.9, 462N±01×15456E±008, h32km±28km, n72, σ0°83/72, mb4.5/41, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.65**	**12**	*e*PN			**Pn**	**12 52 45.5**	**-4.3**
KUR	**Kuril'sk**	**4.78**	**261**	*e*PN			**Pn**	**12 52 50.0**	**-1.5**
KUR				pmax	pmax				
	comp=N,190nm,0.6s								
KUR				pmax	pmax				
	comp=E,230nm,0.6s								
KUR				pmax	pmax				
	comp=Z,300nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.18**	**280**	PN			**Pn**	**12 53 39.0**	**+0.8**
BILL	**Bilibino**	**22.77**	**11**	*e*P			**P**	**12 56 42.6**	**+1.2**
BILL				*e*				12 56 52.0	
BILL				pmax	pmax				
	comp=Z,37nm,1.2s,mb4.7								
BILL	**Bilibino**	**22.77**	**11**	*e*P			**P**	**12 56 42.3**	**+1.0**
	comp=Z,41nm,1.1s,mb4.8								
ULN	**Ulaanbaatar**	**32.04**	**291**	P			**P**	**12 58 07.4**	**+2.0**
ULN				pmax	pmax				
	comp=Z,8.0nm,1.2s,mb4.4								
ULN	**Ulaanbaatar**	**32.04**	**291**	P			**P**	**12 58 07.4**	**+2.0**
	comp=Z,7.6nm,1.2s,mb4.4								
SONM	**Songino Array**	**32.48**	**291**	P			**P**	**12 58 10.3**	**+1.1**
	comp=Z,1.1nm,0.9s,mb3.7,baz=76,slow=7.9,SNR=2.8								
IMA2	**Indian Mountai**	**33.71**	**35**	*e*P			**P**	**12 58 19.9**	**-0.2**
KDAK	**Kodiak Island**	**33.71**	**50**	P			**P**	**12 58 18.8**	**-1.2**
	comp=Z,13nm,0.8s,mb4.9,baz=144,slow=22,SNR=3.5								
MCK	**McKinley**	**35.47**	**40**	*e*P			**P**	**12 58 34.9**	**-0.3**
MCK				pmax	pmax				
	comp=Z,15nm,1.3s,mb4.8								
MCK	**McKinley**	**35.47**	**40**	*e*P			**P**	**12 58 34.9**	**-0.4**
	comp=Z,15nm,1.3s,mb4.8								
SML	**Sawmill**	**35.72**	**43**	*e*P			**P**	**12 58 37.1**	**-0.3**
COLA	**College**	**35.99**	**38**	*e*P			**P**	**12 58 39.8**	**+0.1**
COLA				pmax	pmax				
	comp=Z,83nm,1.4s,mb5.5								
COLA	**College**	**35.99**	**38**	*e*P			**P**	**12 58 39.8**	**0.0**
	comp=Z,83nm,1.4s,mb5.5								
EGAK	**Eagle**	**38.85**	**38**	*e*P			**P**	**12 59 03.3**	**-0.7**
	comp=Z,35nm,1.0s,mb5.0								
DAWY	**Dawson**	**39.67**	**39**	*e*P			**P**	**12 59 10.6**	**-0.2**
GTA	**Gaotai**	**40.05**	**281**	*e*P			**P**	**12 59 15.3**	**+1.3**
GTA						AP	pP	12 59 24.6	+1.2
GTA						XP	sP	12 59 29.1	+1.8
GTA						AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4								
INK	**Inuvik**	**41.63**	**32**	P			**P**	**12 59 27.2**	**+0.3**
	comp=Z,12nm,0.6s,mb4.7,baz=290,slow=6.7,SNR=15								
DLBC	**Dease Lake**	**45.30**	**46**	*e*P			**P**	**12 59 57.8**	**+1.3**
MKAR	**Makanchi Array**	**48.10**	**298**	P			**P**	**13 00 17.9**	**-0.6**
	comp=Z,5.3nm,1.0s,mb4.5,baz=61,slow=8.5,SNR=4.9								
KURK	**Kurchatov**	**48.53**	**305**	P			**P**	**13 00 20.7**	**-1.0**
KURK				pmax	pmax				
	comp=Z,16nm,1.2s,mb4.9								
KURK	**Kurchatov**	**48.53**	**305**	P			**P**	**13 00 20.7**	**-1.0**
	comp=Z,16nm,1.2s,mb4.9								
LSA	**Lhasa**	**51.31**	**275**	P			**P**	**13 00 44.8**	**+1.9**
LSA				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.6								
LSA	**Lhasa**	**51.31**	**275**	P			**P**	**13 00 44.8**	**+2.0**
	comp=Z,7.6nm,1.0s,mb4.6								
CHKZ	**Chkalovo**	**51.58**	**311**	*e*P			**P**	**13 00 44.1**	**-0.8**
CHKZ				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8								
CHKZ	**Chkalovo**	**51.58**	**311**	*e*P			**P**	**13 00 44.1**	**-0.8**
	comp=Z,9.6nm,0.9s,mb4.7								
BVAR	**Borovoye Array**	**52.01**	**310**	P			**P**	**13 00 47.4**	**-0.7**
	comp=Z,1.4nm,0.3s,mb4.3,baz=60,slow=9.2,SNR=5.2								
BRVK	**Borovoye**	**52.05**	**310**	*e*P			**P**	**13 00 48.3**	**-0.1**
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.1s,mb4.6								
BRVK	**Borovoye**	**52.05**	**310**	*e*P			**P**	**13 00 48.3**	**-0.1**
	comp=Z,8.0nm,1.1s,mb4.6								
ZRNK	**Zerenda**	**52.77**	**311**	*e*P			**P**	**13 00 53.4**	**-0.4**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
ZRNK	**Zerenda**	**52.77**	**311**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.73**	**258**	*i* PN	**Pn**	**12 54 07.0**	**-5.7**
KUR				pmax	pmax		
	comp=Z,340nm,0.8s						
ASAJ	**Asahikawa**	**8.65**	**259**	Pn	**Pn**	**12 55 06.2**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=122,slow=19,SNR=2.2						
ASAJ	**Asahikawa**	**8.65**	**259**	PN	**Pn**	**12 55 06.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**21.57**	**255**	P	**P**	**12 57 49.9**	**+0.9**
	comp=Z,3.2nm,0.7s,mb3.9,baz=51,slow=11,SNR=4.5						
SONM	**Songino Array**	**32.28**	**290**	P	**P**	**12 59 27.4**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=75,slow=8.4,SNR=2.1						
SONM	**Songino Array**	**32.28**	**290**	P	**P**	**12 59 27.4**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**41.43**	**32**	P	**P**	**13 00 44.4**	**-0.9**
	comp=Z,5.5nm,0.9s,mb4.2,baz=269,slow=8.1,SNR=4.0						
INK	**Inuvik**	**41.43**	**32**	P	**P**	**13 00 44.4**	**-0.9**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**13 01 36.6**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=68,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**13 01 36.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.63**	**37**	P	**P**	**13 01 57.6**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.5,baz=297,slow=7.1,SNR=5.7						
YKA	**Yellowknife Ar**	**50.63**	**37**	P	**P**	**13 01 57.6**	**0.0**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**59.59**	**313**	P	**P**	**13 03 03.1**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.4,baz=98,slow=3.2,SNR=4.2						
AKTO	**Aktyubinsk**	**59.59**	**313**	P	**P**	**13 03 03.1**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**61.78**	**63**	P	**P**	**13 03 17.9**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.2,baz=292,slow=12,SNR=4.8						
PDAR	**Pinedale Array**	**64.20**	**54**	P	**P**	**13 03 33.7**	**+0.5**
	comp=Z,2.8nm,0.9s,mb4.3,baz=287,slow=3.4,SNR=7.2						
FINES	**FINESS Array B**	**64.69**	**335**	P	**P**	**13 03 35.3**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=60,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**64.69**	**335**	P	**P**	**13 03 35.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**68.52**	**200**	P	**P**	**13 04 00.4**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=21,slow=6.9,SNR=7.7						
WRA	**Warramunga Arr**	**68.52**	**200**	P	**P**	**13 04 00.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**72.21**	**200**	P	**P**	**13 04 23.5**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=17,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**72.21**	**200**	P	**P**	**13 04 23.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**76.86**	**61**	P	**P**	**13 04 50.5**	**+0.2**
	comp=Z,5.6nm,0.6s,mb4.7,baz=303,slow=4.6,SNR=14						
TXAR	**Lajitas Array**	**76.86**	**61**	P	**P**	**13 04 50.5**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**78.81**	**191**	P	**P**	**13 05 00.3**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.2,baz=333,slow=6.8,SNR=3.5						

ISCJB ***15*** *12:54:33.6±0.8, 470N±02×1536E±01, h10km, mb4.4/20, Error ellipse: s-maj=23.1km s-min=12.3km az=135.2*
IDC ***15*** *12:54:33.1±1.0, 4693N×15349E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/24, mbtmp4.1/14, Error ellipse: s-maj=27.6km s-min=18.7km az=170.0*

ISC 15 12:54:35.7±0.8, 471N±02×1537E±01, h10km, n23, σ1°16/23, mb4.4/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.26**	**252**	P	**P**	**12 59 20.4**	**-1.6**
	2.4nm,0.8s,mb3.6,baz=67,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**31.57**	**289**	P	**P**	**13 00 55.2**	**-3.0**
	0.7nm,0.7s,mb3.6,baz=96,slow=3.0,SNR=3.5						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**13 02 20.2**	**+0.2**
	1.2nm,0.8s,mb3.6,baz=262,slow=5.7,SNR=2.2						
MKAR	**Makanchi Array**	**47.11**	**297**	P	**P**	**13 03 04.9**	**-2.9**
	0.3nm,0.4s,mb3.6,baz=68,slow=8.6,SNR=4.3						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**13 03 35.6**	**-1.4**
	1.1nm,0.4s,mb4.1,baz=52,slow=7.0,SNR=4.3						
JIRN	**Jiri**	**55.29**	**275**	*eP*	**P**	**13 04 10.3**	**+1.0**
	22nm,0.8s,mb5.3						
GUN	**Gumba**	**55.34**	**275**	*eP*	**P**	**13 04 10.6**	**+1.0**
KKN	**Kakani**	**55.83**	**275**	*eP*	**P**	**13 04 14.5**	**+1.4**
	15nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.88**	**275**	*eP*	**P**	**13 04 14.4**	**+0.9**
DMN	**Daman**	**56.06**	**275**	*eP*	**P**	**13 04 16.1**	**+1.3**
	28nm,0.9s,mb5.3						
GKN	**Gorkha**	**56.13**	**276**	*eP*	**P**	**13 04 16.2**	**+0.9**
	33nm,0.8s,mb5.4						
KOLN	**Koldanda**	**56.98**	**277**	*eP*	**P**	**13 04 22.2**	**+0.9**
	26nm,0.8s,mb5.3						
ARCES	**ARCESS Array B**	**57.63**	**341**	P	**P**	**13 04 25.1**	**-0.8**
	9.4nm,1.1s,mb4.7,baz=13,slow=7.5,SNR=4.1						
NVAR	**Mina Array Bea**	**61.94**	**63**	P	**P**	**13 04 55.7**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=320,slow=8.0,SNR=2.6						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**13 05 07.8**	**-0.6**
	4.2nm,0.9s,mb4.5,baz=90,slow=13,SNR=4.8						
PDAR	**Pinedale Array**	**64.23**	**54**	P	**P**	**13 05 11.1**	**+0.2**
	1.6nm,0.8s,mb4.1,baz=286,slow=1.6,SNR=6.6						
NB2	**NORSAR Subarra**	**68.00**	**341**	P	**P**	**13 05 34.9**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.00**	**341**	P	**P**	**13 05 35.2**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=12						
AKASG	**Malin Array Be**	**71.45**	**326**	P	**P**	**13 05 55.4**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.4,baz=33,slow=6.2,SNR=8.9						
ASAR	**Alice Springs**	**72.67**	**199**	P	**P**	**13 06 01.5**	**-2.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=5.9,SNR=4.5						
CLL	**Collm**	**76.29**	**336**	*i* P	**P**	**13 06 25.1**	**+0.5**
	comp=Z,10.0nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**13 06 28.6**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=320,slow=6.1,SNR=4.7						
GERES	**GERESS Array B**	**78.29**	**334**	P	**P**	**13 06 37.0**	**+1.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=24,slow=3.6,SNR=6.4						

IDC 15 12:56:54.1±2.6, 4694N×15526E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.9/4, Error ellipse: s-maj=94.4km s-min=33.6km az=77.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	13 05 35.4	-0.6
	0.7nm,0.6s,baz=70,slow=7.3,SNR=3.8						
BVAR	**Borovoye Array**	**51.87**	**310**	P	P	13 06 04.2	0.0
	1.1nm,0.5s,baz=56,slow=8.4,SNR=5.4						
FINES	**FINESS Array B**	**64.49**	**336**	P	P	13 07 31.9	-0.6
	1.7nm,0.7s,baz=57,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**72.88**	**200**	P	P	13 08 24.8	-0.1
	0.6nm,0.7s,baz=20,slow=5.8,SNR=5.7						

IDC ***15*** *12:57:40.5±0.8, 4682N×15497E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/26, mbtmp4.0/12, ML3.6/2, Error ellipse: s-maj=23.8km s-min=20.1km az=154.0*
MOS ***15*** *12:57:43.8±0.8, 4684N×15481E, h33km, mb4.2/9, Error ellipse: s-maj=24.2km s-min=19.6km az=69.2*
ISCJB ***15*** *12:57:44.8±3.5, 468N±0.1×1548E±0.2, h41km±31km, mb4.0/11, Error ellipse: s-maj=24.6km s-min=18.4km az=62.8*

ISC 15 12:57:47.3±2.6, 469N±01×1549E±02, h48km±24km, n23, σ0°79/23, mb4.0/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.04**	**257**	Pn	**Pn**	**12 59 54.4**	**-0.7**
	0.8nm,0.3s,baz=120,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**9.04**	**257**	PN	**Pn**	**12 59 54.4**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.11**	**236**	Pn	**Pn**	**13 01 30.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=33,slow=9.1,SNR=3.5						
MAT	**Matsushiro**	**16.12**	**236**	P	**Pn**	**13 01 33.8**	**+3.3**
KSRS	**Korea Array**	**21.97**	**254**	P	**P**	**13 02 38.7**	**+1.6**
	comp=Z,2.0nm,0.7s,mb3.6,baz=52,slow=12,SNR=2.5						
BILL	**Bilibino**	**22.03**	**11**	*eP*	**P**	**13 02 37.8**	**+0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**32.42**	**290**	P	**P**	**13 04 12.3**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=52,slow=12,SNR=3.9						
SONM	**Songino Array**	**32.42**	**290**	P	**P**	**13 04 12.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**13 06 21.1**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=74,slow=8.0,SNR=5.2						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**13 06 21.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**13 06 49.1**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=45,slow=6.0,SNR=4.1						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**13 06 49.1**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**13 07 46.1**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=70,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**13 07 46.1**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.71**	**55**	P	**P**	**13 08 14.1**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=298,slow=3.2,SNR=4.9						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**13 08 18.2**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.2,baz=36,slow=7.7,SNR=5.2						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**13 08 18.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.02**	**201**	P	**P**	**13 08 46.6**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=20,slow=6.9,SNR=6.3						
WRA	**Warramunga Arr**	**69.02**	**201**	P	**P**	**13 08 46.6**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.70**	**200**	P	**P**	**13 09 10.3**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=16,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**72.70**	**200**	P	**P**	**13 09 10.3**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**13 09 32.0**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.3,baz=301,slow=4.8,SNR=8.7						
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**13 09 32.0**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC 15 12:58:01.1±1.0, 4686N×15402E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/22, mbtmp4.1/8, Error ellipse: s-maj=30.9km s-min=29.0km az=23.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.45**	**298**	P	P	13 06 36.5	-0.9
	0.7nm,0.5s,baz=66,slow=10,SNR=4.2						
PDAR	**Pinedale Array**	**64.18**	**54**	P	P	13 08 37.9	+0.3
	1.1nm,0.8s,baz=290,slow=2.7,SNR=5.6						
FINES	**FINESS Array B**	**64.21**	**335**	P	P	13 08 36.6	-1.1
	1.5nm,0.7s,baz=36,slow=8.4,SNR=6.2						
NB2	**NORSAR Subarra**	**68.33**	**342**	P	P	13 09 03.6	-0.5
	comp=Z,0.3nm,0.6s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.33**	**342**	P	P	13 09 03.7	-0.4
	comp=Z,2.1nm,0.7s,baz=26,slow=6.4,SNR=4.8						
AKASG	**Malin Array Be**	**71.80**	**327**	P	P	13 09 25.2	-0.3
	comp=Z,0.5nm,0.3s,baz=34,slow=6.3,SNR=5.0						
ASAR	**Alice Springs**	**72.51**	**199**	P	P	13 09 29.7	0.0
	comp=Z,1.7nm,0.8s,baz=10,slow=5.1,SNR=6.9						
TXAR	**Lajitas Array**	**76.90**	**61**	P	P	13 09 54.9	-0.3
	comp=Z,1.0nm,0.7s,baz=316,slow=5.2,SNR=3.1						
GERES	**GERESS Array B**	**78.63**	**335**	P	P	13 10 06.1	+1.3
	comp=Z,0.8nm,0.7s,baz=46,slow=3.9,SNR=3.7						

ISCJB ***15*** *13:00:01.1±0.3, 4674N±006×15491E±008, h10km, mb4.4/41, Error ellipse: s-maj=10.3km s-min=6.5km az=109.4*
BJI ***15*** *13:00:02.8, 4670N×15490E, h10km, mb4.7*
NEIC ***15*** *13:00:02.8±0.3, 4672N×15490E, h10km, mb4.6/20, Error ellipse: s-maj=8.9km s-min=6.3km az=140.0*
MOS ***15*** *13:00:03.7±1.0, 4675N×15484E, h28km, mb4.8/12, Error ellipse: s-maj=14.3km s-min=9.8km az=87.8*
IDC ***15*** *13:00:06.8±0.8, 4671N×15487E, h38km±5km, mb4.0/16, mb1 4.2/18, mb1mx4.1/26, mbtmp4.0/18, ML3.8/2, Error ellipse: s-maj=17.4km s-min=13.8km az=156.0*

ISC 15 13:00:03.7±4.5, 4676N±007×15491E±009, h15km±28km, h37km±3.4km:pP-P, n76, σ0°95/72, mb4.4/40, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.72**	**20**	PN	**Pn**	**13 01 41.7**	**-0.2**
ASAJ	**Asahikawa**	**9.05**	**258**	Pn	**Pn**	**13 02 15.0**	**+1.1**
	1.2nm,0.3s,baz=105,slow=12,SNR=5.7						
ASAJ	**Asahikawa**	**9.05**	**258**	PN	**Pn**	**13 02 15.0**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.09**	**237**	*eP*	**Pn**	**13 03 47.5**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MAJO	**Matsushiro**	**16.09**	**237**	*eP*	**Pn**	**13 03 47.5**	**-2.0**
	comp=Z,4.3nm,0.5s						
MJAR	**Matsushiro Arr**	**16.09**	**237**	Pn	**Pn**	**13 03 49.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=4.0						
MJAR	**Matsushiro Arr**	**16.09**	**237**	Pn	**Pn**	**13 03 49.7**	**+0.3**
YAK	**Yakutsk**	**21.00**	**326**	*eP*	**P**	**13 04 47.3**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**21.00**	**326**	*eP*	**P**	**13 04 47.3**	**+0.7**
	comp=Z,13nm,0.7s						
KSRS	**Korea Array**	**21.99**	**255**	P	**P**	**13 04 56.3**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.5,baz=55,slow=11,SNR=3.6						
BILL	**Bilibino**	**22.13**	**11**	*eP*	**P**	**13 05 00.1**	**+1.4**
BILL				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.6						
BILL	**Bilibino**	**22.13**	**11**	*eP*	**P**	**13 04 59.8**	**+1.1**
	comp=Z,19nm,1.0s,mb4.5						
BOD	**Bodaibo**	**26.94**	**309**	*eP*	**P**	**13 05 39.6**	**-4.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.9						
NJ2	**Nanjing**	**31.19**	**255**	*eP*	**P**	**13 06 22.4**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**32.50**	**290**	P	**P**	**13 06 32.3**	**-1.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=59,slow=6.8,SNR=5.7						
ZAK	**Zakamensk**	**33.80**	**296**	*eP*	**P**	**13 06 46.2**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
GTA	**Gaotai**	**40.19**	**280**	*eP*	**P**	**13 07 41.3**	**+1.9**
GTA				AP	pP	13 07 47.5	+3.5
GTA				XP	sP	13 07 51.3	+5.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**13 07 45.5**	**-0.5**
	comp=Z,1.8nm,0.5s,mb3.9,baz=289,slow=6.1,SNR=7.7						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**13 07 45.5**	**-0.5**
CD2	**Chengdu**	**42.11**	**267**	P	**P**	**13 07 59.3**	**+4.0**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
GYA	**Guiyang**	**42.93**	**259**	P	**P**	**13 08 03.1**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**13 08 41.7**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=71,slow=8.1,SNR=7.2						
MKAR				pP	pP	13 08 53.5	+6.5
	comp=Z,2.7nm,0.9s,baz=70,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**13 08 41.7**	**-0.7**
MKAR				pP	pP	13 08 53.5	+6.5
KURK	**Kurchatov**	**48.39**	**304**	*eP*	**P**	**13 08 44.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KURK	**Kurchatov**	**48.39**	**304**	*eP*	**P**	**13 08 44.7**	**-0.3**
	comp=Z,10nm,1.1s,mb4.8						
RES	**Resolute Bay**	**50.44**	**19**	*eP*	**P**	**13 09 00.6**	**-0.1**
RES				pmax	pmax		
	comp=Z,120nm,0.9s						
RES	**Resolute Bay**	**50.44**	**19**	*eP*	**P**	**13 09 00.6**	**-0.1**
	comp=Z,120nm,0.9s						
CHKZ	**Chkalovo**	**51.37**	**311**	*eP*	**P**	**13 09 05.9**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**51.37**	**311**	*eP*	**P**	**13 09 05.9**	**-1.8**
	comp=Z,10.0nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**13 09 10.0**	**-1.0**
	comp=Z,2.4nm,0.3s,mb4.5,baz=55,slow=7.8,SNR=15						
BVAR				pP	pP	13 09 21.6	+5.9
	comp=Z,3.6nm,0.5s,baz=54,slow=7.7,SNR=8.8						
BRVK	**Borovoye**	**51.85**	**310**	*eP*	**P**	**13 09 11.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**51.85**	**310**	*eP*	**P**	**13 09 11.4**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.57**	**311**	*eP*	**P**	**13 09 15.2**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**52.57**	**311**	*eP*	**P**	**13 09 15.2**	**-1.5**
	comp=Z,4.6nm,0.5s,mb4.7						
CHTO	**Chiang Mai**	**53.33**	**258**	*eP*	**P**	**13 09 23.7**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**53.33**	**258**	*eP*	**P**	**13 09 23.7**	**+1.4**
	comp=Z,5.3nm,1.1s,mb4.4						
ARU	**Arti**	**55.84**	**318**	*eP*	**P**	**13 09 41.3**	**+0.8**
ARU	**Arti**	**55.84**	**318**	*eP*	**P**	**13 09 39.1**	**-1.4**
	comp=Z,7.2nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**58.25**	**341**	P	**P**	**13 09 56.9**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.3,baz=36,slow=7.0,SNR=6.2						
NVAR	**Mina Array Bea**	**61.33**	**63**	P	**P**	**13 10 19.2**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.1,baz=293,slow=9.3,SNR=7.2						
MOOW	**Moose Ponds**	**62.44**	**55**	*eP*	**P**	**13 10 26.9**	**+0.7**
	comp=Z,327nm,3.6s						
REDW	**Red Top Meadow**	**62.63**	**55**	*eP*	**P**	**13 10 28.3**	**+0.8**
	comp=Z,8.7nm,1.3s,mb4.7						
BW06	**Boulder Array**	**63.74**	**55**	*eP*	**P**	**13 10 34.6**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**	**13 10 34.9**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=295,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**	**13 10 39.8**	**-0.5**
	comp=Z,2.3nm,0.3s,mb4.6,baz=35,slow=7.6,SNR=14						
FINES				pP	pP	13 10 51.4	+6.4
	comp=Z,6.2nm,0.8s,baz=42,slow=8.7,SNR=4.7						
ULM	**Lac du Bonnet**	**65.70**	**42**	P	**P**	**13 10 47.0**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=358,slow=7.4,SNR=3.1						
AGMN	**Agassiz Refuge**	**67.09**	**43**	*eP*	**P**	**13 10 55.0**	**-1.6**
	comp=Z,16nm,1.5s,mb4.8						
SMCO	**Snowmass**	**67.58**	**56**	*eP*	**P**	**13 10 50.7**	**-8.9**
	comp=Z,12nm,1.4s,mb4.7						
NB2	**NORSAR Subarra**	**68.61**	**342**	P	**P**	**13 11 06.8**	**+0.6**
	comp=Z,9.6nm,1.1s,mb4.6,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.61**	**342**	P	**P**	**13 11 06.5**	**+0.3**
	comp=Z,5.0nm,1.0s,mb4.4,baz=26,slow=6.4,SNR=6.1						
WRAB	**Tennant Creek**	**68.92**	**201**	*eP*	**P**	**13 11 07.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**68.92**	**201**	*eP*	**P**	**13 11 07.4**	**-0.7**
	comp=Z,3.9nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**68.93**	**201**	*eP*	**P**	**13 11 07.9**	**-0.2**
WRA	**Warramunga Arr**	**68.94**	**201**	P	**P**	**13 11 07.2**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=19,slow=6.6,SNR=9.4						
SDCO	**Great Sand Dun**	**69.40**	**57**	*eP*	**P**	**13 11 11.4**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.0						
ECSD	**EROS,Sioux Fal**	**69.98**	**47**	*eP*	**P**	**13 11 13.7**	**-1.0**
	comp=Z,40nm,2.0s,mb5.0						
AKASG	**Malin Array Be**	**72.22**	**327**	P	**P**	**13 11 28.3**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=5.7,SNR=6.0						
AS31	**Alice Springs**	**72.62**	**200**	*eP*	**P**	**13 11 31.2**	**+0.6**
ASAR	**Alice Springs**	**72.62**	**200**	P	**P**	**13 11 31.0**	**+0.4**
	comp=Z,3.9nm,0.9s,mb4.3,baz=14,slow=5.2,SNR=17						
ASPA	**Alice Springs**	**72.62**	**200**	*eP*	**P**	**13 11 31.2**	**+0.6**
MNTX	**Cornudas Mount**	**73.69**	**61**	*eP*	**P**	**13 11 37.1**	**+0.2**
	comp=Z,2.2nm,1.0s,mb4.0						
LTX	**Lajitas**	**76.41**	**62**	*eP*	**P**	**13 11 52.7**	**+0.1**
LTX				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
LTX	**Lajitas**	**76.41**	**62**	*eP*	**P**	**13 11 52.7**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**76.41**	**62**	P	**P**	**13 11 52.8**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8,baz=299,slow=4.1,SNR=24						
TXAR				pP	pP	13 12 03.8	+6.3
	comp

UTMO	**Huajuapan**	**2.44**	**75**	*i* P		Pn	13 04 35.5	+0.4
UTMO				*i* S		Sn	13 05 04.0	+0.2
MOIG	**Morelia**	**2.60**	**341**	*e*P		Pn	13 04 38.0	+0.7
MOIG				*i* S		Sn	13 05 07.6	-0.1
PTVM	**Pico Tres Padr**	**2.61**	**25**	*i* P		Pn	13 04 35.9	-1.6
PTVM				*i* S		Sn	13 05 07.0	-1.0
PTVM	**Pico Tres Padr**	**2.61**	**25**	*i* P		Pn	13 04 34.3	-3.2
PTVM				*i* S		Sn	13 05 07.0	-1.0
IIO	**Organos**	**2.79**	**32**	*e*P		Pn	13 04 39.5	-0.5
IIO				*i* S		Sn	13 05 13.2	+0.9
TPIG	**Tehuac#an**	**3.03**	**66**	*e*P		Pn	13 04 42.8	-0.4
TPIG				*i* S		Sn	13 05 16.5	-1.7
MMIG	**Aquila**	**3.11**	**291**	*i* P		Pn	13 04 44.1	-0.3
MMIG				*i* S		Sn	13 05 18.1	-2.3
VHO	**Vista Hermosa**	**3.39**	**92**	*i* S		Sn	13 05 25.0	-2.3
OXX	**Oaxaca**	**3.40**	**92**	*e*S		Sn	13 05 24.0	-3.5

IDC ***15*** *13:04:18.1±8.3, 46 69N×153.13E, h35km±6km, mb4.2/6, mb1 4.4/6, mb1mx3.8/23, mbtmp4.2/6, Error ellipse: s-maj=202.5km s-min=36.7km az=171.0*

ISCJB ***15*** *13:04:20.6±1.9, 47 4N×03×1530E±04, h35km, mb4.4/6, Error ellipse: s-maj=50.8km s-min=12.9km az=92.8*

MOS ***15*** *13:04:20.5±0.8, 47 36N×152 95E, h40km, mb4.7/5, Error ellipse: s-maj=65.6km s-min=23.0km az=79.0*

ISC 15 13:04:21.9±1.9, 47 4N±03×1530E±04, h37km, h37km±1.5km:pP-P, n14, σ0s32/15, mb4.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.90**	**30**	*e*PN	**Pn**	**13 05 19.5**	**+0.3**
SKR				*e*S	**Sn**	**13 06 03.5**	**-0.2**
SKR				pmax	pmax		
	comp=Z,310nm,0.4s						
SKR				smax			
	comp=N,310nm,0.4s						
SKR				smax			
	comp=E,160nm,0.4s						
SKR				smax			
	comp=Z,200nm,0.9s						
INK	**Inuvik**	**41.17**	**33**	P	**P**	**13 12 03.0**	**+0.4**
	comp=Z,3.4nm,0.5s,mb4.2,baz=258,slow=6.6,SNR=9.8						
INK	**Inuvik**	**41.17**	**33**	P	**P**	**13 12 03.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.47**	**37**	P	**P**	**13 13 15.4**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.5,baz=297,slow=7.1,SNR=4.7						
YKA	**Yellowknife Ar**	**50.47**	**37**	P	**P**	**13 13 15.4**	**-0.6**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**63.45**	**335**	P	**P**	**13 14 47.8**	**-0.1**
	comp=Z,2.4nm,0.4s,mb4.7,baz=38,slow=8.1,SNR=14						
FINES				pP	pP	13 14 58.5	-0.7
	comp=Z,2.8nm,0.4s,baz=38,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**63.45**	**335**	P	**P**	**13 14 47.8**	**-0.1**
FINES				*PP	pP	13 14 58.5	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.62**	**341**	P	**P**	**13 15 14.8**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**13 15 15.2**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.6,baz=27,slow=6.3,SNR=8.9						
NOA				pP	pP	13 15 25.6	-0.6
	comp=Z,2.5nm,0.8s,baz=26,slow=6.3,SNR=3.4						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**13 15 15.2**	**+0.4**
NOA				*PP	pP	13 15 25.6	-0.5
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**13 15 35.4**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=6.8						
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**13 15 35.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GERES	**GERESS Array B**	**77.87**	**334**	P	**P**	**13 16 15.8**	**+0.2**
	comp=Z,0.4nm,0.2s,mb3.9,baz=59,slow=5.9,SNR=3.4						
GERES				pP	pP	13 16 27.2	+0.1
	comp=Z,0.5nm,0.2s,baz=46,slow=5.8,SNR=2.0						
GERES	**GERESS Array B**	**77.87**	**334**	P	**P**	**13 16 15.8**	**+0.2**
GERES				*PP	pP	13 16 27.2	+0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						

IDC ***15*** *13:07:12.6±0.6, 47 81N×155.16E, h0km, mb4.4/21, mb1 4.6/22, mb1mx4.4/30, mbtmp4.4/22, ML3.5/1, Error ellipse: s-maj=18.3km s-min=12.9km az=157.0*

ISCJB ***15*** *13:07:13.1±0.2, 47 93N±004×15528E±003, h10km, mb4.7/75, MS5.4/2, Error ellipse: s-maj=6.5km s-min=3.2km az=162.1*

NEIC ***15*** *13:07:14.6±0.3, 47 86N×155 25E, h10km, mb4.9/45, Error ellipse: s-maj=9.0km s-min=5.2km az=170.0*

MOS ***15*** *13:07:15.1±1.4, 47 89N×155 24E, h25km, mb5.0/21, Error ellipse: s-maj=9.3km s-min=6.4km az=89.3*

BJI ***15*** *13:07:16.1, 48 08N×154 78E, h10km, mB5.2, mb4.8, Ms5.6, Msz5.4*

SKHL ***15*** *13:07:19.5±4.9, 47 94N×155 38E, h53km±17km*

SZGRF ***15*** *13:07:23.0, 48 59N×155 58E, h33km, mb5.4, Kuril Islands, Russia*

ISC 15 13:07:14.6±2.8, 4801N±005×15524E±004, h6km±17km, h15km±1.2km:pP-P, n300, σ0s85/298, mb4.7/75, MS5.4/2, 63C-56D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.74**	**12**	*e*P	**Pn**	**13 08 01.2**	**+2.2**
SKR				AMB	AMB	13 08 06.1	
	170nm,0.6s						
SKR				AMB	AMB	13 08 06.1	
	160nm,0.6s						
SKR				AMB	AMB	13 08 06.1	
	320nm,0.6s						
SKR				*e*S	**Sn**	**13 08 32.5**	**+0.2**
SKR				A		13 08 55.0	
	450nm,0.5s						
SKR				A		13 08 55.0	
	2μm,0.9s						
SKR				A		13 08 55.0	
	3μm,0.9s						
SKR	**Severo-Kuril's**	**2.74**	**12**	*e*PN	**Pn**	**13 08 01.2**	**+2.2**
SKR				*e*S	**Sn**	**13 08 32.5**	**+0.2**
SKR				pmax	pmax		
	comp=N,170nm,0.6s						
SKR				pmax	pmax		
	comp=E,160nm,0.6s						
SKR				pmax	pmax		
	comp=Z,320nm,0.6s						
SKR				smax			
	comp=N,2μm,0.9s						
SKR				smax			
	comp=E,3μm,0.9s						
PET	**Petropavlovsk**	**5.47**	**22**	*e*PN	**Pn**	**13 08 36.5**	**-0.1**
PET				pmax	pmax		
	comp=Z,240nm,1.0s						
PET	**Petropavlovsk**	**5.47**	**22**	*e*Pn	**Pn**	**13 08 36.1**	**-0.5**
	comp=Z,400nm,1.3s						
YSS	**Yuzh-Sakhalins**	**8.52**	**267**	*e*P	**Pn**	**13 09 22.5**	**+4.0**
YSS				*e*rx	rx	13 09 29.0	
YSS	**Yuzh-Sakhalins**	**8.52**	**267**	*e*Pn	**Pn**	**13 09 21.9**	**+3.5**
	comp=Z,40nm,0.8s						
UGL	**Uglegorsk**	**8.81**	**282**	*e*P	**Pn**	**13 09 28.0**	**+5.6**
UGL				AMB	AMB	13 09 30.0	
	comp=Z,48nm,0.8s						
ASAJ	**Asahikawa**	**9.61**	**251**	Pn	**Pn**	**13 09 34.5**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=85,slow=11,SNR=5.6						
ASAJ	**Asahikawa**	**9.61**	**251**	PN	**Pn**	**13 09 34.5**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**13.46**	**279**	*e*PN	**Pn**	**13 10 32.9**	**+6.8**
SEY	**Seymchan**	**15.04**	**355**	*e*P	**Pn**	**13 10 48.8**	**+1.2**
MAJO	**Matsushiro**	**16.99**	**234**	*e*P	**Pn**	**13 11 09.4**	**-3.4**
MAT	**Matsushiro**	**16.99**	**234**	P	**Pn**	**13 11 09.6**	**-3.2**
MJAR	**Matsushiro Arr**	**16.99**	**234**	Pn	**Pn**	**13 11 09.1**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=8.8						
ZEA	**Zeya**	**18.50**	**299**	*e*P	**Pn**	**13 11 30.2**	**-1.2**
ZEA				AMB	AMB	13 11 31.9	
	comp=Z,28nm,1.4s						
YAK	**Yakutsk**	**20.10**	**324**	*e*P	**P**	**13 11 48.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YAK	**Yakutsk**	**20.10**	**324**	P	**P**	**13 11 48.4**	**-0.5**
	comp=Z,65nm,1.0s						
CLNS	**Chul'man**	**20.35**	**307**	*e*P	**P**	**13 11 52.6**	**+1.0**
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				pmax	pmax		
	comp=N,26nm,1.1s						
CLNS				pmax	pmax		
	comp=N,25nm,1.1s						
BILL	**Bilibino**	**20.85**	**12**	*e*P	**P**	**13 11 55.6**	**-1.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	**Bilibino**	**20.85**	**12**	*e*P	**P**	**13 11 55.3**	**-1.8**
	comp=Z,21nm,1.0s						
CN2	**Changchun**	**21.08**	**270**	*e*P	**P**	**13 11 56.1**	**-3.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
KSRS	**Korea Array**	**22.55**	**252**	P	**P**	**13 12 15.2**	**-0.1**
	comp=Z,20nm,1.1s,mb4.5,baz=56,slow=10,SNR=14						
HIA	**Hailar**	**23.36**	**286**	*e*P	**P**	**13 12 21.9**	**-1.9**
BOD	**Bodaibo**	**26.33**	**307**	*e*P	**P**	**13 12 54.2**	**+3.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
HHC	**Hu-ho-hao-te**	**31.65**	**273**	*e*P	**P**	**13 13 38.6**	**+0.1**
HHC				XP	sP	13 13 45.8	+4.7
HHC				PP	PP	13 14 39.3	-11
HHC				AMB	AMB		
	comp=Z,102nm,1.1s,mb5.6						
NJ2	**Nanjing**	**31.75**	**253**	*e*P	**P**	**13 13 42.4**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
ULN	**Ulaanbaatar**	**31.86**	**288**	*e*P	**P**	**13 13 40.3**	**0.0**
KDAK	**Kodiak Island**	**32.19**	**53**	P	**P**	**13 13 41.8**	**-1.4**
	comp=Z,20nm,1.1s,mb4.9,baz=298,slow=5.7,SNR=3.5						
SONM	**Songino Array**	**32.29**	**288**	P	**P**	**13 13 43.7**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=87,slow=7.9,SNR=5.2						
ZAK	**Zakamensk**	**33.47**	**294**	*e*P	**P**	**13 13 52.6**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
COLA	**College**	**34.25**	**39**	*e*P	**P**	**13 14 00.5**	**-0.7**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**34.25**	**39**	*e*P	**P**	**13 14 00.5**	**-0.7**
	comp=Z,13nm,0.8s,mb4.8						
EGAK	**Eagle**	**37.11**	**40**	*e*P	**P**	**13 14 24.6**	**-1.1**
DAWY	**Dawson**	**37.95**	**41**	*e*P	**P**	**13 14 30.8**	**-2.1**
LZH	**Lanzhou**	**39.29**	**272**	*e*P	**P**	**13 14 46.0**	**+1.9**
LZH				AP	pP	13 14 51.3	+5.3
LZH				XP	sP	13 14 55.0	+8.2
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,201nm,5.0s						
INK	**Inuvik**	**39.81**	**33**	P	**P**	**13 14 49.0**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.2,baz=261,slow=7.5,SNR=7.0						
CD2	**Chengdu**	**42.42**	**265**	*e*P	**P**	**13 15 10.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
GYA	**Guiyang**	**43.39**	**258**	*i*P	**P**	**13 15 17.8**	**0.0**
GYA				AP	pP	13 15 21.8	+2.1
GYA				XP	sP	13 15 24.6	+4.1
GYA				PP	PP	13 17 02.8	+4.2
GYA				PCP	PcP	13 17 09.1	+2.8
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=Z,470nm,17.9s,MS4.4						
DLBC	**Dease Lake**	**43.68**	**47**	*e*P	**P**	**13 15 21.5**	**+1.4**
WMQ	**Urumqi**	**45.82**	**291**	P	**P**	**13 15 37.0**	**-0.2**
WMQ				AP	pP	13 15 41.5	+2.4
WMQ				XP	sP	13 15 44.0	+4.1
WMQ				PCP	PcP	13 17 15.3	+0.7
WMQ				PP	PP	13 17 24.5	+0.1
WMQ				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
WMQ				LR	LR		
	comp=N,24μm,15.6s,MS6.3						
WMQ				LR	LR		
	comp=E,22μm,17.5s,MS6.3						
WMQ				LR	LR		
	comp=Z,20μm,19.2s,MS6.1						
KMI	**Kunming**	**46.89**	**260**	P	**P**	**13 15 46.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**46.89**	**260**	P	**P**	**13 15 46.7**	**+1.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**46.89**	**260**	P	**P**	**13 15 46.7**	**+1.1**
	comp=Z,9.0nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**47.65**	**297**	P	**P**	**13 15 50.6**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.4,baz=67,slow=9.3,SNR=12						
KURK	**Kurchatov**	**47.87**	**303**	⇓P	**P**	**13 15 52.3**	**-1.0**
	SNR=8.9						
KURK	**Kurchatov**	**47.87**	**303**	*e*P	**P**	**13 15 51.4**	**-1.9**
KURK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
KURK	**Kurchatov**	**47.87**	**303**	*e*P	**P**	**13 15 51.4**	**-1.8**
	comp=Z,15nm,0.7s,mb5.1						
YKA	**Yellowknife Ar**	**49.05**	**38**	P	**P**	**13 16 02.3**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.7,baz=302,slow=7.8,SNR=3.8						
RES	**Resolute Bay**	**49.17**	**19**	*e*P	**P**	**13 16 03.4**	**+0.1**
	comp=Z,147nm,0.9s						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**	**13 16 13.2**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**	**13 16 13.2**	**-1.9**
	comp=Z,16nm,0.7s,mb5.1						
BVAR	**Borovoye Array**	**51.17**	**309**	P	**P**	**13 16 17.1**	**-1.4**
	comp=Z,2.7nm,0.4s,mb4.5,baz=52,slow=7.9,SNR=12						
BRVK	**Borovoye**	**51.21**	**310**	*e*P	**P**	**13 16 17.9**	**-0.8**
	comp=Z,1μm,3.5s						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**13 16 22.7**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**13 16 22.7**	**-1.4**
	comp=Z,6.8nm,0.7s,mb4.7						
A07A	**Asnola River,**	**53.04**	**55**	⇓P	**P**	**13 16 31.8**	**-0.5**
	baz=53						
B07A	**Winthrop**	**53.51**	**56**	⇓P	**P**	**13 16 34.9**	**-0.9**
	baz=53						
A08A	**Turner Farm, O**	**53.70**	**55**	⇓P	**P**	**13 16 36.3**	**-0.9**
	baz=53						
CHTO	**Chiang Mai**	**53.81**	**258**	⇓P	**P**	**13 16 38.9**	**+0.9**
	SNR=6.0						
CHTO	**Chiang Mai**	**53.81**	**258**	*e*P	**P**	**13 16 38.5**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
CHTO	**Chiang Mai**	**53.81**	**258**	*e*P	**P**	**13 16 38.5**	**+0.5**
	comp=Z,25nm,1.3s,mb5.0						
D06A	**Cle Elum**	**53.81**	**57**	⇑P	**P**	**13 16 36.0**	**-2.0**
	baz=54						
C07A	**Waterville**	**53.97**	**56**	⇑P	**P**	**13 16 37.5**	**-1.6**
	baz=54						
B08A	**Colville Reser**	**54.00**	**55**	⇑P	**P**	**13 16 37.7**	**-1.7**
	baz=54						
A09A	**Danville**	**54.06**	**54**	⇓P	**P**	**13 16 38.9**	**-1.0**
	baz=54,SNR=5.7						
EDM	**Edmonton**	**54.40**	**48**	*e*P	**P**	**13 16 41.7**	**-0.6**
J02A	**Umpqua**	**54.41**	**62**	⇓P	**P**	**13 16 41.7**	**-0.6**
	baz=54						
H04A	**Detroit Lake**	**54.47**	**60**	⇑P	**P**	**13 16 42.8**	**0.0**
	baz=54						
AAK	**Ala-Archa**	**54.56**	**297**	⇑*e*P	**P**	**13 16 42.1**	**-1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**54.56**	**297**	*e*P	**P**	**13 16 42.0**	**-1.5**
	comp=Z,13nm,1.5s,mb4.7						
B09A	**Rice**	**54.61**	**55**	⇓P	**P**	**13 16 43.3**	**-0.6**
	baz=54						
A10A	**Northport**	**54.62**	**54**	⇑P	**P**	**13 16 42.9**	**-1.0**
	baz=54						
E07A	**Sunnyside**	**54.73**	**57**	⇓P	**P**	**13 16 45.0**	**+0.3**
	baz=54						
C09A	**Chrisman Ranch**	**54.90**	**55**	⇑P	**P**	**13 16 44.7**	**-1.3**
	baz=55						
ARU	**Arti**	**55.05**	**318**	*i*P	**P**	**13 16 45.2**	**-1.9**
ARU				*e*S	**S**	**13 24 26.7**	**-3.2**
ARU				*e*SS	SS	13 28 16.4	+2.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
B10A	**Chitwood Farm,**	**55.19**	**54**	⇑P	**P**	**13 16 48.2**	**+0.2**
	baz=55						
E08A	**Dider Farm, El**	**55.22**	**57**	⇑P	**P**	**13 16 46.6**	**-1.6**
	baz=55						
NEW	**Newport**	**55.27**	**54**	P	**P**	**13 16 47.8**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=323,slow=5.5,SNR=4.6						
A11A	**Hall Mountain,**	**55.28**	**53**	⇑P	**P**	**13 16 48.4**	**-0.2**
	baz=55						
H06A	**Lindquist Farm**	**55.51**	**59**	⇓P	**P**	**13 16 50.4**	**0.0**
	baz=55						
A12A	**Yaak River Ran**	**55.67**	**53**	⇑P	**P**	**13 16 51.7**	**+0.1**
	baz=55						
E09A	**Wood Farm, Sta**	**55.72**	**57**	⇓P	**P**	**13 16 51.7**	**-0.1**
	baz=55						
J05A	**Fort Rock**	**55.84**	**61**	⇑P	**P**	**13 16 52.8**	**+0.1**
	baz=56						
YBH	**Yreka Blue Hor**	**55.88**	**64**	P	**P**	**13 16 53.8**	**+0.8**
	comp=Z,10.0nm,1.1s,mb4.8,baz=350,slow=3.2,SNR=9.4						
YBH	**Yreka Blue Hor**	**55.88**	**64**	P	**P**	**13 16 54.0**	**+1.0**
	baz=56,SNR=5.7						
M02C	**Callahan**	**56.00**	**64**	⇓P	**P**	**13 16 54.8**	**+1.0**
	baz=56						
I06A	**Prineville**	**56.05**	**60**	⇑P	**P**	**13 16 54.3**	**0.0**
	baz=56						
N02C	**Big Bar**	**56.07**	**65**	⇑P	**P**	**13 16 54.6**	**+0.2**
	baz=56						
L04A	**Klamath Falls**	**56.11**	**63**	⇓P	**P**	**13 16 54.0**	**-0.6**
	baz=56						
JIRN	**Jiri**	**56.28**	**275**	*e*P	**P**	**13 16 56.6**	**+0.7**
	comp=Z,79nm,1.5s,mb5.5						
K05A	**Summer Lake**	**56.37**	**62**	⇑P	**P**	**13 16 57.4**	**+0.9**
	baz=56						
M04C	**Macdoel**	**56.38**	**63**	⇑P	**P**	**13 16 56.3**	**-0.2**
	baz=56						
I07A	**Izee**	**56.38**	**60**	⇓P	**P**	**13 16 56.6**	**0.0**
	baz=56						
D11A	**Klaveano Farm,**	**56.41**	**55**	⇓P	**P**	**13 16 56.6**	**-0.1**
	baz=56						
M03C	**McCloud**	**56.51**	**64**	⇓P	**P**	**13 16 57.3**	**-0.2**
	baz=56						
F10A	**Beach Ranch, E**	**56.55**	**57**	⇓P	**P**	**13 16 57.3**	**-0.5**
	baz=56						
H08A	**Prairie City**	**56.60**	**59**	⇓P	**P**	**13 16 57.0**	**-1.1**
	baz=56						
B13A	**Whitefish**	**56.64**	**53**	P	**P**	**13 16 58.8**	**+0.4**
	baz=56,SNR=6.3						
WDC	**Whiskeytown Da**	**56.68**	**65**	⇑P	**P**	**13 16 59.3**	**+0.6**
	baz=56						
K06A	**Valley Falls**	**56.71**	**61**	P	**P**	**13 16 59.9**	**+1.0**
	baz=56,SNR=6.7						
O02C	**Red Bluff**	**56.77**	**65**	⇑P	**P**	**13 16 59.6**	**+0.3**
	baz=56						
KKN	**Kakani**	**56.80**	**276**	*e*P	**P**	**13 17 00.6**	**+1.0**
L05A	**Lakeview**	**56.81**	**62**	⇓P	**P**	**13 17 00.6**	**+0.9**
	baz=56						
PKI	**Pulchoki**	**56.86**	**276**	*e*P	**P**	**13 17 00.7**	**+0.7**
J07A	**Hines**	**56.91**	**60**	⇑P	**P**	**13 17 00.4**	**+0.1**
	baz=57						
C13A	**Hot Springs**	**56.99**	**54**	⇓P	**P**	**13 17 01.9**	**+0.9**
	baz=57						
I08A	**Drewsey**	**57.02**	**59**	P	**P**	**13 17 01.8**	**+0.7**
	baz=57,SNR=7.3						
DMN	**Daman**	**57.03**	**276**	*e*P	**P**	**13 17 02.5**	**+1.3**
	comp=Z,112nm,1.3s,mb5.7						
M05C	**Lookout**	**57.05**	**63**	⇓P	**P**	**13 17 01.5**	**+0.2**
	baz=57						
GKN	**Gorkha**	**57.09**	**277**	*e*P	**P**	**13 17 02.3**	**+0.7**
	comp=Z,83nm,1.2s,mb5.6						
GASB	**Alder Springs**	**57.13**	**66**	⇑P	**P**	**13 17 03.3**	**+1.4**
	baz=57						
BMO	**Blue Mountains**	**57.18**	**58**	*e*P	**P**	**13 17 01.9**	**-0.3**
	comp=Z,31nm,1.8s,mb5.0						
F11A	**Grangeville**	**57.20**	**56**	⇑P	**P**	**13 17 03.1**	**+0.7**
	baz=57						
MOD	**Modoc**	**57.22**	**62**	*e*P	**P**	**13 17 02.8**	**+0.2**
	comp=Z,8.1nm,1.2s,mb4.6						
MOD	**Modoc**	**57.22**	**62**	P	**P**	**13 17 03.1**	**+0.6**
	baz=57,SNR=5.9						
HOPS	**Hopland**	**57.32**	**66**	⇓P	**P**	**13 17 03.2**	**-0.1**
	baz=57						
K07A	**Rock Creek Ran**	**57.36**	**61**	⇓P	**P**	**13 17 03.6**	**+0.1**
	baz=57						
D13A	**Huson**	**57.41**	**54**	⇓P	**P**	**13 17 03.7**	**-0.2**
	baz=57						
J08A	**Circle Bar Ran**	**57.41**	**60**	⇑P	**P**	**13 17 03.2**	**-0.7**
	baz=57						
I09A	**Lost Marbles R**	**57.46**	**59**	P	**P**	**13 17 04.8**	**+0.5**
	baz=57,SNR=5.2						
M06C	**Likely Place G**	**57.54**	**63**	⇑P	**P**	**13 17 05.0**	**+0.2**
	baz=57						
PMG	**Port Moresby**	**57.61**	**189**	P	**P**	**13 17 02.4**	**-2.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=327,slow=9.3,SNR=3.4						
PMG	**Port Moresby**	**57.61**	**189**	⇑*e*P	**P**	**13 17 04.5**	**-0.8**
L07A	**Adell**	**57.72**	**61**	⇓P	**P**	**13 17 07.3**	**+1.3**
	baz=57						
ELFS	**Eagle Lake Fie**	**57.75**	**64**	⇑P	**P**	**13 17 08.0**	**+1.7**
	baz=58						
K08A	**Mann Creek Ran**	**57.78**	**60**	⇓P	**P**	**13 17 06.6**	**+0.1**
	baz=58						
J09A	**Fry Pan Ranch,**	**57.83**	**59**	P	**P**	**13 17 07.6**	**+0.7**
	baz=58,SNR=6.3						
WVOR	**Wild Horse Val**	**57.88**	**61**	*e*P	**P**	**13 17 07.1**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**57.88**	**61**	*e*P	**P**	**13 17 07.1**	**-0.1**
	comp=Z,6.1nm,1.0s,mb4.6						
D14A	**Greenough**	**57.93**	**54**	P	**P**	**13 17 07.6**	**0.0**
	baz=58,SNR=6.4						
KOLN	**Koldanda**	**57.93**	**277**	*e*P	**P**	**13 17 08.1**	**+0.5**
	comp=Z,62nm,1.4s,mb5.5						
E13A	**Victor**	**57.95**	**55**	⇓P	**P**	**13 17 07.2**	**-0.5**
	baz=58						
H11A	**Donnelly**	**58.00**	**57**	P	**P**	**13 17 07.7**	**-0.3**
	baz=58,SNR=10						
O05C	**Quincy**	**58.04**	**64**	⇓P	**P**	**13 17 08.2**	**-0.1**
	baz=58					

CMB	**Columbia Colle**	**59.56**	**66**	*e*P	**P**	**13 17 19.2**	**+0.3**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
CMB	**Columbia Colle**	**59.56**	**66**	*e*P	**P**	**13 17 19.2**	**+0.3**
	comp=Z,9.9nm,1.4s,mb4.7						
CMB	**Columbia Colle**	**59.56**	**66**	⇑P	**P**	**13 17 18.9**	**0.0**
	baz=59						
HLID	**Hailey**	**59.61**	**57**	*e*P	**P**	**13 17 19.5**	**+0.2**
	comp=Z,6.0nm,1.3s,mb4.5						
PACP	**Pacheco Peak**	**59.66**	**67**	⇑P	**P**	**13 17 19.2**	**-0.4**
	baz=59						
M10A	**I.L. Ranch, Tu**	**59.67**	**60**	P	**P**	**13 17 20.6**	**+0.9**
	baz=59,SNR=5.7						
G15A	**Dillon**	**59.68**	**55**	⇑P	**P**	**13 17 20.0**	**+0.3**
	baz=59						
MCMT	**McKenzie Canyo**	**59.69**	**55**	*e*P	**P**	**13 17 19.8**	**0.0**
R06C	**Coleville**	**59.82**	**65**	P	**P**	**13 17 21.4**	**+0.7**
	baz=60,SNR=6.5						
S06C	**San Francisco**	**59.99**	**66**	P	**P**	**13 17 21.9**	**+0.1**
	baz=60,SNR=5.7						
S05C	**Merced**	**60.03**	**66**	⇓P	**P**	**13 17 22.5**	**+0.4**
	baz=60						
O09A	**Fish Creek Ran**	**60.14**	**62**	⇓P	**P**	**13 17 23.1**	**+0.2**
	baz=60						
M11A	**Holland Ranch,**	**60.16**	**60**	P	**P**	**13 17 24.1**	**+1.1**
	baz=60,SNR=6.7						
R07C	**Lee Vining**	**60.34**	**65**	P	**P**	**13 17 25.1**	**+0.8**
	baz=60,SNR=5.2						
O10A	**Cortez Mining,**	**60.47**	**61**	⇓P	**P**	**13 17 25.7**	**+0.5**
	baz=60						
QLMT	**Earthquake Lak**	**60.47**	**55**	*e*P	**P**	**13 17 26.0**	**+0.8**
Q08A	**Gabbs**	**60.53**	**64**	P	**P**	**13 17 25.9**	**+0.4**
	baz=60,SNR=8.4						
NVAR	**Mina Array Bea**	**60.58**	**64**	P	**P**	**13 17 26.4**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.5,baz=290,slow=8.6,SNR=17						
NVAR	**Mina Array Bea**	**60.58**	**64**	P	**P**	**13 17 26.4**	**+0.5**
T06C	**Millerton Lake**	**60.63**	**66**	⇑P	**P**	**13 17 26.2**	**0.0**
	baz=60						
KCC	**Kaiser Creek**	**60.67**	**66**	⇑P	**P**	**13 17 26.1**	**-0.4**
	baz=60						
M12A	**Wells**	**60.68**	**60**	P	**P**	**13 17 27.6**	**+1.0**
	baz=60,SNR=6.8						
P10A	**Eureka**	**60.92**	**62**	⇓P	**P**	**13 17 28.0**	**-0.2**
	baz=61						
N12A	**Clover Valley,**	**60.97**	**60**	⇓P	**P**	**13 17 27.9**	**-0.6**
	baz=61,SNR=5.1						
O11A	**Cowboy Ranch,**	**61.07**	**61**	⇑P	**P**	**13 17 29.8**	**+0.5**
	baz=61						
M13A	**Montello**	**61.15**	**59**	⇓P	**P**	**13 17 30.2**	**+0.5**
	baz=61						
S08C	**White Mtn Res**	**61.25**	**65**	⇓P	**P**	**13 17 30.4**	**-0.1**
	baz=61						
HELL	**Mitchell Peak,**	**61.26**	**66**	P	**P**	**13 17 30.2**	**-0.4**
	baz=61,SNR=5.5						
P11A	**Circle Ranch,**	**61.38**	**62**	P	**P**	**13 17 31.4**	**+0.1**
	baz=61,SNR=8.0						
R09A	**Tonopah**	**61.44**	**64**	P	**P**	**13 17 31.9**	**+0.2**
	baz=61,SNR=8.8						
N13A	**Wendover, West**	**61.45**	**60**	⇑P	**P**	**13 17 32.3**	**+0.5**
	baz=61						
O12A	**Currie**	**61.52**	**61**	P	**P**	**13 17 32.6**	**+0.4**
	baz=61,SNR=12						
MOOW	**Moose Ponds**	**61.54**	**55**	*e*P	**P**	**13 17 32.8**	**+0.4**
	comp=Z,5.3nm,1.1s,mb4.6						
S09A	**Goldfield**	**61.68**	**64**	⇓P	**P**	**13 17 33.7**	**+0.3**
	baz=61						
SNOW	**Snow King Moun**	**61.72**	**56**	*e*P	**P**	**13 17 34.8**	**+1.1**
	comp=Z,5.8nm,0.4s,mb5.1						
REDW	**Red Top Meadow**	**61.73**	**56**	*e*P	**P**	**13 17 34.6**	**+0.9**
	comp=Z,25nm,1.3s,mb5.2						
VES	**Vestal, Richgr**	**61.77**	**67**	⇑P	**P**	**13 17 33.6**	**-0.4**
	baz=62						
R10A	**Warm Springs**	**61.87**	**63**	⇓P	**P**	**13 17 35.3**	**+0.6**
	baz=62						
Q11A	**Duckwater**	**61.90**	**62**	⇓P	**P**	**13 17 33.9**	**-0.9**
	baz=62						
P12A	**McGill**	**61.93**	**61**	⇓P	**P**	**13 17 34.5**	**-0.6**
	baz=62						
ISA	**Isabella**	**62.26**	**67**	*e*P	**P**	**13 17 36.1**	**-1.1**
ISA	**Isabella**	**62.26**	**67**	⇑P	**P**	**13 17 36.5**	**-0.7**
	baz=62						
Q12A	**Willow Creek R**	**62.26**	**62**	⇓P	**P**	**13 17 37.5**	**+0.2**
	baz=62						
HWUT	**Hardware Ranch**	**62.48**	**58**	*e*P	**P**	**13 17 38.8**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.5						
MPMC	**Manual Prospec**	**62.60**	**66**	⇓P	**P**	**13 17 40.7**	**+1.2**
	baz=62						
DUG	**Dugway**	**62.69**	**59**	*e*P	**P**	**13 17 40.1**	**0.0**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
DUG	**Dugway**	**62.69**	**59**	*e*P	**P**	**13 17 40.1**	**0.0**
	comp=Z,5.8nm,1.0s,mb4.7						
FURC	**Furnace Creek,**	**62.72**	**65**	P	**P**	**13 17 40.0**	**-0.3**
	baz=62,SNR=7.1						
BW06	**Boulder Array**	**62.84**	**56**	*e*P	**P**	**13 17 40.8**	**-0.3**
	comp=Z,12nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**62.84**	**56**	P	**P**	**13 17 41.4**	**+0.2**
	comp=Z,6.0nm,1.0s,mb4.7,baz=300,slow=2.9,SNR=25						
LRMC	**Laurel Mountai**	**62.86**	**66**	⇓P	**P**	**13 17 40.2**	**-1.1**
	baz=63						
EDW2	**Edwards Air Fo**	**63.07**	**67**	P	**P**	**13 17 42.7**	**0.0**
	baz=63,SNR=6.4						
FINES	**FINESS Array B**	**63.51**	**335**	P	**P**	**13 17 44.5**	**-1.0**
	comp=Z,4.3nm,0.8s,mb4.5,baz=56,slow=14,SNR=5.5						
GSC	**Goldstone**	**63.52**	**66**	⇑P	**P**	**13 17 45.7**	**+0.1**
	baz=63						
BFSC	**Mount Baldy St**	**63.70**	**67**	⇓P	**P**	**13 17 46.9**	**+0.1**
	baz=63						
ARUT	**Antelope Range**	**63.91**	**62**	*e*P	**P**	**13 17 48.3**	**+0.1**
TUQ	**Turquoise Mtn.**	**63.97**	**65**	⇑P	**P**	**13 17 48.7**	**0.0**
	baz=64						
V11A	**Goodsprings**	**64.00**	**65**	⇑P	**P**	**13 17 49.6**	**+0.8**
	baz=64						
HEC	**Hector,Ludlow**	**64.12**	**66**	⇓P	**P**	**13 17 48.9**	**-0.7**
	baz=64						
BBRC	**Big Bear Sol-O**	**64.14**	**67**	⇑P	**P**	**13 17 49.4**	**-0.3**
	baz=64						
ULM	**Lac du Bonnet**	**64.62**	**42**	P	**P**	**13 17 52.4**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.4,baz=322,slow=4.7,SNR=4.0						
ULM	**Lac du Bonnet**	**64.62**	**42**	P	**P**	**13 17 52.4**	**-0.5**
BELC	**Belle Mtn.**	**64.88**	**67**	⇑P	**P**	**13 17 53.9**	**-0.7**
	baz=65						
RSSD	**Black Hills**	**64.91**	**51**	*e*P	**P**	**13 17 54.5**	**-0.2**
	comp=Z,1μm,3.6s						
IRM	**Iron Mountain**	**65.30**	**66**	⇓P	**P**	**13 17 57.4**	**+0.1**
	baz=65						
W13A	**Hualapai Mount**	**65.44**	**64**	⇑P	**P**	**13 17 57.8**	**-0.4**
	baz=65						
BC3	**Big Chuckw Mtn**	**65.45**	**66**	⇑P	**P**	**13 17 57.6**	**-0.6**
	baz=65						
X13A	**Yucca**	**65.81**	**65**	⇑P	**P**	**13 18 00.3**	**-0.3**
	baz=66						
PDMCI	**Parker Dam,Lak**	**65.82**	**65**	⇑P	**P**	**13 18 00.7**	**0.0**
	baz=66						
W14A	**Seligman**	**65.84**	**64**	⇑P	**P**	**13 18 01.6**	**+0.8**
	baz=66,SNR=5.9						
Y12C	**Blythe**	**65.96**	**66**	⇓P	**P**	**13 18 02.0**	**+0.5**
	baz=66						
GLA	**Glamis**	**66.24**	**67**	⇑P	**P**	**13 18 02.8**	**-0.6**
	baz=66						
Y13A	**Salome**	**66.34**	**65**	⇑P	**P**	**13 18 04.1**	**+0.1**
	baz=66						
W15A	**Williams**	**66.36**	**63**	⇑P	**P**	**13 18 04.5**	**+0.4**
	baz=66						
X14A	**Yava**	**66.46**	**64**	⇑P	**P**	**13 18 04.1**	**-0.7**
	baz=66						
WUAZ	**Wupatki**	**66.66**	**62**	⇓P	**P**	**13 18 05.3**	**-0.8**
	baz=66						
SMCO	**Snowmass**	**66.70**	**57**	*e*P	**P**	**13 17 57.5**	**-8.8**
	comp=Z,9.3nm,1.1s,mb4.7						
X15A	**Humboldt**	**66.85**	**64**	P	**P**	**13 18 07.6**	**+0.3**
	baz=66,SNR=5.8						
MVCO	**Mesa Verde**	**67.19**	**59**	*e*P	**P**	**13 18 09.4**	**0.0**
	comp=Z,20nm,1.5s,mb4.9						
NB2	**NORSAR Subarra**	**67.49**	**342**	P	**P**	**13 18 10.3**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.49**	**342**	P	**P**	**13 18 10.8**	**-0.6**
	comp=Z,6.8nm,0.8s,mb4.7,baz=26,slow=6.4,SNR=12						
115A	**Sonoran Desert**	**68.08**	**65**	⇑P	**P**	**13 18 15.5**	**+0.5**
	baz=68						
SDCO	**Great Sand Dun**	**68.53**	**57**	*e*P	**P**	**13 18 18.3**	**+0.4**
	comp=Z,17nm,1.6s,mb4.7						
ECSD	**EROS,Sioux Fal**	**68.97**	**48**	*e*P	**P**	**13 18 19.9**	**-0.8**
	comp=Z,9.6nm,0.9s,mb4.7						
TUC	**Tucson**	**69.22**	**65**	*e*P	**P**	**13 18 21.0**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.7						
LAZ	**Ladron**	**69.94**	**61**	*e*P	**P**	**13 18 27.1**	**+0.5**
ANMO	**Albuquerque**	**69.94**	**60**	*e*P	**P**	**13 18 26.8**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ANMO	**Albuquerque**	**69.94**	**60**	*e*P	**P**	**13 18 26.8**	**+0.1**
	comp=Z,6.8nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**70.18**	**201**	*e*P	**P**	**13 18 30.0**	**+1.9**
WRAB				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	**70.18**	**201**	*e*P	**P**	**13 18 30.0**	**+1.9**
	comp=Z,11nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**70.19**	**201**	P	**P**	**13 18 25.4**	**-2.8**
	comp=Z,2.6nm,1.1s,mb4.1,baz=18,slow=6.2,SNR=6.5						
AKASG	**Malin Array Be**	**71.29**	**327**	P	**P**	**13 18 33.8**	**-1.0**
	comp=Z,4.2nm,0.8s,mb4.4,baz=33,slow=6.2,SNR=7.1						
SCIA	**State Center**	**72.00**	**47**	*e*P	**P**	**13 18 38.8**	**-0.4**
	comp=Z,24nm,0.4s,mb5.5						
MNTX	**Cornudas Mount**	**72.89**	**62**	*e*P	**P**	**13 18 44.2**	**-0.2**
	comp=Z,11nm,1.4s,mb4.6						
ASAR	**Alice Springs**	**73.88**	**200**	P	**P**	**13 18 47.5**	**-2.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=10,slow=6.0,SNR=8.0						
WMOK	**Wichita Mounta**	**74.45**	**55**	*e*P	**P**	**13 18 53.2**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
WMOK	**Wichita Mounta**	**74.45**	**55**	*e*P	**P**	**13 18 53.2**	**-0.4**
	comp=Z,10nm,0.8s,mb4.8						
STHS	**Stebnicka Huta**	**75.13**	**331**	*e*P	**P**	**13 18 58.8**	**+1.3**
STHS				*e*		13 19 10.1	
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
STHS	**Stebnicka Huta**	**75.13**	**331**	*e*P	**P**	**13 18 58.8**	**+1.3**
	comp=Z,5.1nm,0.9s,mb4.5						
STHS				*e*		13 19 10.1	
KOLS	**Kolonicke sedl**	**75.21**	**330**	*e*P	**P**	**13 18 58.2**	**+0.2**
KOLS				*e*PCP	PcP	13 19 09.6	-1.8
LTX	**Lajitas**	**75.62**	**62**	*e*P	**P**	**13 19 00.5**	**+0.1**
LTX				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LTX	**Lajitas**	**75.62**	**62**	*e*P	**P**	**13 19 00.5**	**+0.2**
	comp=Z,9.5nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**75.62**	**62**	P	**P**	**13 19 00.5**	**+0.2**
	comp=Z,8.0nm,0.7s,mb4.8,baz=297,slow=3.8,SNR=30						
TXAR	**Lajitas Array**	**75.62**	**62**	P	**P**	**13 19 00.5**	**+0.2**
OKC	**Ostrava-Krasne**	**75.74**	**333**	*e*P	**P**	**13 19 01.3**	**+0.3**
OKC				*e*PCP	PcP	13 19 11.5	-2.2
UPC	**Upice**	**75.78**	**335**	*e*P	**P**	**13 19 02.7**	**+1.4**
UPC				*e*PCP	PcP	13 19 11.6	-2.3
DPC	**Dobruska-Polom**	**75.83**	**334**	*e*P	**P**	**13 19 02.1**	**+0.5**
DPC				*e*PCP	PcP	13 19 12.5	-1.6
CLL	**Collm**	**75.90**	**337**	*i* P	**P**	**13 19 01.7**	**-0.2**
CLL				*i*	pP	13 19 05.4	+1.4
CLL				*i*		13 19 12.5	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
CLL	**Collm**	**75.90**	**337**	*i* P	**P**	**13 19 01.7**	**-0.2**
	comp=Z,20nm,1.4s,mb4.8						
CLL				*j* sP	sP	13 19 05.4	+0.7
CLL				*i* PcP	PcP	13 19 12.5	-1.9
	comp=Z,65nm,1.6s						
MORC	**Moravsky Berou**	**75.98**	**333**	*e*P	**P**	**13 19 03.1**	**+0.7**
MORC				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
MORC	**Moravsky Berou**	**75.98**	**333**	*e*P	**P**	**13 19 03.1**	**+0.7**
	comp=Z,34nm,1.4s,mb5.1						
BRG	**Berggiesshubel**	**76.04**	**336**	*e*P	**P**	**13 19 06.4**	**+3.6**
	comp=Z,5.0nm,0.9s,mb4.4						
BRG	**Berggiesshubel**	**76.04**	**336**	*e*P	**P**	**13 19 06.4**	**+3.7**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
PVCC	**Panska Ves**	**76.17**	**335**	*e*P	**P**	**13 19 04.5**	**+1.0**
KECS	**Kecovo**	**76.19**	**331**	*e*P	**P**	**13 19 04.4**	**+0.8**
KECS				*e*		13 19 15.2	
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KECS	**Kecovo**	**76.19**	**331**	*e*P	**P**	**13 19 04.4**	**+0.8**
	comp=Z,2.0nm,0.9s,mb4.0						
KECS				*e*		13 19 15.2	
PRU	**Pruhonice**	**76.67**	**335**	*e*P	**P**	**13 19 06.6**	**+0.3**
PRU				*e*PCP	PcP	13 19 17.1	-0.6
VYHS	**Vyhne**	**76.71**	**332**	*e*P	**P**	**13 19 07.5**	**+0.9**
VYHS				*e*PCP	PcP	13 19 18.4	+0.5
VYHS	**Vyhne**	**76.71**	**332**	*e*P	**P**	**13 19 07.6**	**+1.0**
VYHS				*e*		13 19 18.4	
TIRR	**Tirgusor**	**76.76**	**324**	*e*P	**P**	**13 19 06.9**	**+0.1**
TIRR				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
TIRR	**Tirgusor**	**76.76**	**324**	*e*P	**P**	**13 19 06.9**	**+0.1**
	comp=Z,13nm,1.3s,mb4.7						
NKC	**Novy Kostel**	**77.02**	**337**	*e*P	**P**	**13 19 08.5**	**+0.2**
NKC				*e*PCP	PcP	13 19 19.3	0.0
JCT	**Junction City**	**77.04**	**59**	*e*P	**P**	**13 19 08.0**	**-0.4**
JCT				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
JCT	**Junction City**	**77.04**	**59**	*e*P	**P**	**13 19 08.0**	**-0.4**
	comp=Z,12nm,1.2s,mb4.7						
MALT	**Malatya**	**77.33**	**314**	*e*P	**P**	**13 19 11.8**	**+1.7**
MALT				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
MALT	**Malatya**	**77.33**	**314**	*e*P	**P**	**13 19 11.8**	**+1.8**
	comp=Z,26nm,1.3s,mb5.0						
KHC	**Kasperske Hory**	**77.71**	**335**	*e*P	**P**	**13 19 12.9**	**+0.7**
KHC				*e*PCP	PcP	13 19 23.4	+1.1
GRA3	**Grafenberg Arr**	**77.75**	**337**	*e*	PcP	13 19 23.6	+1.2
GRA1	**Grafenberg Arr**	**77.84**	**337**	*e*P	**P**	**13 19 13.2**	**+0.3**
	comp=Z,42nm,1.4s,mb5.2						
GRF	**Grafenberg Arr**	**77.84**	**337**	*e*P	**P**	**13 19 13.2**	**+0.3**
	comp=Z,42nm,1.4s,mb5.2						
GRF	**Grafenberg Arr**	**77.84**	**337**	*e*P	**P**	**13 19 13.2**	**+0.3**
GRF				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.2						
GEC2	**GERESS Array S**	**77.94**	**335**	*e*P	**P**	**13 19 15.4**	**+2.0**
GERES	**GERESS Array B**	**77.94**	**335**	P	**P**	**13 19 14.5**	**+1.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=39,slow=5.1,SNR=6.4						
JMDO	**Jabal Madar**	**78.28**	**290**	⇓P	**P**	**13 19 16.3**	**+1.0**
	SNR=6.5						
BR131	**Keskin Array S**	**78.44**	**318**	*e*P	**P**	**13 19 17.3**	**+1.0**
	comp=Z,12nm,1.1s,mb4.7						
BSY	**Bisya**	**78.57**	**291**	⇓P	**P**	**13 19 17.1**	**+0.1**
	SNR=7.5						
CDF	**Champ du Feu**	**80.02**	**339**	*e*P	PcP	13 19 35.0	+2.7
	comp=Z,49nm,1.4s						
GRR	**Grafenberg**	**81.77**	**344**	*e*P	PcP	13 19 44.3	+4.4
AVF	**Avril sur Loir**	**82.45**	**341**	*e*P	PcP	13 19 47.7	+4.8
	comp=Z,19nm,1.0s						
LPG	**La Plagne**	**82.87**	**338**	*e*P	PcP	13 19 51.3	+6.6
	comp=Z,31nm,1.1s						

IDC 15 13:07:47.6±0.7, 4667N×15522E, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.3/24, mbtmp4.4/11, Error ellipse: s-maj=24.3km s-min=19.3km az=144.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.17**	**255**	P	P	13 12 47.3	+2.2
	3.5nm,0.8s,baz=52,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**52.02**	**310**	P	P	13 16 58.6	-0.2
	5.1nm,0.6s,baz=56,slow=8.6,SNR=6.2						
ARCES	**ARCESS Array B**	**58.40**	**341**	P	P	13 17 44.4	-0.4
	5.8nm,0.9s,baz=9.0,slow=16,SNR=3.8						
AKTO	**Aktyubinsk**	**59.85**	**313**	P	P	13 17 54.2	-0.7
	2.9nm,0.8s,baz=2.0,slow=1.9,SNR=3.7						
NVAR	**Mina Array Bea**	**61.18**	**63**	P	P	13 18 05.5	+1.6
	2.4nm,0.7s,baz=293,slow=9.5,SNR=5.6						
PDAR	**Pinedale Array**	**63.61**	**55**	P	P	13 18 18.4	-1.9
	2.9nm,0.8s,baz=300,slow=2.1,SNR=5.0						
FINES	**FINESS Array B**	**64.72**	**336**	P	P	13 18 26.3	-1.2
	3.3nm,0.7s,baz=25,slow=8.6,SNR=7.0						
ULM	**Lac du Bonnet**	**65.62**	**42**	P	P	13 18 32.9	-0.5
	3.3nm,0.8s,baz=326,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**68.94**	**201**	P	P	13 18 54.1	-0.3
	2.0nm,0.7s,baz=18,slow=6.8,SNR=5.7						
ASAR	**Alice Springs**	**72.62**	**200**	P	P	13 19 16.1	-0.8
	3.5nm,0.7s,baz=17,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**76.26**	**62**	P	P	13 19 39.3	+1.3
	8.6nm,0.6s,baz=304,slow=4.8,SNR=14						

*IDC **15** 13:09:37.5±0.5, 4662N×15499E, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.5/26, mbtmp4.4/19, ML3.7/2, Error ellipse: s-maj=17.5km s-min=14.2km az=155.0*
*BJI **15** 13:09:38.9, 4698N×15495E, h7km, mB5.1, mb4.9, Ms4.9, Msz4.6*
*NEIC **15** 13:09:39.1±0.2, 4665N×15498E, h10km, mb4.9/41, Error ellipse: s-maj=6.2km s-min=4.0km az=159.0*
*ISCJB **15** 13:09:39.5±2.6, 4665N±006×15498E±004, h24km±18km, mb4.8/68, MS4.7/1, Error ellipse: s-maj=10.1km s-min=4.3km az=153.6*
*MOS **15** 13:09:40.9±0.9, 4664N×15496E, h35km, mb5.0/23, Error ellipse: s-maj=11.4km s-min=8.7km az=74.9*
*SZGRF **15** 13:09:52.3, 4740N×15497E, h33km, mb5.1, Kuril Islands, Russia*

ISC 15 13:09:43.5±1.4, 4670N±006×15492E±004, h38km±13km, n322, σ0 57/322, mb4.8/68, MS4.7/1, 67C-71D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.35**	**276**	*e*PN	**Pn**	**13 11 47.6**	**+5.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.35**	**276**	*e*Pn	**Pn**	**13 11 47.6**	**+5.6**
	comp=Z,30nm,0.5s						
ASAJ	**Asahikawa**	**9.05**	**258**	Pn	**Pn**	**13 11 50.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=95,slow=25,SNR=4.7						
ASAJ	**Asahikawa**	**9.05**	**258**	PN	**Pn**	**13 11 50.7**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.07**	**237**	*e*P	**Pn**	**13 13 27.8**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,29nm,0.8s						
MAJO	**Matsushiro**	**16.07**	**237**	*e*P	**Pn**	**13 13 27.8**	**+1.3**
	comp=Z,29nm,0.8s						
MAT	**Matsushiro**	**16.07**	**237**	P	**Pn**	**13 13 30.3**	**+3.8**
MJAR	**Matsushiro Arr**	**16.07**	**237**	Pn	**Pn**	**13 13 24.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=12,slow=6.2,SNR=3.9						
CN2	**Changchun**	**20.90**	**273**	*e*P	**P**	**13 14 24.3**	**+1.9**
KSRS	**Korea Array**	**21.98**	**255**	P	**P**	**13 14 35.3**	**+1.3**
	comp=Z,4.5nm,0.7s,mb4.0,baz=58,slow=10,SNR=5.6						
BILL	**Bilibino**	**22.18**	**11**	*e*P	**P**	**13 14 36.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.0						
BILL	**Bilibino**	**22.18**	**11**	*e*P	**P**	**13 14 35.5**	**-0.7**
	comp=Z,74nm,1.1s,mb5.0						
BOD	**Bodaibo**	**26.98**	**309**	*e*P	**P**	**13 15 16.8**	**-4.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.2						
NJ2	**Nanjing**	**31.18**	**255**	*e*P	**P**	**13 16 02.4**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**13 16 08.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=93,slow=12,SNR=3.0						
COLA	**College**	**35.40**	**38**	*e*P	**P**	**13 16 34.9**	**-0.7**
COLA				pmax	pmax		
	comp=Z,41nm,1.9s,mb5.0						
COLA	**College**	**35.40**	**38**	*e*P	**P**	**13 16 34.9**	**-0.8**
	comp=Z,41nm,1.9s,mb5.0						
LZH	**Lanzhou**	**39.13**	**273**	*e*P	**P**	**13 17 12.4**	**+5.2**
LZH				AP	pP	13 17 18.8	+0.7
LZH				XP	sP	13 17 22.3	-0.4
LZH				PP	PP	13 18 42.4	+5.0
LZH				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
LZH				AMB	AMB		
	comp=Z,152nm,5.0s						
CD2	**Chengdu**	**42.12**	**267**	*e*P	**P**	**13 17 32.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
GYA	**Guiyang**	**42.92**	**259**	⇑*i*P	**P**	**13 17 39.4**	**+1.0**
GYA				PP	PP	13 19 21.8	+3.4
GYA				PCP	PcP	13 19 30.8	+2.2
GYA				SCP	ScP	13 23 20.4	+3.8
GYA				S	**S**	**13 24 02.0**	**+1.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,190nm,4.6s						
GYA				LR	LR		
	comp=N,710nm,17.4s,MS4.8						
GYA				LR	LR		
	comp=E,670nm,18.0s,MS4.8						
GYA				LR	LR		
	comp=Z,740nm,17.8s,MS4.6						
NVS	**Novosibirsk**	**44.20**	**308**	*e*P	**P**	**13 17 49.9**	**+1.2**
NVS				*e*		13 19 30.5	
NVS				pmax	pmax		
	comp=N,20nm,2.1s						
NVS				pmax	pmax		
	comp=E,29nm,2.1s						
NVS				pmax	pmax		
	comp=Z,35nm,2.1s,mb4.7						
WMQ	**Urumqi**	**46.10**	**292**	*e*P	**P**	**13 18 03.5**	**-0.3**
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**13 18 19.6**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=63,slow=6.4,S

comp=Z,7.0nm,1.0s,mb4.7,baz=259,slow=5.4,SNR=6.9
YBH Yreka Blue Hor 56.67 63 ⇓P P 13 19 23.5 +0.7
baz=56
M02C Callahan 56.77 63 ⇑P P 13 19 24.1 +0.4
baz=56,SNR=5.0
N02C Big Bar 56.83 64 ⇓P P 13 19 24.0 0.0
baz=56
G08A Pilot Rock 56.86 57 ⇓P P 13 19 24.2 0.0
baz=57
I06A Prineville 56.90 59 ⇑P P 13 19 24.9 +0.4
baz=57
O01C Eel River Cons 56.91 65 ⇓P P 13 19 24.9 +0.3
baz=57
L04A Klamath Falls 56.91 62 ⇓P P 13 19 24.6 0.0
baz=57
M04C Macdoel 57.17 62 ⇓P P 13 19 26.9 +0.5
baz=57
K05A Summer Lake 57.19 61 ⇓P P 13 19 27.1 +0.5
baz=57
F09A S2 Ranch, Elgi 57.22 56 ⇑P P 13 19 27.3 +0.5
baz=57
E10A Myers Farm, Un 57.23 55 ⇓P P 13 19 26.0 -0.8
baz=57
I07A Izee 57.23 59 ⇓P P 13 19 26.7 -0.1
baz=57
M03C McCloud 57.29 63 ⇓P P 13 19 27.0 -0.3
baz=57
D11A Klaveano Farm, 57.34 54 ⇑P P 13 19 26.7 -0.9
baz=57
WDC Whiskeytown Da 57.44 64 ⇑P P 13 19 28.7 +0.4
baz=57
H08A Prairie City 57.47 58 ⇓P P 13 19 28.4 -0.1
baz=57
O02C Red Bluff 57.52 64 ⇑P P 13 19 29.2 +0.3
baz=57
K06A Valley Falls 57.53 60 P P 13 19 29.6 +0.6
baz=57,SNR=6.0
P01C Double 8 Ranch 57.60 65 ⇑P P 13 19 29.8 +0.3
baz=57
B13A Whitefish 57.60 52 P P 13 19 29.4 -0.1
baz=57,SNR=8.6
L05A Lakeview 57.62 61 P P 13 19 30.7 +1.1
baz=57,SNR=5.6
J07A Hines 57.76 59 ⇑P P 13 19 31.1 +0.5
baz=58
KEV Kevo 57.80 341 *ep* P 13 19 29.9 -1.0
M05C Lookout 57.84 62 ⇓P P 13 19 31.5 +0.4
baz=58
GASB Alder Springs 57.88 65 ⇓P P 13 19 32.0 +0.6
baz=58
I08A Drewsey 57.88 58 ⇑P P 13 19 31.4 0.0
baz=58
C13A Hot Springs 57.95 53 ⇑P P 13 19 32.0 +0.1
baz=58
MOD Modoc 58.03 61 P P 13 19 32.6 +0.1
baz=58,SNR=8.3
F11A Grangeville 58.12 55 ⇑P P 13 19 32.8 -0.2
baz=58
K07A Rock Creek Ran 58.20 60 ⇓P P 13 19 33.4 -0.2
baz=58
J08A Circle Bar Ran 58.26 59 ⇑P P 13 19 34.1 0.0
baz=58
ARCES ARCESS Array B 58.30 341 P P 13 19 34.1 -0.3
comp=Z,7.2nm,0.9s,mb4.7,baz=38,slow=7.5,SNR=8.7
I09A Lost Marbles R 58.33 58 ⇓P P 13 19 34.6 +0.1
baz=58
M06C Likely Place G 58.34 62 ⇑P P 13 19 34.3 -0.3
baz=58
G11A Walters Elk Ra 58.34 56 ⇓P P 13 19 34.4 -0.2
baz=58
C14A Swan Lake 58.35 52 ⇓P P 13 19 34.0 -0.7
baz=58
D13A Huson 58.36 53 ⇑P P 13 19 34.3 -0.5
baz=58
MNRC McLaughlin Nat 58.51 65 ⇑P P 13 19 35.7 -0.1
baz=58
ELFS Eagle Lake Fie 58.53 63 P P 13 19 36.8 +0.9
baz=58,SNR=6.8
L07A Adell 58.54 61 ⇑P P 13 19 36.5 +0.5
baz=58
K08A Mann Creek Ran 58.62 59 P P 13 19 37.2 +0.6
baz=58,SNR=5.6
J09A Fry Pan Ranch, 58.69 59 ⇑P P 13 19 37.1 0.0
baz=58
WVOR Wild Horse Val 58.71 60 *eP* P 13 19 37.0 -0.2
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WVOR Wild Horse Val 58.71 60 *eP* P 13 19 37.0 -0.2
comp=Z,7.0nm,1.0s,mb4.7
O05C Quincy 58.81 63 P P 13 19 38.2 +0.3
baz=58,SNR=5.1
CVS Carmenet Viney 58.82 66 ⇓P P 13 19 37.8 -0.2
baz=58
OHCM Honcut 58.83 64 *eP* P 13 19 37.6 -0.4
D14A Greenough 58.89 53 P P 13 19 38.3 -0.1
baz=59,SNR=6.7
E13A Victor 58.89 54 ⇓P P 13 19 38.6 +0.2
baz=59
BOK Bokaro 58.90 273 *eP* P 13 19 39.2 +0.7
H11A Donnelly 58.90 56 P P 13 19 38.3 -0.2
baz=59,SNR=8.8
Q03C Winters 58.92 65 ⇓P P 13 19 38.7 +0.1
baz=59
N06A Buffalo Meadow 59.00 62 ⇓P P 13 19 39.5 +0.3
baz=59
M07A Soldier Meadow 59.02 61 ⇑P P 13 19 39.5 +0.2
baz=59,SNR=8.8
L08A Fields 59.03 60 ⇑P P 13 19 39.5 +0.1
baz=59
K09A Rome 59.09 59 ⇓P P 13 19 39.5 -0.3
baz=59
Q04C Lincoln 59.20 65 ⇑P P 13 19 40.7 +0.1
baz=59
F13A Darby 59.20 55 P P 13 19 40.5 -0.2
baz=59,SNR=5.7
BEKR Beckwourth 59.21 63 ⇑P P 13 19 40.6 0.0
baz=59
E14A Clinton 59.29 54 P P 13 19 40.7 -0.6
baz=59,SNR=5.5
O06A Flanigan 59.35 63 ⇑P P 13 19 41.5 -0.1
baz=59
P05C Yuba Gap, Truc 59.39 64 ⇓P P 13 19 42.2 +0.2
baz=59
D15A Lincoln 59.45 53 ⇑P P 13 19 42.2 -0.2
baz=59
N07B Gerlach 59.50 62 ⇑P P 13 19 42.7 0.0
baz=59
L09A Wilkinson Ranc 59.54 60 ⇓P P 13 19 42.9 -0.1
baz=59
P06A Stead Airport, 59.60 63 ⇓P P 13 19 43.5 +0.2
baz=59
AKTK Aktyubinsk 59.68 313 P P 13 19 44.0 +0.1
AKTO Aktyubinsk 59.68 313 P P 13 19 44.0 +0.1
comp=Z,4.3nm,0.9s,mb4.5,baz=328,slow=4.7,SNR=4.6
AKTO Aktyubinsk 59.68 313 P P 13 19 44.1 +0.2
AKTO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WENL Wente Brothers 59.70 66 ⇓P P 13 19 43.9 -0.2
baz=59
F14A Wisdom 59.73 54 ⇑P P 13 19 44.5 +0.3
baz=59
BNLO Ben Lomond (Sa 59.74 67 ⇑P P 13 19 43.7 -0.6
baz=60
E15A Deer Lodge 59.76 53 P P 13 19 44.0 -0.4
baz=60,SNR=7.8
WCN Washoe City 59.92 63 P P 13 19 46.1 +0.5
baz=60,SNR=6.4
O07A Toulon 59.93 62 P P 13 19 45.9 +0.2
baz=60,SNR=6.9
N08A GE Springer Mi 60.01 61 ⇑P P 13 19 46.6 +0.5
baz=60
M09A Marrel Ranch, 60.03 60 ⇓P P 13 19 46.3 0.0
baz=60
S04C Ingram Canyon, 60.04 66 ⇑P P 13 19 47.0 +0.6
baz=60
R05C Kirkwood Meado 60.09 64 ⇓P P 13 19 47.1 +0.3
baz=60
F15A Butte 60.20 54 P P 13 19 47.6 +0.2
baz=60,SNR=9.0
O08A Rochester Mine 60.29 62 ⇓P P 13 19 47.7 -0.4
baz=60
CMB Columbia Colle 60.30 65 *eP* P 13 19 48.3 +0.1
CMB pmax pmax
comp=Z,18nm,1.4s,mb4.9
CMB Columbia Colle 60.30 65 *eP* P 13 19 48.2 +0.1
comp=Z,18nm,1.4s,mb4.9
CMB Columbia Colle 60.30 65 P P 13 19 48.4 +0.3
baz=60,SNR=6.6

N09A Rock Creek Ran 60.33 61 ⇑P P 13 19 48.7 +0.3
baz=60
EGMT Eagleton 60.34 50 *eP* P 13 19 48.1 -0.4
comp=Z,5.7nm,0.9s,mb4.6
PACP Pacheco Peak 60.37 66 ⇓P P 13 19 48.8 +0.2
baz=60
HLID Hailey 60.50 57 *eP* P 13 19 49.6 0.0
comp=Z,5.6nm,1.0s,mb4.7
M10A I.L. Ranch, Tu 60.51 60 ⇓P P 13 19 49.9 +0.3
baz=60,SNR=5.3
R06C Coleville 60.58 64 ⇓P P 13 19 50.3 +0.2
baz=60,SNR=9.0
HAST UC Hastings Re 60.59 67 ⇓P P 13 19 50.2 +0.1
baz=60
G15A Dillon 60.61 54 P P 13 19 50.0 -0.3
baz=60,SNR=5.1
S06C San Francisco 60.73 65 P P 13 19 51.3 +0.2
baz=60,SNR=6.2
S05C Merced 60.76 65 P P 13 19 51.1 -0.2
baz=60,SNR=5.5
BMN Battle Mountai 60.77 61 *eP* P 13 19 51.6 +0.2
BMN pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
BMN Battle Mountai 60.77 61 *eP* P 13 19 51.5 +0.2
comp=Z,2.8nm,0.7s,mb4.5
T05C Eagle Field, D 60.83 66 ⇑P P 13 19 51.6 -0.1
baz=60
O09A Fish Creek Ran 60.95 61 ⇓P P 13 19 52.4 -0.2
baz=61
M11A Holland Ranch, 61.01 59 P P 13 19 54.0 +1.0
baz=61,SNR=6.4
R07C Lee Vining 61.10 64 P P 13 19 54.1 +0.5
baz=61,SNR=6.4
O10A Cortez Mining, 61.29 61 ⇓P P 13 19 55.3 +0.4
baz=61
Q08A Gabbs 61.31 63 P P 13 19 55.2 +0.1
baz=61,SNR=8.7
NVAR Mina Array Bea 61.35 63 P P 13 19 55.7 +0.4
comp=Z,4.3nm,0.7s,mb4.7,baz=294,slow=7.3,SNR=17
NVAR Mina Array Bea 61.35 63 P P 13 19 55.7 +0.4
T06C Millerton Lake 61.36 65 ⇑P P 13 19 55.7 +0.3
baz=61
P09A Austin 61.36 62 ⇓P P 13 19 55.9 +0.5
baz=61
KCC Kaiser Creek 61.41 65 ⇓P P 13 19 55.7 0.0
baz=61
QLMT Earthquake Lak 61.41 54 *eP* P 13 19 55.9 +0.2
PKD Parkfield 61.50 67 ⇑P P 13 19 56.7 +0.3
baz=61
MLAC Mammoth Lakes 61.52 64 ⇑P P 13 19 57.2 +0.8
baz=61
R08A Mina 61.52 63 ⇑P P 13 19 56.9 +0.4
baz=61
M12A Wells 61.53 59 P P 13 19 57.0 +0.4
baz=61,SNR=7.7
P10A Eureka 61.73 61 ⇑P P 13 19 58.4 +0.5
baz=61
Q09A Carvers 61.78 62 ⇑P P 13 19 58.3 0.0
baz=62
N12A Clover Valley, 61.81 59 ⇓P P 13 19 59.0 +0.5
baz=62
O11A Cowboy Ranch, 61.90 60 ⇑P P 13 19 59.2 +0.2
baz=62
V05C Boulder Hill, 61.95 67 ⇓P P 13 19 59.3 -0.1
baz=62
HELL Mitchell Peak, 61.99 65 ⇑P P 13 19 59.4 -0.3
baz=62,SNR=10
M13A Montello 62.01 58 P P 13 20 00.1 +0.3
baz=62,SNR=6.8
S08C White Mtn Res 62.01 64 P P 13 20 00.1 +0.3
baz=62,SNR=5.1
P11A Circle Ranch, 62.20 61 ⇑P P 13 20 01.0 0.0
baz=62
R09A Tonopah 62.22 63 P P 13 20 01.1 0.0
baz=62,SNR=14
TIN Tinemaha 62.26 64 ⇑P P 13 20 02.0 +0.6
baz=62
N13A Wendover, West 62.30 59 ⇑P P 13 20 02.0 +0.3
baz=62
O12A Currie 62.35 60 P P 13 20 02.2 +0.1
baz=62,SNR=9.6
S09A Goldfield 62.45 63 P P 13 20 03.0 +0.3
baz=62,SNR=7.5
MOOW Moose Ponds 62.47 55 *eP* P 13 20 03.3 +0.5
comp=Z,14nm,1.4s,mb4.9
VES Vestal, Richgr 62.49 66 ⇑P P 13 20 02.4 -0.6
baz=62
PKM Peak Mountain 62.62 67 ⇓P P 13 20 04.1 +0.2
baz=62
SNOW Snow King Moun 62.65 55 *eP* P 13 20 05.0 +1.0
comp=Z,18nm,1.0s,mb5.2
REDW Red Top Meadow 62.66 55 *eP* P 13 20 04.7 +0.7
comp=Z,22nm,1.3s,mb5.3
R10A Warm Springs 62.66 62 ⇑P P 13 20 04.0 -0.1
baz=62
Q11A Duckwater 62.70 61 ⇑P P 13 20 04.3 -0.1
baz=62
CWC Cottonwood Cre 62.73 65 ⇓P P 13 20 04.4 -0.2
baz=62
P12A McGill 62.76 61 ⇑P P 13 20 04.5 -0.3
baz=62
GRAC Grapevine Rang 62.82 64 ⇓P P 13 20 05.3 +0.1
baz=62
ISA Isabella 62.98 66 *eP* P 13 20 04.9 -1.3
ISA Isabella 62.98 66 P P 13 20 05.6 -0.7
baz=63,SNR=5.5
Q12A Willow Creek R 63.08 61 ⇑P P 13 20 06.8 -0.1
baz=63
ARVC Arvin 63.10 67 ⇓P P 13 20 06.7 -0.3
baz=63
DAC Darwin (Calif) 63.14 65 *eP* P 13 20 07.0 -0.3
DAC pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
DAC Darwin (Calif) 63.14 65 *eP* P 13 20 07.0 -0.3
comp=Z,7.5nm,1.4s,mb4.6
BSC Santa Cruz Isl 63.31 68 ⇓P P 13 20 08.2 -0.2
baz=63
MPMC Manual Prospec 63.34 65 P P 13 20 08.9 +0.2
baz=63,SNR=11
HWUT Hardware Ranch 63.37 57 *eP* P 13 20 08.9 +0.1
comp=Z,10.0nm,1.5s,mb4.7
FURC Furnace Creek, 63.47 64 P P 13 20 09.6 +0.1
baz=63,SNR=9.6
OSI Osito Adit 63.49 67 ⇑P P 13 20 09.6 0.0
baz=63
DUG Dugway 63.54 59 *eP* P 13 20 09.8 -0.2
DUG pmax pmax
comp=Z,12nm,1.3s,mb4.8
DUG Dugway 63.54 59 *eP* P 13 20 09.8 -0.2
comp=Z,12nm,1.3s,mb4.8
LRMC Laurel Mountai 63.59 66 P P 13 20 09.8 -0.5
baz=63,SNR=6.9
BW06 Boulder Array 63.76 55 *eP* P 13 20 11.3 -0.1
comp=Z,28nm,1.5s,mb5.1
PDAR Pinedale Array 63.76 55 P P 13 20 11.2 -0.2
comp=Z,6.2nm,0.8s,mb4.7,baz=284,slow=2.1,SNR=19
EDW2 Edwards Air Fo 63.78 66 P P 13 20 11.5 0.0
baz=64,SNR=11
U10A Ash Meadows, A 63.84 64 P P 13 20 12.5 +0.6
baz=64,SNR=6.7
DECC Green Verdugo 63.98 67 ⇓P P 13 20 13.0 +0.2
baz=64
NLU North Lily Min 64.13 59 *eP* P 13 20 14.0 +0.2
SHOC Shoshone 64.20 64 ⇑P P 13 20 14.2 0.0
baz=64
GSC Goldstone 64.26 65 *eP* P 13 20 14.5 -0.2
GSC Goldstone 64.26 65 ⇓P P 13 20 14.8 +0.2
baz=64
FMP Fort Macarthur 64.35 67 ⇓P P 13 20 15.9 +0.7
baz=64
BFSC Mount Baldy St 64.41 67 ⇑P P 13 20 15.5 -0.1
baz=64
U11A Corn Creek 64.42 63 ⇑P P 13 20 16.3 +0.6
baz=64
CIS Catalina Islan 64.47 68 ⇓P P 13 20 16.4 +0.3
baz=64
FINES FINESS Array B 64.61 336 P P 13 20 16.7 -0.3
comp=Z,2.4nm,0.4s,mb4.6,baz=41,slow=8.4,SNR=11
ARUT Antelope Range 64.72 61 *eP* P 13 20 17.6 -0.1
TUQ Turquoise Mtn. 64.72 65 P P 13 20 17.9 +0.2
baz=64,SNR=5.7
VIS Vishakhapatnam 64.75 269 *eP* P 13 20 17.1 -0.8
VIS AMb AMB 13 20 23.6
comp=Z,24nm,1.0s,mb5.2
V11A Goodsprings 64.77 64 ⇓P P 13 20 18.2 +0.3
baz=64
AJM Ajmer 64.79 282 *eP* P 13 20 18.1 0.0
AJM AMb AMB 13 20 21.1

comp=Z,9.3nm,1.3s,mb4.7
BBRC Big Bear Sol-O 64.86 66 ⇓P P 13 20 18.9 +0.3
baz=65
HEC Hector,Ludlow 64.86 65 P P 13 20 18.4 -0.2
baz=65,SNR=6.5
U12A Valley of Fire 64.93 63 ⇑P P 13 20 19.0 -0.1
baz=65
TMUT Trail Mountain 65.07 59 *eP* P 13 20 19.9 -0.1
MURC Murrieta 65.11 67 ⇓P P 13 20 20.2 0.0
baz=65
V12A Nelson 65.20 64 P P 13 20 21.2 +0.4
baz=65,SNR=5.4
W12A Cal Nev Ari 65.46 64 ⇑P P 13 20 22.5 0.0
baz=65
PFO Pinyon Flat Ob 65.58 66 ⇓P P 13 20 23.1 -0.1
baz=65
BELC Belle Mtn. 65.61 66 ⇓P P 13 20 23.1 -0.3
baz=65
109C Camp Elliot, M 65.63 67 ⇓P P 13 20 23.1 -0.5
baz=65
ULM Lac du Bonnet 65.74 42 P P 13 20 23.3 -1.0
comp=Z,3.7nm,0.7s,mb4.5,baz=320,slow=3.9,SNR=8.5
RSSD Black Hills 65.90 51 *eP* P 13 20 24.7 -0.6
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
RSSD Black Hills 65.90 51 *eP* P 13 20 24.7 -0.6
comp=Z,5.2nm,0.6s,mb4.7
IRM Iron Mountain 66.03 65 P P 13 20 26.3 +0.2
baz=66,SNR=8.2
MONP Monument Peak 66.07 67 ⇓P P 13 20 26.1 -0.3
baz=66
BC3 Big Chuckw Mtn 66.17 66 ⇓P P 13 20 27.2 +0.1
baz=66
W13A Hualapai Mount 66.20 64 P P 13 20 27.6 +0.3
baz=66,SNR=7.3
DVTC Desert V Tower 66.42 67 ⇓P P 13 20 28.5 -0.2
baz=66
SWSC Sam W. Stewart 66.43 67 ⇑P P 13 20 28.5 -0.2
baz=66
X13A Yucca 66.57 64 P P 13 20 29.5 -0.1
baz=66,SNR=9.6
PDMCI Parker Dam,Lak 66.57 64 P P 13 20 29.7 +0.1
baz=66,SNR=6.7
W14A Seligman 66.62 63 P P 13 20 30.2 +0.3
baz=66,SNR=19
Y12C Blythe 66.69 65 P P 13 20 30.5 +0.1
baz=66,SNR=6.5
CTA Charters Tower 66.93 189 *eP* P 13 20 30.5 -1.4
comp=Z,3.0nm,0.6s,mb4.5
CTA Charters Tower 66.93 189 *eP* P 13 20 30.5 -1.4
CTA pmax pmax
comp=Z,3.0nm,0.6s
GLA Glamis 66.97 66 ⇑P P 13 20 32.2 0.0
baz=67
Y13A Salome 67.08 65 ⇓P P 13 20 33.2 +0.3
baz=67
AGMN Agassiz Refuge 67.12 43 *eP* P 13 20 32.2 -0.9
comp=Z,8.9nm,1.0s,mb4.8
W15A Williams 67.14 63 ⇑P P 13 20 33.9 +0.6
baz=67
X14A Yava 67.23 64 P P 13 20 34.4 +0.5
baz=67,SNR=11
WUAZ Wupatki 67.46 62 *eP* P 13 20 35.9 +0.6
comp=Z,14nm,1.4s,mb4.8
WUAZ Wupatki 67.46 62 P P 13 20 36.1 +0.8
baz=67,SNR=5.9
Y14A Wickenburg 67.51 64 ⇓P P 13 20 35.5 -0.1
baz=67
SMCO Snowmass 67.60 56 *eP* P 13 20 27.2 -8.9
comp=Z,18nm,1.3s,mb4.9
X15A Humboldt 67.62 63 P P 13 20 36.9 +0.6
baz=67,SNR=17
Z14A Wintersburg 67.94 64 ⇑P P 13 20 38.3 0.0
baz=68
MVCO Mesa Verde 68.04 59 *eP* P 13 20 38.8 -0.2
comp=Z,26nm,1.4s,mb5.1
HYB Hyderabad 68.24 273 *i* P P 13 20 41.0 +0.8
HYB Hyderabad 68.24 273 *eP* P 13 20 41.0 +0.8
NB2 NORSAR Subarra 68.67 342 P P 13 20 42.3 -0.6
comp=Z,8.0nm,1.0s,mb4.6,baz=27,slow=6.9
NOA NORSAR Array B 68.67 342 P P 13 20 42.9 0.0
comp=Z,2.3nm,0.8s,mb4.2,baz=26,slow=6.4,SNR=3.5
115A Sonoran Desert 68.83 65 P P 13 20 44.5 +0.7
baz=68,SNR=5.7
WRAB Tennant Creek 68.88 201 *eP* P 13 20 42.8 -1.3
WRAB pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WRAB Tennant Creek 68.88 201 *eP* P 13 20 42.8 -1.4
comp=Z,9.7nm,1.2s,mb4.6
WB2 Warramunga Arr 68.89 201 *eP* P 13 20 43.2 -1.0
WRA Warramunga Arr 68.89 201 P P 13 20 42.9 -1.3
comp=Z,5.3nm,0.9s,mb4.5,baz=20,slow=6.8,SNR=12
116A Eloy 69.24 64 ⇓P P 13 20 47.0 +0.6
baz=69
EYMN Ely 69.39 41 *eP* P 13 20 46.5 -0.9
comp=Z,6.8nm,1.0s,mb4.5
SDCO Great Sand Dun 69.42 57 *eP* P 13 20 47.6 +0.1
comp=Z,5.6nm,1.0s,mb4.5
TUC Tucson 69.98 64 *eP* P 13 20 51.0 0.0
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TUC Tucson 69.98 64 *eP* P 13 20 51.0 0.0
comp=Z,3.5nm,0.8s,mb4.3
ECSD EROS,Sioux Fal 70.02 47 *eP* P 13 20 50.1 -1.1
comp=Z,2.6nm,0.5s,mb4.4
MDRS Chennai 70.11 268 *eP* P 13 20 53.7 +1.9
MDRS AMb AMB 13 20 55.2
comp=Z,29nm,0.1s
POO Poona 70.70 277 *eP* P 13 20 54.0 -1.4
LAZ Ladron 70.77 60 *eP* P 13 20 56.4 +0.7
ANMO Albuquerque 70.79 59 *eP* P 13 20 56.3 +0.4
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 70.79 59 *eP* P 13 20 56.3 +0.4
comp=Z,6.7nm,1.1s,mb4.5
KAD Karad 71.32 276 *eP* P 13 21 00.1 +1.0
KAD AMb AMB 13 21 01.6
comp=Z,30nm,0.9s,mb5.2
AKASG Malin Array Be 72.27 327 P P 13 21 03.0 -1.8
comp=Z,1.3nm,0.5s,mb4.2,baz=34,slow=6.1,SNR=4.4
AS31 Alice Springs 72.57 200 *eP* P 13 21 05.8 -0.8
ASAR Alice Springs 72.57 200 P P 13 21 06.3 -0.3
comp=Z,7.8nm,0.8s,mb4.7,baz=16,slow=5.3,SNR=30
ASPA Alice Springs 72.57 200 *eP* P 13 21 05.8 -0.8
MNTX Cornudas Mount 73.71 61 *eP* P 13 21 12.8 -0.6
comp=Z,21nm,1.5s,mb4.8
TRD Trivandrum 75.61 267 *eP* P 13 21 23.8 -0.6
TRD AMb AMB 13 21 28.8
comp=Z,24nm,0.9s,mb5.1
LTX Lajitas 76.43 62 *eP* P 13 21 28.9 -0.1
LTX pmax pmax
comp=Z,30nm,0.9s,mb5.2
LTX Lajitas 76.43 62 *eP* P 13 21 28.9 -0.1
comp=Z,30nm,0.9s,mb5.2
TXAR Lajitas Array 76.43 62 P P 13 21 28.9 -0.1
comp=Z,23nm,0.8s,mb5.2,baz=301,slow=4.2,SNR=44
TXAR Lajitas Array 76.43 62 P P 13 21 28.9 -0.1
CLL Collm 77.02 337 *i* P P 13 21 37.8 +5.5
CLL Collm 77.02 337 *i* sP P 13 21 37.8 +5.5
comp=Z,16nm,1.1s,mb4.9
JCT Junction City 77.90 58 *eP* P 13 21 36.6 -0.7
JCT pmax pmax
comp=Z,29nm,1.2s,mb5.1
JCT Junction City 77.90 58 *eP* P 13 21 36.6 -0.7
comp=Z,29nm,1.2s,mb5.1
MALT Malatya 78.09 314 *eP* P 13 21 39.9 +1.6
MALT pmax pmax
comp=Z,88nm,2.3s,mb5.3
MALT Malatya 78.09 314 *eP* P 13 21 39.9 +1.6
comp=Z,88nm,2.3s,mb5.3
GRA1 Grafenberg Arr 78.96 337 *eP* P 13 21 47.7 +4.6
comp=Z,20nm,1.4s,mb4.8
GRF Grafenberg Arr 78.96 337 *eP* P 13 21 47.7 +4.6
comp=Z,20nm,1.4s,mb4.8
GRF Grafenberg Arr 78.96 337 *eP* P 13 21 47.7 +4.6
GRF pmax pmax
comp=Z,20nm,1.4s,mb4.8
GERES GERESS Array B 79.04 335 P P 13 21 44.0 +0.4
comp=Z,1.9nm,0.7s,mb4.1,baz=4.6,slow=4.9,SNR=5.1
STKA Stephens Creek 79.13 192 P P 13 21 43.2 -0.8
comp=Z,3.6nm,0.9s,mb4.3,baz=350,slow=4.4,SNR=3.9
CDF Champ du Feu 81.16 339 *eP* P 13 21 54.0 -1.0
comp=Z,34nm,1.2s,mb4.9
CDF Champ du Feu 81.16 339 *eP* P 13 21 54.0 -1.0
CDF pmax pmax
comp=Z,17nm,1.2s,mb4.8
CDF Champ du Feu 81.16 339 *eP* P 13 21 54.0 -1.0

comp=Z,17nm,1.2s,mb4.8
GRR Gorron 82.97 344 *e*P **P** 13 22 03.4 -1.1
comp=Z,158nm,1.6s,mb5.5
GRR Gorron 82.97 344 *e*P **P** 13 22 03.4 -1.1
GRR pmax pmax
comp=Z,79nm,1.6s,mb5.5
GRR Gorron 82.97 344 *e*P **P** 13 22 03.4 -1.1
comp=Z,79nm,1.6s,mb5.5
AVF Avril sur Loir 83.61 341 *e*P **P** 13 22 06.9 -0.9
comp=Z,30nm,1.1s,mb5.0
AVF Avril sur Loir 83.61 341 *e*P **P** 13 22 06.9 -0.9
AVF pmax pmax
comp=Z,15nm,1.1s,mb5.0
AVF Avril sur Loir 83.61 341 *e*P **P** 13 22 06.9 -0.9
comp=Z,15nm,1.1s,mb5.0
LPG La Plagne 84.01 338 *e*P **P** 13 22 09.8 0.0
comp=Z,59nm,1.5s,mb5.2
LPG La Plagne 84.01 338 *e*P **P** 13 22 09.8 0.0
LPG pmax pmax
comp=Z,30nm,1.5s,mb5.2
LPG La Plagne 84.01 338 *e*P **P** 13 22 09.8 0.0
comp=Z,30nm,1.5s,mb5.2
TIP Timpagrande 86.68 329 *e*P **P** 13 22 22.9 -0.2
VNDA Vanda 124.02 178 PKP PKPdf 13 28 34.8 -2.8
comp=Z,1.2nm,0.8s,baz=296,slow=3.5,SNR=7.1

*ISCJB **15** 13:10:12.7±1.0, 47.1N×02.×1536E±0.1, h10km, mb4.5/6, Error ellipse: s-maj=24.6km s-min=7.9km az=120.9*
*IDC **15** 13:10:16.5±2.4, 47.71N×153.06E, h0km, mb4.5/6, mb1 4.7/7, mb1mx4.2/24, mbtmp4.6/7, ML4.3/1, Error ellipse: s-maj=67.7km s-min=25.4km az=145.0*
*MOS **15** 13:10:22.2±2.0, 47.15N×153.37E, h89km, mb4.7/5, Error ellipse: s-maj=34.3km s-min=21.3km az=51.1*
ISC 15 13:10:14.6±1.1, 472N±02×1537E±02, h10km, n18, σ1§45/21, mb4.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.47**	**246**	*e*PN		**Pn**	**13 11 19.0**	**-3.4**
KUR				*i* S		**Sn**	**13 12 09.0**	**-5.5**
KUR				pmax	pmax			
	comp=Z,300nm,0.6s							
KUR				smax				
	comp=N,2μm,0.8s							
KUR				smax				
	comp=E,1μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.31**	**243**	*e*PN		**Pn**	**13 11 48.5**	**+0.8**
YUK				*e*S		**Sn**	**13 12 58.5**	**-1.3**
YUK				smax				
	comp=N,750nm,0.8s							
YUK				smax				
	comp=E,2μm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.46**	**272**	*e*PN		**Pn**	**13 12 09.0**	**+5.6**
YSS				S		**Sn**	**13 13 30.0**	**+2.0**
YSS				smax				
	comp=E,50nm,0.7s							
MJAR	**Matsushiro Arr**	**15.64**	**233**	Pn		**Pn**	**13 13 58.4**	**+3.3**
	comp=E,1.2nm,0.3s,baz=33,slow=9.5,SNR=14							
MJAR	**Matsushiro Arr**	**15.64**	**233**	P		**Pn**	**13 13 58.4**	**+3.4**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.29**	**252**	P		**P**	**13 15 02.6**	**+1.4**
	comp=Z,5.3nm,0.7s,mb4.0,baz=57,slow=11,SNR=5.5							
INK	**Inuvik**	**41.09**	**33**	P		**P**	**13 17 59.9**	**+1.4**
	comp=Z,6.8nm,0.8s,mb4.3,baz=277,slow=7.1,SNR=7.6							
INK	**Inuvik**	**41.09**	**33**	P		**P**	**13 17 59.9**	**+1.4**
INK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
YKA	**Yellowknife Ar**	**50.36**	**37**	P		**P**	**13 19 12.8**	**+1.1**
	comp=Z,4.8nm,0.7s,mb4.6,baz=294,slow=7.0,SNR=5.4							
YKA	**Yellowknife Ar**	**50.36**	**37**	P		**P**	**13 19 12.8**	**+1.1**
YKA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**63.82**	**335**	P		**P**	**13 20 46.0**	**-1.0**
	comp=Z,2.5nm,0.4s,mb4.6,baz=31,slow=8.0,SNR=6.1							
FINES	**FINESS Array B**	**63.82**	**335**	P		**P**	**13 20 46.1**	**-0.9**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.4s							
NB2	**NORSAR Subarra**	**67.95**	**341**	P		**P**	**13 21 12.5**	**-1.1**
	comp=Z,12nm,0.7s,mb5.0,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**67.95**	**341**	P		**P**	**13 21 12.8**	**-0.8**
	comp=Z,9.6nm,0.7s,mb4.9,baz=27,slow=6.4,SNR=35							
NOA	**NORSAR Array B**	**67.95**	**341**	P		**P**	**13 21 12.8**	**-0.8**
NOA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
AKASG	**Malin Array Be**	**71.40**	**326**	P		**P**	**13 21 33.4**	**-1.5**
	comp=Z,4.4nm,0.6s,mb4.6,baz=33,slow=6.1,SNR=6.5							
AKASG	**Malin Array Be**	**71.40**	**326**	P		**P**	**13 21 33.4**	**-1.5**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CLL	**Collm**	**76.23**	**336**	*i* PcP		**P**	**13 22 02.2**	**-1.0**

*BJI **15** 13:12:33.9, 46.84N×153.04E, h2km, mb4.7*
*IDC **15** 13:12:34.7±0.7, 47.08N×153.02E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.2/18, ML3.4/1, Error ellipse: s-maj=19.9km s-min=15.7km az=149.0*
*NEIC **15** 13:12:36.0±0.5, 47.01N×153.16E, h10km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=7.9km az=157.0*
*ISCJB **15** 13:12:39.3±1.2, 46.95N×007.×15309E±008, h49km, 9km, mb4.6/39, Error ellipse: s-maj=13.9km s-min=6.3km az=110.8*
*MOS **15** 13:12:40.2±1.1, 46.98N×153.02E, h55km, mb4.7/11, Error ellipse: s-maj=13.0km s-min=8.2km az=95.4*
ISC 15 13:12:41.9±1.1, 4698N±007×15311E±008, h58km±8km, n90, σ0§84/92, mb4.6/39, 13C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04**	**246**	*e*PN		**Pn**	**13 13 34.5**	**-6.7**
KUR				pmax	pmax			
	comp=Z,170nm,0.7s							
SKR	**Severo-Kuril's**	**4.21**	**27**	*e*PN		**Pn**	**13 13 43.2**	**-0.3**
SKR				*e*S		**Sn**	**13 14 31.0**	**-0.3**
SKR				pmax	pmax			
	comp=E,150nm,0.5s							
SKR				pmax	pmax			
	comp=Z,310nm,0.5s							
SKR				pmax	pmax			
	comp=N,180nm,0.4s							
SKR				smax				
	comp=N,250nm,0.5s							
SKR				smax				
	comp=E,370nm,0.5s							
SKR				smax				
	comp=Z,150nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.88**	**243**	PN		**Pn**	**13 14 14.5**	**+8.1**
YSS	**Yuzh-Sakhalins**	**7.08**	**274**	PN		**Pn**	**13 14 25.0**	**+2.1**
YSS				*e*S		**Sn**	**13 15 43.8**	**+1.8**
YSS				pmax	pmax			
	comp=Z,40nm,1.0s							
YSS				smax				
	comp=E,50nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.08**	**274**	*e*Pn		**Pn**	**13 14 22.4**	**-0.5**
ASAJ	**Asahikawa**	**7.91**	**253**	Pn		**Pn**	**13 14 33.5**	**-0.7**
	comp=E,1.6nm,0.3s,baz=62,slow=15,SNR=2.8							
ASAJ	**Asahikawa**	**7.91**	**253**	PN		**Pn**	**13 14 33.5**	**-0.7**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MA2	**Magadan**	**12.70**	**355**	*e*PN		**Pn**	**13 15 40.2**	**+0.6**
MJAR	**Matsushiro Arr**	**15.21**	**232**	Pn		**Pn**	**13 16 11.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=3.1							
MDJ	**Mudanjiang**	**16.56**	**270**	*e*P		**P**	**13 16 29.4**	**-0.7**
	comp=Z,34nm,1.5s							
YAK	**Yakutsk**	**20.13**	**327**	*e*P		**P**	**13 17 12.2**	**+1.2**
YAK				pmax	pmax			
	comp=Z,54nm,1.0s							
YAK	**Yakutsk**	**20.13**	**327**	*e*P		**P**	**13 17 12.2**	**+1.1**
	comp=Z,54nm,1.0s							
KSRS	**Korea Array**	**20.86**	**252**	P		**P**	**13 17 18.6**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=53,slow=10,SNR=6.4							
NJ2	**Nanjing**	**30.06**	**253**	*e*P		**P**	**13 18 46.4**	**+0.9**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.1							
SONM	**Songino Array**	**31.25**	**289**	P		**P**	**13 18 56.1**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=86,slow=3.3,SNR=3.7							
COLA	**College**	**35.96**	**39**	*e*P		**P**	**13 19 38.0**	**+1.1**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
COLA	**College**	**35.96**	**39**	*e*P		**P**	**13 19 38.0**	**+1.1**
	comp=Z,4.1nm,0.7s,mb4.5							
CD2	**Chengdu**	**40.89**	**265**	*e*P		**P**	**13 20 17.9**	**-0.4**
CD2				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.0							
INK	**Inuvik**	**41.46**	**33**	P		**P**	**13 20 23.9**	**+0.9**
	comp=Z,4.5nm,0.6s,mb4.3,baz=293,slow=7.0,SNR=9.5							
MKAR	**Makanchi Array**	**46.83**	**297**	P		**P**	**13 21 04.7**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=48,slow=6.6,SNR=6.1							
MKAR				PcP		PcP	13 22 37.6	-0.6
	comp=Z,0.5nm,0.3s,baz=60,slow=5.1,SNR=5.9							
LSA	**Lhasa**	**50.26**	**273**	*e*P		**P**	**13 21 33.1**	**+0.8**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**50.26**	**273**	*e*P		**P**	**13 21 33.1**	**+0.9**
	comp=Z,5.0nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**50.71**	**309**	P		**P**	**13 21 34.6**	**-1.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=52,slow=8.3,SNR=6.3							
YKA	**Yellowknife Ar**	**50.74**	**37**	P		**P**	**13 21 36.3**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=299,slow=7.2,SNR=4.4							
YKA	**Yellowknife Ar**	**50.74**	**37**	P		**P**	**13 21 36.3**	**+0.3**
ZRNK	**Zerenda**	**51.48**	**310**	*e*P		**P**	**13 21 41.3**	**-0.1**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**51.48**	**310**	*e*P		**P**	**13 21 41.3**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.3							
CHTO	**Chiang Mai**	**52.17**	**256**	*e*P		**P**	**13 21 46.0**	**-0.6**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
CHTO	**Chiang Mai**	**52.17**	**256**	*e*P		**P**	**13 21 46.0**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5							
JIRN	**Jiri**	**54.92**	**274**	*e*P		**P**	**13 22 07.1**	**+0.3**
	comp=Z,26nm,0.5s,mb5.5							
GUN	**Gumba**	**54.98**	**275**	*e*P		**P**	**13 22 06.5**	**-0.6**
	comp=Z,16nm,0.5s,mb5.3							
KKN	**Kakani**	**55.46**	**275**	*e*P		**P**	**13 22 10.2**	**-0.4**
	comp=Z,17nm,0.5s,mb5.3							
PKI	**Pulchoki**	**55.51**	**275**	*e*P		**P**	**13 22 10.9**	**-0.1**
	comp=Z,14nm,0.6s,mb5.2							
DMN	**Daman**	**55.70**	**275**	*e*P		**P**	**13 22 12.3**	**0.0**
	comp=Z,19nm,0.5s,mb5.4							
GKN	**Gorkha**	**55.77**	**276**	*e*P		**P**	**13 22 12.6**	**-0.2**
	comp=Z,20nm,0.5s,mb5.4							
KOLN	**Koldanda**	**56.62**	**276**	*e*P		**P**	**13 22 18.7**	**-0.2**
	comp=Z,27nm,0.9s,mb5.3							
KEV	**Kevo**	**57.13**	**340**	*e*p		**P**	**13 22 21.0**	**-1.5**
ARCES	**ARCESS Array B**	**57.64**	**341**	P		**P**	**13 22 24.9**	**-1.1**
	comp=Z,6.2nm,1.0s,mb4.6,baz=30,slow=6.2,SNR=7.5							
SUMG	**Summit**	**60.47**	**4**	*e*P		**P**	**13 22 44.8**	**-0.9**
	comp=Z,25nm,1.0s,mb5.2							
NVAR	**Mina Array Bea**	**62.33**	**62**	P		**P**	**13 22 59.1**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=277,slow=9.9,SNR=4.0							
FINES	**FINESS Array B**	**63.83**	**335**	P		**P**	**13 23 07.3**	**-0.8**
	comp=Z,3.6nm,0.5s,mb4.7,baz=36,slow=8.5,SNR=15							
PDAR	**Pinedale Array**	**64.62**	**54**	P		**P**	**13 23 13.3**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=259,slow=3.3,SNR=4.7							
ULM	**Lac du Bonnet**	**66.35**	**41**	P		**P**	**13 23 23.9**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=341,slow=10,SNR=4.6							
ULM	**Lac du Bonnet**	**66.35**	**41**	P		**P**	**13 23 23.9**	**-0.6**
NB2	**NORSAR Subarra**	**68.01**	**341**	P		**P**	**13 23 34.2**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.9,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.01**	**341**	P		**P**	**13 23 34.5**	**-0.5**
	comp=Z,9.7nm,0.7s,mb5.0,baz=27,slow=6.3,SNR=17							
WRA	**Warramunga Arr**	**68.73**	**199**	P		**P**	**13 23 40.0**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=20,slow=6.8,SNR=2.8							
AKASG	**Malin Array Be**	**71.36**	**326**	P		**P**	**13 23 54.6**	**-1.0**
	comp=Z,4.8nm,0.5s,mb4.7,baz=35,slow=6.2,SNR=11							
ASAR	**Alice Springs**	**72.42**	**198**	P		**P**	**13 24 04.2**	**+2.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=17,slow=6.2,SNR=4.1							
STHS	**Stebnicka Huta**	**75.32**	**330**	*e*P		**P**	**13 24 19.7**	**+0.8**
STHS				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
STHS	**Stebnicka Huta**	**75.32**	**330**	*e*P		**P**	**13 24 19.7**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.5							
KOLS	**Kolonicke sedl**	**75.37**	**329**	*e*P		**P**	**13 24 19.3**	**+0.1**
BURAR	**Bucovina Array**	**75.40**	**327**	⇓*i*P		**P**	**13 24 19.2**	**-0.2**
BURAR	**Bucovina Array**	**75.40**	**327**	⇑P		**P**	**13 24 19.2**	**-0.2**
WMOK	**Wichita Mounta**	**76.23**	**54**	*e*P		**P**	**13 24 24.5**	**+0.4**
WMOK				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.5							
WMOK	**Wichita Mounta**	**76.23**	**54**	*e*P		**P**	**13 24 24.5**	**+0.3**
	comp=Z,7.9nm,1.2s,mb4.5							
MORC	**Moravsky Berou**	**76.24**	**332**	⇑*i*P		**P**	**13 24 24.5**	**+0.3**
MORC	**Moravsky Berou**	**76.24**	**332**	*e*P		**P**	**13 24 23.7**	**-0.5**
MORC				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
MORC	**Moravsky Berou**	**76.24**	**332**	*e*P		**P**	**13 24 23.6**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.5							
CLL	**Collm**	**76.26**	**336**	*i* P		**P**	**13 24 23.6**	**-0.7**
CLL				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0							
CLL	**Collm**	**76.26**	**336**	*i* P		**P**	**13 24 23.6**	**-0.7**
	comp=Z,12nm,1.0s,mb4.8							
LIKS	**Likavka**	**76.36**	**331**	*e*P		**P**	**13 24 22.3**	**-2.5**
LIKS				pmax	pmax			
	comp=Z,32nm,1.1s,mb5.2							
LIKS	**Likavka**	**76.36**	**331**	*e*P		**P**	**13 24 22.3**	**-2.5**
	comp=Z,32nm,1.1s,mb5.2							
KECS	**Kecovo**	**76.37**	**330**	*e*P		**P**	**13 24 25.1**	**+0.2**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
KECS	**Kecovo**	**76.37**	**330**	*e*P		**P**	**13 24 25.1**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1							
TIRR	**Tirgusor**	**76.73**	**323**	⇑*i*P		**P**	**13 24 27.2**	**+0.3**
TIRR	**Tirgusor**	**76.73**	**323**	⇑P		**P**	**13 24 27.2**	**+0.2**
MLR	**Muntele Rosu**	**76.88**	**325**	P		**P**	**13 24 28.8**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8,baz=179,slow=4.0,SNR=8.7							
MLR	**Muntele Rosu**	**76.88**	**325**	⇑*i*P		**P**	**13 24 28.8**	**+1.0**
MLR	**Muntele Rosu**	**76.88**	**325**	⇑P		**P**	**13 24 28.8**	**+1.0**
VYHS	**Vyhne**	**76.93**	**331**	*e*P		**P**	**13 24 28.5**	**+0.4**
VYHS				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
VYHS	**Vyhne**	**76.93**	**331**	*e*P		**P**	**13 24 28.5**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.3							
MALT	**Malatya**	**77.00**	**313**	⇑*i*P		**P**	**13 24 30.1**	**+1.7**
MALT	**Malatya**	**77.00**	**313**	⇑P		**P**	**13 24 30.1**	**+1.6**
DRGR		**77.02**	**328**	⇓*i*P		**P**	**13 24 28.6**	**0.0**
DRGR		**77.02**	**328**	⇓P		**P**	**13 24 28.6**	**0.0**
VOIR		**77.27**	**325**	⇑*i*P		**P**	**13 24 30.8**	**+0.8**
VOIR		**77.27**	**325**	⇑P		**P**	**13 24 30.8**	**+0.8**
LTX	**Lajitas**	**77.39**	**61**	*e*P		**P**	**13 24 29.6**	**-1.0**
TXAR	**Lajitas Array**	**77.39**	**61**	P		**P**	**13 24 30.9**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=291,slow=4.6,SNR=7.2							
ZST	**Bratislava**	**77.76**	**332**	*e*P		**P**	**13 24 33.8**	**+1.1**
ZST				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
ZST	**Bratislava**	**77.76**	**332**	*e*P		**P**	**13 24 33.8**	**+1.1**
	comp=Z,8.0nm,0.7s,mb4.8							
GERES	**GERESS Array B**	**78.25**	**334**	P		**P**	**13 24 35.5**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=48,slow=4.0,SNR=7.7							
BZS	**Buzias**	**78.42**	**328**	⇓*i*P		**P**	**13 24 36.4**	**0.0**
BZS	**Buzias**	**78.42**	**328**	⇓P		**P**	**13 24 36.4**	**+0.1**
MIB	**Mutribah**	**78.54**	**301**	*e*P		**P**	**13 24 37.2**	**+0.2**
NAY	**Al-Naaiem**	**79.01**	**301**	*e*P		**P**	**13 24 39.6**	**0.0**
RDF	**Al-Radifah**	**79.06**	**301**	*e*P		**P**	**13 24 40.2**	**+0.3**
VTS	**Vitosha**	**80.38**	**325**	⇑*i*P		**P**	**13 24 47.6**	**+0.5**
VTS	**Vitosha**	**80.38**	**325**	⇑P		**P**	**13 24 47.6**	**+0.5**

*IDC **15** 13:15:09.9±0.6, 47.15N×153.28E, h0km, mb4.4/17, mb1 4.7/18, mb1mx4.5/26, mbtmp4.4/18, ML3.6/1, Error ellipse: s-maj=19.1km s-min=15.4km az=135.0*
*ISCJB **15** 13:15:11.5±2.3, 47.10N×006×15344E±008, h22km±16km, mb4.6/38, Error ellipse: s-maj=12.5km s-min=5.7km az=100.8*
*BJI **15** 13:15:11.6, 47.20N×153.30E, h10km, mb4.5*
*NEIC **15** 13:15:11.7±0.3, 47.16N×153.34E, h10km, mb4.8/20, Error ellipse: s-maj=9.3km s-min=5.6km az=149.0*
*MOS **15** 13:15:15.0±1.1, 47.14N×153.33E, h49km, mb5.0/11, Error ellipse: s-maj=12.9km s-min=7.6km az=83.4*
ISC 15 13:15:15.9±0.9, 4716N±006×15337E±009, h41km±7km, n102, σ1§90/101, mb4.6/38, 5C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.96**	**26**	*e*PN		**Pn**	**13 16 13.0**	**-1.1**
SKR				*e*S		**Sn**	**13 16 59.2**	**-0.1**
SKR				pmax	pmax			
	comp=N,330nm,0.4s							
SKR				pmax	pmax			
	comp=Z,590nm,0.4s							
SKR				pmax	pmax			
	comp=E,170nm,0.6s							
SKR				smax				
	comp=E,520nm,0.4s							
SKR				smax				
	comp=N,850nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**6.13**	**242**	PN		**Pn**	**13 16 46.0**	**+2.1**
YUK				*e*S		**Sn**	**13 17 53.4**	**+0.7**
YUK				smax				
	comp=N,700nm,0.6s							
YUK				smax				
	comp=E,1μm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.26**	**272**	*e*PN		**Pn**	**13 17 06.3**	**+6.9**
YSS				*e*S		**Sn**	**13 18 26.0**	**+5.5**
YSS				smax				
	comp=E,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.26**	**272**	*e*Pn		**Pn**	**13 17 06.2**	**+6.8**
	comp=E,68nm,0.8s							
ASAJ	**Asahikawa**	**8.14**	**252**	Pn		**Pn**	**13 17 12.4**	**+0.9**
	comp=E,1.4nm,0.3s,baz=62,slow=11,SNR=5.7							
ASAJ	**Asahikawa**	**8.14**	**252**	PN		**Pn**	**13 17 12.5**	**+1.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MA2	**Magadan**	**12.53**	**354**	*e*PN		**Pn**	**13 18 13.8**	**+2.2**
MA2				pmax	pmax			
	comp=Z,20nm,0.6s							
MA2	**Magadan**	**12.53**	**354**	*e*Pn		**Pn**	**13 18 13.8**	**+2.2**
MAJO	**Matsushiro**	**15.47**	**232**	*e*P		**Pn**	**13 18 49.0**	**-2.2**
MAJO				pmax	pmax			
	comp=Z,57nm,0.9s							
MAJO	**Matsushiro**	**15.47**	**232**	*e*P		**Pn**	**13 18 49.0**	**-2.2**
	comp=Z,57nm,0.9s							
MAT	**Matsushiro**	**15.47**	**232**	P		**Pn**	**13 18 48.9**	**-2.3**
MJAR	**Matsushiro Arr**	**15.47**	**232**	Pn		**Pn**	**13 18 48.8**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=24,slow=14,SNR=11							
KSRS	**Korea Array**	**21.09**	**252**	P		**P**	**13 19 55.1**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=57,slow=10,SNR=3.1							
BILL	**Bilibino**	**21.95**	**13**	*e*P		**P**	**13 20 06.4**	**+0.4**
BILL				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.2							
BILL	**Bilibino**	**21.95**	**13**	*e*P		**P**	**13 20 05.0**	**-1.0**
	comp=Z,9.6nm,0.9s,mb4.2							
NJ2	**Nanjing**	**30.29**	**253**	*e*P		**P**	**13 21 23.4**	**+0.3**
NJ2				AMB		AMB		
	comp=Z,40nm,0.7s,mb5.3							
MCK	**McKinley**	**35.22**	**41**	*e*P		**P**	**13 22 06.2**	**0.0**
MCK				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9							
MCK	**McKinley**	**35.22**	**41**	*e*P		**P**	**13 22 06.2**	**0.0**
	comp=Z,16nm,1.1s,mb4.9							
COLA	**College**	**35.70**	**39**	*e*P		**P**	**13 22 10.6**	**+0.2**
COLA				pmax	pmax			
	comp=Z,37nm,0.8s,mb5.4							
COLA	**College**	**35.70**	**39**	*e*P		**P**	**13 22 10.6**	**+0.2**
	comp=Z,38nm,0.8s,mb5.4							
EGAK	**Eagle**	**38.57**	**39**	*e*P		**P**	**13 22 34.1**	**-0.6**
	comp=Z,27nm,0.9s,mb5.0							
CD2	**Chengdu**	**41.09**	**265**	*e*P		**P**	**13 22 56.6**	**+1.0**
CD2				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.0							
INK	**Inuvik**	**41.21**	**33**	P		**P**	**13 22 57.8**	**+1.1**
	comp=Z,13nm,0.8s,mb4.6,baz=285,slow=7.1,SNR=24							
MKAR	**Makanchi Array**	**46.91**	**297**	P		**P**	**13 23 41.3**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=72,slow=8.1,SNR=4.9							
KURK	**Kurchatov**	**47.28**	**303**	*e*P		**P**	**13 23 44.4**	**-0.8**
CHKZ	**Chkalovo**	**50.30**	**310**	*e*P		**P**	**13 24 06.9**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**50.30**	**310**	*e*P		**P**	**13 24 06.9**	**-1.5**
	comp=Z,5.2nm,0.8s,mb4.6							
LSA	**Lhasa**	**50.43**	**273**	*e*P		**P**	**13 24 11.9**	**+2.6**
LSA				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.9							
LSA	**Lhasa**	**50.43**	**273**	*e*P		**P**	**13 24 11.9**	**+2.6**
	comp=Z,16nm,1.3s,mb4.9							
YKA	**Yellowknife Ar**	**50.49**	**37**	P		**P**	**13 24 10.0**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=294,slow=6.9,SNR=11							
YKA	**Yellowknife Ar**	**50.49**	**37**	P		**P**	**13 24 10.0**	**+0.2**
BVAR	**Borovoye Array**	**50.73**	**309**	P		**P**	**13 24 11.5**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=55,slow=6.1,SNR=4.4							
BRVK	**Borovoye**	**50.77**	**309**	*e*P		**P**	**13 24 10.9**	**-1.0**
CHTO	**Chiang Mai**	**52.39**	**257**	*e*P		**P**	**13 24 25.4**	**+1.4**
ARU	**Arti**	**54.83**	**317**	*e*P		**P**	**13 24 40.0**	**-1.8**
KEV	**Kevo**	**57.01**	**340**	*e*p		**P**	**13 25 00.9**	**+3.4**
ARCES	**ARCESS Array B**	**57.52**	**341**	P		**P**	**13 25 00.6**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.5,baz=23,slow=8.0,SNR=6.2							
SUMG	**Summit**	**60.28**	**4**	*e*P		**P**	**13 25 19.9**	**-0.3**
	comp=Z,21n

LTX	**Lajitas**	**77.14**	**61**	*e*P		**P**	**13 27 05.0**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7								
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**	**13 27 05.5**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.5,baz=289,slow=3.8,SNR=14								
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**	**13 27 05.5**	**+0.3**
VOIR		**77.22**	**326**	⇓*i*P		**P**	**13 27 06.4**	**+0.8**
VOIR		**77.22**	**326**	⇓P		**P**	**13 27 06.4**	**+0.8**
GERES	**GERESS Array B**	**78.16**	**334**	P		**P**	**13 27 11.1**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.9,baz=46,slow=5.8,SNR=6.0								
BZS	**Buzias**	**78.36**	**328**	⇓*i*P		**P**	**13 27 11.9**	**-0.1**
BZS	**Buzias**	**78.36**	**328**	⇓P		**P**	**13 27 11.9**	**0.0**
MIB	**Mutribah**	**78.60**	**302**	*e*P		**P**	**13 27 13.8**	**+0.6**
NAY	**Al-Naaiem**	**79.07**	**301**	*e*P		**P**	**13 27 16.4**	**+0.6**
RDF	**Al-Radifah**	**79.13**	**301**	*e*P		**P**	**13 27 16.8**	**+0.7**
VTS	**Vitosha**	**80.34**	**325**	⇑*i*P		**P**	**13 27 23.3**	**+0.6**
VTS	**Vitosha**	**80.34**	**325**	⇑P		**P**	**13 27 23.3**	**+0.6**
SNAA	**Sanae**	**153.00**	**196**	PKPbc	PKPbc		13 35 06.6	-2.2
	comp=Z,0.8nm,0.7s,baz=241,slow=5.1,SNR=6.3								
SNAA	**Sanae**	**153.00**	**196**	*e*PKPdf	PKPbc		13 35 06.3	-2.5
SNAA				*e*			13 35 18.8		
SNAA	**Sanae**	**153.00**	**196**	PKIKP	PKPbc		13 35 06.6	-2.2
SNAA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
VNA2	**Neumayer--Watz**	**154.45**	**195**	*e*PKPdf	PKPbc		13 35 09.3	-2.6
VNA2				*e*			13 35 20.3		

BJI ***15*** *13:17:17.7, 4689N×154.21E, h10km, mB5.2, mb4.7, Ms4.9, Msz4.5*
IDC ***15*** *13:17:19.3±0.8, 4661N×15380E, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.5/30, mbtmp4.4/19, ML3.9/1, Error ellipse: s-maj=25.9km s-min=16.2km az=89.0*
ISCJB ***15*** *13:17:21.0±0.3, 4658N±006×15392E±007, h19km, mb4.7/64, MS4.6/1, Error ellipse: s-maj=9.2km s-min=6.3km az=111.9*
NEIC ***15*** *13:17:21.1±0.4, 4655N×15391E, h10km, mb4.8/32, Error ellipse: s-maj=11.9km s-min=8.5km az=139.0*
MOS ***15*** *13:17:23.8±2.1, 4672N×15365E, h33km, mb5.0/28, Error ellipse: s-maj=10.2km s-min=6.3km az=103.0*

ISC 15 13:17:22.9±0.3, 4663N±006×15399E±007, h20km, h20km±3.3km: pP-P, n162, σ1§41/158, mb4.7/64, MS4.6/1, 13C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**4.30**	**18**	*e*PN		**Pn**	**13 18 23.0**	**-4.1**
SKR				pmax	pmax			
	comp=Z,60nm,0.5s							
SKR				pmax	pmax			
	comp=N,310nm,1.0s							
SKR				pmax	pmax			
	comp=E,310nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.72**	**277**	*e*PN		**Pn**	**13 19 14.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.72**	**277**	Pn		**Pn**	**13 19 16.4**	**+2.3**
ASAJ	**Asahikawa**	**8.40**	**257**	Pn		**Pn**	**13 19 19.6**	**-3.9**
	comp=E,1.6nm,0.3s,baz=148,slow=7.6,SNR=2.1							
ASAJ	**Asahikawa**	**8.40**	**257**	PN		**Pn**	**13 19 19.6**	**-3.9**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MA2	**Magadan**	**13.12**	**353**	PN		**Pn**	**13 20 27.2**	**-0.8**
MAJO	**Matsushiro**	**15.49**	**235**	*e*P		**Pn**	**13 20 57.8**	**-2.4**
MAJO				pmax	pmax			
	comp=Z,12nm,0.8s							
MAJO	**Matsushiro**	**15.49**	**235**	*e*P		**Pn**	**13 21 04.3**	**+4.1**
MAJO				pmax	pmax			
	comp=Z,27nm,0.8s							
MAJO	**Matsushiro**	**15.49**	**235**	*e*P		**Pn**	**13 20 57.8**	**-2.3**
	comp=Z,12nm,0.8s							
MAJO	**Matsushiro**	**15.49**	**235**	*e*P		**Pn**	**13 21 04.2**	**+4.1**
	comp=Z,28nm,0.8s							
MAT	**Matsushiro**	**15.49**	**235**	P		**Pn**	**13 21 04.1**	**+3.9**
MJAR	**Matsushiro Arr**	**15.49**	**235**	Pn		**Pn**	**13 20 56.9**	**-3.3**
	baz=28,slow=12,SNR=5.3							
MDJ	**Mudanjiang**	**17.17**	**272**	*e*P		**Pn**	**13 21 19.1**	**-2.5**
	comp=Z,39nm,1.5s							
CN2	**Changchun**	**20.26**	**272**	⇑P		**P**	**13 21 57.5**	**+0.5**
CN2				AMB	AMB			
	comp=Z,20nm,1.3s							
YAK	**Yakutsk**	**20.75**	**327**	*e*P		**P**	**13 21 58.2**	**-4.1**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KSRS	**Korea Array**	**21.34**	**254**	P		**P**	**13 22 08.3**	**-0.3**
	comp=Z,5.5nm,0.9s,mb3.9,baz=57,slow=9.5,SNR=8.0							
SNY	**Shenyang**	**22.24**	**269**	⇑P		**P**	**13 22 20.4**	**+2.1**
SNY				AMB	AMB			
	comp=Z,28nm,1.3s,mb4.5							
BILL	**Bilibino**	**22.38**	**12**	*e*P		**P**	**13 22 17.1**	**-2.7**
BILL				pmax	pmax			
	comp=Z,19nm,0.8s,mb4.6							
BILL	**Bilibino**	**22.38**	**12**	*e*P		**P**	**13 22 18.7**	**-1.1**
	comp=Z,60nm,1.4s,mb4.8							
HIA	**Hailar**	**22.98**	**289**	*e*P		**P**	**13 22 21.7**	**-4.4**
BOD	**Bodaibo**	**26.53**	**310**	*e*P		**P**	**13 22 56.4**	**-2.8**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.1							
NJ2	**Nanjing**	**30.54**	**254**	*e*P		**P**	**13 23 35.4**	**+0.5**
NJ2				AMB	AMB			
	comp=Z,50nm,0.6s,mb5.5							
ULN	**Ulaanbaatar**	**31.51**	**290**	*e*P		**P**	**13 23 45.2**	**+1.8**
ULN	**Ulaanbaatar**	**31.51**	**290**	*e*P		**P**	**13 23 47.1**	**+3.7**
ULN				pmax	pmax			
	comp=Z,20nm,1.6s,mb4.7							
ULN	**Ulaanbaatar**	**31.51**	**290**	*e*P		**P**	**13 23 47.1**	**+3.7**
	comp=Z,20nm,1.6s,mb4.7							
SONM	**Songino Array**	**31.94**	**290**	P		**P**	**13 23 45.7**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=78,slow=6.6,SNR=3.1							
ZAK	**Zakamensk**	**33.28**	**295**	*e*P		**P**	**13 23 54.5**	**-4.4**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.1							
KDAK	**Kodiak Island**	**33.71**	**51**	P		**P**	**13 24 00.2**	**-2.5**
	comp=Z,18nm,0.8s,mb5.1,baz=275,slow=6.0,SNR=5.8							
KDAK	**Kodiak Island**	**33.71**	**51**	P		**P**	**13 24 00.2**	**-2.5**
MCK	**McKinley**	**35.36**	**40**	*e*P		**P**	**13 24 15.1**	**-1.8**
MCK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
MCK	**McKinley**	**35.36**	**40**	*e*P		**P**	**13 24 15.1**	**-1.9**
	comp=Z,5.1nm,0.8s,mb4.5							
COLA	**College**	**35.86**	**38**	*e*P		**P**	**13 24 19.7**	**-1.6**
COLA	**College**	**35.86**	**38**	*e*P		**P**	**13 24 20.3**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0							
LZH	**Lanzhou**	**38.49**	**273**	*e*P		**P**	**13 24 44.1**	**+0.5**
LZH				AP	pP		13 24 49.4	-0.5
LZH				XP	sP		13 24 51.9	-0.5
LZH				AMB	AMB			
	comp=Z,40nm,1.1s,mb5.1							
LZH				AMB	AMB			
	comp=Z,203nm,4.8s							
LZH	**Lanzhou**	**38.49**	**273**	*e*P		**P**	**13 24 44.1**	**+0.5**
	comp=Z,40nm,1.1s,mb5.1							
LZH				pP	pP		13 24 49.4	-0.5
LZH				sP	sP		13 24 51.9	-0.5
EGAK	**Eagle**	**38.72**	**38**	*e*P		**P**	**13 24 44.0**	**-1.6**
	comp=Z,22nm,0.8s,mb4.9							
GTA	**Gaotai**	**39.59**	**280**	*e*P		**P**	**13 24 52.6**	**-0.1**
GTA				AP	pP		13 25 02.0	+3.0
GTA				AMB	AMB			
	comp=Z,9.0nm,1.3s,mb4.3							
CD2	**Chengdu**	**41.47**	**266**	P		**P**	**13 25 08.3**	**0.0**
CD2				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.0							
GYA	**Guiyang**	**42.28**	**258**	⇑*i*P		**P**	**13 25 14.8**	**-0.1**
GYA				AP	pP		13 25 18.9	-2.4
GYA				XP	sP		13 25 21.8	-2.0
GYA				PP	PP		13 26 57.4	+4.5
GYA				PCP	PcP		13 27 06.3	-2.2
GYA				SCP	ScP		13 30 55.8	-2.2
GYA				S	**S**		**13 31 39.3**	**+4.8**
GYA				SCS	ScS		13 35 13.4	-2.5
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
GYA				AMB	AMB			
	comp=Z,180nm,5.0s							
GYA				LR	LR			
	comp=N,670nm,17.6s,MS4.7							
GYA				LR	LR			
	comp=E,710nm,18.0s,MS4.7							
GYA				LR	LR			
	comp=Z,610nm,17.8s,MS4.5							
ZAL	**Zalesovo**	**43.19**	**306**	P		**P**	**13 25 19.3**	**-3.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=360,slow=2.6,SNR=3.1							
WMQ	**Urumqi**	**45.53**	**292**	P		**P**	**13 25 40.5**	**-0.6**
MK31	**Makanchi Array**	**47.53**	**298**	*e*P		**P**	**13 25 54.7**	**-2.1**
MKAR	**Makanchi Array**	**47.53**	**298**	P		**P**	**13 25 54.9**	**-1.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=70,slow=7.6,SNR=8.2							
KURK	**Kurchatov**	**47.94**	**304**	*e*P		**P**	**13 25 56.1**	**-3.8**
LSA	**Lhasa**	**50.88**	**274**	*e*P		**P**	**13 26 23.4**	**+1.0**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.6							
LSA	**Lhasa**	**50.88**	**274**	*e*P		**P**	**13 26 23.4**	**+1.0**
	comp=Z,3.4nm,0.4s,mb4.6							
BVAR	**Borovoye Array**	**51.40**	**310**	P		**P**	**13 26 24.5**	**-1.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=54,slow=8.9,SNR=6.8							
BRVK	**Borovoye**	**51.44**	**310**	*e*P		**P**	**13 26 24.7**	**-1.9**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**51.44**	**310**	*e*P		**P**	**13 26 24.7**	**-1.9**
	comp=Z,5.8nm,0.9s,mb4.5							
ZRNK	**Zerenda**	**52.17**	**310**	*e*P		**P**	**13 26 30.1**	**-1.9**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**52.17**	**310**	*e*P		**P**	**13 26 30.1**	**-1.9**
	comp=Z,1.7nm,0.7s,mb4.1							
CHTO	**Chiang Mai**	**52.68**	**257**	*e*P		**P**	**13 26 36.1**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,19nm,1.3s,mb4.9							
CHTO	**Chiang Mai**	**52.68**	**257**	*e*P		**P**	**13 26 36.1**	**+0.4**
	comp=Z,19nm,1.3s,mb4.9							
AAK	**Ala-Archa**	**54.43**	**297**	*e*P		**P**	**13 26 46.9**	**-1.7**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
ARU	**Arti**	**55.51**	**318**	⇓*i*P		**P**	**13 26 52.7**	**-3.7**
ARU				*e*S		**S**	**13 34 32.5**	**-8.1**
ARU				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.0							
JIRN	**Jiri**	**55.56**	**275**	*e*P		**P**	**13 26 57.5**	**+0.7**
	comp=Z,24nm,0.7s,mb5.3							
GUN	**Gumba**	**55.61**	**276**	*e*P		**P**	**13 26 57.9**	**+0.7**
KKN	**Kakani**	**56.10**	**276**	*e*P		**P**	**13 27 01.1**	**+0.4**
PMG	**Port Moresby**	**56.11**	**188**	*e*P		**P**	**13 27 06.1**	**+5.4**
PKI	**Pulchoki**	**56.15**	**276**	*e*P		**P**	**13 27 02.3**	**+1.3**
DMN	**Daman**	**56.33**	**276**	*e*P		**P**	**13 27 02.8**	**+0.5**
	comp=Z,41nm,1.0s,mb5.4							
GKN	**Gorkha**	**56.41**	**277**	*e*P		**P**	**13 27 03.1**	**+0.2**
DAG	**Danmarks Havn**	**56.79**	**358**	⇑*i*P		**P**	**13 27 05.6**	**0.0**
	comp=Z,6.8nm,0.7s,mb4.8							
DAG	**Danmarks Havn**	**56.79**	**358**	⇑*i*P		**P**	**13 27 05.6**	**0.0**
DAG				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.8							
KOLN	**Koldanda**	**57.26**	**277**	*e*P		**P**	**13 27 09.2**	**+0.3**
	comp=Z,31nm,0.9s,mb5.3							
ARCES	**ARCESS Array B**	**58.17**	**341**	P		**P**	**13 27 12.3**	**-3.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=26,slow=9.2,SNR=5.5							
ARCES	**ARCESS Array B**	**58.17**	**341**	P		**P**	**13 27 12.3**	**-3.0**
NVAR	**Mina Array Bea**	**61.96**	**63**	P		**P**	**13 27 42.0**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.3,baz=290,slow=9.9,SNR=4.5							
DUG	**Dugway**	**64.13**	**58**	*e*P		**P**	**13 27 55.9**	**+0.2**
DUG				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
DUG	**Dugway**	**64.13**	**58**	*e*P		**P**	**13 27 55.9**	**+0.1**
	comp=Z,6.4nm,1.1s,mb4.6							
FINES	**FINESS Array B**	**64.41**	**335**	P		**P**	**13 27 56.6**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.8,baz=48,slow=8.5,SNR=9.9							
OBN	**Obninsk**	**65.75**	**326**	*e*P		**P**	**13 28 04.5**	**-1.8**
OBN				*e*			13 28 40.6	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.6							
NB2	**NORSAR Subarra**	**68.54**	**342**	P		**P**	**13 28 23.4**	**-0.6**
	comp=Z,11nm,0.8s,mb4.8,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.54**	**342**	P		**P**	**13 28 23.1**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.7,baz=27,slow=6.4,SNR=11							
WRAB	**Tennant Creek**	**68.58**	**200**	*e*P		**P**	**13 28 22.8**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**68.58**	**200**	*e*P		**P**	**13 28 22.8**	**-1.5**
	comp=Z,6.0nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**68.59**	**200**	*e*P		**P**	**13 28 23.3**	**-1.0**
WRA	**Warramunga Arr**	**68.59**	**200**	P		**P**	**13 28 23.1**	**-1.2**
	comp=Z,4.2nm,0.9s,mb4.4,baz=17,slow=6.7,SNR=13							
HFS	**Hagfors**	**68.78**	**340**	P		**P**	**13 28 24.9**	**-0.6**
	comp=Z,4.7nm,0.4s,mb4.8,baz=48,slow=4.4,SNR=10							
ECSD	**EROS,Sioux Fal**	**70.54**	**46**	*e*P		**P**	**13 28 36.1**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.4							
KIV	**Kislovodsk**	**71.32**	**315**	*e*P		**P**	**13 28 34.6**	**-6.4**
KIV				pmax	pmax			
	comp=Z,18nm,1.1s,mb4.9							
AKASG	**Malin Array Be**	**71.98**	**327**	P		**P**	**13 28 43.5**	**-1.6**
	comp=Z,9.1nm,0.8s,mb4.8,baz=34,slow=6.3,SNR=16							
AS31	**Alice Springs**	**72.28**	**199**	*e*P		**P**	**13 28 47.0**	**+0.2**
ASAR	**Alice Springs**	**72.28**	**199**	P		**P**	**13 28 46.6**	**-0.2**
	comp=Z,7.2nm,0.8s,mb4.7,baz=13,slow=5.8,SNR=23							
ASPA	**Alice Springs**	**72.29**	**199**	*e*P		**P**	**13 28 47.0**	**+0.1**
MNTX	**Cornudas Mount**	**74.31**	**60**	*e*P		**P**	**13 29 00.0**	**+1.2**
	comp=Z,1.4nm,0.7s,mb4.0							
SIM	**Simferopol'**	**74.55**	**320**	*e*P		**P**	**13 29 02.4**	**+2.2**
SIM				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
STHS	**Stebnicka Huta**	**75.92**	**330**	*e*P		**P**	**13 29 09.2**	**+1.1**
STHS				*e*pP	pP		13 29 13.7	-1.1
STHS				*e*PCP	PcP		13 29 19.3	-1.2
STHS	**Stebnicka Huta**	**75.92**	**330**	*e*P		**P**	**13 29 09.3**	**+1.2**
STHS				*e*			13 29 19.3	
STHS				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
STHS	**Stebnicka Huta**	**75.92**	**330**	*e*P		**P**	**13 29 09.3**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.3							
STHS				*e*	pP		13 29 13.7	-1.1
STHS				*e*			13 29 19.3	
KOLS	**Kolonicke sedl**	**75.98**	**330**	*e*P		**P**	**13 29 08.5**	**+0.1**
KOLS				*e*sP	sP		13 29 17.3	-0.3
KOLS	**Kolonicke sedl**	**75.98**	**330**	*e*P		**P**	**13 29 08.5**	**+0.1**
KOLS				*e*			13 29 17.3	
BURAR	**Bucovina Array**	**76.02**	**327**	⇑*i*P		**P**	**13 29 08.8**	**+0.1**
BURAR	**Bucovina Array**	**76.02**	**327**	⇑P		**P**	**13 29 08.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**76.60**	**347**	P		**P**	**13 29 11.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=232,slow=41,SNR=3.3							
CLL	**Collm**	**76.83**	**336**	*i* P		**P**	**13 29 12.7**	**-0.5**
CLL				pmax	pmax			
	comp=Z,38nm,0.8s,mb5.4							
CLL	**Collm**	**76.83**	**336**	*i* P		**P**	**13 29 12.7**	**-0.5**
	comp=Z,19nm,0.8s,mb5.1							
MORC	**Moravsky Berou**	**76.83**	**333**	⇓*i*P		**P**	**13 29 15.2**	**+2.0**
MORC	**Moravsky Berou**	**76.83**	**333**	*e*P		**P**	**13 29 14.1**	**+0.9**
MORC				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
MORC	**Moravsky Berou**	**76.83**	**333**	*e*P		**P**	**13 29 14.1**	**+0.9**
	comp=Z,10.0nm,0.9s,mb4.8							
BRG	**Berggiesshubel**	**76.95**	**335**	*e*P		**P**	**13 29 15.5**	**+1.6**
	comp=Z,3.9nm,0.9s,mb4.3							
BRG				*e*	pP		13 29 23.5	+2.9
	comp=Z,7.2nm,1.2s							
BRG	**Berggiesshubel**	**76.95**	**335**	*e*P		**P**	**13 29 15.5**	**+1.6**
BRG				*e*	pP		13 29 23.5	+2.9
BRG				pmax	pmax			
	comp=Z,22nm,0.9s,mb5.1							
KECS	**Kecovo**	**76.98**	**330**	*e*P		**P**	**13 29 12.5**	**-1.6**
KECS				*e*pP	pP		13 29 16.0	-4.8
KECS				*e*PCP	PcP		13 29 24.8	-0.3
KECS	**Kecovo**	**76.98**	**330**	*e*P		**P**	**13 29 12.5**	**-1.6**
KECS				*e*			13 29 24.8	
KECS				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
KECS	**Kecovo**	**76.98**	**330**	*e*P		**P**	**13 29 12.5**	**-1.6**
	comp=Z,2.3nm,0.8s,mb4.2							
KECS				*e*			13 29 16.0	
KECS				*e*			13 29 24.8	
LTX	**Lajitas**	**77.03**	**61**	*e*P		**P**	**13 29 15.3**	**+0.9**
LTX				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9							
LTX	**Lajitas**	**77.03**	**61**	*e*P		**P**	**13 29 15.3**	**+1.0**
	comp=Z,8.6nm,0.6s,mb4.9							
TXAR	**Lajitas Array**	**77.03**	**61**	P		**P**	**13 29 15.6**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=301,slow=4.1,SNR=24							
TIRR	**Tirgusor**	**77.37**	**323**	⇓*i*P		**P**	**13 29 18.2**	**+1.9**
TIRR	**Tirgusor**	**77.37**	**323**	*e*P		**P**	**13 29 18.0**	**+1.7**
TIRR				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
TIRR	**Tirgusor**	**77.37**	**323**	*e*P		**P**	**13 29 18.0**	**+1.7**
	comp=Z,9.3nm,0.9s,mb4.7							
MLR	**Muntele Rosu**	**77.51**	**325**	P		**P**	**13 29 17.2**	**+0.1**
	comp=Z,11nm,0.7s,mb4.9,baz=177,slow=5.9,SNR=9.2							
MLR	**Muntele Rosu**	**77.51**	**325**	⇑*i*P		**P**	**13 29 18.2**	**+1.1**
MLR	**Muntele Rosu**	**77.51**	**325**	P		**P**	**13 29 17.2**	**+0.1**
MLR				pmax	pmax			
	comp=Z,11nm,0.7s							
MLR	**Muntele Rosu**	**77.51**	**325**	⇑P		**P**	**13 29 18.2**	**+1.2**
VYHS	**Vyhne**	**77.53**	**331**	*e*P		**P**	**13 29 18.7**	**+1.5**
VYHS				*e*sP	sP		13 29 26.3	0.0
VYHS	**Vyhne**	**77.53**	**331**	*e*P		**P**	**13 29 18.7**	**+1.5**
VYHS				*e*	pP		13 29 26.3	+2.4
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
VYHS	**Vyhne**	**77.53**	**331**	*e*P		**P**	**13 29 18.7**	**+1.5**
	comp=Z,3.9nm,1.0s,mb4.3							
VYHS				*e*	pP		13 29 26.3	+2.4
VRAC	**Vranov**	**77.54**	**333**	P		**P**	**13 29 17.5**	**+0.2**
	comp=Z,5.8nm,0.7s,mb4.6,baz=38,slow=8.0,SNR=4.4							
VRAC	**Vranov**	**77.54**	**333**	⇓*i*P		**P**	**13 29 19.4**	**+2.2**
VRAC	**Vranov**	**77.54**	**333**	P		**P**	**13 29 17.5**	**+0.3**
VRAC				pmax	pmax			
	comp=Z,6.0nm,0.7s							
VRAC	**Vranov**	**77.54**	**333**	⇓P		**P**	**13 29 19.4**	**+2.2**
DRGR		**77.64**	**328**	⇓*i*P		**P**	**13 29 19.3**	**+1.5**
DRGR		**77.64**	**328**	⇓P		**P**	**13 29 19.3**	**+1.5**
MALT	**Malatya**	**77.68**	**313**	*e*P		**P**	**13 29 15.8**	**-2.2**
MALT				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6							
MALT	**Malatya**	**77.68**	**313**	*e*P		**P**	**13 29 15.8**	**-2.2**
	comp=Z,9.4nm,1.2s,mb4.6							
MOX	**Moxa**	**77.81**	**337**	*e*P		**P**	**13 29 16.9**	**+0.9**
VOIR		**77.91**	**326**	⇑*i*P		**P**	**13 29 21.8**	**+2.5**
VOIR		**77.91**	**326**	⇑P		**P**	**13 29 21.8**	**+2.5**
ZST	**Bratislava**	**78.35**	**332**	*e*P		**P**	**13 29 24.9**	**+3.1**
ZST				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
ZST	**Bratislava**	**78.35**	**332**	*e*P		**P**	**13 29 24.9**	**+3.1**
	comp=Z,8.9nm,0.8s,mb4.8							
GRA1	**Grafenberg Arr**	**78.78**	**336**	*e*P		**P**	**13 29 25.4**	**+1.3**
	comp=Z,21nm,1.0s,mb5.0							
GRF	**Grafenberg Arr**	**78.78**	**336**	*e*P		**P**	**13 29 25.4**	**+1.3**
	comp=Z,21nm,1.0s,mb5.0							
GRF	**Grafenberg Arr**	**78.78**	**336**	*e*P		**P**	**13 29 25.4**	**+1.3**
GRF				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.0							
GZR	**Gura Zlata**	**78.80**	**327**	⇑*i*P		**P**	**13 29 25.9**	**+1.7**
GZR	**Gura Zlata**	**78.80**	**327**	⇑P		**P**	**13 29 25.9**	**+1.6**
GERES	**GERESS Array B**	**78.83**	**335**	P		**P**	**13 29 24.5**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=33,slow=5.1,SNR=12							
STKA	**Stephens Creek**	**78.94**	**191**	P		**P**	**13 29 23.1**	**-1.8**
BZS	**Buzias**	**79.04**	**328**	⇓*i*P		**P**	**13 29 27.6**	**+2.1**
BZS	**Buzias**	**79.04**	**328**	⇓P		**P**	**13 29 27.6**	**+2.1**
CDF	**Champ du Feu**	**81.00**	**338**	*e*P		**P**	**13 29 37.7**	**+1.6**
	comp=Z,35nm,1.1s,mb4.9							
CDF	**Champ du Feu**	**81.00**	**338**	*e*P		**P**	**13 29 37.7**	**+1.6**
CDF				pmax	pmax			
	comp=Z,17nm,1.1s,mb4.9							
CDF	**Champ du Feu**	**81.00**	**338**	*e*P		**P**	**13 29 37.7**	**+1.6**
	comp=Z,17nm,1.1s,mb4.9							
VTS	**Vitosha**	**81.02**	**326**	⇓*i*P		**P**	**13 29 37.9**	**+1.7**
VTS	**Vitosha**	**81.02**	**326**	⇓P		**P**	**13 29 37.9**	**+1.7**
DAVOX	**Davos**	**81.80**	**336**	P		**P**	**13 29 41.1**	**+0.8**
	comp=Z,2.6nm,0.6s,mb4.4,baz=9.3,slow=8.5,SNR=4.7							
GRR	**Gorron**	**82.86**	**343**	*e*P		**P**	**13 29 47.5**	**+1.6**
	comp=Z,40nm,1.2s,mb5.0							
GRR	**Gorron**	**82.86**	**343**	*e*P		**P**	**13 29 47.5**	**+1.6**
GRR				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.0							
GRR	**Gorron**	**82.86**	**343**	*e*P		**P**	**13 29 47.5**	**+1.6**
	comp=Z,20nm,1.2s,mb5.0							
**S

NVS pmax pmax
comp=Z,18nm,0.9s,mb4.8
NVS smax
comp=N,24nm,2.3s
NVS smax
comp=E,25nm,2.3s
MK31 Makanchi Array 47.68 298 *eP* **P 13 26 07.2 +0.7**
MKAR Makanchi Array 47.68 298 P **P 13 26 07.6 +1.1**
comp=E,8.5nm,0.8s,mb4.8,baz=72,slow=7.8,SNR=16
KURK Kurchatov 48.05 304 *eP* **P 13 26 09.2 -0.2**
KURK pmax pmax
comp=Z,21nm,0.7s,mb5.3
KURK Kurchatov 48.05 304 *eP* **P 13 26 09.2 -0.3**
comp=Z,21nm,0.7s,mb5.3
CHKZ Chkalovo 51.06 311 *eP* **P 13 26 31.6 -0.8**
CHKZ pmax pmax
comp=Z,17nm,0.6s,mb5.2
CHKZ Chkalovo 51.06 311 *eP* **P 13 26 31.6 -0.7**
comp=Z,17nm,0.6s,mb5.2
LSA Lhasa 51.11 274 *eP* **P 13 26 33.6 +0.9**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LSA Lhasa 51.11 274 *eP* **P 13 26 33.6 +0.9**
comp=Z,10nm,0.8s,mb4.8
BVAR Borovoye Array 51.50 310 P **P 13 26 35.2 -0.4**
comp=E,5.8nm,0.4s,mb4.8,baz=54,slow=7.5,SNR=21
BRVK Borovoye 51.54 310 *eP* **P 13 26 34.0 -1.9**
BRVK pmax pmax
comp=Z,25nm,1.3s,mb5.0
BRVK Borovoye 51.54 310 *eP* **P 13 26 34.0 -1.9**
comp=Z,25nm,1.3s,mb5.0
ZRNK Zerenda 52.26 310 *eP* **P 13 26 40.7 -0.6**
ZRNK pmax pmax
comp=Z,12nm,1.5s,mb4.6
ZRNK Zerenda 52.26 310 *eP* **P 13 26 40.6 -0.7**
comp=Z,12nm,1.5s,mb4.6
CHTO Chiang Mai 52.94 258 *eP* **P 13 26 46.6 +0.3**
CHTO pmax pmax
comp=Z,27nm,1.2s,mb5.0
CHTO Chiang Mai 52.94 258 *eP* **P 13 26 46.6 +0.3**
comp=Z,27nm,1.2s,mb5.0
AAK Ala-Archa 54.58 297 *eP* **P 13 26 59.5 +1.2**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
AAK Ala-Archa 54.58 297 *eP* **P 13 26 59.5 +1.2**
comp=Z,15nm,1.1s,mb4.9
ARU Arti 55.57 318 *eP* **P 13 27 04.4 -1.1**
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ARU Arti 55.57 318 *eP* **P 13 27 04.3 -1.1**
comp=Z,12nm,0.6s,mb5.1
PMG Port Moresby 56.28 189 P **P 13 27 09.7 -0.8**
comp=Z,9.7nm,0.8s,mb4.9,baz=240,slow=20,SNR=7.6
PMG Port Moresby 56.28 189 *eP* **P 13 27 08.9 -1.6**
PMG pmax pmax
comp=Z,23nm,1.0s
PMG Port Moresby 56.28 189 *eP* **P 13 27 08.9 -1.6**
comp=Z,24nm,1.0s,mb5.2
KEV Kevo 57.61 341 *ep* **P 13 27 17.1 -2.9**
TMCR Tamitsa 58.72 333 *eP* **P 13 27 25.8 -1.9**
AKTK Aktyubinsk 59.34 312 P **P 13 27 32.0 0.0**
AKTO Aktyubinsk 59.34 312 P **P 13 27 32.0 0.0**
comp=Z,5.9nm,0.8s,mb4.7,baz=56,slow=12,SNR=9.5
AKTO Aktyubinsk 59.34 312 P **P 13 27 32.0 0.0**
AKTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ORR Orenburg 60.23 315 *eP* **P 13 27 38.7 +0.5**
ORR pmax pmax
comp=Z,20nm,1.4s,mb5.0
KAKA Kakadu 62.37 204 *eP* **P 13 27 52.6 0.0**
comp=Z,26nm,0.7s,mb5.5
DUG Dugway 63.86 58 *eP* **P 13 28 06.4 +3.9**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
DUG Dugway 63.86 58 *eP* **P 13 28 06.4 +3.9**
comp=Z,6.8nm,1.0s,mb4.6
BW06 Boulder Array 64.06 55 *eP* **P 13 28 08.6 +4.8**
comp=Z,7.2nm,1.1s,mb4.6
PDAR Pinedale Array 64.06 55 P **P 13 27 57.5 -6.4**
comp=Z,2.5nm,0.9s,mb4.2,baz=299,slow=1.5,SNR=8.0
FINES FINESS Array B 64.39 335 P **P 13 28 03.9 -2.1**
comp=Z,9.2nm,0.7s,mb4.9,baz=35,slow=8.0,SNR=11
FINES FINESS Array B 64.39 335 P **P 13 28 03.9 -2.1**
FINES FINESS Array B 64.39 335 P **P 13 28 03.9 -2.1**
PSI Prapat 64.84 245 P **P 13 28 11.9 +3.0**
comp=Z,3.0nm,0.4s,mb4.6,baz=352,slow=3.2,SNR=7.6
WRAB Tennant Creek 68.79 200 P **P 13 28 33.1 -1.0**
comp=Z,160nm,0.9s,SNR=5.3
WRAB Tennant Creek 68.79 200 *eP* **P 13 28 33.0 -1.1**
WRAB pmax pmax
comp=Z,21nm,0.8s,mb5.1
WRAB Tennant Creek 68.79 200 *eP* **P 13 28 33.0 -1.1**
comp=Z,21nm,0.8s,mb5.1
WB2 Warramunga Arr 68.80 200 *eP* **P 13 28 33.1 -1.0**
WRA Warramunga Arr 68.80 200 P **P 13 28 33.2 -0.9**
comp=Z,17nm,0.8s,mb5.0,baz=20,slow=6.8,SNR=38
POO Poona 70.29 276 *eP* **P 13 28 40.0 -3.3**
AS31 Alice Springs 72.49 200 *eP* **P 13 28 56.6 0.0**
ASAR Alice Springs 72.49 200 P **P 13 28 56.6 +0.1**
comp=Z,18nm,0.7s,mb5.1,baz=17,slow=5.9,SNR=66
ASPA Alice Springs 72.49 200 *eP* **P 13 28 56.6 0.0**
MNTX Comudas Mount 74.04 61 P **P 13 29 09.9 +4.2**
comp=Z,5.0nm,1.1s,mb4.4
EKA Eskdalemuir Ar 76.53 347 P **P 13 29 19.8 -0.2**
comp=Z,2.3nm,0.7s,mb4.2,baz=18,slow=5.0,SNR=7.0
EKA Eskdalemuir Ar 76.53 347 P **P 13 29 19.8 -0.2**
EKA Eskdalemuir Ar 76.53 347 P **P 13 29 19.8 -0.2**
LTX Lajitas 76.76 61 *eP* **P 13 29 25.6 +4.3**
LTX pmax pmax
comp=Z,16nm,1.1s,mb4.9
LTX Lajitas 76.76 61 *eP* **P 13 29 25.6 +4.2**
comp=Z,16nm,1.1s,mb4.9
CLL Collm 76.80 336 *i* P **P 13 29 22.8 +1.2**
comp=Z,23nm,0.8s,mb5.2
CLL *ep*P pP 13 29 26.0 -6.5
MORC Moravsky Berou 76.82 333 *eP* **P 13 29 23.4 +1.7**
MORC pmax pmax
comp=Z,16nm,1.0s,mb4.9
MORC Moravsky Berou 76.82 333 *eP* **P 13 29 23.4 +1.7**
comp=Z,16nm,1.0s,mb4.9
TIRR Tirgusor 77.41 324 *eP* **P 13 29 26.1 +1.1**
TIRR pmax pmax
comp=Z,13nm,0.9s,mb4.9
TIRR Tirgusor 77.41 324 *eP* **P 13 29 26.1 +1.1**
comp=Z,13nm,0.9s,mb4.9
VRAC Vranov 77.53 333 P **P 13 29 26.4 +0.7**
comp=Z,9.7nm,0.8s,mb4.8,baz=22,slow=4.4,SNR=6.0
VRAC Vranov 77.53 333 P **P 13 29 26.4 +0.7**
VRAC Vranov 77.53 333 P **P 13 29 26.4 +0.7**
MLR Muntele Rosu 77.53 326 P **P 13 29 27.1 +1.4**
comp=Z,13nm,0.7s,mb5.0,baz=44,slow=12,SNR=6.9
MLR Muntele Rosu 77.53 326 P **P 13 29 27.1 +1.4**
MALT Malatya 77.76 314 *i* P **P 13 29 32.2 +5.3**
MALT Malatya 77.76 314 *eP* **P 13 29 28.0 +1.1**
MALT pmax pmax
comp=Z,17nm,1.3s,mb4.8
MALT Malatya 77.76 314 *eP* **P 13 29 27.9 +1.0**
comp=Z,17nm,1.3s,mb4.8
GERES GERESS Array B 78.81 335 P **P 13 29 33.8 +1.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=52,slow=5.2,SNR=8.8
GERES GERESS Array B 78.81 335 P **P 13 29 33.8 +1.0**
GERES GERESS Array B 78.81 335 P **P 13 29 33.8 +1.0**
STKA Stephens Creek 79.11 191 P **P 13 29 33.2 -1.2**
comp=Z,8.8nm,0.9s,mb4.7,baz=22,slow=5.8,SNR=8.4
STKA Stephens Creek 79.11 191 *eP* **P 13 29 32.6 -1.8**
FORT Forrest 80.74 203 *eP* **P 13 29 43.1 -0.1**
comp=Z,33nm,0.8s,mb5.3
BFO Black Forest 80.77 338 *eP* **P 13 29 44.2 +0.8**
BFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 80.77 338 *eP* **P 13 29 44.2 +0.8**
comp=Z,16nm,1.1s,mb4.9
TIP Timpagrande 86.42 328 P **P 13 30 16.3 +3.9**
VNDA Vanda 124.09 178 PKP PKPdf 13 36 23.6 -4.6
comp=Z,1.3nm,0.9s,baz=293,slow=5.1,SNR=6.0
VNDA Vanda 124.09 178 PKIKP PKPdf 13 36 23.6 -4.6
VNDA Vanda 124.09 178 PKP PKPdf 13 36 23.6 -4.6
MAW Mawson 132.64 211 PKP PKPdf 13 36 41.1 -3.4
comp=Z,2.4nm,0.9s,baz=270,slow=3.0,SNR=4.1
LPAZ La Paz 133.59 64 PKP PKPdf 13 36 44.3 -2.0
comp=Z,1.4nm,0.7s,baz=13,slow=6.0,SNR=7.6
LPAZ La Paz 133.59 64 PKIKP PKPdf 13 36 44.3 -2.0
LPAZ La Paz 133.59 64 PKP PKPdf 13 36 44.3 -2.0
SNAA Sanae 152.79 196 PKPbc PKPbc 13 37 22.4 -4.3
comp=Z,1.7nm,0.9s,baz=123,slow=6.0,SNR=4.8
SNAA Sanae 152.79 196 PKIKP PKPbc 13 37 22.4 -4.3
SNAA pmax pmax
comp=Z,2.0nm,0.9s

IDC ***15*** *13:19:02.2₀1.4, 4602N×15293E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.1/24, mbtmp4.3/10, Error ellipse: s-maj=55.9km s-min=21.8km az=87.0*
ISCJB ***15*** *13:19:07.8₀1.0, 458N₀.0₁×1523E₀.04, h35km, mb4.4/16, Error ellipse: s-maj=38.6km s-min=20.0km az=176.4*
ISC 15 13:19:09.1₀1.0, 459N₀.01×1525E₀.04, h35km, n17, σ1°45/17, mb4.4/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.22**	**290**	P		P		**13 25 26.9**	**+1.8**
	1.0nm,0.7s,mb3.7,baz=77,slow=11,SNR=2.0								
MKAR	**Makanchi Array**	**46.95**	**298**	P		P		**13 27 35.1**	**-1.2**
	3.2nm,0.6s,mb4.4,baz=73,slow=3.5,SNR=3.1								
KEV	**Kevo**	**57.98**	**340**	*ep*		P		**13 28 53.0**	**-5.1**
	1.4nm,0.4s,mb4.3								
ARCES	**ARCESS Array B**	**58.50**	**341**	P		P		**13 28 58.0**	**-3.7**
	5.0nm,0.9s,mb4.5,baz=38,slow=10,SNR=4.2								
FINES	**FINESS Array B**	**64.61**	**335**	P		P		**13 29 40.7**	**-2.2**
	2.3nm,0.5s,mb4.3,baz=34,slow=7.6,SNR=3.4								
WRA	**Warramunga Arr**	**67.59**	**198**	P		P		**13 30 01.4**	**-0.7**
	2.4nm,0.8s,mb4.3,baz=21,slow=6.7,SNR=3.8								
NOA	**NORSAR Array B**	**68.88**	**341**	P		P		**13 30 08.1**	**-2.0**
	1.4nm,0.6s,mb4.1,baz=26,slow=6.4,SNR=2.9								
HFS	**Hagfors**	**69.09**	**339**	P		P		**13 30 09.9**	**-1.5**
	2.6nm,0.4s,mb4.6,baz=57,slow=5.5,SNR=6.7								
ASAR	**Alice Springs**	**71.28**	**198**	P		P		**13 30 24.9**	**0.0**
	1.8nm,0.6s,mb4.2,baz=15,slow=6.4,SNR=4.7								
AKASG	**Malin Array Be**	**72.00**	**326**	P		P		**13 30 27.8**	**-1.4**
	0.7nm,0.4s,mb4.0,baz=33,slow=5.9,SNR=3.8								
CLL	**Collm**	**77.05**	**335**	*i* P		P		**13 31 00.5**	**+2.0**
	comp=Z,8.0nm,0.8s,mb4.7								
EKA	**Eskdalemuir Ar**	**77.05**	**346**	P		P		**13 30 58.3**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=23,slow=4.9,SNR=5.8								
CDF	**Champ du Feu**	**81.26**	**337**	*eP*		P		**13 31 22.2**	**+0.7**
	comp=Z,7.2nm,0.7s,mb4.4								
GRR	**Gorron**	**83.23**	**342**	*eP*		P		**13 31 32.5**	**+0.7**
SMF	**Signal de Mont**	**83.79**	**339**	*eP*		P		**13 31 35.8**	**+1.1**
	comp=Z,18nm,0.9s,mb4.9								
LPG	**La Plagne**	**84.08**	**337**	*eP*		P		**13 31 38.3**	**+2.1**
	comp=Z,8.1nm,0.7s,mb4.7								
RJF	**Les Rejaudoux**	**85.61**	**340**	*eP*		P		**13 31 45.5**	**+1.6**
	comp=Z,14nm,0.8s,mb5.0								

IDC ***15*** *13:19:46.9₀1.1, 4704N×15528E, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.2/26, mbtmp4.4/11, Error ellipse: s-maj=33.1km s-min=20.9km az=102.0*
ISCJB ***15*** *13:19:50.3₀1.0, 471N₀.01×1553E₀.03, h35km, mb4.4/13, Error ellipse: s-maj=27.1km s-min=18.1km az=41.6*
ISC 15 13:19:52.0₀1.0, 471N₀.01×1553E₀.03, h35km, n15, σ0°75/15, mb4.4/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.34**	**254**	P		P		**13 24 47.4**	**+0.7**
	3.6nm,0.6s,mb4.0,baz=56,slow=10,SNR=5.2								
INK	**Inuvik**	**40.55**	**33**	P		P		**13 27 27.6**	**-0.2**
	7.7nm,0.8s,mb4.4,baz=289,slow=5.1,SNR=6.4								
MKAR	**Makanchi Array**	**48.11**	**298**	P		P		**13 28 27.1**	**-1.2**
	3.4nm,0.7s,mb4.5,baz=71,slow=7.7,SNR=4.3								
MKAR				PcP		PcP		13 29 55.6	0.0
	1.2nm,0.7s,baz=21,slow=1.6,SNR=3.1								
BVAR	**Borovoye Array**	**51.79**	**310**	P		P		**13 28 55.7**	**-0.5**
	4.9nm,0.5s,mb4.7,baz=55,slow=8.1,SNR=7.7								
AKTO	**Aktyubinsk**	**59.60**	**313**	P		P		**13 29 52.2**	**-0.1**
	2.7nm,0.6s,mb4.5,baz=57,slow=7.1,SNR=4.5								
FINES	**FINESS Array B**	**64.36**	**336**	P		P		**13 30 23.9**	**-0.3**
	3.5nm,0.5s,mb4.6,baz=37,slow=9.4,SNR=9.1								
NOA	**NORSAR Array B**	**68.37**	**342**	P		P		**13 30 49.9**	**0.0**
	1.7nm,0.7s,mb4.2,baz=25,slow=6.3,SNR=3.9								
HFS	**Hagfors**	**68.64**	**341**	P		P		**13 30 53.4**	**+1.8**
	3.9nm,0.4s,mb4.7,baz=66,slow=5.2,SNR=6.6								
WRA	**Warramunga Arr**	**69.35**	**201**	P		P		**13 30 55.3**	**-0.7**
	1.4nm,0.7s,mb4.0,baz=18,slow=6.8,SNR=4.1								
AKASG	**Malin Array Be**	**72.08**	**327**	P		P		**13 31 12.8**	**+0.2**
	2.2nm,0.6s,mb4.2,baz=34,slow=6.1,SNR=5.0								
ASAR	**Alice Springs**	**73.04**	**200**	P		P		**13 31 18.7**	**+0.4**
	1.6nm,0.7s,mb4.1,baz=17,slow=6.0,SNR=4.1								
CDF	**Champ du Feu**	**80.89**	**339**	*eP*		P		**13 32 08.2**	**+5.8**
GRR	**Gorron**	**82.66**	**344**	*eP*		P		**13 32 17.1**	**+5.3**
SMF	**Signal de Mont**	**83.35**	**341**	*eP*		P		**13 32 20.4**	**+5.0**
	16nm,0.9s,mb4.7								
LPG	**La Plagne**	**83.73**	**338**	*eP*		P		**13 32 23.2**	**+5.9**
	11nm,0.6s,mb4.8								

ISCJB ***15*** *13:23:07.8₀0.7, 467N₀.01×1543E₀.01, h44km, mb4.0/13, Error ellipse: s-maj=17.7km s-min=7.6km az=111.8*
IDC ***15*** *13:23:09.5₀0.7, 4655N×15407E, h44km±5km, mb3.8/13, mb1 4.0/14, mb1mx3.9/25, mbtmp3.8/14, ML3.8/1, Error ellipse: s-maj=19.6km s-min=14.9km az=127.0*
MOS ***15*** *13:23:10.5₀2.4, 4667N×15438E, h73km, mb4.6/8, Error ellipse: s-maj=18.5km s-min=13.0km az=64.2*
ISC 15 13:23:09.7₀0.7, 467N₀.01×1543E₀.01, h46km, h46km±1.9km:pP-P, n32, σ1°17/32, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.20**	**16**	*e*PN		**Pn**		**13 24 09.6**	**-1.6**
SKR				pmax	pmax				
	comp=Z,80nm,0.4s								
KUR	**Kuril'sk**	**4.69**	**254**	*e*PN		**Pn**		**13 24 25.0**	**+7.0**
KUR				*i* S		**Sn**		**13 25 12.0**	**+0.9**
KUR				smax					
	comp=N,260nm,0.8s								
KUR				smax					
	comp=E,340nm,0.8s								
YSS	**Yuzh-Sakhalins**	**7.91**	**276**	*e*PN		**Pn**		**13 25 09.0**	**+6.9**
ASAJ	**Asahikawa**	**8.60**	**257**	P		**Pn**		**13 25 13.7**	**+2.1**
	comp=E,1.1nm,0.3s,baz=43,slow=8.2,SNR=3.3								
ASAJ	**Asahikawa**	**8.60**	**257**	PN		**Pn**		**13 25 13.7**	**+2.1**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.68**	**236**	P		**Pn**		**13 26 46.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=22,slow=13,SNR=4.2								
KSRS	**Korea Array**	**21.54**	**254**	P		P		**13 27 54.7**	**-0.3**
	comp=Z,4.2nm,0.8s,mb3.9,baz=60,slow=9.5,SNR=4.8								
INK	**Inuvik**	**41.29**	**32**	P		P		**13 30 52.5**	**+1.9**
	comp=Z,5.0nm,0.9s,mb4.2,baz=269,slow=8.2,SNR=7.1								
INK	**Inuvik**	**41.29**	**32**	P		P		**13 30 52.5**	**+1.9**
INK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi Array**	**47.69**	**298**	P		P		**13 31 40.4**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.7,baz=64,slow=6.0,SNR=3.5								
MKAR	**Makanchi Array**	**47.69**	**298**	P		P		**13 31 40.4**	**-1.2**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**50.51**	**37**	P		P		**13 32 05.2**	**+2.1**
	comp=Z,4.2nm,0.8s,mb4.4,baz=296,slow=7.0,SNR=4.9								
YKA	**Yellowknife Ar**	**50.51**	**37**	P		P		**13 32 05.2**	**+2.0**
YKA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.19**	**341**	P		P		**13 32 58.1**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.4,baz=24,slow=7.4,SNR=6.8								
ARCES	**ARCESS Array B**	**58.19**	**341**	P		P		**13 32 58.1**	**-0.9**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
PDAR	**Pinedale Array**	**64.15**	**54**	P		P		**13 33 40.9**	**+1.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=289,slow=5.6,SNR=3.0								
PDAR				pP		pP		13 33 53.1	+0.6
	comp=Z,1.5nm,1.0s,baz=298,slow=3.2,SNR=4.7								
FINES	**FINESS Array B**	**64.45**	**335**	P		P		**13 33 40.6**	**-0.7**
	comp=Z,9.6nm,1.1s,mb4.8,baz=40,slow=7.8,SNR=4.8								
FINES	**FINESS Array B**	**64.45**	**335**	P		P		**13 33 40.7**	**-0.6**
FINES				pmax	pmax				
	comp=Z,10.0nm,1.1s								
NB2	**NORSAR Subarra**	**68.56**	**342**	P		P		**13 34 07.5**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.2,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.56**	**342**	P		P		**13 34 07.1**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.3,baz=27,slow=6.5,SNR=4.7								
NOA	**NORSAR Array B**	**68.56**	**342**	P		P		**13 34 07.1**	**-0.4**
NOA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WRA	**Warramunga Arr**	**68.70**	**200**	P		P		**13 34 06.7**	**-1.8**
	comp=Z,0.5nm,0.8s,mb3.5,baz=21,slow=6.9,SNR=3.4								
WRA	**Warramunga Arr**	**68.70**	**200**	P		P		**13 34 06.7**	**-1.7**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
HFS	**Hagfors**	**68.81**	**340**	P		P		**13 34 09.3**	**+0.2**
	comp=Z,3.2nm,0.5s,mb4.5,baz=58,slow=5.6,SNR=7.3								
HFS				pP		pP		13 34 22.9	+0.4
	comp=Z,1.5nm,0.3s,baz=54,slow=5.8,SNR=2.5								
HFS	**Hagfors**	**68.81**	**340**	P		P		**13 34 09.3**	**+0.2**
HFS				pmax	pmax				
	comp=Z,3.0nm,0.5s								
HFS				pmax	pmax				
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**72.05**	**327**	P		P		**13 34 28.6**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=33,slow=6.2,SNR=3.7								
AKASG				pP		pP		13 34 40.8	-1.5
	comp=Z,2.7nm,0.6s,baz=33,slow=6.1,SNR=4.8								
AKASG	**Malin Array Be**	**72.05**	**327**	P		P		**13 34 28.7**	**-0.2**
AKASG				*PP		pP		13 34 40.8	-1.5
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ASAR	**Alice Springs**	**72.39**	**200**	P		P		**13 34 30.2**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=6.8,SNR=3.7								
ASAR				pP		pP		13 34 43.0	-1.3
	comp=Z,0.9nm,0.7s,baz=11,slow=5.9,SNR=4.7								
ASAR	**Alice Springs**	**72.39**	**200**	P		P		**13 34 30.3**	**-0.6**
ASAR				*PP		pP		13 34 43.0	-1.3
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
EKA	**Eskdalemuir Ar**	**76.60**	**347**	pP		pP		13 35 10.7	+1.8
	comp=Z,1.4nm,0.6s,baz=18,slow=5.6,SNR=2.5								
TXAR	**Lajitas Array**	**76.83**	**61**	P		P		**13 34 56.8**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=336,slow=7.9,SNR=3.8								
TXAR				pP		pP		13 35 10.9	+0.7
	comp=Z,1.9nm,0.6s,baz=294,slow=4.4,SNR=6.5								
TXAR	**Lajitas Array**	**76.83**	**61**	P		P		**13 34 56.8**	**+0.1**
TXAR				*PP		pP		13 35 10.9	+0.7
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								

IDC ***15*** *13:28:35.0₀0.8, 4660N×15504E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/27, mbtmp4.2/15, ML3.4/2, Error ellipse: s-maj=23.3km s-min=16.7km az=171.0*
MOS ***15*** *13:28:37.2₀1.1, 4683N×15489E, h22km, mb4.4/7, Error ellipse: s-maj=14.3km s-min=10.4km az=100.8*
NEIC ***15*** *13:28:37.4₀0.4, 4683N×15503E, h10km, mb4.6/11, Error ellipse: s-maj=10.1km s-min=7.7km az=155.0*
ISCJB ***15*** *13:28:39.0₀0.5, 4682N₀.009×15496E₀.009, h35km, mb4.4/26, Error ellipse: s-maj=13.5km s-min=8.6km az=139.9*
BJI ***15*** *13:28:41.3, 4720N×154.14E, h10km, mb4.8*
ISC 15 13:28:40.9₀0.5, 4683N₀.009×15493E₀.009, h35km, n51, σ0°96/49, mb4.4/26, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.65**	**20**	*e*PN		**Pn**		**13 30 14.0**	**-2.1**
YSS	**Yuzh-Sakhalins**	**8.34**	**275**	*e*PN		**Pn**		**13 30 41.1**	**+1.8**
ASAJ	**Asahikawa**	**9.08**	**257**	Pn		**Pn**		**13 30 47.1**	**-2.3**
	0.6nm,0.3s,baz=93,slow=8.9,SNR=7.2								
ASAJ	**Asahikawa**	**9.08**	**257**	PN		**Pn**		**13 30 47.1**	**-2.3**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.14**	**236**	Pn		**Pn**		**13 32 24.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=35,slow=9.9,SNR=5.1								
KSRS	**Korea Array**	**22.02**	**255**	P		P		**13 33 31.8**	**-0.3**
	comp=Z,5.1nm,0.8s,mb4.0,baz=54,slow=11,SNR=10								
BILL	**Bilibino**	**22.05**	**11**	*e*P		P		**13 33 33.2**	**+0.7**
BILL				pmax	pmax				
	comp=Z,12nm,1.1s,mb4.2								
BILL	**Bilibino**	**22.05**	**11**	*e*P		P		**13 33 32.5**	**0.0**
	comp=Z,17nm,1.0s,mb4.4								
NJ2	**Nanjing**	**31.22**	**255**	*e*P		P		**13 34 59.4**	**+2.5**
NJ2				AMB		AMB			
	comp=Z,20nm,0.7s,mb5.1								
ZAK	**Zakamensk**	**33.77**	**295**	*e*P		P		**13 35 18.2**	**-1.1**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.0								
ZAL	**Zalesovo**	**43.59**	**306**	P		P		**13 36 40.7**	**-0.8**
	0.6nm,0.3s,baz=42,slow=6.6,SNR=3.7								
ZAL	**Zalesovo**	**43.59**	**306**	P		P		**13 36 40.7**	**-0.8**
MKAR	**Makanchi Array**	**48.01**	**298**	P		P		**13 37 16.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=67,slow=8.4,SNR=9.9								
KURK	**Kurchatov**	**48.36**	**304**	*e*P		P		**13 37 18.9**	**-0.2**
KURK				pmax	pmax				
	comp=Z,36nm,1.8s,mb5.1								
KURK	**Kurchatov**	**48.36**	**304**	*e*P		P		**13 37 18.9**	**-0.1**
	comp=Z,36nm,1.8s,mb5.1								
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P		P		**13 37 41.5**	**-0.2**
CHKZ				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.8								
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P		P		**13 37 41.5**	**-0.2**
	comp=Z,9.0nm,0.7s,mb4.8								
BVAR	**Borovoye Array**	**51.77**	**310**	P		P		**13 37 45.9**	**+0.9**
	comp=Z,3.6nm,0.7s,mb4.4,baz=72,slow=9.5,SNR=13								
BRVK	**Borovoye**	**51.81**	**310**	*e*P		P		**13 37 45.7**	**+0.4**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6								
BRVK	**Borovoye**	**51.81**	**310**	*e*P		P		**13 37 45.7**	**+0.5**
	comp=Z,5.6nm,0.7s,mb4.6								
ZRNK	**Zerenda**	**52.53**	**310**	*e*P		P		**13 37 50.6**	**0.0**
AAK	**Ala-Archa**	**54.91**	**297**	*e*P		P		**13 38 08.0**	**-0.1**
AAK				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.9								
AAK	**Ala-Archa**	**54.91**	**297**	*e*P		P		**13 38 08.0**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0								
ARU	**Arti**	**55.79**	**318**	*e*P		P		**13 38 13.6**	**-0.8**
ARU	**Arti**	**55.79**	**318**	*e*P		P		**13 38 14

comp=Z,2.8nm,0.8s,mb4.4,baz=23,slow=7.1,SNR=6.5
AKTK Aktyubinsk 59.60 313 P P 13 38 41.7 +0.6
AKTO Aktyubinsk 59.60 313 P P 13 38 41.7 +0.6
comp=Z,2.1nm,0.8s,mb4.2,baz=38,slow=4.7,SNR=6.7
AKTO Aktyubinsk 59.60 313 P P 13 38 41.7 +0.6
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NVAR Mina Array Bea 61.29 63 P P 13 38 52.2 -0.5
comp=Z,0.9nm,0.6s,mb4.0,baz=291,slow=7.6
REDW Red Top Meadow 62.58 55 eP P 13 39 02.1 +0.8
comp=Z,6.2nm,1.0s,mb4.7
DUG Dugway 63.47 59 eP P 13 39 07.5 +0.2
DUG pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
DUG Dugway 63.47 59 eP P 13 39 07.5 +0.2
comp=Z,1.5nm,0.6s,mb4.3
BW06 Boulder Array 63.69 55 eP P 13 39 08.6 -0.1
comp=Z,1.5nm,0.7s,mb4.1
PDAR Pinedale Array 63.69 55 P P 13 39 08.9 +0.2
comp=Z,1.8nm,0.9s,mb4.1,baz=294,slow=1.9,SNR=11
FINES FINESS Array B 64.50 336 P P 13 39 14.6 +0.6
comp=Z,5.6nm,0.7s,mb4.7,baz=34,slow=9.8,SNR=12
FINES FINESS Array B 64.50 336 P P 13 39 14.6 +0.6
RSSD Black Hills 65.81 51 eP P 13 39 22.4 -0.1
RSSD pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
RSSD Black Hills 65.81 51 eP P 13 39 22.4 -0.1
comp=Z,2.2nm,0.7s,mb4.3
CTA Charters Tower 67.06 189 eP P 13 39 32.1 +1.6
comp=Z,15nm,0.9s,mb5.0
CTA Charters Tower 67.06 189 eP P 13 39 32.1 +1.6
CTA pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 67.06 189 eP P 13 39 32.1 +1.6
CTAO pmax pmax
comp=Z,116nm,1.8s
CTAO Charters Tower 67.06 189 eP P 13 39 32.1 +1.6
comp=Z,116nm,1.8s
HFS Hagfors 68.81 340 P P 13 39 41.7 +0.2
comp=Z,4.4nm,1.1s,mb4.3,baz=67,slow=8.1,SNR=4.1
AKASG Malin Array Be 72.17 327 P P 13 40 02.1 +0.1
comp=Z,0.5nm,0.3s,mb3.9,baz=36,slow=6.2,SNR=5.5
ASAR Alice Springs 72.69 200 P P 13 40 03.1 -2.0
comp=Z,1.4nm,1.0s,mb3.8,baz=2.4,slow=5.9,SNR=8.0
TXAR Lajitas Array 76.36 62 P P 13 40 26.5 +0.1
comp=Z,3.6nm,0.6s,mb4.5,baz=300,slow=4.1,SNR=24
TXAR Lajitas Array 76.36 62 P P 13 40 26.5 +0.1
VNDA Vanda 124.14 178 PKP PKPdf 13 47 33.2 -2.4
comp=Z,1.0nm,1.2s,baz=295,slow=3.3,SNR=3.5
VNDA Vanda 124.14 178 PKIKP PKPdf 13 47 33.2 -2.4
VNDA pmax pmax
comp=Z,1.0nm,1.2s

*IDC **15** 13:34:19.3±1.4, 4640N×153.17E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/25, mbtmp4.2/14, ML3.9/2, Error ellipse: s-maj=39.5km s-min=17.9km az=164.0*
*NEIC **15** 13:34:21.1±0.6, 4641N×153.03E, h10km, mb4.6/11, Error ellipse: s-maj=15.7km s-min=8.6km az=153.0*
*BJI **15** 13:34:22.7, 4623N×152.48E, h10km, mB5.1, mb4.4*
*ISCJB **15** 13:34:23.4±0.7, 465N±0.1×1529E±0.1, h35km, mb4.5/29, Error ellipse: s-maj=17.6km s-min=6.9km az=117.2*
*MOS **15** 13:34:25.1±1.0, 4639N×15295E, h57km, mb4.7/10, Error ellipse: s-maj=13.7km s-min=10.7km az=119.4*

ISC 15 13:34:25.3±0.7, 465N±01×1530E±01, h35km, n60, σ0§98/61, mb4.5/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**252**	*e*PN	**Pn**	**13 35 12.0**	**-9.0**
KUR				*i* S	**Sn**	**13 36 02.0**	**-2.1**
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				smax			
	comp=N,300nm,0.7s						
KUR				smax			
	comp=E,520nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.03**	**277**	*e*PN	**Pn**	**13 36 10.0**	**+4.4**
YSS	**Yuzh-Sakhalins**	**7.03**	**277**	*e*Pn	**Pn**	**13 36 11.9**	**+6.3**
ASAJ	**Asahikawa**	**7.68**	**256**	Pn	**Pn**	**13 36 15.5**	**+0.9**
	comp=E,2.3nm,0.3s,baz=297,slow=13,SNR=10						
ASAJ	**Asahikawa**	**7.68**	**256**	PN	**Pn**	**13 36 15.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.84**	**233**	Pn	**Pn**	**13 37 50.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=34,slow=8.5,SNR=3.1						
CN2	**Changchun**	**19.55**	**272**	*e*P	**Pn**	**13 38 50.3**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YAK	**Yakutsk**	**20.47**	**328**	*e*P	**P**	**13 39 01.4**	**+1.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s						
YAK	**Yakutsk**	**20.47**	**328**	*e*P	**P**	**13 39 01.4**	**+1.4**
	comp=Z,14nm,0.6s						
KSRS	**Korea Array**	**20.62**	**253**	P	**P**	**13 39 00.9**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=53,slow=11,SNR=7.2						
BILL	**Bilibino**	**22.66**	**13**	*e*P	**P**	**13 39 22.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,108nm,2.3s,mb4.9						
BILL	**Bilibino**	**22.66**	**13**	*e*P	**P**	**13 39 22.8**	**-0.6**
	comp=Z,108nm,2.3s,mb4.9						
NJ2	**Nanjing**	**29.82**	**253**	*e*P	**P**	**13 40 30.4**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
SONM	**Songino Array**	**31.31**	**290**	P	**P**	**13 40 42.5**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=57,slow=10,SNR=2.6						
ZAK	**Zakamensk**	**32.69**	**295**	*e*P	**P**	**13 40 53.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
COLA	**College**	**36.40**	**38**	*e*P	**P**	**13 41 26.9**	**+0.6**
COLA				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.8						
COLA	**College**	**36.40**	**38**	*e*P	**P**	**13 41 26.9**	**+0.6**
	comp=Z,23nm,1.8s,mb4.8						
LZH	**Lanzhou**	**37.79**	**272**	*e*P	**P**	**13 41 39.9**	**+1.8**
LZH				AP	pP	13 41 44.8	-3.5
LZH				XP	sP	13 41 46.6	-5.9
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,186nm,5.0s						
LZH	**Lanzhou**	**37.79**	**272**	*e*P	**P**	**13 41 39.9**	**+1.8**
	comp=Z,50nm,1.4s,mb5.0						
LZH				pP	pP	13 41 44.8	-3.5
LZH				sP	sP	13 41 46.6	-5.9
LZH				PP	PP	13 43 09.7	+5.0
GTA	**Gaotai**	**38.90**	**279**	*e*P	**P**	**13 41 48.4**	**+0.9**
GTA				AP	pP	13 41 57.6	-0.1
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
GYA	**Guiyang**	**41.55**	**258**	P	**P**	**13 42 08.6**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**41.92**	**32**	P	**P**	**13 42 10.2**	**-2.2**
	comp=Z,3.3nm,0.9s,mb4.2,baz=278,slow=4.5,SNR=8.4						
MK31	**Makanchi Array**	**46.96**	**297**	*e*P	**P**	**13 42 51.9**	**-0.8**
MKAR	**Makanchi Array**	**46.96**	**297**	P	**P**	**13 42 52.5**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=70,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**46.96**	**297**	P	**P**	**13 42 52.5**	**-0.2**
KURK	**Kurchatov**	**47.41**	**304**	*e*P	**P**	**13 42 55.5**	**-0.7**
CHKZ	**Chkalovo**	**50.51**	**310**	*e*P	**P**	**13 43 19.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**50.51**	**310**	*e*P	**P**	**13 43 18.9**	**-1.0**
	comp=Z,7.8nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**54.93**	**310**	P	**P**	**13 43 23.1**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.3,baz=47,slow=7.5,SNR=15						
BRVK	**Borovoye**	**50.97**	**310**	*e*P	**P**	**13 43 23.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**50.97**	**310**	*e*P	**P**	**13 43 23.3**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**51.70**	**310**	*e*P	**P**	**13 43 28.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**51.70**	**310**	*e*P	**P**	**13 43 28.5**	**-0.4**
	comp=Z,5.1nm,1.0s,mb4.4						
CHTO	**Chiang Mai**	**51.95**	**257**	*e*P	**P**	**13 43 31.1**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**51.95**	**257**	*e*P	**P**	**13 43 31.1**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**53.85**	**296**	*e*P	**P**	**13 43 43.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**53.85**	**296**	*e*P	**P**	**13 43 43.8**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.2						
JIRN	**Jiri**	**54.86**	**275**	*e*P	**P**	**13 43 53.3**	**+1.2**
	comp=Z,9.6nm,0.4s,mb5.2						
GUN	**Gumba**	**54.91**	**275**	*e*P	**P**	**13 43 54.0**	**+1.5**
ARU	**Arti**	**55.12**	**318**	*e*P	**P**	**13 43 53.3**	**-0.7**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARU	**Arti**	**55.12**	**318**	*e*P	**P**	**13 43 53.3**	**-0.7**
	comp=Z,2.9nm,0.4s,mb4.7						
KKN	**Kakani**	**55.40**	**275**	*e*P	**P**	**13 43 57.5**	**+1.5**
	comp=Z,12nm,0.7s,mb5.0						
PKI	**Pulchoki**	**55.45**	**275**	*e*P	**P**	**13 43 57.1**	**+0.7**
DMN	**Daman**	**55.63**	**275**	*e*P	**P**	**13 43 58.0**	**+0.3**
GKN	**Gorkha**	**55.71**	**276**	*e*P	**P**	**13 43 59.2**	**+1.0**
	comp=Z,12nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.57**	**276**	*e*P	**P**	**13 44 05.3**	**+0.9**
	comp=Z,17nm,0.9s,mb5.1						
KEV	**Kevo**	**57.54**	**340**	*e*p	**P**	**13 44 10.4**	**-0.8**
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**13 44 14.5**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=27,slow=6.3,SNR=13						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**13 44 57.0**	**+0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=40,slow=7.4,SNR=17						
DUG	**Dugway**	**64.80**	**58**	*e*P	**P**	**13 45 01.2**	**+0.8**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
DUG	**Dugway**	**64.80**	**58**	*e*P	**P**	**13 45 01.2**	**+0.8**
	comp=Z,4.7nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**64.98**	**54**	P	**P**	**13 45 00.1**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=274,slow=1.8,SNR=6.6						
NB2	**NORSAR Subarra**	**68.43**	**341**	P	**P**	**13 45 23.8**	**+0.2**
	comp=Z,0.7nm,0.2s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.43**	**341**	P	**P**	**13 45 24.0**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=28,slow=6.5,SNR=3.6						
NOA	**NORSAR Array B**	**68.43**	**341**	P	**P**	**13 45 24.0**	**+0.4**
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**13 45 43.7**	**+0.1**
	comp=Z,5.7nm,0.5s,mb4.8,baz=34,slow=6.4,SNR=12						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**13 45 43.7**	**+0.1**
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**13 46 18.4**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=300,slow=3.6,SNR=8.2						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**13 46 18.4**	**0.0**
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**13 46 23.6**	**+0.1**
	comp=Z,0.5nm,0.2s,mb4.0,baz=328,slow=3.5,SNR=4.6						

*IDC **15** 13:35:45.7±1.3, 4604N×152.68E, h0km, mb4.5/19, mb1 4.7/20, mb1mx4.5/29, mbtmp4.4/20, ML3.7/1, Error ellipse: s-maj=36.2km s-min=16.1km az=172.0*
*BJI **15** 13:35:46.8, 4629N×153.03E, h20km, mB5.1, mb4.7, Ms4.9, Msz4.5*
*NEIC **15** 13:35:47.8±0.6, 4615N×152.77E, h10km, mb4.9/26, Error ellipse: s-maj=14.4km s-min=7.0km az=154.0*
*ISCJB **15** 13:35:48.4±1.6, 4631N±007×15273E±007, h19km±11km, mb4.8/58, MS5.0/2, Error ellipse: s-maj=14.0km s-min=5.5km az=116.6*
*SKHL **15** 13:35:48.3±1.3, 4588N×15325E, h49km±19km*
*SZGRF **15** 13:35:49.5, 4664N×153.89E, h33km, mb4.9, Kuril Islands, Russia*
*MOS **15** 13:35:52.4±1.4, 4641N×15254E, h44km, mb5.1/24, Error ellipse: s-maj=9.9km s-min=6.6km az=105.8*

ISC 15 13:35:52.5±1.6, 4643N±007×15267E±008, h32km±11km, h23km±6.6km: pP-P, n163, σ1§07/170, mb4.8/58, MS5.0/2, 14C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.57**	**252**	*e*P	**Pn**	**13 36 43.0**	**-2.5**
KUR				AMB	AMB	13 36 44.0	
	228nm,0.6s						
KUR				AMB	AMB	13 36 44.0	
	167nm,0.6s						
KUR				AMB	AMB	13 36 44.0	
	380nm,0.6s						
KUR				*e*S	**Sn**	**13 37 25.0**	**-1.6**
KUR				A		13 37 32.0	
	774nm,0.7s						
KUR				A		13 37 32.0	
	1µm,0.7s						
KUR	**Kuril'sk**	**3.57**	**252**	⇑*i*PN	**Pn**	**13 36 43.0**	**-2.5**
KUR				*i* S	**Sn**	**13 37 25.0**	**-1.6**
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
KUR				smax			
	comp=N,770nm,0.7s						
KUR				smax			
	comp=E,1µm,0.7s						
SKR	**Severo-Kuril's**	**4.83**	**27**	*e*P	**Pn**	**13 37 04.5**	**+1.6**
SKR				AMB	AMB	13 37 06.5	
	comp=E,160nm,0.6s						
SKR				AMB	AMB	13 37 06.5	
	comp=E,420nm,0.6s						
SKR				A		13 38 04.0	
	comp=E,240nm,0.6s						
SKR				A		13 38 04.0	
	comp=E,170nm,0.6s						
SKR				A		13 38 04.0	
	comp=E,110nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.37**	**246**	*e*P	**Pn**	**13 37 11.0**	**+0.6**
YUK				AMB	AMB	13 37 15.9	
	comp=E,380nm,0.5s						
YUK				*e*S	**Sn**	**13 38 12.0**	**+0.9**
YUK				A		13 38 23.5	
	comp=E,1µm,0.8s						
YUK				A		13 38 23.5	
	comp=E,2µm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.37**	**246**	PN	**Pn**	**13 37 11.0**	**+0.6**
YUK				*e*S	**Sn**	**13 38 12.0**	**+0.9**
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				smax			
	comp=N,1µm,0.8s						
YUK				smax			
	comp=E,2µm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.84**	**278**	*e*P	**Pn**	**13 37 35.0**	**+4.4**
YSS				AMB	AMB	13 37 36.9	
	comp=E,50nm,1.0s						
YSS				AMB	AMB	13 37 36.9	
	comp=E,50nm,1.0s						
YSS				A		13 39 09.0	
	comp=E,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.84**	**278**	*e*P	**Pn**	**13 37 35.3**	**+4.7**
	comp=E,55nm,0.9s						
JMP	**Maruseppu**	**7.01**	**253**	P	**Pn**	**13 37 34.2**	**+1.4**
ASAJ	**Asahikawa**	**7.48**	**256**	Pn	**Pn**	**13 37 39.9**	**+0.6**
	comp=E,0.6nm,0.3s,baz=71,slow=18,SNR=3.5						
ASAJ	**Asahikawa**	**7.48**	**256**	P	**Pn**	**13 37 41.7**	**+2.5**
ASAJ	**Asahikawa**	**7.48**	**256**	PN	**Pn**	**13 37 39.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JWK2	**Keihoku**	**7.61**	**265**	P	**Pn**	**13 37 48.3**	**+7.3**
PET	**Petropavlovsk**	**7.65**	**28**	*e*PN	**Pn**	**13 37 47.1**	**+5.4**
PET				pmax	pmax		
	comp=Z,88nm,1.0s						
PET	**Petropavlovsk**	**7.65**	**28**	*e*Pn	**Pn**	**13 37 41.9**	**+0.3**
	comp=Z,58nm,0.8s						
TYV	**Tymovskoe**	**7.98**	**307**	*e*P	**Pn**	**13 37 52.5**	**+6.3**
TYV				AMB	AMB	13 37 55.5	
	comp=Z,13nm,0.8s						
TYV				AMB	AMB	13 37 55.5	
	comp=Z,38nm,0.8s						
JEM	**Erimo**	**8.13**	**241**	P	**Pn**	**13 37 48.1**	**-0.2**
JEW	**Eniwo**	**8.77**	**250**	P	**Pn**	**13 37 57.2**	**+0.2**
JSH	**Shimam**	**9.78**	**252**	P	**Pn**	**13 38 10.2**	**-0.6**
JOT	**Ohata**	**9.79**	**243**	P	**Pn**	**13 38 07.7**	**-3.2**
JTM	**Tenmabayashi**	**10.13**	**240**	P	**Pn**	**13 38 12.0**	**-3.6**
JTM				S	**Sn**	**13 39 57.9**	**-10**
JOM	**Ohasama**	**10.85**	**234**	S	**Sn**	**13 40 13.4**	**-12**
HABR	**Khabarovsk**	**12.11**	**286**	*e*PN	**Pn**	**13 38 52.1**	**+9.4**
JMM	**Marumori**	**12.27**	**230**	P	**Pn**	**13 38 38.9**	**-6.1**
JMM				S	**Sn**	**13 40 46.6**	**-14**
MA2	**Magadan**	**13.22**	**356**	*e*PN	**Pn**	**13 39 01.1**	**+3.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**13.22**	**356**	*e*Pn	**Pn**	**13 39 01.3**	**+3.4**
KLR	**Kul'dur**	**14.33**	**289**	*e*P	**Pn**	**13 39 19.0**	**+6.0**
MAT	**Matsushiro**	**14.64**	**233**	P	**Pn**	**13 39 09.5**	**-7.8**
MAT	**Matsushiro**	**14.64**	**233**	P	**Pn**	**13 39 11.1**	**-6.2**
MJAR	**Matsushiro Arr**	**14.64**	**233**	Pn	**Pn**	**13 39 11.3**	**-6.0**
	comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=3.1						
MDJ	**Mudanjiang**	**16.27**	**272**	*e*P	**Pn**	**13 39 39.4**	**+0.8**
	comp=Z,20nm,0.9s						
ZEA	**Zeya**	**17.81**	**304**	*e*P	**Pn**	**13 39 57.3**	**-0.5**
CN2	**Changchun**	**19.36**	**272**	⇑P	**Pn**	**13 40 15.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
KSRS	**Korea Array**	**20.41**	**253**	P	**P**	**13 40 22.3**	**-4.5**
	comp=Z,2.0nm,0.8s,baz=52,slow=12,SNR=2.7						
YAK	**Yakutsk**	**20.43**	**328**	*e*P	**P**	**13 40 26.2**	**-0.8**
YAK				*e*		13 40 42.4	
YAK				*e*S	**S**	**13 44 15.1**	**+1.0**
YAK				*e*SS		13 44 36.3	
YAK				*e*		13 44 37.3	
YAK				*e*SSS		13 44 51.5	
YAK				*e*		13 51 52.5	
YAK				pmax	pmax		
	comp=Z,32nm,0.7s						
YAK				pmax	pmax		
	comp=N,12nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				smax			
	comp=N,54nm,1.3s						
YAK				smax			
	comp=Z,41nm,1.1s						
YAK				smax			
	comp=E,88nm,1.6s						
YAK				MLR	MLR		
	comp=Z,13µm,16.0s,MS5.4						
YAK				MLR	MLR		
	comp=N,8µm,14.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,10µm,13.0s,MS5.5						
YAK	**Yakutsk**	**20.43**	**328**	*e*P	**P**	**13 40 27.3**	**+0.3**
	comp=E,50nm,0.7s						
HIA	**Hailar**	**22.19**	**289**	*e*P	**P**	**13 40 46.6**	**+0.8**
BILL	**Bilibino**	**22.77**	**13**	*e*P	**P**	**13 40 51.2**	**-0.9**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
BILL	**Bilibino**	**22.77**	**13**	*e*P	**P**	**13 40 52.7**	**+0.6**
	comp=Z,15nm,0.8s,mb4.5						
NJ2	**Nanjing**	**29.61**	**253**	*e*P	**P**	**13 41 54.4**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
ULN	**Ulaanbaatar**	**30.72**	**290**	⇑*e*P	**P**	**13 42 02.5**	**-2.0**
SONM	**Songino Array**	**31.16**	**290**	P	**P**	**13 42 06.9**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=61,slow=8.9,SNR=2.9						
ZAK	**Zakamensk**	**32.54**	**295**	*e*P	**P**	**13 42 19.6**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
WHN	**Wuhan**	**33.56**	**255**	P	**P**	**13 42 29.8**	**+0.5**
IMA2	**Indian Mountai**	**34.24**	**36**	*e*P	**P**	**13 42 34.7**	**-0.6**
COLA	**College**	**36.58**	**38**	*e*P	**P**	**13 42 54.6**	**-0.8**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
COLA	**College**	**36.58**	**38**	*e*P	**P**	**13 42 54.6**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.5						
LZH	**Lanzhou**	**37.60**	**272**	*e*P	**P**	**13 43 05.3**	**+1.3**
LZH				AP	pP	13 43 08.0	-5.4
LZH				XP	sP	13 43 10.3	-7.0
LZH				PP	PP	13 44 33.5	+3.4
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,200nm,4.8s						
LZH	**Lanzhou**	**37.60**	**272**	*e*P	**P**	**13 43 05.2**	**+1.2**
LZH						13 44 33.5	
LZH				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1						
LZH	**Lanzhou**	**37.60**	**272**	*e*P	**P**	**13 43 05.2**	**+1.2**
	comp=Z,40nm,1.0s,mb5.1						
LZH				pP	pP	13 43 08.0	-5.4
LZH				sP	sP	13 43 10.2	-7.1
LZH				PP	PP	13 44 33.5	+3.4
GTA	**Gaotai**	**38.72**	**279**	*e*P	**P**	**13 43 14.4**	**+0.9**
GTA				AP	pP	13 43 23.0	+0.1
GTA				XP	sP	13 43 26.8	0.0
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
EGAK	**Eagle**	**39.44**	**38**	*e*P	**P**	**13 43 18.3**	**-1.2**
	comp=Z,6.1nm,0.4s,mb4.7						
CD2	**Chengdu**	**40.55**	**265**	⇓*i*P	**P**	**13 43 28.9**	**+0.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
GYA	**Guiyang**	**41.35**	**257**	⇑*i*P	**P**	**13 43 35.6**	**+0.3**
GYA				AP	pP	13 43 39.8	-5.0
GYA				XP	sP	13 43 42.8	-5.8
GYA				PP	PP	13 45 17.8	+6.7
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,680nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=E,690nm,16.7s,MS4.7						
GYA				LR	LR		
	comp=Z,590nm,17.8s,MS4.5						
INK	**Inuvik**	**42.09**	**32**	P	**P**	**13 43 41.3**	**-0.1**
	comp=Z,7.4nm,0.6s,mb4.5,baz=287,slow=6.9,SNR=13						
ZAL	**Zalesovo**	**42.57**	**306**	P	**P**	**13 43 44.5**	**-0.8**
	comp=Z,1.7nm,0.3s,mb4.2,baz=34,slow=4.7,SNR=6.1						
ZAL				PcP	PcP	13 45 36.1	-1.1
	comp=Z,1.3nm,0.6s,baz=177,slow=3.2,SNR=3.8						
MK31	**Makanchi Array**	**46.82**	**297**	*e*P	**P**	**13 44 18.1**	**-1.1**
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**13 44 18.4**	**-0.8**
	comp=Z,4.8nm,0.9s,mb4.4,baz=68,slow=8.0,SNR=8.9						
MKAR				PcP	PcP	13 45 51.9	0.0
	comp=Z,4.1nm,0.8s,baz=66,slow=8.2,SNR=4.6						
KURK	**Kurchatov**	**47.29**	**304**	*e*P	**P**	**13 44 21.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**47.29**	**304**	*e*P	**P**	**13 44 21.5**	**-1.4**
	comp=Z,7.7nm,0.8s,mb4.7						
LSA	**Lhasa**	**49.99**	**273**	*e*P	**P**	**13 44 45.9**	**+2.3**
LSA				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
LSA	**Lhasa**	**49.99**	**273**	*e*P	**P**	**13 44 45.9**	**+2.4**
	comp=Z,28nm,1.1s,mb5.2						
CHKZ	**Chkalovo**	**50.41**	**310**	*e*P	**P**	**13 44 45.0**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
CHKZ	**Chkalovo**	**50.41**	**310**	*e*P	**P**	**13 44 45.0**	**-1.7**
	comp=Z,38nm,0.9s

comp=Z,39nm,0.8s,mb5.5
GKN Gorkha 55.52 276 *e*P **P 13 45 25.4 +0.9**
comp=Z,35nm,0.8s,mb5.5
KOLN Koldanda 56.38 276 *e*P **P 13 45 31.4 +0.8**
comp=Z,36nm,0.8s,mb5.5
KEV Kevo 57.55 340 *e*p **P 13 45 37.5 -1.3**
comp=Z,4.9nm,0.8s,mb4.6
KEV Kevo 57.55 340 *e*P **P 13 45 37.5 -1.3**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARCES ARCESS Array B 58.06 341 P **P 13 45 42.7 +0.2**
comp=Z,2.5nm,0.5s,mb4.5,baz=30,slow=7.6,SNR=7.5
ARCES ARCESS Array B 58.06 341 P **P 13 45 42.7 +0.2**
AKTK Aktyubinsk 58.72 312 P **P 13 45 46.0 -1.0**
AKTO Aktyubinsk 58.72 312 P **P 13 45 46.0 -1.0**
comp=Z,2.1nm,0.7s,mb4.3,baz=35,slow=3.9,SNR=4.5
AKTO Aktyubinsk 58.72 312 P **P 13 45 46.0 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SUMG Summit 61.04 4 *e*P **P 13 46 03.2 +0.2**
comp=Z,29nm,0.8s,mb5.5
NVAR Mina Array Bea 62.85 62 P **P 13 46 14.8 -0.4**
comp=Z,2.3nm,0.8s,mb4.4,baz=292,slow=9.7,SNR=4.9
NVAR Mina Array Bea 62.85 62 P **P 13 46 14.8 -0.4**
FINES FINESS Array B 64.20 335 P **P 13 46 23.2 -0.9**
comp=Z,2.1nm,0.4s,mb4.5,baz=31,slow=11,SNR=6.9
BW06 Boulder Array 65.18 54 *e*P **P 13 46 29.7 -0.8**
comp=Z,2.4nm,0.9s,mb4.2
PDAR Pinedale Array 65.18 54 P **P 13 46 29.8 -0.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=308,slow=2.6,SNR=6.5
OBN Obninsk 65.40 325 *e*P **P 13 46 29.8 -2.1**
OBN *e* 13 46 56.9
OBN pmax pmax
comp=Z,15nm,0.9s,mb5.0
VRSR Storozhevoye 67.16 321 *e*P **P 13 46 43.1 -0.1**
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
NB2 NORSAR Subarra 68.44 341 P **P 13 46 50.7 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=27,slow=6.5
NB2 NORSAR Subarra 68.44 341 P **P 13 46 50.7 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=27,slow=6.5
NOA NORSAR Array B 68.44 341 P **P 13 46 51.0 -0.2**
comp=Z,14nm,0.8s,mb5.1,baz=27,slow=6.2,SNR=22
KIV Kislovodsk 70.81 314 *e*P **P 13 47 08.2 +2.4**
KIV pmax pmax
comp=Z,20nm,0.7s,mb5.2
ZEI Tsey 71.05 313 *e*P **P 13 47 05.0 -2.3**
ZEI *e**PP pP 13 47 14.9 -2.4
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AKASG Malin Array Be 71.65 326 P **P 13 47 10.1 -0.8**
comp=Z,10.0nm,0.6s,mb4.9,baz=34,slow=6.1,SNR=20
OJC Ojcow 75.46 331 *e*PX 13 47 33.8
STHS Stebnicka Huta 75.64 330 *e*P **P 13 47 35.7 +1.4**
KOLS Kolonicke sedl 75.69 329 *e*P **P 13 47 35.1 +0.5**
BURAR Bucovina Array 75.69 326⇓*i*P **P 13 47 34.7 +0.1**
BURAR Bucovina Array 75.69 326⇓P **P 13 47 34.7 +0.1**
DPC Dobruska-Polom 76.47 333 *e*P **P 13 47 38.8 -0.3**
EKA Eskdalemuir Ar 76.58 346 P **P 13 47 41.4 +1.7**
comp=Z,5.8nm,0.9s,mb4.5,baz=27,slow=5.8,SNR=7.2
MORC Moravsky Berou 76.58 332 *e*P **P 13 47 40.1 +0.4**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MORC Moravsky Berou 76.58 332 *e*P **P 13 47 40.1 +0.4**
comp=Z,7.8nm,0.9s,mb4.6
CLL Collm 76.63 335 *i*P **P 13 47 39.5 -0.5**
CLL *e* 13 47 46.0
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLL Collm 76.63 335 *i*P **P 13 47 39.5 -0.5**
comp=Z,10.0nm,0.7s,mb4.8
CLL *es*P sP 13 47 46.0 -7.8
KECS Kecovo 76.70 330 *e*P **P 13 47 41.0 +0.7**
TIRR Tirgusor 76.98 323⇑*i*P **P 13 47 42.7 +0.7**
TIRR Tirgusor 76.98 323⇑P **P 13 47 42.7 +0.7**
MALT Malatya 77.15 313⇑*i*P **P 13 47 45.1 +2.2**
MALT Malatya 77.15 313 *e*P **P 13 47 44.4 +1.5**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MALT Malatya 77.15 313 *e*P **P 13 47 44.4 +1.5**
comp=Z,5.1nm,0.8s,mb4.5
MLR Muntele Rosu 77.15 325 P **P 13 47 44.5 +1.6**
comp=Z,12nm,0.8s,mb4.9,baz=152,slow=7.9,SNR=11
MLR Muntele Rosu 77.15 325⇓*i*P **P 13 47 44.8 +1.9**
MLR Muntele Rosu 77.15 325 P **P 13 47 44.5 +1.6**
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 77.15 325⇓P **P 13 47 44.8 +1.9**
VYHS Vyhne 77.26 331 *e*P **P 13 47 43.8 +0.3**
DRGR 77.32 327⇓*i*P **P 13 47 45.2 +1.3**
DRGR 77.32 327⇓P **P 13 47 45.2 +1.3**
PRU Pruhonice 77.34 334 *e*P **P 13 47 43.9 -0.1**
VOIR 77.55 325⇓*i*P **P 13 47 46.4 +1.3**
VOIR 77.55 325⇓P **P 13 47 46.4 +1.2**
TXAR Lajitas Array 77.92 60 P **P 13 47 46.3 -0.8**
comp=Z,3.4nm,0.6s,mb4.4,baz=298,slow=4.4,SNR=9.5
KHC Kasperske Hory 78.40 334 *e*P **P 13 47 50.3 +0.5**
BR131 Keskin Array S 78.42 317 *e*P **P 13 47 51.2 +1.3**
comp=Z,3.7nm,0.8s,mb4.4
MIB Mutribah 78.57 301 *e*P **P 13 47 51.3 +0.5**
GRA1 Grafenberg Arr 78.59 336 *e*P **P 13 47 47.1 -3.8**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.59 336 *e*P **P 13 47 47.1 -3.8**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.59 336 *e*P **P 13 47 47.1 -3.8**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 78.61 334 P **P 13 47 51.0 0.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=29,slow=6.1,SNR=12
BZS Buzias 78.72 327⇑*i*P **P 13 47 52.2 +0.6**
BZS Buzias 78.72 327⇑P **P 13 47 52.2 +0.6**
NAY Al-Naaiem 79.03 301 *e*P **P 13 47 53.8 +0.4**
RDF Al-Radifah 79.09 300 *e*P **P 13 47 55.0 +1.4**
PKSM Moragy 79.29 329⇑*i*P **P 13 47 54.3 -0.4**
PKSM Moragy 79.29 329⇑P **P 13 47 54.4 -0.4**
BFO Black Forest 80.63 337 *e*P **P 13 48 02.0 0.0**
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 80.63 337 *e*P **P 13 48 02.0 0.0**
comp=Z,9.6nm,0.8s,mb4.8
VTS Vitosha 80.66 325⇑*i*P **P 13 48 03.0 +0.9**
VTS Vitosha 80.66 325⇑P **P 13 48 03.0 +0.9**
CDF Champ du Feu 80.84 337 *e*P **P 13 48 03.1 0.0**
comp=Z,32nm,1.0s,mb4.9
CDF Champ du Feu 80.84 337 *e*P **P 13 48 03.1 0.0**
CDF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CDF Champ du Feu 80.84 337 *e*P **P 13 48 03.1 0.0**
comp=Z,16nm,1.0s,mb4.9
DAVOX Davos 81.61 335 P **P 13 48 07.2 0.0**
comp=Z,6.8nm,0.7s,mb4.7,baz=28,slow=6.0,SNR=8.3
GRR Gorron 82.78 343 *e*P **P 13 48 13.3 0.0**
comp=Z,28nm,0.9s,mb5.0
GRR Gorron 82.78 343 *e*P **P 13 48 13.3 0.0**
GRR pmax pmax
comp=Z,14nm,0.9s,mb5.0
GRR Gorron 82.78 343 *e*P **P 13 48 13.3 0.0**
comp=Z,14nm,0.9s,mb5.0
SMF Signal de Mont 83.36 339 *e*P **P 13 48 16.5 +0.2**
comp=Z,46nm,1.0s,mb5.2
SMF Signal de Mont 83.36 339 *e*P **P 13 48 16.5 +0.2**
SMF pmax pmax
comp=Z,23nm,1.0s,mb5.2
SMF Signal de Mont 83.36 339 *e*P **P 13 48 16.5 +0.2**
comp=Z,23nm,1.0s,mb5.2
LPG La Plagne 83.66 337 *e*P **P 13 48 18.9 +1.0**
comp=Z,17nm,0.9s,mb4.9
LPG La Plagne 83.66 337 *e*P **P 13 48 18.9 +1.0**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPG La Plagne 83.66 337 *e*P **P 13 48 18.9 +1.0**
comp=Z,8.4nm,0.9s,mb4.9

*ISCJB **15** 13:36:21.7±0.6, 705S±007×144 29E±007, h10km, mb4.8/10, Error ellipse: s-maj=11.1km s-min=8.8km az=76.1*
*IDC **15** 13:36:21.8±1.1, 704S×144 41E, h0km, mb4.7/6, mb1 4.9/10, mb1mx4.8/15, mbtmp4.8/10, ML4.2/4, MS4.7/1, Ms1 4.7/1, ms1mx4.0/28, Error ellipse: s-maj=30.1km s-min=20.1km az=56.0*
*NEIC **15** 13:36:23.1±4.9, 694S×144 31E, h11km±30km, mb5.0/7, Error ellipse: s-maj=16.6km s-min=9.7km az=172.0*
ISC 15 13:36:29.7±1.8, 714S±009×144 29E±009, h59km±17km, n34, σ0°93/34, mb4.8/10, 1D, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**129**	Pn		**Pn**	**13 37 18.3**	**-5.0**
	25nm,0.3s,baz=325,slow=9.3,SNR=177							
PMG				Sn		**Sn**	**13 37 57.8**	**-7.0**
	27nm,0.3s,baz=199,slow=12,SNR=3.1							
PMG				LR		LR	13 38 22.9	
	comp=Z,10μm,19.2s,baz=107,slow=34							
PMG	**Port Moresby**	**3.62**	**129**	Pn		**Pn**	**13 37 18.4**	**-5.0**
PMG				Sn		**Sn**	**13 37 57.8**	**-7.0**
CTA	**Charters Tower**	**13.01**	**172**	Pn		**Pn**	**13 39 31.4**	**-0.2**
	0.5nm,0.3s,baz=351,slow=15,SNR=12							
CTAO	**Charters Tower**	**13.01**	**172**	*e*P		**Pn**	**13 39 31.8**	**+0.1**
	25nm,0.9s							
HNR	**Honiara**	**15.66**	**99**	Pn		**Pn**	**13 40 07.3**	**+0.7**
	1.5nm,0.3s,baz=268,slow=5.2,SNR=12							
HNR	**Honiara**	**15.66**	**99**	*e*P		**Pn**	**13 40 06.5**	**-0.1**
	109nm,1.0s							
WRAB	**Tennant Creek**	**15.96**	**216**	*e*P		**Pn**	**13 40 09.4**	**-0.9**
	45nm,1.0s							
WRA	**Warramunga Arr**	**15.97**	**216**	Pn		**Pn**	**13 40 09.3**	**-1.3**
	1.4nm,0.3s,baz=35,slow=13,SNR=58							
WRA				Sn		**Sn**	**13 43 01.5**	**-5.2**
	0.7nm,0.3s,baz=30,slow=23,SNR=7.2							
AS31	**Alice Springs**	**19.22**	**210**	*e*P		**Pn**	**13 40 51.4**	**+1.0**
ASAR	**Alice Springs**	**19.22**	**210**	P		**Pn**	**13 40 51.3**	**+0.9**
	5.8nm,0.3s,baz=38,slow=10,SNR=878							
ASAR				S		**S**	**13 44 20.1**	**-3.3**
	0.4nm,0.3s,baz=41,slow=20,SNR=5.6							
FITZ	**Fitzroy Crossi**	**21.19**	**237**	*e*P		**P**	**13 41 10.5**	**+0.4**
	78nm,1.0s,mb5.0							
FITZ				*e*S		**S**	**13 44 58.6**	**-3.8**
STKA	**Stephens Creek**	**24.74**	**185**	*e*P		**P**	**13 41 45.5**	**0.0**
	12nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**24.74**	**185**	P		**P**	**13 41 45.6**	**+0.1**
	15nm,0.8s,mb4.5,baz=0.7,slow=11,SNR=14							
STKA	**Stephens Creek**	**24.74**	**185**	*e*P		**P**	**13 41 45.5**	**0.0**
DZM	**Mont Dzumac**	**26.02**	**127**	P		**P**	**13 41 56.3**	**-0.7**
	12nm,0.9s,mb4.4,baz=314,slow=5.0,SNR=7.9							
PSI	**Prapat**	**46.34**	**281**	P		**P**	**13 44 50.0**	**+0.3**
	9.1nm,0.8s,mb4.8,baz=91,slow=4.1,SNR=9.9							
KSRS	**Korea Array**	**46.92**	**342**	P		**P**	**13 44 54.6**	**+0.3**
	12nm,1.0s,mb4.8,baz=165,slow=10,SNR=6.0							
CASY	**Casey**	**63.47**	**195**	*e*P		**P**	**13 46 53.8**	**+0.4**
	42nm,0.9s,mb5.6							
HYB	**Hyderabad**	**69.35**	**292**	*i*P		**P**	**13 47 31.5**	**+0.5**
HYB	**Hyderabad**	**69.35**	**292**	*e*P		**P**	**13 47 31.5**	**+0.5**
VNDA	**Vanda**	**70.96**	**176**	P		**P**	**13 47 41.4**	**+0.6**
	12nm,0.9s,mb4.8,baz=326,slow=6.1,SNR=51							
VNDA	**Vanda**	**70.96**	**176**	*e*P		**P**	**13 47 41.2**	**+0.4**
	14nm,1.0s,mb4.8							
SBA	**Scott Base**	**71.65**	**175**	*e*P		**P**	**13 47 46.4**	**+1.4**
	20nm,1.3s,mb4.9							
MAW	**Mawson**	**80.17**	**203**	P		**P**	**13 48 34.2**	**+0.7**
	5.5nm,1.0s,mb4.4,baz=43,slow=5.1,SNR=7.9							
QSPA	**South Pole Qui**	**82.84**	**180**	*e*P		**P**	**13 48 47.7**	**+0.1**
CHKZ	**Chkalovo**	**86.17**	**325**	*e*P		**P**	**13 48 58.4**	**-6.0**
MCK	**McKinley**	**86.36**	**24**	*e*P		**P**	**13 49 03.0**	**-2.4**
	14nm,1.1s,mb5.1							
SYO	**Syowa Base**	**88.60**	**200**⇓	*e*P		**P**	**13 49 15.6**	**-0.5**
DAWY	**Dawson**	**90.44**	**25**	*e*P		**P**	**13 49 24.1**	**-0.6**
LPAZ	**La Paz**	**140.36**	**126**	*e*PKPdf	PKPdf	PKPdf	13 55 54.2	+2.3
TOAO	**Torodi Ar. Sit**	**142.73**	**282**	*e*PKPdf	PKPdf	PKPdf	13 55 53.5	-2.7
TORD	**Torodi Ar. Bea**	**142.73**	**282**	PKhKP			13 55 53.6	
	5.8nm,1.1s,baz=64,slow=2.7,SNR=10							
SAML	**Samuel**	**148.30**	**120**	*e*PKPdf	PKPdf	PKPdf	13 56 07.2	+1.6
SAML				*e*PKPbc	PKPbc	PKPbc	13 56 09.5	+0.3
MTP	**Monte Pirata**	**148.96**	**67**	*e*PKPbc	PKPbc	PKPbc	13 56 11.2	+0.4

*ISCJB **15** 13:38:22.0±0.2, 4689N±004×155 11E±004, h11km, mb5.3/183, MS5.4/5, Error ellipse: s-maj=6.1km s-min=2.6km az=118.0*
*IDC **15** 13:38:22.0±0.5, 4701N×155 14E, h0km, mb4.9/29, mb1 5.0/31, mb1mx5.0/35, mbtmp4.9/31, ML4.2/1, Error ellipse: s-maj=14.8km s-min=11.8km az=149.0*
*NEIC **15** 13:38:23.7±0.2, 4703N×155 19E, h10km, mb5.4/98, Error ellipse: s-maj=6.7km s-min=4.1km az=164.0*
*SKHL **15** 13:38:23.6±2.0, 4685N×155 25E, h50km±20km*
*BJI **15** 13:38:24.1, 4724N×154 70E, h10km, mB5.7, mb5.3, Ms5.6, Msz5.4*
*MOS **15** 13:38:25.0±1.1, 47.17N×155 03E, h24km, mb5.5/81, Error ellipse: s-maj=7.9km s-min=4.1km az=107.8*
*SZGRF **15** 13:38:27.3, 4748N×155 51E, h11km, mb5.5, East of Kuril Islands, Russia*
ISC 15 13:38:23.9±0.2, 4701N±004×155 11E±004, h11km, h11km±1.1km; pP-P, n544, σ1§14/552, mb5.3/183, MS5.4/5, 36C-22D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**10**	*e*P		**Pn**	**13 39 21.1**	**-0.3**
SKR				AMB		AMB	13 39 23.5	
	260nm,0.7s							
SKR				*e*S		**Sn**	**13 39 58.6**	**-6.8**
SKR				A			13 40 02.9	
	770nm,0.8s							
SKR				A			13 40 02.9	
	880nm,0.8s							
SKR				A			13 40 02.9	
	290nm,0.8s							
KUR	**Kuril'sk**	**5.34**	**253**⇓	*i*P		**Pn**	**13 39 40.7**	**-2.8**
KUR				AMB		AMB	13 39 42.0	
	129nm,0.7s							
KUR				AMB		AMB	13 39 42.0	
	172nm,0.7s							
KUR				AMB		AMB	13 39 42.0	
	688nm,0.7s							
KUR				*e*S		**Sn**	**13 40 40.0**	**-4.9**
KUR				A			13 40 43.0	
	1μm,0.7s							
KUR				A			13 40 43.0	
	602nm,0.7s							
KUR	**Kuril'sk**	**5.34**	**253**⇓	*i*PN		**Pn**	**13 39 40.7**	**-2.8**
KUR				pmax		pmax		
	comp=N,130nm,0.7s							
KUR				pmax		pmax		
	comp=E,170nm,0.7s							
KUR				pmax		pmax		
	comp=Z,690nm,0.7s							
PET	**Petropavlovsk**	**6.44**	**19**	*e*PN		**Pn**	**13 39 57.8**	**-0.8**
PET				pmax		pmax		
	comp=Z,186nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**7.14**	**249**	*e*P		**Pn**	**13 40 08.7**	**+0.5**
YUK				*e*S		**Sn**	**13 41 26.0**	**-3.4**
YUK				A			13 41 36.5	
	comp=Z,700nm,0.6s							
NEM2	**Nemuro 2**	**7.55**	**245**	P		**Pn**	**13 40 12.4**	**-1.4**
NEM2				*e*S		**Sn**	**13 41 32.2**	**-7.2**
JRA	**Rausu**	**7.66**	**250**	P		**Pn**	**13 40 15.9**	**+0.5**
JNK	**Nakash**	**8.09**	**249**	P		**Pn**	**13 40 20.8**	**-0.4**
JNK				*e*S		**Sn**	**13 41 45.4**	**-7.1**
JAK	**Akkeshi**	**8.40**	**245**	P		**Pn**	**13 40 24.3**	**-1.1**
JAK				*e*S		**Sn**	**13 41 52.6**	**-7.6**
JTKR	**Abashiri--Toko**	**8.44**	**253**	P		**Pn**	**13 40 26.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**8.45**	**274**⇑	*e*P		**Pn**	**13 40 30.0**	**+3.8**
YSS				AMB		AMB	13 40 31.6	
	comp=Z,50nm,1.0s							
YSS				A			13 41 53.0	
	comp=Z,80nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.45**	**274**	*e*Pn		**Pn**	**13 40 29.6**	**+3.4**
	comp=Z,57nm,0.6s							
JMP	**Maruseppu**	**8.78**	**254**	P		**Pn**	**13 40 31.7**	**+1.0**
JAR	**Ashorobuto**	**8.83**	**249**	P		**Pn**	**13 40 32.1**	**+0.7**
JAR				*e*S		**Sn**	**13 42 08.5**	**-2.3**
UGL	**Uglegorsk**	**8.98**	**288**	*e*P		**Pn**	**13 40 37.0**	**+3.5**
UGL				AMB		AMB	13 40 39.0	
	comp=Z,380nm,1.0s							
JOB	**Onbets**	**8.99**	**247**	P		**Pn**	**13 40 33.5**	**0.0**
JOB				*e*S		**Sn**	**13 42 08.2**	**-6.4**
TYV	**Tymovskoe**	**9.06**	**300**	*e*P		**Pn**	**13 40 35.8**	**+1.3**
TYV				AMB		AMB	13 40 38.0	
	comp=Z,15nm,0.8s							
TYV				AMB		AMB	13 40 38.0	
	comp=Z,77nm,0.8s							
JKK2	**Kamakawa 2**	**9.24**	**255**	P		**Pn**	**13 40 37.9**	**+0.9**
ASAJ	**Asahikawa**	**9.24**	**256**	Pn		**Pn**	**13 40 38.7**	**+1.7**
	comp=Z,4.5nm,0.3s,baz=80,slow=11,SNR=8.4							
ASAJ	**Asahikawa**	**9.24**	**256**	PN		**Pn**	**13 40 38.7**	**+1.7**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
JWK2	**Keihoku**	**9.33**	**264**	P		**Pn**	**13 40 43.6**	**+5.4**
JCH	**Churui**	**9.43**	**247**	P		**Pn**	**13 40 38.5**	**-1.1**
JCH				*e*S		**Sn**	**13 42 17.6**	**-8.0**
JFR	**Furan**	**9.65**	**251**	P		**Pn**	**13 40 44.3**	**+1.7**
JEM	**Erimo**	**9.89**	**244**	P		**Pn**	**13 40 46.6**	**+0.8**
JNBK	**Urakawa-nobuka**	**9.99**	**246**	*e*S		**Sn**	**13 42 31.5**	**-7.9**
JEW	**Eniwo**	**10.54**	**252**	P		**Pn**	**13 40 55.3**	**+0.5**
JNB	**Noboribetsu**	**10.99**	**251**	P		**Pn**	**13 41 00.0**	**-0.9**
JNB				*e*S		**Sn**	**13 42 56.8**	**-7.0**
NKL	**Nikolayevsk**	**11.12**	**309**	*e*P		**Pn**	**13 41 00.5**	**-2.2**
NKL				AMB		AMB	13 41 03.2	
	comp=Z,140nm,1.2s							
JKB	**Kayabe**	**11.29**	**248**	P		**Pn**	**13 41 02.0**	**-3.0**
JKB				*e*S		**Sn**	**13 43 00.6**	**-10**
JOT	**Ohata**	**11.55**	**246**	P		**Pn**	**13 41 06.0**	**-2.6**
JOT				S		**Sn**	**13 43 05.6**	**-12**
JSH	**Shimam**	**11.55**	**253**	P		**Pn**	**13 41 09.2**	**+0.5**
JYM2	**Yakumo 2**	**11.59**	**250**	P		**Pn**	**13 41 08.0**	**-1.2**
JANG	**Nango**	**11.86**	**241**	P		**Pn**	**13 41 08.8**	**-4.0**
JANG				*e*S		**Sn**	**13 43 11.0**	**-14**
JTM	**Tenmabayashi**	**11.88**	**244**	P		**Pn**	**13 41 10.1**	**-3.0**
JTM				*e*S		**Sn**	**13 43 12.3**	**-13**
JTH	**Tanohata**	**11.93**	**238**	*e*S		**Sn**	**13 43 13.6**	**-13**
JOSM	**Okushiri--Mats**	**12.19**	**252**	P		**Pn**	**13 41 15.5**	**-1.9**
JOM	**Ohasama**	**12.57**	**238**	S		**Sn**	**13 43 30.6**	**-12**
OFUJ	**Ofunato**	**12.62**	**236**	*e*S		**Sn**	**13 43 31.2**	**-12**
MA2	**Magadan**	**12.85**	**350**	*e*PN		**Pn**	**13 41 24.8**	**-1.6**
MA2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MA2	**Magadan**	**12.85**	**350**	Pn		**Pn**	**13 41 24.4**	**-2.0**
JRG	**Rokugo**	**13.00**	**239**	P		**Pn**	**13 41 26.1**	**-2.4**
JRG				*e*S		**Sn**	**13 43 41.5**	**-12**
TEY	**Ternei**	**13.02**	**268**	*e*P		**Pn**	**13 41 27.0**	**-1.7**
JIO	**Ouri**	**13.23**	**235**	P		**Pn**	**13 41 27.8**	**-3.8**
JIO				*e*S		**Sn**	**13 43 45.8**	**-13**
HABR	**Khabarovsk**	**13.58**	**284**	*e*PN		**Pn**	**13 41 37.4**	**+1.0**
HABR				S		**Sn**	**13 44 09.1**	**+1.9**
HABR				pmax		pmax		
	comp=Z,76nm,1.2s							
JYA	**Atsumi**	**14.07**	**239**	P		**Pn**	**13 41 40.7**	**-2.3**
JFK	**Kawauchi**	**14.27**	**233**	*e*S		**Sn**	**13 44 10.8**	**-13**
JFY	**Yanaizu**	**14.89**	**235**	P		**Pn**	**13 41 51.3**	**-2.9**
JYT	**Yasato**	**15.48**	**231**	S		**Sn**	**13 44 39.8**	**-14**
KLR	**Kul'dur**	**15.75**	**287**	*e*P		**Pn**	**13 42 03.9**	**-1.6**
KLR				pmax		pmax		
	comp=E,240nm,1.8s							
KLR				pmax		pmax		
	comp=Z,190nm,1.8s							
SEY	**Seymchan**	**16.04**	**355**⇑	*e*P		**Pn**	**13 42 04.7**	**-4.6**
MAJO	**Matsushiro**	**16.35**	**236**	*e*P		**Pn**	**13 42 10.0**	**-3.2**
MAJO				pmax		pmax		
	comp=Z,180nm,1.0s							
MAJO	**Matsushiro**	**16.35**	**236**	*e*P		**Pn**	**13 42 10.0**	**-3.2**
	comp=Z,181nm,0.9s							
MAT	**Matsushiro**	**16.35**	**236**	P		**Pn**	**13 42 10.0**	**-3.2**
MJAR	**Matsushiro Arr**	**16.35**	**236**	Pn		**Pn**	**13 42 11.2**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=28,slow=13,SNR=14							
AMKA	**Amchitka**	**16.38**	**66**	*e*P		**Pn**	**13 42 16.6**	**+3.0**
JGF	**Kuroka**	**17.50**	**236**	P		**Pn**	**13 42 27.2**	**-0.5**
MDJ	**Mudanjiang**	**17.93**	**272**	*e*P		**Pn**	**13 42 31.7**	**-1.4**
	comp=Z,51nm,0.9s							
JWT	**Wachi**	**18.85**	**239**	P		**Pn**	**13 42 43.5**	**-0.8**
ZEA	**Zeya**	**18.92**	**301**	*e*P		**Pn**	**13 42 39.9**	**-5.3**
ZEA				AMB		AMB	13 42 43.9	
	comp=Z,150nm,1.6s							
ZEA				AMB		AMB	13 42 43.9	
	comp=Z,110nm,1.4s							
ZEA				AMB		AMB	13 42 43.9	
	comp=Z,74nm,1.4s							
JAD	**Aida**	**19.81**	**240**	P		**Pn**	**13 42 56.4**	**+0.5**
JWZ	**Kozaga**	**19.93**	**234**	P		**Pn**	**13 42 58.6**	**+1.3**
JHS	**Saijyo**	**20.40**	**242**	P		**P**	**13 43 05.1**	**+2.4**
JMN	**Monobe**	**20.84**	**238**	P		**P**	**13 43 07.1**	**+1.7**
YAK	**Yakutsk**	**20.87**	**325**	*e*P		**P**	**13 43 04.4**	**-1.4**
YAK				*e**PP			13 43 12.1	
YAK				*e*S		**S**	**13 46 52.5**	**-5.8**
YAK				*e**SS		sS	13 47 04.4	+0.9
YAK				*e*SS			13 47 16.1	
YAK				*e*SSS			13 47 25.2	
YAK				*e*			13 54 28.2	
YAK				pmax		pmax		
	comp=Z,88nm,1.1s							
YAK				pmax		pmax		
	comp=N,44nm,1.2s							
YAK				pmax		pmax		
	comp=E,60nm,1.3s							
YAK				smax				
	comp=N,31nm,1.1s							
YAK				smax				
	comp=Z,13nm,1.0s							
YAK				smax				
	comp=E,26nm,1.4s							
YAK				MLR		MLR		
	comp=Z,12μm,13.0s,MS5.5							
YAK				MLR		MLR		
	comp=N,15μm,20.0s							
YAK				MLR		MLR		
	comp=E,15μm,14.0s							
YAK	**Yakutsk**	**20.87**	**325**	*e*P		**P**	**13 43 03.6**	**-2.2**
	comp=E,115nm,0.8s							
CLNS	**Chul'man**	**20.91**	**309**	*e*P		**P**	**13 43 07.2**	**+1.0**
CLNS				pmax		pmax		
	comp=Z,42nm,0.9s							
CLNS				pmax		pmax		
	comp=N,27nm,0.8s							
CLNS				pmax		pmax		
	comp=E,38nm,1.0s							
CN2	**Changchun**	**21.02**	**272**	⇑P		**P**	**13 43 04.4**	**-3.0**
CN2				*e*XP		sP	13 43 11.0	-1.1
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,19μm,14.0s,MS5.7							
CN2				LR		LR		
	comp=E,14μm,14.0s,MS5.7							
CN2				LR		LR		
	comp=Z,17μm,16.0s,MS5.5							
BILL	**Bilibino**	**21.85**	**11**	*e*P		**P**	**13 43 14.1**	**-2.3**
BILL				pmax		pmax		
	comp=Z,76nm,1.3s,mb5.0							
BILL	**Bilibino**	**21.85**	**11**	*e*P		**P**	**13 43 14.7**	**-1.7**
	comp=Z,150nm,1.1s,mb5.3							
KSRS	**Korea Array**	**22.18**	**254**	P		**P**	**13 43 21.4**	**+1.5**
	comp=Z,32nm,1.0s,mb4.7,baz=47,sl

NJ2	**Nanjing**	**31.39**	**255**	*e*P		**P**	**13 44 46.8**	**+2.2**
NJ2				AP		pP	13 44 51.3	+3.2
NJ2				XP		sP	13 44 57.8	+8.2
NJ2				PP		PP	13 45 51.8	-3.7
NJ2				S		**S**	**13 49 52.0**	**+0.2**
NJ2				XS		sS	13 49 59.0	+1.4
NJ2				AMB		AMB		
	comp=Z,340nm,0.8s,mb6.2							
NJ2				AMB		AMB		
	comp=Z,240nm,4.9s							
NJ2				LR		LR		
	comp=N,6µm,15.9s,MS5.5							
NJ2				LR		LR		
	comp=E,5µm,16.8s,MS5.5							
NJ2				LR		LR		
	comp=Z,4µm,15.7s,MS5.1							
ULN	**Ulaanbaatar**	**32.11**	**290**	*e*P		**P**	**13 44 49.8**	**-1.2**
ULN				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.0							
ULN	**Ulaanbaatar**	**32.11**	**290**	*e*P		**P**	**13 44 49.8**	**-1.2**
	comp=Z,25nm,1.1s,mb5.0							
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**13 44 53.8**	**-0.9**
	comp=Z,15nm,0.9s,mb4.9,baz=67,slow=9.1,SNR=34							
IRK	**Irkutsk**	**32.78**	**298**	*e*P		**P**	**13 44 54.4**	**-2.5**
IRK				pmax		pmax		
	comp=Z,58nm,1.7s,mb5.2							
IMA2	**Indian Mountai**	**32.79**	**36**	*e*P		**P**	**13 44 56.2**	**-0.8**
BTO	**Baotou**	**32.80**	**275**	*e*P		**P**	**13 44 55.6**	**-1.5**
KDAK	**Kodiak Island**	**32.87**	**51**	P		**P**	**13 44 55.2**	**-2.5**
	comp=Z,48nm,1.1s,mb5.3,baz=310,slow=6.0,SNR=7.7							
TLY	**Talaya**	**33.28**	**297**	P		**P**	**13 45 00.3**	**-0.9**
	SNR=8.4							
TLY	**Talaya**	**33.28**	**297**	*e*P		**P**	**13 44 59.5**	**-1.7**
TLY				pmax		pmax		
	comp=Z,35nm,1.2s,mb5.2							
TLY	**Talaya**	**33.28**	**297**	*e*P		**P**	**13 45 00.1**	**-1.2**
	comp=Z,148nm,2.0s,mb5.6							
ZAK	**Zakamensk**	**33.81**	**295**	*e*P		**P**	**13 45 04.4**	**-1.5**
ZAK				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.7							
PMR	**Palmer**	**34.46**	**44**	*e*P		**P**	**13 45 09.6**	**-1.9**
PMR				pmax		pmax		
	comp=Z,82nm,1.5s,mb5.4							
PMR	**Palmer**	**34.46**	**44**	*e*P		**P**	**13 45 09.6**	**-1.9**
	comp=Z,82nm,1.5s,mb5.4							
MCK	**McKinley**	**34.57**	**41**	*e*P		**P**	**13 45 11.2**	**-1.2**
MCK				pmax		pmax		
	comp=Z,66nm,1.4s,mb5.4							
MCK	**McKinley**	**34.57**	**41**	*e*P		**P**	**13 45 11.2**	**-1.2**
	comp=Z,66nm,1.4s,mb5.4							
MOY	**Mondy**	**34.89**	**298**	*e*P		**P**	**13 45 15.8**	**+0.6**
COLA	**College**	**35.08**	**39**	*e*P		**P**	**13 45 16.5**	**-0.4**
COLA				pmax		pmax		
	comp=Z,180nm,1.3s,mb5.8							
COLA	**College**	**35.08**	**39**	*e*P		**P**	**13 45 16.5**	**-0.4**
	comp=Z,180nm,1.4s,mb5.8							
WHN	**Wuhan**	**35.32**	**257**	⇑P		**P**	**13 45 19.8**	**+0.8**
QZH	**Quanzhou**	**36.38**	**246**	P		**P**	**13 45 27.5**	**-0.5**
QZH				AMB		AMB		
	comp=Z,180nm,1.2s,mb5.9							
XAN	**Xi'an**	**36.90**	**266**	P		**P**	**13 45 32.8**	**+0.3**
XAN				AMB		AMB		
	comp=Z,53nm,1.7s,mb5.1							
EGAK	**Eagle**	**37.95**	**39**	*e*P		**P**	**13 45 39.8**	**-1.5**
	comp=Z,84nm,1.0s,mb5.4							
DAWY	**Dawson**	**38.77**	**40**	*e*P		**P**	**13 45 47.8**	**-0.5**
LZH	**Lanzhou**	**39.25**	**273**	*e*P		**P**	**13 45 53.6**	**+1.3**
LZH				AP		pP	13 45 57.4	+1.6
LZH				XP		sP	13 45 59.6	+2.4
LZH				PP		PP	13 47 23.4	+1.2
LZH				AMB		AMB		
	comp=Z,110nm,1.0s,mb5.5							
LZH				AMB		AMB		
	comp=Z,610nm,5.0s							
LZH	**Lanzhou**	**39.25**	**273**	*e*P		**P**	**13 45 53.6**	**+1.3**
LZH				*SP		sP	13 45 59.0	+1.8
LZH							13 47 23.4	
LZH				pmax		pmax		
	comp=Z,110nm,1.0s,mb5.5							
LZH	**Lanzhou**	**39.25**	**273**	*e*P		**P**	**13 45 53.6**	**+1.3**
	comp=Z,110nm,1.0s,mb5.5							
LZH				pP		pP	13 45 57.4	+1.6
LZH				sP		sP	13 45 59.0	+1.8
LZH				PP		PP	13 47 23.4	+1.2
GTA	**Gaotai**	**40.28**	**280**	*e*P		**P**	**13 46 01.1**	**+0.2**
GTA				PP		PP	13 47 37.6	+4.1
GTA				S		**S**	**13 52 02.1**	**-6.0**
GTA				XS		sS	13 52 14.1	+0.2
GTA				AMB		AMB		
	comp=Z,40nm,1.1s,mb5.1							
GTA				AMB		AMB		
	comp=Z,4µm,5.3s							
GTA				LR		LR		
	comp=N,8µm,16.4s,MS6.0							
GTA				LR		LR		
	comp=E,17µm,16.7s,MS6.0							
GTA				LR		LR		
	comp=Z,14µm,15.6s,MS5.9							
INK	**Inuvik**	**40.70**	**33**	P		**P**	**13 46 04.2**	**-0.1**
	comp=Z,33nm,0.5s,mb5.2,baz=290,slow=6.6,SNR=42							
INK	**Inuvik**	**40.70**	**33**	*e*P		**P**	**13 46 04.1**	**-0.2**
INK				pmax		pmax		
	comp=Z,45nm,0.8s							
INK	**Inuvik**	**40.70**	**33**	*e*P		**P**	**13 46 04.1**	**-0.2**
	comp=Z,1µm,0.8s							
CD2	**Chengdu**	**42.27**	**266**	P		**P**	**13 46 18.1**	**+0.9**
CD2				S		**S**	**13 52 35.3**	**-2.3**
CD2				AMB		AMB		
	comp=Z,100nm,1.1s,mb5.4							
GYA	**Guiyang**	**43.11**	**259**	⇓*i*P		**P**	**13 46 24.8**	**+0.8**
GYA				AP		pP	13 46 28.9	+1.3
GYA				XP		sP	13 46 31.8	+2.8
GYA				PP		PP	13 48 06.8	+2.7
GYA				PCP		PcP	13 48 15.9	+2.2
GYA				SCP		ScP	13 52 05.8	+1.0
GYA				S		**S**	**13 52 49.4**	**-0.6**
GYA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.3							
GYA				AMB		AMB		
	comp=Z,180nm,5.2s							
GYA				LR		LR		
	comp=N,970nm,17.8s,MS4.9							
GYA				LR		LR		
	comp=E,840nm,17.6s,MS4.9							
GYA				LR		LR		
	comp=Z,860nm,17.5s,MS4.7							
ZAL	**Zalesovo**	**43.59**	**306**	P		**P**	**13 46 27.0**	**-0.9**
	comp=Z,20nm,0.8s,mb4.9,baz=43,slow=8.2,SNR=44							
ZAL				PcP		PcP	13 48 15.3	-0.1
	comp=Z,11nm,1.1s,baz=156,slow=2.4,SNR=3.2							
ZAL	**Zalesovo**	**43.59**	**306**	P		**P**	**13 46 27.0**	**-0.9**
ZAL				PcP		PcP	13 48 15.3	-0.1
NVS	**Novosibirsk**	**44.12**	**308**	*e*P		**P**	**13 46 30.6**	**-1.5**
NVS				pmax		pmax		
	comp=N,84nm,2.0s							
NVS				pmax		pmax		
	comp=E,175nm,2.0s							
NVS				pmax		pmax		
	comp=Z,190nm,2.0s,mb5.5							
DLBC	**Dease Lake**	**44.43**	**46**	*e*P		**P**	**13 46 35.8**	**+1.2**
WMQ	**Urumqi**	**46.11**	**292**	P		**P**	**13 46 48.1**	**+0.1**
KMI	**Kunming**	**46.64**	**261**	P		**P**	**13 46 53.4**	**+1.3**
KMI				AMB		AMB		
	comp=Z,34nm,1.7s,mb5.0							
KMI	**Kunming**	**46.64**	**261**	P		**P**	**13 46 53.4**	**+1.3**
	comp=Z,34nm,1.7s,mb5.0							
MK31	**Makanchi Array**	**48.04**	**298**	*e*P		**P**	**13 47 02.8**	**-0.2**
MKAR	**Makanchi Array**	**48.04**	**298**	P		**P**	**13 47 02.0**	**-1.0**
	comp=Z,41nm,0.8s,mb5.5,baz=69,slow=7.2,SNR=54							
KURK	**Kurchatov**	**48.36**	**304**	P		**P**	**13 47 05.0**	**-0.5**
	comp=Z,1µm,0.7s,SNR=12							
KURK	**Kurchatov**	**48.36**	**304**	*e*P		**P**	**13 47 05.0**	**-0.5**
KURK				pmax		pmax		
	comp=Z,120nm,0.8s,mb6.0							
KURK	**Kurchatov**	**48.36**	**304**	*e*P		**P**	**13 47 05.0**	**-0.5**
	comp=Z,122nm,0.8s,mb6.0							
ALE	**Alert**	**49.35**	**6**	P		**P**	**13 47 12.8**	**-0.3**
	comp=Z,159nm,1.7s,mb5.8,SNR=11							
YKA	**Yellowknife Ar**	**49.89**	**37**	P		**P**	**13 47 16.5**	**-0.8**
	comp=Z,15nm,1.0s,mb5.0,baz=295,slow=7.2,SNR=8.1							
RES	**Resolute Bay**	**50.15**	**19**	*e*P		**P**	**13 47 19.0**	**-0.2**
RES				pmax		pmax		
	comp=Z,71nm,1.4s,mb5.5							
RES	**Resolute Bay**	**50.15**	**19**	*e*P		**P**	**13 47 19.0**	**-0.2**
	comp=Z,2µm,1.4s							
CHKZ	**Chkalovo**	**51.31**	**311**	*e*P		**P**	**13 47 26.5**	**-1.5**
CHKZ				pmax		pmax		
	comp=Z,66nm,0.6s,mb5.7							
CHKZ	**Chkalovo**	**51.31**	**311**	*e*P		**P**	**13 47 26.5**	**-1.5**
	comp=Z,66nm,0.6s,mb5.7							
LSA	**Lhasa**	**51.63**	**274**	*e*P		**P**	**13 47 32.4**	**+2.1**
LSA	**Lhasa**	**51.63**	**274**	*e*P		**P**	**13 47 32.9**	**+2.6**
LSA				pmax		pmax		
	comp=Z,20nm,0.7s,mb5.2							
LSA	**Lhasa**	**51.63**	**274**	*e*P		**P**	**13 47 32.9**	**+2.6**
	comp=Z,20nm,0.6s,mb5.2							
BVAR	**Borovoye Array**	**51.75**	**310**	P		**P**	**13 47 30.4**	**-0.9**
	comp=Z,28nm,0.6s,mb5.4,baz=59,slow=8.0,SNR=40							
BRVK	**Borovoye**	**51.79**	**310**	P		**P**	**13 47 30.9**	**-0.6**
	comp=Z,404nm,0.6s,SNR=18							
BRVK	**Borovoye**	**51.79**	**310**	⇑P		**P**	**13 47 30.6**	**-0.9**
	SNR=17							
BRVK	**Borovoye**	**51.79**	**310**	*e*P		**P**	**13 47 30.7**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.3							
BRVK	**Borovoye**	**51.79**	**310**	*e*P		**P**	**13 47 30.7**	**-0.9**
	comp=Z,47nm,0.8s,mb5.5							
KBS	**Kingsbay**	**52.45**	**352**	⇑*e*P		**P**	**13 47 34.1**	**-2.3**
ZRNK	**Zerenda**	**52.51**	**310**	*e*P		**P**	**13 47 35.7**	**-1.2**
ZRNK				pmax		pmax		
	comp=Z,57nm,1.8s,mb5.2							
ZRNK	**Zerenda**	**52.51**	**310**	*e*P		**P**	**13 47 35.6**	**-1.3**
	comp=Z,57nm,1.8s,mb5.2							
SPB4	**Spitsbergen Ar**	**52.60**	**350**	*e*P		**P**	**13 47 36.8**	**-0.8**
CHTO	**Chiang Mai**	**53.51**	**258**	P		**P**	**13 47 46.4**	**+2.1**
	SNR=16							
CHTO	**Chiang Mai**	**53.51**	**258**	*e*P		**P**	**13 47 46.1**	**+1.8**
SHL	**Shillong**	**53.75**	**270**	*e*P		**P**	**13 47 46.8**	**+0.8**
ULHL	**Ulahol**	**54.09**	**296**	P		**P**	**13 47 49.1**	**+0.5**
	SNR=24							
TKM2	**Tokmak 2**	**54.11**	**297**	P		**P**	**13 47 50.0**	**+1.3**
	SNR=15							
CHMS	**Chumysh**	**54.58**	**297**	P		**P**	**13 47 53.1**	**+1.0**
	SNR=13							
USP	**Ospenovka**	**54.59**	**298**	P		**P**	**13 47 52.4**	**+0.3**
	SNR=48							
KBK	**Karagaybulak**	**54.66**	**297**	P		**P**	**13 47 53.6**	**+1.0**
	SNR=17							
SOKR	**Solikamsk**	**54.75**	**322**	*e*P		**P**	**13 47 51.9**	**-1.4**
SOKR				pmax		pmax		
	comp=Z,80nm,2.7s,mb5.3							
FRU	**Bishkek**	**54.76**	**297**	*e*P		**P**	**13 47 54.0**	**+0.6**
FRU				pmax		pmax		
	comp=Z,170nm,2.1s,mb5.7							
KZA	**Kyzart**	**54.80**	**296**	P		**P**	**13 47 55.9**	**+2.2**
	SNR=12							
AAK	**Ala-Archa**	**54.95**	**297**	P		**P**	**13 47 53.7**	**-1.0**
	comp=Z,236nm,0.8s,mb6.3,SNR=24							
AAK	**Ala-Archa**	**54.95**	**297**	P		**P**	**13 47 54.9**	**+0.2**
	SNR=34							
AAK	**Ala-Archa**	**54.95**	**297**	P		**P**	**13 47 54.1**	**-0.7**
	SNR=42							
AAK	**Ala-Archa**	**54.95**	**297**	⇑*e*P		**P**	**13 47 54.4**	**-0.3**
AAK				pmax		pmax		
	comp=Z,37nm,1.1s,mb5.3							
AAK	**Ala-Archa**	**54.95**	**297**	*e*P		**P**	**13 47 54.1**	**-0.6**
	comp=Z,108nm,1.7s,mb5.6							
EDM	**Edmonton**	**55.14**	**47**	*e*P		**P**	**13 47 55.3**	**-0.9**
UCH	**Uchtor**	**55.16**	**297**	P		**P**	**13 47 57.3**	**+1.0**
	SNR=6.8							
EKS2	**Erkin-Say**	**55.37**	**298**	P		**P**	**13 47 58.9**	**+1.1**
	SNR=34							
AML	**Almayashu**	**55.72**	**297**	P		**P**	**13 48 02.0**	**+1.7**
	SNR=23							
ARU	**Arti**	**55.74**	**318**	P		**P**	**13 47 59.0**	**-1.5**
	comp=Z,461nm,0.6s,SNR=18							
ARU	**Arti**	**55.74**	**318**	⇑*e*P		**P**	**13 47 58.9**	**-1.6**
ARU				pmax		pmax		
	comp=Z,44nm,1.0s,mb5.4							
ARU	**Arti**	**55.74**	**318**	*e*P		**P**	**13 47 59.6**	**-0.9**
	comp=Z,58nm,0.8s,mb5.7							
KSH	**Kashi**	**55.82**	**293**	⇑P		**P**	**13 48 03.6**	**+2.6**
KSH				*e*AP		pP	13 48 12.9	+8.2
NEW	**Newport**	**55.92**	**54**	P		**P**	**13 48 00.8**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=335,slow=7.4,SNR=3.5							
NEW	**Newport**	**55.92**	**54**	*e*P		**P**	**13 48 01.8**	**0.0**
	comp=Z,8.9nm,1.3s,mb4.6							
JIRN	**Jiri**	**56.29**	**276**	*e*P		**P**	**13 48 06.4**	**+2.0**
	comp=Z,95nm,1.1s,mb5.8							
GUN	**Gumba**	**56.34**	**276**	*e*P		**P**	**13 48 05.9**	**+1.1**
YBH	**Yreka Blue Hor**	**56.41**	**63**	P		**P**	**13 48 05.3**	**0.0**
	comp=Z,4.0nm,1.1s,mb4.4,baz=280,slow=3.9,SNR=3.3							
DAG	**Danmarks Havn**	**56.44**	**358**	*i*P		**P**	**13 48 02.1**	**-3.4**
	comp=Z,41nm,1.2s,mb5.3							
DAG	**Danmarks Havn**	**56.44**	**358**	⇑*e*P		**P**	**13 48 02.1**	**-3.4**
DAG				pmax		pmax		
	comp=Z,41nm,1.2s,mb5.3							
DAG	**Danmarks Havn**	**56.44**	**358**	⇑*e*P		**P**	**13 48 02.1**	**-3.4**
	comp=Z,41nm,1.2s,mb5.3							
PMG	**Port Moresby**	**56.60**	**189**	P		**P**	**13 48 07.2**	**+0.6**
	comp=Z,7.8nm,0.8s,mb4.8,baz=28,slow=10,SNR=6.2							
PMG	**Port Moresby**	**56.60**	**189**	*e*P		**P**	**13 48 05.4**	**-1.2**
PMG				pmax		pmax		
	comp=Z,33nm,1.4s							
PMG	**Port Moresby**	**56.60**	**189**	*e*P		**P**	**13 48 05.4**	**-1.3**
	comp=Z,33nm,1.5s,mb5.1							
KKN	**Kakani**	**56.83**	**276**	*e*P		**P**	**13 48 09.4**	**+1.2**
	comp=Z,215nm,1.4s,mb6.0							
PKI	**Pulchoki**	**56.88**	**276**	*e*P		**P**	**13 48 09.7**	**+1.1**
	comp=Z,108nm,1.2s,mb5.8							
DMN	**Daman**	**57.06**	**276**	*e*P		**P**	**13 48 11.2**	**+1.3**
	comp=Z,75nm,0.8s,mb5.8							
GKN	**Gorkha**	**57.13**	**277**	*e*P		**P**	**13 48 11.3**	**+1.0**
	comp=Z,88nm,0.8s,mb5.8							
KEV	**Kevo**	**57.55**	**341**	*e*p		**P**	**13 48 11.5**	**-1.9**
	comp=Z,14nm,0.8s,mb5.0							
KEV	**Kevo**	**57.55**	**341**	*e*P		**P**	**13 48 11.5**	**-1.9**
KEV				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.0							
APA	**Apatity**	**57.64**	**337**	⇑*i*P		**P**	**13 48 12.4**	**-1.6**
APA				*i*			13 48 25.7	
APA				pmax		pmax		
	comp=Z,150nm,1.4s,mb5.8							
KOLN	**Koldanda**	**57.98**	**278**	*e*P		**P**	**13 48 17.5**	**+1.1**
	comp=Z,77nm,0.9s,mb5.8							
ARCES	**ARCESS Array B**	**58.06**	**341**	P		**P**	**13 48 16.2**	**-0.7**
	comp=Z,24nm,0.9s,mb5.2,baz=30,slow=7.4,SNR=20							
ARE0	**ARCESS Array S**	**58.06**	**341**	*e*P		**P**	**13 48 16.0**	**-0.9**
OHCM	**Honcut**	**58.58**	**65**	*e*P		**P**	**13 48 20.0**	**-0.5**
TMCR	**Tamitsa**	**58.74**	**333**	*i* P		**P**	**13 48 21.6**	**-0.1**
BOK	**Bokaro**	**59.01**	**273**	*e*P		**P**	**13 48 23.8**	**+0.3**
BOK				AMb		AMB	13 48 28.7	
	comp=Z,47nm,1.2s,mb5.4							
LGTI	**Lohaghat**	**59.17**	**281**	*e*P		**P**	**13 48 26.5**	**+1.8**
AKTK	**Aktyubinsk**	**59.57**	**313**	P		**P**	**13 48 27.3**	**-0.2**
AKTO	**Aktyubinsk**	**59.57**	**313**	P		**P**	**13 48 27.3**	**-0.1**
	comp=Z,17nm,0.8s,mb5.1,baz=56,slow=8.0,SNR=25							
AKTO	**Aktyubinsk**	**59.57**	**313**	P		**P**	**13 48 27.3**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1							
EGMT	**Eagleton**	**60.05**	**51**	*e*P		**P**	**13 48 29.9**	**-0.8**
	comp=Z,39nm,1.7s,mb5.2							
HLID	**Hailey**	**60.23**	**57**	*e*P		**P**	**13 48 31.9**	**0.0**
	comp=Z,4.9nm,1.3s,mb4.4							
SUMG	**Summit**	**60.34**	**5**	*e*P		**P**	**13 48 32.8**	**+0.1**
	comp=Z,29nm,0.8s,mb5.4							
ORR	**Orenburg**	**60.44**	**315**	*e*P		**P**	**13 48 33.1**	**-0.3**
ORR				pmax		pmax		
	comp=Z,80nm,0.9s,mb5.8							
NVAR	**Mina Array Bea**	**61.10**	**64**	P		**P**	**13 48 38.3**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=295,slow=10,SNR=4.9							
QLMT	**Earthquake Lak**	**61.12**	**54**	*e*P		**P**	**13 48 37.5**	**-0.5**
NDI	**New Delhi**	**61.69**	**283**	⇓*e*P		**P**	**13 48 41.0**	**-0.9**
NDI				*e*P		pP	13 48 42.6	-3.0
NDI				AMb		AMB	13 48 45.8	
	comp=Z,67nm,0.8s,mb5.8							
PECR	**Pechory**	**62.06**	**324**	*e*P		**P**	**13 48 43.6**	**-0.7**
KULM	**Kulim**	**62.43**	**246**	*e*P		**P**	**13 48 48.7**	**+1.9**
DGMT	**Dagmar**	**62.63**	**47**	*e*P		**P**	**13 48 48.1**	**0.0**
	comp=Z,42nm,1.4s,mb5.4							
HWUT	**Hardware Ranch**	**63.09**	**57**	*e*P		**P**	**13 48 51.3**	**+0.1**
	comp=Z,11nm,1.4s,mb4.8							
DUG	**Dugway**	**63.27**	**59**	*e*P		**P**	**13 48 52.3**	**-0.2**
DUG				pmax		pmax		
	comp=Z,18nm,1.5s,mb5.0							
DUG	**Dugway**	**63.27**	**59**	*e*P		**P**	**13 48 52.3**	**-0.1**
	comp=Z,18nm,1.5s,mb5.0							
BW06	**Boulder Array**	**63.48**	**55**	*e*P		**P**	**13 48 53.2**	**-0.6**
	comp=Z,51nm,1.6s,mb5.4							
PDAR	**Pinedale Array**	**63.48**	**55**	P		**P**	**13 48 53.9**	**0.0**
	comp=Z,4.5nm,1.1s,mb4.5,baz=276,slow=2.8,SNR=4.4							
DAU	**Daniels Canyon**	**64.04**	**58**	*e*P		**P**	**13 48 58.3**	**+0.8**
FINES	**FINESS Array B**	**64.39**	**336**	P		**P**	**13 48 59.1**	**-0.7**
	comp=Z,16nm,0.4s,mb5.4,baz=38,slow=8.5,SNR=78							
MSU	**Marysvale**	**64.74**	**60**	*e*P		**P**	**13 49 02.1**	**0.0**
AJM	**Ajmer**	**64.86**	**282**	*e*P		**P**	**13 49 02.9**	**0.0**
AJM				AMb		AMB	13 49 05.0	
	comp=Z,35nm,0.8s,mb5.4							
VIS	**Vishakhapatnam**	**64.88**	**269**	*e*P		**P**	**13 49 04.7**	**+1.6**
VIS				AMb		AMB	13 49 06.7	
	comp=Z,53nm,1.7s,mb5.3							
MOS	**Moscow**	**65.00**	**326**	*e*P		**P**	**13 48 59.9**	**-3.9**
MOS				pmax		pmax		
	comp=Z,125nm,1.3s,mb5.8							
PSI	**Prapat**	**65.43**	**246**	P		**P**	**13 49 07.7**	**+1.1**
	comp=Z,13nm,0.9s,mb5.0,baz=17,slow=3.7,SNR=11							
PSI	**Prapat**	**65.43**	**246**	P		**P**	**13 49 07.7**	**+1.1**
NGP	**Nagpur**	**65.45**	**275**	*e*P		**P**	**13 49 06.3**	**-0.4**
NGP				AMb		AMB	13 49 11.5	
	comp=Z,81nm,1.7s,mb5.5							
RSSD	**Black Hills**	**65.60**	**51**	*e*P		**P**	**13 49 07.4**	**-0.3**
RSSD				pmax		pmax		
	comp=Z,41nm,1.5s,mb5.2							
RSSD	**Black Hills**	**65.60**	**51**	*e*P		**P**	**13 49 07.3**	**-0.4**
	comp=Z,36nm,1.5s,mb5.2							
OBN	**Obninsk**	**65.86**	**326**	*e*P		**P**	**13 49 07.5**	**-1.9**
OBN				pmax		pmax		
	comp=Z,173nm,1.3s,mb5.9							
OBN	**Obninsk**	**65.86**	**326**	*e*P		**P**	**13 49 09.3**	**-0.1**
AGMN	**Agassiz Refuge**	**66.81**	**43**	*e*P		**P**	**13 49 14.6**	**-0.9**
	comp=Z,20nm,1.3s,mb5.0							
WUAZ	**Wupatki**	**67.20**	**62**	P		**P**	**13 49 17.9**	**0.0**
	comp=Z,22nm,1.6s,mb5.0							
VOR	**Voronezh**	**67.36**	**323**	P		**P**	**13 49 18.0**	**-0.9**
VOR				pmax		pmax		
	comp=Z,330nm,2.3s,mb6.0							
ABKT	**Ailbek**	**67.64**	**302**	P		**P**	**13 49 21.5**	**+0.8**
	SNR=14							
VRSR	**Storozhevoye**	**67.75**	**322**	*e*P		**P**	**13 49 21.0**	**-0.4**
VRSR				pmax		pmax		
	comp=Z,60nm,1.3s,mb5.5							
VRSR				pmax		pmax		
	comp=N,60nm,1.2s							
VRSR				pmax		pmax		
	comp=E,50nm,1.1s							
HYB	**Hyderabad**	**68.36**	**273**	*i* P		**P**	**13 49 25.0**	**-0.2**
HYB	**Hyderabad**	**68.36**	**273**	*e*P		**P**	**13 49 25.0**	**-0.2**
NB2	**NORSAR Subarra**	**68.42**	**342**	P		**P**	**13 49 24.4**	**-1.2**
	comp=Z,58nm,1.4s,mb5.4,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.42**	**342**	P		**P**	**13 49 24.7**	**-0.9**
	comp=Z,6.8nm,0.6s,mb4.9,baz=25,slow=6.3,SNR=14							
NOA	**NORSAR Array B**	**68.42**	**342**	P		**P**	**13 49 24.7**	**-0.9**
EYMN	**Ely**	**69.08**	**41**	*e*P		**P**	**13 49 26.3**	**-3.4**
	comp=Z,4.6nm,1.1s,mb4.3							
SDCO	**Great Sand Dun**	**69.15**	**57**	*e*P		**P**	**13 49 29.4**	**-0.7**
	comp=Z,34nm,1.8s,mb5.0							
WRAB	**Tennant Creek**	**69.21**	**201**	*e*P		**P**	**13 49 39.3**	**+8.8**
WRA	**Warramunga Arr**	**69.22**	**201**	P		**P**	**13 49 28.8**	**-1.8**
	comp=Z,10.0nm,0.9s,mb4.7,baz=20,slow=7.1,SNR=4.8							
MNK	**Minsk**	**69.49**	**330**	⇑*e*P		**P**	**13 49 28.0**	**-4.2**
MNK				pmax		pmax		
	comp=Z,160nm,1.0s,mb5.9							
ECSD	**EROS,Sioux Fal**	**69.71**	**47**	*e*P		**P**	**13 49 32.5**	**-1.1**
	comp=Z,26nm,1.4s,mb5.0							
MDRS	**Chennai**	**70.25**	**268**	*e*P		**P**	**13 49 38.0**	**+1.1**
MDRS				AMb		AMB	13 49 42.7	
	comp=Z,27nm,0.2s,mb5.9							
ANMO	**Albuquerque**	**70.52**	**60**	*e*P		**P**	**13 49 38.8**	**+0.2**
ANMO				pmax		pmax		
	comp=Z,13nm,1.8s							
ANMO	**Albuquerque**	**70.52**	**60**	*e*P		**P**	**13 49 38.8**	**+0.2**
	comp=Z,13nm,1.9s,mb4.5							
POO	**Poona**	**70.80**	**277**	*ex*		**P**	**13 49 37.0**	**-3.3**
POO				*ex*		x	13 50 15.4	
POO				AMb		AMB	13 50 21.1	
	comp=Z,91nm,1.1s,mb5.6							
BNM	**Barren Site**	**70.98**	**60**	*e*P		**P**	**13 49 42.7**	**+1.3**
SUW	**Suwalki**	**71.42**	**332**	*e*P		**P**	**13 49 43.1**	**-0.9**
KAD	**Karad**	**71.

CLL *i* (PcP) PcP 13 50 29.1 +2.4
CLL *ex* x 13 50 48.0
MORC Moravsky Berou 76.84 333 ⇑*i*P **P 13 50 16.3 +0.6**
MORC Moravsky Berou 76.84 333 *e*P **P 13 50 15.7 0.0**
MORC pmax pmax
comp=Z,34nm,0.8s,mb5.3
MORC Moravsky Berou 76.84 333 *e*P **P 13 50 15.7 0.0**
comp=Z,34nm,0.8s,mb5.3
BRG Berggiesshubel 76.92 336 *e*P **P 13 50 15.1 -1.1**
comp=Z,34nm,1.2s,mb5.2
BRG Berggiesshubel 76.92 336 *i*P **P 13 50 15.9 -0.3**
comp=Z,14nm,1.3s,mb4.7
BRG Berggiesshubel 76.92 336 *i*P **P 13 50 15.9 -0.3**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
CLZ Clausthal 76.99 338 *e*P **P 13 50 16.2 -0.4**
comp=Z,65nm,1.2s,mb5.4
CLZ Clausthal 76.99 338 *e*P **P 13 50 16.2 -0.4**
CLZ pmax pmax
comp=Z,65nm,1.2s,mb5.4
VRI Vrincioaia 77.02 326 P **P 13 50 18.3 +1.6**
KECS Kecovo 77.03 331 *e*P **P 13 50 16.7 -0.1**
comp=Z,7.1nm,1.1s,mb4.5
KECS *e* pP 13 50 20.0 -0.5
CFR Carcaliu 77.04 325 P **P 13 50 18.7 +1.9**
PVCC Panska Ves 77.05 335 *e*P **P 13 50 16.6 -0.3**
PVCC *e*PCP PcP 13 50 27.9 +0.1
MSL Mosul 77.16 310 *i* x x 13 50 18.0
IBBN Ibbenburen 77.19 340 *e*P **P 13 50 17.0 -0.7**
comp=Z,48nm,1.1s,mb5.3
BOYT Boyabat 77.20 318 *i*P **P 13 50 18.5 +0.7**
TIRR Tirgusor 77.53 324 ⇓*i*P **P 13 50 20.0 +0.4**
TIRR Tirgusor 77.53 324 *e*P **P 13 50 19.1 -0.4**
comp=Z,28nm,0.9s,mb5.2
HARR Harsova 77.53 324 ⇓*i*P **P 13 50 16.7 -2.9**
HARR Harsova 77.53 324 P **P 13 50 19.8 +0.2**
PRU Pruhonice 77.55 335 *e*P **P 13 50 19.1 -0.6**
VRAC Vranov 77.55 334 P **P 13 50 19.7 +0.1**
comp=Z,28nm,0.9s,mb5.2,baz=16,slow=6.3,SNR=14
VRAC Vranov 77.55 334 ⇑*i*P **P 13 50 20.7 +1.0**
VRAC Vranov 77.55 334 P **P 13 50 19.7 0.0**
VRAC pmax pmax
comp=Z,28nm,0.9s
VRAC Vranov 77.55 334 ⇑P **P 13 50 20.7 +1.1**
VYHS Vyhne 77.56 332 *e*P **P 13 50 20.0 +0.2**
comp=Z,12nm,1.3s,mb4.7
VYHS *e* pP 13 50 23.1 -0.4
WSAR Wadi Sarin 77.58 291 P **P 13 50 21.5 +1.6**
comp=Z,8.3nm,0.9s,mb4.7,baz=98,slow=5.3,SNR=5.0
JCT Junction City 77.63 59 *e*P **P 13 50 17.4 -2.7**
JCT pmax pmax
comp=Z,21nm,1.3s,mb4.9
JCT Junction City 77.63 59 *e*P **P 13 50 17.4 -2.7**
comp=Z,21nm,1.4s,mb4.9
MLR Muntele Rosu 77.63 326 P **P 13 50 20.7 +0.5**
comp=Z,34nm,0.6s,mb5.4,baz=77,slow=1.9,SNR=22
MLR Muntele Rosu 77.63 326 ⇓*i*P **P 13 50 21.0 +0.8**
MLR Muntele Rosu 77.63 326 ⇓P **P 13 50 21.0 +0.8**
PSZ Piszkesteto 77.72 331 ⇑*i*P **P 13 50 21.3 +0.7**
PSZ Piszkesteto 77.72 331 *e*P **P 13 50 20.8 +0.2**
PSZ pmax pmax
comp=Z,38nm,1.1s,mb5.2
PSZ Piszkesteto 77.72 331 *e*P **P 13 50 20.8 +0.2**
comp=Z,38nm,1.1s,mb5.2
DRGR 77.72 329 ⇓*i*P **P 13 50 21.0 +0.3**
DRGR 77.72 329 ⇓P **P 13 50 21.1 +0.4**
WTSB Winterswijk 77.73 341 *e*P **P 13 50 23.2 +2.5**
TANN Tannenbergstha 77.74 337 *e*P **P 13 50 20.2 -0.6**
comp=Z,26nm,1.2s,mb5.0
MOX Moxa 77.76 337 *e*P **P 13 50 20.2 -0.7**
comp=Z,32nm,1.1s,mb5.2
MOX Moxa 77.76 337 *e*P **P 13 50 20.9 0.0**
comp=Z,42nm,1.6s,mb5.1
MOX Moxa 77.76 337 *e*P **P 13 50 20.9 0.0**
MOX pmax pmax
comp=Z,68nm,1.6s,mb5.3
BALT Daday 77.79 319 *i*P **P 13 50 22.2 +1.2**
CTKT Corum 77.89 318 *i*P **P 13 50 22.4 +0.8**
NKC Novy Kostel 77.91 337 *e*P **P 13 50 21.2 -0.5**
MALT Malatya 77.97 314 ⇑*i*P **P 13 50 24.0 +1.9**
MALT Malatya 77.97 314 *e*P **P 13 50 23.5 +1.4**
MALT pmax pmax
comp=Z,48nm,1.1s,mb5.3
MALT Malatya 77.97 314 *e*P **P 13 50 23.5 +1.5**
comp=Z,48nm,1.1s,mb5.3
VOIR 78.02 327 ⇓*i*P **P 13 50 23.1 +0.8**
VOIR 78.02 327 ⇓P **P 13 50 23.1 +0.8**
UBBA Unterbreizbach 78.02 338 *e*P **P 13 50 21.6 -0.7**
comp=Z,86nm,2.0s,mb5.3
BUG Bochum-Univer 78.11 340 *e*P **P 13 50 22.2 -0.6**
comp=Z,51nm,1.2s,mb5.3
MANZ Manzenberg 78.23 337 *e*P **P 13 50 23.0 -0.5**
comp=Z,29nm,1.3s,mb5.0
ZST Bratislava 78.37 333 *e*P **P 13 50 25.5 +1.2**
ZST pmax pmax
comp=Z,15nm,1.0s,mb4.9
ZST Bratislava 78.37 333 *e*P **P 13 50 25.5 +1.2**
comp=Z,15nm,1.0s,mb4.9
ROTZ Rotzenmuhle 78.40 336 *e*P **P 13 50 24.3 -0.1**
comp=Z,41nm,1.2s,mb5.2
JMDO Jabal Madar 78.55 290 P **P 13 50 26.6 +1.4**
SNR=8.5
KHC Kasperske Hory 78.59 335 *e*P **P 13 50 25.6 +0.1**
KHC *ex* x 13 50 39.1
ELDT Eldivan 78.61 319 *i*P **P 13 50 26.8 +1.2**
GRA1 Grafenberg Arr 78.73 337 *e*P **P 13 50 26.2 -0.1**
comp=Z,100nm,1.4s,mb5.5
GRA1 *e*pP pP 13 50 29.4 -0.6
GRF Grafenberg Arr 78.73 337 *e*P **P 13 50 26.2 -0.1**
comp=Z,100nm,1.4s,mb5.5
GRF *e*pP pP 13 50 29.4 -0.6
comp=Z,71nm,1.3s
GRF Grafenberg Arr 78.73 337 *e*P **P 13 50 26.2 -0.1**
GRF *e**PP pP 13 50 29.4 -0.6
GRF pmax pmax
comp=Z,100nm,1.4s,mb5.5
WET Wettzell 78.78 336 *e*P **P 13 50 26.4 -0.1**
comp=Z,47nm,1.2s,mb5.3
GEC2 GERESS Array S 78.81 335 *e*P **P 13 50 26.1 -0.6**
comp=Z,26nm,1.3s,mb5.0
GEC2 GERESS Array S 78.81 335 *e*P **P 13 50 26.1 -0.6**
GEC2 pmax pmax
comp=Z,26nm,1.3s,mb5.0
GERES GERESS Array B 78.81 335 P **P 13 50 26.3 -0.4**
comp=Z,7.9nm,0.7s,mb4.8,baz=30,slow=4.9,SNR=27
BSY Bisya 78.86 291 P **P 13 50 28.2 +1.3**
SNR=7.7
GZR Gura Zlata 78.90 328 ⇑*i*P **P 13 50 29.5 +2.3**
GZR Gura Zlata 78.90 328 ⇑P **P 13 50 29.6 +2.4**
TNS Taunus Mts 78.96 339 *e*P **P 13 50 27.2 -0.3**
comp=Z,86nm,1.5s,mb5.5
TNS Taunus Mts 78.96 339 *e*P **P 13 50 27.2 -0.3**
TNS pmax pmax
comp=Z,86nm,1.5s,mb5.5
HGN Heimansgroeve 79.05 341 *e*P **P 13 50 28.1 +0.1**
comp=Z,64nm,1.5s,mb5.3
BZS Buzias 79.12 329 ⇑*i*P **P 13 50 28.1 -0.3**
BZS Buzias 79.12 329 ⇑P **P 13 50 28.1 -0.3**
BR131 Keskin Array S 79.13 318 *e*P **P 13 50 28.9 +0.5**
comp=Z,10nm,0.8s,mb4.8
GZT Gaziantep 79.15 314 *i*P **P 13 50 29.1 +0.6**
SGKT Sivrigoynuk 79.16 319 *i*P **P 13 50 29.5 +0.9**
AVNT Avonos 79.32 317 *i*P **P 13 50 29.8 +0.3**
ANTO Ankara 79.40 319 ⇓P **P 13 50 31.4 +1.5**
SNR=6.8
ANTO Ankara 79.40 319 ⇑*i*P **P 13 50 31.4 +1.5**
ANTO Ankara 79.40 319 ⇑P **P 13 50 31.4 +1.4**
TOD Tromm 79.44 338 *e*P **P 13 50 30.4 +0.3**
HENT Hendek 79.47 320 *i*P **P 13 50 25.9 -4.3**
ABH Alteburg 79.49 339 *e*P **P 13 50 30.4 0.0**
MOA Molln 79.55 334 ⇑*i*P **P 13 50 33.7 +3.0**
comp=Z,18nm,0.8s,mb5.0
PKSM Moragy 79.62 331 ⇓*i*P **P 13 50 30.9 -0.2**
PKSM Moragy 79.62 331 ⇓P **P 13 50 30.9 -0.2**
MIB Mutribah 79.69 303 *e*P **P 13 50 32.2 +0.7**
ARSA Arzberg 79.70 333 ⇓*i*P **P 13 50 32.2 +0.6**
comp=Z,19nm,0.8s,mb5.1
GIVF Givet 79.92 341 *e*P **P 13 50 31.5 -1.2**
JMB Yambol 79.92 324 P **P 13 50 36.0 +3.3**
WLF Walferdange 80.03 340 *e*P **P 13 50 33.6 +0.3**
comp=Z,63nm,1.5s,mb5.3
BAIF Baives 80.09 341 *e*P **P 13 50 32.6 -1.1**
comp=Z,26nm,0.8s,mb4.9
BAIF Baives 80.09 341 *e*P **P 13 50 32.6 -1.1**
BAIF pmax pmax
comp=Z,13nm,0.8s,mb4.9
BAIF Baives 80.09 341 *e*P **P 13 50 32.6 -1.1**
comp=Z,13nm,0.8s,mb4.9
STU Stuttgart 80.11 338 *e*P **P 13 50 33.5 -0.3**
comp=Z,35nm,0.9s,mb5.3
FUR Furstenfeldbru 80.11 336 *e*P **P 13 50 33.7 -0.1**
comp=Z,112nm,1.3s,mb5.6
FUR Furstenfeldbru 80.11 336 *e*P **P 13 50 33.7 -0.1**
FUR pmax pmax
comp=Z,112nm,1.3s,mb5.6
NAY Al-Naaiem 80.16 302 *e*P **P 13 50 34.2 +0.2**
RDF Al-Radifah 80.22 302 *e*P **P 13 50 35.1 +0.7**
LANF Langenberg 80.27 339 *e*P **P 13 50 34.5 -0.1**
PERS Pernice 80.38 333 *e*P **P 13 50 35.5 +0.3**
KBA Koelnbreinsper 80.51 335 *i*P **P 13 50 36.8 +0.9**
comp=Z,84nm,0.8s,mb5.8,SNR=26
ESKT Eskisehir 80.56 320 *i*P **P 13 50 36.2 +0.1**
OBKA Obir 80.67 334 ⇑*i*P **P 13 50 40.1 +3.3**
comp=Z,13nm,0.6s,mb5.0
BFO Black Forest 80.74 338 P **P 13 50 37.7 +0.6**
comp=Z,157nm,1.0s,mb5.9,SNR=6.0
BFO Black Forest 80.74 338 *e*P **P 13 50 36.9 -0.2**
comp=Z,49nm,1.2s,mb5.3
BFO Black Forest 80.74 338 *e*P **P 13 50 36.9 -0.2**
BFO pmax pmax
comp=Z,49nm,1.2s,mb5.3
WTTA Wattenberg 80.83 336 *i*P **P 13 50 38.8 +1.1**
comp=Z,71nm,0.8s,mb5.7,SNR=21
GCIS Gornji Cirnik 80.91 333 *e*P **P 13 50 38.1 +0.1**
WLS Welschbruch 80.91 339 *e*P **P 13 50 38.6 +0.6**
MOTA Moosalm 80.91 336 ⇑*i*P **P 13 50 39.1 +1.0**
comp=Z,82nm,1.0s,mb5.6,SNR=14
CDF Champ du Feu 80.93 339 *e*P **P 13 50 37.2 -0.9**
comp=Z,33nm,0.8s,mb5.0
CDF Champ du Feu 80.93 339 *e*P **P 13 50 37.2 -0.9**
CDF pmax pmax
comp=Z,17nm,0.8s,mb5.0
CDF Champ du Feu 80.93 339 *e*P **P 13 50 37.2 -0.9**
comp=Z,17nm,0.8s,mb5.0
GRUS Gruza 80.94 328 *i*P **P 13 50 40.5 +2.3**
SQTA Sad Quirin 80.99 336 ⇑*i*P **P 13 50 40.2 +1.7**
comp=Z,44nm,0.9s,mb5.4
DIVS Divcibare 81.01 329 *i*P **P 13 50 38.7 +0.1**
KDZ Kurdzhali 81.08 324 P **P 13 50 39.0 +0.1**
LIBD Limburg 81.09 339 *e*P **P 13 50 39.7 +0.7**
VTS Vitosha 81.14 326 ⇓*i*P **P 13 50 39.8 +0.5**
VTS Vitosha 81.14 326 P **P 13 50 39.0 -0.3**
VTS Vitosha 81.14 326 P **P 13 50 39.4 +0.1**
ECH Echery 81.14 339 *e*P **P 13 50 39.2 -0.1**
FELD Feldberg im Sc 81.24 338 *e*P **P 13 50 40.1 +0.3**
GMNA Gemona 81.27 334 P **P 13 50 41.3 +1.3**
comp=Z,109nm,0.7s,mb5.9
BOJS Bojanci 81.35 333 *e*P **P 13 50 40.3 -0.1**
THEF They Montfort 81.41 340 *e*P **P 13 50 40.7 0.0**
MOF Molkenkain 81.48 339 *e*P **P 13 50 43.8 +2.7**
HAU Haudompre 81.53 339 *e*P **P 13 50 40.3 -1.1**
comp=Z,39nm,0.9s,mb5.0
HAU Haudompre 81.53 339 *e*P **P 13 50 40.3 -1.1**
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.0
HAU Haudompre 81.53 339 *e*P **P 13 50 40.3 -1.1**
comp=Z,19nm,0.9s,mb5.0
HINF Hinteralfeld 81.58 339 *e*P **P 13 50 40.5 -1.1**
DAVOX Davos 81.76 337 P **P 13 50 43.6 +1.0**
comp=Z,25nm,0.7s,mb5.2,baz=20,slow=3.4,SNR=9.7
MMB Musomiste 81.79 325 P **P 13 50 42.0 -0.7**
BRMO Bormio 81.91 336 P **P 13 50 44.6 +1.3**
comp=Z,13nm,0.5s,mb5.1
LOMF Lomont 82.03 339 *e*P **P 13 50 43.8 -0.2**
FLN La Foliniere 82.28 344 *e*P **P 13 50 44.5 -0.8**
comp=Z,65nm,1.0s,mb5.2
FLN La Foliniere 82.28 344 *e*P **P 13 50 44.5 -0.8**
FLN pmax pmax
comp=Z,32nm,1.0s,mb5.2
FLN La Foliniere 82.28 344 *e*P **P 13 50 44.5 -0.8**
comp=Z,32nm,1.0s,mb5.2
LDF La Druitiere 82.38 344 *e*P **P 13 50 44.9 -0.9**
VAY Valandovo 82.47 326 *i*P **P 13 50 45.8 -0.5**
GRR Gorron 82.71 344 *e*P **P 13 50 47.0 -0.6**
comp=Z,152nm,1.3s,mb5.6
GRR Gorron 82.71 344 *e*P **P 13 50 47.0 -0.6**
GRR pmax pmax
comp=Z,76nm,1.3s,mb5.6
GRR Gorron 82.71 344 *e*P **P 13 50 47.0 -0.6**
comp=Z,76nm,1.3s,mb5.6
LOR Lormes 82.80 341 *e*P **P 13 50 47.3 -0.7**
comp=Z,71nm,0.9s,mb5.4
LOR Lormes 82.80 341 *e*P **P 13 50 47.3 -0.7**
LOR pmax pmax
comp=Z,35nm,0.9s,mb5.4
LOR Lormes 82.80 341 *e*P **P 13 50 47.3 -0.7**
comp=Z,35nm,0.9s,mb5.4
CABF La Chapelle 82.90 339 *e*P **P 13 50 48.1 -0.4**
comp=Z,68nm,1.0s,mb5.3
CABF La Chapelle 82.90 339 *e*P **P 13 50 48.1 -0.4**
CABF pmax pmax
comp=Z,34nm,1.0s,mb5.3
CABF La Chapelle 82.90 339 *e*P **P 13 50 48.1 -0.4**
comp=Z,34nm,1.0s,mb5.3
KRUS Krusevo 82.93 327 *i*P **P 13 50 48.8 +0.1**
SSF Saint Saulge 83.08 341 *e*P **P 13 50 48.7 -0.8**
comp=Z,32nm,0.8s,mb5.1
SSF Saint Saulge 83.08 341 *e*P **P 13 50 48.7 -0.8**
SSF pmax pmax
comp=Z,16nm,0.8s,mb5.1
SSF Saint Saulge 83.08 341 *e*P **P 13 50 48.7 -0.8**
comp=Z,16nm,0.8s,mb5.1
SGMF Saint Gilles 83.15 345 *e*P **P 13 50 49.7 -0.1**
comp=Z,64nm,0.7s,mb5.4
SGMF Saint Gilles 83.15 345 *e*P **P 13 50 49.7 -0.1**
SGMF pmax pmax
comp=Z,32nm,0.7s,mb5.5
SGMF Saint Gilles 83.15 345 *e*P **P 13 50 49.7 -0.1**
comp=Z,32nm,0.7s,mb5.5
ROSF Rostrenen 83.19 346 *e*P **P 13 50 49.8 -0.2**
comp=Z,85nm,0.8s,mb5.5
ROSF Rostrenen 83.19 346 *e*P **P 13 50 49.8 -0.2**
ROSF pmax pmax
comp=Z,43nm,0.8s,mb5.5
ROSF Rostrenen 83.19 346 *e*P **P 13 50 49.8 -0.2**
comp=Z,42nm,0.8s,mb5.5
AVF Avril sur Loir 83.37 341 *e*P **P 13 50 50.5 -0.5**
comp=Z,111nm,1.1s,mb5.5
AVF Avril sur Loir 83.37 341 *e*P **P 13 50 50.5 -0.5**
AVF pmax pmax
comp=Z,55nm,1.1s,mb5.5
AVF Avril sur Loir 83.37 341 *e*P **P 13 50 50.5 -0.5**
comp=Z,55nm,1.1s,mb5.5
SMF Signal de Mont 83.40 341 *e*P **P 13 50 50.7 -0.4**
comp=Z,255nm,1.4s,mb5.8
SMF Signal de Mont 83.40 341 *e*P **P 13 50 50.7 -0.4**
SMF pmax pmax
comp=Z,127nm,1.4s,mb5.8
SMF Signal de Mont 83.40 341 *e*P **P 13 50 50.7 -0.4**
comp=Z,127nm,1.4s,mb5.8
RSM Repubblica di 83.63 334 P **P 13 50 53.6 +1.3**
RSM pmax pmax
comp=Z,74nm,1.0s,mb5.8
RSM Repubblica di 83.63 334 P **P 13 50 53.6 +1.3**
comp=Z,74nm,1.0s,mb5.8
LPL La Plagne 83.76 338 *e*P **P 13 50 53.5 +0.5**
comp=Z,65nm,0.6s,mb5.6
LPL La Plagne 83.76 338 *e*P **P 13 50 53.5 +0.5**
LPL pmax pmax
comp=Z,33nm,0.6s,mb5.6
LPL La Plagne 83.76 338 *e*P **P 13 50 53.5 +0.5**
comp=Z,33nm,0.6s,mb5.6
LPG La Plagne 83.77 338 *e*P **P 13 50 53.6 +0.6**
comp=Z,72nm,0.7s,mb5.6
LPG La Plagne 83.77 338 *e*P **P 13 50 53.6 +0.6**
LPG pmax pmax
comp=Z,36nm,0.7s,mb5.6
LPG La Plagne 83.77 338 *e*P **P 13 50 53.6 +0.6**
comp=Z,36nm,0.7s,mb5.6
GSCL Gusciola 83.80 335 P **P 13 50 55.5 +2.4**
comp=Z,35nm,0.8s,mb5.5
SFI Santa Sofia 83.83 334 P **P 13 50 54.7 +1.4**
SFI pmax pmax
comp=Z,31nm,0.7s,mb5.5
SFI Santa Sofia 83.83 334 P **P 13 50 54.7 +1.4**
comp=Z,31nm,0.7s,mb5.5
SEI Scarperia 83.84 335 P **P 13 50 58.2 +4.8**
comp=Z,223nm,0.8s,mb6.3
VMG Vicchio 83.87 334 P **P 13 50 55.1 +1.6**
comp=Z,67nm,0.7s,mb5.9
PLDF La Plantade 84.08 340 *e*P **P 13 51 00.0 +5.4**
SNTG Esanatoglia 84.09 333 P **P 13 50 55.4 +0.7**
comp=Z,16nm,0.6s,mb5.3
TCF Toulx Ste Croi 84.10 341 *e*P **P 13 50 54.7 0.0**
comp=Z,32nm,0.8s,mb5.2
TCF Toulx Ste Croi 84.10 341 *e*P **P 13 50 54.7 0.0**
TCF pmax pmax
comp=Z,16nm,0.8s,mb5.2
TCF Toulx Ste Croi 84.10 341 *e*P **P 13 50 54.7 0.0**
comp=Z,16nm,0.8s,mb5.2
AGO Saint Agoulin 84.12 341 *e*P **P 13 51 00.0 +5.2**
GDM Grand'Maison 84.21 339 *e*P **P 13 50 56.3 +1.1**
GRN Grenoble 84.26 339 *e*P **P 13 50 56.9 +1.4**
MFF Saint Martin d 84.29 343 *e*P **P 13 50 55.7 0.0**
CSNT Castellina Chi 84.39 334 P **P 13 50 56.1 -0.1**
comp=Z,432nm,2.5s,mb6.1
PYM Petit Puy Mans 84.43 341 *e*P **P 13 51 01.3 +4.9**
MBDF Montbardon 84.48 338 *e*P **P 13 50 56.6 -0.1**
comp=Z,32nm,0.6s,mb5.3
MBDF Montbardon 84.48 338 *e*P **P 13 50 56.6 -0.1**
MBDF pmax pmax
comp=Z,16nm,0.6s,mb5.3
MBDF Montbardon 84.48 338 *e*P **P 13 50 56.6 -0.1**
comp=Z,16nm,0.6s,mb5.3
ORIF Oris-en-Rattie 84.53 339 *e*P **P 13 50 57.2 +0.3**
comp=Z,74nm,0.9s,mb5.5
ORIF Oris-en-Rattie 84.53 339 *e*P **P 13 50 57.2 +0.3**
ORIF pmax pmax
comp=Z,37nm,0.9s,mb5.5
ORIF Oris-en-Rattie 84.53 339 *e*P **P 13 50 57.2 +0.3**
comp=Z,37nm,0.9s,mb5.5
WHFO Wadi Hawf 84.56 290 P **P 13 50 57.4 +0.3**
SNR=6.3
SURF Saint Ours 84.70 338 *e*P **P 13 50 59.0 +1.2**
AQU L'Aquila 84.77 333 ⇑*i*P **P 13 51 01.7 +3.6**
VIVF Saint-Julien-l 84.89 339 *e*P **P 13 50 58.6 -0.1**
comp=Z,34nm,0.8s,mb5.2
VIVF Saint-Julien-l 84.89 339 *e*P **P 13 50 58.6 -0.1**
VIVF pmax pmax
comp=Z,17nm,0.8s,mb5.2
VIVF Saint-Julien-l 84.89 339 *e*P **P 13 50 58.6 -0.1**
comp=Z,17nm,0.8s,mb5.2
SAOF Saorge 84.97 337 *e*P **P 13 50 59.2 +0.1**
AUTN L'Aution 85.00 337 *e*P **P 13 50 59.8 +0.6**
TOUF Mont Tournerai 85.03 337 *e*P **P 13 50 59.8 +0.4**
LUCF Luceram 85.11 337 *e*P **P 13 50 59.5 -0.3**
SBF Sospel 85.12 337 *e*P **P 13 50 59.1 -0.7**
comp=Z,61nm,0.7s,mb5.5
SBF Sospel 85.12 337 *e*P **P 13 50 59.1 -0.7**
SBF pmax pmax
comp=Z,31nm,0.7s,mb5.5
SBF Sospel 85.12 337 *e*P **P 13 50 59.1 -0.7**
comp=Z,31nm,0.7s,mb5.5
MVIF Mont Vial 85.16 337 *e*P **P 13 51 00.1 0.0**
RJF Les Rejaudoux 85.18 342 *e*P **P 13 51 00.4 +0.2**
comp=Z,87nm,1.1s,mb5.5
RJF Les Rejaudoux 85.18 342 *e*P **P 13 51 00.4 +0.2**
RJF pmax pmax
comp=Z,43nm,1.1s,mb5.5
RJF Les Rejaudoux 85.18 342 *e*P **P 13 51 00.4 +0.2**
comp=Z,43nm,1.1s,mb5.5
CAF Calviac 85.42 341 *e*P **P 13 51 02.0 +0.6**
SMRF Simiane la Rot 85.49 338 *e*P **P 13 51 02.0 +0.3**
FRF La Foret Royal 85.61 338 *e*P **P 13 51 01.6 -0.7**
LFF La Frestale 85.70 342 *e*P **P 13 51 03.3 +0.6**
comp=Z,62nm,0.8s,mb5.6
LFF La Frestale 85.70 342 *e*P **P 13 51 03.3 +0.6**
LFF pmax pmax
comp=Z,31nm,0.8s,mb5.6
LFF La Frestale 85.70 342 *e*P **P 13 51 03.3 +0.6**
comp=Z,31nm,0.8s,mb5.6
LASF Ste Croix 85.82 340 *e*P **P 13 51 04.0 +0.7**
comp=Z,52nm,1.1s,mb5.4
LMR La Mourre 85.85 338 *e*P **P 13 51 03.1 -0.4**
comp=Z,80nm,1.0s,mb5.6
LMR La Mourre 85.85 338 *e*P **P 13 51 03.1 -0.4**
LMR pmax pmax
comp=Z,40nm,1.0s,mb5.6
LMR La Mourre 85.85 338 *e*P **P 13 51 03.1 -0.4**
comp=Z,40nm,1.0s,mb5.6
PGF Pioggiola 85.91 336 *e*P **P 13 51 02.9 -0.9**
comp=Z,40nm,0.9s,mb5.3
PGF Pioggiola 85.91 336 *e*P **P 13 51 02.9 -0.9**
PGF pmax pmax
comp=Z,20nm,0.9s,mb5.3
PGF Pioggiola 85.91 336 *e*P **P 13 51 02.9 -0.9**
comp=Z,20nm,0.9s,mb5.3
EIL Elat 86.57 311 *e*P **P 13 51 06.5 -0.5**
comp=Z,373nm,0.9s
MTLF Montolieu 86.89 341 *e*P **P 13 51 09.5 +0.9**
comp=Z,28nm,0.8s,mb5.2
MTLF Montolieu 86.89 341 *e*P **P 13 51 09.5 +0.9**
MTLF pmax pmax
comp=Z,14nm,0.8s,mb5.2
MTLF Montolieu 86.89 341 *e*P **P 13 51 09.5 +0.9**
comp=Z,14nm,0.8s,mb5.2
EPF Esparros 87.61 342 *e*P **P 13 51 12.2 +0.1**
comp=Z,9.1nm,0.5s,mb5.0
EPF Esparros 87.61 342 *e*P **P 13 51 12.2 +0.1**
EPF pmax pmax
comp=Z,5.0nm,0.5s,mb5.0
EPF Esparros 87.61 342 *e*P **P 13 51 12.2 +0.1**
comp=Z,4.6nm,0.5s,mb5.0
ETSF Etsaut 87.92 342 *e*P **P 13 51 14.7 +1.1**
comp=Z,18nm,0.6s,mb5.2
ETSF Etsaut 87.92 342 *e*P **P 13 51 14.7 +1.1**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
ETSF Etsaut 87.92 342 *e*P **P 13 51 14.7 +1.1**
comp=Z,8.8nm,0.6s,mb5.2
ESDC Sonseca Array 91.70 344 P **P 13 51 30.5 -0.8**
comp=Z,1.5nm,0.8s,mb4.4,baz=1.8,slow=4.6,SNR=6.9
KEST Kesra 92.09 333 P **P 13 51 33.6 +0.6**
comp=Z,5.7nm,0.8s,mb4.9,baz=124,slow=1.0,SNR=6.4
TORD Torodi Ar. Bea 115.56 331 PKP PKPdf 13 57 05.8 -0.1
comp=Z,0.5nm,0.5s,baz=31,slow=2.8,SNR=4.2
TORD Torodi Ar. Bea 115.56 331 PKP PKPdf 13 57 05.8 -0.1
VNDA Vanda 124.32 178 PKP PKPdf 13 57 20.1 -2.7
comp=Z,1.2nm,0.8s,baz=324,slow=6.0,SNR=6.8
SBA Scott Base 124.79 177 *e*PKIKP PKPdf 13 57 21.6 -2.0
LPAZ La Paz 133.00 64 PKIKP PKPdf 13 57 40.1 +0.8
comp=Z,6.2nm,1.1s,baz=356,slow=5.1,SNR=11
LPAZ La Paz 133.00 64 PKIKP PKPdf 13 57 40.1 +0.8
LPAZ pmax pmax
comp=Z,6.0nm,1.1s
LPAZ La Paz 133.00 64 *e*PKPdf PKPdf 13 57 40.6 +1.3
MAW Mawson 133.14 212 PKP PKPdf 13 57 39.5 0.0
comp=Z,1.7nm,0.6s,baz=13,slow=8.1,SNR=7.0
SYO Syowa Base 141.85 212 ⇑*e*PKPdf PKPdf 13 57 52.5 -3.1
CFAA Coronel Fontan 143.60 81 PKP PKPdf 13 57 55.8 -2.8
comp=Z,0.5nm,0.4s,baz=305,slow=2.8,SNR=6.3
NVL N'lazarevskaya 150.43 204 *e*PKIKP PKPbc 13 58 13.1 -2.2
NVL pmax pmax
comp=Z,36nm,0.9s
SNAA Sanae 153.17 195 PKPbc PKPbc 13 58 20.1 -1.5
comp=Z,1.1nm,0.6s,baz=238,slow=4.0,SNR=8.0
SNAA Sanae 153.17 195 PKIKP PKPbc 13 58 20.1 -1.5
SNAA pmax pmax
comp=Z,1.0nm,0.6s

IDC ***15*** *13:39:51.1±0.9, 46.07N×15.463E, h0km, mb4.7/9, mb1 4.8/11, mb1mx4.5/27, mbtmp4.7/11, ML3.9/2, Error ellipse: s-maj=28.6km s-min=19.0km az=144.0*
ISCJB ***15*** *13:39:54.4±0.7, 46.0N±0.1×15.46E±0.2, h35km, mb4.9/13, Error ellipse: s-maj=22.7km s-min=10.8km az=113.3*
MOS ***15*** *13:39:54.5±1.0, 46.06N×15.443E, h33km, mb4.9/7, Error ellipse: s-maj=28.5km s-min=18.6km az=61.9*

ISC 15 13:39:56.0±0.7, 46.1N±0.1×15.46E±0.2, h35km, n27,
σ0.72/25, mb4.9/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.69**	**261**	Pn	**Pn**	**13 41 59.0**	**-0.3**
	3.7nm,0.3s,baz=306,slow=9.5,SNR=3.2						
ASAJ	**Asahikawa**	**8.69**	**261**	PN	**Pn**	**13 41 59.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.52**	**238**	Pn	**Pn**	**13 43 31.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=2.1						
BILL	**Bilibino**	**22.85**	**11**	*e*P	**P**	**13 44 57.6**	**+1.5**
KDAK	**Kodiak Island**	**33.76**	**50**	P	**P**	**13 46 33.4**	**-0.9**
	comp=Z,26nm,0.8s,mb5.2,baz=249,slow=1.3,SNR=4.6						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**13 47 42.1**	**+0.8**
	comp=Z,16nm,0.8s,mb4.7,baz=273,slow=7.1,SNR=5.9						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**13 47 42.1**	**+0.8**

INK				pmax	pmax				
	comp=Z,16nm,0.8s								
MKAR	**Makanchi Array**	**48.15**	**299**	P	**P**	**13**	**48**	**33.6**	**+1.0**
	comp=Z,6.9nm,0.7s,mb4.8,baz=67,slow=9.4,SNR=4.1								
MKAR	**Makanchi Array**	**48.15**	**299**	P	**P**	**13**	**48**	**33.6**	**+1.0**
MKAR				pmax	pmax				
	comp=Z,7.0nm,0.7s								
YKA	**Yellowknife Ar**	**50.87**	**37**	P	**P**	**13**	**48**	**53.2**	**-0.2**
	comp=Z,9.2nm,0.9s,mb4.7,baz=298,slow=7.6,SNR=3.2								
YKA	**Yellowknife Ar**	**50.87**	**37**	P	**P**	**13**	**48**	**53.2**	**-0.2**
YKA				pmax	pmax				
	comp=Z,9.0nm,0.9s								
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**13**	**49**	**02.6**	**+0.2**
	comp=Z,7.0nm,0.7s,mb4.7,baz=56,slow=6.9,SNR=3.6								
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**13**	**49**	**02.6**	**+0.3**
BVAR				pmax	pmax				
	comp=Z,7.0nm,0.7s								
ARCES	**ARCESS Array B**	**58.83**	**341**	P	**P**	**13**	**49**	**49.5**	**-1.4**
	comp=Z,4.0nm,0.8s,mb4.5,baz=28,slow=7.6,SNR=5.7								
ARCES	**ARCESS Array B**	**58.83**	**341**	P	**P**	**13**	**49**	**49.5**	**-1.4**
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**66.38**	**41**	P	**P**	**13**	**50**	**40.8**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.5,baz=319,slow=6.8,SNR=4.2								
WRA	**Warramunga Arr**	**68.21**	**201**	P	**P**	**13**	**50**	**53.7**	**+0.7**
	comp=Z,6.5nm,0.9s,mb4.7,baz=22,slow=6.4,SNR=3.2								
WRA	**Warramunga Arr**	**68.21**	**201**	P	**P**	**13**	**50**	**53.7**	**+0.8**
WRA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**13**	**51**	**45.3**	**+0.4**
	comp=Z,5.8nm,0.8s,mb4.6,baz=303,slow=4.9,SNR=4.4								
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**13**	**51**	**45.3**	**+0.4**
TXAR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CDF	**Champ du Feu**	**81.66**	**339**	*e*P	**P**	**13**	**52**	**10.2**	**-0.4**
	comp=Z,37nm,1.1s,mb4.9								
GRR	**Gorron**	**83.51**	**344**	*e*P	**P**	**13**	**52**	**19.6**	**-0.6**
	comp=Z,397nm,1.9s,mb5.9								
SMF	**Signal de Mont**	**84.15**	**340**	*e*P	**P**	**13**	**52**	**22.9**	**-0.6**
	comp=Z,50nm,1.2s,mb5.2								
LPG	**La Plagne**	**84.50**	**338**	*e*P	**P**	**13**	**52**	**25.8**	**+0.5**
	comp=Z,50nm,1.2s,mb5.2								
CAF	**Calviac**	**86.19**	**341**	*e*P	**P**	**13**	**52**	**33.7**	**0.0**
SNAA	**Sanae**	**152.17**	**195**	PKPbc	PKPbc	13	59	46.4	-1.3
	comp=Z,3.9nm,1.2s,baz=208,slow=3.6,SNR=2.3								
SNAA	**Sanae**	**152.17**	**195**	PKIKP	PKPbc	13	59	46.4	-1.4
SNAA				pmax	pmax				
	comp=Z,4.0nm,1.2s								

IDC ***15*** *13:40:33.2±0.9, 45.96N×155.01E, h0km, mb4.4/6, mb1 4.7/6, mb1mx4.3/22, mbtmp4.4/6, Error ellipse: s-maj=55.7km s-min=20.5km az=138.0*
ISCJB ***15*** *13:40:37.1±0.8, 45.9N±0.1× 155.1E±0.2, h35km, mb4.4/6, Error ellipse: s-maj=27.7km s-min=14.7km az=66.3*
MOS ***15*** *13:40:38.2±3.0, 45.84N×155.61E, h33km, mb4.7/4, Error ellipse: s-maj=99.9km s-min=26.9km az=79.4*

ISC 15 13:40:39.1±0.8, 45.9N±01×155.1E±02, h35km, n12, σ1.9°01/11, mb4.4/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.86**	**8**	*e*P	**Pn**	**13 41 50.4**	**+0.7**
KSRS	**Korea Array**	**21.88**	**257**	P	**P**	**13 45 28.6**	**-0.2**
	10nm,0.8s,mb4.3,baz=60,slow=9.4,SNR=3.5						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**13 49 33.6**	**-2.3**
	2.5nm,0.5s,mb4.4,baz=296,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**13 49 33.6**	**-2.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NVAR	**Mina Array Bea**	**61.63**	**63**	P	**P**	**13 50 54.1**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=314,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**68.16**	**201**	P	**P**	**13 51 35.1**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=22,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**68.16**	**201**	P	**P**	**13 51 35.1**	**-0.5**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**71.83**	**200**	P	**P**	**13 51 59.2**	**+1.0**
	comp=Z,4.2nm,1.0s,mb4.3,baz=17,slow=6.3,SNR=4.5						
ASAR	**Alice Springs**	**71.83**	**200**	P	**P**	**13 51 59.2**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	**76.73**	**62**	P	**P**	**13 52 26.5**	**-0.1**
	comp=Z,6.0nm,0.6s,mb4.7,baz=304,slow=4.8,SNR=8.5						
TXAR	**Lajitas Array**	**76.73**	**62**	P	**P**	**13 52 26.5**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SNAA	**Sanae**	**152.07**	**195**	PKPbc	PKPbc	14 00 27.1	-3.5
	comp=Z,0.4nm,0.6s,baz=180,slow=10,SNR=2.7						

ISCJB ***15*** *13:40:49.6±0.8, 1101N±004×62.48W±004, h105km±8km, Error ellipse: s-maj=6.9km s-min=5.7km az=46.2*
NEIC ***15*** *13:40:51.7, 1108N×62.42W, h95km, MD3.3(TRN), After TRN.*
FUNV ***15*** *13:40:51.2, 1107N×62.49W, h101km, MW3.4*
TRN ***15*** *13:40:51.5, 1104N×62.42W, h100km, MD3.3*

ISC 15 13:40:50.4±0.8, 1102N±003×6248W±004, h102km±8km, n18, σ0.8°80/33, 3C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.45**	**146**	*e*P	**Pn**	**13 41 06.8**	**+0.7**
GUIV				*e*S	**Sn**	**13 41 18.5**	**+0.7**
ITEV	**Isla Los Testi**	**0.72**	**298**	⇓*i*P	**Pn**	**13 41 07.7**	**-0.5**
ITEV				*e*S	**Sn**	**13 41 21.0**	**-0.6**
TCE	**Chacachacare**	**0.78**	**114**	⇑*i*P	**Pn**	**13 41 09.1**	**+0.3**
TCE				*e*S	**Sn**	**13 41 22.4**	**-0.2**
CRUV	**Carupano**	**0.82**	**245**	*e*P	**Pn**	**13 41 10.3**	**+1.2**
GUNV	**Guanoco**	**0.97**	**208**	*e*P	**Pn**	**13 41 10.9**	**+0.2**
TRN	**Trinidad (W)**	**1.12**	**109**	⇑*i*P	**Pn**	**13 41 12.7**	**+0.4**
TRN				*e*S	**Sn**	**13 41 28.1**	**-0.7**
TRN	**Trinidad (W)**	**1.12**	**109**	⇑*i*P	**Pn**	**13 41 12.7**	**+0.4**
TRN				*e*S	**Sn**	**13 41 28.1**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.23**	**125**	*e*P	**Pn**	**13 41 15.2**	**+1.6**
TPP				*e*S	**Sn**	**13 41 30.7**	**-0.3**
GRW	**Mount Saint Ca**	**1.39**	**35**	*e*P	**Pn**	**13 41 15.8**	**+0.4**
GRW				*e*S	**Sn**	**13 41 33.0**	**-1.4**
GRHS	**Sauteurs**	**1.45**	**34**	*e*S	**Sn**	**13 41 35.9**	**+0.2**
TBH	**Brigand Hill**	**1.48**	**111**	*e*P	**Pn**	**13 41 17.0**	**+0.4**
TBH				*e*S	**Sn**	**13 41 36.4**	**-0.1**
GRSS	**Sisters**	**1.53**	**34**	*e*P	**Pn**	**13 41 17.5**	**+0.4**
GRSS				*e*S	**Sn**	**13 41 38.3**	**+0.9**
GRIC	**Isle de Caille**	**1.53**	**35**	*e*P	**Pn**	**13 41 18.0**	**+0.9**
GRIC				*e*S	**Sn**	**13 41 37.8**	**+0.3**
TPR	**Prospect**	**1.68**	**84**	*e*P	**Pn**	**13 41 18.7**	**-0.3**
TPR				*e*S	**Sn**	**13 41 39.8**	**-0.9**
GRCU	**Cariacou**	**1.76**	**35**	*e*P	**Pn**	**13 41 20.4**	**+0.4**
GRCU				*e*S	**Sn**	**13 41 40.3**	**-2.2**
GURV	**El Guri**	**3.29**	**191**	*e*P	**Pn**	**13 41 40.5**	**+0.4**
GURV				*e*S	**Sn**	**13 42 17.1**	**-1.5**
CAOV	**Caicara del Or**	**5.28**	**226**	*e*P	**Pn**	**13 42 05.9**	**-1.0**
CAOV				*e*S	**Sn**	**13 43 02.0**	**-4.5**
BAUV	**El Baul**	**5.86**	**250**	*e*P	**Pn**	**13 42 14.6**	**-0.1**
BAUV				*e*S	**Sn**	**13 43 14.3**	**-6.2**

IDC ***15*** *13:45:01.0±0.8, 46.84N×153.16E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/26, mbtmp4.3/14, ML4.4/1, Error ellipse: s-maj=25.8km s-min=16.6km az=154.0*
ISCJB ***15*** *13:45:04.4±1.8, 46.7N±0.1×153.3E±0.1, h37km±17km, mb4.4/14, Error ellipse: s-maj=22.3km s-min=13.2km az=133.7*
MOS ***15*** *13:45:07.0±1.7, 46.75N×153.14E, h62km, mb4.6/8, Error ellipse: s-maj=20.6km s-min=14.1km az=139.2*

ISC 15 13:45:06.4±1.5, 46.8N±01×153.3E±01, h37km±14km, n47, σ1.9°17/50, mb4.4/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.07**	**250**	*e*PN	**Pn**	**13 46 04.5**	**-1.6**
KUR				*i* S	**Sn**	**13 46 53.0**	**+0.5**
KUR				pmax	pmax		
	comp=N,190nm,0.7s						
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=N,2μm,0.8s						
KUR				smax			
	comp=E,970nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.89**	**245**	*e*PN	**Pn**	**13 46 32.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.22**	**275**	*e*PN	**Pn**	**13 46 55.0**	**+5.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
JMP	**Maruseppu**	**7.51**	**252**	P	**Pn**	**13 46 55.7**	**+2.4**
ASAJ	**Asahikawa**	**7.97**	**254**	Pn	**Pn**	**13 47 00.6**	**+0.9**
	comp=Z,4.6nm,0.3s,baz=95,slow=17,SNR=12						
ASAJ	**Asahikawa**	**7.97**	**254**	P	**Pn**	**13 47 02.8**	**+3.2**
ASAJ	**Asahikawa**	**7.97**	**254**	PN	**Pn**	**13 47 00.6**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JWK2	**Keihoku**	**8.05**	**264**	P	**Pn**	**13 47 07.2**	**+6.4**
JEM	**Erimo**	**8.66**	**240**	P	**Pn**	**13 47 09.6**	**+0.5**
JEW	**Eniwo**	**9.28**	**249**	P	**Pn**	**13 47 19.4**	**+1.8**
JEW				S	**Sn**	**13 49 09.0**	**+8.3**
JSH	**Shimam**	**10.28**	**251**	P	**Pn**	**13 47 32.5**	**+1.2**
JOT	**Ohata**	**10.31**	**243**	P	**Pn**	**13 47 29.6**	**-2.1**
JTM	**Tenmabayashi**	**10.66**	**240**	P	**Pn**	**13 47 34.0**	**-2.4**
JTM				S	**Sn**	**13 49 26.5**	**-8.0**
JOM	**Ohasama**	**11.39**	**235**	P	**Pn**	**13 47 44.5**	**-1.9**
MAT	**Matsushiro**	**15.18**	**233**	P	**Pn**	**13 48 36.0**	**-2.0**
MAT	**Matsushiro**	**15.18**	**233**	P	**Pn**	**13 48 36.2**	**-1.8**
MJAR	**Matsushiro Arr**	**15.18**	**233**	Pn	**Pn**	**13 48 38.3**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=41,slow=7.1,SNR=5.3						
MJAR	**Matsushiro Arr**	**15.18**	**233**	P	**Pn**	**13 48 38.3**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**20.91**	**253**	P	**P**	**13 49 44.5**	**-1.1**
	comp=Z,12nm,1.0s,baz=56,slow=11,SNR=8.2						
JNU	**Nakatsue**	**21.83**	**239**	P	**P**	**13 49 54.6**	**-0.8**
	comp=Z,33nm,1.0s,mb4.7,baz=223,slow=19,SNR=4.9						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**13 52 50.6**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.2,baz=301,slow=7.5,SNR=11						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**13 52 50.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**13 53 32.5**	**-1.7**
	comp=Z,3.5nm,0.9s,mb4.3,baz=63,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**13 53 32.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JIRN	**Jiri**	**55.06**	**275**	*e*P	**P**	**13 54 35.2**	**+0.8**
	comp=Z,20nm,0.8s,mb5.2						
GUN	**Gumba**	**55.12**	**275**	*e*P	**P**	**13 54 35.6**	**+0.8**
DMN	**Daman**	**55.84**	**275**	*e*P	**P**	**13 54 41.0**	**+1.0**
GKN	**Gorkha**	**55.91**	**276**	*e*P	**P**	**13 54 41.3**	**+0.8**
KOLN	**Koldanda**	**56.77**	**277**	*e*P	**P**	**13 54 47.5**	**+0.9**
	comp=Z,23nm,1.0s,mb5.2						
YBH	**Yreka Blue Hor**	**57.63**	**62**	P	**P**	**13 54 52.7**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.2,baz=353,slow=19,SNR=4.1						
YBH	**Yreka Blue Hor**	**57.63**	**62**	P	**P**	**13 54 52.7**	**0.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**	**13 54 53.6**	**-0.9**
	comp=Z,3.2nm,0.9s,mb4.4,baz=13,slow=7.2,SNR=5.5						
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**	**13 54 53.6**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**62.33**	**62**	P	**P**	**13 55 24.9**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.3,baz=286,slow=8.6,SNR=8.1						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**13 55 35.5**	**-1.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=27,slow=8.8,SNR=5.6						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**13 55 35.5**	**-1.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PDAR	**Pinedale Array**	**64.65**	**54**	P	**P**	**13 55 40.9**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.1,baz=270,slow=1.5,SNR=5.4						
NB2	**NORSAR Subarra**	**68.26**	**341**	P	**P**	**13 56 02.6**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.4,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**13 56 02.7**	**-0.6**
	comp=Z,5.4nm,0.7s,mb4.7,baz=28,slow=6.4,SNR=9.7						
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**13 56 02.7**	**-0.6**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	**Malin Array Be**	**71.61**	**326**	P	**P**	**13 56 22.8**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=34,slow=6.3,SNR=8.6						
AKASG	**Malin Array Be**	**71.61**	**326**	P	**P**	**13 56 22.8**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**13 56 28.4**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=9.1,slow=5.5,SNR=5.1						
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**13 56 28.4**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**76.51**	**336**	*i* P	**P**	**13 56 52.4**	**-0.1**
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**13 56 58.4**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.3,baz=302,slow=4.4,SNR=8.2						
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**13 56 58.4**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						

IDC ***15*** *13:46:41.4±0.5, 46.61N×154.99E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.7/28, mbtmp4.6/24, ML4.0/2, Error ellipse: s-maj=15.4km s-min=12.4km az=156.0*
BJI ***15*** *13:46:41.7, 46.76N×154.91E, h5km, mB5.6, mb4.7, Ms5.6, Msz5.4*
ISCJB ***15*** *13:46:41.7±1.5, 46.71N±0.05×155.03E±0.03, h9km±9km, mb4.8/84, MS5.1/3, Error ellipse: s-maj=8.6km s-min=3.3km az=172.5*
NEIC ***15*** *13:46:43.2±0.2, 46.62N×155.00E, h10km, mb5.0/45, Error ellipse: s-maj=6.6km s-min=4.0km az=168.0*
MOS ***15*** *13:46:43.2±1.0, 46.61N×154.95E, h22km, mb5.1/37, Error ellipse: s-maj=9.4km s-min=6.5km az=98.4*
SKHL ***15*** *13:46:50.3±3.3, 46.46N×154.26E, h50km±19km*
SZGRF ***15*** *13:46:58.4, 48.33N×154.15E, h33km, mb5.0, Kuril Islands, Russia*

ISC 15 13:46:46.5±1.5, 4682N±005×15497E±003, h25km±10km, h19km±4.0km:pP-P, n394, σ0.9°78/390, mb4.8/83, MS5.1/3, 64C-76D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.20**	**255**	⇓*i*P	**Pn**	**13 47 59.0**	**-3.6**
KUR				AMB	AMB	13 48 03.0	
	258nm,0.7s						
KUR				AMB	AMB	13 48 03.0	
	129nm,0.7s						
KUR				AMB	AMB	13 48 03.0	
	447nm,0.7s						
KUR				*e*S	**Sn**	**13 48 53.0**	**-8.7**
KUR				A		13 48 59.0	
	516nm,0.7s						
KUR				A		13 48 59.0	
	430nm,0.7s						
KUR	**Kuril'sk**	**5.20**	**255**	⇓*i*PN	**Pn**	**13 47 59.0**	**-3.6**
KUR				pmax	pmax		
	comp=N,260nm,0.7s						
KUR				pmax	pmax		
	comp=E,130nm,0.7s						
KUR				pmax	pmax		
	comp=Z,450nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.37**	**275**	*e*P	**Pn**	**13 48 50.0**	**+3.8**
YSS				AMB	AMB	13 48 53.0	
	comp=Z,50nm,0.8s						
YSS				*e*S	**Sn**	**13 50 17.3**	**-2.6**
YSS				A		13 50 21.5	
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.37**	**275**	*e*Pn	**Pn**	**13 48 50.2**	**+4.0**
UGL	**Uglegorsk**	**8.96**	**289**	*e*P	**Pn**	**13 48 59.5**	**+5.3**
TYV	**Tymovskoe**	**9.07**	**301**	*e*P	**Pn**	**13 48 57.5**	**+1.7**
TYV				AMB	AMB	13 48 59.0	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	13 48 59.0	
	comp=Z,26nm,0.8s						
ASAJ	**Asahikawa**	**9.11**	**257**	Pn	**Pn**	**13 48 55.5**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=253,slow=23,SNR=2.9						
ASAJ	**Asahikawa**	**9.11**	**257**	PN	**Pn**	**13 48 55.5**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**9.72**	**245**	*e*PN	**Pn**	**13 48 58.4**	**-6.3**
ERM				pmax	pmax		
	comp=Z,350nm,0.9s						
ERM	**Erimo**	**9.72**	**245**	*e*Pn	**Pn**	**13 48 58.4**	**-6.3**
	comp=Z,350nm,0.9s						
NKL	**Nikolayevsk**	**11.16**	**310**	*e*P	**Pn**	**13 49 25.0**	**+0.6**
TEY	**Ternei**	**12.92**	**269**	*e*P	**Pn**	**13 49 48.0**	**-0.4**
MA2	**Magadan**	**13.02**	**350**	*e*PN	**Pn**	**13 49 53.6**	**+3.8**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**13.02**	**350**	*e*Pn	**Pn**	**13 49 55.0**	**+5.2**
KLR	**Kul'dur**	**15.71**	**287**	*e*P	**Pn**	**13 50 31.0**	**+5.0**
KLR				pmax	pmax		
	comp=Z,70nm,1.8s						
MAJO	**Matsushiro**	**16.16**	**237**	*e*P	**Pn**	**13 50 27.0**	**-4.9**
MAJO				pmax	pmax		
	comp=Z,63nm,1.1s						
MAJO	**Matsushiro**	**16.16**	**237**	*e*P	**Pn**	**13 50 27.0**	**-4.9**
	comp=Z,63nm,1.1s						
MAT	**Matsushiro**	**16.16**	**237**	P	**Pn**	**13 50 27.0**	**-4.9**
MJAR	**Matsushiro Arr**	**16.16**	**237**	Pn	**Pn**	**13 50 29.6**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=41,slow=12,SNR=7.7						
SEY	**Seymchan**	**16.21**	**356**	*e*P	**Pn**	**13 50 33.1**	**+0.6**
MDJ	**Mudanjiang**	**17.84**	**272**	*e*P	**Pn**	**13 50 51.7**	**-1.2**
	comp=Z,34nm,1.1s						
ZEA	**Zeya**	**18.94**	**302**	*e*P	**Pn**	**13 51 04.1**	**-2.2**
ZEA				AMB	AMB	13 51 07.4	
	comp=Z,19nm,0.6s						
CN2	**Changchun**	**20.93**	**273**	*e*P	**P**	**13 51 25.8**	**-1.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
YAK	**Yakutsk**	**20.97**	**326**	*e*P	**P**	**13 51 26.2**	**-1.4**
YAK				*e**PP		13 51 33.3	
YAK				*e*S	**S**	**13 55 17.1**	**-2.8**
YAK				*e*		13 55 33.3	
YAK				*e*SSS		13 55 51.5	
YAK				*e*		14 02 49.4	
YAK				pmax	pmax		
	comp=E,24nm,1.3s						
YAK				pmax	pmax		
	comp=Z,52nm,1.3s						
YAK				pmax	pmax		
	comp=N,24nm,1.2s						
YAK				smax			
	comp=N,54nm,1.0s						
YAK				smax			
	comp=E,40nm,1.0s						
YAK				smax			
	comp=Z,18nm,0.8s						
YAK				MLR	MLR		
	comp=Z,10μm,13.0s,MS5.4						
YAK	**Yakutsk**	**20.97**	**326**	*e*P	**P**	**13 51 26.6**	**-1.0**
	comp=Z,53nm,0.9s						
KSRS	**Korea Array**	**22.04**	**255**	P	**P**	**13 51 38.7**	**-0.5**
	comp=Z,9.4nm,0.7s,mb4.3,baz=55,slow=11,SNR=11						
BILL	**Bilibino**	**22.05**	**11**	*e*P	**P**	**13 51 39.7**	**+0.4**
BILL	**Bilibino**	**22.05**	**11**	*e*P	**P**	**13 51 39.0**	**-0.2**
	comp=Z,54nm,1.0s,mb4.9						
JNU	**Nakatsue**	**22.87**	**242**	P	**P**	**13 51 49.2**	**+1.3**
	comp=Z,30nm,0.9s,mb4.7,baz=240,slow=19,SNR=3.6						
SNY	**Shenyang**	**22.92**	**269**	⇑P	**P**	**13 51 49.9**	**+1.5**
SNY				AMB	AMB		
	comp=Z,47nm,0.8s,mb5.0						
BOD	**Bodaibo**	**26.93**	**309**	*e*P	**P**	**13 52 24.2**	**-1.5**
BOD				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
NJ2	**Nanjing**	**31.25**	**255**	*e*P	**P**	**13 53 03.8**	**-0.2**
NJ2				AP	pP	13 53 07.3	-4.2
NJ2				XP	sP	13 53 10.8	-3.9
NJ2				PP	PP	13 54 06.8	-7.9
NJ2				S	**S**	**13 58 07.0**	**-1.9**
NJ2				XS	sS	13 58 15.0	-6.4
NJ2				AMB	AMB		
	comp=Z,640nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,13.4s,MS5.4						
NJ2				LR	LR		
	comp=E,5μm,13.8s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,14.3s,MS5.2						
ULN	**Ulaanbaatar**	**32.08**	**290**	*e*P	**P**	**13 53 10.1**	**-1.2**
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**13 53 15.3**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=72,slow=8.0,SNR=5.0						
ZAK	**Zakamensk**	**33.80**	**295**	*e*P	**P**	**13 53 26.0**	**-0.4**
ZAK				*e*		13 56 01.0	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
COLA	**College**	**35.29**	**38**	*e*P	**P**	**13 53 38.6**	**-0.6**
COLA				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
COLA	**College**	**35.29**	**38**	*e*P	**P**	**13 53 38.6**	**-0.6**
	comp=Z,21nm,1.5s,mb4.8						
EGAK	**Eagle**	**38.15**	**39**	*e*P	**P**	**13 54 02.5**	**-1.1**
	comp=Z,7.7nm,0.9s,mb4.4						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**13 54 14.0**	**+1.9**
LZH				AP	pP	13 54 17.3	-2.5
LZH				XP	sP	13 54 18.5	-4.4
LZH				PP	PP	13 55 44.4	+2.3
LZH				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
LZH				AMB	AMB		
	comp=Z,150nm,5.0s						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**13 54 14.0**	**+1.9**
LZH				*SP	sP	13 54 18.5	-4.4
LZH						13 55 44.4	
LZH				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**13 54 14.0**	**+1.9**
	comp=Z,30nm,1.1s,mb4.9						
LZH				pP	pP	13 54 17.2	-2.6
LZH				sP	sP	13 54 18.5	-4.4
LZH				PP	PP	13 55 44.4	+2.3
GTA	**Gaotai**	**40.22**	**280**	*e*P	**P**	**13

comp=Z,40nm,0.8s,mb5.4
LSA Lhasa 51.55 274 eP P 13 55 52.7 +2.5
BVAR Borovoye Array 51.80 310 P P 13 55 52.6 +0.5
comp=Z,11nm,0.7s,mb4.9,baz=55,slow=7.2,SNR=15
BVAR PcP PcP 13 57 04.2 -0.7
comp=Z,4.1nm,0.7s,baz=70,slow=1.7,SNR=4.3
BRVK Borovoye 51.84 310 P P 13 55 52.2 -0.2
comp=Z,143nm,0.6s,SNR=6.2
BRVK Borovoye 51.84 310 eP P 13 55 52.7 +0.3
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.0
BRVK Borovoye 51.84 310 eP P 13 55 52.7 +0.3
comp=Z,17nm,0.8s,mb5.0
ZRNK Zerenda 52.56 311 eP P 13 55 57.6 -0.2
ZRNK pmax pmax
comp=Z,18nm,0.9s,mb5.0
ZRNK Zerenda 52.56 311 eP P 13 55 57.6 -0.1
comp=Z,18nm,0.9s,mb5.0
ULHL Ulahol 54.09 296 P P 13 56 10.3 +1.3
SNR=11
TKM2 Tokmak 2 54.11 297 P P 13 56 10.2 +1.0
SNR=5.6
B07A Winthrop 54.33 55 ⇑P P 13 56 10.1 -0.7
baz=54
E05A Randle 54.43 57 ⇑P P 13 56 10.0 -1.4
baz=54
A08A Turner Farm, O 54.54 54 ⇑P P 13 56 11.4 -0.9
baz=54
USP Ospenovka 54.59 298 P P 13 56 13.6 +0.9
SNR=18
D06A Cle Elum 54.61 56 ⇓P P 13 56 11.6 -1.3
baz=55
FRU Bishkek 54.76 297 eP P 13 56 15.0 +1.1
FRU pmax pmax
comp=Z,55nm,2.1s,mb5.2
C07A Waterville 54.79 55 ⇑P P 13 56 13.4 -0.7
baz=55
KZA Kyzart 54.79 296 P P 13 56 15.8 +1.7
SNR=9.6
B08A Colville Reser 54.83 54 ⇓P P 13 56 13.9 -0.5
baz=55
A09A Danville 54.91 53 ⇓P P 13 56 14.6 -0.3
baz=55
AAK Ala-Archa 54.95 297 P P 13 56 15.6 +0.4
comp=Z,108nm,0.7s,mb6.0,SNR=11
AAK Ala-Archa 54.95 297 eP P 13 56 16.1 +0.9
SNR=14
AAK Ala-Archa 54.95 297⇑eP P 13 56 15.0 -0.2
AAK pmax pmax
comp=Z,13nm,1.1s,mb4.9
AAK Ala-Archa 54.95 297 eP P 13 56 14.9 -0.4
J02A Umpqua 55.12 62 ⇑P P 13 56 16.9 +0.4
baz=55
H04A Detroit Lake 55.22 60 ⇓P P 13 56 16.7 -0.5
baz=55
EDM Edmonton 55.34 47 eP P 13 56 16.9 -1.2
EKS2 Erkin-Say 55.37 298 P P 13 56 19.5 +1.2
SNR=12
B09A Rice 55.45 54 ⇓P P 13 56 18.2 -0.7
baz=55
A10A Northport 55.47 53 ⇓P P 13 56 18.6 -0.4
baz=55
J03A Ideyld Park 55.49 61 ⇓P P 13 56 19.7 +0.5
baz=55
K02A Glendale 55.51 62 ⇓P P 13 56 18.6 -0.7
baz=55
E07A Sunnyside 55.53 57 ⇑P P 13 56 18.6 -0.8
baz=56
I04A Tendick Farm, 55.58 61 ⇓P P 13 56 19.3 -0.5
baz=56
AML Almayashu 55.72 297 P P 13 56 22.8 +2.0
SNR=6.5
C09A Chrisman Ranch 55.73 55 ⇓P P 13 56 19.7 -1.1
baz=56
L02A Cave Junction 55.79 63 ⇑P P 13 56 21.4 0.0
baz=56
H05A Madras 55.80 59 ⇑P P 13 56 20.8 -0.7
baz=56
ARU Arti 55.82 318 P P 13 56 21.5 0.0
comp=Z,283nm,0.5s,SNR=12
ARU Arti 55.82 318⇑iP P 13 56 19.4 -2.1
ARU eS S 14 04 06.0 -1.1
ARU pmax pmax
comp=Z,22nm,0.7s,mb5.3
ARU Arti 55.82 318 eP P 13 56 21.4 -0.1
comp=Z,20nm,0.6s,mb5.3
F07A Phinny Hill Vi 55.86 57 ⇓P P 13 56 21.4 -0.4
baz=56
HUMO Hull Mountain 55.93 62 ⇓P P 13 56 22.1 -0.2
baz=56
I05A Bend 56.05 60 ⇑P P 13 56 22.9 -0.3
baz=56
J04A Umpqua Nationa 56.08 61 ⇓P P 13 56 23.7 +0.3
baz=56
NEW Newport 56.11 54 P P 13 56 23.1 -0.6
comp=Z,3.4nm,0.8s,mb4.4,baz=316,slow=6.4,SNR=4.1
A11A Hall Mountain, 56.14 53 ⇓P P 13 56 23.8 0.0
baz=56
JIRN Jiri 56.21 276 eP P 13 56 25.7 +1.4
GUN Gumba 56.27 276 eP P 13 56 27.2 +2.5
comp=Z,21nm,0.5s,mb5.4
H06A Lindquist Farm 56.28 59 ⇓P P 13 56 24.3 -0.5
baz=56
G07A Ruggs Ranch, H 56.36 58 ⇓P P 13 56 24.3 -1.1
baz=56
B11A Sandpoint 56.43 53 ⇑P P 13 56 25.1 -0.8
baz=56
E09A Wood Farm, Sta 56.53 56 ⇓P P 13 56 25.4 -1.2
baz=56
A12A Yaak River Ran 56.54 52 ⇑P P 13 56 27.3 +0.7
baz=56
J05A Fort Rock 56.58 60 P P 13 56 27.6 +0.7
baz=56,SNR=8.2
YBH Yreka Blue Hor 56.58 63 P P 13 56 27.2 +0.2
comp=Z,7.0nm,0.9s,mb4.7,baz=280,slow=2.2,SNR=11
YBH Yreka Blue Hor 56.58 63 ⇓P P 13 56 27.6 +0.7
baz=56,SNR=5.2
DAG Danmarks Havn 56.62 358⇑iP P 13 56 26.6 -0.6
comp=Z,10.0nm,1.0s,mb4.8
DAG Danmarks Havn 56.62 358⇑eP P 13 56 26.6 -0.6
DAG pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
DAG Danmarks Havn 56.62 358⇑eP P 13 56 26.6 -0.6
comp=Z,10.0nm,1.0s,mb4.8
M02C Callahan 56.69 63 ⇓P P 13 56 28.3 +0.6
baz=57
KKN Kakani 56.75 277 eP P 13 56 29.9 +1.7
G08A Pilot Rock 56.76 57 ⇑P P 13 56 27.9 -0.3
baz=57
I06A Prineville 56.80 59 ⇓P P 13 56 28.8 +0.3
baz=57
L04A Klamath Falls 56.82 62 ⇓P P 13 56 28.2 -0.4
baz=57
DMN Daman 56.99 276 eP P 13 56 31.1 +1.3
GKN Gorkha 57.05 277 eP P 13 56 31.3 +1.0
comp=Z,31nm,0.6s,mb5.5
M04C Macdoel 57.08 62 ⇓P P 13 56 30.5 0.0
baz=57
K05A Summer Lake 57.10 61 ⇓P P 13 56 30.8 +0.1
baz=57,SNR=5.4
F09A S2 Ranch, Elgi 57.12 56 ⇑P P 13 56 31.6 +0.7
baz=57
E10A Myers Farm, Un 57.13 55 ⇓P P 13 56 30.5 -0.3
baz=57
I07A Izee 57.14 59 ⇑P P 13 56 31.3 +0.4
baz=57
M03C McCloud 57.20 63 ⇓P P 13 56 30.9 -0.5
baz=57
D11A Klaveano Farm, 57.24 54 ⇑P P 13 56 30.8 -0.8
baz=57
WDC Whiskeytown Da 57.35 64 ⇓P P 13 56 32.3 -0.1
baz=57
F10A Beach Ranch, E 57.36 56 ⇓P P 13 56 33.0 +0.5
baz=57
H08A Prairie City 57.38 58 ⇑P P 13 56 31.6 -1.0
baz=57
WALA Waterton Lakes 57.40 51 eP P 13 56 32.3 -0.5
comp=Z,21nm,1.3s,mb5.0
O02C Red Bluff 57.44 64 ⇓P P 13 56 33.3 +0.2
baz=57
K06A Valley Falls 57.45 60 ⇑P P 13 56 33.0 -0.1
baz=57,SNR=7.2
B13A Whitefish 57.50 52 P P 13 56 33.6 +0.1
baz=57,SNR=9.7
P01C Double 8 Ranch 57.52 65 ⇑P P 13 56 32.6 -1.0
baz=57
L05A Lakeview 57.53 61 ⇓P P 13 56 34.2 +0.5
baz=58
J07A Hines 57.67 59 ⇑P P 13 56 35.1 +0.4
baz=58
KEV Kevo 57.70 341 eP P 13 56 33.9 -1.0
comp=Z,7.0nm,0.6s,mb4.9
KEV Kevo 57.70 341 eP P 13 56 33.9 -1.0
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
M05C Lookout 57.75 62 ⇑P P 13 56 34.2 -1.0
baz=58
APA Apatity 57.77 337⇑iP P 13 56 39.0 +3.6
APA pmax pmax
comp=Z,27nm,1.1s,mb5.2
I08A Drewsey 57.79 58 P P 13 56 36.2 +0.7
baz=58,SNR=5.5
GASB Alder Springs 57.79 65 ⇓P P 13 56 35.8 +0.2
baz=58
C13A Hot Springs 57.85 53 ⇑P P 13 56 35.8 -0.1
baz=58
HATC Hat Creek Radi 57.88 63 ⇓P P 13 56 35.8 -0.3
baz=58
KOLN Koldanda 57.91 278 eP P 13 56 36.7 +0.4
MOD Modoc 57.94 61 ⇑P P 13 56 36.8 +0.3
baz=58,SNR=8.6
F11A Grangeville 58.02 55 ⇓P P 13 56 36.6 -0.5
baz=58
K07A Rock Creek Ran 58.11 60 ⇑P P 13 56 38.2 +0.4
baz=58
J08A Circle Bar Ran 58.17 59 ⇑P P 13 56 38.4 +0.2
baz=58
ARCES ARCESS Array B 58.20 341 P P 13 56 38.5 +0.1
comp=Z,12nm,0.7s,mb5.1,baz=32,slow=7.6,SNR=18
I09A Lost Marbles R 58.24 58 ⇑P P 13 56 38.2 -0.4
baz=58
G11A Walters Elk Ra 58.24 56 ⇑P P 13 56 38.6 -0.1
baz=58
C14A Swan Lake 58.25 52 ⇓P P 13 56 37.9 -0.8
baz=58
M06C Likely Place G 58.25 62 ⇓P P 13 56 38.2 -0.5
baz=58
D13A Huson 58.26 53 ⇓P P 13 56 38.7 -0.1
baz=58
O04C Chester 58.40 63 P P 13 56 40.4 +0.5
baz=58,SNR=7.0
MNRC McLaughlin Nat 58.43 65 ⇓P P 13 56 39.5 -0.4
baz=58
ELFS Eagle Lake Fie 58.44 63 P P 13 56 41.1 +1.0
baz=58,SNR=5.2
L07A Adell 58.45 61 ⇑P P 13 56 40.2 +0.1
baz=58
K08A Mann Creek Ran 58.53 60 P P 13 56 41.2 +0.5
baz=58,SNR=6.2
J09A Fry Pan Ranch, 58.60 59 ⇓P P 13 56 41.5 +0.3
baz=58
WVOR Wild Horse Val 58.62 60 eP P 13 56 41.3 0.0
WVOR pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
WVOR Wild Horse Val 58.62 60 eP P 13 56 41.2 -0.1
comp=Z,8.5nm,1.1s,mb4.7
O05C Quincy 58.72 63 ⇓P P 13 56 41.1 -1.0
baz=59
OHCM Honcut 58.75 64 eP P 13 56 41.7 -0.5
D14A Greenough 58.79 53 P P 13 56 42.3 -0.2
baz=59,SNR=8.7
E13A Victor 58.79 54 ⇓P P 13 56 42.5 0.0
baz=59
H11A Donnelly 58.80 56 P P 13 56 42.5 -0.1
baz=59,SNR=8.3
TMCR Tamitsa 58.86 333 eP P 13 56 46.6 +3.6
N06A Buffalo Meadow 58.91 62 P P 13 56 43.6 +0.3
baz=59,SNR=8.0
M07A Soldier Meadow 58.93 61 P P 13 56 44.2 +0.7
baz=59,SNR=9.4
L08A Fields 58.94 60 ⇓P P 13 56 43.8 +0.2
baz=59,SNR=6.0
K09A Rome 59.00 59 ⇓P P 13 56 44.2 +0.2
baz=59
CHMT Chamberlain Mo 59.03 53 eP P 13 56 43.8 -0.3
F13A Darby 59.10 55 P P 13 56 44.7 0.0
baz=59,SNR=5.3
BEKR Beckwourth 59.12 63 ⇓P P 13 56 44.3 -0.5
baz=59
E14A Clinton 59.19 54 ⇑P P 13 56 45.3 0.0
baz=59,SNR=7.3
O06A Flanigan 59.27 63 ⇑P P 13 56 45.4 -0.4
baz=59
P05C Yuba Gap, Truc 59.31 64 ⇑P P 13 56 45.9 -0.2
baz=59
D15A Lincoln 59.35 53 ⇑P P 13 56 46.7 +0.3
baz=59
L09A Wilkinson Ranc 59.45 60 ⇑P P 13 56 47.5 +0.5
baz=59
P06A Stead Airport, 59.52 63 ⇓P P 13 56 47.5 0.0
baz=59
AKTK Aktyubinsk 59.63 313 P P 13 56 48.5 +0.2
AKTO Aktyubinsk 59.63 313 P P 13 56 48.5 +0.2
comp=Z,4.7nm,0.5s,mb4.8,baz=65,slow=9.0,SNR=12
AKTO Aktyubinsk 59.63 313 P P 13 56 48.5 +0.2
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
BNLO Ben Lomond (Sa 59.66 67 ⇓P P 13 56 48.6 +0.1
baz=60
E15A Deer Lodge 59.66 53 P P 13 56 48.7 +0.2
baz=60,SNR=8.1
WCN Washoe City 59.83 63 P P 13 56 50.0 +0.3
baz=60,SNR=7.9
O07A Toulon 59.85 62 P P 13 56 50.2 +0.4
baz=60,SNR=8.7
N08A GE Springer Mi 59.92 61 ⇓P P 13 56 50.6 +0.3
baz=60
M09A Marrel Ranch, 59.94 60 ⇑P P 13 56 50.6 +0.2
baz=60
S04C Ingram Canyon, 59.96 66 ⇓P P 13 56 50.0 -0.5
baz=60
R05C Kirkwood Meado 60.00 64 ⇓P P 13 56 50.9 0.0
baz=60
F15A Butte 60.09 54 P P 13 56 51.8 +0.3
baz=60,SNR=14
O08A Rochester Mine 60.21 62 ⇓P P 13 56 52.6 +0.3
baz=60
CMB Columbia Colle 60.22 65 eP P 13 56 52.4 0.0
CMB pmax pmax
comp=Z,16nm,1.3s,mb4.9
CMB Columbia Colle 60.22 65 eP P 13 56 52.4 0.0
comp=Z,16nm,1.3s,mb4.9
CMB Columbia Colle 60.22 65 P P 13 56 52.5 +0.1
baz=60,SNR=6.4
EGMT Eagleton 60.24 50 eP P 13 56 52.1 -0.3
comp=Z,12nm,0.9s,mb4.9
N09A Rock Creek Ran 60.24 61 P P 13 56 53.0 +0.5
baz=60,SNR=7.3
PACP Pacheco Peak 60.29 66 ⇑P P 13 56 52.7 -0.1
baz=60
HLID Hailey 60.41 57 eP P 13 56 53.4 -0.2
comp=Z,8.1nm,1.3s,mb4.6
M10A I.L. Ranch, Tu 60.42 60 ⇑P P 13 56 54.4 +0.7
baz=60,SNR=7.6
R06C Coleville 60.50 64 P P 13 56 54.8 +0.6
baz=60,SNR=9.3
HAST UC Hastings Re 60.51 67 ⇑P P 13 56 53.8 -0.5
baz=60
G15A Dillon 60.51 54 ⇓P P 13 56 54.5 +0.1
baz=60
SUMG Summit 60.53 5 eP P 13 56 55.2 +0.7
comp=Z,16nm,0.9s,mb5.1
S06C San Francisco 60.65 65 P P 13 56 55.2 0.0
baz=61,SNR=8.6
S05C Merced 60.68 66 ⇓P P 13 56 54.9 -0.6
baz=61
O09A Fish Creek Ran 60.86 61 P P 13 56 57.4 +0.7
baz=61,SNR=7.3
M11A Holland Ranch, 60.92 59 P P 13 56 57.9 +0.8
baz=61,SNR=5.7
N10A Dunphy 60.93 60 ⇑P P 13 56 57.6 +0.4
baz=61
R07C Lee Vining 61.02 64 ⇓P P 13 56 58.3 +0.5
baz=61,SNR=8.9
O10A Cortez Mining, 61.20 61 ⇑P P 13 56 59.5 +0.5
baz=61
Q08A Gabbs 61.22 63 P P 13 56 59.5 +0.3
baz=61,SNR=10
NVAR Mina Array Bea 61.26 63 P P 13 56 59.7 +0.3
comp=Z,5.6nm,0.7s,mb4.8,baz=297,slow=7.4,SNR=22
NVAR Mina Array Bea 61.26 63 P P 13 56 59.7 +0.3
P09A Austin 61.28 62 ⇓P P 13 56 60.0 +0.4
baz=61
T06C Millerton Lake 61.28 65 ⇑P P 13 56 59.1 -0.4
baz=61
QLMT Earthquake Lak 61.31 54 eP P 13 57 00.3 +0.5
KCC Kaiser Creek 61.33 65 P P 13 56 59.7 -0.1
baz=61,SNR=5.0
N11A Elko Archery C 61.33 60 ⇓P P 13 57 00.4 +0.5
baz=61
PKD Parkfield 61.42 67 ⇓P P 13 57 00.1 -0.4
baz=61
MLAC Mammoth Lakes 61.43 64 ⇑P P 13 57 01.3 +0.7
baz=61
R08A Mina 61.44 63 P P 13 57 01.0 +0.4
baz=61,SNR=5.3
M12A Wells 61.44 59 P P 13 57 01.4 +0.7
baz=61,SNR=7.9
P10A Eureka 61.64 61 ⇑P P 13 57 02.4 +0.4
baz=62
Q09A Carvers 61.70 62 ⇑P P 13 57 03.1 +0.7
baz=62
N12A Clover Valley, 61.72 59 ⇓P P 13 57 03.6 +1.0
baz=62
MTUM Tungsten Hills 61.78 65 eP P 13 57 02.7 -0.2
O11A Cowboy Ranch, 61.80 60 ⇑P P 13 57 03.4 +0.3
baz=62
YFT Old Faithful 61.88 54 eP P 13 57 05.3 +1.7
HELL Mitchell Peak, 61.91 65 P P 13 57 03.4 -0.5
baz=62,SNR=13
M13A Montello 61.92 59 ⇓P P 13 57 04.2 +0.3
baz=62
S08C White Mtn Res 61.93 64 P P 13 57 04.5 +0.6
baz=62,SNR=5.3
P11A Circle Ranch, 62.11 61 ⇓P P 13 57 05.5 +0.3
baz=62
R09A Tonopah 62.14 63 P P 13 57 05.5 +0.1
baz=62,SNR=16
TIN Tinemaha 62.17 65 ⇑P P 13 57 06.3 +0.7
baz=62
N13A Wendover, West 62.21 59 ⇓P P 13 57 06.4 +0.6
baz=62
O12A Currie 62.26 60 P P 13 57 06.5 +0.3
baz=62,SNR=8.4
S09A Goldfield 62.37 63 P P 13 57 07.1 +0.2
baz=62,SNR=8.5
PKM Peak Mountain 62.54 67 ⇓P P 13 57 08.4 +0.4
baz=62
R10A Warm Springs 62.58 62 ⇑P P 13 57 08.3 0.0
baz=62
Q11A Duckwater 62.62 62 ⇓P P 13 57 08.5 0.0
baz=62
CWC Cottonwood Cre 62.65 65 P P 13 57 08.9 +0.1
baz=63,SNR=5.7
P12A McGill 62.67 61 ⇑P P 13 57 09.2 +0.3
baz=63
ISA Isabella 62.90 66 eP P 13 57 09.3 -1.1
ISA Isabella 62.90 66 ⇓P P 13 57 10.1 -0.4
baz=63
Q12A Willow Creek R 62.99 61 ⇑P P 13 57 11.4 +0.4
baz=63
ARVC Arvin 63.02 67 ⇓P P 13 57 10.8 -0.4
baz=63
MPMC Manual Prospec 63.26 65 P P 13 57 12.8 0.0
baz=63,SNR=13
HWUT Hardware Ranch 63.27 57 eP P 13 57 12.8 -0.1
comp=Z,12nm,1.3s,mb4.9
FURC Furnace Creek, 63.39 64 P P 13 57 13.8 +0.1
baz=63,SNR=13
OSI Osito Adit 63.41 67 ⇑P P 13 57 13.7 -0.2
baz=63
DUG Dugway 63.45 59 eP P 13 57 13.9 -0.2
DUG pmax pmax
comp=Z,18nm,1.3s,mb5.0
DUG Dugway 63.45 59 eP P 13 57 13.9 -0.2
comp=Z,18nm,1.3s,mb5.0
LRMC Laurel Mountai 63.51 66 ⇓P P 13 57 14.2 -0.3
baz=63,SNR=7.5
BW06 Boulder Array 63.67 55 eP P 13 57 15.3 -0.2
comp=Z,10nm,0.9s,mb4.8
PDAR Pinedale Array 63.67 55 P P 13 57 15.5 0.0
comp=Z,7.5nm,0.8s,mb4.8,baz=302,slow=2.8,SNR=24
EDW2 Edwards Air Fo 63.70 66 P P 13 57 15.5 -0.2
baz=64,SNR=12
U10A Ash Meadows, A 63.75 64 P P 13 57 16.7 +0.6
baz=64,SNR=6.3
DECC Green Verdugo 63.90 67 ⇓P P 13 57 17.0 0.0
baz=64
SHOC Shoshone 64.12 64 ⇑P P 13 57 18.7 +0.2
baz=64
GSC Goldstone 64.17 65 P P 13 57 18.9 0.0
baz=64,SNR=6.6
DAU Daniels Canyon 64.22 58 eP P 13 57 19.2 0.0
FMP Fort Macarthur 64.27 67 ⇓P P 13 57 19.8 +0.3
baz=64
BFSC Mount Baldy St 64.33 67 P P 13 57 19.2 -0.7
baz=64,SNR=5.6
U11A Corn Creek 64.33 63 ⇑P P 13 57 20.4 +0.5
baz=64
FINES FINESS Array B 64.52 336 P P 13 57 20.6 -0.5
comp=Z,10.0nm,0.4s,mb5.2,baz=36,slow=8.6,SNR=27
TUQ Turquoise Mtn. 64.64 65 ⇑P P 13 57 22.3 +0.4
baz=65
V11A Goodsprings 64.68 64 P P 13 57 22.6 +0.4
baz=65,SNR=5.5
BBRC Big Bear Sol-O 64.78 66 ⇓P P 13 57 23.1 +0.3
baz=65
HEC Hector,Ludlow 64.78 65 P P 13 57 22.8 -0.1
baz=65,SNR=5.5
U12A Valley of Fire 64.84 63 ⇓P P 13 57 23.7 +0.4
baz=65
MSU Marysvale 64.91 60 eP P 13 57 23.7 0.0
MURC Murrieta 65.03 67 ⇓P P 13 57 24.5 +0.1
baz=65
V12A Nelson 65.11 64 P P 13 57 25.5 +0.5
baz=65,SNR=5.5
W12A Cal Nev Ari 65.38 64 ⇓P P 13 57 27.0 +0.3
baz=65
PFO Pinyon Flat Ob 65.50 66 ⇑P P 13 57 27.4 -0.1
baz=65
SRU San Rafael 65.50 58 eP P 13 57 27.4 -0.1
SRU pmax pmax
comp=Z,15nm,0.8s,mb5.1
SRU San Rafael 65.50 58 eP P 13 57 27.4 0.0
comp=Z,14nm,0.8s,mb5.1
BELC Belle Mtn. 65.53 66 ⇑P P 13 57 27.3 -0.4
baz=65
109C Camp Elliot, M 65.56 67 ⇓P P 13 57 27.4 -0.5
baz=66
ULM Lac du Bonnet 65.63 42 P P 13 57 27.3 -1.0
comp=Z,6.4nm,0.8s,mb4.7,baz=319,slow=7.6,SNR=9.9
RSSD Black Hills 65.80 51 eP P 13 57 29.1 -0.3
RSSD pmax pmax
comp=Z,12nm,0.9s,mb4.9
RSSD Black Hills 65.80 51 eP P 13 57 29.1 -0.3
comp=Z,12nm,0.9s,mb4.9
IRM Iron Mountain 65.95 65 P P 13 57 30.6 +0.2
baz=66,SNR=7.2
OBN Obninsk 65.97 326 eP P 13 57 26.3 -4.2
OBN i 13 57 59.4
OBN pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
MONP Monument Peak 65.99 67 ⇓P P 13 57 30.8 +0.1
baz=66
BC3 Big Chuckw Mtn 66.09 66 ⇓P P 13 57 31.6 +0.2
baz=66
W13A Hualapai Mount 66.12 64 P P 13 57 31.6 +0.1
baz=66,SNR=6.9
X13A Yucca 66.48 64 P P 13 57 33.7 -0.1
baz=66,SNR=10
PDMCI Parker Dam,Lak 66.49 65 P P 13 57 33.9 +0.1
baz=66,SNR=5.9
W14A Seligman 66.53 63 P P 13 57 34.6 +0.4
baz=66,SNR=21
Y12C Blythe 66.61 65 P P 13 57 34.6 0.0
baz=66,SNR=5.1
GLA Glamis 66.89 66 ⇓P P 13 57 36.9 +0.5
baz=67
Y13A Salome 67.00 65 P P 13 57 37.4 +0.3
baz=67,SNR=5.2
AGMN Agassiz Refuge 67.01 43 eP P 13 57 36.2 -1.0
comp=Z,20nm,1.1s,mb5.1
W15A Williams 67.06 63 P P 13 57 38.6 +1.1
baz=67,SNR=5.1
X14A Yava 67.15 64 P P 13 57 38.6 +0.6
baz=67,SNR=12
WUAZ Wupatki 67.37 62 eP P 13 57 39.9 +0.4
comp=Z,13nm,1.2s,mb4.8
WUAZ Wupatki 67.37 62 P P 13 57 40.2 +0.7
baz=67,SNR=7.0
Y14A Wickenburg 67.43 64 P P 13 57 39.6 -0.2
baz=67,SNR=9.4
X15A Humboldt 67.54 63 P P 13 57 41.2 +0.7
baz=68,SNR=13

Z14A	**Wintersburg**	**67.85**	**65**	⇑P		**P**	**13 57 42.7**	**+0.2**		
	baz=68									
MVCO	**Mesa Verde**	**67.95**	**59**	*eP*		**P**	**13 57 42.7**	**-0.5**		
	comp=Z,28nm,1.4s,mb5.1									
HYB	**Hyderabad**	**68.27**	**273**	*i* P		**P**	**13 57 45.0**	**-0.1**		
HYB	**Hyderabad**	**68.27**	**273**	*eP*		**P**	**13 57 45.0**	**-0.1**		
NB2	**NORSAR Subarra**	**68.57**	**342**	P		**P**	**13 57 46.5**	**-0.5**		
	comp=Z,12nm,1.0s,mb4.8,baz=26,slow=6.5									
NOA	**NORSAR Array B**	**68.57**	**342**	P		**P**	**13 57 46.9**	**-0.1**		
	comp=Z,2.8nm,0.5s,mb4.4,baz=26,slow=6.3,SNR=7.1									
NOA	**NORSAR Array B**	**68.57**	**342**	P		**P**	**13 57 46.9**	**-0.1**		
115A	**Sonoran Desert**	**68.74**	**65**	P		**P**	**13 57 48.8**	**+0.7**		
	baz=69,SNR=5.9									
WRA	**Warramunga Arr**	**69.01**	**201**	P		**P**	**13 57 46.0**	**-3.8**		
	comp=Z,4.1nm,0.8s,mb4.4,baz=21,slow=6.9,SNR=20									
116A	**Eloy**	**69.16**	**64**	⇓P		**P**	**13 57 51.1**	**+0.4**		
	baz=69									
SDCO	**Great Sand Dun**	**69.33**	**57**	*eP*		**P**	**13 57 51.8**	**+0.1**		
	comp=Z,18nm,1.4s,mb4.8									
KONO	**Kongsberg**	**70.17**	**342**	⇑*eP*		**P**	**13 57 55.6**	**-1.3**		
ANMO	**Albuquerque**	**70.70**	**59**	*eP*		**P**	**13 58 00.4**	**+0.3**		
ANMO					pmax	pmax				
	comp=Z,5.0nm,1.0s									
ANMO	**Albuquerque**	**70.70**	**59**	*eP*		**P**	**13 58 00.4**	**+0.3**		
	comp=Z,5.2nm,1.0s,mb4.4									
BNM	**Barren Site**	**71.16**	**60**	*eP*		**P**	**13 58 02.5**	**-0.4**		
KIV	**Kislovodsk**	**71.66**	**315**	*eP*		**P**	**13 58 07.3**	**+1.4**		
KIV					pmax	pmax				
	comp=Z,24nm,0.9s,mb5.1									
KIV	**Kislovodsk**	**71.66**	**315**	*eP*		**P**	**13 58 07.9**	**+2.0**		
	comp=Z,22nm,0.8s,mb5.1									
ZEI	**Tsey**	**71.94**	**314**	*eP*		**P**	**13 58 07.4**	**-0.2**		
ZEI				*e**PP		pP	13 58 15.7	-0.1		
ZEI					pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9									
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**13 58 07.3**	**-1.8**		
	comp=Z,4.5nm,0.5s,mb4.7,baz=33,slow=6.1,SNR=8.8									
AS31	**Alice Springs**	**72.69**	**200**	*eP*		**P**	**13 58 10.6**	**-1.5**		
ASAR	**Alice Springs**	**72.70**	**200**	P		**P**	**13 58 10.8**	**-1.3**		
	comp=Z,6.2nm,0.8s,mb4.6,baz=16,slow=5.2,SNR=24									
SCHQ	**Scheiferville**	**72.74**	**24**	P		**P**	**13 58 11.6**	**-0.8**		
	comp=Z,8.1nm,0.9s,mb4.7,baz=17,slow=3.4,SNR=6.2									
GNI	**Garni**	**73.45**	**311**	⇑*eP*		**P**	**13 58 17.8**	**+1.2**		
GNI					pmax	pmax				
	comp=Z,13nm,1.5s									
KIS	**Kishinev**	**75.37**	**325**	*eP*		**P**	**13 58 26.0**	**-1.8**		
STHS	**Stebnicka Huta**	**76.09**	**331**	*eP*		**P**	**13 58 32.7**	**+0.8**		
STHS					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4									
STHS	**Stebnicka Huta**	**76.09**	**331**	*eP*		**P**	**13 58 32.7**	**+0.8**		
	comp=Z,3.5nm,0.8s,mb4.4									
KOLS	**Kolonicke sedl**	**76.15**	**330**	*eP*		**P**	**13 58 32.6**	**+0.4**		
LTX	**Lajitas**	**76.34**	**62**	*eP*		**P**	**13 58 33.0**	**-0.3**		
LTX					pmax	pmax				
	comp=Z,31nm,1.2s,mb5.1									
LTX	**Lajitas**	**76.34**	**62**	*eP*		**P**	**13 58 33.0**	**-0.3**		
	comp=Z,32nm,1.2s,mb5.1									
TXAR	**Lajitas Array**	**76.34**	**62**	P		**P**	**13 58 33.3**	**0.0**		
	comp=Z,27nm,0.7s,mb5.3,baz=304,slow=4.8,SNR=81									
DPC	**Dobruska-Polom**	**76.83**	**334**	*eP*		**P**	**13 58 38.2**	**+2.1**		
CLL	**Collm**	**76.92**	**337**	*i* P		**P**	**13 58 36.3**	**-0.3**		
CLL				*i*			13 58 40.6			
CLL				*i*		pP	13 58 44.1	-0.6		
CLL					pmax	pmax				
	comp=Z,60nm,0.9s,mb5.5									
CLL	**Collm**	**76.92**	**337**	*i* P		**P**	**13 58 36.3**	**-0.3**		
	comp=Z,12nm,0.9s,mb4.8									
CLL				*i*			13 58 40.6			
CLL				*i*		pP	13 58 44.1	-0.6		
CLL	**Collm**	**76.92**	**337**	*i* P		**P**	**13 58 36.3**	**-0.3**		
	comp=Z,12nm,0.9s,mb4.8									
CLL				*i* pP		pP	13 58 41.7	-3.0		
CLL				*i* (sP)		sP	13 58 44.1	-3.6		
CLL				*ex*		x	13 58 51.0			
MORC	**Moravsky Berou**	**76.96**	**333**	*eP*		**P**	**13 58 37.1**	**+0.3**		
MORC					pmax	pmax				
	comp=Z,15nm,1.1s,mb4.8									
MORC	**Moravsky Berou**	**76.96**	**333**	*eP*		**P**	**13 58 37.1**	**+0.3**		
	comp=Z,15nm,1.1s,mb4.8									
BRG	**Berggiesshubel**	**77.05**	**336**	*i* P		**P**	**13 58 38.8**	**+1.4**		
	comp=Z,12nm,2.0s,mb4.5									
BRG	**Berggiesshubel**	**77.05**	**336**	*i* P		**P**	**13 58 38.8**	**+1.5**		
BRG					pmax	pmax				
	comp=Z,14nm,2.0s,mb4.5									
KECS	**Kecovo**	**77.15**	**331**	*eP*		**P**	**13 58 37.9**	**0.0**		
KECS					pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.0									
KECS	**Kecovo**	**77.15**	**331**	*eP*		**P**	**13 58 37.9**	**0.0**		
	comp=Z,2.4nm,0.9s,mb4.1									
PRU	**Pruhonice**	**77.67**	**335**	*eP*		**P**	**13 58 40.9**	**+0.1**		
VYHS	**Vyhne**	**77.68**	**332**	*eP*		**P**	**13 58 41.5**	**+0.7**		
VYHS					pmax	pmax				
	comp=Z,14nm,2.2s,mb4.5									
VYHS	**Vyhne**	**77.68**	**332**	*eP*		**P**	**13 58 41.5**	**+0.7**		
	comp=Z,14nm,2.2s,mb4.5									
JCT	**Junction City**	**77.81**	**58**	*eP*		**P**	**13 58 40.9**	**-0.7**		
JCT					pmax	pmax				
	comp=Z,26nm,1.1s,mb5.1									
JCT	**Junction City**	**77.81**	**58**	*eP*		**P**	**13 58 40.9**	**-0.6**		
	comp=Z,26nm,1.1s,mb5.1									
MALT	**Malatya**	**78.03**	**314**	*eP*		**P**	**13 58 44.1**	**+1.3**		
MALT					pmax	pmax				
	comp=Z,20nm,1.3s,mb4.9									
MALT	**Malatya**	**78.03**	**314**	*eP*		**P**	**13 58 44.1**	**+1.3**		
	comp=Z,20nm,1.3s,mb4.9									
KHC	**Kasperske Hory**	**78.72**	**335**	*eP*		**P**	**13 58 47.1**	**+0.5**		
GRA1	**Grafenberg Arr**	**78.87**	**337**	*eP*		**P**	**13 58 47.9**	**+0.5**		
	comp=Z,13nm,0.9s,mb4.9									
GRF	**Grafenberg Arr**	**78.87**	**337**	*eP*		**P**	**13 58 47.9**	**+0.5**		
	comp=Z,13nm,0.9s,mb4.9									
GRF	**Grafenberg Arr**	**78.87**	**337**	*eP*		**P**	**13 58 47.9**	**+0.5**		
GRF					pmax	pmax				
	comp=Z,13nm,0.9s,mb4.9									
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**	**13 58 47.8**	**-0.1**		
	comp=Z,0.7nm,0.3s,mb4.1,baz=35,slow=5.7,SNR=8.0									
STKA	**Stephens Creek**	**79.26**	**192**	P		**P**	**13 58 47.7**	**-1.8**		
	comp=Z,2.1nm,0.5s,mb4.3,baz=285,slow=11,SNR=5.2									
STKA	**Stephens Creek**	**79.26**	**192**	P		**P**	**13 58 47.7**	**-1.8**		
MIB	**Mutribah**	**79.71**	**303**	*eP*		**P**	**13 58 52.0**	**0.0**		
MIB					AMb	AMB	13 58 53.2			
	comp=Z,37nm,0.7s,mb5.5									
NAY	**Al-Naaiem**	**80.18**	**302**	*eP*		**P**	**13 58 54.7**	**+0.1**		
NAY					AMb	AMB	13 58 56.8			
	comp=Z,20nm,1.3s,mb4.9									
RDF	**Al-Radifah**	**80.24**	**302**	*eP*		**P**	**13 58 55.0**	**+0.1**		
RDF					AMb	AMB	13 58 56.4			
	comp=Z,65nm,1.1s,mb5.5									
BFO	**Black Forest**	**80.88**	**338**	*eP*		**P**	**13 58 57.8**	**-0.5**		
BFO					pmax	pmax				
	comp=Z,15nm,1.0s,mb4.9									
BFO	**Black Forest**	**80.88**	**338**	*eP*		**P**	**13 58 57.8**	**-0.5**		
	comp=Z,15nm,1.0s,mb4.9									
CDF	**Champ du Feu**	**81.06**	**339**	*eP*		**P**	**13 58 58.6**	**-0.7**		
ELN	**Prospectdale**	**82.58**	**42**	*eP*		**P**	**13 59 06.3**	**-0.9**		
GRR	**Gorron**	**82.86**	**344**	*eP*		**P**	**13 59 08.1**	**-0.6**		
	comp=Z,80nm,1.3s,mb5.3									
GRR	**Gorron**	**82.86**	**344**	*eP*		**P**	**13 59 08.1**	**-0.6**		
GRR					pmax	pmax				
	comp=Z,40nm,1.3s,mb5.3									
GRR	**Gorron**	**82.86**	**344**	*eP*		**P**	**13 59 08.1**	**-0.6**		
	comp=Z,40nm,1.3s,mb5.3									
SMF	**Signal de Mont**	**83.54**	**340**	*eP*		**P**	**13 59 11.7**	**-0.5**		
	comp=Z,86nm,1.3s,mb5.4									
SMF	**Signal de Mont**	**83.54**	**340**	*eP*		**P**	**13 59 11.7**	**-0.5**		
SMF					pmax	pmax				
	comp=Z,43nm,1.3s,mb5.4									
SMF	**Signal de Mont**	**83.54**	**340**	*eP*		**P**	**13 59 11.7**	**-0.5**		
	comp=Z,43nm,1.3s,mb5.4									
LPG	**La Plagne**	**83.91**	**338**	*eP*		**P**	**13 59 14.6**	**+0.5**		
	comp=Z,78nm,1.4s,mb5.3									
LPG	**La Plagne**	**83.91**	**338**	*eP*		**P**	**13 59 14.6**	**+0.5**		
LPG					pmax	pmax				
	comp=Z,39nm,1.4s,mb5.3									
LPG	**La Plagne**	**83.91**	**338**	*eP*		**P**	**13 59 14.6**	**+0.5**		
	comp=Z,39nm,1.4s,mb5.3									
RJF	**Les Rejaudoux**	**85.33**	**342**	*eP*		**P**	**13 59 20.5**	**-0.8**		
KEST	**Kesra**	**92.21**	**333**	P		**P**	**13 59 51.9**	**-2.1**		
	comp=Z,3.8nm,1.1s,mb4.6,baz=281,slow=4.7,SNR=5.1									
TORD	**Torodi Ar. Bea**	**115.67**	**331**	PKP		PKPdf	14 05 25.6	-0.9		
	comp=Z,0.9nm,0.7s,baz=12,slow=1.4,SNR=5.2									
VNDA	**Vanda**	**124.14**	**178**	PKP		PKPdf	14 05 39.2	-3.5		
	comp=Z,1.3nm,0.8s,baz=310,slow=3.9,SNR=7.7									
VNDA	**Vanda**	**124.14**	**178**	PKP		PKPdf	14 05 39.2	-3.5		
LPAZ	**La Paz**	**133.17**	**64**	*e*PKIKP		PKPdf	14 06 00.0	+0.1		
LBTB	**Lobatse**	**134.50**	**280**	PKP		PKPdf	14 06 01.6	-0.8		
	comp=Z,2.2nm,0.9s,baz=296,slow=4.8,SNR=5.2									
QSPA	**South Pole Qui**	**136.56**	**180**	*e*PKPdf		PKPdf	14 06 04.1	-2.1		
CFAA	**Coronel Fontan**	**143.72**	**81**	PKP		PKPdf	14 06 15.2	-4.0		
	comp=Z,0.3nm,0.4s,baz=301,slow=4.2,SNR=6.3									
SNAA	**Sanae**	**152.97**	**195**	PKPbc		PKPbc	14 06 37.9	-3.6		
	comp=Z,2.3nm,1.1s,baz=162,slow=4.7,SNR=12									
SNAA	**Sanae**	**152.97**	**195**	*e*PKPdf		PKPdf	14 06 37.5	+3.3		
SNAA	**Sanae**	**152.97**	**195**	PKIKP		PKPdf	14 06 37.9	+3.7		
SNAA					pmax	pmax				
	comp=Z,2.0nm,1.1s									
VNA3	**Neumayer Olymp**	**154.43**	**191**	*e*PKPdf		PKPdf	14 06 38.5	+2.2		

*IDC **15** 13:49:13.3± 1.0, 4728N× 15557E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/25, mbtmp4.2/13, ML3.6/1, Error ellipse: s-maj=28.4km s-min=19.2km az=164.0*
*NEIC **15** 13:49:15.1± 0.5, 4736N× 15563E, h10km, mb4.6/9, Error ellipse: s-maj=14.8km s-min=8.5km az=160.0*
*MOS **15** 13:49:16.0± 1.1, 4736N× 15567E, h33km, mb4.8/6, Error ellipse: s-maj=18.0km s-min=14.0km az=129.5*
*ISCJB **15** 13:49:19.2± 3.0, 473N± 0.1× 1555E± 0.1, h57km± 29km, mb4.4/20, Error ellipse: s-maj=22.1km s-min=14.9km az=4.4*

ISC 15 13:49:22.2± 2.4, 473N± 01× 1555E± 01, h69km± 23km, n36, σ 0.59/36, mb4.3/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.67**	**272**	*e*PN	**Pn**	**13 51 25.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**8.67**	**272**	*e*Pn	**Pn**	**13 51 24.7**	**-0.2**
MAJO	**Matsushiro**	**16.71**	**236**	P	**Pn**	**13 53 12.9**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,22nm,0.9s						
MAJO	**Matsushiro**	**16.71**	**236**	P	**Pn**	**13 53 12.9**	**+1.0**
	comp=Z,22nm,0.9s						
MJAR	**Matsushiro Arr**	**16.71**	**236**	Pn	**Pn**	**13 53 09.0**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=37,slow=10,SNR=5.1						
KSRS	**Korea Array**	**22.50**	**254**	P	**P**	**13 54 16.4**	**+0.5**
	comp=Z,5.8nm,1.0s,mb3.9,baz=52,slow=9.5,SNR=4.2						
SONM	**Songino Array**	**32.66**	**289**	P	**P**	**13 55 47.6**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=55,slow=8.5,SNR=4.2						
MK31	**Makanchi Array**	**48.10**	**298**	*eP*	**P**	**13 57 55.2**	**+0.2**
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**13 57 55.0**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.3,baz=70,slow=8.5,SNR=6.3						
KURK	**Kurchatov**	**48.38**	**304**	*eP*	**P**	**13 57 56.8**	**-0.3**
CHKZ	**Chkalovo**	**51.29**	**311**	*eP*	**P**	**13 58 19.2**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
CHKZ	**Chkalovo**	**51.29**	**311**	*eP*	**P**	**13 58 19.2**	**+0.1**
	comp=Z,9.1nm,0.5s,mb5.1						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**13 58 23.2**	**+0.7**
	comp=Z,5.9nm,0.6s,mb4.8,baz=58,slow=7.6,SNR=7.1						
BRVK	**Borovoye**	**51.77**	**310**	*eP*	**P**	**13 58 22.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**51.77**	**310**	*eP*	**P**	**13 58 22.6**	**-0.2**
	comp=Z,6.2nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**52.49**	**310**	*eP*	**P**	**13 58 28.2**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**52.49**	**310**	*eP*	**P**	**13 58 28.2**	**+0.1**
	comp=Z,3.6nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**55.02**	**297**	P	**P**	**13 58 46.9**	**+0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**55.02**	**297**	P	**P**	**13 58 46.9**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.6						
ARU	**Arti**	**55.67**	**318**	*eP*	**P**	**13 58 49.4**	**-1.9**
ARU	**Arti**	**55.67**	**318**	*eP*	**P**	**13 58 51.4**	**+0.1**
	comp=Z,11nm,0.6s,mb5.1						
AKTK	**Aktyubinsk**	**59.54**	**313**	P	**P**	**13 59 18.5**	**+0.1**
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**13 59 18.5**	**+0.1**
	comp=Z,3.5nm,0.5s,mb4.6,baz=47,slow=9.3,SNR=6.9						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**13 59 18.5**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**13 59 27.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=289,slow=7.6,SNR=4.3						
BW06	**Boulder Array**	**63.11**	**55**	*eP*	**P**	**13 59 42.2**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**63.11**	**55**	P	**P**	**13 59 42.8**	**+0.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=284,slow=1.7,SNR=5.7						
FINES	**FINESS Array B**	**64.20**	**336**	P	**P**	**13 59 50.0**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.2,baz=37,slow=8.5,SNR=4.0						
ULM	**Lac du Bonnet**	**65.04**	**42**	P	**P**	**13 59 54.5**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.3,baz=301,slow=8.3,SNR=4.3						
RSSD	**Black Hills**	**65.23**	**51**	*eP*	**P**	**13 59 56.4**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
RSSD	**Black Hills**	**65.23**	**51**	*eP*	**P**	**13 59 56.4**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**68.20**	**342**	P	**P**	**14 00 14.9**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.0,baz=26,slow=6.4,SNR=3.9						
SDCO	**Great Sand Dun**	**68.78**	**57**	*eP*	**P**	**14 00 19.3**	**+0.4**
	comp=Z,2.1nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**69.59**	**201**	P	**P**	**14 00 23.6**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=22,slow=7.0,SNR=4.9						
AKASG	**Malin Array Be**	**71.96**	**327**	P	**P**	**14 00 37.7**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.6,baz=33,slow=5.8,SNR=4.1						
CLL	**Collm**	**76.60**	**337**	*eP*	**P**	**14 01 05.0**	**-0.2**

*IDC **15** 13:54:20.2± 0.6, 4648N× 15471E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.4/26, mbtmp4.3/19, ML3.7/1, Error ellipse: s-maj=18.0km s-min=14.3km az=154.0*
*NEIC **15** 13:54:21.9± 0.4, 4657N× 15467E, h10km, mb4.7/17, Error ellipse: s-maj=9.8km s-min=6.4km az=155.0*
*ISCJB **15** 13:54:23.7± 0.4, 4648N± 008× 15466E± 008, h35km, mb4.6/43, Error ellipse: s-maj=11.9km s-min=5.6km az=123.6*
*MOS **15** 13:54:23.0± 0.8, 4652N× 15463E, h32km, mb4.9/13, Error ellipse: s-maj=11.7km s-min=10.5km az=90.7*
*BJI **15** 13:54:23.1, 4693N× 15435E, h10km, mB5.4, mb4.6*

ISC 15 13:54:25.6± 0.4, 4649N± 007× 15469E± 008, h35km, n97, σ 1§31/97, mb4.6/43, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.93**	**258**	*e*PN	**Pn**	**13 55 34.3**	**-2.9**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.22**	**278**	*e*PN	**Pn**	**13 56 24.8**	**+2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.22**	**278**	*e*Pn	**Pn**	**13 56 24.5**	**+2.2**
	comp=Z,57nm,1.3s						
JMP	**Iiseppu**	**8.37**	**257**	P	**Pn**	**13 56 25.2**	**+0.7**
ASAJ	**Asahikawa**	**8.85**	**259**	Pn	**Pn**	**13 56 32.2**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=48,slow=7.2,SNR=16						
ASAJ	**Asahikawa**	**8.85**	**259**	P	**Pn**	**13 56 33.0**	**+2.0**
ASAJ	**Asahikawa**	**8.85**	**259**	PN	**Pn**	**13 56 32.2**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JEM	**Erimo**	**9.41**	**246**	P	**Pn**	**13 56 37.6**	**-1.0**
JEW	**Eniwo**	**10.12**	**254**	P	**Pn**	**13 56 47.9**	**-0.4**
JOT	**Ohata**	**11.08**	**247**	P	**Pn**	**13 56 58.4**	**-3.1**
JSH	**Shimam**	**11.13**	**255**	P	**Pn**	**13 57 02.5**	**+0.2**
JTM	**Tenmabayashi**	**11.39**	**245**	P	**Pn**	**13 57 02.5**	**-3.3**
JTM				S	**Sn**	**13 59 04.4**	**-7.5**
JMM	**Marumori**	**13.42**	**235**	P	**Pn**	**13 57 28.5**	**-5.0**
MAJO	**Matsushiro**	**15.82**	**237**	*eP*	**Pn**	**13 58 05.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s						
MAJO	**Matsushiro**	**15.82**	**237**	*eP*	**Pn**	**13 58 05.1**	**-0.6**
	comp=Z,15nm,0.7s						
MAT	**Matsushiro**	**15.82**	**237**	P	**Pn**	**13 58 03.0**	**-2.7**
MAT	**Matsushiro**	**15.82**	**237**	P	**Pn**	**13 58 04.1**	**-1.6**
MJAR	**Matsushiro Arr**	**15.82**	**237**	Pn	**Pn**	**13 58 04.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=24,slow=4.1,SNR=3.7						
MDJ	**Mudanjiang**	**17.66**	**273**	P	**Pn**	**13 58 27.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,16nm,1.3s						
MDJ	**Mudanjiang**	**17.66**	**273**	*eP*	**Pn**	**13 58 27.9**	**-0.9**
	comp=Z,87nm,1.6s						
CN2	**Changchun**	**20.75**	**273**	*eP*	**P**	**13 59 00.0**	**-3.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**21.13**	**326**	*eP*	**P**	**13 59 03.8**	**-3.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.4						
YAK	**Yakutsk**	**21.13**	**326**	*eP*	**P**	**13 59 03.8**	**-3.6**
	comp=Z,12nm,0.6s,mb4.4						
KSRS	**Korea Array**	**21.77**	**255**	P	**P**	**13 59 15.6**	**+1.4**
	comp=Z,7.2nm,0.8s,mb4.2,baz=60,slow=11,SNR=14						
BILL	**Bilibino**	**22.41**	**11**	*eP*	**P**	**13 59 19.1**	**-2.0**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
BILL	**Bilibino**	**22.41**	**11**	*eP*	**P**	**13 59 17.5**	**-3.5**
	comp=Z,15nm,0.8s,mb4.5						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**14 00 51.7**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.9,baz=60,slow=8.8,SNR=6.7						
ZAK	**Zakamensk**	**33.77**	**296**	*eP*	**P**	**14 01 02.7**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
LZH	**Lanzhou**	**38.99**	**273**	*eP*	**P**	**14 01 50.8**	**+2.3**
LZH				AP	pP	14 01 54.4	-4.3
LZH				XP	sP	14 01 56.1	-6.8
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,153nm,5.0s						
LZH	**Lanzhou**	**38.99**	**273**	*eP*	**P**	**14 01 50.7**	**+2.2**
LZH				*SP	sP	14 01 56.1	-6.8
LZH				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.0						
LZH	**Lanzhou**	**38.99**	**273**	*eP*	**P**	**14 01 50.7**	**+2.2**
	comp=Z,40nm,1.3s,mb5.0						
LZH				pP	pP	14 01 54.4	-4.3
LZH				sP	sP	14 01 56.1	-6.8
INK	**Inuvik**	**41.29**	**32**	P	**P**	**14 02 06.5**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.0,baz=296,slow=6.7,SNR=13						
CD2	**Chengdu**	**41.95**	**267**	P	**P**	**14 02 13.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
GYA	**Guiyang**	**42.73**	**259**	⇑*iP*	**P**	**14 02 20.8**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**43.66**	**306**	P	**P**	**14 02 25.4**	**-1.4**
	comp=Z,2.5nm,0.5s,mb4.2,baz=48,slow=6.4,SNR=6.4						
NVS	**Novosibirsk**	**44.21**	**308**	*eP*	**P**	**14 02 29.7**	**-1.5**
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**14 03 00.6**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.5,baz=70,slow=8.1,SNR=20						
KURK	**Kurchatov**	**48.41**	**304**	*eP*	**P**	**14 03 01.8**	**-2.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**48.41**	**304**	*eP*	**P**	**14 03 01.8**	**-2.5**
	comp=Z,9.7nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**50.48**	**37**	P	**P**	**14 03 19.3**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.6,baz=295,slow=7

RJF	**Les Rejaudoux**	**85.58**	**341**	*e*P		**P**	**14 07 03.4**	**+3.1**
SNAA	**Sanae**	**152.60**	**195**	PKPbc	PKPbc		14 14 16.7	-1.6
	comp=Z,0.5nm,0.6s,baz=240,slow=22,SNR=9.4							

IDC 15 13:55:56.5±1.1, 4686N×15503E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/24, mbtmp4.1/11, ML3.3/1, Error ellipse: s-maj=28.3km s-min=20.3km az=97.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**16.22**	**237**	P	Pn	13 59 52.2	+6.5
MJAR	**Matsushiro Arr**	**16.22**	**237**	Pn	Pn	13 59 46.0	+0.3
	0.1nm,0.3s,baz=28,slow=14,SNR=3.0						
KSRS	**Korea Array**	**22.09**	**255**	P	P	14 00 53.5	+0.3
	3.0nm,0.9s,baz=56,slow=9.6,SNR=2.3						
SONM	**Songino Array**	**32.53**	**290**	P	P	14 02 28.7	-0.4
	0.5nm,0.5s,baz=57,slow=10,SNR=3.1						
INK	**Inuvik**	**40.85**	**33**	P	P	14 03 38.8	-1.2
	3.5nm,0.8s,baz=291,slow=7.3,SNR=6.1						
ZAL	**Zalesovo**	**43.62**	**306**	P	P	14 04 01.9	-0.7
	1.2nm,0.6s,baz=49,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**48.05**	**298**	P	P	14 04 36.8	-0.8
	1.5nm,0.7s,baz=64,slow=7.3,SNR=5.2						
BVAR	**Borovoye Array**	**51.80**	**310**	P	P	14 05 06.1	0.0
	4.4nm,0.7s,baz=51,slow=8.4,SNR=6.6						
FINES	**FINESS Array B**	**64.49**	**336**	P	P	14 06 33.6	-1.3
	3.4nm,0.8s,baz=45,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**69.06**	**201**	P	P	14 07 03.5	-0.6
	3.3nm,0.8s,baz=20,slow=6.5,SNR=14						
ASAR	**Alice Springs**	**72.75**	**200**	P	P	14 07 26.9	+0.4
	3.1nm,0.7s,baz=16,slow=5.9,SNR=21						
GERES	**GERESS Array B**	**78.92**	**335**	P	P	14 08 03.6	+1.8
	0.6nm,0.2s,baz=28,slow=3.2,SNR=4.4						

*MOS **15** 13:56:54.8±2.9, 4767N×15501E, h33km, mb4.5/9, Error ellipse: s-maj=21.5km s-min=15.7km az=75.1*
*IDC **15** 13:56:54.4±1.1, 4729N×154.15E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/24, mbtmp4.2/11, ML3.6/1, Error ellipse: s-maj=30.8km s-min=20.5km az=100.0*
*ISCJB **15** 13:57:03.7±3.7, 473N±0.1×1540E±03, h87km±31km, mb4.1/10, Error ellipse: s-maj=32.0km s-min=19.5km az=21.7*

ISC 15 13:57:05.3±3.2, 473N±01×1540E±03, h88km±26km, n23, σ0≥57/22, mb4.1/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.73**	**246**	*e*PN	**Pn**	**13 58 22.0**	**+7.9**
YSS	**Yuzh-Sakhalins**	**7.68**	**272**	*e*PN	**Pn**	**13 58 55.0**	**+0.7**
MJAR	**Matsushiro Arr**	**15.89**	**233**	Pn	**Pn**	**14 00 42.3**	**-1.4**
	0.2nm,0.3s,baz=25,slow=12,SNR=4.0						
KSRS	**Korea Array**	**21.54**	**252**	P	**P**	**14 01 47.6**	**+0.4**
	2.2nm,0.6s,mb3.7,baz=57,slow=9.1,SNR=4.2						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**14 04 38.1**	**-0.4**
	2.1nm,0.6s,mb4.1,baz=321,slow=6.7,SNR=5.0						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**14 04 38.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**42.80**	**306**	P	**P**	**14 04 53.8**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=58,slow=8.1,SNR=3.8						
ZAL	**Zalesovo**	**42.80**	**306**	P	**P**	**14 04 53.8**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**47.23**	**297**	P	**P**	**14 05 29.1**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.9,baz=65,slow=5.8,SNR=4.8						
MKAR	**Makanchi Array**	**47.23**	**297**	P	**P**	**14 05 29.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**50.98**	**309**	P	**P**	**14 05 57.7**	**-0.2**
	comp=Z,1.6nm,0.3s,mb4.5,baz=53,slow=8.4,SNR=6.4						
BVAR	**Borovoye Array**	**50.98**	**309**	P	**P**	**14 05 57.7**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**63.80**	**335**	P	**P**	**14 07 27.7**	**-0.4**
	comp=Z,1.5nm,0.4s,mb4.2,baz=46,slow=5.6,SNR=5.5						
FINES	**FINESS Array B**	**63.80**	**335**	P	**P**	**14 07 27.7**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**14 07 54.9**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=8.8						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**14 07 54.9**	**+0.5**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**69.23**	**200**	P	**P**	**14 08 03.0**	**+0.4**
	comp=Z,1.2nm,0.9s,mb3.7,baz=21,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**69.23**	**200**	P	**P**	**14 08 03.0**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.43**	**327**	P	**P**	**14 08 16.2**	**+0.2**
	comp=Z,3.1nm,0.5s,mb4.4,baz=32,slow=6.1,SNR=5.9						
AKASG	**Malin Array Be**	**71.43**	**327**	P	**P**	**14 08 16.3**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**14 08 25.4**	**+0.4**
	comp=Z,1.8nm,0.8s,mb3.9,baz=11,slow=5.5,SNR=5.8						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**14 08 25.4**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CFAA	**Coronel Fontan**	**144.30**	**79**	PKP	PKPdf	14 16 29.2	-1.7
	comp=Z,0.4nm,0.4s,baz=303,slow=3.8,SNR=5.0						

*IDC **15** 13:58:14.0±0.5, 4658N×15493E, h0km, mb4.7/24, mb1 4.8/26, mb1mx4.8/28, mbtmp4.7/26, ML4.3/2, Error ellipse: s-maj=14.4km s-min=12.2km az=139.0*
*ISCJB **15** 13:58:14.4±0.1, 4669N±004×15496E±002, h10km, mb5.1/122, MS5.5/7, Error ellipse: s-maj=5.6km s-min=2.3km az=164.0*
*NEIC **15** 13:58:15.8±0.2, 4660N×15501E, h10km, mb5.1/63, Error ellipse: s-maj=7.2km s-min=4.8km az=166.0*
*MOS **15** 13:58:17.0±1.0, 4668N×15485E, h30km, mb5.3/45, Error ellipse: s-maj=8.0km s-min=5.8km az=95.8*
*BJI **15** 13:58:17.8, 4706N×15444E, h10km, mB5.7, mb4.9, Ms6.6, Msz5.3*
*SKHL **15** 13:58:19.0±0.4, 4684N×15461E, h59km±11km*
*SZGRF **15** 13:58:23.5, 4694N×15436E, h33km, mb5.2, East of Kuril Islands, Russia*

ISC 15 13:58:15.1±1.4, 4675N±004×15493E±002, h1km±8km, n523, σ0≥93/522, mb5.2/122, MS5.5/7, 76C-88D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.01**	**11**	*e*P	**Pn**	**13 59 17.0**	**-0.6**
KUR	**Kuril'sk**	**5.15**	**255**	*e*P	**Pn**	**13 59 31.0**	**-2.2**
KUR				AMB	AMB	13 59 33.4	
	380nm,0.8s						
KUR				AMB	AMB	13 59 33.4	
	170nm,0.8s						
KUR				AMB	AMB	13 59 33.4	
	910nm,0.8s						
KUR				*e*S	**Sn**	**14 00 25.3**	**-8.0**
KUR				A		14 00 26.5	
	340nm,0.7s						
KUR				A		14 00 26.5	
	220nm,0.7s						
KUR	**Kuril'sk**	**5.15**	**255**	*e*PN	**Pn**	**13 59 31.0**	**-2.2**
KUR				pmax	pmax		
	comp=Z,910nm,0.8s						
KUR				pmax	pmax		
	comp=N,380nm,0.9s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
PET	**Petropavlovsk**	**6.72**	**20**	*e*PN	**Pn**	**13 59 52.6**	**-2.3**
PET				MLR	MLR		
	comp=Z,14μm,10.0s						
PET	**Petropavlovsk**	**6.72**	**20**	*e*Pn	**Pn**	**13 59 52.1**	**-2.7**
	comp=Z,83nm,0.6s						
PET				*e*Sn	**Sn**	**14 01 08.9**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**6.94**	**250**	*e*PN	**Pn**	**13 59 57.5**	**-0.3**
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.35**	**276**	⇓*e*P	**Pn**	**14 00 20.0**	**+2.8**
YSS				AMB	AMB	14 00 22.9	
	comp=Z,40nm,0.9s						
YSS				AMB	AMB	14 00 22.9	
	comp=Z,50nm,0.9s						
YSS				*e*S	**Sn**	**14 01 50.5**	**-1.6**
YSS				A		14 01 54.0	
	comp=Z,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.35**	**276**	⇓*e*PN	**Pn**	**14 00 20.0**	**+2.8**
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.35**	**276**	*e*Pn	**Pn**	**14 00 18.6**	**+1.4**
	comp=Z,51nm,0.6s						
UGL	**Uglegorsk**	**8.95**	**290**	*e*P	**Pn**	**14 00 28.0**	**+2.6**
ASAJ	**Asahikawa**	**9.06**	**258**	Pn	**Pn**	**14 00 27.6**	**+0.7**
	comp=Z,5.8nm,0.3s,baz=84,slow=18,SNR=7.8						
ASAJ	**Asahikawa**	**9.06**	**258**	PN	**Pn**	**14 00 27.7**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
TYV	**Tymovskoe**	**9.08**	**301**	*e*P	**Pn**	**14 00 28.0**	**+0.8**
TYV				AMB	AMB	14 00 30.0	
	comp=Z,13nm,0.8s						
TYV				AMB	AMB	14 00 30.0	
	comp=Z,48nm,0.8s						
NKL	**Nikolayevsk**	**11.18**	**310**	*e*P	**Pn**	**14 00 55.0**	**-1.0**
NKL				AMB	AMB	14 00 56.3	
	comp=Z,260nm,1.5s						
TEY	**Ternei**	**12.88**	**269**	*e*P	**Pn**	**14 01 20.0**	**+0.8**
MA2	**Magadan**	**13.08**	**351**	*e*PN	**Pn**	**14 01 20.3**	**-1.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.5s						
MA2				pmax	pmax		
	comp=N,10.0nm,0.4s						
MA2	**Magadan**	**13.08**	**351**	*e*Pn	**Pn**	**14 01 21.9**	**-0.1**
MJAR	**Matsushiro Arr**	**16.10**	**237**	Pn	**Pn**	**14 02 01.1**	**-1.5**
	comp=N,0.5nm,0.3s,baz=32,slow=12,SNR=9.8						
MAJO	**Matsushiro**	**16.10**	**237**	*e*P	**Pn**	**14 02 01.9**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,37nm,0.9s						
MAJO	**Matsushiro**	**16.10**	**237**	*e*P	**Pn**	**14 02 01.9**	**-0.7**
	comp=Z,38nm,0.9s						
MAT	**Matsushiro**	**16.10**	**237**	P	**Pn**	**14 02 00.9**	**-1.7**
SEY	**Seymchan**	**16.28**	**356**	*i* P	**Pn**	**14 02 04.5**	**-0.4**
MDJ	**Mudanjiang**	**17.81**	**272**	P	**Pn**	**14 02 25.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,42nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,6μm,8.2s						
MDJ	**Mudanjiang**	**17.81**	**272**	*e*P	**Pn**	**14 02 24.7**	**+0.6**
	comp=Z,31nm,0.7s						
ZEA	**Zeya**	**18.95**	**302**	*e*P	**Pn**	**14 02 33.0**	**-5.1**
ZEA				AMB	AMB	14 02 37.6	
	comp=Z,27nm,0.9s						
CN2	**Changchun**	**20.90**	**273**	*e*P	**P**	**14 02 58.3**	**-0.4**
CN2				*e*XP	sP	14 03 05.0	+5.7
CN2				*e*S	**S**	**14 06 38.8**	**-14**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,10μm,21.0s,MS5.4						
CN2				LR	LR		
	comp=E,13μm,21.0s,MS5.4						
CN2				LR	LR		
	comp=Z,18μm,21.0s,MS5.4						
YAK	**Yakutsk**	**21.01**	**326**	*e*P	**P**	**14 02 58.5**	**-1.4**
YAK				*e*		14 03 14.1	
YAK				*e*S	**S**	**14 06 48.4**	**-6.2**
YAK				*e*SS	sS	14 07 02.2	+7.0
YAK				*e*		14 07 05.5	
YAK				*e*SSS		14 07 25.2	
YAK				*e*		14 14 23.2	
YAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK				smax			
	comp=N,45nm,1.1s						
YAK				smax			
	comp=Z,12nm,0.9s						
YAK				smax			
	comp=E,14nm,0.8s						
YAK				MLR	MLR		
	comp=Z,16μm,25.0s,MS5.3						
YAK				MLR	MLR		
	comp=N,16μm,20.0s						
YAK				MLR	MLR		
	comp=E,8μm,13.0s						
YAK	**Yakutsk**	**21.01**	**326**	*e*P	**P**	**14 02 57.0**	**-2.9**
	comp=E,35nm,0.4s,mb5.0						
KSRS	**Korea Array**	**21.99**	**255**	P	**P**	**14 03 11.2**	**+0.6**
	comp=E,8.5nm,0.6s,mb4.4,baz=54,slow=10.0,SNR=11						
BILL	**Bilibino**	**22.13**	**11**	*e*P	**P**	**14 03 10.0**	**-2.0**
BILL				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.7						
BILL	**Bilibino**	**22.13**	**11**	*e*P	**P**	**14 03 09.9**	**-2.1**
	comp=Z,89nm,1.0s,mb5.2						
INCN	**Inchon**	**22.84**	**256**	*e*P	**P**	**14 03 21.3**	**+1.8**
	comp=Z,57nm,0.9s,mb5.1						
SNY	**Shenyang**	**22.89**	**269**	⇓P	**P**	**14 03 20.3**	**+0.3**
SNY				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.0						
HIA	**Hailar**	**23.55**	**289**	*e*P	**P**	**14 03 25.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
HIA	**Hailar**	**23.55**	**289**	*e*P	**P**	**14 03 25.3**	**-1.7**
	comp=Z,14nm,1.1s,mb4.4						
CIT	**Chita**	**27.16**	**297**	*e*P	**P**	**14 03 57.9**	**-2.0**
BJI	**Beijing**	**28.72**	**271**	*e*P	**P**	**14 04 16.5**	**+2.7**
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
BJI	**Beijing**	**28.72**	**271**	*e*P	**P**	**14 04 16.5**	**+2.7**
	comp=Z,17nm,0.9s,mb4.9						
BJT	**Baijiatuau**	**28.74**	**271**	*e*P	**P**	**14 04 15.1**	**+1.1**
BJT				pmax	pmax		
	comp=Z,42nm,0.9s						
BJT	**Baijiatuau**	**28.74**	**271**	*e*P	**P**	**14 04 15.1**	**+1.1**
	comp=Z,42nm,0.9s,mb5.3						
NJ2	**Nanjing**	**31.20**	**255**	*e*P	**P**	**14 04 36.8**	**+1.1**
NJ2				AP		14 04 40.3	
NJ2				XP	sP	14 04 44.8	+8.5
NJ2				PP	PP	14 05 40.8	-5.2
NJ2				S	**S**	**14 09 40.0**	**-2.6**
NJ2				XS	sS	14 09 48.0	+4.7
NJ2				AMB	AMB		
	comp=Z,540nm,4.4s						
NJ2				LR	LR		
	comp=N,3μm,14.2s,MS5.5						
NJ2				LR	LR		
	comp=E,6μm,13.5s,MS5.5						
NJ2				LR	LR		
	comp=Z,2μm,11.4s,MS5.1						
HHC	**Hu-ho-hao-te**	**31.54**	**275**	*e*P	**P**	**14 04 38.8**	**+0.1**
HHC				XP	sP	14 04 45.8	+6.5
HHC				PP	PP	14 05 42.5	-7.3
HHC				PCP	PcP	14 07 32.0	+0.5
HHC				S	**S**	**14 09 44.8**	**-3.2**
HHC				XS	sS	14 09 52.9	+4.3
HHC				SCP	ScP	14 11 13.0	-2.7
HHC				PCS	PcS	14 11 15.1	-0.8
HHC				SS	SS	14 11 32.3	-30
HHC				SCS	ScS	14 15 09.3	-4.2
HHC				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.3						
HHC				AMB	AMB		
	comp=Z,5μm,11.2s						
HHC				LR	LR		
	comp=N,8μm,16.6s,MS5.5						
HHC				LR	LR		
	comp=E,3μm,16.0s,MS5.5						
HHC				LR	LR		
	comp=Z,6μm,17.2s,MS5.3						
ULN	**Ulaanbaatar**	**32.07**	**290**	*e*P	**P**	**14 04 43.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**32.07**	**290**	*e*P	**P**	**14 04 43.9**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.6						
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**14 04 45.6**	**-1.7**
	comp=Z,4.0nm,0.8s,mb4.4,baz=68,slow=7.2,SNR=12						
IRK	**Irkutsk**	**32.79**	**299**	*e*P	**P**	**14 04 47.6**	**-2.1**
IRK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
TLY	**Talaya**	**33.29**	**298**	*e*P	**P**	**14 04 52.6**	**-1.5**
TLY				*e*		14 05 03.4	
TLY				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
TLY	**Talaya**	**33.29**	**298**	*e*P	**P**	**14 04 52.8**	**-1.2**
ZAK	**Zakamensk**	**33.81**	**296**	*e*P	**P**	**14 04 56.9**	**-1.7**
ZAK				*e*		14 05 06.8	
ZAK				*e*		14 07 36.5	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MCK	**McKinley**	**34.84**	**40**	*e*P	**P**	**14 05 07.4**	**-0.2**
MCK				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
MCK	**McKinley**	**34.84**	**40**	*e*P	**P**	**14 05 07.3**	**-0.2**
	comp=Z,29nm,1.7s,mb4.9						
COLA	**College**	**35.36**	**38**	*e*P	**P**	**14 05 11.0**	**-1.1**
COLA				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
COLA	**College**	**35.36**	**38**	*e*P	**P**	**14 05 10.9**	**-1.1**
	comp=Z,20nm,1.1s,mb5.0						
XAN	**Xi'an**	**36.76**	**267**	P	**P**	**14 05 26.8**	**+2.8**
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
DAWY	**Dawson**	**39.05**	**40**	*e*P	**P**	**14 05 43.1**	**-0.2**
LZH	**Lanzhou**	**39.13**	**273**	*e*P	**P**	**14 05 46.0**	**+1.9**
LZH				AP		14 05 49.1	
LZH				XP	sP	14 05 50.6	+6.0
LZH				PP	PP	14 07 16.8	+3.2
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,160nm,5.0s						
LZH	**Lanzhou**	**39.13**	**273**	*e*P	**P**	**14 05 46.0**	**+1.9**
LZH				*SP	sP	14 05 50.6	+6.0
LZH						14 07 16.7	
LZH				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.9						
LZH	**Lanzhou**	**39.13**	**273**	*e*P	**P**	**14 05 46.0**	**+1.9**
	comp=Z,40nm,1.2s,mb4.9						
LZH				pP		14 05 49.1	
LZH				sP	sP	14 05 50.6	+6.0
LZH				PP	PP	14 07 16.7	+3.1
GTA	**Gaotai**	**40.20**	**280**	*e*P	**P**	**14 05 53.3**	**+0.3**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**14 05 59.4**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4,baz=285,slow=7.4,SNR=8.3						
CD2	**Chengdu**	**42.12**	**267**	*e*P	**P**	**14 06 09.4**	**+0.6**
CD2				S	**S**	**14 12 29.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
GYA	**Guiyang**	**42.94**	**259**	⇑*i*P	**P**	**14 06 14.8**	**-0.6**
GYA				AP		14 06 18.9	
GYA				XP	sP	14 06 21.8	+5.8
GYA				PCP	PcP	14 08 06.0	-0.1
GYA				SCP	ScP	14 11 55.9	-2.3
GYA				S	**S**	**14 12 39.4**	**-1.8**
GYA				SCS	ScS	14 16 13.5	-4.0
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,170nm,5.2s						
GYA				LR	LR		
	comp=N,670nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=E,570nm,17.8s,MS4.7						
GYA				LR	LR		
	comp=Z,580nm,17.2s,MS4.5						
ZAL	**Zalesovo**	**43.64**	**306**	P	**P**	**14 06 19.4**	**-1.7**
	comp=Z,6.6nm,0.4s,mb4.7,baz=50,slow=5.7,SNR=15						
ZAL				PcP	PcP	14 08 07.1	-1.3
	comp=Z,2.7nm,0.4s,baz=64,slow=7.1,SNR=3.3						
NVS	**Novosibirsk**	**44.18**	**308**	*e*P	**P**	**14 06 23.4**	**-2.0**
NVS				*e*		14 08 08.2	
NVS				*e*S	**S**	**14 12 50.0**	**-9.4**
NVS				pmax	pmax		
	comp=E,13nm,0.6s						
NVS				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,8.0nm,0.9s						
NVS				smax			
	comp=N,13nm,2.0s						
NVS				smax			
	comp=E,41nm,2.8s						
WMQ	**Urumqi**	**46.09**	**292**	⇑*i*P	**P**	**14 06 42.6**	**+2.0**
WMQ				AP		14 06 47.1	
WMQ				XP	sP	14 06 49.6	+8.5
WMQ				PCP	PcP	14 08 19.6	+2.7
WMQ				PP	PP	14 08 30.8	+2.3
WMQ				PPP		14 09 14.1	
WMQ				S	**S**	**14 13 26.6**	**-0.4**
WMQ				XS	sS	14 13 34.1	+6.4
WMQ				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,4μm,7.0s						
WMQ				LR	LR		
	comp=N,11μm,20.4s,MS6.5						
WMQ				LR	LR		
	comp=E,53μm,20.4s,MS6.5						
WMQ				LR	LR		
	comp=Z,15μm,19.1s,MS6.0						
KMI	**Kunming**	**46.47**	**261**	P	**P**	**14 06 45.5**	**+1.9**
KMI				AP		14 06 50.8	
KMI				XP	sP	14 06 53.6	+9.4
KMI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
KMI	**Kunming**	**46.47**	**261**	P	**P**	**14 06 45.5**	**+1.9**
	comp=Z,12nm,1.4s,mb4.7						
KMI				pP		14 06 50.8	
KMI				sP	sP	14 06 53.6	+9.4
MK31	**Makanchi Array**	**48.05**	**298**	P	**P**	**14 06 55.0**	**-0.9**
MK31	**Makanchi Array**	**48.05**	**298**	*e*P	**P**	**14 06 54.7**	**-1.2**
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**14 06 54.9**	**-1.0**
	comp=Z,3.8nm,0.6s,mb4.7,baz=69,slow=7.3,SNR=16						
MKAR				PcP	PcP	14 08 22.6	-1.2
	comp=Z,2.1nm,0.6s,baz=59,slow=4.7,SNR=3.5						
POHA	**Pohakuloa**	**48.38**	**107**	*e*P	**P**	**14 06 57.3**	**-1.1**
	comp=Z,54nm,0.8s,mb5.7						
KURK	**Kurchatov**	**48.40**	**304**	P	**P**	**14 06 57.3**	**-1.3**
	comp=Z,200nm,0.8s,mb6.3,SNR=17						
KURK	**Kurchatov**	**48.40**	**304**	*e*P	**P**	**14 06 58.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.6						
KURK	**Kurchatov**	**48.40**	**304**	*e*P	**P**	**14 06 57.4**	**-1.2**
	comp=Z,44nm,0.8s,mb5.6						
ALE	**Alert**	**49.62**	**6**	P	**P**	**14 07 07.0**	**-0.9**
	comp=Z,144nm,0.6s,mb6.1,SNR=7.8						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**14 07 11.7**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.7,baz=296,slow=7.0,SNR=7.4						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**14 07 11.7**	**-0.5**
RES	**Resolute Bay**	**50.44**	**19**	*e*P	**P**	**14 07 14.1**	**-0.1**
	comp=Z,245nm,0.6s,mb6.3						
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**14 07 19.7**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.7						
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**14 07 19.7**	**-1.6**
	comp=Z,70nm,0.7s,mb5.7						
LSA	**Lhasa**	**51.52**	**274**	*e*P	**P**	**14 07 25.6**	**+3.3**
LSA	**Lhasa**	**51.52**	**274**	*e*P	**P**	**14 07 25.8**	**+3.5**
LSA				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.4						
LSA	**Lhasa**	**51.52**	**274**	*e*P	**P**	**14 07 25.8**	**

A08A **Turner Farm, O** 54.61 54 ⇑P P 14 07 44.5 -0.6
baz=54
KBK **Karagaybulak** 54.66 297 P P 14 07 45.5 +0.1
SNR=6.0
D06A **Cle Elum** 54.68 56 ⇓P P 14 07 44.9 -0.7
baz=54
FRU **Bishkek** 54.76 297 eP P 14 07 47.5 +1.3
KZA **Kyzart** 54.80 296 P P 14 07 52.0 +5.6
SNR=7.9
C07A **Waterville** 54.85 55 ⇓P P 14 07 46.2 -0.7
baz=55
B08A **Colville Reser** 54.90 54 ⇑P P 14 07 46.3 -0.9
baz=55
AAK **Ala-Archa** 54.95 297 P P 14 07 46.7 -0.9
comp=Z,85nm,0.9s,mb5.8,SNR=9.8
AAK **Ala-Archa** 54.95 297 P P 14 07 47.9 +0.3
SNR=7.9
AAK **Ala-Archa** 54.95 297 eP P 14 07 49.6 +2.0
AAK pmax pmax
comp=Z,26nm,0.8s,mb5.3
AAK **Ala-Archa** 54.95 297 eP P 14 07 46.6 -0.9
comp=Z,26nm,0.8s,mb5.3
K01A **Sixes** 54.95 62 ⇓P P 14 07 47.9 +0.2
baz=55
E06A **Yakima** 54.96 57 ⇓P P 14 07 47.4 -0.2
baz=55
A09A **Danville** 54.98 53 P P 14 07 47.8 +0.1
baz=55,SNR=6.3
I03A **Eugene** 55.03 61 ⇓P P 14 07 48.5 +0.3
baz=55
F05A **White Salmon** 55.04 58 ⇓P P 14 07 48.4 +0.1
baz=55
J02A **Umpqua** 55.19 61 ⇑P P 14 07 49.5 +0.2
baz=55,SNR=5.0
H04A **Detroit Lake** 55.28 59 ⇓P P 14 07 50.0 0.0
baz=55
C08A **Higginbotham F** 55.37 55 ⇑P P 14 07 49.6 -1.0
baz=55
EDM **Edmonton** 55.41 47 eP P 14 07 50.2 -0.7
G05A **Wamic** 55.48 58 ⇑P P 14 07 51.1 -0.3
baz=55
F06A **Goldendale** 55.50 58 ⇑P P 14 07 51.4 -0.2
baz=55
B09A **Rice** 55.52 54 ⇓P P 14 07 51.1 -0.6
baz=55
A10A **Northport** 55.54 53 ⇓P P 14 07 50.9 -0.9
baz=55
J03A **Ideyld Park** 55.55 61 ⇑P P 14 07 52.0 +0.1
baz=55
K02A **Glendale** 55.58 62 ⇓P P 14 07 52.5 +0.4
baz=55
E07A **Sunnyside** 55.59 56 ⇓P P 14 07 51.4 -0.8
baz=55
I04A **Tendick Farm,** 55.65 60 P P 14 07 53.3 +0.7
baz=55,SNR=6.2
AML **Almayashu** 55.72 297 P P 14 07 54.1 +0.9
SNR=5.9
C09A **Chrisman Ranch** 55.80 54 ⇑P P 14 07 53.3 -0.4
baz=56
KSH **Kashi** 55.80 293 eP P 14 07 57.8 +4.1
KSH eXP sP 14 08 06.8 +13
KSH ePCP PcP 14 08 55.3 +2.5
KSH ePP PP 14 10 02.6 +4.5
KSH ePPP 14 11 19.1
KSH eSCP ScP 14 12 54.0 +1.1
KSH eS **S** **14 15 43.6 +2.0**
KSH eXS sS 14 15 52.9 +11
KSH ePS 14 16 03.5
KSH eSCS ScS 14 17 42.3 -1.8
KSH eSS SS 14 19 26.9 -0.1
KSH LR LR
comp=N,19µm,14.3s,MS6.5
KSH LR LR
comp=E,16µm,12.8s,MS6.5
KSH LR LR
comp=Z,21µm,23.2s
D08A **Wollman Farm,** 55.85 56 ⇑P P 14 07 53.2 -0.8
baz=56
ARU **Arti** 55.85 318 P P 14 07 53.4 -0.7
comp=Z,451nm,0.4s,SNR=16
ARU **Arti** 55.85 318 ⇓iP P 14 07 52.3 -1.8
ARU eS **S** **14 15 38.6 -3.7**
ARU eSS SS 14 19 23.6 -4.2
ARU pmax pmax
comp=Z,16nm,0.6s,mb5.2
ARU **Arti** 55.85 318 eP P 14 07 53.1 -0.9
comp=Z,34nm,0.4s,mb5.7
L02A **Cave Junction** 55.85 63 ⇑P P 14 07 54.7 +0.6
baz=56
H05A **Madras** 55.87 59 ⇓P P 14 07 54.5 +0.3
baz=56
HAWA **Hanford** 55.87 56 eP P 14 07 53.5 -0.7
comp=Z,11nm,1.2s,mb4.8
G06A **Carlson Farm,** 55.88 58 ⇑P P 14 07 54.0 -0.3
baz=56
F07A **Phinny Hill Vi** 55.92 57 ⇑P P 14 07 53.8 -0.8
baz=56
HUMO **Hull Mountain** 55.99 62 ⇑P P 14 07 55.2 +0.1
baz=56
E08A **Dider Farm, El** 56.09 56 ⇑P P 14 07 55.1 -0.7
baz=56
B10A **Chitwood Farm,** 56.10 54 ⇓P P 14 07 54.8 -1.0
baz=56
I05A **Bend** 56.12 60 ⇑P P 14 07 55.7 -0.3
baz=56
J04A **Umpqua Nationa** 56.14 61 ⇓P P 14 07 56.2 +0.1
baz=56
NEW **Newport** 56.18 53 P P 14 07 55.6 -0.8
comp=Z,2.9nm,0.8s,mb4.4,baz=301,slow=5.1,SNR=4.2
NEW **Newport** 56.18 53 P P 14 07 56.0 -0.4
NEW pmax pmax
comp=Z,19nm,1.5s
NEW **Newport** 56.18 53 eP P 14 07 55.5 -0.9
comp=Z,18nm,1.5s,mb4.9
JIRN **Jiri** 56.19 276 eP P 14 07 59.1 +2.6
D09A **Jones Farm, Ri** 56.19 55 ⇑P P 14 07 55.7 -0.8
baz=56
A11A **Hall Mountain,** 56.20 52 ⇓P P 14 07 55.8 -0.8
baz=56
GUN **Gumba** 56.24 276 eP P 14 07 59.1 +2.2
comp=Z,21nm,0.3s,mb5.6
C10A **Spilker Farm,** 56.33 54 ⇓P P 14 07 56.8 -0.7
baz=56
PMG **Port Moresby** 56.33 189 P P 14 07 55.7 -1.8
comp=Z,4.1nm,0.8s,mb4.5,baz=346,slow=5.9,SNR=4.3
PMG **Port Moresby** 56.33 189 P P 14 07 55.7 -1.8
PMG pmax pmax
comp=Z,4.0nm,0.8s
H06A **Lindquist Farm** 56.34 59 ⇓P P 14 07 57.1 -0.5
baz=56
JCC **Jacoby Creek** 56.36 64 ⇓P P 14 07 58.0 +0.3
baz=56
G07A **Ruggs Ranch, H** 56.43 58 ⇓P P 14 07 57.6 -0.6
baz=56
B11A **Sandpoint** 56.50 53 ⇑P P 14 07 58.1 -0.6
baz=56
E09A **Wood Farm, Sta** 56.59 56 ⇓P P 14 07 59.2 -0.2
baz=56
A12A **Yaak River Ran** 56.60 52 ⇓P P 14 07 59.3 -0.2
baz=56
J05A **Fort Rock** 56.64 60 P P 14 08 00.7 +1.0
baz=56,SNR=8.1
YBH **Yreka Blue Hor** 56.64 63 P P 14 08 00.6 +0.9
comp=Z,15nm,1.1s,mb4.9,baz=318,slow=4.2,SNR=10
YBH **Yreka Blue Hor** 56.64 63 P P 14 08 00.8 +1.1
baz=56,SNR=6.7
F08A **Pendleton** 56.64 57 ⇑P P 14 07 60.0 +0.3
baz=56
DAG **Danmarks Havn** 56.69 358 ⇑iP P 14 07 59.2 -0.9
comp=Z,4.1nm,0.7s,mb4.6
DAG **Danmarks Havn** 56.69 358 ⇑eP P 14 07 59.2 -0.9
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DAG **Danmarks Havn** 56.69 358 ⇑eP P 14 07 59.2 -0.9
comp=Z,4.1nm,0.7s,mb4.6
K04A **Chilquin** 56.73 61 ⇓P P 14 08 00.7 +0.4
baz=56,SNR=6.2
KKN **Kakani** 56.73 277 eP P 14 08 01.5 +1.2
comp=Z,42nm,0.7s,mb5.6
M02C **Callahan** 56.75 63 ⇓P P 14 08 00.9 +0.4
baz=56
PKI **Pulchoki** 56.78 276 eP P 14 08 01.9 +1.2
comp=Z,40nm,0.7s,mb5.5
N02C **Big Bar** 56.80 64 ⇓P P 14 08 01.5 +0.6
baz=57
G08A **Pilot Rock** 56.83 57 ⇑P P 14 08 01.3 +0.3
baz=57

I06A **Prineville** 56.87 59 P P 14 08 02.2 +0.9
baz=57,SNR=5.7
O01C **Eel River Cons** 56.88 65 ⇓P P 14 08 02.4 +0.9
baz=57
L04A **Klamath Falls** 56.88 62 ⇓P P 14 08 01.7 +0.2
baz=57
DMN **Daman** 56.96 276 eP P 14 08 03.6 +1.6
comp=Z,99nm,0.8s,mb5.9
GKN **Gorkha** 57.03 277 eP P 14 08 03.6 +1.1
comp=Z,100nm,0.7s,mb6.0
M04C **Macdoel** 57.14 62 P P 14 08 03.8 +0.5
baz=57,SNR=7.2
K05A **Summer Lake** 57.16 61 P P 14 08 04.5 +1.1
baz=57,SNR=5.2
F09A **S2 Ranch, Elgi** 57.19 56 ⇑P P 14 08 03.7 +0.1
baz=57
E10A **Myers Farm, Un** 57.20 55 ⇓P P 14 08 03.6 -0.1
baz=57
I07A **Izee** 57.20 59 P P 14 08 04.4 +0.7
baz=57,SNR=5.3
LVZ **Lovozero** 57.26 337 ⇑eP P 14 08 03.1 -1.0
LVZ pmax pmax
comp=Z,44nm,1.6s,mb5.2
M03C **McCloud** 57.27 63 ⇓P P 14 08 04.4 +0.3
baz=57
D11A **Klaveano Farm,** 57.31 54 P P 14 08 03.9 -0.5
baz=57,SNR=5.5
WDC **Whiskeytown Da** 57.41 64 ⇑P P 14 08 05.1 -0.1
baz=57
F10A **Beach Ranch, E** 57.43 56 ⇑P P 14 08 04.9 -0.4
baz=57
H08A **Prairie City** 57.44 58 ⇓P P 14 08 05.5 +0.1
baz=57
WALA **Waterton Lakes** 57.47 51 eP P 14 08 05.1 -0.5
comp=Z,17nm,1.1s,mb5.0
O02C **Red Bluff** 57.50 64 P P 14 08 07.0 +1.1
baz=57,SNR=5.4
K06A **Valley Falls** 57.51 60 P P 14 08 06.7 +0.9
baz=57,SNR=5.5
B13A **Whitefish** 57.57 52 P P 14 08 06.4 +0.1
baz=57,SNR=8.9
P01C **Double 8 Ranch** 57.58 65 ⇓P P 14 08 06.4 +0.1
baz=57
L05A **Lakeview** 57.60 61 P P 14 08 07.8 +1.3
baz=57,SNR=7.2
J07A **Hines** 57.73 59 ⇓P P 14 08 07.8 +0.3
baz=58
KEV **Kevo** 57.75 341 ep P 14 08 05.9 -1.7
comp=Z,5.0nm,0.6s,mb4.7
KEV **Kevo** 57.75 341 eP P 14 08 05.9 -1.7
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
M05C **Lookout** 57.81 62 P P 14 08 08.8 +0.8
baz=58,SNR=6.3
APA **Apatity** 57.83 337 ⇑iP P 14 08 07.7 -0.4
APA pmax pmax
comp=Z,65nm,1.2s,mb5.5
GASB **Alder Springs** 57.85 65 P P 14 08 09.3 +1.0
baz=58,SNR=5.1
I08A **Drewsey** 57.85 58 P P 14 08 09.1 +0.8
baz=58,SNR=5.7
KOLN **Koldanda** 57.89 278 eP P 14 08 08.8 +0.3
comp=Z,66nm,0.8s,mb5.7
C13A **Hot Springs** 57.92 53 ⇓P P 14 08 08.0 -0.7
baz=58
H09A **Durkee** 57.94 57 P P 14 08 09.8 +0.9
baz=58,SNR=5.2
HATC **Hat Creek Radi** 57.94 63 ⇓P P 14 08 08.9 0.0
baz=58
MOD **Modoc** 58.00 61 P P 14 08 09.8 +0.4
baz=58,SNR=12
HOPS **Hopland** 58.02 65 ⇑P P 14 08 09.9 +0.4
baz=58
O03C **Acorn Hollow,** 58.07 64 ⇓P P 14 08 10.2 +0.3
baz=58
F11A **Grangeville** 58.09 55 ⇓P P 14 08 09.8 -0.1
baz=58
K07A **Rock Creek Ran** 58.17 60 ⇑P P 14 08 10.4 -0.1
baz=58
J08A **Circle Bar Ran** 58.23 59 ⇑P P 14 08 10.8 -0.1
baz=58
ARCES **ARCESS Array B** 58.26 341 P P 14 08 10.8 -0.3
comp=Z,31nm,1.0s,mb5.3,baz=26,slow=7.2,SNR=20
ARE0 **ARCESS Array S** 58.26 341 eP P 14 08 10.6 -0.5
I09A **Lost Marbles R** 58.30 58 ⇑P P 14 08 11.0 -0.5
baz=58
G11A **Walters Elk Ra** 58.31 56 ⇑P P 14 08 11.6 +0.1
baz=58
M06C **Likely Place G** 58.31 62 ⇓P P 14 08 12.1 +0.6
baz=58
D13A **Huson** 58.32 53 ⇓P P 14 08 11.0 -0.6
baz=58
O04C **Chester** 58.46 63 P P 14 08 13.2 +0.7
baz=58,SNR=11
MNRC **McLaughlin Nat** 58.49 65 ⇑P P 14 08 13.1 +0.4
baz=58
ELFS **Eagle Lake Fie** 58.51 63 P P 14 08 13.6 +0.7
baz=58,SNR=10.0
L07A **Adell** 58.51 61 P P 14 08 13.6 +0.7
baz=58,SNR=7.8
K08A **Mann Creek Ran** 58.60 60 P P 14 08 14.1 +0.6
baz=58,SNR=8.1
NSHM **Saint Helena R** 58.60 66 eP P 14 08 12.7 -0.8
J09A **Fry Pan Ranch,** 58.66 59 ⇓P P 14 08 14.1 +0.2
baz=58
WVOR **Wild Horse Val** 58.69 60 P P 14 08 14.3 +0.2
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.8
WVOR **Wild Horse Val** 58.69 60 eP P 14 08 13.6 -0.5
comp=Z,9.9nm,1.0s,mb4.8
O05C **Quincy** 58.78 63 ⇓P P 14 08 14.5 -0.3
baz=59
CVS **Carmenet Viney** 58.80 66 ⇑P P 14 08 15.9 +1.0
baz=59
OHCM **Honcut** 58.81 64 eP P 14 08 14.7 -0.3
D14A **Greenough** 58.86 53 P P 14 08 15.1 -0.2
baz=59,SNR=12
E13A **Victor** 58.86 54 P P 14 08 15.6 +0.3
baz=59,SNR=6.7
H11A **Donnelly** 58.87 56 P P 14 08 15.3 0.0
baz=59,SNR=11
BOK **Bokaro** 58.90 273 eP P 14 08 15.9 +0.3
BOK AMb AMB 14 08 31.2
comp=Z,26nm,0.5s,mb5.5
N06A **Buffalo Meadow** 58.97 62 P P 14 08 16.4 +0.3
baz=59,SNR=12
M07A **Soldier Meadow** 58.99 61 P P 14 08 16.9 +0.6
baz=59,SNR=17
L08A **Fields** 59.00 60 P P 14 08 16.7 +0.4
baz=59,SNR=8.5
K09A **Rome** 59.07 59 P P 14 08 16.9 +0.2
baz=59,SNR=5.5
CHMT **Chamberlain Mo** 59.09 53 eP P 14 08 16.1 -0.8
F13A **Darby** 59.17 55 P P 14 08 17.1 -0.3
baz=59,SNR=10
BEKR **Beckwourth** 59.18 63 ⇓P P 14 08 17.4 -0.1
baz=59
E14A **Clinton** 59.26 54 P P 14 08 17.9 -0.2
baz=59,SNR=8.7
O06A **Flanigan** 59.33 63 P P 14 08 18.9 +0.4
baz=59,SNR=6.4
P05C **Yuba Gap, Truc** 59.37 64 ⇑P P 14 08 18.4 -0.4
baz=59
D15A **Lincoln** 59.42 53 P P 14 08 19.0 -0.2
baz=59,SNR=6.2
N07B **Gerlach** 59.48 62 P P 14 08 20.0 +0.4
baz=59,SNR=7.0
L09A **Wilkinson Ranc** 59.51 60 ⇓P P 14 08 19.7 -0.1
baz=59
AKTK **Aktyubinsk** 59.65 313 P P 14 08 21.0 +0.2
AKTO **Aktyubinsk** 59.65 313 P P 14 08 21.0 +0.2
comp=Z,5.2nm,0.5s,mb4.8,baz=65,slow=8.4,SNR=16
AKTO **Aktyubinsk** 59.65 313 P P 14 08 21.0 +0.2
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
F14A **Wisdom** 59.69 54 ⇓P P 14 08 20.6 -0.5
baz=60
BNLO **Ben Lomond (Sa** 59.71 67 ⇓P P 14 08 20.9 -0.3
baz=60
E15A **Deer Lodge** 59.73 53 P P 14 08 21.2 -0.1
baz=60,SNR=9.2
WCN **Washoe City** 59.89 63 P P 14 08 22.8 +0.3
baz=60,SNR=11
O07A **Toulon** 59.91 62 P P 14 08 23.0 +0.5
baz=60,SNR=15
FFC **Flin Flon** 59.93 41 P P 14 08 22.5 -0.2
comp=Z,184nm,0.7s,mb6.2,SNR=7.7
FFC **Flin Flon** 59.93 41 P P 14 08 22.6 -0.1

N08A **GE Springer Mi** 59.98 61 ⇓P P 14 08 22.7 -0.3
baz=60
M09A **Marrel Ranch,** 60.00 60 ⇑P P 14 08 23.0 -0.2
baz=60
S04C **Ingram Canyon,** 60.02 66 ⇑P P 14 08 22.8 -0.5
baz=60
R05C **Kirkwood Meado** 60.06 64 P P 14 08 23.8 +0.2
baz=60,SNR=13
F15A **Butte** 60.16 54 P P 14 08 24.7 +0.4
baz=60,SNR=14
CMB **Columbia Colle** 60.28 65 eP P 14 08 24.8 -0.3
CMB pmax pmax
comp=Z,29nm,1.4s,mb5.1
CMB **Columbia Colle** 60.28 65 eP P 14 08 24.8 -0.3
comp=Z,29nm,1.4s,mb5.1
CMB **Columbia Colle** 60.28 65 P P 14 08 25.2 +0.1
baz=60,SNR=13
N09A **Rock Creek Ran** 60.30 61 P P 14 08 25.9 +0.6
baz=60,SNR=5.5
PACP **Pacheco Peak** 60.35 66 ⇑P P 14 08 25.7 +0.1
baz=60
HLID **Hailey** 60.47 57 eP P 14 08 26.5 0.0
comp=Z,7.1nm,0.9s,mb4.7
M10A **I.L. Ranch, Tu** 60.48 60 P P 14 08 27.1 +0.6
baz=60,SNR=12
R06C **Coleville** 60.56 64 P P 14 08 27.6 +0.6
baz=60,SNR=12
HAST **UC Hastings Re** 60.56 67 ⇓P P 14 08 27.2 +0.2
baz=60
G15A **Dillon** 60.58 54 P P 14 08 27.1 -0.1
baz=60,SNR=15
MCMT **McKenzie Canyo** 60.59 55 eP P 14 08 26.5 -0.7
SUMG **Summit** 60.61 5 eP P 14 08 27.6 +0.2
comp=Z,43nm,0.8s,mb5.6
Q07A **Schurz** 60.70 63 ⇑P P 14 08 27.4 -0.6
baz=60
S06C **San Francisco** 60.71 65 P P 14 08 28.1 +0.1
baz=60,SNR=13
S05C **Merced** 60.74 65 ⇑P P 14 08 28.4 +0.1
baz=60
T05C **Eagle Field, D** 60.80 66 ⇑P P 14 08 28.4 -0.3
baz=61
O09A **Fish Creek Ran** 60.92 61 P P 14 08 30.2 +0.7
baz=61,SNR=8.9
M11A **Holland Ranch,** 60.98 59 P P 14 08 30.8 +0.8
baz=61,SNR=15
N10A **Dunphy** 60.99 60 ⇓P P 14 08 30.4 +0.4
baz=61
U04C **Hernandez Rese** 61.06 67 ⇓P P 14 08 30.3 -0.1
baz=61
R07C **Lee Vining** 61.08 64 P P 14 08 31.3 +0.7
baz=61,SNR=16
O10A **Cortez Mining,** 61.26 61 P P 14 08 32.2 +0.4
baz=61,SNR=5.5
Q08A **Gabbs** 61.28 63 P P 14 08 32.1 +0.2
baz=61,SNR=10
P09A **Austin** 61.34 62 ⇑P P 14 08 32.3 0.0
baz=61
T06C **Millerton Lake** 61.34 65 P P 14 08 32.0 -0.3
baz=61,SNR=6.8
QLMT **Earthquake Lak** 61.38 54 eP P 14 08 32.8 +0.2
KCC **Kaiser Creek** 61.38 65 P P 14 08 33.0 +0.4
baz=61,SNR=8.5
N11A **Elko Archery C** 61.39 60 ⇑P P 14 08 33.0 +0.3
baz=61
PKD **Parkfield** 61.48 67 ⇓P P 14 08 33.2 -0.1
baz=61
MLAC **Mammoth Lakes** 61.49 64 ⇑P P 14 08 34.5 +1.2
baz=61
R08A **Mina** 61.50 63 ⇓P P 14 08 33.3 -0.1
baz=61
M12A **Wells** 61.51 59 P P 14 08 34.2 +0.7
baz=61,SNR=13
NDI **New Delhi** 61.62 283 ⇑eP P 14 08 34.0 -0.3
NDI eP 14 08 34.5
NDI AMb AMB 14 08 38.4
comp=Z,24nm,1.2s,mb5.3
P10A **Eureka** 61.70 61 ⇓P P 14 08 35.1 +0.3
baz=62
Q09A **Carvers** 61.76 62 ⇓P P 14 08 35.5 +0.3
baz=62
N12A **Clover Valley,** 61.78 59 P P 14 08 36.2 +0.9
baz=62,SNR=7.2
MTUM **Tungsten Hills** 61.84 64 eP P 14 08 36.1 +0.4
O11A **Cowboy Ranch,** 61.87 60 P P 14 08 36.3 +0.4
baz=62,SNR=7.6
V05C **Boulder Hill,** 61.93 67 ⇑P P 14 08 36.7 +0.3
baz=62
HELL **Mitchell Peak,** 61.97 65 P P 14 08 36.2 -0.4
baz=62,SNR=15
M13A **Montello** 61.98 58 ⇓P P 14 08 37.1 +0.4
baz=62
S08C **White Mtn Res** 61.99 64 P P 14 08 37.2 +0.5
baz=62,SNR=8.7
RCTC **Rector, Farmer** 62.07 66 ⇓P P 14 08 37.0 -0.3
baz=62
P11A **Circle Ranch,** 62.17 61 ⇑P P 14 08 37.8 -0.2
baz=62
R09A **Tonopah** 62.20 63 P P 14 08 38.4 +0.2
baz=62,SNR=9.1
TPH **Tonopah** 62.21 63 eP P 14 08 38.1 -0.1
TPH pmax pmax
comp=Z,56nm,1.5s,mb5.6
TPH **Tonopah** 62.21 63 eP P 14 08 38.1 -0.1
comp=Z,56nm,1.5s,mb5.6
SMMC **Simmler** 62.22 67 ⇓P P 14 08 38.3 +0.1
baz=62
TIN **Tinemaha** 62.23 65 ⇓P P 14 08 38.2 -0.2
baz=62
N13A **Wendover, West** 62.28 59 ⇑P P 14 08 38.6 -0.1
baz=62
O12A **Currie** 62.33 60 P P 14 08 39.3 +0.3
baz=62,SNR=16
S09A **Goldfield** 62.43 63 P P 14 08 39.8 +0.2
baz=62,SNR=13
VES **Vestal, Richgr** 62.47 66 ⇓P P 14 08 39.6 -0.3
baz=62
KAKA **Kakadu** 62.53 205 eP P 14 08 38.6 -1.8
comp=Z,15nm,0.6s,mb5.3
PKM **Peak Mountain** 62.60 67 ⇓P P 14 08 41.1 +0.3
baz=62
R10A **Warm Springs** 62.64 62 P P 14 08 41.2 +0.2
baz=62,SNR=8.5
Q11A **Duckwater** 62.68 62 ⇑P P 14 08 40.9 -0.4
baz=62
CWC **Cottonwood Cre** 62.71 65 P P 14 08 42.0 +0.4
baz=62,SNR=9.6
P12A **McGill** 62.73 61 P P 14 08 41.9 +0.2
baz=62,SNR=8.6
GRAC **Grapevine Rang** 62.80 64 P P 14 08 42.6 +0.4
baz=63,SNR=5.7
ISA **Isabella** 62.96 66 eP P 14 08 42.0 -1.2
ISA **Isabella** 62.96 66 P P 14 08 42.3 -0.9
baz=63,SNR=7.7
Q12A **Willow Creek R** 63.05 61 P P 14 08 44.2 +0.4
baz=63,SNR=5.6
ARVC **Arvin** 63.08 67 ⇑P P 14 08 43.6 -0.4
baz=63
MPMC **Manual Prospec** 63.32 65 P P 14 08 46.1 +0.5
baz=63,SNR=13
HWUT **Hardware Ranch** 63.34 57 eP P 14 08 46.1 +0.4
comp=Z,14nm,1.0s,mb5.0
FURC **Furnace Creek,** 63.45 64 P P 14 08 46.4 0.0
baz=63,SNR=16
OSI **Osito Adit** 63.47 67 ⇓P P 14 08 46.5 -0.1
baz=63
DUG **Dugway** 63.51 59 eP P 14 08 47.3 +0.4
DUG pmax pmax
comp=Z,26nm,1.3s,mb5.3
DUG **Dugway** 63.51 59 eP P 14 08 47.3 +0.4
comp=Z,26nm,1.3s,mb5.3
LRMC **Laurel Mountai** 63.57 66 P P 14 08 46.8 -0.4
baz=63,SNR=9.7
BW06 **Boulder Array** 63.73 55 eP P 14 08 48.2 -0.1
comp=Z,18nm,1.0s,mb5.2
PDAR **Pinedale Array** 63.73 55 P P 14 08 48.2 -0.1
comp=Z,9.6nm,0.9s,mb5.0,baz=300,slow=2.5,SNR=33
EDW2 **Edwards Air Fo** 63.76 66 P P 14 08 48.5 0.0
baz=64,SNR=20
U10A **Ash Meadows, A** 63.81 64 P P 14 08 49.5 +0.7
baz=64,SNR=10
DECC **Green Verdugo** 63.95 67 ⇓P P 14 08 50.1 +0.4
baz=64
SHOC **Shoshone** 64.17 64 ⇑P P 14 08 51.0 -0.3
baz=64
GSC **Goldstone** 64.23 65 P P 14 08 51.4 -0.2
baz=64,SNR=7.7
DAU **Daniels Canyon** 64.28 58 eP P 14 08 52.9 +0.9

FMP	**Fort Macarthur**	**64.33**	**67**	⇓P		**P**		**14 08 52.5**	**+0.2**
	baz=64									
BFSC	**Mount Baldy St**	**64.38**	**67**	P		**P**		**14 08 52.1**	**-0.6**
	baz=64,SNR=5.8									
U11A	**Corn Creek**	**64.39**	**63**	⇓P		**P**		**14 08 52.6**	**0.0**
	baz=64									
FINES	**FINESS Array B**	**64.56**	**336**	P		**P**		**14 08 53.6**	**-0.2**
	comp=Z,8.0nm,0.4s,mb5.3,baz=39,slow=8.1,SNR=29									
ARUT	**Antelope Range**	**64.69**	**61**	P		**P**		**14 08 54.8**	**+0.2**
ARUT	**Antelope Range**	**64.69**	**61**	*eP*		**P**		**14 08 54.4**	**-0.2**
TUQ	**Turquoise Mtn.**	**64.70**	**65**	⇑P		**P**		**14 08 54.7**	**0.0**
	baz=64									
V11A	**Goodsprings**	**64.74**	**64**	⇑P		**P**		**14 08 55.4**	**+0.5**
	baz=64									
VIS	**Vishakhapatnam**	**64.75**	**269**	*eP*		**P**		**14 08 55.6**	**+0.6**
VIS				AMb		AMB		14 09 07.9		
	comp=Z,43nm,1.2s,mb5.6									
AJM	**Ajmer**	**64.79**	**282**	*eP*		**P**		**14 08 56.1**	**+0.9**
AJM				AMb		AMB		14 09 08.8		
	comp=Z,32nm,1.2s,mb5.4									
BBRC	**Big Bear Sol-O**	**64.83**	**66**	⇓P		**P**		**14 08 55.5**	**-0.1**
	baz=65									
HEC	**Hector,Ludlow**	**64.84**	**65**	P		**P**		**14 08 55.9**	**+0.3**
	baz=65,SNR=6.4									
U12A	**Valley of Fire**	**64.90**	**63**	⇑P		**P**		**14 08 56.3**	**+0.3**
	baz=65									
MSU	**Marysvale**	**64.98**	**60**	P		**P**		**14 08 56.9**	**+0.4**
MSU	**Marysvale**	**64.98**	**60**	*eP*		**P**		**14 08 56.8**	**+0.3**
MURC	**Murrieta**	**65.09**	**67**	P		**P**		**14 08 57.3**	**+0.1**
	baz=65,SNR=5.4									
V12A	**Nelson**	**65.17**	**64**	P		**P**		**14 08 58.0**	**+0.2**
	baz=65,SNR=7.8									
NGP	**Nagpur**	**65.35**	**275**	*eP*		**P**		**14 08 59.2**	**+0.2**
NGP				AMb		AMB		14 09 13.7		
	comp=Z,28nm,1.7s,mb5.2									
W12A	**Cal Nev Ari**	**65.44**	**64**	⇓P		**P**		**14 08 59.5**	**0.0**
	baz=65									
PFO	**Pinyon Flat Ob**	**65.55**	**66**	⇑P		**P**		**14 08 60.0**	**-0.2**
	baz=65									
BELC	**Belle Mtn.**	**65.58**	**66**	P		**P**		**14 08 59.8**	**-0.6**
	baz=65,SNR=8.3									
109C	**Camp Elliot, M**	**65.61**	**67**	⇓P		**P**		**14 09 00.5**	**-0.2**
	baz=65									
ULM	**Lac du Bonnet**	**65.70**	**42**	P		**P**		**14 09 00.3**	**-0.9**
	comp=Z,7.2nm,0.6s,mb5.1,baz=314,slow=7.2,SNR=16									
RSSD	**Black Hills**	**65.86**	**51**	*eP*		**P**		**14 09 01.9**	**-0.3**
RSSD				pmax		pmax				
	comp=Z,33nm,1.1s,mb5.5									
RSSD	**Black Hills**	**65.86**	**51**	*eP*		**P**		**14 09 01.9**	**-0.4**
	comp=Z,33nm,1.1s,mb5.5									
OBN	**Obninsk**	**66.01**	**326**	*eP*		**P**		**14 09 02.4**	**-0.8**
OBN				pmax		pmax				
	comp=Z,37nm,1.4s,mb5.4									
IRM	**Iron Mountain**	**66.01**	**65**	P		**P**		**14 09 03.1**	**-0.1**
	baz=66,SNR=10									
MONP	**Monument Peak**	**66.05**	**67**	⇑P		**P**		**14 09 03.2**	**-0.2**
	baz=66									
BC3	**Big Chuckw Mtn**	**66.15**	**66**	⇓P		**P**		**14 09 03.7**	**-0.4**
	baz=66									
W13A	**Hualapai Mount**	**66.18**	**64**	⇓P		**P**		**14 09 04.1**	**-0.1**
	baz=66									
DVTC	**Desert V Tower**	**66.40**	**67**	⇑P		**P**		**14 09 05.4**	**-0.3**
	baz=66									
SWSC	**Sam W. Stewart**	**66.41**	**67**	⇓P		**P**		**14 09 05.4**	**-0.3**
	baz=66									
X13A	**Yucca**	**66.55**	**64**	P		**P**		**14 09 06.6**	**0.0**
	baz=66,SNR=13									
PDMCI	**Parker Dam,Lak**	**66.55**	**64**	P		**P**		**14 09 06.4**	**-0.2**
	baz=66,SNR=8.0									
W14A	**Seligman**	**66.59**	**63**	P		**P**		**14 09 07.5**	**+0.5**
	baz=66,SNR=28									
Y12C	**Blythe**	**66.67**	**65**	P		**P**		**14 09 07.4**	**0.0**
	baz=66,SNR=8.3									
GLA	**Glamis**	**66.94**	**66**	P		**P**		**14 09 09.3**	**+0.1**
	baz=67,SNR=6.8									
CTA	**Charters Tower**	**66.98**	**189**	*eP*		**P**		**14 09 07.4**	**-2.0**
	comp=Z,4.6nm,0.6s,mb4.9									
CTA	**Charters Tower**	**66.98**	**189**	*eP*		**P**		**14 09 07.4**	**-2.0**
CTA				pmax		pmax				
	comp=Z,5.0nm,0.6s									
Y13A	**Salome**	**67.06**	**65**	⇑P		**P**		**14 09 09.8**	**-0.1**
	baz=67									
AGMN	**Agassiz Refuge**	**67.08**	**43**	*eP*		**P**		**14 09 08.9**	**-1.1**
	comp=Z,41nm,1.2s,mb5.5									
W15A	**Williams**	**67.12**	**63**	P		**P**		**14 09 11.2**	**+1.0**
	baz=67,SNR=7.2									
X14A	**Yava**	**67.21**	**64**	P		**P**		**14 09 11.4**	**+0.6**
	baz=67,SNR=20									
WUAZ	**Wupatki**	**67.44**	**62**	*eP*		**P**		**14 09 12.5**	**+0.2**
	comp=Z,50nm,1.5s,mb5.5									
WUAZ	**Wupatki**	**67.44**	**62**	P		**P**		**14 09 13.1**	**+0.8**
	baz=67,SNR=9.9									
Y14A	**Wickenburg**	**67.49**	**64**	P		**P**		**14 09 12.6**	**0.0**
	baz=67,SNR=14									
X15A	**Humboldt**	**67.60**	**63**	P		**P**		**14 09 14.0**	**+0.7**
	baz=67,SNR=15									
Z14A	**Wintersburg**	**67.91**	**64**	⇑P		**P**		**14 09 14.9**	**-0.4**
	baz=68									
MVCO	**Mesa Verde**	**68.02**	**59**	*eP*		**P**		**14 09 15.8**	**-0.2**
	comp=Z,28nm,1.4s,mb5.3									
HYB	**Hyderabad**	**68.24**	**273**	*iP*		**P**		**14 09 16.0**	**-1.4**
HYB	**Hyderabad**	**68.24**	**273**	*eP*		**P**		**14 09 16.0**	**-1.4**
NB2	**NORSAR Subarra**	**68.62**	**342**	P		**P**		**14 09 18.6**	**-1.1**
	comp=Z,9.5nm,0.5s,mb5.3,baz=30,slow=6.5									
NOA	**NORSAR Array B**	**68.62**	**342**	P		**P**		**14 09 21.3**	**+1.6**
	comp=Z,18nm,0.6s,mb5.3,baz=26,slow=6.3,SNR=18									
115A	**Sonoran Desert**	**68.80**	**65**	P		**P**		**14 09 21.3**	**+0.5**
	baz=69,SNR=7.0									
WRAB	**Tennant Creek**	**68.92**	**201**	*eP*		**P**		**14 09 18.9**	**-2.7**
WRAB				pmax		pmax				
	comp=Z,31nm,1.3s,mb5.4									
WRAB	**Tennant Creek**	**68.92**	**201**	*eP*		**P**		**14 09 18.9**	**-2.8**
	comp=Z,31nm,1.3s,mb5.4									
WB2	**Warramunga Arr**	**68.93**	**201**	*eP*		**P**		**14 09 19.5**	**-2.2**
WRA	**Warramunga Arr**	**68.94**	**201**	P		**P**		**14 09 19.3**	**-2.4**
	comp=Z,7.8nm,0.8s,mb5.0,baz=19,slow=6.9,SNR=26									
116A	**Eloy**	**69.22**	**64**	⇓P		**P**		**14 09 23.9**	**+0.4**
	baz=69									
SDCO	**Great Sand Dun**	**69.39**	**57**	*eP*		**P**		**14 09 24.5**	**0.0**
	comp=Z,32nm,1.5s,mb5.3									
ECSD	**EROS,Sioux Fal**	**69.98**	**47**	*eP*		**P**		**14 09 26.4**	**-1.7**
MDRS	**Chennai**	**70.11**	**268**	*eP*		**P**		**14 09 29.7**	**+0.8**
MDRS				AMb		AMB		14 09 52.3		
	comp=Z,75nm,1.5s,mb5.6									
POO	**Poona**	**70.70**	**277**	⇓*iP*		**P**		**14 09 30.0**	**-2.5**
LAZ	**Ladron**	**70.74**	**60**	*eP*		**P**		**14 09 33.3**	**+0.5**
ANMO	**Albuquerque**	**70.76**	**59**	*eP*		**P**		**14 09 33.0**	**+0.1**
ANMO				pmax		pmax				
	comp=Z,12nm,1.1s									
ANMO	**Albuquerque**	**70.76**	**59**	*eP*		**P**		**14 09 33.0**	**+0.1**
	comp=Z,12nm,1.1s,mb4.9									
LENM	**Lemitar**	**71.00**	**60**	*eP*		**P**		**14 09 34.5**	**+0.2**
Y22C	**IRIS PASSCAL I**	**71.10**	**60**	⇓P		**P**		**14 09 35.1**	**+0.2**
	baz=71									
LPM	**Los Pinos Moun**	**71.10**	**60**	*eP*		**P**		**14 09 35.2**	**+0.2**
BNM	**Barren Site**	**71.22**	**60**	*eP*		**P**		**14 09 35.9**	**+0.2**
KAD	**Karad**	**71.32**	**276**	*eP*		**P**		**14 09 36.2**	**-0.1**
KAD				AMb		AMB		14 09 48.5		
	comp=Z,37nm,1.4s,mb5.3									
KIV	**Kislovodsk**	**71.69**	**315**	*eP*		**P**		**14 09 36.7**	**-1.8**
KIV				pmax		pmax				
	comp=Z,28nm,1.0s,mb5.3									
ZEI	**Tsey**	**71.97**	**314**	*eP*		**P**		**14 09 42.6**	**+2.4**
ZEI				*e**PP				14 09 53.0		
ZEI				pmax		pmax				
	comp=Z,13nm,0.8s,mb5.1									
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**		**14 09 41.7**	**-0.1**
	comp=Z,4.7nm,0.4s,mb4.9,baz=34,slow=6.2,SNR=12									
AS31	**Alice Springs**	**72.62**	**200**	⇓*iP*		**P**		**14 09 43.0**	**-1.1**
ASAR	**Alice Springs**	**72.62**	**200**	P		**P**		**14 09 43.0**	**-1.1**
	comp=Z,11nm,0.7s,mb5.1,baz=16,slow=5.0,SNR=44									
ASPA	**Alice Springs**	**72.62**	**200**	⇓*iP*		**P**		**14 09 43.0**	**-1.1**
SCHQ	**Schefferville**	**72.82**	**24**	P		**P**		**14 09 45.0**	**-0.2**
	comp=Z,9.7nm,0.9s,mb4.9,baz=307,slow=3.5,SNR=5.8									
SCHQ	**Schefferville**	**72.82**	**24**	*eP*		**P**		**14 09 44.5**	**-0.8**
	comp=Z,26nm,1.3s,mb5.2									
GNI	**Garni**	**73.47**	**311**	⇑*eP*		**P**		**14 09 49.0**	**-0.2**
GNI				pmax		pmax				
	comp=Z,17nm,1.1s									
WMOK	**Wichita Mounta**	**75.35**	**55**	*eP*		**P**		**14 09 53.6**	**-6.5**
WMOK				pmax		pmax				
	comp=Z,35nm,1.1s,mb5.3									
WMOK	**Wichita Mounta**	**75.35**	**55**	*eP*		**P**		**14 09 53.5**	**-6.5**
	comp=Z,35nm,1.1s,mb5.3									
KWP	**Kalwaria**	**75.45**	**330**	*eP*		**P**		**14 10 00.7**	**0.0**
OJC	**Ojcow**	**75.91**	**332**	*eP*		**P**		**14 10 06.0**	**+2.7**
STHS	**Stebnicka Huta**	**76.13**	**331**	*eP*		**P**		**14 10 05.1**	**+0.5**
STHS				pmax		pmax				
	comp=Z,5.0nm,1.3s,mb4.5									
STHS	**Stebnicka Huta**	**76.13**	**331**	*eP*		**P**		**14 10 05.1**	**+0.5**
	comp=Z,4.7nm,1.3s,mb4.5									
STHS				*e*				14 10 08.1		
KOLS				*epP*				14 10 10.2		
KOLS	**Kolonicke sedl**	**76.20**	**330**	*eP*		**P**		**14 10 07.9**	**+3.0**
BURAR	**Bucovina Array**	**76.27**	**328**	⇑*iP*		**P**		**14 10 07.4**	**+2.1**
BURAR	**Bucovina Array**	**76.27**	**328**	⇑P		**P**		**14 10 07.4**	**+2.1**
LTX	**Lajitas**	**76.40**	**62**	*eP*		**P**		**14 10 05.9**	**-0.2**
LTX				pmax		pmax				
	comp=Z,59nm,0.9s,mb5.7									
LTX	**Lajitas**	**76.40**	**62**	*eP*		**P**		**14 10 05.9**	**-0.2**
	comp=Z,59nm,0.9s,mb5.7									
TXAR	**Lajitas Array**	**76.40**	**62**	P		**P**		**14 10 06.0**	**-0.1**
	comp=Z,31nm,0.7s,mb5.6,baz=300,slow=4.0,SNR=73									
TXAR	**Lajitas Array**	**76.40**	**62**	P		**P**		**14 10 06.0**	**-0.1**
NIE	**Niedzica**	**76.44**	**331**	*eP*		**P**		**14 10 09.5**	**+3.2**
KSP	**Ksiaz**	**76.45**	**334**	*eP*		**P**		**14 10 06.1**	**-0.3**
KSP				*epP*				14 10 08.8		
OKC	**Ostrava-Krasne**	**76.77**	**333**	*eP*		**P**		**14 10 08.0**	**-0.2**
UPC	**Upice**	**76.83**	**334**	*eP*		**P**		**14 10 06.7**	**-1.8**
UPC				epP				14 10 11.3		
DPC	**Dobruska-Polom**	**76.88**	**334**	*eP*		**P**		**14 10 07.9**	**-0.9**
CLL	**Collm**	**76.97**	**337**	*iP*		**P**		**14 10 11.6**	**+2.3**
CLL				*i*				14 10 22.6		
CLL				pmax		pmax				
	comp=Z,17nm,0.7s,mb5.3									
CLL	**Collm**	**76.97**	**337**	*iP*		**P**		**14 10 11.6**	**+2.3**
	comp=Z,32nm,0.7s,mb5.6									
CLL				*i*	pP			14 10 13.9		
CLL				*i*	PcP	PcP		14 10 22.6	+2.2	
MORC	**Moravsky Berou**	**77.01**	**333**	⇑*iP*		**P**		**14 10 11.8**	**+2.2**
MORC	**Moravsky Berou**	**77.01**	**333**	*eP*		**P**		**14 10 11.6**	**+2.0**
MORC				pmax		pmax				
	comp=Z,13nm,0.8s,mb5.1									
MORC	**Moravsky Berou**	**77.01**	**333**	*eP*		**P**		**14 10 11.6**	**+2.1**
	comp=Z,13nm,0.8s,mb5.1									
BRG	**Berggiesshubel**	**77.10**	**336**	*iP*		**P**		**14 10 11.9**	**+1.8**
	comp=Z,5.0nm,0.8s,mb4.7									
BRG	**Berggiesshubel**	**77.10**	**336**	*iP*		**P**		**14 10 11.9**	**+1.8**
BRG				pmax		pmax				
	comp=Z,12nm,0.8s,mb5.1									
LIKS	**Likavka**	**77.15**	**332**	*es*P		sP		14 10 17.3	+6.4	
KECS	**Kecovo**	**77.19**	**331**	*eP*		**P**		**14 10 13.3**	**+2.7**
KECS				pmax		pmax				
	comp=Z,3.0nm,0.8s,mb4.5									
KECS	**Kecovo**	**77.19**	**331**	*eP*		**P**		**14 10 13.3**	**+2.7**
	comp=Z,3.0nm,0.8s,mb4.5									
PVCC	**Panska Ves**	**77.23**	**335**	*eP*		**P**		**14 10 13.2**	**+2.4**
TIRR	**Tirgusor**	**77.66**	**324**	⇓*iP*		**P**		**14 10 17.8**	**+4.6**
VRAC	**Vranov**	**77.72**	**334**	⇓*iP*		**P**		**14 10 17.1**	**+3.6**
VRAC	**Vranov**	**77.72**	**334**	⇑P		**P**		**14 10 17.1**	**+3.6**
PRU	**Pruhonice**	**77.72**	**335**	*eP*		**P**		**14 10 16.0**	**+2.5**
VYHS	**Vyhne**	**77.73**	**332**	*eP*		**P**		**14 10 13.5**	**-0.1**
VYHS				*e*				14 10 16.9		
VYHS				pmax		pmax				
	comp=Z,2.0nm,0.6s,mb4.4									
VYHS	**Vyhne**	**77.73**	**332**	*eP*		**P**		**14 10 13.5**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.3									
VYHS				*e*				14 10 16.9		
MLR	**Muntele Rosu**	**77.77**	**326**	⇓*iP*		**P**		**14 10 14.3**	**+0.5**
MLR	**Muntele Rosu**	**77.77**	**326**	⇓P		**P**		**14 10 14.3**	**+0.5**
JCT	**Junction City**	**77.87**	**58**	P		**P**		**14 10 13.8**	**-0.6**
JCT				*e*				14 10 25.1		
JCT				pmax		pmax				
	comp=Z,55nm,1.2s,mb5.6									
JCT	**Junction City**	**77.87**	**58**	*eP*		**P**		**14 10 13.2**	**-1.2**
	comp=Z,55nm,1.2s,mb5.6									
DRGR		**77.87**	**329**	⇓*iP*		**P**		**14 10 17.5**	**+3.1**
DRGR		**77.87**	**329**	⇓P		**P**		**14 10 17.5**	**+3.1**
PSZ	**Piszkesteto**	**77.88**	**331**	⇑*iP*		**P**		**14 10 17.4**	**+3.0**
PSZ	**Piszkesteto**	**77.88**	**331**	*eP*		**P**		**14 10 14.7**	**+0.3**
PSZ				pmax		pmax				
	comp=Z,13nm,1.0s,mb5.0									
PSZ	**Piszkesteto**	**77.88**	**331**	*eP*		**P**		**14 10 14.7**	**+0.2**
	comp=Z,13nm,1.0s,mb5.0									
WTSB	**Winterswijk**	**77.93**	**340**	*eP*		**P**		**14 10 17.6**	**+3.0**
	comp=Z,18nm,0.6s,mb5.3									
MALT	**Malatya**	**78.06**	**314**	⇓*iP*		**P**		**14 10 16.1**	**+0.7**
MALT	**Malatya**	**78.06**	**314**	*eP*		**P**		**14 10 16.5**	**+1.1**
	comp=Z,14nm,1.0s,mb5.0									
NKC	**Novy Kostel**	**78.09**	**336**	*eP*		**P**		**14 10 18.2**	**+2.6**
VOIR		**78.16**	**326**	⇑*iP*		**P**		**14 10 21.5**	**+5.5**
KHC	**Kasperske Hory**	**78.77**	**335**	*eP*		**P**		**14 10 18.9**	**-0.4**
KHC				*epP*				14 10 22.8		
GRA1	**Grafenberg Arr**	**78.92**	**337**	*eP*		**P**		**14 10 20.4**	**+0.2**
	comp=Z,20nm,0.8s,mb5.2									
GRF	**Grafenberg Arr**	**78.92**	**337**	*eP*		**P**		**14 10 20.4**	**+0.2**
	comp=Z,20nm,0.8s,mb5.2									
GRF	**Grafenberg Arr**	**78.92**	**337**	*eP*		**P**		**14 10 20.4**	**+0.2**
GRF				pmax		pmax				
	comp=Z,20nm,0.8s,mb5.2									
GERES	**GERESS Array B**	**78.99**	**335**	P		**P**		**14 10 20.6**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.7,baz=33,slow=5.1,SNR=11									
GZR	**Gura Zlata**	**79.05**	**328**	⇑*iP*		**P**		**14 10 23.5**	**+2.7**
GZR	**Gura Zlata**	**79.05**	**328**	⇑P		**P**		**14 10 23.5**	**+2.7**
STKA	**Stephens Creek**	**79.18**	**192**	P		**P**		**14 10 19.7**	**-1.9**
	comp=Z,4.5nm,0.9s,mb4.5,baz=343,slow=11,SNR=6.1									
STKA	**Stephens Creek**	**79.18**	**192**	*eP*		**P**		**14 10 19.9**	**-1.7**
BR131	**Keskin Array S**	**79.24**	**318**	*eP*		**P**		**14 10 22.6**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.6									
HGN	**Heimansgroeve**	**79.25**	**341**	*eP*		**P**		**14 10 25.7**	**+3.7**
	comp=Z,29nm,0.5s,mb5.6									
BZS	**Buzias**	**79.27**	**329**	⇑*iP*		**P**		**14 10 24.8**	**+2.7**
BZS	**Buzias**	**79.27**	**329**	⇑P		**P**		**14 10 24.8**	**+2.7**
PKSM	**Moragy**	**79.79**	**331**	⇓*iP*		**P**		**14 10 27.2**	**+2.3**
PKSM	**Moragy**	**79.79**	**331**	⇓P		**P**		**14 10 27.2**	**+2.3**
KBA	**Koelnbreinsper**	**80.69**	**335**	⇓*iP*		**P**		**14 10 33.8**	**+4.0**
	comp=Z,67nm,1.1s,mb5.6									
BFO	**Black Forest**	**80.93**	**338**	*eP*		**P**		**14 10 31.4**	**+0.4**
BFO				pmax		pmax				
	comp=Z,26nm,1.1s,mb5.2									
BFO	**Black Forest**	**80.93**	**338**	*eP*		**P**		**14 10 31.4**	**+0.4**
	comp=Z,26nm,1.1s,mb5.2									
WATA	**Walderalm**	**80.97**	**336**	⇑*iP*		**P**		**14 10 35.6**	**+4.3**
	comp=Z,12nm,0.5s,mb5.2									
MOTA	**Moosalm**	**81.09**	**336**	⇑*iP*		**P**		**14 10 36.2**	**+4.3**
	comp=Z,38nm,1.1s,mb5.3									
CDF	**Champ du Feu**	**81.12**	**339**	*eP*		**P**		**14 10 30.7**	**-1.4**
	comp=Z,52nm,1.1s,mb5.2									
CDF	**Champ du Feu**	**81.12**	**339**	*eP*		**P**		**14 10 30.7**	**-1.4**
CDF				pmax		pmax				
	comp=Z,26nm,1.1s,mb5.2									
CDF	**Champ du Feu**	**81.12**	**339**	*eP*		**P**		**14 10 30.7**	**-1.4**
	comp=Z,26nm,1.1s,mb5.2									
DIVS	**Divcibare**	**81.17**	**329**	*iP*		**P**		**14 10 34.1**	**+1.8**
VTS	**Vitosha**	**81.28**	**326**	⇓*iP*		**P**		**14 10 33.0**	**+0.1**
DAVA	**Damuels**	**81.48**	**337**	⇓*iP*		**P**		**14 10 37.9**	**+3.9**
	comp=Z,21nm,1.1s,mb5.1									
FWV	**Forest Hill**	**82.33**	**41**	*eP*		**P**		**14 10 37.6**	**-0.9**
ELN	**Prospectdale**	**82.65**	**42**	*eP*		**P**		**14 10 39.1**	**-1.0**
GRR	**Gorron**	**82.92**	**344**	*eP*		**P**		**14 10 41.0**	**-0.5**
	comp=Z,118nm,1.2s,mb5.7									
GRR	**Gorron**	**82.92**	**344**	*eP*		**P**		**14 10 41.0**	**-0.5**
GRR				pmax		pmax				
	comp=Z,59nm,1.2s,mb5.7									
GRR	**Gorron**	**82.92**	**344**	*eP*		**P**		**14 10 41.0**	**-0.5**
	comp=Z,59nm,1.2s,mb5.7									
SMF	**Signal de Mont**	**83.59**	**340**	*eP*		**P**		**14 10 44.4**	**-0.6**
	comp=Z,92nm,1.1s,mb5.6									
SMF	**Signal de Mont**	**83.59**	**340**	*eP*		**P**		**14 10 44.4**	**-0.6**
SMF				pmax		pmax				
	comp=Z,46nm,1.1s,mb5.6									
SMF	**Signal de Mont**	**83.59**	**340**	*eP*		**P**		**14 10 44.4**	**-0.6**
	comp=Z,46nm,1.1s,mb5.6									
LPG	**La Plagne**	**83.96**	**338**	*eP*		**P**		**14 10 47.1**	**+0.2**
	comp=Z,77nm,0.9s,mb5.6									
LPG	**La Plagne**	**83.96**	**338**	*eP*		**P**		**14 10 47.1**	**+0.2**
LPG				pmax		pmax				
	comp=Z,39nm,0.9s,mb5.6									
LPG	**La Plagne**	**83.96**	**338**	*eP*		**P**		**14 10 47.1**	**+0.2**
	comp=Z,39nm,0.9s,mb5.6									
CAF	**Calviac**	**85.62**	**341**	*eP*		**P**		**14 10 54.2**	**-1.1**
	comp=Z,59nm,1.0s,mb5.3									
CAF	**Calviac**	**85.62**	**341**	*eP*		**P**		**14 10 54.2**	**-1.1**
CAF				pmax		pmax				
	comp=Z,29nm,1.0s,mb5.4									
CAF	**Calviac**	**85.62**	**341**	*eP*		**P**		**14 10 54.2**	**-1.1**
	comp=Z,29nm,1.0s,mb5.4									
EIL	**Elat**	**86.64**	**311**	*eP*		**P**		**14 11 03.1**	**+2.9**
	comp=Z,322nm,1.0s									
ESDC	**Sonseca Array**	**91.92**	**344**	P		**P**		**14 11 24.1**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.3,baz=357,slow=3.9,SNR=4.7									
KEST	**Kesra**	**92.26**	**333**	P		**P**		**14 11 26.4**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.3,baz=24,slow=2.0,SNR=3.7									
TORD	**Torodi Ar. Bea**	**115.72**	**331**	PKP		PKPdf		**14 16 57.5**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=14,slow=2.0,SNR=7.1									
VNDA	**Vanda**	**124.07**	**178**	PKP		PKPdf		**14 17 11.7**	**-3.5**
	comp=Z,1.3nm,0.8s,baz=318,slow=5.3,SNR=8.1									
SBA	**Scott Base**	**124.54**	**177**	*e*PKIKP		PKPdf		**14 17 12.9**	**-3.2**
MAW	**Mawson**	**132.85**	**211**	PKP		PKPdf		**14 17 20.9**	**-2.9**
	comp=Z,2.1nm,0.8s,baz=341,slow=5.5,SNR=4.9									
LPAZ	**La Paz**	**133.23**	**64**	PKP		PKPdf		**14 17 32.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=354,slow=6.1,SNR=7.0									
LPAZ	**La Paz**	**133.23**	**64**	PKIKP		PKPdf		**14 17 32.6**	**0.0**
LPAZ				pmax		pmax				
	comp=Z,2.0nm,0.9s									
LPAZ	**La Paz**	**133.23**	**64**	*e*PKPdf		PKPdf		**14 17 32.2**	**-0.4**
QSPA	**South Pole Qui**	**136.49**	**180**	*e*PKPdf		PKPdf		**14 17 35.3**	**-3.4**
CFAA	**Coronel Fontan**	**143.76**	**81**	PKP		PKPdf		**14 17 48.2**	**-3.7**
	comp=Z,0.8nm,0.7s,baz=289,slow=2.8,SNR=10.0									
SNAA	**Sanae**	**152.89**	**195**	PKPbc		PKPbc		**14 18 10.1**	**-3.8**
	comp=Z,2.1nm,0.8s,baz=129,slow=3.1,SNR=13									
SNAA	**Sanae**	**152.89**	**195**	*e*PKPdf		PKPbc		**14 18 10.1**	**-3.8**
SNAA				*e*				**14 18 21.0**		
SNAA				*e*				**14 18 33.6**		
SNAA	**Sanae**	**152.89**	**195**	PKIKP		PKPbc		**14 18 10.1**	**-3.8**
SNAA				pmax		pmax				
	comp=Z,2.0nm,0.8s									
VNA2	**Neumayer--Watz**	**154.30**	**193**	*e*PKPdf		PKPbc		**14 18 13.6**	**-3.4**
VNA2				*e*				**14 18 23.4**		

IDC ***15*** *14:03:17.4±0.9, 46.59N×155.06E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/23, mbtmp4.1/9, Error ellipse: s-maj=31.4km s-min=19.0km az=175.0*
NEIC ***15*** *14:03:19.0±0.7, 46.63N×155.02E, h10km, mb4.5/2, Error ellipse: s-maj=23.2km s-min=13.3km az=186.0*
ISCJB

CN2	**Changchun**	**20.72 273**	*eP*	**P**	**14 10 59.4**	**+1.4**
KSRS	**Korea Array**	**21.71 255**	P	**P**	**14 11 09.4**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.0,baz=60,slow=9.6,SNR=4.9					
BILL	**Bilibino**	**22.52 11**	P	**P**	**14 11 19.0**	**+1.7**
BILL			pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2					
BILL	**Bilibino**	**22.52 11**	P	**P**	**14 11 19.0**	**+1.7**
	comp=Z,5.4nm,0.5s,mb4.2					
HIA	**Hailar**	**23.48 290**	P	**P**	**14 11 24.3**	**-3.2**
SONM	**Songino Array**	**32.45 290**	P	**P**	**14 12 46.2**	**-1.6**
	comp=Z,1.7nm,0.8s,mb3.9,baz=63,slow=6.3,SNR=5.0					
ZAK	**Zakamensk**	**33.79 296**	*eP*	**P**	**14 12 56.5**	**-3.0**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1					
LZH	**Lanzhou**	**38.96 273**	*eP*	**P**	**14 13 49.0**	**+5.3**
LZH			AP	pP	14 13 53.3	+6.5
LZH			XP	sP	14 13 55.0	+7.0
LZH			PP	PP	14 15 20.3	+7.4
LZH			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8					
LZH			AMB	AMB		
	comp=Z,90nm,4.2s					
LZH	**Lanzhou**	**38.96 273**	*eP*	**P**	**14 13 49.0**	**+5.3**
LZH			*PP	pP	14 13 53.2	+6.4
LZH			*SP	sP	14 13 55.0	+7.0
LZH					14 15 20.3	
LZH			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8					
LZH	**Lanzhou**	**38.96 273**	*eP*	**P**	**14 13 49.0**	**+5.3**
	comp=Z,20nm,1.0s,mb4.8					
LZH			pP	pP	14 13 53.2	+6.4
LZH			sP	sP	14 13 55.0	+7.0
LZH			PP	PP	14 15 20.3	+7.4
GTA	**Gaotai**	**40.07 280**	*eP*	**P**	**14 13 54.8**	**+1.8**
GTA			AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4					
INK	**Inuvik**	**41.39 32**	P	**P**	**14 14 02.1**	**-1.7**
	comp=Z,1.7nm,0.5s,mb3.9,baz=256,slow=7.5,SNR=7.0					
ZAL	**Zalesovo**	**43.70 307**	P	**P**	**14 14 20.3**	**-2.3**
	comp=Z,2.4nm,0.5s,mb4.2,baz=44,slow=5.5,SNR=4.7					
ZAL	**Zalesovo**	**43.70 307**	P	**P**	**14 14 20.3**	**-2.3**
MKAR	**Makanchi Array**	**48.05 298**	P	**P**	**14 14 55.5**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=70,slow=7.6,SNR=12					
MKAR	**Makanchi Array**	**48.05 298**	P	**P**	**14 14 55.5**	**-1.5**
KURK	**Kurchatov**	**48.45 304**	*eP*	**P**	**14 14 57.9**	**-2.1**
KURK			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8					
KURK	**Kurchatov**	**48.45 304**	*eP*	**P**	**14 14 57.9**	**-2.2**
	comp=Z,7.6nm,0.8s,mb4.8					
CHKZ	**Chkalovo**	**51.47 311**	*eP*	**P**	**14 15 21.2**	**-1.8**
BVAR	**Borovoye Array**	**51.90 310**	P	**P**	**14 15 24.7**	**-1.5**
	comp=Z,0.9nm,0.4s,mb4.1,baz=56,slow=8.3,SNR=5.1					
BRVK	**Borovoye**	**51.94 310**	*eP*	**P**	**14 15 26.4**	**-0.1**
EDM	**Edmonton**	**55.80 47**	*eP*	**P**	**14 15 54.7**	**0.0**
ARU	**Arti**	**55.99 318**	*eP*	**P**	**14 15 55.4**	**-0.7**
YBH	**Yreka Blue Hor**	**56.98 62**	P	**P**	**14 16 03.4**	**+0.3**
	comp=Z,4.7nm,1.2s,mb4.4,baz=11,slow=2.0,SNR=4.4					
ARCES	**ARCESS Array B**	**58.54 341**	P	**P**	**14 16 14.7**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.5,baz=10,slow=7.4,SNR=4.0					
AKTK	**Aktyubinsk**	**59.75 313**	P	**P**	**14 16 22.1**	**-0.4**
AKTO	**Aktyubinsk**	**59.75 313**	P	**P**	**14 16 22.1**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.5,baz=49,slow=7.2,SNR=6.7					
AKTO	**Aktyubinsk**	**59.75 313**	P	**P**	**14 16 22.1**	**-0.4**
AKTO			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4					
NVAR	**Mina Array Bea**	**61.66 63**	P	**P**	**14 16 34.9**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=302,slow=6.9,SNR=10.0					
DUG	**Dugway**	**63.87 58**	*eP*	**P**	**14 16 50.9**	**+0.7**
DUG			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5					
DUG	**Dugway**	**63.87 58**	*eP*	**P**	**14 16 50.9**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.5					
BW06	**Boulder Array**	**64.10 55**	*eP*	**P**	**14 16 51.9**	**+0.1**
	comp=Z,3.9nm,0.9s,mb4.4					
PDAR	**Pinedale Array**	**64.10 55**	P	**P**	**14 16 51.8**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.3,baz=274,slow=2.4,SNR=10					
FINES	**FINESS Array B**	**64.82 335**	P	**P**	**14 16 56.2**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.7,baz=54,slow=9.7,SNR=11					
WRA	**Warramunga Arr**	**68.53 201**	P	**P**	**14 17 19.1**	**-1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=19,slow=6.8,SNR=5.4					
NB2	**NORSAR Subarra**	**68.91 342**	P	**P**	**14 17 14.0**	**-8.5**
	comp=Z,5.1nm,1.1s,mb4.4,baz=26,slow=6.5					
NOA	**NORSAR Array B**	**68.91 342**	P	**P**	**14 17 23.6**	**+1.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=26,slow=6.4,SNR=5.1					
ASAR	**Alice Springs**	**72.21 200**	P	**P**	**14 17 41.7**	**-1.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=17,slow=6.1,SNR=10					
AKASG	**Malin Array Be**	**72.43 327**	P	**P**	**14 17 44.6**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.3,baz=34,slow=6.2,SNR=6.9					
TXAR	**Lajitas Array**	**76.74 61**	P	**P**	**14 18 08.5**	**-0.5**
	comp=Z,5.3nm,0.6s,mb4.7,baz=297,slow=4.1,SNR=17					
CLL	**Collm**	**77.23 336**	*i* P	pP	14 18 16.6	+1.6
CLL			*e*		14 18 28.0	
CLL	**Collm**	**77.23 336**	*i* pP	pP	14 18 16.6	+1.6
STKA	**Stephens Creek**	**78.79 191**	P	**P**	**14 18 19.8**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.3,baz=346,slow=19,SNR=3.3					
GERES	**GERESS Array B**	**78.24 335**	P	**P**	**14 18 25.2**	**+2.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=33,slow=5.1,SNR=7.1					
BRTR	**Keskin Array B**	**79.38 318**	P	**P**	**14 18 25.3**	**+1.7**
	comp=Z,1.9nm,0.9s,mb4.0,baz=46,slow=8.3,SNR=3.3					
CDF	**Champ du Feu**	**81.39 339**	*eP*	**P**	**14 18 37.0**	**+2.5**
GRR	**Gorron**	**83.22 344**	*eP*	**P**	**14 18 46.8**	**+2.8**
	comp=Z,104nm,1.5s,mb5.3					
GRR	**Gorron**	**83.22 344**	*eP*	**P**	**14 18 46.8**	**+2.8**
GRR			pmax	pmax		
	comp=Z,52nm,1.5s,mb5.3					
GRR	**Gorron**	**83.22 344**	*eP*	**P**	**14 18 46.8**	**+2.8**
	comp=Z,52nm,1.5s,mb5.3					
SMF	**Signal de Mont**	**83.87 340**	*eP*	**P**	**14 18 50.2**	**+2.8**
	comp=Z,47nm,1.2s,mb5.2					
SMF	**Signal de Mont**	**83.87 340**	*eP*	**P**	**14 18 50.2**	**+2.8**
SMF			pmax	pmax		
	comp=Z,24nm,1.2s,mb5.2					
SMF	**Signal de Mont**	**83.87 340**	*eP*	**P**	**14 18 50.2**	**+2.8**
	comp=Z,24nm,1.2s,mb5.2					
LPG	**La Plagne**	**84.23 338**	*eP*	**P**	**14 18 52.9**	**+3.7**
	comp=Z,8.2nm,0.6s,mb4.7					
LPG	**La Plagne**	**84.23 338**	*eP*	**P**	**14 18 52.9**	**+3.7**
LPG			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7					
LPG	**La Plagne**	**84.23 338**	*eP*	**P**	**14 18 52.9**	**+3.7**
	comp=Z,4.1nm,0.6s,mb4.7					
LFF	**La Frestale**	**86.19 342**	*eP*	**P**	**14 19 01.1**	**+2.1**

IDC ***15*** *14:06:59.6±1.4, 46.35N×153.40E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/22, mbtmp4.0/5, Error ellipse: s-maj=42.3km s-min=36.3km az=69.0*
NEIC ***15*** *14:07:01.3±0.9, 46.36N×153.35E, h10km, mb4.3/1, Error ellipse: s-maj=27.8km s-min=22.4km az=49.0*
ISCJB ***15*** *14:07:03.2±1.1, 46.4N±02.0×153.3E±03, h35km, mb4.1/6, Error ellipse: s-maj=34.3km s-min=27.2km az=92.9*
ISC 15 14:07:05.0±1.1, 46.4N±02.0×153.3E±03, h35km, n9, σ0§48/9, mb4.1/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.21 298**		P	**P**	**14 15 33.9**	**-0.4**
	2.1nm,0.8s,mb4.2,baz=73,slow=7.6,SNR=4.8						
CHKZ	**Chkalovo**	**50.76 310**		*eP*	**P**	**14 16 00.7**	**-0.7**
	2.1nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.22 310**		*eP*	**P**	**14 16 05.6**	**+0.7**
FINES	**FINESS Array B**	**64.42 335**		P	**P**	**14 17 37.7**	**+0.1**
	1.8nm,0.7s,mb4.2,baz=54,slow=5.7,SNR=3.1						
NB2	**NORSAR Subarra**	**68.61 341**		P	**P**	**14 18 04.7**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.61 341**		P	**P**	**14 18 05.0**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=27,slow=6.2,SNR=3.5						
ASAR	**Alice Springs**	**71.90 199**		P	**P**	**14 18 24.7**	**+0.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=22,slow=5.5,SNR=2.2						
TXAR	**Lajitas Array**	**77.57 61**		P	**P**	**14 18 57.0**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=289,slow=3.8,SNR=3.9						
TXAR	**Lajitas Array**	**77.57 61**		P	**P**	**14 18 57.0**	**-0.3**

NEIC ***15*** *14:09:25.2±2.3, 46.43N×152.75E, h10km, mb4.0/1, Error ellipse: s-maj=72.4km s-min=22.1km az=181.0*
IDC ***15*** *14:09:25.9±2.0, 46.99N×152.88E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, ML3.6/1, Error ellipse: s-maj=54.7km s-min=26.3km az=159.0*
ISCJB ***15*** *14:09:27.0±5.6, 46.9N±02.0×152.8E±02, h20km±42km, mb4.0/7, Error ellipse: s-maj=46.8km s-min=15.8km az=117.8*
MOS ***15*** *14:09:28.5±1.2, 46.86N×152.72E, h33km, mb4.3/1, Error ellipse: s-maj=28.3km s-min=24.3km az=166.3*
ISC 15 14:09:30.3±6.0, 46.9N±02.0×152.8E±02, h31km±45km, n15, σ1§12/16, mb4.0/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.79**	**246**	*i* P	N	**14 10 24.0**	**-2.5**
KUR				*i* S	**Sn**	**14 11 10.0**	**-0.1**
KUR				pmax	pmax		
	comp=Z,210nm,0.5s						
KUR				smax			
	comp=E,320nm,0.8s						
KUR				smax			
	comp=Z,190nm,0.8s						
ASAJ	**Asahikawa**	**7.67**	**253**	Pn	**Pn**	**14 11 22.0**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=311,slow=27,SNR=3.7						
ASAJ	**Asahikawa**	**7.67**	**253**	PN	**Pn**	**14 11 22.0**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**14 14 08.2**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=64,slow=11,SNR=4.9						
SONM	**Songino Array**	**31.07**	**289**	P	**P**	**14 15 44.0**	**-1.5**
	comp=Z,0.1nm,0.3s,mb3.1,baz=36,slow=5.4,SNR=1.8						
MKAR	**Makanchi Array**	**46.68**	**297**	P	**P**	**14 17 55.9**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=69,slow=8.4,SNR=4.2						
ZRNK	**Zerenda**	**51.37**	**310**	P	**P**	**14 18 32.3**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**51.37**	**310**	P	**P**	**14 18 32.3**	**+0.4**
	comp=Z,0.6nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**14 19 59.2**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=31,slow=7.8,SNR=5.2						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**14 19 59.2**	**-0.3**
NB2	**NORSAR Subarra**	**68.03**	**341**	P	**P**	**14 20 27.2**	**+0.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**14 20 27.2**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=3.5						
AKASG	**Malin Array Be**	**71.31**	**326**	P	**P**	**14 20 46.9**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=7.1						
TXAR	**Lajitas Array**	**77.63**	**60**	P	**P**	**14 21 23.3**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=246,slow=4.5,SNR=4.8						
TXAR	**Lajitas Array**	**77.63**	**60**	P	**P**	**14 21 23.3**	**-0.2**

IDC ***15*** *14:09:49.0±1.0, 47.06N×154.91E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/26, mbtmp4.1/14, ML3.7/1, Error ellipse: s-maj=27.1km s-min=19.5km az=106.0*
NEIC ***15*** *14:09:50.8±0.7, 47.12N×154.86E, h10km, mb4.6/2, Error ellipse: s-maj=16.6km s-min=11.5km az=112.0*
MOS ***15*** *14:09:51.7±1.1, 47.13N×155.02E, h33km, mb4.6/5, Error ellipse: s-maj=16.2km s-min=13.3km az=114.6*
ISCJB ***15*** *14:09:54.4±2.9, 47.1N±0.1×154.9E±02, h54km±24km, mb4.2/18, Error ellipse: s-maj=24.9km s-min=16.6km az=45.4*
ISC 15 14:09:56.1±2.3, 47.1N±01×154.9E±02, h57km±19km, n31, σ0§93/31, mb4.2/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.33**	**273**	*e*PN	**Pn**	**14 11 56.2**	**+2.1**
ASAJ	**Asahikawa**	**9.15**	**255**	Pn	**Pn**	**14 12 05.2**	**-0.2**
	1.5nm,0.3s,baz=74,slow=15,SNR=3.3						
ASAJ	**Asahikawa**	**9.15**	**255**	PN	**Pn**	**14 12 05.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.31**	**236**	Pn	**Pn**	**14 13 40.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=33,slow=8.7,SNR=2.8						
BILL	**Bilibino**	**21.77**	**11**	*e*P	**P**	**14 14 41.2**	**-1.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
KSRS	**Korea Array**	**22.10**	**254**	P	**P**	**14 14 46.1**	**-0.4**
	comp=Z,2.8nm,0.9s,mb3.7,baz=62,slow=9.2,SNR=4.7						
ULN	**Ulaanbaatar**	**31.96**	**289**	*e*P	**P**	**14 16 15.4**	**-1.2**
SONM	**Songino Array**	**32.39**	**290**	P	**P**	**14 16 19.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=70,slow=8.3,SNR=5.9						
INK	**Inuvik**	**40.67**	**33**	P	**P**	**14 17 31.1**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.4,baz=301,slow=7.0,SNR=33						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**14 17 52.6**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=45,slow=9.4,SNR=5.7						
NVS	**Novosibirsk**	**43.96**	**308**	*e*P	**P**	**14 17 49.7**	**-7.9**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**14 18 28.6**	**+0.1**
	comp=E,2.4nm,0.6s,mb4.4,baz=71,slow=8.0,SNR=10						
CHKZ	**Chkalovo**	**51.15**	**311**	*e*P	**P**	**14 18 52.9**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.0						
CHKZ	**Chkalovo**	**51.15**	**311**	*e*P	**P**	**14 18 52.9**	**-0.5**
	comp=Z,8.5nm,0.4s,mb5.0						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**14 18 57.0**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.5,baz=58,slow=7.1,SNR=9.2						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**14 18 56.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**14 18 56.4**	**-0.5**
	comp=Z,3.4nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**52.35**	**310**	*e*P	**P**	**14 19 01.3**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**52.35**	**310**	*e*P	**P**	**14 19 01.3**	**-1.0**
	comp=Z,3.4nm,0.5s,mb4.5						
AKTK	**Aktyubinsk**	**59.41**	**312**	P	**P**	**14 19 53.4**	**+0.7**
AKTO	**Aktyubinsk**	**59.41**	**312**	P	**P**	**14 19 53.4**	**+0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=59,slow=7.8,SNR=4.9						
AKTO	**Aktyubinsk**	**59.41**	**312**	P	**P**	**14 19 53.4**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**14 20 25.4**	**+0.3**
	comp=Z,2.8nm,0.4s,mb4.6,baz=39,slow=8.8,SNR=26						
NOA	**NORSAR Array B**	**68.28**	**342**	P	**P**	**14 20 51.2**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=25,slow=6.2,SNR=3.3						
NOA	**NORSAR Array B**	**68.28**	**342**	P	**P**	**14 20 51.2**	**+0.2**
WRA	**Warramunga Arr**	**69.28**	**201**	P	**P**	**14 20 56.7**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=21,slow=6.8,SNR=5.7						
AKASG	**Malin Array Be**	**71.93**	**327**	P	**P**	**14 21 13.6**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=35,slow=6.3,SNR=5.2						
AKASG	**Malin Array Be**	**71.93**	**327**	P	**P**	**14 21 13.6**	**+0.2**
ASAR	**Alice Springs**	**72.96**	**200**	P	**P**	**14 21 20.2**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=19,slow=5.7,SNR=9.3						
CLL	**Collm**	**76.64**	**337**	*e*(pP)	**P**	**14 21 44.0**	**+3.2**
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**14 21 53.9**	**+1.9**
	comp=Z,0.6nm,0.4s,mb3.8,baz=46,slow=3.9,SNR=4.3						

IDC ***15*** *14:10:31.2±1.0, 48.17N×152.99E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.0/22, mbtmp4.1/7, Error ellipse: s-maj=32.9km s-min=25.2km az=79.0*
ISCJB ***15*** *14:10:38.5±1.8, 48.2N±02.0×152.9E±02, h69km±16km, mb3.9/7, Error ellipse: s-maj=27.7km s-min=16.1km az=121.4*
MOS ***15*** *14:10:39.1±0.9, 48.27N×152.87E, h77km, mb4.3/7, Error ellipse: s-maj=30.0km s-min=22.5km az=64.5*
ISC 15 14:10:40.4±1.6, 48.2N±02.0×153.0E±02, h71km±15km, n17, σ0§70/17, mb3.9/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.20**	**39**	*e*PN	**Pn**	**14 11 28.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**7.03**	**263**	*e*PN	**Pn**	**14 12 21.0**	**+0.5**
SONM	**Songino Array**	**30.78**	**287**	P	**P**	**14 16 47.3**	**-1.8**
	0.8nm,0.6s,mb3.6,baz=85,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**30.78**	**287**	P	**P**	**14 16 47.3**	**-1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.19**	**296**	P	**P**	**14 18 58.4**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.9,baz=56,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**46.19**	**296**	P	**P**	**14 18 58.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**62.66**	**334**	P	**P**	**14 20 57.9**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=32,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**62.66**	**334**	P	**P**	**14 20 57.9**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**66.80**	**341**	P	**P**	**14 21 24.8**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**66.80**	**341**	P	**P**	**14 21 24.9**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.1,baz=26,slow=6.4,SNR=4.2						
NOA	**NORSAR Array B**	**66.80**	**341**	P	**P**	**14 21 24.9**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						

WRA	**Warramunga Arr**	**69.88 199**	P	**P**	**14 21 43.0**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=19,slow=6.6,SNR=5.5					
WRA	**Warramunga Arr**	**69.88 199**	P	**P**	**14 21 43.0**	**-0.6**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
ASAR	**Alice Springs**	**73.58 198**	P	**P**	**14 22 06.3**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.9,baz=16,slow=6.0,SNR=14					
ASAR	**Alice Springs**	**73.58 198**	P	**P**	**14 22 06.4**	**+0.6**
ASAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
TXAR	**Lajitas Array**	**76.85 61**	P	**P**	**14 22 24.7**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=306,slow=4.5,SNR=4.8					
TXAR	**Lajitas Array**	**76.85 61**	P	**P**	**14 22 24.7**	**+0.1**
TXAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					

IDC 15 14:17:15.7±0.9, 46.56N×153.47E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=34.3km s-min=21.8km az=116.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.16**	**234**	Pn	Pn	**14 20 52.4**	**+1.3**
	0.1nm,0.3s,baz=47,slow=17,SNR=2.4						
INK	**Inuvik**	**41.68**	**32**	P	P	**14 25 07.2**	**+1.3**
	0.9nm,0.5s,baz=278,slow=3.3,SNR=9.3						
MKAR	**Makanchi Array**	**47.25**	**298**	P	P	**14 25 49.8**	**-0.7**
	0.3nm,0.7s,baz=69,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**64.32**	**335**	P	P	**14 27 52.2**	**-0.8**
	1.0nm,0.5s,baz=43,slow=8.6,SNR=5.8						
PDAR	**Pinedale Array**	**64.66**	**54**	P	P	**14 27 53.4**	**-1.9**
	0.3nm,0.3s,baz=259,slow=3.0,SNR=3.6						
WRA	**Warramunga Arr**	**68.41**	**199**	P	P	**14 28 19.0**	**-0.2**
	0.2nm,0.3s,baz=19,slow=6.9,SNR=10.0						
ASAR	**Alice Springs**	**72.11**	**199**	P	P	**14 28 42.2**	**+0.4**
	0.8nm,0.9s,baz=14,slow=6.6,SNR=6.1						

IDC ***15*** *14:18:03.1±0.7, 47.15N×154.25E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/26, mbtmp4.1/16, ML3.4/1, Error ellipse: s-maj=20.3km s-min=17.3km az=115.0*
BJI ***15*** *14:18:04.4, 47.10N×154.20E, h10km, mb4.4*
NEIC ***15*** *14:18:04.4±0.5, 47.13N×154.22E, h10km, mb4.7/1, Error ellipse: s-maj=15.5km s-min=9.7km az=135.0*
ISCJB ***15*** *14:18:06.0±0.6, 47.07N±009×154.44E±009, h33km, mb4.4/23, Error ellipse: s-maj=13.9km s-min=6.4km az=126.1*
MOS ***15*** *14:18:11.0±1.2, 47.07N×154.02E, h81km, mb5.1/1, Error ellipse: s-maj=15.2km s-min=11.0km az=136.4*
ISC 15 14:18:09.4±1.6, 47.2N±01×154.4E±01, h43km±14km, n40, σ1§41/41, mb4.4/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.92**	**249**	*e*PN	**Pn**	**14 19 23.5**	**+2.6**
KUR				*i* S	**Sn**	**14 20 12.5**	**-4.1**
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,600nm,0.7s						
KUR				smax			
	comp=E,470nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.76**	**245**	PN	**Pn**	**14 19 43.7**	**-2.3**
YUK				*e*S	**Sn**	**14 21 02.5**	**+0.9**
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.93**	**272**	*e*PN	**Pn**	**14 20 04.0**	**+1.9**
YSS				*e*S	**Sn**	**14 21 34.5**	**+4.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.93**	**272**	*e*P	**Pn**	**14 20 03.8**	**+1.8**
ASAJ	**Asahikawa**	**8.80**	**254**	Pn	**Pn**	**14 20 14.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=93,slow=14,SNR=3.9						
ASAJ	**Asahikawa**	**8.80**	**254**	PN	**Pn**	**14 20 14.9**	**+0.8**

ASAJ	**Asahikawa**	**8.97**	**258**	Pn		**Pn**	**14 22 35.9**	**+0.4**	
	1.1nm,0.3s,baz=72,slow=16,SNR=2.9								
ASAJ	**Asahikawa**	**8.97**	**258**	PN		**Pn**	**14 22 35.9**	**+0.5**	
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.00**	**237**	Pn		**Pn**	**14 24 08.3**	**-2.4**	
	comp=Z,0.2nm,0.3s,baz=16,slow=13,SNR=3.5								
MDJ	**Mudanjiang**	**17.73**	**272**	P		**Pn**	**14 24 31.2**	**-1.2**	
	comp=Z,9.2nm,0.8s								
YAK	**Yakutsk**	**21.00**	**326**	P		**P**	**14 25 07.0**	**-1.8**	
YAK				pmax	pmax				
	comp=Z,86nm,1.3s								
YAK	**Yakutsk**	**21.00**	**326**	P		**P**	**14 25 07.0**	**-1.8**	
	comp=Z,86nm,1.3s								
KSRS	**Korea Array**	**21.90**	**255**	P		**P**	**14 25 18.6**	**+0.1**	
	comp=Z,1.9nm,0.7s,mb3.6,baz=52,slow=9.4,SNR=4.6								
BILL	**Bilibino**	**22.19**	**11**	*e*P		**P**	**14 25 19.8**	**-1.7**	
BILL				pmax	pmax				
	comp=Z,20nm,0.8s,mb4.6								
ULN	**Ulaanbaatar**	**32.01**	**290**	*e*P		**P**	**14 26 52.8**	**+1.4**	
ULN				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.0								
ULN	**Ulaanbaatar**	**32.01**	**290**	*e*P		**P**	**14 26 52.8**	**+1.4**	
	comp=Z,1.4nm,0.4s,mb4.1								
SONM	**Songino Array**	**32.44**	**290**	P		**P**	**14 26 54.9**	**-0.3**	
	comp=Z,0.4nm,0.5s,mb3.5,baz=77,slow=9.0,SNR=4.6								
ZAK	**Zakamensk**	**33.75**	**296**	*e*P		**P**	**14 27 06.3**	**-0.3**	
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.0								
INK	**Inuvik**	**41.07**	**32**	P		**P**	**14 28 08.2**	**-0.4**	
	comp=Z,1.3nm,0.6s,mb3.8,baz=324,slow=6.9,SNR=5.5								
GYA	**Guiyang**	**42.84**	**259**	P		**P**	**14 28 24.4**	**+1.4**	
GYA				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.6								
ZAL	**Zalesovo**	**43.59**	**306**	P		**P**	**14 28 28.1**	**-1.0**	
	comp=Z,2.7nm,0.4s,mb4.3,baz=47,slow=8.4,SNR=7.3								
NVS	**Novosibirsk**	**44.14**	**308**	*e*P		**P**	**14 28 33.1**	**-0.4**	
NVS				pmax	pmax				
	comp=N,3.0nm,0.8s								
NVS				pmax	pmax				
	comp=E,7.0nm,0.8s								
NVS				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.4								
MK31	**Makanchi Array**	**47.99**	**298**	*e*P		**P**	**14 29 04.6**	**+0.8**	
MKAR	**Makanchi Array**	**47.99**	**298**	P		**P**	**14 29 03.5**	**-0.3**	
	comp=Z,2.2nm,0.6s,mb4.4,baz=70,slow=8.0,SNR=14								
KURK	**Kurchatov**	**48.36**	**304**	*e*P		**P**	**14 29 06.8**	**+0.2**	
KURK				pmax	pmax				
	comp=Z,40nm,0.9s,mb5.5								
KURK	**Kurchatov**	**48.36**	**304**	*e*P		**P**	**14 29 06.8**	**+0.2**	
	comp=Z,40nm,0.9s,mb5.5								
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P		**P**	**14 29 29.2**	**-0.2**	
CHKZ				pmax	pmax				
	comp=Z,19nm,0.6s,mb5.2								
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P		**P**	**14 29 29.2**	**-0.2**	
	comp=Z,19nm,0.6s,mb5.2								
BVAR	**Borovoye Array**	**51.78**	**310**	P		**P**	**14 29 33.1**	**+0.5**	
	comp=Z,5.5nm,0.6s,mb4.7,baz=52,slow=8.7,SNR=18								
BRVK	**Borovoye**	**51.82**	**310**	*e*P		**P**	**14 29 33.6**	**+0.7**	
BRVK				pmax	pmax				
	comp=Z,15nm,0.7s,mb5.0								
BRVK	**Borovoye**	**51.82**	**310**	*e*P		**P**	**14 29 33.6**	**+0.7**	
	comp=Z,15nm,0.7s,mb5.0								
ZRNK	**Zerenda**	**52.55**	**311**	*e*P		**P**	**14 29 37.7**	**-0.6**	
ZRNK				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9								
ZRNK	**Zerenda**	**52.55**	**311**	*e*P		**P**	**14 29 37.7**	**-0.6**	
	comp=Z,12nm,0.8s,mb4.9								
ARU	**Arti**	**55.83**	**318**	*e*P		**P**	**14 30 01.3**	**-0.9**	
YBH	**Yreka Blue Hor**	**56.74**	**63**	P		**P**	**14 30 09.1**	**+0.4**	
	comp=Z,2.9nm,0.9s,mb4.3,baz=43,slow=11,SNR=4.0								
KEV	**Kevo**	**57.77**	**341**	*e*p		**P**	**14 30 15.6**	**-0.4**	
ARCES	**ARCESS Array B**	**58.28**	**341**	P		**P**	**14 30 19.9**	**+0.4**	
	comp=Z,2.5nm,0.6s,mb4.4,baz=32,slow=7.6,SNR=11								
AKTK	**Aktyubinsk**	**59.62**	**313**	P		**P**	**14 30 29.1**	**+0.2**	
AKTO	**Aktyubinsk**	**59.62**	**313**	P		**P**	**14 30 29.1**	**+0.2**	
	comp=Z,2.9nm,0.6s,mb4.5,baz=56,slow=11,SNR=7.7								
AKTO	**Aktyubinsk**	**59.62**	**313**	P		**P**	**14 30 29.1**	**+0.3**	
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
NVAR	**Mina Array Bea**	**61.42**	**63**	P		**P**	**14 30 41.1**	**0.0**	
	comp=Z,1.1nm,0.7s,mb4.1,baz=292,slow=7.8,SNR=7.1								
DUG	**Dugway**	**63.61**	**59**	*e*P		**P**	**14 30 56.0**	**+0.3**	
DUG				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.3								
DUG	**Dugway**	**63.61**	**59**	*e*P		**P**	**14 30 56.0**	**+0.2**	
	comp=Z,2.6nm,0.9s,mb4.3								
BW06	**Boulder Array**	**63.83**	**55**	*e*P		**P**	**14 30 57.1**	**-0.1**	
	comp=Z,3.9nm,1.0s,mb4.4								
PDAR	**Pinedale Array**	**63.83**	**55**	P		**P**	**14 30 57.2**	**+0.1**	
	comp=Z,2.0nm,0.8s,mb4.2,baz=294,slow=2.3,SNR=10.0								
FINES	**FINESS Array B**	**64.57**	**335**	P		**P**	**14 31 02.1**	**+0.1**	
	comp=Z,9.4nm,0.7s,mb4.9,baz=38,slow=9.6,SNR=18								
HYB	**Hyderabad**	**68.16**	**272**	*i* P		**P**	**14 31 25.5**	**+0.5**	
HYB	**Hyderabad**	**68.16**	**272**	*e*P		**P**	**14 31 25.5**	**+0.5**	
NB2	**NORSAR Subarra**	**68.64**	**342**	P		**P**	**14 31 30.8**	**+2.8**	
	comp=Z,1.1nm,0.5s,mb4.0,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**	**14 31 28.0**	**0.0**	
	comp=Z,1.8nm,0.8s,mb4.1,baz=25,slow=6.3,SNR=5.0								
WRA	**Warramunga Arr**	**68.86**	**201**	P		**P**	**14 31 28.1**	**-1.3**	
	comp=Z,0.6nm,0.6s,mb3.7,baz=20,slow=6.9,SNR=4.9								
HFS	**Hagfors**	**68.90**	**340**	P		**P**	**14 31 29.9**	**+0.3**	
	comp=Z,2.8nm,0.4s,mb4.5,baz=64,slow=6.8,SNR=13								
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**	**14 31 49.3**	**-0.6**	
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=5.1								
KIEV	**Kiev**	**72.24**	**327**	*e*P		**P**	**14 31 51.6**	**+1.6**	
KIEV				pmax	pmax				
	comp=Z,48nm,1.4s,mb5.2								
KIEV	**Kiev**	**72.24**	**327**	*e*P		**P**	**14 31 51.6**	**+1.6**	
	comp=Z,48nm,1.4s,mb5.2								
AS31	**Alice Springs**	**72.54**	**200**	P		**P**	**14 31 51.9**	**+0.1**	
ASAR	**Alice Springs**	**72.55**	**200**	P		**P**	**14 31 51.9**	**+0.1**	
	comp=Z,2.4nm,0.7s,mb4.2,baz=15,slow=5.1,SNR=15								
MNTX	**Cornudas Mount**	**73.78**	**61**	*e*P		**P**	**14 31 58.9**	**-0.2**	
	comp=Z,1.0nm,0.7s,mb3.9								
TXAR	**Lajitas Array**	**76.50**	**62**	P		**P**	**14 32 14.8**	**0.0**	
	comp=Z,5.6nm,0.6s,mb4.7,baz=300,slow=4.4,SNR=16								
CLL	**Collm**	**76.98**	**337**	*i* pP		pP	14 32 22.4	-6.0	
GERES	**GERESS Array B**	**79.00**	**335**	P		**P**	**14 32 29.2**	**+0.5**	
	comp=Z,2.2nm,0.6s,mb4.2,baz=34,slow=5.0,SNR=8.9								
BRTR	**Keskin Array B**	**79.22**	**318**	P		**P**	**14 32 31.6**	**+1.7**	
	comp=Z,1.8nm,0.8s,mb4.0,baz=34,slow=4.4,SNR=4.8								

IDC ***15*** *14:20:52.5±0.5,4757N×15408E,h0km,mb4.9/33, mb1 5.0/34,mb1mx5.0/36,mbtmp4.9/34,ML4.4/1,MS5.9/1, Ms1 5.9/1,ms1mx4.6/39,Error ellipse: s-maj=15.2km s-min=10.6km az=151.0*

BJI ***15*** *14:20:53.5,4780N×15462E,h33km,mB5.6,mb4.9,Ms5.6, Msz5.5*

NEIC ***15*** *14:20:54.6±0.2,4760N×15408E,h10km,mb5.4/71,Error ellipse: s-maj=5.2km s-min=3.0km az=165.0*

MOS ***15*** *14:20:56.7±0.8,4764N×154.14E,h33km,mb5.5/55,Error ellipse: s-maj=8.3km s-min=4.3km az=99.7*

ISCJB ***15*** *14:20:56.8±0.1,4753N±003×154.14E±002,h37km, mb5.2/131,MS5.4/6,Error ellipse: s-maj=4.2km s-min=1.8km az=140.8*

SZGRF ***15*** *14:20:57.4,4735N×15478E,h33km,mb5.8,Kuril Islands, Russia*

SKHL ***15*** *14:20:59.7±4.3,4780N×15396E,h53km±13km,mb6.4/1, msh6.0/1*

ISC 15 14:20:59.0±0.1,4764N±003×15405E±002,h39km, h39km±3.4km:pP-P,n655,σ0s87/678,mb5.2/131,MS5.4/5, 127C-69D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.34**	**23**	*e*P		**Pn**	**14 21 48.0**	**-0.6**
SKR				AMB	AMB		14 21 52.0	
	5μm,2.0s							
SKR				AMB	AMB		14 21 52.5	
	930nm,0.9s							
SKR				AMB	AMB		14 21 52.5	
	980nm,0.9s							
SKR				AMB	AMB		14 21 52.5	
	2μm,0.9s							
SKR				*e*S		**Sn**	**14 22 21.0**	**-6.0**
SKR				A			14 22 42.0	
	12μm,2.0s							
SKR				A			14 22 42.0	
	10μm,2.0s							
SKR				A			14 22 42.0	
	12μm,2.0s							
SKR				A			14 22 42.0	
	10μm,2.0s							
SKR				A			14 22 49.0	
	4μm,0.6s							
SKR				A			14 22 49.0	
	1μm,0.6s							
SKR				A			14 22 49.0	
	1μm,0.6s							
KUR	**Kuril'sk**	**4.90**	**243**	⇑*i*P		**Pn**	**14 22 10.0**	**-0.2**
KUR				AMB	AMB		14 22 11.0	
	258nm,0.7s							
KUR				AMB	AMB		14 22 11.0	
	301nm,0.7s							
KUR				AMB	AMB		14 22 11.0	
	2μm,0.7s							
KUR				*e*S		**Sn**	**14 23 06.0**	**+0.4**
KUR	**Kuril'sk**	**4.90**	**243**	⇑*i*PN		**Pn**	**14 22 10.0**	**-0.2**
KUR				pmax	pmax			
	comp=N,260nm,0.7s							
KUR				pmax	pmax			
	comp=E,300nm,0.7s							
KUR				pmax	pmax			
	comp=Z,2μm,0.7s							
PET	**Petropavlovsk**	**6.14**	**27**	*e*PN		**Pn**	**14 22 26.3**	**-0.9**
PET				pmax	pmax			
	comp=Z,644nm,1.2s							
PET				MLR	MLR			
	comp=Z,16μm,16.0s							
PET	**Petropavlovsk**	**6.14**	**27**	*e*Pn		**Pn**	**14 22 25.9**	**-1.3**
	comp=Z,554nm,0.9s							
PET				*e*S		**Sn**	**14 23 32.8**	**-3.4**
NEM2	**Nemuro 2**	**7.23**	**237**	P		**Pn**	**14 22 40.8**	**-1.3**
NEM2				*e*S		**Sn**	**14 23 59.1**	**-3.8**
JRA	**Rausu**	**7.25**	**243**	P		**Pn**	**14 22 43.7**	**+1.3**
JNK	**Nakash**	**7.69**	**242**	P		**Pn**	**14 22 48.5**	**0.0**
JNK				*e*S		**Sn**	**14 24 14.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.71**	**269**	⇑*i*P		**Pn**	**14 22 53.5**	**+4.8**
YSS				AMB	AMB		14 22 55.0	
	comp=Z,190nm,0.9s							
YSS				AMB	AMB		14 22 55.0	
	comp=Z,340nm,1.0s							
YSS				AMB	AMB		14 22 55.0	
	comp=Z,390nm,1.0s							
YSS				*e*S		**Sn**	**14 24 18.8**	**+4.0**
YSS				A			14 24 20.8	
	comp=Z,120nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.71**	**269**	⇑*i*PN		**Pn**	**14 22 53.5**	**+4.8**
YSS				pmax	pmax			
	comp=E,390nm,1.0s							
YSS				pmax	pmax			
	comp=Z,340nm,1.0s							
YSS				pmax	pmax			
	comp=N,190nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.71**	**269**	*e*Pn		**Pn**	**14 22 53.1**	**+4.4**
	comp=N,279nm,0.8s							
JTKR	**Abashiri--Toko**	**7.98**	**246**	P		**Pn**	**14 22 53.6**	**+1.3**
JAK	**Akkeshi**	**8.06**	**238**	P		**Pn**	**14 22 52.2**	**-1.3**
JAK				*e*S		**Sn**	**14 24 19.0**	**-4.3**
UGL	**Uglegorsk**	**8.11**	**285**	*e*P		**Pn**	**14 22 59.8**	**+5.6**
UGL				AMB	AMB		14 23 01.5	
	comp=N,220nm,1.0s							
JMP	**Maruseppu**	**8.30**	**248**	P		**Pn**	**14 23 01.7**	**+4.9**
JSE	**Soyaes**	**8.38**	**256**	P		**Pn**	**14 23 02.5**	**+4.5**
JAR	**Ashorobuto**	**8.43**	**243**	P		**Pn**	**14 23 00.0**	**+1.5**
JAR				*e*S		**Sn**	**14 24 33.9**	**+1.6**
JOB	**Onbets**	**8.62**	**240**	P		**Pn**	**14 23 01.3**	**+0.2**
JOB				*e*S		**Sn**	**14 24 33.4**	**-3.6**
JWK2	**Keihoku**	**8.70**	**259**	P		**Pn**	**14 23 08.9**	**+6.6**
ASAJ	**Asahikawa**	**8.73**	**250**	Pn		**Pn**	**14 23 04.2**	**+1.6**
	comp=N,6.8nm,0.3s,baz=69,slow=12,SNR=18							
ASAJ	**Asahikawa**	**8.73**	**250**	P		**Pn**	**14 23 06.5**	**+3.8**
ASAJ	**Asahikawa**	**8.73**	**250**	PN		**Pn**	**14 23 04.3**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
JKK2	**Kamakawa 2**	**8.75**	**249**	P		**Pn**	**14 23 05.3**	**+2.3**
JCH	**Churui**	**9.07**	**240**	P		**Pn**	**14 23 06.4**	**-0.9**
JCH				*e*S		**Sn**	**14 24 43.9**	**-4.2**
JFR	**Furan**	**9.21**	**245**	P		**Pn**	**14 23 12.9**	**+3.6**
OKH	**Okha**	**9.22**	**314**	*e*S		**Sn**	**14 24 53.1**	**+1.4**
JEM	**Erimo**	**9.56**	**238**	P		**Pn**	**14 23 15.8**	**+1.8**
ERM	**Erimo**	**9.56**	**238**	*e*PN		**Pn**	**14 23 16.0**	**+2.0**
ERM				pmax	pmax			
	comp=Z,164nm,1.1s							
ERM	**Erimo**	**9.56**	**238**	*e*Pn		**Pn**	**14 23 16.0**	**+1.9**
	comp=Z,164nm,1.1s							
ERM				*e*Sn		**Sn**	**14 24 57.8**	**-2.4**
JNBK	**Urakawa-nobuka**	**9.63**	**240**	P		**Pn**	**14 23 14.3**	**-0.7**
JNBK				*e*S		**Sn**	**14 24 57.8**	**-4.1**
JEW	**Eniwo**	**10.10**	**246**	P		**Pn**	**14 23 22.0**	**+0.6**
NKL	**Nikolayevsk**	**10.16**	**308**	⇓*i*P		**Pn**	**14 23 25.0**	**+2.8**
NKL				AMB	AMB		14 23 26.0	
	comp=Z,260nm,1.5s							
NKL				AMB	AMB		14 23 26.0	
	comp=Z,140nm,1.1s							
NKL				AMB	AMB		14 23 26.0	
	comp=Z,180nm,1.1s							
JNB	**Noboribetsu**	**10.55**	**245**	P		**Pn**	**14 23 26.8**	**-0.8**
JNB				*e*S		**Sn**	**14 25 22.2**	**-2.3**
JKB	**Kayabe**	**10.89**	**243**	P		**Pn**	**14 23 29.7**	**-2.5**
JKB				*e*S		**Sn**	**14 25 24.6**	**-8.1**
JSH	**Shimam**	**11.08**	**248**	P		**Pn**	**14 23 35.2**	**+0.4**
JYM2	**Yakumo 2**	**11.16**	**245**	P		**Pn**	**14 23 34.8**	**-1.1**
JOT	**Ohata**	**11.19**	**241**	P		**Pn**	**14 23 33.0**	**-3.3**
JOT				S		**Sn**	**14 25 29.9**	**-10**
JTM	**Tenmabayashi**	**11.55**	**238**	P		**Pn**	**14 23 37.8**	**-3.5**
JTM				*e*S		**Sn**	**14 25 37.7**	**-11**
JANG	**Nango**	**11.57**	**236**	P		**Pn**	**14 23 36.8**	**-4.8**
JANG				*e*S		**Sn**	**14 25 37.5**	**-12**
JTH	**Tanohata**	**11.69**	**233**	*e*S		**Sn**	**14 25 39.2**	**-13**
JOSM	**Okushiri--Mats**	**11.73**	**247**	P		**Pn**	**14 23 42.8**	**-1.0**
MA2	**Magadan**	**12.12**	**352**	*e*PN		**Pn**	**14 23 50.1**	**+1.1**
MA2				pmax	pmax			
	comp=N,20nm,0.7s							
MA2				pmax	pmax			
	comp=Z,50nm,0.7s							
MA2	**Magadan**	**12.12**	**352**	*e*Pn		**Pn**	**14 23 50.5**	**+1.5**
JOM	**Ohasama**	**12.32**	**233**	P		**Pn**	**14 23 46.6**	**-5.3**
JOM				S		**Sn**	**14 25 54.8**	**-13**
TEY	**Ternei**	**12.34**	**264**	*e*P		**Pn**	**14 23 55.0**	**+3.0**
OFUJ	**Ofunato**	**12.41**	**231**	*e*S		**Sn**	**14 25 57.9**	**-12**
JRG	**Rokugo**	**12.74**	**235**	P		**Pn**	**14 23 54.2**	**-3.3**
JRG				*e*S		**Sn**	**14 26 07.0**	**-11**
HABR	**Khabarovsk**	**12.74**	**281**	*e*PN		**Pn**	**14 24 03.2**	**+5.7**
JIO	**Ouri**	**13.04**	**230**	*e*S		**Sn**	**14 26 10.2**	**-15**
SMY	**Shemya**	**13.80**	**61**	*e*P		**Pn**	**14 24 08.0**	**-4.1**
JFK	**Kawauchi**	**14.11**	**228**	P		**Pn**	**14 24 12.9**	**-3.4**
JFK				*e*S		**Sn**	**14 26 37.4**	**-14**
JFY	**Yanaizu**	**14.69**	**231**	P		**Pn**	**14 24 21.2**	**-2.8**
JSD	**Sado**	**15.01**	**236**	P		**Pn**	**14 24 24.7**	**-3.6**
SEY	**Seymchan**	**15.36**	**357**	*i* P		**Pn**	**14 24 32.1**	**-0.8**
MJAR	**Matsushiro Arr**	**16.13**	**232**	Pn		**Pn**	**14 24 39.0**	**-3.7**
	comp=Z,1.5nm,0.3s,baz=23,slow=14,SNR=12							
MAJO	**Matsushiro**	**16.13**	**232**	*e*P		**Pn**	**14 24 40.2**	**-2.5**
MAJO				pmax	pmax			
	comp=Z,59nm,0.8s							
MAJO	**Matsushiro**	**16.13**	**232**	*e*P		**Pn**	**14 24 40.2**	**-2.6**
	comp=Z,59nm,0.8s							
MAT	**Matsushiro**	**16.13**	**232**	P		**Pn**	**14 24 38.4**	**-4.3**
MAT	**Matsushiro**	**16.13**	**232**	P		**Pn**	**14 24 39.3**	**-3.4**
JRY	**Ryogami san**	**16.16**	**230**	P		**Pn**	**14 24 39.9**	**-3.3**
MDJ	**Mudanjiang**	**17.20**	**269**	P		**Pn**	**14 24 58.5**	**+2.2**
MDJ				AMB	AMB			
	comp=Z,41nm,1.5s							
MDJ	**Mudanjiang**	**17.20**	**269**	*e*P		**Pn**	**14 24 58.8**	**+2.5**
	comp=Z,40nm,0.9s							
JGF	**Kuroka**	**17.29**	**232**	P		**Pn**	**14 24 56.6**	**-0.7**
ZEA	**Zeya**	**17.98**	**300**	*e*P		**Pn**	**14 25 06.3**	**+0.4**
ZEA				AMB	AMB		14 25 08.0	
	comp=Z,31nm,0.8s							
JWT	**Wachi**	**18.59**	**235**	P		**Pn**	**14 25 12.9**	**-0.4**
JAD	**Aida**	**19.53**	**237**	P		**Pn**	**14 25 23.5**	**-1.0**
JWZ	**Kozaga**	**19.74**	**231**	P		**Pn**	**14 25 26.7**	**-0.4**
YAK	**Yakutsk**	**19.94**	**325**	*e*P		**Pn**	**14 25 28.2**	**-1.2**
YAK				*e*S		**S**	**14 29 14.1**	**+4.4**
YAK				pmax	pmax			
	comp=Z,208nm,1.1s							
YAK				pmax	pmax			
	comp=N,78nm,1.3s							
YAK				pmax	pmax			
	comp=E,81nm,1.2s							
YAK				smax				
	comp=N,80nm,1.5s							
YAK				smax				
	comp=Z,27nm,1.0s							
YAK				smax				
	comp=E,81nm,1.3s							
YAK				MLR	MLR			
	comp=Z,20μm,21.0s							
YAK	**Yakutsk**	**19.94**	**325**	*e*P		**Pn**	**14 25 26.4**	**-3.0**
	comp=Z,163nm,0.9s							
CLNS	**Chul'man**	**19.95**	**308**	*e*P		**Pn**	**14 25 33.0**	**+3.5**
CLNS				pmax	pmax			
	comp=Z,92nm,1.0s							
CLNS				pmax	pmax			
	comp=N,48nm,1.1s							
CLNS				pmax	pmax			
	comp=E,64nm,0.9s							
JHS	**Saijyo**	**20.09**	**239**	P		**P**	**14 25 29.8**	**+0.7**
CN2	**Changchun**	**20.28**	**270**	*e*P		**P**	**14 25 33.0**	**+1.8**
CN2				*e*XP		sP	14 25 45.0	-1.0
CN2				*e*S		**S**	**14 29 14.0**	**-2.5**
CN2				AMB	AMB			
	comp=Z,30nm,0.9s							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,17μm,20.0s,MS5.5							
CN2				LR	LR			
	comp=E,11μm,20.0s,MS5.5							
CN2				LR	LR			
	comp=Z,21μm,21.0s,MS5.5							
JMN	**Monobe**	**20.58**	**235**	P		**P**	**14 25 35.6**	**+1.1**
BILL	**Bilibino**	**21.39**	**13**	*e*P		**P**	**14 25 41.7**	**-1.4**
BILL				pmax	pmax			
	comp=Z,34nm,1.0s,mb4.6							
KSRS	**Korea Array**	**21.68**	**252**	P		**P**	**14 25 46.6**	**+0.3**
	comp=Z,52nm,0.9s,mb5.0,baz=58,slow=10,SNR=42							
KS15	**Wonju Array Si**	**21.71**	**252**	*e*P		**P**	**14 25 47.9**	**+1.2**
SNY	**Shenyang**	**22.32**	**266**	⇓P		**P**	**14 25 55.1**	**+1.9**
SNY				AMB	AMB			
	comp=Z,32nm,0.8s,mb4.8							
INCN	**Inchon**	**22.49**	**253**	*e*P		**P**	**14 25 56.1**	**+1.2**
	comp=Z,93nm,1.0s,mb5.2							
JTU	**Tsushima**	**22.62**	**244**	P		**P**	**14 25 57.8**	**+1.5**
HIA	**Hailar**	**22.70**	**287**	*e*P		**P**	**14 25 57.4**	**+0.2**
JNU	**Nakatsue**	**22.73**	**239**	P		**P**	**14 25 56.6**	**-0.8**
	comp=Z,88nm,1.0s,mb5.2,baz=250,slow=20,SNR=8.3							
JNU	**Nakatsue**	**22.73**	**239**	P		**P**	**14 25 58.4**	**+1.0**
JSU	**Suzuyama**	**24.16**	**237**	P		**P**	**14 26 12.5**	**+1.1**
BJT	**Baijiatuan**	**28.15**	**268**	P		**P**	**14 26 47.3**	**-0.1**
NJ2	**Nanjing**	**30.87**	**253**	*e*P		**P**	**14 27 14.8**	**+3.3**
NJ2				AP	pP		14 27 18.3	-4.1
NJ2				XP	sP		14 27 22.8	-4.3
NJ2				PP	PP		14 28 16.8	-4.8
NJ2				S		**S**	**14 32 16.0**	**+3.2**
NJ2				AMB	AMB			
	comp=Z,430nm,4.2s							
NJ2				LR	LR			
	comp=N,2μm,16.2s,MS5.3							
NJ2				LR	LR			
	comp=E,5μm,12.4s,MS5.3							
NJ2				LR	LR			
	comp=Z,2μm,14.3s,MS5.0							
HHC	**Hu-ho-hao-te**	**30.88**	**273**	*e*P		**P**	**14 27 12.5**	**+0.9**
HHC				PP	PP		14 28 17.4	-4.3
HHC				AMB	AMB			
	comp=Z,43nm,1.1s,mb5.2							
SONM	**Songino Array**	**31.65**	**288**	P		**P**	**14 27 18.2**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=76,slow=10,SNR=7.0							
SONM				PcP	PcP		14 30 08.5	-1.3
	comp=Z,1.6nm,0.8s,baz=65,slow=2.3,SNR=4.9							
IMA2	**Indian Mountai**	**32.71**	**37**	*e*P		**P**	**14 27 27.4**	**-0.3**
KDAK	**Kodiak Island**	**33.05**	**52**	P		**P**	**14 27 28.5**	**-2.2**
	comp=Z,50nm,1.2s,mb5.3,baz=272,slow=8.3,SNR=3.6							
WHN	**Wuhan**	**34.77**	**255**	⇓P		**P**	**14 27 46.8**	**+1.1**
SML	**Sawmill**	**34.89**	**45**	*e*P		**P**	**14 27 46.1**	**-0.5**
COLA	**College**	**35.05**	**39**	*e*P		**P**	**14 27 46.7**	**-1.3**
XAN	**Xi'an**	**36.23**	**265**	P		**P**	**14 27 57.9**	**-0.2**
XAN				AMB	AMB			
	comp=Z,23nm,1.1s,mb5.0							
LZH	**Lanzhou**	**38.50**	**271**	*e*P		**P**	**14 28 19.4**	**+2.0**
LZH				AP	pP		14 28 25.8	-2.6
LZH				XP	sP		14 28 28.9	-4.1
LZH				PP	PP		14 29 49.0	+3.1
LZH				AMB	AMB			
	comp=Z,60nm,1.3s,mb5.2							
LZH				AMB	AMB			
	comp=Z,240nm,5.0s							
**

SNR=10
KURK Kurchatov 47.41 303 eP P 14 29 28.1 -1.4
RES Resolute Bay 49.79 19 eP P 14 29 50.5 +2.7
RES Resolute Bay 49.79 19 epP pP 14 29 50.5 -8.5
YKA Yellowknife Ar 49.83 37 P P 14 29 47.6 -0.4
comp=Z,17nm,0.8s,mb5.1,baz=296,slow=7.7,SNR=8.4
YKA Yellowknife Ar 49.83 37 P P 14 29 47.6 -0.5
YKA pmax pmax
comp=Z,17nm,0.8s
CHKZ Chkalovo 50.35 310 eP P 14 29 50.5 -1.5
BVAR Borovoye Array 50.79 309 P P 14 29 54.5 -0.8
comp=Z,12nm,0.7s,mb4.9,baz=62,slow=8.8,SNR=13
BVAR PcP PcP 14 31 10.8 -1.0
comp=Z,3.7nm,0.6s,baz=68,slow=4.0,SNR=4.0
BRVK Borovoye 50.83 309 eP P 14 29 55.7 +0.1
BRVK pmax pmax
comp=Z,15nm,0.7s,mb5.0
BRVK Borovoye 50.83 309 eP P 14 29 55.7 +0.1
comp=Z,15nm,0.7s,mb5.0
BRVK epP pP 14 29 55.9 -11
ZRNK Zerenda 51.55 310 eP P 14 29 59.6 -1.4
KBS Kingsbay 51.72 351 i P P 14 30 00.8 -1.5
CHTO Chiang Mai 52.94 257 ⇑P P 14 30 13.2 +1.8
SNR=12
FRU Bishkek 53.83 296 eP P 14 30 18.0 +0.2
C05A Tolt Reservoir 53.93 56 ⇑P P 14 30 17.8 -0.8
baz=54
AAK Ala-Archa 54.02 296 eP P 14 30 18.1 -1.1
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
B07A Winthrop 54.38 55 ⇓P P 14 30 20.8 -1.1
baz=54
F04A Amboy 54.50 58 ⇑P P 14 30 22.5 -0.2
baz=54
E05A Randle 54.52 57 ⇓P P 14 30 21.5 -1.4
baz=54
A08A Turner Farm, O 54.57 54 P P 14 30 22.8 -0.5
baz=54,SNR=11
D06A Cle Elum 54.68 56 ⇑P P 14 30 22.9 -1.2
baz=54
ARU Arti 54.79 317 i P P 14 30 25.1 +0.2
ARU eS S 14 38 05.1 +2.2
ARU eSS SS 14 41 49.8 +3.5
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
C07A Waterville 54.84 56 ⇑P P 14 30 24.6 -0.6
baz=54
B08A Colville Reser 54.87 54 P P 14 30 25.2 -0.2
baz=54,SNR=9.4
KSH Kashi 54.91 292 eP P 14 30 27.3 +1.6
KSH eAP pP 14 30 37.9 +0.8
KSH eXP sP 14 30 41.6 -0.1
KSH ePP PP 14 32 29.8 +1.0
KSH ePPP 14 33 43.0
KSH eSCP ScP 14 35 24.8 +2.0
KSH eS S 14 38 03.0 -1.5
KSH eSCS ScS 14 40 10.1 -1.6
KSH eSS SS 14 41 45.4 -2.8
KSH LR LR
comp=N,5μm,8.7s
KSH LR LR
comp=E,5μm,9.3s
KSH LR LR
comp=Z,3μm,8.6s
A09A Danville 54.93 54 P P 14 30 25.8 -0.1
baz=55,SNR=10
D07A Quincy 55.17 56 ⇓P P 14 30 26.8 -0.8
baz=55
EDM Edmonton 55.24 47 P P 14 30 27.7 -0.4
EDM Edmonton 55.24 47 eP P 14 30 27.4 -0.7
J02A Umpqua 55.29 62 ⇓P P 14 30 29.0 +0.6
baz=55
H04A Detroit Lake 55.35 60 ⇑P P 14 30 28.7 -0.2
baz=55
C08A Higginbotham F 55.35 55 ⇑P P 14 30 28.1 -0.8
baz=55
B09A Rice 55.48 54 P P 14 30 29.5 -0.4
baz=55,SNR=6.8
A10A Northport 55.48 53 P P 14 30 29.7 -0.1
baz=55,SNR=5.7
JIRN Jiri 55.51 275 eP P 14 30 30.9 +0.8
F06A Goldendale 55.53 58 ⇓P P 14 30 30.0 -0.3
baz=55
GUN Gumba 55.56 275 eP P 14 30 31.1 +0.7
E07A Sunnyside 55.60 57 ⇑P P 14 30 30.0 -0.8
baz=55
J03A Ideyld Park 55.65 61 ⇓P P 14 30 31.2 +0.1
baz=55
I04A Tendick Farm, 55.73 61 P P 14 30 31.8 +0.1
baz=55,SNR=5.2
C09A Chrisman Ranch 55.77 55 P P 14 30 31.6 -0.3
baz=55,SNR=6.4
D08A Wollman Farm, 55.84 56 P P 14 30 31.8 -0.6
baz=56,SNR=5.0
H05A Madras 55.92 59 ⇓P P 14 30 33.3 +0.3
baz=56
F07A Phinny Hill Vi 55.95 57 P P 14 30 33.4 +0.2
baz=56,SNR=5.4
L02A Cave Junction 55.98 63 ⇓P P 14 30 33.4 0.0
baz=56
KKN Kakani 56.04 275 eP P 14 30 34.6 +0.8
E08A Dider Farm, El 56.09 56 ⇑P P 14 30 33.7 -0.5
baz=56
PKI Pulchoki 56.10 275 eP P 14 30 34.9 +0.7
comp=Z,83nm,1.1s,mb5.7
HUMO Hull Mountain 56.10 62 ⇓P P 14 30 34.9 +0.6
baz=56
NEW Newport 56.13 54 P P 14 30 33.6 -0.8
comp=Z,13nm,1.0s,mb4.9,baz=307,slow=7.3,SNR=8.7
A11A Hall Mountain, 56.14 53 P P 14 30 35.1 +0.6
baz=56,SNR=5.4
D09A Jones Farm, Ri 56.18 55 P P 14 30 34.4 -0.4
baz=56,SNR=7.3
I05A Bend 56.18 60 ⇑P P 14 30 34.9 +0.1
baz=56
J04A Umpqua Nationa 56.23 61 ⇓P P 14 30 35.3 +0.1
baz=56
DMN Daman 56.28 275 eP P 14 30 36.5 +1.0
C10A Spilker Farm, 56.29 54 ⇓P P 14 30 35.5 -0.2
baz=56
GKN Gorkha 56.34 276 eP P 14 30 36.4 +0.4
comp=Z,69nm,1.0s,mb5.7
H06A Lindquist Farm 56.39 59 P P 14 30 36.6 +0.2
baz=56,SNR=6.2
B11A Sandpoint 56.44 53 ⇑P P 14 30 36.5 -0.2
baz=56
G07A Ruggs Ranch, H 56.46 58 ⇓P P 14 30 36.4 -0.5
baz=56
A12A Yaak River Ran 56.53 52 ⇑P P 14 30 37.8 +0.4
baz=56
E09A Wood Farm, Sta 56.59 56 P P 14 30 37.6 -0.2
baz=56,SNR=14
F08A Pendleton 56.66 57 ⇓P P 14 30 38.4 +0.2
baz=56
J05A Fort Rock 56.72 60 P P 14 30 39.8 +1.1
baz=56,SNR=7.6
YBH Yreka Blue Hor 56.77 63 P P 14 30 38.5 -0.5
comp=Z,9.4nm,1.0s,mb4.8,baz=187,slow=2.5,SNR=7.6
YBH LR LR 14 53 48.4
comp=Z,10μm,18.4s,MS6.0,baz=326,slow=35
YBH Yreka Blue Hor 56.77 63 P P 14 30 40.0 +1.0
baz=56,SNR=5.4
K04A Chilquin 56.83 61 ⇑P P 14 30 39.8 +0.4
baz=56
B12A Libby 56.84 53 ⇓P P 14 30 40.0 +0.5
baz=56
G08A Pilot Rock 56.85 57 ⇑P P 14 30 39.6 0.0
baz=56
M02C Callahan 56.88 63 P P 14 30 40.9 +1.1
baz=57,SNR=5.8
I06A Prineville 56.93 59 P P 14 30 40.9 +0.7
baz=57,SNR=6.8
L04A Klamath Falls 56.99 62 ⇑P P 14 30 40.6 -0.1
baz=57
PMG Port Moresby 57.12 188 eP P 14 30 44.2 +2.7
E10A Myers Farm, Un 57.18 55 P P 14 30 41.6 -0.3
baz=57,SNR=7.5
KOLN Koldanda 57.18 276 eP P 14 30 42.9 +0.9
comp=Z,106nm,1.1s,mb5.8
F09A S2 Ranch, Elgi 57.20 56 ⇓P P 14 30 42.2 +0.2
baz=57
ARCES ARCESS Array B 57.23 341 P P 14 30 41.2 -1.1
comp=Z,4.4nm,0.8s,mb4.6,baz=18,slow=7.7,SNR=7.5
K05A Summer Lake 57.25 61 P P 14 30 43.6 +1.1
baz=57,SNR=7.4
I07A Izee 57.26 59 P P 14 30 43.0 +0.5
baz=57,SNR=7.2
M04C Macdoel 57.26 62 ⇓P P 14 30 42.7 +0.2
baz=57
D11A Klaveano Farm, 57.28 54 P P 14 30 41.8 -0.9
baz=57,SNR=11
WALA Waterton Lakes 57.38 51 eP P 14 30 43.5 +0.1
comp=Z,44nm,1.3s,mb5.3
M03C McCloud 57.39 63 ⇓P P 14 30 44.1 +0.7
baz=57
F10A Beach Ranch, E 57.42 56 ⇑P P 14 30 43.8 +0.1
baz=57
H08A Prairie City 57.48 58 P P 14 30 44.6 +0.6
baz=57,SNR=6.6
B13A Whitefish 57.50 52 P P 14 30 44.4 +0.2
baz=57,SNR=13
WDC Whiskeytown Da 57.56 64 ⇑P P 14 30 45.1 +0.5
baz=57
K06A Valley Falls 57.59 60 P P 14 30 45.7 +0.9
baz=57,SNR=8.1
BSMT Bassoo Peak 57.64 53 eP P 14 30 45.7 +0.5
O02C Red Bluff 57.65 64 ⇑P P 14 30 45.6 +0.3
baz=57
L05A Lakeview 57.70 61 P P 14 30 46.6 +1.0
baz=57,SNR=5.3
J07A Hines 57.79 59 P P 14 30 47.1 +0.9
baz=58,SNR=6.0
C13A Hot Springs 57.86 53 P P 14 30 46.6 -0.1
baz=58,SNR=6.5
I08A Drewsey 57.90 58 P P 14 30 47.8 +0.8
baz=58,SNR=9.2
M05C Lookout 57.93 62 P P 14 30 47.7 +0.5
baz=58,SNR=5.7
H09A Durkee 57.96 57 P P 14 30 48.2 +0.8
baz=58,SNR=12
GASB Alder Springs 58.02 65 ⇑P P 14 30 48.6 +0.8
baz=58
BMO Blue Mountains 58.05 57 eP P 14 30 48.1 0.0
comp=Z,26nm,1.1s,mb5.2
F11A Grangeville 58.07 55 P P 14 30 48.2 0.0
baz=58,SNR=6.2
MOD Modoc 58.10 61 eP P 14 30 48.5 +0.1
MOD Modoc 58.10 61 P P 14 30 48.9 +0.5
baz=58,SNR=9.7
K07A Rock Creek Ran 58.24 60 P P 14 30 49.5 +0.1
baz=58,SNR=7.0
D13A Huson 58.27 53 P P 14 30 49.4 -0.2
baz=58,SNR=7.2
J08A Circle Bar Ran 58.29 59 P P 14 30 50.4 +0.7
baz=58,SNR=6.8
G11A Walters Elk Ra 58.31 56 ⇓P P 14 30 48.9 -1.0
baz=58
I09A Lost Marbles R 58.34 58 P P 14 30 50.4 +0.3
baz=58,SNR=9.9
M06C Likely Place G 58.42 62 ⇑P P 14 30 50.6 0.0
baz=58
O04C Chester 58.60 63 ⇓P P 14 30 51.7 -0.2
baz=58
L07A Adell 58.60 61 P P 14 30 52.6 +0.7
baz=58,SNR=7.1
AKTK Aktyubinsk 58.61 312 P P 14 30 51.1 -0.9
AKTK PcP PcP 14 31 41.9 0.0
AKTO Aktyubinsk 58.61 312 P P 14 30 51.1 -0.9
comp=Z,2.0nm,0.6s,mb4.4,baz=68,slow=5.8,SNR=5.6
AKTO PcP PcP 14 31 41.9 0.0
comp=Z,3.6nm,0.6s,baz=63,slow=2.1,SNR=5.4
AKTO Aktyubinsk 58.61 312 P P 14 30 51.1 -0.9
AKTO 14 31 41.9
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ELFS Eagle Lake Fie 58.63 63 P P 14 30 52.8 +0.7
baz=58,SNR=6.4
MNRC McLaughlin Nat 58.66 65 ⇑P P 14 30 52.7 +0.4
baz=58
K08A Mann Creek Ran 58.66 60 P P 14 30 53.0 +0.7
baz=58,SNR=8.6
J09A Fry Pan Ranch, 58.71 59 P P 14 30 53.4 +0.7
baz=58,SNR=6.4
MSO Missoula 58.72 53 eP P 14 30 52.9 +0.2
comp=Z,32nm,1.3s,mb5.2
WVOR Wild Horse Val 58.76 60 P P 14 30 53.3 +0.3
WVOR pmax pmax
comp=Z,17nm,1.0s,mb5.0
WVOR Wild Horse Val 58.76 60 eP P 14 30 52.6 -0.4
comp=Z,16nm,1.0s,mb5.0
D14A Greenough 58.80 53 P P 14 30 53.2 -0.1
baz=58,SNR=16
E13A Victor 58.82 54 P P 14 30 53.7 +0.3
baz=58,SNR=5.6
H11A Donnelly 58.87 56 P P 14 30 53.8 0.0
baz=58,SNR=12
O05C Quincy 58.92 63 ⇑P P 14 30 53.9 -0.2
baz=59
OHCM Honcut 58.96 64 eP P 14 30 53.6 -0.8
CHMT Chamberlain Mo 59.04 53 eP P 14 30 54.9 -0.1
L08A Fields 59.08 60 P P 14 30 55.8 +0.6
baz=59,SNR=11
M07A Soldier Meadow 59.09 61 P P 14 30 56.0 +0.7
baz=59,SNR=13
N06A Buffalo Meadow 59.09 62 P P 14 30 55.6 +0.4
baz=59,SNR=9.1
K09A Rome 59.12 59 P P 14 30 56.0 +0.4
baz=59,SNR=6.4
F13A Darby 59.14 55 P P 14 30 55.6 0.0
baz=59,SNR=10
E14A Clinton 59.22 54 P P 14 30 56.1 0.0
baz=59,SNR=11
BEKR Beckwourth 59.32 63 ⇑P P 14 30 56.9 +0.1
baz=59
Q04C Lincoln 59.34 65 ⇓P P 14 30 56.9 -0.1
baz=59
D15A Lincoln 59.35 53 P P 14 30 57.5 +0.4
baz=59,SNR=7.3
O06A Flanigan 59.45 63 ⇓P P 14 30 57.8 0.0
baz=59
P05C Yuba Gap, Truc 59.52 64 ⇓P P 14 30 58.3 +0.1
baz=59
L09A Wilkinson Ranc 59.58 60 ⇓P P 14 30 59.7 +1.0
baz=59
N07B Gerlach 59.58 62 P P 14 30 59.1 +0.4
baz=59,SNR=7.1
FFC Flin Flon 59.65 41 P P 14 30 59.1 -0.1
comp=Z,236nm,1.1s,mb6.1,SNR=8.3
FFC Flin Flon 59.65 41 P P 14 30 59.1 -0.1
F14A Wisdom 59.66 54 ⇓P P 14 30 58.6 -0.6
baz=59
E15A Deer Lodge 59.67 53 P P 14 30 59.6 +0.3
baz=59,SNR=14
SUMG Summit 59.77 4 eP P 14 30 60.0 0.0
comp=Z,103nm,0.9s,mb5.9
O07A Toulon 60.02 62 P P 14 31 02.2 +0.5
baz=60,SNR=7.9
WCN Washoe City 60.03 63 ⇑P P 14 31 01.9 +0.1
baz=60
N08A GE Springer Mi 60.08 61 P P 14 31 02.4 +0.3
baz=60,SNR=6.8
M09A Marrel Ranch, 60.08 60 ⇓P P 14 31 02.9 +0.8
baz=60
F15A Butte 60.12 54 P P 14 31 02.8 +0.4
baz=60,SNR=22
LRM Limekiln Ridge 60.15 54 eP P 14 31 03.0 +0.3
EGMT Eagleton 60.20 50 eP P 14 31 02.9 0.0
comp=Z,78nm,1.5s,mb5.5
R05C Kirkwood Meado 60.21 64 ⇓P P 14 31 02.9 -0.1
baz=60
N09A Rock Creek Ran 60.39 61 P P 14 31 04.8 +0.5
baz=60,SNR=9.8
CMB Columbia Colle 60.45 65 ⇓P P 14 31 04.8 +0.2
baz=60
HLID Hailey 60.48 57 eP P 14 31 04.8 -0.1
comp=Z,18nm,1.2s,mb5.0
PACP Pacheco Peak 60.54 66 ⇑P P 14 31 05.5 +0.2
baz=60
G15A Dillon 60.55 54 P P 14 31 05.5 +0.2
baz=60,SNR=13
M10A I.L. Ranch, Tu 60.55 60 P P 14 31 06.2 +0.9
baz=60,SNR=9.4
MCMT McKenzie Canyo 60.56 55 eP P 14 31 05.4 0.0
R06C Coleville 60.71 64 ⇓P P 14 31 06.7 +0.3
baz=60
HAST UC Hastings Re 60.77 67 ⇓P P 14 31 06.4 -0.4
baz=60
P08A Dixie Valley 60.79 62 ⇓P P 14 31 07.9 +0.9
baz=60
S06C San Francisco 60.87 65 ⇓P P 14 31 07.0 -0.5
baz=61
S05C Merced 60.91 65 ⇓P P 14 31 07.3 -0.5
baz=61
O09A Fish Creek Ran 61.02 61 P P 14 31 09.2 +0.7
baz=61,SNR=8.0
M11A Holland Ranch, 61.04 59 P P 14 31 09.8 +1.1
baz=61,SNR=6.7
N10A Dunphy 61.08 60 ⇑P P 14 31 09.3 +0.4
baz=61
R07C Lee Vining 61.23 64 ⇓P P 14 31 09.4 -0.5
baz=61
QLMT Earthquake Lak 61.34 54 eP P 14 31 11.3 +0.7
O10A Cortez Mining, 61.35 61 ⇓P P 14 31 11.2 +0.4
baz=61
Q08A Gabbs 61.41 63 P P 14 31 11.5 +0.3
baz=61,SNR=5.6
P09A Austin 61.44 62 ⇑P P 14 31 11.2 -0.2
baz=61
NVAR Mina Array Bea 61.46 63 P P 14 31 11.7 +0.2
comp=Z,3.8nm,0.8s,mb4.6,baz=291,slow=9.9,SNR=14
N11A Elko Archery C 61.47 60 ⇑P P 14 31 11.9 +0.4
baz=61
T06C Millerton Lake 61.51 65 ⇑P P 14 31 10.7 -1.2
baz=61
KCC Kaiser Creek 61.55 65 ⇓P P 14 31 11.2 -1.0
baz=61
M12A Wells 61.56 59 P P 14 31 12.8 +0.6
baz=61,SNR=14
R08A Mina 61.63 63 ⇑P P 14 31 12.5 -0.1
baz=61
P10A Eureka 61.80 61 ⇓P P 14 31 14.5 +0.7
baz=62
YNR Norris Junctio 61.82 54 eP P 14 31 15.7 +1.8
N12A Clover Valley, 61.85 59 P P 14 31 14.9 +0.8
baz=62,SNR=7.2
Q09A Carvers 61.88 62 ⇑P P 14 31 14.8 +0.5
baz=62
YFT Old Faithful 61.91 54 eP P 14 31 16.5 +2.0
O11A Cowboy Ranch, 61.95 60 P P 14 31 15.4 +0.6
baz=62,SNR=5.9
M13A Montello 62.03 58 ⇓P P 14 31 16.1 +0.8
baz=62
S08C White Mtn Res 62.14 64 ⇑P P 14 31 16.4 +0.4
baz=62
HELL Mitchell Peak, 62.14 65 P P 14 31 15.6 -0.5
baz=62,SNR=5.7
P11A Circle Ranch, 62.26 61 ⇑P P 14 31 16.2 -0.7
baz=62
R09A Tonopah 62.33 63 P P 14 31 17.4 +0.1
baz=62,SNR=9.9
TIN Tinemaha 62.39 64 ⇑P P 14 31 17.9 +0.2
baz=62
O12A Currie 62.40 60 P P 14 31 18.3 +0.5
baz=62,SNR=15
MOOW Moose Ponds 62.41 55 eP P 14 31 18.8 +0.9
comp=Z,24nm,1.2s,mb5.2
S09A Goldfield 62.57 63 P P 14 31 19.1 +0.1
baz=62,SNR=6.4
SNOW Snow King Moun 62.59 55 eP P 14 31 20.3 +1.2
comp=Z,44nm,1.1s,mb5.5
DGMT Dagmar 62.73 47 eP P 14 31 20.2 +0.1
R10A Warm Springs 62.76 62 ⇑P P 14 31 20.0 -0.1
baz=62
Q11A Duckwater 62.78 61 ⇑P P 14 31 19.9 -0.4
baz=62
P12A McGill 62.81 60 P P 14 31 20.6 0.0
baz=62,SNR=5.5
CWC Cottonwood Cre 62.88 65 ⇓P P 14 31 21.2 +0.2
baz=63
ISA Isabella 63.14 66 ⇓P P 14 31 21.7 -1.1
baz=63
Q12A Willow Creek R 63.14 61 P P 14 31 23.2 +0.4
baz=63,SNR=6.2
HWUT Hardware Ranch 63.35 57 eP P 14 31 24.9 +0.7
MPMC Manual Prospec 63.49 65 P P 14 31 25.0 0.0
baz=63,SNR=6.2
FINES FINESS Array B 63.51 335 P P 14 31 24.2 -1.0
comp=Z,16nm,0.6s,mb5.3,baz=38,slow=9.6,SNR=21
DUG Dugway 63.56 59 eP P 14 31 25.7 +0.1
DUG pmax pmax
comp=Z,32nm,1.2s,mb5.2
DUG Dugway 63.56 59 eP P 14 31 25.4 -0.1
comp=Z,32nm,1.2s,mb5.2
FURC Furnace Creek, 63.60 64 ⇓P P 14 31 25.5 -0.3
baz=63
BW06 Boulder Array 63.71 55 eP P 14 31 26.3 -0.2
comp=Z,31nm,1.2s,mb5.2
PDAR Pinedale Array 63.71 55 P P 14 31 26.0 -0.5
comp=Z,15nm,1.0s,mb5.0,baz=302,slow=2.8,SNR=38
LRMC Laurel Mountai 63.75 65 P P 14 31 26.4 -0.4
baz=63,SNR=5.0
CTU Camp Tracy 63.85 58 eP P 14 31 27.7 +0.3
EDW2 Edwards Air Fo 63.95 66 P P 14 31 28.0 -0.1
baz=64,SNR=7.4
U10A Ash Meadows, A 63.96 64 ⇑P P 14 31 28.1 0.0
baz=64
DAU Daniels Canyon 64.32 58 P P 14 31 31.3 +0.8
DAU Daniels Canyon 64.32 58 eP P 14 31 31.0 +0.5
GSC Goldstone 64.40 65 ⇑P P 14 31 30.6 -0.4
baz=64
BFSC Mount Baldy St 64.58 66 ⇓P P 14 31 31.2 -1.0
baz=64
SHPR Sheep Range 64.61 63 eP P 14 31 32.7 +0.3
ARUT Antelope Range 64.79 61 P P 14 31 33.9 +0.3
ARUT Antelope Range 64.79 61 eP P 14 31 33.5 0.0
TUQ Turquoise Mtn. 64.86 64 P P 14 31 33.9 -0.1
baz=64,SNR=5.3
V11A Goodsprings 64.89 64 ⇓P P 14 31 34.2 0.0
baz=65
OBN Obninsk 64.94 326 eP P 14 31 34.1 -0.5
OBN e 14 32 05.8
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HEC Hector,Ludlow 65.01 65 ⇓P P 14 31 35.0 0.0
baz=65
BBRC Big Bear Sol-O 65.02 66 ⇑P P 14 31 35.2 +0.1
baz=65
U12A Valley of Fire 65.03 63 ⇑P P 14 31 35.1 -0.1
baz=65
PSI Prapat 65.04 245 P P 14 31 36.0 +0.8
comp=Z,2.4nm,0.5s,mb4.5,baz=317,slow=19,SNR=3.5
PSI Prapat 65.04 245 P P 14 31 36.0 +0.8
MSU Marysvale 65.05 60 P P 14 31 35.9 +0.6
MURC Murrieta 65.29 67 ⇓P P 14 31 36.5 -0.3
baz=65
V12A Nelson 65.31 64 ⇑P P 14 31 37.2 +0.2
baz=65
ULM Lac du Bonnet 65.43 42 P P 14 31 36.4 -1.4
comp=Z,4.6nm,0.7s,mb4.6,baz=313,slow=6.1,SNR=6.3
W12A Cal Nev Ari 65.59 64 ⇑P P 14 31 38.1 -0.7
baz=65
SRU San Rafael 65.61 58 eP P 14 31 38.7 -0.2
BELC Belle Mtn. 65.77 66 ⇑P P 14 31 38.9 -1.0
baz=66
IRM Iron Mountain 66.18 65 P P 14 31 42.4 -0.1
baz=66,SNR=5.6
MONP Monument Peak 66.25 67 ⇓P P 14 31 42.5 -0.5
baz=66
W13A Hualapai Mount 66.32 63 ⇑P P 14 31 43.2 -0.2
baz=66
X13A Yucca 66.69 64 P P 14 31 45.7 -0.2
baz=66,SNR=5.9
PDMCI Parker Dam,Lak 66.70 64 ⇑P P 14 31 46.2 +0.3
baz=66
W14A Seligman 66.73 63 P P 14 31 46.6 +0.6
baz=66,SNR=6.1
Y12C Blythe 66.84 65 ⇑P P 14 31 46.6 -0.1
baz=66
AGMN Agassiz Refuge 66.85 43 eP P 14 31 45.7 -1.2
comp=Z,56nm,1.5s,mb5.4
Y13A Salome 67.22 64 ⇑P P 14 31 48.8 -0.4
baz=67
W15A Williams 67.24 62 ⇑P P 14 31 49.8 +0.4
baz=67
X14A Yava 67.35 63 P P 14 31 50.5 +0.6
baz=67,SNR=5.7
WUAZ Wupatki 67.54 62 eP P 14 31 51.4 +0.2
comp=Z,28nm,1.7s,mb5.0
NOA NORSAR Array B 67.59 341 P P 14 31 50.6 -1.0
comp=Z,5.5nm,0.6s,mb4.8,baz=26,slow=6.4,SNR=10
Y14A Wickenburg 67.64 64 ⇑P P 14 31 51.7 -0.2
baz=67
X15A Humboldt 67.73 63 P P 14 31 53.1 +0.7
baz=67,SNR=7.4
HFS Hagfors 67.85 340 P P 14 31 52.5 -0.7
comp=Z,12nm,0.4s,mb5.3,baz=57,slow=5.5,SNR=33
BORG Borgarnes 67.90 358 P P 14 31 53.8 +0.3
comp=Z,29nm,0.8s,mb5.4,baz=28,slow=5.8,SNR=6.6
Z14A Wintersburg 68.07 64 ⇑P P 14 31 54.4 -0.1
baz=68
115A Sonoran Desert 68.96 64 ⇑P P 14 32 00.2 +0.1
baz=69

KONO Kongsberg 69.20 342 *e*P P 14 32 00.6 -1.0
116A Eloy 69.37 64 ⇓P P 14 32 03.2 +0.6
baz=69
WRAB Tennant Creek 69.55 200 *e*P P 14 32 04.0 +0.2
WB2 Warramunga Arr 69.56 200 *e*P P 14 32 01.9 -1.9
WRA Warramunga Arr 69.56 200 P P 14 32 02.6 -1.2
comp=Z,4.1nm,1.0s,mb4.3,baz=17,slow=6.6,SNR=9.1
ECSD EROS,Sioux Fal 69.81 47 *e*P P 14 32 04.4 -1.0
comp=Z,39nm,1.1s,mb5.2
FITZ Fitzroy Crossi 70.23 209 *e*P P 14 32 08.4 +0.5
comp=Z,10nm,0.9s,mb4.8
FITZ Fitzroy Crossi 70.23 209 P P 14 32 06.5 -1.4
comp=Z,5.4nm,0.9s,mb4.5
SUW Suwalki 70.52 332 *e*P P 14 32 09.7 0.0
KIV Kislovodsk 70.64 315 *e*P P 14 32 10.5 +0.1
KIV pmax pmax
comp=Z,21nm,1.3s,mb4.9
ANMO Albuquerque 70.82 59⇑*e*P P 14 32 09.6 -2.0
AKASG Malin Array Be 71.16 327 P P 14 32 12.2 -1.4
comp=Z,7.2nm,0.5s,mb4.8,baz=34,slow=6.0,SNR=20
KIEV Kiev 71.17 327 *e*P P 14 32 12.7 -1.0
BNM Barren Site 71.29 60 *e*P P 14 32 14.3 -0.1
BSD Bornholm Skovb 72.00 337 *i* P P 14 32 18.3 -0.3
comp=Z,1.8nm,0.2s,mb4.7
BSD Bornholm Skovb 72.00 337 *i* P P 14 32 18.3 -0.3
BSD pmax pmax
comp=Z,2.0nm,0.2s,mb4.7
SCHQ Schefferville 72.24 23 P P 14 32 20.0 -0.1
comp=Z,14nm,0.8s,mb5.0,baz=327,slow=4.9,SNR=11
SCHQ Schefferville 72.24 23 P P 14 32 20.0 -0.1
GNI Garni 72.44 311 *e*P P 14 32 22.1 +0.8
GNI pmax pmax
comp=Z,26nm,1.7s
SCIA State Center 72.84 46 *e*P P 14 32 23.2 -0.4
comp=Z,160nm,1.4s,mb5.8
AS31 Alice Springs 73.25 199 *e*P P 14 32 26.7 +0.6
ASAR Alice Springs 73.25 199 P P 14 32 25.2 -0.9
comp=Z,5.5nm,0.7s,mb4.6,baz=11,slow=5.3,SNR=16
ASPA Alice Springs 73.25 199 *e*P P 14 32 26.7 +0.6
LVV L'vov 73.77 329 *e*P P 14 32 27.7 -1.4
SIM Simferopol' 73.80 320 *e*P P 14 32 30.0 +0.7
SIM pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIS Kishinev 74.34 325 *e*P P 14 32 30.0 -2.5
KWP Kalwaria 74.39 330 *e*P P 14 32 32.9 +0.2
KWP Kalwaria 74.39 330 P P 14 32 33.0 +0.3
KWP pmax pmax
comp=Z,130nm,1.2s,mb5.7
OJC Ojcow 74.85 332 *e*P P 14 32 35.3 -0.1
STHS Stebnicka Huta 75.07 330 *e*P P 14 32 37.3 +0.6
STHS pmax pmax
comp=Z,28nm,1.4s,mb5.0
STHS Stebnicka Huta 75.07 330 *e*P P 14 32 37.3 +0.6
comp=Z,28nm,1.4s,mb5.0
KOLS Kolonicke sedl 75.13 329 *e*P P 14 32 36.9 -0.1
BURAR Bucovina Array 75.20 327 ⇓*i*P P 14 32 37.4 0.0
BURAR Bucovina Array 75.20 327 ⇓P P 14 32 37.4 -0.1
NIE Niedzica 75.37 331 *e*P P 14 32 38.9 +0.5
UZH Uzhgorod 75.38 329 *e*P P 14 32 38.4 -0.1
KSP Ksiaz 75.39 334 *e*P P 14 32 38.4 -0.1
OKC Ostrava-Krasne 75.71 332 *e*P P 14 32 40.4 0.0
UPC Upice 75.77 334 *e*P P 14 32 40.9 +0.2
DPC Dobruska-Polom 75.82 334 *e*P P 14 32 41.2 +0.2
CLL Collm 75.92 336⇑*i*P P 14 32 41.1 -0.5
CLL pmax pmax
comp=Z,32nm,0.8s,mb5.3
CLL Collm 75.92 336⇑*i*P P 14 32 41.1 -0.5
comp=Z,92nm,0.8s,mb5.8
MORC Moravsky Berou 75.95 333⇑*i*P P 14 32 42.1 +0.4
MORC Moravsky Berou 75.95 333 P P 14 32 41.9 +0.2
MORC pmax pmax
comp=Z,73nm,1.2s,mb5.5
MORC Moravsky Berou 75.95 333 *e*P P 14 32 41.7 0.0
comp=Z,73nm,1.3s,mb5.5
BRG Berggiesshubel 76.05 335 *i* P P 14 32 41.8 -0.5
comp=Z,22nm,1.1s,mb5.0
BRG Berggiesshubel 76.05 335 *i* P P 14 32 41.8 -0.5
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VRI Vrincioaia 76.09 325 ⇓*i*P P 14 32 45.4 +2.9
VRI Vrincioaia 76.09 325 P P 14 32 43.1 +0.6
CFR Carcaliu 76.11 324 ⇓*i*P P 14 32 42.8 +0.2
CFR Carcaliu 76.11 324 P P 14 32 44.3 +1.7
CFR Carcaliu 76.11 324 ⇓P P 14 32 42.8 +0.2
KECS Kecovo 76.12 330 *e*P P 14 32 42.5 -0.2
KECS Kecovo 76.12 330 *e*P P 14 32 42.5 -0.2
KECS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KECS Kecovo 76.12 330 *e*P P 14 32 42.5 -0.2
comp=Z,10nm,0.8s,mb4.8
WIT Witteveen 76.14 340 *e*P P 14 32 43.7 +0.9
PVCC Panska Ves 76.18 335 *e*P P 14 32 42.8 -0.2
BOYT Boyabat 76.25 317 *i* P P 14 32 44.2 +0.8
TXAR Lajitas Array 76.50 61 P P 14 32 44.9 0.0
comp=Z,15nm,0.8s,mb5.0,baz=294,slow=4.0,SNR=16
TXAR Lajitas Array 76.50 61 P P 14 32 44.9 0.0
TIRR Tirgusor 76.59 323⇑*i*P P 14 32 45.5 +0.1
TIRR Tirgusor 76.59 323 P P 14 32 45.6 +0.2
TIRR Tirgusor 76.59 323⇑P P 14 32 45.5 +0.1
HARR Harsova 76.59 324 P P 14 32 45.2 -0.2
ELZG Elazig 76.60 313 *i* P P 14 32 47.0 +1.6
PRA Prague 76.62 335 P P 14 32 45.0 -0.6
VRAC Vranov 76.66 333⇑*i*P P 14 32 46.0 +0.2
VRAC Vranov 76.66 333⇑P P 14 32 46.0 +0.3
VYHS Vyhne 76.66 331 *e*P P 14 32 46.0 +0.2
VYHS Vyhne 76.66 331 *e*P P 14 32 46.0 +0.2
VYHS pmax pmax
comp=Z,37nm,1.6s,mb5.1
VYHS Vyhne 76.66 331 *e*P P 14 32 46.0 +0.2
comp=Z,37nm,1.6s,mb5.1
PRU Pruhonice 76.67 334 *e*P P 14 32 45.6 -0.2
WSAR Wadi Sarin 76.69 290 P P 14 32 46.6 +0.7
comp=Z,13nm,1.0s,mb4.8,baz=78,slow=8.7,SNR=6.9
MLR Muntele Rosu 76.70 325 ⇓*i*P P 14 32 46.4 +0.4
MLR Muntele Rosu 76.70 325 ⇓P P 14 32 46.4 +0.4
DRGR 76.81 328⇑*i*P P 14 32 46.6 0.0
DRGR 76.81 328⇑P P 14 32 46.6 +0.1
SLM Saint Louis 76.81 46 *e*P P 14 32 45.4 -1.2
PSZ Piszkesteto 76.81 330⇑*i*P P 14 32 47.5 +0.9
PSZ Piszkesteto 76.81 330 P P 14 32 47.2 +0.6
PSZ pmax pmax
comp=Z,53nm,1.4s,mb5.3
PSZ Piszkesteto 76.81 330 *e*P P 14 32 46.7 +0.1
comp=Z,53nm,1.4s,mb5.3
BALT Daday 76.84 318 *i* P P 14 32 48.0 +1.1
WTSB Winterswijk 76.89 340⇑*e*P P 14 32 46.9 -0.2
comp=Z,82nm,0.8s,mb5.7
MOX Moxa 76.90 337 *e*P P 14 32 46.8 -0.3
comp=Z,62nm,1.2s,mb5.4
MOX Moxa 76.90 337 *e*P P 14 32 46.8 -0.3
MOX pmax pmax
comp=Z,42nm,1.2s,mb5.2
WBK Wadi Bani Khal 76.92 289⇑P P 14 32 49.7 +2.5
SNR=5.3
CTKT Corum 76.93 317 *i* P P 14 32 48.7 +1.4
MALT Malatya 77.01 313 ⇓*i*P P 14 32 49.9 +2.1
MALT Malatya 77.01 313 P P 14 32 49.6 +1.8
MALT pmax pmax
comp=Z,51nm,1.2s,mb5.3
MALT Malatya 77.01 313 *e*P P 14 32 49.3 +1.6
comp=Z,51nm,1.3s,mb5.3
NKC Novy Kostel 77.04 336 *e*P P 14 32 47.6 -0.3
VOIR 77.09 326 ⇓*i*P P 14 32 48.8 +0.6
VOIR 77.09 326 ⇓P P 14 32 48.8 +0.6
SMOL Smolenice 77.10 332 *e*P P 14 32 48.9 +0.7
HATD Hatta, Dubai 77.12 293 ⇓P P 14 32 49.0 +0.6
SNR=6.7
SMDO Samad 77.19 290 P P 14 32 50.5 +1.8
SNR=5.0
ASHO Ashiyiah 77.27 293 P P 14 32 50.2 +1.1
SNR=5.3
HOQ Hoqain 77.28 291⇑P P 14 32 50.7 +1.5
SNR=8.6
ZST Bratislava 77.48 332 *e*P P 14 32 51.1 +0.7
ZST pmax pmax
comp=Z,39nm,1.2s,mb5.2
ZST Bratislava 77.48 332 *e*P P 14 32 51.1 +0.7
comp=Z,39nm,1.2s,mb5.2
ELDT Eldivan 77.66 318 *i* P P 14 32 51.3 -0.1
KHC Kasperske Hory 77.72 335 *e*P P 14 32 51.9 +0.2
GRA1 Grafenberg Arr 77.87 336 *e*P P 14 32 52.8 +0.3
comp=Z,71nm,0.9s,mb5.6
GRF Grafenberg Arr 77.87 336 *e*P P 14 32 52.8 +0.3
comp=Z,71nm,0.9s,mb5.6
GRF Grafenberg Arr 77.87 336 *e*P P 14 32 52.8 +0.3
GRF pmax pmax
comp=Z,71nm,0.9s,mb5.6
GRFO Grafenberg 77.87 336 P P 14 32 53.4 +0.9
GRFO pmax pmax
comp=Z,86nm,0.8s,mb5.7
GRFO Grafenberg 77.87 336 *e*P P 14 32 52.8 +0.2
comp=Z,86nm,0.8s,mb5.7
JCT Junction City 77.91 58 P P 14 32 52.4 -0.4
JCT *e* pP 14 33 04.6 -0.1
JCT pmax pmax
comp=Z,40nm,1.2s,mb5.2
JCT Junction City 77.91 58 *e*P P 14 32 52.0 -0.8
comp=Z,40nm,1.2s,mb5.2
GERES GERESS Array B 77.94 334 P P 14 32 52.8 -0.1
comp=Z,20nm,0.7s,mb5.1,baz=33,slow=5.1,SNR=66
ARQ Araqi 77.95 291 P P 14 32 54.3 +1.3
SNR=6.8
BSY Bisya 77.95 290 P P 14 32 54.7 +1.7
SNR=12
GZR Gura Zlata 77.98 327⇑*i*P P 14 32 53.1 0.0
GZR Gura Zlata 77.98 327⇑P P 14 32 53.1 0.0
SIUC Southern Illin 78.03 46 *e*P P 14 32 52.8 -0.7
DLF Lyons Farm 78.10 348 *e*P P 14 32 52.1 -1.7
CONA Conrad Observa 78.11 333 D P 14 32 54.5 +0.7
SNR=10
DCN Croghan 78.15 349 *e*P P 14 32 52.5 -1.6
BLO Bloomington 78.17 44 *e*P P 14 32 53.9 -0.3
BLO pmax pmax
comp=Z,28nm,0.8s,mb5.2
BLO Bloomington 78.17 44 *e*P P 14 32 53.9 -0.3
comp=Z,28nm,0.8s,mb5.2
BR131 Keskin Array S 78.18 317 *e*P P 14 32 54.8 +0.6
BRTR Keskin Array B 78.18 317 P P 14 32 54.7 +0.4
comp=Z,18nm,0.9s,mb5.0,baz=70,slow=4.1,SNR=39
GZT Gaziantep 78.19 313 *i* P P 14 32 55.0 +0.7
BZS Buzias 78.20 328 ⇓*i*P P 14 32 54.1 -0.3
BZS Buzias 78.20 328 P P 14 32 54.2 -0.2
BZS Buzias 78.20 328 ⇓P P 14 32 54.1 -0.3
HGN Heimansgroeve 78.21 340⇑*e*P P 14 32 54.2 -0.2
comp=Z,63nm,0.9s,mb5.5
SGKT Sivrigoynuk 78.21 319 *i* P P 14 32 54.8 +0.4
AVNT Avonos 78.37 316 *i* P P 14 32 53.5 -1.8
ANTO Ankara 78.45 318⇑P P 14 32 56.6 +0.8
SNR=5.7
ANTO Ankara 78.45 318 P P 14 32 57.2 +1.4
ZIMR 78.47 325 P P 14 32 55.8 -0.1
MOA Molln 78.66 334 ⇓*i*P P 14 32 57.4 +0.5
comp=Z,26nm,0.8s,mb5.2,SNR=7.1
PKSM Moragy 78.72 330 ⇓*i*P P 14 32 56.7 -0.6
PKSM Moragy 78.72 330 ⇓P P 14 32 56.7 -0.5
ARSA Arzberg 78.81 333⇑*i*P P 14 32 58.4 +0.7
comp=Z,21nm,0.8s,mb5.1,SNR=9.6
WCI Wyandotte Cave 79.03 44 P P 14 32 58.9 0.0
WCI pmax pmax
comp=Z,77nm,1.0s,mb5.6
WCI Wyandotte Cave 79.03 44 *e*P P 14 32 58.5 -0.4
comp=Z,77nm,1.0s,mb5.6
GIVF Givet 79.08 340⇑*i*P P 14 32 58.8 -0.4
comp=Z,84nm,1.1s,mb5.3
GIVF Givet 79.08 340⇑*i*P P 14 32 58.8 -0.4
GIVF pmax pmax
comp=Z,42nm,1.1s,mb5.3
GIVF Givet 79.08 340⇑*i*P P 14 32 58.8 -0.4
comp=Z,42nm,1.1s,mb5.3
BAIF Baives 79.26 341 *e*P P 14 32 59.8 -0.4
LANF Langenberg 79.42 338 *e*P P 14 33 00.9 -0.2
PERS Pernice 79.49 333 *e*P P 14 33 01.5 +0.1
COBT Iskenderun 79.49 314 *i* P P 14 33 01.7 +0.2
ESKT Eskisehir 79.61 319 *i* P P 14 33 02.4 +0.3
KBA Koelnbreinsper 79.63 334 *i* P P 14 33 03.2 +1.0
comp=Z,93nm,0.8s,mb5.8,SNR=18
OBKA Obir 79.78 333 ⇓*i*P P 14 33 03.4 +0.3
comp=Z,18nm,0.8s,mb5.1
BFO Black Forest 79.88 338 P P 14 33 03.8 +0.2
comp=Z,250nm,1.0s,mb6.1,SNR=9.2
BFO Black Forest 79.88 338 *e*P P 14 33 03.3 -0.3
BFO pmax pmax
comp=Z,22nm,0.9s,mb5.1
BFO Black Forest 79.88 338 *e*P P 14 33 03.3 -0.3
comp=Z,22nm,0.9s,mb5.1
WATA Walderalm 79.91 335⇑*i*P P 14 33 04.6 +0.9
comp=Z,49nm,0.7s,mb5.5,SNR=10
WTTA Wattenberg 79.96 335⇑*i*P P 14 33 05.2 +1.2
comp=Z,89nm,0.7s,mb5.8,SNR=25
GCIS Gornji Cirnik 80.01 322 *i* P P 14 33 03.9 -0.4
GRUS Gruza 80.02 328 *i* P P 14 33 03.2 -1.1
WLS Welschbruch 80.05 338 *e*P P 14 33 04.4 -0.1
CDF Champ du Feu 80.07 338⇑*i*P P 14 33 04.3 -0.3
comp=Z,140nm,1.1s,mb5.5
CDF Champ du Feu 80.07 338⇑*i*P P 14 33 04.3 -0.3
CDF pmax pmax
comp=Z,70nm,1.1s,mb5.5
CDF Champ du Feu 80.07 338⇑*i*P P 14 33 04.3 -0.3
comp=Z,70nm,1.1s,mb5.5
DIVS Divcibare 80.10 328 *i* P P 14 33 04.0 -0.8
DIVS Divcibare 80.10 328 *i* P P 14 33 04.4 -0.3
CRES Cresnjev 80.10 332 *e*P P 14 33 04.3 -0.5
SQTA Sainte Quirin 80.12 335 *i* P P 14 33 05.8 +0.9
comp=Z,45nm,0.8s,mb5.5,SNR=13
VTS Vitosha 80.21 325 ⇓*i*P P 14 33 05.6 +0.3
ECH Echery 80.29 338 *e*P P 14 33 05.7 -0.1
FELD Feldberg im Sc 80.39 338⇑*e*P P 14 33 06.0 -0.3
DAVA Damuels 80.43 336 ⇓*i*P P 14 33 07.2 +0.7
comp=Z,56nm,0.9s,mb5.5
OXF Oxford 80.45 49 *e*P P 14 33 06.3 -0.4
OXF *e**PP pP 14 33 17.9 -0.7
OXF Oxford 80.45 49 *e*P P 14 33 06.3 -0.4
BOJS Bojanci 80.45 332 *e*P P 14 33 06.1 -0.6
MEZF Maizieres J'vi 80.53 340 *e*P P 14 33 06.9 -0.2
comp=Z,175nm,1.1s,mb5.6
MEZF Maizieres J'vi 80.53 340 *e*P P 14 33 06.9 -0.2
comp=Z,175nm,1.1s,mb5.9
THEF They Montfort 80.56 339 *e*P P 14 33 07.2 -0.1
MOF Molkenrain 80.63 338 *e*P P 14 33 07.2 -0.4
BTOK Tokmak 80.64 321 *i* P P 14 33 07.7 +0.1
HAU Haudompre 80.68 339⇑*i*P P 14 33 07.4 -0.5
comp=Z,62nm,0.9s,mb5.2
HAU Haudompre 80.68 339⇑*i*P P 14 33 07.4 -0.5
HAU pmax pmax
comp=Z,31nm,0.9s,mb5.2
HAU Haudompre 80.68 339⇑*i*P P 14 33 07.4 -0.5
comp=Z,31nm,0.9s,mb5.2
HINF Hinteralfeld 80.73 338 *e*P P 14 33 07.5 -0.7
comp=Z,57nm,1.1s,mb5.1
HINF Hinteralfeld 80.73 338 *e*P P 14 33 07.5 -0.7
HINF pmax pmax
comp=Z,28nm,1.1s,mb5.1
HINF Hinteralfeld 80.73 338 *e*P P 14 33 07.5 -0.7
comp=Z,28nm,1.1s,mb5.1
TKTP Tekketepe 81.06 318 *i* P P 14 33 09.8 0.0
LOMF Lomont 81.17 338 *e*P P 14 33 10.5 0.0
FLN La Foliniere 81.47 343⇑*i*P P 14 33 11.5 -0.6
comp=Z,148nm,1.3s,mb5.5
FLN La Foliniere 81.47 343⇑*i*P P 14 33 11.5 -0.6
FLN pmax pmax
comp=Z,74nm,1.3s,mb5.5
FLN La Foliniere 81.47 343⇑*i*P P 14 33 11.5 -0.6
comp=Z,74nm,1.3s,mb5.5
VAY Valandovo 81.54 325 *i* P P 14 33 12.1 -0.3
LDF La Druitiere 81.56 343⇑*i*P P 14 33 11.8 -0.8
comp=Z,37nm,0.9s,mb5.0
LDF La Druitiere 81.56 343⇑*i*P P 14 33 11.8 -0.8
LDF pmax pmax
comp=Z,18nm,0.9s,mb5.0
LDF La Druitiere 81.56 343⇑*i*P P 14 33 11.8 -0.8
comp=Z,18nm,0.9s,mb5.0
GRR Gorron 81.90 343 *e*P P 14 33 14.0 -0.4
comp=Z,171nm,1.2s,mb5.5
GRR Gorron 81.90 343 *e*P P 14 33 14.0 -0.4
GRR pmax pmax
comp=Z,86nm,1.2s,mb5.6
GRR Gorron 81.90 343 *e*P P 14 33 14.0 -0.4
comp=Z,86nm,1.2s,mb5.5
DNZL Cakiroluk 81.91 319 *i* P P 14 33 20.9 +6.5
LOR Lormes 81.97 340⇑*i*P P 14 33 14.2 -0.5
comp=Z,72nm,1.0s,mb5.2
LOR Lormes 81.97 340⇑*i*P P 14 33 14.2 -0.5
LOR pmax pmax
comp=Z,36nm,1.0s,mb5.3
LOR Lormes 81.97 340⇑*i*P P 14 33 14.2 -0.5
comp=Z,36nm,1.0s,mb5.2
KRUS Krusevo 82.00 326 *i* P P 14 33 15.2 +0.3
CABF La Chapelle 82.05 338 *e*P P 14 33 15.0 -0.1
comp=Z,66nm,1.1s,mb5.2
CABF La Chapelle 82.05 338 *e*P P 14 33 15.0 -0.1
CABF pmax pmax
comp=Z,33nm,1.1s,mb5.2
CABF La Chapelle 82.05 338 *e*P P 14 33 15.0 -0.1
comp=Z,33nm,1.1s,mb5.2
FWV Forest Hill 82.06 41 *e*P P 14 33 14.5 -0.7
CSS Prodhromos 82.16 315 *e*P P 14 33 15.8 +0.1
comp=Z,29nm,0.7s,mb5.3
HYF Humbligny 82.24 341 *e*P P 14 33 16.0 -0.1
SSF Saint Saulge 82.24 340⇑*i*P P 14 33 15.9 -0.2
comp=Z,37nm,0.9s,mb5.0
SSF Saint Saulge 82.24 340⇑*i*P P 14 33 15.9 -0.2
SSF pmax pmax
comp=Z,19nm,0.9s,mb5.0
SSF Saint Saulge 82.24 340⇑*i*P P 14 33 15.9 -0.2
comp=Z,18nm,0.9s,mb5.0
TKL Tuckaleechee C 82.29 44 P P 14 33 15.4 -1.0
comp=Z,20nm,0.9s,mb5.0,baz=254,slow=1.3,SNR=16
SGMF Saint Gilles 82.35 344 *e*P P 14 33 16.3 -0.4
comp=Z,74nm,0.8s,mb5.4
SGMF Saint Gilles 82.35 344 *e*P P 14 33 16.3 -0.4
SGMF pmax pmax
comp=Z,37nm,0.8s,mb5.4
SGMF Saint Gilles 82.35 344 *e*P P 14 33 16.3 -0.4
comp=Z,37nm,0.8s,mb5.4
ELN Prospectdale 82.38 41 *e*P P 14 33 15.8 -1.1
OHR Ohrid 82.40 326 *i* P P 14 33 16.1 -0.9
ROSF Rostrenen 82.40 345⇑*i*P P 14 33 16.6 -0.4
comp=Z,117nm,1.0s,mb5.5
ROSF Rostrenen 82.40 345⇑*i*P P 14 33 16.6 -0.4
ROSF pmax pmax
comp=Z,59nm,1.0s,mb5.5
ROSF Rostrenen 82.40 345⇑*i*P P 14 33 16.6 -0.4
comp=Z,59nm,1.0s,mb5.5
AVF Avril sur Loir 82.53 340⇑*i*P P 14 33 17.5 -0.2
comp=Z,148nm,1.1s,mb5.6
AVF Avril sur Loir 82.53 340⇑*i*P P 14 33 17.5 -0.2
AVF pmax pmax
comp=Z,74nm,1.1s,mb5.6
AVF Avril sur Loir 82.53 340⇑*i*P P 14 33 17.5 -0.2
comp=Z,74nm,1.1s,mb5.6
SMF Signal de Mont 82.56 340⇑*i*P P 14 33 17.7 -0.1
comp=Z,217nm,1.1s,mb5.8
SMF Signal de Mont 82.56 340⇑*i*P P 14 33 17.7 -0.1
SMF pmax pmax
comp=Z,108nm,1.1s,mb5.8
SMF Signal de Mont 82.56 340⇑*i*P P 14 33 17.7 -0.1
comp=Z,108nm,1.1s,mb5.8
QUIF Quistinic 82.78 345 *e*P P 14 33 17.6 -1.4
BGF Bois d'Agland 82.87 340⇑*i*P P 14 33 19.3 -0.1
comp=Z,22nm,0.6s,mb5.1
BGF Bois d'Agland 82.87 340⇑*i*P P 14 33 19.3 -0.1
BGF pmax pmax
comp=Z,11nm,0.6s,mb5.1
BGF Bois d'Agland 82.87 340⇑*i*P P 14 33 19.3 -0.1
comp=Z,11nm,0.6s,mb5.1
LPL La Plagne 82.90 338⇑*i*P P 14 33 20.2 +0.6
comp=Z,105nm,1.0s,mb5.5
LPL La Plagne 82.90 338⇑*i*P P 14 33 20.2 +0.6
LPL pmax pmax
comp=Z,53nm,1.0s,mb5.5
LPL La Plagne 82.90 338⇑*i*P P 14 33 20.2 +0.6
comp=Z,53nm,1.0s,mb5.5
LPG La Plagne 82.91 337⇑*i*P P 14 33 20.4 +0.8
comp=Z,137nm,1.1s,mb5.6
LPG La Plagne 82.91 337⇑*i*P P 14 33 20.4 +0.8
LPG pmax pmax
comp=Z,68nm,1.1s,mb5.6
LPG La Plagne 82.91 337⇑*i*P P 14 33 20.4 +0.8
comp=Z,68nm,1.1s,mb5.6
BDRM Kayabasi 83.14 320 *i* P P 14 33 19.9 -0.9
PLDF La Plantade 83.25 340 *e*P P 14 33 21.8 +0.5
TCF Toulx Ste Croi 83.27 341⇑*i*P P 14 33 21.3 -0.2
comp=Z,75nm,1.1s,mb5.3
TCF Toulx Ste Croi 83.27 341⇑*i*P P 14 33 21.3 -0.2
TCF pmax pmax
comp=Z,38nm,1.1s,mb5.3
TCF Toulx Ste Croi 83.27 341⇑*i*P P 14 33 21.3 -0.2
comp=Z,38nm,1.1s,mb5.3
AGO Saint Agoulin 83.28 340 *e*P P 14 33 22.4 +0.9
MFF Saint Martin d 83.47 342 *e*P P 14 33 22.3 -0.2
comp=Z,74nm,1.1s,mb5.3
MFF Saint Martin d 83.47 342 *e*P P 14 33 22.3 -0.2
MFF pmax pmax
comp=Z,37nm,1.1s,mb5.3
MFF Saint Martin d 83.47 342 *e*P P 14 33 22.3 -0.2
comp=Z,37nm,1.1s,mb5.3
PYM Petit Puy Mans 83.59 340 *e*P P 14 33 23.4 +0.3
MBDF Montbardon 83.63 337 *e*P P 14 33 23.2 -0.1
ORIF Oris-en-Rattie 83.68 338⇑*i*P P 14 33 24.0 +0.4
comp=Z,87nm,1.0s,mb5.5
ORIF Oris-en-Rattie 83.68 338⇑*i*P P 14 33 24.0 +0.4
ORIF pmax pmax
comp=Z,43nm,1.0s,mb5.5
ORIF Oris-en-Rattie 83.68 338⇑*i*P P 14 33 24.0 +0.4
comp=Z,43nm,1.0s,mb5.5
LBL Lubilhac 84.03 340 *e*P P 14 33 25.7 +0.3
VIVF Saint-Julien-l 84.04 339 *e*P P 14 33 25.6 +0.2
comp=Z,60nm,1.0s,mb5.4
VIVF Saint-Julien-l 84.04 339 *e*P P 14 33 25.6 +0.2
VIVF pmax pmax
comp=Z,30nm,1.0s,mb5.4
VIVF Saint-Julien-l 84.04 339 *e*P P 14 33 25.6 +0.2
comp=Z,30nm,1.0s,mb5.4
SAOF Saorge 84.10 336 *e*P P 14 33 25.3 -0.5
AUTN L'Aution 84.13 336 *e*P P 14 33 25.5 -0.4
TOUF Mont Tournerai 84.16 337 *e*P P 14 33 25.8 -0.2
LUCF Luceram 84.25 336 *e*P P 14 33 25.9 -0.6
SBF Sospel 84.25 336 *e*P P 14 33 26.0 -0.5
comp=Z,115nm,1.1s,mb5.6
SBF Sospel 84.25 336 *e*P P 14 33 26.0 -0.5
SBF pmax pmax
comp=Z,57nm,1.1s,mb5.6
SBF Sospel 84.25 336 *e*P P 14 33 26.0 -0.5
comp=Z,58nm,1.1s,mb5.6
MVIF Mont Vial 84.30 337 *e*P P 14 33 25.9 -0.8
REVF Revere 84.38 336 *e*P P 14 33 26.9 -0.3
CAF Calviac 84.59 340 *e*P P 14 33 28.4 +0.2
comp=Z,30nm,0.9s,mb5.1
CAF Calviac 84.59 340 *e*P P 14 33 28.4 +0.2
CAF pmax pmax
comp=Z,15nm,0.9s,mb5.1
CAF Calviac 84.59 340 *e*P P 14 33 28.4 +0.2
comp=Z,15nm,0.9s,mb5.1
SMRF Simiane la Rot 84.64 338 *e*P P 14 33 28.9 +0.5
comp=Z,110nm,1.3s,mb5.5
SMRF Simiane la Rot 84.64 338 *e*P P 14 33 28.9 +0.5
comp=Z,110nm,1.3s,mb5.8
LHS Liberty Hill 84.64 43 *e*P P 14 33 28.8 +0.3
FRF La Foret Royal 84.74 337⇑*i*P P 14 33 28.7 -0.3
comp=Z,76nm,1.2s,mb5.4
FRF La Foret Royal 84.74 337⇑*i*P P 14 33 28.7 -0.3
FRF pmax pmax
comp=Z,38nm,1.2s,mb5.4
FRF La Foret Royal 84.74 337⇑*i*P P 14 33 28.7 -0.3
comp=Z,38nm,1.2s,mb5.4
LFF La Frestale 84.87 341 *e*P P 14 33 28.9 -0.7
LASF Ste Croix 84.97 339 *e*P P 14 33 29.5 -0.6
comp=Z,113nm,1.6s,mb5.5
LMR La Mourre 84.99 337 *e*P P 14 33 30.0 -0.2
comp=Z,141nm,1.1s,mb5.7
LMR La Mourre 84.99 337 *e*P P 14 33 30.0 -0.2
LMR pmax pmax
comp=Z,70nm,1.1s,mb5.7
LMR La Mourre 84.99 337 *e*P P 14 33 30.0 -0.2
comp=Z,70nm,1.1s,mb5.7
PGF Pioggiola 85.03 335 *e*P P 14 33 29.9 -0.5
comp=Z,111nm,1.3s,mb5.5
PGF Pioggiola 85.03 335 *e*P P 14 33 29.9 -0.5
PGF pmax pmax
comp=Z,56nm,1.3s,mb5.5
PGF Pioggiola 85.03 335 *e*P P 14 33 29.9 -0.5
comp=Z,56nm,1.3s,mb5.5
EIL Elat 85.61 310 *e*P P 14 33 34.6 +1.3
comp=Z,1μm,1.4s
IDI Anoyia 85.74 320 P P 14 33 32.3 -1.7
comp=Z,7.7nm,0.7s,mb5.1,baz=353,slow=9.8,SNR=6.1
MTLF Montolieu 86.06 340 *e*P P 14 33 34.9 -0.6
comp=Z,24nm,1.1s,mb5.1
MTLF Montolieu 86.06 340 *e*P P 14 33 34.9 -0.6
MTLF pmax pmax
comp=Z,12nm,1.0s,mb5.1
MTLF Montolieu 86.06 340 *e*P P 14 33 34.9 -0.6
comp=Z,12nm,1.0s,mb5.1
EPF Esparros 86.78 341 *e*P P 14 33 37.4 -1.7
SJPF Ste Jean 87.03 342 *e*P P 14 33 38.3 -2.0

comp=Z,40nm,1.3s,mb5.2
SJPF Ste Jean 87.03 342 *e*P **P 14 33 38.3 -2.0**
SJPF pmax pmax
comp=Z,20nm,1.3s,mb5.2
SJPF Ste Jean 87.03 342 *e*P **P 14 33 38.3 -2.0**
comp=Z,20nm,1.3s,mb5.2
ETSF Etsaut 87.10 342 *e*P **P 14 33 39.7 -0.9**
ESDC Sonseca Array 90.89 343 P P **14 33 57.3 -1.2**
comp=Z,0.4nm,0.3s,mb4.2,baz=10,slow=4.7,SNR=8.9
KEST Kesra 91.19 332 P **P 14 33 59.5 -0.4**
comp=Z,6.9nm,1.0s,mb4.9,baz=310,slow=2.7,SNR=8.6
TORD Torodi Ar. Bea 114.65 330 PKP PKiKP 14 39 34.0 -1.0
comp=Z,1.4nm,0.6s,baz=15,slow=2.2,SNR=8.5
LPAZ La Paz 133.36 62 PKP PKPdf 14 40 10.2 -0.5
comp=Z,0.9nm,0.7s,baz=336,slow=5.6,SNR=4.8
CFAA Coronel Fontan 144.20 79 PKP PKPdf 14 40 27.1 -3.5
comp=Z,0.8nm,0.9s,baz=298,slow=3.7,SNR=7.0

IDC ***15*** *14:24:08.1±0.7, 4663N×15373E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/25, mbtmp4.2/17, ML3.6/1, Error ellipse: s-maj=19.9km s-min=17.5km az=108.0*
NEIC ***15*** *14:24:09.8±0.5, 4660N×15361E, h10km, Error ellipse: s-maj=16.4km s-min=12.6km az=117.0*
ISCJB ***15*** *14:24:11.6±0.6, 466N±0.1×1536E±0.1, h35km, mb4.2/17, Error ellipse: s-maj=16.4km s-min=8.2km az=121.6*
MOS ***15*** *14:24:11.2±1.4, 4656N×15361E, h33km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=15.9km az=75.6*
ISC 15 14:24:13.5±0.6, 467N±01×1537E±01, h35km, n23, σ1§11/24, mb4.2/17, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.28**	**253**	⇑*i*	PN	**Pn**	**14 25 14.0**	**-2.1**
KUR				*i*	S	**Sn**	**14 26 05.0**	**+0.2**
KUR				pmax	pmax			
	comp=Z,380nm,0.6s							
KUR				smax				
	comp=N,240nm,0.8s							
KUR				smax				
	comp=E,320nm,0.8s							
ASAJ	**Asahikawa**	**8.19**	**256**	Pn		**Pn**	**14 26 12.3**	**+2.6**
	comp=E,2.3nm,0.3s,baz=72,slow=15,SNR=2.8							
ASAJ	**Asahikawa**	**8.19**	**256**	PN		**Pn**	**14 26 12.4**	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.32**	**234**	Pn		**Pn**	**14 27 43.8**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=31,slow=9.4,SNR=4.7							
KSRS	**Korea Array**	**21.12**	**253**	P		**P**	**14 28 55.9**	**+0.8**
	comp=Z,3.1nm,0.9s,mb3.6,baz=64,slow=9.5,SNR=4.2							
MKAR	**Makanchi Array**	**47.32**	**298**	P		**P**	**14 32 43.0**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=69,slow=9.1,SNR=4.6							
BVAR	**Borovoye Array**	**51.21**	**310**	P		**P**	**14 33 12.4**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=54,slow=7.5,SNR=3.7							
ARCES	**ARCESS Array B**	**58.07**	**341**	P		**P**	**14 34 02.2**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=30,slow=7.8,SNR=2.9							
NVAR	**Mina Array Bea**	**62.15**	**63**	P		**P**	**14 34 30.1**	**-0.9**
	comp=Z,0.7nm,0.6s,mb4.0,baz=303,slow=8.5,SNR=4.4							
FINES	**FINESS Array B**	**64.29**	**335**	P		**P**	**14 34 44.8**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.4,baz=28,slow=8.6,SNR=4.5							
PDAR	**Pinedale Array**	**64.50**	**54**	P		**P**	**14 34 47.1**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.9,baz=328,slow=3.2,SNR=4.2							
NB2	**NORSAR Subarra**	**68.44**	**341**	P		**P**	**14 35 11.4**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.5,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.44**	**341**	P		**P**	**14 35 11.9**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=26,slow=6.3,SNR=7.6							
WRA	**Warramunga Arr**	**68.54**	**200**	P		**P**	**14 35 11.5**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.9,baz=20,slow=7.3,SNR=5.1							
HFS	**Hagfors**	**68.68**	**340**	P		**P**	**14 35 13.1**	**-0.2**
	comp=Z,4.6nm,0.5s,mb4.7,baz=65,slow=7.0,SNR=6.1							
AKASG	**Malin Array Be**	**71.84**	**326**	P		**P**	**14 35 32.2**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=36,slow=6.1,SNR=5.3							
ASAR	**Alice Springs**	**72.23**	**199**	P		**P**	**14 35 34.9**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=9.2,slow=5.1,SNR=9.6							
CLL	**Collm**	**76.71**	**336**	⇑*i*	P	**P**	**14 36 02.1**	**+1.1**
	comp=Z,10.0nm,0.7s,mb4.8							
CLL	**Collm**	**76.71**	**336**	⇑*i*	P	**P**	**14 36 02.1**	**+1.1**
	comp=Z,10.0nm,0.7s,mb4.8							
TXAR	**Lajitas Array**	**77.22**	**61**	P		**P**	**14 36 03.8**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.4,baz=299,slow=3.7,SNR=11							
GERES	**GERESS Array B**	**78.71**	**334**	P		**P**	**14 36 13.4**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=32,slow=8.1,SNR=3.8							
BRTR	**Keskin Array B**	**78.72**	**317**	P		**P**	**14 36 13.7**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=35,slow=7.0,SNR=4.9							
STKA	**Stephens Creek**	**78.92**	**190**	P		**P**	**14 36 14.9**	**+1.6**
	comp=Z,3.2nm,0.9s,mb4.3,baz=354,slow=11,SNR=3.6							

IDC ***15*** *14:26:55.8±0.5, 4655N×15528E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, ML3.6/2, Error ellipse: s-maj=16.0km s-min=14.0km az=134.0*
BJI ***15*** *14:26:56.5, 4680N×15547E, h23km, mb4.5*
NEIC ***15*** *14:26:57.8±6.0, 4660N×155.16E, h10km±37km, mb4.7/8, Error ellipse: s-maj=9.7km s-min=7.7km az=155.0*
MOS ***15*** *14:26:58.2±1.0, 4663N×155.13E, h24km, mb4.7/6, Error ellipse: s-maj=15.2km s-min=10.7km az=106.3*
ISCJB ***15*** *14:26:59.7±0.4, 4660N±008×155.13E±008, h35km, mb4.3/33, Error ellipse: s-maj=11.7km s-min=7.2km az=137.2*
ISC 15 14:27:01.6±0.4, 4665N±008×15511E±008, h35km, n60, σ0§92/54, mb4.3/33, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.48**	**277**	PN		**Pn**	**14 28 58.2**	**-3.8**
ASAJ	**Asahikawa**	**9.16**	**258**	Pn		**Pn**	**14 29 11.8**	**+0.6**
	0.8nm,0.3s,baz=74,slow=7.4,SNR=3.5							
ASAJ	**Asahikawa**	**9.16**	**258**	PN		**Pn**	**14 29 11.9**	**+0.6**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.15**	**237**	Pn		**Pn**	**14 30 44.3**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=39,slow=12,SNR=3.2							
YAK	**Yakutsk**	**21.16**	**326**	P		**P**	**14 31 41.6**	**-2.1**
KSRS	**Korea Array**	**22.09**	**255**	P		**P**	**14 31 53.5**	**-0.1**
	comp=Z,3.1nm,0.8s,mb3.8,baz=56,slow=11,SNR=4.5							
BILL	**Bilibino**	**22.20**	**11**	*e*P		**P**	**14 31 54.4**	**-0.5**
BILL				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.3							
SONM	**Songino Array**	**32.66**	**290**	P		**P**	**14 33 30.8**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=53,slow=5.3,SNR=3.1							
ZAK	**Zakamensk**	**33.96**	**296**	*e*P		**P**	**14 33 42.0**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
INK	**Inuvik**	**41.00**	**32**	P		**P**	**14 34 41.2**	**+0.1**
	comp=Z,2.7nm,1.0s,mb3.8,baz=126,slow=6.8,SNR=4.6							
CD2	**Chengdu**	**42.24**	**267**	P		**P**	**14 34 49.9**	**-1.5**
CD2				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.7							
GYA	**Guiyang**	**43.04**	**259**	P		**P**	**14 34 59.5**	**+1.7**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7							
ZAL	**Zalesovo**	**43.80**	**306**	P		**P**	**14 35 05.3**	**+1.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=42,slow=9.9,SNR=3.3							
MKAR	**Makanchi Array**	**48.20**	**298**	P		**P**	**14 35 39.0**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=72,slow=6.6,SNR=6.7							
KURK	**Kurchatov**	**48.56**	**304**	*e*P		**P**	**14 35 41.7**	**+0.3**
KURK				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9							
KURK	**Kurchatov**	**48.56**	**304**	*e*P		**P**	**14 35 41.7**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**14 36 07.2**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=54,slow=8.0,SNR=8.2							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**14 36 07.4**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**14 36 07.4**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**52.74**	**311**	*e*P		**P**	**14 36 13.0**	**+0.1**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**52.74**	**311**	*e*P		**P**	**14 36 13.0**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4							
ARU	**Arti**	**56.01**	**318**	*e*P		**P**	**14 36 36.6**	**-0.1**
YBH	**Yreka Blue Hor**	**56.58**	**63**	P		**P**	**14 36 39.8**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=267,slow=4.4,SNR=5.5							
ARCES	**ARCESS Array B**	**58.40**	**341**	P		**P**	**14 36 52.7**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.6,baz=0.0,slow=3.6,SNR=6.1							
ARCES	**ARCESS Array B**	**58.40**	**341**	P		**P**	**14 36 52.7**	**-0.9**
OHCM	**Honcut**	**58.74**	**64**	*e*P		**P**	**14 36 56.2**	**+0.2**
AKTK	**Aktyubinsk**	**59.81**	**313**	P		**P**	**14 37 05.0**	**+1.6**
AKTO	**Aktyubinsk**	**59.81**	**313**	P		**P**	**14 37 05.0**	**+1.6**
	comp=Z,2.5nm,0.6s,mb4.4,baz=60,slow=9.0,SNR=5.5							
AKTO	**Aktyubinsk**	**59.81**	**313**	P		**P**	**14 37 05.0**	**+1.7**
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
HLID	**Hailey**	**60.42**	**57**	*e*P		**P**	**14 37 07.4**	**-0.2**
	comp=Z,1.5nm,1.0s,mb4.0							
MCMT	**McKenzie Canyo**	**60.54**	**55**	*e*P		**P**	**14 37 08.9**	**+0.6**
QLMT	**Earthquake Lak**	**61.34**	**54**	*e*P		**P**	**14 37 14.6**	**+0.9**
DUG	**Dugway**	**63.46**	**59**	*e*P		**P**	**14 37 28.1**	**+0.2**
DUG				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.6							
DUG	**Dugway**	**63.46**	**59**	*e*P		**P**	**14 37 28.1**	**+0.2**
	comp=Z,5.5nm,1.1s,mb4.6							
BW06	**Boulder Array**	**63.69**	**55**	*e*P		**P**	**14 37 29.2**	**-0.2**
	comp=Z,7.0nm,1.1s,mb4.6							
PDAR	**Pinedale Array**	**63.69**	**55**	P		**P**	**14 37 29.4**	**0.0**
	comp=Z,3.7nm,0.9s,mb4.4,baz=285,slow=2.2,SNR=19							
FINES	**FINESS Array B**	**64.71**	**336**	P		**P**	**14 37 35.4**	**-0.7**
	comp=Z,6.0nm,0.8s,mb4.7,baz=35,slow=8.4,SNR=16							
FINES	**FINESS Array B**	**64.71**	**336**	P		**P**	**14 37 35.4**	**-0.7**
ULM	**Lac du Bonnet**	**65.69**	**42**	P		**P**	**14 37 41.0**	**-1.5**
	comp=Z,2.9nm,0.7s,mb4.4,baz=311,slow=9.3,SNR=4.5							
AGMN	**Agassiz Refuge**	**67.07**	**43**	*e*P		**P**	**14 37 51.0**	**-0.3**
	comp=Z,45nn,1.8s,mb5.2							
WUAZ	**Wupatki**	**67.37**	**62**	*e*P		**P**	**14 37 54.8**	**+1.6**
	comp=Z,5.7nm,0.9s,mb4.6							
HYB	**Hyderabad**	**68.38**	**273**	*e*P		**P**	**14 38 00.5**	**+1.0**
NOA	**NORSAR Array B**	**68.76**	**342**	P		**P**	**14 38 00.7**	**-1.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=26,slow=6.2,SNR=2.6							
WRAB	**Tennant Creek**	**68.87**	**201**	*e*P		**P**	**14 38 03.4**	**+0.8**
WRA	**Warramunga Arr**	**68.89**	**201**	P		**P**	**14 38 01.7**	**-1.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=21,slow=6.4,SNR=6.9							
HFS	**Hagfors**	**69.03**	**340**	P		**P**	**14 38 04.6**	**+1.0**
	comp=Z,1.7nm,0.3s,mb4.4,baz=51,slow=4.5,SNR=11							
FITZ	**Fitzroy Crossi**	**69.72**	**210**	P		**P**	**14 38 07.7**	**-0.2**
	comp=Z,2.6nm,0.9s,mb4.2							
POO	**Poona**	**70.84**	**277**	*e*P		**P**	**14 38 13.0**	**-1.7**
AKASG	**Malin Array Be**	**72.39**	**327**	P		**P**	**14 38 23.5**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=30,slow=5.8,SNR=3.9							
AKASG	**Malin Array Be**	**72.39**	**327**	P		**P**	**14 38 23.5**	**-0.5**
ASAR	**Alice Springs**	**72.57**	**200**	P		**P**	**14 38 25.1**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=18,slow=5.1,SNR=15							
TXAR	**Lajitas Array**	**76.34**	**62**	P		**P**	**14 38 47.0**	**0.0**
	comp=Z,10nm,0.7s,mb4.9,baz=300,slow=4.3,SNR=15							
CLL	**Collm**	**77.12**	**337**	*e*P		pP	14 39 00.0	-2.4
CLL	**Collm**	**77.12**	**337**	*e*(sP)		pP	14 39 00.0	-2.4
GERES	**GERESS Array B**	**79.14**	**335**	P		**P**	**14 39 02.6**	**0.0**
	comp=Z,0.3nm,0.2s,mb3.8,baz=346,slow=6.3,SNR=2.6							
BRTR	**Keskin Array B**	**79.40**	**318**	P		**P**	**14 39 05.0**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=71,slow=7.1,SNR=1.7							
TORD	**Torodi Ar. Bea**	**115.87**	**331**	PKP		PKPdf	14 45 40.1	-0.4
	comp=Z,0.5nm,0.9s,baz=11,slow=3.1,SNR=3.0							
VNDA	**Vanda**	**123.96**	**178**	PKP		PKPdf	14 45 53.9	-2.1
	comp=Z,0.4nm,0.8s,baz=21,slow=6.2,SNR=3.6							
VNDA	**Vanda**	**123.96**	**178**	PKP		PKPdf	14 45 53.9	-2.1
SNAA	**Sanae**	**152.83**	**195**	PKPbc		PKPbc	14 46 51.6	-3.2
	comp=Z,0.9nm,1.0s,baz=117,slow=2.3,SNR=4.6							
SNAA				PKPab		PKPab	14 47 03.1	-2.8
	comp=Z,1.4nm,1.1s,baz=295,slow=6.9,SNR=4.5							

IDC 15 14:27:33.2±3.4, 4600N×15304E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/23, mbtmp4.2/8, Error ellipse: s-maj=95.2km s-min=29.2km az=3.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INK	**Inuvik**	**42.31**	**32**	P		P	14 35 27.8	-0.9
	2.7nm,0.8s,baz=265,slow=3.3,SNR=5.6							
MKAR	**Makanchi Array**	**47.24**	**298**	P		P	14 36 07.4	-0.6
	2.5nm,0.8s,baz=62,slow=7.5,SNR=4.9							
FINES	**FINESS Array B**	**64.70**	**335**	P		P	14 38 12.4	-0.6
	2.1nm,0.6s,baz=40,slow=9.1,SNR=2.6							
PDAR	**Pinedale Array**	**65.23**	**54**	P		P	14 38 16.8	+0.3
	1.2nm,0.8s,baz=135,slow=0.8,SNR=3.9							
NB2	**NORSAR Subarra**	**68.92**	**341**	P		P	14 38 40.0	+0.1
	comp=Z,3.9nm,1.0s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.92**	**341**	P		P	14 38 39.7	-0.3
	comp=Z,2.0nm,0.7s,baz=27,slow=6.3,SNR=3.7							
HFS	**Hagfors**	**69.14**	**340**	P		P	14 38 40.9	-0.4
	comp=Z,2.0nm,0.5s,baz=46,slow=8.3,SNR=4.3							
AKASG	**Malin Array Be**	**72.14**	**326**	P		P	14 38 59.5	0.0
	comp=Z,4.0nm,0.8s,baz=33,slow=6.0,SNR=6.8							
TXAR	**Lajitas Array**	**77.91**	**60**	P		P	14 39 33.0	+0.1
	comp=Z,1.3nm,0.7s,baz=2.9,slow=3.6,SNR=2.6							

ISCJB ***15*** *14:27:56.8±5.4, 466N±0.1×1529E±0.1, h4km±34km, mb4.6/29, Error ellipse: s-maj=19.0km s-min=13.7km az=126.7*
BJI ***15*** *14:27:57.8, 4607N×15304E, h25km, mB5.0, mb4.8*
IDC ***15*** *14:27:58.1±0.9, 4661N×15281E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/27, mbtmp4.3/18, ML4.0/2, Error ellipse: s-maj=24.8km s-min=17.5km az=158.0*
NEIC ***15*** *14:27:59.3±0.6, 4660N×15284E, h10km, mb4.9/7, Error ellipse: s-maj=14.7km s-min=10.2km az=152.0*
MOS ***15*** *14:28:00.8±0.9, 4659N×15270E, h30km, mb5.1/7, Error ellipse: s-maj=14.4km s-min=10.6km az=110.2*
ISC 15 14:28:00.4±5.6, 466N±01×1529E±01, h16km±34km, n69, σ0§94/69, mb4.6/29, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.76**	**250**	⇓*i*	PN	**Pn**	**14 28 54.8**	**-2.9**
KUR				pmax	pmax			
	comp=N,300nm,0.6s							
KUR				pmax	pmax			
	comp=E,160nm,0.6s							
KUR				pmax	pmax			
	comp=Z,910nm,0.6s							
ASAJ	**Asahikawa**	**7.66**	**255**	Pn		**Pn**	**14 29 51.8**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=81,slow=19,SNR=4.3							
ASAJ	**Asahikawa**	**7.66**	**255**	PN		**Pn**	**14 29 51.8**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MJAR	**Matsushiro Arr**	**14.87**	**233**	Pn		**Pn**	**14 31 29.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=30,slow=10,SNR=7.2							
MJAR	**Matsushiro Arr**	**14.87**	**233**	Pn		**Pn**	**14 31 29.8**	**-0.2**
MDJ	**Mudanjiang**	**16.41**	**271**	P		**Pn**	**14 31 50.8**	**+0.9**
MDJ				AMB	AMB			
	comp=Z,21nm,1.3s							
CN2	**Changchun**	**19.49**	**272**	⇓P		**Pn**	**14 32 26.8**	**-1.1**
CN2				AMB	AMB			
	comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**20.34**	**328**	P		**P**	**14 32 37.8**	**+1.9**
KSRS	**Korea Array**	**20.60**	**253**	P		**P**	**14 32 38.9**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=55,slow=11,SNR=6.7							
SONM	**Songino Array**	**31.22**	**290**	P		**P**	**14 34 17.9**	**-1.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=70,slow=7.5,SNR=3.6							
LZH	**Lanzhou**	**37.73**	**272**	*e*P		**P**	**14 35 16.3**	**+1.0**
LZH				AP	pP		14 35 22.3	+1.9
LZH				XP	sP		14 35 26.3	+3.9
LZH				PP	PP		14 36 45.3	+3.8
LZH				AMB	AMB			
	comp=Z,30nm,1.1s,mb4.9							
LZH				AMB	AMB			
	comp=Z,145nm,5.0s							
LZH	**Lanzhou**	**37.73**	**272**	*e*P		**P**	**14 35 16.2**	**+0.9**
LZH				*SP	sP		14 35 26.2	+3.8
LZH							14 36 45.3	
LZH				pmax	pmax			
	comp=Z,30nm,1.1s,mb4.9							
LZH	**Lanzhou**	**37.73**	**272**	*e*P		**P**	**14 35 16.2**	**+0.9**
	comp=Z,30nm,1.1s,mb4.9							
LZH				pP	pP		14 35 22.3	+1.9
LZH				sP	sP		14 35 26.2	+3.8
LZH				PP	PP		14 36 45.3	+3.8
GTA	**Gaotai**	**38.83**	**279**	*e*P		**P**	**14 35 25.6**	**+1.1**
GTA				AP	pP		14 35 36.0	+6.4
GTA				XP	sP		14 35 41.6	+10
GTA				AMB	AMB			
	comp=Z,12nm,0.6s,mb4.8							
GYA	**Guiyang**	**41.53**	**257**	P		**P**	**14 35 45.6**	**-1.3**
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
INK	**Inuvik**	**41.85**	**32**	P		**P**	**14 35 50.9**	**+1.4**
	comp=Z,3.0nm,0.8s,mb4.0,baz=273,slow=8.9,SNR=5.1							
ZAL	**Zalesovo**	**42.57**	**306**	P		**P**	**14 35 54.2**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=43,slow=5.9,SNR=4.7							
ZAL	**Zalesovo**	**42.57**	**306**	P		**P**	**14 35 54.2**	**-1.2**
MK31	**Makanchi Array**	**46.86**	**297**	*e*P		**P**	**14 36 28.9**	**-0.7**
MKAR	**Makanchi Array**	**46.86**	**297**	P		**P**	**14 36 28.6**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.6,baz=66,slow=7.9,SNR=12							
KURK	**Kurchatov**	**47.30**	**304**	*e*P		**P**	**14 36 31.3**	**-1.8**
BVAR	**Borovoye Array**	**50.81**	**309**	P		**P**	**14 36 59.6**	**-0.4**
	comp=Z,2.8nm,0.5s,mb4.4,baz=41,slow=7.9,SNR=7.3							
BRVK	**Borovoye**	**50.86**	**309**	*e*P		**P**	**14 36 59.8**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**50.86**	**309**	*e*P		**P**	**14 36 59.8**	**-0.5**
	comp=Z,4.7nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**51.59**	**310**	*e*P		**P**	**14 37 05.3**	**-0.5**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
ZRNK	**Zerenda**	**51.59**	**310**	*e*P		**P**	**14 37 05.3**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.4							
ULHL	**Ulahol**	**52.87**	**295**	P		**P**	**14 37 16.4**	**+1.1**
	SNR=5.6							
USP	**Ospenovka**	**53.40**	**297**	P		**P**	**14 37 20.0**	**+0.8**
	SNR=7.5							
AAK	**Ala-Archa**	**53.75**	**296**	P		**P**	**14 37 22.6**	**+0.8**
	SNR=5.9							
EKS2	**Erkin-Say**	**54.17**	**297**	P		**P**	**14 37 25.5**	**+0.6**
	SNR=7.4							
AML	**Almayashu**	**54.52**	**296**	P		**P**	**14 37 28.9**	**+1.5**
	SNR=5.4							
JIRN	**Jiri**	**54.80**	**274**	*e*P		**P**	**14 37 29.7**	**+0.3**
	comp=Z,41nm,0.8s,mb5.5							
GUN	**Gumba**	**54.85**	**275**	*e*P		**P**	**14 37 31.0**	**+1.2**
KKN	**Kakani**	**55.34**	**275**	*e*P		**P**	**14 37 33.9**	**+0.6**
	comp=Z,22nm,0.8s,mb5.3							
DMN	**Daman**	**55.57**	**275**	*e*P		**P**	**14 37 36.0**	**+1.0**
GKN	**Gorkha**	**55.65**	**276**	*e*P		**P**	**14 37 36.0**	**+0.5**
	comp=Z,36nm,0.8s,mb5.5							
KOLN	**Koldanda**	**56.50**	**276**	*e*P		**P**	**14 37 42.1**	**+0.4**
	comp=Z,30nm,0.8s,mb5.4							
EDM	**Edmonton**	**56.52**	**46**	*e*P		**P**	**14 37 41.5**	**-0.3**
ARCES	**ARCESS Array B**	**57.92**	**341**	P		**P**	**14 37 51.6**	**-0.1**
	comp=Z,3.4nm,0.9s,mb4.4,baz=30,slow=6.8,SNR=5.6							
AKTK	**Aktyubinsk**	**58.69**	**312**	P		**P**	**14 37 56.4**	**-0.7**
AKTO	**Aktyubinsk**	**58.69**	**312**	P		**P**	**14 37 56.4**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.3,baz=86,slow=8.6,SNR=4.1							
AKTO	**Aktyubinsk**	**58.69**	**312**	P		**P**	**14 37 56.4**	**-0.7**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
NVAR	**Mina Array Bea**	**62.64**	**62**	P		**P**	**14 38 24.5**	**+0.5**
	baz=302,slow=8.4							
FINES	**FINESS Array B**	**64.09**	**335**	P		**P**	**14 38 33.7**	**+0.1**
	comp=Z,4.4nm,0.6s,mb4.7,baz=37,slow=9.0,SNR=7.7							
FINES	**FINESS Array B**	**64.09**	**335**	P		**P**	**14 38 33.7**	**+0.1**
PDAR	**Pinedale Array**	**64.95**	**54**	P		**P**	**14 38 39.0**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=304,slow=1.9,SNR=4.5							
NOA	**NORSAR Array B**	**68.30**	**341**	P		**P**	**14 39 00.6**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=28,slow=6.4,SNR=5.3							
WRA	**Warramunga Arr**	**68.34**	**199**	P		**P**	**14 39 01.0**	**+0.1**
	comp=Z,2.2nm,0.3s,mb3.6,baz=15,slow=6.4,SNR=5.7							
HFS	**Hagfors**	**68.52**	**339**	P		**P**	**14 39 02.1**	**+0.1**
	comp=Z,6.3nm,0.7s,mb4.7,baz=46,slow=6.4,SNR=6.9							
AKASG	**Malin Array Be**	**71.56**	**326**	P		**P**	**14 39 20.5**	**-0.2**
	comp=Z,11nm,0.5s,mb5.

ellipse: s-maj=18.7km s-min=14.4km az=82.1
*ISCJB **15** 14:34:24.8±2.5, 468N±0.1×1531E±0.2, h79km±23km, mb3.9/14, Error ellipse: s-maj=24.5km s-min=20.0km az=107.2*

ISC 15 14:34:26.2±2.3, 468N±01×1531E±02, h77km±21km, n23, σ1°08/24, mb3.9/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**249**	*e*PN	**Pn**	**14 35 23.5**	**-0.9**
KUR				*i* S	**Sn**	**14 36 13.0**	**+3.4**
KUR	comp=N,270nm,0.8s			smax			
KUR	comp=E,320nm,0.8s			smax			
ASAJ	**Asahikawa**	**7.84**	**254**	Pn	**Pn**	**14 36 19.9**	**+2.5**
	comp=E,1.4nm,0.3s,baz=310,slow=28,SNR=7.2						
ASAJ	**Asahikawa**	**7.84**	**254**	PN	**Pn**	**14 36 20.0**	**+2.5**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr**	**15.09**	**233**	Pn	**Pn**	**14 37 52.0**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=32,slow=16,SNR=3.5						
KSRS	**Korea Array**	**20.79**	**252**	P	**P**	**14 38 59.6**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=60,slow=8.4,SNR=3.4						
TIXI	**Tiksi**	**27.41**	**344**	P	**P**	**14 40 02.3**	**-2.2**
INK	**Inuvik**	**41.62**	**32**	P	**P**	**14 42 07.1**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.0,baz=276,slow=5.8,SNR=13						
MKAR	**Makanchi Array**	**46.90**	**297**	P	**P**	**14 42 49.1**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=66,slow=7.7,SNR=8.7						
KURK	**Kurchatov**	**47.31**	**304**	*e*P	**P**	**14 42 51.8**	**-0.2**
KURK	comp=Z,1.0nm,0.6s,mb3.7			pmax	pmax		
KURK	**Kurchatov**	**47.31**	**304**	*e*P	**P**	**14 42 51.8**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**50.81**	**309**	P	**P**	**14 43 18.7**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=51,slow=9.4,SNR=4.1						
ARCES	**ARCESS Array B**	**57.80**	**341**	P	**P**	**14 44 09.1**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.3,baz=38,slow=7.7,SNR=7.4						
ARCES	**ARCESS Array B**	**57.80**	**341**	P	**P**	**14 44 09.1**	**-0.4**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**14 44 51.5**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.2,baz=38,slow=7.7,SNR=14						
PDAR	**Pinedale Array**	**64.74**	**54**	P	**P**	**14 44 57.4**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=282,slow=1.4,SNR=4.6						
NB2	**NORSAR Subarra**	**68.17**	**341**	P	**P**	**14 45 18.7**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.1,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**14 45 18.6**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.2,baz=27,slow=6.3,SNR=6.8						
HFS	**Hagfors**	**68.40**	**339**	P	**P**	**14 45 19.9**	**+0.2**
	comp=Z,3.9nm,0.5s,mb4.5,baz=48,slow=4.6,SNR=13						
AKASG	**Malin Array Be**	**71.49**	**326**	P	**P**	**14 45 38.8**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=5.8						
ASAR	**Alice Springs**	**72.25**	**198**	P	**P**	**14 45 43.7**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.3,baz=11,slow=6.0,SNR=5.6						
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**14 46 12.3**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.7,baz=302,slow=5.1,SNR=5.5						
BRTR	**Keskin Array B**	**78.33**	**317**	P	**P**	**14 46 19.1**	**+1.0**
	comp=Z,1.7nm,0.9s,mb3.8,baz=52,slow=6.7,SNR=4.6						
GERES	**GERESS Array B**	**78.40**	**334**	P	**P**	**14 46 18.6**	**+0.2**
	comp=Z,0.2nm,0.2s,mb3.4,baz=46,slow=3.9,SNR=4.2						

*IDC **15** 14:38:20.3±1.1, 47.17N×152.53E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML3.2/1, Error ellipse: s-maj=29.0km s-min=22.5km az=139.0*
*NEIC **15** 14:38:21.9±0.6, 47.18N×152.50E, h10km, mb4.1/1, Error ellipse: s-maj=16.8km s-min=9.7km az=127.0*
*ISCJB **15** 14:38:25.1±2.9, 47.1N±0.1×152.5E±0.2, h48km±25km, mb4.0/13, Error ellipse: s-maj=28.1km s-min=19.5km az=93.5*
*MOS **15** 14:38:27.4±1.9, 4698N×15258E, h76km, mb4.3/1, Error ellipse: s-maj=18.8km s-min=14.9km az=48.1*

ISC 15 14:38:20.9±5.1, 472N±01×1526E±02, h5km±32km, n23, σ0°55/24, mb4.0/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.82**	**240**	*e*PN	**Pn**	**14 39 20.0**	**-0.4**
KUR				*i* S	**Sn**	**14 40 06.0**	**+0.3**
KUR	comp=N,430nm,0.8s			smax			
KUR	comp=E,540nm,0.8s			smax			
YSS	**Yuzh-Sakhalins**	**6.70**	**271**	*e*PN	**Pn**	**14 40 09.5**	**+9.5**
YSS	**Yuzh-Sakhalins**	**6.70**	**271**	*e*P	**Pn**	**14 40 08.3**	**+8.3**
	comp=E,16nm,0.8s						
ASAJ	**Asahikawa**	**7.64**	**250**	Pn	**Pn**	**14 40 18.5**	**+5.6**
	comp=E,0.9nm,0.3s,baz=60,slow=20,SNR=5.1						
ASAJ	**Asahikawa**	**7.64**	**250**	PN	**Pn**	**14 40 18.5**	**+5.6**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr**	**15.08**	**230**	Pn	**Pn**	**14 41 54.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=70,slow=10,SNR=2.5						
KSRS	**Korea Array**	**20.59**	**251**	P	**P**	**14 43 01.9**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=58,slow=8.7,SNR=2.9						
INK	**Inuvik**	**41.45**	**33**	P	**P**	**14 46 08.7**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=312,slow=7.4,SNR=6.4						
MKAR	**Makanchi Array**	**46.39**	**297**	P	**P**	**14 46 47.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=16,slow=9.1,SNR=3.5						
BVAR	**Borovoye Array**	**50.27**	**309**	P	**P**	**14 47 18.1**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=46,slow=4.8,SNR=3.2						
CHTO	**Chiang Mai**	**51.87**	**256**	P	**P**	**14 47 29.8**	**-0.4**
CHTO	comp=Z,2.0nm,0.9s,mb4.0			pmax	pmax		
CHTO	**Chiang Mai**	**51.87**	**256**	P	**P**	**14 47 29.8**	**-0.4**
	comp=Z,2.1nm,0.9s,mb4.1						
FINES	**FINESS Array B**	**63.45**	**334**	P	**P**	**14 48 51.5**	**-0.3**
	comp=Z,4.7nm,0.9s,mb4.6,baz=72,slow=8.8,SNR=4.7						
FINES	**FINESS Array B**	**63.45**	**334**	P	**P**	**14 48 51.5**	**-0.3**
NB2	**NORSAR Subarra**	**67.66**	**341**	P	**P**	**14 49 19.0**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.66**	**341**	P	**P**	**14 49 19.1**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.5,baz=27,slow=6.3,SNR=9.3						
HFS	**Hagfors**	**67.88**	**339**	P	**P**	**14 49 20.2**	**-0.2**
	comp=Z,6.1nm,0.7s,mb4.7,baz=69,slow=8.1,SNR=8.7						
AKASG	**Malin Array Be**	**70.94**	**326**	P	**P**	**14 49 39.0**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=34,slow=6.1,SNR=8.5						
ASAR	**Alice Springs**	**72.54**	**198**	P	**P**	**14 49 47.8**	**-1.1**
	comp=Z,0.2nm,0.7s,mb3.2,baz=23,slow=5.2,SNR=4.3						
CLL	**Collm**	**75.88**	**335**	*i* P	**P**	**14 50 08.6**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**14 50 19.1**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=350,slow=3.3,SNR=2.9						
BRTR	**Keskin Array B**	**77.79**	**316**	P	**P**	**14 50 19.6**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=67,slow=3.6,SNR=5.9						
GERES	**GERESS Array B**	**77.86**	**334**	P	**P**	**14 50 19.3**	**-0.3**
	comp=Z,0.3nm,0.2s,mb3.8,baz=29,slow=6.1,SNR=3.6						

*IDC **15** 14:38:56.6±0.7, 4744N×154.46E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/25, mbtmp4.2/16, ML3.2/1, Error ellipse: s-maj=19.8km s-min=17.3km az=132.0*
*NEIC **15** 14:38:58.2±0.3, 4744N×154.34E, h10km, mb4.6/7, Error ellipse: s-maj=9.3km s-min=7.8km az=149.0*
*BJI **15** 14:38:59.4, 4682N×154.34E, h10km, mB5.0, mb4.8*
*ISCJB **15** 14:39:00.3±0.5, 47.36N±0.006×154.51E±0.009, h35km, mb4.4/29, Error ellipse: s-maj=10.7km s-min=6.2km az=88.5*
*MOS **15** 14:39:03.7±1.1, 4751N×154.39E, h67km, mb4.7/7, Error ellipse: s-maj=14.4km s-min=10.8km az=106.8*

ISC 15 14:39:02.2±0.5, 4741N±007×15450E±009, h35km, n64, σ1°25/58, mb4.4/29, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.45**	**17**	*e*PN	**Pn**	**14 39 53.7**	**+0.4**
SKR				*e*S	**Sn**	**14 40 35.6**	**+2.7**
SKR	comp=Z,310nm,1.0s			pmax	pmax		
SKR	comp=E,630nm,1.0s			smax			
SKR	comp=N,250nm,0.5s			smax			
SKR	comp=Z,80nm,0.5s			smax			
PET	**Petropavlovsk**	**6.22**	**24**	*e*PN	**Pn**	**14 40 24.7**	**-6.8**
YSS	**Yuzh-Sakhalins**	**8.02**	**271**	*e*PN	**Pn**	**14 40 58.5**	**+2.4**
ASAJ	**Asahikawa**	**8.95**	**253**	Pn	**Pn**	**14 41 13.2**	**+4.3**
	comp=Z,1.1nm,0.3s,baz=96,slow=20,SNR=4.7						
ASAJ	**Asahikawa**	**8.95**	**253**	PN	**Pn**	**14 41 13.2**	**+4.4**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
KLR	**Kul'dur**	**15.23**	**285**	*e*P	**Pn**	**14 42 35.8**	**+1.2**
MJAR	**Matsushiro Arr**	**16.23**	**234**	Pn	**Pn**	**14 42 44.4**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.7						
MAT	**Matsushiro**	**16.23**	**234**	P	**Pn**	**14 42 46.4**	**-1.0**
YAK	**Yakutsk**	**20.30**	**325**	*e*P	**P**	**14 43 40.4**	**+5.5**
YAK	comp=Z,38nm,1.3s			pmax	pmax		
YAK	comp=N,25nm,1.5s			pmax	pmax		
YAK	comp=E,32nm,1.3s			pmax	pmax		
YAK	**Yakutsk**	**20.30**	**325**	*e*P	**P**	**14 43 38.5**	**+3.6**
	comp=E,38nm,1.0s						
CN2	**Changchun**	**20.59**	**271**	*e*P	**P**	**14 43 38.8**	**+0.8**
CN2	comp=Z,10.0nm,1.1s			AMB	AMB		
BILL	**Bilibino**	**21.54**	**12**	*e*P	**P**	**14 43 50.5**	**+2.1**
BILL	comp=Z,5.0nm,1.1s,mb3.9			pmax	pmax		
KSRS	**Korea Array**	**21.90**	**253**	P	**P**	**14 43 52.6**	**+0.5**
	comp=Z,5.1nm,0.9s,mb3.9,baz=64,slow=8.2,SNR=3.3						
SONM	**Songino Array**	**32.01**	**289**	P	**P**	**14 45 23.8**	**-1.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=73,slow=7.7,SNR=5.2						
LZH	**Lanzhou**	**38.81**	**272**	*e*P	**P**	**14 46 29.6**	**+6.0**
LZH				AP	pP	14 46 37.3	+3.5
LZH	comp=Z,20nm,1.1s,mb4.8			AMB	AMB		
LZH	comp=Z,100nm,5.0s			AMB	AMB		
INK	**Inuvik**	**40.59**	**33**	P	**P**	**14 46 37.1**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.0,baz=266,slow=10.0,SNR=6.6						
CD2	**Chengdu**	**41.88**	**266**	*e*P	**P**	**14 46 49.5**	**+0.6**
CD2	comp=Z,20nm,1.0s,mb4.7			AMB	AMB		
GYA	**Guiyang**	**42.78**	**258**	*i*P	**P**	**14 46 58.0**	**+1.7**
GYA	comp=Z,20nm,1.0s,mb4.8			AMB	AMB		
ZAL	**Zalesovo**	**43.01**	**306**	P	**P**	**14 46 56.5**	**-1.7**
	comp=Z,1.0nm,0.3s,mb4.0,baz=10,slow=0.9,SNR=4.1						
NVS	**Novosibirsk**	**43.54**	**307**	*e*P	**P**	**14 47 01.3**	**-1.1**
NVS	comp=N,7.0nm,1.5s			pmax	pmax		
NVS	comp=E,8.0nm,1.5s			pmax	pmax		
NVS	comp=Z,7.0nm,1.5s,mb4.2			pmax	pmax		
KMI	**Kunming**	**46.29**	**260**	P	**P**	**14 47 29.8**	**+5.5**
KMI	comp=Z,17nm,1.2s,mb4.8			AMB	AMB		
MK31	**Makanchi Array**	**47.48**	**297**	*e*P	**P**	**14 47 32.2**	**-1.4**
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**14 47 32.3**	**-1.3**
	comp=Z,4.1nm,0.8s,mb4.4,baz=64,slow=7.8,SNR=19						
KURK	**Kurchatov**	**47.79**	**304**	*e*P	**P**	**14 47 34.5**	**-1.5**
KURK	comp=Z,16nm,1.1s,mb5.0			pmax	pmax		
KURK	**Kurchatov**	**47.79**	**304**	*e*P	**P**	**14 47 34.5**	**-1.5**
	comp=Z,16nm,1.1s,mb5.0						
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**14 47 56.3**	**-2.2**
CHKZ	comp=Z,7.0nm,1.0s,mb4.5			pmax	pmax		
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**14 47 56.3**	**-2.2**
	comp=Z,6.6nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**51.17**	**310**	P	**P**	**14 47 59.5**	**-2.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=36,slow=7.7,SNR=5.6						
LSA	**Lhasa**	**51.18**	**274**	*e*P	**P**	**14 48 04.4**	**+2.6**
BRVK	**Borovoye**	**51.21**	**310**	P	**P**	**14 48 00.9**	**-1.2**
BRVK	comp=Z,5.0nm,1.0s,mb4.4			pmax	pmax		
BRVK	**Borovoye**	**51.21**	**310**	P	**P**	**14 48 00.9**	**-1.2**
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**14 48 06.2**	**-1.3**
ZRNK	comp=Z,6.0nm,1.2s,mb4.4			pmax	pmax		
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**14 48 06.2**	**-1.2**
	comp=Z,5.9nm,1.2s,mb4.4						
EDM	**Edmonton**	**55.18**	**47**	*e*P	**P**	**14 48 31.0**	**-0.2**
JIRN	**Jiri**	**55.83**	**275**	*e*P	**P**	**14 48 37.2**	**+1.2**
	comp=Z,13nm,0.5s,mb5.2						
KKN	**Kakani**	**56.37**	**276**	*e*P	**P**	**14 48 40.3**	**+0.5**
DMN	**Daman**	**56.60**	**276**	*e*P	**P**	**14 48 42.9**	**+1.5**
	comp=Z,27nm,0.9s,mb5.3						
GKN	**Gorkha**	**56.66**	**276**	*e*P	**P**	**14 48 42.8**	**+0.9**
KOLN	**Koldanda**	**57.51**	**277**	*e*P	**P**	**14 48 48.9**	**+1.0**
QLMT	**Earthquake Lak**	**61.23**	**54**	*e*P	**P**	**14 49 14.6**	**+1.1**
BW06	**Boulder Array**	**63.59**	**55**	*e*P	**P**	**14 49 30.0**	**+0.6**
	comp=Z,7.8nm,1.4s,mb4.5						
PDAR	**Pinedale Array**	**63.59**	**55**	P	**P**	**14 49 29.9**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=286,slow=2.6,SNR=13						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**14 49 29.8**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=29,slow=7.8,SNR=5.2						
NB2	**NORSAR Subarra**	**67.91**	**342**	P	**P**	**14 49 56.5**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.91**	**342**	P	**P**	**14 49 57.0**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=26,slow=6.3,SNR=4.6						
WRAB	**Tennant Creek**	**69.44**	**200**	*e*P	**P**	**14 50 06.3**	**-0.4**
WRAB	comp=Z,11nm,1.1s,mb4.7			pmax	pmax		
WRAB	**Tennant Creek**	**69.44**	**200**	*e*P	**P**	**14 50 06.3**	**-0.4**
	comp=Z,11nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**69.45**	**200**	P	**P**	**14 50 06.0**	**-0.8**
	comp=Z,5.9nm,1.1s,mb4.4,baz=18,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**71.52**	**327**	P	**P**	**14 50 18.9**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=5.5,SNR=6.5						
AS31	**Alice Springs**	**73.14**	**200**	*e*P	**P**	**14 50 29.8**	**+0.7**
ASAR	**Alice Springs**	**73.14**	**200**	P	**P**	**14 50 29.8**	**+0.7**
	comp=Z,8.8nm,1.0s,mb4.7,baz=13,slow=5.3,SNR=36						
STHS	**Stebnicka Huta**	**75.42**	**331**	*e*P	**P**	**14 50 43.3**	**+1.0**
STHS				*es*P	pP	14 50 53.7	+0.5
CLL	**Collm**	**76.25**	**336**	*i* P	**P**	**14 50 47.1**	**0.0**
CLL	comp=Z,14nm,0.8s			*i* PcP	PcP	14 50 57.6	-1.4
TXAR	**Lajitas Array**	**76.35**	**62**	P	**P**	**14 50 46.4**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=301,slow=4.8,SNR=5.7						
TXAR	**Lajitas Array**	**76.35**	**62**	P	**P**	**14 50 46.4**	**-1.2**
VYHS	**Vyhne**	**77.01**	**332**	*es*P	PcP	14 51 02.3	+0.1
GERES	**GERESS Array B**	**78.27**	**335**	P	**P**	**14 50 58.1**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=24,slow=4.5,SNR=7.3						
BRTR	**Keskin Array B**	**78.55**	**318**	P	**P**	**14 51 00.6**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=2.5,SNR=5.5						
CDF	**Champ du Feu**	**80.40**	**339**	*e*P	pP	14 51 20.8	-0.2
GRR	**Gorron**	**82.21**	**344**	*e*P	pP	14 51 31.3	+0.7
SMF	**Signal de Mont**	**82.88**	**340**	*e*P	pP	14 51 34.0	-0.1
	comp=Z,46nm,1.2s						
LPL	**La Plagne**	**83.23**	**338**	*e*P	pP	14 51 36.5	+0.5
LPG	**La Plagne**	**83.24**	**338**	*e*P	pP	14 51 36.9	+0.9
	comp=Z,24nm,1.1s						
VNDA	**Vanda**	**124.73**	**178**	PKP	PKPdf	14 57 56.0	-2.0
	comp=Z,0.4nm,0.8s,baz=329,slow=7.8,SNR=3.7						

*IDC **15** 14:40:01.5±10.0, 4734N×154.64E, h0km, mb4.1/9, mb1 4.1/9, mb1mx3.9/25, mbtmp4.1/9, Error ellipse: s-maj=241.4km s-min=32.3km az=163.0*

NEIC 15 14:40:02.3±5.7, 4722N×15470E, h10km, mb4.4/2, Error ellipse: s-maj=140.0km s-min=18.2km az=164.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**32.20**	**289**	P	P	14 46 30.3	-0.2
	0.8nm,0.8s,baz=61,slow=7.7,SNR=4.2						
INK	**Inuvik**	**40.67**	**33**	P	P	14 47 42.0	-0.7
	1.4nm,0.6s,baz=303,slow=6.3,SNR=4.7						
ZAL	**Zalesovo**	**43.23**	**306**	P	P	14 48 02.7	-0.9
	1.5nm,0.6s,baz=59,slow=9.1,SNR=6.6						
ZAL	**Zalesovo**	**43.23**	**306**	P	P	14 48 02.7	-0.9
MKAR	**Makanchi Array**	**47.69**	**298**	P	P	14 48 38.8	-0.1
	2.3nm,0.7s,baz=67,slow=7.9,SNR=5.7						
CHKZ	**Chkalovo**	**50.96**	**310**	*e*P	P	14 49 03.5	-0.5
	5.0nm,0.6s						
BVAR	**Borovoye Array**	**51.40**	**310**	P	P	14 49 06.2	-1.0
	1.8nm,0.6s,baz=50,slow=8.1,SNR=5.4						
ZRNK	**Zerenda**	**52.16**	**310**	*e*P	P	14 49 13.4	+0.5
	1.6nm,0.6s						
AKTK	**Aktyubinsk**	**59.22**	**312**	P	P	14 50 04.1	+0.5
AKTO	**Aktyubinsk**	**59.22**	**312**	P	P	14 50 04.1	+0.5
	1.5nm,0.7s,baz=61,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**64.07**	**335**	P	P	14 50 36.2	-0.2
	1.5nm,0.4s,baz=44,slow=8.6,SNR=8.6						
NOA	**NORSAR Array B**	**68.13**	**342**	P	P	14 51 01.8	-0.6
	0.7nm,0.6s,baz=25,slow=6.4,SNR=2.8						
AKASG	**Malin Array Be**	**71.75**	**327**	P	P	14 51 24.6	-0.1
	1.6nm,0.6s,baz=34,slow=6.2,SNR=5.3						

*IDC **15** 14:43:12.5±0.8, 4723N×153.77E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/26, mbtmp4.0/16, ML3.1/1, Error ellipse: s-maj=22.7km s-min=18.7km az=108.0*

*NEIC **15** 14:43:14.1±0.5, 4724N×153.72E, h10km, mb4.4/4, Error ellipse: s-maj=12.2km s-min=9.5km az=119.0*
*BJI **15** 14:43:14.1, 4720N×153.70E, h10km, mb4.4*
*ISCJB **15** 14:43:20.5±2.7, 473N±0.1×1538E±0.2, h73km±21km, mb4.3/25, Error ellipse: s-maj=21.7km s-min=18.0km az=71.4*
*MOS **15** 14:43:21.3±1.2, 4720N×153.65E, h85km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=13.7km az=117.3*

ISC 15 14:43:22.0±2.2, 474N±01×1539E±02, h71km±18km, n40, σ1°07/41, mb4.3/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.59**	**271**	*e*PN	**Pn**	**14 45 10.5**	**+0.6**
YSS				*e*S	**Sn**	**14 46 39.0**	**+4.7**
YSS	**Yuzh-Sakhalins**	**7.59**	**271**	*e*P	**Pn**	**14 45 10.5**	**+0.7**
	21nm,0.7s						
ASAJ	**Asahikawa**	**8.53**	**252**	Pn	**Pn**	**14 45 22.6**	**-0.2**
	0.7nm,0.3s,baz=77,slow=15,SNR=4.4						
ASAJ	**Asahikawa**	**8.53**	**252**	PN	**Pn**	**14 45 22.6**	**-0.1**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr**	**15.87**	**233**	Pn	**Pn**	**14 46 55.2**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=53,slow=9.3,SNR=4.4						
MJAR	**Matsushiro Arr**	**15.87**	**233**	Pn	**Pn**	**14 46 55.2**	**-5.8**
KSRS	**Korea Array**	**21.48**	**252**	P	**P**	**14 48 01.1**	**-3.6**
	comp=Z,2.0nm,0.6s,mb3.4,baz=57,slow=10.0,SNR=4.0						
SONM	**Songino Array**	**31.62**	**289**	P	**P**	**14 49 37.2**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.5,baz=66,slow=8.8,SNR=4.6						
LZH	**Lanzhou**	**38.39**	**272**	*e*P	**P**	**14 50 38.6**	**+2.3**
LZH				AP	pP	14 50 42.1	-11
LZH				XP	sP	14 50 44.3	-17
LZH	comp=Z,11nm,1.2s,mb4.6			AMB	AMB		
LZH	**Lanzhou**	**38.39**	**272**	*e*P	**P**	**14 50 38.6**	**+2.3**
	comp=Z,11nm,1.2s,mb4.6						
LZH				pP	pP	14 50 42.1	-11
LZH				sP	sP	14 50 44.3	-17
INK	**Inuvik**	**40.84**	**33**	P	**P**	**14 50 56.9**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=282,slow=7.6,SNR=4.7						
CD2	**Chengdu**	**41.45**	**265**	P	**P**	**14 51 00.8**	**-0.9**
CD2	comp=Z,10.0nm,1.0s,mb4.6			AMB	AMB		
ZAL	**Zalesovo**	**42.68**	**305**	P	**P**	**14 51 10.4**	**-1.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=32,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**14 51 46.1**	**-0.8**
	comp=Z,1.7nm,0.7s,mb3.9,baz=66,slow=7.5,SNR=10						
CHKZ	**Chkalovo**	**50.42**	**310**	*e*P	**P**	**14 52 11.2**	**-1.1**
BVAR	**Borovoye Array**	**50.86**	**309**	P	**P**	**14 52 14.5**	**-1.1**
	comp=Z,1.0nm,0.3s,mb4.3,baz=47,slow=8.7,SNR=7.5						
BRVK	**Borovoye**	**50.90**	**309**	*e*P	**P**	**14 52 15.0**	**-0.9**
BRVK	comp=Z,3.0nm,0.7s,mb4.4			pmax	pmax		
BRVK	**Borovoye**	**50.90**	**309**	*e*P	**P**	**14 52 15.0**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**51.62**	**310**	*e*P	**P**	**14 52 19.5**	**-1.8**
ZRNK	comp=Z,3.0nm,1.0s,mb4.3			pmax	pmax		
ZRNK	**Zerenda**	**51.62**	**310**	*e*P	**P**	**14 52 19.5**	**-1.8**
	comp=Z,3.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**55.41**	**275**	*e*P	**P**	**14 52 50.2**	**+1.2**
	comp=Z,25nm,0.8s,mb5.3						
KKN	**Kakani**	**55.95**	**275**	*e*P	**P**	**14 52 54.1**	**+1.3**
	comp=Z,17nm,0.8s,mb5.2						
DMN	**Daman**	**56.18**	**275**	*e*P	**P**	**14 52 55.8**	**+1.3**
	comp=Z,34nm,0.9s,mb5.4						
GKN	**Gorkha**	**56.24**	**276**	*e*P	**P**	**14 52 55.9**	**+1.0**
	comp=Z,28nm,0.8s,mb5.4						
KOLN	**Koldanda**	**57.09**	**277**	*e*P	**P**	**14 53 02.1**	**+1.1**
	comp=Z,20nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**58.69**	**312**	P	**P**	**14 53 11.6**	**-0.5**
AKTO	**Aktyubinsk**	**58.69**	**312**	P	**P**	**14 53 11.6**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=76,slow=7.9,SNR=4.0						
AKTO	**Aktyubinsk**	**58.69**	**312**	P	**P**	**14 53 11.6**	**-0.6**
AKTO	comp=Z,1.0nm,0.6s,mb4.0			pmax	pmax		
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**14 53 45.5**	**-0.4**
	comp

AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**63.24**	**55**	P	**P**	**14 56 43.2**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.8,baz=321,slow=1.9,SNR=3.9						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**14 56 49.2**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=42,slow=8.6,SNR=14						
NB2	**NORSAR Subarra**	**68.12**	**342**	P	**P**	**14 57 15.2**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.12**	**342**	P	**P**	**14 57 14.8**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=26,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**71.84**	**327**	P	**P**	**14 57 37.5**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=33,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**73.24**	**200**	P	**P**	**14 57 45.5**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=12,slow=6.2,SNR=5.7						
TXAR	**Lajitas Array**	**75.95**	**62**	P	**P**	**14 58 01.9**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=339,slow=3.2,SNR=3.5						
TXAR	**Lajitas Array**	**75.95**	**62**	P	**P**	**14 58 01.9**	**+0.2**
BRTR	**Keskin Array B**	**78.93**	**318**	P	**P**	**14 58 19.4**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=47,slow=5.9,SNR=3.0						

BJI ***15*** *14:48:19.8, 46.67N×154.23E, h4km, mB5.0, mb4.5*
IDC ***15*** *14:48:19.7±0.7, 46.25N×154.41E, h0km, mb4.1/10, mb1 4.4/12, mb1mx4.1/26, mbtmp4.1/12, ML3.8/2, Error ellipse: s-maj=25.8km s-min=15.6km az=154.0*
NEIC ***15*** *14:48:21.3±0.4, 46.31N×154.34E, h10km, mb4.5/11, Error ellipse: s-maj=12.5km s-min=7.3km az=162.0*
MOS ***15*** *14:48:22.8±1.1, 46.33N×154.30E, h33km, mb4.5/8, Error ellipse: s-maj=14.8km s-min=13.3km az=128.0*
ISCJB ***15*** *14:48:23.6±2.2, 46.3N±0.1×154.3E±0.1, h40km±20km, mb4.3/26, Error ellipse: s-maj=17.8km s-min=11.5km az=139.2*

ISC 15 14:48:26.1±1.7, 46.3N±01×154.3E±01, h45km±16km, n43, σ0.98/43, mb4.3/26, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzn-Sakhalins**	**7.97**	**279**	*e*PN	**Pn**	**14 50 21.0**	**+1.8**
ASAJ	**Asahikawa**	**8.55**	**259**	Pn	**Pn**	**14 50 26.5**	**-0.8**
	1.8nm,0.3s,baz=89,slow=23,SNR=5.1						
ASAJ	**Asahikawa**	**8.55**	**259**	PN	**Pn**	**14 50 26.5**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.51**	**237**	Pn	**Pn**	**14 52 00.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=4.4						
CN2	**Changchun**	**20.49**	**273**	*e*P	**P**	**14 52 57.4**	**-2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**21.47**	**255**	P	**P**	**14 53 11.9**	**+1.3**
	comp=Z,4.7nm,0.7s,mb3.9,baz=52,slow=11,SNR=7.6						
BILL	**Bilibino**	**22.61**	**12**	*e*P	**P**	**14 53 22.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
BJI	**Beijing**	**28.30**	**271**	*e*P	**P**	**14 54 19.5**	**+4.3**
BJI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
BJI	**Beijing**	**28.30**	**271**	*e*P	**P**	**14 54 19.5**	**+4.3**
	comp=Z,14nm,1.3s,mb4.4						
SONM	**Songino Array**	**32.24**	**290**	P	**P**	**14 54 49.2**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.5,baz=85,slow=7.7,SNR=3.5						
ZAK	**Zakamensk**	**33.59**	**296**	*e*P	**P**	**14 55 00.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
MCK	**McKinley**	**35.44**	**40**	*e*P	**P**	**14 55 17.5**	**-0.3**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MCK	**McKinley**	**35.44**	**40**	*e*P	**P**	**14 55 17.5**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.0						
LZH	**Lanzhou**	**38.72**	**273**	*e*P	**P**	**14 55 47.8**	**+2.1**
LZH				AP	pP	14 55 55.8	-2.1
LZH				XP	sP	14 55 59.5	-3.8
LZH				PP	PP	14 57 17.1	+2.2
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,132nm,5.0s						
LZH	**Lanzhou**	**38.72**	**273**	*e*P	**P**	**14 55 47.7**	**+2.0**
LZH				*SP	sP	14 55 59.5	-3.8
LZH						14 57 17.1	
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
LZH	**Lanzhou**	**38.72**	**273**	*e*P	**P**	**14 55 47.7**	**+2.0**
	comp=Z,30nm,1.2s,mb4.9						
LZH				pP	pP	14 55 55.8	-2.1
LZH				sP	sP	14 55 59.5	-3.8
LZH				PP	PP	14 57 17.1	+2.2
GTA	**Gaotai**	**39.84**	**280**	*e*P	**P**	**14 55 56.3**	**+1.2**
GTA				AP	pP	14 56 06.1	-1.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
INK	**Inuvik**	**41.56**	**32**	P	**P**	**14 56 09.2**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.0,baz=290,slow=7.4,SNR=8.5						
GYA	**Guiyang**	**42.43**	**259**	P	**P**	**14 56 17.0**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**47.85**	**298**	*e*P	**P**	**14 56 59.1**	**-0.2**
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**14 56 59.4**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=64,slow=8.4,SNR=8.2						
KURK	**Kurchatov**	**48.27**	**304**	*e*P	**P**	**14 57 02.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**48.27**	**304**	*e*P	**P**	**14 57 02.1**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**14 57 25.2**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**14 57 25.2**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**14 57 29.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**14 57 29.4**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.75**	**297**	*e*P	**P**	**14 57 51.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**54.75**	**297**	*e*P	**P**	**14 57 51.3**	**+0.4**
	comp=Z,4.9nm,0.9s,mb4.5						
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**14 57 57.7**	**-1.3**
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**14 57 58.5**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.7						
APA	**Apatity**	**58.03**	**337**	⇑*i*P	**P**	**14 58 11.8**	**-2.5**
APA				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4						
AKTK	**Aktyubinsk**	**59.61**	**313**	P	**P**	**14 58 26.0**	**+0.7**
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**14 58 26.0**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.3,baz=336,slow=2.5,SNR=5.7						
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**14 58 26.0**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
HLID	**Hailey**	**61.06**	**56**	*e*P	**P**	**14 58 35.3**	**+0.2**
	comp=Z,11nm,1.8s,mb4.7						
NVAR	**Mina Array Bea**	**61.90**	**63**	P	**P**	**14 58 40.0**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.3,baz=289,slow=9.5,SNR=12						
MOOW	**Moose Ponds**	**63.03**	**54**	*e*P	**P**	**14 58 49.0**	**+0.6**
	comp=Z,1.3nm,1.0s,mb4.0						
BW06	**Boulder Array**	**64.32**	**54**	*e*P	**P**	**14 58 57.1**	**+0.2**
	comp=Z,11nm,1.6s,mb4.7						
PDAR	**Pinedale Array**	**64.32**	**54**	P	**P**	**14 58 57.9**	**+1.0**
	comp=Z,2.5nm,0.9s,mb4.2,baz=280,slow=2.4,SNR=12						
WRA	**Warramunga Arr**	**68.40**	**200**	P	**P**	**14 59 21.8**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=19,slow=6.6,SNR=8.3						
ASAR	**Alice Springs**	**72.09**	**200**	P	**P**	**14 59 45.9**	**+0.3**
	comp=Z,3.2nm,1.1s,mb4.2,baz=13,slow=6.2,SNR=9.5						
TXAR	**Lajitas Array**	**76.98**	**61**	P	**P**	**15 00 14.5**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.5,baz=317,slow=5.0,SNR=20						

IDC ***15*** *14:49:52.9±1.6, 46.24N×153.18E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.9/23, mbtmp4.1/8, ML3.8/1, Error ellipse: s-maj=48.8km s-min=27.4km az=91.0*
NEIC ***15*** *14:49:54.1±1.1, 46.28N×153.29E, h10km, mb4.6/3, Error ellipse: s-maj=23.6km s-min=21.2km az=131.0*
MOS ***15*** *14:49:56.1±0.9, 46.32N×153.09E, h33km, mb4.7/2, Error ellipse: s-maj=26.3km s-min=17.0km az=42.1*
ISCJB ***15*** *14:49:57.5±5.8, 46.3N±02×153.0E±05, h43km±42km, mb4.2/10, Error ellipse: s-maj=56.1km s-min=28.3km az=177.9*

ISC 15 14:50:00.6±5.1, 46.3N±02×153.0E±05, h55km±35km, n19, σ0.61/19, mb4.2/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzn-Sakhalins**	**7.06**	**279**	*e*PN	**Pn**	**14 51 41.0**	**-0.3**
YSS	**Yuzn-Sakhalins**	**7.06**	**279**	*e*P	**Pn**	**14 51 41.8**	**+0.5**
	29nm,1.1s						
ASAJ	**Asahikawa**	**7.63**	**257**	Pn	**Pn**	**14 51 49.0**	**-0.1**
	1.4nm,0.3s,baz=72,slow=23,SNR=2.5						
ASAJ	**Asahikawa**	**7.63**	**257**	PN	**Pn**	**14 51 49.1**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LZH	**Lanzhou**	**37.80**	**272**	*e*P	**P**	**14 57 13.0**	**+1.5**
LZH						14 58 43.5	
LZH				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
LZH	**Lanzhou**	**37.80**	**272**	*e*P	**P**	**14 57 13.0**	**+1.5**
	comp=Z,30nm,1.1s,mb4.9						
LZH				pP	pP	14 57 16.6	-9.0
LZH				sP	sP	14 57 18.0	-14
LZH				PP	PP	14 58 43.5	+4.8
MKAR	**Makanchi Array**	**47.05**	**298**	P	**P**	**14 58 26.2**	**-0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=67,slow=9.3,SNR=5.7						
CHKZ	**Chkalovo**	**50.64**	**310**	*e*P	**P**	**14 58 53.2**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
CHKZ	**Chkalovo**	**50.64**	**310**	*e*P	**P**	**14 58 53.2**	**-1.0**
	comp=Z,3.2nm,0.4s,mb4.6						
BVAR	**Borovoye Array**	**51.06**	**310**	P	**P**	**14 58 57.1**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=19,slow=9.0,SNR=4.1						
BRVK	**Borovoye**	**51.10**	**310**	*e*P	**P**	**14 58 57.6**	**-0.1**
ZRNK	**Zerenda**	**51.84**	**310**	*e*P	**P**	**14 59 02.6**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.84**	**310**	*e*P	**P**	**14 59 02.5**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**58.24**	**341**	P	**P**	**14 59 49.7**	**+0.3**
	comp=Z,4.3nm,1.0s,mb4.4,baz=28,slow=5.5,SNR=3.6						
ARCES	**ARCESS Array B**	**58.24**	**341**	P	**P**	**14 59 49.7**	**+0.3**
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**15 00 30.9**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=32,slow=8.3,SNR=6.8						
NOA	**NORSAR Array B**	**68.62**	**341**	P	**P**	**15 00 58.4**	**+0.5**
	comp=Z,5.7nm,1.1s,mb4.4,baz=28,slow=6.1,SNR=3.8						
ASAR	**Alice Springs**	**71.74**	**198**	P	**P**	**15 01 16.6**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=10,slow=6.0,SNR=8.9						
AKASG	**Malin Array Be**	**71.86**	**326**	P	**P**	**15 01 18.4**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=35,slow=6.1,SNR=6.1						

IDC ***15*** *14:56:04.3±1.4, 47.28N×154.83E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=41.0km s-min=21.8km az=120.0*
NEIC ***15*** *14:56:05.7±1.0, 47.28N×154.66E, h10km, Error ellipse: s-maj=27.6km s-min=10.7km az=131.0*
ISCJB ***15*** *14:56:07.5±1.0, 47.4N±0.1×154.5E±0.2, h35km, mb3.9/6, Error ellipse: s-maj=27.2km s-min=10.1km az=87.8*
MOS ***15*** *14:56:07.0±1.0, 47.36N×154.54E, h33km, mb4.0/1, Error ellipse: s-maj=27.4km s-min=15.3km az=58.3*

ISC 15 14:56:08.9±1.1, 47.3N±01×154.7E±02, h35km, n14, σ1.06/14, mb3.9/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.28**	**23**	*e*PN	**Pn**	**14 57 38.3**	**-0.7**
YSS	**Yuzn-Sakhalins**	**8.12**	**272**	*e*PN	**Pn**	**14 58 04.0**	**-0.2**
YSS	**Yuzn-Sakhalins**	**8.12**	**272**	*e*P	**Pn**	**14 58 03.1**	**-1.1**
ASAJ	**Asahikawa**	**9.01**	**254**	Pn	**Pn**	**14 58 16.5**	**0.0**
	1.5nm,0.3s,baz=91,slow=19,SNR=10						
ASAJ	**Asahikawa**	**9.01**	**254**	PN	**Pn**	**14 58 16.5**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**16.25**	**235**	P	**Pn**	**14 59 53.3**	**-1.2**
MJAR	**Matsushiro Arr**	**16.25**	**235**	Pn	**Pn**	**14 59 53.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=31,slow=8.0,SNR=5.4						
KSRS	**Korea Array**	**21.96**	**253**	P	**P**	**15 01 00.5**	**+0.9**
	comp=Z,1.7nm,0.9s,mb3.5,baz=67,slow=13,SNR=4.5						
INK	**Inuvik**	**40.62**	**33**	P	**P**	**15 03 43.5**	**-1.8**
	comp=Z,2.8nm,1.1s,mb3.8,baz=216,slow=21,SNR=3.3						
ARCES	**ARCESS Array B**	**57.67**	**341**	P	**P**	**15 05 55.9**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.5,baz=32,slow=16,SNR=2.8						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**15 06 39.7**	**+1.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=35,slow=7.7,SNR=8.3						
NB2	**NORSAR Subarra**	**68.03**	**342**	P	**P**	**15 07 06.1**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.03**	**342**	P	**P**	**15 07 06.5**	**+1.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=27,slow=6.4,SNR=4.7						
ASAR	**Alice Springs**	**73.08**	**200**	P	**P**	**15 07 36.8**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=6.1,SNR=9.0						

IDC 15 14:59:49.7±0.9, 46.61N×155.30E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=26.5km s-min=23.5km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.07**	**256**	Pn	Pn	15 01 49.8	+1.6
	0.4nm,0.3s,baz=87,slow=18,SNR=3.3						
MKAR	**Makanchi Array**	**47.24**	**298**	P	P	15 08 24.9	+0.4
	1.3nm,0.7s,baz=54,slow=8.2,SNR=3.5						
BVAR	**Borovoye Array**	**51.15**	**310**	P	P	15 08 54.4	0.0
	0.4nm,0.5s,baz=76,slow=6.1,SNR=2.6						
FINES	**FINESS Array B**	**64.28**	**335**	P	P	15 10 24.9	-1.9
	1.8nm,0.9s,baz=27,slow=9.4,SNR=2.6						
PDAR	**Pinedale Array**	**64.61**	**54**	P	P	15 10 30.5	+1.5
	0.6nm,0.8s,baz=329,slow=2.6,SNR=5.1						
WRA	**Warramunga Arr**	**68.47**	**199**	P	P	15 10 53.3	-0.2
	1.2nm,0.9s,baz=16,slow=6.5,SNR=4.9						
ASAR	**Alice Springs**	**72.16**	**199**	P	P	15 11 15.8	-0.4
	1.0nm,0.8s,baz=12,slow=6.1,SNR=8.9						
TXAR	**Lajitas Array**	**77.33**	**61**	P	P	15 11 46.0	-0.2
	0.5nm,0.6s,baz=317,slow=10,SNR=2.9						

IDC ***15*** *15:04:06.8±1.2, 46.73N×154.91E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, MS4.7/1, Ms1 4.7/1, ms1mx3.8/48, Error ellipse: s-maj=38.9km s-min=32.7km az=62.0*
NEIC ***15*** *15:04:08.4±0.9, 46.74N×154.87E, h10km, mb4.3/1, Error ellipse: s-maj=27.7km s-min=21.6km az=218.0*
ISCJB ***15*** *15:04:10.4±1.2, 46.7N±02×154.8E±03, h35km, mb3.9/6, Error ellipse: s-maj=35.9km s-min=28.1km az=75.8*

ISC 15 15:04:12.1±1.2, 46.8N±02×154.8E±03, h35km, n7, σ0.23/6, mb3.9/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.98**	**257**	LR	LR	15 09 16.9	
	comp=Z,4μm,18.7s,baz=15,slow=34						
MKAR	**Makanchi Array**	**47.97**	**298**	P	**P**	**15 12 47.1**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=66,slow=5.9,SNR=5.4						
KURK	**Kurchatov**	**48.32**	**304**	*e*P	**P**	**15 12 49.9**	**-0.1**
	2.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**15 13 16.3**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=61,slow=6.4,SNR=3.7						
FINES	**FINESS Array B**	**64.52**	**335**	P	**P**	**15 14 45.4**	**+0.1**
	2.7nm,0.9s,mb4.3,baz=38,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**72.60**	**200**	P	**P**	**15 15 35.9**	**0.0**
	0.7nm,0.7s,mb3.7,baz=15,slow=5.4,SNR=7.4						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**15 15 58.2**	**-0.1**
	0.8nm,0.6s,mb3.8,baz=308,slow=4.4,SNR=4.5						

NEIC ***15*** *15:05:30.4, 37.42S×176.90E, h164km, MG4.2(WEL), After WEL.*

WEL 15 15:05:30.3±0.2, 37.42S×176.92E, h165km±1km, ML4.1/17, 7C-2D, Error ellipse: s-maj=1.6km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.60**	**199**	⇑P	Pn	15 05 53.9	+0.1
MARZ	**Manawahe**	**0.60**	**199**	⇑PN	Pn	15 05 53.9	+0.1
TGRZ	**Tauranga**	**0.61**	**239**	⇑P	Pn	15 05 53.8	-0.1
TGRZ	**Tauranga**	**0.61**	**239**	⇑PN	Pn	15 05 53.8	0.0
KARZ	**Kaharoa**	**0.81**	**221**	P	Pn	15 05 55.4	+0.3
KARZ	**Kaharoa**	**0.81**	**221**	⇑PN	Pn	15 05 55.4	+0.3
URZ	**Urewera**	**0.85**	**170**	⇑P	Pn	15 05 55.1	-0.3
URZ	**Urewera**	**0.85**	**170**	⇑PN	Pn	15 05 55.1	-0.3
URZ				SN	Sn	15 06 14.8	+0.2
MWZ	**Matawai**	**1.03**	**152**	P	Pn	15 05 56.9	+0.1
MWZ				S	Sn	15 06 16.8	-0.3
MWZ	**Matawai**	**1.03**	**152**	PN	Pn	15 05 56.7	0.0
MWZ				SN	Sn	15 06 16.8	-0.2
MXZ	**Matakaoa Point**	**1.11**	**98**	P	Pn	15 05 57.9	+0.5
MXZ				S	Sn	15 06 18.8	+0.6
MXZ	**Matakaoa Point**	**1.11**	**98**	PN	Pn	15 05 57.5	+0.1
MXZ				SN	Sn	15 06 18.8	+0.6
KUZ	**Kuaotunu**	**1.17**	**305**	P	Pn	15 05 57.6	-0.3
KUZ	**Kuaotunu**	**1.17**	**305**	PN	Pn	15 05 57.6	-0.3
PUZ	**Puketiti**	**1.25**	**122**	P	Pn	15 05 58.6	0.0
PUZ				S	Sn	15 06 19.5	-0.8
PUZ	**Puketiti**	**1.25**	**122**	PN	Pn	15 05 58.6	0.0
PUZ				SN	Sn	15 06 19.5	-0.8
KNZ	**Kokohu**	**1.71**	**160**	P	Pn	15 06 03.3	+0.2
KNZ	**Kokohu**	**1.71**	**160**	PN	Pn	15 06 03.3	+0.2
BKZ	**Black Stump Fm**	**1.78**	**191**	⇓PN	Pn	15 06 04.0	+0.1
KRVZ	**Karewarewa**	**1.95**	**211**	PN	Pn	15 06 06.8	+1.0
WTVZ	**West Tongariro**	**1.99**	**211**	P	Pn	15 06 07.2	+1.0
WTVZ	**West Tongariro**	**1.99**	**211**	PN	Pn	15 06 07.2	+1.0
NGZ	**Ngauruhoe**	**2.04**	**210**	P	Pn	15 06 08.0	+1.3
NGZ	**Ngauruhoe**	**2.04**	**210**	PN	Pn	15 06 08.0	+1.2
WPVZ	**Whakapapa**	**2.08**	**211**	P	Pn	15 06 08.4	+1.1
WPVZ	**Whakapapa**	**2.08**	**211**	PN	Pn	15 06 08.4	+1.1
FWVZ	**Far West T-bar**	**2.13**	**210**	P	Pn	15 06 08.5	+0.8
FWVZ	**Far West T-bar**	**2.13**	**210**	PN	Pn	15 06 08.5	+0.8
DRZ	**Dome Shelter**	**2.14**	**209**	P	Pn	15 06 08.9	+1.0
WNVZ	**Wahianoa**	**2.17**	**208**	P	Pn	15 06 09.0	+0.7
WNVZ	**Wahianoa**	**2.17**	**208**	PN	Pn	15 06 09.0	+0.8
VRZ	**Vera Road**	**2.41**	**224**	P	Pn	15 06 12.4	+1.4
VRZ	**Vera Road**	**2.41**	**224**	PN	Pn	15 06 12.4	+1.4
PXZ	**Pawanui**	**2.61**	**181**	⇓PN	Pn	15 06 13.1	-0.3
WPHZ	**Waipukurau**	**2.67**	**188**	PN	Pn	15 06 13.7	-0.5
TSZ	**Takapari Road**	**2.74**	**196**	P	Pn	15 06 14.2	-0.8
TSZ	**Takapari Road**	**2.74**	**196**	PN	Pn	15 06 14.2	-0.8
WAZ	**Wanganui**	**2.78**	**212**	PN	Pn	15 06 15.9	+0.4
NEZ	**North Egmont**	**2.89**	**229**	P	Pn	15 06 19.6	+2.8
BFZ	**Birch Farm**	**3.30**	**189**	P	Pn	15 06 20.9	-1.1
BFZ	**Birch Farm**	**3.30**	**189**	PN	Pn	15 06 20.9	-1.0
MRZ	**Mangatainoka R**	**3.40**	**197**	P	Pn	15 06 21.8	-1.5
MRZ	**Mangatainoka R**	**3.40**	**197**	PN	Pn	15 06 21.8	-1.5
TIWZ	**Tintock**	**3.45**	**193**	PN	Pn	15 06 22.7	-1.1
KIW	**Kapiti Island**	**3.78**	**204**	P	Pn	15 06 26.2	-1.8
KIW	**Kapiti Island**	**3.78**	**204**	PN	Pn	15 06 26.2	-1.8
MTW	**Mount Morrison**	**3.89**	**196**	P	Pn	15 06 27.3	-2.2
MTW	**Mount Morrison**	**3.89**	**196**	PN	Pn	15 06 27.3	-2.2
CAW	**Cannon Point**	**3.95**	**201**	P	Pn	15 06 27.3	-3.0
TRWZ	**Traveller**	**4.09**	**193**	PN	Pn	15 06 30.0	-2.0
DUWZ	**D'Urville Isla**	**4.11**	**214**	PN	Pn	15 06 30.3	-1.9
MRW	**Makara Radio**	**4.18**	**204**	P	Pn	15 06 30.8	-2.4
MRW	**Makara Radio**	**4.18**	**204**	PN	Pn	15 06 30.8	-2.4
MSWZ	**Moikau Station**	**4.20**	**197**	P	Pn	15 06 30.9	-2.5
MSWZ	**Moikau Station**	**4.20**	**197**	PN	Pn	15 06 30.9	-2.6
BHW	**Baring Head**	**4.29**	**201**	P	Pn	15 06 32.0	-2.6
TCW	**Tory Channel**	**4.31**	**208**	P	Pn	15 06 32.3	-2.6
TCW	**Tory Channel**	**4.31**	**208**	PN	Pn	15 06 32.3	-2.6
NNZ	**Nelson**	**4.68**	**215**	*e*P	Pn	15 06 37.5	-2.2
NNZ	**Nelson**	**4.68**	**215**	PN	Pn	15 06 37.5	-2.3
QRZ	**Quartz Range**	**4.82**	**224**	*e*P	Pn	15 06 38.9	-2.6
BSWZ	**Blackbirch Sta**	**4.89**	**208**	P	Pn	15 06 40.0	-2.5
BSWZ	**Blackbirch Sta**	**4.89**	**208**	PN	Pn	15 06 40.0	-2.4
THZ	**Tophouse**	**5.33**	**214**	*e*P	Pn	15 06 45.7	-2.6
THZ	**Tophouse**	**5.33**	**214**	PN	Pn	15 06 45.7	-2.5
KHZ	**Kahutara**	**5.63**	**206**	*e*P	Pn	15 06 49.0	-3.1
KHZ	**Kahutara**	**5.63**	**206**	PN	Pn	15 06 49.0	-3.2
LTZ	**Lake Taylor**	**6.43**	**212**	*e*P	Pn	15 06 59.5	-3.3
LTZ	**Lake Taylor**	**6.43**	**212**	PN	Pn	15 06 59.5	-3.3
MQZ	**McQueen's Vall**	**7.07**	**206**	*e*P	P

comp=Z,1.0nm,0.6s,mb4.0
PDAR Pinedale Array 64.59 54 P **P** 15 16 09.7 -0.8
comp=Z,0.5nm,0.9s,mb3.6,baz=327,slow=2.5,SNR=3.6
FINES FINESS Array B 64.61 335 P **P** 15 16 09.7 -0.9
comp=Z,3.9nm,0.7s,mb4.5,baz=40,slow=9.9,SNR=8.5
NB2 NORSAR Subarra 68.76 342 P **P** 15 16 27.4 -10
comp=Z,6.1nm,1.0s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 68.76 342 P **P** 15 16 36.1 -1.0
comp=Z,1.9nm,0.7s,mb4.1,baz=27,slow=6.4,SNR=6.2
ASAR Alice Springs 71.99 199 P **P** 15 16 57.0 +0.2
comp=Z,0.8nm,0.7s,mb3.8,baz=12,slow=5.2,SNR=9.4
AKASG Malin Array Be 72.15 327 P **P** 15 16 57.1 -0.7
comp=Z,3.4nm,0.7s,mb4.4,baz=33,slow=6.1,SNR=7.6
CLL Collm 77.03 336 *eP* **P** 15 17 28.0 +1.9
TXAR Lajitas Array 77.26 61 P **P** 15 17 28.0 +0.6
comp=Z,0.7nm,0.7s,mb3.7,baz=325,slow=11,SNR=3.4
BRTR Keskin Array B 79.02 317 P **P** 15 17 38.5 +1.4
comp=Z,1.4nm,0.7s,mb4.0,baz=43,slow=5.2,SNR=5.5
GERES GERESS Array B 79.03 334 P **P** 15 17 38.0 +0.8
comp=Z,0.3nm,0.3s,mb3.7,baz=32,slow=5.2,SNR=4.5

IDC ***15*** *15:08:17.8±1.1,4632N×154.16E,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.0/25,mbtmp4.1/12,ML3.9/1,Error ellipse: s-maj=27.2km s-min=20.8km az=150.0*
NEIC ***15*** *15:08:19.2±0.6,4630N×154.08E,h10km,mb4.4/5,Error ellipse: s-maj=16.6km s-min=11.4km az=170.0*
BJI ***15*** *15:08:19.1,4678N×154.35E,h18km,mb4.4*
MOS ***15*** *15:08:20.7±0.9,4630N×154.13E,h33km,mb4.4/6,Error ellipse: s-maj=18.5km s-min=13.9km az=116.0*
ISCJB ***15*** *15:08:23.6±2.6,463N±0.1×154.1E±0.2,h58km±22km, mb4.1/18, Error ellipse: s-maj=25.3km s-min=16.1km az=120.0*
ISC 15 15:08:25.3±2.1,463N±01×1541E±02,h58km±17km,n33, σ0°71/33,mb4.1/18,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.84**	**279**	*e*PN		**Pn**	**15 10 18.0**	**+1.3**
ASAJ	**Asahikawa**	**8.43**	**259**	Pn		**Pn**	**15 10 23.4**	**-1.4**
	1.7nm,0.3s,baz=76,slow=17,SNR=6.1							
ASAJ	**Asahikawa**	**8.43**	**259**	PN		**Pn**	**15 10 23.4**	**-1.3**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
CN2	**Changchun**	**20.36**	**273**	*e*P		**P**	**15 13 01.0**	**+4.0**
KSRS	**Korea Array**	**21.35**	**255**	P		**P**	**15 13 07.6**	**0.0**
	comp=Z,2.0nm,0.8s,mb3.5,baz=60,slow=9.1,SNR=5.0							
BILL	**Bilibino**	**22.65**	**12**	*e*P		**P**	**15 13 21.8**	**+0.4**
BILL				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.1							
SONM	**Songino Array**	**32.13**	**290**	P		**P**	**15 14 46.3**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.6,baz=77,slow=8.8,SNR=3.9							
COLA	**College**	**36.03**	**38**	P		**P**	**15 15 20.4**	**-0.5**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
COLA	**College**	**36.03**	**38**	P		**P**	**15 15 20.4**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4							
LZH	**Lanzhou**	**38.60**	**273**	*e*P		**P**	**15 15 46.3**	**+3.7**
LZH				AP	pP		15 15 50.5	-6.9
LZH				XP	sP		15 15 52.8	-11
LZH				PP	PP		15 17 15.8	+3.9
LZH				AMB	AMB			
	comp=Z,30nm,1.2s,mb4.9							
LZH	**Lanzhou**	**38.60**	**273**	*e*P		**P**	**15 15 46.2**	**+3.6**
LZH				*SP	sP		15 15 52.7	-11
LZH							15 17 15.8	
LZH				pmax	pmax			
	comp=Z,30nm,1.2s,mb4.9							
LZH	**Lanzhou**	**38.60**	**273**	*e*P		**P**	**15 15 46.2**	**+3.6**
	comp=Z,30nm,1.2s,mb4.9							
LZH				pP	pP		15 15 50.5	-6.9
LZH				sP	sP		15 15 52.7	-11
LZH				PP	PP		15 17 15.8	+3.9
GTA	**Gaotai**	**39.72**	**280**	*e*P		**P**	**15 15 53.1**	**+1.1**
GTA				AP	pP		15 16 02.4	-4.4
GTA				XP	sP		15 16 06.1	-7.5
GTA				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb4.0							
INK	**Inuvik**	**41.63**	**32**	P		**P**	**15 16 07.5**	**-0.2**
	comp=Z,1.8nm,0.5s,mb3.9,baz=317,slow=3.8,SNR=9.3							
MKAR	**Makanchi Array**	**47.75**	**298**	P		**P**	**15 16 56.1**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=67,slow=7.5,SNR=12							
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P		**P**	**15 17 21.8**	**-1.1**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P		**P**	**15 17 21.8**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**51.66**	**310**	P		**P**	**15 17 25.7**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=46,slow=9.7,SNR=7.4							
BRVK	**Borovoye**	**51.70**	**310**	*e*P		**P**	**15 17 26.9**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**51.70**	**310**	*e*P		**P**	**15 17 26.9**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**52.42**	**310**	*e*P		**P**	**15 17 31.7**	**-0.1**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**52.42**	**310**	*e*P		**P**	**15 17 31.7**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1							
ARU	**Arti**	**55.78**	**318**	*e*P		**P**	**15 17 56.3**	**0.0**
ARCES	**ARCESS Array B**	**58.47**	**341**	P		**P**	**15 18 15.6**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=31,slow=7.3,SNR=6.2							
ARCES	**ARCESS Array B**	**58.47**	**341**	P		**P**	**15 18 15.6**	**+0.3**
AKTK	**Aktyubinsk**	**59.52**	**312**	P		**P**	**15 18 22.3**	**-0.3**
AKTO	**Aktyubinsk**	**59.52**	**312**	P		**P**	**15 18 22.3**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.2,baz=62,slow=7.6,SNR=7.0							
AKTO	**Aktyubinsk**	**59.52**	**312**	P		**P**	**15 18 22.3**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**15 18 57.3**	**0.0**
	comp=Z,4.7nm,1.0s,mb4.5,baz=38,slow=9.6,SNR=8.5							
NB2	**NORSAR Subarra**	**68.84**	**342**	P		**P**	**15 19 24.3**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.84**	**342**	P		**P**	**15 19 23.9**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=28,slow=6.4,SNR=3.4							
ASAR	**Alice Springs**	**72.04**	**199**	P		**P**	**15 19 43.3**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=14,slow=6.3,SNR=8.2							
TXAR	**Lajitas Array**	**77.09**	**61**	P		**P**	**15 20 12.7**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=300,slow=5.7,SNR=5.7							

BJI ***15*** *15:10:36.5,4671N×153.06E,h8km,mB5.4,mb4.7,Ms4.9, Ms4.7*
IDC ***15*** *15:10:36.9±0.6,4667N×152.98E,h0km,mb4.4/17, mb1 4.6/18,mb1mx4.4/24,mbtmp4.4/18,ML4.1/1,MS5.4/1, Ms1 5.4/1,ms1mx4.2/53,Error ellipse: s-maj=19.1km s-min=14.4km az=118.0*
NEIC ***15*** *15:10:38.5±0.3,4658N×153.14E,h10km,mb4.7/22,Error ellipse: s-maj=9.4km s-min=5.4km az=145.0*
ISCJB ***15*** *15:10:39.3±1.1,4640N±005×15320E±006,h32km±8km, mb4.7/52,MS4.9/2,Error ellipse: s-maj=10.2km s-min=3.7km az=109.0*
JMA ***15*** *15:10:39.8±1.0,4661N×15338E,h30km,M5.7*
MOS ***15*** *15:10:40.4±1.2,4655N×153.14E,h37km,mb4.9/17,Error ellipse: s-maj=8.8km s-min=7.0km az=76.6*
SZGRF ***15*** *15:10:42.1,4667N×154.43E,h33km,mb4.9,East of Kuril Islands, Russia*
ISC 15 15:10:41.8±0.6,4646N±005×15322E±006,h36km±5km, h21km±8.6km:pP-P,n160,σ1s38/172,mb4.7/52,MS4.9/2, 10C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**254**	*i*	PN	**Pn**	**15 11 38.0**	**-1.7**
KUR				*i*	S	**Sn**	**15 12 24.5**	**-0.1**
KUR				pmax	pmax			
	comp=N,260nm,0.7s							
KUR				pmax	pmax			
	comp=E,170nm,0.7s							
KUR				pmax	pmax			
	comp=Z,520nm,0.7s							
KUR				smax				
	comp=N,6μm,0.9s							
KUR				smax				
	comp=E,8μm,0.9s							
SKR	**Severo-Kuril's**	**4.64**	**23**	*e*	PN	**Pn**	**15 11 48.5**	**-0.9**
SKR				pmax	pmax			
	comp=N,230nm,0.5s							
SKR				pmax	pmax			
	comp=E,150nm,0.5s							
SKR				pmax	pmax			
	comp=Z,630nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.73**	**248**	*i*	PN	**Pn**	**15 12 06.2**	**+1.8**
YUK				*i*	S	**Sn**	**15 13 11.0**	**+2.1**
YUK				pmax	pmax			
	comp=Z,740nm,0.5s							
YUK				smax				
	comp=N,15μm,3.0s							
YUK				smax				
	comp=E,10μm,3.0s							
YUK				smax				
	comp=N,16μm,1.0s							
YUK				smax				
	comp=E,13μm,1.0s							
NEM2	**Nemuro 2**	**6.14**	**242**	P		**Pn**	**15 12 09.8**	**-0.2**
NEM2				*e*	S	**Sn**	**15 13 16.8**	**-2.2**
JRA	**Rausu**	**6.25**	**249**	P		**Pn**	**15 12 13.7**	**+2.2**
JRA				*e*	S	**Sn**	**15 13 25.9**	**+4.2**
JNK	**Nakash**	**6.67**	**248**	P		**Pn**	**15 12 19.0**	**+1.7**
JNK				*e*	S	**Sn**	**15 13 33.4**	**+1.3**
JAK	**Akkeshi**	**6.99**	**243**	P		**Pn**	**15 12 21.6**	**0.0**
JAK				*e*	S	**Sn**	**15 13 37.7**	**-2.1**
JTKR	**Abashiri--Toko**	**7.03**	**253**	P		**Pn**	**15 12 24.3**	**+2.1**
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	*e*	PN	**Pn**	**15 12 26.3**	**+1.6**
YSS				pmax	pmax			
	comp=Z,50nm,0.8s							
YSS				pmax	pmax			
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	*e*	Pn	**Pn**	**15 12 26.5**	**+1.8**
	comp=E,106nm,0.8s							
JMP	**Maruseppu**	**7.38**	**254**	P		**Pn**	**15 12 29.3**	**+2.3**
JAR	**Ashorobuto**	**7.42**	**248**	P		**Pn**	**15 12 29.1**	**+1.6**
JAR				*e*	S	**Sn**	**15 13 51.8**	**+1.4**
PET	**Petropavlovsk**	**7.45**	**26**	*e*	PN	**Pn**	**15 12 30.0**	**+2.1**
PET	**Petropavlovsk**	**7.45**	**26**	*e*	Pn	**Pn**	**15 12 27.9**	**0.0**
JOB	**Onbets**	**7.58**	**245**	P		**Pn**	**15 12 31.7**	**+2.1**
JOB				*e*	S	**Sn**	**15 13 53.8**	**-0.4**
JSE	**Soyaes**	**7.60**	**262**	P		**Pn**	**15 12 34.5**	**+4.6**
JKK2	**Kamakawa 2**	**7.84**	**254**	P		**Pn**	**15 12 36.0**	**+2.7**
ASAJ	**Asahikawa**	**7.85**	**256**	Pn		**Pn**	**15 12 36.8**	**+3.4**
	comp=E,12nm,0.3s,baz=88,slow=13,SNR=52							
ASAJ	**Asahikawa**	**7.85**	**256**	P		**Pn**	**15 12 36.7**	**+3.3**
ASAJ	**Asahikawa**	**7.85**	**256**	PN		**Pn**	**15 12 36.8**	**+3.4**
ASAJ				pmax	pmax			
	comp=Z,12nm,0.3s							
JWK2	**Keihoku**	**7.98**	**266**	P		**Pn**	**15 12 41.2**	**+6.0**
JCH	**Churui**	**8.02**	**245**	P		**Pn**	**15 12 36.0**	**+0.2**
JCH				*e*	S	**Sn**	**15 14 01.5**	**-3.7**
JFR	**Furan**	**8.24**	**250**	P		**Pn**	**15 12 40.0**	**+1.2**
JAB	**Ashibetsu**	**8.34**	**253**	P		**Pn**	**15 12 43.1**	**+3.0**
JEM	**Erimo**	**8.48**	**242**	P		**Pn**	**15 12 43.8**	**+1.8**
JEM				*e*	S	**Sn**	**15 14 14.2**	**-2.3**
ERM	**Erimo**	**8.48**	**242**	*e*	PN	**Pn**	**15 12 43.6**	**+1.5**
ERM				pmax	pmax			
	comp=Z,254nm,0.6s							
ERM	**Erimo**	**8.48**	**242**	*e*	Pn	**Pn**	**15 12 43.5**	**+1.5**
	comp=Z,254nm,0.6s							
ERM					Sn	**Sn**	**15 14 15.8**	**-0.7**
JBT2	**Biratori 2**	**8.57**	**248**	P		**Pn**	**15 12 44.2**	**+0.9**
JHR	**Hokuryu**	**8.57**	**256**	P		**Pn**	**15 12 46.6**	**+3.3**
JNBK	**Urakawa-nobuka**	**8.58**	**245**	P		**Pn**	**15 12 43.1**	**-0.4**
JNBK				*e*	S	**Sn**	**15 14 18.2**	**-0.8**
JEW	**Eniwo**	**9.14**	**251**	P		**Pn**	**15 12 53.4**	**+2.3**
JNB	**Noboribetsu**	**9.58**	**250**	P		**Pn**	**15 12 57.3**	**+0.2**
JNB				*e*	S	**Sn**	**15 14 42.1**	**-1.4**
JKB	**Kayabe**	**9.88**	**247**	P		**Pn**	**15 13 00.7**	**-0.5**
JKB				*e*	S	**Sn**	**15 14 45.5**	**-5.2**
JOT	**Ohata**	**10.14**	**244**	P		**Pn**	**15 13 03.3**	**-1.5**
JSH	**Shimam**	**10.15**	**253**	P		**Pn**	**15 13 06.3**	**+1.4**
JYM2	**Yakumo 2**	**10.18**	**249**	P		**Pn**	**15 13 05.6**	**+0.2**
JSR	**Shiriuchi**	**10.46**	**246**	P		**Pn**	**15 13 09.2**	**+0.1**
JANG	**Nango**	**10.46**	**239**	P		**Pn**	**15 13 06.7**	**-2.5**
JANG				*e*	S	**Sn**	**15 14 56.9**	**-8.2**
JTM	**Tenmabayashi**	**10.47**	**242**	P		**Pn**	**15 13 08.4**	**-1.0**
JTM				*e*	S	**Sn**	**15 14 58.6**	**-6.8**
JTH	**Tanohata**	**10.54**	**236**	P		**Pn**	**15 13 08.1**	**-2.2**
JOSM	**Okushiri--Mats**	**10.78**	**251**	P		**Pn**	**15 13 13.4**	**-0.2**
OFUJ	**Ofunato**	**11.24**	**233**	P		**Pn**	**15 13 17.6**	**-2.2**
OFUJ				*e*	S	**Sn**	**15 15 17.2**	**-6.9**
JRG	**Rokugo**	**11.61**	**237**	P		**Pn**	**15 13 23.3**	**-1.6**
JIO	**Ouri**	**11.86**	**232**	*e*	S	**Sn**	**15 15 32.9**	**-6.4**
JMM	**Marumori**	**12.59**	**231**	P		**Pn**	**15 13 35.9**	**-2.4**
JYA	**Atsumi**	**12.68**	**236**	P		**Pn**	**15 13 38.6**	**-0.9**
JFK	**Kawauchi**	**12.91**	**230**	P		**Pn**	**15 13 40.4**	**-2.3**
MA2	**Magadan**	**13.22**	**355**	*e*	PN	**Pn**	**15 13 46.4**	**-0.5**
MA2				pmax	pmax			
	comp=N,10.0nm,0.4s							
MA2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
JFY	**Yanaizu**	**13.51**	**233**	P		**Pn**	**15 13 49.4**	**-1.5**
KLR	**Kul'dur**	**14.67**	**289**	*e*	P	**Pn**	**15 14 07.7**	**+1.0**
KLR				pmax	pmax			
	comp=Z,7.0nm,1.8s							
SMY	**Shemya**	**14.89**	**57**	*e*	P	**Pn**	**15 14 08.0**	**-1.7**
SMY				pmax	pmax			
	comp=Z,42nm,0.8s							
SMY	**Shemya**	**14.89**	**57**	*e*	P	**Pn**	**15 14 08.0**	**-1.7**
	comp=Z,42nm,0.8s							
MAJO	**Matsushiro**	**14.97**	**234**	*e*	P	**Pn**	**15 14 09.1**	**-1.5**
MAJO				pmax	pmax			
	comp=Z,80nm,0.7s							
MAJO	**Matsushiro**	**14.97**	**234**	*e*	Pn	**Pn**	**15 14 09.1**	**-1.5**
	comp=Z,80nm,0.7s							
MAT	**Matsushiro**	**14.97**	**234**	P		**Pn**	**15 14 08.0**	**-2.6**
MAT	**Matsushiro**	**14.97**	**234**	P		**Pn**	**15 14 08.6**	**-2.0**
MJAR	**Matsushiro Arr**	**14.97**	**234**	Pn		**Pn**	**15 14 08.8**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=12							
JRY	**Ryogami san**	**14.97**	**231**	P		**Pn**	**15 14 07.9**	**-2.8**
MDJ	**Mudanjiang**	**16.65**	**272**	*e*	Pn	**Pn**	**15 14 31.5**	**-0.7**
	comp=Z,19nm,0.8s							
CN2	**Changchun**	**19.73**	**272**	*e*	P	**Pn**	**15 15 05.4**	**-4.6**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**20.61**	**328**	P		**P**	**15 15 16.5**	**-1.2**
YAK				pmax	pmax			
	comp=Z,82nm,0.9s							
YAK	**Yakutsk**	**20.61**	**328**	P		**P**	**15 15 16.5**	**-1.2**
	comp=Z,82nm,0.9s							
KSRS	**Korea Array**	**20.78**	**253**	P		**P**	**15 15 21.6**	**+1.9**
	comp=Z,25nm,0.8s,baz=58,slow=10,SNR=34							
INCN	**Inchon**	**21.62**	**255**	*e*	P	**P**	**15 15 32.2**	**+3.4**
	comp=Z,26nm,0.7s,mb4.8							
JNU	**Nakatsue**	**21.64**	**240**	P		**P**	**15 15 30.2**	**+1.4**
	comp=Z,54nm,0.8s,mb5.0,baz=240,slow=19,SNR=5.8							
JNU						LR	15 22 21.2	
	comp=Z,10μm,21.4s,MS5.2,baz=52,slow=33							
JNU	**Nakatsue**	**21.64**	**240**	P		**P**	**15 15 30.6**	**+1.7**
SNY	**Shenyang**	**21.70**	**268**	P		**P**	**15 15 27.8**	**-1.8**
SNY					AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3							
BILL	**Bilibino**	**22.66**	**13**	*e*	P	**P**	**15 15 42.0**	**+2.3**
BILL				pmax	pmax			
	comp=Z,11nm,1.4s,mb4.1							
CIT	**Chita**	**26.24**	**297**	*e*	P	pP	15 16 25.7	+2.1
BJI	**Beijing**	**27.55**	**270**	*e*	P	**P**	**15 16 28.3**	**+3.2**
BJI					AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5							
BJI	**Beijing**	**27.55**	**270**	*e*	P	**P**	**15 16 28.3**	**+3.2**
	comp=Z,11nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**31.06**	**290**	*e*	P	**P**	**15 16 58.1**	**+1.8**
ULN				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**31.06**	**290**	*e*	P	**P**	**15 16 58.1**	**+1.8**
	comp=Z,8.4nm,0.9s,mb4.6							
SONM	**Songino Array**	**31.50**	**290**	P		**P**	**15 17 02.0**	**+1.9**
	comp=Z,3.0nm,0.9s,mb4.1,baz=86,slow=7.3,SNR=9.9							
ZAK	**Zakamensk**	**32.87**	**295**	*e*	P	**P**	**15 17 10.0**	**-2.2**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.4s,mb4.0							
IMA2	**Indian Mountai**	**34.00**	**36**	*e*	P	**P**	**15 17 22.0**	**0.0**
XAN	**Xi'an**	**35.57**	**266**	P		**P**	**15 17 35.5**	**0.0**
XAN					AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9							
COLA	**College**	**36.32**	**38**	*e*	P	**P**	**15 17 42.2**	**+0.2**
COLA				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.1							
COLA	**College**	**36.32**	**38**	*e*	P	**P**	**15 17 42.2**	**+0.2**
	comp=Z,19nm,0.8s,mb5.1							
LZH	**Lanzhou**	**37.97**	**272**	*e*	P	**P**	**15 17 57.4**	**+1.4**
LZH					AP	pP	15 18 01.3	-5.1
LZH					XP	sP	15 18 05.3	-5.4
LZH					AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8							
LZH					AMB	AMB		
	comp=Z,98nm,4.5s							
LZH	**Lanzhou**	**37.97**	**272**	*e*	P	**P**	**15 17 57.4**	**+1.4**
	comp=Z,20nm,1.0s,mb4.8							
LZH					pP	pP	15 18 01.3	-5.1
LZH					sP	sP	15 18 05.3	-5.4
GTA	**Gaotai**	**39.09**	**279**	*e*	P	**P**	**15 18 05.5**	**+0.1**
GTA					AP	pP	15 18 14.8	-1.0
GTA					AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1							
EGAK	**Eagle**	**39.18**	**38**	*e*	P	**P**	**15 18 05.0**	**-1.2**
	comp=Z,20nm,0.9s,mb4.8							
CD2	**Chengdu**	**40.93**	**266**	*e*	P	**P**	**15 18 21.0**	**+0.3**
CD2					AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9							
GYA	**Guiyang**	**41.73**	**258**	*i*	P	**P**	**15 18 27.6**	**+0.4**
GYA					AP	pP	15 18 31.8	-5.9
GYA					XP	sP	15 18 34.8	-7.2
GYA					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0							
GYA					AMB	AMB		
	comp=Z,130nm,4.6s							
GYA					LR	LR		
	comp=N,540nm,17.6s,MS4.6							
GYA					LR	LR		
	comp=E,570nm,17.9s,MS4.6							
GYA					LR	LR		
	comp=Z,530nm,17.6s,MS4.5							
INK	**Inuvik**	**41.86**	**32**	P		**P**	**15 18 28.4**	**+0.1**
	comp=Z,4.8nm,0.6s,mb4.3,baz=289,slow=8.2,SNR=17							
KMI	**Kunming**	**45.26**	**260**	P		**P**	**15 18 54.5**	**-1.2**
KMI					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
KMI	**Kunming**	**45.26**	**260**	P		**P**	**15 18 54.5**	**-1.2**
	comp=Z,10.0nm,0.8s,mb4.7							
MK31	**Makanchi Array**	**47.14**	**298**	*e*	P	**P**	**15 19 08.8**	**-1.6**
MKAR	**Makanchi Array**	**47.14**	**298**	P		**P**	**15 19 08.9**	**-1.6**
	comp=Z,2.9nm,0.9s,mb4.2,baz=71,slow=8.7,SNR=8.6							
KURK	**Kurchatov**	**47.59**	**304**	*e*	P	**P**	**15 19 11.7**	**-2.2**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**47.59**	**304**	*e*	P	**P**	**15 19 11.7**	**-2.2**
	comp=Z,5.2nm,0.8s,mb4.6							
LSA	**Lhasa**	**50.36**	**273**	*e*	P	**P**	**15 19 37.1**	**+1.9**
LSA				pmax	pmax			
	comp=Z,22nm,0.8s,mb5.2							
LSA	**Lhasa**	**50.36**	**273**	*e*	P	**P**	**15 19 37.1**	**+1.9**
	comp=Z,22nm,0.8s,mb5.2							
BVAR	**Borovoye Array**	**51.10**	**310**	P		**P**	**15 19 38.7**	**-2.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=59,slow=6.1,SNR=4.1							
YKA	**Yellowknife Ar**	**51.11**	**37**	P		**P**	**15 19 40.6**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.6,baz=298,slow=6.9,SNR=6.8							
ZRNK	**Zerenda**	**51.87**	**310**	*e*	P	**P**	**15 19 45.8**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**51.87**	**310**	*e*	P	**P**	**15 19 45.8**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.3							
CHTO	**Chiang Mai**	**52.12**	**257**	*e*	P	**P**	**15 19 49.5**	**+1.1**
CHTO				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.9							
CHTO	**Chiang Mai**	**52.12**	**257**	*e*	P	**P**	**15 19 49.5**	**+1.1**
	comp=Z,14nm,0.9s,mb4.9							
AAK	**Ala-Archa**	**54.03**	**297**	*e*	P	**P**	**15 20 00.8**	**-1.6**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**54.03**	**297**	*e*	P	**P**	**15 20 00.8**	**-1.6**
	comp=Z,4.6nm,0.8s,mb4.5							
JIRN	**Jiri**	**55.04**	**275**	*e*	P	**P**	**15 20 10.7**	**+0.9**
	comp=Z,55nm,0.8s,mb5.6							
KKN	**Kakani**	**55.59**	**276**	*e*	P	**P**	**15 20 14.3**	**+0.6**
	comp=Z,41nm,0.8s,mb5.5							
PKI	**Pulchoki**	**55.64**	**275**	*e*	P	**P**	**15 20 14.5**	**+0.5**
	comp=Z,46nm,1.0s,mb5.5							
DMN	**Daman**	**55.82**	**276**	*e*	P	**P**	**15 20 16.3**	**+0.9**
	comp=Z,79nm,1.0s,mb5.7							
PMG	**Port Moresby**	**55.88**	**187**	P		**P**	**15 20 17.7**	**+2.0**
	comp=Z,3.4nm,0.7s,mb4.5,baz=11,slow=15,SNR=4.1							
PMG	**Port Moresby**	**55.88**	**187**	P		**P**	**15 20 17.7**	**+1.9**
PMG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
PMG	**Port Moresby**	**55.88**	**187**	P		**P**	**15 20 17.9**	**+2.1**
	comp=Z,4.5nm,0.9s,mb4.5							
GKN	**Gorkha**	**55.90**	**276**	*e*	P	**P**	**15 20 16.3**	**+0.4**
	comp=Z,84nm,0.9s,mb5.8							
EDM	**Edmonton**	**56.46**	**46**	*e*	P	**P**	**15 20 20.3**	**+0.3**
KOLN	**Koldanda**	**56.76**	**277**	*e*	P	**P**	**15 20 22.8**	**+0.8**
	comp=Z,64nm,1.0s,mb5.6							
ARCES	**ARCESS Array B**	**58

DAVA Damuels 81.27 336⇑*iP* pP 15 23 04.3 -1.1
comp=Z,12nm,1.4s

BIA Bitola 82.93 325 *e*P P 15 22 56.8 -6.0
CFAA Coronel Fontan 144.97 80 PKPbc PKPdf 15 30 14.8 -0.3
comp=Z,0.7nm,0.7s,baz=288,slow=1.6,SNR=10

SNAA Sanae 152.30 196 PKPbc PKPbc 15 30 32.5 -1.2
comp=Z,0.7nm,0.7s,baz=141,slow=4.5,SNR=6.3

BJI ***15*** *15:11:55.2, 4655N×154.11E, h4km, mB5.9, mb5.2, Ms5.3, Msz5.2*
IDC ***15*** *15:11:55.2±0.4, 4630N×154.17E, h0km, mb4.9/28, mb1 5.0/30, mb1mx5.0/33, mbtmp4.9/30, ML4.4/2, Error ellipse: s-maj=13.5km s-min=10.9km az=141.0*
ISCJB ***15*** *15:11:55.5±0.1, 4630N±004×15422E±002, h10km, mb5.2/118, MS5.1/4, Error ellipse: s-maj=5.2km s-min=2.3km az=166.5*
NEIC ***15*** *15:11:57.1±0.2, 4628N×154.17E, h10km, mb5.3/42, Error ellipse: s-maj=4.6km s-min=3.2km az=159.0*
SZGRF ***15*** *15:11:58.4, 4544N×15365E, h33km, mb5.1, East of Kuril Islands, Russia*
MOS ***15*** *15:11:58.2±1.2, 4636N×154.13E, h27km, mb5.4/44, Error ellipse: s-maj=8.5km s-min=4.7km az=106.7*
ISC 15 15:11:57.1±1.5, 4636N±004×15415E±002, h8km±9km, h24km±3.5km; pP-P, n560, σ0.74/544, mb5.2/118, MS5.1/4, 98C-99D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.52**	**16**	*e*PN	**Pg**	**15 13 25.0**	**+1.4**
SKR				pmax	pmax		
	comp=N,2μm,1.0s						
SKR				pmax	pmax		
	comp=E,1μm,1.0s						
SKR				pmax	pmax		
	comp=Z,280nm,0.7s						
PET	**Petropavlovsk**	**7.28**	**22**	*e*PN	**Pn**	**15 13 43.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.87**	**278**	*e*PN	**Pn**	**15 13 50.0**	**-1.8**
YSS	**Yuzh-Sakhalins**	**7.87**	**278**	*e*P	**Pn**	**15 13 50.1**	**-1.7**
ASAJ	**Asahikawa**	**8.46**	**259**	Pn	**Pn**	**15 13 59.6**	**-0.3**
	comp=Z,8.7nm,0.3s,baz=74,slow=17,SNR=2.0						
ASAJ	**Asahikawa**	**8.46**	**259**	PN	**Pn**	**15 13 59.7**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HABR	**Khabarovsk**	**13.11**	**286**	*e*PN	**Pn**	**15 15 09.3**	**+5.7**
MA2	**Magadan**	**13.39**	**353**	*e*PN	**Pn**	**15 15 08.1**	**+0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**15.32**	**289**	*e*P	**Pn**	**15 15 33.6**	**0.0**
KLR				pmax	pmax		
	comp=E,96nm,1.6s						
KLR				pmax	pmax		
	comp=Z,80nm,1.6s						
MAJO	**Matsushiro**	**15.44**	**236**	*e*P	**Pn**	**15 15 31.8**	**-3.4**
MAT	**Matsushiro**	**15.44**	**236**	P	**Pn**	**15 15 31.6**	**-3.6**
MJAR	**Matsushiro Arr**	**15.44**	**236**	Pn	**Pn**	**15 15 33.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=34,slow=11,SNR=9.1						
SEY	**Seymchan**	**16.64**	**357**	*e*P	**Pn**	**15 15 50.2**	**-0.4**
MDJ	**Mudanjiang**	**17.30**	**273**	*e*Pn	**Pn**	**15 15 59.2**	**+0.3**
CN2	**Changchun**	**20.38**	**273**	*e*P	**P**	**15 16 31.6**	**-2.7**
CN2				AMB	AMB		
	comp=Z,40nm,0.6s						
CLNS	**Chul'man**	**20.82**	**311**	*e*P	**P**	**15 16 38.8**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,56nm,0.9s						
CLNS				pmax	pmax		
	comp=N,48nm,1.0s						
CLNS				pmax	pmax		
	comp=E,39nm,1.1s						
YAK	**Yakutsk**	**21.04**	**327**	*e*P	**P**	**15 16 40.4**	**-0.9**
YAK				*e**PP		15 16 50.5	
YAK				*e*S	**S**	**15 20 34.3**	**-1.4**
YAK				*e*		15 20 46.4	
YAK				*e**SS	sS	15 20 47.4	+8.2
YAK				*e*SS		15 20 57.5	
YAK				*e*SSS		15 21 14.1	
YAK				pmax	pmax		
	comp=Z,54nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,33nm,1.5s						
YAK				pmax	pmax		
	comp=E,40nm,1.5s						
YAK				smax			
	comp=N,34nm,1.0s						
YAK				smax			
	comp=Z,66nm,1.0s						
YAK				smax			
	comp=E,89nm,1.4s						
YAK				MLR	MLR		
	comp=Z,3μm,15.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,3μm,12.0s						
YAK	**Yakutsk**	**21.04**	**327⇑**	*e*P	**P**	**15 16 40.6**	**-0.7**
KSRS	**Korea Array**	**21.38**	**255**	P	**P**	**15 16 46.0**	**+1.0**
	comp=N,34nm,0.8s,mb4.7,baz=59,slow=10.0,SNR=8.6						
JNU	**Nakatsue**	**22.15**	**242**	P	**P**	**15 16 52.1**	**-1.2**
	comp=N,39nm,0.8s,mb4.9,baz=259,slow=22,SNR=1.8						
INCN	**Inchon**	**22.23**	**256**	*e*P	**P**	**15 16 55.2**	**+1.1**
	SNR=6.2						
INCN	**Inchon**	**22.23**	**256**	*e*P	**P**	**15 16 54.9**	**+0.8**
	comp=N,150nm,1.3s,mb5.3						
SNY	**Shenyang**	**22.34**	**269**	⇑P	**P**	**15 16 55.3**	**-0.1**
SNY				AMB	AMB		
	comp=Z,134nm,0.7s,mb5.5						
BILL	**Bilibino**	**22.62**	**12**	*e*P	**P**	**15 16 57.6**	**-0.7**
BILL				pmax	pmax		
	comp=Z,95nm,1.0s,mb5.2						
BILL	**Bilibino**	**22.62**	**12**	*e*P	**P**	**15 16 57.7**	**-0.6**
HIA	**Hailar**	**23.17**	**290**	*e*P	**P**	**15 17 02.7**	**-1.4**
DL2	**Dalian**	**24.93**	**264**	P	**P**	**15 17 24.8**	**+4.1**
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
BJI	**Beijing**	**28.20**	**271**	*e*P	**P**	**15 17 53.0**	**+2.8**
BJI				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.1						
BJI	**Beijing**	**28.20**	**271**	*e*P	**P**	**15 17 53.0**	**+2.8**
	comp=Z,44nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**28.21**	**271**	P	**P**	**15 17 52.5**	**+2.2**
BJT				pmax	pmax		
	comp=Z,33nm,0.8s						
BJT	**Baijiatuau**	**28.21**	**271**	P	**P**	**15 17 52.5**	**+2.2**
	comp=Z,33nm,0.8s,mb5.0						
TIA	**Tai'an**	**29.38**	**263**	*e*P	**P**	**15 18 00.8**	**+0.1**
NJ2	**Nanjing**	**30.58**	**255**	*e*P	**P**	**15 18 16.4**	**+5.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.5						
HHC	**Hu-ho-hao-te**	**31.04**	**275**	*e*P	**P**	**15 18 16.4**	**+1.0**
HHC				XP	sP	15 18 24.4	+5.7
HHC				PP	PP	15 19 18.8	-6.6
HHC				AMB	AMB		
	comp=Z,94nm,1.0s,mb5.6						
HHC				AMB	AMB		
	comp=Z,2μm,9.9s						
ULN	**Ulaanbaatar**	**31.70**	**290**	*e*P	**P**	**15 18 20.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**31.70**	**290**	*e*P	**P**	**15 18 20.4**	**-0.8**
	comp=Z,19nm,1.0s,mb4.9						
SONM	**Songino Array**	**32.14**	**290**	P	**P**	**15 18 23.5**	**-1.5**
	comp=Z,5.1nm,0.9s,baz=63,slow=7.9,SNR=6.4						
SONM				PcP	PcP	15 21 13.8	-0.3
	comp=Z,5.9nm,1.0s,baz=114,slow=2.3,SNR=9.3						
IRK	**Irkutsk**	**32.51**	**299**	*e*P	**P**	**15 18 26.4**	**-1.9**
IRK				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
TLY	**Talaya**	**32.99**	**298**	⇓P	**P**	**15 18 31.9**	**-0.7**
	SNR=5.2						
TLY	**Talaya**	**32.99**	**298**	*e*P	**P**	**15 18 31.7**	**-0.9**
TLY				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
ZAK	**Zakamensk**	**33.49**	**296**	*e*P	**P**	**15 18 36.2**	**-0.7**
ZAK				*e*		15 21 17.1	
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
IMA2	**Indian Mountai**	**33.70**	**35**	*e*P	**P**	**15 18 38.9**	**+0.2**
KDAK	**Kodiak Island**	**33.79**	**51**	P	**P**	**15 18 37.9**	**-1.6**
	comp=Z,59nm,0.7s,mb5.6,baz=294,slow=5.9,SNR=26						
WHN	**Wuhan**	**34.53**	**257**	⇓P	**P**	**15 18 46.3**	**+0.4**
PMR	**Palmer**	**35.38**	**44**	*e*P	**P**	**15 18 52.5**	**-0.8**
PMR				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
PMR	**Palmer**	**35.38**	**44**	*e*P	**P**	**15 18 52.5**	**-0.8**
	comp=Z,39nm,1.0s,mb5.3						
MCK	**McKinley**	**35.49**	**40**	*e*P	**P**	**15 18 53.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
MCK	**McKinley**	**35.49**	**40**	*e*P	**P**	**15 18 53.9**	**-0.2**
	comp=Z,39nm,1.1s,mb5.2						
QZH	**Quanzhou**	**35.51**	**245**	P	**P**	**15 18 55.5**	**+1.1**
QZH				AMB	AMB		
	comp=Z,440nm,1.8s,mb6.1						
COLA	**College**	**36.00**	**38**	*e*P	**P**	**15 18 57.6**	**-1.0**
COLA	**College**	**36.00**	**38**	*e*P	**P**	**15 18 57.7**	**-0.9**
XAN	**Xi'an**	**36.20**	**267**	P	**P**	**15 19 00.8**	**+0.5**
XAN				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.1						
DIV	**Divide**	**37.02**	**44**	*e*P	**P**	**15 19 07.3**	**0.0**
	comp=Z,158nm,0.9s,mb5.8						
MENT	**Mentasta**	**37.85**	**41**	*e*P	**P**	**15 19 14.5**	**+0.2**
LZH	**Lanzhou**	**38.62**	**273**	⇑P	**P**	**15 19 23.1**	**+2.3**
LZH				AP	pP	15 19 30.5	+7.3
LZH				XP	sP	15 19 34.1	+10
LZH				PP	PP	15 20 53.0	+3.9
LZH				AMB	AMB		
	comp=Z,260nm,1.4s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1μm,5.5s						
LZH				LR	LR		
	comp=E,3μm,15.3s						
LZH				LR	LR		
	comp=Z,5μm,18.0s,MS5.4						
LZH	**Lanzhou**	**38.62**	**273**	⇑P	**P**	**15 19 23.1**	**+2.3**
LZH				*PP	pP	15 19 30.5	+7.3
LZH				*SP	sP	15 19 34.1	+10
LZH						15 20 53.0	
LZH				pmax	pmax		
	comp=Z,260nm,1.4s,mb5.8						
LZH				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.4						
LZH	**Lanzhou**	**38.62**	**273**	⇑P	**P**	**15 19 23.1**	**+2.3**
	comp=Z,260nm,1.4s,mb5.8						
LZH				pP	pP	15 19 30.5	+7.3
LZH				sP	sP	15 19 34.1	+10
LZH				PP	PP	15 20 53.0	+3.9
LZH				LR	LR		
	comp=Z,5μm,18.0s,MS5.4						
EGAK	**Eagle**	**38.86**	**38**	*e*P	**P**	**15 19 22.3**	**-0.5**
	comp=Z,92nm,1.0s,mb5.5						
DAWY	**Dawson**	**39.69**	**39**	*e*P	**P**	**15 19 29.5**	**-0.2**
GTA	**Gaotai**	**39.74**	**280**	*e*P	**P**	**15 19 31.5**	**+1.3**
GTA				AP	pP	15 19 39.1	+6.6
GTA				XP	sP	15 19 43.5	+10
GTA				PP	PP	15 21 07.5	+6.1
GTA				PPP		15 21 32.3	
GTA				AMB	AMB		
	comp=Z,46nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,2μm,8.0s						
GTA				LR	LR		
	comp=N,913nm,16.0s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,17.5s,MS5.0						
GTA				LR	LR		
	comp=Z,3μm,16.7s,MS5.2						
CD2	**Chengdu**	**41.57**	**266**	P	**P**	**15 19 46.3**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**41.60**	**32**	P	**P**	**15 19 45.7**	**+0.2**
	comp=Z,31nm,0.8s,mb5.0,baz=290,slow=6.7,SNR=16						
INK	**Inuvik**	**41.60**	**32**	P	**P**	**15 19 45.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,31nm,0.8s						
INK	**Inuvik**	**41.60**	**32**	*e*P	**P**	**15 19 45.8**	**+0.3**
	comp=Z,836nm,0.9s,mb6.4						
GYA	**Guiyang**	**42.34**	**259**	⇓*i*P	**P**	**15 19 51.5**	**0.0**
GYA				AP	pP	15 19 55.8	+1.9
GYA				XP	sP	15 19 58.8	+3.9
GYA				PP	PP	15 21 33.3	+3.8
GYA				PCP	PcP	15 21 43.5	-1.5
GYA				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,970nm,5.0s						
GYA				LR	LR		
	comp=N,970nm,17.9s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,17.6s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,17.4s,MS5.0						
ZAL	**Zalesovo**	**43.44**	**306**	P	**P**	**15 19 58.1**	**-2.3**
	comp=Z,3.2nm,0.4s,mb4.4,baz=45,slow=9.7,SNR=8.7						
ZAL				PcP	PcP	15 21 47.6	-1.0
	comp=Z,6.9nm,0.8s,baz=35,slow=4.5,SNR=8.0						
NVS	**Novosibirsk**	**43.99**	**308**	*e*P	**P**	**15 20 02.9**	**-2.1**
NVS				pmax	pmax		
	comp=N,30nm,2.2s						
NVS				pmax	pmax		
	comp=E,48nm,2.2s						
NVS				pmax	pmax		
	comp=Z,60nm,2.2s,mb4.9						
WMQ	**Urumqi**	**45.74**	**292**	P	**P**	**15 20 17.0**	**-1.8**
KMI	**Kunming**	**45.88**	**261**	P	**P**	**15 20 20.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.8						
KMI	**Kunming**	**45.88**	**261**	P	**P**	**15 20 20.7**	**+0.7**
KMI				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
KMI	**Kunming**	**45.88**	**261**	P	**P**	**15 20 20.7**	**+0.7**
	comp=Z,18nm,1.5s,mb4.8						
MK31	**Makanchi Array**	**47.76**	**298**	*e*P	**P**	**15 20 34.0**	**-0.7**
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**15 20 33.9**	**-0.7**
	comp=Z,22nm,0.8s,mb5.2,baz=64,slow=8.2,SNR=24						
MKAR				PcP	PcP	15 22 03.4	-0.3
	comp=Z,3.9nm,0.6s,baz=60,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**15 20 33.9**	**-0.7**
MKAR				PcP	PcP	15 22 03.4	-0.3
KURK	**Kurchatov**	**48.18**	**304**	P	**P**	**15 20 37.5**	**-0.4**
	comp=Z,243nm,0.9s,mb6.2,SNR=9.6						
KURK	**Kurchatov**	**48.18**	**304**	⇑P	**P**	**15 20 36.8**	**-1.1**
	SNR=8.8						
KURK	**Kurchatov**	**48.18**	**304⇑**	*e*P	**P**	**15 20 36.0**	**-1.9**
ALE	**Alert**	**50.06**	**6**	P	**P**	**15 20 51.2**	**-1.1**
	comp=Z,90nm,0.7s,mb5.9,SNR=6.1						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**15 20 57.5**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0,baz=298,slow=7.6,SNR=6.2						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**15 20 57.5**	**-0.5**
LSA	**Lhasa**	**51.01**	**274**	*e*P	**P**	**15 21 01.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
LSA	**Lhasa**	**51.01**	**274**	*e*P	**P**	**15 21 01.2**	**+1.7**
	comp=Z,13nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**15 21 00.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**15 21 00.4**	**-0.7**
	comp=Z,35nm,0.6s,mb5.5						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**15 21 03.5**	**-0.9**
	comp=Z,14nm,0.7s,mb5.0,baz=54,slow=8.1,SNR=20						
BVAR				PcP	PcP	15 22 17.1	-0.8
	comp=Z,9.2nm,0.8s,baz=94,slow=4.5,SNR=6.4						
BRVK	**Borovoye**	**51.70**	**310**	⇑P	**P**	**15 21 05.0**	**+0.3**
	SNR=6.3						
BRVK	**Borovoye**	**51.70**	**310⇑**	*e*P	**P**	**15 21 05.0**	**+0.3**
KBS	**Kingsbay**	**52.99**	**351**	*e*P	**P**	**15 21 14.3**	**0.0**
KBS				AMb	AMB	15 21 19.7	
	comp=Z,109nm,1.5s,mb5.6						
KBS	**Kingsbay**	**52.99**	**351⇑**	*e*P	**P**	**15 21 13.3**	**-1.0**
SHL	**Shillong**	**53.08**	**270**	*e*P	**P**	**15 21 13.9**	**-1.0**
SPB4	**Spitsbergen Ar**	**53.12**	**350**	*e*P	**P**	**15 21 14.7**	**-0.5**
ULHL	**Ulahol**	**53.78**	**296**	P	**P**	**15 21 21.1**	**+1.1**
	SNR=10						
TKM2	**Tolmak 2**	**53.81**	**297**	P	**P**	**15 21 21.6**	**+1.3**
	SNR=7.4						
USP	**Ospenovka**	**54.30**	**298**	P	**P**	**15 21 24.6**	**+0.7**
	SNR=21						
KBK	**Karagaybulak**	**54.36**	**297**	P	**P**	**15 21 25.7**	**+1.4**
	SNR=8.1						
FRU	**Bishkek**	**54.47**	**297**	*e*P	**P**	**15 21 26.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,80nm,2.3s,mb5.2						
KZA	**Kyzart**	**54.49**	**296**	P	**P**	**15 21 25.6**	**+0.4**
	SNR=5.2						
C05A	**Tolt Reservoir**	**54.59**	**56**	⇑P	**P**	**15 21 25.6**	**-0.4**
	baz=54						
AAK	**Ala-Archa**	**54.65**	**297**	P	**P**	**15 21 27.2**	**+0.8**
	SNR=24						
AAK	**Ala-Archa**	**54.65**	**297**	P	**P**	**15 21 26.8**	**+0.4**
	SNR=9.1						
AAK	**Ala-Archa**	**54.65**	**297⇑**	*e*P	**P**	**15 21 26.5**	**+0.1**
D05A	**Enumclaw**	**54.69**	**56**	⇓P	**P**	**15 21 26.5**	**-0.2**
	baz=54						
SOKR	**Solikamsk**	**54.85**	**322**	*e*P	**P**	**15 21 24.7**	**-3.1**
SOKR				*e*		15 21 39.2	
SOKR				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
B07A	**Winthrop**	**55.06**	**54**	⇑P	**P**	**15 21 29.3**	**-0.1**
	baz=55						
EKS2	**Erkin-Say**	**55.08**	**298**	P	**P**	**15 21 30.4**	**+0.9**
	SNR=22						
F04A	**Amboy**	**55.11**	**58**	⇓P	**P**	**15 21 29.4**	**-0.3**
	baz=55						
E05A	**Randle**	**55.16**	**57**	⇓P	**P**	**15 21 29.9**	**-0.2**
	baz=55						
A08A	**Turner Farm, O**	**55.27**	**53**	⇓P	**P**	**15 21 30.8**	**-0.1**
	baz=55						
D06A	**Cle Elum**	**55.34**	**56**	⇓P	**P**	**15 21 31.3**	**-0.1**
	baz=55						
AML	**Almayashu**	**55.42**	**297**	P	**P**	**15 21 33.9**	**+1.9**
	SNR=9.8						
C07A	**Waterville**	**55.51**	**55**	⇓P	**P**	**15 21 32.0**	**-0.6**
	baz=55						
B08A	**Colville Reser**	**55.56**	**54**	⇓P	**P**	**15 21 32.5**	**-0.5**
	baz=55						
E06A	**Yakima**	**55.62**	**56**	⇓P	**P**	**15 21 34.1**	**+0.8**
	baz=55						
A09A	**Danville**	**55.64**	**53**	P	**P**	**15 21 33.7**	**+0.2**
	baz=56,SNR=7.2						
EBG	**Ellensburg**	**55.65**	**56**	P	**P**	**15 21 33.9**	**+0.2**
SSOR	**Sweet Springs**	**55.68**	**59**	P	**P**	**15 21 34.6**	**+0.7**
I03A	**Eugene**	**55.68**	**60**	⇓P	**P**	**15 21 34.0**	**+0.2**
	baz=56						
JIRN	**Jiri**	**55.70**	**276**	*e*P	**P**	**15 21 35.5**	**+1.5**
GUN	**Gumba**	**55.75**	**276**	*e*P	**P**	**15 21 35.0**	**+0.6**
	comp=Z,75nm,0.9s,mb5.7						
ARU	**Arti**	**55.78**	**318**	P	**P**	**15 21 34.6**	**0.0**
	comp=Z,758nm,0.5s,SNR=17						
ARU	**Arti**	**55.78**	**318⇑**	*e*P	**P**	**15 21 33.4**	**-1.2**
J02A	**Umpqua**	**55.84**	**61**	⇓P	**P**	**15 21 35.7**	**+0.7**
	baz=56,SNR=6.4						
PMG	**Port Moresby**	**55.87**	**188**	P	**P**	**15 21 33.8**	**-1.4**
	comp=Z,6.6nm,1.0s,mb4.6,baz=324,slow=5.6,SNR=5.5						
H04A	**Detroit Lake**	**55.94**	**59**	⇑P	**P**	**15 21 35.5**	**-0.2**
	baz=56						
C08A	**Higginbotham F**	**56.03**	**54**	⇑P	**P**	**15 21 36.2**	**-0.2**
	baz=56						
EDM	**Edmonton**	**56.06**	**46**	*e*P	**P**	**15 21 35.5**	**-1.1**
G05A	**Wamic**	**56.14**	**58**	⇑P	**P**	**15 21 37.3**	**+0.1**
	baz=56						
F06A	**Goldendale**	**56.16**	**57**	⇓P	**P**	**15 21 37.2**	**-0.1**
	baz=56						
B09A	**Rice**	**56.18**	**53**	⇓P	**P**	**15 21 37.3**	**-0.1**
	baz=56						
A10A	**Northport**	**56.20**	**52**	⇓P	**P**	**15 21 37.2**	**-0.4**
	baz=56						
J03A	**Ideyld Park**	**56.21**	**61**	⇓P	**P**	**15 21 37.8**	**+0.2**
	baz=56						
K02A	**Glendale**	**56.23**	**61**	⇑P	**P**	**15 21 37.8**	**0.0**
	baz=56						
KKN	**Kakani**	**56.24**	**276**	*e*P	**P**	**15 21 38.4**	**+0.5**
	comp=Z,197nm,1.2s,mb6.0						
E07A	**Sunnyside**	**56.26**	**56**	⇑P	**P**	**15 21 38.2**	**+0.3**
	baz=56						
IRO	**Indian Ridge**	**56.28**	**60**	P	**P**	**15 21 38.7**	**+0.6**
PKI	**Pulchoki**	**56.29**	**276**	*e*P	**P**	**15 21 39.0**	**+0.8**
I04A	**Tendick Farm,**	**56.30**	**60**	P	**P**	**15 21 38.9**	**+0.6**
	baz=56,SNR=7.4						
OD2	**Odessa Site #2**	**56.44**	**55**	P	**P**	**15 21 38.5**	**-0.8**
C09A	**Chrisman Ranch**	**56.46**	**54**	⇑P	**P**	**15 21 39.1**	**-0.4**
	baz=56						
DMN	**Daman**	**56.47**	**276**	*e*P	**P**	**15 21 41.1**	**+1.6**
	comp=Z,217nm,1.2s,mb6.0						
D08A	**Wollman Farm,**	**56.51**	**55**	⇑P	**P**	**15 21 39.5**	**-0.3**
	baz=56						
H05A	**Madras**	**56.53**	**58**	⇓P	**P**	**15 21 40.4**	**+0.5**
	baz=56						
G06A	**Carlson Farm,**	**56.54**	**58**	⇑P	**P**	**15 21 40.1**	**+0.1**
	baz=56						
GKN	**Gorkha**	**56.55**	**277**	*e*P	**P**	**15 21 41.3**	**+1.2**
	comp=Z,186nm,1.1s,mb6.0						
F07A	**Phinny Hill Vi**	**56.58**	**57**	⇓P	**P**	**15 21 40.2**	**-0.1**
	baz=56						
HUMO	**Hull Mountain**	**56.64**	**61**	⇓P	**P**	**15 21 41.1**	**+0.3**
	baz=56,SNR=6.7						
E08A	**Dider Farm, El**	**56.75**	**56**	⇑P	**P**	**15 21 41.6**	**+0.1**
	baz=57						
B10A	**Chitwood Farm,**	**56.76**	**53**	⇓P	**P**	**15 21 41.2**	**-0.4**
	baz=57						
J04A	**Umpqua Nationa**	**56.80**	**60**	⇑P	**P**	**15 21 42.0**	**+0.2**
	baz=57						
NEW	**Newport**	**56.84**	**53**	P	**P**	**15 21 41.5**	**-0.7**
	comp=Z,9.7nm,0.9s,mb4.8,baz=322,slow=6.9,SNR=6.8						
D09A	**Jones Farm, Ri**	**56.85**	**55**	⇑P	**P**	**15 21 41.8**	**-0.4**
	baz=57						
A11A	**Hall Mountain,**	**56.87**	**52**	⇓P	**P**	**15 21 42.8**	**+0.4**
	baz=57						
VIPM	**Ingram Point**	**56.96**	**58**	P	**P**	**15 21 43.4**	**+0.4**
C10A	**Spilker Farm,**	**56.99**	**53**	⇑P	**P**	**15 21 43.1**	**0.0**
	baz=57						
H06A	**Lindquist Farm**	**57.00**	**58**	P	**P**	**15 21 43.1**	**-0.1**
	baz=57,SNR=6.0						
DAG	**Danmarks Havn**	**57.06**	**358⇑**	*i*P	**P**	**15 21 42.4**	**-1.3**
	comp=Z,16nm,1.1s,mb5.0						
DAG	**Danmarks Havn**	**57.06**	**358⇑**	*e*P	**P**	**15 21 42.4**	**-1.3**
DAG				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
DAG	**Danmarks Havn**	**57.06**	**358⇑**	*e*P	**P**	**15 21 42.4**	**-1.3**
	comp=Z,16nm,1.1s,mb5.0						
G07A	**Ruggs Ranch, H**	**57.09**	**57**	⇓P	**P**	**15 21 43.8**	**-0.1**
	baz=57						
B11A	**Sandpoint**	**57.16**	**52**	⇑P	**P**	**15 21 44.9**	**+0.5**
	baz=57						
E09A	**Wood Farm, Sta**	**57.26**	**55**	P	**P**	**15 21 45.1**	**0.0**
	baz=57,SNR=6.4						
BUOR	**Burton Butte**	**57.26**	**61**	P	**P**	**15 21 45.8**	**+0.7**
A12A	**Yaak River Ran**	**57.27**	**52**	⇓P	**P**	**15 21 45.5**	**+0.4**
	baz=57						
J05A	**Fort Rock**	**57.30**	**60**	⇑P	**P**	**15 21 45.

WDC **Whiskeytown Da** 58.07 63 ⇑P P 15 21 50.4 -0.4
baz=58
F10A **Beach Ranch, E** 58.09 55 ⇑P P 15 21 50.8 -0.1
baz=58
H08A **Prairie City** 58.10 57 ⇓P P 15 21 51.0 -0.1
baz=58
WALA **Waterton Lakes** 58.13 51 *e*P P 15 21 50.9 -0.4
comp=Z,56nm,1.8s,mb5.3
O02C **Red Bluff** 58.15 64 ⇑P P 15 21 51.5 +0.1
baz=58
K06A **Valley Falls** 58.16 60 ⇓P P 15 21 51.7 +0.2
baz=58,SNR=7.0
P01C **Double 8 Ranch** 58.23 65 ⇑P P 15 21 51.5 -0.4
baz=58
B13A **Whitefish** 58.23 52 P P 15 21 52.1 +0.2
baz=58,SNR=11
L05A **Lakeview** 58.25 61 ⇑P P 15 21 52.7 +0.6
baz=58,SNR=5.8
BOK **Bokaro** 58.38 272 *e*P P 15 21 52.3 -0.7
BOK AMb AMB 15 21 57.8
comp=Z,45nm,1.6s,mb5.2
J07A **Hines** 58.39 59 ⇓P P 15 21 53.3 +0.2
baz=58
ARCES **ARCESS Array B** 58.45 341 P P 15 21 52.6 -0.9
comp=Z,29nm,0.9s,mb5.3,baz=33,slow=7.2,SNR=26
ARE0 **ARCESS Array S** 58.45 341 *e*P P 15 21 53.1 -0.4
M05C **Lookout** 58.47 62 P P 15 21 54.2 +0.7
baz=58,SNR=7.4
GASB **Alder Springs** 58.50 64 P P 15 21 54.6 +0.7
baz=58,SNR=7.6
I08A **Drewsey** 58.51 58 ⇓P P 15 21 54.2 +0.3
baz=58
C13A **Hot Springs** 58.58 52 ⇑P P 15 21 54.4 0.0
baz=58
HATC **Hat Creek Radi** 58.59 62 ⇑P P 15 21 54.7 +0.2
baz=58
H09A **Durkee** 58.60 57 ⇓P P 15 21 54.8 +0.3
baz=58
LBCM **Butte Creek Ri** 58.65 62 P P 15 21 54.9 0.0
MOD **Modoc** 58.66 61 P P 15 21 55.3 +0.4
baz=58,SNR=8.0
HOPS **Hopland** 58.67 65 ⇓P P 15 21 54.3 -0.7
baz=58
O03C **Acorn Hollow,** 58.73 63 ⇑P P 15 21 54.8 -0.6
baz=59
F11A **Grangeville** 58.75 55 P P 15 21 55.6 +0.1
baz=59,SNR=5.9
K07A **Rock Creek Ran** 58.83 59 P P 15 21 56.5 +0.4
baz=59,SNR=7.4
J08A **Circle Bar Ran** 58.89 58 P P 15 21 57.0 +0.5
baz=59,SNR=5.1
I09A **Lost Marbles R** 58.96 57 ⇑P P 15 21 57.2 +0.2
baz=59
M06C **Likely Place G** 58.96 61 ⇑P P 15 21 57.2 +0.2
baz=59
G11A **Walters Elk Ra** 58.97 55 ⇓P P 15 21 56.9 -0.2
baz=59
D13A **Huson** 58.98 53 P P 15 21 56.9 -0.3
baz=59,SNR=5.7
TMCR **Tamitsa** 59.01 333 *e*P P 15 21 56.8 -0.6
TMCR pmax pmax
comp=Z,136nm,1.6s,mb5.7
O04C **Chester** 59.12 63 ⇓P P 15 21 58.6 +0.5
baz=59
MNRC **McLaughlin Nat** 59.13 65 ⇑P P 15 21 58.3 +0.1
baz=59
ELFS **Eagle Lake Fie** 59.16 62 P P 15 21 59.1 +0.7
baz=59,SNR=7.0
L07A **Adell** 59.17 60 P P 15 21 59.1 +0.6
baz=59,SNR=5.6
K08A **Mann Creek Ran** 59.26 59 P P 15 21 59.4 +0.3
baz=59,SNR=8.2
J09A **Fry Pan Ranch,** 59.32 58 P P 15 22 00.0 +0.5
baz=59,SNR=6.7
KTK1 **Kautokeino** 59.37 342 *e*P P 15 22 00.6 +0.7
KTK1 AMb AMB 15 22 06.7
comp=Z,78nm,2.0s,mb5.4
KTK1 **Kautokeino** 59.37 342 *e*P P 15 22 00.6 +0.7
comp=Z,78nm,2.0s,mb5.4
O05C **Quincy** 59.43 63 ⇑P P 15 22 00.3 0.0
baz=59
D14A **Greenough** 59.52 52 P P 15 22 00.9 0.0
baz=59,SNR=10
AKTK **Aktyubinsk** 59.52 312 P P 15 22 00.8 -0.1
AKTK PcP PcP 15 22 47.9 -0.4
AKTO **Aktyubinsk** 59.52 312 P P 15 22 00.8 -0.1
comp=Z,11nm,0.6s,mb5.1,baz=61,slow=6.2,SNR=19
AKTO PcP PcP 15 22 47.9 -0.4
comp=Z,19nm,0.9s,baz=8.9,slow=1.7,SNR=6.8
AKTO **Aktyubinsk** 59.52 312 P P 15 22 00.8 -0.1
AKTO 15 22 47.9
AKTO pmax pmax
comp=Z,11nm,0.6s,mb5.1
E13A **Victor** 59.52 53 P P 15 22 01.2 +0.3
baz=59,SNR=5.8
H11A **Donnelly** 59.53 56 P P 15 22 00.9 0.0
baz=59,SNR=6.9
N06A **Buffalo Meadow** 59.63 61 P P 15 22 01.8 +0.2
baz=59,SNR=9.0
M07A **Soldier Meadow** 59.65 61 P P 15 22 02.4 +0.6
baz=60,SNR=9.9
L08A **Fields** 59.66 59 P P 15 22 02.3 +0.4
baz=60,SNR=8.3
K09A **Rome** 59.73 59 P P 15 22 02.4 +0.1
baz=60,SNR=7.0
CHMT **Chamberlain Mo** 59.76 52 *e*P P 15 22 02.0 -0.5
TRO **Tromso** 59.76 343 *e*P P 15 22 01.9 -0.7
TRO AMb AMB 15 22 05.2
comp=Z,99nm,1.1s,mb5.7
TRO **Tromso** 59.76 343 *e*P P 15 22 01.9 -0.7
comp=Z,99nm,1.1s,mb5.8
F13A **Darby** 59.83 54 P P 15 22 02.7 -0.3
baz=60,SNR=9.6
BEKR **Beckwourth** 59.84 63 ⇓P P 15 22 02.5 -0.6
baz=60
THN **Thein Dam** 59.84 287 *e*P P 15 22 04.2 +1.1
E14A **Clinton** 59.92 53 ⇑P P 15 22 03.9 +0.3
baz=60
O06A **Flanigan** 59.98 62 ⇑P P 15 22 04.1 +0.1
baz=60
P05C **Yuba Gap, Truc** 60.02 63 ⇑P P 15 22 04.0 -0.3
baz=60
D15A **Lincoln** 60.08 52 ⇑P P 15 22 04.8 0.0
baz=60
N07B **Gerlach** 60.13 61 P P 15 22 05.7 +0.5
baz=60,SNR=8.6
L09A **Wilkinson Ranc** 60.17 59 ⇓P P 15 22 05.5 +0.1
baz=60
F14A **Wisdom** 60.35 54 ⇓P P 15 22 06.7 0.0
baz=60
E15A **Deer Lodge** 60.39 53 P P 15 22 06.8 -0.1
baz=60,SNR=11
ORR **Orenburg** 60.43 315 *e*P P 15 22 07.2 +0.1
ORR pmax pmax
comp=Z,40nm,0.7s,mb5.6
WCN **Washoe City** 60.55 63 P P 15 22 08.5 +0.6
baz=60,SNR=5.4
O07A **Toulon** 60.56 61 P P 15 22 08.4 +0.4
baz=60,SNR=9.6
N08A **GE Springer Mi** 60.64 61 P P 15 22 08.7 +0.1
baz=60,SNR=7.9
M09A **Marrel Ranch,** 60.66 60 ⇓P P 15 22 08.9 +0.2
baz=60
R05C **Kirkwood Meado** 60.72 63 P P 15 22 09.0 -0.1
baz=60,SNR=5.6
F15A **Butte** 60.82 53 P P 15 22 09.9 +0.1
baz=61,SNR=13
O08A **Rochester Mine** 60.92 61 ⇓P P 15 22 10.9 +0.4
baz=61
CMB **Columbia Colle** 60.93 64 P P 15 22 10.3 -0.2
baz=61,SNR=6.0
N09A **Rock Creek Ran** 60.96 60 P P 15 22 10.9 +0.2
baz=61,SNR=9.5
PACP **Pacheco Peak** 60.99 66 ⇓P P 15 22 10.8 -0.1
baz=61
SUMG **Summit** 61.04 4 *e*P P 15 22 11.9 +0.6
comp=Z,46nm,1.0s,mb5.6
M10A **I.L. Ranch, Tu** 61.14 59 ⇓P P 15 22 12.0 0.0
baz=61
NDI **New Delhi** 61.18 282 *e*P P 15 22 12.4 +0.1
NDI AMb AMB 15 22 15.1
comp=Z,30nm,0.8s,mb5.5
HAST **UC Hastings Re** 61.21 66 ⇑P P 15 22 12.1 -0.4
baz=61
R06C **Coleville** 61.21 63 P P 15 22 12.9 +0.4
baz=61,SNR=7.2
G15A **Dillon** 61.24 54 P P 15 22 12.6 -0.1
baz=61,SNR=9.5

MCMT **McKenzie Canyo** 61.25 54 *e*P P 15 22 12.3 -0.4
P08A **Dixie Valley** 61.33 61 ⇓P P 15 22 13.2 -0.1
baz=61
S06C **San Francisco** 61.36 64 P P 15 22 13.2 -0.2
baz=61,SNR=8.7
S05C **Merced** 61.39 65 ⇑P P 15 22 13.4 -0.3
baz=61
O09A **Fish Creek Ran** 61.58 61 P P 15 22 15.6 +0.6
baz=61,SNR=7.3
M11A **Holland Ranch,** 61.64 59 P P 15 22 16.2 +0.8
baz=62,SNR=5.6
R07C **Lee Vining** 61.73 63 P P 15 22 16.5 +0.5
baz=62,SNR=8.9
O10A **Cortez Mining,** 61.92 60 ⇓P P 15 22 17.8 +0.5
baz=62
Q08A **Gabbs** 61.94 62 P P 15 22 17.6 +0.2
baz=62,SNR=11
KAKA **Kakadu** 61.96 204 *e*P P 15 22 16.5 -1.0
comp=Z,53nm,0.6s,mb5.8
T06C **Millerton Lake** 61.99 65 ⇓P P 15 22 17.4 -0.3
baz=62
P09A **Austin** 61.99 61 ⇓P P 15 22 17.5 -0.2
baz=62
KCC **Kaiser Creek** 62.03 64 P P 15 22 17.9 -0.1
baz=62,SNR=5.7
QLMT **Earthquake Lak** 62.04 53 *e*P P 15 22 18.0 0.0
N11A **Elko Archery C** 62.05 59 ⇑P P 15 22 18.8 +0.7
baz=62
V04C **Ramage Ranch,** 62.11 67 ⇑P P 15 22 18.9 +0.3
baz=62
MLAC **Mammoth Lakes** 62.14 64 ⇑P P 15 22 19.4 +0.7
baz=62
R08A **Mina** 62.15 63 ⇑P P 15 22 18.9 +0.1
baz=62
M12A **Wells** 62.17 58 P P 15 22 19.7 +0.8
baz=62,SNR=8.4
P10A **Eureka** 62.36 61 ⇑P P 15 22 20.8 +0.6
baz=62
YMR **Madison River** 62.40 53 *e*P P 15 22 20.9 +0.5
comp=Z,14nm,0.8s,mb5.1
GCMT **Greycliff** 62.41 52 *e*P P 15 22 20.9 +0.3
Q09A **Carvers** 62.41 62 ⇑P P 15 22 21.1 +0.5
baz=62
N12A **Clover Valley,** 62.44 59 P P 15 22 21.3 +0.5
baz=62,SNR=6.1
MTUM **Tungsten Hills** 62.49 64 *e*P P 15 22 21.2 +0.2
O11A **Cowboy Ranch,** 62.52 60 P P 15 22 21.6 +0.3
baz=62,SNR=6.5
HELL **Mitchell Peak,** 62.62 65 P P 15 22 21.3 -0.6
baz=62,SNR=11
S08C **White Mtn Res** 62.64 63 ⇑P P 15 22 22.1 0.0
baz=62
M13A **Montello** 62.64 58 P P 15 22 22.4 +0.3
baz=62,SNR=8.3
P11A **Circle Ranch,** 62.83 60 ⇑P P 15 22 23.3 0.0
baz=63
R09A **Tonopah** 62.85 62 P P 15 22 23.5 0.0
baz=63,SNR=17
N13A **Wendover, West** 62.94 58 P P 15 22 24.8 +0.7
baz=63,SNR=5.8
O12A **Currie** 62.98 59 P P 15 22 24.6 +0.3
baz=63,SNR=12
S09A **Goldfield** 63.08 63 P P 15 22 24.9 -0.1
baz=63,SNR=9.0
VES **Vestal, Richgr** 63.11 65 ⇑P P 15 22 24.3 -0.9
baz=63
PKM **Peak Mountain** 63.24 67 ⇓P P 15 22 25.9 -0.1
baz=63
REDW **Red Top Meadow** 63.28 54 *e*P P 15 22 27.1 +0.7
comp=Z,80nm,1.4s,mb5.7
R10A **Warm Springs** 63.29 62 ⇑P P 15 22 26.5 +0.1
baz=63
Q11A **Duckwater** 63.33 61 ⇓P P 15 22 26.8 +0.1
baz=63
CWC **Cottonwood Cre** 63.36 64 P P 15 22 26.7 -0.2
baz=63,SNR=7.3
P12A **McGill** 63.39 60 P P 15 22 27.5 +0.4
baz=63,SNR=5.8
GRAC **Grapevine Rang** 63.45 63 ⇓P P 15 22 27.8 +0.3
baz=63
ISA **Isabella** 63.61 65 P P 15 22 27.3 -1.2
baz=63,SNR=5.8
MOR8 **Moi Rana** 63.61 343 *e*P P 15 22 27.7 -0.8
MOR8 AMb AMB 15 22 31.8
comp=Z,71nm,2.4s,mb5.3
MOR8 **Moi Rana** 63.61 343 *e*P P 15 22 27.7 -0.8
comp=Z,71nm,2.4s,mb5.3
TRCR **Troy Canyon** 63.69 61 *e*P P 15 22 28.3 -0.7
Q12A **Willow Creek R** 63.71 60 P P 15 22 29.4 +0.3
baz=64,SNR=6.0
ARVC **Arvin** 63.72 66 ⇑P P 15 22 29.0 -0.2
baz=64
BSC **Santa Cruz Isl** 63.93 67 ⇑P P 15 22 30.6 0.0
baz=64
MPMC **Manual Prospec** 63.97 64 P P 15 22 30.7 -0.2
baz=64,SNR=9.4
FURC **Furnace Creek,** 64.10 64 P P 15 22 31.7 0.0
baz=64,SNR=8.5
OSI **Osito Adit** 64.11 66 ⇓P P 15 22 31.7 -0.2
baz=64
DUG **Dugway** 64.17 58 *e*P P 15 22 32.1 -0.1
DUG pmax pmax
comp=Z,31nm,1.3s,mb5.2
DUG **Dugway** 64.17 58 *e*P P 15 22 32.1 -0.1
comp=Z,31nm,1.3s,mb5.2
LRMC **Laurel Mountai** 64.22 65 P P 15 22 31.9 -0.6
baz=64,SNR=7.3
BLG **Laguna Peak** 64.22 67 ⇓P P 15 22 32.5 0.0
baz=64
AJM **Ajmer** 64.35 282 *e*P P 15 22 34.0 +0.6
AJM AMb AMB 15 22 36.7
comp=Z,53nm,1.1s,mb5.5
PDAR **Pinedale Array** 64.39 54 P P 15 22 33.5 -0.2
comp=Z,12nm,0.8s,mb4.9,baz=281,slow=2.4,SNR=20
PDAR PcP PcP 15 23 07.8 -0.3
comp=Z,7.6nm,0.9s,baz=307,slow=3.0,SNR=5.1
EDW2 **Edwards Air Fo** 64.41 66 P P 15 22 33.5 -0.2
baz=64,SNR=11
U10A **Ash Meadows, A** 64.46 63 P P 15 22 34.6 +0.5
baz=64,SNR=8.8
DECC **Green Verdugo** 64.60 66 ⇓P P 15 22 34.8 -0.2
baz=64
FIA1 **FINESS Array S** 64.69 335 *e*P P 15 22 34.6 -1.0
FINES **FINESS Array B** 64.70 335 P P 15 22 34.0 -1.7
comp=Z,16nm,0.8s,mb5.1,baz=39,slow=9.8,SNR=15
SHOC **Shoshone** 64.83 64 ⇓P P 15 22 36.6 +0.1
baz=65
NGP **Nagpur** 64.85 275 *e*P P 15 22 35.9 -0.7
NGP AMb AMB 15 22 38.1
comp=Z,78nm,2.0s,mb5.4
GSC **Goldstone** 64.88 65 ⇑P P 15 22 37.1 +0.2
baz=65
DAU **Daniels Canyon** 64.94 57 *e*P P 15 22 37.8 +0.5
BFSC **Mount Baldy St** 65.03 66 ⇑P P 15 22 37.5 -0.4
baz=65
MOS **Moscow** 65.17 326 *e*P P 15 22 36.8 -1.9
MOS pmax pmax
comp=Z,88nm,1.1s,mb5.7
TUQ **Turquoise Mtn.** 65.35 64 P P 15 22 40.0 +0.1
baz=65,SNR=7.8
V11A **Goodsprings** 65.39 63 ⇑P P 15 22 40.3 +0.1
baz=65
BBRC **Big Bear Sol-O** 65.48 66 ⇓P P 15 22 40.7 -0.1
baz=65
HEC **Hector,Ludlow** 65.48 65 P P 15 22 40.8 0.0
baz=65,SNR=6.6
U12A **Valley of Fire** 65.56 62 ⇓P P 15 22 41.4 +0.2
baz=65
MSU **Marysvale** 65.64 59 *e*P P 15 22 42.1 +0.4
TMUT **Trail Mountain** 65.70 58 *e*P P 15 22 42.3 +0.2
MURC **Murrieta** 65.73 66 ⇑P P 15 22 42.1 -0.2
baz=66
V12A **Nelson** 65.82 63 P P 15 22 43.3 +0.3
baz=66,SNR=6.3
OBN **Obninsk** 66.03 326 *e*P P 15 22 43.8 -0.5
OBN *i* 15 22 54.4
OBN *e* 15 23 10.5
OBN *i* 15 25 07.7
OBN pmax pmax
comp=Z,76nm,1.2s,mb5.6
W12A **Cal Nev Ari** 66.09 63 ⇓P P 15 22 44.4 -0.3
baz=66
PFO **Pinyon Flat Ob** 66.20 66 ⇓P P 15 22 44.9 -0.5
baz=66
SRU **San Rafael** 66.22 58 *e*P P 15 22 45.1 -0.4
SRU pmax pmax
comp=Z,23nm,0.8s,mb5.3

SRU **San Rafael** 66.22 58 *e*P P 15 22 45.1 -0.4
comp=Z,23nm,0.8s,mb5.3
BELC **Belle Mtn.** 66.23 65 ⇓P P 15 22 45.2 -0.4
baz=66
109C **Camp Elliot, M** 66.26 67 ⇓P P 15 22 45.4 -0.3
baz=66
ULM **Lac du Bonnet** 66.34 41 P P 15 22 45.5 -0.8
comp=Z,7.3nm,0.7s,mb4.8,baz=311,slow=6.9,SNR=8.6
IRM **Iron Mountain** 66.66 65 P P 15 22 48.1 -0.2
baz=66,SNR=8.1
BC3 **Big Chuckw Mtn** 66.80 65 ⇓P P 15 22 48.9 -0.3
baz=67
W13A **Hualapai Mount** 66.83 63 P P 15 22 49.3 -0.1
baz=67,SNR=7.4
X13A **Yucca** 67.20 63 P P 15 22 51.4 -0.3
baz=67,SNR=10
PDMCI **Parker Dam,Lak** 67.20 64 P P 15 22 51.4 -0.3
baz=67,SNR=5.9
W14A **Seligman** 67.25 62 P P 15 22 52.4 +0.3
baz=67,SNR=21
Y12C **Blythe** 67.32 65 ⇓P P 15 22 52.6 +0.1
baz=67
ABKT **Ailbek** 67.42 302 P P 15 22 54.1 +1.0
comp=Z,153nm,0.9s,mb6.0,SNR=7.2
VOR **Voronezh** 67.47 322 P P 15 22 51.5 -2.0
VOR pmax pmax
comp=Z,120nm,2.5s,mb5.5
GLA **Glamis** 67.59 65 ⇑P P 15 22 53.8 -0.4
baz=67
Y13A **Salome** 67.71 64 ⇓P P 15 22 55.0 0.0
baz=68
HYB **Hyderabad** 67.73 272 *i* P P 15 22 55.0 -0.1
HYB **Hyderabad** 67.73 272 *e*P P 15 22 55.0 -0.1
AGMN **Agassiz Refuge** 67.73 43 *e*P P 15 22 53.4 -1.7
comp=Z,16nm,1.0s,mb5.0
W15A **Williams** 67.77 62 P P 15 22 56.2 +0.8
baz=68,SNR=6.1
VRSR **Storozhevoye** 67.85 322 *e*P P 15 22 56.0 +0.1
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
X14A **Yava** 67.86 63 P P 15 22 56.3 +0.3
baz=68,SNR=12
Y14A **Wickenburg** 68.14 63 ⇓P P 15 22 57.7 0.0
baz=68
X15A **Humboldt** 68.25 63 P P 15 22 58.9 +0.5
baz=68,SNR=10
WRAB **Tennant Creek** 68.37 200 *d i*P P 15 22 57.5 -1.7
WB2 **Warramunga Arr** 68.38 200 *e*P P 15 22 57.8 -1.4
WRA **Warramunga Arr** 68.39 200 P P 15 22 57.9 -1.3
comp=Z,30nm,0.8s,mb5.3,baz=18,slow=6.6,SNR=31
LATR **Latur** 68.42 274 *e*x x 15 22 49.3
LATR AMb AMB 15 23 42.7
comp=Z,420nm,10.1s
Z14A **Wintersburg** 68.56 64 ⇓P P 15 23 00.5 +0.2
baz=68
NB2 **NORSAR Subarra** 68.83 342 P P 15 23 01.3 -0.7
comp=Z,23nm,0.8s,mb5.2,baz=29,slow=6.5
NOA **NORSAR Array B** 68.83 342 P P 15 23 01.6 -0.4
comp=Z,7.0nm,0.8s,mb4.7,baz=27,slow=6.4,SNR=6.9
115A **Sonoran Desert** 69.45 64 ⇓P P 15 23 06.4 +0.6
baz=69
POO **Peona** 70.21 276 ⇓*i*P P 15 23 09.5 -1.0
comp=Z,150nm,1.0s,mb5.9
KONO **Kongsberg** 70.43 342 ⇑*e*P P 15 23 10.0 -1.9
KONO **Kongsberg** 70.43 342 ⇑*e*P P 15 23 10.1 -1.8
KAD **Karad** 70.82 275 *e*P P 15 23 14.8 +0.6
KAD AMb AMB 15 23 15.9
comp=Z,56nm,0.7s,mb5.6
ANMO **Albuquerque** 71.42 59 ⇑*e*P P 15 23 16.9 -1.0
KIV **Kislovodsk** 71.58 315 *e*P P 15 23 18.8 -0.1
KIV pmax pmax
comp=Z,37nm,1.3s,mb5.2
KIV **Kislovodsk** 71.58 315 *e*P P 15 23 19.5 +0.6
ZEI **Tsey** 71.85 313 *e*P P 15 23 20.1 -0.4
ZEI *e**PP pP 15 23 31.1 +8.1
ZEI pmax pmax
comp=Z,27nm,1.0s,mb5.1
BNM **Barren Site** 71.88 59 *e*P P 15 23 20.5 -0.2
AS31 **Alice Springs** 72.07 199 *e*P P 15 23 21.4 -0.4
ASAR **Alice Springs** 72.07 199 P P 15 23 21.4 -0.4
comp=Z,28nm,0.8s,mb5.2,baz=12,slow=5.2,SNR=28
ASPA **Alice Springs** 72.07 199 *e*P P 15 23 21.4 -0.4
AKASG **Malin Array Be** 72.27 327 P P 15 23 22.1 -0.9
comp=Z,5.5nm,0.5s,mb4.7,baz=33,slow=6.0,SNR=10
GNI **Garni** 73.33 311 *e*P P 15 23 30.0 +0.7
SCHQ **Schefferville** 73.39 23 P P 15 23 28.6 -1.1
comp=Z,14nm,0.8s,mb4.9,baz=331,slow=5.5,SNR=9.2
MNGI **Mangalore** 73.41 271 *e*P P 15 23 28.7 -1.0
MNGI AMb AMB 15 23 43.6
comp=Z,29nm,0.8s,mb5.3
SIM **Simferopol'** 74.83 320 *e*P P 15 23 37.3 -0.7
SIM pmax pmax
comp=Z,22nm,1.0s,mb5.0
LVV **L'vov** 74.90 329 *e*P P 15 23 37.5 -1.0
KIS **Kishinev** 75.42 325 *e*P P 15 23 39.0 -2.5
KIS *e* 15 23 54.0
KWP **Kalwaria** 75.52 330 *e*P P 15 23 42.8 +0.7
KWP **Kalwaria** 75.52 330 *e*P P 15 23 41.8 -0.3
KWP pmax pmax
comp=Z,115nm,1.1s,mb5.7
KWP **Kalwaria** 75.52 330 *e*P P 15 23 41.8 -0.3
comp=Z,115nm,1.1s,mb5.7
OJC **Ojcow** 76.00 332 *e*P P 15 23 44.9 +0.1
STHS **Stebnicka Huta** 76.21 330 *e*P P 15 23 46.5 +0.5
STHS *e* 15 24 03.7
STHS pmax pmax
comp=Z,23nm,0.9s,mb5.1
STHS **Stebnicka Huta** 76.21 330 *e*P P 15 23 46.5 +0.5
comp=Z,23nm,0.9s,mb5.1
STHS *e* 15 24 03.7
KOLS **Kolonicke sedl** 76.27 330 *e*P P 15 23 46.3 0.0
BURAR **Bucovina Array** 76.31 327 ⇑*i*P P 15 23 46.6 +0.1
BURAR **Bucovina Array** 76.31 327 ⇑P P 15 23 46.6 +0.1
UZH **Uzhgorod** 76.52 329 *e*P P 15 23 48.6 +0.9
NIE **Niedzica** 76.52 331 *e*P P 15 23 48.5 +0.7
OKC **Ostrava-Krasne** 76.87 332 *e*P P 15 23 49.4 -0.3
UPC **Upice** 76.95 334 *e*P P 15 23 50.3 +0.1
DPC **Dobruska-Polom** 76.99 334 *e*P P 15 23 50.8 +0.4
TXAR **Lajitas Array** 77.06 61 P P 15 23 50.5 -0.3
comp=Z,21nm,0.6s,mb5.2,baz=302,slow=4.0,SNR=29
TXAR **Lajitas Array** 77.06 61 P P 15 23 50.5 -0.3
CLL **Collm** 77.11 336 ⇓*i*P P 15 23 50.1 -1.0
CLL pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLL **Collm** 77.11 336 ⇓*i*P P 15 23 50.1 -1.0
comp=Z,23nm,0.9s,mb5.1
CLL **Collm** 77.11 336 ⇓*i*P P 15 23 50.1 -1.0
comp=Z,23nm,0.9s,mb5.1
MORC **Moravsky Berou** 77.12 333 ⇑*i*P P 15 23 51.4 +0.3
MORC **Moravsky Berou** 77.12 333 P P 15 23 51.3 +0.2
MORC **Moravsky Berou** 77.12 333 ⇑P P 15 23 51.4 +0.3
VRI **Vrincioaia** 77.17 325 ⇓*i*P P 15 23 52.9 +1.5
CFR **Carcaliu** 77.18 324 ⇑*i*P P 15 23 53.7 +2.3
CFR **Carcaliu** 77.18 324 P P 15 23 53.6 +2.2
WSAR **Wadi Sarin** 77.19 290 P P 15 23 51.2 -0.3
comp=Z,10.0nm,0.9s,mb4.7,baz=67,slow=8.6,SNR=5.8
WSAR **Wadi Sarin** 77.19 290 P P 15 23 51.2 -0.3
BOYT **Boyabat** 77.23 318 *i* P P 15 23 52.6 +0.8
KECS **Kecovo** 77.27 330 *e*P P 15 23 51.9 -0.1
KECS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KECS **Kecovo** 77.27 330 *e*P P 15 23 51.9 -0.1
comp=Z,6.8nm,0.8s,mb4.6
PVCC **Panska Ves** 77.36 335 *e*P P 15 23 52.7 +0.2
ELZG **Elazig** 77.52 313 *i* P P 15 23 54.5 +1.2
TIRR **Tirgusor** 77.65 323 ⇓*i*P P 15 23 54.3 +0.2
TIRR **Tirgusor** 77.65 323 ⇓P P 15 23 54.3 +0.1
SMDO **Samad** 77.69 290 P P 15 23 55.8 +1.5
SNR=5.8
MLR **Muntele Rosu** 77.79 326 ⇓*i*P P 15 23 55.8 +0.9
MLR **Muntele Rosu** 77.79 326 ⇓P P 15 23 55.8 +0.9
HOQ **Hoqain** 77.80 291 ⇓P P 15 23 55.9 +1.0
SNR=6.4
VYHS **Vyhne** 77.81 331 *e*P P 15 23 55.1 +0.1
VYHS pmax pmax
comp=Z,35nm,1.8s,mb5.0
VYHS **Vyhne** 77.81 331 *e*P P 15 23 55.1 +0.1
comp=Z,35nm,1.8s,mb5.0
VYHS *e* 15 24 13.3
VRAC **Vranov** 77.83 333 ⇑*i*P P 15 23 54.8 -0.3
VRAC **Vranov** 77.83 333 ⇑P P 15 23 54.8 -0.3

BALT	Daday	77.85	319	*i*	P		P	15 23 55.0	-0.2		
PRU	Pruhonice	77.85	335	*e*	P		P	15 23 55.1	-0.1		
CTKT	Corum	77.91	317	*i*	P		P	15 23 55.8	+0.2		
DRGR		77.92	328	⇑	*i*	P	P	15 23 55.3	-0.3		
DRGR		77.92	328	⇑	P		P	15 23 55.3	-0.3		
MALT	Malatya	77.94	314	⇓	*i*	P	P	15 23 57.6	+1.9		
MALT	Malatya	77.94	314	⇓	P		P	15 23 57.6	+1.9		
PSZ	Piszkesteto	77.96	330	⇓	*i*	P	P	15 23 56.5	+0.7		
MOX	Moxa	78.09	337	*e*	P		P	15 23 56.3	-0.3		
JMDO	Jabal Madar	78.15	290	⇓	P		P	15 23 58.2	+1.3		
	SNR=14										
VOIR		78.19	326	⇑	*i*	P	P	15 23 57.9	+0.8		
VOIR		78.19	326	⇑	P		P	15 23 57.9	+0.8		
NKC	Novy Kostel	78.23	336	*e*	P		P	15 23 55.9	-1.4		
NKC				*e*	p	P	pP	15 24 01.5	+1.6		
BSY	Bisya	78.47	291	⇓	P		P	15 23 59.8	+1.2		
	SNR=12										
ARQ	Araqi	78.48	292	⇓	P		P	15 23 59.9	+1.2		
	SNR=6.2										
ZST	Bratislava	78.64	332	*e*	P		P	15 24 00.3	+0.7		
ZST						pmax	pmax				
	comp=Z,11nm,0.9s,mb4.8										
ZST	Bratislava	78.64	332	*e*	P		P	15 24 00.3	+0.7		
	comp=Z,11nm,0.9s,mb4.8										
ELDT	Eldivan	78.66	318	*i*	P		P	15 24 00.2	+0.5		
STKA	Stephens Creek	78.70	191	*e*	P		P	15 23 58.7	-1.2		
	comp=Z,6.9nm,0.7s,mb4.7										
STKA	Stephens Creek	78.70	191		P		P	15 23 58.7	-1.2		
	comp=Z,8.6nm,0.7s,mb4.8,baz=349,slow=4.4,SNR=15										
KHC	Kasperske Hory	78.90	335	*e*	P		P	15 24 00.6	-0.4		
KHC	Kasperske Hory	78.90	335	⇑	*e*	P	P	15 23 59.4	-1.6		
GRA1	Grafenberg Arr	79.06	337	*e*	P		P	15 24 01.7	-0.2		
	comp=Z,33nm,1.3s,mb5.1										
GRF	Grafenberg Arr	79.06	337	*e*	P		P	15 24 01.7	-0.2		
	comp=Z,33nm,1.3s,mb5.1										
GRF	Grafenberg Arr	79.06	337	*e*	P		P	15 24 01.7	-0.2		
GRF						pmax	pmax				
	comp=Z,33nm,1.3s,mb5.1										
GZR	Gura Zlata	79.09	327	⇑	*i*	P	P	15 24 02.0	0.0		
GZR	Gura Zlata	79.09	327		P		P	15 24 02.2	+0.2		
GZR	Gura Zlata	79.09	327	⇑	P		P	15 24 01.9	-0.1		
GERES	GERESS Array B	79.12	335		P		P	15 24 02.1	-0.1		
	comp=Z,3.3nm,0.7s,baz=36,slow=5.0,SNR=8.7										
BR131	Keskin Array S	79.16	317	*e*	P		P	15 24 02.9	+0.4		
	comp=Z,9.5nm,0.8s,mb4.8										
BRTR	Keskin Array B	79.16	317		P		P	15 24 03.0	+0.6		
	comp=Z,5.6nm,0.9s,mb4.5,baz=75,slow=3.8,SNR=8.4										
SGKT	Sivrigoynuk	79.22	319	*i*	P		P	15 24 01.5	-1.2		
CONA	Conrad Observa	79.27	333	⇓	*e*	P	P	15 24 03.9	+0.8		
	comp=Z,9.6nm,0.9s,mb4.7,SNR=5.2										
BZS	Buzias	79.32	328	⇓	*i*	P	P	15 24 03.3	0.0		
BZS	Buzias	79.32	328	⇓	P		P	15 24 03.3	0.0		
AVNT	Avonos	79.33	316	*i*	P		P	15 24 05.3	+1.9		
DLF	Lyons Farm	79.36	348	*e*	P		P	15 23 59.4	-4.1		
DCN	Croghan	79.42	349	*e*	P		P	15 24 00.0	-3.8		
UMR	Umm Al-Rimmam	79.44	302	*e*	P		P	15 24 04.6	+0.6		
ANTO	Ankara	79.44	318	⇓	*i*	P	P	15 24 04.9	+0.9		
ANTO	Ankara	79.44	318	⇓	P		P	15 24 04.9	+0.9		
MIB	Mutribah	79.48	302	*e*	P		P	15 24 04.5	+0.3		
SZH	Strazhica	79.65	324		P		P	15 24 08.0	+2.9		
QRN	Al-Qurain	79.92	301	*e*	P		P	15 24 07.4	+0.8		
ALLY	Alegheny Colle	79.94	38	*e*	P		P	15 24 06.3	-0.4		
NAY	Al-Naaiem	79.94	302	*e*	P		P	15 24 07.1	+0.4		
ARSA	Arzberg	79.98	333	⇑	*i*	P	P	15 24 07.5	+0.6		
	comp=Z,9.7nm,0.9s,mb4.7										
RDF	Al-Radifah	80.00	301	*e*	P		P	15 24 07.7	+0.7		
FORT	Forrest	80.33	203	*e*	P		P	15 24 08.3	-0.5		
	comp=Z,25nm,0.8s,mb5.2										
COBT	Iskenderun	80.42	314	*i*	P		P	15 24 07.0	-2.2		
ESKT	Eskisehir	80.61	319	*i*	P		P	15 24 10.4	+0.1		
PERS	Pernice	80.65	333	*e*	P		P	15 24 10.4	-0.1		
KBA	Koelnbreinsper	80.81	334	⇑	*i*	P	P	15 24 12.4	+1.0		
	comp=Z,30nm,0.8s,mb5.3										
OBKA	Obir	80.94	333	⇑	*i*	P	P	15 24 12.4	+0.3		
	comp=Z,8.6nm,0.9s,mb4.7										
BFO	Black Forest	81.09	338	*e*	P		P	15 24 12.0	-0.9		
BFO						pmax	pmax				
	comp=Z,26nm,1.2s,mb5.0										
BFO	Black Forest	81.09	338	*e*	P		P	15 24 12.0	-0.8		
	comp=Z,26nm,1.2s,mb5.0										
WATA	Walderalm	81.10	335	⇑	*i*	P	P	15 24 13.7	+0.8		
	comp=Z,20nm,0.8s,mb5.1										
GRUS	Gruza	81.14	328	*i*	P		P	15 24 12.1	-1.0		
WTTA	Wattenberg	81.15	335	⇓	*i*	P	P	15 24 13.8	+0.6		
	comp=Z,33nm,1.0s,mb5.2										
GCIS	Gornji Cirnik	81.17	332	*e*	P		P	15 24 13.0	-0.3		
DIVS	Divcibare	81.22	328	*i*	P		P	15 24 13.1	-0.4		
MOTA	Moosalm	81.23	336	⇑	*i*	P	P	15 24 14.3	+0.7		
	comp=Z,25nm,1.1s,mb5.1										
CRES	Cresnjev	81.26	332	*i*	P		P	15 24 13.4	-0.3		
WLS	Welschbruch	81.27	338	*e*	P		P	15 24 14.1	+0.3		
CDF	Champ du Feu	81.28	338	*e*	P		P	15 24 13.7	-0.2		
	comp=Z,61nm,1.1s,mb5.1										
CDF	Champ du Feu	81.28	338	*e*	P		P	15 24 13.7	-0.2		
CDF						pmax	pmax				
	comp=Z,31nm,1.1s,mb5.2										
CDF	Champ du Feu	81.28	338	*e*	P		P	15 24 13.7	-0.2		
	comp=Z,30nm,1.1s,mb5.1										
VTS	Vitosha	81.30	326	⇑	*i*	P	P	15 24 14.4	+0.4		
VTS	Vitosha	81.30	326		P		P	15 24 14.0	0.0		
SQTA	Sankt Quirin	81.31	335	⇑	*i*	P	P	15 24 14.9	+0.9		
	comp=Z,34nm,1.2s,mb5.2										
ECH	Echery	81.50	338	*e*	P		P	15 24 15.0	0.0		
FELD	Feldberg im Sc	81.59	338	*e*	P		P	15 24 15.4	-0.1		
DAVA	Damuels	81.62	336	⇑	*i*	P	P	15 24 16.4	+0.7		
	comp=Z,15nm,0.8s,mb5.0										
BBLS	Bajina Basta -	81.63	329	*i*	P		P	15 24 15.0	-0.7		
THEF	They Montfort	81.78	339	*e*	P		P	15 24 16.7	+0.2		
MOF	Molkenrain	81.84	338	*e*	P		P	15 24 16.7	-0.1		
MMB	Musomiste	81.94	325		P		P	15 24 17.0	-0.4		
DAVOX	Davos	82.09	336		P		P	15 24 19.0	+0.9		
	comp=Z,8.0nm,0.8s,mb4.7,baz=7.7,slow=6.0,SNR=5.9										
MVL	Millersville	82.91	37	*e*	P		P	15 24 20.9	-1.5		
GRR	Gorron	83.15	344	*e*	P		P	15 24 23.3	-0.4		
	comp=Z,88nm,1.1s,mb5.4										
GRR	Gorron	83.15	344	*e*	P		P	15 24 23.3	-0.4		
GRR						pmax	pmax				
	comp=Z,44nm,1.1s,mb5.4										
GRR	Gorron	83.15	344	*e*	P		P	15 24 23.3	-0.4		
	comp=Z,44nm,1.1s,mb5.4										
ELN	Prospectdale	83.30	41	*e*	P		P	15 24 23.6	-0.8		
BLA	Blacksburg	83.46	41	*e*	P		P	15 24 24.4	-0.9		
BLA						pmax	pmax				
	comp=Z,20nm,0.9s,mb5.2										
BLA	Blacksburg	83.46	41	*e*	P		P	15 24 24.4	-0.9		
	comp=Z,20nm,0.9s,mb5.2										
SMF	Signal de Mont	83.78	340	*e*	P		P	15 24 26.8	-0.1		
	comp=Z,88nm,1.0s,mb5.5										
SMF	Signal de Mont	83.78	340	*e*	P		P	15 24 26.8	-0.1		
SMF						pmax	pmax				
	comp=Z,44nm,1.0s,mb5.5										
SMF	Signal de Mont	83.78	340	*e*	P		P	15 24 26.8	-0.1		
	comp=Z,44nm,1.0s,mb5.5										
LPG	La Plagne	84.12	338	*e*	P		P	15 24 29.6	+1.0		
	comp=Z,86nm,1.0s,mb5.5										
LPG	La Plagne	84.12	338	*e*	P		P	15 24 29.6	+1.0		
LPG						pmax	pmax				
	comp=Z,43nm,1.0s,mb5.5										
LPG	La Plagne	84.12	338	*e*	P		P	15 24 29.6	+1.0		
	comp=Z,43nm,1.0s,mb5.5										
WHFO	Wadi Hawf	84.16	290	⇓	P		P	15 24 29.3	+0.4		
	SNR=34										
RBK	Rabkut	84.18	289		P		P	15 24 29.1	+0.2		
	SNR=7.9										
KLBR	Kellerberrin	84.28	211	*e*	P		P	15 24 28.1	-1.4		
	comp=Z,12nm,0.7s,mb5.2										
ABTO	Aybut	84.88	290	⇓	P		P	15 24 33.2	+0.7		
	SNR=8.1										
AQU	L'Aquila	85.03	332	⇓	*i*	P	P	15 24 40.1	+6.9		
SAOF	Saorge	85.30	337	*e*	P		P	15 24 34.7	+0.1		
AUTN	L'Aution	85.33	337	*e*	P		P	15 24 35.2	+0.5		
LUCF	Luceram	85.45	337	*e*	P		P	15 24 35.5	+0.2		
REVF	Revere	85.58	337	*e*	P		P	15 24 36.2	+0.2		
RJF	Les Rejaudoux	85.58	341	*e*	P		P	15 24 36.1	+0.1		
EIL	Elat	86.49	310	*e*	P		P	15 24 40.4	-0.1		
	comp=Z,310nm,0.8s										
TORD	Torodi Ar. Bea	115.79	330		PKP		PKPdf	15 30 38.9	-1.3		
	comp=Z,1.8nm,0.7s,baz=5.4,slow=2.1,SNR=11										
MATP	Matopo	128.97	281		PKP		PKPdf	15 31 04.8	-0.7		
	comp=Z,4.7nm,0.6s,baz=65,slow=1.4,SNR=13										
MATP	Matopo	128.97	281		PKP		PKPdf	15 31 04.8	-0.7		
MAW	Mawson	132.24	211		PKP		PKPdf	15 31 09.5	-2.2		
	comp=Z,4.4nm,0.7s,baz=308,slow=0.8,SNR=9.9										
LPAZ	La Paz	133.88	64		PKP		PKPdf	15 31 15.8	+1.0		
	comp=Z,1.9nm,0.9s,baz=6.8,slow=5.5,SNR=6.5										
LPAZ	La Paz	133.88	64		PKP		PKPdf	15 31 15.8	+1.0		
LBTB	Lobatse	134.03	279		PKP		PKPdf	15 31 14.8	-0.2		
	comp=Z,6.7nm,0.7s,baz=58,slow=3.1,SNR=10										
BOSA	Boshof	136.55	276		PKP		PKPdf	15 31 20.9	+1.1		
	comp=Z,1.9nm,0.7s,baz=24,slow=9.0,SNR=3.6										
SYO	Syowa Base	140.95	211	⇑	*e*	PKPdf	PKPdf	15 31 24.4	-3.4		
CFAA	Coronel Fontan	144.35	81		PKP		PKPdf	15 31 30.3	-3.5		
	comp=Z,1.6nm,0.7s,baz=292,slow=2.6,SNR=9.1										
USHA	Ushuaia	152.05	123		PKPbc		PKPbc	15 31 50.8	-2.1		
	comp=Z,32nm,1.1s,baz=148,slow=3.2,SNR=5.1										
SNAA	Sanae	152.38	195		PKPbc		PKPbc	15 31 50.3	-3.4		
	comp=Z,6.2nm,1.0s,baz=200,slow=2.8,SNR=12										
SNAA						PKPab	PKPab	15 32 01.1	-2.6		
	comp=Z,8.4nm,0.9s,baz=144,slow=3.0,SNR=13										
SNAA	Sanae	152.38	195	*e*	PKPdf		PKPdf	15 31 49.5	+2.6		
SNAA				*e*				15 32 00.6			
SNAA				*e*				15 32 13.9			
SNAA	Sanae	152.38	195	*e*	PKPbc		PKPbc	15 31 50.2	-3.5		
SNAA				*e*	PKPab		PKPab	15 32 01.3	-2.4		
VNA2	Neumayer--Watz	153.80	194	*e*	PKPdf		PKPbc	15 31 54.5	-2.3		
VNA2				*e*				15 31 56.1			
VNA2				*e*				15 32 07.5			
VNA2				*e*				15 32 19.8			
VNA3	Neumayer Olymp	153.87	192	*e*	PKPdf		PKPbc	15 31 54.4	-2.6		
VNA3				*e*				15 31 56.5			
VNA3				*e*				15 32 07.5			

IDC ***15*** *15:15:38.7*±*0.4, 46.76N*×*15.288E, h0*km*, mb4.6/27, mb1 4.8/28, mb1mx4.7/31, mbtmp4.7/28, ML4.0/1, Error ellipse: s-maj=15.5km s-min=11.0km az=130.0*

BJI ***15*** *15:15:38.8, 46.85N*×*153.01E, h10*km*, mB5.5, mb5.0, Ms5.2, Msz5.0*

SKHL ***15*** *15:15:40.7*±*2.9, 46.36N*×*153.46E, h50*km*±20*km*, msh5.7/2*

NEIC ***15*** *15:15:40.5*±*0.2, 46.72N*×*153.00E, h10*km*, mb5.1/21, Error ellipse: s-maj=6.2km s-min=3.6km az=142.0*

JMA ***15*** *15:15:40.8*±*1.0, 46.63N*×*153.51E, h30*km*, M5.5*

ISCJB ***15*** *15:15:41.8*±*1.1, 46.68N*±*0.03*×*153.02E*±*0.03, h29*km*±8*km*, mb4.9/65, MS4.9/5, Error ellipse: s-maj=6.1km s-min=2.7km az=127.9*

MOS ***15*** *15:15:43.0*±*1.1, 46.69N*×*153.04E, h41*km*, mb5.1/16, Error ellipse: s-maj=8.6km s-min=6.1km az=77.7*

ISC 15 15:15:45.3±0.4,**46.74N**±0.03×**152.96E**±0.03, **h41**km±4km, **h16**km±5.9km**:pP-P, n409,** σ**0s83**/425, **mb4.9**/65, **MS4.9**/5, **80C-92D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUR	**Kuril'sk**	**3.86**	**249**	⇓	*i*	P	**Pn**	**15**	**16 40.0**	**-2.1**
KUR				AMB		AMB	15	16	42.5	
	2μm,0.7s									
KUR				*e*	S		**Sn**	**15**	**17 26.0**	**-0.1**
KUR				A			15	17	44.0	
	8μm,0.8s									
KUR				A			15	17	44.0	
	5μm,0.8s									
KUR	**Kuril'sk**	**3.86**	**249**	⇓	*i*	PN	**Pn**	**15**	**16 40.0**	**-2.1**
KUR				*e*	S		**Sn**	**15**	**17 26.0**	**-0.1**
KUR				pmax		pmax				
	comp=N,1μm,0.7s									
KUR				pmax		pmax				
	comp=E,510nm,0.7s									
KUR				pmax		pmax				
	comp=Z,2μm,0.7s									
KUR				smax						
	comp=N,8μm,0.8s									
KUR				smax						
	comp=E,5μm,0.8s									
SKR	**Severo-Kuril's**	**4.47**	**27**	*e*	P		**Pn**	**15**	**16 50.5**	**0.0**
SKR				AMB		AMB	15	16	52.5	
	comp=E,650nm,0.5s									
SKR				AMB		AMB	15	16	52.5	
	comp=E,170nm,0.5s									
SKR				AMB		AMB	15	16	52.5	
	comp=E,2μm,0.5s									
SKR				*e*	S		**Sn**	**15**	**17 42.0**	**+0.8**
SKR				A			15	17	59.5	
	comp=E,730nm,0.7s									
SKR				A			15	17	59.5	
	comp=E,560nm,0.7s									
SKR				A			15	17	59.5	
	comp=E,1μm,0.5s									
SKR				A			15	18	08.0	
	comp=E,4μm,2.0s									
SKR				A			15	18	08.0	
	comp=E,3μm,2.0s									
SKR	**Severo-Kuril's**	**4.47**	**27**	*e*	PN		**Pn**	**15**	**16 50.5**	**0.0**
SKR				*e*	S		**Sn**	**15**	**17 42.0**	**+0.8**
SKR				pmax		pmax				
	comp=N,650nm,0.5s									
SKR				pmax		pmax				
	comp=E,170nm,0.5s									
SKR				pmax		pmax				
	comp=Z,2μm,0.5s									
SKR				smax						
	comp=E,1μm,0.5s									
SKR				smax						
	comp=N,730nm,0.7s									
SKR				smax						
	comp=N,4μm,2.0s									
YUK	**Yuzh-Kuril'sk**	**5.68**	**244**	*e*	P		**Pn**	**15**	**17 09.0**	**+1.9**
YUK				AMB		AMB	15	17	17.0	
	comp=N,5μm,1.0s									
YUK				*e*	S		**Sn**	**15**	**18 13.0**	**+1.9**
YUK				A			15	18	14.0	
	comp=N,8μm,3.0s									
YUK				A			15	18	14.0	
	comp=N,5μm,3.0s									
YUK	**Yuzh-Kuril'sk**	**5.68**	**244**	*e*	PN		**Pn**	**15**	**17 09.0**	**+1.9**
YUK				*e*	S		**Sn**	**15**	**18 13.0**	**+1.9**
YUK				pmax		pmax				
	comp=Z,5μm,1.0s									
YUK				smax						
	comp=N,8μm,3.0s									
YUK				smax						
	comp=E,5μm,3.0s									
NEM2	**Nemuro 2**	**6.12**	**239**	P			**Pn**	**15**	**17 12.3**	**-0.9**
NEM2				*e*	S		**Sn**	**15**	**18 18.6**	**-3.3**
JRA	**Rausu**	**6.19**	**246**	P			**Pn**	**15**	**17 16.0**	**+1.9**
JRA				*e*	S		**Sn**	**15**	**18 31.2**	**+7.5**
JNK	**Nakash**	**6.62**	**245**	P			**Pn**	**15**	**17 21.5**	**+1.4**
JNK				*e*	S		**Sn**	**15**	**18 36.3**	**+2.0**
JTKR	**Abashiri--Toko**	**6.95**	**250**	P			**Pn**	**15**	**17 26.8**	**+2.2**
JAK	**Akkeshi**	**6.96**	**241**	P			**Pn**	**15**	**17 23.9**	**-0.8**
JAK				*e*	S		**Sn**	**15**	**18 41.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.01**	**276**	*e*	P		**Pn**	**15**	**17 28.0**	**+2.7**
YSS				AMB		AMB	15	17	32.0	
	comp=E,190nm,1.0s									
YSS				AMB		AMB	15	17	32.0	
	comp=E,280nm,1.0s									
YSS				AMB		AMB	15	17	32.0	
	comp=E,90nm,0.9s									
YSS				*e*	S		**Sn**	**15**	**18 47.0**	**+3.4**
YSS				A			15	18	49.0	
	comp=E,120nm,0.7s									
YSS	**Yuzh-Sakhalins**	**7.01**	**276**	*e*	PN		**Pn**	**15**	**17 28.0**	**+2.7**
YSS				pmax		pmax				
	comp=E,280nm,1.0s									
YSS				pmax		pmax				
	comp=Z,190nm,1.0s									
YSS				pmax		pmax				
	comp=N,90nm,0.9s									
YSS	**Yuzh-Sakhalins**	**7.01**	**276**	*e*	P		**Pn**	**15**	**17 28.4**	**+3.2**
PET	**Petropavlovsk**	**7.29**	**28**	*e*	PN		**Pn**	**15**	**17 28.2**	**-1.0**
PET				pmax		pmax				
	comp=Z,149nm,0.8s									
PET				MLR		MLR				
	comp=Z,6μm,11.0s									
PET	**Petropavlovsk**	**7.29**	**28**	*e*	P		**Pn**	**15**	**17 27.6**	**-1.6**
	comp=Z,106nm,0.8s									
PET				*e*	Sn		**Sn**	**15**	**18 47.6**	**-3.0**
JMP	**Maruseppu**	**7.29**	**252**	P			**Pn**	**15**	**17 31.7**	**+2.5**
JAR	**Ashorobuto**	**7.37**	**246**	P			**Pn**	**15**	**17 31.5**	**+1.3**
JAR				*e*	S		**Sn**	**15**	**18 55.4**	**+2.9**
JSE	**Soyaes**	**7.46**	**260**	P			**Pn**	**15**	**17 36.4**	**+4.8**
JOB	**Onbets**	**7.54**	**243**	P			**Pn**	**15**	**17 32.7**	**+0.1**
JOB				*e*	S		**Sn**	**15**	**18 54.9**	**-1.8**
UGL	**Uglegorsk**	**7.69**	**292**	*e*	P		**Pn**	**15**	**17 38.0**	**+3.3**
UGL				AMB		AMB	15	17	42.0	
	comp=Z,260nm,0.9s									
UGL				*e*	S		**Sn**	**15**	**19 09.0**	**+8.5**
UGL				A			15	19	10.0	
	comp=Z,93nm,0.7s									
UGL	**Uglegorsk**	**7.69**	**292**	*e*	PN		**Pn**	**15**	**17 38.0**	**+3.3**
UGL				S			**Sn**	**15**	**19 09.0**	**+8.5**
UGL				pmax		pmax				
	comp=Z,260nm,0.9s									
UGL				smax						
	comp=N,93nm,0.7s									
ASAJ	**Asahikawa**	**7.75**	**254**	P	n		**Pn**	**15**	**17 39.0**	**+3.5**
	comp=N,19nm,0.3s,baz=92,slow=13,SNR=17									
ASAJ	**Asahikawa**	**7.75**	**254**	P			**Pn**	**15**	**17 38.9**	**+3.4**
ASAJ	**Asahikawa**	**7.75**	**254**	PN			**Pn**	**15**	**17 39.0**	**+3.5**
ASAJ				pmax		pmax				
	comp=Z,19nm,0.3s									
JKK2	**Kamakawa 2**	**7.75**	**252**	P			**Pn**	**15**	**17 38.2**	**+2.7**
JWK2	**Keihoku**	**7.83**	**264**	P			**Pn**	**15**	**17 42.7**	**+6.1**
TYV	**Tymovskoe**	**7.96**	**305**	*e*	P		**Pn**	**15**	**17 40.0**	**+1.6**
TYV				AMB		AMB	15	17	44.0	
	comp=Z,44nm,1.0s									
TYV				AMB		AMB	15	17	44.0	
	comp=Z,74nm,1.0s									
JCH	**Churui**	**7.99**	**242**	P			**Pn**	**15**	**17 38.5**	**-0.2**
JCH				*e*	S		**Sn**	**15**	**19 05.4**	**-2.3**
JFR	**Furan**	**8.18**	**248**	P			**Pn**	**15**	**17 42.8**	**+1.5**
JAB	**Ashibetsu**	**8.25**	**251**	P			**Pn**	**15**	**17 45.3**	**+2.9**
ERM	**Erimo**	**8.46**	**240**	Pn			**Pn**	**15**	**17 46.3**	**+1.1**
	comp=Z,2μm,0.6s,SNR=10									
ERM	**Erimo**	**8.46**	**240**	*d*	*i*	PN	**Pn**	**15**	**17 46.0**	**+0.8**
ERM	**Erimo**	**8.46**	**240**	*e*	P		**Pn**	**15**	**17 45.3**	**+0.1**
JEM	**Erimo**	**8.46**	**240**	P			**Pn**	**15**	**17 45.6**	**+0.4**
JBT2	**Biratori 2**	**8.52**	**246**	P			**Pn**	**15**	**17 47.2**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.55**	**242**	P			**Pn**	**15**	**17 46.0**	**-0.4**
JEW	**Eniwo**	**9.06**	**249**	P			**Pn**	**15**	**17 55.5**	**+2.0**
JNB	**Noboribetsu**	**9.51**	**248**	P			**Pn**	**15**	**17 59.6**	**-0.1**
JNB				*e*	S		**Sn**	**15**	**19 45.8**	**+0.6**
JKB	**Kayabe**	**9.83**	**245**	P			**Pn**	**15**	**18 03.1**	**-0.8**
JKB				*e*	S		**Sn**	**15**	**19 49.4**	**-3.5**
JSH	**Shimam**	**10.07**	**251**	P			**Pn**	**15**	**18 08.2**	**+1.0**
JOT	**Ohata**	**10.11**	**242**	P			**Pn**	**15**	**18 05.6**	**-2.2**
JYM2	**Yakumo 2**	**10.12**	**247**	P			**Pn**	**15**	**18 07.6**	**-0.4**
JSR	**Shiriuchi**	**10.41**	**245**	P			**Pn**	**15**	**18 10.3**	**-1.6**
JTM	**Tenmabayashi**	**10.45**	**240**	P			**Pn**	**15**	**18 10.3**	**-2.2**
JTM				*e*	S		**Sn**	**15**	**20 00.7**	**-7.6**
JANG	**Nango**	**10.46**	**237**	P			**Pn**	**15**	**18 09.1**	**-3.5**
JANG				*e*	S		**Sn**	**15**	**19 59.5**	**-8.9**
JTH	**Tanohata**	**10.55**	**234**	P			**Pn**	**15**	**18 10.0**	**-3.9**
JTH				*e*	S		**Sn**	**15**	**20 01.5**	**-9.2**
JOSM	**Okushiri--Mats**	**10.71**	**249**	P			**Pn**	**15**	**18 15.7**	**-0.3**
JOM	**Ohasama**	**11.19**	**234**	P			**Pn**	**15**	**18 19.2**	**-3.4**
OFUJ	**Ofunato**	**11.27**	**231**	P			**Pn**	**15**	**18 20.0**	**-3.6**
OFUJ				*e*	S		**Sn**	**15**	**20 21.0**	**-7.2**
TEY	**Ternei**	**11.53**	**267**	*e*	P		**Pn**	**15**	**18 27.0**	**-0.3**
JRG	**Rokugo**	**11.62**	**235**	P			**Pn**	**15**	**18 26.0**	**-2.4**
JRG				*e*	S		**Sn**	**15**	**20 29.0**	**-7.7**
JIO	**Ouri**	**11.89**	**230**	P			**Pn**	**15**	**18 28.0**	**-4.2**
JYA	**Atsumi**

LZH AMB AMB
comp=Z,30nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,149nm,4.8s
LZH Lanzhou 37.79 272 *eP* **P 15 22 59.0 +1.6**
comp=Z,30nm,1.0s,mb5.0
LZH pP pP 15 23 03.8 -5.0
LZH sP sP 15 23 06.2 -7.5
GTA Gaotai 38.87 279 *eP* **P 15 23 06.8 +0.3**
GTA AP pP 15 23 16.0 -2.0
GTA XP sP 15 23 20.4 -2.5
GTA PP PP 15 24 42.0 +5.9
GTA PPP 15 25 07.5
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,2μm,4.6s
GTA LR LR
comp=N,1μm,12.9s,MS5.1
GTA LR LR
comp=E,2μm,14.8s,MS5.1
GTA LR LR
comp=Z,3μm,17.9s,MS5.2
EGAK Eagle 39.08 38 *eP* **P 15 23 06.0 -2.3**
DAWY Dawson 39.92 39 *eP* **P 15 23 14.7 -0.6**
CD2 Chengdu 40.77 265⇑ *iP* **P 15 23 22.8 +0.4**
CD2 AMB AMB
comp=Z,100nm,8.4s
GYA Guiyang 41.61 257⇑ *iP* **P 15 23 29.0 -0.2**
GYA AP pP 15 23 34.9 -5.9
GYA XP sP 15 23 36.4 -9.2
GYA PP PP 15 25 10.4 +4.5
GYA PCP PcP 15 25 28.4 +2.7
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,640nm,17.4s,MS4.7
GYA LR LR
comp=E,610nm,17.6s,MS4.7
GYA LR LR
comp=Z,590nm,17.8s,MS4.5
INK Inuvik 41.72 32 P **P 15 23 30.0 -0.1**
comp=Z,21nm,0.6s,mb4.9,baz=290,slow=7.1,SNR=31
INK Inuvik 41.72 32 *eP* **P 15 23 29.8 -0.3**
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik 41.72 32 *eP* **P 15 23 29.8 -0.3**
comp=Z,811nm,0.9s
ZAL Zalesovo 42.55 306 P **P 15 23 35.3 -1.6**
comp=Z,1.3nm,0.4s,mb4.0,baz=48,slow=8.9,SNR=2.8
WMQ Urumqi 44.84 291⇑ *iP* **P 15 23 55.3 0.0**
WMQ AP pP 15 23 59.8 -7.1
WMQ XP sP 15 24 02.3 -9.4
WMQ PCP PcP 15 25 37.0 +0.5
WMQ PP PP 15 25 41.1 +0.7
WMQ PPP 15 26 26.4
WMQ AMB AMB
comp=Z,66nm,0.7s,mb5.6
WMQ AMB AMB
comp=Z,772nm,10.9s
WMQ LR LR
comp=N,3μm,20.5s,MS5.4
WMQ LR LR
comp=E,3μm,19.0s,MS5.4
WMQ LR LR
comp=Z,2μm,20.5s,MS5.1
KMI Kunming 45.14 259 P **P 15 23 58.4 +0.7**
KMI AMB AMB
comp=Z,17nm,0.8s,mb4.9
KMI Kunming 45.14 259 P **P 15 23 58.4 +0.7**
comp=Z,17nm,0.8s,mb4.9
MK31 Makanchi Array 46.86 297 *eP* **P 15 24 10.4 -0.8**
MK31 Makanchi Array 46.86 297 *eP* **P 15 24 09.8 -1.4**
MKAR Makanchi Array 46.86 297 P **P 15 24 09.9 -1.2**
comp=Z,2.1nm,0.5s,mb4.3,baz=68,slow=6.8,SNR=7.4
LSA Lhasa 50.17 273 P **P 15 24 38.3 +1.6**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
LSA Lhasa 50.17 273 *eP* **P 15 24 38.5 +1.8**
LSA Lhasa 50.17 273 *eP* **P 15 24 38.2 +1.5**
BVAR Borovoye Array 50.79 309 P **P 15 24 39.9 -1.5**
comp=Z,1.8nm,0.5s,mb4.2,baz=64,slow=6.6,SNR=5.0
RES Resolute Bay 50.88 18 *eP* **P 15 24 41.5 -0.6**
YKA Yellowknife Ar 51.00 37 P **P 15 24 42.3 -0.6**
comp=Z,10nm,0.7s,mb4.9,baz=294,slow=7.0,SNR=9.8
YKA Yellowknife Ar 51.00 37 P **P 15 24 42.3 -0.6**
CHTO Chiang Mai 52.02 257 P **P 15 24 51.2 +0.7**
CHTO pmax pmax
comp=Z,24nm,0.9s,mb5.1
CHTO Chiang Mai 52.02 257 *eP* **P 15 24 51.0 +0.4**
comp=Z,24nm,0.8s,mb5.2
JIRN Jiri 54.84 274 *eP* **P 15 25 12.3 +1.0**
comp=Z,98nm,0.7s,mb6.0
GUN Gumba 54.90 275 *eP* **P 15 25 12.3 +0.6**
comp=Z,38nm,0.5s,mb5.6
C05A Tolt Reservoir 55.05 55⇓ **P 15 25 12.4 -0.4**
baz=55
D05A Enumclaw 55.16 56⇑ **P 15 25 13.1 -0.4**
baz=55
KKN Kakani 55.39 275 *eP* **P 15 25 16.0 +0.8**
comp=Z,76nm,0.6s,mb5.9
PKI Pulchoki 55.44 275 *eP* **P 15 25 16.4 +0.8**
comp=Z,35nm,0.6s,mb5.6
B07A Winthrop 55.51 54⇓ **P 15 25 15.5 -0.5**
baz=55
F04A Amboy 55.61 57⇑ **P 15 25 16.5 -0.3**
baz=55
DMN Daman 55.62 275 *eP* **P 15 25 18.0 +1.1**
GKN Gorkha 55.69 276 *eP* **P 15 25 18.1 +0.7**
comp=Z,88nm,0.7s,mb5.9
A08A Turner Farm, O 55.70 53 P **P 15 25 17.1 -0.4**
baz=56,SNR=5.1
D06A Cle Elum 55.80 55⇓ **P 15 25 17.4 -0.8**
baz=56
I02A Mapleton 55.86 60⇑ **P 15 25 17.2 -1.4**
baz=56
C07A Waterville 55.97 55⇓ **P 15 25 18.6 -0.7**
baz=56
B08A Colville Reser 56.00 54 P **P 15 25 19.1 -0.5**
baz=56,SNR=5.4
A09A Danville 56.06 53 P **P 15 25 19.6 -0.4**
baz=56,SNR=8.3
PMG Port Moresby 56.13 187 P **P 15 25 20.2 -0.3**
comp=Z,7.1nm,0.8s,mb4.8,baz=27,slow=5.6,SNR=8.3
F05A White Salmon 56.19 57⇓ **P 15 25 20.4 -0.5**
baz=56
I03A Eugene 56.21 60⇓ **P 15 25 20.9 -0.1**
baz=56
D07A Quincy 56.30 55⇓ **P 15 25 21.0 -0.7**
baz=56
J02A Umpqua 56.38 60 P **P 15 25 23.4 +1.2**
baz=56,SNR=6.0
EDM Edmonton 56.40 46 *eP* **P 15 25 21.5 -1.0**
H04A Detroit Lake 56.45 58⇓ **P 15 25 22.8 0.0**
baz=56
C08A Higginbotham F 56.48 54⇓ **P 15 25 22.6 -0.4**
baz=56
KOLN Koldanda 56.55 276 *eP* **P 15 25 24.2 +0.7**
comp=Z,74nm,0.9s,mb5.7
B09A Rice 56.61 53⇓ **P 15 25 23.5 -0.4**
baz=56
A10A Northport 56.62 52⇓ **P 15 25 24.0 0.0**
baz=56
G05A Wamic 56.63 58⇓ **P 15 25 24.2 +0.1**
baz=56
F06A Goldendale 56.65 57⇓ **P 15 25 24.5 +0.3**
baz=56
E07A Sunnyside 56.72 56⇓ **P 15 25 24.6 -0.1**
baz=56
J03A Ideyld Park 56.74 60⇓ **P 15 25 24.7 -0.2**
baz=56
K02A Glendale 56.77 61⇑ **P 15 25 24.4 -0.7**
baz=56
I04A Tendick Farm, 56.82 59⇑ **P 15 25 25.8 +0.4**
baz=57
C09A Chrisman Ranch 56.90 54⇓ **P 15 25 25.5 -0.5**
baz=57
D08A Wollman Farm, 56.96 55⇑ **P 15 25 25.7 -0.7**
baz=57
H05A Madras 57.03 58⇓ **P 15 25 26.8 -0.1**
baz=57
G06A Carlson Farm, 57.03 57⇓ **P 15 25 27.1 +0.2**
baz=57
L02A Cave Junction 57.05 62⇑ **P 15 25 27.2 +0.1**
baz=57
F07A Phinny Hill Vi 57.06 56⇓ **P P 15 25 27.4 +0.3**
baz=57
E08A Dider Farm, El 57.21 55⇓ **P P 15 25 27.8 -0.4**
baz=57
NEW Newport 57.27 53 P **P P 15 25 27.8 -0.8**
comp=Z,6.8nm,0.9s,mb4.7,baz=328,slow=7.3,SNR=4.5
A11A Hall Mountain, 57.28 52⇑ **P P 15 25 29.1 +0.4**
baz=57
I05A Bend 57.28 59⇑ **P P 15 25 28.9 +0.1**
baz=57
D09A Jones Farm, Ri 57.30 54⇓ **P P 15 25 28.6 -0.3**
baz=57
J04A Umpqua Nationa 57.32 60⇑ **P P 15 25 28.9 -0.1**
baz=57
KEV Kevo 57.32 340 *ep* pP 15 25 36.7 -4.2
comp=Z,4.6nm,0.6s
KEV Kevo 57.32 340 *eP* pP 15 25 36.7 -4.2
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
C10A Spilker Farm, 57.42 53⇑ **P P 15 25 29.6 -0.1**
baz=57
H06A Lindquist Farm 57.50 58⇑ **P P 15 25 30.3 +0.1**
baz=57
G07A Ruggs Ranch, H 57.57 57⇑ **P P 15 25 30.7 -0.1**
baz=57
B11A Sandpoint 57.58 52⇓ **P P 15 25 30.2 -0.6**
baz=57
A12A Yaak River Ran 57.67 51⇓ **P P 15 25 31.9 +0.5**
baz=57
E09A Wood Farm, Sta 57.71 55 P **P 15 25 31.3 -0.5**
baz=58,SNR=8.4
F08A Pendleton 57.77 56⇑ **P P 15 25 31.8 -0.3**
baz=58
J05A Fort Rock 57.81 59⇑ **P P 15 25 32.8 +0.4**
baz=58
ARCES ARCESS Array B 57.83 341 P **P 15 25 31.1 -1.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=29,slow=8.3,SNR=4.4
YBH Yreka Blue Hor 57.84 62 P **P 15 25 32.9 +0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=1.6,slow=4.6,SNR=5.9
YBH Yreka Blue Hor 57.84 62⇑ **P P 15 25 32.9 +0.3**
baz=58
M02C Callahan 57.95 62⇑ **P P 15 25 33.7 +0.3**
baz=58
G08A Pilot Rock 57.97 56⇓ **P P 15 25 33.4 -0.1**
baz=58
N02C Big Bar 58.02 63⇑ **P P 15 25 34.1 +0.2**
baz=58
I06A Prineville 58.03 58⇑ **P P 15 25 34.4 +0.5**
baz=58
O01C Eel River Cons 58.10 64⇑ **P P 15 25 34.9 +0.4**
baz=58
E10A Myers Farm, Un 58.31 54⇓ **P P 15 25 35.8 -0.1**
baz=58
F09A S2 Ranch, Elgi 58.32 55⇑ **P P 15 25 36.2 +0.2**
baz=58
M04C Macdoel 58.34 61⇓ **P P 15 25 36.7 +0.6**
baz=58
K05A Summer Lake 58.34 60⇑ **P P 15 25 36.8 +0.6**
baz=58,SNR=5.9
I07A Izee 58.36 58⇑ **P P 15 25 36.9 +0.6**
baz=58
D11A Klaveano Farm, 58.41 53 P **P 15 25 35.9 -0.7**
baz=58,SNR=6.1
F10A Beach Ranch, E 58.55 55⇑ **P P 15 25 37.8 +0.3**
baz=58
H08A Prairie City 58.59 57 P **P 15 25 38.2 +0.4**
baz=58,SNR=6.1
WDC Whiskeytown Da 58.63 63⇓ **P P 15 25 38.3 +0.2**
baz=58
B13A Whitefish 58.64 51 P **P 15 25 38.4 +0.2**
baz=58,SNR=12
K06A Valley Falls 58.68 59 P **P 15 25 39.1 +0.6**
baz=58,SNR=10
O02C Red Bluff 58.72 63⇓ **P P 15 25 38.5 -0.2**
baz=58
L05A Lakeview 58.78 60⇓ **P P 15 25 39.8 +0.6**
baz=58,SNR=6.8
P01C Double 8 Ranch 58.80 64⇑ **P P 15 25 39.5 +0.2**
baz=59
J07A Hines 58.89 58⇑ **P P 15 25 40.5 +0.5**
baz=59
C13A Hot Springs 59.00 52⇓ **P P 15 25 41.5 +0.8**
baz=59
I08A Drewsey 59.01 57⇓ **P P 15 25 41.5 +0.7**
baz=59
M05C Lookout 59.01 61⇓ **P P 15 25 41.3 +0.5**
baz=59
GASB Alder Springs 59.08 64⇑ **P P 15 25 42.0 +0.8**
baz=59
H09A Durkee 59.08 56⇓ **P P 15 25 41.7 +0.4**
baz=59
HATC Hat Creek Radi 59.14 62⇑ **P P 15 25 41.8 +0.1**
baz=59
MOD Modoc 59.19 60 P **P 15 25 42.3 +0.3**
baz=59,SNR=6.5
F11A Grangeville 59.20 54⇑ **P P 15 25 42.0 -0.1**
baz=59
K07A Rock Creek Ran 59.34 59 P **P 15 25 43.6 +0.5**
baz=59,SNR=6.2
J08A Circle Bar Ran 59.39 58 P **P 15 25 43.9 +0.4**
baz=59,SNR=6.5
D13A Huson 59.41 52⇓ **P P 15 25 43.7 +0.1**
baz=59
G11A Walters Elk Ra 59.43 55⇑ **P P 15 25 44.1 +0.4**
baz=59
I09A Lost Marbles R 59.45 57⇓ **P P 15 25 44.0 +0.2**
baz=59
M06C Likely Place G 59.50 61⇓ **P P 15 25 44.4 +0.2**
baz=59
O04C Chester 59.67 62⇓ **P P 15 25 45.9 +0.6**
baz=59
L07A Adell 59.69 60 P **P 15 25 46.1 +0.6**
baz=59,SNR=6.6
ELFS Eagle Lake Fie 59.71 62⇓ **P P 15 25 46.2 +0.6**
baz=60
MNRC McLaughlin Nat 59.71 64⇓ **P P 15 25 46.2 +0.5**
baz=60
K08A Mann Creek Ran 59.76 58 P **P 15 25 46.3 +0.3**
baz=60,SNR=12
J09A Fry Pan Ranch, 59.82 58 P **P 15 25 46.8 +0.4**
baz=60,SNR=6.5
D14A Greenough 59.94 52 P **P 15 25 47.0 -0.2**
baz=60,SNR=16
E13A Victor 59.95 53⇑ **P P 15 25 47.4 +0.2**
baz=60
O05C Quincy 59.99 62⇓ **P P 15 25 47.4 -0.1**
baz=60
H11A Donnelly 59.99 55 P **P 15 25 47.5 -0.1**
baz=60,SNR=5.8
N06A Buffalo Meadow 60.17 61 P **P 15 25 49.0 +0.2**
baz=60,SNR=5.2
M07A Soldier Meadow 60.17 60 P **P 15 25 49.5 +0.7**
baz=60,SNR=15
L08A Fields 60.17 59 P **P 15 25 49.3 +0.5**
baz=60,SNR=9.7
CHMT Chamberlain Mo 60.18 52 *eP* **P 15 25 48.2 -0.6**
K09A Rome 60.23 58⇓ **P P 15 25 49.5 +0.3**
baz=60
F13A Darby 60.27 54 P **P 15 25 49.1 -0.4**
baz=60,SNR=7.6
E14A Clinton 60.35 53 P **P 15 25 50.2 +0.2**
baz=60,SNR=6.8
BEKR Beckwourth 60.39 62⇓ **P P 15 25 50.3 0.0**
baz=60
D15A Lincoln 60.49 52⇓ **P P 15 25 51.2 +0.2**
baz=60
O06A Flanigan 60.53 62⇓ **P P 15 25 51.6 +0.4**
baz=60
N07B Gerlach 60.67 61⇑ **P P 15 25 52.2 0.0**
baz=60
L09A Wilkinson Ranc 60.68 59⇓ **P P 15 25 52.2 0.0**
baz=60
SUMG Summit 60.72 4 *eP* **P 15 25 51.9 -0.6**
comp=Z,18nm,0.8s,mb5.2
F14A Wisdom 60.79 53⇓ **P P 15 25 52.9 -0.1**
baz=60
E15A Deer Lodge 60.81 52 P **P 15 25 53.0 -0.1**
baz=60,SNR=7.2
FFC Flin Flon 60.82 40 P **P 15 25 53.6 +0.4**
comp=Z,185nm,0.7s,SNR=5.4
FFC Flin Flon 60.82 40 P **P 15 25 53.0 -0.2**
KULM Kulim 60.97 244 *eP* **P 15 25 55.5 +1.2**
O07A Toulon 61.10 61 P **P 15 25 55.6 +0.5**
baz=61,SNR=8.6
WCN Washoe City 61.10 62⇑ **P P 15 25 55.5 +0.3**
baz=61
N08A GE Springer Mi 61.16 60 P **P 15 25 55.8 +0.2**
baz=61,SNR=6.1
M09A Marrel Ranch, 61.17 59⇓ **P P 15 25 55.7 +0.1**
baz=61
F15A Butte 61.25 53 P **P 15 25 56.5 +0.4**
baz=61,SNR=15
R05C Kirkwood Meado 61.28 63⇑ **P P 15 25 55.7 -0.6**
baz=61
N09A Rock Creek Ran 61.48 60 P **P 15 25 58.2 +0.5**
baz=61,SNR=6.7
CMB Columbia Colle 61.50 64⇓ **P P 15 25 57.7 -0.1**
baz=61
PACP Pacheco Peak 61.59 65⇓ **P P 15 25 58.7 +0.3**
baz=61
M10A I.L. Ranch, Tu 61.65 59⇑ **P P 15 25 59.4 +0.6**
baz=61,SNR=5.6
G15A Dillon 61.68 53 P **P 15 25 58.8 -0.2**
baz=61,SNR=7.7
MCMT McKenzie Canyo 61.69 54 *eP* **P 15 25 58.2 -0.9**
R06C Coleville 61.77 63⇓ **P P 15 25 59.8 +0.1**
baz=62
HAST UC Hastings Re 61.81 66⇑ **P P 15 25 59.7 -0.2**
baz=62
S06C San Francisco 61.93 64 P **P 15 26 01.0 +0.3**
baz=62,SNR=6.7
S05C Merced 61.97 64⇓ **P P 15 26 00.9 -0.1**
baz=62
KAKA Kakadu 61.97 203 *eP* **P 15 26 00.0 -1.0**
comp=Z,9.2nm,0.6s,mb5.1
O09A Fish Creek Ran 62.11 60⇑ **P P 15 26 02.5 +0.6**
baz=62
M11A Holland Ranch, 62.14 58⇑ **P P 15 26 02.9 +0.7**
baz=62
N10A Dunphy 62.17 59⇑ **P P 15 26 03.0 +0.7**
baz=62
V03C Hunter Liggett 62.24 66⇑ **P P 15 26 03.0 +0.3**
baz=62
R07C Lee Vining 62.29 63 P **P 15 26 04.0 +0.9**
baz=62,SNR=8.2
U04C Hernandez Rese 62.30 65⇑ **P P 15 26 03.6 +0.3**
baz=62
O10A Cortez Mining, 62.44 60⇑ **P P 15 26 04.8 +0.7**
baz=62
QLMT Earthquake Lak 62.47 53 *eP* **P 15 26 04.8 +0.5**
Q08A Gabbs 62.49 62⇑ **P P 15 26 04.9 +0.5**
baz=62
NVAR Mina Array Bea 62.53 62 P **P 15 26 04.9 +0.2**
baz=290,slow=8.6
T06C Millerton Lake 62.57 64⇓ **P P 15 26 05.0 0.0**
baz=62
KCC Kaiser Creek 62.61 64⇓ **P P 15 26 05.1 -0.2**
baz=62
M12A Wells 62.66 58⇑ **P P 15 26 06.2 +0.6**
baz=62,SNR=7.6
PKD Parkfield 62.72 66⇓ **P P 15 26 06.2 +0.2**
baz=62
GCMT Greycliff 62.81 51 *eP* **P 15 26 06.9 +0.3**
N12A Clover Valley, 62.95 58⇓ **P P 15 26 08.0 +0.5**
baz=63
O11A Cowboy Ranch, 63.04 59 P **P 15 26 08.5 +0.3**
baz=63,SNR=6.0
M13A Montello 63.13 57 P **P 15 26 09.2 +0.4**
baz=63,SNR=6.9
V05C Boulder Hill, 63.17 65⇓ **P P 15 26 08.9 0.0**
baz=63
HELL Mitchell Peak, 63.20 64⇑ **P P 15 26 09.1 -0.1**
baz=63,SNR=13
S08C White Mtn Res 63.20 63⇑ **P P 15 26 09.3 +0.1**
baz=63
P11A Circle Ranch, 63.35 60⇓ **P P 15 26 10.6 +0.4**
baz=63
R09A Tonopah 63.40 62⇑ **P P 15 26 10.7 +0.2**
baz=63,SNR=6.6
N13A Wendover, West 63.43 58⇑ **P P 15 26 11.3 +0.5**
baz=63
TIN Tinemaha 63.45 63⇑ **P P 15 26 10.7 -0.1**
baz=63
SMMC Simmler 63.46 66⇓ **P P 15 26 11.3 +0.3**
baz=63
O12A Currie 63.49 59⇑ **P P 15 26 11.5 +0.4**
baz=63
S09A Goldfield 63.64 62 P **P 15 26 12.1 0.0**
baz=63,SNR=5.3
VES Vestal, Richgr 63.70 65⇓ **P P 15 26 11.9 -0.6**
baz=64
REDW Red Top Meadow 63.73 54 *eP* **P 15 26 13.3 +0.6**
comp=Z,22nm,1.0s,mb5.2
R10A Warm Springs 63.84 61⇓ **P P 15 26 13.3 0.0**
baz=64
PKM Peak Mountain 63.84 66⇓ **P P 15 26 13.3 -0.1**
baz=64
Q11A Duckwater 63.87 60⇑ **P P 15 26 13.8 +0.2**
baz=64
P12A McGill 63.91 59⇓ **P P 15 26 13.9 +0.1**
baz=64
CWC Cottonwood Cre 63.94 64⇓ **P P 15 26 13.9 -0.1**
baz=64
PSI Prapat 63.98 244 P **P 15 26 14.1 -0.3**
comp=Z,13nm,0.8s,mb5.0,baz=7.8,slow=5.7,SNR=11
FINES FINESS Array B 64.01 335 P **P 15 26 13.2 -1.3**
comp=Z,4.8nm,0.6s,mb4.7,baz=39,slow=7.8,SNR=8.7
GRAC Grapevine Rang 64.01 63⇓ **P P 15 26 14.8 +0.2**
baz=64
ISA Isabella 64.19 65⇑ **P P 15 26 15.1 -0.6**
baz=64
MPMC Manual Prospec 64.55 64⇑ **P P 15 26 18.0 0.0**
baz=64,SNR=12
FURC Furnace Creek, 64.67 63 P **P 15 26 19.0 +0.1**
baz=64,SNR=8.2
DUG Dugway 64.67 58 *eP* **P 15 26 19.1 +0.3**
DUG *e* 15 26 26.8
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
DUG Dugway 64.67 58 *eP* **P 15 26 19.1 +0.2**
comp=Z,5.9nm,0.8s,mb4.7
DUG *e* 15 26 26.8
OSI Osito Adit 64.71 66⇓ **P P 15 26 19.3 +0.2**
baz=64
LRMC Laurel Mountai 64.80 64⇓ **P P 15 26 19.7 0.0**
baz=65,SNR=6.3
PDAR Pinedale Array 64.84 54 P **P 15 26 19.7 -0.2**
comp=Z,7.3nm,0.8s,mb4.8,baz=295,slow=1.8,SNR=20
EDW2 Edwards Air Fo 65.00 65 P **P 15 26 21.2 +0.2**
baz=65,SNR=10
U10A Ash Meadows, A 65.03 63⇓ **P P 15 26 21.2 0.0**
baz=65
DECC Green Verdugo 65.20 66⇑ **P P 15 26 22.3 0.0**
baz=65
OBN Obninsk 65.26 325 *eP* **P 15 26 22.4 -0.3**
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SHOC Shoshone 65.39 63⇓ **P P 15 26 23.6 +0.1**
baz=65
DAU Daniels Canyon 65.43 57 *eP* **P 15 26 24.1 +0.3**
GSC Goldstone 65.46 64⇑ **P P 15 26 24.2 +0.2**
baz=65
BFSC Mount Baldy St 65.62 65⇑ **P P 15 26 24.9 -0.2**
baz=65
CIS Catalina Islan 65.70 67⇓ **P P 15 26 25.3 -0.2**
baz=66
ARUT Antelope Range 65.88 60 *eP* **P 15 26 26.5 -0.2**
ARUT Antelope Range 65.88 60 *eP* **P 15 26 26.8 +0.1**
TUQ Turquoise Mtn. 65.92 63⇑ **P P 15 26 26.9 0.0**
baz=66
V11A Goodsprings 65.95 63⇑ **P P 15 26 27.3 +0.1**
baz=66
HEC Hector,Ludlow 66.06 64 P **P 15 26 27.7 -0.2**
baz=66,SNR=8.2
BBRC Big Bear Sol-O 66.07 65⇑ **P P 15 26 28.0 +0.1**
baz=66
TMUT Trail Mountain 66.19 58 *eP* **P 15 26 28.7 0.0**
MURC Murrieta 66.33 66⇑ **P P 15 26 29.2 -0.4**
baz=66
V12A Nelson 66.38 63⇑ **P P 15 26 29.8 -0.1**
baz=66
ULM Lac du Bonnet 66.60 41 P **P 15 26 30.1 -1.2**
comp=Z,7.9nm,0.7s,mb4.9,baz=306,slow=6.1,SNR=11
W12A Cal Nev Ari 66.65 63⇓ **P P 15 26 31.8 +0.1**
baz=66
SRU San Rafael 66.71 57 *eP* **P 15 26 31.9 -0.1**
SRU *e* 15 26 40.4
BELC Belle Mtn. 66.82 65⇑ **P P 15 26 32.3 -0.4**
baz=67
109C Camp Elliot, M 66.86 66⇓ **P P 15 26 32.6 -0.3**
baz=67
HYB Hyderabad 66.89 271 *iP* **P 15 26 32.5 -0.7**
HYB Hyderabad 66.89 271 *eP* **P 15 26 32.5 -0.7**
IRM Iron Mountain 67.24 64 P **P 15 26 35.2 -0.1**
baz=67,SNR=5.1
MONP Monument Peak 67.29 66⇑ **P P 15 26 35.6 0.0**

baz=67
BC3 Big Chuckw Mtn 67.39 65 ⇓P **P 15 26 36.1 -0.2**
baz=67
W13A Hualapai Mount 67.39 62 ⇓P **P 15 26 36.5 +0.2**
baz=67
DVTC Desert V Tower 67.64 66 ⇓P **P 15 26 38.2 +0.3**
baz=67
SWSC Sam W. Stewart 67.65 65 ⇑P **P 15 26 38.1 +0.2**
baz=67
X13A Yucca 67.76 63 ⇑P **P 15 26 38.8 +0.2**
baz=68,SNR=5.2
PDMCI Parker Dam,Lak 67.77 63 ⇓P **P 15 26 39.0 +0.3**
baz=68
W14A Seligman 67.80 62 P **P 15 26 39.4 +0.5**
baz=68,SNR=9.7
Y12C Blythe 67.90 64 ⇓P **P 15 26 39.8 +0.2**
baz=68
GLA Glamis 68.18 65 ⇑P **P 15 26 41.5 +0.2**
baz=68
NB2 NORSAR Subarra 68.21 341 P **P 15 26 40.1 -1.4**
comp=Z,4.5nm,0.6s,mb4.7,baz=27,slow=6.5
NOA NORSAR Array B 68.21 341 P **P 15 26 40.5 -0.9**
comp=Z,7.2nm,0.8s,mb4.8,baz=27,slow=6.3,SNR=10
Y13A Salome 68.28 63 ⇓P **P 15 26 42.2 +0.2**
baz=68
W15A Williams 68.32 61 ⇓P **P 15 26 42.8 +0.7**
baz=68
X14A Yava 68.42 62 P **P 15 26 43.2 +0.5**
baz=68,SNR=5.1
WB2 Warramunga Arr 68.46 199 *e*P **P 15 26 41.7 -1.3**
WRA Warramunga Arr 68.46 199 P **P 15 26 42.1 -1.0**
comp=Z,7.3nm,0.9s,mb4.7,baz=14,slow=6.6,SNR=13
Y14A Wickenburg 68.70 63 ⇑P **P 15 26 44.8 +0.2**
baz=68
X15A Humboldt 68.80 62 ⇓P **P 15 26 45.9 +0.7**
baz=69
Z14A Wintersburg 69.13 63 ⇑P **P 15 26 47.6 +0.4**
baz=69
115A Sonoran Desert 70.02 63 ⇓P **P 15 26 53.3 +0.6**
baz=70
EYMN Ely 70.25 40 *e*P **P 15 26 51.8 -2.3**
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 70.74 314 *e*P **P 15 26 57.3 +0.2**
KIV pmax pmax
comp=Z,32nm,2.5s,mb4.8
AKASG Malin Array Be 71.50 326 P **P 15 27 00.1 -1.6**
comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.2,SNR=7.7
AS31 Alice Springs 72.16 198 *e*P **P 15 27 05.8 +0.2**
ASAR Alice Springs 72.16 198 P **P 15 27 05.8 +0.1**
comp=Z,6.8nm,0.8s,mb4.6,baz=13,slow=4.9,SNR=22
ASPA Alice Springs 72.16 198 *e*P **P 15 27 05.8 +0.1**
SCHQ Schefferville 73.36 23 P **P 15 27 11.5 -1.3**
comp=Z,3.3nm,0.7s,mb4.4,baz=309,slow=13,SNR=3.4
STHS Stebnicka Huta 75.48 330 *e*P **P 15 27 25.2 +0.1**
STHS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
STHS Stebnicka Huta 75.48 330 *e*P **P 15 27 25.2 +0.1**
comp=Z,7.7nm,1.3s,mb4.5
BURAR Bucovina Array 75.55 326 ⇓*i*P **P 15 27 24.9 -0.6**
BURAR Bucovina Array 75.55 326 ⇓P **P 15 27 24.9 -0.5**
MORC Moravsky Berou 76.41 332 ⇓*i*P **P 15 27 30.2 -0.2**
CLL Collm 76.44 335 *i* P **P 15 27 29.8 -0.7**
CLL *e* 15 27 45.0
CLL *i* 15 30 19.1
CLL pmax pmax
comp=Z,23nm,0.8s,mb5.2
CLL Collm 76.44 335 *i* P **P 15 27 29.8 -0.7**
comp=Z,10.0nm,0.8s,mb4.8
CLL *e* 15 27 45.0
CLL *i* PP PP 15 30 19.1 -3.5
WMOK Wichita Mounta 76.45 54 *e*P **P 15 27 33.9 +3.3**
WMOK pmax pmax
comp=Z,23nm,0.4s,mb5.5
TIRR Tirgusor 76.86 323 ⇑*i*P **P 15 27 32.6 -0.3**
TIRR Tirgusor 76.86 323 ⇑P **P 15 27 32.6 -0.4**
MLR Muntele Rosu 77.02 325 ⇑*i*P **P 15 27 34.6 +0.8**
MALT Malatya 77.09 313 ⇑*i*P **P 15 27 35.0 +0.8**
MALT Malatya 77.09 313 ⇑P **P 15 27 35.0 +0.8**
VYHS Vyhne 77.09 331 *e*P **P 15 27 33.7 -0.5**
VOIR 77.42 325 ⇑*i*P **P 15 27 36.3 +0.3**
VOIR 77.42 325 ⇑P **P 15 27 36.4 +0.3**
TXAR Lajitas Array 77.59 60 P **P 15 27 36.8 -0.3**
comp=Z,8.2nm,0.6s,mb4.8,baz=303,slow=5.1,SNR=26
GZR Gura Zlata 78.33 327 ⇓*i*P **P 15 27 40.9 -0.2**
GZR Gura Zlata 78.33 327 ⇓P **P 15 27 40.9 -0.2**
BR131 Keskin Array S 78.33 317 *e*P **P 15 27 41.2 +0.1**
comp=Z,1.7nm,0.7s,mb4.1
BRTR Keskin Array B 78.33 317 P **P 15 27 40.1 -1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=78,slow=4.1,SNR=6.1
GERES GERESS Array B 78.42 334 P **P 15 27 40.6 -1.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=35,slow=6.3,SNR=4.5
BZS Buzias 78.57 327 ⇓*i*P **P 15 27 42.2 -0.3**
MIB Mutribah 78.58 301 *e*P **P 15 27 42.3 -0.2**
STKA Stephens Creek 78.92 190 P **P 15 27 43.8 -0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=296,slow=7.6,SNR=3.2
NAY Al-Naaiem 79.05 301 *e*P **P 15 27 44.8 -0.2**
RDF Al-Radifah 79.10 301 *e*P **P 15 27 45.4 0.0**
FORT Forrest 80.37 202 *e*P **P 15 27 52.3 +0.1**
comp=Z,20nm,0.7s,mb5.2
VTS Vitosha 80.52 325 ⇓*i*P **P 15 27 53.5 +0.4**
VTS Vitosha 80.52 325 ⇓P **P 15 27 53.5 +0.4**
CDF Champ du Feu 80.63 338 *e*P **P 15 27 53.7 +0.1**
comp=Z,51nm,1.3s,mb5.0
CDF Champ du Feu 80.63 338 *e*P **P 15 27 53.7 +0.1**
CDF pmax pmax
comp=Z,25nm,1.3s,mb5.0
CDF Champ du Feu 80.63 338 *e*P **P 15 27 53.7 +0.1**
comp=Z,25nm,1.3s,mb5.0
WVT Waverly 81.12 46 P **P 15 27 55.2 -1.0**
WVT pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WVT Waverly 81.12 46 *e*P **P 15 27 55.1 -1.1**
comp=Z,6.3nm,0.8s,mb4.6
GRR Gorron 82.55 343 *e*P **P 15 28 03.3 -0.5**
comp=Z,147nm,1.5s,mb5.5
GRR Gorron 82.55 343 *e*P **P 15 28 03.3 -0.5**
GRR pmax pmax
comp=Z,74nm,1.5s,mb5.5
GRR Gorron 82.55 343 *e*P **P 15 28 03.3 -0.5**
comp=Z,74nm,1.5s,mb5.5
SMF Signal de Mont 83.14 339 *e*P **P 15 28 06.9 +0.1**
comp=Z,49nm,1.1s,mb5.1
SMF Signal de Mont 83.14 339 *e*P **P 15 28 06.9 +0.1**
SMF pmax pmax
comp=Z,25nm,1.1s,mb5.2
SMF Signal de Mont 83.14 339 *e*P **P 15 28 06.9 +0.1**
comp=Z,24nm,1.1s,mb5.2
LPG La Plagne 83.46 337 *e*P **P 15 28 09.4 +0.9**
comp=Z,24nm,0.9s,mb4.9
LPG La Plagne 83.46 337 *e*P **P 15 28 09.4 +0.9**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 83.46 337 *e*P **P 15 28 09.4 +0.9**
comp=Z,12nm,0.9s,mb4.9
LFF La Frestale 85.48 341 *e*P **P 15 28 18.3 -0.4**
NWAO Narrogin (SRO) 85.59 210 P **P 15 28 19.1 -0.1**
comp=Z,13nm,0.8s,mb5.2,baz=5.2,slow=11,SNR=4.5
VNDA Vanda 124.10 178 PKP PKPdf 15 34 36.5 -2.7
comp=Z,1.4nm,0.8s,baz=310,slow=4.2,SNR=9.0
CFAA Coronel Fontan 145.10 79 PKP PKPdf 15 35 16.5 -1.6
comp=Z,1.8nm,1.1s,baz=241,slow=2.0,SNR=5.8
SNAA Sanae 152.51 196 PKPbc PKPbc 15 35 33.6 -3.4
comp=Z,3.4nm,0.7s,baz=195,slow=2.1,SNR=28
SNAA Sanae 152.51 196 *e*PKPdf PKPbc 15 35 34.5 -2.5
SNAA *e* 15 35 47.3
SNAA Sanae 152.51 196 PKIKP PKPbc 15 35 33.6 -3.4
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 152.51 196 *e*PKPbc PKPbc 15 35 34.6 -2.5
VNA2 Neumayer--Watz 153.96 195 *e*PKPdf PKPbc 15 35 38.1 -2.1
VNA2 *e* 15 35 50.1
VNA2 *e* 15 35 52.6
VNA3 Neumayer Olymp 154.06 193 *e*PKPdf PKPbc 15 35 38.0 -2.4
VNA3 *e* 15 35 53.0

*IDC **15** 15:19:31.2±0.4, 4609N×15445E, h0km, mb4.9/33, mb1 4.9/35, mb1mx4.9/38, mbtmp4.9/35, ML4.5/2, MS5.1/2, Ms1 5.1/2, ms1mx4.2/50, Error ellipse: s-maj=12.9km s-min=9.9km az=123.0*

*ISCJB **15** 15:19:31.3±0.1, 4597N±003×15446E±002, h10km, mb5.3/179, MS5.2/12, Error ellipse: s-maj=4.1km s-min=1.8km az=152.5*

*MOS **15** 15:19:32.2±1.0, 4604N×15442E, h15km, mb5.6/77, Error ellipse: s-maj=7.6km s-min=4.2km az=110.7*

*NEIC **15** 15:19:33.0±0.2, 4609N×154.47E, h10km, mb5.4/99, Error ellipse: s-maj=4.9km s-min=3.8km az=141.0*

*SKHL **15** 15:19:33.5±0.5, 4627N×154.30E, h52km±16km, msh6.3/1*

*BJI **15** 15:19:34.0, 46.11N×15397E, h10km, mB5.8, mb5.3, Ms5.3, Ms2.5.2*

*JMA **15** 15:19:36.4±0.8, 4629N×154.14E, h30km, M5.7*

*SZGRF **15** 15:19:42.0, 4639N×153.04E, h33km, mb5.5, Kuril Islands, Russia*

ISC 15 15:19:32.6±1.0, 4611N±003×15438E±002, h5km±6km, h17km±1.5km:pP-P, n782, σ0.97/809, mb5.3/179, MS5.2/12, 94C-108D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.65**	**261**	*e*P	**Pn**	**15 20 41.0**	**-2.4**
KUR				AMB	AMB	15 20 45.0	
	4μm,0.9s						
KUR				*e*S	**Sn**	**15 21 32.0**	**-5.8**
KUR				A		15 21 35.0	
	1μm,0.9s						
KUR				A		15 21 35.0	
	724nm,0.9s						
KUR	**Kuril'sk**	**4.65**	**261**	⇑*i*PN	**Pn**	**15 20 41.0**	**-2.4**
KUR				pmax	pmax		
	comp=N,2μm,0.9s						
KUR				pmax	pmax		
	comp=E,890nm,0.9s						
KUR				pmax	pmax		
	comp=Z,4μm,0.9s						
SKR	**Severo-Kuril's**	**4.72**	**14**	*e*P	**Pn**	**15 20 41.2**	**-3.3**
SKR				AMB	AMB	15 20 45.5	
	comp=Z,330nm,0.9s						
SKR				AMB	AMB	15 20 45.5	
	comp=Z,430nm,1.0s						
SKR				AMB	AMB	15 20 45.5	
	comp=Z,220nm,1.0s						
SKR				*e*S	**Sn**	**15 21 31.6**	**-8.0**
SKR				A		15 21 37.9	
	comp=Z,740nm,0.5s						
SKR				A		15 21 37.9	
	comp=Z,1μm,0.5s						
SKR				A		15 21 37.9	
	comp=Z,290nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.38**	**254**	*e*P	**Pn**	**15 21 09.0**	**+1.8**
YUK				*i* S	**Sn**	**15 22 17.0**	**-3.4**
YUK				A		15 22 22.0	
	comp=Z,12μm,3.0s						
YUK				A		15 22 22.0	
	comp=Z,8μm,3.0s						
YUK				A		15 22 24.0	
	comp=Z,4μm,0.5s						
YUK				A		15 22 24.0	
	comp=Z,3μm,0.5s						
NEM2	**Nemuro 2**	**6.74**	**249**	P	**Pn**	**15 21 10.8**	**-1.3**
NEM2				*e*S	**Sn**	**15 22 22.0**	**-7.2**
JRA	**Rausu**	**6.91**	**255**	P	**Pn**	**15 21 15.3**	**+0.8**
JRA				*e*S	**Sn**	**15 22 30.9**	**-2.6**
JNK	**Nakash**	**7.32**	**253**	P	**Pn**	**15 21 20.3**	**+0.2**
JNK				*e*S	**Sn**	**15 22 38.3**	**-5.2**
PET	**Petropavlovsk**	**7.46**	**20**	*e*PN	**Pn**	**15 21 12.5**	**-10**
PET				pmax	pmax		
	comp=Z,61nm,0.6s						
PET				MLR	MLR		
	comp=Z,8μm,18.0s						
PET				MLR	MLR		
	comp=Z,11μm,20.0s						
PET	**Petropavlovsk**	**7.46**	**20**	*e*Pn	**Pn**	**15 21 18.8**	**-3.2**
PET				*e*Sn	**Sn**	**15 22 34.8**	**-12**
JAK	**Akkeshi**	**7.58**	**249**	P	**Pn**	**15 21 22.8**	**-1.0**
JAK				*e*S	**Sn**	**15 22 42.3**	**-7.8**
JTKR	**Abashiri--Toko**	**7.72**	**258**	P	**Pn**	**15 21 26.6**	**+1.0**
JTKR				*e*S	**Sn**	**15 22 50.8**	**-2.6**
YSS	**Yuzh-Sakhalins**	**8.06**	**280**	⇓*e*P	**Pn**	**15 21 33.9**	**+3.6**
YSS				AMB	AMB	15 21 35.0	
	comp=Z,220nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.06**	**280**	*e*P	**Pn**	**15 21 29.0**	**-1.3**
YSS				*e*Pn	**Pn**	**15 21 33.1**	**+2.7**
JAR	**Ashorobuto**	**8.06**	**253**	P	**Pn**	**15 21 31.0**	**+0.6**
JAR				*e*S	**Sn**	**15 22 56.4**	**-5.5**
JMP	**Maruseppu**	**8.08**	**259**	P	**Pn**	**15 21 32.4**	**+1.8**
JMP				*e*S	**Sn**	**15 23 00.5**	**-1.8**
JOB	**Onbets**	**8.19**	**251**	P	**Pn**	**15 21 32.4**	**+0.3**
JOB				*e*S	**Sn**	**15 22 58.4**	**-6.6**
JSE	**Soyaes**	**8.36**	**266**	P	**Pn**	**15 21 37.7**	**+3.2**
JKK2	**Kamakawa 2**	**8.54**	**259**	P	**Pn**	**15 21 38.4**	**+1.5**
ASAJ	**Asahikawa**	**8.57**	**261**	Pn	**Pn**	**15 21 39.1**	**+1.8**
	comp=Z,8.5nm,0.3s,baz=106,slow=15,SNR=10						
ASAJ				LR	LR	15 25 25.9	
	comp=Z,5μm,18.2s,baz=316,slow=41						
ASAJ	**Asahikawa**	**8.57**	**261**	PN	**Pn**	**15 21 39.1**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,5μm,18.2s						
JCH	**Churui**	**8.63**	**250**	P	**Pn**	**15 21 37.7**	**-0.4**
JCH				*e*S	**Sn**	**15 23 07.9**	**-7.9**
JWK2	**Keihoku**	**8.77**	**269**	P	**Pn**	**15 21 44.6**	**+4.5**
UGL	**Uglegorsk**	**8.84**	**294**	*e*P	**Pn**	**15 21 45.0**	**+4.0**
UGL				AMB	AMB	15 21 52.0	
	comp=Z,130nm,0.8s						
UGL				A		15 23 25.5	
	comp=Z,150nm,0.7s						
UGL				A		15 23 25.5	
	comp=Z,160nm,0.7s						
UGL				A		15 23 25.5	
	comp=Z,79nm,0.7s						
JFR	**Furan**	**8.90**	**255**	P	**Pn**	**15 21 43.7**	**+1.8**
JFR				*e*S	**Sn**	**15 23 18.1**	**-4.5**
JEM	**Erimo**	**9.05**	**247**	P	**Pn**	**15 21 45.5**	**+1.6**
JEM				*e*S	**Sn**	**15 23 18.8**	**-7.4**
ERM	**Erimo**	**9.06**	**247**	Pn	**Pn**	**15 21 45.7**	**+1.7**
	comp=Z,1μm,0.9s,SNR=14						
ERM	**Erimo**	**9.06**	**247**	*e*P	**Pn**	**15 21 43.6**	**-0.4**
TYV	**Tymovskoe**	**9.12**	**306**	*e*P	**Pn**	**15 21 45.5**	**+0.6**
TYV				AMB	AMB	15 21 50.0	
	comp=Z,440nm,2.0s						
TYV				AMB	AMB	15 21 50.0	
	comp=Z,1μm,2.0s						
JNBK	**Urakawa-nobuka**	**9.19**	**250**	P	**Pn**	**15 21 45.0**	**-0.7**
JNBK				*e*S	**Sn**	**15 23 13.9**	**-10**
JBT2	**Biratori 2**	**9.22**	**253**	P	**Pn**	**15 21 46.7**	**+0.5**
JBT2				*e*S	**Sn**	**15 23 24.4**	**-5.8**
JEW	**Eniwo**	**9.80**	**255**	*e*S	**Sn**	**15 23 42.6**	**-2.0**
JNB	**Noboribetsu**	**10.23**	**254**	P	**Pn**	**15 22 00.5**	**+0.4**
JNB				*e*S	**Sn**	**15 23 48.3**	**-6.9**
JKB	**Kayabe**	**10.50**	**251**	P	**Pn**	**15 22 02.4**	**-1.3**
JKB				*e*S	**Sn**	**15 23 51.5**	**-10**
JOT	**Ohata**	**10.74**	**249**	*e*S	**Sn**	**15 23 56.3**	**-11**
JSH	**Shimam**	**10.83**	**256**	P	**Pn**	**15 22 08.6**	**+0.3**
JYM2	**Yakumo 2**	**10.83**	**253**	P	**Pn**	**15 22 07.9**	**-0.4**
JYM2				*e*S	**Sn**	**15 24 01.2**	**-8.7**
JANG	**Nango**	**10.99**	**243**	P	**Pn**	**15 22 07.5**	**-3.0**
JANG				*e*S	**Sn**	**15 24 00.2**	**-14**
JTH	**Tanohata**	**11.04**	**240**	P	**Pn**	**15 22 07.6**	**-3.5**
JTH				*e*S	**Sn**	**15 24 01.1**	**-14**
JTM	**Tenmabayashi**	**11.04**	**246**	P	**Pn**	**15 22 09.0**	**-2.1**
JTM				*e*S	**Sn**	**15 24 03.6**	**-11**
JSR	**Shiriuchi**	**11.07**	**251**	*e*S	**Sn**	**15 24 05.3**	**-11**
NKL	**Nikolayevsk**	**11.33**	**313**	*e*P	**Pn**	**15 22 13.8**	**-1.3**
NKL				AMB	AMB	15 22 17.8	
	comp=Z,660nm,2.0s						
NKL				AMB	AMB	15 22 17.8	
	comp=Z,1μm,2.5s						
JOSM	**Okushiri--Mats**	**11.45**	**255**	P	**Pn**	**15 22 15.5**	**-1.2**
JOSM				*e*S	**Sn**	**15 24 16.3**	**-8.6**
JOM	**Ohasama**	**11.67**	**240**	P	**Pn**	**15 22 17.1**	**-2.7**
JOM				*e*S	**Sn**	**15 24 19.8**	**-11**
OFUJ	**Ofunato**	**11.70**	**238**	P	**Pn**	**15 22 17.3**	**-2.9**
OFUJ				*e*S	**Sn**	**15 24 17.9**	**-13**
JRG	**Rokugo**	**12.12**	**241**	P	**Pn**	**15 22 23.7**	**-2.2**
JRG				*e*S	**Sn**	**15 24 30.9**	**-10**
JIO	**Ouri**	**12.30**	**236**	P	**Pn**	**15 22 24.9**	**-3.5**
JIO				*e*S	**Sn**	**15 24 31.1**	**-15**
TEY	**Ternei**	**12.51**	**271**	*e*P	**Pn**	**15 22 32.0**	**+0.8**
JMM	**Marumori**	**13.02**	**236**	S	**Sn**	**15 24 50.6**	**-13**
JYA	**Atsumi**	**13.18**	**240**	*e*S	**Sn**	**15 24 57.6**	**-10**
JFK	**Kawauchi**	**13.33**	**234**	P	**Pn**	**15 22 37.1**	**-5.3**
JFK				*e*S	**Sn**	**15 24 57.0**	**-14**
HABR	**Khabarovsk**	**13.33**	**287**	*e*PN	**Pn**	**15 22 44.5**	**+2.0**
HABR				*e*S	**Sn**	**15 25 15.3**	**+4.3**
HABR				pmax	pmax		
	comp=Z,57nm,1.0s						
MA2	**Magadan**	**13.66**	**352**	*e*P	**Pn**	**15 22 45.8**	**-1.2**
MA2				pmax	pmax		
	comp=N,20nm,0.5s						
MA2				pmax	pmax		
	comp=Z,30nm,0.5s						
MA2	**Magadan**	**13.66**	**352**	*e*P	**Pn**	**15 22 45.8**	**-1.2**
	comp=Z,20nm,0.4s						
JFY	**Yanaizu**	**13.97**	**237**	P	**Pn**	**15 22 48.8**	**-2.3**
JFY				*e*S	**Sn**	**15 25 17.3**	**-9.2**
JYT	**Yasato**	**14.53**	**232**	*e*S	**Sn**	**15 25 25.2**	**-15**
JRY	**Ryogami san**	**15.40**	**235**	*e*S	**Sn**	**15 25 50.1**	**-11**
MAJO	**Matsushiro**	**15.43**	**237**	*e*P	**Pn**	**15 23 08.6**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,125nm,0.8s						
MAJO	**Matsushiro**	**15.43**	**237**	*e*P	**Pn**	**15 23 08.6**	**-2.3**
	comp=Z,125nm,0.8s						
MAT	**Matsushiro**	**15.43**	**237**	P	**Pn**	**15 23 08.1**	**-2.8**
MAT	**Matsushiro**	**15.43**	**237**	P	**Pn**	**15 23 08.6**	**-2.3**
MJAR	**Matsushiro Arr**	**15.43**	**237**	Pn	**Pn**	**15 23 08.8**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=33,slow=12,SNR=15						
KLR	**Kul'dur**	**15.55**	**290**	*e*P	**Pn**	**15 23 10.0**	**-2.5**
KLR				pmax	pmax		
	comp=E,370nm,2.2s						
KLR				pmax	pmax		
	comp=Z,300nm,2.2s						
JOD2	**Odawara 2**	**15.84**	**232**	*e*S	**Sn**	**15 25 59.9**	**-12**
SEY	**Seymchan**	**16.90**	**357**	⇑*e*P	**Pn**	**15 23 30.6**	**+0.8**
MDJ	**Mudanjiang**	**17.47**	**274**	P	**Pn**	**15 23 35.9**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,111nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,2μm,9.9s						
MDJ	**Mudanjiang**	**17.47**	**274**	*e*Pn	**Pn**	**15 23 36.3**	**-0.7**
	comp=Z,266nm,1.1s						
JWT	**Wachi**	**17.96**	**240**	P	**Pn**	**15 23 42.6**	**-0.4**
ZEA	**Zeya**	**18.98**	**304**	*e*P	**Pn**	**15 23 49.5**	**-5.9**
ZEA				AMB	AMB	15 23 55.6	
	comp=Z,440nm,2.0s						
JWZ	**Kozaga**	**19.00**	**235**	P	**Pn**	**15 23 57.0**	**+1.2**
CN2	**Changchun**	**20.56**	**274**	⇑P	**P**	**15 24 09.6**	**-2.4**
CN2				AMB	AMB		
	comp=Z,70nm,1.1s						
CLNS	**Chul'man**	**21.10**	**311**	*e*P	**P**	**15 24 20.5**	**+2.6**
CLNS				*e*		15 24 37.9	
CLNS				*e*S	**S**	**15 28 10.5**	**-2.6**
CLNS				*e*		15 28 23.3	
CLNS				*e*SS		15 28 47.7	
CLNS				pmax	pmax		
	comp=Z,39nm,0.5s,mb5.0						
CLNS				pmax	pmax		
	comp=N,35nm,1.1s						
CLNS				pmax	pmax		
	comp=E,36nm,0.8s						
NRGR	**Nerungri**	**21.14**	**311**	*e*P	**P**	**15 24 18.1**	**-0.2**
CBIJ	**Chichi jima**	**21.30**	**211**	P	**P**	**15 24 18.0**	**-2.1**
	comp=E,99nm,0.9s,mb5.1,baz=270,slow=20,SNR=2.2						
YAK	**Yakutsk**	**21.34**	**327**	*e*P	**P**	**15 24 18.1**	**-2.4**
YAK				*e**PP		15 24 27.2	
YAK				*e*S	**S**	**15 28 05.5**	**-12**
YAK				*e*SS		15 28 26.2	
YAK				*e*		15 35 49.4	
YAK				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,38nm,1.1s						
YAK				pmax	pmax		
	comp=E,30nm,1.2s						
YAK				smax			
	comp=N,49nm,1.3s						
YAK				smax			
	comp=E,27nm,1.4s						
YAK				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.0						
YAK				MLR	MLR		
	comp=N,5μm,15.0s,MS5.1						
YAK				MLR	MLR		
	comp=E,3μm,14.0s,MS5.1						
YAK	**Yakutsk**	**21.34**	**327**	⇑*e*P	**P**	**15 24 18.8**	**-1.7**
KSRS	**Korea Array**	**21.46**	**256**	P	**P**	**15 24 22.4**	**+0.6**
	comp=E,27nm,0.9s,mb4.6,baz=62,slow=10,SNR=24						
KSRS				PcP	PcP	15 28 24.5	-0.4
	comp=E,3.3nm,0.8s,baz=74,slow=4.4,SNR=4.9						
JNU	**Nakatsue**	**22.17**	**242**	P	**P**	**15 24 30.0**	**+0.6**
	comp=E,58nm,0.9s,mb5.0,baz=255,slow=21,SNR=4.5						
JNU	**Nakatsue**	**22.17**	**242**	P	**P**	**15 24 30.9**	**+1.5**
INCN	**Inchon**	**22.32**	**257**	⇑P	**P**	**15 24 32.9**	**+1.9**
	SNR=6.3						
INCN	**Inchon**	**22.32**	**257**	*e*P	**P**	**15 24 32.2**	**+1.1**
	comp=E,178nm,1.0s,mb5.5						
SNY	**Shenyang**	**22.50**	**270**	⇓P	**P**	**15 24 33.0**	**+0.1**
SNY				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.1						
BILL	**Bilibino**	**22.83**	**12**	*e*P	**P**	**15 24 34.8**	**-1.6**
BILL				pmax	pmax		
	comp=Z,93nm,2.5s,mb4.8						
BILL	**Bilibino**	**22.83**	**12**	*e*P	**P**	**15 24 33.6**	**-2.8**
HIA	**Hailar**	**23.41**	**290**	*e*P	**P**	**15 24 39.6**	**-2.9**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
HIA	**Hailar**	**23.41**	**290**	*e*P	**P**	**15 24 39.6**	**-2.9**
	comp=Z,31nm,0.8s,mb4.8						
DL2	**Dalian**	**25.07**	**265**	P	**P**	**15 24 59.0**	**+1.1**
DL2				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.0						
DL2				LR	LR		
	comp=N,1μm,14.4s,MS4.6						
DL2				LR	LR		
	comp=E,1μm,15.4s,MS4.6						
DL2				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
CIT	**Chita**	**27.12**	**298**	*e*P	**P**	**15 25 16.4**	**0.0**
CIT				*e*		15 25 24.8	
CIT				*e*		15 29 50.8	
CIT				pmax	pmax		
	comp=Z,166nm,2.8s,mb5.1						
JOW	**Kunigami**	**28.27**	**236**	P	**P**	**15 25 27.2**	**+0.5**
	comp=Z,40nm,0.9s,mb5.0,baz=30,slow=12,SNR=4.6						
BJI	**Beijing**	**28.36**	**272**	*e*P	**P**	**15 25 28.5**	**+1.0**
BJI				AMB	AMB		
	comp=Z,113nm,1.9s,mb5.2						
BJI	**Beijing**	**28.36**	**272**	*e*P	**P**	**15 25 28.5**	**+1.0**
	comp=Z,113nm,1.9s,mb5.2						
BJT	**Baijiatuan**	**28.37**	**271**	*e*P	**P**	**15 25 28.4**	**+0.7**
BJT				pmax	pmax		
	comp=Z,285nm,1.5s						
BJT	**Baijiatuan**	**28.37**	**271**	*e*P	**P**	**15 25 28.4**	**+0.7**
	comp=Z,285nm,1.5s,mb5.7						
TIA	**Tai'an**	**30.59**	**264**	*e*P	**P**	**15 25 38.8**	**+1.1**
NJ2	**Nanjing**	**30.66**	**255**	*e*P	**P**	**15 25 49.8**	**+1.8**
NJ2				AP	pP	15 25 53.3	+3.7
NJ2				XP	sP	15 25 57.8	+7.5
NJ2				PP	PP	15 26 50.8	-6.3
NJ2				S	**S**	**15 30 50.0**	**-0.9**
NJ2				XS	sS	15 30 58.0	+4.4
NJ2				AMB	AMB		
	comp=Z,520nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,15.4s,MS5.0						
NJ2				LR	LR		
	comp=E,3μm,18.6s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,17.6s,MS4.9						
HHC	**Hu-ho-hao-te**	**31.22**	**276**	⇓P	**P**	**15 25 53.6**	**+0.7**
HHC				AP	pP	15 25 58.0	+3.5
HHC				XP	sP	15 26 00.5	+5.3
HHC				PP	PP	15 26 57.4	-5.9
HHC				PCP	PcP	15 28 46.8	-0.7
HHC				S	**S**	**15 30 58.8**	**-0.8**
HHC				XS	sS	15 31 06.9	+4.6
HHC				SCP	ScP	15 32 28.0	-3.1
HHC				PCS	PcS	15 32 30.5	-1.2
HHC				SCS	ScS	15

comp=Z,6.0nm,1.0s,baz=92,slow=4.5,SNR=6.3
IRK Irkutsk 32.77 299 *e*P P **15 26 06.4 -0.1**
IRK *e* 15 27 18.3
IRK pmax pmax
comp=Z,79nm,2.6s,mb5.2
TLY Talaya 33.26 298 P P **15 26 11.6 +0.9**
comp=Z,165nm,0.7s,mb6.1,SNR=7.7
TLY Talaya 33.26 298 P P **15 26 10.4 -0.3**
SNR=12
TLY Talaya 33.26 298 *e*P P **15 26 09.4 -1.3**
TLY *e* 15 27 36.6
TLY *e* 15 28 52.9
TLY pmax pmax
comp=Z,52nm,1.5s,mb5.2
TLY MLR MLR
comp=Z,5μm,15.0s,MS5.3
TLY Talaya 33.26 298 *e*P P **15 26 09.2 -1.5**
comp=Z,41nm,1.1s,mb5.3
ZAK Zakamensk 33.75 296 *e*P P **15 26 13.8 -1.2**
ZAK *e* 15 27 26.9
ZAK *e* 15 28 53.4
ZAK pmax pmax
comp=Z,19nm,1.5s,mb4.8
IMA2 Indian Mountai 33.82 35 *e*P P **15 26 15.3 -0.3**
KDAK Kodiak Island 33.83 50 P P **15 26 14.0 -1.8**
comp=Z,30nm,0.7s,mb5.3,baz=288,slow=5.5,SNR=15
WHN Wuhan 34.63 258 ⇑P P **15 26 23.4 +0.7**
QZH Quanzhou 35.55 246 P P **15 26 32.3 +1.7**
QZH AMB AMB
comp=Z,290nm,1.4s,mb6.0
COLA College 36.10 38 *e*P P **15 26 34.4 -0.9**
COLA pmax pmax
comp=Z,47nm,0.9s,mb5.4
COLA College 36.10 38 *e*P P **15 26 34.4 -0.9**
comp=Z,47nm,0.9s,mb5.4
XAN Xi'an 36.35 267 P P **15 26 37.4 0.0**
XAN AMB AMB
comp=Z,31nm,1.5s,mb5.0
LZH Lanzhou 38.79 273 *e*P P **15 27 00.5 +2.3**
LZH AP pP 15 27 04.0 +4.2
LZH XP sP 15 27 05.8 +5.3
LZH AMB AMB
comp=Z,180nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,810nm,5.0s
LZH LR LR
comp=E,2μm,14.5s
LZH LR LR
comp=Z,3μm,15.8s,MS5.2
LZH Lanzhou 38.79 273 *e*P P **15 27 00.5 +2.3**
comp=Z,180nm,1.3s,mb5.6
LZH pP pP 15 27 04.0 +4.2
LZH sP sP 15 27 05.8 +5.3
LZH LR LR
comp=Z,3μm,15.8s,MS5.2
EGAK Eagle 38.96 38 *e*P P **15 26 58.2 -1.4**
comp=Z,56nm,0.9s,mb5.3
DAWY Dawson 39.78 39 *e*P P **15 27 05.8 -0.6**
GTA Gaotai 39.94 281 P P **15 27 09.8 +2.0**
GTA AP pP 15 27 16.6 +7.2
GTA XP sP 15 27 19.8 +10
GTA PP PP 15 28 43.6 +4.1
GTA PCP PcP 15 29 13.8 +0.6
GTA S S **15 33 04.0 -9.4**
GTA AMB AMB
comp=Z,53nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,3μm,3.1s
GTA LR LR
comp=N,1μm,14.8s,MS5.1
GTA LR LR
comp=E,2μm,15.6s,MS5.1
GTA LR LR
comp=Z,3μm,17.9s,MS5.2
GZH Guangzhou 40.24 249 P P **15 27 06.1 -4.1**
GZH LR LR
comp=N,2μm,15.9s,MS5.2
GZH LR LR
comp=E,2μm,18.0s,MS5.2
GZH LR LR
comp=Z,4μm,23.6s
CD2 Chengdu 41.71 267 P P **15 27 22.9 +0.6**
CD2 S S **15 33 39.8 +0.1**
CD2 AMB AMB
comp=Z,80nm,1.0s,mb5.3
INK Inuvik 41.73 32 P P **15 27 22.2 -0.3**
comp=Z,23nm,0.5s,mb5.0,baz=285,slow=6.1,SNR=45
INK Inuvik 41.73 32 P P **15 27 22.2 -0.3**
GYA Guiyang 42.45 259 ⇓*i*P P **15 27 28.6 +0.3**
GYA AP pP 15 27 32.8 +2.8
GYA XP sP 15 27 35.4 +4.7
GYA PP PP 15 29 07.9 +1.3
GYA PCP PcP 15 29 25.6 +4.3
GYA SCP ScP 15 33 14.6 +2.0
GYA S S **15 33 44.5 -6.0**
GYA SCS ScS 15 37 29.4 -1.5
GYA AMB AMB
comp=Z,80nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,870nm,5.0s
GYA LR LR
comp=N,870nm,17.8s,MS4.9
GYA LR LR
comp=E,1μm,17.6s,MS4.9
GYA LR LR
comp=Z,1μm,18.0s,MS4.8
ZAL Zalesovo 43.71 307 P P **15 27 36.6 -2.0**
comp=Z,7.1nm,0.6s,mb4.6,baz=42,slow=5.2,SNR=11
ZAL PcP PcP 15 29 24.8 -0.8
comp=Z,9.8nm,0.9s,baz=15,slow=3.0,SNR=12
NVS Novosibirsk 44.28 308 *e*P P **15 27 41.7 -1.4**
NVS *e* 15 29 25.0
NVS *e*S S **15 34 07.6 -10**
NVS *e* 15 37 27.6
NVS pmax pmax
comp=N,134nm,2.3s
NVS pmax pmax
comp=E,218nm,2.3s
NVS pmax pmax
comp=Z,256nm,2.3s,mb5.5
NVS smax
comp=N,66nm,2.0s
NVS smax
comp=E,63nm,2.3s
WMQ Urumqi 45.98 292 P P **15 27 58.5 +1.8**
KMI Kunming 46.00 261 P P **15 27 57.4 +0.6**
KMI AMB AMB
comp=Z,23nm,1.2s,mb5.0
KMI Kunming 46.00 261 P P **15 27 57.4 +0.6**
comp=Z,23nm,1.2s,mb5.0
MK31 Makanchi Array 48.02 298 *e*P P **15 28 12.6 0.0**
MKAR Makanchi Array 48.02 298 P P **15 28 11.9 -0.7**
comp=Z,9.8nm,0.5s,mb5.1,baz=68,slow=7.2,SNR=50
MKAR PcP PcP 15 29 40.0 -0.5
comp=Z,8.6nm,0.9s,baz=92,slow=4.0,SNR=3.8
KURK Kurchatov 48.45 305 P P **15 28 15.6 -0.3**
comp=Z,326nm,1.3s,mb6.2,SNR=24
KURK Kurchatov 48.45 305 *e*P P **15 28 15.2 -0.7**
KURK pmax pmax
comp=Z,102nm,1.2s,mb5.7
KURK Kurchatov 48.45 305 *e*P P **15 28 15.2 -0.8**
comp=Z,102nm,1.2s,mb5.7
YKA Yellowknife Ar 50.91 37 P P **15 28 33.0 -1.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=296,slow=7.1,SNR=7.2
YKA Yellowknife Ar 50.91 37 P P **15 28 33.0 -1.7**
LSA Lhasa 51.19 275 *e*P P **15 28 37.6 +0.8**
LSA Lhasa 51.19 275 *e*P P **15 28 39.2 +2.4**
LSA pmax pmax
comp=Z,36nm,0.7s,mb5.4
LSA Lhasa 51.19 275 *e*P P **15 28 39.2 +2.4**
comp=Z,36nm,0.7s,mb5.4
CHKZ Chkalovo 51.52 311 *e*P P **15 28 38.0 -1.2**
CHKZ pmax pmax
comp=Z,32nm,0.6s,mb5.4
CHKZ Chkalovo 51.52 311 *e*P P **15 28 38.0 -1.3**
comp=Z,32nm,0.6s,mb5.4
KKM Kota Kinabalu 51.75 231 P P **15 28 42.7 +1.7**
BVAR Borovoye Array 51.94 310 P P **15 28 42.2 -0.2**
comp=Z,15nm,0.5s,mb5.2,baz=63,slow=7.0,SNR=38
BVAR PcP PcP 15 29 54.1 -0.8
comp=Z,8.9nm,1.0s,baz=81,slow=3.8,SNR=4.7
BVAR LR LR 15 49 55.7
comp=Z,4μm,20.1s,MS5.4,baz=319,slow=35
BVAR Borovoye Array 51.94 310 P P **15 28 42.2 -0.2**
BVAR 15 29 54.1
BRVK Borovoye 51.98 310 P P **15 28 42.9 +0.2**
comp=Z,282nm,0.5s,mb6.5,SNR=9.0
BRVK Borovoye 51.98 310 ⇓P P **15 28 42.6 -0.2**
SNR=19
BRVK Borovoye 51.98 310 *e*P P **15 28 42.2 -0.5**
BRVK pmax pmax
comp=Z,40nm,0.8s,mb5.4
BRVK Borovoye 51.98 310 *e*P P **15 28 42.2 -0.5**
comp=Z,40nm,0.8s,mb5.4
TSM Tawau 52.33 229 P P **15 28 46.3 +1.0**
ZRNK Zerenda 52.71 311 *e*P P **15 28 47.4 -0.7**
ZRNK pmax pmax
comp=Z,25nm,0.5s,mb5.4
ZRNK Zerenda 52.71 311 *e*P P **15 28 47.4 -0.8**
comp=Z,25nm,0.5s,mb5.4
CHTO Chiang Mai 52.83 258 P P **15 28 50.3 +1.2**
SNR=14
CHTO Chiang Mai 52.83 258 *e*P P **15 28 49.7 +0.7**
CHTO pmax pmax
comp=Z,24nm,1.1s,mb5.0
CHTO Chiang Mai 52.83 258 *e*P P **15 28 49.7 +0.7**
comp=Z,24nm,1.1s,mb5.0
D03A Wishkah Elem. 53.70 57 ⇓P P **15 28 55.7 +0.4**
baz=53
ULHL Ulahol 54.03 296 P P **15 28 59.6 +1.8**
SNR=8.7
TKM2 Tokmak 2 54.07 297 P P **15 29 01.3 +3.2**
SNR=14
CHMS Chumysh 54.55 298 P P **15 29 04.8 +3.2**
SNR=8.8
USP Ospenovka 54.56 298 P P **15 29 03.1 +1.4**
SNR=30
C05A Tolt Reservoir 54.60 56 ⇓P P **15 29 03.3 +1.4**
baz=54
KBK Karagaybulak 54.62 297 P P **15 29 03.7 +1.6**
SNR=18
D05A Enumclaw 54.69 56 ⇓P P **15 29 04.7 +2.0**
baz=54
FRU Bishkek 54.72 298 ⇑*e*P P **15 29 06.0 +3.1**
FRU *e*S S **15 36 45.5 +1.8**
FRU pmax pmax
comp=Z,680nm,2.8s,mb6.2
FRU smax
comp=N,180nm,2.8s
KZA Kyzart 54.74 296 P P **15 29 07.8 +4.8**
SNR=12
AAK Ala-Archa 54.91 297 P P **15 29 04.3 +0.1**
comp=N,183nm,0.7s,mb6.2,SNR=21
AAK Ala-Archa 54.91 297 P P **15 29 05.7 +1.5**
SNR=22
AAK Ala-Archa 54.91 297 P P **15 29 04.5 +0.3**
SNR=22
AAK Ala-Archa 54.91 297 ⇑*e*P P **15 29 04.1 -0.1**
AAK pmax pmax
comp=Z,58nm,1.3s,mb5.5
AAK Ala-Archa 54.91 297 *e*P P **15 29 04.0 -0.2**
comp=Z,47nm,1.1s,mb5.4
B07A Winthrop 55.08 54 ⇓P P **15 29 05.5 +0.1**
baz=55
F04A Amboy 55.12 58 ⇓P P **15 29 06.0 +0.3**
baz=55
UCH Uchtor 55.12 297 P P **15 29 11.4 +5.7**
SNR=7.9
SOKR Solikamsk 55.15 322 *e*P P **15 29 05.5 -0.4**
SOKR *e* 15 29 16.2
SOKR pmax pmax
comp=Z,110nm,1.8s,mb5.6
E05A Randle 55.16 57 ⇑P P **15 29 06.1 +0.1**
baz=55
H03A Soap Creek Ran 55.28 59 ⇑P P **15 29 06.9 +0.1**
baz=55
A08A Turner Farm, O 55.29 53 ⇓P P **15 29 06.9 -0.1**
baz=55
EKS2 Erkin-Say 55.34 298 P P **15 29 08.8 +1.5**
SNR=25
D06A Cle Elum 55.35 56 ⇓P P **15 29 07.6 +0.2**
baz=55
HNR Honiara 55.51 173 P P **15 29 08.4 -0.2**
comp=Z,15nm,0.3s,mb5.5,baz=210,slow=8.1,SNR=3.7
C07A Waterville 55.53 55 ⇑P P **15 29 08.2 -0.5**
baz=55
B08A Colville Reser 55.58 54 ⇓P P **15 29 08.2 -0.8**
baz=55
E06A Yakima 55.62 56 ⇑P P **15 29 09.2 -0.2**
baz=55
PMG Port Moresby 55.64 189 *de*P P **15 29 09.7 -0.7**
comp=Z,18nm,1.0s,mb5.0,baz=1.1,slow=6.6,SNR=13
PMG Port Moresby 55.64 189 *de*P P **15 29 09.5 0.0**
A09A Danville 55.66 53 P P **15 29 10.0 +0.3**
baz=55,SNR=6.5
AML Almayashu 55.68 297 P P **15 29 12.0 +2.2**
SNR=12
F05A White Salmon 55.70 57 ⇓P P **15 29 09.9 0.0**
baz=56
KSH Kashi 55.71 293 ⇑P P **15 29 12.6 +2.6**
KSH LR LR
comp=N,3μm,11.8s,MS5.7
KSH LR LR
comp=E,3μm,12.7s,MS5.7
J02A Umpqua 55.83 61 ⇑P P **15 29 11.7 +0.9**
baz=56
D07A Quincy 55.85 55 ⇓P P **15 29 10.3 -0.7**
baz=56
JIRN Jiri 55.88 276 *e*P P **15 29 12.2 +1.0**
H04A Detroit Lake 55.93 59 ⇓P P **15 29 12.0 +0.4**
baz=56
GUN Gumba 55.94 276 *e*P P **15 29 12.8 +1.2**
C08A Higginbotham F 56.05 54 ⇓P P **15 29 12.2 -0.3**
baz=56
ARU Arti 56.08 318 P P **15 29 12.7 +0.1**
comp=E,659nm,0.5s,SNR=32
ARU Arti 56.08 318 ⇓*i*P P **15 29 12.1 -0.5**
ARU *e* 15 30 04.3
ARU *e* 15 31 22.6
ARU *e*PPP 15 32 33.0
ARU *e*S S **15 36 59.7 -2.1**
ARU *e*SS SS 15 40 52.3 +4.4
ARU pmax pmax
comp=Z,94nm,1.3s,mb5.7
ARU Arti 56.08 318 *e*P P **15 29 11.7 -0.9**
comp=Z,53nm,0.6s,mb5.7
EDM Edmonton 56.13 46 *e*P P **15 29 11.7 -1.3**
F06A Goldendale 56.16 57 ⇑P P **15 29 13.1 -0.1**
baz=56
J03A Ideyld Park 56.19 61 ⇑P P **15 29 13.7 +0.3**
baz=56
B09A Rice 56.21 53 ⇓P P **15 29 13.4 -0.1**
baz=56
K02A Glendale 56.21 61 ⇑P P **15 29 14.1 +0.5**
baz=56
A10A Northport 56.23 52 ⇓P P **15 29 13.4 -0.3**
baz=56
E07A Sunnyside 56.27 56 ⇑P P **15 29 14.1 +0.2**
baz=56
I04A Tendick Farm, 56.29 60 ⇓P P **15 29 14.6 +0.4**
baz=56
KKN Kakani 56.43 277 *e*P P **15 29 16.2 +1.1**
PKI Pulchoki 56.47 276 *e*P P **15 29 16.5 +1.1**
comp=Z,243nm,1.3s,mb6.1
C09A Chrisman Ranch 56.48 54 ⇑P P **15 29 15.0 -0.5**
baz=56
H05A Madras 56.52 58 ⇑P P **15 29 16.0 +0.2**
baz=56
D08A Wollman Farm, 56.52 55 ⇓P P **15 29 15.2 -0.6**
baz=56
G06A Carlson Farm, 56.55 58 P P **15 29 16.8 +0.8**
baz=56,SNR=6.2
F07A Phinny Hill Vi 56.59 57 ⇑P P **15 29 16.4 +0.1**
baz=56
HUMO Hull Mountain 56.63 61 ⇓P P **15 29 16.9 +0.4**
baz=56
DMN Daman 56.66 277 *e*P P **15 29 18.2 +1.4**
GKN Gorkha 56.74 277 *e*P P **15 29 18.4 +1.1**
E08A Dider Farm, El 56.76 56 ⇓P P **15 29 17.2 -0.3**
baz=56
I05A Bend 56.77 59 ⇓P P **15 29 18.1 +0.6**
baz=56
J04A Umpqua Nationa 56.78 60 ⇓P P **15 29 18.2 +0.5**
baz=56
NEW Newport 56.87 53 P P **15 29 17.9 -0.3**
comp=Z,3.1nm,0.4s,mb4.7,baz=276,slow=11,SNR=6.2
D09A Jones Farm, Ri 56.87 55 ⇓P P **15 29 17.7 -0.6**
baz=57
A11A Hall Mountain, 56.90 52 P P **15 29 18.9 +0.4**
baz=57,SNR=6.5
H06A Lindquist Farm 57.00 58 P P **15 29 19.4 +0.2**
baz=57,SNR=7.7
G07A Ruggs Ranch, H 57.09 57 ⇓P P **15 29 20.2 +0.3**
baz=57
B11A Sandpoint 57.19 52 ⇑P P **15 29 21.0 +0.5**
baz=57
E09A Wood Farm, Sta 57.27 55 P P **15 29 21.4 +0.3**
baz=57,SNR=7.9
YBH Yreka Blue Hor 57.27 62 P P **15 29 21.8 +0.7**
comp=Z,3.0nm,0.7s,mb4.5,baz=10,slow=0.9,SNR=4.7
YBH Yreka Blue Hor 57.27 62 ⇓P P **15 29 22.0 +0.9**
baz=57
J05A Fort Rock 57.29 60 ⇓P P **15 29 22.1 +0.9**
baz=57
A12A Yaak River Ran 57.30 52 ⇓P P **15 29 21.6 +0.3**
baz=57
F08A Pendleton 57.31 56 P P **15 29 22.0 +0.6**
baz=57,SNR=6.0
DAG Danmarks Havn 57.32 358 ⇓*i*P P **15 29 20.0 -1.4**
comp=Z,80nm,1.6s,mb5.5
DAG Danmarks Havn 57.32 358 ⇓*i*P P **15 29 20.0 -1.4**
DAG pmax pmax
comp=Z,80nm,1.6s,mb5.5
M02C Callahan 57.38 62 ⇑P P **15 29 22.6 +0.8**
baz=57
N02C Big Bar 57.43 63 ⇑P P **15 29 23.4 +1.1**
baz=57
G08A Pilot Rock 57.49 57 ⇓P P **15 29 22.6 -0.1**
baz=57
L04A Klamath Falls 57.52 61 ⇓P P **15 29 23.7 +0.8**
baz=57
I06A Prineville 57.52 59 P P **15 29 23.4 +0.5**
baz=57,SNR=6.4
B12A Libby 57.60 52 ⇑P P **15 29 23.8 +0.4**
baz=57
KOLN Koldanda 57.60 278 *e*P P **15 29 24.6 +1.2**
comp=Z,276nm,1.2s,mb6.2
LVZ Lovozero 57.70 337 ⇑*e*P P **15 29 24.7 +0.6**
LVZ pmax pmax
comp=Z,65nm,1.6s,mb5.4
LVZ Lovozero 57.70 337 ⇑*e*P P **15 29 24.8 +0.7**
M04C Macdoel 57.78 62 ⇑P P **15 29 25.3 +0.6**
baz=58
K05A Summer Lake 57.81 60 P P **15 29 26.5 +1.6**
baz=58,SNR=5.4
F09A S2 Ranch, Elgi 57.86 56 ⇑P P **15 29 25.8 +0.5**
baz=58
I07A Izee 57.86 58 P P **15 29 25.7 +0.4**
baz=58,SNR=6.0
E10A Myers Farm, Un 57.88 55 ⇑P P **15 29 24.9 -0.5**
baz=58
M03C McCloud 57.90 62 ⇓P P **15 29 25.9 +0.3**
baz=58
D11A Klaveano Farm, 57.99 54 ⇓P P **15 29 25.9 -0.3**
baz=58
WDC Whiskeytown Da 58.04 63 ⇑P P **15 29 26.5 -0.1**
baz=58
F10A Beach Ranch, E 58.10 55 ⇑P P **15 29 26.7 -0.2**
baz=58
H08A Prairie City 58.10 57 P P **15 29 27.3 +0.3**
baz=58,SNR=11
O02C Red Bluff 58.12 64 ⇓P P **15 29 27.6 +0.5**
baz=58
K06A Valley Falls 58.16 60 P P **15 29 27.7 +0.4**
baz=58,SNR=6.8
KEV Kevo 58.24 341 *ep* P **15 29 26.7 -1.2**
comp=Z,7.9nm,0.5s,mb5.0
KEV Kevo 58.24 341 *e*P P **15 29 26.7 -1.2**
KEV pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
L05A Lakeview 58.24 61 P P **15 29 29.4 +1.5**
baz=58,SNR=8.3
B13A Whitefish 58.26 52 P P **15 29 28.8 +0.7**
baz=58,SNR=13
APA Apatity 58.27 337 ⇑*i*P P **15 29 28.4 +0.3**
APA *i* pP 15 29 31.0 +1.1
APA pmax pmax
comp=Z,70nm,1.4s,mb5.5
J07A Hines 58.39 59 ⇓P P **15 29 29.7 +0.8**
baz=58
M05C Lookout 58.45 62 ⇓P P **15 29 30.2 +0.8**
baz=58
GASB Alder Springs 58.47 64 ⇑P P **15 29 30.3 +0.7**
baz=58
I08A Drewsey 58.51 58 ⇓P P **15 29 30.7 +0.9**
baz=58
BOK Bokaro 58.55 273 *e*P P **15 29 31.4 +1.3**
BOK AMb AMB 15 29 34.0
comp=Z,73nm,1.2s,mb5.6
HATC Hat Creek Radi 58.57 62 ⇓P P **15 29 30.5 +0.3**
baz=58
H09A Durkee 58.60 57 ⇑P P **15 29 30.5 +0.1**
baz=58
C13A Hot Springs 58.61 52 ⇑P P **15 29 30.0 -0.5**
baz=58
HOPS Hopland 58.64 65 ⇓P P **15 29 30.9 +0.2**
baz=58
MOD Modoc 58.65 61 P P **15 29 31.2 +0.5**
baz=58,SNR=6.0
O03C Acorn Hollow, 58.70 63 ⇓P P **15 29 31.5 +0.4**
baz=58
ARCES ARCESS Array B 58.75 341 P P **15 29 31.4 -0.1**
comp=Z,6.9nm,0.5s,mb5.0,baz=35,slow=6.4,SNR=35
F11A Grangeville 58.76 55 P P **15 29 31.9 +0.3**
baz=58,SNR=8.8
K07A Rock Creek Ran 58.82 59 P P **15 29 32.4 +0.4**
baz=59,SNR=8.1
LGTI Lohaghat 58.85 281 *e*P P **15 29 34.0 +1.8**
J08A Circle Bar Ran 58.89 58 P P **15 29 32.6 +0.2**
baz=59,SNR=5.4
M06C Likely Place G 58.95 61 ⇑P P **15 29 32.8 -0.1**
baz=59
I09A Lost Marbles R 58.96 57 ⇓P P **15 29 33.1 +0.1**
baz=59
G11A Walters Elk Ra 58.98 55 ⇓P P **15 29 32.7 -0.4**
baz=59
C14A Swan Lake 59.01 52 ⇓P P **15 29 32.2 -1.1**
baz=59
D13A Huson 59.01 53 ⇑P P **15 29 32.6 -0.7**
baz=59
O04C Chester 59.09 63 ⇓P P **15 29 33.9 +0.1**
baz=59
MNRC McLaughlin Nat 59.10 65 ⇑P P **15 29 33.7 -0.2**
baz=59
ELFS Eagle Lake Fie 59.14 62 P P **15 29 35.4 +1.2**
baz=59,SNR=6.8
L07A Adell 59.16 60 P P **15 29 35.7 +1.4**
baz=59,SNR=6.2
K08A Mann Creek Ran 59.25 59 P P **15 29 36.0 +1.0**
baz=59,SNR=8.1
TMCR Tamitsa 59.31 333 *e*P P **15 29 35.4 0.0**
TMCR pmax pmax
comp=Z,100nm,1.2s,mb5.7
J09A Fry Pan Ranch, 59.32 58 P P **15 29 35.8 +0.4**
baz=59,SNR=8.7
O05C Quincy 59.41 63 ⇓P P **15 29 35.5 -0.5**
baz=59
OHCM Honcut 59.43 64 *e*P P **15 29 34.7 -1.5**
KAPI Kappang 59.47 221 P P **15 29 36.3 -0.2**
comp=Z,262nm,1.3s,mb6.1,SNR=6.5
H11A Donnelly 59.54 56 ⇑P P **15 29 36.8 -0.2**
baz=59
E13A Victor 59.55 53 P P **15 29 37.4 +0.4**
baz=59,SNR=7.5
D14A Greenough 59.55 52 P P **15 29 36.4 -0.6**
baz=59,SNR=18
N06A Buffalo Meadow 59.61 61 P P **15 29 37.3 -0.1**
baz=59,SNR=8.4
M07A Soldier Meadow 59.63 61 P P **15 29 38.3 +0.7**
baz=59,SNR=9.3
L08A Fields 59.66 59 P P **15 29 36.6 -1.1**
baz=59,SNR=8.7
KTK1 Kautokeino 59.66 342 *e*P P **15 29 38.0 +0.3**
KTK1 AMb AMB 15 29 45.6
comp=Z,101nm,2.1s,mb5.5
K09A Rome 59.72 59 P P **15 29 38.3 +0.1**
baz=60,SNR=6.8
CHMT Chamberlain Mo 59.78 52 *e*P P **15 29 37.5 -1.1**
AKTK Aktyubinsk 59.81 313 P P **15 29 38.9 +0.1**
AKTK PcP PcP 15 30 23.6 -1.8
AKTO Aktyubinsk 59.81 313 P P **15 29 38.9 +0.1**
comp=Z,5.9nm,0.5s,mb4.9,baz=65,slow=5.9,SNR=14
AKTO PcP PcP 15 30 23.6 -1.9
comp=Z,15nm,0.8s,baz=1.2,slow=6.8,SNR=5.8
AKTO Aktyubinsk 59.81 313 P P **15 29 38.9 +0.1**
AKTO 15 30 23.6
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BEKR Beckwourth 59.81 63 ⇓P P **15 29 38.5 -0.3**
baz=60

F13A **Darby** 59.85 54 P P 15 29 38.5 -0.6
baz=60,SNR=10.0
E14A **Clinton** 59.95 53 P P 15 29 39.8 +0.1
baz=60,SNR=7.1
O06A **Flanigan** 59.96 62 ⇓P P 15 29 40.1 +0.3
baz=60
P05C **Yuba Gap, Truc** 59.99 63 ⇑P P 15 29 39.8 -0.2
baz=60
TRO **Tromso** 60.05 344 eP P 15 29 39.3 -1.2
THN **Thein Dam** 60.06 287 eP P 15 29 40.2 -0.4
D15A **Lincoln** 60.11 52 ⇓P P 15 29 40.8 -0.1
baz=60
N07B **Gerlach** 60.12 61 P P 15 29 41.8 +0.9
baz=60,SNR=6.3
F14A **Wisdom** 60.38 54 ⇓P P 15 29 43.2 +0.5
baz=60
E15A **Deer Lodge** 60.41 53 P P 15 29 43.0 0.0
baz=60,SNR=8.0
WCN **Washoe City** 60.52 63 ⇓P P 15 29 43.7 0.0
baz=60,SNR=5.7
O07A **Toulon** 60.55 61 P P 15 29 43.5 -0.4
baz=60,SNR=13
N08A **GE Springer Mi** 60.62 61 P P 15 29 44.2 -0.2
baz=60,SNR=7.4
S04C **Ingram Canyon,** 60.63 65 ⇓P P 15 29 44.6 +0.2
baz=60
M09A **Marrel Ranch,** 60.65 60 ⇑P P 15 29 44.6 +0.1
baz=60
FFC **Flin Flon** 60.66 40 P P 15 29 44.6 -0.1
comp=Z,132nm,0.8s,mb6.1,SNR=5.9
FFC **Flin Flon** 60.66 40 P P 15 29 44.8 +0.1
R05C **Kirkwood Meado** 60.69 63 P P 15 29 44.8 0.0
baz=60,SNR=8.0
ORR **Orenburg** 60.72 315 eP P 15 29 45.9 +0.8
ORR pmax pmax
comp=Z,70nm,1.2s,mb5.7
F15A **Butte** 60.85 53 P P 15 29 45.7 -0.2
baz=61,SNR=20
CMB **Columbia Colle** 60.90 64 P P 15 29 46.2 0.0
baz=61,SNR=5.6
O08A **Rochester Mine** 60.91 61 ⇓P P 15 29 46.8 +0.5
baz=61
P07A **Fallon** 60.91 62 ⇑P P 15 29 46.6 +0.3
baz=61
NIL **Nilore** 60.94 289 P P 15 29 48.9 +2.3
comp=Z,123nm,0.6s,mb6.2,SNR=5.9
N09A **Rock Creek Ran** 60.95 60 P P 15 29 47.1 +0.5
baz=61,SNR=10
PACP **Pacheco Peak** 60.95 66 ⇓P P 15 29 47.7 +1.1
baz=61
EGMT **Eagleton** 61.01 50 eP P 15 29 46.2 -0.8
comp=Z,82nm,1.5s,mb5.6
M10A **I.L. Ranch, Tu** 61.13 59 ⇑P P 15 29 48.4 +0.6
baz=61,SNR=7.6
HAST **UC Hastings Re** 61.16 66 ⇑P P 15 29 48.3 +0.2
baz=61
R06C **Coleville** 61.18 63 P P 15 29 48.0 -0.2
baz=61,SNR=8.0
G15A **Dillon** 61.26 54 P P 15 29 47.7 -1.1
baz=61,SNR=14
SUMG **Summit** 61.28 4 eP P 15 29 48.9 +0.1
comp=Z,273nm,2.0s,mb6.0
P08A **Dixie Valley** 61.31 61 ⇑P P 15 29 48.6 -0.5
baz=61
S06C **San Francisco** 61.33 64 P P 15 29 49.0 -0.2
baz=61,SNR=9.7
S05C **Merced** 61.35 65 ⇓P P 15 29 49.3 0.0
baz=61
NDI **New Delhi** 61.39 283 eP P 15 29 48.5 -1.1
T05C **Eagle Field, D** 61.41 65 ⇓P P 15 29 50.2 +0.5
baz=61
O09A **Fish Creek Ran** 61.57 61 P P 15 29 50.9 +0.1
baz=61,SNR=9.2
M11A **Holland Ranch,** 61.63 59 ⇑P P 15 29 51.4 +0.1
baz=61
R07C **Lee Vining** 61.70 63 P P 15 29 52.9 +1.2
baz=62,SNR=8.6
KAKA **Kakadu** 61.79 204 ⇓iP P 15 29 51.6 -0.7
comp=Z,34nm,0.6s,mb5.7
O10A **Cortez Mining,** 61.91 60 P P 15 29 54.5 +1.4
baz=62,SNR=5.7
Q08A **Gabbs** 61.92 62 ⇑P P 15 29 53.6 +0.4
baz=62
T06C **Millerton Lake** 61.95 65 ⇓P P 15 29 53.6 +0.2
baz=62
IPM **Ipoh** 61.98 245 P P 15 29 55.2 +1.6
KCC **Kaiser Creek** 62.00 64 ⇑P P 15 29 53.4 -0.3
baz=62
QLMT **Earthquake Lak** 62.06 53 eP P 15 29 53.8 -0.3
R08A **Mina** 62.12 63 ⇓P P 15 29 54.9 +0.4
baz=62
M12A **Wells** 62.16 58 P P 15 29 55.4 +0.6
baz=62,SNR=13
P10A **Eureka** 62.34 61 ⇑P P 15 29 56.7 +0.7
baz=62
Q09A **Carvers** 62.39 62 ⇑P P 15 29 57.0 +0.6
baz=62
GCMT **Greycliff** 62.44 52 eP P 15 29 56.1 -0.5
N12A **Clover Valley,** 62.44 59 P P 15 29 57.1 +0.4
baz=62,SNR=5.7
KGM **Kluang** 62.48 241 P P 15 29 59.1 +2.2
PECR **Pechory** 62.48 324 eP P 15 29 58.0 +1.0
PECR pmax pmax
comp=Z,300nm,2.0s,mb6.1
PECR MLR MLR
comp=Z,7μm,16.0s,MS5.9
PECR MLR MLR
comp=E,800nm,15.0s
O11A **Cowboy Ranch,** 62.52 60 ⇑P P 15 29 57.4 +0.2
baz=62
HELL **Mitchell Peak,** 62.59 65 P P 15 29 57.7 +0.1
baz=62,SNR=7.1
S08C **White Mtn Res** 62.61 63 P P 15 29 58.4 +0.6
baz=62,SNR=10
M13A **Montello** 62.64 58 ⇑P P 15 29 58.2 +0.2
baz=62
P11A **Circle Ranch,** 62.82 60 ⇓P P 15 29 58.5 -0.7
baz=63
SMMC **Simmler** 62.82 66 ⇑P P 15 29 59.2 0.0
baz=63
R09A **Tonopah** 62.83 62 P P 15 29 58.6 -0.7
baz=63,SNR=15
N13A **Wendover, West** 62.93 58 ⇑P P 15 29 59.8 -0.2
baz=63
O12A **Currie** 62.98 59 P P 15 30 00.6 +0.4
baz=63,SNR=12
S09A **Goldfield** 63.06 63 P P 15 30 00.9 +0.1
baz=63,SNR=9.3
VES **Vestal, Richgr** 63.07 65 ⇓P P 15 30 00.7 -0.2
baz=63
PKM **Peak Mountain** 63.20 67 ⇓P P 15 30 00.6 -1.1
baz=63
R10A **Warm Springs** 63.27 62 ⇑P P 15 30 02.0 -0.2
baz=63
LOHW **Long Hollow** 63.29 54 eP P 15 30 02.6 +0.3
comp=E,71nm,1.5s,mb5.6
REDW **Red Top Meadow** 63.30 54 eP P 15 30 02.0 -0.4
comp=E,107nm,1.4s,mb5.8
Q11A **Duckwater** 63.32 61 P P 15 30 02.5 0.0
baz=63,SNR=6.0
CWC **Cottonwood Cre** 63.33 64 P P 15 30 02.6 0.0
baz=63,SNR=7.8
P12A **McGill** 63.38 60 P P 15 30 02.9 0.0
baz=63,SNR=5.4
GRAC **Grapevine Rang** 63.42 63 ⇑P P 15 30 03.2 0.0
baz=63
ISA **Isabella** 63.57 65 ⇑P P 15 30 03.2 -0.9
baz=63
ARVC **Arvin** 63.68 66 ⇓P P 15 30 03.9 -1.0
baz=63
Q12A **Willow Creek R** 63.70 60 P P 15 30 05.3 +0.3
baz=63,SNR=8.3
MOR8 **Moi Rana** 63.90 343 eP P 15 30 06.0 -0.3
MOR8 AMb AMB 15 30 12.1
comp=Z,72nm,1.5s,mb5.5
MOR8 **Moi Rana** 63.90 343 eP P 15 30 06.0 -0.3
comp=Z,72nm,1.5s,mb5.5
MPMC **Manual Prospec** 63.94 64 P P 15 30 06.5 -0.1
baz=64,SNR=11
FURC **Furnace Creek,** 64.07 64 P P 15 30 08.0 +0.5
baz=64,SNR=6.2
OSI **Osito Adit** 64.07 66 ⇓P P 15 30 07.0 -0.4
baz=64
DUG **Dugway** 64.17 58 eP P 15 30 07.3 -0.8
DUG pmax pmax
comp=Z,40nm,1.4s,mb5.3
DUG **Dugway** 64.17 58 eP P 15 30 07.3 -0.8
comp=Z,40nm,1.4s,mb5.3

LRMC **Laurel Mountai** 64.18 65 P P 15 30 07.8 -0.4
baz=64,SNR=6.7
VIS **Vishakhapatnam** 64.37 269 eP P 15 30 11.6 +2.2
VIS AMb AMB 15 30 22.6
comp=Z,36nm,0.9s,mb5.4
EDW2 **Edwards Air Fo** 64.37 66 P P 15 30 09.2 -0.2
baz=64,SNR=7.9
PDAR **Pinedale Array** 64.41 54 P P 15 30 08.7 -1.0
comp=Z,7.8nm,0.9s,mb4.7,baz=318,slow=2.0,SNR=26
U10A **Ash Meadows, A** 64.43 63 ⇓P P 15 30 10.1 +0.3
baz=64
AJM **Ajmer** 64.56 282 eP P 15 30 11.7 +1.1
AJM AMb AMB 15 30 14.1
comp=Z,126nm,1.3s,mb5.8
PSI **Prapat** 64.60 246 P P 15 30 11.2 +0.2
comp=Z,13nm,0.9s,mb5.0,baz=352,slow=4.1,SNR=12
GSC **Goldstone** 64.85 65 ⇓P P 15 30 12.7 +0.1
baz=65
BFSC **Mount Baldy St** 64.99 66 ⇓P P 15 30 12.8 -0.7
baz=65
FIA1 **FINESS Array S** 64.99 335 eP P 15 30 12.0 -1.5
FINES **FINESS Array B** 64.99 335 P P 15 30 11.6 -1.9
comp=Z,6.9nm,0.4s,mb5.1,baz=38,slow=7.4,SNR=47
FINES **FINESS Array B** 64.99 335 P P 15 30 11.6 -1.9
TUQ **Turquoise Mtn.** 65.31 64 P P 15 30 15.6 0.0
baz=65,SNR=6.8
V11A **Goodsprings** 65.36 63 ⇓P P 15 30 16.0 +0.1
baz=65
BBRC **Big Bear Sol-O** 65.44 66 ⇑P P 15 30 16.7 +0.3
baz=65
HEC **Hector,Ludlow** 65.45 65 ⇑P P 15 30 16.2 -0.3
baz=65
MOS **Moscow** 65.47 326 eP P 15 30 13.2 -3.4
MOS e 15 32 36.6
MOS pmax pmax
comp=Z,90nm,0.9s,mb5.8
U12A **Valley of Fire** 65.53 62 ⇑P P 15 30 16.4 -0.6
baz=65
MSU **Marysvale** 65.63 59 eP P 15 30 17.0 -0.6
MURC **Murrieta** 65.69 66 ⇑P P 15 30 17.5 -0.5
baz=66
TMUT **Trail Mountain** 65.70 58 eP P 15 30 16.9 -1.2
V12A **Nelson** 65.80 63 ⇑P P 15 30 18.4 -0.3
baz=66,SNR=6.9
NSS **Namsos** 65.84 343 eP P 15 30 19.9 +0.9
NSS AMb AMB 15 30 25.7
comp=Z,129nm,2.1s,mb5.6
NSS **Namsos** 65.84 343 eP P 15 30 19.9 +0.9
comp=Z,129nm,2.1s,mb5.6
W12A **Cal Nev Ari** 66.06 63 ⇑P P 15 30 19.8 -0.6
baz=66
PFO **Pinyon Flat Ob** 66.16 66 ⇑P P 15 30 20.3 -0.7
baz=66
BELC **Belle Mtn.** 66.19 65 ⇑P P 15 30 20.7 -0.6
baz=66
109C **Camp Elliot, M** 66.21 67 ⇓P P 15 30 21.0 -0.4
baz=66
CTA **Charters Tower** 66.29 188 eP P 15 30 21.4 -0.5
comp=Z,11nm,1.1s,mb4.8
CTA **Charters Tower** 66.29 188 eP P 15 30 21.4 -0.5
CTA pmax pmax
comp=Z,11nm,1.1s
OBN **Obninsk** 66.33 326 eP P 15 30 21.2 -1.0
OBN e 15 30 51.5
OBN e 15 32 46.4
OBN pmax pmax
comp=Z,103nm,1.4s,mb5.7
ULM **Lac du Bonnet** 66.43 41 P P 15 30 21.9 -0.9
comp=Z,6.2nm,0.9s,mb4.6,baz=327,slow=8.2,SNR=5.9
ULM **Lac du Bonnet** 66.43 41 P P 15 30 21.9 -0.9
IRM **Iron Mountain** 66.62 65 P P 15 30 23.6 -0.4
baz=66,SNR=5.3
MONP **Monument Peak** 66.65 66 ⇑P P 15 30 23.8 -0.4
baz=66
BC3 **Big Chuckw Mtn** 66.76 65 ⇓P P 15 30 24.1 -0.8
baz=66
W13A **Hualapai Mount** 66.80 63 ⇑P P 15 30 25.1 0.0
baz=67,SNR=8.0
DVTC **Desert V Tower** 67.00 66 ⇑P P 15 30 25.8 -0.6
baz=67
PDMCI **Parker Dam,Lak** 67.17 64 ⇑P P 15 30 26.8 -0.7
baz=67
X13A **Yucca** 67.17 63 P P 15 30 26.9 -0.6
baz=67,SNR=9.1
W14A **Seligman** 67.22 63 ⇑P P 15 30 28.2 +0.3
baz=67,SNR=12
Y12C **Blythe** 67.29 65 ⇑P P 15 30 27.6 -0.6
baz=67
GLA **Glamis** 67.55 65 ⇓P P 15 30 29.4 -0.5
baz=67
Y13A **Salome** 67.68 64 ⇓P P 15 30 30.5 -0.3
baz=67
ABKT **Ailbek** 67.69 302 P P 15 30 31.2 +0.4
comp=Z,124nm,1.7s,mb5.7,SNR=10
W15A **Williams** 67.75 62 ⇓P P 15 30 31.1 -0.1
baz=68
VOR **Voronezh** 67.77 323 P P 15 30 30.5 -0.8
VOR pmax pmax
comp=Z,350nm,3.0s
AGMN **Agassiz Refuge** 67.81 43 eP P 15 30 29.7 -1.9
comp=Z,64nm,1.6s,mb5.4
X14A **Yava** 67.83 63 P P 15 30 32.0 +0.3
baz=68,SNR=8.3
HYB **Hyderabad** 67.89 272 iP P 15 30 32.0 -0.1
HYB **Hyderabad** 67.89 272 eP P 15 30 32.0 -0.1
Y14A **Wickenburg** 68.11 64 P P 15 30 33.3 -0.1
baz=68,SNR=5.3
VRSR **Storozhevoye** 68.15 322 eP P 15 30 34.8 +1.1
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,9.0nm,0.6s
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
WRAB **Tennant Creek** 68.19 200 P P 15 30 33.0 -0.9
SNR=15
WRAB **Tennant Creek** 68.19 200 P P 15 30 33.6 -0.3
comp=Z,260nm,1.1s,mb6.2,SNR=15
WRAB **Tennant Creek** 68.19 200 P P 15 30 33.8 -0.1
WB2 **Warramunga Arr** 68.20 200 eP P 15 30 32.8 -1.2
WRA **Warramunga Arr** 68.20 200 P P 15 30 33.0 -1.0
comp=Z,23nm,0.9s,mb5.2,baz=17,slow=6.4,SNR=44
X15A **Humboldt** 68.23 63 P P 15 30 34.8 +0.6
baz=68,SNR=8.4
Z14A **Wintersburg** 68.53 64 ⇓P P 15 30 36.1 0.0
baz=68
FITZ **Fitzroy Crossi** 69.00 209 P P 15 30 38.5 -0.5
comp=Z,8.8nm,0.7s,mb4.8,baz=20,slow=6.7,SNR=22
NB2 **NORSAR Subarra** 69.12 342 P P 15 30 39.1 -0.6
comp=Z,68nm,1.2s,mb5.5,baz=26,slow=6.5
NOA **NORSAR Array B** 69.12 342 P P 15 30 38.4 -1.4
comp=Z,5.1nm,0.5s,mb4.7,baz=29,slow=6.1,SNR=13
NOA **NORSAR Array B** 69.12 342 P P 15 30 38.4 -1.4
115A **Sonoran Desert** 69.42 64 ⇓P P 15 30 42.2 +0.6
baz=69
MNK **Minsk** 70.01 330 eP P 15 30 41.0 -4.3
MNK pmax pmax
comp=Z,80nm,1.0s,mb5.6
EYMN **Ely** 70.09 41 eP P 15 30 43.7 -2.0
comp=Z,13nm,1.1s,mb4.8
POO **Poona** 70.40 277 ⇓iP P 15 30 47.0 -0.6
comp=Z,80nm,1.0s,mb5.6
KAD **Karad** 71.00 275 eP P 15 30 51.5 +0.3
KAD AMb AMB 15 30 54.6
comp=Z,64nm,1.3s,mb5.4
LPM **Los Pinos Moun** 71.75 59 eP P 15 30 56.0 +0.2
BNM **Barren Site** 71.87 60 eP P 15 30 56.6 +0.1
KIV **Kislovodsk** 71.88 315 P P 15 30 57.0 +0.4
comp=Z,41nm,0.4s,mb5.7,SNR=8.2
KIV **Kislovodsk** 71.88 315 P P 15 30 58.5 +2.0
SNR=7.5
KIV **Kislovodsk** 71.88 315 eP P 15 30 57.5 +0.9
KIV e 15 31 17.8
KIV eS 15 40 17.5 -0.4
KIV pmax pmax
comp=Z,58nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,431nm,2.5s,mb5.9
KIV **Kislovodsk** 71.88 315 eP P 15 30 57.7 +1.2
comp=Z,84nm,1.3s,mb5.5
AS31 **Alice Springs** 71.89 200 ⇓iP P 15 30 56.5 -0.1
ASAR **Alice Springs** 71.89 200 P P 15 30 56.6 0.0
comp=Z,19nm,1.0s,mb5.0,baz=11,slow=5.3,SNR=55
ASPA **Alice Springs** 71.89 200 ⇓iP P 15 30 56.5 -0.1
SUW **Suwalki** 71.98 332 eP P 15 30 56.5 -0.7
ZEI **Tsey** 72.14 314 eP P 15 30 57.9 -0.2
ZEI e*PP pP 15 31 13.5 +14

ZEI pmax pmax
comp=Z,37nm,1.5s,mb5.1
AKASG **Malin Array Be** 72.57 327 P P 15 30 59.9 -0.8
comp=Z,8.0nm,0.4s,mb5.0,baz=34,slow=6.1,SNR=24
AKBB **Malin Array Si** 72.57 327 eP P 15 30 59.6 -1.1
KIEV **Kiev** 72.58 327 eP P 15 30 59.6 -1.2
KIEV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIEV **Kiev** 72.58 327 eP P 15 30 59.6 -1.2
comp=Z,28nm,1.0s,mb5.1
GNI **Garni** 73.61 311 ⇓P P 15 31 09.3 +2.4
SNR=6.7
GNI **Garni** 73.61 311 ⇑eP P 15 31 07.9 +1.0
GNI pmax pmax
comp=Z,100nm,1.6s
GNI **Garni** 73.61 311 eP P 15 31 07.3 +0.4
comp=Z,97nm,1.3s,mb5.6
ANN **Anapa** 73.74 319 eP P 15 31 11.9 +4.2
ANN pmax pmax
comp=Z,138nm,1.4s,mb5.7
SIM **Simferopol'** 75.12 321 ceP P 15 31 17.3 +1.6
SIM pmax pmax
comp=Z,23nm,1.3s,mb5.0
LVV **L'vov** 75.20 329 eP P 15 31 14.7 -1.4
LVV e 15 31 25.9
TRD **Trivandrum** 75.20 267 eP P 15 31 14.7 -1.4
TRD AMb AMB 15 31 18.8
comp=Z,61nm,1.5s,mb5.3
KIS **Kishinev** 75.72 325 eP P 15 31 18.0 -1.1
KWP **Kalwaria** 75.82 330 eP P 15 31 20.0 +0.3
OJC **Ojcow** 76.30 332 eP P 15 31 22.5 +0.1
STHS **Stebnicka Huta** 76.51 331 eP P 15 31 24.0 +0.4
STHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
STHS **Stebnicka Huta** 76.51 331 eP P 15 31 24.0 +0.4
comp=Z,15nm,1.0s,mb4.9
KOLS **Kolonicke sedl** 76.56 330 eP P 15 31 23.6 -0.3
BURAR **Bucovina Array** 76.61 327 ⇓iP P 15 31 24.5 +0.3
BURAR **Bucovina Array** 76.61 327 ⇓P P 15 31 24.5 +0.3
UZH **Uzhgorod** 76.81 330 ⇓iP P 15 31 25.0 -0.3
NIE **Niedzica** 76.82 331 eP P 15 31 25.8 +0.4
KSP **Ksiaz** 76.87 334 eP P 15 31 26.3 +0.7
KSP **Ksiaz** 76.87 334 eP P 15 31 25.6 0.0
TXAR **Lajitas Array** 77.04 61 P P 15 31 25.7 -0.9
comp=Z,5.1nm,0.6s,mb4.6,baz=309,slow=4.5,SNR=3.6
OKC **Ostrava-Krasne** 77.17 333 eP P 15 31 27.2 -0.1
UPC **Upice** 77.25 334 eP P 15 31 27.5 -0.3
UPC epP pP 15 31 32.8 +3.3
DPC **Dobruska-Polom** 77.29 334 eP P 15 31 27.4 -0.6
DPC epP pP 15 31 32.5 +2.7
CLL **Collm** 77.41 336 ⇑iP P 15 31 27.8 -0.9
CLL i 15 31 44.0
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CLL **Collm** 77.41 336 ⇑iP P 15 31 27.8 -0.9
comp=Z,66nm,1.3s,mb5.4
CLL i 15 31 44.0
CLL **Collm** 77.41 336 ⇑iP P 15 31 27.8 -0.9
comp=Z,66nm,1.3s,mb5.4
CLL i (sP) sP 15 31 44.0 +13
MORC **Moravsky Berou** 77.41 333 ⇑iP P 15 31 29.8 +1.1
MORC **Moravsky Berou** 77.41 333 eP P 15 31 28.2 -0.5
MORC pmax pmax
comp=Z,64nm,1.5s,mb5.3
MORC **Moravsky Berou** 77.41 333 eP P 15 31 28.2 -0.5
comp=Z,64nm,1.5s,mb5.3
WSAR **Wadi Sarin** 77.43 290 P P 15 31 29.7 +0.9
comp=Z,11nm,1.2s,mb4.7,baz=80,slow=3.5,SNR=6.2
WSAR **Wadi Sarin** 77.43 290 P P 15 31 29.7 +0.9
VRI **Vrincioaia** 77.47 325 ⇓iP P 15 31 30.3 +1.3
VRI **Vrincioaia** 77.47 325 P P 15 31 29.9 +0.9
VRI **Vrincioaia** 77.47 325 ⇓P P 15 31 30.3 +1.2
CFR **Carcaliu** 77.48 324 ⇓iP P 15 31 30.2 +1.1
CFR **Carcaliu** 77.48 324 P P 15 31 29.6 +0.5
CFR **Carcaliu** 77.48 324 ⇓P P 15 31 30.2 +1.1
PLOR **Plostina** 77.52 326 ⇓iP P 15 31 38.1 +8.8
BOYT **Boyabat** 77.53 318 iP P 15 31 30.8 +1.4
BRG **Berggiesshubel** 77.53 336 iP P 15 31 29.0 -0.4
comp=Z,17nm,1.4s,mb4.8
BRG **Berggiesshubel** 77.53 336 iP P 15 31 29.0 -0.4
BRG pmax pmax
comp=Z,22nm,1.4s,mb4.9
BIDO **Bidbid** 77.56 291 P P 15 31 31.2 +1.7
SNR=8.9
KECS **Kecovo** 77.57 331 eP P 15 31 29.1 -0.5
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KECS **Kecovo** 77.57 331 eP P 15 31 29.1 -0.5
comp=Z,6.6nm,0.9s,mb4.6
WBK **Wadi Bani Khal** 77.65 290 ⇓P P 15 31 32.8 +2.8
SNR=6.8
WIT **Witteveen** 77.65 341 eP P 15 31 37.6 +7.6
PVCC **Panska Ves** 77.66 335 eP P 15 31 30.8 +0.7
ELZG **Elazig** 77.81 314 iP P 15 31 32.0 +1.1
HATD **Hatta, Dubai** 77.92 293 ⇑P P 15 31 32.6 +1.0
SNR=8.2
SMDO **Samad** 77.93 291 P P 15 31 33.8 +2.2
SNR=8.7
TIRR **Tirgusor** 77.95 324 ⇑iP P 15 31 33.0 +1.3
TIRR **Tirgusor** 77.95 324 eP P 15 31 31.4 -0.3
TIRR pmax pmax
comp=Z,21nm,1.0s,mb5.0
TIRR **Tirgusor** 77.95 324 eP P 15 31 31.4 -0.3
comp=Z,21nm,1.0s,mb5.0
HOQ **Hoqain** 78.04 291 ⇑P P 15 31 33.5 +1.3
SNR=9.7
ASHO **Ashiyiah** 78.07 293 ⇓P P 15 31 33.7 +1.4
SNR=12
MLR **Muntele Rosu** 78.09 326 P P 15 31 33.2 +0.7
VYHS **Vyhne** 78.11 332 eP P 15 31 32.5 -0.1
VYHS e 15 34 34.1
VYHS pmax pmax
comp=Z,19nm,1.3s,mb4.9
VYHS **Vyhne** 78.11 332 eP P 15 31 32.5 -0.1
comp=Z,19nm,1.3s,mb4.9
VYHS epPP PP 15 34 34.1 +5.2
VRAC **Vranov** 78.12 333 ⇓iP P 15 31 34.2 +1.5
VRAC **Vranov** 78.12 333 P P 15 31 33.3 +0.6
VRAC **Vranov** 78.12 333 ⇓P P 15 31 34.2 +1.5
BALT **Daday** 78.14 319 iP P 15 31 34.1 +1.4
PRU **Pruhonice** 78.15 335 eP P 15 31 32.7 -0.1
PRU epP pP 15 31 38.9 +4.4
CTKT **Corum** 78.21 317 iP P 15 31 33.8 +0.7
DRGR 78.22 328 ⇓iP P 15 31 33.5 +0.3
DRGR 78.22 328 P P 15 31 33.4 +0.2
DRGR 78.22 328 ⇓P P 15 31 33.5 +0.3
MALT **Malatya** 78.23 314 ⇑iP P 15 31 35.0 +1.7
MALT **Malatya** 78.23 314 eP P 15 31 34.2 +0.9
MALT pmax pmax
comp=Z,83nm,1.5s,mb5.4
MALT **Malatya** 78.23 314 eP P 15 31 34.2 +0.9
comp=Z,83nm,1.5s,mb5.4
PSZ **Piszkesteto** 78.25 331 ⇑iP P 15 31 34.9 +1.5
PSZ **Piszkesteto** 78.25 331 P P 15 31 33.7 +0.3
PSZ **Piszkesteto** 78.25 331 ⇑P P 15 31 34.9 +1.5
PSZ **Piszkesteto** 78.25 331 ⇓eP P 15 31 33.1 -0.3
JMDO **Jabal Madar** 78.38 290 P P 15 31 35.6 +1.5
SNR=18
MOX **Moxa** 78.39 337 eP P 15 31 30.0 -4.1
comp=Z,68nm,1.8s,mb5.3
MOX **Moxa** 78.39 337 eP P 15 31 30.0 -4.1
MOX pmax pmax
comp=Z,62nm,1.8s,mb5.2
WTSB **Winterswijk** 78.41 340 eP P 15 31 38.5 +4.2
comp=Z,86nm,1.4s,mb5.5
STKA **Stephens Creek** 78.48 191 eP P 15 31 33.9 -0.7
comp=Z,6.2nm,1.1s,mb4.5
STKA **Stephens Creek** 78.48 191 P P 15 31 32.8 -1.8
comp=Z,8.0nm,1.1s,mb4.6,baz=324,slow=7.4,SNR=4.3
VOIR 78.49 326 ⇓iP P 15 31 35.9 +1.2
VOIR 78.49 326 ⇓P P 15 31 35.9 +1.2
NKC **Novy Kostel** 78.53 336 eP P 15 31 34.8 -0.1
NKC epP pP 15 31 41.3 +4.6
BSY **Bisya** 78.71 291 P P 15 31 37.4 +1.5
SNR=16
ARQ **Araqi** 78.73 292 P P 15 31 37.4 +1.4
SNR=14
BUD **Budapest** 78.93 331 ⇑eP P 15 31 37.7 +0.6
ZST **Bratislava** 78.94 332 eP P 15 31 38.3 +1.1
ZST pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZST **Bratislava** 78.94 332 eP P 15 31 38.3 +1.1
comp=Z,16nm,1.0s,mb4.9
ELDT **Eldivan** 78.95 318 iP P 15 31 38.0 +0.8

KHC Kasperske Hory 79.19 335 eP P 15 31 38.6 0.0
GRA1 Grafenberg Arr 79.36 337 eP P 15 31 39.6 +0.1
comp=Z,75nm,1.5s,mb5.4
GRF Grafenberg Arr 79.36 337 eP P 15 31 39.6 +0.1
comp=Z,75nm,1.5s,mb5.4
GRF Grafenberg Arr 79.36 337 eP P 15 31 39.6 +0.1
GRF pmax pmax
comp=Z,75nm,1.5s,mb5.4
GRFO Grafenberg 79.36 337 eP P 15 31 39.7 +0.2
GRFO pmax pmax
comp=Z,52nm,1.1s,mb5.4
GRFO Grafenberg 79.36 337 eP P 15 31 39.7 +0.2
comp=Z,52nm,1.1s,mb5.4
GZR Gura Zlata 79.39 328 P P 15 31 39.4 -0.2
GZT Gaziantep 79.41 314 i P P 15 31 40.0 +0.3
GERES GERESS Array B 79.42 335 P P 15 31 39.1 -0.7
comp=Z,3.2nm,0.7s,mb4.4,baz=35,slow=4.9,SNR=18
BR131 Keskin Array S 79.46 318 eP P 15 31 40.0 0.0
comp=Z,18nm,1.0s,mb5.0
BRTR Keskin Array B 79.46 318 P P 15 31 39.9 -0.1
comp=Z,8.1nm,0.9s,mb4.6,baz=90,slow=2.5,SNR=24
SGKT Sivrigoynuk 79.51 319 i P P 15 31 40.7 +0.4
SOP Sopron 79.56 333⇑ eP P 15 31 41.3 +0.7
CONA Conrad Observa 79.57 333⇓ iP P 15 31 41.3 +0.7
comp=Z,25nm,1.6s,mb4.9,SNR=9.0
BZS Buzias 79.62 328⇑ iP P 15 31 41.7 +0.8
BZS Buzias 79.62 328 P P 15 31 40.6 -0.3
AVNT Avonos 79.63 316 i P P 15 31 40.8 -0.1
DLF Lyons Farm 79.64 348 eP P 15 31 45.4 +4.4
DCN Croghan 79.69 349 eP P 15 31 45.7 +4.4
UMR Umm Al-Rimmam 79.71 302 eP P 15 31 41.4 0.0
HGN Heimansgroeve 79.73 340 eP P 15 31 41.3 -0.1
comp=Z,45nm,1.5s,mb5.0
ANTO Ankara 79.74 318⇓ iP P 15 31 43.6 +2.1
ANTO Ankara 79.74 318 P P 15 31 42.8 +1.3
ANTO Ankara 79.74 318⇓ P P 15 31 43.6 +2.1
MIB Mutribah 79.75 302 eP P 15 31 41.5 0.0
PMOR Pomariorio Ree 79.97 124 eP P 15 31 42.7 -0.1
comp=Z,42nm,1.2s,mb5.2
KBD Kabd 80.00 302 eP P 15 31 43.3 +0.3
TOD Tromm 80.09 338 eP P 15 31 43.2 -0.2
ABH Alteburg 80.15 339 eP P 15 31 43.4 -0.4
FORT Forrest 80.16 203 eP P 15 31 43.4 -0.4
comp=Z,18nm,0.8s,mb5.0
PKSM Moragy 80.16 331⇓ iP P 15 31 43.2 -0.6
PKSM Moragy 80.16 331 P P 15 31 43.1 -0.7
PKSM Moragy 80.16 331⇓ P P 15 31 43.2 -0.6
NAY Al-Naaiem 80.21 302 eP P 15 31 44.0 0.0
RDF Al-Radifah 80.27 302 eP P 15 31 45.1 +0.8
ARSA Arzberg 80.28 333 i P P 15 31 44.7 +0.3
comp=Z,21nm,1.5s,mb4.8,SNR=6.4
RUP Ruppelstein 80.44 339 eP P 15 31 45.3 0.0
GIVF Givet 80.60 341 eP P 15 31 44.9 -1.3
COBT Iskenderun 80.71 314 i P P 15 31 46.3 -0.5
BAIF Baives 80.78 341 eP P 15 31 45.8 -1.4
ESKT Eskisehir 80.91 319 i P P 15 31 47.4 -0.4
LANF Langenberg 80.92 338 eP P 15 31 47.9 0.0
PERS Pernice 80.95 333 eP P 15 31 47.4 -0.6
PPT Papeete 81.07 127 eP P 15 31 48.7 0.0
comp=Z,43nm,1.4s,mb5.2
PPT Papeete 81.07 127 eP P 15 31 48.7 0.0
PPT pmax pmax
comp=Z,43nm,1.4s
KBA Koelnbreinsper 81.10 334 i P P 15 31 49.5 +0.7
comp=Z,63nm,0.8s,mb5.6,SNR=18
BFO Black Forest 81.38 338 P P 15 31 50.5 +0.1
comp=Z,141nm,1.0s,mb5.8,SNR=7.5
BFO Black Forest 81.38 338 eP P 15 31 50.0 -0.3
BFO pmax pmax
comp=Z,25nm,1.0s,mb5.1
BFO Black Forest 81.38 338 eP P 15 31 50.0 -0.4
comp=Z,25nm,1.0s,mb5.1
GRUS Gruza 81.44 328 i P P 15 31 48.3 -2.3
WTTA Wattenberg 81.44 335⇑ iP P 15 31 51.5 +0.8
comp=Z,70nm,1.2s,mb5.5,SNR=14
GCIS Gornji Cirnik 81.47 332 eP P 15 31 50.0 -0.8
SPAK Spaichingen-Ko 81.47 337 eP P 15 31 50.8 0.0
DIVS Divcibare 81.52 329 i p P 15 31 49.9 -1.1
MOTA Moosalm 81.52 336⇓ iP P 15 31 51.4 +0.3
comp=Z,21nm,0.8s,mb5.1,SNR=12
WLS Welschbruch 81.56 338 eP P 15 31 51.4 +0.1
WLS Welschbruch 81.56 338 eP P 15 31 51.2 -0.1
CRES Cresnjev 81.56 332 i P P 15 31 50.5 -0.8
CDF Champ du Feu 81.58 339 eP P 15 31 50.2 -1.2
comp=Z,34nm,0.6s,mb5.1
CDF Champ du Feu 81.58 339 eP P 15 31 50.2 -1.2
CDF pmax pmax
comp=Z,17nm,0.6s,mb5.2
CDF Champ du Feu 81.58 339 eP P 15 31 50.2 -1.2
comp=Z,17nm,0.6s,mb5.2
VTS Vitosha 81.60 326⇑ iP P 15 31 51.4 -0.1
VTS Vitosha 81.60 326 P P 15 31 51.3 -0.2
VTS Vitosha 81.60 326⇑ P P 15 31 51.4 -0.1
SQTA Sankt Quirin 81.61 336⇑ iP P 15 31 52.1 +0.5
comp=Z,55nm,1.3s,mb5.3,SNR=6.5
ECH Echery 81.79 339 eP P 15 31 52.3 -0.2
ECH Echery 81.79 339 eP P 15 31 52.0 -0.5
GMNA Gemona 81.86 334 P P 15 31 54.5 +1.6
comp=Z,80nm,0.7s,mb5.8
FELD Feldberg im Sc 81.89 338 eP P 15 31 52.9 -0.1
BBLS Bajina Basta - 81.93 329 i P P 15 31 53.4 +0.2
MEZF Maizieres J'vi 82.05 340 eP P 15 31 52.9 -0.9
comp=Z,48nm,0.5s,mb5.4
MEZF Maizieres J'vi 82.05 340 eP P 15 31 52.9 -0.9
comp=Z,48nm,0.5s,mb5.7
THEF They Montfort 82.08 339 eP P 15 31 54.0 0.0
MOF Molkenrain 82.14 338 eP P 15 31 54.2 -0.1
MOF Molkenrain 82.14 338 eP P 15 31 54.6 +0.3
HAU Haudompre 82.19 339 eP P 15 31 53.4 -1.2
HINF Hinteralfeld 82.24 339 eP P 15 31 53.6 -1.3
TKTP Tekketepe 82.35 319 i P P 15 31 55.6 +0.2
BBS Basel-Blauen 82.40 338 eP P 15 31 55.7 0.0
BRMO Bormio 82.52 336 P P 15 31 57.6 +1.3
comp=Z,5.4nm,0.2s,mb5.2
LOMF Lomont 82.68 338 eP P 15 31 57.5 +0.4
LOMF Lomont 82.68 338 eP P 15 31 57.2 +0.1
VAY Valandovo 82.93 326 i P P 15 31 58.0 -0.5
FLN La Foliniere 83.00 344 eP P 15 31 57.3 -1.5
comp=Z,36nm,0.8s,mb5.2
FLN La Foliniere 83.00 344 eP P 15 31 57.3 -1.5
FLN pmax pmax
comp=Z,18nm,0.8s,mb5.2
FLN La Foliniere 83.00 344 eP P 15 31 57.3 -1.5
comp=Z,18nm,0.8s,mb5.2
LDF La Druitiere 83.09 343 eP P 15 31 57.7 -1.6
ELN Prospectdale 83.38 41 eP P 15 32 00.2 -0.6
GRR Gorron 83.44 344 eP P 15 31 59.5 -1.6
comp=Z,66nm,0.9s,mb5.4
GRR Gorron 83.44 344 eP P 15 31 59.5 -1.6
GRR pmax pmax
comp=Z,33nm,0.9s,mb5.4
GRR Gorron 83.44 344 eP P 15 31 59.5 -1.6
comp=Z,33nm,0.9s,mb5.4
LOR Lormes 83.48 340 eP P 15 32 00.0 -1.3
comp=Z,57nm,0.6s,mb5.5
LOR Lormes 83.48 340 eP P 15 32 00.0 -1.3
LOR pmax pmax
comp=Z,28nm,0.6s,mb5.5
LOR Lormes 83.48 340 eP P 15 32 00.0 -1.3
comp=Z,28nm,0.6s,mb5.5
CABF La Chapelle 83.55 339 eP P 15 32 00.9 -0.8
comp=Z,18nm,0.6s,mb5.1
CABF La Chapelle 83.55 339 eP P 15 32 00.9 -0.8
CABF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
CABF La Chapelle 83.55 339 eP P 15 32 00.9 -0.8
comp=Z,8.9nm,0.6s,mb5.1
SSF Saint Saulge 83.76 340 eP P 15 32 01.2 -1.5
comp=Z,37nm,0.7s,mb5.3
SSF Saint Saulge 83.76 340 eP P 15 32 01.2 -1.5
SSF pmax pmax
comp=Z,18nm,0.7s,mb5.3
SSF Saint Saulge 83.76 340 eP P 15 32 01.2 -1.5
comp=Z,18nm,0.7s,mb5.3
HYF Humbligny 83.76 341 eP P 15 32 01.8 -1.0
OHR Ohrid 83.80 327 eP P 15 32 02.1 -0.8
SGMF Saint Gilles 83.89 345 eP P 15 32 02.1 -1.3
comp=Z,52nm,0.6s,mb5.5
SGMF Saint Gilles 83.89 345 eP P 15 32 02.1 -1.3
SGMF pmax pmax
comp=Z,26nm,0.6s,mb5.5
SGMF Saint Gilles 83.89 345 eP P 15 32 02.1 -1.3
comp=Z,26nm,0.6s,mb5.5
ROSF Rostrenen 83.94 345 eP P 15 32 02.3 -1.3
comp=Z,38nm,0.6s,mb5.4
ROSF Rostrenen 83.94 345 eP P 15 32 02.3 -1.3
ROSF pmax pmax
comp=Z,19nm,0.6s,mb5.4
ROSF Rostrenen 83.94 345 eP P 15 32 02.3 -1.3
comp=Z,19nm,0.6s,mb5.4
AVF Avril sur Loir 84.05 340 eP P 15 32 03.0 -1.2
comp=Z,44nm,0.5s,mb5.5
AVF Avril sur Loir 84.05 340 eP P 15 32 03.0 -1.2
AVF pmax pmax
comp=Z,22nm,0.5s,mb5.5
AVF Avril sur Loir 84.05 340 eP P 15 32 03.0 -1.2
comp=Z,22nm,0.5s,mb5.5
SMF Signal de Mont 84.07 340 eP P 15 32 03.1 -1.2
comp=Z,91nm,0.9s,mb5.6
SMF Signal de Mont 84.07 340 eP P 15 32 03.1 -1.2
SMF pmax pmax
comp=Z,45nm,0.9s,mb5.6
SMF Signal de Mont 84.07 340 eP P 15 32 03.1 -1.2
comp=Z,45nm,0.9s,mb5.6
KLBR Kellerberrin 84.14 211 eP P 15 32 04.2 -0.5
comp=Z,26nm,1.1s,mb5.3
RSM Repubblica di 84.21 333 P P 15 32 05.9 +0.9
RSM pmax pmax
comp=Z,89nm,1.1s,mb5.8
RSM Repubblica di 84.21 333 P P 15 32 05.9 +0.9
comp=Z,89nm,1.1s,mb5.8
ZCCA Zocca 84.28 335 P P 15 32 07.3 +1.9
comp=Z,223nm,1.8s,mb6.0
FSSB Fossombrone 84.32 333 P P 15 32 06.9 +1.3
ERBM Eremo 84.39 335 P P 15 32 07.5 +1.6
comp=Z,87nm,1.2s,mb5.8
BGF Bois d'Agland 84.39 341 eP P 15 32 04.8 -1.1
comp=Z,44nm,0.5s,mb5.5
BGF Bois d'Agland 84.39 341 eP P 15 32 04.8 -1.1
BGF pmax pmax
comp=Z,22nm,0.5s,mb5.5
BGF Bois d'Agland 84.39 341 eP P 15 32 04.8 -1.1
comp=Z,22nm,0.5s,mb5.5
WHFO Wadi Hawf 84.39 290 ⇑P P 15 32 05.8 -0.2
SNR=15
GSCL Gusciola 84.40 335 P P 15 32 07.1 +1.1
comp=Z,56nm,1.4s,mb5.5
LPL La Plagne 84.40 338 eP P 15 32 05.8 -0.2
comp=Z,101nm,1.1s,mb5.5
LPL La Plagne 84.40 338 eP P 15 32 05.8 -0.2
LPL pmax pmax
comp=Z,51nm,1.1s,mb5.6
LPL La Plagne 84.40 338 eP P 15 32 05.8 -0.2
comp=Z,50nm,1.1s,mb5.6
RBK Rabkut 84.41 289 P P 15 32 06.7 +0.7
SNR=9.3
LPG La Plagne 84.42 338 eP P 15 32 06.0 -0.1
SFI Santa Sofia 84.42 334 P P 15 32 06.9 +0.8
SFI pmax pmax
comp=Z,71nm,1.3s,mb5.6
SFI Santa Sofia 84.42 334 P P 15 32 06.9 +0.8
comp=Z,71nm,1.3s,mb5.6
SEI Scarperia 84.44 334 P P 15 32 08.3 +2.1
comp=Z,104nm,0.7s,mb6.1
BDRM Kayabasi 84.45 320 i P P 15 32 05.0 -1.2
VMG Vicchio 84.46 334 P P 15 32 07.2 +0.9
comp=Z,35nm,0.8s,mb5.5
CRE Caprese Michel 84.65 334 P P 15 32 08.2 +0.9
CRE pmax pmax
comp=Z,44nm,1.2s,mb5.5
CRE Caprese Michel 84.65 334 P P 15 32 08.2 +0.9
comp=Z,44nm,1.2s,mb5.5
SNTG Esanatoglia 84.67 333 P P 15 32 07.7 +0.4
comp=Z,19nm,0.8s,mb5.3
PLDF La Plantade 84.76 340 eP P 15 32 14.0 +6.2
TCF Toulx Ste Croi 84.79 341 eP P 15 32 06.1 -1.9
comp=Z,28nm,0.6s,mb5.2
TCF Toulx Ste Croi 84.79 341 eP P 15 32 06.1 -1.9
TCF pmax pmax
comp=Z,14nm,0.6s,mb5.3
TCF Toulx Ste Croi 84.79 341 eP P 15 32 06.1 -1.9
comp=Z,14nm,0.6s,mb5.3
AGO Saint Agoulin 84.80 340 eP P 15 32 14.1 +6.1
GDM Grand'Maison 84.85 338 eP P 15 32 09.2 +0.9
GDM Grand'Maison 84.85 338 eP P 15 32 08.8 +0.5
GRN Grenoble 84.91 338 eP P 15 32 09.4 +0.8
GRN Grenoble 84.91 338 eP P 15 32 08.9 +0.3
ASS Assisi 84.93 333 P P 15 32 09.2 +0.5
ASS pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
ASS Assisi 84.93 333 P P 15 32 09.2 +0.5
comp=Z,2.1nm,0.5s,mb4.5
CSNT Castellina Chi 84.98 334 P P 15 32 08.6 -0.3
comp=Z,141nm,1.6s,mb5.8
MFF Saint Martin d 85.00 343 eP P 15 32 07.8 -1.2
comp=Z,25nm,0.5s,mb5.3
MFF Saint Martin d 85.00 343 eP P 15 32 07.8 -1.2
MFF pmax pmax
comp=Z,13nm,0.5s,mb5.3
MFF Saint Martin d 85.00 343 eP P 15 32 07.8 -1.2
comp=Z,13nm,0.5s,mb5.3
PYM Petit Puy Mans 85.11 340 eP P 15 32 15.5 +5.9
ABTO Aybut 85.11 290 ⇑P P 15 32 10.1 +0.5
SNR=16
MBDF Montbardon 85.12 337 eP P 15 32 08.8 -0.9
comp=Z,33nm,0.7s,mb5.3
MBDF Montbardon 85.12 337 eP P 15 32 08.8 -0.9
MBDF pmax pmax
comp=Z,17nm,0.7s,mb5.3
MBDF Montbardon 85.12 337 eP P 15 32 08.8 -0.9
comp=Z,16nm,0.7s,mb5.3
ORIF Oris-en-Rattie 85.18 338 eP P 15 32 09.6 -0.3
comp=Z,38nm,0.6s,mb5.4
ORIF Oris-en-Rattie 85.18 338 eP P 15 32 09.6 -0.3
ORIF pmax pmax
comp=Z,19nm,0.6s,mb5.4
ORIF Oris-en-Rattie 85.18 338 eP P 15 32 09.6 -0.3
comp=Z,19nm,0.6s,mb5.4
SURF Saint Ours 85.34 337 eP P 15 32 11.6 +0.9
SURF Saint Ours 85.34 337 eP P 15 32 11.5 +0.8
NWAO Narrogin (SRO) 85.54 211 P P 15 32 11.2 -0.5
comp=Z,31nm,1.0s,mb5.5,baz=36,slow=6.2,SNR=5.6
VIVF Saint-Julien-l 85.55 339 eP P 15 32 11.3 -0.5
comp=Z,68nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.55 339 eP P 15 32 11.3 -0.5
VIVF pmax pmax
comp=Z,34nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.55 339 eP P 15 32 11.3 -0.5
comp=Z,34nm,1.1s,mb5.5
IMI Imperia 85.58 336 P P 15 32 11.7 -0.2
comp=Z,52nm,1.0s,mb5.7
SAOF Saorge 85.60 337 eP P 15 32 12.0 0.0
SAOF Saorge 85.60 337 eP P 15 32 11.7 -0.3
AUTN L'Aution 85.62 337 eP P 15 32 11.4 -0.7
AUTN L'Aution 85.62 337 eP P 15 32 12.2 +0.1
TOUF Mont Tournerai 85.66 337 eP P 15 32 12.5 +0.2
TOUF Mont Tournerai 85.66 337 eP P 15 32 12.3 0.0
FG5 Orsara di Pugl 85.66 330 P P 15 32 12.7 +0.4
FG5 pmax pmax
comp=Z,60nm,0.9s,mb5.8
FG5 Orsara di Pugl 85.66 330 P P 15 32 12.7 +0.4
comp=Z,60nm,0.9s,mb5.8
LUCF Luceram 85.74 337 eP P 15 32 12.8 +0.1
SBF Sospel 85.75 337 eP P 15 32 11.5 -1.2
comp=Z,49nm,0.6s,mb5.6
SBF Sospel 85.75 337 eP P 15 32 11.5 -1.2
SBF pmax pmax
comp=Z,25nm,0.6s,mb5.6
SBF Sospel 85.75 337 eP P 15 32 11.5 -1.2
comp=Z,24nm,0.6s,mb5.6
SDI San Donato 85.77 332 P P 15 32 12.7 -0.2
SDI pmax pmax
comp=Z,11nm,0.6s,mb5.3
SDI San Donato 85.77 332 P P 15 32 12.7 -0.2
comp=Z,11nm,0.6s,mb5.3
MVIF Mont Vial 85.79 337 eP P 15 32 13.5 +0.5
REVF Revere 85.88 337 eP P 15 32 13.3 -0.1
REVF Revere 85.88 337 eP P 15 32 13.5 +0.1
RFI Roccamonfina 86.08 331 P P 15 32 15.2 +0.8
comp=Z,25nm,1.4s,mb5.2
CSSN Cassano Irpino 86.12 330 P P 15 32 13.9 -0.7
comp=Z,5.6nm,0.3s,mb5.3
SMRF Simiane la Rot 86.14 338 eP P 15 32 14.5 -0.2
comp=Z,17nm,0.7s,mb5.1
SMRF Simiane la Rot 86.14 338 eP P 15 32 14.5 -0.2
comp=Z,17nm,0.7s,mb5.4
FRF La Foret Royal 86.24 337 eP P 15 32 14.0 -1.2
comp=Z,11nm,0.5s,mb5.1
FRF La Foret Royal 86.24 337 eP P 15 32 14.0 -1.2
FRF pmax pmax
comp=Z,5.0nm,0.4s,mb5.1
FRF La Foret Royal 86.24 337 eP P 15 32 14.0 -1.2
comp=Z,5.4nm,0.4s,mb5.1
SGO Sicignano 86.29 330 P P 15 32 15.2 -0.2
SGO pmax pmax
comp=Z,49nm,1.5s,mb5.5
SGO Sicignano 86.29 330 P P 15 32 15.2 -0.2
comp=Z,49nm,1.5s,mb5.5
LASF Ste Croix 86.48 339 eP P 15 32 16.2 -0.2
LMR La Mourre 86.49 337 eP P 15 32 15.4 -1.0
comp=Z,21nm,0.6s,mb5.3
LMR La Mourre 86.49 337 eP P 15 32 15.4 -1.0
LMR pmax pmax
comp=Z,11nm,0.6s,mb5.3
LMR La Mourre 86.49 337 eP P 15 32 15.4 -1.0
comp=Z,11nm,0.6s,mb5.2
PGF Pioggiola 86.51 335 eP P 15 32 15.3 -1.2
comp=Z,17nm,0.6s,mb5.2
PGF Pioggiola 86.51 335 eP P 15 32 15.3 -1.2
PGF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
PGF Pioggiola 86.51 335 eP P 15 32 15.3 -1.2
comp=Z,8.6nm,0.6s,mb5.2
EIL Elat 86.78 311 eP P 15 32 17.7 -0.2
comp=Z,1μm,1.4s
MTLF Montolieu 87.57 340 eP P 15 32 21.1 -0.6
comp=Z,20nm,0.6s,mb5.2
MTLF Montolieu 87.57 340 eP P 15 32 21.1 -0.6
MTLF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
MTLF Montolieu 87.57 340 eP P 15 32 21.1 -0.6
comp=Z,9.9nm,0.6s,mb5.2
EPF Esparros 88.30 341 eP P 15 32 22.5 -2.6
comp=Z,11nm,0.5s,mb5.0
EPF Esparros 88.30 341 eP P 15 32 22.5 -2.6
EPF pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
EPF Esparros 88.30 341 eP P 15 32 22.5 -2.6
comp=Z,5.5nm,0.5s,mb5.0
SJPF Ste Jean 88.56 342 eP P 15 32 23.7 -2.7
ETSF Etsaut 88.62 342 eP P 15 32 24.8 -1.9
comp=Z,16nm,0.6s,mb5.3
ETSF Etsaut 88.62 342 eP P 15 32 24.8 -1.9
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
ETSF Etsaut 88.62 342 eP P 15 32 24.8 -1.9
comp=Z,8.3nm,0.6s,mb5.2
KEST Kesra 92.65 332 P P 15 32 45.6 +0.2
comp=Z,1.5nm,0.6s,mb4.6,baz=174,slow=7.1,SNR=3.6
MATP Matopo 129.17 281 PKP PKPdf 15 38 40.9 -1.0
comp=Z,6.3nm,0.9s,baz=34,slow=3.7,SNR=6.8
MAW Mawson 132.11 211 PKP PKPdf 15 38 45.6 -1.8
comp=Z,4.4nm,1.0s,baz=72,slow=3.6,SNR=4.6
LPAZ La Paz 133.85 64 PKP PKPdf 15 38 51.6 +0.9
comp=Z,1.1nm,0.5s,baz=351,slow=4.0,SNR=12
LBTB Lobatse 134.22 279 PKP PKPdf 15 38 51.8 +0.4
comp=Z,5.7nm,0.8s,baz=20,slow=4.0,SNR=5.3
SYO Syowa Base 140.82 211⇓ ePKPdf PKPdf 15 39 00.3 -3.2
SYO Syowa Base 140.82 211⇓ ePKiKP PKiKP 15 39 06.0 -0.1
CFAA Coronel Fontan 144.24 81 PKhKP 15 39 05.5
comp=Z,0.9nm,0.8s,baz=279,slow=2.8,SNR=9.2
NVL N'lazarevskaya 149.40 203 d iPKIKP PKPdf 15 39 18.0 -0.2
NVL pmax pmax
comp=Z,83nm,1.2s
USHA Ushuaia 151.78 124 PKPbc PKPbc 15 39 25.6 -2.7
comp=Z,21nm,0.9s,baz=198,slow=2.6,SNR=3.3
SNAA Sanae 152.17 195 PKPbc PKPbc 15 39 25.9 -3.3
comp=Z,5.7nm,0.9s,baz=124,slow=1.4,SNR=16
SNAA Sanae 152.17 195 ePKPdf PKPbc 15 39 24.8 -4.4
SNAA e 15 39 36.8
SNAA e 15 39 39.4
SNAA Sanae 152.17 195 PKIKP PKPbc 15 39 25.9 -3.3
SNAA pmax pmax
comp=Z,6.0nm,0.9s
SNAA Sanae 152.17 195 ePKPbc PKPbc 15 39 26.0 -3.2
VNA2 Neumayer--Watz 153.59 193 ePKPdf PKPbc 15 39 30.2 -2.1
VNA2 e 15 39 43.0
VNA2 e 15 39 46.4
VNA3 Neumayer Olymp 153.65 192 ePKPdf PKPbc 15 39 29.1 -3.4
VNA3 e 15 39 42.8

IDC ***15*** *15:23:21.0±0.8, 4671N×1547 0E, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.3/23, mbtmp4.3/10, MS5.0/1, Ms1 5.0/1, ms1mx4.0/46, Error ellipse: s-maj=25.3km s-min=20.1km az=159.0*

ISCJB ***15*** *15:23:21.0±0.7, 468N±0.1×1548E±0.1, h10km, mb4.4/14, MS5.0/1, Error ellipse: s-maj=17.9km s-min=11.5km az=133.0*

NEIC ***15*** *15:23:22.6±0.5, 4674N×1546 8E, h10km, mb4.6/4, Error ellipse: s-maj=12.7km s-min=10.7km az=167.0*

MOS ***15*** *15:23:23.7±2.3, 4698N×1549 3E, h33km, mb4.8/1, Error ellipse: s-maj=22.7km s-min=13.9km az=94.7*

ISC 15 15:23:22.7±0.7, 468N±01×1547E±01, h10km, n23, σ0° 88/22, mb4.4/14, MS5.0/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.99	13	ePN	Pn	Pn	15 24 15.0	-8.9
ASAJ	Asahikawa	8.92	257	Pn	Pn	Pn	15 25 35.5	+3.9
	2.8nm,0.3s,baz=100,slow=11,SNR=3.9							
ASAJ	Asahikawa	8.92	257	PN	Pn	Pn	15 25 35.5	+3.9
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KSRS	Korea Array	21.86	254	P	P	P	15 28 17.1	+1.6
	comp=Z,3.8nm,0.8s,mb3.9,baz=60,slow=11,SNR=6.4							
BILL	Bilibino	22.10	12	eP	P	P	15 28 18.1	0.0
BILL	Bilibino	22.10	12	eP	P	P	15 28 18.1	0.0
LZH	Lanzhou	38.97	273	eP	P	P	15 30 50.8	+1.8
	comp=Z,13nm,1.0s,mb4.6							
LZH				pP	pP		15 30 53.3	+1.2
LZH				sP	sP		15 30 54.6	+1.3
INK	Inuvik	41.02	33	LR	LR		15 49 55.2	
	comp=Z,2μm,20.8s,MS5.0,baz=124,slow=39							
MKAR	Makanchi Array	47.87	298	P	P	P	15 32 00.5	-0.4
	comp=Z,2.2nm,0.7s,mb4.3,baz=73,slow=8.4,SNR=5.3							
CHKZ	Chkalovo	51.22	311	eP	P	P	15 32 25.7	-0.7
	comp=Z,8.2nm,0.5s,mb4.9							
BVAR	Borovoye Array	51.66	310	P	P	P	15 32 29.5	-0.1
	comp=Z,3.1nm,0.5s,mb4.5,baz=59,slow=6.7,SNR=6.2							
BRVK	Borovoye	51.69	310	eP	P	P	15 32 29.5	-0.4
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	Borovoye	51.69	310	eP	P	P	15 32 29.5	-0.4
	comp=Z,4.0nm,0.6s,mb4.5							
ZRNK	Zerenda	52.42	310	eP	P	P	15 32 34.9	-0.4
KEV	Kevo	57.64	341	ep	P	P	15 33 12.3	-0.8
ARCES	ARCESS Array B	58.15	341	P	P	P	15 33 16.6	0.0
	comp=Z,4.0nm,0.8s,mb4.5,baz=35,slow=7.9,SNR=5.6							
NVAR	Mina Array Bea	61.44	63	P	P	P	15 33 40.1	+0.9
	comp=Z,2.1nm,0.8s,mb4.3,baz=293,slow=9.6,SNR=6.1							
BW06	Boulder Array	63.83	55	eP	P	P	15 33 55.9	+0.7
	comp=Z,3.2nm,1.3s,mb4.2							
PDAR	Pinedale Array	63.83	55	P	P	P	15 33 55.5	+0.2
	comp=Z,3.3nm,1.0s,mb4.3,baz=326,slow=1.8,SNR=5.7							
FINES	FINESS Array B	64.44	335	P	P	P	15 33 58.7	-0.5
	comp=Z,2.9nm,0.5s,mb4.5,baz=39,slow=8.0,SNR=8.2							
WRA	Warramunga Arr	68.94	201	P	P	P	15 34 26.5	-1.4
	comp=Z,3.3nm,1.2s,mb4.2,baz=22,slow=7.0,SNR=3.3							
ASAR	Alice Springs	72.62	200	P	P	P	15 34 49.1	-1.2
	comp=Z,2.3nm,0.9s,mb4.1,baz=15,slow=5.9,SNR=5.4							
TXAR	Lajitas Array	76.51	62	P	P	P	15 35 13.5	+0.6
	comp=Z,7.7nm,0.7s,mb4.8,baz=304,slow=4.8,SNR=23							

IDC 15 15:27:25.0±4.7, 4677N×15517E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/23, mbtmp4.0/4, Error ellipse: s-maj=163.4km s-min=37.4km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	48.18	298	P	P	P	15 36 06.6	-0.5
	0.6nm,0.6s,baz=61,slow=6.1,SNR=4.4							
BVAR	Borovoye Array	51.93	310	P	P	P	15 36 35.5	-0.1
	2.2nm,0.6s,baz=67,slow=7.7,SNR=6.7							
FINES	FINESS Array B	64.62	336	P	P	P	15 38 03.6	-0.7
	1.7nm,0.7s,baz=39,slow=7.3,SNR=4.6							
TXAR	Lajitas Array	76.25	62	P	P	P	15 39 15.6	+0.2
	0.9nm,0.7s,baz=313,slow=4.1,SNR=3.9							

ISCJB ***15*** *15:31:15.4±1.8, 4624N±006×1530 8E±007, h7km±10km, mb4.7/54, MS4.6/2, Error ellipse: s-maj=12.4km*

s-min=6.1km az=110.8

IDC ***15*** *15:31:15.4±0.6, 4623N×15290E, h0km, mb4.4/21, mb1 4.5/22, mb1mx4.4/29, mbtmp4.4/22, ML3.4/1, Error ellipse: s-maj=18.0km s-min=13.6km az=163.0*

BJI ***15*** *15:31:16.6, 4672N×153.16E, h14km, mB5.5, mb4.7, Ms4.7, Ms2.4.5*

NEIC ***15*** *15:31:17.5±0.4, 4622N×153.03E, h10km, mb4.9/19, Error ellipse: s-maj=11.0km s-min=7.3km az=148.0*

MOS ***15*** *15:31:19.6±1.5, 4629N×153.01E, h35km, mb5.0/23, Error ellipse: s-maj=9.5km s-min=6.0km az=107.9*

SZGRF ***15*** *15:31:25.4, 4695N×153.66E, h33km, mb5.0, Kuril Islands, Russia*

ISC 15 15:31:17.5±1.9, 4636N±006×15308E±007, h8km±11km, h17km±6.0km:pP-P, n156, σ1§14/160, mb4.7/54, MS4.6/2, 13C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.77**	**24**	*e*PN	**Pn**	**15 32 34.0**	**+4.3**
SKR				pmax	pmax		
	comp=N,140nm,0.4s						
SKR				pmax	pmax		
	comp=Z,150nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**248**	*e*PN	**Pn**	**15 32 42.6**	**+1.5**
YUK				*e*S	**Sn**	**15 33 45.6**	**-0.1**
YUK				pmax	pmax		
	comp=Z,430nm,0.2s						
YUK				smax			
	comp=N,630nm,0.6s						
YUK				smax			
	comp=E,750nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.13**	**279**	*e*PN	**Pn**	**15 33 07.0**	**+4.9**
YSS				*e*S	**Sn**	**15 34 31.0**	**+7.7**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.13**	**279**	*e*P	**Pn**	**15 33 06.1**	**+4.1**
	comp=Z,39nm,0.9s						
PET	**Petropavlovsk**	**7.58**	**26**	*e*PN	**Pn**	**15 33 06.0**	**-2.3**
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
ASAJ	**Asahikawa**	**7.74**	**257**	Pn	**Pn**	**15 33 12.9**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=89,slow=13,SNR=16						
ASAJ	**Asahikawa**	**7.74**	**257**	PN	**Pn**	**15 33 13.0**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**8.35**	**242**	*e*PN	**Pn**	**15 33 18.7**	**-0.1**
ERM				pmax	pmax		
	comp=Z,51nm,0.6s						
ERM	**Erimo**	**8.35**	**242**	*e*P	**Pn**	**15 33 18.6**	**-0.1**
	comp=Z,51nm,0.6s						
HABR	**Khabarovsk**	**12.40**	**286**	*e*PN	**Pn**	**15 34 20.7**	**+6.5**
MA2	**Magadan**	**13.31**	**355⇑**	*e*PN	**Pn**	**15 34 26.5**	**-0.2**
MA2				pmax	pmax		
	comp=Z,78nm,1.6s						
MA2	**Magadan**	**13.31**	**355**	*e*P	**Pn**	**15 34 30.9**	**+4.2**
KLR	**Kul'dur**	**14.62**	**289**	*e*P	**Pn**	**15 34 44.8**	**+0.3**
MJAR	**Matsushiro Arr**	**14.83**	**234**	Pn	**Pn**	**15 34 44.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=7.2						
MAJO	**Matsushiro**	**14.83**	**234**	*e*P	**Pn**	**15 34 53.7**	**+6.3**
MAT	**Matsushiro**	**14.83**	**234**	P	**Pn**	**15 34 52.5**	**+5.1**
MDJ	**Mudanjiang**	**16.56**	**272**	P	**Pn**	**15 35 10.4**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,25nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,2μm,9.8s						
MDJ	**Mudanjiang**	**16.56**	**272**	*e*P	**Pn**	**15 35 10.9**	**+1.0**
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**16.61**	**359**	*e*P	**Pn**	**15 35 11.8**	**+1.1**
CN2	**Changchun**	**19.64**	**273**	⇓P	**Pn**	**15 35 47.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
YAK	**Yakutsk**	**20.64**	**328**	*e*P	**P**	**15 35 58.5**	**+1.1**
YAK				*e*		15 36 13.1	
YAK				*e*S	**S**	**15 39 48.4**	**+0.3**
YAK				*e*SS		15 40 09.9	
YAK				*e*SSS		15 40 25.2	
YAK				*e*		15 47 21.2	
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				smax			
	comp=N,9.0nm,1.6s						
YAK				smax			
	comp=E,5.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,3μm,23.0s,MS4.6						
YAK	**Yakutsk**	**20.64**	**328**	*e*P	**P**	**15 35 57.8**	**+0.4**
	comp=Z,32nm,0.8s						
KSRS	**Korea Array**	**20.66**	**253**	P	**P**	**15 35 55.8**	**-1.9**
	comp=Z,8.2nm,0.8s,baz=58,slow=11,SNR=14						
JNU	**Nakatsue**	**21.50**	**240**	P	**P**	**15 36 04.5**	**-2.2**
	comp=Z,38nm,1.2s,mb4.7,baz=234,slow=19,SNR=2.0						
SNY	**Shenyang**	**21.61**	**269**	⇑P	**P**	**15 36 12.3**	**+4.5**
SNY				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.4						
BILL	**Bilibino**	**22.78**	**13**	*e*P	**P**	**15 36 18.2**	**-2.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.0						
BJI	**Beijing**	**27.45**	**270**	*e*P	**P**	**15 37 06.3**	**+2.4**
BJI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
BJI	**Beijing**	**27.45**	**270**	*e*P	**P**	**15 37 06.3**	**+2.4**
	comp=Z,14nm,1.0s,mb4.5						
NJ2	**Nanjing**	**29.86**	**254**	*e*P	**P**	**15 37 32.4**	**+7.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
ULN	**Ulaanbaatar**	**31.01**	**290**	*e*P	**P**	**15 37 36.1**	**+0.7**
SONM	**Songino Array**	**31.45**	**290**	P	**P**	**15 37 37.5**	**-1.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=87,slow=6.8,SNR=7.3						
ZAK	**Zakamensk**	**32.83**	**296**	*e*P	**P**	**15 37 49.4**	**-2.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KDAK	**Kodiak Island**	**34.37**	**50**	P	**P**	**15 38 06.6**	**+1.8**
	comp=Z,34nm,1.2s,mb5.2,baz=328,slow=9.4,SNR=3.4						
KDAK	**Kodiak Island**	**34.37**	**50**	P	**P**	**15 38 06.6**	**+1.8**
XAN	**Xi'an**	**35.46**	**266**	P	**P**	**15 38 14.3**	**0.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
COLA	**College**	**36.46**	**38**	*e*P	**P**	**15 38 21.3**	**-1.5**
LZH	**Lanzhou**	**37.88**	**272**	*e*P	**P**	**15 38 36.4**	**+1.5**
LZH				AP	pP	15 38 39.3	+1.8
LZH				XP	sP	15 38 41.0	+2.5
LZH				PP	PP	15 40 06.4	+5.1
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,160nm,4.1s						
LZH	**Lanzhou**	**37.88**	**272**	*e*P	**P**	**15 38 36.4**	**+1.5**
	comp=Z,40nm,1.0s,mb5.1						
LZH				pP	pP	15 38 39.3	+1.8
LZH				sP	sP	15 38 41.0	+2.5
LZH				PP	PP	15 40 06.4	+5.1
GTA	**Gaotai**	**39.01**	**279**	*e*P	**P**	**15 38 45.6**	**+1.2**
GTA				AP	pP	15 38 54.4	+7.4
GTA				XP	sP	15 38 59.6	+12
GTA				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
CD2	**Chengdu**	**40.83**	**266**	⇓*i*P	**P**	**15 38 59.5**	**0.0**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
GYA	**Guiyang**	**41.61**	**258**	⇑*i*P	**P**	**15 39 06.3**	**+0.4**
GYA				AP	pP	15 39 10.4	+1.9
GYA				XP	sP	15 39 13.3	+3.7
GYA				PP	PP	15 40 45.6	+3.6
GYA				PCP	PcP	15 41 03.4	+0.5
GYA				SCP	ScP	15 44 52.8	-0.5
GYA				S	**S**	**15 45 21.6**	**-0.7**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,580nm,17.3s,MS4.6						
GYA				LR	LR		
	comp=E,530nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=Z,640nm,17.8s,MS4.5						
INK	**Inuvik**	**41.99**	**32**	P	**P**	**15 39 09.4**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.1,baz=275,slow=11,SNR=12						
ZAL	**Zalesovo**	**42.84**	**306**	P	**P**	**15 39 14.2**	**-1.7**
	comp=Z,1.9nm,0.5s,mb4.1,baz=38,slow=8.1,SNR=6.0						
MK31	**Makanchi Array**	**47.10**	**298**	*e*P	**P**	**15 39 49.0**	**-0.9**
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**15 39 48.5**	**-1.4**
	comp=Z,8.0nm,0.8s,mb4.7,baz=66,slow=8.0,SNR=41						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**15 39 48.5**	**-1.4**
KURK	**Kurchatov**	**47.56**	**304⇑**	*e*P	**P**	**15 39 52.1**	**-1.4**
LSA	**Lhasa**	**50.28**	**273**	*e*P	**P**	**15 40 18.3**	**+4.0**
LSA	**Lhasa**	**50.28**	**273**	*e*P	**P**	**15 40 16.2**	**+1.9**
LSA				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
LSA	**Lhasa**	**50.28**	**273**	*e*P	**P**	**15 40 16.1**	**+1.9**
	comp=Z,18nm,1.1s,mb5.0						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**15 40 15.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**15 40 15.5**	**-1.7**
	comp=Z,14nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**15 40 18.8**	**-1.6**
	comp=Z,2.8nm,0.8s,mb4.4,baz=54,slow=7.7,SNR=17						
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**15 40 19.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**15 40 19.5**	**-1.3**
	comp=Z,8.5nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**15 40 25.1**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**15 40 25.1**	**-1.1**
	comp=Z,8.9nm,1.0s,mb4.7						
ULHL	**Ulahol**	**53.11**	**295**	P	**P**	**15 40 36.0**	**+0.5**
	SNR=7.5						
USP	**Ospenovka**	**53.65**	**297**	P	**P**	**15 40 39.7**	**+0.3**
	SNR=18						
KBK	**Karagaybulak**	**53.70**	**296**	P	**P**	**15 40 40.5**	**+0.7**
	SNR=5.0						
AAK	**Ala-Archa**	**53.99**	**297**	P	**P**	**15 40 42.2**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**53.99**	**297⇑**	*e*P	**P**	**15 40 41.0**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
EKS2	**Erkin-Say**	**54.42**	**297**	P	**P**	**15 40 45.7**	**+0.7**
	SNR=7.4						
AML	**Almayashu**	**54.76**	**296**	P	**P**	**15 40 48.8**	**+1.3**
	SNR=6.7						
JIRN	**Jiri**	**54.96**	**275**	*e*P	**P**	**15 40 49.9**	**+0.9**
GUN	**Gumba**	**55.02**	**275**	*e*P	**P**	**15 40 50.0**	**+0.6**
ARU	**Arti**	**55.29**	**318**	⇓*i*P	**P**	**15 40 49.5**	**-1.8**
ARU				*e*		15 42 58.1	
ARU				*e*PPP		15 44 07.8	
ARU				*e*S	**S**	**15 48 34.5**	**-0.8**
ARU				*e*SS	SS	15 52 23.6	+4.0
ARU				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
KKN	**Kakani**	**55.50**	**276**	*e*P	**P**	**15 40 52.8**	**-0.1**
	comp=Z,24nm,0.7s,mb5.3						
DMN	**Daman**	**55.74**	**276**	*e*P	**P**	**15 40 55.7**	**+1.1**
	comp=Z,75nm,1.1s,mb5.6						
GKN	**Gorkha**	**55.81**	**276**	*e*P	**P**	**15 40 55.0**	**-0.1**
	comp=Z,40nm,0.7s,mb5.5						
KOLN	**Koldanda**	**56.67**	**277**	*e*P	**P**	**15 41 02.5**	**+1.2**
	comp=Z,38nm,0.8s,mb5.5						
KEV	**Kevo**	**57.70**	**341**	*e*p	**P**	**15 41 07.1**	**-1.4**
YBH	**Yreka Blue Hor**	**57.95**	**61**	P	**P**	**15 41 10.8**	**+0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=188,slow=7.1,SNR=2.4						
ARCES	**ARCESS Array B**	**58.22**	**341**	P	**P**	**15 41 11.7**	**-0.4**
	comp=Z,5.1nm,0.9s,mb4.6,baz=34,slow=8.8,SNR=15						
AKTK	**Aktyubinsk**	**58.97**	**312**	P	**P**	**15 41 15.7**	**-1.8**
AKTO	**Aktyubinsk**	**58.97**	**312**	P	**P**	**15 41 15.7**	**-1.8**
	comp=Z,2.6nm,0.6s,mb4.5,baz=70,slow=6.1,SNR=8.7						
AKTO	**Aktyubinsk**	**58.97**	**312**	P	**P**	**15 41 15.7**	**-1.7**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**62.63**	**62**	P	**P**	**15 41 42.7**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.5,baz=295,slow=8.6,SNR=16						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**15 41 53.0**	**-0.9**
	comp=Z,4.7nm,0.6s,mb4.7,baz=34,slow=7.9,SNR=21						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**15 41 53.0**	**-0.9**
PDAR	**Pinedale Array**	**64.99**	**54**	P	**P**	**15 41 57.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=250,slow=2.9,SNR=10						
OBN	**Obninsk**	**65.62**	**326**	*e*P	**P**	**15 42 00.9**	**-1.1**
OBN				*e*		15 42 33.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**68.14**	**199**	P	**P**	**15 42 15.6**	**-2.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=12,slow=6.4,SNR=5.8						
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**	**15 42 20.4**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.6,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**15 42 20.1**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=10						
KIV	**Kislovodsk**	**71.06**	**314**	*e*P	**P**	**15 42 35.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**71.83**	**198**	P	**P**	**15 42 39.0**	**-1.7**
	comp=Z,1.4nm,0.9s,mb3.9,baz=12,slow=6.3,SNR=13						
AKASG	**Malin Array Be**	**71.86**	**326**	P	**P**	**15 42 39.4**	**-1.5**
	comp=Z,16nm,0.6s,mb5.1,baz=34,slow=6.7,SNR=4.2						
AKBB	**Malin Array Si**	**71.86**	**326**	*e*P	**P**	**15 42 39.9**	**-1.0**
KIEV	**Kiev**	**71.87**	**326**	*e*P	**P**	**15 42 40.1**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
KIEV	**Kiev**	**71.87**	**326**	*e*P	**P**	**15 42 40.1**	**-0.8**
	comp=Z,17nm,0.8s,mb5.0						
GNI	**Garni**	**72.77**	**310**	*e*P	**P**	**15 42 44.6**	**-1.7**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
SIM	**Simferopol'**	**74.35**	**320**	*e*P	**P**	**15 42 56.2**	**+0.6**
SIM				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
KWP	**Kalwaria**	**75.15**	**329**	*e*P	**P**	**15 43 00.9**	**+0.7**
STHS	**Stebnicka Huta**	**75.84**	**330**	*e*P	**P**	**15 43 05.1**	**+0.9**
STHS				*e*		15 43 16.7	
STHS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
STHS	**Stebnicka Huta**	**75.84**	**330**	*e*P	**P**	**15 43 05.1**	**+0.9**
	comp=Z,7.2nm,0.8s,mb4.7						
STHS				*e*		15 43 16.7	
KOLS	**Kolonicke sedl**	**75.89**	**329**	*e*P	**P**	**15 43 04.4**	**-0.1**
BURAR	**Bucovina Array**	**75.90**	**327⇑**	*i*P	**P**	**15 43 04.8**	**+0.3**
BURAR	**Bucovina Array**	**75.90**	**327**	⇑P	**P**	**15 43 04.8**	**+0.2**
KSP	**Ksiaz**	**76.24**	**333**	*e*P	**P**	**15 43 08.2**	**+1.7**
UPC	**Upice**	**76.62**	**333**	*e*P	**P**	**15 43 09.8**	**+1.2**
DPC	**Dobruska-Polom**	**76.66**	**333**	*e*P	**P**	**15 43 09.3**	**+0.4**
MORC	**Moravsky Berou**	**76.78**	**332**	⇓*i*P	**P**	**15 43 10.4**	**+0.9**
MORC	**Moravsky Berou**	**76.78**	**332**	⇓P	**P**	**15 43 10.4**	**+0.9**
CLL	**Collm**	**76.81**	**336**	*i*P	**P**	**15 43 10.2**	**+0.5**
CLL				*i*		15 43 23.5	
CLL				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.6						
CLL	**Collm**	**76.81**	**336**	*i*P	**P**	**15 43 10.2**	**+0.5**
	comp=Z,18nm,0.8s,mb5.0						
CLL				*i*sP	sP	15 43 23.5	+10
	comp=Z,25nm,1.2s						
KECS	**Kecovo**	**76.90**	**330**	*e*P	**P**	**15 43 09.8**	**-0.4**
KECS				*e*		15 43 24.8	
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KECS	**Kecovo**	**76.90**	**330**	*e*P	**P**	**15 43 09.8**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.3						
KECS				*e*		15 43 24.8	
PVCC	**Panska Ves**	**77.05**	**334**	*e*P	**P**	**15 43 11.9**	**+0.9**
MLR	**Muntele Rosu**	**77.37**	**325⇑**	*i*P	**P**	**15 43 14.5**	**+1.7**
MLR	**Muntele Rosu**	**77.37**	**325**	⇑P	**P**	**15 43 14.5**	**+1.7**
MALT	**Malatya**	**77.40**	**313**	⇓*i*P	**P**	**15 43 15.3**	**+2.3**
MALT	**Malatya**	**77.40**	**313**	⇓P	**P**	**15 43 15.3**	**+2.3**
VYHS	**Vyhne**	**77.46**	**331**	*e*P	**P**	**15 43 13.7**	**+0.4**
VRAC	**Vranov**	**77.49**	**333**	⇑*i*P	**P**	**15 43 14.6**	**+1.1**
VRAC	**Vranov**	**77.49**	**333**	⇑P	**P**	**15 43 14.6**	**+1.1**
PRU	**Pruhonice**	**77.53**	**334**	*e*P	**P**	**15 43 14.8**	**+1.1**
DRGR		**77.53**	**328**	⇓*i*P	**P**	**15 43 13.6**	**-0.1**
DRGR		**77.53**	**328**	⇓P	**P**	**15 43 13.6**	**-0.1**
TXAR	**Lajitas Array**	**77.70**	**60**	P	**P**	**15 43 15.1**	**+0.4**
	comp=Z,2.6nm,0.6s,mb4.4,baz=294,slow=3.9,SNR=13						
TXAR	**Lajitas Array**	**77.70**	**60**	P	**P**	**15 43 15.1**	**+0.4**
VOIR		**77.77**	**325**	⇓*i*P	**P**	**15 43 16.4**	**+1.3**
VOIR		**77.77**	**325**	⇓P	**P**	**15 43 16.4**	**+1.3**
ZST	**Bratislava**	**78.29**	**332**	*e*P	**P**	**15 43 19.0**	**+1.0**
KHC	**Kasperske Hory**	**78.58**	**334**	*e*P	**P**	**15 43 20.1**	**+0.5**
BRTR	**Keskin Array B**	**78.66**	**317**	P	**P**	**15 43 20.0**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.2,baz=57,slow=4.6,SNR=8.0						
GZR	**Gura Zlata**	**78.69**	**327**	⇓*i*P	**P**	**15 43 21.0**	**+0.9**
GZR	**Gura Zlata**	**78.69**	**327**	⇓P	**P**	**15 43 21.0**	**+0.9**
GRA1	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**15 43 21.2**	**+0.6**
	comp=Z,10.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**78.77**	**336**	*e*P	**P**	**15 43 21.2**	**+0.6**
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**78.80**	**334**	P	**P**	**15 43 20.4**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=34,slow=5.0,SNR=14						
BZS	**Buzias**	**78.93**	**328⇑**	*i*P	**P**	**15 43 22.1**	**+0.6**
BZS	**Buzias**	**78.93**	**328**	⇑P	**P**	**15 43 22.1**	**+0.6**
PKSM	**Moragy**	**79.50**	**330**	⇓*i*P	**P**	**15 43 24.4**	**-0.2**
PKSM	**Moragy**	**79.50**	**330**	⇓P	**P**	**15 43 24.4**	**-0.1**
BFO	**Black Forest**	**80.81**	**337**	*e*P	**P**	**15 43 31.7**	**+0.1**
BFO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BFO	**Black Forest**	**80.81**	**337**	*e*P	**P**	**15 43 31.7**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.7						
VTS	**Vitosha**	**80.88**	**325**	⇓*i*P	**P**	**15 43 32.9**	**+0.9**
VTS	**Vitosha**	**80.88**	**325**	⇓P	**P**	**15 43 32.9**	**+0.9**
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**15 43 32.6**	**-0.1**
	comp=Z,15nm,0.8s,mb4.7						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**15 43 32.6**	**-0.1**
CDF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**15 43 32.6**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.7						
GRR	**Gorron**	**82.93**	**343**	*e*P	**P**	**15 43 42.5**	**-0.4**
	comp=Z,35nm,0.9s,mb5.1						
GRR	**Gorron**	**82.93**	**343**	*e*P	**P**	**15 43 42.5**	**-0.4**
GRR				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
GRR	**Gorron**	**82.93**	**343**	*e*P	**P**	**15 43 42.5**	**-0.4**
	comp=Z,18nm,0.9s,mb5.1						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**15 43 46.0**	**+0.1**
	comp=Z,14nm,0.7s,mb4.9						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**15 43 46.0**	**+0.1**
SMF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**15 43 46.0**	**+0.1**
	comp=Z,6.9nm,0.7s,mb4.9						
LPG	**La Plagne**	**83.84**	**337**	*e*P	**P**	**15 43 48.4**	**+0.9**
	comp=Z,9.1nm,0.7s,mb4.7						
LPG	**La Plagne**	**83.84**	**337**	*e*P	**P**	**15 43 48.4**	**+0.9**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
LPG	**La Plagne**	**83.84**	**337**	*e*P	**P**	**15 43 48.4**	**+0.9**
	comp=Z,4.6nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**15 43 52.0**	**+0.6**
	comp=Z,20nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**15 43 52.0**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P	**P**	**15 43 52.0**	**+0.6**
	comp=Z,10nm,0.9s,mb5.0						
CFAA	**Coronel Fontan**	**145.08**	**80**	PKPbc	PKPbc	15 50 53.3	-1.6
	comp=Z,0.4nm,0.6s,baz=297,slow=2.1,SNR=5.5						

IDC ***15*** *15:38:53.3±0.9, 4759N×154.06E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/25, mbtmp4.2/14, ML3.6/1, Error ellipse: s-maj=24.9km s-min=18.0km az=159.0*

BJI ***15*** *15:38:55.1, 4760N×154.00E, h10km, mB5.2, mb4.5, Ms4.4, Msz4.3*

NEIC ***15*** *15:38:55.1±0.5, 4760N×154.01E, h10km, mb4.4/5, Error ellipse: s-maj=13.0km s-min=6.3km az=135.0*

ISCJB ***15*** *15:38:57.5±1.2, 4746N±008×154.2E±0.1, h46km±9km, mb4.4/22, Error ellipse: s-maj=16.5km s-min=6.2km az=96.1*

MOS ***15*** *15:38:57.5±1.3, 4750N×154.13E, h48km, mb4.8/4, Error ellipse: s-maj=14.7km s-min=9.8km az=63.7*

ISC 15 15:38:59.9±1.0, 4752N±009×154.2E±01, h50km±8km, n44, σ1§18/47, mb4.4/22, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.41**	**21**	*e*PN	**Pn**	**15 39 51.0**	**+0.5**
SKR				*e*S	**Sn**	**15 40 30.5**	**+0.8**
SKR				pmax	pmax		
	comp=N,90nm,0.7s						
SKR				pmax	pmax		
	comp=E,90nm,0.7s						
SKR				pmax	pmax		
	comp=Z,190nm,0.7s						
SKR				smax			
	comp=N,180nm,0.5s						
SKR				smax			
	comp=E,220nm,0.5s						
SKR				smax			
	comp=Z,140nm,0.5s						
KUR	**Kuril'sk**	**4.94**	**245**	*e*PN	**Pn**	**15 40 09.0**	**-2.4**
KUR				*e*S	**Sn**	**15 41 08.5**	**+1.3**
KUR				smax			
	comp=N,650nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
PET	**Petropavlovsk**	**6.21**	**26**	PN	**Pn**	**15 40 26.8**	**-2.1**
YSS	**Y

comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.0,SNR=4.8
AKASG **Malin Array Be** 71.31 327 P P 15 50 13.0 -1.2
ASAR **Alice Springs** 73.17 199 P P 15 50 25.6 +0.3
comp=Z,3.5nm,0.7s,mb4.4,baz=12,slow=5.7,SNR=9.4
CLL **Collm** 76.06 336⇑ *i*P P 15 50 41.8 -0.2
CLL *e* 15 51 01.0
CLL pmax pmax
comp=Z,18nm,0.8s,mb5.0
CLL **Collm** 76.06 336⇑ *i*P P 15 50 41.8 -0.2
comp=Z,10.0nm,0.8s,mb4.8
CLL *e* 15 51 01.0
CLL **Collm** 76.06 336⇑ *i*P P 15 50 41.8 -0.2
comp=Z,10.0nm,0.8s,mb4.8
TXAR **Lajitas Array** 76.48 61 P P 15 50 44.8 +0.4
comp=Z,3.0nm,0.7s,mb4.3,baz=301,slow=4.4,SNR=15
GERES **GERESS Array B** 78.08 335 P P 15 50 52.9 -0.4
comp=Z,1.3nm,0.6s,mb4.1,baz=33,slow=5.4,SNR=9.4
BRTR **Keskin Array B** 78.33 317 P P 15 50 54.9 +0.1
comp=Z,2.0nm,0.9s,mb4.1,baz=67,slow=3.9,SNR=6.0

NEIC ***15*** *15:41:52.6± 1.1, 4775N× 153.42E, h10km, mb4.3/5, Error ellipse: s-maj=30.7km s-min=10.7km az=147.0*
IDC ***15*** *15:41:52.4± 2.2, 4806N× 153.22E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.0/26, mbtmp4.2/10, ML3.3/1, Error ellipse: s-maj=58.4km s-min=21.4km az=144.0*
ISCJB ***15*** *15:41:54.8± 1.5, 475N± 0.1× 1537E± 0.2, h51km± 11km, mb4.2/11, Error ellipse: s-maj=29.6km s-min=9.5km az=108.2*
MOS ***15*** *15:41:55.1± 1.5, 4747N× 153.70E, h57km, mb4.7/3, Error ellipse: s-maj=17.0km s-min=10.5km az=77.3*

ISC 15 15:41:57.1±1.3, 475N±0.1×1537E±0.2, h59km±10km, n36, σ1§10/36, mb4.2/11, 5C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.55**	**26**	*e*PN	**Pn**	**15 42 50.6**	**+0.9**
PET	**Petropavlovsk**	**6.37**	**28**	*e*PN	**Pn**	**15 43 27.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.46**	**270**	*e*PN	**Pn**	**15 43 45.0**	**+1.7**
YSS				pmax	pmax		
	comp=Z,21nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.46**	**270**	*e*P	**Pn**	**15 43 45.0**	**+1.7**
	comp=Z,21nm,0.8s						
ASAJ	**Asahikawa**	**8.46**	**250**	Pn	**Pn**	**15 43 55.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=78,slow=19,SNR=3.3						
MJAR	**Matsushiro Arr**	**15.86**	**232**	Pn	**Pn**	**15 45 36.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=9.7,SNR=6.3						
MDJ	**Mudanjiang**	**16.95**	**269**	P	**Pn**	**15 45 49.1**	**-1.1**
	comp=Z,6.8nm,0.6s						
YAK	**Yakutsk**	**19.90**	**326**	*e*P	**Pn**	**15 46 26.6**	**+0.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**19.90**	**326**	*e*P	**Pn**	**15 46 26.6**	**+0.8**
	comp=Z,14nm,0.8s						
KSRS	**Korea Array**	**21.41**	**251**	P	**P**	**15 46 41.3**	**+1.3**
	comp=Z,2.8nm,0.9s,mb3.6,baz=46,slow=11,SNR=5.3						
MCK	**McKinley**	**34.82**	**41**	*e*P	**P**	**15 48 41.1**	**-1.1**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MCK	**McKinley**	**34.82**	**41**	*e*P	**P**	**15 48 41.1**	**-1.1**
	comp=Z,6.7nm,1.1s,mb4.5						
COLA	**College**	**35.30**	**39**	*e*P	**P**	**15 48 47.0**	**+0.7**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
COLA	**College**	**35.30**	**39**	*e*P	**P**	**15 48 47.0**	**+0.6**
	comp=Z,13nm,0.8s,mb4.9						
INK	**Inuvik**	**40.80**	**33**	P	**P**	**15 49 33.0**	**+0.4**
	comp=Z,3.4nm,0.7s,mb4.1,baz=285,slow=7.8,SNR=9.0						
YKA	**Yellowknife Ar**	**50.08**	**37**	P	**P**	**15 50 46.2**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.4,baz=294,slow=6.9,SNR=3.7						
YKA	**Yellowknife Ar**	**50.08**	**37**	P	**P**	**15 50 46.2**	**+0.2**
CHKZ	**Chkalovo**	**50.24**	**310**	*e*P	**P**	**15 50 44.9**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.24**	**310**	*e*P	**P**	**15 50 44.9**	**-2.3**
	comp=Z,2.2nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**15 50 48.8**	**-1.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=38,slow=9.7,SNR=3.7						
FINES	**FINESS Array B**	**63.52**	**335**	P	**P**	**15 52 20.3**	**-0.9**
	comp=Z,1.1nm,0.3s,mb4.3,baz=38,slow=7.9,SNR=12						
NB2	**NORSAR Subarra**	**67.63**	**341**	P	**P**	**15 52 47.0**	**-0.7**
	comp=Z,5.5nm,0.8s,mb4.6,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.63**	**341**	P	**P**	**15 52 46.2**	**-1.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=26,slow=6.3,SNR=8.7						
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**	**15 53 07.5**	**-1.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=33,slow=6.0,SNR=8.1						
BURAR	**Bucovina Array**	**75.17**	**327**	⇓ *i*P	**P**	**15 53 33.4**	**+0.3**
BURAR	**Bucovina Array**	**75.17**	**327**	⇓ P	**P**	**15 53 33.4**	**+0.2**
MLR	**Muntele Rosu**	**76.66**	**325**	⇑ *i*P	**P**	**15 53 42.9**	**+1.2**
MLR	**Muntele Rosu**	**76.66**	**325**	⇑ P	**P**	**15 53 42.9**	**+1.2**
MALT	**Malatya**	**76.92**	**313**	⇓ *i*P	**P**	**15 53 44.4**	**+1.3**
MALT	**Malatya**	**76.92**	**313**	⇓ P	**P**	**15 53 44.4**	**+1.3**
SNX	**Sinaia**	**76.94**	**325**	⇑ *i*P	**P**	**15 53 44.5**	**+1.3**
VOIR		**77.05**	**326**	⇑ *i*P	**P**	**15 53 44.4**	**+0.5**
VOIR		**77.05**	**326**	⇑ P	**P**	**15 53 44.4**	**+0.6**
GZR	**Gura Zlata**	**77.94**	**327**	⇓ *i*P	**P**	**15 53 48.7**	**-0.1**
BRTR	**Keskin Array B**	**78.10**	**317**	P	**P**	**15 53 50.1**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=78,slow=3.4,SNR=7.5						
VTS	**Vitosha**	**80.17**	**325**	⇓ *i*P	**P**	**15 54 02.0**	**+1.0**

BJI ***15*** *15:42:12.3, 4637N× 156.35E, h10km, mB4.7, mb4.4*
ISCJB ***15*** *15:42:16.8± 0.6, 4676N± 008× 1555E± 0.1, h10km, mb4.3/23, Error ellipse: s-maj=15.2km s-min=9.2km az=83.8*
IDC ***15*** *15:42:16.3± 0.7, 4651N× 155.44E, h0km, mb4.1/16, mb1 4.4/17, mb1mx4.3/26, mbtmp4.2/17, ML3.7/1, Error ellipse: s-maj=19.0km s-min=17.0km az=133.0*
NEIC ***15*** *15:42:17.9± 0.5, 4658N× 155.41E, h10km, mb4.5/7, Error ellipse: s-maj=12.0km s-min=8.7km az=122.0*
MOS ***15*** *15:42:19.7± 1.6, 4669N× 155.52E, h33km, mb4.7/6, Error ellipse: s-maj=17.6km s-min=10.8km az=96.5*

ISC 15 15:42:18.1±0.6, 4668N±008×1554E±01, h10km, n48, σ1§02/43, mb4.3/23, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.03**	**6**	*e*PN	**Pg**	**15 43 32.3**	**-3.1**
PET	**Petropavlovsk**	**6.68**	**17**	PN	**Pn**	**15 43 55.8**	**-0.5**
MJAR	**Matsushiro Arr**	**16.35**	**238**	Pn	**Pn**	**15 46 06.9**	**-0.8**
	0.3nm,0.3s,baz=22,slow=14,SNR=3.5						
MAJO	**Matsushiro**	**16.35**	**238**	*e*P	**Pn**	**15 46 11.8**	**+4.1**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**16.35**	**238**	*e*P	**Pn**	**15 46 11.8**	**+4.1**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**16.35**	**238**	P	**Pn**	**15 46 11.5**	**+3.8**
CN2	**Changchun**	**21.24**	**273**	*e*P	**P**	**15 47 09.0**	**+4.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
YAK	**Yakutsk**	**21.26**	**326**	*e*P	**P**	**15 47 03.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.5						
YAK	**Yakutsk**	**21.26**	**326**	*e*P	**P**	**15 47 03.5**	**-0.9**
	comp=Z,23nm,0.9s,mb4.5						
BILL	**Bilibino**	**22.13**	**11**	⇑ *i*P	**P**	**15 47 14.8**	**+1.0**
BILL				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.3						
BILL	**Bilibino**	**22.13**	**11**	*e*P	**P**	**15 47 14.6**	**+0.8**
	comp=Z,5.7nm,0.6s,mb4.2						
KSRS	**Korea Array**	**22.30**	**255**	P	**P**	**15 47 16.8**	**+1.1**
	comp=Z,1.6nm,0.7s,mb3.5,baz=54,slow=12,SNR=2.7						
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**15 48 51.9**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=55,slow=8.9,SNR=4.5						
LZH	**Lanzhou**	**39.48**	**273**	*e*P	**P**	**15 49 52.1**	**+3.4**
LZH				AP	pP	15 49 55.9	+4.1
LZH				XP	sP	15 49 58.8	+5.8
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH	**Lanzhou**	**39.48**	**273**	*e*P	**P**	**15 49 52.1**	**+3.4**
	comp=Z,12nm,1.0s,mb4.6						
LZH				pP	pP	15 49 55.9	+4.1
LZH				sP	sP	15 49 58.8	+5.8
NVS	**Novosibirsk**	**44.49**	**308**	*e*P	**P**	**15 50 28.9**	**-0.7**
MKAR	**Makanchi Array**	**48.38**	**298**	P	**P**	**15 50 59.8**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=69,slow=7.2,SNR=5.5						
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**15 51 25.5**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**15 51 25.5**	**+0.3**
	comp=Z,7.8nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**52.12**	**310**	P	**P**	**15 51 28.2**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.6,baz=58,slow=8.9,SNR=15						
ZRNK	**Zerenda**	**52.88**	**311**	*e*P	**P**	**15 51 33.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**52.88**	**311**	*e*P	**P**	**15 51 33.5**	**-0.7**
	comp=Z,4.8nm,0.8s,mb4.5						
ARU	**Arti**	**56.13**	**318**	*e*P	**P**	**15 51 51.7**	**-6.0**
ARU	**Arti**	**56.13**	**318**	P	**P**	**15 51 57.6**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**58.43**	**342**	P	**P**	**15 52 13.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=10,slow=5.5,SNR=4.7						
AKTK	**Aktyubinsk**	**59.95**	**313**	P	**P**	**15 52 24.9**	**+0.4**
AKTO	**Aktyubinsk**	**59.95**	**313**	P	**P**	**15 52 24.9**	**+0.4**
	comp=Z,3.1nm,0.9s,mb4.3,baz=68,slow=13,SNR=3.5						
AKTO	**Aktyubinsk**	**59.95**	**313**	P	**P**	**15 52 24.9**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ORR	**Orenburg**	**60.82**	**315**	*e*P	**P**	**15 52 31.4**	**+0.9**
ORR				pmax	pmax		
	comp=Z,30nm,3.5s						
NVAR	**Mina Array Bea**	**61.05**	**64**	P	**P**	**15 52 33.2**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=292,slow=6.5,SNR=7.7						
NVAR	**Mina Array Bea**	**61.05**	**64**	P	**P**	**15 52 33.2**	**+1.1**
PDAR	**Pinedale Array**	**63.49**	**55**	P	**P**	**15 52 48.4**	**-0.1**
	comp=Z,1.0nm,0.8s,mb4.0,baz=274,slow=4.1,SNR=4.9						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**15 52 56.5**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.4,baz=40,slow=8.5,SNR=6.7						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**15 52 56.5**	**-0.3**
NB2	**NORSAR Subarra**	**68.79**	**342**	P	**P**	**15 53 23.8**	**+1.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.79**	**342**	P	**P**	**15 53 23.8**	**+1.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=27,slow=6.5,SNR=2.9						
WRA	**Warramunga Arr**	**68.99**	**201**	P	**P**	**15 53 21.2**	**-2.5**
	comp=Z,2.2nm,0.9s,mb4.1,baz=19,slow=6.8,SNR=5.8						
FITZ	**Fitzroy Crossi**	**69.86**	**210**	P	**P**	**15 53 27.8**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=171,slow=10,SNR=5.0						
AKASG	**Malin Array Be**	**72.47**	**327**	P	**P**	**15 53 45.0**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**72.67**	**201**	P	**P**	**15 53 45.4**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=18,slow=5.3,SNR=7.3						
TXAR	**Lajitas Array**	**76.13**	**62**	P	**P**	**15 54 06.6**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.4,baz=298,slow=4.0,SNR=12						
TXAR	**Lajitas Array**	**76.13**	**62**	P	**P**	**15 54 06.6**	**+0.4**
CLL	**Collm**	**77.17**	**337**	*e*pP	pP	15 54 17.0	+1.6
GERES	**GERESS Array B**	**79.20**	**335**	P	**P**	**15 54 24.7**	**+1.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=20,slow=4.3,SNR=2.7						
CDF	**Champ du Feu**	**81.30**	**339**	*e*P	pP	15 54 40.0	+2.0
SMF	**Signal de Mont**	**83.77**	**341**	*e*P	pP	15 54 53.5	+2.7
LPL	**La Plagne**	**84.14**	**338**	*e*P	pP	15 54 56.1	+3.4
	comp=Z,14nm,0.7s						
LPG	**La Plagne**	**84.15**	**338**	*e*P	pP	15 54 56.4	+3.6
	comp=Z,13nm,0.8s						

ISCJB ***15*** *15:42:58.6± 0.6, 295S± 008× 1297E± 0.1, h33km, mb4.1/8, Error ellipse: s-maj=19.1km s-min=8.9km az=135.1*
NEIC ***15*** *15:42:59.0± 6.9, 293S× 129.71E, h21km± 51km, mb4.8/2, Error ellipse: s-maj=25.3km s-min=14.3km az=50.0*
IDC ***15*** *15:43:01.6± 6.0, 288S× 129.82E, h44km± 52km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, MS4.6/1, Ms1 4.6/1, ms1mx3.5/32, Error ellipse: s-maj=103.6km s-min=12.3km az=76.0*

ISC 15 15:42:59.9±3.5, 290S±007×1296E±01, h26km±26km, n21, σ1§13/22, mb4.2/9, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.14**	**164**	*e*P	**Pn**	**15 45 24.1**	**+0.4**
	6.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.61**	**194**	P	**Pn**	**15 46 38.4**	**+0.3**
	baz=356,slow=15						
WRA	**Warramunga Arr**	**17.55**	**165**	P	**Pn**	**15 46 59.0**	**-3.7**
	0.3nm,0.3s,baz=349,slow=13,SNR=8.1						
WRA				S	**Sn**	**15 50 19.5**	**+2.1**
	0.2nm,0.3s,baz=340,slow=21,SNR=4.3						
WB2	**Warramunga Arr**	**17.56**	**165**	*e*P	**Pn**	**15 47 00.3**	**-2.4**
WB2	**Warramunga Arr**	**17.56**	**165**	*e*P	**Pn**	**15 47 00.8**	**-1.9**
PMG	**Port Moresby**	**18.59**	**111**	LR	LR	15 54 52.9	
	comp=Z,2um,18.2s,baz=208,slow=39						
KSM	**Kuching**	**19.79**	**282**	*e*P	**Pn**	**15 47 30.0**	**+0.2**
MBWA	**Marble Bar**	**20.55**	**207**	*e*P	**P**	**15 47 34.8**	**-1.6**
AS31	**Alice Springs**	**21.06**	**169**	*e*P	**P**	**15 47 42.4**	**+0.5**
ASAR	**Alice Springs**	**21.06**	**169**	P	**P**	**15 47 42.2**	**+0.4**
	14nm,0.8s,mb4.4,baz=348,slow=12,SNR=108						
ASAR				S	**S**	**15 51 33.5**	**-1.5**
	3.0nm,0.9s,baz=350,slow=21,SNR=7.0						
HNR	**Honiara**	**30.82**	**104**	*e*P	**P**	**15 49 13.8**	**+0.2**
CHTO	**Chiang Mai**	**37.11**	**307**	*e*P	**P**	**15 50 10.2**	**+2.1**
	8.5nm,0.9s,mb4.6						
LZH	**Lanzhou**	**45.65**	**330**	*e*P	**P**	**15 51 23.3**	**+5.1**
LZH				AP	pP	15 51 27.3	+1.2
LZH				XP	sP	15 51 29.3	+0.1
LZH				PP	PP	15 52 53.3	-12
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,102nm,4.8s						
LZH	**Lanzhou**	**45.65**	**330**	*e*P	**P**	**15 51 23.2**	**+5.0**
	comp=Z,20nm,1.1s,mb5.0						
LZH				pP	pP	15 51 27.2	+1.1
LZH				sP	sP	15 51 29.3	+0.1
LZH				PP	PP	15 52 53.2	-12
SONM	**Songino Array**	**54.46**	**341**	P	**P**	**15 52 25.3**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=151,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**64.62**	**326**	P	**P**	**15 53 35.8**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=112,slow=7.7,SNR=8.5						
ZAL	**Zalesovo**	**67.77**	**333**	P	**P**	**15 53 53.9**	**-1.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=349,slow=6.3,SNR=5.1						
BVAR	**Borovoye Array**	**74.42**	**327**	P	**P**	**15 54 34.7**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=245,slow=39,SNR=3.8						
VNDA	**Vanda**	**76.54**	**173**	P	**P**	**15 54 47.7**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=255,slow=7.7,SNR=8.8						
VNDA	**Vanda**	**76.54**	**173**	*e*P	**P**	**15 54 47.5**	**-0.2**
MAW	**Mawson**	**78.61**	**201**	P	**P**	**15 54 59.8**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.9,baz=313,slow=19,SNR=3.9						

ISCJB ***15*** *15:44:03.6± 0.6, 4630N± 009× 15298E± 0.10, h10km, mb4.4/32, Error ellipse: s-maj=14.9km s-min=6.4km az=116.9*
IDC ***15*** *15:44:03.3± 0.9, 4636N× 152.97E, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.2/25, mbtmp4.1/16, ML3.3/2, Error ellipse: s-maj=27.4km s-min=17.5km az=164.0*
NEIC ***15*** *15:44:05.1± 0.6, 4633N× 152.96E, h10km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=9.9km az=143.0*
BJI ***15*** *15:44:05.1, 4630N× 153.00E, h10km, mB4.9, mb4.6*
MOS ***15*** *15:44:07.0± 1.3, 4629N× 152.74E, h32km, mb4.6/10, Error ellipse: s-maj=11.6km s-min=9.0km az=109.7*

ISC 15 15:44:04.0±3.5, 4638N±009×1530E±01, h1km±21km, n72, σ1§05/74, mb4.4/32, 4C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.77**	**254**	*i* PN	**Pn**	**15 45 02.0**	**-1.1**
KUR				*i* S	**Sn**	**15 45 48.0**	**-0.1**
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
SKR	**Severo-Kuril's**	**4.78**	**25**	*e*PN	**Pn**	**15 45 20.5**	**+3.5**
SKR				pmax	pmax		
	comp=Z,120nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**248**	*e*PN	**Pn**	**15 45 24.0**	**-3.8**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	⇓ *e*PN	**Pn**	**15 45 54.4**	**+5.9**
YSS				S	**Sn**	**15 47 17.8**	**+8.3**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	*e*P	**Pn**	**15 45 54.2**	**+5.7**
ASAJ	**Asahikawa**	**7.68**	**257**	Pn	**Pn**	**15 45 57.1**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=100,slow=11,SNR=4.4						
ASAJ	**Asahikawa**	**7.68**	**257**	PN	**Pn**	**15 45 57.2**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.56**	**289**	*e*P	**Pn**	**15 47 32.1**	**+1.1**
MJAR	**Matsushiro Arr**	**14.79**	**234**	Pn	**Pn**	**15 47 33.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=3.6						
CN2	**Changchun**	**19.59**	**272**	*e*P	**Pn**	**15 48 34.6**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
YAK	**Yakutsk**	**20.59**	**328**	*e*P	**P**	**15 48 44.8**	**+0.5**
KSRS	**Korea Array**	**20.61**	**253**	P	**P**	**15 48 44.9**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=56,slow=10.0,SNR=5.2						
BILL	**Bilibino**	**22.77**	**13**	*e*P	**P**	**15 49 15.1**	**+7.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
BILL	**Bilibino**	**22.77**	**13**	*e*P	**P**	**15 49 07.7**	**0.0**
	comp=Z,15nm,1.1s,mb4.3						
SONM	**Songino Array**	**31.39**	**290**	P	**P**	**15 50 23.2**	**-3.0**
	comp=Z,0.8nm,0.8s,mb3.6,baz=75,slow=9.0,SNR=3.7						
ZAK	**Zakamensk**	**32.77**	**296**	*e*P	**P**	**15 50 36.5**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
GTA	**Gaotai**	**38.95**	**279**	*e*P	**P**	**15 51 32.6**	**+1.2**
GTA				AP		15 51 43.0	
GTA				XP	sP	15 51 47.5	+15
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
CD2	**Chengdu**	**40.77**	**266**	⇓ *i*P	**P**	**15 51 47.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
GYA	**Guiyang**	**41.56**	**258**	⇓ *i*P	**P**	**15 51 53.3**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
INK	**Inuvik**	**42.01**	**32**	P	**P**	**15 51 56.8**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.0,baz=269,slow=7.3,SNR=6.6						
ZAL	**Zalesovo**	**42.78**	**306**	P	**P**	**15 52 01.6**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.6,baz=64,slow=9.9,SNR=4.7						
MKAR	**Makanchi Array**	**47.04**	**298**	P	**P**	**15 52 36.3**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.5,baz=64,slow=8.2,SNR=14						
KURK	**Kurchatov**	**47.51**	**304**	*e*P	**P**	**15 52 38.6**	**-2.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**47.51**	**304**	*e*P	**P**	**15 52 38.5**	**-2.0**
	comp=Z,7.6nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**50.61**	**310**	*e*P	**P**	**15 53 02.4**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**50.61**	**310**	*e*P	**P**	**15 53 02.4**	**-2.0**
	comp=Z,9.7nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**51.03**	**310**	P	**P**	**15 53 06.8**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=56,slow=8.0,SNR=4.2						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**15 53 06.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**15 53 06.8**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.4						
CHTO	**Chiang Mai**	**51.96**	**257**	*e*P	**P**	**15 53 14.4**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**51.96**	**257**	*e*P	**P**	**15 53 14.4**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.3						
JIRN	**Jiri**	**54.90**	**275**	*e*P	**P**	**15 53 37.4**	**+1.3**
	comp=Z,17nm,0.7s,mb5.2						
KKN	**Kakani**	**55.45**	**275**	*e*P	**P**	**15 53 41.5**	**+1.5**
	comp=Z,17nm,0.8s,mb5.2						
DMN	**Daman**	**55.68**	**275**	*e*P	**P**	**15 53 42.9**	**+1.2**
	comp=Z,46nm,1.0s,mb5.5						
GKN	**Gorkha**	**55.75**	**276**	*e*P	**P**	**15 53 43.5**	**+1.3**
	comp=Z,25nm,0.8s,mb5.3						
KOLN	**Koldanda**	**56.61**	**277**	*e*P	**P**	**15 53 49.6**	**+1.2**
	comp=Z,30nm,0.8s,mb5.3						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	**P**	**15 54 30.6**	**+0.4**
	comp=Z,1.1nm,0.8s,mb4.1,baz=287,slow=10,SNR=5.6						
FINES	**FINESS Array B**	**64.34**	**335**	P	**P**	**15 54 39.5**	**-1.7**
	comp=Z,2.7nm,0.7s,mb4.4,baz=96,slow=10.0,SNR=4.9						
PDAR	**Pinedale Array**	**65.03**	**54**	P	**P**	**15 54 45.2**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=251,slow=2.8,SNR=5.6						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**15 55 07.5**	**-0.7**
	comp=Z,6.3n

NOA	**NORSAR Array B**	**68.12**	**341**	P		**P**	**15 59 44.8**	**-0.2**
	comp=Z,4.5nm,0.8s,mb4.6,baz=26,slow=6.3,SNR=11							
HFS	**Hagfors**	**68.36**	**340**	P		**P**	**15 59 45.7**	**-0.9**
	comp=Z,5.2nm,0.6s,mb4.8,baz=64,slow=6.6							
AKASG	**Malin Array Be**	**71.55**	**326**	P		**P**	**16 00 05.2**	**-0.9**
	comp=Z,2.1nm,0.4s,mb4.4,baz=33,slow=6.2,SNR=7.6							
AKASG	**Malin Array Be**	**71.55**	**326**	P		**P**	**16 00 05.2**	**-0.9**
ASAR	**Alice Springs**	**72.54**	**199**	P		**P**	**16 00 14.1**	**+2.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=10,slow=5.9,SNR=14							
BRTR	**Keskin Array B**	**78.47**	**317**	P		**P**	**16 00 46.0**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=48,slow=7.4,SNR=4.2							

ISCJB ***15*** *15:52:55.8₀0.6,46.12N₀009×15457E₀008,h10km, mb4.4/30,Error ellipse: s-maj=14.4km s-min=6.7km az=137.7*
IDC ***15*** *15:52:55.7₀0.7,46.24N×15473E,h0km,mb4.2/14, mb1 4.4/15,mb1mx4.2/24,mbtmp4.2/15,ML3.6/1,Error ellipse: s-maj=19.1km s-min=17.1km az=157.0*
MOS ***15*** *15:52:57.9₀1.1,46.18N×15453E,h21km,mb4.8/11,Error ellipse: s-maj=14.5km s-min=9.6km az=103.0*
NEIC ***15*** *15:52:57.9₀0.5,46.24N×15471E,h10km,mb4.7/13,Error ellipse: s-maj=14.1km s-min=9.0km az=165.0*
BJI ***15*** *15:52:57.9,46.20N×15470E,h10km,mB5.1,mb4.2*
ISC 15 15:53:00.3±3.6,**462N**±01×**15460E**±009,**h26**km±24km,**n64,** σ0**99**/63,**mb4.4**/30,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.59**	**12**	*e*PN		**Pn**	**15 54 08.6**	**+0.7**
SKR				pmax		pmax		
	comp=N,220nm,1.0s							
SKR				pmax		pmax		
	comp=E,220nm,1.0s							
SKR				pmax		pmax		
	comp=Z,270nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**6.55**	**254**	*e*PN		**Sn**	**15 55 47.5**	**-1.2**
PET	**Petropavlovsk**	**7.31**	**20**	PN		**Pn**	**15 54 41.6**	**-3.7**
YSS	**Yuzh-Sakhalins**	**8.19**	**279**	*e*PN		**Pn**	**15 54 59.8**	**+2.4**
ASAJ	**Asahikawa**	**8.73**	**260**	Pn		**Pn**	**15 55 04.0**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=75,slow=16,SNR=5.6							
ASAJ	**Asahikawa**	**8.73**	**260**	PN		**Pn**	**15 55 04.0**	**-0.8**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BILL	**Bilibino**	**22.70**	**11**	*e*P		**P**	**15 57 59.4**	**-0.4**
BILL				*i*			15 58 11.3	
BILL				*i*			15 58 23.1	
BILL				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.4							
BILL	**Bilibino**	**22.70**	**11**	*e*P		**P**	**15 57 58.2**	**-1.6**
	comp=Z,19nm,0.9s,mb4.5							
SONM	**Songino Array**	**32.48**	**291**	P		**P**	**15 59 28.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=81,slow=30,SNR=2.3							
ZAK	**Zakamensk**	**33.84**	**296**	*e*P		**P**	**15 59 40.4**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,2.0s,mb3.7							
SML	**Sawmill**	**35.66**	**43**	*e*P		**P**	**15 59 56.6**	**+0.6**
COLA	**College**	**35.93**	**38**	*e*P		**P**	**15 59 58.9**	**+0.5**
COLA				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
COLA	**College**	**35.93**	**38**	*e*P		**P**	**15 59 58.9**	**+0.5**
	comp=Z,15nm,0.9s,mb4.9							
EGAK	**Eagle**	**38.79**	**38**	*e*P		**P**	**16 00 22.6**	**0.0**
	comp=Z,17nm,1.0s,mb4.7							
GTA	**Gaotai**	**40.07**	**281**	*e*P		**P**	**16 00 36.0**	**+2.7**
GTA				AP		pP	16 00 44.6	+3.3
GTA				AMB		AMB		
	comp=Z,2.0nm,1.2s,mb3.7							
INK	**Inuvik**	**41.56**	**32**	P		**P**	**16 00 45.1**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.3,baz=280,slow=8.5,SNR=13							
INK	**Inuvik**	**41.56**	**32**	P		**P**	**16 00 45.2**	**-0.4**
INK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
INK	**Inuvik**	**41.56**	**32**	*e*P		**P**	**16 00 46.1**	**+0.5**
	comp=Z,373nm,1.1s							
ZAL	**Zalesovo**	**43.77**	**307**	P		**P**	**16 01 02.5**	**-1.1**
	comp=Z,2.8nm,0.2s,mb4.5,baz=199,slow=2.3,SNR=3.4							
ZAL	**Zalesovo**	**43.77**	**307**	P		**P**	**16 01 02.5**	**-1.1**
MK31	**Makanchi Array**	**48.10**	**298**	*e*P		**P**	**16 01 38.0**	**+0.3**
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**16 01 38.2**	**+0.5**
	comp=Z,3.4nm,1.0s,mb4.3,baz=66,slow=7.1,SNR=10							
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**16 01 38.2**	**+0.5**
KURK	**Kurchatov**	**48.52**	**305**	*e*P		**P**	**16 01 40.4**	**-0.5**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**48.52**	**305**	*e*P		**P**	**16 01 40.4**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P		**P**	**16 02 03.7**	**-0.3**
CHKZ				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P		**P**	**16 02 03.6**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**51.99**	**310**	P		**P**	**16 02 06.6**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=64,slow=6.8,SNR=5.5							
ZRNK	**Zerenda**	**52.76**	**311**	*e*P		**P**	**16 02 13.0**	**+0.1**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**52.76**	**311**	*e*P		**P**	**16 02 13.0**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2							
ARU	**Arti**	**56.10**	**318**	*e*P		**P**	**16 02 37.2**	**0.0**
ARU	**Arti**	**56.10**	**318**	*e*P		**P**	**16 02 37.3**	**+0.2**
	comp=Z,3.4nm,0.4s,mb4.7							
ARCES	**ARCESS Array B**	**58.70**	**341**	P		**P**	**16 02 53.8**	**-1.6**
	comp=Z,4.7nm,0.9s,mb4.5,baz=24,slow=6.2,SNR=6.1							
HLID	**Hailey**	**60.96**	**56**	P		**P**	**16 03 11.2**	**+0.2**
NVAR	**Mina Array Bea**	**61.77**	**63**	P		**P**	**16 03 14.3**	**-2.2**
	comp=Z,0.7nm,0.6s,mb4.0,baz=294,slow=11,SNR=3.8							
BW06	**Boulder Array**	**64.23**	**54**	*e*P		**P**	**16 03 33.3**	**+0.4**
	comp=Z,3.4nm,1.0s,mb4.3							
PDAR	**Pinedale Array**	**64.23**	**54**	P		**P**	**16 03 31.6**	**-1.2**
	comp=Z,2.8nm,1.0s,mb4.2,baz=298,slow=3.2,SNR=13							
FINES	**FINESS Array B**	**64.96**	**335**	P		**P**	**16 03 36.2**	**-1.4**
	comp=Z,5.5nm,1.0s,mb4.5,baz=104,slow=6.1,SNR=5.6							
FINES	**FINESS Array B**	**64.96**	**335**	P		**P**	**16 03 36.2**	**-1.4**
OBN	**Obninsk**	**66.33**	**326**	*e*P		**P**	**16 03 46.5**	**0.0**
OBN				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
RSSD	**Black Hills**	**66.38**	**50**	*e*P		**P**	**16 03 46.9**	**+0.1**
RSSD				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.6							
RSSD	**Black Hills**	**66.38**	**50**	*e*P		**P**	**16 03 46.9**	**+0.1**
	comp=Z,6.8nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**68.35**	**201**	P		**P**	**16 03 59.4**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.1,baz=20,slow=6.6,SNR=6.5							
NB2	**NORSAR Subarra**	**69.06**	**342**	P		**P**	**16 04 03.2**	**-0.5**
	comp=Z,8.0nm,1.2s,mb4.5,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**69.06**	**342**	P		**P**	**16 04 03.2**	**-0.5**
	comp=Z,3.0nm,1.0s,mb4.2,baz=26,slow=6.2,SNR=3.2							
NOA	**NORSAR Array B**	**69.06**	**342**	P		**P**	**16 04 03.2**	**-0.5**
ASAR	**Alice Springs**	**72.03**	**200**	P		**P**	**16 04 22.3**	**+0.5**
	comp=Z,3.2nm,1.1s,mb4.2,baz=17,slow=5.9,SNR=13							
AKASG	**Malin Array Be**	**72.56**	**327**	P		**P**	**16 04 24.1**	**-0.8**
	comp=Z,0.2nm,0.2s,mb3.6,baz=32,slow=4.7,SNR=5.0							
TXAR	**Lajitas Array**	**76.86**	**61**	P		**P**	**16 04 49.6**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.3,baz=304,slow=3.7,SNR=15							
GERES	**GERESS Array B**	**79.39**	**335**	P		**P**	**16 05 03.7**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=103,slow=4.7,SNR=4.0							
CDF	**Champ du Feu**	**81.54**	**339**	*e*P		**P**	**16 05 16.3**	**+0.9**
	comp=Z,18nm,1.1s,mb4.6							
CDF	**Champ du Feu**	**81.54**	**339**	*e*P		**P**	**16 05 16.3**	**+0.9**
CDF				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
CDF	**Champ du Feu**	**81.54**	**339**	*e*P		**P**	**16 05 16.3**	**+0.9**
	comp=Z,8.9nm,1.1s,mb4.6							
GRR	**Gorron**	**83.38**	**344**	*e*P		**P**	**16 05 25.8**	**+0.8**
LPL	**La Plagne**	**84.36**	**338**	*e*P		**P**	**16 05 31.8**	**+1.7**
	comp=Z,26nm,1.1s,mb5.0							
LPL	**La Plagne**	**84.36**	**338**	*e*P		**P**	**16 05 31.8**	**+1.7**
LPL				pmax		pmax		
	comp=Z,13nm,1.1s,mb5.0							
LPL	**La Plagne**	**84.36**	**338**	*e*P		**P**	**16 05 31.8**	**+1.7**
	comp=Z,13nm,1.1s,mb5.0							
LPG	**La Plagne**	**84.38**	**338**	*e*P		**P**	**16 05 32.1**	**+2.0**
	comp=Z,27nm,1.2s,mb5.0							
LPG	**La Plagne**	**84.38**	**338**	*e*P		**P**	**16 05 32.1**	**+2.0**
LPG				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.9							
LPG	**La Plagne**	**84.38**	**338**	*e*P		**P**	**16 05 32.1**	**+2.0**
	comp=Z,13nm,1.2s,mb5.0							
LFF	**La Frestale**	**86.34**	**342**	*e*P		**P**	**16 05 41.2**	**+1.3**
	comp=Z,70nm,1.3s,mb5.4							
LFF	**La Frestale**	**86.34**	**342**	*e*P		**P**	**16 05 41.2**	**+1.3**
LFF				pmax		pmax		
	comp=Z,35nm,1.3s,mb5.4							
LFF	**La Frestale**	**86.34**	**342**	*e*P		**P**	**16 05 41.2**	**+1.3**
	comp=Z,35nm,1.3s,mb5.4							
SNAA	**Sanae**	**152.31**	**195**	PKPbc		PKPbc	16 12 50.8	-2.8
	comp=Z,0.6nm,0.9s,baz=224,slow=16,SNR=4.7							

ISCJB ***15*** *15:54:13.3₀0.5,47.19N₀007×15547E₀008,h10km, mb4.5/34,Error ellipse: s-maj=11.9km s-min=6.4km az=119.6*
IDC ***15*** *15:54:13.7₀0.7,47.24N×15544E,h0km,mb4.3/19, mb1 4.5/21,mb1mx4.4/28,mbtmp4.3/21,ML4.2/2,Error ellipse: s-maj=19.9km s-min=14.6km az=164.0*
NEIC ***15*** *15:54:15.2₀0.5,47.24N×15545E,h10km,mb4.7/11,Error ellipse: s-maj=12.6km s-min=8.0km az=149.0*
MOS ***15*** *15:54:15.8₀1.3,47.19N×15544E,h27km,mb4.9/12,Error ellipse: s-maj=10.6km s-min=9.1km az=109.2*
BJI ***15*** *15:54:17.2,47.55N×15497E,h10km,mB5.4,mb4.7*
ISC 15 15:54:15.1±0.5,**4723N**±007×**15545E**±008,**h10**km, **(h23**km±6.9km**:pP-P),n72,**σ1**07/73,mb4.5**/34,**4C-2D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**5.63**	**252**	*e*PN		**Pn**	**15 55 38.0**	**-0.9**
KUR				pmax		pmax		
	comp=Z,230nm,0.5s							
PET	**Petropavlovsk**	**6.16**	**18**	*e*PN		**Pn**	**15 55 43.6**	**-2.5**
YSS	**Yuzh-Sakhalins**	**8.67**	**273**	⇑*e*PN		**Pn**	**15 56 25.0**	**+4.4**
YSS	**Yuzh-Sakhalins**	**8.67**	**273**	*e*Pn		**Pn**	**15 56 25.1**	**+4.4**
	comp=Z,30nm,0.4s							
ASAJ	**Asahikawa**	**9.52**	**256**	Pn		**Pn**	**15 56 33.2**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=82,slow=15,SNR=12							
ASAJ	**Asahikawa**	**9.52**	**256**	PN		**Pn**	**15 56 33.2**	**+0.9**
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.3s							
KLR	**Kul'dur**	**15.91**	**286**	*e*P		**Pn**	**15 58 00.0**	**+0.9**
MAJO	**Matsushiro**	**16.66**	**236**	*e*P		**Pn**	**15 58 07.1**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,23nm,0.8s							
MAJO	**Matsushiro**	**16.66**	**236**	*e*Pn		**Pn**	**15 58 07.1**	**-1.6**
	comp=Z,23nm,0.8s							
MAT	**Matsushiro**	**16.66**	**236**	P		**Pn**	**15 58 06.9**	**-1.8**
MJAR	**Matsushiro Arr**	**16.66**	**236**	Pn		**Pn**	**15 58 07.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=7.3							
YAK	**Yakutsk**	**20.82**	**325**	*e*P		**P**	**15 58 55.1**	**-1.6**
YAK				pmax		pmax		
	comp=Z,23nm,0.8s							
YAK	**Yakutsk**	**20.82**	**325**	*e*P		**P**	**15 58 55.1**	**-1.6**
	comp=Z,23nm,0.8s							
CN2	**Changchun**	**21.24**	**272**	⇓P		**P**	**15 59 00.1**	**-1.1**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.3							
BILL	**Bilibino**	**21.59**	**11**	*e*P		**P**	**15 59 05.9**	**+0.9**
BILL				pmax		pmax		
	comp=Z,30nm,1.4s,mb4.5							
KSRS	**Korea Array**	**22.47**	**254**	P		**P**	**15 59 15.4**	**+1.0**
	comp=Z,10nm,1.0s,mb4.2,baz=53,slow=11,SNR=10							
ULN	**Ulaanbaatar**	**32.25**	**289**	*e*P		**P**	**16 00 43.5**	**-0.2**
SONM	**Songino Array**	**32.68**	**290**	P		**P**	**16 00 46.4**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=72,slow=8.3,SNR=10							
COLA	**College**	**34.76**	**39**	*e*P		**P**	**16 01 04.3**	**-1.3**
LZH	**Lanzhou**	**39.47**	**273**	⇑P		**P**	**16 01 48.3**	**+2.7**
LZH				AP		pP	16 01 57.9	+9.2
LZH				AMB		AMB		
	comp=Z,19nm,1.0s,mb4.8							
LZH	**Lanzhou**	**39.47**	**273**	⇑P		**P**	**16 01 48.2**	**+2.6**
LZH				*SP		sP	16 02 01.2	+11
LZH							16 03 18.2	
LZH				pmax		pmax		
	comp=Z,19nm,1.0s,mb4.8							
LZH	**Lanzhou**	**39.47**	**273**	⇑P		**P**	**16 01 48.2**	**+2.6**
	comp=Z,19nm,1.0s,mb4.8							
LZH				pP		pP	16 01 57.9	+9.2
LZH				sP		sP	16 02 01.2	+11
LZH				PP		PP	16 03 18.2	+2.1
INK	**Inuvik**	**40.38**	**33**	P		**P**	**16 01 53.0**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.2,baz=293,slow=5.3,SNR=5.8							
INK	**Inuvik**	**40.38**	**33**	*e*P		**P**	**16 01 53.0**	**-0.2**
INK				pmax		pmax		
	comp=Z,118nm,0.7s							
INK	**Inuvik**	**40.38**	**33**	*e*P		**P**	**16 01 53.0**	**-0.2**
	comp=Z,118nm,0.7s,mb5.7							
GTA	**Gaotai**	**40.47**	**280**	*e*P		**P**	**16 01 56.0**	**+2.1**
GTA				AP		pP	16 02 05.9	+8.9
GTA				AMB		AMB		
	comp=Z,9.0nm,1.1s,mb4.4							
GYA	**Guiyang**	**43.38**	**259**	P		**P**	**16 02 19.5**	**+1.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**43.64**	**306**	P		**P**	**16 02 18.9**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.2,baz=40,slow=8.4,SNR=12							
NVS	**Novosibirsk**	**44.17**	**308**	*e*P		**P**	**16 02 23.5**	**-0.5**
NVS				pmax		pmax		
	comp=N,10.0nm,1.8s							
NVS				pmax		pmax		
	comp=E,20nm,1.8s							
NVS				pmax		pmax		
	comp=Z,24nm,1.8s,mb4.6							
WMQ	**Urumqi**	**46.24**	**292**	*e*P		**P**	**16 02 42.0**	**+1.5**
MK31	**Makanchi Array**	**48.14**	**298**	*e*P		**P**	**16 02 55.3**	**0.0**
MKAR	**Makanchi Array**	**48.14**	**298**	P		**P**	**16 02 54.7**	**-0.6**
	comp=Z,11nm,0.9s,mb4.9,baz=67,slow=6.6,SNR=18							
MKAR	**Makanchi Array**	**48.14**	**298**	P		**P**	**16 02 54.7**	**-0.6**
RES	**Resolute Bay**	**49.87**	**19**	*e*P		**P**	**16 03 09.1**	**+0.6**
BVAR	**Borovoye Array**	**51.78**	**310**	P		**P**	**16 03 23.1**	**+0.1**
	comp=Z,6.2nm,0.4s,mb4.9,baz=56,slow=8.1,SNR=21							
LSA	**Lhasa**	**51.84**	**274**	*e*P		**P**	**16 03 27.8**	**+4.4**
LSA	**Lhasa**	**51.84**	**274**	*e*P		**P**	**16 03 26.6**	**+3.2**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.7							
LSA	**Lhasa**	**51.84**	**274**	*e*P		**P**	**16 03 26.6**	**+3.2**
	comp=Z,5.0nm,0.5s,mb4.7							
ZRNK	**Zerenda**	**52.54**	**310**	*e*P		**P**	**16 03 27.5**	**-1.1**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.7							
ZRNK	**Zerenda**	**52.54**	**310**	*e*P		**P**	**16 03 27.5**	**-1.1**
	comp=Z,4.5nm,0.5s,mb4.7							
FRU	**Bishkek**	**54.86**	**297**	*e*P		**P**	**16 03 47.0**	**+1.4**
ARU	**Arti**	**55.73**	**318**	*i*P		**P**	**16 03 51.8**	**-0.1**
ARU				*e*			16 05 59.2	
ARU				*e*S		**S**	**16 11 33.2**	**-5.3**
ARU				pmax		pmax		
	comp=Z,18nm,0.7s,mb5.2							
ARU	**Arti**	**55.73**	**318**	*e*P		**P**	**16 03 51.5**	**-0.4**
	comp=Z,26nm,0.9s,mb5.3							
YBH	**Yreka Blue Hor**	**56.10**	**63**	P		**P**	**16 03 54.9**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=335,slow=7.8,SNR=3.3							
KEV	**Kevo**	**57.42**	**341**	*e*p		**P**	**16 04 05.7**	**+1.8**
	comp=Z,2.2nm,0.6s,mb4.4							
KEV	**Kevo**	**57.42**	**341**	*e*P		**P**	**16 04 05.7**	**+1.8**
KEV				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
ARCES	**ARCESS Array B**	**57.92**	**341**	P		**P**	**16 04 06.9**	**-0.5**
	comp=Z,5.0nm,0.9s,mb4.6,baz=25,slow=6.7,SNR=4.3							
AKTK	**Aktyubinsk**	**59.59**	**313**	P		**P**	**16 04 19.0**	**0.0**
AKTO	**Aktyubinsk**	**59.59**	**313**	P		**P**	**16 04 19.0**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.7,baz=60,slow=6.3,SNR=11							
AKTO	**Aktyubinsk**	**59.59**	**313**	P		**P**	**16 04 19.0**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
ORR	**Orenburg**	**60.45**	**315**	*e*P		**P**	**16 04 25.4**	**+0.5**
ORR				pmax		pmax		
	comp=Z,30nm,1.4s,mb5.1							
NVAR	**Mina Array Bea**	**60.79**	**64**	P		**P**	**16 04 27.7**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=276,slow=6.7,SNR=3.7							
BW06	**Boulder Array**	**63.16**	**55**	P		**P**	**16 04 43.4**	**+0.1**
	comp=Z,7.0nm,1.4s,mb4.6							
PDAR	**Pinedale Array**	**63.16**	**55**	P		**P**	**16 04 43.3**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.2,baz=303,slow=2.4,SNR=6.6							
FINES	**FINESS Array B**	**64.28**	**336**	P		**P**	**16 04 49.9**	**-0.7**
	comp=Z,2.1nm,0.4s,mb4.5,baz=39,slow=8.5,SNR=9.2							
RSSD	**Black Hills**	**65.28**	**51**	*e*P		**P**	**16 04 57.2**	**+0.1**
RSSD				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
RSSD	**Black Hills**	**65.28**	**51**	*e*P		**P**	**16 04 57.2**	**+0.1**
	comp=Z,5.9nm,0.9s,mb4.6							
NB2	**NORSAR Subarra**	**68.28**	**342**	P		**P**	**16 05 15.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.28**	**342**	P		**P**	**16 05 16.2**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.7,baz=26,slow=6.4,SNR=6.8							
NOA	**NORSAR Array B**	**68.28**	**342**	P		**P**	**16 05 16.2**	**-0.1**
WRA	**Warramunga Arr**	**69.51**	**201**	P		**P**	**16 05 24.0**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=6.6,SNR=3.4							
KIV	**Kislovodsk**	**71.60**	**315**	*e*P		**P**	**16 05 35.8**	**-0.8**
KIV				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9							
AKASG	**Malin Array Be**	**72.03**	**327**	P		**P**	**16 05 38.5**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=5.9,SNR=5.0							
ASAR	**Alice Springs**	**73.19**	**201**	P		**P**	**16 05 46.4**	**+0.2**
	comp=Z,1.3nm,0.9s,mb3.9,baz=6.8,slow=4.4,SNR=5.0							
TXAR	**Lajitas Array**	**75.86**	**62**	P		**P**	**16 06 01.6**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=288,slow=3.7,SNR=6.3							
DPC	**Dobruska-Polom**	**76.60**	**334**	*e*P		**P**	**16 06 09.0**	**+3.1**
CLL	**Collm**	**76.67**	**337**	*i*P		**P**	**16 06 05.8**	**-0.5**
CLL				*i*			16 06 16.0	
CLL				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
CLL	**Collm**	**76.67**	**337**	*i*P		**P**	**16 06 05.8**	**-0.5**
	comp=Z,8.0nm,1.1s,mb4.6							
CLL				*i* pP		pP	16 06 09.9	+0.3
CLL				*i* PcP		PcP	16 06 16.0	-1.7
PRU	**Pruhonice**	**77.44**	**335**	*e*P		**P**	**16 06 14.6**	**+4.0**
KHC	**Kasperske Hory**	**78.49**	**336**	*e*P		**P**	**16 06 17.2**	**+0.8**
KHC				epP		pP	16 06 21.0	+1.3
GERES	**GERESS Array B**	**78.71**	**335**	P		**P**	**16 06 17.4**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=32,slow=5.2,SNR=5.3							
BRTR	**Keskin Array B**	**79.12**	**318**	P		**P**	**16 06 20.9**	**+1.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=54,slow=3.2,SNR=4.2							

ISCJB ***15*** *15:55:10.9₀0.4,47.34N₀006×15435E₀008,h10km, mb5.0/41,Error ellipse: s-maj=10.9km s-min=5.2km az=101.7*
IDC ***15*** *15:55:10.7₀0.7,47.40N×15433E,h0km,mb4.6/17, mb1 4.7/18,mb1mx4.5/27,mbtmp4.6/18,ML4.0/1,Error ellipse: s-maj=19.8km s-min=16.2km az=126.0*
BJI ***15*** *15:55:11.2,47.60N×15476E,h30km,mB5.1,mb4.8,Ms4.4, Msz4.1*
NEIC ***15*** *15:55:12.6₀0.5,47.34N×15430E,h10km,mb4.9/11,Error ellipse: s-maj=11.4km s-min=7.0km az=129.0*
MOS ***15*** *15:55:15.3₀1.3,4733N×154.19E,h41km,mb5.1/9,Error ellipse: s-maj=10.3km s-min=7.5km az=101.3*
ISC 15 15:55:17.2±1.1,**4739N**±007×**15438E**±010,**h43**km±8km, **n130,**σ0**99**/128,**mb5.0**/41,**12C-15D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.48**	**19**	*e*PN		**Pn**	**15 56 11.1**	**+2.2**
PET	**Petropavlovsk**	**6.27**	**24**	*e*PN		**Pn**	**15 56 45.9**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**6.84**	**244**	*e*PN		**Pn**	**15 56 52.5**	**-2.5**
YUK				*e*S		**Sn**	**15 58 12.5**	**+1.0**
YUK				smax				
	comp=N,350nm,0.4s							
YUK				smax				
	comp=E,760nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.93**	**271**	*e*PN		**Pn**	**15 57 11.0**	**+1.1**
YSS				*e*S		**Sn**	**15 58 40.0**	**+1.6**
YSS				pmax		pmax		
	comp=N,30nm,0.7s							
YSS				pmax		pmax		
	comp=E,70nm,0.7s							
YSS				pmax		pmax		
	comp=Z,70nm,0.7s							
YSS	**Yuzh-Sakhalins**	**7.93**	**271**	*e*P		**Pn**	**15 57 11.3**	**+1.4**
	comp=Z,72nm,0.6s							
ASAJ	**Asahikawa**	**8.87**	**253**	Pn		**Pn**	**15 57 22.9**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=96,slow=18,SNR=5.0							

comp=Z,7.1nm,0.8s,mb4.7
SHL Shillong 53.25 269 *ex* x 16 04 41.0
JIRN Jiri 55.75 275 *eP* **P 16 04 50.0 +0.5**
comp=Z,114nm,0.7s,mb6.0
GUN Gumba 55.80 275 *eP* **P 16 04 50.5 +0.6**
comp=Z,60nm,0.6s,mb5.8
KKN Kakani 56.29 276 *eP* **P 16 04 54.0 +0.7**
comp=Z,51nm,0.5s,mb5.8
PKI Pulchoki 56.34 275 *eP* **P 16 04 54.3 +0.6**
comp=Z,38nm,0.5s,mb5.7
DMN Daman 56.52 276 *eP* **P 16 04 55.9 +0.9**
comp=Z,136nm,0.8s,mb6.0
GKN Gorkha 56.58 276 *eP* **P 16 04 55.3 -0.2**
comp=Z,100nm,0.6s,mb6.0
KOLN Koldanda 57.43 277 *eP* **P 16 05 01.4 -0.1**
comp=Z,75nm,0.8s,mb5.8
BOK Bokaro 58.50 272 *eP* **P 16 05 09.1 +0.2**
BOK AMb AMB 16 05 11.6
comp=Z,12nm,0.7s,mb5.0
NDI New Delhi 61.12 282 *eP* **P 16 05 25.7 -1.3**
NDI AMb AMB 16 05 27.3
comp=Z,26nm,0.8s,mb5.4
PDAR Pinedale Array 63.67 55 P **P 16 05 44.3 +0.3**
comp=Z,1.8nm,1.1s,mb4.0,baz=352,slow=5.5,SNR=2.9
FINES FINESS Array B 63.82 335 P **P 16 05 43.5 -1.4**
comp=Z,9.0nm,0.6s,mb5.0,baz=36,slow=10,SNR=18
AJM Ajmer 64.28 282 *eP* **P 16 05 48.1 +0.1**
AJM AMb AMB 16 05 49.1
comp=Z,19nm,0.7s,mb5.2
VIS Vishakhapatnam 64.39 269 *eP* **P 16 05 47.9 -0.8**
VIS AMb AMB 16 05 54.0
comp=Z,28nm,2.0s,mb4.9
NGP Nagpur 64.92 274 *eP* **P 16 05 52.2 0.0**
HYB Hyderabad 67.84 272 *i* P **P 16 06 11.0 +0.1**
HYB Hyderabad 67.84 272 *eP* **P 16 06 11.0 +0.1**
NB2 NORSAR Subarra 67.89 342 P **P 16 06 10.5 -0.7**
comp=Z,7.0nm,0.6s,mb4.9,baz=26,slow=6.5
NOA NORSAR Array B 67.89 342 P **P 16 06 10.8 -0.4**
comp=Z,7.3nm,0.7s,mb4.8,baz=27,slow=6.0,SNR=18
NOA NORSAR Array B 67.89 342 P **P 16 06 10.8 -0.4**
WRA Warramunga Arr 69.41 200 P **P 16 06 19.6 -1.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=19,slow=6.7,SNR=5.4
MDRS Chennai 69.77 267 *ex* **P 16 06 13.4 -9.4**
POO Poona 70.25 276 *eP* **P 16 06 25.0 -0.8**
KAD Karad 70.88 275 *eP* **P 16 06 29.9 +0.3**
AKASG Malin Array Be 71.49 327 P **P 16 06 31.1 -2.3**
comp=Z,7.6nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=12
AS31 Alice Springs 73.10 200 *eP* **P 16 06 43.1 +0.2**
ASAR Alice Springs 73.10 200 P **P 16 06 42.9 0.0**
comp=Z,8.1nm,0.9s,mb4.6,baz=13,slow=5.3,SNR=20
OJC Ojcow 75.17 332 *ePX* **P 16 06 54.8 -0.2**
TRD Trivandrum 75.27 267 *eP* **P 16 06 57.6 +2.0**
TRD AMb AMB 16 07 01.1
comp=Z,26nm,1.1s,mb5.1
STHS Stebnicka Huta 75.39 330 *eP* **P 16 06 57.2 +1.0**
KOLS Kolonicke sedl 75.45 330 *eP* **P 16 06 56.5 -0.1**
BURAR Bucovina Array 75.52 327⇓ *iP* **P 16 06 57.1 +0.1**
BURAR Bucovina Array 75.52 327⇓ P **P 16 06 57.1 +0.1**
UPC Upice 76.09 334 *eP* **P 16 07 00.6 +0.4**
DPC Dobruska-Polom 76.13 334 *eP* **P 16 07 00.7 +0.2**
CLL Collm 76.23 336 *i* P **P 16 07 00.5 -0.6**
CLL *i* 16 07 07.9
CLL pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CLL Collm 76.23 336 *i* P **P 16 07 00.5 -0.6**
comp=Z,19nm,0.6s,mb5.2
CLL *i* 16 07 07.9
MORC Moravsky Berou 76.27 333⇓ *iP* **P 16 07 01.7 +0.4**
MORC Moravsky Berou 76.27 333⇓ P **P 16 07 01.7 +0.4**
BRG Berggiesshubel 76.36 335 *i* P **P 16 07 01.2 -0.6**
comp=Z,4.0nm,0.8s,mb4.4
BRG Berggiesshubel 76.36 335 *i* P **P 16 07 01.2 -0.6**
BRG pmax pmax
comp=Z,17nm,0.8s,mb5.0
TXAR Lajitas Array 76.42 61 P **P 16 07 02.2 +0.1**
comp=Z,2.2nm,0.8s,mb4.1,baz=307,slow=5.2,SNR=3.6
TXAR Lajitas Array 76.42 61 P **P 16 07 02.2 +0.1**
CFR Carcaliu 76.43 324⇑ *iP* **P 16 07 03.1 +0.9**
CFR Carcaliu 76.43 324⇑ P **P 16 07 03.1 +0.9**
KECS Kecovo 76.45 330 *eP* **P 16 07 02.1 -0.2**
PLOR Plostina 76.46 325⇓ *iP* **P 16 07 03.3 +1.0**
PVCC Panska Ves 76.49 335 *eP* **P 16 07 02.6 +0.1**
TIRR Tirgusor 76.92 323⇓ *iP* **P 16 07 03.7 -1.2**
VRAC Vranov 76.97 333⇓ *iP* **P 16 07 05.8 +0.6**
PRU Pruhonice 76.98 335 *eP* **P 16 07 05.6 +0.3**
VYHS Vyhne 76.98 331 *eP* **P 16 07 05.5 +0.2**
MLR Muntele Rosu 77.03 326⇓ *iP* **P 16 07 06.5 +0.9**
MLR Muntele Rosu 77.03 326⇓ P **P 16 07 06.5 +0.9**
DRGR 77.13 328⇑ *iP* **P 16 07 06.4 +0.3**
DRGR 77.13 328⇑ P **P 16 07 06.4 +0.3**
SNX Sinaia 77.31 326⇑ *iP* **P 16 07 08.6 +1.5**
SNX Sinaia 77.31 326⇑ P **P 16 07 08.7 +1.5**
MALT Malatya 77.34 314⇓ *iP* **P 16 07 09.2 +1.9**
MALT Malatya 77.34 314⇓ P **P 16 07 09.2 +1.9**
NKC Novy Kostel 77.35 336 *eP* **P 16 07 07.7 +0.3**
VOIR 77.42 326⇑ *iP* **P 16 07 08.8 +1.1**
VOIR 77.42 326⇑ P **P 16 07 08.8 +1.0**
KHC Kasperske Hory 78.03 335 *eP* **P 16 07 11.8 +0.7**
GERES GERESS Array B 78.25 335 P **P 16 07 12.7 +0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=33,slow=5.5,SNR=11
GZR Gura Zlata 78.30 327⇑ *iP* **P 16 07 13.0 +0.4**
BRTR Keskin Array B 78.51 317 P **P 16 07 14.8 +1.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=56,slow=4.1,SNR=8.0
BZS Buzias 78.53 328⇑ *iP* **P 16 07 14.4 +0.5**
BZS Buzias 78.53 328⇑ P **P 16 07 14.3 +0.5**
UMR Umm Al-Rimmam 79.03 302 *eP* **P 16 07 16.9 +0.3**
PKSM Moragy 79.04 330⇓ *iP* **P 16 07 16.6 -0.1**
PKSM Moragy 79.04 330⇓ P **P 16 07 16.6 -0.1**
MIB Mutribah 79.06 302 *eP* **P 16 07 16.9 +0.1**
KBD Kabd 79.32 302 *eP* **P 16 07 18.7 +0.5**
QRN Al-Qurain 79.52 301 *eP* **P 16 07 19.7 +0.4**
NAY Al-Naaiem 79.53 302 *eP* **P 16 07 19.4 0.0**
RDF Al-Radifah 79.59 301 *eP* **P 16 07 20.2 +0.5**
VTS Vitosha 80.53 326⇓ *iP* **P 16 07 26.1 +1.3**
VTS Vitosha 80.53 326⇓ P **P 16 07 26.1 +1.3**
DAVOX Davos 81.21 336 P **P 16 07 29.7 +1.3**
comp=Z,1.8nm,0.4s,mb4.3,baz=6.9,slow=14,SNR=6.0
SNAA Sanae 153.41 196 PKIbc PKPbc 16 15 07.9 -2.8
comp=Z,0.7nm,0.9s,baz=317,slow=5.4,SNR=2.9
SNAA Sanae 153.41 196 PKIKP PKPbc 16 15 07.9 -2.8
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 153.41 196 *e*PKPbc PKPbc 16 15 08.4 -2.3

IDC ***15*** *15:58:27.4±0.7, 46.35N×154.83E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/25, mbtmp4.0/12, ML3.7/1, Error ellipse: s-maj=24.0km s-min=17.4km az=147.0*
ISCJB ***15*** *15:58:28.9±7.2, 46.4N±0.1×154.8E±0.2, h22km±51km, mb4.0/14, Error ellipse: s-maj=23.5km s-min=19.3km az=130.2*
NEIC ***15*** *15:58:28.9±0.7, 46.39N×154.77E, h10km, mb4.3/3, Error ellipse: s-maj=19.0km s-min=14.9km az=172.0*
ISC 15 15:58:33.3±2.9, 465N±01×1547E±02, h40km±26km, n19, σ0s95/19, mb4.0/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.87**	**259**	Pn		**Pn**		**16 00 38.5**	**-0.3**
	0.9nm,0.3s,baz=90,slow=18,SNR=2.7								
KSRS	**Korea Array**	**21.79**	**255**	P		**P**		**16 03 23.1**	**+1.5**
	3.4nm,0.8s,mb3.9,baz=57,slow=11,SNR=6.2								
INK	**Inuvik**	**41.31**	**32**	P		**P**		**16 06 14.7**	**-0.2**
	1.6nm,0.6s,mb3.9,baz=289,slow=5.5,SNR=6.2								
MK31	**Makanchi Array**	**48.07**	**298**	*eP*		**P**		**16 07 08.1**	**-0.6**
MKAR	**Makanchi Array**	**48.07**	**298**	P		**P**		**16 07 07.2**	**-1.4**
	1.7nm,0.8s,mb4.2,baz=64,slow=9.6,SNR=4.2								
LSA	**Lhasa**	**51.41**	**274**	P		**P**		**16 07 37.1**	**+3.1**
	4.4nm,0.6s,mb4.6								
CHKZ	**Chkalovo**	**51.47**	**311**	*eP*		**P**		**16 07 33.8**	**-0.7**
	3.8nm,0.8s,mb4.4								
BVAR	**Borovoye Array**	**51.91**	**310**	P		**P**		**16 07 37.9**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=49,slow=6.4,SNR=3.1								
ZRNK	**Zerenda**	**52.67**	**311**	*eP*		**P**		**16 07 43.4**	**0.0**
	1.4nm,0.6s,mb4.1								
NVAR	**Mina Array Bea**	**61.58**	**63**	P		**P**		**16 08 46.5**	**0.0**
	0.9nm,0.7s,mb4.0,baz=290,slow=11,SNR=4.6								
NVAR	**Mina Array Bea**	**61.58**	**63**	P		**P**		**16 08 46.5**	**0.0**
PDAR	**Pinedale Array**	**64.02**	**55**	P		**P**		**16 09 02.8**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=305,slow=1.2,SNR=6.1								
FINES	**FINESS Array B**	**64.78**	**335**	P		**P**		**16 09 06.9**	**-0.8**
	1.6nm,0.6s,mb4.3,baz=37,slow=10,SNR=3.9								
WRA	**Warramunga Arr**	**68.61**	**201**	P		**P**		**16 09 31.2**	**-0.8**
	1.0nm,0.8s,mb3.8,baz=32,slow=8.0,SNR=4.4								
NOA	**NORSAR Array B**	**68.87**	**342**	P		**P**		**16 09 35.6**	**+1.9**
	0.8nm,0.7s,mb3.8,baz=27,slow=6.3,SNR=2.7								
NOA	**NORSAR Array B**	**68.87**	**342**	P		**P**		**16 09 35.6**	**+1.9**
ASAR	**Alice Springs**	**72.29**	**200**	P		**P**		**16 09 54.2**	**-0.3**
	1.1nm,0.7s,mb3.9,baz=19,slow=5.5,SNR=8.4								
TXAR	**Lajitas Array**	**76.66**	**62**	P		**P**		**16 10 20.1**	**+0.2**
	2.8nm,0.7s,mb4.3,baz=301,slow=3.8,SNR=14								
CLL	**Collm**	**77.19**	**337**	*e*pP		**P**		**16 10 27.0**	**+4.1**

IDC ***15*** *16:02:01.9±0.8, 47.24N×153.22E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.1/15, ML3.8/1, Error ellipse: s-maj=23.9km s-min=18.2km az=116.0*
NEIC ***15*** *16:02:04.0±0.7, 47.28N×153.30E, h10km, mb4.6/7, Error ellipse: s-maj=19.2km s-min=9.8km az=127.0*
BJI ***15*** *16:02:04.0, 47.30N×153.30E, h10km, mb4.4*
ISCJB ***15*** *16:02:06.3±1.1, 47.23N±0.08×153.8E±0.1, h49km±8km, mb4.2/22, Error ellipse: s-maj=19.8km s-min=6.3km az=83.3*
MOS ***15*** *16:02:06.0±1.7, 47.18N×153.70E, h49km, mb4.8/5, Error ellipse: s-maj=11.4km s-min=8.8km az=65.8*
ISC 15 16:02:08.9±1.0, 4728N±009×1537E±01, h58km±7km, n59, σ1s25/60, mb4.2/22, 2C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.75**	**24**	*e*PN		**Pn**		**16 03 03.4**	**-0.9**
SKR				*e*S		**Sn**		**16 03 46.3**	**-0.9**
SKR				pmax		pmax			
	comp=N,150nm,0.4s								
SKR				pmax		pmax			
	comp=Z,180nm,0.4s								
SKR				smax					
	comp=N,240nm,0.6s								
SKR				smax					
	comp=E,170nm,0.6s								
SKR				smax					
	comp=Z,80nm,0.6s								
KUR	**Kuril'sk**	**4.55**	**246**	*e*PN		**Pn**		**16 03 10.0**	**-5.2**
YUK	**Yuzh-Kuril'sk**	**6.40**	**242**	*e*PN		**Pn**		**16 03 40.8**	**+0.3**
YUK				*e*S		**Sn**		**16 04 53.0**	**+0.8**
YUK				pmax		pmax			
	comp=Z,280nm,0.4s								
YUK				smax					
	comp=N,1μm,0.8s								
YUK				smax					
	comp=E,820nm,0.8s								
PET	**Petropavlovsk**	**6.56**	**27**	PN		**Pn**		**16 03 43.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.50**	**272**	PN		**Pn**		**16 03 57.3**	**+1.7**
YSS				*e*S		**Sn**		**16 05 25.0**	**+5.8**
YSS				smax					
	comp=E,20nm,0.7s								
YSS	**Yuzh-Sakhalins**	**7.50**	**272**	*e*Pn		**Pn**		**16 03 56.6**	**+1.0**
	comp=E,29nm,0.5s								
ASAJ	**Asahikawa**	**8.41**	**252**	Pn		**Pn**		**16 04 09.8**	**+1.7**
	comp=E,4.3nm,0.3s,baz=87,slow=16,SNR=18								
ASAJ	**Asahikawa**	**8.41**	**252**	PN		**Pn**		**16 04 09.8**	**+1.7**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ERM	**Erimo**	**9.19**	**239**	*e*PN		**Pn**		**16 04 18.0**	**-0.7**
KLR	**Kul'dur**	**14.77**	**286**	*eP*		**Pn**		**16 05 34.2**	**-0.1**
MJAR	**Matsushiro Arr**	**15.74**	**233**	Pn		**Pn**		**16 05 42.4**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=28,slow=11,SNR=6.1								
MAJO	**Matsushiro**	**15.74**	**233**	*eP*		**Pn**		**16 05 44.0**	**-2.8**
MAJO				pmax		pmax			
	comp=Z,22nm,0.8s								
MAJO	**Matsushiro**	**15.74**	**233**	*eP*		**Pn**		**16 05 44.0**	**-2.8**
	comp=Z,22nm,0.8s								
MAT	**Matsushiro**	**15.74**	**233**	P		**Pn**		**16 05 46.7**	**-0.1**
KSRS	**Korea Array**	**21.36**	**252**	P		**P**		**16 06 48.2**	**-3.1**
	comp=Z,3.2nm,0.7s,mb3.8,baz=61,slow=9.9,SNR=12								
SONM	**Songino Array**	**31.56**	**289**	P		**P**		**16 08 24.3**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=80,slow=7.9,SNR=3.7								
INK	**Inuvik**	**40.98**	**33**	P		**P**		**16 09 47.1**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.0,baz=278,slow=7.1,SNR=9.6								
CD2	**Chengdu**	**41.35**	**265**	P		**P**		**16 09 48.3**	**-0.7**
CD2				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.7								
GYA	**Guiyang**	**42.24**	**258**	P		**P**		**16 09 56.3**	**0.0**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
ZAL	**Zalesovo**	**42.67**	**305**	PcP		PcP		16 11 50.6	-0.2
	comp=Z,1.9nm,0.3s,baz=148,slow=5.4,SNR=3.8								
MKAR	**Makanchi Array**	**47.08**	**297**	P		**P**		**16 10 33.0**	**-1.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=62,slow=8.4,SNR=4.1								
KURK	**Kurchatov**	**47.43**	**303**	*eP*		**P**		**16 10 35.2**	**-2.4**
KURK				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
KURK	**Kurchatov**	**47.43**	**303**	*eP*		**P**		**16 10 35.2**	**-2.4**
	comp=Z,4.7nm,0.9s,mb4.4								
CHKZ	**Chkalovo**	**50.42**	**310**	*eP*		**P**		**16 10 58.4**	**-2.0**
CHKZ				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
CHKZ	**Chkalovo**	**50.42**	**310**	*eP*		**P**		**16 10 58.4**	**-2.1**
	comp=Z,2.5nm,0.5s,mb4.5								
LSA	**Lhasa**	**50.67**	**273**	*eP*		**P**		**16 11 04.0**	**+1.7**
LSA				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
LSA	**Lhasa**	**50.67**	**273**	*eP*		**P**		**16 11 04.0**	**+1.6**
	comp=Z,8.9nm,1.1s,mb4.6								
BVAR	**Borovoye Array**	**50.85**	**309**	P		**P**		**16 11 02.6**	**-1.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=54,slow=7.7,SNR=5.1								
CHTO	**Chiang Mai**	**52.65**	**257**	*eP*		**P**		**16 11 17.5**	**+0.4**
CHTO				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
CHTO	**Chiang Mai**	**52.65**	**257**	*eP*		**P**		**16 11 17.4**	**+0.3**
	comp=Z,7.0nm,0.9s,mb4.6								
ARCES	**ARCESS Array B**	**57.50**	**341**	P		**P**		**16 11 51.5**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.5,baz=18,slow=7.3,SNR=6.0								
SUMG	**Summit**	**60.15**	**4**	*eP*		**P**		**16 12 10.6**	**+0.1**
	comp=Z,17nm,0.9s,mb5.1								
FINES	**FINESS Array B**	**63.75**	**335**	P		**P**		**16 12 33.8**	**-0.7**
	comp=Z,1.0nm,0.3s,mb4.3,baz=41,slow=8.2,SNR=15								
PDAR	**Pinedale Array**	**64.09**	**54**	P		**P**		**16 12 41.6**	**+4.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=329,slow=6.8,SNR=4.9								
NB2	**NORSAR Subarra**	**67.87**	**341**	P		**P**		**16 13 00.3**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.4,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**		**16 13 00.1**	**-1.0**
	comp=Z,5.2nm,0.8s,mb4.6,baz=27,slow=6.3,SNR=12								
WRA	**Warramunga Arr**	**69.15**	**200**	P		**P**		**16 13 08.0**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=19,slow=6.6,SNR=4.7								
AKASG	**Malin Array Be**	**71.35**	**326**	P		**P**		**16 13 20.4**	**-2.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=29,slow=5.5,SNR=6.9								
ASAR	**Alice Springs**	**72.84**	**199**	P		**P**		**16 13 31.4**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=15,slow=5.5,SNR=13								
BURAR	**Bucovina Array**	**75.38**	**327**⇓	*iP*		**P**		**16 13 46.8**	**+0.5**
BURAR	**Bucovina Array**	**75.38**	**327**⇓	P		**P**		**16 13 46.8**	**+0.6**
CLL	**Collm**	**76.16**	**336**	*i* P		**P**		**16 13 50.9**	**+0.2**
CLL				*i*				16 14 01.0	
CLL				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.0								
CLL	**Collm**	**76.16**	**336**	*i* P		**P**		**16 13 50.9**	**+0.2**
	comp=Z,9.0nm,1.0s,mb4.7								
CLL				*i* (pP)		pP		16 14 01.0	-5.8
MORC	**Moravsky Berou**	**76.17**	**332**⇓	*iP*		**P**		**16 13 51.8**	**+1.0**
MORC	**Moravsky Berou**	**76.17**	**332**⇓	P		**P**		**16 13 51.8**	**+1.0**
TIRR	**Tirgusor**	**76.75**	**323**⇑	*iP*		**P**		**16 13 55.1**	**+1.1**
TIRR	**Tirgusor**	**76.75**	**323**⇑	P		**P**		**16 13 55.1**	**+1.1**
MLR	**Muntele Rosu**	**76.88**	**325**⇓	*iP*		**P**		**16 13 56.3**	**+1.6**
MLR	**Muntele Rosu**	**76.88**	**325**⇓	P		**P**		**16 13 56.3**	**+1.6**
MALT	**Malatya**	**77.11**	**313**⇓	*iP*		**P**		**16 13 58.4**	**+2.4**
MALT	**Malatya**	**77.11**	**313**⇓	P		**P**		**16 13 58.4**	**+2.3**
SNX	**Sinaia**	**77.16**	**325**⇓	*iP*		**P**		**16 13 59.5**	**+3.2**
GERES	**GERESS Array B**	**78.17**	**334**	P		**P**		**16 14 03.2**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=54,slow=3.4,SNR=7.2								
BRTR	**Keskin Array B**	**78.30**	**317**	P		**P**		**16 14 03.4**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=85,slow=4.0,SNR=8.7								
BZS	**Buzias**	**78.40**	**328**⇓	*iP*		**P**		**16 14 03.6**	**+0.4**
BZS	**Buzias**	**78.40**	**328**⇓	P		**P**		**16 14 03.6**	**+0.4**
VTS	**Vitosha**	**80.38**	**325**⇓	*iP*		**P**		**16 14 15.2**	**+1.2**
VTS	**Vitosha**	**80.38**	**325**⇓	P		**P**		**16 14 15.2**	**+1.2**
CFAA	**Coronel Fontan**	**144.47**	**79**	PKP		PKPdf		16 21 36.4	-2.2
	comp=Z,0.4nm,0.4s,baz=282,slow=1.1,SNR=8.6								

BJI ***15*** *16:04:15.7, 48.39N×155.16E, h10km, mB5.4, mb5.2, Ms5.1, Msz5.0*
ISCJB ***15*** *16:04:16.3±0.1, 48.02N±0.003×155.20E±0.02, h10km, mb5.3/220, MS4.9/15, Error ellipse: s-maj=3.8km s-min=1.9km az=141.1*
SKHL ***15*** *16:04:16.0±2.9, 47.92N×155.59E, h49km±18km, mb6.4/2, Ms5.0/3, msh6.1/2*

IDC ***15*** *16:04:16.3±0.4, 48.12N×155.10E, h0km, mb4.9/31, mb1 5.0/32, mb1mx5.0/34, mbtmp4.9/32, ML4.0/1, MS4.9/3, Ms1 4.9/3, ms1mx4.1/44, Error ellipse: s-maj=14.3km s-min=10.9km az=153.0*
BGS ***15*** *16:04:18.1, 47.55N×155.47E, h10km, mb5.8*
NEIC ***15*** *16:04:18.0±0.2, 48.05N×155.17E, h10km, mb5.4/129, Error ellipse: s-maj=4.8km s-min=3.2km az=162.0*
MOS ***15*** *16:04:21.5±1.1, 48.05N×155.08E, h46km, mb5.6/87, MS4.6/10, Error ellipse: s-maj=7.4km s-min=4.0km az=106.6*
SZGRF ***15*** *16:04:21.1, 48.29N×156.00E, h25km, mb5.7, Kuril Islands, Russia*
ISC 15 16:04:17.4±1.1, 4815N±003×15514E±002, h4km±7km, h21km±1.8km: pP-P, n812, σ0s86/822, mb5.3/220, MS5.0/14, 99C-110D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.61**	**14**	*e*P		**Pn**		**16 05 01.2**	**+0.8**
SKR				AMB		AMB		16 05 08.1	
	2μm,2.0s								
SKR				AMB		AMB		16 05 08.1	
	770nm,0.5s								
SKR				AMB		AMB		16 05 08.1	
	250nm,0.5s								
SKR				AMB		AMB		16 05 08.1	
	2μm,0.5s								
SKR				*i* S		**Sn**		**16 05 32.5**	**-0.1**
SKR				A				16 05 45.2	
	6μm,0.5s								
SKR				A				16 05 45.2	
	3μm,0.5s								
SKR				A				16 05 45.2	
	2μm,0.5s								
SKR				A				16 05 54.0	
	20μm,2.0s								
SKR				A				16 05 54.0	
	18μm,2.0s								
SKR				A				16 05 54.0	
	20μm,2.0s								
SKR				A				16 05 54.0	
	16μm,2.0s								
SKR				AMS		AMS		16 06 21.0	
	20μm,12.0s								
SKR				AMS		AMS		16 06 21.0	
	24μm,12.0s								
SKR				AMS		AMS		16 06 21.0	
	21μm,12.0s								
SKR				AMS		AMS		16 06 21.0	
	24μm,12.0s								
SKR				AMS		AMS		16 06 21.0	
	36μm,16.0s								
SKR				AMS		AMS		16 06 21.0	
	37μm,16.0s								
SKR	**Severo-Kuril's**	**2.61**	**14**	*e*PN		**Pn**		**16 05 01.2**	**+0.8**
SKR				*i* S		**Sn**		**16 05 32.5**	**-0.1**
SKR				pmax		pmax			
	comp=N,770nm,0.5s								
SKR				pmax		pmax			
	comp=E,250nm,0.5s								
SKR				pmax		pmax			
	comp=Z,2μm,0.5s								
SKR				pmax		pmax			
	comp=Z,2μm,2.0s								
SKR				smax					
	comp=N,6μm,0.5s								
SKR				smax					
	comp=E,3μm,0.5s								
SKR				smax					
	comp=N,20μm,2.0s								
SKR				smax					
	comp=E,18μm,2.0s								
SKR				MLR		MLR			
	comp=N,21μm,12.0s								
SKR				MLR		MLR			
	comp=Z,24μm,12.0s								
SKR				MLR		MLR			
	comp=E,37μm,16.0s								
PET	**Petropavlovsk**	**5.37**	**23**⇑	*i*PN		**Pn**		**16 05 38.3**	**0.0**
PET				pmax		pmax			
	comp=Z,437nm,0.6s								
PET				MLR		MLR			
	comp=Z,8μm,13.0s								
PET				MLR		MLR			
	comp=Z,8μm,15.0s								
PET	**Petropavlovsk**	**5.37**	**23**	*e*Pn		**Pn**		**16 05 37.9**	**-0.4**
	comp=Z,234nm,0.5s								
PET				*e*Sn		**Sn**		**16 06 37.2**	**-3.3**
KUR	**Kuril'sk**	**5.79**	**242**⇓	*i*P		**Pn**		**16 05 43.0**	**-1.1**
KUR				⇑ *i*P				16 05 43.0	
KUR				AMB		AMB		16 05 54.0	
	comp=Z,8μm,3.0s								
KUR				*e*S		**Sn**		**16 06 51.0**	**0.0**
KUR				A				16 07 06.0	
	comp=Z,18μm,4.0s								
KUR				A				16 07 06.0	
	comp=Z,10μm,4.0s								
KUR				A				16 07 18.8	
	comp=Z,5μm,1.0s								
KUR				A				16 07 18.8	
	comp=Z,4μm,1.0s								
KUR				AMS		AMS		16 08 18.0	
	comp=Z,19μm,14.0s								
KUR				AMS		AMS		16 08 18.0	
	comp=Z,15μm,14.0s								
KUR				AMS		AMS		16 08 18.0	
	comp=Z,16μm,14.0s								
KUR	**Kuril'sk**	**5.79**	**242**⇑	*i*PN		**Pn**		**16 05 43.0**	**-1.1**
KUR				*i* S		**Sn**		**16 06 51.0**	**0.0**
KUR				pmax		pmax			
	comp=N,300nm,0.7s								
KUR				pmax		pmax			
	comp=E,170nm,0.7s								
KUR				pmax		pmax			
	comp=Z,2μm,0.7s								
KUR				sm

TYV **Tymovskoe** **8.56 293** *e*P **Pn** **16 06 26.5 +4.3**
TYV AMB AMB 16 06 27.5
comp=N,31nm,1.0s
TYV AMB AMB 16 06 27.5
comp=N,82nm,0.8s
JNK Nakash **8.58 242** P **Pn** **16 06 23.2 +0.8**
UGL Uglegorsk **8.71 281** *e*P **Pn** **16 06 30.0 +5.8**
UGL AMB AMB 16 06 31.0
comp=N,340nm,0.7s
UGL AMB AMB 16 06 31.0
comp=N,1μm,1.5s
UGL AMS AMS 16 10 20.0
comp=N,9μm,14.0s
UGL AMS AMS 16 10 20.0
comp=N,12μm,14.0s
UGL AMS AMS 16 10 20.0
comp=N,11μm,14.0s
JTKR Abashiri--Toko **8.86 246** P **Pn** **16 06 28.2 +2.0**
JAK Akkeshi **8.95 239** P **Pn** **16 06 26.3 -1.2**
JMP Maruseppu **9.17 248** P **Pn** **16 06 33.4 +2.9**
JSE Soyaes **9.22 254** P **Pn** **16 06 35.5 +4.3**
JAR Ashorobuto **9.31 243** P **Pn** **16 06 34.0 +1.6**
JAR *e*S **Sn** **16 08 03.4 -14**
OKH Okha **9.42 310** *e*P **Pn** **16 06 36.1 +2.2**
OKH *e*S **Sn** **16 08 24.8 +4.6**
OKH *e*L 16 08 56.0
JOB Onbets **9.51 241** P **Pn** **16 06 34.6 -0.5**
JOB *e*S **Sn** **16 08 04.3 -18**
JWK2 Keihoku **9.53 258** P **Pn** **16 06 42.2 +6.9**
ASAJ Asahikawa **9.60 250** Pn **Pn** **16 06 38.9 +2.5**
comp=N,10nm,0.3s,baz=86,slow=13,SNR=48
ASAJ LR LR 16 10 16.1
comp=N,5μm,19.3s,baz=18,slow=38
ASAJ Asahikawa **9.60 250** P **Pn** **16 06 40.4 +4.1**
ASAJ Asahikawa **9.60 250** PN **Pn** **16 06 38.9 +2.6**
ASAJ pmax pmax
comp=Z,10.0nm,0.3s
ASAJ MLR MLR
comp=Z,5μm,19.3s
JKK2 Kamakawa 2 **9.62 248** P **Pn** **16 06 39.5 +2.8**
JCH Churui **9.96 241** P **Pn** **16 06 41.1 -0.2**
JCH *e*S **Sn** **16 08 15.4 -18**
JAB Ashibetsu **10.14 247** P **Pn** **16 06 46.5 +2.7**
NKL Nikolayevsk **10.45 304** *e*P **Pn** **16 06 51.0 +3.0**
NKL AMB AMB 16 06 52.0
comp=Z,140nm,1.1s
JBT2 Biratori 2 **10.45 244** P **Pn** **16 06 48.4 +0.3**
ERM Erimo **10.46 238** PN **Pn** **16 06 45.9 -2.2**
ERM pmax pmax
comp=Z,274nm,1.0s
ERM Erimo **10.46 238** Pn **Pn** **16 06 45.9 -2.2**
comp=Z,274nm,1.0s
JEW Eniwo **10.97 246** P **Pn** **16 06 56.0 +0.8**
JNB Noboribetsu **11.43 245** P **Pn** **16 07 01.5 0.0**
MA2 Magadan **11.73 349** *e*PN **Pn** **16 07 08.3 +2.8**
MA2 pmax pmax
comp=Z,40nm,0.6s
MA2 Magadan **11.73 349** *e*Pn **Pn** **16 07 07.8 +2.2**
comp=Z,50nm,0.6s
JKB Kayabe **11.78 243** P **Pn** **16 07 04.0 -2.2**
JKB *e*S **Sn** **16 08 58.2 -20**
JSH Shimam **11.95 248** P **Pn** **16 07 08.6 +0.1**
JYM2 Yakumo 2 **12.04 245** P **Pn** **16 07 08.9 -0.9**
JOT Ohata **12.08 241** P **Pn** **16 07 08.7 -1.6**
JTM Tenmabayashi **12.45 239** P **Pn** **16 07 11.8 -3.5**
JTM *e*S Sn 16 09 11.0 -23
JANG Nango **12.47 236** P **Pn** **16 07 11.1 -4.6**
JANG *e*S Sn 16 09 07.9 -27
JOSM Okushiri--Mats **12.61 247** P **Pn** **16 07 17.3 -0.3**
SMY Shemya **12.91 62** *e*PN **Pn** **16 07 19.2 -2.5**
SMY pmax pmax
comp=Z,37nm,0.4s
SMY Shemya **12.91 62** *e*P **Pn** **16 07 19.2 -2.5**
comp=Z,37nm,0.4s
TEY Ternei **13.12 263** *e*P **Pn** **16 07 26.0 +1.4**
HABR Khabarovsk **13.38 279**⇑*i*PN **Pn** **16 07 33.3 +5.3**
HABR S **Sn** **16 10 05.8 +8.7**
HABR pmax pmax
comp=Z,135nm,1.6s
JYA Atsumi **14.71 235** P **Pn** **16 07 41.1 -5.1**
SEY Seymchan **14.89 355**⇑*e*P **Pn** **16 07 47.3 -1.5**
JFK Kawauchi **15.01 229** P **Pn** **16 07 43.8 -6.4**
KLR Kul'dur **15.47 283** *e*P **Pn** **16 07 57.2 +0.7**
KLR pmax pmax
comp=E,150nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s
JFY Yanaizu **15.58 232** P **Pn** **16 07 54.1 -3.7**
AMKA Amchitka **15.92 69** P **Pn** **16 08 04.9 +2.6**
JYT Yasato **16.23 228** P **Pn** **16 08 03.9 -2.4**
MAJO Matsushiro **17.02 233** *e*P **Pn** **16 08 12.9 -3.4**
MAJO pmax pmax
comp=Z,74nm,0.9s
MAJO Matsushiro **17.02 233** *e*P **Pn** **16 08 12.9 -3.4**
comp=Z,76nm,0.8s
MAT Matsushiro **17.02 233** P **Pn** **16 08 13.2 -3.1**
MAT *e*S **Sn** **16 11 30.6 +4.7**
MAT Matsushiro **17.02 233** P **Pn** **16 08 13.1 -3.2**
MJAR Matsushiro Arr **17.02 233** Pn **Pn** **16 08 13.9 -2.4**
comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=19
JRY Ryogami san **17.05 231** P **Pn** **16 08 15.0 -1.7**
MDJ Mudanjiang **17.95 268** P **Pn** **16 08 27.5 -0.3**
MDJ AP pP 16 08 31.0 +1.4
MDJ XP sP 16 08 32.3 +2.2
MDJ S **Sn** **16 11 49.5 +1.2**
MDJ XS sS 16 11 57.1 +0.4
MDJ AMB AMB
comp=Z,36nm,1.2s
MDJ LR LR
comp=Z,3μm,43.4s
MDJ Mudanjiang **17.95 268** *e*P **Pn** **16 08 27.3 -0.5**
comp=Z,34nm,0.8s
ZEA Zeya **18.37 298** *e*P **Pn** **16 08 32.4 -0.6**
ZEA AMB AMB 16 08 33.8
comp=Z,58nm,1.2s
ZEA AMB AMB 16 08 33.8
comp=Z,78nm,1.2s
ZEA AMB AMB 16 08 33.8
comp=Z,47nm,1.0s
JWT Wachi **19.48 236** P **Pn** **16 08 45.3 -1.2**
YAK Yakutsk **19.95 324** *e*P **Pn** **16 08 50.5 -1.5**
YAK *e* 16 09 07.7
YAK *e*S **Sn** **16 12 39.3 +2.7**
YAK *e*SS 16 13 00.6
YAK *e*SSS 16 13 15.1
YAK pmax pmax
comp=Z,118nm,1.0s
YAK pmax pmax
comp=N,59nm,1.3s
YAK pmax pmax
comp=E,83nm,1.2s
YAK pmax pmax
comp=Z,72nm,0.9s
YAK pmax pmax
comp=N,52nm,1.2s
YAK pmax pmax
comp=E,76nm,1.4s
YAK smax
comp=N,22nm,1.2s
YAK smax
comp=Z,10.0nm,1.0s
YAK smax
comp=E,26nm,1.3s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK Yakutsk **19.95 324** *e*P **Pn** **16 08 49.8 -2.3**
comp=Z,138nm,0.8s
CLNS Chul'man **20.22 307** *e*P **P** **16 08 56.7 +3.4**
CLNS *e* 16 09 13.6
CLNS *e* 16 13 01.0
CLNS *e*SS 16 13 22.0
CLNS pmax pmax
comp=Z,247nm,1.0s
CLNS pmax pmax
comp=N,236nm,1.2s
CLNS pmax pmax
comp=E,229nm,1.1s
CLNS MLR MLR
comp=N,1μm,15.0s,MS4.8
CLNS MLR MLR
comp=Z,4μm,15.0s,MS4.9
CLNS MLR MLR
comp=E,3μm,13.0s,MS4.8
NRGR Nerungri **20.27 306** *e*P **P** **16 08 56.2 +2.3**
NRGR S **S** **16 12 31.4 -10**
NRGR smax
comp=E,14nm,0.3s
JAD Aida **20.42 237** P **P** **16 08 55.6 0.0**
JWZ Kozaga **20.64 232** P **P** **16 08 59.1 +1.2**
BILL Bilibino **20.73 12** *e*P **P** **16 08 57.1 -1.8**
BILL pmax pmax
comp=Z,69nm,1.3s
BILL Bilibino **20.73 12** *e*P **P** **16 08 56.5 -2.3**
comp=Z,56nm,1.0s
JHS Saijyo **20.98 239** P **P** **16 09 02.7 +1.1**
CN2 Changchun **21.02 269**⇑P **P** **16 08 59.6 -2.4**
CN2 *e*XP sP 16 09 06.0 +2.3
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,13.0s,MS4.9
CN2 LR LR
comp=E,3μm,13.0s,MS4.9
CN2 LR LR
comp=Z,3μm,13.0s,MS4.9
KSRS Korea Array **22.54 252** P **P** **16 09 18.2 0.0**
comp=Z,68nm,0.8s,mb5.1,baz=52,slow=10,SNR=79
SNY Shenyang **23.09 266**⇓P **P** **16 09 23.1 -1.1**
SNY AMB AMB
comp=Z,40nm,0.6s,mb5.0
HIA Hailar **23.26 286** *e*P **P** **16 09 23.8 -2.1**
HIA pmax pmax
comp=Z,31nm,1.0s
HIA Hailar **23.26 286** *e*P **P** **16 09 23.8 -2.2**
comp=Z,31nm,1.0s,mb4.7
INCN Inchon **23.34 253** P **P** **16 09 27.5 +0.6**
SNR=8.4
INCN Inchon **23.34 253** *e*P **P** **16 09 26.7 -0.1**
comp=Z,185nm,1.4s,mb5.3
JNU Nakatsue **23.62 239** P **P** **16 09 28.9 -0.8**
comp=Z,25nm,0.7s,mb4.7,baz=233,slow=19,SNR=6.0
JNU LR LR 16 18 55.7
comp=Z,3μm,21.6s,MS4.7,baz=65,slow=37
JNU Nakatsue **23.62 239** P **P** **16 09 30.6 +0.9**
JSU Suzuyama **25.05 237** P **P** **16 09 43.6 +0.9**
DL2 Dalian **25.82 262** P **P** **16 09 49.9 +0.2**
DL2 *e*S **S** **16 14 19.9 +0.2**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
DL2 LR LR
comp=N,680nm,14.1s,MS4.5
DL2 LR LR
comp=E,890nm,14.6s,MS4.5
DL2 LR LR
comp=Z,1μm,13.7s,MS4.5
BOD Bodaibo **26.20 307** *e*P **P** **16 09 50.3 -2.8**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.5
CIT Chita **26.69 294** *e*P **P** **16 09 56.0 -1.6**
CIT *e* 16 10 06.9
CIT *e* 16 10 13.0
CIT pmax pmax
comp=Z,55nm,1.2s,mb5.0
BJI Beijing **28.88 268** *e*P **P** **16 10 16.4 -0.8**
BJI AMB AMB
comp=Z,19nm,1.2s,mb4.7
BJI LR LR
comp=N,412nm,15.7s,MS4.9
BJI LR LR
comp=E,2μm,15.7s,MS4.9
BJI LR LR
comp=Z,2μm,17.5s,MS4.8
BJI Beijing **28.88 268** *e*P **P** **16 10 16.4 -0.8**
comp=Z,19nm,1.2s,mb4.7
BJI LR LR
comp=Z,2μm,17.5s,MS4.8
JOW Kunigami **29.86 234** P **P** **16 10 25.9 +0.1**
comp=Z,33nm,1.0s,mb5.0,baz=62,slow=6.3,SNR=3.7
TIA Tai'an **30.29 261** *e*P **P** **16 10 29.6 -0.1**
HHC Hu-ho-hao-te **31.58 273**⇑P **P** **16 10 40.8 -0.2**
HHC AP pP 16 10 45.3 +3.0
HHC XP sP 16 10 48.1 +5.3
HHC PP PP 16 11 43.8 -8.4
HHC S **S** **16 15 46.8 -3.5**
HHC XS sS 16 15 54.3 +2.0
HHC SCP ScP 16 17 15.4 -2.0
HHC PCS PcS 16 17 17.8 -0.1
HHC SS SS 16 17 34.0 -31
HHC SCS ScS 16 21 13.1 -2.2
HHC AMB AMB
comp=Z,56nm,1.5s,mb5.2
HHC AMB AMB
comp=Z,444nm,8.9s
HHC LR LR
comp=N,1μm,15.7s,MS5.0
HHC LR LR
comp=E,2μm,13.3s,MS5.0
HHC LR LR
comp=Z,5μm,16.1s,MS5.3
NJ2 Nanjing **31.72 253** *e*P **P** **16 10 42.8 +0.5**
NJ2 AP pP 16 10 46.3 +2.8
NJ2 XP sP 16 10 49.8 +5.8
NJ2 PP PP 16 11 46.8 -7.0
NJ2 S **S** **16 15 49.0 -3.6**
NJ2 XS sS 16 15 57.0 +2.4
NJ2 AMB AMB
comp=Z,370nm,4.5s
NJ2 LR LR
comp=N,4μm,13.4s,MS5.3
NJ2 LR LR
comp=E,2μm,15.6s,MS5.3
NJ2 LR LR
comp=Z,2μm,14.3s,MS5.0
ULN Ulaanbaatar **31.76 288**⇑P **P** **16 10 41.8 -0.8**
SNR=8.4
ULN Ulaanbaatar **31.76 288** *e*P **P** **16 10 41.5 -1.1**
ULN pmax pmax
comp=Z,30nm,1.1s,mb5.0
ULN Ulaanbaatar **31.76 288** *e*P **P** **16 10 41.5 -1.1**
comp=Z,30nm,1.1s,mb5.0
IMA2 Indian Mountai **31.86 37** *e*P **P** **16 10 43.2 -0.3**
KDAK Kodiak Island **32.16 53** P **P** **16 10 44.5 -1.6**
comp=Z,18nm,0.8s,mb4.9,baz=292,slow=13,SNR=5.2
KDAK Kodiak Island **32.16 53** P **P** **16 10 44.5 -1.6**
SONM Songino Array **32.19 288** P **P** **16 10 45.4 -1.0**
comp=Z,14nm,0.9s,mb4.8,baz=68,slow=8.8,SNR=55
SONM PcP PcP 16 13 34.5 -0.7
comp=Z,4.7nm,0.9s,baz=137,slow=2.4,SNR=7.3
SONM ScP ScP 16 17 17.4 -2.1
comp=Z,0.6nm,0.9s,baz=66,slow=3.7,SNR=3.6
SONM Songino Array **32.19 288** P **P** **16 10 45.4 -1.0**
SONM 16 13 34.5
IRK Irkutsk **32.27 297** *e*P **P** **16 10 45.9 -1.2**
IRK pmax pmax
comp=Z,63nm,1.1s,mb5.4
BTO Baotou **32.73 274** *e*P **P** **16 10 49.1 -2.0**
TLY Talaya **32.78 296** P **P** **16 10 51.9 +0.3**
comp=Z,346nm,1.0s,mb6.2,SNR=11
TLY Talaya **32.78 296**⇓P **P** **16 10 51.7 +0.1**
SNR=13
TLY Talaya **32.78 296**⇓*i*P **P** **16 10 51.5 -0.1**
TLY *e* 16 12 00.6
TLY pmax pmax
comp=Z,70nm,1.1s,mb5.5
TLY MLR MLR
comp=Z,3μm,16.0s,MS5.1
TLY Talaya **32.78 296** *e*P **P** **16 10 51.1 -0.4**
comp=Z,62nm,1.0s,mb5.5
ZAK Zakamensk **33.35 294** *e*P **P** **16 10 56.0 -0.6**
ZAK pmax pmax
comp=Z,17nm,1.1s,mb4.9
MCK McKinley **33.69 42** *e*P **P** **16 10 58.7 -0.8**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MCK McKinley **33.69 42** *e*P **P** **16 10 58.7 -0.8**
comp=Z,6.8nm,0.9s,mb4.6
SML Sawmill **34.01 45** *e*P **P** **16 11 00.9 -1.4**
SML Sawmill **34.01 45** *e*P **P** **16 11 01.6 -0.6**
COLA College **34.18 40** *e*P **P** **16 11 00.8 -3.0**
WHN Wuhan **35.62 255**⇓P **P** **16 11 16.5 +0.3**
QZH Quanzhou **36.88 244** P **P** **16 11 28.4 +1.4**
QZH AMB AMB
comp=Z,140nm,1.0s,mb5.8
XAN Xi'an **37.01 265** P **P** **16 11 27.5 -0.6**
XAN AMB AMB
comp=Z,20nm,1.4s,mb4.8
EGAK Eagle **37.05 40** *e*P **P** **16 11 27.6 -0.8**
comp=Z,13nm,0.7s,mb4.9
DAWY Dawson **37.88 41** *e*P **P** **16 11 34.8 -0.7**
LZH Lanzhou **39.22 271**⇓P **P** **16 11 47.8 +1.0**
LZH AP pP 16 11 51.5 +3.5
LZH XP sP 16 11 53.4 +4.9
LZH PP PP 16 13 17.8 +1.2
LZH *e*S **S** **16 17 37.8 -10**
LZH AMB AMB
comp=Z,320nm,1.1s,mb6.0
LZH AMB AMB
comp=Z,1μm,4.6s
LZH LR LR
comp=N,3μm,14.6s
LZH LR LR
comp=Z,4μm,15.4s,MS5.4
LZH Lanzhou **39.22 271**⇓P **P** **16 11 47.8 +1.0**
LZH 16 13 17.8
LZH *e*S **S** **16 17 37.8 -10**
LZH pmax pmax
comp=Z,320nm,1.1s,mb6.0
LZH MLR MLR
comp=Z,4μm,15.4s,MS5.4
LZH Lanzhou **39.22 271**⇓P **P** **16 11 47.8 +1.0**
comp=Z,320nm,1.1s,mb6.0
LZH pP pP 16 11 51.5 +3.5
LZH sP sP 16 11 53.4 +4.9
LZH PP PP 16 13 17.8 +1.2
LZH *e*S **S** **16 17 37.8 -10**
LZH sS sS 16 17 45.2 -4.5
LZH *e*SS SS 16 20 12.8 -28
LZH LR LR
comp=Z,4μm,15.4s,MS5.4
INK Inuvik **39.73 33** P **P** **16 11 51.1 +0.2**
comp=Z,10.0nm,0.9s,mb4.5,baz=285,slow=7.2,SNR=12
INK Inuvik **39.73 33** *e*P **P** **16 11 51.1 +0.1**
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik **39.73 33** *e*P **P** **16 11 51.0 +0.1**
comp=Z,786nm,0.8s,mb6.5
GTA Gaotai **40.11 279** *e*P **P** **16 11 53.9 -0.3**
GTA AP pP 16 12 03.0 +7.6
GTA PCP PcP 16 13 58.6 -0.1
GTA AMB AMB
comp=Z,27nm,1.0s,mb4.9
CD2 Chengdu **42.37 265**⇑*i*P **P** **16 12 13.0 +0.3**
CD2 AMB AMB
comp=Z,130nm,0.8s,mb5.6
ZAL Zalesovo **42.93 305** P **P** **16 12 15.2 -2.2**
comp=Z,5.3nm,0.5s,mb4.5,baz=43,slow=5.9,SNR=12
ZAL PcP PcP 16 14 07.2 -0.8
comp=Z,7.8nm,0.8s,baz=56,slow=3.2,SNR=9.6
GYA Guiyang **43.36 258**⇑*i*P **P** **16 12 20.9 +0.2**
GYA AP pP 16 12 24.9 +2.9
GYA XP sP 16 12 27.9 +5.4
GYA PP PP 16 14 03.9 +2.5
GYA PCP PcP 16 14 10.8 +1.4
GYA SCP ScP 16 18 00.9 -0.6
GYA S **S** **16 18 47.9 -1.2**
GYA SCS ScS 16 22 19.3 -2.4
GYA AMB AMB
comp=Z,80nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,870nm,5.0s
GYA LR LR
comp=N,870nm,17.6s,MS4.8
GYA LR LR
comp=E,760nm,17.8s,MS4.8
GYA LR LR
comp=Z,940nm,18.0s,MS4.7
NVS Novosibirsk **43.44 307** *e*P **P** **16 12 19.8 -1.6**
NVS *e* 16 22 18.1
NVS pmax pmax
comp=N,90nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,21nm,1.3s,mb4.7
WMQ Urumqi **45.70 291** P **P** **16 12 40.0 +0.5**
WMQ AP pP 16 12 44.5 +3.7
WMQ XP sP 16 12 47.0 +5.7
WMQ PCP PcP 16 14 18.3 +0.9
WMQ PP PP 16 14 27.5 +1.1
WMQ PPP 16 15 10.1
WMQ S **S** **16 19 21.8 -1.4**
WMQ XS sS 16 19 29.8 +4.5
WMQ AMB AMB
comp=Z,31nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,1μm,6.6s
WMQ LR LR
comp=N,2μm,19.6s,MS5.1
WMQ LR LR
comp=E,297nm,17.5s,MS5.1
WMQ LR LR
comp=Z,1μm,19.6s,MS4.9
QIZ Qiongzhong **46.66 248**⇓P **P** **16 12 48.8 +1.8**
QIZ AMB AMB
comp=Z,42nm,1.3s,mb5.2
QIZ LR LR
comp=N,668nm,16.4s,MS4.8
QIZ LR LR
comp=E,645nm,16.1s,MS4.8
QIZ LR LR
comp=Z,1μm,19.5s,MS4.9
KMI Kunming **46.85 260** P **P** **16 12 48.9 +0.4**
KMI PP PP 16 14 38.3 -0.2
KMI AMB AMB
comp=Z,35nm,1.1s,mb5.2
KMI Kunming **46.85 260** P **P** **16 12 48.9 +0.4**
comp=Z,35nm,1.1s,mb5.2
KMI PP PP 16 14 38.3 -0.2
MK31 Makanchi Array **47.52 297** P **P** **16 12 52.4 -1.4**
MK31 Makanchi Array **47.52 297** *e*P **P** **16 12 52.1 -1.6**
MKAR Makanchi Array **47.52 297** P **P** **16 12 52.7 -1.1**
comp=Z,47nm,0.7s,mb5.6,baz=66,slow=7.9,SNR=185
MKAR Makanchi Array **47.52 297** P **P** **16 12 52.7 -1.1**
KURK Kurchatov **47.74 303** P **P** **16 12 54.3 -1.1**
comp=Z,910nm,0.7s,SNR=66
KURK Kurchatov **47.74 303**⇑P **P** **16 12 54.7 -0.7**
SNR=41
KURK Kurchatov **47.74 303** *e*P **P** **16 12 54.3 -1.1**
KURK pmax pmax
comp=Z,110nm,0.8s,mb5.9
KURK Kurchatov **47.74 303** *e*P **P** **16 12 54.3 -1.1**
comp=Z,110nm,0.8s,mb5.9
ALE Alert **48.21 6** P **P** **16 12 58.0 -1.1**
comp=Z,351nm,0.7s,mb6.5,SNR=28
YKA Yellowknife Ar **48.98 38** P **P** **16 13 04.6 -0.3**
comp=Z,15nm,1.0s,mb5.0,baz=302,slow=8.3,SNR=6.6
YKA Yellowknife Ar **48.98 38** P **P** **16 13 04.6 -0.3**
RES Resolute Bay **49.06 19** *e*P **P** **16 13 05.6 -0.1**
RES pmax pmax
comp=Z,24nm,0.9s,mb5.2
RES Resolute Bay **49.06 19** *e*P **P** **16 13 05.6 -0.1**
comp=Z,783nm,0.9s
CHKZ Chkalovo **50.58 310** *e*P **P** **16 13 15.3 -1.9**
CHKZ pmax pmax
comp=Z,40nm,0.7s,mb5.5
CHKZ Chkalovo **50.58 310** *e*P **P** **16 13 15.4 -1.8**
comp=Z,40nm,0.6s,mb5.5
BVAR Borovoye Array **51.03 309** P **P** **16 13 19.6 -1.0**
comp=Z,23nm,0.5s,mb5.3,baz=61,slow=7.9,SNR=86
BVAR PcP PcP 16 14 35.0 -1.6
comp=Z,4.5nm,0.7s,baz=100,slow=1.8,SNR=4.2
BVAR LR LR 16 36 51.8
comp=Z,2μm,19.3s,MS5.2,baz=319,slow=38
BVAR Borovoye Array **51.03 309** P **P** **16 13 19.6 -1.0**
BVAR 16 14 35.0
BRVK Borovoye **51.07 309** P **P** **16 13 19.4 -1.5**
comp=Z,320nm,0.6s,mb6.4,SNR=26
BRVK Borovoye **51.07 309** P **P** **16 13 19.9 -1.0**
SNR=7.9
BRVK Borovoye **51.07 309** *e*P **P** **16 13 19.5 -1.4**
BRVK pmax pmax
comp=Z,21nm,0.7s,mb5.2
BRVK Borovoye **51.07 309** *e*P **P** **16 13 19.5 -1.4**
comp=Z,32nm,0.6s,mb5.4
LSA Lhasa **51.57 273** P **P** **16 13 27.1 +2.5**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa **51.57 273** *e*P **P** **16 13 25.8 +1.2**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.1
LSA Lhasa **51.57 273** *e*P **P** **16 13 25.8 +1.2**
comp=Z,14nm,0.6s,mb5.1

ZRNK **Zerenda** 51.79 310 *e*P P 16 13 24.7 -1.6
ZRNK pmax pmax
comp=Z,24nm,0.7s,mb5.2
ZRNK **Zerenda** 51.79 310 *e*P P 16 13 24.7 -1.5
comp=Z,24nm,0.7s,mb5.2
IMP **Imphal** 52.93 267 *e*P P 16 13 35.0 +0.2
F04A **Amboy** 53.60 59 ⇑P P 16 13 39.0 -0.7
baz=53
ULHL **Ulaho** 53.61 295 P P 16 13 40.0 +0.2
SNR=11
TKM2 **Tokmak 2** 53.62 296 P P 16 13 39.9 +0.1
SNR=19
A08A **Turner Farm, O** 53.67 55 ⇓P P 16 13 39.7 -0.5
baz=54
CHTO **Chiang Mai** 53.77 257 P P 16 13 42.3 +1.4
SNR=31
CHTO **Chiang Mai** 53.77 257 *e*P P 16 13 41.7 +0.7
CHTO pmax pmax
comp=Z,89nm,1.2s,mb5.6
CHTO **Chiang Mai** 53.77 257 *e*P P 16 13 41.5 +0.6
comp=Z,90nm,1.2s,mb5.6
D06A **Cle Elum** 53.79 57 ⇑P P 16 13 41.0 -0.1
baz=54
C07A **Waterville** 53.95 56 ⇓P P 16 13 41.8 -0.4
baz=54
B08A **Colville Reser** 53.97 55 ⇓P P 16 13 41.9 -0.5
baz=54
A09A **Danville** 54.03 54 P P 16 13 42.8 0.0
baz=54,SNR=6.4
USP **Ospenovka** 54.07 297 P P 16 13 43.2 0.0
SNR=50
CHMS **Chumysh** 54.08 297 P P 16 13 42.8 -0.4
SNR=12
KBK **Karagaybulak** 54.16 296 P P 16 13 43.3 -0.5
SNR=25
FRU **Bishkek** 54.25 297⇑ *e*P P 16 13 44.0 -0.5
FRU *e* 16 13 56.0
FRU pmax pmax
comp=Z,80nm,1.3s,mb5.5
D07A **Quincy** 54.28 57 ⇑P P 16 13 43.8 -0.8
baz=54
KZA **Kyzart** 54.31 296 P P 16 13 45.9 +1.0
SNR=12
AAK **Ala-Archa** 54.44 296 P P 16 13 44.6 -1.2
comp=Z,239nm,0.7s,mb6.2,SNR=24
AAK **Ala-Archa** 54.44 296 P P 16 13 45.3 -0.6
SNR=28
AAK **Ala-Archa** 54.44 296 P P 16 13 44.9 -1.0
SNR=34
AAK **Ala-Archa** 54.44 296⇑ *e*P P 16 13 44.3 -1.5
AAK pmax pmax
comp=Z,37nm,0.9s,mb5.3
AAK **Ala-Archa** 54.44 296 *e*P P 16 13 44.2 -1.7
comp=Z,16nm,0.8s,mb5.0
C08A **Higginbotham F** 54.46 56 ⇑P P 16 13 45.0 -0.9
baz=54
B09A **Rice** 54.59 55 ⇓P P 16 13 46.5 -0.4
baz=54
A10A **Northport** 54.59 54 ⇑P P 16 13 46.4 -0.5
baz=54
UCH **Uchtor** 54.67 296 P P 16 13 47.5 0.0
SNR=5.8
E07A **Sunnyside** 54.71 57 ⇓P P 16 13 47.3 -0.4
baz=54
I04A **Tendick Farm,** 54.84 61 ⇓P P 16 13 48.9 +0.2
baz=55
EKS2 **Erkin-Say** 54.85 297 P P 16 13 49.0 +0.2
SNR=14
C09A **Chrisman Ranch** 54.87 55 ⇓P P 16 13 48.6 -0.3
baz=55
ARU **Arti** 54.91 318 P P 16 13 47.5 -1.7
comp=Z,307nm,0.6s,mb6.5,SNR=17
ARU **Arti** 54.91 318⇑ *e*P P 16 13 47.6 -1.6
ARU pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
ARU **Arti** 54.91 318 *e*P P 16 13 47.1 -2.1
comp=Z,63nm,1.0s,mb5.6
D08A **Wollman Farm,** 54.94 56 ⇑P P 16 13 48.9 -0.5
baz=55
F07A **Phinny Hill Vi** 55.05 58 ⇓P P 16 13 49.7 -0.6
baz=55
E08A **Dider Farm, El** 55.20 57 ⇓P P 16 13 50.9 -0.4
baz=55
HUMO **Hull Mountain** 55.21 63 ⇓P P 16 13 50.2 -1.2
baz=55
AML **Almayashu** 55.22 296 P P 16 13 52.1 +0.7
SNR=14
NEW **Newport** 55.24 54 P P 16 13 51.4 -0.2
comp=Z,8.6nm,1.1s,mb4.7,baz=324,slow=8.8,SNR=3.0
A11A **Hall Mountain,** 55.24 53 ⇑P P 16 13 51.1 -0.5
baz=55
D09A **Jones Farm, Ri** 55.28 56 ⇓P P 16 13 51.5 -0.5
baz=55
DAG **Danmarks Havn** 55.29 358⇓ *i*P P 16 13 50.8 -1.2
comp=Z,15nm,1.3s,mb4.9
DAG **Danmarks Havn** 55.29 358⇓ *i*P P 16 13 50.8 -1.2
DAG pmax pmax
comp=Z,15nm,1.3s,mb4.9
J04A **Umpqua Nationa** 55.34 62 ⇑P P 16 13 51.9 -0.4
baz=55
KSH **Kashi** 55.39 293 *e*P P 16 13 52.9 +0.2
KSH *e*AP pP 16 13 58.3 +4.3
KSH *e*XP sP 16 14 00.4 +6.0
KSH *e*PCP PcP 16 14 53.8 +0.7
KSH *e*PP PP 16 15 57.9 +1.5
KSH *e*SCP ScP 16 18 51.0 -1.6
KSH *e*S **S 16 21 34.3 -3.4**
KSH *e*XS sS 16 21 43.6 +3.8
KSH *e*PS 16 21 54.1
KSH *e*SCS ScS 16 23 37.5 -5.3
KSH *e*SS SS 16 25 18.6 -3.6
KSH LR LR
comp=N,2μm,5.2s
KSH LR LR
comp=E,2μm,4.8s
H06A **Lindquist Farm** 55.50 59 ⇑P P 16 13 53.0 -0.5
baz=55
B11A **Sandpoint** 55.55 54 ⇓P P 16 13 53.8 0.0
baz=55
A12A **Yaak River Ran** 55.64 53 ⇑P P 16 13 54.9 +0.4
baz=56
E09A **Wood Farm, Sta** 55.69 57 ⇑P P 16 13 54.8 -0.1
baz=56
J05A **Fort Rock** 55.83 61 ⇑P P 16 13 56.0 +0.2
baz=56
YBH **Yreka Blue Hor** 55.88 64 P P 16 13 56.5 +0.2
comp=E,7.2nm,1.0s,mb4.7,baz=348,slow=2.5,SNR=5.8
YBH **Yreka Blue Hor** 55.88 64 ⇑P P 16 13 56.4 +0.2
baz=56
M02C **Callahan** 56.00 64 ⇓P P 16 13 56.8 -0.3
baz=56
I06A **Prineville** 56.04 60 ⇓P P 16 13 57.1 -0.3
baz=56
JIRN **Jiri** 56.20 275 *e*P P 16 13 59.3 +0.8
comp=E,66nm,0.7s,mb5.8
GUN **Gumba** 56.24 275 *e*P P 16 13 59.2 +0.4
comp=E,138nm,1.0s,mb5.9
E10A **Myers Farm, Un** 56.29 56 ⇓P P 16 13 59.2 0.0
baz=56
I07A **Izee** 56.36 60 ⇓P P 16 13 60.0 +0.3
baz=56
K05A **Summer Lake** 56.36 62 ⇓P P 16 13 59.6 0.0
baz=56
M04C **Macdoel** 56.37 63 ⇓P P 16 13 59.8 +0.1
baz=56
D11A **Klaveano Farm,** 56.38 55 ⇓P P 16 13 59.4 -0.4
baz=56
KEV **Kevo** 56.48 341 *e*p P 16 13 57.9 -2.6
comp=E,9.0nm,0.7s,mb4.9
KEV **Kevo** 56.48 341 *e*P P 16 13 57.9 -2.6
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
M03C **McCloud** 56.51 64 ⇓P P 16 14 00.9 +0.2
baz=56
F10A **Beach Ranch, E** 56.53 57 ⇑P P 16 14 00.7 -0.1
baz=56
H08A **Prairie City** 56.58 59 ⇓P P 16 14 01.2 0.0
baz=56
B13A **Whitefish** 56.60 53 P P 16 14 01.6 +0.2
baz=56,SNR=9.6
WDC **Whiskeytown Da** 56.67 65 ⇑P P 16 14 02.3 +0.4
baz=56
K06A **Valley Falls** 56.70 61 ⇓P P 16 14 02.1 0.0
baz=56
KKN **Kakani** 56.72 276 *e*P P 16 14 02.7 +0.5
comp=Z,379nm,1.4s,mb6.2
PKI **Pulchoki** 56.78 275 *e*P P 16 14 03.2 +0.6

L05A **Lakeview** 56.81 62 ⇑P P 16 14 02.7 -0.1
baz=57
J07A **Hines** 56.90 60 ⇓P P 16 14 03.6 +0.1
baz=57
DMN **Daman** 56.95 276 *e*P P 16 14 04.6 +0.7
comp=Z,338nm,1.1s,mb6.3
C13A **Hot Springs** 56.96 54 ⇓P P 16 14 03.9 -0.1
baz=57
ARCES **ARCESS Array B** 56.98 341 P P 16 14 02.0 -2.0
comp=Z,8.5nm,0.8s,mb4.8,baz=46,slow=8.0,SNR=12
I08A **Drewsey** 57.01 59 ⇑P P 16 14 04.7 +0.4
baz=57
GKN **Gorkha** 57.01 276 *e*P P 16 14 04.6 +0.3
comp=Z,74nm,0.5s,mb6.0
M05C **Lookout** 57.04 63 ⇑P P 16 14 04.7 +0.2
baz=57
H09A **Durkee** 57.07 58 ⇓P P 16 14 04.6 -0.1
baz=57
GASB **Alder Springs** 57.13 66 ⇑P P 16 14 05.8 +0.6
baz=57
F11A **Grangeville** 57.18 56 ⇓P P 16 14 05.6 +0.2
baz=57
HATC **Hat Creek Radi** 57.18 64 ⇓P P 16 14 06.1 +0.6
baz=57
MOD **Modoc** 57.21 62 *e*P P 16 14 05.5 -0.1
comp=Z,9.0nm,1.1s,mb4.7
MOD **Modoc** 57.21 62 ⇓P P 16 14 05.5 -0.2
baz=57
K07A **Rock Creek Ran** 57.35 61 ⇑P P 16 14 06.8 +0.1
baz=57
D13A **Huson** 57.38 54 ⇓P P 16 14 06.7 -0.2
baz=57
J08A **Circle Bar Ran** 57.40 60 ⇑P P 16 14 07.3 +0.3
baz=57
G11A **Walters Elk Ra** 57.41 57 ⇓P P 16 14 06.3 -0.8
baz=57
I09A **Lost Marbles R** 57.44 59 ⇑P P 16 14 07.2 -0.2
baz=57
M06C **Likely Place G** 57.53 63 ⇓P P 16 14 07.5 -0.5
baz=57
L07A **Adell** 57.71 62 ⇑P P 16 14 09.4 +0.2
baz=58
TMCR **Tamitsa** 57.73 333 *e*P P 16 14 09.6 +0.2
PMG **Port Moresby** 57.74 189 P P 16 14 08.7 -0.7
PMG pmax pmax
comp=Z,11nm,1.0s
PMG **Port Moresby** 57.74 189 *e*P P 16 14 07.2 -2.2
comp=Z,11nm,1.0s,mb4.8
ELFS **Eagle Lake Fie** 57.74 64 ⇓P P 16 14 09.2 -0.3
baz=58
K08A **Mann Creek Ran** 57.77 60 ⇓P P 16 14 09.5 -0.1
baz=58
MNRC **McLaughlin Nat** 57.78 66 ⇑P P 16 14 09.8 +0.1
baz=58
J09A **Fry Pan Ranch,** 57.82 59 P P 16 14 10.7 +0.7
baz=58,SNR=9.9
MSO **Missoula** 57.82 54 *e*P P 16 14 09.6 -0.4
comp=Z,12nm,1.1s,mb4.9
KOLN **Koldanda** 57.85 277 *e*P P 16 14 10.7 +0.5
comp=Z,110nm,0.9s,mb5.9
WVOR **Wild Horse Val** 57.87 61 *e*P P 16 14 08.7 -1.6
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WVOR **Wild Horse Val** 57.87 61 *e*P P 16 14 08.7 -1.6
comp=Z,10nm,0.9s,mb4.8
D14A **Greenough** 57.90 54 P P 16 14 10.4 -0.2
baz=58,SNR=13
E13A **Victor** 57.92 55 ⇓P P 16 14 10.9 +0.2
baz=58
H11A **Donnelly** 57.98 57 P P 16 14 11.3 +0.2
baz=58,SNR=8.6
OHCM **Honcut** 58.08 65 *e*P P 16 14 11.3 -0.5
CHMT **Chamberlain Mo** 58.14 54 *e*P P 16 14 10.1 -2.2
L08A **Fields** 58.19 61 ⇑P P 16 14 13.0 +0.4
baz=58
M07A **Soldier Meadow** 58.20 62 ⇓P P 16 14 12.7 +0.1
baz=58
N06A **Buffalo Meadow** 58.20 63 ⇓P P 16 14 12.4 -0.2
baz=58
F13A **Darby** 58.25 55 P P 16 14 12.9 -0.1
baz=58,SNR=8.5
E14A **Clinton** 58.32 54 P P 16 14 13.6 +0.1
baz=58,SNR=7.7
BEKR **Bekwourth** 58.43 64 ⇑P P 16 14 14.5 +0.2
baz=58
D15A **Lincoln** 58.46 53 ⇓P P 16 14 14.7 +0.2
baz=58
O06A **Flanigan** 58.56 63 ⇑P P 16 14 15.1 -0.1
baz=58
P05C **Yuba Gap, Truc** 58.63 65 ⇑P P 16 14 14.8 -0.9
baz=58
L09A **Wilkinson Ranc** 58.69 61 ⇓P P 16 14 15.6 -0.4
baz=58
F14A **Wisdom** 58.76 55 ⇑P P 16 14 16.9 +0.4
baz=59
E15A **Deer Lodge** 58.78 54 P P 16 14 16.8 +0.1
baz=59,SNR=9.6
FFC **Flin Flon** 58.78 41 P P 16 14 16.2 -0.5
comp=Z,145nm,0.8s,mb6.1,SNR=6.7
FFC **Flin Flon** 58.78 41 P P 16 14 17.0 +0.3
AKTK **Aktyubinsk** 58.81 312 P P 16 14 15.5 -1.4
AKTO **Aktyubinsk** 58.81 312 P P 16 14 15.5 -1.4
comp=Z,6.4nm,0.5s,mb4.9,baz=70,slow=7.3,SNR=16
AKTO **Aktyubinsk** 58.81 312 P P 16 14 15.5 -1.4
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
LGTI **Lohaghat** 58.97 281 *i* P P 16 14 18.5 +0.5
BOK **Bokaro** 58.99 272 *e*P P 16 14 19.1 +1.0
BOK AMb AMB 16 14 20.7
comp=Z,78nm,0.8s,mb5.8
O07A **Toulon** 59.13 63 ⇑P P 16 14 19.6 +0.5
baz=59
WCN **Washoe City** 59.15 64 ⇑P P 16 14 19.7 +0.5
baz=59
N08A **GE Springer Mi** 59.19 62 ⇓P P 16 14 20.0 +0.5
baz=59
SUMG **Summit** 59.20 5 *e*P P 16 14 19.9 +0.3
comp=Z,110nm,0.9s,mb5.9
F15A **Butte** 59.22 54 P P 16 14 20.1 +0.3
baz=59,SNR=12
EGMT **Eagleton** 59.31 51 *e*P P 16 14 20.1 -0.3
comp=Z,19nm,1.0s,mb5.1
EGMT **Eagleton** 59.31 51 ⇓P P 16 14 20.2 -0.2
baz=59
R05C **Kirkwood Meado** 59.33 65 ⇑P P 16 14 20.6 +0.1
baz=59
N09A **Rock Creek Ran** 59.50 62 ⇓P P 16 14 21.7 0.0
baz=59
CMB **Columbia Colle** 59.56 66 ⇑P P 16 14 22.4 +0.3
baz=59
HLID **Hailey** 59.59 57 P P 16 14 22.8 +0.5
baz=59,SNR=9.9
ORR **Orenburg** 59.64 315 *e*P P 16 14 22.1 -0.6
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.2
G15A **Dillon** 59.65 55 P P 16 14 22.8 +0.1
baz=60,SNR=7.5
M10A **I.L. Ranch, Tu** 59.66 60 ⇓P P 16 14 23.0 +0.2
baz=60
PACP **Pacheco Peak** 59.66 67 ⇓P P 16 14 22.7 -0.1
baz=60
MCMT **McKenzie Canyo** 59.66 55 *e*P P 16 14 22.7 -0.1
R06C **Coleville** 59.82 65 ⇑P P 16 14 24.2 +0.3
baz=60
BMN **Battle Mountai** 59.95 62 *e*P P 16 14 23.5 -1.3
BMN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BMN **Battle Mountai** 59.95 62 *e*P P 16 14 23.4 -1.3
comp=Z,6.8nm,0.8s,mb4.7
THN **Thein Dam** 59.98 286 *e*P P 16 14 23.6 -1.4
S06C **San Francisco** 59.99 66 ⇑P P 16 14 25.1 0.0
baz=60
S05C **Merced** 60.04 66 ⇑P P 16 14 25.8 +0.4
baz=60
O09A **Fish Creek Ran** 60.13 62 ⇓P P 16 14 26.4 +0.3
baz=60
M11A **Holland Ranch,** 60.15 60 ⇓P P 16 14 26.8 +0.7
baz=60
R07C **Lee Vining** 60.34 65 ⇓P P 16 14 28.2 +0.7
baz=60
KSM **Kuching** 60.41 234 *e*P P 16 14 28.9 +0.9
QLMT **Earthquake Lak** 60.44 55 *e*P P 16 14 28.7 +0.6
O10A **Cortez Mining,** 60.46 62 ⇓P P 16 14 29.0 +0.7
baz=60
NVAR **Mina Array Bea** 60.58 64 P P 16 14 29.3 +0.2
comp=Z,2.1nm,0.7s,mb4.4,baz=299,slow=5.7,SNR=12
T06C **Millerton Lake** 60.63 66 ⇓P P 16 14 30.0 +0.5
baz=60

M12A **Wells** 60.67 60 ⇑P P 16 14 30.4 +0.8
baz=60
KCC **Kaiser Creek** 60.67 66 ⇑P P 16 14 30.2 +0.5
baz=60
NIL **Nilore** 60.76 289 P P 16 14 31.8 +1.5
comp=Z,151nm,0.8s,mb6.2,SNR=8.8
GCMT **Greycliff** 60.78 53 *e*P P 16 14 31.1 +0.7
YMR **Madison River** 60.80 55 P P 16 14 31.3 +0.6
comp=Z,20nm,1.2s,mb5.1
N12A **Clover Valley,** 60.96 60 ⇑P P 16 14 32.5 +0.8
baz=61
Q09A **Carvers** 60.99 63 ⇑P P 16 14 32.7 +0.8
baz=61
O11A **Cowboy Ranch,** 61.06 61 ⇓P P 16 14 32.9 +0.5
baz=61
M13A **Montello** 61.13 59 ⇓P P 16 14 33.4 +0.5
baz=61
S08C **White Mtn Res** 61.25 65 ⇓P P 16 14 34.1 +0.4
baz=61
FLWY **Flagg Ranch** 61.32 55 *e*P P 16 14 35.0 +0.8
comp=Z,23nm,1.0s,mb5.3
RLMT **Red Lodge** 61.43 53 *e*P P 16 14 35.8 +0.9
comp=Z,18nm,1.1s,mb5.1
R09A **Tonopah** 61.44 64 P P 16 14 35.1 +0.2
baz=61,SNR=11
NDI **New Delhi** 61.46 282 *e*P P 16 14 33.0 -2.1
O12A **Currie** 61.50 61 P P 16 14 35.8 +0.4
baz=61,SNR=10.0
S09A **Goldfield** 61.68 64 ⇓P P 16 14 36.9 +0.3
baz=62
REDW **Red Top Meadow** 61.71 56 *e*P P 16 14 37.5 +0.7
comp=Z,41nm,1.2s,mb5.4
DGMT **Dagmar** 61.85 48 *e*P P 16 14 37.6 -0.1
comp=Z,34nm,0.5s,mb5.7
R10A **Warm Springs** 61.87 63 ⇓P P 16 14 38.3 +0.5
baz=62
Q11A **Duckwater** 61.89 62 ⇑P P 16 14 38.2 +0.2
baz=62
P12A **McGill** 61.92 61 ⇓P P 16 14 38.5 +0.3
baz=62
CWC **Cottonwood Cre** 62.00 66 ⇓P P 16 14 39.3 +0.6
baz=62
GRAC **Grapevine Rang** 62.06 65 ⇑P P 16 14 39.4 +0.3
baz=62
Q12A **Willow Creek R** 62.25 62 ⇓P P 16 14 40.5 +0.1
baz=62
ISA **Isabella** 62.26 67 ⇑P P 16 14 40.5 0.0
baz=62
HWUT **Hardware Ranch** 62.46 58 *e*P P 16 14 41.5 -0.3
comp=Z,6.8nm,0.6s,mb5.0
MPMC **Manual Prospec** 62.60 66 ⇓P P 16 14 43.3 +0.6
baz=62
DUG **Dugway** 62.67 60 *e*P P 16 14 43.3 +0.1
DUG pmax pmax
comp=Z,20nm,1.3s,mb5.1
DUG **Dugway** 62.67 60 *e*P P 16 14 43.3 +0.1
comp=Z,20nm,1.3s,mb5.1
DUG **Dugway** 62.67 60 ⇑P P 16 14 44.0 +0.8
baz=62
FURC **Furnace Creek,** 62.72 65 ⇓P P 16 14 44.4 +0.9
baz=63
OSI **Osito Adit** 62.80 68 ⇑P P 16 14 44.9 +0.8
baz=63
PDAR **Pinedale Array** 62.81 56 P P 16 14 44.0 -0.2
comp=Z,9.0nm,1.0s,mb4.8,baz=302,slow=2.8,SNR=26
LRMC **Laurel Mountai** 62.87 66 ⇓P P 16 14 45.0 +0.5
baz=63
U10A **Ash Meadows, A** 63.07 65 ⇓P P 16 14 46.5 +0.6
baz=63
EDW2 **Edwards Air Fo** 63.08 67 ⇓P P 16 14 46.2 +0.3
baz=63
FIA1 **FINESS Array S** 63.35 335 *e*P P 16 14 46.4 -1.4
FINES **FINESS Array B** 63.35 335 P P 16 14 46.4 -1.4
comp=Z,9.4nm,0.5s,mb5.2,baz=38,slow=9.1,SNR=64
DAU **Daniels Canyon** 63.42 58 *e*P P 16 14 48.3 +0.1
GSC **Goldstone** 63.52 66 ⇑P P 16 14 49.3 +0.4
baz=63
CIS **Catalina Islan** 63.80 69 ⇓P P 16 14 52.2 +1.5
baz=64
KAKA **Kakadu** 63.87 205 *e*P P 16 14 49.4 -1.7
comp=Z,17nm,0.9s,mb5.1
ARUT **Antelope Range** 63.90 62 *e*P P 16 14 43.4 -7.9
TUQ **Turquoise Mtn.** 63.97 65 ⇓P P 16 14 53.0 +1.1
baz=64
MSU **Maryvale** 64.16 61 *e*P P 16 14 52.6 -0.4
V12A **Nelson** 64.43 64 ⇑P P 16 14 55.9 +1.0
baz=64
ULM **Lac du Bonnet** 64.56 42 P P 16 14 55.2 -0.5
comp=Z,6.2nm,0.8s,mb4.7,baz=319,slow=9.0,SNR=8.0
ULM **Lac du Bonnet** 64.56 42 *e*P P 16 14 54.7 -1.0
comp=Z,8.3nm,0.8s,mb4.8
AJM **Ajmer** 64.63 282 *e*P P 16 14 57.2 +1.0
AJM AMb AMB 16 14 58.7
comp=Z,76nm,0.8s,mb5.8
SRU **San Rafael** 64.71 59 *e*P P 16 14 56.5 -0.2
SRU pmax pmax
comp=Z,19nm,0.9s,mb5.1
SRU **San Rafael** 64.71 59 *e*P P 16 14 56.5 -0.2
comp=Z,19nm,0.9s,mb5.1
RSSD **Black Hills** 64.87 51 P P 16 14 57.0 -0.7
RSSD pmax pmax
comp=Z,26nm,0.9s,mb5.3
RSSD **Black Hills** 64.87 51 *e*P P 16 14 57.0 -0.8
comp=Z,23nm,0.8s,mb5.3
VIS **Vishakhapatnam** 64.92 269 *e*P P 16 14 59.0 +1.0
VIS AMb AMB 16 15 02.4
comp=Z,39nm,0.8s,mb5.5
OBN **Obninsk** 64.92 326 *e*P P 16 14 56.8 -1.3
OBN *e* 16 15 09.8
OBN *e* 16 15 30.6
OBN *e* 16 17 19.6
OBN pmax pmax
comp=Z,45nm,1.1s,mb5.4
OBN **Obninsk** 64.92 326 *e*P P 16 14 56.5 -1.5
comp=Z,52nm,1.2s,mb5.4
IRM **Iron Mountain** 65.30 66 ⇑P P 16 15 01.4 +0.9
baz=65
W13A **Hualapai Mount** 65.43 64 ⇓P P 16 15 02.6 +1.2
baz=65
PDMCI **Parker Dam,Lak** 65.82 65 ⇓P P 16 15 04.3 +0.5
baz=66
W14A **Seligman** 65.84 64 ⇓P P 16 15 04.5 +0.5
baz=66
AGMN **Agassiz Refuge** 65.97 44 *e*P P 16 15 03.9 -0.9
comp=Z,49nm,1.3s,mb5.4
W15A **Williams** 66.35 63 ⇑P P 16 15 08.0 +0.7
baz=66
X14A **Yava** 66.46 64 ⇓P P 16 15 08.6 +0.6
baz=66
WUAZ **Wupatki** 66.65 62 ⇑P P 16 15 10.0 +0.8
baz=66
Y14A **Wickenburg** 66.75 65 ⇑P P 16 15 10.2 +0.3
baz=67
X15A **Humboldt** 66.84 64 ⇑P P 16 15 10.9 +0.5
baz=67
VRSR **Storozhevoye** 66.85 322 *c i*P P 16 15 09.7 -0.8
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VORD **Divnogorie** 67.00 322 *e*P P 16 15 09.7 -1.7
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s,mb5.2
VORD pmax pmax
comp=E,6.0nm,0.7s
ABKT **Ailbek** 67.05 302 P P 16 15 12.9 +1.1
comp=E,121nm,0.7s,mb6.0,SNR=7.8
MVCO **Mesa Verde** 67.17 59 *e*P P 16 15 12.8 +0.3
comp=E,19nm,1.1s,mb5.0
MVCO **Mesa Verde** 67.17 59 ⇑P P 16 15 13.4 +0.8
baz=67
NB2 **NORSAR Subarra** 67.33 342 P P 16 15 12.5 -1.1
comp=Z,136nm,1.4s,mb5.8,baz=25,slow=6.5
NOA **NORSAR Array B** 67.33 342 P P 16 15 12.8 -0.8
comp=Z,36nm,0.9s,mb5.4,baz=26,slow=6.4,SNR=48
115A **Sonoran Desert** 68.08 65 ⇓P P 16 15 18.9 +0.6
baz=68
EYMN **Ely** 68.21 42 *e*P P 16 15 18.1 -0.9
comp=Z,18nm,0.9s,mb5.1
HYB **Hyderabad** 68.33 272 *i* P P 16 15 20.0 +0.2
HYB **Hyderabad** 68.33 272 *e*P P 16 15 20.0 +0.2
MNK **Minsk** 68.50 330⇑ *e*P P 16 15 16.0 -4.9
MNK pmax pmax

comp=Z,260nm,1.0s,mb6.2
ECSD EROS,Sioux Fal 68.92 48 *e*P **P 16 15 22.6 -1.0**
comp=Z,25nm,1.1s,mb5.1
KONO Kongsberg 68.94 342 *e*P **P 16 15 23.3 -0.3**
KONO pmax pmax
comp=Z,74nm,1.0s,mb5.6
KONO Kongsberg 68.94 342 *e*P **P 16 15 23.3 -0.3**
comp=Z,74nm,1.0s,mb5.6
WB2 Warramunga Arr 70.30 201 *e*P **P 16 15 31.0 -1.0**
WRA Warramunga Arr 70.30 201 P **P 16 15 31.1 -0.9**
comp=Z,5.3nm,1.0s,mb4.4,baz=19,slow=6.7,SNR=14
MDRS Chennai 70.31 268 *e*P **P 16 15 32.4 +0.3**
MDRS AMb AMB 16 15 33.7
comp=Z,66nm,1.1s,mb5.5
BNM Barren Site 70.40 61 *e*P **P 16 15 33.0 +0.4**
SUW Suwalki 70.41 332 *e*P **P 16 15 32.0 -0.7**
SUW Suwalki 70.41 332 P **P 16 15 31.8 -0.9**
SUW pmax pmax
comp=Z,160nm,1.1s,mb5.9
POO Poona 70.68 276⇑ *i*P **P 16 15 33.5 -0.9**
comp=Z,80nm,1.0s,mb5.6
POO *ex* x 16 16 07.9
POO AMb AMB 16 16 11.9
comp=Z,104nm,1.2s,mb5.7
KIV Kislovodsk 70.79 315⇑ *e*P **P 16 15 35.5 +0.5**
KIV pmax pmax
comp=Z,39nm,1.3s,mb5.2
KIV Kislovodsk 70.79 315 *e*P **P 16 15 36.0 +0.9**
comp=Z,35nm,1.0s,mb5.2
FITZ Fitzroy Crossi 71.03 210 *e*P **P 16 15 36.6 +0.1**
comp=Z,36nm,0.9s,mb5.3
ZEI Tsey 71.11 313 *e*P **P 16 15 36.1 -0.8**
ZEI pmax pmax
comp=Z,18nm,1.2s,mb4.9
AKASG Malin Array Be 71.13 327 P **P 16 15 35.1 -2.0**
comp=Z,22nm,0.5s,mb5.3,baz=33,slow=6.1,SNR=78
AKBB Malin Array Si 71.13 327 P **P 16 15 36.2 -0.9**
AKBB Malin Array Si 71.13 327 *e*P **P 16 15 36.0 -1.1**
KIEV Kiev 71.14 327 *e*P **P 16 15 35.9 -1.3**
KIEV pmax pmax
comp=Z,35nm,0.7s,mb5.4
KIEV Kiev 71.14 327 *e*P **P 16 15 35.9 -1.3**
comp=Z,35nm,0.7s,mb5.4
KAD Karad 71.33 275 *e*P **P 16 15 38.8 +0.5**
KAD AMb AMB 16 15 40.4
comp=Z,57nm,0.5s,mb5.7
SCHQ Schefferville 71.48 24 P **P 16 15 39.1 -0.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=353,slow=6.2,SNR=6.6
SCHQ Schefferville 71.48 24 *e*P **P 16 15 39.0 -0.2**
comp=Z,30nm,0.9s,mb5.2
BSD Bornholm Skovb 71.81 337 *i*P **P 16 15 40.7 -0.5**
comp=Z,97nm,0.9s,mb5.7
BSD Bornholm Skovb 71.81 337 *i*P **P 16 15 40.7 -0.5**
BSD pmax pmax
comp=Z,97nm,0.9s,mb5.7
COP Copenhagen 71.92 339 *i*P **P 16 15 42.2 +0.4**
comp=Z,121nm,1.0s,mb5.8
COP Copenhagen 71.92 339 *i*P **P 16 15 42.2 +0.4**
COP pmax pmax
comp=Z,120nm,1.0s,mb5.8
SCIA State Center 71.95 47 *e*P **P 16 15 41.5 -0.6**
comp=Z,37nm,0.7s,mb5.4
MUD Monsted U'grnd 71.96 341 *i*P **P 16 15 42.5 +0.4**
comp=Z,55nm,1.2s,mb5.4
MUD Monsted U'grnd 71.96 341 *i*P **P 16 15 42.5 +0.4**
MUD pmax pmax
comp=Z,55nm,1.2s,mb5.4
SOC Sochi 72.47 317 *e*P **P 16 15 45.3 +0.2**
SOC *e* 16 18 22.2
SOC *e*S S 16 25 12.4 +2.6
SOC *e* 16 25 43.1
SOC *e*SSS 16 33 00.7
SOC pmax pmax
comp=Z,59nm,0.5s,mb5.8
GNI Garni 72.66 311 P **P 16 15 47.4 +1.1**
comp=Z,21nm,0.9s,mb5.1,baz=298,slow=6.3,SNR=9.9
GNI Garni 72.66 311⇓ P **P 16 15 48.3 +2.0**
SNR=5.4
GNI Garni 72.66 311⇑ *e*P **P 16 15 46.8 +0.5**
GNI pmax pmax
comp=Z,91nm,1.7s
GNI Garni 72.66 311 *e*P **P 16 15 48.0 +1.7**
comp=Z,34nm,0.9s,mb5.3
GKP Gorka Klasztor 72.82 335 *e*P **P 16 15 47.4 +0.2**
KAC Achnashellach 73.47 349 *e*P **P 16 15 50.2 -0.9**
KPL Plockton 73.67 349 *e*P **P 16 15 51.8 -0.5**
KPL AMb AMB 16 15 52.4
comp=Z,141nm,1.2s,mb5.8
LVV L'vov 73.70 329 *e*P **P 16 15 50.7 -1.7**
KSB Sheil Bridge 73.77 349 *e*P **P 16 15 52.4 -0.5**
SIM Simferopol' 73.87 321 *ce*P **P 16 15 54.0 +0.6**
SIM pmax pmax
comp=Z,50nm,0.9s,mb5.4
AS31 Alice Springs 73.98 200 *e*P **P 16 15 53.8 -0.3**
ASAR Alice Springs 73.99 200 P **P 16 15 53.4 -0.8**
comp=Z,4.5nm,0.8s,mb4.4,baz=14,slow=5.2,SNR=20
ASPA Alice Springs 73.99 200 *e*P **P 16 15 53.8 -0.3**
BSEG Bad Segeberg 74.02 339 *e*P **P 16 15 54.4 +0.1**
comp=Z,66nm,0.9s,mb5.6
BSEG Bad Segeberg 74.02 339 *e*P **P 16 15 54.4 +0.1**
BSEG pmax pmax
comp=Z,66nm,0.9s,mb5.6
KAR1 Arisaig 74.11 349 *e*P **P 16 15 54.4 -0.4**
KWP Kalwaria 74.31 330 *e*P **P 16 15 56.7 +0.7**
KWP Kalwaria 74.31 330 P **P 16 15 55.9 -0.1**
KWP pmax pmax
comp=Z,300nm,1.1s,mb6.1
KIS Kishinev 74.34 325 *e*P **P 16 15 53.0 -3.2**
ERZM Erzurum 74.52 313 *i*P **P 16 15 59.2 +2.0**
EAB Aberfoyle 74.62 348 *e*P **P 16 15 57.5 -0.4**
ESY Stoneypath 74.64 347 *e*P **P 16 15 57.9 0.0**
OJC Ojcow 74.74 332 *e*P **P 16 15 58.4 -0.1**
EAU Auchinoon 74.83 348 *e*P **P 16 15 58.8 -0.2**
EBL Broad Law 74.84 347 *e*P **P 16 15 58.9 -0.2**
STHS Stebnicka Huta 74.98 331 *i*P **P 16 00.5 +0.6**
STHS pmax pmax
comp=Z,68nm,1.0s,mb5.5
STHS Stebnicka Huta 74.98 331 *i*P **P 16 16 00.5 +0.6**
comp=Z,68nm,1.0s,mb5.5
PGBU Glenifferbraes 75.01 348 *e*P **P 16 15 59.2 -0.9**
PGBU AMb AMB 16 16 02.0
comp=Z,83nm,1.4s,mb5.5
KOLS Kolonicke sedl 75.06 330 *i*P **P 16 16 00.4 +0.1**
BURAR Bucovina Array 75.16 328⇑ *i*P **P 16 16 00.9 0.0**
BURAR Bucovina Array 75.16 328⇑ P **P 16 16 00.8 -0.1**
KSP Ksiaz 75.25 334 *e*P **P 16 16 01.6 +0.2**
KSP Ksiaz 75.25 334⇑ *e*P **P 16 16 01.2 -0.2**
UZH Uzhgorod 75.31 330 *e*P **P 16 15 57.2 -4.6**
ESK Eskdalemuir 75.31 347 P **P 16 16 02.7 +0.9**
comp=Z,232nm,0.6s,mb6.3,SNR=8.3
ESK Eskdalemuir 75.31 347 *e*P **P 16 16 01.1 -0.7**
ESK AMb AMB 16 16 01.4
comp=Z,206nm,1.0s,mb6.0
ESK Eskdalemuir 75.31 347 P **P 16 16 02.2 +0.4**
NRDL Niedersach Rie 75.39 339 *e*P **P 16 16 01.9 -0.4**
comp=Z,57nm,1.1s,mb5.4
OKC Ostrava-Krasne 75.59 333 *e*P **P 16 16 03.1 -0.3**
OKC *e*pP pP 16 16 10.6 +5.9
TXAR Lajitas Array 75.61 62 P **P 16 16 03.1 -0.4**
comp=Z,9.6nm,0.7s,mb4.8,baz=300,slow=3.9,SNR=10
UPC Upice 75.63 334 *e*P **P 16 16 03.4 -0.2**
DPC Dobruska-Polom 75.68 334 *e*P **P 16 16 04.0 +0.1**
DPC *e*pP pP 16 16 11.1 +5.9
CLL Collm 75.74 337 *e*P **P 16 16 03.7 -0.6**
comp=Z,139nm,0.9s,mb5.9
CLL Collm 75.74 337⇑ *i*P **P 16 16 03.7 -0.6**
CLL *e* 16 16 10.0
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 75.74 337⇑ *i*P **P 16 16 03.7 -0.6**
comp=Z,140nm,1.0s,mb5.8
CLL *e*pP pP 16 16 10.0 +4.4
MORC Moravsky Berou 75.83 333⇓ *i*P **P 16 16 05.1 +0.4**
MORC Moravsky Berou 75.83 333 P **P 16 16 04.1 -0.6**
MORC pmax pmax
comp=Z,130nm,1.0s,mb5.8
MORC Moravsky Berou 75.83 333 *e*P **P 16 16 03.9 -0.9**
comp=Z,128nm,1.0s,mb5.8
TRD Trivandrum 75.83 267 *e*P **P 16 16 03.8 -1.0**
TRD AMb AMB 16 16 09.5
comp=Z,31nm,1.6s,mb5.0
BRG Berggiesshubel 75.88 336 *e*P **P 16 16 04.7 -0.4**
comp=Z,60nm,1.1s,mb5.4
BRG Berggiesshubel 75.88 336 *i*P **P 16 16 05.3 +0.2**
comp=Z,36nm,1.1s,mb5.2
BRG *i* 16 16 11.6
comp=Z,17nm,1.1s
BRG Berggiesshubel 75.88 336 *i*P **P 16 16 05.3 +0.2**
BRG *i* 16 16 11.6
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
WIT Witteveen 75.89 341 *e*P **P 16 16 06.0 +0.9**
CLZ Clausthal 75.93 338 *e*P **P 16 16 05.7 +0.4**
comp=Z,141nm,1.1s,mb5.8
CLZ Clausthal 75.93 338 *e*P **P 16 16 05.7 +0.4**
CLZ pmax pmax
comp=Z,141nm,1.1s,mb5.8
GAL1 Galloway 75.96 348 *e*P **P 16 16 04.8 -0.7**
GAL1 AMb AMB 16 16 07.2
comp=Z,110nm,1.5s,mb5.6
LIKS Likavka 75.98 332 *i*P **P 16 16 06.3 +0.7**
LIKS pmax pmax
comp=Z,71nm,1.1s,mb5.5
LIKS Likavka 75.98 332 *i*P **P 16 16 06.3 +0.7**
comp=Z,70nm,1.1s,mb5.5
PVCC Panska Ves 76.02 335 *e*P **P 16 16 05.9 +0.1**
KECS Kecovo 76.04 331 *i*P **P 16 16 05.7 -0.2**
KECS pmax pmax
comp=Z,27nm,1.0s,mb5.1
KECS Kecovo 76.04 331 *i*P **P 16 16 05.7 -0.2**
comp=Z,27nm,1.0s,mb5.1
VRI Vrincioaia 76.08 326⇓ *i*P **P 16 16 06.4 +0.2**
VRI Vrincioaia 76.08 326 ⇓P **P 16 16 06.4 +0.2**
CFR Carcaliu 76.12 324⇓ *i*P **P 16 16 06.4 0.0**
CFR Carcaliu 76.12 324 ⇓P **P 16 16 06.4 0.0**
PLOR Plostina 76.12 326⇑ *i*P **P 16 16 06.8 +0.4**
FVM French Village 76.33 48 *e*P **P 16 16 06.6 -1.0**
FVM pmax pmax
comp=Z,13nm,0.8s,mb4.9
FVM French Village 76.33 48 *e*P **P 16 16 06.6 -1.0**
comp=Z,13nm,0.8s,mb4.9
BOYT Boyabat 76.36 318 *i*P **P 16 16 08.3 +0.5**
MSL Mosul 76.44 310 *i* x x 16 16 08.0
PRA Prague 76.47 335 P **P 16 16 08.0 -0.4**
PRU Pruhonice 76.51 335 *e*P **P 16 16 08.6 0.0**
PRU *e*pP pP 16 16 17.9 +7.9
VRAC Vranov 76.53 334⇓ *i*P **P 16 16 09.5 +0.8**
VRAC Vranov 76.53 334 P **P 16 16 09.3 +0.6**
VRAC Vranov 76.53 334 ⇓P **P 16 16 09.5 +0.8**
VYHS Vyhne 76.56 332 *i*P **P 16 16 09.1 +0.2**
VYHS pmax pmax
comp=Z,38nm,1.1s,mb5.2
VYHS Vyhne 76.56 332 *i*P **P 16 16 09.1 +0.2**
comp=Z,38nm,1.1s,mb5.2
HARR Harsova 76.60 324⇑ *i*P **P 16 16 06.8 -2.4**
HARR Harsova 76.60 324 P **P 16 16 07.7 -1.5**
TIRR Tirgusor 76.61 324⇓ *i*P **P 16 16 09.2 0.0**
TIRR Tirgusor 76.61 324 *e*P **P 16 16 08.4 -0.8**
TIRR pmax pmax
comp=Z,80nm,1.0s,mb5.6
TIRR Tirgusor 76.61 324 *e*P **P 16 16 08.4 -0.8**
comp=Z,80nm,1.0s,mb5.6
WTSB Winterswijk 76.66 341 *e*P **P 16 16 09.1 -0.3**
BANOM Banah 76.69 294⇑ P **P 16 16 09.9 +0.3**
SNR=6.5
MLR Muntele Rosu 76.69 326⇓ *i*P **P 16 16 10.1 +0.4**
MLR Muntele Rosu 76.69 326 P **P 16 16 09.5 -0.2**
MLR Muntele Rosu 76.69 326 ⇓P **P 16 16 10.1 +0.5**
TANN Tannenbergstha 76.70 337 *e*P **P 16 16 09.8 +0.1**
comp=Z,64nm,1.5s,mb5.3
MOX Moxa 76.71 337 *e*P **P 16 16 09.8 0.0**
comp=Z,76nm,1.1s,mb5.5
MOX Moxa 76.71 337 *e*P **P 16 16 09.8 0.0**
MOX pmax pmax
comp=Z,68nm,1.5s,mb5.4
PSZ Piszkesteto 76.72 331⇑ *i*P **P 16 16 10.8 +1.0**
PSZ Piszkesteto 76.72 331 *e*P **P 16 16 09.8 0.0**
PSZ pmax pmax
comp=Z,57nm,1.1s,mb5.4
PSZ Piszkesteto 76.72 331 *e*P **P 16 16 09.8 -0.1**
comp=Z,57nm,1.1s,mb5.4
PSZ Piszkesteto 76.72 331⇑ *e*P **P 16 16 10.1 +0.3**
DRGR 76.75 329⇓ *i*P **P 16 16 10.3 +0.3**
DRGR 76.75 329 P **P 16 16 09.7 -0.3**
DRGR 76.75 329 ⇓P **P 16 16 10.2 +0.2**
NKC Novy Kostel 76.87 336 *e*P **P 16 16 10.7 +0.1**
BALT Daday 76.94 319 *i*P **P 16 16 12.4 +1.3**
UBBA Unterbreizbach 76.96 338 *e*P **P 16 16 11.1 -0.1**
comp=Z,77nm,1.5s,mb5.4
SMOL Smolenice 76.98 333 *i*P **P 16 16 12.2 +0.9**
JCT Junction City 77.02 59 *e*P **P 16 16 11.1 -0.4**
JCT pmax pmax
comp=Z,25nm,1.2s,mb5.0
JCT Junction City 77.02 59 *e*P **P 16 16 11.1 -0.5**
comp=Z,25nm,1.2s,mb5.0
BUG Bochum--Univer 77.04 340 *e*P **P 16 16 11.5 -0.1**
comp=Z,75nm,1.2s,mb5.5
CTKT Corum 77.05 318 *i*P **P 16 16 13.0 +1.3**
VOIR 77.07 326⇑ *i*P **P 16 16 12.4 +0.6**
VOIR 77.07 326 ⇑P **P 16 16 12.4 +0.6**
MANZ Manzenberg 77.18 337 *e*P **P 16 16 12.6 +0.2**
comp=Z,54nm,1.1s,mb5.4
MALT Malatya 77.19 314⇓ *i*P **P 16 16 14.2 +1.7**
MALT Malatya 77.19 314 *e*P **P 16 16 13.6 +1.1**
MALT pmax pmax
comp=Z,99nm,1.1s,mb5.7
MALT Malatya 77.19 314 *e*P **P 16 16 13.6 +1.1**
comp=Z,99nm,1.1s,mb5.7
WSAR Wadi Sarin 77.20 290 P **P 16 16 13.5 +1.0**
comp=Z,26nm,1.0s,mb5.2,baz=86,slow=5.4,SNR=15
MTUR Matau 77.25 326⇓ *i*P **P 16 16 14.1 +1.3**
MTUR Matau 77.25 326 ⇓P **P 16 16 14.1 +1.3**
BIDO Bidbid 77.31 291⇑ P **P 16 16 14.2 +1.1**
SNR=9.3
ROTZ Rotzenmuhle 77.36 336 *e*P **P 16 16 13.9 +0.5**
comp=Z,106nm,1.2s,mb5.7
ZST Bratislava 77.36 333 *e*P **P 16 16 14.3 +0.9**
ZST pmax pmax
comp=Z,77nm,1.2s,mb5.5
ZST MLR MLR
comp=Z,900nm,18.6s,MS5.1
ZST Bratislava 77.36 333 *e*P **P 16 16 14.3 +0.9**
comp=Z,77nm,1.2s,mb5.5
ZST LR LR
comp=Z,900nm,18.6s,MS5.1
BUD Budapest 77.39 331⇓ *e*P **P 16 16 14.5 +0.9**
WBK Wadi Bani Khal 77.44 290 ⇓P **P 16 16 15.5 +1.6**
SNR=13
KHC Kasperske Hory 77.56 335 *e*P **P 16 16 14.9 +0.4**
KHC *e*pP pP 16 16 21.9 +6.0
HATD Hatta, Dubai 77.59 293 P **P 16 16 15.5 +0.7**
SNR=11
SBD1 Bryn Du 77.66 347 *e*P **P 16 16 15.2 +0.1**
GRA1 Grafenberg Arr 77.69 337 *e*P **P 16 16 15.8 +0.6**
comp=Z,153nm,1.0s,mb5.9
GRA1 *e*pP pP 16 16 22.9 +6.3
GRF Grafenberg Arr 77.69 337 *e*P **P 16 16 15.8 +0.6**
comp=Z,153nm,1.0s,mb5.9
GRF *e*pP pP 16 16 22.9 +6.3
GRF Grafenberg Arr 77.69 337 *e*P **P 16 16 15.8 +0.6**
GRF *e**PP pP 16 16 22.9 +6.3
GRF pmax pmax
comp=Z,153nm,1.0s,mb5.9
GRFO Grafenberg 77.69 337 P **P 16 16 15.7 +0.4**
GRFO pmax pmax
comp=Z,130nm,1.0s,mb5.8
GRFO Grafenberg 77.69 337 *e*P **P 16 16 16.1 +0.8**
comp=Z,129nm,1.0s,mb5.8
SMDO Samad 77.69 291 P **P 16 16 16.3 +1.0**
SNR=11
DLF Lyons Farm 77.74 349 *e*P **P 16 16 15.4 -0.1**
WET Wettzell 77.74 336 *e*P **P 16 16 16.1 +0.6**
comp=Z,106nm,1.0s,mb5.7
WET Wettzell 77.74 336 *e*P **P 16 16 16.1 +0.6**
WET pmax pmax
comp=Z,106nm,1.0s,mb5.7
ASHO Ashiyiah 77.74 293⇑ P **P 16 16 15.7 +0.2**
SNR=21
ELDT Eldivan 77.77 318 *i*P **P 16 16 16.5 +0.8**
HOQ Hoqain 77.77 292 P **P 16 16 16.4 +0.6**
SNR=30
GEC2 GERESS Array S 77.78 335 *e*P **P 16 16 15.8 0.0**
comp=Z,44nm,0.9s,mb5.4
GEC2 GERESS Array S 77.78 335 *e*P **P 16 16 15.8 0.0**
GEC2 pmax pmax
comp=Z,44nm,0.9s,mb5.4
GERES GERESS Array B 77.78 335 P **P 16 16 15.7 0.0**
comp=Z,27nm,0.8s,mb5.2,baz=35,slow=4.9,SNR=98
DCN Croghan 77.78 349 *e*P **P 16 16 15.6 -0.2**
TNS Taunus Mts 77.89 339 *e*P **P 16 16 16.6 +0.2**
comp=Z,55nm,0.9s,mb5.5
TNS Taunus Mts 77.89 339 *e*P **P 16 16 16.6 +0.2**
TNS pmax pmax
comp=Z,55nm,0.9s,mb5.5
GZR Gura Zlata 77.93 328⇓ *i*P **P 16 16 17.3 +0.7**
GZR Gura Zlata 77.93 328 ⇓P **P 16 16 17.3 +0.6**
HGN Heimansgroeve 77.97 341 *e*P **P 16 16 16.7 -0.2**
comp=Z,84nm,1.5s,mb5.5
CONA Conrad Observa 77.98 333⇓ *i*P **P 16 16 17.9 +1.1**
comp=Z,45nm,0.9s,mb5.4,SNR=22
SOP Sopron 77.98 333⇓ *e*P **P 16 16 18.1 +1.2**
BEBN Eben Emael 78.00 341 P **P 16 16 18.1 +1.1**
BHD Baghdad 78.07 307 *ex* x 16 16 12.0
MEM Membach 78.10 340 P **P 16 16 17.1 -0.5**
comp=Z,30nm,1.0s,mb5.2
MEM PCP PcP 16 16 28.8 +1.6
WCI Wyandotte Cave 78.14 45 *e*P **P 16 16 17.3 -0.5**
WCI pmax pmax
comp=Z,27nm,0.8s,mb5.2
WCI Wyandotte Cave 78.14 45 *e*P **P 16 16 17.3 -0.5**
comp=Z,26nm,0.8s,mb5.2
BZS Buzias 78.15 329⇑ *i*P **P 16 16 17.1 -0.7**
BZS Buzias 78.15 329 P **P 16 16 17.4 -0.4**
JMDO Jabal Madar 78.16 290 P **P 16 16 18.9 +1.0**
SNR=31
UCC Uccle 78.28 342 P **P 16 16 18.1 -0.5**
UCC PCP PcP 16 16 31.7 +3.8
BR131 Keskin Array S 78.29 318 *e*P **P 16 16 19.1 +0.5**
comp=Z,50nm,1.0s,mb5.4
BRTR Keskin Array B 78.29 318 P **P 16 16 18.8 +0.2**
comp=Z,44nm,0.9s,mb5.4,baz=69,slow=2.6,SNR=96
SGKT Sivrigoynuk 78.30 319 *i*P **P 16 16 19.4 +0.7**
GZT Gaziantep 78.36 314 *i*P **P 16 16 19.8 +0.8**
TOD Tromm 78.38 338 *e*P **P 16 16 18.9 -0.2**
ABH Alteburg 78.43 339 *e*P **P 16 16 18.7 -0.7**
BCLA Clavier 78.44 341 P **P 16 16 19.6 +0.2**
BCLA PCP PcP 16 16 33.0 +4.3
ARQ Araqi 78.44 292 P **P 16 16 20.3 +0.8**
SNR=11
BSY Bisya 78.46 291 P **P 16 16 20.5 +1.0**
SNR=41
ZIMR 78.47 325 P **P 16 16 19.4 -0.2**
AVNT Avonos 78.50 316 *i*P **P 16 16 20.2 +0.4**
MOA Molln 78.52 334⇓ *i*P **P 16 16 20.5 +0.6**
comp=Z,45nm,0.9s,mb5.4,SNR=12
ANTO Ankara 78.55 318 P **P 16 16 21.0 +0.9**
SNR=11
ANTO Ankara 78.55 318⇑ *i*P **P 16 16 20.8 +0.7**
ANTO Ankara 78.55 318 *e*P **P 16 16 20.5 +0.4**
ANTO pmax pmax
comp=Z,90nm,1.1s,mb5.6
ANTO Ankara 78.55 318 *e*P **P 16 16 20.5 +0.5**
comp=Z,90nm,1.1s,mb5.6
SNF Seneffe 78.57 342 P **P 16 16 19.2 -1.0**
comp=Z,13nm,1.2s,mb4.7
SNF PCP PcP 16 16 33.5 +4.3
PKSM Moragy 78.63 331⇑ *i*P **P 16 16 20.5 0.0**
PKSM Moragy 78.63 331 P **P 16 16 20.3 -0.2**
PKSM Moragy 78.63 331 ⇑P **P 16 16 20.5 0.0**
ARSA Arzberg 78.69 333⇓ *i*P **P 16 16 21.5 +0.7**
comp=Z,50nm,1.1s,mb5.3,SNR=16
HGH Gray Hill 78.81 346 *e*P **P 16 16 21.0 -0.5**
GIVF Givet 78.84 341 *e*P **P 16 16 21.4 -0.2**
comp=Z,205nm,1.5s,mb5.5
GIVF Givet 78.84 341 *e*P **P 16 16 21.4 -0.2**
GIVF pmax pmax
comp=Z,103nm,1.5s,mb5.5
GIVF Givet 78.84 341 *e*P **P 16 16 21.4 -0.2**
comp=Z,102nm,1.5s,mb5.5
DOU Dourbes 78.89 341 P **P 16 16 22.9 +0.9**
comp=Z,8.5nm,1.1s,mb4.6
DOU PCP PcP 16 16 34.6 +4.0
JMB Yambol 79.00 324 *e*P **P 16 16 22.0 -0.5**
BAIF Baives 79.01 341 *e*P **P 16 16 22.7 +0.1**
comp=Z,92nm,1.3s,mb5.3
BAIF Baives 79.01 341 *e*P **P 16 16 22.7 +0.1**
BAIF pmax pmax
comp=Z,46nm,1.3s,mb5.2
BAIF Baives 79.01 341 *e*P **P 16 16 22.7 +0.1**
comp=Z,46nm,1.3s,mb5.2
STU Stuttgart 79.05 338 *e*P **P 16 16 22.9 +0.1**
comp=Z,81nm,1.4s,mb5.5
UMR Umm Al-Rimmam 79.06 302 *e*P **P 16 16 23.0 +0.2**
FUR Furstenfeldbru 79.07 336 *e*P **P 16 16 23.3 +0.4**
comp=Z,217nm,1.6s,mb5.8
FUR Furstenfeldbru 79.07 336 *e*P **P 16 16 23.3 +0.4**
FUR pmax pmax
comp=Z,217nm,1.6s,mb5.8
WVT Waverly 79.07 47 *e*P **P 16 16 22.2 -0.7**
WVT pmax pmax
comp=Z,11nm,1.0s,mb4.7
WVT Waverly 79.07 47 *e*P **P 16 16 22.2 -0.7**
comp=Z,11nm,1.0s,mb4.7
MIB Mutribah 79.09 303 *e*P **P 16 16 23.0 0.0**
LANF Langenberg 79.20 339 *e*P **P 16 16 24.7 +1.1**
KBD Kabd 79.36 302 *e*P **P 16 16 24.4 -0.1**
PERS Pernice 79.36 333 *e*P **P 16 16 24.5 0.0**
KBA Koelnbreinsper 79.48 335⇓ *i*P **P 16 16 26.3 +1.2**
comp=Z,114nm,0.8s,mb5.8,SNR=48
KBA Koelnbreinsper 79.48 335 P **P 16 16 26.3 +1.2**
OXF Oxford 79.56 49 *e*P **P 16 16 25.2 -0.4**
OXF pmax pmax
comp=Z,37nm,1.1s,mb5.2
OXF Oxford 79.56 49 *e*P **P 16 16 25.1 -0.4**
comp=Z,37nm,1.1s,mb5.2
QRN Al-Qurain 79.56 301 *e*P **P 16 16 25.7 +0.1**
NAY Al-Naaiem 79.56 302 *e*P **P 16 16 25.5 -0.1**
RDF Al-Radifah 79.63 302 *e*P **P 16 16 26.3 +0.3**
OBKA Obir 79.65 334⇑ *i*P **P 16 16 26.9 +0.8**
comp=Z,23nm,0.7s,mb5.2,SNR=8.4
BFO Black Forest 79.68 338 P **P 16 16 27.5 +1.3**
comp=Z,161nm,1.3s,mb5.8,SNR=6.1
BFO Black Forest 79.68 338 *e*P **P 16 16 26.3 +0.1**
comp=Z,63nm,1.3s,mb5.4
BFO Black Forest 79.68 338 *e*P **P 16 16 26.3 +0.1**
BFO pmax pmax
comp=Z,63nm,1.3s,mb5.4
WATA Walderalm 79.75 336⇓ *i*P **P 16 16 27.5 +0.9**
comp=Z,88nm,1.0s,mb5.6,SNR=17
SPAK Spaichingen-Ko 79.78 338 *e*P **P 16 16 26.7 -0.1**
WTTA Wattenberg 79.80 336 *i*P **P 16 16 27.7 +0.8**
SNR=30
WLS Welschbruch 79.84 339 *e*P **P 16 16 27.1 0.0**
CDF Champ du Feu 79.86 339 *e*P **P 16 16 27.2 0.0**
comp=Z,123nm,1.3s,mb5.4
CDF Champ du Feu 79.86 339 *e*P **P 16 16 27.2 0.0**
CDF pmax pmax
comp=Z,62nm,1.3s,mb5.4
CDF Champ du Feu 79.86 339 *e*P **P 16 16 27.2 0.0**
comp=Z,62nm,1.3s,mb5.4
MOTA Moosalm 79.87 336⇑ *i*P **P 16 16 27.7 +0.5**
comp=Z,127nm,1.1s,mb5.8,SNR=30
GCIS Gornji Cirnik 79.90 333 *i*P **P 16 16 26.8 -0.6**
LEGS Legarje 79.92 333 *i*P **P 16 16 26.8 -0.7**
SQTA Sankt Quirin 79.95 336⇓ *i*P **P 16 16 28.6 +0.9**
comp=Z,117nm,1.2s,mb5.7,SNR=22
GRUS Gruza 79.97 328 *i*P **P 16 16 23.2 -4.6**
CRES Cresnjev 79.99 333 *e*P **P 16 16 27.4 -0.5**
DIVS Divcibare 80.04 329 *i*P **P 16 16 27.6 -0.5**
DIVS Divcibare 80.04 329 *e*P **P 16 16 27.5 -0.7**
PLD Plovdiv 80.04 325 *e*P **P 16 16 28.2 0.0**
LJU Ljubljana 80.07 333 *e*P **P 16 16 28.0 -0.3**
ECH Echery 80.07 339 *e*P **P 16 16 28.9 +0.5**
FVI Forni Avoltri 80.08 335 P **P 16 16 28.4 0.0**
FVI pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
FVI Forni Avoltri 80.08 335 P **P 16 16 28.4 0.0**
comp=Z,5.9nm,0.4s,mb4.9
PTCC Patocco-Chiusa 80.09 334 P **P 16 16 27.7 -0.8**
comp=Z,27nm,0.8s,mb5.2
FELD Feldberg im Sc 80.18 338 *e*P **P 16 16 29.5 +0.5**
VTS Vitosha 80.19 326 *e*P **P 16 16 28.8 -0.3**
VTS Vitosha 80.19 326⇓ *i*P **P 16 16 29.2 +0.2**
VTS Vitosha 80.19 326 P **P 16 16 29.1 +0.1**
VTS Vitosha 80.19 326 ⇓P **P 16 16 29.2 +0.2**
GMNA Gemona 80.25 334 P **P 16 16 28.6 -0.7**
comp=Z,138nm,0.7s,mb6.0
DAVA Damuels 80.25 337⇑ *i*P **P 16 16 30.1 +0.7**
comp=Z,66nm,1.1s,mb5.5,SNR=11
DAVA Damuels 80.25 337 P **P 16 16 30.1 +0.7**
MEZF Maizieres J'vi 80.30 340 *e*P **P 16 16 29.9 +0.3**
comp=Z,79nm,1.1s,mb5.3
MEZF Maizieres J'vi 80.30 340 *e*P **P 16 16 29.9 +0.3**
comp=Z,79nm,1.1s,mb5.6
BOJS Bojanci 80.34 333 *e*P **P 16 16 29.3 -0.5**

HAU	**Haudompre**	**80.46**	**339**	*e*P	**P**	**16**	**16**	**30.3 -0.2**
HINF	**Hinteralfeld**	**80.52**	**339**	*e*P	**P**	**16**	**16**	**30.4 -0.4**
ALN	**Alexandroupoli**	**80.55**	**323**	*e*P	**P**	**16**	**16**	**30.4 -0.6**
DAVOX	**Davos**	**80.72**	**337**	P	**P**	**16**	**16**	**32.6 +0.7**
	comp=Z,32nm,0.9s,mb5.2,baz=27,slow=5.3,SNR=26							
BRMO	**Bormio**	**80.86**	**336**	P	**P**	**16**	**16**	**33.9 +1.3**
	comp=Z,59nm,1.1s,mb5.4							
CTI	**Castel Tesino**	**80.91**	**335**	P	**P**	**16**	**16**	**32.4 -0.4**
CTI				pmax	pmax			
	comp=Z,87nm,1.4s,mb5.5							
CTI	**Castel Tesino**	**80.91**	**335**	P	**P**	**16**	**16**	**32.4 -0.4**
	comp=Z,87nm,1.4s,mb5.5							
FLN	**La Foliniere**	**81.19**	**344**	*e*P	**P**	**16**	**16**	**34.4 +0.1**
	comp=Z,61nm,1.0s,mb5.2							
FLN	**La Foliniere**	**81.19**	**344**	*e*P	**P**	**16**	**16**	**34.4 +0.1**
FLN				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.2							
FLN	**La Foliniere**	**81.19**	**344**	*e*P	**P**	**16**	**16**	**34.4 +0.1**
	comp=Z,30nm,1.0s,mb5.2							
LDF	**La Druitiere**	**81.28**	**344**	*e*P	**P**	**16**	**16**	**34.8 0.0**
	comp=Z,71nm,1.2s,mb5.2							
LDF	**La Druitiere**	**81.28**	**344**	*e*P	**P**	**16**	**16**	**34.8 0.0**
LDF				pmax	pmax			
	comp=Z,36nm,1.2s,mb5.2							
LDF	**La Druitiere**	**81.28**	**344**	*e*P	**P**	**16**	**16**	**34.8 0.0**
	comp=Z,36nm,1.2s,mb5.2							
SRS	**Serrai**	**81.32**	**325**	*e*P	**P**	**16**	**16**	**33.7 -1.3**
SKO	**Skopje**	**81.38**	**327**	*e*P	**P**	**16**	**16**	**37.1 +1.7**
ELN	**Prospectdale**	**81.51**	**42**	*e*P	**P**	**16**	**16**	**35.3 -0.7**
VAY	**Valandovo**	**81.53**	**326**	*e*P	**P**	**16**	**16**	**35.2 -0.9**
VAY	**Valandovo**	**81.53**	**326**	*i* P	**P**	**16**	**16**	**36.6 +0.4**
KNT	**Kendrikon**	**81.54**	**326**	*e*P	**P**	**16**	**16**	**36.2 0.0**
GRR	**Gorron**	**81.61**	**344**	*e*P	**P**	**16**	**16**	**36.9 +0.3**
	comp=Z,93nm,1.1s,mb5.3							
GRR	**Gorron**	**81.61**	**344**	*e*P	**P**	**16**	**16**	**36.9 +0.3**
GRR				pmax	pmax			
	comp=Z,46nm,1.1s,mb5.3							
GRR	**Gorron**	**81.61**	**344**	*e*P	**P**	**16**	**16**	**36.9 +0.3**
	comp=Z,46nm,1.1s,mb5.3							
LOR	**Lormes**	**81.73**	**341**	*e*P	**P**	**16**	**16**	**37.0 -0.2**
	comp=Z,72nm,1.1s,mb5.2							
LOR	**Lormes**	**81.73**	**341**	*e*P	**P**	**16**	**16**	**37.0 -0.2**
LOR				pmax	pmax			
	comp=Z,36nm,1.1s,mb5.2							
LOR	**Lormes**	**81.73**	**341**	*e*P	**P**	**16**	**16**	**37.0 -0.2**
	comp=Z,36nm,1.1s,mb5.2							
CABF	**La Chapelle**	**81.83**	**339**	*e*P	**P**	**16**	**16**	**38.1 +0.3**
	comp=Z,25nm,0.8s,mb4.9							
CABF	**La Chapelle**	**81.83**	**339**	*e*P	**P**	**16**	**16**	**38.1 +0.3**
CABF				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9							
CABF	**La Chapelle**	**81.83**	**339**	*e*P	**P**	**16**	**16**	**38.1 +0.3**
	comp=Z,12nm,0.8s,mb4.9							
GRG	**Griva**	**81.91**	**326**	*e*P	**P**	**16**	**16**	**37.9 -0.2**
HORT	**Hortiatis**	**81.95**	**325**	*e*P	**P**	**16**	**16**	**37.9 -0.5**
SSF	**Saint Saulge**	**82.00**	**341**	*e*P	**P**	**16**	**16**	**38.8 +0.2**
	comp=Z,52nm,1.0s,mb5.1							
SSF	**Saint Saulge**	**82.00**	**341**	*e*P	**P**	**16**	**16**	**38.8 +0.2**
SSF				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.1							
SSF	**Saint Saulge**	**82.00**	**341**	*e*P	**P**	**16**	**16**	**38.8 +0.2**
	comp=Z,26nm,1.0s,mb5.1							
PLG	**Polygyros**	**82.02**	**325**	*e*P	**P**	**16**	**16**	**38.1 -0.6**
SGMF	**Saint Gilles**	**82.05**	**345**	*e*P	**P**	**16**	**16**	**39.2 +0.3**
	comp=Z,44nm,0.8s,mb5.1							
SGMF	**Saint Gilles**	**82.05**	**345**	*e*P	**P**	**16**	**16**	**39.2 +0.3**
SGMF				pmax	pmax			
	comp=Z,22nm,0.8s,mb5.1							
SGMF	**Saint Gilles**	**82.05**	**345**	*e*P	**P**	**16**	**16**	**39.2 +0.3**
	comp=Z,22nm,0.8s,mb5.1							
ROSF	**Rostrenen**	**82.09**	**346**	*e*P	**P**	**16**	**16**	**39.6 +0.5**
	comp=Z,128nm,1.2s,mb5.4							
ROSF	**Rostrenen**	**82.09**	**346**	*e*P	**P**	**16**	**16**	**39.6 +0.5**
ROSF				pmax	pmax			
	comp=Z,64nm,1.2s,mb5.4							
ROSF	**Rostrenen**	**82.09**	**346**	*e*P	**P**	**16**	**16**	**39.6 +0.5**
	comp=Z,64nm,1.2s,mb5.4							
AVF	**Avril sur Loir**	**82.29**	**341**	*e*P	**P**	**16**	**16**	**40.2 0.0**
	comp=Z,36nm,0.9s,mb5.0							
AVF	**Avril sur Loir**	**82.29**	**341**	*e*P	**P**	**16**	**16**	**40.2 0.0**
AVF				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
AVF	**Avril sur Loir**	**82.29**	**341**	*e*P	**P**	**16**	**16**	**40.2 0.0**
	comp=Z,18nm,0.9s,mb5.0							
PAIG	**Paliouri**	**82.31**	**324**	*e*P	**P**	**16**	**16**	**39.2 -1.1**
SMF	**Signal de Mont**	**82.32**	**340**	*e*P	**P**	**16**	**16**	**40.4 +0.1**
	comp=Z,146nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**82.32**	**340**	*e*P	**P**	**16**	**16**	**40.4 +0.1**
SMF				pmax	pmax			
	comp=Z,73nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**82.32**	**340**	*e*P	**P**	**16**	**16**	**40.4 +0.1**
	comp=Z,73nm,1.4s,mb5.4							
OHR	**Ohrid**	**82.37**	**327**	⇑*i*P	**P**	**16**	**16**	**40.5 -0.1**
FNA	**Florina**	**82.44**	**326**	*e*P	**P**	**16**	**16**	**40.2 -0.8**
QUIF	**Quistinic**	**82.47**	**345**	*e*P	**P**	**16**	**16**	**41.6 +0.5**
	comp=Z,261nm,1.7s,mb5.6							
QUIF	**Quistinic**	**82.47**	**345**	*e*P	**P**	**16**	**16**	**41.6 +0.5**
QUIF				pmax	pmax			
	comp=Z,131nm,1.7s,mb5.6							
QUIF	**Quistinic**	**82.47**	**345**	*e*P	**P**	**16**	**16**	**41.6 +0.5**
	comp=Z,131nm,1.7s,mb5.6							
RSM	**Repubblica di**	**82.61**	**334**	P	**P**	**16**	**16**	**43.0 +1.2**
RSM				pmax	pmax			
	comp=Z,116nm,1.2s,mb5.8							
RSM	**Repubblica di**	**82.61**	**334**	P	**P**	**16**	**16**	**43.0 +1.2**
	comp=Z,116nm,1.2s,mb5.8							
LIT	**Litokhoron**	**82.62**	**325**	*e*P	**P**	**16**	**16**	**41.3 -0.6**
BGF	**Bois d'Agland**	**82.62**	**341**	*e*P	**P**	**16**	**16**	**42.3 +0.4**
LPL	**La Plagne**	**82.70**	**338**	*e*P	**P**	**16**	**16**	**43.3 +1.0**
	comp=Z,94nm,1.2s,mb5.4							
LPL	**La Plagne**	**82.70**	**338**	*e*P	**P**	**16**	**16**	**43.3 +1.0**
LPL				pmax	pmax			
	comp=Z,47nm,1.2s,mb5.4							
LPL	**La Plagne**	**82.70**	**338**	*e*P	**P**	**16**	**16**	**43.3 +1.0**
	comp=Z,47nm,1.2s,mb5.4							
LPG	**La Plagne**	**82.71**	**338**	*e*P	**P**	**16**	**16**	**43.5 +1.1**
	comp=Z,153nm,1.2s,mb5.6							
LPG	**La Plagne**	**82.71**	**338**	*e*P	**P**	**16**	**16**	**43.5 +1.1**
LPG				pmax	pmax			
	comp=Z,76nm,1.2s,mb5.6							
LPG	**La Plagne**	**82.71**	**338**	*e*P	**P**	**16**	**16**	**43.5 +1.1**
	comp=Z,76nm,1.2s,mb5.6							
FSSB	**Fossombrone**	**82.73**	**333**	P	**P**	**16**	**16**	**42.8 +0.4**
ERBM	**Eremo**	**82.75**	**335**	P	**P**	**16**	**16**	**44.5 +2.0**
	comp=Z,47nm,1.1s,mb5.4							
GSCL	**Gusciola**	**82.76**	**335**	P	**P**	**16**	**16**	**43.8 +1.2**
	comp=Z,82nm,1.3s,mb5.6							
SFI	**Santa Sofia**	**82.81**	**334**	P	**P**	**16**	**16**	**45.0 +2.1**
SFI				pmax	pmax			
	comp=Z,30nm,0.8s,mb5.4							
SFI	**Santa Sofia**	**82.81**	**334**	P	**P**	**16**	**16**	**45.0 +2.1**
	comp=Z,30nm,0.8s,mb5.4							
SEI	**Scarperia**	**82.81**	**335**	P	**P**	**16**	**16**	**44.1 +1.2**
	comp=Z,192nm,0.8s,mb6.2							
VMG	**Vicchio**	**82.85**	**334**	P	**P**	**16**	**16**	**44.5 +1.4**
	comp=Z,34nm,0.7s,mb5.5							
XOR	**Xorichti**	**82.98**	**324**	*e*P	**P**	**16**	**16**	**42.8 -1.0**
PLDF	**La Plantade**	**83.01**	**340**	*e*P	**P**	**16**	**16**	**44.0 +0.1**
TCF	**Toulx Ste Croi**	**83.02**	**341**	*e*P	**P**	**16**	**16**	**43.7 -0.2**
	comp=Z,64nm,1.1s,mb5.3							
TCF	**Toulx Ste Croi**	**83.02**	**341**	*e*P	**P**	**16**	**16**	**43.7 -0.2**
TCF				pmax	pmax			
	comp=Z,32nm,1.1s,mb5.3							
TCF	**Toulx Ste Croi**	**83.02**	**341**	*e*P	**P**	**16**	**16**	**43.7 -0.2**
	comp=Z,32nm,1.1s,mb5.3							
AGO	**Saint Agoulin**	**83.04**	**341**	*e*P	**P**	**16**	**16**	**44.7 +0.6**
CRE	**Caprese Michel**	**83.04**	**334**	P	**P**	**16**	**16**	**43.5 -0.6**
CRE				pmax	pmax			
	comp=Z,30nm,1.1s,mb5.2							
CRE	**Caprese Michel**	**83.04**	**334**	P	**P**	**16**	**16**	**43.5 -0.6**
	comp=Z,30nm,1.1s,mb5.2							
SNTG	**Esanatoglia**	**83.08**	**333**	P	**P**	**16**	**16**	**45.8 +1.5**
	comp=Z,8.5nm,0.5s,mb5.0							
BNI	**Bardonecchia**	**83.15**	**338**	*e*P	**P**	**16**	**16**	**45.4 +0.8**
BNI				pmax	pmax			
	comp=Z,52nm,1.2s,mb5.4							
BNI	**Bardonecchia**	**83.15**	**338**	*e*P	**P**	**16**	**16**	**45.4 +0.8**
	comp=Z,52nm,1.2s,mb5.4							
MFF	**Saint Martin d**	**83.20**	**343**	*e*P	**P**	**16**	**16**	**44.5 -0.4**
	comp=Z,38nm,0.9s,mb5.2							
MFF	**Saint Martin d**	**83.20**	**343**	*e*P	**P**	**16**	**16**	**44.5 -0.4**
MFF				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.1							
MFF	**Saint Martin d**	**83.20**	**343**	*e*P	**P**	**16**	**16**	**44.5 -0.4**
	comp=Z,19nm,0.9s,mb5.1							
MBDF	**Montbardon**	**83.43**	**338**	*e*P	**P**	**16**	**16**	**46.4 +0.3**
	comp=Z,53nm,1.0s,mb5.2							
MBDF	**Montbardon**	**83.43**	**338**	*e*P	**P**	**16**	**16**	**46.4 +0.3**
MBDF				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.2							
MBDF	**Montbardon**	**83.43**	**338**	*e*P	**P**	**16**	**16**	**46.4 +0.3**
	comp=Z,26nm,1.0s,mb5.2							
ORIF	**Oris-en-Rattie**	**83.47**	**339**	*e*P	**P**	**16**	**16**	**47.1 +0.8**
	comp=Z,98nm,1.0s,mb5.5							
ORIF	**Oris-en-Rattie**	**83.47**	**339**	*e*P	**P**	**16**	**16**	**47.1 +0.8**
ORIF				pmax	pmax			
	comp=Z,49nm,1.0s,mb5.5							
ORIF	**Oris-en-Rattie**	**83.47**	**339**	*e*P	**P**	**16**	**16**	**47.1 +0.8**
	comp=Z,49nm,1.0s,mb5.5							
SURF	**Saint Ours**	**83.65**	**338**	*e*P	**P**	**16**	**16**	**47.9 +0.7**
AQU	**L'Aquila**	**83.76**	**332**	P	**P**	**16**	**16**	**52.7 +5.0**
AQU				pmax	pmax			
	comp=Z,24nm,0.8s,mb5.4							
VIVF	**Saint-Julien-l**	**83.82**	**339**	*e*P	**P**	**16**	**16**	**48.6 +0.5**
	comp=Z,80nm,1.1s,mb5.4							
VIVF	**Saint-Julien-l**	**83.82**	**339**	*e*P	**P**	**16**	**16**	**48.6 +0.5**
VIVF				pmax	pmax			
	comp=Z,40nm,1.1s,mb5.5							
VIVF	**Saint-Julien-l**	**83.82**	**339**	*e*P	**P**	**16**	**16**	**48.6 +0.5**
	comp=Z,40nm,1.1s,mb5.5							
SAOF	**Saorge**	**83.92**	**337**	*e*P	**P**	**16**	**16**	**47.8 -0.8**
AUTN	**L'Aution**	**83.94**	**337**	*e*P	**P**	**16**	**16**	**48.3 -0.4**
TOUF	**Mont Tournerai**	**83.97**	**337**	*e*P	**P**	**16**	**16**	**48.6 -0.3**
LUCF	**Luceram**	**84.06**	**337**	*e*P	**P**	**16**	**16**	**49.1 -0.2**
SBF	**Sospel**	**84.07**	**337**	*e*P	**P**	**16**	**16**	**49.1 -0.2**
	comp=Z,93nm,0.9s,mb5.6							
SBF	**Sospel**	**84.07**	**337**	*e*P	**P**	**16**	**16**	**49.1 -0.2**
SBF				pmax	pmax			
	comp=Z,46nm,0.9s,mb5.6							
SBF	**Sospel**	**84.07**	**337**	*e*P	**P**	**16**	**16**	**49.1 -0.2**
	comp=Z,46nm,0.9s,mb5.6							
RJF	**Les Rejaudoux**	**84.10**	**342**	*e*P	**P**	**16**	**16**	**50.2 +0.7**
	comp=Z,58nm,1.2s,mb5.3							
RJF	**Les Rejaudoux**	**84.10**	**342**	*e*P	**P**	**16**	**16**	**50.2 +0.7**
RJF				pmax	pmax			
	comp=Z,29nm,1.2s,mb5.3							
RJF	**Les Rejaudoux**	**84.10**	**342**	*e*P	**P**	**16**	**16**	**50.2 +0.7**
	comp=Z,29nm,1.2s,mb5.3							
WHFO	**Wadi Hawf**	**84.18**	**290**	⇑P	**P**	**16**	**16**	**49.6 -0.3**
	SNR=53							
REVF	**Revere**	**84.20**	**337**	*e*P	**P**	**16**	**16**	**49.8 -0.2**
RBK	**Rabkut**	**84.22**	**290**	P	**P**	**16**	**16**	**50.0 -0.1**
	SNR=16							
SMRF	**Simiane la Rot**	**84.43**	**338**	*e*P	**P**	**16**	**16**	**51.5 +0.3**
	comp=Z,113nm,1.3s,mb5.5							
SMRF	**Simiane la Rot**	**84.43**	**338**	*e*P	**P**	**16**	**16**	**51.5 +0.3**
	comp=Z,113nm,1.3s,mb5.8							
FRF	**La Foret Royal**	**84.55**	**338**	*e*P	**P**	**16**	**16**	**51.1 -0.7**
	comp=Z,94nm,1.4s,mb5.4							
FRF	**La Foret Royal**	**84.55**	**338**	*e*P	**P**	**16**	**16**	**51.1 -0.7**
FRF				pmax	pmax			
	comp=Z,47nm,1.4s,mb5.4							
FRF	**La Foret Royal**	**84.55**	**338**	*e*P	**P**	**16**	**16**	**51.1 -0.7**
	comp=Z,47nm,1.4s,mb5.4							
LFF	**La Frestale**	**84.61**	**342**	*e*P	**P**	**16**	**16**	**52.8 +0.7**
LASF	**Ste Croix**	**84.75**	**340**	*e*P	**P**	**16**	**16**	**52.9 +0.1**
LMR	**La Mourre**	**84.80**	**338**	*e*P	**P**	**16**	**16**	**53.2 +0.2**
	comp=Z,126nm,1.1s,mb5.6							
LMR	**La Mourre**	**84.80**	**338**	*e*P	**P**	**16**	**16**	**53.2 +0.2**
LMR				pmax	pmax			
	comp=Z,63nm,1.1s,mb5.7							
LMR	**La Mourre**	**84.80**	**338**	*e*P	**P**	**16**	**16**	**53.2 +0.2**
	comp=Z,63nm,1.1s,mb5.7							
PGF	**Pioggiola**	**84.87**	**336**	*e*P	**P**	**16**	**16**	**53.2 -0.2**
	comp=Z,89nm,1.4s,mb5.4							
PGF	**Pioggiola**	**84.87**	**336**	*e*P	**P**	**16**	**16**	**53.2 -0.2**
PGF				pmax	pmax			
	comp=Z,45nm,1.4s,mb5.4							
PGF	**Pioggiola**	**84.87**	**336**	*e*P	**P**	**16**	**16**	**53.2 -0.2**
	comp=Z,44nm,1.4s,mb5.4							
ABTO	**Aybut**	**84.90**	**290**	P	**P**	**16**	**16**	**53.6 +0.1**
	SNR=17							
TIP	**Timpagrande**	**85.52**	**329**	*e*P	**P**	**16**	**16**	**55.7 -1.0**
MTLF	**Montolieu**	**85.82**	**341**	*e*P	**P**	**16**	**16**	**57.8 -0.3**
EIL	**Elat**	**85.83**	**311**	*e*P	**P**	**16**	**16**	**57.9 -0.3**
	comp=Z,867nm,1.0s							
KLBR	**Kellerberrin**	**86.16**	**211**	*e*P	**P**	**16**	**16**	**58.5 -1.3**
	comp=Z,100nm,1.7s,mb5.8							
SJPF	**Ste Jean**	**86.76**	**343**	*e*P	**P**	**16**	**17**	**01.9 -0.9**
	comp=Z,28nm,1.1s,mb5.1							
SJPF	**Ste Jean**	**86.76**	**343**	*e*P	**P**	**16**	**17**	**01.9 -0.9**
SJPF				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.1							
SJPF	**Ste Jean**	**86.76**	**343**	*e*P	**P**	**16**	**17**	**01.9 -0.9**
	comp=Z,14nm,1.1s,mb5.1							
ETSF	**Etsaut**	**86.83**	**342**	*e*P	**P**	**16**	**17**	**02.7 -0.4**
	comp=Z,38nm,1.3s,mb5.2							
ETSF	**Etsaut**	**86.83**	**342**	*e*P	**P**	**16**	**17**	**02.7 -0.4**
ETSF				pmax	pmax			
	comp=Z,19nm,1.3s,mb5.2							
ETSF	**Etsaut**	**86.83**	**342**	*e*P	**P**	**16**	**17**	**02.7 -0.4**
	comp=Z,19nm,1.3s,mb5.2							
ESDC	**Sonseca Array**	**90.61**	**344**	P	**P**	**16**	**17**	**20.1 -0.9**
	comp=Z,2.1nm,0.7s,mb4.6,baz=3.9,slow=4.0,SNR=6.3							
KEST	**Kesra**	**91.08**	**333**	P	**P**	**16**	**17**	**23.1 -0.1**
	comp=Z,4.5nm,0.8s,mb4.8,baz=349,slow=4.9,SNR=13							
TORD	**Torodi Ar. Bea**	**114.56**	**331**	PKP	PKiKP	16	22	57.9 -0.9
	comp=Z,1.6nm,0.9s,baz=3.3,slow=1.3,SNR=6.6							
VNDA	**Vanda**	**125.47**	**178**	PKP	PKPdf	16	23	16.9 -2.9
	comp=Z,1.7nm,0.8s,baz=324,slow=4.6,SNR=14							
LPAZ	**La Paz**	**132.48**	**63**	PKP	PKPdf	16	23	33.1 0.0
	comp=Z,1.9nm,0.9s,baz=40,slow=3.2,SNR=6.2							
MAW	**Mawson**	**134.12**	**212**	PKP	PKPdf	16	23	34.1 -2.1
	comp=Z,3.7nm,0.9s,baz=255,slow=4.7,SNR=5.9							
BOSA	**Pashof**	**137.30**	**278**	PKP	PKPdf	16	23	42.7 +1.1
	comp=Z,3.3nm,0.8s,baz=96,slow=5.8,SNR=4.3							
BOSA	**Boshof**	**137.00**	**278**	PKP	PKPdf	16	23	42.7 +1.1
QSPA	**South Pole Qui**	**137.89**	**180**	*e*P	PKPdf	16	23	42.3 -0.9
CFAA	**Coronel Fontan**	**143.38**	**79**	PKP	PKPdf	16	23	49.6 -3.5
	comp=Z,0.7nm,0.9s,baz=290,slow=8.4,SNR=5.8							
CAM4	**Nova Friburgo**	**150.62**	**35**	⇓*i*P	PKPbc	16	24	10.5 -0.1
CAM4				*i*		16	24	16.0
CAM4				*i*		16	24	19.3
CAM4				*i*		16	24	30.9
TRQA	**Tornquist**	**151.33**	**83**	*e*PKPbc	PKPbc	16	24	10.9 -1.4
USHA	**Ushuaia**	**152.43**	**120**	PKPbc	PKPbc	16	24	17.1 +2.3
	comp=Z,19nm,1.1s,baz=306,slow=6.1,SNR=3.7							
PMSA	**Palmer Station**	**153.31**	**143**	PKPbc	PKPbc	16	24	14.2 -2.5
	comp=Z,20nm,0.9s,baz=111,slow=0.4,SNR=3.8							
SNAA	**Sanae**	**154.28**	**196**	PKPbc	PKPbc	16	24	15.8 -3.1
	comp=Z,1.2nm,0.9s,baz=126,slow=9.4,SNR=10							
SNAA				PKPab	PKPab	16	24	30.6 -2.2
	comp=Z,2.5nm,0.8s,baz=160,slow=3.9,SNR=10.0							
SNAA	**Sanae**	**154.28**	**196**	*e*PKPdf	PKPbc	16	24	15.7 -3.2
SNAA				*e*		16	24	30.2
VNA2	**Neumayer--Watz**	**155.70**	**194**	*e*PKPdf	PKPdf	16	24	11.8 -0.8
VNA2				*e*		16	24	24.0

IDC 15 16:08:43.6±1.3, 4662N×15444E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=52.5km s-min=33.3km az=99.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.71**	**258**	Pn	Pn	16 10 47.9	-2.9
	0.7nm,0.3s,baz=49,slow=9.3,SNR=3.7						
PDAR	**Pinedale Array**	**64.08**	**55**	P	P	16 19 19.4	0.0
	0.5nm,0.3s,baz=289,slow=2.8,SNR=4.0						
FINES	**FINESS Array B**	**64.54**	**335**	P	P	16 19 21.5	-0.9
	0.5nm,0.4s,baz=45,slow=8.4,SNR=4.3						
NOA	**NORSAR Array B**	**68.64**	**342**	P	P	16 19 48.7	+0.1
	1.0nm,0.6s,baz=28,slow=6.3,SNR=3.5						
ASAR	**Alice Springs**	**72.39**	**200**	P	P	16 20 11.4	-0.1
	0.5nm,0.7s,baz=6.4,slow=5.9,SNR=5.9						

IDC 15 16:10:34.2±1.2, 4637N×15546E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/22, mbtmp3.9/4, Error ellipse: s-maj=48.1km s-min=31.8km az=123.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**63.65**	**55**	P	P	16 21 07.6	+0.5
	0.8nm,0.8s,baz=318,slow=2.0,SNR=3.9						
FINES	**FINESS Array B**	**65.07**	**336**	P	P	16 21 15.8	-0.5
	2.0nm,0.9s,baz=46,slow=8.2,SNR=4.6						
ASAR	**Alice Springs**	**72.39**	**201**	P	P	16 22 02.0	0.0
	0.3nm,0.7s,baz=21,slow=5.3,SNR=4.2						
TXAR	**Lajitas Array**	**76.25**	**62**	P	P	16 22 24.5	-0.1
	2.6nm,0.8s,baz=290,slow=2.8,SNR=9.8						

IDC 15 16:16:40.5±3.3, 4620N×15447E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/24, mbtmp3.9/5, Error ellipse: s-maj=97.9km s-min=30.8km az=2.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.65**	**260**	Pn	Pn	16 18 52.1	+5.2
	0.5nm,0.3s,baz=90,slow=13,SNR=3.7						
INK	**Inuvik**	**41.62**	**32**	P	P	16 24 30.3	0.0
	0.8nm,0.5s,baz=239,slow=5.9,SNR=4.4						
MKAR	**Makanchi Array**	**48.03**	**298**	P	P	16 25 21.6	+0.1
	0.8nm,0.8s,baz=68,slow=7.8,SNR=5.4						
BVAR	**Borovoye Array**	**51.94**	**310**	P	P	16 25 51.0	-0.1
	0.3nm,0.3s,baz=46,slow=8.7,SNR=4.1						
FINES	**FINESS Array B**	**64.94**	**335**	P	P	16 27 20.7	-1.2
	0.8nm,0.4s,baz=33,slow=7.3,SNR=6.6						
TXAR	**Lajitas Array**	**76.94**	**61**	P	P	16 28 34.9	+0.1
	1.1nm,0.6s,baz=301,slow=4.5,SNR=7.1						

*IDC **15** 16:19:40.7±1.2, 4742N×154.75E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=30.3km s-min=26.4km az=163.0*
*NEIC **15** 16:19:42.2±0.7, 4745N×154.70E, h10km, mb4.6/2, Error ellipse: s-maj=18.9km s-min=13.5km az=173.0*
*ISCJB **15** 16:19:44.3±1.0, 476N±02×1548E±02, h35km, mb4.0/10, Error ellipse: s-maj=25.8km s-min=15.8km az=130.1*

ISC 15 16:19:46.1±1.0, 476N±02×1548E±02, h35km, n14, σ0§76/14, mb4.0/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.17**	**252**	Pn	Pn	**16**	**21**	**58.5 +2.6**
	1.0nm,0.3s,baz=73,slow=24,SNR=5.8							
SONM	**Songino Array**	**32.13**	**289**	P	P	**16**	**26**	**10.0 -0.1**
	0.4nm,0.6s,mb3.4,baz=106,slow=9.6,SNR=3.8							
INK	**Inuvik**	**40.34**	**33**	P	P	**16**	**27**	**20.7 +0.4**
	1.0nm,0.6s,mb3.7,baz=309,slow=12,SNR=4.4							
INK	**Inuvik**	**40.34**	**33**	P	P	**16**	**27**	**20.7 +0.4**
MK31	**Makanchi Array**	**47.56**	**297**	*e*P	P	**16**	**28**	**17.4 -0.7**
MKAR	**Makanchi Array**	**47.56**	**297**	P	P	**16**	**28**	**17.9 -0.2**
	0.5nm,0.6s,mb3.7,baz=70,slow=8.7,SNR=11							
MKAR	**Makanchi Array**	**47.56**	**297**	P	P	**16**	**28**	**17.9 -0.2**
CHKZ	**Chkalovo**	**50.76**	**310**	*e*P	P	**16**	**28**	**41.7 -0.9**
	12nm,0.7s,mb4.9							
BVAR	**Borovoye Array**	**51.20**	**310**	P	P	**16**	**28**	**46.0 +0.1**
	1.7nm,0.4s,mb4.4,baz=57,slow=7.9,SNR=17							
BRVK	**Borovoye**	**51.24**	**310**	*e*P	P	**16**	**28**	**46.0 -0.2**
	2.9nm,0.6s,mb4.4							
PDAR	**Pinedale Array**	**63.35**	**55**	P	P	**16**	**30**	**12.1 +0.4**
	0.9nm

BRVK pmax pmax
comp=Z,13nm,1.4s,mb4.7
BRVK Borovoye 51.70 310 *e*P **P** **16 29 05.7 +0.1**
comp=Z,13nm,1.4s,mb4.7
ZRNK Zerenda 52.42 310 *e*P **P** **16 29 11.1 +0.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ZRNK Zerenda 52.42 310 *e*P **P** **16 29 11.1 +0.1**
comp=Z,3.2nm,0.8s,mb4.3
AAK Ala-Archa 54.72 297 *e*P **P** **16 29 26.7 -1.0**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
AAK Ala-Archa 54.72 297 *e*P **P** **16 29 26.8 -0.9**
comp=Z,8.3nm,0.9s,mb4.8
ARU Arti 55.74 318 ⇓*i*P **P** **16 29 32.3 -2.8**
ARU *e* 16 30 28.9
ARU *e* 16 31 35.9
ARU *e*S **S** **16 37 16.8 -4.4**
ARU *e*SS SS 16 41 01.8 -4.8
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 55.74 318 *e*P **P** **16 29 35.5 +0.4**
comp=Z,12nm,0.9s,mb4.9
EDM Edmonton 55.77 47 *e*P **P** **16 29 35.6 +0.2**
ARCES ARCESS Array B 58.30 341 P **P** **16 29 53.7 +0.5**
comp=Z,5.5nm,1.0s,mb4.5,baz=15,slow=5.0,SNR=4.2
ARCES ARCESS Array B 58.30 341 P **P** **16 29 53.7 +0.5**
AKTK Aktyubinsk 59.50 312 P **P** **16 30 02.2 +0.6**
AKTO Aktyubinsk 59.50 312 P **P** **16 30 02.2 +0.6**
comp=Z,3.6nm,0.9s,mb4.4,baz=72,slow=4.9,SNR=8.8
AKTO Aktyubinsk 59.50 312 P **P** **16 30 02.2 +0.6**
AKTO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ORR Orenburg 60.40 315 *e*P **P** **16 30 07.6 -0.2**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
NVAR Mina Array Bea 61.70 63 P **P** **16 30 15.3 -1.4**
comp=Z,1.2nm,0.8s,mb4.1,baz=286,slow=10,SNR=6.3
NVAR Mina Array Bea 61.70 63 P **P** **16 30 15.3 -1.4**
BW06 Boulder Array 64.11 54 *e*P **P** **16 30 32.2 -0.4**
comp=Z,1.9nm,0.9s,mb4.1
PDAR Pinedale Array 64.11 54 P **P** **16 30 33.0 +0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=304,slow=2.9,SNR=10
FINES FINESS Array B 64.57 335 P **P** **16 30 35.9 +0.3**
comp=Z,2.5nm,0.7s,mb4.4,baz=40,slow=11,SNR=5.5
FINES FINESS Array B 64.57 335 P **P** **16 30 35.9 +0.3**
OBN Obninsk 65.95 326 *e*P **P** **16 30 39.1 -5.5**
OBN pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
WRA Warramunga Arr 68.66 200 P **P** **16 31 01.4 -0.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=21,slow=6.8,SNR=5.4
NB2 NORSAR Subarra 68.67 342 P **P** **16 31 01.6 -0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.67 342 P **P** **16 31 03.1 +1.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=25,slow=6.6,SNR=4.1
NOA NORSAR Array B 68.67 342 P **P** **16 31 03.1 +1.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 72.35 200 P **P** **16 31 23.1 -1.2**
comp=Z,0.9nm,1.0s,mb3.6,baz=31,slow=25,SNR=4.5
KWP Kalwaria 75.42 330 *e*P **P** **16 31 43.6 +1.3**
TXAR Lajitas Array 76.78 61 P **P** **16 31 50.2 +0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=304,slow=4.1,SNR=21
TXAR Lajitas Array 76.78 61 P **P** **16 31 50.2 +0.1**
CLL Collm 76.98 336 *e*P **P** **16 31 51.0 -0.2**
KHC Kasperske Hory 78.77 335 *e*P **P** **16 32 01.4 +0.3**
GERES GERESS Array B 78.99 335 P **P** **16 32 02.9 +0.6**
comp=Z,0.6nm,0.7s,mb3.7,baz=34,slow=8.1,SNR=4.1
BRTR Keskin Array B 79.12 318 P **P** **16 32 04.5 +1.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=58,slow=4.7,SNR=4.5

BJI ***15*** *16:20:17.0, 4679N×15448E, h10km, mB5.4, mb5.0, Ms5.3, Msz4.9*
IDC ***15*** *16:20:22.9±0.8, 4653N×15351E, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/24, mbtmp4.4/17, ML3.7/1, Error ellipse: s-maj=21.5km s-min=17.7km az=99.0*
NEIC ***15*** *16:20:25.1±0.6, 4644N×15346E, h10km, mb4.8/15, Error ellipse: s-maj=16.1km s-min=8.9km az=124.0*
MOS ***15*** *16:20:28.4±1.5, 4640N×15328E, h44km, mb4.9/15, Error ellipse: s-maj=9.5km s-min=7.4km az=101.3*
ISCJB ***15*** *16:20:29.9±1.3, 4655N±008×1530E±0.1, h42km±9km, mb4.8/36, Error ellipse: s-maj=19.4km s-min=8.1km az=81.4*
ISC 15 16:20:31.7±1.2, 4654N±008×1531E±01, h48km±8km, h24km±8.1km; pP-P, n119, σ1§16/120, mb4.8/36, 7C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.86**	**252**	*e*PN	**Pn**	**16 21 26.0**	**-2.5**
KUR				*i* S	**Sn**	**16 22 12.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,760nm,0.6s						
KUR				smax			
	comp=E,1μm,0.7s						
SKR	**Severo-Kuril's**	**4.62**	**25**	*e*PN	**Pn**	**16 21 40.2**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**5.67**	**246**	*e*PN	**Pn**	**16 21 54.9**	**+1.6**
YUK				pmax	pmax		
	comp=Z,350nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.10**	**277**	*e*PN	**Pn**	**16 22 16.9**	**+4.0**
YSS				*e*S	**Sn**	**16 23 43.0**	**+11**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.10**	**277**	*e*P	**Pn**	**16 22 16.9**	**+4.0**
ASAJ	**Asahikawa**	**7.76**	**256**	Pn	**Pn**	**16 22 24.1**	**+2.0**
	comp=Z,4.3nm,0.3s,baz=96,slow=16,SNR=13						
ASAJ	**Asahikawa**	**7.76**	**256**	PN	**Pn**	**16 22 24.1**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ERM	**Erimo**	**8.42**	**241**	*e*PN	**Pn**	**16 22 30.4**	**-0.7**
ERM				pmax	pmax		
	comp=Z,67nm,0.6s						
ERM	**Erimo**	**8.42**	**241**	*e*Pn	**Pn**	**16 22 30.4**	**-0.7**
	comp=Z,67nm,0.6s						
MA2	**Magadan**	**13.13**	**355**	*e*PN	**Pn**	**16 23 35.4**	**0.0**
KLR	**Kul'dur**	**14.55**	**288**	*e*P	**Pn**	**16 23 50.6**	**-4.0**
MJAR	**Matsushiro Arr**	**14.93**	**233**	Pn	**Pn**	**16 23 56.6**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=5.4						
MAJO	**Matsushiro**	**14.93**	**233**	*e*P	**Pn**	**16 23 59.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s						
MAJO	**Matsushiro**	**14.93**	**233**	*e*Pn	**Pn**	**16 23 59.3**	**-0.3**
	comp=Z,18nm,0.7s						
MAT	**Matsushiro**	**14.93**	**233**	P	**Pn**	**16 24 04.4**	**+4.9**
YAK	**Yakutsk**	**20.48**	**328**	*e*P	**P**	**16 25 01.1**	**-4.3**
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK				pmax	pmax		
	comp=Z,35nm,1.2s						
YAK	**Yakutsk**	**20.48**	**328**	*e*P	**P**	**16 25 04.8**	**-0.6**
KSRS	**Korea Array**	**20.70**	**253**	P	**P**	**16 25 08.8**	**+1.1**
	comp=Z,11nm,0.8s,baz=59,slow=9.8,SNR=16						
BJI	**Beijing**	**27.44**	**270**	*e*P	**P**	**16 26 16.1**	**+3.2**
BJI				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.7						
BJI	**Beijing**	**27.44**	**270**	*e*P	**P**	**16 26 16.1**	**+3.2**
	comp=Z,21nm,0.8s,mb4.7						
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**16 26 47.7**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.0,baz=76,slow=8.6,SNR=7.3						
WHN	**Wuhan**	**33.85**	**256**	P	**P**	**16 27 09.8**	**+0.4**
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**16 27 45.4**	**+1.6**
LZH				AP	pP	16 27 51.9	-4.7
LZH				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,163nm,4.1s						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**16 27 45.4**	**+1.6**
LZH				*SP	sP	16 27 54.8	-7.5
LZH				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**16 27 45.4**	**+1.6**
	comp=Z,36nm,1.1s,mb5.0						
LZH				pP	pP	16 27 51.9	-4.7
LZH				sP	sP	16 27 54.8	-7.5
GYA	**Guiyang**	**41.64**	**258**	⇓*i*P	**P**	**16 28 16.0**	**+0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**42.72**	**306**	P	**P**	**16 28 22.3**	**-1.7**
	comp=Z,1.8nm,0.5s,mb4.0,baz=59,slow=5.1,SNR=5.3						
ZAL				PcP	PcP	16 30 14.2	-0.7
	comp=Z,1.8nm,0.4s,baz=34,slow=4.2,SNR=5.3						
ZAL	**Zalesovo**	**42.72**	**306**	P	**P**	**16 28 22.3**	**-1.7**
ZAL				PcP	PcP	16 30 14.2	-0.7
NVS	**Novosibirsk**	**43.29**	**308**	*e*P	**P**	**16 28 27.0**	**-1.6**
WMQ	**Urumqi**	**44.97**	**291**	*e*P	**P**	**16 28 41.0**	**-1.0**
KMI	**Kunming**	**45.17**	**260**	P	**P**	**16 28 34.3**	**-9.3**
KMI				pP	pP	16 28 39.1	-18
KMI				sP	sP	16 28 41.1	-21
MK31	**Makanchi Array**	**47.01**	**298**	*e*P	**P**	**16 28 57.0**	**-1.1**
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**16 28 57.4**	**-0.7**
	comp=Z,9.7nm,0.8s,mb4.8,baz=63,slow=7.9,SNR=21						
LSA	**Lhasa**	**50.25**	**273**	*e*P	**P**	**16 29 25.8**	**+2.8**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
LSA	**Lhasa**	**50.25**	**273**	*e*P	**P**	**16 29 25.8**	**+2.8**
	comp=Z,9.0nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**50.54**	**310**	*e*P	**P**	**16 29 23.8**	**-1.4**
BVAR	**Borovoye Array**	**50.97**	**310**	P	**P**	**16 29 27.7**	**-0.7**
	comp=Z,2.1nm,0.3s,mb4.5,baz=60,slow=8.8,SNR=11						
BRVK	**Borovoye**	**51.01**	**310**	*e*P	**P**	**16 29 27.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**51.01**	**310**	*e*P	**P**	**16 29 27.9**	**-0.8**
	comp=Z,6.0nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**16 29 26.5**	**-2.9**
	comp=Z,3.3nm,0.8s,mb4.3,baz=298,slow=7.0,SNR=4.9						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**16 29 26.5**	**-3.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**16 29 33.1**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**16 29 33.1**	**-1.1**
	comp=Z,6.4nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**52.04**	**257**	*e*P	**P**	**16 29 36.7**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**52.04**	**257**	*e*P	**P**	**16 29 36.7**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**53.90**	**296**	*e*P	**P**	**16 29 49.3**	**-0.8**
JIRN	**Jiri**	**54.93**	**275**	*e*P	**P**	**16 29 57.5**	**-0.1**
	comp=Z,40nm,0.7s,mb5.6						
GUN	**Gumba**	**54.99**	**275**	*e*P	**P**	**16 29 57.8**	**-0.2**
KKN	**Kakani**	**55.47**	**275**	*e*P	**P**	**16 30 01.2**	**-0.3**
	comp=Z,34nm,0.7s,mb5.5						
PKI	**Pulchoki**	**55.52**	**275**	*e*P	**P**	**16 30 01.0**	**-0.8**
	comp=Z,20nm,0.7s,mb5.3						
DMN	**Daman**	**55.71**	**275**	*e*P	**P**	**16 30 03.1**	**-0.1**
	comp=Z,50nm,0.8s,mb5.6						
GKN	**Gorkha**	**55.78**	**276**	*e*P	**P**	**16 30 03.3**	**-0.4**
	comp=Z,32nm,0.5s,mb5.6						
KOLN	**Koldanda**	**56.64**	**277**	*e*P	**P**	**16 30 09.4**	**-0.4**
	comp=Z,29nm,0.8s,mb5.4						
KEV	**Kevo**	**57.53**	**341**	*e*p	**P**	**16 30 14.1**	**-2.0**
LGTI	**Lohaghat**	**57.88**	**280**	*e*P	**P**	**16 30 20.7**	**+2.2**
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**16 30 18.9**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.3,baz=11,slow=6.7,SNR=8.8						
AKTK	**Aktyubinsk**	**58.84**	**312**	P	**P**	**16 30 24.7**	**-0.6**
AKTO	**Aktyubinsk**	**58.84**	**312**	P	**P**	**16 30 24.7**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.4,baz=34,slow=5.4,SNR=6.1						
AKTO	**Aktyubinsk**	**58.84**	**312**	P	**P**	**16 30 24.7**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**16 30 58.6**	**-2.9**
	comp=Z,4.8nm,0.5s,mb4.8,baz=39,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**68.30**	**199**	P	**P**	**16 31 25.7**	**-2.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=18,slow=6.6,SNR=14						
NB2	**NORSAR Subarra**	**68.42**	**341**	P	**P**	**16 31 27.7**	**-0.7**
	comp=Z,8.6nm,0.6s,mb5.0,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**16 31 26.2**	**-2.1**
	comp=Z,9.1nm,0.7s,mb4.9,baz=28,slow=6.4,SNR=23						
AKASG	**Malin Array Be**	**71.70**	**326**	P	**P**	**16 31 47.1**	**-1.4**
	comp=Z,17nm,0.6s,mb5.1,baz=34,slow=6.2,SNR=32						
ASAR	**Alice Springs**	**72.00**	**198**	P	**P**	**16 31 49.5**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=15,slow=5.3,SNR=15						
STHS	**Stebnicka Huta**	**75.68**	**330**	*e*P	**P**	**16 32 12.1**	**+0.2**
STHS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
STHS	**Stebnicka Huta**	**75.68**	**330**	*e*P	**P**	**16 32 12.1**	**+0.2**
	comp=Z,5.8nm,0.9s,mb4.5						
BURAR	**Bucovina Array**	**75.75**	**327**	⇑*i*P	**P**	**16 32 12.8**	**+0.6**
BURAR	**Bucovina Array**	**75.75**	**327**	⇑P	**P**	**16 32 12.8**	**+0.5**
KSP	**Ksiaz**	**76.08**	**333**	*e*P	**P**	**16 32 15.4**	**+1.3**
OKC	**Ostrava-Krasne**	**76.36**	**332**	*e*P	**P**	**16 32 14.4**	**-1.3**
UPC	**Upice**	**76.46**	**333**	*e*P	**P**	**16 32 16.1**	**-0.2**
DPC	**Dobruska-Polom**	**76.50**	**333**	*e*P	**P**	**16 32 17.8**	**+1.3**
DPC				epP	pP	16 32 25.1	-5.4
MORC	**Moravsky Berou**	**76.61**	**332**	⇑*i*P	**P**	**16 32 17.5**	**+0.4**
CLL	**Collm**	**76.64**	**336**	*i* P	**P**	**16 32 16.1**	**-1.2**
CLL				*i*	pP	16 32 27.9	-3.4
CLL				pmax	pmax		
	comp=Z,140nm,0.7s,mb6.0						
CLL	**Collm**	**76.64**	**336**	*i* P	**P**	**16 32 16.1**	**-1.2**
	comp=Z,14nm,0.7s,mb5.0						
CLL				*i* pP	pP	16 32 27.9	-3.4
KECS	**Kecovo**	**76.74**	**330**	*e*P	**P**	**16 32 17.8**	**-0.1**
KECS	**Kecovo**	**76.74**	**330**	*e*P	**P**	**16 32 17.9**	**0.0**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	**Kecovo**	**76.74**	**330**	*e*P	**P**	**16 32 17.9**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.2						
TIRR	**Tirgusor**	**77.06**	**323**	⇓*i*P	**P**	**16 32 20.8**	**+1.1**
TIRR	**Tirgusor**	**77.06**	**323**	⇓P	**P**	**16 32 20.8**	**+1.1**
MLR	**Muntele Rosu**	**77.22**	**325**	⇓*i*P	**P**	**16 32 21.9**	**+1.4**
MLR	**Muntele Rosu**	**77.22**	**325**	⇓P	**P**	**16 32 21.9**	**+1.3**
MALT	**Malatya**	**77.27**	**313**	⇓*i*P	**P**	**16 32 22.9**	**+2.1**
MALT	**Malatya**	**77.27**	**313**	⇓P	**P**	**16 32 22.9**	**+2.1**
VYHS	**Vyhne**	**77.30**	**331**	*e*P	**P**	**16 32 20.7**	**-0.3**
VYHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
VYHS	**Vyhne**	**77.30**	**331**	*e*P	**P**	**16 32 20.7**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.3						
VRAC	**Vranov**	**77.32**	**332**	⇓*i*P	**P**	**16 32 21.8**	**+0.7**
VRAC	**Vranov**	**77.32**	**332**	⇓P	**P**	**16 32 21.8**	**+0.6**
PRU	**Pruhonice**	**77.36**	**334**	*e*P	**P**	**16 32 21.3**	**-0.1**
VOIR		**77.62**	**325**	⇓*i*P	**P**	**16 32 23.6**	**+0.8**
TXAR	**Lajitas Array**	**77.63**	**60**	P	**P**	**16 32 18.6**	**-4.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=293,slow=3.6,SNR=7.9						
KHC	**Kasperske Hory**	**78.42**	**334**	*e*P	**P**	**16 32 27.5**	**+0.3**
BRTR	**Keskin Array B**	**78.52**	**317**	P	**P**	**16 32 28.2**	**+0.5**
	comp=Z,3.5nm,1.0s,mb4.3,baz=64,slow=2.9,SNR=6.7						
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**16 32 27.7**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.4,baz=35,slow=5.7,SNR=15						
MIB	**Mutribah**	**78.75**	**301**	*e*P	**P**	**16 32 30.6**	**+1.6**
BZS	**Buzias**	**78.78**	**328**	⇓*i*P	**P**	**16 32 29.7**	**+0.5**
BZS	**Buzias**	**78.78**	**328**	⇓P	**P**	**16 32 29.7**	**+0.5**
QRN	**Al-Qurain**	**79.18**	**300**	*e*P	**P**	**16 32 33.1**	**+1.7**
NAY	**Al-Naaiem**	**79.21**	**301**	*e*P	**P**	**16 32 32.4**	**+0.9**
RDF	**Al-Radifah**	**79.27**	**301**	*e*P	**P**	**16 32 33.2**	**+1.3**
PKSM	**Moragy**	**79.33**	**330**	⇑*i*P	**P**	**16 32 32.4**	**+0.2**
PKSM	**Moragy**	**79.33**	**330**	⇑P	**P**	**16 32 32.4**	**+0.1**
VTS	**Vitosha**	**80.73**	**325**	⇑*i*P	**P**	**16 32 40.8**	**+1.1**
VTS	**Vitosha**	**80.73**	**325**	⇑P	**P**	**16 32 40.8**	**+1.1**
CDF	**Champ du Feu**	**80.84**	**338**	*e*P	**P**	**16 32 41.3**	**+0.9**
	comp=Z,20nm,1.1s,mb4.7						
CDF	**Champ du Feu**	**80.84**	**338**	*e*P	**P**	**16 32 41.3**	**+0.9**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CDF	**Champ du Feu**	**80.84**	**338**	*e*P	**P**	**16 32 41.3**	**+0.9**
	comp=Z,9.9nm,1.1s,mb4.7						
GRR	**Gorron**	**82.76**	**343**	*e*P	**P**	**16 32 50.2**	**-0.3**
SMF	**Signal de Mont**	**83.35**	**339**	*e*P	**P**	**16 32 53.6**	**+0.1**
	comp=Z,48nm,1.0s,mb5.2						
SMF	**Signal de Mont**	**83.35**	**339**	*e*P	**P**	**16 32 53.6**	**+0.1**
SMF				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
SMF	**Signal de Mont**	**83.35**	**339**	*e*P	**P**	**16 32 53.6**	**+0.1**
	comp=Z,24nm,1.0s,mb5.2						
LPG	**La Plagne**	**83.67**	**337**	*e*P	**P**	**16 32 56.1**	**+1.0**
	comp=Z,8.9nm,0.6s,mb4.8						
LPG	**La Plagne**	**83.67**	**337**	*e*P	**P**	**16 32 56.1**	**+1.0**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
LPG	**La Plagne**	**83.67**	**337**	*e*P	**P**	**16 32 56.1**	**+1.0**
	comp=Z,4.4nm,0.6s,mb4.8						
CAF	**Calviac**	**85.39**	**340**	*e*P	**P**	**16 33 04.7**	**+0.8**
	comp=Z,30nm,1.1s,mb5.0						
CAF	**Calviac**	**85.39**	**340**	*e*P	**P**	**16 33 04.7**	**+0.8**
CAF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
CAF	**Calviac**	**85.39**	**340**	*e*P	**P**	**16 33 04.7**	**+0.8**
	comp=Z,15nm,1.1s,mb5.0						
TORD	**Torodi Ar. Bea**	**115.26**	**329**	PKP	PKPdf	16 39 07.0	-0.7
	comp=Z,0.6nm,0.6s,baz=324,slow=2.0,SNR=4.6						

NEIC ***15*** *16:21:45.1±0.5, 653S×151.17E, h10km, mb4.5/2, Error ellipse: s-maj=12.5km s-min=9.4km az=122.0*
ISCJB ***15*** *16:21:47.6±3.2, 665S±0.1×1511E±0.1, h38km±27km, mb4.0/11, Error ellipse: s-maj=19.8km s-min=17.2km az=21.4*
IDC ***15*** *16:21:49.3±6.4, 657S×151.15E, h36km±51km, mb3.9/10, mb1 4.1/11, mb1mx4.0/16, mbtmp4.0/11, ML2.9/1, Error ellipse: s-maj=29.3km s-min=21.2km az=69.0*
ISC 15 16:21:49.8±2.7, 665S±01×1512E±01, h42km±24km, n23, σ0§62/23, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**234**	P	**Pn**	**16 23 01.2**	**+1.0**
	3.5nm,0.3s,baz=59,slow=6.8,SNR=18						
PMG				Sn	**Sn**	**16 23 55.5**	**+0.5**
	15nm,0.3s,baz=206,slow=17,SNR=8.8						
PMG	**Port Moresby**	**4.84**	**234**	*e*Pn	**Pn**	**16 22 59.9**	**-0.2**
PMG				*e*Sn	**Sn**	**16 23 55.7**	**+0.7**
KAKA	**Kakadu**	**19.42**	**250**	*e*P	**Pn**	**16 26 12.3**	**-1.6**
	18nm,0.6s						
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	**P**	**16 26 29.6**	**-0.4**
WB2				*e*		16 31 26.4	
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	**P**	**16 26 29.6**	**-0.3**
WB2				*e*		16 31 26.4	
WRA	**Warramunga Arr**	**21.04**	**229**	P	**P**	**16 26 29.7**	**-0.3**
	7.1nm,0.7s,mb4.1,baz=54,slow=10,SNR=39						
DZM	**Mont Dzumac**	**21.33**	**138**	P	**P**	**16 26 32.7**	**-0.5**
	3.3nm,0.6s,mb3.9,baz=305,slow=19,SNR=9.4						
AS31	**Alice Springs**	**23.73**	**222**	*e*P	**P**	**16 26 57.5**	**-0.5**
ASAR	**Alice Springs**	**23.73**	**222**	P	**P**	**16 26 58.0**	**-0.1**
	4.3nm,0.7s,mb4.0,baz=56,slow=9.4,SNR=99						
ASPA	**Alice Springs**	**23.73**	**222**	*e*P	**P**	**16 26 57.9**	**-0.2**
STKA	**Stephens Creek**	**26.70**	**198**	*e*P	**P**	**16 27 25.5**	**+0.5**
	5.3nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**26.70**	**198**	P	**P**	**16 27 25.4**	**+0.4**
	4.6nm,0.8s,mb4.1,baz=9.2,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**26.70**	**198**	*e*P	**P**	**16 27 25.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.38**	**243**	P	**P**	**16 27 31.2**	**+0.1**
	8.2nm,0.5s,mb4.5,baz=98,slow=15						
MBWA	**Marble Bar**	**33.67**	**241**	*e*P	**P**	**16 28 27.4**	**+0.7**
KSRS	**Korea Array**	**48.89**	**335**	P	**P**	**16 30 31.9**	**+0.5**
	1.2nm,0.8s,mb4.0,baz=169,slow=6.0,SNR=4.0						
SONM	**Songino Array**	**66.98**	**329**	P	**P**	**16 32 38.7**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=152,slow=4.7,SNR=7.4						
VNDA	**Vanda**	**71.12**	**178**	P	**P**	**16 33 04.9**	**+1.0**
	0.8nm,0.8s,mb3.7,baz=300,slow=7.2,SNR=4.7						
BILL	**Bilibino**	**75.22**	**6**	*e*P	**P**	**16 33 28.2**	**+0.1**
	3.8nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**80.60**	**319**	P	**P**	**16 33 57.9**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=92,slow=9.3,SNR=4.1						
BVAR	**Borovoye Array**	**89.69**	**323**	P	**P**	**16 34 42.7**	**-0.7**
	0.2nm,0.3s,mb3.9,baz=103,slow=5.0,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**149.23**	**285**	*e*PKPbc	PKPbc	16 41 34.7	+0.9
TORD	**Torodi Ar. Bea**	**149.23**	**285**	PKPbc	PKPbc	16 41 34.6	+0.8
	2.2nm,0.7s,baz=78,slow=2.7,SNR=13						

ISCJB ***15*** *16:26:29.9±2.5, 4704N±007×1553E±0.1, h5km±16km, mb4.4/30, Error ellipse: s-maj=15.8km s-min=8.5km az=87.5*
IDC ***15*** *16:26:31.5±0.7, 4695N×155.11E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/26, mbtmp4.2/17, ML4.0/1, Error ellipse: s-maj=19.4km s-min=16.1km az=116.0*
NEIC ***15*** *16:26:32.4±0.6, 4703N×155.30E, h10km, mb4.7/10, Error ellipse: s-maj=14.8km s-min=8.7km az=135.0*
MOS ***15*** *16:26:32.6±1.6, 4707N×155.29E, h24km, mb4.8/12, Error ellipse: s-maj=10.4km s-min=8.1km az=89.8*
BJI ***15*** *16:26:33.2, 4750N×155.08E, h10km, mB5.1, mb4.6*
ISC 15 16:26:31.5±3.0, 4710N±008×1553E±01, h3km±19km, n67, σ1§26/64, mb4.4/30, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.62**	**8**	*e*PN	**Pn**	**16 27 29.5**	**+1.0**
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
PET	**Petropavlovsk**	**6.30**	**19**	*e*Pn	**Pn**	**16 28 03.3**	**-2.1**
PET				*e*Sn	**Sn**	**16 29

CHKZ	**Chkalovo**	**51.35**	**311**	*e*P		**P**	**16 35 36.3**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,11nm,0.4s,mb5.1							
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P		**P**	**16 35 36.3**	**-1.0**
	comp=Z,11nm,0.4s,mb5.2							
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**16 35 40.5**	**-0.1**
	comp=Z,5.2nm,0.4s,mb4.8,baz=58,slow=7.4,SNR=49							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**16 35 40.3**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**16 35 40.3**	**-0.6**
	comp=Z,5.7nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.56**	**310**	*e*P		**P**	**16 35 46.1**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,6.0nm,0.4s,mb4.9							
ZRNK	**Zerenda**	**52.56**	**310**	*e*P		**P**	**16 35 46.0**	**-0.2**
	comp=Z,6.5nm,0.4s,mb4.9							
CHTO	**Chiang Mai**	**53.67**	**258**	*e*P		**P**	**16 35 55.7**	**+1.2**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
CHTO	**Chiang Mai**	**53.67**	**258**	*e*P		**P**	**16 35 55.7**	**+1.2**
	comp=Z,2.8nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**55.03**	**297**	*e*P		**P**	**16 36 04.2**	**-0.2**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.4							
AAK	**Ala-Archa**	**55.03**	**297**	*e*P		**P**	**16 36 04.2**	**-0.2**
	comp=Z,4.3nm,1.0s,mb4.4							
ARU	**Arti**	**55.77**	**318**	⇑ *i*P		**P**	**16 36 09.0**	**-0.7**
ARU				*e*			16 38 11.7	
ARU				*e*S		**S**	**16 43 53.2**	**-4.0**
ARU				*e*SS		SS	16 47 43.4	+0.9
ARU				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
ARU	**Arti**	**55.77**	**318**	*e*P		**P**	**16 36 09.6**	**-0.1**
	comp=Z,6.9nm,0.4s,mb5.0							
ARCES	**ARCESS Array B**	**58.01**	**341**	P		**P**	**16 36 25.7**	**+0.1**
	comp=Z,5.2nm,0.9s,mb4.6,baz=36,slow=7.6,SNR=9.2							
AKTK	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 36 37.1**	**+0.4**
AKTO	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 36 37.1**	**+0.4**
	comp=Z,1.6nm,0.4s,mb4.4,baz=55,slow=7.3,SNR=6.9							
AKTO	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 36 37.1**	**+0.4**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
ORR	**Orenburg**	**60.47**	**315**	*e*P		**P**	**16 36 42.8**	**+0.1**
ORR				pmax		pmax		
	comp=Z,20nm,2.0s,mb4.8							
FINES	**FINESS Array B**	**64.35**	**336**	P		**P**	**16 37 08.4**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.4,baz=40,slow=8.2,SNR=16							
PFO	**Pinyon Flat Ob**	**65.17**	**67**	P		**P**	**16 37 16.4**	**+2.5**
	comp=Z,3.9nm,0.4s,mb4.8,baz=167,slow=6.1,SNR=8.8							
NB2	**NORSAR Subarra**	**68.37**	**340**	P		**P**	**16 37 35.8**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.37**	**342**	P		**P**	**16 37 36.5**	**+2.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=26,slow=6.4,SNR=3.9							
WRA	**Warramunga Arr**	**69.36**	**201**	P		**P**	**16 37 39.4**	**-1.2**
	comp=Z,2.2nm,0.9s,mb4.1,baz=19,slow=6.5,SNR=8.3							
AKASG	**Malin Array Be**	**72.08**	**327**	P		**P**	**16 37 57.4**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=34,slow=6.4,SNR=5.2							
ASAR	**Alice Springs**	**73.05**	**200**	P		**P**	**16 38 02.6**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=16,slow=5.9,SNR=13							
CLL	**Collm**	**76.75**	**337**	*i* P		**P**	**16 38 27.3**	**+3.0**
	comp=Z,13nm,1.0s,mb4.8							
CLL	**Collm**	**76.75**	**337**	*i* pP		**P**	**16 38 27.3**	**+3.0**
	comp=Z,13nm,1.0s,mb4.8							
GERES	**GERESS Array B**	**78.78**	**335**	P		**P**	**16 38 37.6**	**+2.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=40,slow=5.7,SNR=7.1							
BRTR	**Keskin Array B**	**79.15**	**318**	P		**P**	**16 38 38.0**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=55,slow=6.5,SNR=4.6							
AVF	**Avril sur Loir**	**83.32**	**341**	*e*P		PcP	16 39 04.1	-0.2
	comp=Z,4.8nm,0.4s							
LPL	**La Plagne**	**83.72**	**338**	*e*P		PcP	16 39 07.0	+1.0
	comp=Z,3.2nm,0.5s							
LPG	**La Plagne**	**83.73**	**338**	*e*P		PcP	16 39 07.2	+1.1
	comp=Z,4.3nm,0.5s							
ORIF	**Oris-en-Rattie**	**84.49**	**339**	*e*P		PcP	16 39 10.8	+1.4
	comp=Z,9.1nm,0.8s							
VNDA	**Vanda**	**124.41**	**178**	PKP		PKPdf	16 45 29.1	-2.9
	comp=Z,0.4nm,0.5s,baz=266,slow=3.3,SNR=6.1							

ISCJB ***15*** *16:28:33.6±1.3,470N±02×1545E±03,h10km,mb4.0/6, Error ellipse: s-maj=32.2km s-min=19.1km az=93.7*
IDC ***15*** *16:28:34.3±1.9,4699N×15453E,h0km,mb4.0/5, mb1 4.0/6,mb1mx3.7/23,mbtmp4.0/6,ML3.8/1, Error ellipse: s-maj=58.6km s-min=31.0km az=93.0*
NEIC ***15*** *16:28:35.5±1.0,4704N×15472E,h10km,mb4.3/1,Error ellipse: s-maj=28.2km s-min=21.6km az=102.0*
ISC 15 16:28:35.2±1.3,470N±02×1546E±03,h10km,n8,σ0°64/8, mb4.0/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.88**	**255**	Pn		**Pn**	**16 30 42.8**	**-0.8**
	1.2nm,0.3s,baz=45,slow=1.4,SNR=3.8							
INK	**Inuvik**	**40.89**	**33**	*e*P		**P**	**16 36 16.4**	**-1.0**
CHKZ	**Chkalovo**	**51.02**	**310**	*e*P		**P**	**16 37 36.9**	**-0.4**
	2.2nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**51.45**	**310**	P		**P**	**16 37 41.5**	**+1.0**
	0.9nm,0.4s,mb4.1,baz=48,slow=8.7,SNR=6.0							
ARCES	**ARCESS Array B**	**57.92**	**341**	P		**P**	**16 38 27.8**	**+0.3**
	2.7nm,0.9s,mb4.3,baz=30,slow=7.3,SNR=3.1							
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**16 39 10.6**	**+0.4**
	0.9nm,0.4s,mb4.2,baz=32,slow=8.9,SNR=5.4							
AKASG	**Malin Array Be**	**71.87**	**327**	P		**P**	**16 39 58.3**	**0.0**
	0.6nm,0.5s,mb3.8,baz=35,slow=6.5,SNR=4.5							
ASAR	**Alice Springs**	**72.79**	**200**	P		**P**	**16 40 04.3**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=14,slow=5.0,SNR=4.9							

BJI ***15*** *16:29:15.8,4866N×15605E,h10km,mB5.0,mb4.1*
IDC ***15*** *16:29:20.3±0.9,4807N×155.14E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.9/23,mbtmp3.8/9,ML3.5/1,Error ellipse: s-maj=27.5km s-min=21.3km az=158.0*
ISCJB ***15*** *16:29:21.2±3.4,48.1N±0.1×1553E±02,h19km±24km, mb3.9/10,Error ellipse: s-maj=20.9km s-min=12.3km az=92.1*
NEIC ***15*** *16:29:21.9±0.6,4806N×155.11E,h10km,mb4.3/2,Error ellipse: s-maj=14.5km s-min=9.9km az=132.0*
MOS ***15*** *16:29:22.9±1.9,48.16N×15531E,h33km,mb4.3/1,Error ellipse: s-maj=15.4km s-min=12.0km az=68.2*
ISC 15 16:29:24.4±3.7,481N±01×1553E±02,h28km±26km,n24, σ1°28/24,mb3.9/10,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.69**	**12**	*e*PN		**Pn**	**16 29 58.5**	**-7.2**
SKR				*e*			16 30 36.9	
PET	**Petropavlovsk**	**5.42**	**22**	*e*PN		**Pn**	**16 30 42.2**	**-1.1**
KUR	**Kuril'sk**	**5.83**	**244**	*e*PN		**Pn**	**16 30 47.5**	**-1.4**
KUR				pmax		pmax		
	comp=Z,210nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.55**	**267**	⇓ *e*PN		**Pn**	**16 31 28.5**	**+2.3**
YSS				pmax		pmax		
	comp=E,20nm,0.9s							
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**8.55**	**267**	*e*Pn		**Pn**	**16 31 29.0**	**+2.8**
ASAJ	**Asahikawa**	**9.65**	**251**	Pn		**Pn**	**16 31 44.1**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=83,slow=12,SNR=8.1							
ASAJ	**Asahikawa**	**9.65**	**251**	PN		**Pn**	**16 31 44.1**	**+2.8**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KLR	**Kul'dur**	**15.58**	**283**	*e*P		**Pn**	**16 33 04.0**	**+2.0**
MJAR	**Matsushiro Arr**	**17.04**	**234**	Pn		**Pn**	**16 33 18.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=3.5							
CN2	**Changchun**	**21.11**	**270**	*e*P		**P**	**16 34 08.9**	**+2.2**
KSRS	**Korea Array**	**22.59**	**252**	P		**P**	**16 34 22.5**	**0.0**
	comp=Z,3.7nm,0.6s,mb4.0,baz=52,slow=11,SNR=7.8							
SONM	**Songino Array**	**32.30**	**288**	P		**P**	**16 35 50.4**	**-0.4**
	comp=Z,1.3nm,1.0s,mb3.7,baz=69,slow=7.9,SNR=4.9							
MK31	**Makanchi Array**	**47.65**	**297**	*e*P		**P**	**16 37 56.3**	**-1.7**
MKAR	**Makanchi Array**	**47.65**	**297**	P		**P**	**16 37 57.3**	**-0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=61,slow=7.5,SNR=4.8							
CHKZ	**Chkalovo**	**50.71**	**310**	P		**P**	**16 38 20.3**	**-1.2**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**50.71**	**310**	P		**P**	**16 38 20.2**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.1							
BVAR	**Borovoye Array**	**51.16**	**309**	P		**P**	**16 38 23.5**	**-1.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=58,slow=6.2,SNR=2.3							
ZRNK	**Zerenda**	**51.92**	**310**	P		**P**	**16 38 30.7**	**+0.2**
PDAR	**Pinedale Array**	**62.80**	**56**	P		**P**	**16 39 48.2**	**+1.0**
	comp=Z,0.8nm,0.9s,mb3.9,baz=318,slow=2.0,SNR=3.9							
WRA	**Warramunga Arr**	**70.24**	**201**	P		**P**	**16 40 34.5**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=25,slow=6.7,SNR=4.7							
ASAR	**Alice Springs**	**73.93**	**200**	P		**P**	**16 40 57.2**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=6.9,SNR=2.7							
TXAR	**Lajitas Array**	**75.58**	**62**	P		**P**	**16 41 07.6**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=302,slow=4.5,SNR=7.5							
CLL	**Collm**	**75.87**	**337**	*e*(P)		**P**	**16 41 09.0**	**+0.9**
BRG	**Berggiesshubel**	**76.01**	**336**	*i* P		**P**	**16 41 09.5**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.2							

SKHL ***15*** *16:34:21.2±1.5,4699N×15527E,h50km±19km,Ms5.0/3*
ISCJB ***15*** *16:34:21.8±1.6,4751N±004×15451E±003,h0km±10km, mb4.8/69,MS4.6/3,Error ellipse: s-maj=7.5km s-min=3.2km az=150.0*
BJI ***15*** *16:34:23.3,4792N×15486E,h28km,mB5.1,mb4.6,Ms4.7, Msz4.6*
IDC ***15*** *16:34:23.3±0.6,4753N×15437E,h0km,mb4.4/21, mb1 4.6/22,mb1mx4.5/28,mbtmp4.4/22,ML3.7/1,Error ellipse: s-maj=17.3km s-min=13.7km az=149.0*
NEIC ***15*** *16:34:25.2±0.2,4756N×15443E,h10km,mb4.9/31,Error ellipse: s-maj=7.6km s-min=4.3km az=158.0*
MOS ***15*** *16:34:27.0±0.9,4754N×15444E,h35km,mb5.0/17,Error ellipse: s-maj=10.1km s-min=7.6km az=89.1*
ISC 15 16:34:29.2±0.8,4758N±005×15443E±004,h37km±7km, h25km±5.4km:pP-P,n287,σ0°76/292,mb4.7/69,MS4.6/3, 51C-67D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.30**	**19**	*e*P		**Pn**	**16 35 16.5**	**-1.8**
SKR				AMB		AMB	16 35 17.5	
	140nm,0.5s							
SKR				*e*S		**Sn**	**16 35 58.5**	**+2.2**
SKR				A			16 36 14.5	
	460nm,0.5s							
SKR				A			16 36 14.5	
	310nm,0.5s							
SKR				A			16 36 14.5	
	170nm,0.5s							
SKR				AMS		AMS	16 37 12.0	
	5μm,10.0s							
SKR				AMS		AMS	16 37 12.0	
	10μm,10.0s							
SKR				AMS		AMS	16 37 12.0	
	8μm,10.0s							
SKR				AMS		AMS	16 37 12.0	
	5μm,10.0s							
SKR				AMS		AMS	16 37 12.0	
	10μm,10.0s							
SKR				AMS		AMS	16 37 12.0	
	8μm,10.0s							
SKR	**Severo-Kuril's**	**3.30**	**19**	*e*PN		**Pn**	**16 35 16.5**	**-1.8**
SKR				*e*S		**Sn**	**16 35 58.5**	**+2.2**
SKR				pmax		pmax		
	comp=Z,140nm,0.5s							
SKR				smax				
	comp=N,460nm,0.5s							
SKR				smax				
	comp=E,310nm,0.5s							
SKR				MLR		MLR		
	comp=N,5μm,10.0s							
SKR				MLR		MLR		
	comp=E,10μm,10.0s							
SKR				MLR		MLR		
	comp=Z,8μm,10.0s							
KUR	**Kuril'sk**	**5.11**	**245**	*e*PN		**Pn**	**16 35 40.0**	**-3.2**
KUR				*i* S		**Sn**	**16 36 41.5**	**+0.6**
KUR				pmax		pmax		
	comp=N,170nm,0.7s							
KUR				pmax		pmax		
	comp=Z,430nm,0.7s							
KUR				smax				
	comp=N,750nm,0.8s							
KUR				smax				
	comp=E,320nm,0.8s							
PET	**Petropavlovsk**	**6.09**	**25**	*e*PN		**Pn**	**16 35 54.2**	**-2.4**
PET				MLR		MLR		
	comp=Z,3μm,17.0s							
PET	**Petropavlovsk**	**6.09**	**25**	*e*P		**Pn**	**16 35 53.9**	**-2.7**
	comp=Z,42nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.96**	**243**	*e*rx		rx	16 36 17.3	
YUK				AMS		AMS	16 38 47.0	
	comp=Z,5μm,13.0s							
YUK				AMS		AMS	16 38 47.0	
	comp=Z,6μm,16.0s							
YUK				AMS		AMS	16 38 47.0	
	comp=Z,2μm,12.0s							
YSS	**Yuzh-Sakhalins**	**7.97**	**270**	*e*P		**Pn**	**16 36 24.9**	**+2.5**
YSS				AMB		AMB	16 36 26.9	
	comp=Z,60nm,0.9s							
YSS				AMB		AMB	16 36 26.9	
	comp=Z,50nm,0.9s							
YSS				*e*S		**Sn**	**16 37 56.4**	**+5.1**
YSS	**Yuzh-Sakhalins**	**7.97**	**270**	*e*PN		**Pn**	**16 36 24.9**	**+2.5**
YSS				S		**Sn**	**16 37 56.4**	**+5.1**
YSS				pmax		pmax		
	comp=E,60nm,0.9s							
YSS				pmax		pmax		
	comp=Z,50nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.97**	**270**	*e*P		**Pn**	**16 36 24.2**	**+1.8**
	comp=Z,64nm,0.6s							
UGL	**Uglegorsk**	**8.38**	**285**	*e*P		**Pn**	**16 36 31.0**	**+3.0**
ASAJ	**Asahikawa**	**8.95**	**252**	Pn		**Pn**	**16 36 37.6**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=94,slow=16,SNR=7.4							
ASAJ	**Asahikawa**	**8.95**	**252**	PN		**Pn**	**16 36 37.7**	**+1.8**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
OKH	**Okha**	**9.44**	**314**	*e*L			16 39 26.0	
OKH				AMS		AMS	16 41 38.0	
	comp=Z,6μm,12.0s							
MA2	**Magadan**	**12.21**	**351**	*e*PN		**Pn**	**16 37 21.4**	**+0.9**
MA2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
HABR	**Khabarovsk**	**13.00**	**281**	*e*PN		**Pn**	**16 37 36.1**	**+4.8**
KLR	**Kul'dur**	**15.14**	**285**	*e*P		**Pn**	**16 38 00.0**	**-0.3**
MAJO	**Matsushiro**	**16.30**	**233**	*e*P		**Pn**	**16 38 12.8**	**-2.4**
MAJO				pmax		pmax		
	comp=Z,48nm,0.8s							
MAJO	**Matsushiro**	**16.30**	**233**	*e*P		**Pn**	**16 38 12.8**	**-2.4**
	comp=Z,50nm,0.8s							
MAT	**Matsushiro**	**16.30**	**233**	P		**Pn**	**16 38 12.7**	**-2.5**
MJAR	**Matsushiro Arr**	**16.30**	**233**	Pn		**Pn**	**16 38 13.0**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=10							
MDJ	**Mudanjiang**	**17.46**	**269**	P		**Pn**	**16 38 29.9**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.6s							
MDJ	**Mudanjiang**	**17.46**	**269**	*e*P		**Pn**	**16 38 30.2**	**+0.5**
	comp=Z,25nm,1.0s							
ZEA	**Zeya**	**18.23**	**300**	*e*P		**Pn**	**16 38 38.7**	**-0.5**
ZEA				AMB		AMB	16 38 41.2	
	comp=Z,28nm,1.2s							
YAK	**Yakutsk**	**20.13**	**325**	*e*P		**P**	**16 39 06.6**	**+6.6**
YAK				pmax		pmax		
	comp=Z,27nm,0.8s							
YAK				pmax		pmax		
	comp=N,16nm,1.4s							
YAK				pmax		pmax		
	comp=E,24nm,1.3s							
YAK	**Yakutsk**	**20.13**	**325**	*e*P		**P**	**16 39 00.7**	**+0.7**
	comp=E,30nm,0.9s							
CN2	**Changchun**	**20.54**	**270**	*e*P		**P**	**16 39 05.8**	**+1.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
BILL	**Bilibino**	**21.39**	**12**	P		**P**	**16 39 09.9**	**-3.6**
BILL				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.3							
BILL	**Bilibino**	**21.39**	**12**	*e*P		**P**	**16 39 09.8**	**-3.7**
	comp=Z,16nm,1.0s,mb4.3							
KSRS	**Korea Array**	**21.90**	**252**	P		**P**	**16 39 18.7**	**-0.4**
	comp=Z,25nm,0.8s,mb4.7,baz=60,slow=9.9,SNR=53							
INCN	**Inchon**	**22.72**	**254**	*e*P		**P**	**16 39 28.1**	**+0.4**
	comp=Z,87nm,1.1s,mb5.1							
BOD	**Bodaibo**	**26.17**	**308**	*e*P		**P**	**16 39 59.1**	**-1.0**
BJT	**Baijiatuan**	**28.40**	**269**	P		**P**	**16 40 20.9**	**+0.8**
NJ2	**Nanjing**	**31.10**	**253**	*e*P		**P**	**16 40 45.4**	**+1.4**
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.1							
HHC	**Hu-ho-hao-te**	**31.13**	**274**	*e*P		**P**	**16 40 45.0**	**+0.7**
HHC				AP		pP	16 40 49.6	-5.0
HHC				PP		PP	16 41 48.9	-6.0
HHC				PCP		PcP	16 43 38.5	-0.3
HHC				S		**S**	**16 45 49.9**	**+2.4**
HHC				XS		sS	16 46 00.8	-3.9
HHC				SCP		ScP	16 47 19.5	+0.6
HHC				PCS		PcS	16 47 21.1	-1.9
HHC				SS		SS	16 47 38.1	-23
HHC				SCS		ScS	16 51 16.3	+0.3
HHC				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.6							
HHC				AMB		AMB		
	comp=Z,214nm,10.8s							
HHC				LR		LR		
	comp=N,742nm,17.2s,MS4.5							
HHC				LR		LR		
	comp=E,610nm,15.2s,MS4.5							
HHC				LR		LR		
	comp=Z,1μm,15.5s,MS4.6							
ULN	**Ulaanbaatar**	**31.48**	**288**	*e*P		**P**	**16 40 44.2**	**-3.1**
SONM	**Songino Array**	**31.91**	**289**	P		**P**	**16 40 49.6**	**-1.5**
	comp=Z,0.9nm,0.6s,mb3.8,baz=90,slow=8.6,SNR=5.3							
IMA2	**Indian Mountai**	**32.61**	**37**	*e*P		**P**	**16 40 56.2**	**-1.0**
KDAK	**Kodiak Island**	**32.88**	**52**	P		**P**	**16 40 57.4**	**-2.3**
	comp=Z,12nm,0.8s,mb4.9,baz=286,slow=10,SNR=4.2							
SML	**Sawmill**	**34.75**	**44**	*e*P		**P**	**16 41 15.2**	**-0.7**
COLA	**College**	**34.93**	**39**	P		**P**	**16 41 17.1**	**-0.3**
COLA				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.0							
COLA	**College**	**34.93**	**39**	*e*P		**P**	**16 41 16.9**	**-0.5**
	comp=Z,20nm,0.9s,mb5.1							
WHN	**Wuhan**	**35.01**	**256**	⇑P		**P**	**16 41 18.8**	**+0.7**
XAN	**Xi'an**	**36.48**	**265**	P		**P**	**16 41 30.5**	**-0.2**
XAN				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
EGAK	**Eagle**	**37.79**	**39**	*e*P		**P**	**16 41 40.6**	**-1.3**
	comp=Z,14nm,0.8s,mb4.7							
DAWY	**Dawson**	**38.63**	**40**	*e*P		**P**	**16 41 48.5**	**-0.4**
LZH	**Lanzhou**	**38.76**	**272**	*e*P		**P**	**16 41 50.3**	**+0.3**
LZH				AP		pP	16 41 56.1	-4.4
LZH				XP		sP	16 41 58.6	-6.3
LZH				AMB		AMB		
	comp=Z,19nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.76**	**272**	*e*P		**P**	**16 41 50.2**	**+0.2**
LZH				*SP		sP	16 41 58.6	-6.3
LZH				pmax		pmax		
	comp=Z,19nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.76**	**272**	*e*P		**P**	**16 41 50.2**	**+0.2**
	comp=Z,19nm,1.2s,mb4.7							
LZH				pP		pP	16 41 56.1	-4.4
LZH				sP		sP	16 41 58.6	-6.3
GTA	**Gaotai**	**39.73**	**279**	*e*P		**P**	**16 41 58.3**	**+0.2**
GTA				AP		pP	16 42 09.3	+0.7
GTA				XP		sP	16 42 14.6	+1.6
GTA				AMB		AMB		
	comp=Z,3.0nm,1.4s,mb3.8							
INK	**Inuvik**	**40.47**	**33**	P		**P**	**16 42 03.7**	**-0.5**
	comp=Z,16nm,0.8s,mb4.8,baz=290,slow=6.9,SNR=41							
INK	**Inuvik**	**40.47**	**33**	*e*P		**P**	**16 42 04.2**	**0.0**
	comp=Z,445nm,0.8s,mb6.2							
CD2	**Chengdu**	**41.84**	**265**	P		**P**	**16 42 15.5**	**0.0**
CD2				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.0							
GYA	**Guiyang**	**42.77**	**258**	⇑ *i*P		**P**	**16 42 22.9**	**-0.1**
GYA				PP		PP	16 44 06.8	+4.2
GYA				PCP		PcP	16 44 17.3	+3.3
GYA				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,140nm,4.8s							
GYA				LR		LR		
	comp=N,540nm,17.0s,MS4.7							
GYA				LR		LR		
	comp=E,570nm,17.6s,MS4.7							
GYA				LR		LR		
	comp=Z,580nm,17.2s,MS4.5							
ZAL	**Zalesovo**	**42.87**	**305**	P		**P**	**16 42 22.8**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=23,slow=6.4,SNR=4.1							
WMQ	**Urumqi**	**45.46**	**291**	P		**P**	**16 42 40.0**	**-4.6**
WMQ				PCP		PcP	16 44 19.8	-3.4
WMQ				PP		PP	16 44 27.0	-4.4
WMQ				PPP			16 45 08.5	
WMQ				S		**S**	**16 49 20.1**	**-3.6**
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,45nm,6.2s							
WMQ				LR		LR		
	comp=N,926nm,25.5s,MS4.7							
WMQ				LR		LR		
	comp=E,870nm,29.2s,MS4.7							
WMQ				LR		LR		
	comp=Z,669nm,29.2s,MS4.4							
KMI	**Kunming**	**46.27**	**260**	P		**P**	**16 42 55.1**	**+4.1**
KMI				AP		pP	16 43 01.1	-0.6
KMI				XP		sP	16 43 04.9	-1.1
KMI				PP		PP	16 44 43.3	+3.4
KMI				AMB		AMB		
	comp=Z,15nm,1.2s,mb4.8							
KMI	**Kunming**	**46.27**	**260**	P		**P**	**16 42 55.1**	**+4.1**
KMI				*SP		sP	16 43 04.9	-1.1
KMI							16 44 43.2	
KMI				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.8							
KMI	**Kunming**	**46.27**	**260**	P		**P**	**16 42 55.1**	**+4.1**
	comp=Z,15nm,1.2s,mb4.8							
KMI				pP		pP	16 43 01.1	-0.6
KMI				sP		sP	16

comp=Z,14nm,0.6s,mb5.2
E08A **Dider Farm, El** 55.91 56 ⇓P P 16 44 02.9 -0.4
baz=56
A11A **Hall Mountain,** 55.97 53 ⇓P P 16 44 03.7 -0.1
baz=56
J04A **Umpqua Nationa** 56.03 61 ⇑P P 16 44 04.0 -0.2
baz=56
C10A **Spilker Farm,** 56.12 54 ⇓P P 16 44 04.4 -0.4
baz=56
H06A **Lindquist Farm** 56.20 59 ⇓P P 16 44 04.9 -0.5
baz=56
B11A **Sandpoint** 56.27 53 ⇓P P 16 44 05.6 -0.3
baz=56
KKN **Kakani** 56.30 276 *eP* P 16 44 06.8 +0.7
comp=Z,14nm,0.6s,mb5.2
A12A **Yaak River Ran** 56.37 52 ⇑P P 16 44 06.2 -0.4
baz=56
E09A **Wood Farm, Sta** 56.41 56 ⇓P P 16 44 06.6 -0.3
baz=56
F08A **Pendleton** 56.47 57 ⇑P P 16 44 07.5 +0.1
baz=56
J05A **Fort Rock** 56.53 61 ⇑P P 16 44 07.7 0.0
baz=56
DMN **Daman** 56.54 276 *eP* P 16 44 08.6 +0.8
comp=Z,36nm,0.9s,mb5.4
YBH **Yreka Blue Hor** 56.56 63 P P 16 44 08.9 +0.8
comp=Z,6.1nm,1.0s,mb4.6,baz=13,slow=3.4,SNR=7.4
YBH **Yreka Blue Hor** 56.56 63 ⇓P P 16 44 08.4 +0.3
baz=56
GKN **Gorkha** 56.60 276 *eP* P 16 44 08.7 +0.5
comp=Z,20nm,0.6s,mb5.3
M02C **Callahan** 56.68 63 ⇓P P 16 44 08.9 +0.1
baz=56
I06A **Prineville** 56.74 59 ⇑P P 16 44 09.7 +0.4
baz=56
N02C **Big Bar** 56.74 64 ⇓P P 16 44 09.6 +0.3
baz=56
L04A **Klamath Falls** 56.79 62 ⇓P P 16 44 09.6 -0.1
baz=57
E10A **Myers Farm, Un** 57.01 55 ⇓P P 16 44 11.1 -0.1
baz=57
F09A **S2 Ranch, Elgi** 57.02 57 ⇑P P 16 44 11.1 -0.1
baz=57
M04C **Macdoel** 57.06 62 ⇑P P 16 44 11.2 -0.3
baz=57
K05A **Summer Lake** 57.06 61 ⇓P P 16 44 11.6 +0.1
baz=57
I07A **Izee** 57.07 59 ⇓P P 16 44 11.5 -0.1
baz=57
D11A **Klaveano Farm,** 57.10 55 ⇓P P 16 44 11.2 -0.6
baz=57
F10A **Beach Ranch, E** 57.24 56 ⇑P P 16 44 12.6 -0.2
baz=57
H08A **Prairie City** 57.29 58 ⇓P P 16 44 13.0 -0.2
baz=57
B13A **Whitefish** 57.33 52 P P 16 44 13.4 0.0
baz=57,SNR=8.7
ARCES **ARCESS Array B** 57.36 341 P P 16 44 14.8 +1.1
comp=Z,3.8nm,0.8s,mb4.5,baz=37,slow=9.1,SNR=3.0
K06A **Valley Falls** 57.40 61 P P 16 44 14.8 +0.9
baz=57,SNR=7.0
KOLN **Koldanda** 57.45 277 *eP* P 16 44 13.9 -0.3
O02C **Red Bluff** 57.45 64 ⇓P P 16 44 14.7 +0.4
baz=57
L05A **Lakeview** 57.50 62 ⇓P P 16 44 15.4 +0.8
baz=57
P01C **Double 8 Ranch** 57.54 65 ⇑P P 16 44 15.3 +0.4
baz=57
J07A **Hines** 57.60 60 ⇑P P 16 44 15.8 +0.5
baz=57
C13A **Hot Springs** 57.69 53 ⇓P P 16 44 15.9 0.0
baz=57
I08A **Drewsey** 57.71 59 ⇓P P 16 44 16.3 +0.2
baz=58
M05C **Lookout** 57.73 62 ⇓P P 16 44 16.4 +0.1
baz=58
H09A **Durkee** 57.78 57 ⇑P P 16 44 16.8 +0.2
baz=58
GASB **Alder Springs** 57.81 65 ⇓P P 16 44 17.1 +0.3
baz=58
HATC **Hat Creek Radi** 57.87 63 ⇑P P 16 44 17.3 +0.1
baz=58
MOD **Modoc** 57.90 61 P P 16 44 17.5 0.0
baz=58,SNR=5.2
K07A **Rock Creek Ran** 58.05 60 ⇓P P 16 44 18.6 +0.1
baz=58
J08A **Circle Bar Ran** 58.10 59 ⇑P P 16 44 19.0 +0.1
baz=58
D13A **Huson** 58.10 54 ⇓P P 16 44 18.9 0.0
baz=58
G11A **Walters Elk Ra** 58.13 56 ⇓P P 16 44 19.0 0.0
baz=58
I09A **Lost Marbles R** 58.15 58 ⇑P P 16 44 19.3 +0.1
baz=58
O04C **Chester** 58.40 63 ⇑P P 16 44 21.1 +0.2
baz=58
L07A **Adell** 58.40 61 ⇑P P 16 44 21.3 +0.4
baz=58
ELFS **Eagle Lake Fie** 58.43 63 ⇓P P 16 44 21.3 +0.2
baz=58
MNRC **McLaughlin Nat** 58.45 65 ⇑P P 16 44 21.7 +0.4
baz=58
K08A **Mann Creek Ran** 58.47 60 P P 16 44 21.8 +0.4
baz=58,SNR=5.3
J09A **Fry Pan Ranch,** 58.52 59 ⇑P P 16 44 22.6 +0.8
baz=58
MSO **Missoula** 58.55 54 *eP* P 16 44 21.6 -0.3
comp=Z,12nm,1.2s,mb4.8
D14A **Greenough** 58.63 53 P P 16 44 22.3 -0.2
baz=58,SNR=18
E13A **Victor** 58.65 54 ⇑P P 16 44 23.2 +0.5
baz=58
H11A **Donnelly** 58.69 57 P P 16 44 22.9 -0.1
baz=58,SNR=8.2
OHCM **Honcut** 58.76 64 *eP* P 16 44 22.7 -0.7
AKTK **Aktyubinsk** 58.84 312 P P 16 44 23.4 -0.6
AKTO **Aktyubinsk** 58.84 312 P P 16 44 23.4 -0.6
comp=Z,0.4nm,0.3s,mb3.9,baz=63,slow=4.5,SNR=2.4
CHMT **Chamberlain Mo** 58.87 53 *eP* P 16 44 23.7 -0.5
L08A **Fields** 58.88 60 P P 16 44 24.8 +0.5
baz=59,SNR=6.4
N06A **Buffalo Meadow** 58.89 62 ⇓P P 16 44 24.4 +0.1
baz=59
M07A **Soldier Meadow** 58.89 61 P P 16 44 25.0 +0.7
baz=59,SNR=9.1
K09A **Rome** 58.94 59 ⇓P P 16 44 24.8 +0.2
baz=59
F13A **Darby** 58.97 55 P P 16 44 24.4 -0.4
baz=59,SNR=8.2
E14A **Clinton** 59.04 54 P P 16 44 25.3 -0.1
baz=59,SNR=9.0
BEKR **Beckwourth** 59.11 63 ⇓P P 16 44 25.4 -0.5
baz=59
D15A **Lincoln** 59.19 53 ⇑P P 16 44 26.4 0.0
baz=59
O06A **Flanigan** 59.25 63 ⇑P P 16 44 26.7 -0.1
baz=59
N07B **Gerlach** 59.38 62 ⇑P P 16 44 27.9 +0.2
baz=59
L09A **Wilkinson Ranc** 59.39 60 ⇑P P 16 44 28.1 +0.3
baz=59
F14A **Wisdom** 59.48 54 ⇑P P 16 44 28.6 +0.1
baz=59
E15A **Deer Lodge** 59.50 53 P P 16 44 28.8 +0.2
baz=59,SNR=7.5
O07A **Toulon** 59.82 62 P P 16 44 31.1 +0.3
baz=60,SNR=5.2
WCN **Washoe City** 59.83 64 ⇓P P 16 44 30.7 -0.1
baz=60
N08A **GE Springer Mi** 59.88 61 P P 16 44 31.3 +0.1
baz=60,SNR=5.1
M09A **Marrel Ranch,** 59.88 60 ⇑P P 16 44 31.7 +0.5
baz=60
F15A **Butte** 59.95 54 P P 16 44 31.7 +0.1
baz=60,SNR=15
EGMT **Eagleton** 60.04 50 *eP* P 16 44 32.1 -0.2
comp=Z,20nm,1.1s,mb5.1
EGMT **Eagleton** 60.04 50 ⇓P P 16 44 32.4 +0.1
baz=60
N09A **Rock Creek Ran** 60.20 61 ⇓P P 16 44 33.7 +0.3
baz=60
CMB **Columbia Colle** 60.24 65 ⇓P P 16 44 33.7 +0.1
baz=60
HLID **Hailey** 60.30 57 P P 16 44 34.3 +0.2
baz=60,SNR=7.4
PACP **Pacheco Peak** 60.33 66 ⇓P P 16 44 34.4 +0.2
baz=60
M10A **I.L. Ranch, Tu** 60.36 60 ⇓P P 16 44 35.2 +0.7
baz=60
G15A **Dillon** 60.37 54 P P 16 44 34.4 -0.2
baz=60,SNR=13
MCMT **McKenzie Canyo** 60.38 55 *eP* P 16 44 34.4 -0.2
R06C **Coleville** 60.50 64 ⇓P P 16 44 35.5 +0.1
baz=60
BMN **Battle Mountai** 60.64 61 *eP* P 16 44 36.5 +0.1
BMN pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
BMN **Battle Mountai** 60.64 61 *eP* P 16 44 36.5 +0.1
comp=Z,5.9nm,0.6s,mb4.9
S06C **San Francisco** 60.66 65 ⇑P P 16 44 36.5 0.0
baz=60
S05C **Merced** 60.71 66 ⇓P P 16 44 36.6 -0.2
baz=60
O09A **Fish Creek Ran** 60.82 61 P P 16 44 38.3 +0.6
baz=61,SNR=6.5
M11A **Holland Ranch,** 60.85 59 P P 16 44 38.8 +1.0
baz=61,SNR=5.5
R07C **Lee Vining** 61.02 64 ⇑P P 16 44 39.4 +0.5
baz=61
O10A **Cortez Mining,** 61.16 61 ⇓P P 16 44 40.5 +0.7
baz=61
QLMT **Earthquake Lak** 61.17 54 *eP* P 16 44 40.3 +0.3
Q08A **Gabbs** 61.21 63 ⇑P P 16 44 40.7 +0.4
baz=61
KCC **Kaiser Creek** 61.34 65 ⇑P P 16 44 41.3 +0.2
baz=61
M12A **Wells** 61.37 59 P P 16 44 42.3 +0.9
baz=61,SNR=6.1
GCMT **Greycliff** 61.51 52 *eP* P 16 44 42.7 +0.5
N12A **Clover Valley,** 61.66 60 ⇓P P 16 44 43.6 +0.3
baz=61
YFT **Old Faithful** 61.73 54 *eP* P 16 44 45.8 +2.0
O11A **Cowboy Ranch,** 61.76 60 P P 16 44 44.5 +0.6
baz=62,SNR=6.6
FLWY **Flagg Ranch** 62.05 54 *eP* P 16 44 46.8 +0.9
comp=Z,11nm,0.8s,mb5.0
R09A **Tonopah** 62.12 63 P P 16 44 46.2 -0.2
baz=62,SNR=7.8
N13A **Wendover, West** 62.14 59 ⇑P P 16 44 47.1 +0.5
baz=62
RRI2 **Red Ridge** 62.18 55 *eP* P 16 44 47.7 +1.0
comp=Z,30nm,0.8s,mb5.5
O12A **Currie** 62.20 60 P P 16 44 47.3 +0.4
baz=62,SNR=10
MOOW **Moose Ponds** 62.24 55 *eP* P 16 44 47.8 +0.6
comp=Z,12nm,1.1s,mb4.9
S09A **Goldfield** 62.36 63 ⇓P P 16 44 48.0 0.0
baz=62
SNOW **Snow King Moun** 62.42 55 *eP* P 16 44 49.6 +1.3
comp=Z,16nm,0.8s,mb5.2
REDW **Red Top Meadow** 62.43 55 *eP* P 16 44 49.5 +1.0
comp=Z,39nm,1.2s,mb5.4
R10A **Warm Springs** 62.55 62 ⇑P P 16 44 49.7 +0.4
baz=62
Q11A **Duckwater** 62.58 62 ⇑P P 16 44 49.3 -0.2
baz=62
P12A **McGill** 62.62 61 ⇓P P 16 44 49.8 +0.1
baz=62
GRAC **Grapevine Rang** 62.74 64 ⇓P P 16 44 50.8 +0.3
baz=62
ISA **Isabella** 62.93 66 ⇑P P 16 44 50.9 -0.9
baz=63
Q12A **Willow Creek R** 62.95 61 ⇓P P 16 44 52.4 +0.5
baz=63
HWUT **Hardware Ranch** 63.17 57 *eP* P 16 44 53.5 +0.1
comp=Z,4.4nm,0.5s,mb4.8
MPMC **Manual Prospec** 63.28 65 ⇓P P 16 44 54.1 0.0
baz=63
DUG **Dugway** 63.38 59 *eP* P 16 44 55.0 +0.2
DUG *e* pP 16 45 04.9 -0.9
DUG pmax pmax
comp=Z,13nm,0.9s,mb5.1
DUG **Dugway** 63.38 59 *eP* P 16 44 55.0 +0.2
comp=Z,13nm,0.9s,mb5.0
DUG *e* pP 16 45 04.9 -0.9
DUG **Dugway** 63.38 59 ⇑P P 16 44 54.8 +0.1
baz=63
FURC **Furnace Creek,** 63.40 64 ⇓P P 16 44 55.0 +0.1
baz=63
PDAR **Pinedale Array** 63.53 55 P P 16 44 56.0 +0.2
comp=Z,9.7nm,0.8s,mb4.9,baz=290,slow=2.2,SNR=58
LRMC **Laurel Mountai** 63.54 66 ⇓P P 16 44 55.5 -0.3
baz=63
FINES **FINESS Array B** 63.67 335 P P 16 44 56.1 -0.6
comp=Z,3.1nm,0.6s,mb4.5,baz=41,slow=11,SNR=9.9
EDW2 **Edwards Air Fo** 63.74 66 ⇓P P 16 44 57.3 +0.1
baz=64
U10A **Ash Meadows, A** 63.75 64 ⇓P P 16 44 57.3 0.0
baz=64
DAU **Daniels Canyon** 64.13 58 *eP* P 16 45 00.4 +0.7
GSC **Goldstone** 64.20 65 ⇓P P 16 44 59.6 -0.5
baz=64
TUQ **Turquoise Mtn.** 64.65 65 ⇓P P 16 45 03.2 +0.1
baz=64
MSU **Marysvale** 64.86 60 *eP* P 16 45 04.8 +0.3
OBN **Obninsk** 65.13 326 *eP* P 16 45 06.3 +0.1
OBN *e* 16 45 40.1
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
SRU **San Rafael** 65.42 58 *eP* P 16 45 08.0 -0.1
SRU pmax pmax
comp=Z,15nm,0.8s,mb5.1
SRU **San Rafael** 65.42 58 *eP* P 16 45 08.0 -0.1
comp=Z,14nm,0.8s,mb5.1
RSSD **Black Hills** 65.61 51 P P 16 45 09.1 -0.2
RSSD pmax pmax
comp=Z,20nm,1.0s,mb5.1
RSSD **Black Hills** 65.61 51 *eP* P 16 45 09.1 -0.2
comp=Z,18nm,1.0s,mb5.1
W13A **Hualapai Mount** 66.11 64 ⇓P P 16 45 12.3 -0.3
baz=66
X13A **Yucca** 66.49 64 ⇓P P 16 45 14.8 -0.2
baz=66
W14A **Seligman** 66.52 63 P P 16 45 15.4 +0.2
baz=66,SNR=5.4
X14A **Yava** 67.14 64 ⇓P P 16 45 19.3 +0.2
baz=67
Y14A **Wickenburg** 67.43 64 ⇑P P 16 45 21.0 0.0
baz=67
X15A **Humboldt** 67.53 63 ⇑P P 16 45 22.1 +0.5
baz=67
NB2 **NORSAR Subarra** 67.73 342 P P 16 45 22.6 -0.3
comp=Z,14nm,1.2s,mb4.9,baz=29,slow=6.5
NOA **NORSAR Array B** 67.73 342 P P 16 45 22.5 -0.4
comp=Z,4.9nm,0.9s,mb4.5,baz=26,slow=6.3,SNR=6.9
MVCO **Mesa Verde** 67.88 59 *eP* P 16 45 23.8 0.0
comp=Z,4.9nm,0.8s,mb4.6
MVCO **Mesa Verde** 67.88 59 ⇓P P 16 45 23.8 +0.1
baz=68
115A **Sonoran Desert** 68.75 65 ⇑P P 16 45 30.0 +0.7
baz=68
WB2 **Warramunga Arr** 69.59 200 *eP* P 16 45 33.5 -1.0
WRA **Warramunga Arr** 69.59 200 P P 16 45 33.9 -0.6
comp=Z,4.7nm,1.0s,mb4.4,baz=18,slow=6.3,SNR=9.3
ECSD **EROS,Sioux Fal** 69.67 47 *eP* P 16 45 33.9 -1.1
comp=Z,13nm,0.9s,mb4.9
POO **Poona** 70.27 276 *eP* P 16 45 29.0 -10
FITZ **Fitzroy Crossi** 70.30 209 P P 16 45 37.6 -1.2
comp=Z,2.1nm,0.8s,mb4.2,baz=306,slow=5.2,SNR=4.6
KIV **Kislovodsk** 70.86 315 *eP* P 16 45 40.6 -1.6
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
AKASG **Malin Array Be** 71.35 327 P P 16 45 44.2 -1.0
comp=Z,2.8nm,0.6s,mb4.4,baz=33,slow=6.0,SNR=14
AKASG **Malin Array Be** 71.35 327 P P 16 45 44.2 -1.0
AS31 **Alice Springs** 73.28 200 *eP* P 16 45 56.9 +0.2
ASAR **Alice Springs** 73.28 200 P P 16 45 56.4 -0.4
comp=Z,6.5nm,0.9s,mb4.5,baz=13,slow=5.5,SNR=29
KWP **Kalwaria** 74.57 330 P P 16 46 04.4 +0.2
BURAR **Bucovina Array** 75.39 327 ⇑*iP* P 16 46 09.3 +0.3
BURAR **Bucovina Array** 75.39 327 ⇑P P 16 46 09.3 +0.3
CLL **Collm** 76.08 336 *eP* P 16 46 13.0 +0.1
CLL *i* pP pP 16 46 22.2 -2.0
comp=Z,25nm,1.4s
MORC **Moravsky Berou** 76.12 333 ⇓*iP* P 16 46 13.8 +0.6
MORC **Moravsky Berou** 76.12 333 ⇓P P 16 46 13.8 +0.6
LTX **Lajitas** 76.31 62 *eP* P 16 46 13.8 -0.4
TXAR **Lajitas Array** 76.31 62 P P 16 46 14.2 0.0
comp=Z,4.7nm,0.8s,mb4.5,baz=297,slow=4.0,SNR=19
MLR **Muntele Rosu** 76.90 326 ⇓*iP* P 16 46 19.0 +1.4
MLR **Muntele Rosu** 76.90 326 ⇓P P 16 46 19.0 +1.4
MALT **Malatya** 77.24 314 ⇓*iP* P 16 46 21.7 +2.2
MALT **Malatya** 77.24 314 P P 16 46 21.1 +1.6
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MALT **Malatya** 77.24 314 *eP* P 16 46 21.1 +1.7
comp=Z,2.9nm,0.7s,mb4.3
VOIR 77.28 326 ⇑*iP* P 16 46 19.7 0.0
VOIR 77.28 326 ⇑P P 16 46 19.7 -0.1
GERES **GERESS Array B** 78.10 335 P P 16 46 24.5 +0.2
comp=Z,1.8nm,0.7s,mb4.1,baz=32,slow=5.3,SNR=15
GZR **Gura Zlata** 78.16 327 ⇓*iP* P 16 46 24.5 -0.1
GZR **Gura Zlata** 78.16 327 ⇓P P 16 46 24.5 -0.1
BRTR **Keskin Array B** 78.39 317 P P 16 46 25.8 -0.2
comp=Z,2.1nm,0.8s,mb4.1,baz=55,slow=4.3,SNR=6.9
WCI **Wyandotte Cave** 78.89 44 P P 16 46 23.3 -5.3
WCI pmax pmax
comp=Z,37nm,0.9s,mb5.3
PKSM **Moragy** 78.90 330 ⇑*iP* P 16 46 26.8 -1.9
MIB **Mutribah** 78.99 302 *eP* P 16 46 29.8 +0.6
MIB AMb AMB 16 46 31.1
comp=Z,35nm,0.7s,mb5.4
NAY **Al-Naaiem** 79.46 302 *eP* P 16 46 32.0 +0.3
NAY AMb AMB 16 46 32.9
comp=Z,10.0nm,0.8s,mb4.8
RDF **Al-Radifah** 79.53 301 *eP* P 16 46 32.8 +0.7
RDF AMb AMB 16 46 34.0
comp=Z,22nm,0.8s,mb5.2
CDF **Champ du Feu** 80.22 338 *eP* P 16 46 34.7 -1.2
comp=Z,22nm,1.2s,mb4.7
CDF **Champ du Feu** 80.22 338 *eP* P 16 46 34.7 -1.2
CDF pmax pmax
comp=Z,11nm,1.2s,mb4.7
CDF **Champ du Feu** 80.22 338 *eP* P 16 46 34.7 -1.2
comp=Z,11nm,1.2s,mb4.7
VTS **Vitosha** 80.40 326 ⇓*iP* P 16 46 37.4 +0.6
VTS **Vitosha** 80.40 326 ⇓P P 16 46 37.4 +0.6
SMF **Signal de Mont** 82.70 340 *eP* P 16 46 48.1 -0.9
comp=Z,31nm,1.1s,mb5.0
SMF **Signal de Mont** 82.70 340 *eP* P 16 46 48.1 -0.9
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.9
SMF **Signal de Mont** 82.70 340 *eP* P 16 46 48.1 -0.9
comp=Z,15nm,1.1s,mb5.0
LPL **La Plagne** 83.05 338 *eP* P 16 46 50.6 -0.2
comp=Z,33nm,1.3s,mb4.9
LPL **La Plagne** 83.05 338 *eP* P 16 46 50.6 -0.2
LPL pmax pmax
comp=Z,16nm,1.3s,mb4.9
LPL **La Plagne** 83.05 338 *eP* P 16 46 50.6 -0.2
comp=Z,16nm,1.3s,mb4.9
LPG **La Plagne** 83.07 338 *eP* P 16 46 50.9 0.0
comp=Z,36nm,1.1s,mb5.0
LPG **La Plagne** 83.07 338 *eP* P 16 46 50.9 0.0
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.0
LPG **La Plagne** 83.07 338 *eP* P 16 46 50.9 0.0
comp=Z,18nm,1.1s,mb5.0
CFAA **Coronel Fontan** 143.96 79 PKP PKPdf 16 54 05.8 +5.2
comp=Z,0.3nm,0.7s,baz=283,slow=4.3,SNR=3.2

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*ISCJB **15** 16:39:38.5±0.6, 4741N±007×1544E±0.1, h10km, mb4.4/30, Error ellipse: s-maj=13.4km s-min=6.9km az=83.8*
*BJI **15** 16:39:38.4, 4756N×15470E, h23km, mB5.3, mb4.7*
*IDC **15** 16:39:38.4±0.7, 47.37N×154.34E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/25, mbtmp4.2/17, ML3.5/1, Error ellipse: s-maj=19.5km s-min=16.5km az=108.0*
*NEIC **15** 16:39:40.0±0.4, 4738N×154.37E, h10km, mb4.5/5, Error ellipse: s-maj=10.4km s-min=6.7km az=128.0*
*MOS **15** 16:39:41.7±1.1, 4742N×154.35E, h33km, mb4.3/6, Error ellipse: s-maj=11.8km s-min=9.6km az=89.3*

ISC 15 16:39:39.9±3.9, 4743N±007×1544E±01, h8km±24km, n62, σ1$01/60, mb4.4/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	6.23	24	*e*	PN	Pn	16 41 11.9	-0.2
YSS	Yuzh-Sakhalins	7.95	271	*e*	PN	Pn	16 41 39.3	+3.6
YSS	Yuzh-Sakhalins	7.95	271	*e*	Pn	Pn	16 41 40.2	+4.5
	21nm,0.8s							
ASAJ	Asahikawa	8.89	252		Pn	Pn	16 41 51.7	+3.0
	0.5nm,0.3s,baz=84,slow=15,SNR=6.8							
ASAJ	Asahikawa	8.89	252		PN	Pn	16 41 51.7	+3.0
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ERM	Erimo	9.66	240	*e*	PN	Pn	16 41 59.2	0.0
MJAR	Matsushiro Arr	16.19	234		Pn	Pn	16 43 27.0	-0.8
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=7.1							
MAJO	Matsushiro	16.19	234	*e*	P	Pn	16 43 26.9	-0.9
MAJO					pmax	pmax		
	comp=Z,14nm,0.8s							
MAJO	Matsushiro	16.19	234	*e*	PN	Pn	16 43 26.9	-0.9
	comp=Z,14nm,0.8s							
MAT	Matsushiro	16.19	234		P	Pn	16 43 26.8	-1.0
YAK	Yakutsk	20.24	325		P	P	16 44 16.2	+0.7
YAK					pmax	pmax		
	comp=Z,7.0nm,0.7s							
YAK	Yakutsk	20.24	325		P	P	16 44 16.1	+0.6
	comp=Z,7.4nm,0.7s							
BILL	Bilibino	21.53	12	*e*	P	P	16 44 30.2	+0.7
BILL					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9							
KSRS	Korea Array	21.84	252		P	P	16 44 33.5	+0.7
	comp=Z,6.3nm,0.7s,mb4.2,baz=62,slow=9.7,SNR=17							
BOD	Bodaibo	26.24	308	*e*	P	P	16 45 14.7	-0.7
BOD					pmax	pmax		
	comp=Z,6.0nm,1.7s,mb3.9							
BOD					pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4							
ULN	Ulaanbaatar	31.51	289	*e*	P	P	16 46 01.3	-1.0
ULN					pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8							
ULN	Ulaanbaatar	31.51	289	*e*	P	P	16 46 01.3	-1.0
	comp=Z,1.4nm,0.7s,mb3.9							
SONM	Songino Array	31.94	289		P	P	16 46 05.5	-0.6
	comp=Z,1.1nm,0.7s,mb3.8,baz=68,slow=8.7,SNR=7.8							
XAN	Xi'an	36.45	265		P	P	16 46 45.4	+0.2
XAN					AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9							
LZH	Lanzhou	38.74	272	*e*	P	P	16 47 05.3	+0.7
LZH					AP	pP	16 47 10.6	+3.5
LZH					XP	sP	16 47 12.4	+4.3
LZH					AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8							
LZH	Lanzhou	38.74	272	*e*	P	P	16 47 05.2	+0.6
LZH					*SP	sP	16 47 12.4	+4.3
LZH					pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8							
LZH	Lanzhou	38.74	272	*e*	P	P	16 47 05.2	+0.6
	comp=Z,19nm,1.0s,mb4.8							
LZH					pP	pP	16 47 10.6	+3.5
LZH					sP	sP	16 47 12.4	+4.3
INK	Inuvik	40.60	33		P	P	16 47 21.1	+1.0
	comp=Z,1.9nm,0.7s,mb3.8,baz=317,slow=2.5,SNR=5.0							
CD2	Chengdu	41.81	265		P	P	16 47 30.9	+0.9
CD2					AMB	AMB		
	comp=Z,40nm,0.5s,mb5.3							
GYA	Guiyang	42.72	258		P	P	16 47 38.6	+1.2
GYA					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
ZAL	Zalesovo	42.94	306		P	P	16 47 38.0	-1.3
	comp=Z,1.1nm,0.4s,mb3.9,baz=19,slow=7.1,SNR=5.1							
MK31	Makanchi Array	47.41	297	*e*	P	P	16 48 13.5	-1.2
MKAR	Makanchi Array	47.41	297		P	P	16 48 13.7	-1.1
	comp=Z,2.9nm,0.7s,mb4.3,baz=69,slow=7.6,SNR=18							
CHKZ	Chkalovo	50.66	310	*e*	P	P	16 48 37.8	-1.9
CHKZ					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
CHKZ	Chkalovo	50.66	310	*e*	P	P	16 48 37.8	-1.9
	comp=Z,5.0nm,0.7s,mb4.5							
BVAR	Borovoye Array	51.10	309		P	P	16 48 42.4	-0.6
	comp=Z,2.6nm,0.6s,mb4.3,baz=53,slow=8.2,SNR=9.6							
LSA	Lhasa	51.11	273	*e*	P	P	16 48 45.2	+2.1
LSA					pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0							
LSA	Lhasa	51.11	273	*e*	P	P	16 48 45.2	+2.2
	comp=Z,11nm,0.6s,mb5.0							
BRVK	Borovoye	51.14	310	*e*	P	P	16 48 42.5	-0.8
ZRNK	Zerenda	51.87	310	*e*	P	P	16 48 47.8	-0.9
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
ZRNK	Zerenda	51.87	310	*e*	P	P	16 48 47.8	-0.9
	comp=Z,2.1nm,0.7s,mb4.2							
JIRN	Jiri	55.77	275	*e*	P	P	16 49 18.6	+1.3
	comp=Z,26nm,0.8s,mb5.3							
GUN	Gumba	55.81	275	*e*	P	P	16 49 18.8	+1.2
KKN	Kakani	56.30	276	*e*	P	P	16 49 22.4	+1.3
DMN	Daman	56.53	276	*e*	P	P	16 49 24.1	+1.4

comp=Z,36nm,0.8s,mb5.4
GKN Gorkha 56.59 276 *e*P **P 16 49 24.0 +0.8**
comp=Z,31nm,0.8s,mb5.4
KEV Kevo 56.99 341 *e*p **P 16 49 22.0 -4.0**
KOLN Koldanda 57.44 277 *e*P **P 16 49 30.3 +1.1**
comp=Z,25nm,0.8s,mb5.3
PDAR Pinedale Array 63.63 55 P **P 16 50 12.3 +0.9**
comp=Z,1.0nm,1.0s,mb3.8,baz=277,slow=3.7,SNR=3.5
FINES FINESS Array B 63.80 335 P **P 16 50 12.1 -0.4**
comp=Z,2.5nm,0.5s,mb4.5,baz=38,slow=8.9,SNR=17
NB2 NORSAR Subarra 67.86 342 P **P 16 50 38.4 -0.3**
comp=Z,4.8nm,0.8s,mb4.6,baz=30,slow=6.5
NOA NORSAR Array B 67.86 342 P **P 16 50 38.6 -0.1**
comp=Z,2.8nm,0.7s,mb4.4,baz=26,slow=6.4,SNR=8.0
WRA Warramunga Arr 69.45 200 P **P 16 50 47.2 -1.4**
comp=Z,2.9nm,1.0s,mb4.2,baz=17,slow=6.4,SNR=8.2
FITZ Fitzroy Crossi 70.16 209 P **P 16 50 52.4 -0.6**
comp=Z,2.9nm,0.8s,mb4.2,baz=7.3,slow=6.3,SNR=5.2
POO Poona 70.27 276 *ex* **P 16 50 51.0 -2.7**
AKASG Malin Array Be 71.46 327 P **P 16 51 00.2 -0.7**
comp=Z,2.4nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=11
AKASG Malin Array Be 71.46 327 P **P 16 51 00.2 -0.7**
ASAR Alice Springs 73.14 200 P **P 16 51 11.0 0.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=11,slow=5.3,SNR=51
STHS Stebnicka Huta 75.36 331 *e*P **P 16 51 24.2 +0.3**
DPC Dobruska-Polom 76.11 334 *e*P **P 16 51 28.2 0.0**
CLL Collm 76.20 336 *i* P **P 16 51 28.4 -0.3**
CLL *i* pP pP 16 51 32.4 +1.0
CLL *i* PcP PcP 16 51 39.3 -1.5
TXAR Lajitas Array 76.39 62 P **P 16 51 29.6 -0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=302,slow=5.2,SNR=3.1
KHC Kasperske Hory 78.00 335 *e*P **P 16 51 39.2 +0.4**
GERES GERESS Array B 78.22 335 P **P 16 51 40.1 0.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=46,slow=7.6,SNR=4.4
BRTR Keskin Array B 78.49 317 P **P 16 51 42.2 +0.7**
comp=Z,1.2nm,0.7s,mb3.9,baz=38,slow=6.3,SNR=5.5
VNDA Vanda 124.76 178 PKP PKPdf 16 58 37.1 -3.2
comp=Z,0.7nm,0.8s,baz=303,slow=5.5,SNR=4.6
MAW Mawson 133.24 212 PKP PKPdf 16 58 53.0 -3.3
comp=Z,2.1nm,0.6s,baz=114,slow=5.9,SNR=8.4

IDC ***15*** *16:40:37.1±0.6, 4654N×15487E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.4/27, mbtmp4.3/21, ML3.8/2, Error ellipse: s-maj=16.9km s-min=14.3km az=154.0*
ISCJB ***15*** *16:40:37.3±0.4, 4671N×006×15481E×007, h10km, mb4.5/45, Error ellipse: s-maj=10.0km s-min=5.5km az=129.0*
MOS ***15*** *16:40:38.8±0.8, 4666N×15474E, h23km, mb4.9/16, Error ellipse: s-maj=10.0km s-min=9.1km az=78.5*
NEIC ***15*** *16:40:38.9±0.4, 4666N×15492E, h10km, mb4.8/18, Error ellipse: s-maj=11.4km s-min=7.1km az=156.0*
BJI ***15*** *16:40:42.9, 4689N×15393E, h10km, mB5.2, mb4.5*
SZGRF ***15*** *16:40:50.9, 4720N×15452E, h33km, mb4.9, Kuril Islands, Russia*

ISC 15 16:40:39.2±0.4, 4673N±007×15482E±007, h10km, n96, σ1§14/95, mb4.5/45, 5C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.07**	**255**	*e*PN	**Pn**	**16 41 53.0**	**-2.3**
KUR				pmax	pmax		
	comp=Z,430nm,0.0s						
KUR				pmax	pmax		
	comp=N,170nm,0.6s						
PET	**Petropavlovsk**	**6.77**	**20**	*e*PN	**Pn**	**16 42 16.5**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**6.86**	**250**	*e*PN	**Pn**	**16 42 20.0**	**+0.2**
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.28**	**276**	*e*PN	**Pn**	**16 42 45.9**	**+6.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.28**	**276**	*e*Pn	**Pn**	**16 42 42.8**	**+3.6**
ASAJ	**Asahikawa**	**8.99**	**258**	Pn	**Pn**	**16 42 50.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=91,slow=22,SNR=4.2						
ASAJ	**Asahikawa**	**8.99**	**258**	PN	**Pn**	**16 42 50.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.59**	**245**	PN	**Pn**	**16 42 56.8**	**-0.4**
KLR	**Kul'dur**	**15.64**	**288**	*e*P	**Pn**	**16 44 20.2**	**+0.6**
MAJO	**Matsushiro**	**16.03**	**237**	*e*P	**Pn**	**16 44 24.3**	**-0.3**
MAT	**Matsushiro**	**16.03**	**237**	P	**Pn**	**16 44 25.1**	**+0.5**
MJAR	**Matsushiro Arr**	**16.03**	**237**	Pn	**Pn**	**16 44 23.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=4.6						
CN2	**Changchun**	**20.83**	**273**	*e*P	**P**	**16 45 19.6**	**-1.2**
YAK	**Yakutsk**	**20.98**	**326**	*e*P	**P**	**16 45 21.2**	**-1.3**
YAK				*e**PP		16 45 28.2	
YAK				*e*S	**S**	**16 49 10.1**	**-6.1**
YAK				*e*SS		16 49 37.3	
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,41nm,1.3s						
YAK				pmax	pmax		
	comp=N,37nm,1.7s						
YAK				pmax	pmax		
	comp=E,37nm,1.5s						
YAK				smax			
	comp=N,122nm,2.0s						
YAK				smax			
	comp=Z,324nm,4.6s						
YAK				smax			
	comp=E,145nm,3.5s						
YAK				MLR	MLR		
	comp=Z,4μm,76.0s						
YAK	**Yakutsk**	**20.98**	**326**	*e*P	**P**	**16 45 21.4**	**-1.1**
	comp=Z,19nm,0.6s						
KSRS	**Korea Array**	**21.92**	**255**	P	**P**	**16 45 33.2**	**+0.7**
	comp=Z,6.6nm,0.9s,mb4.0,baz=55,slow=11,SNR=8.1						
BILL	**Bilibino**	**22.16**	**11**	*e*P	**P**	**16 45 35.4**	**+0.2**
BILL				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
BILL	**Bilibino**	**22.16**	**11**	*e*P	**P**	**16 45 34.2**	**-1.0**
	comp=Z,24nm,1.1s,mb4.5						
TIXI	**Tiksi**	**27.83**	**343**	*e*P	**P**	**16 46 27.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
TIXI	**Tiksi**	**27.83**	**343**	*e*P	**P**	**16 46 27.4**	**-1.2**
	comp=Z,10nm,1.0s,mb4.4						
SONM	**Songino Array**	**32.45**	**290**	P	**P**	**16 47 08.4**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=68,slow=8.7,SNR=3.1						
ZAK	**Zakamensk**	**33.75**	**296**	*e*P	**P**	**16 47 19.9**	**-0.9**
ZAK				*e*		16 49 58.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
LZH	**Lanzhou**	**39.06**	**273**	*e*P	**P**	**16 48 09.3**	**+3.1**
LZH				AP	pP	16 48 14.6	+5.3
LZH				XP	sP	16 48 16.3	+5.7
LZH				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
LZH	**Lanzhou**	**39.06**	**273**	*e*P	**P**	**16 48 09.2**	**+3.0**
LZH				*PP	pP	16 48 14.6	+5.3
LZH				*SP	sP	16 48 16.3	+5.7
LZH				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
LZH	**Lanzhou**	**39.06**	**273**	*e*P	**P**	**16 48 09.2**	**+3.0**
	comp=Z,18nm,1.1s,mb4.7						
LZH				pP	pP	16 48 14.6	+5.3
LZH				sP	sP	16 48 16.3	+5.7
GTA	**Gaotai**	**40.13**	**280**	*e*P	**P**	**16 48 17.3**	**+2.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
INK	**Inuvik**	**41.04**	**33**	P	**P**	**16 48 22.5**	**-0.1**
	comp=Z,2.8nm,0.9s,mb3.9,baz=249,slow=6.6,SNR=4.0						
GYA	**Guiyang**	**42.86**	**259**	⇑*i*P	**P**	**16 48 38.3**	**+0.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**43.59**	**306**	P	**P**	**16 48 42.5**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.1,baz=54,slow=8.5,SNR=4.9						
NVS	**Novosibirsk**	**44.13**	**308**	*e*P	**P**	**16 48 45.7**	**-2.1**
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
MK31	**Makanchi Array**	**47.99**	**298**	*e*P	**P**	**16 49 17.4**	**-0.8**
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**16 49 18.1**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.3,baz=69,slow=6.2,SNR=8.4						
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**16 49 43.2**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**16 49 43.2**	**-0.5**
	comp=Z,20nm,0.5s,mb5.3						
LSA	**Lhasa**	**51.45**	**274**	*e*P	**P**	**16 49 47.0**	**+2.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**51.45**	**274**	*e*P	**P**	**16 49 47.0**	**+2.5**
	comp=Z,4.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**16 49 47.7**	**+0.8**
	comp=Z,3.5nm,0.4s,mb4.7,baz=60,slow=7.1,SNR=11						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**16 49 47.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**16 49 47.3**	**+0.1**
	comp=Z,9.6nm,0.6s,mb4.9						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**16 49 52.7**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**16 49 52.7**	**0.0**
	comp=Z,11nm,0.5s,mb5.0						
AAK	**Ala-Archa**	**54.89**	**297**	*e*P	**P**	**16 50 09.7**	**-0.2**
EDM	**Edmonton**	**55.48**	**47**	*e*P	**P**	**16 50 13.8**	**-0.3**
ARU	**Arti**	**55.81**	**318**	⇑*i*P	**P**	**16 50 13.6**	**-2.9**
ARU				*e*S	**S**	**16 57 56.2**	**-7.4**
ARU				*e*SS	SS	17 01 42.0	-7.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ARU	**Arti**	**55.81**	**318**	*e*P	**P**	**16 50 16.4**	**-0.1**
	comp=Z,17nm,0.5s,mb5.3						
YBH	**Yreka Blue Hor**	**56.71**	**63**	P	**P**	**16 50 24.0**	**+1.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=20,slow=2.5,SNR=4.1						
KEV	**Kevo**	**57.75**	**341**	*e*p	**P**	**16 50 29.3**	**-1.0**
ARCES	**ARCESS Array B**	**58.25**	**341**	P	**P**	**16 50 35.7**	**+1.9**
	comp=Z,7.3nm,1.0s,mb4.7,baz=28,slow=8.6,SNR=7.3						
AKTK	**Aktyubinsk**	**59.61**	**313**	P	**P**	**16 50 44.5**	**+1.3**
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**16 50 44.5**	**+1.3**
	comp=Z,2.2nm,0.5s,mb4.4,baz=78,slow=9.9,SNR=8.8						
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**16 50 44.5**	**+1.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BW06	**Boulder Array**	**63.80**	**55**	*e*P	**P**	**16 51 11.2**	**-0.3**
	comp=Z,4.3nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**63.80**	**55**	P	**P**	**16 51 11.7**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.5,baz=286,slow=2.3,SNR=12						
FINES	**FINESS Array B**	**64.55**	**335**	P	**P**	**16 51 16.4**	**0.0**
	comp=Z,3.8nm,0.4s,mb4.8,baz=34,slow=5.4,SNR=13						
MSU	**Marysvale**	**65.05**	**60**	*e*P	**P**	**16 51 20.1**	**+0.4**
TMUT	**Trail Mountain**	**65.11**	**59**	*e*P	**P**	**16 51 19.6**	**-0.5**
SRU	**San Rafael**	**65.63**	**58**	*e*P	**P**	**16 51 23.3**	**-0.1**
SRU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SRU	**San Rafael**	**65.63**	**58**	*e*P	**P**	**16 51 23.3**	**-0.1**
	comp=Z,10.0nm,0.8s,mb4.9						
ULM	**Lac du Bonnet**	**65.76**	**42**	P	**P**	**16 51 24.5**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.4,baz=323,slow=9.4,SNR=3.6						
RSSD	**Black Hills**	**65.93**	**51**	*e*P	**P**	**16 51 25.3**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
RSSD	**Black Hills**	**65.93**	**51**	*e*P	**P**	**16 51 25.3**	**-0.1**
	comp=Z,15nm,1.3s,mb4.9						
WUAZ	**Wupatki**	**67.51**	**62**	*e*P	**P**	**16 51 35.8**	**+0.4**
	comp=Z,10nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**68.62**	**342**	P	**P**	**16 51 44.7**	**+2.3**
	comp=Z,3.2nm,0.6s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.62**	**342**	P	**P**	**16 51 43.0**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=26,slow=6.4,SNR=9.7						
WRA	**Warramunga Arr**	**68.89**	**201**	P	**P**	**16 51 42.2**	**-1.9**
	comp=Z,3.3nm,0.9s,mb4.3,baz=20,slow=6.8,SNR=9.8						
POO	**Poona**	**70.63**	**277**	*e*P	**P**	**16 51 51.0**	**-3.8**
ANMO	**Albuquerque**	**70.84**	**59**	P	**P**	**16 51 56.4**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=331,slow=7.9,SNR=5.3						
AKASG	**Malin Array Be**	**72.21**	**327**	P	**P**	**16 52 03.0**	**-1.4**
	comp=Z,0.5nm,0.3s,mb3.9,baz=33,slow=6.1,SNR=4.1						
ASAR	**Alice Springs**	**72.58**	**200**	P	**P**	**16 52 05.7**	**-0.9**
	comp=Z,5.9nm,0.7s,mb4.6,baz=15,slow=5.0,SNR=22						
STHS	**Stebnicka Huta**	**76.11**	**331**	*e*P	**P**	**16 52 31.7**	**+4.6**
STHS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
STHS	**Stebnicka Huta**	**76.11**	**331**	*e*P	**P**	**16 52 31.7**	**+4.6**
	comp=Z,4.2nm,1.1s,mb4.3						
LTX	**Lajitas**	**76.47**	**62**	*e*P	**P**	**16 52 28.9**	**-0.3**
LTX				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
LTX	**Lajitas**	**76.47**	**62**	*e*P	**P**	**16 52 28.9**	**-0.3**
	comp=Z,21nm,1.1s,mb5.0						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**16 52 29.2**	**0.0**
	comp=Z,10nm,0.7s,mb4.9,baz=298,slow=4.2,SNR=29						
DPC	**Dobruska-Polom**	**76.86**	**334**	*e*P	**P**	**16 52 35.1**	**+3.7**
CLL	**Collm**	**76.96**	**337**	⇑*i*P	**P**	**16 52 34.7**	**+2.8**
CLL				*i*	pP	16 52 37.3	+2.1
CLL				*i*		16 52 45.9	
CLL				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
CLL	**Collm**	**76.96**	**337**	⇑*i*P	**P**	**16 52 34.7**	**+2.8**
	comp=Z,7.0nm,0.9s,mb4.6						
CLL				*i*	pP	16 52 37.3	+2.1
CLL				*i*		16 52 45.9	
CLL	**Collm**	**76.96**	**337**	⇑*i*P	**P**	**16 52 34.7**	**+2.8**
	comp=Z,7.0nm,0.9s,mb4.6						
CLL				*i* pP	pP	16 52 37.3	+2.1
	comp=Z,14nm,0.9s						
CLL				*i* PcP	PcP	16 52 45.9	+3.0
KECS	**Kecovo**	**77.17**	**331**	*e*P	**P**	**16 52 38.5**	**+5.4**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KECS	**Kecovo**	**77.17**	**331**	*e*P	**P**	**16 52 38.5**	**+5.4**
	comp=Z,1.7nm,0.8s,mb4.0						
PRU	**Pruhonice**	**77.71**	**335**	*e*P	**P**	**16 52 39.8**	**+3.7**
NKC	**Novy Kostel**	**78.08**	**336**	*e*P	**P**	**16 52 42.7**	**+4.5**
KHC	**Kasperske Hory**	**78.76**	**335**	*e*P	**P**	**16 52 43.7**	**+1.8**
GRA1	**Grafenberg Arr**	**78.91**	**337**	*e*P	**P**	**16 52 46.7**	**+3.9**
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**78.91**	**337**	*e*P	**P**	**16 52 46.7**	**+3.9**
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**78.91**	**337**	*e*P	**P**	**16 52 46.7**	**+3.9**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**78.98**	**335**	P	**P**	**16 52 42.7**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=46,slow=5.6,SNR=2.6						
BRTR	**Keskin Array B**	**79.20**	**318**	P	**P**	**16 52 44.5**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=66,slow=12,SNR=2.9						
CDF	**Champ du Feu**	**81.11**	**339**	*e*P	**P**	**16 53 01.2**	**+6.5**
	comp=Z,19nm,0.9s,mb4.7						
GRR	**Gorron**	**82.92**	**344**	*e*P	**P**	**16 53 12.2**	**+8.0**
SMF	**Signal de Mont**	**83.59**	**340**	*e*P	**P**	**16 53 14.8**	**+7.2**
	comp=Z,36nm,1.1s,mb5.1						
LPG	**La Plagne**	**83.95**	**338**	*e*P	**P**	**16 53 17.5**	**+8.0**
	comp=Z,16nm,0.7s,mb5.0						
CAF	**Calviac**	**85.62**	**341**	*e*P	**P**	**16 53 26.2**	**+8.3**
	comp=Z,11nm,0.7s,mb4.9						
VNDA	**Vanda**	**124.05**	**178**	PKP	PKPdf	16 59 34.2	-3.6
	comp=Z,0.6nm,1.0s,baz=295,slow=4.7,SNR=3.7						
SNAA	**Sanae**	**152.85**	**195**	PKPbc	PKPbc	17 00 33.4	-3.1
	comp=Z,0.5nm,0.6s,baz=282,slow=1.4,SNR=6.7						
SNAA				PKPab	PKPab	17 00 44.7	-2.7
	comp=Z,1.7nm,0.8s,baz=34,slow=4.2,SNR=7.0						
SNAA	**Sanae**	**152.85**	**195**	*e*PKPbc	PKPbc	17 00 33.1	-3.4
SNAA				PKPab	PKPab	17 00 44.7	-2.7

ISCJB ***15*** *16:49:25.1±0.6, 4720N±008×15534E±009, h10km, mb4.4/35, Error ellipse: s-maj=12.1km s-min=7.4km az=110.5*
MOS ***15*** *16:49:25.7±1.2, 4707N×15537E, h20km, mb4.8/14, Error ellipse: s-maj=10.1km s-min=8.3km az=113.1*
IDC ***15*** *16:49:25.0±0.7, 4705N×15530E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.2/18, ML3.9/1, Error ellipse: s-maj=19.7km s-min=17.0km az=137.0*
NEIC ***15*** *16:49:26.4±0.6, 4704N×15527E, h10km, mb4.6/11, Error ellipse: s-maj=13.8km s-min=8.0km az=136.0*
BJI ***15*** *16:49:28.9, 4738N×15469E, h10km, mB4.9, mb4.5*

ISC 15 16:49:26.8±0.6, 4719N±008×1554E±01, h10km, n86, σ1§12/81, mb4.4/35, 2C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.21**	**19**	*e*PN	**Pn**	**16 50 58.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.62**	**273**	*e*PN	**Pn**	**16 51 34.5**	**+3.0**
YSS	**Yuzh-Sakhalins**	**8.62**	**273**	*e*Pn	**Pn**	**16 51 34.8**	**+3.2**
ASAJ	**Asahikawa**	**9.46**	**256**	Pn	**Pn**	**16 51 43.6**	**+0.6**
	1.2nm,0.3s,baz=73,slow=14,SNR=6.5						
ASAJ	**Asahikawa**	**9.46**	**256**	PN	**Pn**	**16 51 43.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.13**	**244**	*e*PN	**Pn**	**16 51 53.8**	**+1.6**
ERM	**Erimo**	**10.13**	**244**	*e*Pn	**Pn**	**16 51 51.1**	**-1.1**
HABR	**Khabarovsk**	**13.71**	**283**	*e*P	**Pn**	**16 52 43.3**	**+2.1**
KLR	**Kul'dur**	**15.87**	**286**	*e*P	**Pn**	**16 53 11.1**	**+0.9**
MAJO	**Matsushiro**	**16.60**	**236**	*e*P	**Pn**	**16 53 15.2**	**-4.3**
MAT	**Matsushiro**	**16.60**	**236**	P	**Pn**	**16 53 14.9**	**-4.6**
MJAR	**Matsushiro Arr**	**16.60**	**236**	Pn	**Pn**	**16 53 15.6**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=30,slow=14,SNR=12						
YAK	**Yakutsk**	**20.82**	**325**	*e*P	**P**	**16 54 08.8**	**+0.5**
YAK				*e**PP		16 54 14.1	
YAK				*e*S	**S**	**16 57 53.5**	**-7.1**
YAK				*e*SS		16 58 18.1	
YAK				pmax	pmax		
	comp=Z,17nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,13nm,1.2s						
YAK				pmax	pmax		
	comp=N,21nm,1.2s						
YAK				pmax	pmax		
	comp=Z,21nm,1.2s						
YAK				pmax	pmax		
	comp=E,23nm,1.5s						
YAK				smax			
	comp=N,61nm,2.3s						
YAK				smax			
	comp=Z,107nm,2.9s						
YAK				smax			
	comp=E,125nm,3.5s						
YAK	**Yakutsk**	**20.82**	**325**	*e*Pn	**P**	**16 54 07.5**	**-0.8**
	comp=E,16nm,0.6s						
CN2	**Changchun**	**21.19**	**272**	*e*P	**P**	**16 54 09.0**	**-3.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
BILL	**Bilibino**	**21.64**	**11**	*e*P	**P**	**16 54 17.9**	**+0.7**
BILL				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
BILL	**Bilibino**	**21.64**	**11**	*e*P	**P**	**16 54 16.9**	**-0.2**
	comp=Z,9.1nm,0.6s,mb4.4						
KSRS	**Korea Array**	**22.41**	**254**	P	**P**	**16 54 26.1**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.0,baz=55,slow=9.9,SNR=12						
HIA	**Hailar**	**23.70**	**288**	*e*P	**P**	**16 54 34.9**	**-3.9**
BOD	**Bodaibo**	**26.91**	**309**	*e*P	**P**	**16 55 03.9**	**-4.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb3.9						
TIXI	**Tiksi**	**27.50**	**342**	*e*P	**P**	**16 55 11.7**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.6						
TIXI	**Tiksi**	**27.50**	**342**	*e*P	**P**	**16 55 11.7**	**-1.6**
	comp=Z,26nm,1.5s,mb4.6						
BJI	**Beijing**	**29.03**	**270**	*e*P	**P**	**16 55 30.8**	**+3.9**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
BJI	**Beijing**	**29.03**	**270**	*e*P	**P**	**16 55 30.7**	**+3.8**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
BJI	**Beijing**	**29.03**	**270**	*e*P	**P**	**16 55 30.7**	**+3.8**
	comp=Z,6.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**32.22**	**289**	*e*P	**P**	**16 55 54.1**	**-0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**32.22**	**289**	*e*P	**P**	**16 55 54.1**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.0						
SONM	**Songino Array**	**32.65**	**290**	P	**P**	**16 55 57.6**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=58,slow=9.1,SNR=11						
COLA	**College**	**34.83**	**39**	*e*P	**P**	**16 56 18.0**	**+0.2**
COLA	**College**	**34.83**	**39**	*e*P	**P**	**16 56 18.3**	**+0.5**
LZH	**Lanzhou**	**39.42**	**273**	*e*P	**P**	**16 56 57.5**	**+0.7**
LZH				AP	pP	16 57 02.8	+2.9
LZH				XP	sP	16 57 04.8	+3.7
LZH				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
LZH	**Lanzhou**	**39.42**	**273**	*e*P	**P**	**16 56 57.5**	**+0.7**
LZH				*PP	pP	16 57 02.7	+2.8
LZH				*SP	sP	16 57 04.8	+3.7
LZH				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
LZH	**Lanzhou**	**39.42**	**273**	*e*P	**P**	**16 56 57.5**	**+0.7**
	comp=Z,18nm,1.1s,mb4.7						
LZH				pP	pP	16 57 02.7	+2.8
LZH				sP	sP	16 57 04.8	+3.7
INK	**Inuvik**	**40.45**	**33**	P	**P**	**16 57 06.3**	**+1.0**
	comp=Z,5.6nm,0.7s,mb4.4,baz=289,slow=7.0,SNR=17						
CD2	**Chengdu**	**42.46**	**266**	P	**P**	**16 57 22.8**	**+1.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
GYA	**Guiyang**	**43.32**	**259**	⇑*i*P	**P**	**16 57 29.4**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**43.62**	**306**	P	**P**	**16 57 30.2**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.5,baz=52,slow=7.8,SNR=14			

NOA	**NORSAR Array B**	**68.30**	**342**	P		**P**	**17 00 29.4**	**+1.4**
WRA	**Warramunga Arr**	**69.46**	**201**	P		**P**	**17 00 33.4**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=19,slow=6.7,SNR=6.7							
AKASG	**Malin Array Be**	**72.03**	**327**	P		**P**	**17 00 50.0**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.2,baz=34,slow=6.4,SNR=10.0							
ASAR	**Alice Springs**	**73.14**	**201**	P		**P**	**17 00 56.9**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=16,slow=6.0,SNR=15							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**17 01 13.8**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=303,slow=5.7,SNR=8.0							
DPC	**Dobruska-Polom**	**76.61**	**334**	*e*P		**P**	**17 01 22.4**	**+4.8**
CLL	**Collm**	**76.69**	**337**	*i* P		**P**	**17 01 21.5**	**+3.5**
CLL				pmax	pmax			
	comp=Z,7.0nm,1.9s,mb4.3							
CLL	**Collm**	**76.69**	**337**	*i* pP		**P**	**17 01 21.5**	**+3.5**
	comp=Z,46nm,1.9s,mb5.1							
PVCC	**Panska Ves**	**76.96**	**336**	*e*P		**P**	**17 01 21.8**	**+2.3**
KHC	**Kasperske Hory**	**78.50**	**336**	*e*P		**P**	**17 01 31.7**	**+3.6**
KHC	**Kasperske Hory**	**78.50**	**336**	*e*P		**P**	**17 01 28.6**	**+0.5**
GERES	**GERESS Array B**	**78.72**	**335**	P		**P**	**17 01 29.3**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=8.5,slow=2.7,SNR=3.5							
BRTR	**Keskin Array B**	**79.12**	**318**	P		**P**	**17 01 32.4**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=55,slow=6.0,SNR=5.2							
CDF	**Champ du Feu**	**80.82**	**339**	*e*P		pP	17 01 45.8	+1.8
GRR	**Gorron**	**82.58**	**344**	*e*P		pP	17 01 55.7	+2.4
SMF	**Signal de Mont**	**83.28**	**341**	*e*P		pP	17 01 59.6	+2.6
LPG	**La Plagne**	**83.67**	**338**	*e*P		pP	17 02 02.0	+3.1
	comp=Z,9.6nm,0.6s							
LFF	**La Frestale**	**85.58**	**342**	*e*P		pP	17 02 11.0	+2.4
SNAA	**Sanae**	**153.40**	**195**	*e*PKPdf		PKPdf	17 09 20.5	+2.9
SNAA				*e*			17 09 26.4	
VNA2	**Neumayer--Watz**	**154.80**	**193**	*e*PKPdf		PKPbc	17 09 26.1	-2.1
VNA2				*e*			17 09 31.5	

*ISCJB **15** 16:56:14.6±0.5, 4757N±007×15431E±009, h10km, mb4.2/19, Error ellipse: s-maj=12.5km s-min=3.9km az=100.9*
*IDC **15** 16:56:15.2±0.7, 4775N×15431E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/25, mbtmp4.1/14, ML3.5/1, Error ellipse: s-maj=21.1km s-min=16.0km az=158.0*
*NEIC **15** 16:56:16.6±0.6, 4771N×15438E, h10km, mb4.5/7, Error ellipse: s-maj=15.8km s-min=10.9km az=151.0*
*BJI **15** 16:56:16.6, 4770N×15440E, h10km, mB4.9, mb4.5*
*MOS **15** 16:56:19.9±1.4, 4780N×15436E, h48km, mb4.5/4, Error ellipse: s-maj=13.0km s-min=10.1km az=66.0*

ISC 15 16:56:16.7±0.5, 4766N±006×15435E±009, h10km, n71, σ1º42/85, mb4.2/19, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.24**	**20**	*e*PN	**Pn**	**16 57 08.7**	**+1.2**
SKR				*e*S	**Sn**	**16 57 45.0**	**-1.1**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,180nm,0.5s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				smax			
	comp=E,250nm,0.5s						
SKR				smax			
	comp=N,670nm,0.7s						
SKR				smax			
	comp=Z,370nm,0.5s						
KUR	**Kuril'sk**	**5.10**	**244**	*e*PN	**Pn**	**16 57 34.0**	**+1.0**
KUR				*i* S	**Sb**	**16 58 42.0**	**-5.2**
KUR				pmax	pmax		
	comp=Z,220nm,7.0s						
KUR				smax			
	comp=N,2μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
PET	**Petropavlovsk**	**6.03**	**26**	*e*PN	**Pn**	**16 57 45.7**	**-0.2**
PET				pmax	pmax		
	comp=Z,58nm,1.1s						
PET	**Petropavlovsk**	**6.03**	**26**	*e*Pn	**Pn**	**16 57 47.4**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**6.95**	**242**	PN	**Pb**	**16 58 20.0**	**+2.6**
NEM2	**Nemuro 2**	**7.42**	**238**	P	**Pn**	**16 58 05.4**	**+0.5**
NEM2				eS	**Sn**	**16 58 28.1**	**-1.0**
JRA	**Rausu**	**7.45**	**243**	P	**Pn**	**16 58 08.6**	**+3.3**
JNK	**Nakash**	**7.88**	**242**	P	**Pn**	**16 58 14.3**	**+3.0**
JNK				eS	**Sn**	**16 59 42.8**	**+2.2**
YSS	**Yuzh-Sakhalins**	**7.92**	**269**	*e*PN	**Pn**	**16 58 16.0**	**+4.2**
YSS				S	**Sn**	**16 59 47.8**	**+6.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.92**	**269**	*e*Pn	**Pn**	**16 58 15.6**	**+3.9**
	comp=Z,34nm,0.6s						
JTKR	**Abashiri--Toko**	**8.17**	**247**	P	**Pn**	**16 58 19.6**	**+4.3**
JAK	**Akkeshi**	**8.24**	**239**	P	**Pn**	**16 58 17.0**	**+0.7**
JAK				eS	**Sn**	**16 59 47.5**	**-2.0**
JMP	**Maruseppu**	**8.50**	**249**	P	**Pn**	**16 59 28.7**	**+5.9**
JAR	**Ashorobuto**	**8.62**	**243**	eS	**Sn**	**17 00 02.9**	**+4.2**
JOB	**Onbets**	**8.81**	**241**	eS	**Sn**	**17 00 02.4**	**-0.9**
JWK2	**Keihoku**	**8.91**	**259**	P	**Pn**	**16 58 31.9**	**+6.5**
ASAJ	**Asahikawa**	**8.93**	**251**	Pn	**Pn**	**16 58 31.3**	**+5.6**
	comp=Z,2.0nm,0.3s,baz=59,slow=18,SNR=10						
ASAJ	**Asahikawa**	**8.93**	**251**	PN	**Pn**	**16 58 31.3**	**+5.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.95**	**249**	P	**Pn**	**16 58 29.6**	**+3.6**
JCH	**Churui**	**9.26**	**241**	eS	**Sn**	**17 00 10.9**	**-3.5**
JEM	**Erimo**	**9.75**	**239**	P	**Pn**	**16 58 36.5**	**-0.4**
JEM				eS	**Sn**	**17 00 26.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**9.82**	**241**	eS	**Sn**	**17 00 22.3**	**-5.8**
JEW	**Eniwo**	**10.29**	**247**	P	**Pn**	**16 58 48.4**	**+4.1**
JEW				eS	**Sn**	**17 00 52.7**	**+13**
JNB	**Noboribetsu**	**10.75**	**246**	P	**Pn**	**16 58 52.4**	**+1.8**
JKB	**Kayabe**	**11.08**	**243**	P	**Pn**	**16 58 54.5**	**-0.7**
JKB				eS	**Sn**	**17 00 52.7**	**-6.4**
JSH	**Shimam**	**11.28**	**249**	P	**Pn**	**16 59 00.3**	**+2.5**
JOT	**Ohata**	**11.38**	**241**	P	**Pn**	**16 58 57.9**	**-1.3**
JOT				eS	**Sn**	**17 00 56.5**	**-10**
JTM	**Tenmabayashi**	**11.74**	**239**	eS	**Sn**	**17 01 07.0**	**-8.2**
JANG	**Nango**	**11.76**	**236**	P	**Pn**	**16 59 01.6**	**-2.8**
JANG				eS	**Sn**	**17 01 05.6**	**-10**
JTH	**Tanohata**	**11.86**	**234**	eS	**Sn**	**17 01 07.4**	**-11**
JOM	**Ohasama**	**12.50**	**234**	P	**Pn**	**16 59 11.8**	**-2.8**
JOM				eS	**Sn**	**17 01 22.2**	**-12**
OFUJ	**Ofunato**	**12.58**	**232**	P	**Pn**	**16 59 14.9**	**-0.8**
OFUJ				eS	**Sn**	**17 01 25.7**	**-10**
JRG	**Rokugo**	**12.92**	**235**	P	**Pn**	**16 59 20.2**	**-0.1**
JRG				eS	**Sn**	**17 01 38.5**	**-5.6**
JIO	**Ouri**	**13.21**	**231**	P	**Pn**	**16 59 23.2**	**-1.1**
JIO				eS	**Sn**	**17 01 41.8**	**-9.5**
JMM	**Marumori**	**13.94**	**230**	eS	**Sn**	**17 02 01.1**	**-8.0**
KLR	**Kul'dur**	**15.07**	**284**	*e*P	**Pn**	**16 59 52.3**	**+2.6**
MJAR	**Matsushiro Arr**	**16.30**	**233**	Pn	**Pn**	**17 00 07.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=312,slow=37,SNR=3.8						
MAT	**Matsushiro**	**16.30**	**233**	P	**Pn**	**17 00 08.8**	**+3.2**
YAK	**Yakutsk**	**20.04**	**325**	*e*P	**P**	**17 00 54.5**	**+4.8**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK	**Yakutsk**	**20.04**	**325**	*e*P	**P**	**17 00 51.0**	**+1.3**
	comp=E,21nm,0.8s						
CN2	**Changchun**	**20.48**	**270**	*e*P	**P**	**17 01 01.0**	**+6.4**
BILL	**Bilibino**	**21.32**	**12**	P	**P**	**17 01 00.5**	**-3.1**
BILL	**Bilibino**	**21.32**	**12**	P	**P**	**17 01 00.5**	**-3.2**
KSRS	**Korea Array**	**21.88**	**252**	P	**P**	**17 01 11.1**	**+1.5**
	comp=E,8.2nm,0.9s,mb4.2,baz=60,slow=9.5,SNR=21						
ULN	**Ulaanbaatar**	**31.41**	**288**	*e*P	**P**	**17 02 38.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**31.41**	**288**	*e*P	**P**	**17 02 38.8**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.9						
SONM	**Songino Array**	**31.84**	**288**	P	**P**	**17 02 42.0**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=81,slow=8.9,SNR=3.1						
INK	**Inuvik**	**40.43**	**33**	P	**P**	**17 03 55.1**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=307,slow=8.9,SNR=5.8						
INK	**Inuvik**	**40.43**	**33**	*e*P	**P**	**17 03 54.8**	**-0.3**
	comp=Z,53nm,0.6s,mb5.5						
GYA	**Guiyang**	**42.73**	**258**	*e*P	**P**	**17 04 13.9**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**42.78**	**305**	P	**P**	**17 04 14.3**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.1,baz=268,slow=2.1,SNR=3.5						
ZAL	**Zalesovo**	**42.78**	**305**	P	**P**	**17 04 14.3**	**-0.1**
MK31	**Makanchi Array**	**47.27**	**297**	*e*P	**P**	**17 04 50.8**	**+0.7**
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**17 04 49.3**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.4,baz=73,slow=7.9,SNR=28						
CHKZ	**Chkalovo**	**50.49**	**310**	*e*P	**P**	**17 05 12.4**	**-2.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**50.49**	**310**	*e*P	**P**	**17 05 12.4**	**-2.4**
	comp=Z,3.0nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**17 05 17.0**	**-1.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=62,slow=7.1,SNR=9.0						
LSA	**Lhasa**	**51.07**	**273**	*e*P	**P**	**17 05 20.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.07**	**273**	*e*P	**P**	**17 05 20.5**	**+1.4**
	comp=Z,2.8nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**51.69**	**310**	*e*P	**P**	**17 05 22.1**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**51.69**	**310**	*e*P	**P**	**17 05 22.1**	**-1.8**
	comp=Z,1.2nm,0.5s,mb4.1						
YBH	**Yreka Blue Hor**	**56.57**	**63**	P	**P**	**17 06 01.0**	**+1.6**
	comp=Z,2.7nm,0.6s,mb4.4,baz=327,slow=1.3,SNR=4.9						
BW06	**Boulder Array**	**63.53**	**55**	*e*P	**P**	**17 06 47.0**	**-0.1**
	comp=Z,4.8nm,1.3s,mb4.4						
PDAR	**Pinedale Array**	**63.53**	**55**	P	**P**	**17 06 47.0**	**-0.2**
	comp=Z,2.9nm,1.1s,mb4.2,baz=318,slow=2.0,SNR=10.0						
FINES	**FINESS Array B**	**63.57**	**335**	P	**P**	**17 06 45.3**	**-2.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=36,slow=7.5,SNR=6.1						
RSSD	**Black Hills**	**65.59**	**51**	*e*P	**P**	**17 07 00.3**	**-0.4**
WRA	**Warramunga Arr**	**69.65**	**200**	P	**P**	**17 07 26.0**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=6.4,SNR=6.6						
AKASG	**Malin Array Be**	**71.25**	**327**	P	**P**	**17 07 34.5**	**-1.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=5.9,SNR=3.5						
ASAR	**Alice Springs**	**73.34**	**200**	P	**P**	**17 07 49.0**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=12,slow=5.6,SNR=19						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**17 08 05.8**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=296,slow=4.4,SNR=19						
CFAA	**Coronel Fontan**	**143.99**	**79**	PKP	PKPdf	17 15 49.5	-2.9
	comp=Z,0.4nm,0.6s,baz=318,slow=1.8,SNR=5.5						

*IDC **15** 16:57:02.2±0.8, 4745N×15396E, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/24, mbtmp4.3/13, Error ellipse: s-maj=22.6km s-min=21.4km az=152.0*
*ISCJB **15** 16:57:03.7±5.5, 474N±0.1×1540E±0.1, h23km±36km, mb4.4/21, Error ellipse: s-maj=23.0km s-min=15.1km az=171.0*
*NEIC **15** 16:57:03.7±0.6, 4740N×15389E, h10km, mb4.6/9, Error ellipse: s-maj=15.7km s-min=10.6km az=160.0*
*MOS **15** 16:57:05.5±1.3, 4741N×15382E, h33km, mb4.8/4, Error ellipse: s-maj=22.6km s-min=10.6km az=96.4*

ISC 15 16:57:09.2±2.4, 475N±01×1539E±01, h52km±18km, n41, σ1º02/41, mb4.4/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.34**	**27**	PN	**Pn**	**16 58 39.4**	**-0.6**
MA2	**Magadan**	**12.28**	**352**	*e*PN	**Pn**	**17 00 03.0**	**+1.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MCK	**McKinley**	**34.74**	**41**	*e*P	**P**	**17 03 53.7**	**-0.7**
COLA	**College**	**35.23**	**39**	*e*P	**P**	**17 03 58.5**	**-0.1**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**35.23**	**39**	*e*P	**P**	**17 03 58.5**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9						
LZH	**Lanzhou**	**38.44**	**272**	*e*P	**P**	**17 04 29.2**	**+3.4**
LZH				*SP	sP	17 04 36.5	-8.9
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.44**	**272**	*e*P	**P**	**17 04 29.2**	**+3.4**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	17 04 34.1	-5.2
LZH				sP	sP	17 04 36.5	-8.9
INK	**Inuvik**	**40.75**	**33**	P	**P**	**17 04 44.5**	**-0.6**
	comp=Z,5.1nm,0.5s,mb4.4,baz=281,slow=5.6,SNR=9.3						
INK	**Inuvik**	**40.75**	**33**	P	**P**	**17 04 44.5**	**-0.6**
ZAL	**Zalesovo**	**42.68**	**305**	P	**P**	**17 04 59.3**	**-1.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=73,slow=4.8,SNR=3.3						
NVS	**Novosibirsk**	**43.21**	**307**	*e*P	**P**	**17 04 59.5**	**-5.6**
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**17 05 34.6**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=64,slow=8.2,SNR=3.6						
CHKZ	**Chkalovo**	**50.41**	**310**	*e*P	**P**	**17 05 58.7**	**-2.7**
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**17 06 04.4**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=53,slow=7.4,SNR=7.9						
BRVK	**Borovoye**	**50.89**	**309**	*e*P	**P**	**17 06 04.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**50.89**	**309**	*e*P	**P**	**17 06 04.2**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**51.61**	**310**	*e*P	**P**	**17 06 09.2**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**51.61**	**310**	*e*P	**P**	**17 06 09.2**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**63.64**	**335**	P	**P**	**17 07 34.6**	**-0.3**
	comp=Z,2.6nm,0.3s,mb4.7,baz=40,slow=8.5,SNR=24						
BW06	**Boulder Array**	**63.87**	**55**	*e*P	**P**	**17 07 36.6**	**+0.1**
	comp=Z,5.4nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**63.87**	**55**	P	**P**	**17 07 35.8**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.3,baz=296,slow=2.0,SNR=9.0						
NB2	**NORSAR Subarra**	**67.74**	**341**	P	**P**	**17 08 01.3**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.74**	**341**	P	**P**	**17 08 01.7**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.5,baz=30,slow=6.7,SNR=9.7						
NOA	**NORSAR Array B**	**67.74**	**341**	P	**P**	**17 08 01.7**	**+0.4**
ECSD	**EROS,Sioux Fal**	**69.99**	**47**	*e*P	**P**	**17 08 14.5**	**-0.7**
	comp=Z,11nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**70.04**	**209**	P	**P**	**17 08 15.6**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=11,slow=5.2,SNR=3.3						
AKASG	**Malin Array Be**	**71.27**	**327**	P	**P**	**17 08 22.6**	**-0.4**
	comp=Z,1.2nm,0.3s,mb4.3,baz=34,slow=6.3,SNR=8.9						
ASAR	**Alice Springs**	**73.06**	**199**	P	**P**	**17 08 34.2**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=15,slow=5.5,SNR=9.9						
UPC	**Upice**	**75.90**	**334**	*e*P	**P**	**17 08 51.6**	**+1.4**
DPC	**Dobruska-Polom**	**75.95**	**334**	*e*P	**P**	**17 08 50.8**	**+0.3**
CLL	**Collm**	**76.05**	**336**	*i*	**P**	**17 08 51.0**	**-0.1**
CLL	**Collm**	**76.05**	**336**	*i*	**P**	**17 08 51.0**	**-0.1**
CLL	**Collm**	**76.05**	**336**	*i* P	**P**	**17 08 51.0**	**-0.1**
	comp=Z,8.0nm,0.7s,mb4.8						
BRG	**Berggiesshubel**	**76.18**	**335**	*e*P	**P**	**17 08 53.2**	**+1.3**
	comp=Z,9.9nm,1.6s,mb4.5						
BRG	**Berggiesshubel**	**76.18**	**335**	*e*P	**P**	**17 08 53.2**	**+1.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
TXAR	**Lajitas Array**	**76.65**	**61**	P	**P**	**17 08 55.0**	**+0.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=292,slow=3.9,SNR=11						
PRU	**Pruhonice**	**76.80**	**334**	*e*P	**P**	**17 08 57.5**	**+2.2**
KHC	**Kasperske Hory**	**77.84**	**335**	*e*P	**P**	**17 09 01.8**	**+0.6**
GERES	**GERESS Array B**	**78.07**	**334**	P	**P**	**17 09 03.0**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=35,slow=4.9,SNR=7.2						
BR131	**Keskin Array S**	**78.26**	**317**	*e*P	**P**	**17 09 04.7**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**78.26**	**317**	P	**P**	**17 09 04.8**	**+1.3**
	comp=Z,3.3nm,1.0s,mb4.2,baz=62,slow=4.1,SNR=7.4						

IDC 15 16:58:02.8±26.0, 4743N×15445E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.7/22, mbtmp4.1/4, Error ellipse: s-maj=568.8km s-min=91.8km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**42.97**	**306**	P	P	17 06 03.2	-0.4
	1.2nm,0.5s,baz=42,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**47.44**	**297**	P	P	17 06 38.9	-0.2
	1.3nm,0.7s,baz=73,slow=6.7,SNR=3.8						
BVAR	**Borovoye Array**	**51.13**	**309**	P	P	17 07 06.8	-0.6
	1.5nm,0.6s,baz=56,slow=9.3,SNR=4.3						
FINES	**FINESS Array B**	**63.81**	**335**	P	P	17 08 36.3	-0.5
	1.2nm,0.4s,baz=40,slow=8.5,SNR=6.0						

*NEIC **15** 17:03:14.8, 1902N×9861W, h1km, MD3.5(MEX), After MEX.*

MEX 15 17:03:14.7±1.0, 1903N×9862W, h3km±8km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPM	**Popocatepetl**	**0.04**	**350**	*i* P	Pg	17 03 14.8	-0.8
PPM				*i* S	Sg	17 03 17.0	+0.8
YAIG	**Yautepec**	**0.46**	**248**	*i* P	Pg	17 03 23.5	+0.1
YAIG				*i* S	Sg	17 03 29.4	0.0
IIZ	**Mezontepec**	**0.61**	**285**	*i* P	Pg	17 03 26.1	-0.2
IIZ				*i* S	Sg	17 03 33.3	-1.0
PTVM	**Pico Tres Padr**	**0.73**	**320**	*i* S	Sg	17 03 38.0	-0.1
PTVM	**Pico Tres Padr**	**0.73**	**320**	*i* S	Sg	17 03 38.5	+0.5
UTMO	**Huajuapan**	**1.43**	**147**	*i* P	Pn	17 03 38.7	-2.7
UTMO				*i* S	Sb	17 03 56.4	-4.0

*ISCJB **15** 17:04:10.1±0.8, 47.1N±0.1×1552E±0.2, h10km, mb4.2/21, Error ellipse: s-maj=17.3km s-min=12.9km az=90.2*
*IDC **15** 17:04:10.7±1.0, 4704N×155.18E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.1/15, ML3.3/1, Error ellipse: s-maj=26.2km s-min=19.3km az=112.0*
*NEIC **15** 17:04:12.1±0.7, 4714N×15536E, h10km, mb4.6/6, Error ellipse: s-maj=15.8km s-min=11.7km az=121.0*
*MOS **15** 17:04:13.4±1.0, 4709N×155.19E, h33km, mb4.7/7, Error ellipse: s-maj=25.5km s-min=11.5km az=113.3*

ISC 15 17:04:11.8±0.8, 471N±01×1552E±02, h10km, n37, σ0º90/37, mb4.2/21, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.36**	**256**	Pn	**Pn**	**17 06 25.2**	**-1.4**
	0.3nm,0.3s,baz=90,slow=13,SNR=2.1						
MJAR	**Matsushiro Arr**	**16.48**	**236**	Pn	**Pn**	**17 08 06.5**	**+3.5**
	0.1nm,0.3s,baz=19,slow=14,SNR=4.3						
YAK	**Yakutsk**	**20.84**	**325**	*e*P	**P**	**17 08 52.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s						
YAK	**Yakutsk**	**20.84**	**325**	*e*P	**P**	**17 08 52.5**	**-1.1**
	comp=Z,12nm,0.6s						
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**17 09 03.3**	**0.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**17 09 03.3**	**+0.1**
	comp=Z,6.5nm,0.6s,mb4.2						
KSRS	**Korea Array**	**22.30**	**254**	P	**P**	**17 09 10.6**	**+1.3**
	comp=Z,1.6nm,0.7s,mb3.6,baz=55,slow=11,SNR=5.0						
SONM	**Songino Array**	**32.59**	**290**	P	**P**	**17 10 42.9**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=61,slow=8.8,SNR=5.7						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**17 11 51.9**	**+0.6**
	comp=Z,4.3nm,0.6s,mb4.3,baz=272,slow=7.3,SNR=19						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**17 11 51.9**	**+0.6**
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**17 12 15.6**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.2,baz=58,slow=5.2,SNR=7.2						
NVS	**Novosibirsk**	**44.13**	**308**	*e*P	**P**	**17 12 18.0**	**-2.4**
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
MK31	**Makanchi Array**	**48.07**	**298**	*e*P	**P**	**17 12 51.6**	**+0.2**
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**17 12 52.0**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=77,slow=7.5,SNR=9.0						
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**17 12 52.0**	**+0.5**
CHKZ	**Chkalovo**	**51.31**	**311**	*e*P	**P**	**17 13 16.0**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**51.31**	**311**	*e*P	**P**	**17 13 16.0**	**-0.1**
	comp=Z,7.6nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**17 13 19.5**	**+0.1**
	comp=Z,3.3nm,0.4s,mb4.6,baz=58,slow=7.6,SNR=34						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**17 13 19.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**17 13 19.9**	**+0.2**
	comp=Z,2.8nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**

*IDC **15** 17:06:16.0±2.0, 636S×151 08E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, ML2.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=46.8km s-min=33.8km az=153.0*

*NEIC **15** 17:06:16.9±1.4, 633S×151.12E, h10km, mb4.0/1, Error ellipse: s-maj=33.2km s-min=20.9km az=151.0*

*ISCJB **15** 17:06:19.3±5.1, 63S±03×151 0E±0.2, h43km±35km, mb3.9/6, Error ellipse: s-maj=60.9km s-min=34.6km az=127.7*

ISC 15 17:06:21.0±5.0, 63S±04×151 1E±03, h43km±34km, n15, σ0§43/16, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**231**	Pn		**Pn**	**17 07 33.1**	**+0.1**
	1.8nm,0.3s,baz=52,slow=12,SNR=13							
PMG				Sn		**Sn**	**17 08 29.4**	**+0.3**
	3.7nm,0.3s,baz=173,slow=23,SNR=8.2							
PMG				LR		LR	17 08 41.5	
	comp=Z,143nm,21.9s,baz=222,slow=30							
PMG	**Port Moresby**	**4.97**	**231**	*e*Pn		**Pn**	**17 07 33.0**	**0.0**
PMG				Sn		**Sn**	**17 08 29.4**	**+0.3**
PMG				LR		LR	17 08 41.5	
WRAB	**Tennant Creek**	**21.17**	**229**	*e*P		**P**	**17 11 02.0**	**-0.5**
	5.1nm,0.7s,mb4.0							
WB2	**Warramunga Arr**	**21.17**	**229**	*e*P		**P**	**17 11 02.2**	**-0.3**
WB2	**Warramunga Arr**	**21.17**	**229**	*e*P		**P**	**17 11 02.1**	**-0.4**
WRA	**Warramunga Arr**	**21.18**	**229**	P		**P**	**17 11 02.4**	**-0.2**
	4.8nm,0.8s,mb3.9,baz=54,slow=11,SNR=25							
AS31	**Alice Springs**	**23.90**	**222**	*e*P		**P**	**17 11 30.3**	**-0.4**
ASAR	**Alice Springs**	**23.91**	**222**	P		**P**	**17 11 30.5**	**-0.2**
	2.6nm,0.7s,mb3.8,baz=55,slow=8.9,SNR=41							
ASPA	**Alice Springs**	**23.91**	**222**	*e*P		**P**	**17 11 30.4**	**-0.3**
STKA	**Stephens Creek**	**26.96**	**198**	*e*P		**P**	**17 11 58.9**	**+0.5**
	7.2nm,1.5s,mb4.0							
STKA	**Stephens Creek**	**26.96**	**198**	P		**P**	**17 11 58.9**	**+0.5**
	8.6nm,1.2s,mb4.2,baz=23,slow=8.6,SNR=4.3							
STKA	**Stephens Creek**	**26.96**	**198**	*e*P		**P**	**17 11 58.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.45**	**242**	P		**P**	**17 12 03.8**	**+1.0**
	7.1nm,0.6s,mb4.4,baz=59,slow=7.6,SNR=34							
VNDA	**Vanda**		**71.43**	**178**	P	**P**	**17 17 37.0**	**+0.2**
	0.5nm,0.8s,mb3.5,baz=305,slow=4.9,SNR=3.2							
TORD	**Torodi Ar. Bea**		**149.08**	**285**	PKPbc	PKPbc	17 26 07.2	+2.8
	0.8nm,0.6s,baz=61,slow=2.9,SNR=5.4							

*ISCJB **15** 17:09:26.0±1.0, 469N±0.1×152 2E±0.2, h10km, mb3.9/9, Error ellipse: s-maj=23.1km s-min=8.7km az=90.1*

*IDC **15** 17:09:26.3±1.4, 4703N×152 37E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.7/25, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=37.4km s-min=24.6km az=119.0*

*NEIC **15** 17:09:27.8±1.0, 4691N×152 42E, h10km, mb4.1/3, Error ellipse: s-maj=25.9km s-min=13.7km az=119.0*

*MOS **15** 17:09:28.5±2.0, 4688N×152 23E, h33km, mb4.2/2, Error ellipse: s-maj=20.4km s-min=12.7km az=71.5*

ISC 15 17:09:27.4±1.0, 470N±01×152 4E±02, h10km, n19, σ0§90/20, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.59**	**243**	*i* PN		**Pn**	**17 10 17.0**	**-6.1**
KUR				*i* S		**Sn**	**17 11 00.5**	**-5.0**
KUR				smax				
	comp=N,240nm,0.8s							
SKR	**Severo-Kuril's**	**4.46**	**32**	*e*PN		**Pn**	**17 10 34.0**	**-1.1**
SKR				*e*			17 11 34.5	
ASAJ	**Asahikawa**	**7.44**	**251**	Pn		**Pn**	**17 11 14.8**	**-1.1**
	comp=N,0.6nm,0.3s,baz=69,slow=15,SNR=3.6							
ASAJ	**Asahikawa**	**7.44**	**251**	PN		**Pn**	**17 11 14.9**	**-1.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**14.82**	**230**	Pn		**Pn**	**17 12 57.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=16,SNR=3.4							
YAK	**Yakutsk**	**19.88**	**328**	P		**Pn**	**17 14 01.2**	**+0.9**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
YAK	**Yakutsk**	**19.88**	**328**	P		**Pn**	**17 14 01.1**	**+0.8**
	comp=Z,8.9nm,0.8s							
BILL	**Bilibino**	**22.30**	**14**	*e*P		**P**	**17 14 27.0**	**+2.1**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb3.8							
BILL	**Bilibino**	**22.30**	**14**	*e*P		**P**	**17 14 27.0**	**+2.1**
	comp=Z,4.4nm,1.0s,mb3.8							
INK	**Inuvik**	**41.74**	**32**	P		**P**	**17 17 15.6**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.6,baz=288,slow=6.9,SNR=5.5							
INK	**Inuvik**	**41.74**	**32**	P		**P**	**17 17 15.6**	**-1.0**
MKAR	**Makanchi Array**	**46.41**	**297**	P		**P**	**17 17 53.5**	**-0.5**
	comp=Z,1.0nm,0.9s,mb3.8,baz=56,slow=6.5,SNR=4.3							
CHKZ	**Chkalovo**	**49.92**	**310**	*e*P		**P**	**17 18 21.0**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**49.92**	**310**	*e*P		**P**	**17 18 20.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**50.34**	**309**	P		**P**	**17 18 24.9**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=43,slow=6.7,SNR=3.8							
FINES	**FINESS Array B**	**63.64**	**334**	P		**P**	**17 19 58.5**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=64,slow=6.3,SNR=4.5							
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**17 20 25.5**	**-0.4**
	comp=Z,1.4nm,0.9s,mb4.0,baz=348,slow=4.4,SNR=3.2							
AKASG	**Malin Array Be**		**71.09**	**326**	P	**P**	**17 20 45.5**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.5,baz=33,slow=6.1,SNR=5.5							
ASAR	**Alice Springs**	**72.25**	**198**	P		**P**	**17 20 53.9**	**+1.0**
	comp=Z,0.6nm,0.9s,mb3.5,baz=20,slow=5.2,SNR=5.5							

*IDC **15** 17:11:50.8±0.9, 4678N×155 01E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, Error ellipse: s-maj=29.2km s-min=20.9km az=75.0*

*ISCJB **15** 17:11:52.3±4.9, 472N±0.1×155 2E±0.2, h15km±30km, mb4.1/22, Error ellipse: s-maj=26.5km s-min=12.5km az=88.3*

*MOS **15** 17:11:52.9±1.3, 4703N×155 31E, h28km, mb4.6/7, Error ellipse: s-maj=16.2km s-min=11.4km az=102.8*

*NEIC **15** 17:11:52.3±0.8, 4698N×155 26E, h10km, mb4.5/7, Error ellipse: s-maj=18.7km s-min=11.4km az=123.0*

ISC 15 17:11:52.5±5.9, 470N±01×155 2E±02, h11km±37km, n39, σ1§09/39, mb4.1/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.39**	**19**	PN		**Pn**	**17 13 25.7**	**-0.9**
ASAJ	**Asahikawa**	**9.34**	**256**	Pn		**Pn**	**17 14 10.8**	**+3.8**
	0.5nm,0.3s,baz=98,slow=25,SNR=3.7							
ASAJ	**Asahikawa**	**9.34**	**256**	PN		**Pn**	**17 14 10.8**	**+3.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.43**	**237**	Pn		**Pn**	**17 15 44.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=228,slow=9.5,SNR=2.6							
BILL	**Bilibino**	**21.81**	**11**	*e*P		**P**	**17 16 44.8**	**+0.2**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.9							
BILL	**Bilibino**	**21.81**	**11**	*e*P		**P**	**17 16 44.8**	**+0.2**
	comp=Z,3.3nm,0.6s,mb3.9							
KSRS	**Korea Array**	**22.28**	**254**	P		**P**	**17 16 52.0**	**+2.4**
	comp=Z,1.9nm,0.8s,mb3.6,baz=65,slow=9.6,SNR=5.9							
SONM	**Songino Array**	**32.62**	**290**	P		**P**	**17 18 22.7**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=60,slow=8.7,SNR=5.2							
ZAK	**Zakamensk**	**33.88**	**295**	*e*P		**P**	**17 18 34.3**	**-0.9**
ZAK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8							
ZAL	**Zalesovo**	**43.65**	**306**	P		**P**	**17 19 55.7**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.7,baz=44,slow=9.5,SNR=4.7							
ZAL	**Zalesovo**	**43.65**	**306**	P		**P**	**17 19 55.7**	**-1.4**
NVS	**Novosibirsk**	**44.18**	**308**	*e*P		**P**	**17 19 55.2**	**-6.1**
MK31	**Makanchi Array**	**48.11**	**298**	*e*P		**P**	**17 20 31.7**	**-0.5**
MKAR	**Makanchi Array**	**48.11**	**298**	P		**P**	**17 20 31.9**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=67,slow=7.6,SNR=11							
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P		**P**	**17 20 56.2**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P		**P**	**17 20 56.2**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.8							
LSA	**Lhasa**	**51.71**	**274**	*e*P		**P**	**17 21 02.3**	**+2.7**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**51.71**	**274**	*e*P		**P**	**17 21 02.3**	**+2.6**
	comp=Z,3.1nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**17 21 00.2**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=54,slow=7.3,SNR=17							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**17 21 00.3**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**17 21 00.3**	**-0.3**
	comp=Z,5.6nm,0.7s,mb4.6							
ZRNK	**Zerenda**	**52.56**	**311**	*e*P		**P**	**17 21 05.7**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**52.56**	**311**	*e*P		**P**	**17 21 05.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4							
ARU	**Arti**	**55.79**	**318**	*e*P		**P**	**17 21 29.6**	**+0.1**
ARU	**Arti**	**55.79**	**318**	*e*P		**P**	**17 21 29.4**	**0.0**
	comp=Z,5.4nm,0.5s,mb4.8							
ARCES	**ARCESS Array B**	**58.06**	**341**	P		**P**	**17 21 46.4**	**+0.8**
	comp=Z,5.3nm,0.9s,mb4.5,baz=253,slow=1.3,SNR=3.8							
AKTK	**Aktyubinsk**	**59.62**	**313**	P		**P**	**17 21 56.6**	**+0.2**
AKTO	**Aktyubinsk**	**59.62**	**313**	P		**P**	**17 21 56.6**	**+0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=91,slow=9.6,SNR=4.5							
AKTO	**Aktyubinsk**	**59.62**	**313**	P		**P**	**17 21 56.6**	**+0.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.40**	**336**	P		**P**	**17 22 29.6**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.4,baz=42,slow=8.7,SNR=14							
NOA	**NORSAR Array B**	**68.43**	**342**	P		**P**	**17 22 55.3**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=31,slow=7.3,SNR=2.5							
WRA	**Warramunga Arr**	**69.27**	**201**	P		**P**	**17 22 57.3**	**-2.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=6.7,SNR=5.1							
AKASG	**Malin Array Be**	**72.12**	**327**	P		**P**	**17 23 17.8**	**+0.9**
	comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=5.9							
ASAR	**Alice Springs**	**72.96**	**200**	P		**P**	**17 23 20.9**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=18,slow=6.0,SNR=12							
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**17 23 41.2**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=308,slow=4.0,SNR=6.4							
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**17 23 41.2**	**+1.1**
MORC	**Moravsky Berou**	**76.86**	**333**	*e*P		**P**	**17 23 48.4**	**+3.9**
MORC				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
MORC	**Moravsky Berou**	**76.86**	**333**	*e*P		**P**	**17 23 48.4**	**+3.9**
	comp=Z,2.7nm,0.9s,mb4.2							
BRTR	**Keskin Array B**	**79.18**	**318**	P		**P**	**17 24 01.6**	**+4.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=134,slow=5.3,SNR=5.5							

IDC 15 17:12:41.8±4.4, 4666N×155 05E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/22, mbtmp4.1/4, Error ellipse: s-maj=151.2km s-min=37.5km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.16**	**298**	P		P	17 21 23.5	-0.2
	0.8nm,0.6s,baz=74,slow=8.1,SNR=5.4							
BVAR	**Borovoye Array**	**51.94**	**310**	P		P	17 21 51.9	-0.5
	2.0nm,0.6s,baz=55,slow=8.3,SNR=5.2							
FINES	**FINESS Array B**	**64.68**	**336**	P		P	17 23 21.0	-0.5
	3.1nm,0.9s,baz=40,slow=7.6,SNR=2.7							
TXAR	**Lajitas Array**	**76.37**	**62**	P		P	17 24 33.0	+0.2
	1.1nm,0.8s,baz=304,slow=2.9,SNR=3.7							

*IDC **15** 17:13:56.8±0.7, 4662N×154 02E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.3/18, ML3.4/1, Error ellipse: s-maj=21.5km s-min=15.6km az=82.0*

*ISCJB **15** 17:13:58.1±0.4, 4645N±007×1538E±01, h10km, mb4.4/47, Error ellipse: s-maj=12.6km s-min=9.8km az=15.4*

*NEIC **15** 17:13:59.7±0.5, 4651N×153 77E, h10km, mb4.8/22, Error ellipse: s-maj=13.9km s-min=10.1km az=109.0*

*BJI **15** 17:14:01.4, 4738N×154 23E, h20km, mB4.6, mb4.6*

*MOS **15** 17:14:04.7±2.0, 4678N×153 78E, h50km, mb4.8/23, Error ellipse: s-maj=12.1km s-min=7.7km az=113.2*

*SZGRF **15** 17:14:12.1, 4797N×153 91E, h33km, mb4.9, Kuril Islands, Russia*

ISC 15 17:13:59.6±0.4, 4653N±006×1538E±01, h10km, n113, σ1§23/114, mb4.4/47, 2C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.35**	**255**	*i* PN		**Pn**	**17 15 13.0**	**+7.3**
KUR				pmax	pmax			
	comp=Z,220nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.61**	**277**	PN		**Pb**	**17 16 02.9**	**-8.7**
YSS				*e*S		**Sn**	**17 17 27.0**	**+10**
ASAJ	**Asahikawa**	**8.26**	**257**	Pn		**Pn**	**17 16 08.9**	**+9.4**
	comp=Z,0.9nm,0.3s,baz=80,slow=17,SNR=3.7							
ASAJ	**Asahikawa**	**8.26**	**257**	PN		**Pn**	**17 16 08.9**	**+9.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**8.88**	**243**	*e*PN		**Pn**	**17 16 05.9**	**-2.0**
MAJO	**Matsushiro**	**15.34**	**235**	*e*P		**Pn**	**17 17 41.2**	**+5.1**
MAT	**Matsushiro**	**15.34**	**235**	P		**Pn**	**17 17 41.7**	**+5.6**
MJAR	**Matsushiro Arr**	**15.34**	**235**	Pn		**Pn**	**17 17 38.4**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=35,slow=13,SNR=3.0							
YAK	**Yakutsk**	**20.77**	**327**	*e*P		**P**	**17 18 37.7**	**-2.9**
YAK				pmax	pmax			
	comp=Z,11nm,0.6s							
YAK	**Yakutsk**	**20.77**	**327**	*e*P		**P**	**17 18 37.7**	**-2.9**
	comp=Z,11nm,0.6s							
KSRS	**Korea Array**	**21.20**	**254**	P		**P**	**17 18 52.2**	**+7.0**
	comp=Z,3.1nm,0.7s,mb3.7,baz=60,slow=9.9,SNR=8.0							
BOD	**Bodaibo**	**26.50**	**310**	*e*P		**P**	**17 19 33.8**	**-3.3**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.8s,mb3.8							
TIXI	**Tiksi**	**27.81**	**343**	*e*P		**P**	**17 19 42.7**	**-6.2**
TIXI				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.4							
TIXI	**Tiksi**	**27.81**	**343**	*e*P		**P**	**17 19 42.7**	**-6.1**
	comp=Z,11nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**31.42**	**290**	*e*P		**P**	**17 20 22.3**	**+1.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1							
ULN	**Ulaanbaatar**	**31.42**	**290**	*e*P		**P**	**17 20 22.2**	**+1.4**
	comp=Z,2.8nm,0.9s,mb4.1							
SONM	**Songino Array**	**31.86**	**290**	P		**P**	**17 20 25.1**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=56,slow=7.6,SNR=7.2							
ZAK	**Zakamensk**	**33.21**	**296**	*e*P		**P**	**17 20 37.3**	**+0.8**
ZAK				*e*			17 20 56.1	
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
LZH	**Lanzhou**	**38.38**	**273**	*e*P		**P**	**17 21 25.1**	**+4.2**
LZH				AP	pP		17 21 30.3	+6.3
LZH				XP	sP		17 21 33.4	+8.2
LZH				AMB	AMB			
	comp=Z,16nm,1.3s,mb4.6							
LZH	**Lanzhou**	**38.38**	**273**	*e*P		**P**	**17 21 25.1**	**+4.2**
LZH				*e*			17 21 46.0	
LZH				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.6							
GTA	**Gaotai**	**39.48**	**280**	*e*P		**P**	**17 21 34.1**	**+4.0**
GTA				AMB	AMB			
	comp=Z,4.0nm,1.1s,mb4.1							
CD2	**Chengdu**	**41.34**	**266**	P		**P**	**17 21 52.0**	**+6.5**
CD2				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7							
INK	**Inuvik**	**41.58**	**32**	P		**P**	**17 21 49.2**	**+1.8**
	comp=Z,1.4nm,0.5s,mb3.8,baz=277,slow=4.4,SNR=4.5							
INK	**Inuvik**	**41.58**	**32**	P		**P**	**17 21 49.2**	**+1.8**
GYA	**Guiyang**	**42.14**	**258**	P		**P**	**17 21 57.0**	**+4.9**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**43.14**	**306**	P		**P**	**17 21 59.4**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.0,baz=73,slow=5.0,SNR=5.6							
NVS	**Novosibirsk**	**43.70**	**308**	*e*P		**P**	**17 22 03.6**	**-1.1**
NVS				*e*			17 22 15.3	
NVS				pmax	pmax			
	comp=N,4.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,9.0nm,0.9s							
NVS				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
MK31	**Makanchi Array**	**47.47**	**298**	*e*P		**P**	**17 22 35.0**	**+0.5**
MKAR	**Makanchi Array**	**47.47**	**298**	P		**P**	**17 22 34.4**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.3,baz=66,slow=7.8,SNR=12							
LSA	**Lhasa**	**50.77**	**274**	*e*P		**P**	**17 23 05.3**	**+5.5**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
LSA	**Lhasa**	**50.77**	**274**	*e*P		**P**	**17 23 05.3**	**+5.5**
	comp=Z,3.7nm,0.7s,mb4.4							
CHKZ	**Chkalovo**	**50.94**	**310**	*e*P		**P**	**17 22 59.8**	**-1.3**
CHKZ				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.8							
CHKZ	**Chkalovo**	**50.94**	**310**	*e*P		**P**	**17 22 59.8**	**-1.3**
	comp=Z,16nm,1.2s,mb4.8							
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**17 23 03.7**	**-0.6**
	comp=Z,6.3nm,0.6s,mb4.7,baz=53,slow=8.2,SNR=20							
BRVK	**Borovoye**	**51.41**	**310**	*e*P		**P**	**17 23 03.7**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
BRVK	**Borovoye**	**51.41**	**310**	*e*P		**P**	**17 23 03.7**	**-0.9**
	comp=Z,13nm,0.8s,mb4.9							
ZRNK	**Zerenda**	**52.14**	**310**	*e*P		**P**	**17 23 09.1**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**52.14**	**310**	*e*P		**P**	**17 23 09.1**	**-0.9**
	comp=Z,11nm,0.8s,mb4.8							
AAK	**Ala-Archa**	**54.36**	**297**	*e*P		**P**	**17 23 27.1**	**+0.7**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.36**	**297**	*e*P		**P**	**17 23 27.1**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.4							
ARU	**Arti**	**55.50**	**318**	*e*P		**P**	**17 23 32.6**	**-2.0**
ARU				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.1							
ARU	**Arti**	**55.50**	**318**	*e*P		**P**	**17 23 32.6**	**-2.0**
	comp=Z,11nm,0.6s,mb5.0							
ARCES	**ARCESS Array B**	**58.22**	**341**	P		**P**	**17 23 50.4**	**-3.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=29,slow=8.2,SNR=2.8							
AKTK	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 24 00.1**	**-0.9**
AKTO	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 24 00.1**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.4,baz=31,slow=8.1,SNR=7.6							
AKTO	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 24 00.1**	**-0.9**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
ORR	**Orenburg**	**60.14**	**315**	*e*P		**P**	**17 24 06.4**	**-0.9**
ORR				*e*			17 24 24.3	
ORR				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.9							
FINES	**FINESS Array B**	**64.44**	**335**	P		**P**	**17 24 33.1**	**-3.0**
	comp=Z,5.7nm,0.8s,mb4.4,baz=51,slow=12,SNR=8.9							
PDAR	**Pinedale Array**	**64.49**	**54**	P		**P**	**17 24 35.8**	**-0.6**
	comp=Z,1.3nm,0.9s,mb4.0,baz=292,slow=0.8,SNR=5.5							
CTA	**Charters Tower**	**66.66**	**188**	P		**P**	**17 24 48.0**	**-2.3**
	comp=Z,2.5nm,0.6s,mb4.4,baz=29,slow=8.7,SNR=5.5							
WB2	**Warramunga Arr**	**68.46**	**200**	*e*P		**P**	**17 25 01.1**	**-0.7**
WRA	**Warramunga Arr**	**68.47**	**200**	P		**P**	**17 25 01.0**	**-0.8**
	comp=Z,3.7nm,1.0s,mb4.4,baz=20,slow=6.5,SNR=11							
NB2	**NORSAR Subarra**	**68.59**	**341**	P		**P**	**17 24 59.6**	**-3.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.59**	**341**	P		**P**	**17 25 00.5**	**-2.1**
	comp=Z,4.9nm,0.9s,mb4.4,baz=26,slow=6.4,SNR=4.9							
NOA	**NORSAR Array B**	**68.59**	**341**	P		**P**	**17 25 00.5**	**-2.1**
FITZ	**Fitzroy Crossi**	**69.18**	**209**	P		**P**	**17 25 06.8**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=12,slow=9.3,SNR=5.1							
AKASG	**Malin Array Be**	**72.00**	**327**	P		**P**	**17 25 21.1**	**-2.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=32,slow=5.9,SNR=7.6							
AS31	**Alice Springs**	**72.16**	**199**	*e*P		**P**	**17 25 24.2**	**-0.2**
ASAR	**Alice Springs**	**72.16**	**199**	P		**P**	**17 25 24.2**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=15,slow=5.8,SNR=22							
ASPA	**Alice Springs**	**72.16**	**199**	*e*P		**P**	**17 25 24.2**	**-0.2**
STHS	**Stebnicka Huta**	**75.94**	**330**	*e*P		**P**	**17 25 47.2**	**+0.6**
STHS				*e*			17 25 58.4	
STHS				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
STHS	**Stebnicka Huta**	**75.94**	**330**	*e*P		**P**	**17 25 47.2**	**+0.6**
	comp=Z,5.6nm,0.9s,mb4.5							
STHS				*e*			17 25 58.4	
BURAR	**Bucovina Array**	**76.03**	**327**	*i*P		**P**	**17 25 47.7**	**+0.6**
DPC	**Dobruska-Polom**	**76.73**	**334**	*e*P		**P**	**17 25 51.3**	**+0.2**
MORC	**Moravsky Berou**	**76.86**	**333**	*i*P		**P**	**17 25 51.7**	**0.0**
MORC	**Moravsky Berou**	**76.86**	**333**	*e*P		**P**	**17 25 51.5**	**-0.2**
MORC				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
MORC	**Moravsky Berou**	**76.86**	**333**	*e*P		**P**	**17 25 51.5**	**-0.2**
	comp

ellipse: s-maj=20.9km s-min=17.1km az=141.0
BJI ***15*** *17:19:18.5, 4700N×15470E, h10km, mB4.8, mb4.4*
NEIC ***15*** *17:19:18.6±0.7, 4699N×15472E, h10km, mb4.5/6, Error ellipse: s-maj=16.4km s-min=10.3km az=134.0*
MOS ***15*** *17:19:19.8±1.6, 4703N×15460E, h30km, mb4.6/6, Error ellipse: s-maj=15.6km s-min=10.7km az=96.3*

ISC 15 17:19:18.5±0.7, 4701N±009×1547E±01, h10km, n40, σ0 98/40, mb4.1/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.53**	**21**	*e*PN		**Pn**		**17 20 53.0**	**-1.6**
ASAJ	**Asahikawa**	**8.99**	**256**	Pn		**Pn**		**17 21 28.8**	**+0.4**
	1.5nm,0.3s,baz=98,slow=16,SNR=5.3								
ASAJ	**Asahikawa**	**8.99**	**256**	PN		**Pn**		**17 21 28.8**	**+0.4**
ASAJ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.13**	**236**	Pn		**Pn**		**17 23 04.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=275,slow=15,SNR=3.1								
BILL	**Bilibino**	**21.90**	**12**	*e*P		**P**		**17 24 11.5**	**-0.2**
BILL				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.2								
BILL	**Bilibino**	**21.90**	**12**	*e*P		**P**		**17 24 10.2**	**-1.6**
	comp=Z,7.5nm,0.9s,mb4.1								
KSRS	**Korea Array**	**21.93**	**254**	P		**P**		**17 24 13.2**	**+1.0**
	comp=Z,2.4nm,0.9s,mb3.6,baz=61,slow=8.8,SNR=6.1								
BOD	**Bodaibo**	**26.68**	**309**	*e*P		**P**		**17 24 53.8**	**-3.9**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.8s,mb3.8								
SONM	**Songino Array**	**32.29**	**290**	P		**P**		**17 25 47.0**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=67,slow=7.4,SNR=4.0								
LZH	**Lanzhou**	**38.98**	**273**	*e*P		**P**		**17 26 46.3**	**+1.4**
LZH				AP		pP		17 26 55.5	+7.5
LZH				XP		sP		17 26 58.3	+9.0
LZH				AMB		AMB			
	comp=Z,17nm,1.2s,mb4.7								
LZH	**Lanzhou**	**38.98**	**273**	*e*P		**P**		**17 26 46.2**	**+1.3**
LZH				*PP		pP		17 26 55.5	+7.5
LZH				*SP		sP		17 26 58.3	+9.0
LZH				pmax		pmax			
	comp=Z,17nm,1.2s,mb4.7								
LZH	**Lanzhou**	**38.98**	**273**	*e*P		**P**		**17 26 46.2**	**+1.3**
	comp=Z,17nm,1.2s,mb4.7								
LZH				pP		pP		17 26 55.5	+7.5
LZH				sP		sP		17 26 58.3	+9.0
INK	**Inuvik**	**40.84**	**33**	P		**P**		**17 27 00.8**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.0,baz=269,slow=11,SNR=7.6								
INK	**Inuvik**	**40.84**	**33**	P		**P**		**17 27 00.8**	**+0.5**
MK31	**Makanchi Array**	**47.80**	**298**	*e*P		**P**		**17 27 54.9**	**-1.2**
MKAR	**Makanchi Array**	**47.80**	**298**	P		**P**		**17 27 55.5**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=67,slow=7.2,SNR=8.1								
CHKZ	**Chkalovo**	**51.11**	**311**	*e*P		**P**		**17 28 20.1**	**-1.2**
CHKZ				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
CHKZ	**Chkalovo**	**51.11**	**311**	*e*P		**P**		**17 28 20.1**	**-1.2**
	comp=Z,5.2nm,0.6s,mb4.6								
BVAR	**Borovoye Array**	**51.55**	**310**	P		**P**		**17 28 24.4**	**-0.2**
	comp=Z,1.9nm,0.3s,mb4.4,baz=59,slow=7.7,SNR=21								
BRVK	**Borovoye**	**51.58**	**310**	*e*P		**P**		**17 28 24.7**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
BRVK	**Borovoye**	**51.58**	**310**	*e*P		**P**		**17 28 24.7**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**52.31**	**310**	*e*P		**P**		**17 28 29.8**	**-0.5**
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.5								
ZRNK	**Zerenda**	**52.31**	**310**	*e*P		**P**		**17 28 29.8**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.4								
ARCES	**ARCESS Array B**	**57.97**	**341**	P		**P**		**17 29 11.2**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.5,baz=25,slow=7.3,SNR=6.4								
AKTK	**Aktyubinsk**	**59.37**	**312**	P		**P**		**17 29 22.0**	**+1.0**
AKTO	**Aktyubinsk**	**59.37**	**312**	P		**P**		**17 29 22.0**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=42,slow=9.8,SNR=4.0								
AKTO	**Aktyubinsk**	**59.37**	**312**	P		**P**		**17 29 22.0**	**+1.0**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
PDAR	**Pinedale Array**	**63.70**	**55**	P		**P**		**17 29 51.0**	**+0.8**
	comp=Z,1.2nm,0.9s,mb3.9,baz=275,slow=3.7,SNR=4.9								
FINES	**FINESS Array B**	**64.27**	**335**	P		**P**		**17 29 54.0**	**+0.1**
	comp=Z,3.7nm,0.4s,mb4.7,baz=38,slow=7.7,SNR=30								
NB2	**NORSAR Subarra**	**68.33**	**342**	P		**P**		**17 30 20.1**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.33**	**342**	P		**P**		**17 30 19.8**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=26,slow=6.4,SNR=5.5								
NOA	**NORSAR Array B**	**68.33**	**342**	P		**P**		**17 30 19.8**	**-0.2**
WRA	**Warramunga Arr**	**69.13**	**201**	P		**P**		**17 30 23.6**	**-1.4**
	comp=Z,1.3nm,1.1s,mb3.8,baz=20,slow=6.8,SNR=4.7								
AKASG	**Malin Array Be**	**71.94**	**327**	P		**P**		**17 30 41.5**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=33,slow=6.2,SNR=8.4								
ASAR	**Alice Springs**	**72.82**	**200**	P		**P**		**17 30 47.0**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=17,slow=5.4,SNR=10								
TXAR	**Lajitas Array**	**76.40**	**62**	P		**P**		**17 31 08.5**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=305,slow=4.3,SNR=12								
CLL	**Collm**	**76.68**	**336**	*i* P		**P**		**17 31 12.0**	**+2.3**
CLL				*i*				17 31 23.9	
CLL				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.1								
CLL	**Collm**	**76.68**	**336**	*i* P		**P**		**17 31 12.0**	**+2.3**
	comp=Z,6.0nm,0.9s,mb4.5								
CLL				*i* pP		pP		17 31 23.9	+11
GERES	**GERESS Array B**	**78.70**	**335**	P		**P**		**17 31 22.9**	**+1.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=6.6,SNR=11								
BRTR	**Keskin Array B**	**78.95**	**318**	P		**P**		**17 31 22.6**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.8,baz=19,slow=4.9,SNR=4.5								

ISCJB ***15*** *17:22:10.7±9.5, 466N±0.1×1547E±02, h6km±58km, mb4.0/13, Error ellipse: s-maj=27.7km s-min=21.9km az=39.5*
IDC ***15*** *17:22:10.8±1.2, 4649N×15486E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, ML3.3/1, Error ellipse: s-maj=30.7km s-min=30.0km az=37.0*
NEIC ***15*** *17:22:13.4±0.8, 4668N×15475E, h10km, mb4.2/4, Error ellipse: s-maj=20.5km s-min=16.4km az=89.0*

ISC 15 17:22:14.8±6.7, 467N±01×1547E±02, h20km±46km, n18, σ0 81/18, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.91**	**258**	Pn		**Pn**		**17 24 22.6**	**+0.2**
	0.3nm,0.3s,baz=79,slow=24,SNR=3.6								
BILL	**Bilibino**	**22.22**	**11**	*e*P		**P**		**17 27 09.8**	**-0.1**
	4.4nm,1.0s,mb3.8								
MK31	**Makanchi Array**	**47.96**	**298**	*e*P		**P**		**17 30 51.6**	**-0.3**
MKAR	**Makanchi Array**	**47.96**	**298**	P		**P**		**17 30 51.7**	**-0.3**
	0.5nm,0.6s,mb3.7,baz=68,slow=9.4,SNR=3.9								
MKAR	**Makanchi Array**	**47.96**	**298**	P		**P**		**17 30 51.7**	**-0.3**
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P		**P**		**17 31 17.2**	**-0.4**
	4.2nm,0.5s,mb4.6								
BVAR	**Borovoye Array**	**51.76**	**310**	P		**P**		**17 31 21.2**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=55,slow=6.4,SNR=8.7								
BRVK	**Borovoye**	**51.80**	**310**	*e*P		**P**		**17 31 20.8**	**-0.3**
	1.8nm,0.6s,mb4.2								
ZRNK	**Zerenda**	**52.52**	**311**	*e*P		**P**		**17 31 26.5**	**0.0**
	2.2nm,0.8s,mb4.3								
AKTK	**Aktyubinsk**	**59.59**	**313**	P		**P**		**17 32 16.7**	**-0.4**
AKTO	**Aktyubinsk**	**59.59**	**313**	P		**P**		**17 32 16.7**	**-0.4**
	1.0nm,0.6s,mb4.0,baz=70,slow=9.9,SNR=4.3								
FINES	**FINESS Array B**	**64.57**	**335**	P		**P**		**17 32 51.0**	**+0.5**
	0.9nm,0.4s,mb4.1,baz=41,slow=9.3,SNR=8.7								
NB2	**NORSAR Subarra**	**68.64**	**342**	P		**P**		**17 33 18.5**	**+2.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**		**17 33 17.0**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=38,slow=4.7,SNR=2.8								
WRA	**Warramunga Arr**	**68.83**	**201**	P		**P**		**17 33 20.1**	**+2.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=18,slow=6.7,SNR=5.1								
AKASG	**Malin Array Be**	**72.21**	**327**	P		**P**		**17 33 38.9**	**+0.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=6.5,SNR=6.3								
ASAR	**Alice Springs**	**72.51**	**200**	P		**P**		**17 33 38.4**	**-1.7**
	comp=Z,0.6nm,0.9s,mb3.5,baz=13,slow=6.5,SNR=5.1								
TXAR	**Lajitas Array**	**76.55**	**62**	P		**P**		**17 34 03.1**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.8,baz=338,slow=6.8,SNR=4.7								

ISCJB ***15*** *17:25:29.7±0.2, 4701N±004×15503E±004, h14km, mb5.1/153, MS4.9/23, Error ellipse: s-maj=6.0km s-min=2.8km az=110.3*
IDC ***15*** *17:25:29.2±0.4, 4712N×15516E, h0km, mb4.7/29, mb1 4.8/30, mb1mx4.8/33, mbtmp4.7/30, ML4.3/1, MS4.8/7, Ms1 4.8/7, ms1mx4.1/37, Error ellipse: s-maj=13.5km s-min=10.4km az=125.0*
NEIC ***15*** *17:25:30.8±0.3, 4715N×15516E, h10km, mb5.2/72, MS4.8/2, Error ellipse: s-maj=7.3km s-min=4.9km az=144.0*
BJI ***15*** *17:25:30.9, 4744N×15474E, h10km, mB5.3, mb4.7, Ms5.0, Msz5.0*
SKHL ***15*** *17:25:30.2±1.9, 4704N×15517E, h50km±17km, mb5.7/2, Ms5.1/6, msh5.3/3*
MOS ***15*** *17:25:32.8±1.3, 4717N×15509E, h33km, mb5.4/66, MS4.6/11, Error ellipse: s-maj=7.8km s-min=4.2km az=109.3*
SZGRF ***15*** *17:25:37.9, 4754N×15515E, h15km, mb5.5, East of Kuril Islands, Russia*

ISC 15 17:25:31.3±0.2, 4709N±003×15511E±004, h15km, h15km±1.3km: pP-P, n452, σ1 9 28/477, mb5.1/154, MS4.9/23, 24C-27D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**10**	*e*P		**Pn**		**17 26 25.7**	**-1.7**
SKR				AMB		AMB		17 26 30.5	
	390nm,0.9s								
SKR				AMB		AMB		17 26 30.5	
	100nm,0.5s								
SKR				AMB		AMB		17 26 30.5	
	80nm,0.5s								
SKR				*e*S		**Sn**		**17 27 06.7**	**-3.6**
SKR				A				17 27 09.4	
	4μm,4.0s								
SKR				A				17 27 09.4	
	4μm,4.0s								
SKR				A				17 27 09.4	
	950nm,0.5s								
SKR				A				17 27 09.4	
	800nm,0.5s								
SKR				A				17 27 09.4	
	150nm,0.5s								
SKR				AMS	AMS			17 28 34.0	
	32μm,12.0s								
SKR				AMS	AMS			17 28 34.0	
	12μm,12.0s								
SKR				AMS	AMS			17 28 34.0	
	8μm,16.0s								
SKR				AMS	AMS			17 28 34.0	
	8μm,16.0s								
SKR				AMS	AMS			17 28 34.0	
	32μm,12.0s								
SKR				AMS	AMS			17 28 34.0	
	13μm,12.0s								
KUR	**Kuril'sk**	**5.36**	**252**	*i* P		**Pn**		**17 26 48.0**	**-2.8**
KUR				AMB		AMB		17 26 53.2	
	76nm,0.5s								
KUR				AMB		AMB		17 26 53.2	
	114nm,0.5s								
KUR				AMB		AMB		17 26 53.2	
	304nm,0.5s								
KUR				*i* S		**Sn**		**17 27 48.5**	**-3.7**
KUR				A				17 27 54.5	
	228nm,0.6s								
KUR				A				17 27 54.5	
	380nm,0.6s								
KUR				A				17 27 55.4	
	9μm,4.0s								
KUR				A				17 27 55.4	
	5μm,4.0s								
KUR				AMS	AMS			17 29 28.0	
	11μm,12.0s								
KUR				AMS	AMS			17 29 28.0	
	5μm,12.0s								
KUR				AMS	AMS			17 29 28.0	
	11μm,12.0s								
PET	**Petropavlovsk**	**6.37**	**20**	*i* PN		**Pn**		**17 27 01.7**	**-2.9**
PET	**Petropavlovsk**	**6.37**	**20**	*e*Pn		**Pn**		**17 27 01.4**	**-3.2**
	48nm,0.4s								
PET				*e*Sn		**Sn**		**17 28 10.8**	**-6.2**
YUK	**Yuzh-Kuril'sk**	**7.17**	**248**	*e*P		**Pn**		**17 27 15.3**	**-0.3**
YUK				AMB		AMB		17 27 19.0	
	640nm,0.2s								
YUK				AMB		AMB		17 27 19.0	
	360nm,0.6s								
YUK				*e*S		**Sn**		**17 28 33.7**	**-3.1**
YUK				A				17 28 41.5	
	710nm,0.5s								
YUK				A				17 28 41.5	
	670nm,0.5s								
NEM2	**Nemuro 2**	**7.59**	**244**	P		**Pn**		**17 27 18.9**	**-2.4**
NEM2				*e*S		**Sn**		**17 28 38.4**	**-8.6**
JRA	**Rausu**	**7.69**	**249**	P		**Pn**		**17 27 22.9**	**+0.2**
JRA				*e*S		**Sn**		**17 28 47.9**	**-1.6**
JNK	**Nakash**	**8.11**	**248**	P		**Pn**		**17 27 27.8**	**-0.7**
JNK				*e*S		**Sn**		**17 28 55.1**	**-4.9**
JAK	**Akkeshi**	**8.43**	**245**	P		**Pn**		**17 27 30.5**	**-2.4**
JAK				*e*S		**Sn**		**17 28 59.4**	**-8.3**
YSS	**Yuzh-Sakhalins**	**8.45**	**274**	*e*P		**Pn**		**17 27 37.0**	**+3.9**
YSS				AMB		AMB		17 27 39.8	
	50nm,0.7s								
YSS				*e*S		**Sn**		**17 29 11.0**	**+2.9**
YSS				A				17 29 12.7	
	50nm,0.8s								
YSS				A				17 29 12.7	
	40nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.45**	**274**	*e*PN		**Pn**		**17 27 37.0**	**+3.9**
YSS				pmax		pmax			
	comp=Z,50nm,0.7s								
YSS				MLR		MLR			
	comp=Z,5μm,15.0s								
YSS				MLR		MLR			
	comp=N,4μm,13.0s								
YSS				MLR		MLR			
	comp=E,4μm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.45**	**274**	*e*Pn		**Pn**		**17 27 36.3**	**+3.2**
	comp=E,44nm,0.6s								
JTKR	**Abashiri--Toko**	**8.46**	**252**	P		**Pn**		**17 27 33.3**	**0.0**
JMP	**Maruseppu**	**8.80**	**254**	P		**Pn**		**17 27 39.0**	**+1.0**
JAR	**Ashorobuto**	**8.86**	**249**	P		**Pn**		**17 27 39.0**	**+0.3**
JAR				*e*S		**Sn**		**17 29 13.4**	**-4.9**
UGL	**Uglegorsk**	**8.96**	**288**	*e*P		**Pn**		**17 27 44.5**	**+4.4**
UGL				AMB		AMB		17 27 45.5	
	comp=E,65nm,0.7s								
UGL				AMB		AMB		17 27 48.0	
	comp=E,1μm,4.0s								
UGL				*e*L				17 29 50.0	
UGL				AMS	AMS			17 32 08.0	
	comp=E,6μm,16.0s								
UGL				AMS	AMS			17 32 08.0	
	comp=E,10μm,12.0s								
UGL				AMS	AMS			17 32 08.0	
	comp=E,6μm,15.0s								
UGL	**Uglegorsk**	**8.96**	**288**	*e*PN		**Pn**		**17 27 44.5**	**+4.4**
UGL				pmax		pmax			
	comp=Z,65nm,0.7s								
UGL				pmax		pmax			
	comp=Z,1μm,4.0s								
UGL				MLR		MLR			
	comp=Z,6μm,15.0s								
UGL				MLR		MLR			
	comp=N,10μm,12.0s								
UGL				MLR		MLR			
	comp=E,6μm,16.0s								
JOB	**Onbets**	**9.02**	**246**	P		**Pn**		**17 27 40.3**	**-0.6**
JOB				*e*S		**Sn**		**17 29 14.8**	**-7.3**
JKK2	**Kamakawa 2**	**9.26**	**254**	P		**Pn**		**17 27 44.8**	**+0.5**
ASAJ	**Asahikawa**	**9.26**	**256**	Pn		**Pn**		**17 27 46.0**	**+1.7**
	comp=E,3.7nm,0.3s,baz=87,slow=17,SNR=23								
ASAJ	**Asahikawa**	**9.26**	**256**	P		**Pn**		**17 27 45.7**	**+1.4**
ASAJ	**Asahikawa**	**9.26**	**256**	PN		**Pn**		**17 27 46.0**	**+1.7**
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
JCH	**Churui**	**9.46**	**246**	P		**Pn**		**17 27 45.2**	**-1.8**
JCH				*e*S		**Sn**		**17 29 23.7**	**-9.4**
JFR	**Furan**	**9.68**	**251**	P		**Pn**		**17 27 50.7**	**+0.7**
JAB	**Ashibetsu**	**9.76**	**253**	P		**Pn**		**17 27 53.5**	**+2.4**
JEM	**Erimo**	**9.92**	**244**	P		**Pn**		**17 27 52.5**	**-0.8**
ERM	**Erimo**	**9.92**	**244**	Pn		**Pn**		**17 27 54.8**	**+1.5**
	comp=Z,604nm,0.6s,SNR=8.9								
ERM	**Erimo**	**9.92**	**244**	*e*Pn		**Pn**		**17 27 52.5**	**-0.9**
	comp=Z,49nm,0.6s								
JBT2	**Biratori 2**	**10.01**	**249**	P		**Pn**		**17 27 53.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**10.02**	**246**	P		**Pn**		**17 27 52.1**	**-2.6**
JNBK				*e*S		**Sn**		**17 29 38.4**	**-8.5**
OKH	**Okha**	**10.12**	**314**	*e*S		**Sn**		**17 29 42.0**	**-7.2**
OKH				*e*L				17 30 20.0	
OKH				AMS	AMS			17 32 11.8	
	comp=Z,10μm,16.0s								
JEW	**Eniwo**	**10.57**	**251**	P		**Pn**		**17 28 02.7**	**+0.5**
JNB	**Noboribetsu**	**11.01**	**250**	P		**Pn**		**17 28 06.5**	**-1.8**
JNB				*e*S		**Sn**		**17 30 03.8**	**-7.4**
NKL	**Nikolayevsk**	**11.07**	**309**	*e*P		**Pn**		**17 28 10.3**	**+1.3**
NKL				*e*L				17 31 08.0	
NKL				AMS	AMS			17 33 55.0	
	comp=Z,2μm,15.0s								
NKL				AMS	AMS			17 33 55.0	
	comp=Z,4μm,15.0s								
NKL				AMS	AMS			17 33 55.0	
	comp=Z,6μm,15.0s								
JKB	**Kayabe**	**11.31**	**248**	P		**Pn**		**17 28 09.4**	**-3.0**
JKB				*e*S		**Sn**		**17 30 07.8**	**-11**
JSH	**Shimam**	**11.57**	**253**	P		**Pn**		**17 28 15.5**	**-0.4**
JOT	**Ohata**	**11.58**	**246**	P		**Pn**		**17 28 12.4**	**-3.6**
JOT				*e*S		**Sn**		**17 30 12.6**	**-12**
JYM2	**Yakumo 2**	**11.62**	**250**	P		**Pn**		**17 28 14.4**	**-2.1**
JANG	**Nango**	**11.90**	**241**	P		**Pn**		**17 28 15.6**	**-4.7**
JANG				*e*S		**Sn**		**17 30 18.9**	**-14**
JTM	**Tenmabayashi**	**11.91**	**243**	P		**Pn**		**17 28 17.1**	**-3.5**
JTM				*e*S		**Sn**		**17 30 19.0**	**-14**
JOM	**Ohasama**	**12.61**	**238**	P		**Pn**		**17 28 25.4**	**-4.7**
OFUJ	**Ofunato**	**12.66**	**236**	P		**Pn**		**17 28 27.0**	**-3.8**
OFUJ				*e*S		**Sn**		**17 30 37.2**	**-14**
MA2	**Magadan**	**12.78**	**350**	*e*PN		**Pn**		**17 28 31.5**	**-0.9**
MA2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
TEY	**Ternei**	**13.02**	**268**	*e*P		**Pn**		**17 28 36.0**	**+0.3**
TEY				AMS		AMS		17 34 10.0	
	comp=Z,1μm,14.0s								
TEY				AMS		AMS		17 34 10.0	
	comp=Z,2μm,13.0s								
JRG	**Rokugo**	**13.04**	**239**	P		**Pn**		**17 28 33.0**	**-3.0**
JRG				*e*S		**Sn**		**17 30 50.9**	**-10**
JIO	**Ouri**	**13.27**	**234**	P		**Pn**		**17 28 34.9**	**-4.3**
JIO				*e*S		**Sn**		**17 30 50.6**	**-16**
SMY	**Shemya**	**13.46**	**58**	*e*PN		**Pn**		**17 28 40.9**	**-0.9**
SMY				pmax		pmax			
	comp=Z,62nm,0.5s								
SMY	**Shemya**	**13.46**	**58**	*e*P		**Pn**		**17 28 40.9**	**-0.9**
	comp=Z,62nm,0.5s								
HABR	**Khabarovsk**	**13.56**	**283**	*i* P		**Pn**		**17 28 47.0**	**+3.9**
HABR				*e*S		**Sn**		**17 31 20.8**	**+7.3**
HABR				pmax		pmax			
	comp=Z,82nm,2.2s								
JMM	**Marumori**	**14.00**	**234**	P		**Pn**		**17 28 44.1**	**-5.0**
JFY	**Yanaizu**	**14.93**	**235**	P		**Pn**		**17 28 58.7**	**-3.1**
KLR	**Kul'dur**	**15.72**	**286**	*e*P		**Pn**		**17 29 13.9**	**+1.7**
SEY	**Seymchan**	**15.96**	**355**	*i* eP		**Pn**		**17 29 13.4**	**-1.8**
AMKA	**Amchitka**	**16.35**	**66**	*e*P		**Pn**		**17 29 23.3**	**+3.1**
MAJO	**Matsushiro**	**16.39**	**236**	*e*P		**Pn**		**17 29 17.7**	**-3.1**
MAJO				pmax		pmax			
	comp=Z,82nm,1.2s								
MAJO	**Matsushiro**	**16.39**	**236**	*e*Pn		**Pn**		**17 29 17.7**	**-3.1**
	comp=Z,85nm,1.2s								
MAT	**Matsushiro**	**16.39**	**236**	P		**Pn**		**17 29 18.0**	**-2.8**
MAT				*e*S		**Sn**		**17 32 25.0**	**+2.7**
MAT	**Matsushiro**	**16.39**	**236**	P		**Pn**		**17 29 17.9**	**-2.9**
MJAR	**Matsushiro Arr**	**16.39**	**236**	Pn		**Pn**		**17 29 17.9**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=31,slow=14,SNR=13								
MDJ	**Mudanjiang**	**17.93**	**271**	P		**Pn**		**17 29 38.4**	**-1.6**
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.5s								
MDJ				AMB		AMB			
	comp=Z,201nm,7.1s								
MDJ	**Mudanjiang**	**17.93**	**271**	*e*Pn		**Pn**		**17 29 38.1**	**-1.8**
	comp=Z,13nm,0.7s								
ZEA	**Zeya**	**18.88**	**301**	*e*P		**Pn**		**17 29 46.3**	**-5.3**
ZEA				AMB		AMB		17 29 49.5	
	comp=Z,64nm,1.4s								
ZEA				AMB		AMB		17 29 52.0	
	comp=Z,800nm,4.0s								
ZEA				AMB		AMB		17 29 52.0	
	comp=Z,600nm,5.0s								
ZEA				*e*S		**Sn**		**17 33 25.0**	**+2.3**
ZEA				A				17 33 30.0	
	comp=Z,600nm,7.0s								
ZEA				A				17 33 30.0	
	comp=Z,400nm,7.0s								
YAK	**Yakutsk**	**20.80**	**325**	*e*P		**P**		**17 30 10.1**	**-1.9**
YAK				*e**PP				17 30 19.1	
YAK				*e*				17 30 28.2	
YAK				*e*S		**S**		**17 33 57.5**	**-6.1**
YAK				*e*SS				17 34 15.1	
YAK				pmax		pmax			
	comp=Z,81nm,1.1s								
YAK				pmax		pmax			
	comp=N,19nm,0.9s								
YAK				pmax		pmax			
	comp=E,23nm,0.8s								
YAK				pmax		pmax			
	comp=Z,12nm,0.6s								
YAK				pmax		pmax			
	comp=N,22nm,0.8s								
YAK				pmax		pmax			
	comp=E,13nm,0.8s								
YAK				smax					
	comp=N,512nm,3.4s								
YAK				smax					
	comp=Z,156nm,3.1s								
YAK				smax					
	comp=E,305nm,2.9s								
YAK				MLR		MLR			
	comp=Z,2μm,12.0s,MS4.7								

HIA **Hailar** 23.56 288 eP P 17 30 38.6 -2.7
HIA pmax pmax
comp=Z,7.0nm,0.5s
HIA **Hailar** 23.56 288 eP P 17 30 38.6 -2.7
comp=Z,6.6nm,0.5s,mb4.3
DL2 **Dalian** 25.66 264 ⇑P P 17 31 03.3 +2.8
DL2 S S 17 35 31.3 +3.0
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.8
DL2 AMB AMB
comp=Z,490nm,4.9s
DL2 LR LR
comp=N,660nm,13.2s,MS4.4
DL2 LR LR
comp=E,270nm,14.2s,MS4.4
DL2 LR LR
comp=Z,760nm,16.0s,MS4.3
BOD **Bodaibo** 26.84 309 eP P 17 31 08.6 -2.5
BOD pmax pmax
comp=Z,24nm,1.7s,mb4.5
CIT **Chita** 27.13 296 eP P 17 31 12.5 -1.2
CIT pmax pmax
comp=Z,55nm,1.7s,mb4.8
BJI **Beijing** 28.85 270 eP P 17 31 30.0 +0.9
BJI S S 17 36 25.1 +6.6
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,300nm,4.3s
BJI LR LR
comp=N,969nm,14.6s,MS4.9
BJI LR LR
comp=E,2μm,16.0s,MS4.9
BJI LR LR
comp=Z,2μm,18.9s,MS4.7
BJI **Beijing** 28.85 270 eP P 17 31 30.0 +0.9
comp=Z,17nm,1.0s,mb4.7
BJI S S 17 36 25.1 +6.6
BJI LR LR
comp=Z,2μm,18.9s,MS4.7
BJT **Baijiatuau** 28.86 270 eP P 17 31 29.5 +0.3
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT **Baijiatuau** 28.86 270 eP P 17 31 29.5 +0.3
comp=Z,9.1nm,0.6s,mb4.7
NJ2 **Nanjing** 31.41 255 eP P 17 31 53.8 +2.1
NJ2 AP pP 17 31 57.3 +1.0
NJ2 XP sP 17 32 02.8 +4.6
NJ2 PP PP 17 32 56.8 -5.8
NJ2 S S 17 36 59.0 +0.3
NJ2 XS sS 17 37 07.0 +0.7
NJ2 AMB AMB
comp=Z,750nm,4.6s
NJ2 LR LR
comp=N,5μm,17.2s,MS5.3
NJ2 LR LR
comp=E,2μm,14.5s,MS5.3
NJ2 LR LR
comp=Z,2μm,14.6s,MS5.0
HHC **Hu-ho-hao-te** 31.63 275 eP P 17 31 53.6 -0.1
HHC AP pP 17 31 57.8 -0.5
HHC XP sP 17 32 00.6 +0.4
HHC PP PP 17 32 58.1 -7.0
HHC PCP PcP 17 34 46.8 +1.2
HHC S S 17 37 01.5 -0.7
HHC XS sS 17 37 07.6 -2.2
HHC SCP ScP 17 38 26.8 -1.5
HHC PCS PcS 17 38 29.5 -0.6
HHC SS SS 17 38 49.8 -28
HHC SCS ScS 17 42 25.0 -1.3
HHC AMB AMB
comp=Z,20nm,1.5s,mb4.7
HHC AMB AMB
comp=Z,293nm,9.8s
HHC LR LR
comp=N,929nm,14.6s,MS4.8
HHC LR LR
comp=E,1μm,14.9s,MS4.8
HHC LR LR
comp=Z,4μm,15.5s,MS5.2
ULN **Ulaanbaatar** 32.08 289 P P 17 31 56.8 -0.9
SNR=8.3
ULN **Ulaanbaatar** 32.08 289 eP P 17 31 56.5 -1.1
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ULN **Ulaanbaatar** 32.08 289 eP P 17 31 56.5 -1.1
comp=Z,6.6nm,0.8s,mb4.5
SONM **Songino Array** 32.51 290 P P 17 32 00.7 -0.7
comp=Z,2.2nm,0.6s,mb4.3,baz=60,slow=8.5,SNR=16
SONM PcP PcP 17 34 47.5 -0.5
comp=Z,1.7nm,0.9s,baz=76,slow=3.0,SNR=4.7
IMA2 **Indian Mountai** 32.73 36 eP P 17 32 03.1 -0.2
IRK **Irkutsk** 32.74 298 eP P 17 32 01.5 -1.9
IRK pmax pmax
comp=Z,29nm,1.7s,mb4.9
KDAK **Kodiak Island** 32.83 51 P P 17 32 02.9 -1.3
comp=Z,24nm,0.6s,mb5.3,baz=70,slow=1.7,SNR=20
TLY **Talaya** 33.24 297 P P 17 32 08.4 +0.6
SNR=7.4
TLY **Talaya** 33.24 297 eP P 17 32 06.1 -1.7
TLY pmax pmax
comp=Z,26nm,1.7s,mb4.9
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.8
TLY **Talaya** 33.24 297 eP P 17 32 06.7 -1.1
comp=Z,69nm,1.8s,mb5.3
ZAK **Zakamensk** 33.78 295 eP P 17 32 11.2 -1.3
ZAK e 17 32 23.2
ZAK e 17 34 51.1
MCK **McKinley** 34.51 41 eP P 17 32 17.7 -1.1
MCK pmax pmax
comp=Z,39nm,1.2s,mb5.2
MCK **McKinley** 34.51 41 eP P 17 32 17.7 -1.1
comp=Z,39nm,1.2s,mb5.2
SML **Sawmill** 34.78 44 eP P 17 32 20.7 -0.5
MOY **Mondy** 34.85 298 eP P 17 32 16.5 -5.3
COLA **College** 35.02 39 eP P 17 32 22.4 -0.9
COLA pmax pmax
comp=Z,96nm,1.0s,mb5.7
COLA **College** 35.02 39 eP P 17 32 22.4 -0.8
comp=Z,96nm,1.0s,mb5.7
WHN **Wuhan** 35.34 257 eP P 17 32 27.0 +1.0
DIV **Divide** 36.05 45 eP P 17 32 30.5 -1.6
comp=Z,94nm,1.0s,mb5.7
XAN **Xi'an** 36.91 266 P P 17 32 39.6 +0.2
XAN AMB AMB
comp=Z,17nm,1.9s,mb4.5
EGAK **Eagle** 37.88 39 eP P 17 32 46.0 -1.6
comp=Z,74nm,0.9s,mb5.4
DAWY **Dawson** 38.71 40 eP P 17 32 54.0 -0.6
LZH **Lanzhou** 39.24 273 eP P 17 33 00.5 +1.4
LZH AP pP 17 33 06.0 +2.2
LZH XP sP 17 33 08.8 +3.2
LZH PP PP 17 34 30.6 +1.5
LZH AMB AMB
comp=Z,98nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,376nm,4.0s
LZH LR LR
comp=E,1μm,13.6s
LZH LR LR
comp=Z,1μm,15.6s,MS4.8
LZH **Lanzhou** 39.24 273 eP P 17 33 00.5 +1.4
LZH *SP sP 17 33 08.8 +3.2
LZH 17 34 30.6
LZH eS S 17 38 59.1 +0.1
LZH eSS SS 17 41 45.1 -7.2
LZH pmax pmax
comp=Z,98nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,1μm,15.6s,MS4.8
LZH **Lanzhou** 39.24 273 eP P 17 33 00.5 +1.4
comp=Z,98nm,1.5s,mb5.3
LZH pP pP 17 33 06.0 +2.2
LZH sP sP 17 33 08.8 +3.2
LZH PP PP 17 34 30.6 +1.5
LZH eS S 17 38 59.1 +0.1
LZH sS sS 17 39 07.5 +0.8
LZH eSS SS 17 41 45.1 -7.2
LZH LR LR
comp=Z,1μm,15.6s,MS4.8
GTA **Gaotai** 40.27 280 eP P 17 33 08.9 +1.3
GTA PP PP 17 34 46.3 +6.0
GTA PPP 17 35 09.0
GTA AMB AMB
comp=Z,11nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,218nm,6.1s
GTA LR LR
comp=N,927nm,12.6s,MS5.0
GTA LR LR
comp=E,1μm,16.7s,MS5.0
GTA LR LR
comp=Z,2μm,16.3s,MS5.1
INK **Inuvik** 40.63 33 P P 17 33 10.7 0.0
comp=Z,33nm,0.5s,mb5.2,baz=276,slow=6.2,SNR=150
INK **Inuvik** 40.63 33 eP P 17 33 10.3 -0.3
INK pmax pmax
comp=Z,75nm,1.0s
INK **Inuvik** 40.63 33 eP P 17 33 10.3 -0.3
comp=Z,2μm,1.0s
CD2 **Chengdu** 42.27 266 eP P 17 33 22.8 -1.3
CD2 XP sP 17 33 29.8 -0.8
CD2 PP PP 17 35 03.8 +1.8
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
CD2 LR LR
comp=N,2μm,16.8s,MS5.2
CD2 LR LR
comp=E,2μm,15.6s,MS5.2
CD2 LR LR
comp=Z,4μm,16.8s,MS5.4
GYA **Guiyang** 43.12 259⇑iP P 17 33 32.0 +1.0
GYA AP pP 17 33 36.4 +0.7
GYA XP sP 17 33 39.8 +2.2
GYA PP PP 17 35 14.8 +3.6
GYA PCP PcP 17 35 23.4 +2.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,580nm,17.6s,MS4.7
GYA LR LR
comp=E,640nm,17.2s,MS4.7
GYA LR LR
comp=Z,680nm,17.0s,MS4.6
TGY **Tagaytay City** 43.50 232 P P 17 33 34.7 +0.6
comp=Z,35nm,0.4s,baz=277,slow=1.0,SNR=3.7
ZAL **Zalesovo** 43.54 306 P P 17 33 33.6 -0.8
comp=Z,5.5nm,0.6s,mb4.4,baz=45,slow=8.6,SNR=21
ZAL PcP PcP 17 35 22.1 0.0
comp=Z,2.3nm,0.6s,baz=63,slow=6.9,SNR=4.6
ZAL LR LR 17 54 12.2
comp=Z,772nm,20.8s,MS4.6,baz=30,slow=40
ZAL **Zalesovo** 43.54 306 P P 17 33 33.6 -0.8
ZAL 17 35 22.1
NVS **Novosibirsk** 44.07 308 eP P 17 33 36.9 -1.7
NVS eS S 17 40 03.2 -7.3
NVS pmax pmax
comp=E,82nm,1.9s
NVS pmax pmax
comp=Z,100nm,1.9s,mb5.2
NVS pmax pmax
comp=N,34nm,1.7s
NVS smax
comp=N,26nm,2.1s
NVS smax
comp=E,33nm,2.1s
WMQ **Urumqi** 46.08 292⇑iP P 17 33 54.3 -0.3
WMQ AP pP 17 33 58.8 -0.5
WMQ XP sP 17 34 01.3 +0.1
WMQ PCP PcP 17 35 31.3 +0.6
WMQ PP PP 17 35 42.3 -0.3
WMQ PPP 17 36 25.8
WMQ S S 17 40 38.3 -1.3
WMQ XS sS 17 40 45.8 -1.6
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,211nm,10.3s
WMQ LR LR
comp=N,1μm,19.7s,MS5.0
WMQ LR LR
comp=E,761nm,20.8s,MS5.0
WMQ LR LR
comp=Z,1μm,17.2s,MS5.0
KMI **Kunming** 46.65 261 P P 17 34 00.5 +1.4
KMI AP pP 17 34 06.1 +2.3
KMI XP sP 17 34 10.0 +4.3
KMI PP PP 17 35 46.4 -2.3
KMI AMB AMB
comp=Z,16nm,2.0s,mb4.6
KMI **Kunming** 46.65 261 P P 17 34 00.5 +1.4
comp=Z,16nm,2.0s,mb4.6
KMI pP pP 17 34 06.1 +2.3
KMI sP sP 17 34 10.0 +4.3
KMI PP PP 17 35 46.4 -2.3
MK31 **Makanchi Array** 48.00 298 eP P 17 34 08.5 -1.1
MKAR **Makanchi Array** 48.00 298 P P 17 34 08.7 -0.9
comp=Z,6.3nm,0.5s,mb4.9,baz=72,slow=7.2,SNR=56
KURK **Kurchatov** 48.31 304 P P 17 34 10.5 -1.5
comp=Z,354nm,0.8s,SNR=20
ALE **Alert** 49.27 6 P P 17 34 19.1 -0.3
comp=Z,158nm,0.9s,mb6.0,SNR=11
YKA **Yellowknife Ar** 49.83 37 P P 17 34 23.2 -0.5
comp=Z,9.0nm,0.8s,mb4.9,baz=293,slow=7.1,SNR=9.9
YKA **Yellowknife Ar** 49.83 37 P P 17 34 23.2 -0.5
RES **Resolute Bay** 50.08 19 eP P 17 34 25.2 -0.3
RES pmax pmax
comp=Z,28nm,1.0s,mb5.2
RES **Resolute Bay** 50.08 19 eP P 17 34 25.2 -0.3
comp=Z,903nm,1.0s
CHKZ **Chkalovo** 51.26 311 eP P 17 34 33.0 -1.4
CHKZ pmax pmax
comp=Z,49nm,0.5s,mb5.7
CHKZ **Chkalovo** 51.26 311 eP P 17 34 33.0 -1.4
comp=Z,49nm,0.5s,mb5.7
LSA **Lhasa** 51.62 274 eP P 17 34 40.0 +2.9
LSA **Lhasa** 51.62 274 eP P 17 34 39.7 +2.6
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA **Lhasa** 51.62 274 eP P 17 34 39.7 +2.6
comp=Z,10.0nm,0.6s,mb4.9
BVAR **Borovoye Array** 51.70 310 P P 17 34 37.2 -0.6
comp=Z,16nm,0.5s,mb5.2,baz=58,slow=7.3,SNR=41
BRVK **Borovoye** 51.74 310 P P 17 34 37.7 -0.3
comp=Z,214nm,0.6s,mb6.2,SNR=23
BRVK **Borovoye** 51.74 310 ⇑P P 17 34 37.4 -0.6
SNR=10
BRVK **Borovoye** 51.74 310 eP P 17 34 37.0 -1.0
BRVK pmax pmax
comp=Z,19nm,0.6s,mb5.2
BRVK **Borovoye** 51.74 310 eP P 17 34 37.0 -1.0
comp=Z,19nm,0.6s,mb5.2
KBS **Kingsbay** 52.37 352⇑eP P 17 34 42.5 -0.2
ZRNK **Zerenda** 52.46 310 eP P 17 34 42.2 -1.2
ZRNK pmax pmax
comp=Z,16nm,0.5s,mb5.2
ZRNK **Zerenda** 52.46 310 eP P 17 34 42.1 -1.2
comp=Z,16nm,0.5s,mb5.2
SPB4 **Spitsbergen Ar** 52.52 350 eP P 17 34 43.5 -0.4
CHTO **Chiang Mai** 53.53 258 P P 17 34 53.6 +2.3
SNR=12
CHTO **Chiang Mai** 53.53 258 eP P 17 34 52.3 +1.0
CHTO pmax pmax
comp=Z,41nm,1.5s,mb5.1
CHTO **Chiang Mai** 53.53 258 eP P 17 34 52.3 +1.1
comp=Z,42nm,1.5s,mb5.1
SHL **Shillong** 53.74 270 ex x 17 35 10.4
TKM2 **Tokmak 2** 54.08 297 P P 17 34 56.6 +1.3
SNR=7.9
CHMS **Chumysh** 54.55 297 P P 17 34 59.7 +1.0
SNR=6.1
USP **Ospenovka** 54.55 298 P P 17 34 59.9 +1.1
SNR=23
KBK **Karagaybulak** 54.62 297 P P 17 35 01.2 +2.0
SNR=13
FRU **Bishkek** 54.72 297 eP P 17 35 00.0 0.0
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.4
KZA **Kyzart** 54.76 296 P P 17 35 02.5 +2.2
SNR=8.9
AAK **Ala-Archa** 54.91 297 P P 17 35 01.2 -0.1
comp=Z,85nm,0.7s,mb5.9,SNR=9.1
AAK **Ala-Archa** 54.91 297 P P 17 35 02.5 +1.2
SNR=11
AAK **Ala-Archa** 54.91 297 ⇑P P 17 35 01.6 +0.3
SNR=7.9
AAK **Ala-Archa** 54.91 297⇑eP P 17 35 01.2 -0.1
AAK pmax pmax
comp=Z,27nm,1.6s,mb5.0
AAK **Ala-Archa** 54.91 297 eP P 17 35 01.3 0.0
comp=Z,15nm,0.9s,mb5.0
EDM **Edmonton** 55.09 47 eP P 17 35 01.7 -0.9
EKS2 **Erkin-Say** 55.33 298 P P 17 35 05.6 +1.3
SNR=10
AML **Almayashu** 55.68 297 P P 17 35 07.1 +0.2
SNR=7.2
ARU **Arti** 55.69 318 P P 17 35 06.9 0.0
comp=Z,239nm,0.6s,SNR=14
ARU **Arti** 55.69 318⇑iP P 17 35 05.0 -1.9
ARU ePPP 17 38 21.8
ARU eS S 17 42 50.4 -2.3
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.3
ARU **Arti** 55.69 318 eP P 17 35 06.1 -0.9
comp=Z,53nm,1.0s,mb5.5
KSH **Kashi** 55.78 293 eP P 17 35 10.5 +2.9
KSH eAP pP 17 35 16.3 +3.8
KSH eXP sP 17 35 19.0 +4.7
KSH ePCP PcP 17 36 09.3 +2.7
KSH ePP PP 17 37 16.3 +4.2
KSH eSCP ScP 17 40 07.0 +1.9
KSH eS S 17 42 55.3 +1.3
KSH eXS sS 17 43 04.9 +2.9
KSH eSCS ScS 17 44 55.0 -1.4
KSH LR LR
comp=N,2μm,5.9s
KSH LR LR
comp=E,933nm,4.6s
NEW **Newport** 55.88 54 P P 17 35 08.3 0.0
comp=E,2.1nm,0.4s,mb4.5,baz=61,slow=14,SNR=3.6
NEW **Newport** 55.88 54 P P 17 35 08.3 0.0
JIRN **Jiri** 56.28 276 eP P 17 35 12.2 +1.0
comp=E,27nm,0.5s,mb5.5
GUN **Gumba** 56.33 276 eP P 17 35 13.4 +1.8
comp=E,28nm,0.5s,mb5.5
DAG **Danmarks Havn** 56.36 358⇓iP P 17 35 11.2 -0.6
comp=E,12nm,0.7s,mb5.0
DAG **Danmarks Havn** 56.36 358⇓iP P 17 35 11.2 -0.6
DAG pmax pmax
comp=Z,12nm,0.7s,mb5.0
YBH **Yreka Blue Hor** 56.38 63 P P 17 35 12.0 +0.1
comp=Z,3.9nm,1.0s,mb4.4,baz=146,slow=0.9,SNR=3.3
PMG **Port Moresby** 56.68 189 P P 17 35 14.2 +0.2
comp=Z,7.0nm,1.0s,mb4.6,baz=6.2,slow=5.6,SNR=8.3
PMG **Port Moresby** 56.68 189 P P 17 35 14.7 +0.7
PMG e 17 35 26.3
PMG pmax pmax
comp=Z,20nm,1.3s
PMG **Port Moresby** 56.68 189 eP P 17 35 14.4 +0.3
comp=Z,20nm,1.3s,mb5.0
KKN **Kakani** 56.81 276 eP P 17 35 15.8 +0.8
comp=Z,210nm,1.7s,mb5.9
PKI **Pulchoki** 56.87 276 eP P 17 35 16.7 +1.3
comp=Z,18nm,0.5s,mb5.4
LVZ **Lovozero** 57.00 337⇑eP P 17 35 15.2 -1.1
LVZ pmax pmax
comp=Z,54nm,1.4s,mb5.4
DMN **Daman** 57.05 276 eP P 17 35 17.6 +0.9
comp=Z,39nm,0.8s,mb5.5
GKN **Gorkha** 57.12 277 eP P 17 35 18.1 +1.0
comp=Z,37nm,0.6s,mb5.6
KEV **Kevo** 57.48 341 ep P 17 35 18.5 -1.2
comp=Z,3.4nm,0.5s,mb4.6
KEV **Kevo** 57.48 341 eP P 17 35 18.5 -1.2
KEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
APA **Apatity** 57.57 337⇑iP P 17 35 19.0 -1.3
APA pmax pmax
comp=Z,81nm,1.4s,mb5.6
KOLN **Koldanda** 57.97 278 eP P 17 35 23.3 +0.2
comp=Z,29nm,0.8s,mb5.4
ARCES **ARCESS Array B** 57.98 341 P P 17 35 22.7 -0.5
comp=Z,18nm,0.8s,mb5.1,baz=39,slow=7.1,SNR=20
ARCES LR LR 18 03 50.6
comp=Z,563nm,20.3s,MS4.7,baz=136,slow=40
ARCES **ARCESS Array B** 57.98 341 P P 17 35 22.7 -0.6
ARCES LR LR 18 03 50.6
TMCR **Tamitsa** 58.67 333 eP P 17 35 28.0 0.0
TMCR pmax pmax
comp=Z,162nm,1.4s,mb5.9
BOK **Bokaro** 59.01 272 eP P 17 35 31.2 +0.9
BOK AMb AMB 17 35 36.4
comp=Z,30nm,1.4s,mb5.1
AKTK **Aktyubinsk** 59.52 313 P P 17 35 34.1 +0.2
AKTO **Aktyubinsk** 59.52 313 P P 17 35 34.1 +0.2
comp=Z,9.8nm,0.5s,mb5.1,baz=55,slow=8.0,SNR=39
AKTO **Aktyubinsk** 59.52 313 P P 17 35 34.1 +0.2
AKTO pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
SUMG **Summit** 60.26 5 eP P 17 35 38.6 -0.4
comp=Z,27nm,0.9s,mb5.3
ORR **Orenburg** 60.38 315 eP P 17 35 39.8 -0.1
ORR pmax pmax
comp=Z,40nm,0.8s,mb5.5
QLMT **Earthquake Lak** 61.08 54 eP P 17 35 44.9 +0.3
NIL **Nilore** 61.09 289 P P 17 35 46.2 +1.5
comp=Z,71nm,0.6s,mb6.0,SNR=5.6
GCMT **Greycliff** 61.44 52 P P 17 35 47.9 +0.9
NDI **New Delhi** 61.67 283 eP P 17 35 50.8 +2.2
NDI AMb AMB 17 35 52.9
comp=Z,38nm,1.9s,mb5.2
PECR **Pechory** 61.99 324 iP P 17 35 50.0 -0.8
PECR MLR MLR
comp=Z,2μm,18.0s,MS5.2
PDAR **Pinedale Array** 63.44 55 P P 17 36 00.7 +0.2
comp=Z,1.6nm,0.8s,mb4.2,baz=294,slow=1.5,SNR=9.6
FIA1 **FINESS Array S** 64.31 336 eP P 17 36 05.4 -0.7
FINES **FINESS Array B** 64.31 336 P P 17 36 05.8 -0.4
comp=Z,16nm,0.5s,mb5.3,baz=37,slow=8.9,SNR=113
MSU **Marysvale** 64.70 60 P P 17 36 10.3 +1.6
AJM **Ajmer** 64.84 282 eP P 17 36 10.6 +1.0
AJM AMb AMB 17 36 14.8
comp=Z,11nm,0.8s,mb5.0
VIS **Vishakhapatnam** 64.88 269 eP P 17 36 10.2 +0.3
VIS AMb AMB 17 36 14.0
comp=Z,29nm,1.2s,mb5.2
MOS **Moscow** 64.93 326 eP P 17 36 07.1 -3.1
MOS e 17 36 20.0
MOS e 17 36 37.5
MOS pmax pmax
comp=Z,181nm,1.6s,mb5.8
NGP **Nagpur** 65.45 275 eP P 17 36 13.6 +0.1
NGP AMb AMB 17 36 19.0
comp=Z,26nm,1.5s,mb5.0
PSI **Prapat** 65.46 246 P P 17 36 16.9 +3.3
comp=Z,2.1nm,0.3s,mb4.6,baz=321,slow=14,SNR=4.5
PSI **Prapat** 65.46 246 P P 17 36 16.9 +3.3
OBN **Obninsk** 65.80 326 eP P 17 36 15.3 -0.5
OBN e 17 36 45.4
OBN pmax pmax
comp=Z,174nm,1.8s,mb5.8
OBN **Obninsk** 65.80 326 eP P 17 36 14.8 -1.1
comp=Z,244nm,1.7s,mb6.0
CTA **Charters Tower** 67.33 189 P P 17 36 25.4 -0.2
comp=Z,4.9nm,0.8s,mb4.6,baz=332,slow=10,SNR=4.3
ABKT **Ailbek** 67.60 302 P P 17 36 28.6 +1.3
comp=Z,102nm,0.7s,mb6.0,SNR=6.3
VRSR **Storozhevoye** 67.69 322 eP P 17 36 28.9 +1.0
VRSR pmax pmax
comp=Z,30nm,1.5s,mb5.1
VRSR pmax pmax
comp=E,10.0nm,1.0s
NB2 **NORSAR Subarra** 68.34 342 P P 17 36 31.2 -0.8
comp=Z,35nm,1.2s,mb5.3,baz=25,slow=6.5
NOA **NORSAR Array B** 68.34 342 P P 17 36 31.9 -0.1
comp=Z,4.6nm,0.5s,mb4.8,baz=26,slow=6.4,SNR=19
NOA LR LR 18 15 13.5
comp=Z,422nm,18.1s,MS4.7,baz=30,slow=44
WB2 **Warramunga Arr** 69.29 201 eP P 17 36 37.7 -0.2
WRA **Warramunga Arr** 69.29 201 P P 17 36 37.9 0.0
comp=Z,4.9nm,0.8s,mb4.5,baz=22,slow=6.9,SNR=19
FITZ **Fitzroy Crossi** 70.10 210 P P 17 36 44.7 +1.8
comp=Z,2.9nm,0.9s,mb4.2,baz=357,slow=6.7,SNR=4.7
MDRS **Chennai** 70.25 268 eP P 17 36 46.5 +2.7
MDRS AMb AMB 17 36 51.9
comp=Z,26nm,1.2s,mb5.0
POO **Poona** 70.78 277 eP P 17 36 49.0 +1.9
SUW **Suwalki** 71.35 332 eP P 17 36 50.7 +0.2
KAD **Karad** 71.41 276 eP P 17 36 51.5 +0.6
KAD AMb AMB 17 36 58.6
comp=Z,29nm,0.8s,mb5.3
KIV **Kislovodsk** 71.54 315 P P 17 36 53.5 +1.9
SNR=5.2
KIV **Kislovodsk** 71.54 315 eP P 17 36 48.6 -3.0

KIV pmax pmax
comp=Z,39nm,1.2s,mb5.2
ZEI Tsey 71.83 314 *e*P **P 17 36 53.4 0.0**
ZEI pmax pmax
comp=Z,14nm,1.0s,mb4.8
AKASG Malin Array Be 72.02 327 P **P 17 36 54.0 -0.5**
comp=Z,6.1nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=29
AKASG LR LR 18 11 35.8
comp=Z,465nm,18.9s,MS4.8,baz=55,slow=38
AKBB Malin Array Si 72.02 327 *e*P **P 17 36 53.9 -0.6**
SCHQ Schefferville 72.46 24 P **P 17 37 03.8 +6.7**
comp=Z,3.7nm,0.4s,mb4.6,baz=283,slow=6.2,SNR=17
AS31 Alice Springs 72.98 200 *e*P **P 17 37 00.5 +0.2**
ASAR Alice Springs 72.98 200 P **P 17 37 00.1 -0.1**
comp=Z,4.1nm,0.5s,mb4.6,baz=16,slow=5.5,SNR=54
SOC Sochi 73.23 317 *e*P **P 17 37 00.4 -1.3**
SOC *e* 17 39 43.6
SOC *e*S S 17 46 24.2 -5.2
SOC *e* 17 47 04.1
SOC pmax pmax
comp=Z,65nm,1.2s,mb5.4
SOC MLR MLR
comp=Z,874nm,19.0s,MS5.1
GNI Garni 73.35 311 *e*P **P 17 37 04.1 +1.7**
GNI pmax pmax
comp=Z,60nm,1.7s
GNI Garni 73.35 311 *e*P **P 17 37 04.3 +1.9**
comp=Z,70nm,1.5s,mb5.4
JFWS Jewell Farm 73.38 44 P **P 17 36 54.6 -8.0**
JFWS pmax pmax
comp=Z,24nm,0.6s,mb5.3
MNGI Mangalore 74.05 272 *e*P **P 17 37 09.2 +2.7**
MNGI AMb AMB 17 37 13.6
comp=Z,36nm,1.6s,mb5.1
KIS Kishinev 75.20 325 *e*P **P 17 37 12.0 -1.2**
KWP Kalwaria 75.23 330 *e*P **P 17 37 14.2 +0.8**
KWP Kalwaria 75.23 330 P **P 17 37 14.1 +0.7**
KWP pmax pmax
comp=Z,110nm,1.4s,mb5.6
OJC Ojcow 75.68 332 *e*P **P 17 37 16.2 +0.3**
TRD Trivandrum 75.75 267 *e*P **P 17 37 18.8 +2.4**
TRD AMb AMB 17 37 21.6
comp=Z,39nm,1.4s,mb5.1
STHS Stebnicka Huta 75.90 331 *e*P **P 17 37 18.8 +1.6**
STHS pmax pmax
comp=Z,30nm,1.6s,mb5.0
STHS Stebnicka Huta 75.90 331 *e*P **P 17 37 18.8 +1.6**
comp=Z,30nm,1.6s,mb5.0
KOLS Kolonicke sedl 75.97 330 *e*P **P 17 37 17.7 +0.1**
BURAR Bucovina Array 76.05 328⇑*i*P **P 17 37 19.2 +1.1**
BURAR Bucovina Array 76.05 328 ⇑P **P 17 37 19.2 +1.1**
TXAR Lajitas Array 76.13 62 P **P 17 37 18.6 +0.1**
comp=Z,1.9nm,0.5s,mb4.3,baz=295,slow=4.3,SNR=19
KSP Ksiaz 76.20 335 *e*P **P 17 37 22.6 +3.7**
KSP Ksiaz 76.20 335 *e*P **P 17 37 19.3 +0.4**
KSP *e*pP pP 17 37 22.1 -1.8
UZH Uzhgorod 76.22 330 *e*P **P 17 37 18.4 -0.7**
OKC Ostrava-Krasne 76.53 333 *e*P **P 17 37 21.0 +0.2**
UPC Upice 76.58 335 *e*P **P 17 37 22.1 +1.0**
DPC Dobruska-Polom 76.63 344 *e*P **P 17 37 22.6 +1.2**
CLL Collm 76.72 337⇑*i*P **P 17 37 21.7 -0.1**
comp=Z,48nm,1.4s,mb5.2
CLL *i* pP 17 37 25.1 -1.7
CLL Collm 76.72 337⇑*i*P **P 17 37 21.7 -0.1**
comp=Z,48nm,1.4s,mb5.2
CLL *i* pP pP 17 37 25.1 -1.7
comp=Z,62nm,1.4s
MORC Moravsky Berou 76.77 333⇓*i*P **P 17 37 23.6 +1.4**
MORC Moravsky Berou 76.77 333 P **P 17 37 23.5 +1.3**
MORC pmax pmax
comp=Z,56nm,1.4s,mb5.3
MORC Moravsky Berou 76.77 333 *e*P **P 17 37 23.1 +0.9**
comp=Z,56nm,1.4s,mb5.3
BRG Berggiesshubel 76.85 336 *i*P **P 17 37 22.3 -0.3**
comp=Z,35nm,1.9s,mb5.0
BRG Berggiesshubel 76.85 336 *i*P **P 17 37 22.3 -0.3**
BRG pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
VRI Vrincioaia 76.95 326⇓*i*P **P 17 37 26.6 +3.4**
KECS Kecovo 76.96 331 *e*P **P 17 37 23.4 +0.2**
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KECS Kecovo 76.96 331 *e*P **P 17 37 23.4 +0.2**
comp=Z,5.8nm,1.2s,mb4.4
KECS *e*PP PP 17 40 00.7 -16
PVCC Panska Ves 76.98 335 *e*P **P 17 37 23.5 +0.1**
PLOR Plostina 76.99 326⇓*i*P **P 17 37 26.5 +3.1**
MSL Mosul 77.10 310 *ex* x 17 36 24.0
BOYT Boyabat 77.14 318 *i*P **P 17 37 25.0 +0.8**
PRA Prague 77.43 335 P **P 17 37 26.0 +0.1**
TIRR Tirgusor 77.46 324⇓*i*P **P 17 37 27.5 +1.5**
TIRR Tirgusor 77.46 324 *e*P **P 17 37 26.7 +0.7**
comp=Z,25nm,1.3s,mb5.0
PRU Pruhonice 77.47 335 *e*P **P 17 37 26.2 +0.1**
VRAC Vranov 77.47 334 LR LR 18 17 15.2
comp=Z,857nm,19.4s,MS5.1,baz=121,slow=40
VRAC Vranov 77.47 334⇓*i*P **P 17 37 27.7 +1.6**
VRAC Vranov 77.47 334 P **P 17 37 27.3 +1.2**
VRAC Vranov 77.47 334⇓P **P 17 37 27.7 +1.6**
VYHS Vyhne 77.49 332 *e*P **P 17 37 26.4 +0.2**
MLR Muntele Rosu 77.57 326⇓*i*P **P 17 37 28.1 +1.5**
MLR Muntele Rosu 77.57 326 P **P 17 37 27.9 +1.3**
MLR Muntele Rosu 77.57 326⇓P **P 17 37 28.1 +1.4**
PSZ Piszkesteto 77.65 331⇑*i*P **P 17 37 31.8 +4.7**
PSZ Piszkesteto 77.65 331 *e*P **P 17 37 27.5 +0.4**
PSZ pmax pmax
comp=Z,26nm,1.4s,mb5.0
PSZ Piszkesteto 77.65 331 *e*P **P 17 37 27.5 +0.4**
comp=Z,26nm,1.4s,mb5.0
DRGR 77.65 329⇓*i*P **P 17 37 27.6 +0.5**
DRGR 77.65 329⇓P **P 17 37 27.6 +0.5**
WTSB Winterswijk 77.66 341 *e*P **P 17 37 30.0 +2.9**
comp=Z,47nm,1.4s,mb5.2
MOX Moxa 77.69 337 *e*P **P 17 37 27.4 +0.1**
comp=Z,36nm,1.6s,mb5.0
MOX Moxa 77.69 337 *e*P **P 17 37 27.4 +0.1**
MOX pmax pmax
comp=Z,121nm,1.6s,mb5.6
CTKT Corum 77.83 318 *i*P **P 17 37 29.4 +1.3**
NKC Novy Kostel 77.84 337 *e*P **P 17 37 28.6 +0.5**
SNX Sinaia 77.84 326⇓*i*P **P 17 37 30.6 +2.4**
SNX Sinaia 77.84 326⇓P **P 17 37 30.6 +2.5**
MALT Malatya 77.92 314⇓*i*P **P 17 37 31.5 +2.9**
MALT Malatya 77.92 314 *e*P **P 17 37 29.1 +0.5**
MALT pmax pmax
comp=Z,15nm,1.0s,mb4.9
MALT Malatya 77.92 314 *e*P **P 17 37 29.1 +0.5**
comp=Z,15nm,1.0s,mb4.9
VOIR 77.95 327⇑*i*P **P 17 37 29.7 +0.9**
VOIR 77.95 327 ⇑P **P 17 37 29.7 +0.9**
ZST Bratislava 78.30 333 *e*P **P 17 37 32.1 +1.4**
ZST pmax pmax
comp=Z,14nm,1.1s,mb4.8
ZST MLR MLR
comp=Z,600nm,19.3s,MS4.9
ZST Bratislava 78.30 333 *e*P **P 17 37 32.1 +1.4**
comp=Z,14nm,1.1s,mb4.8
ZST LR LR
comp=Z,600nm,19.3s,MS4.9
KHC Kasperske Hory 78.52 335 *e*P **P 17 37 32.2 +0.3**
KHC Kasperske Hory 78.52 335⇑*e*P **P 17 37 29.8 -2.1**
ELDT Eldivan 78.55 319 *i*P **P 17 37 33.2 +1.1**
GRA1 Grafenberg Arr 78.66 337 *e*P **P 17 37 32.9 +0.2**
comp=Z,66nm,1.6s,mb5.3
GRA1 *e*pP pP 17 37 37.1 -0.6
GRF Grafenberg Arr 78.66 337 *e*P **P 17 37 32.9 +0.2**
comp=Z,66nm,1.6s,mb5.3
GRF *e*pP pP 17 37 37.1 -0.6
GRF Grafenberg Arr 78.66 337 *e*P **P 17 37 32.9 +0.2**
GRF *e**PP pP 17 37 37.1 -0.6
GRF pmax pmax
comp=Z,66nm,1.6s,mb5.3
GRFO Grafenberg 78.66 337 P **P 17 37 34.4 +1.7**
GRFO pmax pmax
comp=Z,63nm,1.2s,mb5.4
BHD Baghdad 78.70 307 *ex* x 17 36 27.5
GERES GERESS Array B 78.74 335 P **P 17 37 33.0 -0.2**
comp=Z,3.0nm,0.6s,mb4.4,baz=35,slow=5.4,SNR=12
GERES PP PP 17 40 32.3 +0.9
comp=Z,0.8nm,0.9s,baz=15,slow=5.8,SNR=3.8
GERES LR LR 18 17 48.3
comp=Z,698nm,18.1s,MS5.0,baz=294,slow=40
GERES GERESS Array B 78.74 335 P **P 17 37 33.0 -0.2**
GERES 17 40 32.3

DLF Lyons Farm 78.78 349⇓*i*P **P 17 37 37.3 +3.9**
GZR Gura Zlata 78.83 328⇑*i*P **P 17 37 36.2 +2.6**
GZR Gura Zlata 78.83 328 P **P 17 37 34.4 +0.8**
GZR Gura Zlata 78.83 328 ⇑P **P 17 37 36.2 +2.6**
DCN Croghan 78.83 349⇓*i*P **P 17 37 38.0 +4.4**
HGN Heimansgroeve 78.97 341 *e*P **P 17 37 38.2 +3.8**
comp=Z,42nm,1.6s,mb5.1
BZS Buzias 79.05 329⇓*i*P **P 17 37 34.3 -0.6**
BZS Buzias 79.05 329 P **P 17 37 35.1 +0.2**
BR131 Keskin Array S 79.07 318 *e*P **P 17 37 36.1 +1.2**
comp=Z,2.6nm,0.6s,mb4.3
BRTR Keskin Array B 79.07 318 P **P 17 37 36.6 +1.6**
comp=Z,3.9nm,0.7s,mb4.4,baz=54,slow=3.8,SNR=17
BRTR PP PP 17 40 34.5 +0.4
comp=Z,1.7nm,1.0s,baz=64,slow=2.9,SNR=3.7
GZT Gaziantep 79.09 314 *i*P **P 17 37 36.4 +1.3**
SGKT Sivrigoynuk 79.10 319 *i*P **P 17 37 36.4 +1.3**
AVNT Avonos 79.27 317 *i*P **P 17 37 36.7 +0.7**
ANTO Ankara 79.34 319 P **P 17 37 37.0 +0.6**
ANTO pmax pmax
comp=Z,14nm,0.7s,mb5.0
ANTO Ankara 79.34 319 P **P 17 37 37.0 +0.6**
comp=Z,14nm,0.7s,mb5.0
STKA Stephens Creek 79.53 192 P **P 17 37 38.1 +0.6**
comp=Z,2.8nm,1.1s,mb4.1,baz=306,slow=10.0,SNR=3.4
PKSM Moragy 79.56 331⇓*i*P **P 17 37 38.3 +0.7**
PKSM Moragy 79.56 331 ⇓P **P 17 37 38.3 +0.7**
ARSA Arzberg 79.63 333⇓*i*P **P 17 37 39.1 +1.1**
comp=Z,13nm,1.2s,mb4.8
GIVF Givet 79.84 341 *e*P **P 17 37 37.7 -1.5**
BAIF Baives 80.02 341 *e*P **P 17 37 38.9 -1.2**
comp=Z,146nm,1.7s,mb5.3
BAIF Baives 80.02 341 *e*P **P 17 37 38.9 -1.2**
BAIF pmax pmax
comp=Z,73nm,1.7s,mb5.3
BAIF Baives 80.02 341 *e*P **P 17 37 38.9 -1.2**
comp=Z,73nm,1.7s,mb5.3
COBT Iskenderun 80.39 314 *i*P **P 17 37 43.5 +1.4**
KBA Koelnbreinsper 80.44 335⇓*i*P **P 17 37 44.3 +1.9**
comp=Z,48nm,0.9s,mb5.4,SNR=20
BFO Black Forest 80.67 338 P **P 17 37 44.8 +1.2**
WTTA Wattenberg 80.76 336⇓*i*P **P 17 37 46.2 +2.1**
comp=Z,36nm,0.8s,mb5.4,SNR=16
MOTA Mocasalm 80.84 336⇓*i*P **P 17 37 45.7 +1.2**
comp=Z,37nm,1.0s,mb5.2,SNR=15
CDF Champ du Feu 80.85 339 *e*P **P 17 37 43.4 -1.2**
comp=Z,99nm,1.4s,mb5.2
CDF Champ du Feu 80.85 339 *e*P **P 17 37 43.4 -1.2**
CDF pmax pmax
comp=Z,49nm,1.4s,mb5.2
CDF Champ du Feu 80.85 339 *e*P **P 17 37 43.4 -1.2**
comp=Z,49nm,1.4s,mb5.2
GRUS Gruza 80.87 328 *i*P **P 17 37 43.7 -1.0**
SQTA Sanki Quirin 80.92 336⇑*i*P **P 17 37 47.1 +2.1**
comp=Z,135nm,1.8s,mb5.6
DIVS Divcibare 80.94 329 *i*P **P 17 37 45.6 +0.5**
FVI Forni Avoltri 81.04 335 P **P 17 37 48.4 +2.8**
FVI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
FVI Forni Avoltri 81.04 335 P **P 17 37 48.4 +2.8**
comp=Z,6.8nm,0.6s,mb4.8
PTCC Patocco-Chiusa 81.05 334 P **P 17 37 45.7 +0.1**
comp=Z,6.6nm,0.6s,mb4.7
VTS Vitosha 81.07 326⇓*i*P **P 17 37 47.3 +1.6**
VTS Vitosha 81.07 326 P **P 17 37 47.0 +1.3**
VTS Vitosha 81.07 326 ⇓P **P 17 37 47.3 +1.5**
DAVA Damuels 81.22 337⇑*i*P **P 17 37 47.5 +0.9**
comp=Z,18nm,0.9s,mb5.0
MEZF Maizieres J'vi 81.30 340 *e*P **P 17 37 46.2 -0.8**
comp=Z,110nm,1.2s,mb5.3
MEZF Maizieres J'vi 81.30 340 *e*P **P 17 37 46.2 -0.8**
comp=Z,110nm,1.2s,mb5.7
HAU Haudompre 81.46 339 *e*P **P 17 37 46.5 -1.3**
comp=Z,114nm,1.6s,mb5.2
HAU Haudompre 81.46 339 *e*P **P 17 37 46.5 -1.3**
HAU pmax pmax
comp=Z,57nm,1.6s,mb5.2
HAU Haudompre 81.46 339 *e*P **P 17 37 46.5 -1.3**
comp=Z,57nm,1.6s,mb5.2
HINF Hinteralfeld 81.51 339 *e*P **P 17 37 46.9 -1.2**
DAVOX Davos 81.69 337 LR LR 18 22 01.8
comp=Z,501nm,19.0s,MS4.9,baz=307,slow=42
FLN La Foliniere 82.21 344 *e*P **P 17 37 50.8 -1.0**
SKO Skopje 82.27 327 *i*P **P 17 37 52.5 +0.4**
LDF La Druitiere 82.30 344 *e*P **P 17 37 51.2 -1.0**
VAY Valandovo 82.40 326 *i*P **P 17 37 53.3 +0.5**
GRR Gorron 82.64 344 *e*P **P 17 37 52.9 -1.1**
comp=Z,290nm,1.8s,mb5.7
GRR Gorron 82.64 344 *e*P **P 17 37 52.9 -1.1**
GRR pmax pmax
comp=Z,145nm,1.8s,mb5.7
GRR Gorron 82.64 344 *e*P **P 17 37 52.9 -1.1**
comp=Z,145nm,1.8s,mb5.7
LOR Lormes 82.73 341 *e*P **P 17 37 53.6 -0.9**
comp=Z,38nm,1.0s,mb5.1
LOR Lormes 82.73 341 *e*P **P 17 37 53.6 -0.9**
LOR pmax pmax
comp=Z,19nm,1.0s,mb5.1
LOR Lormes 82.73 341 *e*P **P 17 37 53.6 -0.9**
comp=Z,19nm,1.0s,mb5.1
CABF La Chapelle 82.82 339 *e*P **P 17 37 54.2 -0.8**
KRUS Krusevo 82.86 327 *i*P **P 17 37 59.1 +4.0**
SSF Saint Saulge 83.00 341 *e*P **P 17 37 54.9 -1.0**
comp=Z,21nm,1.0s,mb4.8
SSF Saint Saulge 83.00 341 *e*P **P 17 37 54.9 -1.0**
SSF pmax pmax
comp=Z,11nm,1.0s,mb4.8
SSF Saint Saulge 83.00 341 *e*P **P 17 37 54.9 -1.0**
comp=Z,11nm,1.0s,mb4.8
SGMF Saint Gilles 83.07 345 *e*P **P 17 37 55.7 -0.6**
comp=Z,60nm,0.8s,mb5.4
SGMF Saint Gilles 83.07 345 *e*P **P 17 37 55.7 -0.6**
SGMF pmax pmax
comp=Z,30nm,0.8s,mb5.4
SGMF Saint Gilles 83.07 345 *e*P **P 17 37 55.7 -0.6**
comp=Z,30nm,0.8s,mb5.4
ROSF Rostrenen 83.12 346 *e*P **P 17 37 56.1 -0.4**
comp=Z,11nm,1.1s,mb5.5
ROSF Rostrenen 83.12 346 *e*P **P 17 37 56.1 -0.4**
ROSF pmax pmax
comp=Z,60nm,1.1s,mb5.5
ROSF Rostrenen 83.12 346 *e*P **P 17 37 56.1 -0.4**
comp=Z,60nm,1.1s,mb5.5
OHR Ohrid 83.25 327 *i*P **P 17 37 56.4 -0.8**
AVF Avril sur Loir 83.30 341 *e*P **P 17 37 56.7 -0.7**
comp=Z,22nm,0.7s,mb5.0
AVF Avril sur Loir 83.30 341 *e*P **P 17 37 56.7 -0.7**
AVF pmax pmax
comp=Z,11nm,0.7s,mb5.0
AVF Avril sur Loir 83.30 341 *e*P **P 17 37 56.7 -0.7**
comp=Z,11nm,0.7s,mb5.0
SMF Signal de Mont 83.32 341 *e*P **P 17 37 56.8 -0.8**
comp=Z,130nm,1.3s,mb5.5
SMF Signal de Mont 83.32 341 *e*P **P 17 37 56.8 -0.8**
SMF pmax pmax
comp=Z,65nm,1.3s,mb5.5
SMF Signal de Mont 83.32 341 *e*P **P 17 37 56.8 -0.8**
comp=Z,65nm,1.3s,mb5.5
QUIF Quistinic 83.50 345 *e*P **P 17 37 57.6 -0.9**
BGF Bois d'Agland 83.63 341 *e*P **P 17 37 58.2 -0.9**
comp=Z,19nm,0.6s,mb5.1
BGF Bois d'Agland 83.63 341 *e*P **P 17 37 58.2 -0.9**
BGF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
BGF Bois d'Agland 83.63 341 *e*P **P 17 37 58.2 -0.9**
comp=Z,9.3nm,0.6s,mb5.1
LPL La Plagne 83.69 338 *e*P **P 17 37 59.6 +0.2**
comp=Z,26nm,0.6s,mb5.2
LPL La Plagne 83.69 338 *e*P **P 17 37 59.6 +0.2**
LPL pmax pmax
comp=Z,13nm,0.6s,mb5.2
LPL La Plagne 83.69 338 *e*P **P 17 37 59.6 +0.2**
comp=Z,13nm,0.6s,mb5.2
LPG La Plagne 83.70 338 *e*P **P 17 37 59.9 +0.4**
comp=Z,42nm,0.7s,mb5.4
LPG La Plagne 83.70 338 *e*P **P 17 37 59.9 +0.4**
LPG pmax pmax
comp=Z,21nm,0.7s,mb5.4
LPG La Plagne 83.70 338 *e*P **P 17 37 59.9 +0.4**
comp=Z,21nm,0.7s,mb5.4
SFI Santa Sofia 83.76 334 P **P 17 38 01.6 +1.8**
SFI pmax pmax
comp=Z,55nm,1.6s,mb5.4
SFI Santa Sofia 83.76 334 P **P 17 38 01.6 +1.8**
comp=Z,55nm,1.6s,mb5.4
VMG Vicchio 83.80 334 P **P 17 38 06.6 +6.6**
comp=Z,21nm,0.5s,mb5.5
SNTG Esanatoglia 84.02 333 P **P 17 38 03.6 +2.5**
comp=Z,9.1nm,0.6s,mb5.1
TCF Toulx Ste Croi 84.02 341 *e*P **P 17 38 00.3 -0.8**
comp=Z,24nm,0.8s,mb5.0
TCF Toulx Ste Croi 84.02 341 *e*P **P 17 38 00.3 -0.8**
TCF pmax pmax
comp=Z,12nm,0.8s,mb5.1
TCF Toulx Ste Croi 84.02 341 *e*P **P 17 38 00.3 -0.8**
comp=Z,12nm,0.8s,mb5.1
BNI Bardonecchia 84.13 338 P **P 17 38 02.7 +1.0**
BNI pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
MFF Saint Martin d 84.21 343 *e*P **P 17 38 00.9 -1.2**
comp=Z,23nm,0.8s,mb5.0
MFF Saint Martin d 84.21 343 *e*P **P 17 38 00.9 -1.2**
MFF pmax pmax
comp=Z,11nm,0.8s,mb5.0
MFF Saint Martin d 84.21 343 *e*P **P 17 38 00.9 -1.2**
comp=Z,11nm,0.8s,mb5.0
TERO Teramo 84.39 333 P **P 17 38 02.7 -0.3**
MBDF Montbardon 84.41 338 *e*P **P 17 38 02.7 -0.4**
comp=Z,19nm,0.6s,mb5.1
MBDF Montbardon 84.41 338 *e*P **P 17 38 02.7 -0.4**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
MBDF Montbardon 84.41 338 *e*P **P 17 38 02.7 -0.4**
comp=Z,9.4nm,0.6s,mb5.1
ORIF Oris-en-Rattie 84.46 339 *e*P **P 17 38 03.3 -0.1**
comp=Z,34nm,0.8s,mb5.2
ORIF Oris-en-Rattie 84.46 339 *e*P **P 17 38 03.3 -0.1**
ORIF pmax pmax
comp=Z,17nm,0.8s,mb5.2
ORIF Oris-en-Rattie 84.46 339 *e*P **P 17 38 03.3 -0.1**
comp=Z,17nm,0.8s,mb5.2
VIVF Saint-Julien-l 84.81 339 *e*P **P 17 38 04.9 -0.2**
comp=Z,35nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.81 339 *e*P **P 17 38 04.9 -0.2**
VIVF pmax pmax
comp=Z,17nm,1.0s,mb5.1
VIVF Saint-Julien-l 84.81 339 *e*P **P 17 38 04.9 -0.2**
comp=Z,17nm,1.0s,mb5.1
IMI Imperia 84.88 337 P **P 17 38 06.8 +1.3**
comp=Z,12nm,0.4s,mb5.4
SBF Sospel 85.04 337 *e*P **P 17 38 05.3 -1.0**
RJF Les Rejaudoux 85.11 342 *e*P **P 17 38 05.4 -1.2**
CAF Calviac 85.35 341 *e*P **P 17 38 06.9 -0.9**
comp=Z,107nm,1.4s,mb5.5
CAF Calviac 85.35 341 *e*P **P 17 38 06.9 -0.9**
CAF pmax pmax
comp=Z,53nm,1.4s,mb5.5
CAF Calviac 85.35 341 *e*P **P 17 38 06.9 -0.9**
comp=Z,53nm,1.4s,mb5.5
SMRF Simiane la Rot 85.42 338 *e*P **P 17 38 07.9 -0.3**
RFI Roccamonfina 85.46 332 P **P 17 38 09.2 +0.8**
comp=Z,19nm,1.4s,mb5.0
FRF La Foret Royal 85.53 338 *e*P **P 17 38 07.7 -1.0**
comp=Z,65nm,1.3s,mb5.4
FRF La Foret Royal 85.53 338 *e*P **P 17 38 07.7 -1.0**
FRF pmax pmax
comp=Z,32nm,1.3s,mb5.4
FRF La Foret Royal 85.53 338 *e*P **P 17 38 07.7 -1.0**
comp=Z,32nm,1.3s,mb5.4
LFF La Frestale 85.62 342 *e*P **P 17 38 08.3 -0.9**
SGO Sicignano 85.69 330 P **P 17 38 09.2 -0.3**
SGO pmax pmax
comp=Z,25nm,1.4s,mb5.2
SGO Sicignano 85.69 330 P **P 17 38 09.2 -0.3**
comp=Z,25nm,1.4s,mb5.2
LASF Ste Croix 85.74 340 *e*P **P 17 38 08.9 -0.9**
comp=Z,142nm,1.6s,mb5.7
LMR La Mourre 85.78 338 *e*P **P 17 38 09.2 -0.8**
comp=Z,90nm,1.3s,mb5.5
LMR La Mourre 85.78 338 *e*P **P 17 38 09.2 -0.8**
LMR pmax pmax
comp=Z,45nm,1.3s,mb5.5
LMR La Mourre 85.78 338 *e*P **P 17 38 09.2 -0.8**
comp=Z,45nm,1.3s,mb5.5
PGF Pioggiola 85.83 336 *e*P **P 17 38 08.2 -2.0**
comp=Z,170nm,1.9s,mb5.7
PGF Pioggiola 85.83 336 *e*P **P 17 38 08.2 -2.0**
PGF pmax pmax
comp=Z,85nm,1.9s,mb5.7
PGF Pioggiola 85.83 336 *e*P **P 17 38 08.2 -2.0**
comp=Z,85nm,1.9s,mb5.7
TIP Timpagrande 86.42 329 *e*P **P 17 38 13.2 0.0**
MTLF Montolieu 86.82 341 *e*P **P 17 38 13.9 -1.2**
EPF Esparros 87.53 342 *e*P **P 17 38 16.2 -2.4**
comp=Z,11nm,0.7s,mb4.9
EPF Esparros 87.53 342 *e*P **P 17 38 16.2 -2.4**
EPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
EPF Esparros 87.53 342 *e*P **P 17 38 16.2 -2.4**
comp=Z,5.4nm,0.6s,mb5.0
SJPF Ste Jean 87.78 343 *e*P **P 17 38 17.8 -1.9**
ETSF Etsaut 87.85 342 *e*P **P 17 38 18.8 -1.3**
KEST Kesra 92.02 333 P **P 17 38 43.9 +4.3**
comp=Z,3.5nm,1.0s,mb4.7,baz=298,slow=1.9,SNR=3.7
TORD Torodi Ar. Bea 115.49 331 PKP PKPdf 17 44 12.2 -0.3
comp=Z,1.1nm,1.0s,baz=2.9,slow=2.0,SNR=4.1
VNDA Vanda 124.40 178 PKP PKPdf 17 44 27.9 -1.8
comp=Z,0.4nm,0.6s,baz=326,slow=4.6,SNR=7.6
LPAZ La Paz 132.97 64 PKP PKPdf 17 44 47.4 +1.4
comp=Z,2.8nm,0.8s,baz=351,slow=4.6,SNR=12
LPAZ La Paz 132.97 64 PKP PKPdf 17 44 47.4 +1.4
CFAA Coronel Fontan 143.59 81 PKP PKPdf 17 45 03.0 -2.5
comp=Z,0.3nm,0.5s,baz=269,slow=1.1,SNR=8.1
SNAA Sanae 153.25 195 *e*PKPdf PKPdf 17 45 16.7 -4.4
SNAA *e* 17 45 26.3
VNA2 Neumayer--Watz 154.66 193 *e*PKPdf PKPdf 17 45 15.6 -7.5
VNA2 *e* 17 45 25.0
VNA2 *e* 17 45 28.2
VNA2 *e* 17 45 30.2
VNA3 Neumayer Olymp 154.71 191 *e*PKPdf PKPdf 17 45 15.2 -8.0
VNA3 *e* 17 45 24.9
VNA3 *e* 17 45 30.6

BJI **15** *17:28:49.6, 46.17N×153.09E, h17km, mb4.5*
IDC **15** *17:28:49.4±0.9, 46.43N×153.00E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/25, mbtmp4.2/16, MS4.8/3, Ms1 4.8/3, ms1mx3.9/41, Error ellipse: s-maj=26.7km s-min=19.4km az=176.0*
NEIC **15** *17:28:51.0±0.6, 46.39N×153.03E, h10km, mb4.5/4, Error ellipse: s-maj=14.4km s-min=10.0km az=143.0*
ISCJB **15** *17:28:52.0±2.6, 46.47N±0.10×152.9E±0.1, h21km±17km, mb4.5/27, MS4.9/3, Error ellipse: s-maj=19.9km s-min=8.0km az=106.4*
MOS **15** *17:28:53.9±1.4, 46.40N×152.96E, h42km, mb4.6/6, Error ellipse: s-maj=11.0km s-min=9.1km az=104.4*
ISC 15 17:28:56.3±1.2**, 4658N**±0.10×**152.9E**±0.1**, h37**km±9km**, h17**km±6.6km**:pP-P, n77**, σ1.9**13/74, mb4.5**/27**, MS4.9**/3**, 7C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.74**	**251**	⇑*i*PN		**Pn**	**17 29 49.0**	**-2.5**
KUR				*e*S		**Sn**	**17 30 33.7**	**-0.7**
KUR				pmax	pmax			
	comp=N,150nm,0.6s							
KUR				pmax	pmax			
	comp=E,90nm,0.6s							
KUR				pmax	pmax			
	comp=Z,380nm,0.6s							
KUR				smax				
	comp=E,5μm,4.0s							
KUR				smax				
	comp=N,340nm,0.7s							
KUR				smax				
	comp=E,490nm,0.7s							
SKR	**Severo-Kuril's**	**4.63**	**26**	*e*PN		**Pn**	**17 30 05.1**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**5.56**	**245**	*e*PN		**Pn**	**17 30 17.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**6.96**	**277**	*e*PN		**Pn**	**17 30 40.0**	**+4.3**
ASAJ	**Asahikawa**	**7.64**	**255**	Pn		**Pn**	**17 30 45.9**	**+0.8**
	comp=E,0.8nm,0.3s,baz=118,slow=15,SNR=3.0							
ASAJ	**Asahikawa**	**7.64**	**255**	PN		**Pn**	**17 30 45.9**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**14.84**	**233**	P		**Pn**	**17 32 19.5**	**-4.0**
MJAR	**Matsushiro Arr**	**14.84**	**233**	Pn		**Pn**	**17 32 26.1**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=36,slow=7.7,SNR=4.6							
CN2	**Changchun**	**19.49**	**272**	*e*P		**Pn**	**17 33 19.8**	**-1.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s							

YAK	Yakutsk	20.37	328	eP	P	17 33 30.8	+1.1	
YAK				pmax	pmax			
	comp=Z,14nm,0.8s							
YAK	Yakutsk	20.37	328	eP	P	17 33 30.8	+1.1	
	comp=Z,14nm,0.8s							
KSRS	Korea Array	20.59	253	P	P	17 33 32.1	+0.1	
	comp=Z,3.5nm,0.7s,baz=59,slow=9.6,SNR=7.0							
BILL	Bilibino	22.59	13	eP	P	17 33 52.4	-1.1	
BILL				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.0							
BILL	Bilibino	22.59	13	eP	P	17 33 52.4	-1.2	
	comp=Z,4.3nm,0.6s,mb4.1							
TIXI	Tiksi	27.58	344	eP	P	17 34 34.1	-5.8	
SONM	Songino Array	31.23	290	P	P	17 35 11.8	-0.4	
	comp=Z,0.9nm,0.8s,mb3.7,baz=70,slow=8.5,SNR=3.0							
LZH	Lanzhou	37.73	272	eP	P	17 36 09.6	+1.2	
LZH				AP	pP	17 36 16.3	-2.6	
LZH				XP	sP	17 36 20.0	-3.3	
LZH				AMB	AMB			
	comp=Z,16nm,1.1s,mb4.7							
LZH	Lanzhou	37.73	272	eP	P	17 36 09.6	+1.2	
LZH				*SP	sP	17 36 20.0	-3.3	
LZH						17 37 39.8		
LZH				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.7							
LZH	Lanzhou	37.73	272	eP	P	17 36 09.6	+1.2	
	comp=Z,16nm,1.1s,mb4.7							
LZH				pP	pP	17 36 16.3	-2.6	
LZH				sP	sP	17 36 20.0	-3.3	
LZH				PP	PP	17 37 39.8	+4.9	
GTA	Gaotai	38.83	279	eP	P	17 36 19.0	+1.3	
GTA				AP	pP	17 36 26.5	-1.8	
GTA				XP	sP	17 36 30.8	-1.8	
GTA				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.4							
GYA	Guiyang	41.51	257⇑	iP	P	17 36 39.3	-0.6	
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
INK	Inuvik	41.88	32	P	P	17 36 42.8	-0.2	
	comp=Z,1.5nm,0.5s,mb3.9,baz=293,slow=6.9,SNR=4.1							
INK	Inuvik	41.88	32	P	P	17 36 42.8	-0.2	
INK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
INK	Inuvik	41.88	32	eP	P	17 36 42.1	-0.9	
	comp=Z,64nm,0.5s,mb5.5							
ZAL	Zalesovo	42.59	306	P	P	17 36 47.6	-1.1	
	comp=Z,1.2nm,0.7s,mb3.7,baz=96,slow=5.1,SNR=2.7							
MK31	Makanchi Array	46.87	297	eP	P	17 37 21.6	-1.2	
MKAR	Makanchi Array	46.87	297	P	P	17 37 22.2	-0.6	
	comp=Z,3.3nm,0.8s,mb4.3,baz=65,slow=8.6,SNR=6.5							
LSA	Lhasa	50.12	273	eP	P	17 37 49.4	+1.6	
CHKZ	Chkalovo	50.41	310	eP	P	17 37 48.2	-1.8	
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
CHKZ	Chkalovo	50.41	310	eP	P	17 37 48.2	-1.9	
	comp=Z,4.6nm,0.6s,mb4.7							
BVAR	Borovoye Array	50.84	309	P	P	17 37 52.3	-0.9	
	comp=Z,1.5nm,0.5s,mb4.1,baz=52,slow=8.4,SNR=4.5							
BRVK	Borovoye	50.88	310	eP	P	17 37 52.1	-1.4	
ZRNK	Zerenda	51.61	310	eP	P	17 37 57.6	-1.4	
CHTO	Chiang Mai	51.92	257	eP	P	17 38 00.8	-0.5	
JIRN	Jiri	54.79	275	eP	P	17 38 23.4	+1.0	
	comp=Z,12nm,0.5s,mb5.2							
KKN	Kakani	55.34	275	eP	P	17 38 27.6	+1.2	
	comp=Z,15nm,0.6s,mb5.2							
PKI	Pulchoki	55.38	275	eP	P	17 38 27.8	+1.1	
DMN	Daman	55.57	275	eP	P	17 38 29.3	+1.3	
GKN	Gorkha	55.64	276	eP	P	17 38 28.0	-0.6	
	comp=Z,20nm,0.6s,mb5.3							
KOLN	Koldanda	56.50	276	eP	P	17 38 35.5	+0.8	
	comp=Z,19nm,0.8s,mb5.2							
AKTK	Aktyubinsk	58.71	312	P	P	17 38 49.4	-0.9	
AKTO	Aktyubinsk	58.71	312	P	P	17 38 49.4	-0.9	
	comp=Z,2.1nm,0.5s,mb4.4,baz=67,slow=7.2,SNR=6.1							
AKTO	Aktyubinsk	58.71	312	P	P	17 38 49.4	-0.9	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
FINES	FINESS Array B	64.12	335	P	P	17 39 26.0	-0.8	
	comp=Z,3.8nm,0.7s,mb4.6,baz=36,slow=10.0,SNR=4.8							
PDAR	Pinedale Array	64.98	54	P	P	17 39 31.8	-0.7	
	comp=Z,1.9nm,1.0s,mb4.1,baz=321,slow=3.8,SNR=4.4							
NB2	NORSAR Subarra	68.33	341	P	P	17 39 52.6	-1.2	
	comp=Z,2.3nm,0.6s,mb4.4,baz=28,slow=6.5							
NOA	NORSAR Array B	68.33	341	P	P	17 39 53.3	-0.5	
	comp=Z,2.6nm,0.6s,mb4.4,baz=28,slow=6.2,SNR=7.6							
HFS	Hagfors	68.56	339	P	P	17 39 54.9	-0.3	
	comp=Z,5.2nm,0.7s,mb4.6,baz=57,slow=5.3,SNR=3.8							
AKASG	Malin Array Be	71.59	326	P	P	17 40 13.0	-0.8	
	comp=Z,7.0nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=22							
AKBB	Malin Array Si	71.59	326	eP	P	17 40 12.6	-1.2	
ASAR	Alice Springs	71.99	198	P	P	17 40 14.1	-2.2	
	comp=Z,0.8nm,0.7s,mb3.8,baz=13,slow=5.0,SNR=5.1							
GNI	Garni	72.51	310	LR	LR	18 14 17.5		
	comp=Z,1μm,18.7s,MS5.2,baz=286,slow=38							
STHS	Stebnicka Huta	75.58	330	eP	P	17 40 37.8	+0.6	
BURAR	Bucovina Array	75.64	326	⇓iP	P	17 40 37.7	+0.2	
BURAR	Bucovina Array	75.64	326	⇓P	P	17 40 37.7	+0.1	
WSAR	Wadi Sarin	76.28	289	LR	LR	18 17 50.1		
	comp=Z,425nm,19.6s,MS4.8,baz=166,slow=38							
MORC	Moravsky Berou	76.51	332	⇓iP	P	17 40 42.9	+0.4	
CLL	Collm	76.55	335	eP	P	17 40 43.0	+0.3	
CLL				epP	pP	17 40 47.0	-7.1	
CLL				ePcP	PcP	17 40 54.0	-0.2	
MLR	Muntele Rosu	77.11	325	⇑iP	P	17 40 47.3	+1.4	
MLR	Muntele Rosu	77.11	325	⇑P	P	17 40 47.2	+1.4	
MALT	Malatya	77.14	313	⇓iP	P	17 40 48.3	+2.2	
MALT	Malatya	77.14	313	⇓P	P	17 40 48.3	+2.2	
TXAR	Lajitas Array	77.72	60	P	P	17 40 47.9	-1.4	
	comp=Z,2.1nm,0.5s,mb4.3,baz=301,slow=4.3,SNR=10							
TXAR	Lajitas Array	77.72	60	P	P	17 40 47.9	-1.4	
KHC	Kasperske Hory	78.32	334	eP	P	17 40 53.0	+0.4	
BRTR	Keskin Array B	78.40	317	P	P	17 40 54.1	+1.1	
	comp=Z,1.1nm,0.8s,mb3.8,baz=23,slow=4.7,SNR=3.2							
GZR	Gura Zlata	78.42	327⇑	iP	P	17 40 53.6	+0.4	
GZR	Gura Zlata	78.42	327	⇑P	P	17 40 53.6	+0.4	
GERES	GERESS Array B	78.53	334	P	P	17 40 52.5	-1.3	
	comp=Z,1.0nm,0.6s,mb3.9,baz=38,slow=5.0,SNR=4.4							
VTS	Vitosha	80.61	325⇑	iP	P	17 41 05.8	+0.7	
CDF	Champ du Feu	80.75	338	eP	P	17 41 06.8	+1.0	
	comp=Z,25nm,1.2s,mb4.7							
GRR	Gorron	82.68	343	eP	P	17 41 17.0	+1.0	
SMF	Signal de Mont	83.26	339	eP	P	17 41 19.9	+0.9	
	comp=Z,23nm,1.1s,mb4.8							
LPG	La Plagne	83.57	337	eP	P	17 41 22.8	+2.2	
	comp=Z,15nm,1.0s,mb4.8							
CAF	Calviac	85.31	340	eP	P	17 41 29.9	+0.5	
VAE	Valguarnera	88.40	328	LR	LR	18 24 07.5		
	comp=Z,390nm,19.4s,MS4.8,baz=325,slow=37							
CFAA	Coronel Fontan	145.19	79	PKPbc	PKPbc	17 48 26.6	-3.0	
	comp=Z,0.3nm,0.8s,baz=256,slow=3.7,SNR=4.4							

BJI **15** *17:29:56.7, 47.28N 155.62E, h10km, mB5.0, mb4.3*
IDC **15** *17:29:59.3±0.8, 46.69N 154.88E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/25, mbtmp4.3/16, ML3.6/1, Error ellipse: s-maj=23.9km s-min=20.1km az=94.0*
ISCJB **15** *17:30:00.1±0.6, 46.68N±007×154.8E±0.1, h10km, mb4.4/35, MS4.3/1, Error ellipse: s-maj=13.0km s-min=7.8km az=75.0*
NEIC **15** *17:30:02.0±0.8, 46.69N×154.77E, h10km, mb4.6/14, Error ellipse: s-maj=20.8km s-min=12.0km az=124.0*
MOS **15** *17:30:01.4±1.9, 46.71N×154.80E, h20km, mb4.9/16, Error ellipse: s-maj=10.8km s-min=7.5km az=117.0*
SZGRF **15** *17:30:13.7, 47.56N×154.09E, h33km, mb4.9, Kuril Islands, Russia*

ISC 15 17:30:01.4±0.5, 46.69N±006×154.9E±01, h10km, n92, σ1§42/93, mb4.4/35, MS4.3/1, 8C-11D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	Yuzh-Sakhalins	8.33	276	ePN	Pn	17 32 06.8	+4.6
YSS	Yuzh-Sakhalins	8.33	276	Pn	Pn	17 32 03.3	+1.1
ASAJ	Asahikawa	9.03	258	Pn	Pn	17 32 14.9	+3.2
	1.9nm,0.3s,baz=101,slow=12,SNR=3.8						
ASAJ	Asahikawa	9.03	258	PN	Pn	17 32 14.9	+3.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	Erimo	9.62	245	ePN	Pn	17 32 18.8	-1.0
KLR	Kul'dur	15.70	288	eP	Pn	17 33 39.0	-3.6
MAJO	Matsushiro	16.05	237	P	Pn	17 33 47.2	+0.2
MAJO				pmax	pmax		
	comp=Z,30nm,0.9s						
MAJO	Matsushiro	16.05	237	P	Pn	17 33 47.2	+0.2
	comp=Z,30nm,0.9s						
MAT	Matsushiro	16.05	237	P	Pn	17 33 47.3	+0.3
MJAR	Matsushiro Arr	16.05	237	Pn	Pn	17 33 46.1	-1.0
	comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=4.8						
CN2	Changchun	20.88	273	eP	P	17 34 43.8	+0.2
YAK	Yakutsk	21.05	326	eP	P	17 34 43.4	-2.0
YAK				e*PP		17 34 53.5	
YAK				e		17 35 17.1	
YAK				eS	S	17 38 42.4	+2.7
YAK				eSS		17 39 15.1	
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK				pmax	pmax		
	comp=Z,46nm,1.7s,mb4.5						
YAK				pmax	pmax		
	comp=N,243nm,3.4s						
YAK				pmax	pmax		
	comp=E,78nm,1.9s						
YAK				smax			
	comp=N,203nm,3.1s						
YAK				smax			
	comp=E,122nm,2.4s						
YAK				smax			
	comp=Z,127nm,2.4s						
YAK				MLR	MLR		
	comp=N,310nm,12.0s,MS4.3						
YAK				MLR	MLR		
	comp=Z,655nm,12.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,838nm,14.0s,MS4.3						
KSRS	Korea Array	21.96	255	P	P	17 34 58.7	+3.5
	comp=E,3.2nm,0.7s,mb3.9,baz=55,slow=9.1,SNR=4.7						
BILL	Bilibino	22.20	11	eP	P	17 34 54.2	-3.5
ULN	Ulaanbaatar	32.08	290⇑	eP	P	17 36 28.7	+0.3
SONM	Songino Array	32.51	290	P	P	17 36 30.5	-1.7
	comp=E,1.0nm,0.8s,mb3.8,baz=63,slow=8.4,SNR=5.0						
ZAK	Zakamensk	33.81	296	eP	P	17 36 42.0	-1.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
COLA	College	35.43	38	eP	P	17 36 50.4	-7.1
LZH	Lanzhou	39.12	273	eP	P	17 37 30.6	+1.7
LZH				AP	pP	17 37 41.1	+9.1
LZH				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
LZH	Lanzhou	39.12	273	eP	P	17 37 30.6	+1.7
	comp=Z,13nm,1.1s,mb4.6						
LZH				pP	pP	17 37 41.1	+9.1
LZH				sP	sP	17 37 46.1	+13
INK	Inuvik	41.05	32	P	P	17 37 43.0	-1.9
	comp=Z,3.3nm,0.6s,mb4.1,baz=276,slow=8.4,SNR=4.5						
CD2	Chengdu	42.10	267	eP	P	17 37 54.4	+0.9
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
ZAL	Zalesovo	43.66	306	P	P	17 38 03.3	-2.9
	comp=Z,2.1nm,0.5s,mb4.2,baz=24,slow=8.4,SNR=4.4						
NVS	Novosibirsk	44.20	308	eP	P	17 38 07.7	-2.8
NVS				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
NVS				pmax	pmax		
	comp=N,11nm,1.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
MK31	Makanchi Array	48.06	298	eP	P	17 38 39.5	-1.4
MKAR	Makanchi Array	48.06	298	P	P	17 38 38.4	-2.5
	comp=E,2.1nm,0.8s,mb4.2,baz=60,slow=7.2,SNR=4.4						
CHKZ	Chkalovo	51.41	311	eP	P	17 39 03.9	-2.5
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CHKZ	Chkalovo	51.41	311	eP	P	17 39 03.9	-2.5
	comp=Z,12nm,0.8s,mb4.9						
LSA	Lhasa	51.50	274	eP	P	17 39 07.8	+0.7
LSA	Lhasa	51.50	274	eP	P	17 39 10.1	+3.0
BVAR	Borovoye Array	51.84	310	P	P	17 39 08.1	-1.6
	comp=Z,5.1nm,0.7s,mb4.6,baz=52,slow=7.3,SNR=8.6						
BRVK	Borovoye	51.88	310	eP	P	17 39 07.8	-2.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRVK	Borovoye	51.88	310	eP	P	17 39 07.8	-2.1
	comp=Z,6.6nm,0.8s,mb4.6						
ZRNK	Zerenda	52.61	311	eP	P	17 39 12.7	-2.6
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ZRNK	Zerenda	52.61	311	eP	P	17 39 12.7	-2.6
	comp=Z,7.0nm,0.8s,mb4.6						
CHTO	Chiang Mai	53.30	258	eP	P	17 39 22.9	+2.4
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CHTO	Chiang Mai	53.30	258	eP	P	17 39 22.9	+2.5
	comp=Z,6.7nm,1.0s,mb4.5						
AAK	Ala-Archa	54.96	297	eP	P	17 39 32.9	+0.4
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
AAK	Ala-Archa	54.96	297	eP	P	17 39 30.7	-1.9
	comp=Z,4.4nm,0.7s,mb4.6						
ARU	Arti	55.88	318⇑	eP	P	17 39 38.1	-1.1
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ARU	Arti	55.88	318	eP	P	17 39 38.0	-1.2
	comp=Z,10nm,0.8s,mb4.9						
PMG	Port Moresby	56.27	189	eP	P	17 39 40.5	-1.4
AKTK	Aktyubinsk	59.68	313	P	P	17 40 05.5	-0.4
AKTO	Aktyubinsk	59.68	313	P	P	17 40 05.5	-0.4
	comp=Z,1.6nm,0.6s,mb4.2,baz=60,slow=6.3,SNR=3.8						
AKTO	Aktyubinsk	59.68	313	P	P	17 40 05.5	-0.4
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	FINESS Array B	64.61	336	P	P	17 40 38.4	-0.6
	comp=Z,6.7nm,0.7s,mb4.8,baz=38,slow=9.6,SNR=8.8						
OBN	Obninsk	66.05	326	eP	P	17 40 46.5	-1.8
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
NB2	NORSAR Subarra	68.68	342	P	P	17 41 05.0	+0.1
	comp=Z,3.2nm,0.8s,mb4.3,baz=26,slow=6.5						
NOA	NORSAR Array B	68.68	342	P	P	17 41 05.2	+0.3
	comp=Z,3.9nm,0.9s,mb4.3,baz=27,slow=6.2,SNR=4.1						
NOA	NORSAR Array B	68.68	342	P	P	17 41 05.2	+0.3
WB2	Warramunga Arr	68.87	201	eP	P	17 41 05.9	-0.2
WRA	Warramunga Arr	68.87	201	P	P	17 41 04.9	-1.3
	comp=Z,2.4nm,0.8s,mb4.2,baz=21,slow=6.5,SNR=6.6						
HFS	Hagfors	68.94	340	P	P	17 41 06.8	+0.2
	comp=Z,1.9nm,0.5s,mb4.3,baz=76,slow=6.1,SNR=3.3						
KONO	Kongsberg	70.28	342⇑	eP	P	17 41 15.0	+0.1
KIV	Kislovodsk	71.72	315⇑	eP	P	17 41 23.8	+0.2
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AKASG	Malin Array Be	72.27	327	P	P	17 41 26.9	0.0
	comp=Z,3.5nm,0.6s,mb4.4,baz=34,slow=6.2,SNR=6.6						
ASAR	Alice Springs	72.55	200	P	P	17 41 29.4	+0.8
	comp=Z,3.5nm,0.8s,mb4.3,baz=13,slow=5.3,SNR=11						
STHS	Stebnicka Huta	76.18	331	eP	P	17 41 50.3	+0.6
STHS				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
STHS	Stebnicka Huta	76.18	331	eP	P	17 41 50.3	+0.6
	comp=Z,7.2nm,1.1s,mb4.5						
TXAR	Lajitas Array	76.45	62	P	P	17 41 49.8	-1.4
	comp=Z,3.4nm,0.7s,mb4.4,baz=297,slow=3.9,SNR=8.1						
UPC	Upice	76.88	334	eP	P	17 41 55.0	+1.4
DPC	Dobruska-Polom	76.92	334	eP	P	17 41 53.9	0.0
CLL	Collm	77.02	337	iP	P	17 41 55.3	+0.8
CLL				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4						
CLL	Collm	77.02	337	iP	P	17 41 55.3	+0.8
	comp=Z,15nm,1.0s,mb4.9						
MORC	Moravsky Berou	77.06	333⇑	iP	P	17 41 56.6	+1.9
MORC	Moravsky Berou	77.06	333	⇑P	P	17 41 56.6	+2.0
BRG	Berggiesshubel	77.15	336	eP	P	17 41 55.0	-0.2
BRG				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.0						
BRG	Berggiesshubel	77.15	336	eP	P	17 41 55.0	-0.2
	comp=Z,0.9nm,0.2s,mb4.3						
KECS	Kecovo	77.24	331	eP	P	17 41 55.5	-0.2
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	Kecovo	77.24	331	eP	P	17 41 55.5	-0.2
	comp=Z,2.9nm,0.9s,mb4.2						
TIRR	Tirgusor	77.69	324	⇓iP	P	17 41 59.3	+1.1
TIRR	Tirgusor	77.69	324	⇓P	P	17 41 59.3	+1.0
VRAC	Vranov	77.77	334	⇓iP	P	17 42 00.9	+2.3
VRAC	Vranov	77.77	334	⇓P	P	17 42 00.9	+2.3
PRU	Pruhonice	77.77	335	eP	P	17 41 59.5	+0.8
VYHS	Vyhne	77.77	332	eP	P	17 42 00.2	+1.5
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
VYHS	Vyhne	77.77	332	eP	P	17 42 00.2	+1.5
	comp=Z,5.5nm,1.3s,mb4.3						
MLR	Muntele Rosu	77.81	326	⇓iP	P	17 42 00.0	+1.1
MLR	Muntele Rosu	77.81	326	⇓P	P	17 42 00.0	+1.1
MALT	Malatya	78.09	314	⇑iP	P	17 42 02.9	+2.5
MALT	Malatya	78.09	314	⇑P	P	17 42 02.9	+2.5
KHC	Kasperske Hory	78.82	335	eP	P	17 42 04.7	+0.2
GRA1	Grafenberg Arr	78.97	337	eP	P	17 42 07.0	+1.7
	comp=Z,10.0nm,1.0s,mb4.7						
GRF	Grafenberg Arr	78.97	337	eP	P	17 42 07.0	+1.7
	comp=Z,10.0nm,1.0s,mb4.7						
GRF	Grafenberg Arr	78.97	337	eP	P	17 42 07.0	+1.7
GRF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GERES	GERESS Array B	79.04	335	P	P	17 42 06.1	+0.4
	comp=Z,2.1nm,0.9s,mb4.1,baz=25,slow=4.4,SNR=6.2						
GZR	Gura Zlata	79.09	328	⇓iP	P	17 42 07.4	+1.5
BRTR	Keskin Array B	79.27	318	P	P	17 42 07.5	+0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=36,slow=2.7,SNR=5.5						
BZS	Buzias	79.32	329	⇓iP	P	17 42 09.0	+1.8
BZS	Buzias	79.32	329	⇓P	P	17 42 09.0	+1.8
VTS	Vitosha	81.32	326	⇓iP	P	17 42 20.3	+2.4
VTS	Vitosha	81.32	326	⇓P	P	17 42 20.3	+2.3

ISCJB **15** *17:30:34.2±0.4, 46.57N±008×152.94E±008, h10km, mb4.5/34, Error ellipse: s-maj=12.3km s-min=6.0km az=122.0*
IDC **15** *17:30:34.0±0.6, 46.66N×153.13E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.5/27, mbtmp4.5/20, ML3.8/1, Error ellipse: s-maj=19.3km s-min=15.2km az=134.0*
MOS **15** *17:30:35.8±1.3, 46.59N×152.77E, h20km, mb4.8/6, Error ellipse: s-maj=14.9km s-min=10.4km az=80.0*
NEIC **15** *17:30:36.0±0.4, 46.61N×152.92E, h10km, mb4.8/10, Error ellipse: s-maj=13.3km s-min=8.8km az=155.0*
BJI **15** *17:30:36.0, 46.60N×152.90E, h10km, mB5.0, mb4.6, Ms4.6, Msz4.6*

ISC 15 17:30:36.0±0.4, 4662N±008×15292E±008, h10km, n58, σ1§29/59, mb4.5/34, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	3.79	250	⇓iPN	Pn	17 31 31.5	-2.9
KUR				eS	Sn	17 32 19.5	+0.5
KUR				pmax	pmax		
	comp=N,340nm,0.8s						
KUR				pmax	pmax		
	comp=E,340nm,0.8s						
KUR				pmax	pmax		
	comp=Z,910nm,0.8s						
KUR				smax			
	comp=N,6μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=N,830nm,0.8s						
KUR				smax			
	comp=E,650nm,0.8s						
SKR	Severo-Kuril's	4.59	26	ePN	Pn	17 31 48.0	+2.6
SKR				e		17 32 44.5	
YSS	Yuzh-Sakhalins	6.99	276	ePN	Pn	17 32 12.9	-5.5
YSS				eS	Sn	17 33 47.0	+9.1
YSS				smax			
	comp=E,40nm,0.9s						
MJAR	Matsushiro Arr	14.89	233	Pn	Pn	17 34 06.5	-0.1
	comp=E,0.4nm,0.3s,baz=30,slow=12,SNR=6.0						
YAK	Yakutsk	20.36	328	eP	P	17 35 13.6	+1.0
KSRS	Korea Array	20.63	253	P	P	17 35 18.1	+2.5
	comp=E,6.7nm,0.7s,baz=58,slow=9.8,SNR=8.0						
SONM	Songino Array	31.25	290	P	P	17 36 55.3	-0.5
	comp=E,1.1nm,0.7s,mb3.8,baz=74,slow=7.9,SNR=3.3						
KDAK	Kodiak Island	34.29	51	P	P	17 37 20.1	-2.3
	comp=E,11nm,0.7s,mb4.9,baz=94,slow=7.0,SNR=3.1						
LZH	Lanzhou	37.76	272	eP	P	17 37 52.5	+0.4
LZH				AP	pP	17 38 00.9	+5.7
LZH				XP	sP	17 38 04.9	+8.4
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
LZH	Lanzhou	37.76	272	eP	P	17 37 52.5	+0.4
LZH				*PP	pP	17 38 00.9	+5.7
LZH				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
LZH	Lanzhou	37.76	272	eP	P	17 37 52.5	+0.4
	comp=Z,21nm,1.0s,mb4.8						
LZH				pP	pP	17 38 00.9	+5.7
LZH				sP	sP	17 38 04.9	+8.4
GTA	Gaotai	38.86	279	eP	P	17 38 02.0	+0.6
GTA				AP	pP	17 38 10.5	+6.0
GTA				XP	sP	17 38 15.3	+10
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
GYA	Guiyang	41.55	257⇑	iP	P	17 38 22.4	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
INK	Inuvik	41.84	32	P	P	17 38 24.1	-1.9
	comp=Z,3.4nm,0.7s,mb4.1,baz=293,slow=7.2,SNR=4.2						
MKAR	Makanchi Array	46.88	297	P	P	17 39 07.6	+1.2
	comp=Z,5.6nm,1.0s,mb4.5,baz=61,slow=10.0,SNR=6.5						
BVAR	Borovoye Array	50.84	309

DPC	Dobruska-Polom	76.38	333	*eP*	P	17 42 26.3	+0.8
CLL	Collm	76.53	335	*eP*	P	17 42 26.0	-0.4
CLL				*e*		17 42 38.0	
CLL	Collm	76.53	335	*eP*	P	17 42 26.0	-0.4
	comp=Z,10.0nm,0.7s,mb4.8						
MALT	Malatya	77.14	313	P	P	17 42 30.8	+1.0
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MALT	Malatya	77.14	313	P	P	17 42 30.8	+0.9
	comp=Z,5.9nm,0.9s,mb4.5						
TXAR	Lajitas Array	77.68	60	P	P	17 42 31.6	-1.2
	comp=Z,10nm,0.7s,mb4.9,baz=298,slow=3.9,SNR=13						
KHC	Kasperske Hory	78.30	334	*eP*	P	17 42 36.8	+0.5
BRTR	Keskin Array B	78.39	317	P	P	17 42 37.0	+0.3
	comp=Z,4.0nm,1.1s,mb4.3,baz=85,slow=2.6,SNR=4.5						
GERES	GERESS Array B	78.51	334	P	P	17 42 37.5	0.0
	comp=Z,1.1nm,0.5s,mb4.0,baz=28,slow=6.0,SNR=4.1						
CFAA	Coronel Fontan	145.15	79	PKPbc	PKPbc	17 50 12.0	-1.4
	comp=Z,1.5nm,1.0s,baz=259,slow=3.1,SNR=9.6						

IDC ***15*** *17:32:34.5±0.6, 46.47N×153.48E, h0km, mb4.4/21, mb1 4.6/21, mb1mx4.5/29, mbtmp4.4/21, MS4.1/1, Ms1 4.1/1, ms1mx3.1/40, Error ellipse: s-maj=17.7km s-min=14.6km az=136.0*

BJI ***15*** *17:32:35.5, 46.82N×153.79E, h18km, mB5.6, mb4.7*

NEIC ***15*** *17:32:36.2±0.3, 46.46N×153.54E, h10km, mb4.7/8, Error ellipse: s-maj=9.7km s-min=7.7km az=170.0*

ISCJB ***15*** *17:32:38.7±1.7, 46.50N±0.008×153.59E±0.009, h38km±16km, mb4.4/30, Error ellipse: s-maj=14.5km s-min=10.0km az=144.1*

MOS ***15*** *17:32:38.4±1.3, 46.57N×153.54E, h33km, mb4.7/6, Error ellipse: s-maj=11.8km s-min=9.3km az=84.6*

ISC 15 17:32:42.5±1.5, 46.57N±0.008×153.53E±0.009, h55km±14km, n77, σ0≤99/73, mb4.4/30, 12C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.17**	**253**	⇓*iP*		PN	**Pn**	**17 33 39.0**	**-4.6**
KUR						pmax	pmax		
	comp=N,230nm,0.6s								
KUR						pmax	pmax		
	comp=E,150nm,0.6s								
KUR						pmax	pmax		
	comp=Z,530nm,0.6s								
KUR						MLR	MLR		
	comp=Z,6μm,11.0s								
YUK	**Yuzh-Kuril'sk**	**5.97**	**248**			PN	**Pn**	**17 34 09.4**	**+1.2**
ASAJ	**Asahikawa**	**8.08**	**256**			Pn	**Pn**	**17 34 37.3**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=112,slow=16,SNR=3.6								
ASAJ	**Asahikawa**	**8.08**	**256**			PN	**Pn**	**17 34 37.3**	**+0.2**
ASAJ						pmax	pmax		
	comp=Z,2.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.20**	**234**			Pn	**Pn**	**17 36 14.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=3.7								
YAK	**Yakutsk**	**20.63**	**327**	*eP*		P	**P**	**17 37 14.6**	**-2.6**
KSRS	**Korea Array**	**21.02**	**254**	P		P	**P**	**17 37 21.1**	**-0.4**
	comp=Z,2.4nm,0.6s,mb3.7,baz=62,slow=10,SNR=5.2								
BILL	**Bilibino**	**22.51**	**13**	P		P	**P**	**17 37 35.9**	**-1.4**
BILL						pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3								
BILL	**Bilibino**	**22.51**	**13**	P		P	**P**	**17 37 35.9**	**-1.4**
	comp=Z,7.0nm,0.6s,mb4.3								
SONM	**Songino Array**	**31.67**	**290**	P		P	**P**	**17 39 00.8**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=84,slow=7.8,SNR=3.1								
KDAK	**Kodiak Island**	**34.00**	**51**	P		P	**P**	**17 39 19.0**	**-1.8**
	comp=Z,22nm,1.0s,mb5.0,baz=125,slow=7.2,SNR=4.4								
KDAK	**Kodiak Island**	**34.00**	**51**	P		P	**P**	**17 39 19.0**	**-1.8**
LZH	**Lanzhou**	**38.18**	**272**	*eP*		P	**P**	**17 39 58.0**	**+1.4**
LZH				AP		pP		17 40 07.5	-3.2
LZH				XP		sP		17 40 12.3	-4.9
LZH				AMB		AMB			
	comp=Z,17nm,1.1s,mb4.7								
LZH	**Lanzhou**	**38.18**	**272**	*eP*		P	**P**	**17 39 58.0**	**+1.4**
	comp=Z,17nm,1.1s,mb4.7								
LZH				pP		pP		17 40 07.5	-3.2
LZH				sP		sP		17 40 12.3	-4.9
INK	**Inuvik**	**41.65**	**32**	P		P	**P**	**17 40 25.6**	**+0.2**
	comp=Z,1.9nm,0.5s,mb4.0,baz=297,slow=6.0,SNR=3.8								
MK31	**Makanchi Array**	**47.28**	**298**	*eP*		P	**P**	**17 41 09.3**	**-1.0**
MKAR	**Makanchi Array**	**47.28**	**298**	P		P	**P**	**17 41 09.3**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.4,baz=67,slow=7.7,SNR=5.4								
YKA	**Yellowknife Ar**	**50.90**	**37**	P		P	**P**	**17 41 38.0**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.6,baz=296,slow=7.1,SNR=7.5								
YKA	**Yellowknife Ar**	**50.90**	**37**	P		P	**P**	**17 41 38.0**	**+0.1**
BVAR	**Borovoye Array**	**51.20**	**310**	P		P	**P**	**17 41 38.4**	**-1.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=57,slow=8.8,SNR=4.5								
ZRNK	**Zerenda**	**51.97**	**310**	*eP*		P	**P**	**17 41 44.4**	**-1.5**
EDM	**Edmonton**	**56.23**	**46**	*eP*		P	**P**	**17 42 16.8**	**-0.2**
NEW	**Newport**	**57.06**	**53**	P		P	**P**	**17 42 23.6**	**+0.7**
	comp=Z,3.5nm,0.5s,mb4.6,baz=158,slow=16,SNR=2.5								
YBH	**Yreka Blue Hor**	**57.58**	**62**	P		P	**P**	**17 42 27.6**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=124,slow=7.3,SNR=2.6								
AKTK	**Aktyubinsk**	**59.06**	**312**	P		P	**P**	**17 42 36.2**	**-0.7**
AKTO	**Aktyubinsk**	**59.06**	**312**	P		P	**P**	**17 42 36.2**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=82,slow=3.9,SNR=2.8								
AKTO	**Aktyubinsk**	**59.06**	**312**	P		P	**P**	**17 42 36.2**	**-0.6**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
REDW	**Red Top Meadow**	**63.51**	**54**	*eP*		P	**P**	**17 43 08.4**	**+1.5**
	comp=Z,13nm,1.3s,mb4.8								
HWUT	**Hardware Ranch**	**64.24**	**56**	*eP*		P	**P**	**17 43 12.1**	**+0.4**
	comp=Z,3.4nm,1.0s,mb4.3								
FINES	**FINESS Array B**	**64.33**	**335**	P		P	**P**	**17 43 11.7**	**-0.6**
	comp=Z,5.2nm,0.6s,mb4.7,baz=39,slow=7.8,SNR=11								
DUG	**Dugway**	**64.43**	**58**	*eP*		P	**P**	**17 43 12.6**	**-0.3**
DUG				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.6								
DUG	**Dugway**	**64.43**	**58**	*eP*		P	**P**	**17 43 12.6**	**-0.3**
	comp=Z,7.5nm,1.2s,mb4.6								
BW06	**Boulder Array**	**64.62**	**54**	*eP*		P	**P**	**17 43 13.2**	**-1.0**
	comp=Z,14nm,1.4s,mb4.8								
PDAR	**Pinedale Array**	**64.62**	**54**	P		P	**P**	**17 43 14.6**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.4,baz=298,slow=3.2,SNR=7.6								
SRU	**San Rafael**	**66.47**	**58**	*eP*		P	**P**	**17 43 26.0**	**-0.1**
SRU				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
SRU	**San Rafael**	**66.47**	**58**	*eP*		P	**P**	**17 43 26.0**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**68.42**	**199**	*eP*		P	**P**	**17 43 37.1**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
WRAB	**Tennant Creek**	**68.42**	**199**	*eP*		P	**P**	**17 43 37.1**	**-1.3**
	comp=Z,4.7nm,0.8s,mb4.6								
WRA	**Warramunga Arr**	**68.43**	**199**	P		P	**P**	**17 43 37.0**	**-1.5**
	comp=Z,3.8nm,0.8s,mb4.5,baz=17,slow=6.7,SNR=7.7								
NB2	**NORSAR Subarra**	**68.50**	**341**	P		P	**P**	**17 43 38.8**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.6,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.50**	**341**	P		P	**P**	**17 43 38.9**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.6,baz=28,slow=6.4,SNR=8.4								
HFS	**Hagfors**	**68.73**	**340**	P		P	**P**	**17 43 40.0**	**-0.3**
	comp=Z,5.3nm,0.5s,mb4.7,baz=46,slow=4.3,SNR=8.9								
HFS	**Hagfors**	**68.73**	**340**	P		P	**P**	**17 43 40.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**69.12**	**208**	P		P	**P**	**17 43 41.8**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.4,baz=10,slow=5.0,SNR=7.5								
AKASG	**Malin Array Be**	**71.86**	**326**	P		P	**P**	**17 43 58.8**	**-0.7**
	comp=Z,5.4nm,0.5s,mb4.7,baz=33,slow=6.1,SNR=9.6								
ASAR	**Alice Springs**	**72.12**	**199**	P		P	**P**	**17 44 00.7**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=10.0,slow=5.0,SNR=11								
STHS	**Stebnicka Huta**	**75.82**	**330**	*eP*		P	**P**	**17 44 23.8**	**+1.2**
BURAR	**Bucovina Array**	**75.90**	**327**	⇑*iP*		P	**P**	**17 44 23.7**	**+0.6**
BURAR	**Bucovina Array**	**75.90**	**327**	⇑P		P	**P**	**17 44 23.7**	**+0.6**
UPC	**Upice**	**76.58**	**334**	*eP*		P	**P**	**17 44 27.2**	**+0.3**
MORC	**Moravsky Berou**	**76.74**	**332**	⇑*iP*		P	**P**	**17 44 28.8**	**+1.0**
MORC	**Moravsky Berou**	**76.74**	**332**	⇑P		P	**P**	**17 44 28.8**	**+1.0**
CLL	**Collm**	**76.75**	**336**	*i P*		P	**P**	**17 44 27.7**	**-0.2**
	comp=Z,8.0nm,0.8s,mb4.7								
TIRR	**Tirgusor**	**77.23**	**323**	⇓*iP*		P	**P**	**17 44 30.4**	**-0.2**
TXAR	**Lajitas Array**	**77.33**	**61**	P		P	**P**	**17 44 31.7**	**+0.5**
	comp=Z,6.1nm,0.6s,mb4.7,baz=302,slow=4.1,SNR=11								
MLR	**Muntele Rosu**	**77.38**	**325**	⇑*iP*		P	**P**	**17 44 33.1**	**+1.6**
MLR	**Muntele Rosu**	**77.38**	**325**	⇑P		P	**P**	**17 44 33.1**	**+1.7**
VYHS	**Vyhne**	**77.43**	**331**	*eP*		P	**P**	**17 44 32.3**	**+0.6**
VRAC	**Vranov**	**77.45**	**333**	⇑*iP*		P	**P**	**17 44 32.8**	**+1.0**
VRAC	**Vranov**	**77.45**	**333**	⇑P		P	**P**	**17 44 32.8**	**+0.9**
MALT	**Malatya**	**77.49**	**313**	⇑*iP*		P	**P**	**17 44 34.0**	**+1.9**
MALT	**Malatya**	**77.49**	**313**	⇑P		P	**P**	**17 44 34.0**	**+1.9**
PSZ	**Piszkesteto**	**77.56**	**330**	⇑*iP*		P	**P**	**17 44 30.7**	**-1.8**
VOIR		**77.78**	**326**	⇓*iP*		P	**P**	**17 44 35.1**	**+1.4**
VOIR		**77.78**	**326**	⇓P		P	**P**	**17 44 35.1**	**+1.5**
KHC	**Kasperske Hory**	**78.53**	**334**	*eP*		P	**P**	**17 44 38.4**	**+0.6**
GZR	**Gura Zlata**	**78.68**	**327**	⇓*iP*		P	**P**	**17 44 39.0**	**+0.3**
GZR	**Gura Zlata**	**78.68**	**327**	⇓P		P	**P**	**17 44 39.0**	**+0.4**
BRTR	**Keskin Array B**	**78.72**	**317**	P		P	**P**	**17 44 39.8**	**+0.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=50,slow=5.7,SNR=4.4								
GERES	**GERESS Array B**	**78.75**	**334**	P		P	**P**	**17 44 38.6**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=46,slow=5.8,SNR=6.4								
BZS	**Buzias**	**78.92**	**328**	⇓*iP*		P	**P**	**17 44 40.6**	**+0.6**
BZS	**Buzias**	**78.92**	**328**	⇓P		P	**P**	**17 44 40.6**	**+0.6**
VTS	**Vitosha**	**80.89**	**325**	⇑*iP*		P	**P**	**17 44 51.8**	**+1.2**
VNDA	**Vanda**	**123.92**	**178**	PKP		PKPdf		17 51 31.7	-2.6
	comp=Z,0.1nm,0.4s,baz=340,slow=2.0,SNR=3.7								
CFAA	**Coronel Fontan**	**144.74**	**80**	PKP		PKPdf		17 52 10.8	-2.2
	comp=Z,0.3nm,0.7s,baz=289,slow=6.1,SNR=3.3								
CFAA	**Coronel Fontan**	**144.74**	**80**	PKP		PKPdf		17 52 10.8	-2.2
SNAA	**Sanae**	**152.46**	**196**	PKPbc		PKPbc		17 52 30.1	-2.3
	comp=Z,0.8nm,0.6s,baz=180,slow=7.2,SNR=6.5								

ISCJB ***15*** *17:34:12.3±0.8, 47.3N±0.1×154.7E±0.2, h10km, mb4.1/12, Error ellipse: s-maj=19.4km s-min=14.8km az=132.4*

IDC ***15*** *17:34:12.7±0.8, 47.31N×154.92E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.1/11, ML3.4/1, Error ellipse: s-maj=23.2km s-min=19.8km az=136.0*

NEIC ***15*** *17:34:14.3±0.6, 47.36N×154.84E, h10km, mb4.6/2, Error ellipse: s-maj=17.0km s-min=15.6km az=189.0*

ISC 15 17:34:14.1±0.8, 47.4N±0.1×154.8E±0.2, h10km, n15, σ0≤87/15, mb4.1/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.11**	**254**	Pn		Pn	**Pn**	**17 36 24.8**	**-0.9**
	0.4nm,0.3s,baz=65,slow=19,SNR=2.0								
INK	**Inuvik**	**40.53**	**33**	P		P	**P**	**17 41 53.1**	**-0.3**
	1.2nm,0.5s,mb3.8,baz=258,slow=9.3,SNR=3.7								
MKAR	**Makanchi Array**	**47.67**	**298**	P		P	**P**	**17 42 50.6**	**0.0**
	0.7nm,0.5s,mb4.0,baz=74,slow=8.4,SNR=4.8								
CHKZ	**Chkalovo**	**50.91**	**310**	*eP*		P	**P**	**17 43 14.4**	**-1.0**
	5.9nm,0.4s,mb4.9								
BVAR	**Borovoye Array**	**51.36**	**310**	P		P	**P**	**17 43 18.4**	**-0.3**
	1.9nm,0.3s,mb4.4,baz=55,slow=8.4,SNR=12								
BRVK	**Borovoye**	**51.39**	**310**	*eP*		P	**P**	**17 43 18.4**	**-0.6**
	2.1nm,0.4s,mb4.4								
ZRNK	**Zerenda**	**52.12**	**310**	*eP*		P	**P**	**17 43 23.8**	**-0.6**
AKTK	**Aktyubinsk**	**59.17**	**312**	P		P	**P**	**17 44 17.1**	**+2.0**
AKTO	**Aktyubinsk**	**59.17**	**312**	P		P	**P**	**17 44 17.1**	**+2.0**
	0.8nm,0.5s,mb4.0,baz=78,slow=13,SNR=3.4								
PDAR	**Pinedale Array**	**63.47**	**55**	P		P	**P**	**17 44 43.9**	**-0.4**
	1.1nm,0.8s,mb4.0,baz=297,slow=4.0,SNR=3.6								
FINES	**FINESS Array B**	**63.98**	**335**	P		P	**P**	**17 44 47.4**	**-0.2**
	2.5nm,0.6s,mb4.4,baz=37,slow=7.9,SNR=5.8								
HFS	**Hagfors**	**68.29**	**340**	P		P	**P**	**17 45 15.9**	**+0.6**
	1.0nm,0.3s,mb4.3,baz=61,slow=4.8,SNR=7.3								
WRA	**Warramunga Arr**	**69.46**	**201**	P		P	**P**	**17 45 22.4**	**-0.1**
	1.0nm,0.7s,mb3.8,baz=19,slow=6.8,SNR=4.8								
ASAR	**Alice Springs**	**73.15**	**200**	P		P	**P**	**17 45 45.8**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=15,slow=5.5,SNR=7.7								
TXAR	**Lajitas Array**	**76.21**	**62**	P		P	**P**	**17 46 02.1**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=286,slow=3.4,SNR=3.2								

CSEM ***15*** *17:34:16.4, 12.39N×45.55E, h24km, ML3.7, After DHMR*

DHMR 15 17:34:16.4±1.1, 12.39N×45.55E, h25km±6km, ML3.7, 2C-4D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.68**	**305**	⇓*iP*		Pb		17 34 29.6	+0.1
ADEN				*i* S		Sb		17 34 38.8	+0.3
ADEN				AML		AML		17 34 48.8	
	comp=N,2μm,0.7s								
ADEN	**Aden**	**0.68**	**305**	⇓*iP*		Pb		17 34 29.6	+0.1
ADEN				*i* S		Sb		17 34 38.8	+0.3
	comp=N,1μm,0.7s								
LBOS		**1.50**	**349**	⇓*iP*		Pn		17 34 42.4	+0.6
LBOS				*i* S		Sn		17 35 03.7	+3.1
BDHA	**Al Bayda'**	**1.58**	**1**	⇑*iP*		Pn		17 34 44.2	+1.4
BDHA				*i* S		Sn		17 35 05.1	+2.6
BDHA				AML		AML		17 35 15.4	
	comp=E,1μm,0.6s								
BDHA	**Al Bayda'**	**1.58**	**1**	⇑*iP*		Pn		17 34 44.2	+1.4
BDHA				*i* S		Sn		17 35 05.1	+2.6
	comp=E,618nm,0.6s								
TRBA	**At Turbah**	**1.63**	**301**	⇓*iP*		Pn		17 34 44.2	+0.7
TRBA				*i* S		Sn		17 35 07.0	+3.3
TRBA				AML		AML		17 35 22.0	
	comp=N,916nm,0.8s								

IDC ***15*** *17:41:37.4±0.8, 46.25N×153.07E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/26, mbtmp4.0/16, ML3.5/1, Error ellipse: s-maj=22.6km s-min=18.5km az=115.0*

NEIC ***15*** *17:41:39.1±0.5, 46.31N×153.06E, h10km, mb4.1/2, Error ellipse: s-maj=13.1km s-min=9.1km az=128.0*

ISCJB ***15*** *17:41:40.7±2.6, 46.3N±0.1×153.0E±0.1, h33km±23km, mb4.0/16, Error ellipse: s-maj=19.8km s-min=15.4km az=103.7*

MOS ***15*** *17:41:40.6±0.8, 46.30N×152.98E, h33km, mb4.3/3, Error ellipse: s-maj=18.8km s-min=13.2km az=93.2*

ISC 15 17:41:40.1±4.8, 46.4N±0.1×153.0E±0.1, h17km±30km, n29, σ0≤68/30, mb4.0/16, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**255**	⇑*iP*		PN	**Pn**	**17 42 37.0**	**-0.7**
KUR				*eS*			**Sn**	**17 43 22.0**	**+0.1**
KUR						pmax	pmax		
	comp=N,90nm,0.6s								
KUR						pmax	pmax		
	comp=E,50nm,0.6s								
KUR						pmax	pmax		
	comp=Z,150nm,0.6s								
KUR						smax			
	comp=N,150nm,0.6s								
KUR						smax			
	comp=E,230nm,0.6s								
ASAJ	**Asahikawa**	**7.71**	**257**	Pn		Pn	**Pn**	**17 43 37.0**	**+5.4**
	comp=E,1.4nm,0.3s,baz=113,slow=22,SNR=5.5								
ASAJ	**Asahikawa**	**7.71**	**257**	PN		Pn	**Pn**	**17 43 37.0**	**+5.5**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**14.80**	**234**	Pn		Pn	**Pn**	**17 45 09.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=0.4,slow=19,SNR=3.0								
MJAR	**Matsushiro Arr**	**14.80**	**234**	Pn		Pn	**Pn**	**17 45 09.3**	**+0.7**
KSRS	**Korea Array**	**20.63**	**253**	P		P	**P**	**17 46 19.9**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=58,slow=11,SNR=5.0								
BILL	**Bilibino**	**22.80**	**13**	*eP*		P	**P**	**17 46 41.0**	**-0.9**
BILL						pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8								
BILL	**Bilibino**	**22.80**	**13**	*eP*		P	**P**	**17 46 41.0**	**-0.9**
	comp=Z,1.9nm,0.5s,mb3.8								
INK	**Inuvik**	**42.02**	**32**	P		P	**P**	**17 49 30.9**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.8,baz=257,slow=9.8,SNR=5.4								
MK31	**Makanchi Array**	**47.09**	**298**	*eP*		P	**P**	**17 50 10.8**	**-0.2**
MKAR	**Makanchi Array**	**47.09**	**298**	P		P	**P**	**17 50 11.2**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=67,slow=7.1,SNR=9.3								
CHKZ	**Chkalovo**	**50.66**	**310**	*eP*		P	**P**	**17 50 37.4**	**-1.0**
CHKZ						pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3								
CHKZ	**Chkalovo**	**50.66**	**310**	*eP*		P	**P**	**17 50 37.4**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.3								
BVAR	**Borovoye Array**	**51.08**	**310**	P		P	**P**	**17 50 41.7**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=53,slow=7.1,SNR=6.7								
BRVK	**Borovoye**	**51.12**	**310**	*eP*		P	**P**	**17 50 42.0**	**+0.1**
ARCES	**ARCESS Array B**	**58.22**	**341**	P		P	**P**	**17 51 33.0**	**-0.5**
	comp=Z,5.6nm,1.1s,mb4.5,baz=27,slow=6.9,SNR=7.8								
AKTK	**Aktyubinsk**	**58.96**	**312**	P		P	**P**	**17 51 39.0**	**+0.4**
AKTO	**Aktyubinsk**	**58.96**	**312**	P		P	**P**	**17 51 39.0**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=91,slow=8.8,SNR=4.5								
AKTO	**Aktyubinsk**	**58.96**	**312**	P		P	**P**	**17 51 39.0**	**+0.4**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
FINES	**FINESS Array B**	**64.39**	**335**	P		P	**P**	**17 52 14.9**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=42,slow=7.1,SNR=12								
PDAR	**Pinedale Array**	**65.03**	**54**	P		P	**P**	**17 52 20.3**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=270,slow=1.2,SNR=6.0								
WRA	**Warramunga Arr**	**68.11**	**199**	P		P	**P**	**17 52 37.2**	**-1.9**
	comp=Z,1.0nm,0.9s,mb3.9,baz=14,slow=6.5,SNR=6.5								
NB2	**NORSAR Subarra**	**68.59**	**341**	P		P	**P**	**17 52 42.2**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**68.59**	**341**	P		P	**P**	**17 52 41.9**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=4.2								
HFS	**Hagfors**	**68.82**	**340**	P		P	**P**	**17 52 43.2**	**-0.3**
	comp=Z,2.4nm,0.5s,mb4.4,baz=50,slow=4.6,SNR=7.4								
ASAR	**Alice Springs**	**71.81**	**198**	P		P	**P**	**17 53 01.6**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=8.4,slow=5.2,SNR=7.9								
AKASG	**Malin Array Be**	**71.86**	**326**	P		P	**P**	**17 53 02.0**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=34,slow=6.3,SNR=9.9								
TXAR	**Lajitas Array**	**77.73**	**60**	P		P	**P**	**17 53 36.6**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=296,slow=4.5,SNR=4.0								
GERES	**GERESS Array B**	**78.80**	**334**	P		P	**P**	**17 53 42.8**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=18,slow=4.8,SNR=4.0								

IDC ***15*** *17:43:01.3±0.7, 46.33N×154.50E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.2/27, mbtmp4.1/21, ML3.6/2, Error ellipse: s-maj=20.6km s-min=15.7km az=144.0*

NEIC ***15*** *17:43:03.0±0.6, 46.42N×154.58E, h10km, mb4.5/11, Error ellipse: s-maj=15.3km s-min=10.0km az=149.0*

MOS ***15*** *17:43:04.6±1.1, 46.36N×154.33E, h33km, mb4.4/9, Error ellipse: s-maj=12.9km s-min=10.5km az=121.3*

ISCJB ***15*** *17:43:05.6±2.3, 46.39N±0.009×154.4E±0.1, h42km±19km, mb4.2/35, Error ellipse: s-maj=17.4km s-min=13.5km az=97.4*

BJI ***15*** *17:43:05.1, 46.83N×154.09E, h10km, mB5.1, mb4.5*

ISC 15 17:43:07.8±1.9, 46.41N±0.009×154.4E±0.1, h46km±16km, n63, σ0≤95/58, mb4.2/35, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.72**	**258**	*e*P		PN	**Pn**	**17 44 12.0**	**-4.3**
KUR						pmax	pmax		
	comp=N,60nm,0.6s								
KUR						pmax	pmax		
	comp=Z,190nm,0.6s								
PET	**Petropavlovsk**	**7.17**	**21**	*e*PN		P	**Pn**	**17 44 56.7**	**+6.7**
YSS	**Yuzh-Sakhalins**	**8.03**	**278**	*e*PN		P	**Pn**	**17 45 03.0**	**+1.2**
YSS				pmax		pmax			
	comp=Z,30nm,0.8s								
YSS	**Yuzh-Sakhalins**	**8.03**	**278**	*eP*		P	**Pn**	**17 45 03.1**	**+1.4**
	comp=Z,25nm,0.8s								
ASAJ	**Asahikawa**	**8.64**	**259**	Pn		P	**Pn**	**17 45 09.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=92,slow=16,SNR=3.5								
ASAJ	**Asahikawa**	**8.64**	**259**	PN		P	**Pn**	**17 45 09.5**	**-0.6**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.61**	**237**	Pn		Pn	**Pn**	**17 46 44.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=3.5								
MDJ	**Mudanjiang**	**17.46**	**273**	*eP*		P	**Pn**	**17 47 08.1**	**+0.2**
	comp=Z,19nm,0.8s								
CN2	**Changchun**	**20.55**	**273**	*eP*		P	**P**	**17 47 40.8**	**-1.6**
CN2						AMB	AMB		
	comp=Z,10.0nm,0.7s								
KSRS	**Korea Array**	**21.55**	**255**	P		P	**P**	**17 47 53.0**	**-0.2**
	comp=Z,3.5nm,0.7s,mb3.9,baz=55,slow=11,SNR=8

comp=Z,11nm,0.8s

*ISCJB **15** 17:43:22.6±0.7, 465N×0.1×1552E±02, h10km, mb4.4/20, Error ellipse: s-maj=16.1km s-min=14.9km az=132.6*
*IDC **15** 17:43:22.8±0.8, 4653N×15526E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.2/25, mbtmp4.2/15, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.5/35, Error ellipse: s-maj=22.3km s-min=21.2km az=77.0*
*MOS **15** 17:43:24.0±0.8, 4653N×155.11E, h19km, mb4.9/7, Error ellipse: s-maj=23.8km s-min=11.4km az=117.1*
*NEIC **15** 17:43:24.4±0.7, 4666N×15545E, h10km, mb4.7/5, Error ellipse: s-maj=15.9km s-min=14.1km az=104.0*
ISC 15 17:43:24.4±0.7, 466N×0.1×1552E±02, h10km, n37, σ0§68/37, mb4.4/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.83**	**18**	*e*PN	**Pn**		**17 44 59.9**	**-4.7**
PET	**Petropavlovsk**	**6.83**	**18**	*e*P	**Pn**		**17 44 59.9**	**-4.7**
ASAJ	**Asahikawa**	**9.23**	**259**	Pn	**Pn**		**17 45 37.5**	**0.0**
	0.9nm,0.3s,baz=145,slow=12,SNR=2.7							
ASAJ				LR	LR		17 49 07.8	
	comp=Z,796nm,18.3s,baz=81,slow=37							
ASAJ	**Asahikawa**	**9.23**	**259**	PN	**Pn**		**17 45 37.5**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,796nm,18.3s							
YAK	**Yakutsk**	**21.27**	**326**	*e*P	**P**		**17 48 12.3**	**+1.4**
TIXI	**Tiksi**	**28.07**	**343**	*e*P	**P**		**17 49 14.5**	**-1.4**
TIXI				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.4							
TIXI	**Tiksi**	**28.07**	**343**	*e*P	**P**		**17 49 14.5**	**-1.4**
	comp=Z,11nm,1.1s,mb4.4							
ZAL	**Zalesovo**	**43.91**	**307**	P	**P**		**17 51 30.9**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=14,slow=2.7,SNR=3.7							
NVS	**Novosibirsk**	**44.45**	**308**	*e*P	**P**		**17 51 34.0**	**-1.5**
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**		**17 52 05.5**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=66,slow=6.9,SNR=5.6							
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**		**17 52 31.0**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,16nm,0.6s,mb5.1							
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**		**17 52 31.0**	**-0.3**
	comp=Z,16nm,0.6s,mb5.1							
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**		**17 52 35.0**	**+0.5**
	comp=Z,6.5nm,0.6s,mb4.8,baz=58,slow=7.4,SNR=23							
BRVK	**Borovoye**	**52.13**	**310**	*e*P	**P**		**17 52 35.8**	**+1.0**
BRVK				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9							
BRVK	**Borovoye**	**52.13**	**310**	*e*P	**P**		**17 52 35.8**	**+1.0**
	comp=Z,9.6nm,0.6s,mb4.9							
ZRNK	**Zerenda**	**52.86**	**311**	*e*P	**P**		**17 52 40.2**	**0.0**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.86**	**311**	*e*P	**P**		**17 52 40.2**	**0.0**
	comp=Z,6.3nm,0.6s,mb4.7							
AAK	**Ala-Archa**	**55.22**	**298**	*e*P	**P**		**17 52 57.9**	**+0.5**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**55.22**	**298**	*e*P	**P**		**17 52 57.9**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.3							
ARU	**Arti**	**56.12**	**318**	*e*P	**P**		**17 53 03.6**	**-0.3**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9							
ARU	**Arti**	**56.12**	**318**	*e*P	**P**		**17 53 03.6**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.9							
ARCES	**ARCESS Array B**	**58.50**	**342**	P	**P**		**17 53 20.1**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.5,baz=32,slow=7.7,SNR=5.8							
AKTK	**Aktyubinsk**	**59.92**	**313**	P	**P**		**17 53 31.1**	**+0.5**
AKTO	**Aktyubinsk**	**59.92**	**313**	P	**P**		**17 53 31.1**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=65,slow=7.2,SNR=6.4							
AKTO	**Aktyubinsk**	**59.92**	**313**	P	**P**		**17 53 31.1**	**+0.5**
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
PDAR	**Pinedale Array**	**63.67**	**55**	P	**P**		**17 53 55.8**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=295,slow=1.5,SNR=6.6							
FINES	**FINESS Array B**	**64.82**	**336**	P	**P**		**17 54 02.9**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.5,baz=38,slow=8.8,SNR=7.9							
WRA	**Warramunga Arr**	**68.84**	**201**	P	**P**		**17 54 29.0**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=20,slow=6.7,SNR=6.2							
NB2	**NORSAR Subarra**	**68.86**	**342**	P	**P**		**17 54 28.7**	**-0.4**
	comp=Z,20nm,1.7s,mb4.8,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**		**17 54 30.0**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=3.5							
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**		**17 54 30.0**	**+0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**		**17 54 30.1**	**+1.0**
HFS	**Hagfors**	**69.13**	**341**	P	**P**		**17 54 30.7**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.5,baz=64,slow=6.8,SNR=5.6							
ASAR	**Alice Springs**	**72.52**	**200**	P	**P**		**17 54 51.0**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=18,slow=5.5,SNR=7.0							
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**		**17 55 14.1**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.5,baz=305,slow=3.2,SNR=14							
GERES	**GERESS Array B**	**79.25**	**335**	P	**P**		**17 55 29.2**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=33,slow=5.4,SNR=3.5							
BRTR	**Keskin Array B**	**79.51**	**318**	P	**P**		**17 55 31.7**	**+0.5**
	comp=Z,1.6nm,1.0s,mb3.9,baz=60,slow=7.0,SNR=3.8							

*ISCJB **15** 17:45:04.9±0.9, 469N×0.1×1549E±02, h10km, mb4.1/9, Error ellipse: s-maj=22.7km s-min=16.2km az=26.4*
*IDC **15** 17:45:05.1±1.0, 4682N×15491E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/22, mbtmp4.1/8, ML3.8/1, Error ellipse: s-maj=32.2km s-min=23.2km az=91.0*
*NEIC **15** 17:45:06.7±0.8, 4688N×15493E, h10km, mb4.6/1, Error ellipse: s-maj=20.1km s-min=14.2km az=104.0*
*MOS **15** 17:45:08.2±1.1, 4691N×15485E, h33km, mb4.8/1, Error ellipse: s-maj=28.5km s-min=18.3km az=103.5*
ISC 15 17:45:06.6±0.9, 469N×0.1×1549E±02, h10km, n16, σ0§81/16, mb4.1/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.86**	**11**	*e*PN	**Pn**		**17 45 57.1**	**-9.0**
MJAR	**Matsushiro Arr**	**16.17**	**236**	Pn	**Pn**		**17 48 54.5**	**+0.6**
	0.4nm,0.3s,baz=44,slow=12,SNR=4.3							
TIXI	**Tiksi**	**27.68**	**343**	*e*P	**P**		**17 50 53.9**	**-0.8**
MK31	**Makanchi Array**	**47.96**	**298**	*e*P	**P**		**17 53 45.7**	**+0.3**
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**		**17 53 44.3**	**-1.1**
	1.2nm,0.6s,mb4.1,baz=68,slow=6.3,SNR=4.7							
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**		**17 54 10.6**	**0.0**
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**		**17 54 12.9**	**-1.0**
	2.6nm,0.6s,mb4.3,baz=54,slow=7.9,SNR=6.7							
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**		**17 54 14.8**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**		**17 54 14.8**	**+0.6**
	comp=Z,4.4nm,0.6s,mb4.6							
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**		**17 55 44.0**	**+1.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=32,slow=5.6,SNR=4.3							
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**		**17 56 09.9**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=28,slow=6.7,SNR=2.6							
WRA	**Warramunga Arr**	**69.08**	**201**	P	**P**		**17 56 11.5**	**-1.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=17,slow=6.7,SNR=4.4							
ASAR	**Alice Springs**	**72.76**	**200**	P	**P**		**17 56 35.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.8,baz=21,slow=5.4,SNR=6.1							
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**		**17 56 55.8**	**0.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=306,slow=4.7,SNR=7.3							
CLL	**Collm**	**76.83**	**337**	*e*pP	**P**		**17 57 03.0**	**+4.4**
BRTR	**Keskin Array B**	**79.11**	**318**	P	**P**		**17 57 15.6**	**+4.3**
	comp=Z,0.9nm,0.9s,mb3.7,baz=4.8,slow=7.4,SNR=3.7							

*ISCJB **15** 17:51:35.0±1.8, 451N×02×1479E±05, h10km, mb3.9/8, Error ellipse: s-maj=59.0km s-min=21.2km az=134.0*
*IDC **15** 17:51:35.7±2.3, 4509N×14769E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=91.7km s-min=26.1km az=73.0*
*NEIC **15** 17:51:37.1±1.4, 45.12N×14779E, h10km, mb4.2/3, Error ellipse: s-maj=48.1km s-min=17.1km az=68.0*
ISC 15 17:51:36.7±1.8, 452N×02×1479E±05, h10km, n8, σ0§65/8, mb3.9/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ULN	**Ulaanbaatar**	**27.98**	**290**	P	**P**		**17 57 28.8**	**+1.2**
	0.8nm,0.4s,mb3.7							
MKAR	**Makanchi Array**	**44.40**	**297**	P	**P**		**17 59 46.2**	**-1.2**
	0.4nm,0.7s,mb3.2,baz=64,slow=7.5,SNR=2.8							
CHKZ	**Chkalovo**	**48.63**	**309**	*e*P	**P**		**18 00 20.4**	**-0.3**
	2.4nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**49.01**	**309**	P	**P**		**18 00 23.8**	**+0.2**
	1.5nm,0.7s,mb4.2,baz=57,slow=7.6,SNR=8.3							
BRVK	**Borovoye**	**49.06**	**309**	P	**P**		**18 00 23.6**	**-0.3**
	1.6nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**65.94**	**194**	P	**P**		**18 02 23.2**	**+0.2**
	0.7nm,0.8s,mb3.7,baz=19,slow=7.1,SNR=6.0							
NOA	**NORSAR Array B**	**68.48**	**339**	P	**P**		**18 02 39.5**	**+0.4**
	1.5nm,0.7s,mb4.1,baz=29,slow=6.3,SNR=3.7							
ASAR	**Alice Springs**	**69.66**	**194**	P	**P**		**18 02 46.2**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=12,slow=6.3,SNR=4.6							

*ISCJB **15** 17:53:03.4±0.9, 466N×0.1×155.1E±02, h10km, mb3.9/7, Error ellipse: s-maj=22.8km s-min=14.3km az=115.3*
*IDC **15** 17:53:03.8±1.0, 4644N×15524E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/23, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=32.2km s-min=24.0km az=171.0*
*MOS **15** 17:53:05.2±1.3, 4659N×15503E, h22km, mb4.6/1, Error ellipse: s-maj=28.9km s-min=21.0km az=90.5*
*NEIC **15** 17:53:05.4±0.8, 4655N×155.19E, h10km, mb4.3/1, Error ellipse: s-maj=19.8km s-min=16.2km az=142.0*
ISC 15 17:53:05.3±0.9, 466N×0.1×1551E±02, h10km, n12, σ0§60/12, mb3.9/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.86**	**18**	*e*PN	**Pn**		**17 54 45.6**	**-0.4**
ASAJ	**Asahikawa**	**9.15**	**259**	Pn	**Pn**		**17 55 17.1**	**-0.3**
	0.8nm,0.3s,baz=97,slow=8.1,SNR=2.7							
ASAJ	**Asahikawa**	**9.15**	**259**	PN	**Pn**		**17 55 17.1**	**-0.3**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**48.25**	**298**	P	**P**		**18 01 46.3**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=64,slow=7.9,SNR=3.5							
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**		**18 02 11.0**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**		**18 02 11.0**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**52.04**	**310**	P	**P**		**18 02 15.2**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=55,slow=8.5,SNR=6.1							
BRVK	**Borovoye**	**52.08**	**310**	*e*P	**P**		**18 02 15.6**	**+0.2**
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**		**18 03 37.0**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=300,slow=2.9,SNR=5.1							
FINES	**FINESS Array B**	**64.79**	**336**	P	**P**		**18 03 45.8**	**+1.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=41,slow=8.8,SNR=6.7							
WRA	**Warramunga Arr**	**68.80**	**201**	P	**P**		**18 04 09.8**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=26,slow=8.0,SNR=6.2							
TXAR	**Lajitas Array**	**76.38**	**62**	P	**P**		**18 04 54.7**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=315,slow=4.9,SNR=9.6							

IDC 15 17:58:17.9±1.0, 4620N×15434E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=27.7km s-min=25.9km az=148.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.56**	**260**	Pn	**Pn**		**18 00 22.8**	**-0.3**
	0.6nm,0.3s,baz=102,slow=14,SNR=5.3							
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**		**18 06 56.4**	**-1.8**
	0.3nm,0.5s,baz=65,slow=6.6,SNR=5.5							
ARCES	**ARCESS Array B**	**58.65**	**341**	P	**P**		**18 08 17.2**	**+0.2**
	3.5nm,0.9s,baz=51,slow=7.2,SNR=3.9							
PDAR	**Pinedale Array**	**64.38**	**54**	P	**P**		**18 08 55.8**	**+0.1**
	0.4nm,0.8s,baz=274,slow=2.4,SNR=3.7							
FINES	**FINESS Array B**	**64.90**	**335**	P	**P**		**18 08 58.1**	**-1.0**
	3.1nm,1.1s,baz=45,slow=8.4,SNR=4.8							
HFS	**Hagfors**	**69.27**	**340**	P	**P**		**18 09 25.8**	**-1.1**
	0.8nm,0.4s,baz=50,slow=4.6,SNR=6.1							
ASAR	**Alice Springs**	**71.96**	**200**	P	**P**		**18 09 43.5**	**+0.2**
	0.7nm,0.7s,baz=9.1,slow=5.3,SNR=11							
AKASG	**Malin Array Be**	**72.48**	**327**	P	**P**		**18 09 47.6**	**+1.3**
	0.5nm,0.3s,baz=16,slow=4.9,SNR=8.5							
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**		**18 10 12.4**	**-0.3**
	0.9nm,0.7s,baz=293,slow=4.8,SNR=6.9							

*BJI **15** 18:02:52.7, 4605N×153.43E, h13km, mB5.1, mb4.6*
*IDC **15** 18:02:52.9±1.9, 4628N×15353E, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.9/25, mbtmp4.0/11, ML3.6/2, Error ellipse: s-maj=48.1km s-min=24.0km az=156.0*
*ISCJB **15** 18:02:54.3±1.4, 464N×02×1533E±02, h10km, mb4.1/11, Error ellipse: s-maj=32.1km s-min=12.5km az=97.8*
*NEIC **15** 18:02:55.1±1.3, 4638N×15348E, h10km, mb4.7/1, Error ellipse: s-maj=32.4km s-min=17.3km az=139.0*
*MOS **15** 18:02:56.9±1.4, 4637N×15324E, h33km, mb4.8/1, Error ellipse: s-maj=22.3km s-min=18.3km az=162.8*
ISC 15 18:02:55.5±1.3, 464N×02×1534E±02, h10km, n21, σ0§97/21, mb4.1/11, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.04**	**255**	↓*i*PN	**Pn**		**18 03 53.4**	**-4.0**
KUR				pmax	pmax			
	comp=N,100nm,0.5s							
KUR				pmax	pmax			
	comp=Z,230nm,0.5s							
ASAJ	**Asahikawa**	**7.96**	**257**	Pn	**Pn**		**18 04 52.0**	**+0.8**
	comp=E,0.8nm,0.3s,baz=52,slow=19,SNR=2.9							
ASAJ	**Asahikawa**	**7.96**	**257**	PN	**Pn**		**18 04 52.0**	**+0.9**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.04**	**234**	Pn	**Pn**		**18 06 28.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=11,SNR=4.1							
CN2	**Changchun**	**19.85**	**273**	↑P	**Pn**		**18 07 26.1**	**-2.0**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s							
KSRS	**Korea Array**	**20.89**	**254**	P	**P**		**18 07 37.8**	**0.0**
	comp=Z,3.9nm,0.7s,baz=56,slow=11,SNR=6.6							
SONM	**Songino Array**	**31.62**	**290**	P	**P**		**18 09 16.8**	**-1.7**
	comp=Z,0.2nm,0.5s,mb3.2,baz=62,slow=10,SNR=2.8							
LZH	**Lanzhou**	**38.09**	**272**	*e*P	**P**		**18 10 15.4**	**+1.1**
LZH				AP	pP		18 10 20.1	+2.7
LZH				XP	sP		18 10 23.3	+4.6
LZH				AMB	AMB			
	comp=Z,17nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.09**	**272**	*e*P	**P**		**18 10 15.4**	**+1.1**
LZH				*SP	sP		18 10 23.2	+4.5
LZH				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.09**	**272**	*e*P	**P**		**18 10 15.4**	**+1.1**
	comp=Z,17nm,1.2s,mb4.7							
LZH				pP	pP		18 10 20.1	+2.7
LZH				sP	sP		18 10 23.2	+4.5
GTA	**Gaotai**	**39.21**	**280**	*e*P	**P**		**18 10 24.3**	**+0.6**
GTA				AP	pP		18 10 30.0	+3.2
GTA				XP	sP		18 10 34.4	+6.3
GTA				AMB	AMB			
	comp=Z,6.0nm,0.7s,mb4.4							
GYA	**Guiyang**	**41.83**	**258**	P	**P**		**18 10 45.4**	**-0.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**47.25**	**298**	P	**P**		**18 11 28.1**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=67,slow=8.9,SNR=13							
BVAR	**Borovoye Array**	**51.20**	**310**	P	**P**		**18 11 58.7**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=60,slow=7.0,SNR=5.2							
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**		**18 13 31.9**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=28,slow=8.6,SNR=5.5							
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**		**18 13 59.1**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**		**18 13 59.1**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=28,slow=6.3,SNR=4.5							
HFS	**Hagfors**	**68.82**	**340**	P	**P**		**18 14 00.6**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.3,baz=31,slow=4.0,SNR=4.2							
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**		**18 14 19.1**	**+0.2**
	comp=Z,4.4nm,0.6s,mb4.6,baz=33,slow=6.2,SNR=6.2							
CLL	**Collm**	**76.83**	**336**	*e*P	**P**		**18 14 49.0**	**+1.5**
TXAR	**Lajitas Array**	**77.48**	**61**	P	**P**		**18 14 49.7**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=308,slow=3.3,SNR=4.8							

*ISCJB **15** 18:06:25.1±1.4, 479N×02×1522E±03, h10km, mb3.9/5, Error ellipse: s-maj=37.9km s-min=10.1km az=84.8*
*IDC **15** 18:06:25.4±1.9, 4796N×15228E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=50.4km s-min=26.7km az=150.0*
*MOS **15** 18:06:27.4±1.9, 4777N×152.17E, h33km, mb4.2/4, Error ellipse: s-maj=40.6km s-min=25.6km az=57.2*
ISC 15 18:06:26.9±1.4, 480N×02×1522E±03, h10km, n13, σ1§04/14, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.05**	**229**	*e*PN	**Pn**		**18 07 24.0**	**-5.0**
KUR				*e*S	**Sn**		**18 08 16.0**	**-0.5**
KUR				smax				
	comp=N,150nm,0.7s							
KUR				smax				
	comp=E,130nm,0.7s							
ASAJ	**Asahikawa**	**7.72**	**244**	Pn	**Pn**		**18 08 21.3**	**+2.0**
	comp=E,0.5nm,0.3s,baz=111,slow=8.6,SNR=3.7							
ASAJ	**Asahikawa**	**7.72**	**244**	PN	**Pn**		**18 08 21.3**	**+2.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.63**	**248**	P	**P**		**18 11 05.0**	**-1.4**
	comp=Z,2.3nm,1.0s,baz=60,slow=12,SNR=3.0							
MKAR	**Makanchi Array**	**45.84**	**296**	P	**P**		**18 14 50.2**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=67,slow=9.4,SNR=3.0							
FINES	**FINESS Array B**	**62.67**	**334**	P	**P**		**18 16 51.2**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.3,baz=32,slow=7.6,SNR=4.9							
FINES	**FINESS Array B**	**62.67**	**334**	P	**P**		**18 16 51.2**	**-0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**66.88**	**341**	P	**P**		**18 17 19.2**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=29,slow=6.6,SNR=3.6							
NOA	**NORSAR Array B**	**66.88**	**341**	P	**P**		**18 17 19.3**	**+0.2**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**67.10**	**339**	P	**P**		**18 17 19.5**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=57,slow=5.3,SNR=2.8							
HFS	**Hagfors**	**67.10**	**339**	P	**P**		**18 17 19.5**	**-1.0**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**77.42**	**60**	P	**P**		**18 18 22.7**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=321,slow=5.3,SNR=4.4							
TXAR	**Lajitas Array**	**77.42**	**60**	P	**P**		**18 18 22.7**	**+0.5**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*NEIC **15** 18:09:37.1±0.5, 4809N×2276E, h10km, ML3.1(BRA), Error ellipse: s-maj=7.4km s-min=5.6km az=198.0*
*IDC **15** 18:09:37.5±0.8, 4820N×2259E, h0km, mb3.5/1, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, ML3.5/6, Error ellipse: s-maj=12.4km s-min=7.4km az=4.0*
*ISCJB **15** 18:09:38.1±0.4, 48.16N×002×2253E±003, h6km±4km, mb3.5/1, Error ellipse: s-maj=4.1km s-min=3.2km az=103.3*
*MOS **15** 18:09:39.1±1.4, 4829N×2252E, h10km, mb4.1/1, Error ellipse: s-maj=10.9km s-min=7.1km az=123.8*
*PRU **15** 18:09:40.2, 4837N×2253E, h0km*
*CSEM **15** 18:09:40.00.1, 4817N×2269E, h10km, mb4.1, Error ellipse: s-maj=3.3km s-min=2.0km az=32.0*
*IPEC **15** 18:09:42.1±0.4, 4823N×2253E, h33km±5km, ML2.2/2, Error ellipse: s-maj=5.3km s-min=1.9km az=158.0*
ISC 15 18:09:39.5±0.4, 4820N×002×2257E±003, h12km±3km, n55, σ1§29/80, mb3.5/1, 7C-8D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UZH	**Uzhgorod**	**0.47**	**337**	↑*i*P	**Pg**		**18 09 47.6**	**-1.1**
UZH				*i*S	**Sg**		**18 09 53.8**	**-1.2**
KOLS	**Kolonicke sedl**	**0.76**	**345**	*i*PG	**Pg**		**18 09 54.1**	**-0.1**
KOLS				*e*SG	**Sg**		**18 10 05.8**	**+1.6**
DRGR		**1.41**	**176**	↓*i*P	**Pn**		**18 10 05.3**	**+0.3**
DRGR				S	**Sn**		**18 10 25.0**	**+1.5**
KECS	**Kecovo**	**1.42**	**282**	*e*PG	**Pg**		**18 10 06.8**	**0.0**
KECS				*e*SN	**Sn**		**18 10 25.9**	**+2.1**
KWP	**Kalwaria**	**1.44**	**3**	*e*P	**Pn**		**18 10 05.1**	**-0.2**
KWP	**Kalwaria**	**1.44**	**3**	*e*Pn	**Pn**		**18 10 04.9**	**-0.4**
STHS	**Stebnicka Huta**	**1.50**	**325**	*e*PG	**Pg**		**18 10 08.1**	**-0.2**
STHS				*e*SN	**Sn**		**18 10 27.8**	**+2.0**
STHS	**Stebnicka Huta**	**1.50**	**325**	*e*Pg	**Pg**		**18 10 08.1**	**-0.2**
STHS				*e*Sn	**Sn**		**18 10 27.8**	**+2.0**
PSZ	**Piszkesteto**	**1.82**	**262**	↓*i*P	**Pn**		**18 10 10.6**	**0

mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=56.9km s-min=36.1km az=83.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.59**	**255**	Pn	Pn	18 11 33.2	-2.0
	0.2nm,0.3s,baz=115,slow=14,SNR=1.9						
MKAR	**Makanchi Array**	**46.83**	**297**	P	P	18 18 16.2	+1.3
	0.2nm,0.5s,baz=77,slow=5.9,SNR=4.1						
FINES	**FINESS Array B**	**64.11**	**335**	P	P	18 20 17.8	-1.5
	0.6nm,0.4s,baz=52,slow=7.5,SNR=4.3						
ASAR	**Alice Springs**	**71.97**	**198**	P	P	18 21 08.8	0.0
	0.4nm,0.7s,baz=15,slow=5.4,SNR=5.8						

IDC ***15*** *18:10:01.6± 1.2, 34.17N× 138.36E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/22, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=34.7km s-min=17.6km az=64.0*
ISCJB ***15*** *18:10:02.2± 0.6, 3482N± 005× 14033E± 005, h66km± 4km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=6.0km az=78.8*
JMA ***15*** *18:10:02.1± 0.1, 3486N× 14034E, h66km± 2km, M2.9*
ISC 15 18:10:03.2± 0.6, 3482N± 005× 14032E± 005, h60km± 5km, n16, σ0§83/27, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.16**	**97**	P	**Pn**	**18 10 12.3**	**-0.2**
BSO3				*e*S	**Sn**	**18 10 19.5**	**+0.4**
BSO4	**Boso 4**	**0.17**	**5**	P	**Pn**	**18 10 12.3**	**-0.2**
BSO4				S	**Sn**	**18 10 20.1**	**+0.9**
KTR	**Katsuura**	**0.33**	**359**	P	**Pn**	**18 10 13.0**	**-0.5**
KTR				*e*S	**Sn**	**18 10 19.7**	**-1.3**
BSO2	**Boso 2**	**0.36**	**101**	*e*S	**Sn**	**18 10 21.6**	**0.0**
TATJ	**Tateyama 2**	**0.41**	**301**	P	**Pn**	**18 10 14.5**	**+0.2**
TATJ				*e*S	**Sn**	**18 10 23.4**	**+1.1**
BSO1	**Boso 1**	**0.57**	**107**	P	**Pn**	**18 10 15.2**	**-0.7**
JIM2	**Oshima 3**	**0.74**	**262**	P	**Pn**	**18 10 17.4**	**-0.5**
JIM2				*e*S	**Sn**	**18 10 28.3**	**-0.4**
JOD2	**Odawara 2**	**1.10**	**294**	P	**Pn**	**18 10 21.7**	**-0.9**
JOD2				*e*S	**Sn**	**18 10 36.3**	**-0.7**
JIZS	**Izushimoda**	**1.19**	**265**	P	**Pn**	**18 10 23.4**	**-0.4**
JIZS				*e*S	**Sn**	**18 10 37.9**	**-1.2**
JYN	**Shimob**	**1.60**	**295**	P	**Pn**	**18 10 28.9**	**-0.4**
JYN				*e*S	**Sn**	**18 10 48.8**	**-0.2**
JHJ	**Hachijo jima 2**	**1.75**	**195**	Pn	**Pn**	**18 10 31.8**	**+0.4**
	73nm,0.3s,baz=100,slow=19,SNR=42						
JHJ				Sn	**Sn**	**18 10 54.0**	**+1.4**
	53nm,0.3s,baz=247,slow=23,SNR=8.9						
MJAR	**Matsushiro Arr**	**2.43**	**316**	Pn	**Pn**	**18 10 40.9**	**+0.4**
	4.2nm,0.3s,baz=168,slow=14,SNR=48						
MJAR				Sn	**Sn**	**18 11 10.5**	**+1.4**
	10nm,0.3s,baz=192,slow=23,SNR=13						
MAT	**Matsushiro**	**2.43**	**316**	P	**Pn**	**18 10 41.1**	**+0.6**
MAT				S	**Sn**	**18 11 10.4**	**+1.3**
MKAR	**Makanchi Array**	**44.58**	**304**	P	**P**	**18 18 08.8**	**-0.5**
	0.5nm,0.8s,mb3.4,baz=72,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**54.76**	**187**	P	**P**	**18 19 25.2**	**-1.4**
	0.3nm,0.5s,mb3.6,baz=2.2,slow=7.8,SNR=8.6						
ASAR	**Alice Springs**	**58.48**	**187**	P	**P**	**18 19 54.6**	**+1.5**
	0.2nm,0.6s,mb3.4,baz=11,slow=4.7,SNR=3.6						

IDC ***15*** *18:11:31.2± 0.8, 4637N× 15459E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=22.9km s-min=20.5km az=93.0*
NEIC ***15*** *18:11:32.7± 0.6, 4643N× 15454E, h10km, mb4.2/3, Error ellipse: s-maj=16.1km s-min=14.3km az=103.0*
ISCJB ***15*** *18:11:34.5± 0.8, 464N± 0.1× 1544E± 0.1, h35km, mb4.0/13, Error ellipse: s-maj=18.5km s-min=12.7km az=116.4*
MOS ***15*** *18:11:34.3± 1.1, 4641N× 15439E, h33km, mb4.3/3, Error ellipse: s-maj=20.2km s-min=17.3km az=102.7*
ISC 15 18:11:36.4± 0.8, 465N± 01× 1545E± 02, h35km, n21, σ0§91/21, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.78**	**258**	*e*PN	**Pn**	**18 12 43.0**	**-2.9**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
ASAJ	**Asahikawa**	**8.70**	**259**	Pn	**Pn**	**18 13 41.0**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=37,slow=14,SNR=4.8						
ASAJ	**Asahikawa**	**8.70**	**259**	PN	**Pn**	**18 13 41.0**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**22.48**	**12**	*e*P	**P**	**18 16 30.6**	**-2.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BILL	**Bilibino**	**22.48**	**12**	*e*P	**P**	**18 16 30.6**	**-2.0**
	comp=Z,4.4nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**18 20 10.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=68,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**18 20 10.8**	**-0.4**
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**18 20 36.6**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**18 20 36.6**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**18 20 40.7**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=44,slow=7.9,SNR=4.7						
AAK	**Ala-Archa**	**54.81**	**297**	*e*P	**P**	**18 21 03.2**	**+0.4**
	comp=Z,23nm,2.0s,mb4.9						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**18 21 29.2**	**+0.6**
	comp=Z,6.5nm,1.1s,mb4.6,baz=36,slow=7.8,SNR=4.7						
AKTK	**Aktyubinsk**	**59.62**	**313**	P	**P**	**18 21 37.2**	**+0.3**
AKTO	**Aktyubinsk**	**59.62**	**313**	P	**P**	**18 21 37.2**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=42,slow=9.9,SNR=5.2						
AKTO	**Aktyubinsk**	**59.62**	**313**	P	**P**	**18 21 37.2**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**64.16**	**54**	P	**P**	**18 22 07.7**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.8,baz=270,slow=1.5,SNR=4.8						
FINES	**FINESS Array B**	**64.71**	**335**	P	**P**	**18 22 11.2**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=23,slow=7.3,SNR=7.6						
WRA	**Warramunga Arr**	**68.55**	**200**	P	**P**	**18 22 34.5**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=22,slow=7.1,SNR=7.8						
HFS	**Hagfors**	**69.06**	**340**	P	**P**	**18 22 39.6**	**+1.0**
	comp=Z,1.4nm,0.4s,mb4.2,baz=50,slow=4.6,SNR=13						
ASAR	**Alice Springs**	**72.24**	**200**	P	**P**	**18 22 58.4**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=6.2,SNR=15						
TXAR	**Lajitas Array**	**76.81**	**61**	P	**P**	**18 23 24.6**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=302,slow=4.1,SNR=14						

IDC ***15*** *18:12:11.9± 1.2, 4769N× 15379E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, Error ellipse: s-maj=28.3km s-min=27.9km az=129.0*
ISCJB ***15*** *18:12:12.2± 1.1, 478N± 02× 1537E± 02, h10km, mb4.1/14, Error ellipse: s-maj=25.5km s-min=23.0km az=126.8*
NEIC ***15*** *18:12:13.4± 0.9, 4762N× 15361E, h10km, mb4.3/3, Error ellipse: s-maj=28.5km s-min=21.6km az=38.0*
ISC 15 18:12:13.6± 1.1, 478N± 02× 1537E± 02, h10km, n16, σ1§10/16, mb4.1/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.53**	**251**	P	**P**	**18 17 04.7**	**+1.9**
	1.4nm,0.9s,mb3.4,baz=66,slow=8.7,SNR=2.8						
ZAL	**Zalesovo**	**42.38**	**305**	P	**P**	**18 20 07.9**	**-0.1**
	1.6nm,0.5s,mb4.0,baz=46,slow=9.4,SNR=5.3						
MKAR	**Makanchi Array**	**46.85**	**297**	P	**P**	**18 20 44.6**	**+0.9**
	1.4nm,0.6s,mb4.1,baz=74,slow=7.9,SNR=7.4						
CHKZ	**Chkalovo**	**50.10**	**310**	*e*P	**P**	**18 21 08.8**	**0.0**
	5.2nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**18 21 12.9**	**+0.8**
	1.7nm,0.5s,mb4.2,baz=68,slow=6.7,SNR=10						
BRVK	**Borovoye**	**50.58**	**309**	*e*P	**P**	**18 21 10.1**	**-2.3**
	2.5nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**51.30**	**309**	*e*P	**P**	**18 21 18.2**	**+0.4**
	2.3nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**58.36**	**312**	P	**P**	**18 22 08.8**	**-0.2**
AKTO	**Aktyubinsk**	**58.36**	**312**	P	**P**	**18 22 08.8**	**-0.2**
	1.0nm,0.5s,mb4.1,baz=88,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**63.29**	**335**	P	**P**	**18 22 41.3**	**-1.2**
	1.3nm,0.5s,mb4.3,baz=39,slow=8.4,SNR=9.2						
HFS	**Hagfors**	**67.64**	**340**	P	**P**	**18 23 10.9**	**+0.2**
	1.0nm,0.3s,mb4.3,baz=57,slow=5.5,SNR=6.6						
AKASG	**Malin Array Be**	**70.93**	**326**	P	**P**	**18 23 30.1**	**-1.0**
	1.4nm,0.6s,mb4.1,baz=32,slow=6.2,SNR=4.2						
ASAR	**Alice Springs**	**73.32**	**199**	P	**P**	**18 23 43.5**	**-1.8**
	0.7nm,0.7s,mb3.7,baz=14,slow=5.4,SNR=5.2						
TXAR	**Lajitas Array**	**76.62**	**61**	P	**P**	**18 24 06.0**	**+1.6**
	1.3nm,0.7s,mb4.0,baz=301,slow=4.2,SNR=5.6						
TXAR	**Lajitas Array**	**76.62**	**61**	P	**P**	**18 24 06.0**	**+1.6**
GERES	**GERESS Array B**	**77.72**	**334**	P	**P**	**18 24 11.5**	**+0.9**
	0.4nm,0.5s,mb3.6,baz=28,slow=6.0,SNR=4.7						

BJI ***15*** *18:12:34.2, 4740N× 15280E, h10km, mb4.6*
IDC ***15*** *18:12:36.6± 1.5, 4735N× 15277E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.1/26, mbtmp4.2/15, ML3.8/2, Error ellipse: s-maj=39.0km s-min=21.8km az=156.0*
NEIC ***15*** *18:12:38.3± 0.6, 4736N× 15276E, h10km, mb4.6/4, Error ellipse: s-maj=16.7km s-min=9.2km az=140.0*
ISCJB ***15*** *18:12:42.9± 2.3, 471N± 0.1× 1527E± 0.2, h67km± 21km, mb4.1/14, Error ellipse: s-maj=24.0km s-min=18.0km az=90.1*
MOS ***15*** *18:12:43.0± 1.2, 4704N× 15279E, h75km, mb5.0/2, Error ellipse: s-maj=15.6km s-min=14.0km az=56.8*
ISC 15 18:12:44.5± 2.1, 472N± 01× 1527E± 02, h66km± 19km, n33, σ0§98/34, mb4.1/14, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**242**	PN	**Pn**	**18 13 42.8**	**+1.6**
KUR				*i* S	**Sn**	**18 14 22.8**	**-2.3**
KUR				smax			
	comp=N,4μm,2.0s						
KUR				smax			
	comp=N,320nm,0.8s						
KUR				smax			
	comp=E,710nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.70**	**239**	PN	**Pn**	**18 14 05.5**	**-1.0**
YUK				*e*S	**Sn**	**18 15 14.5**	**+3.9**
YUK				smax			
	comp=E,760nm,0.7s						
YUK				smax			
	comp=N,380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.78**	**272**	*e*PN	**Pn**	**18 14 25.0**	**+3.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.78**	**272**	*e*P	**Pn**	**18 14 23.2**	**+1.9**
	comp=Z,18nm,0.7s						
PET	**Petropavlovsk**	**7.03**	**31**	*e*PN	**Pn**	**18 14 33.3**	**+8.6**
PET				pmax	pmax		
	comp=Z,23nm,0.7s						
PET	**Petropavlovsk**	**7.03**	**31**	*e*P	**Pn**	**18 14 17.0**	**-7.6**
ASAJ	**Asahikawa**	**7.68**	**250**	Pn	**Pn**	**18 14 33.5**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=94,slow=16,SNR=5.1						
ASAJ	**Asahikawa**	**7.68**	**250**	PN	**Pn**	**18 14 33.6**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**15.09**	**231**	P	**Pn**	**18 16 13.8**	**+0.1**
MJAR	**Matsushiro Arr**	**15.09**	**231**	Pn	**Pn**	**18 16 12.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=32,slow=11,SNR=6.0						
YAK	**Yakutsk**	**19.82**	**327**	*e*P	**Pn**	**18 17 11.4**	**-0.4**
YAK				pmax	pmax		
	comp=Z,18nm,1.1s						
YAK	**Yakutsk**	**19.82**	**327**	*e*P	**Pn**	**18 17 11.4**	**-0.4**
	comp=Z,18nm,1.1s						
KSRS	**Korea Array**	**20.63**	**251**	P	**P**	**18 17 18.3**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=58,slow=11,SNR=6.7						
LZH	**Lanzhou**	**37.57**	**271**	*e*P	**P**	**18 19 53.9**	**+1.5**
LZH				AP	pP	18 20 00.3	-8.4
LZH				XP	sP	18 20 03.5	-13
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
LZH	**Lanzhou**	**37.57**	**271**	*e*P	**P**	**18 19 53.9**	**+1.5**
	comp=Z,26nm,1.2s,mb4.9						
LZH				pP	pP	18 20 00.2	-8.5
LZH				sP	sP	18 20 03.5	-13
MKAR	**Makanchi Array**	**46.49**	**297**	P	**P**	**18 21 05.2**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.8,baz=63,slow=8.3,SNR=6.9						
BVAR	**Borovoye Array**	**50.37**	**309**	P	**P**	**18 21 34.4**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=50,slow=7.9,SNR=5.6						
ARCES	**ARCESS Array B**	**57.38**	**341**	P	**P**	**18 22 25.3**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.4,baz=24,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**63.55**	**334**	P	**P**	**18 23 06.7**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=51,slow=10.0,SNR=5.0						
FINES	**FINESS Array B**	**63.55**	**334**	P	**P**	**18 23 06.7**	**-1.3**
PDAR	**Pinedale Array**	**64.76**	**54**	P	**P**	**18 23 16.3**	**+0.4**
	comp=Z,0.9nm,0.9s,mb3.6,baz=316,slow=4.1,SNR=4.1						
NB2	**NORSAR Subarra**	**67.75**	**341**	P	**P**	**18 23 34.9**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.75**	**341**	P	**P**	**18 23 34.9**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.3,baz=27,slow=6.4,SNR=8.4						
HFS	**Hagfors**	**67.98**	**339**	P	**P**	**18 23 36.0**	**-0.5**
	comp=Z,4.2nm,0.4s,mb4.7,baz=55,slow=5.6,SNR=15						
AKASG	**Malin Array Be**	**71.05**	**326**	P	**P**	**18 23 54.8**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.3,baz=35,slow=6.4,SNR=11						
CLL	**Collm**	**75.98**	**335**	*i* P	**P**	**18 24 24.8**	**+0.5**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
CLL	**Collm**	**75.98**	**335**	*i* P	**P**	**18 24 24.8**	**+0.5**
	comp=Z,16nm,1.2s,mb4.6						
TXAR	**Lajitas Array**	**77.56**	**60**	P	**P**	**18 24 33.3**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=301,slow=4.6,SNR=3.6						
BR131	**Keskin Array S**	**77.89**	**316**	*e*P	**P**	**18 24 35.8**	**+0.7**
	comp=Z,3.3nm,1.0s,mb4.0						
BRTR	**Keskin Array B**	**77.89**	**316**	P	**P**	**18 24 36.2**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.0,baz=83,slow=3.9,SNR=10						
GERES	**GERESS Array B**	**77.96**	**334**	P	**P**	**18 24 35.3**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.5,baz=56,slow=5.0,SNR=4.1						
MMAI	**Mount Meron Ar**	**82.32**	**311**	P	**P**	**18 25 00.0**	**+1.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=50,slow=7.8,SNR=4.6						
SBA	**Scott Base**	**125.03**	**176**	*e*PKPdf	PKPdf	18 31 38.5	+1.4

ISCJB ***15*** *18:18:21.2± 8.7, 466N± 0.1× 1549E± 0.2, h11km± 54km, mb4.0/13, Error ellipse: s-maj=26.1km s-min=16.7km az=47.5*
IDC ***15*** *18:18:21.3± 0.7, 4653N× 15496E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/24, mbtmp4.0/14, ML3.8/2, Error ellipse: s-maj=21.4km s-min=17.6km az=135.0*
NEIC ***15*** *18:18:22.9± 0.6, 4657N× 15491E, h10km, mb4.3/1, Error ellipse: s-maj=17.9km s-min=12.0km az=121.0*
MOS ***15*** *18:18:23.5± 1.2, 4657N× 15467E, h27km, mb4.5/1, Error ellipse: s-maj=20.8km s-min=16.8km az=58.1*
ISC 15 18:18:24.6± 6.2, 466N± 01× 1549E± 02, h21km± 43km, n20, σ0§89/20, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.10**	**257**	*e*PN	**Pn**	**18 19 35.0**	**-4.7**
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
ASAJ	**Asahikawa**	**9.02**	**258**	Pn	**Pn**	**18 20 33.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=93,slow=15,SNR=7.1						
ASAJ	**Asahikawa**	**9.02**	**258**	PN	**Pn**	**18 20 33.3**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.01**	**237**	Pn	**Pn**	**18 22 08.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=53,slow=12,SNR=3.5						
KSRS	**Korea Array**	**21.94**	**255**	P	**P**	**18 23 18.4**	**+1.8**
	comp=Z,2.3nm,0.8s,mb3.6,baz=62,slow=10.0,SNR=5.0						
BILL	**Bilibino**	**22.27**	**11**	*e*P	**P**	**18 23 19.8**	**-0.4**
BILL				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.3						
BILL	**Bilibino**	**22.27**	**11**	*e*P	**P**	**18 23 19.4**	**-0.8**
	comp=Z,13nm,1.1s,mb4.3						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**18 24 53.6**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=57,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**18 27 01.8**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=61,slow=7.6,SNR=3.8						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**18 27 31.3**	**-0.2**
	comp=Z,1.1nm,0.3s,mb4.2,baz=57,slow=8.2,SNR=10						
ARCES	**ARCESS Array B**	**58.39**	**341**	P	**P**	**18 28 17.9**	**-0.5**
	comp=Z,4.8nm,0.9s,mb4.5,baz=26,slow=9.0,SNR=5.0						
PDAR	**Pinedale Array**	**63.83**	**55**	P	**P**	**18 28 55.8**	**+0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=270,slow=3.0,SNR=7.8						
FINES	**FINESS Array B**	**64.69**	**336**	P	**P**	**18 29 01.1**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=33,slow=9.4,SNR=6.3						
NB2	**NORSAR Subarra**	**68.76**	**342**	P	**P**	**18 29 29.7**	**+2.8**
	comp=Z,3.2nm,1.0s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.76**	**342**	P	**P**	**18 29 29.2**	**+2.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=29,slow=6.5,SNR=2.7						
WRA	**Warramunga Arr**	**68.80**	**201**	P	**P**	**18 29 25.7**	**-1.4**
	comp=Z,1.0nm,0.9s,mb3.7,baz=20,slow=6.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**69.61**	**210**	P	**P**	**18 29 32.7**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=42,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**72.48**	**200**	P	**P**	**18 29 49.2**	**-0.3**
	comp=Z,1.4nm,1.2s,mb3.8,baz=206,slow=26,SNR=4.1						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**18 30 13.1**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=300,slow=4.2,SNR=22						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**18 30 13.1**	**+0.3**

IDC 15 18:19:34.1± 1.2, 4700N× 15522E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/22, mbtmp3.9/6, Error ellipse: s-maj=37.8km s-min=24.8km az=99.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.66**	**33**	P	P	18 27 15.3	-0.7
	2.7nm,0.6s,baz=289,slow=6.7,SNR=12						
MKAR	**Makanchi Array**	**48.11**	**298**	P	P	18 28 15.1	-0.5
	0.4nm,0.6s,baz=63,slow=8.3,SNR=4.3						
BVAR	**Borovoye Array**	**51.81**	**310**	P	P	18 28 43.6	-0.2
	1.7nm,0.4s,baz=58,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**64.42**	**336**	P	P	18 30 11.3	-0.7
	1.8nm,0.8s,baz=34,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**69.24**	**201**	P	P	18 30 42.5	-0.3
	0.4nm,0.6s,baz=17,slow=7.3,SNR=4.9						
ASAR	**Alice Springs**	**72.92**	**200**	P	P	18 31 05.3	+0.2
	0.4nm,0.6s,baz=14,slow=5.3,SNR=5.6						

ISCJB ***15*** *18:20:24.3± 0.6, 4675N± 008× 1549E± 0.1, h10km, mb4.2/24, Error ellipse: s-maj=14.2km s-min=8.6km az=99.3*
IDC ***15*** *18:20:24.6± 0.7, 4672N× 15499E, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, ML3.8/2, Error ellipse: s-maj=19.0km s-min=16.1km az=127.0*
BJI ***15*** *18:20:26.9, 4757N× 15488E, h3km, mB4.9, mb4.2*
MOS ***15*** *18:20:26.5± 0.7, 4672N× 15476E, h23km, mb4.9/6, Error ellipse: s-maj=14.8km s-min=12.4km az=120.3*
NEIC ***15*** *18:20:26.1± 0.5, 4674N× 15499E, h10km, mb4.6/5, Error ellipse: s-maj=13.6km s-min=9.5km az=127.0*
ISC 15 18:20:26.0± 0.6, 4676N± 008× 1550E± 01, h10km, n43, σ0§92/41, mb4.2/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.18**	**255**	*e*PN	**Pn**	**18 21 41.0**	**-2.5**
KUR				pmax	pmax		
	comp=E,70nm,0.7s						
KUR				pmax	pmax		
	comp=Z,220nm,0.7s						
PET	**Petropavlovsk**	**6.71**	**19**	*e*P	**Pn**	**18 22 04.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**8.38**	**276**	*e*PN	**Pn**	**18 22 28.0**	**+0.6**
ASAJ	**Asahikawa**	**9.09**	**258**	Pn	**Pn**	**18 22 37.4**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=91,slow=15,SNR=6.5						
ASAJ	**Asahikawa**	**9.09**	**258**	PN	**Pn**	**18 22 37.4**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	**16.13**	**237**	P	**Pn**	**18 24 17.6**	**+4.8**
MJAR	**Matsushiro Arr**	**16.13**	**237**	Pn	**Pn**	**18 24 12.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=4.2						
KSRS	**Korea Array**	**22.02**	**255**	P	**P**	**18 25 22.4**	**+1.9**
	comp=Z,1.9nm,0.5s,mb3.8,baz=53,slow=11,SNR=8.2						
BILL	**Bilibino**	**22.11**	**11**	*e*P	**P**	**18 25 21.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
SONM	**Songino Array**	**32.53**	**290**	P	**P**	**18 26 57.2**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=62,slow=8.3,SNR=5.5						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**18 27 57.8**	**+3.9**
LZH				AP	pP	18 28 04.1	+7.1
LZH				XP	sP	18 28 07.3	+9.1
LZH				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**18 27 57.7**	**+3.8**
LZH				*PP	pP	18 28 04.1	+7.1
LZH				*SP	sP	18 28 07.2	+9.0
LZH				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**18 27 57.7**	**+3.8**
	comp=Z,15nm,1.1s,mb4.6						
LZH				pP	pP	18 28 04.1	+7.1
LZH				sP	sP	18 28 07.2	+9.0
CD2	**Chengdu**	**42.15**	**267**	P	**P**	**18 28

MJAR	**Matsushiro Arr**	**15.99**	**236**	Pn		**Pn**	**18 25 56.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=2.7							
BILL	**Bilibino**	**22.05**	**12**	*eP*		**P**	**18 27 00.7**	**-5.2**
BILL				pmax	pmax			
	comp=Z,12nm,1.8s,mb4.0							
NVS	**Novosibirsk**	**43.93**	**308**	*eP*		**P**	**18 30 17.1**	**-0.8**
NVS				pmax	pmax			
	comp=N,9.0nm,1.5s							
NVS				pmax	pmax			
	comp=Z,8.0nm,1.5s,mb4.2							
NVS				pmax	pmax			
	comp=E,5.0nm,1.1s							
MKAR	**Makanchi Array**	**47.80**	**298**	P		**P**	**18 30 48.9**	**+0.5**
	comp=E,0.5nm,0.6s,mb3.7,baz=66,slow=8.3,SNR=3.3							
CHKZ	**Chkalovo**	**51.14**	**311**	*eP*		**P**	**18 31 12.6**	**-1.3**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**51.14**	**311**	*eP*		**P**	**18 31 12.6**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**51.57**	**310**	P		**P**	**18 31 16.3**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.0,baz=48,slow=8.7,SNR=3.9							
FINES	**FINESS Array B**	**64.36**	**335**	P		**P**	**18 32 45.6**	**-1.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=35,slow=8.1,SNR=5.1							
NOA	**NORSAR Array B**	**68.44**	**342**	P		**P**	**18 33 14.4**	**+1.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=62,slow=5.0,SNR=3.0							
WRA	**Warramunga Arr**	**68.98**	**200**	P		**P**	**18 33 16.5**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=347,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**72.67**	**200**	P		**P**	**18 33 38.6**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=17,slow=7.2,SNR=4.6							
TXAR	**Lajitas Array**	**76.53**	**62**	P		**P**	**18 33 59.6**	**-1.5**
	comp=Z,0.7nm,0.5s,mb3.8,baz=305,slow=4.9,SNR=7.1							
CLL	**Collm**	**76.77**	**336**	*eP*		**P**	**18 34 04.0**	**+1.6**
CLL				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
CLL	**Collm**	**76.77**	**336**	*eP*		**P**	**18 34 04.0**	**+1.6**
	comp=Z,9.0nm,1.2s,mb4.6							
GERES	**GERESS Array B**	**78.79**	**335**	P		**P**	**18 34 15.5**	**+1.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=42,slow=6.1,SNR=3.6							

*ISCJB **15** 18:23:27.9±0.6, 4673N×008×1548E±0.1, h10km, mb4.3/28, Error ellipse: s-maj=13.5km s-min=9.6km az=97.8*
*IDC **15** 18:23:28.1±0.6, 4672N×1548 4E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/25, mbtmp4.1/18, ML3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/32, Error ellipse: s-maj=18.8km s-min=16.0km az=127.0*
*NEIC **15** 18:23:29.8±0.5, 4667N×1547 2E, h10km, mb4.7/9, Error ellipse: s-maj=12.8km s-min=11.1km az=109.0*
*BJI **15** 18:23:33.6, 4723N×1540 3E, h10km, mB4.4, mb4.4*
*MOS **15** 18:23:34.6±2.3, 4651N×1543 9E, h49km, mb4.8/11, Error ellipse: s-maj=15.2km s-min=11.7km az=132.9*

ISC 15 18:23:29.8±0.5, 4675N±008×15468E±010, h10km, n52, σ1§10/42, mb4.3/28, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.98**	**255**	*e*PN	**Pn**	**18 24 44.0**	**-0.6**
KUR				*e*S	**Sn**	**18 25 39.4**	**-2.9**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.18**	**276**	*e*PN	**Pb**	**18 25 50.0**	**-1.5**
ASAJ	**Asahikawa**	**8.89**	**257**	Pn	**Pn**	**18 25 39.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=103,slow=11,SNR=3.5						
ASAJ				LR	LR	18 28 19.4	
	comp=Z,664nm,21.4s,baz=164,slow=32						
ASAJ	**Asahikawa**	**8.89**	**257**	PN	**Pn**	**18 25 39.4**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,664nm,21.4s						
KLR	**Kul'dur**	**15.54**	**288**	*e*P	**Pn**	**18 27 14.4**	**+5.5**
MJAR	**Matsushiro Arr**	**15.95**	**236**	Pn	**Pn**	**18 27 12.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=4.5						
KSRS	**Korea Array**	**21.83**	**254**	P	**P**	**18 28 24.9**	**+2.6**
	comp=Z,3.3nm,0.7s,mb3.9,baz=52,slow=11,SNR=6.3						
BILL	**Bilibino**	**22.17**	**12**	*e*P	**P**	**18 28 23.9**	**-2.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**32.35**	**290**	P	**P**	**18 29 59.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=72,slow=9.3,SNR=3.4						
ZAK	**Zakamensk**	**33.65**	**295**	*e*P	**P**	**18 30 11.1**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
LZH	**Lanzhou**	**38.96**	**273**	*e*P	**P**	**18 30 59.4**	**+3.4**
LZH				AP	pP	18 31 06.3	+7.2
LZH				XP	sP	18 31 08.6	+8.2
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
LZH	**Lanzhou**	**38.96**	**273**	*e*P	**P**	**18 30 59.4**	**+3.4**
	comp=Z,12nm,1.0s,mb4.6						
LZH				pP	pP	18 31 06.2	+7.1
LZH				sP	sP	18 31 08.6	+8.2
GYA	**Guiyang**	**42.77**	**259**	P	**P**	**18 31 29.8**	**+2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
MK31	**Makanchi Array**	**47.90**	**298**	*e*P	**P**	**18 32 08.4**	**+0.3**
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**18 32 08.6**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=72,slow=7.3,SNR=8.6						
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**18 32 33.1**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**18 32 33.1**	**-0.6**
	comp=Z,10nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**51.69**	**310**	P	**P**	**18 32 37.4**	**+0.4**
	comp=Z,1.5nm,0.4s,mb4.3,baz=55,slow=7.9,SNR=9.4						
BRVK	**Borovoye**	**51.73**	**310**	*e*P	**P**	**18 32 38.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**51.73**	**310**	*e*P	**P**	**18 32 38.0**	**+0.8**
	comp=Z,6.6nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**52.45**	**310**	*e*P	**P**	**18 32 42.7**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.45**	**310**	*e*P	**P**	**18 32 42.7**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.5						
ARU	**Arti**	**55.74**	**318**	*e*P	**P**	**18 33 06.5**	**-0.1**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
ARU	**Arti**	**55.74**	**318**	*e*P	**P**	**18 33 06.5**	**-0.1**
	comp=Z,11nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	**59.53**	**313**	P	**P**	**18 33 32.6**	**-0.6**
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**18 33 32.6**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=42,slow=5.4,SNR=5.7						
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**18 33 32.7**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.88**	**55**	P	**P**	**18 34 01.9**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=295,slow=1.6,SNR=9.1						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**18 34 07.1**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.6,baz=54,slow=9.7,SNR=6.4						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**18 34 07.1**	**+0.4**
ULM	**Lac du Bonnet**	**65.82**	**42**	P	**P**	**18 34 14.0**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=306,slow=8.0,SNR=3.9						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**18 34 33.3**	**+0.5**
	comp=Z,2.7nm,1.0s,mb4.1,baz=29,slow=6.3,SNR=3.3						
WRA	**Warramunga Arr**	**68.87**	**201**	P	**P**	**18 34 34.2**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=19,slow=6.9,SNR=5.5						
FITZ	**Fitzroy Crossi**	**69.66**	**209**	P	**P**	**18 34 38.6**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=4.8,slow=12,SNR=3.4						
AKASG	**Malin Array Be**	**72.14**	**327**	P	**P**	**18 34 54.0**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=32,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**72.56**	**200**	P	**P**	**18 34 57.8**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=16,slow=5.0,SNR=16						
TXAR	**Lajitas Array**	**76.55**	**62**	P	**P**	**18 35 20.2**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.6,baz=302,slow=4.2,SNR=26						
CLL	**Collm**	**76.91**	**336**	*e*P	**P**	**18 35 25.0**	**+2.7**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
CLL	**Collm**	**76.91**	**336**	*e*P	**P**	**18 35 25.0**	**+2.7**
	comp=Z,16nm,1.4s,mb4.8						
GERES	**GERESS Array B**	**78.92**	**335**	P	**P**	**18 35 34.0**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=46,slow=5.8,SNR=4.3						
STKA	**Stephens Creek**	**79.14**	**191**	P	**P**	**18 35 34.8**	**+0.1**
	comp=Z,3.6nm,1.1s,mb4.2,baz=101,slow=18,SNR=3.1						
CDF	**Champ du Feu**	**81.06**	**339**	*e*P	pP	18 35 49.7	+1.4
	comp=Z,14nm,1.1s						
CDF	**Champ du Feu**	**81.06**	**339**	*e*P	pP	18 35 49.7	+1.4
CDF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**81.06**	**339**	*e*P	pP	18 35 49.7	+1.4
	comp=Z,6.8nm,1.0s						
GRR	**Gorron**	**82.88**	**344**	*e*P	pP	18 35 59.6	+1.7
SMF	**Signal de Mont**	**83.54**	**340**	*e*P	pP	18 36 02.8	+1.5
	comp=Z,5.9nm,0.7s						
SMF	**Signal de Mont**	**83.54**	**340**	*e*P	pP	18 36 02.8	+1.5
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**83.54**	**340**	*e*P	pP	18 36 02.8	+1.5
	comp=Z,3.0nm,0.7s						
LPG	**La Plagne**	**83.90**	**338**	*e*P	pP	18 36 05.6	+2.4
	comp=Z,7.3nm,0.7s						
CAF	**Calviac**	**85.57**	**341**	*e*P	pP	18 36 13.1	+1.5
	comp=Z,13nm,0.9s						
CAF	**Calviac**	**85.57**	**341**	*e*P	pP	18 36 13.1	+1.5
CAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
CAF	**Calviac**	**85.57**	**341**	*e*P	pP	18 36 13.1	+1.5
	comp=Z,6.4nm,0.9s						

*NEIC **15** 18:24:34.1±0.5, 47.13N×1532 8E, h10km, mb4.8/6, Error ellipse: s-maj=14.9km s-min=9.1km az=138.0*
*BJI **15** 18:24:36.1, 47.10N×1533 0E, h10km, mB5.0, mb4.4*
*ISCJB **15** 18:24:38.4±1.2, 47.19N±008×1535E±0.1, h50km±10km, mb4.4/23, Error ellipse: s-maj=17.6km s-min=6.8km az=95.0*
*MOS **15** 18:24:38.1±1.3, 47.16N×1535 0E, h50km, mb4.9/6, Error ellipse: s-maj=14.8km s-min=8.7km az=64.9*
*IDC **15** 18:24:44.1±3.7, 4711N×1534 0E, h89km±33km, mb4.0/15, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, Error ellipse: s-maj=20.8km s-min=13.5km az=115.0*

ISC 15 18:24:40.7±1.0, 4722N±008×1535E±01, h57km±8km, h21km±5.9km:pP-P, n49, σ0§96/49, mb4.4/23, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.86**	**25**	*e*PN	**Pn**	**18 25 37.5**	**0.0**
SKR				*e*S	**Sn**	**18 26 21.0**	**-0.6**
SKR				pmax	pmax		
	comp=N,240nm,0.4s						
SKR				pmax	pmax		
	comp=Z,570nm,0.4s						
SKR				smax			
	comp=N,310nm,0.5s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
KUR	**Kuril'sk**	**4.40**	**245**	PN	**Pn**	**18 25 40.0**	**-5.0**
YUK	**Yuzh-Kuril'sk**	**6.25**	**242**	*e*PN	**Pn**	**18 26 08.9**	**-1.4**
YUK				pmax	pmax		
	comp=Z,750nm,0.4s						
PET	**Petropavlovsk**	**6.67**	**28**	*e*PN	**Pn**	**18 26 15.5**	**-0.6**
PET				pmax	pmax		
	comp=Z,67nm,0.7s						
PET	**Petropavlovsk**	**6.67**	**28**	*e*P	**Pn**	**18 26 13.5**	**-2.6**
	comp=Z,247nm,1.4s						
YSS	**Yuzh-Sakhalins**	**7.36**	**272**	*e*PN	**Pn**	**18 26 27.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,39nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.36**	**272**	*e*P	**Pn**	**18 26 27.0**	**+1.5**
	comp=Z,39nm,0.8s						
ASAJ	**Asahikawa**	**8.26**	**252**	P	**Pn**	**18 26 38.8**	**+1.0**
	comp=Z,4.2nm,0.3s,baz=67,slow=12,SNR=8.5						
ASAJ	**Asahikawa**	**8.26**	**252**	PN	**Pn**	**18 26 38.8**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KLR	**Kul'dur**	**14.65**	**286**	*e*P	**Pn**	**18 28 03.7**	**-0.9**
MJAR	**Matsushiro Arr**	**15.59**	**232**	P	**Pn**	**18 28 18.0**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=38,slow=9.1,SNR=7.3						
KSRS	**Korea Array**	**21.21**	**252**	P	**P**	**18 29 21.4**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.0,baz=56,slow=10,SNR=5.7						
BILL	**Bilibino**	**21.87**	**13**	*e*P	**P**	**18 29 30.0**	**+1.4**
BILL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
IMA2	**Indian Mountai**	**33.26**	**36**	*e*P	**P**	**18 31 12.8**	**+0.3**
MCK	**McKinley**	**35.11**	**41**	*e*P	**P**	**18 31 28.3**	**-0.2**
MCK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
MCK	**McKinley**	**35.11**	**41**	*e*P	**P**	**18 31 28.3**	**-0.2**
	comp=Z,14nm,1.1s,mb4.8						
SML	**Sawmill**	**35.43**	**44**	*e*P	**P**	**18 31 31.6**	**+0.3**
COLA	**College**	**35.59**	**39**	*e*P	**P**	**18 31 33.2**	**+0.6**
COLA				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
COLA	**College**	**35.59**	**39**	*e*P	**P**	**18 31 33.2**	**+0.6**
	comp=Z,31nm,0.9s,mb5.2						
LZH	**Lanzhou**	**38.16**	**272**	*e*P	**P**	**18 31 49.5**	**-4.9**
LZH				*SP	sP	18 32 02.3	-13
LZH				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
LZH	**Lanzhou**	**38.16**	**272**	*e*P	**P**	**18 31 49.5**	**-4.9**
	comp=Z,24nm,1.4s,mb4.7						
LZH				pP	pP	18 31 57.3	-12
LZH				sP	sP	18 32 02.3	-13
EGAK	**Eagle**	**38.45**	**39**	*e*P	**P**	**18 31 56.7**	**-0.2**
	comp=Z,29nm,1.1s,mb4.9						
GTA	**Gaotai**	**39.18**	**279**	*e*P	**P**	**18 32 05.3**	**+2.3**
GTA				AP	pP	18 32 13.8	-3.8
GTA				AMB	AMB		
	comp=Z,3.0nm,2.1s,mb3.6						
DAWY	**Dawson**	**39.30**	**40**	*e*P	**P**	**18 32 04.2**	**+0.3**
INK	**Inuvik**	**41.10**	**33**	P	**P**	**18 32 20.4**	**+1.5**
	comp=Z,11nm,0.6s,mb4.7,baz=275,slow=6.4,SNR=19						
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**18 33 31.2**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**18 33 31.2**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**50.38**	**37**	P	**P**	**18 33 32.6**	**+0.6**
	comp=Z,12nm,0.8s,mb5.0,baz=296,slow=7.0,SNR=11						
YKA				PcP	PcP	18 34 49.2	-0.6
	comp=Z,1.8nm,0.8s,baz=302,slow=3.8,SNR=4.0						
YKA	**Yellowknife Ar**	**50.38**	**37**	P	**P**	**18 33 32.6**	**+0.6**
YKA				PcP	PcP	18 34 49.2	-0.6
KEV	**Kevo**	**56.99**	**341**	*e*p	**P**	**18 34 18.5**	**-1.9**
ARCES	**ARCESS Array B**	**57.50**	**341**	P	**P**	**18 34 23.9**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**18 35 05.8**	**-0.5**
	comp=Z,2.3nm,0.3s,mb4.7,baz=35,slow=6.7,SNR=17						
PDAR	**Pinedale Array**	**64.24**	**54**	P	**P**	**18 35 10.2**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=299,slow=3.1,SNR=7.7						
NB2	**NORSAR Subarra**	**67.87**	**341**	P	**P**	**18 35 32.4**	**-0.6**
	comp=Z,8.7nm,0.7s,mb4.9,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**	**18 35 32.6**	**-0.4**
	comp=Z,11nm,0.9s,mb4.9,baz=26,slow=6.3,SNR=10						
WRA	**Warramunga Arr**	**69.05**	**199**	P	**P**	**18 35 38.6**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=6.6,SNR=10						
FITZ	**Fitzroy Crossi**	**69.69**	**208**	P	**P**	**18 35 43.5**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.3,baz=54,slow=3.8,SNR=5.2						
AKASG	**Malin Array Be**	**71.31**	**326**	P	**P**	**18 35 53.2**	**-1.0**
	comp=Z,1.6nm,0.4s,mb4.3,baz=34,slow=6.1,SNR=8.7						
ASAR	**Alice Springs**	**72.75**	**199**	P	**P**	**18 36 02.4**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=12,slow=6.1,SNR=19						
SCHQ	**Schefferville**	**72.76**	**23**	P	**P**	**18 36 03.2**	**+0.3**
	comp=Z,3.6nm,0.7s,mb4.4,baz=23,slow=6.5,SNR=3.8						
SCHQ	**Schefferville**	**72.76**	**23**	P	**P**	**18 36 03.2**	**+0.3**
STHS	**Stebnicka Huta**	**75.25**	**330**	*e*P	**P**	**18 36 16.5**	**-0.9**
CLL	**Collm**	**76.15**	**336**	ǁ *i*P	**P**	**18 36 22.2**	**-0.3**
CLL				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
CLL	**Collm**	**76.15**	**336**	ǁ *i*P	**P**	**18 36 22.2**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
CLL				*i*		18 36 27.0	
CLL	**Collm**	**76.15**	**336**	ǁ *i*P	**P**	**18 36 22.2**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
CLL				*i* pP	pP	18 36 27.0	-12
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**18 36 27.9**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.5,baz=292,slow=4.3,SNR=12						
GERES	**GERESS Array B**	**78.15**	**334**	P	**P**	**18 36 35.1**	**+1.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=46,slow=5.8,SNR=4.2						
BRTR	**Keskin Array B**	**78.24**	**317**	P	**P**	**18 36 34.6**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=113,slow=1.9,SNR=6.4						
CFAA	**Coronel Fontan**	**144.63**	**79**	PKP	PKPdf	18 44 08.2	-2.6
	comp=Z,0.7nm,0.5s,baz=306,slow=2.0,SNR=11						

IDC 15 18:33:23.8±2.9, 4508N×15502E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=94.6km s-min=26.2km az=1.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.92**	**268**	Pn	Pn	18 35 31.8	-2.0
	0.7nm,0.3s,baz=260,slow=18,SNR=2.9						
MKAR	**Makanchi Array**	**48.91**	**299**	P	P	18 42 12.6	+1.2
	0.4nm,0.6s,baz=69,slow=6.7,SNR=4.2						
BVAR	**Borovoye Array**	**52.95**	**311**	P	P	18 42 41.8	-0.1
	0.7nm,0.3s,baz=55,slow=8.2,SNR=8.2						
PDAR	**Pinedale Array**	**64.65**	**54**	P	P	18 44 03.2	0.0
	0.7nm,0.8s,baz=282,slow=4.5,SNR=3.5						
FINES	**FINESS Array B**	**66.11**	**336**	P	P	18 44 11.5	-1.2
	0.8nm,0.4s,baz=37,slow=7.5,SNR=10						
TXAR	**Lajitas Array**	**77.14**	**61**	P	P	18 45 19.6	+0.4
	0.4nm,0.5s,baz=303,slow=4.4,SNR=4.8						

*ISCJB **15** 18:38:38.3±0.3, 4697N±005×15531E±006, h10km, mb4.8/75, MS4.2/6, Error ellipse: s-maj=7.4km s-min=4.7km az=116.6*
*IDC **15** 18:38:38.4±0.5, 4696N×1552 4E, h0km, mb4.6/24, mb1 4.7/26, mb1mx4.6/31, mbtmp4.6/26, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx3.1/27, Error ellipse: s-maj=14.8km s-min=12.2km az=112.0*
*NEIC **15** 18:38:40.2±0.3, 4701N×1552 4E, h10km, mb4.9/30, Error ellipse: s-maj=7.6km s-min=6.1km az=131.0*
*MOS **15** 18:38:40.3±1.5, 4700N×155.18E, h21km, mb5.1/33, Error ellipse: s-maj=7.7km s-min=5.6km az=109.0*
*BJI **15** 18:38:41.2, 47.37N×1548 4E, h10km, mB5.0, mb4.7, Ms4.5, Msz4.4*
*SKHL **15** 18:38:41.6±2.3, 4703N×1550 7E, h50km±18km*
*SZGRF **15** 18:38:49.1, 4762N×1552 3E, h33km, mb4.9, East of Kuril Islands, Russia*

ISC 15 18:38:39.3±1.9, 4707N±004×15531E±006, h4km±11km, h20km±3.6km:pP-P, n196, σ1§25/197, mb4.8/74, MS4.2/6, 16C-15D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.66**	**8**	*e*P	**Pn**	**18 39 37.9**	**+1.3**
SKR				*e*S	**Sn**	**18 40 18.0**	**-2.2**
SKR				A		18 40 20.5	
	460nm,0.5s						
SKR				A		18 40 20.5	
	290nm,0.5s						
SKR				A		18 40 20.5	
	230nm,0.5s						
KUR	**Kuril'sk**	**5.49**	**253**	*e*P	**Pn**	**18 39 58.2**	**-3.6**
KUR				AMB	AMB	18 39 59.9	
	516nm,0.7s						
KUR				*i* S	**Sn**	**18 40 57.0**	**-8.4**
KUR				A		18 40 58.4	
	688nm,0.7s						
KUR				A		18 40 58.4	
	258nm,0.7s						
PET	**Petropavlovsk**	**6.34**	**19**	*e*PN	**Pn**	**18 40 12.4**	**-1.1**
PET				pmax	pmax		
	comp=Z,35nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.29**	**249**	*e*P	**Pn**	**18 40 26.5**	**-0.1**
YUK				AMB	AMB	18 40 27.5	
	comp=Z,210nm,0.3s						
YUK				*e*S	**Sn**	**18 41 44.5**	**-5.3**
YUK				A		18 41 53.8	
	comp=Z,350nm,0.5s						
YUK				A		18 41 53.8	
	comp=Z,840nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.58**	**274**	*e*PN	**Pn**	**18 40 48.5**	**+4.2**
YSS				*e*S	**Sn**	**18 42 25.0**	**+3.5**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax			
	comp=E,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.58**	**274**	*e*P	**Pn**	**18 40 48.2**	**+3.9**
	comp=E,50nm,0.8s						
UGL	**Uglegorsk**	**9.09**	**288**	*e*P	**Pn**	**18 40 55.0**	**+3.7**
UGL				AMB	AMB	18 40 57.5	
	comp=E,72nm,0.8s						
UGL				*e*L		18 43 25.0	
UGL				AMS	AMS	18 45 18.0	
	comp=E,2μm,13.0s						
UGL				AMS	AMS	18 45 18.0	
	comp=E,1μm,16.0s						
UGL				AMS	AMS	18 45 18.0	
	comp=E,1μm,15.0s						
UGL	**Uglegorsk**	**9.09**	**288**	PN	**Pn**	**18 40 55.0**	**+3.7**
UGL				pmax	pmax		
	comp=Z,72nm,0.8s						
UGL				MLR	MLR		
	comp=Z,1μm,15.0s						
UGL				MLR	MLR		
	comp=N,2μm,13.0s						
UGL				MLR	MLR		
	comp=E,1μm,16.0s						
TYV	**Tymovskoe**	**9.15**	**299**	*e*P	**Pn**	**

comp=Z,17nm,0.6s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS smax
comp=Z,6.0nm,0.9s
CLNS smax
comp=N,23nm,1.1s
CLNS smax
comp=E,21nm,1.2s
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.2
CLNS MLR MLR
comp=E,600nm,14.0s,MS4.2
CLNS MLR MLR
comp=Z,200nm,14.0s,MS3.6
CN2 Changchun 21.15 272 ⇓P **P 18 43 21.9 -3.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
CN2 LR LR
comp=N,300nm,15.0s,MS4.0
CN2 LR LR
comp=E,400nm,15.0s,MS4.0
CN2 LR LR
comp=Z,400nm,15.0s,MS3.9
BILL Bilibino 21.76 11 *e*P **P 18 43 30.2 -1.7**
BILL pmax pmax
comp=Z,23nm,1.0s,mb4.6
BILL Bilibino 21.76 11 *e*P **P 18 43 31.2 -0.8**
comp=Z,53nm,1.2s,mb4.8
KSRS Korea Array 22.33 254 P **P 18 43 39.0 +1.0**
comp=Z,21nm,0.8s,mb4.6,baz=53,slow=10.0,SNR=30
SNY Shenyang 23.15 269 ⇑P **P 18 43 45.4 -1.3**
SNY AMB AMB
comp=Z,18nm,1.0s,mb4.5
HIA Hailar 23.69 289 *e*P **P 18 43 49.2 -3.0**
DL2 Dalian 25.80 264 P **P 18 44 13.8 +2.4**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
BOD Bodaibo 26.95 309 *e*P **P 18 44 18.5 -3.3**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.4
CIT Chita 27.26 296 *e*P **P 18 44 24.8 +0.2**
TIXI Tiksi 27.60 342 *e*P **P 18 44 25.8 -1.9**
TIXI pmax pmax
comp=Z,12nm,0.8s,mb4.6
TIXI Tiksi 27.60 342 *e*P **P 18 44 25.8 -1.9**
comp=Z,12nm,0.8s,mb4.6
BJI Beijing 28.98 270 *e*P **P 18 44 42.6 +2.6**
BJI AMB AMB
comp=Z,18nm,0.8s,mb4.8
BJI LR LR
comp=N,251nm,15.2s,MS4.2
BJI LR LR
comp=E,372nm,15.6s,MS4.2
BJI LR LR
comp=Z,485nm,25.0s
BJI Beijing 28.98 270 *e*P **P 18 44 42.6 +2.6**
comp=Z,18nm,0.8s,mb4.8
BJI LR LR
comp=Z,490nm,25.0s,MS4.0
BJT Baijiatuao 29.00 270 *e*P **P 18 44 41.5 +1.4**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuao 29.00 270 *e*P **P 18 44 41.5 +1.4**
comp=Z,16nm,0.7s,mb4.9
NJ2 Nanjing 31.53 255 *e*P **P 18 45 00.4 -2.1**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
HHC Hu-ho-hao-te 31.77 275 *e*P **P 18 45 05.4 +0.8**
HHC AP pP 18 45 09.8 +3.9
HHC XP sP 18 45 12.4 +6.0
HHC PP PP 18 46 09.3 -6.9
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,275nm,4.6s
ULN Ulaanbaatar 32.21 290 *e*P **P 18 45 07.7 -0.8**
ULN pmax pmax
comp=Z,30nm,1.6s,mb4.9
ULN Ulaanbaatar 32.21 290 *e*P **P 18 45 07.7 -0.8**
comp=Z,30nm,1.6s,mb4.9
SONM Songino Array 32.65 290 P **P 18 45 11.0 -1.3**
comp=Z,5.1nm,0.8s,mb4.5,baz=63,slow=8.0,SNR=26
SONM PcP PcP 18 47 57.8 -0.5
comp=Z,1.4nm,0.8s,baz=97,slow=4.3,SNR=4.5
KDAK Kodiak Island 32.73 51 P **P 18 45 12.1 -0.9**
comp=Z,20nm,0.9s,mb5.0,baz=162,slow=5.8,SNR=5.2
ZAK Zakamensk 33.91 295 *e*P **P 18 45 22.3 -1.0**
ZAK *e* 18 48 01.2
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SML Sawmill 34.70 44 *e*P **P 18 45 31.1 +1.0**
COLA College 34.95 39 *e*P **P 18 45 33.1 +0.8**
COLA pmax pmax
comp=Z,26nm,0.9s,mb5.2
COLA College 34.95 39 *e*P **P 18 45 33.1 +0.8**
comp=Z,26nm,0.9s,mb5.2
WHN Wuhan 35.47 257 ⇓P **P 18 45 37.5 +0.7**
XAN Xi'an 37.04 266 P **P 18 45 51.1 +0.9**
XAN AMB AMB
comp=Z,17nm,1.5s,mb4.7
EGAK Eagle 37.81 39 *e*P **P 18 45 56.5 -0.2**
comp=Z,23nm,0.8s,mb5.0
DAWY Dawson 38.63 40 *e*P **P 18 46 04.5 +0.8**
LZH Lanzhou 39.38 273 *e*P **P 18 46 11.3 +1.4**
LZH AP pP 18 46 18.3 +7.1
LZH XP sP 18 46 21.8 +10
LZH PP PP 18 47 42.0 +1.8
LZH AMB AMB
comp=Z,34nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,156nm,4.5s
LZH LR LR
comp=N,1μm,14.3s
LZH LR LR
comp=Z,1μm,15.4s,MS4.9
LZH Lanzhou 39.38 273 *e*P **P 18 46 11.2 +1.3**
LZH *PP pP 18 46 18.3 +7.1
LZH *SP sP 18 46 21.7 +10
LZH 18 47 42.0
LZH *eS* **S 18 52 10.2 -1.7**
LZH *SS sS 18 52 17.0 +3.0
LZH *eSS* SS 18 54 54.2 -11
LZH pmax pmax
comp=Z,34nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,1μm,15.4s,MS4.9
LZH Lanzhou 39.38 273 *e*P **P 18 46 11.2 +1.3**
comp=Z,34nm,1.2s,mb5.0
LZH pP pP 18 46 18.3 +7.1
LZH sP sP 18 46 21.7 +10
LZH PP PP 18 47 42.0 +1.8
LZH *eS* **S 18 52 10.2 -1.7**
LZH *SS sS 18 52 17.0 +3.0
LZH *eSS* SS 18 54 54.2 -11
LZH LR LR
comp=Z,1μm,15.4s,MS4.9
GTA Gaotai 40.40 280 P **P 18 46 19.5 +1.1**
GTA AP pP 18 46 28.6 +8.9
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
INK Inuvik 40.57 33 P **P 18 46 21.3 +1.4**
comp=Z,16nm,0.8s,mb4.7,baz=284,slow=7.2,SNR=42
INK Inuvik 40.57 33 P **P 18 46 21.3 +1.4**
CD2 Chengdu 42.40 267 P **P 18 46 35.3 +0.4**
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA Guiyang 43.25 259 ⇑*i*P **P 18 46 42.3 +0.5**
GYA AP pP 18 46 46.8 +3.7
GYA XP sP 18 46 49.8 +6.2
GYA PP PP 18 48 24.8 +2.6
GYA PCP PcP 18 48 33.4 +2.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,540nm,17.2s,MS4.6
GYA LR LR
comp=E,470nm,17.6s,MS4.6
GYA LR LR
comp=Z,560nm,17.0s,MS4.5
ZAL Zalesovo 43.66 306 P **P 18 46 43.6 -1.4**
comp=Z,6.3nm,0.5s,mb4.6,baz=48,slow=8.5,SNR=23

ZAL PcP PcP 18 48 31.8 -0.5
comp=Z,2.4nm,0.6s,baz=96,slow=3.6,SNR=4.8
NVS Novosibirsk 44.19 308 *e*P **P 18 46 47.9 -1.4**
NVS *e* 18 48 33.1
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS pmax pmax
comp=Z,13nm,0.6s,mb4.8
NVS pmax pmax
comp=N,2.0nm,0.5s
WMQ Urumqi 46.21 292 *e*P **P 18 47 06.3 +1.0**
KMI Kunming 46.78 261 P **P 18 47 10.3 +0.5**
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
KMI Kunming 46.78 261 P **P 18 47 10.3 +0.5**
comp=Z,10.0nm,1.3s,mb4.6
MK31 Makanchi Array 48.13 298 *e*P **P 18 47 19.5 -0.8**
MKAR Makanchi Array 48.13 298 P **P 18 47 19.5 -0.8**
comp=Z,9.8nm,0.8s,mb4.9,baz=72,slow=7.9,SNR=48
MKAR PcP PcP 18 48 47.4 -0.5
comp=Z,1.8nm,0.6s,baz=112,slow=1.1,SNR=5.2
YKA Yellowknife Ar 49.76 37 P **P 18 47 33.0 +0.1**
comp=Z,1.1nm,0.5s,mb4.2,baz=294,slow=6.9,SNR=4.1
YKA Yellowknife Ar 49.76 37 P **P 18 47 33.0 +0.1**
RES Resolute Bay 50.05 19 *e*P **P 18 47 36.2 +1.2**
comp=Z,307nm,1.0s
CHKZ Chkalovo 51.37 311 *e*P **P 18 47 43.3 -1.7**
CHKZ pmax pmax
comp=Z,24nm,0.6s,mb5.3
CHKZ Chkalovo 51.37 311 *e*P **P 18 47 43.3 -1.7**
comp=Z,24nm,0.6s,mb5.3
LSA Lhasa 51.76 274 *e*P **P 18 47 51.6 +3.7**
LSA Lhasa 51.76 274 *e*P **P 18 47 50.3 +2.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.76 274 *e*P **P 18 47 50.3 +2.4**
comp=Z,8.7nm,0.6s,mb4.9
BVAR Borovoye Array 51.81 310 P **P 18 47 47.7 -0.6**
comp=Z,11nm,0.6s,mb5.0,baz=60,slow=8.0,SNR=58
BVAR PcP PcP 18 49 00.6 -0.8
comp=Z,3.2nm,0.6s,baz=57,slow=5.5,SNR=4.2
BRVK Borovoye 51.85 310 *e*P **P 18 47 47.8 -0.8**
BRVK pmax pmax
comp=Z,17nm,0.6s,mb5.2
BRVK Borovoye 51.85 310 *e*P **P 18 47 47.8 -0.8**
comp=Z,17nm,0.6s,mb5.1
ZRNK Zerenda 52.57 311 *e*P **P 18 47 52.9 -1.1**
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZRNK Zerenda 52.57 311 *e*P **P 18 47 52.9 -1.1**
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 53.66 258 *e*P **P 18 48 02.6 +0.6**
CHTO pmax pmax
comp=Z,17nm,1.1s,mb4.9
CHTO Chiang Mai 53.66 258 *e*P **P 18 48 02.6 +0.7**
comp=Z,17nm,1.1s,mb4.9
CM31 Chiang Mai Arr 53.91 258 *e*P **P 18 48 05.1 +1.3**
comp=Z,21nm,1.3s,mb4.9
AAK Ala-Archa 55.03 297 ⇑*e*P **P 18 48 11.4 -0.6**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AAK Ala-Archa 55.03 297 *e*P **P 18 48 11.2 -0.8**
comp=Z,9.5nm,0.8s,mb4.9
ARU Arti 55.79 318 ⇑*e*P **P 18 48 16.3 -1.1**
ARU pmax pmax
comp=Z,25nm,1.2s,mb5.1
ARU Arti 55.79 318 *e*P **P 18 48 16.4 -1.0**
comp=Z,18nm,0.6s,mb5.3
JIRN Jiri 56.42 276 *e*P **P 18 48 23.7 +1.8**
comp=Z,40nm,0.9s,mb5.5
PMG Port Moresby 56.69 190 P **P 18 48 22.3 -1.5**
comp=Z,7.2nm,0.8s,mb4.8,baz=339,slow=9.9,SNR=4.2
PMG Port Moresby 56.69 190 P **P 18 48 22.3 -1.6**
PMG pmax pmax
comp=Z,7.0nm,0.8s
KKN Kakani 56.95 277 *e*P **P 18 48 26.9 +1.2**
comp=Z,13nm,0.5s,mb5.2
DMN Daman 57.19 277 *e*P **P 18 48 29.2 +1.8**
comp=Z,41nm,0.8s,mb5.5
GKN Gorkha 57.25 277 *e*P **P 18 48 28.5 +0.6**
comp=Z,24nm,0.6s,mb5.4
KEV Kevo 57.54 341 *ep* **P 18 48 29.9 0.0**
APA Apatity 57.63 337 ⇓*i*P **P 18 48 32.5 +2.0**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
ARCES ARCESS Array B 58.04 341 P **P 18 48 33.3 -0.1**
comp=Z,12nm,0.9s,mb4.9,baz=33,slow=7.6,SNR=17
KOLN Koldanda 58.10 278 *e*P **P 18 48 34.2 +0.3**
comp=Z,34nm,0.9s,mb5.4
TMCR Tamitsa 58.75 333 *e*P **P 18 48 38.5 +0.2**
AKTK Aktyubinsk 59.63 313 P **P 18 48 44.3 -0.1**
AKTO Aktyubinsk 59.63 313 P **P 18 48 44.3 -0.1**
comp=Z,6.4nm,0.5s,mb4.9,baz=58,slow=7.6,SNR=17
AKTO Aktyubinsk 59.63 313 P **P 18 48 44.3 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ORR Orenburg 60.49 315 *e*P **P 18 48 50.4 0.0**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
PDAR Pinedale Array 63.34 55 P **P 18 49 10.4 +0.9**
comp=Z,0.9nm,0.7s,mb4.0,baz=256,slow=2.2,SNR=6.5
FIA1 FINESS Array S 64.38 336 *e*P **P 18 49 16.0 -0.4**
FINES FINESS Array B 64.38 336 P **P 18 49 15.8 -0.6**
comp=Z,5.4nm,0.5s,mb4.9,baz=37,slow=8.4,SNR=35
PSI Prapat 65.58 246 P **P 18 49 24.9 +0.7**
comp=Z,6.6nm,0.8s,mb4.7,baz=289,slow=6.2,SNR=4.9
OBN Obninsk 65.89 327 *e*P **P 18 49 23.9 -2.3**
OBN pmax pmax
comp=Z,16nm,1.1s,mb5.0
CTA Charters Tower 67.34 189 P **P 18 49 33.7 -1.7**
comp=Z,5.6nm,0.8s,mb4.7,baz=333,slow=8.7,SNR=4.7
CTA Charters Tower 67.34 189 P **P 18 49 33.7 -1.7**
NB2 NORSAR Subarra 68.40 342 P **P 18 49 41.8 -0.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=25,slow=6.5
NOA NORSAR Array B 68.40 342 P **P 18 49 42.1 -0.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=26,slow=6.2,SNR=8.0
HYB Hyderabad 68.49 273 *i* P **P 18 49 47.5 +4.8**
HYB Hyderabad 68.49 273 *e*P **P 18 49 47.5 +4.8**
WB2 Warramunga Arr 69.33 201 *e*P **P 18 49 46.3 -1.6**
WRA Warramunga Arr 69.33 201 P **P 18 49 46.5 -1.4**
comp=Z,9.4nm,0.8s,mb4.8,baz=20,slow=6.7,SNR=28
FITZ Fitzroy Crossi 70.15 210 P **P 18 49 52.2 -0.8**
comp=Z,4.0nm,0.9s,mb4.3,baz=28,slow=4.1,SNR=3.8
SUW Suwalki 71.42 332 *e*P **P 18 50 00.7 0.0**
KIV Kislovodsk 71.64 315 *e*P **P 18 49 59.7 -2.4**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
ZEI Tsey 71.94 314 *e*P **P 18 50 02.7 -1.1**
ZEI *e* 18 52 42.2
ZEI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AKASG Malin Array Be 72.11 327 P **P 18 50 03.9 -1.0**
comp=Z,6.6nm,0.5s,mb4.8,baz=33,slow=6.3,SNR=14
AKBB Malin Array Si 72.11 327 *e*P **P 18 50 03.7 -1.1**
KIEV Kiev 72.12 327 *e*P **P 18 50 03.7 -1.2**
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV Kiev 72.12 327 *e*P **P 18 50 03.7 -1.2**
comp=Z,8.1nm,0.6s,mb4.8
AS31 Alice Springs 73.01 200 *e*P **P 18 50 09.7 -0.5**
ASAR Alice Springs 73.01 200 P **P 18 50 09.7 -0.5**
comp=Z,7.8nm,0.7s,mb4.8,baz=17,slow=5.6,SNR=51
KWP Kalwaria 75.31 330 *e*P **P 18 50 23.0 -0.6**
STHS Stebnicka Huta 75.98 331 *e*P **P 18 50 31.1 +3.6**
STHS pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
TXAR Lajitas Array 76.02 62 P **P 18 50 27.7 0.0**
comp=Z,1.4nm,0.5s,mb4.1,baz=303,slow=4.7,SNR=17
TXAR Lajitas Array 76.02 62 P **P 18 50 27.7 0.0**
KOLS Kolonicke sedl 76.05 330 *e*P **P 18 50 27.9 0.0**
KOLS *e* 18 57 32.7
BURAR Bucovina Array 76.14 328 ⇑*i*P **P 18 50 28.5 +0.1**
BURAR Bucovina Array 76.14 328 ⇑P **P 18 50 28.5 +0.1**
OKC Ostrava-Krasne 76.60 333 *e*P **P 18 50 34.5 +3.5**
UPC Upice 76.65 335 *e*P **P 18 50 34.7 +3.4**
DPC Dobruska-Polom 76.70 334 *e*P **P 18 50 32.0 +0.4**
DPC *e*PCP PcP 18 50 43.4 +0.4
CLL Collm 76.78 337 *e*P **P 18 50 31.0 -1.0**
CLL *i* 18 50 35.2
CLL *i* 18 50 37.3
CLL pmax pmax
comp=Z,12nm,1.8s,mb4.5
CLL Collm 76.78 337 *e*P **P 18 50 31.0 -1.0**
comp=Z,23nm,1.8s,mb4.8
CLL *i* pP pP 18 50 35.2 +1.8
CLL *i* sP sP 18 50 37.3 +3.4

comp=Z,29nm,1.4s
MORC Moravsky Berou 76.84 333 ⇑*i*P **P 18 50 36.1 +3.7**
MORC Moravsky Berou 76.84 333 ⇑P **P 18 50 36.1 +3.7**
BRG Berggiesshubel 76.92 336 *e*P **P 18 50 35.3 +2.5**
comp=Z,9.5nm,1.5s,mb4.5
KECS Kecovo 77.04 331 *e*P **P 18 50 33.5 0.0**
KECS *e* 18 57 40.5
KECS Kecovo 77.04 331 *e*P **P 18 50 33.5 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CFR Carcaliu 77.06 325 ⇓*i*P **P 18 50 35.9 +2.3**
PLOR Plostina 77.08 326 ⇓*i*P **P 18 50 38.5 +4.8**
PRU Pruhonice 77.54 335 *e*P **P 18 50 36.6 +0.3**
VRAC Vranov 77.55 334 ⇓*i*P **P 18 50 40.9 +4.6**
VRAC Vranov 77.55 334 ⇓P **P 18 50 40.9 +4.5**
TIRR Tirgusor 77.55 324 ⇑*i*P **P 18 50 36.8 +0.4**
VYHS Vyhne 77.57 332 *e*P **P 18 50 36.7 +0.2**
MLR Muntele Rosu 77.65 326 ⇓*i*P **P 18 50 38.1 +1.2**
DRGR 77.74 329 ⇑*i*P **P 18 50 40.3 +2.9**
DRGR 77.74 329 ⇑P **P 18 50 40.3 +2.9**
SNX Sinaia 77.93 326 ⇑*i*P **P 18 50 39.3 +0.8**
MALT Malatya 78.03 314 ⇑*i*P **P 18 50 41.0 +2.0**
MALT Malatya 78.03 314 ⇑P **P 18 50 41.0 +2.0**
VOIR 78.04 327 ⇑*i*P **P 18 50 39.9 +0.8**
KHC Kasperske Hory 78.59 335 *e*P **P 18 50 42.5 +0.4**
KHC Kasperske Hory 78.59 335 *e*P **P 18 50 39.4 -2.7**
GRA1 Grafenberg Arr 78.73 337 *e*P **P 18 50 43.8 +0.9**
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.73 337 *e*P **P 18 50 43.8 +0.9**
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.73 337 *e*P **P 18 50 43.8 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GERES GERESS Array B 78.81 335 P **P 18 50 43.5 +0.2**
comp=Z,2.5nm,0.7s,mb4.3,baz=19,slow=5.8,SNR=7.8
GZR Gura Zlata 78.91 328 ⇓*i*P **P 18 50 42.8 -1.1**
BZS Buzias 79.14 329 ⇓*i*P **P 18 50 45.3 +0.2**
BZS Buzias 79.14 329 ⇓P **P 18 50 45.4 +0.2**
BR131 Keskin Array S 79.17 318 *e*P **P 18 50 44.3 -1.0**
comp=Z,6.5nm,0.9s,mb4.6
BRTR Keskin Array B 79.17 318 P **P 18 50 45.9 +0.6**
comp=Z,5.6nm,0.9s,mb4.5,baz=68,slow=4.4,SNR=10
STKA Stephens Creek 79.55 192 P **P 18 50 45.9 -1.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=4.2,slow=8.7,SNR=3.9
PKSM Moragy 79.63 331 ⇓*i*P **P 18 50 49.9 +2.0**
PKSM Moragy 79.63 331 ⇓P **P 18 50 49.9 +2.0**
CDF Champ du Feu 80.91 339 *e*P **P 18 50 54.9 +0.2**
comp=Z,14nm,0.8s,mb4.7
CDF Champ du Feu 80.91 339 *e*P **P 18 50 54.9 +0.2**
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 80.91 339 *e*P **P 18 50 54.9 +0.2**
comp=Z,7.1nm,0.8s,mb4.7
VTS Vitosha 81.16 326 ⇓*i*P **P 18 51 00.2 +4.2**
VTS Vitosha 81.16 326 ⇓P **P 18 51 00.2 +4.2**
GRR Gorron 82.69 344 *e*P **P 18 51 04.6 +0.5**
comp=Z,162nm,1.5s,mb5.5
GRR Gorron 82.69 344 *e*P **P 18 51 04.6 +0.5**
GRR pmax pmax
comp=Z,81nm,1.5s,mb5.5
GRR Gorron 82.69 344 *e*P **P 18 51 04.6 +0.5**
comp=Z,81nm,1.5s,mb5.5
SMF Signal de Mont 83.38 341 *e*P **P 18 51 07.9 +0.2**
comp=Z,30nm,1.0s,mb5.0
SMF Signal de Mont 83.38 341 *e*P **P 18 51 07.9 +0.2**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SMF Signal de Mont 83.38 341 *e*P **P 18 51 07.9 +0.2**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 83.76 338 *e*P **P 18 51 10.6 +1.0**
comp=Z,16nm,0.5s,mb5.1
LPG La Plagne 83.76 338 *e*P **P 18 51 10.6 +1.0**
LPG pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
LPG La Plagne 83.76 338 *e*P **P 18 51 10.6 +1.0**
comp=Z,8.3nm,0.5s,mb5.1
CAF Calviac 85.41 341 *e*P **P 18 51 18.3 +0.3**
comp=Z,11nm,0.6s,mb4.8
CAF Calviac 85.41 341 *e*P **P 18 51 18.3 +0.3**
CAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
CAF Calviac 85.41 341 *e*P **P 18 51 18.3 +0.3**
comp=Z,5.3nm,0.6s,mb4.8
VNDA Vanda 124.38 178 PKP PKPdf 18 57 37.2 -2.4
comp=Z,0.8nm,0.8s,baz=308,slow=5.3,SNR=7.8
VNDA Vanda 124.38 178 PKP PKPdf 18 57 37.2 -2.4
LPAZ La Paz 132.85 64 PKP PKPdf 18 57 57.1 +1.4
comp=Z,1.7nm,0.7s,baz=1.9,slow=4.1,SNR=8.1
MAW Mawson 133.26 212 PKP PKPdf 18 57 56.1 -0.3
comp=Z,1.8nm,0.6s,baz=225,slow=2.6,SNR=5.8
SNAA Sanae 153.27 195 PKPbc PKPbc 18 58 35.6 -3.0
comp=Z,1.2nm,0.9s,baz=244,slow=17,SNR=4.0
SNAA Sanae 153.27 195 *e*PKPdf PKPdf 18 58 27.4 -3.6
SNAA *e* 18 58 39.7
SNAA *e* 18 58 50.5
VNA2 Neumayer--Watz 154.67 193 *e*PKPdf PKPdf 18 58 26.5 -6.5
VNA2 *e* 18 58 38.2
VNA2 *e* 18 58 48.8
VNA3 Neumayer Olymp 154.72 191 *e*PKPdf PKPdf 18 58 28.8 -4.3
VNA3 *e* 18 58 42.6
VNA3 *e* 18 58 51.9

NEIC ***15*** *18:38:42.2±0.3, 4.61S×15.298E, h10km, mb4.8/5, Error ellipse: s-maj=10.2km s-min=6.7km az=84.0*
BJI ***15*** *18:38:42.4, 4.035N×15.325E, h10km, mB5.5, mb4.8*
ISCJB ***15*** *18:38:44.2±1.4, 4.61S±005×15308E±006, h34km±13km, mb4.5/22, Error ellipse: s-maj=9.5km s-min=8.2km az=57.6*
IDC ***15*** *18:38:48.5±1.8, 4.67S×15305E, h57km±16km, mb4.3/16, mb1 4.4/19, mb1mx4.3/23, mbtmp4.4/19, MS4.0/1, Ms1 4.0/1, ms1mx3.0/28, Error ellipse: s-maj=14.1km s-min=9.7km az=99.0*

ISC 15 18:38:48.1±1.1, 4.63S±005×15308E±006, h54km±10km, n57, σ0 93/50, mb4.5/22, 4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PMG	**Port Moresby**	**7.55**	**231**	P		**Pn**	**18 40 35.8**	**+0.3**
	4.6nm,0.3s,baz=38,slow=7.5,SNR=37							
PMG				S		**Sn**	**18 42 00.2**	**+0.6**
	6.8nm,0.3s,baz=306,slow=16,SNR=14							
HNR	**Honiara**	**8.32**	**125**	P		**Pn**	**18 40 45.6**	**-0.4**
	baz=236,slow=2.3,SNR=2.3							
HNR				S		**Sn**	**18 42 19.7**	**+1.3**
	11nm,0.3s,baz=92,slow=18,SNR=3.4							
HNR	**Honiara**	**8.32**	**125**	*e*P		**Pn**	**18 40 46.2**	**+0.3**
	58nm,0.8s							
HNR				S		**Sn**	**18 42 19.7**	**+1.3**
HNR				*eS*		**Sn**	**18 42 24.9**	**+6.5**
CTA	**Charters Tower**	**16.74**	**203**	LR		LR	18 48 18.1	
	comp=Z,587nm,20.6s,baz=31,slow=34							
GUMO	**Guam**		**19.85**	**336**	P		**Pn**	**18 43 15.2**	**-1.3**
	3.0nm,0.3s,baz=181,slow=8.7,SNR=5.3							
DZM	**Mont Dzumac**		**21.64**	**144**	*e*P		**P**	**18 43 31.0**	**-2.8**
DZM	**Mont Dzumac**		**21.64**	**144**	P		**P**	**18 43 33.8**	**+0.1**
	16nm,0.8s,mb4.5,baz=335,slow=6.1,SNR=38							
KAKA	**Kakadu**		**21.91**	**247**	*e*P		**P**	**18 43 35.8**	**-0.8**
	20nm,0.4s,mb4.9							
WRAB	**Tennant Creek**		**23.75**	**229**	*e*P		**P**	**18 43 54.8**	**-0.5**
WB2	**Warramunga Arr**		**23.75**	**229**	⇓*i*P		**P**	**18 43 55.1**	**-0.3**
WRA	**Warramunga Arr**		**23.76**	**229**	P		**P**	**18 43 55.6**	**+0.1**
	11nm,0.5s,mb4.5,baz=53,slow=9.9,SNR=105							
WRA				S			**S**	**18 48 07.5**	**+0.6**
	8.7nm,1.2s,baz=56,slow=16,SNR=5.3							
AS31	**Alice Springs**		**26.46**	**223**	*e*P		**P**	**18 44 19.4**	**-0.5**
ASAR	**Alice Springs**		**26.46**	**223**	P		**P**	**18 44 19.6**	**-0.3**
	2.3nm,0.7s,mb3.8,baz=55,slow=9.1,SNR=45							
ASAR				PcP		PcP	18 47 43.3	-0.6
	1.0nm,0.9s,baz=38,slow=4.7,SNR=4.7							
ASAR				S			**S**	**18 48 50.4**	**+0.5**
	0.4nm,0.9s,baz=47,slow=17,SNR=3.2							
STKA	**Stephens Creek**		**29.17**	**200**	P		**P**	**18 44 43.5**	**-0.6**
	1.5nm,0.6s,mb3.9,baz=356,slow=14,SNR=3.8							
FITZ	**Fitzroy Crossi**		**29.98**	**241**	*e*P		**P**	**18 44 49.9**	**-1.4**
	7.6nm,0.3s,mb4.9							
FITZ	**Fitzroy Crossi**		**29.98**	**241**	P		**P**	**18 44 50.8**	**-0.5**
	4.5nm,0.5s,mb4.5,baz=80,slow=5.7,SNR=30							
FORT	**Forrest**		**35.09**	**219**	*e*P		**P**	**18 45 36.2**	**+0.2**
	13nm,0.5s,mb5.1							
MBWA	**Marble Bar**		**36.30**	**240**	*e*P		**P**	**18 45 45.3**	**-0.9**
JOW	**Kunigami**		**39.42**	**324**	P		**P**	**18 46 14.3**	**+1.7**
	11nm,0.6s,mb4.8,baz=135,slow=10.0,SNR=4.3							
RPZ	**Rata Peaks**		**42.04**	**160**	P		**P**	**18 46 34.5**	**+0.3**

60nm,1.1s,mb5.1,baz=65,slow=6.9,SNR=4.6
JNU Nakatsue 43.04 332 P **P** 18 46 43.1 +0.8
17nm,0.8s,mb4.8,baz=272,slow=24,SNR=5.5
MJAR Matsushiro Arr 43.26 342 P **P** 18 46 44.3 +0.2
0.7nm,0.3s,mb3.8,baz=169,slow=6.7,SNR=3.9
MJAR PcP PcP 18 48 32.7 +0.3
3.4nm,0.8s,baz=183,slow=3.6,SNR=5.9
KSRS Korea Array 47.98 333 P **P** 18 47 21.4 +0.1
4.2nm,0.8s,mb4.5,baz=149,slow=7.7,SNR=12
CN2 Changchun 54.26 336 *eP* **P** 18 48 07.9 -0.6
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
HIA Hailar 60.99 336 *eP* **P** 18 48 54.8 -1.0
comp=Z,3.7nm,0.7s,mb4.6
ULN Ulaanbaatar 66.00 328 *eP* **P** 18 49 29.7 +0.9
comp=Z,4.6nm,1.0s,mb4.5
SONM Songino Array 66.33 328 P **P** 18 49 31.5 +0.6
comp=Z,1.9nm,0.5s,mb4.4,baz=145,slow=5.2,SNR=11
VNDA Vanda 72.99 178 P **P** 18 50 12.3 +0.4
comp=Z,4.2nm,0.8s,mb4.4,baz=331,slow=6.2,SNR=27
BILL Bilibino 73.10 5 *eP* **P** 18 50 11.8 -0.7
WMQ Urumqi 75.81 317 *eP* **P** 18 50 29.3 +1.0
MK31 Makanchi Array 80.38 319 *eP* **P** 18 50 53.4 -0.3
MKAR Makanchi Array 80.38 319 P **P** 18 50 53.8 +0.1
comp=Z,1.5nm,0.5s,mb4.2,baz=91,slow=8.0,SNR=9.5
KZA Kyzart 84.09 313 P **P** 18 51 15.0 +2.0
SNR=5.5
UCH Uchtor 84.66 313 P **P** 18 51 17.6 +1.8
SNR=7.7
AAK Ala-Archa 84.75 313 *eP* **P** 18 51 16.4 0.0
comp=Z,3.0nm,0.5s,mb4.7
USP Ospenovka 84.87 314 P **P** 18 51 17.5 +0.6
SNR=5.4
AML Almayashu 85.24 313 P **P** 18 51 20.6 +1.9
SNR=11
EKS2 Erkin-Say 85.28 313 P **P** 18 51 20.4 +1.4
SNR=6.0
QSPA South Pole Qui 85.33 180 *eP* **P** 18 51 19.0 -0.2
QSPA ⇓*iP* 18 51 20.1
MAW Mawson 85.83 203 P **P** 18 51 21.7 0.0
comp=Z,1.8nm,0.5s,mb4.5,baz=113,slow=5.2,SNR=9.3
INK Inuvik 88.20 21 P **P** 18 51 32.1 -1.1
comp=Z,1.4nm,0.5s,mb4.5,baz=218,slow=6.3,SNR=4.4
CHKZ Chkalovo 89.24 324 *eP* **P** 18 51 36.3 -1.8
BVAR Borovoye Array 89.27 323 P **P** 18 51 37.5 -0.7
comp=Z,4.6nm,0.6s,mb5.0,baz=106,slow=5.8,SNR=9.8
BRVK Borovoye 89.34 323 *eP* **P** 18 51 37.5 -1.1
ZRNK Zerenda 90.09 323 *eP* **P** 18 51 40.5 -1.6
AKASG Malin Array Be 114.52 325 PKiKP PKiKP 18 57 22.0 0.0
comp=Z,1.2nm,0.5s,baz=60,slow=2.1,SNR=7.3
NOA NORSAR Array B 116.85 340 PKP PKPdf 18 57 26.3 -0.1
comp=Z,0.5nm,0.8s,baz=0.0,slow=0.0,SNR=3.0
BRG Berggiesshubel 122.66 331 *i* P PKPdf 18 57 38.4 +0.8
comp=Z,6.0nm,1.1s
CLL Collm 122.84 331 ⇓*iP* PKPdf 18 57 38.5 +0.6
CLL Collm 122.84 331 ⇓*i*PKPdf PKPdf 18 57 38.5 +0.6
comp=Z,8.0nm,0.6s
CLZ Clausthal 123.70 333 *e*PKPdf PKPdf 18 57 40.4 +0.8
GEC2 GERESS Array S 124.06 329 *e*PKPdf PKPdf 18 57 40.8 +0.5
GERES GERESS Array B 124.06 329 PKP PKPdf 18 57 41.0 +0.7
comp=Z,4.0nm,0.8s,baz=87,slow=1.3,SNR=21
WET Wettzell 124.29 329 *e*PKPdf PKPdf 18 57 41.5 +0.8
GRA1 Grafenberg Arr 124.76 331 *e*PKPdf PKPdf 18 57 42.0 +0.4
TOA0 Torodi Ar. Sit 150.52 289 *e*PKPbc PKPbc 18 58 34.1 +0.5
TORD Torodi Ar. Bea 150.52 289 PKPbc PKPbc 18 58 34.6 +1.0
comp=Z,15nm,0.9s,baz=15,slow=6.2,SNR=51

*ISCJB **15** 18:41:16.7±0.6, 47.13N±0.08×155.70E±0.09, h10km, mb4.3/26, MS3.9/1, Error ellipse: s-maj=13.1km s-min=6.4km az=116.1*
*IDC **15** 18:41:16.7±0.7, 47.02N×155.61E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.3/26, mbtmp4.2/20, ML3.8/2, MS3.9/1, Ms1 3.9/1, ms1mx3.3/25, Error ellipse: s-maj=19.4km s-min=14.8km az=149.0*
*MOS **15** 18:41:18.3±1.2, 47.11N×155.55E, h22km, mb4.8/7, Error ellipse: s-maj=11.0km s-min=8.8km az=104.1*
*NEIC **15** 18:41:18.5±0.5, 47.08N×155.58E, h10km, mb4.6/5, Error ellipse: s-maj=12.3km s-min=8.7km az=147.0*
*BJI **15** 18:41:18.0, 47.47N×155.58E, h8km, mB4.3, mb4.7*
ISC 15 18:41:18.6±0.6, 4718N±008×15566E±010, h10km, n58, σ1°09/56, mb4.3/26, MS3.9/1, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.52**	**5**	*e*PN	**Pn**	**18 42 12.0**	**-1.4**
KUR	**Kuril'sk**	**5.75**	**253**	*e*PN	**Pn**	**18 42 40.0**	**-4.0**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.56**	**249**	*e*PN	**Pn**	**18 43 09.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**8.81**	**273**	*e*PN	**Pn**	**18 43 29.3**	**+3.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
ASAJ	**Asahikawa**	**9.65**	**256**	Pn	**Pn**	**18 43 37.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=68,slow=19,SNR=2.4						
ASAJ				Sn	**Sn**	**18 45 30.8**	**+4.8**
	comp=Z,0.5nm,0.3s,baz=162,slow=18,SNR=1.9						
ASAJ	**Asahikawa**	**9.65**	**256**	PN	**Pn**	**18 43 37.3**	**-0.2**
ASAJ						18 45 30.8	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KLR	**Kul'dur**	**16.06**	**286**	*e*P	**Pn**	**18 45 06.0**	**+1.5**
MJAR	**Matsushiro Arr**	**16.75**	**237**	Pn	**Pn**	**18 45 10.6**	**-2.7**
	comp=N,0.3nm,0.3s,baz=30,slow=14,SNR=4.5						
YAK	**Yakutsk**	**20.94**	**325**	*e*P	**P**	**18 45 59.4**	**-2.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
YAK	**Yakutsk**	**20.94**	**325**	*e*P	**P**	**18 45 59.4**	**-2.1**
	comp=Z,16nm,0.7s						
CN2	**Changchun**	**21.38**	**272**	*e*P	**P**	**18 46 08.6**	**+2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**21.61**	**11**	*e*P	**P**	**18 46 09.0**	**+0.2**
BILL	**Bilibino**	**21.61**	**11**	*e*P	**P**	**18 46 09.0**	**+0.3**
KSRS	**Korea Array**	**22.59**	**255**	P	**P**	**18 46 18.8**	**-0.5**
	comp=Z,3.2nm,0.8s,mb3.8,baz=60,slow=9.1,SNR=4.9						
TIXI	**Tiksi**	**27.57**	**342**	*e*P	**P**	**18 47 05.6**	**-0.2**
ULN	**Ulaanbaatar**	**32.40**	**289**	*e*P	**P**	**18 47 46.5**	**-2.1**
SONM	**Songino Array**	**32.84**	**290**	P	**P**	**18 47 51.7**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=73,slow=8.2,SNR=5.5						
EGAK	**Eagle**	**37.58**	**39**	*e*P	**P**	**18 48 33.2**	**+0.1**
LZH	**Lanzhou**	**39.61**	**273**	*e*P	**P**	**18 48 52.8**	**+2.5**
LZH				AP	pP	18 48 59.5	+6.1
LZH				XP	sP	18 49 01.3	+6.7
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.61**	**273**	*e*P	**P**	**18 48 52.7**	**+2.4**
LZH				*PP	pP	18 48 59.5	+6.1
LZH				*SP	sP	18 49 01.3	+6.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.61**	**273**	*e*P	**P**	**18 48 52.7**	**+2.4**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	18 48 59.5	+6.1
LZH				sP	sP	18 49 01.3	+6.7
INK	**Inuvik**	**40.35**	**33**	P	**P**	**18 48 57.3**	**+0.9**
	comp=Z,5.1nm,0.6s,mb4.4,baz=293,slow=7.3,SNR=9.5						
INK				LR	LR	19 06 39.4	
	comp=Z,177nm,20.2s,MS3.9,baz=194,slow=38						
GYA	**Guiyang**	**43.51**	**259**	⇑*iP*	**P**	**18 49 23.4**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**43.79**	**306**	P	**P**	**18 49 24.2**	**-0.3**
	comp=Z,2.7nm,0.5s,mb4.2,baz=44,slow=5.6,SNR=4.1						
NVS	**Novosibirsk**	**44.31**	**308**	*e*P	**P**	**18 49 27.5**	**-1.2**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
MK31	**Makanchi Array**	**48.29**	**298**	*e*P	**P**	**18 50 01.3**	**+1.4**
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**18 49 59.1**	**-0.8**
	comp=E,2.0nm,0.6s,mb4.3,baz=66,slow=8.2,SNR=5.7						
YKA	**Yellowknife Ar**	**49.53**	**38**	P	**P**	**18 50 10.1**	**+0.6**
	comp=E,2.4nm,0.5s,mb4.5,baz=293,slow=7.1,SNR=6.4						
RES	**Resolute Bay**	**49.87**	**19**	*e*P	**P**	**18 50 13.3**	**+1.3**
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**18 50 23.7**	**-0.5**
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**18 50 27.9**	**+0.3**
	comp=E,5.6nm,0.5s,mb4.7,baz=51,slow=8.7,SNR=13						

BRVK Borovoye 51.96 310 *eP* **P** 18 50 27.8 0.0
BRVK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BRVK Borovoye 51.96 310 *eP* **P** 18 50 27.8 -0.1
comp=Z,3.5nm,0.5s,mb4.5
ZRNK Zerenda 52.68 311 *eP* **P** 18 50 33.3 +0.1
CHTO Chiang Mai 53.91 258 *eP* **P** 18 50 43.2 +1.0
AAK Ala-Archa 55.20 297 *eP* **P** 18 50 51.6 0.0
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
AAK Ala-Archa 55.20 297 *eP* **P** 18 50 51.6 0.0
comp=Z,5.3nm,0.8s,mb4.6
ARU Arti 55.87 318 *eP* **P** 18 50 56.1 -0.3
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ARU Arti 55.87 318 *eP* **P** 18 50 56.1 -0.3
comp=Z,12nm,0.6s,mb5.1
KEV Kevo 57.51 341 *ep* **P** 18 51 07.3 -0.8
ARCES ARCESS Array B 58.01 342 P **P** 18 51 11.7 +0.1
comp=Z,2.9nm,0.6s,mb4.5,baz=36,slow=7.5,SNR=16
AKTK Aktyubinsk 59.73 313 P **P** 18 51 24.0 +0.5
AKTO Aktyubinsk 59.73 313 P **P** 18 51 24.0 +0.5
comp=Z,3.4nm,0.6s,mb4.5,baz=77,slow=8.9,SNR=6.2
AKTO Aktyubinsk 59.73 313 P **P** 18 51 24.0 +0.5
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
PDAR Pinedale Array 63.08 55 P **P** 18 51 46.9 +0.8
comp=Z,1.2nm,0.9s,mb4.0,baz=326,slow=2.6,SNR=4.9
FINES FINESS Array B 64.38 336 P **P** 18 51 52.9 -1.8
comp=Z,3.0nm,0.6s,mb4.5,baz=38,slow=8.1,SNR=7.1
FINES FINESS Array B 64.38 336 P **P** 18 51 52.9 -1.8
ULM Lac du Bonnet 65.05 42 P **P** 18 51 58.8 -0.3
comp=Z,1.2nm,0.5s,mb4.2,baz=67,slow=7.5,SNR=2.9
NB2 NORSAR Subarra 68.37 342 P **P** 18 52 20.2 -0.1
comp=Z,1.5nm,0.6s,mb4.2,baz=26,slow=6.2
NOA NORSAR Array B 68.37 342 P **P** 18 52 20.4 +0.1
comp=Z,3.3nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=5.0
WRA Warramunga Arr 69.52 201 P **P** 18 52 26.5 -1.0
comp=Z,1.1nm,0.8s,mb3.8,baz=21,slow=6.6,SNR=2.9
ASAR Alice Springs 73.20 201 P **P** 18 52 47.8 -1.9
comp=Z,0.6nm,0.9s,mb3.5,baz=15,slow=5.8,SNR=3.5
TXAR Lajitas Array 75.76 62 P **P** 18 53 05.2 +0.7
comp=Z,1.6nm,0.6s,mb4.1,baz=299,slow=4.5,SNR=7.3
CLL Collm 76.78 337 *i* P pP 18 53 16.1 +2.5
CLL pmax pmax
comp=Z,23nm,0.7s,mb5.2
CLL Collm 76.78 337 *i* pP pP 18 53 16.1 +2.5
comp=Z,5.0nm,0.7s
GERES GERESS Array B 78.81 335 P **P** 18 53 22.2 +0.5
comp=Z,0.5nm,0.6s,mb3.6,baz=20,slow=3.1,SNR=4.1
BRTR Keskin Array B 79.25 318 P **P** 18 53 24.1 0.0
comp=Z,0.9nm,0.8s,mb3.8,baz=34,slow=5.4,SNR=3.6
SNAA Sanae 153.44 195 PKPbc PKPbc 19 01 14.7 -2.5
comp=Z,0.7nm,0.9s,baz=294,slow=12,SNR=3.9

*ISCJB **15** 18:43:37.8±0.7, 4687N±0.10×1549E±0.1, h10km, mb4.2/20, Error ellipse: s-maj=16.7km s-min=10.2km az=99.5*
*IDC **15** 18:43:38.2±0.8, 4687N×155.07E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, ML3.9/1, Error ellipse: s-maj=21.5km s-min=18.2km az=137.0*
*NEIC **15** 18:43:39.8±0.5, 4693N×155.01E, h10km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=11.7km az=144.0*
*MOS **15** 18:43:40.0±0.9, 4688N×154.85E, h26km, mb4.6/6, Error ellipse: s-maj=17.5km s-min=11.6km az=95.0*
ISC 15 18:43:38.9±5.2, 469N±01×1550E±02, h5km±32km, n34, σ0°87/33, mb4.2/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**11**	*e*PN	**Pn**	**18 44 39.5**	**+1.0**
KUR	**Kuril'sk**	**5.23**	**254**	*e*PN	**Pn**	**18 44 55.2**	**-2.5**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
ASAJ	**Asahikawa**	**9.14**	**257**	Pn	**Pn**	**18 45 52.0**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=34,slow=7.7,SNR=3.8						
ASAJ	**Asahikawa**	**9.14**	**257**	PN	**Pn**	**18 45 52.1**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**18 48 31.4**	**-1.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**18 48 31.5**	**-1.8**
	comp=Z,20nm,1.2s,mb4.4						
KSRS	**Korea Array**	**22.08**	**254**	P	**P**	**18 48 37.1**	**+2.4**
	comp=Z,1.8nm,0.7s,mb3.6,baz=56,slow=12,SNR=4.8						
ULN	**Ulaanbaatar**	**32.05**	**290**	*e*P	**P**	**18 49 59.6**	**-6.8**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.4						
ULN	**Ulaanbaatar**	**32.05**	**290**	*e*P	**P**	**18 49 59.6**	**-6.8**
	comp=Z,7.7nm,1.4s,mb4.3						
INK	**Inuvik**	**40.81**	**33**	P	**P**	**18 51 21.1**	**-0.2**
	comp=Z,1.3nm,0.5s,mb3.8,baz=283,slow=2.8,SNR=3.7						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**18 52 19.4**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=66,slow=8.1,SNR=3.7						
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P	**P**	**18 52 43.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P	**P**	**18 52 43.3**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**18 52 47.5**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.5,baz=60,slow=6.7,SNR=6.4						
BRVK	**Borovoye**	**51.77**	**310**	*e*P	**P**	**18 52 47.5**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**51.77**	**310**	*e*P	**P**	**18 52 47.5**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**52.49**	**310**	*e*P	**P**	**18 52 52.2**	**-0.6**
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**18 53 10.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**18 53 10.9**	**+0.5**
	comp=Z,3.4nm,1.2s,mb4.2						
ARU	**Arti**	**55.74**	**318**	*e*P	**P**	**18 53 16.3**	**-0.2**
ARU	**Arti**	**55.74**	**318**	*e*P	**P**	**18 53 15.4**	**-1.1**
	comp=Z,6.6nm,0.4s,mb5.0						
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**18 53 33.4**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.4,baz=9.9,slow=7.3,SNR=3.6						
AKTK	**Aktyubinsk**	**59.56**	**313**	P	**P**	**18 53 43.3**	**-0.1**
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**18 53 43.3**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=64,slow=4.8,SNR=4.4						
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**18 53 43.3**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**63.60**	**55**	P	**P**	**18 54 11.3**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.7,baz=339,slow=2.3,SNR=3.7						
FINES	**FINESS Array B**	**64.42**	**336**	P	**P**	**18 54 16.1**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=40,slow=7.4,SNR=9.8						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**18 54 41.7**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=26,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**69.11**	**201**	P	**P**	**18 54 45.0**	**-1.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=23,slow=6.8,SNR=3.2						
AKASG	**Malin Array Be**	**72.11**	**327**	P	**P**	**18 55 03.8**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=27,slow=5.4,SNR=4.1						
ASAR	**Alice Springs**	**72.80**	**200**	P	**P**	**18 55 08.5**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=16,slow=5.8,SNR=7.9						
TXAR	**Lajitas Array**	**76.28**	**62**	P	**P**	**18 55 29.1**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.3,baz=306,slow=4.9,SNR=16						
CLL	**Collm**	**76.83**	**337**	*e*pP	pP	18 55 35.0	+1.6
GERES	**GERESS Array B**	**78.85**	**335**	P	**P**	**18 55 43.5**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=3.9						

*IDC **15** 18:44:49.0±0.9, 4679N×155.54E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/24, mbtmp4.0/10, ML3.0/1, Error ellipse: s-maj=26.0km s-min=19.9km az=125.0*
*ISCJB **15** 18:44:50.5±7.7, 468N±0.1×1554E±0.2, h23km±54km, mb3.9/10, Error ellipse: s-maj=28.7km s-min=21.8km az=69.5*
*NEIC **15** 18:44:50.5±0.8, 4685N×155.32E, h10km, mb4.2/1, Error ellipse: s-maj=21.8km s-min=18.7km az=123.0*
ISC 15 18:44:54.7±3.2, 469N±01×1554E±02, h39km±27km, n13, σ1°01/13, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.41**	**257**	Pn	**Pn**	**18 47 07.2**	**-0.4**
	0.2nm,0.3s,baz=134,slow=17,SNR=1.7						
KSRS	**Korea Array**	**22.34**	**255**	P	**P**	**18 49 51.0**	**+1.9**
	2.1nm,0.8s,mb3.6,baz=60,slow=8.8,SNR=4.3						
INK	**Inuvik**	**40.68**	**33**	P	**P**	**18 52 31.1**	**0.0**
	2.9nm,1.1s,mb3.8,baz=277,slow=3.7,SNR=3.1						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**18 53 31.9**	**+0.3**
	1.4nm,0.8s,mb4.0,baz=64,slow=6.6,SNR=3.9						

CHKZ Chkalovo 51.53 311 *eP* **P** 18 53 55.5 -0.9
BVAR Borovoye Array 51.97 310 P **P** 18 53 59.4 -0.4
1.6nm,0.4s,mb4.3,baz=64,slow=7.2,SNR=4.0
ZRNK Zerenda 52.73 311 *eP* **P** 18 54 02.7 -2.7
CHTO Chiang Mai 53.68 258 *eP* **P** 18 54 12.5 +0.1
2.7nm,1.0s,mb4.1
PDAR Pinedale Array 63.38 55 P **P** 18 55 20.1 +0.2
0.9nm,0.9s,mb3.9,baz=300,slow=4.1,SNR=3.3
NOA NORSAR Array B 68.58 342 P **P** 18 55 55.1 +1.7
0.3nm,0.5s,mb3.5,baz=44,slow=6.9,SNR=2.7
WRA Warramunga Arr 69.19 201 P **P** 18 55 56.2 -1.0
1.6nm,0.8s,mb4.0,baz=20,slow=6.9,SNR=8.8
AKASG Malin Array Be 72.28 327 P **P** 18 56 16.2 +0.3
1.3nm,0.6s,mb4.0,baz=31,slow=6.0,SNR=3.2
ASAR Alice Springs 72.87 201 P **P** 18 56 19.6 +0.1
1.5nm,0.7s,mb4.1,baz=17,slow=6.0,SNR=13

*SKHL **15** 18:47:03.5±3.0, 4739N×15532E, h50km±17km, Ms4.5/3*
*ISCJB **15** 18:47:03.2±1.1, 4758N±004×155.11E±003, h10km±6km, mb5.1/131, MS4.6/11, Error ellipse: s-maj=6.5km s-min=2.7km az=161.8*
*BJI **15** 18:47:04.2, 4784N×15487E, h10km, mB5.2, mb4.9, Ms4.7, Msz4.6*
*NEIC **15** 18:47:05.0±0.2, 4757N×15508E, h10km, mb5.2/61, Error ellipse: s-maj=6.0km s-min=3.7km az=167.0*
*SZGRF **15** 18:47:07.7, 47.12N×155.12E, h33km, mb5.2, East of Kuril Islands, Russia*
*MOS **15** 18:47:09.0±1.1, 4765N×155.01E, h49km, mb5.4/51, MS4.0/4, Error ellipse: s-maj=8.5km s-min=5.4km az=112.6*
*IDC **15** 18:47:10.6±3.6, 4760N×15503E, h51km±32km, mb4.5/26, mb1 4.7/27, mb1mx4.7/29, mbtmp4.6/27, ML4.3/1, MS4.1/2, Ms1 4.1/2, ms1mx3.5/32, Error ellipse: s-maj=14.0km s-min=11.3km az=142.0*
ISC 15 18:47:06.4±1.3, 4767N±004×15505E±003, h17km±7km, h19km±2.7km: pP-P, n499, σ0°89/503, mb5.1/130, MS4.6/11, 68C-79D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.09**	**13**	*e*P	**Pn**	**18 47 54.5**	**0.0**
SKR				AMB	AMB	18 47 59.5	
	150nm,0.5s						
SKR				*e*S	**Sn**	**18 48 30.5**	**-0.6**
SKR				A		18 48 35.0	
	220nm,1.0s						
SKR				A		18 48 35.0	
	420nm,0.5s						
SKR				A		18 48 35.0	
	540nm,0.5s						
SKR				AMS	AMS	18 49 40.0	
	10μm,14.0s						
SKR				AMS	AMS	18 49 40.0	
	5μm,14.0s						
SKR				AMS	AMS	18 49 40.0	
	5μm,16.0s						
SKR				AMS	AMS	18 49 40.0	
	6μm,16.0s						
SKR				AMS	AMS	18 49 40.0	
	11μm,14.0s						
SKR				AMS	AMS	18 49 40.0	
	5μm,14.0s						
SKR	**Severo-Kuril's**	**3.09**	**13**	*e*PN	**Pn**	**18 47 54.5**	**0.0**
SKR				*e*S	**Sn**	**18 48 30.5**	**-0.6**
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,420nm,0.5s						
SKR				smax			
	comp=E,540nm,0.5s						
SKR				smax			
	comp=Z,220nm,1.0s						
SKR				MLR	MLR		
	comp=E,11μm,14.0s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR				MLR	MLR		
	comp=N,6μm,16.0s						
KUR	**Kuril'sk**	**5.53**	**246**	⇓*iP*	**Pn**	**18 48 25.7**	**-2.3**
KUR				*i* S	**Sn**	**18 49 29.6**	**-1.6**
KUR				A		18 49 39.0	
	comp=N,537nm,0.8s						
KUR				A		18 49 39.0	
	comp=N,290nm,0.8s						
PET	**Petropavlovsk**	**5.83**	**22**	*e*PN	**Pn**	**18 48 30.2**	**-1.9**
PET				pmax	pmax		
	comp=Z,86nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET	**Petropavlovsk**	**5.83**	**22**	*e*P	**Pn**	**18 48 30.6**	**-1.5**
	comp=Z,152nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**7.38**	**244**	*e*P	**Pn**	**18 48 52.5**	**-0.8**
YUK				AMB	AMB	18 48 54.5	
	comp=Z,350nm,0.4s						
YUK				*e*S	**Sn**	**18 50 10.0**	**-6.6**
YUK				A		18 50 11.0	
	comp=Z,380nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.39**	**270**	*e*PN	**Pn**	**18 49 11.5**	**+4.3**
YSS				S	**Sn**	**18 50 51.0**	**+9.4**
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.39**	**270**	*e*P	**Pn**	**18 49 11.1**	**+3.9**
	comp=N,42nm,0.6s						
TYV	**Tymovskoe**	**8.71**	**296**	*e*P	**Pn**	**18 49 15.0**	**+3.3**
TYV				AMB	AMB	18 49 19.0	
	comp=N,160nm,2.0s						
TYV				AMB	AMB	18 49 19.0	
	comp=N,41nm,1.2s						
UGL	**Uglegorsk**	**8.76**	**284**	*e*P	**Pn**	**18 49 17.5**	**+5.2**
UGL				AMB	AMB	18 49 18.5	
	comp=N,110nm,1.0s						
UGL				*e*L		18 51 40.0	
UGL				AMS	AMS	18 53 26.0	
	comp=N,3μm,15.0s						
UGL				AMS	AMS	18 53 26.0	
	comp=N,4μm,13.0s						
UGL				AMS	AMS	18 53 26.0	
	comp=N,3μm,16.0s						
UGL	**Uglegorsk**	**8.76**	**284**	*e*PN	**Pn**	**18 49 17.5**	**+5.2**
UGL				p

MDJ AP pP 18 51 16.4 -3.2
MDJ XP sP 18 51 17.9 -3.8
MDJ AMB AMB
comp=Z,10.0nm,1.5s
MDJ AMB AMB
comp=Z,167nm,4.3s
ZEA Zeya 18.55 299 *eP* **Pn 18 51 19.0 -3.5**
ZEA AMB AMB 18 51 23.7
comp=Z,27nm,0.9s
ZEA AMB AMB 18 51 23.7
comp=Z,20nm,0.7s
ZEA AMS AMS 18 52 05.0
comp=Z,600nm,15.0s
ZEA AMS AMS 18 52 05.0
comp=Z,600nm,15.0s
YAK Yakutsk 20.30 324⇑ *eP* **P 18 51 41.1 -0.3**
YAK pmax pmax
comp=Z,30nm,0.9s
YAK Yakutsk 20.30 324 *eP* **P 18 51 40.4 -1.0**
comp=Z,68nm,1.0s
CLNS Chul'man 20.46 308 *eP* **P 18 51 44.7 +1.5**
CLNS pmax pmax
comp=N,44nm,0.9s
CLNS pmax pmax
comp=E,59nm,0.9s
CLNS pmax pmax
comp=E,81nm,0.9s
NRGR Nerungri 20.51 307 *eP* **P 18 51 46.0 +2.3**
NRGR S **S** **18 55 21.1 -11**
NRGR smax
comp=E,8.0nm,0.3s
CN2 Changchun 20.96 270 ⇑P **P 18 51 46.1 -2.5**
CN2 *e*XP sP 18 51 53.0 -2.4
CN2 *e*S **S** **18 55 33.6 -7.9**
CN2 AMB AMB
comp=Z,20nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,12μm,17.0s,MS5.5
CN2 LR LR
comp=E,13μm,17.0s,MS5.5
CN2 LR LR
comp=Z,15μm,19.0s,MS5.4
BILL Bilibino 21.21 12 *eP* **P 18 51 49.7 -1.5**
BILL pmax pmax
comp=Z,20nm,1.0s,mb4.4
BILL Bilibino 21.21 12 *eP* **P 18 51 49.4 -1.8**
comp=Z,36nm,0.9s,mb4.7
KSRS Korea Array 22.33 253 P P **18 52 03.9 +0.6**
comp=Z,42nm,1.0s,mb4.8,baz=52,slow=10,SNR=46
SNY Shenyang 23.00 267 ⇑P **P 18 52 08.8 -1.6**
SNY AMB AMB
comp=Z,16nm,0.7s,mb4.6
INCN Inchon 23.15 254 P P **18 52 13.4 +1.4**
SNR=8.3
HIA Hailar 23.34 287 *eP* **P 18 52 12.1 -1.8**
DL2 Dalian 25.70 262 P **P** **18 52 36.3 +0.7**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
BOD Bodaibo 26.44 308 *eP* **P 18 52 40.5 -1.9**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.3
TIXI Tiksi 26.98 342 *eP* **P 18 52 44.0 -3.2**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
TIXI Tiksi 26.98 342 *eP* **P 18 52 44.0 -3.2**
comp=Z,9.0nm,0.8s,mb4.3
BJI Beijing 28.81 269 *eP* **P 18 53 03.9 +0.3**
BJI AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
BJI Beijing 28.81 269 *eP* **P 18 53 03.9 +0.3**
comp=Z,10.0nm,1.2s,mb4.4
TIA Tai'an 30.16 262 *eP* **P 18 53 16.0 +0.5**
NJ2 Nanjing 31.53 254 *eP* **P 18 53 27.8 +0.2**
NJ2 AP pP 18 53 31.3 -1.4
NJ2 XP sP 18 53 34.8 0.0
NJ2 PP PP 18 54 31.8 -7.1
NJ2 S **S** **18 58 33.0 -2.3**
NJ2 XS sS 18 58 41.0 -2.7
NJ2 AMB AMB
comp=Z,250nm,4.2s
NJ2 LR LR
comp=N,5μm,15.7s,MS5.3
NJ2 LR LR
comp=E,4μm,17.4s,MS5.3
NJ2 LR LR
comp=Z,2μm,14.5s,MS5.0
HHC Hu-ho-hao-te 31.55 274 *eP* **P 18 53 27.8 0.0**
HHC AP pP 18 53 32.3 -0.6
HHC XP sP 18 53 34.8 -0.2
HHC PP PP 18 54 31.1 -8.0
HHC PCP PcP 18 56 21.6 +1.4
HHC S **S** **18 58 33.6 -2.0**
HHC XS sS 18 58 41.5 -2.5
HHC SCP ScP 19 00 02.6 -0.1
HHC PCS PcS 19 00 04.6 0.0
HHC SS SS 19 00 20.8 -30
HHC AMB AMB
comp=Z,38nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,197nm,5.4s
HHC LR LR
comp=N,334nm,14.1s,MS4.3
HHC LR LR
comp=E,427nm,16.5s,MS4.3
HHC LR LR
comp=Z,1μm,15.7s,MS4.7
ULN Ulaanbaatar 31.85 289 ⇓P **P 18 53 30.3 -0.1**
SNR=11
ULN Ulaanbaatar 31.85 289 *eP* **P 18 53 29.7 -0.8**
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.6
ULN Ulaanbaatar 31.85 289 *eP* **P 18 53 29.7 -0.8**
comp=Z,11nm,1.0s,mb4.6
IMA2 Indian Mountai 32.28 37 *eP* **P 18 53 33.7 -0.5**
SONM Songino Array 32.28 289 P **P** **18 53 33.1 -1.2**
comp=Z,7.7nm,0.9s,mb4.5,baz=70,slow=8.8,SNR=26
SONM PcP PcP 18 56 21.5 -0.8
comp=Z,3.2nm,0.9s,baz=110,slow=4.3,SNR=5.7
IRK Irkutsk 32.44 297 *eP* **P 18 53 34.7 -0.9**
IRK *e* 18 53 45.1
IRK pmax pmax
comp=Z,31nm,1.1s,mb5.0
TLY Talaya 32.94 296 P **P** **18 53 40.1 +0.1**
SNR=5.9
TLY Talaya 32.94 296 *eP* **P 18 53 38.8 -1.2**
TLY pmax pmax
comp=Z,20nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,707nm,17.0s,MS4.4
ZAK Zakamensk 33.49 294 *eP* **P 18 53 44.4 -0.5**
ZAK *e* 18 53 56.1
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
MCK McKinley 34.09 41 *eP* **P 18 53 49.2 -0.8**
MCK pmax pmax
comp=Z,11nm,1.1s,mb4.7
MCK McKinley 34.09 41 *eP* **P 18 53 49.2 -0.8**
comp=Z,11nm,1.1s,mb4.7
MOY Mondy 34.54 297 *eP* **P 18 53 53.6 -0.4**
COLA College 34.59 39 *eP* **P 18 53 54.1 -0.3**
COLA *e* 18 55 13.9
COLA pmax pmax
comp=Z,38nm,1.1s,mb5.2
COLA College 34.59 39 *eP* **P 18 53 54.0 -0.3**
comp=Z,38nm,1.1s,mb5.2
COLA *e* 18 55 13.9
GUMO Guam 35.03 197 LR LR 19 04 39.2
comp=Z,274nm,21.6s,MS4.0,baz=70,slow=30
XAN Xi'an 36.91 265 P **P** **18 54 14.5 +0.2**
XAN AMB AMB
comp=Z,30nm,1.2s,mb5.0
EGAK Eagle 37.45 39 *eP* **P 18 54 17.9 -1.0**
comp=Z,26nm,0.9s,mb5.1
EGAK *e* 18 55 37.3
DAWY Dawson 38.28 40 *eP* **P 18 54 25.1 -0.8**
LZH Lanzhou 39.18 272 *eP* **P 18 54 34.3 +0.9**
LZH AP pP 18 54 41.1 +2.6
LZH XP sP 18 54 44.0 +3.4
LZH PP PP 18 56 04.6 +1.3
LZH *e*S **S** **19 00 33.3 +0.5**
LZH XS sS 19 00 40.5 -0.7
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,210nm,5.1s
LZH LR LR
comp=N,1μm,15.4s
LZH LR LR
comp=Z,2μm,17.5s,MS4.9
LZH Lanzhou 39.18 272 *eP* **P 18 54 34.2 +0.8**
LZH *SP sP 18 54 44.0 +3.4
LZH 18 56 04.6
LZH *e*S **S** **19 00 33.2 +0.4**
LZH *e*SS SS 19 03 17.2 -8.6
LZH pmax pmax
comp=Z,38nm,1.0s,mb5.1
LZH MLR MLR
comp=Z,2μm,17.5s,MS4.9
LZH Lanzhou 39.18 272 *eP* **P 18 54 34.2 +0.8**
comp=Z,38nm,1.0s,mb5.1
LZH pP pP 18 54 41.1 +2.6
LZH sP sP 18 54 44.0 +3.4
LZH PP PP 18 56 04.6 +1.3
LZH *e*S **S** **19 00 33.2 +0.4**
LZH sS sS 19 00 40.5 -0.7
LZH *e*SS SS 19 03 17.2 -8.6
LZH LR LR
comp=Z,2μm,17.5s,MS4.9
GTA Gaotai 40.13 279 *eP* **P 18 54 41.8 +0.5**
GTA AP pP 18 54 51.4 +4.9
GTA PP PP 18 56 17.3 +3.6
GTA PPP 18 56 42.3
GTA PCP PcP 18 56 45.9 +0.3
GTA S **S** **19 00 41.9 -5.1**
GTA XS sS 19 00 55.3 -0.2
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.6
GTA LR LR
comp=N,343nm,12.9s,MS4.5
GTA LR LR
comp=E,299nm,14.8s,MS4.5
GTA LR LR
comp=Z,539nm,14.1s,MS4.5
INK Inuvik 40.16 33 P **P** **18 54 42.0 +0.4**
comp=Z,13nm,0.5s,mb4.9,baz=294,slow=6.5,SNR=52
INK Inuvik 40.16 33 *eP* **P** **18 54 41.5 -0.1**
INK pmax pmax
comp=Z,27nm,0.9s
INK Inuvik 40.16 33 *eP* **P** **18 54 41.5 0.0**
comp=Z,870nm,0.9s
INK *e* 18 56 00.4
CD2 Chengdu 42.27 266 P **P** **18 54 58.5 -0.4**
CD2 XP sP 18 55 05.6 -0.5
CD2 PP PP 18 56 39.5 +2.6
CD2 S **S** **19 01 18.0 -0.8**
CD2 XS sS 19 01 25.4 -1.9
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
CD2 LR LR
comp=E,580nm,15.6s
CD2 LR LR
comp=Z,610nm,16.7s,MS4.6
ZAL Zalesovo 43.16 306 P **P** **18 55 05.1 -1.1**
comp=Z,4.4nm,0.6s,mb4.3,baz=45,slow=7.6,SNR=17
ZAL PcP PcP 18 56 55.0 -0.6
comp=Z,6.9nm,1.0s,baz=6.8,slow=3.5,SNR=6.3
ZAL Zalesovo 43.16 306 P **P** **18 55 05.1 -1.1**
ZAL PcP PcP 18 56 55.0 -0.6
GYA Guiyang 43.20 258⇑ *iP* **P** **18 55 07.3 +0.8**
GYA AP pP 18 55 11.4 -0.3
GYA XP sP 18 55 14.8 +1.1
GYA PP PP 18 56 49.6 +2.7
GYA PCP PcP 18 56 58.8 +3.1
GYA SCP ScP 19 00 47.5 +1.3
GYA S **S** **19 01 31.5 -1.0**
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,160nm,4.9s
GYA LR LR
comp=N,680nm,17.2s,MS4.8
GYA LR LR
comp=E,740nm,17.6s,MS4.8
GYA LR LR
comp=Z,690nm,17.0s,MS4.6
NVS Novosibirsk 43.68 307 *eP* **P** **18 55 13.1 +2.8**
NVS *e* 18 56 55.0
NVS *e*S **S** **19 01 33.8 -5.7**
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s,mb4.6
NVS smax
comp=E,12nm,1.9s
NVS smax
comp=N,11nm,1.6s
WMQ Urumqi 45.82 291⇑ *iP* **P** **18 55 27.3 -0.1**
WMQ AP pP 18 55 32.3 -0.3
WMQ XP sP 18 55 34.3 -0.4
WMQ PCP PcP 18 57 05.3 +0.6
WMQ PP PP 18 57 15.1 +0.3
WMQ S **S** **19 02 09.8 -0.8**
WMQ XS sS 19 02 17.3 -1.9
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,179nm,4.8s
WMQ LR LR
comp=N,697nm,21.6s,MS4.6
WMQ LR LR
comp=E,187nm,23.6s,MS4.6
WMQ LR LR
comp=Z,777nm,21.6s,MS4.6
KMI Kunming 46.71 260 P **P** **18 55 34.8 +0.4**
KMI AMB AMB
comp=Z,16nm,1.4s,mb4.8
KMI Kunming 46.71 260 P **P** **18 55 34.8 +0.4**
comp=Z,16nm,1.4s,mb4.8
MK31 Makanchi Array 47.69 297 P **P** **18 55 41.6 -0.4**
MK31 Makanchi Array 47.69 297 *eP* **P** **18 55 41.4 -0.6**
MKAR Makanchi Array 47.69 297 P **P** **18 55 41.5 -0.5**
comp=Z,7.0nm,0.8s,mb4.8,baz=70,slow=7.3,SNR=28
KURK Kurchatov 47.95 304 P **P** **18 55 43.9 -0.2**
comp=Z,290nm,0.7s,mb6.4,SNR=16
ALE Alert 48.69 6 P **P** **18 55 50.7 +0.9**
comp=Z,102nm,1.5s,mb5.6,SNR=8.9
YKA Yellowknife Ar 49.39 38 P **P** **18 55 54.6 -0.5**
comp=Z,9.2nm,0.9s,mb4.8,baz=292,slow=7.3,SNR=7.3
YKA Yellowknife Ar 49.39 38 P **P** **18 55 54.6 -0.5**
YKA pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 49.54 19 *eP* **P** **18 55 56.7 +0.4**
comp=Z,780nm,1.0s
CHKZ Chkalovo 50.85 310 *eP* **P** **18 56 05.2 -1.0**
CHKZ pmax pmax
comp=Z,51nm,0.7s,mb5.6
CHKZ Chkalovo 50.85 310 *eP* **P** **18 56 05.2 -1.0**
comp=Z,52nm,0.7s,mb5.6
BVAR Borovoye Array 51.29 310 P **P** **18 56 09.1 -0.4**
comp=Z,12nm,0.4s,mb5.2,baz=58,slow=7.8,SNR=42
BRVK Borovoye 51.33 310 P **P** **18 56 09.0 -0.8**
comp=Z,222nm,0.6s,mb6.3,SNR=12
BRVK Borovoye 51.33 310 P **P** **18 56 09.5 -0.3**
SNR=10.0
BRVK Borovoye 51.33 310 *eP* **P** **18 56 09.5 -0.3**
BRVK *e* 18 56 21.1
BRVK pmax pmax
comp=Z,40nm,0.7s,mb5.5
BRVK Borovoye 51.33 310 *eP* **P** **18 56 09.5 -0.3**
comp=Z,40nm,0.7s,mb5.5
BRVK *e* 18 56 21.1
LSA Lhasa 51.54 274 P **P** **18 56 13.0 +1.6**
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.1
LSA Lhasa 51.54 274 *eP* **P** **18 56 13.4 +2.0**
LSA pmax pmax
comp=Z,31nm,0.8s,mb5.3
LSA Lhasa 51.54 274 *eP* **P** **18 56 13.4 +2.0**
comp=Z,31nm,0.8s,mb5.3
ZRNK Zerenda 52.05 310 *eP* **P** **18 56 14.5 -0.7**
ZRNK *e* 18 56 26.0
ZRNK pmax pmax
comp=Z,24nm,0.7s,mb5.2
ZRNK Zerenda 52.05 310 *eP* **P** **18 56 14.5 -0.7**
comp=Z,24nm,0.7s,mb5.2
ZRNK *e* 18 56 26.0

CHTO Chiang Mai 53.61 258 P **P** **18 56 28.1 +1.4**
SNR=6.2
CHTO Chiang Mai 53.61 258 *eP* **P** **18 56 27.6 +0.9**
CHTO pmax pmax
comp=Z,14nm,1.0s,mb4.8
CHTO Chiang Mai 53.61 258 *eP* **P** **18 56 27.9 +1.2**
comp=Z,14nm,1.0s,mb4.8
B07A Winthrop 53.80 55 ⇓P **P** **18 56 26.1 -2.0**
baz=54
A08A Turner Farm, O 54.00 54 ⇑P **P** **18 56 28.5 -1.1**
baz=54
C07A Waterville 54.26 56 ⇓P **P** **18 56 30.1 -1.4**
baz=54
B08A Colville Reser 54.29 55 ⇓P **P** **18 56 30.6 -1.1**
baz=54
A09A Danville 54.36 54 P **P** **18 56 32.2 0.0**
baz=54,SNR=5.9
AAK Ala-Archa 54.61 297 P **P** **18 56 32.0 -2.0**
comp=Z,49nm,0.8s,mb5.6,SNR=8.4
AAK Ala-Archa 54.61 297⇓ *iP* **P** **18 56 32.8 -1.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 54.61 297 *eP* **P** **18 56 33.1 -0.9**
comp=Z,5.1nm,0.6s,mb4.7
J02A Umpqua 54.67 62 ⇑P **P** **18 56 34.5 0.0**
baz=54
EDM Edmonton 54.72 47 *eP* **P** **18 56 34.5 -0.3**
B09A Rice 54.91 54 ⇑P **P** **18 56 35.1 -1.1**
baz=55
A10A Northport 54.92 54 ⇓P **P** **18 56 35.8 -0.4**
baz=55
F06A Goldendale 54.94 58 ⇑P **P** **18 56 34.7 -1.7**
baz=55
E07A Sunnyside 55.02 57 ⇑P **P** **18 56 34.7 -2.3**
baz=55
J03A Ideyld Park 55.03 62 ⇓P **P** **18 56 35.8 -1.3**
baz=55
K02A Glendale 55.07 63 ⇓P **P** **18 56 35.8 -1.6**
baz=55
C09A Chrisman Ranch 55.20 55 ⇓P **P** **18 56 37.5 -0.7**
baz=55
ARU Arti 55.22 318 P **P** **18 56 37.3 -1.1**
comp=Z,222nm,0.7s,mb6.3,SNR=13
ARU Arti 55.22 318⇓ *iP* **P** **18 56 36.6 -1.8**
ARU *e*S **S** **19 04 19.0 -2.2**
ARU *e*SS SS 19 08 01.2 -4.2
ARU pmax pmax
comp=Z,55nm,1.2s,mb5.5
ARU Arti 55.22 318 *eP* **P** **18 56 37.4 -1.1**
comp=Z,39nm,0.8s,mb5.5
ARU *e* 18 56 49.6
F07A Phinny Hill Vi 55.35 58 ⇓P **P** **18 56 39.0 -0.4**
baz=55
L02A Cave Junction 55.36 63 ⇑P **P** **18 56 39.1 -0.3**
baz=55
HUMO Hull Mountain 55.48 63 ⇑P **P** **18 56 40.6 +0.3**
baz=55
E08A Dider Farm, El 55.51 57 ⇑P **P** **18 56 39.4 -1.0**
baz=55
KSH Kashi 55.52 293 *eP* **P** **18 56 42.8 +2.2**
KSH *e*AP pP 18 56 47.8 +1.9
KSH *e*XP sP 18 56 50.5 +2.6
KSH *e*PCP PcP 18 57 42.3 +1.9
KSH *e*PP PP 18 58 47.3 +2.7
KSH *e*SCP ScP 19 01 42.5 +3.9
KSH *e*S **S** **19 04 25.9 +0.7**
KSH *e*XS sS 19 04 34.1 +0.2
KSH *e*SCS ScS 19 06 27.9 -1.2
KSH *e*SS SS 19 08 11.5 +1.5
A11A Hall Mountain, 55.58 53 ⇑P **P** **18 56 41.2 +0.2**
baz=55
D09A Jones Farm, Ri 55.60 56 ⇓P **P** **18 56 39.5 -1.7**
baz=55
DAG Danmarks Havn 55.77 358⇓ *iP* **P** **18 56 42.3 -0.1**
comp=Z,25nm,1.2s,mb5.1
DAG Danmarks Havn 55.77 358⇓ *iP* **P** **18 56 42.3 -0.1**
DAG pmax pmax
comp=Z,25nm,1.2s,mb5.1
H06A Lindquist Farm 55.79 59 ⇓P **P** **18 56 42.2 -0.4**
baz=56
G07A Ruggs Ranch, H 55.87 58 ⇓P **P** **18 56 42.4 -0.7**
baz=56
B11A Sandpoint 55.88 54 ⇓P **P** **18 56 42.1 -1.1**
baz=56
A12A Yaak River Ran 55.98 53 ⇓P **P** **18 56 43.7 -0.1**
baz=56
E09A Wood Farm, Sta 56.01 56 ⇓P **P** **18 56 43.4 -0.7**
baz=56
J05A Fort Rock 56.11 61 P **P** **18 56 45.6 +0.8**
baz=56,SNR=7.0
YBH Yreka Blue Hor 56.15 63 P **P** **18 56 45.5 +0.4**
comp=Z,12nm,1.0s,mb4.9,baz=263,slow=1.2,SNR=10
YBH Yreka Blue Hor 56.15 63 P **P** **18 56 46.6 +1.5**
baz=56,SNR=6.7
JIRN Jiri 56.18 275 *eP* **P** **18 56 46.8 +1.4**
comp=Z,109nm,1.0s,mb5.8
GUN Gumba 56.23 276 *eP* **P** **18 56 46.9 +1.2**
M02C Callahan 56.26 64 P **P** **18 56 47.0 +1.1**
baz=56,SNR=7.0
N02C Big Bar 56.32 64 ⇓P **P** **18 56 46.4 0.0**
baz=56
I06A Prineville 56.33 60 ⇓P **P** **18 56 46.6 +0.3**
baz=56
L04A Klamath Falls 56.38 62 ⇓P **P** **18 56 46.4 -0.3**
baz=56
M04C Macdoel 56.64 63 P **P** **18 56 49.5 +0.9**
baz=56,SNR=6.5
K05A Summer Lake 56.64 61 P **P** **18 56 49.7 +1.1**
baz=56,SNR=6.4
I07A Izee 56.66 59 ⇑P **P** **18 56 49.3 +0.6**
baz=56
KKN Kakani 56.71 276 *eP* **P** **18 56 50.2 +1.1**
comp=Z,154nm,1.1s,mb5.9
PKI Pulchoki 56.77 276 *eP* **P** **18 56 50.7 +1.2**
comp=Z,120nm,1.2s,mb5.8
M03C McCloud 56.77 63 ⇓P **P** **18 56 49.9 +0.3**
baz=57
F10A Beach Ranch, E 56.84 56 ⇑P **P** **18 56 49.3 -0.7**
baz=57
H08A Prairie City 56.88 58 ⇑P **P** **18 56 50.2 -0.1**
baz=57
KEV Kevo 56.91 341 *ep* **P** **18 56 48.0 -2.5**
WDC Whiskeytown Da 56.93 64 ⇓P **P** **18 56 51.4 +0.7**
baz=57
B13A Whitefish 56.94 53 P **P** **18 56 50.6 -0.1**
baz=57,SNR=7.0
DMN Daman 56.95 276 *eP* **P** **18 56 52.3 +1.5**
comp=Z,186nm,1.0s,mb6.1
K06A Valley Falls 56.98 61 P **P** **18 56 51.7 +0.7**
baz=57,SNR=7.6
GKN Gorkha 57.01 277 *eP* **P** **18 56 52.3 +1.1**
comp=Z,216nm,1.2s,mb6.1
O02C Red Bluff 57.02 65 ⇓P **P** **18 56 52.0 +0.7**
baz=57
L05A Lakeview 57.08 62 P **P** **18 56 52.7 +1.0**
baz=57,SNR=7.6
P01C Double 8 Ranch 57.12 66 ⇓P **P** **18 56 51.4 -0.6**
baz=57
I08A Drewsey 57.30 59 ⇓P **P** **18 56 53.5 +0.3**
baz=57
M05C Lookout 57.31 63 P **P** **18 56 54.0 +0.6**
baz=57,SNR=7.3
H09A Durkee 57.37 58 ⇓P **P** **18 56 54.0 +0.3**
baz=57
GASB Alder Springs 57.38 65 ⇓P **P** **18 56 54.9 +1.0**
baz=57
ARCES ARCESS Array B 57.41 341 P **P** **18 56 53.4 -0.7**
comp=Z,7.7nm,0.8s,mb4.8,baz=45,slow=4.1,SNR=10
HATC Hat Creek Radi 57.45 63 ⇑P **P** **18 56 54.3 0.0**
baz=57
MOD Modoc 57.49 62 *eP* **P** **18 56 54.5 -0.1**
comp=Z,16nm,1.3s,mb4.9
MOD Modoc 57.49 62 P **P** **18 56 55.0 +0.5**
baz=57,SNR=9.5
K07A Rock Creek Ran 57.64 61 P **P** **18 56 56.3 +0.7**
baz=58,SNR=6.5
J08A Circle Bar Ran 57.69 59 ⇑P **P** **18 56 56.6 +0.6**
baz=58
D13A Huson 57.71 54 ⇓P **P** **18 56 55.4 -0.8**
baz=58
G11A Walters Elk Ra 57.72 56 ⇓P **P** **18 56 56.2 -0.1**
baz=58
I09A Lost Marbles R 57.74 59 P **P** **18 56 57.0 +0.6**
baz=58,SNR=6.3
M06C Likely Place G 57.80 63 ⇓P **P** **18 56 56.5 -0.3**
baz=58
KOLN Koldanda 57.85 277 *eP* **P** **18 56 58.2 +1.0**

comp=Z,129nm,1.0s,mb5.9
O04C **Chester** 57.98 64 ⇑P P 18 56 58.4 +0.4
baz=58
L07A **Adell** 57.99 61 ⇓P P 18 56 58.7 +0.6
baz=58
ELFS **Eagle Lake Fie** 58.01 63 P P 18 56 59.0 +0.8
baz=58,SNR=7.2
MNRC **McLaughlin Nat** 58.03 66 ⇓P P 18 56 58.5 +0.1
baz=58
K08A **Mann Creek Ran** 58.06 60 P P 18 56 59.2 +0.6
baz=58,SNR=5.2
J09A **Fry Pan Ranch,** 58.11 59 P P 18 56 59.6 +0.7
baz=58,SNR=10
D14A **Greenough** 58.23 53 P P 18 56 59.6 -0.3
baz=58,SNR=9.0
E13A **Victor** 58.25 54 ⇓P P 18 56 59.8 -0.1
baz=58
H11A **Donnelly** 58.29 57 ⇓P P 18 57 00.1 -0.1
baz=58
O05C **Quincy** 58.30 64 ⇓P P 18 56 60.0 -0.3
baz=58
OHCM **Honcut** 58.33 65 eP P 18 56 59.9 -0.6
N06A **Buffalo Meadow** 58.47 63 P P 18 57 01.4 0.0
baz=58,SNR=9.2
L08A **Fields** 58.47 60 ⇓P P 18 57 02.1 +0.6
baz=58
K09A **Rome** 58.52 60 ⇑P P 18 57 00.9 -1.0
baz=58
F13A **Darby** 58.57 55 P P 18 57 02.1 0.0
baz=58,SNR=5.7
E14A **Clinton** 58.65 54 ⇑P P 18 57 02.6 -0.1
baz=58
O06A **Flanigan** 58.83 63 ⇑P P 18 57 03.4 -0.6
baz=59
P05C **Yuba Gap, Truc** 58.89 64 ⇑P P 18 57 04.5 +0.1
baz=59
BOK **Bokaro** 58.95 272 eP P 18 57 05.5 +0.7
BOK AMb AMB 18 57 07.6
comp=Z,16nm,1.0s,mb5.0
N07B **Gerlach** 58.97 62 P P 18 57 05.8 +0.9
baz=59,SNR=7.1
F14A **Wisdom** 59.09 55 ⇓P P 18 57 04.7 -1.0
baz=59
AKTK **Aktyubinsk** 59.09 312 P P 18 57 05.7 -0.1
AKTO **Aktyubinsk** 59.09 312 P P 18 57 05.7 -0.1
comp=Z,9.5nm,0.9s,mb4.8,baz=61,slow=9.1,SNR=8.2
AKTO **Aktyubinsk** 59.09 312 P P 18 57 05.7 -0.1
AKTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
E15A **Deer Lodge** 59.11 54 P P 18 57 06.0 +0.1
baz=59,SNR=5.7
FFC **Flin Flon** 59.18 41 P P 18 57 06.6 +0.2
comp=Z,164nm,0.7s,mb6.2,SNR=7.2
FFC **Flin Flon** 59.18 41 P P 18 57 06.6 +0.2
O07A **Toulon** 59.41 63 P P 18 57 08.5 +0.5
baz=59,SNR=9.9
WCN **Washoe City** 59.41 64 ⇑P P 18 57 08.4 +0.4
baz=59
N08A **GE Springer Mi** 59.46 62 ⇓P P 18 57 08.4 0.0
baz=59
M09A **Marrel Ranch,** 59.47 61 ⇑P P 18 57 08.1 -0.3
baz=59
F15A **Butte** 59.55 54 P P 18 57 09.2 +0.3
baz=59,SNR=10
S04C **Ingram Canyon,** 59.56 66 ⇓P P 18 57 08.9 -0.2
baz=59
R05C **Kirkwood Meado** 59.59 65 P P 18 57 09.4 +0.2
baz=59,SNR=5.2
EGMT **Eagleton** 59.65 51 P P 18 57 09.9 +0.2
baz=60,SNR=5.4
SUMG **Summit** 59.68 5 eP P 18 57 10.8 +0.9
comp=Z,32nm,1.0s,mb5.3
N09A **Rock Creek Ran** 59.78 61 P P 18 57 10.9 +0.3
baz=60,SNR=5.9
CMB **Columbia Colle** 59.81 65 ⇑P P 18 57 10.3 -0.5
baz=60
HLID **Hailey** 59.90 57 P P 18 57 11.9 +0.5
baz=60,SNR=7.7
PACP **Pacheco Peak** 59.90 67 ⇑P P 18 57 10.6 -0.8
baz=60
ORR **Orenburg** 59.94 315 eP P 18 57 11.4 -0.3
ORR e 18 57 23.5
ORR pmax pmax
comp=Z,20nm,0.8s,mb5.2
M10A **I.L. Ranch, Tu** 59.94 60 P P 18 57 12.5 +0.8
baz=60,SNR=8.6
G15A **Dillon** 59.97 55 ⇓P P 18 57 11.2 -0.7
baz=60
R06C **Coleville** 60.08 64 P P 18 57 13.2 +0.5
baz=60,SNR=12
HAST **UC Hastings Re** 60.13 68 ⇓P P 18 57 11.2 -1.8
baz=60
S06C **San Francisco** 60.24 65 P P 18 57 13.8 0.0
baz=60,SNR=8.5
S05C **Merced** 60.28 66 ⇑P P 18 57 14.4 +0.4
baz=60
O09A **Fish Creek Ran** 60.41 62 P P 18 57 15.3 +0.4
baz=60,SNR=8.9
M11A **Holland Ranch,** 60.44 60 ⇑P P 18 57 15.7 +0.6
baz=60
R07C **Lee Vining** 60.60 65 ⇓P P 18 57 16.6 +0.4
baz=60
U04C **Hernandez Rese** 60.62 67 ⇑P P 18 57 17.1 +0.8
baz=60
O10A **Cortez Mining,** 60.74 61 ⇑P P 18 57 17.8 +0.7
baz=61
QLMT **Earthquake Lak** 60.77 54 eP P 18 57 17.7 +0.4
Q08A **Gabbs** 60.79 63 ⇓P P 18 57 18.2 +0.7
baz=61
P09A **Austin** 60.83 62 ⇓P P 18 57 19.1 +1.3
baz=61
NVAR **Mina Array Bea** 60.84 64 P P 18 57 17.9 +0.1
comp=Z,8.2nm,1.1s,mb4.8,baz=297,slow=8.0,SNR=27
NVAR **Mina Array Bea** 60.84 64 P P 18 57 17.9 +0.1
T06C **Millerton Lake** 60.88 66 ⇓P P 18 57 17.9 -0.2
baz=61
KCC **Kaiser Creek** 60.92 65 P P 18 57 18.4 +0.1
baz=61,SNR=5.9
M12A **Wells** 60.96 59 P P 18 57 19.2 +0.5
baz=61,SNR=14
GCMT **Greycliff** 61.12 53 eP P 18 57 20.4 +0.7
P10A **Eureka** 61.19 62 ⇑P P 18 57 19.9 -0.3
baz=61
N12A **Clover Valley,** 61.24 60 P P 18 57 21.5 +0.9
baz=61,SNR=5.1
O11A **Cowboy Ranch,** 61.34 61 P P 18 57 21.8 +0.6
baz=61,SNR=8.4
MTUM **Tungsten Hills** 61.36 65 eP P 18 57 21.6 +0.2
M13A **Montello** 61.43 59 P P 18 57 22.9 +1.1
baz=61,SNR=8.6
LKWY **Lake** 61.50 54 P P 18 57 24.6 +2.3
LKWY pmax pmax
comp=Z,43nm,0.9s,mb5.6
S08C **White Mtn Res** 61.51 65 P P 18 57 22.9 +0.5
baz=61,SNR=7.5
IMW **Indian Meadow** 61.63 55 eP P 18 57 24.2 +1.0
comp=Z,23nm,1.2s,mb5.2
P11A **Circle Ranch,** 61.65 61 ⇓P P 18 57 23.4 +0.1
baz=62
R09A **Tonopah** 61.70 63 P P 18 57 23.5 -0.2
baz=62,SNR=15
N13A **Wendover, West** 61.73 59 ⇓P P 18 57 23.5 -0.3
baz=62
RRI2 **Red Ridge** 61.78 56 eP P 18 57 24.8 +0.6
comp=Z,34nm,1.2s,mb5.3
O12A **Currie** 61.79 60 P P 18 57 24.7 +0.5
baz=62,SNR=17
TPAW **Teton Pass** 61.89 55 eP P 18 57 25.7 +0.8
comp=Z,42nm,1.2s,mb5.5
S09A **Goldfield** 61.94 64 P P 18 57 25.2 -0.1
baz=62,SNR=7.6
LOHW **Long Hollow** 62.00 55 eP P 18 57 25.1 -0.6
VES **Vestal, Richgr** 62.02 67 ⇑P P 18 57 25.6 -0.2
baz=62
REDW **Red Top Meadow** 62.03 55 eP P 18 57 26.8 +1.0
comp=Z,52nm,1.3s,mb5.5
R10A **Warm Springs** 62.14 63 ⇑P P 18 57 26.7 +0.1
baz=62
PKM **Peak Mountain** 62.17 68 ⇑P P 18 57 26.7 -0.1
baz=62
Q11A **Duckwater** 62.17 62 ⇑P P 18 57 26.5 -0.2
baz=62
P12A **McGill** 62.21 61 ⇑P P 18 57 27.1 +0.1
baz=62
CWC **Cottonwood Cre** 62.25 65 ⇑P P 18 57 27.5 +0.1
baz=62
GRAC **Grapevine Rang** 62.32 65 ⇑P P 18 57 28.0 +0.2
baz=62

ISA **Isabella** 62.51 66 ⇑P P 18 57 27.9 -1.1
baz=62
TRCR **Troy Canyon** 62.53 62 eP P 18 57 29.2 0.0
Q12A **Willow Creek R** 62.53 61 P P 18 57 29.3 +0.1
baz=62,SNR=6.3
HWUT **Hardware Ranch** 62.76 57 eP P 18 57 31.1 +0.3
comp=Z,19nm,1.3s,mb5.1
MPMC **Manual Prospec** 62.86 65 P P 18 57 31.4 0.0
baz=63,SNR=11
DUG **Dugway** 62.97 59 eP P 18 57 32.1 0.0
DUG pmax pmax
comp=Z,24nm,1.2s,mb5.2
DUG **Dugway** 62.97 59 eP P 18 57 32.1 0.0
comp=Z,24nm,1.2s,mb5.2
DUG **Dugway** 62.97 59 P P 18 57 32.7 +0.6
baz=63,SNR=12
FURC **Furnace Creek,** 62.98 65 P P 18 57 32.3 +0.2
baz=63,SNR=7.4
OSI **Osito Adit** 63.03 67 ⇑P P 18 57 31.5 -1.1
baz=63
LRMC **Laurel Mountai** 63.11 66 ⇑P P 18 57 32.0 -1.1
baz=63
PDAR **Pinedale Array** 63.13 55 P P 18 57 33.1 -0.1
comp=Z,14nm,1.0s,mb5.0,baz=304,slow=2.7,SNR=51
EDW2 **Edwards Air Fo** 63.32 67 P P 18 57 34.1 -0.4
baz=63,SNR=13
U10A **Ash Meadows, A** 63.33 64 P P 18 57 35.0 +0.4
baz=63,SNR=5.5
DECC **Green Verdugo** 63.52 67 ⇓P P 18 57 35.6 -0.1
baz=63
DAU **Daniels Canyon** 63.72 58 P P 18 57 38.0 +0.9
DAU e 18 57 49.1
DAU e 18 58 07.7
DAU **Daniels Canyon** 63.72 58 eP P 18 57 37.9 +0.8
FIA1 **FINESS Array S** 63.76 335 eP P 18 57 37.0 -0.4
FINES **FINESS Array B** 63.76 335 P P 18 57 37.1 -0.3
comp=Z,20nm,0.6s,mb5.3,baz=40,slow=8.7,SNR=80
GSC **Goldstone** 63.77 66 ⇑P P 18 57 37.0 -0.5
baz=64
ARUT **Antelope Range** 64.17 62 eP P 18 57 40.2 +0.1
TUQ **Turquoise Mtn.** 64.23 65 ⇓P P 18 57 40.3 -0.1
baz=64
V11A **Goodsprings** 64.26 64 ⇓P P 18 57 40.2 -0.5
baz=64
HEC **Hector,Ludlow** 64.38 66 ⇓P P 18 57 41.0 -0.5
baz=64
CCUT **Cedar City** 64.38 62 eP P 18 57 41.7 +0.2
MSU **Marysvale** 64.44 60 eP P 18 57 42.4 +0.5
TMUT **Trail Mountain** 64.49 59 eP P 18 57 42.7 +0.5
MURC **Murrieta** 64.65 67 ⇑P P 18 57 42.8 -0.4
baz=64
AJM **Ajmer** 64.67 282 eP P 18 57 44.2 +0.9
AJM AMb AMB 18 57 46.3
comp=Z,41nm,1.0s,mb5.4
V12A **Nelson** 64.69 64 ⇓P P 18 57 43.3 -0.2
baz=64
VIS **Vishakhapatnam** 64.85 269 eP P 18 57 44.6 0.0
VIS AMb AMB 18 57 54.8
comp=Z,42nm,1.3s,mb5.3
ULM **Lac du Bonnet** 64.96 42 P P 18 57 44.8 -0.4
comp=Z,7.0nm,0.6s,mb4.8,baz=314,slow=7.3,SNR=12
W12A **Cal Nev Ari** 64.96 65 ⇓P P 18 57 44.1 -1.1
baz=65
SRU **San Rafael** 65.01 59 eP P 18 57 45.3 -0.2
SRU pmax pmax
comp=Z,27nm,1.1s,mb5.2
SRU **San Rafael** 65.01 59 eP P 18 57 45.3 -0.3
comp=Z,27nm,1.1s,mb5.2
109C **Camp Elliot, M** 65.18 68 ⇑P P 18 57 46.0 -0.7
baz=65
RSSD **Black Hills** 65.22 51 P P 18 57 46.9 0.0
RSSD pmax pmax
comp=Z,25nm,1.0s,mb5.2
RSSD **Black Hills** 65.22 51 eP P 18 57 46.5 -0.4
comp=Z,23nm,0.9s,mb5.2
OBN **Obninsk** 65.29 326 eP P 18 57 47.2 -0.2
OBN e 18 58 15.1
OBN pmax pmax
comp=Z,54nm,1.2s,mb5.5
NGP **Nagpur** 65.36 275 eP P 18 57 46.3 -1.5
NGP AMb AMB 18 57 48.8
comp=Z,37nm,1.0s,mb5.4
IRM **Iron Mountain** 65.55 66 P P 18 57 48.6 -0.5
baz=65,SNR=14
W13A **Hualapai Mount** 65.69 64 P P 18 57 50.1 +0.1
baz=66,SNR=6.1
BC3 **Big Chuckw Mtn** 65.70 66 ⇓P P 18 57 49.9 -0.1
baz=66
PDMCI **Parker Dam,Lak** 66.08 65 ⇓P P 18 57 52.9 +0.5
baz=66
W14A **Seligman** 66.10 64 P P 18 57 52.9 +0.2
baz=66,SNR=14
Y12C **Blythe** 66.21 66 ⇓P P 18 57 53.5 +0.2
baz=66
AGMN **Agassiz Refuge** 66.36 44 eP P 18 57 53.3 -0.9
comp=Z,29nm,1.1s,mb5.2
PHWY **Pilot Hill** 66.38 54 eP P 18 57 54.0 -0.4
GLA **Glamis** 66.49 66 P P 18 57 55.1 0.0
baz=66,SNR=6.2
W15A **Williams** 66.62 63 ⇑P P 18 57 56.7 +0.8
baz=66
X14A **Yava** 66.72 64 P P 18 57 56.9 +0.3
baz=66,SNR=7.8
WUAZ **Wupatki** 66.93 62 eP P 18 57 57.5 -0.3
comp=Z,11nm,1.1s,mb4.8
WUAZ **Wupatki** 66.93 62 ⇓P P 18 57 57.7 -0.2
baz=67
Y14A **Wickenburg** 67.01 64 P P 18 57 58.5 +0.1
baz=67,SNR=7.4
X15A **Huboldt** 67.11 64 P P 18 57 59.8 +0.8
baz=67,SNR=8.2
VRSR **Storozhevoye** 67.20 322 eP P 18 57 59.9 +0.3
VRSR pmax pmax
comp=N,70nm,1.0s
VRSR pmax pmax
comp=E,50nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
ABKT **Ailbek** 67.25 302 P P 18 58 01.6 +1.6
comp=Z,80nm,1.0s,mb5.7,SNR=7.2
ISCO **Idaho Springs** 67.33 55 eP P 18 58 01.1 +0.7
ISCO pmax pmax
comp=Z,28nm,1.1s,mb5.2
ISCO **Idaho Springs** 67.33 55 eP P 18 58 01.1 +0.6
comp=Z,28nm,1.1s,mb5.2
Z14A **Wintersburg** 67.44 65 ⇑P P 18 58 01.4 +0.2
baz=67
MVCO **Mesa Verde** 67.47 59 eP P 18 58 01.4 +0.1
comp=Z,23nm,1.1s,mb5.1
MVCO **Mesa Verde** 67.47 59 P P 18 58 01.7 +0.4
baz=67,SNR=9.3
NB2 **NORSAR Subarra** 67.77 342 P P 18 58 02.9 -0.3
comp=Z,25nm,0.8s,mb5.3,baz=25,slow=6.5
NOA **NORSAR Array B** 67.77 342 P P 18 58 03.2 0.0
comp=Z,15nm,0.8s,mb5.1,baz=26,slow=6.4,SNR=25
AFI **Afiamalu** 68.08 145 LR LR 19 28 15.5
comp=Z,190nm,18.5s,MS4.2,baz=67,slow=36
HYB **Hyderabad** 68.29 272 iP P 18 58 06.0 -0.5
HYB **Hyderabad** 68.29 272 eP P 18 58 06.0 -0.5
115A **Sonoran Desert** 68.33 65 P P 18 58 07.3 +0.6
baz=68,SNR=6.5
116A **Eloy** 68.75 65 ⇓P P 18 58 09.3 -0.1
baz=69
MNK **Minsk** 68.89 330⇑ eP P 18 58 06.0 -4.2
MNK pmax pmax
comp=Z,210nm,1.0s,mb6.0
LATR **Latur** 68.93 274 ex x 18 57 60.0
LATR AMb AMB 18 58 14.8
comp=Z,92nm,1.0s,mb5.7
ECSD **EROS,Sioux Fal** 69.29 47 eP P 18 58 11.1 -1.6
comp=Z,37nm,1.1s,mb5.2
WRAB **Tennant Creek** 69.82 201 P P 18 58 14.0 -2.0
comp=Z,114nm,1.0s,mb5.8,SNR=6.9
WRAB **Tennant Creek** 69.82 201 P P 18 58 14.9 -1.1
WRAB pmax pmax
comp=Z,27nm,1.0s,mb5.1
WRAB **Tennant Creek** 69.82 201 eP P 18 58 14.6 -1.4
WB2 **Warramunga Arr** 69.83 201 eP P 18 58 14.7 -1.3
WRA **Warramunga Arr** 69.83 201 P P 18 58 14.8 -1.3
comp=Z,13nm,0.9s,mb4.9,baz=18,slow=6.6,SNR=51
LAZ **Ladron** 70.21 61 eP P 18 58 19.1 +0.7
ANMO **Albuquerque** 70.22 60 eP P 18 58 18.7 +0.2
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO **Albuquerque** 70.22 60 eP P 18 58 18.7 +0.2
comp=Z,13nm,1.1s,mb4.8
MDRS **Chennai** 70.23 268 ex P 18 58 21.8 +3.3

MDRS AMb AMB 18 58 41.1
comp=Z,50nm,1.0s,mb5.4
LENM **Lemitar** 70.47 61 eP P 18 58 20.6 +0.6
LPM **Los Pinos Moun** 70.57 60 eP P 18 58 20.7 +0.1
FITZ **Fitzroy Crossi** 70.59 210 P P 18 58 20.5 -0.2
comp=Z,14nm,1.0s,mb4.8,baz=18,slow=5.6,SNR=14
POO **Poona** 70.68 276 ⇑iP P 18 58 19.0 -2.2
comp=Z,40nm,1.0s,mb5.3
BNM **Barren Site** 70.69 60 eP P 18 58 21.8 +0.5
SUW **Suwalki** 70.81 332 eP P 18 58 21.4 -0.6
SUW **Suwalki** 70.81 332 P P 18 58 21.8 -0.2
SUW e 18 58 34.1
SUW pmax pmax
comp=Z,56nm,1.2s,mb5.4
KIV **Kislovodsk** 71.09 315 P P 18 58 25.2 +1.4
comp=Z,319nm,1.2s,mb6.1,SNR=5.3
KIV **Kislovodsk** 71.09 315 P P 18 58 25.4 +1.6
SNR=6.6
KIV **Kislovodsk** 71.09 315⇑ eP P 18 58 23.9 +0.1
KIV pmax pmax
comp=Z,42nm,0.9s,mb5.4
KIV **Kislovodsk** 71.09 315 eP P 18 58 24.8 +1.0
comp=Z,63nm,1.0s,mb5.5
KAD **Karad** 71.31 275 eP P 18 58 25.3 +0.2
KAD AMb AMB 18 58 27.3
comp=Z,46nm,1.0s,mb5.3
ZEI **Tsey** 71.39 314 eP P 18 58 25.5 -0.1
ZEI pmax pmax
comp=Z,44nm,1.3s,mb5.2
AKASG **Malin Array Be** 71.50 327 P P 18 58 25.8 -0.5
comp=Z,14nm,0.7s,mb5.0,baz=33,slow=6.0,SNR=47
AKBB **Malin Array Si** 71.50 327 eP P 18 58 25.6 -0.7
AKBB e 18 58 36.8
KIEV **Kiev** 71.52 327 eP P 18 58 25.6 -0.7
KIEV e 18 58 36.9
KIEV pmax pmax
comp=Z,43nm,1.2s,mb5.2
KIEV **Kiev** 71.52 327 eP P 18 58 25.6 -0.7
comp=Z,43nm,1.2s,mb5.2
KIEV e 18 58 36.9
SCHQ **Schefferville** 71.94 24 P P 18 58 29.0 +0.1
comp=Z,6.5nm,0.9s,mb4.6,baz=327,slow=5.4,SNR=5.0
GNI **Garni** 72.93 311⇑ eP P 18 58 34.6 -0.2
GNI pmax pmax
comp=Z,70nm,1.6s
GNI **Garni** 72.93 311 eP P 18 58 37.1 +2.3
comp=Z,44nm,0.9s,mb5.4
MNTX **Cornudas Mount** 73.16 61 eP P 18 58 35.7 -0.5
comp=Z,17nm,1.2s,mb4.8
AS31 **Alice Springs** 73.51 200 eP P 18 58 37.6 -0.6
ASAR **Alice Springs** 73.52 200 P P 18 58 37.6 -0.6
comp=Z,5.4nm,0.8s,mb4.5,baz=16,slow=5.4,SNR=62
LVV **L'vov** 74.09 329 eP P 18 58 41.7 +0.1
SIM **Simferopol'** 74.20 321 ceP P 18 58 41.5 -0.8
SIM pmax pmax
comp=Z,18nm,1.0s,mb5.0
KWP **Kalwaria** 74.70 330 eP P 18 58 46.2 +1.1
KIS **Kishinev** 74.70 325 eP P 18 58 43.0 -2.2
WMOK **Wichita Mounta** 74.75 55 P P 18 58 44.9 -0.5
WMOK pmax pmax
comp=Z,25nm,1.0s,mb5.1
WMOK **Wichita Mounta** 74.75 55 eP P 18 58 44.9 -0.6
comp=Z,25nm,1.1s,mb5.1
STHS **Stebnicka Huta** 75.37 331 eP P 18 58 50.0 +1.0
STHS e 18 59 02.7
STHS pmax pmax
comp=Z,11nm,0.9s,mb4.8
STHS **Stebnicka Huta** 75.37 331 eP P 18 58 50.0 +1.0
comp=Z,11nm,0.9s,mb4.8
STHS e 18 59 02.7
KOLS **Kolonicke sedl** 75.44 330 eP P 18 58 49.6 +0.2
BURAR **Bucovina Array** 75.53 328 ⇑iP P 18 58 50.5 +0.5
BURAR **Bucovina Array** 75.53 328 ⇑P P 18 58 50.5 +0.5
LTX **Lajitas** 75.89 62 eP P 18 58 51.6 -0.4
LTX pmax pmax
comp=Z,25nm,0.9s,mb5.1
LTX **Lajitas** 75.89 62 eP P 18 58 51.6 -0.4
comp=Z,25nm,0.9s,mb5.2
TXAR **Lajitas Array** 75.89 62 P P 18 58 51.9 -0.2
comp=Z,17nm,0.7s,mb5.1,baz=301,slow=4.9,SNR=108
OKC **Ostrava-Krasne** 75.99 333 eP P 18 58 51.2 -1.4
OKC ePCP PcP 18 59 06.0 +1.1
UPC **Upice** 76.03 334 eP P 18 58 53.3 +0.5
DPC **Dobruska-Polom** 76.08 334 eP P 18 58 50.7 -2.4
DPC ePCP PcP 18 59 05.9 +0.6
CLL **Collm** 76.16 337 ⇑iP P 18 58 53.7 +0.2
CLL i 18 59 06.4
CLL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CLL **Collm** 76.16 337 ⇑iP P 18 58 53.7 +0.2
comp=Z,31nm,1.3s,mb5.1
CLL i 18 59 06.4
CLL **Collm** 76.16 337 ⇑iP P 18 58 53.7 +0.2
comp=Z,31nm,1.3s,mb5.1
CLL i pP pP 18 59 06.4 +7.4
MORC **Moravsky Berou** 76.23 333 ⇓iP P 18 58 54.7 +0.8
MORC **Moravsky Berou** 76.23 333 eP P 18 58 54.4 +0.5
MORC pmax pmax
comp=Z,25nm,1.1s,mb5.1
MORC **Moravsky Berou** 76.23 333 ⇓P P 18 58 54.7 +0.8
BRG **Berggiesshubel** 76.30 336 iP P 18 58 54.7 +0.4
comp=Z,15nm,1.9s,mb4.6
BRG **Berggiesshubel** 76.30 336 i P P 18 58 54.7 +0.4
BRG pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
KECS **Kecovo** 76.43 331 eP P 18 58 54.7 -0.4
KECS e 18 59 09.0
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS **Kecovo** 76.43 331 eP P 18 58 54.7 -0.4
comp=Z,4.5nm,1.0s,mb4.3
KECS e 18 59 09.0
PVCC **Panska Ves** 76.43 335 eP P 18 58 55.9 +0.8
PVCC ePCP PcP 18 59 09.1 +2.3
VRI **Vrincioaia** 76.44 326 ⇓iP P 18 58 58.9 +3.8
CFR **Carcaliu** 76.47 324 ⇓iP P 18 58 57.9 +2.6
PLOR **Plostina** 76.49 326 ⇓iP P 18 58 56.5 +1.1
MSL **Mosul** 76.70 310 ex x 18 58 58.0
PRU **Pruhonice** 76.92 335 eP P 18 58 57.8 -0.1
PRU ePCP PcP 18 59 08.8 -0.1
VRAC **Vranov** 76.93 334 ⇓iP P 18 58 58.7 +0.8
VRAC **Vranov** 76.93 334 ⇓P P 18 58 58.7 +0.8
VYHS **Vyhne** 76.95 332 eP P 18 58 58.5 +0.5
VYHS e 18 59 11.6
VYHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VYHS **Vyhne** 76.95 332 eP P 18 58 58.5 +0.5
comp=Z,6.7nm,1.1s,mb4.5
VYHS e 18 59 11.6
TIRR **Tirgusor** 76.96 324 ⇓iP P 18 58 58.5 +0.4
TIRR **Tirgusor** 76.96 324 P P 18 58 58.1 0.0
TIRR **Tirgusor** 76.96 324 ⇓P P 18 58 58.5 +0.4
MLR **Muntele Rosu** 77.06 326 ⇑iP P 18 58 59.4 +0.8
MLR **Muntele Rosu** 77.06 326 ⇑P P 18 58 59.4 +0.8
MOX **Moxa** 77.13 337 eP P 18 58 58.9 -0.1
comp=Z,20nm,1.4s,mb4.8
MOX **Moxa** 77.13 337 eP P 18 58 58.9 -0.1
MOX pmax pmax
comp=Z,36nm,1.4s,mb5.1
DRGR **Novy Kostel** 77.13 329 ⇑iP P 18 59 02.7 +3.7
NKC **Novy Kostel** 77.28 336 eP P 18 58 59.8 -0.1
NKC ePCP PcP 18 59 10.8 +0.3
NKC **Novy Kostel** 77.28 336 eP P 18 58 59.8 -0.1
NKC e 18 59 10.8
WSAR **Wadi Sarin** 77.31 290 P P 18 59 00.5 +0.4
comp=Z,11nm,1.1s,mb4.7,baz=63,slow=6.4,SNR=3.5
JCT **Junction City** 77.32 59 eP P 18 58 58.9 -1.2
comp=Z,41nm,1.2s,mb5.2
SNX **Sinaia** 77.33 326 ⇑iP P 18 59 02.0 +1.8
SNX **Sinaia** 77.33 326 ⇑P P 18 59 02.0 +1.9
VOIR 77.44 326 ⇓iP P 18 59 02.2 +1.4
VOIR 77.44 326 ⇓P P 18 59 02.2 +1.5
MALT **Malatya** 77.48 314 ⇑iP P 18 59 03.3 +2.3
MALT **Malatya** 77.48 314 P P 18 59 02.7 +1.7
MALT pmax pmax
comp=Z,20nm,1.1s,mb5.0
ZST **Bratislava** 77.76 333 eP P 18 59 02.3 -0.3
ZST pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZST **Bratislava** 77.76 333 eP P 18 59 02.3 -0.3
comp=Z,12nm,1.1s,mb4.7
KHC **Kasperske Hory** 77.97 335 eP P 18 59 04.2 +0.5
KHC ePCP PcP 18 59 16.8 +3.4
GRA1 **Grafenberg Arr** 78.10 337 eP P 18 59 04.8 +0.3

comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 78.10 337 *e*P **P 18 59 04.8 +0.3**
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 78.10 337 *e*P **P 18 59 04.8 +0.3**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRFO Grafenberg 78.11 337 *e*P **P 18 59 04.5 0.0**
GRFO pmax pmax
comp=Z,30nm,1.0s,mb5.2
GRFO Grafenberg 78.11 337 *e*P **P 18 59 04.5 0.0**
comp=Z,30nm,1.0s,mb5.2
GERES GERESS Array B 78.19 335 P **P 18 59 05.1 +0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=23,slow=4.4,SNR=13
JMDO Jabal Madar 78.28 290 P **P 18 59 06.8 +1.4**
SNR=6.2
GZR Gura Zlata 78.31 328⇓ *i*P **P 18 59 06.2 +0.6**
GZR Gura Zlata 78.31 328 ⇓P **P 18 59 06.2 +0.6**
BHD Baghdad 78.31 307 *ex* x 18 59 01.5
HGN Heimansgroeve 78.41 341 *e*P **P 18 59 08.1 +2.0**
comp=Z,33nm,1.4s,mb5.1
WCI Wyandotte Cave 78.52 45 P **P 18 59 06.7 -0.1**
WCI pmax pmax
comp=Z,49nm,1.0s,mb5.4
WCI Wyandotte Cave 78.52 45 *e*P **P 18 59 06.7 -0.1**
comp=Z,49nm,0.9s,mb5.4
BZS Buzias 78.53 329⇓ *i*P **P 18 59 06.7 -0.1**
BZS Buzias 78.53 329 ⇓P **P 18 59 06.7 -0.1**
BSY Bisya 78.58 291 P **P 18 59 08.4 +1.4**
SNR=7.7
BR131 Keskin Array S 78.61 318 *e*P **P 18 59 08.1 +0.9**
comp=Z,17nm,0.8s,mb5.0
BRTR Keskin Array B 78.61 318 P **P 18 59 08.2 +0.9**
comp=Z,17nm,1.0s,mb4.9,baz=52,slow=2.6,SNR=38
ANTO Ankara 78.87 318⇓ *i*P **P 18 59 11.8 +3.1**
ANTO Ankara 78.87 318 *e*P **P 18 59 11.4 +2.7**
ANTO *e* 18 59 21.7
ANTO pmax pmax
comp=Z,31nm,1.2s,mb5.1
ANTO Ankara 78.87 318 *e*P **P 18 59 11.4 +2.7**
comp=Z,31nm,1.2s,mb5.1
ANTO *e* 18 59 21.7
PKSM Moragy 79.02 331⇑ *i*P **P 18 59 09.2 -0.3**
PKSM Moragy 79.02 331 ⇑P **P 18 59 09.2 -0.3**
MIB Mutribah 79.30 303 *e*P **P 18 59 11.5 +0.5**
MIB AMb AMB 18 59 13.4
comp=Z,60nm,0.6s,mb5.7
KBD Kabd 79.57 302 *e*P **P 18 59 13.1 +0.6**
NAY Al-Naaiem 79.77 302 *e*P **P 18 59 13.9 +0.3**
NAY AMb AMB 18 59 15.8
comp=Z,35nm,1.1s,mb5.2
RDF Al-Radifah 79.84 302 *e*P **P 18 59 14.6 +0.7**
RDF AMb AMB 18 59 16.5
comp=Z,87nm,1.1s,mb5.6
BFO Black Forest 80.10 338 *e*P **P 18 59 14.6 -0.8**
BFO pmax pmax
comp=Z,25nm,1.3s,mb5.0
BFO Black Forest 80.10 338 *e*P **P 18 59 14.6 -0.8**
comp=Z,25nm,1.3s,mb5.0
CDF Champ du Feu 80.29 339 *e*P **P 18 59 16.4 0.0**
comp=Z,61nm,1.2s,mb5.1
CDF Champ du Feu 80.29 339 *e*P **P 18 59 16.4 0.0**
CDF pmax pmax
comp=Z,30nm,1.2s,mb5.1
CDF Champ du Feu 80.29 339 *e*P **P 18 59 16.4 0.0**
comp=Z,30nm,1.2s,mb5.1
GRUS Gruza 80.35 328 *i* P **P 18 59 14.2 -2.6**
DIVS Divcibare 80.42 329 *i* P **P 18 59 16.2 -0.9**
DIVS Divcibare 80.42 329 *e*P **P 18 59 16.5 -0.6**
VTS Vitosha 80.56 326 *e*P **P 18 59 17.8 0.0**
VTS Vitosha 80.56 326⇓ *i*P **P 18 59 18.8 +0.9**
VTS Vitosha 80.56 326 P **P 18 59 18.3 +0.4**
VTS Vitosha 80.56 326 ⇓P **P 18 59 18.8 +1.0**
ALN Alexandroupoli 80.90 323 *e*P **P 18 59 20.1 +0.4**
TZTN Tazewell 81.18 44 *e*P **P 18 59 21.0 -0.1**
comp=Z,25nm,1.2s,mb5.0
SKO Skopje 81.75 327 *i* P **P 18 59 29.4 +5.1**
VAY Valandovo 81.89 326 *e*P **P 18 59 24.4 -0.5**
VAY Valandovo 81.89 326 *e*P sP 18 59 34.4 +1.9
ELN Prospectdale 81.91 42 *e*P **P 18 59 24.3 -0.7**
KNT Kendrikon 81.91 326 *e*P **P 18 59 24.4 -0.6**
GRR Gorron 82.06 344 *e*P **P 18 59 25.7 -0.1**
comp=Z,191nm,1.4s,mb5.5
GRR Gorron 82.06 344 *e*P **P 18 59 25.7 -0.1**
GRR pmax pmax
comp=Z,96nm,1.4s,mb5.5
GRR Gorron 82.06 344 *e*P **P 18 59 25.7 -0.1**
comp=Z,96nm,1.4s,mb5.5
GRG Griva 82.27 326 *e*P **P 18 59 26.3 -0.7**
KRUS Krusevo 82.35 327⇑ *i*P **P 18 59 27.4 +0.1**
OHR Ohrid 82.74 327 *e*P sP 18 59 37.7 +0.8
SMF Signal de Mont 82.75 340 *e*P **P 18 59 29.5 +0.1**
comp=Z,99nm,1.2s,mb5.4
SMF Signal de Mont 82.75 340 *e*P **P 18 59 29.5 +0.1**
SMF pmax pmax
comp=Z,50nm,1.2s,mb5.4
SMF Signal de Mont 82.75 340 *e*P **P 18 59 29.5 +0.1**
comp=Z,50nm,1.2s,mb5.4
FNA Florina 82.81 326 *e*P **P 18 59 31.7 +2.0**
LPG La Plagne 83.14 338 *e*P **P 18 59 32.6 +1.2**
comp=Z,97nm,1.2s,mb5.4
LPG La Plagne 83.14 338 *e*P **P 18 59 32.6 +1.2**
LPG pmax pmax
comp=Z,48nm,1.2s,mb5.4
LPG La Plagne 83.14 338 *e*P **P 18 59 32.6 +1.2**
comp=Z,48nm,1.2s,mb5.4
AOS Alonnisos 83.24 324 *e*P **P 18 59 33.6 +1.7**
WHFO Wadi Hawf 84.29 290 P **P 18 59 37.4 0.0**
SNR=5.7
CAF Calviac 84.78 341 *e*P **P 18 59 40.7 +0.9**
comp=Z,42nm,1.1s,mb5.2
CAF Calviac 84.78 341 *e*P **P 18 59 40.7 +0.9**
CAF pmax pmax
comp=Z,21nm,1.1s,mb5.2
CAF Calviac 84.78 341 *e*P **P 18 59 40.7 +0.9**
comp=Z,21nm,1.1s,mb5.2
TIP Timpagrande 85.90 329 *e*P **P 18 59 45.7 +0.3**
ESDC Sonseca Array 91.05 344 P **P 19 00 09.4 -0.6**
comp=Z,1.0nm,0.7s,mb4.2,baz=15,slow=4.6,SNR=4.6
KEST Kesra 91.48 333 P **P 19 00 11.1 -0.8**
comp=Z,1.5nm,0.8s,mb4.4,baz=30,slow=14,SNR=2.5
TORD Torodi Ar. Bea 114.95 331 PKP PKiKP 19 05 45.2 -1.1
comp=Z,1.1nm,0.9s,baz=1.8,slow=2.7,SNR=5.0
TORD PP PP 19 06 36.4 -8.9
comp=Z,2.6nm,1.2s,baz=15,slow=7.7,SNR=4.2
VNDA Vanda 124.99 178 PKP PKPdf 19 06 01.8 -3.9
comp=Z,1.1nm,1.0s,baz=313,slow=8.9,SNR=4.5
VNDA Vanda 124.99 178 PKP PKPdf 19 06 01.8 -3.9
LPAZ La Paz 132.74 63 PKP PKPdf 19 06 19.9 -0.5
comp=Z,0.8nm,0.8s,baz=344,slow=4.6,SNR=4.0
SNAA Sanae 153.80 196 PKPbc PKPbc 19 07 01.3 -3.4
comp=Z,1.2nm,1.0s,baz=21,slow=9.2,SNR=5.8
SNAA PKPab PKPab 19 07 15.2 -2.4
comp=Z,6.5nm,1.0s,baz=118,slow=4.6,SNR=14
SNAA Sanae 153.80 196 *e*PKPdf PKPdf 19 06 58.4 +1.7
SNAA *e* 19 07 15.2
VNA2 Neumayer--Watz 155.22 194 *e*PKPdf PKPdf 19 07 04.4 +5.7
VNA2 *e* 19 07 21.3
VNA3 Neumayer Olymp 155.28 192 *e*PKPdf PKPdf 19 07 02.2 +3.4
VNA3 *e* 19 07 21.5

MAN 15 18:50:56.8, 887N×12625E, h80km, mb3.1, ML4.4, MS5.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.53**	**230**	*e*P	Pn	18 51 23.6	+1.1
BUKP				*e*S	Sn	18 51 43.6	+1.7
CGP	**Cagayan de Oro**	**1.59**	**255**⇑	*i*P	Pn	18 51 23.9	+0.7
CGP				*i* S	Sn	18 51 44.2	+0.9
MSLP	**Maasin**	**1.85**	**313**	*e*P	Pn	18 51 29.6	+2.9
MATI	**Mati**	**1.92**	**180**	*e*P	Pn	18 51 28.0	+0.5
MATI				*e*S	Sn	18 51 55.0	+4.1

*IDC **15** 18:52:51.4±2.1, 4602N×154.47E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, Error ellipse: s-maj=61.2km s-min=29.4km az=172.0*
*MOS **15** 18:52:55.6±0.4, 4625N×154.37E, h33km, mb4.2/4, Error ellipse: s-maj=63.2km s-min=47.0km az=11.8*
*ISCJB **15** 18:52:56.6±4.4, 459N±04×1544E±03, h51km±39km, mb3.9/5, Error ellipse: s-maj=61.8km s-min=37.5km az=163.9*

ISC 15 18:52:58.3±4.0, 460N±04×1544E±03, h51km±38km, n10, σ0§76/10, mb3.9/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.61**	**263**	*e*PN	**Pn**	**18 54 05.5**	**+0.1**
KSRS	**Korea Array**	**21.41**	**256**	P	**P**	**18 57 41.2**	**-0.5**
	1.6nm,0.7s,mb3.5,baz=48,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**48.07**	**299**	P	**P**	**19 01 33.9**	**+1.2**
	0.6nm,0.7s,mb3.8,baz=64,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**48.07**	**299**	P	**P**	**19 01 33.9**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**52.03**	**310**	P	**P**	**19 02 02.8**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=56,slow=8.1,SNR=7.3						
BVAR	**Borovoye Array**	**52.03**	**310**	P	**P**	**19 02 02.8**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**65.12**	**335**	P	**P**	**19 03 32.5**	**-1.3**
	comp=Z,2.1nm,0.6s,mb4.3,baz=44,slow=8.4,SNR=13						
FINES	**FINESS Array B**	**65.12**	**335**	P	**P**	**19 03 32.5**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**77.13**	**61**	P	**P**	**19 04 46.6**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=298,slow=2.7,SNR=6.4						
TXAR	**Lajitas Array**	**77.13**	**61**	P	**P**	**19 04 46.7**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **15** 18:54:53.8±0.6, 4629N×154.23E, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx3.3/31, Error ellipse: s-maj=17.4km s-min=13.8km az=135.0*
*NEIC **15** 18:54:55.6±0.5, 4635N×154.17E, h10km, mb4.6/15, Error ellipse: s-maj=12.9km s-min=8.2km az=150.0*
*BJI **15** 18:54:56.7, 4655N×15377E, h10km, mB5.0, mb4.7, Ms4.3, Msz4.3*
*MOS **15** 18:54:57.8±1.1, 4644N×15394E, h34km, mb4.6/11, Error ellipse: s-maj=12.3km s-min=9.2km az=106.5*
*ISCJB **15** 18:54:58.3±0.5, 4648N±008×15405E±008, h35km, mb4.5/46, MS4.4/3, Error ellipse: s-maj=13.0km s-min=5.7km az=125.1*

ISC 15 18:55:00.4±0.5, 4653N±008×15407E±008, h37km, h37km±4.9km:pP-P, n85, σ1§24/85, mb4.5/46, MS4.4/3, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.52**	**256**	*e*PN	**Pn**	**18 56 02.4**	**-3.9**
KUR				*i* S	**Sn**	**18 56 56.0**	**-1.6**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,250nm,0.6s						
KUR				smax			
	comp=N,120nm,0.7s						
KUR				smax			
	comp=E,430nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.79**	**277**	PN	**Pn**	**18 56 41.5**	**-10**
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=N,900nm,13.0s						
YSS				MLR	MLR		
	comp=E,700nm,13.0s						
ASAJ	**Asahikawa**	**8.44**	**258**	Pn	**Pn**	**18 56 59.8**	**-0.2**
	comp=E,1.4nm,0.3s,baz=99,slow=26,SNR=7.5						
ASAJ				LR	LR	19 01 07.0	
	comp=E,483nm,18.4s,baz=172,slow=44						
ASAJ	**Asahikawa**	**8.44**	**258**	PN	**Pn**	**18 56 59.8**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,483nm,18.4s						
KLR	**Kul'dur**	**15.21**	**288**	*e*P	**Pn**	**18 58 30.8**	**-1.5**
MJAR	**Matsushiro Arr**	**15.49**	**236**	Pn	**Pn**	**18 58 33.3**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=36,slow=12,SNR=4.4						
MAT	**Matsushiro**	**15.49**	**236**	P	**Pn**	**18 58 42.3**	**+6.4**
MDJ	**Mudanjiang**	**17.23**	**273**	*e*P	**Pn**	**18 58 58.1**	**0.0**
	comp=Z,41nm,1.1s						
CN2	**Changchun**	**20.32**	**273**	*e*P	**P**	**18 59 30.5**	**-2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**20.86**	**327**	*e*P	**P**	**18 59 37.4**	**-1.6**
YAK				pmax	pmax		
	comp=Z,28nm,1.1s						
YAK	**Yakutsk**	**20.86**	**327**	*e*P	**P**	**18 59 37.4**	**-1.6**
	comp=Z,28nm,1.1s						
KSRS	**Korea Array**	**21.37**	**254**	P	**P**	**18 59 44.3**	**-0.1**
	comp=Z,3.4nm,0.8s,mb3.7,baz=60,slow=11,SNR=5.8						
BILL	**Bilibino**	**22.46**	**12**	*e*P	**P**	**18 59 54.5**	**-1.6**
BILL				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.7						
BOD	**Bodaibo**	**26.63**	**310**	*e*P	**P**	**19 00 33.5**	**-1.9**
BOD				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
TIXI	**Tiksi**	**27.86**	**343**	*e*P	**P**	**19 00 44.9**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
TIXI	**Tiksi**	**27.86**	**343**	*e*P	**P**	**19 00 44.9**	**-1.5**
	comp=Z,8.0nm,1.3s,mb4.2						
BJI	**Beijing**	**28.14**	**270**	*e*P	**P**	**19 00 52.0**	**+3.2**
BJI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.3						
BJI				LR	LR		
	comp=N,214nm,13.1s,MS4.2						
BJI				LR	LR		
	comp=E,386nm,15.5s,MS4.2						
BJI				LR	LR		
	comp=Z,470nm,26.0s						
BJI	**Beijing**	**28.14**	**270**	*e*P	**P**	**19 00 52.0**	**+3.2**
	comp=Z,11nm,1.5s,mb4.3						
BJI				LR	LR		
	comp=Z,470nm,26.0s,MS4.0						
HHC	**Hu-ho-hao-te**	**30.97**	**275**	*e*P	**P**	**19 01 14.1**	**+0.2**
HHC				AP	pP	19 01 18.5	-5.9
HHC				XP	sP	19 01 21.3	-7.6
HHC				PP	PP	19 02 17.6	-6.6
HHC				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,170nm,5.8s						
HHC				LR	LR		
	comp=N,259nm,13.2s,MS4.2						
HHC				LR	LR		
	comp=E,292nm,13.2s,MS4.2						
HHC				LR	LR		
	comp=Z,986nm,14.5s,MS4.6						
SONM	**Songino Array**	**32.03**	**290**	P	**P**	**19 01 21.9**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.7,baz=68,slow=7.8,SNR=5.0						
ZAK	**Zakamensk**	**33.37**	**296**	*e*P	**P**	**19 01 34.0**	**-1.0**
ZAK				*e*		19 02 47.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
IMA2	**Indian Mountai**	**33.60**	**36**	*e*P	**P**	**19 01 37.2**	**+0.2**
IMA2				*e*	pP	19 01 48.6	+1.1
KDAK	**Kodiak Island**	**33.73**	**51**	P	**P**	**19 01 36.4**	**-1.8**
	comp=Z,55nm,1.3s,mb5.3,baz=117,slow=5.6,SNR=4.3						
MCK	**McKinley**	**35.39**	**40**	*e*P	**P**	**19 01 52.5**	**0.0**
MCK				*e*	pP	19 02 03.5	+0.4
MCK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MCK	**McKinley**	**35.39**	**40**	*e*P	**P**	**19 01 52.5**	**0.0**
	comp=Z,8.7nm,1.1s,mb4.6						
MCK				*e*	pP	19 02 03.5	+0.4
COLA	**College**	**35.90**	**38**	*e*P	**P**	**19 01 57.7**	**+0.9**
COLA				*e*	pP	19 02 08.7	+1.2
COLA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
COLA	**College**	**35.90**	**38**	*e*P	**P**	**19 01 57.7**	**+0.9**
	comp=Z,25nm,0.9s,mb5.1						
COLA				*e*	pP	19 02 08.7	+1.2
LZH	**Lanzhou**	**38.55**	**273**	*e*P	**P**	**19 02 21.8**	**+2.4**
LZH				AP	pP	19 02 29.3	-0.7
LZH				XP	sP	19 02 33.1	-1.4
LZH				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,168nm,4.2s						
LZH	**Lanzhou**	**38.55**	**273**	*e*P	**P**	**19 02 21.8**	**+2.4**
	comp=Z,41nm,1.1s,mb5.1						
LZH				pP	pP	19 02 29.3	-0.7
LZH				sP	sP	19 02 33.1	-1.4
LZH				PP	PP	19 03 52.1	+4.1
EGAK	**Eagle**	**38.76**	**38**	*e*P	**P**	**19 02 21.0**	**-0.1**
	comp=Z,27nm,1.0s,mb4.9						
EGAK				*e*	pP	19 02 31.9	+0.1
GTA	**Gaotai**	**39.66**	**280**	*e*P	**P**	**19 02 30.1**	**+1.5**
GTA				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.6						
INK	**Inuvik**	**41.48**	**32**	P	**P**	**19 02 44.5**	**+0.9**
	comp=Z,5.8nm,0.8s,mb4.3,baz=280,slow=7.3,SNR=12						
CD2	**Chengdu**	**41.52**	**266**⇑	*i*P	**P**	**19 02 45.0**	**+1.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
GYA	**Guiyang**	**42.31**	**259**⇑	*i*P	**P**	**19 02 51.0**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**43.29**	**306**	P	**P**	**19 02 58.0**	**-0.4**
	comp=Z,1.3nm,0.3s,mb4.2,baz=44,slow=11,SNR=3.1						
ZAL	**Zalesovo**	**43.29**	**306**	P	**P**	**19 02 58.0**	**-0.4**
MKAR	**Makanchi Array**	**47.63**	**298**	P	**P**	**19 03 32.2**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.3,baz=66,slow=6.9,SNR=11						
YKA	**Yellowknife Ar**	**50.70**	**37**	P	**P**	**19 03 54.2**	**-2.0**
	comp=Z,1.4nm,0.3s,mb4.3,baz=105,slow=32,SNR=19						
RES	**Resolute Bay**	**50.83**	**19**	*e*P	**P**	**19 03 58.4**	**+1.2**
LSA	**Lhasa**	**50.95**	**274**	*e*P	**P**	**19 04 00.7**	**+2.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**50.95**	**274**	*e*P	**P**	**19 04 00.7**	**+2.7**
	comp=Z,5.4nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**51.08**	**311**	*e*P	**P**	**19 03 58.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**51.08**	**311**	*e*P	**P**	**19 03 58.5**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**51.51**	**310**	P	**P**	**19 04 02.6**	**+0.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=60,slow=7.9,SNR=7.2						
BRVK	**Borovoye**	**51.55**	**310**	*e*P	**P**	**19 04 02.7**	**+0.2**
ZRNK	**Zerenda**	**52.27**	**310**	*e*P	**P**	**19 04 07.7**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**52.27**	**310**	*e*P	**P**	**19 04 07.7**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**54.52**	**297**	*e*P	**P**	**19 04 24.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.52**	**297**	*e*P	**P**	**19 04 24.3**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.5						
ARU	**Arti**	**55.62**	**318**	*e*P	**P**	**19 04 32.0**	**-0.3**
JIRN	**Jiri**	**55.62**	**275**	*e*P	**P**	**19 04 34.5**	**+2.1**
GUN	**Gumba**	**55.68**	**276**	*e*P	**P**	**19 04 35.0**	**+2.2**
KKN	**Kakani**	**56.16**	**276**	*e*P	**P**	**19 04 38.1**	**+1.8**
	comp=Z,42nm,1.3s,mb5.3						
DMN	**Daman**	**56.40**	**276**	*e*P	**P**	**19 04 40.4**	**+2.5**
	comp=Z,38nm,1.1s,mb5.3						
GKN	**Gorkha**	**56.47**	**277**	*e*P	**P**	**19 04 39.9**	**+1.4**
	comp=Z,34nm,1.1s,mb5.3						
KOLN	**Koldanda**	**57.33**	**277**	*e*P	**P**	**19 04 46.6**	**+2.1**
	comp=Z,20nm,1.0s,mb5.1						
KEV	**Kevo**	**57.77**	**341**	*e*p	**P**	**19 04 55.5**	**+7.9**
ARCES	**ARCESS Array B**	**58.27**	**341**	P	**P**	**19 04 51.7**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.8,baz=30,slow=9.8,SNR=9.4						
AKTK	**Aktyubinsk**	**59.36**	**312**	P	**P**	**19 04 58.9**	**+0.2**
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**19 04 58.9**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.2,baz=65,slow=6.2,SNR=5.4						
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**19 04 58.9**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**64.34**	**54**	P	**P**	**19 05 31.9**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=286,slow=2.0,SNR=7.9						
FINES	**FINESS Array B**	**64.52**	**335**	P	**P**	**19 05 33.9**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.4,baz=51,slow=6.1,SNR=6.2						
OBN	**Obninsk**	**65.86**	**326**	*e*P	**P**	**19 05 41.2**	**-0.9**
OBN				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.1						
OBN				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
HYB	**Hyderabad**	**67.66**	**272**	*i* P	**P**	**19 05 54.0**	**+0.5**
HYB	**Hyderabad**	**67.66**	**272**	*e*P	**P**	**19 05 54.0**	**+0.5**
WRA	**Warramunga Arr**	**68.53**	**200**	P	**P**	**19 05 56.7**	**-2.3**
	comp=Z,3.4nm,0.9s,mb4.3,baz=19,slow=6.9,SNR=16						
NB2	**NORSAR Subarra**	**68.64**	**342**	P	**P**	**19 06 00.2**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.64**	**342**	P	**P**	**19 06 00.4**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=26,slow=6.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**69.27**	**209**	P	**P**	**19 06 00.6**	**-3.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=31,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**72.09**	**327**	P	**P**	**19 06 20.7**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=31,slow=5.7,SNR=7.0						
AKASG	**Malin Array Be**	**72.09**	**327**	P	**P**	**19 06 20.7**	**-0.1**
ASAR	**Alice Springs**	**72.22**	**199**	P	**P**	**19 06 20.6**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=14,slow=6.0,SNR=23						
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**19 06 49.1**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.3,baz=302,slow=3.8,SNR=15						
GERES	**GERESS Array B**	**78.94**	**335**	P	**P**	**19 07 01.5**	**+1.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=34,slow=5.0,SNR=5.2						
BRTR	**Keskin Array B**	**79.00**	**317**	P	**P**	**19 07 01.9**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=49,slow=5.7,SNR=4.7						
CDF	**Champ du Feu**	**81.11**	**338**	*e*P	**P**	**19 07 11.3**	**-0.4**
	comp=Z,21nm,1.1s,mb4.7						
CDF	**Champ du Feu**	**81.11**	**338**	*e*P	**P**	**19 07 11.3**	**-0.4**
	comp=Z,10nm,1.1s,mb4.7						
GRR	**Gorron**	**82.97**	**343**	*e*P	**P**	**19 07 21.2**	**-0.3**
	comp=Z,40nm,1.1s,mb5.1						
GRR	**Gorron**	**82.97**	**343**	*e*P	**P**	**19 07 21.2**	**-0.3**
	comp=Z,20nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.60**	**340**	*e*P	**P**	**19 07 24.4**	**-0.3**
	comp=Z,38nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.60**	**340**	*e*P	**P**	**19 07 24.4**	**-0.3**
	comp=Z,19nm,1.1s,mb5.1						
LPG	**La Plagne**	**83.94**	**338**	*e*P	**P**	**19 07 26.7**	**+0.2**
	comp=Z,12nm,0.9s,mb4.7						
CAF	**Calviac**	**85.64**	**340**	*e*P	**P**	**19 07 35.0**	**0.0**
SNAA	**Sanae**	**152.53**	**196**	PKPbc	PKPbc	19 14 48.1	-4.5
	comp=Z,0.5nm,0.8s,baz=351,slow=6.4,SNR=3.9						

*IDC **15** 18:56:05.4±0.6, 4603N×154.25E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.4/27, mbtmp4.4/19, ML3.6/1, Error ellipse: s-maj=16.9km s-min=15.6km az=153.0*
*ISCJB **15** 18:56:06.2±2.9, 4599N±009×154.1E±0.1, h16km±20km, mb4.4/25, MS4.4/1, Error ellipse: s-maj=15.2km s-min=11.1km az=130.8*
*NEIC **15** 18:56:07.3±0.4, 4604N×154.28E, h10km, mb4.9/3, Error ellipse: s-maj=12.5km s-min=11.6km az=166.0*
*MOS **15** 18:56:08.9±1.1, 4600N×15394E, h33km, mb4.8/5, Error ellipse: s-maj=19.7km s-min=11.7km az=106.3*
*BJI **15** 18:56:11.0, 4607N×15333E, h10km, mB5.0, mb4.6, Ms4.3, Msz4.6*

ISC 15 18:56:10.5±3.0, 4604N±009×1541E±01, h33km±21km, n39, σ1§08/38, mb4.4/25, MS4.4/1, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.

comp=E,292nm,13.7s,MS4.2
HHC LR LR
comp=Z,986nm,14.3s,MS4.6
SONM Songino Array 32.22 291 P **P** **19 02 34.8 -0.8**
comp=Z,1.0nm,0.6s,mb3.8,baz=66,slow=7.1,SNR=2.7
KDAK Kodiak Island 34.03 50 P **P** **19 02 50.0 -1.4**
comp=Z,35nm,1.1s,mb5.2,baz=289,slow=5.7,SNR=3.1
LZH Lanzhou 38.60 273 *e*P **P** **19 03 33.5 +3.0**
LZH AP pP 19 03 40.6 +0.6
LZH XP sP 19 03 43.3 -0.7
LZH AMB AMB
comp=Z,21nm,0.9s,mb4.9
LZH Lanzhou 38.60 273 *e*P **P** **19 03 33.5 +3.0**
comp=Z,21nm,0.9s,mb4.9
LZH pP pP 19 03 40.6 +0.6
LZH sP sP 19 03 43.3 -0.7
ZAL Zalesovo 43.60 307 P **P** **19 04 10.1 -1.5**
comp=Z,2.2nm,0.6s,mb4.1,baz=27,slow=7.0,SNR=5.6
ZAL Zalesovo 43.60 307 P **P** **19 04 10.1 -1.5**
NVS Novosibirsk 44.16 308 *e*P **P** **19 04 14.1 -2.0**
NVS pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,5.0nm,0.8s
MKAR Makanchi Array 47.88 298 P **P** **19 04 45.9 +0.5**
comp=E,6.1nm,0.7s,mb4.7,baz=70,slow=7.5,SNR=13
BVAR Borovoye Array 51.84 310 P **P** **19 05 16.0 +0.6**
comp=E,2.8nm,0.5s,mb4.5,baz=49,slow=7.1,SNR=15
ZRNK Zerenda 52.61 311 *e*P **P** **19 05 21.4 +0.2**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ZRNK Zerenda 52.61 311 *e*P **P** **19 05 21.4 +0.2**
comp=Z,4.1nm,0.5s,mb4.6
ARU Arti 56.00 318 *e*P **P** **19 05 45.6 -0.2**
ARU Arti 56.00 318 *e*P **P** **19 05 45.8 0.0**
comp=Z,21nm,0.6s,mb5.3
ARCES ARCESS Array B 59.75 341 P **P** **19 06 06.1 +0.9**
comp=Z,4.6nm,0.9s,mb4.5,baz=29,slow=6.9,SNR=7.8
AKTK Aktyubinsk 59.71 313 P **P** **19 06 12.6 +0.7**
AKTO Aktyubinsk 59.71 313 P **P** **19 06 12.6 +0.7**
comp=Z,2.8nm,0.6s,mb4.4,baz=51,slow=7.1,SNR=6.1
AKTO Aktyubinsk 59.71 313 P **P** **19 06 12.6 +0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NVAR Mina Array Bea 62.16 63 P **P** **19 06 29.0 +0.5**
comp=Z,0.6nm,0.5s,mb4.0,baz=297,slow=8.0
PDAR Pinedale Array 64.61 54 P **P** **19 06 44.3 -0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=284,slow=5.3,SNR=3.2
FINES FINESS Array B 64.97 335 P **P** **19 06 47.3 +0.2**
comp=Z,3.8nm,0.6s,mb4.6,baz=36,slow=8.6,SNR=9.2
ULM Lac du Bonnet 66.61 41 P **P** **19 06 56.8 -0.9**
comp=Z,2.2nm,0.8s,mb4.2,baz=295,slow=18,SNR=3.4
WB2 Warramunga Arr 68.07 200 *e*P **P** **19 07 07.0 +0.1**
WRA Warramunga Arr 68.07 200 P **P** **19 07 06.8 -0.1**
comp=Z,3.6nm,0.9s,mb4.4,baz=19,slow=6.6,SNR=5.9
FITZ Fitzroy Crossi 68.85 209 P **P** **19 07 12.2 +0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=70,slow=12,SNR=7.7
NB2 NORSAR Subarra 69.12 342 P **P** **19 07 15.7 +2.3**
comp=Z,5.9nm,0.9s,mb4.5,baz=30,slow=6.5
NOA NORSAR Array B 69.12 342 P **P** **19 07 12.9 -0.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=27,slow=6.4,SNR=4.7
ASAR Alice Springs 71.76 199 P **P** **19 07 30.4 +0.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=14,slow=5.4,SNR=8.4
AKASG Malin Array Be 72.52 327 P **P** **19 07 34.0 0.0**
comp=Z,3.6nm,0.5s,mb4.5,baz=34,slow=6.3,SNR=7.1
TXAR Lajitas Array 77.24 61 P **P** **19 07 59.7 -1.7**
comp=Z,1.1nm,0.4s,mb4.1,baz=281,slow=13,SNR=9.8
GERES GERESS Array B 79.39 335 P **P** **19 08 13.6 +0.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=22,slow=6.3,SNR=3.0
TORD Torodi Ar. Bea 116.05 330 PKP PKPdf 19 14 49.7 -0.4
comp=Z,0.5nm,0.6s,baz=34,slow=1.5,SNR=3.7
SNAA Sanae 152.06 195 PKPbc PKPbc 19 16 00.1 -2.3
comp=Z,0.7nm,0.9s,baz=300,slow=15,SNR=5.9
SNAA PKPab PKPab 19 16 10.5 -1.4
comp=Z,1.2nm,0.9s,baz=44,slow=22,SNR=4.0

*IDC **15** 18:59:50.8±1.1, 46.17N×154.29E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=34.5km s-min=21.9km az=97.0*
*ISCJB **15** 18:59:52.9±8.5, 462N±0.1×1542E±03, h27km±58km, mb3.9/9, Error ellipse: s-maj=35.5km s-min=22.2km az=22.1*
*MOS **15** 18:59:53.8±0.6, 4622N×154.17E, h33km, mb4.1/7, Error ellipse: s-maj=29.7km s-min=21.8km az=99.1*
ISC 15 18:59:55.9±3.7, 462N±01×1543E±03, h36km±30km, n20, σ0§65/20, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.60**	**260**	*e*PN	**Pn**	**19 01 10.0**	**+7.1**
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
ASAJ	**Asahikawa**	**8.52**	**260**	Pn	**Pn**	**19 01 56.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.3nm,0.3s,baz=86,slow=6.8,SNR=5.4						
ASAJ	**Asahikawa**	**8.52**	**260**	PN	**Pn**	**19 01 56.9**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**41.67**	**32**	P	**P**	**19 07 40.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.6,baz=252,slow=7.7,SNR=4.0						
INK	**Inuvik**	**41.67**	**32**	P	**P**	**19 07 40.5**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**19 08 30.2**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=73,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**19 08 30.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**19 08 59.6**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=59,slow=9.1,SNR=4.3						
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**19 08 59.6**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.61**	**341**	P	**P**	**19 09 48.6**	**-0.6**
	comp=Z,4.9nm,0.9s,mb4.5,baz=38,slow=8.3,SNR=3.8						
ARCES	**ARCESS Array B**	**58.61**	**341**	P	**P**	**19 09 48.7**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.68**	**313**	P	**P**	**19 09 56.6**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=43,slow=3.6,SNR=3.5						
AKTO	**Aktyubinsk**	**59.68**	**313**	P	**P**	**19 09 56.6**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.86**	**335**	P	**P**	**19 10 31.4**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.3,baz=17,slow=10.0,SNR=4.6						
FINES	**FINESS Array B**	**64.86**	**335**	P	**P**	**19 10 31.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**68.29**	**200**	P	**P**	**19 10 53.0**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.9,baz=18,slow=7.0,SNR=5.1						
WRA	**Warramunga Arr**	**68.29**	**200**	P	**P**	**19 10 53.0**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**68.98**	**342**	P	**P**	**19 10 59.4**	**+1.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=25,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**71.97**	**200**	P	**P**	**19 11 15.9**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=15,slow=6.2,SNR=7.0						
ASAR	**Alice Springs**	**71.97**	**200**	P	**P**	**19 11 15.9**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*BJI **15** 19:01:30.1, 4700N×15560E, h10km, mB4.9, mb4.3*
*IDC **15** 19:01:30.4±0.6, 4691N×15559E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/28, mbtmp4.2/22, ML3.7/2, Error ellipse: s-maj=18.6km s-min=13.7km az=154.0*
*MOS **15** 19:01:31.7±1.0, 4687N×15548E, h22km, mb4.8/11, Error ellipse: s-maj=13.0km s-min=10.6km az=104.1*
*ISCJB **15** 19:01:32.6±0.4, 4695N±006×15556E±009, h26km, mb4.3/33, Error ellipse: s-maj=10.4km s-min=6.7km az=92.6*
*NEIC **15** 19:01:32.1±0.4, 4697N×15563E, h10km, mb4.7/7, Error ellipse: s-maj=11.1km s-min=7.7km az=135.0*
ISC 15 19:01:34.7±0.4, 4700N±006×15554E±009, h28km, h28km±1.4km: pP-P, n64, σ1§10/65, mb4.3/33, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.71**	**6**	*e*PN	**Pb**	**19 02 39.7**	**+0.2**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.62**	**254**	⇑*i*PN	**Pn**	**19 02 53.0**	**-3.4**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
PET	**Petropavlovsk**	**6.36**	**17**	*e*PN	**Pn**	**19 03 00.2**	**-6.4**
PET				pmax	pmax		
	comp=Z,26nm,0.8s						
PET	**Petropavlovsk**	**6.36**	**17**	*e*P	**Pn**	**19 03 05.8**	**-0.8**
ASAJ	**Asahikawa**	**9.53**	**257**	Pn	**Pn**	**19 03 48.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=95,slow=17,SNR=3.4						
ASAJ	**Asahikawa**	**9.53**	**257**	PN	**Pn**	**19 03 48.5**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**16.03**	**287**	*e*P	**Pn**	**19 05 19.1**	**+0.9**
MJAR	**Matsushiro Arr**	**16.58**	**237**	Pn	**Pn**	**19 05 23.0**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=32,slow=15,SNR=4.3						
MAT	**Matsushiro**	**16.59**	**237**	P	**Pn**	**19 05 24.2**	**-1.0**
CN2	**Changchun**	**21.30**	**272**	*e*P	**P**	**19 06 17.1**	**-2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**21.80**	**11**	*e*P	**P**	**19 06 24.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
KSRS	**Korea Array**	**22.46**	**255**	P	**P**	**19 06 30.9**	**-0.7**
	comp=Z,2.4nm,0.8s,mb3.7,baz=61,slow=9.0,SNR=5.5						
KDAK	**Kodiak Island**	**32.65**	**51**	P	**P**	**19 08 02.2**	**-2.1**
	comp=Z,13nm,1.1s,mb4.8,baz=316,slow=22,SNR=5.1						
KDAK	**Kodiak Island**	**32.65**	**51**	P	**P**	**19 08 02.2**	**-2.1**
SONM	**Songino Array**	**32.82**	**290**	P	**P**	**19 08 05.8**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=61,slow=8.4,SNR=6.1						
EGAK	**Eagle**	**37.77**	**39**	*e*P	**P**	**19 08 47.3**	**-1.0**
	comp=Z,16nm,0.8s,mb4.8						
LZH	**Lanzhou**	**39.54**	**273**	*e*P	**P**	**19 09 05.9**	**+2.7**
LZH				AP	pP	19 09 13.0	+1.5
LZH				XP	sP	19 09 16.3	+1.5
LZH				PP	PP	19 10 36.3	+2.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.54**	**273**	*e*P	**P**	**19 09 05.9**	**+2.7**
LZH				*PP	pP	19 09 13.0	+1.5
LZH				*SP	sP	19 09 16.3	+1.5
LZH						19 10 36.2	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.54**	**273**	*e*P	**P**	**19 09 05.9**	**+2.7**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	19 09 13.0	+1.5
LZH				sP	sP	19 09 16.3	+1.5
LZH				PP	PP	19 10 36.2	+2.0
INK	**Inuvik**	**40.55**	**33**	P	**P**	**19 09 12.1**	**+0.6**
	comp=Z,9.7nm,0.8s,mb4.5,baz=278,slow=6.8,SNR=20						
INK	**Inuvik**	**40.55**	**33**	P	**P**	**19 09 12.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**40.55**	**33**	*e*P	**P**	**19 09 11.6**	**0.0**
GTA	**Gaotai**	**40.57**	**280**	*e*P	**P**	**19 09 13.6**	**+1.9**
GTA				AP	pP	19 09 22.9	+2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.0						
GYA	**Guiyang**	**43.39**	**259**	⇑*i*P	**P**	**19 09 36.6**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**43.83**	**306**	P	**P**	**19 09 38.2**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=53,slow=7.8,SNR=4.1						
ZAL				PcP	PcP	19 11 24.7	+0.3
	comp=Z,1.2nm,0.6s,baz=63,slow=4.5,SNR=4.5						
ZAL	**Zalesovo**	**43.83**	**306**	P	**P**	**19 09 38.2**	**-0.1**
ZAL				PcP	PcP	19 11 24.7	+0.3
NVS	**Novosibirsk**	**44.35**	**308**	*e*P	**P**	**19 09 40.8**	**-1.7**
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**19 10 14.0**	**+0.5**
	comp=E,1.9nm,0.7s,mb4.2,baz=64,slow=6.8,SNR=9.0						
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**19 10 14.0**	**+0.5**
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**19 10 24.2**	**-0.2**
	comp=E,1.9nm,0.8s,mb4.2,baz=294,slow=7.3,SNR=4.1						
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**19 10 24.2**	**-0.2**
RES	**Resolute Bay**	**50.07**	**19**	*e*P	**P**	**19 10 27.3**	**+0.3**
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P	**P**	**19 10 37.9**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P	**P**	**19 10 37.9**	**-0.2**
	comp=Z,20nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**19 10 42.1**	**+0.7**
	comp=Z,5.6nm,0.7s,mb4.6,baz=55,slow=7.2,SNR=19						
BVAR				PcP	PcP	19 11 53.9	+0.3
	comp=Z,1.8nm,0.7s,baz=81,slow=2.0,SNR=4.4						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**19 10 41.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**19 10 41.9**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**19 10 47.2**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**19 10 47.2**	**+0.2**
	comp=Z,4.1nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**53.80**	**259**	*e*P	**P**	**19 10 56.2**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHTO	**Chiang Mai**	**53.80**	**259**	*e*P	**P**	**19 10 56.2**	**+1.4**
	comp=Z,4.9nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**55.21**	**297**	*e*P	**P**	**19 11 05.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**55.21**	**297**	*e*P	**P**	**19 11 05.4**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.5						
ARU	**Arti**	**55.94**	**318**	⇑*i*P	**P**	**19 11 10.2**	**-0.1**
ARU				*e*S	**S**	**19 18 51.7**	**-4.8**
ARU				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
YBH	**Yreka Blue Hor**	**56.16**	**63**	P	**P**	**19 11 11.7**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=121,slow=4.7,SNR=4.5						
ARCES	**ARCESS Array B**	**58.16**	**342**	P	**P**	**19 11 24.1**	**-1.9**
	comp=Z,1.7nm,0.7s,mb4.2,baz=25,slow=6.5,SNR=6.6						
AKTK	**Aktyubinsk**	**59.79**	**313**	P	**P**	**19 11 37.8**	**+0.5**
AKTK				PcP	PcP	19 12 23.9	0.0
AKTO	**Aktyubinsk**	**59.79**	**313**	P	**P**	**19 11 37.8**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=73,slow=10,SNR=5.3						
AKTO				PcP	PcP	19 12 23.9	0.0
	comp=Z,1.9nm,0.5s,baz=68,slow=3.9,SNR=4.4						
AKTO	**Aktyubinsk**	**59.79**	**313**	P	**P**	**19 11 37.8**	**+0.5**
AKTO						19 12 23.9	
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**60.84**	**64**	P	**P**	**19 11 44.7**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.3,baz=294,slow=8.8,SNR=10.0						
PDAR	**Pinedale Array**	**63.25**	**55**	P	**P**	**19 12 01.0**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.1,baz=262,slow=2.7,SNR=5.2						
FINES	**FINESS Array B**	**64.51**	**336**	P	**P**	**19 12 09.2**	**+0.2**
	comp=Z,1.2nm,0.4s,mb4.3,baz=35,slow=7.5,SNR=9.5						
NB2	**NORSAR Subarra**	**68.52**	**342**	P	**P**	**19 12 39.2**	**+4.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.52**	**342**	P	**P**	**19 12 35.0**	**+0.4**
	comp=Z,1.7nm,1.0s,mb4.0,baz=27,slow=6.4,SNR=2.5						
WRAB	**Tennant Creek**	**69.31**	**201**	P	**P**	**19 12 37.9**	**-1.6**
WB2	**Warramunga Arr**	**69.31**	**201**	*e*P	**P**	**19 12 40.9**	**+1.3**
WB2				*e*	pP	19 12 48.0	-0.3
WRA	**Warramunga Arr**	**69.32**	**201**	P	**P**	**19 12 38.9**	**-0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=22,slow=6.9,SNR=18						
WRA				pP	pP	19 12 48.3	0.0
	comp=Z,3.2nm,0.7s,baz=22,slow=6.9,SNR=12						
AKASG	**Malin Array Be**	**72.25**	**327**	P	**P**	**19 12 56.8**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=5.3,SNR=5.0						
AS31	**Alice Springs**	**73.00**	**201**	*e*P	**P**	**19 13 03.7**	**+1.9**
AS31				*e*	pP	19 13 11.5	+0.9
ASAR	**Alice Springs**	**73.00**	**201**	P	**P**	**19 13 01.6**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=18,slow=5.2,SNR=26						
ASAR				pP	pP	19 13 11.1	+0.4
	comp=Z,2.4nm,0.6s,baz=17,slow=5.5,SNR=17						
ASPA	**Alice Springs**	**73.00**	**201**	*e*P	**P**	**19 13 03.7**	**+1.8**
ASPA				*e*	pP	19 13 11.5	+0.9
CLL	**Collm**	**76.91**	**337**	*e*P	**P**	**19 13 24.0**	**-0.4**
CLL				*e*pP	pP	19 13 31.0	-2.3
GERES	**GERESS Array B**	**78.94**	**335**	P	**P**	**19 13 36.2**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=210,slow=1.1,SNR=5.8						
BRTR	**Keskin Array B**	**79.33**	**318**	P	**P**	**19 13 38.9**	**+1.0**
	comp=Z,3.4nm,1.0s,mb4.2,baz=78,slow=1.8,SNR=8.3						

*IDC **15** 19:06:56.4±0.9, 4669N×15488E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/25, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=24.7km s-min=18.4km az=159.0*
*MOS **15** 19:06:59.9±1.1, 4680N×15478E, h33km, mb4.2/9, Error ellipse: s-maj=21.1km s-min=20.7km az=65.5*
*ISCJB **15** 19:07:01.3±3.0, 467N±02×1548E±02, h47km±28km, mb3.9/12, Error ellipse: s-maj=28.0km s-min=21.2km az=140.6*
ISC 15 19:07:03.3±2.4, 467N±02×1548E±02, h50km±23km, n25, σ0§83/24, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.05**	**255**	*e*PN	**Pn**	**19 08 18.0**	**+1.5**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
ASAJ	**Asahikawa**	**8.97**	**257**	Pn	**Pn**	**19 09 08.7**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=75,slow=14,SNR=7.3						
ASAJ	**Asahikawa**	**8.97**	**257**	PN	**Pn**	**19 09 08.7**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.90**	**255**	P	**P**	**19 11 52.2**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.5,baz=55,slow=10,SNR=4.5						
SONM	**Songino Array**	**32.42**	**290**	P	**P**	**19 13 28.0**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=54,slow=9.7,SNR=2.2						
INK	**Inuvik**	**41.04**	**33**	P	**P**	**19 14 41.8**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.3,baz=258,slow=2.3,SNR=4.1						
INK	**Inuvik**	**41.04**	**33**	P	**P**	**19 14 41.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**19 15 36.0**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=68,slow=6.7,SNR=8.0						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**19 15 36.0**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**19 16 05.2**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=55,slow=8.2,SNR=15						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**19 16 05.2**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**55.79**	**318**	*e*P	pP	19 16 46.1	-2.9
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**	**19 16 52.1**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.3,baz=22,slow=7.8,SNR=7.7						
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**	**19 16 52.1**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.58**	**313**	P	**P**	**19 17 03.4**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=90,slow=10,SNR=3.9						
AKTO	**Aktyubinsk**	**59.58**	**313**	P	**P**	**19 17 03.4**	**+1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.82**	**55**	P	**P**	**19 17 30.0**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=327,slow=2.5,SNR=4.2						
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**19 17 35.0**	**0.0**
	comp=Z,0.6nm,0.3s,mb4.1,baz=33,slow=7.3,SNR=7.7						
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**19 17 35.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**68.60**	**342**	P	**P**	**19 18 02.3**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=27,slow=6.5,SNR=3.0						
NOA	**NORSAR Array B**	**68.60**	**342**	P	**P**	**19 18 02.3**	**+1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.58**	**200**	P	**P**	**19 18 25.4**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=16,slow=5.6,SNR=16						
ASAR	**Alice Springs**	**72.58**	**200**	P	**P**	**19 18 25.4**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.49**	**62**	P	**P**	**19 18 47.7**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.4,baz=304,slow=6.4,SNR=10						
TXAR	**Lajitas Array**	**76.49**	**62**	P	**P**	**19 18 47.7**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						

*ISCJB **15** 19:08:09.6±1.0, 469N±0.1×1520E±03, h10km, mb4.0/8, Error ellipse: s-maj=31.8km s-min=20.0km az=30.4*
*IDC **15** 19:08:09.6±1.0, 4684N×15252E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=37.4km s-min=22.9km az=92.0*
*NEIC **15** 19:08:11.0±0.9, 4685N×15209E, h10km, mb4.7/1, Error ellipse: s-maj=31.0km s-min=22.1km az=107.0*
*MOS **15** 19:08:14.1±2.6, 4673N×15151E, h33km, mb3.9/1, Error ellipse: s-maj=38.8km s-min=20.5km az=78.4*
ISC 15 19:08:11.2±1.0, 469N±01×1521E±03, h10km, n17, σ1§06/15, mb4.0/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.64**	**34**	*e*PN	**Pn**	**19 09 32.2**	**+11**
LZH	**Lanzhou**	**37.16**	**271**	*e*P	**P**	**19 15 20.4**	**-1.9**
LZH				*SP	sP	19 15 30.3	+3.7
LZH				pmax	pmax		
	com

MJAR Matsushiro Arr 16.41 233 Pn **Pn** **19 16 08.1 -3.5**
comp=Z,0.3nm,0.3s,baz=37,slow=10,SNR=4.7
KSRS Korea Array 21.99 252 P **P** **19 17 13.8 -0.8**
comp=Z,4.2nm,0.8s,mb3.9,baz=59,slow=9.2,SNR=7.0
INK Inuvik 40.33 33 P **P** **19 19 57.4 -0.1**
comp=Z,1.7nm,0.6s,mb4.0,baz=304,slow=5.2,SNR=9.7
INK Inuvik 40.33 33 P **P** **19 19 57.4 -0.1**
MKAR Makanchi Array 47.34 297 P **P** **19 20 53.7 -0.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=53,slow=6.4,SNR=18
MKAR Makanchi Array 47.34 297 P **P** **19 20 53.7 -0.1**
BVAR Borovoye Array 50.98 309 P **P** **19 21 20.7 -0.9**
comp=Z,1.3nm,0.5s,mb4.1,baz=78,slow=8.0,SNR=13
AAK Ala-Archa 54.25 296 *e*P **P** **19 21 46.5 +0.7**
AAK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
AAK Ala-Archa 54.25 296 *e*P **P** **19 21 46.5 +0.7**
comp=Z,0.7nm,0.7s,mb3.7
PDAR Pinedale Array 63.42 55 P **P** **19 22 50.5 +1.0**
comp=Z,1.5nm,0.9s,mb4.1,baz=316,slow=2.5,SNR=6.1
FINES FINESS Array B 63.56 335 P **P** **19 22 49.2 -1.2**
comp=Z,1.1nm,0.7s,mb4.0,baz=38,slow=9.6,SNR=6.2
FINES FINESS Array B 63.56 335 P **P** **19 22 49.2 -1.3**
NOA NORSAR Array B 67.61 342 P **P** **19 23 17.6 +1.0**
comp=Z,0.4nm,0.8s,mb3.5,baz=30,slow=6.7,SNR=2.4
NOA NORSAR Array B 67.61 342 P **P** **19 23 17.6 +1.0**
WRA Warramunga Arr 69.74 200 P **P** **19 23 28.7 -1.1**
comp=Z,0.8nm,0.8s,mb3.7,baz=16,slow=6.8,SNR=3.7
ASAR Alice Springs 73.43 200 P **P** **19 23 52.2 +0.3**
comp=Z,0.6nm,0.6s,mb3.7,baz=13,slow=5.6,SNR=16
TXAR Lajitas Array 76.20 62 P **P** **19 24 09.1 +1.0**
comp=Z,1.8nm,0.5s,mb4.2,baz=295,slow=4.2,SNR=13
GERES GERESS Array B 77.99 335 P **P** **19 24 18.2 +0.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=356,slow=4.3,SNR=3.6
STKA Stephens Creek 80.07 191 P **P** **19 24 29.4 0.0**
comp=Z,3.6nm,1.1s,mb4.2,baz=59,slow=5.9,SNR=3.7

*ISCJB **15** 19:12:49.6±0.6, 464N±0.1×1542E±0.1, h10km, mb4.2/22, Error ellipse: s-maj=16.0km s-min=9.7km az=148.1*
*BJI **15** 19:12:49.9, 4632N×15429E, h10km, mB4.8, mb4.6*
*IDC **15** 19:12:49.7±0.7, 4636N×15429E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/25, mbtmp4.1/14, Error ellipse: s-maj=21.0km s-min=17.2km az=165.0*
*MOS **15** 19:12:51.8±0.7, 4635N×154.10E, h26km, mb4.7/7, Error ellipse: s-maj=18.2km s-min=12.9km az=127.6*
*NEIC **15** 19:12:51.5±0.5, 4639N×1543 2E, h10km, mb4.6/5, Error ellipse: s-maj=15.2km s-min=9.9km az=174.0*

ISC 15 19:12:51.5±0.6, 464N±0.1×1542E±0.1, h10km, n35, σ1$04/35, mb4.2/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.60**	**257**	*e*PN		**Pn**	**19 13 59.5**	**-1.6**
KUR				pmax		pmax		
	comp=Z,340nm,0.6s							
KLR	**Kul'dur**	**15.34**	**289**	*e*P		**Pn**	**19 16 27.1**	**-0.8**
MDJ	**Mudanjiang**	**17.34**	**273**	*e*P		**Pn**	**19 16 55.1**	**+1.5**
	comp=Z,18nm,0.9s							
CN2	**Changchun**	**20.43**	**273**	*e*P		**P**	**19 17 26.3**	**-2.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**21.44**	**255**	P		**P**	**19 17 41.8**	**+2.0**
	comp=Z,7.4nm,0.7s,mb4.1,baz=55,slow=10,SNR=9.4							
BILL	**Bilibino**	**22.53**	**12**	*e*P		**P**	**19 17 51.4**	**0.0**
BILL				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.2							
BOD	**Bodaibo**	**26.77**	**310**	*e*P		**P**	**19 18 29.9**	**-1.6**
BOD				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.0							
BJI	**Beijing**	**28.24**	**271**	*e*P		**P**	**19 18 49.5**	**+4.9**
BJI				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.6							
BJI	**Beijing**	**28.24**	**271**	*e*P		**P**	**19 18 49.5**	**+4.9**
	comp=Z,13nm,0.8s,mb4.6							
SONM	**Songino Array**	**32.16**	**290**	P		**P**	**19 19 19.2**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.5,baz=92,slow=7.9,SNR=3.5							
SONM	**Songino Array**	**32.16**	**290**	P		**P**	**19 19 19.2**	**-0.1**
ZAK	**Zakamensk**	**33.50**	**296**	*e*P		**P**	**19 19 30.2**	**-0.8**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.0							
LZH	**Lanzhou**	**38.66**	**273**	*e*P		**P**	**19 20 17.9**	**+2.7**
LZH				AP		pP	19 20 25.0	+6.7
LZH				XP		sP	19 20 29.1	+10
LZH				AMB		AMB		
	comp=Z,18nm,1.0s,mb4.8							
LZH	**Lanzhou**	**38.66**	**273**	*e*P		**P**	**19 20 17.9**	**+2.7**
	comp=Z,18nm,1.0s,mb4.8							
LZH				pP		pP	19 20 25.0	+6.7
LZH				sP		sP	19 20 29.1	+10
GTA	**Gaotai**	**39.78**	**280**	*e*P		**P**	**19 20 26.5**	**+2.0**
GTA				AP		pP	19 20 36.8	+9.2
GTA				AMB		AMB		
	comp=Z,7.0nm,1.3s,mb4.2							
INK	**Inuvik**	**41.51**	**32**	P		**P**	**19 20 38.9**	**+0.1**
	comp=Z,2.0nm,0.7s,mb3.8,baz=272,slow=7.7,SNR=4.2							
ZAL	**Zalesovo**	**43.43**	**306**	P		**P**	**19 20 53.9**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=39,slow=5.8,SNR=3.7							
ZAL				PcP		PcP	19 22 42.1	-0.5
	comp=Z,1.1nm,0.7s,baz=318,slow=2.9,SNR=4.0							
MK31	**Makanchi Array**	**47.76**	**298**	*e*P		**P**	**19 21 29.1**	**+0.4**
MKAR	**Makanchi Array**	**47.76**	**298**	P		**P**	**19 21 28.4**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.4,baz=66,slow=7.1,SNR=11							
MKAR				PcP		PcP	19 22 57.5	-0.2
	comp=Z,0.8nm,0.6s,baz=91,slow=2.1,SNR=4.1							
MKAR	**Makanchi Array**	**47.76**	**298**	P		**P**	**19 21 28.4**	**-0.3**
MKAR				PcP		PcP	19 22 57.5	-0.3
BVAR	**Borovoye Array**	**51.65**	**310**	P		**P**	**19 21 58.8**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=54,slow=7.9,SNR=5.5							
AAK	**Ala-Archa**	**54.66**	**297**	*e*P		**P**	**19 22 21.1**	**+0.6**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.66**	**297**	*e*P		**P**	**19 22 21.1**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.4							
ARU	**Arti**	**55.76**	**318**	*e*P		**P**	**19 22 28.2**	**-0.2**
ARU				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.0							
ARU	**Arti**	**55.76**	**318**	*e*P		**P**	**19 22 28.2**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0							
YBH	**Yreka Blue Hor**	**57.22**	**62**	P		**P**	**19 22 39.4**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.4,baz=333,slow=2.3,SNR=3.9							
AKTK	**Aktyubinsk**	**59.50**	**312**	P		**P**	**19 22 55.4**	**+0.6**
AKTO	**Aktyubinsk**	**59.50**	**312**	P		**P**	**19 22 55.4**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=58,slow=5.5,SNR=7.4							
AKTO	**Aktyubinsk**	**59.50**	**312**	P		**P**	**19 22 55.4**	**+0.6**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**64.31**	**54**	P		**P**	**19 23 27.0**	**-0.1**
	comp=Z,1.7nm,1.0s,mb4.0,baz=318,slow=2.0,SNR=6.0							
FINES	**FINESS Array B**	**64.65**	**335**	P		**P**	**19 23 29.1**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.1,baz=44,slow=8.5,SNR=4.0							
WRA	**Warramunga Arr**	**68.47**	**200**	P		**P**	**19 23 52.6**	**-1.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=18,slow=6.6,SNR=8.3							
ASAR	**Alice Springs**	**72.16**	**200**	P		**P**	**19 24 16.1**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=15,slow=6.3,SNR=14							
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**	**19 24 16.4**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=35,slow=6.0,SNR=4.5							
TXAR	**Lajitas Array**	**76.98**	**61**	P		**P**	**19 24 44.0**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=303,slow=4.6,SNR=14							

*BJI **15** 19:19:02.1, 4622N×15347E, h16km, mB5.1, mb4.6*
*NEIC **15** 19:19:04.2±0.5, 4656N×15340E, h10km, mb4.6/21, Error ellipse: s-maj=12.7km s-min=9.1km az=136.0*
*ISCJB **15** 19:19:06.4±1.3, 4650N±0.007×1533E±0.1, h34km±10km, mb4.6/51, Error ellipse: s-maj=15.5km s-min=8.5km az=89.7*
*MOS **15** 19:19:07.5±1.4, 4652N×15326E, h44km, mb4.8/19, Error ellipse: s-maj=10.7km s-min=7.0km az=112.9*
*IDC **15** 19:19:11.3±3.9, 4649N×153.14E, h67km±35km, mb4.0/17, mb1 4.2/19, mb1mx4.0/27, mbtmp4.0/19, ML4.2/2, Error ellipse: s-maj=18.9km s-min=16.0km az=106.0*
*SZGRF **15** 19:19:15.2, 4733N×15275E, h33km, mb4.8, Kuril Islands, Russia*

ISC 15 19:19:09.9±1.3, 4657N±008×1533E±01, h51km±9km, h34km±15.0km: pP-P, n133, σ1$11/132, mb4.6/51, 7C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04**	**253**	*e*PN		**Pn**	**19 20 04.3**	**-5.0**
KUR				pmax		pmax		
	comp=N,230nm,0.5s							
KUR				pmax		pmax		
	comp=E,150nm,0.5s							
KUR				pmax		pmax		
	comp=Z,760nm,0.5s							
SKR	**Severo-Kuril's**	**4.51**	**23**	*e*PN		**Pn**	**19 20 15.5**	**-0.2**
SKR				*e*			19 21 07.0	
YSS	**Yuzh-Sakhalins**	**7.27**	**277**	*e*PN		**Pn**	**19 20 56.0**	**+2.4**
YSS				pmax		pmax		
	comp=Z,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.27**	**277**	*e*P		**Pn**	**19 20 54.0**	**+0.4**
	comp=Z,24nm,0.6s							
ASAJ	**Asahikawa**	**7.95**	**256**	P		**Pn**	**19 21 02.4**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=79,slow=17,SNR=17							
ASAJ	**Asahikawa**	**7.95**	**256**	PN		**Pn**	**19 21 02.4**	**-0.4**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
UGL	**Uglegorsk**	**7.98**	**292**	*e*PN		**Pn**	**19 21 05.3**	**+2.0**
UGL				pmax		pmax		
	comp=Z,72nm,0.8s							
UGL				MLR		MLR		
	comp=Z,3μm,15.0s							
UGL				MLR		MLR		
	comp=N,5μm,12.0s							
UGL				MLR		MLR		
	comp=E,2μm,16.0s							
MJAR	**Matsushiro Arr**	**15.09**	**234**	P		**Pn**	**19 22 39.6**	**-0.3**
	comp=E,0.9nm,0.3s,baz=25,slow=8.8,SNR=13							
MAT	**Matsushiro**	**15.09**	**234**	P		**Pn**	**19 22 35.1**	**-4.8**
YAK	**Yakutsk**	**20.55**	**327**	*e*P		**P**	**19 23 43.1**	**-1.1**
YAK				pmax		pmax		
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**20.55**	**327**	*e*P		**P**	**19 23 43.1**	**-1.1**
	comp=Z,10nm,0.6s							
KSRS	**Korea Array**	**20.89**	**253**	P		**P**	**19 23 47.0**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=59,slow=10.0,SNR=17							
BILL	**Bilibino**	**22.53**	**13**	*e*P		**P**	**19 24 05.9**	**+0.6**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.7							
BILL	**Bilibino**	**22.53**	**13**	*e*P		**P**	**19 24 03.9**	**-1.5**
	comp=Z,6.9nm,0.5s,mb4.3							
BOD	**Bodaibo**	**26.22**	**310**	*e*P		**P**	**19 24 36.0**	**-3.9**
BOD				*e*			19 25 35.2	
BOD				pmax		pmax		
	comp=Z,5.0nm,1.7s,mb3.8							
BOD				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.1							
BJI	**Beijing**	**27.62**	**270**	*e*P		**P**	**19 24 54.3**	**+1.8**
BJI				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb4.5							
BJI	**Beijing**	**27.62**	**270**	*e*P		**P**	**19 24 54.2**	**+1.7**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.5							
BJI	**Beijing**	**27.62**	**270**	*e*P		**P**	**19 24 54.2**	**+1.7**
	comp=Z,9.0nm,0.7s,mb4.5							
ULN	**Ulaanbaatar**	**31.10**	**290**	*e*P		**P**	**19 25 25.0**	**+1.7**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
ULN	**Ulaanbaatar**	**31.10**	**290**	*e*P		**P**	**19 25 24.9**	**+1.6**
	comp=Z,2.5nm,0.8s,mb4.1							
SONM	**Songino Array**	**31.53**	**290**	P		**P**	**19 25 25.7**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=57,slow=11,SNR=6.1							
ZAK	**Zakamensk**	**32.89**	**295**	*e*P		**P**	**19 25 37.1**	**-1.9**
ZAK				*e*			19 27 10.7	
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
LZH	**Lanzhou**	**38.04**	**272**	*e*P		**P**	**19 26 24.0**	**+0.7**
LZH				AP		pP	19 26 29.0	-7.7
LZH				XP		sP	19 26 31.3	-11
LZH				AMB		AMB		
	comp=Z,27nm,0.8s,mb5.0							
LZH				AMB		AMB		
	comp=Z,125nm,4.1s							
LZH	**Lanzhou**	**38.04**	**272**	*e*P		**P**	**19 26 24.0**	**+0.7**
	comp=Z,27nm,0.8s,mb5.0							
LZH				pP		pP	19 26 29.0	-7.7
LZH				sP		sP	19 26 31.3	-11
GTA	**Gaotai**	**39.15**	**279**	*e*P		**P**	**19 26 33.0**	**+0.5**
GTA				AP		pP	19 26 40.8	-5.2
GTA				XP		sP	19 26 44.8	-7.2
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
CD2	**Chengdu**	**41.01**	**266**	P		**P**	**19 26 45.4**	**-2.6**
CD2				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.9							
INK	**Inuvik**	**41.72**	**32**	P		**P**	**19 26 53.8**	**0.0**
	comp=Z,1.6nm,0.5s,mb3.9,baz=302,slow=7.2,SNR=12							
INK	**Inuvik**	**41.72**	**32**	P		**P**	**19 26 53.8**	**0.0**
INK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**41.72**	**32**	*e*P		**P**	**19 26 54.2**	**+0.4**
GYA	**Guiyang**	**41.82**	**258**	*i*P		**P**	**19 26 54.0**	**-0.6**
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.8							
MK31	**Makanchi Array**	**47.16**	**298**	*e*P		**P**	**19 27 35.2**	**-2.0**
MKAR	**Makanchi Array**	**47.16**	**298**	P		**P**	**19 27 35.8**	**-1.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=64,slow=7.5,SNR=32							
LSA	**Lhasa**	**50.43**	**273**	*e*P		**P**	**19 28 04.0**	**+1.7**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**50.43**	**273**	*e*P		**P**	**19 28 04.0**	**+1.7**
	comp=Z,8.2nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P		**P**	**19 27 59.8**	**-4.2**
CHKZ				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P		**P**	**19 27 59.8**	**-4.2**
	comp=Z,9.4nm,0.6s,mb4.9							
BVAR	**Borovoye Array**	**51.09**	**310**	P		**P**	**19 28 05.9**	**-1.3**
	comp=Z,3.4nm,0.5s,mb4.6,baz=57,slow=7.4,SNR=23							
BRVK	**Borovoye**	**51.13**	**310**	*e*P		**P**	**19 28 05.8**	**-1.7**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
BRVK	**Borovoye**	**51.13**	**310**	*e*P		**P**	**19 28 05.8**	**-1.7**
	comp=Z,6.2nm,0.8s,mb4.6							
ZRNK	**Zerenda**	**51.85**	**310**	*e*P		**P**	**19 28 10.0**	**-3.0**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**51.85**	**310**	*e*P		**P**	**19 28 10.0**	**-3.0**
	comp=Z,5.0nm,0.7s,mb4.5							
CHTO	**Chiang Mai**	**52.22**	**257**	*e*P		**P**	**19 28 15.9**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
CHTO	**Chiang Mai**	**52.22**	**257**	*e*P		**P**	**19 28 15.9**	**+0.2**
	comp=Z,9.3nm,0.8s,mb4.8							
AAK	**Ala-Archa**	**54.05**	**297**	*e*P		**P**	**19 28 27.4**	**-1.7**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**54.05**	**297**	*e*P		**P**	**19 28 27.4**	**-1.7**
	comp=Z,5.1nm,0.8s,mb4.5							
JIRN	**Jiri**	**55.11**	**275**	*e*P		**P**	**19 28 36.9**	**+0.1**
	comp=Z,36nm,0.6s,mb5.5							
GUN	**Gumba**	**55.16**	**275**	*e*P		**P**	**19 28 37.8**	**+0.6**
	comp=Z,14nm,0.5s,mb5.2							
KKN	**Kakani**	**55.65**	**276**	*e*P		**P**	**19 28 41.4**	**+0.7**
	comp=Z,27nm,0.6s,mb5.5							
PKI	**Pulchoki**	**55.70**	**275**	*e*P		**P**	**19 28 41.8**	**+0.7**
	comp=Z,15nm,0.6s,mb5.2							
DMN	**Daman**	**55.89**	**276**	*e*P		**P**	**19 28 43.4**	**+1.0**
	comp=Z,32nm,0.7s,mb5.5							
GKN	**Gorkha**	**55.96**	**276**	*e*P		**P**	**19 28 43.7**	**+0.8**
	comp=Z,31nm,0.5s,mb5.6							
KOLN	**Koldanda**	**56.82**	**277**	*e*P		**P**	**19 28 49.9**	**+0.9**
	comp=Z,15nm,0.6s,mb5.2							
KEV	**Kevo**	**57.56**	**341**	*ep*		**P**	**19 28 52.2**	**-2.0**
ARCES	**ARCESS Array B**	**58.07**	**341**	P		**P**	**19 28 57.0**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.3,baz=32,slow=7.1,SNR=8.4							
AKTK	**Aktyubinsk**	**58.95**	**312**	P		**P**	**19 29 02.3**	**-1.7**
AKTO	**Aktyubinsk**	**58.95**	**312**	P		**P**	**19 29 02.3**	**-1.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=63,slow=9.1,SNR=11							
AKTO	**Aktyubinsk**	**58.95**	**312**	P		**P**	**19 29 02.3**	**-1.7**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
FINES	**FINESS Array B**	**64.26**	**335**	P		**P**	**19 29 38.8**	**-1.0**
	comp=Z,4.4nm,0.5s,mb4.8,baz=34,slow=8.8,SNR=43							
PDAR	**Pinedale Array**	**64.73**	**54**	P		**P**	**19 29 43.5**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.8,baz=253,slow=1.5,SNR=5.3							
WRA	**Warramunga Arr**	**68.39**	**199**	P		**P**	**19 30 04.0**	**-2.2**
	comp=Z,1.5nm,0.9s,mb4.0,baz=17,slow=6.7,SNR=9.3							
NB2	**NORSAR Subarra**	**68.44**	**341**	P		**P**	**19 30 05.7**	**-0.8**
	comp=Z,5.4nm,0.6s,mb4.8,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.44**	**341**	P		**P**	**19 30 05.9**	**-0.6**
	comp=Z,6.2nm,0.5s,mb4.9,baz=28,slow=6.4,SNR=28							
AKASG	**Malin Array Be**	**71.78**	**326**	P		**P**	**19 30 26.0**	**-0.9**
	comp=Z,8.7nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=45							
AKASG	**Malin Array Be**	**71.78**	**326**	P		**P**	**19 30 26.0**	**-0.9**
AKBB	**Malin Array Si**	**71.78**	**326**	*e*P		**P**	**19 30 25.8**	**-1.1**
KIEV	**Kiev**	**71.79**	**326**	*e*P		**P**	**19 30 25.9**	**-1.1**
KIEV				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.0							
KIEV	**Kiev**	**71.79**	**326**	*e*P		**P**	**19 30 25.9**	**-1.1**
	comp=Z,15nm,0.8s,mb5.0							
AS31	**Alice Springs**	**72.09**	**199**	*e*P		**P**	**19 30 27.7**	**-1.0**
ASAR	**Alice Springs**	**72.09**	**199**	P		**P**	**19 30 28.1**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=12,slow=6.0,SNR=30							
SCHQ	**Schefferville**	**73.42**	**23**	P		**P**	**19 30 38.0**	**+1.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=295,slow=6.2,SNR=3.7							
SCHQ	**Schefferville**	**73.42**	**23**	P		**P**	**19 30 38.0**	**+1.3**
STHS	**Stebnicka Huta**	**75.74**	**330**	*e*P		**P**	**19 30 50.9**	**+0.8**
STHS				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**75.74**	**330**	*e*P		**P**	**19 30 50.9**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.2							
KOLS	**Kolonicke sedl**	**75.79**	**329**	*e*P		**P**	**19 30 51.2**	**+0.8**
BURAR	**Bucovina Array**	**75.82**	**327**	*i*P		**P**	**19 30 50.7**	**+0.2**
BURAR	**Bucovina Array**	**75.82**	**327**	P		**P**	**19 30 50.7**	**+0.2**
DPC	**Dobruska-Polom**	**76.55**	**333**	*e*P		**P**	**19 30 54.7**	**0.0**
MORC	**Moravsky Berou**	**76.67**	**332**	*i*P		**P**	**19 30 55.6**	**+0.2**
MORC	**Moravsky Berou**	**76.67**	**332**	P		**P**	**19 30 55.6**	**+0.2**
CFR	**Carcaliu**	**76.67**	**324**	*i*P		**P**	**19 30 56.6**	**+1.2**
CFR	**Carcaliu**	**76.67**	**324**	P		**P**	**19 30 56.6**	**+1.2**
CLL	**Collm**	**76.69**	**336**	*i*P		**P**	**19 30 54.9**	**-0.6**
CLL				*e*		pP	19 31 09.0	-1.1
CLL				pmax		pmax		
	comp=Z,31nm,1.1s,mb5.2							
CLL	**Collm**	**76.69**	**336**	*i*P		**P**	**19 30 54.9**	**-0.6**
	comp=Z,19nm,1.1s,mb4.9							
CLL				*e*		pP	19 31 09.0	-1.1
PLOR	**Plostina**	**76.72**	**325**	*i*P		**P**	**19 30 58.6**	**+2.9**
KECS	**Kecovo**	**76.80**	**330**	*e*P		**P**	**19 30 55.4**	**-0.7**
KECS				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
KECS	**Kecovo**	**76.80**	**330**	*e*P		**P**	**19 30 55.4**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1							
TIRR	**Tirgusor**	**77.14**	**323**	*i*P		**P**	**19 30 59.1**	**+1.1**
TIRR	**Tirgusor**	**77.14**	**323**	P		**P**	**19 30 59.1**	**+1.0**
MLR	**Muntele Rosu**	**77.30**	**325**	*i*P		**P**	**19 30 59.8**	**+0.9**
MLR	**Muntele Rosu**	**77.30**	**325**	P		**P**	**19 30 59.8**	**+0.9**
VYHS	**Vyhne**	**77.35**	**331**	*e*P		**P**	**19 30 59.2**	**0.0**
VRAC	**Vranov**	**77.38**	**333**	*i*P		**P**	**19 30 59.8**	**+0.5**
VRAC	**Vranov**	**77.38**	**333**	P		**P**	**19 30 59.8**	**+0.4**
MALT	**Malatya**	**77.38**	**313**	*i*P		**P**	**19 31 01.2**	**+1.8**
MALT	**Malatya**	**77.38**	**313**	P		**P**	**19 31 01.2**	**+1.9**
PRU	**Pruhonice**	**77.41**	**334**	*e*P		**P**	**19 30 59.5**	**0.0**
TXAR	**Lajitas Array**	**77.45**	**61**	P		**P**	**19 31 00.2**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=288,slow=4.4,SNR=7.7							
SNX	**Sinaia**	**77.58**	**325**	*i*P		**P**	**19 31 01.5**	**+1.0**
SNX	**Sinaia**	**77.58**	**325**	P		**P**	**19 31 01.5**	**+1.0**
VOIR		**77.69**	**326**	*i*P		**P**	**19 31 01.9**	**+0.8**
KHC	**Kasperske Hory**	**78.46**	**334**	*e*P		**P**	**19 31 04.6**	**-0.8**
GZR	**Gura Zlata**	**78.60**	**327**	*i*P		**P**	**19 31 06.1**	**0.0**
GZR	**Gura Zlata**	**78.60**	**327**	P		**P**	**19 31 06.1**	**0.0**
BR131	**Keskin Array S**	**78.62**	**317**	*e*P		**P**	**19 31 07.4**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**78.62**	**317**	P		**P**	**19 31 07.0**	**+0.8**
	comp=Z,2.4nm,0.9s,mb4.1,baz=114,slow=2.9,SNR=7.4							
GRA1	**Grafenberg Arr**	**78.64**	**336**	*e*P		**P**	**19 31 07.6**	**+1.2**
	comp=Z,6.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	**78.64**	**336**	*e*P		**P**	**19 31 07.6**	**+1.2**
	comp=Z,6.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	**78.64**	**336**	*e*P		**P**	**19 31 07.6**	**+1.2**
GRF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
GERES	**GERESS Array B**	**78.68**	**334**	P		**P**	**19 31 06.5**	**0.0**
	comp=Z,1.7nm,0.5s,m

comp=Z,17nm,0.8s,mb4.5
BILL Bilibino 21.83 11 *e*P **P 19 24 50.0 -0.9**
comp=Z,34nm,1.0s,mb4.7
KSRS Korea Array 22.16 254 P **P 19 24 55.6 +1.2**
comp=Z,6.5nm,0.6s,mb4.2,baz=54,slow=9.7,SNR=9.7
SNY Shenyang 22.98 268 ⇓P **P 19 25 03.3 +0.2**
SNY AMB AMB
comp=Z,12nm,0.6s,mb4.5
BJI Beijing 28.81 270 *e*P **P 19 26 00.9 +4.3**
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
BJI Beijing 28.81 270 *e*P **P 19 26 00.9 +4.3**
comp=Z,9.0nm,0.8s,mb4.5
SONM Songino Array 32.50 290 P **P 19 26 28.5 -0.6**
comp=Z,1.5nm,0.9s,mb3.8,baz=63,slow=8.1,SNR=5.0
KDAK Kodiak Island 32.88 51 P **P 19 26 31.1 -1.4**
comp=Z,11nm,0.7s,mb4.9,baz=259,slow=6.1,SNR=5.9
MCK McKinley 34.56 41 *e*P **P 19 26 47.2 0.0**
SML Sawmill 34.84 44 *e*P **P 19 26 48.9 -0.6**
COLA College 35.08 39 *e*P **P 19 26 51.0 -0.6**
COLA pmax pmax
comp=Z,27nm,0.8s,mb5.2
COLA College 35.08 39 *e*P **P 19 26 51.0 -0.7**
comp=Z,27nm,0.8s,mb5.2
EGAK Eagle 37.94 39 *e*P **P 19 27 15.5 -0.6**
comp=Z,27nm,0.8s,mb5.0
EGAK *e* 19 27 27.6
LZH Lanzhou 39.21 273 *e*P **P 19 27 29.3 +2.6**
LZH AP pP 19 27 34.0 +4.2
LZH XP sP 19 27 36.3 +5.2
LZH AMB AMB
comp=Z,22nm,1.0s,mb4.8
INK Inuvik 40.69 33 P **P 19 27 39.5 +0.6**
comp=Z,19nm,0.7s,mb4.9,baz=288,slow=6.6,SNR=36
INK Inuvik 40.69 33 P **P 19 27 39.5 +0.6**
INK *e* 19 27 51.8
CD2 Chengdu 42.23 266 P **P 19 27 53.5 +1.8**
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
ZAL Zalesovo 43.54 306 P **P 19 28 00.9 -1.4**
comp=Z,3.6nm,0.4s,mb4.4,baz=66,slow=5.3,SNR=8.1
NVS Novosibirsk 44.07 308 *e*P **P 19 28 04.7 -1.8**
NVS pmax pmax
comp=N,16nm,2.0s
NVS pmax pmax
comp=E,24nm,2.0s
NVS pmax pmax
comp=Z,37nm,2.0s,mb4.8
MK31 Makanchi Array 47.99 298 *e*P **P 19 28 36.9 -0.5**
MKAR Makanchi Array 47.99 298 P **P 19 28 36.8 -0.7**
comp=Z,2.9nm,0.6s,mb4.5,baz=70,slow=7.2,SNR=11
RES Resolute Bay 50.13 19 *e*P **P 19 28 54.1 +0.3**
CHKZ Chkalovo 51.26 311 *e*P **P 19 29 00.7 -1.7**
CHKZ pmax pmax
comp=Z,14nm,0.4s,mb5.2
CHKZ Chkalovo 51.26 311 *e*P **P 19 29 00.7 -1.7**
comp=Z,14nm,0.4s,mb5.2
LSA Lhasa 51.59 274 *e*P **P 19 29 08.1 +3.3**
BVAR Borovoye Array 51.70 310 P **P 19 29 05.4 -0.3**
comp=Z,5.7nm,0.4s,mb4.9,baz=55,slow=8.1,SNR=24
BRVK Borovoye 51.74 310 *e*P **P 19 29 05.3 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BRVK Borovoye 51.74 310 *e*P **P 19 29 05.3 -0.7**
comp=Z,8.9nm,0.7s,mb4.8
ZRNK Zerenda 52.46 310 *e*P **P 19 29 10.8 -0.5**
ZRNK pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
ZRNK Zerenda 52.46 310 *e*P **P 19 29 10.8 -0.5**
comp=Z,7.1nm,0.4s,mb5.0
CHTO Chiang Mai 53.48 258 *e*P **P 19 29 20.0 +1.1**
CHTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
CHTO Chiang Mai 53.48 258 *e*P **P 19 29 20.0 +1.1**
comp=Z,1.9nm,0.4s,mb4.4
CM31 Chiang Mai Arr 53.74 258 *e*P **P 19 29 22.5 +1.8**
comp=Z,10.0nm,1.1s,mb4.7
AAK Ala-Archa 54.90 297 *e*P **P 19 29 28.8 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 54.90 297 *e*P **P 19 29 28.8 -0.4**
comp=Z,3.0nm,0.8s,mb4.4
ARU Arti 55.70 318 ⇓*i*P **P 19 29 34.7 -0.2**
ARU *e* 19 31 37.0
ARU *e*PPP 19 32 52.6
ARU *e*S **S 19 37 17.6 -3.7**
ARU *e*SS SS 19 40 58.6 -7.9
ARU pmax pmax
comp=Z,11nm,0.7s,mb5.0
ARU Arti 55.70 318 *e*P **P 19 29 34.3 -0.6**
comp=Z,12nm,0.4s,mb5.3
KEV Kevo 57.51 341 *e*p **P 19 29 47.0 -0.8**
ARCES ARCESS Array B 58.01 341 P **P 19 29 51.0 -0.4**
comp=Z,4.2nm,0.8s,mb4.5,baz=24,slow=6.9,SNR=7.5
AKTK Aktyubinsk 59.52 313 P **P 19 30 01.4 -0.5**
AKTO Aktyubinsk 59.52 313 P **P 19 30 01.4 -0.5**
comp=Z,2.4nm,0.5s,mb4.5,baz=64,slow=7.7,SNR=8.2
AKTO Aktyubinsk 59.52 313 P **P 19 30 01.4 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
PDAR Pinedale Array 63.49 55 P **P 19 30 29.5 +0.8**
comp=Z,0.8nm,0.8s,mb3.9,baz=270,slow=1.8,SNR=2.6
FINES FINESS Array B 64.34 336 P **P 19 30 34.4 +0.1**
comp=Z,6.4nm,0.3s,mb5.1,baz=36,slow=7.6,SNR=46
ULM Lac du Bonnet 65.42 42 P **P 19 30 40.0 -1.3**
comp=Z,1.3nm,0.6s,mb4.2,baz=323,slow=10,SNR=3.1
OBN Obninsk 65.82 326 *e*P **P 19 30 42.3 -1.6**
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.1
NB2 NORSAR Subarra 68.38 342 P **P 19 30 59.1 -1.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.38 342 P **P 19 30 59.0 -1.1**
comp=Z,2.1nm,0.7s,mb4.3,baz=25,slow=6.3,SNR=4.2
WRA Warramunga Arr 69.24 201 P **P 19 31 05.1 -0.4**
comp=Z,2.4nm,1.1s,mb4.0,baz=21,slow=6.7,SNR=5.9
AKASG Malin Array Be 72.04 327 P **P 19 31 21.7 -0.8**
comp=Z,2.0nm,0.4s,mb4.4,baz=33,slow=6.2,SNR=8.7
ASAR Alice Springs 72.92 200 P **P 19 31 27.6 -0.3**
comp=Z,2.6nm,1.0s,mb4.1,baz=4.2,slow=5.0,SNR=8.5
STHS Stebnicka Huta 75.92 331 *e*P **P 19 31 48.6 +3.3**
BURAR Bucovina Array 76.07 328 ⇑*i*P **P 19 31 46.8 +0.7**
BURAR Bucovina Array 76.07 328 ⇑P **P 19 31 46.8 +0.6**
UPC Upice 76.61 335 *e*P **P 19 31 53.1 +3.9**
DPC Dobruska-Polom 76.66 334 *e*P **P 19 31 53.6 +4.1**
CLL Collm 76.74 337 *i*P **P 19 31 54.2 +4.3**
CLL Collm 76.74 337 *i*P **P 19 31 54.2 +4.3**
CLL Collm 76.74 337 *i*pP pP 19 31 54.2 +1.0
MORC Moravsky Berou 76.80 333 ⇓*i*P **P 19 31 53.5 +3.3**
MORC Moravsky Berou 76.80 333 ⇓P **P 19 31 53.5 +3.3**
KECS Kecovo 76.98 331 *e*P **P 19 31 53.8 +2.5**
VRAC Vranov 77.50 334 ⇓*i*P **P 19 31 57.7 +3.5**
PRU Pruhonice 77.50 335 *e*P **P 19 31 57.5 +3.3**
VYHS Vyhne 77.52 332 *e*P **P 19 31 57.0 +2.7**
MLR Muntele Rosu 77.58 326 ⇓*i*P **P 19 31 58.1 +3.4**
MLR Muntele Rosu 77.58 326 ⇓P **P 19 31 58.1 +3.4**
NKC Novy Kostel 77.87 336 *e*P **P 19 32 00.7 +4.5**
VOIR 77.97 327 ⇓*i*P **P 19 31 59.7 +2.9**
VOIR 77.97 327 ⇓P **P 19 31 59.7 +2.8**
KHC Kasperske Hory 78.55 335 *e*P **P 19 32 00.5 +0.5**
GRA1 Grafenberg Arr 78.69 337 *e*P **P 19 32 05.8 +5.0**
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 78.69 337 *e*P **P 19 32 05.8 +5.0**
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 78.69 337 *e*P **P 19 32 05.8 +5.0**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GERES GERESS Array B 78.77 335 P **P 19 32 01.6 +0.3**
comp=Z,1.2nm,0.4s,mb4.2,baz=36,slow=5.7,SNR=12
GZR Gura Zlata 78.85 328 ⇑*i*P **P 19 32 04.4 +2.7**
BZS Buzias 79.07 329 ⇑*i*P **P 19 32 05.9 +3.0**
BZS Buzias 79.07 329 ⇑P **P 19 32 05.9 +3.0**
BRTR Keskin Array B 79.08 318 P **P 19 32 04.2 +1.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=61,slow=3.9,SNR=5.8
KBA Koelnbreinsper 80.47 335 ⇓*i*P **P 19 32 14.8 +4.3**
comp=Z,17nm,0.9s,mb5.0
VTS Vitosha 81.09 326 ⇑*i*P **P 19 32 17.4 +3.6**
VTS Vitosha 81.09 326 ⇑P **P 19 32 17.4 +3.6**
LPAZ La Paz 133.02 64 PKP PKPdf 19 39 16.6 +2.6
comp=Z,0.7nm,0.5s,baz=294,slow=6.5,SNR=4.3

NIED ***15*** *19:25:00, 47.50N×154.80E, h5km, Mw5.8 Best double couple: M₀6.41000×10¹⁷ NP1:φs202.00000°,δ81.00000°, λ-97.00000°. NP2:φs59.00000°,δ11.00000°,λ-53.00000°.*

IDC ***15*** *19:25:23.9±0.4, 47.01N×154.89E, h0km, mb5.1/29, mb1 5.2/31,mb1mx5.2/32, mbtmp5.1/31, ML4.6/2, MS5.2/17, Ms1 5.2/17, ms1mx4.9/35, Error ellipse: s-maj=13.0km s-min=11.1km az=145.0*

ISCJB ***15*** *19:25:24.5±0.1, 46.83N±0.003×155.01E±0.002, h14km, mb5.6/273, MS5.6/63, Error ellipse: s-maj=3.7km s-min=1.7km az=150.9*

SKHL ***15*** *19:25:25.2±2.5, 47.00N×155.10E, h50km±19km, mb6.4/7, mbh6.2/2, Ms5.9/7, msh6.1/4*

NEIC ***15*** *19:25:26.0±0.1, 47.01N×154.98E, h10km, mb5.6/175, MS5.6/5, Error ellipse: s-maj=4.5km s-min=3.0km az=167.0*

GCMT ***15*** *19:25:26.0±0.6, 47.11N×155.14E, h31km±1km, MW6.0/51, Moment Tensor Solution. s12,c13; s51,c64; Duration: 2s3 Moment tensor: Scale 10¹⁸Nm; Mrr-1.38±.11; Mθθ0.57±.07; Mφφ0.80±.07; Mrθ-0.11±.10; Mφθ0.34±.04; Mφr0.12±.10; Best double couple: M₀1.21900×10¹⁸ NP1:φs41.00000°,δ44.00000°,λ-82.00000°. NP2: φs210.00000°,δ46.00000°,λ-97.00000°. Principal axes: T 1.0420, Plg1.0000°, Azm305.0000°; N 0.3490, Plg5.0000°, Azm215.0000°; P -1.3960, Plg85.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***15*** *19:25:27.3, 47.18N×154.34E, h10km, mB6.0, mb5.5, Ms5.7, Msz5.5*

MOS ***15*** *19:25:27.9±1.2, 47.02N×154.95E, h33km, mb5.8/114, MS5.6/32, Error ellipse: s-maj=6.8km s-min=3.5km az=107.1*

SZGRF ***15*** *19:25:35.7, 47.97N×154.96E, h17km, mb5.9, Kuril Islands, Russia*

ISC 15 19:25:26.8±0.1, 47.01N±0.02×154.92E±0.02, h15km, h15km±.9km: pP-P, n1126, σ1s0.4/1122, mb5.6/273, MS5.6/63, 143C-123D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**12**	*e*P	**Pn**	**19 26 22.2**	**-2.1**
SKR				AMB	AMB	19 26 26.0	
	10μm,6.0s						
SKR				AMB	AMB	19 26 26.0	
	8μm,6.0s						
SKR				AMB	AMB	19 26 26.0	
	8μm,6.0s						
SKR				AMB	AMB	19 26 26.0	
	10μm,6.0s						
SKR				AMB	AMB	19 26 26.0	
	8μm,6.0s						
SKR				AMB	AMB	19 26 26.0	
	9μm,6.0s						
SKR				AMB	AMB	19 26 27.0	
	230nm,0.5s						
SKR				AMB	AMB	19 26 27.0	
	220nm,0.5s						
SKR				AMB	AMB	19 26 27.0	
	520nm,0.5s						
SKR				*e*S	**Sn**	**19 27 03.9**	**-4.5**
SKR				A		19 27 07.7	
	3μm,0.5s						
SKR				A		19 27 07.7	
	1μm,0.5s						
SKR				A		19 27 07.7	
	830nm,0.5s						
SKR				A		19 27 36.0	
	52μm,10.0s						
SKR				A		19 27 36.0	
	42μm,10.0s						
SKR				A		19 27 36.0	
	50μm,10.0s						
SKR				A		19 27 36.0	
	46μm,10.0s						
SKR				A		19 27 36.0	
	53μm,10.0s						
SKR				AMS	AMS	19 28 25.0	
	61μm,12.0s						
SKR				AMS	AMS	19 28 25.0	
	140μm,12.0s						
SKR				AMS	AMS	19 28 25.0	
	56μm,12.0s						
SKR				AMS	AMS	19 28 25.0	
	169μm,12.0s						
KUR	**Kuril'sk**	**5.21**	**253**	⇑*i*P	**Pn**	**19 26 41.7**	**-2.6**
KUR				AMB	AMB	19 26 47.0	
	10μm,5.0s						
KUR				*i* S	**Sn**	**19 27 41.4**	**-2.8**
KUR				A		19 27 48.0	
	48μm,6.0s						
KUR				A		19 27 48.0	
	25μm,6.0s						
KUR				AMS	AMS	19 29 14.0	
	57μm,14.0s						
KUR				AMS	AMS	19 29 14.0	
	46μm,14.0s						
KUR				AMS	AMS	19 29 14.0	
	57μm,14.0s						
KUR	**Kuril'sk**	**5.21**	**253**	⇑*i*PN	**Pn**	**19 26 41.7**	**-2.6**
KUR				pmax	pmax		
	comp=N,470nm,0.6s						
KUR				pmax	pmax		
	comp=E,300nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KUR				pmax	pmax		
	comp=N,15μm,5.0s						
KUR				pmax	pmax		
	comp=Z,10μm,5.0s						
KUR				MLR	MLR		
	comp=N,46μm,14.0s						
KUR				MLR	MLR		
	comp=E,57μm,14.0s						
KUR				MLR	MLR		
	comp=Z,57μm,14.0s						
PET	**Petropavlovsk**	**6.49**	**20**	⇓*i*PN	**Pn**	**19 26 59.1**	**-2.6**
PET				pmax	pmax		
	comp=Z,143nm,0.6s						
PET				MLR	MLR		
	comp=Z,20μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**7.02**	**248**	*e*P	**Pn**	**19 27 09.6**	**+0.5**
YUK				AMB	AMB	19 27 14.5	
	comp=Z,380nm,0.2s						
YUK				AMB	AMB	19 27 14.5	
	comp=Z,360nm,0.5s						
YUK				AMB	AMB	19 27 14.5	
	comp=Z,1μm,0.5s						
YUK				AMB	AMB	19 27 16.0	
	comp=Z,5μm,1.2s						
YUK				*e*S	**Sn**	**19 28 26.0**	**-2.7**
YUK				A		19 28 32.0	
	comp=Z,11μm,2.4s						
YUK				A		19 28 32.0	
	comp=Z,25μm,4.0s						
YUK				A		19 28 32.0	
	comp=Z,1μm,0.5s						
YUK				A		19 28 32.0	
	comp=Z,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.02**	**248**	*e*PN	**Pn**	**19 27 09.6**	**+0.5**
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,5μm,1.2s						
YUK				MLR	MLR		
	comp=N,32μm,13.0s						
YUK				MLR	MLR		
	comp=E,27μm,13.0s						
YUK				MLR	MLR		
	comp=Z,22μm,13.0s						
NEM2	**Nemuro 2**	**7.43**	**244**	P	**Pn**	**19 27 12.9**	**-1.9**
NEM2				*e*S	**Sn**	**19 28 32.4**	**-6.4**
JRA	**Rausu**	**7.54**	**250**	P	**Pn**	**19 27 16.8**	**+0.6**
JNK	**Nakash**	**7.96**	**248**	P	**Pn**	**19 27 21.5**	**-0.5**
JAK	**Akkeshi**	**8.28**	**245**	P	**Pn**	**19 27 24.7**	**-1.6**
JAK				*e*S	**Sn**	**19 28 52.8**	**-6.8**
JTKR	**Abashiri--Toko**	**8.31**	**253**	P	**Pn**	**19 27 27.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**8.32**	**274**	*e*P	**Pn**	**19 27 31.0**	**+4.1**
YSS				⇑*i*P		19 27 31.0	
YSS				AMB	AMB	19 27 34.7	
	comp=Z,2μm,5.0s						
YSS				AMB	AMB	19 27 34.7	
	comp=Z,4μm,5.0s						
YSS				AMB	AMB	19 27 34.7	
	comp=Z,160nm,0.9s						
YSS				AMB	AMB	19 27 34.7	
	comp=Z,140nm,0.9s						
YSS				*e*S	**Sn**	**19 29 06.0**	**+5.3**
YSS				A		19 29 09.0	
	comp=Z,220nm,0.9s						
YSS				*e*LQ		19 29 26.0	
YSS				AMS	AMS	19 31 38.0	
	comp=Z,46μm,15.0s						
YSS				AMS	AMS	19 31 38.0	
	comp=Z,40μm,15.0s						
YSS				AMS	AMS	19 31 38.0	
	comp=Z,41μm,15.0s						
YSS				AMS	AMS	19 31 38.0	
	comp=Z,37μm,12.0s						
YSS				AMS	AMS	19 31 38.0	
	comp=Z,37μm,12.0s						
YSS				AMS	AMS	19 31 38.0	
	comp=Z,39μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.32**	**274**	*c*PN	**Pn**	**19 27 31.0**	**+4.1**
YSS				*e*S	**Sn**	**19 29 06.0**	**+5.3**
YSS				pmax	pmax		
	comp=E,160nm,0.9s						
YSS				pmax	pmax		
	comp=Z,140nm,0.9s						
YSS				pmax	pmax		
	comp=E,4μm,5.0s						
YSS				pmax	pmax		
	comp=Z,2μm,5.0s						
YSS				smax			
	comp=E,220nm,0.9s						
YSS				MLR	MLR		
	comp=E,41μm,15.0s						
YSS				MLR	MLR		
	comp=Z,40μm,15.0s						
YSS				MLR	MLR		
	comp=N,37μm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.32**	**274**	⇑*e*P	**Pn**	**19 27 25.5**	**-1.4**
JMP	**Maruseppu**	**8.66**	**254**	P	**Pn**	**19 27 32.2**	**+0.7**
JAR	**Ashorobuto**	**8.71**	**249**	P	**Pn**	**19 27 32.6**	**+0.4**
JAR				*e*S	**Sn**	**19 29 08.5**	**-1.7**
JSE	**Soyaes**	**8.83**	**261**	P	**Pn**	**19 27 37.1**	**+3.2**
UGL	**Uglegorsk**	**8.86**	**288**	*e*P	**Pn**	**19 27 39.0**	**+4.7**
UGL				*i* P		19 27 39.6	
UGL				AMB	AMB	19 27 42.0	
	comp=N,5μm,5.0s						
UGL				AMB	AMB	19 27 42.0	
	comp=N,8μm,5.0s						
UGL				AMB	AMB	19 27 42.0	
	comp=N,9μm,5.0s						
UGL				AMB	AMB	19 27 42.0	
	comp=N,300nm,0.8s						
UGL				AMS	AMS	19 32 00.0	
	comp=N,42μm,16.0s						
UGL				AMS	AMS	19 32 00.0	
	comp=N,88μm,12.0s						
UGL				AMS	AMS	19 32 00.0	
	comp=N,57μm,14.0s						
UGL	**Uglegorsk**	**8.86**	**288**	*e*PN	**Pn**	**19 27 39.0**	**+4.7**
UGL				*e*		19 29 26.0	
UGL				pmax	pmax		
	comp=Z,300nm,0.8s						
UGL				pmax	pmax		
	comp=N,5μm,5.0s						
UGL				pmax	pmax		
	comp=E,8μm,5.0s						
UGL				pmax	pmax		
	comp=Z,9μm,5.0s						
UGL				MLR	MLR		
	comp=Z,57μm,14.0s						
UGL				MLR	MLR		
	comp=N,88μm,12.0s						
UGL				MLR	MLR		
	comp=E,42μm,16.0s						
JOB	**Onbets**	**8.87**	**246**	P	**Pn**	**19 27 33.9**	**-0.5**
JOB				*e*S	**Sn**	**19 29 09.8**	**-4.2**
TYV	**Tymovskoe**	**8.95**	**300**	*e*P	**Pn**	**19 27 37.0**	**+1.5**
TYV				AMB	AMB	19 27 44.0	
	comp=E,5μm,5.0s						
TYV				AMB	AMB	19 27 44.0	
	comp=E,8μm,5.0s						
TYV				AMB	AMB	19 27 44.0	
	comp=E,7μm,4.0s						
TYV				AMS	AMS	19 31 20.0	
	comp=E,40μm,17.0s						
TYV				AMS	AMS	19 31 20.0	
	comp=E,44μm,15.0s						
JKK2	**Kamakawa 2**	**9.11**	**254**	P	**Pn**	**19 27 38.8**	**+1.0**
ASAJ	**Asahikawa**	**9.12**	**256**	Pn	**Pn**	**19 27 38.6**	**+0.8**
	comp=E,7.3nm,0.3s,baz=94,slow=18,SNR=55						
ASAJ	**Asahikawa**	**9.12**	**256**	P	**Pn**	**19 27 39.1**	**+1.3**
ASAJ	**Asahikawa**	**9.12**	**256**	PN	**Pn**	**19 27 38.6**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
JWK2	**Keihoku**	**9.20**	**264**	P	**Pn**	**19 27 45.4**	**+6.5**
JCH	**Churui**	**9.31**	**246**	P	**Pn**	**19 27 38.7**	**-1.8**
JCH				*e*S	**Sn**	**19 29 18.8**	**-6.2**
JFR	**Furan**	**9.53**	**251**	P	**Pn**	**19 27 44.6**	**+1.1**
JFR				*e*S	**Sn**	**19 29 29.3**	**-1.0**
JAB	**Ashibetsu**	**9.62**	**253**	P	**Pn**	**19 27 46.1**	**+1.4**
JEM	**Erimo**	**9.77**	**244**	P	**Pn**	**19 27 46.3**	**-0.5**
JEM				*e*S	**Sn**	**19 29 28.3**	**-7.9**
ERM	**Erimo**	**9.77**	**244**	Pn	**Pn**	**19 27 47.3**	**+0.5**
	comp=Z,1μm,0.5s,SNR=19						
ERM	**Erimo**	**9.77**	**244**	*e*P	**Pn**	**19 27 46.3**	**-0.5**
	comp=Z,105nm,0.5s						
JBT2	**Biratori 2**	**9.86**	**249**	P	**Pn**	**19 27 47.2**	**-0.8**
JBT2				*e*S	**Sn**	**19 29 32.8**	**-5.7**
JNBK	**Urakawa-nobuka**	**9.87**	**246**	P	**Pn**	**19 27 46.8**	**-1.4**
JNBK				*e*S	**Sn**	**19 29 30.8**	**-8.0**
OKH	**Okha**	**10.08**	**315**	*e*P	**Pn**	**19 27 50.2**	**-0.9**
OKH				*e*S	**Sn**	**19 29 42.8**	**-1.1**
OKH				*e*L		19 30 16.0	
JEW	**Eniwo**	**10.42**	**251**	P	**Pn**	**19 27 56.2**	**+0.5**
JNB	**Noboribetsu**	**10.87**	**250**	P	**Pn**	**19 28 01.0**	**-0.8**
JNB				*e*S	**Sn**	**19 29 57.6**	**-5.5**
NKL	**Nikolayevsk**	**11.02**	**309**	*i* P	**Pn**	**19 28 05.5**	**+1.6**
NKL				AMB	AMB	19 28 06.0	
	comp=Z,760nm,1.8s						
NKL				AMB	AMB	19 28 06.0	
	comp=Z,4μm,4.5s						
NKL				AMB	AMB	19 28 06.0	
	comp=Z,6μm,4.5s						
NKL				AMB	AMB	19 28 06.0	
	comp=Z,6μm,6.0s						
NKL				A		19 30 52.0	
	comp=Z,5μm,8.0s						
NKL				*e*L		19 31 12.0	
NKL				AMS	AMS	19 33 04.0	
	comp=Z,30μm,18.0s						
NKL				AMS	AMS	19 33 04.0	
	comp=Z,27μm,16.0s						
JKB	**Kayabe**	**11.16**	**248**	P	**Pn**	**19 28 03.7**	**-2.2**
JKB				*e*S	**Sn**	**19 30 00.1**	**-10**
JSH	**Shimam**	**11.43**	**253**	P	**Pn**	**19 28 09.8**	**+0.3**
JOT	**Ohata**	**11.43**	**246**	P	**Pn**	**19 28 06.6**	**-2.9**
JOT				*e*S	**Sn**	**19 30 06.2**	**-11**
JYM2	**Yakumo 2**	**11.47**	**250**	P	**Pn**	**19 28 08.3**	**-1.8**
JYM2				*e*S	**Sn**	**19 30 10.7**	**-7.2**
JANG	**Nango**	**11.74**	**240**	P	**Pn**	**19 28 09.5**	**-4.3**
JANG				*e*S	**Sn**	**19 30 11.8**	**-13**
JSR	**Shiriuchi**	**11.74**	**247**	P	**Pn**	**19 28 12.1**	**-1.7**
JTM	**Tenmabayashi**	**11.76**	**243**	P	**Pn**	**19 28 10.9**	**-3.2**
JTM				*e*S	**Sn**	**19 30 13.7**	**-11**
JOSM	**Okushiri--Mats**	**12.06**	**252**	P	**Pn**	**19 28 17.2**	**-1.0**
JOM	**Ohasama**	**12.46**	**238**	P	**Pn**	**19 28 19.3**	**-4.2**
JOM				*e*S	**Sn**	**19 30 31.9**	**-10**
OFUJ	**Ofunato**	**12.51**	**235**	P	**Pn**	**19 28 19.8**	**-4.4**
OFUJ				*e*S	**Sn**	**19 30 30.9**	**-12**
MA2	**Magadan**	**12.83**	**350**	*c*PN	**Pn**	**19 28 27.1**	**-1.6**
MA2				pmax	pmax		
	comp=Z,300nm,4.5s						
MA2	**Magadan**	**12.83**	**350**	*e*P	**Pn**	**19 28 28.3**	**-0.4**
	comp=Z,72nm,1.3s						
TEY	**Ternei**	**12.89**	**268**	*e*P	**Pn**	**19 28 29.0**	**-0.4**
TEY				AMS	AMS	19 33 55.0	
	comp=Z,14μm,16.0s						
TEY				AMS	AMS	19 33 55.0	
	comp=Z,11μm,13.0s						
JRG	**Rokugo**	**12.89**	**239**	P	**Pn**	**19 28 27.2**	**-2.3**
JIO	**Ouri**	**13.12**	**234**	P	**Pn**	**19 28 28.1**	**-4.5**
JIO				*e*S	**Sn**	**19 30 46.0**	**-12**
HABR	**Khabarovsk**	**13.45**	**284**	⇑*i*PN	**Pn**	**19 28 41.3**	**+4.1**
HABR				*e*S	**Sn**	**19 31 15.7**	**+9.3**
HABR				pmax	pmax		
	comp=Z,130nm,1.6s						
SMY	**Shemya**	**13.61**	**58**	*e*P	**Pn**	**19 28 36.3**	**-3.1**
SMY				pmax	pmax		

comp=Z,127nm,1.1s
SMY Shemya 13.61 58 *e*P **Pn 19 28 36.3 -3.1**
comp=Z,127nm,1.1s
JMM Marumori 13.85 234 P **Pn 19 28 37.8 -4.7**
JYA Atsumi 13.96 238 P **Pn 19 28 41.7 -2.4**
JFK Kawauchi 14.16 232 P **Pn 19 28 43.0 -3.9**
JFK *e*S **Sn 19 31 09.9 -14**
JFY Yanaizu 14.78 235 P **Pn 19 28 51.5 -3.8**
JYT Yasato 15.38 231 P **Pn 19 29 00.8 -2.4**
KLR Kul'dur 15.62 287 *e*P **Pn 19 29 05.2 -1.2**
KLR pmax pmax
comp=E,3μm,4.0s
KLR pmax pmax
comp=Z,3μm,4.0s
SEY Seymchan 16.03 356⇑*i*P **Pn 19 29 09.7 -2.0**
JRY Ryogami san 16.23 233 P **Pn 19 29 12.0 -2.3**
MAJO Matsushiro 16.24 236 *e*P **Pn 19 29 11.4 -3.0**
MAJO pmax pmax
comp=Z,130nm,0.9s
MAJO Matsushiro 16.24 236 *e*P **Pn 19 29 11.4 -2.9**
comp=Z,132nm,0.8s
MAT Matsushiro 16.24 236 P **Pn 19 29 10.8 -3.6**
MAT S **Sn 19 32 17.0 +2.8**
MAT Matsushiro 16.24 236 P **Pn 19 29 11.4 -3.0**
MJAR Matsushiro Arr 16.24 236 Pn **Pn 19 29 11.6 -2.8**
comp=Z,1.6nm,0.3s,baz=31,slow=13,SNR=46
MJAR Matsushiro Arr 16.24 236 Pn **Pn 19 29 11.6 -2.8**
AMKA Amchitka 16.50 66 *e*P **Pn 19 29 18.2 +0.6**
JGF Kuroka 17.39 235 P **Pn 19 29 28.4 -0.5**
MDJ Mudanjiang 17.80 272 P **Pn 19 29 29.3 -4.7**
MDJ AP pP 19 29 33.5 -5.3
MDJ AMB AMB
comp=Z,40nm,0.8s
MDJ AMB AMB
comp=Z,521nm,5.8s
MDJ LR LR
comp=N,9μm,14.2s
MDJ LR LR
comp=E,12μm,15.0s
MDJ LR LR
comp=Z,19μm,15.6s
MDJ Mudanjiang 17.80 272 *e*P **Pn 19 29 33.6 -0.4**
comp=Z,80nm,0.8s
JWT Wachi 18.74 238 P **Pn 19 29 45.6 +0.1**
ZEA Zeya 18.81 301 *e*P **Pn 19 29 41.0 -5.4**
ZEA AMB AMB 19 29 45.1
comp=Z,240nm,1.6s
ZEA AMB AMB 19 29 45.1
comp=Z,270nm,1.6s
ZEA AMB AMB 19 29 45.1
comp=Z,330nm,1.6s
ZEA AMB AMB 19 29 47.0
comp=Z,4μm,5.0s
ZEA AMB AMB 19 29 47.0
comp=Z,1μm,5.0s
ZEA AMB AMB 19 29 47.0
comp=Z,3μm,5.0s
YAK Yakutsk 20.80 326 *e*P **P 19 30 06.6 -0.9**
YAK *e* 19 30 28.2
YAK *e*S **S 19 33 57.5 -1.6**
YAK *e*SS 19 34 23.2
YAK pmax pmax
comp=Z,85nm,0.8s
YAK pmax pmax
comp=N,71nm,1.3s
YAK pmax pmax
comp=E,68nm,1.3s
YAK smax
comp=N,917nm,1.9s
YAK smax
comp=E,913nm,1.9s
YAK smax
comp=Z,453nm,1.6s
YAK MLR MLR
comp=E,12μm,14.0s
YAK MLR MLR
comp=Z,15μm,14.0s,MS5.5
YAK Yakutsk 20.80 326 *e*P **P 19 30 04.8 -2.6**
comp=Z,19nm,2.3s
CLNS Chul'man 20.81 309 *e*P **P 19 30 08.5 +0.9**
CLNS *e* 19 30 27.9
CLNS *e*S **S 19 34 03.2 +3.9**
CLNS *e*SS 19 34 39.8
CLNS pmax pmax
comp=N,193nm,0.8s
CLNS pmax pmax
comp=Z,319nm,0.8s
CLNS pmax pmax
comp=E,183nm,1.0s
CLNS pmax pmax
comp=Z,109nm,1.0s
CLNS pmax pmax
comp=N,194nm,1.4s
CLNS pmax pmax
comp=E,69nm,1.1s
CLNS smax
comp=N,338nm,1.5s
CLNS smax
comp=Z,67nm,1.0s
CLNS smax
comp=E,185nm,1.2s
CLNS MLR MLR
comp=Z,17μm,15.0s,MS5.5
CLNS MLR MLR
comp=N,5μm,14.0s
CLNS MLR MLR
comp=E,12μm,20.0s
NRGR Nerungri 20.85 309 *i*P **P 19 30 08.4 +0.3**
CN2 Changchun 20.88 272⇑P **P 19 30 04.9 -3.5**
CN2 *e*XP sP 19 30 11.9 -2.6
CN2 AMB AMB
comp=Z,70nm,0.6s
CN2 LR LR
comp=N,14μm,16.0s,MS5.6
CN2 LR LR
comp=E,14μm,16.0s,MS5.6
CN2 LR LR
comp=Z,17μm,15.0s,MS5.5
BILL Bilibino 21.88 11 *e*P **P 19 30 16.4 -2.7**
BILL Bilibino 21.88 11 *e*P **P 19 30 16.3 -2.8**
KSRS Korea Array 22.06 254 P **P 19 30 21.9 +0.9**
comp=Z,34nm,0.7s,mb4.9,baz=53,slow=9.6,SNR=33
SNY Shenyang 22.89 268⇑P **P 19 30 27.8 -2.0**
SNY AMB AMB
comp=Z,78nm,1.3s,mb5.0
SNY AMB AMB
comp=Z,1μm,6.0s
SNY LR LR
comp=E,18μm,15.6s
SNY LR LR
comp=Z,19μm,16.2s,MS5.6
INCN Inchon 22.89 256⇓P **P 19 30 32.7 +2.7**
SNR=11
INCN Inchon 22.89 256 *e*P **P 19 30 31.1 +1.2**
comp=Z,100nm,0.8s,mb5.3
JNU Nakatsue 22.92 241 P **P 19 30 32.1 +1.9**
comp=Z,30nm,0.8s,mb4.8,baz=224,slow=12,SNR=3.7
JNU LR LR 19 39 42.8
comp=Z,12μm,18.7s,MS5.4,baz=76,slow=38
HIA Hailar 23.46 289 *e*P **P 19 30 32.7 -3.2**
HIA pmax pmax
comp=Z,25nm,0.6s
HIA Hailar 23.46 289 *e*P **P 19 30 32.7 -3.2**
comp=Z,26nm,0.6s,mb4.8
DL2 Dalian 25.53 264 P **P 19 30 55.3 +0.5**
DL2 PP 19 31 29.3
DL2 AMB AMB
comp=Z,80nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,1μm,4.4s
DL2 LR LR
comp=N,5μm,13.3s,MS5.2
DL2 LR LR
comp=E,2μm,13.7s,MS5.2
DL2 LR LR
comp=Z,4μm,14.8s,MS5.0
BOD Bodaibo 26.79 309 *e*P **P 19 31 02.9 -3.3**
BOD pmax pmax
comp=Z,107nm,1.6s,mb5.1
CIT Chita 27.05 296 *e*P **P 19 31 07.0 -1.5**
CIT *e* 19 31 17.7
CIT pmax pmax
comp=Z,306nm,1.4s,mb5.6
BJI Beijing 28.72 270 *e*P **P 19 31 24.9 +1.4**
BJI AMB AMB
comp=Z,106nm,0.9s,mb5.6
BJI AMB AMB
comp=Z,1μm,4.6s
BJI LR LR
comp=N,12μm,16.8s,MS5.8
BJI LR LR
comp=E,13μm,16.8s,MS5.8
BJI LR LR
comp=Z,11μm,16.8s,MS5.6
BJI Beijing 28.72 270 *e*P **P 19 31 24.9 +1.4**
comp=Z,106nm,0.9s,mb5.6
BJI S **S 19 36 14.2 +2.1**
BJI LR LR
comp=Z,11μm,16.8s,MS5.6
BJT Baijiatuan 28.73 270 *e*P **P 19 31 24.7 +1.1**
BJT pmax pmax
comp=Z,62nm,0.7s
BJT Baijiatuan 28.73 270 *e*P **P 19 31 24.7 +1.1**
comp=Z,62nm,0.7s,mb5.4
TIA Tai'an 29.98 263 *e*P **P 19 31 35.0 +0.3**
TIA XP sP 19 31 47.0 +6.0
TIA LR LR
comp=E,4μm,14.0s
SSE Sheshan 30.35 251 P **P 19 31 37.4 -0.5**
SSE XP sP 19 31 46.3 +2.0
SSE S **S 19 36 36.0 -1.8**
SSE XS sS 19 36 47.8 +2.6
SSE AMB AMB
comp=Z,43nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,249nm,4.9s
SSE LR LR
comp=N,2μm,16.9s,MS5.0
SSE LR LR
comp=E,2μm,16.9s,MS5.0
SSE LR LR
comp=Z,3μm,14.2s,MS5.1
SSE Sheshan 30.35 251 P **P 19 31 37.4 -0.5**
comp=Z,43nm,0.9s,mb5.2
SSE sP sP 19 31 46.3 +2.0
SSE S **S 19 36 36.0 -1.8**
SSE sS sS 19 36 47.8 +2.6
SSE SS SS 19 38 43.5 -3.6
SSE LR LR
comp=Z,3μm,14.2s,MS5.1
NJ2 Nanjing 31.26 254 *e*P **P 19 31 44.8 -1.2**
NJ2 AP pP 19 31 48.0 -2.5
NJ2 XP sP 19 31 52.8 +0.5
NJ2 PP PP 19 32 47.8 -8.8
NJ2 AMB AMB
comp=Z,640nm,0.7s,mb6.6
NJ2 AMB AMB
comp=Z,650nm,4.9s
NJ2 LR LR
comp=N,2μm,14.7s,MS5.3
NJ2 LR LR
comp=E,4μm,13.6s,MS5.3
NJ2 LR LR
comp=Z,3μm,14.5s,MS5.0
SVW2 Sparrevohn 31.43 45 *e*P **P 19 31 46.0 -1.5**
HHC Hu-ho-hao-te 31.51 275⇑P **P 19 31 48.8 +0.6**
HHC AP pP 19 31 53.6 +0.9
HHC XP sP 19 31 55.9 +1.4
HHC PP PP 19 32 52.8 -6.5
HHC AMB AMB
comp=Z,123nm,1.6s,mb5.5
HHC AMB AMB
comp=Z,1μm,4.9s
HHC LR LR
comp=N,10μm,15.0s,MS5.8
HHC LR LR
comp=E,11μm,15.7s,MS5.8
HHC LR LR
comp=Z,10μm,16.9s,MS5.6
ULN Ulaanbaatar 31.98 289 P **P 19 31 51.6 -0.7**
SNR=26
ULN Ulaanbaatar 31.98 289 *e*P **P 19 31 51.1 -1.2**
ULN pmax pmax
comp=Z,42nm,1.0s,mb5.2
ULN Ulaanbaatar 31.98 289 *e*P **P 19 31 51.1 -1.2**
comp=Z,42nm,0.9s,mb5.3
SONM Songino Array 32.42 290 P **P 19 31 54.9 -1.2**
comp=Z,28nm,0.8s,mb5.1,baz=64,slow=7.7,SNR=42
SONM LR LR 19 46 52.7
comp=Z,14μm,18.0s,MS5.7,baz=77,slow=40
SONM Songino Array 32.42 290 P **P 19 31 54.9 -1.2**
SONM LR LR 19 46 52.7
IRK Irkutsk 32.67 298 *e*P **P 19 31 56.3 -2.0**
IRK pmax pmax
comp=Z,133nm,1.8s,mb5.6
BTO Baotou 32.67 275 *e*P **P 19 31 56.3 -2.1**
IMA2 Indian Mountai 32.87 36 *e*P **P 19 31 58.6 -1.5**
KDAK Kodiak Island 32.98 51 P **P 19 31 59.6 -1.4**
comp=Z,75nm,0.9s,mb5.6,baz=306,slow=5.6,SNR=13
KDAK Kodiak Island 32.98 51 *e*P **P 19 31 58.6 -2.4**
comp=Z,75nm,0.9s,mb5.6
TLY Talaya 33.16 297 P **P 19 32 02.3 -0.4**
comp=Z,335nm,1.4s,mb6.1,SNR=10
TLY Talaya 33.16 297 P **P 19 32 01.9 -0.8**
SNR=25
TLY Talaya 33.16 297*c i*P **P 19 32 01.4 -1.3**
TLY *e* 19 33 11.6
TLY pmax pmax
comp=Z,86nm,1.4s,mb5.5
TLY MLR MLR
comp=Z,15μm,15.0s,MS5.8
TLY Talaya 33.16 297 *e*P **P 19 32 02.5 -0.2**
comp=Z,89nm,1.2s,mb5.6
ZAK Zakamensk 33.69 295 *e*P **P 19 32 05.3 -2.0**
ZAK *e* 19 33 26.3
ZAK pmax pmax
comp=Z,34nm,1.3s,mb5.1
SLKM Skilak Lake 34.05 46 *e*P **P 19 32 09.0 -1.4**
GUMO Guam 34.36 198 LR LR 19 43 35.7
comp=Z,1μm,21.8s,MS4.6,baz=25,slow=32
PMR Palmer 34.55 44 *e*P **P 19 32 13.7 -1.0**
PMR pmax pmax
comp=Z,84nm,1.1s,mb5.6
PMR Palmer 34.55 44 *e*P **P 19 32 13.7 -1.1**
comp=Z,84nm,1.1s,mb5.6
MCK McKinley 34.65 41 P **P 19 32 14.2 -1.4**
MCK pmax pmax
comp=Z,96nm,1.1s,mb5.6
MCK McKinley 34.65 41 *e*P **P 19 32 13.6 -2.1**
comp=Z,96nm,1.2s,mb5.6
MOY Mondy 34.77 298 *e*P **P 19 32 15.7 -1.0**
MOY pmax pmax
comp=Z,115nm,2.0s,mb5.5
SML Sawmill 34.93 44 P **P 19 32 16.4 -1.6**
SML Sawmill 34.93 44 *e*P **P 19 32 15.4 -2.5**
COLA College 35.16 39 P **P 19 32 18.3 -1.7**
COLA pmax pmax
comp=Z,210nm,1.0s,mb6.0
COLA College 35.16 39 *e*P **P 19 32 18.1 -1.9**
comp=Z,208nm,0.9s,mb6.1
COLA *e* 19 32 32.6
WHN Wuhan 35.20 257 P **P 19 32 20.8 +0.5**
WHN S **S 19 37 57.0 +3.9**
WHN LR LR
comp=Z,10μm,15.1s,MS5.7
DIV Divide 36.19 45 *e*P **P 19 32 27.0 -1.8**
comp=Z,472nm,1.3s,mb6.3
QZH Quanzhou 36.26 245⇑*i*P **P 19 32 32.6 +3.1**
QZH AMB AMB
comp=Z,530nm,1.6s,mb6.2
QZH AMB AMB
comp=Z,3μm,4.8s
QZH LR LR
comp=N,2μm,11.6s,MS5.6
QZH LR LR
comp=E,7μm,16.0s,MS5.6
QZH LR LR
comp=Z,6μm,13.4s,MS5.5
XAN Xi'an 36.77 266 P **P 19 32 34.0 +0.2**
XAN PP PP 19 34 00.6 +3.0
XAN AMB AMB
comp=Z,147nm,1.4s,mb5.6
XAN AMB AMB
comp=Z,909nm,8.0s
XAN LR LR
comp=N,4μm,15.8s,MS5.4
XAN LR LR
comp=E,4μm,17.3s,MS5.4
XAN LR LR
comp=Z,10μm,17.0s,MS5.7
MENT Mentasta 37.02 42 *e*P **P 19 32 36.4 +0.5**
EGAK Eagle 38.03 39 *e*P **P 19 32 41.9 -2.5**
comp=Z,223nm,0.9s,mb5.9
EGAK *e* 19 32 56.2
DAWY Dawson 38.85 40 *e*P **P 19 32 50.2 -1.2**
LZH Lanzhou 39.12 273⇑P **P 19 32 55.4 +1.8**
LZH AP pP 19 33 00.5 +2.4
LZH XP sP 19 33 02.1 +2.1
LZH PP PP 19 34 25.6 +2.3
LZH AMB AMB
comp=Z,599nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,3μm,4.2s
LZH LR LR
comp=N,8μm,13.5s
LZH LR LR
comp=Z,11μm,15.2s,MS5.8
LZH Lanzhou 39.12 273⇑P **P 19 32 55.4 +1.8**
comp=Z,599nm,1.5s,mb6.1
LZH pP pP 19 33 00.5 +2.4
LZH sP sP 19 33 02.1 +2.1
LZH PP PP 19 34 25.6 +2.3
LZH S **S 19 38 54.0 +1.3**
LZH sS sS 19 39 01.5 +1.3
LZH SS SS 19 41 38.2 -7.2
LZH LR LR
comp=Z,11μm,15.2s,MS5.8
GTA Gaotai 40.15 280 *e*P **P 19 33 03.3 +1.1**
GTA AP pP 19 33 11.8 +5.0
GTA PP PP 19 34 40.1 +5.5
GTA PCP PcP 19 35 08.0 +1.6
GTA XS sS 19 39 11.3 -4.5
GTA SS SS 19 41 56.3 -10
GTA AMB AMB
comp=Z,53nm,1.7s,mb5.0
GTA AMB AMB
comp=Z,1μm,4.0s
GTA LR LR
comp=N,5μm,14.4s,MS5.9
GTA LR LR
comp=E,11μm,14.4s,MS5.9
GTA LR LR
comp=Z,10μm,16.0s,MS5.8
INK Inuvik 40.77 33 P **P 19 33 06.2 -1.1**
comp=Z,111nm,0.7s,mb5.6,baz=277,slow=7.0,SNR=147
INK Inuvik 40.77 33 *e*P **P 19 33 06.1 -1.2**
INK pmax pmax
comp=Z,190nm,1.0s
INK Inuvik 40.77 33 *e*P **P 19 33 06.1 -1.2**
comp=Z,6μm,1.0s
INK *e* 19 33 19.1
GZH Guangzhou 40.91 249 P **P 19 33 05.8 -2.7**
GZH S **S 19 39 14.5 -5.1**
GZH LR LR
comp=N,4μm,15.5s,MS5.4
GZH LR LR
comp=E,2μm,19.3s,MS5.4
GZH LR LR
comp=Z,5μm,16.8s,MS5.5
SKAG Skagway 41.60 46 *e*P **P 19 33 15.2 +1.1**
comp=Z,463nm,2.2s,mb5.7
SKAG LR LR
comp=Z,2μm,17.0s,MS5.2
CD2 Chengdu 42.14 266 P **P 19 33 19.0 +0.5**
CD2 AP pP 19 33 23.8 +0.7
CD2 XP sP 19 33 26.3 +1.4
CD2 PP PP 19 35 00.3 +4.2
CD2 S **S 19 39 38.6 +0.9**
CD2 XS sS 19 39 48.3 +3.0
CD2 SS SS 19 42 40.3 -5.2
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,2μm,4.7s
CD2 LR LR
comp=N,7μm,17.4s,MS5.7
CD2 LR LR
comp=E,5μm,18.0s,MS5.7
CD2 LR LR
comp=Z,9μm,17.4s,MS5.7
GYA Guiyang 42.98 259⇓*i*P **P 19 33 25.6 +0.2**
GYA AP pP 19 33 29.8 -0.2
GYA XP sP 19 33 31.4 -0.4
GYA PP PP 19 35 08.0 +2.8
GYA PCP PcP 19 35 17.1 +1.4
GYA AMB AMB
comp=Z,110nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,1μm,5.2s
GYA LR LR
comp=N,2μm,17.6s,MS5.1
GYA LR LR
comp=E,1μm,17.4s,MS5.1
GYA LR LR
comp=Z,1μm,17.8s,MS4.8
ZAL Zalesovo 43.48 306 P **P 19 33 27.9 -1.6**
comp=Z,35nm,0.6s,mb5.2,baz=44,slow=8.5,SNR=61
NVS Novosibirsk 44.02 308 *e*P **P 19 33 31.9 -1.8**
NVS *e* 19 35 16.5
NVS pmax pmax
comp=E,555nm,2.1s
NVS pmax pmax
comp=Z,590nm,2.1s,mb6.0
NVS pmax pmax
comp=N,163nm,1.8s
DLBC Dease Lake 44.52 46 *e*P **P 19 33 39.0 +1.2**
WMQ Urumqi 45.99 292⇓*i*P **P 19 33 50.3 +0.9**
WMQ AP pP 19 33 55.3 +1.3
WMQ XP sP 19 33 57.3 +1.5
WMQ PCP PcP 19 35 27.5 +1.5
WMQ PP PP 19 35 38.3 +1.1
WMQ PPP 19 36 21.4
WMQ AMB AMB
comp=Z,38nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,189nm,4.8s
WMQ LR LR
comp=N,5μm,16.6s,MS5.7
WMQ LR LR
comp=E,5μm,15.1s,MS5.7
WMQ LR LR
comp=Z,7μm,16.6s,MS5.7
QIZ Qiongzhong 46.09 248 P **P 19 33 51.6 +1.3**
QIZ AMB AMB
comp=Z,25nm,2.0s,mb4.8
QIZ AMB AMB
comp=Z,881nm,4.3s
QIZ LR LR
comp=N,3μm,16.7s,MS5.5
QIZ LR LR
comp=E,4μm,18.1s,MS5.5
QIZ LR LR
comp=Z,3μm,17.6s,MS5.3
KMI Kunming 46.51 261 P **P 19 33 54.3 +0.8**
KMI XP sP 19 34 01.3 +1.4
KMI PP PP 19 35 42.5 -0.2
KMI AMB AMB
comp=Z,71nm,1.8s,mb5.3
KMI AMB AMB
comp=Z,1μm,5.0s
KMI LR LR
comp=N,4μm,15.8s,MS5.6
KMI LR LR
comp=E,3μm,15.8s,MS5.6
KMI LR LR
comp=Z,3μm,14.7s,MS5.3
KMI Kunming 46.51 261 P **P 19 33 54.3 +0.8**
comp=Z,71nm,1.8s,mb5.3
KMI sP sP 19 34 01.3 +1.4
KMI PP PP 19 35 42.5 -0.2
KMI PPP 19 36 32.3
KMI S **S 19 40 40.0 -1.3**
KMI sS sS 19 40 48.6 -0.3
KMI SS SS 19 44 06.8 -0.4
KMI LR LR
comp=Z,3μm,14.7s,MS5.3
MK31 Makanchi Array 47.92 298 *e*P **P 19 34 03.6 -1.0**
MKAR Makanchi Array 47.92 298 P **P 19 34 03.7 -0.9**
comp=Z,44nm,0.8s,mb5.5,baz=66,slow=8.0,SNR=100
MKAR LR LR 19 55 27.5
comp=Z,6μm,19.3s,MS5.6,baz=64,slow=38
KURK Kurchatov 48.25 304 P **P 19 34 06.5 -0.6**
comp=Z,1μm,1.3s
POHA Pohakuloa 48.45 107 *e*P **P 19 34 09.6 +1.0**
ALE Alert 49.36 6 P **P 19 34 14.6 -1.0**
comp=Z,343nm,1.9s,mb6.1,SNR=17
YKA Yellowknife Ar 49.97 37 P **P 19 34 20.3 0.0**

comp=Z,19nm,0.8s,mb5.2,baz=296,slow=7.1,SNR=16
RES Resolute Bay 50.20 19 *e*P **P** 19 34 20.9 -1.1
RES pmax pmax
comp=Z,95nm,1.2s,mb5.7
RES Resolute Bay 50.20 19 *e*P **P** 19 34 20.9 -1.1
comp=Z,3µm,1.3s
CHKZ Chkalovo 51.21 311 *e*P **P** 19 34 27.9 -1.7
CHKZ pmax pmax
comp=Z,73nm,1.4s,mb5.4
CHKZ Chkalovo 51.21 311 *e*P **P** 19 34 27.5 -2.1
comp=Z,74nm,1.4s,mb5.4
LSA Lhasa 51.50 274 P **P** 19 34 33.0 +1.2
LSA AMB AMB
comp=Z,40nm,0.8s,mb5.4
LSA LR LR
comp=N,2µm,18.0s,MS5.5
LSA LR LR
comp=E,3µm,17.0s,MS5.5
LSA LR LR
comp=Z,4µm,15.0s,MS5.5
LSA Lhasa 51.50 274 *e*P **P** 19 34 34.1 +2.3
LSA pmax pmax
comp=Z,59nm,0.7s,mb5.6
LSA Lhasa 51.50 274 *e*P **P** 19 34 34.1 +2.3
comp=Z,59nm,0.7s,mb5.6
BVAR Borovoye Array 51.65 310 P **P** 19 34 31.6 -1.4
comp=Z,34nm,0.5s,mb5.6,baz=57,slow=8.2,SNR=90
BRVK Borovoye 51.69 310 P **P** 19 34 32.6 -0.6
comp=Z,419nm,0.5s,mb6.6,SNR=61
BRVK Borovoye 51.69 310 ⇓P **P** 19 34 32.4 -0.8
SNR=18
BRVK Borovoye 51.69 310 *e*P **P** 19 34 31.6 -1.6
BRVK pmax pmax
comp=Z,53nm,0.8s,mb5.5
BRVK Borovoye 51.69 310 *e*P **P** 19 34 31.6 -1.6
comp=Z,84nm,0.8s,mb5.7
ZRNK Zerenda 52.41 310 *e*P **P** 19 34 37.2 -1.4
ZRNK pmax pmax
comp=Z,35nm,0.5s,mb5.5
ZRNK Zerenda 52.41 310 *e*P **P** 19 34 37.0 -1.6
comp=Z,35nm,0.5s,mb5.5
KBS Kingsbay 52.43 352 *e*P **P** 19 34 37.6 -1.1
KBS pmax pmax
comp=Z,150nm,1.1s,mb5.8
KBS Kingsbay 52.43 352 *e*P **P** 19 34 37.5 -1.2
comp=Z,145nm,1.1s,mb5.8
SPB4 Spitsbergen Ar 52.58 350 *e*P **P** 19 34 38.6 -1.2
KKTK Khon Kaen 52.59 253 P **P** 19 34 41.0 +1.1
comp=Z,617nm,0.6s,mb6.7
KKM Kota Kinabalu 52.60 232 P **P** 19 34 41.8 +1.8
KKM Kota Kinabalu 52.60 232 *e*P **P** 19 34 40.3 +0.3
AAA Alma-Ata 52.98 297 *i*P **P** 19 34 44.9 +2.1
AAA *i*S **S** 19 41 59.6 -12
AAA pmax pmax
comp=Z,2µm,5.5s
AAA smax
comp=E,667nm,5.5s
AAA MLR MLR
comp=Z,13µm,17.6s,MS6.0
TSM Tawau 53.21 229 P **P** 19 34 46.4 +2.0
CHG Chiang Mai 53.38 258 P **P** 19 34 46.9 +1.1
comp=Z,92nm,1.1s,mb5.6
CHTO Chiang Mai 53.38 258 ⇑P **P** 19 34 47.4 +1.6
SNR=53
CHTO Chiang Mai 53.38 258 *e*P **P** 19 34 46.7 +0.9
CHTO pmax pmax
comp=Z,270nm,1.7s,mb5.9
CHTO Chiang Mai 53.38 258 *e*P **P** 19 34 46.7 +1.0
comp=Z,278nm,1.7s,mb5.9
SHL Shillong 53.62 270 ⇓*i*P **P** 19 34 48.0 +0.5
SHL *ex* x 19 42 28.0
CM31 Chiang Mai Arr 53.64 258 *e*P **P** 19 34 49.2 +1.6
comp=Z,62nm,1.0s,mb5.5
ULHL Ulahol 53.98 296 P **P** 19 34 52.3 +2.2
SNR=13
TKM2 Tokmak 2 54.00 297 P **P** 19 34 53.2 +3.0
SNR=27
A08A Turner Farm, O 54.46 54 ⇓P **P** 19 34 52.4 -1.3
baz=54
CHMS Chumysh 54.47 297 P **P** 19 34 54.0 +0.3
SNR=15
USP Ospenovka 54.47 298 P **P** 19 34 56.6 +2.9
SNR=55
KBK Karagaybulak 54.54 297 P **P** 19 34 57.1 +2.9
SNR=41
FRU Bishkek 54.64 297 *i*P **P** 19 34 55.8 +0.8
FRU *e*S **S** 19 42 38.0 +3.7
FRU pmax pmax
comp=Z,600nm,2.7s,mb6.2
FRU MLR MLR
comp=N,8µm,16.0s
FRU MLR MLR
comp=Z,7µm,16.0s,MS5.8
SOKR Solikamsk 54.67 322 ⇓*i*P **P** 19 34 53.5 -1.6
SOKR S **S** 19 42 38.3 +3.6
SOKR pmax pmax
comp=Z,100nm,1.4s,mb5.7
SOKR MLR MLR
comp=Z,5µm,19.0s,MS5.6
KZA Kyzart 54.68 296 P **P** 19 34 58.7 +3.5
SNR=10
B08A Colville Reser 54.75 55 ⇑P **P** 19 34 54.8 -0.9
baz=54
A09A Danville 54.83 54 P **P** 19 34 56.2 -0.1
baz=55,SNR=5.2
AAK Ala-Archa 54.83 297 P **P** 19 34 55.3 -1.0
comp=Z,302nm,1.1s,mb6.2,SNR=12
AAK Ala-Archa 54.83 297 P **P** 19 34 56.6 +0.3
SNR=40
AAK Ala-Archa 54.83 297 ⇓*i*P **P** 19 34 55.4 -0.9
AAK pmax pmax
comp=Z,90nm,1.7s,mb5.5
AAK Ala-Archa 54.83 297 *e*P **P** 19 34 55.1 -1.2
comp=Z,8µm,2.0s
NST Nakhon Sawan 54.84 254 P **P** 19 34 57.0 +0.6
comp=Z,44nm,0.8s,mb5.5
UCH Uchtor 55.05 297 P **P** 19 34 59.1 +1.3
SNR=12
J02A Umpqua 55.07 62 ⇓P **P** 19 34 58.3 +0.2
baz=55
AGT Agartala 55.15 269 *ex* x 19 35 05.0
H04A Detroit Lake 55.15 60 ⇓P **P** 19 34 58.8 +0.2
baz=55
EDM Edmonton 55.24 47 P **P** 19 34 58.2 -1.1
EDM Edmonton 55.24 47 *e*P **P** 19 34 58.0 -1.3
EKS2 Erkin-Say 55.25 297 P **P** 19 34 59.8 +0.4
SNR=63
B09A Rice 55.37 54 ⇑P **P** 19 35 00.3 +0.1
baz=55
A10A Northport 55.39 53 ⇓P **P** 19 35 00.2 -0.1
baz=55
J03A Ideyld Park 55.43 61 ⇑P **P** 19 34 59.9 -0.8
baz=55
E07A Sunnyside 55.46 57 ⇓P **P** 19 35 01.4 +0.6
baz=55
K02A Glendale 55.46 62 ⇓P **P** 19 35 01.1 +0.2
baz=55
I04A Tendick Farm, 55.52 61 ⇑P **P** 19 35 01.5 +0.2
baz=55
AML Almayashu 55.60 297 P **P** 19 35 03.0 +1.1
SNR=23
C09A Chrisman Ranch 55.65 55 ⇓P **P** 19 35 02.0 -0.2
baz=55
ARU Arti 55.66 318 P **P** 19 35 01.8 -0.5
comp=Z,1µm,0.8s,SNR=71
ARU Arti 55.66 318 ⇓*i*P **P** 19 35 01.6 -0.7
ARU *e* 19 36 00.1
ARU *e* 19 37 01.6
ARU *e*S **S** 19 42 47.9 0.0
ARU *e*SS SS 19 46 33.9 +0.8
ARU pmax pmax
comp=Z,119nm,0.7s,mb6.0
ARU Arti 55.66 318 *e*P **P** 19 35 00.8 -1.5
comp=Z,114nm,0.7s,mb6.0
KSH Kashi 55.70 293 *e*P **P** 19 35 04.5 +1.9
KSH *e*AP pP 19 35 09.6 +2.3
KSH *e*XP sP 19 35 12.6 +3.5
KSH *e*PCP PcP 19 36 04.3 +2.4
KSH *e*PP PP 19 37 10.3 +3.4
KSH LR LR
comp=N,11µm,13.0s,MS6.5
KSH LR LR
comp=E,20µm,12.1s,MS6.5
KSH LR LR
comp=Z,21µm,23.2s
G06A Carlson Farm, 55.75 58 ⇑P **P** 19 35 01.1 -1.8
baz=56
F07A Phinny Hill Vi 55.79 57 ⇓P **P** 19 35 04.0 +0.7
baz=56
HUMO Hull Mountain 55.87 62 ⇑P **P** 19 35 04.5 +0.7
baz=56
NEW Newport 56.03 54 P **P** 19 35 04.8 -0.1
comp=Z,2.6nm,0.4s,mb4.6,baz=9.8,slow=5.0,SNR=5.0
NEW LR LR 20 00 33.7
comp=Z,876nm,18.1s,MS4.9,baz=133,slow=38
D09A Jones Farm, Ri 56.05 55 ⇑P **P** 19 35 03.9 -1.2
baz=56
A11A Hall Mountain, 56.05 53 ⇑P **P** 19 35 05.8 +0.6
baz=56
JIRN Jiri 56.16 276 *e*P **P** 19 35 07.5 +1.6
comp=Z,202nm,0.9s,mb6.2
GUN Gumba 56.21 276 *e*P **P** 19 35 07.7 +1.4
comp=Z,91nm,0.6s,mb6.0
H06A Lindquist Farm 56.21 59 ⇑P **P** 19 35 06.0 -0.3
baz=56
B11A Sandpoint 56.35 53 ⇓P **P** 19 35 07.7 +0.5
baz=56
HNR Honiara 56.36 174 P **P** 19 35 07.2 -0.1
comp=Z,24nm,0.3s,mb5.7,baz=254,slow=8.2,SNR=3.9
HNR LR LR 19 56 02.5
comp=Z,2µm,18.5s,MS5.2,baz=360,slow=33
HNR Honiara 56.36 174 P **P** 19 35 07.2 -0.1
HNR pmax pmax
comp=Z,24nm,0.3s,mb5.7
HNR MLR MLR
comp=Z,2µm,18.5s,MS5.2
DAG Danmarks Havn 56.44 358 ⇑*i*P **P** 19 35 03.8 -4.0
comp=Z,226nm,1.6s,mb6.0
DAG Danmarks Havn 56.44 358 ⇑*e*P **P** 19 35 03.8 -4.0
DAG pmax pmax
comp=Z,230nm,1.6s,mb6.0
DAG Danmarks Havn 56.44 358 ⇑*e*P **P** 19 35 03.8 -4.0
comp=Z,227nm,1.6s,mb6.0
A12A Yaak River Ran 56.45 52 ⇑P **P** 19 35 08.5 +0.5
baz=56
E09A Wood Farm, Sta 56.45 56 ⇑P **P** 19 35 08.6 +0.6
baz=56
F08A Pendleton 56.51 57 ⇓P **P** 19 35 08.3 0.0
baz=56
J05A Fort Rock 56.52 61 ⇓P **P** 19 35 08.9 +0.5
baz=56
YBH Yreka Blue Hor 56.53 63 P **P** 19 35 09.8 +1.2
comp=Z,6.0nm,1.0s,mb4.6,baz=314,slow=5.5,SNR=5.9
YBH Yreka Blue Hor 56.53 63 ⇑P **P** 19 35 09.4 +0.9
baz=56,SNR=5.3
PMG Port Moresby 56.58 189 LR LR 19 54 50.4
comp=Z,1µm,21.2s,MS4.9,baz=170,slow=31
PMG Port Moresby 56.58 189 P **P** 19 35 08.2 -0.7
PMG pmax pmax
comp=Z,56nm,1.0s
PMG Port Moresby 56.58 189 *e*P **P** 19 35 08.1 -0.8
comp=Z,56nm,1.0s,mb5.5
M02C Callahan 56.64 63 ⇑P **P** 19 35 09.6 +0.3
baz=56,SNR=5.4
N02C Big Bar 56.69 64 ⇓P **P** 19 35 09.7 0.0
baz=56
KKN Kakani 56.70 276 *e*P **P** 19 35 10.8 +1.1
comp=Z,1µm,2.0s,mb6.6
I06A Prineville 56.74 59 P **P** 19 35 10.6 +0.6
baz=56,SNR=5.0
PKI Pulchoki 56.75 276 *e*P **P** 19 35 11.9 +1.8
comp=Z,307nm,1.3s,mb6.2
L04A Klamath Falls 56.77 62 ⇓P **P** 19 35 10.3 +0.1
baz=56
DMN Daman 56.93 276 *e*P **P** 19 35 13.0 +1.6
comp=Z,274nm,1.1s,mb6.2
GKN Gorkha 57.00 277 *e*P **P** 19 35 12.7 +0.9
comp=Z,331nm,1.1s,mb6.3
LVZ Lovozero 57.02 337 P **P** 19 35 11.4 -0.6
comp=Z,653nm,0.9s,mb6.7,SNR=8.2
LVZ Lovozero 57.02 337 ⇑*i*P **P** 19 35 11.5 -0.5
LVZ *e*S **S** 19 43 06.2 +0.2
LVZ pmax pmax
comp=Z,104nm,1.0s,mb5.8
LVZ pmax pmax
comp=N,53nm,1.3s
LVZ pmax pmax
comp=E,21nm,0.7s
LVZ smax
comp=N,268nm,3.9s
LVZ smax
comp=E,1µm,5.4s
LVZ MLR MLR
comp=Z,5µm,17.0s,MS5.7
LVZ MLR MLR
comp=E,3µm,14.0s
LVZ Lovozero 57.02 337 ⇑*e*P **P** 19 35 09.0 -3.0
M04C Macdoel 57.03 62 ⇑P **P** 19 35 12.2 +0.1
baz=57
K05A Summer Lake 57.04 61 ⇑P **P** 19 35 12.4 +0.2
baz=57,SNR=5.1
I07A Izee 57.08 59 ⇑P **P** 19 35 12.6 +0.2
baz=57
M03C McCloud 57.15 63 ⇓P **P** 19 35 13.2 +0.3
baz=57
D11A Klaveano Farm, 57.16 54 ⇑P **P** 19 35 13.0 -0.1
baz=57
F10A Beach Ranch, E 57.29 56 ⇑P **P** 19 35 14.0 +0.1
baz=57
WDC Whiskeytown Da 57.31 64 ⇑P **P** 19 35 14.5 +0.5
baz=57
H08A Prairie City 57.31 58 ⇓P **P** 19 35 14.2 +0.2
baz=57
NNT Nongplab 57.36 252 P **P** 19 35 17.0 +2.6
K06A Valley Falls 57.38 60 ⇑P **P** 19 35 15.1 +0.5
baz=57,SNR=6.9
O02C Red Bluff 57.39 64 ⇓P **P** 19 35 15.6 +0.9
baz=57
B13A Whitefish 57.42 52 P **P** 19 35 15.5 +0.7
baz=57,SNR=12
L05A Lakeview 57.48 62 P **P** 19 35 16.8 +1.5
baz=57,SNR=6.5
KEV Kevo 57.51 341 *e*p **P** 19 35 13.9 -1.6
comp=E,24nm,0.7s,mb5.3
KEV Kevo 57.51 341 *e*P **P** 19 35 14.0 -1.5
KEV pmax pmax
comp=Z,380nm,1.9s,mb6.1
APA Apatity 57.59 337 ⇑*i*P **P** 19 35 15.4 -0.6
APA *i* 19 35 28.2
APA *i*S **S** 19 43 14.0 +0.5
APA pmax pmax
comp=Z,380nm,1.6s,mb6.2
APA MLR MLR
comp=Z,4µm,18.0s,MS5.6
M05C Lookout 57.70 62 ⇑P **P** 19 35 17.5 +0.7
baz=58
I08A Drewsey 57.72 59 ⇓P **P** 19 35 17.3 +0.3
baz=58
GASB Alder Springs 57.75 65 ⇑P **P** 19 35 17.6 +0.5
baz=58
C13A Hot Springs 57.77 53 ⇓P **P** 19 35 17.3 +0.1
baz=58
H09A Durkee 57.80 57 ⇑P **P** 19 35 18.0 +0.5
baz=58
HATC Hat Creek Radi 57.83 63 ⇓P **P** 19 35 18.3 +0.6
baz=58
KOLN Koldanda 57.85 277 *e*P **P** 19 35 19.1 +1.2
comp=Z,305nm,1.1s,mb6.2
MOD Modoc 57.88 61 *e*P **P** 19 35 17.5 -0.6
comp=Z,22nm,1.3s,mb5.0
MOD Modoc 57.88 61 P **P** 19 35 19.0 +0.9
baz=58,SNR=5.9
F11A Grangeville 57.94 55 ⇑P **P** 19 35 18.9 +0.4
baz=58
ARCES ARCESS Array B 58.02 341 P **P** 19 35 17.9 -1.1
comp=Z,50nm,0.8s,mb5.6,baz=37,slow=6.2,SNR=44
ARE0 ARCESS Array S 58.02 341 *e*P **P** 19 35 17.9 -1.1
CAL Calcutta 58.05 270 *e*P **P** 19 35 24.1 +4.9
CAL *e*S **S** 19 43 24.9 +5.4
K07A Rock Creek Ran 58.05 60 P **P** 19 35 19.9 +0.7
baz=58,SNR=7.5
J08A Circle Bar Ran 58.10 59 ⇑P **P** 19 35 20.2 +0.5
baz=58
G11A Walters Elk Ra 58.17 56 ⇓P **P** 19 35 19.8 -0.3
baz=58
I09A Lost Marbles R 58.17 58 ⇑P **P** 19 35 20.6 +0.5
baz=58
D13A Huson 58.17 54 ⇑P **P** 19 35 20.1 -0.1
baz=58
M06C Likely Place G 58.19 62 ⇑P **P** 19 35 20.4 +0.1
baz=58
O04C Chester 58.35 63 ⇑P **P** 19 35 21.4 0.0
baz=58
MNRC McLaughlin Nat 58.38 65 P **P** 19 35 22.8 +1.2
baz=58,SNR=5.4
L07A Adell 58.39 61 ⇑P **P** 19 35 22.1 +0.4
baz=58
ELFS Eagle Lake Fie 58.39 63 ⇓P **P** 19 35 22.3 +0.6
baz=58
K08A Mann Creek Ran 58.47 60 ⇓P **P** 19 35 22.6 +0.4
baz=58,SNR=5.8
J09A Fry Pan Ranch, 58.53 59 ⇓P **P** 19 35 23.2 +0.5
baz=58,SNR=9.8
WVOR Wild Horse Val 58.56 60 *e*P **P** 19 35 21.3 -1.5
WVOR pmax pmax
comp=Z,30nm,1.1s,mb5.2
WVOR Wild Horse Val 58.56 60 *e*P **P** 19 35 21.3 -1.6
comp=Z,28nm,1.1s,mb5.2
MSO Missoula 58.62 54 *e*P **P** 19 35 21.5 -1.7
comp=Z,40nm,1.4s,mb5.3
O05C Quincy 58.67 64 ⇑P **P** 19 35 23.5 -0.1
baz=58
TMCR Tamitsa 58.68 333 *e*P **P** 19 35 23.4 -0.3
CVS Carmenet Viney 58.70 66 ⇓P **P** 19 35 23.6 -0.2
baz=58
OHCM Honcut 58.70 64 *e*P **P** 19 35 23.3 -0.5
D14A Greenough 58.70 53 P **P** 19 35 23.8 0.0
baz=58,SNR=12
E13A Victor 58.71 54 ⇓P **P** 19 35 23.5 -0.4
baz=58
H11A Donnelly 58.73 57 ⇑P **P** 19 35 23.6 -0.4
baz=58
N06A Buffalo Meadow 58.86 62 ⇑P **P** 19 35 24.9 0.0
baz=59,SNR=6.4
M07A Soldier Meadow 58.87 61 ⇑P **P** 19 35 24.7 -0.3
baz=59
L08A Fields 58.88 60 ⇑P **P** 19 35 25.3 +0.3
baz=59,SNR=5.4
KTK1 Kautokeino 58.92 342 *e*P **P** 19 35 25.3 -0.1
KTK1 AMb AMB 19 35 29.9
comp=Z,527nm,1.6s,mb6.3
KTK1 Kautokeino 58.92 342 *e*P **P** 19 35 25.3 -0.1
comp=Z,527nm,1.6s,mb6.3
K09A Rome 58.94 59 ⇑P **P** 19 35 25.4 -0.1
baz=59
CHMT Chamberlain Mo 58.95 53 *e*P **P** 19 35 25.1 -0.4
F13A Darby 59.02 55 ⇑P **P** 19 35 25.9 -0.2
baz=59,SNR=7.7
LGTI Lohaghat 59.04 281 *e*P **P** 19 35 28.5 +2.3
BEKR Beckwourth 59.07 63 ⇑P **P** 19 35 26.3 -0.1
baz=59,SNR=6.8
E14A Clinton 59.11 54 ⇓P **P** 19 35 25.9 -0.8
baz=59
O06A Flanigan 59.21 63 ⇑P **P** 19 35 27.1 -0.3
baz=59
P05C Yuba Gap, Truc 59.26 64 ⇑P **P** 19 35 27.8 +0.1
baz=59
D15A Lincoln 59.27 53 ⇑P **P** 19 35 27.5 -0.2
baz=59,SNR=5.4
TRO Tromso 59.29 344 *e*P **P** 19 35 27.0 -0.9
TRO AMb AMB 19 35 30.0
comp=Z,349nm,1.9s,mb6.1
TRO Tromso 59.29 344 *e*P **P** 19 35 25.6 -2.3
TRO pmax pmax
comp=Z,349nm,1.9s,mb6.1
TRO Tromso 59.29 344 *e*P **P** 19 35 25.6 -2.3
comp=Z,349nm,1.9s,mb6.1
L09A Wilkinson Ranc 59.38 60 ⇑P **P** 19 35 28.5 0.0
baz=59
AKTK Aktyubinsk 59.48 313 P **P** 19 35 28.7 -0.5
AKTO Aktyubinsk 59.48 313 P **P** 19 35 28.7 -0.5
comp=Z,25nm,0.7s,mb5.3,baz=55,slow=6.5,SNR=60
AKTO Aktyubinsk 59.48 313 P **P** 19 35 28.7 -0.5
AKTO pmax pmax
comp=Z,25nm,0.7s,mb5.3
F14A Wisdom 59.55 54 ⇓P **P** 19 35 29.2 -0.5
baz=59
E15A Deer Lodge 59.58 53 ⇓P **P** 19 35 29.7 -0.2
baz=59,SNR=6.7
BNLO Ben Lomond (Sa 59.62 67 ⇓P **P** 19 35 29.7 -0.5
baz=59
KSM Kuching 59.62 234 *e*P **P** 19 35 31.6 +1.4
FFC Flin Flon 59.74 41 P **P** 19 35 31.1 +0.1
comp=Z,202nm,1.4s,mb6.0,SNR=6.3
FFC Flin Flon 59.74 41 P **P** 19 35 31.1 +0.1
WCN Washoe City 59.78 63 ⇓P **P** 19 35 31.2 -0.1
baz=60
O07A Toulon 59.79 62 ⇑P **P** 19 35 31.5 +0.2
baz=60,SNR=6.3
N08A GE Springer Mi 59.86 61 ⇓P **P** 19 35 32.1 +0.3
baz=60
M09A Marrel Ranch, 59.88 60 ⇑P **P** 19 35 32.4 +0.4
baz=60
S04C Ingram Canyon, 59.92 66 ⇓P **P** 19 35 32.0 -0.2
baz=60
SDNR Sundarnagar 59.93 285 *e*P **P** 19 35 33.0 +0.7
R05C Kirkwood Meado 59.95 64 ⇓P **P** 19 35 32.7 +0.2
baz=60,SNR=6.7
F15A Butte 60.02 54 ⇑P **P** 19 35 32.9 0.0
baz=60,SNR=16
EGMT Eagleton 60.15 50 *e*P **P** 19 35 32.6 -1.2
comp=Z,120nm,1.6s,mb5.7
EGMT Eagleton 60.15 50 ⇑P **P** 19 35 34.0 +0.2
baz=60,SNR=9.9
O08A Rochester Mine 60.15 62 ⇓P **P** 19 35 34.6 +0.8
baz=60
THN Thein Dam 60.16 287 *ex* x 19 35 29.6
P07A Fallon 60.17 63 ⇓P **P** 19 35 33.8 -0.1
baz=60
CMB Columbia Colle 60.17 65 ⇑P **P** 19 35 33.9 0.0
baz=60,SNR=6.3
N09A Rock Creek Ran 60.18 61 ⇑P **P** 19 35 34.5 +0.5
baz=60
PACP Pacheco Peak 60.25 66 ⇑P **P** 19 35 34.3 -0.1
baz=60
DLMT Dillon 60.25 54 *e*P **P** 19 35 35.1 +0.6
comp=Z,53nm,1.8s,mb5.3
HLID Hailey 60.34 57 *e*P **P** 19 35 35.0 -0.1
comp=Z,17nm,1.1s,mb5.0
HLID Hailey 60.34 57 ⇑P **P** 19 35 35.1 0.0
baz=60,SNR=11
ORR Orenburg 60.35 315 *e*P **P** 19 35 34.6 -0.6
ORR pmax pmax
comp=Z,150nm,1.2s,mb5.9
ORR MLR MLR
comp=Z,10µm,17.0s,MS6.0
SUMG Summit 60.35 5 *e*P **P** 19 35 34.8 -0.4
comp=Z,308nm,1.6s,mb6.1
M10A I.L. Ranch, Tu 60.36 60 ⇓P **P** 19 35 35.5 +0.3
baz=60,SNR=6.0
FCC Fort Churchill 60.36 34 *e*P **P** 19 35 32.7 -2.6
G15A Dillon 60.43 54 ⇑P **P** 19 35 35.6 -0.2
baz=60,SNR=8.5
R06C Coleville 60.45 64 ⇓P **P** 19 35 35.8 -0.1
baz=60,SNR=5.5
HAST UC Hastings Re 60.47 67 ⇓P **P** 19 35 35.9 -0.1
baz=60
S06C San Francisco 60.60 65 ⇓P **P** 19 35 36.6 -0.3
baz=60,SNR=9.9
BMN Battle Mountai 60.62 61 *e*P **P** 19 35 37.8 +0.7
BMN pmax pmax
comp=Z,120nm,2.1s,mb5.7
BMN Battle Mountai 60.62 61 *e*P **P** 19 35 37.8 +0.8
comp=Z,124nm,2.1s,mb5.7
S05C Merced 60.64 66 ⇓P **P** 19 35 36.5 -0.6
baz=60
O09A Fish Creek Ran 60.80 61 ⇓P **P** 19 35 38.3 0.0
baz=61,SNR=7.1
M11A Holland Ranch, 60.85 59 ⇑P **P** 19 35 38.9 +0.3
baz=61,SNR=8.3
V03C Hunter Liggett 60.90 67 ⇑P **P** 19 35 38.8 -0.1
baz=61
U04C Hernandez Rese 60.97 67 ⇓P **P** 19 35 39.6 +0.2
baz=61
R07C Lee Vining 60.97 64 ⇑P **P** 19 35 39.5 +0.1
baz=61
NIL Nilore 61.00 289 P **P** 19 35 41.6 +2.0
comp=Z,256nm,1.1s,mb6.3,SNR=9.5
O10A Cortez Mining, 61.14 61 ⇓P **P** 19 35 40.7 +0.2
baz=61
Q08A Gabbs 61.17 63 ⇑P **P** 19 35 41.0 +0.2
baz=61,SNR=5.6
NVAR Mina Array Bea 61.21 63 P **P** 19 35 41.2 +0.1
comp=Z,2.4nm,0.8s,baz=297,slow=8.0
P09A Austin 61.22 62 ⇓P **P** 19 35 41.3 +0.2
baz=61
QLMT Earthquake Lak 61.23 54 *e*P **P** 19 35 42.0 +0.8
T06C Millerton Lake 61.24 66 ⇑P **P** 19 35 40.3 -0.9
baz=61
KCC Kaiser Creek 61.28 65 ⇑P **P** 19 35 41.2 -0.3
baz=61
M12A Wells 61.38 59 ⇓P **P** 19 35 42.1 0.0

baz=61,SNR=14
PKD Parkfield 61.38 67 ⇓P **P 19 35 41.8 -0.4**
baz=61
NDI New Delhi 61.56 283 *e*P **P 19 35 44.0 +0.6**
NDI *e*P 19 35 44.9
NDI AMb AMB 19 35 47.0
comp=Z,138nm,1.2s,mb5.9
NDI *e*x x 19 38 36.0
P10A Eureka 61.58 61 ⇓P **P 19 35 43.8 +0.2**
baz=61
YMR Madison River 61.59 54 *e*P **P 19 35 44.2 +0.6**
comp=Z,49nm,1.2s,mb5.5
GCMT Greycliff 61.59 52 *e*P **P 19 35 44.6 +1.0**
ELK Elko 61.61 60 *e*P **P 19 35 43.2 -0.5**
Q09A Carvers 61.64 62 ⇑P **P 19 35 44.4 +0.4**
baz=61
N12A Clover Valley, 61.66 60 ⇓P **P 19 35 44.5 +0.4**
baz=61,SNR=6.1
MTUM Tungsten Hills 61.73 65 *e*P **P 19 35 45.2 +0.6**
O11A Cowboy Ranch, 61.74 61 ⇑P **P 19 35 44.8 +0.2**
baz=62
YFT Old Faithful 61.80 54 *e*P **P 19 35 47.2 +2.2**
V05C Boulder Hill, 61.83 67 ⇑P **P 19 35 45.9 +0.7**
baz=62
M13A Montello 61.85 59 P **P 19 35 46.4 +1.1**
baz=62,SNR=6.3
HELL Mitchell Peak, 61.87 65 P **P 19 35 45.2 -0.3**
baz=62
S08C White Mtn Res 61.88 64 ⇑P **P 19 35 45.8 +0.3**
baz=62,SNR=8.2
PECR Pechory 61.98 324 *i* P **P 19 35 44.0 -2.2**
PECR *e*S **S 19 44 23.0 +13**
PECR pmax pmax
comp=Z,2μm,4.0s
PECR MLR MLR
comp=Z,10μm,18.0s,MS6.0
PECR MLR MLR
comp=E,8μm,13.0s
P11A Circle Ranch, 62.05 61 ⇓P **P 19 35 47.4 +0.6**
baz=62
R09A Tonopah 62.09 63 ⇑P **P 19 35 46.9 -0.1**
baz=62,SNR=7.2
IMW Indian Meadow 62.09 55 *e*P **P 19 35 48.3 +1.3**
comp=E,46nm,1.4s,mb5.4
TPH Tonopah 62.10 63 *e*P **P 19 35 47.1 +0.1**
TPH pmax pmax
comp=Z,23nm,1.2s,mb5.2
TPH Tonopah 62.10 63 *e*P **P 19 35 47.1 +0.1**
comp=Z,23nm,1.3s,mb5.1
FLWY Flagg Ranch 62.11 54 *e*P **P 19 35 46.8 -0.3**
comp=Z,344nm,2.3s,mb6.1
SMMC Simmler 62.12 67 ⇓P **P 19 35 47.4 +0.2**
baz=62
DCID1 Drake Creek 62.15 55 *e*P **P 19 35 48.4 +1.1**
N13A Wendover, West 62.15 59 ⇓P **P 19 35 47.8 +0.4**
baz=62
O12A Currie 62.20 60 ⇓P **P 19 35 47.7 0.0**
baz=62,SNR=7.9
RRI2 Red Ridge 62.23 55 *e*P **P 19 35 49.2 +1.3**
comp=Z,19nm,0.7s,mb5.3
RLMT Red Lodge 62.23 53 *e*P **P 19 35 48.0 +0.1**
comp=Z,50nm,1.4s,mb5.5
MOOW Moose Ponds 62.30 55 *e*P **P 19 35 47.9 -0.5**
comp=Z,117nm,2.0s,mb5.7
KULM Kulim 62.31 246 *e*P **P 19 35 50.0 +1.6**
S09A Goldfield 62.32 63 ⇑P **P 19 35 48.3 -0.2**
baz=62,SNR=8.2
TPAW Teton Pass 62.34 55 *e*P **P 19 35 50.1 +1.5**
comp=Z,90nm,1.4s,mb5.7
VES Vestal, Richgr 62.37 66 ⇑P **P 19 35 48.2 -0.6**
baz=62
LOHW Long Hollow 62.46 55 *e*P **P 19 35 49.9 +0.4**
comp=Z,153nm,1.8s,mb5.8
SNOW Snow King Moun 62.47 55 *e*P **P 19 35 51.1 +1.5**
comp=Z,594nm,2.4s,mb6.3
REDW Red Top Meadow 62.48 55 *e*P **P 19 35 49.2 -0.4**
comp=Z,92nm,1.4s,mb5.7
PKM Peak Mountain 62.50 67 ⇓P **P 19 35 50.0 +0.3**
baz=62
R10A Warm Springs 62.52 62 ⇑P **P 19 35 49.5 -0.4**
baz=62
Q11A Duckwater 62.56 62 ⇓P **P 19 35 49.9 -0.2**
baz=62,SNR=5.9
CWC Cottonwood Cre 62.61 65 ⇑P **P 19 35 50.5 0.0**
baz=62
P12A McGill 62.61 61 ⇓P **P 19 35 50.8 +0.3**
baz=62
GRAC Grapevine Rang 62.69 64 ⇑P **P 19 35 51.3 +0.3**
baz=62,SNR=7.8
IPM Ipoh 62.70 245 P **P 19 35 53.2 +2.1**
DGMT Dagmar 62.73 47 *e*P **P 19 35 51.4 +0.2**
comp=Z,65nm,1.2s,mb5.6
KAKA Kakadu 62.76 205 *e*P **P 19 35 50.2 -1.3**
comp=Z,50nm,0.9s,mb5.6
LAO LASA Array 62.85 50 *e*P **P 19 35 52.0 -0.1**
ISA Isabella 62.86 66 ⇓P **P 19 35 51.3 -0.9**
baz=63
SPUT South Promonto 62.88 58 *e*P **P 19 35 49.9 -2.4**
TRCR Troy Canyon 62.92 62 *e*P **P 19 35 52.9 +0.4**
Q12A Willow Creek R 62.93 61 ⇓P **P 19 35 52.5 -0.1**
baz=63,SNR=6.3
MOR8 Moi Rana 63.15 343 *e*P **P 19 35 52.3 -1.7**
MOR8 AMb AMB 19 35 56.1
comp=Z,221nm,1.6s,mb6.0
MOR8 Moi Rana 63.15 343 *e*P **P 19 35 52.3 -1.7**
comp=Z,221nm,1.6s,mb6.0
HWUT Hardware Ranch 63.20 57 *e*P **P 19 35 54.9 +0.5**
comp=Z,141nm,2.0s,mb5.8
MPMC Manual Prospec 63.22 65 ⇑P **P 19 35 54.5 +0.1**
baz=63,SNR=9.2
KGM Kluang 63.24 241 P **P 19 35 57.2 +2.6**
JBP Jabalpur 63.33 276 ⇓*i*P **P 19 35 55.6 +0.4**
JBP *ex* x 19 36 02.2
comp=Z,118nm,1.3s
JBP *i* S **S 19 44 30.7 +3.7**
FURC Furnace Creek, 63.34 64 ⇑P **P 19 35 55.3 0.0**
baz=63,SNR=5.6
DUG Dugway 63.38 59 *e*P **P 19 35 55.5 -0.1**
DUG pmax pmax
comp=Z,29nm,1.1s,mb5.3
DUG Dugway 63.38 59 *e*P **P 19 35 55.5 -0.1**
comp=Z,29nm,1.1s,mb5.3
DUG Dugway 63.38 59 ⇓P **P 19 35 55.6 0.0**
baz=63,SNR=8.6
LRMC Laurel Mountai 63.47 66 ⇑P **P 19 35 55.9 -0.2**
baz=63,SNR=6.1
PDAR Pinedale Array 63.59 55 P **P 19 35 55.8 -1.2**
comp=Z,8.6nm,1.1s,mb4.7,baz=299,slow=3.1,SNR=37
EDW2 Edwards Air Fo 63.66 66 ⇑P **P 19 35 57.4 -0.1**
baz=63
U10A Ash Meadows, A 63.70 64 ⇑P **P 19 35 57.9 +0.2**
baz=64
DECC Green Verdugo 63.86 67 ⇑P **P 19 35 58.4 -0.4**
baz=64
JLU Jordanelle 63.92 58 *e*P **P 19 35 59.0 -0.1**
NLU North Lily Min 63.97 59 *e*P **P 19 35 59.6 +0.1**
SHOC Shoshone 64.07 65 ⇑P **P 19 36 00.0 -0.1**
baz=64
GSC Goldstone 64.13 65 ⇓P **P 19 36 00.1 -0.4**
baz=64
DAU Daniels Canyon 64.15 58 *e*P **P 19 36 01.8 +1.1**
MPU Maple Canyon 64.19 58 *e*P **P 19 36 01.6 +0.7**
comp=Z,14nm,1.0s,mb5.0
FIA1 FINESS Array S 64.33 335 *e*P **P 19 36 00.7 -1.1**
FINES FINESS Array B 64.33 335 P **P 19 36 00.8 -1.1**
comp=Z,32nm,0.4s,mb5.7,baz=39,slow=7.3,SNR=70
PUL Pulkovo 64.39 332 ⇑*i*P **P 19 36 02.8 +0.5**
PUL *e*S **S 19 44 58.1 +18**
PUL pmax pmax
comp=Z,332nm,1.1s,mb6.3
PUL pmax pmax
comp=N,322nm,0.8s
PUL pmax pmax
comp=E,434nm,1.4s
PUL Pulkovo 64.39 332 ⇑*e*P **P 19 36 01.4 -0.9**
ARUT Antelope Range 64.57 61 *e*P **P 19 36 02.1 -1.3**
TUQ Turquoise Mtn. 64.59 65 ⇓P **P 19 36 03.6 +0.1**
baz=64,SNR=8.2
V11A Goodsprings 64.63 64 ⇑P **P 19 36 04.0 +0.2**
baz=64
SFJD Kangerlussuaq 64.68 11 *e*P **P 19 36 02.4 -1.7**
comp=E,164nm,1.4s,mb5.9
AJM Ajmer 64.73 282 *e*P **P 19 36 05.4 +0.9**
AJM AMb AMB 19 36 08.5
comp=Z,78nm,0.8s,mb5.8
HEC Hector,Ludlow 64.73 65 ⇓P **P 19 36 04.2 -0.2**
baz=64
VIS Vishakhapatnam 64.75 269 *e*P **P 19 36 06.7 +2.1**
VIS AMb AMB 19 36 10.0
comp=Z,101nm,1.4s,mb5.7
CCUT Cedar City 64.77 61 *e*P **P 19 36 04.8 +0.1**
U12A Valley of Fire 64.79 63 ⇓P **P 19 36 04.9 0.0**
baz=64
MSU Marysvale 64.85 60 *e*P **P 19 36 05.0 -0.2**
TMUT Trail Mountain 64.91 59 *e*P **P 19 36 05.3 -0.3**
MOS Moscow 64.93 326 *e*P **P 19 36 03.3 -2.4**
MOS *i* 19 36 16.0
MOS *e* 19 36 34.4
MOS *eS* **S 19 44 43.9 -2.9**
MOS *e* 19 45 56.3
MOS pmax pmax
comp=Z,2μm,3.0s
MOS pmax pmax
comp=N,2μm,3.2s
MOS pmax pmax
comp=Z,661nm,1.7s,mb6.4
MOS pmax pmax
comp=N,292nm,1.6s
MURC Murrieta 64.99 67 ⇑P **P 19 36 05.7 -0.4**
baz=65
V12A Nelson 65.06 64 ⇓P **P 19 36 06.5 -0.1**
baz=65,SNR=6.0
NSS Namsos 65.09 343 *e*P **P 19 36 06.2 -0.5**
NGP Nagpur 65.33 275 ⇓*e*P **P 19 36 08.3 0.0**
NGP AMb AMB 19 36 14.5
comp=Z,180nm,1.3s,mb5.9
NGP *ex* x 19 44 51.2
NGP *ex* x 20 07 48.3
comp=Z,768nm,4.5s
W12A Cal Nev Ari 65.33 64 ⇓P **P 19 36 08.1 -0.2**
baz=65
SRU San Rafael 65.43 59 *e*P **P 19 36 09.3 +0.3**
SRU pmax pmax
comp=Z,21nm,0.9s,mb5.2
SRU San Rafael 65.43 59 *e*P **P 19 36 09.3 +0.3**
comp=Z,21nm,0.9s,mb5.2
PFO Pinyon Flat Ob 65.45 67 ⇓P **P 19 36 08.8 -0.3**
baz=65
BELC Belle Mtn. 65.48 66 ⇑P **P 19 36 08.7 -0.6**
baz=65
ULM Lac du Bonnet 65.51 42 P **P 19 36 08.8 -0.7**
comp=Z,6.1nm,0.7s,mb4.7,baz=322,slow=7.0,SNR=9.2
ULM Lac du Bonnet 65.51 42 P **P 19 36 08.8 -0.7**
109C Camp Elliot, M 65.52 68 ⇑P **P 19 36 09.6 0.0**
baz=65
RWWY Rawlins 65.61 55 *e*P **P 19 36 08.8 -1.4**
RSSD Black Hills 65.71 51 *e*P **P 19 36 08.1 -2.7**
RSSD pmax pmax
comp=Z,58nm,1.3s,mb5.5
RSSD Black Hills 65.71 51 *e*P **P 19 36 08.1 -2.7**
comp=Z,52nm,1.3s,mb5.4
OBN Obninsk 65.79 326 P **P 19 36 10.5 -0.8**
comp=Z,1μm,1.2s,SNR=20
OBN Obninsk 65.79 326 *e*P **P 19 36 10.7 -0.6**
OBN *e* 19 38 31.9
OBN *i* S S 19 44 49.4 -8.0
OBN pmax pmax
comp=Z,599nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,2μm,15.0s,MS5.5
OBN Obninsk 65.79 326 *e*P **P 19 36 09.8 -1.5**
comp=Z,905nm,1.6s,mb6.5
IRM Iron Mountain 65.91 65 ⇓P **P 19 36 11.6 -0.5**
baz=66,SNR=11
MONP Monument Peak 65.95 67 ⇑P **P 19 36 11.6 -0.8**
baz=66
BC3 Big Chuckw Mtn 66.05 66 ⇓P **P 19 36 12.2 -0.8**
baz=66,SNR=5.0
W13A Hualapai Mount 66.07 64 ⇓P **P 19 36 13.2 +0.1**
baz=66,SNR=7.6
X13A Yucca 66.44 64 ⇓P **P 19 36 15.0 -0.5**
baz=66,SNR=8.1
PDMCI Parker Dam,Lak 66.44 65 ⇓P **P 19 36 15.3 -0.2**
baz=66
W14A Seligman 66.48 63 ⇑P **P 19 36 15.4 -0.4**
baz=66,SNR=15
Y12C Blythe 66.57 65 ⇑P **P 19 36 16.1 -0.2**
baz=66
VRHR Novokhopersk 66.72 321 *e*P **P 19 36 17.7 +0.4**
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s,mb6.0
VRHR pmax pmax
comp=E,8.0nm,0.3s
VRHR MLR MLR
comp=Z,5μm,24.0s,MS5.6
VRHR MLR MLR
comp=N,2.0nm,11.0s
VRHR MLR MLR
comp=E,820nm,15.0s
GLA Glamis 66.84 66 ⇑P **P 19 36 17.6 -0.4**
baz=67
PHWY Pilot Hill 66.84 54 *e*P **P 19 36 17.8 -0.3**
AGMN Agassiz Refuge 66.90 43 *e*P **P 19 36 17.5 -0.9**
comp=E,64nm,1.5s,mb5.4
W15A Williams 67.00 63 ⇓P **P 19 36 19.6 +0.5**
baz=67
X14A Yava 67.10 64 ⇑P **P 19 36 19.8 +0.1**
baz=67,SNR=10
CTA Charters Tower 67.23 189 *e*P **P 19 36 20.3 -0.2**
comp=E,18nm,0.9s,mb5.1
CTA Charters Tower 67.23 189 LR LR 20 00 41.0
comp=E,669nm,21.5s,MS4.8,baz=9.2,slow=32
CTA Charters Tower 67.23 189 *e*P **P 19 36 20.3 -0.2**
CTA pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 67.23 189 *e*P **P 19 36 19.2 -1.4**
CTAO pmax pmax
comp=Z,53nm,1.2s,mb5.5
CTAO Charters Tower 67.23 189 *e*P **P 19 36 19.2 -1.3**
comp=Z,53nm,1.2s,mb5.4
VOR Voronezh 67.28 323 *e*P **P 19 36 21.0 +0.2**
VOR pmax pmax
comp=Z,600nm,2.0s,mb6.3
WUAZ Wupatki 67.32 62 *e*P **P 19 36 21.7 +0.6**
comp=Z,72nm,1.8s,mb5.4
WUAZ Wupatki 67.32 62 ⇑P **P 19 36 21.0 -0.1**
baz=67,SNR=5.1
Y14A Wickenburg 67.38 64 ⇑P **P 19 36 21.6 +0.1**
baz=67
X15A Humboldt 67.48 63 ⇓P **P 19 36 22.5 +0.4**
baz=67,SNR=12
ABKT Ailbek 67.53 302 P **P 19 36 23.3 +0.9**
comp=Z,558nm,0.7s,mb6.7,SNR=37
VRSR Storozhevoye 67.67 322 *d*i P **P 19 36 23.7 +0.4**
VRSR *eS* S 19 45 19.3 -0.8
VRSR *e* 19 46 15.1
VRSR pmax pmax
comp=N,690nm,3.6s
VRSR pmax pmax
comp=E,620nm,3.6s
VRSR pmax pmax
comp=Z,2μm,3.6s
VRSR smax
comp=N,740nm,4.2s
VRSR smax
comp=Z,350nm,4.1s
VRSR smax
comp=E,230nm,3.4s
VRSR MLR MLR
comp=Z,4μm,17.0s,MS5.7
VRSR MLR MLR
comp=N,2μm,16.0s
ISCO Idaho Springs 67.78 55 P **P 19 36 24.2 +0.2**
ISCO pmax pmax
comp=Z,78nm,1.7s,mb5.5
ISCO Idaho Springs 67.78 55 *e*P **P 19 36 24.3 +0.3**
comp=Z,72nm,1.7s,mb5.4
Z14A Wintersburg 67.81 65 ⇓P **P 19 36 24.0 -0.2**
baz=68
VORD Divnogorie 67.81 322 *e*P **P 19 36 19.4 -4.8**
VORD pmax pmax
comp=Z,40nm,1.4s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,40nm,1.9s
MVCO Mesa Verde 67.89 59 *e*P **P 19 36 23.6 -1.1**
comp=E,35nm,1.4s,mb5.2
MVCO Mesa Verde 67.89 59 ⇑P **P 19 36 24.5 -0.2**
baz=68,SNR=6.6
DOMB Dombas 67.91 343 *e*P **P 19 36 24.8 0.0**
DOMB AMb AMB 19 36 31.6
comp=Z,67nm,2.2s,mb5.3
DOMB Dombas 67.91 343 *e*P **P 19 36 24.8 0.0**
comp=Z,67nm,2.2s,mb5.3
HYB Hyderabad 68.23 272 *i* P **P 19 36 27.5 +0.7**
HYB Hyderabad 68.23 272 *e*P **P 19 36 27.5 +0.7**
NB2 NORSAR Subarra 68.38 342 P **P 19 36 26.4 -1.4**
comp=Z,1μm,2.5s,mb6.5,baz=26,slow=6.5
NOA NORSAR Array B 68.38 342 P **P 19 36 26.7 -1.1**
comp=Z,17nm,0.8s,mb5.1,baz=26,slow=6.4,SNR=45
NOA NORSAR Array B 68.38 342 P **P 19 36 26.7 -1.1**
BORG Borgarnes 68.55 358 *e*P **P 19 36 29.3 +0.4**
NAO01 NORSAR Array S 68.63 342 *e*P **P 19 36 27.8 -1.5**
comp=Z,20nm,0.9s,mb5.0
115A Sonoran Desert 68.69 65 ⇑P **P 19 36 29.6 -0.1**
baz=68
116A Eloy 69.11 64 ⇓P **P 19 36 32.5 +0.2**
baz=69
WRAB Tennant Creek 69.16 201 P **P 19 36 31.6 -1.0**
comp=Z,337nm,0.9s,mb6.3,SNR=10.0
WRAB Tennant Creek 69.16 201 *e*P **P 19 36 30.9 -1.7**
WRAB pmax pmax
comp=Z,72nm,0.9s,mb5.6
WRAB Tennant Creek 69.16 201 P **P 19 36 31.6 -1.0**
EYMN Ely 69.17 41 *e*P **P 19 36 31.6 -1.1**
comp=Z,33nm,1.5s,mb5.0
WB2 Warramunga Arr 69.17 201 *e*P **P 19 36 31.6 -1.1**
WB2 *e* 19 37 14.3
WRA Warramunga Arr 69.17 201 P **P 19 36 31.7 -1.0**
comp=Z,31nm,0.9s,mb5.3,baz=19,slow=6.8,SNR=100
WRA PKP2bc 20 04 38.8
comp=Z,1.5nm,0.7s,baz=197,slow=3.2,SNR=9.2
WRA Warramunga Arr 69.17 201 P **P 19 36 31.7 -1.0**
WRA ⇑*e* 20 04 38.8
SDCO Great Sand Dun 69.26 57 *e*P **P 19 36 32.3 -0.9**
comp=Z,69nm,1.7s,mb5.3
HYA Hoyanger 69.26 344 *e*P **P 19 36 34.9 +1.6**
HYA AMb AMB 19 36 39.1
comp=Z,229nm,1.7s,mb5.8
HYA Hoyanger 69.26 344 *e*P **P 19 36 34.9 +1.6**
comp=Z,229nm,1.7s,mb5.8
MNK Minsk 69.42 330 ⇑*e*P **P 19 36 30.0 -4.3**
MNK *e* 19 39 10.0
MNK pmax pmax
comp=Z,390nm,1.0s,mb6.3
OSL Oslo 69.48 342 *e*P **P 19 36 35.3 +0.7**
DZM Mont Dzumac 69.53 169 LR LR 20 00 46.3
comp=Z,1μm,20.4s,MS5.1,baz=108,slow=30
ECSD EROS,Sioux Fal 69.81 47 *e*P **P 19 36 35.1 -1.5**
comp=Z,110nm,1.6s,mb5.5
MAK Makhachkala 69.84 312 *e*P **P 19 36 34.4 -2.4**
MAK *i* 19 36 53.5
MAK *e*PPP 19 40 52.1
MAK *eS* S 19 45 44.4 -1.4
MAK *e*SSS 19 53 22.1
MAK pmax pmax
comp=Z,905nm,2.4s,mb6.3
MAK MLR MLR
comp=Z,16μm,21.0s,MS6.2
MAK MLR MLR
comp=N,11μm,14.0s
MAK MLR MLR
comp=E,11μm,15.0s
TUC Tucson 69.85 64 *e*P **P 19 36 37.6 +0.7**
TUC pmax pmax
comp=Z,20nm,1.5s,mb4.8
TUC Tucson 69.85 64 *e*P **P 19 36 37.6 +0.7**
comp=Z,20nm,1.5s,mb4.8
FITZ Fitzroy Crossi 69.97 210 *e*P **P 19 36 37.5 -0.1**
comp=Z,23nm,0.9s,mb5.1
KONO Kongsberg 69.98 342 *e*P **P 19 36 37.0 -0.7**
KONO pmax pmax
comp=Z,120nm,1.4s,mb5.6
KONO Kongsberg 69.98 342 *e*P **P 19 36 37.0 -0.8**
comp=Z,121nm,1.4s,mb5.6
ASK Askoy 70.08 345 *e*P **P 19 36 39.5 +1.2**
ASK *e*pP pP 19 36 42.2 -0.9
ASK Askoy 70.08 345 *e*P **P 19 36 39.5 +1.2**
comp=Z,332nm,1.6s,mb6.0
RUND Rundenannen 70.11 344 *e*P **P 19 36 39.3 +0.8**
RUND *e*pP pP 19 36 42.6 -0.6
RUND AMb AMB 19 36 43.9
comp=Z,286nm,1.4s,mb6.0
RUND Rundenannen 70.11 344 *e*P **P 19 36 39.3 +0.8**
comp=Z,286nm,1.4s,mb6.0
MDRS Chennai 70.12 268 *e*P **P 19 36 40.9 +2.4**
MDRS AMb AMB 19 36 42.9
comp=Z,113nm,1.4s,mb5.6
BER Bergen 70.14 344 *e*P **P 19 36 39.9 +1.2**
EGD Espegrend 70.27 345 *e*P **P 19 36 42.4 +2.9**
ODD1 Odda 70.34 344 *e*P **P 19 36 39.8 -0.1**
ODD1 *e*pP pP 19 36 43.2 -1.5
ODD1 AMb AMB 19 36 44.5
comp=Z,116nm,1.4s,mb5.6
ODD1 Odda 70.34 344 *e*P **P 19 36 39.8 -0.1**
comp=Z,116nm,1.4s,mb5.6
LAZ Ladron 70.62 60 *e*P **P 19 36 42.4 +0.8**
ANMO Albuquerque 70.64 59 *e*P **P 19 36 42.4 +0.7**
ANMO pmax pmax
comp=Z,10.0nm,0.7s
ANMO Albuquerque 70.64 59 *e*P **P 19 36 42.4 +0.7**
comp=Z,10.0nm,0.7s,mb4.8
POO Poona 70.67 277 ⇓*i*P **P 19 36 40.0 -1.9**
comp=Z,220nm,1.0s,mb6.0
POO *ex* x 19 37 21.6
POO AMb AMB 19 37 24.0
comp=Z,166nm,1.2s,mb5.8
BLS5 Blasjo 70.83 344 *e*P **P 19 36 44.1 +1.2**
BLS5 AMb AMB 19 36 49.5
comp=Z,57nm,1.9s,mb5.2
BLS5 Blasjo 70.83 344 *e*P **P 19 36 44.1 +1.2**
comp=Z,57nm,1.9s,mb5.2
LENM Lemitar 70.88 60 *e*P **P 19 36 44.2 +1.1**
LPM Los Pinos Moun 70.98 60 *e*P **P 19 36 43.8 0.0**
KAD Karad 71.29 275 *e*P **P 19 36 45.8 +0.2**
KAD AMb AMB 19 36 53.6
comp=Z,163nm,1.8s,mb5.7
SUW Suwalki 71.36 332 *e*P **P 19 36 46.0 -0.1**
SUW *e*pP pP 19 36 49.5 -1.4
SUW *eS*P sP 19 36 52.5 -0.2
SUW *e*PcP PcP 19 37 03.6 -2.2
KIV Kislovodsk 71.50 315 P **P 19 36 48.1 +1.1**
comp=Z,653nm,1.9s,mb6.2,SNR=21
KIV Kislovodsk 71.50 315 ⇑P **P 19 36 48.4 +1.5**
SNR=18
KIV Kislovodsk 71.50 315 *e*P **P 19 36 46.6 -0.4**
KIV *e* 19 37 12.9
KIV *eS* S 19 46 03.3 -1.9
KIV pmax pmax
comp=Z,2μm,3.2s
KIV pmax pmax
comp=Z,38nm,0.5s,mb5.6
KIV MLR MLR
comp=Z,6μm,18.0s,MS5.9
KIV Kislovodsk 71.50 315 *e*P **P 19 36 47.3 +0.4**
comp=Z,238nm,1.4s,mb5.9
ZEI Tsey 71.79 314 *e*P **P 19 36 47.9 -0.8**
ZEI *e**PP pP 19 36 55.7 +2.2
ZEI *e* 19 37 03.6
ZEI pmax pmax
comp=Z,67nm,1.2s,mb5.5
AKASG Malin Array Be 72.02 327 P **P 19 36 48.7 -1.4**
comp=Z,37nm,0.7s,mb5.4,baz=34,slow=6.1,SNR=92
AKBB Malin Array Si 72.02 327 *e*P **P 19 36 48.6 -1.5**
KIEV Kiev 72.03 327 P **P 19 36 48.1 -2.0**
KIEV pmax pmax
comp=Z,68nm,1.0s,mb5.5
KIEV Kiev 72.03 327 *e*P **P 19 36 48.6 -1.5**
comp=Z,68nm,0.9s,mb5.6
TBLG Delisi 72.14 312 P **P 19 36 53.6 +2.8**
SCHQ Schefferville 72.58 24 P **P 19 36 52.7 -0.7**
comp=Z,4.5nm,0.7s,baz=343,slow=5.1,SNR=7.6
SCHQ LR LR 20 13 42.4
comp=Z,998nm,19.2s,baz=123,slow=40
SCHQ Schefferville 72.58 24 *e*P **P 19 36 53.5 0.0**
comp=Z,113nm,1.7s,mb5.5
BSD Bornholm Skovb 72.81 337 *i* P **P 19 36 54.7 -0.1**
comp=Z,114nm,0.9s,mb5.8
BSD *i* 19 39 52.1
BSD Bornholm Skovb 72.81 337 *i* P **P 19 36 54.7 -0.1**
BSD pmax pmax
comp=Z,110nm,0.9s,mb5.8
SCIA State Center 72.85 46 *e*P **P 19 36 54.4 -0.6**
AS31 Alice Springs 72.86 200 *e*P **P 19 36 54.7 -0.4**
ASAR Alice Springs 72.86 200 P **P 19 36 54.9 -0.2**
comp=Z,27nm,0.8s,mb5.2,baz=15,slow=5.8,SNR=128

COP Copenhagen 72.93 339 *i* P **P 19 36 56.0 +0.5**
comp=Z,107nm,0.9s,mb5.8
COP Copenhagen 72.93 339 *i* P **P 19 36 56.0 +0.5**
COP pmax pmax
comp=Z,110nm,0.9s,mb5.8
MUD Monsted U'grnd 73.00 341 *i* P **P 19 36 55.6 -0.3**
comp=Z,41nm,0.9s,mb5.4
MUD *i* 19 39 39.3
MUD Monsted U'grnd 73.00 341 *e*P **P 19 36 55.6 -0.3**
MUD *i* 19 39 39.3
MUD pmax pmax
comp=Z,41nm,0.9s,mb5.4
MUD Monsted U'grnd 73.00 341 *e*P **P 19 36 55.6 -0.3**
comp=Z,41nm,0.9s,mb5.4
MUD *i* 19 39 39.3
SOC Sochi 73.20 317 *e*P **P 19 36 55.9 -1.2**
SOC *e* 19 37 11.2
SOC *e* 19 39 35.6
SOC *e*PPP 19 41 28.9
SOC *e*S S 19 46 23.1 -1.5
SOC *e*SS SS 19 51 02.2 -3.8
SOC *e*SSS 19 54 19.6
SOC pmax pmax
comp=Z,72nm,0.7s,mb5.7
SOC pmax pmax
comp=Z,2µm,3.6s
GNI Garni 73.30 311 ⇑*i*P **P 19 36 59.3 +1.6**
SNR=20
GNI Garni 73.30 311⇑*e*P **P 19 36 55.4 -2.3**
GNI pmax pmax
comp=Z,212nm,1.7s
GNI Garni 73.30 311⇑*e*P **P 19 36 55.5 -2.2**
ANN Anapa 73.31 319 *e*P **P 19 36 56.5 -1.3**
ANN *e* 19 39 40.3
ANN *e*PPP 19 41 25.1
ANN *e*S S 19 46 24.5 -1.5
ANN pmax pmax
comp=Z,82nm,0.8s,mb5.7
ANN pmax pmax
comp=Z,1µm,6.8s
WAR Warsaw 73.55 332 *e*P **P 19 37 00.7 +1.5**
WAR *e*pP pP 19 37 02.5 -1.5
WAR *e*SKS 19 46 55.3
WAR L 20 07 31.5
comp=Z,4.3nm,30.2s
WAR Warsaw 73.55 332 *e*P **P 19 37 00.7 +1.5**
WAR *e* 19 46 55.3
MNTX Cornudas Mount 73.56 61 *e*P **P 19 36 59.5 +0.3**
comp=Z,116nm,2.1s,mb5.4
GKP Gorka Klasztor 73.80 335 *e*P **P 19 37 00.8 +0.2**
GKP *e*pP pP 19 37 03.3 -2.2
GKP *e*sP sP 19 37 06.6 -0.6
GKP *e*PcP PcP 19 37 10.7 -5.5
MNGI Mangalore 73.92 272 *e*P **P 19 37 00.1 -1.2**
MNGI AMb AMB 19 37 09.2
comp=Z,62nm,0.9s,mb5.5
MNGI *i* x x 19 46 24.1
PALK Pallekele 73.96 263 *e*P **P 19 37 03.7 +2.1**
comp=Z,93nm,1.4s,mb5.5
CLDR Caldiran 74.48 311 *e*P **P 19 37 06.2 +1.6**
LVV L'vov 74.62 329 *e*P **P 19 37 04.7 -0.7**
LVV *e* 19 37 12.9
LVV *e*S S 19 46 41.7 +1.1
LVV *e* 19 51 20.1
LVV MLR MLR
comp=Z,3µm,15.5s,MS5.7
LVV MLR MLR
comp=N,2µm,16.0s,MS5.7
LVV MLR MLR
comp=E,2µm,14.8s,MS5.7
SIM Simferopol' 74.67 321⇓*e*P **P 19 37 06.6 +0.9**
SIM *e*S S 19 46 42.0 +0.8
SIM pmax pmax
comp=Z,179nm,7.3s
SIM MLR MLR
comp=Z,6µm,16.0s,MS6.0
VANB Van 75.16 311 *e*P **P 19 37 10.6 +2.1**
KIS Kishinev 75.20 325α *i*P **P 19 37 07.0 -1.7**
KIS *i* S S 19 46 46.0 -1.1
KIS *e* 19 47 20.0
KIS pmax pmax
comp=Z,400nm,2.0s,mb6.0
KIS pmax pmax
comp=Z,2µm,4.0s
KIS MLR MLR
comp=Z,5µm,17.0s,MS5.9
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 75.20 325⇓*i*P **P 19 37 07.0 -1.7**
comp=Z,400nm,2.0s,mb6.0
ERZM Erzurum 75.20 313 *i* P **P 19 37 10.0 +1.3**
EZM Erzurum 75.20 313 *e*P **P 19 37 10.0 +1.3**
TVAN Van 75.20 311 *i* P **P 19 37 10.1 +1.3**
KWP Kalwaria 75.23 330 *e*P **P 19 37 08.9 0.0**
KWP *e*pP pP 19 37 12.4 -1.4
KWP *e*PcP PcP 19 37 17.5 -4.8
TRD Trivandrum 75.62 267 *e*P **P 19 37 12.7 +1.5**
TRD AMb AMB 19 37 15.9
comp=Z,103nm,1.0s,mb5.7
OJC Ojcow 75.69 332 *e*P **P 19 37 11.7 +0.1**
HAKT HÄKKARI 75.77 310 *i* P **P 19 37 13.8 +1.7**
STHS Stebnicka Huta 75.91 331 *e*P **P 19 37 12.6 -0.2**
comp=Z,93nm,0.9s,mb5.7
GRSN GIRESUNGRSN 75.93 316 *i* P **P 19 37 09.1 -3.8**
KOLS Kolonicke sedl 75.97 330 *e*P **P 19 37 12.4 -0.8**
BNGL BINGOL 76.03 313 *i* P **P 19 37 15.6 +2.1**
BURAR Bucovina Array 76.05 328⇓*i*P **P 19 37 13.3 -0.3**
BURAR Bucovina Array 76.05 328 ⇓P **P 19 37 13.3 -0.3**
KELT Kelkit 76.05 315 *i* P **P 19 37 15.5 +1.8**
CUKT Cukurca 76.06 310 *e*P **P 19 37 13.9 +0.2**
NIE Niedzica 76.21 331 *e*P **P 19 37 14.5 -0.1**
KSP Ksiaz 76.22 334 *e*P **P 19 37 15.2 +0.6**
KSP *e*pP pP 19 37 18.0 -1.4
KSP *e*PcP PcP 19 37 21.8 -4.8
KSP Ksiaz 76.22 334 *e*P **P 19 37 14.3 -0.3**
KSP *e*pP pP 19 37 17.7 -1.7
KSP *e*S S 19 47 08.5 +10
KSP LR LR
comp=Z,12µm,19.0s,MS6.2
UZH Uzhgorod 76.23 330⇓*i*P **P 19 37 14.0 -0.6**
LTX Lajitas 76.28 62 *e*P **P 19 37 13.9 -1.1**
LTX pmax pmax
comp=Z,53nm,1.1s,mb5.4
LTX Lajitas 76.28 62 *e*P **P 19 37 13.9 -1.0**
comp=Z,53nm,1.1s,mb5.4
TXAR Lajitas Array 76.28 62 P **P 19 37 14.0 -1.0**
comp=Z,41nm,1.0s,mb5.3,baz=305,slow=4.4,SNR=70
RAC Raciborz 76.31 333 *e*P **P 19 37 15.0 -0.1**
RAC MLR MLR
comp=Z,5µm,17.6s,MS5.9
BINT Bingol 76.42 313 *e*P **P 19 37 17.4 +1.7**
BTMT Batman 76.44 312 *e*P **P 19 37 17.6 +1.7**
OKC Ostrava-Krasne 76.54 333 *e*P **P 19 37 16.2 -0.2**
UPC Upice 76.60 334 *e*P **P 19 37 16.4 -0.3**
DPC Dobruska-Polom 76.65 334 *e*P **P 19 37 16.6 -0.4**
DPC *e*pP pP 19 37 22.1 +0.2
CLL Collm 76.74 337 *e*P **P 19 37 16.5 -1.0**
comp=Z,170nm,1.0s,mb5.9
CLL *e*S S 19 47 14.1 +10
CLL *e*L 20 20 17.9
comp=Z,3µm,18.0s
CLL Collm 76.74 337⇑*i*P **P 19 37 16.6 -0.9**
CLL *i* pP 19 37 21.8 -0.6
CLL *e*S S 19 47 15.0 +11
CLL pmax pmax
comp=Z,19nm,1.2s,mb4.9
CLL MLR MLR
comp=Z,4µm,17.0s,MS5.8
CLL Collm 76.74 337⇑*i*P **P 19 37 16.6 -0.9**
comp=Z,77nm,1.2s,mb5.5
CLL *i* pP pP 19 37 21.8 -0.6
comp=Z,169nm,1.0s
CLL *e*S S 19 47 15.0 +11
CLL LR LR
comp=Z,4µm,17.0s,MS5.8
CLL Collm 76.74 337⇑*i*P **P 19 37 16.6 -0.9**
comp=Z,77nm,1.2s,mb5.5
CLL *i* pP pP 19 37 21.8 -0.6
comp=Z,169nm,1.0s
CLL *e*S S 19 47 15.0 +11
DIKM Dikmen 76.77 318 *e*P **P 19 37 17.9 +0.2**
MORC Moravsky Berou 76.78 333⇓*i*P **P 19 37 17.9 +0.1**
MORC Moravsky Berou 76.78 333 *e*P **P 19 37 17.2 -0.6**
comp=Z,4µm,0.4s
KVT Kavak 76.85 317 *e*P **P 19 37 19.1 +0.9**

BRG Berggiesshubel 76.87 336 *i* P **P 19 37 18.9 +0.6**
comp=Z,34nm,1.4s,mb5.1
BRG comp=N,2µm,17.2s
BRG comp=E,2µm,16.9s
BRG comp=Z,3µm,19.2s
LIKS Likavka 76.93 332 *e*P **P 19 37 19.9 +1.3**
LIKS pmax pmax
comp=Z,74nm,1.0s,mb5.6
LIKS Likavka 76.93 332 *e*P **P 19 37 19.9 +1.3**
comp=Z,74nm,1.0s,mb5.6
WIT Witteveen 76.93 341 *e*P **P 19 37 20.0 +1.4**
WIT *e*P 19 40 04.5
VRI Vrincioaia 76.94 326⇓*i*P **P 19 37 18.8 +0.1**
VRI Vrincioaia 76.94 326 ⇓P **P 19 37 18.8 +0.1**
PTK Pertek 76.95 314 *e*P **P 19 37 18.7 -0.1**
CFR Carcaliu 76.96 324⇑*i*P **P 19 37 20.1 +1.3**
CFR Carcaliu 76.96 324 P **P 19 37 19.9 +1.1**
CFR Carcaliu 76.96 324 ⇑P **P 19 37 20.1 +1.3**
KECS Kecovo 76.97 331 *e*P **P 19 37 18.2 -0.6**
KECS Kecovo 76.97 331 *e*P **P 19 37 18.3 -0.5**
KECS pmax pmax
comp=Z,27nm,1.0s,mb5.1
KECS Kecovo 76.97 331 *e*P **P 19 37 18.3 -0.5**
comp=Z,27nm,1.0s,mb5.1
PLOR Plostina 76.99 326⇓*i*P **P 19 37 21.4 +2.5**
PVCC Panska Ves 77.00 335 *e*P **P 19 37 18.6 -0.4**
PVCC *e*pP pP 19 37 22.6 -1.2
MSL Mosul 77.05 310 *i* x x 19 37 20.0
MSL *e*x x 19 47 09.0
BZK Bozkurt 77.09 319 *e*P **P 19 37 19.9 +0.4**
BOYT Boyabat 77.11 318 *i* P **P 19 37 20.5 +0.8**
BYBT Boyabat 77.14 318 *e*P **P 19 37 21.4 +1.6**
SVSK Karacayir 77.32 316 *e*P **P 19 37 20.9 +0.1**
TIRR Tirgusor 77.45 324⇓*i*P **P 19 37 21.4 -0.1**
TIRR Tirgusor 77.45 324 *e*P **P 19 37 20.9 -0.6**
TIRR pmax pmax
comp=Z,48nm,0.9s,mb5.4
TIRR Tirgusor 77.45 324 *e*P **P 19 37 20.9 -0.6**
comp=Z,48nm,0.9s,mb5.4
PRA Prague 77.45 335 P **P 19 37 21.0 -0.5**
HARR Harsova 77.45 324 P **P 19 37 21.0 -0.5**
ELZG Elazig 77.46 314 *i* P **P 19 37 23.1 +1.5**
WSAR Wadi Sarin 77.46 291 P **P 19 37 20.6 -1.1**
comp=Z,10nm,0.8s,mb4.8,baz=94,slow=7.6,SNR=5.2
MARD Mardin 77.47 312 *i* P **P 19 37 22.6 +0.9**
VRAC Vranov 77.49 334⇓*i*P **P 19 37 21.4 -0.3**
PRU Pruhonice 77.49 335 *e*P **P 19 37 21.5 -0.3**
PRU *e*pP pP 19 37 25.4 -1.2
VYHS Vyhne 77.50 332 *e*P **P 19 37 21.7 -0.1**
VYHS pmax pmax
comp=Z,53nm,1.4s,mb5.3
VYHS Vyhne 77.50 332 *e*P **P 19 37 21.7 -0.1**
comp=Z,53nm,1.4s,mb5.3
MLR Muntele Rosu 77.56 326 LR LR 20 19 08.2
comp=Z,3µm,18.7s,MS5.6,baz=55,slow=42
MLR Muntele Rosu 77.56 326⇓*i*P **P 19 37 23.0 +0.8**
MLR Muntele Rosu 77.56 326 P **P 19 37 22.7 +0.5**
MLR Muntele Rosu 77.56 326 ⇓P **P 19 37 23.0 +0.8**
DRGR 77.65 329⇑*i*P **P 19 37 22.9 +0.2**
DRGR 77.65 329 P **P 19 37 22.5 -0.2**
DRGR 77.65 329 ⇑P **P 19 37 22.9 +0.2**
PSZ Piszkesteto 77.65 331⇓*i*P **P 19 37 23.0 +0.3**
PSZ Piszkesteto 77.65 331 *e*P **P 19 37 22.6 -0.1**
PSZ pmax pmax
comp=Z,56nm,1.0s,mb5.5
PSZ Piszkesteto 77.65 331 *e*P **P 19 37 22.6 0.0**
comp=Z,56nm,1.0s,mb5.5
PSZ Piszkesteto 77.65 331⇓*e*P **P 19 37 24.0 +1.3**
WTSB Winterswijk 77.69 340 *e*P **P 19 37 23.8 +0.9**
comp=Z,79nm,1.2s,mb5.5
WTSB *e*P 19 40 07.5
comp=Z,75nm,0.9s
WBK Wadi Bani Khal 77.69 290 ⇑P **P 19 37 28.4 +5.5**
SNR=5.1
BALT Daday 77.71 319 *i* P **P 19 37 23.6 +0.6**
MOX Moxa 77.71 337 *e*P **P 19 37 23.8 +0.8**
comp=Z,117nm,1.4s,mb5.6
MOX comp=Z,2µm,20.0s
JCT Junction City 77.74 58 *e*P **P 19 37 22.3 -0.9**
JCT pmax pmax
comp=Z,65nm,1.4s,mb5.4
JCT Junction City 77.74 58 *e*P **P 19 37 22.3 -0.9**
comp=Z,65nm,1.4s,mb5.4
CTKT Corum 77.80 318 *i* P **P 19 37 23.8 +0.3**
SNX Sinaia 77.84 326⇓*i*P **P 19 37 24.9 +1.2**
SNX Sinaia 77.84 326 ⇓P **P 19 37 24.9 +1.2**
NKC Novy Kostel 77.86 336 *e*P **P 19 37 23.9 +0.1**
NKC *e*pP pP 19 37 28.5 -0.2
MYA Malataya 77.87 314 *e*P **P 19 37 25.7 +1.8**
MALT Malatya 77.88 314⇑*i*P **P 19 37 25.4 +1.5**
MALT Malatya 77.88 314 *e*P **P 19 37 25.0 +1.1**
MALT pmax pmax
comp=Z,65nm,1.1s,mb5.5
MALT Malatya 77.88 314 *e*P **P 19 37 25.0 +1.1**
comp=Z,65nm,1.1s,mb5.5
HATD Hatta, Dubai 77.91 293 P **P 19 37 26.2 +2.1**
SNR=5.3
SMOL Smolenice 77.93 333 *e*P **P 19 37 24.2 0.0**
VOIR 77.95 326⇓*i*P **P 19 37 24.6 +0.3**
VOIR 77.95 326 ⇓P **P 19 37 24.6 +0.3**
SMDO Samad 77.96 291 ⇓P **P 19 37 29.6 +5.2**
SNR=7.2
SIUC Southern Illin 78.03 47 *e*P **P 19 37 24.7 -0.1**
comp=Z,11nm,0.6s,mb5.0
HOQ Hoqain 78.06 292 P **P 19 37 25.6 +0.7**
SNR=10
ASHO Ashiyiah 78.06 293 P **P 19 37 26.9 +1.9**
SNR=6.4
MTUR Matau 78.12 326⇓*i*P **P 19 37 26.3 +1.0**
MTUR Matau 78.12 326 ⇓P **P 19 37 26.3 +1.0**
PSN Preselentsi 78.18 324 *i* P **P 19 37 26.5 +0.9**
CORM Corum 78.22 317 *e*P **P 19 37 26.9 +1.1**
SAFT Safranbolu 78.26 319 *e*P **P 19 37 28.2 +2.2**
ZST Bratislava 78.31 333 *e*P **P 19 37 27.9 +1.6**
ZST *e*pP pP 19 37 31.7 +0.5
ZST Bratislava 78.31 333 *e*P **P 19 37 27.9 +1.6**
ZST *e* pP 19 37 31.7 +0.5
ZST pmax pmax
comp=Z,53nm,1.0s,mb5.4
ZST MLR MLR
comp=Z,5µm,18.7s,MS5.8
ZST Bratislava 78.31 333 *e*P **P 19 37 27.9 +1.6**
comp=Z,53nm,1.0s,mb5.4
ZST *e* pP 19 37 31.7 +0.5
ZST LR LR
comp=Z,5µm,18.7s,MS5.8
BUD Budapest 78.32 331⇓*e*P **P 19 37 27.7 +1.3**
BUD *e* 19 40 11.5
URFA Urfa 78.36 313 *e*P **P 19 37 26.3 -0.3**
JMDO Jabal Madar 78.42 290 ⇓P **P 19 37 28.5 +1.6**
SNR=10
BUC1 Bucharest 78.49 325 P **P 19 37 28.2 +0.9**
KHC Kasperske Hory 78.54 335 *e*P **P 19 37 27.4 -0.2**
KHC *e*pP pP 19 37 32.6 +0.2
ATAB Bozova 78.60 313 *i* P **P 19 37 30.4 +2.4**
USIN University of 78.60 46 *e*P **P 19 37 28.0 0.0**
BHD Baghdad 78.64 307 *i* x x 19 37 23.0
BHD *e*x x 19 47 22.0
GRA1 Grafenberg Arr 78.68 337 *e*P **P 19 37 28.2 -0.2**
comp=Z,100nm,1.0s,mb5.7
GRA1 *e*pP pP 19 37 33.2 0.0
GRF Grafenberg Arr 78.68 337 *e*P **P 19 37 28.2 -0.2**
comp=Z,100nm,1.0s,mb5.7
GRF *e*pP pP 19 37 33.2 0.0
GRF Grafenberg Arr 78.68 337 *e*P **P 19 37 28.2 -0.2**
GRF *e**PP pP 19 37 33.2 0.0
GRF pmax pmax
comp=Z,100nm,1.0s,mb5.7
GRFO Grafenberg 78.69 337 *e*P **P 19 37 28.2 -0.2**
GRFO pmax pmax
comp=Z,88nm,0.9s,mb5.7
GRFO Grafenberg 78.69 337 *e*P **P 19 37 28.2 -0.2**
comp=Z,88nm,0.9s,mb5.7
BNN Bunyan 78.71 316 *e*P **P 19 37 29.6 +1.1**
BSY Bisya 78.73 291 P **P 19 37 29.6 +0.9**
SNR=24
ARQ Araqi 78.74 292 P **P 19 37 30.4 +1.8**
SNR=8.3
GEC2 GERESS Array S 78.76 335 *e*P **P 19 37 28.0 -0.8**
GERES GERESS Array B 78.76 335 P **P 19 37 28.1 -0.7**
comp=Z,8.7nm,0.6s,mb4.9,baz=37,slow=3.3,SNR=44
CDAG Cicekdag 78.79 317 *i* P **P 19 37 29.4 +0.4**
GZR Gura Zlata 78.83 328⇑*i*P **P 19 37 28.9 -0.3**
GZR Gura Zlata 78.83 328 ⇑P **P 19 37 28.9 -0.2**
DLF Lyons Farm 78.83 349 *e*P **P 19 37 28.5 -0.7**
LONY Lake Ozonia 78.87 34 *e*P **P 19 37 28.4 -1.1**
DCN Croghan 78.88 349 *e*P **P 19 37 29.0 -0.5**
PRD Provadia 78.90 324 *i* P **P 19 37 30.0 +0.4**
CONA Conrad Observa 78.94 333⇑*i*P **P 19 37 30.1 +0.3**
comp=Z,55nm,1.2s,mb5.3,SNR=14
HGN Heimansgroeve 79.01 341 *e*P **P 19 37 30.1 0.0**
comp=Z,131nm,1.8s,mb5.6
HGN *e*P 19 40 09.2
comp=Z,103nm,1.7s
BEBN Eben Emael 79.03 341 P **P 19 37 29.3 -1.0**
BEBN E 19 37 31.4
BR131 Keskin Array S 79.05 318 *e*P **P 19 37 30.2 -0.2**
comp=Z,19nm,0.8s,mb5.1
BRTR Keskin Array B 79.05 318 P **P 19 37 30.3 -0.1**
comp=Z,21nm,0.8s,mb5.2,baz=61,slow=3.0,SNR=36
BZS Buzias 79.05 329⇓*i*P **P 19 37 29.8 -0.6**
BZS Buzias 79.05 329 ⇓P **P 19 37 29.8 -0.6**
GZT Gaziantep 79.05 314 *i* P **P 19 37 31.6 +1.1**
WCI Wyandotte Cave 79.06 45 *e*P **P 19 37 30.2 -0.3**
WCI pmax pmax
comp=Z,280nm,1.9s,mb5.9
WCI Wyandotte Cave 79.06 45 *e*P **P 19 37 30.2 -0.3**
comp=Z,280nm,1.9s,mb5.9
MEM Membach 79.14 340 P **P 19 37 30.0 -0.9**
comp=Z,43nm,1.0s,mb5.3
MEM E 19 37 31.5
MEM PCP PcP 19 37 36.0 -3.2
RAR Rarotonga 79.23 138 LR LR 20 05 44.6
comp=Z,2µm,21.7s,MS5.3,baz=90,slow=30
AVNT Avonos 79.23 316 *i* P **P 19 37 30.7 -0.7**
KMRS Kahramanmaras 79.26 314 *e*P **P 19 37 32.0 +0.4**
ANTO Ankara 79.31 318 ⇓P **P 19 37 32.5 +0.6**
SNR=15
ANTO Ankara 79.31 318⇓*i*P **P 19 37 32.7 +0.9**
ANTO Ankara 79.31 318 *e*P **P 19 37 31.4 -0.4**
ANTO pmax pmax
comp=Z,39nm,0.8s,mb5.4
ANTO Ankara 79.31 318 *e*P **P 19 37 31.4 -0.4**
comp=Z,39nm,0.8s,mb5.4
UCC Uccle 79.33 341 P **P 19 37 32.2 +0.3**
UCC E pP 19 37 36.7 0.0
ZIMR 79.33 325⇓*i*P **P 19 37 31.0 -0.9**
ZIMR 79.33 325 P **P 19 37 31.1 -0.8**
CRAR CRAIOVA 79.36 327 P **P 19 37 33.6 +1.5**
GAZ Gaziantep 79.37 314 *e*P **P 19 37 33.2 +1.0**
HENT Hendek 79.39 320 *i* P **P 19 37 31.4 -0.8**
TOD Tromm 79.39 338 *e*P **P 19 37 33.3 +1.0**
STKA Stephens Creek 79.43 192 *e*P **P 19 37 32.7 +0.2**
comp=Z,13nm,0.9s,mb4.9
STKA Stephens Creek 79.43 192 P **P 19 37 31.4 -1.1**
comp=Z,15nm,0.9s,mb4.9,baz=336,slow=6.4,SNR=16
STKA LR LR 20 12 15.4
comp=Z,1µm,19.0s,MS5.3,baz=16,slow=35
SZH Strazhica 79.43 325 *i* P **P 19 37 33.2 +0.7**
ABH Alteburg 79.45 339 *e*P **P 19 37 33.5 +0.9**
BCLA Clavier 79.47 341 P **P 19 37 32.2 -0.5**
comp=Z,28nm,1.0s,mb5.2
BCLA E pP 19 37 37.9 +0.4
MOA Molln 79.49 334⇓*i*P **P 19 37 33.0 +0.2**
comp=Z,27nm,1.0s,mb5.1,SNR=11
UMR Umm Al-Rimmam 79.55 302 *e*P **P 19 37 34.2 +1.0**
UMR AMb AMB 19 37 39.4
comp=Z,184nm,0.6s,mb6.2
PKSM Moragy 79.56 331⇓*i*P **P 19 37 32.4 -0.8**
PKSM Moragy 79.56 331 ⇓P **P 19 37 32.4 -0.8**
MIB Mutribah 79.58 303 AMb AMB 19 37 39.5
comp=Z,270nm,0.6s,mb6.3
SNF Seneffe 79.61 341 P **P 19 37 32.8 -0.7**
comp=Z,10nm,1.4s,mb4.6
SNF E pP 19 37 37.0 -1.3
ARSA Arzberg 79.64 333 *i* P **P 19 37 35.2 +1.5**
comp=Z,36nm,0.9s,mb5.3,SNR=15
PVL Pavlikeni 79.71 325 *i* P **P 19 37 34.4 +0.4**
RUP Ruppelstein 79.73 339 *e*P **P 19 37 35.0 +0.9**
RAO Raoul Island 79.77 156 LR LR 20 06 29.2
comp=Z,1µm,21.9s,MS5.3,baz=18,slow=31
KOZT Kozan 79.80 315 *e*P **P 19 37 35.2 +0.7**
KLYT Kilyos 79.83 322 *e*P **P 19 37 35.0 +0.4**
JMB Yambol 79.84 324 *e*P **P 19 37 34.5 -0.2**
JMB Yambol 79.84 324 *i* P **P 19 37 35.5 +0.8**
KBD Kabd 79.84 302 *e*P **P 19 37 36.0 +1.3**
KBD AMb AMB 19 37 38.3
comp=Z,386nm,1.2s,mb6.2
GIVF Givet 79.88 341 *e*P **P 19 37 34.1 -0.8**
comp=Z,85nm,1.0s,mb5.3
GIVF Givet 79.88 341 *e*P **P 19 37 34.1 -0.8**
GIVF pmax pmax
comp=Z,42nm,1.0s,mb5.3
GIVF Givet 79.88 341 *e*P **P 19 37 34.1 -0.8**
comp=Z,42nm,1.0s,mb5.3
TAOE Nuku Hiva Isla 79.92 115 *e*LR LR 20 02 02.3
comp=Z,9µm,23.7s,baz=320
DOU Dourbes 79.93 341 P **P 19 37 34.7 -0.5**
comp=Z,16nm,1.0s,mb4.9
DOU PCP PcP 19 37 40.5 -2.2
WVT Waverly 79.96 47 P **P 19 37 35.1 -0.3**
WVT pmax pmax
comp=Z,75nm,1.8s,mb5.3
WVT Waverly 79.96 47 *e*P **P 19 37 34.3 -1.1**
comp=Z,75nm,1.8s,mb5.3
ISK Istanbul-Kandi 79.98 322 *e*P **P 19 37 35.4 0.0**
WLF Walferdange 79.98 340 P **P 19 37 34.4 -1.1**
comp=Z,16nm,1.1s,mb4.9
WLF PCP PcP 19 37 42.0 -0.9
WLF Walferdange 79.98 340 *e*P **P 19 37 36.9 +1.4**
WLF pmax pmax
comp=Z,89nm,1.4s,mb5.5
WLF Walferdange 79.98 340 *e*P **P 19 37 36.9 +1.4**
comp=Z,89nm,1.4s,mb5.5
NAY Al-Naaiem 80.05 302 AMb AMB 19 37 42.2
comp=Z,92nm,1.0s,mb5.7
BAIF Baives 80.05 341 *e*P **P 19 37 35.3 -0.6**
comp=Z,92nm,1.1s,mb5.3
BAIF Baives 80.05 341 *e*P **P 19 37 35.3 -0.6**
BAIF pmax pmax
comp=Z,46nm,1.1s,mb5.3
BAIF Baives 80.05 341 *e*P **P 19 37 35.3 -0.6**
comp=Z,46nm,1.1s,mb5.3
STU Stuttgart 80.06 338 *e*P **P 19 37 36.2 +0.3**
STU pmax pmax
comp=Z,71nm,0.9s,mb5.6
STU Stuttgart 80.06 338 *e*P **P 19 37 36.2 +0.3**
comp=Z,71nm,0.9s,mb5.6
OSMT Osmaniye 80.09 321 *e*P **P 19 37 35.3 -0.8**
RDF Al-Radifah 80.11 302 *e*P **P 19 37 37.6 +1.5**
RDF AMb AMB 19 37 43.6
comp=Z,187nm,0.9s,mb6.0
KOGS Kog 80.13 332 *e*P **P 19 37 35.8 -0.5**
BEO Belgrade 80.15 329 *i* P **P 19 37 38.6 +2.2**
ELBA Catalca 80.18 322 *i* P **P 19 37 36.7 +0.2**
ADVT Abdulvahap 80.21 321 *e*P **P 19 37 35.5 -1.2**
CEYT Ceyhan 80.22 315 *e*P **P 19 37 37.3 +0.6**
LANF Langenberg 80.22 339 *e*P **P 19 37 37.6 +0.8**
PKME Peaks-Kenny Pk 80.22 30 P **P 19 37 33.1 -3.7**
EDRB Edirne 80.30 323 *e*P **P 19 37 36.1 -1.0**
PERS Pernice 80.32 333 *e*P **P 19 37 37.1 -0.1**
KARA Karaisali 80.35 315 *e*P **P 19 37 38.0 +0.5**
BORA Eskisehir 80.35 320 *i* P **P 19 37 37.8 +0.4**
COBT Iskenderun 80.36 314 *i* P **P 19 37 38.5 +1.0**
OXF Oxford 80.42 49 P **P 19 37 38.6 +0.8**
OXF pmax pmax
comp=Z,26nm,0.9s,mb5.2
OXF Oxford 80.42 49 *e*P **P 19 37 35.1 -2.7**
comp=Z,26nm,0.8s,mb5.2
GEMT Gemlik 80.45 321 *e*P **P 19 37 36.2 -1.7**
KBA Koelnbreinsper 80.46 334 *i* P **P 19 37 38.3 +0.3**
comp=Z,159nm,0.9s,mb5.9,SNR=67
ESKT Eskisehir 80.47 319 *e*P **P 19 37 37.8 -0.3**
ESKT Eskisehir 80.47 319 *i* P **P 19 37 37.6 -0.5**
OBKA Obir 80.61 333 *i* P **P 19 37 40.0 +1.2**
comp=Z,55nm,1.1s,mb5.4,SNR=12
DIM Dimitrovgrad 80.61 324 *i* P **P 19 37 39.2 +0.3**
BFO Black Forest 80.69 338 P **P 19 37 40.0 +0.7**
comp=Z,275nm,1.0s,mb6.1,SNR=10
BFO Black Forest 80.69 338 *e*P **P 19 37 38.7 -0.6**
BFO pmax pmax
comp=Z,44nm,0.9s,mb5.4
BFO Black Forest 80.69 338 *e*P **P 19 37 38.7 -0.6**
comp=Z,44nm,0.9s,mb5.4

KDHN **Kadinhani** 80.71 318 *i* P P 19 37 38.6 -0.8
HTY **Hatay** 80.73 314 *e*P P 19 37 41.2 +1.7
PGB **Panagyurishte** 80.73 325 *i* P P 19 37 40.0 +0.5
WTTA **Wattenberg** 80.78 336 *i* P P 19 37 40.1 +0.3
SNR=14
SPAK **Spaichingen-Ko** 80.78 338 *e*P P 19 37 39.7 -0.1
MOTA **Moosalm** 80.86 336 *i* P P 19 37 40.2 +0.1
SNR=47
MOTA **Moosalm** 80.86 336 P P 19 37 40.2 +0.1
WLS **Welschbruch** 80.86 339 *e*P P 19 37 41.3 +1.1
GRUS **Gruza** 80.87 328 *i* P P 19 37 38.7 -1.5
CDF **Champ du Feu** 80.88 339 *e*P P 19 37 39.5 -0.8
comp=Z,140nm,1.1s,mb5.5
CDF **Champ du Feu** 80.88 339 *e*P P 19 37 39.5 -0.8
CDF pmax pmax
comp=Z,70nm,1.1s,mb5.5
CDF **Champ du Feu** 80.88 339 *e*P P 19 37 39.5 -0.8
comp=Z,70nm,1.1s,mb5.5
PLD **Plovdiv** 80.90 325 *e*P P 19 37 40.6 +0.2
PLD **Plovdiv** 80.90 325 *i* P P 19 37 40.7 +0.3
SSPA **Standing Stone** 80.90 38 *e*P P 19 37 39.9 -0.5
comp=Z,133nm,1.8s,mb5.6
MERS **Mersin** 80.92 316 *e*P P 19 37 40.9 +0.4
CRES **Cresnjev** 80.94 333 *e*P P 19 37 39.9 -0.7
SQTA **Sankt Quirin** 80.94 336 *i* P P 19 37 41.0 +0.4
SNR=48
DIVS **Divcibare** 80.95 329 *i* P P 19 37 39.6 -1.0
DIVS **Divcibare** 80.95 329 *e*P P 19 37 40.4 -0.2
MFT **Murefte** 80.96 322 *e*P P 19 37 40.3 -0.4
MRMT **Marmara Adasi** 80.98 322 *e*P P 19 37 38.1 -2.7
LIBD **Limburg** 81.04 339 *e*P P 19 37 42.3 +1.1
VTS **Vitosha** 81.06 326 *e*P P 19 37 41.4 +0.1
VTS **Vitosha** 81.06 326 ⇓*i*P P 19 37 41.4 +0.1
VTS **Vitosha** 81.06 326 *i* P P 19 37 41.7 +0.4
VTS **Vitosha** 81.06 326 P P 19 37 40.7 -0.6
KONT **Konya--Tatoy** 81.07 318 *e*P P 19 37 41.1 -0.2
SART **Tekirdag** 81.09 323 *i* P P 19 37 40.2 -1.2
RKY **Sarkoy-Tekirda** 81.09 323 *e*P P 19 37 41.0 -0.4
ECH **Echery** 81.09 339 *e*P P 19 37 42.1 +0.7
FORT **Forrest** 81.13 203 *e*P P 19 37 42.3 +0.7
comp=Z,36nm,0.7s,mb5.4
FELD **Feldberg im Sc** 81.19 338 *e*P P 19 37 42.0 0.0
VOY **Vojsko** 81.24 334 *e*P P 19 37 41.7 -0.5
VOY *e* pP 19 37 44.7 -2.4
DAVA **Damuels** 81.25 337 *i* D P 19 37 43.7 +1.5
SNR=16
DAVA **Damuels** 81.25 337 D P 19 37 43.7 +1.5
SNR=16
DAVA **Damuels** 81.25 337 *e*P P 19 37 43.7 +1.5
RZN **Rozhen** 81.25 325 *i* P P 19 37 42.4 +0.2
BOJS **Bojanci** 81.29 333 *e*P P 19 37 42.1 -0.4
PPT **Papeete** 81.31 127 *e*S S 19 47 48.5 -4.3
comp=Z,3µm,32.0s
PPT *e*LR LR 20 02 45.5
comp=Z,4µm,22.8s,baz=324
PPT **Papeete** 81.31 127 LR LR 20 06 24.4
comp=Z,2µm,21.2s,MS5.5,baz=298,slow=30
MEZF **Maizieres J'vi** 81.33 340 *e*P P 19 37 42.3 -0.4
comp=Z,181nm,1.0s,mb5.7
MEZF **Maizieres J'vi** 81.33 340 *e*P P 19 37 42.3 -0.4
comp=Z,181nm,1.0s,mb6.0
THEF **They Montfort** 81.37 340 *e*P P 19 37 43.9 +1.0
ALN **Alexandroupoli** 81.38 323 *e*P P 19 37 42.3 -0.6
SHUT **Suhut-Afyon** 81.40 319 *e*P P 19 37 45.4 +2.4
GDZ **Gediz** 81.43 320 *i* P P 19 37 43.2 0.0
MOF **Molkenrain** 81.44 339 *e*P P 19 37 44.1 +0.8
HAU **Haudompre** 81.48 339 *e*P P 19 37 42.7 -0.8
comp=Z,341nm,1.7s,mb5.7
HAU *e*R
comp=Z,4µm,22.2s
HAU **Haudompre** 81.48 339 *e*P P 19 37 42.7 -0.8
HAU pmax pmax
comp=Z,171nm,1.7s,mb5.7
HAU MLR MLR
comp=Z,4µm,22.3s,MS5.8
HAU **Haudompre** 81.48 339 *e*P P 19 37 42.7 -0.8
comp=Z,171nm,1.7s,mb5.7
HAU LR LR
comp=Z,4µm,22.3s,MS5.8
BTOK **Tokmak** 81.50 321 *i* P P 19 37 42.6 -1.0
HINF **Hinteralfeld** 81.54 339 *e*P P 19 37 42.7 -1.1
comp=Z,52nm,0.9s,mb5.2
HINF **Hinteralfeld** 81.54 339 *e*P P 19 37 42.7 -1.1
HINF pmax pmax
comp=Z,26nm,0.9s,mb5.2
HINF **Hinteralfeld** 81.54 339 *e*P P 19 37 42.7 -1.1
comp=Z,26nm,0.9s,mb5.2
CANB **Canakkale** 81.70 322 *e*P P 19 37 45.0 +0.4
CANB **Canakkale** 81.70 322 *i* P P 19 37 45.0 +0.4
MMB **Musomiste** 81.72 325 *i* P P 19 37 45.0 +0.2
TZTN **Tazewell** 81.72 44 *e*P P 19 37 43.3 -1.5
comp=Z,16nm,1.1s,mb4.9
KKB **Krupnik** 81.73 326 *i* P P 19 37 44.6 -0.2
IKL **Isikli** 81.83 316 *e*P P 19 37 44.6 -0.7
PLE **Pljevlja** 81.83 329 ⇑*i*P P 19 37 46.6 +1.3
BRMO **Bormio** 81.86 336 P P 19 37 46.0 +0.5
comp=Z,63nm,1.0s,mb5.5
TKTP **Tekketepe** 81.92 319 *i* P P 19 37 45.2 -0.6
LUPA **Lehigh Univers** 81.97 36 *e*P P 19 37 45.2 -0.9
LOMF **Lomont** 81.98 339 *e*P P 19 37 47.3 +1.2
ISP **Isparta** 82.00 319 *e*P P 19 37 45.6 -0.6
IVA **Berane** 82.05 328 ⇑*i*P P 19 37 47.6 +1.1
UPM **Unac-Piva** 82.11 329 ⇑*i*P P 19 37 46.2 -0.6
SRS **Serrai** 82.17 325 *e*P P 19 37 46.1 -1.0
FLN **La Foliniere** 82.25 344 *e*P P 19 37 46.9 -0.6
comp=Z,311nm,1.5s,mb5.7
FLN *e*R
comp=Z,2µm,19.5s
FLN **La Foliniere** 82.25 344 *e*P P 19 37 46.9 -0.6
FLN pmax pmax
comp=Z,156nm,1.5s,mb5.7
FLN MLR MLR
comp=Z,2µm,19.5s,MS5.5
FLN **La Foliniere** 82.25 344 *e*P P 19 37 46.9 -0.6
comp=Z,156nm,1.5s,mb5.7
FLN LR LR
comp=Z,2µm,19.5s,MS5.5
NVLJ **Novalja** 82.25 332 *i* P P 19 37 47.0 -0.6
PVY **Plav** 82.26 328 ⇑*i*P P 19 37 48.0 +0.4
BOZC **Bozcaada** 82.27 323 *i* P P 19 37 47.0 -0.6
LDF **La Druitiere** 82.34 344 *e*P P 19 37 47.3 -0.7
comp=Z,35nm,0.8s,mb5.0
LDF **La Druitiere** 82.34 344 *e*P P 19 37 47.3 -0.7
LDF pmax pmax
comp=Z,18nm,0.8s,mb5.0
LDF **La Druitiere** 82.34 344 *e*P P 19 37 47.3 -0.7
comp=Z,18nm,0.8s,mb5.0
VAY **Valandovo** 82.40 326 *i* P P 19 37 48.3 0.0
KNT **Kendrikon** 82.41 326 *e*P P 19 37 47.8 -0.6
NKY **Niksic** 82.42 329 ⇑*i*P P 19 37 48.1 -0.3
BRY **Bratogost** 82.50 329 ⇑*i*P P 19 37 47.2 -1.7
LOS **Limnos** 82.59 323 *e*P P 19 37 48.2 -1.1
BLA **Blacksburg** 82.63 41 *e*P P 19 37 49.4 -0.1
BLA pmax pmax
comp=Z,15nm,1.0s,mb5.0
BLA **Blacksburg** 82.63 41 *e*P P 19 37 49.4 -0.1
comp=Z,15nm,1.0s,mb5.0
TTG **Podgorica** 82.66 329 ⇑*i*P P 19 37 49.3 -0.4
GRR **Gorron** 82.68 344 *e*P P 19 37 49.3 -0.5
comp=Z,184nm,1.1s,mb5.7
GRR **Gorron** 82.68 344 *e*P P 19 37 49.3 -0.5
GRR pmax pmax
comp=Z,92nm,1.1s,mb5.7
GRR **Gorron** 82.68 344 *e*P P 19 37 49.3 -0.5
comp=Z,92nm,1.1s,mb5.7
BHL **Bhannes** 82.73 313 *e*P P 19 37 50.7 +0.6
LOR **Lormes** 82.76 341 *e*P P 19 37 49.5 -0.7
comp=Z,194nm,1.0s,mb5.8
LOR *e*R
comp=Z,4µm,22.5s
LOR **Lormes** 82.76 341 *e*P P 19 37 49.5 -0.7
LOR pmax pmax
comp=Z,97nm,1.0s,mb5.8
LOR MLR MLR
comp=Z,4µm,22.5s,MS5.7
LOR **Lormes** 82.76 341 *e*P P 19 37 49.5 -0.7
comp=Z,97nm,1.0s,mb5.8
LOR LR LR
comp=Z,4µm,22.5s,MS5.7
GRG **Griva** 82.78 326 *e*P P 19 37 50.3 0.0
DNZL **Cakiroluk** 82.78 320 *i* P P 19 37 53.7 +7.0
STON **Ston** 82.82 330 *i* P P 19 37 49.0 -1.5
CABF **La Chapelle** 82.85 339 *e*P P 19 37 50.1 -0.6
comp=Z,121nm,1.1s,mb5.5
CABF **La Chapelle** 82.85 339 *e*P P 19 37 50.1 -0.6
CABF pmax pmax
comp=Z,61nm,1.1s,mb5.5
CABF **La Chapelle** 82.85 339 *e*P P 19 37 50.1 -0.6
comp=Z,61nm,1.1s,mb5.5
KRUS **Krusevo** 82.86 327 ⇑*i*P P 19 37 51.9 +1.2
PLG **Polygyros** 82.87 325 *e*P P 19 37 51.0 +0.2
BUM **Brajici-Budva** 82.90 329 ⇑*i*P P 19 37 51.4 +0.4
HCY **Herceg Novi** 82.92 329 ⇑*i*P P 19 37 50.8 -0.2
GOLH **Golhisar** 82.92 319 *i* P P 19 37 51.3 +0.3
KDAG **Borovca** 82.96 321 *i* P P 19 37 51.7 +0.5
SSF **Saint Saulge** 83.04 341 *e*P P 19 37 51.0 -0.6
comp=Z,86nm,0.9s,mb5.5
SSF **Saint Saulge** 83.04 341 *e*P P 19 37 51.0 -0.6
SSF pmax pmax
comp=Z,43nm,0.9s,mb5.5
SSF **Saint Saulge** 83.04 341 *e*P P 19 37 51.0 -0.6
comp=Z,43nm,0.9s,mb5.5
ULC **Ulcinj** 83.08 328 ⇑*i*P P 19 37 52.0 +0.2
SGMF **Saint Gilles** 83.12 345 *e*P P 19 37 51.4 -0.6
comp=Z,98nm,0.8s,mb5.6
SGMF **Saint Gilles** 83.12 345 *e*P P 19 37 51.4 -0.6
SGMF pmax pmax
comp=Z,49nm,0.8s,mb5.6
SGMF **Saint Gilles** 83.12 345 *e*P P 19 37 51.4 -0.6
comp=Z,49nm,0.8s,mb5.6
CBN **Corbin** 83.15 39 *e*P P 19 37 51.9 -0.3
PAIG **Paliouri** 83.16 324 *e*P P 19 37 50.6 -1.6
ROSF **Rostrenen** 83.16 346 *e*P P 19 37 52.0 -0.3
comp=Z,600nm,1.7s,mb6.1
ROSF **Rostrenen** 83.16 346 *e*P P 19 37 52.0 -0.3
ROSF pmax pmax
comp=Z,300nm,1.7s,mb6.0
ROSF **Rostrenen** 83.16 346 *e*P P 19 37 52.0 -0.3
comp=Z,300nm,1.7s,mb6.0
ELL **Elmali** 83.17 319 *e*P P 19 37 52.3 0.0
OHR **Ohrid** 83.25 327 *i* P P 19 37 51.9 -0.8
ORO **Oropa** 83.28 337 P P 19 37 52.6 -0.3
ORO pmax pmax
comp=Z,666nm,2.4s,mb6.2
ORO **Oropa** 83.28 337 P P 19 37 52.6 -0.3
comp=Z,666nm,2.4s,mb6.2
URLA **Izmir** 83.28 322 *i* P P 19 37 51.5 -1.5
FNA **Florina** 83.32 326 *e*P P 19 37 53.2 +0.1
AVF **Avril sur Loir** 83.33 341 *e*P P 19 37 52.7 -0.4
comp=Z,221nm,1.1s,mb5.8
AVF **Avril sur Loir** 83.33 341 *e*P P 19 37 52.7 -0.4
AVF pmax pmax
comp=Z,110nm,1.1s,mb5.8
AVF **Avril sur Loir** 83.33 341 *e*P P 19 37 52.7 -0.4
comp=Z,110nm,1.1s,mb5.8
SMF **Signal de Mont** 83.35 340 *e*P P 19 37 52.8 -0.5
comp=Z,334nm,1.2s,mb6.0
SMF **Signal de Mont** 83.35 340 *e*P P 19 37 52.8 -0.5
SMF pmax pmax
comp=Z,167nm,1.2s,mb5.9
SMF **Signal de Mont** 83.35 340 *e*P P 19 37 52.8 -0.5
comp=Z,167nm,1.2s,mb5.9
QUIF **Quistinic** 83.55 345 *e*P P 19 37 53.5 -0.8
FETY **Fethiye** 83.64 319 *e*P P 19 37 53.7 -1.0
BGF **Bois d'Agland** 83.66 341 *e*P P 19 37 54.5 -0.4
comp=Z,114nm,1.2s,mb5.6
BGF **Bois d'Agland** 83.66 341 *e*P P 19 37 54.5 -0.4
BGF pmax pmax
comp=Z,57nm,1.2s,mb5.6
BGF **Bois d'Agland** 83.66 341 *e*P P 19 37 54.5 -0.4
comp=Z,57nm,1.2s,mb5.6
MLSB **Milas** 83.67 320 *e*P P 19 37 54.9 0.0
LPL **La Plagne** 83.71 338 *e*P P 19 37 55.2 +0.1
comp=Z,269nm,1.2s,mb6.0
LPL **La Plagne** 83.71 338 *e*P P 19 37 55.2 +0.1
LPL pmax pmax
comp=Z,135nm,1.2s,mb6.0
LPL **La Plagne** 83.71 338 *e*P P 19 37 55.2 +0.1
comp=Z,135nm,1.2s,mb6.0
DALT **Dalyan (Mudla)** 83.72 319 *e*P P 19 37 52.7 -2.5
LPG **La Plagne** 83.72 338 *e*P P 19 37 55.4 +0.2
comp=Z,202nm,1.0s,mb5.9
LPG **La Plagne** 83.72 338 *e*P P 19 37 55.4 +0.2
LPG pmax pmax
comp=Z,101nm,1.0s,mb5.9
LPG **La Plagne** 83.72 338 *e*P P 19 37 55.4 +0.2
comp=Z,101nm,1.0s,mb5.9
FNVD **Fontana Vidola** 83.75 335 P P 19 37 57.9 +2.6
CING **Cingoli** 83.85 333 P P 19 37 56.6 +0.8
VLC **Villacollemand** 83.97 335 *e*P P 19 37 56.8 +0.3
comp=Z,58nm,0.9s,mb5.7
BDRM **Kabasi** 84.00 320 *i* P P 19 37 55.3 -1.3
PLDF **La Plantade** 84.04 340 *e*P P 19 37 58.3 +1.5
TCF **Toulx Ste Croi** 84.06 341 *e*P P 19 37 56.5 -0.4
comp=Z,102nm,0.9s,mb5.6
TCF **Toulx Ste Croi** 84.06 341 *e*P P 19 37 56.5 -0.4
TCF pmax pmax
comp=Z,51nm,0.9s,mb5.7
TCF **Toulx Ste Croi** 84.06 341 *e*P P 19 37 56.5 -0.4
comp=Z,51nm,0.9s,mb5.7
AGO **Saint Agoulin** 84.08 341 *e*P P 19 37 59.5 +2.5
BNI **Bardonecchia** 84.16 338 P P 19 37 57.7 +0.3
BNI pmax pmax
comp=Z,180nm,1.3s,mb6.0
BNI **Bardonecchia** 84.16 338 *e*P P 19 37 57.8 +0.4
comp=Z,180nm,1.4s,mb6.0
GDM **Grand'Maison** 84.16 338 *e*P P 19 37 58.7 +1.3
GRN **Grenoble** 84.22 339 *e*P P 19 37 58.7 +1.0
DAT **Datca** 84.23 320 *e*P P 19 37 52.4 -5.3
MFF **Saint Martin d** 84.25 343 *e*P P 19 37 57.0 -0.9
comp=Z,101nm,1.0s,mb5.6
MFF **Saint Martin d** 84.25 343 *e*P P 19 37 57.0 -0.9
comp=Z,50nm,1.0s,mb5.6
PII **Pisa** 84.33 335 P P 19 37 58.0 -0.3
PII pmax pmax
comp=Z,15nm,0.6s,mb5.3
PII **Pisa** 84.33 335 P P 19 37 58.0 -0.3
comp=Z,15nm,0.6s,mb5.3
CSNT **Castellina Chi** 84.34 334 P P 19 37 58.5 +0.2
MBDF **Montbardon** 84.44 338 *e*P P 19 37 58.2 -0.6
comp=Z,81nm,0.8s,mb5.6
MBDF **Montbardon** 84.44 338 *e*P P 19 37 58.2 -0.6
MBDF pmax pmax
comp=Z,41nm,0.8s,mb5.6
MBDF **Montbardon** 84.44 338 *e*P P 19 37 58.2 -0.6
comp=Z,40nm,0.8s,mb5.6
WHFO **Wadi Hawf** 84.44 290 P P 19 37 58.6 -0.2
SNR=15
FGMS **Monte Sant'Ang** 84.45 330 P P 19 37 57.9 -1.0
comp=Z,70nm,0.9s,mb5.8
RBK **Rabkut** 84.46 290 ⇑P P 19 37 59.3 +0.4
SNR=8.0
ORIF **Oris-en-Rattie** 84.48 338 *e*P P 19 37 59.1 0.0
comp=Z,230nm,1.1s,mb5.9
ORIF *e*R
comp=Z,4µm,22.2s
ORIF **Oris-en-Rattie** 84.48 338 *e*P P 19 37 59.1 0.0
ORIF pmax pmax
comp=Z,115nm,1.1s,mb5.9
ORIF **Oris-en-Rattie** 84.48 338 *e*P P 19 37 59.1 0.0
comp=Z,115nm,1.1s,mb5.9
FIN **Finale Ligure** 84.54 337 P P 19 37 59.4 +0.1
FIN pmax pmax
comp=Z,246nm,1.9s,mb6.0
FIN **Finale Ligure** 84.54 337 P P 19 37 59.4 +0.1
comp=Z,246nm,1.9s,mb6.0
SURF **Saint Ours** 84.66 338 *e*P P 19 38 00.5 +0.6
AQU **L'Aquila** 84.71 332 ⇑*i*P P 19 38 02.1 +1.9
AQU **L'Aquila** 84.71 332 *e*P P 19 38 01.4 +1.2
AQU pmax pmax
comp=Z,78nm,0.9s,mb5.8
AQU **L'Aquila** 84.71 332 *e*P P 19 38 01.4 +1.2
comp=Z,78nm,0.9s,mb5.8
VIVF **Saint-Julien-l** 84.84 339 *e*P P 19 38 00.9 0.0
comp=Z,140nm,1.1s,mb5.7
VIVF **Saint-Julien-l** 84.84 339 *e*P P 19 38 00.9 0.0
VIVF pmax pmax
comp=Z,70nm,1.1s,mb5.7
VIVF **Saint-Julien-l** 84.84 339 *e*P P 19 38 00.9 0.0
comp=Z,70nm,1.1s,mb5.7
IMI **Imperia** 84.90 337 P P 19 38 01.0 -0.1
comp=Z,68nm,0.8s,mb5.8
SAOF **Saorge** 84.92 337 *e*P P 19 38 02.4 +1.2
AUTN **L'Aution** 84.94 337 *e*P P 19 38 02.6 +1.2
TOUF **Mont Tournerai** 84.98 337 *e*P P 19 38 02.6 +1.1
RNI2 **Rionero Sannit** 85.05 332 P P 19 38 03.2 +1.3
LUCF **Luceram** 85.06 337 *e*P P 19 38 02.9 +0.9
SBF **Sospel** 85.07 337 *e*P P 19 38 00.8 -1.2
comp=Z,200nm,0.8s,mb6.0
SBF **Sospel** 85.07 337 *e*P P 19 38 00.8 -1.2
SBF pmax pmax
comp=Z,100nm,0.8s,mb6.0
SBF **Sospel** 85.07 337 *e*P P 19 38 00.8 -1.2
comp=Z,100nm,0.8s,mb6.0
KLBR **Kellerberrin** 85.11 211 *e*P P 19 38 01.9 -0.3
comp=Z,16nm,0.7s,mb5.3
MVIF **Mont Vial** 85.11 337 *e*P P 19 38 03.2 +1.0
RJF **Les Rejaudoux** 85.14 342 *e*P P 19 38 01.4 -1.0
comp=Z,194nm,1.2s,mb5.8
RJF *e*R
comp=Z,3µm,22.2s
RJF **Les Rejaudoux** 85.14 342 *e*P P 19 38 01.4 -1.0
RJF pmax pmax
comp=Z,97nm,1.2s,mb5.8
RJF MLR MLR
comp=Z,3µm,22.3s,MS5.7
RJF **Les Rejaudoux** 85.14 342 *e*P P 19 38 01.4 -1.0
comp=Z,97nm,1.2s,mb5.8
RJF LR LR
comp=Z,3µm,22.3s,MS5.7
ABTO **Aybut** 85.16 290 P P 19 38 03.8 +1.3
SNR=6.9
REVF **Revere** 85.20 337 *e*P P 19 38 03.5 +0.9
CERT **Cerreto** 85.20 333 P P 19 38 03.0 +0.3
CAF **Calviac** 85.38 341 *e*P P 19 38 03.2 -0.4
comp=Z,221nm,1.1s,mb5.9
CAF **Calviac** 85.38 341 *e*P P 19 38 03.2 -0.4
CAF pmax pmax
comp=Z,110nm,1.1s,mb5.9
CAF **Calviac** 85.38 341 *e*P P 19 38 03.2 -0.4
comp=Z,110nm,1.1s,mb5.9
LKD **Levkas** 85.39 326 *e*P P 19 38 03.4 -0.2
TOLF **Tolfa** 85.41 333 P P 19 38 04.1 +0.4
SMRF **Simiane la Rot** 85.44 338 *e*P P 19 38 03.8 -0.1
comp=Z,178nm,1.3s,mb5.7
SMRF **Simiane la Rot** 85.44 338 *e*P P 19 38 03.8 -0.1
comp=Z,178nm,1.3s,mb6.0
FRF **La Foret Royal** 85.56 337 *e*P P 19 38 03.3 -1.1
comp=Z,232nm,1.6s,mb5.8
FRF **La Foret Royal** 85.56 337 *e*P P 19 38 03.3 -1.1
FRF pmax pmax
comp=Z,116nm,1.6s,mb5.9
FRF **La Foret Royal** 85.56 337 *e*P P 19 38 03.3 -1.1
comp=Z,116nm,1.6s,mb5.9
LFF **La Frestale** 85.66 342 *e*P P 19 38 04.1 -0.8
comp=Z,173nm,1.0s,mb5.9
LFF **La Frestale** 85.66 342 *e*P P 19 38 04.1 -0.8
LFF pmax pmax
comp=Z,86nm,1.0s,mb5.9
LFF **La Frestale** 85.66 342 *e*P P 19 38 04.1 -0.8
comp=Z,86nm,1.0s,mb5.9
SLCN **Sala Consilina** 85.73 330 P P 19 38 06.1 +0.8
LASF **Ste Croix** 85.77 340 *e*P P 19 38 04.9 -0.6
comp=Z,171nm,1.2s,mb5.9
LMR **La Mourre** 85.80 337 *e*P P 19 38 04.8 -0.9
comp=Z,186nm,1.1s,mb5.9
LMR **La Mourre** 85.80 337 *e*P P 19 38 04.8 -0.9
LMR pmax pmax
comp=Z,93nm,1.1s,mb5.9
LMR **La Mourre** 85.80 337 *e*P P 19 38 04.8 -0.9
comp=Z,93nm,1.1s,mb5.9
PGF **Pioggiola** 85.85 335 *e*P P 19 38 04.6 -1.3
comp=Z,122nm,1.1s,mb5.7
PGF **Pioggiola** 85.85 335 *e*P P 19 38 04.6 -1.3
PGF pmax pmax
comp=Z,61nm,1.1s,mb5.7
PGF **Pioggiola** 85.85 335 *e*P P 19 38 04.6 -1.3
comp=Z,61nm,1.1s,mb5.8
TBI **Tubuai** 86.11 131 *e*S S 19 48 37.7 -3.4
TBI *e*LR LR 20 04 46.4
comp=Z,5µm,31.5s,baz=325
VENT **Ventotene** 86.11 332 P P 19 38 07.8 +0.6
TIP **Timpagrande** 86.42 329 *e*P P 19 38 07.7 -1.0
EIL **Elat** 86.47 311 *e*P P 19 38 10.1 +1.1
comp=Z,2µm,1.3s
NWAO **Narrogin (SRO)** 86.50 211 *e*P P 19 38 08.5 -0.6
NWAO pmax pmax
comp=Z,73nm,1.4s
NWAO **Narrogin (SRO)** 86.50 211 *e*P P 19 38 08.5 -0.6
comp=Z,73nm,1.4s,mb5.7
MTLF **Montolieu** 86.85 340 *e*P P 19 38 09.8 -1.0
comp=Z,69nm,1.2s,mb5.5
MTLF **Montolieu** 86.85 340 *e*P P 19 38 09.8 -1.0
MTLF pmax pmax
comp=Z,35nm,1.2s,mb5.5
MTLF **Montolieu** 86.85 340 *e*P P 19 38 09.8 -1.0
comp=Z,34nm,1.2s,mb5.5
URZ **Urewera** 87.18 163 LR LR 20 09 31.6
comp=Z,1µm,21.9s,MS5.2,baz=203,slow=30
EJON **La Jonquera** 87.54 340 P P 19 38 18.4 +4.3
comp=Z,20nm,0.5s,mb5.6
EPF **Esparros** 87.56 342 *e*P P 19 38 12.7 -1.6
comp=Z,16nm,0.6s,mb5.1
EPF **Esparros** 87.56 342 *e*P P 19 38 12.7 -1.6
EPF pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
EPF **Esparros** 87.56 342 *e*P P 19 38 12.7 -1.6
comp=Z,7.8nm,0.6s,mb5.1
SCLL **Scilla** 87.61 329 P P 19 38 13.7 -0.8
comp=Z,16nm,0.8s,mb5.3
SJPF **Ste Jean** 87.81 343 *e*P P 19 38 13.8 -1.7
ETSF **Etsaut** 87.88 342 *e*P P 19 38 15.0 -0.8
comp=Z,31nm,0.8s,mb5.3
ETSF **Etsaut** 87.88 342 *e*P P 19 38 15.0 -0.8
ETSF pmax pmax
comp=Z,16nm,0.8s,mb5.3
ETSF **Etsaut** 87.88 342 *e*P P 19 38 15.0 -0.8
comp=Z,16nm,0.8s,mb5.3
EBIE **Bielsa** 87.94 342 P P 19 38 18.5 +2.4
comp=Z,13nm,0.8s,mb5.2
MNO **Monte Soro** 88.26 330 P P 19 38 17.6 0.0
MNO pmax pmax
comp=Z,127nm,1.1s,mb6.1
MNO **Monte Soro** 88.26 330 P P 19 38 17.6 0.0
comp=Z,127nm,1.1s,mb6.1
VSL **Villasalto** 88.56 334 *e*P P 19 38 19.1 +0.1
comp=Z,65nm,1.0s,mb5.9
EPON **Pontenova** 88.86 347 P P 19 38 23.7 +4.2
comp=Z,147nm,1.1s,mb6.2
ERC **Erice** 88.88 331 P P 19 38 21.9 +1.4
comp=Z,633nm,1.0s
EPOB **Poblet** 89.00 341 P P 19 38 26.0 +4.9
comp=Z,13nm,0.7s,mb5.4
HMDC **Modica** 89.10 329 P P 19 38 22.2 +0.7
ETOS **Mallorca** 90.10 339 P P 19 38 29.9 +3.7
comp=Z,84nm,1.3s,mb5.9
ETOR **Torete** 90.19 343 P P 19 38 28.9 +2.3
ETOR pmax pmax
comp=Z,11nm,0.8s,mb5.2
ETOR **Torete** 90.19 343 P P 19 38 28.9 +2.2
comp=Z,11nm,0.8s,mb5.2
GUD **Guadarrama** 90.77 344 P P 19 38 34.3 +5.0
GUD pmax pmax
comp=Z,26nm,1.2s,mb5.4
GUD **Guadarrama** 90.77 344 P P 19 38 34.3 +4.9
comp=Z,26nm,1.2s,mb5.4
RPZ **Rata Peaks** 91.45 168 LR LR 20 14 36.3
comp=Z,1µm,19.8s,MS5.3,baz=354,slow=32
ESDC **Sonseca Array** 91.67 344 P P 19 38 33.6 +0.1
comp=Z,3.8nm,0.7s,mb4.8,baz=5.8,slow=4.7,SNR=15
ESDC **Sonseca Array** 91.67 344 P P 19 38 31.4 -2.1
comp=Z,13nm,0.9s,mb5.3
CMAH **Djebel Manchou** 91.79 334 P P 19 38 35.0 +0.9
CAEH **'Ain El Ouahch** 91.82 335 P P 19 38 36.0 +1.8
KEST **Kesra** 92.03 333 P P 19 38 35.3 +0.1
comp=Z,3.5nm,0.8s,mb4.7,baz=341,slow=2.8,SNR=9.0
ETOB **Tobarra** 92.17 342 P P 19 38 39.6 +3.8
comp=Z,97nm,1.9s,mb5.8
CKFL **Kef-Lekhel** 92.21 335 P P 19 38 37.0 +1.0
DFRA **Djebel Bou Aff** 92.31 336 P P 19 38 41.0 +4.5
EVIA **Vianos** 92.38 342 P P 19 38 39.2 +2.4
EVIA pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
EVIA **Vianos** 92.38 342 P P 19 38 39.2 +2.4
comp=Z,7.4nm,0.8s,mb5.1
CASM **Ain Smara** 92.40 335 P P 19 38 38.0 +1.1
CTEI **Djebel Teioual** 92.61 335 P P 19 38 39.0 +1.1
SET **Setif** 92.77 336 P P 19 38 41.0 +2.4
CKHR **Kef el Ahmar** 92.91 336 P P 19 38 43.0 +3.8
CMER **Merouana** 93.17 335 P P 19 38 42.0 +1.6
EVO **Evora** 93.49 347 *e*P P 19 38 41.2 -0.7
comp=Z,51nm,1.2s,mb5.5
RKT **Rikitea** 94.03 120 *e*PS PS 19 51 06.6 -3.8
comp=Z,708nm,27.5s
RKT **Rikitea** 94.03 120 *e*SKSac SKSac 19 49 17.0 -1.8

comp=Z,484nm,27.0s
RKT eSS SS 19 56 11.3 -2.9
comp=Z,590nm,25.5s
RKT eLR LR 20 08 18.2
comp=Z,4µm,33.0s,baz=319
TOA0 Torodi Ar. Sit 115.49 331 ePKPdf PKPdf 19 44 06.4 -1.7
TORD Torodi Ar. Bea 115.49 331 PKP PKPdf 19 44 07.9 -0.3
comp=Z,4.5nm,0.9s,baz=15,slow=1.4,SNR=16
VNDA Vanda 124.32 178 PKP PKPdf 19 44 22.6 -2.6
comp=Z,4.0nm,1.0s,baz=313,slow=3.9,SNR=20
VNDA Vanda 124.32 178 PKIKP PKPdf 19 44 22.6 -2.5
VNDA pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 124.32 178 ePKPdf PKPdf 19 44 21.5 -3.7
SBA Scott Base 124.80 177 ePKIKP PKPdf 19 44 23.6 -2.4
SAML Samuel 130.15 53 ePKPdf PKPdf 19 44 35.2 -1.1
ARE Arequipa 131.16 67 ePKIKP PKPdf 19 44 40.0 +1.9
MAW Mawson 133.07 212 PKP PKPdf 19 44 40.1 -1.6
comp=Z,6.0nm,0.8s,baz=306,slow=3.0,SNR=11
MAW Mawson 133.07 212 PKIKP PKPdf 19 44 40.1 -1.7
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 133.07 212 ePKPdf PKPdf 19 44 40.0 -1.8
LPAZ La Paz 133.12 64 PKP PKPdf 19 44 42.5 +0.6
comp=Z,11nm,0.9s,baz=1.7,slow=4.3,SNR=38
LPAZ La Paz 133.12 64 PKIKP PKPdf 19 44 42.5 +0.6
LPAZ pmax pmax
comp=Z,11nm,0.9s
LPAZ La Paz 133.12 64 ePKPdf PKPdf 19 44 42.3 +0.5
QSPA South Pole Qui 136.74 180 ePKPdf PKPdf 19 44 44.9 -3.7
BOSA Boshof 137.01 277 PKP PKPdf 19 44 47.3 -1.8
comp=Z,3.9nm,0.7s,baz=49,slow=11,SNR=4.0
LVC Limon Verde 137.30 71 ePKPdf PKPdf 19 44 51.7 +2.1
SYO Syowa Base 141.78 212⇓eX PKPdf 19 44 50.4 -7.4
SUR Sutherland 142.34 276 PKP PKPdf 19 44 56.9 -2.0
comp=Z,9.0nm,0.8s,baz=99,slow=4.9,SNR=3.1
CFAA Coronel Fontan 143.73 81 PKP PKPdf 19 44 57.7 -3.6
comp=Z,4.3nm,0.8s,baz=289,slow=3.1,SNR=42
NVL N'lazarevskaya 150.37 204*d* iPKIKP PKPdf 19 45 15.3 +3.0
NVL pmax pmax
comp=Z,74nm,1.6s
TRQA Tornquist 151.60 85 ePKPdf PKPdf 19 45 12.9 -1.3
TRQA ePKPbc PKPbc 19 45 19.8 -0.7
CAM4 Nova Friburgo 151.65 36⇓*i*P PKPbc 19 45 19.5 -1.1
CAM4 *i* 19 45 21.5
CAM4 *i* 19 45 24.9
CAM4 *i* 19 45 31.7
CAM4 *i* 19 45 42.1
USHA Ushuaia 151.96 122 PKPbc PKPbc 19 45 20.6 -0.7
comp=Z,10.0nm,0.6s,baz=277,slow=1.9,SNR=6.5
SNAA Sanae 153.14 195 PKP PKPdf 19 45 15.1 -1.5
comp=Z,2.0nm,1.1s,baz=181,slow=5.8,SNR=3.6
SNAA PKPbc PKPbc 19 45 20.9 -3.1
comp=Z,5.2nm,1.0s,baz=110,slow=1.8,SNR=29
SNAA PKPab PKPab 19 45 33.8 -1.7
comp=Z,9.6nm,1.0s,baz=108,slow=2.6,SNR=16
SNAA Sanae 153.14 195 ePKPdf PKPdf 19 45 14.4 -2.1
SNAA *e* 19 45 20.8
SNAA *e* 19 45 27.3
SNAA *e* 19 45 33.8
SNAA Sanae 153.14 195 PKIKP PKPdf 19 45 15.1 -1.4
SNAA 19 45 20.9
SNAA 19 45 33.8
SNAA pmax pmax
comp=Z,2.0nm,1.1s
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 153.14 195 ePKPdf PKPdf 19 45 14.8 -1.7
SNAA ePKPbc PKPbc 19 45 20.8 -3.2
VNA2 Neumayer--Watz 154.55 193 ePKPdf PKPdf 19 45 16.4 -2.1
VNA2 *e* 19 45 25.5
VNA2 *e* 19 45 40.9
VNA2 *e* 19 45 49.3
VNA3 Neumayer Olymp 154.60 192 ePKPdf PKPdf 19 45 15.8 -2.8
VNA3 *e* 19 45 21.5
VNA3 *e* 19 45 25.1
VNA3 *e* 19 45 30.5
VNA3 *e* 19 45 40.5
VNA1 Neumayer--Stat 154.93 193 ePKPdf PKPdf 19 45 17.0 -2.0
VNA1 *e* 19 45 23.8
VNA1 *e* 19 45 41.4

IDC ***15*** *19:28:04.6±0.5, 4701N×15501E, h0km, mb4.9/26, mb1 5.0/27, mb1mx5.0/28, mbtmp4.9/27, ML3.9/1, MS5.1/4, Ms1 5.1/4, ms1mx4.4/36, Error ellipse: s-maj=15.0km s-min=12.5km az=149.0*
BJI ***15*** *19:28:05.9, 4727N×15479E, h10km, mB5.7, mb5.1, Ms5.6, Msz5.4*
ISCJB ***15*** *19:28:06.2±0.2, 4706N±004×15513E±004, h18km, mb5.3/137, MS5.5/19, Error ellipse: s-maj=5.9km s-min=3.2km az=141.4*
NEIC ***15*** *19:28:06.4±0.2, 4708N×15517E, h10km, mb5.5/65, Error ellipse: s-maj=6.0km s-min=4.3km az=162.0*
MOS ***15*** *19:28:07.0±1.1, 4709N×15507E, h24km, mb5.7/65, MS5.7/13, Error ellipse: s-maj=8.6km s-min=4.4km az=102.0*
SKHL ***15*** *19:28:13.6±0.0, 4756N×15407E, h51km±18km*
SZGRF ***15*** *19:28:18.6, 4821N×15409E, h33km, mb5.8, Kuril Islands, Russia*
ISC 15 19:28:08.3±0.2, 4717N±004×15506E±004, h19km, h19km±1.9km:pP-P, n529, σ1915/514, mb5.3/136, MS5.5/19, 30C-28D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.59**	**11**	*e*P	**Pn**	**19 29 05.0**	**+2.2**
SKR				AMB	AMB	19 29 05.5	
	560nm,0.7s						
SKR				AMB	AMB	19 29 05.5	
	450nm,1.0s						
SKR				*e*S	**Sn**	**19 29 43.5**	**-1.2**
SKR				A		19 29 47.5	
	1µm,1.0s						
SKR				A		19 29 47.5	
	2µm,1.0s						
SKR				A		19 29 47.5	
	1µm,0.6s						
KUR	**Kuril'sk**	**5.35**	**251**	⇑*i*P	**Pn**	**19 29 23.5**	**-3.6**
KUR				AMB	AMB	19 29 28.0	
	198nm,0.7s						
KUR				AMB	AMB	19 29 28.0	
	284nm,0.7s						
KUR				AMB	AMB	19 29 28.0	
	602nm,0.7s						
KUR				*i* S	**Sn**	**19 30 21.0**	**-7.2**
KUR				A		19 30 27.8	
	1µm,0.7s						
KUR				A		19 30 27.8	
	1µm,0.7s						
KUR	**Kuril'sk**	**5.35**	**251**	⇑*i*PN	**Pn**	**19 29 23.0**	**-4.1**
KUR				pmax	pmax		
	comp=N,200nm,0.7s						
KUR				pmax	pmax		
	comp=E,280nm,0.7s						
KUR				pmax	pmax		
	comp=Z,600nm,0.7s						
PET	**Petropavlovsk**	**6.30**	**20**	⇓*i*PN	**Pn**	**19 29 39.5**	**-0.6**
PET				pmax	pmax		
	comp=Z,57nm,0.7s						
PET	**Petropavlovsk**	**6.30**	**20**	*e*P	**Pn**	**19 29 35.6**	**-4.5**
PET				⇓*i*P		19 29 39.5	
YUK	**Yuzh-Kuril'sk**	**7.17**	**247**	*e*P	**Pn**	**19 29 54.4**	**+2.3**
YUK				AMB	AMB	19 29 59.2	
	comp=Z,500nm,0.2s						
YUK				*e*S	**Sn**	**19 31 10.0**	**-3.0**
YUK				A		19 31 20.0	
	comp=Z,760nm,0.6s						
YUK				A		19 31 20.0	
	comp=Z,840nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.40**	**273**	*e*P	**Pn**	**19 30 05.3**	**-3.7**
YSS				*e*P		19 30 12.3	
ASAJ	**Asahikawa**	**9.25**	**255**	Pn	**Pn**	**19 30 20.9**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=108,slow=9.6,SNR=2.5						
ASAJ	**Asahikawa**	**9.25**	**255**	PN	**Pn**	**19 30 20.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**9.93**	**243**	*e*PN	**Pn**	**19 30 32.1**	**+2.2**
OKH	**Okha**	**10.03**	**314**	*e*P	**Pn**	**19 30 27.5**	**-3.8**
MA2	**Magadan**	**12.69**	**350**	*d* iPN	**Pn**	**19 31 03.4**	**-4.2**
MA2				pmax	pmax		
	comp=Z,200nm,3.1s						
MA2	**Magadan**	**12.69**	**350**	*e*P	**Pn**	**19 31 04.2**	**-3.4**
TEY	**Ternei**	**12.98**	**267**	*e*P	**Pn**	**19 31 13.0**	**+1.3**
HABR	**Khabarovsk**	**13.51**	**283**	*e*P	**Pn**	**19 31 25.4**	**+6.6**
HABR				*e*S	**Sn**	**19 33 55.4**	**+7.0**
AMKA	**Amchitka**	**16.35**	**66**	*e*P	**Pn**	**19 31 58.6**	**+2.0**
MAJO	**Matsushiro**	**16.41**	**236**	*e*P	**Pn**	**19 31 51.7**	**-5.7**
MAT	**Matsushiro**	**16.41**	**236**	P	**Pn**	**19 31 51.3**	**-6.1**
MJAR	**Matsushiro Arr**	**16.41**	**236**	Pn	**Pn**	**19 31 52.8**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=30,slow=12,SNR=6.1						
MDJ	**Mudanjiang**	**17.89**	**271**	P	**Pn**	**19 32 13.8**	**-2.1**
MDJ				AP	pP	19 32 17.0	-4.9
MDJ				XP	sP	19 32 18.8	-5.6
MDJ				S	**Sn**	**19 35 33.1**	**-1.7**
MDJ				SCP	ScP	19 40 25.6	-0.3
MDJ				PCS	PcS	19 40 26.9	-1.2
MDJ				AMB	AMB		
	comp=Z,21nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,701nm,4.1s						
MDJ				LR	LR		
	comp=N,10µm,13.8s						
MDJ				LR	LR		
	comp=E,13µm,15.7s						
MDJ				LR	LR		
	comp=Z,21µm,15.8s						
MDJ	**Mudanjiang**	**17.89**	**271**	*e*P	**Pn**	**19 32 13.0**	**-3.0**
YAK	**Yakutsk**	**20.71**	**325**	*e*P	**P**	**19 32 45.0**	**-2.4**
YAK				pmax	pmax		
	comp=Z,212nm,1.3s						
YAK	**Yakutsk**	**20.71**	**325**	*e*P	**P**	**19 32 44.9**	**-2.5**
NRGR	**Nerungri**	**20.82**	**308**	*i* P	**P**	**19 32 48.0**	**-0.6**
CN2	**Changchun**	**20.97**	**272**	*e*P	**P**	**19 32 47.5**	**-2.7**
CN2				*e*XP	sP	19 32 54.0	-4.1
CN2				*e*S	**S**	**19 36 35.0**	**-8.0**
CN2				AMB	AMB		
	comp=Z,80nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,12µm,16.0s,MS5.5						
CN2				LR	LR		
	comp=E,13µm,16.0s,MS5.5						
CN2				LR	LR		
	comp=Z,14µm,17.0s,MS5.4						
BILL	**Bilibino**	**21.70**	**11**	*e*P	**P**	**19 32 57.0**	**-1.1**
BILL				pmax	pmax		
	comp=Z,138nm,1.1s,mb5.3						
BILL	**Bilibino**	**21.70**	**11**	*e*P	**P**	**19 32 55.7**	**-2.4**
KSRS	**Korea Array**	**22.19**	**254**	P	**P**	**19 33 02.1**	**-1.2**
	comp=Z,19nm,0.8s,mb4.6,baz=47,slow=10,SNR=7.4						
SNY	**Shenyang**	**22.98**	**268**	⇑P	**P**	**19 33 09.9**	**-1.8**
SNY				AMB	AMB		
	comp=Z,52nm,1.2s,mb4.8						
INCN	**Inchon**	**23.03**	**255**	*e*P	**P**	**19 33 12.5**	**+0.3**
	comp=Z,69nm,0.9s,mb5.1						
JNU	**Nakatsue**	**23.08**	**241**	P	**P**	**19 33 14.4**	**+1.7**
	comp=Z,32nm,0.9s,mb4.8,baz=253,slow=13,SNR=3.3						
HIA	**Hailar**	**23.50**	**288**	*e*P	**P**	**19 33 12.5**	**-4.6**
DL2	**Dalian**	**25.64**	**263**	P	**P**	**19 33 36.4**	**-0.2**
DL2				S	**S**	**19 38 07.4**	**+3.6**
DL2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
DL2				AMB	AMB		
	comp=Z,520nm,3.8s						
DL2				LR	LR		
	comp=N,2µm,13.8s,MS5.0						
DL2				LR	LR		
	comp=E,2µm,13.3s,MS5.0						
DL2				LR	LR		
	comp=Z,3µm,11.8s,MS5.1						
BOD	**Bodaibo**	**26.76**	**309**	*e*P	**P**	**19 33 44.1**	**-2.6**
BOD				pmax	pmax		
	comp=Z,51nm,2.2s,mb4.7						
BJI	**Beijing**	**28.81**	**270**	*e*P	**P**	**19 34 06.9**	**+1.8**
BJI				S	**S**	**19 38 48.0**	**-5.9**
BJI				AMB	AMB		
	comp=Z,54nm,0.9s,mb5.3						
BJI				AMB	AMB		
	comp=Z,434nm,2.8s,mb5.7						
BJI				LR	LR		
	comp=N,5µm,12.6s,MS5.6						
BJI				LR	LR		
	comp=E,8µm,13.5s,MS5.6						
BJI				LR	LR		
	comp=Z,4µm,15.0s,MS5.1						
BJI	**Beijing**	**28.81**	**270**	*e*P	**P**	**19 34 06.9**	**+1.8**
	comp=Z,54nm,0.9s,mb5.3						
BJI				S	**S**	**19 38 48.0**	**-5.9**
BJT	**Baijiatuan**	**28.83**	**270**	*e*P	**P**	**19 34 06.9**	**+1.7**
TIA	**Tai'an**	**30.09**	**263**	*e*P	**P**	**19 34 17.0**	**+0.6**
NJ2	**Nanjing**	**31.39**	**254**	*e*P	**P**	**19 34 28.8**	**+0.9**
NJ2				AP	pP	19 34 32.0	-1.8
NJ2				XP	sP	19 34 36.8	+0.6
NJ2				PP	PP	19 35 32.8	-6.1
NJ2				S	**S**	**19 39 34.0**	**-0.4**
NJ2				XS	sS	19 39 42.0	-2.1
NJ2				AMB	AMB		
	comp=Z,630nm,4.2s						
NJ2				LR	LR		
	comp=N,2µm,14.3s,MS5.2						
NJ2				LR	LR		
	comp=E,3µm,17.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,2µm,16.5s,MS5.0						
HHC	**Hu-ho-hao-te**	**31.59**	**275**	⇓P	**P**	**19 34 29.5**	**-0.2**
HHC				AP	pP	19 34 33.9	-1.6
HHC				XP	sP	19 34 36.8	-1.1
HHC				PP	PP	19 35 34.3	-6.8
HHC				PCP	PcP	19 37 21.6	-0.2
HHC				S	**S**	**19 39 36.8**	**-0.7**
HHC				XS	sS	19 39 43.5	-3.7
HHC				SCP	ScP	19 41 04.4	+0.4
HHC				SS	SS	19 41 25.8	-27
HHC				AMB	AMB		
	comp=Z,66nm,1.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,737nm,5.8s						
HHC				LR	LR		
	comp=N,6µm,14.5s,MS5.5						
HHC				LR	LR		
	comp=E,3µm,16.5s,MS5.5						
HHC				LR	LR		
	comp=Z,7µm,15.4s,MS5.5						
ULN	**Ulaanbaatar**	**32.02**	**289**	*e*P	**P**	**19 34 32.3**	**-1.1**
SONM	**Songino Array**	**32.45**	**289**	P	**P**	**19 34 36.1**	**-1.1**
	comp=Z,13nm,0.8s,mb4.8,baz=66,slow=8.9,SNR=9.1						
IRK	**Irkutsk**	**32.67**	**298**	*e*P	**P**	**19 34 37.5**	**-1.7**
IRK				pmax	pmax		
	comp=Z,137nm,2.4s,mb5.5						
IMA2	**Indian Mountai**	**32.68**	**36**	*e*P	**P**	**19 34 39.3**	**0.0**
KDAK	**Kodiak Island**	**32.80**	**52**	P	**P**	**19 34 38.5**	**-1.7**
	comp=Z,27nm,0.7s,mb5.3,baz=354,slow=4.7,SNR=5.7						
KDAK	**Kodiak Island**	**32.80**	**52**	*e*P	**P**	**19 34 37.5**	**-2.8**
TLY	**Talaya**	**33.17**	**297**	*e*P	**P**	**19 34 42.8**	**-0.7**
TLY				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
TLY	**Talaya**	**33.17**	**297**	*e*P	**P**	**19 34 40.3**	**-3.2**
	comp=Z,26nm,0.9s,mb5.2						
ZAK	**Zakamensk**	**33.71**	**295**	*e*P	**P**	**19 34 45.5**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
PMR	**Palmer**	**34.37**	**44**	*e*P	**P**	**19 34 48.7**	**-5.3**
PMR				pmax	pmax		
	comp=Z,170nm,1.5s,mb5.8						
PMR	**Palmer**	**34.37**	**44**	*e*P	**P**	**19 34 48.7**	**-5.3**
	comp=Z,173nm,1.5s,mb5.8						
MCK	**McKinley**	**34.47**	**41**	*e*P	**P**	**19 34 49.2**	**-5.6**
SML	**Sawmill**	**34.75**	**44**	*e*P	**P**	**19 34 56.3**	**-0.9**
COLA	**College**	**34.98**	**39**	*e*P	**P**	**19 34 59.0**	**-0.2**
DIV	**Divide**	**36.01**	**45**	*e*P	**P**	**19 35 07.0**	**-1.1**
QZH	**Quanzhou**	**36.42**	**245**	P	**P**	**19 35 12.0**	**+0.5**
QZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
XAN	**Xi'an**	**36.88**	**266**	P	**P**	**19 35 14.9**	**-0.6**
XAN				AMB	AMB		
	comp=Z,79nm,1.7s,mb5.3						
EGAK	**Eagle**	**37.84**	**39**	*e*P	**P**	**19 35 22.6**	**-1.0**
DAWY	**Dawson**	**38.67**	**40**	*e*P	**P**	**19 35 30.2**	**-0.5**
LZH	**Lanzhou**	**39.20**	**273**	⇓P	**P**	**19 35 36.1**	**+1.0**
LZH				AP	pP	19 35 41.6	+0.6
LZH				XP	sP	19 35 43.3	-0.1
LZH				PP	PP	19 37 06.5	+1.4
LZH				AMB	AMB		
	comp=Z,180nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1µm,4.8s						
LZH				LR	LR		
	comp=N,8µm,13.5s						
LZH				LR	LR		
	comp=Z,11µm,15.2s,MS5.8						
LZH	**Lanzhou**	**39.20**	**273**	⇓P	**P**	**19 35 36.1**	**+1.0**
	comp=Z,180nm,1.0s,mb5.8						
LZH				pP	pP	19 35 41.6	+0.6
LZH				sP	sP	19 35 43.2	-0.2
LZH				PP	PP	19 37 06.5	+1.4
LZH				*e*S	**S**	**19 41 35.9**	**+1.6**
LZH				sS	sS	19 41 42.0	-2.1
LZH				*e*SS	SS	19 44 19.2	-8.3
INK	**Inuvik**	**40.58**	**33**	P	**P**	**19 35 47.1**	**+0.5**
	comp=Z,51nm,0.8s,mb5.2,baz=289,slow=6.8,SNR=15						
INK	**Inuvik**	**40.58**	**33**	P	**P**	**19 35 47.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,51nm,0.8s						
INK	**Inuvik**	**40.58**	**33**	*e*P	**P**	**19 35 46.4**	**-0.1**
GYA	**Guiyang**	**43.10**	**259**⇑	*i*P	**P**	**19 36 07.0**	**-0.2**
GYA				AP	pP	19 36 11.3	-1.9
GYA				XP	sP	19 36 14.8	-0.7
GYA				PP	PP	19 37 49.8	+2.5
GYA				PCP	PcP	19 37 58.1	+1.3
GYA				SCP	ScP	19 41 49.3	+2.3
GYA				S	**S**	**19 42 32.8**	**+0.5**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,870nm,5.0s						
GYA				LR	LR		
	comp=N,840nm,17.4s,MS4.8						
GYA				LR	LR		
	comp=E,830nm,17.8s,MS4.8						
GYA				LR	LR		
	comp=Z,910nm,17.6s,MS4.7						
ZAL	**Zalesovo**	**43.46**	**306**	P	**P**	**19 36 09.1**	**-1.0**
	comp=Z,21nm,0.7s,mb5.0,baz=45,slow=8.7,SNR=9.3						
ZAL	**Zalesovo**	**43.46**	**306**	P	**P**	**19 36 09.1**	**-1.0**
NVS	**Novosibirsk**	**43.99**	**308**	*e*P	**P**	**19 36 13.3**	**-1.0**
NVS				*e*		19 37 58.6	
NVS				pmax	pmax		
	comp=N,70nm,1.6s						
NVS				pmax	pmax		
	comp=E,187nm,1.6s						
NVS				pmax	pmax		
	comp=Z,164nm,1.6s,mb5.5						
DLBC	**Dease Lake**	**44.34**	**47**	*e*P	**P**	**19 36 18.1**	**+1.0**
WMQ	**Urumqi**	**46.01**	**292**⇑	*i*P	**P**	**19 36 31.9**	**+1.5**
WMQ				AP	pP	19 36 36.9	+0.5
WMQ				XP	sP	19 36 38.9	+0.1
WMQ				PCP	PcP	19 38 08.9	+2.1
WMQ				PP	PP	19 38 20.1	+1.8
WMQ				PPP		19 39 03.6	
WMQ				S	**S**	**19 43 15.8**	**+1.3**
WMQ				XS	sS	19 43 23.4	-1.1
WMQ				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
WMQ				LR	LR		
	comp=N,4µm,16.4s,MS5.5						
WMQ				LR	LR		
	comp=E,2µm,14.6s,MS5.5						
WMQ				LR	LR		
	comp=Z,5µm,15.2s,MS5.6						
QIZ	**Qiongzhong**	**46.24**	**248**	P	**P**	**19 36 33.9**	**+1.7**
QIZ				S	**S**	**19 43 18.6**	**+0.8**
QIZ				XS	sS	19 43 26.8	-0.9
QIZ				SS	SS	19 46 37.8	-5.4
QIZ				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,485nm,4.4s						
QIZ				LR	LR		
	comp=N,2µm,18.0s						
QIZ				LR	LR		
	comp=Z,3µm,17.6s,MS5.2						
KMI	**Kunming**	**46.63**	**261**	P	**P**	**19 36 34.8**	**-0.4**
KMI				AMB	AMB		
	comp=Z,44nm,1.6s,mb5.1						
KMI	**Kunming**	**46.63**	**261**	P	**P**	**19 36 34.7**	**-0.5**
KMI				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.1						
KMI	**Kunming**	**46.63**	**261**	P	**P**	**19 36 34.7**	**-0.5**
	comp=Z,44nm,1.6s,mb5.1						
MK31	**Makanchi Array**	**47.93**	**298**	*e*P	**P**	**19 36 44.5**	**-0.9**
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**19 36 44.6**	**-0.8**
	comp=Z,30nm,0.8s,mb5.4,baz=64,slow=8.2,SNR=12						
KURK	**Kurchatov**	**48.24**	**304**	P	**P**	**19 36 47.6**	**-0.2**
	comp=Z,1µm,0.8s,SNR=17						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**19 37 00.4**	**+0.8**
	comp=Z,12nm,0.8s,mb5.0,baz=293,slow=7.7,SNR=6.0						
YKA				LR	LR	19 57 03.9	
	comp=Z,1µm,20.0s,MS5.0,baz=225,slow=35						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**19 37 00.4**	**+0.8**
RES	**Resolute Bay**	**50.01**	**19**	*e*P	**P**	**19 37 01.1**	**-0.2**
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**19 37 08.9**	**-1.2**
LSA	**Lhasa**	**51.58**	**274**	*e*P	**P**	**19 37 14.3**	**+1.2**
LSA	**Lhasa**	**51.58**	**274**	*e*P	**P**	**19 37 15.1**	**+2.0**
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**19 37 13.4**	**0.0**
	comp=Z,26nm,0.6s,mb5.4,baz=53,slow=8.4,SNR=12						
BRVK	**Borovoye**	**51.66**	**310**	P	**P**	**19 37 13.3**	**-0.4**
	comp=Z,449nm,0.7s,SNR=7.9						
BRVK	**Borovoye**	**51.66**	**310**	*e*P	**P**	**19 37 12.4**	**-1.4**
KBS	**Kingsbay**	**52.28**	**352**	*e*P	**P**	**19 37 18.5**	**+0.1**
KBS				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5						
KBS	**Kingsbay**	**52.28**	**352**	*e*P	**P**	**19 37 18.5**	**+0.1**
	comp=Z,63nm,0.9s,mb5.5						
ZRNK	**Zerenda**	**52.38**	**310**	*e*P	**P**	**19 37 18.5**	**-0.6**
SPB4	**Spitsbergen Ar**	**52.44**	**350**	*e*P	**P**	**19 37 19.7**	**+0.2**
CHTO	**Chiang Mai**	**53.51**	**258**	*e*P	**P**	**19 37 27.8**	**+0.3**
CM31	**Chiang Mai Arr**	**53.76**	**258**	*e*P	**P**	**19 37 30.5**	**+1.2**
AAK	**Ala-Archa**	**54.84**	**297**	P	**P**	**19 37 36.1**	**-1.0**
	comp=Z,236nm,0.9s,mb6.2,SNR=6.3						
AAK	**Ala-Archa**	**54.84**	**297**	*d* iP	**P**	**19 37 36.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.4						
AAK	**Ala-Archa**	**54.84**	**297**	*e*P	**P**	**19 37 35.9**	**-1.3**
EDM	**Edmonton**	**55.06**	**47**	P	**P**	**19 37 40.0**	**+1.3**
EDM	**Edmonton**	**55.06**	**47**	P	**P**	**19 37 36.7**	**-2.1**
ARU	**Arti**	**55.60**	**318**	P	**P**	**19 37 42.2**	**-0.4**
	comp=Z,638nm,0.8s,SNR=11						
ARU	**Arti**	**55.60**	**318**⇑	*e*P	**P**	**19 37 41.9**	**-0.7**
ARU				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.6						
ARU	**Arti**	**55.60**	**318**	*e*P	**P**	**19 37 42.0**	**-0.6**
KSH	**Kashi**	**55.72**	**293**	*e*P	**P**	**19 37 44.9**	**+1.4**
KSH				*e*AP	pP	19 37 50.3	+0.7
KSH				*e*XP	sP	19 37 53.4	+1.4
KSH				*e*PCP	PcP	19 38 43.8	+1.2
KSH				*e*PP	PP	19 39 51.4	+3.5
KSH				*e*PPP		19 41 05.6	
KSH				*e*SCP	ScP	19 42 42.4	+1.8
KSH				*e*S	**S**	**19 45 29.0**	**0.0**
KSH				*e*XS	sS	19 45 37.8	-1.3
KSH				*e*PS		19 45 47.9	
KSH				*e*SCS	ScS	19 47 30.3	-1.4
KSH				*e*SS	SS	19 49 13.3	-1.1
KSH				LR	LR		
	comp=N,5µm,8.3s						
KSH				LR	LR		
	comp=E,4µm,9.9s						
KSH				LR	LR		
	comp=Z,21µm,23.2s,MS6.2						
JIRN	**Jiri**	**56.24**	**276**	*e*P	**P**	**19 37 48.1**	**+0.9**
	comp=Z,180nm,1.1s,mb6.0						
GUN	**Gumba**	**56.29**	**276**	*e*P	**P**	**19 37 48.1**	**+0.6**
YBH	**Yreka Blue Hor**	**56.37**	**63**	P	**P**	**19 37 49.1**	**+1.0**
	comp=Z,4.0nm,1.0s,mb4.4,baz=261,slow=3.2,SNR=2.4						
PMG	**Port Moresby**	**56.76**	**189**	*e*P	**P**	**19 37 50.1**	**-0.8**
KKN	**Kakani**	**56.77**	**276**	*e*P	**P**	**19 37 51.3**	**+0.3**
	comp=Z,85nm,0.9s,mb5.8						
PKI	**Pulchoki**	**56

APA pmax pmax
comp=Z,90nm,1.2s,mb5.7
APA MLR MLR
comp=Z,6µm,17.0s,MS5.7
ARCES ARCESS Array B 57.89 341 P **P** **19 37 58.9 0.0**
comp=Z,26nm,0.8s,mb5.3,baz=26,slow=6.7,SNR=11
ARE0 ARCESS Array S 57.89 341 *eP* **P** **19 37 58.9 0.0**
KOLN Koldanda 57.92 277 *eP* **P** **19 37 59.6 +0.5**
comp=Z,140nm,1.1s,mb5.9
WVOR Wild Horse Val 58.40 60 P **P** **19 38 01.1 -1.3**
MSO Missoula 58.45 54 P **P** **19 38 03.1 +0.3**
OHCM Honcut 58.55 65 P **P** **19 38 04.4 +0.9**
TMCR Tamitsa 58.58 333 *i* P **P** **19 38 04.1 +0.4**
KTK1 Kautokeino 58.80 342 *eP* **P** **19 38 06.1 +0.8**
KTK1 AMb AMB 19 38 12.4
comp=Z,152nm,1.9s,mb5.7
KTK1 Kautokeino 58.80 342 *eP* **P** **19 38 06.1 +0.8**
comp=Z,152nm,1.9s,mb5.7
TRO Tromso 59.16 344 *eP* **P** **19 38 06.5 -1.2**
TRO AMb AMB 19 38 12.9
comp=Z,101nm,1.6s,mb5.6
TRO Tromso 59.16 344 *eP* **P** **19 38 06.5 -1.2**
comp=Z,101nm,1.6s,mb5.6
AKTK Aktyubinsk 59.43 313 P **P** **19 38 09.9 +0.3**
AKTO Aktyubinsk 59.43 313 P **P** **19 38 09.9 +0.3**
comp=Z,10nm,0.5s,mb5.1,baz=41,slow=12,SNR=8.5
AKTO Aktyubinsk 59.43 313 P **P** **19 38 09.9 +0.3**
AKTO pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KSM Kuching 59.80 235 *eP* **P** **19 38 09.2 -2.9**
EGMT Eagleton 59.97 51 *eP* **P** **19 38 12.1 -1.2**
DLMT Dillon 60.08 54 P **P** **19 38 12.0 -2.1**
HLID Hailey 60.17 57 P **P** **19 38 13.3 -1.4**
SUMG Summit 60.19 5 *eP* **P** **19 38 15.4 +0.7**
ORR Orenburg 60.30 315 *eP* **P** **19 38 15.8 +0.2**
ORR pmax pmax
comp=Z,60nm,0.7s,mb5.7
NVAR Mina Array Bea 61.06 64 P **P** **19 38 19.9 -0.8**
comp=Z,1.0nm,0.6s,baz=289,slow=8.5,SNR=2.5
QLMT Earthquake Lak 61.06 54 P **P** **19 38 20.5 -0.2**
GCMT Greycliff 61.42 53 P **P** **19 38 25.1 +1.9**
YMR Madison River 61.42 54 P **P** **19 38 23.7 +0.5**
comp=Z,72nm,1.4s,mb5.6
MTUM Tungsten Hills 61.58 65 P **P** **19 38 26.7 +2.5**
YFT Old Faithful 61.63 54 P **P** **19 38 25.7 +1.1**
PECR Pechory 61.90 324 *i* P **P** **19 38 26.0 -0.5**
PECR pmax pmax
comp=Z,1µm,4.0s
PECR MLR MLR
comp=E,2µm,16.0s
PECR MLR MLR
comp=Z,7µm,16.0s,MS5.9
IMW Indian Meadow 61.92 55 *eP* **P** **19 38 26.3 -0.3**
FLWY Flagg Ranch 61.94 55 *eP* **P** **19 38 28.3 +1.6**
TPH Tonopah 61.94 63 P **P** **19 38 28.0 +1.3**
RRI2 Red Ridge 62.06 56 *eP* **P** **19 38 27.6 +0.1**
RLMT Red Lodge 62.06 53 P **P** **19 38 28.0 +0.5**
MOOW Moose Ponds 62.12 55 *eP* **P** **19 38 26.3 -1.6**
TPAW Teton Pass 62.17 55 P **P** **19 38 27.1 -1.2**
comp=Z,64nm,1.5s,mb5.5
LOHW Long Hollow 62.29 55 P **P** **19 38 27.3 -1.7**
comp=Z,60nm,1.8s,mb5.4
SNOW Snow King Moun 62.30 55 P **P** **19 38 31.0 +1.9**
REDW Red Top Meadow 62.31 55 *eP* **P** **19 38 27.4 -1.8**
KULM Kulim 62.46 246 *eP* **P** **19 38 30.8 +0.6**
DGMT Dagmar 62.55 47 P **P** **19 38 30.3 -0.5**
LAO LASA Array 62.67 50 P **P** **19 38 32.3 +0.7**
TRCR Troy Canyon 62.76 62 P **P** **19 38 31.9 -0.3**
MOR8 Moi Rana 63.02 343 *eP* **P** **19 38 33.0 -0.9**
HWUT Hardware Ranch 63.03 57 P **P** **19 38 36.2 +2.2**
DUG Dugway 63.22 59 *eP* **P** **19 38 35.0 -0.3**
DUG pmax pmax
comp=Z,16nm,1.0s,mb5.1
DUG Dugway 63.22 59 *eP* **P** **19 38 35.0 -0.3**
comp=Z,16nm,1.1s,mb5.1
PDAR Pinedale Array 63.42 55 P **P** **19 38 38.4 +1.9**
comp=Z,2.2nm,0.8s,mb4.3,baz=282,slow=4.5,SNR=2.7
DAU Daniels Canyon 63.99 58 P **P** **19 38 43.7 +3.4**
MPU Maple Canyon 64.03 59 *eP* **P** **19 38 42.3 +1.7**
FIA1 FINESS Array S 64.22 335 *eP* **P** **19 38 41.1 -0.7**
FINES FINESS Array B 64.22 335 P **P** **19 38 41.5 -0.4**
comp=Z,14nm,0.5s,mb5.3,baz=38,slow=6.2,SNR=15
SFJD Kangerlussuaq 64.50 11 *eP* **P** **19 38 43.6 -0.1**
CCUT Cedar City 64.61 62 P **P** **19 38 45.7 +1.3**
MSU Marysvale 64.69 60 P **P** **19 38 45.8 +0.9**
MOS Moscow 64.84 326 *eP* **P** **19 38 44.8 -1.1**
MOS *i* 19 39 20.7
MOS pmax pmax
comp=Z,223nm,1.8s,mb5.9
MOS pmax pmax
comp=Z,2µm,3.3s
MOS MLR MLR
comp=Z,3µm,16.0s,MS5.6
NSS Namsos 64.96 343 *eP* **P** **19 38 45.3 -1.3**
SRU San Rafael 65.27 59 *eP* **P** **19 38 52.5 +3.8**
ULM Lac du Bonnet 65.33 42 P **P** **19 38 48.4 -0.7**
comp=Z,1.1nm,0.3s,mb4.3,baz=304,slow=12,SNR=2.7
ULM LR LR 20 08 37.1
comp=Z,1µm,18.7s,MS5.1,baz=261,slow=37
ULM Lac du Bonnet 65.33 42 P **P** **19 38 48.4 -0.7**
RSSD Black Hills 65.53 51 *eP* **P** **19 38 48.8 -1.6**
OBN Obninsk 65.71 326 *eP* **P** **19 38 50.0 -1.5**
OBN pmax pmax
comp=Z,118nm,1.4s,mb5.7
OBN Obninsk 65.71 326 *eP* **P** **19 38 50.0 -1.5**
PHWY Pilot Hill 66.67 54 *eP* **P** **19 38 48.5 -9.3**
AGMN Agassiz Refuge 66.72 43 *eP* **P** **19 38 54.5 -3.5**
comp=Z,37nm,1.4s,mb5.2
SMCO Snowmass 67.27 57 *eP* **P** **19 38 52.7 -8.8**
CTA Charters Tower 67.41 189 *eP* **P** **19 39 01.6 -0.8**
comp=Z,11nm,1.2s,mb4.8
CTA Charters Tower 67.41 189 *eP* **P** **19 39 01.6 -0.8**
CTA pmax pmax
comp=Z,11nm,1.2s
CTAO Charters Tower 67.41 189 *eP* **P** **19 39 01.8 -0.6**
CTAO pmax pmax
comp=Z,44nm,1.4s,mb5.3
CTAO Charters Tower 67.41 189 *eP* **P** **19 39 01.8 -0.6**
comp=Z,44nm,1.4s,mb5.3
ISCO Idaho Springs 67.61 55 *eP* **P** **19 39 01.5 -2.2**
MVCO Mesa Verde 67.72 59 P **P** **19 39 06.8 +2.4**
NB2 NORSAR Subarra 68.25 342 P **P** **19 39 07.3 -0.4**
comp=Z,21nm,0.8s,mb5.2,baz=29,slow=6.5
NOA NORSAR Array B 68.25 342 P **P** **19 39 07.8 +0.1**
comp=Z,6.2nm,0.7s,mb4.8,baz=26,slow=6.3,SNR=11
NAO01 NORSAR Array S 68.50 342 *eP* **P** **19 39 10.6 +1.3**
HFS Hagfors 68.52 340 LR LR 20 12 27.8
comp=Z,4µm,18.3s,MS5.7,baz=46,slow=39
EYMN Ely 68.98 41 *eP* **P** **19 39 11.1 -1.2**
WRAB Tennant Creek 69.35 201 P **P** **19 39 12.6 -1.9**
comp=Z,166nm,1.2s,mb5.8,SNR=5.2
WRAB Tennant Creek 69.35 201 *eP* **P** **19 39 12.4 -2.1**
WB2 Warramunga Arr 69.36 201 *eP* **P** **19 39 12.9 -1.7**
WRA Warramunga Arr 69.36 201 P **P** **19 39 13.0 -1.6**
comp=Z,24nm,1.2s,mb5.0,baz=20,slow=6.4,SNR=9.9
WRA LR LR 20 09 30.6
comp=Z,571nm,18.6s,MS4.8,baz=60,slow=36
SUE Sulen 69.49 345 *eP* **P** **19 39 17.4 +2.0**
SUE AMb AMB 19 39 33.0
comp=Z,111nm,1.5s,mb5.6
SUE Sulen 69.49 345 *eP* **P** **19 39 17.4 +2.0**
comp=Z,111nm,1.5s,mb5.6
ECSD EROS,Sioux Fal 69.63 47 *eP* **P** **19 39 14.8 -1.5**
KONO Kongsberg 69.86 342 *eP* **P** **19 39 17.7 0.0**
KONO pmax pmax
comp=Z,48nm,1.1s,mb5.3
KONO Kongsberg 69.86 342 *eP* **P** **19 39 17.6 0.0**
comp=Z,48nm,1.2s,mb5.3
RUND Rundenannen 69.98 345 *eP* **P** **19 39 20.6 +2.1**
FITZ Fitzroy Crossi 70.15 210 *eP* **P** **19 39 20.4 +0.9**
comp=Z,14nm,1.5s,mb4.7
ODD1 Odda 70.21 344 *eP* **P** **19 39 19.7 -0.1**
ODD1 AMb AMB 19 39 31.1
comp=Z,127nm,2.0s,mb5.5
ODD1 Odda 70.21 344 *eP* **P** **19 39 19.7 -0.1**
comp=Z,127nm,2.0s,mb5.5
LAZ Ladron 70.45 60 *eP* **P** **19 39 20.0 -1.3**
ANMO Albuquerque 70.47 60 *eP* **P** **19 39 23.3 +1.8**
BLSS Blasjo 70.70 344 *eP* **P** **19 39 24.4 +1.6**
LENM Lemitar 70.72 60 P **P** **19 39 21.9 -1.0**
SUW Suwalki 71.26 332 *eP* **P** **19 39 25.5 -0.7**
SUW Suwalki 71.26 332 *eP* **P** **19 39 25.5 -0.7**
KIV Kislovodsk 71.45 315 P **P** **19 39 27.8 +0.4**
comp=Z,416nm,0.9s,mb6.4,SNR=7.1
KIV Kislovodsk 71.45 315 *eP* **P** **19 39 26.2 -1.2**
KIV pmax pmax
comp=Z,106nm,1.1s,mb5.7
KIV Kislovodsk 71.45 315 *eP* **P** **19 39 25.0 -2.4**
ZEI Tsey 71.74 314 *eP* **P** **19 39 27.4 -1.8**
ZEI *e**PP pP 19 39 37.4 +2.0
ZEI *e* 19 39 46.8
ZEI pmax pmax
comp=Z,27nm,1.0s,mb5.1
AKASG Malin Array Be 71.93 327 P **P** **19 39 29.7 -0.5**
comp=Z,38nm,0.7s,mb5.4,baz=33,slow=6.1,SNR=19
AKBB Malin Array Si 71.93 327 *eP* **P** **19 39 28.9 -1.4**
KIEV Kiev 71.94 327 *eP* **P** **19 39 27.8 -2.5**
KIEV Kiev 71.94 327 *eP* **P** **19 39 27.3 -3.1**
SCHQ Schefferville 72.40 24 P **P** **19 39 33.8 +0.7**
comp=Z,7.9nm,0.9s,mb4.6,baz=303,slow=6.8,SNR=3.8
SCHQ Schefferville 72.40 24 *eP* **P** **19 39 33.8 +0.7**
SCIA State Center 72.67 47 P **P** **19 39 33.6 -1.1**
AS31 Alice Springs 73.04 200 *eP* **P** **19 39 37.0 +0.1**
ASAR Alice Springs 73.04 200 P **P** **19 39 36.0 -0.9**
comp=Z,41nm,1.2s,mb5.2,baz=10.0,slow=4.7,SNR=14
SOC Sochi 73.14 317 *eP* **P** **19 39 36.3 -1.2**
SOC *e* 19 39 51.7
SOC *e*PPP 19 44 00.4
SOC *e*S S 19 48 59.8 -4.5
SOC *e*SS SS 19 53 45.1 -0.4
SOC pmax pmax
comp=Z,99nm,1.1s,mb5.7
SOC pmax pmax
comp=Z,2µm,4.3s
SOC MLR MLR
comp=Z,5µm,19.0s,MS5.8
ANN Anapa 73.25 319 *eP* **P** **19 39 41.1 +2.9**
ANN pmax pmax
comp=Z,146nm,1.4s,mb5.7
GNI Garni 73.27 311 *eP* **P** **19 39 39.0 +0.8**
GNI pmax pmax
comp=Z,173nm,1.7s
GNI Garni 73.27 311 *eP* **P** **19 39 39.7 +1.5**
MNTX Cornudas Mount 73.40 61 *eP* **P** **19 39 39.1 +0.1**
GKP Gorka Klasztor 73.69 335 *eP* **P** **19 39 43.2 +2.5**
GKP Gorka Klasztor 73.69 335 *eP* **P** **19 39 43.2 +2.5**
PALK Pallekele 74.07 263 *eP* **P** **19 39 43.4 +0.5**
LVV L'vov 74.52 330 *eP* **P** **19 39 48.7 +3.1**
LVV *e* 19 39 58.7
SIM Simferopol' **74.60 321** *eP* **P** **19 39 47.3 +1.3**
SIM pmax pmax
comp=Z,35nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,6µm,17.0s,MS5.9
MBWA Marble Bar 75.09 214 *eP* **P** **19 39 47.1 -1.8**
comp=Z,38nm,1.3s,mb5.2
KIS Kishinev 75.12 325 *eP* **P** **19 39 48.0 -1.0**
KWP Kalwaria 75.14 330 *eP* **P** **19 39 50.0 +0.9**
KWP Kalwaria 75.14 330 *eP* **P** **19 39 50.0 +0.9**
OJC Ojcow 75.59 332 *eP* **P** **19 39 51.5 -0.2**
STHS Stebnicka Huta 75.81 331 *eP* **P** **19 39 52.7 -0.3**
STHS pmax pmax
comp=Z,71nm,1.4s,mb5.4
STHS Stebnicka Huta 75.81 331 *eP* **P** **19 39 52.7 -0.3**
comp=Z,70nm,1.4s,mb5.4
KOLS Kolonicke sedl 75.88 330 *eP* **P** **19 39 53.1 -0.3**
BURAR Bucovina Array 75.96 328 *i* P **P** **19 39 54.3 +0.4**
KSP Ksiaz 76.11 335 *eP* **P** **19 39 55.5 +0.8**
KSP L 20 14 37.7
comp=Z,11nm,19.0s
KSP Ksiaz 76.11 335 *eP* **P** **19 39 53.3 -1.4**
KSP *e*pP pP 19 39 57.1 -3.9
KSP *e* 19 40 09.0
LTX Lajitas 76.12 62 *eP* **P** **19 39 54.2 -0.6**
TXAR Lajitas Array 76.12 62 P **P** **19 39 54.2 -0.6**
comp=Z,3.8nm,0.7s,mb4.4,baz=292,slow=5.1,SNR=5.3
UZH Uzhgorod 76.13 330 *eP* **P** **19 39 56.8 +2.0**
OKC Ostrava-Krasne 76.44 333 *eP* **P** **19 39 56.5 -0.1**
OKC *e*pP pP 19 40 05.4 +2.5
OKC AMS AMS 20 16 00.0
comp=Z,4µm,19.9s
OKC Ostrava-Krasne 76.44 333 *eP* **P** **19 39 56.5 -0.1**
OKC *e* 19 40 05.4
UPC Upice 76.49 335 *eP* **P** **19 39 57.1 +0.2**
DPC Dobruska-Polom 76.54 334 *eP* **P** **19 39 57.4 +0.3**
DPC *e*pP pP 19 40 06.6 +3.1
DPC AMS AMS 20 14 40.0
comp=Z,6µm,18.7s
DPC Dobruska-Polom 76.54 334 *eP* **P** **19 39 57.4 +0.3**
DPC *e* 19 40 06.6
CLL Collm 76.62 337 *i* P **P** **19 39 57.2 -0.4**
CLL *i* 19 40 00.2
CLL *i* 19 40 12.2
CLL pmax pmax
comp=Z,28nm,1.1s,mb5.1
CLL Collm 76.62 337 *i* P **P** **19 39 57.2 -0.4**
comp=Z,28nm,1.1s,mb5.1
CLL *i* Pmax 19 40 00.2
comp=Z,121nm,1.2s
CLL *i* pP pP 19 40 12.2 +8.3
MORC Moravsky Berou 76.68 333 *i* P **P** **19 39 58.9 +1.0**
MORC Moravsky Berou 76.68 333 *eP* **P** **19 39 58.1 +0.1**
BRG Berggiesshubel 76.76 336 *i* P **P** **19 39 58.5 +0.1**
comp=Z,15nm,1.0s,mb4.9
BRG *e* 19 40 12.7
comp=Z,28nm,1.1s
KECS Kecovo 76.87 331 *eP* **P** **19 39 59.2 +0.2**
KECS pmax pmax
comp=Z,22nm,1.1s,mb5.0
KECS Kecovo 76.87 331 *eP* **P** **19 39 59.2 +0.2**
comp=Z,22nm,1.1s,mb5.0
CFR Carcaliu 76.89 325 *i* P **P** **19 40 01.2 +2.1**
CFR Carcaliu 76.89 325 P **P** **19 40 01.2 +2.1**
PVCC Panska Ves 76.89 335 *eP* **P** **19 39 59.5 +0.4**
PVCC AMS AMS 20 14 50.0
comp=Z,5µm,18.0s
PLOR Plostina 76.91 326 *i* P **P** **19 40 02.3 +3.1**
MSL Mosul 77.02 310 *i* x x 19 40 01.0
HARR Harsova 77.37 324 *i* P **P** **19 40 04.5 +2.7**
HARR Harsova 77.37 324 P **P** **19 40 04.5 +2.7**
TIRR Tirgusor 77.37 324 *i* P **P** **19 40 02.2 +0.4**
TIRR Tirgusor 77.37 324 *eP* **P** **19 40 01.9 0.0**
PRU Pruhonice 77.38 335 *eP* **P** **19 40 01.8 -0.1**
PRU *e*pP pP 19 40 10.4 +2.2
PRU AMS AMS 20 15 00.0
comp=Z,4µm,18.9s
PRU Pruhonice 77.38 335 *eP* **P** **19 40 01.8 -0.1**
PRU *e* 19 40 10.4
VRAC Vranov 77.38 334 *i* P **P** **19 40 05.5 +3.6**
VRAC Vranov 77.38 334 P **P** **19 40 05.5 +3.6**
VYHS Vyhne 77.40 332 *eP* **P** **19 40 01.8 -0.2**
VYHS pmax pmax
comp=Z,120nm,2.2s,mb5.4
VYHS Vyhne 77.40 332 *eP* **P** **19 40 01.8 -0.2**
comp=Z,120nm,2.2s,mb5.4
MLR Muntele Rosu 77.48 326 *i* P **P** **19 40 03.8 +1.4**
MLR Muntele Rosu 77.48 326 P **P** **19 40 03.8 +1.4**
PSZ Piszkesteto 77.56 331 *i* P **P** **19 40 04.1 +1.2**
PSZ Piszkesteto 77.56 331 *eP* **P** **19 40 02.8 -0.1**
DRGR 77.56 329 *i* P **P** **19 40 02.7 -0.2**
DRGR 77.56 329 P **P** **19 40 02.7 -0.2**
MOX Moxa 77.60 337 *eP* **P** **19 40 06.0 +2.9**
comp=Z,87nm,1.5s,mb5.5
NKC Novy Kostel 77.75 336 *eP* **P** **19 40 05.0 +1.1**
SNX Sinaia 77.75 326 *i* P **P** **19 40 05.8 +1.8**
SNX Sinaia 77.75 326 P **P** **19 40 05.8 +1.9**
SMOL Smolenice 77.83 333 *eP* **P** **19 40 05.3 +0.9**
MALT Malatya 77.83 314 *i* P **P** **19 40 06.3 +1.9**
MALT Malatya 77.83 314 *eP* **P** **19 40 06.0 +1.6**
SIUC Southern Illin 77.85 47 *eP* **P** **19 40 03.9 -0.6**
VOIR 77.86 327 *i* P **P** **19 40 05.4 +0.8**
VOIR 77.86 327 P **P** **19 40 05.4 +0.9**
MTUR Matau 78.03 326 *i* P **P** **19 40 09.1 +3.6**
MTUR Matau 78.03 326 P **P** **19 40 09.1 +3.6**
ZST Bratislava 78.21 333 *eP* **P** **19 40 06.8 +0.3**
ZST *e*PCP PcP 19 40 22.5 +6.6
ZST Bratislava 78.21 333 *eP* **P** **19 40 06.9 +0.4**
ZST *e* 19 40 22.5
ZST pmax pmax
comp=Z,34nm,1.2s,mb5.2
ZST Bratislava 78.21 333 *eP* **P** **19 40 06.9 +0.4**
comp=Z,34nm,1.2s,mb5.2
ZST *e* 19 40 22.5
USIN University of 78.42 46 P **P** **19 40 09.8 +2.2**
KHC Kasperske Hory 78.43 335 *eP* **P** **19 40 08.1 +0.4**
KHC *e*pP pP 19 40 16.9 +2.9
KHC AMS AMS 20 15 20.0
comp=Z,6µm,18.0s
KHC Kasperske Hory 78.43 335 *eP* **P** **19 40 08.1 +0.4**
KHC *e* 19 40 16.9
GRA1 Grafenberg Arr 78.57 337 *eP* **P** **19 40 08.5 0.0**
comp=Z,94nm,1.2s,mb5.6
GRA1 *e* pP 19 40 13.9 -0.9
GRA1 *e* 19 40 24.0
GRF Grafenberg Arr 78.57 337 *eP* **P** **19 40 08.5 0.0**
comp=Z,94nm,1.2s,mb5.6
GRF *e* pP 19 40 13.9 -0.9
GRF *e* 19 40 24.0
GRF Grafenberg Arr 78.57 337 *eP* **P** **19 40 08.5 0.0**
GRF *e* pP 19 40 13.9 -0.9
GRF pmax pmax
comp=Z,94nm,1.2s,mb5.6
GRFO Grafenberg 78.57 337 *eP* **P** **19 40 09.4 +0.9**
GEC2 GERESS Array S 78.65 335 *eP* **P** **19 40 08.5 -0.4**
GERES GERESS Array B 78.65 335 P **P** **19 40 08.4 -0.6**
comp=Z,5.9nm,0.6s,mb4.7,baz=38,slow=5.0,SNR=8.8
LONY Lake Ozonia 78.69 34 P **P** **19 40 08.5 -0.6**
DLF Lyons Farm 78.69 349 *i* P **P** **19 40 04.2 -5.0**
GZR Gura Zlata 78.74 328 *i* P **P** **19 40 09.8 +0.4**
GZR Gura Zlata 78.74 328 P **P** **19 40 09.8 +0.4**
DCN Croghan 78.74 349 *i* P **P** **19 40 06.7 -2.7**
PRD Provadia 78.83 324 *i* P **P** **19 40 09.0 -0.9**
CONA Conrad Observa 78.83 333 *i* P **P** **19 40 11.2 +1.2**
comp=Z,53nm,1.2s,mb5.3
WCI Wyandotte Cave 78.88 45 *eP* **P** **19 40 07.7 -2.5**
BEBN Eben Emael 78.91 341 E **P** **19 40 13.6 +3.2**
BZS Buzias 78.96 329 *i* P **P** **19 40 10.8 +0.2**
BZS Buzias 78.96 329 P **P** **19 40 10.8 +0.2**
BR131 Keskin Array S 78.99 318 *eP* **P** **19 40 10.7 -0.1**
BRTR Keskin Array B 78.99 318 P **P** **19 40 11.4 +0.6**
comp=Z,20nm,0.8s,mb5.1,baz=74,slow=4.3,SNR=13
MEM Membach 79.01 341 P **P** **19 40 10.0 -0.9**
comp=Z,33nm,0.9s,mb5.3
MEM AP pP 19 40 14.0 -3.3
MEM E 19 40 26.6
UCC Uccle 79.20 342 AP pP 19 40 15.2 -3.1
ANTO Ankara 79.25 319 *i* P **P** **19 40 13.3 +1.1**
ANTO Ankara 79.25 319 *eP* **P** **19 40 13.3 +1.1**
ANTO pmax pmax
comp=Z,25nm,0.7s,mb5.2
ANTO Ankara 79.25 319 *eP* **P** **19 40 13.3 +1.1**
comp=Z,25nm,0.7s,mb5.2
BCLA Clavier 79.35 341 P **P** **19 40 13.1 +0.3**
comp=Z,23nm,1.0s,mb5.1
BCLA AP pP 19 40 16.1 -2.9
BCLA XP sP 19 40 18.0 -3.4
PKSM Moragy 79.47 331 *i* P **P** **19 40 13.0 -0.4**
PKSM Moragy 79.47 331 P **P** **19 40 13.0 -0.4**
SNF Seneffe 79.49 342 P **P** **19 40 12.8 -0.7**
comp=Z,12nm,0.7s,mb4.9
SNF E pP 19 40 16.8 -3.0
ARSA Arzberg 79.54 333 *i* P **P** **19 40 14.6 +0.8**
comp=Z,34nm,1.3s,mb5.1
UMR Umm Al-Rimmam 79.54 302 *eP* **P** **19 40 14.1 +0.3**
UMR AMb AMB 19 40 19.3
comp=Z,130nm,1.0s,mb5.8
MIB Mutribah 79.57 303 AMb AMB 19 40 19.4
comp=Z,152nm,0.9s,mb5.9
STKA Stephens Creek 79.61 192 P **P** **19 40 12.6 -1.6**
comp=Z,5.6nm,0.9s,mb4.5,baz=338,slow=15,SNR=3.5
STKA Stephens Creek 79.61 192 *eP* **P** **19 40 12.2 -1.9**
GIVF Givet 79.75 341 *eP* **P** **19 40 14.6 -0.4**
JMB Yambol 79.77 324 *eP* **P** **19 40 14.8 -0.3**
WVT Waverly 79.78 47 *eP* **P** **19 40 14.0 -1.1**
DOU Dourbes 79.81 341 AP pP 19 40 18.6 -3.0
KBD Kabd 79.84 302 *eP* **P** **19 40 15.7 +0.3**
KBD AMb AMB 19 40 21.1
comp=Z,330nm,0.9s,mb6.2
WLF Walferdange 79.86 340 E **P** **19 40 16.6 +1.0**
WLF Walferdange 79.86 340 P **P** **19 40 13.7 -1.8**
BAIF Baives 79.93 341 *eP* **P** **19 40 15.4 -0.5**
comp=Z,41nm,1.0s,mb5.0
BAIF Baives 79.93 341 *eP* **P** **19 40 15.4 -0.5**
BAIF pmax pmax
comp=Z,20nm,1.0s,mb5.0
BAIF Baives 79.93 341 *eP* **P** **19 40 15.4 -0.5**
comp=Z,20nm,1.0s,mb5.0
STU Stuttgart 79.95 338 *eP* **P** **19 40 15.9 -0.1**
STU pmax pmax
comp=Z,24nm,1.0s,mb5.1
STU Stuttgart 79.95 338 *eP* **P** **19 40 15.9 -0.1**
comp=Z,24nm,1.0s,mb5.1
NAY Al-Naaiem 80.04 302 *eP* **P** **19 40 16.3 -0.2**
NAY AMb AMB 19 40 22.0
comp=Z,84nm,1.0s,mb5.6
RDF Al-Radifah 80.11 302 *eP* **P** **19 40 16.8 -0.1**
RDF AMb AMB 19 40 22.8
comp=Z,167nm,0.8s,mb6.0
KBA Koelnbreinsper 80.35 335 *i* P **P** **19 40 19.3 +1.1**
comp=Z,127nm,0.8s,mb5.8,SNR=13
OBKA Obir 80.50 334 *i* P **P** **19 40 22.6 +3.6**
OBKA Obir 80.50 334 P **P** **19 40 18.7 -0.3**
BFO Black Forest 80.58 338 *eP* **P** **19 40 18.4 -1.0**
WATA Walderalm 80.62 336 *i* P **P** **19 40 24.2 +4.6**
SNR=6.4
WATA Walderalm 80.62 336 P **P** **19 40 20.7 +1.1**
SNR=6.4
PGB Panagyurishte 80.65 326 *i* P **P** **19 40 25.0 +5.2**
SSPA Standing Stone 80.72 38 *eP* **P** **19 40 19.0 -1.1**
comp=Z,7.6nm,0.9s,mb4.6
MOTA Moosalm 80.75 336 *i* D **P** **19 40 21.4 +1.1**
SNR=15
MOTA Moosalm 80.75 336 D **P** **19 40 21.4 +1.1**
SNR=15
CDF Champ du Feu 80.76 339 *eP* **P** **19 40 20.3 -0.1**
comp=Z,117nm,1.3s,mb5.3
CDF Champ du Feu 80.76 339 *eP* **P** **19 40 20.3 -0.1**
CDF pmax pmax
comp=Z,59nm,1.3s,mb5.4
CDF Champ du Feu 80.76 339 *eP* **P** **19 40 20.3 -0.1**
comp=Z,59nm,1.3s,mb5.3
GRUS Gruza 80.78 328 *i* P **P** **19 40 19.6 -0.8**
PLD Plovdiv 80.82 325 *i* P **P** **19 40 25.2 +4.5**
SQTA Sankt Quirin 80.83 336 *i* P **P** **19 40 25.5 +4.7**
SNR=8.6
SQTA Sankt Quirin 80.83 336 P **P** **19 40 21.9 +1.2**
SNR=8.6
DIVS Divcibare 80.86 329 *i* P **P** **19 40 20.1 -0.8**
DIVS Divcibare 80.86 329 *eP* **P** **19 40 19.6 -1.3**
PTCC Patocco-Chiusa 80.96 334 P **P** **19 40 24.3 +2.9**
VTS Vitosha 80.98 326 *eP* **P** **19 40 21.9 +0.3**
VTS Vitosha 80.98 326 P **P** **19 40 21.9 +0.3**
VTS Vitosha 80.98 326 *i* P **P** **19 40 21.0 -0.6**
GMNA Gemona 81.11 334 *i* P **P** **19 40 21.8 -0.4**
VOY Vojsko 81.13 334 *eP* **P** **19 40 24.2 +1.8**
DAVA Damuels 81.13 337 *i* P **P** **19 40 26.8 +4.4**
SNR=7.4
DAVA Damuels 81.13 337 *i* P **P** **19 40 23.2 +0.9**
SNR=7.4
MEZF Maizieres J'vi 81.21 340 *eP* **P** **19 40 22.6 -0.2**
ALN Alexandroupoli 81.31 323 *eP* **P** **19 40 21.9 -1.4**
HAU Haudompre 81.37 339 *eP* **P** **19 40 23.2 -0.4**
comp=Z,127nm,1.3s,mb5.4
HAU Haudompre 81.37 339 *eP* **P** **19 40 23.2 -0.4**
HAU pmax pmax
comp=Z,63nm,1.3s,mb5.4
HAU Haudompre 81.37 339 *eP* **P** **19 40 23.2 -0.4**
comp=Z,64nm,1.3s,mb5.4
HINF Hinteralfeld 81.42 339 *eP* **P** **19 40 23.3 -0.6**
MMB Musomiste 81.64 325 *i* P **P** **19 40 24.0 -1.1**
KKB Krupnik 81.65 326 *i* P **P** **19 40 26.7 +1.6**
BRMO Bormio 81.74 336 P **P** **19 40 26.1 +0.5**
SRS Serrai 82.09 325 *eP* **P** **19 40 26.9 -0.5**
FLN La Foliniere 82.12 344 *eP* **P** **19 40 27.4 -0.2**
comp=Z,161nm,1.2s,mb5.5
FLN La Foliniere 82.12 344 *eP* **P** **19 40 27.4 -0.2**
FLN pmax pmax
comp=Z,81nm,1.2s,mb5.5
FLN La Foliniere 82.12 344 *eP* **P** **19 40 27.4 -0.2**
comp=Z,80nm,1.2s,mb5.5
LDF La Druitiere 82.21 344 *eP* **P** **19 40 27.9 -0.2**
VAY Valandovo 82.31 326 *i* P **P** **19 40 28.6 0.0**
KNT Kendrikon 82.33 326 *eP* **P** **19 40 27.9 -0.7**
LOS Limnos 82.51 324 *eP* **P** **19 40 29.0 -0.7**
GRR Gorron 82.55 344 *eP* **P** **19 40 29.9 +0.1**
LOR Lormes 82.64 341 *eP* **P** **19 40 30.1 -0.2**
comp=Z,178nm,1.3s,mb5.6
LOR Lormes 82.64 341 *eP* **P** **19 40 30.1 -0.2**
LOR pmax pmax
comp=Z,89nm,1.3s,mb5.6
LOR Lormes 82.64 341 *eP* **P** **19 40 30.1 -0.2**

comp=Z,89nm,1.3s,mb5.6
GRG Griva 82.69 326 *e*P **P 19 40 30.0 -0.6**
HORT Hortiatis 82.73 325 *e*P **P 19 40 31.5 +0.7**
CABF La Chapelle 82.73 339 *e*P **P 19 40 31.0 +0.2**
comp=Z,245nm,1.7s,mb5.7
CABF La Chapelle 82.73 339 *e*P **P 19 40 31.0 +0.2**
CABF pmax pmax
comp=Z,123nm,1.7s,mb5.7
CABF La Chapelle 82.73 339 *e*P **P 19 40 31.0 +0.2**
comp=Z,122nm,1.7s,mb5.7
THE Thessaloniki 82.75 325 *e*P **P 19 40 30.0 -0.9**
KRUS Krusevo 82.77 327 *i* P **P 19 40 34.5 +3.5**
PLG Polygyros 82.79 325 *e*P **P 19 40 32.0 +0.9**
SSF Saint Saulge 82.91 341 *e*P **P 19 40 31.5 -0.2**
comp=Z,48nm,0.8s,mb5.2
SSF Saint Saulge 82.91 341 *e*P **P 19 40 31.5 -0.2**
SSF pmax pmax
comp=Z,24nm,0.8s,mb5.3
SSF Saint Saulge 82.91 341 *e*P **P 19 40 31.5 -0.2**
comp=Z,24nm,0.8s,mb5.3
SGMF Saint Gilles 82.98 345 *e*P **P 19 40 32.7 +0.6**
comp=Z,70nm,0.7s,mb5.5
SGMF Saint Gilles 82.98 345 *e*P **P 19 40 32.7 +0.6**
SGMF pmax pmax
comp=Z,35nm,0.7s,mb5.5
SGMF Saint Gilles 82.98 345 *e*P **P 19 40 32.7 +0.6**
comp=Z,35nm,0.7s,mb5.5
ROSF Rostrenen 83.03 346 *e*P **P 19 40 32.4 +0.1**
comp=Z,371nm,1.5s,mb5.9
ROSF Rostrenen 83.03 346 *e*P **P 19 40 32.4 +0.1**
ROSF pmax pmax
comp=Z,186nm,1.5s,mb5.9
ROSF Rostrenen 83.03 346 *e*P **P 19 40 32.4 +0.1**
comp=Z,186nm,1.5s,mb5.9
PAIG Paliouri 83.08 324 *e*P **P 19 40 31.7 -0.9**
OHR Ohrid 83.17 327 *e*P **P 19 40 34.0 +1.0**
OHR Ohrid 83.17 327 *e*P **P 19 40 37.1 +4.1**
AVF Avril sur Loir 83.20 341 *e*P **P 19 40 33.1 -0.1**
comp=Z,78nm,0.9s,mb5.4
AVF Avril sur Loir 83.20 341 *e*P **P 19 40 33.1 -0.1**
AVF pmax pmax
comp=Z,39nm,0.9s,mb5.4
AVF Avril sur Loir 83.20 341 *e*P **P 19 40 33.1 -0.1**
comp=Z,39nm,0.9s,mb5.4
SMF Signal de Mont 83.23 340 *e*P **P 19 40 33.3 -0.1**
comp=Z,298nm,1.3s,mb5.9
SMF Signal de Mont 83.23 340 *e*P **P 19 40 33.3 -0.1**
SMF pmax pmax
comp=Z,149nm,1.3s,mb5.9
SMF Signal de Mont 83.23 340 *e*P **P 19 40 33.3 -0.1**
comp=Z,149nm,1.3s,mb5.9
FNA Florina 83.23 326 *e*P **P 19 40 35.3 +1.9**
LIT Litokhoron 83.40 325 *e*P **P 19 40 32.3 -2.0**
QUIF Quistinic 83.42 345 *e*P **P 19 40 34.7 +0.4**
BGF Bois d'Agland 83.54 341 *e*P **P 19 40 35.0 +0.1**
comp=Z,41nm,0.8s,mb5.3
BGF Bois d'Agland 83.54 341 *e*P **P 19 40 35.0 +0.1**
BGF pmax pmax
comp=Z,20nm,0.8s,mb5.3
BGF Bois d'Agland 83.54 341 *e*P **P 19 40 35.0 +0.1**
comp=Z,20nm,0.8s,mb5.3
LPL La Plagne 83.59 338 *e*P **P 19 40 36.1 +0.9**
comp=Z,59nm,0.6s,mb5.6
LPL La Plagne 83.59 338 *e*P **P 19 40 36.1 +0.9**
LPL pmax pmax
comp=Z,29nm,0.6s,mb5.6
LPL La Plagne 83.59 338 *e*P **P 19 40 36.1 +0.9**
comp=Z,30nm,0.6s,mb5.6
LPG La Plagne 83.61 338 *e*P **P 19 40 36.2 +0.9**
comp=Z,80nm,0.7s,mb5.7
LPG La Plagne 83.61 338 *e*P **P 19 40 36.2 +0.9**
LPG pmax pmax
comp=Z,40nm,0.7s,mb5.7
LPG La Plagne 83.61 338 *e*P **P 19 40 36.2 +0.9**
comp=Z,40nm,0.7s,mb5.7
XOR Xorichti 83.75 324 *e*P **P 19 40 35.0 -1.0**
VLC Villacollemand 83.87 335 *e*P **P 19 40 37.8 +1.1**
comp=Z,34nm,0.8s,mb5.5
BDI Bagni Di Lucca 83.89 335 P **P 19 40 38.8 +2.0**
SNTG Esanatoglia 83.93 333 P **P 19 40 37.7 +0.7**
TCF Toulx Ste Croi 83.93 341 *e*P **P 19 40 36.9 -0.1**
comp=Z,43nm,0.8s,mb5.3
TCF Toulx Ste Croi 83.93 341 *e*P **P 19 40 36.9 -0.1**
TCF pmax pmax
comp=Z,22nm,0.8s,mb5.3
TCF Toulx Ste Croi 83.93 341 *e*P **P 19 40 36.9 -0.1**
comp=Z,22nm,0.8s,mb5.3
BNI Bardonecchia 84.04 338 *e*P **P 19 40 37.9 +0.4**
MFF Saint Martin d 84.12 343 *e*P **P 19 40 38.0 +0.1**
comp=Z,50nm,0.8s,mb5.4
MFF Saint Martin d 84.12 343 *e*P **P 19 40 38.0 +0.1**
MFF pmax pmax
comp=Z,25nm,0.8s,mb5.4
MFF Saint Martin d 84.12 343 *e*P **P 19 40 38.0 +0.1**
comp=Z,25nm,0.8s,mb5.4
CSNT Castellina Chi 84.23 334 P **P 19 40 38.6 +0.1**
MBDF Montbardon 84.32 338 *e*P **P 19 40 39.1 +0.2**
comp=Z,35nm,0.6s,mb5.4
MBDF Montbardon 84.32 338 *e*P **P 19 40 39.1 +0.2**
MBDF pmax pmax
comp=Z,18nm,0.6s,mb5.4
MBDF Montbardon 84.32 338 *e*P **P 19 40 39.1 +0.2**
comp=Z,18nm,0.6s,mb5.4
FGMS Monte Sant'Ang 84.36 330 P **P 19 40 38.9 -0.2**
ORIF Oris-en-Rattie 84.37 339 *e*P **P 19 40 39.8 +0.6**
comp=Z,114nm,0.9s,mb5.7
ORIF Oris-en-Rattie 84.37 339 *e*P **P 19 40 39.8 +0.6**
ORIF pmax pmax
comp=Z,57nm,0.9s,mb5.7
ORIF Oris-en-Rattie 84.37 339 *e*P **P 19 40 39.8 +0.6**
comp=Z,57nm,0.9s,mb5.7
AGG Agios Georgios 84.39 325 *e*P **P 19 40 34.5 -4.7**
DOI San Damiano 84.41 337 P **P 19 40 42.5 +3.1**
AQU L'Aquila 84.61 332 ⇑*i*P **P 19 40 43.8 +3.4**
AQU L'Aquila 84.61 332 *e*P **P 19 40 39.9 -0.5**
AQU pmax pmax
comp=Z,83nm,1.0s,mb5.8
AQU L'Aquila 84.61 332 ⇑⇑P **P 19 40 43.8 +3.4**
VIVF Saint-Julien-l 84.72 339 *e*P **P 19 40 41.4 +0.4**
comp=Z,141nm,1.3s,mb5.6
VIVF Saint-Julien-l 84.72 339 *e*P **P 19 40 41.4 +0.4**
VIVF pmax pmax
comp=Z,71nm,1.3s,mb5.6
VIVF Saint-Julien-l 84.72 339 *e*P **P 19 40 41.4 +0.4**
comp=Z,71nm,1.3s,mb5.6
IMI Imperia 84.79 337 P **P 19 40 41.7 +0.4**
LCI Lecce 84.83 328 P **P 19 40 44.8 +3.3**
SBF Sospel 84.95 337 *e*P **P 19 40 41.6 -0.5**
comp=Z,117nm,0.9s,mb5.7
SBF Sospel 84.95 337 *e*P **P 19 40 41.6 -0.5**
SBF pmax pmax
comp=Z,58nm,0.9s,mb5.7
SBF Sospel 84.95 337 *e*P **P 19 40 41.6 -0.5**
comp=Z,58nm,0.9s,mb5.7
FG4 Candela 85.02 331 P **P 19 40 43.0 +0.6**
RJF Les Rejaudoux 85.02 342 *e*P **P 19 40 42.5 0.0**
comp=Z,71nm,1.0s,mb5.5
RJF Les Rejaudoux 85.02 342 *e*P **P 19 40 42.5 0.0**
RJF pmax pmax
comp=Z,35nm,1.0s,mb5.4
RJF Les Rejaudoux 85.02 342 *e*P **P 19 40 42.5 0.0**
comp=Z,36nm,1.0s,mb5.5
CAF Calviac 85.26 341 *e*P **P 19 40 43.6 -0.1**
comp=Z,145nm,1.2s,mb5.7
CAF Calviac 85.26 341 *e*P **P 19 40 43.6 -0.1**
CAF pmax pmax
comp=Z,72nm,1.2s,mb5.7
CAF Calviac 85.26 341 *e*P **P 19 40 43.6 -0.1**
comp=Z,72nm,1.2s,mb5.7
LKD Levkas 85.31 326 *e*P **P 19 40 40.6 -3.3**
SMRF Simiane la Rot 85.33 338 *e*P **P 19 40 44.7 +0.7**
RFI Roccamonfina 85.37 332 P **P 19 40 45.9 +1.7**
FRF La Foret Royal 85.44 338 *e*P **P 19 40 44.3 -0.3**
comp=Z,43nm,1.1s,mb5.2
FRF La Foret Royal 85.44 338 *e*P **P 19 40 44.3 -0.3**
FRF pmax pmax
comp=Z,21nm,1.1s,mb5.2
FRF La Foret Royal 85.44 338 *e*P **P 19 40 44.3 -0.3**
comp=Z,21nm,1.1s,mb5.2
LFF La Frestale 85.53 342 *e*P **P 19 40 44.9 -0.1**
comp=Z,85nm,0.8s,mb5.7
LFF La Frestale 85.53 342 *e*P **P 19 40 44.9 -0.1**
LFF pmax pmax
comp=Z,43nm,0.8s,mb5.7
LFF La Frestale 85.53 342 *e*P **P 19 40 44.9 -0.1**
comp=Z,43nm,0.8s,mb5.7
LASF Ste Croix 85.65 340 *e*P **P 19 40 46.0 +0.4**
comp=Z,144nm,1.3s,mb5.8
LMR La Mourre 85.69 338 *e*P **P 19 40 45.9 +0.1**
comp=Z,94nm,0.9s,mb5.7
LMR La Mourre 85.69 338 *e*P **P 19 40 45.9 +0.1**
LMR pmax pmax
comp=Z,47nm,0.9s,mb5.7
LMR La Mourre 85.69 338 *e*P **P 19 40 45.9 +0.1**
comp=Z,47nm,0.9s,mb5.7
PGF Pioggiola 85.74 336 *e*P **P 19 40 45.7 -0.4**
comp=Z,49nm,0.9s,mb5.4
PGF Pioggiola 85.74 336 *e*P **P 19 40 45.7 -0.4**
PGF pmax pmax
comp=Z,25nm,0.9s,mb5.4
PGF Pioggiola 85.74 336 *e*P **P 19 40 45.7 -0.4**
comp=Z,24nm,0.9s,mb5.4
TIP Timpagrande 86.33 329 *e*P **P 19 40 49.0 0.0**
EIL Elat 86.44 311 *e*P **P 19 40 47.9 -1.6**
NWAO Narrogin (SRO) 86.69 211 *e*P **P 19 40 49.6 -1.1**
NWAO pmax pmax
comp=Z,18nm,0.9s
NWAO Narrogin (SRO) 86.69 211 *e*P **P 19 40 49.6 -1.2**
comp=Z,18nm,0.9s,mb5.3
MTLF Montolieu 86.73 341 *e*P **P 19 40 50.7 -0.2**
comp=Z,36nm,1.0s,mb5.3
MTLF Montolieu 86.73 341 *e*P **P 19 40 50.7 -0.2**
MTLF pmax pmax
comp=Z,18nm,1.0s,mb5.3
MTLF Montolieu 86.73 341 *e*P **P 19 40 50.7 -0.2**
comp=Z,18nm,1.0s,mb5.3
EPF Esparros 87.44 342 *e*P **P 19 40 53.2 -1.2**
comp=Z,24nm,0.8s,mb5.2
EPF Esparros 87.44 342 *e*P **P 19 40 53.2 -1.2**
EPF pmax pmax
comp=Z,12nm,0.8s,mb5.2
EPF Esparros 87.44 342 *e*P **P 19 40 53.2 -1.2**
comp=Z,12nm,0.8s,mb5.2
SJPF Ste Jean 87.69 343 *e*P **P 19 40 55.1 -0.5**
comp=Z,21nm,0.9s,mb5.1
SJPF Ste Jean 87.69 343 *e*P **P 19 40 55.1 -0.5**
SJPF pmax pmax
comp=Z,11nm,0.9s,mb5.1
SJPF Ste Jean 87.69 343 *e*P **P 19 40 55.1 -0.5**
comp=Z,11nm,0.9s,mb5.1
ETSF Etsaut 87.76 342 *e*P **P 19 40 56.0 +0.1**
comp=Z,18nm,0.6s,mb5.2
ETSF Etsaut 87.76 342 *e*P **P 19 40 56.0 +0.1**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
ETSF Etsaut 87.76 342 *e*P **P 19 40 56.0 +0.1**
comp=Z,8.9nm,0.6s,mb5.2
VSL Villasalto 88.45 334 *e*P **P 19 41 03.8 +4.6**
comp=Z,51nm,1.2s,mb5.6
ESDC Sonseca Array 91.54 344 P **P 19 41 13.0 -0.6**
comp=Z,0.2nm,0.3s,baz=292,slow=11,SNR=3.8
KEST Kesra 91.93 333 P **P 19 41 15.8 +0.4**
comp=Z,1.5nm,0.8s,mb4.4,baz=348,slow=4.1,SNR=2.7
EVO Evora 93.35 347 *e*P **P 19 41 20.6 -1.4**
comp=Z,97nm,1.4s,mb5.7
TORD Torodi Ar. Bea 115.40 331 PKP PKPdf 19 46 47.9 -0.8
comp=Z,2.2nm,0.8s,baz=79,slow=2.2,SNR=4.4
TORD PKKPbc PKKPbc 19 57 23.6 +1.2
comp=Z,0.6nm,0.9s,baz=142,slow=1.2,SNR=2.9
TORD PKKPab PKKPab 19 57 33.1 +5.2
comp=Z,0.3nm,0.5s,baz=178,slow=1.7,SNR=4.0
LIC Lamto 123.99 336 *e*PKIKP PKPdf 19 47 03.5 -1.7
comp=Z,16nm,0.9s
VNDA Vanda 124.48 178 PKP PKPdf 19 47 03.2 -2.9
comp=Z,2.8nm,0.9s,baz=319,slow=4.6,SNR=7.2
VNDA Vanda 124.48 178 PKIKP PKPdf 19 47 03.2 -2.9
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 124.48 178 *e*PKPdf PKPdf 19 47 02.7 -3.4
SBA Scott Base 124.95 177 *e*PKIKP PKPdf 19 47 04.7 -2.3
SAML Samuel 129.97 53 *e*PKPdf PKPdf 19 47 14.9 -1.7
LPAZ La Paz 132.96 64 PKP PKPdf 19 47 22.9 +0.7
comp=Z,5.2nm,0.8s,baz=52,slow=3.5,SNR=6.7
LPAZ La Paz 132.96 64 PKIKP PKPdf 19 47 23.0 +0.7
LPAZ pmax pmax
comp=Z,5.0nm,0.8s
LPAZ La Paz 132.96 64 *e*PKPdf PKPdf 19 47 22.1 -0.2
MAW Mawson 133.25 212 PKP PKPdf 19 47 19.6 -3.2
comp=Z,3.8nm,1.0s,baz=79,slow=5.2,SNR=3.6
MAW Mawson 133.25 212 *e*PKPdf PKPdf 19 47 19.6 -3.2
LBTB Lobatse 134.50 281 PKIKP PKPdf 19 47 18.9 -6.2
QSPA South Pole Qui 136.90 180 *e*PKPdf PKPdf 19 47 27.0 -2.6
BOSA Boshof 137.08 277 PKP PKPdf 19 47 27.1 -2.9
comp=Z,4.4nm,0.9s,baz=35,slow=6.2,SNR=2.9
LVC Limon Verde 137.16 71 *e*PKPdf PKPdf 19 47 28.3 -1.8
CFAA Coronel Fontan 143.61 80 PKP PKPdf 19 47 38.5 -3.3
comp=Z,1.0nm,0.7s,baz=229,slow=3.3,SNR=3.5
NVL N'lazarevskaya 150.56 204 *e*PKIKP PKPdf 19 47 56.1 +2.8
NVL pmax pmax
comp=Z,45nm,1.5s
TRQA Tornquist 151.49 85 *e*PKPdf PKPdf 19 47 54.5 -0.3
SNAA Sanae 153.32 195 PKPbc PKPbc 19 48 03.4 -1.6
comp=Z,1.6nm,0.9s,baz=120,slow=4.2,SNR=3.4
SNAA PKPab PKPab 19 48 14.6 -2.4
comp=Z,7.7nm,1.1s,baz=90,slow=3.2,SNR=4.7
SNAA Sanae 153.32 195 *e*PKPdf PKPdf 19 47 55.5 -2.0
SNAA *e* 19 48 01.2
SNAA *e* 19 48 13.6
SNAA *e* 19 48 17.7
SNAA Sanae 153.32 195 PKIKP PKPbc 19 48 03.4 -1.6
SNAA 19 48 14.6
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 153.32 195 *e*PKPbc PKPbc 19 48 01.8 -3.2
VNA2 Neumayer--Watz 154.73 193 *e*PKPdf PKPdf 19 47 58.7 -0.8
VNA2 *e* 19 48 20.3
VNA2 *e* 19 48 23.6
VNA3 Neumayer Olymp 154.78 192 *e*PKPdf PKPdf 19 47 57.3 -2.2
VNA3 *e* 19 48 20.3
VNA3 *e* 19 48 23.6
VNA1 Neumayer--Stat 155.11 193 *e*PKPdf PKPdf 19 47 56.8 -3.2
VNA1 *e* 19 48 24.0

BJI ***15*** *19:33:12.0, 47.25N×155.02E, h8km, mb4.4*
NEIC ***15*** *19:33:13.6±0.8, 47.02N×155.13E, h10km, mb4.7/12, Error ellipse: s-maj=19.4km s-min=15.8km az=141.0*
IDC ***15*** *19:33:17.7±0.8, 46.98N×155.13E, h42km±5km, mb4.1/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.1/17, ML3.7/1, Error ellipse: s-maj=18.1km s-min=15.4km az=112.0*
MOS ***15*** *19:33:19.4±1.9, 47.00N×154.34E, h40km, mb4.9/16, Error ellipse: s-maj=13.3km s-min=7.7km az=107.3*
ISCJB ***15*** *19:33:20.5±0.9, 47.0N×154.2E×02, h42km, mb4.5/33, Error ellipse: s-maj=23.4km s-min=7.8km az=101.1*
ISC 15 19:33:21.1±0.8, 46.9N×154.0E, h44km, h44km±1.0km:pP-P, n94, σ1.57/95, mb4.5/33, 14C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.90**	**16**	*e*PN		**Pn**	**19 34 13.0**	**-5.5**
KUR	**Kuril'sk**	**4.88**	**252**	*i* PN		**Pn**	**19 34 30.0**	**-1.9**
KUR				*i* S		**Sn**	**19 35 28.0**	**+1.0**
KUR				pmax	pmax			
KUR	comp=Z,140nm,0.6s			smax				
KUR	comp=N,2μm,0.5s			smax				
KUR	comp=E,110nm,0.5s			smax				
ASAJ	**Asahikawa**	**8.78**	**256**	P		**Pn**	**19 35 27.8**	**+2.4**
	comp=E,0.9nm,0.3s,baz=88,slow=16,SNR=3.9							
ASAJ	**Asahikawa**	**8.78**	**256**	PN		**Pn**	**19 35 27.8**	**+2.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.93**	**235**	P		**Pn**	**19 37 00.2**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=5.0							
KSRS	**Korea Array**	**21.72**	**254**	P		**P**	**19 38 11.3**	**+2.9**
	comp=Z,5.7nm,0.8s,mb4.0,baz=54,slow=10,SNR=7.1							
TIXI	**Tiksi**	**27.54**	**343**	*e*P		**P**	**19 38 58.6**	**-5.0**
TIXI				pmax	pmax			
	comp=Z,23nm,1.6s,mb4.6							
TIXI	**Tiksi**	**27.54**	**343**	*e*P		**P**	**19 38 58.5**	**-5.1**
	comp=Z,23nm,1.6s,mb4.6							
SONM	**Songino Array**	**32.12**	**290**	P		**P**	**19 39 43.7**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.8,baz=74,slow=11,SNR=2.8							
LZH	**Lanzhou**	**38.78**	**272**	*e*P		**P**	**19 40 43.1**	**+1.8**
LZH				AP		pP	19 40 46.5	-6.9
LZH				XP		sP	19 40 49.3	-9.3
LZH				AMB		AMB		
	comp=Z,16nm,0.9s,mb4.8							
LZH	**Lanzhou**	**38.78**	**272**	*e*P		**P**	**19 40 43.1**	**+1.8**
	comp=Z,16nm,0.9s,mb4.8							
LZH				pP		pP	19 40 46.5	-6.9
LZH				sP		sP	19 40 49.2	-9.4
INK	**Inuvik**	**41.00**	**33**	P		**P**	**19 40 54.5**	**-5.3**
	comp=Z,7.1nm,0.8s,mb4.3,baz=303,slow=5.5,SNR=11							
INK	**Inuvik**	**41.00**	**33**	P		**P**	**19 40 54.5**	**-5.3**
ZAL	**Zalesovo**	**43.25**	**306**	P		**P**	**19 41 16.5**	**-1.5**
	comp=Z,4.0nm,0.7s,mb4.2,baz=38,slow=9.4,SNR=5.6							
NVS	**Novosibirsk**	**43.79**	**308**	*e*P		**P**	**19 41 20.2**	**-2.2**
NVS				pmax	pmax			
	comp=Z,18nm,1.0s,mb4.8							
NVS				pmax	pmax			
	comp=N,14nm,1.3s							
NVS				pmax	pmax			
	comp=E,21nm,1.0s							
MK31	**Makanchi Array**	**47.65**	**298**	*e*P		**P**	**19 41 51.1**	**-1.8**
MKAR	**Makanchi Array**	**47.65**	**298**	P		**P**	**19 41 51.9**	**-1.0**
	comp=E,4.2nm,0.7s,mb4.6,baz=67,slow=8.3,SNR=7.8							
MKAR				pP		pP	19 42 04.2	-1.0
	comp=E,3.4nm,0.6s,baz=70,slow=6.5,SNR=5.6							
MKAR	**Makanchi Array**	**47.65**	**298**	P		**P**	**19 41 51.9**	**-1.0**
MKAR				pP		pP	19 42 04.2	-1.0
CHKZ	**Chkalovo**	**51.00**	**310**	*e*P		**P**	**19 42 16.1**	**-2.3**
CHKZ				*e*		pP	19 42 28.2	-2.6
LSA	**Lhasa**	**51.16**	**274**	*e*P		**P**	**19 42 22.5**	**+2.8**
LSA				pmax	pmax			
	comp=Z,14nm,1.3s,mb4.7							
LSA	**Lhasa**	**51.16**	**274**	*e*P		**P**	**19 42 22.5**	**+2.9**
	comp=Z,14nm,1.3s,mb4.8							
BVAR	**Borovoye Array**	**51.43**	**310**	P		**P**	**19 42 20.2**	**-1.4**
	comp=Z,6.0nm,0.6s,mb4.7,baz=56,slow=7.6,SNR=14							
BVAR				pP		pP	19 42 32.5	-1.6
	comp=Z,4.5nm,0.5s,baz=54,slow=7.4,SNR=5.7							
BRVK	**Borovoye**	**51.47**	**310**	*e*P		**P**	**19 42 19.6**	**-2.4**
CHTO	**Chiang Mai**	**53.04**	**258**	*e*P		**P**	**19 42 35.4**	**+1.8**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
CHTO	**Chiang Mai**	**53.04**	**258**	*e*P		**P**	**19 42 35.4**	**+1.7**
	comp=Z,3.3nm,0.8s,mb4.3							
KEV	**Kevo**	**57.46**	**341**	*e*p		**P**	**19 43 02.1**	**-3.3**
	comp=Z,1.1nm,0.4s,mb4.2							
KEV	**Kevo**	**57.46**	**341**	*e*P		**P**	**19 43 02.1**	**-3.3**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**57.97**	**341**	P		**P**	**19 43 06.0**	**-2.9**
	comp=Z,5.8nm,0.8s,mb4.7,baz=34,slow=7.4,SNR=14							
AKTK	**Aktyubinsk**	**59.27**	**312**	P		**P**	**19 43 17.0**	**-1.0**
AKTK				pP		pP	19 43 28.9	-1.8
AKTO	**Aktyubinsk**	**59.27**	**312**	P		**P**	**19 43 17.0**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=58,slow=10,SNR=5.0							
AKTO				pP		pP	19 43 28.9	-1.8
	comp=Z,2.3nm,0.5s,baz=56,slow=10,SNR=2.8							
AKTO	**Aktyubinsk**	**59.27**	**312**	P		**P**	**19 43 17.0**	**-1.1**
AKTO				*PP		pP	19 43 28.9	-1.8
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
FINES	**FINESS Array B**	**64.25**	**335**	P		**P**	**19 43 48.5**	**-3.0**
	comp=Z,2.8nm,0.4s,mb4.6,baz=36,slow=7.8,SNR=13							
FINES				pP		pP	19 44 01.2	-3.1
	comp=Z,3.5nm,0.4s,baz=37,slow=8.2,SNR=4.5							
ULM	**Lac du Bonnet**	**65.78**	**42**	P		**P**	**19 43 54.5**	**-7.0**
	comp=Z,0.7nm,0.3s,mb4.1,baz=27,slow=4.5,SNR=2.9							
NB2	**NORSAR Subarra**	**68.33**	**342**	P		**P**	**19 44 15.8**	**-1.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.33**	**342**	P		**P**	**19 44 16.1**	**-1.6**
	comp=Z,2.7nm,0.9s,mb4.3,baz=26,slow=6.5,SNR=4.2							
WRA	**Warrnunga Arr**	**69.00**	**200**	P		**P**	**19 44 19.4**	**-2.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=22,slow=6.9,SNR=6.6							
AKASG	**Malin Array Be**	**71.88**	**327**	P		**P**	**19 44 37.0**	**-2.5**
	comp=Z,4.6nm,0.7s,mb4.5,baz=32,slow=6.2,SNR=6.7							
AKASG				pP		pP	19 44 49.1	-3.3
	comp=Z,2.6nm,0.5s,baz=33,slow=6.0,SNR=6.3							
ASAR	**Alice Springs**	**72.69**	**200**	P		**P**	**19 44 42.6**	**-1.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=15,slow=5.8,SNR=14							
ASAR				pP		pP	19 44 54.8	-2.5
	comp=Z,1.6nm,0.8s,baz=14,slow=5.8,SNR=5.4							
STHS	**Stebnicka Huta**	**75.80**	**331**	*e*P		**P**	**19 45 03.3**	**+0.9**
STHS				pmax	pmax			
	comp=Z,14nm,1.6s,mb4.6							
STHS	**Stebnicka Huta**	**75.80**	**331**	*e*P		**P**	**19 45 03.3**	**+0.9**
	comp=Z,14nm,1.6s,mb4.6							
KOLS	**Kolonicke sedl**	**75.86**	**330**	*e*P		**P**	**19 45 02.2**	**-0.5**
BURAR	**Bucovina Array**	**75.92**	**327**	⇑*i*P		**P**	**19 45 03.6**	**+0.5**
BURAR	**Bucovina Array**	**75.92**	**327**	⇑P		**P**	**19 45 03.6**	**+0.5**
OKC	**Ostrava-Krasne**	**76.44**	**333**	*e*P		**P**	**19 45 04.2**	**-1.8**
OKC				*e*PCP		PcP	19 45 14.5	-3.1
UPC	**Upice**	**76.51**	**334**	*e*P		**P**	**19 45 06.9**	**+0.5**
UPC				*e*PCP		PcP	19 45 17.1	-0.8
DPC	**Dobruska-Polom**	**76.55**	**334**	*e*P		**P**	**19 45 07.5**	**+0.8**
DPC				*ex*		x	19 45 19.3	
TXAR	**Lajitas Array**	**76.61**	**61**	P		**P**	**19 45 00.9**	**-6.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=319,slow=4.0,SNR=3.8							
CLL	**Collm**	**76.66**	**336**	⇓*i*P		**P**	**19 45 07.3**	**0.0**
CLL				*i*		pP	19 45 19.5	-0.8
CLL				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
CLL	**Collm**	**76.66**	**336**	*e*P		**P**	**19 45 05.0**	**-2.3**
CLL				⇓*i*Pmax			19 45 07.3	
	comp=Z,15nm,0.9s							
CLL				*i* pP		pP	19 45 19.5	-0.8
	comp=Z,19nm,1.0s							
MORC	**Moravsky Berou**	**76.69**	**333**	⇑*i*P		**P**	**19 45 08.4**	**+1.0**
VRI	**Vrincioaia**	**76.81**	**325**	⇓*i*P		**P**	**19 45 13.2**	**+5.1**
VRI	**Vrincioaia**	**76.81**	**325**	⇓P		**P**	**19 45 13.2**	**+5.1**
KECS	**Kecovo**	**76.86**	**331**	*e*P		**P**	**19 45 07.8**	**-0.6**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
KECS	**Kecovo**	**76.86**	**331**	*e*P		**P**	**19 45 07.8**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2							
PVCC	**Panska Ves**	**76.91**	**335**	*e*P		**P**	**19 45 08.3**	**-0.4**
PVCC				*e*PCP		PcP	19 45 20.8	+1.1
TIRR	**Tirgusor**	**77.30**	**324**	⇓*i*P		**P**	**19 45 11.5**	**+0.6**
TIRR	**Tirgusor**	**77.30**	**324**	⇓P		**P**	**19 45 11.5**	**+0.7**
VRAC	**Vranov**	**77.39**	**333**	⇑*i*P		**P**	**19 45 12.7**	**+1.3**
VYHS	**Vyhne**	**77.39**	**332**	*e*P		**P**	**19 45 11.9**	**+0.5**
PRU	**Pruhonice**	**77.40**	**335**	*e*P		**P**	**19 45 11.6**	**+0.2**
PRU				*ex*		x	19 45 23.8	
MLR	**Muntele Rosu**	**77.42**	**326**	⇓*i*P		**P**	**19 45 13.1**	**+1.6**
MLR	**Muntele Rosu**	**77.42**	**326**	⇓P		**P**	**19 45 13.1**	**+1.6**
VOIR		**77.81**	**326**	⇑*i*P		**P**	**19 45 14.4**	**+0.7**
VOIR		**77.81**	**326**	⇑P		**P**	**19 45 14.4**	**+0.7**
ZST	**Bratislava**	**78.21**	**332**	*e*P		**P**	**19 45 17.7**	**+1.8**
ZST				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
ZST	**Bratislava**	**78.21**	**332**	*e*P		**P**	**19 45 17.7**	**+1.8**
	comp=Z,5.3nm,0.9s,mb4.5							
KHC	**Kasperske Hory**	**78.45**	**335**	*e*P		**P**	**19 45 16.6**	**-0.7**
KHC				*ex*		x	19 45 30.4	
GERES	**GERESS Array B**	**78.67**	**335**	P		**P**	**19 45 19.1**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=36,slow=5.4,SNR=6.2							
GERES				pP		pP	19 45 31.5	-0.1
	comp=Z,1.8nm,0.8s,baz=31,slow=6.2,SNR=5.3							
GERES	**GERESS Array B**	**78.67**	**335**	P		**P**	**19 45 19.1**	**+0.6**
GERES				*PP		pP	19 45 31.5	-

VTS	**Vitosha**	**80.92**	**326**	⇑P	**P**	**19 45 32.3 +1.7**
GRR	**Gorron**	**82.64**	**344**	*e*P	**P**	**19 45 41.5 +1.8**
SMF	**Signal de Mont**	**83.30**	**340**	*e*P	**P**	**19 45 44.8 +1.7**
	comp=Z,28nm,1.0s,mb4.9					
SMF	**Signal de Mont**	**83.30**	**340**	*e*P	**P**	**19 45 44.8 +1.7**
SMF				pmax	pmax	
	comp=Z,14nm,1.0s,mb5.0					
SMF	**Signal de Mont**	**83.30**	**340**	*e*P	**P**	**19 45 44.8 +1.7**
	comp=Z,14nm,1.0s,mb5.0					
LPG	**La Plagne**	**83.65**	**338**	*e*P	**P**	**19 45 47.4 +2.5**
	comp=Z,18nm,0.8s,mb5.0					
LPG	**La Plagne**	**83.65**	**338**	*e*P	**P**	**19 45 47.4 +2.5**
LPG				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb5.0					
LPG	**La Plagne**	**83.65**	**338**	*e*P	**P**	**19 45 47.4 +2.5**
	comp=Z,8.8nm,0.8s,mb4.9					
CAF	**Calviac**	**85.33**	**341**	*e*P	**P**	**19 45 55.2 +1.8**
	comp=Z,8.0nm,0.6s,mb4.7					
CAF	**Calviac**	**85.33**	**341**	*e*P	**P**	**19 45 55.2 +1.8**
CAF				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.7					
CAF	**Calviac**	**85.33**	**341**	*e*P	**P**	**19 45 55.2 +1.8**
	comp=Z,4.0nm,0.6s,mb4.7					
TIP	**Timpagrande**	**86.30**	**328**	P	**P**	**19 45 55.6 -2.6**

*ISCJB **15** 19:34:13.4±0.7, 46°25.9'N±0.01'×015°47.6'E±0.1, h10km, mb4.2/14, Error ellipse: s-maj=16.2km s-min=11.7km az=96.1*
*IDC **15** 19:34:13.8±0.7, 46°29.9'N×15°47.7'E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=22.0km s-min=18.8km az=149.0*
*NEIC **15** 19:34:15.6±0.7, 46°31.1'N×15°48.2'E, h10km, mb4.7/2, Error ellipse: s-maj=19.7km s-min=16.9km az=166.0*
*MOS **15** 19:34:20.3±2.3, 46°16.1'N×15°51.1'E, h59km, mb4.9/3, Error ellipse: s-maj=22.8km s-min=14.2km az=91.8*

ISC 15 19:34:15.5±0.7, 46°35.5'N±0.1'×015°08.1'E±0.1, h10km, n26, σ0s98/26, mb4.2/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.43**	**11**	*e*PN	**Pb**	**19 35 33.5**	**+0.1**
ASAJ	**Asahikawa**	**8.87**	**260**	Pn	**Pn**	**19 36 24.6**	**+0.8**
	1.2nm,0.3s,baz=91,slow=14,SNR=3.0						
ASAJ	**Asahikawa**	**8.87**	**260**	PN	**Pn**	**19 36 24.6**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**41.38**	**32**	P	**P**	**19 42 01.0**	**-0.8**
	comp=Z,1.9nm,0.7s,mb3.9,baz=284,slow=5.3,SNR=2.3						
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**19 42 54.6**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=71,slow=9.1,SNR=3.7						
LSA	**Lhasa**	**51.44**	**275**	*e*P	**P**	**19 43 24.4**	**+3.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**51.44**	**275**	*e*P	**P**	**19 43 24.4**	**+3.7**
	comp=Z,7.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**19 43 20.7**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**19 43 20.7**	**-1.0**
	comp=Z,6.0nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**19 43 23.7**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=76,slow=12,SNR=3.7						
KEV	**Kevo**	**58.10**	**341**	*e*p	**P**	**19 44 08.2**	**-0.8**
AKTK	**Aktyubinsk**	**59.84**	**313**	P	**P**	**19 44 21.2**	**0.0**
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**19 44 21.2**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.4,baz=82,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**19 44 21.2**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**61.61**	**63**	P	**P**	**19 44 33.9**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=292,slow=7.7						
PDAR	**Pinedale Array**	**64.06**	**55**	P	**P**	**19 44 49.4**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=310,slow=2.5,SNR=4.3						
FINES	**FINESS Array B**	**64.89**	**336**	P	**P**	**19 44 54.7**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.5,baz=40,slow=8.6,SNR=6.5						
WRA	**Warramunga Arr**	**68.52**	**201**	P	**P**	**19 45 16.5**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=15,slow=6.2,SNR=4.3						
NB2	**NORSAR Subarra**	**68.97**	**342**	P	**P**	**19 45 22.4**	**+1.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.97**	**342**	P	**P**	**19 45 22.2**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=25,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**68.97**	**342**	P	**P**	**19 45 22.2**	**+1.3**
ASAR	**Alice Springs**	**72.20**	**200**	P	**P**	**19 45 41.2**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=16,slow=6.1,SNR=9.1						
TXAR	**Lajitas Array**	**76.69**	**62**	P	**P**	**19 46 06.7**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.2,baz=302,slow=4.3,SNR=6.8						
TXAR	**Lajitas Array**	**76.69**	**62**	P	**P**	**19 46 06.7**	**0.0**
CLL	**Collm**	**77.30**	**337**	*e*(P)	**P**	**19 46 13.0**	**+2.9**
GERES	**GERESS Array B**	**79.31**	**335**	P	**P**	**19 46 22.1**	**+0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=24,slow=2.7,SNR=2.9						

*ISCJB **15** 19:35:27.6±0.9, 46°8.0'N±0.1'×015°29.1'E±0.2, h10km, mb4.2/13, Error ellipse: s-maj=23.5km s-min=12.8km az=119.5*
*IDC **15** 19:35:28.0±0.9, 46°38.8'N×153°02.2', h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/24, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=26.3km s-min=19.8km az=149.0*
*NEIC **15** 19:35:29.0±0.7, 46°8.1'N×153.11'E, h10km, mb4.9/3, Error ellipse: s-maj=20.3km s-min=16.4km az=9.0*

ISC 15 19:35:29.4±0.8, 46°9.0'N±0.1'×153°0.8'E±0.2, h10km, n21, σ0s75/21, mb4.2/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.79**	**253**	Pn	**Pn**	**19 37 23.0**	**+0.2**
	1.4nm,0.3s,baz=97,slow=17,SNR=2.5						
KSRS	**Korea Array**	**20.74**	**252**	P	**P**	**19 40 09.0**	**-1.2**
	3.1nm,0.8s,baz=58,slow=9.7,SNR=4.4						
LZH	**Lanzhou**	**37.78**	**272**	*e*P	**P**	**19 42 45.9**	**+0.2**
	23nm,0.8s,mb5.0						
LZH				pP	pP	19 42 50.2	+1.5
LZH				sP	sP	19 42 52.1	+2.1
INK	**Inuvik**	**41.58**	**32**	P	**P**	**19 43 17.8**	**+0.5**
	1.7nm,0.7s,mb3.8,baz=262,slow=4.5,SNR=2.5						
INK	**Inuvik**	**41.58**	**32**	*e*P	**P**	**19 43 17.5**	**+0.2**
	26nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**46.78**	**297**	P	**P**	**19 43 58.6**	**-0.4**
	2.6nm,0.8s,mb4.2,baz=68,slow=7.0,SNR=4.1						
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**19 44 28.2**	**-0.8**
	1.2nm,0.6s,mb4.0,baz=55,slow=7.9,SNR=3.2						
BRVK	**Borovoye**	**50.72**	**309**	P	**P**	**19 44 29.0**	**-0.3**
	3.5nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**57.68**	**341**	P	**P**	**19 45 20.1**	**+0.2**
	2.9nm,0.8s,mb4.4,baz=20,slow=8.0,SNR=4.3						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**19 46 02.4**	**+0.3**
	1.6nm,0.5s,mb4.3,baz=38,slow=6.4,SNR=5.5						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**19 46 02.4**	**+0.3**
PDAR	**Pinedale Array**	**64.74**	**54**	P	**P**	**19 46 07.2**	**-0.7**
	0.8nm,0.7s,mb3.9,baz=280,slow=1.0,SNR=4.2						
NB2	**NORSAR Subarra**	**68.05**	**341**	P	**P**	**19 46 29.3**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**19 46 29.4**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.5,SNR=4.3						
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**19 46 29.4**	**+0.3**
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**19 46 49.2**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.7,baz=34,slow=6.3,SNR=9.7						
ASAR	**Alice Springs**	**72.32**	**198**	P	**P**	**19 46 56.5**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=54,slow=9.7,SNR=8.5						
CLL	**Collm**	**76.29**	**335**	*e*P	**P**	**19 47 19.0**	**+0.7**
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**19 47 23.9**	**-1.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=304,slow=4.6,SNR=6.3						
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**19 47 23.9**	**-1.3**
GERES	**GERESS Array B**	**78.28**	**334**	P	**P**	**19 47 31.0**	**+1.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=29,slow=4.5,SNR=4.0						

*IDC **15** 19:37:00.4±0.5, 46°48.9'N×154°38.3'E, h0km, mb4.4/23, mb1 4.6/25, mb1mx4.6/28, mbtmp4.4/25, ML4.2/2, MS4.5/1, Ms1 4.5/1, ms1mx3.5/57, Error ellipse: s-maj=15.6km s-min=12.8km az=132.0*
*ISCJB **15** 19:37:00.7±0.3, 46°47.1'N±0.006'×154°45.4'E±0.006, h10km, mb4.8/69, MS4.8/3, Error ellipse: s-maj=9.5km s-min=4.8km az=136.5*
*NEIC **15** 19:37:02.5±0.3, 46°51.1'N×154°46.6'E, h10km, mb5.0/29, Error ellipse: s-maj=8.5km s-min=5.1km az=169.0*
*MOS **15** 19:37:02.7±1.2, 46°41.1'N×154°72.2'E, h25km, mb5.2/28, Error ellipse: s-maj=9.3km s-min=7.1km az=107.6*
*BJI **15** 19:37:03.7, 46°28.2'N×154°32.2'E, h10km, mB5.4, mb4.9, Ms5.3, Ms2.5.0*
*SZGRF **15** 19:37:13.0, 47°41.1'N×153°01.2', h33km, mb5.2, Kuril Islands, Russia*

ISC 15 19:37:02.6±0.3, 46°55.5'N±0.06'×154°38.3'E±0.06', h10km,

(h17km±1.9km: pP-P), n165, σ19.04/162, mb4.8/69, MS4.8/3, 12C-15D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.22**	**11**	*e*PN	**Pn**	**19 38 10.9**	**+3.9**
KUR	**Kuril'sk**	**5.04**	**257**	*e*PN	**Pn**	**19 38 14.5**	**-3.7**
KUR				pmax	pmax		
	comp=N,100nm,0.6s						
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.81**	**252**	*e*PN	**Pn**	**19 38 41.7**	**-0.8**
YUK				pmax	pmax		
	comp=Z,360nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.31**	**277**	⇑*e*PN	**Pn**	**19 39 05.2**	**+2.1**
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.31**	**277**	*e*P	**Pn**	**19 39 04.7**	**+1.6**
ASAJ	**Asahikawa**	**8.96**	**259**	Pn	**Pn**	**19 39 11.9**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=104,slow=13,SNR=10						
ASAJ	**Asahikawa**	**8.96**	**259**	PN	**Pn**	**19 39 11.9**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KLR	**Kul'dur**	**15.70**	**288**	*e*P	**Pn**	**19 40 41.7**	**-2.1**
MJAR	**Matsushiro Arr**	**15.94**	**237**	Pn	**Pn**	**19 40 43.6**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=37,slow=10,SNR=9.0						
MAT	**Matsushiro**	**15.94**	**237**	P	**Pn**	**19 40 45.3**	**-1.6**
CN2	**Changchun**	**20.84**	**273**	*e*P	**P**	**19 41 41.8**	**-2.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**21.88**	**255**	P	**P**	**19 41 56.4**	**+0.8**
	comp=Z,18nm,0.9s,mb4.5,baz=54,slow=11,SNR=16						
BILL	**Bilibino**	**22.34**	**11**	⇑*i*P	**P**	**19 42 01.2**	**+0.7**
BILL				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.1						
BILL	**Bilibino**	**22.34**	**11**	*e*P	**P**	**19 41 59.8**	**-0.7**
SNY	**Shenyang**	**22.82**	**269**	⇑P	**P**	**19 42 04.5**	**-1.1**
SNY				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.6						
DL2	**Dalian**	**25.42**	**265**	P	**P**	**19 42 31.8**	**+1.5**
DL2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
BOD	**Bodaibo**	**27.03**	**310**	*e*P	**P**	**19 42 42.2**	**-2.7**
BOD				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.3						
BJI	**Beijing**	**28.66**	**271**	*e*P	**P**	**19 42 59.8**	**+0.3**
BJI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
BJI	**Beijing**	**28.66**	**271**	*e*P	**P**	**19 42 59.7**	**+0.2**
BJI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
BJI	**Beijing**	**28.66**	**271**	*e*P	**P**	**19 42 59.7**	**+0.2**
	comp=Z,21nm,1.0s,mb4.8						
BJT	**Baijiatuau**	**28.68**	**271**	*e*P	**P**	**19 42 59.8**	**+0.2**
BJT				pmax	pmax		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuau**	**28.68**	**271**	*e*P	**P**	**19 42 59.8**	**+0.2**
	comp=Z,20nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**31.49**	**275**	*e*P	**P**	**19 43 24.8**	**+0.3**
HHC				AP	pP	19 43 29.3	+1.7
HHC				PP	PP	19 44 28.6	-7.0
HHC				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,2μm,11.8s						
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**19 43 32.2**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=71,slow=7.8,SNR=4.2						
ZAK	**Zakamensk**	**33.84**	**296**	*e*P	**P**	**19 43 43.6**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
COLA	**College**	**35.56**	**38**	*e*P	**P**	**19 43 59.9**	**0.0**
COLA				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
COLA	**College**	**35.56**	**38**	*e*P	**P**	**19 43 59.9**	**0.0**
	comp=Z,12nm,1.3s,mb4.7						
XAN	**Xi'an**	**36.68**	**267**	P	**P**	**19 44 09.6**	**0.0**
LZH	**Lanzhou**	**39.08**	**273**	⇓P	**P**	**19 44 31.5**	**+1.7**
LZH				AP	pP	19 44 37.3	+4.4
LZH				XP	sP	19 44 39.8	+5.6
LZH				PP	PP	19 46 02.1	+2.7
LZH				AMB	AMB		
	comp=Z,77nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,330nm,4.6s						
LZH				LR	LR		
	comp=E,2μm,14.6s						
LZH				LR	LR		
	comp=Z,3μm,15.3s,MS5.2						
LZH	**Lanzhou**	**39.08**	**273**	⇓P	**P**	**19 44 31.5**	**+1.7**
LZH				*PP	pP	19 44 37.2	+4.3
LZH				*SP	sP	19 44 39.8	+5.6
LZH						19 46 02.1	
LZH				*e*S	**S**	**19 50 30.5**	**+1.3**
LZH				*e*SS	SS	19 53 14.5	-7.0
LZH				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,15.3s,MS5.2						
LZH	**Lanzhou**	**39.08**	**273**	⇓P	**P**	**19 44 31.5**	**+1.7**
	comp=Z,77nm,1.4s,mb5.2						
LZH				pP	pP	19 44 37.2	+4.3
LZH				sP	sP	19 44 39.8	+5.6
LZH				PP	PP	19 46 02.1	+2.7
LZH				*e*S	**S**	**19 50 30.5**	**+1.3**
LZH				sS	sS	19 50 37.5	+3.2
LZH				*e*SS	SS	19 53 14.5	-7.0
LZH				LR	LR		
	comp=Z,3μm,15.3s,MS5.2						
GTA	**Gaotai**	**40.17**	**280**	*e*P	**P**	**19 44 39.8**	**+0.9**
INK	**Inuvik**	**41.19**	**32**	P	**P**	**19 44 47.2**	**0.0**
	comp=Z,4.5nm,0.7s,mb4.2,baz=299,slow=4.9,SNR=13						
INK	**Inuvik**	**41.19**	**32**	P	**P**	**19 44 47.2**	**0.0**
CD2	**Chengdu**	**42.05**	**267**	P	**P**	**19 44 54.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
GYA	**Guiyang**	**42.84**	**259**	⇑*i*P	**P**	**19 45 01.1**	**+0.4**
GYA				AP	pP	19 45 05.6	+1.7
GYA				XP	sP	19 45 08.1	+3.0
GYA				PP	PP	19 46 42.5	+2.4
GYA				PCP	PcP	19 46 54.3	+2.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,540nm,17.3s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,17.8s,MS4.6						
GYA				LR	LR		
	comp=Z,490nm,17.6s,MS4.5						
ZAL	**Zalesovo**	**43.70**	**306**	P	**P**	**19 45 06.2**	**-1.5**
	comp=Z,2.0nm,0.6s,mb4.0,baz=23,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**48.08**	**298**	P	**P**	**19 45 41.6**	**-0.7**
	comp=Z,8.4nm,0.9s,mb4.8,baz=68,slow=6.3,SNR=13						
MKAR				PcP	PcP	19 47 09.4	-0.6
	comp=Z,1.5nm,0.8s,baz=61,slow=2.1,SNR=3.9						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**19 45 58.9**	**-0.9**
	comp=Z,5.5nm,0.6s,mb4.8,baz=294,slow=7.1,SNR=9.2						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**19 45 58.9**	**-0.9**
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P	**P**	**19 46 07.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,27nm,0.5s,mb5.4						
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P	**P**	**19 46 07.2**	**-0.8**
	comp=Z,27nm,0.5s,mb5.4						
LSA	**Lhasa**	**51.47**	**274**	*e*P	**P**	**19 46 10.3**	**+2.2**
LSA				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
LSA	**Lhasa**	**51.47**	**274**	*e*P	**P**	**19 46 10.2**	**+2.1**
	comp=Z,21nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**19 46 11.0**	**-0.3**
	comp=Z,8.7nm,0.6s,mb4.9,baz=53,slow=7.4,SNR=34						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**19 46 11.3**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**19 46 11.3**	**-0.3**
	comp=Z,12nm,0.6s,mb5.0						
ZRNK	**Zerenda**	**52.66**	**311**	*e*P	**P**	**19 46 16.6**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**52.66**	**311**	*e*P	**P**	**19 46 16.6**	**-0.4**
	comp=Z,18nm,0.8s,mb5.0						
SPB4	**Spitsbergen Ar**	**53.02**	**350**	*e*P	**P**	**19 46 19.1**	**-0.5**
CHTO	**Chiang Mai**	**53.23**	**258**	*e*P	**P**	**19 46 21.8**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,52nm,1.9s,mb5.1						
CHTO	**Chiang Mai**	**53.23**	**258**	*e*P	**P**	**19 46 21.8**	**+0.6**
	comp=Z,52nm,1.9s,mb5.1						
TKM2	**Tokmak 2**	**54.15**	**297**	P	**P**	**19 46 29.0**	**+1.1**
	SNR=6.1						
USP	**Ospenovka**	**54.63**	**298**	P	**P**	**19 46 32.1**	**+0.7**
	SNR=19						
KBK	**Karagaybulak**	**54.69**	**297**	P	**P**	**19 46 32.9**	**+1.1**
	SNR=10						
AAK	**Ala-Archa**	**54.98**	**297**	P	**P**	**19 46 34.9**	**+0.9**
	SNR=7.9						
AAK	**Ala-Archa**	**54.98**	**297**	*e*P	**P**	**19 46 33.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**54.98**	**297**	*e*P	**P**	**19 46 33.7**	**-0.3**
	comp=Z,17nm,1.0s,mb5.0						
EKS2	**Erkin-Say**	**55.41**	**298**	P	**P**	**19 46 37.6**	**+0.6**
	SNR=13						
EDM	**Edmonton**	**55.59**	**47**	*e*P	**P**	**19 46 37.8**	**-0.6**
ARU	**Arti**	**55.96**	**318**	⇓*i*P	**P**	**19 46 40.3**	**-0.7**
ARU				*e*		19 47 33.8	
ARU				*e*		19 48 49.3	
ARU				*e*PPP		19 49 57.4	
ARU				*e*S	**S**	**19 54 25.7**	**-3.2**
ARU				*e*SS	SS	19 58 08.3	-6.5
ARU				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.4						
ARU	**Arti**	**55.96**	**318**	*e*P	**P**	**19 46 40.0**	**-1.0**
	comp=Z,67nm,1.1s,mb5.6						
JIRN	**Jiri**	**56.15**	**276**	*e*P	**P**	**19 46 43.6**	**+1.3**
	comp=Z,14nm,0.4s,mb5.3						
GUN	**Gumba**	**56.20**	**276**	*e*P	**P**	**19 46 43.8**	**+1.1**
	comp=Z,86nm,1.3s,mb5.6						
KKN	**Kakani**	**56.69**	**277**	*e*P	**P**	**19 46 47.4**	**+1.2**
PKI	**Pulchoki**	**56.74**	**276**	*e*P	**P**	**19 46 47.5**	**+1.0**
	comp=Z,23nm,0.8s,mb5.3						
YBH	**Yreka Blue Hor**	**56.79**	**62**	LR	LR	20 10 52.1	
	comp=Z,406nm,18.1s,MS4.6,baz=231,slow=36						
DMN	**Daman**	**56.92**	**277**	*e*P	**P**	**19 46 48.9**	**+1.1**
	comp=Z,83nm,1.2s,mb5.6						
GKN	**Gorkha**	**56.99**	**277**	*e*P	**P**	**19 46 49.2**	**+0.8**
	comp=Z,108nm,1.4s,mb5.7						
KOLN	**Koldanda**	**57.85**	**278**	*e*P	**P**	**19 46 55.4**	**+1.0**
	comp=Z,82nm,1.4s,mb5.5						
KEV	**Kevo**	**57.92**	**341**	*e*p	**P**	**19 46 52.9**	**-2.0**
	comp=Z,4.6nm,0.5s,mb4.8						
KEV	**Kevo**	**57.92**	**341**	*e*P	**P**	**19 46 52.9**	**-2.0**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
APA	**Apatity**	**57.99**	**337**	⇑*i*P	**P**	**19 46 54.0**	**-1.4**
APA				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.5						
ARCES	**ARCESS Array B**	**58.43**	**341**	P	**P**	**19 46 58.7**	**+0.3**
	comp=Z,15nm,0.8s,mb5.0,baz=30,slow=7.1,SNR=15						
ARCES	**ARCESS Array B**	**58.43**	**341**	P	**P**	**19 46 58.7**	**+0.3**
OHCM	**Honcut**	**58.95**	**64**	*e*P	**P**	**19 47 01.6**	**-0.5**
AKTK	**Aktyubinsk**	**59.74**	**313**	P	**P**	**19 47 07.2**	**-0.4**
AKTO	**Aktyubinsk**	**59.74**	**313**	P	**P**	**19 47 07.2**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.8,baz=57,slow=8.2,SNR=12						
AKTO	**Aktyubinsk**	**59.74**	**313**	P	**P**	**19 47 07.2**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
QLMT	**Earthquake Lak**	**61.55**	**54**	*e*P	**P**	**19 47 20.1**	**+0.3**
GCMT	**Greycliff**	**61.92**	**52**	*e*P	**P**	**19 47 23.3**	**+1.0**
RRI2	**Red Ridge**	**62.54**	**55**	*e*P	**P**	**19 47 27.8**	**+1.3**
	comp=Z,127nm,1.9s,mb5.7						
LOHW	**Long Hollow**	**62.77**	**55**	*e*P	**P**	**19 47 29.3**	**+1.2**
	comp=Z,48nm,1.6s,mb5.4						
REDW	**Red Top Meadow**	**62.79**	**55**	*e*P	**P**	**19 47 29.2**	**+1.0**
	comp=Z,43nm,1.5s,mb5.4						
BGU	**Big Grassy Mou**	**63.08**	**58**	*e*P	**P**	**19 47 30.1**	**0.0**
PDAR	**Pinedale Array**	**63.90**	**55**	P	**P**	**19 47 35.6**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=262,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**19 47 39.9**	**-1.0**
	comp=Z,9.7nm,0.6s,mb5.0,baz=37,slow=9.4,SNR=35						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**19 47 39.9**	**-1.0**
MSU	**Marysvale**	**65.13**	**60**	*e*P	**P**	**19 47 43.8**	**+0.2**
ULM	**Lac du Bonnet**	**65.89**	**42**	P	**P**	**19 47 47.5**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=337,slow=5.4,SNR=4.

comp=Z,3.5nm,0.9s,mb4.3,baz=92,slow=2.7,SNR=7.2
BZS Buzias 79.41 329 ⇓*i*P P 19 49 08.7 -0.2
BZS Buzias 79.41 329 ⇓P P 19 49 08.7 -0.2
PKSM Moragy 79.93 331 ⇑*i*P P 19 49 12.3 +0.5
KBA Koelnbreinsper 80.84 334 ⇑*i*P P 19 49 17.4 +0.8
comp=Z,15nm,0.9s,mb4.9
CDF Champ du Feu 81.28 339 *e*P **P 19 49 18.9 -0.1**
comp=Z,8.5nm,0.6s,mb4.6
CDF Champ du Feu 81.28 339 *e*P **P 19 49 18.9 -0.1**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 81.28 339 *e*P **P 19 49 18.9 -0.1**
comp=Z,4.3nm,0.6s,mb4.6
VTS Vitosha 81.41 326 ⇓*i*P **P 19 49 19.7 0.0**
VTS Vitosha 81.41 326 ⇓P **P 19 49 19.7 0.0**
GRR Gorron 83.10 344 *e*P **P 19 49 28.8 +0.3**
comp=Z,32nm,0.9s,mb5.0
GRR Gorron 83.10 344 *e*P **P 19 49 28.8 +0.3**
GRR pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRR Gorron 83.10 344 *e*P **P 19 49 28.8 +0.3**
comp=Z,16nm,0.9s,mb5.0
SMF Signal de Mont 83.76 340 *e*P **P 19 49 31.5 -0.4**
comp=Z,46nm,0.9s,mb5.3
SMF Signal de Mont 83.76 340 *e*P **P 19 49 31.5 -0.4**
SMF pmax pmax
comp=Z,23nm,0.9s,mb5.3
SMF Signal de Mont 83.76 340 *e*P **P 19 49 31.5 -0.4**
comp=Z,23nm,0.9s,mb5.3
LPG La Plagne 84.12 338 *e*P **P 19 49 34.5 +0.7**
comp=Z,34nm,1.1s,mb5.1
LPG La Plagne 84.12 338 *e*P **P 19 49 34.5 +0.7**
LPG pmax pmax
comp=Z,17nm,1.1s,mb5.1
LPG La Plagne 84.12 338 *e*P **P 19 49 34.5 +0.7**
comp=Z,17nm,1.1s,mb5.1
CAF Calviac 85.79 341 *e*P **P 19 49 42.5 +0.3**
comp=Z,12nm,0.6s,mb5.0
CAF Calviac 85.79 341 *e*P **P 19 49 42.5 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
CAF Calviac 85.79 341 *e*P **P 19 49 42.5 +0.3**
comp=Z,5.8nm,0.6s,mb5.0
SNAA Sanae 152.68 195 PKPbc PKPbc 19 56 56.4 -3.1
comp=Z,0.4nm,0.7s,baz=139,slow=11,SNR=4.0
SNAA PKPab PKPab 19 57 07.3 -2.9
comp=Z,0.6nm,0.7s,baz=231,slow=6.5,SNR=6.1
SNAA Sanae 152.68 195 *e*PKPdf PKPbc 19 56 56.5 -3.0
SNAA *e* 19 57 07.6
VNA2 Neumayer--Watz 154.09 193 *e*PKPdf PKPbc 19 57 05.8 +3.2
VNA2 *e* 19 57 19.4
VNA3 Neumayer Olymp 154.15 191 *e*PKPdf PKPbc 19 57 04.8 +2.1
VNA3 *e* 19 57 16.9

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*IDC **15** 19:39:18.4±0.8, 46.46N×154.94E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/26, mbtmp4.2/16, ML3.5/1, Error ellipse: s-maj=22.1km s-min=19.0km az=132.0*
*MOS **15** 19:39:20.0±1.0, 46.50N×154.84E, h20km, mb4.9/9, Error ellipse: s-maj=21.0km s-min=11.4km az=100.3*
*NEIC **15** 19:39:20.1±0.5, 46.49N×154.93E, h10km, mb4.8/8, Error ellipse: s-maj=13.2km s-min=9.0km az=131.0*
*BJI **15** 19:39:21.2, 46.91N×154.39E, h10km, mB5.4, mb4.8, Ms5.0, Msz4.9*
*ISCJB **15** 19:39:22.9±4.1, 46.5N±0.1×154.9E±0.2, h41km±37km, mb4.4/24, Error ellipse: s-maj=20.7km s-min=16.1km az=78.9*

ISC 15 19:39:24.6±3.1,**46.5N**±0.1×**154.9E**±0.2,**h43**km±28km,**n48, σ0.9**&**65/48, mb4.4/24, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.24**	**11**	*e*PN	**Pn**	**19 40 17.0**	**-10**
MJAR	**Matsushiro Arr**	**15.96**	**237**	Pn	**Pn**	**19 43 05.8**	**-0.3**
	0.2nm,0.3s,baz=27,slow=12,SNR=3.3						
KSRS	**Korea Array**	**21.91**	**255**	P	**P**	**19 44 15.3**	**+1.2**
	7.4nm,0.9s,mb4.1,baz=56,slow=11,SNR=5.4						
BILL	**Bilibino**	**22.35**	**11**	*e*P	**P**	**19 44 18.2**	**-0.6**
BILL				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.6						
BILL	**Bilibino**	**22.35**	**11**	*e*P	**P**	**19 44 17.8**	**-1.0**
LZH	**Lanzhou**	**39.12**	**273**	*e*P	**P**	**19 46 48.9**	**+1.1**
LZH				AP	pP	19 46 54.0	-5.6
LZH				XP	sP	19 46 56.4	-8.3
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.7						
LZH	**Lanzhou**	**39.12**	**273**	*e*P	**P**	**19 46 48.9**	**+1.1**
	comp=Z,17nm,1.0s,mb4.7						
LZH				pP	pP	19 46 54.0	-5.6
LZH				sP	sP	19 46 56.4	-8.3
INK	**Inuvik**	**41.18**	**32**	P	**P**	**19 47 05.2**	**+0.3**
	comp=Z,5.6nm,1.1s,mb4.1,baz=276,slow=6.8,SNR=3.5						
INK	**Inuvik**	**41.18**	**32**	P	**P**	**19 47 05.2**	**+0.3**
ZAL	**Zalesovo**	**43.75**	**306**	P	**P**	**19 47 25.3**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.9,baz=62,slow=6.0,SNR=3.3						
ZAL	**Zalesovo**	**43.75**	**306**	P	**P**	**19 47 25.3**	**-0.5**
MKAR	**Makanchi Array**	**48.13**	**298**	P	**P**	**19 48 00.1**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=65,slow=7.4,SNR=4.8						
MKAR				PcP	PcP	19 49 26.8	-0.5
	comp=Z,0.9nm,0.7s,baz=62,slow=2.2,SNR=3.1						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**19 48 28.9**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.6,baz=53,slow=8.1,SNR=5.7						
ZRNK	**Zerenda**	**52.71**	**311**	*e*P	**P**	**19 48 34.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**52.71**	**311**	*e*P	**P**	**19 48 34.2**	**-0.6**
	comp=Z,6.7nm,1.1s,mb4.5						
ARU	**Arti**	**56.00**	**318**	*e*P	**P**	**19 48 57.9**	**-0.9**
ARU	**Arti**	**56.00**	**318**	*e*P	**P**	**19 48 58.2**	**-0.5**
	comp=Z,11nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.46**	**341**	P	**P**	**19 49 17.5**	**+1.3**
	comp=Z,3.7nm,0.7s,mb4.5,baz=19,slow=8.7,SNR=5.0						
AKTK	**Aktyubinsk**	**59.78**	**313**	P	**P**	**19 49 25.1**	**-0.1**
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**19 49 25.1**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=82,slow=9.0,SNR=4.4						
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**19 49 25.2**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**63.88**	**55**	P	**P**	**19 49 53.0**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=293,slow=3.8,SNR=6.5						
FINES	**FINESS Array B**	**64.76**	**336**	P	**P**	**19 49 59.0**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.5,baz=34,slow=9.1,SNR=5.3						
WRA	**Warramunga Arr**	**68.72**	**201**	P	**P**	**19 50 23.4**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=32,slow=7.4,SNR=3.6						
NB2	**NORSAR Subarra**	**68.83**	**342**	P	**P**	**19 50 26.1**	**+1.6**
	comp=Z,5.3nm,1.0s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.83**	**342**	P	**P**	**19 50 23.8**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=26,slow=6.3,SNR=4.6						
NOA	**NORSAR Array B**	**68.83**	**342**	P	**P**	**19 50 23.8**	**-0.7**
ASAR	**Alice Springs**	**72.40**	**200**	P	**P**	**19 50 45.4**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.9,baz=14,slow=5.4,SNR=4.5						
AKASG	**Malin Array Be**	**72.41**	**327**	P	**P**	**19 50 45.6**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=33,slow=5.9,SNR=3.6						
AKASG	**Malin Array Be**	**72.41**	**327**	P	**P**	**19 50 45.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**76.53**	**62**	P	**P**	**19 51 11.0**	**+0.8**
	comp=Z,4.0nm,0.9s,mb4.4,baz=298,slow=3.8,SNR=6.6						
CLL	**Collm**	**77.17**	**337**	*e*P	**P**	**19 51 13.0**	**-0.8**
CLL				*e*pP	pP	19 51 20.0	-6.6
GERES	**GERESS Array B**	**79.18**	**335**	P	**P**	**19 51 25.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=22,slow=5.6,SNR=2.9						
CDF	**Champ du Feu**	**81.32**	**339**	*e*P	**P**	**19 51 36.0**	**-0.5**
	comp=Z,27nm,1.2s,mb4.7						
CDF	**Champ du Feu**	**81.32**	**339**	*e*P	**P**	**19 51 36.0**	**-0.5**
CDF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
CDF	**Champ du Feu**	**81.32**	**339**	*e*P	**P**	**19 51 36.0**	**-0.5**
	comp=Z,14nm,1.3s,mb4.7						
GRR	**Gorron**	**83.13**	**344**	*e*P	**P**	**19 51 46.4**	**+0.5**
	comp=Z,70nm,1.2s,mb5.2						
GRR	**Gorron**	**83.13**	**344**	*e*P	**P**	**19 51 46.4**	**+0.5**
GRR				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.2						
GRR	**Gorron**	**83.13**	**344**	*e*P	**P**	**19 51 46.4**	**+0.5**
	comp=Z,35nm,1.3s,mb5.2						
SMF	**Signal de Mont**	**83.80**	**340**	*e*P	**P**	**19 51 49.0**	**-0.4**
	comp=Z,31nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.80**	**340**	*e*P	**P**	**19 51 49.0**	**-0.4**
SMF				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.80**	**340**	*e*P	**P**	**19 51 49.0**	**-0.4**
	comp=Z,16nm,1.1s,mb5.0						
LPG	**La Plagne**	**84.16**	**338**	*e*P	**P**	**19 51 52.1**	**+0.9**
	comp=Z,11nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.16**	**338**	*e*P	**P**	**19 51 52.1**	**+0.9**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.16**	**338**	*e*P	**P**	**19 51 52.1**	**+0.9**
	comp=Z,5.3nm,0.8s,mb4.7						
CAF	**Calviac**	**85.83**	**341**	*e*P	**P**	**19 51 59.9**	**+0.3**
	comp=Z,8.1nm,0.6s,mb4.8						
CAF	**Calviac**	**85.83**	**341**	*e*P	**P**	**19 51 59.9**	**+0.3**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
CAF	**Calviac**	**85.83**	**341**	*e*P	**P**	**19 51 59.9**	**+0.3**
	comp=Z,4.1nm,0.6s,mb4.8						

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*ISCJB **15** 19:41:23.2±0.3, 46.00N±0.05×154.58E±0.06, h10km, mb4.8/73, MS5.0/5, Error ellipse: s-maj=8.6km s-min=3.8km az=116.3*
*NEIC **15** 19:41:25.1±0.2, 46.12N×154.63E, h10km, mb4.9/28, Error ellipse: s-maj=6.6km s-min=4.8km az=153.0*
*MOS **15** 19:41:25.0±1.0, 46.09N×154.49E, h19km, mb5.1/28, Error ellipse: s-maj=11.1km s-min=6.7km az=107.0*
*BJI **15** 19:41:27.3, 46.30N×154.03E, h10km, mB5.7, mb4.7, Ms5.2, Msz5.0*
*JMA **15** 19:41:27.2±1.0, 46.51N×154.34E, h30km, M5.1*
*IDC **15** 19:41:28.7±0.6, 46.15N×154.65E, h33km±4km, mb4.3/23, mb1 4.5/24, mb1mx4.4/30, mbtmp4.3/24, ML4.5/1, Error ellipse: s-maj=13.0km s-min=11.0km az=129.0*
*SZGRF **15** 19:41:34.3, 46.77N×154.17E, h33km, mb4.9, East of Kuril Islands, Russia*

ISC 15 19:41:23.6±1.3,**46.13N**±0.06×**154.62E**±0.06,**h0**km±8km, **n205,** σ1&**07**/210,**mb4.9**/73,**MS5.0**/5,**15C-7D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**6.89**	**250**	P	**Pn**	**19 43 04.6**	**-1.2**
NEM2				*e*S	**Sn**	**19 44 15.4**	**-10**
JRA	**Rausu**	**7.07**	**255**	P	**Pn**	**19 43 09.0**	**+0.7**
PET	**Petropavlovsk**	**7.39**	**19**	PN	**Pn**	**19 43 11.3**	**-1.3**
JNK	**Nakash**	**7.48**	**254**	P	**Pn**	**19 43 14.1**	**+0.3**
JNK				*e*S	**Sn**	**19 44 33.3**	**-6.0**
JAK	**Akkeshi**	**7.74**	**250**	P	**Pn**	**19 43 16.5**	**-1.0**
JAK				*e*S	**Sn**	**19 44 37.9**	**-8.0**
JTKR	**Abashiri--Toko**	**7.88**	**258**	P	**Pn**	**19 43 20.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.22**	**280**	*e*PN	**Pn**	**19 43 26.3**	**+2.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.22**	**280**	*e*P	**Pn**	**19 43 23.1**	**-1.0**
	comp=Z,26nm,0.6s						
JAR	**Ashorobuto**	**8.23**	**254**	P	**Pn**	**19 43 24.7**	**+0.6**
JAR				*e*S	**Sn**	**19 44 51.1**	**-6.6**
JMP	**Maruseppu**	**8.24**	**259**	P	**Pn**	**19 43 26.2**	**+1.8**
JOB	**Onbets**	**8.35**	**251**	P	**Pn**	**19 43 26.0**	**+0.2**
JSE	**Soyaes**	**8.53**	**266**	P	**Pn**	**19 43 31.5**	**+3.3**
JKK2	**Kamakawa 2**	**8.71**	**259**	P	**Pn**	**19 43 31.9**	**+1.2**
ASAJ	**Asahikawa**	**8.73**	**261**	Pn	**Pn**	**19 43 32.9**	**+1.8**
	comp=Z,6.2nm,0.3s,baz=73,slow=19,SNR=14						
ASAJ	**Asahikawa**	**8.73**	**261**	P	**Pn**	**19 43 32.8**	**+1.7**
ASAJ	**Asahikawa**	**8.73**	**261**	PN	**Pn**	**19 43 32.9**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JCH	**Churui**	**8.79**	**250**	P	**Pn**	**19 43 31.4**	**-0.5**
JCH				*e*S	**Sn**	**19 45 03.4**	**-8.2**
JEM	**Erimo**	**9.21**	**248**	*e*S	**Sn**	**19 45 13.5**	**-8.5**
JNBK	**Urakawa-nobuka**	**9.35**	**250**	*e*S	**Sn**	**19 45 15.8**	**-9.5**
JNB	**Noboribetsu**	**10.40**	**254**	*e*S	**Sn**	**19 45 43.7**	**-7.3**
JKB	**Kayabe**	**10.66**	**251**	*e*S	**Sn**	**19 45 46.0**	**-12**
JOT	**Ohata**	**10.89**	**249**	P	**Pn**	**19 43 58.6**	**-2.1**
JSH	**Shimam**	**10.99**	**257**	P	**Pn**	**19 44 02.3**	**+0.3**
JYM2	**Yakumo 2**	**10.99**	**254**	P	**Pn**	**19 44 01.3**	**-0.8**
JANG	**Nango**	**11.14**	**244**	*e*S	**Sn**	**19 45 55.8**	**-14**
JTH	**Tanohata**	**11.19**	**241**	*e*S	**Sn**	**19 45 55.8**	**-15**
JTM	**Tenmabayashi**	**11.19**	**246**	P	**Pn**	**19 44 03.4**	**-1.4**
JTM				*e*S	**Sn**	**19 45 58.5**	**-12**
JSR	**Shiriuchi**	**11.23**	**251**	*e*S	**Sn**	**19 46 00.2**	**-11**
JOSM	**Okushiri--Mats**	**11.61**	**255**	P	**Pn**	**19 44 09.2**	**-1.3**
JOM	**Ohasama**	**11.82**	**241**	P	**Pn**	**19 44 10.7**	**-2.7**
JOM				*e*S	**Sn**	**19 46 14.6**	**-11**
OFUJ	**Ofunato**	**11.85**	**238**	*e*S	**Sn**	**19 46 12.8**	**-14**
JRG	**Rokugo**	**12.27**	**242**	*e*S	**Sn**	**19 46 23.9**	**-13**
JIO	**Ouri**	**12.45**	**237**	P	**Pn**	**19 44 19.2**	**-2.7**
JIO				*e*S	**Sn**	**19 46 26.8**	**-15**
JFK	**Kawauchi**	**13.47**	**234**	*e*S	**Sn**	**19 46 51.6**	**-15**
JFY	**Yanaizu**	**14.11**	**237**	P	**Pn**	**19 44 42.7**	**-2.0**
MJAR	**Matsushiro Arr**	**15.58**	**238**	Pn	**Pn**	**19 45 03.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=6.2						
MAJO	**Matsushiro**	**15.58**	**238**	*e*P	**Pn**	**19 45 02.5**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,48nm,1.0s						
MAJO	**Matsushiro**	**15.58**	**238**	*e*P	**Pn**	**19 45 02.5**	**-2.0**
	comp=Z,50nm,0.9s						
MAT	**Matsushiro**	**15.58**	**238**	P	**Pn**	**19 45 02.6**	**-1.8**
MAT	**Matsushiro**	**15.58**	**238**	P	**Pn**	**19 45 03.8**	**-0.6**
MDJ	**Mudanjiang**	**17.63**	**274**	*e*P	**Pn**	**19 45 30.9**	**+0.3**
	comp=Z,26nm,0.9s						
CN2	**Changchun**	**20.72**	**274**	*e*P	**P**	**19 46 03.6**	**-1.9**
CN2				*e*XP	sP	19 46 10.0	+4.4
CN2				*e*S	**S**	**19 49 48.5**	**-9.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,8μm,15.0s,MS5.4						
CN2				LR	LR		
	comp=E,9μm,15.0s,MS5.4						
CN2				LR	LR		
	comp=Z,10μm,16.0s,MS5.3						
YAK	**Yakutsk**	**21.41**	**327**	*e*P	**P**	**19 46 12.0**	**-0.9**
KSRS	**Korea Array**	**21.63**	**256**	P	**P**	**19 46 17.5**	**+2.3**
	comp=Z,5.2nm,0.7s,mb4.1,baz=61,slow=9.5,SNR=10						
SNY	**Shenyang**	**22.66**	**270**	⇓P	**P**	**19 46 27.1**	**+0.8**
SNY				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.8						
BILL	**Bilibino**	**22.79**	**11**	*e*P	**P**	**19 46 28.6**	**+1.0**
BILL				pmax	pmax		
	comp=Z,51nm,1.2s,mb4.9						
BOD	**Bodaibo**	**27.19**	**310**	*e*P	**P**	**19 47 06.6**	**-2.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
BJI	**Beijing**	**28.52**	**272**	*e*P	**P**	**19 47 25.9**	**+5.2**
BJI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.8						
BJI	**Beijing**	**28.52**	**272**	*e*P	**P**	**19 47 25.9**	**+5.2**
	comp=Z,15nm,0.9s,mb4.8						
NJ2	**Nanjing**	**30.83**	**256**	*e*P	**P**	**19 47 43.8**	**+2.7**
NJ2				AP		19 47 47.0	
NJ2				XP	sP	19 47 51.8	+11
NJ2				PP	PP	19 48 44.8	-5.7
NJ2				S	**S**	**19 52 45.0**	**-0.6**
NJ2				XS	sS	19 52 53.0	+7.2
NJ2				AMB	AMB		
	comp=Z,540nm,4.9s						
NJ2				LR	LR		
	comp=N,2μm,15.3s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,13.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,14.5s,MS5.0						
HHC	**Hu-ho-hao-te**	**31.38**	**276**	*e*P	**P**	**19 47 46.0**	**0.0**
HHC				S	**S**	**19 52 51.8**	**-2.5**
HHC				XS	sS	19 52 58.3	+3.8
HHC				SCP	ScP	19 54 23.6	-0.4
HHC				PCS	PcS	19 54 26.1	+2.1
HHC				SCS	ScS	19 58 18.3	-3.2
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,5μm,10.1s						
HHC				LR	LR		
	comp=N,2μm,13.7s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,15.2s,MS5.2						
HHC				LR	LR		
	comp=Z,3μm,14.5s,MS5.0						
ULN	**Ulaanbaatar**	**32.09**	**291**	*e*P	**P**	**19 47 56.9**	**+4.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.2s,mb5.3						
ULN	**Ulaanbaatar**	**32.09**	**291**	*e*P	**P**	**19 47 56.9**	**+4.7**
	comp=Z,8.2nm,0.2s,mb5.3						
SONM	**Songino Array**	**32.52**	**291**	P	**P**	**19 47 55.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=67,slow=11,SNR=4.0						
SONM				PcP	PcP	19 50 42.9	0.0
	comp=Z,0.8nm,0.6s,baz=145,slow=1.2,SNR=4.5						
TLY	**Talaya**	**33.39**	**298**	*e*P	**P**	**19 48 03.6**	**0.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KDAK	**Kodiak Island**	**33.70**	**50**	P	**P**	**19 48 05.3**	**-1.0**
	comp=Z,33nm,1.0s,mb5.2,baz=11,slow=10,SNR=5.1						
KDAK	**Kodiak Island**	**33.70**	**50**	P	**P**	**19 48 05.3**	**-1.0**
IMA2	**Indian Mountai**	**33.71**	**35**	*e*P	**P**	**19 48 06.0**	**-0.4**
ZAK	**Zakamensk**	**33.88**	**296**	*e*P	**P**	**19 48 06.6**	**-1.3**
ZAK				*e*		19 50 45.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
SML	**Sawmill**	**35.71**	**43**	*e*P	**P**	**19 48 23.7**	**0.0**
COLA	**College**	**35.99**	**38**	*e*P	**P**	**19 48 26.7**	**+0.6**
COLA				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.1						
COLA	**College**	**35.99**	**38**	*e*P	**P**	**19 48 26.7**	**+0.6**
	comp=Z,26nm,0.8s,mb5.1						
XAN	**Xi'an**	**36.51**	**267**	P	**P**	**19 48 31.5**	**+0.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
EGAK	**Eagle**	**38.85**	**38**	*e*P	**P**	**19 48 49.9**	**-0.5**
	comp=Z,35nm,1.0s,mb5.0						
LZH	**Lanzhou**	**38.95**	**274**	*e*P	**P**	**19 48 54.1**	**+2.9**
LZH				AP		19 48 59.8	
LZH				XP	sP	19 49 02.9	+12
LZH				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.6						
LZH	**Lanzhou**	**38.95**	**274**	*e*P	**P**	**19 48 54.1**	**+2.9**
	comp=Z,17nm,1.1s,mb4.6						
LZH				pP		19 48 59.8	
LZH				sP	sP	19 49 02.9	+12
DAWY	**Dawson**	**39.67**	**39**	*e*P	**P**	**19 48 57.1**	**-0.1**
GTA	**Gaotai**	**40.10**	**281**	*e*P	**P**	**19 49 03.1**	**+2.3**
GTA				AP		19 49 08.9	
GTA				XP	sP	19 49 12.3	+11
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.1						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**19 49 13.8**	**+0.5**
	comp=Z,9.7nm,0.5s,mb4.8,baz=296,slow=6.2,SNR=46						
INK				pP		19 49 23.6	
	comp=Z,9.2nm,0.6s,baz=319,slow=5.6,SNR=8.1						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**19 49 13.9**	**+0.5**
INK				*PP		19 49 23.6	
INK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
INK	**Inuvik**	**41.63**	**32**	*e*P	**P**	**19 49 13.6**	**+0.2**
CD2	**Chengdu**	**41.87**	**267**	P	**P**	**19 49 16.4**	**+1.0**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA	**Guiyang**	**42.61**	**260**	⇑*i*P	**P**	**19 49 22.0**	**+0.6**
GYA				AP		19 49 26.4	
GYA				XP	sP	19 49 29.6	+8.1
GYA				PP	PP	19 51 04.6	+4.6
GYA				PCP	PcP	19 51 16.4	+2.7
GYA				SCP	ScP	19 55 06.0	+0.3
GYA				S	**S**	**19 55 45.3**	**+0.1**
GYA				SCS	ScS	19 59 22.8	-1.5
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,640nm,17.0s,MS4.7						
GYA				LR	LR		
	comp=E,540nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=Z,570nm,17.4s,MS4.5						
ZAL	**Zalesovo**	**43.83**	**307**	P	**P**	**19 49 30.0**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.2,baz=51,slow=8.9,SNR=5.3						
ZAL				PcP	PcP	19 51 18.0	+0.2
	comp=Z,1.6nm,0.3s,baz=38,slow=6.4,SNR=4.8						
ZAL	**Zalesovo**	**43.83**	**307**	P	**P**	**19 49 30.0**	**-1.3**
ZAL				PcP	PcP	19 51 18.0	+0.2
NVS	**Novosibirsk**	**44.39**	**308**	*e*P	**P**	**19 49 34.5**	**-1.3**
NVS				*e*S	**S**	**19 56 09.5**	**-1.8**
NVS				pmax	pmax		
	comp=Z,35nm,2.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,6.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,17nm,1.8s						
NVS				smax			
	comp=N,21nm,2.2s						
WMQ	**Urumqi**	**46.12**	**293**	⇑P	**P**	**19 49 50.5**	**+1.0**
WMQ				AP		19 49 55.5	
WMQ				XP	sP	19 49 57.5	+7.8
WMQ				PCP	PcP	19 51 27.5	+1.8
WMQ				PP	PP	19 51 38.8	+1.3
WMQ				PPP		19 52 22.3	
WMQ				S	**S**	**19 56 34.4**	**-1.9**
WMQ				XS	sS	19 56 42.0	+5.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,628nm,6.6s						
WMQ				LR	LR		
	comp=N,1μm,16.3s,MS4.9						
WMQ				LR	LR		
	comp=E,587nm,16.3s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,17.0s,MS5.2						
KMI	**Kunming**	**46.16**	**261**	P	**P**	**19 49 50.3**	**+0.5**
KMI				AP		19 49 59.5	
KMI				XP	sP	19 50 03.3	+13
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
KMI	**Kunming**	**46.16**	**261**	P	**P**	**19 49 50.2**	**+0.4**
KMI				*PP		19 49 59.5	
KMI	

ARU	**Arti**	**56.17**	**318**	*e*P		**P**	**19 51 04.8**	**-0.3**
ARU				*e*			19 52 03.8	
ARU				*e*S		**S**	**19 58 46.6**	**-8.7**
ARU	**Arti**	**56.17**	**318**	*e*P		**P**	**19 51 04.3**	**-0.7**
	comp=Z,16nm,0.6s,mb5.2							
KKN	**Kakani**	**56.59**	**277**	*e*P		**P**	**19 51 09.6**	**+1.6**
	comp=Z,43nm,0.7s,mb5.6							
PKI	**Pulchoki**	**56.63**	**276**	*e*P		**P**	**19 51 10.0**	**+1.7**
	comp=Z,20nm,0.6s,mb5.3							
DMN	**Daman**	**56.82**	**277**	*e*P		**P**	**19 51 11.6**	**+1.9**
	comp=Z,41nm,0.8s,mb5.5							
GKN	**Gorkha**	**56.90**	**277**	*e*P		**P**	**19 51 11.8**	**+1.6**
	comp=Z,35nm,0.6s,mb5.6							
KOLN	**Koldanda**	**57.76**	**278**	*e*P		**P**	**19 51 18.2**	**+1.9**
	comp=Z,42nm,0.9s,mb5.5							
KEV	**Kevo**	**58.28**	**341**	*e*p		**P**	**19 51 18.8**	**-1.1**
	comp=Z,6.9nm,0.8s,mb4.7							
KEV	**Kevo**	**58.28**	**341**	*e*P		**P**	**19 51 18.8**	**-1.1**
KEV				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
ARCES	**ARCESS Array B**	**58.78**	**341**	P		**P**	**19 51 23.1**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.5,baz=22,slow=7.2,SNR=7.6							
AKTK	**Aktyubinsk**	**59.92**	**313**	P		**P**	**19 51 31.4**	**+0.1**
AKTO	**Aktyubinsk**	**59.92**	**313**	P		**P**	**19 51 31.4**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.6,baz=54,slow=7.9,SNR=9.2							
AKTO	**Aktyubinsk**	**59.92**	**313**	P		**P**	**19 51 31.4**	**+0.1**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.6							
GCMT	**Greycliff**	**62.30**	**52**	*e*P		**P**	**19 51 47.8**	**+0.4**
RRI2	**Red Ridge**	**62.91**	**55**	*e*P		**P**	**19 51 52.8**	**+1.3**
	comp=Z,12nm,0.8s,mb5.1							
PDAR	**Pinedale Array**	**64.27**	**54**	P		**P**	**19 52 00.5**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.6,baz=288,slow=2.3,SNR=13							
PDAR				pP			19 52 10.2	
	comp=Z,2.0nm,1.0s,baz=321,slow=2.1,SNR=4.6							
FINES	**FINESS Array B**	**65.05**	**336**	P		**P**	**19 52 04.7**	**-0.9**
	comp=Z,4.1nm,0.6s,mb4.9,baz=29,slow=8.3,SNR=7.5							
SFJD	**Kangerlussuaq**	**65.58**	**11**	*e*P		**P**	**19 52 08.7**	**-0.4**
SFJD				pmax		pmax		
	comp=Z,23nm,0.8s,mb5.5							
SFJD	**Kangerlussuaq**	**65.58**	**11**	*e*P		**P**	**19 52 08.7**	**-0.4**
	comp=Z,23nm,0.8s,mb5.5							
ULM	**Lac du Bonnet**	**66.31**	**41**	P		**P**	**19 52 12.6**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.6,baz=340,slow=5.4,SNR=4.9							
CTA	**Charters Tower**	**66.33**	**189**	P		**P**	**19 52 12.9**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.7,baz=345,slow=12,SNR=3.9							
RSSD	**Black Hills**	**66.43**	**50**	*e*P		**P**	**19 52 14.5**	**0.0**
RSSD				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb5.1							
RSSD	**Black Hills**	**66.43**	**50**	*e*P		**P**	**19 52 14.3**	**-0.2**
	comp=Z,7.2nm,0.7s,mb5.0							
AGMN	**Agassiz Refuge**	**67.69**	**43**	*e*P		**P**	**19 52 21.3**	**-1.2**
	comp=Z,14nm,1.1s,mb5.1							
WB2	**Warramunga Arr**	**68.27**	**201**	*e*P		**P**	**19 52 26.3**	**+0.1**
WRA	**Warramunga Arr**	**68.27**	**201**	P		**P**	**19 52 26.2**	**-0.1**
	comp=Z,5.7nm,0.9s,mb4.8,baz=20,slow=6.7,SNR=12							
WRA				pP			19 52 36.4	
	comp=Z,3.8nm,0.8s,baz=18,slow=6.7,SNR=7.3							
FITZ	**Fitzroy Crossi**	**69.09**	**210**	P		**P**	**19 52 32.0**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.8,baz=68,slow=5.1,SNR=8.3							
NB2	**NORSAR Subarra**	**69.15**	**342**	P		**P**	**19 52 31.1**	**-0.6**
	comp=Z,8.2nm,0.8s,mb5.0,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.15**	**342**	P		**P**	**19 52 31.2**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.7,baz=27,slow=6.3,SNR=6.5							
ANMO	**Albuquerque**	**71.27**	**59**	P		**P**	**19 52 44.9**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.3,baz=338,slow=7.3,SNR=4.5							
ASAR	**Alice Springs**	**71.96**	**200**	P		**P**	**19 52 49.7**	**+0.9**
	comp=Z,7.6nm,1.1s,mb4.7,baz=11,slow=5.3,SNR=15							
KIV	**Kislovodsk**	**71.98**	**315**	*e*P		**P**	**19 52 45.5**	**-3.5**
KIV				pmax		pmax		
	comp=Z,23nm,1.2s,mb5.2							
AKASG	**Malin Array Be**	**72.64**	**327**	P		**P**	**19 52 50.6**	**-2.3**
	comp=Z,3.3nm,0.7s,mb4.6,baz=34,slow=6.2,SNR=8.8							
KWP	**Kalwaria**	**75.89**	**330**	*e*P		**P**	**19 53 11.9**	**0.0**
KWP				*e*			19 53 21.4	
KWP				pmax		pmax		
	comp=Z,35nm,1.1s,mb5.4							
KWP	**Kalwaria**	**75.89**	**330**	*e*P		**P**	**19 53 11.9**	**0.0**
	comp=Z,35nm,1.1s,mb5.4							
KWP				*e*			19 53 21.4	
STHS	**Stebnicka Huta**	**76.57**	**331**	*e*P		**P**	**19 53 16.2**	**+0.4**
STHS				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.7							
STHS	**Stebnicka Huta**	**76.57**	**331**	*e*P		**P**	**19 53 16.2**	**+0.4**
	comp=Z,6.2nm,0.9s,mb4.7							
KOLS	**Kolonicke sedl**	**76.63**	**330**	*e*P		**P**	**19 53 15.3**	**-0.8**
BURAR	**Bucovina Array**	**76.68**	**328**	⇑*i*P		**P**	**19 53 16.4**	**+0.1**
BURAR	**Bucovina Array**	**76.68**	**328**	⇑P		**P**	**19 53 16.4**	**+0.1**
TXAR	**Lajitas Array**	**76.89**	**61**	P		**P**	**19 53 17.5**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.9,baz=304,slow=4.1,SNR=22							
TXAR	**Lajitas Array**	**76.89**	**61**	P		**P**	**19 53 17.5**	**0.0**
OKC	**Ostrava-Krasne**	**77.23**	**333**	*e*P		**P**	**19 53 19.6**	**+0.2**
UPC	**Upice**	**77.30**	**334**	*e*P		**P**	**19 53 20.5**	**+0.6**
DPC	**Dobruska-Polom**	**77.35**	**334**	*e*P		**P**	**19 53 19.8**	**-0.3**
CLL	**Collm**	**77.46**	**336**	*i*P		**P**	**19 53 20.1**	**-0.6**
CLL				*e*			19 53 26.0	
CLL				*e*			19 53 29.0	
CLL				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.1							
CLL	**Collm**	**77.46**	**336**	*i*P		**P**	**19 53 20.1**	**-0.6**
	comp=Z,14nm,0.9s,mb5.1							
CLL				*e*pP			19 53 26.0	
CLL				*e*sP		sP	19 53 29.0	+8.1
MORC	**Moravsky Berou**	**77.47**	**333**	⇓*i*P		**P**	**19 53 20.9**	**+0.1**
MORC	**Moravsky Berou**	**77.47**	**333**	⇓P		**P**	**19 53 20.9**	**+0.1**
BRG	**Berggiesshubel**	**77.58**	**336**	*e*P		**P**	**19 53 20.3**	**-1.2**
	comp=Z,4.4nm,1.3s,mb4.4							
BRG	**Berggiesshubel**	**77.58**	**336**	*e*P		**P**	**19 53 20.3**	**-1.1**
BRG				pmax		pmax		
	comp=Z,28nm,1.3s,mb5.2							
KECS	**Kecovo**	**77.63**	**331**	*e*P		**P**	**19 53 21.8**	**+0.1**
KECS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.4							
KECS	**Kecovo**	**77.63**	**331**	*e*P		**P**	**19 53 21.8**	**+0.1**
	comp=Z,2.9nm,0.9s,mb4.4							
TIRR	**Tirgusor**	**78.03**	**324**	⇑*i*P		**P**	**19 53 24.3**	**+0.4**
TIRR	**Tirgusor**	**78.03**	**324**	⇑P		**P**	**19 53 24.3**	**+0.4**
MLR	**Muntele Rosu**	**78.17**	**326**	⇑*i*P		**P**	**19 53 25.8**	**+1.1**
MLR	**Muntele Rosu**	**78.17**	**326**	⇑P		**P**	**19 53 25.8**	**+1.1**
VYHS	**Vyhne**	**78.17**	**332**	*e*P		**P**	**19 53 24.8**	**+0.1**
PRU	**Pruhonice**	**78.20**	**335**	*e*P		**P**	**19 53 24.9**	**0.0**
PRU				*e*PCP		PcP	19 53 33.0	-1.4
MALT	**Malatya**	**78.34**	**314**	⇑*i*P		**P**	**19 53 27.7**	**+2.1**
MALT	**Malatya**	**78.34**	**314**	⇑P		**P**	**19 53 27.7**	**+2.0**
VOIR		**78.56**	**326**	⇓*i*P		**P**	**19 53 27.4**	**+0.5**
VOIR		**78.56**	**326**	⇓P		**P**	**19 53 27.4**	**+0.5**
NKC	**Novy Kostel**	**78.58**	**336**	*e*P		**P**	**19 53 26.7**	**-0.3**
NKC				*e*PCP		PcP	19 53 36.0	0.0
ZST	**Bratislava**	**79.00**	**333**	*e*P		**P**	**19 53 30.1**	**+0.8**
ZST				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ZST	**Bratislava**	**79.00**	**333**	*e*P		**P**	**19 53 30.1**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.6							
KHC	**Kasperske Hory**	**79.25**	**335**	*e*P		**P**	**19 53 30.8**	**+0.2**
KHC				*e*PCP		PcP	19 53 38.5	-0.4
GRA1	**Grafenberg Arr**	**79.41**	**337**	*e*P		**P**	**19 53 31.7**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9							
GRF	**Grafenberg Arr**	**79.41**	**337**	*e*P		**P**	**19 53 31.7**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9							
GRF	**Grafenberg Arr**	**79.41**	**337**	*e*P		**P**	**19 53 31.7**	**+0.2**
GRF				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9							
GERES	**GERESS Array B**	**79.47**	**335**	P		**P**	**19 53 31.9**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=30,slow=5.4,SNR=11							
BRTR	**Keskin Array B**	**79.56**	**318**	P		**P**	**19 53 31.8**	**-0.6**
	comp=Z,2.8nm,0.9s,mb4.2,baz=52,slow=4.8,SNR=6.4							
BZS	**Buzias**	**79.69**	**329**	⇓*i*P		**P**	**19 53 33.2**	**+0.1**
BZS	**Buzias**	**79.69**	**329**	⇓P		**P**	**19 53 33.2**	**+0.1**
MIB	**Mutribah**	**79.88**	**303**	*e*P		**P**	**19 53 34.7**	**+0.6**
MIB				AMb		AMB	19 53 36.1	
	comp=Z,52nm,0.9s,mb5.5							
PKSM	**Moragy**	**80.23**	**331**	⇑*i*P		**P**	**19 53 34.5**	**-1.4**
PKSM	**Moragy**	**80.23**	**331**	⇑P		**P**	**19 53 34.5**	**-1.4**
NAY	**Al-Naaiem**	**80.34**	**302**	*e*P		**P**	**19 53 37.0**	**+0.5**
NAY				AMb		AMB	19 53 38.5	
	comp=Z,23nm,0.7s,mb5.2							
RDF	**Al-Radifah**	**80.40**	**302**	*e*P		**P**	**19 53 37.6**	**+0.7**
RDF				AMb		AMB	19 53 38.3	
	comp=Z,69nm,0.9s,mb5.6							
KBA	**Koelnbreinsper**	**81.16**	**334**	P		**P**	**19 53 41.9**	**+1.0**
	comp=Z,22nm,0.7s,mb5.3							
KBA	**Koelnbreinsper**	**81.16**	**334**	⇑*i*P		**P**	**19 53 41.9**	**+1.0**
	comp=Z,22nm,0.7s,mb5.3							
BFO	**Black Forest**	**81.43**	**338**	*e*P		**P**	**19 53 42.4**	**0.0**
BFO				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
BFO	**Black Forest**	**81.43**	**338**	*e*P		**P**	**19 53 42.4**	**+0.1**
	comp=Z,11nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**81.62**	**339**	*e*P		**P**	**19 53 43.3**	**-0.1**
	comp=Z,21nm,0.9s,mb5.0							
CDF	**Champ du Feu**	**81.62**	**339**	*e*P		**P**	**19 53 43.3**	**-0.1**
CDF				pmax		pmax		
	comp=Z,11nm,0.9s,mb5.0							
CDF	**Champ du Feu**	**81.62**	**339**	*e*P		**P**	**19 53 43.3**	**-0.1**
	comp=Z,11nm,0.9s,mb5.0							
VTS	**Vitosha**	**81.67**	**326**	⇑*i*P		**P**	**19 53 44.2**	**+0.5**
VTS	**Vitosha**	**81.67**	**326**	⇑P		**P**	**19 53 44.2**	**+0.5**
GRR	**Gorron**	**83.47**	**344**	*e*P		**P**	**19 53 52.9**	**-0.1**
SMF	**Signal de Mont**	**84.11**	**340**	*e*P		**P**	**19 53 56.1**	**-0.2**
	comp=Z,63nm,1.2s,mb5.4							
SMF	**Signal de Mont**	**84.11**	**340**	*e*P		**P**	**19 53 56.1**	**-0.2**
SMF				pmax		pmax		
	comp=Z,31nm,1.2s,mb5.4							
SMF	**Signal de Mont**	**84.11**	**340**	*e*P		**P**	**19 53 56.1**	**-0.2**
	comp=Z,32nm,1.2s,mb5.4							
LPG	**La Plagne**	**84.46**	**338**	*e*P		**P**	**19 53 59.0**	**+0.9**
	comp=Z,30nm,0.8s,mb5.2							
LPG	**La Plagne**	**84.46**	**338**	*e*P		**P**	**19 53 59.0**	**+0.9**
LPG				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.3							
LPG	**La Plagne**	**84.46**	**338**	*e*P		**P**	**19 53 59.0**	**+0.9**
	comp=Z,15nm,0.8s,mb5.3							
CAF	**Calviac**	**86.15**	**341**	*e*P		**P**	**19 54 06.2**	**-0.3**
	comp=Z,17nm,0.8s,mb4.9							
CAF	**Calviac**	**86.15**	**341**	*e*P		**P**	**19 54 06.2**	**-0.3**
CAF				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.9							
CAF	**Calviac**	**86.15**	**341**	*e*P		**P**	**19 54 06.2**	**-0.3**
	comp=Z,8.4nm,0.8s,mb4.9							
TORD	**Torodi Ar. Bea**	**116.16**	**330**	PKP		PKPdf	20 00 07.5	-1.2
	comp=Z,0.8nm,0.9s,baz=18,slow=1.4,SNR=3.1							
VNDA	**Vanda**	**123.45**	**178**	PKP		PKPdf	20 00 20.4	-2.3
	comp=Z,0.6nm,0.7s,baz=291,slow=3.4,SNR=4.2							
LBTB	**Lobatse**	**134.38**	**279**	PKP		PKPdf	20 00 43.4	-0.1
	comp=Z,3.4nm,0.8s,baz=343,slow=1.4,SNR=4.2							
SIV	**San Ignacio**	**137.74**	**57**	PKP		PKPdf	20 00 49.4	-0.3
	comp=Z,2.4nm,1.0s,baz=284,slow=2.2,SNR=6.7							
CFAA	**Coronel Fontan**	**144.07**	**81**	PKP		PKPdf	20 00 58.0	-3.1
	comp=Z,0.3nm,0.5s,baz=133,slow=3.8,SNR=3.7							
USHA	**Ushuaia**	**151.66**	**124**	PKPbc		PKPbc	20 01 18.0	-1.8
	comp=Z,7.8nm,0.7s,baz=202,slow=5.4,SNR=3.3							
PMSA	**Palmer Station**	**151.88**	**145**	PKPbc		PKPbc	20 01 18.2	-2.1
	comp=Z,18nm,0.8s,baz=304,slow=3.6,SNR=3.2							
SNAA	**Sanae**	**152.23**	**195**	PKPbc		PKPbc	20 01 19.1	-2.0
	comp=Z,1.9nm,0.8s,baz=228,slow=1.6,SNR=12							
SNAA				PKPab		PKPab	20 01 29.7	-1.2
	comp=Z,2.9nm,0.8s,baz=140,slow=2.5,SNR=9.4							
SNAA	**Sanae**	**152.23**	**195**	*e*PKPdf		PKPdf	20 01 18.2	+3.8
SNAA				*e*			20 01 29.6	
SNAA				*e*			20 01 36.3	
VNA2	**Neumayer--Watz**	**153.64**	**193**	*e*PKPdf		PKPdf	20 01 14.0	-2.5
VNA2				*e*			20 01 22.7	
VNA2				*e*			20 01 35.8	
VNA2				*e*			20 01 44.6	
VNA3	**Neumayer Olymp**	**153.70**	**191**	*e*PKPdf		PKPdf	20 01 21.3	+4.7
VNA3				*e*			20 01 35.4	
VNA3				*e*			20 01 40.7	

IDC 15 19:43:41.0±7.7, 4815N×15360E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/24, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=172.9km s-min=33.1km az=129.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.64**	**246**	Pn	Pn	19 45 48.8	+1.6
	1.3nm,0.3s,baz=26,slow=27,SNR=2.2						
KSRS	**Korea Array**	**21.56**	**250**	P	P	19 48 31.3	-0.6
	2.6nm,0.7s,baz=50,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**46.60**	**296**	P	P	19 52 10.4	-0.4
	1.1nm,0.6s,baz=71,slow=6.7,SNR=2.9						
BVAR	**Borovoye Array**	**50.23**	**309**	P	P	19 52 38.3	-0.4
	2.5nm,0.6s,baz=54,slow=7.1,SNR=4.1						
FINES	**FINESS Array B**	**62.91**	**335**	P	P	19 54 08.1	-0.9
	0.6nm,0.3s,baz=41,slow=8.5,SNR=4.9						
NOA	**NORSAR Array B**	**67.01**	**341**	P	P	19 54 35.8	+0.1
	0.8nm,0.8s,baz=41,slow=3.2,SNR=2.6						

*ISCJB **15** 19:50:17.2±0.4, 4295N×003×032E±003, h8km, Error ellipse: s-maj=3.9km s-min=2.7km az=19.2*
*STR **15** 19:50:17.8±0.1, 4295N×031E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 19:50:18.2±0.1, 4293N×029E, h7km, Md2.1/2, Ml2.1/4, Error ellipse: s-maj=1.2km s-min=0.8km az=21.0*
*MDD **15** 19:50:18.4±0.3, 4293N×029E, h8km±5km, mbLg1.5/18, Error ellipse: s-maj=1.9km s-min=1.6km az=173.0, PRIXMO*

ISC 15 19:50:17.4±0.6, 4294N±003×030E±003, h16km±5km, n33, σ0§38/37, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.09**	**19**	*e*Pg	**Pg**	**19 50 20.9**	**+0.2**
EPF				*e*Sg	**Sg**	**19 50 22.5**	**-0.3**
	65nm,0.2s						
EPF	**Esparros**	**0.09**	**19**	Pg	**Pg**	**19 50 20.9**	**+0.2**
EPF				Lg		19 50 22.5	
	33nm,0.2s						
RESF	**Ens**	**0.14**	**168**	Pg	**Pg**	**19 50 21.3**	**+0.1**
RESF				Sg	**Sg**	**19 50 23.6**	**-0.2**
RESF	**Ens**	**0.14**	**168**	Pg	**Pg**	**19 50 21.3**	**+0.1**
RESF				Lg		19 50 23.4	
LABF	**Labassere**	**0.20**	**302**	Pg	**Pg**	**19 50 22.4**	**+0.2**
LABF				Sg	**Sg**	**19 50 25.5**	**+0.3**
LABF	**Labassere**	**0.20**	**302**	Pg	**Pg**	**19 50 22.3**	**+0.3**
LABF				Lg		19 50 25.4	
VIEF	**Viey**	**0.21**	**254**	Pg	**Pg**	**19 50 22.4**	**+0.1**
VIEF				Sg	**Sg**	**19 50 25.5**	**-0.1**
VIEF	**Viey**	**0.21**	**254**	Pg	**Pg**	**19 50 22.3**	**0.0**
VIEF				Lg		19 50 25.3	
EBIE	**Bielsa**	**0.28**	**204**	Pg	**Pg**	**19 50 23.6**	**+0.1**
	SNR=47						
EBIE				Lg		19 50 27.2	
	21nm,0.1s,SNR=11						
MELF	**Melles**	**0.34**	**102**	Pg	**Pg**	**19 50 24.8**	**+0.3**
MELF				Sg	**Sg**	**19 50 29.3**	**-0.1**
MELF	**Melles**	**0.34**	**102**	Pg	**Pg**	**19 50 24.8**	**+0.3**
MELF				Lg		19 50 29.4	
ETSF	**Etsaut**	**0.63**	**266**	*e*Pg	**Pg**	**19 50 29.9**	**+0.1**
ETSF				*e*Sg	**Sg**	**19 50 37.8**	**-0.4**
	10nm,0.2s						
ETSF	**Etsaut**	**0.63**	**266**	Pg	**Pg**	**19 50 29.9**	**+0.1**
ETSF				Lg		19 50 37.8	
	5.1nm,0.2s						
SALF	**Salau**	**0.68**	**105**	Pg	**Pg**	**19 50 30.6**	**-0.1**
SALF				Sg	**Sg**	**19 50 39.7**	**0.0**
SALF	**Salau**	**0.68**	**105**	Pg	**Pg**	**19 50 30.8**	**+0.1**
SALF				Lg		19 50 39.7	
CSOR	**Sort**	**0.84**	**132**	Pg	**Pg**	**19 50 33.8**	**+0.1**
CSOR				Lg		19 50 45.0	
	2.2nm,0.3s						
CORG	**Organya**	**1.04**	**133**	Pg	**Pg**	**19 50 37.9**	**+0.5**
CORG				Lg		19 50 51.6	
CAVN	**Les Avellanes**	**1.11**	**162**	Pg	**Pg**	**19 50 39.0**	**+0.1**
CAVN				Lg		19 50 52.8	
	6.2nm,0.1s						
SJPF	**Ste Jean**	**1.13**	**279**	*e*Pg	**Pg**	**19 50 39.5**	**+0.3**
SJPF				*e*Sg	**Sg**	**19 50 54.0**	**0.0**
	3.0nm,0.2s						
SJPF	**Ste Jean**	**1.13**	**279**	Pg	**Pg**	**19 50 39.5**	**+0.3**
SJPF				Lg		19 50 54.0	
	1.5nm,0.2s						
CLLI	**Llivia**	**1.32**	**110**	Pg	**Pg**	**19 50 43.2**	**+0.4**
CLLI				Lg		19 51 00.3	
	1.4nm,0.4s						
ESAC	**San Caprasio**	**1.35**	**205**	Lg		19 51 01.9	
	7.0nm,0.2s,SNR=4.5						
IUSE	**Utxeti**	**1.36**	**271**	Lg		19 51 03.0	
	1.8nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.37**	**138**	Pg	**Pg**	**19 50 44.6**	**+0.7**
	1.2nm,0.1s,SNR=6.3						
EMIR				Lg		19 51 02.2	
	1.6nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.46**	**74**	*e*Pg	**Pg**	**19 50 45.6**	**+0.1**
MTLF				*e*Sg	**Sg**	**19 51 04.6**	**+0.2**
	2.9nm,0.2s						
MTLF	**Montolieu**	**1.46**	**74**	Pg	**Pg**	**19 50 45.6**	**+0.1**
MTLF				Lg		19 51 04.6	
	1.4nm,0.2s						
EPOB	**Poblet**	**1.69**	**160**	Pg	**Pg**	**19 50 49.1**	**-0.8**
	0.9nm,0.1s,SNR=7.9						
EPOB				Lg		19 51 10.9	
	2.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.98**	**126**	Lg		19 51 18.0	
	3.1nm,0.2s						
ERTA	**Horta de San J**	**1.99**	**179**	Pg	**Pg**	**19 50 54.7**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		19 51 20.9	
	3.1nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.02**	**9**	*e*Sg	**Sg**	**19 51 22.3**	**-0.1**
	6.1nm,0.3s						
LFF	**La Frestale**	**2.02**	**9**	Lg		19 51 22.3	
	3.0nm,0.3s						
LASF	**Ste Croix**	**2.82**	**65**	*e*Sg	**Sg**	**19 51 47.2**	**-0.9**
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.82**	**65**	Lg		19 51 47.2	
	0.4nm,0.2s						

IDC 15 19:56:03.4±1.1, 4663N×15487E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=30.0km s-min=28.6km az=173.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.00**	**258**	Pn	Pn	19 58 13.9	-0.6
	0.4nm,0.3s,baz=60,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**48.07**	**298**	P	P	20 04 43.6	-0.9
	0.3nm,0.4s,baz=50,slow=7.7,SNR=6.7						
BVAR	**Borovoye Array**	**51.86**	**310**	P	P	20 05 12.4	-1.0
	1.0nm,0.5s,baz=44,slow=6.6,SNR=6.7						
FINES	**FINESS Array B**	**64.66**	**336**	P	P	20 06 42.1	-0.8
	2.6nm,1.0s,baz=28,slow=8.0,SNR=7.3						
NOA	**NORSAR Array B**	**68.72**	**342**	P	P	20 07 10.0	+1.2
	0.6nm,0.8s,baz=27,slow=6.7,SNR=2.2						
ASAR	**Alice Springs**	**72.49**	**200**	P	P	20 07 32.2	+0.3
	0.5nm,0.8s,baz=16,slow=5.1,SNR=6.8						
TXAR	**Lajitas Array**	**76.49**	**62**	P	P	20 07 54.6	-0.5
	1.1nm,0.7s,baz=293,slow=3.2,SNR=9.7						

KRSC 15 19:59:47.8±0.8, 4941N×15728E, h2km±2km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**3.13**	**14**	P	Pn	20 00 38.4	+0.3
RUS				S	Sn	20 01 15.0	-1.0
RUS	**Russkaya**	**3.13**	**14**	*e*P	Pn	20 00 38.4	+0.3
RUS				*i*S	Sn	20 01 15.0	-1.0
RUS	**Russkaya**	**3.13**	**14**	*e*P	Pn	20 00 38.4	+0.3
RUS				*i*S	Sn	20 01 15.0	-1.0
GRL	**Gorelyy**	**3.19**	**9**	*e*P	Pn	20 00 40.7	+1.8
GRL				*i*S	Sn	20 01 18.2	+0.8
GRL	**Gorelyy**	**3.19**	**9**	*e*P	Pn	20 00 40.7	+1.8
GRL				*i*S	Sn	20 01 18.2	+0.8
PET	**Petropavlovsk**	**3.72**	**13**	P	Pn	20 00 47.1	+0.9
PET				S	Sn	20 01 31.6	+1.0
PET	**Petropavlovsk**	**3.72**	**13**	*e*P	Pn	20 00 47.1	+0.9
PET				*i*S	Sn	20 01 31.6	+1.0
PET	**Petropavlovsk**	**3.72**	**13**	*e*P	Pn	20 00 47.1	+0.9
PET				*i*S	Sn	20 01 31.6	+1.0
SPN	**Mys Shipunski**	**4.08**	**24

comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 50.34 309 *e*P **P 20 10 56.6 +0.1**
comp=Z,2.6nm,0.8s,mb4.3
ZRNK Zerenda 51.07 309 *e*P **P 20 11 02.0 0.0**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 51.07 309 *e*P **P 20 11 02.0 0.0**
comp=Z,1.8nm,0.6s,mb4.2
AAK Ala-Archa 53.25 296 *e*P **P 20 11 17.5 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.25 296 *e*P **P 20 11 17.4 -0.7**
comp=Z,3.2nm,0.8s,mb4.3
JIRN Jiri 54.38 274 *e*P **P 20 11 26.9 +0.4**
comp=Z,8.5nm,0.6s,mb4.9
GUN Gumba 54.44 274 *e*P **P 20 11 27.2 +0.3**
KKN Kakani 54.92 275 *e*P **P 20 11 31.1 +0.7**
comp=Z,8.7nm,0.7s,mb4.9
PKI Pulchoki 54.98 274 *e*P **P 20 11 30.8 0.0**
DMN Daman 55.16 275 *e*P **P 20 11 32.4 +0.3**
comp=Z,12nm,0.7s,mb5.1
GKN Gorkha 55.23 275 *e*P **P 20 11 33.0 +0.4**
comp=Z,18nm,0.8s,mb5.2
KOLN Koldanda 56.08 276 *e*P **P 20 11 39.2 +0.5**
comp=Z,15nm,0.7s,mb5.1
AKTK Aktyubinsk 58.18 311 P **P 20 11 53.5 -0.1**
AKTO Aktyubinsk 58.18 311 P **P 20 11 53.5 -0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=71,slow=11,SNR=5.9
AKTO Aktyubinsk 58.18 311 P **P 20 11 53.5 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
FINES FINESS Array B 63.62 334 P **P 20 12 30.0 -0.5**
comp=Z,2.2nm,0.6s,mb4.4,baz=39,slow=9.9,SNR=9.2
FINES FINESS Array B 63.62 334 P **P 20 12 30.0 -0.5**
PDAR Pinedale Array 65.06 54 P **P 20 12 40.5 +0.5**
comp=Z,0.6nm,0.9s,mb3.6,baz=222,slow=2.0,SNR=3.9
NB2 NORSAR Subarra 67.85 341 P **P 20 12 57.2 -0.6**
comp=Z,0.9nm,0.6s,mb4.0,baz=30,slow=6.5
NOA NORSAR Array B 67.85 341 P **P 20 12 57.1 -0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=5.8
HFS Hagfors 68.07 339 P **P 20 12 58.6 -0.6**
comp=Z,1.5nm,0.5s,mb4.3,baz=62,slow=7.0,SNR=7.7
AKASG Malin Array Be 71.07 326 P **P 20 13 17.1 -0.5**
comp=Z,4.7nm,0.5s,mb4.7,baz=33,slow=6.1,SNR=18
GNI Garni 71.98 310 P **P 20 13 24.0 +0.9**
comp=Z,7.4nm,0.9s,mb4.6,baz=252,slow=24,SNR=3.9
ASAR Alice Springs 72.23 198 P **P 20 13 26.2 +1.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=27,slow=6.3,SNR=3.9
EKA Eskdalemuir Ar 76.01 346 P **P 20 13 47.8 +1.1**
comp=Z,2.8nm,1.1s,mb4.1,baz=28,slow=5.6,SNR=4.4
MLR Muntele Rosu 76.58 324 P **P 20 13 51.3 +1.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=307,slow=17,SNR=3.4
BRTR Keskin Array B 77.86 316 P **P 20 13 57.2 0.0**
comp=Z,0.8nm,0.9s,mb3.6,baz=60,slow=5.7,SNR=3.0
TXAR Lajitas Array 77.86 60 P **P 20 13 56.0 -1.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=312,slow=4.5,SNR=3.8
GERES GERESS Array B 78.03 333 P **P 20 13 57.3 -0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=4.9,SNR=5.7
MMAI Mount Meron Ar 82.27 311 P **P 20 14 21.3 +0.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=30,slow=8.6,SNR=4.9

IDC ***15*** *20:02:36.2±0.8, 46.81N×153.08E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/24, mbtmp4.1/12, ML3.5/1, Error ellipse: s-maj=26.9km s-min=20.6km az=113.0*
ISCJB ***15*** *20:02:45.5±2.6, 46.7N±0.1×153.0E±0.2, h88km±23km, mb4.0/10, Error ellipse: s-maj=19.7km s-min=17.6km az=170.7*
MOS ***15*** *20:02:45.5±1.0, 46.72N×152.99E, h90km, mb4.1/9, Error ellipse: s-maj=22.4km s-min=16.9km az=48.1*
ISC 15 20:02:47.3±2.3, 468N±01×1530E±02, h90km±20km, n27, σ0§90/29, mb4.0/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**5.73**	**244**	*e*PN	**Pn**	**20 04 09.0**	**-0.8**
YUK				*e*S	**Sn**	**20 05 14.7**	**+0.6**
YUK				pmax	pmax		
	comp=Z,290nm,0.5s						
YUK				smax			
	comp=N,970nm,0.6s						
YUK				smax			
	comp=E,540nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.04**	**275**	*e*PN	**Pn**	**20 04 28.6**	**+0.9**
YSS				*e*S	**Sn**	**20 05 46.6**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax			
	comp=E,50nm,0.9s						
ASAJ	**Asahikawa**	**7.79**	**254**	Pn	**Pn**	**20 04 37.4**	**-0.5**
	comp=E,2.0nm,0.3s,baz=96,slow=16,SNR=7.8						
ASAJ	**Asahikawa**	**7.79**	**254**	PN	**Pn**	**20 04 37.4**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**15.03**	**233**	P	**Pn**	**20 06 18.2**	**+3.4**
MJAR	**Matsushiro Arr**	**15.03**	**233**	Pn	**Pn**	**20 06 12.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=35,slow=12,SNR=4.0						
KSRS	**Korea Array**	**20.74**	**252**	P	**P**	**20 07 20.8**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=58,slow=8.7,SNR=2.9						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**20 13 10.3**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.1,baz=134,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**20 13 10.3**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**64.79**	**54**	P	**P**	**20 13 17.1**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.7,baz=10,slow=1.6,SNR=6.4						
NB2	**NORSAR Subarra**	**68.20**	**341**	P	**P**	**20 13 37.0**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**20 13 37.9**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.3,baz=27,slow=6.3,SNR=7.1						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**20 13 37.9**	**-0.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**68.43**	**339**	P	**P**	**20 13 38.6**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.5,baz=46,slow=6.4,SNR=6.9						
HFS	**Hagfors**	**68.43**	**339**	P	**P**	**20 13 38.6**	**-0.9**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**68.50**	**199**	P	**P**	**20 13 40.0**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=19,slow=6.1,SNR=7.2						
WRA	**Warramunga Arr**	**68.50**	**199**	P	**P**	**20 13 40.0**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**20 13 57.9**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.2,baz=33,slow=5.9,SNR=5.3						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**20 13 57.9**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**72.19**	**198**	P	**P**	**20 14 02.7**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=20,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**72.19**	**198**	P	**P**	**20 14 02.7**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MLR	**Muntele Rosu**	**77.03**	**325**	P	**P**	**20 14 30.2**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.1,baz=108,slow=9.6,SNR=4.6						
MLR	**Muntele Rosu**	**77.03**	**325**	P	**P**	**20 14 30.2**	**-0.2**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**77.54**	**60**	P	**P**	**20 14 34.0**	**+0.7**
	comp=Z,1.4nm,0.7s,mb3.8,baz=303,slow=3.5,SNR=6.6						
TXAR	**Lajitas Array**	**77.54**	**60**	P	**P**	**20 14 34.0**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.34**	**317**	P	**P**	**20 14 38.9**	**+1.2**
	comp=Z,1.5nm,0.9s,mb3.7,baz=57,slow=4.3,SNR=5.6						
BRTR	**Keskin Array B**	**78.34**	**317**	P	**P**	**20 14 38.9**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC ***15*** *20:03:50.8±1.1, 46.75N×154.54E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.2/26, mbtmp4.2/15, ML2.7/1, MS4.7/1, Ms1 4.7/1, ms1mx3.5/44, Error ellipse: s-maj=26.8km s-min=23.0km az=141.0*
ISCJB ***15*** *20:03:51.2±0.9, 47.0N±0.1×154.5E±0.2, h10km, mb4.3/24, MS4.9/2, Error ellipse: s-maj=20.0km s-min=11.7km az=83.3*
BJI ***15*** *20:03:51.0, 47.15N×154.50E, h10km, mb4.7*
NEIC ***15*** *20:03:52.7±1.0, 46.84N×154.50E, h10km, mb4.4/6, Error ellipse: s-maj=23.8km s-min=13.6km az=128.0*
MOS ***15*** *20:04:01.0±1.5, 47.27N×153.23E, h38km, mb4.5/17, Error ellipse: s-maj=17.6km s-min=12.0km az=121.5*
ISC 15 20:03:52.9±0.9, 470N±01×1545E±02, h10km, n50, σ1§15/51, mb4.3/24, MS4.9/2, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.00**	**235**	Pn	**Pn**	**20 07 34.8**	**-3.3**
	0.0nm,0.3s,baz=32,slow=13,SNR=3.5						
KSRS	**Korea Array**	**21.79**	**254**	P	**P**	**20 08 45.5**	**+0.6**
	7.2nm,0.9s,mb4.1,baz=61,slow=9.2,SNR=7.9						
BILL	**Bilibino**	**21.94**	**12**	*e*P	**P**	**20 08 46.1**	**-0.4**
BILL				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.3						
BILL	**Bilibino**	**21.94**	**12**	*e*P	**P**	**20 08 46.0**	**-0.5**
	comp=Z,20nm,1.3s,mb4.4						
BOD	**Bodaibo**	**26.57**	**309**	*e*P	**P**	**20 09 29.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.1s,mb3.8						
BOD				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.9						
TIXI	**Tiksi**	**27.50**	**343**	*e*P	**P**	**20 09 38.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
TIXI	**Tiksi**	**27.50**	**343**	*e*P	**P**	**20 09 38.5**	**-0.9**
	comp=Z,11nm,1.1s,mb4.4						
SONM	**Songino Array**	**32.15**	**290**	P	**P**	**20 10 19.7**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.6,baz=88,slow=11,SNR=3.3						
SONM	**Songino Array**	**32.15**	**290**	P	**P**	**20 10 19.7**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**33.44**	**295**	*e*P	**P**	**20 10 30.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
LZH	**Lanzhou**	**38.84**	**272**	*e*P	**P**	**20 11 19.6**	**+1.5**
LZH				AP	pP	20 11 28.3	+7.1
LZH				XP	sP	20 11 31.9	+10
LZH				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.0						
LZH	**Lanzhou**	**38.84**	**272**	*e*P	**P**	**20 11 19.6**	**+1.5**
LZH				*SP	sP	20 11 31.9	+10
LZH						20 12 40.5	
LZH				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.0						
LZH	**Lanzhou**	**38.84**	**272**	*e*P	**P**	**20 11 19.6**	**+1.5**
	comp=Z,39nm,1.1s,mb5.0						
LZH				pP	pP	20 11 28.2	+7.0
LZH				sP	sP	20 11 31.9	+10
LZH				PP	PP	20 12 40.5	-6.5
LZH				*e*S	**S**	**20 17 18.5**	**+2.7**
LZH				sS	sS	20 17 24.0	+3.1
LZH				*e*SS	SS	20 20 02.2	-4.6
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS5.0						
CD2	**Chengdu**	**41.85**	**266**	⇑ *i*P	P	**20 11 43.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA	**Guiyang**	**42.70**	**258**	⇑ *i*P	**P**	**20 11 50.3**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**43.25**	**306**	P	**P**	**20 11 54.0**	**-0.4**
	comp=Z,1.1nm,0.5s,mb3.9,baz=84,slow=8.4,SNR=4.3						
ZAL	**Zalesovo**	**43.25**	**306**	P	**P**	**20 11 54.0**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**43.79**	**308**	*e*P	**P**	**20 11 57.0**	**-1.8**
MK31	**Makanchi Array**	**47.67**	**298**	*e*P	**P**	**20 12 29.1**	**-0.4**
MKAR	**Makanchi Array**	**47.67**	**298**	P	**P**	**20 12 29.4**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=72,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**47.67**	**298**	P	**P**	**20 12 29.4**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.67**	**298**	P	**P**	**20 12 29.4**	**0.0**
CHKZ	**Chkalovo**	**51.00**	**310**	*e*P	**P**	**20 12 53.6**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,89nm,0.4s						
CHKZ	**Chkalovo**	**51.00**	**310**	*e*P	**P**	**20 12 53.6**	**-1.3**
	comp=Z,89nm,0.4s						
LSA	**Lhasa**	**51.21**	**274**	*e*P	**P**	**20 12 58.8**	**+2.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.21**	**274**	*e*P	**P**	**20 12 58.8**	**+2.3**
	comp=Z,4.6nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.44**	**310**	P	**P**	**20 12 57.9**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=56,slow=7.5,SNR=7.4						
BVAR				LR	LR	20 35 02.0	
	comp=Z,768nm,18.5s,MS4.8,baz=319,slow=36						
BVAR	**Borovoye Array**	**51.44**	**310**	P	**P**	**20 12 57.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,768nm,18.5s						
ZRNK	**Zerenda**	**52.20**	**310**	*e*P	**P**	**20 13 03.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.20**	**310**	*e*P	**P**	**20 13 03.3**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2						
CHTO	**Chiang Mai**	**53.11**	**258**	*e*P	**P**	**20 13 10.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
CHTO	**Chiang Mai**	**53.11**	**258**	*e*P	**P**	**20 13 10.8**	**+0.3**
	comp=Z,4.5nm,1.1s,mb4.3						
ARCES	**ARCESS Array B**	**57.92**	**341**	P	**P**	**20 13 47.0**	**+1.7**
	comp=Z,7.6nm,0.8s,mb4.8,baz=29,slow=9.1,SNR=5.7						
ARCES	**ARCESS Array B**	**57.92**	**341**	P	**P**	**20 13 47.0**	**+1.8**
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**20 14 28.2**	**+0.3**
	comp=Z,2.0nm,0.4s,mb4.5,baz=40,slow=7.7,SNR=8.0						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**20 14 28.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**20 14 54.0**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=26,slow=6.4,SNR=5.9						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**20 14 54.0**	**-0.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**68.55**	**340**	P	**P**	**20 14 56.1**	**+0.4**
	comp=Z,4.1nm,0.6s,mb4.5,baz=33,slow=3.5,SNR=5.7						
HFS	**Hagfors**	**68.55**	**340**	P	**P**	**20 14 56.1**	**+0.4**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**72.76**	**200**	P	**P**	**20 15 19.4**	**-1.9**
	comp=Z,1.3nm,0.8s,mb3.9,baz=17,slow=5.7,SNR=5.7						
ASAR	**Alice Springs**	**72.76**	**200**	P	**P**	**20 15 19.5**	**-1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.53**	**62**	P	**P**	**20 15 43.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=307,slow=4.4,SNR=9.5						
TXAR	**Lajitas Array**	**76.53**	**62**	P	**P**	**20 15 43.0**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**76.62**	**336**	*i* P	**P**	**20 15 44.0**	**+0.2**
CLL				*i* Pmax	pP	20 15 46.3	-0.8
	comp=Z,9.0nm,1.0s						
MLR	**Muntele Rosu**	**77.40**	**326**	P	**P**	**20 15 49.3**	**+1.2**
	comp=Z,3.1nm,0.6s,mb4.4,baz=315,slow=16,SNR=3.7						
MLR	**Muntele Rosu**	**77.40**	**326**	P	**P**	**20 15 49.3**	**+1.2**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**78.64**	**335**	P	**P**	**20 15 57.7**	**+2.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=35,slow=4.9,SNR=5.1						
GERES	**GERESS Array B**	**78.64**	**335**	P	**P**	**20 15 57.7**	**+2.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAVOX	**Davos**	**81.60**	**336**	P	**P**	**20 16 12.3**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=329,slow=5.9,SNR=2.7						

ISCJB ***15*** *20:04:22.0±0.2, 47.21N±0.04×155.22E±0.04, h14km, mb5.2/151, MS4.9/9, Error ellipse: s-maj=6.1km s-min=3.5km az=116.2*
IDC ***15*** *20:04:21.0±0.5, 47.16N×155.23E, h0km, mb5.0/38, mb1 5.0/40, mb1mx5.0/42, mbtmp5.0/40, ML4.4/2, Error ellipse: s-maj=14.2km s-min=10.3km az=139.0*
NEIC ***15*** *20:04:22.6±0.2, 47.19N×155.27E, h10km, mb5.2/61, Error ellipse: s-maj=6.9km s-min=4.3km az=142.0*
MOS ***15*** *20:04:22.2±1.1, 47.28N×155.14E, h16km, mb5.4/74, Error ellipse: s-maj=7.8km s-min=4.5km az=107.7*
BJI ***15*** *20:04:22.5, 47.48N×154.92E, h10km, mB5.4, mb5.1, Ms5.0, Msz4.9*
SKHL ***15*** *20:04:24.3±1.6, 47.18N×155.03E, h52km±17km, Ms4.7/1*
SZGRF ***15*** *20:04:34.7, 48.47N×155.17E, h33km, mb5.5, Kuril Islands, Russia*
ISC 15 20:04:23.8±0.2, 4729N±004×15525E±004, h15km, h15km±1.2km: pP-P, n440, σ1§12/447, mb5.2/151, MS4.9/9, 37C-26D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**9**	*e*P	**Pn**	**20 05 20.3**	**+3.5**
SKR				*e*S	**Sn**	**20 05 55.0**	**-2.3**
SKR				A		20 05 58.5	
	1μm,0.5s						
SKR				A		20 05 58.5	
	1μm,0.5s						
SKR				A		20 05 58.5	
	460nm,0.5s						
SKR	**Severo-Kuril's**	**3.44**	**9**	PN	**Pn**	**20 05 11.6**	**-5.2**
SKR				*e*S	**Sn**	**20 05 55.0**	**-2.3**
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**3.44**	**9**	PN	**Pn**	**20 05 11.6**	**-5.2**
KUR	**Kuril'sk**	**5.52**	**251**	*e*P	**Pn**	**20 05 43.0**	**-2.4**
KUR				AMB	AMB	20 05 50.0	
	comp=E,215nm,0.7s						
KUR				AMB	AMB	20 05 50.0	
	comp=E,258nm,0.7s						
KUR				AMB	AMB	20 05 50.0	
	comp=E,473nm,0.7s						
KUR				*i* S	**Sn**	**20 06 41.0**	**-7.6**
KUR				A		20 06 47.0	
	comp=E,874nm,0.6s						
KUR				A		20 06 47.0	
	comp=E,304nm,0.6s						
KUR	**Kuril'sk**	**5.52**	**251**	*e*PN	**Pn**	**20 05 48.0**	**+2.6**
KUR				pmax	pmax		
	comp=N,220nm,0.7s						
KUR				pmax	pmax		
	comp=E,260nm,0.7s						
KUR				pmax	pmax		
	comp=Z,470nm,0.7s						
PET	**Petropavlovsk**	**6.14**	**20**	⇑ *i*PN	**Pn**	**20 05 52.5**	**-1.4**
PET				pmax	pmax		
	comp=Z,78nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,12.7s						
PET	**Petropavlovsk**	**6.14**	**20**	*e*P	**Pn**	**20 05 51.6**	**-2.3**
	comp=Z,135nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**7.34**	**247**	*e*P	**Pn**	**20 06 08.8**	**-1.6**
YUK				AMB	AMB	20 06 11.5	
	comp=Z,360nm,0.3s						
YUK				*e*S	**Sn**	**20 07 27.0**	**-6.5**
YUK				A		20 07 34.5	
	comp=Z,1μm,0.6s						
YUK				A		20 07 34.5	
	comp=Z,460nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.53**	**272**	⇑ *e*P	**Pn**	**20 06 29.0**	**+2.2**
YSS				AMB	AMB	20 06 31.0	
	comp=Z,70nm,0.8s						
YSS				AMB	AMB	20 06 31.0	
	comp=Z,50nm,0.8s						
YSS				AMB	AMB	20 06 31.0	
	comp=Z,50nm,0.7s						
YSS				*e*S	**Sn**	**20 08 03.8**	**+1.1**
YSS				A		20 08 04.6	
	comp=Z,190nm,0.9s						
YSS				AMS	AMS	20 10 58.0	
	comp=Z,2μm,14.0s						
YSS				AMS	AMS	20 10 58.0	
	comp=Z,4μm,15.0s						
YSS				AMS	AMS	20 10 58.0	
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.53**	**272**	⇑ *e*PN	**Pn**	**20 06 29.0**	**+2.2**
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,4μm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.53**	**272**	*e*P	**Pn**	**20 06 29.1**	**+2.3**
	comp=E,72nm,0.6s						
UGL	**Uglegorsk**	**8.99**	**286**	*e*P	**Pn**	**20 06 37.0**	**+3.9**
UGL				AMB	AMB	20 06 38.0	
	comp=E,89nm,0.5s						
TYV	**Tymovskoe**	**9.01**	**298**	*e*P	**Pn**	**20 06 35.5**	**+2.2**
ASAJ	**Asahikawa**	**9.41**	**255**	Pn	**Pn**	**20 06 37.8**	**-1.0**
	comp=E,5.2nm,0.3s,baz=100,slow=16,SNR=8.8						
ASAJ	**Asahikawa**	**9.41**	**255**	PN	**Pn**	**20 06 37.8**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
OKH	**Okha**	**10.04**	**313**	*e*S	**Sn**	**20 08 37.1**	**-2.8**
ERM	**Erimo**	**10.10**	**243**	PN	**Pn**	**20 06 50.1**	**+1.8**
ERM	**Erimo**	**10.10**	**243**	*e*P	**Pn**	**20 06 47.1**	**-1.1**
	comp=Z,305nm,1.0s						
MA2	**Magadan**	**12.59**	**349**	*e*PN	**Pn**	**20 07 24.0**	**+1.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.2s						
TEY	**Ternei**	**13.12**	**267**	*e*P	**Pn**	**20 07 29.0**	**-0.6**
SMY	**Shemya**	**13.27**	**59**	*e*P	**Pn**	**20 07 26.3**	**-5.3**
SMY				pmax	pmax		
	comp=Z,130nm,0.6s						
SMY	**Shemya**	**13.27**	**59**	*e*PN	**Pn**	**20 07 29.2**	**-2.4**
SMY				pmax	pmax		
	comp=Z,143nm,0.8s						
SMY	**Shemya**	**13.27**	**59**	*e*P	**Pn**	**20 07 29.2**	**-2.4**
	comp=Z,143nm,0.8s						
HABR	**Khabarovsk**	**13.61**	**282**	*e*P	**Pn**	**20 07 41.0**	**+4.7**
HABR				*e*S	**Sn**	**20 10 12.9**	**+5.7**
HABR				pmax	pmax		
	comp=Z,130nm,1.3s						
SEY	**Seymchan**	**15.76**	**355**	*e*P	**Pn**	**20 08 05.9**	**+0.8**
KLR	**Kul'dur**	**15.76**	**286**	*e*P	**Pn**	**20 08 04.2**	**-1.0**
KLR				pmax	pmax		
	comp=E,110nm,1.2s						
KLR				pmax	pmax		
	comp=Z,88nm,1.2s						
MAJO	**Matsushiro**	**16.59**	**236**	P	**Pn**	**20 08 13.1**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,100nm,0.9s						
MAJO	**Matsushiro**	**16.59**	**236**	*e*P	**Pn**	**20 08 11.4**	**-4.4**
	comp=Z,107nm,0.9s						
MAT	**Matsushiro**	**16.59**	**236**	P	**Pn**	**20 08 12.6**	**-3.1**
MJAR	**Matsushiro Arr**	**16.59**	**236**	Pn	**Pn**	**20 08 11.7**	**-4.1**

CN2 *e*XP sP 20 09 12.0 -2.0
CN2 *e*S **S** **20 12 54.0 -8.0**
CN2 AMB AMB
comp=Z,50nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,9μm,16.0s,MS5.4
CN2 LR LR
comp=E,10μm,16.0s,MS5.4
CN2 LR LR
comp=Z,11μm,18.0s,MS5.3
BILL **Bilibino** **21.55 11** *e*P **P** **20 09 12.6 0.0**
BILL pmax pmax
comp=Z,37nm,0.8s,mb4.9
BILL **Bilibino** **21.55 11** *e*P **P** **20 09 12.5 -0.1**
comp=Z,116nm,1.1s,mb5.2
KSRS **Korea Array** **22.36 254** P **P** **20 09 21.2 +0.1**
comp=Z,44nm,0.8s,mb4.9,baz=50,slow=11,SNR=32
SNY **Shenyang** **23.12 268** ⇑P **P** **20 09 27.4 -1.9**
SNY AMB AMB
comp=Z,45nm,0.7s,mb5.0
INCN **Inchon** **23.19 255** P **P** **20 09 30.9 +0.9**
SNR=7.7
INCN **Inchon** **23.19 255** *e*P **P** **20 09 30.7 +0.7**
comp=Z,143nm,0.9s,mb5.4
JNU **Nakatsue** **23.26 241** P **P** **20 09 30.5 -0.2**
comp=Z,49nm,0.8s,mb5.0,baz=264,slow=14,SNR=7.7
HIA **Hailar** **23.59 288** *e*P **P** **20 09 31.1 -2.9**
HIA pmax pmax
comp=Z,15nm,0.6s
HIA **Hailar** **23.59 288** *e*P **P** **20 09 31.1 -3.0**
comp=Z,15nm,0.6s,mb4.6
DL2 **Dalian** **25.78 263** P **P** **20 09 55.0 +1.0**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
BOD **Bodaibo** **26.78 308** *e*P **P** **20 10 00.0 -3.1**
BOD *e* 20 14 42.4
BOD pmax pmax
comp=Z,36nm,0.9s,mb4.9
CIT **Chita** **27.13 296** *e*P **P** **20 10 04.8 -1.4**
CIT pmax pmax
comp=Z,66nm,1.3s,mb5.0
TIXI **Tiksi** **27.38 342** *e*P **P** **20 10 05.7 -2.8**
TIXI pmax pmax
comp=Z,12nm,0.5s,mb4.7
TIXI **Tiksi** **27.38 342** *e*P **P** **20 10 05.7 -2.7**
comp=Z,12nm,0.5s,mb4.7
BJI **Beijing** **28.94 270** *e*P **P** **20 10 24.1 +1.7**
BJI AMB AMB
comp=Z,41nm,0.8s,mb5.2
BJI **Beijing** **28.94 270** *e*P **P** **20 10 24.1 +1.7**
comp=Z,41nm,0.8s,mb5.2
BJT **Baijiatuan** **28.96 270** *e*P **P** **20 10 22.5 0.0**
BJT pmax pmax
comp=Z,32nm,0.9s
BJT **Baijiatuan** **28.96 270** *e*P **P** **20 10 22.5 -0.1**
comp=Z,32nm,0.9s,mb5.1
JOW **Kunigami** **29.43 236** P **P** **20 10 26.1 -0.7**
comp=Z,31nm,0.9s,mb5.0,baz=62,slow=14,SNR=4.7
NJ2 **Nanjing** **31.55 254** *e*P **P** **20 10 47.8 +2.3**
NJ2 AP pP 20 10 51.0 +0.8
NJ2 XP sP 20 10 55.8 +3.7
NJ2 PP PP 20 11 51.8 -5.0
NJ2 S **S** **20 15 53.0 -0.5**
NJ2 XS sS 20 16 01.0 -0.2
NJ2 AMB AMB
comp=Z,260nm,4.5s
NJ2 LR LR
comp=N,4μm,14.6s,MS5.3
NJ2 LR LR
comp=E,3μm,17.5s,MS5.3
NJ2 LR LR
comp=Z,1μm,16.5s,MS4.7
HHC **Hu-ho-hao-te** **31.71 275** ⇓P **P** **20 10 46.8 -0.1**
HHC AP pP 20 10 51.3 -0.3
HHC XP sP 20 10 53.8 +0.3
HHC PP PP 20 11 49.8 -8.7
HHC PCP PcP 20 13 38.8 +0.5
HHC S **S** **20 15 53.3 -2.6**
HHC XS sS 20 16 01.0 -2.6
HHC SCP ScP 20 17 20.6 -0.4
HHC PCS PcS 20 17 22.3 -0.5
HHC SS SS 20 17 43.3 -29
HHC SCS ScS 20 21 16.8 -2.3
HHC AMB AMB
comp=Z,56nm,1.5s,mb5.2
HHC AMB AMB
comp=Z,1μm,9.6s
HHC LR LR
comp=N,993nm,17.3s,MS4.8
HHC LR LR
comp=E,1μm,15.3s,MS4.8
HHC LR LR
comp=Z,1μm,16.1s,MS4.8
ULN **Ulaanbaatar** **32.10 289** P **P** **20 10 49.5 -0.8**
ULN pmax pmax
comp=Z,24nm,1.0s,mb5.0
ULN **Ulaanbaatar** **32.10 289** *e*P **P** **20 10 49.3 -1.0**
comp=Z,24nm,1.0s,mb5.0
SONM **Songino Array** **32.53 289** P **P** **20 10 53.2 -0.9**
comp=Z,19nm,0.9s,mb5.0,baz=63,slow=9.0,SNR=34
SONM PcP PcP 20 13 40.0 -0.6
comp=Z,6.5nm,0.8s,baz=122,slow=2.4,SNR=9.1
SONM **Songino Array** **32.53 289** P **P** **20 10 53.2 -0.9**
SONM 20 13 40.0
SONM pmax pmax
comp=Z,19nm,0.9s
KDAK **Kodiak Island** **32.62 52** P **P** **20 10 55.0 +0.2**
comp=Z,20nm,1.0s,mb5.0,baz=260,slow=2.0,SNR=5.1
IRK **Irkutsk** **32.73 298** *e*P **P** **20 10 53.2 -2.6**
IRK pmax pmax
comp=Z,37nm,1.3s,mb5.2
BTO **Baotou** **32.87 275** *e*P **P** **20 10 57.1 +0.1**
TLY **Talaya** **33.23 297** P **P** **20 10 59.2 -1.0**
comp=Z,202nm,0.8s,mb6.1,SNR=5.6
TLY **Talaya** **33.23 297** P **P** **20 10 60.0 -0.3**
SNR=8.8
TLY **Talaya** **33.23 297** *e*P **P** **20 10 59.5 -0.7**
TLY pmax pmax
comp=Z,38nm,1.0s,mb5.3
TLY **Talaya** **33.23 297** *e*P **P** **20 10 59.3 -0.9**
comp=Z,36nm,1.0s,mb5.3
ZAK **Zakamensk** **33.78 295** P **P** **20 11 03.8 -1.1**
ZAK *e* 20 11 15.6
ZAK *e* 20 13 42.6
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
MCK **McKinley** **34.29 41** *e*P **P** **20 11 08.0 -1.4**
MCK pmax pmax
comp=Z,14nm,1.4s,mb4.7
MCK **McKinley** **34.29 41** *e*P **P** **20 11 08.0 -1.3**
comp=Z,14nm,1.4s,mb4.7
SML **Sawmill** **34.56 44** *e*P **P** **20 11 11.3 -0.5**
COLA **College** **34.80 39** P **P** **20 11 13.8 0.0**
COLA pmax pmax
comp=Z,41nm,1.2s,mb5.2
COLA **College** **34.80 39** *e*P **P** **20 11 13.8 0.0**
comp=Z,41nm,1.2s,mb5.2
MOY **Mondy** **34.84 298** *e*P **P** **20 11 11.2 -2.9**
WHN **Wuhan** **35.48 257** P **P** **20 11 20.4 +0.7**
XAN **Xi'an** **37.02 266** P **P** **20 11 32.4 -0.4**
XAN AMB AMB
comp=Z,45nm,1.3s,mb5.1
EGAK **Eagle** **37.66 39** *e*P **P** **20 11 37.2 -1.0**
comp=Z,27nm,0.9s,mb5.0
DAWY **Dawson** **38.49 40** *e*P **P** **20 11 44.5 -0.7**
LZH **Lanzhou** **39.33 273** *e*P **P** **20 11 52.9 +0.6**
LZH AP pP 20 11 55.9 -1.1
LZH XP sP 20 11 57.6 -1.3
LZH PP PP 20 13 23.9 +1.4
LZH *e*S **S** **20 17 52.0 -0.8**
LZH XS sS 20 17 57.9 -2.7
LZH *e*SS SS 20 20 35.0 -12
LZH AMB AMB
comp=Z,56nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,315nm,5.0s
LZH LR LR
comp=E,1μm,12.6s
LZH LR LR
comp=Z,2μm,14.0s,MS5.0
LZH **Lanzhou** **39.33 273** *e*P **P** **20 11 52.9 +0.6**
LZH 20 13 23.9
LZH *e*S **S** **20 17 52.0 -0.8**
LZH *e*SS SS 20 20 35.0 -12
LZH LR LR
comp=Z,2μm,14.0s,MS5.0
GTA **Gaotai** **40.33 280** P **P** **20 12 01.5 +0.9**
GTA AP pP 20 12 10.9 +5.6
GTA PCP PcP 20 14 04.3 +0.4
GTA AMB AMB
comp=Z,22nm,0.8s,mb4.9
INK **Inuvik** **40.41 33** P **P** **20 12 01.7 +0.5**
comp=Z,24nm,0.9s,mb4.9,baz=277,slow=7.5,SNR=27
INK **Inuvik** **40.41 33** P **P** **20 11 54.8 -6.4**
INK pmax pmax
comp=Z,35nm,1.0s
CD2 **Chengdu** **42.38 266** P **P** **20 12 17.8 +0.4**
CD2 XP sP 20 12 24.8 +0.7
CD2 PP PP 20 13 58.8 +3.1
CD2 S **S** **20 18 37.8 -0.4**
CD2 SS SS 20 21 39.4 -7.8
CD2 AMB AMB
comp=Z,100nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,1μm,13.2s
CD2 LR LR
comp=Z,1μm,13.2s,MS5.0
GYA **Guiyang** **43.26 259** ⇑*i*P **P** **20 12 24.9 +0.3**
GYA AP pP 20 12 28.8 -0.6
GYA XP sP 20 12 31.9 +0.7
GYA PP PP 20 14 08.8 +3.7
GYA PCP PcP 20 14 15.8 +2.3
GYA SCP ScP 20 18 05.5 +1.2
GYA S **S** **20 18 51.3 +0.2**
GYA SCS ScS 20 22 23.5 -0.8
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,160nm,5.2s
GYA LR LR
comp=N,840nm,17.5s,MS4.8
GYA LR LR
comp=E,710nm,17.8s,MS4.8
GYA LR LR
comp=Z,830nm,17.2s,MS4.7
ZAL **Zalesovo** **43.50 306** P **P** **20 12 25.1 -1.4**
comp=Z,21nm,0.5s,mb5.1,baz=51,slow=8.2,SNR=42
ZAL PcP PcP 20 14 13.7 -0.6
comp=Z,6.2nm,0.8s,baz=23,slow=3.3,SNR=3.7
ZAL **Zalesovo** **43.50 306** P **P** **20 12 25.1 -1.4**
ZAL 20 14 13.7
ZAL pmax pmax
comp=Z,21nm,0.5s
TGY **Tagaytay City** **43.71 232** P **P** **20 12 28.0 -0.2**
comp=Z,40nm,0.3s,baz=185,slow=16,SNR=4.2
TGY **Tagaytay City** **43.71 232** P **P** **20 12 28.0 -0.2**
TGY pmax pmax
comp=Z,40nm,0.3s
NVS **Novosibirsk** **44.02 308** *e*P **P** **20 12 29.1 -1.6**
NVS *e*S **S** **20 18 53.8 -8.4**
NVS pmax pmax
comp=E,60nm,0.8s
NVS pmax pmax
comp=Z,67nm,0.8s,mb5.4
NVS pmax pmax
comp=N,49nm,1.5s
NVS smax
comp=N,16nm,2.0s
NVS smax
comp=E,33nm,2.0s
WMQ **Urumqi** **46.09 292** ⇑*i*P **P** **20 12 47.3 +0.1**
WMQ AP pP 20 12 52.3 +0.3
WMQ XP sP 20 12 54.3 +0.5
WMQ PCP PcP 20 14 24.3 +1.0
WMQ PP PP 20 14 35.4 +0.1
WMQ PPP 20 15 18.9
WMQ S **S** **20 19 31.1 -1.1**
WMQ XS sS 20 19 38.8 -1.3
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,1μm,5.7s
WMQ LR LR
comp=N,1μm,17.5s,MS5.0
WMQ LR LR
comp=E,625nm,15.0s,MS5.0
WMQ LR LR
comp=Z,1μm,17.5s,MS4.9
QIZ **Qiongzhong** **46.41 248** ⇑P **P** **20 12 51.3 +1.6**
QIZ *e*S **S** **20 19 36.9 +0.1**
QIZ AMB AMB
comp=Z,30nm,1.2s,mb5.1
QIZ LR LR
comp=N,788nm,14.1s
QIZ LR LR
comp=Z,929nm,15.7s,MS4.8
KMI **Kunming** **46.78 261** P **P** **20 12 53.1 +0.5**
KMI XP sP 20 12 58.1 -1.2
KMI PP PP 20 14 44.0 +1.5
KMI AMB AMB
comp=Z,31nm,1.3s,mb5.1
KMI **Kunming** **46.78 261** P **P** **20 12 53.1 +0.5**
comp=Z,31nm,1.3s,mb5.1
KMI sP sP 20 12 58.1 -1.2
KMI PP PP 20 14 44.0 +1.5
MK31 **Makanchi Array** **47.99 298** *e*P **P** **20 13 00.8 -1.2**
MKAR **Makanchi Array** **47.99 298** P **P** **20 13 00.8 -1.2**
comp=Z,44nm,0.9s,mb5.5,baz=73,slow=6.6,SNR=50
MKAR PcP PcP 20 14 28.6 -1.4
comp=Z,5.5nm,0.6s,baz=81,slow=3.2,SNR=6.1
MKAR **Makanchi Array** **47.99 298** P **P** **20 13 00.8 -1.2**
MKAR 20 14 28.6
MKAR pmax pmax
comp=Z,44nm,0.9s
KURK **Kurchatov** **48.28 304** P **P** **20 13 03.1 -1.1**
comp=Z,665nm,0.7s,SNR=24
ALE **Alert** **49.05 6** P **P** **20 13 10.3 +0.1**
comp=Z,116nm,0.7s,mb6.0,SNR=6.8
YKA **Yellowknife Ar** **49.61 38** P **P** **20 13 14.3 -0.1**
comp=Z,13nm,0.9s,mb5.0,baz=294,slow=7.8,SNR=8.6
YKA **Yellowknife Ar** **49.61 38** P **P** **20 13 14.3 -0.1**
YKA pmax pmax
comp=Z,13nm,0.9s
RES **Resolute Bay** **49.85 19** *e*P **P** **20 13 16.9 +0.7**
comp=Z,216nm,0.5s
BVAR **Borovoye Array** **51.64 310** P **P** **20 13 29.1 -0.7**
comp=Z,44nm,0.4s,mb5.7,baz=57,slow=7.4,SNR=188
BVAR **Borovoye Array** **51.64 310** P **P** **20 13 29.1 -0.7**
BVAR pmax pmax
comp=Z,44nm,0.4s
BRVK **Borovoye** **51.68 310** P **P** **20 13 29.3 -0.8**
comp=Z,492nm,0.5s,SNR=39
BRVK **Borovoye** **51.68 310** P **P** **20 13 29.9 -0.2**
SNR=13
BRVK **Borovoye** **51.68 310** *e*P **P** **20 13 29.2 -0.9**
BRVK pmax pmax
comp=Z,48nm,0.6s,mb5.6
BRVK **Borovoye** **51.68 310** *e*P **P** **20 13 29.2 -0.8**
comp=Z,48nm,0.6s,mb5.6
LSA **Lhasa** **51.70 274** *e*P **P** **20 13 32.4 +2.2**
LSA pmax pmax
comp=Z,51nm,1.0s,mb5.4
LSA **Lhasa** **51.70 274** *e*P **P** **20 13 32.5 +2.2**
comp=Z,51nm,0.9s,mb5.5
KBS **Kingsbay** **52.18 352** *e*P **P** **20 13 34.2 +0.4**
KBS **Kingsbay** **52.18 352** ⇑*e*P **P** **20 13 33.3 -0.5**
ZRNK **Zerenda** **52.40 310** *e*P **P** **20 13 34.6 -0.8**
ZRNK pmax pmax
comp=Z,42nm,0.4s,mb5.7
ZRNK **Zerenda** **52.40 310** *e*P **P** **20 13 34.6 -0.8**
comp=Z,42nm,0.4s,mb5.7
CHTO **Chiang Mai** **53.67 258** ⇓P **P** **20 13 45.4 +0.6**
SNR=8.0
CHTO **Chiang Mai** **53.67 258** *e*P **P** **20 13 45.4 +0.6**
CHTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CHTO **Chiang Mai** **53.67 258** *e*P **P** **20 13 45.4 +0.6**
comp=Z,9.5nm,0.7s,mb4.8
SHL **Shillong** **53.84 270** *e*P **P** **20 13 44.8 -1.2**
ULHL **Ulahol** **54.05 296** P **P** **20 13 48.4 +0.8**
SNR=5.9
TKM2 **Tokmak 2** **54.07 297** P **P** **20 13 48.1 +0.4**
SNR=17
CHMS **Chumysh** **54.54 297** P **P** **20 13 52.0 +0.9**
SNR=13
USP **Ospenovka** **54.54 298** P **P** **20 13 51.4 +0.2**
SNR=28
SOKR **Solikamsk** **54.58 322** *e*P **P** **20 13 51.3 -0.1**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.3
KBK **Karagaybulak** **54.61 297** P **P** **20 13 52.0 +0.4**
SNR=18
FRU **Bishkek** **54.71 297** *e*P **P** **20 13 52.8 +0.4**
FRU pmax pmax
comp=Z,70nm,1.2s,mb5.6
KZA **Kyzart** **54.76 296** P **P** **20 13 54.9 +2.2**
SNR=16
EDM **Edmonton** **54.88 47** *e*P **P** **20 13 51.7 -1.9**
AAK **Ala-Archa** **54.90 297** P **P** **20 13 52.5 -1.2**
comp=Z,231nm,0.7s,SNR=12
AAK **Ala-Archa** **54.90 297** P **P** **20 13 53.9 +0.1**
SNR=18
AAK **Ala-Archa** **54.90 297** *d*P **P** **20 13 52.4 -1.3**
AAK pmax pmax
comp=Z,42nm,1.0s,mb5.4
AAK **Ala-Archa** **54.90 297** *e*P **P** **20 13 52.7 -1.1**
comp=Z,35nm,0.9s,mb5.4
UCH **Uchtor** **55.12 297** P **P** **20 13 56.4 +1.1**
SNR=5.8
EKS2 **Erkin-Say** **55.32 297** P **P** **20 13 57.0 +0.2**
SNR=27
ARU **Arti** **55.59 318** P **P** **20 13 58.6 -0.2**
comp=Z,553nm,0.7s,SNR=16
ARU **Arti** **55.59 318** *e*P **P** **20 13 58.4 -0.4**
ARU *e* 20 14 51.5
ARU *e* 20 15 58.8
ARU *e*S **S** **20 21 43.8 -0.1**
ARU *e*SS SS 20 25 23.5 -5.5
ARU **Arti** **55.59 318** *e*P **P** **20 13 58.2 -0.6**
comp=Z,59nm,0.6s,mb5.8
AML **Almayashu** **55.67 297** P **P** **20 14 00.6 +1.3**
SNR=16
KSH **Kashi** **55.79 293** P **P** **20 14 02.3 +2.1**
KSH *e*AP pP 20 14 07.3 +2.2
KSH *e*XP sP 20 14 11.3 +4.4
KSH *e*PCP PcP 20 15 02.3 +3.2
KSH *e*PP PP 20 16 08.5 +3.8
KSH *e*SCP ScP 20 19 02.1 +4.5
KSH *e*S **S** **20 21 47.1 +0.5**
KSH *e*XS sS 20 21 56.6 +2.0
KSH *e*PS 20 22 08.3
KSH *e*SCS ScS 20 23 47.0 -1.9
KSH *e*SS SS 20 25 29.3 -2.8
KSH LR LR
comp=Z,3μm,8.6s
DAG **Danmarks Havn** **56.15 358** ⇑*i*P **P** **20 14 02.1 -0.7**
comp=Z,77nm,1.7s,mb5.5
DAG **Danmarks Havn** **56.15 358** ⇑*i*P **P** **20 14 02.1 -0.7**
DAG pmax pmax
comp=Z,77nm,1.7s,mb5.5
YBH **Yreka Blue Hor** **56.20 63** P **P** **20 14 04.1 +1.0**
comp=Z,4.1nm,1.0s,mb4.4,baz=250,slow=2.2,SNR=3.8
YBH **Yreka Blue Hor** **56.20 63** P **P** **20 14 04.1 +1.0**
YBH pmax pmax
comp=Z,4.0nm,1.0s
JIRN **Jiri** **56.36 276** *e*P **P** **20 14 05.1 +0.9**
comp=Z,125nm,0.9s,mb5.9
GUN **Gumba** **56.41 276** *e*P **P** **20 14 05.6 +1.0**
comp=Z,33nm,0.5s,mb5.6
KKN **Kakani** **56.89 276** *e*P **P** **20 14 08.6 +0.6**
comp=Z,82nm,0.8s,mb5.8
PKI **Pulchoki** **56.94 276** *e*P **P** **20 14 09.0 +0.6**
comp=Z,108nm,1.0s,mb5.8
DMN **Daman** **57.12 276** *e*P **P** **20 14 10.6 +0.9**
comp=Z,243nm,1.2s,mb6.1
GKN **Gorkha** **57.19 277** *e*P **P** **20 14 10.7 +0.6**
comp=Z,253nm,1.1s,mb6.2
KEV **Kevo** **57.31 341** *e*p **P** **20 14 09.5 -1.5**
comp=Z,8.5nm,0.6s,mb5.0
KEV **Kevo** **57.31 341** *e*P **P** **20 14 09.5 -1.5**
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
APA **Apatity** **57.41 337** ⇓*i*P **P** **20 14 12.0 +0.3**
APA pmax pmax
comp=Z,45nm,1.1s,mb5.4
ARCES **ARCESS Array B** **57.81 341** P **P** **20 14 14.4 -0.1**
comp=Z,19nm,0.8s,mb5.2,baz=26,slow=6.5,SNR=32
ARCES **ARCESS Array B** **57.81 341** P **P** **20 14 14.5 0.0**
ARCES pmax pmax
comp=Z,19nm,0.8s
ARE0 **ARCESS Array S** **57.81 341** *e*P **P** **20 14 14.4 -0.1**
KOLN **Koldanda** **58.04 278** *e*P **P** **20 14 16.9 +0.8**
comp=Z,114nm,0.9s,mb5.9
TMCR **Tamitsa** **58.53 333** *i* P **P** **20 14 19.6 +0.1**
TMCR pmax pmax
comp=Z,118nm,1.3s,mb5.8
KTK1 **Kautokeino** **58.72 342** *e*P **P** **20 14 21.5 +0.6**
KTK1 AMb AMB 20 14 24.6
comp=Z,92nm,1.9s,mb5.5
KTK1 **Kautokeino** **58.72 342** *e*P **P** **20 14 21.5 +0.6**
comp=Z,92nm,1.9s,mb5.5
TRO **Tromso** **59.08 344** *e*P **P** **20 14 22.1 -1.2**
BOK **Bokaro** **59.10 272** *e*P **P** **20 14 24.5 +1.0**
BOK AMb AMB 20 14 28.1
comp=Z,22nm,2.1s,mb4.8
LGTI **Lohaghat** **59.21 281** *e*P **P** **20 14 25.3 +1.0**
AKTK **Aktyubinsk** **59.45 313** P **P** **20 14 25.8 -0.1**
AKTO **Aktyubinsk** **59.45 313** P **P** **20 14 25.8 -0.1**
comp=Z,21nm,0.5s,mb5.4,baz=60,slow=7.1,SNR=66
AKTO **Aktyubinsk** **59.45 313** P **P** **20 14 25.8 -0.1**
AKTO pmax pmax
comp=Z,21nm,0.5s,mb5.4
KSM **Kuching** **59.98 235** *e*P **P** **20 14 29.6 +0.1**
SUMG **Summit** **60.05 5** *e*P **P** **20 14 30.6 +0.6**
comp=Z,33nm,0.9s,mb5.4
ORR **Orenburg** **60.30 315** *e*P **P** **20 14 31.4 -0.4**
ORR pmax pmax
comp=Z,80nm,0.8s,mb5.8
QLMT **Earthquake Lak** **60.88 54** *e*P **P** **20 14 36.6 +0.9**
NVAR **Mina Array Bea** **60.88 64** P **P** **20 14 37.7 +1.9**
baz=294,slow=6.8
NIL **Nilore** **61.12 289** P **P** **20 14 39.7 +2.4**
comp=Z,184nm,1.2s,mb6.1,SNR=8.1
GCMT **Greycliff** **61.24 53** *e*P **P** **20 14 39.1 +0.9**
NDI **New Delhi** **61.72 283** *e*P **P** **20 14 39.7 -1.7**
NDI AMb AMB 20 14 48.1
comp=Z,44nm,1.2s,mb5.5
PECR **Pechory** **61.88 324** *i* P **P** **20 14 42.0 -0.5**
PECR pmax pmax
comp=Z,200nm,2.0s,mb5.9
KULM **Kulim** **62.63 246** *e*P **P** **20 14 48.0 +0.4**
MOR8 **Moi Rana** **62.94 343** *e*P **P** **20 14 47.9 -1.6**
MOR8 AMb AMB 20 14 50.6
comp=Z,89nm,1.2s,mb5.8
MOR8 **Moi Rana** **62.94 343** *e*P **P** **20 14 48.0 -1.6**
comp=Z,89nm,1.2s,mb5.8
KAKA **Kakadu** **63.12 205** *e*P **P** **20 14 48.7 -2.1**
comp=Z,14nm,0.6s,mb5.3
PDAR **Pinedale Array** **63.24 55** P **P** **20 14 51.9 +0.3**
comp=Z,5.5nm,1.1s,mb4.6,baz=283,slow=3.4,SNR=11
FIA1 **FINESS Array S** **64.16 336** *e*P **P** **20 14 57.1 -0.6**
FINES **FINESS Array B** **64.16 336** P **P** **20 14 57.2 -0.4**
comp=Z,49nm,0.9s,mb5.5,baz=36,slow=8.5,SNR=54
FINES **FINESS Array B** **64.16 336** P **P** **20 14 57.2 -0.5**
FINES pmax pmax
comp=Z,49nm,0.9s
FINES **FINESS Array B** **64.16 336** P **P** **20 14 57.2 -0.4**
MOS **Moscow** **64.81 326** *e*P **P** **20 14 58.3 -3.6**
MOS *e*S **S** **20 23 39.8 -2.4**
MOS *e* 20 24 49.0
MOS pmax pmax
comp=Z,79nm,1.6s,mb5.5
NSS **Namsos** **64.88 343** *e*P **P** **20 15 01.2 -1.2**
AJM **Ajmer** **64.89 282** *e*P **P** **20 15 02.6 +0.2**
AJM AMb AMB 20 15 07.0
comp=Z,26nm,0.9s,mb5.2
VIS **Vishakhapatnam** **64.98 269** *e*P **P** **20 15 03.4 +0.4**
VIS AMb AMB 20 15 11.5
comp=Z,81nm,1.5s,mb5.5

ULM Lac du Bonnet 65.15 42 P **P** **20 15 03.1 -1.0**
comp=Z,3.0nm,0.7s,mb4.4,baz=304,slow=10.0,SNR=3.4
RSSD Black Hills 65.35 51 *e*P **P** **20 15 05.0 -0.4**
RSSD pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
RSSD Black Hills 65.35 51 *e*P **P** **20 15 05.0 -0.4**
comp=Z,5.4nm,0.7s,mb4.7
NGP Nagpur 65.53 275 *e*P **P** **20 15 07.8 +1.3**
NGP AMb AMB 20 15 10.8
comp=Z,68nm,0.9s,mb5.7
PSI Prapat 65.64 246 P **P** **20 15 07.8 +0.5**
comp=Z,18nm,0.8s,mb5.1,baz=34,slow=2.5,SNR=21
PSI Prapat 65.64 246 P **P** **20 15 07.8 +0.5**
PSI pmax pmax
comp=Z,18nm,0.9s,mb5.1
OBN Obninsk 65.68 326 *e*P **P** **20 15 05.5 -2.0**
OBN *e* 20 17 30.1
OBN pmax pmax
comp=Z,38nm,1.1s,mb5.3
OBN Obninsk 65.68 326 *e*P **P** **20 15 05.8 -1.7**
comp=Z,28nm,0.6s,mb5.5
ABKT Ailbek 67.57 302 P **P** **20 15 20.9 +1.3**
comp=Z,277nm,0.9s,SNR=18
VRSR Storozhevoye 67.58 322 *e*P **P** **20 15 19.2 -0.5**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,50nm,2.1s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 67.72 322 *e*P **P** **20 15 18.6 -2.0**
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VORD pmax pmax
comp=N,20nm,0.8s
NB2 NORSAR Subarra 68.18 342 P **P** **20 15 22.7 -0.7**
comp=Z,43nm,1.1s,mb5.4,baz=30,slow=6.5
NOA NORSAR Array B 68.18 342 P **P** **20 15 23.0 -0.4**
comp=Z,18nm,0.8s,mb5.1,baz=26,slow=6.4,SNR=18
NOA NORSAR Array B 68.18 342 P **P** **20 15 23.0 -0.4**
NOA pmax pmax
comp=Z,19nm,0.9s
HYB Hyderabad 68.44 273 *i* P **P** **20 15 25.0 -0.1**
HYB Hyderabad 68.44 273 *e*P **P** **20 15 25.0 -0.1**
HFS Hagfors 68.45 340 P **P** **20 15 24.8 -0.4**
comp=Z,16nm,0.5s,mb5.3,baz=46,slow=4.3,SNR=30
HFS Hagfors 68.45 340 P **P** **20 15 24.8 -0.3**
HFS pmax pmax
comp=Z,16nm,0.5s
HYA Hoyanger 69.04 345 *e*P **P** **20 15 30.5 +1.6**
MNK Minsk 69.28 330 *e*P **P** **20 15 27.0 -3.3**
WRAB Tennant Creek 69.51 201 *e*P **P** **20 15 29.6 -2.1**
WRAB pmax pmax
comp=Z,71nm,1.9s,mb5.3
WRAB Tennant Creek 69.51 201 *e*P **P** **20 15 29.6 -2.1**
comp=Z,71nm,1.9s,mb5.3
WB2 Warramunga Arr 69.52 201 *e*P **P** **20 15 29.7 -2.1**
WRA Warramunga Arr 69.52 201 P **P** **20 15 29.6 -2.2**
comp=Z,6.5nm,0.8s,mb4.6,baz=21,slow=7.1,SNR=19
WRA Warramunga Arr 69.52 201 P **P** **20 15 29.6 -2.2**
WRA pmax pmax
comp=Z,7.0nm,0.8s
KONO Kongsberg 69.78 342 *e*P **P** **20 15 33.4 0.0**
KONO AMb AMB 20 15 45.0
comp=Z,38nm,1.5s,mb5.1
KONO Kongsberg 69.78 342 *e*P **P** **20 15 33.4 0.0**
comp=Z,38nm,1.5s,mb5.1
ASK Askoy 69.86 345 *e*P **P** **20 15 36.1 +2.2**
ASK AMb AMB 20 15 38.3
comp=Z,198nm,2.3s,mb5.6
ASK Askoy 69.86 345 *e*P **P** **20 15 36.1 +2.2**
comp=Z,198nm,2.3s,mb5.6
ODD1 Odda 70.13 344 *e*P **P** **20 15 35.0 -0.5**
FITZ Fitzroy Crossi 70.33 210 *e*P **P** **20 15 35.9 -0.8**
comp=Z,6.9nm,0.8s,mb4.6
FITZ Fitzroy Crossi 70.33 210 P **P** **20 15 34.9 -1.9**
comp=Z,4.2nm,0.8s,mb4.4,baz=3.7,slow=6.8,SNR=8.0
BLS5 Blasjo 70.61 344 *e*P **P** **20 15 42.0 +3.5**
POO Poona 70.86 277 *e*P **P** **20 15 39.0 -1.0**
SUW Suwalki 71.21 332 *e*P **P** **20 15 41.4 -0.7**
SUW Suwalki 71.21 332 P **P** **20 15 41.5 -0.6**
SUW pmax pmax
comp=Z,58nm,1.0s,mb5.5
KIV Kislovodsk 71.46 315 P **P** **20 15 44.7 +1.1**
comp=Z,299nm,1.5s,mb6.0,SNR=5.4
KIV Kislovodsk 71.46 315 P **P** **20 15 44.6 +0.9**
SNR=8.6
KIV Kislovodsk 71.46 315⇑ *e*P **P** **20 15 44.3 +0.7**
KIV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV Kislovodsk 71.46 315 *e*P **P** **20 15 44.1 +0.5**
comp=Z,66nm,1.1s,mb5.5
KAD Karad 71.49 276 *e*P **P** **20 15 44.0 +0.2**
KAD *e*P 20 15 44.1
KAD AMb AMB 20 15 52.6
comp=Z,84nm,1.2s,mb5.6
ZEI Tsey 71.75 314 *e*P **P** **20 15 44.7 -0.7**
ZEI *e**PP pP 20 15 52.7 +2.3
ZEI *e* 20 16 00.7
ZEI *e* 20 18 22.3
ZEI pmax pmax
comp=Z,20nm,1.0s,mb5.0
AKASG Malin Array Be 71.90 327 P **P** **20 15 45.3 -1.0**
comp=Z,7.3nm,0.5s,mb4.9,baz=33,slow=6.1,SNR=18
AKASG Malin Array Be 71.90 327 P **P** **20 15 45.3 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 71.90 327 *e*P **P** **20 15 45.0 -1.3**
KIEV Kiev 71.91 327 P **P** **20 15 44.5 -1.8**
KIEV pmax pmax
comp=Z,22nm,0.9s,mb5.1
KIEV Kiev 71.91 327 *e*P **P** **20 15 45.1 -1.2**
comp=Z,22nm,0.9s,mb5.1
SCHQ Schefferville 72.23 24 P **P** **20 15 47.1 -1.2**
comp=Z,2.9nm,1.0s,mb4.2,baz=237,slow=14,SNR=2.0
AS31 Alice Springs 73.20 200 *e*P **P** **20 15 52.4 -1.7**
ASAR Alice Springs 73.21 200 P **P** **20 15 53.0 -1.1**
comp=Z,5.0nm,0.7s,mb4.5,baz=14,slow=5.9,SNR=21
ASAR Alice Springs 73.21 200 P **P** **20 15 53.0 -1.1**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASPA Alice Springs 73.21 200 *e*P **P** **20 15 52.9 -1.2**
GNI Garni 73.28 311 P **P** **20 15 56.7 +2.2**
comp=Z,16nm,0.7s,mb5.0,baz=17,slow=2.6,SNR=9.6
GNI Garni 73.28 311 *e*P **P** **20 15 53.9 -0.6**
GNI pmax pmax
comp=Z,43nm,1.7s
SIM Simferopol' 74.58 321 *ce*P **P** **20 16 02.2 +0.1**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIS Kishinev 75.09 325 *e*P **P** **20 16 04.0 -1.0**
KWP Kalwaria 75.09 330 *e*P **P** **20 16 05.3 +0.2**
KWP Kalwaria 75.09 330 P **P** **20 16 05.1 0.0**
KWP pmax pmax
comp=Z,83nm,1.0s,mb5.6
ERZM Erzurum 75.17 313 *i* P **P** **20 16 07.1 +1.7**
TVAN Van 75.18 311 *i* P **P** **20 16 06.7 +1.2**
IAS Iasi 75.41 326 P **P** **20 16 06.3 -0.6**
OJC Ojcow 75.54 332 *e*P **P** **20 16 07.8 +0.2**
STHS Stebnicka Huta 75.77 331 *e*P **P** **20 16 09.2 +0.3**
STHS *ep*P pP 20 16 16.8 +2.8
STHS Stebnicka Huta 75.77 331 *e*P **P** **20 16 09.3 +0.4**
STHS *e* 20 16 16.8
STHS pmax pmax
comp=Z,29nm,1.0s,mb5.2
STHS Stebnicka Huta 75.77 331 *e*P **P** **20 16 09.3 +0.4**
comp=Z,29nm,1.0s,mb5.2
STHS *e* 20 16 16.8
KOLS Kolonicke sedl 75.84 330 *e*P **P** **20 16 09.1 -0.3**
KOLS *e*PP PP 20 18 50.9 -8.5
TRD Trivandrum 75.86 267 *e*P **P** **20 16 10.9 +1.4**
BURAR Bucovina Array 75.93 328⇑ *i*P **P** **20 16 09.9 0.0**
BURAR Bucovina Array 75.93 328⇑ P **P** **20 16 09.8 0.0**
LTX Lajitas 75.95 62 *e*P **P** **20 16 10.8 +0.8**
LTX pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LTX Lajitas 75.95 62 *e*P **P** **20 16 10.8 +0.8**
comp=Z,6.5nm,0.8s,mb4.6
TXAR Lajitas Array 75.95 62 P **P** **20 16 10.5 +0.5**
comp=Z,5.4nm,0.8s,mb4.5,baz=301,slow=4.5,SNR=6.2
TXAR Lajitas Array 75.95 62 P **P** **20 16 10.5 +0.5**
TXAR pmax pmax
comp=Z,5.0nm,0.8s

KSP Ksiaz 76.06 335 *e*P **P** **20 16 10.7 +0.1**
KSP *ep*P pP 20 16 13.5 -2.1
NIE Niedzica 76.07 332 *e*P **P** **20 16 10.7 0.0**
UZH Uzhgorod 76.09 330 *e*P **P** **20 16 15.6 +4.8**
EKA Eskdalemuir Ar 76.14 347 P **P** **20 16 10.8 -0.3**
comp=Z,5.5nm,0.4s,mb4.8,baz=14,slow=4.9,SNR=48
EKA Eskdalemuir Ar 76.14 347 P **P** **20 16 10.8 -0.3**
EKA pmax pmax
comp=Z,6.0nm,0.4s
OKC Ostrava-Krasne 76.39 333 *e*P **P** **20 16 12.1 -0.4**
OKC *ep*P pP 20 16 15.7 -1.8
UPC Upice 76.44 335 *e*P **P** **20 16 12.7 -0.1**
UPC *ep*P pP 20 16 16.6 -1.2
DPC Dobruska-Polom 76.48 334 *e*P **P** **20 16 12.8 -0.2**
DPC *ep*P pP 20 16 16.3 -1.8
CLL Collm 76.56 337⇓ *i*P **P** **20 16 12.9 -0.6**
CLL *i* pP 20 16 18.0 -0.5
CLL pmax pmax
comp=Z,23nm,1.0s,mb5.1
CLL Collm 76.56 337⇓ *i*P **P** **20 16 12.9 -0.6**
comp=Z,23nm,1.0s,mb5.1
CLL *i* pP 20 16 16.4 -2.1
CLL *i* pP 20 16 18.0 -0.5
CLL Collm 76.56 337⇓ *i*P **P** **20 16 12.9 -0.6**
comp=Z,23nm,1.0s,mb5.1
CLL *i* pP pP 20 16 16.9 -1.6
CLL *i* sP sP 20 16 18.0 -2.3
comp=Z,41nm,1.0s
MORC Moravsky Berou 76.63 333⇓ *i*P **P** **20 16 13.8 0.0**
MORC Moravsky Berou 76.63 333 P **P** **20 16 14.2 +0.4**
MORC pmax pmax
comp=Z,39nm,1.1s,mb5.2
MORC Moravsky Berou 76.63 333⇓ P **P** **20 16 13.8 0.0**
BRG Berggiesshubel 76.70 336 *i* P **P** **20 16 13.4 -0.9**
comp=Z,5.4nm,1.1s,mb4.4
BRG *i* pP 20 16 18.5 -0.8
comp=Z,21nm,1.5s
KECS Kecovo 76.83 331 *e*P **P** **20 16 14.9 -0.1**
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KECS Kecovo 76.83 331 *e*P **P** **20 16 14.9 -0.1**
comp=Z,9.3nm,0.9s,mb4.7
PVCC Panska Ves 76.83 335 *e*P **P** **20 16 14.9 -0.1**
PVCC *ep*P pP 20 16 18.5 -1.5
CFR Carcaliu 76.86 325 P **P** **20 16 17.1 +1.9**
PLOR Plostina 76.88 326⇑ *i*P **P** **20 16 19.0 +3.8**
MSL Mosul 77.04 310 *i* x x 20 16 17.0
BOYT Boyabat 77.05 318 *i* P **P** **20 16 11.7 +0.9**
PRU Pruhonice 77.33 335 *e*P **P** **20 16 17.6 -0.2**
PRU *ep*P pP 20 16 21.3 -1.5
VRAC Vranov 77.33 334 P **P** **20 16 18.4 +0.6**
comp=Z,26nm,1.1s,mb5.1,baz=28,slow=22,SNR=6.0
VRAC Vranov 77.33 334⇑ *i*P **P** **20 16 18.0 +0.2**
VRAC Vranov 77.33 334⇑ P **P** **20 16 17.9 +0.2**
HARR Harsova 77.35 324 P **P** **20 16 21.4 +3.5**
TIRR Tirgusor 77.35 324⇓ *i*P **P** **20 16 17.8 -0.1**
TIRR Tirgusor 77.35 324 P **P** **20 16 17.6 -0.3**
TIRR Tirgusor 77.35 324⇓ P **P** **20 16 17.8 -0.1**
VYHS Vyhne 77.35 332 *e*P **P** **20 16 18.1 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VYHS Vyhne 77.35 332 *e*P **P** **20 16 18.1 +0.2**
comp=Z,8.9nm,1.0s,mb4.7
MLR Muntele Rosu 77.45 326 P **P** **20 16 19.2 +0.8**
comp=Z,49nm,0.9s,mb5.5,baz=98,slow=2.8,SNR=14
MLR Muntele Rosu 77.45 326⇑ *i*P **P** **20 16 19.5 +1.1**
MLR Muntele Rosu 77.45 326 P **P** **20 16 19.2 +0.8**
MLR pmax pmax
comp=Z,49nm,0.9s
MLR Muntele Rosu 77.45 326⇑ P **P** **20 16 19.6 +1.1**
WTSB Winterswijk 77.49 341 *e*P **P** **20 16 24.2 +5.6**
comp=Z,34nm,0.7s,mb5.4
PSZ Piszkesteto 77.51 331⇑ *i*P **P** **20 16 23.3 +4.5**
PSZ Piszkesteto 77.51 331 P **P** **20 16 19.4 +0.6**
PSZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
PSZ Piszkesteto 77.51 331⇑ P **P** **20 16 23.3 +4.5**
PSZ Piszkesteto 77.51 331⇑ *e*P **P** **20 16 19.4 +0.6**
DRGR 77.53 329⇓ *i*P **P** **20 16 22.4 +3.5**
DRGR 77.53 329⇓ P **P** **20 16 22.4 +3.6**
MOX Moxa 77.53 337 *e*P **P** **20 16 18.9 0.0**
comp=Z,35nm,1.3s,mb5.1
MOX Moxa 77.53 337 *e*P **P** **20 16 18.9 0.0**
MOX pmax pmax
comp=Z,87nm,1.3s,mb5.5
NKC Novy Kostel 77.69 337 *e*P **P** **20 16 19.1 -0.7**
SNX Sinaia 77.72 326⇓ *i*P **P** **20 16 25.3 +5.3**
SNX Sinaia 77.72 326⇓ P **P** **20 16 25.3 +5.3**
CTKT Corum 77.74 318 *i* P **P** **20 16 20.9 +0.9**
VOIR 77.83 327⇓ *i*P **P** **20 16 21.5 +0.9**
MTUR Matau 78.00 327⇓ *i*P **P** **20 16 26.5 +5.0**
MTUR Matau 78.00 327⇓ P **P** **20 16 26.5 +5.0**
ZST Bratislava 78.16 333 *e*P **P** **20 16 23.7 +1.3**
ZST *e* pP 20 16 28.4 +0.9
ZST pmax pmax
comp=Z,19nm,1.1s,mb4.9
ZST Bratislava 78.16 333 *e*P **P** **20 16 23.7 +1.3**
comp=Z,19nm,1.1s,mb5.0
ZST *e* pP 20 16 28.4 +0.9
BUD Budapest 78.18 331 *e*P **P** **20 16 22.8 +0.3**
KHC Kasperske Hory 78.37 335 *e*P **P** **20 16 23.6 0.0**
KHC *ep*P pP 20 16 28.2 -0.4
ELDT Eldivan 78.46 319 *i* P **P** **20 16 24.9 +0.8**
GRA1 Grafenberg Arr 78.51 337 *e*P **P** **20 16 24.9 +0.6**
comp=Z,39nm,1.0s,mb5.3
GRA1 *e* pP 20 16 28.3 -1.1
GRA1 *e* pP 20 16 30.3 +0.9
GRF Grafenberg Arr 78.51 337 *e*P **P** **20 16 24.9 +0.6**
comp=Z,39nm,1.0s,mb5.3
GRF *e* pP 20 16 28.3 -1.1
GRF *e* pP 20 16 30.3 +0.9
comp=Z,39nm,1.0s
GRF Grafenberg Arr 78.51 337 *e*P **P** **20 16 24.9 +0.6**
GRF *e* pP 20 16 30.3 +0.9
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.3
GRFO Grafenberg 78.51 337 *e*P **P** **20 16 25.0 +0.7**
GRFO pmax pmax
comp=Z,40nm,0.9s,mb5.3
GRFO Grafenberg 78.51 337 *e*P **P** **20 16 24.9 +0.6**
comp=Z,40nm,0.9s,mb5.3
GERES GERESS Array B 78.59 335 P **P** **20 16 24.8 0.0**
comp=Z,3.7nm,0.5s,mb4.6,baz=35,slow=5.3,SNR=17
GERES GERESS Array B 78.59 335 P **P** **20 16 24.8 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.5s
DLF Lyons Farm 78.59 349⇑ *i*P **P** **20 16 26.4 +1.6**
DCN Croghan 78.64 349⇑ *i*P **P** **20 16 26.6 +1.5**
BHD Baghdad 78.65 307 *ex* x 20 16 20.0
GZR Gura Zlata 78.70 328⇑ *i*P **P** **20 16 25.4 0.0**
GZR Gura Zlata 78.70 328⇑ P **P** **20 16 25.4 0.0**
SOP Sopron 78.79 333⇑ *e*P **P** **20 16 26.7 +0.8**
HGN Heimansgroeve 78.81 341 *e*P **P** **20 16 26.2 +0.2**
comp=Z,39nm,1.1s,mb5.3
BSY Bisya 78.84 291 P **P** **20 16 26.9 +0.7**
SNR=5.3
BZS Buzias 78.92 329⇓ *i*P **P** **20 16 25.9 -0.7**
BZS Buzias 78.92 329⇓ P **P** **20 16 25.9 -0.7**
BR131 Keskin Array S 78.98 318 *e*P **P** **20 16 27.4 +0.5**
comp=Z,27nm,0.9s,mb5.2
BRTR Keskin Array B 78.98 318 P **P** **20 16 27.6 +0.6**
comp=Z,20nm,0.8s,mb5.1,baz=60,slow=1.9,SNR=26
BRTR Keskin Array B 78.98 318 P **P** **20 16 27.6 +0.7**
BRTR pmax pmax
comp=Z,21nm,0.9s
GZT Gaziantep 79.02 314 *i* P **P** **20 16 21.1 -6.0**
AVNT Avonos 79.18 317 *i* P **P** **20 16 28.5 +0.5**
ZIMR 79.22 325 P **P** **20 16 31.2 +3.0**
ANTO Ankara 79.25 319⇑ *i*P **P** **20 16 29.3 +0.9**
ANTO Ankara 79.25 319 P **P** **20 16 29.4 +1.0**
ANTO pmax pmax
comp=Z,28nm,0.7s,mb5.3
ANTO Ankara 79.25 319⇑ P **P** **20 16 29.3 +0.9**
MOA Molln 79.33 334⇑ *i*P **P** **20 16 28.0 -0.9**
comp=Z,16nm,1.1s,mb4.9
PKSM Moragy 79.42 331⇓ *i*P **P** **20 16 31.9 +2.6**
PKSM Moragy 79.42 331 P **P** **20 16 31.7 +2.4**
PKSM Moragy 79.42 331⇓ P **P** **20 16 31.9 +2.6**
ARSA Arzberg 79.49 333⇑ *i*P **P** **20 16 30.3 +0.5**
comp=Z,22nm,1.6s,mb4.8
KBA Koelnbreinsper 80.29 335⇑ *i*P **P** **20 16 35.3 +1.2**
comp=Z,85nm,1.6s,mb5.4,SNR=8.4
COBT Iskenderun 80.32 314 *i* P **P** **20 16 33.2 -1.0**

ESKT Eskisehir 80.40 320 *i* P **P** **20 16 34.3 -0.3**
OBKA Obir 80.45 334⇑ *i*P **P** **20 16 39.5 +4.6**
comp=Z,15nm,1.3s,mb4.8
OBKA Obir 80.45 334⇓ *i*P **P** **20 16 37.8 +2.9**
comp=Z,15nm,1.3s,mb4.8
BFO Black Forest 80.51 338 *e*P **P** **20 16 34.8 -0.4**
BFO pmax pmax
comp=Z,27nm,1.1s,mb5.1
BFO Black Forest 80.51 338 *e*P **P** **20 16 34.8 -0.4**
comp=Z,26nm,1.1s,mb5.1
WATA Walderalm 80.56 336⇑ *i*P **P** **20 16 36.4 +0.9**
comp=Z,8.8nm,0.4s,mb5.0
WTTA Wattenberg 80.61 336⇑ *i*P **P** **20 16 36.9 +1.1**
comp=Z,79nm,1.2s,mb5.5,SNR=9.3
MOTA Moosalm 80.69 336 *i* P **P** **20 16 36.7 +0.6**
comp=Z,36nm,0.9s,mb5.3,SNR=6.4
CDF Champ du Feu 80.69 339 *e*P **P** **20 16 35.5 -0.7**
comp=Z,64nm,1.2s,mb5.1
CDF Champ du Feu 80.69 339 *e*P **P** **20 16 35.5 -0.7**
CDF pmax pmax
comp=Z,32nm,1.2s,mb5.1
CDF Champ du Feu 80.69 339 *e*P **P** **20 16 35.5 -0.7**
comp=Z,32nm,1.2s,mb5.1
GRUS Gruza 80.74 329 *i* P **P** **20 16 35.6 -0.9**
SQTA Sankt Quirin 80.77 336⇑ *i*P **P** **20 16 37.5 +0.9**
comp=Z,41nm,1.1s,mb5.3
DIVS Divcibare 80.82 329 *i* P **P** **20 16 36.3 -0.6**
DIVS Divcibare 80.82 329 *e*P **P** **20 16 39.8 +2.9**
FVI Forni Avoltri 80.89 335 P **P** **20 16 40.7 +3.4**
PTCC Patocco-Chiusa 80.90 334 P **P** **20 16 36.4 -0.9**
comp=Z,6.6nm,0.6s,mb4.7
VTS Vitosha 80.95 326 *e*P **P** **20 16 37.4 -0.2**
VTS Vitosha 80.95 326⇓ *i*P **P** **20 16 37.5 -0.1**
VTS Vitosha 80.95 326⇓ P **P** **20 16 37.5 -0.1**
GMNA Gemona 81.05 334 P **P** **20 16 43.0 +4.9**
comp=Z,89nm,0.8s,mb5.7
DAVA Damuels 81.07 337⇑ *i*P **P** **20 16 38.9 +0.7**
comp=Z,28nm,0.9s,mb5.2
ALN Alexandroupoli 81.28 324 *e*P **P** **20 16 38.8 -0.6**
BTOK Tokmak 81.42 322 *i* P **P** **20 16 43.4 +3.4**
DAVOX Davos 81.54 337 P **P** **20 16 41.4 +0.7**
comp=Z,16nm,0.7s,mb5.0,baz=358,slow=19,SNR=7.4
BRMO Bormio 81.68 336 P **P** **20 16 42.7 +1.2**
SRS Serrai 82.07 325 *e*P **P** **20 16 42.7 -0.8**
SKO Skopje 82.15 327 *i* P **P** **20 16 50.4 +6.5**
VAY Valandovo 82.29 326 *i* P **P** **20 16 50.0 +5.3**
KNT Kendrikon 82.30 326 *e*P **P** **20 16 44.4 -0.4**
GRR Gorron 82.46 344 *e*P **P** **20 16 45.0 -0.6**
comp=Z,289nm,1.7s,mb5.6
GRR Gorron 82.46 344 *e*P **P** **20 16 45.0 -0.6**
GRR pmax pmax
comp=Z,145nm,1.7s,mb5.6
GRR Gorron 82.46 344 *e*P **P** **20 16 45.0 -0.6**
comp=Z,145nm,1.7s,mb5.6
GRG Griva 82.66 326 *e*P **P** **20 16 47.4 +0.8**
DNZL Cakiroluk 82.70 320 *i* P **P** **20 16 52.7 +5.9**
KRUS Krusevo 82.74 327 *i* P **P** **20 16 51.3 +4.3**
PLG Polygyros 82.76 325 *e*P **P** **20 16 46.3 -0.8**
OHR Ohrid 83.13 327 *e*P **P** **20 16 51.9 +2.8**
SMF Signal de Mont 83.16 341 *e*P **P** **20 16 48.6 -0.6**
comp=Z,75nm,1.0s,mb5.4
SMF Signal de Mont 83.16 341 *e*P **P** **20 16 48.6 -0.6**
SMF pmax pmax
comp=Z,38nm,1.0s,mb5.4
SMF Signal de Mont 83.16 341 *e*P **P** **20 16 48.6 -0.6**
comp=Z,38nm,1.0s,mb5.4
FNA Florina 83.20 327 *e*P **P** **20 16 52.7 +3.2**
ASF Jabal al Asfar 83.45 311 P **P** **20 16 51.2 +0.5**
comp=Z,13nm,0.9s,mb4.9,baz=258,slow=7.1,SNR=9.7
ASF Jabal al Asfar 83.45 311 P **P** **20 16 51.2 +0.5**
ASF pmax pmax
comp=Z,13nm,1.0s
FSSB Fossombrone 83.53 334 P **P** **20 16 51.6 +0.5**
MMAI Mount Meron Ar 83.54 313 P **P** **20 16 52.2 +1.1**
comp=Z,13nm,0.5s,mb5.3,baz=43,slow=6.2,SNR=20
LPG La Plagne 83.54 338 *e*P **P** **20 16 51.6 +0.4**
comp=Z,98nm,1.0s,mb5.6
LPG La Plagne 83.54 338 *e*P **P** **20 16 51.6 +0.4**
LPG pmax pmax
comp=Z,49nm,1.0s,mb5.6
LPG La Plagne 83.54 338 *e*P **P** **20 16 51.6 +0.4**
comp=Z,49nm,1.0s,mb5.6
SFI Santa Sofia 83.62 334 P **P** **20 16 53.4 +1.8**
CRE Caprese Michel 83.85 334 P **P** **20 16 57.6 +4.9**
CRE pmax pmax
comp=Z,2.0nm,0.3s,mb4.7
CRE Caprese Michel 83.85 334 P **P** **20 16 57.6 +4.9**
comp=Z,1.9nm,0.3s,mb4.7
SNTG Esanatoglia 83.88 333 P **P** **20 16 53.3 +0.4**
comp=Z,4.7nm,0.6s,mb4.8
BNI Bardonecchia 83.97 338 *e*P **P** **20 16 53.2 -0.2**
BNI pmax pmax
comp=Z,14nm,0.8s,mb5.1
BNI Bardonecchia 83.97 338 *e*P **P** **20 16 53.2 -0.2**
comp=Z,14nm,0.8s,mb5.2
DOI San Damiano 84.34 338 P **P** **20 16 53.5 -1.7**
AQU L'Aquila 84.56 333 *e*P **P** **20 16 57.1 +0.8**
AQU pmax pmax
comp=Z,27nm,0.9s,mb5.4
AQU L'Aquila 84.56 333 *e*P **P** **20 16 57.1 +0.8**
comp=Z,27nm,0.9s,mb5.4
IMI Imperia 84.72 337 P **P** **20 16 57.3 +0.1**
FG5 Orsara di Pugl 84.92 331 P **P** **20 16 58.0 -0.2**
FG4 Candela 84.97 331 P **P** **20 17 02.8 +4.4**
SDI San Donato 85.01 332 P **P** **20 16 58.4 -0.2**
SDI pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SDI San Donato 85.01 332 P **P** **20 16 58.4 -0.2**
comp=Z,5.7nm,0.8s,mb4.8
CAF Calviac 85.18 341 *e*P **P** **20 16 59.2 -0.3**
comp=Z,35nm,0.8s,mb5.2
CAF Calviac 85.18 341 *e*P **P** **20 16 59.2 -0.3**
CAF pmax pmax
comp=Z,17nm,0.8s,mb5.2
CAF Calviac 85.18 341 *e*P **P** **20 16 59.2 -0.3**
comp=Z,17nm,0.8s,mb5.2
RFI Roccamonfina 85.32 332 P **P** **20 17 06.4 +6.2**
comp=Z,7.0nm,1.5s,mb4.6
SGO Sicignano 85.56 331 P **P** **20 17 01.6 +0.3**
SGO pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
SGO Sicignano 85.56 331 P **P** **20 17 01.6 +0.3**
comp=Z,2.3nm,0.6s,mb4.6
ORI Oriolo Calabro 85.61 330 P **P** **20 17 02.4 +0.8**
TDS Terranova Siba 86.01 329 P **P** **20 17 01.6 -2.0**
TIP Timpagrande 86.29 329 *e*P **P** **20 17 04.7 -0.3**
IDI Anoyia 86.53 321 P **P** **20 17 08.1 +1.9**
comp=Z,17nm,0.6s,mb5.4,baz=24,slow=9.6,SNR=14
GRI Girifalco 86.73 329 P **P** **20 17 07.2 +0.1**
KARN Karanos 86.84 322 *e*P **P** **20 17 10.0 +2.3**
ESDC Sonseca Array 91.45 344 P **P** **20 17 28.6 -0.9**
comp=Z,2.1nm,0.8s,mb4.5,baz=11,slow=3.0,SNR=7.6
KEST Kesra 91.88 333 P **P** **20 17 32.6 +1.2**
comp=Z,1.7nm,0.6s,mb4.6,baz=90,slow=2.0,SNR=2.5
TORD Torodi Ar. Bea 115.35 331 PKP PKPdf 20 23 03.8 -1.0
comp=Z,1.4nm,1.0s,baz=2.4,slow=2.6,SNR=5.3
LPAZ La Paz 132.79 64 PKP PKPdf 20 23 38.9 +0.8
comp=Z,0.7nm,0.7s,baz=314,slow=6.7,SNR=4.7
LPAZ La Paz 132.79 64 PKP PKPdf 20 23 38.9 +0.8
MAW Mawson 133.43 212 PKP PKPdf 20 23 38.2 -1.2
comp=Z,1.3nm,0.7s,baz=116,slow=3.8,SNR=4.5
MAW Mawson 133.43 212 PKIKP PKPdf 20 23 38.2 -1.2
MAW pmax pmax
comp=Z,1.0nm,0.7s
SIV San Ignacio 136.72 56 PKP PKPdf 20 23 45.3 -0.2
comp=Z,0.8nm,0.6s,baz=288,slow=16,SNR=4.4
QSPA South Pole Qui 137.03 180 *e*PKPpre 20 23 36.9
SNAA Sanae 153.47 195 PKPbc PKPbc 20 24 18.2 -3.4
comp=Z,1.5nm,0.6s,baz=162,slow=2.0,SNR=15
SNAA Sanae 153.47 195 *e*PKPdf PKPdf 20 24 12.5 -1.4
SNAA *e* 20 24 31.9
SNAA Sanae 153.47 195 PKIKP PKPbc 20 24 18.2 -3.4
SNAA pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 154.88 193 *e*PKPdf PKPdf 20 24 18.2 +2.3
VNA2 *e* 20 24 40.2
VNA2 *e* 20 24 50.0
VNA3 Neumayer Olymp 154.93 191 *e*PKPdf PKPdf 20 24 16.3 +0.3
VNA3 *e* 20 24 39.7

IDC ***15*** *20:09:04.0± 0.9, 48.10N× 15521E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/27, mbtmp4.1/11, Error ellipse: s-maj=26.3km s-min=20.0km az=128.0*

NEIC ***15*** *20:09:05.4±0.8, 48.1N×155.15E, h10km, mb4.4/1, Error ellipse: s-maj=23.6km s-min=20.2km az=111.0*
BJI ***15*** *20:09:08.4, 48.10N×155.10E, h10km, mb4.3*
MOS ***15*** *20:09:10.4±1.6, 4802N×15501E, h67km, mb4.3/9, Error ellipse: s-maj=21.3km s-min=15.3km az=67.3*
ISCJB ***15*** *20:09:11.1±1.8, 48.1N±0.1×1552E±0.1, h66km±15km, mb4.0/13, Error ellipse: s-maj=22.9km s-min=11.1km az=113.6*

ISC 15 20:09:13.0±1.6, 481N±01×1552E±02, h69km±13km, n28, σ1°24/30, mb4.0/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.67**	**13**	*e*PN	**Pn**	**20 09 54.0**	**+0.3**
SKR				*e*		20 10 28.7	
KUR	**Kuril'sk**	**5.79**	**243**	⇑*i*PN	**Pn**	**20 10 31.0**	**-5.3**
KUR				*i* S	**Sn**	**20 11 36.0**	**-5.3**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
KUR				smax			
	comp=N,110nm,0.7s						
KUR				smax			
	comp=E,120nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.50**	**267**	*e*PN	**Pn**	**20 11 13.0**	**-0.2**
YSS				S	**Sn**	**20 12 49.5**	**+2.0**
ASAJ	**Asahikawa**	**9.61**	**250**	Pn	**Pn**	**20 11 27.3**	**-1.1**
	comp=E,1.5nm,0.3s,baz=71,slow=12,SNR=6.6						
ASAJ	**Asahikawa**	**9.61**	**250**	PN	**Pn**	**20 11 27.3**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**15.53**	**283**	*e*P	**Pn**	**20 12 54.0**	**+6.4**
CN2	**Changchun**	**21.06**	**269**	*e*P	**P**	**20 13 53.3**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
KSRS	**Korea Array**	**22.55**	**252**	P	**P**	**20 14 06.8**	**-0.3**
	comp=Z,2.3nm,0.5s,mb3.8,baz=54,slow=10,SNR=7.9						
INK	**Inuvik**	**39.77**	**33**	P	**P**	**20 16 35.9**	**-3.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=309,slow=3.0,SNR=4.4						
INK	**Inuvik**	**39.77**	**33**	P	**P**	**20 16 35.9**	**-3.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.59**	**297**	P	**P**	**20 17 40.7**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=66,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**47.59**	**297**	P	**P**	**20 17 40.7**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**20 18 03.5**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**20 18 03.5**	**-1.6**
	comp=Z,2.8nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.11**	**309**	P	**P**	**20 18 07.7**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=67,slow=7.5,SNR=6.8						
BVAR	**Borovoye Array**	**51.11**	**309**	P	**P**	**20 18 07.7**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**67.41**	**342**	P	**P**	**20 20 00.7**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.7,baz=28,slow=6.7,SNR=3.1						
NOA	**NORSAR Array B**	**67.41**	**342**	P	**P**	**20 20 00.7**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**67.69**	**340**	P	**P**	**20 20 01.5**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.2,baz=74,slow=6.5,SNR=7.5						
HFS	**Hagfors**	**67.69**	**340**	P	**P**	**20 20 01.5**	**-1.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**70.99**	**210**	P	**P**	**20 20 23.2**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=63,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**73.93**	**200**	P	**P**	**20 20 40.2**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.4,baz=17,slow=5.2,SNR=4.3						
ASAR	**Alice Springs**	**73.93**	**200**	P	**P**	**20 20 40.3**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**75.36**	**347**	P	**P**	**20 20 50.3**	**+1.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=22,slow=4.1,SNR=3.0						
EKA	**Eskdalemuir Ar**	**75.36**	**347**	P	**P**	**20 20 50.3**	**+1.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**20 20 52.0**	**+1.6**
	comp=Z,2.6nm,0.6s,mb4.2,baz=299,slow=4.0,SNR=16						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**20 20 52.0**	**+1.7**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MMAI	**Mount Meron Ar**	**82.97**	**313**	P	**P**	**20 21 32.2**	**+1.8**
	comp=Z,1.7nm,0.7s,mb4.0,baz=40,slow=7.9,SNR=5.0						

IDC 15 20:14:31.5±2.2, 293N×12611E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=202.6km s-min=25.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.12**	**161**	P	P	20 19 49.7	+0.8
	1.4nm,0.7s,baz=340,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**27.50**	**164**	P	P	20 20 20.1	+0.6
	0.4nm,0.8s,baz=340,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**57.86**	**326**	P	P	20 24 24.6	-0.4
	0.2nm,0.4s,baz=128,slow=7.5,SNR=5.9						

IDC 15 20:15:55.3±1.1, 4688N×15503E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=29.9km s-min=25.5km az=145.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.15**	**257**	Pn	Pn	20 18 09.1	+0.5
	0.2nm,0.3s,baz=105,slow=25,SNR=1.9						
INK	**Inuvik**	**40.84**	**33**	P	P	20 23 36.0	-2.6
	0.4nm,0.5s,baz=202,slow=5.4,SNR=2.3						
MKAR	**Makanchi Array**	**48.05**	**298**	P	P	20 24 34.6	-1.7
	0.3nm,0.5s,baz=78,slow=8.6,SNR=4.5						
BVAR	**Borovoye Array**	**51.79**	**310**	P	P	20 25 04.1	-0.6
	0.4nm,0.3s,baz=65,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**64.48**	**336**	P	P	20 26 33.7	0.0
	0.5nm,0.4s,baz=37,slow=9.5,SNR=8.1						
HFS	**Hagfors**	**68.79**	**340**	P	P	20 27 01.9	+0.8
	3.3nm,0.9s,baz=60,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**72.76**	**200**	P	P	20 27 25.1	-0.2
	0.8nm,0.8s,baz=17,slow=5.7,SNR=8.1						
TXAR	**Lajitas Array**	**76.28**	**62**	P	P	20 27 46.6	+0.7
	1.1nm,0.5s,baz=295,slow=4.4,SNR=8.3						

NEIC ***15*** *20:19:08.5±0.5, 4686N×15531E, h10km, mb4.9/35, Error ellipse: s-maj=13.2km s-min=10.5km az=140.0*
SKHL ***15*** *20:19:09.2±2.1, 4698N×15495E, h52km±17km*
BJI ***15*** *20:19:09.5, 47.13N×154.52E, h10km, mB5.1, mb4.8, Ms4.7, Msz4.5*
IDC ***15*** *20:19:12.8±0.7, 4697N×15509E, h42km±5km, mb4.4/23, mb1 4.5/24, mb1mx4.4/29, mbtmp4.4/24, ML4.2/1, Error ellipse: s-maj=15.0km s-min=11.7km az=94.0*
MOS ***15*** *20:19:12.9±1.8, 4693N×15448E, h37km, mb5.0/55, Error ellipse: s-maj=9.5km s-min=5.6km az=117.3*
ISCJB ***15*** *20:19:13.0±0.4, 4682N±005×15463E±007, h42km, mb4.8/91, MS4.5/3, Error ellipse: s-maj=9.2km s-min=4.9km az=100.2*
SZGRF ***15*** *20:19:17.3, 4733N×15533E, h33km, mb5.2, East of Kuril Islands, Russia*

ISC 15 20:19:13.7±0.3, 4688N±005×15500E±006, h44km, h44km±1.2km: pP-P, n255, σ1°53/260, mb4.8/91, MS4.5/3, 23C-17D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**11**	*e*S	**Sn**	**20 20 46.5**	**-8.5**
SKR				A		20 20 55.0	
	230nm,0.8s						
SKR				A		20 20 55.0	
	490nm,0.8s						
SKR				A		20 20 55.0	
	450nm,0.8s						
SKR	**Severo-Kuril's**	**3.88**	**11**	*e*PN	**Pn**	**20 20 04.0**	**-6.8**
SKR				pmax	pmax		
	comp=Z,190nm,0.8s						
KUR	**Kuril'sk**	**5.23**	**254**	*e*P	**Pn**	**20 20 25.5**	**-3.9**
KUR				AMB	AMB	20 20 28.5	
	comp=Z,228nm,0.6s						
KUR				*e*S	**Sn**	**20 21 24.5**	**-3.9**
KUR				A		20 21 41.0	
	comp=Z,608nm,0.6s						
KUR				A		20 21 41.0	
	comp=Z,836nm,0.6s						
KUR	**Kuril'sk**	**5.23**	**254**	*i* PN	**Pn**	**20 20 25.5**	**-3.9**
KUR				*i* S	**Sn**	**20 21 24.5**	**-3.9**
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,610nm,0.6s						
KUR				smax			
	comp=E,840nm,0.6s						
PET	**Petropavlovsk**	**6.58**	**20**	*e*PN	**Pn**	**20 20 41.4**	**-6.5**
YUK	**Yuzh-Kuril'sk**	**7.03**	**249**	*e*P	**Pn**	**20 20 52.2**	**-1.8**
YUK				*e*S	**Sn**	**20 22 08.6**	**-4.0**
YUK				A		20 22 13.0	
	comp=E,380nm,0.4s						
YUK				A		20 22 13.0	
	comp=E,630nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.39**	**275**	⇑*e*P	**Pn**	**20 21 14.2**	**+1.6**
YSS				AMB	AMB	20 21 18.0	
	comp=E,30nm,1.0s						
YSS				*e*S	**Sn**	**20 22 47.0**	**+1.0**
YSS				A		20 22 52.8	
	comp=E,30nm,0.9s						
YSS				AMS	AMS	20 25 32.0	
	comp=E,2μm,12.0s						
YSS				AMS	AMS	20 25 32.0	
	comp=E,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.39**	**275**	⇑*e*PN	**Pn**	**20 21 14.2**	**+1.6**
YSS				*e*S	**Sn**	**20 22 47.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS				MLR	MLR		
	comp=E,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.39**	**275**	*e*P	**Pn**	**20 21 13.7**	**+1.0**
	comp=E,26nm,0.8s						
UGL	**Uglegorsk**	**8.95**	**289**	*e*P	**Pn**	**20 21 21.6**	**+1.2**
UGL				AMB	AMB	20 21 23.0	
	comp=E,180nm,1.0s						
TYV	**Tymovskoe**	**9.06**	**301**	*e*P	**Pn**	**20 21 20.0**	**-1.8**
TYV				AMB	AMB	20 21 22.0	
	comp=E,13nm,0.8s						
TYV				AMB	AMB	20 21 22.0	
	comp=E,60nm,0.8s						
ASAJ	**Asahikawa**	**9.14**	**257**	P	**Pn**	**20 21 22.9**	**-0.1**
	comp=E,2.8nm,0.3s,baz=84,slow=14,SNR=13						
ASAJ	**Asahikawa**	**9.14**	**257**	PN	**Pn**	**20 21 22.9**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**9.76**	**244**	*e*PN	**Pn**	**20 21 29.6**	**-1.9**
MA2	**Magadan**	**12.96**	**350**	*e*PN	**Pn**	**20 22 06.9**	**-8.3**
MA2				pmax	pmax		
	comp=E,20nm,3.1s						
HABR	**Khabarovsk**	**13.54**	**284**	*e*PN	**Pn**	**20 22 23.0**	**-0.1**
MAJO	**Matsushiro**	**16.21**	**236**	*e*P	**Pn**	**20 22 54.2**	**-4.1**
MAJO				pmax	pmax		
	comp=Z,26nm,0.8s						
MAJO	**Matsushiro**	**16.21**	**236**	*e*P	**Pn**	**20 22 54.2**	**-4.1**
	comp=E,26nm,0.8s						
MAT	**Matsushiro**	**16.21**	**236**	P	**Pn**	**20 22 54.7**	**-3.6**
MJAR	**Matsushiro Arr**	**16.21**	**236**	P	**Pn**	**20 22 55.1**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=30,slow=14,SNR=9.9						
MJAR	**Matsushiro Arr**	**16.21**	**236**	P	**Pn**	**20 22 55.1**	**-3.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.86**	**272**	*e*P	**Pn**	**20 23 15.7**	**-3.1**
	comp=Z,14nm,0.8s						
ZEA	**Zeya**	**18.92**	**301**	*e*P	**Pn**	**20 23 24.8**	**-6.9**
ZEA				AMB	AMB	20 23 26.2	
	comp=Z,55nm,1.4s						
CLNS	**Chul'man**	**20.93**	**309**	*e*P	**P**	**20 23 51.9**	**-0.7**
CLNS				pmax	pmax		
	comp=E,20nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s						
CLNS				pmax	pmax		
	comp=N,18nm,0.8s						
YAK	**Yakutsk**	**20.93**	**326**	*e*P	**P**	**20 23 49.4**	**-3.2**
YAK				*e*		20 24 02.2	
YAK				*e*S	**S**	**20 27 42.4**	**-0.9**
YAK				*e*SS		20 28 04.4	
YAK				pmax	pmax		
	comp=Z,28nm,1.0s						
YAK				pmax	pmax		
	comp=N,16nm,1.2s						
YAK				pmax	pmax		
	comp=E,14nm,1.1s						
YAK				smax			
	comp=N,65nm,2.5s						
YAK				smax			
	comp=Z,68nm,2.4s						
YAK				smax			
	comp=E,45nm,2.0s						
YAK				MLR	MLR		
	comp=Z,739nm,12.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,560nm,11.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,530nm,13.0s,MS4.3						
YAK	**Yakutsk**	**20.93**	**326**	*e*P	**P**	**20 23 48.0**	**-4.5**
	comp=E,26nm,0.6s						
CN2	**Changchun**	**20.94**	**272**	⇑P	**P**	**20 23 49.1**	**-3.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
BILL	**Bilibino**	**21.99**	**11**	*e*P	**P**	**20 23 58.7**	**-5.2**
BILL				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
BILL	**Bilibino**	**21.99**	**11**	*e*P	**P**	**20 23 57.8**	**-6.2**
	comp=Z,24nm,1.0s,mb4.6						
KSRS	**Korea Array**	**22.08**	**255**	P	**P**	**20 24 06.0**	**+1.2**
	comp=Z,10nm,0.7s,mb4.4,baz=48,slow=11,SNR=20						
HIA	**Hailar**	**23.55**	**289**	*e*P	**P**	**20 24 15.9**	**-4.2**
BOD	**Bodaibo**	**26.91**	**309**	*e*P	**P**	**20 24 46.4**	**-4.2**
BOD				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
CIT	**Chita**	**27.15**	**296**	*e*P	**P**	**20 24 49.0**	**-3.8**
CIT				*e*	pP	20 25 01.4	-3.1
TIXI	**Tiksi**	**27.72**	**343**	*e*P	**P**	**20 24 53.1**	**-4.7**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
TIXI	**Tiksi**	**27.72**	**343**	*e*P	**P**	**20 24 53.1**	**-4.8**
	comp=Z,7.4nm,0.7s,mb4.4						
BJI	**Beijing**	**28.77**	**271**	*e*P	**P**	**20 25 08.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
BJI	**Beijing**	**28.77**	**271**	*e*P	**P**	**20 25 08.4**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2	**Nanjing**	**31.28**	**255**	*e*P	**P**	**20 25 26.4**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.4						
HHC	**Hu-ho-hao-te**	**31.57**	**275**	*e*P	**P**	**20 25 31.0**	**-1.0**
HHC				AP	pP	20 25 35.5	-8.3
HHC				XP	sP	20 25 38.1	-11
HHC				PP	PP	20 26 34.4	-9.4
HHC				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,406nm,8.3s						
ULN	**Ulaanbaatar**	**32.08**	**290**	⇑*e*P	**P**	**20 25 34.2**	**-2.2**
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**20 25 38.3**	**-1.9**
	comp=Z,3.3nm,0.8s,mb4.3,baz=59,slow=8.6,SNR=17						
SONM				PcP	PcP	20 28 25.3	-0.9
	comp=Z,0.5nm,0.9s,baz=57,slow=5.8,SNR=2.4						
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**20 25 38.3**	**-1.9**
SONM						20 28 25.3	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KDAK	**Kodiak Island**	**33.01**	**51**	P	**P**	**20 25 40.8**	**-3.8**
	comp=Z,16nm,0.9s,mb5.0,baz=272,slow=9.1,SNR=4.2						
TLY	**Talaya**	**33.27**	**298**	*e*P	**P**	**20 25 44.6**	**-2.2**
TLY				*e*	pP	20 25 56.0	-2.7
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**33.80**	**295**	*e*P	**P**	**20 25 49.2**	**-2.2**
ZAK				*e*	pP	20 26 00.5	-2.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
SML	**Sawmill**	**34.98**	**44**	*e*P	**P**	**20 25 58.4**	**-3.2**
COLA	**College**	**35.23**	**38**	*e*P	**P**	**20 26 01.2**	**-2.6**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**35.23**	**38**	*e*P	**P**	**20 26 01.2**	**-2.6**
	comp=Z,12nm,0.8s,mb4.9						
XAN	**Xi'an**	**36.82**	**266**	P	**P**	**20 26 17.5**	**+0.1**
XAN				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.5						
EGAK	**Eagle**	**38.09**	**39**	*e*P	**P**	**20 26 24.9**	**-3.3**
	comp=Z,14nm,0.8s,mb4.8						
LZH	**Lanzhou**	**39.18**	**273**	*e*P	**P**	**20 26 38.1**	**+0.8**
LZH				AP	pP	20 26 41.0	-8.3
LZH				XP	sP	20 26 42.8	-12
LZH				PP	PP	20 28 08.8	+1.1
LZH				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,295nm,5.0s						
LZH				LR	LR		
	comp=E,659nm,12.8s						
LZH				LR	LR		
	comp=Z,980nm,14.0s,MS4.8						
LZH	**Lanzhou**	**39.18**	**273**	*e*P	**P**	**20 26 38.1**	**+0.8**
	comp=Z,51nm,1.1s,mb5.2						
LZH				pP	pP	20 26 41.0	-8.3
LZH				sP	sP	20 26 42.8	-12
GTA	**Gaotai**	**40.23**	**280**	*e*P	**P**	**20 26 46.1**	**+0.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.1						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**20 26 49.0**	**-2.1**
	comp=Z,9.7nm,0.7s,mb4.6,baz=292,slow=6.2,SNR=41						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**20 26 49.0**	**-2.1**
INK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**20 26 49.0**	**-2.1**
CD2	**Chengdu**	**42.18**	**267**	*e*P	**P**	**20 27 02.9**	**+0.8**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
GYA	**Guiyang**	**43.01**	**259**	⇑*i*P	**P**	**20 27 09.3**	**+0.5**
GYA				AP	pP	20 27 13.8	-7.1
GYA				XP	sP	20 27 16.4	-10
GYA				PP	PP	20 28 51.6	+2.4
GYA				PCP	PcP	20 28 59.8	+1.4
GYA				SCP	ScP	20 32 50.3	+4.4
GYA				S	**S**	**20 33 35.8**	**+4.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,17.3s,MS4.6						
GYA				LR	LR		
	comp=E,580nm,17.6s,MS4.6						
GYA				LR	LR		
	comp=Z,540nm,17.8s,MS4.5						
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**20 27 10.6**	**-2.9**
	comp=Z,7.5nm,0.8s,mb4.5,baz=46,slow=8.0,SNR=34						
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**20 27 10.6**	**-2.9**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NVS	**Novosibirsk**	**44.13**	**308**	*e*P	**P**	**20 27 14.6**	**-3.2**
NVS				pmax	pmax		
	comp=E,25nm,1.0s						
NVS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,14nm,1.5s						
KMI	**Kunming**	**46.54**	**261**	P	**P**	**20 27 37.4**	**+0.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
KMI	**Kunming**	**46.54**	**261**	P	**P**	**20 27 37.4**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.6						
MK31	**Makanchi Array**	**48.03**	**298**	*e*P	**P**	**20 27 46.7**	**-1.8**
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**20 27 46.8**	**-1.7**
	comp=Z,8.4nm,0.7s,mb4.9,baz=68,slow=7.8,SNR=62						
MKAR				pP	pP	20 27 59.0	-1.8
	comp=Z,9.0nm,0.8s,baz=64,slow=7.3,SNR=14						
MKAR				PcP	PcP	20 29 15.3	-0.6
	comp=Z,1.1nm,0.8s,baz=46,slow=4.2,SNR=2.5						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**20 27 46.8**	**-1.7**
MKAR				*PP	pP	20 27 59.0	-1.7
MKAR						20 29 15.3	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**20 27 46.8**	**-1.7**
MKAR				pP	pP	20 27 59.0	-1.8
MKAR				PcP	PcP	20 29 15.3	-0.6
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**20 28 10.7**	**-2.9**
CHKZ				*e*	pP	20 28 23.0	-3.0
CHKZ				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.4						
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**20 28 10.7**	**-2.9**
	comp=Z,29nm,0.6s,mb5.4						
CHKZ				*e*	pP	20 28 23.0	-3.0
LSA	**Lhasa**	**51.56**	**274**	*e*P	**P**	**20 28 17.3**	**+2.0**
LSA	**Lhasa**	**51.56**	**274**	*e*P	**P**	**20 28 17.7**	**+2.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**51.56**	**274**	*e*P	**P**	**20 28 17.7**	**+2.4**
	comp=Z,9.6nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**20 28 15.1**	**-1.8**
	comp=Z,10nm,0.6s,mb5.0,baz=54,slow=8.3,SNR=60						
BVAR				pP	pP	20 28 27.1	-2.2
	comp=Z,5.8nm,0.5s,baz=56,slow=7.0,SNR=8.9						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**20 28 15.1**	**-1.8**
BVAR				*PP	pP	20 28 27.1	-2.2
BVAR				pmax	pmax		
	comp=Z,11nm,0.6s						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**20 28 14.9**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**20 28 14.9**	**-2.2**
	comp=Z,20nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**52.53**	**310**	*e*P	**P**	**20 28 20.1**	**-2.4**
ZRNK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
ZRNK	**Zerenda**	**52.53**	**310**	*e*P	**P**	**20 28 20.1**	**-2.4**
	comp=Z,17nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**53.41**	**258**	*e*P	**P**	**20 28 30.3**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**53.41**	**258**	*e*P	**P**	**20 28 30.3**	**+1.3**
	comp=Z,6.3nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**54.10**	**297**	P	**P**	**20 28 33.4**	**-0.6**
	SNR=5.5						
USP	**Ospenovka**	**54.58**	**298**	P	**P**	**20 28 36.8**	**-0.7**
	SNR=32						
KBK	**Karagaybulak**	**54.64**	**297**	P	**P**	**20 28 37.8**	**-0.2**
	SNR=8.3						
FRU	**Bishkek**	**54.75**	**297**	*e*P	**P**	**20 28 37.8**	**-0.9**
KZA	**Kyzart**	**54.78**	**296**	P	**P**	**20 28 39.8**	**+0.8**
	SNR=6.6						
AAK	**Ala-Archa**	**54.93**	**297**	P	**P**	**20 28 40.2**	**+0.

comp=Z,6.0nm,0.9s
ARCES **ARCESS Array B** 58.15 341 P P 20 29 00.8 -2.2
TMCR **Tamitsa** 58.82 333 eP P 20 29 06.4 -1.2
TMCR pmax pmax
comp=Z,60nm,1.7s,mb5.3
AKTK **Aktyubinsk** 59.60 313 P P 20 29 11.8 -1.2
AKTK pP pP 20 29 23.7 -1.9
AKTO **Aktyubinsk** 59.60 313 P P 20 29 11.8 -1.2
comp=Z,6.2nm,0.8s,mb4.7,baz=66,slow=7.0,SNR=12
AKTO pP pP 20 29 23.7 -1.9
comp=Z,3.8nm,0.6s,baz=87,slow=13,SNR=5.1
AKTO **Aktyubinsk** 59.60 313 P P 20 29 11.8 -1.2
AKTO *PP pP 20 29 23.7 -1.9
AKTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PDAR **Pinedale Array** 63.62 55 P P 20 29 38.1 -1.9
comp=Z,0.6nm,0.8s,baz=258,slow=2.5,SNR=4.2
FINES **FINESS Array B** 64.47 336 P P 20 29 43.8 -1.9
comp=Z,4.2nm,0.5s,mb4.8,baz=39,slow=8.0,SNR=36
FINES pP pP 20 29 57.1 -1.3
comp=Z,4.3nm,0.6s,baz=40,slow=8.8,SNR=5.4
FINES **FINESS Array B** 64.47 336 P P 20 29 43.8 -1.8
FINES *PP pP 20 29 57.1 -1.3
FINES pmax pmax
comp=Z,4.0nm,0.5s
VIS **Vishakhapatnam** 64.80 269 eP P 20 29 48.9 +1.0
VIS AMb AMB 20 30 01.0
comp=Z,24nm,1.0s,mb5.2
AJM **Ajmer** 64.81 282 eP P 20 29 50.4 +2.5
AJM AMb AMB 20 29 54.0
comp=Z,11nm,1.8s,mb4.6
MOS **Moscow** 65.06 326 eP P 20 29 46.9 -2.6
MOS e pP 20 29 58.4 -3.9
OBN **Obninsk** 65.93 326 eP P 20 29 51.9 -3.2
OBN i pP 20 30 04.7 -3.2
OBN pmax pmax
comp=Z,18nm,1.1s,mb5.0
CTA **Charters Tower** 67.12 189 P P 20 30 01.6 -1.1
comp=Z,3.6nm,0.8s,mb4.4,baz=12,slow=9.3,SNR=4.3
CTA **Charters Tower** 67.12 189 P P 20 30 01.6 -1.1
CTA pmax pmax
comp=Z,4.0nm,0.8s
VRSR **Storozhevoye** 67.80 322 eP P 20 30 08.1 +1.1
VRSR pmax pmax
comp=Z,20nm,2.4s,mb4.7
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,2.5s
NB2 **NORSAR Subarra** 68.51 342 P P 20 30 09.2 -2.3
comp=Z,1.9nm,0.6s,mb4.2,baz=25,slow=6.5
NOA **NORSAR Array B** 68.51 342 P P 20 30 10.0 -1.5
comp=Z,4.9nm,0.9s,mb4.5,baz=26,slow=6.3,SNR=9.8
NOA **NORSAR Array B** 68.51 342 P P 20 30 10.0 -1.5
NOA pmax pmax
comp=Z,5.0nm,0.9s
HFS **Hagfors** 68.78 340 P P 20 30 11.6 -1.5
comp=Z,3.9nm,0.4s,mb4.7,baz=56,slow=5.6,SNR=42
HFS **Hagfors** 68.78 340 P P 20 30 11.6 -1.6
HFS pmax pmax
comp=Z,4.0nm,0.4s
WRA **Warramunga Arr** 69.08 201 P P 20 30 14.3 -0.7
comp=Z,4.9nm,0.8s,mb4.5,baz=19,slow=6.7,SNR=24
WRA **Warramunga Arr** 69.08 201 P P 20 30 14.3 -0.7
WRA pmax pmax
comp=Z,5.0nm,0.8s
FITZ **Fitzroy Crossi** 69.89 210 P P 20 30 20.5 +0.5
comp=Z,1.9nm,0.7s,mb4.1,baz=8.1,slow=7.1,SNR=5.7
POO **Poona** 70.73 277 eP P 20 30 26.0 +0.8
KAD **Karad** 71.35 276 eP P 20 30 32.3 +3.4
KAD AMb AMB 20 30 34.7
comp=Z,32nm,1.5s,mb5.0
KIV **Kislovodsk** 71.63 315 eP P 20 30 28.5 -2.1
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.9
KIV **Kislovodsk** 71.63 315 eP P 20 30 32.3 +1.7
comp=Z,15nm,0.8s,mb5.0
AKASG **Malin Array Be** 72.15 327 P P 20 30 31.8 -1.9
comp=Z,7.2nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=26
AKASG **Malin Array Be** 72.15 327 P P 20 30 31.8 -1.9
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG **Malin Array Be** 72.15 327 P P 20 30 31.8 -1.9
KIEV **Kiev** 72.16 327 eP P 20 30 31.3 -2.5
KIEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
KIEV **Kiev** 72.16 327 eP P 20 30 31.3 -2.5
comp=Z,11nm,0.8s,mb4.8
AS31 **Alice Springs** 72.76 200 eP P 20 30 37.1 -0.3
ASAR **Alice Springs** 72.76 200 P P 20 30 37.6 +0.2
comp=Z,4.7nm,0.7s,mb4.5,baz=17,slow=5.6,SNR=63
ASAR pP pP 20 30 50.5 +0.2
comp=Z,3.5nm,0.9s,baz=12,slow=6.2,SNR=7.3
ASAR **Alice Springs** 72.76 200 P P 20 30 37.6 +0.2
ASAR *PP pP 20 30 50.5 +0.2
ASAR pmax pmax
comp=Z,5.0nm,0.7s
GNI **Garni** 73.43 311 P P 20 30 43.0 +1.7
comp=Z,8.3nm,0.9s,mb4.7,baz=326,slow=3.6,SNR=3.8
GNI **Garni** 73.43 311 P P 20 30 43.0 +1.7
GNI pmax pmax
comp=Z,8.0nm,0.9s
SIM **Simferopol'** 74.79 321 eP P 20 30 50.1 +0.8
SIM pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIS **Kishinev** 75.33 325 eP P 20 30 51.0 -1.3
KWP **Kalwaria** 75.36 330 eP P 20 30 52.5 0.0
TRD **Trivandrum** 75.67 267 eP P 20 30 56.4 +2.1
TRD AMb AMB 20 31 08.9
comp=Z,38nm,1.3s,mb5.2
OJC **Ojcow** 75.82 332 eP P 20 30 54.6 -0.6
STHS **Stebnicka Huta** 76.04 331 i P P 20 30 58.5 +2.1
STHS e pP 20 31 12.9 +3.5
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS **Stebnicka Huta** 76.04 331 i P P 20 30 58.5 +2.1
comp=Z,10nm,0.8s,mb4.8
STHS e pP 20 31 12.9 +3.5
KOLS **Kolonicke sedl** 76.11 330 eP P 20 30 57.8 +1.0
BURAR **Bucovina Array** 76.18 328 ⇑iP P 20 30 56.3 -0.9
TXAR **Lajitas Array** 76.29 62 P P 20 30 56.3 -1.6
comp=Z,1.4nm,0.7s,mb4.0,baz=292,slow=3.9,SNR=9.6
TXAR **Lajitas Array** 76.29 62 P P 20 30 56.3 -1.6
TXAR pmax pmax
comp=Z,1.0nm,0.7s
NIE **Niedzica** 76.35 331 eP P 20 30 58.8 +0.6
KSP **Ksiaz** 76.35 334 eP P 20 30 59.5 +1.3
EKA **Eskdalemuir Ar** 76.51 347 P P 20 31 00.2 +1.1
comp=Z,4.0nm,0.7s,mb4.4,baz=20,slow=5.7,SNR=13
EKA **Eskdalemuir Ar** 76.51 347 P P 20 31 00.2 +1.1
EKA pmax pmax
comp=Z,4.0nm,0.7s
OKC **Ostrava-Krasne** 76.68 333 eP P 20 31 01.3 +1.3
UPC **Upice** 76.73 335 eP P 20 31 01.0 +0.7
UPC ePCP PcP 20 31 13.5 +2.0
DPC **Dobruska-Polom** 76.78 334 eP P 20 31 02.4 +1.8
DPC ePCP PcP 20 31 14.2 +2.5
DPC **Dobruska-Polom** 76.78 334 eP P 20 31 02.4 +1.8
DPC e pP 20 31 14.2 +0.6
CLL **Collm** 76.87 337 ⇑iP P 20 31 01.3 +0.2
CLL i pP 20 31 14.0 -0.1
CLL pmax pmax
comp=Z,33nm,1.2s,mb5.1
CLL **Collm** 76.87 337 ⇑iP P 20 31 01.3 +0.2
comp=Z,33nm,1.2s,mb5.1
CLL i pP 20 31 14.0 -0.1
CLL i 20 31 24.6
CLL **Collm** 76.87 337 ⇑iP P 20 31 01.3 +0.2
comp=Z,33nm,1.2s,mb5.1
CLL i pP pP 20 31 14.0 -0.1
comp=Z,19nm,1.0s
CLL i x x 20 31 24.6
MORC **Moravsky Berou** 76.92 333 ⇓iP P 20 31 03.1 +1.7
BRG **Berggiesshubel** 77.00 336 eP P 20 31 02.2 +0.3
comp=Z,15nm,1.4s,mb4.7
BRG e pP 20 31 14.3 -0.5
comp=Z,5.8nm,1.2s
BRG **Berggiesshubel** 77.00 336 eP P 20 31 02.2 +0.3
BRG e pP 20 31 14.4 -0.5
BRG pmax pmax
comp=Z,21nm,1.4s,mb4.9
CFR **Carcaliu** 77.10 325 ⇓iP P 20 31 03.4 +1.0
CFR **Carcaliu** 77.10 325 ⇓P P 20 31 03.4 +1.1
KECS **Kecovo** 77.10 331 eP P 20 31 03.3 +0.9
KECS ePCP PcP 20 31 13.7 +0.6
KECS **Kecovo** 77.10 331 eP P 20 31 03.4 +1.0
KECS e pP 20 31 13.7 -1.7
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS **Kecovo** 77.10 331 eP P 20 31 03.4 +1.0
comp=Z,4.6nm,0.9s,mb4.4
KECS e pP 20 31 13.7 -1.7
PVCC **Panska Ves** 77.13 335 eP P 20 31 03.5 +0.9
TIRR **Tirgusor** 77.58 324 ⇑iP P 20 31 06.2 +1.1
TIRR **Tirgusor** 77.58 324 eP P 20 31 05.7 +0.6
TIRR pmax pmax
comp=Z,15nm,1.0s,mb4.9
TIRR **Tirgusor** 77.58 324 eP P 20 31 05.7 +0.6
comp=Z,15nm,1.0s,mb4.9
VRAC **Vranov** 77.62 334 P P 20 31 06.6 +1.3
comp=Z,13nm,1.0s,mb4.8,baz=33,slow=6.0,SNR=10
VRAC **Vranov** 77.62 334 ⇑iP P 20 31 07.6 +2.3
VRAC **Vranov** 77.62 334 P P 20 31 06.6 +1.3
VRAC pmax pmax
comp=Z,13nm,1.0s
VRAC **Vranov** 77.62 334 ⇑P P 20 31 07.6 +2.2
PRU **Pruhonice** 77.63 335 eP P 20 31 05.2 -0.1
PRU ePCP PcP 20 31 15.8 +0.4
VYHS **Vyhne** 77.63 332 eP P 20 31 06.5 +1.1
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VYHS **Vyhne** 77.63 332 eP P 20 31 06.5 +1.1
comp=Z,6.3nm,1.0s,mb4.5
MLR **Muntele Rosu** 77.69 326 P P 20 31 07.8 +2.1
comp=Z,15nm,0.6s,mb5.1,baz=257,slow=2.1,SNR=29
MLR **Muntele Rosu** 77.69 326 ⇓iP P 20 31 08.1 +2.4
MLR **Muntele Rosu** 77.69 326 P P 20 31 07.8 +2.1
MLR pmax pmax
comp=Z,15nm,0.6s
MLR **Muntele Rosu** 77.69 326 ⇓P P 20 31 08.1 +2.4
PSZ **Piszkesteto** 77.79 331 ⇓iP P 20 31 08.4 +2.2
PSZ **Piszkesteto** 77.79 331 ⇓P P 20 31 08.4 +2.1
MOX **Moxa** 77.84 337 eP P 20 31 08.2 +1.6
comp=Z,26nm,1.4s,mb5.0
MOX **Moxa** 77.84 337 eP P 20 31 08.2 +1.6
MOX pmax pmax
comp=Z,35nm,1.4s,mb5.1
SNX **Sinaia** 77.97 326 ⇓iP P 20 31 09.8 +2.5
SNX **Sinaia** 77.97 326 ⇓P P 20 31 09.8 +2.5
NKC **Novy Kostel** 77.99 336 eP P 20 31 08.9 +1.5
NKC ePCP PcP 20 31 19.6 +2.6
MALT **Malatya** 78.00 314 ⇑iP P 20 31 08.7 +1.3
MALT **Malatya** 78.00 314 ⇑P P 20 31 08.7 +1.3
VOIR 78.08 327 ⇓iP P 20 31 10.0 +2.1
VOIR 78.08 327 ⇓P P 20 31 10.0 +2.1
ZST **Bratislava** 78.45 333 eP P 20 31 12.2 +2.3
ZST pmax pmax
comp=Z,19nm,1.5s,mb4.8
ZST **Bratislava** 78.45 333 eP P 20 31 12.2 +2.3
comp=Z,19nm,1.5s,mb4.8
KHC **Kasperske Hory** 78.67 335 eP P 20 31 10.3 -0.8
KHC ex x 20 31 24.6
GRA1 **Grafenberg Arr** 78.82 337 eP P 20 31 13.6 +1.7
comp=Z,23nm,1.2s,mb5.0
GRA1 e pP 20 31 25.9 +0.9
GRF **Grafenberg Arr** 78.82 337 eP P 20 31 13.6 +1.7
comp=Z,23nm,1.2s,mb5.0
GRF e pP 20 31 25.9 +0.9
GRF **Grafenberg Arr** 78.82 337 eP P 20 31 13.6 +1.7
GRF e pP 20 31 25.9 +0.9
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
GERES **GERESS Array B** 78.89 335 P P 20 31 13.1 +0.8
comp=Z,3.6nm,0.7s,mb4.4,baz=32,slow=4.7,SNR=21
GERES **GERESS Array B** 78.89 335 P P 20 31 13.1 +0.7
GERES pmax pmax
comp=Z,4.0nm,0.7s
GZR **Gura Zlata** 78.96 328 ⇓iP P 20 31 14.3 +1.6
GZR **Gura Zlata** 78.96 328 ⇓P P 20 31 14.3 +1.6
BR131 **Keskin Array S** 79.17 318 eP P 20 31 14.0 +0.1
comp=Z,5.5nm,0.9s,mb4.5
BRTR **Keskin Array B** 79.17 318 P P 20 31 13.9 +0.1
comp=Z,6.1nm,0.8s,mb4.6,baz=66,slow=2.5,SNR=3.6
BRTR **Keskin Array B** 79.17 318 P P 20 31 14.0 +0.1
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BZS **Buzias** 79.19 329 ⇑iP P 20 31 15.3 +1.3
BZS **Buzias** 79.19 329 P P 20 31 15.5 +1.5
BZS **Buzias** 79.19 329 ⇑P P 20 31 15.3 +1.4
STKA **Stephens Creek** 79.32 192 P P 20 31 13.9 -0.7
comp=Z,1.5nm,0.4s,mb4.3,baz=8.3,slow=9.1,SNR=3.0
ANTO **Ankara** 79.44 319 ⇓iP P 20 31 17.8 +2.4
ANTO **Ankara** 79.44 319 ⇓P P 20 31 17.8 +2.5
PKSM **Moragy** 79.70 331 ⇑iP P 20 31 17.9 +1.2
PKSM **Moragy** 79.70 331 P P 20 31 17.7 +1.0
PKSM **Moragy** 79.70 331 ⇑P P 20 31 17.9 +1.2
ARSA **Arzberg** 79.78 333 ⇑iP P 20 31 18.5 +1.3
comp=Z,9.7nm,1.1s,mb4.6
KBA **Koehlbreinsper** 80.59 335 ⇑iP P 20 31 23.2 +1.7
comp=Z,27nm,0.7s,mb5.3,SNR=21
BFO **Black Forest** 80.83 338 eP P 20 31 22.6 -0.2
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BFO **Black Forest** 80.83 338 eP P 20 31 22.6 -0.2
comp=Z,5.6nm,0.8s,mb4.5
WATA **Walderalm** 80.87 336 ⇑iP P 20 31 26.3 +3.3
comp=Z,33nm,1.1s,mb5.2
WTTA **Wattenberg** 80.92 336 iP P 20 31 26.6 +3.3
comp=Z,24nm,0.8s,mb5.2,SNR=8.2
MOTA **Moosalm** 80.99 336 ⇑iP P 20 31 26.9 +3.2
comp=Z,24nm,1.0s,mb5.1
GRUS **Gruza** 81.00 328 iP P 20 31 19.9 -3.9
CDF **Champ du Feu** 81.01 339 eP P 20 31 22.9 -0.9
comp=Z,33nm,1.1s,mb4.9
CDF **Champ du Feu** 81.01 339 eP P 20 31 22.9 -0.9
CDF pmax pmax
comp=Z,16nm,1.1s,mb4.9
CDF **Champ du Feu** 81.01 339 eP P 20 31 22.9 -0.9
comp=Z,16nm,1.1s,mb4.9
SQTA **Sankt Quirin** 81.08 336 iP P 20 31 27.3 +3.2
comp=Z,47nm,1.4s,mb5.2,SNR=8.6
DIVS **Divcibare** 81.08 329 iP P 20 31 25.6 +1.5
VTS **Vitosha** 81.20 326 ⇓iP P 20 31 27.2 +2.4
VTS **Vitosha** 81.20 326 P P 20 31 26.5 +1.7
VTS **Vitosha** 81.20 326 ⇓P P 20 31 27.2 +2.4
DAVOX **Davos** 81.84 337 P P 20 31 29.0 +0.8
comp=Z,15nm,0.9s,mb4.9,baz=25,slow=14,SNR=10.0
GRR **Gorron** 82.81 344 eP P 20 31 32.6 -0.6
comp=Z,68nm,1.3s,mb5.2
GRR **Gorron** 82.81 344 eP P 20 31 32.6 -0.6
GRR pmax pmax
comp=Z,34nm,1.3s,mb5.2
GRR **Gorron** 82.81 344 eP P 20 31 32.6 -0.6
comp=Z,34nm,1.3s,mb5.2
SMF **Signal de Mont** 83.49 340 eP P 20 31 35.6 -1.1
comp=Z,48nm,1.0s,mb5.2
SMF **Signal de Mont** 83.49 340 eP P 20 31 35.6 -1.1
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SMF **Signal de Mont** 83.49 340 eP P 20 31 35.6 -1.1
comp=Z,24nm,1.0s,mb5.2
ASF **Jabal al Asfar** 83.60 311 P P 20 31 40.0 +2.7
comp=Z,1.6nm,0.6s,mb4.3,baz=231,slow=16,SNR=3.7
ASF **Jabal al Asfar** 83.60 311 P P 20 31 40.0 +2.7
ASF pmax pmax
comp=Z,2.0nm,0.6s
MMAI **Mount Meron Ar** 83.69 313 P P 20 31 37.8 +0.1
comp=Z,7.0nm,0.7s,mb4.9,baz=38,slow=7.4,SNR=10.0
LPG **La Plagne** 83.86 338 eP P 20 31 38.7 +0.1
comp=Z,21nm,0.7s,mb5.1
LPG **La Plagne** 83.86 338 eP P 20 31 38.7 +0.1
LPG pmax pmax
comp=Z,11nm,0.7s,mb5.1
LPG **La Plagne** 83.86 338 eP P 20 31 38.7 +0.1
comp=Z,11nm,0.7s,mb5.1
BNI **Bardonecchia** 84.29 338 eP P 20 31 41.2 +0.4
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BNI **Bardonecchia** 84.29 338 eP P 20 31 41.2 +0.3
comp=Z,5.8nm,0.8s,mb4.8
CAF **Calviac** 85.52 341 eP P 20 31 46.2 -0.8
comp=Z,11nm,0.8s,mb5.0
CAF **Calviac** 85.52 341 eP P 20 31 46.2 -0.8
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
CAF **Calviac** 85.52 341 eP P 20 31 46.2 -0.8
comp=Z,7.5nm,0.8s,mb5.0
TIP **Timpagrande** 86.56 329 eP P 20 31 50.2 -2.0
KEST **Kesra** 92.16 333 P P 20 32 19.8 +1.3
comp=Z,2.7nm,1.0s,mb4.5,baz=345,slow=4.2,SNR=4.7
VNDA **Vanda** 124.20 178 PKP PKPdf 20 38 04.6 -2.9
comp=Z,0.4nm,0.8s,baz=285,slow=5.5,SNR=3.7
VNDA **Vanda** 124.20 178 PKP PKPdf 20 38 04.6 -2.9

MAN 15 20:22:04.4, 1025N×12601E, h23km, mb1.8, ML3.6, MS5.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.69**	**228**	eP	Pb	20 22 17.4	-0.3
SCPH						20 22 25.0	
MSLP	**Maasin**	**1.14**	**265**	eP	Pn	20 22 24.8	-0.1
PLP	**Palo**	**1.36**	**312**	eP	Pn	20 22 27.5	-0.5
PLP				eS	Sn	20 22 44.1	-1.2
BESP	**Borongan**	**1.46**	**337**	eP	Pn	20 22 29.4	+0.1
BESP				eS	Sn	20 22 48.0	+0.3

IDC 15 20:22:55.9±5.1, 4688N×15348E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=121.4km s-min=30.1km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.13**	**254**	Pn	Pn	20 24 56.4	+1.2
	1.0nm,0.3s,baz=72,slow=3.2,SNR=3.6						
INK	**Inuvik**	**41.41**	**33**	P	P	20 30 42.7	-1.3
	0.6nm,0.8s,baz=346,slow=17,SNR=2.3						
MKAR	**Makanchi Array**	**47.10**	**297**	P	P	20 31 27.4	-2.2
	0.3nm,0.5s,baz=65,slow=7.5,SNR=4.4						
BVAR	**Borovoye Array**	**50.97**	**309**	P	P	20 31 58.8	-0.5
	0.3nm,0.3s,baz=57,slow=6.9,SNR=3.8						
FINES	**FINESS Array B**	**64.03**	**335**	P	P	20 33 31.0	-0.3
	1.3nm,0.8s,baz=36,slow=7.4,SNR=3.4						
NB2	**NORSAR Subarra**	**68.19**	**341**	P	P	20 33 58.4	+0.3
	comp=Z,0.7nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.19**	**341**	P	P	20 33 58.3	+0.2
	comp=Z,0.8nm,0.5s,baz=27,slow=6.2,SNR=3.5						
HFS	**Hagfors**	**68.42**	**340**	P	P	20 33 59.8	+0.2
	comp=Z,2.2nm,0.4s,baz=54,slow=7.5,SNR=14						

IDC 15 20:24:57.9±7.3, 4784N×15433E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.9/6, Error ellipse: s-maj=176.0km s-min=38.1km az=135.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.92**	**251**	P	P	20 29 53.1	+0.4
	1.7nm,0.7s,baz=60,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**47.18**	**297**	P	P	20 33 31.8	-0.4
	1.1nm,1.1s,baz=72,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**63.41**	**335**	P	P	20 35 28.8	-0.5
	0.8nm,0.5s,baz=38,slow=7.7,SNR=6.2						
NOA	**NORSAR Array B**	**67.46**	**342**	P	P	20 35 55.1	-0.4
	1.9nm,1.8s,baz=30,slow=6.7,SNR=3.2						
HFS	**Hagfors**	**67.72**	**340**	P	P	20 35 56.8	-0.4
	1.0nm,0.4s,baz=19,slow=4.9,SNR=9.7						
GERES	**GERESS Array B**	**77.83**	**335**	P	P	20 36 56.8	-0.4
	0.5nm,0.6s,baz=29,slow=6.6,SNR=4.5						

IDC 15 20:25:38.7±1.7, 4730N×15411E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.8/24, mbtmp4.0/9, ML3.4/1, Error ellipse: s-maj=50.3km s-min=28.1km az=100.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.67**	**253**	Pn	Pn	20 27 47.1	+1.8
	0.5nm,0.3s,baz=271,slow=33,SNR=2.4						
MKAR	**Makanchi Array**	**47.30**	**297**	P	P	20 34 12.7	-1.2
	1.2nm,0.8s,baz=72,slow=6.1,SNR=5.0						
BVAR	**Borovoye Array**	**51.04**	**309**	P	P	20 34 41.7	-0.8
	0.5nm,0.5s,baz=64,slow=5.0,SNR=3.4						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	P	20 35 28.8	-1.3
	3.4nm,0.9s,baz=57,slow=8.8,SNR=8.9						
FINES	**FINESS Array B**	**63.83**	**335**	P	P	20 36 12.2	-0.6
	0.6nm,0.3s,baz=44,slow=7.6,SNR=7.3						
NB2	**NORSAR Subarra**	**67.93**	**342**	P	P	20 36 39.5	+0.3
	comp=Z,2.8nm,0.8s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.93**	**342**	P	P	20 36 39.4	+0.2
	comp=Z,2.2nm,0.9s,baz=27,slow=6.4,SNR=4.5						
HFS	**Hagfors**	**68.18**	**340**	P	P	20 36 41.2	+0.4
	comp=Z,2.1nm,0.5s,baz=58,slow=5.4,SNR=10.0						
AKASG	**Malin Array Be**	**71.47**	**327**	P	P	20 37 00.6	-0.5
	comp=Z,0.7nm,0.4s,baz=34,slow=6.3,SNR=4.7						
ASAR	**Alice Springs**	**72.95**	**199**	P	P	20 37 09.6	-0.3
	comp=Z,0.4nm,0.6s,baz=11,slow=6.2,SNR=5.0						

BGS ***15*** *20:25:33.7, 871N×64.30W, h97km, mb5.1*
LDG ***15*** *20:25:48.7±0.2, 1086N×6293W, h98km, Mb4.9/32, Ms4.0/1, Error ellipse: s-maj=18.4km s-min=6.8km az=106.0*
ISCJB ***15*** *20:25:49.6±0.1, 1080N±002×6268W±002, h97km, mb4.9/146, Error ellipse: s-maj=2.8km s-min=2.1km az=113.8*
MOS ***15*** *20:25:50.2±0.9, 1089N×6272W, h100km, mb4.9/53, Error ellipse: s-maj=8.1km s-min=4.6km az=52.7*
SZGRF ***15*** *20:25:51.4, 1052N×6233W, h98km, mb5.1, Near coast of Venezuela*
FUNV ***15*** *20:25:51.2, 1078N×6249W, h97km, MW4.7*
IDC ***15*** *20:25:51.8±0.3, 1084N×6265W, h102km±2km, mb4.6/41, mb1 4.7/44, mb1mx4.7/46, mbtmp4.6/44, MS4.1/2, Ms1 4.1/2, ms1mx3.5/27, Error ellipse: s-maj=8.0km s-min=5.1km az=142.0*
TRN ***15*** *20:25:51.8, 1074N×6257W, h93km, MD5.0, M5.0(FDF)*
TRN Felt (II) and(III) in some parts of northern, central and southern Trinidad.
NEIC ***15*** *20:25:51.2±0.1, 1077N×6269W, mb4.9/87, MD4.7(CAR), MD4.8(TRN), Error ellipse: s-maj=4.1km s-min=3.3km az=162.0*
NEIC Felt at Couva, Diego Martin, Port-of-Spain, Saint Augustine, San Fernando, San Juan and Scarborough, Trinidad and Tobago. Also felt at Ciudad Guayana, Venezuela.
BJI ***15*** *20:25:51.1, 1080N×6270W, h96km, mB5.1*

ISC 15 20:25:51.8±0.1, 1078N±002×6265W±002, h99km, h99km±.8km: pP-P, n560, σ0s87/551, mb4.9/146, 79C-76D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.44**	**108** ⇑	eP	Pn	**20 26 05.4**	**-1.5**
CRUV	**Carupano**	**0.59**	**260** ⇓	eP	Pn	**20 26 08.3**	**+0.2**
CRUV				i S	Sn	**20 26 20.6**	**+0.3**
CRUV	**Carupano**	**0.59**	**260** ⇓	eP	Pn	**20 26 08.3**	**+0.2**
CRUV				eS	Sn	**20 26 20.6**	**+0.3**
GUNV	**Guanoco**	**0.68**	**205** ⇑	eP	Pn	**20 26 09.2**	**+0.3**
ITEV	**Isla Los Testi**	**0.74**	**320** ⇓	eP	Pn	**20 26 09.1**	**-0.3**
ITEV				eS	Sn	**20 26 22.5**	**-0.2**
ALNG	**Atlantic LNG**	**1.11**	**122** ⇓	eP	Pn	**20 26 13.8**	**+0.4**
ALNG				eS	Sn	**20 26 28.3**	**-1.4**
BUAY	**Buenos Aires**	**1.16**	**125**	eP	Pn	**20 26 14.6**	**+0.8**
TBH	**Brigand Hill**	**1.58**	**101** ⇓	iP	Pn	**20 26 18.2**	**-0.7**
GRW	**Mount Saint Ca**	**1.68**	**35** ⇑	iP	Pn	**20 26 20.6**	**+0.5**
GRHS	**Sauteurs**	**1.74**	**34** ⇓	iP	Pn	**20 26 20.2**	**-0.7**
GRHS				eS	Sn	**20 26 41.8**	**-1.3**
GRSS	**Sisters**	**1.82**	**34** ⇓	iP	Pn	**20 26 21.5**	**-0.4**
GRIC	**Isle de Caille**	**1.82**	**35** ⇑	iP	Pn	**20 26 21.1**	**-0.8**
ORIV	**Oritupano**	**1.86**	**204** ⇑	eP	Pn	**20 26 22.5**	**+0.1**
ORIV				eS	Sn	**20 26 45.1**	**-0.7**
TPR	**Prospect**	**1.88**	**77** ⇓	iP	Pn	**20 26 22.1**	**-0.6**
GRCU	**Cariacou**	**2.04**	**35** ⇑	iP	Pn	**20 26 24.3**	**-0.6**
PCRV	**Puerto La Cruz**	**2.05**	**253**	P	Pn	**20 26 26.1**	**+1.2**
	246nm,0.3s,baz=91,slow=4.2,SNR=2149						
PCRV				S	Sn	**20 26 51.2**	**+1.0**
	896nm,0.3s,baz=4.7,slow=23,SNR=53						
PCRV				LR	LR	20 27 25.2	
	comp=Z,1μm,18.9s,baz=92,slow=46						
PCRV	**Puerto La Cruz**	**2.05**	**253** ⇑	eP	Pn	**20 26 26.1**	**+1.2**
PCRV				eS	Sn	**20 26 50.8**	**+0.6**
IBAV	**Isla La Blanqu**	**2.16**	**299** ⇓	eP	Pn	**20 26 27.6**	**+1.3**
IBAV				i S	Sn	**20 26 52.0**	**-0.8**
IBAV	**Isla La Blanqu**	**2.16**	**299** ⇓	eP	Pn	**20 26 27.6**	**+1.3**
IBAV				eS	Sn	**20 26 52.0**	**-0.8**
FCV	**Fort Charlotte**	**2.73**	**30**	eP	Pn	**20 26 34.1**	**+0.3**
FCV				eS	Sn	**20 27 05.1**	**-1.1**

SVB	**Belmont**	**2.83**	**29**	*e*P		**Pn**	**20 26 35.4 +0.3**
SVB				*e*S		**Sn**	**20 27 07.6 -0.9**
SSV	**Crater Summit**	**2.90**	**29**	⇑*i*P		**Pn**	**20 26 36.5 +0.4**
GURV	**El Guri**	**3.03**	**188**	⇓*e*P		**Pn**	**20 26 36.7 -1.2**
CUPV	**Cœpira**	**3.17**	**257**	⇑*e*P		**Pn**	**20 26 41.0 +1.3**
CUPV				*e*S		**Sn**	**20 27 16.1 -0.7**
BIRV	**Birongo**	**3.58**	**265**	⇑*e*P		**Pn**	**20 26 47.4 +2.2**
SLW	**Petit Monier**	**3.62**	**27**	*e*P		**Pn**	**20 26 45.5 -0.3**
ORCV	**Isla La Orchil**	**3.63**	**287**	⇓*e*P		**Pn**	**20 26 46.7 +0.9**
BBGH	**Gun Hill**	**3.83**	**52**	*e*P		**Pn**	**20 26 48.3 -0.2**
MERV	**Las Mercedes**	**3.90**	**247**	⇑*e*P		**Pn**	**20 26 49.5 0.0**
MERV				*e*S		**Sn**	**20 27 33.6 -0.8**
BIM	**Bigot**	**4.02**	**22**	⇑*e*P		**Pn**	**20 26 51.0 -0.1**
FUNV	**FUNVISIS**	**4.11**	**266**	⇑*e*P		**Pn**	**20 26 53.5 +1.2**
FDF	**Fort de France**	**4.19**	**20**	⇑*i*P		**Pn**	**20 26 53.4 0.0**
FDF				*e*S		**Sn**	**20 27 37.6 -3.7**
DSHT	**Scott's Head**	**4.58**	**16**	*e*P		**Pn**	**20 27 00.3 +1.7**
DSHT				*e*S		**Sn**	**20 27 48.4 -2.3**
DBCT	**Belle View Cho**	**4.64**	**16**	*e*P		**Pn**	**20 27 01.6 +2.1**
DBCT				*e*S		**Sn**	**20 27 52.2 0.0**
MDN	**Morne-Daniel**	**4.67**	**15**	*e*P		**Pn**	**20 27 02.3 +2.3**
MDN				*e*S		**Sn**	**20 27 54.0 +1.0**
BBL	**Barber's Block**	**4.85**	**14**	*e*P		**Pn**	**20 27 06.0 +3.6**
DWS	**Wesley**	**4.93**	**15**	*e*P		**Pn**	**20 27 07.0 +3.5**
DWS				*e*S		**Sn**	**20 27 57.8 -1.5**
CAOV	**Caicara del Or**	**5.00**	**227**	⇑*e*P		**Pn**	**20 27 01.5 -2.9**
LUEV	**Luepa**	**5.05**	**166**	⇓*e*P		**Pn**	**20 27 01.9 -3.1**
TBG	**Guadaloupe-3**	**5.13**	**11**	*e*P		**Pn**	**20 27 07.9 +1.7**
MGG	**Marie-Galante**	**5.27**	**14**	*e*P		**Pn**	**20 27 09.3 +1.3**
SCG	**Saint Claude**	**5.30**	**10**	*e*P		**Pn**	**20 27 09.8 +1.3**
LZG	**Guadaloupe-1**	**5.39**	**9**	*e*P		**Pn**	**20 27 12.0 +2.2**
BAUV	**El Baul**	**5.62**	**252**	⇓*e*P		**Pn**	**20 27 12.0 -0.8**
BAUV				*e*S		**Sn**	**20 28 12.4 -3.6**
DEG	**La Desirade**	**5.71**	**15**	*e*P		**Pn**	**20 27 15.2 +1.2**
DEG				*e*S		**Sn**	**20 28 15.2 -3.0**
BPA	**Boggy Peak**	**6.27**	**7**	*e*P		**Pn**	**20 27 24.9 +3.2**
BPA				*e*S		**Sn**	**20 28 29.7 -2.3**
SABT	**Saba**	**6.82**	**355**	*e*P		**Pn**	**20 27 32.8 +3.6**
CPB	**Codrington**	**6.86**	**7**	*e*P		**Pn**	**20 27 33.0 +3.3**
CPB				*e*S		**Sn**	**20 28 46.5 +0.2**
PAYV	**Puerto Ayacuch**	**7.28**	**223**	*e*P		**Pn**	**20 27 34.3 -1.1**
PAYV				*e*S		**Sn**	**20 28 49.5 -6.9**
PAYV	**Puerto Ayacuch**	**7.28**	**223**	*e*P		**Pn**	**20 27 34.3 -1.1**
PAYV				*e*S		**Sn**	**20 28 49.5 -6.9**
ELOV	**Elorza**	**7.73**	**241**	⇑*e*P		**Pn**	**20 27 40.7 -0.8**
MTP	**Monte Pirata**	**7.80**	**339**	*e*P		**Pn**	**20 27 42.6 +0.2**
MTP				*e*S		**Sn**	**20 28 57.7 -11**
CPD	**Cerro la Pandu**	**7.88**	**337**	*e*P		**Pn**	**20 27 43.0 -0.5**
CPD				*e*S		**Sn**	**20 28 59.4 -12**
SDV	**Santo Domingo**	**8.09**	**257**	P		**Pn**	**20 27 45.3 -1.1**
	16nm,0.3s,baz=103,slow=8.1,SNR=99						
SDV				S		**Sn**	**20 29 12.2 -4.1**
	100nm,0.3s,baz=16,slow=17,SNR=14						
SDV	**Santo Domingo**	**8.09**	**257**	*e*P		**Pn**	**20 27 45.0 -1.4**
	91nm,0.6s						
SDV				*e*S		**Sn**	**20 29 12.5 -3.7**
SOCV	**Socops**	**8.47**	**254**	⇑*e*P		**Pn**	**20 27 50.2 -1.4**
ROSC	**El Rosal**	**12.98**	**244**	P		**Pn**	**20 28 53.3 +0.9**
	5.1nm,0.3s,baz=94,slow=17,SNR=16						
ROSC	**El Rosal**	**12.98**	**244**	*e*P		**Pn**	**20 28 52.9 +0.6**
OTAV	**Otavalo**	**18.88**	**237**	*e*P		**Pn**	**20 30 06.2 +0.2**
	49nm,0.8s						
SAML	**Samuel**	**19.61**	**182**	*e*P		**Pn**	**20 30 11.7 -2.7**
	1.3nm,0.9s						
SAML				*e*S		**S**	**20 33 42.0 -6.0**
ATAH	**Atahualpa**	**23.62**	**222**	P		**P**	**20 30 56.7 +3.0**
	109nm,1.0s,mb5.2,baz=34,slow=6.1,SNR=49						
TGUH	**Tegucigalpa,Un**	**24.27**	**280**	*e*P		**P**	**20 31 01.4 +1.8**
	74nm,1.0s,mb5.0						
SIV	**San Ignacio**	**26.66**	**172**	P		**P**	**20 31 21.9 +0.7**
	40nm,0.7s,mb5.1,baz=10,slow=9.2,SNR=176						
NNA	**Nana**	**26.66**	**212**	P		**P**	**20 31 22.4 +1.2**
	90nm,0.8s,mb5.3,baz=8.6,slow=8.4,SNR=36						
NNA	**Nana**	**26.66**	**212**	*e*P		**P**	**20 31 21.8 +0.6**
	105nm,0.8s,mb5.4						
LPAZ	**La Paz**	**27.44**	**191**	P		**P**	**20 31 29.9 +1.7**
	15nm,0.8s,mb4.6,baz=5.8,slow=9.4,SNR=62						
LPAZ	**La Paz**	**27.44**	**191**	P		**P**	**20 31 29.9 +1.7**
LPAZ				pmax	pmax		
	comp=Z,15nm,0.8s						
LPAZ	**La Paz**	**27.44**	**191**	*e*P		**P**	**20 31 29.6 +1.4**
	comp=Z,11nm,0.8s,mb4.4						
CCIG	**Comitan**	**29.17**	**284**	*i* P		**P**	**20 31 44.4 +0.8**
ELN	**Prospectdale**	**30.97**	**331**	*e*P		**P**	**20 32 01.3 +1.8**
ELN				*e*	pP		20 32 23.5 +1.7
TZTN	**Tazewell**	**31.85**	**327**	*e*P		**P**	**20 32 07.5 +0.2**
	comp=Z,24nm,1.0s,mb4.9						
LVC	**Limon Verde**	**33.75**	**190**	P		**P**	**20 32 23.7 -0.1**
	comp=Z,25nm,0.7s,mb5.2,baz=90,slow=1.7,SNR=36						
LVC	**Limon Verde**	**33.75**	**190**	*e*P		**P**	**20 32 23.1 -0.6**
	comp=Z,18nm,0.6s,mb5.1						
WVT	**Waverly**	**34.01**	**322**	*e*P		**P**	**20 32 26.4 +0.4**
WVT				*e*			20 34 59.7
WVT				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
WVT	**Waverly**	**34.01**	**322**	*e*P		**P**	**20 32 26.4 +0.4**
	comp=Z,26nm,0.7s,mb5.2						
WVT				*e*			20 32 40.4
WVT				*e*			20 34 59.7
BLO	**Bloomington**	**35.38**	**327**	*e*P		**P**	**20 32 39.1 +1.3**
BLO				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.4						
BLO	**Bloomington**	**35.38**	**327**	*e*P		**P**	**20 32 39.1 +1.3**
	comp=Z,35nm,0.6s,mb5.4						
SIUC	**Southern Illin**	**35.89**	**323**	*e*P		**P**	**20 32 42.9 +0.7**
	comp=Z,131nm,1.1s,mb5.8						
JCT	**Junction City**	**39.66**	**305**	*e*P		**P**	**20 33 13.7 -0.2**
JCT				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.4						
JCT	**Junction City**	**39.66**	**305**	*e*P		**P**	**20 33 13.7 -0.3**
	comp=Z,39nm,0.6s,mb5.4						
ZAIG	**Zacatecas**	**39.91**	**293**	*i* P		**P**	**20 33 18.2 +2.2**
JFWS	**Jewell Farm**	**40.02**	**328**	*e*P		**P**	**20 33 17.0 +0.1**
JFWS				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.4						
JFWS	**Jewell Farm**	**40.02**	**328**	*e*P		**P**	**20 33 17.0 +0.1**
	comp=Z,61nm,0.9s,mb5.4						
WMOK	**Wichita Mounta**	**40.63**	**312**	*e*P		**P**	**20 33 21.5 -0.4**
WMOK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
WMOK	**Wichita Mounta**	**40.63**	**312**	*e*P		**P**	**20 33 21.5 -0.4**
	comp=Z,9.5nm,0.6s,mb4.8						
SCIA	**State Center**	**40.96**	**325**	*e*P		**P**	**20 33 24.6 0.0**
	comp=Z,20nm,0.6s,mb5.1						
KSU1	**Kansas State U**	**41.34**	**319**	*e*P		**P**	**20 33 26.5 -1.2**
	comp=Z,37nm,0.7s,mb5.3						
TXAR	**Lajitas Array**	**42.45**	**302**	P		**P**	**20 33 37.4 +0.7**
	comp=Z,4.9nm,0.7s,mb4.3,baz=122,slow=8.2,SNR=25						
TXAR				PcP	PcP		20 35 28.1 +0.2
	comp=Z,8.2nm,0.7s,baz=134,slow=6.4,SNR=12						
TXAR				ScP	ScP		20 39 06.7 -3.0
	comp=Z,2.3nm,1.1s,baz=132,slow=5.4,SNR=5.1						
TXAR	**Lajitas Array**	**42.45**	**302**	P		**P**	**20 33 37.4 +0.6**
TXAR							20 35 28.2
TXAR	**Lajitas Array**	**42.45**	**302**	P		**P**	**20 33 37.4 +0.7**
TXAR				PcP	PcP		20 35 28.1 +0.2
TXAR				ScP	ScP		20 39 06.7 -3.0
CFAA	**Coronel Fontan**	**42.48**	**187**	P		**P**	**20 33 36.6 -0.5**
	comp=Z,3.3nm,0.9s,mb4.1,baz=359,slow=8.1,SNR=30						
CFAA				pP	pP		20 34 03.0 +2.8
	comp=Z,0.7nm,0.7s,baz=8.5,slow=9.0,SNR=2.1						
CFAA				PcP	PcP		20 35 28.3 +0.2
	comp=Z,0.7nm,0.8s,baz=293,slow=3.6,SNR=3.3						
CBKS	**Cedar Bluff**	**43.25**	**317**	*e*P		**P**	**20 33 41.6 -1.7**
CBKS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
CBKS	**Cedar Bluff**	**43.25**	**317**	*e*P		**P**	**20 33 41.6 -1.6**
	comp=Z,30nm,0.8s,mb5.1						
ECSD	**EROS,Sioux Fal**	**44.05**	**324**	*e*P		**P**	**20 33 48.9 -0.8**
	comp=Z,8.9nm,0.6s,mb4.7						
SCHQ	**Schefferville**	**44.06**	**357**	P		**P**	**20 33 49.8 0.0**
	comp=Z,8.8nm,0.5s,mb4.7,baz=150,slow=9.3,SNR=23						
SCHQ				pP		pP	20 34 14.8 +1.8
	comp=Z,5.9nm,0.5s,baz=168,slow=5.5,SNR=4.5						
SCHQ	**Schefferville**	**44.06**	**357**	*e*P		**P**	**20 33 49.5 -0.3**
	comp=Z,23nm,1.0s,mb4.9						
EYMN	**Ely**	**44.26**	**332**	*e*P		**P**	**20 33 50.1 -1.2**
	comp=Z,15nm,1.0s,mb4.7						
MNTX	**Cornudas Mount**	**44.57**	**304**	*e*P		**P**	**20 33 53.7 -0.1**
	comp=Z,9.1nm,1.0s,mb4.5						
BNM	**Barren Site**	**46.35**	**307**	*e*P		**P**	**20 34 08.6 +0.7**
LPM	**Los Pinos Moun**	**46.41**	**307**	*e*P		**P**	**20 34 08.9 +0.6**
ANMO	**Albuquerque**	**46.49**	**308**	P		**P**	**20 34 09.7 +0.8**
	comp=Z,4.2nm,0.7s,mb4.3,baz=121,slow=6.3,SNR=12						
ANMO				pP		pP	20 34 33.5 +1.2
	comp=Z,12nm,0.8s,baz=96,slow=8.5,SNR=8.2						
ANMO	**Albuquerque**	**46.49**	**308**	P		**P**	**20 34 09.7 +0.7**
ANMO				*PP		pP	20 34 33.6 +1.2
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ANMO				pmax	pmax		
	comp=Z,12nm,0.8s						
ANMO	**Albuquerque**	**46.49**	**308**	*e*P		**P**	**20 34 09.4 +0.5**
	comp=Z,11nm,0.8s,mb4.6						
ANMO				*e*		pP	20 34 32.4 +0.1
AGMN	**Agassiz Refuge**	**46.59**	**330**	*e*P		**P**	**20 34 08.7 -1.0**
	comp=Z,23nm,0.8s,mb5.0						
AGMN				*e*		pP	20 34 32.8 -0.3
LENM	**Lemitar**	**46.63**	**307**	*e*P		**P**	**20 34 10.8 +0.8**
LENM				*e*		pP	20 34 35.8 +2.3
SDCO	**Great Sand Dun**	**46.82**	**312**	*e*P		**P**	**20 34 11.3 -0.2**
	comp=Z,9.9nm,0.8s,mb4.6						
SDCO				*e*		pP	20 34 36.2 +1.3
LAZ	**Ladron**	**46.84**	**307**	*e*P		**P**	**20 34 12.5 +0.9**
LAZ				*e*		pP	20 34 35.2 +0.1
ULM	**Lac du Bonnet**	**47.92**	**332**	P		**P**	**20 34 18.5 -1.5**
	comp=Z,15nm,0.7s,mb4.9,baz=130,slow=8.2,SNR=21						
ULM				pP		pP	20 34 44.0 +0.5
	comp=Z,18nm,0.9s,baz=128,slow=9.0,SNR=7.3						
ULM				PcP		PcP	20 35 45.2 -1.8
	comp=Z,4.0nm,0.5s,baz=135,slow=9.6,SNR=2.6						
ULM	**Lac du Bonnet**	**47.92**	**332**	*e*P		**P**	**20 34 18.1 -1.9**
	comp=Z,17nm,0.8s,mb4.9						
ULM				*e*		pP	20 34 43.3 -0.3
RSSD	**Black Hills**	**48.71**	**321**	*e*P		**P**	**20 34 23.7 -2.4**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
RSSD	**Black Hills**	**48.71**	**321**	*e*P		**P**	**20 34 23.7 -2.4**
	comp=Z,2.9nm,0.7s,mb4.3						
WUAZ	**Wupatki**	**50.49**	**307**	P		**P**	**20 34 40.6 +1.0**
	baz=50,SNR=5.4						
X15A	**Humboldt**	**50.88**	**306**	⇓P		**P**	**20 34 43.0 +0.5**
	baz=51						
DGMT	**Dagmar**	**51.09**	**325**	*e*P		**P**	**20 34 44.6 +0.5**
	comp=Z,167nm,0.9s,mb6.1						
DGMT				*e*		pP	20 35 08.2 +0.3
W15A	**Williams**	**51.09**	**307**	⇑P		**P**	**20 34 44.6 +0.5**
	baz=51						
Z14A	**Wintersburg**	**51.17**	**304**	⇑P		**P**	**20 34 44.5 -0.2**
	baz=51						
Y14A	**Wickenburg**	**51.36**	**305**	⇓P		**P**	**20 34 46.6 +0.4**
	baz=51						
X14A	**Yava**	**51.40**	**306**	⇑P		**P**	**20 34 47.0 +0.6**
	baz=51						
TMUT	**Trail Mountain**	**51.55**	**312**	*e*P		**P**	**20 34 46.0 -1.6**
PDAR	**Pinedale Array**	**51.68**	**317**	P		**P**	**20 34 47.8 -0.7**
	comp=Z,7.1nm,0.6s,mb4.9,baz=113,slow=9.1,SNR=42						
PDAR				pP		pP	20 35 13.3 +1.0
	comp=Z,4.7nm,0.7s,baz=110,slow=8.6,SNR=5.5						
PDAR				PcP		PcP	20 35 59.6 -1.1
	comp=Z,5.3nm,0.8s,baz=104,slow=6.3,SNR=5.3						
W14A	**Seligman**	**51.75**	**306**	⇓P		**P**	**20 34 49.6 +0.6**
	baz=52						
X13A	**Yucca**	**52.18**	**306**	⇑P		**P**	**20 34 52.4 +0.1**
	baz=52						
W13A	**Hualapai Mount**	**52.35**	**306**	P		**P**	**20 34 54.5 +1.0**
	baz=52,SNR=5.0						
RLMT	**Red Lodge**	**52.48**	**320**	*e*P		**P**	**20 34 53.8 -0.7**
	comp=Z,21nm,1.1s,mb5.1						
HWUT	**Hardware Ranch**	**52.62**	**315**	*e*P		**P**	**20 34 54.2 -1.2**
	comp=Z,7.7nm,0.8s,mb4.8						
GLA	**Glamis**	**52.63**	**303**	⇑P		**P**	**20 34 56.0 +0.4**
	baz=53						
ARUT	**Antelope Range**	**52.74**	**310**	*e*P		**P**	**20 34 55.7 -0.6**
DUG	**Dugway**	**53.02**	**313**	*e*P		**P**	**20 34 56.1 -2.3**
DUG				*e*		pP	20 35 23.4 +1.1
DUG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
DUG	**Dugway**	**53.02**	**313**	*e*P		**P**	**20 34 56.1 -2.3**
	comp=Z,6.1nm,0.8s,mb4.7						
DUG				*e*		pP	20 35 23.4 +1.1
DUG	**Dugway**	**53.02**	**313**	⇑P		**P**	**20 34 58.1 -0.3**
	baz=53						
GCMT	**Greycliff**	**53.02**	**320**	*e*P		**P**	**20 34 57.6 -0.8**
IRM	**Iron Mountain**	**53.14**	**305**	P		**P**	**20 34 59.9 +0.6**
	baz=53,SNR=6.9						
W12A	**Cal Nev Ari**	**53.18**	**306**	⇓P		**P**	**20 35 00.0 +0.4**
	baz=53						
V12A	**Nelson**	**53.27**	**307**	⇓P		**P**	**20 35 00.7 +0.4**
	baz=53						
BC3	**Big Chuckw Mtn**	**53.28**	**304**	⇓P		**P**	**20 35 00.4 +0.1**
	baz=53						
BGU	**Big Grassy Mou**	**53.41**	**313**	*e*P		**P**	**20 35 00.8 -0.5**
BGU				*e*		pP	20 35 21.9 -3.4
QLMT	**Earthquake Lak**	**53.75**	**318**	*e*P		**P**	**20 35 04.5 +0.7**
QLMT				*e*		pP	20 35 29.6 +1.8
BELC	**Belle Mtn.**	**53.79**	**304**	⇑P		**P**	**20 35 04.3 +0.2**
	baz=54						
U11A	**Corn Creek**	**53.86**	**307**	⇓P		**P**	**20 35 04.9 +0.3**
	baz=54						
MONP	**Monument Peak**	**53.91**	**303**	⇓P		**P**	**20 35 05.0 +0.1**
	baz=54						
TUQ	**Turquoise Mtn.**	**54.05**	**306**	⇑P		**P**	**20 35 06.2 +0.3**
	baz=54,SNR=5.2						
EGMT	**Eagleton**	**54.08**	**323**	P		**P**	**20 35 06.7 +0.6**
	baz=54,SNR=5.4						
Q12A	**Willow Creek R**	**54.14**	**311**	⇑P		**P**	**20 35 07.2 +0.6**
	baz=54						
HEC	**Hector,Ludlow**	**54.24**	**305**	⇓P		**P**	**20 35 08.2 +0.9**
	baz=54						
P12A	**McGill**	**54.33**	**311**	⇑P		**P**	**20 35 07.8 -0.2**
	baz=54						
M13A	**Montello**	**54.37**	**314**	⇓P		**P**	**20 35 08.1 -0.1**
	baz=54						
O12A	**Currie**	**54.44**	**312**	⇑P		**P**	**20 35 09.1 +0.3**
	baz=54						
G15A	**Dillon**	**54.58**	**318**	P		**P**	**20 35 09.8 +0.1**
	baz=55,SNR=5.7						
Q11A	**Duckwater**	**54.70**	**310**	⇓P		**P**	**20 35 11.0 +0.3**
	baz=55						
GSC	**Goldstone**	**54.72**	**306**	⇑P		**P**	**20 35 11.1 +0.2**
	baz=55						
N12A	**Clover Valley,**	**54.83**	**313**	⇑P		**P**	**20 35 11.3 -0.3**
	baz=55						
F15A	**Butte**	**54.84**	**319**	⇑P		**P**	**20 35 11.9 +0.2**
	baz=55						
M12A	**Wells**	**54.92**	**313**	⇑P		**P**	**20 35 12.1 -0.2**
	baz=55						
FURC	**Furnace Creek,**	**55.03**	**307**	⇑P		**P**	**20 35 13.3 +0.3**
	baz=55						
R10A	**Warm Springs**	**55.05**	**309**	⇓P		**P**	**20 35 13.7 +0.6**
	baz=55						
O11A	**Cowboy Ranch,**	**55.07**	**312**	P		**P**	**20 35 13.8 +0.4**
	baz=55,SNR=5.2						
E15A	**Deer Lodge**	**55.17**	**320**	⇑P		**P**	**20 35 14.1 +0.1**
	baz=55						
HLID	**Hailey**	**55.27**	**316**	P		**P**	**20 35 14.9 +0.1**
	baz=55,SNR=11						
D15A	**Lincoln**	**55.34**	**321**	⇑P		**P**	**20 35 15.3 +0.1**
	baz=55						
F14A	**Wisdom**	**55.40**	**319**	⇓P		**P**	**20 35 16.0 +0.4**
	baz=55						
MPMC	**Manual Prospec**	**55.43**	**306**	⇓P		**P**	**20 35 16.2 +0.2**
	baz=56						
LRMC	**Laurel Mountai**	**55.47**	**306**	⇑P		**P**	**20 35 16.1 -0.1**
	baz=56						
M11A	**Holland Ranch,**	**55.55**	**313**	P		**P**	**20 35 17.3 +0.5**
	baz=56,SNR=5.0						
GRAC	**Grapevine Rang**	**55.55**	**308**	⇓P		**P**	**20 35 17.0 +0.2**
	baz=56						
EDW2	**Edwards Air Fo**	**55.59**	**305**	⇓P		**P**	**20 35 17.1 +0.1**
	baz=56						
S09A	**Goldfield**	**55.61**	**308**	P		**P**	**20 35 17.7 +0.5**
	baz=56,SNR=8.2						
R09A	**Tonopah**	**55.62**	**309**	⇑P		**P**	**20 35 17.2 0.0**
	baz=56						
CIS	**Catalina Islan**	**55.64**	**303**	⇓P		**P**	**20 35 17.9 +0.4**
	baz=56						
E14A	**Clinton**	**55.71**	**320**	⇑P		**P**	**20 35 18.1 +0.2**
	baz=56						
EVO	**Evora**	**55.85**	**51**	*e*P		**P**	**20 35 18.2 -0.7**
	comp=Z,16nm,0.9s,mb4.8						
D14A	**Greenough**	**55.98**	**320**	⇓P		**P**	**20 35 20.0 +0.2**
	baz=56						
CWC	**Cottonwood Cre**	**55.98**	**307**	⇑P		**P**	**20 35 19.9 +0.1**
	baz=56						
F13A	**Darby**	**56.01**	**319**	⇓P		**P**	**20 35 19.3 -0.8**
	baz=56						
ISA	**Isabella**	**56.13**	**306**	⇓P		**P**	**20 35 21.3 +0.4**
	baz=56						
E13A	**Victor**	**56.16**	**319**	⇓P		**P**	**20 35 21.5 +0.4**
	baz=56						
O09A	**Fish Creek Ran**	**56.21**	**311**	⇓P		**P**	**20 35 21.4 0.0**
	baz=56						
S08C	**White Mtn Res**	**56.29**	**308**	P		**P**	**20 35 23.0 +1.0**
	baz=56,SNR=9.2						
Q08A	**Gabbs**	**56.43**	**310**	⇑P		**P**	**20 35 22.8 -0.2**
	baz=56						
D13A	**Huson**	**56.58**	**320**	P		**P**	**20 35 23.8 -0.3**
	baz=57,SNR=6.4						
NVAR	**Mina Array Bea**	**56.60**	**309**	P		**P**	**20 35 24.1 -0.2**
	comp=Z,2.0nm,0.7s,mb4.3,baz=99,slow=5.6						
N09A	**Rock Creek Ran**	**56.64**	**312**	P		**P**	**20 35 24.7 +0.2**
	baz=57,SNR=6.2						
VES	**Vestal, Richgr**	**56.65**	**306**	⇓P		**P**	**20 35 24.8 +0.3**
	baz=57						
M09A	**Marrel Ranch,**	**56.74**	**313**	⇑P		**P**	**20 35 25.7 +0.4**
	baz=57						
H11A	**Donnelly**	**56.74**	**317**	⇑P		**P**	**20 35 24.8 -0.5**
	baz=57						
HELL	**Mitchell Peak,**	**56.77**	**307**	⇑P		**P**	**20 35 25.1 -0.4**
	baz=57						
N08A	**GE Springer Mi**	**57.06**	**312**	⇓P		**P**	**20 35 27.3 -0.2**
	baz=57						
R07C	**Lee Vining**	**57.10**	**308**	⇑P		**P**	**20 35 27.8 +0.1**
	baz=57						
LIC	**Lamto**	**57.10**	**90**	*e*P		**P**	**20 35 28.6 +0.8**
KCC	**Kaiser Creek**	**57.14**	**308**	⇓P		**P**	**20 35 27.0 -1.0**
	baz=57						
G11A	**Walters Elk Ra**	**57.15**	**318**	⇓P		**P**	**20 35 27.2 -0.9**
	baz=57						
F11A	**Grangeville**	**57.24**	**318**	⇓P		**P**	**20 35 28.0 -0.8**
	baz=57						
K09A	**Rome**	**57.30**	**314**	⇑P		**P**	**20 35 28.7 -0.5**
	baz=57						
J09A	**Fry Pan Ranch,**	**57.51**	**315**	⇑P		**P**	**20 35 30.5 -0.2**
	baz=58						
L08A	**Fields**	**57.60**	**313**	P		**P**	**20 35 31.2 -0.1**
	baz=58,SNR=5.4						
S06C	**San Francisco**	**57.67**	**308**	⇓P		**P**	**20 35 31.7 -0.1**
	baz=58						
N07B	**Gerlach**	**57.68**	**312**	P		**P**	**20 35 31.6 -0.3**
	baz=58,SNR=5.3						
D11A	**Klaveano Farm,**	**57.76**	**319**	⇓P		**P**	**20 35 32.1 -0.3**
	baz=58						
B12A	**Libby**	**57.81**	**321**	⇑P		**P**	**20 35 32.8 0.0**
	baz=58						
F10A	**Beach Ranch, E**	**57.97**	**318**	⇑P		**P**	**20 35 33.1 -0.8**
	baz=58						
M07A	**Soldier Meadow**	**57.98**	**312**	⇑P		**P**	**20 35 33.7 -0.2**
	baz=58						
J08A	**Circle Bar Ran**	**58.02**	**315**	⇓P		**P**	**20 35 33.8 -0.3**
	baz=58						
R05C	**Kirkwood Meado**	**58.02**	**309**	⇑P		**P**	**20 35 34.1 -0.1**
	baz=58						
A12A	**Yaak River Ran**	**58.02**	**322**	⇑P		**P**	**20 35 34.3 0.0**
	baz=58						
O06A	**Flanigan**	**58.16**	**311**	⇓P		**P**	**20 35 35.0 -0.2**
	baz=58						
I08A	**Drewsey**	**58.24**	**315**	⇓P		**P**	**20 35 35.4 -0.3**
	baz=58						
B11A	**Sandpoint**	**58.27**	**321**	P		**P**	**20 35 35.6 -0.4**
	baz=58,SNR=5.2						
N06A	**Buffalo Meadow**	**58.31**	**311**	⇓P		**P**	**20 35 35.4 -0.8**
	baz=58						
A11A	**Hall Mountain,**	**58.46**	**321**	⇑P		**P**	**20 35 37.3 0.0**
	baz=58						
EDM	**Edmonton**	**58.49**	**327**	*e*P		**P**	**20 35 36.3 -1.2**
H08A	**Prairie City**	**58.49**	**316**	⇑P		**P**	**20 35 37.1 -0.3**
	baz=58						
BEKR	**Beckwourth**	**58.49**	**310**	⇑P		**P**	**20 35 36.6 -0.9**
	baz=58						
P05C	**Yuba Gap, Truc**	**58.55**	**310**	⇑P		**P**	**20 35 37.9 -0.1**
	baz=58						
NEW	**Newport**	**58.68**	**320**	P		**P**	**20 35 37.6 -1.2**
	comp=Z,4.5nm,0.3s,mb4.9,baz=92,slow=13,SNR=4.8

EMOS Mosqueruela 61.94 50 P **P 20 35 57.5 -3.5**
comp=Z,18nm,0.8s,mb5.2
SGMF Saint Gilles 62.24 41 *eP* **P 20 36 03.2 +0.2**
HEX Exmoor 62.29 38 *eP* **P 20 36 03.0 -0.4**
ETSF Etsaut 62.35 47 *eP* **P 20 36 04.6 +0.8**
TOA0 Torodi Ar. Sit 62.84 81 *eP* **P 20 36 07.0 0.0**
TOA0 *e* pP 20 36 30.9 -0.7
TORD Torodi Ar. Bea 62.84 81 P **P 20 36 07.1 +0.1**
comp=Z,11nm,0.8s,mb4.8,baz=280,slow=5.9,SNR=64
TORD pP pP 20 36 31.1 -0.5
comp=Z,4.2nm,0.6s,baz=291,slow=6.9,SNR=4.4
EPF Esparros 63.02 47 *eP* **P 20 36 09.1 +0.9**
comp=Z,25nm,0.7s,mb4.9
EPF Esparros 63.02 47 *eP* **P 20 36 09.1 +0.9**
EPF pmax pmax
comp=Z,12nm,0.7s,mb4.9
EPF Esparros 63.02 47 *eP* **P 20 36 09.1 +0.9**
comp=Z,12nm,0.7s,mb5.0
GAL1 Galloway 63.05 33 *eP* **P 20 36 07.8 -0.6**
GAL1 AMb AMB 20 36 08.5
comp=Z,199nm,1.7s,mb5.8
MCH1 Michaelchurch 63.06 37 *eP* **P 20 36 08.0 -0.4**
MCH1 AMb AMB 20 36 14.8
comp=Z,90nm,1.8s,mb5.4
HGH Gray Hill 63.06 37 *eP* **P 20 36 08.0 -0.5**
EIBI Ibiza 63.12 52 P **P 20 36 05.3 -3.5**
comp=Z,20nm,0.8s,mb5.1
HLM1 Long Mynd 63.29 36 *eP* **P 20 36 09.2 -0.8**
GRR Gorron 63.37 41 *eP* **P 20 36 10.5 0.0**
comp=Z,39nm,0.7s,mb5.1
GRR *ep*P pP 20 36 34.9 -0.3
GRR Gorron 63.37 41 *eP* **P 20 36 10.5 0.0**
GRR *e**PP pP 20 36 34.9 -0.3
GRR pmax pmax
comp=Z,20nm,0.7s,mb5.2
GRR Gorron 63.37 41 *eP* **P 20 36 10.5 0.0**
comp=Z,20nm,0.7s,mb5.1
GRR *ep*P pP 20 36 34.9 -0.3
MFF Saint Martin d 63.42 43 *eP* **P 20 36 11.2 +0.4**
comp=Z,17nm,1.0s,mb4.7
MFF Saint Martin d 63.42 43 *eP* **P 20 36 11.2 +0.4**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MFF Saint Martin d 63.42 43 *eP* **P 20 36 11.2 +0.4**
comp=Z,8.6nm,1.0s,mb4.6
SUMG Summit 63.43 8 *eP* **P 20 36 09.1 -1.8**
comp=Z,23nm,1.0s,mb5.1
PGBU Glenifferbraes 63.51 32 *eP* **P 20 36 10.8 -0.6**
PGBU AMb AMB 20 36 14.9
comp=Z,36nm,1.7s,mb4.9
YKA Yellowknife Ar 63.53 336 P **P 20 36 09.4 -2.1**
comp=Z,5.9nm,0.5s,mb4.7,baz=110,slow=7.2,SNR=19
YKA pP pP 20 36 36.5 +0.3
comp=Z,2.8nm,0.6s,baz=110,slow=7.3,SNR=2.8
YKA Yellowknife Ar 63.53 336 P **P 20 36 09.4 -2.2**
YKA *PP pP 20 36 36.5 +0.3
YKA pmax pmax
comp=Z,6.0nm,0.5s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 63.53 336 P **P 20 36 09.4 -2.2**
YKA pmax pmax
comp=Z,6.0nm,0.5s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 63.53 336 P **P 20 36 09.4 -2.1**
YKA pP pP 20 36 36.5 +0.3
LFF La Frestale 63.67 45 *eP* **P 20 36 12.7 +0.2**
FLN La Foliniere 63.71 41 *eP* **P 20 36 13.0 +0.3**
comp=Z,100nm,0.8s,mb5.4
FLN *ep*P pP 20 36 37.2 -0.2
FLN La Foliniere 63.71 41 *eP* **P 20 36 13.0 +0.3**
FLN *e**PP pP 20 36 37.2 -0.2
FLN pmax pmax
comp=Z,50nm,0.8s,mb5.4
FLN La Foliniere 63.71 41 *eP* **P 20 36 13.0 +0.3**
comp=Z,50nm,0.8s,mb5.4
FLN *ep*P pP 20 36 37.2 -0.2
LDF La Druitiere 63.90 41 *eP* **P 20 36 14.2 +0.2**
comp=Z,25nm,0.8s,mb4.8
LDF La Druitiere 63.90 41 *eP* **P 20 36 14.2 +0.2**
LDF pmax pmax
comp=Z,12nm,0.8s,mb4.8
LDF La Druitiere 63.90 41 *eP* **P 20 36 14.2 +0.2**
comp=Z,12nm,0.8s,mb4.8
ESK Eskdalemuir 64.02 33 *eP* **P 20 36 13.5 -1.2**
ESK AMb AMB 20 36 14.0
comp=Z,85nm,1.7s,mb5.3
EKA Eskdalemuir Ar 64.05 33 P **P 20 36 14.4 -0.5**
comp=Z,3.6nm,0.7s,mb4.3,baz=287,slow=4.5,SNR=11
EKA pP pP 20 36 39.9 +0.2
comp=Z,1.8nm,0.7s,baz=266,slow=6.7,SNR=1.9
EAU Auchinoon 64.07 33 *eP* **P 20 36 14.7 -0.4**
MDO Dochfour 64.17 31 *eP* **P 20 36 14.7 -1.0**
EDI Edinburgh 64.24 33 *eP* **P 20 36 14.8 -1.4**
EDI AMb AMB 20 36 25.2
comp=Z,50nm,1.6s,mb5.1
EBL Broad Law 64.26 33 *eP* **P 20 36 15.7 -0.7**
RJF Les Rejaudoux 64.28 45 *eP* **P 20 36 17.2 +0.7**
MTLF Montolieu 64.43 47 *eP* **P 20 36 17.5 0.0**
comp=Z,28nm,1.0s,mb4.8
MTLF *ep*P pP 20 36 41.9 -0.3
MTLF Montolieu 64.43 47 *eP* **P 20 36 17.5 0.0**
MTLF *e**PP pP 20 36 41.9 -0.3
MTLF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MTLF Montolieu 64.43 47 *eP* **P 20 36 17.5 0.0**
comp=Z,14nm,1.0s,mb4.7
MTLF *ep*P pP 20 36 41.9 -0.3
ESY Stoneypath 64.54 33 *eP* **P 20 36 17.5 -0.6**
CAF Calviac 64.60 45 *eP* **P 20 36 18.6 +0.1**
comp=Z,13nm,0.7s,mb4.6
CAF Calviac 64.60 45 *eP* **P 20 36 18.6 +0.1**
CAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
CAF Calviac 64.60 45 *eP* **P 20 36 18.6 +0.1**
comp=Z,6.4nm,0.7s,mb4.6
MCD Coleburn Disti 64.78 31⇓*eP* **P 20 36 18.9 -0.9**
TCF Toulx Ste Croi 64.95 44 *eP* **P 20 36 20.8 0.0**
comp=Z,20nm,0.8s,mb4.7
TCF Toulx Ste Croi 64.95 44 *eP* **P 20 36 20.8 0.0**
TCF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 64.95 44 *eP* **P 20 36 20.8 0.0**
comp=Z,9.9nm,0.8s,mb4.7
BGF Bois d'Agland 65.43 44 *eP* **P 20 36 23.8 -0.2**
USHA Ushuaia 65.54 184 P **P 20 36 23.8 -0.9**
comp=Z,9.0nm,0.7s,mb4.7,baz=346,slow=4.3,SNR=3.4
AVF Avril sur Loir 65.82 43 *eP* **P 20 36 25.7 -0.7**
comp=Z,7.4nm,0.7s,mb4.3
AVF Avril sur Loir 65.82 43 *eP* **P 20 36 25.7 -0.7**
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
AVF Avril sur Loir 65.82 43 *eP* **P 20 36 25.7 -0.7**
comp=Z,3.7nm,0.7s,mb4.3
SSF Saint Saulge 65.97 43 *eP* **P 20 36 27.1 -0.3**
comp=Z,47nm,1.4s,mb4.8
SSF Saint Saulge 65.97 43 *eP* **P 20 36 27.1 -0.3**
SSF pmax pmax
comp=Z,24nm,1.4s,mb4.8
SSF Saint Saulge 65.97 43 *eP* **P 20 36 27.1 -0.3**
comp=Z,24nm,1.4s,mb4.8
SMF Signal de Mont 66.12 44 *eP* **P 20 36 28.3 -0.1**
SMF *ep*P pP 20 36 51.7 -1.5
LOR Lormes 66.24 43 *eP* **P 20 36 28.4 -0.8**
comp=Z,24nm,0.9s,mb4.7
LOR *ep*P pP 20 36 52.1 -1.9
LOR Lormes 66.24 43 *eP* **P 20 36 28.4 -0.8**
LOR *e**PP pP 20 36 52.1 -1.9
LOR pmax pmax
comp=Z,12nm,0.9s,mb4.7
LOR Lormes 66.24 43 *eP* **P 20 36 28.4 -0.8**
comp=Z,12nm,0.9s,mb4.7
LOR *ep*P pP 20 36 52.1 -1.9
VIVF Saint-Julien-l 66.41 46 *eP* **P 20 36 30.7 +0.5**
comp=Z,7.9nm,0.6s,mb4.4
VIVF Saint-Julien-l 66.41 46 *eP* **P 20 36 30.7 +0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
VIVF Saint-Julien-l 66.41 46 *eP* **P 20 36 30.7 +0.5**
comp=Z,4.0nm,0.6s,mb4.4
SMRF Simiane la Rot 66.93 47 *eP* **P 20 36 34.4 +0.8**
BAIF Baives 66.98 40 *eP* **P 20 36 33.2 -0.7**
comp=Z,13nm,0.9s,mb4.5
BAIF Baives 66.98 40 *eP* **P 20 36 33.2 -0.7**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
BAIF Baives 66.98 40 *eP* **P 20 36 33.2 -0.7**
comp=Z,6.7nm,0.9s,mb4.5
MEZF Maizieres J'vi 67.25 42 *eP* **P 20 36 35.2 -0.3**
comp=Z,63nm,0.8s,mb5.2
MEZF *ep*P pP 20 36 59.7 -0.7
MEZF Maizieres J'vi 67.25 42 *eP* **P 20 36 35.2 -0.3**
comp=Z,63nm,0.8s,mb5.5
MEZF *ep*P pP 20 36 59.7 -0.7
ORIF Oris-en-Rattie 67.27 46 *eP* **P 20 36 36.4 +0.7**
GIVF Givet 67.38 40 *eP* **P 20 36 35.9 -0.5**
comp=Z,56nm,0.9s,mb5.1
GIVF *ep*P pP 20 37 00.4 -0.8
GIVF Givet 67.38 40 *eP* **P 20 36 35.9 -0.5**
GIVF *e**PP pP 20 37 00.4 -0.8
GIVF pmax pmax
comp=Z,28nm,0.9s,mb5.1
GIVF Givet 67.38 40 *eP* **P 20 36 35.9 -0.5**
comp=Z,28nm,0.9s,mb5.1
GIVF *ep*P pP 20 37 00.4 -0.8
LMR La Mourre 67.53 48 *eP* **P 20 36 37.2 -0.1**
CABF La Chapelle 67.65 44 *eP* **P 20 36 37.6 -0.5**
comp=Z,84nm,1.4s,mb5.1
CABF La Chapelle 67.65 44 *eP* **P 20 36 37.6 -0.5**
CABF pmax pmax
comp=Z,42nm,1.4s,mb5.1
CABF La Chapelle 67.65 44 *eP* **P 20 36 37.6 -0.5**
comp=Z,42nm,1.4s,mb5.1
FRF La Foret Royal 67.65 47 *eP* **P 20 36 38.2 +0.1**
comp=Z,14nm,0.9s,mb4.5
FRF La Foret Royal 67.65 47 *eP* **P 20 36 38.2 +0.1**
FRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
FRF La Foret Royal 67.65 47 *eP* **P 20 36 38.2 +0.1**
comp=Z,6.9nm,0.9s,mb4.5
MBDF Montbardon 67.88 46 *eP* **P 20 36 39.9 +0.4**
comp=Z,18nm,1.0s,mb4.6
MBDF Montbardon 67.88 46 *eP* **P 20 36 39.9 +0.4**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MBDF Montbardon 67.88 46 *eP* **P 20 36 39.9 +0.4**
comp=Z,9.3nm,1.0s,mb4.6
LPL La Plagne 67.95 45 *eP* **P 20 36 40.8 +0.9**
comp=Z,28nm,0.9s,mb4.8
LPL *ep*P pP 20 37 05.3 +0.5
LPL La Plagne 67.95 45 *eP* **P 20 36 40.8 +0.9**
LPL *e**PP pP 20 37 05.3 +0.5
LPL pmax pmax
comp=Z,14nm,0.9s,mb4.8
LPL La Plagne 67.95 45 *eP* **P 20 36 40.8 +0.9**
comp=Z,14nm,0.9s,mb4.8
LPL *ep*P pP 20 37 05.3 +0.5
LPG La Plagne 67.96 45 *eP* **P 20 36 40.9 +0.9**
comp=Z,30nm,0.9s,mb4.8
LPG La Plagne 67.96 45 *eP* **P 20 36 40.9 +0.9**
LPG pmax pmax
comp=Z,15nm,0.9s,mb4.8
LPG La Plagne 67.96 45 *eP* **P 20 36 40.9 +0.9**
comp=Z,15nm,0.9s,mb4.8
HAU Haudompre 68.02 43 *eP* **P 20 36 40.1 -0.3**
WLF Walferdange 68.15 41 *eP* **P 20 36 41.0 -0.2**
comp=Z,16nm,0.8s,mb4.9
WLF *ep*P pP 20 37 05.9 -0.2
SBF Sospel 68.25 47 *eP* **P 20 36 42.0 +0.1**
comp=Z,10nm,0.7s,mb4.5
SBF *ep*P pP 20 37 06.3 -0.5
SBF Sospel 68.25 47 *eP* **P 20 36 42.0 +0.1**
SBF *e**PP pP 20 37 06.3 -0.5
SBF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SBF Sospel 68.25 47 *eP* **P 20 36 42.0 +0.1**
comp=Z,5.3nm,0.7s,mb4.5
SBF *ep*P pP 20 37 06.3 -0.5
HINF Hinteralfeld 68.33 43 *eP* **P 20 36 41.6 -0.7**
comp=Z,22nm,0.8s,mb4.7
HINF Hinteralfeld 68.33 43 *eP* **P 20 36 41.6 -0.7**
HINF pmax pmax
comp=Z,11nm,0.8s,mb4.7
HINF Hinteralfeld 68.33 43 *eP* **P 20 36 41.6 -0.7**
comp=Z,11nm,0.8s,mb4.7
CDF Champ du Feu 68.69 42 *eP* **P 20 36 43.2 -1.4**
comp=Z,20nm,0.9s,mb4.6
CDF Champ du Feu 68.69 42 *eP* **P 20 36 43.2 -1.4**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CDF Champ du Feu 68.69 42 *eP* **P 20 36 43.2 -1.4**
comp=Z,10nm,0.9s,mb4.7
BUG Bochum--Univer 69.14 39 *eP* **P 20 36 47.5 +0.2**
comp=Z,64nm,1.6s,mb5.2
KEST Kesra 69.19 56 P **P 20 36 48.5 +0.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=146,slow=3.9,SNR=6.4
KEST pP pP 20 37 13.4 +0.8
comp=Z,2.7nm,0.7s,baz=16,slow=2.7,SNR=4.0
PGF Pioggiola 69.28 49 *eP* **P 20 36 48.0 -0.2**
comp=Z,33nm,1.0s,mb4.8
PGF Pioggiola 69.28 49 *eP* **P 20 36 48.0 -0.2**
PGF pmax pmax
comp=Z,17nm,1.0s,mb4.8
PGF Pioggiola 69.28 49 *eP* **P 20 36 48.0 -0.2**
comp=Z,16nm,1.0s,mb4.8
BFO Black Forest 69.38 42 *eP* **P 20 36 48.5 -0.3**
IBBN Ibbenburen 69.57 38 *eP* **P 20 36 50.0 0.0**
comp=Z,62nm,1.1s,mb5.3
IBBN *ep*P pP 20 37 14.8 -0.2
TNS Taunus Mts 69.70 40 *eP* **P 20 36 50.8 0.0**
comp=Z,32nm,0.8s,mb5.2
TNS Taunus Mts 69.70 40 *eP* **P 20 36 50.8 0.0**
TNS pmax pmax
comp=Z,32nm,0.8s,mb5.2
STU Stuttgart 70.00 42 *eP* **P 20 36 52.3 -0.4**
comp=Z,35nm,0.8s,mb5.2
DAVOX Davos 70.26 44 P **P 20 36 55.2 +1.0**
comp=Z,15nm,0.8s,mb4.9,baz=251,slow=6.4,SNR=19
DAVOX pP pP 20 37 19.7 +0.4
comp=Z,13nm,0.8s,baz=247,slow=9.1,SNR=5.7
DAVA Damuels 70.31 44⇓*iP* **P 20 36 56.2 +1.6**
DAVA Damuels 70.31 44⇓*i* pP 20 37 19.5 -0.1
DAVA Damuels 70.31 44 pP 20 37 19.5 -0.1
DAVA Damuels 70.31 44 P **P 20 36 56.2 +1.6**
DAVA *e* pP 20 37 19.5 -0.1
UBBA Unterbreizbach 70.76 40 *eP* **P 20 36 57.5 +0.2**
comp=Z,46nm,1.9s,mb5.0
NRDL Niedersach Rie 71.02 38 *eP* **P 20 36 58.5 -0.4**
comp=Z,22nm,0.9s,mb5.0
NRDL *ep*P pP 20 37 23.5 -0.5
CLZ Clausthal 71.11 39 *eP* **P 20 36 59.1 -0.3**
comp=Z,19nm,1.1s,mb4.8
CLZ Clausthal 71.11 39 *eP* **P 20 36 59.1 -0.3**
CLZ pmax pmax
comp=Z,19nm,1.1s,mb4.8
MOTA Moosalm 71.14 44⇑*iP* **P 20 37 00.9 +1.4**
MOTA Moosalm 71.14 44⇓*i* pP 20 37 23.7 -1.0
MOTA Moosalm 71.14 44 P **P 20 37 00.9 +1.4**
MOTA *e* pP 20 37 23.6 -1.0
SQTA Sankt Quirin 71.20 44⇓*iP* **P 20 37 00.3 +0.4**
SQTA Sankt Quirin 71.20 44⇑*i* pP 20 37 23.7 -1.4
SQTA Sankt Quirin 71.20 44 P **P 20 37 00.3 +0.4**
SQTA *e* pP 20 37 23.6 -1.4
FUR Furstenfeldbru 71.32 43 *eP* **P 20 36 59.9 -0.8**
comp=Z,15nm,1.1s,mb4.7
FUR Furstenfeldbru 71.32 43 *eP* **P 20 36 59.9 -0.8**
FUR pmax pmax
comp=Z,15nm,1.1s,mb4.7
BSEG Bad Segeberg 71.33 37 *eP* **P 20 37 00.3 -0.4**
comp=Z,21nm,0.9s,mb5.0
BSEG *ep*P pP 20 37 25.5 -0.3
GRA1 Grafenberg Arr 71.42 41 *eP* **P 20 37 01.2 -0.1**
comp=Z,29nm,1.6s,mb4.9
GRF Grafenberg Arr 71.42 41 *eP* **P 20 37 01.2 -0.1**
comp=Z,29nm,1.6s,mb4.9
GRF Grafenberg Arr 71.42 41 *eP* **P 20 37 01.2 -0.1**
GRF pmax pmax
comp=Z,29nm,1.6s,mb4.9
WTTA Wattenberg 71.50 44⇓*iP* **P 20 37 03.9 +2.2**
MOX Moxa 71.76 40 *eP* **P 20 37 03.0 -0.3**
comp=Z,4.0nm,0.7s,mb4.4
MANZ Manzenberg 72.02 41 *eP* **P 20 37 05.0 +0.2**
comp=Z,14nm,1.1s,mb4.7
ROTZ Rotzenmuhle 72.06 41 *eP* **P 20 37 04.8 -0.3**
comp=Z,6.0nm,1.2s,mb4.3
WERD Werda 72.18 40 *eP* **P 20 37 05.3 -0.5**
comp=Z,9.0nm,0.9s,mb4.6
GUNZ Gunzen 72.19 41 *eP* **P 20 37 05.6 -0.3**
comp=Z,6.0nm,0.7s,mb4.5
WERN Wernitzgruen 72.21 41 *eP* **P 20 37 06.2 +0.2**
comp=Z,12nm,1.1s,mb4.6
WERN *ep*P pP 20 37 30.9 -0.3
NKC Novy Kostel 72.25 41 *eP* **P 20 37 06.4 +0.1**
NKC *ep*P pP 20 37 31.2 -0.2
TANN Tannenbergstha 72.28 40 *eP* **P 20 37 05.9 -0.5**
comp=Z,10.0nm,1.0s,mb4.6
WET Wettzell 72.45 42 *eP* **P 20 37 07.1 -0.3**
comp=Z,10.0nm,1.0s,mb4.6
WET Wettzell 72.45 42 *eP* **P 20 37 07.1 -0.3**
WET pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
KBA Koelnbreinsper 72.65 44⇑*iP* **P 20 37 08.7 +0.1**
CLL Collm 72.69 40 *eP* **P 20 37 08.5 -0.3**
comp=Z,14nm,1.0s,mb4.8
CLL Collm 72.69 40 *i* P **P 20 37 08.6 -0.2**
CLL *i* pP 20 37 32.9 -1.1
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL Collm 72.69 40 *i* P **P 20 37 08.6 -0.2**
comp=Z,14nm,1.0s,mb4.8
CLL *i* pP pP 20 37 32.9 -1.1
NB2 NORSAR Subarra 72.83 29 P **P 20 37 09.5 -0.1**
comp=Z,14nm,0.9s,mb4.8,baz=265,slow=6.2
NOA NORSAR Array B 72.83 29 P **P 20 37 09.8 +0.1**
comp=Z,10nm,0.9s,mb4.6,baz=262,slow=5.9,SNR=16
NOA pP pP 20 37 35.2 +0.3
comp=Z,19nm,0.9s,baz=262,slow=5.9,SNR=14
NOA NORSAR Array B 72.83 29 P **P 20 37 09.8 +0.1**
NOA pP pP 20 37 35.2 +0.3
CADS Cadrg 72.88 45 *eP* **P 20 37 09.7 -0.2**
FBE Freiberg 72.88 40 *eP* **P 20 37 10.0 0.0**
comp=Z,27nm,1.4s,mb4.9
KHC Kasperske Hory 72.91 42 *eP* **P 20 37 09.7 -0.5**
KHC *ep*P pP 20 37 34.8 -0.6
GEC2 GERESS Array S 72.98 42 *eP* **P 20 37 10.3 -0.2**
comp=Z,18nm,0.9s,mb4.9
GEC2 *ep*P pP 20 37 34.8 -0.9
GEC2 GERESS Array S 72.98 42 *eP* **P 20 37 10.3 -0.2**
GEC2 *e**PP pP 20 37 34.8 -0.9
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb4.9
GERES GERESS Array B 72.98 42 P **P 20 37 10.5 0.0**
comp=Z,9.5nm,0.7s,mb4.7,baz=262,slow=5.1,SNR=68
GERES pP pP 20 37 35.1 -0.7
comp=Z,8.2nm,0.9s,baz=260,slow=4.9,SNR=8.0
INK Inuvik 73.01 338 P **P 20 37 08.3 -2.4**
comp=Z,10nm,1.0s,mb4.6,baz=101,slow=6.7,SNR=11
INK Inuvik 73.01 338 P **P 20 37 08.3 -2.4**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 73.01 338 *eP* **P 20 37 08.2 -2.5**
comp=Z,566nm,1.3s,mb6.2
BRG Berggiesshubel 73.25 40 *eP* **P 20 37 12.1 0.0**
comp=Z,15nm,1.0s,mb4.8
BRG Berggiesshubel 73.25 40 *i* P **P 20 37 12.0 -0.1**
comp=Z,9.1nm,1.0s,mb4.5
BRG *e* pP 20 37 36.1 -1.2
comp=Z,6.6nm,1.2s
BRG Berggiesshubel 73.25 40 *i* P **P 20 37 12.0 -0.1**
BRG *e* pP 20 37 36.2 -1.2
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
RUE Ruedersdorf 73.26 38 *eP* **P 20 37 12.1 -0.1**
comp=Z,34nm,0.8s,mb5.2
MOA Molln 73.31 43⇓*iP* **P 20 37 11.7 -0.8**
LJU Ljubljana 73.42 45 *eP* **P 20 37 13.4 +0.2**
OBKA Obir 73.45 45⇓*iP* **P 20 37 12.9 -0.4**
OBKA Obir 73.45 45⇓*i* pP 20 37 35.6 -3.0
OBKA Obir 73.45 45 P **P 20 37 12.9 -0.4**
OBKA *e* pP 20 37 35.6 -3.0
PRU Pruhonice 73.58 41 *eP* **P 20 37 14.1 0.0**
PRU *ep*P pP 20 37 39.2 -0.1
PVCC Panska Ves 73.63 40 *eP* **P 20 37 14.6 +0.2**
HFS Hagfors 73.92 30 P **P 20 37 15.5 -0.5**
comp=Z,9.8nm,0.7s,mb4.7,baz=242,slow=3.2,SNR=14
HFS pP pP 20 37 40.8 -0.5
comp=Z,23nm,0.9s,baz=256,slow=2.4,SNR=8.2
DOBS Dobrina 74.08 45 *eP* **P 20 37 16.9 -0.1**
ARSA Arzberg 74.14 44⇑*iP* **P 20 37 15.9 -1.5**
CONA Conrad Observa 74.38 43⇓*iP* **P 20 37 18.8 +0.1**
comp=Z,4.8nm,0.8s,mb4.3
UPC Upice 74.55 41 *eP* **P 20 37 20.0 +0.3**
UPC *ep*P pP 20 37 44.7 -0.3
DAWY Dawson 74.57 334 *eP* **P 20 37 18.7 -1.2**
KSP Ksiaz 74.74 40 *eP* **P 20 37 21.0 +0.2**
KSP *ep*P pP 20 37 45.7 -0.4
DPC Dobruska-Polom 74.74 41 *eP* **P 20 37 21.0 +0.2**
DPC *ep*P pP 20 37 46.0 -0.1
VRAC Vranov 74.89 42 P **P 20 37 21.7 0.0**
comp=Z,14nm,0.7s,mb4.8,baz=275,slow=6.0,SNR=19
VRAC pP pP 20 37 46.9 -0.1
comp=Z,8.8nm,0.8s,baz=282,slow=3.8,SNR=5.4
VRAC Vranov 74.89 42⇓*iP* **P 20 37 22.2 +0.5**
VRAC Vranov 74.89 42 P **P 20 37 21.7 0.0**
VRAC *PP pP 20 37 46.9 -0.1
VRAC pmax pmax
comp=Z,15nm,0.7s
VRAC pmax pmax
comp=Z,9.0nm,0.8s
VRAC Vranov 74.89 42 ⇓P **P 20 37 22.2 +0.5**
ZST Bratislava 75.22 43 *iP* **P 20 37 23.8 +0.2**
ZST pmax pmax
comp=Z,17nm,0.7s,mb4.9
ZST Bratislava 75.22 43 *i* P **P 20 37 23.8 +0.2**
comp=Z,17nm,0.7s,mb4.9
PMSA Palmer Station 75.34 181 P **P 20 37 25.2 +0.9**
comp=Z,17nm,0.8s,mb4.9,baz=48,slow=6.3,SNR=3.7
GKP Gorka Klasztor 75.39 38 *eP* **P 20 37 25.4 +0.9**
EGAK Eagle 75.42 334 *eP* **P 20 37 23.2 -1.5**
comp=Z,43nm,1.0s,mb5.1
MORC Moravsky Berou 75.52 41⇑*iP* **P 20 37 25.6 +0.3**
MORC Moravsky Berou 75.52 41⇑P **P 20 37 25.6 +0.3**
OKC Ostrava-Krasne 75.91 41 *eP* **P 20 37 27.7 +0.2**
OKC *ep*P pP 20 37 52.5 -0.4
PKSM Moragy 76.28 45⇓*iP* **P 20 37 30.1 +0.5**
PKSM Moragy 76.28 45⇓P **P 20 37 30.1 +0.4**
VYHS Vyhne 76.37 43 *iP* **P 20 37 29.8 -0.3**
VYHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
VYHS Vyhne 76.37 43 *i* P **P 20 37 29.8 -0.3**
comp=Z,8.3nm,1.1s,mb4.4
OJC Ojcow 76.97 41 *eP* **P 20 37 34.0 +0.5**
PSZ Piszkesteto 77.09 43⇑*iP* **P 20 37 35.1 +0.9**
PSZ Piszkesteto 77.09 43⇑P **P 20 37 35.1 +0.9**
NIE Niedzica 77.33 42 *eP* **P 20 37 37.1 +1.6**
KECS Kecovo 77.47 43 *i* P **P 20 37 36.9 +0.6**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KECS Kecovo 77.47 43 *i* P **P 20 37 36.9 +0.6**
comp=Z,5.1nm,0.8s,mb4.3
STHS Stebnicka Huta 77.93 42 *eP* **P 20 37 39.8 +0.9**
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
STHS Stebnicka Huta 77.93 42 *eP* **P 20 37 39.8 +0.9**
comp=Z,6.7nm,0.7s,mb4.5
COLA College 78.28 334 *eP* **P 20 37 38.7 -2.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
COLA College 78.28 334 *eP* **P 20 37 38.7 -2.1**
comp=Z,6.4nm,0.8s,mb4.4
BZS Buzias 78.39 45⇑*iP* **P 20 37 42.1 +0.7**
BZS Buzias 78.39 45⇑P **P 20 37 42.1 +0.7**
KRUS Krusevo 78.40 50 *eP* **P 20 37 42.7 +1.2**
BIA Bitola 78.48 50 *eP* **P 20 37 42.9 +1.0**
SKO Skopje 78.50 49 *eP* **P 20 37 43.4 +1.4**
KOLS Kolonicke sedl 78.63 42 *eP* **P 20 37 43.4 +0.7**
MCK McKinley 78.77 333 P **P 20 37 40.1 -3.4**
KWP Kalwaria 78.87 41 *eP* **P 20 37 45.5 +1.5**
SUW Suwalki 78.92 37 *eP* **P 20 37 44.4 +0.1**
DRGR 79.06 44⇓*iP* **P 20 37 45.3 +0.2**
DRGR 79.06 44⇓P **P 20 37 45.3 +0.2**
STIP Stip 79.08 49 *eP* **P 20 37 44.5 -0.7**
ARCES ARCESS Array B 79.33 21 P **P 20 37 45.3 -1.2**
comp=Z,8.2nm,0.9s,mb4.6,baz=299,slow=3.5,SNR=10
ARCES pP pP 20 38 12.0 -0.1
comp=Z,4.8nm,0.7s,baz=258,slow=4.2,SNR=3.1
VTS Vitosha 79.76 48⇑*iP* **P 20 37 50.0 +1.1**
VTS Vitosha 79.76 48⇑P **P 20 37 50.0 +1.1**
FINES FINESS Array B 80.01 29 P **P 20 37 49.5 -0.6**
comp=Z,4.9nm,0.5s,mb4.6,baz=282,slow=2.4,SNR=30
FINES pP pP 20 38 15.8 0.0
comp=Z,11nm,0.8s,baz=294,slow=1.9,SNR=6.9
FINES FINESS Array B 80.01 29 P **P 20 37 49.5 -0.6**
FINES pP pP 20 38 15.8 0.0

BURAR **Bucovina Array** 80.70 43 ⇑*iP* P 20 37 54.9 +1.0
BURAR **Bucovina Array** 80.70 43 ⇑P P 20 37 54.9 +1.1
VOIR 80.81 45 ⇑*iP* P 20 37 54.8 +0.3
VOIR 80.81 45 ⇑P P 20 37 54.8 +0.3
KDAK **Kodiak Island** 80.94 327 P P 20 37 54.9 -0.3
comp=Z,22nm,0.6s,mb5.2,baz=66,slow=2.7,SNR=17
SNX **Sinaia** 81.14 46 ⇓*iP* P 20 37 57.7 +1.5
SNX **Sinaia** 81.14 46 ⇓P P 20 37 57.6 +1.4
MLR **Muntele Rosu** 81.42 45 P P 20 37 58.5 +0.8
comp=Z,31nm,0.8s,mb5.2,baz=287,slow=1.7,SNR=45
MLR **Muntele Rosu** 81.42 45 ⇓*iP* P 20 37 58.8 +1.1
MLR **Muntele Rosu** 81.42 45 P P 20 37 58.5 +0.8
MLR pmax pmax
comp=Z,31nm,0.8s
MLR **Muntele Rosu** 81.42 45 ⇓P P 20 37 58.8 +1.0
IDI **Anoyia** 81.87 56 P P 20 38 01.4 +1.3
comp=Z,24nm,0.7s,mb5.1,baz=309,slow=6.4,SNR=3.8
IDI pP pP 20 38 27.1 +1.4
comp=Z,14nm,0.7s,baz=276,slow=7.7,SNR=3.2
VRI **Vrincioaia** 81.92 45 ⇑*iP* P 20 38 00.9 +0.5
VRI **Vrincioaia** 81.92 45 ⇑P P 20 38 00.9 +0.5
AKASG **Malin Array Be** 82.93 40 P P 20 38 05.0 -0.6
comp=Z,8.4nm,0.8s,mb4.6,baz=265,slow=4.9,SNR=33
AKASG pP pP 20 38 30.4 -0.9
comp=Z,2.4nm,0.8s,baz=268,slow=4.6,SNR=3.0
AKBB **Malin Array Si** 82.93 40 *eP* P 20 38 04.6 -1.0
KIS **Kishinev** 83.20 44 *eP* P 20 38 05.0 -2.0
TIRR **Tirgusor** 83.30 46 ⇓*iP* P 20 38 07.8 +0.3
TIRR **Tirgusor** 83.30 46 *eP* P 20 38 07.2 -0.3
TIRR pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TIRR **Tirgusor** 83.30 46 *eP* P 20 38 07.2 -0.3
comp=Z,8.6nm,0.9s,mb4.6
TSUM **Tsumeb** 84.44 111 P P 20 38 14.4 +1.1
comp=Z,11nm,0.8s,mb4.7,baz=276,slow=4.6,SNR=15
TKTP **Tekketepe** 85.76 52 *iP* P 20 38 20.5 +0.6
ESKT **Eskisehir** 85.90 51 *iP* P 20 38 20.6 0.0
OBN **Obninsk** 86.46 35 *eP* P 20 38 23.0 -0.3
OBN *e**PP pP 20 38 49.0 -0.3
OBN pmax pmax
comp=Z,42nm,0.8s,mb5.4
OBN **Obninsk** 86.46 35 *eP* P 20 38 22.9 -0.5
comp=Z,22nm,0.6s,mb5.3
OBN *e*pP pP 20 38 48.8 -0.4
SIM **Simferopol'** 87.21 45 *eP* P 20 38 27.9 +0.9
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.2
ANTO **Ankara** 87.31 50 *eP* P 20 38 28.1 +0.7
ANTO *e**PP pP 20 38 53.7 +0.3
ANTO pmax pmax
comp=Z,20nm,0.8s,mb5.1
ANTO **Ankara** 87.31 50 *eP* P 20 38 28.1 +0.6
comp=Z,20nm,0.8s,mb5.1
ANTO *e*pP pP 20 38 53.7 +0.3
BR131 **Keskin Array S** 87.97 50 *eP* P 20 38 30.9 +0.3
comp=Z,12nm,0.8s,mb5.0
BR131 *e*pP pP 20 38 55.3 -1.3
BRTR **Keskin Array B** 87.97 50 P P 20 38 30.9 +0.3
comp=Z,13nm,0.8s,mb5.0,baz=261,slow=4.0,SNR=62
BRTR pP pP 20 38 56.9 +0.2
comp=Z,5.7nm,0.8s,baz=260,slow=3.7,SNR=6.5
VNA3 **Neumayer Olymp** 89.11 165 *e*PKPdf P 20 38 32.9 -3.1
VNA3 **Neumayer Olymp** 89.11 165 *e*PKPdf P 20 38 32.9 -3.1
VNA3 *e* 20 38 36.1
VNA3 **Neumayer Olymp** 89.11 165 *e*PKPdf pP 20 38 56.0 -6.0
VNA3 **Neumayer Olymp** 89.11 165 *e*PKPdf pP 20 38 56.0 -6.0
VNA3 *e* sP 20 39 20.1 +7.6
VNA3 *e* 20 39 33.5
VNA2 **Neumayer--Watz** 89.51 164 *e*PKPdf P 20 38 37.7 -0.1
VNA2 **Neumayer--Watz** 89.51 164 *e*PKPdf P 20 38 37.7 -0.1
VNA2 *e* 20 38 41.7
VNA2 **Neumayer--Watz** 89.51 164 *e*PKPdf pP 20 38 57.0 -6.9
VNA2 **Neumayer--Watz** 89.51 164 *e*PKPdf pP 20 38 57.0 -6.9
VNA2 *e* 20 39 06.6
VNA2 *e* 20 39 16.6
ANN **Anapa** 89.54 45 *eP* P 20 38 36.4 -1.6
ANN *e**PP pP 20 39 00.9 -3.1
ANN pmax pmax
comp=Z,101nm,1.1s,mb5.9
SUR **Sutherland** 90.25 123 P P 20 38 41.8 +0.5
comp=Z,8.3nm,0.7s,mb5.0,baz=275,slow=3.8,SNR=6.8
MMAI **Mount Meron Ar** 90.85 56 P P 20 38 44.4 +0.4
comp=Z,4.2nm,0.8s,mb4.6,baz=343,slow=5.2,SNR=4.2
SNAA **Sanae** 91.14 164 P P 20 38 45.5 0.0
comp=Z,3.5nm,0.8s,mb4.5,baz=313,slow=4.2,SNR=23
SNAA LR LR 21 17 04.9
comp=Z,272nm,19.0s,baz=24,slow=34
SNAA **Sanae** 91.14 164 *e*PKPdf P 20 38 45.0 -0.4
SNAA **Sanae** 91.14 164 *e*PKPdf P 20 38 45.0 -0.4
SNAA *e* 20 38 48.9
SNAA **Sanae** 91.14 164 *e*PKPdf P 20 38 53.2 +7.8
SNAA **Sanae** 91.14 164 *e*PKPdf P 20 38 53.2 +7.8
SNAA **Sanae** 91.14 164 P P 20 38 45.5 +0.1
SNAA pmax pmax
comp=Z,4.0nm,0.8s
SNAA MLR MLR
comp=Z,272nm,19.0s
SNAA **Sanae** 91.14 164 *eP* P 20 38 44.8 -0.6
comp=Z,12nm,0.9s,mb5.0
MALT **Malatya** 91.93 51 *eP* P 20 38 49.8 +0.7
MALT *e**PP pP 20 39 16.0 +0.8
MALT pmax pmax
comp=Z,14nm,0.8s,mb5.2
MALT **Malatya** 91.93 51 *eP* P 20 38 49.8 +0.7
comp=Z,14nm,0.8s,mb5.2
MALT *e*pP pP 20 39 16.0 +0.8
ASF **Jabal al Asfar** 92.27 57 P P 20 38 52.2 +1.5
comp=Z,2.1nm,0.6s,mb4.5,baz=158,slow=4.8,SNR=5.0
BOSA **Boshof** 93.26 118 P P 20 38 55.0 -0.2
comp=Z,7.5nm,0.9s,mb5.0,baz=306,slow=2.0,SNR=7.7
BOSA pP pP 20 39 21.0 -0.4
comp=Z,6.6nm,0.8s,baz=260,slow=1.9,SNR=4.4
KIV **Kislovodsk** 93.39 44 *eP* P 20 38 56.7 +0.9
KIV pmax pmax
comp=Z,13nm,1.0s,mb5.2
BILL **Bilibino** 94.05 343 *eP* P 20 38 55.5 -3.4
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
GNI **Garni** 96.07 47 P P 20 39 09.4 +1.3
comp=Z,7.9nm,0.7s,mb5.3,baz=269,slow=2.7,SNR=6.7
GNI **Garni** 96.07 47 *eP* P 20 39 08.7 +0.6
GNI pmax pmax
comp=Z,8.0nm,0.8s
ARU **Arti** 97.37 29 ⇓*iP* P 20 39 13.6 -0.4
ARU *e* 20 43 12.4
ARU *e*PPP 20 45 19.1
ARU *e*S SKSac 20 49 41.4 -0.7
ARU *e*SS SS 20 57 09.0 -1.1
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
YSS **Yuzh-Sakhalins** 118.20 341 ⇑*i*PKIKP PKPdf 20 44 24.7 -2.6
WMQ **Urumqi** 119.33 24 PKP PKPdf 20 44 28.0 -1.4
WMQ XPKP 20 45 05.4
WMQ PP PP 20 45 54.9 +3.3
WMQ PP PP
comp=Z,24nm,7.5s
WMQ LR LR
comp=N,560nm,19.0s
WMQ LR LR
comp=E,411nm,17.9s
WMQ LR LR
comp=Z,1μm,21.2s
SONM **Songino Array** 120.84 9 PKP PKPdf 20 44 30.7 -1.6
comp=Z,1.1nm,0.5s,baz=305,slow=1.4,SNR=11
CN2 **Changchun** 125.18 353 *e*PKP PKPdf 20 44 40.0 -0.6
GTA **Gaotai** 127.47 17 *e*PKP PKPdf 20 44 43.6 -1.4
HHC **Hu-ho-hao-te** 128.35 6 *e*PKP PKPdf 20 44 45.1 -1.6
HHC XPKP 20 45 23.0
HHC PP PP 20 46 53.8 +1.6
HHC PKS 20 48 20.8
HHC SKS SKSdf 20 51 46.0 -3.4
HHC SKKS SKKSac 20 53 35.6 -4.5
HHC PP PP
comp=Z,705nm,9.6s
HHC LR LR
comp=N,285nm,21.1s
HHC LR LR
comp=E,248nm,21.4s
HHC LR LR
comp=Z,359nm,20.8s
MJAR **Matsushiro Arr** 129.00 338 PKP PKPdf 20 44 45.6 -2.3
comp=Z,2.6nm,0.8s,baz=48,slow=1.2,SNR=7.6
KSRS **Korea Array** 131.01 349 PKP PKPdf 20 44 50.4 -1.3
comp=Z,2.3nm,0.9s,baz=329,slow=2.2,SNR=5.1
KSRS SKP 20 48 09.2
comp=Z,2.9nm,0.7s,baz=360,slow=3.7,SNR=6.4
LZH **Lanzhou** 131.67 15 *e*PKP PKPdf 20 44 54.8 +1.8
LZH XPKP 20 45 34.3
LZH PP PP 20 47 20.1 +6.3
LZH SKKS SKKSac 20 53 58.0 -2.7
LZH PP PP
comp=Z,60nm,7.3s
LZH **Lanzhou** 131.67 15 *e*PKIKP PKPdf 20 44 54.7 +1.7
LZH 20 45 34.2
LZH 20 47 20.1
LZH *e*SS SS 21 04 41.0 +0.4
LZH **Lanzhou** 131.67 15 *e*PKP PKPdf 20 44 54.7 +1.7
LZH sPKP 20 45 34.2
LZH PP PP 20 47 20.1 +6.3
LZH SKKS SKKSac 20 53 58.0 -2.7
LZH *e*SS SS 21 04 41.0 +0.4
CD2 **Chengdu** 136.54 17 *e*PKP PKPdf 20 44 59.3 -2.8
NJ2 **Nanjing** 137.39 358 *e*PKP PKPdf 20 45 03.4 -0.3
GYA **Guiyang** 141.55 16 PKP PKPdf 20 45 06.4 -4.9
GYA XPKP 20 45 48.3
GYA PP PP 20 48 17.3 +1.8
GYA PKS 20 48 44.5
GYA SKS SKSdf 20 52 08.1 -4.2
GYA PP PP
comp=Z,130nm,7.8s
GYA LR LR
comp=N,240nm,20.7s
GYA LR LR
comp=E,180nm,21.4s
GYA LR LR
comp=Z,160nm,21.8s
KMI **Kunming** 141.57 22 P PKPdf 20 45 10.4 -0.9
KMI sP 20 45 51.6
CHTO **Chiang Mai** 145.44 32 *e*PKIKP PKPdf 20 45 16.7 -1.4
STKA **Stephens Creek** 149.31 223 *eP* PKPdf 20 45 24.1 -0.4
comp=Z,10nm,1.0s
STKA **Stephens Creek** 149.31 223 PKP PKPdf 20 45 24.5 0.0
comp=Z,13nm,0.9s,baz=180,slow=3.7,SNR=8.2
STKA PKPbc PKPbc 20 45 28.1 -0.8
comp=Z,8.0nm,0.7s,baz=121,slow=1.5,SNR=7.2
PMG **Port Moresby** 150.63 270 ⇑*i*PKIKP PKPbc 20 45 30.7 -1.4
PMG **Port Moresby** 150.63 270 *e*PKPbc PKPbc 20 45 31.4 -0.7
CTA **Charters Tower** 150.69 248 *eP* PKPbc 20 45 31.6 -0.7
comp=Z,30nm,0.7s
CTAO **Charters Tower** 150.69 248 *e*PKIKP PKPbc 20 45 31.4 -0.9
FORT **Forrest** 157.76 205 *eP* PKPab 20 46 08.5 -1.1
comp=Z,19nm,0.7s
ASAR **Alice Springs** 159.68 229 PKP PKPdf 20 45 37.5 -1.3
comp=Z,2.2nm,1.0s,baz=136,slow=2.0,SNR=13
ASAR PKPab PKPab 20 46 15.9 -2.0
comp=Z,0.8nm,0.5s,baz=135,slow=2.8,SNR=4.0
WB2 **Warramunga Arr** 161.26 239 *eP* PKPdf 20 45 39.8 -0.8
WB2 **Warramunga Arr** 161.26 239 *eP* PKPab 20 46 23.8 -1.0
WRAB **Tennant Creek** 161.27 239 *e*PKIKP PKPdf 20 45 39.7 -0.9
WRA **Warramunga Arr** 161.28 239 PKP PKPdf 20 45 39.5 -1.1
comp=Z,6.5nm,1.0s,baz=94,slow=1.0,SNR=21
WRA PKPab PKPab 20 46 23.1 -1.8
comp=Z,6.5nm,0.8s,baz=116,slow=4.3,SNR=23
FITZ **Fitzroy Crossi** 169.17 227 *eP* PKPdf 20 45 40.9 -6.3
comp=Z,7.2nm,1.0s
FITZ **Fitzroy Crossi** 169.17 227 *eP* PKPab 20 46 58.7 -1.0
comp=Z,6.3nm,1.2s

IDC **15** *20:27:16.7±13.0, 46.67N×155.02E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/24, mbtmp4.0/6, Error ellipse: s-maj=334.0km s-min=32.4km az=165.0*
ISCJB **15** *20:27:18.7±1.8, 47.3N×03.0×155.0E±02, h10km, mb4.1/12, Error ellipse: s-maj=40.0km s-min=16.7km az=143.7*
NEIC **15** *20:27:19.3±1.8, 47.10N×155.18E, h10km, mb4.3/5, Error ellipse: s-maj=46.4km s-min=15.9km az=169.0*
MOS **15** *20:27:21.3±1.1, 47.22N×155.12E, h33km, mb4.4/10, Error ellipse: s-maj=25.7km s-min=15.2km az=113.3*

ISC 15 20:27:20.7±1.7, 473N±03×1550E±02, h10km, n27, σ0§65/27, mb4.2/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**21.56**	**12**	*eP*	**P**	**20 32 09.9**	**-0.4**
BILL				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.1							
TIXI	**Tiksi**	**27.31**	**342**	*eP*	**P**	**20 33 05.5**	**0.0**
SONM	**Songino Array**	**32.38**	**289**	P	**P**	**20 33 49.7**	**-0.7**
SONM				pmax	pmax		
comp=Z,0.5nm,0.8s,mb3.4,baz=67,slow=8.0,SNR=3.7							
SONM	**Songino Array**	**32.38**	**289**	P	**P**	**20 33 49.7**	**-0.7**
SONM				pmax	pmax		
comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**40.47**	**33**	P	**P**	**20 35 00.8**	**+1.4**
comp=Z,1.4nm,0.4s,mb4.0,baz=276,slow=7.5,SNR=8.1							
INK	**Inuvik**	**40.47**	**33**	P	**P**	**20 35 00.9**	**+1.4**
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZAL	**Zalesovo**	**43.35**	**306**	P	**P**	**20 35 23.0**	**0.0**
comp=Z,1.0nm,0.3s,mb4.0,baz=59,slow=12,SNR=3.8							
ZAL	**Zalesovo**	**43.35**	**306**	P	**P**	**20 35 23.0**	**0.0**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
NVS	**Novosibirsk**	**43.88**	**308**	*eP*	**P**	**20 35 27.0**	**-0.3**
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**20 35 58.2**	**-0.3**
comp=Z,1.2nm,0.8s,mb4.1,baz=71,slow=7.2,SNR=10							
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**20 35 58.2**	**-0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**20 35 58.2**	**-0.3**
CHKZ	**Chkalovo**	**51.06**	**310**	*eP*	**P**	**20 36 22.5**	**-0.6**
CHKZ				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.7							
CHKZ	**Chkalovo**	**51.06**	**310**	*eP*	**P**	**20 36 22.5**	**-0.6**
comp=Z,4.6nm,0.5s,mb4.7							
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**20 36 26.7**	**+0.3**
comp=Z,1.7nm,0.6s,mb4.2,baz=53,slow=8.2,SNR=13							
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**20 36 26.7**	**+0.3**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
LSA	**Lhasa**	**51.54**	**274**	*eP*	**P**	**20 36 27.6**	**+0.9**
LSA				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**51.54**	**274**	*eP*	**P**	**20 36 27.6**	**+0.9**
comp=Z,1.6nm,0.6s,mb4.1							
BRVK	**Borovoye**	**51.54**	**310**	*eP*	**P**	**20 36 26.5**	**-0.2**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.54**	**310**	*eP*	**P**	**20 36 26.5**	**-0.2**
comp=Z,2.2nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**52.26**	**310**	*eP*	**P**	**20 36 31.8**	**-0.3**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.26**	**310**	*eP*	**P**	**20 36 31.8**	**-0.3**
comp=Z,1.3nm,0.6s,mb4.0							
AKTK	**Aktyubinsk**	**59.31**	**312**	P	**P**	**20 37 23.4**	**+0.7**
AKTO	**Aktyubinsk**	**59.31**	**312**	P	**P**	**20 37 23.4**	**+0.7**
comp=Z,1.3nm,0.6s,mb4.1,baz=52,slow=7.6,SNR=5.1							
AKTO	**Aktyubinsk**	**59.31**	**312**	P	**P**	**20 37 23.4**	**+0.7**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
ISCO	**Idaho Springs**	**67.55**	**55**	*eP*	**P**	**20 38 16.0**	**-1.2**
ISCO				pmax	pmax		
comp=Z,13nm,1.1s,mb4.9							
ISCO	**Idaho Springs**	**67.55**	**55**	*eP*	**P**	**20 38 16.0**	**-1.2**
comp=Z,13nm,1.1s,mb4.9							

ISCJB **15** *20:28:03.8±0.8, 47.06N±0.10×155.1E±0.1, h10km, mb4.3/29, Error ellipse: s-maj=17.5km s-min=9.1km az=93.5*
IDC **15** *20:28:04.0±1.0, 46.97N×155.10E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/27, mbtmp4.2/16, ML3.8/2, Error ellipse: s-maj=25.4km s-min=18.9km az=151.0*
NEIC **15** *20:28:05.5±0.8, 47.02N×155.16E, h10km, mb4.7/8, Error ellipse: s-maj=18.6km s-min=13.1km az=146.0*
MOS **15** *20:28:07.5±0.8, 47.05N×154.95E, h34km, mb4.5/19, Error ellipse: s-maj=17.3km s-min=11.5km az=112.1*
BJI **15** *20:28:07.8, 47.28N×154.47E, h10km, mB5.1, mb4.5, Ms4.3, Msz4.4*

ISC 15 20:28:05.3±0.8, 4707N±010×1552E±01, h10km, n58, σ1§02/59, mb4.3/29, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.30**	**256**	Pn	**Pn**	**20 30 19.2**	**-0.2**
1.2nm,0.3s,baz=36,slow=10,SNR=3.9							
ASAJ	**Asahikawa**	**9.30**	**256**	PN	**Pn**	**20 30 19.2**	**-0.2**
ASAJ				pmax	pmax		

MJAR **Matsushiro Arr** 16.42 236 Pn Pn 20 31 55.7 0.0
comp=Z,0.2nm,0.3s,baz=34,slow=9.9,SNR=10.0
MAT **Matsushiro** 16.42 236 P Pn 20 31 53.4 -2.4
BILL **Bilibino** 21.78 11 *eP* P 20 32 56.7 -0.6
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.3
KSRS **Korea Array** 22.24 254 P P 20 33 03.3 +1.1
comp=Z,2.7nm,0.8s,mb3.8,baz=60,slow=9.9,SNR=6.7
TIXI **Tiksi** 27.58 342 *eP* P 20 33 51.8 -0.7
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
TIXI **Tiksi** 27.58 342 *eP* P 20 33 51.8 -0.7
comp=Z,3.7nm,0.6s,mb4.2
HHC **Hu-ho-hao-te** 31.68 275 *eP* P 20 34 30.0 +1.1
HHC AP pP 20 34 34.5 +2.6
HHC PP PP 20 35 34.1 -6.3
HHC AMB AMB
comp=Z,17nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,603nm,10.0s
SONM **Songino Array** 32.56 290 P P 20 34 36.4 -0.2
comp=Z,1.6nm,0.7s,mb4.1,baz=62,slow=8.8,SNR=12
SONM **Songino Array** 32.56 290 P P 20 34 36.4 -0.2
SONM pmax pmax
comp=Z,2.0nm,0.7s
ZAK **Zakamensk** 33.83 295 *eP* P 20 34 47.1 -0.6
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
GTA **Gaotai** 40.31 280 *eP* P 20 35 44.0 +1.2
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
INK **Inuvik** 40.62 33 P P 20 35 46.9 +1.5
comp=Z,1.1nm,0.5s,mb3.8,baz=303,slow=9.7,SNR=6.0
INK **Inuvik** 40.62 33 P P 20 35 46.9 +1.6
INK pmax pmax
comp=Z,1.0nm,0.5s
CD2 **Chengdu** 42.31 266 ⇓*iP* P 20 36 00.3 +1.1
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GYA **Guiyang** 43.16 259 ⇑*iP* P 20 36 06.4 +0.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
ZAL **Zalesovo** 43.59 306 P P 20 36 07.7 -1.8
comp=Z,1.3nm,0.6s,mb3.9,baz=66,slow=4.3,SNR=4.0
ZAL **Zalesovo** 43.59 306 P P 20 36 07.7 -1.8
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL **Zalesovo** 43.59 306 P P 20 36 07.7 -1.8
NVS **Novosibirsk** 44.12 308 *eP* P 20 36 13.0 -0.8
NVS *eS* S 20 42 32.3 -14
NVS pmax pmax
comp=Z,10.0nm,1.5s,mb4.3
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS smax
comp=N,9.0nm,2.0s
NVS smax
comp=E,21nm,2.4s
KMI **Kunming** 46.69 261 P P 20 36 28.5 -5.7
KMI pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
KMI **Kunming** 46.69 261 P P 20 36 28.5 -5.7
comp=Z,7.0nm,1.3s,mb4.4
MK31 **Makanchi Array** 48.05 298 *eP* P 20 36 45.1 +0.3
MKAR **Makanchi Array** 48.05 298 P P 20 36 45.0 +0.2
comp=Z,3.2nm,0.7s,mb4.5,baz=66,slow=8.0,SNR=19
MKAR **Makanchi Array** 48.05 298 P P 20 36 45.0 +0.2
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 48.05 298 P P 20 36 45.0 +0.2
CHKZ **Chkalovo** 51.30 311 *eP* P 20 37 09.0 -0.6
CHKZ pmax pmax
comp=Z,20nm,0.8s,mb5.1
CHKZ **Chkalovo** 51.30 311 *eP* P 20 37 09.0 -0.6
comp=Z,20nm,0.8s,mb5.1
LSA **Lhasa** 51.66 274 *eP* P 20 37 14.7 +2.4
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA **Lhasa** 51.66 274 *eP* P 20 37 14.7 +2.4
comp=Z,4.0nm,0.6s,mb4.5
BVAR **Borovoye Array** 51.74 310 P P 20 37 13.3 +0.4
comp=Z,7.7nm,0.8s,mb4.7,baz=54,slow=7.9,SNR=25
BVAR **Borovoye Array** 51.74 310 P P 20 37 13.3 +0.4
BVAR pmax pmax
comp=Z,8.0nm,0.8s
BRVK **Borovoye** 51.78 310 *eP* P 20 37 13.2 0.0
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRVK **Borovoye** 51.78 310 *eP* P 20 37 13.2 0.0
comp=Z,14nm,0.9s,mb4.9
ZRNK **Zerenda** 52.51 310 *eP* P 20 37 18.6 +0.1
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZRNK **Zerenda** 52.51 310 *eP* P 20 37 18.6 +0.1
comp=Z,9.7nm,0.9s,mb4.7
ARU **Arti** 55.73 318 *eP* P 20 37 41.8 -0.2
ARU **Arti** 55.73 318 *eP* P 20 37 41.7 -0.4
comp=Z,13nm,0.8s,mb5.0
AKTK **Aktyubinsk** 59.56 313 P P 20 38 07.7 -1.4
AKTO **Aktyubinsk** 59.56 313 P P 20 38 07.7 -1.4
comp=Z,2.9nm,0.8s,mb4.3,baz=83,slow=8.1,SNR=4.5
AKTO **Aktyubinsk** 59.56 313 P P 20 38 07.7 -1.3
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
FINES **FINESS Array B** 64.35 336 P P 20 38 41.8 +0.6
comp=Z,5.0nm,0.8s,mb4.6,baz=15,slow=7.9,SNR=5.0
FINES **FINESS Array B** 64.35 336 P P 20 38 41.8 +0.6
FINES pmax pmax
comp=Z,5.0nm,0.8s
NOA **NORSAR Array B** 68.38 342 P P 20 39 09.3 +2.2
comp=Z,1.5nm,0.9s,mb4.0,baz=28,slow=6.4,SNR=3.1
NOA **NORSAR Array B** 68.38 342 P P 20 39 09.3 +2.3
NOA pmax pmax
comp=Z,2.0nm,0.9s
HFS **Hagfors** 68.64 340 P P 20 39 08.8 +0.1
comp=Z,2.6nm,0.6s,mb4.3,baz=55,slow=5.6,SNR=7.3
HFS **Hagfors** 68.64 340 P P 20 39 08.8 +0.1
HFS pmax pmax
comp=Z,3.0nm,0.6s
ECSD **EROS,Sioux Fal** 69.64 47 *eP* P 20 39 13.0 -1.9
comp=Z,5.7nm,0.9s,mb4.5
AKASG **Malin Array Be** 72.06 327 P P 20 39 29.1 -0.5
comp=Z,1.5nm,0.6s,mb4.1,baz=34,slow=6.1,SNR=5.0
AKASG **Malin Array Be** 72.06 327 P P 20 39 29.1 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.6s
ASAR **Alice Springs** 72.98 200 P P 20 39 34.3 -0.8
comp=Z,1.3nm,0.8s,mb3.9,baz=16,slow=5.4,SNR=8.1
ASAR **Alice Springs** 72.98 200 P P 20 39 34.3 -0.8
ASAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR **Lajitas Array** 76.10 62 P P 20 39 53.8 +0.6
comp=Z,1.8nm,0.5s,mb4.2,baz=296,slow=4.2,SNR=10
TXAR **Lajitas Array** 76.10 62 P P 20 39 53.8 +0.6
TXAR pmax pmax
comp=Z,2.0nm,0.5s
CLL **Collm** 76.75 337 *eP* P 20 39 57.0 +0.1
GERES **GERESS Array B** 78.78 335 P P 20 40 09.0 +0.8
comp=Z,0.6nm,0.7s,mb3.7,baz=15,slow=4.3,SNR=2.8
GERES **GERESS Array B** 78.78 335 P P 20 40 09.0 +0.8
GERES pmax pmax
comp=Z,1.0nm,0.7s

ISCJB **15** *20:33:35.6±1.7, 468N×03.0×1550E±03, h10km, mb4.1/5, Error ellipse: s-maj=45.9km s-min=19.3km az=134.4*
IDC **15** *20:33:35.8±4.3, 46.84N×155.06E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/23, mbtmp4.0/5, Error ellipse: s-maj=154.4km s-min=31.0km az=10.0*
MOS **15** *20:33:38.7±0.4, 46.76N×154.87E, h33km, mb4.2/5, Error ellipse: s-maj=40.4km s-min=33.0km az=38.7*

ISC 15 20:33:37.3±1.7, 469N±03×1550E±03, h10km, n12, σ0§29/12, mb4.1/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.20**	**254**	PN	**Pn**	**20 34 55.0**	**-0.1**
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**20 42 16.8**	**+0.3**
0.6nm,0.7s,mb3.8,baz=60,slow=6.9,SNR=4.0							
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**20 42 16.8**	**+0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							

BVAR **Borovoye Array** 51.78 310 P P 20 42 45.2 +0.1
comp=Z,1.3nm,0.4s,mb4.3,baz=58,slow=7.8,SNR=9.3
BVAR **Borovoye Array** 51.78 310 P P 20 42 45.2 +0.1
BVAR pmax pmax
comp=Z,1.0nm,0.4s
AKTO **Aktyubinsk** 59.60 313 P P 20 43 41.5 +0.2
comp=Z,0.7nm,0.4s,mb4.0,baz=29,slow=8.3,SNR=4.3
AKTO **Aktyubinsk** 59.60 313 P P 20 43 41.5 +0.2
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES **FINESS Array B** 64.49 336 P P 20 44 14.0 0.0
comp=Z,1.5nm,0.7s,mb4.1,baz=37,slow=7.0,SNR=6.4
FINES **FINESS Array B** 64.49 336 P P 20 44 14.0 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.7s
TXAR **Lajitas Array** 76.33 62 P P 20 45 26.6 +0.1
comp=Z,1.4nm,0.6s,mb4.1,baz=301,slow=4.6,SNR=11
TXAR **Lajitas Array** 76.33 62 P P 20 45 26.6 +0.2
TXAR pmax pmax
comp=Z,1.0nm,0.6s
CLL **Collm** 76.89 337 *e*P P 20 45 29.0 -0.6
CLL *i* pP pP 20 45 32.6 -0.3
comp=Z,5.0nm,0.9s

ATH **15** *20:35:04.1, 3441N×2390E, h23km±6km, MD3.5/5*
CSEM **15** *20:35:04.1, 3441N×2390E, h23km, MD3.5/5, After ATH*
NEIC 15 20:35:04.1, 3441N×2390E, h23km, MD3.5(ATH)**, After ATH., Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.46**	**20**	*e*PB			Pb	20 35 14.0	+0.5
VAM	**Vamos**	**1.02**	**14**	*e*PN			Pn	20 35 23.3	+0.3
VAM				*e*SN			Sn	20 35 38.4	+1.7
NPS	**Neapolis**	**1.65**	**58**	*e*PN			Pn	20 35 33.8	+2.2
KYTH	**Kithira**	**2.00**	**340**	*e*PN			Pn	20 35 39.2	+2.8
VLI	**Veliai**	**2.43**	**341**	*e*PN			Pn	20 35 44.0	+1.6
KARP	**Karpathos**	**2.91**	**66**	*e*PN			Pn	20 35 51.0	+2.1

JMA 15 20:35:27.6±0.2, 4360N×14723E, h37km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.11**	**258**	P			Pn	20 35 47.3	+0.7
NEM2				*e*S			Sn	20 36 01.5	+0.9
JRA	**Rausu**	**1.56**	**283**	P			Pn	20 35 53.7	+0.8
JRA				*e*S			Sn	20 36 13.1	+1.2
JNK	**Nakash**	**1.82**	**270**	P			Pn	20 35 57.2	+0.8
JNK				*e*S			Sn	20 36 20.2	+1.9
JAK	**Akkeshi**	**1.95**	**253**	P			Pn	20 35 59.0	+0.9
JAK				*e*S			Sn	20 36 22.5	+1.2
JTKR	**Abashiri--Toko**	**2.43**	**280**	P			Pn	20 36 06.4	+1.6
JAR	**Ashorobuto**	**2.54**	**264**	P			Pn	20 36 08.1	+1.8
JAR				*e*S			Sn	20 36 38.0	+2.1
JOB	**Onbets**	**2.58**	**255**	P			Pn	20 36 08.4	+1.6
JOB				*e*S			Sn	20 36 38.5	+1.6
JMP	**Maruseppu**	**2.83**	**280**	P			Pn	20 36 12.0	+1.7
JCH	**Churui**	**3.00**	**252**	P			Pn	20 36 13.9	+1.3
JCH				*e*S			Sn	20 36 48.5	+1.2
JKK2	**Kamakawa 2**	**3.26**	**276**	P			Pn	20 36 19.3	+3.1
JEM	**Erimo**	**3.39**	**244**	P			Pn	20 36 21.2	+3.2
JFR	**Furan**	**3.41**	**264**	P			Pn	20 36 20.8	+2.6
JNBK	**Urakawa-nobuka**	**3.54**	**250**	P			Pn	20 36 20.9	+0.8
JSE	**Soyaes**	**3.60**	**294**	P			Pn	20 36 22.3	+1.4
JBT2	**Biratori 2**	**3.65**	**259**	P			Pn	20 36 23.8	+2.2

IDC 15 20:35:56.1±4.7, 4622N×15319E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, MS2.6/1, Ms1 2.6/1, ms1mx2.5/35, Error ellipse: s-maj=122.2km s-min=47.5km az=13.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**41.93**	**231**	LR			LR	20 58 14.5	
	comp=Z,7.2nm,20.3s,baz=296,slow=32								
INK	**Inuvik**	**42.07**	**32**	P			P	20 43 48.9	-0.6
	0.4nm,0.4s,baz=254,slow=0.7,SNR=5.6								
FINES	**FINESS Array B**	**64.54**	**335**	P			P	20 46 33.9	-0.9
	0.6nm,0.4s,baz=35,slow=7.0,SNR=4.0								
NB2	**NORSAR Subarra**	**68.75**	**341**	P			P	20 47 01.6	-0.1
	comp=Z,1.0nm,0.8s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.75**	**341**	P			P	20 47 01.7	0.0
	comp=Z,1.5nm,0.8s,baz=27,slow=6.3,SNR=4.4								
TXAR	**Lajitas Array**	**77.71**	**60**	P			P	20 47 54.9	+0.2
	comp=Z,0.5nm,0.6s,baz=318,slow=4.4,SNR=4.3								

NEIC **15** *20:38:34.5±0.6, 4729N×15397E, h10km, mb4.5/6, Error ellipse: s-maj=15.6km s-min=8.9km az=153.0*
ISCJB **15** *20:38:38.1±1.4, 473N±0.1×1539E±0.1, h48km±11km, mb4.3/25, Error ellipse: s-maj=20.3km s-min=10.1km az=110.7*
MOS **15** *20:38:39.0±1.1, 4727N×15383E, h55km, mb4.6/19, Error ellipse: s-maj=13.4km s-min=8.8km az=101.3*
IDC **15** *20:38:40.1±3.9, 4727N×15388E, h55km±35km, mb4.0/19, mb1 4.1/21, mb1mx4.0/30, mbtmp4.0/21, ML3.5/2, Error ellipse: s-maj=22.3km s-min=18.0km az=167.0*
ISC 15 20:38:40.3±1.3, 473N±01×1539E±01, h55km±10km, n85, σ0$97/83, mb4.3/25, 9C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**22**	*e*PN			**Pn**	**20 39 35.7**	**+0.6**
SKR				*e*				20 40 16.0	
YUK	**Yuzh-Kuril'sk**	**6.49**	**243**	PN			**Pn**	**20 40 27.0**	**+14**
YSS	**Yuzh-Sakhalins**	**7.60**	**272**	PN			**Pn**	**20 40 30.6**	**+2.2**
YSS	**Yuzh-Sakhalins**	**7.60**	**272**	*e*P			**Pn**	**20 40 27.4**	**-1.0**
	19nm,0.6s								
ASAJ	**Asahikawa**	**8.51**	**252**	P			**Pn**	**20 40 41.9**	**+1.0**
	0.7nm,0.3s,baz=76,slow=19,SNR=5.1								
ASAJ	**Asahikawa**	**8.51**	**252**	PN			**Pn**	**20 40 41.9**	**+1.0**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.82**	**233**	P			**Pn**	**20 42 18.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=283,slow=22,SNR=3.1								
KSRS	**Korea Array**	**21.46**	**252**	P			**P**	**20 43 23.7**	**-0.4**
	comp=Z,2.5nm,0.6s,mb3.7,baz=60,slow=9.9,SNR=7.8								
SONM	**Songino Array**	**31.66**	**289**	P			**P**	**20 44 57.7**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.9,baz=60,slow=7.4,SNR=6.2								
SONM	**Songino Array**	**31.66**	**289**	P			**P**	**20 44 57.7**	**-0.6**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MCK	**McKinley**	**34.91**	**41**	*e*P			**P**	**20 45 25.8**	**-0.8**
COLA	**College**	**35.39**	**39**	*e*P			**P**	**20 45 30.6**	**-0.2**
INK	**Inuvik**	**40.92**	**33**	P			**P**	**20 46 17.3**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.0,baz=287,slow=8.3,SNR=12								
INK	**Inuvik**	**40.92**	**33**	P			**P**	**20 46 17.3**	**0.0**
INK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
INK	**Inuvik**	**40.92**	**33**	P			**P**	**20 46 17.3**	**0.0**
ZAL	**Zalesovo**	**42.75**	**306**	P			**P**	**20 46 30.5**	**-1.7**
	comp=Z,2.4nm,0.6s,mb4.1,baz=33,slow=8.9,SNR=8.4								
ZAL				PcP	PcP			20 48 21.9	-1.0
	comp=Z,0.9nm,0.5s,baz=84,slow=0.8,SNR=4.4								
ZAL	**Zalesovo**	**42.75**	**306**	P			**P**	**20 46 30.5**	**-1.7**
ZAL								20 48 21.9	
ZAL				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NVS	**Novosibirsk**	**43.29**	**307**	*e*P			**P**	**20 46 34.5**	**-2.0**
MKAR	**Makanchi Array**	**47.17**	**297**	P			**P**	**20 47 06.2**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=69,slow=7.2,SNR=19								
MKAR				PcP	PcP			20 48 37.8	-0.3
	comp=Z,0.8nm,0.6s,baz=96,slow=2.1,SNR=5.4								
MKAR	**Makanchi Array**	**47.17**	**297**	P			**P**	**20 47 06.2**	**-1.1**
MKAR								20 48 37.8	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
LSA	**Lhasa**	**50.77**	**273**	*e*P			**P**	**20 47 36.0**	**+1.1**
LSA				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.7								
LSA	**Lhasa**	**50.77**	**273**	*e*P			**P**	**20 47 36.0**	**+1.2**
	comp=Z,6.9nm,0.7s,mb4.7								
BVAR	**Borovoye Array**	**50.93**	**309**	P			**P**	**20 47 35.1**	**-1.0**
	comp=Z,1.1nm,0.3s,mb4.2,baz=56,slow=7.2,SNR=18								
BVAR				PcP	PcP			20 48 51.3	-0.5
	comp=Z,1.3nm,0.5s,baz=60,slow=4.5,SNR=6.9								

BVAR **Borovoye Array** 50.93 309 P P 20 47 35.1 -1.0
BVAR 20 48 51.3
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
ARU **Arti** 54.98 318 ⇓ *i*P P 20 48 04.6 -1.3
ARU *e* 20 50 04.7
ARU *e*S S 20 55 47.5 +3.7
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KEV **Kevo** 57.02 341 *e*p P 20 48 17.4 -3.1
comp=Z,1.7nm,0.5s,mb4.3
KEV **Kevo** 57.02 341 *e*P P 20 48 17.4 -3.1
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ARCES **ARCESS Array B** 57.53 341 P P 20 48 22.8 -1.2
comp=Z,4.8nm,1.1s,mb4.4,baz=28,slow=7.9,SNR=9.1
ARCES **ARCESS Array B** 57.53 341 P P 20 48 22.8 -1.2
ARCES pmax pmax
comp=Z,5.0nm,1.1s
AKTK **Aktyubinsk** 58.77 312 P P 20 48 32.4 -0.3
AKTO **Aktyubinsk** 58.77 312 P P 20 48 32.4 -0.3
comp=Z,1.3nm,0.5s,mb4.2,baz=93,slow=11,SNR=5.4
AKTO **Aktyubinsk** 58.77 312 P P 20 48 32.4 -0.3
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
FINES **FINESS Array B** 63.79 335 P P 20 49 05.3 -1.3
comp=Z,2.8nm,0.4s,mb4.7,baz=38,slow=8.1,SNR=45
FINES **FINESS Array B** 63.79 335 P P 20 49 05.4 -1.2
FINES pmax pmax
comp=Z,3.0nm,0.4s
PDAR **Pinedale Array** 64.01 54 P P 20 49 07.1 -1.0
comp=Z,0.5nm,0.8s,mb3.6,baz=305,slow=3.1,SNR=4.2
NB2 **NORSAR Subarra** 67.90 341 P P 20 49 32.7 -0.4
comp=Z,5.3nm,0.6s,mb4.8,baz=26,slow=6.5
NOA **NORSAR Array B** 67.90 341 P P 20 49 32.9 -0.1
comp=Z,7.1nm,0.7s,mb4.8,baz=26,slow=6.3,SNR=27
NOA **NORSAR Array B** 67.90 341 P P 20 49 32.9 -0.2
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA **NORSAR Array B** 67.90 341 P P 20 49 32.9 -0.1
AKASG **Malin Array Be** 71.40 327 P P 20 49 53.6 -1.0
comp=Z,4.1nm,0.5s,mb4.7,baz=34,slow=6.2,SNR=25
AKASG **Malin Array Be** 71.40 327 P P 20 49 53.6 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.5s
ASAR **Alice Springs** 72.88 199 P P 20 50 03.3 -0.1
comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=5.4,SNR=4.6
ASAR **Alice Springs** 72.88 199 P P 20 50 03.3 -0.1
ASAR pmax pmax
comp=Z,1.0nm,0.7s
OJC **Ojcow** 75.11 331 *e*PX 20 50 17.0
STHS **Stebnicka Huta** 75.32 330 *e*P P 20 50 19.1 +1.4
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS **Stebnicka Huta** 75.32 330 *e*P P 20 50 19.1 +1.4
comp=Z,5.2nm,0.8s,mb4.5
BURAR **Bucovina Array** 75.44 327 ⇑ *i*P P 20 50 18.5 +0.1
BURAR **Bucovina Array** 75.44 327 ⇑P P 20 50 18.5 +0.1
OKC **Ostrava-Krasne** 75.97 332 *e*P P 20 50 21.9 +0.5
UPC **Upice** 76.05 334 *e*P P 20 50 22.5 +0.7
DPC **Dobruska-Polom** 76.09 334 *e*P P 20 50 22.9 +0.8
CLL **Collm** 76.20 336 *i* P P 20 50 23.0 +0.3
CLL pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLL **Collm** 76.20 336 *i* P P 20 50 23.0 +0.3
comp=Z,12nm,0.8s,mb4.9
MORC **Moravsky Berou** 76.22 333 ⇑ *i*P P 20 50 23.6 +0.8
MORC **Moravsky Berou** 76.22 333 ⇑P P 20 50 23.6 +0.8
KECS **Kecovo** 76.38 330 *e*P P 20 50 24.0 +0.3
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS **Kecovo** 76.38 330 *e*P P 20 50 24.0 +0.3
comp=Z,2.0nm,0.9s,mb4.0
TXAR **Lajitas Array** 76.77 61 P P 20 50 26.0 +0.1
comp=Z,2.0nm,0.6s,mb4.2,baz=298,slow=4.3,SNR=13
TXAR **Lajitas Array** 76.77 61 P P 20 50 26.0 +0.1
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR **Lajitas Array** 76.77 61 P P 20 50 26.0 +0.1
TIRR **Tirgusor** 76.81 323 ⇑ *i*P P 20 50 26.8 +0.7
TIRR **Tirgusor** 76.81 323 ⇑P P 20 50 26.8 +0.7
VYHS **Vyhne** 76.92 331 *e*P P 20 50 27.6 +0.8
MLR **Muntele Rosu** 76.94 325 P P 20 50 27.7 +0.8
comp=Z,6.4nm,0.5s,mb4.8,baz=313,slow=3.4,SNR=14
MLR **Muntele Rosu** 76.94 325 ⇑ *i*P P 20 50 28.1 +1.2
MLR **Muntele Rosu** 76.94 325 P P 20 50 27.7 +0.8
MLR pmax pmax
comp=Z,6.0nm,0.5s
MLR **Muntele Rosu** 76.94 325 ⇑P P 20 50 28.1 +1.2
PRU **Pruhonice** 76.94 334 *e*P P 20 50 27.7 +0.8
MALT **Malatya** 77.18 313 ⇓ *i*P P 20 50 30.0 +1.8
MALT **Malatya** 77.18 313 ⇓P P 20 50 29.9 +1.7
VOIR 77.33 326 ⇓ *i*P P 20 50 29.9 +0.9
VOIR 77.33 326 ⇓P P 20 50 29.9 +0.9
KHC **Kasperske Hory** 77.99 335 *e*P P 20 50 33.0 +0.3
GERES **GERESS Array B** 78.21 334 P P 20 50 33.7 -0.3
comp=Z,1.5nm,0.7s,mb4.1,baz=31,slow=4.9,SNR=13
GERES **GERESS Array B** 78.21 334 P P 20 50 33.7 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.7s
GZR **Gura Zlata** 78.22 327 ⇑ *i*P P 20 50 34.1 +0.1
BR131 **Keskin Array S** 78.37 317 *e*P P 20 50 36.1 +1.3
comp=Z,1.5nm,0.7s,mb4.0
BRTR **Keskin Array B** 78.37 317 P P 20 50 35.8 +0.9
comp=Z,2.3nm,0.9s,mb4.1,baz=46,slow=4.9,SNR=8.2
BRTR **Keskin Array B** 78.37 317 P P 20 50 35.8 +1.0
BRTR pmax pmax
comp=Z,2.0nm,0.9s
VTS **Vitosha** 80.44 325 ⇓ *i*P P 20 50 46.9 +0.8
VTS **Vitosha** 80.44 325 ⇓P P 20 50 46.9 +0.8
DAVOX **Davos** 81.18 336 P P 20 50 48.9 -1.2
comp=Z,2.3nm,0.7s,mb4.2,baz=148,slow=7.2,SNR=3.3
MMAI **Mount Meron Ar** 82.86 312 P P 20 51 00.1 +1.2
comp=Z,1.7nm,0.4s,mb4.4,baz=15,slow=6.0,SNR=2.8
TORD **Torodi Ar. Bea** 114.91 330 PKP PKiKP 20 57 13.9 -1.0
comp=Z,0.2nm,0.4s,baz=26,slow=2.3,SNR=6.9
CFAA **Coronel Fontan** 144.37 79 PKP PKPdf 20 58 07.6 -2.6
comp=Z,0.7nm,0.5s,baz=269,slow=2.9,SNR=8.5

IDC **15** *20:45:38.1±0.6, 4648N×15469E, h0km, mb4.2/22, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, MS3.4/1, Ms1 3.4/1, ms1mx2.8/39, Error ellipse: s-maj=19.1km s-min=14.9km az=161.0*
NEIC **15** *20:45:40.1±0.5, 4659N×15468E, h10km, mb4.5/11, Error ellipse: s-maj=13.1km s-min=8.7km az=177.0*
MOS **15** *20:45:41.6±1.2, 4654N×15455E, h34km, mb4.5/25, Error ellipse: s-maj=14.8km s-min=9.4km az=99.6*
BJI **15** *20:45:42.5, 47.14N×15422E, h10km, mB5.1, mb4.2*
ISCJB **15** *20:45:43.1±1.7, 4659N±009×15468E±009, h45km±14km, mb4.4/39, Error ellipse: s-maj=16.5km s-min=9.0km az=132.8*
ISC 15 20:45:46.1±1.4, 4668N±009×15467E±009, h54km±12km, n80, σ1$15/80, mb4.4/38, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.12**	**13**	*e*PN			**Pn**	**20 46 47.5**	**+1.0**
KUR	**Kuril'sk**	**4.96**	**256**	*e*PN			**Pn**	**20 46 52.0**	**-6.0**
KUR				pmax	pmax				
	comp=Z,300nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.18**	**276**	*e*PN			**Pn**	**20 47 44.8**	**+2.6**
YSS	**Yuzh-Sakhalins**	**8.18**	**276**	*e*P			**Pn**	**20 47 42.9**	**+0.8**
ASAJ	**Asahikawa**	**8.88**	**258**	Pn			**Pn**	**20 47 50.8**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=86,slow=15,SNR=11								
ASAJ	**Asahikawa**	**8.88**	**258**	PN			**Pn**	**20 47 50.8**	**-0.9**
ASAJ				pmax	pmax				
	comp=Z,2.0nm,0.3s								
YAK	**Yakutsk**	**20.97**	**326**	*e*P			**P**	**20 50 22.2**	**-2.5**
YAK				pmax	pmax				
	comp=Z,9.0nm,0.4s								
YAK	**Yakutsk**	**20.97**	**326**	*e*P			**P**	**20 50 22.2**	**-2.5**
	comp=Z,8.7nm,0.4s								
KSRS	**Korea Array**	**21.81**	**255**	P			**P**	**20 50 29.9**	**-3.7**
	comp=Z,3.8nm,0.7s,baz=118,slow=12,SNR=10								
KSRS				LR			LR	20 58 58.1	
	comp=Z,106nm,19.9s,baz=100,slow=37								
BILL	**Bilibino**	**22.23**	**12**	*e*P			**P**	**20 50 37.7**	**-0.5**
BILL				pmax	pmax				
	comp=Z,14nm,1.0s,mb4.3								
BILL	**Bilibino**	**22.23**	**12**	*e*P			**P**	**20 50 37.8**	**-0.4**
	comp=Z,15nm,0.7s,mb4.5								

TIXI **Tiksi** 27.85 343 *e*P P 20 51 28.6 -1.9
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
TIXI **Tiksi** 27.85 343 *e*P P 20 51 28.6 -1.8
comp=Z,3.7nm,0.8s,mb4.1
SONM **Songino Array** 32.37 290 P P 20 52 09.9 -0.5
comp=Z,0.5nm,0.6s,mb3.5,baz=75,slow=7.8,SNR=4.3
SONM **Songino Array** 32.37 290 P P 20 52 09.9 -0.5
SONM pmax pmax
comp=Z,1.0nm,0.6s
ZAK **Zakamensk** 33.68 296 *e*P P 20 52 17.4 -4.5
ZAK *e* 20 55 02.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
INK **Inuvik** 41.14 32 P P 20 53 24.7 -0.2
comp=Z,4.0nm,0.9s,mb4.1,baz=288,slow=7.6,SNR=9.9
INK **Inuvik** 41.14 32 P P 20 53 24.7 -0.2
INK pmax pmax
comp=Z,4.0nm,0.9s
CD2 **Chengdu** 41.94 266 P P 20 53 32.3 +0.8
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
MK31 **Makanchi Array** 47.92 298 *e*P P 20 54 16.9 -2.2
MKAR **Makanchi Array** 47.92 298 P P 20 54 18.2 -0.8
comp=Z,1.6nm,0.7s,mb4.2,baz=64,slow=7.5,SNR=11
MKAR **Makanchi Array** 47.92 298 P P 20 54 18.2 -0.9
MKAR pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** 50.34 37 P P 20 54 37.1 -0.4
comp=Z,4.3nm,0.6s,mb4.6,baz=295,slow=7.0,SNR=6.0
YKA **Yellowknife Ar** 50.34 37 P P 20 54 37.1 -0.4
YKA pmax pmax
comp=Z,4.0nm,0.6s
CHKZ **Chkalovo** 51.30 311 *e*P P 20 54 44.7 0.0
CHKZ pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CHKZ **Chkalovo** 51.30 311 *e*P P 20 54 44.7 0.0
comp=Z,9.6nm,0.5s,mb5.0
LSA **Lhasa** 51.35 274 *e*P P 20 54 48.0 +2.9
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSA **Lhasa** 51.35 274 *e*P P 20 54 48.0 +2.9
comp=Z,3.1nm,0.6s,mb4.4
BVAR **Borovoye Array** 51.73 310 P P 20 54 48.7 +0.7
comp=Z,2.5nm,0.4s,mb4.5,baz=56,slow=7.4,SNR=20
BVAR PcP PcP 20 56 00.3 -0.3
comp=Z,0.9nm,0.7s,baz=107,slow=1.5,SNR=3.6
BVAR **Borovoye Array** 51.73 310 P P 20 54 48.7 +0.7
BVAR 20 56 00.3
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BRVK **Borovoye** 51.77 310 *e*P P 20 54 47.7 -0.5
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK **Borovoye** 51.77 310 *e*P P 20 54 47.7 -0.5
comp=Z,4.5nm,0.8s,mb4.5
ZRNK **Zerenda** 52.49 310 *e*P P 20 54 54.0 +0.4
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK **Zerenda** 52.49 310 *e*P P 20 54 54.0 +0.3
comp=Z,2.7nm,0.6s,mb4.3
ARU **Arti** 55.79 318 *e*P P 20 55 15.4 -2.2
JIRN **Jiri** 56.02 276 *e*P P 20 55 21.1 +1.8
comp=Z,13nm,0.6s,mb5.1
KKN **Kakani** 56.56 276 *e*P P 20 55 24.6 +1.5
comp=Z,5.7nm,0.6s,mb4.8
DMN **Daman** 56.80 276 *e*P P 20 55 26.6 +1.8
comp=Z,26nm,1.0s,mb5.2
GKN **Gorkha** 56.87 277 *e*P P 20 55 26.9 +1.6
comp=Z,12nm,0.8s,mb4.9
KOLN **Koldanda** 57.72 278 *e*P P 20 55 28.8 -2.5
comp=Z,8.6nm,0.8s,mb4.8
KEV **Kevo** 57.77 341 *e*p P 20 55 31.2 -0.4
comp=Z,1.4nm,0.5s,mb4.2
KEV **Kevo** 57.77 341 *e*P P 20 55 31.2 -0.4
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ARCES **ARCESS Array B** 58.27 341 P P 20 55 34.4 -0.7
comp=Z,4.7nm,0.9s,mb4.5,baz=19,slow=6.8,SNR=6.4
ARCES **ARCESS Array B** 58.27 341 P P 20 55 34.4 -0.8
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES **ARCESS Array B** 58.27 341 P P 20 55 34.4 -0.7
AKTK **Aktyubinsk** 59.57 313 P P 20 55 44.6 +0.5
AKTK PcP PcP 20 56 31.0 0.0
AKTO **Aktyubinsk** 59.57 313 P P 20 55 44.6 +0.5
comp=Z,1.4nm,0.6s,mb4.2,baz=56,slow=8.7,SNR=7.7
AKTO PcP PcP 20 56 31.0 0.0
comp=Z,0.8nm,0.8s,baz=45,slow=12,SNR=3.7
AKTO **Aktyubinsk** 59.57 313 P P 20 55 44.6 +0.4
AKTO 20 56 31.0
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NVAR **Mina Array Bea** 61.51 63 P P 20 55 57.6 +0.2
comp=Z,1.8nm,0.6s,mb4.4,baz=297,slow=8.0
QLMT **Earthquake Lak** 61.56 54 *e*P P 20 56 58.3 +0.6
GCMT **Greycliff** 61.93 52 *e*P P 20 56 01.0 +0.8
RRI2 **Red Ridge** 62.55 55 *e*P P 20 56 04.7 +0.3
comp=Z,4.4nm,0.8s,mb4.6
PDAR **Pinedale Array** 63.92 55 P P 20 56 13.6 +0.2
comp=Z,2.3nm,0.8s,mb4.2,baz=299,slow=1.5,SNR=14
FINES **FINESS Array B** 64.56 335 P P 20 56 17.9 +0.4
comp=Z,2.3nm,0.4s,mb4.5,baz=37,slow=8.5,SNR=20
FINES **FINESS Array B** 64.56 335 P P 20 56 18.0 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.4s
ULM **Lac du Bonnet** 65.87 42 P P 20 56 25.6 -0.4
comp=Z,0.9nm,0.4s,mb4.2,baz=304,slow=3.6,SNR=4.0
RSSD **Black Hills** 66.05 51 *e*P P 20 56 26.8 -0.4
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RSSD **Black Hills** 66.05 51 *e*P P 20 56 26.8 -0.4
comp=Z,7.0nm,1.0s,mb4.7
NB2 **NORSAR Subarra** 68.64 342 P P 20 56 45.7 +2.1
comp=Z,0.9nm,0.5s,mb4.0,baz=24,slow=6.5
NOA **NORSAR Array B** 68.64 342 P P 20 56 45.6 +2.0
comp=Z,0.8nm,0.4s,mb4.0,baz=25,slow=6.3,SNR=5.9
NOA **NORSAR Array B** 68.64 342 P P 20 56 45.6 +2.0
NOA pmax pmax
comp=Z,1.0nm,0.4s
WRA **Warramunga Arr** 68.81 201 P P 20 56 42.8 -1.9
comp=Z,1.6nm,1.0s,mb3.9,baz=21,slow=6.5,SNR=3.3
WRA **Warramunga Arr** 68.81 201 P P 20 56 42.8 -1.9
WRA pmax pmax
comp=Z,2.0nm,1.0s
AKASG **Malin Array Be** 72.20 327 P P 20 57 05.1 -0.2
comp=Z,0.3nm,0.3s,mb3.7,baz=31,slow=6.3,SNR=5.2
AKASG **Malin Array Be** 72.20 327 P P 20 57 05.1 -0.3
ASAR **Alice Springs** 72.49 200 P P 20 57 06.2 -0.8
comp=Z,2.6nm,0.8s,mb4.2,baz=14,slow=5.5,SNR=21
ASAR **Alice Springs** 72.49 200 P P 20 57 06.3 -0.8
ASAR pmax pmax
comp=Z,3.0nm,0.8s
LTX **Lajitas** 76.59 62 *e*P P 20 57 30.6 -0.2
LTX pmax pmax
comp=Z,11nm,1.3s,mb4.6
LTX **Lajitas** 76.59 62 *e*P P 20 57 30.6 -0.2
comp=Z,12nm,1.3s,mb4.7
TXAR **Lajitas Array** 76.59 62 P P 20 57 30.9 0.0
comp=Z,4.1nm,0.8s,mb4.4,baz=302,slow=4.1,SNR=33
TXAR **Lajitas Array** 76.59 62 P P 20 57 30.9 +0.1
TXAR pmax pmax
comp=Z,4.0nm,0.8s
MLR **Muntele Rosu** 77.73 326 P P 20 57 38.6 +1.4
comp=Z,2.9nm,0.7s,mb4.3,baz=150,slow=8.9,SNR=6.0
MLR **Muntele Rosu** 77.73 326 P P 20 57 38.6 +1.3
MLR pmax pmax
comp=Z,3.0nm,0.7s
GERES **GERESS Array B** 78.98 335 P P 20 57 44.4 +0.3
comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=7.3,SNR=5.5
GERES **GERESS Array B** 78.98 335 P P 20 57 44.4 +0.3
GERES pmax pmax
comp=Z,1.0nm,0.4s
BRTR **Keskin Array B** 79.17 318 P P 20 57 44.5 -0.7
comp=Z,0.8nm,0.8s,mb3.7,baz=28,slow=5.6,SNR=4.8
BRTR **Keskin Array B** 79.17 318 P P 20 57 44.5 -0.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ASF **Jabal al Asfar** 83.56 311 P P 20 58 08.1 -0.3
comp=Z,2.0nm,0.7s,mb4.4,baz=322,slow=4.4,SNR=3.9
ASF **Jabal al Asfar** 83.56 311 P P 20

comp=Z,2.0nm,0.7s
MMAI Mount Meron Ar 83.66 312 P **P** **20 58 10.4 +1.5**
comp=Z,4.0nm,0.7s,mb4.7,baz=38,slow=5.8,SNR=7.9

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*JMA **15** 20:47:36.1±0.2, 3024N×140.35E, h246km±4km, M4.2*
*IDC **15** 20:47:36.5±1.2, 3022N×139.80E, h173km±14km, mb3.7/13, mb1 3.8/15, mb1mx3.7/24, mbtmp3.7/15, MS3.8/1, Ms1 3.8/1, ms1mx2.9/41, Error ellipse: s-maj=29.0km s-min=9.8km az=71.0*
*ISCJB **15** 20:47:37.0±0.4, 3030N±0.004×140.3E±0.1, h209km±4km, mb3.9/17, Error ellipse: s-maj=15.7km s-min=4.7km az=144.8*
*NEIC **15** 20:47:39.1±1.1, 3022N×139.65E, h194km±9km, mb4.3/6, Error ellipse: s-maj=14.4km s-min=9.8km az=77.0*

ISC 15 20:47:37.9±0.4, 3031N±0.004×140.3E±0.1, h202km±4km, n47, σ1♀00/58, mb3.9/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.82**	**352**	P	**Pn**	**20 48 27.5**	**+2.0**
JHJ2				*e*S	**Sn**	**20 49 03.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.83**	**351**	P	**Pn**	**20 48 27.5**	**+1.8**
	26nm,0.3s,baz=64,slow=21,SNR=11						
JHJ				S	**Sn**	**20 49 01.9**	**-1.2**
	71nm,0.3s,baz=72,slow=22,SNR=8.4						
CBIJ	**Chichi jima**	**3.60**	**152**	P	**Pn**	**20 48 34.6**	**-0.3**
	126nm,0.3s,baz=293,slow=14,SNR=42						
CBIJ				S	**Sn**	**20 49 18.6**	**-1.0**
	76nm,0.3s,baz=286,slow=21,SNR=6.8						
CBIJ	**Chichi jima**	**3.60**	**152**	P	**Pn**	**20 48 34.5**	**-0.4**
CBIJ				*e*S	**Sn**	**20 49 18.3**	**-1.2**
JHHJ	**Haha-jima-NKT**	**4.02**	**155**	P	**Pn**	**20 48 39.5**	**-0.5**
JHHJ				S	**Sn**	**20 49 27.9**	**-0.9**
BSO1	**Boso 1**	**4.37**	**7**	P	**Pn**	**20 48 45.1**	**+0.8**
BSO1				S	**Sn**	**20 49 36.4**	**-0.2**
JOD2	**Odawara 2**	**5.04**	**349**	P	**Pn**	**20 48 54.5**	**+1.6**
JOD2				S	**Sn**	**20 49 51.3**	**-0.7**
JWZ	**Kozaga**	**5.05**	**311**	P	**Pn**	**20 48 53.1**	**+0.1**
JIE	**Ise**	**5.08**	**324**	P	**Pn**	**20 48 53.4**	**+0.1**
JRY	**Ryogami san**	**5.81**	**349**	P	**Pn**	**20 49 03.8**	**+1.1**
JRY				S	**Sn**	**20 50 08.0**	**-1.8**
JGF	**Kuroka**	**5.83**	**336**	P	**Pn**	**20 49 04.3**	**+1.4**
JYT	**Yasato**	**5.90**	**359**	P	**Pn**	**20 49 03.7**	**-0.2**
JYT				S	**Sn**	**20 50 07.3**	**-4.6**
JMN	**Monobe**	**6.43**	**304**	P	**Pn**	**20 49 11.4**	**+0.7**
JWT	**Wachi**	**6.45**	**322**	P	**Pn**	**20 49 11.5**	**+0.5**
MJAR	**Matsushiro Arr**	**6.46**	**345**	P	**Pn**	**20 49 10.9**	**-0.2**
	2.4nm,0.3s,baz=125,slow=14,SNR=20						
MJAR				S	**Sn**	**20 50 21.7**	**-3.2**
	2.1nm,0.3s,baz=162,slow=17,SNR=6.7						
MAJO	**Matsushiro**	**6.46**	**345**	*e*P	**Pn**	**20 49 11.5**	**+0.4**
	12nm,0.6s						
MAT	**Matsushiro**	**6.46**	**345**	P	**Pn**	**20 49 11.0**	**-0.1**
MAT				S	**Sn**	**20 50 23.8**	**-1.1**
MAT	**Matsushiro**	**6.46**	**345**	P	**Pn**	**20 49 11.5**	**+0.4**
MAT				S	**Sn**	**20 50 23.8**	**-1.1**
JAD	**Aida**	**6.93**	**313**	P	**Pn**	**20 49 17.6**	**+0.4**
JMM	**Marumori**	**7.55**	**3**	P	**Pn**	**20 49 24.9**	**-0.3**
JMM				*e*S	**Sn**	**20 50 44.3**	**-6.3**
JNU	**Nakatsue**	**8.50**	**292**	LR	LR	20 51 57.7	
	comp=Z,604nm,20.0s,baz=180,slow=32						
MDJ	**Mudanjiang**	**16.60**	**332**	*e*P	**P**	**20 51 17.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**16.73**	**6**	*e*P	**P**	**20 51 24.3**	**+4.6**
KLR	**Kul'dur**	**19.98**	**343**	*e*P	**P**	**20 51 52.6**	**-2.3**
HIA	**Hailar**	**24.52**	**326**	*e*P	**P**	**20 52 38.7**	**-0.1**
	4.7nm,0.4s,mb4.5						
ULN	**Ulaanbaatar**	**30.88**	**314**	*e*P	**P**	**20 53 35.1**	**-0.3**
	3.3nm,0.6s,mb4.1						
SONM	**Songino Array**	**31.28**	**314**	P	**P**	**20 53 38.7**	**-0.2**
	2.0nm,0.4s,mb4.1,baz=124,slow=8.9,SNR=26						
YAK	**Yakutsk**	**32.48**	**351**	*e*P	**P**	**20 53 50.6**	**+1.2**
ZAL	**Zalesovo**	**46.01**	**317**	P	**P**	**20 55 39.8**	**-1.4**
	2.2nm,0.3s,mb3.9,baz=357,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**47.19**	**307**	P	**P**	**20 55 49.0**	**-1.2**
	0.5nm,0.4s,mb3.2,baz=77,slow=11,SNR=8.2						
WRA	**Warramunga Arr**	**50.29**	**187**	P	**P**	**20 56 14.9**	**+1.1**
	0.4nm,0.4s,mb3.1,baz=2.1,slow=7.8,SNR=3.4						
ASAR	**Alice Springs**	**54.02**	**187**	P	**P**	**20 56 42.7**	**+1.4**
	0.1nm,0.5s,baz=17,slow=13,SNR=7.1						
CHKZ	**Chkalovo**	**54.39**	**317**	*e*P	**P**	**20 56 43.2**	**-0.8**
BVAR	**Borovoye Array**	**54.58**	**316**	P	**P**	**20 56 45.0**	**-0.3**
	2.9nm,0.6s,mb4.0,baz=97,slow=9.5,SNR=13						
BRVK	**Borovoye**	**54.64**	**316**	*e*P	**P**	**20 56 45.4**	**-0.4**
	2.8nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**55.42**	**316**	*e*P	**P**	**20 56 50.6**	**-0.7**
	4.4nm,1.0s,mb3.9						
INK	**Inuvik**	**60.82**	**25**	P	**P**	**20 57 32.6**	**+3.8**
	2.0nm,0.6s,mb3.9,baz=242,slow=5.0,SNR=5.3						
AKTK	**Aktyubinsk**	**62.59**	**314**	P	**P**	**20 57 40.0**	**-0.7**
AKTO	**Aktyubinsk**	**62.59**	**314**	P	**P**	**20 57 40.0**	**-0.7**
	1.4nm,0.6s,mb3.8,baz=59,slow=8.6,SNR=5.8						
ARCES	**ARCESS Array B**	**69.97**	**340**	P	**P**	**20 58 28.5**	**+1.1**
	2.8nm,0.8s,mb3.9,baz=69,slow=6.6,SNR=7.8						
FINES	**FINESS Array B**	**74.34**	**333**	P	**P**	**20 58 53.9**	**+0.6**
	2.8nm,0.4s,mb4.2,baz=63,slow=6.7,SNR=30						
FINES	**FINESS Array B**	**74.34**	**333**	P	**P**	**20 58 53.9**	**+0.6**
AKASG	**Malin Array Be**	**79.06**	**323**	P	**P**	**20 59 19.6**	**-0.1**
	1.5nm,0.4s,mb3.9,baz=51,slow=5.2,SNR=8.7						
NOA	**NORSAR Array B**	**80.02**	**337**	P	**P**	**20 59 25.6**	**+0.7**
	1.1nm,0.7s,mb3.6,baz=29,slow=6.6,SNR=3.5						
BRTR	**Keskin Array B**	**82.62**	**312**	P	**P**	**20 59 38.9**	**+0.3**
	1.1nm,0.9s,mb3.6,baz=79,slow=6.4,SNR=4.0						
CCM	**Cathedral Cave**	**96.68**	**38**	*e*P	**P**	**21 00 48.8**	**+3.7**
	5.2nm,0.6s,mb4.9						
TORD	**Torodi Ar. Bea**	**121.23**	**311**	PKP	PKPdf	21 06 08.0	+1.2
	0.6nm,1.1s,baz=13,slow=1.1,SNR=5.3						

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*IDC **15** 20:48:19.5±1.0, 4688N×155.08E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, ML3.7/1, Error ellipse: s-maj=28.5km s-min=20.1km az=173.0*
*ISCJB **15** 20:48:20.5±4.3, 4696N±0.1×154.9E±0.1, h15km±26km, mb4.2/19, Error ellipse: s-maj=23.9km s-min=9.8km az=123.0*
*NEIC **15** 20:48:21.4±0.6, 4696N×155.06E, h10km, mb4.6/6, Error ellipse: s-maj=15.6km s-min=11.3km az=162.0*
*MOS **15** 20:48:23.8±1.0, 4687N×154.79E, h42km, mb4.4/16, Error ellipse: s-maj=18.0km s-min=13.0km az=107.3*

ISC 15 20:48:22.5±5.1, 4697N±0.1×154.9E±0.1, h18km±31km, n44, σ0♀94/45, mb4.2/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.17**	**254**	PN	**Pn**	**20 49 37.0**	**-1.9**
KUR				*i* S	**Sn**	**20 50 37.0**	**-1.1**
KUR				smax			
	comp=N,190nm,0.5s						
KUR				smax			
	comp=E,210nm,0.5s						
ASAJ	**Asahikawa**	**9.08**	**257**	Pn	**Pn**	**20 50 34.6**	**+2.1**
	comp=E,0.8nm,0.3s,baz=82,slow=13,SNR=4.4						
ASAJ	**Asahikawa**	**9.08**	**257**	PN	**Pn**	**20 50 34.7**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**21.99**	**11**	*e*P	**P**	**20 53 15.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BILL	**Bilibino**	**21.99**	**11**	*e*P	**P**	**20 53 14.8**	**-0.6**
	comp=Z,6.7nm,0.6s,mb4.2						
TIXI	**Tiksi**	**27.68**	**343**	*e*P	**P**	**20 54 07.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TIXI	**Tiksi**	**27.68**	**343**	*e*P	**P**	**20 54 07.6**	**-1.7**
	comp=Z,2.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**20 54 52.0**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.8,baz=70,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**20 54 52.0**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**20 56 02.6**	**-0.6**
	comp=Z,1.3nm,0.5s,mb3.8,baz=282,slow=7.1,SNR=4.7						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**20 56 02.6**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**20 56 59.9**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=68,slow=7.2,SNR=9.8						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**20 56 59.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**20 56 59.9**	**0.0**
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**20 57 24.8**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**20 57 24.8**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9						
LSA	**Lhasa**	**51.49**	**274**	*e*P	**P**	**20 57 30.3**	**+3.5**
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**20 57 28.9**	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.5,baz=54,slow=7.9,SNR=14						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**20 57 28.9**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**	**20 57 28.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**	**20 57 28.7**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.47**	**310**	*e*P	**P**	**20 57 34.3**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**52.47**	**310**	*e*P	**P**	**20 57 34.3**	**+0.2**
	comp=Z,6.2nm,0.8s,mb4.6						
ARU	**Arti**	**55.73**	**318**	*e*P	**P**	**20 57 57.7**	**-0.2**
ARU	**Arti**	**55.73**	**318**	*e*P	**P**	**20 57 58.0**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**20 58 14.9**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.4,baz=360,slow=5.7,SNR=5.1						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**20 58 15.0**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.54**	**313**	P	**P**	**20 58 25.1**	**+0.5**
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**20 58 25.1**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=55,slow=9.2,SNR=6.3						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**20 58 25.2**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**63.66**	**55**	P	**P**	**20 58 52.0**	**-0.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=243,slow=1.7,SNR=3.6						
NB2	**NORSAR Subarra**	**68.48**	**342**	P	**P**	**20 59 23.3**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=26,slow=6.5						
AKASG	**Malin Array Be**	**72.10**	**327**	P	**P**	**20 59 45.1**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=5.9,SNR=4.8						
AKASG	**Malin Array Be**	**72.10**	**327**	P	**P**	**20 59 45.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.75**	**200**	P	**P**	**20 59 49.7**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=15,slow=4.9,SNR=6.5						
ASAR	**Alice Springs**	**72.75**	**200**	P	**P**	**20 59 49.7**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**21 00 09.8**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=301,slow=4.0,SNR=19						
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**21 00 09.8**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**21 00 09.8**	**-0.5**
CLL	**Collm**	**76.83**	**337**	*e*(P)	**P**	**21 00 16.0**	**+2.9**
MLR	**Muntele Rosu**	**77.64**	**326**	P	**P**	**21 00 18.6**	**+1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=154,slow=16,SNR=3.3						
MLR	**Muntele Rosu**	**77.64**	**326**	P	**P**	**21 00 18.6**	**+0.9**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**78.85**	**335**	P	**P**	**21 00 24.6**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=31,slow=5.9,SNR=2.9						
GERES	**GERESS Array B**	**78.85**	**335**	P	**P**	**21 00 24.6**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 15 20:51:37.7±1.5, 4685N×154.96E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.9/6, Error ellipse: s-maj=38.4km s-min=31.8km az=109.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.89**	**33**	P	P	20 59 21.0	-0.5
	0.9nm,0.5s,baz=334,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**48.02**	**298**	P	P	21 00 18.6	+0.1
	1.1nm,0.7s,baz=60,slow=7.4,SNR=5.3						
BVAR	**Borovoye Array**	**51.77**	**310**	P	P	21 00 46.2	-0.8
	1.4nm,0.6s,baz=57,slow=7.9,SNR=4.5						
AKTO	**Aktyubinsk**	**59.60**	**313**	P	P	21 01 43.0	-0.3
	0.7nm,0.5s,baz=90,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**64.48**	**336**	P	P	21 02 15.5	-0.7
	1.5nm,0.8s,baz=38,slow=9.6,SNR=4.2						
ASAR	**Alice Springs**	**72.72**	**200**	P	P	21 03 07.5	-0.1
	0.7nm,0.8s,baz=19,slow=5.1,SNR=4.8						

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*ISCJB **15** 20:53:57.2±1.7, 4729N±0.007×154.20E±0.08, h1km±11km, mb4.7/49, MS4.7/1, Error ellipse: s-maj=14.2km s-min=6.4km az=112.9*
*IDC **15** 20:53:58.4±0.8, 4726N×154.16E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.4/28, mbtmp4.4/21, ML3.9/1, Error ellipse: s-maj=19.6km s-min=17.7km az=128.0*
*NEIC **15** 20:54:00.5±0.5, 4728N×154.06E, h10km, mb4.7/16, Error ellipse: s-maj=13.0km s-min=7.9km az=133.0*
*BJI **15** 20:54:00.5, 4730N×154.10E, h10km, mB5.0, mb4.5, Ms4.8, Msz4.7*
*MOS **15** 20:54:02.8±1.3, 4730N×154.01E, h36km, mb4.8/30, Error ellipse: s-maj=9.6km s-min=6.9km az=107.7*

ISC 15 20:53:59.1±2.1, 4739N±0.08×154.23E±0.09, h2km±13km, n146, σ1♀03/148, mb4.7/49, MS4.7/1, 13C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.53**	**20**	*e*PN	**Pn**	**20 54 58.7**	**+3.8**
KUR	**Kuril'sk**	**4.90**	**246**	*e*PN	**Pn**	**20 55 10.3**	**-3.5**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.75**	**243**	PN	**Pn**	**20 55 42.2**	**+3.1**
YUK				*e*S	**Sn**	**20 56 56.7**	**+0.2**
YUK				smax			
	comp=N,370nm,0.8s						
YUK				smax			
	comp=E,750nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.83**	**271**	*e*PN	**Pn**	**20 55 57.0**	**+3.0**
YSS				*e*S	**Sn**	**20 57 26.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**7.83**	**271**	*e*P	**Pn**	**20 55 57.1**	**+3.1**
	comp=E,48nm,0.5s						
ASAJ	**Asahikawa**	**8.76**	**252**	Pn	**Pn**	**20 56 09.5**	**+2.7**
	comp=E,1.4nm,0.3s,baz=78,slow=12,SNR=7.1						
ASAJ	**Asahikawa**	**8.76**	**252**	PN	**Pn**	**20 56 09.5**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.06**	**285**	*e*P	**Pn**	**20 57 33.0**	**0.0**
MAJO	**Matsushiro**	**16.07**	**233**	*e*P	**Pn**	**20 57 42.7**	**-3.4**
MAJO				pmax	pmax		
	comp=Z,34nm,1.0s						
MAJO	**Matsushiro**	**16.07**	**233**	*e*P	**Pn**	**20 57 42.6**	**-3.5**
	comp=Z,34nm,1.0s						
MAT	**Matsushiro**	**16.07**	**233**	P	**Pn**	**20 57 49.9**	**+3.8**
MJAR	**Matsushiro Arr**	**16.07**	**233**	Pn	**Pn**	**20 57 45.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=34,slow=10,SNR=7.4						
MDJ	**Mudanjiang**	**17.32**	**270**	P	**Pn**	**20 58 00.7**	**-1.2**
BILL	**Bilibino**	**21.61**	**12**	*e*P	**P**	**20 58 50.1**	**-0.2**
BILL				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.1						
KSRS	**Korea Array**	**21.71**	**252**	P	**P**	**20 58 52.1**	**+0.6**
	comp=Z,4.2nm,0.8s,mb3.9,baz=54,slow=10,SNR=8.6						
SNY	**Shenyang**	**22.43**	**267**	↓P	**P**	**20 58 58.6**	**-0.5**
SONM	**Songino Array**	**31.84**	**289**	P	**P**	**21 00 24.8**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.9,baz=63,slow=8.7,SNR=10						
SONM	**Songino Array**	**31.84**	**289**	P	**P**	**21 00 24.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**33.10**	**294**	*e*P	**P**	**21 00 35.3**	**-1.1**
ZAK				*e*	**S**	**21 05 57.8**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
XAN	**Xi'an**	**36.33**	**265**	P	**P**	**21 01 03.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.63**	**272**	*e*P	**P**	**21 01 25.3**	**+1.5**
LZH				AP	pP	21 01 28.8	+4.4
LZH				XP	sP	21 01 30.9	+6.2
LZH				PP	PP	21 02 56.3	+4.3
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,123nm,4.8s						
LZH				LR	LR		
	comp=E,579nm,14.7s						
LZH				LR	LR		
	comp=Z,856nm,16.0s,MS4.7						
LZH	**Lanzhou**	**38.63**	**272**	*e*P	**P**	**21 01 25.2**	**+1.4**
LZH				*SP	sP	21 01 30.9	+6.2
LZH						21 02 56.2	
LZH				*e*S	**S**	**21 07 20.0**	**-0.9**
LZH				SS	SS	21 10 04.0	-6.5
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
LZH				MLR	MLR		
	comp=Z,860nm,16.0s,MS4.7						
LZH	**Lanzhou**	**38.63**	**272**	*e*P	**P**	**21 01 25.2**	**+1.4**
	comp=Z,20nm,1.0s,mb4.8						
LZH				pP	pP	21 01 28.7	+4.3
LZH				sP	sP	21 01 30.9	+6.2
LZH				PP	PP	21 02 56.2	+4.2
LZH				*e*S	**S**	**21 07 20.0**	**-0.9**
LZH				sS	sS	21 07 27.2	+5.2
LZH				SS	SS	21 10 04.0	-6.5
LZH				LR	LR		
	comp=Z,860nm,16.0s,MS4.7						
GTA	**Gaotai**	**39.62**	**279**	*e*P	**P**	**21 01 31.1**	**-1.0**
GTA				AP	pP	21 01 39.9	+7.2
GTA				XP	sP	21 01 44.6	+12
GTA				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.6						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**21 01 42.3**	**+1.3**
	comp=Z,2.7nm,0.6s,mb4.1,baz=283,slow=9.2,SNR=6.1						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**21 01 42.3**	**+1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CD2	**Chengdu**	**41.69**	**265**	⇑*i*P	**P**	**21 01 48.8**	**-0.4**
CD2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.1						
GYA	**Guiyang**	**42.59**	**258**	⇑*i*P	**P**	**21 01 56.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**42.88**	**306**	P	**P**	**21 01 56.5**	**-2.3**
	comp=Z,3.4nm,0.5s,mb4.3,baz=41,slow=9.3,SNR=13						
ZAL	**Zalesovo**	**42.88**	**306**	P	**P**	**21 01 56.5**	**-2.3**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NVS	**Novosibirsk**	**43.41**	**307**	*e*P	**P**	**21 02 01.2**	**-1.9**
NVS				*e*S	**S**	**21 08 30.7**	**-1.3**
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
NVS				smax			
	comp=N,8.0nm,1.9s						
NVS				smax			
	comp=E,10.0nm,1.9s						
KMI	**Kunming**	**46.10**	**260**	P	**P**	**21 02 24.8**	**+0.2**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
KMI	**Kunming**	**46.10**	**260**	P	**P**	**21 02 24.7**	**+0.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
KMI	**Kunming**	**46.10**	**260**	P	**P**	**21 02 24.7**	**+0.1**
	comp=Z,7.0nm,1.4s,mb4.4						
MK31	**Makanchi Array**	**47.33**	**297**	*e*P	**P**	**21 02 32.6**	**-1.6**
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**21 02 32.6**	**-1.6**
	comp=Z,4.4nm,0.8s,mb4.5,baz=67,slow=7.4,SNR=24						
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**21 02 32.6**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHKZ	**Chkalovo**	**50.61**	**310**	*e*P	**P**	**21 02 57.7**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**50.61**	**310**	*e*P	**P**	**21 02 57.7**	**-1.6**
	comp=Z,20nm,0.6s,mb5.2						
LSA	**Lhasa**	**51.00**	**273**	P	**P**	**21 03 04.0**	**+1.7**
LSA	**Lhasa**	**51.00**	**273**	*e*P	**P**	**21 03 03.6**	**+1.3**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
LSA	**Lhasa**	**51.00**	**273**	*e*P	**P**	**21 03 03.6**	**+1.2**
	comp=Z,13nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**51.04**	**309**	P	**P**	**21 03 01.6**	**-1.1**
	comp=Z,4.7nm,0.5s,mb4.7,baz=52,slow=7.6,SNR=24						
BVAR	**Borovoye Array**	**51.04**	**309**	P	**P**	**21 03 01.6**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**21 03 01.2**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**21 03 01.2**	**-1.8**
	comp=Z,8.5nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**51.81**	**310**	*e*P	**P**	**21 03 06.5**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**51.81**	**310**	*e*P	**P**	**21 03 06.5**	**-1.8**

GNI pmax pmax
comp=Z,4.0nm,0.7s
ASAR Alice Springs 73.06 199 P **P** **21 05 29.4 -1.2**
comp=Z,3.1nm,0.7s,mb4.3,baz=11,slow=5.4,SNR=22
ASAR Alice Springs 73.06 199 P **P** **21 05 29.5 -1.1**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
KWP Kalwaria 74.67 330 *e*P **P** **21 05 40.1 +0.1**
KWP pmax pmax
comp=Z,26nm,0.9s,mb5.2
KWP Kalwaria 74.67 330 *e*P **P** **21 05 40.1 +0.1**
comp=Z,26nm,0.9s,mb5.2
OJC Ojcow 75.13 332 *e*P **P** **21 05 42.6 -0.1**
STHS Stebnicka Huta 75.34 330 *i* P **P** **21 05 44.7 +0.7**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 75.34 330 *i* P **P** **21 05 44.7 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.41 330 *e*P **P** **21 05 43.9 -0.4**
BURAR Bucovina Array 75.47 327 ⇓*i*P **P** **21 05 44.8 +0.1**
BURAR Bucovina Array 75.47 327 ⇓P **P** **21 05 44.8 0.0**
NIE Niedzica 75.65 331 *e*P **P** **21 05 46.3 +0.6**
UPC Upice 76.05 334 *e*P **P** **21 05 48.5 +0.5**
DPC Dobruska-Polom 76.10 334 *e*P **P** **21 05 48.9 +0.6**
CLL Collm 76.20 336 ⇓*i*P **P** **21 05 48.5 -0.4**
CLL pmax pmax
comp=Z,19nm,1.0s,mb5.0
CLL Collm 76.20 336 ⇓*i*P **P** **21 05 48.5 -0.4**
comp=Z,19nm,1.0s,mb5.0
MORC Moravsky Berou 76.23 333 ⇑*i*P **P** **21 05 49.4 +0.4**
MORC Moravsky Berou 76.23 333 ⇑P **P** **21 05 49.4 +0.3**
CFR Carcaliu 76.38 324 ⇓*i*P **P** **21 05 49.8 -0.1**
CFR Carcaliu 76.38 324 ⇓P **P** **21 05 49.8 -0.1**
KECS Kecovo 76.40 330 *e*P **P** **21 05 49.9 -0.1**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 76.40 330 *e*P **P** **21 05 49.9 -0.1**
comp=Z,4.0nm,0.8s,mb4.4
PVCC Panska Ves 76.46 335 *e*P **P** **21 05 50.6 +0.3**
TXAR Lajitas Array 76.52 61 P **P** **21 05 51.0 +0.3**
comp=Z,2.5nm,0.9s,mb4.1,baz=286,slow=4.6,SNR=3.8
TXAR Lajitas Array 76.52 61 P **P** **21 05 51.0 +0.3**
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TIRR Tirgusor 76.86 323 ⇑*i*P **P** **21 05 52.8 +0.2**
TIRR Tirgusor 76.86 323 ⇑P **P** **21 05 52.8 +0.2**
VRAC Vranov 76.94 333 ⇑*i*P **P** **21 05 53.8 +0.8**
VRAC Vranov 76.94 333 ⇑P **P** **21 05 53.9 +0.8**
VYHS Vyhne 76.94 331 *i* P **P** **21 05 53.5 +0.4**
PRU Pruhonice 76.95 335 *e*P **P** **21 05 53.3 +0.2**
MLR Muntele Rosu 76.98 325 P **P** **21 05 53.8 +0.5**
comp=Z,8.1nm,0.8s,mb4.7,baz=151,slow=5.9,SNR=14
MLR Muntele Rosu 76.98 325 ⇓*i*P **P** **21 05 54.3 +1.0**
MLR Muntele Rosu 76.98 325 P **P** **21 05 53.8 +0.5**
MLR pmax pmax
comp=Z,8.0nm,0.8s
MLR Muntele Rosu 76.98 325 ⇓P **P** **21 05 54.3 +1.1**
DRGR 77.08 328 ⇑*i*P **P** **21 05 54.0 +0.1**
DRGR 77.08 328 ⇑P **P** **21 05 54.0 +0.1**
PSZ Piszkesteto 77.09 330 ⇑*i*P **P** **21 05 54.6 +0.7**
PSZ Piszkesteto 77.09 330 ⇑P **P** **21 05 54.6 +0.7**
SNX Sinaia 77.26 326 ⇓*i*P **P** **21 05 56.5 +1.7**
SNX Sinaia 77.26 326 ⇓P **P** **21 05 56.5 +1.7**
MALT Malatya 77.28 313 ⇓*i*P **P** **21 05 56.5 +1.6**
MALT Malatya 77.28 313 ⇓P **P** **21 05 56.5 +1.6**
NKC Novy Kostel 77.32 336 *e*P **P** **21 05 54.5 -0.7**
VOIR 77.37 326 ⇓*i*P **P** **21 05 56.4 +0.9**
VOIR 77.37 326 ⇓P **P** **21 05 56.4 +0.9**
KHC Kasperske Hory 77.99 335 *e*P **P** **21 05 59.6 +0.6**
GERES GERESS Array B 78.22 335 P **P** **21 06 00.3 +0.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=28,slow=6.0,SNR=9.7
GERES GERESS Array B 78.22 335 P **P** **21 06 00.3 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 78.44 317 *e*P **P** **21 06 02.1 +0.7**
comp=Z,3.5nm,0.8s,mb4.3
BRTR Keskin Array B 78.44 317 P **P** **21 06 02.0 +0.5**
comp=Z,5.2nm,0.9s,mb4.5,baz=69,slow=3.9,SNR=18
BRTR Keskin Array B 78.44 317 P **P** **21 06 02.0 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BZS Buzias 78.48 328 ⇓*i*P **P** **21 06 01.3 -0.4**
BZS Buzias 78.48 328 ⇓P **P** **21 06 01.3 -0.3**
MIB Mutribah 78.98 302 *e*P **P** **21 06 04.7 +0.3**
MIB AMb AMB 21 06 06.3
comp=Z,60nm,0.8s,mb5.6
PKSM Moragy 79.00 330 ⇑*i*P **P** **21 06 05.1 +0.6**
KBD Kabd 79.24 301 *e*P **P** **21 06 05.7 -0.1**
NAY Al-Naaiem 79.45 302 *e*P **P** **21 06 06.6 -0.3**
NAY AMb AMB 21 06 08.9
comp=Z,23nm,0.9s,mb5.1
VTS Vitosha 80.48 326 ⇓*i*P **P** **21 06 13.4 +0.8**
VTS Vitosha 80.48 326 ⇓P **P** **21 06 13.3 +0.8**
ASF Jabal al Asfar 82.87 311 P **P** **21 06 26.3 +1.1**
comp=Z,1.9nm,0.6s,mb4.3,baz=0.0,slow=0.0,SNR=4.9
ASF Jabal al Asfar 82.87 311 P **P** **21 06 26.3 +1.1**
ASF pmax pmax
comp=Z,2.0nm,0.6s
CFAA Coronel Fontan 144.13 79 PKP PKPdf 21 13 33.0 -3.5
comp=Z,0.3nm,0.6s,baz=284,slow=11,SNR=4.1
SNAA Sanae 153.37 196 *e*PKPdf PKPab 21 14 06.7 -4.2
VNA2 Neumayer--Watz 154.81 194 *e*PKPdf PKPab 21 14 13.2 -3.8
VNA3 Neumayer Olymp 154.88 192 *e*PKPdf PKPab 21 14 16.1 -1.2

IDC ***15*** *20:56:47.0±0.6, 46.84N×155.05E, h0km, mb4.6/23, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML4.2/2, Error ellipse: s-maj=17.1km s-min=14.9km az=139.0*
ISCJB ***15*** *20:56:47.3±0.4, 46.82N±0.06×155.06E±0.07, h12km, mb4.8/69, MS4.7/3, Error ellipse: s-maj=9.2km s-min=5.8km az=106.3*
NEIC ***15*** *20:56:48.6±0.3, 46.86N×155.05E, h10km, mb5.0/27, Error ellipse: s-maj=8.5km s-min=6.2km az=140.0*
BJI ***15*** *20:56:50.5, 47.24N×154.45E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.6*
MOS ***15*** *20:56:51.6±1.2, 46.69N×154.83E, h45km, mb5.1/38, Error ellipse: s-maj=10.0km s-min=6.8km az=121.8*
SZGRF ***15*** *20:56:59.3, 47.64N×154.28E, h11km, mb5.1, Kuril Islands, Russia*

ISC 15 20:56:49.1±0.4, 46.91N±0.06×155.15E±0.07, h13km, h13km±.8km ·pP-P, n187, σ0.98/188, mb4.8/70, MS4.7/3, 12C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.34**	**254**	*e*PN		**Pn**	**20 58 04.4**	**-4.1**
KUR				*i* S		**Sn**	**20 59 03.8**	**-6.0**
KUR				pmax	pmax			
	comp=Z,340nm,0.7s							
KUR				smax				
	comp=N,690nm,0.7s							
KUR				smax				
	comp=E,470nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**7.13**	**250**	*e*PN		**Pn**	**20 58 31.5**	**-1.6**
YSS	**Yuzh-Sakhalins**	**8.48**	**275**	PN		**Pn**	**20 58 54.0**	**+2.3**
YSS				MLR	MLR			
	comp=Z,3μm,16.0s							
YSS				MLR	MLR			
	comp=E,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.48**	**275**	*e*P		**Pn**	**20 58 50.4**	**-1.3**
	comp=E,30nm,0.8s							
ASAJ	**Asahikawa**	**9.24**	**257**	Pn		**Pn**	**20 58 60.0**	**-2.1**
	comp=E,3.3nm,0.3s,baz=94,slow=14,SNR=9.7							
ASAJ	**Asahikawa**	**9.24**	**257**	PN		**Pn**	**20 59 00.0**	**-2.1**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KLR	**Kul'dur**	**15.80**	**287**	*e*P		**Pn**	**21 00 31.9**	**+0.7**
MAJO	**Matsushiro**	**16.31**	**237**	*e*P		**Pn**	**21 00 33.6**	**-4.3**
MAJO				pmax	pmax			
	comp=Z,58nm,0.8s							
MAJO	**Matsushiro**	**16.31**	**237**	*e*P		**Pn**	**21 00 33.5**	**-4.3**
	comp=Z,58nm,0.8s							
MAT	**Matsushiro**	**16.31**	**237**	P		**Pn**	**21 00 33.6**	**-4.3**
MAT				S		**Sn**	**21 03 48.0**	**+9.3**
MJAR	**Matsushiro Arr**	**16.31**	**237**	Pn		**Pn**	**21 00 34.0**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=10							
MJAR	**Matsushiro Arr**	**16.31**	**237**	P		**Pn**	**21 00 34.1**	**-3.8**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MDJ	**Mudanjiang**	**17.96**	**272**	*e*P		**Pn**	**21 00 56.4**	**-2.1**
	comp=Z,50nm,1.4s							
CN2	**Changchun**	**21.04**	**272**	⇑P		**P**	**21 01 28.9**	**-3.8**
CN2				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.3							
BILL	**Bilibino**	**21.94**	**11**	*e*P		**P**	**21 01 40.8**	**-1.5**
BILL				pmax	pmax			
	comp=Z,39nm,1.1s,mb4.8							
BILL	**Bilibino**	**21.94**	**11**	*e*P		**P**	**21 01 41.1**	**-1.2**
	comp=Z,57nm,1.2s,mb4.9							
KSRS	**Korea Array**	**22.18**	**255**	P		**P**	**21 01 45.8**	**+0.9**
	comp=Z,9.2nm,0.7s,mb4.3,baz=55,slow=11,SNR=18							
HIA	**Hailar**	**23.64**	**289**	*e*P		**P**	**21 01 55.8**	**-4.3**
HIA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**23.64**	**289**	*e*P		**P**	**21 01 55.8**	**-4.4**
	comp=Z,5.7nm,0.6s,mb4.2							
BOD	**Bodaibo**	**26.97**	**309**	*e*P		**P**	**21 02 20.7**	**-10**
BOD				pmax	pmax			
	comp=Z,13nm,1.2s,mb4.3							
CIT	**Chita**	**27.23**	**296**	*e*P		**P**	**21 02 31.3**	**-1.4**
CIT				pmax	pmax			
	comp=Z,44nm,1.2s,mb4.9							
TIXI	**Tiksi**	**27.72**	**342**	*e*P		**P**	**21 02 34.8**	**-2.3**
	comp=Z,224nm,0.6s,mb6.0							
BJI	**Beijing**	**28.87**	**271**	*e*P		**P**	**21 02 48.6**	**+1.2**
BJI				AMB	AMB			
	comp=Z,12nm,0.7s,mb4.7							
BJI	**Beijing**	**28.87**	**271**	*e*P		**P**	**21 02 48.6**	**+1.2**
	comp=Z,12nm,0.7s,mb4.7							
HHC	**Hu-ho-hao-te**	**31.67**	**275**	*e*P		**P**	**21 03 11.8**	**-0.4**
HHC				AP	pP		21 03 16.3	+0.3
HHC				XP	sP		21 03 18.9	+1.3
HHC				PP	PP		21 04 14.3	-9.4
HHC				PCP	PcP		21 06 07.3	+3.4
HHC				S	**S**		**21 08 15.3**	**-5.9**
HHC				AMB	AMB			
	comp=Z,26nm,1.5s,mb4.8							
HHC				AMB	AMB			
	comp=Z,79nm,5.7s							
HHC				LR	LR			
	comp=N,494nm,14.4s,MS4.5							
HHC				LR	LR			
	comp=E,440nm,14.8s,MS4.5							
HHC				LR	LR			
	comp=Z,776nm,15.4s,MS4.5							
ULN	**Ulaanbaatar**	**32.16**	**290**	*e*P		**P**	**21 03 15.1**	**-1.4**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.4							
ULN	**Ulaanbaatar**	**32.16**	**290**	*e*P		**P**	**21 03 15.1**	**-1.4**
	comp=Z,5.8nm,0.9s,mb4.4							
SONM	**Songino Array**	**32.59**	**290**	P		**P**	**21 03 19.0**	**-1.3**
	comp=Z,4.9nm,0.9s,mb4.4,baz=60,slow=8.7,SNR=20							
SONM	**Songino Array**	**32.59**	**290**	P		**P**	**21 03 19.0**	**-1.3**
SONM				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BTO	**Baotou**	**32.83**	**276**	*e*P		**P**	**21 03 23.3**	**+1.0**
XAN	**Xi'an**	**36.92**	**267**	P		**P**	**21 03 57.8**	**+0.2**
XAN				AMB	AMB			
	comp=Z,14nm,1.4s,mb4.6							
EGAK	**Eagle**	**38.00**	**39**	*e*P		**P**	**21 04 06.3**	**-0.5**
	comp=Z,8.6nm,0.8s,mb4.5							
DAWY	**Dawson**	**38.83**	**40**	*e*P		**P**	**21 04 13.2**	**-0.5**
LZH	**Lanzhou**	**39.28**	**273**	*e*P		**P**	**21 04 18.8**	**+1.3**
LZH				AP	pP		21 04 24.9	+3.5
LZH				XP	sP		21 04 27.3	+4.3
LZH				PP	PP		21 05 49.8	+2.2
LZH				AMB	AMB			
	comp=Z,60nm,1.2s,mb5.2							
LZH				AMB	AMB			
	comp=Z,312nm,7.2s							
LZH				LR	LR			
	comp=E,698nm,14.8s							
LZH				LR	LR			
	comp=Z,1μm,16.0s,MS4.8							
GTA	**Gaotai**	**40.32**	**280**	*e*P		**P**	**21 04 27.1**	**+0.9**
GTA				AMB	AMB			
	comp=Z,14nm,1.1s,mb4.6							
INK	**Inuvik**	**40.76**	**33**	P		**P**	**21 04 30.6**	**+0.8**
	comp=Z,5.8nm,0.7s,mb4.3,baz=298,slow=6.3,SNR=12							
INK	**Inuvik**	**40.76**	**33**	P		**P**	**21 04 30.6**	**+0.8**
INK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
CD2	**Chengdu**	**42.28**	**267**	⇑*i*P		**P**	**21 04 42.5**	**+0.2**
CD2				AMB	AMB			
	comp=Z,40nm,1.0s,mb5.0							
GYA	**Guiyang**	**43.12**	**259**	⇑*i*P		**P**	**21 04 49.8**	**+0.7**
GYA				AP	pP		21 04 53.9	+0.9
GYA				XP	sP		21 04 56.8	+2.2
GYA				PP	PP		21 06 32.0	+2.8
GYA				PCP	PcP		21 06 41.1	+2.4
GYA				AMB	AMB			
	comp=Z,40nm,1.0s,mb5.1							
GYA				AMB	AMB			
	comp=Z,160nm,4.9s							
GYA				LR	LR			
	comp=N,580nm,17.4s,MS4.7							
GYA				LR	LR			
	comp=E,610nm,17.8s,MS4.7							
GYA				LR	LR			
	comp=Z,670nm,17.0s,MS4.6							
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**	**21 04 51.7**	**-1.8**
	comp=Z,3.6nm,0.6s,mb4.3,baz=45,slow=8.1,SNR=12							
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**	**21 04 51.7**	**-1.8**
ZAL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**	**21 04 51.7**	**-1.8**
NVS	**Novosibirsk**	**44.20**	**308**	*e*P		**P**	**21 04 55.7**	**-2.1**
NVS				pmax	pmax			
	comp=E,15nm,0.9s							
NVS				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.7							
NVS				pmax	pmax			
	comp=N,9.0nm,1.5s							
KMI	**Kunming**	**46.65**	**261**	P		**P**	**21 05 17.5**	**+0.3**
KMI				AMB	AMB			
	comp=Z,14nm,1.4s,mb4.7							
KMI	**Kunming**	**46.65**	**261**	P		**P**	**21 05 17.5**	**+0.3**
	comp=Z,14nm,1.4s,mb4.7							
MK31	**Makanchi Array**	**48.10**	**298**	*e*P		**P**	**21 05 27.2**	**-1.3**
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**21 05 27.5**	**-1.0**
	comp=Z,9.2nm,0.7s,mb5.0,baz=67,slow=7.9,SNR=39							
MKAR				PcP	PcP		21 06 55.6	-0.4
	comp=Z,3.5nm,0.7s,baz=62,slow=4.0,SNR=5.2							
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**21 05 27.5**	**-1.0**
MKAR							21 06 55.7	
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P		**P**	**21 05 52.2**	**-1.4**
CHKZ				pmax	pmax			
	comp=Z,48nm,0.7s,mb5.5							
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P		**P**	**21 05 52.2**	**-1.4**
	comp=Z,48nm,0.7s,mb5.5							
LSA	**Lhasa**	**51.66**	**274**	*e*P		**P**	**21 05 57.8**	**+2.3**
LSA				pmax	pmax			
	comp=Z,13nm,0.6s,mb5.0							
LSA	**Lhasa**	**51.66**	**274**	*e*P		**P**	**21 05 57.8**	**+2.3**
	comp=Z,14nm,0.6s,mb5.0							
BVAR	**Borovoye Array**	**51.83**	**310**	P		**P**	**21 05 56.4**	**-0.4**
	comp=Z,18nm,0.6s,mb5.2,baz=54,slow=7.6,SNR=58							
BVAR				PcP	PcP		21 07 09.4	-0.4
	comp=Z,5.0nm,0.8s,baz=57,slow=2.8,SNR=5.4							
BVAR	**Borovoye Array**	**51.83**	**310**	P		**P**	**21 05 56.4**	**-0.4**
BVAR							21 07 09.4	
BVAR				pmax	pmax			
	comp=Z,18nm,0.6s							
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**	**21 05 56.2**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,39nm,0.8s,mb5.4							
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**	**21 05 56.2**	**-0.9**
	comp=Z,39nm,0.8s,mb5.4							
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**21 06 01.7**	**-0.8**
ZRNK				pmax	pmax			
	comp=Z,31nm,0.8s,mb5.3							
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**21 06 01.6**	**-0.8**
	comp=Z,31nm,0.8s,mb5.3							
CHTO	**Chiang Mai**	**53.52**	**258**	*e*P		**P**	**21 06 09.7**	**+0.4**
CHTO				pmax	pmax			
	comp=Z,24nm,1.1s,mb5.0							
CHTO	**Chiang Mai**	**53.52**	**258**	*e*P		**P**	**21 06 09.7**	**+0.3**
	comp=Z,24nm,1.1s,mb5.0							
ULHL	**Ulahol**	**54.16**	**296**	P		**P**	**21 06 15.0**	**+1.0**
	SNR=7.3							
TKM2	**Tokmak 2**	**54.18**	**297**	P		**P**	**21 06 14.9**	**+0.8**
	SNR=13							
CHMS	**Chumysh**	**54.65**	**298**	P		**P**	**21 06 18.4**	**+0.8**
	SNR=7.7							
USP	**Ospenovka**	**54.65**	**298**	P		**P**	**21 06 18.3**	**+0.7**
	SNR=29							
KBK	**Karagaybulak**	**54.72**	**297**	P		**P**	**21 06 18.9**	**+0.8**
	SNR=13							
FRU	**Bishkek**	**54.82**	**297**	*e*P		**P**	**21 06 19.8**	**+1.0**
FRU				pmax	pmax			
	comp=Z,40nm,1.8s,mb5.2							
KZA	**Kyzart**	**54.86**	**296**	P		**P**	**21 06 20.2**	**+1.1**
	SNR=11							
AAK	**Ala-Archa**	**55.01**	**297**	P		**P**	**21 06 21.0**	**+0.8**
	SNR=23							
AAK	**Ala-Archa**	**55.01**	**297**	*e*P		**P**	**21 06 19.1**	**-1.1**
AAK				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.2							
AAK	**Ala-Archa**	**55.01**	**297**	*e*P		**P**	**21 06 19.1**	**-1.1**
	comp=Z,20nm,0.8s,mb5.2							
EKS2	**Erkin-Say**	**55.43**	**298**	P		**P**	**21 06 24.1**	**+0.9**
	SNR=26							
AML	**Almayashu**	**55.78**	**297**	P		**P**	**21 06 27.2**	**+1.4**
	SNR=9.9							
ARU	**Arti**	**55.83**	**318**	⇑*i*P		**P**	**21 06 25.4**	**-0.7**
ARU				*e*			21 07 22.8	
ARU				*e*			21 08 29.0	
ARU				*e*S		**S**	**21 14 07.0**	**-6.0**
ARU				pmax	pmax			
	comp=Z,42nm,0.7s,mb5.6							
ARU	**Arti**	**55.83**	**318**	*e*P		**P**	**21 06 25.5**	**-0.6**
	comp=Z,43nm,0.6s,mb5.7							
JIRN	**Jiri**	**56.32**	**276**	*e*P		**P**	**21 06 30.9**	**+1.3**
	comp=Z,35nm,0.8s,mb5.5							
GUN	**Gumba**	**56.38**	**276**	*e*P		**P**	**21 06 31.7**	**+1.7**
	comp=Z,12nm,0.6s,mb5.2							
KKN	**Kakani**	**56.86**	**277**	*e*P		**P**	**21 06 34.9**	**+1.4**
	comp=Z,24nm,0.7s,mb5.3							
PKI	**Pulchoki**	**56.91**	**276**	*e*P		**P**	**21 06 34.9**	**+1.1**
DMN	**Daman**	**57.09**	**277**	*e*P		**P**	**21 06 36.6**	**+1.5**
	comp=Z,51nm,0.9s,mb5.5							
GKN	**Gorkha**	**57.16**	**277**	*e*P		**P**	**21 06 35.8**	**+0.2**
	comp=Z,50nm,1.0s,mb5.5							
KEV	**Kevo**	**57.65**	**341**	*e*p		**P**	**21 06 38.2**	**-0.8**
APA	**Apatity**	**57.73**	**337**	⇓*i*P		**P**	**21 06 39.7**	**+0.1**
APA				pmax	pmax			
	comp=Z,31nm,1.0s,mb5.3							
KOLN	**Koldanda**	**58.02**	**278**	*e*P		**P**	**21 06 42.2**	**+0.6**
	comp=Z,27nm,0.9s,mb5.3							
ARCES	**ARCESS Array B**	**58.15**	**341**	P		**P**	**21 06 42.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9,baz=31,slow=7.7,SNR=7.8							
ARCES	**ARCESS Array B**	**58.15**	**341**	P		**P**	**21 06 42.7**	**+0.1**
ARCES				pmax	pmax			
	comp=Z,14nm,1.0s							
TMCR	**Tamitsa**	**58.84**	**333**	*e*P		**P**	**21 06 47.3**	**0.0**
TMCR				pmax	pmax			
	comp=Z,83nm,1.3s,mb5.6							
AKTK	**Aktyubinsk**	**59.65**	**313**	P		**P**	**21 06 52.7**	**-0.3**
AKTO	**Aktyubinsk**	**59.65**	**313**	P		**P**	**21 06 52.7**	**-0.3**
	comp=Z,8.5nm,0.6s,mb5.0,baz=76,slow=7.5,SNR=31							
AKTO	**Aktyubinsk**	**59.65**	**313**	P		**P**	**21 06 52.7**	**-0.3**
AKTO				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb5.0							
ORR	**Orenburg**	**60.52**	**315**	*e*P		**P**	**21 06 58.7**	**-0.3**
ORR				pmax	pmax			
	comp=Z,60nm,1.5s,mb5.5							
PDAR	**Pinedale Array**	**63.52**	**55**	P		**P**	**21 07 19.7**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.1,baz=299,slow=3.1,SNR=8.0							
FINES	**FINESS Array B**	**64.48**	**336**	P		**P**	**21 07 25.1**	**-0.3**
	comp=Z,11nm,0.8s,mb4.9,baz=43,slow=8.6,SNR=18							
FINES	**FINESS Array B**	**64.48**	**336**	P		**P**	**21 07 25.1**	**-0.3**
FINES				pmax	pmax			
	comp=Z,11nm,0.9s							
SRU	**San Rafael**	**65.35**	**59**	*e*P		**P**	**21 07 31.5**	**+0.5**
SRU				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
SRU	**San Rafael**	**65.35**	**59**	*e*P		**P**	**21 07 31.5**	**+0.4**
	comp=Z,2.8nm,0.9s,mb4.3							
ULM	**Lac du Bonnet**	**65.48**	**42**	P		**P**	**21 07 31.4**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=336,slow=12,SNR=3.0							
OBN	**Obninsk**	**65.96**	**326**	*e*P		**P**	**21 07 34.3**	**-0.7**
OBN				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.9							
VRSR	**Storozhevoye**	**67.84**	**322**	*e*P		**P**	**21 07 46.5**	**-0.5**
VRSR				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
VRSR				pmax	pmax			
	comp=N,8.0nm,0.9s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
HYB	**Hyderabad**	**68.39**	**273**	*i* P		**P**	**21 07 50.0**	**-0.4**
HYB	**Hyderabad**	**68.39**	**273**	*e*P		**P**	**21 07 50.0**	**-0.4**
NB2	**NORSAR Subarra**	**68.52**	**342**	P		**P**	**21 07 50.8**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.52**	**342**	P		**P**	**21 07 51.1**	**-0.1**
	comp=Z,5.7nm,0.9s,mb4.5,baz=27,slow=6.4,SNR=8.3							
NOA	**NORSAR Array B**	**68.52**	**342**	P		**P**	**21 07 51.1**	**-0.1**
NOA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WB2	**Warramunga Arr**	**69.14**	**201**	*e*P		**P**	**21 07 53.9**	**-1.2**
WRA	**Warramunga Arr**	**69.14**	**201**	P		**P**	**21 07 54.0**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=20,slow=6.3,SNR=8.4							
WRA	**Warramunga Arr**	**69.14**	**201**	P		**P**	**21 07 54.0**	**-1.1**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**69.96**	**210**	*e*P		**P**	**21 08 00.3**	**+0.1**
	comp=Z,6.1nm,2.0s,mb4.2							
POO	**Poona**	**70.83**	**277**	*e*P		**P**	**21 08 03.0**	**-2.5**
KIV	**Kislovodsk**	**71.68**	**315**	*e*P		**P**	**21 08 12.3**	**+1.7**
KIV				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.1							
KIV	**Kislovodsk**	**71.68**	**315**	*e*P		**P**	**21 08 11.8**	**+1.1**
	comp=Z,16nm,0.8s,mb5.0							
AKASG	**Malin Array Be**	**72.18**	**327**	P		**P**	**21 08 12.5**	**-1.1**
	comp=Z,3.8nm,0.6s,mb4.5,baz=32,slow=6.0,SNR=14							
AKASG	**Malin Array Be**	**72.18**	**327**	P		**P**	**21 08 12.5**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KIEV	**Kiev**	**72.19**	**327**	*e*P		**P**	**21 08 12.0**	**-1.7**
KIEV				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
KIEV

MLR					pmax	pmax		
	comp=Z,7.0nm,0.6s							
MLR	**Muntele Rosu**	**77.72**	**326**	⇓*i*P	**P**	**21 08 46.3**	**+0.6**
SNX	**Sinaia**	**78.00**	**326**	⇑*i*P	**P**	**21 08 48.5**	**+1.3**
SNX	**Sinaia**	**78.00**	**326**	⇑P	**P**	**21 08 48.5**	**+1.3**
NKC	**Novy Kostel**	**78.01**	**337**	*e*P	**P**	**21 08 47.7**	**+0.5**
NKC				*ep*P	pP	21 08 51.2	-0.2
MALT	**Malatya**	**78.06**	**314**	⇑*i*P	**P**	**21 08 49.3**	**+1.8**
MALT	**Malatya**	**78.06**	**314**	⇑P	**P**	**21 08 49.3**	**+1.8**
VOIR		**78.11**	**327**	⇑*i*P	**P**	**21 08 48.4**	**+0.6**
VOIR		**78.11**	**327**	⇑P	**P**	**21 08 48.4**	**+0.6**
KHC	**Kasperske Hory**	**78.69**	**335**	*e*P	**P**	**21 08 51.4**	**+0.4**
KHC				*ep*P	pP	21 08 55.0	-0.2
GRA1	**Grafenberg Arr**	**78.83**	**337**	*e*P	**P**	**21 08 52.4**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9							
GRA1				*ep*P	pP	21 08 55.7	-0.2
GRF	**Grafenberg Arr**	**78.83**	**337**	*e*P	**P**	**21 08 52.4**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9							
GRF				*ep*P	pP	21 08 55.7	-0.2
	comp=Z,16nm,1.0s							
GRF	**Grafenberg Arr**	**78.83**	**337**	*e*P	**P**	**21 08 52.4**	**+0.6**
GRF				*e**PP	pP	21 08 55.7	-0.2
GRF				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9							
GERES	**GERESS Array B**	**78.91**	**335**	P	**P**	**21 08 52.4**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=36,slow=5.3,SNR=12							
GERES	**GERESS Array B**	**78.91**	**335**	P	**P**	**21 08 52.4**	**+0.2**
GERES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BZS	**Buzias**	**79.21**	**329**	⇓*i*P	**P**	**21 08 53.8**	**-0.1**
BZS	**Buzias**	**79.21**	**329**	⇓P	**P**	**21 08 53.8**	**-0.1**
BR131	**Keskin Array S**	**79.22**	**318**	*e*P	**P**	**21 08 54.4**	**+0.5**
	comp=Z,6.1nm,1.1s,mb4.4							
BRTR	**Keskin Array B**	**79.22**	**318**	P	**P**	**21 08 54.5**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.3,baz=46,slow=3.6,SNR=8.8							
BRTR	**Keskin Array B**	**79.22**	**318**	P	**P**	**21 08 54.5**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
STKA	**Stephens Creek**	**79.37**	**192**	P	**P**	**21 08 53.8**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.3,baz=346,slow=12,SNR=3.9							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P	**P**	**21 09 03.1**	**-0.5**
	comp=Z,27nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P	**P**	**21 09 03.1**	**-0.5**
CDF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P	**P**	**21 09 03.1**	**-0.5**
	comp=Z,14nm,1.0s,mb4.8							
VTS	**Vitosha**	**81.23**	**326**	⇓*i*P	**P**	**21 09 04.8**	**+0.1**
VTS	**Vitosha**	**81.23**	**326**	⇓P	**P**	**21 09 04.8**	**0.0**
GRR	**Gorron**	**82.81**	**344**	*e*P	**P**	**21 09 12.6**	**-0.4**
	comp=Z,46nm,1.1s,mb5.1							
GRR	**Gorron**	**82.81**	**344**	*e*P	**P**	**21 09 12.6**	**-0.4**
GRR				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.1							
GRR	**Gorron**	**82.81**	**344**	*e*P	**P**	**21 09 12.6**	**-0.4**
	comp=Z,23nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**83.49**	**341**	*e*P	**P**	**21 09 15.9**	**-0.7**
	comp=Z,53nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.49**	**341**	*e*P	**P**	**21 09 15.9**	**-0.7**
SMF				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.49**	**341**	*e*P	**P**	**21 09 15.9**	**-0.7**
	comp=Z,26nm,1.1s,mb5.2							
ASF	**Jabal al Asfar**	**83.65**	**311**	P	**P**	**21 09 18.7**	**+1.3**
	comp=Z,3.9nm,0.8s,mb4.6,baz=268,slow=3.1,SNR=7.1							
ASF	**Jabal al Asfar**	**83.65**	**311**	P	**P**	**21 09 18.7**	**+1.3**
ASF				pmax	pmax			
	comp=Z,4.0nm,0.8s							
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**21 09 18.0**	**-0.5**
	comp=Z,25nm,0.8s,mb5.1							
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**21 09 18.0**	**-0.5**
LPG				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.1							
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**21 09 18.0**	**-0.5**
	comp=Z,13nm,0.8s,mb5.1							
CAF	**Calviac**	**85.52**	**341**	*e*P	**P**	**21 09 26.1**	**-0.7**
TIP	**Timpagrande**	**86.58**	**329**	*e*P	**P**	**21 09 31.7**	**-0.4**
ESDC	**Sonseca Array**	**91.80**	**344**	P	**P**	**21 09 55.3**	**-1.4**
	comp=Z,0.5nm,0.5s,mb4.1,baz=7.5,slow=5.5,SNR=4.6							
KEST	**Kesra**	**92.18**	**333**	P	**P**	**21 09 58.9**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.2,baz=118,slow=1.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**115.65**	**331**	PKP	PKPdf	21 15 30.1	-0.9
	comp=Z,0.3nm,0.6s,baz=47,slow=0.3,SNR=4.5							
SNAA	**Sanae**	**153.09**	**195**	*e*PKPdf	PKPbc	21 16 46.4	0.0
SNAA				*e*		21 16 55.5		
SNAA				*e*		21 17 08.5		
VNA3	**Neumayer Olymp**	**154.54**	**191**	*e*PKPdf	PKPbc	21 16 48.0	-1.6
VNA3				*e*		21 16 57.3		
VNA3				*e*		21 17 14.5		

IDC ***15*** *20:58:26.4±1.1, 4740N×15399E, h0km, mb4.5/16, mb1 4.7/17, mb1mx4.5/26, mbtmp4.5/17, ML3.5/1, Error ellipse: s-maj=27.9km s-min=21.2km az=146.0*

NEIC ***15*** *20:58:28.6±0.6, 4742N×15393E, h10km, mb4.8/7, Error ellipse: s-maj=15.4km s-min=9.2km az=138.0*

BJI ***15*** *20:58:28.5, 4740N×15390E, h10km, mB4.9, mb4.7, Ms4.7, Msz4.8*

ISCJB ***15*** *20:58:29.9±3.0, 4745N±009×1539E±01, h27km±20km, mb4.8/38, MS4.8/1, Error ellipse: s-maj=20.3km s-min=6.7km az=91.0*

MOS ***15*** *20:58:31.0±1.1, 4741N×15388E, h37km, mb4.9/19, Error ellipse: s-maj=13.7km s-min=7.6km az=105.5*

SZGRF ***15*** *20:58:36.0, 4769N×15346E, h33km, mb4.9, Kuril Islands, Russia*

ISC 15 20:58:32.7±1.3, 4747N±009×1540E±01, h38km±9km, n113, σ0.96/115, mb4.8/38, MS4.8/1, 6C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.52**	**23**	*e*PN	**Pn**	**20 59 26.0**	**+1.2**
SKR				*e*S	**Sn**	**21 00 05.0**	**-0.2**
SKR				pmax	pmax		
	comp=N,260nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				smax			
	comp=N,400nm,0.5s						
SKR				smax			
	comp=E,900nm,1.0s						
SKR				smax			
	comp=Z,150nm,0.5s						
KUR	**Kuril'sk**	**4.77**	**244**	PN	**Pn**	**20 59 37.0**	**-5.1**
KUR				*i* S	**Sn**	**21 00 35.0**	**-1.1**
KUR				pmax	pmax		
	comp=Z,380nm,0.8s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,680nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.64**	**270**	*e*PN	**Pn**	**21 00 26.0**	**+4.4**
YSS				*e*S	**Sn**	**21 01 53.8**	**+6.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=E,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.64**	**270**	*e*P	**Pn**	**21 00 26.2**	**+4.7**
UGL	**Uglegorsk**	**8.09**	**286**	PN	**Pn**	**21 00 37.0**	**+9.3**
UGL				MLR	MLR		
	comp=N,2μm,14.0s						
UGL				MLR	MLR		
	comp=E,3μm,14.0s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
ASAJ	**Asahikawa**	**8.61**	**251**	Pn	**Pn**	**21 00 36.8**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=65,slow=15,SNR=4.1						
ASAJ	**Asahikawa**	**8.61**	**251**	PN	**Pn**	**21 00 36.8**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.97**	**233**	Pn	**Pn**	**21 02 12.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=3.5						
CN2	**Changchun**	**20.22**	**270**	*e*P	**P**	**21 03 05.9**	**+1.5**
KSRS	**Korea Array**	**21.56**	**252**	P	**P**	**21 03 18.9**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.1,baz=60,slow=9.6,SNR=7.2						
TIXI	**Tiksi**	**26.94**	**343**	*e*P	**P**	**21 04 09.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,428nm,1.1s,mb5.9						
TIXI	**Tiksi**	**26.94**	**343**	*e*P	**P**	**21 04 09.1**	**-1.4**
	comp=Z,428nm,1.1s,mb5.9						
SONM	**Songino Array**	**31.64**	**289**	P	**P**	**21 04 51.9**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=62,slow=8.4,SNR=6.6						
SONM	**Songino Array**	**31.64**	**289**	P	**P**	**21 04 51.9**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	**College**	**35.22**	**39**	*e*P	**P**	**21 05 22.7**	**-0.6**
XAN	**Xi'an**	**36.15**	**265**	P	**P**	**21 05 30.4**	**-1.0**
XAN				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
LZH	**Lanzhou**	**38.44**	**271**	*e*P	**P**	**21 05 52.1**	**+1.3**
LZH				AP	pP	21 05 56.4	-5.1
LZH				XP	sP	21 05 59.0	-7.0
LZH				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
LZH				AMB	AMB		
	comp=Z,145nm,4.8s						
LZH				LR	LR		
	comp=E,631nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,14.5s,MS4.8						
LZH	**Lanzhou**	**38.44**	**271**	*e*P	**P**	**21 05 52.1**	**+1.3**
	comp=Z,30nm,1.1s,mb4.9						
LZH				pP	pP	21 05 56.4	-5.1
LZH				sP	sP	21 05 59.0	-7.0
LZH				LR	LR		
	comp=Z,1μm,14.5s,MS4.8						
GTA	**Gaotai**	**39.43**	**279**	*e*P	**P**	**21 05 59.1**	**+0.1**
GTA				AP	pP	21 06 09.9	+0.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**21 06 09.8**	**-0.1**
	comp=Z,2.2nm,0.5s,mb4.0,baz=306,slow=7.5,SNR=5.4						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**21 06 09.8**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CD2	**Chengdu**	**41.51**	**265**	⇓*i*P	**P**	**21 06 16.5**	**+0.2**
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
ZAL	**Zalesovo**	**42.67**	**305**	P	**P**	**21 06 24.3**	**-1.4**
	comp=Z,4.8nm,0.5s,mb4.5,baz=53,slow=5.9,SNR=9.4						
ZAL	**Zalesovo**	**42.67**	**305**	P	**P**	**21 06 24.3**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL	**Zalesovo**	**42.67**	**305**	P	**P**	**21 06 24.3**	**-1.5**
NVS	**Novosibirsk**	**43.21**	**307**	*e*P	**P**	**21 06 28.9**	**-1.2**
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
KMI	**Kunming**	**45.94**	**260**	P	**P**	**21 06 49.9**	**-1.9**
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
KMI	**Kunming**	**45.94**	**260**	P	**P**	**21 06 49.9**	**-1.9**
	comp=Z,14nm,1.4s,mb4.7						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**21 06 59.9**	**-1.2**
	comp=Z,2.6nm,0.5s,mb4.4,baz=70,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**21 06 59.9**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**21 06 59.9**	**-1.2**
CHKZ	**Chkalovo**	**50.41**	**310**	*e*P	**P**	**21 07 24.6**	**-1.7**
LSA	**Lhasa**	**50.81**	**273**	P	**P**	**21 07 31.0**	**+1.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**50.81**	**273**	*e*P	**P**	**21 07 31.1**	**+1.7**
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**21 07 29.2**	**-0.4**
	comp=Z,8.8nm,0.5s,mb5.0,baz=53,slow=7.7,SNR=20						
BVAR				PcP	PcP	21 08 43.4	-2.6
	comp=Z,1.7nm,0.5s,baz=62,slow=5.8,SNR=2.6						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**21 07 29.2**	**-0.4**
BVAR						21 08 43.4	
BVAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**50.88**	**309**	*e*P	**P**	**21 07 29.0**	**-0.9**
ZRNK	**Zerenda**	**51.61**	**310**	*e*P	**P**	**21 07 33.7**	**-1.6**
JIRN	**Jiri**	**55.46**	**275**	*e*P	**P**	**21 08 04.4**	**+0.8**
	comp=Z,63nm,0.7s,mb5.8						
GUN	**Gumba**	**55.51**	**275**	*e*P	**P**	**21 08 04.7**	**+0.8**
	comp=Z,31nm,0.4s,mb5.7						
KKN	**Kakani**	**55.99**	**275**	*e*P	**P**	**21 08 08.4**	**+1.0**
	comp=Z,29nm,0.5s,mb5.5						
PKI	**Pulchoki**	**56.05**	**275**	*e*P	**P**	**21 08 08.5**	**+0.7**
	comp=Z,26nm,0.5s,mb5.5						
DMN	**Daman**	**56.23**	**275**	*e*P	**P**	**21 08 10.4**	**+1.3**
	comp=Z,60nm,0.6s,mb5.8						
GKN	**Gorkha**	**56.29**	**276**	*e*P	**P**	**21 08 10.1**	**+0.6**
	comp=Z,68nm,0.6s,mb5.9						
KEV	**Kevo**	**56.85**	**341**	*ep*	**P**	**21 08 10.8**	**-2.7**
KOLN	**Koldanda**	**57.14**	**277**	*e*P	**P**	**21 08 16.3**	**+0.8**
	comp=Z,38nm,0.7s,mb5.5						
ARCES	**ARCESS Array B**	**57.36**	**341**	P	**P**	**21 08 15.9**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=4.7,slow=7.4,SNR=6.3						
ARCES	**ARCESS Array B**	**57.36**	**341**	P	**P**	**21 08 16.0**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTK	**Aktyubinsk**	**58.67**	**312**	P	**P**	**21 08 25.4**	**-1.0**
AKTO	**Aktyubinsk**	**58.67**	**312**	P	**P**	**21 08 25.4**	**-1.0**
	comp=Z,1.9nm,0.5s,mb4.4,baz=69,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**58.67**	**312**	P	**P**	**21 08 25.4**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**63.63**	**335**	P	**P**	**21 08 59.0**	**-0.9**
	comp=Z,5.4nm,0.4s,mb4.9,baz=38,slow=8.6,SNR=30						
FINES	**FINESS Array B**	**63.63**	**335**	P	**P**	**21 08 59.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES	**FINESS Array B**	**63.63**	**335**	P	**P**	**21 08 59.0**	**-0.9**
NB2	**NORSAR Subarra**	**67.73**	**341**	P	**P**	**21 09 25.5**	**-0.8**
	comp=Z,8.0nm,0.5s,mb5.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.73**	**341**	P	**P**	**21 09 25.8**	**-0.6**
	comp=Z,9.4nm,0.5s,mb5.1,baz=26,slow=6.3,SNR=22						
NOA	**NORSAR Array B**	**67.73**	**341**	P	**P**	**21 09 25.8**	**-0.5**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AKASG	**Malin Array Be**	**71.27**	**327**	P	**P**	**21 09 47.0**	**-1.1**
	comp=Z,5.8nm,0.5s,mb4.8,baz=34,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**71.27**	**327**	P	**P**	**21 09 47.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAR	**Alice Springs**	**73.08**	**199**	P	**P**	**21 09 57.6**	**-1.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=19,slow=4.8,SNR=3.8						
ASAR	**Alice Springs**	**73.08**	**199**	P	**P**	**21 09 57.6**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OJC	**Ojcow**	**74.96**	**331**	*e*PX		21 10 10.2	
STHS	**Stebnicka Huta**	**75.18**	**330**	*e*P	**P**	**21 10 11.4**	**+0.2**
STHS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
STHS	**Stebnicka Huta**	**75.18**	**330**	*e*P	**P**	**21 10 11.4**	**+0.2**
	comp=Z,7.5nm,0.8s,mb4.7						
KOLS	**Kolonicke sedl**	**75.24**	**329**	*e*P	**P**	**21 10 11.6**	**0.0**
BURAR	**Bucovina Array**	**75.30**	**327**	⇓*i*P	**P**	**21 10 11.9**	**0.0**
BURAR	**Bucovina Array**	**75.30**	**327**	⇓P	**P**	**21 10 12.0**	**+0.1**
NIE	**Niedzica**	**75.49**	**331**	*e*P	**P**	**21 10 13.7**	**+0.7**
OKC	**Ostrava-Krasne**	**75.82**	**332**	*e*P	**P**	**21 10 15.8**	**+0.9**
UPC	**Upice**	**75.89**	**334**	*e*P	**P**	**21 10 14.8**	**-0.5**
DPC	**Dobruska-Polom**	**75.94**	**334**	*e*P	**P**	**21 10 16.2**	**+0.6**
CLL	**Collm**	**76.04**	**336**	*i*P	**P**	**21 10 15.7**	**-0.5**
CLL				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
CLL	**Collm**	**76.04**	**336**	*i*P	**P**	**21 10 15.7**	**-0.5**
	comp=Z,17nm,0.6s,mb5.2						
MORC	**Moravsky Berou**	**76.07**	**333**	⇓*i*P	**P**	**21 10 17.0**	**+0.7**
MORC	**Moravsky Berou**	**76.07**	**333**	⇓P	**P**	**21 10 17.0**	**+0.7**
LIKS	**Likavka**	**76.20**	**331**	*e*P	**P**	**21 10 16.5**	**-0.6**
LIKS				*e*		21 29 02.5	
KECS	**Kecovo**	**76.24**	**330**	*i*P	**P**	**21 10 17.3**	**0.0**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
KECS	**Kecovo**	**76.24**	**330**	*i*P	**P**	**21 10 17.3**	**0.0**
	comp=Z,4.4nm,1.2s,mb4.3						
PVCC	**Panska Ves**	**76.30**	**335**	*e*P	**P**	**21 10 18.0**	**+0.4**
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**21 10 18.9**	**-0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=294,slow=4.8,SNR=4.0						
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**21 10 18.9**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TIRR	**Tirgusor**	**76.68**	**323**	⇑*i*P	**P**	**21 10 20.4**	**+0.6**
TIRR	**Tirgusor**	**76.68**	**323**	⇑P	**P**	**21 10 20.4**	**+0.6**
VRAC	**Vranov**	**76.77**	**333**	⇓*i*P	**P**	**21 10 21.4**	**+1.1**
VRAC	**Vranov**	**76.77**	**333**	⇓P	**P**	**21 10 21.4**	**+1.1**
VYHS	**Vyhne**	**76.78**	**331**	*i*P	**P**	**21 10 20.8**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
VYHS	**Vyhne**	**76.78**	**331**	*i*P	**P**	**21 10 20.8**	**+0.5**
	comp=Z,7.0nm,1.3s,mb4.4						
PRU	**Pruhonice**	**76.79**	**334**	*e*P	**P**	**21 10 20.9**	**+0.5**
MLR	**Muntele Rosu**	**76.80**	**325**	P	**P**	**21 10 20.8**	**+0.3**
	comp=Z,9.3nm,0.5s,mb5.0,baz=352,slow=8.5,SNR=14						
MLR	**Muntele Rosu**	**76.80**	**325**	⇓*i*P	**P**	**21 10 20.9**	**+0.4**
MLR	**Muntele Rosu**	**76.80**	**325**	P	**P**	**21 10 20.8**	**+0.3**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MLR	**Muntele Rosu**	**76.80**	**325**	⇓P	**P**	**21 10 20.9**	**+0.4**
PSZ	**Piszkesteto**	**76.92**	**330**	⇓*i*P	**P**	**21 10 22.5**	**+1.3**
PSZ	**Piszkesteto**	**76.92**	**330**	⇓P	**P**	**21 10 22.6**	**+1.4**
SNX	**Sinaia**	**77.08**	**325**	⇑*i*P	**P**	**21 10 23.7**	**+1.6**
SNX	**Sinaia**	**77.08**	**325**	⇑P	**P**	**21 10 23.7**	**+1.7**
NKC	**Novy Kostel**	**77.17**	**336**	*e*P	**P**	**21 10 22.6**	**+0.1**
VOIR		**77.19**	**326**	⇑*i*P	**P**	**21 10 23.5**	**+0.8**
KHC	**Kasperske Hory**	**77.84**	**335**	*e*P	**P**	**21 10 26.6**	**+0.3**
GRA1	**Grafenberg Arr**	**77.99**	**336**	*e*P	**P**	**21 10 27.7**	**+0.6**
	comp=Z,10.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**77.99**	**336**	*e*P	**P**	**21 10 27.7**	**+0.6**
	comp=Z,10.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**77.99**	**336**	*e*P	**P**	**21 10 27.7**	**+0.6**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**78.06**	**334**	P	**P**	**21 10 27.6**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=34,slow=6.3,SNR=16						
GERES	**GERESS Array B**	**78.06**	**334**	P	**P**	**21 10 27.6**	**+0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**	**21 10 29.1**	**+0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=96,slow=1.2,SNR=9.2						
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**	**21 10 29.1**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BZS	**Buzias**	**78.31**	**328**	⇑*i*P	**P**	**21 10 28.9**	**0.0**
MIB	**Mutribah**	**78.77**	**302**	*e*P	**P**	**21 10 31.6**	**+0.1**
MIB				AMb	AMB	21 10 32.8	
	comp=Z,76nm,0.6s,mb5.8						
PKSM	**Moragy**	**78.83**	**330**	⇓*i*P	**P**	**21 10 31.6**	**-0.2**
PKSM	**Moragy**	**78.83**	**330**	⇓P	**P**	**21 10 31.6**	**-0.2**
KBD	**Kabd**	**79.04**	**301**	*e*P	**P**	**21 10 33.6**	**+0.7**
NAY	**Al-Naaiem**	**79.24**	**302**	*e*P	**P**	**21 10 34.0**	**0.0**
NAY				AMb	AMB	21 10 35.3	
	comp=Z,21nm,0.9s,mb5.1						
VTS	**Vitosha**	**80.31**	**325**	⇓*i*P	**P**	**21 10 40.9**	**+1.1**

IDC 15 21:01:03.4±1.5, 4700N×15574E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.9/6, Error ellipse: s-maj=39.3km s-min=28.0km az=116.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.60**	**255**	P	P	21 06 07.3	+1.8
	1.3nm,0.7s,baz=58,slow=10,SNR=4.1						
INK	**Inuvik**	**40.47**	**33**	P	P	21 08 43.1	-0.6
	0.9nm,0.6s,baz=304,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**48.42**	**298**	P	P	21 09 45.5	-1.8
	0.4nm,0.6s,baz=69,slow=8.1,SNR=3.7						
BVAR	**Borovoye Array**	**52.08**	**310**	P	P	21 10 13.9	-1.2
	1.0nm,0.5s,baz=58,slow=7.1,SNR=4.3						
FINES	**FINESS Array B**	**64.57**	**336**	P	P	21 11 42.8	+0.4
	1.6nm,0.7s,baz=45,slow=6.1,SNR=4.9						
ASAR	**Alice Springs**	**73.05**	**201**	P	P	21 12 34.9	-0.4
	0.7nm,0.6s,baz=16,slow=5.7,SNR=6.9						

IDC ***15*** *21:02:04.7±0.5, 4722N×15374E, h0km, mb4.9/24, mb1 5.0/25, mb1mx5.0/27, mbtmp4.9/25, ML3.8/1, Error ellipse: s-maj=15.1km s-min=13.0km az=140.0*

SKHL ***15*** *21:02:06.5±2.1, 4707N×15409E, h52km±17km, Ms4.7/1, msh6.1/3*

NEIC ***15*** *21:02:06.6±0.2, 4724N×15377E, h10km, mb5.4/56, Error ellipse: s-maj=6.4km s-min=4.2km az=153.0*

BJI ***15*** *21:02:06.6, 4720N×15380E, h10km, mB5.0, mb4.9, Ms4.8, Msz4.6*

ISCJB ***15*** *21:02:07.0±1.1, 4729N±003×15383E±002, h21km±8km, mb5.2/127, MS4.6/14, Error ellipse: s-maj=5.6km s-min=2.6km az=155.3*

MOS ***15*** *21:02:10.0±1.0, 4726N×15379E, h46km, mb5.4/56, MS4.3/10, Error ellipse: s-maj=7.5km s-min=4.7km az=101.3*

SZGRF ***15*** *21:02:15.8, 4809N×15383E, h33km, mb5.6, Kuril Islands, Russ

KUR A 21 04 32.5
comp=Z,2μm,0.7s
KUR A 21 04 32.5
comp=Z,1μm,0.7s
KUR AMS AMS 21 05 07.0
comp=Z,10μm,14.0s
KUR Kuril'sk 4.61 244 *e*PN **Pn 21 03 15.3 -4.0**
KUR *i* S **Sn 21 04 10.0 -1.5**
KUR pmax pmax
comp=E,80nm,0.7s
KUR pmax pmax
comp=Z,340nm,0.7s
KUR smax
comp=N,10μm,2.0s
KUR smax
comp=E,5μm,2.0s
KUR smax
comp=N,2μm,0.7s
KUR smax
comp=E,1μm,0.7s
KUR MLR MLR
comp=Z,10μm,14.0s
YUK Yuzh-Kuril'sk 6.46 242 *e*P **Pn 21 03 43.7 -0.9**
YUK AMB AMB 21 03 45.2
comp=Z,190nm,0.5s
YUK AMB AMB 21 03 45.2
comp=Z,310nm,0.5s
YUK AMB AMB 21 03 45.2
comp=Z,180nm,0.5s
YUK *i* S **Sn 21 04 58.2 +1.2**
YUK A 21 05 04.4
comp=Z,850nm,0.7s
YUK A 21 05 04.4
comp=Z,710nm,0.6s
YUK A 21 05 11.9
comp=Z,9μm,3.0s
YUK A 21 05 11.9
comp=Z,25μm,2.0s
YUK Yuzh-Kuril'sk 6.46 242 PN **Pn 21 03 43.7 -0.9**
YUK *i* S **Sn 21 04 58.2 +1.2**
YUK pmax pmax
comp=Z,310nm,0.5s
YUK smax
comp=N,710nm,0.6s
YUK smax
comp=E,850nm,0.7s
YUK smax
comp=N,9μm,3.0s
YUK smax
comp=E,2μm,2.0s
PET Petropavlovsk 6.47 27⇓ *i*PN **Pn 21 03 43.5 -1.2**
PET pmax pmax
comp=Z,476nm,1.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 6.47 27 *e*P **Pn 21 03 43.1 -1.6**
comp=Z,301nm,0.9s
PET *e*S **Sn 21 04 56.4 -0.8**
YSS Yuzh-Sakhalins 7.52 271⇑ *e*P **Pn 21 04 02.0 +2.9**
YSS AMB AMB 21 04 07.8
comp=Z,190nm,1.0s
YSS AMB AMB 21 04 07.8
comp=Z,160nm,1.0s
YSS *e*S **Sn 21 05 24.0 +1.0**
YSS A 21 05 25.0
comp=Z,60nm,1.0s
YSS *e*LQ 21 05 41.0
YSS AMS AMS 21 06 47.0
comp=Z,3μm,15.0s
YSS AMS AMS 21 06 47.0
comp=Z,2μm,15.0s
YSS AMS AMS 21 06 47.0
comp=Z,3μm,16.0s
YSS Yuzh-Sakhalins 7.52 271⇑ *e*PN **Pn 21 04 02.0 +2.9**
YSS pmax pmax
comp=E,160nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=E,3μm,16.0s
YSS Yuzh-Sakhalins 7.52 271 *e*P **Pn 21 03 60.0 +0.9**
comp=E,321nm,0.9s
UGL Uglegorsk 8.00 287 *e*PN **Pn 21 04 09.3 +3.6**
UGL *e* 21 05 44.0
UGL pmax pmax
comp=Z,81nm,0.4s
UGL MLR MLR
comp=N,4μm,14.0s
UGL MLR MLR
comp=E,3μm,14.0s
UGL MLR MLR
comp=Z,3μm,14.0s
TYV Tymovskoe 8.08 300 *e*P **Pn 21 04 09.0 +2.2**
TYV AMB AMB 21 04 14.5
comp=Z,184nm,1.0s
ASAJ Asahikawa 8.46 251 Pn **Pn 21 04 13.5 +1.4**
comp=Z,4.2nm,0.3s,baz=80,slow=12,SNR=10
ASAJ Asahikawa 8.46 251 PN **Pn 21 04 13.5 +1.4**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ERM Erimo 9.26 238 *e*PN **Pn 21 04 23.9 +0.9**
OKH Okha 9.26 316 *e*P **Pn 21 04 21.1 -2.0**
OKH *e*S **Sn 21 06 07.0 +1.1**
MA2 Magadan 12.35 353 *e*PN **Pn 21 05 06.5 +1.2**
MA2 pmax pmax
comp=N,20nm,0.5s
MA2 pmax pmax
comp=Z,30nm,0.5s
MA2 Magadan 12.35 353 *e*P **Pn 21 05 06.3 +1.0**
comp=Z,40nm,0.7s
HABR Khabarovsk 12.60 282⇑ *i*PN **Pn 21 05 14.0 +5.3**
HABR *e*S **Sn 21 07 39.0 +11**
HABR pmax pmax
comp=Z,108nm,1.5s
KLR Kul'dur 14.76 285 *e*P **Pn 21 05 39.0 +1.1**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,54nm,1.6s
SEY Seymchan 15.61 358 *e*P **Pn 21 05 52.1 +3.1**
MAJO Matsushiro 15.81 232 *e*P **Pn 21 05 46.8 -4.8**
MAJO pmax pmax
comp=Z,47nm,0.8s
MAJO Matsushiro 15.81 232 *e*P **Pn 21 05 46.8 -4.8**
comp=Z,49nm,0.8s
MAT Matsushiro 15.81 232 P **Pn 21 05 48.6 -3.0**
MAT S **S 21 08 49.0 -9.4**
MJAR Matsushiro Arr 15.81 232 Pn **Pn 21 05 48.7 -2.8**
comp=Z,0.3nm,0.3s,baz=30,slow=11,SNR=13
MDJ Mudanjiang 17.00 270 *e*P **Pn 21 06 07.9 +1.3**
comp=Z,57nm,0.9s
ZEA Zeya 17.94 301 *e*P **Pn 21 06 16.1 -2.1**
ZEA AMB AMB 21 06 18.9
comp=Z,43nm,1.2s
ZEA AMB AMB 21 06 18.9
comp=Z,64nm,1.2s
CLNS Chul'man 19.96 309 *e*P **Pn 21 06 43.0 +0.6**
CLNS *e* 21 06 59.9
CLNS *e* 21 10 47.4
CLNS *e*SS 21 11 08.1
CLNS pmax pmax
comp=Z,42nm,1.0s
CLNS pmax pmax
comp=N,38nm,0.9s
CLNS pmax pmax
comp=E,51nm,1.1s
CLNS pmax pmax
comp=N,74nm,1.1s
CLNS pmax pmax
comp=Z,112nm,1.1s
CLNS pmax pmax
comp=E,71nm,1.0s
CLNS MLR MLR
comp=E,2μm,14.0s
CLNS MLR MLR
comp=Z,900nm,14.0s
CLNS MLR MLR
comp=N,500nm,15.0s
YAK Yakutsk 20.04 326 *e*P **P 21 06 42.4 +1.1**
YAK *e* 21 07 06.6
YAK *e*S **S 21 10 30.3 +6.2**
YAK *e*SS 21 10 45.4
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,36nm,1.1s
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,103nm,1.5s
YAK pmax pmax
comp=E,54nm,1.4s
YAK smax
comp=N,409nm,2.3s
YAK smax
comp=Z,94nm,1.3s
YAK smax
comp=E,225nm,1.8s
YAK MLR MLR
comp=Z,753nm,13.0s,MS4.2
YAK MLR MLR
comp=N,685nm,17.0s,MS4.2
YAK MLR MLR
comp=E,736nm,17.0s,MS4.2
YAK Yakutsk 20.04 326 *e*P **P 21 06 41.1 -0.2**
comp=E,66nm,0.8s
CN2 Changchun 20.09 270 *e*P **P 21 06 41.6 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.1s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.4
CN2 LR LR
comp=E,1μm,15.0s,MS4.4
CN2 LR LR
comp=Z,1μm,16.0s,MS4.3
KSRS Korea Array 21.41 252 P **P 21 06 55.5 -0.6**
comp=Z,11nm,0.7s,mb4.3,baz=62,slow=10,SNR=24
BILL Bilibino 21.68 13 *e*P **P 21 06 56.7 -2.3**
BILL pmax pmax
comp=Z,27nm,1.1s,mb4.6
BILL Bilibino 21.68 13 *e*P **P 21 06 56.3 -2.7**
comp=Z,41nm,1.2s,mb4.7
INCN Inchon 22.23 253 *e*P **P 21 07 04.9 +0.1**
comp=Z,51nm,0.8s,mb5.0
HIA Hailar 22.59 287 *e*P **P 21 07 09.6 +0.9**
HIA Hailar 22.59 287 P **P 21 07 09.6 +0.9**
comp=Z,5.5nm,0.6s,mb4.2
BOD Bodaibo 25.94 309 *e*P **P 21 07 37.5 -2.6**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.3
TIXI Tiksi 27.00 343 *e*P **P 21 07 47.0 -2.7**
TIXI pmax pmax
comp=Z,17nm,1.2s,mb4.5
TIXI Tiksi 27.00 343 *e*P **P 21 07 47.0 -2.7**
comp=Z,17nm,1.2s,mb4.5
BJI Beijing 27.93 269 *e*P **P 21 07 59.5 +1.5**
BJI AMB AMB
comp=Z,12nm,1.2s,mb4.4
BJI LR LR
comp=N,363nm,17.6s,MS4.3
BJI LR LR
comp=E,550nm,17.0s,MS4.3
BJI LR LR
comp=Z,560nm,17.0s,MS4.2
BJI Beijing 27.93 269 *e*P **P 21 07 59.5 +1.5**
comp=Z,12nm,1.2s,mb4.4
BJI LR LR
comp=Z,560nm,17.0s,MS4.2
NJ2 Nanjing 30.61 253 *e*P **P 21 08 23.8 +2.1**
NJ2 AP pP 21 08 27.0 -6.8
NJ2 XP sP 21 08 31.8 -7.4
NJ2 PP PP 21 09 23.8 -7.6
NJ2 S **S 21 13 23.0 +2.3**
NJ2 AMB AMB
comp=Z,260nm,4.2s
NJ2 LR LR
comp=N,4μm,17.6s,MS5.3
NJ2 LR LR
comp=E,3μm,13.5s,MS5.3
NJ2 LR LR
comp=Z,2μm,14.4s,MS5.0
HHC Hu-ho-hao-te 30.70 273 *e*P **P 21 08 22.6 +0.1**
HHC AP pP 21 08 27.1 -7.5
HHC XP sP 21 08 29.6 -10
HHC PP PP 21 09 22.8 -10
HHC PCP PcP 21 11 20.8 +1.2
HHC S **S 21 13 24.3 +2.2**
HHC SCP ScP 21 15 02.3 +3.9
HHC SS SS 21 15 03.5 -31
HHC SCS ScS 21 18 57.3 +2.4
HHC AMB AMB
comp=Z,25nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,199nm,8.6s
HHC LR LR
comp=N,843nm,14.7s,MS4.7
HHC LR LR
comp=E,764nm,14.2s,MS4.7
HHC LR LR
comp=Z,810nm,15.7s,MS4.5
ULN Ulaanbaatar 31.12 288 *e*P **P 21 08 25.5 -0.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
ULN Ulaanbaatar 31.12 288 *e*P **P 21 08 24.9 -1.3**
comp=Z,3.3nm,0.8s,mb4.2
SONM Songino Array 31.55 289 P **P 21 08 28.1 -2.0**
comp=Z,1.7nm,0.7s,baz=68,slow=7.1,SNR=9.1
SONM PcP PcP 21 11 21.1 -0.7
comp=Z,3.1nm,0.8s,baz=117,slow=2.8,SNR=8.1
ZAK Zakamensk 32.82 294 *e*P **P 21 08 41.1 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
IMA2 Indian Mountai 33.04 36 *e*P **P 21 08 43.2 +0.1**
KDAK Kodiak Island 33.37 52 P **P 21 08 44.7 -1.3**
comp=Z,64nm,0.7s,mb5.7,baz=280,slow=4.8,SNR=30
KDAK Kodiak Island 33.37 52 P **P 21 08 44.7 -1.3**
WHN Wuhan 34.52 255 *e*P **P 21 08 54.5 -1.5**
PMR Palmer 34.84 45 *e*P **P 21 08 58.7 -0.1**
PMR pmax pmax
comp=Z,99nm,1.4s,mb5.5
PMR MLR MLR
comp=Z,1μm,17.0s,MS4.6
PMR Palmer 34.84 45 *e*P **P 21 08 58.7 -0.1**
comp=Z,98nm,1.4s,mb5.5
PMR LR LR
comp=Z,1μm,17.0s,MS4.6
MCK McKinley 34.89 41 P **P 21 08 59.3 +0.1**
MCK pmax pmax
comp=Z,59nm,1.1s,mb5.4
MCK McKinley 34.89 41 *e*P **P 21 08 58.7 -0.5**
comp=Z,59nm,1.1s,mb5.4
SML Sawmill 35.21 44 *e*P **P 21 09 01.8 -0.2**
COLA College 35.37 39 P **P 21 09 03.6 +0.3**
COLA pmax pmax
comp=Z,110nm,0.8s,mb5.8
COLA College 35.37 39 *e*P **P 21 09 03.3 0.0**
comp=Z,108nm,0.8s,mb5.8
XAN Xi'an 36.01 265 P **P 21 09 08.3 -0.5**
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.8
DIV Divide 36.49 45 *e*P **P 21 09 12.7 -0.2**
comp=Z,300nm,0.9s,mb6.2
EGAK Eagle 38.24 39 *e*P **P 21 09 26.9 -0.8**
comp=Z,109nm,0.9s,mb5.6
LZH Lanzhou 38.31 271 *e*P **P 21 09 29.6 +1.3**
LZH AP pP 21 09 32.5 -8.1
LZH PP PP 21 11 00.4 +3.9
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,103nm,4.9s
LZH LR LR
comp=E,631nm,13.3s
LZH LR LR
comp=Z,1μm,14.5s,MS4.8
LZH Lanzhou 38.31 271 *e*P **P 21 09 29.6 +1.3**
comp=Z,20nm,1.0s,mb4.8
LZH pP pP 21 09 32.5 -8.1
LZH sP sP 21 09 34.5 -11
LZH PP PP 21 11 00.4 +3.9
LZH LR LR
comp=Z,1μm,14.5s,MS4.8
DAWY Dawson 39.08 40 *e*P **P 21 09 34.5 -0.3**
GTA Gaotai 39.31 279 *e*P **P 21 09 38.8 +2.1**
GTA AP pP 21 09 49.3 +0.3
GTA PP PP 21 11 14.0 +6.6
GTA PPP 21 11 39.5
GTA PCP PcP 21 11 44.8 +0.2
GTA AMB AMB
comp=Z,7.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,125nm,4.6s
GTA LR LR
comp=N,419nm,11.8s,MS4.6
GTA LR LR
comp=E,370nm,14.1s,MS4.6
GTA LR LR
comp=Z,706nm,15.2s,MS4.6
INK Inuvik 40.89 33 P **P 21 09 50.5 +0.7**
comp=Z,48nm,0.7s,mb5.2,baz=293,slow=6.8,SNR=85
INK Inuvik 40.89 33 *e*P **P 21 09 50.3 +0.6**
INK pmax pmax
comp=Z,47nm,0.7s
INK Inuvik 40.89 33 P **P 21 09 50.5 +0.7**
CD2 Chengdu 41.38 265 *e*P **P 21 09 53.6 -0.1**
CD2 AP pP 21 09 58.1 -8.0
CD2 XP sP 21 10 00.8 -11
CD2 PP PP 21 11 32.8 +2.9
CD2 AMB AMB
comp=Z,60nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,150nm,5.8s
CD2 LR LR
comp=N,510nm,16.8s,MS4.6
CD2 LR LR
comp=E,430nm,14.4s,MS4.6
CD2 LR LR
comp=Z,780nm,16.8s,MS4.7
SKAG Skagway 41.91 46 *e*P **P 21 09 58.9 +0.8**
GYA Guiyang 42.28 257⇑ *i*P **P 21 10 01.3 +0.1**
GYA AP pP 21 10 05.4 -8.1
GYA XP sP 21 10 08.9 -10
GYA PP PP 21 11 43.6 +3.9
GYA PCP PcP 21 11 57.5 +3.2
GYA S **S 21 16 23.0 +4.3**
GYA SCS ScS 21 20 03.1 +3.9
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,180nm,5.0s
GYA LR LR
comp=N,640nm,17.6s,MS4.7
GYA LR LR
comp=E,670nm,17.4s,MS4.7
GYA LR LR
comp=Z,620nm,17.8s,MS4.5
ZAL Zalesovo 42.62 305 P **P 21 10 01.6 -2.4**
comp=Z,2.8nm,0.5s,mb4.2,baz=46,slow=6.9,SNR=7.1
ZAL PcP PcP 21 11 53.6 -1.8
comp=Z,4.1nm,0.8s,baz=335,slow=1.9,SNR=6.8
ZAL Zalesovo 42.62 305 P **P 21 10 01.6 -2.3**
ZAL 21 11 53.6
ZAL pmax pmax
comp=Z,3.0nm,0.5s
NVS Novosibirsk 43.16 307 *e*P **P 21 10 06.8 -1.5**
NVS *e*S **S 21 16 29.1 -2.5**
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
NVS smax
comp=N,11nm,1.9s
NVS smax
comp=E,10.0nm,1.8s
DLBC Dease Lake 44.84 46 *e*P **P 21 10 23.3 +1.5**
WMQ Urumqi 45.12 291⇑ *i*P **P 21 10 25.1 +1.2**
WMQ AP pP 21 10 30.1 -6.3
WMQ XP sP 21 10 32.1 -10
WMQ PCP PcP 21 12 06.1 +2.2
WMQ PP PP 21 12 11.4 +1.5
WMQ PPP 21 12 52.3
WMQ S **S 21 17 03.3 +3.3**
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,98nm,5.5s
WMQ LR LR
comp=N,410nm,17.6s,MS4.6
WMQ LR LR
comp=E,561nm,19.6s,MS4.6
WMQ LR LR
comp=Z,514nm,19.6s,MS4.5
QIZ Qiongzhong 45.50 247 P **P 21 10 28.3 +1.3**
QIZ S **S 21 17 13.6 +8.0**
QIZ AMB AMB
comp=Z,328nm,3.4s
QIZ LR LR
comp=E,462nm,21.2s
QIZ LR LR
comp=Z,428nm,23.9s,MS4.3
KMI Kunming 45.79 259 P **P 21 10 29.4 +0.1**
KMI XP sP 21 10 38.5 -8.6
KMI AMB AMB
comp=Z,26nm,1.0s,mb5.1
KMI Kunming 45.79 259 P **P 21 10 29.4 +0.1**
comp=Z,26nm,1.0s,mb5.1
KMI sP sP 21 10 38.5 -8.6
MK31 Makanchi Array 47.05 297 P **P 21 10 38.1 -1.0**
MK31 Makanchi Array 47.05 297 *e*P **P 21 10 37.8 -1.3**
MKAR Makanchi Array 47.05 297 P **P 21 10 38.1 -1.0**
comp=Z,7.5nm,0.9s,mb4.6,baz=64,slow=8.5,SNR=20
MKAR PcP PcP 21 12 10.3 -0.4
comp=Z,3.3nm,0.7s,baz=60,slow=5.5,SNR=4.6
MKAR Makanchi Array 47.05 297 P **P 21 10 38.1 -1.0**
MKAR 21 12 10.3
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 47.05 297 P **P 21 10 38.1 -1.0**
MKAR PcP PcP 21 12 10.3 -0.4
KURK Kurchatov 47.39 303 P **P 21 10 40.4 -1.4**
comp=Z,152nm,0.8s,mb6.0,SNR=16
KKH Kailua Kona 49.07 107 P **P 21 10 58.9 +4.1**
ALE Alert 49.08 6 P **P 21 10 54.0 -0.8**
comp=Z,98nm,0.8s,mb5.9,SNR=8.6
RES Resolute Bay 50.10 19 P **P 21 11 03.1 +0.5**
RES pmax pmax
comp=Z,33nm,0.8s,mb5.4
RES Resolute Bay 50.10 19 *e*P **P 21 11 02.8 +0.1**
comp=Z,1μm,0.8s
YKA Yellowknife Ar 50.16 37 P **P 21 11 03.4 +0.4**
comp=Z,38nm,0.8s,mb5.5,baz=298,slow=7.3,SNR=24
YKA Yellowknife Ar 50.16 37 P **P 21 11 03.4 +0.4**
YKA pmax pmax
comp=Z,38nm,0.8s
YKA Yellowknife Ar 50.16 37 P **P 21 11 03.4 +0.4**
CHKZ Chkalovo 50.37 310 P **P 21 11 03.2 -1.4**
CHKZ pmax pmax
comp=Z,46nm,0.7s,mb5.6
CHKZ Chkalovo 50.37 310 *e*P **P 21 11 03.0 -1.7**
comp=Z,46nm,0.7s,mb5.6
LSA Lhasa 50.68 273 P **P 21 11 08.3 +1.3**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
BVAR Borovoye Array 50.81 309 P **P 21 11 07.0 -0.9**
comp=Z,15nm,0.7s,mb5.0,baz=54,slow=8.0,SNR=35
BVAR Borovoye Array 50.81 309 P **P 21 11 07.0 -0.9**
BVAR pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 50.85 309 P **P 21 11 07.1 -1.1**
comp=Z,180nm,0.7s,mb6.1,SNR=15
BRVK Borovoye 50.85 309 ⇓P **P 21 11 07.8 -0.5**
SNR=6.8
BRVK Borovoye 50.85 309 P **P 21 11 07.1 -1.1**
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.9
BRVK Borovoye 50.85 309 *e*P **P 21 11 06.9 -1.3**
comp=Z,21nm,0.8s,mb5.1
ZRNK Zerenda 51.57 310 *e*P **P 21 11 12.3 -1.3**
ZRNK pmax pmax
comp=Z,48nm,0.4s,mb5.8
ZRNK Zerenda 51.57 310 *e*P **P 21 11 12.3 -1.4**
comp=Z,48nm,0.4s,mb5.8
CHTO Chiang Mai 52.69 257 P **P 21 11 22.7 +0.7**
SNR=11
CHTO Chiang Mai 52.69 257 *e*P **P 21 11 22.1 +0.1**
CHTO pmax pmax
comp=Z,25nm,0.9s,mb5.1
CHTO Chiang Mai 52.69 257 *e*P **P 21 11 21.9 -0.1**
comp=Z,26nm,0.8s,mb5.2
CM31 Chiang Mai Arr 52.95 256 P **P 21 11 24.1 +0.2**
comp=Z,11nm,0.8s,mb4.8

D04A **Dobbs Creek Ra** 53.93 57 ⇑P P 21 11 31.6 +0.5
baz=54
AAK **Ala-Archa** 53.96 296 P P 21 11 23.6 -7.7
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
C05A **Tolt Reservoir** 54.24 56 ⇓P P 21 11 33.5 +0.2
baz=54
B07A **Winthrop** 54.69 54 ⇑P P 21 11 36.2 -0.4
baz=54
KSH **Kashi** 54.83 292 *e*P P 21 11 39.9 +2.3
KSH *e*AP pP 21 11 44.5 -5.8
KSH *e*XP sP 21 11 48.0 -7.6
KSH *e*PCP PcP 21 12 39.3 -0.1
KSH *e*PP PP 21 13 45.8 +5.2
KSH *e*S **S** **21 19 16.4 +1.1**
KSH *e*SCS ScS 21 21 24.9 +2.0
KSH *e*SS SS 21 22 57.9 -1.0
KSH LR LR
comp=N,1μm,5.6s
KSH LR LR
comp=E,1μm,8.1s
ARU **Arti** 54.85 317 P P 21 11 36.6 -1.2
comp=E,205nm,0.7s,mb6.3,SNR=13
ARU **Arti** 54.85 317⇑ *e*P P 21 11 35.8 -2.0
ARU pmax pmax
comp=Z,36nm,1.2s,mb5.3
ARU **Arti** 54.85 317 *e*P P 21 11 36.4 -1.4
comp=Z,7.6nm,0.8s,mb4.8
A08A **Turner Farm, O** 54.88 54 P P 21 11 38.2 +0.2
baz=55,SNR=5.8
D06A **Cle Elum** 54.99 56 ⇓P P 21 11 39.7 +1.0
baz=55
C07A **Waterville** 55.15 55 ⇓P P 21 11 39.5 -0.5
baz=55
B08A **Colville Reser** 55.18 54 ⇓P P 21 11 40.5 +0.4
baz=55
A09A **Danville** 55.24 53 P P 21 11 41.0 +0.5
baz=55,SNR=6.9
JIRN **Jiri** 55.34 275 *e*P P 21 11 41.9 +0.6
comp=Z,90nm,0.8s,mb5.9
GUN **Gumba** 55.39 275 *e*P P 21 11 42.2 +0.6
EDM **Edmonton** 55.56 47 P P 21 11 42.7 -0.2
EDM **Edmonton** 55.56 47 *e*P P 21 11 42.5 -0.4
J02A **Umpqua** 55.59 61 ⇑P P 21 11 43.4 +0.3
baz=55
H04A **Detroit Lake** 55.65 59 ⇑P P 21 11 43.8 +0.3
baz=56
C08A **Higginbotham F** 55.66 55 ⇑P P 21 11 43.7 +0.1
baz=56
B09A **Rice** 55.79 54 ⇑P P 21 11 45.1 +0.6
baz=56
A10A **Northport** 55.80 53 ⇓P P 21 11 44.7 +0.1
baz=56
F06A **Goldendale** 55.84 57 ⇓P P 21 11 44.8 0.0
baz=56
KKN **Kakani** 55.87 275 *e*P P 21 11 45.7 +0.6
comp=Z,94nm,0.9s,mb5.8
E07A **Sunnyside** 55.91 56 ⇓P P 21 11 45.6 +0.2
baz=56
PKI **Pulchoki** 55.92 275 *e*P P 21 11 45.8 +0.3
J03A **Ideyld Park** 55.95 61 ⇑P P 21 11 45.4 -0.2
baz=56
K02A **Glendale** 55.98 62 ⇓P P 21 11 46.6 +0.6
baz=56
I04A **Tendick Farm,** 56.03 60 ⇓P P 21 11 45.8 -0.4
baz=56
DAG **Danmarks Havn** 56.04 358⇑ *i*P P 21 11 45.8 -0.5
comp=Z,9.2nm,0.5s,mb5.1
DAG pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
C09A **Chrisman Ranch** 56.08 54 ⇓P P 21 11 46.5 -0.1
baz=56
DMN **Daman** 56.10 275 *e*P P 21 11 47.6 +0.8
comp=Z,142nm,0.9s,mb6.0
D08A **Wollman Farm,** 56.15 55 ⇑P P 21 11 46.4 -0.7
baz=56
GKN **Gorkha** 56.17 276 *e*P P 21 11 47.8 +0.6
comp=Z,121nm,0.8s,mb6.0
H05A **Madras** 56.23 59 ⇑P P 21 11 47.0 -0.7
baz=56
F07A **Phinny Hill Vi** 56.25 57 ⇓P P 21 11 48.1 +0.2
baz=56
HUMO **Hull Mountain** 56.40 62 ⇓P P 21 11 48.8 0.0
baz=56
E08A **Dider Farm, El** 56.40 56 ⇑P P 21 11 48.8 -0.1
baz=56
A11A **Hail Mountain,** 56.45 52 ⇓P P 21 11 49.8 +0.5
baz=56,SNR=5.8
I05A **Bend** 56.49 59 ⇓P P 21 11 49.4 0.0
baz=56
D09A **Jones Farm, Ri** 56.49 55 ⇓P P 21 11 48.8 -0.7
baz=56
J04A **Umpqua Nationa** 56.53 61 ⇑P P 21 11 50.1 +0.3
baz=56
H06A **Lindquist Farm** 56.70 58 ⇓P P 21 11 50.6 -0.4
baz=56
B11A **Sandpoint** 56.76 53 P P 21 11 51.9 +0.5
baz=56,SNR=5.3
A12A **Yaak River Ran** 56.85 52 ⇑P P 21 11 52.2 +0.2
baz=57
E09A **Wood Farm, Sta** 56.90 55 P P 21 12 52.6 +0.2
baz=57,SNR=8.3
KEV **Kevo** 56.90 341 *e*p P 21 11 48.9 -3.5
F08A **Pendleton** 56.96 56 ⇓P P 21 11 52.8 -0.1
baz=57
J05A **Fort Rock** 57.02 60 ⇑P P 21 11 54.2 +0.9
baz=57
KOLN **Koldanda** 57.02 276 *e*P P 21 11 53.9 +0.6
comp=Z,110nm,0.8s,mb5.9
YBH **Yreka Blue Hor** 57.06 62 P P 21 11 53.4 -0.2
comp=Z,6.0nm,1.0s,mb4.6,baz=323,slow=6.2,SNR=4.1
YBH **Yreka Blue Hor** 57.06 62 P P 21 11 53.4 -0.2
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH **Yreka Blue Hor** 57.06 62 ⇑P P 21 11 54.2 +0.7
baz=57
G08A **Pilot Rock** 57.16 57 ⇓P P 21 11 54.5 +0.3
baz=57
M02C **Callahan** 57.17 63 ⇓P P 21 11 53.8 -0.6
baz=57
I06A **Prineville** 57.23 59 ⇓P P 21 11 54.1 -0.7
baz=57
L04A **Klamath Falls** 57.29 62 ⇑P P 21 11 55.5 +0.3
baz=57
ARCES **ARCESS Array B** 57.41 341 P P 21 11 54.9 -1.1
comp=Z,9.1nm,0.8s,mb4.8,baz=33,slow=7.7,SNR=11
ARCES **ARCESS Array B** 57.41 341 P P 21 11 54.9 -1.1
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES **ARCESS Array B** 57.41 341 P P 21 11 54.9 -1.1
E10A **Myers Farm, Un** 57.49 55 ⇑P P 21 11 56.9 +0.2
baz=57
M04C **Macdoel** 57.55 62 ⇓P P 21 11 56.4 -0.6
baz=57
K05A **Summer Lake** 57.55 60 ⇑P P 21 11 57.0 0.0
baz=57
I07A **Izee** 57.56 58 ⇓P P 21 11 56.7 -0.4
baz=57
D11A **Klaveano Farm,** 57.59 54 ⇑P P 21 11 56.6 -0.7
baz=57
F10A **Beach Ranch, E** 57.73 56 ⇓P P 21 11 59.2 +0.9
baz=58
H08A **Prairie City** 57.78 58 ⇑P P 21 11 58.6 0.0
baz=58
B13A **Whitefish** 57.81 52 P P 21 11 59.7 +0.8
baz=58,SNR=14
K06A **Valley Falls** 57.89 60 ⇓P P 21 11 59.7 +0.3
baz=58,SNR=5.5
O02C **Red Bluff** 57.94 64 ⇑P P 21 12 00.5 +0.7
baz=58
L05A **Lakeview** 57.99 61 ⇓P P 21 12 00.5 +0.3
baz=58
J07A **Hines** 58.10 59 ⇓P P 21 12 00.8 0.0
baz=58
C13A **Hot Springs** 58.17 53 ⇑P P 21 12 01.6 +0.2
baz=58
I08A **Drewsey** 58.20 58 ⇓P P 21 12 01.2 -0.3
baz=58
M05C **Lookout** 58.22 62 ⇓P P 21 12 01.8 0.0
baz=58
H09A **Durkee** 58.27 57 ⇓P P 21 12 03.3 +1.2
baz=58
GASB **Alder Springs** 58.30 64 ⇓P P 21 12 02.7 +0.4
baz=58
HATC **Hat Creek Radi** 58.36 63 ⇑P P 21 12 01.8 -0.9
baz=58

F11A **Grangeville** 58.38 55 ⇓P P 21 12 03.1 +0.2
baz=58
MOD **Modoc** 58.40 61 ⇓P P 21 12 03.0 0.0
baz=58
K07A **Rock Creek Ran** 58.54 60 ⇑P P 21 12 04.0 0.0
baz=58
D13A **Huson** 58.59 53 ⇑P P 21 12 03.6 -0.7
baz=58,SNR=5.2
J08A **Circle Bar Ran** 58.59 59 ⇑P P 21 12 04.6 +0.3
baz=58
G11A **Walters Elk Ra** 58.62 56 ⇓P P 21 12 04.7 +0.3
baz=58
I09A **Lost Marbles R** 58.64 58 ⇑P P 21 12 04.6 0.0
baz=58
O04C **Chester** 58.89 63 ⇑P P 21 12 06.4 +0.1
baz=59
L07A **Adell** 58.90 60 ⇑P P 21 12 07.1 +0.7
baz=59
ELFS **Eagle Lake Fie** 58.92 62 ⇑P P 21 12 06.4 -0.3
baz=59
MNRC **McLaughlin Nat** 58.95 65 ⇓P P 21 12 07.2 +0.4
baz=59
K08A **Mann Creek Ran** 58.97 59 ⇓P P 21 12 06.9 0.0
baz=59,SNR=7.3
J09A **Fry Pan Ranch,** 59.02 58 ⇓P P 21 12 07.2 0.0
baz=59,SNR=5.5
MSO **Missoula** 59.03 53 *e*P P 21 12 07.6 +0.2
comp=Z,32nm,1.3s,mb5.2
WVOR **Wild Horse Val** 59.06 60 *e*P P 21 12 07.5 0.0
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WVOR **Wild Horse Val** 59.06 60 *e*P P 21 12 07.5 -0.1
comp=Z,7.1nm,0.9s,mb4.7
ORV **Oroville** 59.11 64 P P 21 12 08.3 +0.4
baz=59
D14A **Greenough** 59.11 53 P P 21 12 08.0 +0.1
baz=58,SNR=17
E13A **Victor** 59.13 54 P P 21 12 09.1 +1.0
baz=59,SNR=5.6
H11A **Donnelly** 59.18 56 P P 21 12 08.9 +0.5
baz=59,SNR=6.0
CHMT **Chamberlain Mo** 59.35 53 *e*P P 21 12 09.2 -0.4
L08A **Fields** 59.38 60 ⇓P P 21 12 10.4 +0.7
baz=59
N06A **Buffalo Meadow** 59.38 62 ⇑P P 21 12 10.1 +0.4
baz=59
M07A **Soldier Meadow** 59.38 61 ⇓P P 21 12 10.5 +0.7
baz=59
K09A **Rome** 59.43 59 ⇓P P 21 12 09.8 -0.3
baz=59
F13A **Darby** 59.45 54 P P 21 12 10.6 +0.3
baz=59,SNR=11
ORR **Orenburg** 59.53 314 *e*P P 21 12 09.7 -1.1
ORR pmax pmax
comp=Z,20nm,1.0s,mb5.1
E14A **Clinton** 59.53 53 P P 21 12 11.1 +0.3
baz=59,SNR=7.6
BEKR **Beckwourth** 59.61 63 P P 21 12 11.3 0.0
baz=59,SNR=5.0
D15A **Lincoln** 59.67 52 P P 21 12 12.4 +0.6
baz=59,SNR=5.7
O06A **Flanigan** 59.74 62 ⇑P P 21 12 11.7 -0.6
baz=60
N07B **Gerlach** 59.88 61 ⇑P P 21 12 12.9 -0.3
baz=60
L09A **Wilkinson Ranc** 59.88 59 ⇑P P 21 12 13.9 +0.7
baz=60
F14A **Wisdom** 59.97 54 ⇓P P 21 12 14.1 +0.3
baz=60
FFC **Flin Flon** 59.98 40 P P 21 12 14.7 +0.8
comp=Z,494nm,0.7s,SNR=15
FFC **Flin Flon** 59.98 40 P P 21 12 14.1 +0.2
E15A **Deer Lodge** 59.99 53 P P 21 12 14.5 +0.6
baz=60,SNR=10
SUMG **Summit** 60.05 4 *e*P P 21 12 14.5 +0.2
comp=Z,105nm,0.8s,mb5.9
O07A **Toulon** 60.32 62 ⇓P P 21 12 16.6 +0.4
baz=60
WCN **Washoe City** 60.32 63 ⇑P P 21 12 16.4 +0.1
baz=60
N08A **GE Springer Mi** 60.38 61 ⇑P P 21 12 16.7 +0.1
baz=60
M09A **Marrel Ranch,** 60.38 60 ⇑P P 21 12 17.9 +1.3
baz=60
F15A **Butte** 60.43 53 P P 21 12 17.7 +0.7
baz=60,SNR=17
R05C **Kirkwood Meado** 60.51 64 ⇓P P 21 12 17.3 -0.2
baz=60
EGMT **Eagleton** 60.52 50 *e*P P 21 12 17.1 -0.5
comp=Z,54nm,1.1s,mb5.6
EGMT **Eagleton** 60.52 50 P P 21 12 18.2 +0.6
baz=60,SNR=11
N09A **Rock Creek Ran** 60.69 60 ⇑P P 21 12 19.1 +0.4
baz=60
CMB **Columbia Colle** 60.73 65 ⇓P P 21 12 19.5 +0.5
baz=60
HLID **Hailey** 60.79 56 P P 21 12 19.9 +0.5
baz=61,SNR=9.0
PACP **Pacheco Peak** 60.82 66 ⇓P P 21 12 19.5 -0.1
baz=61
M10A **I.L. Ranch, Tu** 60.85 59 P P 21 12 20.9 +1.1
baz=61,SNR=7.6
G15A **Dillon** 60.86 54 P P 21 12 20.4 +0.5
baz=61,SNR=11
R06C **Coleville** 61.00 64 ⇓P P 21 12 21.3 +0.5
baz=61
S06C **San Francisco** 61.16 64 P P 21 12 22.1 +0.2
baz=61,SNR=5.7
S05C **Merced** 61.20 65 ⇑P P 21 12 22.1 -0.1
baz=61
O09A **Fish Creek Ran** 61.32 61 ⇓P P 21 12 23.4 +0.4
baz=61
M11A **Holland Ranch,** 61.34 59 P P 21 12 24.5 +1.3
baz=61,SNR=5.2
R07C **Lee Vining** 61.52 64 ⇑P P 21 12 24.8 +0.5
baz=61
U04C **Hernandez Rese** 61.55 66 ⇓P P 21 12 25.1 +0.5
baz=61
O10A **Cortez Mining,** 61.65 60 ⇓P P 21 12 25.6 +0.4
baz=61
QLMT **Earthquake Lak** 61.65 54 *e*P P 21 12 25.7 +0.5
Q08A **Gabbs** 61.70 62 ⇓P P 21 12 24.8 -0.8
baz=62
T06C **Millerton Lake** 61.80 65 ⇓P P 21 12 26.8 +0.5
baz=62
KCC **Kaiser Creek** 61.84 65 ⇑P P 21 12 26.1 -0.5
baz=62
M12A **Wells** 61.86 59 P P 21 12 27.9 +1.2
baz=62,SNR=8.0
GCMT **Greycliff** 61.99 52 *e*P P 21 12 28.7 +1.2
N12A **Clover Valley,** 62.15 59 ⇓P P 21 12 29.3 +0.7
baz=62
YFT **Old Faithful** 62.22 54 *e*P P 21 12 31.2 +2.1
O11A **Cowboy Ranch,** 62.25 60 ⇑P P 21 12 29.4 +0.1
baz=62
S08C **White Mtn Res** 62.43 64 ⇑P P 21 12 31.0 +0.5
baz=62
HELL **Mitchell Peak,** 62.43 65 ⇑P P 21 12 29.4 -1.1
baz=62
P11A **Circle Ranch,** 62.56 61 ⇑P P 21 12 31.2 -0.2
baz=62
R09A **Tonopah** 62.62 62 P P 21 12 31.7 0.0
baz=62,SNR=8.1
O12A **Currie** 62.70 59 P P 21 12 32.6 +0.4
baz=62,SNR=6.3
S09A **Goldfield** 62.86 63 ⇑P P 21 12 32.6 -0.8
baz=63
HVU **Hansel Valley** 62.86 57 P P 21 12 25.5 -7.8
HVU pmax pmax
comp=Z,12nm,0.6s,mb5.2
VES **Vestal, Richgr** 62.94 66 ⇑P P 21 12 33.1 -0.7
baz=63
R10A **Warm Springs** 63.05 62 ⇓P P 21 12 33.5 -1.1
baz=63
DGMT **Dagmar** 63.06 47 *e*P P 21 12 34.2 -0.5
comp=Z,108nm,1.3s,mb5.8
Q11A **Duckwater** 63.08 61 ⇑P P 21 12 34.3 -0.5
baz=63
P12A **McGill** 63.12 60 ⇓P P 21 12 35.8 +0.8
baz=63
GRAC **Grapevine Rang** 63.24 64 ⇓P P 21 12 36.1 +0.2
baz=63
ISA **Isabella** 63.43 65 P P 21 12 36.4 -0.7
baz=63,SNR=5.3
Q12A **Willow Creek R** 63.44 61 ⇑P P 21 12 37.6 +0.5
baz=63
FIA1 **FINESS Array S** 63.66 335 *e*P P 21 12 36.6 -2.0
FINES **FINESS Array B** 63.66 335 P P 21 12 37.3 -1.3
comp=Z,11nm,0.5s,mb5.2,baz=40,slow=7.1,SNR=35
FINES **FINESS Array B** 63.66 335 P P 21 12 37.3 -1.4
FINES pmax pmax
comp=Z,11nm,0.5s
MPMC **Manual Prospec** 63.77 65 P P 21 12 39.2 -0.2
baz=64,SNR=9.2
DUG **Dugway** 63.87 58 *e*P P 21 12 40.2 +0.2
DUG pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
DUG **Dugway** 63.87 58 *e*P P 21 12 40.2 +0.2
comp=Z,6.2nm,0.6s,mb4.8
DUG **Dugway** 63.87 58 ⇓P P 21 12 39.8 -0.2
baz=64
FURC **Furnace Creek,** 63.89 64 ⇑P P 21 12 41.0 +0.9
baz=64
LRMC **Laurel Mountai** 64.03 65 ⇓P P 21 12 41.0 0.0
baz=64
EDW2 **Edwards Air Fo** 64.24 66 P P 21 12 42.6 +0.2
baz=64,SNR=9.0
U10A **Ash Meadows, A** 64.25 64 ⇑P P 21 12 42.7 +0.2
baz=64
SFJD **Kangerlussuaq** 64.46 10 *e*P P 21 12 43.3 -0.6
SFJD pmax pmax
comp=Z,14nm,0.8s,mb5.0
SFJD **Kangerlussuaq** 64.46 10 *e*P P 21 12 43.3 -0.6
comp=Z,14nm,0.8s,mb5.0
SHOC **Shoshone** 64.62 64 ⇓P P 21 12 44.6 -0.4
baz=64
GSC **Goldstone** 64.69 65 ⇓P P 21 12 45.0 -0.4
baz=64
BFSC **Mount Baldy St** 64.86 66 P P 21 12 46.2 -0.3
baz=65
OBN **Obninsk** 65.05 326 *e*P P 21 12 47.2 -0.5
OBN *e* 21 13 16.5
OBN pmax pmax
comp=Z,21nm,1.5s,mb5.0
ARUT **Antelope Range** 65.09 61 *e*P P 21 12 48.2 +0.2
TUQ **Turquoise Mtn.** 65.14 64 P P 21 12 48.6 +0.3
baz=65,SNR=8.3
V11A **Goodsprings** 65.18 64 ⇑P P 21 12 47.9 -0.7
baz=65
HEC **Hector,Ludlow** 65.30 65 P P 21 12 49.6 +0.2
baz=65,SNR=5.6
MSU **Marysvale** 65.35 59 *e*P P 21 12 46.5 -3.2
MURC **Murrieta** 65.57 66 ⇓P P 21 12 50.5 -0.6
baz=65
V12A **Nelson** 65.61 63 ⇑P P 21 12 51.3 -0.1
baz=65
ULM **Lac du Bonnet** 65.76 41 P P 21 12 52.0 -0.3
comp=Z,17nm,0.8s,mb5.1,baz=313,slow=6.4,SNR=21
W12A **Cal Nev Ari** 65.88 64 ⇓P P 21 12 53.0 0.0
baz=66
BELC **Belle Mtn.** 66.05 65 ⇓P P 21 12 52.9 -1.3
baz=66
IRM **Iron Mountain** 66.47 65 P P 21 12 57.0 +0.2
baz=66,SNR=6.6
W13A **Hualapai Mount** 66.61 63 ⇑P P 21 12 57.4 -0.3
baz=66
BC3 **Big Chuckw Mtn** 66.62 65 ⇑P P 21 12 56.9 -0.9
baz=66
ABKT **Ailbek** 66.66 301 P P 21 12 58.9 +0.8
comp=Z,68nm,0.8s,mb5.7,SNR=5.6
VRSR **Storozhevoye** 66.89 322 *e*P P 21 12 59.3 -0.3
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.9s
X13A **Yucca** 66.98 64 P P 21 13 00.3 +0.2
baz=67,SNR=7.5
PDMCI **Parker Dam,Lak** 66.99 64 ⇓P P 21 12 59.5 -0.7
baz=67
W14A **Seligman** 67.02 63 P P 21 13 00.9 +0.5
baz=67,SNR=7.4
Y12C **Blythe** 67.13 65 ⇑P P 21 13 01.1 0.0
baz=67
AGMN **Agassiz Refuge** 67.17 43 *e*P P 21 13 00.4 -0.9
comp=E,50nm,1.2s,mb5.4
GLA **Glamis** 67.41 65 ⇑P P 21 13 02.3 -0.6
baz=67
HYB **Hyderabad** 67.43 271 *i*P P 21 13 03.0 +0.1
HYB **Hyderabad** 67.43 271 *e*P P 21 13 03.0 +0.1
W15A **Williams** 67.53 62 ⇑P P 21 13 03.6 0.0
baz=67
X14A **Yava** 67.64 63 ⇑P P 21 13 04.6 +0.3
baz=67,SNR=7.0
NB2 **NORSAR Subarra** 67.78 341 P P 21 13 04.6 -0.6
comp=Z,58nm,0.8s,mb5.7,baz=26,slow=6.5
NOA **NORSAR Array B** 67.78 341 P P 21 13 04.8 -0.4
comp=Z,43nm,0.7s,mb5.6,baz=26,slow=6.3,SNR=136
NOA **NORSAR Array B** 67.78 341 P P 21 13 04.8 -0.4
NOA pmax pmax
comp=Z,43nm,0.7s
WUAZ **Wupatki** 67.84 61 ⇓P P 21 13 05.8 +0.3
baz=68
Y14A **Wickenburg** 67.93 64 ⇓P P 21 13 06.1 0.0
baz=68
X15A **Humboldt** 68.02 63 ⇓P P 21 13 07.0 +0.3
baz=68
NAO01 **NORSAR Array S** 68.03 341 *e*P P 21 13 05.9 -0.8
comp=Z,33nm,0.8s,mb5.4
MNK **Minsk** 68.70 330⇑ *e*P P 21 13 07.0 -4.0
MNK pmax pmax
comp=Z,110nm,1.0s,mb5.7
WB2 **Warramunga Arr** 69.24 200 *e*P P 21 13 11.7 -2.6
WRA **Warramunga Arr** 69.25 200 P P 21 13 12.7 -1.6
comp=Z,4.4nm,0.9s,mb4.4,baz=15,slow=6.8,SNR=13
WRA **Warramunga Arr** 69.25 200 P P 21 13 12.7 -1.6
WRA pmax pmax
comp=Z,4.0nm,0.9s
115A **Sonoran Desert** 69.25 64 ⇓P P 21 13 13.8 -0.6
baz=69
KONO **Kongsberg** 69.39 341 *e*P P 21 13 15.3 +0.1
KONO pmax pmax
comp=Z,44nm,0.8s,mb5.4
KONO **Kongsberg** 69.39 341 *e*P P 21 13 15.3 +0.1
comp=Z,44nm,0.8s,mb5.4
EYMN **Ely** 69.41 41 *e*P P 21 13 14.8 -0.6
comp=Z,32nm,1.0s,mb5.2
POO **Poona** 69.84 276 *e*P P 21 13 15.0 -3.0
FITZ **Fitzroy Crossi** 69.90 209 *e*P P 21 13 17.1 -1.3
comp=Z,24nm,0.9s,mb5.1
ECSD **EROS,Sioux Fal** 70.13 47 *e*P P 21 13 18.8 -1.0
comp=Z,50nm,1.0s,mb5.4
SUW **Suwalki** 70.66 332 *e*P P 21 13 21.2 -1.8
SUW **Suwalki** 70.66 332 P P 21 13 21.9 -1.1
SUW pmax pmax
comp=Z,47nm,1.0s,mb5.4
KIV **Kislovodsk** 70.68 314⇑ *e*P P 21 13 22.8 -0.3
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
ZEI **Tsey** 70.96 313 *e*P P 21 13 23.1 -1.7
ZEI *e*PP pP 21 13 32.4 -5.6
ZEI pmax pmax
comp=Z,13nm,1.1s,mb4.8
AKASG **Malin Array Be** 71.27 326 P P 21 13 25.7 -1.1
comp=Z,24nm,0.6s,mb5.3,baz=33,slow=6.2,SNR=88
AKASG **Malin Array Be** 71.27 326 P P 21 13 25.7 -1.0
AKASG pmax pmax
comp=Z,24nm,0.6s
AKASG **Malin Array Be** 71.27 326 P P 21 13 25.7 -1.1
BSD **Bornholm Skovb** 72.16 337 *i*P P 21 13 31.5 -0.6
comp=Z,78nm,0.7s,mb5.8
BSD **Bornholm Skovb** 72.16 337 *i*P P 21 13 31.5 -0.6
BSD pmax pmax
comp=Z,78nm,0.7s,mb5.8
COP **Copenhagen** 72.30 338 *i*P P 21 13 33.0 +0.1
comp=Z,79nm,0.8s,mb5.7
COP **Copenhagen** 72.30 338 *i*P P 21 13 33.0 +0.1
COP pmax pmax
comp=Z,79nm,0.8s,mb5.7
MUD **Monsted U'grnd** 72.39 340 *i*P P 21 13 33.5 +0.1
comp=Z,35nm,0.7s,mb5.4
MUD **Monsted U'grnd** 72.39 340 *i*P P 21 13 33.5 +0.1
MUD pmax pmax
comp=Z,35nm,0.7s,mb5.4
GNI **Garni** 72.46 311 P P 21 13 35.4 +1.5
comp=Z,18nm,0.9s,mb5.0,baz=356,slow=4.5,SNR=9.5
GNI **Garni** 72.46 311⇑ *e*P P 21 13 33.9 0.0
GNI pmax pmax
comp=Z,24nm,1.1s
SCHQ **Schefferville** 72.56 23 P P 21 13 34.6 +0.1
comp=Z,22nm,0.8s,mb5.1,baz=4.1,slow=6.9,SNR=22
AS31 **Alice Springs** 72.94 199 *e*P P 21 13 35.9 -0.8
ASAR **Alice Springs** 72.94 199 P P 21 13 36.2 -0.5
comp=Z,11nm,0.8s,mb4.8,baz=12,slow=5.7,SNR=59

ASAR Alice Springs 72.94 199 P P 21 13 36.2 -0.5
ASAR pmax pmax
comp=Z,11nm,0.8s
ASPA Alice Springs 72.94 199 eP P 21 13 36.2 -0.5
GKP Gorka Klasztor 73.13 334 eP P 21 13 37.6 -0.2
SCIA State Center 73.16 46 eP P 21 13 37.8 -0.3
comp=Z,103nm,1.1s,mb5.7
SIM Simferopol' 73.88 320 ceP P 21 13 41.8 -0.4
SIM eS S 21 23 13.0 +2.4
SIM pmax pmax
comp=Z,29nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,400nm,15.0s,MS4.8
TVAN Van 74.36 310 i P P 21 13 43.8 -1.2
ERZM Erzurum 74.37 312 i P P 21 13 46.7 +1.7
KIS Kishinev 74.44 324 eP P 21 13 42.0 -3.5
KWP Kalwaria 74.51 329 eP P 21 13 46.3 +0.4
KWP Kalwaria 74.51 329 P P 21 13 46.0 +0.1
KWP pmax pmax
comp=Z,100nm,0.9s,mb5.8
IAS Iasi 74.77 325 P P 21 13 46.3 -1.1
OJC Ojcow 74.99 331 eP P 21 13 48.2 -0.4
STHS Stebnicka Huta 75.20 330 i P P 21 13 50.2 +0.3
STHS pmax pmax
comp=Z,40nm,0.7s,mb5.5
STHS Stebnicka Huta 75.20 330 i P P 21 13 50.2 +0.3
comp=Z,40nm,0.7s,mb5.5
KOLS Kolonicke sedl 75.26 329 i P P 21 13 49.8 -0.4
BURAR Bucovina Array 75.31 327 ⇑ i P P 21 13 50.6 +0.1
BURAR Bucovina Array 75.31 327 ⇑ P P 21 13 50.6 +0.1
NIE Niedzica 75.51 331 eP P 21 13 52.0 +0.4
UZH Uzhgorod 75.51 329 ⇑ i P P 21 13 51.0 -0.6
KSP Ksiaz 75.54 334 ⇑ eP P 21 13 51.5 -0.3
KSP Ksiaz 75.54 334 ⇑ P P 21 13 53.3 -0.3
OKC Ostrava-Krasne 75.85 332 eP P 21 13 53.3 -0.3
UPC Upice 75.92 334 eP P 21 13 54.1 +0.1
DPC Dobruska-Polom 75.97 333 eP P 21 13 54.4 +0.1
CLL Collm 76.08 336 ⇑ i P P 21 13 54.8 -0.1
CLL pmax pmax
comp=Z,81nm,0.7s,mb5.8
CLL Collm 76.08 336 ⇑ i P P 21 13 54.8 -0.1
comp=Z,81nm,0.7s,mb5.8
MORC Moravsky Berou 76.09 332 ⇓ i P P 21 13 55.1 +0.1
MORC Moravsky Berou 76.09 332 P P 21 13 55.1 +0.1
MORC pmax pmax
comp=Z,44nm,0.8s,mb5.4
MORC Moravsky Berou 76.09 332 ⇓ P P 21 13 55.1 +0.1
VRI Vrincioaia 76.19 325 ⇑ i P P 21 13 55.6 +0.1
VRI Vrincioaia 76.19 325 ⇑ P P 21 13 55.6 +0.1
CFR Carcaliu 76.20 324 ⇑ i P P 21 13 55.8 +0.2
CFR Carcaliu 76.20 324 P P 21 13 56.0 +0.4
CFR Carcaliu 76.20 324 ⇑ P P 21 13 55.8 +0.2
PLOR Plostina 76.23 325 ⇑ i P P 21 13 56.1 +0.3
KECS Kecovo 76.26 330 i P P 21 13 55.4 -0.5
KECS pmax pmax
comp=Z,17nm,0.8s,mb5.0
KECS Kecovo 76.26 330 i P P 21 13 55.4 -0.5
comp=Z,17nm,0.8s,mb5.0
BOYT Boyabat 76.31 317 i P P 21 13 57.5 +1.3
WIT Witteveen 76.32 340 eP P 21 13 57.7 +1.5
PVCC Panska Ves 76.33 335 eP P 21 13 56.4 +0.1
ELZG Elazig 76.63 313 i P P 21 13 59.4 +1.3
TIRR Tirgusor 76.68 325 ⇑ i P P 21 13 58.0 -0.3
TIRR Tirgusor 76.68 323 P P 21 13 58.6 +0.3
TIRR Tirgusor 76.68 323 ⇑ P P 21 13 58.0 -0.3
HARR Harsova 76.69 324 P P 21 13 57.9 -0.4
VYHS Vyhne 76.80 331 i P P 21 13 58.6 -0.4
VYHS pmax pmax
comp=Z,16nm,0.8s,mb5.0
VYHS Vyhne 76.80 331 i P P 21 13 58.6 -0.4
comp=Z,16nm,0.8s,mb5.0
VYHS ePP PP 21 17 02.3 +10
TXAR Lajitas Array 76.80 61 P P 21 13 58.3 -0.7
comp=Z,6.1nm,0.8s,mb4.6,baz=305,slow=4.4,SNR=12
TXAR Lajitas Array 76.80 61 P P 21 13 58.3 -0.7
TXAR pmax pmax
comp=Z,6.0nm,0.8s
VRAC Vranov 76.80 333 ⇓ i P P 21 13 59.4 +0.4
VRAC Vranov 76.80 333 ⇓ P P 21 13 59.4 +0.4
MLR Muntele Rosu 76.81 325 P P 21 13 58.2 -0.8
comp=Z,46nm,0.7s,mb5.5,baz=176,slow=2.4,SNR=65
MLR Muntele Rosu 76.81 325 ⇑ i P P 21 13 59.4 +0.4
MLR Muntele Rosu 76.81 325 P P 21 13 58.2 -0.8
MLR pmax pmax
comp=Z,46nm,0.7s
MLR Muntele Rosu 76.81 325 ⇑ P P 21 13 59.4 +0.4
PRU Pruhonice 76.82 334 eP P 21 13 59.0 -0.1
BALT Daday 76.91 318 i P P 21 14 00.5 +0.9
DRGR 76.92 328 ⇑ i P P 21 14 00.0 +0.3
DRGR 76.92 328 ⇑ P P 21 13 60.0 +0.3
PSZ Piszkesteto 76.94 330 ⇑ i P P 21 14 00.4 +0.6
PSZ Piszkesteto 76.94 330 P P 21 14 00.1 +0.3
PSZ pmax pmax
comp=Z,24nm,0.9s,mb5.1
PSZ Piszkesteto 76.94 330 ⇑ P P 21 14 00.4 +0.6
CTKT Corum 76.99 317 i P P 21 14 01.1 +1.1
HATD Hatta, Dubai 77.04 292 P P 21 14 01.2 +0.9
SNR=9.5
MALT Malatya 77.05 313 ⇑ i P P 21 14 02.2 +1.8
MALT Malatya 77.05 313 P P 21 14 01.7 +1.3
MALT pmax pmax
comp=Z,40nm,0.9s,mb5.3
MALT Malatya 77.05 313 ⇑ P P 21 14 02.1 +1.8
MOX Moxa 77.06 336 eP P 21 14 00.3 -0.1
comp=Z,65nm,1.1s,mb5.5
MOX Moxa 77.06 336 eP P 21 14 00.3 -0.1
MOX pmax pmax
comp=Z,26nm,1.1s,mb5.1
WTSB Winterswijk 77.07 340 eP P 21 14 00.8 +0.3
comp=Z,52nm,0.8s,mb5.5
CCM Cathedral Cave 77.08 47 P P 21 13 54.9 -5.7
CCM pmax pmax
comp=Z,11nm,1.0s,mb4.7
CCM Cathedral Cave 77.08 47 eP P 21 13 54.1 -6.5
comp=Z,11nm,1.0s,mb4.7
SNX Sinaia 77.09 325 ⇓ i P P 21 14 02.1 +1.5
ASHO Ashiyiah 77.19 292 P P 21 14 02.0 +0.8
SNR=5.9
HOQ Hoqain 77.19 291 P P 21 14 02.0 +0.8
SNR=7.8
VOIR 77.20 326 ⇓ i P P 21 14 02.0 +0.8
VOIR 77.20 326 ⇓ P P 21 14 02.0 +0.7
NKC Novy Kostel 77.20 336 eP P 21 14 01.3 +0.1
SMOL Smolenice 77.24 332 eP P 21 14 02.1 +0.7
JMDO Jabal Madar 77.55 289 ⇓ P P 21 14 03.8 +0.6
SNR=5.7
ZST Bratislava 77.62 332 eP P 21 14 04.2 +0.6
ZST pmax pmax
comp=Z,24nm,0.9s,mb5.1
ZST Bratislava 77.62 332 eP P 21 14 04.2 +0.6
comp=Z,24nm,0.9s,mb5.1
ELDT Eldivan 77.72 318 i P P 21 14 05.1 +1.0
BSY Bisya 77.86 290 P P 21 14 06.2 +1.2
SNR=7.2
ARQ Araqi 77.87 291 P P 21 14 06.2 +1.2
SNR=7.1
KHC Kasperske Hory 77.87 335 eP P 21 14 05.0 0.0
GRA1 Grafenberg Arr 78.03 336 eP P 21 14 06.0 +0.1
comp=Z,42nm,0.8s,mb5.4
GRF Grafenberg Arr 78.03 336 eP P 21 14 06.0 +0.1
comp=Z,42nm,0.8s,mb5.4
GRF Grafenberg Arr 78.03 336 eP P 21 14 06.0 +0.1
GRF pmax pmax
comp=Z,42nm,0.8s,mb5.4
GRFO Grafenberg 78.03 336 P P 21 14 06.3 +0.4
GRFO pmax pmax
comp=Z,48nm,0.8s,mb5.5
GRFO Grafenberg 78.03 336 eP P 21 14 06.1 +0.3
comp=Z,48nm,0.8s,mb5.5
GEC2 GERESS Array S 78.09 334 P P 21 14 05.5 -0.7
GEC2 GERESS Array S 78.09 334 eP P 21 14 05.4 -0.8
GERES GERESS Array B 78.09 334 P P 21 14 06.0 -0.2
comp=Z,9.8nm,0.6s,mb4.9,baz=32,slow=5.0,SNR=70
GERES GERESS Array B 78.09 334 P P 21 14 06.0 -0.2
GERES pmax pmax
comp=Z,10.0nm,0.6s
GZR Gura Zlata 78.09 327 ⇑ i P P 21 14 06.3 +0.1
GZR Gura Zlata 78.09 327 ⇑ P P 21 14 06.3 +0.1
GZT Gaziantep 78.23 313 i P P 21 14 08.2 +1.2
BR131 Keskin Array S 78.24 317 eP P 21 14 07.2 +0.2
comp=Z,22nm,0.9s,mb5.1
BRTR Keskin Array B 78.24 317 P P 21 14 07.4 +0.4
comp=Z,22nm,0.8s,mb5.1,baz=68,slow=4.1,SNR=70
BRTR Keskin Array B 78.24 317 P P 21 14 07.4 +0.4
BRTR pmax pmax
comp=Z,22nm,0.9s
CONA Conrad Observa 78.25 333 ⇓ i P P 21 14 07.8 +0.7
comp=Z,19nm,0.8s,mb5.1,SNR=22
BZS Buzias 78.32 328 ⇑ i P P 21 14 07.3 -0.2
BZS Buzias 78.32 328 P P 21 14 07.4 -0.1
BZS Buzias 78.32 328 ⇑ P P 21 14 07.3 -0.2
HGN Heimansgroeve 78.39 340 eP P 21 14 07.2 -0.7
comp=Z,42nm,1.5s,mb5.2
AVNT Avonos 78.42 316 i P P 21 14 08.5 +0.4
ANTO Ankara 78.51 318 ⇑ P P 21 14 09.7 +1.1
SNR=5.8
ANTO Ankara 78.51 318 ⇓ i P P 21 14 09.4 +0.9
ANTO Ankara 78.51 318 P P 21 14 09.2 +0.7
ANTO pmax pmax
comp=Z,19nm,0.8s,mb5.1
ANTO Ankara 78.51 318 ⇓ P P 21 14 09.4 +0.9
ZIMR 78.57 325 P P 21 14 08.5 -0.3
MIB Mutribah 78.72 302 eP P 21 14 09.7 +0.1
MIB AMb AMB 21 14 11.5
comp=Z,179nm,0.8s,mb6.1
MOA Molln 78.81 334 i P P 21 14 10.9 +0.7
comp=Z,16nm,0.9s,mb5.0,SNR=9.6
PKSM Moragy 78.85 330 ⇓ i P P 21 14 10.0 -0.4
PKSM Moragy 78.85 330 ⇓ P P 21 14 10.0 -0.3
ARSA Arzberg 78.96 332 i P P 21 14 11.8 +0.9
comp=Z,16nm,0.8s,mb5.0,SNR=11
KBD Kabd 78.98 301 eP P 21 14 11.5 +0.4
NAY Al-Naaiem 79.18 301 eP P 21 14 12.2 -0.1
NAY AMb AMB 21 14 14.1
comp=Z,54nm,0.8s,mb5.5
WCI Wyandotte Cave 79.35 44 eP P 21 14 13.0 -0.1
WCI pmax pmax
comp=Z,51nm,1.1s,mb5.4
WCI Wyandotte Cave 79.35 44 eP P 21 14 13.0 -0.2
comp=Z,51nm,1.1s,mb5.4
COBT Iskenderun 79.53 313 i P P 21 14 15.0 +0.9
PERS Pernice 79.63 332 eP P 21 14 15.0 +0.4
STKA Stephens Creek 79.64 191 P P 21 14 11.5 -3.2
comp=Z,4.7nm,0.8s,mb4.5,baz=315,slow=7.3,SNR=6.4
ESKT Eskisehir 79.67 319 i P P 21 14 14.9 +0.1
KBA Koelnbreinsper 79.78 334 ⇓ i P P 21 14 14.3 -1.2
comp=Z,37nm,0.7s,mb5.4,SNR=35
OBKA Obir 79.92 333 ⇑ i P P 21 14 16.9 +0.7
comp=Z,9.7nm,0.7s,mb4.8
BFO Black Forest 80.05 337 P P 21 14 16.9 0.0
comp=Z,126nm,0.7s,mb6.0,SNR=5.2
BFO Black Forest 80.05 337 eP P 21 14 16.1 -0.8
comp=Z,94nm,1.6s,mb5.5
WATA Walderalm 80.07 335 i P P 21 14 17.6 +0.6
comp=Z,13nm,0.6s,mb5.0,SNR=12
WTTA Wattenberg 80.12 335 i P P 21 14 18.0 +0.8
comp=Z,45nm,0.7s,mb5.5,SNR=17
GRUS Gruza 80.14 328 i P P 21 14 16.0 -1.4
GCIS Gornji Cirnik 80.15 332 i P P 21 14 17.6 +0.2
MOTA Moosalm 80.19 335 ⇑ i P P 21 14 18.4 +0.7
comp=Z,24nm,0.7s,mb5.2,SNR=18
DIVS Divcibare 80.22 328 i P P 21 14 17.1 -0.8
DIVS Divcibare 80.22 328 eP P 21 14 17.1 -0.7
CDF Champ du Feu 80.25 338 eP P 21 14 16.4 -1.6
comp=Z,41nm,0.9s,mb5.1
CDF Champ du Feu 80.25 338 eP P 21 14 16.4 -1.6
CDF pmax pmax
comp=Z,20nm,0.9s,mb5.0
CDF Champ du Feu 80.25 338 eP P 21 14 16.4 -1.6
comp=Z,20nm,0.9s,mb5.1
SQTA Sankt Quirin 80.28 335 ⇑ i P P 21 14 19.0 +0.8
comp=Z,16nm,0.9s,mb5.0,SNR=12
VTS Vitosha 80.31 325 eP P 21 14 17.9 -0.4
VTS Vitosha 80.31 325 ⇑ i P P 21 14 19.3 +1.0
VTS Vitosha 80.31 325 eP P 21 14 18.0 -0.3
VTS Vitosha 80.31 325 ⇑ P P 21 14 19.3 +1.0
DAVA Damuels 80.59 336 ⇑ i P P 21 14 20.9 +1.1
comp=Z,17nm,0.9s,mb5.0,SNR=9.8
ALN Alexandroupoli 80.61 323 eP P 21 14 19.0 -0.9
BTOK Tokmak 80.72 321 i P P 21 14 20.4 -0.1
MMB Musomiste 80.96 324 eP P 21 14 21.0 -0.8
TKTP Tekketepe 81.12 318 i P P 21 14 22.9 +0.3
STIP Stip 81.47 325 i P P 21 14 24.5 -0.1
SKO Skopje 81.52 326 i P P 21 14 25.4 +0.6
VAY Valandovo 81.64 325 i P P 21 14 25.4 0.0
KNT Kendrikon 81.65 325 eP P 21 14 25.1 -0.3
LOS Limnos 81.82 323 eP P 21 14 25.5 -0.8
OUR Ouranopolis 81.93 324 eP P 21 14 25.9 -1.0
DNZL Cakiroluk 81.98 319 i P P 21 14 34.7 +7.5
TZTN Tazewell 82.00 43 eP P 21 14 27.6 +0.3
GRG Griva 82.02 325 eP P 21 14 26.7 -0.7
HORT Hortiatis 82.05 324 eP P 21 14 26.0 -1.5
GRR Gorron 82.10 343 eP P 21 14 26.1 -1.7
comp=Z,109nm,1.3s,mb5.3
GRR Gorron 82.10 343 eP P 21 14 26.1 -1.7
GRR pmax pmax
comp=Z,54nm,1.3s,mb5.3
GRR Gorron 82.10 343 eP P 21 14 26.1 -1.7
comp=Z,54nm,1.3s,mb5.3
KRUS Krusevo 82.11 326 i P P 21 14 28.6 +0.7
CSS Prodhromos 82.20 314 eP P 21 14 28.2 -0.2
comp=Z,31nm,0.8s,mb5.3
PAIG Paliouri 82.39 324 eP P 21 14 28.2 -1.1
OHR Ohrid 82.51 326 i P P 21 14 28.0 -1.9
FNA Florina 82.57 326 eP P 21 14 29.2 -1.0
ASF Jabal al Asfar 82.63 310 P P 21 14 31.6 +1.0
comp=Z,11nm,1.0s,mb4.8,baz=257,slow=1.5,SNR=12
ASF Jabal al Asfar 82.63 310 P P 21 14 31.6 +1.0
ASF pmax pmax
comp=Z,11nm,1.0s
SMF Signal de Mont 82.74 340 eP P 21 14 29.5 -1.6
comp=Z,61nm,1.1s,mb5.2
SMF Signal de Mont 82.74 340 eP P 21 14 29.5 -1.6
SMF pmax pmax
comp=Z,30nm,1.1s,mb5.2
SMF Signal de Mont 82.74 340 eP P 21 14 29.5 -1.6
comp=Z,30nm,1.1s,mb5.2
XOR Xorichti 83.07 324 eP P 21 14 31.6 -1.2
LPG La Plagne 83.08 337 eP P 21 14 32.4 -0.5
comp=Z,30nm,0.8s,mb5.1
LPG La Plagne 83.08 337 eP P 21 14 32.4 -0.5
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 83.08 337 eP P 21 14 32.4 -0.5
comp=Z,15nm,0.8s,mb5.1
BNI Bardonecchia 83.52 337 P P 21 14 35.7 +0.6
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BNI Bardonecchia 83.52 337 eP P 21 14 35.5 +0.3
comp=Z,7.4nm,0.8s,mb4.9
CAF Calviac 84.77 340 eP P 21 14 40.0 -1.5
comp=Z,22nm,0.7s,mb5.1
CAF Calviac 84.77 340 eP P 21 14 40.0 -1.5
CAF pmax pmax
comp=Z,11nm,0.7s,mb5.1
CAF Calviac 84.77 340 eP P 21 14 40.0 -1.5
comp=Z,11nm,0.7s,mb5.1
LHS Liberty Hill 84.96 43 P pP 21 14 50.9 -5.1
EIL Elat 85.63 310 eP P 21 14 46.2 +0.4
comp=Z,325nm,0.8s
ESDC Sonseca Array 91.09 343 P P 21 15 11.0 -0.8
comp=Z,1.4nm,0.7s,mb4.4,baz=4.5,slow=2.8,SNR=4.8
KEST Kesra 91.33 332 P P 21 15 13.2 +0.2
comp=Z,1.5nm,0.6s,mb4.5,baz=39,slow=4.3,SNR=5.8
TORD Torodi Ar. Bea 114.78 330 PKP PKiKP 21 20 46.4 -1.2
comp=Z,1.4nm,0.7s,baz=15,slow=1.6,SNR=9.5
TORD Torodi Ar. Bea 114.78 330 PKP PKiKP 21 20 46.4 -1.2
VNDA Vanda 124.72 178 PKP PKPdf 21 21 03.6 -3.1
comp=Z,1.2nm,0.8s,baz=318,slow=4.2,SNR=6.5
VNDA Vanda 124.72 178 PKIKP PKPdf 21 21 03.6 -3.1
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 124.72 178 PKP PKPdf 21 21 03.6 -3.1
MAW Mawson 132.97 212 PKP PKPdf 21 21 18.6 -3.8
comp=Z,2.1nm,0.9s,baz=343,slow=6.0,SNR=4.8
MAW Mawson 132.97 212 PKIKP PKPdf 21 21 18.6 -3.8
MAW pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 133.66 62 PKP PKPdf 21 21 23.8 +0.1
comp=Z,1.6nm,0.7s,baz=329,slow=3.9,SNR=6.4
LPAZ La Paz 133.66 62 PKIKP PKPdf 21 21 23.8 +0.1
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 133.66 62 PKP PKPdf 21 21 23.8 +0.1
SIV San Ignacio 137.51 54 PKP PKPdf 21 21 29.5 -1.4
comp=Z,4.8nm,0.9s,baz=245,slow=0.9,SNR=11
CFAA Coronel Fontan 144.44 79 PKP PKPdf 21 21 40.6 -2.7
comp=Z,3.4nm,0.8s,baz=265,slow=3.2,SNR=44
SNAA Sanae 153.28 196 PKPbc PKPbc 21 22 02.1 -3.0
comp=Z,1.7nm,0.8s,baz=108,slow=3.3,SNR=13
SNAA Sanae 153.28 196 ePKPdf PKPbc 21 22 01.4 -3.7
SNAA e 21 22 14.2
SNAA Sanae 153.28 196 PKIKP PKPbc 21 22 02.1 -3.0
SNAA pmax pmax
comp=Z,2.0nm,0.8s
VNA2 Neumayer--Watz 154.72 194 ePKPdf PKPbc 21 22 05.5 -2.7
VNA2 e 21 22 20.9
VNA3 Neumayer Olymp 154.80 193 ePKPdf PKPbc 21 22 05.1 -3.2
VNA3 e 21 22 20.6

IDC ***15*** *21:05:08.1±1.8, 46.76N×153.46E, h0km, mb4.2/7, mb1 4.5/9, mb1mx4.2/24, mbtmp4.4/9, ML4.2/2, MS4.1/4, Ms1 4.1/4, ms1mx3.8/42, Error ellipse: s-maj=46.3km s-min=26.0km az=112.0*
ISCJB ***15*** *21:05:09.8±0.6, 46.54N±008×153.06E±009, h10km, mb4.8/17, MS4.1/3, Error ellipse: s-maj=13.5km s-min=5.2km az=112.6*
NEIC ***15*** *21:05:11.5±1.1, 46.77N×152.99E, h10km, mb4.4/3, MS4.4/1, Error ellipse: s-maj=29.7km s-min=14.6km az=138.0*
BJI ***15*** *21:05:11.5, 46.80N×153.00E, h10km, mB5.3, mb4.5, Ms4.7, Msz4.4*
MOS ***15*** *21:05:14.5±1.8, 46.66N×152.92E, h48km, mb4.5/8, MS4.0/4, Error ellipse: s-maj=18.0km s-min=13.2km az=148.1*

ISC 15 21:05:11.3±0.6, 4658N±008×15315E±009, h10km, n68, σ1844/77, mb4.8/17, MS4.1/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KUR	**Kuril'sk**	**3.93**	**252**	⇑ *i* P	N	**Pn**	**21 06 09.0**	**-2.6**
KUR				*i* S	N	**Sn**	**21 06 59.0**	**+1.2**
KUR				pmax	pmax			
	comp=Z,690nm,0.7s							
KUR				smax				
	comp=N,12μm,2.0s							
KUR				smax				
	comp=E,12μm,2.0s							
KUR				smax				
	comp=N,4μm,0.7s							
KUR				smax				
	comp=E,4μm,0.7s							
KUR				MLR	MLR			
	comp=Z,11μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**5.74**	**246**	PN	N	**Pn**	**21 06 37.6**	**+1.1**
YUK				S	N	**Sn**	**21 07 44.5**	**+2.1**
YUK				pmax	pmax			
	comp=N,210nm,0.4s							
YUK				pmax	pmax			
	comp=Z,350nm,0.4s							
YUK				pmax	pmax			
	comp=E,190nm,0.5s							
YUK				smax				
	comp=N,9μm,2.0s							
YUK				smax				
	comp=E,5μm,1.0s							
YUK				smax				
	comp=N,1μm,0.5s							
YUK				smax				
	comp=E,4μm,0.6s							
NEM2	**Nemuro 2**	**6.16**	**241**	P	N	**Pn**	**21 06 41.6**	**-0.7**
NEM2				eS	N	**Sn**	**21 07 49.0**	**-3.8**
JRA	**Rausu**	**6.25**	**248**	P	N	**Pn**	**21 06 45.5**	**+1.9**
JRA				eS	N	**Sn**	**21 07 59.0**	**+3.9**
JNK	**Nakash**	**6.68**	**246**	P	N	**Pn**	**21 06 50.5**	**+1.1**
JNK				eS	N	**Sn**	**21 08 05.3**	**-0.3**
JAK	**Akkeshi**	**7.00**	**242**	P	N	**Pn**	**21 06 53.6**	**-0.3**
JAK				eS	N	**Sn**	**21 08 10.4**	**-3.1**
JTKR	**Abashiri--Toko**	**7.03**	**252**	P	N	**Pn**	**21 06 56.3**	**+2.1**
YSS	**Yuzh-Sakhalins**	**7.15**	**277**	ePN	N	**Pn**	**21 06 57.8**	**+1.9**
YSS				eS	S	**Sn**	**21 08 17.5**	**+0.3**
YSS				pmax	pmax			
	comp=E,100nm,1.0s							
YSS				pmax	pmax			
	comp=Z,90nm,1.0s							
YSS				smax				
	comp=N,50nm,0.9s							
YSS				MLR	MLR			
	comp=Z,2μm,15.0s							
YSS				MLR	MLR			
	comp=E,2μm,13.0s							
JMP	**Maruseppu**	**7.37**	**253**	P	N	**Pn**	**21 07 01.8**	**+2.9**
JAR	**Ashorobuto**	**7.42**	**247**	P	N	**Pn**	**21 07 01.8**	**+2.2**
JAR				eS	N	**Sn**	**21 08 23.2**	**-0.7**
JOB	**Onbets**	**7.58**	**244**	P	N	**Pn**	**21 07 03.0**	**+1.2**
JOB				eS	N	**Sn**	**21 08 25.7**	**-2.2**
JKK2	**Kamakawa 2**	**7.83**	**254**	P	N	**Pn**	**21 07 08.2**	**+3.0**
ASAJ	**Asahikawa**	**7.83**	**255**	Pn	N	**Pn**	**21 07 08.4**	**+3.1**
	comp=E,5.5nm,0.3s,baz=83,slow=14,SNR=8.6							
ASAJ				LR	LR		21 09 58.1	
	comp=E,2μm,18.4s,baz=101,slow=36							
ASAJ	**Asahikawa**	**7.83**	**255**	P	N	**Pn**	**21 07 09.0**	**+3.7**
ASAJ	**Asahikawa**	**7.83**	**255**	PN	N	**Pn**	**21 07 08.4**	**+3.1**
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,2μm,18.4s							
JWK2	**Keihoku**	**7.95**	**265**	P	N	**Pn**	**21 07 12.6**	**+5.8**
JCH	**Churui**	**8.03**	**244**	P	N	**Pn**	**21 07 08.8**	**+0.8**
JCH				eS	N	**Sn**	**21 08 35.6**	**-3.3**
JEM	**Erimo**	**8.50**	**241**	eS	N	**Sn**	**21 08 45.4**	**-4.9**
JNB	**Noboribetsu**	**9.58**	**249**	P	N	**Pn**	**21 07 29.9**	**+0.7**
JNB				eS	N	**Sn**	**21 09 11.6**	**-5.3**
JKB	**Kayabe**	**9.88**	**246**	eS	N	**Sn**	**21 09 16.5**	**-7.8**
JSH	**Shimam**	**10.14**	**252**	P	N	**Pn**	**21 07 37.3**	**+0.4**
JANG	**Nango**	**10.48**	**238**	eS	N	**Sn**	**21 09 28.1**	**-11**
JTM	**Tenmabayashi**	**10.49**	**241**	eS	N	**Sn**	**21 09 30.1**	**-9.2**
JTH	**Tanohata**	**10.57**	**235**	eS	N	**Sn**	**21 09 28.9**	**-12**
OFUJ	**Ofunato**	**11.28**	**232**	eS	N	**Sn**	**21 09 46.5**	**-12**
JIO	**Ouri**	**11.90**	**231**	eS	N	**Sn**	**21 10 03.2**	**-11**
KLR	**Kul'dur**	**14.59**	**288**	eP	N	**Pn**	**21 08 37.7**	**0.0**
MAT	**Matsushiro**	**15.00**	**233**	P	N	**Pn**	**21 08 42.8**	**-0.5**
MJAR	**Matsushiro Arr**	**15.00**	**233**	Pn	N	**Pn**	**21 08 44.9**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=13,SNR=4.3							
MJAR	**Matsushiro Arr**	**15.00**	**233**	P	N	**Pn**	**21 08 44.9**	**+1.6**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MDJ	**Mudanjiang**	**16.60**	**272**	eP	N	**Pn**	**21 09 04.3**	**+0.3**
	comp=Z,26nm,1.0s							
JHJ	**Hachijo jima 2**	**16.88**	**222**	LR	LR		21 15 41.2	
	comp=Z,596nm,19.1s,baz=83,slow=37							
CN2	**Changchun**	**19.68**	**272**	eP	N	**Pn**	**21 09 40.6**	**-1.3**
KSRS	**Korea Array**	**20.77**	**253**	P	P	**P**	**21 09 53.5**	**+1.1**
	comp=Z,12nm,0.9s,baz=55,slow=11,SNR=7.8							
KSRS				LR	LR		21 19 14.1	
	comp=Z,576nm,18.9s,MS4.0,baz=75,slow=40							
CBIJ	**Chichi jima**	**21.30**	**208**	LR	LR		21 15 57.4	
	comp=Z,502nm,21.4s,MS3.9,baz=47,slow=30							
BJI	**Beijing**	**27.50**	**270**	eP	P		**21 11 01.9**	**+4.1**
BJI				AMB	AMB			
	comp=Z,12nm,0.9s,mb4.5							
BJI				LR	LR			
	comp=N,260nm,17.1s,MS4.5							
BJI				LR	LR			
	comp=E,1μm,15.5s,MS4.5							
BJI				LR	LR			
	comp=Z,950nm,18.7s,MS4.4							
BJI	**Beijing**	**27.50**	**270**	eP	P		**21 11 01.9**	**+4.1**
	comp=Z,12nm,0.9s,mb4.5							
BJI				LR	LR			
	comp=Z,950nm,18.7s,MS4.4							
XAN	**Xi'an**	**35.53**	**265**	P	P		**21 12 07.1**	**-1.2**
XAN				AMB	AMB			
	comp=Z,9.0nm,1.3s,mb4.5							
COLA	**College**	**36.25**	**38**	P	P		**21 12 15.9**	**+1.4**
COLA				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
COLA	**College**	**36.25**	**38**	P	P		**21 12 15.9**	**+1.4**
	comp=Z,5.6nm,1.0s,mb4.5							
GTA	**Gaotai**	**39.02**	**279**	eP	P		**21 12 40.0**	**+2.0**
GTA				AP	pP		21 12 48.3	+7.2
GTA				XP	sP		21 12 52.8	+10
GTA				AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.2							
CD2	**Chengdu**	**40.89**	**265**	⇓ *i* P	P		**21 12 52.9**	**-0.6**
CD2				AMB	AMB			
	comp=Z,50nm,1.1s,mb5.1							
INK	**Inuvik**	**41.78**	**32**	eP	P		**21 13 00.0**	**-0.8**
MKAR	**Makanchi Array**	**47.04**	**298**	P	P		**21 13 40.1**	**-2.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=67,slow=8.1,SNR=4.2							
MKAR	**Makanchi Array**	**47.04**	**298**	P	P		**21 13 40.1**	**-2.8**

MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**52.11**	**257**	*eP*	**P**	**21 14 20.9**	**-0.6**
JIRN	**Jiri**	**54.99**	**275**	*eP*	**P**	**21 14 42.4**	**-0.3**
	comp=Z,50nm,0.9s,mb5.5						
GUN	**Gumba**	**55.04**	**275**	*eP*	**P**	**21 14 42.7**	**-0.4**
KKN	**Kakani**	**55.53**	**275**	*eP*	**P**	**21 14 46.4**	**-0.2**
	comp=Z,28nm,0.9s,mb5.3						
PKI	**Pulchoki**	**55.58**	**275**	*eP*	**P**	**21 14 46.6**	**-0.3**
	comp=Z,15nm,0.6s,mb5.2						
DMN	**Daman**	**55.77**	**275**	*eP*	**P**	**21 14 48.0**	**-0.3**
	comp=Z,54nm,1.0s,mb5.5						
GKN	**Gorkha**	**55.84**	**276**	*eP*	**P**	**21 14 48.0**	**-0.8**
	comp=Z,55nm,1.0s,mb5.6						
KOLN	**Koldanda**	**56.70**	**277**	*eP*	**P**	**21 14 54.3**	**-0.6**
	comp=Z,39nm,1.1s,mb5.4						
FINES	**FINESS Array B**	**64.20**	**335**	P	**P**	**21 15 43.4**	**-2.8**
	comp=Z,1nm,0.8s,mb4.2,baz=35,slow=7.6,SNR=5.4						
FINES	**FINESS Array B**	**64.20**	**335**	P	**P**	**21 15 43.4**	**-2.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.40**	**341**	P	**P**	**21 16 10.7**	**-2.4**
	comp=Z,15nm,1.1s,mb4.9,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**21 16 10.3**	**-2.8**
	comp=Z,4.1nm,0.9s,mb4.5,baz=27,slow=6.4,SNR=6.2						
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**21 16 10.3**	**-2.8**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**21 16 10.3**	**-2.8**
ASAR	**Alice Springs**	**72.06**	**199**	P	**P**	**21 16 35.1**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=13,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**72.06**	**199**	P	**P**	**21 16 35.1**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
UZH	**Uzhgorod**	**75.97**	**329**	*eP*	**P**	**21 17 00.4**	**+2.0**
CLL	**Collm**	**76.63**	**336**	*eP*	**P**	**21 17 09.0**	**+6.8**
CLL				*e*	pP	21 17 13.0	+7.5
CLL	**Collm**	**76.63**	**336**	*eP*	**P**	**21 17 00.0**	**-2.2**
CLL				*ep*P	pP	21 17 09.0	+3.5
CLL				*es*P	sP	21 17 13.0	+6.4
MLR	**Muntele Rosu**	**77.22**	**325**	P	**P**	**21 17 05.0**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=136,slow=3.3,SNR=3.2						
MLR	**Muntele Rosu**	**77.22**	**325**	P	**P**	**21 17 05.0**	**-0.5**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**21 17 12.3**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.2,baz=83,slow=4.3,SNR=4.9						
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**21 17 12.4**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*IDC **15** 21:05:22.3±0.7, 1572S×7497W, h0km, mb4.2/5, mb1 4.2/9, mb1mx4.1/19, mbtmp4.2/9, ML4.0/4, MS3.9/2, Ms1 3.9/2, ms1mx3.5/28, Error ellipse: s-maj=33.0km s-min=18.4km az=75.0*

*ISCJB **15** 21:05:23.1±2.9, 1566S±0.07×749W±0.1, h15km±21km, mb4.6/10, MS3.8/1, Error ellipse: s-maj=18.9km s-min=10.0km az=124.1*

*NEIC **15** 21:05:25.9±2.4, 1569S×7491W, h24km±17km, mb5.0/5, Error ellipse: s-maj=14.0km s-min=7.5km az=60.0*

*BJI **15** 21:05:27.9, 1570S×7490W, h24km*

ISC 15 21:05:24.8±4.2, 1568S±007×749W±01, h14km±27km, n36, σ0§91/27, mb4.6/10, MS3.8/1, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**3.40**	**104**	*eP*	**Pn**	**21 06 18.0**	**+0.6**
ARE				*e*		21 06 22.0	
ARE				*eS*	**Sn**	**21 07 09.0**	**+11**
NNA	**Nana**	**4.11**	**333**	Pn	**Pn**	**21 06 26.0**	**-1.1**
	604nm,0.4s,SNR=6.3						
NNA	**Nana**	**4.11**	**333**	Pn	**Pn**	**21 06 28.8**	**+1.6**
	5.7nm,0.3s,baz=152,slow=13,SNR=8.9						
NNA				Lg		21 07 30.4	
	146nm,0.3s,baz=205,slow=16,SNR=6.3						
NNA	**Nana**	**4.11**	**333**	Pn	**Pn**	**21 06 28.8**	**+1.6**
NNA				Lg		21 07 30.4	
LPAZ	**La Paz**	**6.58**	**96**	Pn	**Pn**	**21 07 07.2**	**+6.3**
	4.5nm,0.3s,baz=271,slow=10.0,SNR=85						
LVC	**Limon Verde**	**8.94**	**141**	Pn	**Pn**	**21 07 34.5**	**+1.0**
	5.4nm,0.3s,baz=270,slow=8.2,SNR=43						
LVC				Lg		21 10 11.9	
	0.2nm,0.3s,baz=90,slow=22,SNR=6.5						
LVC				LR	LR	21 10 48.8	
	comp=Z,781nm,20.5s,baz=272,slow=36						
ATAH	**Atahualpa**	**9.27**	**338**	Pn	**Pn**	**21 07 45.3**	**+7.3**
	1.6nm,0.3s,baz=152,slow=1.5,SNR=7.9						
ATAH				Sn	**Sn**	**21 09 40.6**	**+19**
	2.0nm,0.3s,baz=336,slow=21,SNR=2.9						
SAML	**Samuel**	**13.29**	**61**	*eP*	**Pn**	**21 08 32.8**	**-0.1**
	8.6nm,0.7s						
SIV	**San Ignacio**	**13.35**	**93**	Pn	**Pn**	**21 08 32.7**	**-1.1**
	0.3nm,0.3s,baz=268,slow=12,SNR=12						
OTAV	**Otavalo**	**16.19**	**347**	P	**Pn**	**21 09 11.3**	**-0.6**
	17nm,1.1s						
CFAA	**Coronel Fontan**	**16.99**	**160**	Pn	**Pn**	**21 09 20.9**	**-1.1**
	0.0nm,0.3s,baz=3.4,slow=17,SNR=1.9						
SDV	**Santo Domingo**	**24.78**	**10**	P	**P**	**21 10 47.3**	**+1.3**
	8.6nm,1.0s,mb4.2,baz=233,slow=4.1,SNR=8.5						
PCRV	**Puerto La Cruz**	**27.64**	**22**	LR	LR	21 22 11.3	
	comp=Z,247nm,21.9s,MS3.8,baz=299,slow=36						
ECSD	**EROS,Sioux Fal**	**62.36**	**342**	*eP*	**P**	**21 15 45.5**	**-1.3**
	17nm,1.3s,mb5.0						
PHWY	**Pilot Hill**	**63.35**	**335**	*eP*	**P**	**21 15 53.9**	**+0.4**
AGMN	**Agassiz Refuge**	**66.37**	**345**	*eP*	**P**	**21 16 09.0**	**-4.1**
	8.1nm,0.7s,mb4.9						
FLWY	**Flagg Ranch**	**67.85**	**333**	*eP*	**P**	**21 16 23.4**	**+1.0**
	17nm,1.2s,mb5.0						
ULM	**Lac du Bonnet**	**68.18**	**346**	P	**P**	**21 16 23.5**	**-1.1**
	9.4nm,1.0s,mb4.8,baz=167,slow=4.2,SNR=6.5						
SNAA	**Sanae**	**69.61**	**161**	P	**P**	**21 16 32.6**	**-0.8**
	0.9nm,0.8s,mb3.8,baz=315,slow=9.3,SNR=11						
QSPA	**South Pole Qui**	**74.47**	**180**	*eP*	**P**	**21 17 03.2**	**+0.6**
	12nm,0.2s,mb5.5						
EDM	**Edmonton**	**76.16**	**337**	*eP*	**P**	**21 17 11.5**	**-0.9**
TOA0	**Torodi Ar. Sit**	**81.01**	**74**	*eP*	**P**	**21 17 38.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**81.01**	**74**	P	**P**	**21 17 40.0**	**+0.9**
	37nm,1.1s,mb5.2,baz=251,slow=4.6,SNR=112						
TORD	**Torodi Ar. Bea**	**81.01**	**74**	P	**P**	**21 17 40.0**	**+0.9**
VNDA	**Vanda**	**81.52**	**191**	P	**P**	**21 17 42.4**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=105,slow=4.6,SNR=5.4						
ESDC	**Sonseca Array**	**85.90**	**47**	P	**P**	**21 18 04.7**	**+0.5**
	0.8nm,0.7s,mb4.1,baz=262,slow=4.9,SNR=4.4						
KECS	**Kecovo**	**105.14**	**43**	*eP*	Pdif	21 19 34.5	+2.2
AKTK	**Aktyubinsk**	**128.77**	**37**	PKP	PKPdf	21 24 31.8	+0.1
AKTO	**Aktyubinsk**	**128.77**	**37**	PKP	PKPdf	21 24 31.8	+0.1
	1.5nm,0.8s,baz=25,slow=1.6,SNR=5.5						
ASAR	**Alice Springs**	**131.79**	**216**	PKP	PKPdf	21 24 36.9	-0.5
	0.6nm,0.6s,baz=120,slow=1.5,SNR=8.8						
WRA	**Warramunga Arr**	**134.38**	**220**	PKP	PKPdf	21 24 42.0	-0.3
	1.3nm,0.7s,baz=143,slow=1.6,SNR=6.9						
ZAL	**Zalesovo**	**138.67**	**18**	PKP	PKPdf	21 24 50.6	+0.3
	3.0nm,0.8s,baz=168,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**143.65**	**27**	PKP	PKPdf	21 24 56.7	-2.5
	0.9nm,0.6s,baz=300,slow=3.3,SNR=5.5						
MKAR	**Makanchi Array**	**143.65**	**27**	PKP	PKPdf	21 24 56.7	-2.5
SONM	**Songino Array**	**147.92**	**358**	PKPbc	PKPbc	21 25 09.6	+0.1
	5.7nm,0.8s,baz=328,slow=1.7,SNR=6.7						
KSRS	**Korea Array**	**150.34**	**321**	PKPbc	PKPbc	21 25 15.4	-0.1
	5.1nm,1.0s,baz=28,slow=0.7,SNR=5.5						

*IDC **15** 21:07:42.6±1.6, 4620N×15288E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.2/26, mbtmp4.1/15, ML3.1/1, Error ellipse: s-maj=43.7km s-min=20.3km az=169.0*

*NEIC **15** 21:07:43.8±0.8, 4610N×15285E, h10km, mb4.6/3, Error ellipse: s-maj=21.9km s-min=11.9km az=152.0*

*BJI **15** 21:07:43.8, 4634N×15343E, h30km, mB4.6, mb4.5*

*ISCJB **15** 21:07:44.6±1.1, 4660N±02×1528E±02, h10km, mb4.4/22, Error ellipse: s-maj=29.3km s-min=11.9km az=131.8*

*MOS **15** 21:07:45.5±1.4, 4607N×15277E, h33km, mb4.5/14, Error ellipse: s-maj=19.6km s-min=10.2km az=103.1*

ISC 15 21:07:46.5±1.1, 4677N±02×1529E±02, h10km, n62, σ1§02/61, mb4.4/22, 8C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.56**	**27**	*e*PN	**Pn**	**21 09 02.0**	**+6.6**
MJAR	**Matsushiro Arr**	**14.89**	**232**	Pn	**Pn**	**21 11 09.0**	**-8.0**
	0.1nm,0.3s,baz=27,slow=13,SNR=3.2						
KSRS	**Korea Array**	**20.60**	**252**	P	**P**	**21 12 23.1**	**-2.5**
	3.0nm,0.8s,baz=62,slow=9.8,SNR=4.9						
LZH	**Lanzhou**	**37.71**	**272**	*eP*	**P**	**21 15 03.4**	**+1.3**
LZH				AP	pP	21 15 07.1	+1.9
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.80**	**279**	*eP*	**P**	**21 15 12.3**	**+1.0**
GTA				AP	pP	21 15 19.1	+4.7
GTA				XP	sP	21 15 23.3	+7.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**21 15 37.0**	**+0.7**
	comp=Z,1.8nm,0.7s,mb3.8,baz=304,slow=6.1,SNR=4.0						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**21 15 37.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	**Zalesovo**	**42.52**	**306**	P	**P**	**21 15 41.1**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.7,baz=52,slow=3.0,SNR=3.1						
ZAL	**Zalesovo**	**42.52**	**306**	P	**P**	**21 15 41.2**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**21 16 15.8**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=66,slow=8.1,SNR=7.1						
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**21 16 15.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**50.34**	**310**	*eP*	**P**	**21 16 41.6**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**50.34**	**310**	*eP*	**P**	**21 16 41.6**	**-1.9**
	comp=Z,8.2nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**21 16 46.3**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.1,baz=32,slow=7.0,SNR=4.6						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**21 16 46.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.81**	**309**	*eP*	**P**	**21 16 46.6**	**-0.4**
RES	**Resolute Bay**	**50.96**	**18**	*eP*	**P**	**21 16 47.9**	**-0.3**
RES				pmax	pmax		
	comp=Z,137nm,1.0s,mb5.8						
RES	**Resolute Bay**	**50.96**	**18**	*eP*	**P**	**21 16 47.9**	**-0.3**
	comp=Z,137nm,1.0s,mb5.8						
ZRNK	**Zerenda**	**51.54**	**310**	*eP*	**P**	**21 16 51.4**	**-1.1**
JIRN	**Jiri**	**54.77**	**274**	*eP*	**P**	**21 17 16.4**	**+0.1**
GUN	**Gumba**	**54.83**	**275**	*eP*	**P**	**21 17 17.1**	**+0.4**
KKN	**Kakani**	**55.31**	**275**	*eP*	**P**	**21 17 21.0**	**+0.8**
	comp=Z,15nm,0.8s,mb5.1						
DMN	**Daman**	**55.55**	**275**	*eP*	**P**	**21 17 22.6**	**+0.7**
GKN	**Gorkha**	**55.62**	**276**	*eP*	**P**	**21 17 22.8**	**+0.4**
	comp=Z,17nm,0.7s,mb5.2						
KOLN	**Koldanda**	**56.48**	**276**	*eP*	**P**	**21 17 29.3**	**+0.7**
	comp=Z,13nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	**58.64**	**312**	P	**P**	**21 17 42.5**	**-1.3**
AKTO	**Aktyubinsk**	**58.64**	**312**	P	**P**	**21 17 42.5**	**-1.3**
	comp=Z,1.3nm,0.7s,mb4.1,baz=68,slow=5.4,SNR=3.8						
AKTO	**Aktyubinsk**	**58.64**	**312**	P	**P**	**21 17 42.5**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**21 18 20.1**	**-0.2**
	comp=Z,4.0nm,0.9s,mb4.5,baz=36,slow=8.8,SNR=7.8						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**21 18 20.1**	**-0.2**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**64.94**	**54**	P	**P**	**21 18 25.9**	**-0.3**
	comp=Z,0.9nm,0.9s,mb3.8,baz=338,slow=2.1,SNR=3.6						
NB2	**NORSAR Subarra**	**68.24**	**341**	P	**P**	**21 18 46.8**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.24**	**341**	P	**P**	**21 18 47.1**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=28,slow=6.1,SNR=5.2						
NOA	**NORSAR Array B**	**68.24**	**341**	P	**P**	**21 18 47.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**21 19 06.9**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.7,baz=34,slow=6.3,SNR=15						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**21 19 06.9**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STHS	**Stebnicka Huta**	**75.49**	**330**	*eP*	**P**	**21 19 31.4**	**+0.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
STHS	**Stebnicka Huta**	**75.49**	**330**	*eP*	**P**	**21 19 31.4**	**+0.5**
	comp=Z,2.4nm,0.8s,mb4.2						
BURAR	**Bucovina Array**	**75.55**	**326**	*i*P	**P**	**21 19 31.6**	**+0.4**
BURAR	**Bucovina Array**	**75.55**	**326**	*i*P	**P**	**21 19 31.6**	**+0.3**
MORC	**Moravsky Berou**	**76.42**	**332**	*i*P	**P**	**21 19 36.3**	**+0.1**
MORC	**Moravsky Berou**	**76.42**	**332**	*i*P	**P**	**21 19 36.3**	**+0.1**
CLL	**Collm**	**76.46**	**335**	*i*P	**P**	**21 19 35.7**	**-0.7**
CLL				*e*		21 19 50.0	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CLL	**Collm**	**76.46**	**335**	*i* P	**P**	**21 19 35.7**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.5						
CLL				*e*		21 19 50.0	
CLL	**Collm**	**76.46**	**335**	*e*(P)	PcP	21 19 50.0	+1.9
TIRR	**Tirgusor**	**76.86**	**323**	*i*P	**P**	**21 19 39.3**	**+0.6**
TIRR	**Tirgusor**	**76.86**	**323**	*i*P	**P**	**21 19 39.3**	**+0.7**
MLR	**Muntele Rosu**	**77.02**	**325**	P	**P**	**21 19 41.0**	**+1.4**
	comp=Z,1.5nm,0.4s,mb4.2,baz=158,slow=15,SNR=4.3						
MLR	**Muntele Rosu**	**77.02**	**325**	P	**P**	**21 19 41.0**	**+1.4**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MALT	**Malatya**	**77.07**	**313**	*i*P	**P**	**21 19 41.7**	**+1.9**
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**21 19 41.6**	**-1.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=301,slow=4.3,SNR=4.2						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**21 19 41.6**	**-1.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.32**	**317**	P	**P**	**21 19 47.5**	**+0.7**
	comp=Z,1.2nm,0.9s,mb3.8,baz=59,slow=5.0,SNR=3.6						
BRTR	**Keskin Array B**	**78.32**	**317**	P	**P**	**21 19 47.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.44**	**334**	P	**P**	**21 19 48.0**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=38,slow=6.8,SNR=7.0						
GERES	**GERESS Array B**	**78.44**	**334**	P	**P**	**21 19 48.0**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BZS	**Buzias**	**78.58**	**327**	*i*P	**P**	**21 19 48.8**	**+0.6**
BZS	**Buzias**	**78.58**	**327**	*i*P	**P**	**21 19 48.8**	**+0.5**
PKSM	**Moragy**	**79.14**	**330**	*i*P	**P**	**21 19 51.0**	**-0.3**
PKSM	**Moragy**	**79.14**	**330**	*i*P	**P**	**21 19 51.0**	**-0.3**
VTS	**Vitosha**	**80.53**	**325**	*i*P	**P**	**21 20 00.6**	**+1.8**
VTS	**Vitosha**	**80.53**	**325**	*i*P	**P**	**21 20 00.6**	**+1.7**

*IDC **15** 21:08:16.1±4.2, 4659N×15329E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=251.3km s-min=25.0km az=87.0*

*ISCJB **15** 21:08:22.0±4.8, 4660N±02×153.1E±03, h54km±38km, mb4.2/5, Error ellipse: s-maj=39.0km s-min=25.1km az=17.0*

*MOS **15** 21:08:32.9±2.6, 4601N×14357E, h33km, mb4.4/5, Error ellipse: s-maj=66.2km s-min=43.0km az=120.3*

ISC 15 21:08:23.2±5.1, 4660N±02×1532E±04, h50km±41km, n12, σ0§29/13, mb4.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**251**	*e*PN	**Pn**	**21 09 21.0**	**0.0**
KUR				*i* S	**Sn**	**21 10 06.0**	**+0.1**
KUR				smax			
	comp=N,530nm,0.6s						
KUR				smax			
	comp=E,270nm,0.6s						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**21 18 52.4**	**-0.2**
	comp=E,1.1nm,0.6s,mb4.0,baz=36,slow=8.0,SNR=5.4						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**21 18 52.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.37**	**341**	P	**P**	**21 19 19.6**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=28,slow=6.3,SNR=5.2						
NOA	**NORSAR Array B**	**68.37**	**341**	P	**P**	**21 19 19.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**68.39**	**199**	P	**P**	**21 19 19.5**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=20,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**68.39**	**199**	P	**P**	**21 19 19.5**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**21 19 39.2**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.2,baz=33,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**21 19 39.2**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.08**	**199**	P	**P**	**21 19 42.1**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=11,slow=5.9,SNR=8.7						
ASAR	**Alice Springs**	**72.08**	**199**	P	**P**	**21 19 42.2**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**76.60**	**336**	*e*P	**P**	**21 20 09.0**	**+0.6**

*MOS **15** 21:09:35.2±2.2, 4692N×15386E, h33km, mb4.5/7, Error ellipse: s-maj=33.1km s-min=18.4km az=119.9*

*IDC **15** 21:09:39.0±8.5, 4823N×154.10E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/23, mbtmp4.1/8, Error ellipse: s-maj=208.8km s-min=38.8km az=163.0*

*NEIC **15** 21:09:40.8±5.1, 4829N×15408E, h10km, mb4.6/2, Error ellipse: s-maj=128.0km s-min=21.0km az=165.0*

ISC 15 21:09:46.3±7.0, 49N±1×1540E±06, h33km, n21, σ0§65/21, mb4.2/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.74**	**261**	*e*PN	**Pn**	**21 11 22.5**	**-14**
INK	**Inuvik**	**39.71**	**34**	P	**P**	**21 17 14.7**	**-0.8**
	2.5nm,0.8s,mb4.0,baz=249,slow=7.8,SNR=3.6						
INK	**Inuvik**	**39.71**	**34**	P	**P**	**21 17 14.7**	**-0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**46.58**	**296**	P	**P**	**21 18 10.6**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=71,slow=8.3,SNR=4.6						
CHKZ	**Chkalovo**	**49.63**	**309**	*eP*	**P**	**21 18 34.1**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**49.63**	**309**	*eP*	**P**	**21 18 34.1**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**50.08**	**308**	P	**P**	**21 18 37.0**	**-1.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=58,slow=8.7,SNR=5.8						
BVAR	**Borovoye Array**	**50.08**	**308**	P	**P**	**21 18 37.0**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**62.52**	**335**	P	**P**	**21 20 07.4**	**+0.6**
	comp=Z,2.0nm,0.3s,mb4.7,baz=34,slow=7.7,SNR=18						
FINES	**FINESS Array B**	**62.52**	**335**	P	**P**	**21 20 07.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**66.57**	**341**	P	**P**	**21 20 33.5**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**66.57**	**341**	P	**P**	**21 20 33.8**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=5.3						
NOA	**NORSAR Array B**	**66.57**	**341**	P	**P**	**21 20 33.8**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**70.25**	**326**	P	**P**	**21 20 55.8**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=6.1,SNR=4.5						
AKASG	**Malin Array Be**	**70.25**	**326**	P	**P**	**21 20 55.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STHS	**Stebnicka Huta**	**74.12**	**330**	*eP*	**P**	**21 21 20.3**	**+1.0**
KOLS	**Kolonicke sedl**	**74.19**	**329**	*eP*	**P**	**21 21 20.1**	**+0.4**
CLL	**Collm**	**74.93**	**336**	*i* P	**P**	**21 21 23.4**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**76.95**	**334**	P	**P**	**21 21 35.8**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=38,slow=6.8,SNR=4.8						
BRTR	**Keskin Array B**	**77.36**	**317**	P	**P**	**21 21 38.5**	**+0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=11,slow=6.7,SNR=4.8						
BRTR	**Keskin Array B**	**77.36**	**317**	P	**P**	**21 21 38.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

WEL 15 21:10:00.8±0.1, 3797S×17660E, h126km±1km, ML3.5/8, 1C, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.49**	**126**	⇑P	Pn	21 10 19.2	-0.2
URZ					SN	21 10 33.5	+0.1
MWZ	**Matawai**	**0.82**	**117**	PN	Pn	21 10 21.5	-0.1
MWZ	

PDAR	**Pinedale Array**	**63.95**	**55**	P	**P**	**21 25 25.9**	**-1.2**	
	comp=Z,1.0nm,0.6s,mb4.0,baz=186,slow=12,SNR=7.3							
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**21 25 27.6**	**0.0**	
	comp=Z,3.5nm,0.7s,mb4.5,baz=40,slow=8.6,SNR=9.8							
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**21 25 27.6**	**0.0**	
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
NB2	**NORSAR Subarra**	**68.13**	**342**	P	**P**	**21 25 54.7**	**+0.7**	
	comp=Z,1.1nm,0.6s,mb4.1,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.13**	**342**	P	**P**	**21 25 54.8**	**+0.8**	
	comp=Z,2.1nm,0.8s,mb4.2,baz=26,slow=6.3,SNR=5.9							
NOA	**NORSAR Array B**	**68.13**	**342**	P	**P**	**21 25 54.8**	**+0.8**	
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**71.66**	**327**	P	**P**	**21 26 15.1**	**-0.6**	
	comp=Z,1.5nm,0.6s,mb4.1,baz=36,slow=6.1,SNR=6.9							
AKASG	**Malin Array Be**	**71.66**	**327**	P	**P**	**21 26 15.1**	**-0.6**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**72.78**	**199**	P	**P**	**21 26 20.9**	**-1.4**	
	comp=Z,0.9nm,0.7s,mb3.8,baz=11,slow=5.0,SNR=12							
ASAR	**Alice Springs**	**72.78**	**199**	P	**P**	**21 26 21.0**	**-1.4**	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CLL	**Collm**	**76.44**	**336**	*i* P	**P**	**21 26 44.1**	**+0.4**	
CLL				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.6							
CLL	**Collm**	**76.44**	**336**	*i* P	**P**	**21 26 44.1**	**+0.4**	
	comp=Z,10.0nm,1.3s,mb4.6							
GERES	**GERESS Array B**	**78.46**	**335**	P	**P**	**21 26 56.9**	**+1.9**	
	comp=Z,0.8nm,0.9s,mb3.7,baz=38,slow=6.8,SNR=5.5							
GERES	**GERESS Array B**	**78.46**	**335**	P	**P**	**21 26 56.9**	**+2.0**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**78.63**	**317**	P	**P**	**21 26 57.8**	**+1.9**	
	comp=Z,1.8nm,0.9s,mb4.0,baz=78,slow=5.7,SNR=6.8							
BRTR	**Keskin Array B**	**78.63**	**317**	P	**P**	**21 26 57.8**	**+1.9**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							

NIED ***15*** *21:17:00,4730N×15470E,h26km,Mw5.3 Best double couple: M0 1.03000×10^17 NP1:φs40.00000°,δ85.00000°, λ40.00000°. NP2:φs306.00000°,δ50.00000°,λ173.00000°.*

ISCJB ***15*** *21:17:06.3±0.2,4671N±003×15495E±003,h11km, mb5.3/195,MS5.2/5,Error ellipse: s-maj=4.8km s-min=2.4km az=131.1*

SKHL ***15*** *21:17:06.7±1.1,4643N×15534E,h50km±19km,mb5.8/2, Ms5.1/2,msh5.9/3*

IDC ***15*** *21:17:06.7±0.4,4688N×15496E,h0km,mb5.0/26, mb1 5.1/28,mb1mx5.1/29,mbtmp5.0/28,ML4.6/2,Error ellipse: s-maj=12.9km s-min=11.3km az=145.0*

NEIC ***15*** *21:17:08.2±0.1,4687N×15500E,h10km,mb5.5/114,Error ellipse: s-maj=4.4km s-min=3.1km az=167.0*

JMA ***15*** *21:17:08.9±0.7,4735N×15467E,h30km,M5.6*

MOS ***15*** *21:17:08.6±0.9,4688N×15501E,h22km,mb5.6/99, MS4.4/5,Error ellipse: s-maj=7.4km s-min=4.0km az=104.3*

BJI ***15*** *21:17:10.7,4723N×15424E,h10km,mB5.4,mb5.1,Ms5.6, Msz5.4*

SZGRF ***15*** *21:17:14.6,4723N×15543E,h12km,mb5.6,East of Kuril Islands, Russia*

ISC 15 21:17:08.2±0.2,4680N±003×15496E±003,h12km, h12km±8km:pP-P,n625,σ1s09/623,mb5.3/193,MS5.2/5, 63C-22D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.96**	**11**	*e*P		**Pn**	**21 18 10.0**	**+1.3**
SKR					AMB	AMB	21 18 19.5	
	180nm,0.5s							
SKR					AMB	AMB	21 18 19.5	
	170nm,0.5s							
SKR					AMB	AMB	21 18 19.5	
	1μm,1.5s							
SKR					A		21 18 54.5	
	2μm,0.6s							
SKR					A		21 18 54.5	
	1μm,0.5s							
SKR					A		21 18 54.5	
	620nm,0.5s							
SKR					A		21 18 56.0	
	8μm,2.0s							
SKR					A		21 18 56.0	
	2μm,2.0s							
SKR					A		21 18 56.0	
	8μm,2.0s							
SKR					AMS	AMS	21 20 10.0	
	10μm,12.0s							
SKR					AMS	AMS	21 20 10.0	
	10μm,12.0s							
SKR					AMS	AMS	21 20 10.0	
	3μm,12.0s							
SKR					AMS	AMS	21 20 10.0	
	10μm,12.0s							
SKR					AMS	AMS	21 20 10.0	
	2μm,12.0s							
KUR	**Kuril'sk**	**5.18**	**255**	*e*P		**Pn**	**21 18 23.0**	**-2.5**
KUR				*e*S		**Sn**	**21 19 21.0**	**-4.2**
KUR				A			21 19 22.5	
	5μm,1.0s							
KUR				A			21 19 22.5	
	4μm,1.0s							
KUR				A			21 19 28.0	
	9μm,2.0s							
KUR				A			21 19 28.0	
	6μm,2.0s							
PET	**Petropavlovsk**	**6.67**	**20**	⇑*i*PN		**Pn**	**21 18 43.1**	**-2.9**
PET					pmax	pmax		
	comp=Z,121nm,0.6s							
PET					MLR	MLR		
	comp=Z,5μm,18.0s							
PET	**Petropavlovsk**	**6.67**	**20**	*e*P		**Pn**	**21 18 43.5**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**6.97**	**250**	*e*P		**Pn**	**21 18 50.5**	**+0.4**
YUK				A			21 20 12.9	
	comp=Z,770nm,0.5s							
YUK				A			21 20 12.9	
	comp=Z,460nm,0.5s							
NEM2	**Nemuro 2**	**7.37**	**246**	P		**Pn**	**21 18 53.9**	**-1.7**
NEM2				*e*S		**Sn**	**21 20 12.2**	**-6.9**
JRA	**Rausu**	**7.49**	**251**	P		**Pn**	**21 18 58.5**	**+1.2**
JRA				*e*S		**Sn**	**21 20 22.7**	**+0.5**
JNK	**Nakash**	**7.91**	**250**	P		**Pn**	**21 19 03.4**	**+0.4**
JNK				*e*S		**Sn**	**21 20 28.9**	**-3.6**
JAK	**Akkeshi**	**8.21**	**246**	P		**Pn**	**21 19 05.8**	**-1.4**
JAK				*e*S		**Sn**	**21 20 31.8**	**-8.1**
JTKR	**Abashiri--Toko**	**8.28**	**254**	P		**Pn**	**21 19 08.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.36**	**275**	⇑*e*P		**Pn**	**21 19 13.0**	**+3.8**
YSS				⇓*e*P			21 19 13.0	
YSS				*e*pP			21 19 22.0	
YSS				*e*S		**Sn**	**21 20 46.9**	**+3.3**
YSS				*e*LQ			21 21 07.0	
YSS					AMS	AMS	21 23 20.0	
	comp=Z,7μm,16.0s							
YSS					AMS	AMS	21 23 20.0	
	comp=Z,6μm,15.0s							
YSS					AMS	AMS	21 23 20.0	
	comp=Z,8μm,13.0s							
YSS	**Yuzh-Sakhalins**	**8.36**	**275**	*i*PN		**Pn**	**21 19 13.0**	**+3.8**
YSS					MLR	MLR		
	comp=Z,7μm,16.0s							
YSS					MLR	MLR		
	comp=N,8μm,13.0s							
YSS					MLR	MLR		
	comp=E,6μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.36**	**275**	*e*P		**Pn**	**21 19 08.4**	**-0.8**
JMP	**Maruseppu**	**8.62**	**255**	P		**Pn**	**21 19 13.7**	**+0.9**
JAR	**Ashorobuto**	**8.66**	**250**	P		**Pn**	**21 19 14.2**	**+0.9**
JAR				*e*S		**Sn**	**21 20 47.4**	**-3.4**
JOB	**Onbets**	**8.81**	**248**	P		**Pn**	**21 19 14.6**	**-0.7**
JOB				*e*S		**Sn**	**21 20 47.8**	**-6.7**
UGL	**Uglegorsk**	**8.95**	**289**	*e*P		**Pn**	**21 19 21.0**	**+3.8**
UGL					AMB	AMB	21 19 22.0	
	comp=E,120nm,0.7s							
UGL					AMB	AMB	21 19 28.0	
	comp=E,1μm,2.0s							
UGL					A		21 21 18.0	
	comp=E,2μm,8.0s							
UGL					A		21 21 18.0	
	comp=E,3μm,8.0s							
UGL					A		21 21 18.0	
	comp=E,2μm,8.0s							
UGL				*e*L			21 21 44.0	
UGL					AMS	AMS	21 23 43.0	
	comp=E,9μm,16.0s							
UGL					AMS	AMS	21 23 43.0	
	comp=E,9μm,16.0s							
UGL					AMS	AMS	21 23 43.0	
	comp=E,14μm,13.0s							
UGL	**Uglegorsk**	**8.95**	**289**	*e*PN		**Pn**	**21 19 21.0**	**+3.8**
UGL				S		**Sn**	**21 21 10.0**	**+12**
UGL					pmax	pmax		
	comp=Z,120nm,0.7s							
UGL					pmax	pmax		
	comp=Z,1μm,2.0s							
UGL					smax			
	comp=N,2μm,8.0s							
UGL					smax			
	comp=E,3μm,8.0s							
UGL					smax			
	comp=Z,2μm,8.0s							
UGL					MLR	MLR		
	comp=E,9μm,16.0s							
UGL					MLR	MLR		
	comp=Z,9μm,16.0s							
UGL					MLR	MLR		
	comp=N,14μm,13.0s							
TYV	**Tymovskoe**	**9.07**	**301**	*e*P		**Pn**	**21 19 20.5**	**+1.6**
JKK2	**Kamakawa 2**	**9.08**	**256**	P		**Pn**	**21 19 20.2**	**+1.1**
ASAJ	**Asahikawa**	**9.09**	**257**	Pn		**Pn**	**21 19 21.1**	**+1.9**
	comp=N,7.9nm,0.3s,baz=85,slow=16,SNR=19							
ASAJ	**Asahikawa**	**9.09**	**257**	P		**Pn**	**21 19 20.8**	**+1.6**
ASAJ	**Asahikawa**	**9.09**	**257**	PN		**Pn**	**21 19 21.1**	**+1.9**
ASAJ					pmax	pmax		
	comp=Z,8.0nm,0.3s							
JCH	**Churui**	**9.25**	**247**	P		**Pn**	**21 19 20.5**	**-0.9**
JCH				*e*S		**Sn**	**21 20 57.7**	**-7.7**
JFR	**Furan**	**9.48**	**252**	P		**Pn**	**21 19 25.6**	**+1.0**
JAB	**Ashibetsu**	**9.58**	**254**	P		**Pn**	**21 19 27.8**	**+1.9**
JEM	**Erimo**	**9.70**	**245**	P		**Pn**	**21 19 27.0**	**-0.5**
JEM				*e*S		**Sn**	**21 21 09.8**	**-6.6**
ERM	**Erimo**	**9.70**	**245**	*e*PN		**Pn**	**21 19 25.5**	**-2.1**
JBT2	**Biratori 2**	**9.81**	**250**	P		**Pn**	**21 19 28.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**9.81**	**247**	P		**Pn**	**21 19 28.0**	**-1.1**
JNBK				*e*S		**Sn**	**21 21 10.6**	**-8.6**
JEW	**Eniwo**	**10.38**	**252**	P		**Pn**	**21 19 36.6**	**-0.2**
JNB	**Noboribetsu**	**10.82**	**251**	P		**Pn**	**21 19 42.1**	**-0.8**
JKB	**Kayabe**	**11.11**	**249**	P		**Pn**	**21 19 44.9**	**-1.9**
JKB				*e*S		**Sn**	**21 21 41.1**	**-10**
NKL	**Nikolayevsk**	**11.16**	**310**	*i* P		**Pn**	**21 19 47.0**	**-0.6**
JOT	**Ohata**	**11.37**	**247**	P		**Pn**	**21 19 47.3**	**-3.1**
JOT				*e*S		**Sn**	**21 21 46.2**	**-11**
JSH	**Shimam**	**11.39**	**254**	P		**Pn**	**21 19 50.8**	**+0.1**
JYM2	**Yakumo 2**	**11.42**	**251**	P		**Pn**	**21 19 49.7**	**-1.4**
JANG	**Nango**	**11.66**	**241**	P		**Pn**	**21 19 50.4**	**-4.0**
JANG				*e*S		**Sn**	**21 21 51.9**	**-13**
JSR	**Shiriuchi**	**11.69**	**248**	P		**Pn**	**21 19 52.3**	**-2.5**
JTM	**Tenmabayashi**	**11.69**	**244**	P		**Pn**	**21 19 52.2**	**-2.6**
JTM				*e*S		**Sn**	**21 21 52.5**	**-13**
JTH	**Tanohata**	**11.73**	**239**	P		**Pn**	**21 19 51.3**	**-4.0**
JTH				*e*S		**Sn**	**21 21 54.0**	**-12**
JOSM	**Okushiri--Mats**	**12.02**	**253**	P		**Pn**	**21 19 57.2**	**-2.1**
JOM	**Ohasama**	**12.37**	**239**	P		**Pn**	**21 20 00.8**	**-3.2**
OFUJ	**Ofunato**	**12.41**	**236**	*e*S		**Sn**	**21 22 08.1**	**-15**
JRG	**Rokugo**	**12.81**	**240**	P		**Pn**	**21 20 07.2**	**-2.8**
JIO	**Ouri**	**13.02**	**235**	P		**Pn**	**21 20 09.7**	**-3.3**
JIO				*e*S		**Sn**	**21 22 24.0**	**-14**
MA2	**Magadan**	**13.04**	**351**	*e*PN		**Pn**	**21 20 13.4**	**+0.2**
MA2					pmax	pmax		
	comp=Z,20nm,0.5s							
HABR	**Khabarovsk**	**13.53**	**284**	⇑*e*P		**Pn**	**21 20 21.7**	**+1.8**
HABR				*e*S		**Sn**	**21 22 52.0**	**+1.9**
SMY	**Shemya**	**13.70**	**57**	*e*P		**Pn**	**21 20 19.8**	**-2.5**
SMY					pmax	pmax		
	comp=Z,71nm,0.4s							
SMY	**Shemya**	**13.70**	**57**	*e*P		**Pn**	**21 20 19.8**	**-2.5**
	comp=Z,70nm,0.4s							
JYA	**Atsumi**	**13.87**	**239**	P		**Pn**	**21 20 22.3**	**-2.3**
JFK	**Kawauchi**	**14.06**	**233**	*e*S		**Sn**	**21 22 51.1**	**-12**
JFY	**Yanaizu**	**14.68**	**236**	P		**Pn**	**21 20 33.9**	**-1.7**
KLR	**Kul'dur**	**15.71**	**287**	*e*P		**Pn**	**21 20 47.3**	**-1.9**
KLR					pmax	pmax		
	comp=E,160nm,1.8s							
KLR					pmax	pmax		
	comp=Z,130nm,1.8s							
JRY	**Ryogami san**	**16.13**	**234**	P		**Pn**	**21 20 53.6**	**-1.1**
MJAR	**Matsushiro Arr**	**16.14**	**237**	Pn		**Pn**	**21 20 53.6**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=31,slow=13,SNR=17							
MJAR	**Matsushiro Arr**	**16.14**	**237**	P		**Pn**	**21 20 53.6**	**-1.3**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**16.14**	**237**	*e*P		**Pn**	**21 20 51.9**	**-3.0**
MAJO					pmax	pmax		
	comp=Z,148nm,1.3s							
MAJO	**Matsushiro**	**16.14**	**237**	*e*P		**Pn**	**21 20 51.9**	**-3.0**
	comp=Z,148nm,1.3s							
MAT	**Matsushiro**	**16.14**	**237**	P		**Pn**	**21 20 52.4**	**-2.5**
MAT	**Matsushiro**	**16.14**	**237**	P		**Pn**	**21 20 52.9**	**-2.0**
SEY	**Seymchan**	**16.23**	**356**	⇑*e*P		**Pn**	**21 20 54.9**	**-1.1**
MDJ	**Mudanjiang**	**17.83**	**272**	*e*P		**Pn**	**21 21 14.2**	**-1.9**
	comp=Z,85nm,1.4s							
ZEA	**Zeya**	**18.94**	**302**	*e*P		**Pn**	**21 21 25.0**	**-4.6**
ZEA					AMB	AMB	21 21 26.6	
	comp=Z,74nm,1.4s							
ZEA					AMB	AMB	21 21 26.6	
	comp=Z,92nm,1.4s							
ZEA					AMB	AMB	21 21 33.0	
	comp=Z,800nm,5.0s							
ZEA					AMB	AMB	21 21 33.0	
	comp=Z,500nm,5.0s							
CN2	**Changchun**	**20.92**	**273**	⇓P		**P**	**21 21 48.3**	**-2.2**
CN2				*e*XP		sP	21 21 55.0	-0.4
CN2				*e*S		**S**	**21 25 31.0**	**-12**
CN2					AMB	AMB		
	comp=Z,200nm,3.0s							
CN2					LR	LR		
	comp=N,8μm,16.0s,MS5.3							
CN2					LR	LR		
	comp=E,8μm,16.0s,MS5.3							
CN2					LR	LR		
	comp=Z,4μm,14.0s,MS4.9							
CLNS	**Chul'man**	**20.96**	**310**	*e*P		**P**	**21 21 50.6**	**-0.4**
CLNS				*e*S		**S**	**21 25 43.2**	**-1.1**
CLNS				*e*			21 25 54.0	
CLNS				*e*SS			21 26 17.7	
CLNS					pmax	pmax		
	comp=Z,100nm,0.9s							
CLNS					pmax	pmax		
	comp=N,97nm,1.2s							
CLNS					pmax	pmax		
	comp=E,89nm,1.2s							
CLNS					smax			
	comp=Z,43nm,1.8s							
CLNS					smax			
	comp=N,110nm,1.2s							
CLNS					smax			
	comp=E,81nm,2.6s							
CLNS					MLR	MLR		
	comp=E,5μm,14.0s,MS5.1							
CLNS					MLR	MLR		
	comp=Z,4μm,14.0s,MS5.0							
CLNS					MLR	MLR		
	comp=N,2μm,13.0s,MS5.1							
YAK	**Yakutsk**	**20.98**	**326**	*e*P		**P**	**21 21 49.4**	**-1.8**
YAK				*e**PP			21 22 00.0	
YAK				*e*			21 22 08.8	
YAK				*e*S		**S**	**21 25 37.3**	**-7.4**
YAK				*e*SS			21 25 44.4	
YAK					pmax	pmax		
	comp=Z,54nm,0.9s							
YAK					pmax	pmax		
	comp=N,28nm,1.2s							
YAK					pmax	pmax		
	comp=E,31nm,1.1s							
YAK					pmax	pmax		
	comp=N,83nm,1.4s							
YAK					pmax	pmax		
	comp=Z,86nm,1.4s							
YAK					pmax	pmax		
	comp=E,120nm,1.6s							
YAK					smax			
	comp=N,238nm,1.4s							
YAK					smax			
	comp=Z,120nm,1.8s							
YAK					smax			
	comp=E,554nm,2.3s							
YAK	**Yakutsk**	**20.98**	**326**	⇑*e*P		**P**	**21 21 48.5**	**-2.7**
KSRS	**Korea Array**	**22.03**	**255**	P		**P**	**21 22 05.2**	**+2.7**
	comp=E,24nm,0.8s,mb4.7,baz=56,slow=11,SNR=33							
BILL	**Bilibino**	**22.08**	**11**	*c i*P		**P**	**21 22 02.7**	**-0.3**
BILL					pmax	pmax		
	comp=Z,274nm,1.3s,mb5.5							
BILL	**Bilibino**	**22.08**	**11**	⇑*i*P		**P**	**21 22 02.8**	**-0.2**
INCN	**Inchon**	**22.87**	**256**	*e*P		**P**	**21 22 12.5**	**+1.1**
	comp=Z,248nm,1.5s,mb5.4							
SNY	**Shenyang**	**22.91**	**269**	⇑P		**P**	**21 22 10.8**	**-1.0**
SNY					AMB	AMB		
	comp=Z,35nm,1.3s,mb4.6							
HIA	**Hailar**	**23.55**	**289**	*e*P		**P**	**21 22 14.2**	**-4.4**
DL2	**Dalian**	**25.53**	**264**	P		**P**	**21 22 39.9**	**+3.3**
DL2					AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9							
BOD	**Bodaibo**	**26.93**	**309**	*e*P		**P**	**21 22 46.8**	**-2.5**
BOD					pmax	pmax		
	comp=Z,32nm,1.4s,mb4.7							
CIT	**Chita**	**27.16**	**296**	*e*P		**P**	**21 22 49.9**	**-1.4**
CIT				*e*			21 23 01.1	
CIT					pmax	pmax		
	comp=Z,117nm,1.1s,mb5.3							
TIXI	**Tiksi**	**27.79**	**343**	*e*P		**P**	**21 22 54.2**	**-2.8**
TIXI					pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8							
TIXI	**Tiksi**	**27.79**	**343**	*e*P		**P**	**21 22 54.2**	**-2.7**
	comp=Z,16nm,0.6s,mb4.8							
BJI	**Beijing**	**28.74**	**271**	*e*P		**P**	**21 23 06.8**	**+1.3**
BJI					AMB	AMB		
	comp=Z,46nm,1.3s,mb5.0							
BJI	**Beijing**	**28.74**	**271**	*e*P		**P**	**21 23 06.7**	**+1.2**
BJI					pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0							
BJI	**Beijing**	**28.74**	**271**	*e*P		**P**	**21 23 06.7**	**+1.2**
	comp=Z,46nm,1.3s,mb5.0							
BJT	**Baijiatuan**	**28.76**	**271**	*e*P		**P**	**21 23 06.6**	**+1.0**
BJT					pmax	pmax		
	comp=Z,32nm,0.9s							
BJT	**Baijiatuan**	**28.76**	**271**	*e*P		**P**	**21 23 06.6**	**+1.0**
	comp=Z,32nm,0.9s,mb5.0							
HHC	**Hu-ho-hao-te**	**31.55**	**275**	*e*P		**P**	**21 23 30.8**	**+0.5**
HHC					AP	pP	21 23 35.1	+1.2
HHC					XP	sP	21 23 37.5	+2.1
HHC					PP	PP	21 24 35.9	-5.7
HHC					AMB	AMB		
	comp=Z,82nm,1.3s,mb5.4							
HHC					AMB	AMB		
	comp=Z,721nm,11.4s							
ULN	**Ulaanbaatar**	**32.08**	**290**	*e*P		**P**	**21 23 31.6**	**-3.3**
SONM	**Songino Array**	**32.51**	**290**	P		**P**	**21 23 38.5**	**-0.2**
	comp=Z,14nm,1.0s,mb4.8,baz=69,slow=7.4,SNR=43							
SONM					PcP	PcP	21 26 25.6	+0.2
	comp=Z,4.3nm,0.9s,baz=105,slow=2.4,SNR=5.7							
SONM	**Songino Array**	**32.51**	**290**	P		**P**	**21 23 38.5**	**-0.2**
SONM							21 26 25.6	
SONM					pmax	pmax		
	comp=Z,14nm,1.0s							
BTO	**Baotou**	**32.71**	**276**	*e*P		**P**	**21 23 41.3**	**+0.8**
BTO				S		**S**	**21 28 48.1**	**-8.7**
BTO				LR	LR			
	comp=N,7μm,13.2s,MS5.6							
BTO				LR	LR			
	comp=E,7μm,16.2s,MS5.6							
IRK	**Irkutsk**	**32.79**	**299**	⇓*i*P		**P**	**21 23 39.6**	**-1.6**
IRK				*e*			21 23 51.2	
IRK				*e*			21 26 25.4	
IRK					pmax	pmax		
	comp=Z,45nm,1.8s,mb5.1							
IMA2	**Indian Mountai**	**33.02**	**36**	*e*P		**P**	**21 23 42.9**	**-0.3**
KDAK	**Kodiak Island**	**33.09**	**51**	P		**P**	**21 23 41.7**	**-2.1**
	comp=Z,17nm,0.6s,mb5.1,baz=292,slow=11,SNR=11							
KDAK	**Kodiak Island**	**33.09**	**51**	P		**P**	**21 23 41.7**	**-2.1**
TLY	**Talaya**	**33.28**	**298**	*e*P		**P**	**21 23 44.6**	**-0.9**
TLY				*e*S		**S**	**21 28 58.2**	**-7.4**
TLY					pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3							
TLY	**Talaya**	**33.28**	**298**	*i* P		**P**	**21 23 42.7**	**-2.8**
ZAK	**Zakamensk**	**33.80**	**295**	*e*P		**P**	**21 23 49.0**	**-1.0**
ZAK				*e*			21 24 03.2	
ZAK					pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9							
PMR	**Palmer**	**34.68**	**44**	*e*P		**P**	**21 23 57.2**	**-0.5**
PMR					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
PMR	**Palmer**	**34.68**	**44**	*e*P		**P**	**21 23 57.2**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.6							
MCK	**McKinley**	**34.79**	**40**	*e*P		**P**	**21 23 57.2**	**-1.4**
MCK					pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3							
MCK	**McKinley**	**34.79**	**40**	*e*P		**P**	**21 23 57.2**	**-1.4**
	comp=Z,38nm,1.0s,mb5.3							
MOY	**Mondy**	**34.89**	**298**	*e*P		**P**	**21 23 59.2**	**-0.3**
MOY					pmax	pmax		
	comp=Z,54nm,2.7s,mb5.0							
SML	**Sawmill**	**35.06**	**44**	*e*P		**P**	**21 24 00.5**	**-0.4**
WHN	**Wuhan**	**35.17**	**257**	P		**P**	**21 24 03.8**	**+1.9**
COLA	**College**	**35.31**	**38**	*i* P		**P**	**21 24 02.6**	**-0.5**
COLA	**College**	**35.31**	**38**	*i* P		**P**	**21 24 02.6**	**-0.5**
DIV	**Divide**	**36.32**	**45**	*e*P		**P**	**21 24 11.1**	**-0.7**
	comp=Z,115nm,1.2s,mb5.7							
XAN	**Xi'an**	**36.78**	**267**	P		**P**	**21 24 18.4**	**+2.7**
XAN					AMB	AMB		
	comp=Z,49nm,1.2s,mb5.2							
EGAK	**Eagle**	**38.17**	**39**	*e*P		**P**	**21 24 26.4**	**-1.0**
	comp=Z,90nm,0.8s,mb5.5							
DAWY	**Dawson**	**39.00**	**40**	*e*P		**P**	**21 24 33.6**	**-0.8**
LZH	**Lanzhou**	**39.15**	**273**	*e*P		**P**	**21 24 37.8**	**+2.1**
LZH					PP	PP	21 26 08.3	+2.9
LZH					AMB	AMB		
	comp=Z,140nm,1.2s,mb5.6							
LZH					AMB	AMB		
	comp=Z,726nm,5.0s							
LZH	**Lanzhou**	**39.15**	**273**	*e*P		**P**	**21 24 37.8**	**+2.1**
LZH					*PP	pP	21 24 47.8	+8.5
LZH							21 26 08.2	
LZH					pmax	pmax		
	comp=Z,140nm,1.2s,mb5.6							
LZH	**Lanzhou**	**39.15**	**273**	*e*P		**P**	**21 24 37.8**	**+2.1**
	comp=Z,140nm,1.2s,mb5.6							
LZH					pP	pP	21 24 47.8	+8.5
LZH					sP	sP	21 24 50.8	+10
LZH					PP	PP	21 26 08.2	+2.8
GTA	**Gaotai**	**40.21**	**280**	P		**P**	**21 24 45.3**	**+0.8**
GTA					AP	pP	21 24 54.8	+6.6
GTA					PP	PP	21 26 21.1	+4.1
GTA					PCP	PcP	21 26 49.1	+0.7
GTA					AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9							
GTA					AMB	AMB		
	comp=Z,439nm,7.2s							
GTA					LR	LR		
	comp=N,3μm,10.7s					

ZAL Zalesovo 43.62 306 P **P** 21 25 11.8 -0.6
ZAL 21 26 59.0
ZAL pmax pmax
comp=Z,13nm,0.4s
ZAL Zalesovo 43.62 306 P **P** 21 25 11.8 -0.6
ZAL PcP PcP 21 26 59.0 -0.7
NVS Novosibirsk 44.16 308 *eP* **P** 21 25 15.8 -0.9
NVS *eS* **S** 21 32 05.7 +16
NVS pmax pmax
comp=E,108nm,1.8s
NVS pmax pmax
comp=Z,136nm,1.8s,mb5.4
NVS pmax pmax
comp=N,80nm,1.9s
DLBC Dease Lake 44.65 46 *eP* **P** 21 25 20.9 +0.3
KMI Kunming 46.50 261 P **P** 21 25 37.3 +2.0
KMI PP PP 21 27 26.8 +2.4
KMI AMB AMB
comp=Z,21nm,1.5s,mb4.8
KMI Kunming 46.50 261 P **P** 21 25 37.2 +1.9
KMI 21 27 26.7
KMI pmax pmax
comp=Z,21nm,1.5s,mb4.8
KMI Kunming 46.50 261 P **P** 21 25 37.2 +1.9
comp=Z,21nm,1.5s,mb4.8
KMI PP PP 21 27 26.7 +2.3
MK31 Makanchi Array 48.04 298 *eP* **P** 21 25 46.6 -0.7
MKAR Makanchi Array 48.04 298 P **P** 21 25 46.6 -0.7
comp=Z,15nm,0.7s,mb5.1,baz=69,slow=7.6,SNR=57
MKAR PcP PcP 21 27 15.2 +0.1
comp=Z,8.0nm,0.8s,baz=43,slow=3.1,SNR=5.1
MKAR Makanchi Array 48.04 298 P **P** 21 25 46.6 -0.7
MKAR 21 27 15.2
MKAR pmax pmax
comp=Z,15nm,0.7s
ALE Alert 49.56 6 P **P** 21 25 58.9 -0.1
comp=Z,112nm,1.4s,mb5.7,SNR=7.6
YKA Yellowknife Ar 50.12 37 P **P** 21 26 02.8 -0.4
comp=Z,13nm,0.8s,mb5.0,baz=293,slow=7.0,SNR=12
YKA PcP PcP 21 27 22.7 0.0
comp=Z,12nm,0.9s,baz=306,slow=3.7,SNR=7.8
YKA Yellowknife Ar 50.12 37 P **P** 21 26 02.8 -0.4
YKA 21 27 22.7
YKA pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 50.38 19 *eP* **P** 21 26 04.7 -0.5
comp=Z,1µm,1.1s
CHKZ Chkalovo 51.36 311 *eP* **P** 21 26 11.3 -1.3
comp=Z,24µm,0.9s
LSA Lhasa 51.53 274 P **P** 21 26 17.0 +3.1
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 51.53 274 *eP* **P** 21 26 16.6 +2.7
LSA pmax pmax
comp=Z,58nm,1.1s,mb5.4
LSA Lhasa 51.53 274 *eP* **P** 21 26 16.6 +2.7
comp=Z,58nm,1.1s,mb5.4
BVAR Borovoye Array 51.80 310 P **P** 21 26 15.4 -0.4
comp=Z,41nm,0.4s,mb5.7,baz=55,slow=7.6,SNR=171
BVAR Borovoye Array 51.80 310 P **P** 21 26 15.4 -0.5
BVAR pmax pmax
comp=Z,41nm,0.4s
BRVK Borovoye 51.84 310⇑ *eP* **P** 21 26 15.9 -0.2
ZRNK Zerenda 52.56 311 *eP* **P** 21 26 20.6 -1.0
comp=Z,24µm,0.9s
KBS Kingsbay 52.64 352⇑ *eP* **P** 21 26 20.8 -1.3
CM31 Chiang Mai Arr 53.62 258 *eP* **P** 21 26 31.8 +2.5
comp=Z,5.1nm,0.6s,mb4.6
ULHL Ulahol 54.09 296 P **P** 21 26 34.5 +1.8
SNR=15
TKM2 Tokmak 2 54.11 297 P **P** 21 26 34.5 +1.6
SNR=19
CHMS Chumysh 54.58 297 P **P** 21 26 37.6 +1.2
SNR=14
USP Ospenovka 54.59 298 P **P** 21 26 38.0 +1.6
SNR=55
KBK Karagaybulak 54.65 297 P **P** 21 26 38.5 +1.7
SNR=22
FRU Bishkek 54.76 297 *eP* **P** 21 26 39.0 +1.4
FRU pmax pmax
comp=Z,80nm,1.3s,mb5.6
KZA Kyzart 54.79 296 P **P** 21 26 40.5 +2.6
SNR=15
SOKR Solikamsk 54.84 322 *eP* **P** 21 26 37.7 -0.5
SOKR pmax pmax
comp=Z,90nm,1.2s,mb5.7
AAK Ala-Archa 54.94 297 P **P** 21 26 40.6 +1.6
SNR=31
AAK Ala-Archa 54.94 297 *d iP* **P** 21 26 38.8 -0.2
AAK pmax pmax
comp=Z,44nm,1.3s,mb5.3
AAK Ala-Archa 54.94 297 *i* P **P** 21 26 38.9 -0.1
UCH Uchtor 55.16 297 P **P** 21 26 42.4 +1.9
SNR=5.9
EDM Edmonton 55.36 47 *eP* **P** 21 26 41.1 -0.9
EKS2 Erkin-Say 55.37 298 P **P** 21 26 43.8 +1.8
SNR=30
AML Almayashu 55.72 297 P **P** 21 26 46.8 +2.3
SNR=15
ARU Arti 55.83 318⇑ *eP* **P** 21 26 44.7 -0.6
ARU pmax pmax
comp=Z,84nm,0.7s,mb5.9
ARU Arti 55.83 318⇑ *eP* **P** 21 26 44.8 -0.5
NEW Newport 56.13 54 P **P** 21 26 47.2 -0.3
comp=Z,2.2nm,0.4s,mb4.5,baz=298,slow=5.9,SNR=7.4
NEW PcP PcP 21 27 45.4 0.0
comp=Z,2.5nm,0.5s,baz=359,slow=2.8,SNR=6.2
NEW Newport 56.13 54 P **P** 21 26 47.2 -0.3
NEW 21 27 45.4
NEW pmax pmax
comp=Z,2.0nm,0.4s
NEW Newport 56.13 54 P **P** 21 26 47.2 -0.3
NEW PcP PcP 21 27 45.4 0.0
JIRN Jiri 56.20 276 *eP* **P** 21 26 50.6 +2.6
comp=Z,96nm,0.8s,mb5.9
GUN Gumba 56.26 276 *eP* **P** 21 26 50.9 +2.5
comp=Z,78nm,0.7s,mb5.8
PMG Port Moresby 56.38 189 *eP* **P** 21 26 50.1 +0.8
PMG pmax pmax
comp=Z,13nm,0.8s
PMG Port Moresby 56.38 189 *eP* **P** 21 26 50.1 +0.8
comp=Z,13nm,0.8s,mb5.0
YBH Yreka Blue Hor 56.60 63 P **P** 21 26 52.4 +1.5
comp=Z,11nm,0.8s,mb4.9,baz=274,slow=1.5,SNR=13
YBH PcP PcP 21 27 47.8 +0.6
comp=Z,7.1nm,0.8s,baz=316,slow=2.6,SNR=3.9
YBH Yreka Blue Hor 56.60 63 P **P** 21 26 52.4 +1.6
YBH 21 27 47.8
YBH pmax pmax
comp=Z,11nm,0.8s
DAG Danmarks Havn 56.64 358⇑ *iP* **P** 21 26 50.0 -1.1
comp=Z,46nm,1.3s,mb5.3
DAG Danmarks Havn 56.64 358⇑ *iP* **P** 21 26 50.0 -1.1
DAG pmax pmax
comp=Z,46nm,1.3s,mb5.3
KKN Kakani 56.74 277 *eP* **P** 21 26 54.9 +3.0
PKI Pulchoki 56.79 276 *eP* **P** 21 26 55.2 +3.0
DMN Daman 56.98 276 *eP* **P** 21 26 56.3 +2.8
comp=Z,58nm,0.4s,mb5.9
GKN Gorkha 57.05 277 *eP* **P** 21 26 56.1 +2.1
comp=Z,201nm,1.0s,mb6.1
LVZ Lovozero 57.22 337⇑ *eP* **P** 21 26 55.1 -0.1
LVZ *eS* **S** 21 34 46.8 -3.9
LVZ pmax pmax
comp=N,39nm,1.0s
LVZ pmax pmax
comp=E,23nm,1.0s
LVZ pmax pmax
comp=Z,112nm,1.0s,mb5.8
LVZ smax
comp=N,627nm,6.1s
LVZ Lovozero 57.22 337⇑ *eP* **P** 21 26 54.0 -1.2
KEV Kevo 57.71 341 *ep* **P** 21 26 57.2 -1.5
APA Apatity 57.79 337⇓ *iP* **P** 21 26 59.0 -0.2
APA *i* pP 21 27 03.8 +0.8
APA pmax pmax
comp=Z,140nm,1.2s,mb5.9
KOLN Koldanda 57.90 278 *eP* **P** 21 27 01.9 +1.9
comp=Z,239nm,1.4s,mb6.0
ARCES ARCESS Array B 58.22 341 P **P** 21 27 02.1 -0.1
comp=Z,47nm,1.0s,mb5.5,baz=22,slow=4.8,SNR=35
ARCES PcP PcP 21 27 53.5 0.0
comp=Z,16nm,0.8s,baz=20,slow=4.0,SNR=7.4
ARCES ARCESS Array B 58.22 341 P **P** 21 27 02.2 0.0
ARCES 21 27 53.6
ARCES pmax pmax
comp=Z,47nm,1.0s
ARE0 ARCESS Array S 58.22 341 *eP* **P** 21 27 02.0 -0.3
MSO Missoula 58.72 53 *eP* **P** 21 27 06.1 +0.3
comp=Z,46nm,1.5s,mb5.3
OHCM Honcut 58.77 64 *eP* **P** 21 27 05.7 -0.4
TMCR Tamitsa 58.88 333 *i* P **P** 21 27 07.2 +0.4
KTK1 Kautokeino 59.13 342⇑ *iP* **P** 21 27 09.3 +0.7
KTK1 AMb AMB 21 27 10.7
comp=Z,123nm,1.4s,mb5.8
KTK1 Kautokeino 59.13 342⇑ *iP* **P** 21 27 09.3 +0.7
comp=Z,123nm,1.4s,mb5.7
TRO Tromso 59.50 344 *eP* **P** 21 27 09.7 -1.5
TRO AMb AMB 21 27 12.4
comp=Z,110nm,1.5s,mb5.7
TRO Tromso 59.50 344 *eP* **P** 21 27 09.7 -1.5
comp=Z,110nm,1.5s,mb5.7
AKTK Aktyubinsk 59.63 313 P **P** 21 27 12.3 +0.2
AKTO Aktyubinsk 59.63 313 P **P** 21 27 12.3 +0.2
comp=Z,22nm,0.8s,mb5.2,baz=66,slow=8.3,SNR=39
AKTO Aktyubinsk 59.63 313 P **P** 21 27 12.3 +0.2
AKTO pmax pmax
comp=Z,22nm,0.9s,mb5.2
CMB Columbia Colle 60.24 65 *eP* **P** 21 27 16.2 -0.1
CMB pmax pmax
comp=Z,11nm,0.8s,mb4.9
CMB Columbia Colle 60.24 65 *eP* **P** 21 27 16.2 -0.1
comp=Z,11nm,0.8s,mb4.9
ORR Orenburg 60.51 315 *eP* **P** 21 27 17.8 -0.3
ORR pmax pmax
comp=Z,50nm,0.8s,mb5.7
SUMG Summit 60.56 5 *eP* **P** 21 27 19.1 +0.7
comp=Z,48nm,1.0s,mb5.6
BMN Battle Mountai 60.70 61 *eP* **P** 21 27 19.8 +0.4
BMN pmax pmax
comp=Z,33nm,1.4s,mb5.3
BMN Battle Mountai 60.70 61 *eP* **P** 21 27 19.8 +0.4
comp=Z,33nm,1.4s,mb5.3
MTUM Tungsten Hills 61.80 64 *eP* **P** 21 27 27.7 +0.9
LOF Lofoten 61.80 345 *eP* **P** 21 27 28.6 +1.7
LOF Lofoten 61.80 345 *eP* **P** 21 27 28.8 +2.0
PECR Pechory 62.16 324 *eP* **P** 21 27 29.4 +0.1
PECR pmax pmax
comp=Z,200nm,2.0s,mb5.9
TPH Tonopah 62.17 63 *eP* **P** 21 27 30.0 +0.7
TPH pmax pmax
comp=Z,22nm,1.1s,mb5.2
TPH Tonopah 62.17 63 *eP* **P** 21 27 30.0 +0.6
comp=Z,22nm,1.1s,mb5.2
RRI2 Red Ridge 62.33 55 *eP* **P** 21 27 31.2 +0.8
comp=Z,30nm,0.9s,mb5.4
KAKA Kakadu 62.59 205 *eP* **P** 21 27 32.8 +0.7
comp=Z,119nm,0.9s,mb5.2
DGMT Dagmar 62.85 47 *eP* **P** 21 27 34.1 +0.2
comp=Z,156nm,1.4s,mb6.0
ISA Isabella 62.92 66 *eP* **P** 21 27 33.5 -0.8
ISA pmax pmax
comp=Z,162nm,1.9s,mb5.8
ISA Isabella 62.92 66 *eP* **P** 21 27 33.5 -0.8
comp=Z,0.2nm,1.9s
LAO LASA Array 62.97 50 *eP* **P** 21 27 35.5 +0.9
comp=Z,72nm,1.1s,mb5.7
SPUT South Promonto 62.97 58 *eP* **P** 21 27 31.8 -2.9
DAC Darwin (Calif) 63.08 65 *eP* **P** 21 27 34.1 -1.3
DAC pmax pmax
comp=Z,38nm,1.8s,mb5.2
DAC Darwin (Calif) 63.08 65 *eP* **P** 21 27 34.1 -1.3
comp=Z,84nm,1.8s,mb5.2
HWUT Hardware Ranch 63.29 57 *eP* **P** 21 27 36.4 -0.4
comp=Z,84nm,1.9s,mb5.5
MOR8 Moi Rana 63.35 343⇑ *iP* **P** 21 27 35.6 -1.5
MOR8 *epP* pP 21 27 39.3 -1.7
DUG Dugway 63.47 59 *eP* **P** 21 27 38.7 +0.7
DUG pmax pmax
comp=Z,56nm,1.4s,mb5.5
DUG Dugway 63.47 59 *eP* **P** 21 27 38.7 +0.7
comp=Z,56nm,1.4s,mb5.5
PDAR Pinedale Array 63.69 55 P **P** 21 27 39.4 -0.1
comp=Z,16nm,0.9s,mb5.0,baz=284,slow=2.1,SNR=15
JLU Jordanelle 64.01 58 *eP* **P** 21 27 42.5 +1.0
NLU North Lily Min 64.06 59 *eP* **P** 21 27 42.3 +0.4
GSC Goldstone 64.19 65 *eP* **P** 21 27 42.7 -0.1
DAU Daniels Canyon 64.24 58 *eP* **P** 21 27 43.8 +0.7
FIA1 FINESS Array S 64.53 336 *eP* **P** 21 27 44.6 -0.4
FINES FINESS Array B 64.53 336 P **P** 21 27 44.6 -0.3
comp=Z,24nm,0.5s,mb5.5,baz=35,slow=7.2,SNR=110
FINES FINESS Array B 64.53 336 P **P** 21 27 44.6 -0.3
FINES pmax pmax
comp=Z,24nm,0.5s
PUL Pulkovo 64.59 333⇑ *eP* **P** 21 27 45.9 +0.6
PUL *eS* S 21 36 52.8 +28
PUL Pulkovo 64.59 333⇑ *eP* **P** 21 27 43.7 -1.6
ARUT Antelope Range 64.65 61 *eP* **P** 21 27 45.2 -0.5
CCUT Cedar City 64.85 61 *eP* **P** 21 27 48.0 +0.9
SFJD Kangerlussuaq 64.87 11 *eP* **P** 21 27 46.7 -0.5
SFJD pmax pmax
comp=Z,71nm,1.0s,mb5.7
SFJD Kangerlussuaq 64.87 11 *eP* **P** 21 27 46.7 -0.5
comp=Z,71nm,1.0s,mb5.7
MSU Marysvale 64.94 60 *eP* **P** 21 27 48.3 +0.7
TMUT Trail Mountain 65.00 59 *eP* **P** 21 27 48.9 +0.9
MOS Moscow 65.11 326 *eP* **P** 21 27 46.5 -2.2
MOS *eS* S 21 36 29.0 -2.2
MOS *e* 21 37 37.4
MOS pmax pmax
comp=Z,45nm,1.0s,mb5.5
NSS Namsos 65.29 343 *eP* **P** 21 27 48.6 -1.3
SRU San Rafael 65.52 58 *eP* **P** 21 27 51.5 +0.1
ULM Lac du Bonnet 65.65 42 P **P** 21 27 51.6 -0.7
comp=Z,9.8nm,0.7s,mb5.0,baz=312,slow=7.1,SNR=14
RSSD Black Hills 65.82 51 *eP* **P** 21 27 53.0 -0.3
RSSD pmax pmax
comp=Z,50nm,1.0s,mb5.5
RSSD Black Hills 65.82 51 *eP* **P** 21 27 53.0 -0.3
comp=Z,50nm,1.0s,mb5.5
OBN Obninsk 65.98 326⇑ *eP* **P** 21 27 53.2 -1.1
OBN *e* 21 28 07.4
OBN *i* 21 28 24.1
OBN pmax pmax
comp=Z,33nm,0.9s,mb5.4
GLA Glamis 66.91 66 *eP* **P** 21 28 00.8 +0.5
AGMN Agassiz Refuge 67.03 43 *eP* **P** 21 28 00.0 -1.1
comp=Z,96nm,1.3s,mb5.7
CTA Charters Tower 67.03 189 *eP* **P** 21 28 01.7 +0.6
comp=Z,7.3nm,0.6s,mb4.9
CTA Charters Tower 67.03 189 *eP* **P** 21 28 01.7 +0.6
CTA pmax pmax
comp=Z,7.0nm,0.6s
WUAZ Wupatki 67.39 62 *eP* **P** 21 28 04.2 +0.8
comp=Z,78nm,1.7s,mb5.5
SMCO Snowmass 67.53 56 *eP* **P** 21 27 55.6 -8.6
comp=Z,54nm,1.4s,mb5.4
VRSR Storozhevoye 67.85 322 *eP* **P** 21 28 06.3 +0.1
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.9s
ISCO Idaho Springs 67.88 55 *eP* **P** 21 28 07.1 +0.6
ISCO pmax pmax
comp=Z,58nm,1.3s,mb5.5
ISCO Idaho Springs 67.88 55 *eP* **P** 21 28 07.1 +0.7
comp=Z,58nm,1.3s,mb5.5
MVCO Mesa Verde 67.97 59 *eP* **P** 21 28 07.5 +0.4
comp=Z,10nm,0.5s,mb5.1
HYB Hyderabad 68.26 273 *eP* **P** 21 28 10.0 +1.1
NB2 NORSAR Subarra 68.58 342 P **P** 21 28 10.1 -0.8
comp=Z,51nm,1.1s,mb5.4,baz=30,slow=6.5
NOA NORSAR Array B 68.58 342 P **P** 21 28 10.7 -0.2
comp=Z,25nm,1.0s,mb5.1,baz=26,slow=6.3,SNR=27
NOA NORSAR Array B 68.58 342 P **P** 21 28 10.7 -0.2
NOA pmax pmax
comp=Z,25nm,1.0s
NAO01 NORSAR Array S 68.83 342 *eP* **P** 21 28 09.6 -2.8
comp=Z,42nm,1.2s,mb5.2
WB2 Warramunga Arr 68.99 201 *eP* **P** 21 28 14.0 +0.6
WRA Warramunga Arr 68.99 201 P **P** 21 28 14.1 +0.7
comp=Z,11nm,0.9s,mb4.8,baz=19,slow=6.5,SNR=36
WRA Warramunga Arr 68.99 201 P **P** 21 28 14.1 +0.7
WRA pmax pmax
comp=Z,11nm,0.9s
DZM Mont Dzumac 69.33 169 P **P** 21 28 17.4 +1.9
comp=Z,11nm,0.8s,mb4.8,baz=37,slow=8.8,SNR=12
SDCO Great Sand Dun 69.35 57 *eP* **P** 21 28 15.9 +0.2
comp=Z,63nm,1.6s,mb5.3
MNK Minsk 69.61 330⇑ *eP* **P** 21 28 14.0 -3.2
MNK pmax pmax
comp=Z,140nm,1.0s,mb5.8
FITZ Fitzroy Crossi 69.80 210 *eP* **P** 21 28 19.6 +1.2
comp=Z,9.0nm,0.7s,mb4.8
TUC Tucson 69.92 64 *eP* **P** 21 28 19.4 +0.2
TUC pmax pmax
comp=Z,84nm,1.9s,mb5.3
TUC Tucson 69.92 64 *eP* **P** 21 28 19.4 +0.2
comp=Z,84nm,1.9s,mb5.3
ECSD EROS,Sioux Fal 69.93 47 *eP* **P** 21 28 17.9 -1.3
comp=Z,87nm,1.4s,mb5.5
KONO Kongsberg 70.19 342 *eP* **P** 21 28 21.2 +0.4
KONO Kongsberg 70.19 342⇑ *eP* **P** 21 28 19.3 -1.5
ODD1 Odda 70.54 344 *eP* **P** 21 28 22.7 -0.3
ODD1 AMb AMB 21 28 24.8
comp=Z,139nm,2.0s,mb5.5
ANMO Albuquerque 70.72 59 *eP* **P** 21 28 24.6 +0.5
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 70.72 59 *eP* **P** 21 28 24.6 +0.6
comp=Z,13nm,1.1s,mb4.8
BLS5 Blasjo 71.03 344 *eP* **P** 21 28 27.5 +1.5
BLS5 AMb AMB 21 28 31.2
comp=Z,46nm,1.5s,mb5.2
BLS5 Blasjo 71.03 344 *eP* **P** 21 28 27.5 +1.5
comp=Z,46nm,1.5s,mb5.2
SUW Suwalki 71.55 332 *eP* **P** 21 28 28.3 -0.8
KIV Kislovodsk 71.66 315 *eP* **P** 21 28 29.3 -0.5
KIV pmax pmax
comp=Z,76nm,0.9s,mb5.6
KIV Kislovodsk 71.66 315⇑ *eP* **P** 21 28 29.1 -0.7
SNART Snartemo 71.89 343 *eP* **P** 21 28 31.6 +0.5
SNART AMb AMB 21 28 33.8
comp=Z,77nm,1.4s,mb5.4
ZEI Tsey 71.95 314 *eP* **P** 21 28 31.3 -0.2
ZEI pmax pmax
comp=Z,33nm,1.0s,mb5.2
AKASG Malin Array Be 72.20 327 P **P** 21 28 31.9 -1.1
comp=Z,5.6nm,0.4s,mb4.8,baz=34,slow=6.3,SNR=48
AKASG PP PP 21 31 12.2 -1.1
comp=Z,0.8nm,0.3s,baz=37,slow=6.3,SNR=7.3
AKASG Malin Array Be 72.20 327 P **P** 21 28 31.9 -1.1
AKASG 21 31 12.3
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.20 327 P **P** 21 28 31.9 -1.1
AKASG PP PP 21 31 12.2 -1.1
AKBB Malin Array Si 72.20 327 *eP* **P** 21 28 32.4 -0.6
KIEV Kiev 72.21 327 *eP* **P** 21 28 32.4 -0.7
KIEV pmax pmax
comp=Z,27nm,0.9s,mb5.2
KIEV Kiev 72.21 327 *eP* **P** 21 28 32.4 -0.7
comp=Z,27nm,0.9s,mb5.2
AS31 Alice Springs 72.67 200 *eP* **P** 21 28 37.3 +1.5
ASAR Alice Springs 72.67 200 P **P** 21 28 36.5 +0.7
comp=Z,14nm,0.8s,mb5.0,baz=17,slow=5.3,SNR=87
ASAR Alice Springs 72.67 200 P **P** 21 28 36.5 +0.7
ASAR pmax pmax
comp=Z,14nm,0.8s
ASPA Alice Springs 72.67 200 *eP* **P** 21 28 37.3 +1.5
SCHQ Schefferville 72.76 24 P **P** 21 28 36.3 -0.1
comp=Z,15nm,0.9s,mb4.9,baz=350,slow=5.2,SNR=11
SCIA State Center 72.97 46 *eP* **P** 21 28 37.3 -0.2
comp=Z,211nm,1.3s,mb5.9
GNI Garni 73.46 311⇑ *eP* **P** 21 28 39.4 -1.0
GNI pmax pmax
comp=Z,14nm,0.7s
GNI Garni 73.46 311⇑ *eP* **P** 21 28 39.5 -0.9
ANN Anapa 73.48 319 *eP* **P** 21 28 39.0 -1.6
ANN pmax pmax
comp=Z,115nm,1.4s,mb5.6
AMTX Amarillo 73.55 57 *eP* **P** 21 28 41.4 +0.4
comp=Z,156nm,1.6s,mb5.7
MNTX Cornudas Mount 73.64 61 *eP* **P** 21 28 41.6 +0.1
comp=Z,87nm,1.8s,mb5.4
GKP Gorka Klasztor 74.00 335 *eP* **P** 21 28 43.8 +0.2
LVV L'vov 74.81 330 *eP* **P** 21 28 47.9 -0.4
LVV *e* 21 29 02.3
SIM Simferopol' 74.84 321 *deP* **P** 21 28 48.7 +0.2
SIM pmax pmax
comp=Z,25nm,1.0s,mb5.1
TVAN Van 75.35 311 *i* P **P** 21 28 51.1 -0.3
ERZM Erzurum 75.36 313 *i* P **P** 21 28 51.0 -0.5
KIS Kishinev 75.38 325 *eP* **P** 21 28 50.0 -1.6
KWP Kalwaria 75.42 330 *eP* **P** 21 28 52.7 +0.8
IAS Iasi 75.70 326 P **P** 21 28 53.8 +0.3
OJC Ojcow 75.88 332 *eP* **P** 21 28 54.3 -0.2
HAKT HAKKARI 75.92 310 *i* P **P** 21 28 56.2 +1.4
STHS Stebnicka Huta 76.10 331 *i* P **P** 21 28 56.5 +0.8
STHS pmax pmax
comp=Z,25nm,0.8s,mb5.2
STHS Stebnicka Huta 76.10 331 *i* P **P** 21 28 56.5 +0.8
comp=Z,25nm,0.8s,mb5.2
KOLS Kolonicke sedl 76.17 330 *eP* **P** 21 28 56.2 +0.1
KELT Kelkit 76.21 315 *i* P **P** 21 28 57.0 +0.7
BURAR Bucovina Array 76.23 328⇓ *iP* **P** 21 28 56.7 +0.2
BURAR Bucovina Array 76.23 328⇓ *iP* **P** 21 28 56.7 +0.2
LTX Lajitas 76.36 62 *eP* **P** 21 28 57.4 +0.2
LTX pmax pmax
comp=Z,84nm,0.8s,mb5.7
LTX Lajitas 76.36 62 *eP* **P** 21 28 57.4 +0.2
comp=Z,84nm,0.8s,mb5.7
TXAR Lajitas Array 76.36 62 P **P** 21 28 58.0 +0.8
comp=Z,54nm,0.7s,mb5.6,baz=300,slow=4.3,SNR=274
TXAR Lajitas Array 76.36 62 P **P** 21 28 58.0 +0.8
TXAR pmax pmax
comp=Z,54nm,0.7s
NIE Niedzica 76.41 331 *eP* **P** 21 28 57.6 +0.1
KSP Ksiaz 76.41 334 *eP* **P** 21 28 57.9 +0.4
KSP Ksiaz 76.41 334 *eP* **P** 21 28 57.5 0.0
KSP *epP* pP 21 29 00.6 -0.8
KSP *e* 21 29 12.9
UZH Uzhgorod 76.42 330⇑ *eP* **P** 21 28 56.6 -0.9
OKC Ostrava-Krasne 76.73 333 *eP* **P** 21 28 59.6 +0.3
OKC *epP* pP 21 29 02.8 -0.4
OKC *ex* x 21 29 15.5
UPC Upice 76.79 334 *eP* **P** 21 29 00.1 +0.4
UPC *epP* pP 21 29 03.1 -0.5
UPC *ex* x 21 29 15.4
DPC Dobruska-Polom 76.84 334 *eP* **P** 21 29 00.8 +0.9
DPC *epP* pP 21 29 03.5 -0.3
DPC *ex* x 21 29 16.1
CCM Cathedral Cave 76.87 48 *eP* **P** 21 28 54.2 -5.9
CCM pmax pmax
comp=Z,59nm,1.3s,mb5.4
CCM Cathedral Cave 76.87 48 *eP* **P** 21 28 54.2 -5.9
comp=Z,59nm,1.3s,mb5.4
CLL Collm 76.93 337⇓ *iP* **P** 21 28 59.9 -0.6
CLL *i* pP 21 29 03.2 -1.2
CLL *i* 21 29 15.9
CLL *e* 21 31 52.0
CLL pmax pmax
comp=Z,60nm,1.2s,mb5.4
CLL Collm 76.93 337⇓ *iP* **P** 21 28 59.9 -0.6
comp=Z,60nm,1.2s,mb5.4
CLL *i* pP 21 29 03.2 -1.2
CLL *i* 21 29 15.9
CLL *e* 21 31 52.0
CLL Collm 76.93 337⇓ *iP* **P** 21 28 59.9 -0.6
comp=Z,60nm,1.2s,mb5.4
CLL *i* pP pP 21 29 03.2 -1.2
comp=Z,101nm,1.1s
CLL *i* sPcP 21 29 15.9
CLL *ePP* PP 21 31 52.0 -1.5
MORC Moravsky Berou 76.98 333⇑ *iP* **P** 21 29 01.4 +0.7
MORC Moravsky Berou 76.98 333 ⇑P **P** 21 29 01.4 +0.7
BRG Berggiesshubel 77.06 336 *i* P **P** 21 29 00.5 -0.7
comp=Z,30nm,1.3s,mb5.0
BRG Berggiesshubel 77.06 336 *i* P **P** 21 29 00.5 -0.7
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VRI Vrincioaia 77.13 326⇑ *iP* **P** 21 29 03.3 +1.7
VRI Vrincioaia 77.13 326 ⇑P **P** 21 29 03.3 +1.7
WIT Witteveen 77.13 341 *eP* **P** 21 29 02.9 +1.3
WIT *eP* 21 43 14.7
WIT *eP* 21 46 59.5
CFR Carcaliu 77.14 324⇓ *iP* **P** 21 29 02.3 +0.6
CFR Carcaliu 77.14 324 ⇓P **P** 21 29 02.3 +0.6
KECS Kecovo 77.16 331 *i* P **P** 21 29 02.1 +0.4
KECS pmax pmax
comp=Z,11nm,1.0s,mb4.7

KECS Kecovo 77.16 331 *i* P **P 21 29 02.1 +0.4**
comp=Z,11nm,1.0s,mb4.7
PLOR Plostina 77.17 326⇑ *i*P **P 21 29 02.5 +0.7**
PVCC Panska Ves 77.20 335 *e*P **P 21 29 02.4 +0.5**
PVCC *ep*P pP 21 29 05.5 -0.3
PVCC *ex* x 21 29 17.7
MSL Mosul 77.20 310 *ex* x 21 29 03.0
BOYT Boyabat 77.28 318 *i* P **P 21 29 04.0 +1.6**
ELZG Elazig 77.62 314 *i* P **P 21 29 06.2 +1.9**
TIRR Tirgusor 77.63 324⇑ *i*P **P 21 29 05.1 +0.7**
TIRR Tirgusor 77.63 324 ⇑P **P 21 29 05.0 +0.7**
HARR Harsova 77.63 324 P **P 21 29 04.8 +0.4**
PRA Prague 77.64 335 P **P 21 29 05.0 +0.5**
PRA *ex* x 21 29 19.0
VRAC Vranov 77.68 334⇑ *i*P **P 21 29 05.6 +0.9**
VRAC Vranov 77.68 334 ⇑P **P 21 29 05.6 +0.9**
PRU Pruhonice 77.69 335 *e*P **P 21 29 05.2 +0.5**
PRU *ep*P pP 21 29 08.2 -0.4
PRU *ex* x 21 29 20.9
VYHS Vyhne 77.69 332 *i* P **P 21 29 05.4 +0.7**
VYHS *e* 21 32 02.0
VYHS pmax pmax
comp=Z,39nm,1.5s,mb5.1
VYHS Vyhne 77.69 332 *i* P **P 21 29 05.4 +0.7**
comp=Z,38nm,1.5s,mb5.1
VYHS *e*PP PP 21 32 02.0 +2.1
MLR Muntele Rosu 77.74 326⇑ *i*P **P 21 29 05.7 +0.7**
MLR Muntele Rosu 77.74 326 ⇑P **P 21 29 05.7 +0.6**
JCT Junction City 77.83 58 *e*P **P 21 29 05.3 -0.2**
JCT pmax pmax
comp=Z,228nm,1.7s,mb5.8
JCT Junction City 77.83 58 *e*P **P 21 29 05.3 -0.2**
comp=Z,228nm,1.7s,mb5.8
DRGR 77.84 329⇑ *i*P **P 21 29 05.6 0.0**
DRGR 77.84 329 P **P 21 29 05.9 +0.3**
DRGR 77.84 329 ⇑P **P 21 29 05.6 0.0**
PSZ Piszkesteto 77.84 331⇓ *i*P **P 21 29 06.8 +1.2**
PSZ Piszkesteto 77.84 331 ⇓P **P 21 29 06.8 +1.3**
PSZ Piszkesteto 77.84 331⇑ *e*P **P 21 29 06.5 +0.9**
BALT Daday 77.88 319 *i* P **P 21 29 07.3 +1.5**
WTSB Winterswijk 77.89 340 *e*P **P 21 29 06.1 +0.3**
comp=Z,32nm,0.6s,mb5.4
WTSB *e*P 21 37 22.2
WTSB *e*P 21 37 22.3
comp=Z,52nm,0.4s
WTSB *e*P 21 43 17.2
comp=Z,102nm,1.3s
WTSB *e*P 21 47 02.2
comp=Z,51nm,0.9s
MOX Moxa 77.91 337 *e*P **P 21 29 06.2 +0.3**
comp=Z,63nm,1.4s,mb5.3
MOX Moxa 77.91 337 *e*P **P 21 29 06.2 +0.3**
MOX pmax pmax
comp=Z,65nm,1.4s,mb5.4
CTKT Corum 77.97 318 *i* P **P 21 29 07.3 +1.1**
SNX Sinaia 78.02 326⇑ *i*P **P 21 29 08.3 +1.7**
SNX Sinaia 78.02 326 ⇑P **P 21 29 08.3 +1.8**
MALT Malatya 78.04 314⇓ *i*P **P 21 29 09.0 +2.4**
MALT Malatya 78.04 314 P **P 21 29 08.7 +2.0**
MALT Malatya 78.04 314 ⇓P **P 21 29 09.0 +2.4**
NKC Novy Kostel 78.06 336 *e*P **P 21 29 07.3 +0.6**
NKC *ep*P pP 21 29 10.5 -0.1
NKC *ex* x 21 29 22.8
VOIR 78.13 327⇓ *i*P **P 21 29 08.4 +1.2**
VOIR 78.13 327 ⇓P **P 21 29 08.4 +1.3**
SIUC Southern Illin 78.15 47 *e*P **P 21 29 07.0 -0.3**
comp=Z,108nm,1.4s,mb5.6
ZST Bratislava 78.51 333 *e*P **P 21 29 10.6 +1.4**
ZST pmax pmax
comp=Z,36nm,1.5s,mb5.1
ZST Bratislava 78.51 333 *e*P **P 21 29 10.6 +1.4**
comp=Z,36nm,1.5s,mb5.1
MSNY Massena 78.61 34 *e*P **P 21 29 07.4 -2.4**
BUC1 Bucharest 78.67 325 P **P 21 29 11.1 +1.0**
ELDT Eldivan 78.70 318 *i* P **P 21 29 11.1 +0.8**
KHC Kasperske Hory 78.73 335 *e*P **P 21 29 10.8 +0.3**
KHC *ep*P pP 21 29 14.3 -0.1
KHC *ex* x 21 29 26.8
KHC Kasperske Hory 78.73 335 *e*P **P 21 29 10.8 +0.3**
KHC *e* pP 21 29 14.3 -0.1
BHD Baghdad 78.79 307 *ex* x 21 29 06.0
GRA1 Grafenberg Arr 78.88 337 *e*P **P 21 29 11.6 +0.3**
comp=Z,68nm,1.1s,mb5.5
GRA1 *ep*P pP 21 29 15.0 -0.2
GRF Grafenberg Arr 78.88 337 *e*P **P 21 29 11.6 +0.3**
comp=Z,68nm,1.1s,mb5.5
GRF *ep*P pP 21 29 15.0 -0.2
GRF Grafenberg Arr 78.88 337 *e*P **P 21 29 11.6 +0.3**
GRF *e**PP pP 21 29 15.0 -0.2
GRF pmax pmax
comp=Z,68nm,1.1s,mb5.5
GRFO Grafenberg 78.88 337 *e*P **P 21 29 12.3 +1.0**
GRFO pmax pmax
comp=Z,71nm,1.0s,mb5.5
GRFO Grafenberg 78.88 337 *e*P **P 21 29 12.3 +1.0**
comp=Z,70nm,1.0s,mb5.5
GEC2 GERESS Array S 78.96 335 *e*P **P 21 29 10.6 -1.1**
GERES GERESS Array B 78.96 335 P **P 21 29 12.1 +0.4**
comp=Z,10nm,0.8s,mb4.8,baz=33,slow=5.1,SNR=41
GERES GERESS Array B 78.96 335 P **P 21 29 12.1 +0.4**
GERES pmax pmax
comp=Z,10.0nm,0.8s
GZR Gura Zlata 79.01 328⇑ *i*P **P 21 29 12.3 +0.3**
GZR Gura Zlata 79.01 328 ⇑P **P 21 29 12.3 +0.3**
LONY Lake Ozonia 79.03 34 *e*P **P 21 29 10.8 -1.3**
comp=Z,42nm,1.6s,mb5.1
CONA Conrad Observa 79.13 333 *i* P **P 21 29 13.7 +1.0**
comp=Z,27nm,1.0s,mb5.2,SNR=20
SOP Sopron 79.13 333⇑ *e*P **P 21 29 14.0 +1.3**
WCI Wyandotte Cave 79.19 45 *e*P **P 21 29 12.9 -0.1**
WCI pmax pmax
comp=Z,144nm,1.3s,mb5.7
WCI Wyandotte Cave 79.19 45 *e*P **P 21 29 12.9 -0.1**
comp=Z,144nm,1.3s,mb5.8
HGN Heimansgroeve 79.21 341 *e*P **P 21 29 13.5 +0.4**
comp=Z,48nm,1.0s,mb5.4
BR131 Keskin Array S 79.21 318 *e*P **P 21 29 13.9 +0.8**
comp=Z,18nm,1.1s,mb4.9
BRTR Keskin Array B 79.21 318 P **P 21 29 14.1 +0.9**
comp=Z,13nm,1.1s,mb4.8,baz=64,slow=2.9,SNR=27
BRTR Keskin Array B 79.21 318 P **P 21 29 14.1 +1.0**
BRTR pmax pmax
comp=Z,13nm,1.1s
GZT Gaziantep 79.21 314 *i* P **P 21 29 14.3 +1.1**
STKA Stephens Creek 79.23 192 *e*P **P 21 29 13.7 +0.5**
comp=Z,5.8nm,0.7s,mb4.6
STKA Stephens Creek 79.23 192 P **P 21 29 13.8 +0.5**
comp=Z,7.3nm,0.7s,mb4.7,baz=336,slow=7.9,SNR=12
BZS Buzias 79.24 329⇑ *i*P **P 21 29 13.0 -0.3**
BZS Buzias 79.24 329 P **P 21 29 13.2 -0.1**
BZS Buzias 79.24 329 ⇑P **P 21 29 13.0 -0.2**
ALLY Alegheny Colle 79.25 39 *e*P **P 21 29 13.3 -0.1**
AVNT Avonos 79.40 317 *i* P **P 21 29 14.3 +0.2**
ANTO Ankara 79.48 318⇓ *i*P **P 21 29 16.4 +1.8**
ANTO Ankara 79.48 318 ⇓P **P 21 29 16.4 +1.8**
ZIMR 79.51 325 P **P 21 29 14.1 -0.6**
ABH Alteburg 79.65 339 *e*P **P 21 29 15.7 +0.2**
MOA Molln 79.69 334 *i* P **P 21 29 16.3 +0.6**
comp=Z,16nm,0.8s,mb5.0,SNR=8.7
MIB Mutribah 79.71 303 *e*P **P 21 29 16.5 +0.7**
MIB AMb AMB 21 29 22.6
comp=Z,85nm,0.7s,mb5.8
NCB Newcomb 79.72 34 *e*P **P 21 29 14.4 -1.5**
comp=Z,48nm,1.3s,mb5.3
PKSM Moragy 79.75 331⇑ *i*P **P 21 29 15.7 -0.4**
PKSM Moragy 79.75 331 *i* P **P 21 29 16.0 -0.1**
PKSM Moragy 79.75 331 ⇑P **P 21 29 15.7 -0.3**
ARSA Arzberg 79.84 333 *i* P **P 21 29 17.4 +0.9**
comp=Z,24nm,1.0s,mb5.1,SNR=11
KBD Kabd 79.97 302 *e*P **P 21 29 17.5 +0.3**
GIVF Givet 80.08 341 *e*P **P 21 29 17.3 -0.5**
comp=Z,114nm,1.2s,mb5.4
GIVF Givet 80.08 341 *e*P **P 21 29 17.3 -0.5**
GIVF pmax pmax
comp=Z,57nm,1.2s,mb5.4
GIVF Givet 80.08 341 *e*P **P 21 29 17.3 -0.5**
comp=Z,57nm,1.2s,mb5.4
WVT Waverly 80.08 47 *e*P **P 21 29 16.9 -0.9**
WVT pmax pmax
comp=Z,116nm,1.8s,mb5.5
WVT Waverly 80.08 47 *e*P **P 21 29 16.9 -1.0**
comp=Z,116nm,1.8s,mb5.5
NAY Al-Naaiem 80.18 302 *e*P **P 21 29 18.5 +0.1**
NAY AMb AMB 21 29 20.6
comp=Z,31nm,1.5s,mb5.0
BAIF Baives 80.25 341 *e*P **P 21 29 18.4 -0.4**
comp=Z,38nm,1.0s,mb5.0
BAIF Baives 80.25 341 *e*P **P 21 29 18.4 -0.4**
BAIF pmax pmax
comp=Z,19nm,1.0s,mb5.0
BAIF Baives 80.25 341 *e*P **P 21 29 18.4 -0.4**
comp=Z,19nm,1.0s,mb5.0
STU Stuttgart 80.26 338 *e*P **P 21 29 14.5 -4.3**
STU pmax pmax
comp=Z,49nm,1.0s,mb5.4
STU Stuttgart 80.26 338 *e*P **P 21 29 14.5 -4.3**
comp=Z,49nm,1.0s,mb5.4
LBNH Lisbon 80.35 32 *e*P **P 21 29 19.1 -0.2**
LBNH pmax pmax
comp=Z,28nm,1.3s,mb5.0
LBNH Lisbon 80.35 32 *e*P **P 21 29 19.1 -0.1**
comp=Z,28nm,1.3s,mb5.0
PKME Peaks-Kenny Pk 80.39 30 *e*P **P 21 29 19.2 -0.3**
comp=Z,44nm,1.1s,mb5.3
ACCN Adirondack Com 80.43 34 *e*P **P 21 29 19.1 -0.7**
PERS Pernice 80.51 333 *e*P **P 21 29 20.2 +0.1**
BINY Binghamton 80.52 36 *e*P **P 21 29 19.7 -0.5**
comp=Z,8.9nm,1.0s,mb4.7
ESKT Eskisehir 80.64 320 *i* P **P 21 29 21.2 +0.3**
KBA Koelnbreinsper 80.65 335⇑ *i*P **P 21 29 22.1 +1.2**
comp=Z,84nm,1.0s,mb5.6,SNR=33
DIM Dimitrovgrad 80.80 324 *e*P **P 21 29 22.0 +0.3**
OBKA Obir 80.80 334⇑ *i*P **P 21 29 22.1 +0.4**
comp=Z,11nm,0.5s,mb5.0
WATA Walderalm 80.93 336 *i* P **P 21 29 23.5 +1.1**
comp=Z,32nm,0.8s,mb5.3,SNR=12
WATA Walderalm 80.93 336 P **P 21 29 23.5 +1.1**
FORT Forrest 80.95 203 *e*P **P 21 29 23.6 +1.1**
comp=Z,23nm,0.7s,mb5.2
WTTA Wattenberg 80.98 336 *i* P **P 21 29 23.8 +1.2**
comp=Z,114nm,1.2s,mb5.7,SNR=26
MCWV Mont Chateau 81.01 40 *e*P **P 21 29 23.2 +0.3**
comp=Z,218nm,1.6s,mb5.8
GCIS Gornji Cirnik 81.04 333 *e*P **P 21 29 22.8 -0.2**
SSPA Standing Stone 81.05 38 *e*P **P 21 29 22.5 -0.5**
comp=Z,172nm,1.8s,mb5.7
MOTA Moosalm 81.05 336 *i* P **P 21 29 23.8 +0.7**
comp=Z,59nm,0.9s,mb5.5,SNR=34
GRUS Gruza 81.06 328 *i* P **P 21 29 21.9 -1.2**
CDF Champ du Feu 81.08 339 *e*P **P 21 29 22.9 -0.3**
comp=Z,73nm,1.1s,mb5.2
CDF Champ du Feu 81.08 339 *e*P **P 21 29 22.9 -0.3**
CDF pmax pmax
comp=Z,36nm,1.1s,mb5.2
CDF Champ du Feu 81.08 339 *e*P **P 21 29 22.9 -0.3**
comp=Z,36nm,1.1s,mb5.2
DIVS Divcibare 81.13 329 *i* P **P 21 29 23.2 -0.3**
SQTA Sankt Quirin 81.14 336 *i* P **P 21 29 24.6 +1.1**
comp=Z,60nm,1.0s,mb5.5,SNR=29
LIBD Limburg 81.24 339 *e*P **P 21 29 24.5 +0.5**
VTS Vitosha 81.25 326⇑ *i*P **P 21 29 24.6 +0.5**
VTS Vitosha 81.25 326 *i* P **P 21 29 24.0 -0.1**
VTS Vitosha 81.25 326 P **P 21 29 24.7 +0.6**
ECH Echery 81.29 339 *e*P **P 21 29 24.5 +0.2**
FELD Feldberg im Sc 81.39 338 *e*P **P 21 29 25.2 +0.3**
DAVA Damuels 81.44 337 *i* P **P 21 29 26.0 +0.9**
comp=Z,32nm,0.9s,mb5.3,SNR=16
MEZF Maizieres J'vi 81.53 340 *e*P **P 21 29 25.4 -0.2**
comp=Z,61nm,0.8s,mb5.3
MEZF Maizieres J'vi 81.53 340 *e*P **P 21 29 25.4 -0.2**
comp=Z,61nm,0.8s,mb5.6
CEY Cerknica 81.53 333 *e*P **P 21 29 24.8 -0.8**
THEF They Montfort 81.57 340 *e*P **P 21 29 26.3 +0.5**
MOF Molkenrain 81.64 339 *e*P **P 21 29 26.3 +0.2**
BTOK Tokmak 81.67 321 *i* P **P 21 29 26.7 +0.3**
HAU Haudompre 81.69 339 *e*P **P 21 29 26.0 -0.4**
comp=Z,41nm,0.9s,mb5.1
HAU Haudompre 81.69 339 *e*P **P 21 29 26.0 -0.4**
HAU pmax pmax
comp=Z,20nm,0.9s,mb5.0
HAU Haudompre 81.69 339 *e*P **P 21 29 26.0 -0.4**
comp=Z,20nm,0.9s,mb5.1
HINF Hinteralfeld 81.74 339 *e*P **P 21 29 25.8 -0.9**
comp=Z,18nm,0.8s,mb4.8
HINF Hinteralfeld 81.74 339 *e*P **P 21 29 25.8 -0.9**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HINF Hinteralfeld 81.74 339 *e*P **P 21 29 25.8 -0.9**
comp=Z,9.1nm,0.8s,mb4.8
MMB Musomiste 81.90 325 *i* P **P 21 29 28.0 +0.5**
TKTP Tekketepe 82.09 319 *i* P **P 21 29 29.0 +0.4**
LUPA Lehigh Univers 82.12 36 *e*P **P 21 29 27.2 -1.5**
WES Weston 82.17 33 *e*P **P 21 29 27.9 -1.1**
WES pmax pmax
comp=Z,130nm,1.6s,mb5.6
WES Weston 82.17 33 *e*P **P 21 29 27.9 -1.0**
comp=Z,130nm,1.6s,mb5.6
PAL Palisades 82.36 35 *e*P **P 21 29 28.3 -1.7**
PAL pmax pmax
comp=Z,94nm,1.4s,mb5.5
PAL Palisades 82.36 35 *e*P **P 21 29 28.3 -1.7**
comp=Z,94nm,1.4s,mb5.5
STIP Stip 82.41 326⇑ *e*P **P 21 29 29.9 -0.3**
SKO Skopje 82.45 327⇑ *i*P **P 21 29 31.2 +0.8**
FLN La Foliniere 82.45 344 *e*P **P 21 29 30.0 -0.4**
comp=Z,234nm,1.4s,mb5.6
FLN La Foliniere 82.45 344 *e*P **P 21 29 30.0 -0.4**
FLN pmax pmax
comp=Z,117nm,1.4s,mb5.6
FLN La Foliniere 82.45 344 *e*P **P 21 29 30.0 -0.4**
comp=Z,117nm,1.4s,mb5.6
CPNY Central Park 82.52 35 *e*P **P 21 29 29.0 -1.8**
LDF La Druitiere 82.54 344 *e*P **P 21 29 30.4 -0.5**
comp=Z,47nm,1.0s,mb5.2
LDF La Druitiere 82.54 344 *e*P **P 21 29 30.4 -0.5**
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.2
LDF La Druitiere 82.54 344 *e*P **P 21 29 30.4 -0.5**
comp=Z,24nm,1.0s,mb5.2
VAY Vandovo 82.58 326⇑ *i*P **P 21 29 31.3 +0.2**
ELN Prospectdale 82.60 42 *e*P **P 21 29 30.9 -0.3**
BLA Blacksburg 82.77 41 *e*P **P 21 29 31.7 -0.4**
BLA pmax pmax
comp=Z,81nm,1.1s,mb5.7
BLA Blacksburg 82.77 41 *e*P **P 21 29 31.7 -0.4**
comp=Z,81nm,1.1s,mb5.7
GRR Gorron 82.88 344 *e*P **P 21 29 32.5 -0.2**
comp=Z,183nm,1.2s,mb5.7
GRR Gorron 82.88 344 *e*P **P 21 29 32.5 -0.2**
GRR pmax pmax
comp=Z,92nm,1.2s,mb5.7
GRR Gorron 82.88 344 *e*P **P 21 29 32.5 -0.2**
comp=Z,92nm,1.2s,mb5.7
LOR Lormes 82.96 341 *e*P **P 21 29 32.7 -0.4**
comp=Z,134nm,1.1s,mb5.6
LOR Lormes 82.96 341 *e*P **P 21 29 32.7 -0.4**
LOR pmax pmax
comp=Z,67nm,1.1s,mb5.6
LOR Lormes 82.96 341 *e*P **P 21 29 32.7 -0.4**
comp=Z,67nm,1.1s,mb5.6
KRUS Krusevo 83.04 327 *i* P **P 21 29 34.0 +0.5**
CABF La Chapelle 83.05 339 *e*P **P 21 29 33.4 -0.1**
comp=Z,112nm,1.3s,mb5.4
CABF La Chapelle 83.05 339 *e*P **P 21 29 33.4 -0.1**
CABF pmax pmax
comp=Z,56nm,1.3s,mb5.4
CABF La Chapelle 83.05 339 *e*P **P 21 29 33.4 -0.1**
comp=Z,56nm,1.3s,mb5.4
SSF Saint Saulge 83.24 341 *e*P **P 21 29 34.2 -0.3**
comp=Z,47nm,0.8s,mb5.3
SSF Saint Saulge 83.24 341 *e*P **P 21 29 34.2 -0.3**
SSF pmax pmax
comp=Z,24nm,0.8s,mb5.3
SSF Saint Saulge 83.24 341 *e*P **P 21 29 34.2 -0.3**
comp=Z,24nm,0.8s,mb5.3
SGMF Saint Gilles 83.32 345 *e*P **P 21 29 34.8 -0.1**
comp=Z,187nm,1.3s,mb5.7
SGMF Saint Gilles 83.32 345 *e*P **P 21 29 34.8 -0.1**
SGMF pmax pmax
comp=Z,93nm,1.3s,mb5.7
SGMF Saint Gilles 83.32 345 *e*P **P 21 29 34.8 -0.1**
comp=Z,93nm,1.3s,mb5.7
ROSF Rostrenen 83.37 346 *e*P **P 21 29 35.0 -0.2**
comp=Z,193nm,1.2s,mb5.7
ROSF Rostrenen 83.37 346 *e*P **P 21 29 35.0 -0.2**
ROSF pmax pmax
comp=Z,96nm,1.2s,mb5.7
ROSF Rostrenen 83.37 346 *e*P **P 21 29 35.0 -0.2**
comp=Z,96nm,1.2s,mb5.7
OHR Ohrid 83.43 327⇑ *i*P **P 21 29 35.0 -0.5**
AVF Avril sur Loir 83.53 341 *e*P **P 21 29 35.8 -0.2**
comp=Z,172nm,1.2s,mb5.8
AVF Avril sur Loir 83.53 341 *e*P **P 21 29 35.8 -0.2**
AVF pmax pmax
comp=Z,86nm,1.2s,mb5.8
AVF Avril sur Loir 83.53 341 *e*P **P 21 29 35.8 -0.2**
comp=Z,86nm,1.2s,mb5.8
SMF Signal de Mont 83.55 340 *e*P **P 21 29 36.0 -0.1**
comp=Z,340nm,1.2s,mb6.0
SMF Signal de Mont 83.55 340 *e*P **P 21 29 36.0 -0.1**
SMF pmax pmax
comp=Z,170nm,1.2s,mb6.0
SMF Signal de Mont 83.55 340 *e*P **P 21 29 36.0 -0.1**
comp=Z,170nm,1.2s,mb6.0
QUIF Quistinic 83.75 345 *e*P **P 21 29 36.8 -0.4**
BGF Bois d'Agland 83.86 341 *e*P **P 21 29 37.6 -0.1**
comp=Z,141nm,1.4s,mb5.6
BGF Bois d'Agland 83.86 341 *e*P **P 21 29 37.6 -0.1**
BGF pmax pmax
comp=Z,71nm,1.4s,mb5.6
BGF Bois d'Agland 83.86 341 *e*P **P 21 29 37.6 -0.1**
comp=Z,70nm,1.4s,mb5.6
LPL La Plagne 83.91 338 *e*P **P 21 29 37.9 -0.1**
comp=Z,125nm,1.1s,mb5.7
LPL La Plagne 83.91 338 *e*P **P 21 29 37.9 -0.1**
LPL pmax pmax
comp=Z,63nm,1.1s,mb5.7
LPL La Plagne 83.91 338 *e*P **P 21 29 37.9 -0.1**
comp=Z,63nm,1.1s,mb5.7
LPG La Plagne 83.92 338 *e*P **P 21 29 38.1 +0.1**
comp=Z,270nm,1.4s,mb5.9
LPG La Plagne 83.92 338 *e*P **P 21 29 38.1 +0.1**
LPG pmax pmax
comp=Z,135nm,1.4s,mb5.9
LPG La Plagne 83.92 338 *e*P **P 21 29 38.1 +0.1**
comp=Z,135nm,1.4s,mb5.9
TCF Toulx Ste Croi 84.26 341 *e*P **P 21 29 39.7 0.0**
comp=Z,108nm,1.2s,mb5.5
TCF Toulx Ste Croi 84.26 341 *e*P **P 21 29 39.7 0.0**
TCF pmax pmax
comp=Z,54nm,1.2s,mb5.5
TCF Toulx Ste Croi 84.26 341 *e*P **P 21 29 39.7 0.0**
comp=Z,54nm,1.2s,mb5.5
AGO Saint Agoulin 84.28 341 *e*P **P 21 29 40.6 +0.8**
GDM Grand'Maison 84.36 338 *e*P **P 21 29 41.4 +1.2**
GRN Grenoble 84.42 339 *e*P **P 21 29 41.8 +1.3**
MFF Saint Martin d 84.45 343 *e*P **P 21 29 40.3 -0.4**
comp=Z,246nm,1.6s,mb5.8
MFF Saint Martin d 84.45 343 *e*P **P 21 29 40.3 -0.4**
MFF pmax pmax
comp=Z,123nm,1.6s,mb5.8
MFF Saint Martin d 84.45 343 *e*P **P 21 29 40.3 -0.4**
comp=Z,123nm,1.6s,mb5.8
MBDF Montbardon 84.64 338 *e*P **P 21 29 41.4 -0.2**
comp=Z,89nm,1.2s,mb5.5
MBDF Montbardon 84.64 338 *e*P **P 21 29 41.4 -0.2**
MBDF pmax pmax
comp=Z,44nm,1.2s,mb5.5
MBDF Montbardon 84.64 338 *e*P **P 21 29 41.4 -0.2**
comp=Z,44nm,1.2s,mb5.5
ORIF Oris-en-Rattie 84.69 338 *e*P **P 21 29 41.7 -0.2**
comp=Z,95nm,1.1s,mb5.5
ORIF Oris-en-Rattie 84.69 338 *e*P **P 21 29 41.7 -0.2**
ORIF pmax pmax
comp=Z,48nm,1.1s,mb5.5
ORIF Oris-en-Rattie 84.69 338 *e*P **P 21 29 41.7 -0.2**
comp=Z,48nm,1.1s,mb5.5
JSC Jenkinsville 84.77 44 *e*P **P 21 29 41.5 -0.8**
AQU L'Aquila 84.90 332⇑ *i*P **P 21 29 44.4 +1.4**
AQU L'Aquila 84.90 332 P **P 21 29 44.7 +1.7**
AQU L'Aquila 84.90 332 ⇑P **P 21 29 44.4 +1.4**
VIVF Saint-Julien-l 85.04 339 *e*P **P 21 29 43.4 -0.3**
comp=Z,82nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.04 339 *e*P **P 21 29 43.4 -0.3**
VIVF pmax pmax
comp=Z,41nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.04 339 *e*P **P 21 29 43.4 -0.3**
comp=Z,41nm,1.1s,mb5.5
SAOF Saorge 85.12 337 *e*P **P 21 29 44.1 0.0**
AUTN L'Aution 85.14 337 *e*P **P 21 29 43.0 -1.2**
TOUF Mont Tournerai 85.17 337 *e*P **P 21 29 44.3 -0.1**
LUCF Luceram 85.26 337 *e*P **P 21 29 43.0 -1.8**
SBF Sospel 85.26 337 *e*P **P 21 29 44.1 -0.7**
comp=Z,67nm,0.8s,mb5.5
SBF Sospel 85.26 337 *e*P **P 21 29 44.1 -0.7**
SBF pmax pmax
comp=Z,34nm,0.8s,mb5.5
SBF Sospel 85.26 337 *e*P **P 21 29 44.1 -0.7**
comp=Z,34nm,0.8s,mb5.5
RJF Les Rejaudoux 85.34 342 *e*P **P 21 29 44.5 -0.7**
comp=Z,94nm,1.2s,mb5.5
RJF Les Rejaudoux 85.34 342 *e*P **P 21 29 44.5 -0.7**
RJF pmax pmax
comp=Z,47nm,1.2s,mb5.5
RJF Les Rejaudoux 85.34 342 *e*P **P 21 29 44.5 -0.7**
comp=Z,47nm,1.2s,mb5.5
REVF Revere 85.40 337 *e*P **P 21 29 45.6 +0.1**
CAF Calviac 85.58 341 *e*P **P 21 29 46.2 -0.2**
comp=Z,129nm,1.2s,mb5.7
CAF Calviac 85.58 341 *e*P **P 21 29 46.2 -0.2**
CAF pmax pmax
comp=Z,64nm,1.2s,mb5.7
CAF Calviac 85.58 341 *e*P **P 21 29 46.2 -0.2**
comp=Z,64nm,1.2s,mb5.7
SMRF Simiane la Rot 85.64 338 *e*P **P 21 29 46.5 -0.2**
comp=Z,171nm,1.7s,mb5.7
SMRF Simiane la Rot 85.64 338 *e*P **P 21 29 46.5 -0.2**
comp=Z,171nm,1.7s,mb6.0
FRF La Foret Royal 85.75 337 *e*P **P 21 29 46.6 -0.6**
comp=Z,148nm,1.6s,mb5.7
FRF La Foret Royal 85.75 337 *e*P **P 21 29 46.6 -0.6**
FRF pmax pmax
comp=Z,74nm,1.6s,mb5.7
FRF La Foret Royal 85.75 337 *e*P **P 21 29 46.6 -0.6**
comp=Z,74nm,1.6s,mb5.7
COW Cow Castle Cre 85.78 44 *e*P **P 21 29 47.6 +0.3**
LFF La Frestale 85.86 342 *e*P **P 21 29 46.9 -0.9**
comp=Z,93nm,1.1s,mb5.6
LFF La Frestale 85.86 342 *e*P **P 21 29 46.9 -0.9**
LFF pmax pmax
comp=Z,47nm,1.1s,mb5.6
LFF La Frestale 85.86 342 *e*P **P 21 29 46.9 -0.9**
comp=Z,46nm,1.1s,mb5.6
LASF Ste Croix 85.97 340 *e*P **P 21 29 47.9 -0.4**
comp=Z,68nm,1.1s,mb5.5
LMR La Mourre 86.00 337 *e*P **P 21 29 48.0 -0.5**
comp=Z,104nm,1.2s,mb5.7
LMR La Mourre 86.00 337 *e*P **P 21 29 48.0 -0.5**
LMR pmax pmax
comp=Z,52nm,1.2s,mb5.6
LMR La Mourre 86.00 337 *e*P **P 21 29 48.0 -0.5**
comp=Z,52nm,1.2s,mb5.6
PGF Pioggiola 86.05 336 *e*P **P 21 29 47.9 -0.8**
comp=Z,86nm,1.2s,mb5.5
PGF Pioggiola 86.05 336 *e*P **P 21 29 47.9 -0.8**
PGF pmax pmax
comp=Z,43nm,1.2s,mb5.5
PGF Pioggiola 86.05 336 *e*P **P 21 29 47.9 -0.8**
comp=Z,43nm,1.2s,mb5.5
MTLF Montolieu 87.05 340 *e*P **P 21 29 53.1 -0.5**
comp=Z,20nm,0.8s,mb5.1
MTLF Montolieu 87.05 340 *e*P **P 21 29 53.1 -0.5**
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
MTLF Montolieu 87.05 340 *e*P **P 21 29 53.1 -0.5**
comp=Z,10.0nm,0.8s,mb5.1
EPF Esparros 87.77 342 *e*P **P 21 29 56.4 -0.7**
comp=Z,6.5nm,0.5s,mb4.8
EPF Esparros 87.77 342 *e*P **P 21 29 56.4 -0.7**
EPF pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
EPF Esparros 87.77 342 *e*P **P 21 29 56.4 -0.7**
comp=Z,3.3nm,0.5s,mb4.8
SJPF Ste Jean 88.02 343 *e*P **P 21 29 57.5 -0.8**
comp=Z,23nm,1.1s,mb5.0
SJPF Ste Jean 88.02 343 *e*P **P 21 29 57.5 -0.8**
SJPF pmax pmax
comp=Z,11nm,1.1s,mb5.0
SJPF Ste Jean 88.02 343 *e*P **P 21 29 57.5 -0.8**
comp=Z,11nm,1.1s,mb5.0
ETSF Etsaut 88.08 342 *e*P **P 21 29 58.0 -0.6**
comp=Z,30nm,0.9s,mb5.2
ETSF Etsaut 88.08 342 *e*P **P 21 29 58.0 -0.6**
ETSF pmax pmax
comp=Z,15nm,0.9s,mb5.2
ETSF Etsaut 88.08 342 *e*P **P 21 29 58.0 -0.6**

	comp=Z,15nm,0.9s,mb5.2								
ESDC	**Sonseca Array**	**91.87**	**344**	P		**P**	**21 30 15.7**	**-0.6**	
	comp=Z,7.4nm,0.9s,mb5.0,baz=12,slow=4.2,SNR=18								
KEST	**Kesra**	**92.22**	**333**	P		**P**	**21 30 17.2**	**-0.7**	
	comp=Z,5.8nm,0.9s,mb4.9,baz=326,slow=1.5,SNR=13								
EVO	**Evora**	**93.69**	**347**	*e*P		**P**	**21 30 23.9**	**-0.8**	
	comp=Z,47nm,1.2s,mb5.5								
RKT	**Rikitea**	**93.91**	**120**	*e*PS		SS	21 47 53.0	-1.5	
	comp=Z,2μm,26.5s								
TORD	**Torodi Ar. Bea**	**115.69**	**331**	PKP		PKPdf	21 35 49.8	-0.5	
	comp=Z,2.1nm,0.7s,baz=23,slow=1.7,SNR=20								
VNDA	**Vanda**	**124.12**	**178**	PKP		PKPdf	21 36 04.9	-1.7	
	comp=Z,1.5nm,0.7s,baz=335,slow=3.6,SNR=10								
VNDA	**Vanda**	**124.12**	**178**	PKIKP		PKPdf	21 36 04.9	-1.7	
VNDA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
LIC	**Lamto**	**124.30**	**336**	*e*PKIKP		PKPdf	21 36 06.1	-0.8	
	comp=Z,15nm,0.7s								
LSZ	**Lusaka**	**125.95**	**287**	*e*PKIKP		PKPdf	21 36 10.6	+0.5	
SAML	**Samuel**	**130.25**	**53**	*e*P		PKPdf	21 36 17.8	-0.5	
MAW	**Mawson**	**132.90**	**212**	PKP		PKPdf	21 36 22.0	-1.3	
	comp=Z,4.0nm,0.6s,baz=37,slow=1.4,SNR=12								
MAW	**Mawson**	**132.90**	**212**	PKIKP		PKPdf	21 36 22.0	-1.3	
MAW				pmax		pmax			
	comp=Z,4.0nm,0.6s								
LPAZ	**La Paz**	**133.19**	**64**	PKP		PKPdf	21 36 25.7	+1.8	
	comp=Z,6.2nm,1.1s,baz=357,slow=5.2,SNR=16								
LPAZ	**La Paz**	**133.19**	**64**	PKIKP		PKPdf	21 36 25.7	+1.9	
LPAZ				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LPAZ	**La Paz**	**133.19**	**64**	PKP		PKPdf	21 36 25.7	+1.8	
QSPA	**South Pole Qui**	**136.54**	**180**	*e*P		PKPdf	21 36 28.3	-1.8	
BOSA	**Boshof**	**137.06**	**277**	PKP		PKPdf	21 36 32.0	+1.0	
	comp=Z,3.6nm,0.9s,baz=234,slow=3.3,SNR=3.7								
BOSA	**Boshof**	**137.06**	**277**	PKIKP		PKPdf	21 36 32.1	+1.0	
BOSA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CFAA	**Coronel Fontan**	**143.74**	**81**	PKhKP			21 36 39.9		
	comp=Z,2.5nm,0.8s,baz=287,slow=2.7,SNR=26								
CAM3	**Guarapari**	**151.09**	**31**	*e*P		PKPdf	21 36 56.1	+0.8	
CAM3				*i*			21 37 08.2		
CAM3				*i*			21 37 19.0		
CAM3				*i*			21 37 27.3		
TRQA	**Tornquist**	**151.59**	**86**	*e*PKPbc		PKPbc	21 37 01.9	-0.4	
CAM4	**Nova Friburgo**	**151.80**	**36**	⇑*i*P		PKPbc	21 37 03.2	+0.4	
CAM4				*i*			21 37 11.9		
USHA	**Ushuaia**	**151.83**	**123**	PKPbc		PKPbc	21 37 02.6	-0.2	
	comp=Z,8.9nm,0.9s,baz=220,slow=4.8,SNR=4.6								
PMSA	**Palmer Station**	**152.29**	**145**	PKPbc		PKPbc	21 37 02.8	-1.1	
	comp=Z,14nm,0.8s,baz=184,slow=12,SNR=3.9								
SNAA	**Sanae**	**152.94**	**195**	PKPbc		PKPbc	21 37 03.4	-2.0	
	comp=Z,2.5nm,0.6s,baz=178,slow=2.5,SNR=31								
SNAA	**Sanae**	**152.94**	**195**	*e*PKPdf		PKPbc	21 37 02.2	-3.1	
SNAA				*e*			21 37 15.1		
SNAA				*e*			21 37 28.2		
SNAA	**Sanae**	**152.94**	**195**	*e*P		PKPbc	21 37 02.7	-2.6	
SNAA				PKPbc		PKPbc	21 37 03.4	-2.0	
VNA2	**Neumayer--Watz**	**154.36**	**193**	*e*PKPdf		PKPbc	21 37 06.7	-1.7	
VNA2				*e*			21 37 14.6		
VNA2				*e*			21 37 21.7		
VNA3	**Neumayer Olymp**	**154.41**	**191**	*e*PKPdf		PKPbc	21 37 06.2	-2.3	
VNA3				*e*			21 37 14.3		
VNA3				*e*			21 37 20.3		

ISCJB ***15*** *21:20:38.9±1.6, 478N±03×1550E±03, h10km, mb4.4/11, Error ellipse: s-maj=39.6km s-min=23.0km az=127.3*

NEIC ***15*** *21:20:38.6±2.6, 4733N×15498E, h10km, mb4.7/1, Error ellipse: s-maj=75.2km s-min=27.8km az=186.0*

IDC ***15*** *21:20:38.0±2.0, 4752N×155.10E, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.2/25, mbtmp4.4/10, Error ellipse: s-maj=52.7km s-min=28.6km az=162.0*

ISC 15 21:20:40.2±1.6, 477N±03×1550E±03, h10km, n13, σ1§00/13, mb4.4/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.34**	**253**	P		**P**	**21 25 38.4**	**+0.3**
	3.8nm,0.8s,mb3.9,baz=53,slow=10,SNR=3.7							
MKAR	**Makanchi Array**	**47.65**	**297**	P		**P**	**21 29 15.5**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=70,slow=7.1,SNR=4.2							
BVAR	**Borovoye Array**	**51.24**	**310**	P		**P**	**21 29 43.3**	**-0.7**
	5.8nm,0.4s,mb4.8,baz=55,slow=7.6,SNR=16							
ARU	**Arti**	**55.17**	**318**	*e*P		**P**	**21 30 12.6**	**-0.3**
	4.2nm,0.5s,mb4.7							
KEV	**Kevo**	**56.85**	**341**	*e*p		**P**	**21 30 23.3**	**-1.6**
FINES	**FINESS Array B**	**63.70**	**335**	P		**P**	**21 31 11.6**	**-0.3**
	6.0nm,0.5s,mb4.9,baz=39,slow=8.9,SNR=11							
NB2	**NORSAR Subarra**	**67.71**	**342**	P		**P**	**21 31 38.2**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.71**	**342**	P		**P**	**21 31 38.5**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=25,slow=6.3,SNR=3.8							
HFS	**Hagfors**	**67.99**	**340**	P		**P**	**21 31 39.9**	**+0.5**
	comp=Z,2.2nm,0.3s,mb4.6,baz=77,slow=3.2,SNR=6.8							
EKA	**Eskdalemuir Ar**	**75.68**	**347**	P		**P**	**21 32 27.5**	**+1.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=18,slow=5.0,SNR=11							
TXAR	**Lajitas Array**	**75.88**	**62**	P		**P**	**21 32 25.9**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.3,baz=301,slow=4.5,SNR=4.4							
MLR	**Muntele Rosu**	**77.00**	**326**	P		**P**	**21 32 34.9**	**+1.7**
	comp=Z,2.1nm,0.4s,mb4.4,baz=349,slow=14,SNR=4.5							
GERES	**GERESS Array B**	**78.13**	**335**	P		**P**	**21 32 39.8**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=38,slow=6.8,SNR=4.4							

NIED ***15*** *21:22:00, 4720N×15460E, h20km, Mw6.0 Best double couple: M0 1.25000×1018 NP1:φs62.00000°, δ85.00000°, λ97.00000°. NP2:φs185.00000°, δ9.00000°, λ33.00000°.*

BJI ***15*** *21:22:18.6, 4767N×15401E, h7km, mB6.2, mb6.1, Ms6.3, Msz6.2*

ISCJB ***15*** *21:22:20.7±0.1, 4723N±002×15419E±002, h18km, mb5.9/321, MS5.9/219, Error ellipse: s-maj=2.7km s-min=1.4km az=142.8*

NEIC ***15*** *21:22:21.5±0.1, 4728N×154.15E, h12km, mb6.0/202, ME6.2, MS5.8/164, MW5.9, MW6.2(MOS), Error ellipse: s-maj=3.4km s-min=2.5km az=166.0, Moment Tensor Solution. s29 Moment tensor: Scale 1018Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.00000×1018 NP1:φs225.00000°, δ79.00000°, λ-104.00000°. NP2:φs97.00000°, δ18.00000°, λ-39.00000°. Principal axes: T 1.0600, Plg32.0000°, Azm327.0000°; N -0.0300, Plg14.0000°, Azm228.0000°; P -1.0200, Plg54.0000°, Azm118.0000°; Broadband fault plane solution: P waves. NP1:φs35.00000°, δ10.00000°, λ-90.00000°. NP2:φs215.00000°, δ80.00000°, λ-90.00000°. Principal axes: T Plg35.0000°, Azm305.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm125.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

IDC ***15*** *21:22:21.5±3.0, 4730N×154.12E, h13km±19km, mb5.7/41, mb1 5.8/43, mb1mx5.8/43, mbtmp5.7/43, ML4.8/2, MS5.9/20, Ms1 5.9/20, ms1mx5.7/26 Error ellipse: s-maj=10.7km s-min=8.9km az=108.0*

GCMT ***15*** *21:22:21.5±0.4, 4722N×154.56E, h23km±3km, MW5.9/75, Moment Tensor Solution. s27,c28; s75,c113; Duration: 2s1 Moment tensor: Scale 1017Nm; Mrr-0.14±.30; Mθθ1.19±.22; Mφφ-1.06±.17; Mrθ4.58±.87; Mθφ0.71±.14; Mφr6.24±1.20; Best double couple: M06.85100×1017 NP1:φs120.00000°, δ10.00000°, λ-6.00000°. NP2: φs216.00000°, δ89.00000°, λ-99.00000°. Principal axes: T 7.9860, Plg43.0000°, Azm315.0000°; N -0.2740, Plg9.0000°, Azm216.0000°; P -7.7170, Plg45.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SKHL ***15*** *21:22:22.5±3.6, 4737N×154.19E, h51km±17km, mb6.9/7, mbh6.6/4, Ms6.2/7, msh6.6/3*

BGS ***15*** *21:22:22.7, 4790N×156.49E, h10km, mb6.0*

MOS ***15*** *21:22:24.1±1.0, 4724N×154.07E, h44km, mb6.2/140, MS6.1/77, Error ellipse: s-maj=6.0km s-min=3.4km az=104.1*

SZGRF ***15*** *21:22:25.6, 4750N×155.31E, h33km, mb6.4, MS6.1, East of Kuril Islands, Russia*

ISC 15 21:22:22.9±0.1, 4734N±002×15412E±002, h19km, h19km±1.9km:pP-P, n1564, σ0§89/1528, mb5.9/321, MS5.9/219, 184C-153D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.59**	**21**	⇓*i*P		**Pn**	**21 23 17.5**	**0.0**
SKR				⇓*i*P			21 23 17.5	
SKR					AMB	AMB	21 23 22.5	
	890nm,0.5s							
SKR					AMB	AMB	21 23 22.5	
	770nm,0.5s							
SKR					AMB	AMB	21 23 22.5	
	3μm,0.7s							
SKR					AMB	AMB	21 23 26.0	
	22μm,6.0s							
SKR					AMB	AMB	21 23 26.0	
	18μm,6.0s							
SKR					AMB	AMB	21 23 26.0	
	20μm,6.0s							
SKR					AMB	AMB	21 23 26.0	
	23μm,6.0s							
SKR					AMB	AMB	21 23 26.0	
	18μm,6.0s							
SKR					AMB	AMB	21 23 26.0	
	20μm,6.0s							
SKR				*i*	S	**Sn**	**21 23 56.0**	**-3.3**
SKR					A		21 24 04.0	
	46μm,8.0s							
SKR					A		21 24 04.0	
	289μm,8.0s							
SKR					A		21 24 04.0	
	92μm,8.0s							
SKR					A		21 24 04.0	
	50μm,8.0s							
SKR					A		21 24 04.0	
	210μm,8.0s							
SKR					A		21 24 04.0	
	100μm,8.0s							
SKR					A		21 24 10.5	
	30μm,1.0s							
SKR					A		21 24 10.5	
	35μm,1.0s							
SKR					A		21 24 10.5	
	5μm,0.7s							
SKR					AMS	AMS	21 25 06.0	
	123μm,10.0s							
SKR					AMS	AMS	21 25 06.0	
	234μm,14.0s							
SKR					AMS	AMS	21 25 06.0	
	280μm,14.0s							
SKR					AMS	AMS	21 25 06.0	
	120μm,10.0s							
SKR					AMS	AMS	21 25 06.0	
	215μm,14.0s							
SKR					AMS	AMS	21 25 06.0	
	286μm,14.0s							
KUR	**Kuril'sk**	**4.82**	**246**	*e*P		**Pn**	**21 23 31.0**	**-3.3**
KUR					AMB	AMB	21 23 36.0	
	40μm,6.0s							
KUR					AMB	AMB	21 23 36.0	
	18μm,6.0s							
KUR					AMB	AMB	21 23 36.0	
	50μm,6.0s							
KUR					AMB	AMB	21 23 39.0	
	1μm,0.7s							
KUR					AMB	AMB	21 23 39.0	
	2μm,0.7s							
KUR					AMB	AMB	21 23 39.0	
	5μm,0.7s							
KUR					*e*S	**Sn**	**21 24 28.0**	**-1.6**
KUR					A		21 24 34.0	
	240μm,6.0s							
KUR					A		21 24 34.0	
	135μm,6.0s							
KUR					A		21 24 53.5	
	19μm,0.9s							
KUR					A		21 24 53.5	
	17μm,0.9s							
KUR	**Kuril'sk**	**4.82**	**246**	*e*PN		**Pn**	**21 23 31.0**	**-3.3**
KUR				*i*	S	**Sn**	**21 24 28.0**	**-1.6**
KUR					pmax	pmax		
	comp=N,18μm,6.0s							
KUR					pmax	pmax		
	comp=E,50μm,6.0s							
KUR					pmax	pmax		
	comp=Z,40μm,6.0s							
KUR					pmax	pmax		
	comp=N,1μm,0.7s							
KUR					pmax	pmax		
	comp=E,5μm,0.7s							
KUR					pmax	pmax		
	comp=Z,5μm,0.7s							
KUR					smax			
	comp=E,275μm,6.0s							
KUR					smax			
	comp=Z,240μm,6.0s							
KUR					smax			
	comp=N,19μm,0.9s							
KUR					smax			
	comp=E,17μm,0.9s							
KUR					MLR	MLR		
	comp=N,162μm,14.0s							
KUR					MLR	MLR		
	comp=E,299μm,14.0s							
KUR					MLR	MLR		
	comp=Z,174μm,14.0s							
PET	**Petropavlovsk**	**6.39**	**25**	⇓*i*PN		**Pn**	**21 23 55.2**	**-0.7**
PET					pmax	pmax		
	comp=Z,982nm,0.8s							
PET					MLR	MLR		
	comp=Z,59μm,15.0s							
PET					MLR	MLR		
	comp=Z,61μm,16.0s							
PET	**Petropavlovsk**	**6.39**	**25**	*e*P		**Pn**	**21 23 54.9**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.66**	**243**	*e*P		**Pn**	**21 23 59.8**	**+0.2**
YUK					AMB	AMB	21 24 03.0	
	comp=Z,290nm,0.5s							
YUK					AMB	AMB	21 24 03.0	
	comp=Z,350nm,0.5s							
YUK					AMB	AMB	21 24 03.0	
	comp=Z,1μm,0.5s							
YUK					AMB	AMB	21 24 09.0	
	comp=Z,18μm,2.0s							
YUK					AMB	AMB	21 24 09.0	
	comp=Z,32μm,2.0s							
YUK					AMB	AMB	21 24 09.0	
	comp=Z,35μm,2.0s							
YUK				*i*	S	**Sn**	**21 25 15.5**	**+0.5**
YUK					A		21 25 23.0	
	comp=Z,90μm,6.0s							
YUK					A		21 25 23.0	
	comp=Z,58μm,6.0s							
YUK					A		21 25 42.5	
	comp=Z,7μm,0.6s							
YUK					A		21 25 42.5	
	comp=Z,17μm,0.8s							
YUK					AMS	AMS	21 26 26.0	
	comp=Z,198μm,15.0s							
YUK					AMS	AMS	21 26 26.0	
	comp=Z,160μm,15.0s							
YUK					AMS	AMS	21 26 26.0	
	comp=Z,88μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**6.66**	**243**	*e*PN		**Pn**	**21 23 59.8**	**+0.2**
YUK					pmax	pmax		
	comp=N,290nm,0.5s							
YUK					pmax	pmax		
	comp=E,350nm,0.5s							
YUK					pmax	pmax		
	comp=Z,1μm,0.5s							
YUK					pmax	pmax		
	comp=N,18μm,2.0s							
YUK					pmax	pmax		
	comp=E,32μm,2.0s							
YUK					pmax	pmax		
	comp=Z,35μm,2.0s							
YUK					MLR	MLR		
	comp=N,198μm,15.0s							
YUK					MLR	MLR		
	comp=E,160μm,15.0s							
YUK					MLR	MLR		
	comp=Z,88μm,15.0s							
NEM2	**Nemuro 2**	**7.11**	**239**	P		**Pn**	**21 24 04.7**	**-1.2**
NEM2				*e*	S	**Sn**	**21 25 23.3**	**-2.8**
JRA	**Rausu**	**7.16**	**245**	P		**Pn**	**21 24 08.1**	**+1.6**
JNK	**Nakash**	**7.60**	**244**	P		**Pn**	**21 24 13.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.76**	**271**	*e*P		**Pn**	**21 24 14.8**	**+0.1**
YSS				⇑*i*P			21 24 19.0	
YSS				⇑*i*P			21 24 19.0	
YSS					AMB	AMB	21 24 20.9	
	comp=Z,1μm,1.0s							
YSS					AMB	AMB	21 24 20.9	
	comp=Z,400nm,1.0s							
YSS					AMB	AMB	21 24 20.9	
	comp=Z,630nm,0.9s							
YSS					*e*S	**Sn**	**21 25 47.4**	**+5.4**
YSS					A		21 25 49.0	
	comp=Z,780nm,0.8s							
YSS					A		21 25 49.0	
	comp=Z,1μm,0.7s							
YSS					*e*LQ		21 26 12.0	
YSS					AMS	AMS	21 27 08.0	
	comp=Z,175μm,16.0s							
YSS					AMS	AMS	21 27 08.0	
	comp=Z,190μm,17.0s							
YSS					AMS	AMS	21 27 08.0	
	comp=Z,240μm,16.0s							
YSS					AMS	AMS	21 27 08.0	
	comp=Z,263μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.76**	**271**	⇑*i*PN		**Pn**	**21 24 19.0**	**+4.3**
YSS				*e*	S	**Sn**	**21 25 47.4**	**+5.4**
YSS					MLR	MLR		
	comp=Z,263μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.76**	**271**	⇑*e*P		**Pn**	**21 24 14.6**	**-0.1**
JTKR	**Abashiri--Toko**	**7.91**	**248**	P		**Pn**	**21 24 18.9**	**+2.2**
JAK	**Akkeshi**	**7.95**	**240**	P		**Pn**	**21 24 17.6**	**+0.3**
JAK				*e*	S	**Sn**	**21 25 42.1**	**-4.5**
UGL	**Uglegorsk**	**8.23**	**287**	⇑*i*P		**Pn**	**21 24 26.0**	**+4.8**
UGL				⇑*i*P			21 24 26.0	
UGL					AMB	AMB	21 24 31.0	
	comp=Z,3μm,1.0s							
UGL					AMB	AMB	21 24 31.0	
	comp=Z,5μm,1.0s							
UGL					AMB	AMB	21 24 35.0	
	comp=Z,21μm,8.0s							
UGL					AMB	AMB	21 24 35.0	
	comp=Z,11μm,8.0s							
UGL					AMB	AMB	21 24 35.0	
	comp=Z,10μm,8.0s							
UGL					*e*S	**Sn**	**21 25 56.5**	**+2.8**
UGL					A		21 26 03.5	
	comp=Z,460nm,0.7s							
UGL					A		21 26 03.5	
	comp=Z,660nm,0.8s							
UGL					A		21 26 03.5	
	comp=Z,490nm,0.8s							
UGL					*e*rx	rx	21 26 06.8	
UGL					*e*rx	rx	21 26 11.0	
UGL					*e*L		21 26 34.0	
UGL					AMS	AMS	21 27 44.0	
	comp=Z,131μm,16.0s							
UGL					AMS	AMS	21 27 44.0	
	comp=Z,202μm,16.0s							
UGL					AMS	AMS	21 27 44.0	
	comp=Z,244μm,16.0s							
UGL	**Uglegorsk**	**8.23**	**287**	⇑*i*PN		**Pn**	**21 24 26.0**	**+4.8**
UGL				*e*			21 26 06.8	
UGL					pmax	pmax		
	comp=Z,3μm,1.1s							
UGL					pmax	pmax		
	comp=N,11μm,8.0s							
UGL					pmax	pmax		
	comp=E,10μm,8.0s							
UGL					pmax	pmax		
	comp=Z,21μm,8.0s							
UGL					MLR	MLR		
	comp=N,131μm,16.0s							
UGL					MLR	MLR		
	comp=E,202μm,16.0s							
UGL					MLR	MLR		
	comp=Z,244μm,16.0s							
JMP	**Maruseppu**	**8.24**	**250**	P		**Pn**	**21 24 23.7**	**+2.4**
TYV	**Tymovskoe**	**8.30**	**299**	*e*P		**Pn**	**21 24 24.0**	**+1.8**
TYV					AMB	AMB	21 24 34.0	
	comp=Z,16μm,9.0s							
TYV					AMB	AMB	21 24 34.0	
	comp=Z,10μm,7.0s							
TYV					AMB	AMB	21 24 34.0	
	comp=Z,13μm,7.0s							
TYV					*e*rx	rx	21 26 07.0	
TYV					AMS	AMS	21 27 56.0	
	comp=Z,137μm,16.0s							
TYV					AMS	AMS	21 27 56.0	
	comp=Z,156μm,16.0s							
JAR	**Ashorobuto**	**8.34**	**245**	P		**Pn**	**21 24 24.0**	**+1.4**
JAR				*e*	S	**Sn**	**21 25 57.6**	**+1.4**
JSE	**Soyaes**	**8.36**	**258**	P		**Pn**	**21 24 28.2**	**+5.3**
JOB	**Onbets**	**8.52**	**242**	P		**Pn**	**21 24 25.3**	**+0.2**
JOB				*e*	S	**Sn**	**21 25 54.5**	**-6.1**
ASAJ	**Asahikawa**	**8.68**	**252**	Pn		**Pn**	**21 24 30.2**	**+2.9**
	comp=Z,28nm,0.3s,baz=85,slow=12,SNR=38							
ASAJ					LR	LR	21 27 35.7	
	comp=Z,98μm,19.6s,baz=65,slow=36							
ASAJ	**Asahikawa**	**8.68**	**252**	P		**Pn**	**21 24 30.4**	**+3.1**
ASAJ	**Asahikawa**	**8.68**	**252**	PN		**Pn**	**21 24 30.3**	**+3.0**
ASAJ					pmax	pmax		
	comp=Z,29nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,98μm,19.6s							
JKK2	**Kamakawa 2**	**8.69**	**251**	P		**Pn**	**21 24 29.7**	**+2.2**
JWK2	**Keihoku**	**8.70**	**261**	P		**Pn**	**21 24 33.8**	**+6.2**
JCH	**Churui**	**8.97**	**242**	P		**Pn**	**21 24 30.7**	**-0.6**
JCH				*e*	S	**Sn**	**21 26 06.7**	**-5.0**
JSS	**Shosan**	**9.05**	**255**	P		**Pn**	**21 24 37.6**	**+5.2**
JFR	**Furan**	**9.14**	**247**	P		**Pn**	**21 24 36.2**	**+2.6**
JAB	**Ashibetsu**	**9.20**	**250**	P		**Pn**	**21 24 37.1**	**+2.6**
JHR	**Hokuryu**	**9.41**	**252**	P		**Pn**	**21 24 39.8**	**+2.4**
ERM	**Erimo**	**9.45**	**240**	*e*PN		**Pn**	**21 24 38.8**	**+0.9**
ERM					pmax	pmax		
	comp=Z,420nm,2.8s							
ERM	**Erimo**	**9.45**	**240**	*e*P		**Pn**	**21 24 38.3**	**+0.4**
	comp=Z,440nm,2.8s							
JEM	**Erimo**	**9.45**	**240**	P		**Pn**	**21 24 38.3**	**+0.4**
OKH	**Okha**	**9.45**	**315**	*i*P		**Pn**	**21 24 39.3**	**+1.4**
OKH				*e*P			21 24 39.3	
OKH					AMB	AMB	21 24 42.0	
	comp=Z,2μm,1.2s							
OKH					*e*S	**Sn**	**21 26 22.9**	**-0.7**
OKH					*e*LQ		21 27 15.8	
OKH					AMS	AMS	21 29 10.4	
	comp=Z,183μm,13.0s							
OKH					AMS	AMS	21 29 10.4	
	comp=Z,6μm,13.0s							
OKH					AMS	AMS	21 29 10.4	
	comp=Z,114μm,14.0s							
OKH	**Okha**	**9.45**	**315**	*e*PN		**Pn**	**21 24 39.3**	**+1.4**
OKH					MLR	MLR		
	comp=N,114μm,14.0s							
OKH					MLR	MLR		
	comp=E,183μm,13.0s							
JBT2	**Biratori 2**	**9.48**	**246**	P		**Pn**	**21 24 39.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**9.53**	**242**	P		**Pn**	**21 24 38.4**	**-0.6**
JEW	**Eniwo**	**10.02**	**248**	P		**Pn**	**21 24 47.0**	**+1.3**
NKL	**Nikolayevsk**	**10.38**	**309**	*e*P		**Pn**	**21 24 51.0**	**+0.4**
NKL				*i*P			21 24 53.0	
NKL					AMB	AMB	21 24 55.0	
	comp=E,960nm,1.1s							
NKL					AMB	AMB	21 24 55.0	
	comp=E,2μm,1.1s							
NKL					AMB	AMB	21 24 55.0	
	comp=E,2μm,1.2s							
NKL					AMB	AMB	21 25 00.0	
	comp=E,11μm,6.0s							
NKL					AMB	AMB	21 25 00.0	
	comp=E,15μm,6.0s							
NKL					AMB	AMB	21 25 00.0	
	comp=E,7μm,8.0s							
NKL					*e*S	**Sn**	**21 26 44.0**	**-2.3**
NKL					A		21 27 08.0	
	comp=E,8μm,9.0s							
NKL					*e*L		21 27 52.0	
NKL					AMS	AMS	21 28 08.0	
	comp=E,95μm,19.0s							
NKL					AMS	AMS	21 28 08.0	
	comp=E,128μm,19.0s							
JSK	**Shakotan**	**10.40**	**252**	P		**Pn**	**21 24 52.5**	**+1.6**
JNB	**Noboribetsu**	**10.48**	**247**	P		**Pn**	**21 24 51.6**	**-0.4**
JNB				*e*	S	**Sn**	**21 26 45.3**	**-3.4**
JKB	**Kayabe**	**10.80**	**244**	P		**Pn**	**21 24 55.1**	**-1.3**
JKB				*e*	S	**Sn**	**21 26 49.2**	**-7.5**
JSH	**Shimam**	**11.01**	**250**	P		**Pn**	**21 24 59.8**	**+0.5**
JYM2	**Yakumo 2**	**11.08**	**247**	P		**Pn**	**21 24 59.4**	**-0.9**
JSR	**Shiriuchi**	**11.38**	**244**	P		**Pn**	**21 25 03.2**

JANG eS Sn 21 27 01.6 -11
JTH Tanohata 11.55 235 P Pn 21 25 02.7 -3.9
JTH eS Sn 21 27 03.0 -12
JOSM Okushiri--Mats 11.66 249 P Pn 21 25 07.8 -0.4
JOM Ohasama 12.19 234 P Pn 21 25 12.9 -2.5
OFUJ Ofunato 12.26 232 P Pn 21 25 12.6 -3.8
OFUJ eS Sn 21 27 20.6 -12
TEY Ternei 12.36 266 eP Pn 21 25 18.0 +0.3
TEY AMB AMB 21 25 24.0
comp=E,2μm,1.5s
TEY AMB AMB 21 25 24.0
comp=E,2μm,1.5s
TEY AMB AMB 21 25 24.0
comp=E,18μm,7.0s
TEY AMB AMB 21 25 24.0
comp=E,2μm,6.0s
TEY AMS AMS 21 29 50.0
comp=E,48μm,15.0s
MA2 Magadan 12.41 352 *c* iPN Pn 21 25 19.1 +0.6
MA2 pmax pmax
comp=N,300nm,0.8s
MA2 pmax pmax
comp=Z,500nm,0.8s
MA2 MLR MLR
comp=Z,72μm,12.5s
MA2 Magadan 12.41 352 eP Pn 21 25 19.9 +1.5
comp=Z,574nm,0.8s
JRG Rokugo 12.61 236 P Pn 21 25 18.5 -2.6
JRG eS Sn 21 27 31.0 -10
JOG2 Oga 2 12.75 240 P Pn 21 25 21.0 -2.0
HABR Khabarovsk 12.84 282 ⇑iPN Pn 21 25 30.0 +5.7
HABR eS Sn 21 27 55.1 +8.4
HABR pmax pmax
comp=Z,1μm,1.5s
JIO Ouri 12.89 231 P Pn 21 25 21.2 -3.8
JIO eS Sn 21 27 36.8 -11
JMM Marumori 13.62 231 eS Sn 21 27 52.8 -13
JYA Atsumi 13.68 235 P Pn 21 25 33.5 -2.3
SMY Shemya 13.91 60 eP Pn 21 25 35.9 -3.0
SMY pmax pmax
comp=Z,569nm,1.3s
SMY Shemya 13.91 60 eP Pn 21 25 35.9 -3.0
comp=Z,569nm,1.3s
JFY Yanaizu 14.54 232 P Pn 21 25 44.7 -2.8
JSD Sado 14.89 237 P Pn 21 25 49.2 -3.1
KLR Kul'dur 15.00 285 eP Pn 21 25 54.2 +0.4
KLR pmax pmax
comp=Z,2.0nm,2.8s
SEY Seymchan 15.65 357⇑eP Pn 21 26 01.9 -0.4
SEY Seymchan 15.65 357⇑eP Pn 21 26 01.0 -1.3
MAJO Matsushiro 15.98 233 eP Pn 21 26 03.8 -2.8
MAT Matsushiro 15.98 233 P Pn 21 26 03.3 -3.3
MAT S Sn 21 29 04.0 +0.7
MAT Matsushiro 15.98 233 P Pn 21 26 03.6 -3.0
MJAR Matsushiro Arr 15.98 233 Pn Pn 21 26 03.9 -2.7
comp=Z,6.0nm,0.3s,baz=24,slow=7.0,SNR=44
MJAR Matsushiro Arr 15.98 233 P Pn 21 26 03.9 -2.7
MJAR pmax pmax
comp=Z,6.0nm,0.3s
MJAR Matsushiro Arr 15.98 233 Pn Pn 21 26 03.9 -2.7
JRY Ryogami san 16.01 230 P Pn 21 26 04.8 -2.1
JOD2 Odawara 2 16.49 228 P Pn 21 26 11.6 -1.5
JGF Kuroka 17.14 233 P Pn 21 26 19.5 -1.8
MDJ Mudanjiang 17.24 270 P Pn 21 26 22.6 +0.1
MDJ AP pP 21 26 29.8 +0.4
MDJ XP sP 21 26 32.5 +0.6
MDJ S Sn 21 29 34.9 +1.1
MDJ LR LR
comp=N,51μm,15.3s
MDJ LR LR
comp=E,21μm,21.9s
MDJ LR LR
comp=Z,70μm,17.0s
MDJ Mudanjiang 17.24 270 eP Pn 21 26 17.7 -4.8
comp=Z,488nm,1.0s
JSG Sagara 17.41 229 P Pn 21 26 27.7 +3.1
JHJ2 Mitsune 17.88 222 P Pn 21 26 31.8 +1.4
JHJ Hachijo jima 2 17.89 223 P Pn 21 26 30.4 -0.2
comp=Z,9.0nm,0.3s,baz=191,slow=1.0,SNR=3.7
ZEA Zeya 18.17 301⇑iP Pn 21 26 30.6 -3.3
ZEA AMB AMB 21 26 38.3
comp=Z,340nm,1.0s
ZEA AMB AMB 21 26 38.3
comp=Z,810nm,1.4s
ZEA AMB AMB 21 26 40.0
comp=Z,19μm,7.0s
ZEA AMB AMB 21 26 40.0
comp=Z,5μm,7.0s
ZEA AMB AMB 21 26 40.0
comp=Z,15μm,7.0s
JIE Ise 18.41 232 P Pn 21 26 35.1 -1.8
JWT Wachi 18.46 236 P Pn 21 26 36.4 -1.1
JAD Aida 19.41 238 P Pn 21 26 47.1 -1.9
JWZ Kozaga 19.59 232 P Pn 21 26 51.3 +0.1
JHS Saijyo 19.98 239 P Pn 21 26 55.2 -0.5
CLNS Chul'man 20.17 309 eP P 21 26 57.2 +1.2
CLNS e 21 27 13.1
CLNS eS S 21 30 42.3 +0.7
CLNS e 21 31 04.2
CLNS eSS 21 31 18.0
CLNS pmax pmax
comp=E,529nm,0.8s
CLNS pmax pmax
comp=Z,1μm,0.8s
CLNS pmax pmax
comp=N,1μm,1.1s
CLNS pmax pmax
comp=Z,1μm,1.3s
CLNS pmax pmax
comp=N,856nm,1.0s
CLNS pmax pmax
comp=E,707nm,1.0s
CLNS smax
comp=E,344nm,1.3s
CLNS smax
comp=Z,82nm,0.9s
CLNS smax
comp=N,319nm,1.2s
CLNS MLR MLR
comp=E,50μm,14.0s,MS6.1
CLNS MLR MLR
comp=Z,77μm,14.0s,MS6.2
CLNS MLR MLR
comp=N,37μm,13.0s,MS6.1
YAK Yakutsk 20.20 326 eP P 21 26 58.5 +2.0
YAK e 21 27 20.2
YAK eSS 21 31 16.1
YAK pmax pmax
comp=N,107nm,0.9s
YAK pmax pmax
comp=Z,350nm,0.9s
YAK pmax pmax
comp=E,86nm,0.8s
YAK pmax pmax
comp=Z,1μm,1.1s
YAK pmax pmax
comp=N,2μm,1.6s
YAK pmax pmax
comp=E,2μm,1.5s
YAK MLR MLR
comp=N,25μm,14.0s,MS6.0
YAK MLR MLR
comp=Z,53μm,14.0s,MS6.0
YAK MLR MLR
comp=E,39μm,13.0s,MS6.0
YAK Yakutsk 20.20 326⇑eP P 21 26 56.1 -0.4
YAK LR LR
comp=Z,37μm,21.0s,MS5.7
NRGR Nerungri 20.21 308 eP P 21 26 59.1 +2.6
NRGR S S 21 30 35.0 -7.4
NRGR smax
comp=E,75nm,0.4s
CN2 Changchun 20.33 271 eP P 21 26 57.0 -0.8
CN2 eXP sP 21 27 07.0 +1.2
CN2 LR LR
comp=N,53μm,17.0s,MS6.1
CN2 LR LR
comp=E,59μm,17.0s,MS6.1
CN2 LR LR
comp=Z,73μm,18.0s,MS6.1
JMN Monobe 20.45 236 P P 21 27 00.8 +1.7
KSRS Korea Array 21.63 252 P P 21 27 11.8 0.0
comp=Z,156nm,1.1s,mb5.4,baz=56,slow=9.0,SNR=5.0
KSRS LR LR 21 34 34.3
comp=Z,24μm,19.1s,MS5.6,baz=65,slow=34

BILL Bilibino 21.66 12 eP P 21 27 09.9 -2.3
BILL pmax pmax
comp=Z,126nm,1.0s,mb5.3
BILL Bilibino 21.66 12 eP P 21 27 09.4 -2.8
BILL LR LR
comp=Z,34μm,20.0s,MS5.7
CBIJ Chichi jima 22.28 209 P P 21 27 19.0 +0.2
comp=Z,171nm,0.9s,mb5.5,baz=17,slow=9.5,SNR=5.9
CBIJ LR LR 21 35 11.4
comp=Z,80nm,20.4s,baz=11,slow=35
INCN Inchon 22.45 254 eP P 21 27 21.0 +0.4
comp=Z,2μm,1.4s,mb6.3
INCN LR LR
comp=Z,18μm,20.0s,MS5.5
JTU Tsushima 22.53 244 P P 21 27 21.7 +0.2
JNU Nakatsue 22.61 239 P P 21 27 22.8 +0.5
comp=Z,378nm,0.8s,mb5.9,baz=271,slow=24,SNR=26
JNU LR LR 21 36 30.7
comp=Z,68μm,19.1s,MS6.1,baz=79,slow=38
JNU Nakatsue 22.61 239 P P 21 27 23.3 +1.0
HIA Hailar 22.83 288 eP P 21 27 23.3 -1.4
HIA Hailar 22.83 288 eP P 21 27 23.4 -1.3
HIA LR LR
comp=Z,61μm,20.0s,MS6.0
JFU Fukue jima 2 24.20 242 P P 21 27 39.6 +1.5
DL2 Dalian 25.02 262⇑iP P 21 27 45.4 -0.2
DL2 AMB AMB
comp=Z,170nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,3μm,6.6s
DL2 LR LR
comp=N,12μm,12.6s,MS5.7
DL2 LR LR
comp=E,11μm,16.5s,MS5.7
DL2 LR LR
comp=Z,13μm,13.9s,MS5.6
UNV Unalaska Valle 25.57 61 PFAKE 21 28 00.0 +9.4
UNV LR LR
comp=Z,61μm,19.0s,MS6.1
CIT Chita 26.41 295 eP P 21 27 57.2 -0.9
CIT pmax pmax
comp=Z,344nm,1.2s,mb5.8
JAM Amami Oshima 26.86 234 P P 21 28 03.9 +1.7
TIXI Tiksi 27.10 343 PFAKE 21 28 20.0 +16
TIXI LR LR
comp=Z,43μm,19.0s,MS6.0
TNA Tin City 27.16 34 eP P 21 28 05.8 +0.9
comp=Z,170nm,1.1s,mb5.5
TNA LR LR
comp=Z,15μm,20.0s,MS5.5
BJI Beijing 28.17 269 eP P 21 28 13.8 -0.1
BJI S S 21 32 57.0 -1.4
BJI AMB AMB
comp=Z,99nm,1.0s,mb5.4
BJI AMB AMB
comp=Z,4μm,8.4s
BJI LR LR
comp=N,28μm,14.1s,MS6.4
BJI LR LR
comp=E,63μm,16.5s,MS6.4
BJI LR LR
comp=Z,47μm,16.8s,MS6.2
BJI Beijing 28.17 269 eP P 21 28 13.7 -0.2
BJI S S 21 32 57.0 -1.4
BJI pmax pmax
comp=Z,99nm,1.0s,mb5.4
BJI MLR MLR
comp=Z,47μm,16.8s,MS6.2
BJI Beijing 28.17 269 eP P 21 28 13.7 -0.2
comp=Z,99nm,1.0s,mb5.4
BJI S S 21 32 57.0 -1.4
BJI LR LR
comp=Z,47μm,16.8s,MS6.2
BJT Baijiatuau 28.19 269 eP P 21 28 12.0 -2.1
BJT pmax pmax
comp=Z,159nm,0.9s
BJT MLR MLR
comp=Z,68μm,19.0s
BJT Baijiatuau 28.19 269 eP P 21 28 11.9 -2.1
comp=Z,159nm,0.9s,mb5.7
BJT LR LR
comp=Z,68μm,19.0s,MS6.3
JOW Kunigami 28.83 234 P P 21 28 20.6 +0.7
comp=Z,75nm,0.8s,mb5.5,baz=37,slow=6.7,SNR=13
JOW Kunigami 28.83 234 P P 21 28 20.1 +0.3
MIDW Midway 29.29 121 PFAKE 21 28 40.0 +16
MIDW LR LR
comp=Z,28μm,20.0s,MS5.9
TIA Tai'an 29.48 261 ⇓P P 21 28 25.9 +0.3
TIA AP pP 21 28 27.0 -4.5
TIA XP sP 21 28 30.0 -3.9
TIA AMB AMB
comp=Z,87nm,0.8s,mb5.5
TIA AMB AMB
comp=Z,2μm,7.0s
TIA LR LR
comp=N,21μm,15.0s,MS6.2
TIA LR LR
comp=E,39μm,17.0s,MS6.2
SSE Sheshan 29.95 249 P P 21 28 31.1 +1.3
SSE S S 21 33 25.8 -0.6
SSE XS sS 21 33 41.0 +4.8
SSE AMB AMB
comp=Z,180nm,1.3s,mb5.6
SSE AMB AMB
comp=Z,2μm,7.2s
SSE LR LR
comp=N,17μm,15.9s,MS5.8
SSE LR LR
comp=E,7μm,16.0s,MS5.8
SSE LR LR
comp=Z,16μm,15.6s,MS5.8
SSE Sheshan 29.95 249 P P 21 28 31.1 +1.3
comp=Z,180nm,1.3s,mb5.6
SSE sP sP 21 28 44.4 +6.3
SSE PP PP 21 29 38.6 +1.2
SSE S S 21 33 25.8 -0.6
SSE sS sS 21 33 41.0 +4.8
SSE LR LR
comp=Z,16μm,15.6s,MS5.8
NJ2 Nanjing 30.83 253 eP P 21 28 38.8 +1.3
NJ2 AP pP 21 28 42.0 -1.4
NJ2 XP sP 21 28 46.8 +1.0
NJ2 PP PP 21 29 39.8 -7.3
NJ2 S S 21 33 39.0 -1.1
NJ2 XS sS 21 33 47.0 -2.9
NJ2 AMB AMB
comp=Z,570nm,0.8s,mb6.5
NJ2 AMB AMB
comp=Z,460nm,4.7s
NJ2 LR LR
comp=N,6μm,13.6s,MS5.4
NJ2 LR LR
comp=E,3μm,17.4s,MS5.4
HHC Hu-ho-hao-te 30.94 274 ⇓P P 21 28 35.9 -2.6
HHC AP pP 21 28 40.3 -4.1
HHC XP sP 21 28 42.9 -3.9
HHC PP PP 21 29 38.5 -10
HHC PCP PcP 21 31 33.0 -1.6
HHC AMB AMB
comp=Z,2μm,9.2s
HHC LR LR
comp=N,37μm,15.7s,MS6.3
HHC LR LR
comp=E,30μm,14.7s,MS6.3
HHC LR LR
comp=Z,34μm,14.4s,MS6.2
ULN Ulaanbaatar 31.35 289⇑eP P 21 28 41.5 -0.6
ULN LR LR
comp=Z,41μm,19.0s,MS6.1
SONM Songino Array 31.79 289 P P 21 28 45.6 -0.3
comp=Z,53nm,0.7s,mb5.5,baz=65,slow=8.8,SNR=130
SONM PcP PcP 21 31 37.1 +0.2
comp=Z,13nm,0.8s,baz=107,slow=2.0,SNR=4.1
SONM ScP ScP 21 35 19.3 +0.2
comp=Z,25nm,1.2s,baz=66,slow=3.7,SNR=6.1
SONM LR LR 21 42 29.8
comp=Z,39μm,20.9s,MS6.1,baz=72,slow=38
SONM P3KPbc 22 00 20.4
comp=Z,1.7nm,1.0s,baz=223,slow=3.7,SNR=9.3
SONM Songino Array 31.79 289 P P 21 28 45.6 -0.3
SONM 21 31 37.1
SONM pmax pmax
comp=Z,53nm,0.7s
SONM MLR MLR
comp=Z,39μm,20.9s

SONM Songino Array 31.79 289 P P 21 28 45.6 -0.3
SONM PcP PcP 21 31 37.1 +0.2
SONM ScP ScP 21 35 19.3 +0.2
SONM LR LR 21 42 29.8
SONM e 22 00 20.4
IRK Irkutsk 32.02 298 eP P 21 28 47.1 -0.9
IRK e 21 39 17.2
IRK pmax pmax
comp=Z,113nm,1.6s,mb5.5
TLY Talaya 32.52 297 eP P 21 28 50.6 -1.8
TLY ePPP 21 30 04.2
TLY eS S 21 34 04.8 -1.7
TLY eSS SS 21 35 59.8 -27
TLY eSSS 21 36 30.2
TLY pmax pmax
comp=Z,71nm,0.8s,mb5.7
TLY MLR MLR
comp=Z,59μm,17.0s,MS6.3
TLY Talaya 32.52 297⇑iP P 21 28 51.3 -1.1
TLY LR LR
comp=Z,16μm,19.0s,MS5.7
IMA2 Indian Mountai 32.92 36 eP P 21 28 56.1 +0.2
ZAK Zakamensk 33.05 294 eP P 21 28 55.6 -1.4
ZAK e 21 30 07.8
ZAK e 21 31 38.9
ZAK pmax pmax
comp=Z,41nm,1.4s,mb5.2
KDAK Kodiak Island 33.20 52 P P 21 28 56.9 -1.4
comp=Z,206nm,0.9s,mb6.1,baz=292,slow=4.4,SNR=39
KDAK LR LR 21 42 40.3
comp=Z,26μm,21.2s,MS5.9,baz=251,slow=37
MOY Mondy 34.13 297 eP P 21 29 06.5 +0.1
MOY pmax pmax
comp=Z,156nm,2.9s,mb5.4
TATO Taipei 34.14 241 PFAKE 21 29 20.0 +13
TATO LR LR
comp=Z,17μm,19.0s,MS5.8
SLKM Skilak Lake 34.22 47 P P 21 29 06.5 -0.7
SLKM Skilak Lake 34.22 47 eP P 21 29 06.3 -0.9
GUMO Guam 34.53 196 LR LR 21 42 10.0
comp=Z,5μm,19.5s,MS5.3,baz=14,slow=34
GUMO Guam 34.53 196 PFAKE 21 29 20.0 +10
GUMO LR LR
comp=Z,6μm,22.0s,MS5.3
PMR Palmer 34.70 45 eP P 21 29 10.8 -0.5
PMR pmax pmax
comp=Z,355nm,1.6s,mb6.0
PMR MLR MLR
comp=Z,18μm,20.0s,MS5.8
PMR Palmer 34.70 45 eP P 21 29 10.8 -0.5
comp=Z,354nm,1.6s,mb6.0
PMR LR LR
comp=Z,18μm,20.0s,MS5.8
WHN Wuhan 34.74 256 P P 21 29 11.1 -0.6
WHN S S 21 34 40.0 -1.0
WHN LR LR
comp=Z,39μm,15.0s,MS6.3
MCK McKinley 34.75 41 P P 21 29 11.4 -0.4
MCK McKinley 34.75 41 eP P 21 29 11.3 -0.5
comp=Z,5μm,0.6s
MCK LR LR
comp=Z,8μm,19.0s
SML Sawmill 35.07 44 P P 21 29 15.4 +0.9
SML Sawmill 35.07 44 eP P 21 29 14.3 -0.2
COLA College 35.24 39 eP P 21 29 16.5 +0.4
COLA pmax pmax
comp=Z,600nm,1.4s,mb6.3
COLA College 35.24 39 *i* P P 21 29 16.4 +0.3
COLA LR LR
comp=Z,15μm,20.0s,MS5.8
QZH Quanzhou 35.91 244⇑iP P 21 29 23.4 +1.6
QZH S S 21 35 01.3 +2.4
QZH AMB AMB
comp=Z,260nm,1.0s,mb6.1
QZH LR LR
comp=N,14μm,13.4s,MS6.1
QZH LR LR
comp=E,20μm,16.0s,MS6.1
QZH LR LR
comp=Z,30μm,15.2s,MS6.2
XAN Xi'an 36.25 265 P P 21 29 24.4 -0.3
XAN S S 21 34 57.5 -6.6
XAN AMB AMB
comp=Z,556nm,1.1s,mb6.4
XAN AMB AMB
comp=Z,2μm,10.5s
XAN LR LR
comp=N,3μm,15.2s,MS6.0
XAN LR LR
comp=E,22μm,15.1s,MS6.0
XAN LR LR
comp=Z,46μm,15.2s,MS6.4
DIV Divide 36.34 45 PFAKE 21 29 40.0 +15
DIV LR LR
comp=Z,63μm,21.0s,MS6.4
MENT Mentasta 37.14 42 eP P 21 29 32.6 +0.4
EGAK Eagle 38.11 39 eP P 21 29 39.7 -0.8
comp=Z,194nm,0.9s,mb5.8
EGAK LR LR
comp=Z,15μm,20.0s,MS5.8
LZH Lanzhou 38.55 272 eP P 21 29 41.9 -2.3
LZH AP pP 21 29 44.5 -5.7
LZH PP PP 21 31 18.0 +5.5
LZH S S 21 35 39.0 -0.1
LZH XS sS 21 35 48.0 -1.0
LZH SS SS 21 38 15.0 -14
LZH AMB AMB
comp=Z,1μm,1.3s,mb6.4
LZH AMB AMB
comp=Z,4μm,5.0s
LZH LR LR
comp=E,28μm,14.0s
LZH LR LR
comp=Z,44μm,17.5s,MS6.3
LZH Lanzhou 38.55 272 eP P 21 29 41.9 -2.3
LZH *PP pP 21 29 54.2 +4.0
LZH *SP sP 21 29 57.5 +4.9
LZH 21 31 18.0
LZH S S 21 35 39.0 -0.1
LZH SS SS 21 38 15.0 -14
LZH pmax pmax
comp=Z,30nm,1.1s,mb4.9
LZH MLR MLR
comp=Z,44μm,17.5s,MS6.3
LZH Lanzhou 38.55 272 eP P 21 29 41.9 -2.3
comp=Z,30nm,1.1s,mb4.9
LZH pP pP 21 29 44.5 -5.7
LZH sP sP 21 29 45.9 -6.7
LZH pP pP 21 29 54.2 +4.0
LZH sP sP 21 29 57.5 +4.9
LZH PP PP 21 31 18.0 +5.5
LZH S S 21 35 39.0 -0.1
LZH sS sS 21 35 48.0 -1.0
LZH SS SS 21 38 15.0 -14
LZH LR LR
comp=Z,44μm,17.5s,MS6.3
GTA Gaotai 39.55 279 eP P 21 29 51.0 -1.6
GTA AP pP 21 29 58.5 -0.1
GTA XP sP 21 30 01.4 +0.4
GTA PP PP 21 31 25.5 +2.0
GTA PPP 21 31 50.9
GTA PCP PcP 21 31 59.8 0.0
GTA S S 21 35 53.5 -0.7
GTA XS sS 21 36 02.8 -1.3
GTA SS SS 21 38 42.3 -6.8
GTA AMB AMB
comp=Z,106nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,3μm,7.6s
GTA LR LR
comp=N,21μm,14.1s,MS6.3
GTA LR LR
comp=E,22μm,12.9s,MS6.3
GTA LR LR
comp=Z,25μm,17.5s,MS6.1
CVP Callao Caves 39.69 233 eP P 21 29 53.0 -0.7
INK Inuvik 40.78 33 P P 21 30 03.4 +0.6
comp=Z,114nm,0.9s,mb5.5,baz=289,slow=6.9,SNR=81
INK Inuvik 40.78 33 P P 21 30 03.4 +0.6
INK pmax pmax
comp=Z,114nm,0.9s
CD2 Chengdu 41.61 265 P P 21 30 04.9 -4.7
CD2 AP pP 21 30 12.8 -2.8
CD2 XP sP 21 30 14.9 -3.1

CD2 PP PP 21 31 45.3 -0.5
CD2 AMB AMB
comp=Z,2μm,1.1s,mb6.7
CD2 AMB AMB
comp=Z,3μm,5.6s
CD2 LR LR
comp=N,30μm,15.6s,MS6.3
CD2 LR LR
comp=E,19μm,16.8s,MS6.3
CD2 LR LR
comp=Z,38μm,15.6s,MS6.4
PVCP Virac 41.91 227 *e*P **P 21 30 12.1 +0.1**
SIT Sitka 42.46 50 *e*P **P 21 30 17.9 +1.4**
SIT pmax pmax
comp=Z,594nm,1.7s,mb5.9
SIT MLR MLR
comp=Z,6μm,17.0s,MS5.6
SIT Sitka 42.46 50 *e*P **P 21 30 17.9 +1.4**
comp=Z,594nm,1.7s,mb5.9
SIT LR LR
comp=Z,6μm,17.0s,MS5.6
GYA Guiyang 42.51 258⇑ *i*P **P 21 30 17.1 +0.2**
GYA AP pP 21 30 24.5 +1.5
GYA XP sP 21 30 27.3 +1.9
GYA PP PP 21 31 59.0 +3.5
GYA PCP PcP 21 32 11.1 +1.7
GYA SCP ScP 21 35 59.1 0.0
GYA PCS PcS 21 36 01.8 +0.4
GYA S **S 21 36 38.0 -0.1**
GYA XS sS 21 36 49.3 +1.2
GYA AMB AMB
comp=Z,350nm,0.8s,mb6.1
GYA AMB AMB
comp=Z,16μm,10.4s
GYA LR LR
comp=N,15μm,15.8s,MS6.2
GYA LR LR
comp=E,17μm,16.7s,MS6.2
GYA LR LR
comp=Z,13μm,16.4s,MS5.9
CNP Catarman 42.60 225 *e*P **P 21 30 18.2 +0.5**
ZAL Zalesovo 42.84 306 P **P 21 30 17.9 -1.7**
comp=Z,137nm,0.8s,mb5.8,baz=48,slow=8.0,SNR=199
ZAL ScP ScP 21 35 59.1 -1.3
comp=Z,18nm,1.1s,baz=331,slow=7.7,SNR=4.0
TGY Tagaytay City 43.13 231 P **P 21 30 20.8 -1.2**
comp=Z,120nm,0.5s,baz=151,slow=1.9,SNR=12
TGY Tagaytay City 43.13 231 P **P 21 30 20.8 -1.2**
TGY pmax pmax
comp=Z,120nm,0.5s
BOAC Boac 43.20 229 *e*P **P 21 30 21.7 -0.8**
NVS Novosibirsk 43.37 307 *e*P **P 21 30 22.2 -1.7**
NVS *e* 21 32 03.7
NVS *e*S **S 21 36 44.9 -5.9**
NVS pmax pmax
comp=E,158nm,0.6s
NVS pmax pmax
comp=Z,196nm,0.6s,mb6.0
NVS pmax pmax
comp=N,94nm,1.0s
NVS smax
comp=N,46nm,1.6s
NVS smax
comp=E,106nm,1.8s
PLP Palo 43.62 224 *e*P **P 21 30 26.5 +0.7**
LUBP Lubang 43.81 231 *e*P **P 21 30 27.2 -0.2**
OTRP Odiongan 44.04 228 *e*P **P 21 30 29.8 +0.6**
CRAG Craig 44.16 51 *e*P **P 21 30 32.3 +2.1**
comp=E,466nm,1.7s,mb5.9
CRAG LR LR
comp=Z,6μm,23.0s,MS5.5
WRAK Wrangell Islan 44.22 50 *e*P **P 21 30 32.0 +1.3**
comp=Z,387nm,1.3s,mb6.0
WRAK LR LR
comp=Z,8μm,20.0s,MS5.7
MSLP Maasin 44.58 223 *e*P **P 21 30 33.4 -0.2**
SCPH Surigao 44.59 222 *e*P **P 21 30 34.9 +1.2**
GUIM Jordan 45.24 226 *e*P **P 21 30 38.8 0.0**
WMQ Urumqi 45.35 291⇑ *i*P **P 21 30 39.3 -0.4**
WMQ AP pP 21 30 46.3 +0.5
WMQ XP sP 21 30 49.8 +1.6
WMQ PCP PcP 21 32 19.3 +0.3
WMQ PP PP 21 32 25.8 -0.1
WMQ PPP 21 33 07.5
WMQ S **S 21 37 17.5 -2.0**
WMQ XS sS 21 37 30.1 +0.6
WMQ AMB AMB
comp=Z,123nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,736nm,7.1s
WMQ LR LR
comp=N,28μm,16.8s,MS6.4
WMQ LR LR
comp=E,22μm,16.8s,MS6.4
WMQ LR LR
comp=Z,30μm,16.0s,MS6.3
QIZ Qiongzhong 45.71 247 P **P 21 30 42.8 +0.2**
QIZ S **S 21 37 22.6 -2.2**
CUYO Cuyo Island 45.83 228 *e*P **P 21 30 43.9 +0.4**
KMI Kunming 46.02 260 P **P 21 30 45.8 +0.8**
KMI AP pP 21 30 51.1 0.0
KMI PP PP 21 32 33.8 +0.8
KMI PPP 21 33 18.8
KMI S **S 21 37 28.4 -0.8**
KMI AMB AMB
comp=Z,508nm,1.2s,mb6.3
KMI LR LR
comp=N,24μm,17.2s,MS6.3
KMI LR LR
comp=E,10μm,16.1s,MS6.3
KMI LR LR
comp=Z,15μm,13.8s,MS6.1
KMI Kunming 46.02 260 P **P 21 30 45.7 +0.7**
KMI 21 32 33.7
KMI PPP 21 33 18.8
KMI S **S 21 37 28.4 -0.8**
KMI SS SS 21 40 40.0 -14
KMI pmax pmax
comp=Z,508nm,1.2s,mb6.3
KMI MLR MLR
comp=Z,15μm,13.8s,MS6.1
KMI Kunming 46.02 260 P **P 21 30 45.7 +0.7**
comp=Z,508nm,1.2s,mb6.3
KMI pP pP 21 30 51.1 0.0
KMI PP PP 21 32 33.7 +0.7
KMI PPP 21 33 18.8
KMI S **S 21 37 28.4 -0.8**
KMI SS SS 21 40 40.0 -14
KMI LR LR
comp=Z,15μm,13.8s,MS6.1
ENPP El Nido 46.35 231 *e*P **P 21 30 47.5 -0.1**
BUKP Musuan 46.47 222 *e*P **P 21 30 48.1 -0.5**
MATI Mati 46.77 220 *e*P **P 21 30 51.6 +0.7**
DAV Davao City (W) 46.95 220 PFAKE 21 31 00.0 +7.7
DAV LR LR
comp=Z,5μm,20.0s,MS5.5
MK31 Makanchi Array 47.28 297 *e*P **P 21 30 53.8 -1.1**
MK31 Makanchi Array 47.28 297 *e*P **P 21 30 53.5 -1.3**
MKAR Makanchi Array 47.28 297 P **P 21 30 53.7 -1.1**
comp=Z,219nm,0.8s,mb6.1,baz=66,slow=7.7,SNR=321
MKAR Makanchi Array 47.28 297 P **P 21 30 53.7 -1.2**
MKAR pmax pmax
comp=Z,219nm,0.8s
MKAR Makanchi Array 47.28 297 P **P 21 30 53.7 -1.2**
HKL Haleakala 47.92 106 P **P 21 31 01.1 +1.2**
HKL Haleakala 47.92 106 *e*P **P 21 31 00.3 +0.4**
KKH Kailua Kona 48.83 107 *e*P **P 21 31 11.8 +4.9**
POHA Pohakuloa 49.08 106 PFAKE 21 31 20.0 +11
POHA LR LR
comp=Z,18μm,20.0s,MS6.1
ALE Alert 49.08 6 P **P 21 31 08.9 +0.1**
comp=Z,926nm,0.7s,mb6.9,SNR=60
BATP Bataraza 49.23 231 *e*P **P 21 31 11.0 +1.1**
KHU Kahuku 49.39 107 P **P 21 31 11.3 +0.2**
KHU Kahuku 49.39 107 *e*P **P 21 31 10.9 -0.2**
YKA Yellowknife Ar 50.04 37 P **P 21 31 16.0 0.0**
comp=Z,45nm,0.7s,mb5.6,baz=295,slow=7.0,SNR=35
YKA LR LR 21 56 12.3
comp=Z,7μm,18.1s,MS5.7,baz=250,slow=41
YKA Yellowknife Ar 50.04 37 P **P 21 31 16.0 -0.1**
YKA pmax pmax
comp=Z,45nm,0.7s
YKA MLR MLR
comp=Z,7μm,18.1s
RES Resolute Bay 50.05 19 P **P 21 31 16.5 +0.3**
RES pmax pmax
comp=Z,96nm,0.9s,mb5.8
RES Resolute Bay 50.05 19 *e*P **P 21 31 16.2 0.0**
comp=Z,3μm,0.9s
LSA Lhasa 50.92 273 P **P 21 31 21.0 -1.8**
LSA S **S 21 38 37.5 -0.9**
LSA AMB AMB
comp=Z,740nm,0.9s,mb6.6
LSA AMB AMB
comp=Z,3μm,9.0s
LSA LR LR
comp=N,6μm,23.0s,MS5.6
LSA LR LR
comp=E,2μm,21.0s,MS5.6
LSA Lhasa 50.92 273 *e*P **P 21 31 24.7 +1.9**
LSA pmax pmax
comp=Z,614nm,0.6s,mb6.7
LSA MLR MLR
comp=Z,22μm,20.0s,MS6.2
LSA Lhasa 50.92 273 *e*P **P 21 31 24.7 +1.9**
comp=Z,614nm,0.6s,mb6.7
LSA LR LR
comp=Z,22μm,20.0s,MS6.2
BVAR Borovoye Array 51.01 309 P **P 21 31 22.3 -1.1**
comp=Z,294nm,0.7s,mb6.3,baz=56,slow=7.7,SNR=280
BVAR LR LR 21 54 59.4
comp=Z,46μm,18.3s,MS6.5,baz=332,slow=38
BVAR Borovoye Array 51.01 309 P **P 21 31 22.3 -1.1**
BVAR pmax pmax
comp=Z,294nm,0.7s
BVAR MLR MLR
comp=Z,46μm,18.3s
BRVK Borovoye 51.05 309⇑ *e*P **P 21 31 22.3 -1.4**
NANT Nan 51.77 256⇑ P **P 21 31 28.0 -1.1**
comp=Z,1μm,1.0s,mb6.8
ZRNK Zerenda 51.77 310 P **P 21 31 27.6 -1.6**
ZRNK pmax pmax
comp=Z,350nm,0.8s,mb6.3
ZRNK Zerenda 51.77 310 *e*P **P 21 31 27.6 -1.6**
comp=Z,349nm,0.8s,mb6.3
KBS Kingsbay 52.01 351 *e*P **P 21 31 28.8 -2.2**
KBS AMb AMB 21 31 34.1
comp=Z,79nm,1.5s,mb5.4
KBS *e*S **S 21 38 55.5 +2.0**
KBS AMS AMS 21 58 45.1
comp=Z,5μm,17.3s,MS5.6
KBS Kingsbay 52.01 351 P **P 21 31 31.1 +0.1**
KBS pmax pmax
comp=Z,76nm,0.9s,mb5.6
KBS Kingsbay 52.01 351⇑ *e*P **P 21 31 28.8 -2.2**
KBS LR LR
comp=Z,8μm,20.0s,MS5.8
SPB4 Spitsbergen Ar 52.15 350 *e*P **P 21 31 31.3 -0.7**
KKTK Khon Kaen 52.17 252 P **P 21 31 33.5 +1.4**
IMP Imphal 52.19 267 *i* P **P 21 31 32.0 -0.3**
IMP *ex* x 21 40 35.0
AAA Alma-Ata 52.33 296 *i* P **P 21 31 33.9 +0.6**
AAA *i* S **S 21 38 55.1 -2.7**
AAA pmax pmax
comp=Z,2μm,7.9s
AAA smax
comp=N,6μm,12.8s
AAA MLR MLR
comp=Z,64μm,17.3s,MS6.7
KKM Kota Kinabalu 52.38 230 P **P 21 31 34.6 +0.9**
CHG Chiang Mai 52.92 257⇑ P **P 21 31 38.7 +1.0**
comp=Z,150nm,1.0s,mb5.9
CHTO Chiang Mai 52.92 257 *e*P **P 21 31 38.5 +0.8**
CHTO MLR MLR
comp=Z,9μm,19.0s,MS5.8
TSM Tawau 53.02 228 P **P 21 31 39.2 +0.7**
SHL Shillong 53.07 269⇑ *i*P **P 21 31 39.0 +0.2**
SHL *e*S **S 21 39 12.0 +4.1**
A05A Maple Falls 53.12 55 ⇓P **P 21 31 38.7 -0.5**
baz=53
CM31 Chiang Mai Arr 53.17 257 PFAKE 21 31 50.0 +10
CM31 LR LR
comp=Z,7μm,20.0s,MS5.7
C04A Brinnon 53.31 57⇑ P **P 21 31 40.1 -0.5**
baz=53
ULHL Ulahol 53.33 295 P **P 21 31 40.7 0.0**
SNR=33
TKM2 Tokmak 2 53.35 296 P **P 21 31 40.4 -0.5**
SNR=69
A06A Chilliwack 53.41 55 ⇓P **P 21 31 40.0 -1.3**
baz=53
CHMS Chumysh 53.82 297 P **P 21 31 43.6 -0.7**
SNR=106
USP Ospenovka 53.83 297 P **P 21 31 43.6 -0.7**
SNR=324
KBK Karagaybulak 53.90 296 P **P 21 31 44.4 -0.5**
SNR=125
FRU Bishkek 54.00 297⇑ *e*P **P 21 31 45.0 -0.6**
FRU *e* 21 34 56.0
FRU *e*S **S 21 39 17.0 -3.5**
FRU pmax pmax
comp=Z,460nm,1.2s,mb6.3
FRU MLR MLR
comp=Z,35μm,16.0s,MS6.5
KZA Kyzart 54.04 296 P **P 21 31 46.3 +0.5**
SNR=97
C05A Tolt Reservoir 54.05 56⇑ P **P 21 31 45.3 -0.6**
baz=54,SNR=9.2
SOKR Solikamsk 54.06 321 *e*P **P 21 31 44.4 -1.6**
SOKR SS ScS 21 41 30.1 -4.3
SOKR pmax pmax
comp=Z,130nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,25μm,23.0s,MS6.2
E04A Onalaska 54.07 58⇑ P **P 21 31 46.6 +0.4**
baz=54
GTK Gangtok 54.14 273 *e*P **P 21 31 47.0 +0.3**
D05A Enumclaw 54.16 57 P **P 21 31 47.4 +0.6**
comp=Z,485nm,0.7s,mb5.4
AAK Ala-Archa 54.19 296 P **P 21 31 46.1 -0.8**
SNR=179
AAK Ala-Archa 54.19 296⇑ *i*P **P 21 31 45.1 -1.8**
AAK LR LR
comp=Z,8μm,20.0s,MS5.8
UCH Uchtor 54.40 296 P **P 21 31 48.8 +0.3**
SNR=30
NST Nakhon Sawan 54.41 253 P **P 21 31 49.6 +1.0**
comp=Z,117nm,1.3s,mb5.7
B07A Winthrop 54.51 55 P **P 21 31 49.5 +0.1**
baz=54,SNR=12
EKS2 Erkin-Say 54.60 297 P **P 21 31 49.6 -0.4**
SNR=183
AGT Agartala 54.61 268 *i* x **P 21 31 56.0 +5.9**
AGT *i* x PcP 21 32 50.0 -3.0
F04A Amboy 54.61 58 P **P 21 31 50.7 +0.6**
baz=54,SNR=6.3
SLGI Shiliguri 54.69 272 *e*P **P 21 31 51.3 +0.7**
A08A Turner Farm, O 54.70 54 P **P 21 31 50.9 +0.2**
baz=54,SNR=31
BJO Bjornoya 54.76 347 *e*P **P 21 31 44.1 -7.0**
BJO AMS AMS 22 04 28.4
comp=Z,9μm,15.7s,MS6.0
BJO1 Bjornoya 54.79 347 *e*P **P 21 31 44.1 -7.2**
BJO1 LR LR
comp=Z,9μm,15.7s,MS6.0
D06A Cle Elum 54.81 56 P **P 21 31 52.1 +0.7**
baz=55,SNR=9.2
H03A Soap Creek Ran 54.81 60 ⇓P **P 21 31 51.7 +0.2**
baz=55
COR Corvallis 54.86 60 PFAKE 21 32 00.0 +8.2
COR LR LR
comp=Z,8μm,20.0s,MS5.8
AML Almayashu 54.96 296 P **P 21 31 53.2 +0.6**
SNR=88
C07A Waterville 54.97 55 P **P 21 31 52.4 -0.2**
baz=55,SNR=13
B08A Colville Reser 55.00 54 P **P 21 31 52.9 0.0**
baz=55,SNR=26
ARU Arti 55.04 318 P **P 21 31 51.0 -2.1**
comp=Z,2μm,0.7s,SNR=79
ARU Arti 55.04 318⇑ *e*P **P 21 31 52.0 -1.1**
KSH Kashi 55.06 293⇑ P **P 21 31 54.8 +1.5**
KSH *e*AP pP 21 32 01.1 +1.6
KSH *e*PCP PcP 21 32 56.3 +1.6
KSH *e*PP PP 21 33 59.0 +2.5
KSH *e*S **S 21 39 32.5 -2.3**
KSH *e*XS sS 21 39 42.9 -2.0
KSH *e*PS 21 39 51.3
KSH LR LR
comp=N,6μm,8.3s
KSH LR LR
comp=E,8μm,7.8s
KSH LR LR
comp=Z,23μm,22.2s,MS6.2
A09A Danville 55.07 53 P **P 21 31 53.7 +0.4**
baz=55,SNR=39
E06A Yakima 55.10 57 ⇓P **P 21 31 53.7 +0.1**
baz=55,SNR=10
K01A Sixes 55.17 62⇑ P **P 21 31 54.5 +0.4**
baz=55
F05A White Salmon 55.20 58 ⇓P **P 21 31 54.6 +0.3**
baz=55
I03A Eugene 55.22 61 ⇓P **P 21 31 54.6 +0.2**
baz=55
D07A Quincy 55.30 56 P **P 21 31 55.5 +0.5**
baz=55,SNR=10
J02A Umpqua 55.39 61⇑ P **P 21 31 56.3 +0.7**
baz=55,SNR=10
EPH Ephrata 55.42 55 P **P 21 31 55.4 -0.5**
H04A Detroit Lake 55.46 59 P **P 21 31 57.2 +1.0**
baz=55,SNR=13
MXC Moxie City 55.47 57 P **P 21 31 57.3 +1.1**
C08A Higginbotham F 55.48 55 P **P 21 31 56.6 +0.3**
baz=55,SNR=8.4
JIRN Jiri 55.58 275 *e*P **P 21 31 58.0 +0.9**
comp=Z,1μm,0.7s
B09A Rice 55.62 54 P **P 21 31 57.4 +0.1**
baz=55,SNR=25
A10A Northport 55.62 53 P **P 21 31 57.1 -0.2**
baz=55,SNR=13
GUN Gumba 55.63 275 *e*P **P 21 31 58.3 +0.9**
comp=Z,785nm,0.6s,mb6.9
G05A Wamic 55.64 58⇑ P **P 21 31 57.7 +0.2**
baz=55
F06A Goldendale 55.65 58⇑ P **P 21 31 57.4 -0.2**
baz=56
E07A Sunnyside 55.73 56 P **P 21 31 58.4 +0.3**
baz=56,SNR=12
J03A Ideyld Park 55.75 61 P **P 21 31 59.0 +0.7**
baz=56,SNR=11
MDW Midway 55.75 56 P **P 21 31 58.4 +0.1**
K02A Glendale 55.79 62 P **P 21 31 59.4 +0.9**
baz=56,SNR=10
I04A Tendick Farm, 55.83 60 P **P 21 31 59.6 +0.8**
baz=56,SNR=17
OD2 Odessa Site #2 55.90 55 P **P 21 31 59.3 0.0**
C09A Chrisman Ranch 55.90 54 ⇓P **P 21 31 59.3 -0.1**
baz=56
D08A Wollman Farm, 55.97 55 P **P 21 31 59.6 -0.2**
baz=56,SNR=12
RSW Rattlesnake Hi 55.97 56 P **P 21 32 00.1 +0.3**
HAWA Hanford 56.01 56 *e*P **P 21 32 00.0 -0.1**
comp=Z,62nm,0.9s,mb5.6
HAWA LR LR
comp=Z,5μm,19.0s,MS5.7
H05A Madras 56.04 59⇑ P **P 21 32 00.9 +0.6**
baz=56,SNR=7.0
G06A Carlson Farm, 56.04 58 ⇓P **P 21 32 00.8 +0.5**
baz=56,SNR=9.7
F07A Phinny Hill Vi 56.07 57 P **P 21 32 01.6 +1.0**
baz=56,SNR=8.0
L02A Cave Junction 56.07 63⇑ P **P 21 32 01.4 +0.8**
baz=56,SNR=9.6
DAG Danmarks Havn 56.08 358⇓ *i*P **P 21 31 59.3 -1.3**
comp=Z,84nm,1.1s,mb5.7
DAG
comp=Z,11μm,19.0s
DAG Danmarks Havn 56.08 358⇓ *e*P **P 21 31 59.3 -1.3**
DAG pmax pmax
comp=Z,84nm,1.1s,mb5.7
DAG MLR MLR
comp=Z,11μm,19.0s,MS6.0
DAG MLR MLR
comp=N,7μm,22.0s,MS5.9
DAG MLR MLR
comp=E,8μm,17.0s,MS5.9
DAG Danmarks Havn 56.08 358⇓ *e*P **P 21 31 59.3 -1.3**
comp=E,84nm,1.1s,mb5.7
DAG LR LR
comp=Z,11μm,19.0s,MS6.0
KKN Kakani 56.11 276 *e*P **P 21 32 01.8 +0.9**
PKI Pulchoki 56.17 275 *e*P **P 21 32 02.2 +0.9**
comp=Z,1μm,0.8s,mb7.0
B10A Chitwood Farm, 56.19 53 ⇓P **P 21 32 01.8 +0.4**
baz=56
HUMO Hull Mountain 56.20 62 PFAKE 21 32 10.0 +8.5
HUMO LR LR
comp=Z,7μm,22.0s,MS5.7
HUMO Hull Mountain 56.20 62 P **P 21 32 02.4 +1.0**
baz=56,SNR=15
E08A Dider Farm, El 56.22 56 P **P 21 32 01.7 +0.1**
baz=56,SNR=11
ET3 Eltopia 56.24 56 P **P 21 32 02.0 +0.3**
NEW Newport 56.27 53 P **P 21 32 02.0 0.0**
comp=Z,57nm,1.1s,mb5.5,baz=310,slow=6.6,SNR=28
NEW Newport 56.27 53 P **P 21 32 01.4 -0.6**
NEW pmax pmax
comp=Z,99nm,1.1s
NEW Newport 56.27 53 P **P 21 32 02.0 0.0**
NEW LR LR
comp=Z,6μm,19.0s,MS5.7
A11A Hall Mountain, 56.28 52⇑ P **P 21 32 02.4 +0.3**
baz=56,SNR=35
I05A Bend 56.29 59 P **P 21 32 03.0 +0.8**
baz=56,SNR=8.8
D09A Jones Farm, Ri 56.31 55 P **P 21 32 02.2 -0.1**
baz=56,SNR=15
DMN Daman 56.35 276 *e*P **P 21 32 03.7 +1.2**
comp=Z,2μm,0.8s
GKN Gorkha 56.41 276 *e*P **P 21 32 03.9 +0.9**
comp=Z,2μm,0.8s
C10A Spilker Farm, 56.43 54 ⇓P **P 21 32 03.6 +0.5**
baz=56
VIPM Ingram Point 56.47 59 P **P 21 32 04.1 +0.7**
LVZ Lovozero 56.49 337 P **P 21 32 02.7 -0.9**
comp=Z,485nm,0.7s,mb6.6,SNR=7.0
LVZ Lovozero 56.49 337⇓ *i*P **P 21 32 01.9 -1.7**
LVZ *e*S **S 21 39 52.7 -1.2**
LVZ *e* 21 41 45.0
LVZ *e*SSS 21 45 49.7
LVZ pmax pmax
comp=Z,95nm,1.4s,mb5.6
LVZ pmax pmax
comp=N,27nm,1.0s
LVZ pmax pmax
comp=E,13nm,1.0s
LVZ smax
comp=E,993nm,5.4s
LVZ MLR MLR
comp=Z,23μm,19.0s,MS6.3
LVZ MLR MLR
comp=N,6μm,14.0s,MS6.2
LVZ MLR MLR
comp=E,12μm,16.0s,MS6.2
LVZ Lovozero 56.49 337⇑ *e*P **P 21 32 02.1 -1.5**
H06A Lindquist Farm 56.51 58 P **P 21 32 04.2 +0.5**
baz=56,SNR=20
G07A Ruggs Ranch, H 56.58 58 P **P 21 32 04.5 +0.3**
baz=56,SNR=7.7
B11A Sandpoint 56.58 53 P **P 21 32 04.7 +0.4**
baz=56,SNR=25
A12A Yaak River Ran 56.68 52 P **P 21 32 06.1 +1.2**
baz=56,SNR=9.2
E09A Wood Farm, Sta 56.72 56 P **P 21 32 05.3 +0.1**
baz=56,SNR=38
HNR Honiara 56.76 173 P **P 21 32 03.6 -1.8**
comp=E,63nm,0.3s,mb6.1,baz=275,slow=4.4,SNR=9.3
HNR LR LR 21 55 43.0
comp=E,7μm,18.0s,MS5.8,baz=0.6,slow=35
HNR Honiara 56.76 173 P **P 21 32 06.3 +0.8**
HNR pmax pmax
comp=Z,170nm,1.1s,mb6.0
F08A Pendleton 56.78 57 P **P 21 32 06.6 +1.0**
baz=57,SNR=14
J05A Fort Rock 56.83 60 P **P 21 32 07.2 +1.3**
baz=57,SNR=23
PMG Port Moresby 56.83 188 *e*P **P 21 32 04.8 -1.2**
PMG pmax pmax
comp=Z,27nm,0.9s
PMG MLR MLR
comp=Z,4μm,21.0s
PMG Port Moresby 56.83 188 *e*P **P 21 32 04.8 -1.2**
comp=Z,28nm,0.9s,mb5.3
PMG LR LR
comp=Z,4μm,21.0s,MS5.5
YBH Yreka Blue Hor 56.86 63 P **P 21 32 04.9 -1.3**
comp=Z,44nm,1.1s,mb5.4,baz=265,slow=0.7,SNR=19
YBH LR LR 21 51 56.1

comp=Z,8µm,21.4s,MS5.8,baz=322,slow=31
YBH Yreka Blue Hor 56.86 63 P **P** **21 32 04.9 -1.3**
YBH pmax pmax
comp=Z,44nm,1.1s
YBH MLR MLR
comp=Z,8µm,21.4s
YBH Yreka Blue Hor 56.86 63 P **P** **21 32 07.4 +1.2**
baz=57,SNR=24
K04A Chilquin 56.93 61 ⇑P **P** **21 32 07.3 +0.7**
baz=57
NNT Nongplab 56.95 251 P **P** **21 32 08.5 +1.7**
G08A Pilot Rock 56.97 57 ⇓P **P** **21 32 07.9 +0.9**
baz=57,SNR=16
M02C Callahan 56.98 63 ⇓P **P** **21 32 07.9 +0.9**
baz=57,SNR=21
B12A Libby 56.98 53 ⇑P **P** **21 32 07.3 +0.2**
baz=57,SNR=6.3
KEV Kevo 57.01 341 *e*P **P** **21 32 05.6 -1.7**
comp=Z,23nm,0.5s,mb5.5
KEV LR LR
comp=Z,18µm,20.0s,MS6.2
N02C Big Bar 57.04 64 P **P** **21 32 08.3 +0.9**
baz=57,SNR=7.6
I06A Prineville 57.04 59 P **P** **21 32 08.1 +0.6**
baz=57,SNR=29
APA Apatity 57.06 337 ⇓*i*P **P** **21 32 06.7 -0.9**
APA *i* 21 32 18.5
APA S **S** **21 39 59.0 -2.4**
APA *i* 21 41 54.0
APA pmax pmax
comp=Z,75nm,1.0s,mb5.7
APA MLR MLR
comp=Z,30µm,19.0s,MS6.4
L04A Klamath Falls 57.09 62 P **P** **21 32 08.8 +0.9**
baz=57,SNR=12
O01C Eel River Cons 57.13 65 ⇑P **P** **21 32 08.8 +0.8**
baz=57
LHEM Herd Peak 57.22 62 P **P** **21 32 09.4 +0.7**
KOLN Koldanda 57.26 277 *e*P **P** **21 32 10.1 +1.1**
comp=Z,2µm,0.9s
E10A Myers Farm, Un 57.31 55 P **P** **21 32 09.6 +0.2**
baz=57,SNR=19
F09A S2 Ranch, Elgi 57.32 56 ⇑P **P** **21 32 09.9 +0.4**
baz=57
M04C Macdoel 57.35 62 ⇑P **P** **21 32 10.2 +0.5**
baz=57,SNR=17
K05A Summer Lake 57.36 61 P **P** **21 32 10.4 +0.7**
baz=57,SNR=19
I07A Izee 57.37 59 ⇓P **P** **21 32 09.7 -0.1**
baz=57,SNR=16
VLK Valmikinagar 57.38 276 *i* x x 21 31 19.0
D11A Klaveano Farm, 57.41 54 P **P** **21 32 09.9 -0.2**
baz=57,SNR=14
M03C McCloud 57.49 63 ⇑P **P** **21 32 10.9 +0.3**
baz=57,SNR=5.2
CAL Calcutta 57.50 269 *e*P **P** **21 32 10.8 +0.1**
CAL *ex* x 21 40 04.7
ARCES ARCESS Array B 57.52 341 P **P** **21 32 09.4 -1.4**
comp=Z,61nm,0.8s,mb5.7,baz=46,slow=8.7,SNR=43
ARCES LR LR 22 00 26.1
comp=Z,21µm,20.4s,MS6.2,baz=31,slow=40
ARCES PKP2bc 22 02 07.9
comp=Z,4.7nm,0.9s,baz=228,slow=2.3,SNR=4.2
ARCES ARCESS Array B 57.52 341 P **P** **21 32 09.4 -1.4**
ARCES LR LR 22 00 26.1
ARCES ⇑*e* 22 02 07.9
ARE0 ARCESS Array S 57.52 341 *e*P **P** **21 32 09.8 -1.0**
WALA Waterton Lakes 57.53 51 *e*P **P** **21 32 11.0 0.0**
comp=Z,370nm,1.5s,mb6.2
F10A Beach Ranch, E 57.55 56 P **P** **21 32 11.9 +0.9**
baz=57,SNR=17
H08A Prairie City 57.59 58 ⇓P **P** **21 32 11.2 -0.1**
baz=57,SNR=24
B13A Whitefish 57.64 52 ⇑P **P** **21 32 11.6 -0.1**
baz=57,SNR=57
WDC Whiskeytown Da 57.65 64 *e*P **P** **21 32 12.0 +0.2**
WDC pmax pmax
comp=Z,51nm,1.0s,mb5.5
WDC MLR MLR
comp=Z,3µm,20.0s,MS5.5
WDC Whiskeytown Da 57.65 64 *e*P **P** **21 32 12.0 +0.3**
comp=Z,51nm,1.0s,mb5.5
WDC LR LR
comp=Z,3µm,20.0s,MS5.5
WDC Whiskeytown Da 57.65 64 P **P** **21 32 12.3 +0.6**
baz=58,SNR=11
K06A Valley Falls 57.70 60 P **P** **21 32 12.7 +0.6**
baz=58,SNR=22
O02C Red Bluff 57.74 64 P **P** **21 32 13.5 +1.1**
baz=58,SNR=14
L05A Lakeview 57.80 61 ⇓P **P** **21 32 13.5 +0.7**
baz=58,SNR=18
P01C Double 8 Ranch 57.83 65 P **P** **21 32 13.1 +0.1**
baz=58,SNR=6.2
J07A Hines 57.90 59 P **P** **21 32 14.6 +1.0**
baz=58,SNR=16
C13A Hot Springs 58.00 53 P **P** **21 32 14.8 +0.6**
baz=58,SNR=14
I08A Drewsey 58.01 58 ⇑P **P** **21 32 14.6 +0.3**
baz=58,SNR=12
M05C Lookout 58.02 62 ⇑P **P** **21 32 14.3 -0.1**
baz=58,SNR=14
H09A Durkee 58.08 57 ⇑P **P** **21 32 14.8 0.0**
baz=58,SNR=24
GASB Alder Springs 58.10 65 ⇓P **P** **21 32 15.7 +0.8**
baz=58,SNR=18
TMCR Tamitsa 58.13 332 *e*P **P** **21 32 13.5 -1.6**
HATC Hat Creek Radi 58.16 63 ⇓P **P** **21 32 15.6 +0.3**
baz=58,SNR=6.9
BMO Blue Mountains 58.17 57 *e*P **P** **21 32 15.1 -0.4**
comp=Z,148nm,1.3s,mb5.9
BMO LR LR
comp=Z,5µm,21.0s,MS5.6
MOD Modoc 58.20 61 *e*P **P** **21 32 15.5 -0.1**
comp=Z,37nm,0.9s,mb5.4
MOD LR LR
comp=Z,5µm,22.0s,MS5.5
MOD Modoc 58.20 61 P **P** **21 32 15.8 +0.2**
baz=58,SNR=25
F11A Grangeville 58.20 55 ⇑P **P** **21 32 15.3 -0.3**
baz=58
HOPS Hopland 58.28 65 PFAKE 21 32 30.0 +14
HOPS LR LR
comp=Z,7µm,20.0s,MS5.7
HOPS Hopland 58.28 65 P **P** **21 32 16.4 +0.2**
baz=58,SNR=5.9
O03C Acorn Hollow, 58.31 64 ⇑P **P** **21 32 16.5 +0.1**
baz=58
BOK Bokaro 58.32 272 *i* P **P** **21 32 16.7 +0.2**
BOK *i* x x 21 35 24.7
K07A Rock Creek Ran 58.35 60 P **P** **21 32 17.2 +0.5**
baz=58,SNR=25
PTH Pithoragarh 58.39 281 *e*P **P** **21 32 18.2 +1.2**
PTH *ex* x 21 35 35.9
J08A Circle Bar Ran 58.40 59 ⇑P **P** **21 32 17.4 +0.3**
baz=58,SNR=19
D13A Huson 58.41 53 ⇓P **P** **21 32 16.9 -0.2**
baz=58,SNR=25
KTK1 Kautokeino 58.43 341 *e*P **P** **21 32 16.6 -0.6**
KTK1 AMb AMB 21 32 32.9
comp=Z,215nm,2.0s,mb5.8
KTK1 Kautokeino 58.43 341 *e*P **P** **21 32 16.6 -0.6**
comp=Z,215nm,2.0s,mb5.8
G11A Walters Elk Ra 58.43 56 ⇓P **P** **21 32 17.4 +0.1**
baz=58
LGTI Lohaghat 58.44 280 *e*P **P** **21 32 18.0 +0.7**
LGTI *ex* x 21 35 27.0
I09A Lost Marbles R 58.45 58 P **P** **21 32 18.2 +0.8**
baz=58,SNR=14
M06C Likely Place G 58.52 62 ⇓P **P** **21 32 17.7 -0.2**
baz=58,SNR=12
O04C Chester 58.69 63 ⇑P **P** **21 32 19.6 +0.6**
baz=58,SNR=18
L07A Adell 58.70 61 ⇓P **P** **21 32 19.4 +0.2**
baz=58,SNR=22
ELFS Eagle Lake Fie 58.73 63 ⇑P **P** **21 32 19.7 +0.4**
baz=58,SNR=6.4
MNRC McLaughlin Nat 58.74 65 ⇑P **P** **21 32 19.7 +0.3**
baz=59,SNR=15
K08A Mann Creek Ran 58.77 59 ⇑P **P** **21 32 19.8 +0.2**
baz=59,SNR=24
TRO Tromso 58.81 343 *e*P **P** **21 32 17.1 -2.8**
TRO AMb AMB 21 32 21.6
comp=Z,186nm,0.9s,mb6.1
TRO *e*S **S** **21 40 25.8 +1.5**
TRO AMS AMS 22 03 03.4
comp=Z,12µm,19.2s,MS6.0
TRO Tromso 58.81 343 *e*P **P** **21 32 17.1 -2.8**
TRO pmax pmax
comp=Z,186nm,0.9s,mb6.1
TRO MLR MLR
comp=Z,12µm,19.2s,MS6.0
TRO Tromso 58.81 343 *e*P **P** **21 32 17.1 -2.8**
comp=Z,186nm,0.9s,mb6.1
TRO LR LR
comp=Z,12µm,19.2s,MS6.0
J09A Fry Pan Ranch, 58.83 58 ⇓P **P** **21 32 20.0 0.0**
baz=59,SNR=39
AKTK Aktyubinsk 58.84 312 P **P** **21 32 18.4 -1.6**
AKTK LR LR 22 00 01.8
AKTO Aktyubinsk 58.84 312 P **P** **21 32 18.4 -1.6**
comp=Z,108nm,0.7s,mb6.0,baz=62,slow=5.8,SNR=64
AKTO LR LR 22 00 01.8
comp=Z,22µm,19.5s,MS6.3,baz=240,slow=38
AKTO Aktyubinsk 58.84 312 P **P** **21 32 18.5 -1.6**
AKTO pmax pmax
comp=Z,108nm,0.7s,mb6.0
AKTO MLR MLR
comp=Z,22µm,19.5s,MS6.3
MSO Missoula 58.86 53 *e*P **P** **21 32 19.7 -0.5**
comp=Z,117nm,1.2s,mb5.8
MSO LR LR
comp=Z,3µm,20.0s,MS5.4
WVOR Wild Horse Val 58.87 60 *e*P **P** **21 32 20.1 -0.2**
WVOR pmax pmax
comp=Z,85nm,1.1s,mb5.7
WVOR MLR MLR
comp=Z,7µm,20.0s,MS5.8
WVOR Wild Horse Val 58.87 60 *e*P **P** **21 32 20.1 -0.2**
comp=Z,85nm,1.1s,mb5.7
WVOR LR LR
comp=Z,7µm,20.0s,MS5.8
ORV Oroville 58.91 64 ⇓P **P** **21 32 19.6 -0.9**
baz=59
SUTB Sutter Butte 58.93 64 ⇑P **P** **21 32 20.0 -0.7**
baz=59
D14A Greenough 58.94 53 ⇑P **P** **21 32 20.5 -0.2**
baz=59,SNR=81
E13A Victor 58.96 54 ⇓P **P** **21 32 20.4 -0.5**
baz=59,SNR=30
H11A Donnelly 59.00 56 P **P** **21 32 21.4 +0.2**
baz=59,SNR=36
O05C Quincy 59.01 63 P **P** **21 32 21.6 +0.3**
baz=59,SNR=6.2
CVS Carnenet Viney 59.06 66 ⇓P **P** **21 32 21.0 -0.6**
baz=59
FARB Farallon Islan 59.12 67 ⇑P **P** **21 32 21.6 -0.4**
baz=59
Q03C Winters 59.16 65 ⇑P **P** **21 32 23.1 +0.8**
baz=59
N06A Buffalo Meadow 59.18 62 ⇑P **P** **21 32 22.1 -0.3**
baz=59,SNR=23
L08A Fields 59.19 60 P **P** **21 32 22.9 +0.4**
baz=59,SNR=24
M07A Soldier Meadow 59.19 61 ⇓P **P** **21 32 22.7 +0.2**
baz=59,SNR=15
K09A Rome 59.24 59 ⇑P **P** **21 32 22.7 -0.1**
baz=59,SNR=19
F13A Darby 59.28 54 P **P** **21 32 23.4 +0.3**
baz=59,SNR=46
DLH Dalhousie 59.31 286 *e*P **P** **21 32 25.0 +1.7**
SDNR Sundarnagar 59.31 284 *e*P **P** **21 32 24.0 +0.7**
SDNR *ex* x 21 35 32.5
DDI Dehra Dun 59.34 283 *e*P **P** **21 32 24.0 +0.5**
E14A Clinton 59.35 53 ⇓P **P** **21 32 23.4 -0.2**
baz=59,SNR=30
KSM Kuching 59.38 234 *e*P **P** **21 32 24.9 +1.1**
BEKR Beckwourth 59.41 63 ⇓P **P** **21 32 23.7 -0.3**
baz=59,SNR=24
Q04C Lincoln 59.42 65 ⇓P **P** **21 32 23.8 -0.3**
baz=59
D15A Lincoln 59.50 52 ⇓P **P** **21 32 24.4 -0.2**
baz=59,SNR=14
THN Thein Dam 59.54 286 *e*P **P** **21 32 23.1 -1.8**
THN *ex* x 21 41 26.6
O06A Flanigan 59.55 62 ⇓P **P** **21 32 24.8 -0.2**
baz=59,SNR=14
P05C Yuba Gap, Truc 59.60 64 P **P** **21 32 25.6 +0.2**
baz=59,SNR=7.6
BDM Black Diamond 59.67 66 ⇑P **P** **21 32 26.2 +0.4**
baz=60
N07B Gerlach 59.68 61 P **P** **21 32 26.6 +0.7**
baz=60,SNR=20
L09A Wilkinson Ranc 59.69 60 ⇑P **P** **21 32 26.0 +0.1**
baz=60,SNR=5.5
ORR Orenburg 59.72 315 *e*P **P** **21 32 25.0 -1.2**
ORR MLR MLR
comp=Z,33µm,17.0s,MS6.5
BHK Bhakra 59.72 285 *e*P **P** **21 32 29.0 +2.8**
JRSC Jasper Ridge 59.78 66 ⇓P **P** **21 32 26.3 -0.2**
baz=60
F14A Wisdom 59.79 54 ⇑P **P** **21 32 26.2 -0.5**
baz=60,SNR=6.6
P06A Stead Airport, 59.80 63 ⇓P **P** **21 32 27.2 +0.4**
baz=60
E15A Deer Lodge 59.81 53 ⇑P **P** **21 32 26.4 -0.4**
baz=60,SNR=31
FUNA Funafuti 59.92 151 PFAKE 21 32 40.0 +12
FUNA LR LR
comp=Z,9µm,19.0s,MS5.9
WENL Wente Brothers 59.94 66 ⇓P **P** **21 32 27.6 -0.1**
baz=60
BNLO Ben Lomond (Sa 59.99 67 ⇑P **P** **21 32 27.3 -0.7**
baz=60
R04C Big Horse Ranc 60.05 65 ⇑P **P** **21 32 27.4 -1.0**
baz=60
ALBI Allahabad 60.08 276 *i* P **P** **21 32 26.0 -2.7**
O07A Toulon 60.12 62 ⇑P **P** **21 32 28.9 0.0**
baz=60,SNR=21
WCN Washoe City 60.12 63 P **P** **21 32 29.5 +0.6**
baz=60,SNR=14
N08A GE Springer Mi 60.18 61 P **P** **21 32 29.9 +0.6**
baz=60,SNR=28
M09A Marrel Ranch, 60.19 60 ⇓P **P** **21 32 29.7 +0.4**
baz=60,SNR=6.1
F15A Butte 60.26 53 P **P** **21 32 30.6 +0.8**
baz=60,SNR=76
S04C Ingram Canyon, 60.28 66 ⇓P **P** **21 32 29.9 -0.1**
baz=60,SNR=6.2
R05C Kirkwood Meado 60.30 64 P **P** **21 32 30.5 +0.3**
baz=60,SNR=20
EGMT Eagleton 60.35 50 *e*P **P** **21 32 29.8 -0.7**
comp=Z,402nm,1.5s,mb6.2
EGMT LR LR
comp=Z,8µm,19.0s,MS5.9
EGMT Eagleton 60.35 50 P **P** **21 32 30.1 -0.4**
baz=60,SNR=48
NIL Nilore 60.37 289 P **P** **21 32 31.9 +1.3**
comp=Z,2µm,0.8s,SNR=69
FCC Fort Churchill 60.39 34 *e*P **P** **21 32 29.7 -1.1**
FCC pmax pmax
comp=Z,107nm,0.7s,mb6.0
FCC Fort Churchill 60.39 34 *e*P **P** **21 32 29.7 -1.0**
comp=Z,107nm,0.7s,mb6.0
O08A Rochester Mine 60.47 61 ⇓P **P** **21 32 32.2 +0.9**
baz=60
N09A Rock Creek Ran 60.50 61 ⇑P **P** **21 32 31.7 +0.2**
baz=60,SNR=27
DLMT Dillon 60.50 54 *e*P **P** **21 32 31.8 +0.2**
comp=Z,496nm,1.9s,mb6.2
P07A Fallon 60.50 63 ⇑P **P** **21 32 31.7 +0.1**
baz=60
SNG Songkhla 60.50 246 P **P** **21 32 33.0 +1.5**
comp=Z,276nm,1.0s,mb6.3
CMB Columbia Colle 60.53 65 *e*P **P** **21 32 31.6 -0.1**
CMB pmax pmax
comp=Z,83nm,1.4s,mb5.7
CMB MLR MLR
comp=Z,4µm,19.0s,MS5.6
CMB Columbia Colle 60.53 65 *e*P **P** **21 32 31.6 -0.1**
comp=Z,83nm,1.4s,mb5.7
CMB LR LR
comp=Z,4µm,19.0s,MS5.6
CMB Columbia Colle 60.53 65 ⇑P **P** **21 32 31.6 -0.1**
baz=60,SNR=17
HLID Hailey 60.61 57 *e*P **P** **21 32 32.0 -0.3**
HLID LR LR
comp=Z,5µm,19.0s,MS5.6
HLID Hailey 60.61 57 P **P** **21 32 32.8 +0.5**
baz=60,SNR=38
PACP Pacheco Peak 60.62 66 ⇓P **P** **21 32 31.8 -0.5**
baz=60,SNR=14
M10A I.L. Ranch, Tu 60.66 59 ⇑P **P** **21 32 32.7 +0.1**
baz=60,SNR=26
SAO San Andreas Ge 60.67 66 P **P** **21 32 33.0 +0.3**
SAO pmax pmax
comp=Z,300nm,2.5s,mb6.0
SAO San Andreas Ge 60.67 66 *e*P **P** **21 32 29.6 -3.1**
comp=Z,307nm,2.6s,mb6.0
SAO LR LR
comp=Z,4µm,19.0s,MS5.5
G15A Dillon 60.68 54 ⇓P **P** **21 32 32.6 -0.2**
baz=60,SNR=28
R06C Coleville 60.80 64 P **P** **21 32 34.3 +0.7**
baz=61,SNR=23
HAST UC Hastings Re 60.84 67 P **P** **21 32 33.9 +0.1**
baz=61,SNR=7.8
BOZ Bozeman (W) 60.85 53 PFAKE 21 32 50.0 +16
BOZ LR LR
comp=Z,3µm,21.0s,MS5.5
P08A Dixie Valley 60.89 62 ⇓P **P** **21 32 34.0 -0.2**
baz=61
Q07A Schurz 60.93 63 ⇑P **P** **21 32 34.9 +0.5**
baz=61
BMN Battle Mountai 60.94 61 P **P** **21 32 35.3 +0.8**
BMN pmax pmax
comp=Z,70nm,0.9s,mb5.8
BMN Battle Mountai 60.94 61 *e*P **P** **21 32 35.1 +0.6**
comp=Z,70nm,0.9s,mb5.8
NDI New Delhi 60.95 282 *e*P **P** **21 32 33.5 -1.1**
NDI *ex* x 21 41 35.0
S06C San Francisco 60.95 65 P **P** **21 32 34.4 -0.2**
baz=61,SNR=31
S05C Merced 61.00 65 P **P** **21 32 34.6 -0.3**
baz=61,SNR=7.3
T05C Eagle Field, D 61.07 66 ⇓P **P** **21 32 35.0 -0.4**
baz=61
LOF Lofoten 61.12 344 ⇓*i*P **P** **21 32 36.9 +1.1**
LOF AMb AMB 21 32 38.5
comp=Z,324nm,0.9s,mb6.5
LOF Lofoten 61.12 344 ⇓*i*P **P** **21 32 36.9 +1.1**
comp=Z,324nm,0.9s,mb6.5
O09A Fish Creek Ran 61.12 61 ⇓P **P** **21 32 36.0 +0.3**
baz=61,SNR=36
M11A Holland Ranch, 61.15 59 P **P** **21 32 36.9 +0.9**
baz=61,SNR=25
N10A Dunphy 61.18 60 ⇓P **P** **21 32 36.4 +0.2**
baz=61
V03C Hunter Liggett 61.27 67 ⇓P **P** **21 32 37.0 +0.3**
baz=61
R07C Lee Vining 61.32 64 ⇑P **P** **21 32 36.6 -0.4**
baz=61,SNR=17
JMIC Jan Mayen 61.32 354 P **P** **21 32 37.1 0.0**
comp=Z,139nm,0.9s,mb6.1,baz=89,slow=10,SNR=4.0
JMIC Jan Mayen 61.32 354 *e*P **P** **21 32 38.8 +1.7**
JMIC *e*S **S** **21 40 59.2 +2.7**
JMIC AMS AMS 21 57 24.4
comp=Z,5µm,24.6s,MS5.5
U04C Hernandez Rese 61.34 66 ⇑P **P** **21 32 37.3 +0.1**
baz=61,SNR=11
PECR Pechory 61.38 323 *e*P **P** **21 32 36.5 -1.0**
PECR *i*S **S** **21 40 58.4 +1.1**
PECR *i* 21 42 25.0
PECR pmax pmax
comp=Z,1µm,1.0s,mb7.0
PECR pmax pmax
comp=Z,2µm,8.0s
PECR pmax pmax
comp=E,800nm,9.0s
PECR smax
comp=E,2µm,15.0s
PECR MLR MLR
comp=Z,47µm,17.0s,MS6.7
PECR MLR MLR
comp=E,12µm,14.0s
O10A Cortez Mining, 61.46 61 P **P** **21 32 39.1 +1.1**
baz=61,SNR=17
Q08A Gabbs 61.51 63 P **P** **21 32 38.9 +0.6**
baz=61,SNR=14
P09A Austin 61.54 62 ⇑P **P** **21 32 39.3 +0.7**
baz=61
N11A Elko Archery C 61.57 60 ⇓P **P** **21 32 39.6 +0.8**
baz=61
T06C Millerton Lake 61.59 65 P **P** **21 32 38.8 -0.2**
baz=61,SNR=12
KCC Kaiser Creek 61.63 65 ⇑P **P** **21 32 38.2 -1.0**
baz=61,SNR=15
M12A Wells 61.67 59 ⇓P **P** **21 32 39.8 +0.4**
baz=62,SNR=45
R08A Mina 61.72 63 ⇓P **P** **21 32 40.1 +0.3**
baz=62
V04C Ramage Ranch, 61.74 67 ⇓P **P** **21 32 39.5 -0.5**
baz=62,SNR=5.8
PKD Parkfield 61.75 67 P **P** **21 32 40.1 +0.1**
baz=62,SNR=6.3
U05C Westside ANR, 61.77 66 ⇓P **P** **21 32 40.7 +0.6**
baz=62
YMR Madison River 61.83 54 PFAKE 21 32 50.0 +9.4
YMR LR LR
comp=Z,7µm,20.0s,MS5.8
P10A Eureka 61.90 61 ⇑P **P** **21 32 40.9 -0.2**
baz=62,SNR=6.4
ELK Elko 61.91 59 *e*P **P** **21 32 41.2 +0.1**
ELK pmax pmax
comp=Z,24nm,0.8s
ELK MLR MLR
comp=Z,6µm,20.0s
ELK Elko 61.91 59 *e*P **P** **21 32 41.2 +0.1**
comp=Z,24nm,0.8s,mb5.4
ELK LR LR
comp=Z,6µm,20.0s,MS5.7
KULM Kulim 61.95 245 *e*P **P** **21 32 41.5 +0.2**
N12A Clover Valley, 61.96 59 ⇑P **P** **21 32 41.3 -0.1**
baz=62,SNR=21
YNR Norris Junctio 61.96 54 *e*P **P** **21 32 43.0 +1.6**
Q09A Carvers 61.97 62 ⇑P **P** **21 32 41.7 +0.2**
baz=62
O11A Cowboy Ranch, 62.06 60 ⇑P **P** **21 32 42.0 0.0**
baz=62,SNR=25
M13A Montello 62.14 58 ⇓P **P** **21 32 42.3 -0.4**
baz=62,SNR=31
V05C Boulder Hill, 62.20 66 ⇑P **P** **21 32 42.7 -0.3**
baz=62
LKWY Lake 62.21 54 *e*P **P** **21 32 44.2 +1.1**
LKWY pmax pmax
comp=Z,73nm,1.1s,mb5.7
LKWY MLR MLR
comp=Z,10µm,19.0s,MS6.0
LKWY Lake 62.21 54 *e*P **P** **21 32 44.2 +1.1**
comp=Z,73nm,1.1s,mb5.7
LKWY LR LR
comp=Z,10µm,19.0s,MS6.0
S08C White Mtn Res 62.23 64 ⇓P **P** **21 32 43.7 +0.5**
baz=62,SNR=23
HELL Mitchell Peak, 62.23 65 ⇑P **P** **21 32 42.4 -0.8**
baz=62
IPM Ipoh 62.35 244 P **P** **21 32 45.5 +1.5**
P11A Circle Ranch, 62.37 61 ⇑P **P** **21 32 44.0 -0.2**
baz=62,SNR=12
R09A Tonopah 62.42 63 ⇓P **P** **21 32 44.2 -0.3**
baz=62,SNR=34
N13A Wendover, West 62.44 59 ⇑P **P** **21 32 44.0 -0.7**
baz=62,SNR=9.1
RLMT Red Lodge 62.47 52 *e*P **P** **21 32 45.0 +0.2**
comp=Z,113nm,1.1s,mb5.9
RLMT LR LR
comp=Z,6µm,19.0s,MS5.8
TIN Tinemaha 62.48 64 ⇓P **P** **21 32 44.2 -0.7**
baz=62
RRI2 Red Ridge 62.48 55 *e*P **P** **21 32 44.6 -0.4**
comp=Z,175nm,0.8s,mb6.2
SMMC Simmler 62.50 67 P **P** **21 32 45.2 +0.1**
baz=62,SNR=6.8
O12A Currie 62.51 60 ⇑P **P** **21 32 44.6 -0.5**
baz=62,SNR=27
MOOW Moose Ponds 62.55 54 *e*P **P** **21 32 44.7 -0.6**
comp=Z,95nm,1.1s,mb5.8
TPAW Teton Pass 62.60 55 *e*P **P** **21 32 45.6 -0.1**
comp=Z,247nm,1.1s,mb6.2
S09A Goldfield 62.66 63 P **P** **21 32 46.5 +0.4**
baz=62,SNR=22
MOR8 Moi Rana 62.66 343 *e*P **P** **21 32 43.9 -2.2**
MOR8 AMb AMB 21 32 47.2
comp=Z,202nm,0.9s,mb6.2
MOR8 Moi Rana 62.66 343 *e*P **P** **21 32 43.9 -2.2**
comp=Z,202nm,0.9s,mb6.2
HVU Hansel Valley 62.67 57 *e*P **P** **21 32 46.1 -0.1**
HVU pmax pmax
comp=Z,57nm,1.0s,mb5.7
HVU Hansel Valley 62.67 57 *e*P **P** **21 32 46.1 -0.1**
comp=Z,56nm,1.0s,mb5.7

LOHW Long Hollow 62.71 54 *e*P **P 21 32 47.6 +1.2**
comp=Z,204nm,1.3s,mb6.1
VES Vestal, Richgr 62.73 66 ⇓P **P 21 32 45.9 -0.7**
baz=62,SNR=9.4
REDW Red Top Meadow 62.74 55 *e*P **P 21 32 46.3 -0.3**
comp=Z,219nm,1.1s,mb6.2
JBP Jabalpur 62.75 275⇑*e*P **P 21 32 48.7 +2.0**
JBP *ex* x 21 32 52.4
comp=Z,529nm,1.3s
JBP *i* S **S 21 41 16.9 +2.4**
STOK Stokkvaagen 62.80 343 *e*P **P 21 32 46.3 -0.7**
KAKA Kakadu 62.84 204 *e*P **P 21 32 46.5 -0.8**
comp=Z,42nm,0.9s,mb5.6
R10A Warm Springs 62.85 62 ⇓P **P 21 32 47.1 -0.3**
baz=63,SNR=5.8
PKM Peak Mountain 62.88 67 P **P 21 32 48.2 +0.6**
baz=63,SNR=9.9
Q11A Duckwater 62.88 61 ⇓P **P 21 32 47.3 -0.3**
baz=63,SNR=20
DGMT Dagmar 62.90 47 *e*P **P 21 32 47.2 -0.5**
comp=Z,274nm,1.3s,mb6.2
DGMT LR LR
comp=Z,12μm,21.0s,MS6.0
P12A McGill 62.92 60 ⇓P **P 21 32 48.1 +0.3**
baz=63,SNR=26
KGM Kluang 62.92 240 P **P 21 32 50.2 +2.4**
CWC Cottonwood Cre 62.96 65 ⇓P **P 21 32 48.2 +0.1**
baz=63,SNR=11
AHID Auburn Hatcher 62.98 55 *e*P **P 21 32 48.9 +0.6**
comp=Z,82nm,1.2s,mb5.7
AHID LR LR
comp=Z,4μm,19.0s,MS5.7
GRAC Grapevine Rang 63.03 64 P **P 21 32 49.2 +0.7**
baz=63,SNR=22
LAO LASA Array 63.05 50 *e*P **P 21 32 49.6 +0.9**
comp=Z,826nm,1.9s,mb6.5
LAO LR LR
comp=Z,12μm,21.0s,MS6.0
ISA Isabella 63.22 66 *e*P **P 21 32 47.4 -2.4**
comp=Z,0.1nm,1.1s
ISA LR LR
comp=Z,949nm,19.0s
ISA Isabella 63.22 66 ⇓P **P 21 32 49.5 -0.3**
baz=63,SNR=18
SBC Santa Barbara 63.24 67 ⇓P **P 21 32 49.2 -0.7**
baz=63
TRCR Troy Canyon 63.24 62 *e*P **P 21 32 50.1 +0.2**
Q12A Willow Creek R 63.25 61 ⇑P **P 21 32 49.7 -0.3**
baz=63,SNR=23
ARVC Arvin 63.35 66 ⇓P **P 21 32 50.0 -0.6**
baz=63
HWUT Hardware Ranch 63.48 57 *e*P **P 21 32 50.6 -1.0**
comp=Z,112nm,1.3s,mb5.8
HWUT LR LR
comp=Z,6μm,21.0s,MS5.8
MPMC Manual Prospec 63.57 65 P **P 21 32 52.0 -0.1**
baz=63,SNR=38
BSC Santa Cruz Isl 63.58 68 ⇑P **P 21 32 51.0 -1.2**
baz=63
DUG Dugway 63.68 59 *e*P **P 21 32 52.4 -0.5**
DUG pmax pmax
comp=Z,66nm,1.1s,mb5.6
DUG MLR MLR
comp=Z,5μm,20.0s,MS5.7
DUG Dugway 63.68 59 *e*P **P 21 32 52.4 -0.4**
comp=Z,66nm,1.1s,mb5.6
DUG LR LR
comp=Z,5μm,20.0s,MS5.7
DUG Dugway 63.68 59 ⇓P **P 21 32 53.0 +0.1**
baz=64,SNR=37
FURC Furnace Creek, 63.69 64 P **P 21 32 53.4 +0.5**
baz=64,SNR=19
OSI Osito Adit 63.75 67 ⇓P **P 21 32 53.0 -0.3**
baz=64
FIA1 FINESS Array S 63.79 335 *e*P **P 21 32 52.1 -1.5**
FINES FINESS Array B 63.79 335 P **P 21 32 52.2 -1.4**
comp=Z,78nm,0.5s,mb6.0,baz=38,slow=7.6,SNR=130
FINES PKP2bc 22 01 48.3
comp=Z,2.1nm,0.8s,baz=162,slow=7.4,SNR=4.9
FINES LR LR 22 05 20.2
comp=Z,14μm,19.4s,MS6.2,baz=30,slow=40
FINES FINESS Array B 63.79 335 P **P 21 32 52.2 -1.4**
FINES ⇑*e* 22 01 48.3
FINES LR LR 22 05 20.2
LRMC Laurel Mountai 63.83 65 P **P 21 32 53.4 -0.5**
baz=64,SNR=30
PUL Pulkovo 63.84 332⇓*i*P **P 21 32 53.1 -0.8**
PUL *i* 21 35 17.6
PUL *e*PPP 21 36 50.8
PUL *e*S **S 21 41 26.0 -2.2**
PUL *e* 21 42 43.4
PUL *e*SS SS 21 45 34.7 -1.7
PUL *e*SSS 21 48 31.1
PUL pmax pmax
comp=Z,87nm,0.6s,mb6.0
PUL pmax pmax
comp=N,84nm,0.7s
PUL MLR MLR
comp=Z,13μm,15.0s,MS6.2
PUL MLR MLR
comp=N,5μm,13.0s,MS6.2
PUL MLR MLR
comp=E,8μm,14.0s,MS6.2
PUL Pulkovo 63.84 332⇑*e*P **P 21 32 52.2 -1.7**
BW06 Boulder Array 63.84 55 *e*P **P 21 32 52.5 -1.4**
comp=E,131nm,1.0s,mb5.9
BW06 LR LR
comp=Z,5μm,21.0s,MS5.6
PDAR Pinedale Array 63.84 55 P **P 21 32 52.7 -1.2**
comp=Z,31nm,0.9s,mb5.3,baz=299,slow=1.5,SNR=74
PDAR PKP2bc 22 01 48.0
comp=Z,1.5nm,1.1s,baz=113,slow=6.0,SNR=3.9
PDAR Pinedale Array 63.84 55 P **P 21 32 52.7 -1.2**
PDAR ⇑*e* 22 01 48.0
BLG Laguna Peak 63.86 67 ⇑P **P 21 32 52.3 -1.8**
baz=64
EDW2 Edwards Air Fo 64.03 66 ⇑P **P 21 32 54.5 -0.6**
baz=64,SNR=40
U10A Ash Meadows, A 64.05 64 ⇑P **P 21 32 54.9 -0.4**
baz=64,SNR=19
AJM Ajmer 64.12 282 *i* P **P 21 32 55.0 -0.8**
SNCC San Nicolas Is 64.14 68 PFAKE 21 33 10.0 +14
SNCC LR LR
comp=Z,5μm,20.0s,MS5.7
SNCC San Nicolas Is 64.14 68 ⇓P **P 21 32 55.3 -0.5**
baz=64
JLU Jordanelle 64.20 57 *e*P **P 21 32 57.0 +0.8**
VIS Vishakhapatnam 64.21 268 *i* P **P 21 32 52.0 -4.4**
VIS *i* S **S 21 41 29.6 -3.1**
DECC Green Verdugo 64.23 67 ⇓P **P 21 32 56.0 -0.5**
baz=64
MOS Moscow 64.34 326 *e*P **P 21 32 53.5 -3.7**
MOS *i* 21 33 04.8
MOS *e* 21 33 27.5
MOS *e*S **S 21 41 30.6 -3.7**
MOS *e* 21 42 44.4
MOS *e*SSS 21 48 36.5
MOS pmax pmax
comp=Z,172nm,1.3s,mb5.9
MOS smax
comp=N,1μm,4.6s
MOS smax
comp=E,800nm,4.3s
SHOC Shoshone 64.42 64 ⇓P **P 21 32 57.2 -0.5**
baz=64
DAU Daniels Canyon 64.44 58 P **P 21 32 58.5 +0.7**
DAU Daniels Canyon 64.44 58 *e*P **P 21 32 57.9 +0.1**
SFJD Kangerlussuaq 64.44 11 *e*P **P 21 32 57.1 -0.8**
SFJD pmax pmax
comp=Z,101nm,1.1s,mb5.8
SFJD MLR MLR
comp=Z,16μm,20.0s,MS6.2
SFJD Kangerlussuaq 64.44 11 *e*P **P 21 32 57.1 -0.8**
comp=Z,101nm,1.1s,mb5.8
SFJD LR LR
comp=Z,16μm,20.0s,MS6.2
MPU Maple Canyon 64.48 58 *e*P **P 21 32 58.5 +0.4**
comp=Z,77nm,1.0s,mb5.7
MPU LR LR
comp=Z,5μm,19.0s,MS5.8
GSC Goldstone 64.49 65 *e*P **P 21 32 57.3 -0.8**
GSC Goldstone 64.49 65 ⇓P **P 21 32 57.6 -0.6**
baz=64,SNR=10
NSS Namsos 64.60 343 *e*P **P 21 32 57.3 -1.7**
NSS *e*S **S 21 41 38.2 +0.5**
NSS *e*SKS 21 42 52.2
NSS AMS AMS 22 09 02.4
comp=Z,12μm,19.5s,MS6.1
FMP Fort Macarthur 64.61 67 ⇓P **P 21 32 58.9 -0.1**
baz=64
U11A Corn Creek 64.62 63 ⇑P **P 21 32 58.9 -0.2**
baz=64
RRX Edison Barstow 64.64 65 ⇓P **P 21 32 58.7 -0.5**
baz=64
BFSC Mount Baldy St 64.66 66 ⇑P **P 21 32 58.5 -0.8**
baz=64,SNR=12
CIS Catalina Islan 64.74 68 ⇓P **P 21 32 59.0 -0.8**
baz=65,SNR=5.5
NGP Nagpur 64.75 274⇑*e*P **P 21 32 58.6 -1.2**
NGP *ex* x 21 33 02.6
comp=Z,440nm,1.4s
NGP *e*S **S 21 41 39.5 0.0**
SCI San Clemente I 64.93 68 ⇓P **P 21 33 00.6 -0.4**
baz=65
TUQ Turquoise Mtn. 64.94 64 ⇑P **P 21 33 00.5 -0.6**
baz=65,SNR=22
V11A Goodsprings 64.98 64 ⇑P **P 21 33 00.9 -0.5**
baz=65
HEC Hector,Ludlow 65.09 65 ⇓P **P 21 33 01.5 -0.6**
baz=65,SNR=27
BBRC Big Bear Sol-O 65.10 66 ⇑P **P 21 33 01.8 -0.4**
baz=65
U12A Valley of Fire 65.13 63 ⇑P **P 21 33 02.2 -0.2**
baz=65,SNR=6.6
MVU Marysvale 65.14 60 PFAKE 21 33 10.0 +7.6
MVU LR LR
comp=Z,5μm,20.0s,MS5.7
MSU Marysvale 65.16 60 *e*P **P 21 33 03.4 +0.9**
TMUT Trail Mountain 65.20 58 *e*P **P 21 33 03.3 +0.5**
OBN Obninsk 65.20 326 *e*P **P 21 33 01.6 -1.2**
OBN *e*S S 21 41 44.1 -0.9
OBN *i* 21 42 53.0
OBN pmax pmax
comp=Z,48nm,0.7s,mb5.6
OBN MLR MLR
comp=Z,12μm,18.0s,MS6.2
MURC Murrieta 65.36 67 ⇓P **P 21 33 03.2 -0.7**
baz=65,SNR=5.6
V12A Nelson 65.40 63 P **P 21 33 04.4 +0.2**
baz=65,SNR=21
ULM Lac du Bonnet 65.62 41 P **P 21 33 05.2 -0.4**
comp=Z,24nm,0.7s,mb5.3,baz=317,slow=6.7,SNR=31
ULM Lac du Bonnet 65.62 41 P **P 21 33 05.2 -0.4**
ULM LR LR
comp=Z,7μm,20.0s,MS5.9
W12A Cal Nev Ari 65.67 64 ⇑P **P 21 33 05.6 -0.3**
baz=66,SNR=9.6
PFO Pinyon Flat Ob 65.82 66 PFAKE 21 33 20.0 +13
PFO LR LR
comp=Z,1μm,22.0s,MS5.1
PFO Pinyon Flat Ob 65.82 66 ⇑P **P 21 33 05.7 -1.1**
baz=66,SNR=8.5
BELC Belle Mtn. 65.84 66 P **P 21 33 06.2 -0.7**
baz=66,SNR=15
RWWY Rawlins 65.86 54 *e*P **P 21 33 07.3 +0.2**
comp=Z,434nm,2.1s,mb6.1
109C Camp Elliot, M 65.89 67 ⇓P **P 21 33 06.3 -1.0**
baz=66
RSSD Black Hills 65.92 51 PFAKE 21 33 20.0 +13
RSSD LR LR
comp=Z,7μm,20.0s,MS5.8
VSU Vasula 66.00 333*d i*P **P 21 33 07.1 -0.9**
VSU Vasula 66.00 333 *i* P **P 21 33 07.2 -0.8**
VRHR Novokhopersk 66.11 320 *e*P **P 21 33 06.8 -1.9**
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,3.0nm,1.1s
VRHR MLR MLR
comp=N,20nm,17.0s,MS5.8
VRHR MLR MLR
comp=Z,8μm,17.0s,MS6.0
VRHR MLR MLR
comp=E,5μm,19.0s,MS5.8
NEE2 Needles Airpor 66.18 64 ⇑P **P 21 33 07.9 -1.2**
baz=66
IRM Iron Mountain 66.26 65 ⇑P **P 21 33 09.1 -0.5**
baz=66,SNR=33
MONP Monument Peak 66.32 67 ⇓P **P 21 33 09.4 -0.6**
baz=66,SNR=7.4
W13A Hualapai Mount 66.41 63 ⇓P **P 21 33 10.2 -0.4**
baz=66,SNR=25
BC3 Big Chuckw Mtn 66.41 66 ⇑P **P 21 33 10.0 -0.6**
baz=66,SNR=18
VOR Voronezh 66.68 322 *e*P **P 21 33 12.0 -0.3**
VOR pmax pmax
comp=Z,300nm,1.5s,mb6.1
DVTC Desert V Tower 66.68 67 P **P 21 33 11.9 -0.5**
baz=66,SNR=7.2
SWSC Sam W. Stewart 66.68 66 ⇑P **P 21 33 11.3 -1.1**
baz=66,SNR=6.8
X13A Yucca 66.78 64 P **P 21 33 12.8 -0.2**
baz=67,SNR=29
PDMCI Parker Dam,Lak 66.79 64 ⇑P **P 21 33 12.7 -0.4**
baz=67,SNR=17
W14A Seligman 66.82 63 ⇑P **P 21 33 13.5 +0.2**
baz=67,SNR=29
ABKT Ailbek 66.88 301 P **P 21 33 14.2 +0.6**
comp=Z,1μm,0.6s,SNR=85
Y12C Blythe 66.92 65 ⇑P **P 21 33 13.7 -0.2**
baz=67,SNR=11
AGMN Agassiz Refuge 67.03 43 *e*P **P 21 33 13.3 -1.2**
comp=Z,233nm,1.5s,mb6.0
AGMN LR LR
comp=Z,8μm,19.0s,MS6.0
VRSR Storozhevoye 67.06 322 *e*P **P 21 33 14.8 0.0**
VRSR pmax pmax
comp=Z,200nm,1.0s,mb6.1
VRSR pmax pmax
comp=N,290nm,1.2s
VRSR pmax pmax
comp=E,240nm,1.2s
VRSR MLR MLR
comp=E,10μm,17.0s,MS6.3
VRSR MLR MLR
comp=Z,15μm,17.0s,MS6.3
VRSR MLR MLR
comp=N,11μm,16.0s,MS6.3
GLA Glamis 67.20 66 *e*P **P 21 33 15.3 -0.4**
GLA Glamis 67.20 66 ⇓P **P 21 33 15.5 -0.1**
baz=67,SNR=16
MOL Molde 67.23 344 *e*P **P 21 33 15.6 -0.2**
MOL AMb AMb 21 33 18.3
comp=Z,601nm,2.6s,mb6.2
MOL Molde 67.23 344 *e*P **P 21 33 15.6 -0.2**
comp=Z,601nm,2.6s,mb6.2
W15A Williams 67.34 62 ⇑P **P 21 33 17.2 +0.7**
baz=67,SNR=12
DOMB Dombas 67.42 343⇓*i*P **P 21 33 16.8 -0.3**
DOMB AMb AMb 21 33 18.2
comp=Z,401nm,0.9s,mb6.5
DOMB Dombas 67.42 343⇓*i*P **P 21 33 16.8 -0.3**
comp=Z,401nm,0.9s,mb6.5
X14A Yava 67.44 63 ⇑P **P 21 33 17.3 +0.2**
baz=67,SNR=27
CTA Charters Tower 67.49 188 *e*P **P 21 33 16.1 -1.4**
comp=Z,18nm,0.8s,mb5.2
CTA Charters Tower 67.49 188 *e*P **P 21 33 16.1 -1.4**
CTA pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 67.49 188 *e*P **P 21 33 16.0 -1.5**
CTAO pmax pmax
comp=Z,89nm,1.3s,mb5.6
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.4
CTAO Charters Tower 67.49 188 *e*P **P 21 33 16.0 -1.5**
comp=Z,88nm,1.3s,mb5.6
CTAO LR LR
comp=Z,2μm,20.0s,MS5.4
WUAZ Wupatki 67.64 62 *e*P **P 21 33 19.1 +0.7**
comp=Z,64nm,1.1s,mb5.6
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.7
WUAZ Wupatki 67.64 62 ⇓P **P 21 33 18.5 +0.1**
baz=67,SNR=22
HYB Hyderabad 67.67 272 *i* P **P 21 33 18.5 -0.1**
comp=Z,207nm,0.8s,mb6.2
HYB *e*sP sP 21 33 24.5 -2.7
HYB *e*PcP PcP 21 33 46.0 +0.5
HYB *e*S S 21 42 16.0 +1.1
HYB Hyderabad 67.67 272 *e*P **P 21 33 18.5 -0.1**
HYB *e*S S 21 42 16.0 +1.1
HYB pmax pmax
comp=Z,207nm,0.8s,mb6.2
HYB Hyderabad 67.67 272 *e*P **P 21 33 18.5 -0.1**
comp=Z,207nm,0.8s,mb6.2
HYB *e*S S 21 42 16.0 +1.1
Y14A Wickenburg 67.73 64 ⇓P **P 21 33 18.6 -0.4**
baz=68,SNR=18
X15A Humboldt 67.82 63 ⇓P **P 21 33 20.0 +0.4**
baz=68,SNR=34
NB2 NORSAR Subarra 67.89 342 P **P 21 33 19.6 -0.4**
comp=Z,386nm,0.8s,mb6.5,baz=26,slow=6.5
NOA NORSAR Array B 67.89 342 P **P 21 33 19.3 -0.7**
comp=Z,326nm,0.7s,mb6.4,baz=26,slow=6.4,SNR=572
NOA PKP2bc 22 01 41.2
comp=Z,2.5nm,0.9s,baz=207,slow=3.0,SNR=4.7
NOA LR LR 22 07 31.6
comp=Z,12μm,18.1s,MS6.2,baz=20,slow=40
NOA NORSAR Array B 67.89 342 P **P 21 33 19.3 -0.7**
NOA ⇑*e* 22 01 41.2
NOA LR LR 22 07 31.6
ISCO Idaho Springs 68.04 55 *e*P **P 21 33 20.9 0.0**
ISCO pmax pmax
comp=Z,95nm,0.9s,mb5.8
ISCO MLR MLR
comp=Z,7μm,20.0s,MS5.9
ISCO Idaho Springs 68.04 55 *e*P **P 21 33 20.9 0.0**
comp=Z,95nm,0.9s,mb5.8
ISCO LR LR
comp=Z,7μm,20.0s,MS5.9
NAO01 NORSAR Array S 68.13 342 *e*P **P 21 33 20.6 -0.9**
comp=Z,208nm,0.8s,mb6.2
NAO01 LR LR
comp=Z,15μm,19.0s,MS6.2
HFS Hagfors 68.14 340 P **P 21 33 21.1 -0.5**
comp=Z,598nm,0.8s,mb6.7,baz=46,slow=6.4,SNR=346
HFS Hagfors 68.14 340 P **P 21 33 21.1 -0.5**
HFS pmax pmax
comp=Z,598nm,0.8s
Z14A Wintersburg 68.15 64 ⇓P **P 21 33 21.2 -0.5**
baz=68
MVCO Mesa Verde 68.18 59 *e*P **P 21 33 22.0 +0.1**
comp=Z,94nm,1.0s,mb5.8
MVCO LR LR
comp=Z,5μm,22.0s,MS5.7
MVCO Mesa Verde 68.18 59 ⇑P **P 21 33 21.5 -0.3**
baz=68,SNR=26
AFI Afiamalu 68.18 144 P **P 21 33 22.0 +0.1**
comp=Z,19nm,0.5s,mb5.4,baz=250,slow=21,SNR=4.4
AFI Afiamalu 68.18 144 P **P 21 33 22.0 +0.1**
AFI LR LR
comp=Z,9μm,21.0s,MS6.0
BORG Borgarnes 68.19 358 P **P 21 33 22.5 +0.6**
comp=Z,192nm,1.0s,mb6.1,baz=11,slow=3.9,SNR=18
BORG Borgarnes 68.19 358 P **P 21 33 22.5 +0.6**
BORG LR LR
comp=Z,2μm,21.0s,MS5.3
LATR Latur 68.33 274 *ex* x 21 33 04.6
IZAR Zarasai 68.37 331 *e*P **P 21 33 22.2 -0.8**
IZAR AMb AMb 21 33 24.0
comp=Z,3μm,1.0s
IDID Didziasalis 68.56 331 *e*P **P 21 33 23.5 -0.7**
IDID AMb AMb 21 33 25.3
comp=Z,5μm,0.9s
IIGN Ignalina 68.70 331 *e*P **P 21 33 24.4 -0.7**
IIGN AMb AMb 21 33 27.3
comp=Z,6μm,0.7s
MNK Minsk 68.85 330 *e*P **P 21 33 22.0 -4.0**
MNK *e*S S 21 42 24.0 -5.0
OSL Oslo 68.99 341 *e*P **P 21 33 26.9 0.0**
BHV Bhavnagar 69.00 280 *e*P **P 21 33 29.0 +2.1**
115A Sonoran Desert 69.05 64 ⇓P **P 21 33 27.2 -0.1**
baz=69,SNR=13
MAK Makhachkala 69.20 311 *i* P **P 21 33 26.7 -1.5**
MAK *i* 21 33 51.5
MAK *e* 21 36 03.6
MAK *i* PPP 21 37 40.3
MAK *i* S S 21 42 30.3 -2.8
MAK pmax pmax
comp=Z,2μm,2.4s,mb6.5
MAK pmax pmax
comp=Z,578nm,1.6s,mb6.3
MAK pmax pmax
comp=N,223nm,0.7s
MAK pmax pmax
comp=E,451nm,1.1s
MAK smax
comp=N,901nm,2.4s
MAK smax
comp=Z,1μm,2.2s
MAK smax
comp=E,459nm,1.8s
MAK MLR MLR
comp=Z,41μm,17.0s,MS6.7
MAK MLR MLR
comp=N,42μm,15.0s,MS6.9
MAK MLR MLR
comp=E,41μm,18.0s,MS6.9
EYMN Ely 69.27 41 *e*P **P 21 33 27.6 -1.1**
comp=E,131nm,1.3s,mb5.7
EYMN LR LR
comp=Z,6μm,21.0s,MS5.8
WRAB Tennant Creek 69.29 200 *e*P **P 21 33 27.1 -1.6**
WB2 Warramunga Arr 69.30 200 *e*P **P 21 33 27.8 -1.0**
WRA Warramunga Arr 69.30 200 P **P 21 33 27.4 -1.4**
comp=Z,42nm,0.9s,mb5.3,baz=16,slow=6.5,SNR=45
WRA PKP2bc 22 01 44.2
comp=Z,1.7nm,0.8s,baz=198,slow=2.9,SNR=4.6
WRA Warramunga Arr 69.30 200 P **P 21 33 27.4 -1.4**
WRA ⇑*e* 22 01 44.2
116A Eloy 69.46 64 ⇓P **P 21 33 29.7 -0.1**
baz=69,SNR=8.4
KONO Kongsberg 69.49 342 *e*P **P 21 33 31.4 +1.5**
KONO *e*S S 21 42 38.3 +1.8
KONO Kongsberg 69.49 342 *e*P **P 21 33 30.2 +0.2**
KONO pmax pmax
comp=Z,460nm,1.0s,mb6.4
KONO Kongsberg 69.49 342⇑*e*P **P 21 33 28.7 -1.3**
KONO LR LR
comp=Z,16μm,19.0s,MS6.3
SDCO Great Sand Dun 69.53 56 *e*P **P 21 33 30.4 +0.2**
comp=Z,61nm,1.0s,mb5.5
SDCO LR LR
comp=Z,6μm,20.0s,MS5.8
MDRS Chennai 69.58 267⇑*i*P **P 21 33 30.6 0.0**
ASK Askoy 69.60 344⇓*i*P **P 21 33 30.9 +0.2**
ASK AMb AMb 21 33 33.7
comp=Z,1μm,1.3s,mb6.7
ASK Askoy 69.60 344⇓*i*P **P 21 33 30.9 +0.2**
comp=Z,1μm,1.3s,mb6.7
RUND Rundenannen 69.64 344⇓*i*P **P 21 33 31.2 +0.4**
RUND AMb AMb 21 33 33.8
comp=Z,2μm,1.4s,mb6.8
RUND Rundenannen 69.64 344⇓*i*P **P 21 33 31.2 +0.4**
comp=Z,2μm,1.4s,mb6.7
BER Bergen 69.67 344 *e*P **P 21 33 31.4 +0.3**
BER *e*P 21 33 31.5
BER AMb AMb 21 33 34.4
comp=Z,707nm,1.1s,mb6.5
BER *e*S S 21 42 41.1 +2.5
BER *e*SKS 21 43 31.1
BER Bergen 69.67 344 *e*P **P 21 33 31.5 +0.4**
BER pmax pmax
comp=Z,707nm,1.1s,mb6.5
BER Bergen 69.67 344 *e*P **P 21 33 31.5 +0.4**
comp=Z,707nm,1.1s,mb6.5
EGD Espegrend 69.79 344 *e*P **P 21 33 32.0 +0.2**
EGD AMb AMb 21 33 34.9
comp=Z,841nm,1.7s,mb6.4
EGD Espegrend 69.79 344 *e*P **P 21 33 32.0 +0.2**
comp=Z,841nm,1.7s,mb6.4
DZM Mont Dzumac 69.98 168 *e*P **P 21 33 31.3 -1.7**
DZM Mont Dzumac 69.98 168 P **P 21 33 32.4 -0.5**
comp=Z,71nm,1.1s,mb5.5,baz=34,slow=7.5,SNR=25
ECSD EROS,Sioux Fal 69.98 47 *e*P **P 21 33 31.1 -1.9**
comp=Z,124nm,1.0s,mb5.8
ECSD LR LR
comp=Z,9μm,20.0s,MS6.0
FITZ Fitzroy Crossi 69.99 209⇑*i*P **P 21 33 33.0 -0.1**
comp=Z,100nm,0.9s,mb5.8
POO Poona 70.08 276⇑*i*P **P 21 33 33.0 -0.6**
comp=Z,270nm,1.0s,mb6.1
POO *i* PCP PcP 21 33 53.5 -2.1
POO *i* PP PP 21 36 09.0 +0.3
POO *i* S S 21 42 44.0 +0.5
POO *ex* x 21 50 20.0

TUC Tucson 70.20 64 eP P 21 33 33.8 -0.5
TUC pmax pmax
comp=Z,47nm,1.2s,mb5.3
TUC MLR MLR
comp=Z,4µm,19.0s,MS5.7
TUC Tucson 70.20 64 eP P 21 33 33.8 -0.5
comp=Z,47nm,1.2s,mb5.3
TUC LR LR
comp=Z,4µm,19.0s,MS5.7
BLS5 Blasjo 70.34 343 eP P 21 33 36.4 +1.2
BLS5 AMb AMB 21 33 39.2
comp=Z,220nm,1.1s,mb6.0
BLS5 Blasjo 70.34 343 eP P 21 33 36.4 +1.2
comp=Z,220nm,1.1s,mb6.0
KAD Karad 70.71 275 eP P 21 33 37.9 +0.4
KAD ex x 21 36 37.8
SUW Suwalki 70.80 332 eP P 21 33 36.9 -1.1
SUW Suwalki 70.80 332 P P 21 33 36.8 -1.2
SUW pmax pmax
comp=Z,980nm,1.1s,mb6.7
KIV Kislovodsk 70.87 315 eP P 21 33 37.9 -0.6
KIV e 21 36 14.9
KIV eS S 21 42 48.5 -4.2
KIV pmax pmax
comp=Z,139nm,0.6s,mb6.1
KIV pmax pmax
comp=Z,2µm,3.8s
KIV MLR MLR
comp=Z,27µm,18.0s,MS6.6
KIV Kislovodsk 70.87 315⇑ iP P 21 33 37.8 -0.7
KIV LR LR
comp=Z,6µm,19.0s,MS5.8
ANMO Albuquerque 70.94 59 eP P 21 33 38.9 +0.1
ANMO pmax pmax
comp=Z,46nm,1.1s
ANMO MLR MLR
comp=Z,5µm,21.0s
ANMO Albuquerque 70.94 59 eP P 21 33 38.9 +0.1
comp=Z,46nm,1.1s,mb5.3
ANMO LR LR
comp=Z,5µm,21.0s,MS5.8
STAV Stavanger 70.95 343 eP P 21 33 38.6 -0.3
STAV AMb AMB 21 33 41.7
comp=Z,461nm,1.1s,mb6.3
STAV Stavanger 70.95 343 eP P 21 33 38.6 -0.3
comp=Z,461nm,1.1s,mb6.3
WAL1 Walls 70.95 347 eP P 21 33 37.8 -1.2
LRW Lerwick 71.00 347 eP P 21 33 38.7 -0.5
LRW AMb AMB 21 33 40.4
comp=Z,137nm,1.3s,mb5.7
ZEI Tsey 71.16 313 eP P 21 33 40.0 -0.2
ZEI e*PP pP 21 33 47.8 +1.3
ZEI e 21 33 57.2
ZEI pmax pmax
comp=Z,123nm,1.0s,mb5.8
SNART Snartemo 71.19 342 eP P 21 33 40.4 0.0
SNART AMb AMB 21 33 43.4
comp=Z,538nm,1.3s,mb6.3
DUS Dusheti 71.25 312 P P 21 33 44.4 +3.7
LPM Los Pinos Moun 71.28 60 eP P 21 33 41.9 +1.0
BNM Barren Site 71.40 60 eP P 21 33 42.1 +0.4
AKASG Malin Array Be 71.43 327 P P 21 33 40.6 -1.3
comp=Z,232nm,0.8s,mb6.2,baz=33,slow=6.2,SNR=309
AKASG PKPPKP 22 01 34.6
comp=Z,0.9nm,0.5s,baz=230,slow=2.0,SNR=4.8
AKASG LR LR 22 10 18.8
comp=Z,14µm,18.1s,MS6.2,baz=35,slow=40
AKBB Malin Array Si 71.43 327 eP P 21 33 40.6 -1.2
KIEV Kiev 71.44 327 eP P 21 33 40.5 -1.4
KIEV MLR MLR
comp=Z,16µm,21.0s,MS6.2
MTA Mtatsminda 71.50 312 P P 21 33 34.7 -7.6
TBLG Delisi 71.50 312 P P 21 33 43.8 +1.5
TBLG S S 21 42 47.5 -13
ONI Oni 71.52 313 P P 21 33 34.9 -7.4
KZR Kazreti 71.92 312 P P 21 33 45.3 +0.5
CBKS Cedar Bluff 71.95 52 eP P 21 33 44.1 -0.8
CBKS pmax pmax
comp=Z,128nm,1.0s,mb5.8
CBKS MLR MLR
comp=Z,5µm,20.0s,MS5.8
CBKS Cedar Bluff 71.95 52 eP P 21 33 44.1 -0.8
comp=Z,128nm,1.0s,mb5.8
CBKS LR LR
comp=Z,5µm,20.0s,MS5.8
BSD Bornholm Skovb 72.28 337 i P P 21 33 46.6 -0.4
comp=Z,812nm,1.3s,mb6.5
BSD Bornholm Skovb 72.28 337 i P P 21 33 46.6 -0.4
BSD pmax pmax
comp=Z,810nm,1.3s,mb6.5
COP Copenhagen 72.42 338 i P P 21 33 47.4 -0.4
comp=Z,433nm,0.8s,mb6.4
COP Copenhagen 72.42 338 i P P 21 33 47.4 -0.4
COP pmax pmax
comp=Z,430nm,0.8s,mb6.4
SCHQ Schefferville 72.49 23 P P 21 33 48.3 +0.1
comp=Z,46nm,0.7s,mb5.5,baz=356,slow=6.9,SNR=36
SCHQ LR LR 22 09 52.0
comp=Z,5µm,19.0s,MS5.8,baz=250,slow=39
MUD Monsted U'grnd 72.50 340⇑ iP P 21 33 48.3 +0.1
comp=Z,324nm,1.4s,mb6.1
MUD Monsted U'grnd 72.50 340⇑ iP P 21 33 48.3 +0.1
MUD pmax pmax
comp=Z,320nm,1.4s,mb6.1
SOC Sochi 72.57 316 eP P 21 33 47.1 -1.6
SOC e 21 34 04.2
SOC e 21 36 32.6
SOC ePPP 21 38 10.6
SOC eS S 21 43 11.4 -0.9
SOC e 21 43 46.1
SOC pmax pmax
comp=Z,241nm,0.8s,mb6.2
SOC pmax pmax
comp=Z,2µm,3.9s
GNI Garni 72.67 311 P P 21 33 49.2 0.0
GNI Garni 72.67 311⇑ eP P 21 33 49.9 +0.7
GNI pmax pmax
comp=Z,175nm,1.1s
GNI Garni 72.67 311⇑ eP P 21 33 49.0 -0.2
GNI LR LR
comp=Z,31µm,20.0s,MS6.6
ANN Anapa 72.70 318 eP P 21 33 48.5 -0.9
ANN e 21 36 34.6
ANN ePPP 21 38 20.1
ANN eS S 21 43 14.9 +1.2
ANN pmax pmax
comp=Z,561nm,1.5s,mb6.3
AS31 Alice Springs 72.99 199 eP P 21 33 51.0 -0.2
ASAR Alice Springs 72.99 199 P P 21 33 51.3 +0.1
comp=Z,113nm,0.9s,mb5.8,baz=12,slow=5.2,SNR=105
ASAR Alice Springs 72.99 199 P P 21 33 51.3 +0.1
ASAR pmax pmax
comp=Z,113nm,0.9s
ASPA Alice Springs 72.99 199 eP P 21 33 51.0 -0.2
WAR Warsaw 72.99 332 eP P 21 33 51.6 +0.4
WAR L 22 11 16.4
comp=Z,18nm,17.5s
SCIA State Center 73.01 46 eP P 21 33 50.6 -0.7
comp=Z,214nm,0.9s,mb6.1
SCIA LR LR
comp=Z,8µm,20.0s,MS6.0
MLA1 Latheron 73.08 348 eP P 21 33 51.3 -0.4
KARS Kars 73.16 312 P P 21 33 53.4 +1.2
GKP Gorka Klasztor 73.26 335 eP P 21 33 52.2 -0.6
BCA Borcka 73.27 314 P P 21 33 53.1 +0.3
MNGI Mangalore 73.36 271 i P P 21 33 53.8 +0.5
MNGI i x x 21 43 18.2
KSU1 Kansas State U 73.39 50 eP P 21 33 52.1 -1.4
comp=Z,105nm,0.8s,mb5.8
KSU1 LR LR
comp=Z,12µm,22.0s,MS6.1
PALK Pallekele 73.45 263 eP P 21 33 54.9 +1.0
comp=Z,107nm,1.0s,mb5.7
PALK LR LR
comp=Z,1µm,21.0s,MS5.1
MVH1 Achvaich 73.57 348⇑ eP P 21 33 53.8 -0.8
JFWS Jewell Farm 73.67 44 eP P 21 33 54.2 -0.9
JFWS pmax pmax
comp=Z,70nm,1.1s,mb5.5
JFWS MLR MLR
comp=Z,6µm,20.0s,MS5.9
JFWS Jewell Farm 73.67 44 eP P 21 33 54.2 -1.0
comp=Z,70nm,1.1s,mb5.5
JFWS LR LR
comp=Z,6µm,20.0s,MS5.9

AMTX Amarillo 73.73 56 eP P 21 33 55.8 +0.3
comp=Z,87nm,0.9s,mb5.7
AMTX LR LR
comp=Z,5µm,21.0s,MS5.7
MCD Coleburn Disti 73.77 348⇑ eP P 21 33 55.3 -0.4
CLDR Caldiran 73.84 311 P P 21 33 56.8 +0.7
MNTX Cornudas Mount 73.88 61 eP P 21 33 53.7 -2.7
comp=Z,59nm,1.1s,mb5.4
MNTX LR LR
comp=Z,3µm,22.0s,MS5.5
MME1 Meikle Cairn 73.98 347⇑ eP P 21 33 55.9 -1.1
LVV L'vov 74.04 329⇑ iP P 21 33 56.6 -0.7
LVV eS S 21 43 27.9 -1.1
LVV MLR MLR
comp=N,7µm,16.0s,MS6.1
LVV MLR MLR
comp=E,4µm,16.0s,MS6.1
LVV MLR MLR
comp=Z,8µm,16.0s,MS6.1
SIM Simferopol' 74.05 320 ceP P 21 33 57.3 -0.1
SIM eS S 21 43 28.0 -1.1
SIM pmax pmax
comp=Z,337nm,0.9s,mb6.3
SIM MLR MLR
comp=Z,19µm,16.0s,MS6.5
MDO Dochfour 74.06 348⇑ eP P 21 33 56.5 -1.0
KAC Achnashellach 74.13 349 eP P 21 33 57.3 -0.6
KPL Plockton 74.34 349 eP P 21 33 58.4 -0.6
KPL AMb AMB 21 34 01.6
comp=Z,418nm,1.2s,mb6.2
KSB Sheil Bridge 74.43 349⇑ eP P 21 33 58.5 -1.1
VANB Van 74.52 310 eP P 21 34 01.3 +1.2
BSEG Bad Segeberg 74.53 339 eP P 21 34 00.0 -0.2
comp=Z,393nm,1.2s,mb6.2
BSEG Bad Segeberg 74.53 339 eP P 21 34 00.0 -0.2
BSEG pmax pmax
comp=Z,393nm,1.2s,mb6.2
MACK Trabzon 74.56 314 i P P 21 33 59.5 -0.8
TVAN Van 74.56 310 i P P 21 34 01.9 +1.5
ERZM Erzurum 74.56 313 i P P 21 34 01.8 +1.4
EZM Erzurum 74.56 313 eP P 21 34 02.1 +1.7
KIS Kishinev 74.60 325⇓ iP P 21 33 57.0 -3.6
KIS i S S 21 43 32.0 -3.2
KIS e 21 43 57.0
KIS pmax pmax
comp=Z,3µm,3.0s
KIS pmax pmax
comp=Z,2µm,8.0s
KIS MLR MLR
comp=Z,17µm,15.0s,MS6.5
KIS MLR MLR
comp=Z,8µm,15.0s
KIS Kishinev 74.60 325⇓ iP P 21 33 57.0 -3.6
comp=Z,3µm,3.0s
KIS Kishinev 74.60 325 ePP PP 21 37 06.0 +19
KIS i S S 21 43 32.0 -3.2
KIS LRM 22 11 06.0
comp=Z,8µm,15.0s
KWP Kalwaria 74.66 330 eP P 21 34 01.1 +0.2
KWP Kalwaria 74.66 330 P P 21 34 00.8 -0.1
KWP pmax pmax
comp=Z,2µm,1.1s,mb6.9
KAR1 Arisaig 74.77 349⇑ eP P 21 34 00.9 -0.7
MBWA Marble Bar 74.89 213 eP P 21 34 01.6 -0.6
comp=Z,236nm,1.9s,mb5.8
MBWA LR LR
comp=Z,1µm,20.0s,MS5.2
IAS Iasi 74.93 325 P P 21 34 02.1 -0.4
TRD Trivandrum 75.09 266⇓ eP P 21 34 03.1 -0.3
TRD ex x 21 40 53.1
HKR Hakkari 75.10 310 eP P 21 34 04.1 +0.6
OJC Ojcow 75.13 332 i P P 21 34 03.5 -0.1
OJC eS S 21 43 37.4 -3.7
OJC L 22 11 31.9
comp=Z,84nm,18.7s
HAKT HAKKARI 75.14 310 i P P 21 34 04.3 +0.6
EAB Aberfoyle 75.27 348 eP P 21 34 03.8 -0.7
ESY Stoneypath 75.27 347 eP P 21 34 03.8 -0.7
GRSN GIRESUNGRSN 75.30 315 i P P 21 34 04.1 -0.5
STHS Stebnicka Huta 75.34 330 i P P 21 34 05.3 +0.4
STHS pmax pmax
comp=Z,323nm,0.8s,mb6.3
STHS Stebnicka Huta 75.34 330 i P P 21 34 05.3 +0.4
comp=Z,323nm,0.8s,mb6.3
STHS ePP PP 21 37 05.8 +12
STHS e 21 37 14.7
EDI Edinburgh 75.36 347 eP P 21 34 04.8 -0.1
EDI AMb AMB 21 34 06.7
comp=Z,128nm,0.9s,mb5.9
BNGL BINGOL 75.40 312 i P P 21 34 06.7 +1.5
KOLS Kolonicke sedl 75.41 329 i P P 21 34 05.9 +0.7
KOLS ePP PP 21 37 07.9 +14
KOLS e 21 37 18.5
KOLS eS S 21 43 37.9 -6.3
CUKT Cukurca 75.42 309 eP P 21 34 05.9 +0.5
KELT Kelkit 75.42 314 i P P 21 34 06.3 +1.0
WMOK Wichita Mounta 75.45 54 eP P 21 34 05.2 -0.3
WMOK pmax pmax
comp=Z,80nm,0.9s,mb5.7
WMOK MLR MLR
comp=Z,4µm,19.0s,MS5.8
WMOK Wichita Mounta 75.45 54 eP P 21 34 05.2 -0.3
comp=Z,80nm,0.9s,mb5.7
WMOK LR LR
comp=Z,4µm,19.0s,MS5.8
BURAR Bucovina Array 75.47 327⇑ iP P 21 34 05.9 +0.3
BURAR Bucovina Array 75.47 327 P P 21 34 05.7 +0.1
BURAR Bucovina Array 75.47 327⇑ P P 21 34 05.9 +0.3
EAU Auchinoon 75.47 347 eP P 21 34 04.8 -0.8
EBL Broad Law 75.48 347 eP P 21 34 05.1 -0.5
POB1 Observatory 75.62 348 eP P 21 34 06.7 +0.3
XSO Sourhope Farm 75.62 346 eP P 21 34 05.1 -1.4
NIE Niedzica 75.65 331 i P P 21 34 06.9 +0.2
UZH Uzhgorod 75.66 329⇑ iP P 21 34 06.4 -0.3
UZH i S S 21 43 47.0 0.0
UZH i 21 44 18.0
UZH eSS SS 21 48 45.0 +6.7
UZH MLR MLR
comp=Z,11µm,16.0s,MS6.3
PGBU Glenifferbraes 75.66 348 eP P 21 34 06.8 +0.1
PGBU AMb AMB 21 34 08.9
comp=Z,300nm,0.9s,mb6.2
KSP Ksiaz 75.67 334 eP P 21 34 06.8 0.0
KSP Ksiaz 75.67 334⇑ eP P 21 34 06.4 -0.4
KSP eS S 21 43 42.0 -5.2
KSP LR LR
comp=Z,47µm,19.1s,MS6.8
RAC Raciborz 75.76 332 eP P 21 34 07.7 +0.4
RAC MLR MLR
comp=Z,18µm,18.7s,MS6.4
BINT Bingol 75.79 312 eP P 21 34 08.6 +1.2
BTMT Batman 75.80 311 eP P 21 34 08.2 +0.7
SIRT Sirnak 75.84 310 eP P 21 34 08.7 +0.9
NRDL Niedersach Rie 75.89 338 eP P 21 34 07.4 -0.6
comp=Z,299nm,1.2s,mb6.1
EKA Eskdalemuir Ar 75.92 347 P P 21 34 08.0 -0.2
comp=Z,74nm,0.5s,mb5.8,baz=17,slow=4.9,SNR=171
EKA Eskdalemuir Ar 75.92 347 P P 21 34 08.0 -0.2
EKA pmax pmax
comp=Z,74nm,0.5s
HDIL Hopedale 75.94 45 PFAKE 21 34 20.0 +12
HDIL LR LR
comp=Z,9µm,20.0s,MS6.1
ESK Eskdalemuir 75.94 347 eP P 21 34 08.3 0.0
ESK AMb AMB 21 34 11.2
comp=Z,158nm,1.0s,mb5.9
ESK Eskdalemuir 75.94 347 PFAKE 21 34 20.0 +12
ESK LR LR
comp=Z,1µm,20.0s,MS5.3
OKC Ostrava-Krasne 75.99 332 eP P 21 34 08.9 +0.3
OKC eS S 21 43 51.1 +0.5
OKC AMS AMS 22 13 10.0
comp=Z,16µm,17.4s
OKC Ostrava-Krasne 75.99 332 eP P 21 34 08.9 +0.3
OKC eS S 21 43 51.1 +0.5
UPC Upice 76.05 334 eP P 21 34 09.3 +0.3
ECK Cauldkaine Hil 76.06 347 eP P 21 34 08.4 -0.6
DPC Dobruska-Polom 76.10 334 eP P 21 34 09.4 +0.2
DPC eS S 21 43 50.8 -1.1
DPC AMS AMS 22 12 30.0
comp=Z,25µm,18.1s
DIKM Dikmen 76.15 317 eP P 21 34 10.1 +0.6
CLL Collm 76.20 336⇓ eP P 21 34 09.7 -0.7
comp=Z,926nm,1.1s,mb6.6

CLL Collm 76.20 336⇓ iP P 21 34 09.8 0.0
comp=Z,925nm,1.1s,mb6.6
CLL e pP 21 34 14.0 -2.2
CLL eS S 21 43 50.0 -3.0
CLL eScS ScS 21 44 21.0 -2.9
CLL LR LR
comp=Z,13µm,15.7s,MS6.3
CLL Collm 76.20 336⇓ iP P 21 34 09.8 0.0
comp=Z,925nm,1.1s,mb6.6
CLL epP pP 21 34 14.0 -2.2
CLL ePP PP 21 36 57.0 -3.9
CLL eS S 21 43 50.0 -3.0
CLL eScS ScS 21 44 21.0 -2.9
CLL e(SS) 21 49 18.0
XAL Allendale 76.22 346 eP P 21 34 09.6 -0.3
KVT Kavak 76.23 317 eP P 21 34 10.9 +1.0
MORC Moravsky Berou 76.23 333⇓ iP P 21 34 10.2 +0.2
MORC Moravsky Berou 76.23 333 P P 21 34 09.8 -0.2
MORC pmax pmax
comp=Z,530nm,1.0s,mb6.4
MORC Moravsky Berou 76.23 333 ⇓P P 21 34 10.2 +0.3
GMK Mull of Kintyr 76.27 348 eP P 21 34 10.4 +0.2
PTK Pertek 76.32 313 eP P 21 34 11.6 +1.2
BRG Berggiesshubel 76.33 335 eP P 21 34 09.9 -0.6
comp=Z,457nm,1.3s,mb6.2
BRG Berggiesshubel 76.33 335 i P P 21 34 10.4 -0.1
comp=Z,274nm,1.3s,mb6.0
BRG i 21 37 10.1
comp=Z,18nm,0.9s
BRG S SKSac 21 44 17.0 -3.8
BRG
comp=N,8µm,19.0s
BRG
comp=E,6µm,16.9s
BRG
comp=Z,8µm,19.4s
BRG Berggiesshubel 76.33 335 i P P 21 34 10.4 -0.1
BRG i 21 37 10.1
BRG S SKSac 21 44 17.0 -3.8
BRG pmax pmax
comp=Z,30nm,1.3s,mb5.1
BRG MLR MLR
comp=N,18µm,19.0s,MS6.5
BRG MLR MLR
comp=E,8µm,16.9s,MS6.5
BRG MLR MLR
comp=Z,6µm,19.4s,MS5.9
BRG Berggiesshubel 76.33 335 i P P 21 34 10.4 -0.1
comp=Z,274nm,1.3s,mb6.0
BRG i 21 37 10.1
BRG S SKSac 21 44 17.0 -3.8
BRG LR LR
comp=Z,8µm,19.4s,MS6.0
VRI Vrincioaia 76.35 325⇓ iP P 21 34 11.2 +0.6
VRI Vrincioaia 76.35 325 P P 21 34 10.8 +0.1
VRI Vrincioaia 76.35 325⇓ P P 21 34 11.2 +0.5
LIKS Likavka 76.37 331 i P P 21 34 11.3 +0.6
LIKS pmax pmax
comp=Z,394nm,1.1s,mb6.2
LIKS Likavka 76.37 331 i P P 21 34 11.3 +0.6
comp=Z,394nm,1.1s,mb6.2
CFR Carcaliu 76.37 324⇑ iP P 21 34 11.4 +0.7
CFR Carcaliu 76.37 324 P P 21 34 11.0 +0.3
CFR Carcaliu 76.37 324 ⇑P P 21 34 11.4 +0.6
PLOR Plostina 76.40 325⇓ iP P 21 34 11.3 +0.4
KECS Kecovo 76.40 330 i P P 21 34 10.7 -0.2
KECS e 21 37 03.9
KECS pmax pmax
comp=Z,169nm,0.9s,mb6.0
KECS Kecovo 76.40 330 i P P 21 34 10.7 -0.2
comp=Z,169nm,0.9s,mb6.0
KECS ePP PP 21 37 03.9 +1.3
KECS e 21 37 20.2
MSL Mosul 76.41 309 i x x 21 34 11.0
MSL ex x 21 43 57.0
CLZ Clausthal 76.42 338 eP P 21 34 11.2 +0.2
comp=Z,843nm,1.4s,mb6.5
CLZ Clausthal 76.42 338 eP P 21 34 11.2 +0.2
CLZ pmax pmax
comp=Z,843nm,1.4s,mb6.5
WIT Witteveen 76.43 340⇑ eP P 21 34 11.8 +0.7
PVCC Panska Ves 76.46 335 eP P 21 34 11.8 +0.5
PVCC eS S 21 43 54.1 -1.7
PVCC AMS AMS 22 11 40.0
comp=Z,15µm,16.4s
BZK Bozkurt 76.47 318 eP P 21 34 10.9 -0.5
BOYT Boyabat 76.49 318 i P P 21 34 12.8 +1.3
GCD Castle Douglas 76.49 347 eP P 21 34 10.6 -0.8
BYBT Boyabat 76.52 318 eP P 21 34 12.0 +0.4
TOKT Tokat 76.59 316 eP P 21 34 13.1 +1.1
LTX Lajitas 76.61 61 eP P 21 34 11.8 -0.3
LTX pmax pmax
comp=Z,157nm,1.0s,mb5.9
LTX MLR MLR
comp=Z,6µm,20.0s,MS5.9
LTX Lajitas 76.61 61 eP P 21 34 11.8 -0.3
comp=Z,157nm,1.0s,mb5.9
LTX LR LR
comp=Z,6µm,20.0s,MS5.9
TXAR Lajitas Array 76.61 61 P P 21 34 11.9 -0.2
comp=Z,47nm,0.8s,mb5.5,baz=295,slow=3.9,SNR=68
TXAR Lajitas Array 76.61 61 P P 21 34 11.9 -0.2
TXAR pmax pmax
comp=Z,47nm,0.9s
GAL1 Galloway 76.61 348 eP P 21 34 12.0 -0.1
GAL1 eP 21 34 12.0
GAL1 AMb AMB 21 34 14.5
comp=Z,333nm,1.6s,mb6.0
CKE Keswick 76.63 347 eP P 21 34 11.8 -0.4
IBBN Ibbenburen 76.64 340 eP P 21 34 12.0 -0.3
comp=Z,451nm,1.1s,mb6.3
DIY Diyarbakir 76.67 312 eP P 21 34 13.8 +1.3
SVSK Karacayir 76.69 315 eP P 21 34 13.6 +1.0
XDE Dent Fell 76.77 347 eP P 21 34 12.3 -0.7
ELZG Elazig 76.83 313 i P P 21 34 14.8 +1.4
MARD Mardin 76.84 311 i P P 21 34 14.8 +1.1
TIRR Tirgusor 76.85 323⇓ iP P 21 34 13.6 +0.1
TIRR Tirgusor 76.85 323 P P 21 34 12.1 -1.4
TIRR Tirgusor 76.85 323 ⇓P P 21 34 13.6 +0.2
HARR Harsova 76.85 324⇓ iP P 21 34 13.6 +0.1
HARR Harsova 76.85 324 P P 21 34 13.5 0.0
HARR Harsova 76.85 324 ⇓P P 21 34 13.6 +0.1
PRA Prague 76.91 335 P P 21 34 14.0 +0.2
CCM Cathedral Cave 76.92 47 P P 21 34 08.5 -5.4
CCM pmax pmax
comp=Z,68nm,1.0s,mb5.5
CCM Cathedral Cave 76.92 47 eP P 21 34 08.2 -5.7
comp=Z,68nm,1.0s,mb5.5
CCM LR LR
comp=Z,5µm,20.0s,MS5.8
VRAC Vranov 76.94 333 P P 21 34 13.8 -0.2
comp=Z,444nm,1.0s,mb6.3,baz=37,slow=5.4,SNR=157
VRAC Vranov 76.94 333⇑ iP P 21 34 15.1 +1.1
VRAC Vranov 76.94 333 P P 21 34 13.8 -0.2
VRAC pmax pmax
comp=Z,444nm,1.0s
VRAC Vranov 76.94 333 ⇑P P 21 34 15.1 +1.1
VYHS Vyhne 76.94 331 i P P 21 34 14.2 +0.2
VYHS e 21 37 13.6
VYHS pmax pmax
comp=Z,255nm,1.3s,mb6.0
VYHS Vyhne 76.94 331 i P P 21 34 14.2 +0.2
comp=Z,255nm,1.3s,mb6.0
VYHS ePP PP 21 37 13.6 +6.5
VYHS e 21 37 23.0
PRU Pruhonice 76.95 335 eP P 21 34 14.1 +0.1
PRU eS S 21 44 01.1 -0.1
PRU AMS AMS 22 11 50.0
comp=Z,14µm,16.2s
MLR Muntele Rosu 76.97 325 P P 21 34 14.1 -0.1
comp=Z,443nm,0.8s,mb6.5,baz=1,8,slow=6.0,SNR=300
MLR Muntele Rosu 76.97 325⇑ iP P 21 34 14.9 +0.8
MLR Muntele Rosu 76.97 325 P P 21 34 14.1 0.0
MLR pmax pmax
comp=Z,443nm,0.8s
MLR Muntele Rosu 76.97 325 ⇑P P 21 34 14.9 +0.7
DRGR 77.08 328⇓ iP P 21 34 14.8 +0.1
DRGR 77.08 328 P P 21 34 15.0 +0.3
DRGR 77.08 328 ⇓P P 21 34 14.8 0.0
PSZ Piszkesteto 77.09 330⇓ iP P 21 34 15.5 +0.7
PSZ Piszkesteto 77.09 330 P P 21 34 15.1 +0.3
PSZ Piszkesteto 77.09 330 ⇓P P 21 34 15.5 +0.7
PSZ Piszkesteto 77.09 330⇑ eP P 21 34 15.2 +0.4
BALT Daday 77.09 319 i P P 21 34 15.9 +1.1

AAM Ann Arbor 77.14 40 P **P** **21 34 15.9 +0.8**
AAM pmax pmax
comp=Z,100nm,0.8s,mb5.8
AAM Ann Arbor 77.14 40 *e*P **P** **21 34 14.7 -0.4**
comp=Z,102nm,0.8s,mb5.8
AAM LR LR
comp=Z,7µm,22.0s,MS6.0
TANN Tannenbergstha 77.16 336 *e*P **P** **21 34 15.0 -0.2**
comp=Z,377nm,1.6s,mb6.1
CTKT Corum 77.18 317 *i* P **P** **21 34 16.4 +1.1**
WTSB Winterswijk 77.18 340⇑*e*P **P** **21 34 14.9 -0.4**
comp=Z,363nm,1.2s,mb6.2
MOX Moxa 77.18 337 *e*P **P** **21 34 15.0 -0.3**
comp=Z,430nm,1.2s,mb6.2
MOX Moxa 77.18 337 *e*P **P** **21 34 14.9 -0.4**
comp=Z,418nm,1.2s,mb6.2
MOX
comp=Z,9µm,20.0s
TOS Tosya 77.20 318 *e*P **P** **21 34 17.0 +1.6**
MYA Malataya 77.24 313 *e*P **P** **21 34 16.9 +1.3**
MALT Malatya 77.25 313⇓*i*P **P** **21 34 17.5 +1.8**
MALT Malatya 77.25 313 *e*P **P** **21 34 17.1 +1.4**
MALT pmax pmax
comp=Z,550nm,1.0s,mb6.4
MALT Malatya 77.25 313 ⇓P **P** **21 34 17.5 +1.8**
SNX Sinaia 77.25 326⇓*i*P **P** **21 34 17.0 +1.3**
SNX Sinaia 77.25 326 ⇓P **P** **21 34 17.0 +1.3**
WIM Isle of Man 77.30 347 *e*P **P** **21 34 15.2 -0.7**
NKC Novy Kostel 77.33 336 *e*P **P** **21 34 16.4 +0.3**
NKC *e*S S 21 44 03.6 -1.7
NKC AMS AMS 22 16 50.0
comp=Z,11µm,16.7s
NKC Novy Kostel 77.33 336 *e*P **P** **21 34 16.4 +0.3**
NKC *e*S S 21 44 03.6 -1.7
VOIR 77.36 326⇑*i*P **P** **21 34 17.3 +1.0**
VOIR 77.36 326 ⇑P **P** **21 34 17.3 +1.0**
SMOL Smolenice 77.38 332 *i* P **P** **21 34 17.0 +0.6**
SMOL *e*PP PP 21 37 16.4 +5.6
SMOL *e* 21 37 25.7
SMOL Smolenice 77.38 332 *i* P **P** **21 34 17.1 +0.7**
SMOL *e* 21 37 16.4
SMOL Smolenice 77.38 332 *i* P **P** **21 34 17.1 +0.7**
SMOL *e*PP PP 21 37 16.4 +5.6
SMOL *e* 21 37 25.7
GMM Mts of Mourne 77.39 348 *e*P **P** **21 34 15.6 -0.9**
LHO Holmfirth 77.43 346 P **P** **21 34 16.6 -0.1**
UBBA Unterbreizbach 77.45 338 *e*P **P** **21 34 16.5 -0.3**
comp=Z,186nm,1.0s,mb6.0
AWI1 Witton 77.51 343 *e*P **P** **21 34 16.9 -0.3**
ABA1 Baconsthorpe 77.52 344⇑*e*P **P** **21 34 18.0 +0.8**
MTUR Matau 77.53 326⇓*i*P **P** **21 34 18.3 +1.0**
MTUR Matau 77.53 326 ⇓P **P** **21 34 18.3 +1.0**
BUG Bochum--Univer 77.56 339 *e*P **P** **21 34 17.1 -0.3**
comp=Z,389nm,1.1s,mb6.2
PSN Preselentsi 77.58 323 *i* P **P** **21 34 18.0 +0.4**
CORM Corum 77.60 317 *e*P **P** **21 34 17.9 +0.3**
SAFT Safranbolu 77.64 319 *e*P **P** **21 34 18.0 +0.1**
MANZ Manzenberg 77.64 336 *e*P **P** **21 34 17.8 -0.1**
comp=Z,310nm,1.1s,mb6.2
KBI1 Birley Grange 77.66 345⇑*e*P **P** **21 34 17.6 -0.4**
DRBT Darb Altahta 77.69 312 ⇓P **P** **21 34 25.1 +7.0**
YOZ Yozgat 77.71 316 *e*P **P** **21 34 18.6 +0.3**
CANT Cankiri 77.73 318 *e*P **P** **21 34 19.4 +1.0**
URFA Urfa 77.73 313 *e*P **P** **21 34 19.7 +1.3**
AEU East Anglia Un 77.75 343 *e*P **P** **21 34 19.1 +0.5**
BUD Budapest 77.76 331⇑*e*P **P** **21 34 19.9 +1.4**
ZST Bratislava 77.76 332 *i* P **P** **21 34 19.2 +0.6**
ZST *e*PP PP 21 37 18.7 +4.7
ZST *e* 21 37 28.9
ZST *e*S S 21 44 10.1 +0.1
ZST Bratislava 77.76 332 *i* P **P** **21 34 19.2 +0.6**
ZST *e* 21 37 18.7
ZST *e*S S 21 44 10.1 +0.1
ZST pmax pmax
comp=Z,328nm,1.1s,mb6.2
ZST MLR MLR
comp=Z,20µm,19.7s,MS6.5
ZST Bratislava 77.76 332 *i* P **P** **21 34 19.2 +0.6**
comp=Z,328nm,1.1s,mb6.2
ZST *e*PP PP 21 37 18.7 +4.7
ZST *e* 21 37 28.9
ZST *e*S S 21 44 10.1 +0.1
ZST LR LR
comp=Z,20µm,19.7s,MS6.5
ROTZ Rotzenmuhle 77.81 336 *e*P **P** **21 34 19.1 +0.2**
comp=Z,414nm,1.0s,mb6.3
BUC1 Bucharest 77.89 325 P **P** **21 34 19.0 -0.3**
ELDT Eldivan 77.91 318 *i* P **P** **21 34 20.4 +1.0**
KWE Weaver Farm 77.94 345⇑*e*P **P** **21 34 18.7 -0.8**
VKA Vienna 77.94 333 *i* P **P** **21 34 20.5 +0.9**
ATAB Bozova 77.97 313 *i* P **P** **21 34 21.1 +1.4**
KHC Kasperske Hory 78.00 335 *e*P **P** **21 34 20.2 +0.3**
KHC *e*S S 21 44 10.9 -1.6
KHC AMS AMS 22 12 30.0
comp=Z,17µm,17.4s
BHD Baghdad 78.00 306 *i* x x 21 34 14.0
BHD *ex* x 21 44 08.0
WCB1 Church Bay 78.02 347 *e*P **P** **21 34 19.2 -0.8**
JCT Junction City 78.03 58 *e*P **P** **21 34 20.0 -0.1**
JCT pmax pmax
comp=Z,210nm,1.2s,mb5.9
JCT Junction City 78.03 58 *e*P **P** **21 34 19.8 -0.2**
comp=Z,209nm,1.2s,mb5.9
JCT LR LR
comp=Z,5µm,21.0s,MS5.8
BNN Bunyan 78.08 315 *e*P **P** **21 34 20.6 +0.3**
KDZE Karadeniz Ereo 78.14 320 *e*P **P** **21 34 20.5 -0.2**
YRC Rhoscolyn 78.15 347 *e*P **P** **21 34 20.3 -0.4**
GRA1 Grafenberg Arr 78.15 336 *e*P **P** **21 34 21.0 +0.2**
comp=Z,683nm,1.0s,mb6.5
GRA1 *e*S S 21 44 15.2 +1.0
GRA1 LR LR
comp=Z,9µm,20.4s,MS6.1
GRF Grafenberg Arr 78.15 336 *e*P **P** **21 34 21.0 +0.2**
comp=Z,683nm,1.0s,mb6.5
GRF *e*S S 21 44 15.2 +1.0
GRF *e*L 22 11 36.8
comp=Z,9µm,20.4s
GRF Grafenberg Arr 78.15 336 *e*P **P** **21 34 21.0 +0.2**
GRF *e*S S 21 44 15.2 +1.0
GRF pmax pmax
comp=Z,683nm,1.0s,mb6.5
GRF MLR MLR
comp=Z,9µm,20.4s,MS6.1
GRFO Grafenberg 78.16 336 *e*P **P** **21 34 21.1 +0.3**
GRFO pmax pmax
comp=Z,521nm,0.9s,mb6.5
GRFO MLR MLR
comp=Z,9µm,19.0s,MS6.1
GRFO Grafenberg 78.16 336 *e*P **P** **21 34 21.1 +0.3**
comp=Z,521nm,0.9s,mb6.5
GRFO LR LR
comp=Z,9µm,19.0s,MS6.1
CDAG Cicekdag 78.17 317 *i* P **P** **21 34 21.3 +0.5**
WET Wettzell 78.19 335 *e*P **P** **21 34 21.2 +0.3**
comp=Z,551nm,1.2s,mb6.4
WET Wettzell 78.19 335 *e*P **P** **21 34 21.2 +0.3**
WET pmax pmax
comp=Z,551nm,1.2s,mb6.4
SIUC Southern Illin 78.20 46 *e*P **P** **21 34 20.9 -0.1**
comp=Z,178nm,1.2s,mb5.9
GEC2 GERESS Array S 78.22 335 *e*P **P** **21 34 20.9 -0.2**
comp=Z,162nm,0.9s,mb6.0
GEC2 GERESS Array S 78.22 335 *e*P **P** **21 34 20.9 -0.2**
GEC2 pmax pmax
comp=Z,162nm,0.9s,mb6.0
GERES GERESS Array B 78.22 335 P **P** **21 34 20.8 -0.3**
comp=Z,100nm,0.8s,mb5.8,baz=35,slow=4.6,SNR=314
GERES LR LR 22 12 47.2
comp=Z,19µm,18.1s,MS6.5,baz=18,slow=39
GERES GERESS Array B 78.22 335 P **P** **21 34 20.8 -0.3**
GERES pmax pmax
comp=Z,100nm,0.8s
GERES MLR MLR
comp=Z,19µm,18.1s
GZR Gura Zlata 78.25 327⇑*i*P **P** **21 34 21.9 +0.6**
GZR Gura Zlata 78.25 327 ⇑P **P** **21 34 21.9 +0.6**
SBD1 Bryn Du 78.28 346 *e*P **P** **21 34 21.8 +0.3**
PRD Provadia 78.30 323 *i* P **P** **21 34 21.7 +0.1**
BLO Bloomington 78.34 44 *e*P **P** **21 34 21.7 -0.1**
BLO pmax pmax
comp=Z,66nm,0.7s,mb5.7
BLO Bloomington 78.34 44 *e*P **P** **21 34 21.7 -0.1**
comp=Z,66nm,0.6s,mb5.7

SOP Sopron 78.38 332⇑P **P** **21 34 23.7 +1.7**
CONA Conrad Observa 78.39 333 *i* P **P** **21 34 22.6 +0.5**
SNR=111
YRE Yr Eifl 78.39 347 *e*P **P** **21 34 21.4 -0.7**
DLF Lyons Farm 78.39 348⇓*e*P **P** **21 34 21.4 -0.7**
TNS Taunus Mts 78.39 338 *e*P **P** **21 34 22.0 -0.1**
comp=Z,316nm,0.9s,mb6.2
TNS Taunus Mts 78.39 338 *e*P **P** **21 34 22.0 -0.1**
TNS pmax pmax
comp=Z,316nm,0.9s,mb6.2
GZT Gaziantep 78.42 313 *i* P **P** **21 34 22.9 +0.6**
BR131 Keskin Array S 78.42 317 *e*P **P** **21 34 22.6 +0.3**
comp=Z,310nm,1.0s,mb6.2
BR131 LR LR
comp=Z,5µm,20.0s,MS5.8
BRTR Keskin Array B 78.42 317 P **P** **21 34 22.6 +0.3**
comp=Z,311nm,1.0s,mb6.2,baz=64,slow=2.9,SNR=327
BRTR Keskin Array B 78.42 317 P **P** **21 34 22.6 +0.4**
BRTR pmax pmax
comp=Z,311nm,1.0s
DCN Croghan 78.45 349⇓*e*P **P** **21 34 21.8 -0.6**
MSNY Massena 78.47 33 *e*P **P** **21 34 21.7 -0.8**
BZS Buzias 78.48 328⇑*i*P **P** **21 34 22.6 +0.1**
BZS Buzias 78.48 328 P **P** **21 34 22.1 -0.4**
BZS Buzias 78.48 328 ⇑P **P** **21 34 22.6 0.0**
HGN Heimansgroeve 78.50 340⇑*e*P **P** **21 34 22.3 -0.4**
comp=Z,387nm,1.2s,mb6.2
BEBN Eben Emael 78.53 340 P **P** **21 34 22.5 -0.3**
BEBN E 21 34 23.3
BEBN AP pP 21 34 28.2 -1.0
HLM1 Long Mynd 78.59 346⇑*e*P **P** **21 34 23.4 +0.2**
BSHR Al Beshri 78.59 311 ⇓P **P** **21 34 27.1 +3.9**
AVNT Avonos 78.61 316 *i* P **P** **21 34 23.6 +0.3**
MEM Membach 78.63 340 P **P** **21 34 23.6 +0.3**
comp=Z,254nm,0.9s,mb6.2
MEM AP pP 21 34 28.7 -1.1
MEM XP sP 21 34 32.6 +0.5
KMRS Kahramanmaras 78.63 314 *e*P **P** **21 34 24.0 +0.6**
ANTO Ankara 78.70 318 *e*P **P** **21 34 23.9 +0.1**
ANTO Ankara 78.70 318⇑*i*P **P** **21 34 24.5 +0.8**
ANTO Ankara 78.70 318 P **P** **21 34 24.3 +0.6**
ANTO Ankara 78.70 318 ⇑P **P** **21 34 24.5 +0.7**
ANTO LR LR
comp=Z,8µm,20.0s,MS6.0
ZIMR 78.73 325 P **P** **21 34 24.2 +0.3**
GAZ Gaziantep 78.74 313 *e*P **P** **21 34 25.2 +1.3**
USIN University of 78.76 45 *e*P **P** **21 34 24.4 +0.3**
comp=Z,250nm,0.9s,mb6.1
HENT Hendek 78.77 320 *i* P **P** **21 34 24.1 -0.1**
CRAR CRAIOVA 78.77 326 P **P** **21 34 24.3 +0.1**
UCC Uccle 78.83 341 P **P** **21 34 22.5 -1.9**
LONY Lake Ozonia 78.89 33 *e*P **P** **21 34 23.7 -1.1**
comp=Z,22nm,0.8s,mb5.1
LONY LR LR
comp=Z,6µm,20.0s,MS5.9
ABH Alteburg 78.93 339 *e*P **P** **21 34 24.7 -0.4**
MOA Molln 78.94 334 *i* P **P** **21 34 25.7 +0.6**
SNR=56
SSW Stow on the Wo 78.95 345 *e*P **P** **21 34 25.1 0.0**
BCLA Clavier 78.97 340 P **P** **21 34 25.3 0.0**
comp=Z,122nm,0.9s,mb5.8
BCLA AP pP 21 34 30.3 -1.4
BCLA XP sP 21 34 33.6 -0.3
PKSM Moragy 79.00 330⇓*i*P **P** **21 34 25.2 -0.2**
PKSM Moragy 79.00 330 ⇓P **P** **21 34 25.2 -0.2**
SKP1 Kophill 79.00 344 *e*P **P** **21 34 25.5 +0.1**
ARSA Arzberg 79.09 333 *i* P **P** **21 34 26.3 +0.3**
comp=Z,229nm,1.2s,mb6.0,SNR=116
MCH1 Michaelchurch 79.11 346 *e*P **P** **21 34 26.1 +0.1**
MCH1 *e*P 21 34 26.1
MCH1 AMb AMB 21 34 28.9
comp=Z,132nm,1.8s,mb5.6
PVL Pavlikeni 79.12 325 *i* P **P** **21 34 26.5 +0.5**
SNF Seneffe 79.12 341 P **P** **21 34 25.8 -0.2**
comp=Z,59nm,0.9s,mb5.5
SNF XP sP 21 34 34.6 -0.2
SLMH Al Salmeh 79.13 312 ⇓P **P** **21 34 27.9 +1.7**
KOZT Kozan 79.17 315 *e*P **P** **21 34 26.9 +0.6**
ALLY Alegheny Colle 79.18 38 *e*P **P** **21 34 26.2 -0.2**
WCI Wyandotte Cave 79.20 44 *e*P **P** **21 34 26.0 -0.5**
WCI pmax pmax
comp=Z,200nm,0.9s,mb6.0
WCI MLR MLR
comp=Z,8µm,20.0s,MS6.0
WCI Wyandotte Cave 79.20 44 *e*P **P** **21 34 26.0 -0.6**
comp=Z,200nm,0.9s,mb6.0
WCI LR LR
comp=Z,8µm,20.0s,MS6.0
KLYT Kilyos 79.23 321 *e*P **P** **21 34 26.3 -0.3**
JMB Yambol 79.24 323 *e*P **P** **21 34 26.9 +0.1**
JMB Yambol 79.24 323 *i* P **P** **21 34 27.0 +0.3**
JHLN Al Jahlan 79.30 312 ⇓P **P** **21 34 28.5 +1.4**
HRT Hereke 79.31 320 *e*P **P** **21 34 27.8 +0.7**
KTD Kalmit 79.32 338 *e*P **P** **21 34 28.0 +0.8**
ISK Istanbul-Kandi 79.37 321 *e*P **P** **21 34 27.0 -0.5**
ISK Istanbul-Kandi 79.37 321 *e*P **P** **21 34 27.2 -0.2**
SWN1 Swindon 79.37 345⇑*e*P **P** **21 34 27.4 -0.1**
SWN1 *e*P 21 34 27.4
SWN1 AMb AMB 21 34 30.6
comp=Z,692nm,1.1s,mb6.5
GIVF Givet 79.38 340 *e*P **P** **21 34 27.9 +0.4**
comp=Z,451nm,1.2s,mb6.0
GIVF Givet 79.38 340 *e*P **P** **21 34 27.9 +0.4**
GIVF pmax pmax
comp=Z,225nm,1.2s,mb6.0
GIVF Givet 79.38 340 *e*P **P** **21 34 27.9 +0.4**
comp=Z,225nm,1.2s,mb6.0
NAY Al-Naaiem 79.40 302 *e*P **P** **21 34 27.8 +0.2**
NAY AMb AMB 21 34 31.2
comp=Z,1µm,0.9s,mb6.8
HGH Gray Hill 79.43 346⇑*e*P **P** **21 34 28.1 +0.3**
DOU Dourbes 79.43 341 P **P** **21 34 28.0 +0.2**
comp=Z,47nm,1.1s,mb5.3
DOU AP pP 21 34 33.5 -0.6
DOU XP sP 21 34 36.2 -0.3
DRWC Darouich 79.44 313 ⇓P **P** **21 34 29.5 +1.7**
WLF Walferdange 79.47 339 *e*P **P** **21 34 28.8 +0.8**
comp=Z,492nm,1.9s,mb6.1
WLF Walferdange 79.47 339 P **P** **21 34 28.5 +0.5**
WLF Walferdange 79.47 339 *e*P **P** **21 34 28.5 +0.5**
WLF pmax pmax
comp=Z,238nm,1.4s,mb5.9
WLF Walferdange 79.47 339 *e*P **P** **21 34 28.5 +0.5**
comp=Z,238nm,1.4s,mb5.9
OSMT Osmaniye 79.48 320 *e*P **P** **21 34 27.6 -0.4**
MENF Mencas 79.53 342 *e*P **P** **21 34 29.0 +0.7**
FUR Furstenfeldbru 79.53 336 *e*P **P** **21 34 28.4 +0.1**
comp=Z,535nm,1.0s,mb6.4
FUR Furstenfeldbru 79.53 336 *e*P **P** **21 34 28.4 +0.1**
FUR pmax pmax
comp=Z,535nm,1.0s,mb6.4
STU Stuttgart 79.54 337 *e*P **P** **21 34 28.3 0.0**
comp=Z,349nm,1.1s,mb6.2
BAIF Baives 79.56 341 *e*P **P** **21 34 28.7 +0.3**
comp=Z,155nm,0.8s,mb5.7
BAIF Baives 79.56 341 *e*P **P** **21 34 28.7 +0.3**
BAIF pmax pmax
comp=Z,77nm,0.8s,mb5.7
BAIF Baives 79.56 341 *e*P **P** **21 34 28.7 +0.3**
comp=Z,77nm,0.8s,mb5.7
CTT Catalca 79.57 321 *e*P **P** **21 34 28.8 +0.3**
ELBA Catalca 79.57 321 *i* P **P** **21 34 28.5 0.0**
KOGS Kog 79.58 332 *i* P **P** **21 34 29.3 +0.7**
BEO Belgrade 79.58 328 *i* P **P** **21 34 28.6 0.0**
NCB Newcomb 79.58 33 *e*P **P** **21 34 27.6 -1.0**
comp=Z,35nm,0.9s,mb5.3
NCB LR LR
comp=Z,6µm,20.0s,MS6.0
CEYT Ceyhan 79.58 314 *e*P **P** **21 34 29.7 +1.1**
ADVT Abdulvahap 79.60 320 *e*P **P** **21 34 28.4 -0.3**
YLV Yalova 79.65 320 *e*P **P** **21 34 28.0 -0.9**
STKA Stephens Creek 79.66 191 *e*P **P** **21 34 28.2 -0.8**
comp=Z,39nm,0.9s,mb5.3
STKA Stephens Creek 79.66 191 P **P** **21 34 27.9 -1.2**
comp=Z,47nm,0.9s,mb5.4,baz=348,slow=7.3,SNR=35
STKA LR LR 22 09 59.8
comp=Z,5µm,20.1s,MS5.8,baz=17,slow=36
EDRB Edirne 79.70 323 *e*P **P** **21 34 27.9 -1.3**
LANF Langenberg 79.70 338 *e*P **P** **21 34 30.1 +0.9**
KARA Karaisali 79.72 315 *e*P **P** **21 34 29.8 +0.5**
COBT Iskenderun 79.72 314 *i* P **P** **21 34 30.6 +1.2**
BORA Eskisehir 79.74 319 *i* P **P** **21 34 29.2 -0.3**
PERS Pernice 79.77 333 *i* P **P** **21 34 30.8 +1.2**
PERS *e*S S 21 44 29.8 -1.6

IZI Iznik 79.79 320 *e*P **P** **21 34 30.4 +0.6**
GROS Grobnik 79.80 332 *e*P **P** **21 34 30.6 +0.9**
GEMT Gemlik 79.84 321 *e*P **P** **21 34 29.7 -0.3**
ESKT Eskisehir 79.86 319 *e*P **P** **21 34 30.0 -0.1**
ESKT Eskisehir 79.86 319 *i* P **P** **21 34 30.2 +0.1**
BOLS Boljevac 79.89 327⇑*i*P **P** **21 34 29.9 -0.4**
KBA Koelnbreinsper 79.91 334 *i* P **P** **21 34 30.8 +0.4**
SNR=188
BTCH Batrach 80.00 313 ⇓P **P** **21 34 32.1 +1.2**
DIM Dimitrovgrad 80.02 324 *i* P **P** **21 34 32.0 +1.0**
OBKA Obir 80.06 333 *i* P **P** **21 34 32.3 +1.1**
SNR=45
STR Strasbourg 80.08 338 *e*P **P** **21 34 32.5 +1.2**
KDHN Kadinhani 80.09 318 *i* P **P** **21 34 31.0 -0.3**
HTY Hatay 80.10 313 *e*P **P** **21 34 32.6 +1.2**
KRTS Karatas 80.11 314 *e*P **P** **21 34 33.5 +2.0**
WVT Waverly 80.13 46 *e*P **P** **21 34 31.0 -0.5**
WVT pmax pmax
comp=Z,54nm,0.8s,mb5.5
WVT MLR MLR
comp=Z,5µm,20.0s,MS5.9
WVT Waverly 80.13 46 *e*P **P** **21 34 31.0 -0.6**
comp=Z,54nm,0.8s,mb5.5
WVT LR LR
comp=Z,5µm,20.0s,MS5.9
PGB Panagyurishte 80.14 325 *i* P **P** **21 34 32.0 +0.4**
HEX Exmoor 80.14 346 *e*P **P** **21 34 31.5 -0.2**
GOLS Golise 80.16 332 *e*P **P** **21 34 32.5 +0.8**
BFO Black Forest 80.17 338 *e*P **P** **21 34 31.6 -0.2**
comp=Z,305nm,1.1s,mb6.1
BFO LR LR
comp=Z,2µm,20.0s,MS5.5
LBNH Lisbon 80.19 32 *e*P **P** **21 34 31.4 -0.5**
LBNH pmax pmax
comp=Z,163nm,1.6s,mb5.7
LBNH MLR MLR
comp=Z,5µm,19.0s,MS5.9
LBNH Lisbon 80.19 32 *e*P **P** **21 34 31.4 -0.5**
comp=Z,163nm,1.6s,mb5.7
LBNH LR LR
comp=Z,5µm,19.0s,MS5.9
VAL Valentia 80.19 350 *e*P **P** **21 34 31.6 -0.3**
WATA Walderalm 80.20 335 *i* P **P** **21 34 32.6 +0.7**
comp=Z,180nm,0.7s,mb6.1,SNR=107
PKME Peaks-Kenny Pk 80.20 30 *e*P **P** **21 34 32.0 +0.1**
comp=Z,94nm,1.3s,mb5.6
PKME LR LR
comp=Z,6µm,22.0s,MS5.9
WTTA Wattenberg 80.24 335 *i* P **P** **21 34 32.8 +0.6**
comp=Z,747nm,1.3s,mb6.5,SNR=165
ACCN Adirondack Com 80.29 33 *e*P **P** **21 34 31.2 -1.2**
GRUS Gruza 80.29 328 *i* P **P** **21 34 31.7 -0.8**
MERS Mersin 80.29 315 *e*P **P** **21 34 32.7 +0.3**
PLD Plovdiv 80.30 324 *e*P **P** **21 34 31.7 -0.8**
PLD Plovdiv 80.30 324 *i* P **P** **21 34 32.4 -0.1**
LEGS Legarje 80.32 332 *i* P **P** **21 34 33.2 +0.6**
MOTA Mooselm 80.32 335 *i* P **P** **21 34 33.0 +0.4**
comp=Z,281nm,0.8s,mb6.2,SNR=227
HTL Hartland 80.33 346 *e*P **P** **21 34 32.5 -0.1**
HTL AMb AMB 21 34 35.5
comp=Z,137nm,1.2s,mb5.8
KCT Karacabey 80.33 321 *e*P **P** **21 34 33.8 +1.1**
WLS Welschbruch 80.34 338 *e*P **P** **21 34 33.0 +0.3**
MFT Murefte 80.36 322 *e*P **P** **21 34 32.3 -0.5**
CDF Champ du Feu 80.36 338 *e*P **P** **21 34 32.7 -0.1**
comp=Z,755nm,1.1s,mb6.2
CDF Champ du Feu 80.36 338 *e*P **P** **21 34 32.7 -0.1**
CDF pmax pmax
comp=Z,378nm,1.1s,mb6.2
CDF Champ du Feu 80.36 338 *e*P **P** **21 34 32.7 -0.1**
comp=Z,378nm,1.1s,mb6.2
DIVS Divcibare 80.37 328 *i* P **P** **21 34 32.4 -0.5**
DIVS Divcibare 80.37 328 *e*P **P** **21 34 32.4 -0.5**
ARNB Al Arnab 80.39 313 ⇓P **P** **21 34 34.1 +1.1**
SISC Sisak 80.40 331 P **P** **21 34 33.7 +0.7**
SQTA Sankt Quirin 80.41 335 *i* P **P** **21 34 33.9 +0.8**
comp=Z,320nm,1.1s,mb6.2,SNR=130
BINY Binghamton 80.42 35 *e*P **P** **21 34 32.5 -0.6**
comp=Z,26nm,1.1s,mb5.1
BINY LR LR
comp=Z,5µm,19.0s,MS5.9
WRDH Warideh 80.45 313 ⇓P **P** **21 34 35.2 +1.9**
KONT Konya--Tatoy 80.45 317 *e*P **P** **21 34 33.3 0.0**
SLNF Slenfeh 80.47 313 ⇓P **P** **21 34 34.7 +1.3**
VTS Vitosha 80.47 326 *e*P **P** **21 34 33.3 -0.1**
VTS Vitosha 80.47 326⇑*i*P **P** **21 34 33.9 +0.5**
VTS Vitosha 80.47 326 *i* P **P** **21 34 34.0 +0.6**
EDC Edincik 80.48 321 *e*P **P** **21 34 34.5 +1.1**
LJU Ljubljana 80.48 333 *i* P **P** **21 34 34.0 +0.5**
RKY Sarkoy-Tekirda 80.48 322 *e*P **P** **21 34 32.8 -0.7**
LIBD Limburg 80.52 338 *e*P **P** **21 34 34.5 +0.8**
SEST Monte Rota 80.54 335 P **P** **21 34 35.0 +1.2**
TAOE Nuku Hiva Isla 80.56 114 *e*S S 21 44 17.3 -22
comp=Z,3µm,24.9s
TAOE *e*LR LR 21 59 21.0
comp=Z,47µm,22.1s,baz=322
CADS Cadrg 80.56 333 *e*P **P** **21 34 33.7 -0.2**
ECH Echery 80.57 338 *e*P **P** **21 34 34.7 +0.8**
OXF Oxford 80.61 49 *e*P **P** **21 34 33.7 -0.5**
OXF pmax pmax
comp=Z,267nm,1.1s,mb6.1
OXF MLR MLR
comp=Z,7µm,20.0s,MS6.0
OXF Oxford 80.61 49 *e*P **P** **21 34 33.7 -0.4**
comp=Z,267nm,1.1s,mb6.1
OXF LR LR
comp=Z,7µm,20.0s,MS6.0
RZN Rozhen 80.65 324 *i* P **P** **21 34 34.3 -0.1**
GMNA Gemona 80.67 334 P **P** **21 34 33.7 -0.8**
comp=Z,760nm,0.9s,mb6.6
FELD Feldberg im Sc 80.67 338⇓*e*P **P** **21 34 34.8 +0.3**
VOY Vojsko 80.69 333 *e*P **P** **21 34 34.1 -0.5**
VOY *e* 21 37 43.5
HKT Hockley 80.69 56 *e*P **P** **21 34 34.7 +0.1**
HKT pmax pmax
comp=Z,70nm,1.4s,mb5.4
HKT MLR MLR
comp=Z,6µm,19.0s,MS6.0
HKT Hockley 80.69 56 *e*P **P** **21 34 34.7 +0.1**
comp=Z,70nm,1.4s,mb5.4
HKT LR LR
comp=Z,6µm,19.0s,MS6.0
DAVA Damuels 80.72 336 *i* P **P** **21 34 35.2 +0.5**
comp=Z,266nm,1.1s,mb6.1,SNR=89
BOJS Bojanci 80.73 332 *e*P **P** **21 34 35.5 +0.7**
BOJS *e*S S 21 44 38.9 -2.7
DYA Yadsworthy 80.78 346 *e*P **P** **21 34 34.7 -0.3**
RDO Rodhopi 80.78 323 *e*P **P** **21 34 35.0 0.0**
ALN Alexandroupoli 80.78 323 *e*P **P** **21 34 35.1 0.0**
SHUT Suhut-Afyon 80.78 319 *e*P **P** **21 34 35.5 +0.4**
GDZ Gediz 80.82 320 *i* P **P** **21 34 34.9 -0.3**
MEZF Maizieres J'vi 80.82 340 *e*P **P** **21 34 35.2 -0.1**
comp=Z,735nm,1.1s,mb6.2
MEZF Maizieres J'vi 80.82 340 *e*P **P** **21 34 35.2 -0.1**
comp=Z,735nm,1.1s,mb6.5
THEF They Montfort 80.85 339 *e*P **P** **21 34 36.2 +0.8**
BTOK Tokmak 80.89 321 *i* P **P** **21 34 36.0 +0.3**
MOF Molkenrain 80.92 338 *e*P **P** **21 34 36.4 +0.6**
MCWV Mont Chateau 80.96 39 *e*P **P** **21 34 36.5 +0.5**
comp=Z,125nm,0.9s,mb5.8
MCWV LR LR
comp=Z,10µm,20.0s,MS6.2
SSPA Standing Stone 80.97 37 *e*P **P** **21 34 35.3 -0.7**
comp=Z,36nm,0.7s,mb5.4
SSPA LR LR
comp=Z,4µm,21.0s,MS5.8
HAU Haudompre 80.97 339 *e*P **P** **21 34 35.7 -0.4**
comp=Z,515nm,1.2s,mb6.0
HAU *e*R
comp=Z,17µm,23.0s
HAU Haudompre 80.97 339 *e*P **P** **21 34 35.7 -0.4**
HAU pmax pmax
comp=Z,258nm,1.2s,mb6.0
HAU MLR MLR
comp=Z,17µm,23.0s,MS6.3
HAU Haudompre 80.97 339 *e*P **P** **21 34 35.7 -0.4**
comp=Z,258nm,1.2s,mb6.0
HAU LR LR
comp=Z,17µm,23.0s,MS6.3
TRI Trieste 81.02 333 P **P** **21 34 36.1 -0.2**
HINF Hinteralfeld 81.02 338 *e*P **P** **21 34 35.7 -0.6**
comp=Z,372nm,1.1s,mb5.9
HINF Hinteralfeld 81.02 338 *e*P **P** **21 34 35.7 -0.6**
HINF pmax pmax
comp=Z,186nm,1.1s,mb5.9

HINF Hinteralfeld 81.02 338 eP P 21 34 35.7 -0.6
comp=Z,186nm,1.1s,mb5.9
ROOS tl_alroos 81.06 311 ⇓P P 21 34 38.4 +1.9
CANB Canakkale 81.09 322 eP P 21 34 36.4 -0.3
CANB Canakkale 81.09 322 iP P 21 34 36.4 -0.3
MMB Musomiste 81.13 325 iP P 21 34 37.8 +0.9
KKB Krupnik 81.14 325 iP P 21 34 36.7 -0.3
DAVOX Davos 81.18 336 P P 21 34 38.1 +1.0
comp=Z,95nm,0.7s,mb5.8,baz=358,slow=3.3,SNR=78
BBS Basel-Blauen 81.18 336 eP P 21 34 37.7 +0.5
IKL Isikli 81.20 315 eP P 21 34 36.7 -0.6
FORT Forrest 81.23 202 eP P 21 34 37.3 -0.1
comp=Z,215nm,0.8s,mb6.1
PLE Plјevlja 81.25 328⇑iP P 21 34 37.7 +0.2
NVR Nevrokopi 81.28 324 eP P 21 34 38.8 +1.1
TKTP Tekketepe 81.30 318 iP P 21 34 38.7 +0.8
BRMO Bormio 81.32 336 P P 21 34 39.0 +1.1
comp=Z,117nm,0.9s,mb5.8
KVTX Kingsville 81.33 59 PFAKE 21 34 50.0 +12
KVTX LR LR
comp=Z,6μm,19.0s,MS5.9
ISP Isparta 81.38 318 eP P 21 34 37.8 -0.4
ISP Isparta 81.38 318 eP P 21 34 38.3 +0.1
ISP Isparta 81.38 318 P P 21 34 38.2 0.0
ISP pmax pmax
comp=Z,110nm,0.7s,mb5.9
ISP Isparta 81.38 318 eP P 21 34 37.7 -0.5
comp=Z,113nm,0.6s,mb6.0
LOMF Lomont 81.46 338 eP P 21 34 39.5 +0.8
IVA Berane 81.47 328⇑iP P 21 34 38.2 -0.5
UPM Unac-Piva 81.53 329⇑iP P 21 34 38.4 -0.6
EZN Ezine 81.56 322 eP P 21 34 38.4 -0.8
MARH Ras Al Marh 81.58 312 ⇓P P 21 34 41.8 +2.4
TUE Stuetta 81.61 336 P P 21 34 41.1 +1.6
STIP Stip 81.63 326 eP P 21 34 39.3 -0.3
STIP Stip 81.63 326 iP P 21 34 39.3 -0.3
BCK Bucak 81.66 316 eP P 21 34 39.7 0.0
BOZC Bozcaada 81.66 322 iP P 21 34 36.6 -3.1
MABI Malga Bissina 81.67 335 P P 21 34 39.2 -0.6
SKO Skopje 81.68 326 eP P 21 34 40.0 +0.2
SKO Skopje 81.68 326⇑iP P 21 34 40.1 +0.3
PVY Plav 81.68 328⇑iP P 21 34 38.6 -1.2
NVLJ Novalja 81.69 332 iP P 21 34 38.6 -1.3
FLN La Foliniere 81.77 343 eP P 21 34 39.8 -0.5
comp=Z,363nm,1.3s,mb5.9
FLN eR
comp=Z,10μm,18.2s
FLN La Foliniere 81.77 343 eP P 21 34 39.8 -0.5
FLN pmax pmax
comp=Z,181nm,1.3s,mb5.8
FLN MLR MLR
comp=Z,10μm,18.3s,MS6.2
FLN La Foliniere 81.77 343 eP P 21 34 39.8 -0.5
comp=Z,181nm,1.3s,mb5.8
FLN LR LR
comp=Z,10μm,18.3s,MS6.2
VAY Valandovo 81.81 325 eP P 21 34 40.0 -0.5
VAY Valandovo 81.81 325⇑iP P 21 34 40.5 +0.1
KNT Kendrikon 81.81 325 eP P 21 34 40.1 -0.4
HRV Harvard--Oak R 81.83 32 eP P 21 34 40.6 0.0
HRV pmax pmax
comp=Z,154nm,1.6s,mb5.7
HRV MLR MLR
comp=Z,5μm,21.0s,MS5.9
HRV Harvard--Oak R 81.83 32 eP P 21 34 40.6 0.0
comp=Z,154nm,1.6s,mb5.7
HRV LR LR
comp=Z,5μm,21.0s,MS5.9
AYVA Ayvalik 81.84 322 iP P 21 34 40.5 -0.1
NKY Niksic 81.84 328⇑iPn P 21 34 39.7 -1.0
BCY Bajram Curri 81.85 327 iPn P 21 34 40.9 +0.2
TZTN Tazewell 81.85 43 PFAKE 21 34 50.0 +9.3
TZTN LR LR
comp=Z,6μm,19.0s,MS6.0
LDF La Druitiere 81.86 343 eP P 21 34 40.1 -0.7
comp=Z,177nm,1.2s,mb5.6
LDF La Druitiere 81.86 343 eP P 21 34 40.1 -0.7
LDF pmax pmax
comp=Z,89nm,1.2s,mb5.6
LDF La Druitiere 81.86 343 eP P 21 34 40.1 -0.7
comp=Z,89nm,1.2s,mb5.6
SOH Sokhos 81.93 325 eP P 21 34 40.5 -0.6
BRY Bratogost 81.93 329⇑iP P 21 34 39.6 -1.5
PPT Papeete 81.96 127 eLR LR 21 59 49.5
comp=Z,22μm,22.0s,baz=326
PPT Papeete 81.96 127 P P 21 34 41.6 +0.3
comp=Z,51nm,0.7s,mb5.6,baz=349,slow=3.6,SNR=8.8
PPT LR LR 22 04 44.4
comp=Z,12μm,20.4s,MS6.2,baz=250,slow=31
PPT Papeete 81.96 127 P P 21 34 41.6 +0.3
PPT pmax pmax
comp=Z,51nm,0.7s
PPT MLR MLR
comp=Z,12μm,20.4s
LIA Limnos Island 81.97 323 eP P 21 34 41.6 +0.2
LOS Limnos 81.98 323 eP P 21 34 40.7 -0.7
LUPA Lehigh Univers 82.02 36 eP P 21 34 41.4 -0.3
WES Weston 82.02 32 eP P 21 34 41.0 -0.6
WES pmax pmax
comp=Z,174nm,1.4s,mb5.8
WES MLR MLR
comp=Z,2μm,19.0s,MS5.6
WES Weston 82.02 32 eP P 21 34 41.0 -0.6
comp=Z,174nm,1.4s,mb5.8
WES LR LR
comp=Z,2μm,19.0s,MS5.6
ZALF Zalf 82.02 311 ⇓P P 21 34 43.5 +1.8
PRK Paraskevi 82.07 322 eP P 21 34 41.2 -0.7
QASN Qassioun 82.08 312 ⇓P P 21 34 43.0 +1.1
ANTB Antalya 82.08 318 eP P 21 34 41.6 -0.4
TTG Podgorica 82.08 328⇑iP P 21 34 40.9 -1.1
OUR Ouranopolis 82.09 324 eP P 21 34 41.0 -1.0
ZAIG Zacatecas 82.09 65 iP P 21 34 43.1 +1.0
BHL Bhannes 82.10 312 eP P 21 34 41.9 -0.2
DENT Denizli 82.11 319 eP P 21 34 43.0 +0.9
MVL Millersville 82.13 37 eP P 21 34 42.0 -0.2
TOTH TOTAH 82.14 312 ⇓P P 21 34 44.0 +1.8
DNZL Cakiroluk 82.16 319 iP P 21 34 50.4 +8.0
GRG Griva 82.18 325 eP P 21 34 42.0 -0.5
PUK Puka 82.19 327 iPn P 21 34 42.2 -0.3
GRR Gorron 82.20 343 eP P 21 34 42.2 -0.4
comp=Z,869nm,1.4s,mb6.2
GRR Gorron 82.20 343 eP P 21 34 42.2 -0.4
GRR pmax pmax
comp=Z,434nm,1.4s,mb6.2
GRR Gorron 82.20 343 eP P 21 34 42.2 -0.4
comp=Z,434nm,1.4s,mb6.2
HORT Hortiatis 82.22 325 eP P 21 34 42.6 -0.1
PAL Palisades 82.24 35 P P 21 34 42.8 0.0
PAL pmax pmax
comp=Z,160nm,1.4s,mb5.8
PAL Palisades 82.24 35 eP P 21 34 42.6 -0.2
comp=Z,157nm,1.4s,mb5.8
STON Ston 82.25 329 iP P 21 34 40.9 -2.0
LOR Lormes 82.26 340 eP P 21 34 42.5 -0.4
comp=Z,161nm,0.7s,mb5.8
LOR eR
comp=Z,16μm,21.5s
LOR Lormes 82.26 340 eP P 21 34 42.5 -0.4
LOR pmax pmax
comp=Z,81nm,0.7s,mb5.8
LOR MLR MLR
comp=Z,16μm,21.5s,MS6.3
LOR Lormes 82.26 340 eP P 21 34 42.5 -0.4
comp=Z,81nm,0.7s,mb5.8
LOR LR LR
comp=Z,16μm,21.5s,MS6.3
BRNJ Basking Ridge 82.27 35 eP P 21 34 42.2 -0.7
KRUS Krusevo 82.27 326 iP P 21 34 43.1 +0.2
PLG Polygyros 82.27 324 eP P 21 34 42.0 -1.0
PLG Polygyros 82.27 324 eP P 21 34 42.1 -0.8
MAMC Mammari 82.28 315 ⇑P P 21 34 43.9 +0.9
MAMC Mammari 82.28 315⇑eP P 21 34 43.9 +0.9
PHP Peshkopia 82.30 327 iPn P 21 34 42.4 -0.7
GOLH Golhisar 82.31 318 iP P 21 34 43.2 +0.1
BUM Brajici-Budva 82.33 328⇑iP P 21 34 42.9 -0.4
CABF La Chapelle 82.33 338 eP P 21 34 43.3 0.0
comp=Z,373nm,1.3s,mb5.9
CABF La Chapelle 82.33 338 eP P 21 34 43.3 0.0
CABF pmax pmax
comp=Z,187nm,1.3s,mb5.9
CABF La Chapelle 82.33 338 eP P 21 34 43.3 0.0
comp=Z,187nm,1.3s,mb5.9
BRBR Barbar 82.34 312 ⇓P P 21 34 45.3 +2.0

HCY Herceg Novi 82.34 329⇑iP P 21 34 41.8 -1.5
RCY Rachaya 82.35 312 eP P 21 34 43.6 +0.2
KDAG Bornova 82.35 321 iP P 21 34 43.0 -0.3
CSS Prodhromos 82.39 315 P P 21 34 44.2 +0.6
comp=Z,5.2nm,0.9s
CSS Prodhromos 82.39 315 eP P 21 34 44.4 +0.8
SALA Sala 82.50 311 ⇓P P 21 34 45.4 +1.3
ULC Ulcinj 82.50 328⇑iP P 21 34 43.5 -0.6
SSF Saint Saulge 82.53 340 eP P 21 34 44.0 -0.3
comp=Z,164nm,0.9s,mb5.8
SSF Saint Saulge 82.53 340 eP P 21 34 44.0 -0.3
SSF pmax pmax
comp=Z,82nm,0.9s,mb5.8
SSF Saint Saulge 82.53 340 eP P 21 34 44.0 -0.3
comp=Z,82nm,0.9s,mb5.8
BIA Bitola 82.55 326 iP P 21 34 44.2 -0.1
ELL Elmali 82.55 318 eP P 21 34 44.0 -0.4
PAIG Paliouri 82.56 324 eP P 21 34 43.3 -1.1
ALFC Alevga 82.59 315⇑iP P 21 34 45.1 +0.5
comp=Z,9.9nm,0.6s,mb5.0
ALFC Alevga 82.59 315⇑eP P 21 34 45.1 +0.5
SGMF Saint Gilles 82.64 345 eP P 21 34 44.6 -0.3
comp=Z,482nm,1.2s,mb6.1
SGMF Saint Gilles 82.64 345 eP P 21 34 44.6 -0.3
SGMF pmax pmax
comp=Z,241nm,1.2s,mb6.1
SGMF Saint Gilles 82.64 345 eP P 21 34 44.6 -0.3
comp=Z,241nm,1.2s,mb6.1
OHR Ohrid 82.66 326 eP P 21 34 44.0 -0.9
OHR Ohrid 82.66 326⇑iP P 21 34 44.3 -0.7
URLA Izmir 82.67 321 iP P 21 34 44.4 -0.6
ROSF Rostrenen 82.69 345 eP P 21 34 45.0 -0.1
comp=Z,578nm,1.1s,mb6.2
ROSF Rostrenen 82.69 345 eP P 21 34 45.0 -0.1
ROSF pmax pmax
comp=Z,289nm,1.1s,mb6.2
ROSF Rostrenen 82.69 345 eP P 21 34 45.0 -0.1
comp=Z,289nm,1.1s,mb6.2
FNA Florina 82.73 326 eP P 21 34 44.6 -0.7
BLA Blacksburg 82.73 41 eP P 21 34 38.9 -6.5
comp=Z,92nm,0.9s,mb5.8
BLA LR LR
comp=Z,4μm,19.0s,MS5.8
SZAC Souni-Zanaja 82.78 315 P P 21 34 45.9 +0.3
TIR Tirane 82.81 327 eP P 21 34 45.5 -0.3
AVF Avril sur Loir 82.82 340 eP P 21 34 45.5 -0.3
comp=Z,544nm,1.1s,mb6.2
AVF Avril sur Loir 82.82 340 eP P 21 34 45.5 -0.3
AVF pmax pmax
comp=Z,272nm,1.1s,mb6.2
AVF Avril sur Loir 82.82 340 eP P 21 34 45.5 -0.3
comp=Z,272nm,1.1s,mb6.2
SMF Signal de Mont 82.85 340 eP P 21 34 45.8 -0.1
LIT Litokhoron 82.88 325 eP P 21 34 45.4 -0.7
PPCY Paphos 82.93 315 P P 21 34 45.4 -1.0
YER Yerkesik 82.96 319 eP P 21 34 46.8 +0.3
KZN Kozani 82.99 325 eP P 21 34 45.6 -1.1
FETY Fethiye 83.02 318 eP P 21 34 45.8 -1.0
MLSB Milas 83.05 320 eP P 21 34 46.4 -0.6
QUIF Quistinic 83.08 345 eP P 21 34 46.7 -0.4
comp=Z,274nm,1.3s,mb5.8
QUIF Quistinic 83.08 345 eP P 21 34 46.7 -0.4
QUIF pmax pmax
comp=Z,137nm,1.3s,mb5.8
QUIF Quistinic 83.08 345 eP P 21 34 46.7 -0.4
comp=Z,137nm,1.3s,mb5.8
KBN Korca 83.09 326 ip P 21 34 48.0 +0.8
DALT Dalyan (Mudla) 83.11 319 eP P 21 34 46.9 -0.4
SMG Samos 83.12 321 eP P 21 34 46.4 -0.9
BOB Bobbio (Coli) 83.15 335 P P 21 34 48.9 +1.4
BGF Bois d'Agland 83.16 340 eP P 21 34 47.4 -0.2
comp=Z,330nm,1.3s,mb5.9
BGF Bois d'Agland 83.16 340 eP P 21 34 47.4 -0.2
BGF pmax pmax
comp=Z,165nm,1.3s,mb5.9
BGF Bois d'Agland 83.16 340 eP P 21 34 47.4 -0.2
comp=Z,165nm,1.3s,mb5.9
LPL La Plagne 83.19 338 eP P 21 34 48.4 +0.7
comp=Z,184nm,0.7s,mb5.9
LPL La Plagne 83.19 338 eP P 21 34 48.4 +0.7
LPL pmax pmax
comp=Z,92nm,0.7s,mb5.9
LPL La Plagne 83.19 338 eP P 21 34 48.4 +0.7
comp=Z,92nm,0.7s,mb5.9
LPG La Plagne 83.20 338 eP P 21 34 48.7 +0.9
comp=Z,263nm,0.8s,mb6.0
LPG La Plagne 83.20 338 eP P 21 34 48.7 +0.9
LPG pmax pmax
comp=Z,132nm,0.8s,mb6.0
LPG La Plagne 83.20 338 eP P 21 34 48.7 +0.9
comp=Z,132nm,0.8s,mb6.0
FNVD Fontana Vidola 83.21 334 P P 21 34 48.9 +1.1
CBN Corbin 83.23 38 eP P 21 34 47.0 -0.9
comp=Z,179nm,1.4s,mb5.9
CBN LR LR
comp=Z,9μm,21.0s,MS6.1
XOR Xorichti 83.23 324 eP P 21 34 46.6 -1.3
NEO Neokhori 83.27 324 eP P 21 34 46.7 -1.4
CING Cingoli 83.29 332 P P 21 34 48.8 +0.6
BDRM Kayabasi 83.30 320 iP P 21 34 48.5 -0.3
BDI Bagni Di Lucca 83.46 334 P P 21 34 49.6 +0.5
THL Klokotos Trika 83.53 325 eP P 21 34 48.0 -1.5
PLDF La Plantade 83.53 340 eP P 21 34 49.8 +0.3
TCF Toulx Ste Croi 83.56 341 eP P 21 34 49.7 +0.1
comp=Z,322nm,1.2s,mb6.0
TCF Toulx Ste Croi 83.56 341 eP P 21 34 49.7 +0.1
TCF pmax pmax
comp=Z,161nm,1.2s,mb6.0
TCF Toulx Ste Croi 83.56 341 eP P 21 34 49.7 +0.1
comp=Z,161nm,1.2s,mb6.0
AGO Saint Agoulin 83.57 340 eP P 21 34 50.4 +0.7
MURB Monte Urbino 83.61 333 P P 21 34 50.3 +0.4
DAT Datca 83.61 319 eP P 21 34 47.8 -2.1
BNI Bardonecchia 83.64 337 P P 21 34 51.7 +1.7
MEV Metsovon 83.65 325 eP P 21 34 50.9 +0.8
MFF Saint Martin d 83.76 342 eP P 21 34 50.5 -0.2
comp=Z,141nm,0.9s,mb5.8
MFF Saint Martin d 83.76 342 eP P 21 34 50.5 -0.2
MFF pmax pmax
comp=Z,70nm,0.9s,mb5.8
MFF Saint Martin d 83.76 342 eP P 21 34 50.5 -0.2
comp=Z,70nm,0.9s,mb5.8
CSNT Castellina Chi 83.79 334 P P 21 34 50.8 0.0
comp=Z,122nm,1.0s,mb6.0
ARG Arkhangelos 83.80 319 eP P 21 34 50.5 -0.3
AGG Agios Georgios 83.87 324 eP P 21 34 49.8 -1.5
FGMS Monte Sant'Ang 83.88 330 P P 21 34 50.8 -0.5
comp=Z,196nm,0.8s,mb6.3
PYM Petit Puy Mans 83.89 340 eP P 21 34 51.8 +0.5
JAN Janina 83.90 326 eP P 21 34 52.0 +0.6
MBDF Montbardon 83.91 337 eP P 21 34 51.3 -0.1
LKR Lokris 83.92 324 eP P 21 34 49.7 -1.8
COLF Collangettes 83.94 340 eP P 21 34 52.7 +1.1
ORIF Oris-en-Rattie 83.97 338 eP P 21 34 52.1 +0.4
comp=Z,559nm,1.1s,mb6.3
ORIF eR
comp=Z,13μm,21.0s
ORIF Oris-en-Rattie 83.97 338 eP P 21 34 52.1 +0.4
ORIF pmax pmax
comp=Z,279nm,1.1s,mb6.3
ORIF Oris-en-Rattie 83.97 338 eP P 21 34 52.1 +0.4
comp=Z,279nm,1.1s,mb6.3
DOI San Damiano 83.99 337 P P 21 34 50.2 -1.6
FIN Finale Ligure 84.01 336 P P 21 34 51.1 -0.8
FIN pmax pmax
comp=Z,238nm,1.5s,mb6.1
FIN Finale Ligure 84.01 336 P P 21 34 51.1 -0.8
comp=Z,238nm,1.5s,mb6.1
SRN Sarande 84.03 326 ip P 21 34 50.9 -1.1
SURF Saint Ours 84.13 337 eP P 21 34 53.8 +1.3
AQU L'Aquila 84.15 332⇓iP P 21 34 53.8 +1.2
AQU L'Aquila 84.15 332 P P 21 34 53.5 +0.9
EVR Evrytania 84.17 325 eP P 21 34 52.1 -0.6
IGT Igoumenitsa 84.21 326 eP P 21 34 51.9 -1.0
ATH Athens Observa 84.21 323 eP P 21 34 51.3 -1.6
APE Apeiranthos 84.22 321 eP P 21 34 53.0 0.0
APE Apeiranthos 84.22 321⇓iP P 21 34 52.1 -0.9
KEK Kerkira 84.26 326 eP P 21 34 52.0 -1.2
VIVF Saint-Julien-l 84.33 339 eP P 21 34 53.6 +0.1
comp=Z,193nm,1.0s,mb5.9
VIVF Saint-Julien-l 84.33 339 eP P 21 34 53.6 +0.1
VIVF pmax pmax
comp=Z,97nm,1.0s,mb5.9
VIVF Saint-Julien-l 84.33 339 eP P 21 34 53.6 +0.1
comp=Z,97nm,1.0s,mb5.9
LCI Lecce 84.34 328 P P 21 34 52.8 -0.8
LCI pmax pmax
comp=Z,129nm,0.8s,mb6.1
LCI Lecce 84.34 328 P P 21 34 52.8 -0.8
comp=Z,129nm,0.8s,mb6.1
SAOF Saorge 84.39 336 eP P 21 34 53.3 -0.6
AUTN L'Aution 84.42 337 eP P 21 34 54.5 +0.5
RNI2 Rionero Sannit 84.49 331 P P 21 34 54.8 +0.4
LUCF Luceram 84.53 337 eP P 21 34 55.1 +0.5
SBF Sospel 84.54 336 eP P 21 34 54.1 -0.5
comp=Z,586nm,1.0s,mb6.4
SBF Sospel 84.54 336 eP P 21 34 54.1 -0.5
SBF pmax pmax
comp=Z,293nm,1.0s,mb6.4
SBF Sospel 84.54 336 eP P 21 34 54.1 -0.5
comp=Z,293nm,1.0s,mb6.4
MVIF Mont Vial 84.58 337 eP P 21 34 55.3 +0.5
BRAL Brewton 84.59 49 PFAKE 21 35 10.0 +15
BRAL LR LR
comp=Z,4μm,20.0s,MS5.8
RJF Les Rejaudoux 84.64 341 eP P 21 34 54.9 -0.2
comp=Z,100nm,0.9s,mb5.7
RJF eR
comp=Z,14μm,22.2s
RJF Les Rejaudoux 84.64 341 eP P 21 34 54.9 -0.2
RJF pmax pmax
comp=Z,50nm,0.9s,mb5.6
RJF MLR MLR
comp=Z,14μm,22.3s,MS6.3
RJF Les Rejaudoux 84.64 341 eP P 21 34 54.9 -0.2
comp=Z,50nm,0.9s,mb5.7
RJF LR LR
comp=Z,14μm,22.3s,MS6.3
CERT Cerreto 84.65 332 P P 21 34 55.2 0.0
REVF Revere 84.67 336 eP P 21 34 54.8 -0.5
KARP Karpathos 84.78 319 eP P 21 34 55.2 -0.6
LKD Levkas 84.80 325 eP P 21 34 55.0 -1.0
STOF St-Etienne Org 84.82 338 eP P 21 34 57.2 +1.2
TOLF Tolfa 84.86 333 P P 21 34 56.5 +0.3
CAF Calviac 84.88 340 eP P 21 34 55.9 -0.4
comp=Z,277nm,1.0s,mb6.0
CAF Calviac 84.88 340 eP P 21 34 55.9 -0.4
CAF pmax pmax
comp=Z,138nm,1.0s,mb6.0
CAF Calviac 84.88 340 eP P 21 34 55.9 -0.4
comp=Z,138nm,1.0s,mb6.0
TOO Toolangi 84.89 187 eP P 21 34 56.3 -0.1
comp=Z,25nm,0.9s,mb5.3
TOO Toolangi 84.89 187 eP P 21 34 56.3 -0.1
TOO pmax pmax
comp=Z,25nm,0.9s,mb5.3
SMRF Simiane la Rot 84.92 338 eP P 21 34 57.0 +0.5
comp=Z,325nm,1.3s,mb6.0
SMRF Simiane la Rot 84.92 338 eP P 21 34 57.0 +0.5
comp=Z,325nm,1.3s,mb6.3
FRF La Foret Royal 85.03 337 eP P 21 34 56.6 -0.5
comp=Z,433nm,1.4s,mb6.1
FRF La Foret Royal 85.03 337 eP P 21 34 56.6 -0.5
FRF pmax pmax
comp=Z,216nm,1.4s,mb6.1
FRF La Foret Royal 85.03 337 eP P 21 34 56.6 -0.5
comp=Z,216nm,1.4s,mb6.1
RLS Riolos of Patr 85.05 324 eP P 21 34 56.5 -0.7
KLBR Kellerberrin 85.11 211 eP P 21 34 56.9 -0.6
comp=Z,66nm,0.8s,mb5.8
TAVF Tavernes 85.13 337 eP P 21 34 58.9 +1.3
LFF La Frestale 85.16 341 eP P 21 34 57.4 -0.3
comp=Z,334nm,1.0s,mb6.1
LFF La Frestale 85.16 341 eP P 21 34 57.4 -0.3
LFF pmax pmax
comp=Z,167nm,1.0s,mb6.1
LFF La Frestale 85.16 341 eP P 21 34 57.4 -0.3
comp=Z,167nm,1.0s,mb6.1
SLCN Sala Consilina 85.17 329 P P 21 34 58.0 +0.2
PRAF Pradon 85.19 338 eP P 21 34 59.6 +1.7
LASF Ste Croix 85.26 339 eP P 21 34 57.9 -0.3
LMR La Mourre 85.28 337 eP P 21 34 58.0 -0.3
comp=Z,345nm,1.0s,mb6.2
LMR La Mourre 85.28 337 eP P 21 34 58.0 -0.3
LMR pmax pmax
comp=Z,172nm,1.0s,mb6.1
LMR La Mourre 85.28 337 eP P 21 34 58.0 -0.3
comp=Z,172nm,1.0s,mb6.1
VLS Valsamata 85.29 325 eP P 21 34 57.2 -1.2
PGF Pioggiola 85.31 335 eP P 21 34 58.0 -0.5
comp=Z,273nm,1.2s,mb6.0
PGF Pioggiola 85.31 335 eP P 21 34 58.0 -0.5
PGF pmax pmax
comp=Z,137nm,1.2s,mb6.0
PGF Pioggiola 85.31 335 eP P 21 34 58.0 -0.5
comp=Z,137nm,1.2s,mb6.0
GELF Grande-Etoile 85.52 338 eP P 21 35 00.6 +1.1
VENT Ventotene 85.55 331 P P 21 35 00.5 +0.8
VLI Velia 85.60 323 eP P 21 34 57.0 -2.9
ITM Ithomi 85.62 324 eP P 21 34 58.5 -1.5
NPS Neapolis 85.70 320 eP P 21 35 00.5 +0.1
TIP Timpagrande 85.84 328 P P 21 35 01.0 -0.1
MUN Mundaring 86.01 212 eP P 21 35 00.2 -1.8
VAM Vamos 86.19 321 eP P 21 35 01.7 -1.2
MTLF Montolieu 86.35 340 eP P 21 35 03.0 -0.6
comp=Z,55nm,0.7s,mb5.6
MTLF Montolieu 86.35 340 eP P 21 35 03.0 -0.6
MTLF pmax pmax
comp=Z,28nm,0.7s,mb5.6
MTLF Montolieu 86.35 340 eP P 21 35 03.0 -0.6
comp=Z,28nm,0.7s,mb5.6
NWAO Narrogin (SRO) 86.51 210 eP P 21 35 04.0 -0.4
NWAO pmax pmax
comp=Z,82nm,0.8s
NWAO MLR MLR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 86.51 210 eP P 21 35 04.0 -0.4
comp=Z,82nm,0.8s,mb6.0
NWAO LR LR
comp=Z,2μm,19.0s,MS5.5
TBI Tubuai 86.75 130 eS S 21 45 23.3 -19
comp=Z,4μm,27.2s
TBI eLR LR 22 02 07.2
comp=Z,16μm,23.8s,baz=321
MLS Moulis 86.97 341 eP P 21 35 05.9 -0.8
SJAF Saint Jean de 87.00 339 eP P 21 35 08.0 +1.2
EJON La Jonquera 87.03 339 P P 21 35 09.0 +2.0
comp=Z,162nm,1.4s,mb6.1
SCLL Scilla 87.04 328 P P 21 35 05.6 -1.4
comp=Z,22nm,0.6s,mb5.6
EPF Esparros 87.07 341 eP P 21 35 06.7 -0.5
comp=Z,56nm,0.8s,mb5.5
EPF Esparros 87.07 341 eP P 21 35 06.7 -0.5
EPF pmax pmax
comp=Z,28nm,0.8s,mb5.5
EPF Esparros 87.07 341 eP P 21 35 06.7 -0.5
comp=Z,28nm,0.8s,mb5.5
DGI Dorgali Grotta 87.18 334 P P 21 35 08.7 +1.0
RESF Ens 87.28 341 eP P 21 35 08.9 +0.7
SJPF Ste Jean 87.33 342 eP P 21 35 08.5 +0.1
ELIZ Elizondo 87.34 342 P P 21 35 08.6 +0.1
ELIZ pmax pmax
comp=Z,40nm,1.2s,mb5.5
ELIZ Elizondo 87.34 342 P P 21 35 08.6 +0.2
comp=Z,40nm,1.2s,mb5.5
ETSF Etsaut 87.39 342 eP P 21 35 08.3 -0.4
comp=Z,102nm,0.8s,mb5.8
ETSF Etsaut 87.39 342 eP P 21 35 08.3 -0.4
comp=Z,51nm,0.8s,mb5.8
EBIE Bielsa 87.44 341 P P 21 35 10.1 +1.2
comp=Z,57nm,1.0s,mb5.8
USI Ustica 87.51 330 P P 21 35 09.4 +0.1
ELAN Lanestosa 87.65 344 P P 21 35 11.2 +1.2
comp=Z,192nm,1.2s,mb6.2
EMIR Miracle 87.86 340 P P 21 35 11.6 +0.6
comp=Z,97nm,1.3s,mb5.9
EARI Arriondas 87.91 345 P P 21 35 11.2 0.0
comp=Z,143nm,1.7s,mb5.9
VAE Valguarnera 88.19 329 P P 21 35 13.6 +1.0
comp=Z,11nm,0.8s,mb5.2,baz=18,slow=4.1,SNR=5.5
EPON Pontenova 88.21 346 P P 21 35 12.1 -0.6
comp=Z,378nm,1.6s,mb6.4
ESAC San Caprasio 88.50 341 P P 21 35 14.8 +0.8
comp=Z,54nm,0.9s,mb5.8
EPOB Poblet 88.50 340 P P 21 35 14.4 +0.4
comp=Z,110nm,1.3s,mb5.9
CLTB Caltabellotta 88.52 330 P P 21 35 14.1 0.0
comp=Z,70nm,1.0s,mb6.0
HMDC Modica 88.53 329 P P 21 35 14.4 +0.3
MUKL Al Mukalla 89.39 291⇑eP P 21 35 18.7 +0.5

ETOS **Mallorca** 89.58 338 P P 21 35 20.4 +1.3
comp=Z,42nm,0.7s,mb5.9
PBRG **Braganca** 89.62 346 eP P 21 35 19.8 +0.5
ETOR **Torete** 89.70 342 P P 21 35 20.5 +0.9
ETOR pmax pmax
comp=Z,30nm,0.6s,mb5.8
ETOR **Torete** 89.70 342 P P 21 35 20.5 +0.9
comp=Z,30nm,0.6s,mb5.8
DGAR **Diego Garcia** 89.78 259 PFAKE 21 35 30.0 +10
DGAR LR LR
comp=Z,609nm,20.0s,MS5.0
DWPF **Disney** 89.78 47 PFAKE 21 35 30.0 +10
DWPF LR LR
comp=Z,6µm,21.0s,MS6.0
EMOS **Mosqueruela** 89.79 341 P P 21 35 20.4 +0.4
comp=Z,120nm,1.5s,mb6.0
TAU **Tasmania Unive** 90.07 185 PFAKE 21 35 30.0 +8.6
TAU LR LR
comp=Z,1µm,21.0s,MS5.2
SNZO **South Karori** 90.15 165 PFAKE 21 35 30.0 +8.3
SNZO LR LR
comp=Z,6µm,22.0s,MS6.0
GUD **Guadarrama** 90.29 344 P P 21 35 22.5 +0.1
GUD pmax pmax
comp=Z,12nm,0.9s,mb5.2
GUD **Guadarrama** 90.29 344 P P 21 35 22.5 +0.1
comp=Z,12nm,0.9s,mb5.2
PVRL **Vila Real** 90.30 346 eP P 21 35 22.1 -0.3
comp=Z,133nm,1.0s,mb6.2
EIBI **Ibiza** 90.64 339 P P 21 35 24.4 +0.3
comp=Z,100nm,1.2s,mb6.0
PVIS **Viseu** 90.88 346 eP P 21 35 24.6 -0.5
ESDC **Sonseca Array** 91.19 343 P P 21 35 25.3 -1.3
comp=Z,23nm,1.0s,mb5.4,baz=6.2,slow=4.4,SNR=33
ESDC **Sonseca Array** 91.19 343 P P 21 35 25.6 -0.9
comp=Z,12nm,0.8s,mb5.3
ESLA **Sonseca Array** 91.19 343 eP P 21 35 25.2 -1.4
comp=Z,17nm,1.3s,mb5.2
CMAH **Djebel Manchou** 91.25 334 P P 21 35 26.0 -0.8
CAEH `Ain El Ouahch 91.27 334 P P 21 35 27.0 0.0
PAB **San Pablo** 91.39 344 eP P 21 35 26.5 -1.0
PAB pmax pmax
comp=Z,12nm,0.7s,mb5.3
PAB MLR MLR
comp=Z,13µm,19.0s,MS6.4
PAB **San Pablo** 91.39 344 eP P 21 35 26.5 -1.0
comp=Z,12nm,0.7s,mb5.3
PAB LR LR
comp=Z,13µm,19.0s,MS6.4
KEST **Kesra** 91.47 332 P P 21 35 28.2 +0.3
comp=Z,25nm,1.0s,mb5.5,baz=297,slow=2.4,SNR=34
PCBR **Castelo Branco** 91.66 346 eP P 21 35 29.2 +0.4
CKFL **Kef-Lekhel** 91.66 334 P P 21 35 29.0 +0.2
ETOB **Tobarra** 91.68 341 P P 21 35 30.7 +1.9
comp=Z,225nm,2.1s,mb6.1
DFRA **Djebel Bou Aff** 91.78 335 P P 21 35 36.0 +6.7
CASM **Ain Smara** 91.86 334 P P 21 35 30.0 +0.3
EVIA **Vianos** 91.89 342 P P 21 35 29.9 +0.1
EVIA pmax pmax
comp=Z,25nm,1.0s,mb5.5
EVIA **Vianos** 91.89 342 P P 21 35 29.9 +0.1
comp=Z,25nm,1.0s,mb5.5
CTEI **Djebel Teioual** 92.07 334 P P 21 35 31.0 +0.4
LBOS 92.23 293⇑ eP P 21 35 32.3 +0.9
SET **Setif** 92.23 335 P P 21 35 35.0 +3.6
CKHR **Kef el Ahmar** 92.37 335 P P 21 35 39.0 +7.0
TEIG **Tepich** 92.52 56 PFAKE 21 35 40.0 +7.3
TEIG LR LR
comp=Z,4µm,21.0s,MS5.8
PESTR **Estremoz** 92.63 346 eP P 21 35 32.4 -0.8
PESTR **Estremoz** 92.63 346 eSKS SKSac 21 46 11.3 +5.4
PESTR **Estremoz** 92.63 346 eLR LR 22 08 21.4
comp=Z,8µm,18.7s
CMER **Merouana** 92.63 335 P P 21 35 34.0 +0.8
EADA **Adamuz** 92.77 343 P P 21 35 32.5 -1.4
comp=Z,18nm,1.0s,mb5.5
EQES **Quesada** 92.81 342 P P 21 35 36.6 +2.5
comp=Z,130nm,1.8s,mb6.1
EVO **Evora** 93.03 346 eP P 21 35 34.5 -0.6
comp=Z,131nm,1.4s,mb5.9
BBSR **BB Station** 93.31 32 PFAKE 21 35 50.0 +14
BBSR LR LR
comp=Z,3µm,22.0s,MS5.7
PBEJ **Beja** 93.50 346 eP P 21 35 37.9 +0.7
EMIN **Mina Concepcio** 93.54 345 P P 21 35 35.4 -2.0
comp=Z,43nm,0.8s,mb5.9
EBER **Berja** 93.64 342 P P 21 35 40.8 +2.9
comp=Z,20nm,0.9s,mb5.5
EMIJ **Mijas** 94.35 343 P P 21 35 43.4 +2.2
comp=Z,14nm,0.9s,mb5.4
EJIF **Jimena Fronter** 94.60 344 P P 21 35 42.2 -0.1
EJIF pmax pmax
comp=Z,26nm,0.9s,mb5.7
EJIF **Jimena Fronter** 94.60 344 P P 21 35 42.2 -0.1
comp=Z,26nm,0.9s,mb5.7
RKT **Rikitea** 94.67 119 eSKSac SKSac 21 46 04.3 -13
comp=Z,2µm,26.8s
RKT eLR LR 22 05 40.9
comp=Z,8µm,30.8s,baz=320
TGUH **Tegucigalpa,Un** 98.00 59 PFAKE 21 36 10.0 +12
TGUH LR LR
comp=Z,4µm,20.0s,MS6.0
MSEY **Mahe Island** 99.27 273 PFAKE 21 36 10.0 +6.6
MSEY LR LR
comp=Z,1µm,21.0s,MS5.3
JTS **JuntasAbangare** 102.35 60 PFAKE 21 36 30.0 +13
JTS LR LR
comp=Z,416nm,21.0s,MS4.9
PAYG **Puerto Ayora** 107.60 71 PFAKE 21 41 00.0 +12
PAYG LR LR
comp=Z,2µm,21.0s,MS5.7
KMBO **Kilima Mbogo** 108.76 290 PP PP 21 41 17.5 +0.5
comp=Z,9.7nm,1.0s,baz=56,slow=7.2,SNR=11
KMBO **Kilima Mbogo** 108.76 290 eP Pdif 21 36 48.9 +3.3
comp=Z,3.3nm,1.2s
KMBO LR LR
comp=Z,8µm,19.0s,MS6.3
SDV **Santo Domingo** 111.39 48 PFAKE 21 41 10.0 +14
SDV LR LR
comp=Z,2µm,20.0s,MS5.7
BBGH **Gun Hill** 112.69 36 PFAKE 21 41 10.0 +12
BBGH LR LR
comp=Z,3µm,19.0s,MS5.9
RPN **Rapa Nui** 113.68 105 PFAKE 21 41 10.0 +10
RPN LR LR
comp=Z,945nm,20.0s,MS5.4
OTAV **Otavalo** 114.23 61 PFAKE 21 41 10.0 +9.0
OTAV LR LR
comp=Z,2µm,19.0s,MS5.6
TORD **Torodi Ar. Bea** 114.93 330 PKP PKiKP 21 41 02.6 +0.2
comp=Z,2.7nm,0.7s,baz=20,slow=2.0,SNR=17
TORD PP PP 21 42 00.8 -0.3
comp=Z,8.6nm,1.0s,baz=18,slow=3.6,SNR=6.4
TORD PKKPbc PKKPbc 21 51 38.2 -0.3
comp=Z,3.2nm,0.8s,baz=258,slow=2.9,SNR=8.5
TORD **Torodi Ar. Bea** 114.93 330 PKP PKiKP 21 41 02.6 +0.3
TORD PP PP 21 42 00.8 -0.3
TORD PKKPbc PKKPbc 21 51 38.2 -0.3
CASY **Casey** 118.11 198 eP PKPdf 21 41 06.1 -2.3
CASY LR LR
comp=Z,2µm,20.0s,MS5.7
LIC **Lamto** 123.56 335 ePKIKP PKPdf 21 41 17.1 -1.8
comp=Z,25nm,0.8s
LIC eR
comp=Z,7µm,22.8s
LIC **Lamto** 123.56 335 ePKPdf PKPdf 21 41 17.1 -1.8
LIC LR LR
comp=Z,4µm,22.8s,MS6.0
VNDA **Vanda** 124.68 178 PKP PKPdf 21 41 18.4 -2.6
comp=Z,5.2nm,0.7s,baz=322,slow=4.1,SNR=32
VNDA **Vanda** 124.68 178 PKP PKPdf 21 41 18.4 -2.6
VNDA LR LR
comp=Z,2µm,19.0s,MS5.7
NNA **Nana** 124.78 68 PFAKE 21 41 30.0 +8.7
NNA LR LR
comp=Z,518nm,21.0s,MS5.2
SBA **Scott Base** 125.17 177 ePKIKP PKPdf 21 41 20.0 -2.0
SBA MLR MLR
comp=Z,2µm,21.0s,MS5.8
LSZ **Lusaka** 125.25 287 ePKIKP PKPdf 21 41 22.4 +0.3
LSZ MLR MLR
comp=Z,8µm,19.0s,MS6.4
SAML **Samuel** 130.37 52 ePKPdf PKPdf 21 41 31.7 -0.2
SAML LR LR
comp=Z,3µm,21.0s,MS6.0
ARE **Arequipa** 131.53 66 ePKIKP PKPdf 21 41 36.0 +1.9

MAW **Mawson** 133.07 212 eP PKPdf 21 41 37.0 0.0
comp=Z,8.7nm,0.9s
MAW **Mawson** 133.07 212 PKP PKPdf 21 41 35.2 -1.9
comp=Z,8.5nm,0.7s,baz=323,slow=2.4,SNR=16
MAW **Mawson** 133.07 212 PKIKP PKPdf 21 41 35.2 -1.8
MAW pmax pmax
comp=Z,9.0nm,0.7s
LPAZ **La Paz** 133.46 63 PKP PKPdf 21 41 38.5 +0.8
comp=Z,6.4nm,0.7s,baz=3.8,slow=6.6,SNR=15
LPAZ **La Paz** 133.46 63 PKIKP PKPdf 21 41 38.6 +0.8
LPAZ pmax pmax
comp=Z,6.0nm,0.7s
LPAZ **La Paz** 133.46 63 PFAKE 21 41 50.0 +12
LPAZ LR LR
comp=Z,2µm,21.0s,MS5.7
TSUM **Tsumeb** 134.92 293 ePKPpre 21 41 32.4
TSUM LR LR
comp=Z,3µm,19.0s,MS6.1
BOSA **Boshof** 136.42 277 PKP PKPdf 21 41 41.2 -2.0
comp=Z,2.5nm,0.5s,baz=299,slow=4.3,SNR=7.2
BOSA **Boshof** 136.42 277 PKP PKPdf 21 41 41.2 -2.0
BOSA LR LR
comp=Z,3µm,20.0s,MS6.0
QSPA **South Pole Qui** 137.08 180 PFAKE 21 41 50.0 +5.5
QSPA LR LR
comp=Z,2µm,20.0s,MS5.9
SIV **San Ignacio** 137.33 55 PKhKP 21 41 33.5
comp=Z,1.7nm,0.7s,baz=284,slow=3.9,SNR=6.1
SIV PKP PKPdf 21 41 43.9 -1.1
comp=Z,6.1nm,0.7s,baz=341,slow=1.7,SNR=10
SIV **San Ignacio** 137.33 55 PKP PKPdf 21 41 43.9 -1.1
LVC **Limon Verde** 137.70 70 PKP PKPdf 21 41 44.0 -1.6
comp=Z,16nm,0.9s,baz=270,slow=1.7,SNR=9.4
LVC **Limon Verde** 137.70 70 PKP PKPdf 21 41 44.0 -1.6
LVC LR LR
comp=Z,2µm,20.0s,MS5.9
RCBR **Riachuelo** 137.75 15 PFAKE 21 42 00.0 +14
RCBR LR LR
comp=Z,2µm,20.0s,MS5.9
ASCN **Ascension** 139.51 342 PFAKE 21 42 00.0 +11
ASCN LR LR
comp=Z,606nm,20.0s,MS5.3
SUR **Sutherland** 141.76 276 PFAKE 21 42 00.0 +7.0
SUR LR LR
comp=Z,1µm,19.0s,MS5.7
SYO **Syowa Base** 141.78 212⇓ eP PKPdf 21 41 46.5 -6.6
FCH **Farellones** 143.87 84 eP PKPdf 21 41 54.3 -2.5
CFAA **Coronel Fontan** 144.21 79 PKP PKPdf 21 41 54.5 -2.9
comp=Z,13nm,0.7s,baz=291,slow=2.9,SNR=90
SHEL **Horse Pasture** 144.54 325 PFAKE 21 42 10.0 +12
SHEL LR LR
comp=Z,1µm,20.0s,MS5.6
NVL **N'lazarevskaya** 150.46 204 c iPKIKP PKPdf 21 42 11.4 +3.7
NVL i SS SS 22 05 06.2 -0.7
NVL pmax pmax
comp=Z,114nm,1.2s
CAM3 **Guarapari** 150.91 29⇓ iP PKPbc 21 42 14.7 +0.6
CAM3 i 21 42 24.1
CAM3 i 21 42 30.9
CAM4 **Nova Friburgo** 151.68 34⇓ iP PKPdf 21 42 09.4 -0.2
CAM4 i 21 42 14.8
CAM4 i 21 42 17.2
CAM4 i 21 42 23.0
CAM4 i 21 42 39.7
TRQA **Tornquist** 152.11 84 ePKPdf PKPdf 21 42 08.8 -1.5
TRQA ePKPbc PKPbc 21 42 15.7 -1.2
TRQA LR LR
comp=Z,5µm,20.0s,MS6.3
USHA **Ushuaia** 152.60 122 PKPbc PKPbc 21 42 15.8 -2.2
comp=Z,50nm,0.8s,baz=220,slow=1.9,SNR=13
PMSA **Palmer Station** 153.07 144 PKPbc PKPbc 21 42 17.3 -1.7
comp=Z,58nm,0.9s,baz=214,slow=1.1,SNR=9.1
PMSA **Palmer Station** 153.07 144 PKPbc PKPbc 21 42 17.3 -1.7
PMSA LR LR
comp=Z,4µm,20.0s,MS6.3
SNAA **Sanae** 153.31 196 PKP PKPdf 21 42 08.5 -3.5
comp=Z,1.2nm,0.9s,baz=220,slow=6.2,SNR=4.2
SNAA PKPbc PKPbc 21 42 17.3 -2.3
comp=Z,7.7nm,0.8s,baz=169,slow=2.7,SNR=43
SNAA **Sanae** 153.31 196 ePKPdf PKPdf 21 42 10.0 -2.0
SNAA e 21 42 16.9
SNAA e 21 42 24.3
SNAA e 21 42 29.4
SNAA e 21 42 37.4
SNAA e 21 42 45.4
SNAA **Sanae** 153.31 196 PKIKP PKPdf 21 42 08.5 -3.5
SNAA 21 42 17.3
SNAA pmax pmax
comp=Z,1.0nm,0.9s
VNA2 **Neumayer--Watz** 154.75 194 ePKPdf PKPdf 21 42 12.9 -1.2
VNA2 e 21 42 20.5
VNA2 e 21 42 27.7
VNA2 e 21 42 35.4
VNA2 e 21 42 37.4
VNA2 e 21 42 49.5
VNA3 **Neumayer Olymp** 154.82 192 ePKPdf PKPdf 21 42 11.5 -2.7
VNA3 e 21 42 20.3
VNA3 e 21 42 35.7
VNA3 e 21 42 37.2
VNA3 e 21 42 49.6
VNA1 **Neumayer--Stat** 155.13 194 ePKPdf PKPdf 21 42 13.2 -1.4
VNA1 e 21 42 21.1
VNA1 e 21 42 37.9
VNA1 e 21 42 41.3
VNA1 e 21 42 51.5
EFI **East Falkland** 158.76 114 PFAKE 21 42 30.0 +11
EFI LR LR
comp=Z,2µm,20.0s,MS5.9
TRIS **Tristan da Cun** 165.65 311 PFAKE 21 42 40.0 +14
TRIS LR LR
comp=Z,4µm,21.0s
HOPE **Hope Point** 170.35 140 PFAKE 21 42 40.0 +11
HOPE LR LR
comp=Z,1µm,19.0s

NEIC **15** *21:25:22.5± 0.2, 47.14N× 153.51E, h10km, mb5.7/43, Error ellipse: s-maj=6.6km s-min=4.9km az=163.0*
BJI **15** *21:25:22.5, 47.10N× 153.50E, h10km, mB5.8, mb5.2, Ms6.0, Msz5.8*
ISCJB **15** *21:25:24.0± 0.2, 47.08N± 005× 153.60E± 005, h31km, mb5.4/91, Error ellipse: s-maj=7.3km s-min=4.3km az=122.3*
MOS **15** *21:25:26.6± 0.9, 47.10N× 153.65E, h53km, mb5.8/41, Error ellipse: s-maj=11.8km s-min=6.5km az=91.6*
IDC **15** *21:25:26.1± 0.8, 47.17N× 153.45E, h35km± 4km, mb5.0/25, mb1 5.1/26, mb1mx5.1/31, mbtmp5.0/26, ML4.5/1, Error ellipse: s-maj=16.0km s-min=13.6km az=139.0*
SZGRF **15** *21:25:26.9, 4691N× 153.18E, h30km, mb5.7, Kuril Islands, Russia*

ISC 15 21:25:26.1± 0.2, **4716N**± 005× **15352E**± 005, **h33**km, **h33**km± 2.2km**:pP-P, n301**, σ08**:89**/266, **mb5.4**/91, **19C-21D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.92**	**25**	Op PN		**Pn**	**21 26 25.9**	**+2.0**
SKR				*e*S		**Sn**	**21 27 10.0**	**+1.3**
SKR				pmax	pmax			
	comp=N,1µm,0.5s							
SKR				pmax	pmax			
	comp=E,280nm,0.5s							
SKR				pmax	pmax			
	comp=Z,2µm,0.5s							
SKR				smax				
	comp=E,990nm,0.5s							
SKR				smax				
	comp=N,2µm,0.6s							
KUR	**Kuril'sk**	**4.38**	**246**	PN		**Pn**	**21 26 37.0**	**+6.8**
KUR				pmax	pmax			
	comp=Z,3µm,0.7s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**243**	*e*PN		**Pn**	**21 26 54.5**	**-1.0**
ASAJ	**Asahikawa**	**8.24**	**252**	Pn		**Pn**	**21 27 27.7**	**+4.5**
	comp=Z,14nm,0.3s,baz=103,slow=8.4,SNR=2.6							
ASAJ	**Asahikawa**	**8.24**	**252**	PN		**Pn**	**21 27 27.7**	**+4.5**
ASAJ				pmax	pmax			
	comp=Z,14nm,0.3s							
MAT	**Matsushiro**	**15.55**	**232**	P		**Pn**	**21 29 06.8**	**+4.0**
MJAR	**Matsushiro Arr**	**15.55**	**232**	Pn		**Pn**	**21 29 03.7**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=30,slow=15,SNR=4.9							
MJAR	**Matsushiro Arr**	**15.55**	**232**	P		**Pn**	**21 29 03.7**	**+0.9**
MJAR				pmax	pmax			

comp=Z,2.0nm,0.3s
CN2 **Changchun** 19.92 271 ⇑P Pn 21 29 55.0 -1.8
CN2 AMB AMB
comp=Z,90nm,0.7s
KSRS **Korea Array** 21.19 252 P P 21 30 09.4 +0.8
comp=Z,34nm,0.9s,mb4.7,baz=58,slow=9.8,SNR=5.8
BILL **Bilibino** 21.93 13 eP P 21 30 23.9 +7.3
BILL pmax pmax
comp=Z,528nm,1.5s,mb5.8
BILL **Bilibino** 21.93 13 eP P 21 30 14.9 -1.6
SNY **Shenyang** 21.94 267 ⇓P P 21 30 18.4 +1.7
SNY AMB AMB
comp=Z,103nm,0.8s,mb5.3
DL2 **Dalian** 24.60 262 P P 21 30 46.0 +2.9
DL2 AMB AMB
comp=Z,70nm,1.0s,mb5.2
TIXI **Tiksi** 27.15 343 eP P 21 31 15.1 +8.9
TIXI pmax pmax
comp=Z,387nm,1.5s,mb5.7
TIXI **Tiksi** 27.15 343 eP P 21 31 15.1 +8.9
comp=Z,387nm,1.5s,mb5.7
BJT **Baijiatuau** 27.78 269 P P 21 31 14.6 +2.8
TIA **Tai'an** 29.05 261 eP P 21 31 30.3 +7.1
HHC **Hu-ho-hao-te** 30.55 274 eP P 21 31 37.9 +1.5
HHC AP pP 21 31 42.5 -3.4
HHC PP PP 21 32 40.8 -4.8
HHC AMB AMB
comp=Z,24nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,1µm,7.7s
SONM **Songino Array** 31.46 289 P P 21 31 46.0 +1.5
comp=Z,14nm,0.8s,mb4.8,baz=112,slow=1.7,SNR=3.5
SONM **Songino Array** 31.46 289 P P 21 31 46.0 +1.5
SONM pmax pmax
comp=Z,14nm,0.8s
MCK **McKinley** 35.16 41 eP P 21 32 14.9 -1.8
MCK pmax pmax
comp=Z,51nm,1.1s,mb5.4
MCK **McKinley** 35.16 41 eP P 21 32 14.9 -1.8
comp=Z,51nm,1.1s,mb5.4
SML **Sawmill** 35.48 44 eP P 21 32 19.4 0.0
INK **Inuvik** 41.15 33 P P 21 33 08.2 +1.0
comp=Z,83nm,0.8s,mb5.4,baz=302,slow=8.0,SNR=13
INK **Inuvik** 41.15 33 P P 21 33 08.2 +1.0
INK pmax pmax
comp=Z,83nm,0.8s
CD2 **Chengdu** 41.19 265⇓ iP P 21 33 08.0 +0.5
CD2 AMB AMB
comp=Z,210nm,0.8s,mb5.8
SKAG **Skagway** 42.18 46 eP P 21 33 16.9 +1.4
comp=Z,61nm,1.1s,mb5.2
MKAR **Makanchi Array** 47.00 297 P P 21 33 53.6 -0.4
comp=Z,10nm,0.9s,mb4.8,baz=70,slow=6.4,SNR=2.0
MKAR **Makanchi Array** 47.00 297 P P 21 33 53.6 -0.4
MKAR pmax pmax
comp=Z,10.0nm,0.9s
YKA **Yellowknife Ar** 50.43 37 P P 21 34 19.8 -0.5
comp=Z,31nm,0.7s,mb5.4,baz=295,slow=6.9,SNR=16
YKA **Yellowknife Ar** 50.43 37 P P 21 34 19.8 -0.6
YKA pmax pmax
comp=Z,31nm,0.7s
YKA **Yellowknife Ar** 50.43 37 P P 21 34 19.8 -0.5
BVAR **Borovoye Array** 50.81 309 P P 21 34 23.6 +0.3
comp=Z,9.0nm,0.7s,mb4.8,baz=62,slow=7.2,SNR=5.5
BVAR pP pP 21 34 34.4 +1.2
comp=Z,28nm,0.6s,baz=53,slow=8.4,SNR=6.7
KBS **Kingsbay** 52.13 351 eP P 21 34 41.8 +8.7
KBS pmax pmax
comp=Z,66nm,0.8s,mb5.6
KBS **Kingsbay** 52.13 351 eP P 21 34 41.8 +8.7
comp=Z,66nm,0.8s,mb5.6
SPB4 **Spitsbergen Ar** 52.26 350 eP P 21 34 42.2 +8.1
CM31 **Chiang Mai Arr** 52.74 256 eP P 21 34 38.2 +0.6
comp=Z,7.9nm,0.7s,mb4.8
SOKR **Solikamsk** 53.95 321 eP P 21 34 55.5 +9.0
SOKR pmax pmax
comp=Z,110nm,1.1s,mb5.7
ARU **Arti** 54.90 317⇓ iP pP 21 35 03.3 -0.1
ARU e 21 35 59.4
ARU e 21 37 05.2
ARU ePPP 21 38 19.2
ARU eS sS 21 42 46.1 -3.0
ARU pmax pmax
comp=Z,199nm,0.8s,mb6.2
JIRN **Jiri** 55.19 275 eP P 21 34 56.3 +0.8
GUN **Gumba** 55.24 275 eP P 21 34 56.7 +0.8
EBG **Ellensburg** 55.56 56 P P 21 34 57.3 -0.9
KKN **Kakani** 55.73 275 eP P 21 34 59.8 +0.4
comp=Z,158nm,1.1s,mb6.0
PKI **Pulchoki** 55.78 275 eP P 21 35 00.3 +0.5
DMN **Daman** 55.96 275 eP P 21 35 01.5 +0.4
comp=Z,114nm,0.9s,mb5.9
BROR **Big Rock Looko** 55.98 60 P P 21 35 01.9 +0.7
GKN **Gorkha** 56.03 276 eP P 21 35 01.3 -0.3
comp=Z,141nm,1.1s,mb5.9
FRIS **Frissel Point** 56.22 59 P P 21 35 03.0 +0.1
IRO **Indian Ridge** 56.25 60 P P 21 35 03.1 0.0
VTHM **Trough** 56.55 58 P P 21 35 06.3 +1.0
BBOR **Butler Butte** 56.64 61 P P 21 35 06.7 +0.8
NEW **Newport** 56.70 53 P P 21 35 06.0 -0.3
comp=Z,17nm,0.8s,mb5.1,baz=337,slow=7.1,SNR=3.5
NEW **Newport** 56.70 53 P P 21 35 06.0 -0.4
NEW pmax pmax
comp=Z,17nm,0.8s
KOLN **Koldanda** 56.88 276 eP P 21 35 08.5 +0.9
comp=Z,120nm,0.9s,mb5.9
VIPM **Ingram Point** 56.91 58 P P 21 35 08.1 +0.3
KEV **Kevo** 57.05 341 ep P 21 35 04.4 -4.4
APA **Apatity** 57.07 337⇓ iP pP 21 35 18.4 -0.6
APA pmax pmax
comp=Z,79nm,1.2s
APA MLR MLR
comp=Z,15µm,16.0s
YBH **Yreka Blue Hor** 57.30 62 P P 21 35 10.3 -0.3
comp=Z,24nm,1.0s,mb5.2,baz=176,slow=3.5,SNR=7.9
YBH **Yreka Blue Hor** 57.30 62 P P 21 35 10.3 -0.3
YBH pmax pmax
comp=Z,24nm,1.0s
ARCES **ARCESS Array B** 57.56 341 P P 21 35 11.2 -1.1
comp=Z,3.7nm,0.5s,mb4.7,baz=24,slow=7.4,SNR=6.0
ARCES pP pP 21 35 21.3 -1.1
comp=Z,28nm,0.7s,baz=40,slow=7.9,SNR=10
ARCES **ARCESS Array B** 57.56 341 P P 21 35 11.3 -1.1
ARCES *PP pP 21 35 21.3 -1.1
ARCES pmax pmax
comp=Z,4.0nm,0.5s
WDC **Whiskeytown Da** 58.09 63 eP P 21 35 15.8 -0.3
KTK1 **Kautokeino** 58.47 341 eP P 21 35 19.1 +0.3
KTK1 AMb AMB 21 35 36.8
comp=Z,135nm,2.0s,mb5.6
KTK1 **Kautokeino** 58.47 341 eP P 21 35 19.1 +0.3
comp=Z,135nm,2.0s,mb5.6
BMO **Blue Mountains** 58.61 56 eP P 21 35 20.2 +0.4
AKTO **Aktyubinsk** 58.66 312 pP pP 21 35 30.4 +0.2
comp=Z,32nm,0.7s,baz=48,slow=5.0,SNR=4.3
TRO **Tromso** 58.87 343 eP P 21 35 18.6 -3.0
TRO AMb AMB 21 35 34.7
comp=Z,106nm,1.2s,mb5.7
TRO **Tromso** 58.87 343 eP P 21 35 18.6 -3.0
comp=Z,106nm,1.2s,mb5.7
KSM **Kuching** 58.95 233 eP P 21 35 22.3 +0.2
MSO **Missoula** 59.29 53 eP P 21 35 23.8 -0.7
CMB **Columbia Colle** 60.97 64 eP P 21 35 35.2 -0.8
BMN **Battle Mountai** 61.38 60 eP P 21 35 38.6 -0.2
JMIC **Jan Mayen** 61.45 353 P P 21 35 38.8 -0.5
comp=Z,55nm,0.5s,mb5.9,baz=133,slow=14,SNR=3.5
KAKA **Kakadu** 62.52 203 eP P 21 35 45.1 -1.3
comp=Z,80nm,0.8s,mb5.9
TPAW **Teton Pass** 63.03 54 eP P 21 35 50.5 +0.7
LOHW **Long Hollow** 63.15 54 eP P 21 35 51.3 +0.7
comp=Z,72nm,1.1s,mb5.7
REDW **Red Top Meadow** 63.17 54 eP P 21 35 51.7 +0.9
DGMT **Dagmar** 63.32 47 eP P 21 35 53.1 +1.4
LAO **LASA Array** 63.48 49 eP P 21 35 54.5 +1.7
comp=Z,56nm,1.0s,mb5.7
TRCR **Troy Canyon** 63.69 61 eP P 21 35 53.9 -0.2
FIA1 **FINESS Array S** 63.79 335 eP pP 21 36 03.4 -1.6
FINES **FINESS Array B** 63.79 335 P P 21 35 53.0 -1.8
comp=Z,17nm,0.7s,mb5.2,baz=34,slow=7.0,SNR=11
FINES pP pP 21 36 04.7 -0.3
comp=Z,22nm,0.5s,baz=34,slow=9.5,SNR=6.5
FINES **FINESS Array B** 63.79 335 P P 21 35 53.0 -1.8
FINES *PP pP 21 36 04.7 -0.3
FINES pmax pmax
comp=Z,17nm,0.7s

HWUT Hardware Ranch 63.91 56 *eP* **P 21 35 56.3 +0.6**
PDAR Pinedale Array 64.28 54 P **P 21 35 58.4 +0.3**
comp=Z,29nm,0.9s,mb5.3,baz=284,slow=2.4,SNR=12
SFJD Kangerlussuaq 64.70 10 P **P 21 36 02.8 +2.0**
ULM Lac du Bonnet 66.03 41 P **P 21 36 10.2 +0.8**
comp=Z,20nm,0.7s,mb5.3,baz=319,slow=6.3,SNR=10
DOMB Dombas 67.48 343 *eP* **P 21 36 18.1 -0.5**
NB2 NORSAR Subarra 67.93 341 P **P 21 36 19.7 -1.8**
comp=Z,48nm,0.7s,mb5.6,baz=30,slow=6.5
NOA NORSAR Array B 67.93 341 P **P 21 36 20.1 -1.4**
comp=Z,56nm,0.8s,mb5.6,baz=26,slow=6.2,SNR=7.8
NOA pP pP 21 36 30.8 -0.9
comp=Z,23nm,0.7s,baz=26,slow=6.3,SNR=6.1
NOA NORSAR Array B 67.93 341 P **P 21 36 20.1 -1.4**
NOA *PP pP 21 36 30.8 -0.9
NOA pmax pmax
comp=Z,56nm,0.8s
WUAZ Wupatki 68.08 61 *eP* **P 21 36 22.9 +0.4**
SMCO Snowmass 68.14 56 *eP* **P 21 36 14.2 -8.6**
HFS Hagfors 68.17 340 P **P 21 36 21.4 -1.6**
comp=Z,46nm,0.5s,mb5.8,baz=53,slow=5.7,SNR=11
HFS pP pP 21 36 32.7 -0.5
comp=Z,41nm,0.5s,baz=64,slow=5.1,SNR=6.0
HFS Hagfors 68.17 340 P **P 21 36 21.4 -1.6**
HFS *PP pP 21 36 32.7 -0.5
HFS pmax pmax
comp=Z,46nm,0.5s
ISCO Idaho Springs 68.47 54 *eP* **P 21 36 25.9 +1.0**
WB2 Warramunga Arr 68.99 199 *eP* **P 21 36 28.3 +0.2**
WRA Warramunga Arr 68.99 199 P **P 21 36 27.4 -0.7**
comp=Z,30nm,1.0s,mb5.2,baz=18,slow=6.6,SNR=6.1
WRA Warramunga Arr 68.99 199 P **P 21 36 27.4 -0.7**
WRA pmax pmax
comp=Z,30nm,1.0s
OSL Oslo 69.03 341 *eP* **P 21 36 28.3 0.0**
FITZ Fitzroy Crossi 69.64 208 *eP* **P 21 36 31.9 -0.2**
comp=Z,34nm,0.9s,mb5.3
RUND Rundenannen 69.70 344 *eP* **P 21 36 32.6 +0.1**
GOF Gofitskoye 69.73 315 *eP* **P 21 36 27.9 -4.8**
KIV Kislovodsk 70.71 314 *eP* **P 21 36 40.7 +2.0**
KIV pmax pmax
comp=Z,71nm,1.2s,mb5.5
AKASG Malin Array Be 71.36 326 P **P 21 36 40.6 -2.0**
comp=Z,3.2nm,0.3s,mb4.7,baz=36,slow=6.0,SNR=7.3
AKASG Malin Array Be 71.36 326 P **P 21 36 40.6 -2.0**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
ANMO Albuquerque 71.38 59 *eP* **P 21 36 43.1 +0.4**
CBKS Cedar Bluff 72.38 52 *eP* **P 21 36 49.1 +0.4**
CBKS pmax pmax
comp=Z,48nm,1.1s,mb5.3
CBKS Cedar Bluff 72.38 52 *eP* **P 21 36 49.1 +0.3**
comp=Z,48nm,1.1s,mb5.3
ASAR Alice Springs 72.69 199 P **P 21 36 50.5 -0.1**
comp=Z,23nm,0.8s,mb5.2,baz=11,slow=5.7,SNR=8.3
ASAR Alice Springs 72.69 199 P **P 21 36 50.5 -0.1**
ASAR pmax pmax
comp=Z,23nm,0.8s
SCIA State Center 73.43 46 *eP* **P 21 36 55.0 +0.1**
comp=Z,94nm,0.7s,mb5.8
KSU1 Kansas State U 73.82 50 *eP* **P 21 36 56.1 -1.1**
AMTX Amarillo 74.16 56 *eP* **P 21 36 58.3 -1.0**
KWP Kalwaria 74.61 329 *eP* **P 21 37 01.4 -0.5**
OJC Ojcow 75.09 331 *eP* **P 21 37 03.1 -1.6**
BURAR Bucovina Array 75.40 327⇑ *iP* **P 21 37 05.7 -0.7**
BURAR Bucovina Array 75.40 327⇑ *iP* **P 21 37 05.7 -0.8**
KSP Ksiaz 75.66 334 *eP* **P 21 37 07.4 -0.5**
KSP *e* pP 21 37 16.4 -1.8
WMOK Wichita Mounta 75.89 54 *eP* **P 21 37 09.5 +0.3**
OKC Ostrava-Krasne 75.96 332 *eP* **P 21 37 09.2 -0.4**
OKC *e*PCP PcP 21 37 18.8 -3.1
EKA Eskdalemuir Ar 76.00 347 P **P 21 37 09.2 -0.7**
comp=Z,3.6nm,0.5s,mb4.5,baz=22,slow=5.0,SNR=5.3
EKA Eskdalemuir Ar 76.00 347 P **P 21 37 09.2 -0.7**
EKA pmax pmax
comp=Z,4.0nm,0.5s
UPC Upice 76.04 334 *eP* **P 21 37 10.3 +0.2**
UPC *e*PCP PcP 21 37 19.8 -2.5
DPC Dobruska-Polom 76.08 333 *eP* **P 21 37 10.3 0.0**
DPC *e*PCP PcP 21 37 19.7 -2.7
CLL Collm 76.21 336⇓ *iP* **P 21 37 09.8 -1.2**
CLL *i* pP 21 37 19.0 -2.4
CLL pmax pmax
comp=Z,77nm,1.1s,mb5.5
CLL Collm 76.21 336⇓ *iP* **P 21 37 09.8 -1.2**
comp=Z,79nm,1.1s,mb5.6
CLL *i* pP 21 37 19.0 -2.4
CLL Collm 76.21 336⇓ *iP* **P 21 37 09.8 -1.2**
comp=Z,79nm,1.1s,mb5.6
CLL *i* (pP) pP 21 37 19.0 -2.4
comp=Z,89nm,1.1s
MORC Moravsky Berou 76.21 332⇓ *iP* **P 21 37 10.3 -0.7**
MORC Moravsky Berou 76.21 332⇓ *iP* **P 21 37 10.3 -0.8**
CFR Carcaliu 76.28 324⇑ *iP* PcP 21 37 23.6 +0.3
PVCC Panska Ves 76.45 334 *eP* pP 21 37 21.0 -1.8
PVCC *ex* x 21 37 30.0
TIRR Tirgusor 76.75 323⇓ *iP* **P 21 37 12.1 -2.0**
TIRR Tirgusor 76.75 323⇓ *iP* **P 21 37 12.1 -2.0**
MLR Muntele Rosu 76.89 325 P **P 21 37 14.7 -0.2**
comp=Z,8.6nm,0.5s,mb4.9,baz=1.0,slow=20,SNR=5.0
MLR Muntele Rosu 76.89 325 P **P 21 37 14.7 -0.2**
MLR pmax pmax
comp=Z,9.0nm,0.5s
VRAC Vranov 76.92 333⇓ *iP* **P 21 37 15.2 +0.2**
VRAC Vranov 76.92 333⇓ *iP* **P 21 37 15.2 +0.2**
PRU Pruhonice 76.94 334 *eP* **P 21 37 15.5 +0.3**
PRU *e*PCP PcP 21 37 23.7 -2.4
DRGR 77.02 328⇑ *iP* **P 21 37 14.7 -0.9**
DRGR 77.02 328⇑ *iP* **P 21 37 14.7 -0.9**
LTX Lajitas 77.05 61 *eP* **P 21 37 15.2 -0.6**
TXAR Lajitas Array 77.05 61 P **P 21 37 15.9 +0.1**
comp=Z,25nm,0.6s,mb5.3,baz=304,slow=3.6,SNR=18
TXAR Lajitas Array 77.05 61 P **P 21 37 15.9 +0.1**
TXAR pmax pmax
comp=Z,25nm,0.6s
MALT Malatya 77.08 313⇑ *iP* **P 21 37 12.1 -3.9**
MALT Malatya 77.08 313⇑ *iP* **P 21 37 12.1 -3.9**
SNX Sinaia 77.17 325⇓ *iP* **P 21 37 16.3 -0.2**
VOIR 77.28 326⇓ *iP* **P 21 37 16.0 -1.1**
VOIR 77.28 326⇓ *iP* **P 21 37 16.0 -1.1**
NKC Novy Kostel 77.33 336 *eP* **P 21 37 17.0 -0.3**
NKC *e*PCP PcP 21 37 26.2 -1.6
KHC Kasperske Hory 77.99 334 *eP* **P 21 37 21.2 +0.2**
KHC *e*PCP PcP 21 37 29.8 -0.9
GRA1 Grafenberg Arr 78.16 336 *eP* **P 21 37 22.1 +0.1**
comp=Z,70nm,1.2s,mb5.5
GRA1 *e*pP pP 21 37 30.6 -1.7
GRF Grafenberg Arr 78.16 336 *eP* **P 21 37 22.1 +0.1**
comp=Z,70nm,1.2s,mb5.5
GRF *e*pP pP 21 37 30.6 -1.7
GRF Grafenberg Arr 78.16 336 *eP* **P 21 37 22.1 +0.1**
GRF *e**PP pP 21 37 30.6 -1.7
GRF pmax pmax
comp=Z,70nm,1.2s,mb5.5
GERES GERESS Array B 78.21 334 P **P 21 37 22.3 +0.1**
comp=Z,4.1nm,0.5s,mb4.6,baz=37,slow=5.0,SNR=5.4
GERES GERESS Array B 78.21 334 P **P 21 37 22.3 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.5s
BRTR Keskin Array B 78.28 317 P **P 21 37 22.1 -0.5**
comp=Z,19nm,0.9s,mb5.0,baz=56,slow=4.9,SNR=5.0
BRTR Keskin Array B 78.28 317 P **P 21 37 22.2 -0.5**
BRTR pmax pmax
comp=Z,19nm,0.9s
BZS Buzias 78.42 328⇓ *iP* **P 21 37 23.2 -0.2**
JCT Junction City 78.47 58 *eP* **P 21 37 21.9 -1.8**
DLF Lyons Farm 78.49 348⇑ *iP* **P 21 37 27.6 +3.8**
DCN Croghan 78.54 348⇑ *iP* **P 21 37 28.0 +3.9**
ANTO Ankara 78.56 318⇓ *iP* **P 21 37 24.9 +0.7**
MOA Molln 78.93 333⇑ *iP* **P 21 37 27.3 +1.1**
comp=Z,51nm,1.3s,mb5.3
ARSA Arzberg 79.07 332⇑ *iP* **P 21 37 23.3 -3.7**
comp=Z,20nm,1.3s,mb4.9
STKA Stephens Creek 79.41 190 *eP* **P 21 37 26.0 -2.8**
comp=Z,9.2nm,0.9s,mb4.7
STKA Stephens Creek 79.41 190 P **P 21 37 29.1 +0.2**
comp=Z,13nm,0.9s,mb4.8,baz=58,slow=5.7,SNR=3.5
GIVF Givet 79.41 340 *eP* **P 21 37 29.0 +0.1**
BAIF Baives 79.59 340 *eP* **P 21 37 30.2 +0.3**
comp=Z,21nm,0.6s,mb4.9
BAIF Baives 79.59 340 *eP* **P 21 37 30.2 +0.3**
BAIF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BAIF Baives 79.59 340 *eP* **P 21 37 30.2 +0.3**
comp=Z,10nm,0.6s,mb4.9
WCI Wyandotte Cave 79.62 44 *eP* **P 21 37 29.8 -0.2**
KBA Koelnbreinsper 79.90 334⇑ *iP* **P 21 37 32.5 +1.0**
comp=Z,133nm,0.8s,mb5.9
OBKA Obir 80.03 333⇑ *iP* **P 21 37 34.6 +2.4**
comp=Z,29nm,0.8s,mb5.2
OBKA Obir 80.03 333 P **P 21 37 34.6 +2.4**
WATA Walderalm 80.19 335⇓ *iP* pP 21 37 42.2 -1.2
comp=Z,69nm,0.8s
WTTA Wattenberg 80.24 335⇑ *iP* pP 21 37 42.5 -1.2
comp=Z,160nm,1.3s
MOTA Moosalm 80.32 335⇑ *iP* **P 21 37 36.1 +2.3**
comp=Z,87nm,0.9s,mb5.7
WLS Welschbruch 80.36 338 *eP* pP 21 37 41.7 -2.7
CDF Champ du Feu 80.38 338 *eP* **P 21 37 34.4 +0.3**
comp=Z,154nm,1.1s,mb5.5
CDF Champ du Feu 80.38 338 *eP* **P 21 37 34.4 +0.3**
CDF pmax pmax
comp=Z,77nm,1.1s,mb5.5
CDF Champ du Feu 80.38 338 *eP* **P 21 37 34.4 +0.3**
comp=Z,77nm,1.1s,mb5.5
VTS Vitosha 80.39 325⇑ *iP* **P 21 37 35.1 +0.9**
VTS Vitosha 80.39 325⇑ *iP* **P 21 37 35.1 +0.9**
SQTA Sankt Quirin 80.40 335⇓ *iP* pP 21 37 43.4 -1.2
comp=Z,69nm,0.9s
ECH Echery 80.59 338 *eP* pP 21 37 42.8 -2.8
ACCN Adirondack Com 80.66 33 P **P 21 37 34.7 -1.0**
DAVA Damuels 80.72 336⇓ *iP* pP 21 37 45.0 -1.3
comp=Z,88nm,1.2s
MEZF Mauer J'vi 80.85 339 *eP* **P 21 37 36.6 0.0**
comp=Z,140nm,1.0s,mb5.5
FORT Forrest 80.91 202 *eP* **P 21 37 36.8 -0.1**
comp=Z,53nm,0.8s,mb5.5
HAU Haudompre 80.99 338 *eP* **P 21 37 37.5 +0.1**
comp=Z,67nm,0.9s,mb5.3
HINF Hinteralfeld 81.04 338 *eP* **P 21 37 38.0 +0.4**
comp=Z,72nm,1.1s,mb5.2
HINF Hinteralfeld 81.04 338 *eP* **P 21 37 38.0 +0.4**
HINF pmax pmax
comp=Z,36nm,1.1s,mb5.2
HINF Hinteralfeld 81.04 338 *eP* **P 21 37 38.0 +0.4**
comp=Z,36nm,1.1s,mb5.2
DAVOX Davos 81.18 336 P **P 21 37 36.7 -1.7**
comp=Z,8.4nm,0.8s,mb4.7,baz=319,slow=23,SNR=2.8
VAY Valandovo 81.72 325 *i P* pP 21 37 49.0 -2.6
FLN La Foliniere 81.82 343 *eP* **P 21 37 41.8 0.0**
comp=Z,142nm,0.9s,mb5.6
FLN La Foliniere 81.82 343 *eP* **P 21 37 41.8 0.0**
FLN pmax pmax
comp=Z,71nm,0.9s,mb5.6
FLN La Foliniere 81.82 343 *eP* **P 21 37 41.8 0.0**
comp=Z,71nm,0.9s,mb5.6
LDF La Druitiere 81.91 343 *eP* **P 21 37 42.4 +0.2**
comp=Z,147nm,1.3s,mb5.5
LDF La Druitiere 81.91 343 *eP* **P 21 37 42.4 +0.2**
LDF pmax pmax
comp=Z,74nm,1.3s,mb5.5
LDF La Druitiere 81.91 343 *eP* **P 21 37 42.4 +0.2**
comp=Z,74nm,1.3s,mb5.5
KRUS Krusevo 82.20 326 *eP* **P 21 37 43.9 +0.1**
GRR Gorron 82.25 343 *eP* **P 21 37 44.2 +0.1**
comp=Z,344nm,1.2s,mb5.8
GRR Gorron 82.25 343 *eP* **P 21 37 44.2 +0.1**
GRR pmax pmax
comp=Z,172nm,1.2s,mb5.9
GRR Gorron 82.25 343 *eP* **P 21 37 44.2 +0.1**
comp=Z,172nm,1.2s,mb5.9
LOR Lormes 82.29 340 *eP* **P 21 37 44.2 0.0**
comp=Z,216nm,1.2s,mb5.7
LOR Lormes 82.29 340 *eP* **P 21 37 44.2 0.0**
LOR pmax pmax
comp=Z,108nm,1.2s,mb5.7
LOR Lormes 82.29 340 *eP* **P 21 37 44.2 0.0**
comp=Z,108nm,1.2s,mb5.7
CABF La Chapelle 82.35 338 *eP* **P 21 37 44.7 +0.1**
comp=Z,126nm,1.2s,mb5.4
CABF La Chapelle 82.35 338 *eP* **P 21 37 44.7 +0.1**
CABF pmax pmax
comp=Z,63nm,1.2s,mb5.4
CABF La Chapelle 82.35 338 *eP* **P 21 37 44.7 +0.1**
comp=Z,63nm,1.2s,mb5.4
SSF Saint Saulge 82.57 340 *eP* **P 21 37 45.5 -0.2**
comp=Z,94nm,1.0s,mb5.5
OHR Ohrid 82.59 326 *eP* **P 21 37 45.4 -0.4**
SGMF Saint Gilles 82.71 344 *eP* **P 21 37 46.4 0.0**
comp=Z,189nm,1.0s,mb5.8
SGMF Saint Gilles 82.71 344 *eP* **P 21 37 46.4 0.0**
SGMF pmax pmax
comp=Z,94nm,1.0s,mb5.8
SGMF Saint Gilles 82.71 344 *eP* **P 21 37 46.4 0.0**
comp=Z,94nm,1.0s,mb5.8
ROSF Rostrenen 82.76 345 *eP* **P 21 37 46.7 0.0**
comp=Z,354nm,1.2s,mb6.0
ROSF Rostrenen 82.76 345 *eP* **P 21 37 46.7 0.0**
ROSF pmax pmax
comp=Z,177nm,1.2s,mb6.0
ROSF Rostrenen 82.76 345 *eP* **P 21 37 46.7 0.0**
comp=Z,177nm,1.2s,mb6.0
AVF Avril sur Loir 82.86 340 *eP* **P 21 37 46.3 -0.9**
comp=Z,250nm,1.2s,mb5.8
AVF Avril sur Loir 82.86 340 *eP* **P 21 37 46.3 -0.9**
AVF pmax pmax
comp=Z,125nm,1.2s,mb5.8
AVF Avril sur Loir 82.86 340 *eP* **P 21 37 46.3 -0.9**
comp=Z,125nm,1.2s,mb5.8
SMF Signal de Mont 82.88 339 *eP* **P 21 37 47.4 +0.1**
comp=Z,495nm,1.2s,mb6.1
SMF Signal de Mont 82.88 339 *eP* **P 21 37 47.4 +0.1**
SMF pmax pmax
comp=Z,247nm,1.2s,mb6.1
SMF Signal de Mont 82.88 339 *eP* **P 21 37 47.4 +0.1**
comp=Z,247nm,1.2s,mb6.1
QUIF Quistinic 83.15 344 *eP* **P 21 37 48.4 -0.3**
comp=Z,444nm,1.8s,mb5.9
QUIF Quistinic 83.15 344 *eP* **P 21 37 48.4 -0.3**
QUIF pmax pmax
comp=Z,222nm,1.8s,mb5.9
QUIF Quistinic 83.15 344 *eP* **P 21 37 48.4 -0.3**
comp=Z,222nm,1.8s,mb5.9
BGF Bois d'Agland 83.19 340 *eP* **P 21 37 49.0 +0.1**
LPL La Plagne 83.20 337 *eP* **P 21 37 49.1 +0.1**
comp=Z,312nm,1.2s,mb5.9
LPL La Plagne 83.20 337 *eP* **P 21 37 49.1 +0.1**
LPL pmax pmax
comp=Z,156nm,1.2s,mb5.9
LPL La Plagne 83.20 337 *eP* **P 21 37 49.1 +0.1**
comp=Z,156nm,1.2s,mb5.9
LPG La Plagne 83.21 337 *eP* **P 21 37 49.5 +0.5**
comp=Z,370nm,1.1s,mb6.0
LPG La Plagne 83.21 337 *eP* **P 21 37 49.5 +0.5**
LPG pmax pmax
comp=Z,185nm,1.1s,mb6.0
LPG La Plagne 83.21 337 *eP* **P 21 37 49.5 +0.5**
comp=Z,185nm,1.1s,mb6.0
TCF Toulx Ste Croi 83.60 340 *eP* **P 21 37 50.8 -0.2**
comp=Z,57nm,0.9s,mb5.4
GDM Grand'Maison 83.65 337 *eP* pP 21 37 59.6 -2.1
GRN Grenoble 83.72 338 *eP* pP 21 38 00.3 -1.7
MFF Saint Martin d 83.81 342 *eP* **P 21 37 51.7 -0.4**
MBDF Montbardon 83.92 337 *eP* **P 21 37 52.9 +0.2**
comp=Z,490nm,0.7s,mb5.5
MBDF Montbardon 83.92 337 *eP* **P 21 37 52.9 +0.2**
MBDF pmax pmax
comp=Z,24nm,0.7s,mb5.4
MBDF Montbardon 83.92 337 *eP* **P 21 37 52.9 +0.2**
comp=Z,24nm,0.7s,mb5.4
ORIF Oris-en-Rattie 83.98 338 *eP* **P 21 37 53.0 0.0**
comp=Z,121nm,0.8s,mb5.8
ORIF Oris-en-Rattie 83.98 338 *eP* **P 21 37 53.0 0.0**
ORIF pmax pmax
comp=Z,60nm,0.8s,mb5.8
ORIF Oris-en-Rattie 83.98 338 *eP* **P 21 37 53.0 0.0**
comp=Z,60nm,0.8s,mb5.8
APE Apeiranthos 84.10 321⇑ *iP* pP 21 38 00.8 -3.2
SURF Saint Ours 84.14 337 *eP* pP 21 38 02.6 -1.6
VIVF Saint-Julien-l 84.35 338 *eP* **P 21 37 54.7 -0.1**
comp=Z,67nm,1.1s,mb5.4
VIVF Saint-Julien-l 84.35 338 *eP* **P 21 37 54.7 -0.1**
VIVF pmax pmax
comp=Z,33nm,1.1s,mb5.4
VIVF Saint-Julien-l 84.35 338 *eP* **P 21 37 54.7 -0.1**
comp=Z,33nm,1.1s,mb5.4
SAOF Saorge 84.39 336 *eP* pP 21 38 02.4 -3.1
AUTN L'Aution 84.42 336 *eP* pP 21 38 03.2 -2.5
AUTN L'Aution 84.42 336 *eP* pP 21 38 02.9 -2.8
LUCF Luceram 84.54 336 *eP* pP 21 38 03.5 -2.7
SBF Sospel 84.54 336 *eP* **P 21 37 55.7 -0.1**
comp=Z,355nm,1.1s,mb6.1
SBF Sospel 84.54 336 *eP* **P 21 37 55.7 -0.1**
SBF pmax pmax
comp=Z,178nm,1.1s,mb6.1
SBF Sospel 84.54 336 *eP* **P 21 37 55.7 -0.1**
comp=Z,178nm,1.1s,mb6.1
REVF Revere 84.67 336 *eP* pP 21 38 03.7 -3.2
RJF Les Rejaudoux 84.68 341 *eP* **P 21 37 55.9 -0.6**
KLBR Kellerberrin 84.75 210 *eP* **P 21 37 56.1 -0.8**
comp=Z,25nm,0.8s,mb5.4
CAF Calviac 84.92 340 *eP* **P 21 37 57.7 0.0**
SMRF Simiane la Rot 84.94 337 *eP* **P 21 37 57.6 -0.2**
comp=Z,70nm,1.0s,mb5.5
SMRF Simiane la Rot 84.94 337 *eP* **P 21 37 57.6 -0.2**
comp=Z,70nm,1.0s,mb5.8
FRF La Foret Royal 85.04 336 *eP* **P 21 37 58.2 -0.1**
comp=Z,194nm,1.4s,mb5.8
FRF La Foret Royal 85.04 336 *eP* **P 21 37 58.2 -0.1**
FRF pmax pmax
comp=Z,97nm,1.4s,mb5.7
FRF La Foret Royal 85.04 336 *eP* **P 21 37 58.2 -0.1**
comp=Z,97nm,1.4s,mb5.7
LFF La Frestale 85.20 341 *eP* **P 21 37 59.1 0.0**
LASF Ste Croix 85.28 339 *eP* **P 21 37 59.1 -0.4**
comp=Z,145nm,1.4s,mb5.6
LMR La Mourre 85.28 337 *eP* **P 21 37 59.3 -0.2**
comp=Z,250nm,1.1s,mb6.0
LMR La Mourre 85.28 337 *eP* **P 21 37 59.3 -0.2**
LMR pmax pmax
comp=Z,125nm,1.1s,mb6.0
LMR La Mourre 85.28 337 *eP* **P 21 37 59.3 -0.2**
comp=Z,125nm,1.1s,mb6.0
PGF Pioggiola 85.31 335 *eP* **P 21 37 59.6 0.0**
comp=Z,172nm,1.0s,mb5.8
PGF Pioggiola 85.31 335 *eP* **P 21 37 59.6 0.0**
PGF pmax pmax
comp=Z,86nm,1.0s,mb5.8
PGF Pioggiola 85.31 335 *eP* **P 21 37 59.6 0.0**
comp=Z,86nm,1.0s,mb5.8
IDI Anoyia 85.88 320 P **P 21 38 01.9 -0.6**
comp=Z,12nm,0.6s,mb5.3,baz=34,slow=7.3,SNR=8.6
MTLF Montolieu 86.38 339 *eP* **P 21 38 04.7 -0.3**
comp=Z,55nm,1.2s,mb5.3
MTLF Montolieu 86.38 339 *eP* **P 21 38 04.7 -0.3**
MTLF pmax pmax
comp=Z,27nm,1.2s,mb5.3
MTLF Montolieu 86.38 339 *eP* **P 21 38 04.7 -0.3**
comp=Z,27nm,1.2s,mb5.4
EPF Esparros 87.11 341 *eP* **P 21 38 08.2 -0.3**
comp=Z,90nm,1.3s,mb5.5
EPF Esparros 87.11 341 *eP* **P 21 38 08.2 -0.3**
EPF pmax pmax
comp=Z,45nm,1.3s,mb5.5
EPF Esparros 87.11 341 *eP* **P 21 38 08.2 -0.3**
comp=Z,45nm,1.3s,mb5.5
SJPF Ste Jean 87.37 342 *eP* **P 21 38 09.4 -0.4**
comp=Z,42nm,1.2s,mb5.3
SJPF Ste Jean 87.37 342 *eP* **P 21 38 09.4 -0.4**
SJPF pmax pmax
comp=Z,21nm,1.2s,mb5.2
SJPF Ste Jean 87.37 342 *eP* **P 21 38 09.4 -0.4**
comp=Z,21nm,1.2s,mb5.2
ETSF Etsaut 87.43 341 *eP* **P 21 38 09.9 -0.2**
PBRG Braganca 89.70 345 *e*PP pP 21 38 28.1 -3.2
PVRL Vila Real 90.38 346 *e*PP pP 21 38 30.0 -4.5
PVIS Viseu 90.96 346 *e*PP pP 21 38 32.6 -4.6
PCBR Castelo Branco 91.74 345 *e*PP pP 21 38 36.2 -4.6
TORD Torodi Ar. Bea 114.88 330 PKP PKiKP 21 44 03.9 +0.6
comp=Z,4.4nm,0.7s,baz=34,slow=1.6,SNR=7.6
LIC Lamto 123.55 334 *eP* PKPdf 21 44 17.9 -2.1
CFAA Coronel Fontan 144.64 79 PKP PKPdf 21 44 55.8 -3.4
comp=Z,6.0nm,0.9s,baz=285,slow=3.1,SNR=8.9
NVL N'lazarevskaya 150.13 204 *e*PKIKP PKPdf 21 45 09.0 +0.7
NVL pmax pmax
comp=Z,49nm,1.1s
SNAA Sanae 153.03 196 PKPbc PKPbc 21 45 16.8 -3.2
comp=Z,5.2nm,1.0s,baz=54,slow=1.7,SNR=3.7
SNAA Sanae 153.03 196 *e*PKPdf PKPdf 21 45 16.2 +3.5
SNAA *e* 21 45 28.4
SNAA *e* 21 45 30.9
SNAA *e* 21 45 34.2
SNAA *e* 21 45 38.7
SNAA *e* 21 46 02.1
SNAA *e* 21 46 05.0
SNAA Sanae 153.03 196 PKIKP PKPbc 21 45 16.8 -3.2
SNAA pmax pmax
comp=Z,5.0nm,1.0s
PMSA Palmer Station 153.16 145 PKPbc PKPbc 21 45 17.4 -3.0
comp=Z,17nm,1.0s,baz=224,slow=1.4,SNR=4.9
VNA2 Neumayer--Watz 154.47 194 *e*PKPdf PKPbc 21 45 21.0 -2.2
VNA2 *e* 21 45 35.1
VNA2 *e* 21 45 46.6
VNA2 *e* 21 46 13.3
VNA2 *e* 21 46 15.2
VNA3 Neumayer Olymp 154.56 193 *e*PKPdf PKPbc 21 45 19.7 -3.6
VNA3 *e* 21 45 27.8
VNA3 *e* 21 45 31.5
VNA3 *e* 21 45 35.8
VNA3 *e* 21 45 43.9
VNA3 *e* 21 46 12.2
VNA3 *e* 21 46 14.9

MOS ***15*** *21:29:08.5*$_{E}$*2.3, 45.04*$_{N}$*k 154.87*$_{E}$*, h33*^{km}*, mb4.8/9, Error ellipse: s-maj=61.8km s-min=18.7km az=107.3*
IDC ***15*** *21:29:22.2*$_{E}$*6.5, 47.94*$_{N}$*k 153.56*$_{E}$*, h0*^{km}*, mb4.5/11, mb1 4.6/11,mb1mx4.3/25, mbtmp4.5/11, Error ellipse: s-maj=160.4km s-min=36.1km az=164.0*
ISCJB ***15*** *21:29:25.2*$_{E}$*5.3, 48.4*$_{N}$*s 09.0*$_{K}$ *153.3*$_{E}$*s 05, h10*^{km}*, mb4.5/12, Error ellipse: s-maj=129.3km s-min=28.4km az=147.4*

ISC 15 21:29:24.9$_{E}$**5.5, 48.2**$_{N}$**s 09.0**$_{K}$ **153.5**$_{E}$**s 05, h10**^{km}**, n24, σ0.5 48/24, mb4.5**/12**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**19.27**	**325**	*eP*		**P**	**Pn**	**21 34 07.7**	**+17**
YAK				pmax	pmax				
	comp=Z,105nm,1.5s								
YAK				pmax	pmax				
	comp=N,146nm,1.7s								
YAK				pmax	pmax				
	comp=E,167nm,1.6s								
INK	**Inuvik**	**40.30**	**33**	P		**P**		**21 37 01.9**	**-0.4**
	comp=E,2.3nm,0.5s,mb4.2,baz=299,slow=32,SNR=4.0								
INK	**Inuvik**	**40.30**	**33**	P		**P**		**21 37 01.9**	**-0.4**
INK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**46.52**	**296**	P		**P**		**21 37 51.7**	**-0.8**
	comp=Z,4.9nm,1.1s,mb4.3,baz=62,slow=10,SNR=2.2								
BVAR	**Borovoye Array**	**50.15**	**309**	P		**P**		**21 38 20.6**	**+0.1**
	comp=Z,2.6nm,0.5s,mb4.5,baz=58,slow=7.8,SNR=6.6								
BVAR	**Borovoye Array**	**50.15**	**309**	P		**P**		**21 38 20.6**	**+0.1**
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ARCES	**ARCESS Array B**	**56.58**	**341**	P		**P**		**21 39 07.9**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=26,slow=6.1,SNR=5.3								
FINES	**FINESS Array B**	**62.84**	**335**	P		**P**		**21 39 50.7**	**-0.2**
	comp=Z,3.1nm,0.5s,mb4.7,baz=38,slow=9.4,SNR=5.5								
FINES	**FINESS Array B**	**62.84**	**335**	P		**P**		**21 39 50.7**	**-0.2**
FINES				pmax	pmax				
	comp=Z,3.0nm,0.5s								
NB2	**NORSAR Subarra**	**66.94**	**341**	P		**P**		**21 40 17.6**	**0.0**
	comp=Z,6.1nm,0.6s,mb4.8,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**66.94**	**341**	P		**P**		**21 40 17.9**	**+0.2**
	comp=Z,5.8nm,0.6s,mb4.8,baz=26,slow=6.3,SNR=8.6								
NOA	**NORSAR Array B**	**66.94**	**341**	P		**P**		**21 40 17.9**	**+0.3**
NOA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
AKASG	**Malin Array Be**	**70.49**	**326**	P		**P**		**21 40 39.0**	**-0.8**
	comp=Z,4.3nm,0.5s,mb4.6,baz=33,slow=6.3,SNR=6.9								
AKASG	**Malin Array Be**	**70.49**	**326**	P		**P**		**21 40 39.0**	**-0.7**
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.5s								
EKA	**Eskdalemuir Ar**	**75.00**	**346**	P		**P**		**21 41 06.5**	**0.0**
	comp=Z,3.0nm,0.5s,mb4.5,baz=14,slow=4.7,SNR=13								
EKA	**Eskdalemuir Ar**	**75.00**	**346**	P		**P**		**21 41 06.6**	**+0.1**
EKA				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CLL	**Collm**	**75.26**	**336**	⇓ *iP*		**P**		**21 41 08.0**	**0.0**
CLL				pmax	pmax				
	comp=Z,79nm,0.6s,mb5.8								
CLL	**Collm**	**75.26**	**336**	⇓ *iP*		**P**		**21 41 08.0**	**0.0**
	comp=Z,10.0nm,0.6s,mb4.9								
MLR	**Muntele Rosu**	**76.03**	**325**	P		**P**		**21 41 13.5**	**+1.0**

comp=Z,4.0nm,0.6s,mb4.5,baz=24,slow=1.8,SNR=4.9
MLR Muntele Rosu 76.03 325 P P 21 41 13.5 +1.1
MLR pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 77.27 334 P P 21 41 19.7 +0.2
comp=Z,1.3nm,0.5s,mb4.1,baz=32,slow=5.6,SNR=8.8
GERES GERESS Array B 77.27 334 P P 21 41 19.7 +0.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 77.52 317 P P 21 41 21.1 +0.3
comp=Z,1.0nm,0.6s,mb3.9,baz=8.0,slow=4.5,SNR=4.5
BRTR Keskin Array B 77.52 317 P P 21 41 21.2 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s

IDC 15 21:30:58.4±1.8, 4757N×15413E, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.2/24, mbtmp4.2/8, 1D, Error ellipse: s-maj=52.8km s-min=26.8km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.71**	**252**	P	P	21 35 51.2	+0.3
	2.5nm,0.7s,baz=62,slow=9.6,SNR=4.4						
INK	**Inuvik**	**40.59**	**33**	P	P	21 38 40.0	+0.3
	4.6nm,0.7s,baz=268,slow=4.9,SNR=4.1						
FINES	**FINESS Array B**	**63.60**	**335**	P	P	21 41 29.4	-1.6
	1.6nm,0.5s,baz=31,slow=6.9,SNR=7.2						
PDAR	**Pinedale Array**	**63.71**	**55**	P	P	21 41 32.1	+0.3
	1.7nm,0.9s,baz=282,slow=2.7,SNR=4.8						
NB2	**NORSAR Subarra**	**67.68**	**342**	P	P	21 41 56.5	-0.9
	comp=Z,4.4nm,0.7s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.68**	**342**	P	P	21 41 56.6	-0.8
	comp=Z,3.0nm,0.7s,baz=26,slow=6.4,SNR=6.0						
EKA	**Eskdalemuir Ar**	**75.71**	**347**	P	P	21 42 44.9	-0.8
	comp=Z,0.9nm,0.6s,baz=11,slow=5.1,SNR=3.7						
CLL	**Collm**	**76.01**	**336**	*i*P	P	21 42 46.6	-0.8
TXAR	**Lajitas Array**	**76.49**	**61**	P	P	21 42 49.8	-0.4
	comp=Z,1.9nm,0.8s,baz=303,slow=4.4,SNR=4.8						
MLR	**Muntele Rosu**	**76.79**	**325**	P	P	21 42 53.6	+1.7
	comp=Z,4.4nm,0.7s,baz=168,slow=3.1,SNR=4.0						

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*IDC **15** 21:31:21.8±0.5, 4731N×15421E, h0km, mb5.2/33, mb1 5.3/35, mb1mx5.3/36, mbtmp5.2/35, ML4.3/2, Error ellipse: s-maj=13.9km s-min=11.2km az=145.0*
*SKHL **15** 21:31:22.8±1.5, 4719N×15462E, h50km±18km, msh6.4/1*
*ISCJB **15** 21:31:22.8±0.1, 4725N±003×15422E±002, h17km, mb5.5/179, MS5.5/11, Error ellipse: s-maj=4.4km s-min=1.9km az=138.7*
*BJI **15** 21:31:22.6, 4772N×15458E, h29km, mB5.9, mb5.3, Ms5.7, Msz5.5*
*NEIC **15** 21:31:24.3±0.2, 4738N×154.16E, mb5.5/101, Error ellipse: s-maj=5.2km s-min=3.3km az=161.0*
*MOS **15** 21:31:25.6±0.9, 4735N×15420E, h33km, mb5.7/87, Error ellipse: s-maj=7.6km s-min=4.1km az=101.6*
*SZGRF **15** 21:31:29.0, 4746N×15459E, h33km, mb6.0, Kuril Islands, Russia*

ISC 15 21:31:25.1±0.1, 4742N±003×15414E±002, h18km, h18km±2.5km:pP-P, n797, σ0s88/806, mb5.5/179, MS5.5/11, 103C-73D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.52**	**21**	*e*P	**Pn**	**21 32 18.5**	**-0.4**
SKR				AMB	AMB	21 32 19.5	
	490nm,0.9s						
SKR				AMB	AMB	21 32 19.5	
	200nm,0.9s						
SKR				AMB	AMB	21 32 19.5	
	690nm,0.9s						
SKR				A		21 33 15.0	
	690nm,0.5s						
SKR				A		21 33 15.0	
	540nm,0.5s						
SKR				A		21 33 15.0	
	6μm,1.2s						
SKR	**Severo-Kuril's**	**3.52**	**21**	*e*PN	**Pn**	**21 32 18.5**	**-0.4**
SKR				*e*S	**Sn**	**21 33 10.0**	**+10**
SKR				pmax	pmax		
	comp=N,490nm,0.9s						
SKR				pmax	pmax		
	comp=E,200nm,0.9s						
SKR				pmax	pmax		
	comp=Z,690nm,0.9s						
KUR	**Kuril'sk**	**4.87**	**246**	*e*P	**Pn**	**21 32 35.6**	**-1.8**
KUR				AMB	AMB	21 32 48.3	
	comp=Z,380nm,0.6s						
KUR				AMB	AMB	21 32 48.3	
	comp=Z,684nm,0.6s						
KUR				*e*S	**Sn**	**21 33 31.0**	**-2.3**
KUR				A		21 33 37.0	
	comp=Z,38μm,4.0s						
KUR				A		21 33 41.2	
	comp=Z,5μm,0.9s						
KUR				A		21 33 41.2	
	comp=Z,3μm,0.9s						
KUR	**Kuril'sk**	**4.87**	**246**	⇑*i*PN	**Pn**	**21 32 35.6**	**-1.8**
KUR				pmax	pmax		
	comp=N,380nm,0.6s						
KUR				pmax	pmax		
	comp=Z,680nm,0.6s						
KUR				pmax	pmax		
	comp=E,380nm,0.8s						
PET	**Petropavlovsk**	**6.31**	**26**	⇑*i*PN	**Pn**	**21 32 56.3**	**-1.0**
PET	**Petropavlovsk**	**6.31**	**26**	*e*P	**Pn**	**21 32 56.0**	**-1.3**
YUK	**Yuzn-Kuril'sk**	**6.71**	**243**	*e*P	**Pn**	**21 33 03.6**	**+0.8**
YUK				AMB	AMB	21 33 06.2	
	comp=E,770nm,0.5s						
YUK				AMB	AMB	21 33 19.0	
	comp=E,3μm,1.3s						
YUK				*e*S	**Sn**	**21 34 19.0**	**+0.3**
YUK				A		21 34 48.0	
	comp=E,3μm,0.6s						
YUK				A		21 34 48.0	
	comp=E,4μm,0.7s						
NEM2	**Nemuro 2**	**7.17**	**239**	P	**Pn**	**21 33 08.4**	**-0.6**
NEM2				*e*S	**Sn**	**21 34 26.3**	**-3.7**
JNK	**Nakash**	**7.65**	**243**	P	**Pn**	**21 33 16.6**	**+1.0**
JNK				*e*S	**Sn**	**21 34 41.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.78**	**271**	⇓*e*P	**Pn**	**21 33 21.5**	**+4.1**
YSS				AMB	AMB	21 33 22.9	
	comp=E,250nm,1.0s						
YSS				AMB	AMB	21 33 22.9	
	comp=E,90nm,0.9s						
YSS				AMB	AMB	21 33 22.9	
	comp=E,240nm,0.9s						
YSS				*e*S	**Sn**	**21 34 49.0**	**+4.1**
YSS				A		21 34 51.4	
	comp=E,200nm,1.0s						
YSS				A		21 34 51.4	
	comp=E,190nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.78**	**271**	⇓*e*PN	**Pn**	**21 33 21.5**	**+4.1**
YSS				pmax	pmax		
	comp=Z,250nm,1.0s						
YSS				pmax	pmax		
	comp=N,90nm,0.9s						
YSS				pmax	pmax		
	comp=E,240nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.78**	**271**	⇑*e*P	**Pn**	**21 33 17.2**	**-0.2**
JAK	**Akkeshi**	**8.00**	**240**	P	**Pn**	**21 33 20.1**	**-0.4**
JAK				*e*S	**Sn**	**21 34 47.4**	**-3.1**
UGL	**Uglegorsk**	**8.23**	**286**	*e*P	**Pn**	**21 33 28.8**	**+5.2**
UGL				AMB	AMB	21 33 29.5	
	comp=E,110nm,0.6s						
UGL				AMB	AMB	21 37 19.0	
	comp=E,130nm,0.7s						
JMP	**Maruseppu**	**8.28**	**250**	P	**Pn**	**21 33 33.4**	**+9.1**
JAR	**Ashorobuto**	**8.38**	**244**	P	**Pn**	**21 33 28.2**	**+2.5**
JAR				*e*S	**Sn**	**21 34 59.6**	**-0.3**
JOB	**Onbets**	**8.57**	**242**	P	**Pn**	**21 33 28.8**	**+0.6**
JOB				*e*S	**Sn**	**21 35 02.1**	**-2.3**
ASAJ	**Asahikawa**	**8.72**	**252**	Pn	**Pn**	**21 33 30.4**	**+0.1**
	comp=E,3.8nm,0.3s,baz=100,slow=33,SNR=1.8						
ASAJ	**Asahikawa**	**8.72**	**252**	PN	**Pn**	**21 33 30.5**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.73**	**250**	P	**Pn**	**21 33 35.2**	**+4.7**
JCH	**Churui**	**9.02**	**242**	P	**Pn**	**21 33 34.4**	**0.0**
JCH				*e*S	**Sn**	**21 35 11.0**	**-4.5**
JFR	**Furan**	**9.18**	**247**	P	**Pn**	**21 33 40.2**	**+3.5**
OKH	**Okha**	**9.41**	**315**	*e*P	**Pn**	**21 33 40.0**	**+0.1**
OKH				*e*S	**Sn**	**21 35 23.9**	**-1.3**
JEM	**Erimo**	**9.50**	**239**	P	**Pn**	**21 33 41.5**	**+0.5**
ERM	**Erimo**	**9.50**	**239**	*e*PN	**Pn**	**21 33 41.3**	**+0.3**
JBT2	**Biratori 2**	**9.53**	**245**	P	**Pn**	**21 33 42.6**	**+1.1**
JNBK	**Urakawa-nobuka**	**9.58**	**242**	P	**Pn**	**21 33 42.2**	**+0.1**
JNBK				*e*S	**Sn**	**21 35 25.3**	**-4.0**
NKL	**Nikolayevsk**	**10.35**	**309**	*e*P	**Pn**	**21 33 54.0**	**+1.4**
NKL				AMB	AMB	21 33 56.2	
	comp=Z,270nm,1.4s						
NKL				AMB	AMB	21 33 56.2	
	comp=Z,270nm,1.1s						
NKL				AMB	AMB	21 33 56.2	
	comp=Z,410nm,1.1s						
JNB	**Noboribetsu**	**10.52**	**247**	P	**Pn**	**21 33 55.3**	**+0.3**
JNB				*e*S	**Sn**	**21 35 46.7**	**-5.7**
JKB	**Kayabe**	**10.85**	**244**	P	**Pn**	**21 33 58.2**	**-1.3**
JKB				*e*S	**Sn**	**21 35 52.0**	**-8.4**
JSH	**Shimam**	**11.06**	**250**	P	**Pn**	**21 34 03.4**	**+1.0**
JYM2	**Yakumo 2**	**11.13**	**247**	P	**Pn**	**21 34 03.0**	**-0.3**
JTM	**Tenmabayashi**	**11.49**	**240**	P	**Pn**	**21 34 05.9**	**-2.4**
JTM				*e*S	**Sn**	**21 36 06.3**	**-10**
JANG	**Nango**	**11.51**	**237**	P	**Pn**	**21 34 04.8**	**-3.7**
JANG				*e*S	**Sn**	**21 36 04.6**	**-12**
JTH	**Tanohata**	**11.61**	**234**	P	**Pn**	**21 34 04.7**	**-5.2**
JTH				*e*S	**Sn**	**21 36 05.6**	**-13**
JOSM	**Okushiri--Mats**	**11.71**	**248**	P	**Pn**	**21 34 10.8**	**-0.5**
JOM	**Ohasama**	**12.25**	**234**	P	**Pn**	**21 34 14.3**	**-4.3**
OFUJ	**Ofunato**	**12.32**	**232**	P	**Pn**	**21 34 15.6**	**-4.1**
OFUJ				*e*S	**Sn**	**21 36 23.6**	**-13**
MA2	**Magadan**	**12.34**	**352**	*e*PN	**Pn**	**21 34 17.8**	**-2.1**
MA2				pmax	pmax		
	comp=Z,100nm,0.6s						
MA2				pmax	pmax		
	comp=N,100nm,1.0s						
MA2	**Magadan**	**12.34**	**352**	*e*P	**Pn**	**21 34 17.9**	**-2.0**
JRG	**Rokugo**	**12.67**	**236**	P	**Pn**	**21 34 20.8**	**-3.6**
HABR	**Khabarovsk**	**12.85**	**282**	*e*PN	**Pn**	**21 34 33.4**	**+6.6**
JIO	**Ouri**	**12.95**	**231**	P	**Pn**	**21 34 24.4**	**-3.8**
JIO				*e*S	**Sn**	**21 36 37.9**	**-14**
JYA	**Atsumi**	**13.74**	**235**	P	**Pn**	**21 34 38.2**	**-0.8**
JYA				*e*S	**Sn**	**21 37 08.3**	**-2.8**
JFK	**Kawauchi**	**14.02**	**229**	P	**Pn**	**21 34 38.0**	**-4.8**
JFK				*e*S	**Sn**	**21 37 04.3**	**-14**
JFY	**Yanaizu**	**14.60**	**232**	P	**Pn**	**21 34 47.0**	**-3.7**
JSD	**Sado**	**14.95**	**237**	P	**Pn**	**21 35 02.0**	**+6.5**
KLR	**Kul'dur**	**15.00**	**285**	*e*P	**Pn**	**21 34 58.8**	**+2.6**
SEY	**Seymchan**	**15.58**	**357**	*e*P	**Pn**	**21 35 03.0**	**-0.8**
MAT	**Matsushiro**	**16.04**	**233**	P	**Pn**	**21 35 05.3**	**-4.5**
MAT				*e*S	**Sn**	**21 38 10.6**	**+3.4**
MAT	**Matsushiro**	**16.04**	**233**	P	**Pn**	**21 35 06.6**	**-3.2**
MJAR	**Matsushiro Arr**	**16.04**	**233**	Pn	**Pn**	**21 35 06.6**	**-3.2**
	comp=N,1.1nm,0.3s,baz=26,slow=12,SNR=14						
MJAR	**Matsushiro Arr**	**16.04**	**233**	P	**Pn**	**21 35 06.6**	**-3.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.26**	**270**	P	**Pn**	**21 35 27.1**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,52nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,10μm,5.6s						
MDJ	**Mudanjiang**	**17.26**	**270**	*e*P	**Pn**	**21 35 25.6**	**+0.4**
ZEA	**Zeya**	**18.14**	**300**	*e*P	**Pn**	**21 35 33.6**	**-2.5**
ZEA				AMB	AMB	21 35 39.8	
	comp=Z,110nm,0.9s						
JWT	**Wachi**	**18.52**	**236**	P	**Pn**	**21 35 42.3**	**+1.6**
CLNS	**Chul'man**	**20.14**	**309**	*e*P	**P**	**21 35 59.6**	**+1.4**
CLNS				pmax	pmax		
	comp=Z,173nm,1.0s						
CLNS				pmax	pmax		
	comp=N,74nm,0.9s						
CLNS				pmax	pmax		
	comp=E,111nm,0.9s						
YAK	**Yakutsk**	**20.16**	**325**	*e*P	**P**	**21 36 03.3**	**+4.9**
YAK				*e**PP		21 36 14.1	
YAK				*e*SS		21 40 05.6	
YAK				pmax	pmax		
	comp=Z,185nm,1.1s						
YAK				pmax	pmax		
	comp=N,95nm,1.4s						
YAK				pmax	pmax		
	comp=E,124nm,1.3s						
YAK				pmax	pmax		
	comp=Z,830nm,3.3s						
YAK				pmax	pmax		
	comp=N,140nm,1.6s						
YAK				pmax	pmax		
	comp=E,134nm,1.3s						
YAK				MLR	MLR		
	comp=Z,6μm,12.0s,MS5.2						
YAK				MLR	MLR		
	comp=N,8μm,13.0s,MS5.3						
YAK				MLR	MLR		
	comp=E,5μm,13.0s,MS5.3						
YAK	**Yakutsk**	**20.16**	**325**	*e*P	**P**	**21 35 58.7**	**+0.3**
	comp=E,144nm,0.8s						
CN2	**Changchun**	**20.34**	**270**	*e*P	**P**	**21 36 00.0**	**-0.4**
CN2				*e*S	**S**	**21 39 40.8**	**-6.9**
CN2				AMB	AMB		
	comp=Z,70nm,1.0s						
CN2				LR	LR		
	comp=N,6μm,14.0s,MS5.2						
CN2				LR	LR		
	comp=E,6μm,14.0s,MS5.2						
CN2				LR	LR		
	comp=Z,7μm,15.0s,MS5.2						
BILL	**Bilibino**	**21.59**	**12**	*e*P	**P**	**21 36 10.9**	**-2.9**
BILL				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.0						
BILL	**Bilibino**	**21.59**	**12**	*e*P	**P**	**21 36 10.0**	**-3.8**
KSRS	**Korea Array**	**21.67**	**252**	P	**P**	**21 36 15.9**	**+1.1**
	comp=Z,40nm,0.8s,mb4.9,baz=61,slow=10,SNR=42						
JNU	**Nakatsue**	**22.67**	**239**	P	**P**	**21 36 24.8**	**-0.6**
	comp=Z,59nm,0.8s,mb5.1,baz=264,slow=23,SNR=6.9						
HIA	**Hailar**	**22.83**	**287**	*e*P	**P**	**21 36 25.9**	**-1.2**
DL2	**Dalian**	**25.05**	**262**	P	**P**	**21 36 49.1**	**+0.8**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
BOD	**Bodaibo**	**26.11**	**308**	*e*P	**P**	**21 36 53.0**	**-5.0**
BOD				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
BJI	**Beijing**	**28.19**	**269**	*e*P	**P**	**21 37 18.8**	**+2.2**
BJI				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8						
BJI	**Beijing**	**28.19**	**269**	*e*P	**P**	**21 37 18.7**	**+2.1**
BJI				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.8						
BJI	**Beijing**	**28.19**	**269**	*e*P	**P**	**21 37 18.7**	**+2.1**
	comp=Z,25nm,0.9s,mb4.8						
BJT	**Baijiatuao**	**28.21**	**269**	*e*P	**P**	**21 37 19.2**	**+2.5**
NJ2	**Nanjing**	**30.87**	**253**	*e*P	**P**	**21 37 44.8**	**+4.5**
NJ2				AP	pP	21 37 48.0	+2.2
NJ2				XP	sP	21 37 52.8	+4.8
NJ2				PP	PP	21 38 46.8	-3.3
NJ2				AMB	AMB		
	comp=Z,330nm,0.6s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,420nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,14.6s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,13.6s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,16.5s,MS5.0						
HHC	**Hu-ho-hao-te**	**30.95**	**274**	⇑P	**P**	**21 37 42.8**	**+1.7**
HHC				XP	sP	21 37 49.8	+1.0
HHC				PP	PP	21 38 48.0	-3.0
HHC				AMB	AMB		
	comp=Z,82nm,1.1s,mb5.5						
HHC				AMB	AMB		
	comp=Z,4μm,10.1s						
ULN	**Ulaanbaatar**	**31.35**	**289**	⇑*e*P	**P**	**21 37 44.2**	**-0.4**
ULN	**Ulaanbaatar**	**31.35**	**289**	*e*P	**P**	**21 37 43.6**	**-1.0**
SONM	**Songino Array**	**31.78**	**289**	P	**P**	**21 37 48.3**	**-0.1**
	comp=Z,18nm,0.8s,mb4.9,baz=68,slow=8.3,SNR=18						
SONM				PcP	PcP	21 40 39.1	-0.3
	comp=Z,5.1nm,0.8s,baz=106,slow=2.9,SNR=5.8						
SONM	**Songino Array**	**31.78**	**289**	P	**P**	**21 37 48.3**	**-0.1**
SONM						21 40 39.1	
SONM				pmax	pmax		
	comp=Z,18nm,0.8s						
TLY	**Talaya**	**32.50**	**297**	*e*P	**P**	**21 37 54.1**	**-0.6**
TLY				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
TLY	**Talaya**	**32.50**	**297**	*e*P	**P**	**21 37 54.3**	**-0.4**
	comp=Z,23nm,0.9s,mb5.1						
IMA2	**Indian Mountai**	**32.85**	**36**	*e*P	**P**	**21 37 57.4**	**-0.4**
KDAK	**Kodiak Island**	**33.14**	**52**	P	**P**	**21 37 58.8**	**-1.5**
	comp=Z,52nm,0.8s,mb5.5,baz=322,slow=6.9,SNR=13						
MCK	**McKinley**	**34.69**	**41**	*e*P	**P**	**21 38 13.0**	**-0.7**
MCK				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
MCK	**McKinley**	**34.69**	**41**	*e*P	**P**	**21 38 13.0**	**-0.7**
	comp=Z,32nm,1.2s,mb5.1						
WHN	**Wuhan**	**34.78**	**255**	*e*P	**P**	**21 38 15.0**	**+0.5**
SML	**Sawmill**	**35.00**	**44**	*e*P	**P**	**21 38 15.7**	**-0.7**
COLA	**College**	**35.18**	**39**	*e*P	**P**	**21 38 17.9**	**-0.1**
COLA				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.6						
COLA	**College**	**35.18**	**39**	⇑*i*P	**P**	**21 38 17.6**	**-0.4**
XAN	**Xi'an**	**36.27**	**265**	P	**P**	**21 38 28.3**	**+0.9**
XAN				AMB	AMB		
	comp=Z,114nm,0.9s,mb5.8						
DIV	**Divide**	**36.28**	**45**	*e*P	**P**	**21 38 27.0**	**-0.4**
	comp=Z,95nm,0.8s,mb5.8						
EGAK	**Eagle**	**38.04**	**39**	*e*P	**P**	**21 38 41.3**	**-1.1**
	comp=Z,86nm,1.1s,mb5.4						
LZH	**Lanzhou**	**38.57**	**272**	*e*P	**P**	**21 38 48.8**	**+2.0**
LZH				AP	pP	21 38 52.4	0.0
LZH				PP	PP	21 40 18.5	+3.3
LZH				AMB	AMB		
	comp=Z,200nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1μm,5.0s						
LZH				LR	LR		
	comp=E,5μm,13.3s						
LZH				LR	LR		
	comp=Z,7μm,14.7s,MS5.6						
LZH	**Lanzhou**	**38.57**	**272**	*e*P	**P**	**21 38 48.7**	**+1.9**
LZH				*SP	sP	21 38 53.8	-0.8
LZH						21 40 18.5	
LZH				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.8						
LZH				MLR	MLR		
	comp=Z,7μm,14.7s,MS5.6						
LZH	**Lanzhou**	**38.57**	**272**	*e*P	**P**	**21 38 48.7**	**+1.9**
	comp=Z,200nm,1.0s,mb5.8						
LZH				pP	pP	21 38 52.4	0.0
LZH				sP	sP	21 38 53.8	-0.8
LZH				PP	PP	21 40 18.5	+3.3
LZH				LR	LR		
	comp=Z,7μm,14.7s,MS5.6						
DAWY	**Dawson**	**38.88**	**40**	*e*P	**P**	**21 38 48.9**	**-0.5**
GTA	**Gaotai**	**39.56**	**279**	*e*P	**P**	**21 38 56.0**	**+0.9**
GTA				AP	pP	21 39 06.1	+5.4
GTA				XP	sP	21 39 11.3	+8.4
GTA				PCP	PcP	21 41 03.0	+0.7
GTA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,486nm,4.6s						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**21 39 05.1**	**+0.4**
	comp=Z,65nm,0.8s,mb5.3,baz=286,slow=6.6,SNR=52						
INK	**Inuvik**	**40.71**	**33**	*e*P	**P**	**21 39 05.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,75nm,0.9s						
CD2	**Chengdu**	**41.64**	**265**	⇑*i*P	**P**	**21 39 13.3**	**+1.0**
CD2				XP	sP	21 39 22.1	+2.1
CD2				PP	PP	21 40 53.4	+4.8
CD2				AMB	AMB		
	comp=Z,480nm,1.0s,mb6.1						
CD2				AMB	AMB		
	comp=Z,1μm,5.8s						
CD2				LR	LR		
	comp=E,7μm,14.4s						
CD2				LR	LR		
	comp=Z,660nm,13.2s,MS4.7						
GYA	**Guiyang**	**42.55**	**258**	⇓*i*P	**P**	**21 39 20.4**	**+0.7**
GYA				AP	pP	21 39 27.1	+1.8
GYA				XP	sP	21 39 29.3	+1.8
GYA				PP	PP	21 41 03.1	+4.7
GYA				PCP	PcP	21 41 15.0	+3.0
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,870nm,5.1s						
GYA				LR	LR		
	comp=N,2μm,16.4s,MS5.1						
GYA				LR	LR		
	comp=E,1μm,16.2s,MS5.1						
GYA				LR	LR		
	comp=Z,1μm,16.3s,MS4.9						
ZAL	**Zalesovo**	**42.81**	**305**	P	**P**	**21 39 20.7**	**-1.2**
	comp=Z,38nm,0.9s,mb5.1,baz=39,slow=7.6,SNR=32						
ZAL				PcP	PcP	21 41 12.5	-0.4
	comp=Z,7.9nm,0.8s,baz=43,slow=8.5,SNR=3.5						
ZAL	**Zalesovo**	**42.81**	**305**	P	**P**	**21 39 20.7**	**-1.1**
ZAL						21 41 12.5	
ZAL				pmax	pmax		
	comp=Z,38nm,0.9s						
ZAL	**Zalesovo**	**42.81**	**305**	P	**P**	**21 39 20.7**	**-1.2**
ZAL				PcP	PcP	21 41 12.5	-0.4
NVS	**Novosibirsk**	**43.34**	**307**	*e*P	**P**	**21 39 24.8**	**-1.4**
NVS				pmax	pmax		
	comp=E,26nm,0.6s						
NVS				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.3						
DLBC	**Dease Lake**	**44.62**	**47**	*e*P	**P**	**21 39 37.5**	**+1.1**
WMQ	**Urumqi**	**45.34**	**291**	⇑*i*P	**P**	**21 39 42.0**	**-0.1**
WMQ				AP	pP	21 39 49.0	+1.3
WMQ				XP	sP	21 39 52.5	+2.6
WMQ				PCP	PcP	21 41 22.5	+1.0
WMQ				PP	PP	21 41 28.5	+0.2
WMQ				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,635nm,8.0s						
WMQ				LR	LR		
	comp=N,28μm,16.8s,MS6.4						
WMQ				LR	LR		
	comp=E,22μm,16.8s,MS6.4						
WMQ				LR	LR		
	comp=Z,30μm,16.0s,MS6.3						
QIZ	**Qiongzhong**	**45.76**	**247**	*e*P	**P**	**21 39 48.0**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,20nm,2.2s,mb4.7						
QIZ				LR	LR		
	comp=N,965nm,13.0s						
QIZ				LR	LR		
	comp=Z,1μm,13.6s,MS5.0						
KMI	**Kunming**	**46.05**	**260**	P	**P**	**21 39 49.1**	**+1.3**
KMI				AP	pP	21 39 53.6	+0.2
KMI				PP	PP	21 41 41.9	+6.1
KMI				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.2						
KMI	**Kunming**	**46.05**	**260**	P	**P**	**21 39 49.1**	**+1.3**
	comp=Z,40nm,1.3s,mb5.2						
KMI				pP	pP	21 39 53.6	+0.2
KMI				PP	PP	21 41 41.9	+6.1
MK31	**Makanchi Array**	**47.26**	**297**	*e*P	**P**	**21 39 56.2**	**-1.0**
MKAR	**Makanchi Array**	**47.26**	**297**	P	**P**	**21 39 56.2**	**-1.0**
	comp=Z,74nm,0.8s,mb5.7,baz=65,slow=6.8,SNR=70						
MKAR	**Makanchi Array**	**47.26**	**297**	P	**P**	**21 39 56.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,74nm,0.8s						
KURK	**Kurchatov**	**47.58**	**304**	P	**P**	**21 39 59.5**	**-0.2**
	comp=Z,2μm,0.8s,SNR=37						
ALE	**Alert**	**49.01**	**6**	P	**P**	**21 40 10.0**	**-0.7**
	comp=Z,525nm,0.7s,SNR=22						
YKA	**Yellowknife Ar**	**49.97**	**37**	P	**P**	**21 40 17.

SNR=18
BRVK Borovoye 51.02 309 P P 21 40 25.3 -0.7
SNR=18
BRVK Borovoye 51.02 309 P P 21 40 25.3 -0.7
SNR=18
BRVK Borovoye 51.02 309 P P 21 40 25.3 -0.7
SNR=18
BRVK Borovoye 51.02 309 P P 21 40 25.3 -0.7
SNR=18
BRVK Borovoye 51.02 309⇑ *e*P P 21 40 24.0 -2.0
KBS Kingsbay 51.94 351⇑ *e*P P 21 40 32.0 -0.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
SNR=5.9
CHTO Chiang Mai 52.96 257 P P 21 40 42.7 +2.2
CHTO Chiang Mai 52.96 257 *e*P P 21 40 41.7 +1.3
ULHL Ulahol 53.32 295 P P 21 40 43.5 +0.4
SNR=9.8
TKM2 Tokmak 2 53.34 296 P P 21 40 43.2 0.0
SNR=14
CHMS Chumysh 53.81 297 P P 21 40 46.2 -0.5
SNR=17
USP Ospenovka 53.81 297 P P 21 40 46.6 -0.1
SNR=38
KBK Karagaybulak 53.88 296 P P 21 40 47.6 +0.4
SNR=15
KZA Kyzart 54.02 295 P P 21 40 49.1 +0.9
SNR=18
D05A Enumclaw 54.11 57 ⇑P P 21 40 47.1 -1.8
baz=54
AAK Ala-Archa 54.17 296 P P 21 40 48.1 -1.2
comp=Z,406nm,1.1s,mb6.3,SNR=14
AAK Ala-Archa 54.17 296 P P 21 40 49.3 0.0
SNR=22
AAK Ala-Archa 54.17 296 *c iP* P 21 40 47.0 -2.3
AAK pmax pmax
comp=Z,54nm,0.8s,mb5.5
AAK Ala-Archa 54.17 296⇑ *iP* P 21 40 47.1 -2.2
B07A Winthrop 54.45 55 ⇓P P 21 40 51.1 -0.3
baz=54
F04A Amboy 54.56 58 ⇓P P 21 40 52.6 +0.4
baz=54
EKS2 Erkin-Say 54.59 297 P P 21 40 52.8 +0.4
SNR=23
A08A Turner Farm, O 54.65 54 P P 21 40 52.7 -0.1
baz=54,SNR=7.6
D06A Cle Elum 54.75 56 ⇑P P 21 40 52.9 -0.7
baz=54
I02A Mapleton 54.82 61 ⇑P P 21 40 53.7 -0.4
baz=55
C07A Waterville 54.91 55 ⇓P P 21 40 54.1 -0.6
baz=55
B08A Colville Reser 54.94 54 P P 21 40 54.8 -0.2
baz=55,SNR=6.7
ARU Arti 54.99 318 P P 21 40 54.7 -0.6
comp=Z,396nm,0.6s,SNR=12
ARU Arti 54.99 318 *iP* P 21 40 53.9 -1.4
ARU *e* 21 41 53.1
ARU *e* 21 42 55.9
ARU *e*S **S** 21 48 33.2 -3.4
ARU *e*SS SS 21 52 17.1 -3.1
ARU pmax pmax
comp=Z,31nm,0.7s,mb5.5
ARU Arti 54.99 318⇑ *e*P P 21 40 54.1 -1.2
A09A Danville 55.01 53 P P 21 40 55.5 +0.1
baz=55,SNR=11
KSH Kashi 55.05 293 *e*P P 21 40 52.5 -3.2
KSH *e*PCP PcP 21 41 53.9 -3.2
KSH *e*PP PP 21 42 56.3 -2.6
KSH LR LR
comp=Z,23μm,22.2s,MS6.2
D07A Quincy 55.24 56 ⇑P P 21 40 56.6 -0.6
baz=55
EDM Edmonton 55.34 47 *e*P P 21 40 57.2 -0.7
C08A Higginbotham F 55.43 55 ⇓P P 21 40 56.9 -1.5
baz=55
B09A Rice 55.56 54 P P 21 40 59.4 0.0
baz=55,SNR=6.5
A10A Northport 55.56 53 ⇑P P 21 40 59.0 -0.4
baz=55
JIRN Jiri 55.59 275 *e*P P 21 41 01.3 +1.7
comp=Z,614nm,0.9s
GUN Gumba 55.64 275 *e*P P 21 41 01.4 +1.4
comp=Z,203nm,0.5s,mb6.4
E07A Sunnyside 55.67 56 ⇑P P 21 40 59.7 -0.5
baz=55
C09A Chrisman Ranch 55.84 54 P P 21 41 01.1 -0.3
baz=56,SNR=5.2
D08A Wollman Farm, 55.91 56 ⇓P P 21 41 01.7 -0.3
baz=56
DAG Danmarks Havn 56.01 358 *i* P P 21 41 02.0 -0.6
comp=Z,42nm,1.1s,mb5.4
DAG Danmarks Havn 56.01 358 *e*P P 21 41 02.0 -0.6
DAG pmax pmax
comp=Z,42nm,1.1s,mb5.4
DAG Danmarks Havn 56.01 358 *e*P P 21 41 02.0 -0.6
comp=Z,42nm,1.1s,mb5.4
F07A Phinny Hill Vi 56.01 57 ⇑P P 21 41 02.7 +0.1
baz=56
KKN Kakani 56.12 276 *e*P P 21 41 04.8 +1.3
comp=Z,552nm,1.0s,mb6.5
B10A Chitwood Farm, 56.13 54 ⇑P P 21 41 03.3 -0.2
baz=56
E08A Dider Farm, El 56.16 56 ⇓P P 21 41 03.3 -0.4
baz=56
PKI Pulchoki 56.18 275 *e*P P 21 41 05.0 +1.2
comp=Z,336nm,0.9s,mb6.3
NEW Newport 56.21 53 P P 21 41 03.6 -0.5
comp=Z,8.9nm,0.7s,mb4.9,baz=308,slow=5.7,SNR=5.4
NEW Newport 56.21 53 P P 21 41 03.6 -0.5
NEW pmax pmax
comp=Z,9.0nm,0.7s
A11A Hall Mountain, 56.22 52 P P 21 41 04.5 +0.4
baz=56,SNR=6.4
D09A Jones Farm, Ri 56.25 55 ⇑P P 21 41 03.5 -0.9
baz=56
DMN Daman 56.36 276 *e*P P 21 41 06.8 +1.7
comp=Z,866nm,0.9s
C10A Spilker Farm, 56.37 54 ⇑P P 21 41 04.8 -0.3
baz=56
GKN Gorkha 56.42 276 *e*P P 21 41 06.9 +1.3
comp=Z,770nm,0.9s
LVZ Lovozero 56.43 337⇓ *e*P P 21 41 03.7 -2.0
LVZ pmax pmax
comp=Z,48nm,1.5s,mb5.3
LVZ pmax pmax
comp=N,8.0nm,1.0s
LVZ pmax pmax
comp=E,9.0nm,0.9s
LVZ Lovozero 56.43 337⇑ *e*P P 21 41 04.8 -0.9
H06A Lindquist Farm 56.45 58 ⇓P P 21 41 05.8 0.0
baz=56
B11A Sandpoint 56.52 53 P P 21 41 06.5 +0.2
baz=56,SNR=7.0
A12A Yaak River Ran 56.62 52 ⇑P P 21 41 07.3 +0.4
baz=56
E09A Wood Farm, Sta 56.66 56 P P 21 41 07.3 0.0
baz=56,SNR=6.4
F08A Pendleton 56.72 57 ⇓P P 21 41 07.5 -0.2
baz=56
J05A Fort Rock 56.77 60 ⇓P P 21 41 08.2 +0.1
baz=56
YBH Yreka Blue Hor 56.81 63 ⇑P P 21 41 09.1 +0.8
baz=57
G08A Pilot Rock 56.92 57 ⇓P P 21 41 08.9 -0.2
baz=57
M02C Callahan 56.92 63 ⇑P P 21 41 09.8 +0.7
baz=57
KEV Kevo 56.95 341 *e*p P 21 41 07.2 -2.1
I06A Prineville 56.99 59 ⇓P P 21 41 09.9 +0.4
baz=57
APA Apatity 57.00 337⇓ *iP* P 21 41 10.4 +0.7
APA pmax pmax
comp=Z,32nm,1.2s,mb5.2
L04A Klamath Falls 57.04 62 ⇑P P 21 41 10.4 +0.5
baz=57
E10A Myers Farm, Un 57.26 55 P P 21 41 11.4 0.0
baz=57,SNR=5.4
KOLN Koldanda 57.27 277 *e*P P 21 41 13.1 +1.5
comp=Z,516nm,0.9s
I07A Izee 57.32 59 ⇑P P 21 41 12.1 +0.2
baz=57
D11A Klaveano Farm, 57.35 54 P P 21 41 11.8 -0.4
baz=57,SNR=7.2
ARCES ARCESS Array B 57.45 341 P P 21 41 11.3 -1.6
comp=Z,20nm,0.9s,mb5.2,baz=26,slow=8.5,SNR=25
ARCES ARCESS Array B 57.45 341 P P 21 41 11.3 -1.6
ARCES pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 57.45 341 P P 21 41 11.3 -1.6
F10A Beach Ranch, E 57.49 56 ⇑P P 21 41 13.1 -0.1
baz=57
H08A Prairie City 57.54 58 ⇑P P 21 41 13.3 -0.2
baz=57
B13A Whitefish 57.58 52 P P 21 41 14.4 +0.6
baz=57,SNR=13
WDC Whiskeytown Da 57.60 64 ⇓P P 21 41 14.9 +1.0
baz=57
K06A Valley Falls 57.64 60 ⇑P P 21 41 14.8 +0.6
baz=57
O02C Red Bluff 57.69 64 ⇑P P 21 41 15.8 +1.2
baz=57
L05A Lakeview 57.75 61 ⇑P P 21 41 15.4 +0.5
baz=58
J07A Hines 57.85 59 ⇑P P 21 41 16.4 +0.7
baz=58
C13A Hot Springs 57.94 53 ⇓P P 21 41 16.9 +0.6
baz=58
I08A Drewsey 57.96 58 ⇑P P 21 41 17.4 +0.9
baz=58
H09A Durkee 58.03 57 ⇓P P 21 41 17.2 +0.3
baz=58
GASB Alder Springs 58.05 65 ⇑P P 21 41 18.0 +0.9
baz=58
TMCR Tamitsa 58.07 332 *e*P P 21 41 16.1 -1.1
F11A Grangeville 58.15 55 ⇓P P 21 41 17.9 +0.2
baz=58
MOD Modoc 58.15 61 *e*P P 21 41 17.7 0.0
comp=Z,9.5nm,1.1s
MOD Modoc 58.15 61 ⇓P P 21 41 18.4 +0.6
baz=58
K07A Rock Creek Ran 58.30 60 ⇓P P 21 41 19.2 +0.4
baz=58
J08A Circle Bar Ran 58.35 59 ⇑P P 21 41 19.5 +0.4
baz=58
D13A Huson 58.35 53 P P 21 41 19.3 +0.1
baz=58,SNR=5.9
KTK1 Kautokeino 58.37 341 *e*P P 21 41 18.9 -0.4
KTK1 AMb AMB 21 41 22.1
comp=Z,62nm,1.0s,mb5.6
KTK1 Kautokeino 58.37 341 *e*P P 21 41 18.9 -0.4
comp=Z,62nm,1.0s,mb5.6
G11A Walters Elk Ra 58.38 56 ⇓P P 21 41 19.7 +0.4
baz=58
I09A Lost Marbles R 58.40 58 ⇓P P 21 41 19.7 +0.2
baz=58
MNRC McLaughlin Nat 58.69 65 ⇓P P 21 41 22.2 +0.7
baz=58
K08A Mann Creek Ran 58.72 59 ⇑P P 21 41 22.6 +0.9
baz=58
TRO Tromso 58.75 343 *e*P P 21 41 20.6 -1.4
TRO AMb AMB 21 41 22.7
comp=Z,71nm,1.4s,mb5.5
TRO Tromso 58.75 343 *e*P P 21 41 20.6 -1.4
comp=Z,71nm,1.4s,mb5.5
J09A Fry Pan Ranch, 58.77 59 ⇓P P 21 41 22.0 -0.1
baz=58,SNR=5.2
MSO Missoula 58.80 53 *e*P P 21 41 21.9 -0.4
comp=Z,24nm,1.3s,mb5.1
AKTK Aktyubinsk 58.80 312 P P 21 41 21.4 -0.9
AKTO Aktyubinsk 58.80 312 P P 21 41 21.4 -0.9
comp=Z,6.9nm,0.6s,mb4.9,baz=58,slow=6.4,SNR=15
AKTO Aktyubinsk 58.80 312 P P 21 41 21.4 -0.9
AKTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
WVOR Wild Horse Val 58.81 60 *e*P P 21 41 21.8 -0.6
WVOR pmax pmax
comp=Z,14nm,1.0s,mb5.0
WVOR Wild Horse Val 58.81 60 *e*P P 21 41 21.8 -0.6
comp=Z,14nm,1.0s,mb4.9
ORV Oroville 58.86 64 ⇓P P 21 41 23.0 +0.3
baz=59
D14A Greenough 58.88 53 P P 21 41 22.8 -0.1
baz=59,SNR=13
E13A Victor 58.90 54 P P 21 41 23.8 +0.8
baz=59,SNR=6.4
H11A Donnelly 58.94 56 P P 21 41 23.6 +0.3
baz=59,SNR=8.3
CHMT Chamberlain Mo 59.12 53 *e*P P 21 41 24.0 -0.5
N06A Buffalo Meadow 59.13 62 ⇑P P 21 41 25.0 +0.4
baz=59
L08A Fields 59.13 60 ⇑P P 21 41 25.0 +0.4
baz=59
M07A Soldier Meadow 59.14 61 ⇑P P 21 41 25.1 +0.5
baz=59
K09A Rome 59.18 59 ⇑P P 21 41 25.0 +0.1
baz=59
F13A Darby 59.22 55 P P 21 41 25.3 +0.1
baz=59,SNR=8.8
E14A Clinton 59.30 54 P P 21 41 25.8 0.0
baz=59,SNR=8.6
D15A Lincoln 59.44 52 ⇓P P 21 41 26.8 +0.1
baz=59
O06A Flanigan 59.49 63 ⇑P P 21 41 26.9 -0.2
baz=59
JRSC Jasper Ridge 59.73 66 ⇓P P 21 41 28.4 -0.3
baz=60
F14A Wisdom 59.73 54 ⇑P P 21 41 28.5 -0.3
baz=59
E15A Deer Lodge 59.75 53 P P 21 41 28.9 0.0
baz=59,SNR=7.5
FFC Flin Flon 59.77 41 P P 21 41 29.5 +0.4
comp=Z,371nm,0.8s,mb6.5,SNR=9.7
FFC Flin Flon 59.77 41 P P 21 41 29.2 +0.2
SUMG Summit 59.98 4 *e*P P 21 41 30.8 +0.3
comp=Z,232nm,0.9s,mb6.2
O07A Toulon 60.07 62 ⇓P P 21 41 31.6 +0.5
baz=60
N08A GE Springer Mi 60.13 61 ⇓P P 21 41 31.8 +0.3
baz=60
M09A Marrel Ranch, 60.13 60 ⇓P P 21 41 32.0 +0.4
baz=60
F15A Butte 60.20 54 P P 21 41 32.5 +0.5
baz=60,SNR=11
EGMT Eagleton 60.29 50 *e*P P 21 41 32.4 -0.2
comp=Z,51nm,1.1s,mb5.5
EGMT Eagleton 60.29 50 P P 21 41 32.9 +0.3
baz=60,SNR=8.9
NIL Nilore 60.36 289 P P 21 41 34.2 +1.1
comp=Z,442nm,0.8s,mb6.5,SNR=12
N09A Rock Creek Ran 60.44 61 ⇓P P 21 41 33.7 0.0
baz=60
HLID Hailey 60.55 57 ⇓P P 21 41 34.5 +0.1
baz=60
PACP Pacheco Peak 60.57 66 ⇑P P 21 41 34.9 +0.4
baz=60
M10A I.L. Ranch, Tu 60.60 60 ⇑P P 21 41 35.5 +0.7
baz=60
G15A Dillon 60.62 54 P P 21 41 35.1 +0.2
baz=60,SNR=5.8
R06C Coleville 60.75 64 ⇓P P 21 41 35.6 -0.1
baz=60
BOZ Bozeman (W) 60.79 53 *e*P P 21 41 36.3 +0.3
BOZ pmax pmax
comp=Z,34nm,1.1s,mb5.4
BOZ Bozeman (W) 60.79 53 *e*P P 21 41 36.3 +0.3
comp=Z,34nm,1.1s,mb5.4
HAST UC Hastings Re 60.80 67 ⇓P P 21 41 36.1 0.0
baz=61
BMN Battle Mountai 60.89 61 P P 21 41 35.6 -1.1
BMN pmax pmax
comp=Z,18nm,1.1s,mb5.1
BMN Battle Mountai 60.89 61 P P 21 41 35.6 -1.1
comp=Z,18nm,1.1s,mb5.1
LOF Lofoten 61.06 344 *e*P P 21 41 38.8 +1.0
O09A Fish Creek Ran 61.07 61 ⇓P P 21 41 38.1 +0.2
baz=61
M11A Holland Ranch, 61.10 59 ⇓P P 21 41 38.4 +0.3
baz=61
R07C Lee Vining 61.27 64 ⇓P P 21 41 39.3 0.0
baz=61
QLMT Earthquake Lak 61.42 54 *e*P P 21 41 40.7 +0.4
M12A Wells 61.62 59 ⇑P P 21 41 41.7 +0.1
baz=61
GCMT Greycliff 61.76 52 *e*P P 21 41 43.1 +0.5
N12A Clover Valley, 61.91 59 ⇓P P 21 41 44.0 +0.4
baz=62
O11A Cowboy Ranch, 62.00 60 ⇓P P 21 41 44.7 +0.5
baz=62
M13A Montello 62.09 58 ⇓P P 21 41 44.9 +0.1
baz=62
HELL Mitchell Peak, 62.18 65 ⇑P P 21 41 45.0 -0.3
baz=62
IMW Indian Meadow 62.28 54 *e*P P 21 41 47.1 +1.0
comp=Z,34nm,1.2s,mb5.3
R09A Tonopah 62.37 63 ⇑P P 21 41 47.1 +0.5
baz=62
O12A Currie 62.45 60 ⇓P P 21 41 47.7 +0.5
baz=62
MOR8 Moi Rana 62.60 343 *e*P P 21 41 45.3 -2.8
MOR8 AMb AMB 21 41 48.4
comp=Z,68nm,0.9s,mb5.8
MOR8 Moi Rana 62.60 343 *e*P P 21 41 45.3 -2.8
comp=Z,68nm,0.9s,mb5.8
S09A Goldfield 62.61 63 ⇓P P 21 41 48.6 +0.3
baz=62
P12A McGill 62.87 60 ⇑P P 21 41 50.2 +0.2
baz=63,SNR=5.4
KAKA Kakadu 62.92 204 *e*P P 21 41 49.2 -1.1
comp=Z,13nm,0.6s,mb5.2
AHID Auburn Hatcher 62.93 56 *e*P P 21 41 50.4 0.0
comp=Z,24nm,1.7s,mb5.1
HWUT Hardware Ranch 63.42 57 *e*P P 21 41 53.9 +0.3
comp=Z,20nm,1.3s,mb5.1
MPMC Manual Prospec 63.52 65 ⇑P P 21 41 54.3 0.0
baz=63
DUG Dugway 63.62 59 *e*P P 21 41 55.1 +0.1
DUG pmax pmax
comp=Z,39nm,1.2s,mb5.3
DUG Dugway 63.62 59 *e*P P 21 41 55.1 +0.1
comp=Z,39nm,1.2s,mb5.3
DUG Dugway 63.62 59 ⇑P P 21 41 55.0 0.0
baz=63
FURC Furnace Creek, 63.64 64 ⇓P P 21 41 54.8 -0.4
baz=63
FIA1 FINESS Array S 63.73 335 *e*P P 21 41 54.0 -1.7
FINES FINESS Array B 63.73 335 P P 21 41 54.5 -1.3
comp=Z,53nm,0.7s,mb5.7,baz=40,slow=9.9,SNR=50
FINES FINESS Array B 63.73 335 P P 21 41 54.5 -1.2
FINES pmax pmax
comp=Z,53nm,0.7s
PUL Pulkovo 63.78 332 *e*P P 21 41 53.6 -2.4
PDAR Pinedale Array 63.79 55 P P 21 41 56.2 +0.2
comp=Z,6.9nm,0.8s,mb4.7,baz=292,slow=2.1,SNR=19
EDW2 Edwards Air Fo 63.98 66 ⇑P P 21 41 57.4 0.0
baz=64
SFJD Kangerlussuaq 64.37 11 *e*P P 21 41 59.1 -0.8
comp=Z,38nm,0.8s,mb5.5
DAU Daniels Canyon 64.38 58 *e*P P 21 42 02.5 +2.5
GSC Goldstone 64.44 65 ⇓P P 21 42 00.1 -0.3
baz=64
NSS Namsos 64.54 343 *e*P P 21 41 59.7 -1.3
TUQ Turquoise Mtn. 64.89 64 ⇓P P 21 42 02.7 -0.6
baz=65
MSU Marysvale 65.10 60 *e*P P 21 42 05.0 +0.3
TMUT Trail Mountain 65.15 58 *e*P P 21 42 08.0 +3.0
OBN Obninsk 65.16 326 *e*P P 21 42 02.9 -2.1
ULM Lac du Bonnet 65.56 42 P P 21 42 06.9 -0.7
comp=Z,16nm,0.8s,mb5.1,baz=312,slow=7.0,SNR=17
BELC Belle Mtn. 65.80 66 ⇓P P 21 42 08.5 -0.7
baz=66
IRM Iron Mountain 66.22 65 ⇓P P 21 42 11.5 -0.4
baz=66
W13A Hualapai Mount 66.36 63 ⇓P P 21 42 12.0 -0.8
baz=66
BC3 Big Chuckw Mtn 66.37 66 ⇑P P 21 42 12.8 -0.1
baz=66
X13A Yucca 66.73 64 ⇓P P 21 42 14.7 -0.5
baz=66
W14A Seligman 66.77 63 ⇑P P 21 42 15.2 -0.2
baz=66
ABKT Ailbek 66.86 301 P P 21 42 16.4 +0.4
comp=Z,304nm,0.7s,mb6.4,SNR=15
Y12C Blythe 66.88 65 ⇓P P 21 42 15.7 -0.4
baz=67
AGMN Agassiz Refuge 66.96 43 *e*P P 21 42 15.8 -0.9
comp=Z,27nm,0.9s,mb5.3
VRSR Storozhevoye 67.02 322 *e*P P 21 42 17.6 +0.6
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,60nm,0.9s
GLA Glamis 67.16 66 ⇑P P 21 42 18.3 +0.4
baz=67
MOL Molde 67.17 344 *e*P P 21 42 17.8 -0.1
W15A Williams 67.28 62 ⇑P P 21 42 18.3 -0.4
baz=67
X14A Yava 67.39 63 ⇓P P 21 42 19.5 +0.2
baz=67
CTA Charters Tower 67.56 188 *e*P P 21 42 18.6 -1.8
comp=E,10nm,1.1s,mb4.8
CTA Charters Tower 67.56 188 *e*P P 21 42 18.6 -1.8
CTA pmax pmax
comp=Z,10.0nm,1.1s
SMCO Snowmass 67.65 56 P P 21 42 22.5 +1.6
comp=Z,12nm,0.9s,mb4.9
Y14A Wickenburg 67.68 64 ⇑P P 21 42 21.4 +0.2
baz=67
HYB Hyderabad 67.68 272 *i* P P 21 42 21.5 +0.3
HYB Hyderabad 67.68 272 *e*P P 21 42 21.5 +0.3
X15A Humboldt 67.77 63 ⇓P P 21 42 22.2 +0.4
baz=68
NB2 NORSAR Subarra 67.82 342 P P 21 42 21.6 -0.5
comp=Z,119nm,0.9s,mb5.9,baz=30,slow=6.5
NOA NORSAR Array B 67.82 342 P P 21 42 21.6 -0.5
comp=Z,88nm,0.8s,mb5.8,baz=25,slow=6.3,SNR=109
NOA NORSAR Array B 67.82 342 P P 21 42 21.6 -0.5
NOA pmax pmax
comp=Z,88nm,0.8s
ISCO Idaho Springs 67.98 55 *e*P P 21 42 23.7 +0.6
ISCO pmax pmax
comp=Z,18nm,1.3s,mb4.9
ISCO Idaho Springs 67.98 55 *e*P P 21 42 23.7 +0.6
comp=Z,18nm,1.3s,mb5.0
NAO01 NORSAR Array S 68.07 342 *e*P P 21 42 22.9 -0.7
comp=Z,74nm,0.9s,mb5.7
BORG Borgarnes 68.12 358 P P 21 42 25.2 +1.3
comp=Z,83nm,0.8s,mb5.8,baz=44,slow=4.3,SNR=12
MVCO Mesa Verde 68.13 59 ⇓P P 21 42 23.9 -0.1
baz=68
HYA Hoyanger 68.72 344⇑ *iP* P 21 42 28.4 +0.7
HYA AMb AMB 21 42 30.4
comp=Z,183nm,1.3s,mb5.8
HYA Hoyanger 68.72 344 *e*P P 21 42 28.4 +0.7
comp=Z,183nm,1.3s,mb5.8
115A Sonoran Desert 69.00 64 ⇑P P 21 42 29.8 +0.4
baz=69
SUE Sulen 69.08 345⇑ *iP* P 21 42 29.9 -0.1
SUE AMb AMB 21 42 31.6
comp=Z,178nm,0.9s,mb6.0
SUE *e*pP pP 21 42 34.4 -1.4
SUE Sulen 69.08 345⇑ *iP* P 21 42 29.9 -0.1
comp=Z,178nm,0.9s,mb6.0
EYMN Ely 69.20 41 *e*P P 21 42 29.6 -1.1
comp=Z,18nm,0.9s,mb5.0
WRAB Tennant Creek 69.36 200 P P 21 42 31.0 -0.7
comp=Z,156nm,0.9s,mb5.9,SNR=7.6
WRAB Tennant Creek 69.36 200 *e*P P 21 42 31.0 -0.7
WRAB Tennant Creek 69.36 200 P P 21 42 31.1 -0.7
WB2 Warramunga Arr 69.37 200 *e*P P 21 42 30.6 -1.2
WRA Warramunga Arr 69.38 200 P P 21 42 29.9 -1.8
comp=Z,14nm,0.8s,mb5.0,baz=18,slow=6.6,SNR=20
WRA Warramunga Arr 69.38 200 P P 21 42 29.9 -1.9
WRA pmax pmax
comp=Z,15nm,0.8s
KONO Kongsberg 69.43 342 *e*P P 21 42 32.5 +0.4
KONO AMb AMB 21 42 34.0
comp=Z,112nm,1.5s,mb5.6
KONO Kongsberg 69.43 342 P P 21 42 32.4 +0.3
KONO pmax pmax
comp=Z,110nm,1.0s,mb5.7
KONO Kongsberg 69.43 342⇑ *eP* P 21 42 31.2 -0.9
ODD1 Odda 69.79 343⇑ *iP* P 21 42 33.4 -1.0
ODD1 AMb AMB 21 42 35.3
comp=Z,132nm,1.1s,mb5.8
ODD1 Odda 69.79 343⇑ *iP* P 21 42 33.4 -1.0
comp=Z,132nm,1.1s,mb5.8
ECSD EROS,Sioux Fal 69.92 47 *e*P P 21 42 34.1 -1.0
BLS5 Blasjo 70.28 343 *e*P P 21 42 38.9 +1.5
BLS5 AMb AMB 21 42 40.5

comp=Z,76nm,1.4s,mb5.4
BLS5 Blasjo 70.28 343 *e*P **P 21 42 38.9 +1.5**
comp=Z,76nm,1.4s,mb5.4
SUW Suwalki 70.75 332 *e*P **P 21 42 39.4 -0.8**
SUW Suwalki 70.75 332 P **P 21 42 39.6 -0.6**
SUW *e* 21 42 54.9
SUW pmax pmax
comp=Z,210nm,1.0s,mb6.0
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
comp=Z,303nm,0.9s,mb6.2,SNR=5.1
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315 P **P 21 42 42.5 +1.8**
SNR=6.5
KIV Kislovodsk 70.83 315 P **P 21 42 42.5 +1.8**
SNR=6.5
KIV Kislovodsk 70.83 315 P **P 21 42 42.8 +2.1**
SNR=6.3
KIV Kislovodsk 70.83 315⇑ *e*P **P 21 42 40.9 +0.2**
KIV pmax pmax
comp=Z,85nm,1.7s,mb5.4
KIV Kislovodsk 70.83 315⇑ *e*P **P 21 42 40.0 -0.7**
LAZ Ladron 70.87 60 *e*P **P 21 42 41.6 +0.7**
ANMO Albuquerque 70.88 59⇑ *e*P **P 21 42 40.4 -0.6**
ZEI Tsey 71.12 313 *e*P **P 21 42 42.7 +0.2**
ZEI *i* 21 43 02.1
ZEI pmax pmax
comp=Z,29nm,0.8s,mb5.3
SNART Snartemo 71.13 342 *e*P **P 21 42 42.7 +0.2**
SNART *e*pP pP 21 42 47.2 -1.1
AKASG Malin Array Be 71.38 327 P **P 21 42 43.3 -0.7**
comp=Z,26nm,0.5s,mb5.5,baz=33,slow=6.1,SNR=100
AKASG Malin Array Be 71.38 327 P **P 21 42 43.3 -0.7**
AKASG pmax pmax
comp=Z,26nm,0.5s
AKBB Malin Array Si 71.38 327 *e*P **P 21 42 43.3 -0.7**
KIEV Kiev 71.39 327 *e*P **P 21 42 43.3 -0.8**
KIEV pmax pmax
comp=Z,84nm,0.8s,mb5.7
KIEV Kiev 71.39 327 *e*P **P 21 42 43.3 -0.8**
comp=Z,84nm,0.8s,mb5.7
BSD Bornholm Skovb 72.22 337⇓ *i*P **P 21 42 49.0 -0.1**
comp=Z,168nm,0.9s,mb6.0
BSD *i* S PcP 21 43 07.1 -0.1
BSD
comp=Z,12μm,17.0s
BSD Bornholm Skovb 72.22 337⇓ *i*P **P 21 42 49.0 -0.1**
BSD *i* S PcP 21 43 07.1 -0.1
BSD pmax pmax
comp=Z,170nm,0.9s,mb6.0
BSD MLR MLR
comp=Z,12μm,17.0s,MS6.2
BSD Bornholm Skovb 72.22 337⇓ *i*P **P 21 42 49.0 -0.1**
comp=Z,169nm,0.9s,mb6.0
BSD *i* S PcP 21 43 07.1 -0.1
COP Copenhagen 72.36 338⇑ *i*P **P 21 42 49.8 -0.1**
comp=Z,135nm,0.9s,mb5.9
COP *i* S PcP 21 43 11.8 +4.0
COP Copenhagen 72.36 338⇑ *i*P **P 21 42 49.8 -0.1**
COP *i* S PcP 21 43 11.8 +4.0
COP pmax pmax
comp=Z,140nm,0.9s,mb5.9
SCHQ Schefferville 72.42 23 P **P 21 42 50.2 0.0**
comp=Z,23nm,0.9s,mb5.1,baz=348,slow=6.5,SNR=14
MUD Monsted U'grnd 72.44 340 *i* P **P 21 42 50.7 +0.3**
comp=Z,43nm,0.6s,mb5.6
MUD *i* 21 43 05.7
MUD *i* S PcP 21 43 13.9 +5.8
MUD Monsted U'grnd 72.44 340 *i* P **P 21 42 50.7 +0.3**
MUD *i* 21 43 05.7
MUD pmax pmax
comp=Z,43nm,0.6s,mb5.6
MUD Monsted U'grnd 72.44 340 *i* P **P 21 42 50.7 +0.3**
comp=Z,43nm,0.6s,mb5.6
MUD *i* 21 43 05.7
GNI Garni 72.63 311 P **P 21 42 53.4 +1.9**
comp=Z,28nm,1.0s,mb5.2,baz=13,slow=22,SNR=8.1
GNI Garni 72.63 311 P **P 21 42 53.6 +2.1**
SNR=7.9
GNI Garni 72.63 311 P **P 21 42 53.6 +2.1**
SNR=7.9
GNI Garni 72.63 311 P **P 21 42 53.6 +2.1**
SNR=7.9
GNI Garni 72.63 311 P **P 21 42 53.6 +2.1**
SNR=7.9
GNI Garni 72.63 311⇑ *e*P **P 21 42 51.5 0.0**
GNI pmax pmax
comp=Z,76nm,1.4s
ANN Anapa 72.65 318 *e*P **P 21 42 51.3 -0.4**
ANN *e*S S 21 52 17.8 +1.9
ANN pmax pmax
comp=Z,132nm,1.0s,mb5.8
SCIA State Center 72.94 46 *e*P **P 21 42 52.9 -0.5**
comp=Z,49nm,0.7s,mb5.5
ASAR Alice Springs 73.07 199 P **P 21 42 54.0 -0.1**
comp=Z,34nm,0.8s,mb5.3,baz=15,slow=4.8,SNR=94
ASAR Alice Springs 73.07 199 P **P 21 42 54.1 0.0**
ASAR pmax pmax
comp=Z,34nm,0.8s
GKP Gorka Klasztor 73.20 335 *e*P **P 21 42 54.8 -0.1**
LVV L'vov 73.99 329 *e*P **P 21 42 58.7 -0.8**
SIM Simferopol' 74.01 320⇓ *e*P **P 21 43 02.0 +2.3**
SIM *e*S S 21 52 27.0 -4.3
SIM pmax pmax
comp=Z,87nm,0.7s,mb5.8
SIM MLR MLR
comp=Z,8μm,16.0s,MS6.1
KIS Kishinev 74.55 325 *e*P **P 21 43 01.0 -1.8**
KWP Kalwaria 74.61 330 *e*P **P 21 43 03.6 +0.5**
KWP Kalwaria 74.61 330 *e*P **P 21 43 03.2 +0.1**
KWP pmax pmax
comp=Z,350nm,1.0s,mb6.2
IAS Iasi 74.88 325 P **P 21 43 04.6 -0.1**
OJC Ojcow 75.07 332 *e*P **P 21 43 06.0 +0.2**
STHS Stebnicka Huta 75.29 330 *e*P **P 21 43 07.7 +0.6**
STHS pmax pmax
comp=Z,87nm,0.8s,mb5.7
STHS Stebnicka Huta 75.29 330 *e*P **P 21 43 07.7 +0.6**
comp=Z,87nm,0.8s,mb5.7
KOLS Kolonicke sedl 75.35 329 *e*P **P 21 43 07.5 +0.1**
BURAR Bucovina Array 75.42 327⇑ *i*P **P 21 43 08.1 +0.3**
NIE Niedzica 75.60 331 *i* P **P 21 43 09.4 +0.6**
UZH Uzhgorod 75.60 329⇑ *i*P **P 21 43 08.8 -0.1**
KSP Ksiaz 75.62 334 *e*P **P 21 43 09.3 +0.3**
KSP Ksiaz 75.62 334⇑ *e*P **P 21 43 09.0 0.0**
EKA Eskdalemuir Ar 75.85 347 P **P 21 43 10.0 -0.3**
comp=Z,15nm,0.6s,mb5.1,baz=14,slow=4.8,SNR=72
EKA Eskdalemuir Ar 75.85 347 P **P 21 43 10.0 -0.3**
EKA pmax pmax
comp=Z,15nm,0.6s
ESK Eskdalemuir 75.88 347 P **P 21 43 10.3 -0.1**
comp=Z,178nm,0.6s,mb6.2,SNR=9.8
ESK Eskdalemuir 75.88 347 *e*P **P 21 43 10.0 -0.4**
ESK pmax pmax
comp=Z,17nm,0.6s,mb5.2
ESK Eskdalemuir 75.88 347 *e*P **P 21 43 09.9 -0.5**
comp=Z,17nm,0.6s,mb5.2
OKC Ostrava-Krasne 75.93 332 *e*P **P 21 43 10.9 +0.1**
UPC Upice 76.00 334 *e*P **P 21 43 11.7 +0.6**
DPC Dobruska-Polom 76.04 334 *e*P **P 21 43 12.0 +0.6**
CLL Collm 76.15 336⇑ *i*P **P 21 43 11.7 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 76.15 336⇑ *i*P **P 21 43 11.7 -0.3**
comp=Z,221nm,1.0s,mb6.0
MORC Moravsky Berou 76.17 333⇓ *i*P **P 21 43 12.8 +0.7**
MORC Moravsky Berou 76.17 333 *e*P **P 21 43 12.2 +0.1**
MORC pmax pmax
comp=Z,125nm,0.9s,mb5.8
MORC Moravsky Berou 76.17 333 *e*P **P 21 43 12.2 +0.1**
comp=Z,125nm,0.9s,mb5.8
BRG Berggiesshubel 76.27 335 *i* P **P 21 43 12.5 -0.2**
comp=Z,43nm,1.0s,mb5.3
BRG *i* 21 43 27.9
comp=Z,20nm,1.0s
BRG Berggiesshubel 76.27 335 *i* P **P 21 43 12.5 -0.2**
BRG *i* 21 43 27.9
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 76.27 335 *i* P **P 21 43 12.5 -0.2**
comp=Z,43nm,1.0s,mb5.3
BRG *i* PcP 21 43 27.9 +3.3
VRI Vrincioaia 76.30 325⇑ *i*P **P 21 43 13.2 +0.3**
LIKS Likavka 76.31 331 *e*P **P 21 43 13.9 +1.0**
LIKS pmax pmax
comp=Z,85nm,1.0s,mb5.6
LIKS Likavka 76.31 331 *e*P **P 21 43 13.9 +1.0**
comp=Z,85nm,1.0s,mb5.6
CFR Carcaliu 76.32 324⇓ *i*P **P 21 43 13.3 +0.3**
CFR Carcaliu 76.32 324 P **P 21 43 13.5 +0.5**
KECS Kecovo 76.35 330 *i* P **P 21 43 13.3 +0.2**
KECS pmax pmax
comp=Z,41nm,0.9s,mb5.4
KECS Kecovo 76.35 330 *i* P **P 21 43 13.3 +0.2**
comp=Z,41nm,0.9s,mb5.4
PLOR Plostina 76.35 325⇓ *i*P **P 21 43 13.8 +0.7**
BANOM Banah 76.37 293 P **P 21 43 14.6 +1.3**
SNR=6.6
BANOM Banah 76.37 293 P **P 21 43 14.6 +1.3**
SNR=6.6
BANOM Banah 76.37 293 P **P 21 43 14.6 +1.3**
SNR=6.6
BANOM Banah 76.37 293 P **P 21 43 14.6 +1.3**
SNR=6.6
MSL Mosul 76.38 309 *i* x x 21 43 14.0
PVCC Panska Ves 76.40 335 *e*P **P 21 43 13.7 +0.3**
TXAR Lajitas Array 76.55 61 P **P 21 43 14.0 -0.3**
comp=Z,9.4nm,0.8s,mb4.8,baz=298,slow=4.2,SNR=24
TXAR Lajitas Array 76.55 61 P **P 21 43 14.0 -0.3**
TXAR pmax pmax
comp=Z,9.0nm,0.8s
TIRR Tirgusor 76.80 323⇓ *i*P **P 21 43 16.0 +0.3**
TIRR Tirgusor 76.80 323⇑ *i*P **P 21 43 16.0 +0.3**
TIRR Tirgusor 76.80 323 *e*P **P 21 43 15.6 -0.1**
TIRR pmax pmax
comp=Z,113nm,0.9s,mb5.8
TIRR Tirgusor 76.80 323 *e*P **P 21 43 15.6 -0.1**
comp=Z,113nm,0.9s,mb5.8
HARR Harsova 76.81 324 P **P 21 43 15.7 0.0**
WSAR Wadi Sarin 76.82 290 P **P 21 43 17.6 +1.8**
comp=Z,49nm,1.0s,mb5.4,baz=94,slow=3.5,SNR=19
PRA Prague 76.85 335 P **P 21 43 17.0 +1.0**
VRAC Vranov 76.88 333 P **P 21 43 16.7 +0.5**
comp=Z,81nm,0.9s,mb5.7,baz=36,slow=5.1,SNR=48
VRAC Vranov 76.88 333⇓ *i*P **P 21 43 16.9 +0.8**
VRAC Vranov 76.88 333 P **P 21 43 16.7 +0.6**
VRAC pmax pmax
comp=Z,81nm,0.9s
VYHS Vyhne 76.88 331 *i* P **P 21 43 16.5 +0.3**
VYHS pmax pmax
comp=Z,50nm,1.0s,mb5.4
VYHS Vyhne 76.88 331 *i* P **P 21 43 16.5 +0.3**
comp=Z,50nm,1.0s,mb5.4
PRU Pruhonice 76.89 335 *e*P **P 21 43 16.5 +0.3**
MLR Muntele Rosu 76.92 325 P **P 21 43 16.5 +0.1**
comp=Z,103nm,0.8s,mb5.8,baz=330,slow=0.3,SNR=62
MLR Muntele Rosu 76.92 325⇑ *i*P **P 21 43 17.2 +0.8**
MLR Muntele Rosu 76.92 325 P **P 21 43 16.5 +0.1**
MLR pmax pmax
comp=Z,103nm,0.8s
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
BIDO Bidbid 76.94 290 P **P 21 43 18.6 +2.1**
SNR=19
DRGR 77.03 328⇓ *i*P **P 21 43 17.3 +0.3**
PSZ Piszkesteto 77.03 330⇓ *i*P **P 21 43 18.0 +1.0**
PSZ Piszkesteto 77.03 330 *e*P **P 21 43 17.3 +0.3**
PSZ pmax pmax
comp=Z,69nm,0.9s,mb5.6
PSZ Piszkesteto 77.03 330 *e*P **P 21 43 17.3 +0.3**
comp=Z,69nm,0.9s,mb5.6
PSZ Piszkesteto 77.03 330⇑ *e*P **P 21 43 17.5 +0.5**
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=14
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=14
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=14
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=11
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=11
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=11
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=11
WBK Wadi Bani Khal 77.06 289 P **P 21 43 19.1 +2.0**
SNR=11
WBK P 21 43 19.1
SNR=14
AAM Ann Arbor 77.07 40 P **P 21 43 17.3 +0.1**
AAM pmax pmax
comp=Z,52nm,0.8s,mb5.5
AAM Ann Arbor 77.07 40 *e*P **P 21 43 16.4 -0.8**
comp=Z,52nm,0.8s,mb5.5
MOX Moxa 77.12 337 *e*P **P 21 43 17.5 0.0**
comp=Z,98nm,1.1s,mb5.7
MOX Moxa 77.12 337 *e*P **P 21 43 17.5 0.0**
MOX pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SNX Sinaia 77.20 326⇑ *i*P **P 21 43 19.6 +1.7**
MALT Malatya 77.21 313⇓ *i*P **P 21 43 20.1 +2.1**
MALT Malatya 77.21 313 *e*P **P 21 43 19.7 +1.7**
MALT pmax pmax
comp=Z,110nm,1.0s,mb5.7
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
HATD Hatta, Dubai 77.26 293 P **P 21 43 19.5 +1.2**
SNR=14
NKC Novy Kostel 77.27 336 *e*P **P 21 43 18.4 +0.1**
VOIR 77.31 326⇓ *i*P **P 21 43 19.6 +1.1**
SMOL Smolenice 77.32 332 *i* P **P 21 43 19.3 +0.7**
SMOL Smolenice 77.32 332 *i* P **P 21 43 19.4 +0.8**
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=12
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
SMDO Samad 77.32 290 P **P 21 43 20.4 +1.8**
SNR=11
ASHO Ashiyiah 77.41 293 P **P 21 43 20.7 +1.6**
SNR=9.6
ASHO Ashiyiah 77.41 293 P **P 21 43 20.7 +1.6**
SNR=9.6
ASHO Ashiyiah 77.41 293 P **P 21 43 20.7 +1.6**
SNR=9.6
ASHO Ashiyiah 77.41 293 P **P 21 43 20.7 +1.6**
SNR=9.6
ASHO Ashiyiah 77.41 293 P **P 21 43 20.7 +1.6**
SNR=9.6
HOQ Hoqain 77.42 291⇑ P **P 21 43 20.5 +1.4**
SNR=52
HOQ Hoqain 77.42 291⇑ P **P 21 43 20.5 +1.4**
SNR=52
HOQ Hoqain 77.42 291⇑ P **P 21 43 20.5 +1.4**
SNR=52
MTUR Matau 77.48 326⇑ *i*P **P 21 43 20.7 +1.2**
PSN Preselentsi 77.53 323 *e*P **P 21 43 20.0 +0.2**
BUD Budapest 77.70 331⇑ *e*P **P 21 43 21.1 +0.3**
ZST Bratislava 77.70 332 *i* P **P 21 43 21.8 +1.1**
ZST pmax pmax
comp=Z,68nm,1.0s,mb5.5
ZST Bratislava 77.70 332 *i* P **P 21 43 21.8 +1.1**
comp=Z,68nm,1.0s,mb5.5
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
JMDO Jabal Madar 77.78 290 P **P 21 43 22.9 +1.7**
SNR=20
BUC1 Bucharest 77.84 325 P **P 21 43 21.8 +0.3**
KHC Kasperske Hory 77.94 335 *e*P **P 21 43 22.3 +0.2**
BHD Baghdad 77.97 306 *ex* x 21 43 17.0
BSY Bisya 78.09 291⇑ P **P 21 43 24.4 +1.5**
SNR=49
BSY Bisya 78.09 291⇑ P **P 21 43 24.4 +1.5**
SNR=49
ARQ Araqi 78.09 291 P **P 21 43 24.5 +1.6**
SNR=12
ARQ Araqi 78.09 291 P **P 21 43 24.5 +1.6**
SNR=12
ARQ Araqi 78.09 291 P **P 21 43 24.5 +1.6**
SNR=12
ARQ Araqi 78.09 291 P **P 21 43 24.5 +1.6**
SNR=12
ARQ Araqi 78.09 291 P **P 21 43 24.5 +1.6**
SNR=12
GRA1 Grafenberg Arr 78.09 336 *e*P **P 21 43 23.6 +0.7**
comp=Z,123nm,1.0s,mb5.8
GRF Grafenberg Arr 78.09 336 *e*P **P 21 43 23.6 +0.7**
comp=Z,123nm,1.0s,mb5.8
GRF Grafenberg Arr 78.09 336 *e*P **P 21 43 23.6 +0.7**
GRF pmax pmax
comp=Z,123nm,1.0s,mb5.8
GRFO Grafenberg 78.10 336 *e*P **P 21 43 23.4 +0.5**
GRFO pmax pmax
comp=Z,126nm,0.9s,mb5.8
GRFO Grafenberg 78.10 336 *e*P **P 21 43 23.4 +0.4**
comp=Z,126nm,0.9s,mb5.8
GEC2 GERESS Array S 78.16 335 *e*P **P 21 43 22.9 -0.4**
GERES GERESS Array B 78.16 335 P **P 21 43 23.6 +0.3**
comp=Z,23nm,0.8s,mb5.2,baz=32,slow=5.5,SNR=64
GERES GERESS Array B 78.16 335 P **P 21 43 23.6 +0.3**
GERES pmax pmax
comp=Z,23nm,0.8s
GZR Gura Zlata 78.19 327⇑ *i*P **P 21 43 24.1 +0.6**
PRD Provadia 78.25 323 *e*P **P 21 43 23.4 -0.4**
DLF Lyons Farm 78.32 348⇑ *i*P **P 21 43 24.1 -0.1**
SOP Sopron 78.33 332⇑ *e*P **P 21 43 25.1 +0.9**
CONA Conrad Observa 78.33 333 *i* P **P 21 43 25.0 +0.7**
SNR=23
DCN Croghan 78.38 349⇑ *i*P **P 21 43 24.5 0.0**
BR131 Keskin Array S 78.38 317 *e*P **P 21 43 25.0 +0.5**
comp=Z,58nm,0.9s,mb5.5
BRTR Keskin Array B 78.38 317 P **P 21 43 25.1 +0.6**
comp=Z,56nm,0.9s,mb5.5,baz=66,slow=3.5,SNR=78
BRTR PP PP 21 46 26.3 +4.6
comp=Z,3.2nm,0.9s,baz=67,slow=6.7,SNR=4.3
BRTR Keskin Array B 78.38 317 P **P 21 43 25.1 +0.6**
BRTR 21 46 26.3
BRTR pmax pmax
comp=Z,56nm,0.9s
BRTR pmax pmax
comp=Z,3.0nm,0.9s
MSNY Massena 78.39 33 *e*P **P 21 43 23.6 -1.0**
BZS Buzias 78.42 328⇓ *i*P **P 21 43 24.8 +0.1**
BZS Buzias 78.42 328 P **P 21 43 24.7 0.0**
BEBN Eben Emael 78.47 340 P **P 21 43 25.1 +0.1**
BEBN E 21 43 27.0
MEM Membach 78.57 340 P **P 21 43 25.1 -0.5**
comp=Z,70nm,0.9s,mb5.6
ANTO Ankara 78.65 318 P **P 21 43 27.3 +1.3**
SNR=13
ANTO Ankara 78.65 318 P **P 21 43 27.3 +1.3**
SNR=13
ANTO Ankara 78.65 318 P **P 21 43 27.3 +1.3**
SNR=13
ANTO Ankara 78.65 318⇓ *i*P **P 21 43 27.3 +1.3**
ANTO Ankara 78.65 318 *e*P **P 21 43 26.7 +0.7**
ANTO pmax pmax
comp=Z,121nm,1.1s,mb5.7
ANTO Ankara 78.65 318 *e*P **P 21 43 26.7 +0.7**
comp=Z,121nm,1.1s,mb5.7
ZIMR 78.68 325 P **P 21 43 26.1 -0.1**
CRAR CRAIOVA 78.72 326 P **P 21 43 26.9 +0.5**
UCC Uccle 78.76 341 P **P 21 43 25.7 -0.9**
SZH Strazhica 78.79 324 *e*P **P 21 43 27.0 +0.2**
TOD Tromm 78.81 338 *e*P **P 21 43 26.5 -0.4**
LONY Lake Ozonia 78.82 33 *e*P **P 21 43 25.4 -1.6**
comp=Z,16nm,0.8s,mb5.0
UMR Umm Al-Rimmam 78.88 302 *e*P **P 21 43 27.6 +0.3**
UMR AMb AMB 21 43 29.0
comp=Z,392nm,0.8s,mb6.4
MOA Molln 78.89 334 *i* P **P 21 43 27.8 +0.5**
SNR=17
BCLA Clavier 78.91 340 P **P 21 43 27.3 -0.1**
comp=Z,34nm,1.0s,mb5.2
BCLA E 21 43 28.4
MIB Mutribah 78.91 302 *e*P **P 21 43 27.9 +0.4**
MIB AMb AMB 21 43 30.1
comp=Z,594nm,0.7s
PKSM Moragy 78.94 330⇓ *i*P **P 21 43 27.0 -0.6**
PKSM Moragy 78.94 330 P **P 21 43 27.1 -0.5**
ARSA Arzberg 79.04 333 *i* P **P 21 43 29.0 +0.9**
comp=Z,57nm,1.2s,mb5.4,SNR=18
SNF Seneffe 79.05 341 P **P 21 43 27.9 -0.3**
comp=Z,19nm,1.1s,mb4.9
ALLY Alegheny Colle 79.11 38 *e*P **P 21 43 28.1 -0.4**
WCI Wyandotte Cave 79.14 44 *e*P **P 21 43 28.2 -0.5**
WCI pmax pmax
comp=Z,47nm,0.8s,mb5.5
WCI Wyandotte Cave 79.14 44 *e*P **P 21 43 28.2 -0.5**
comp=Z,47nm,0.8s,mb5.5
KBD Kabd 79.17 301 *e*P **P 21 43 29.3 +0.5**
KBD AMb AMB 21 43 31.7
comp=Z,1μm,0.9s
JMB Yambol 79.20 323 *e*P **P 21 43 28.6 -0.4**
JMB Yambol 79.20 323 *e*P **P 21 43 30.0 +1.0**
GIVF Givet 79.31 340 *e*P **P 21 43 30.1 +0.5**
QRN Al-Qurain 79.37 301 *e*P **P 21 43 30.4 +0.4**
QRN AMb AMB 21 43 31.9
comp=Z,303nm,0.6s,mb6.4
DOU Dourbes 79.37 341 P **P 21 43 29.8 -0.2**
comp=Z,13nm,0.9s,mb4.9
DOU E 21 43 30.8
NAY Al-Naaiem 79.38 302 *e*P **P 21 43 30.2 +0.2**
NAY AMb AMB 21 43 32.7
comp=Z,231nm,0.9s,mb6.1
WLF Walferdange 79.41 339 P **P 21 43 29.9 -0.3**
comp=Z,11nm,1.2s,mb4.7
BAIF Baives 79.49 341 *e*P **P 21 43 30.6 0.0**
comp=Z,32nm,0.6s,mb5.2
BAIF Baives 79.49 341 *e*P **P 21 43 30.6 0.0**
BAIF pmax pmax
comp=Z,16nm,0.6s,mb5.1
BAIF Baives 79.49 341 *e*P **P 21 43 30.6 0.0**
comp=Z,16nm,0.6s,mb5.1
NCB Newcomb 79.51 33 *e*P **P 21 43 29.4 -1.3**
comp=Z,22nm,0.9s,mb5.1
PERS Pernice 79.71 333 *e*P **P 21 43 31.9 +0.1**
STKA Stephens Creek 79.73 191 *e*P **P 21 43 30.9 -1.0**
comp=Z,9.8nm,0.9s,mb4.7
STKA Stephens Creek 79.73 191 P **P 21 43 30.5 -1.4**
comp=Z,10nm,0.8s,mb4.8,baz=356,slow=8.5,SNR=10.0
KBA Koelnbreinsper 79.86 334 *i* P **P 21 43 33.5 +0.9**
SNR=27
DIM Dimitrovgrad 79.97 324 *e*P **P 21 43 33.8 +0.6**
OBKA Obir 80.00 333 *i* D **P 21 43 33.4 0.0**

SNR=6.0
OBKA Obir 80.00 333 D **P** 21 43 33.4 0.0
SNR=6.0
BFO Black Forest 80.11 338 P **P** 21 43 33.1 -0.9
comp=Z,394nm,1.0s,mb6.3,SNR=14
BFO Black Forest 80.11 338 P **P** 21 43 33.6 -0.3
WATA Walderalm 80.14 335 *i* P **P** 21 43 35.1 +1.0
comp=Z,66nm,1.0s,mb5.5,SNR=23
WTTA Wattenberg 80.19 335 *i* P **P** 21 43 35.3 +1.0
comp=Z,119nm,1.0s,mb5.8,SNR=24
PLD Plovdiv 80.25 324 *eP* **P** 21 43 34.5 -0.2
PLD Plovdiv 80.25 324 *eP* **P** 21 43 34.2 -0.5
MOTA Moosalm 80.26 335 *i* P **P** 21 43 35.4 +0.6
comp=Z,100nm,1.0s,mb5.7,SNR=38
WLS Welschbruch 80.28 338 *eP* **P** 21 43 35.0 +0.1
CDF Champ du Feu 80.30 338 *eP* **P** 21 43 35.2 +0.2
comp=Z,173nm,1.0s,mb5.6
CDF Champ du Feu 80.30 338 *eP* **P** 21 43 35.2 +0.2
CDF pmax pmax
comp=Z,87nm,1.0s,mb5.6
CDF Champ du Feu 80.30 338 *eP* **P** 21 43 35.2 +0.2
comp=Z,86nm,1.0s,mb5.6
DIVS Divcibare 80.32 328 *eP* **P** 21 43 34.6 -0.5
SQTA Sankt Quirin 80.35 335 *i* P **P** 21 43 36.4 +1.2
comp=Z,85nm,1.1s,mb5.6,SNR=21
LJU Ljubljana 80.42 333 *eP* **P** 21 43 35.0 -0.7
VTS Vitosha 80.42 326 *eP* **P** 21 43 35.8 +0.1
VTS Vitosha 80.42 326 *ij iP* **P** 21 43 36.1 +0.4
VTS Vitosha 80.42 326 *i* P **P** 21 43 35.7 0.0
ECH Echery 80.51 338 *eP* **P** 21 43 35.6 -0.5
FELD Feldberg im Sc 80.61 338 *ij eP* **P** 21 43 37.2 +0.5
DAVA Damuels 80.66 336 *i* P **P** 21 43 37.4 +0.5
comp=Z,56nm,1.0s,mb5.4,SNR=11
BOJS Bojanci 80.68 332 *eP* **P** 21 43 36.6 -0.4
ALN Alexandroupoli 80.73 323 *eP* **P** 21 43 37.1 -0.2
MEZF Maizieres J'vi 80.76 340 *eP* **P** 21 43 37.6 +0.2
comp=Z,123nm,0.8s,mb5.6
MEZF Maizieres J'vi 80.76 340 *eP* **P** 21 43 37.6 +0.2
comp=Z,123nm,0.8s,mb5.9
MOF Molkenrain 80.86 338 *eP* **P** 21 43 37.6 -0.4
MCWV Mont Chateau 80.89 39 *eP* **P** 21 43 38.0 -0.2
comp=Z,80nm,0.8s,mb5.7
SSPA Standing Stone 80.90 37 *eP* **P** 21 43 37.2 -1.0
comp=Z,39nm,0.8s,mb5.3
HAU Haudompre 80.91 339 *eP* **P** 21 43 38.3 0.0
comp=Z,114nm,1.1s,mb5.4
HAU Haudompre 80.91 339 *eP* **P** 21 43 38.3 0.0
comp=Z,57nm,1.1s,mb5.4
HINF Hinteralfeld 80.96 338 *eP* **P** 21 43 38.2 -0.3
comp=Z,36nm,0.8s,mb5.0
HINF Hinteralfeld 80.96 338 *eP* **P** 21 43 38.2 -0.3
HINF pmax pmax
comp=Z,18nm,0.8s,mb5.0
HINF Hinteralfeld 80.96 338 *eP* **P** 21 43 38.2 -0.3
comp=Z,18nm,0.8s,mb5.0
MMB Musomiste 81.08 325 *i* P **P** 21 43 39.0 -0.1
DAVOX Davos 81.12 336 P **P** 21 43 40.5 +1.1
comp=Z,23nm,0.7s,mb5.2,baz=337,slow=2.0,SNR=16
PLE Pljevlja 81.20 328 *⇑iP* **P** 21 43 40.1 +0.3
FORT Forrest 81.30 203 *eP* **P** 21 43 40.1 -0.2
comp=Z,34nm,0.7s,mb5.4
LOMF Lomont 81.40 338 *eP* **P** 21 43 40.0 -0.9
IVA Berane 81.42 328 *eP* **P** 21 43 40.7 -0.3
UPM Unac-Piva 81.48 329 *⇑iP* **P** 21 43 40.0 -1.3
STIP Stip 81.58 326 *i* P **P** 21 43 41.2 -0.6
SKO Skopje 81.63 326 *i* P **P** 21 43 42.6 +0.6
PVY Plav 81.63 328 *⇑iP* **P** 21 43 40.9 -1.2
FLN La Foliniere 81.70 343 *eP* **P** 21 43 42.3 -0.2
comp=Z,74nm,1.0s,mb5.3
FLN La Foliniere 81.70 343 *eP* **P** 21 43 42.3 -0.2
FLN pmax pmax
comp=Z,37nm,1.0s,mb5.3
FLN La Foliniere 81.70 343 *eP* **P** 21 43 42.3 -0.2
comp=Z,37nm,1.0s,mb5.3
HRV Harvard--Oak R 81.75 32 *eP* **P** 21 43 42.4 -0.3
HRV pmax pmax
comp=Z,16nm,0.9s,mb5.0
HRV Harvard--Oak R 81.75 32 *eP* **P** 21 43 42.4 -0.4
comp=Z,16nm,0.9s,mb5.0
VAY Valandovo 81.76 325 *eP* **P** 21 43 42.3 -0.4
VAY Valandovo 81.76 325 *i* P **P** 21 43 42.4 -0.4
KNT Kendrikon 81.77 325 *eP* **P** 21 43 42.7 -0.1
LDF La Druitiere 81.79 343 *eP* **P** 21 43 42.5 -0.4
comp=Z,61nm,1.0s,mb5.2
LDF La Druitiere 81.79 343 *eP* **P** 21 43 42.5 -0.4
LDF pmax pmax
comp=Z,31nm,1.0s,mb5.2
LDF La Druitiere 81.79 343 *eP* **P** 21 43 42.5 -0.4
comp=Z,30nm,1.0s,mb5.2
NKY Niksic 81.79 328 *⇑iP* **P** 21 43 41.9 -1.0
BRY Bratogost 81.88 329 *eP* **P** 21 43 41.8 -1.6
LOS Limnos 81.94 323 *eP* **P** 21 43 43.3 -0.4
LUPA Lehigh Univers 81.95 36 *eP* **P** 21 43 42.4 -1.4
TTG Podgorica 82.03 328 *⇑iP* **P** 21 43 43.4 -0.8
OUR Ouranopolis 82.04 324 *eP* **P** 21 43 43.3 -1.0
GRR Gorron 82.13 343 *eP* **P** 21 43 44.8 +0.1
comp=Z,162nm,1.1s,mb5.6
GRR Gorron 82.13 343 *eP* **P** 21 43 44.8 +0.1
GRR pmax pmax
comp=Z,81nm,1.0s,mb5.6
GRR Gorron 82.13 343 *eP* **P** 21 43 44.8 +0.1
comp=Z,81nm,1.0s,mb5.6
GRG Griva 82.14 325 *eP* **P** 21 43 44.2 -0.5
LOR Lormes 82.19 340 *eP* **P** 21 43 44.9 -0.1
comp=Z,91nm,0.9s,mb5.4
LOR Lormes 82.19 340 *eP* **P** 21 43 44.9 -0.1
LOR pmax pmax
comp=Z,46nm,0.9s,mb5.4
LOR Lormes 82.19 340 *eP* **P** 21 43 44.9 -0.1
comp=Z,46nm,0.9s,mb5.4
KRUS Krusevo 82.22 326 *i* P **P** 21 43 45.2 +0.1
PLG Polygyros 82.22 324 *eP* **P** 21 43 44.5 -0.7
CABF La Chapelle 82.27 338 *eP* **P** 21 43 45.8 +0.3
comp=Z,61nm,1.0s,mb5.2
CABF La Chapelle 82.27 338 *eP* **P** 21 43 45.8 +0.3
CABF pmax pmax
comp=Z,31nm,1.0s,mb5.2
CABF La Chapelle 82.27 338 *eP* **P** 21 43 45.8 +0.3
comp=Z,31nm,1.0s,mb5.2
BUM Brajici-Budva 82.28 328 *⇑iP* **P** 21 43 45.0 -0.5
HCY Herceg Novi 82.29 329 *⇑iP* **P** 21 43 44.0 -1.6
CPNY Central Park 82.34 35 *eP* **P** 21 43 45.3 -0.5
CSS Prodhromos 82.36 315 *eP* **P** 21 43 46.2 +0.3
comp=Z,68nm,0.8s,mb5.6
ULC Ulcinj 82.44 328 *⇑iP* **P** 21 43 46.0 -0.4
SSF Saint Saulge 82.47 340 *eP* **P** 21 43 46.5 0.0
comp=Z,65nm,0.8s,mb5.3
SSF Saint Saulge 82.47 340 *eP* **P** 21 43 46.5 0.0
SSF pmax pmax
comp=Z,32nm,0.8s,mb5.3
SSF Saint Saulge 82.47 340 *eP* **P** 21 43 46.5 0.0
comp=Z,32nm,0.8s,mb5.3
BIA Bitola 82.49 326 *i* P **P** 21 43 46.5 -0.1
PAIG Paliouri 82.51 324 *eP* **P** 21 43 45.7 -1.0
SGMF Saint Gilles 82.58 345 *eP* **P** 21 43 47.0 -0.1
comp=Z,130nm,0.9s,mb5.6
SGMF Saint Gilles 82.58 345 *eP* **P** 21 43 47.0 -0.1
SGMF pmax pmax
comp=Z,65nm,0.9s,mb5.7
SGMF Saint Gilles 82.58 345 *eP* **P** 21 43 47.0 -0.1
comp=Z,65nm,0.9s,mb5.7
OHR Ohrid 82.61 326 *i* P **P** 21 43 47.2 0.0
ROSF Rostrenen 82.63 345 *eP* **P** 21 43 46.7 -0.6
comp=Z,172nm,1.0s,mb5.7
ROSF Rostrenen 82.63 345 *eP* **P** 21 43 46.7 -0.6
ROSF pmax pmax
comp=Z,86nm,1.0s,mb5.7
ROSF Rostrenen 82.63 345 *eP* **P** 21 43 46.7 -0.6
comp=Z,86nm,1.0s,mb5.7
BLA Blacksburg 82.67 41 *eP* **P** 21 43 47.4 -0.1
BLA pmax pmax
comp=Z,40nm,0.9s,mb5.5
BLA Blacksburg 82.67 41 *eP* **P** 21 43 47.4 -0.1
comp=Z,40nm,0.9s,mb5.5
FNA Florina 82.68 326 *eP* **P** 21 43 44.5 -3.1
AVF Avril sur Loir 82.76 340 *eP* **P** 21 43 48.0 0.0
SMF Signal de Mont 82.78 340 *eP* **P** 21 43 48.3 +0.2
comp=Z,306nm,1.2s,mb5.9
SMF Signal de Mont 82.78 340 *eP* **P** 21 43 48.3 +0.2
SMF pmax pmax
comp=Z,153nm,1.2s,mb5.9
SMF Signal de Mont 82.78 340 *eP* **P** 21 43 48.3 +0.2
comp=Z,153nm,1.2s,mb5.9
QUIF Quistinic 83.01 345 *eP* **P** 21 43 48.8 -0.5
BGF Bois d'Agland 83.10 340 *eP* **P** 21 43 49.7 0.0
comp=Z,37nm,0.6s,mb5.3
BGF Bois d'Agland 83.10 340 *eP* **P** 21 43 49.7 0.0
BGF pmax pmax
comp=Z,18nm,0.6s,mb5.3
BGF Bois d'Agland 83.10 340 *eP* **P** 21 43 49.7 0.0
comp=Z,18nm,0.6s,mb5.3
LPL La Plagne 83.13 338 *eP* **P** 21 43 50.9 +1.0
comp=Z,48nm,0.6s,mb5.4
LPL La Plagne 83.13 338 *eP* **P** 21 43 50.9 +1.0
LPL pmax pmax
comp=Z,24nm,0.6s,mb5.4
LPL La Plagne 83.13 338 *eP* **P** 21 43 50.9 +1.0
comp=Z,24nm,0.6s,mb5.4
LPG La Plagne 83.14 338 *eP* **P** 21 43 51.1 +1.1
comp=Z,137nm,0.9s,mb5.7
LPG La Plagne 83.14 338 *eP* **P** 21 43 51.1 +1.1
comp=Z,69nm,0.9s,mb5.7
PLDF La Plantade 83.47 340 *eP* **P** 21 43 52.0 +0.3
TCF Toulx Ste Croi 83.50 341 *eP* **P** 21 43 52.0 +0.2
comp=Z,68nm,0.9s,mb5.4
TCF Toulx Ste Croi 83.50 341 *eP* **P** 21 43 52.0 +0.2
TCF pmax pmax
comp=Z,34nm,0.9s,mb5.4
TCF Toulx Ste Croi 83.50 341 *eP* **P** 21 43 52.0 +0.2
comp=Z,34nm,0.9s,mb5.4
AGO Saint Agoulin 83.51 340 *eP* **P** 21 43 52.8 +0.9
MFF Saint Martin d 83.70 342 *eP* **P** 21 43 52.6 -0.2
comp=Z,314nm,1.7s,mb5.9
MFF Saint Martin d 83.70 342 *eP* **P** 21 43 52.6 -0.2
MFF pmax pmax
comp=Z,157nm,1.7s,mb5.9
MFF Saint Martin d 83.70 342 *eP* **P** 21 43 52.6 -0.2
comp=Z,157nm,1.7s,mb5.9
WHFO Wadi Hawf 83.80 290 P **P** 21 43 53.4 +0.1
SNR=15
RBK Rabkut 83.83 289 P **P** 21 43 53.6 +0.1
SNR=8.3
MBDF Montbardon 83.85 337 *eP* **P** 21 43 53.8 +0.2
comp=Z,17nm,0.5s,mb5.1
MBDF Montbardon 83.85 337 *eP* **P** 21 43 53.8 +0.2
MBDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
MBDF Montbardon 83.85 337 *eP* **P** 21 43 53.8 +0.2
comp=Z,8.6nm,0.5s,mb5.1
ORIF Oris-en-Rattie 83.91 338 *eP* **P** 21 43 54.8 +0.9
comp=Z,69nm,0.7s,mb5.6
ORIF Oris-en-Rattie 83.91 338 *eP* **P** 21 43 54.8 +0.9
ORIF pmax pmax
comp=Z,34nm,0.7s,mb5.6
ORIF Oris-en-Rattie 83.91 338 *eP* **P** 21 43 54.8 +0.9
comp=Z,34nm,0.7s,mb5.6
AQU L'Aquila 84.09 332 *⇑iP* **P** 21 43 55.4 +0.5
IGT Igoumenitsa 84.16 326 *eP* **P** 21 43 53.6 -1.6
VIVF Saint-Julien-l 84.27 339 *eP* **P** 21 43 56.1 +0.4
comp=Z,78nm,0.9s,mb5.5
VIVF Saint-Julien-l 84.27 339 *eP* **P** 21 43 56.1 +0.4
VIVF pmax pmax
comp=Z,39nm,0.9s,mb5.5
VIVF Saint-Julien-l 84.27 339 *eP* **P** 21 43 56.1 +0.4
comp=Z,39nm,0.9s,mb5.5
SAOF Saorge 84.33 336 *eP* **P** 21 43 55.4 -0.7
TOUF Mont Tournerai 84.39 337 *eP* **P** 21 43 56.4 0.0
SBF Sospel 84.48 336 *eP* **P** 21 43 56.5 -0.3
comp=Z,95nm,0.9s,mb5.6
SBF Sospel 84.48 336 *eP* **P** 21 43 56.5 -0.3
SBF pmax pmax
comp=Z,47nm,0.9s,mb5.6
SBF Sospel 84.48 336 *eP* **P** 21 43 56.5 -0.3
comp=Z,47nm,0.9s,mb5.6
ABTO Aybut 84.52 290 P **P** 21 43 57.4 +0.4
SNR=7.6
RJF Les Rejaudoux 84.58 341 *eP* **P** 21 43 56.9 -0.4
comp=Z,104nm,1.4s,mb5.5
RJF Les Rejaudoux 84.58 341 *eP* **P** 21 43 56.9 -0.4
RJF pmax pmax
comp=Z,52nm,1.4s,mb5.5
RJF Les Rejaudoux 84.58 341 *eP* **P** 21 43 56.9 -0.4
comp=Z,52nm,1.4s,mb5.5
REVF Revere 84.61 336 *eP* **P** 21 43 57.0 -0.5
CAF Calviac 84.82 340 *eP* **P** 21 43 58.3 -0.2
comp=Z,38nm,0.9s,mb5.2
CAF Calviac 84.82 340 *eP* **P** 21 43 58.3 -0.2
CAF pmax pmax
comp=Z,19nm,0.9s,mb5.2
CAF Calviac 84.82 340 *eP* **P** 21 43 58.3 -0.2
comp=Z,19nm,0.9s,mb5.2
SMRF Simiane la Rot 84.86 338 *eP* **P** 21 43 58.5 -0.3
comp=Z,61nm,1.1s,mb5.3
SMRF Simiane la Rot 84.86 338 *eP* **P** 21 43 58.5 -0.3
comp=Z,61nm,1.1s,mb5.6
FRF La Foret Royal 84.97 337 *eP* **P** 21 43 59.1 -0.2
comp=Z,83nm,1.2s,mb5.5
FRF La Foret Royal 84.97 337 *eP* **P** 21 43 59.1 -0.2
FRF pmax pmax
comp=Z,42nm,1.2s,mb5.4
FRF La Foret Royal 84.97 337 *eP* **P** 21 43 59.1 -0.2
comp=Z,42nm,1.2s,mb5.4
LFF La Frestale 85.10 341 *eP* **P** 21 43 59.6 -0.3
comp=Z,95nm,1.1s,mb5.5
LFF La Frestale 85.10 341 *eP* **P** 21 43 59.6 -0.3
LFF pmax pmax
comp=Z,48nm,1.1s,mb5.5
LFF La Frestale 85.10 341 *eP* **P** 21 43 59.6 -0.3
comp=Z,48nm,1.1s,mb5.5
KLBR Kellerberrin 85.19 211 *eP* **P** 21 43 59.8 -0.6
comp=Z,10.0nm,0.8s,mb5.0
LMR La Mourre 85.22 337 *eP* **P** 21 44 00.7 +0.2
comp=Z,143nm,1.2s,mb5.7
LMR La Mourre 85.22 337 *eP* **P** 21 44 00.7 +0.2
LMR pmax pmax
comp=Z,72nm,1.2s,mb5.7
LMR La Mourre 85.22 337 *eP* **P** 21 44 00.7 +0.2
comp=Z,72nm,1.2s,mb5.7
PGF Pioggiola 85.25 335 *eP* **P** 21 44 00.3 -0.4
comp=Z,104nm,1.3s,mb5.5
PGF Pioggiola 85.25 335 *eP* **P** 21 44 00.3 -0.4
PGF pmax pmax
comp=Z,52nm,1.3s,mb5.5
PGF Pioggiola 85.25 335 *eP* **P** 21 44 00.3 -0.4
comp=Z,52nm,1.3s,mb5.5
TIP Timpagrande 85.79 328 *eP* **P** 21 44 03.1 -0.3
EIL Elat 85.80 310 *eP* **P** 21 44 04.1 +0.7
comp=Z,875nm,0.8s
IDI Anoyia 85.95 321 P **P** 21 44 02.8 -1.3
comp=Z,18nm,0.8s,mb5.4,baz=26,slow=12,SNR=10
SIVA Sivas 86.22 320 *eP* **P** 21 44 04.6 -0.9
KARN Karanos 86.27 321 *eP* **P** 21 44 04.5 -1.2
MTLF Montolieu 86.28 340 *eP* **P** 21 44 05.5 -0.3
comp=Z,31nm,1.1s,mb5.2
MTLF Montolieu 86.28 340 *eP* **P** 21 44 05.5 -0.3
MTLF pmax pmax
comp=Z,16nm,1.1s,mb5.2
MTLF Montolieu 86.28 340 *eP* **P** 21 44 05.5 -0.3
comp=Z,16nm,1.1s,mb5.2
EPF Esparros 87.00 341 *eP* **P** 21 44 09.2 -0.2
SJPF Ste Jean 87.26 342 *eP* **P** 21 44 10.1 -0.5
ETSF Etsaut 87.33 342 *eP* **P** 21 44 10.4 -0.5
comp=Z,13nm,0.7s,mb5.0
ETSF Etsaut 87.33 342 *eP* **P** 21 44 10.4 -0.5
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
ETSF Etsaut 87.33 342 *eP* **P** 21 44 10.4 -0.5
comp=Z,6.5nm,0.7s,mb5.0
ESDC Sonseca Array 91.12 343 P **P** 21 44 28.5 -0.3
comp=Z,4.0nm,0.8s,mb4.8,baz=7.6,slow=4.7,SNR=8.5
KEST Kesra 91.42 332 P **P** 21 44 30.7 +0.5
comp=Z,6.9nm,0.8s,mb5.0,baz=307,slow=2.7,SNR=14
TORD Torodi Ar. Bea 114.87 330 PKP PKiKP 21 50 04.2 -0.5
comp=Z,1.1nm,0.7s,baz=22,slow=2.2,SNR=6.7
TORD PKKPab PKKPab 22 00 49.8 +2.6
comp=Z,1.2nm,1.0s,baz=236,slow=2.9,SNR=3.6
LIC Lamto 123.50 335 *e*PKIKP PKPdf 21 50 18.4 -2.9
VNDA Vanda 124.75 178 PKP PKPdf 21 50 20.8 -2.9
comp=Z,1.8nm,1.0s,baz=294,slow=3.0,SNR=4.1
VNDA Vanda 124.75 178 PKIKP PKPdf 21 50 20.8 -2.9
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 124.75 178 PKP PKPdf 21 50 20.8 -3.0
LPAZ La Paz 133.41 63 PKP PKPdf 21 50 39.2 -0.9
comp=Z,1.2nm,0.7s,baz=82,slow=2.2,SNR=3.7
SIV San Ignacio 137.27 55 PKP PKPdf 21 50 46.3 -1.1
comp=Z,1.7nm,0.7s,baz=252,slow=1.1,SNR=4.7
CFAA Coronel Fontan 144.18 79 PKP PKPdf 21 50 56.6 -3.2
comp=Z,1.7nm,0.8s,baz=290,slow=3.3,SNR=16
USHA Ushuaia 152.63 122 PKPbc PKPbc 21 51 18.6 -2.0
comp=Z,13nm,0.8s,baz=346,slow=14,SNR=4.0
SNAA Sanae 153.39 196 PKPbc PKPbc 21 51 19.6 -2.6
comp=Z,1.5nm,0.9s,baz=156,slow=4.8,SNR=6.0
SNAA Sanae 153.39 196 *e*PKPdf PKPbc 21 51 20.8 -1.4
SNAA *e* 21 51 32.1
SNAA *e* 21 51 43.3
VNA2 Neumayer--Watz 154.82 194 *e*PKPdf PKPbc 21 51 24.5 -0.8
VNA2 *e* 21 51 38.6
VNA3 Neumayer Olymp 154.90 192 *e*PKPdf PKPbc 21 51 26.3 +0.8
VNA3 *e* 21 51 39.1
VNA3 *e* 21 51 50.9

SKHL ***15*** *21:35:04.9±2.2, 47.12N×15558E, h50km±20km*
IDC ***15*** *21:35:07.9±0.4, 4767N×15457E, h0km, mb5.1/36, mb1 5.3/37, mb1mx5.3/38, mbtmp5.1/37, ML4.0/1, Error ellipse: s-maj=13.9km s-min=10.8km az=143.0*
ISCJB ***15*** *21:35:08.7±0.1, 4763N±003×15464E±002, h15km, mb5.4/213, MS5.5/8, Error ellipse: s-maj=4.3km s-min=1.9km az=161.1*
BJI ***15*** *21:35:08.1, 4784N×15472E, h19km, mB5.7, mb5.3, Ms5.6, Msz5.4*
NEIC ***15*** *21:35:09.6±0.1, 4767N×15455E, h10km, mb5.6/127, Error ellipse: s-maj=4.4km s-min=2.6km az=173.0*
MOS ***15*** *21:35:12.2±0.9, 4770N×15456E, h39km, mb5.6/93, Error ellipse: s-maj=7.4km s-min=4.2km az=98.5*
SZGRF ***15*** *21:35:17.2, 4820N×15471E, h33km, mb5.7, Kuril Islands, Russia*

ISC 15 21:35:10.7±0.1, 4773N±003×15455E±002, h16km, h16km±2.5km: pP-P, n834, σ0.976/821, mb5.4/213, MS5.5/8, 127C-106D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.13**	**19**	*eP*		**Pn**	**21 36 02.5**	**+3.1**
SKR				AMB		AMB	21 36 03.0	
	160nm,0.6s							
SKR				AMB		AMB	21 36 03.0	
	180nm,0.6s							
SKR				*eS*		**Sn**	**21 36 38.0**	**+1.5**
SKR				A			21 36 52.0	
	2μm,0.9s							
SKR				A			21 36 52.0	
	800nm,0.6s							
SKR				A			21 36 52.0	
	560nm,0.6s							
SKR	**Severo-Kuril's**	**3.13**	**19**	*e*PN		**Pn**	**21 36 02.5**	**+3.1**
SKR				*eS*		**Sn**	**21 36 38.0**	**+1.5**
SKR				pmax	pmax			
	comp=N,160nm,0.6s							
SKR				pmax	pmax			
	comp=E,160nm,0.6s							
SKR				pmax	pmax			
	comp=Z,480nm,0.6s							
SKR				smax				
	comp=E,2μm,0.9s							
SKR				smax				
	comp=N,800nm,0.6s							
KUR	**Kuril'sk**	**5.25**	**244**	*eP*		**Pn**	**21 36 25.7**	**-2.8**
KUR				AMB		AMB	21 36 29.5	
	comp=N,258nm,0.7s							
KUR				AMB		AMB	21 36 29.5	
	comp=N,688nm,0.7s							
KUR				*eS*		**Sn**	**21 37 28.0**	**-0.6**
KUR				A			21 37 51.0	
	comp=N,2μm,0.8s							
KUR				A			21 37 51.0	
	comp=N,1μm,0.8s							
KUR	**Kuril'sk**	**5.25**	**244**	*⇑iP*		**Pn**	**21 36 25.7**	**-2.8**
KUR				pmax	pmax			
	comp=N,260nm,0.7s							
KUR				pmax	pmax			
	comp=E,260nm,0.7s							
KUR				pmax	pmax			
	comp=Z,690nm,0.7s							
PET	**Petropavlovsk**	**5.92**	**25**	*⇑iP*		**Pn**	**21 36 37.4**	**-0.3**
PET				pmax	pmax			
	comp=Z,221nm,0.6s							
PET	**Petropavlovsk**	**5.92**	**25**	*eP*		**Pn**	**21 36 37.1**	**-0.6**
	comp=Z,327nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**7.10**	**242**	*e*PN		**Pn**	**21 36 56.1**	**+2.2**
YUK				S		**Sn**	**21 38 26.0**	**+12**
YUK				pmax	pmax			
	comp=Z,350nm,0.5s							
YUK				pmax	pmax			
	comp=Z,5μm,1.5s							
YUK				smax				
	comp=N,5μm,1.5s							
YUK				smax				
	comp=N,2μm,1.0s							
YUK				smax				
	comp=E,2μm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.05**	**269**	*⇑eP*		**Pn**	**21 37 09.9**	**+2.9**
YSS				AMB		AMB	21 37 15.0	
	comp=E,60nm,1.0s							
YSS				AMB		AMB	21 37 15.0	
	comp=E,220nm,1.0s							
YSS				AMB		AMB	21 37 15.0	
	comp=E,190nm,1.0s							
YSS				*ep*P			21 37 20.0	
YSS				*eS*		**Sn**	**21 38 42.0**	**+4.3**
YSS				A			21 38 46.8	
	comp=E,160nm,0.9s							
YSS	**Yuzh-Sakhalins**	**8.05**	**269**	*⇑eP*		**Pn**	**21 37 09.9**	**+2.9**
YSS				pmax	pmax			
	comp=N,60nm,1.0s							
YSS				pmax	pmax			
	comp=E,220nm,1.0s							
YSS				pmax	pmax			
	comp=Z,190nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.05**	**269**	*eP*		**Pn**	**21 37 10.3**	**+3.3**
TYV	**Tymovskoe**	**8.38**	**296**	*eP*		**Pn**	**21 37 14.0**	**+2.4**
TYV				AMB		AMB	21 37 25.0	
	comp=Z,57nm,0.8s							
TYV				AMB		AMB	21 37 25.0	
	comp=Z,94nm,0.8s							
UGL	**Uglegorsk**	**8.42**	**284**	*eP*		**Pn**	**21 37 16.0**	**+4.0**
UGL				*i* rx		rx	21 37 25.3	
JMP	**Maruseppu**	**8.65**	**249**	P		**Pn**	**21 37 15.0**	**-0.2**
JWK2	**Keihoku**	**9.05**	**259**	P		**Pn**	**21 37 26.8**	**+6.1**
ASAJ	**Asahikawa**	**9.08**	**251**	Pn		**Pn**	**21 37 24.9**	**+3.8**
	comp=Z,5.2nm,0.3s,baz=97,slow=19,SNR=7.8							
ASAJ	**Asahikawa**	**9.08**	**251**	P		**Pn**	**21 37 24.3**	**+3.2**
ERM	**Erimo**	**9.89**	**239**	*e*PN		**Pn**	**21 37 29.6**	**-2.7**
NKL	**Nikolayevsk**	**10.37**	**307**	*i* P		**Pn**	**21 37 41.7**	**+2.9**
NKL				AMB		AMB	21 37 48.5	
	comp=Z,220nm,1.3s							
NKL				AMB		AMB	21 37 48.5	
	comp=Z,1μm,1.8s							
JSH	**Shimam**	**11.42**	**249**	P		**Pn**	**21 37 53.4**	**+0.2**
JTM	**Tenmabayashi**	**11.89**	**239**	P		**Pn**	**21 37 52.7**	**-6.9**
MA2	**Magadan**	**12.08**	**351**	*e*PN		**Pn**	**21 38 02.9**	**+0.7**
MA2				pmax	pmax			
	comp=Z,40nm,0.8s							
TEY	**Ternei**	**12.68**	**264**	*eP*		**Pn**	**21 38 11.0**	**+0.6**
HABR	**Khabarovsk**	**13.06**	**281**	*e*PN		**Pn**	**21 38 20.2**	**+4.7**
KLR	**Kul'dur**	**15.19**	**284**	*eP*		**Pn**	**21 38 45.0**	**+0.5**
KLR				pmax	pmax			
	comp=E,170nm,1.8s							
KLR				pmax	pmax			
	comp=Z,150nm,1.8s							
MAT	**Matsushiro**	**16.45**	**233**	P		**Pn**	**21 38 57.9**	**-2.9**
MAT	**Matsushiro**	**16.45**	**233**	P		**Pn**	**21 38 57.4**	**-3.4**
MJAR	**Matsushiro Arr**	**16.45**	**233**	Pn		**Pn**	**21 38 58.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=31,slow=11,SNR=22							
MJAR	**Matsushiro Arr**	**16.45**	**233**	P		**Pn**	**21 38 58.5**	**-2.3**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MDJ	**Mudanjiang**	**17.54**	**269**	P		**Pn**	**21 39 16.5**	**+2.0**
MDJ				AMB		AMB		
	comp=Z,27nm,1.0s							
MDJ				AMB		AMB		
	comp=Z,1μm,6.9s							
MDJ	**Mudanjiang**	**17.54**	**269**	*eP*		**Pn**	**21 39 16.8**	**+2.2**
JGF	**Kuroka**	**17.61**	**233**	P		**Pn**	**21 39 13.4**	**-2.0**
ZEA	**Zeya**	**18.23**	**299**	*eP*		**Pn**	**21 39 23.3**	**+0.3**
ZEA				AMB		AMB	21 39 24.4	
	comp=Z,36nm,0.8s							
JWT	**Wachi**	**18.92**	**236**	P		**Pn**	**21 39 30.3**	**-1.1**
JAD	**Aida**	**19.86**	**237**	P		**Pn**	**21 39 41.0**	**-1.7**
YAK	**Yakutsk**	**20.06**	**325**	*⇑eP*		**P**	**21 39 42.6**	**-0.6**
YAK				pmax	pmax			
	comp=Z,29nm,0.8s							
YAK	**Yakutsk**	**20.06**	**325**	*eP*		**P**	**21 39 43.1**	**-0.1**
	comp=Z,209nm,0.9s							

JHS Saijyo 20.42 239 P P 21 39 47.5 +0.3
CN2 Changchun 20.62 270 ⇑P P 21 39 48.1 -1.2
CN2 eS S 21 43 32.0 -7.2
CN2 AMB AMB
comp=Z,40nm,0.7s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,6µm,14.0s,MS5.4
CN2 LR LR
comp=E,9µm,14.0s,MS5.4
CN2 LR LR
comp=Z,10µm,16.0s,MS5.3
JMN Monobe 20.91 236 P P 21 39 53.3 +0.9
BILL Bilibino 21.23 12 eP P 21 39 53.9 -2.0
BILL pmax pmax
comp=Z,32nm,1.0s,mb4.6
KSRS Korea Array 22.03 252 P P 21 40 05.3 +0.9
comp=Z,86nm,0.8s,mb5.2,baz=60,slow=10,SNR=68
HIA Hailar 23.00 287 eP P 21 40 14.1 -0.7
HIA Hailar 23.00 287 eP P 21 40 13.4 -1.4
JNU Nakatsue 23.06 239 P P 21 40 16.5 +1.1
comp=Z,62nm,0.8s,mb5.1,baz=260,slow=22,SNR=6.1
JNU Nakatsue 23.06 239 P P 21 40 16.1 +0.7
DL2 Dalian 25.37 262 P P 21 40 37.3 +0.2
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
BOD Bodaibo 26.14 308 eP P 21 40 43.1 -1.0
BOD pmax pmax
comp=Z,19nm,1.1s,mb4.5
BJI Beijing 28.47 269 eP P 21 41 05.9 +0.9
BJI AMB AMB
comp=Z,16nm,1.0s,mb4.6
BJI Beijing 28.47 269 eP P 21 41 05.9 +0.9
comp=Z,16nm,1.0s,mb4.6
TIA Tai'an 29.83 261 eP P 21 41 17.3 +0.2
HHC Hu-ho-hao-te 31.21 273 eP P 21 41 29.0 -0.2
HHC AP pP 21 41 33.4 -0.7
HHC PP PP 21 42 31.1 -8.6
HHC AMB AMB
comp=Z,53nm,1.1s,mb5.3
NJ2 Nanjing 31.22 253 eP P 21 41 30.8 +1.5
NJ2 AP pP 21 41 34.0 -0.2
NJ2 XP sP 21 41 36.8 +0.6
NJ2 PP PP 21 42 33.8 -6.1
NJ2 AMB AMB
comp=Z,260nm,0.8s,mb6.1
NJ2 AMB AMB
comp=Z,740nm,4.4s
NJ2 LR LR
comp=N,1µm,12.6s,MS5.2
NJ2 LR LR
comp=E,4µm,15.6s,MS5.2
NJ2 LR LR
comp=Z,1µm,13.3s,MS4.8
ULN Ulaanbaatar 31.51 288 eP P 21 41 29.9 -2.0
SONM Songino Array 31.94 288 P P 21 41 36.0 +0.3
comp=Z,3.3nm,0.7s,mb4.3,baz=75,slow=8.5,SNR=4.2
SONM PcP PcP 21 44 25.6 -0.2
comp=Z,7.8nm,0.8s,baz=114,slow=1.3,SNR=12
SONM Songino Array 31.94 288 P P 21 41 36.0 +0.3
SONM 21 44 25.6
SONM pmax pmax
comp=Z,3.0nm,0.7s
IMA2 Indian Mountai 32.44 37 eP P 21 41 40.0 -0.1
TLY Talaya 32.61 296 eP P 21 41 41.5 -0.1
TLY pmax pmax
comp=Z,36nm,1.5s,mb5.1
TLY Talaya 32.61 296 eP P 21 41 40.5 -1.1
comp=Z,28nm,1.3s,mb5.0
KDAK Kodiak Island 32.73 52 P P 21 41 41.0 -1.7
comp=Z,37nm,0.8s,mb5.4,baz=303,slow=3.1,SNR=10
ZAK Zakamensk 33.16 294 eP P 21 41 45.6 -0.8
PMR Palmer 34.22 45 P P 21 41 54.7 -0.9
PMR pmax pmax
comp=Z,31nm,1.0s,mb5.2
PMR Palmer 34.22 45 eP P 21 41 54.7 -0.9
comp=Z,10nm,0.5s,mb5.0
MCK McKinley 34.27 41 eP P 21 41 56.0 -0.1
MCK pmax pmax
comp=Z,69nm,1.1s,mb5.5
MCK McKinley 34.27 41 eP P 21 41 55.7 -0.3
comp=Z,69nm,1.1s,mb5.5
SML Sawmill 34.59 45 eP P 21 41 58.6 -0.2
SML Sawmill 34.59 45 eP P 21 41 58.3 -0.5
COLA College 34.76 39 eP P 21 42 00.3 0.0
COLA pmax pmax
comp=Z,101nm,0.9s,mb5.8
COLA College 34.76 39 eP P 21 42 00.3 0.0
comp=Z,101nm,0.9s,mb5.8
WHN Wuhan 35.12 255 ⇓P P 21 42 03.5 +0.1
DIV Divide 35.87 46 eP P 21 42 09.3 -0.5
comp=Z,225nm,1.0s,mb6.0
QZH Quanzhou 36.34 244 P P 21 42 15.1 +1.2
QZH AMB AMB
comp=Z,100nm,1.0s,mb5.7
XAN Xi'an 36.58 265 P P 21 42 15.8 -0.1
XAN AMB AMB
comp=Z,38nm,1.3s,mb5.1
EGAK Eagle 37.63 39 eP P 21 42 23.7 -1.1
DAWY Dawson 38.46 40 eP P 21 42 31.4 -0.4
LZH Lanzhou 38.84 272 ⇑P P 21 42 36.1 +1.1
LZH AP pP 21 42 39.5 -0.4
LZH XP sP 21 42 41.3 -0.6
LZH PP PP 21 44 06.0 +2.0
LZH AMB AMB
comp=Z,61nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,332nm,5.1s
LZH LR LR
comp=E,5µm,13.3s
LZH LR LR
comp=Z,7µm,14.7s,MS5.6
LZH Lanzhou 38.84 272 ⇑P P 21 42 36.1 +1.1
comp=Z,61nm,1.1s,mb5.2
LZH pP pP 21 42 39.5 -0.4
LZH sP sP 21 42 41.2 -0.7
LZH PP PP 21 44 06.0 +2.0
LZH LR LR
comp=Z,7µm,14.7s,MS5.6
GTA Gaotai 39.79 279 eP P 21 42 43.3 +0.4
GTA AP pP 21 42 51.8 +3.9
GTA XP sP 21 42 57.0 +7.2
GTA PCP PcP 21 44 49.6 +0.6
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.7
INK Inuvik 40.30 33 P P 21 42 47.9 +0.7
comp=Z,68nm,0.8s,mb5.5,baz=286,slow=7.0,SNR=61
INK Inuvik 40.30 33 P P 21 42 47.9 +0.7
INK pmax pmax
comp=Z,68nm,0.8s
SKAG Skagway 41.28 47 eP P 21 42 56.7 +1.4
comp=Z,173nm,1.5s,mb5.5
CD2 Chengdu 41.94 265 ⇓iP P 21 43 00.8 +0.2
CD2 XP sP 21 43 07.8 +0.2
CD2 PP PP 21 44 41.8 +4.1
CD2 AMB AMB
comp=Z,200nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,800nm,8.4s
CD2 LR LR
comp=E,9µm,13.2s
ZAL Zalesovo 42.86 305 P P 21 43 07.2 -0.9
comp=E,4.0nm,0.4s,mb4.5,baz=17,slow=9.1,SNR=3.3
ZAL PcP PcP 21 44 58.7 -0.3
comp=E,5.4nm,0.7s,baz=11,slow=4.0,SNR=5.6
ZAL Zalesovo 42.86 305 P P 21 43 07.2 -0.9
ZAL 21 44 58.7
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL Zalesovo 42.86 305 P P 21 43 07.2 -0.9
ZAL PcP PcP 21 44 58.7 -0.3
GYA Guiyang 42.88 258 ⇓iP P 21 43 08.8 +0.5
GYA AP pP 21 43 12.5 -0.8
GYA PP PP 21 44 51.4 +3.5
GYA PCP PcP 21 45 01.3 +2.2
GYA AMB AMB
comp=Z,130nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,1µm,5.6s
GYA LR LR
comp=N,4µm,17.0s,MS5.6
GYA LR LR
comp=E,5µm,16.8s,MS5.6
GYA LR LR
comp=Z,5µm,16.4s,MS5.5
NVS Novosibirsk 43.38 307 eP P 21 43 10.3 -2.0
NVS e 21 44 59.5
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,37nm,1.7s
NVS pmax pmax
comp=Z,50nm,1.7s,mb5.0
TGY Tagaytay City 43.60 231 P P 21 43 12.7 -1.4
comp=Z,74nm,0.4s,baz=283,slow=1.0,SNR=5.2
TGY Tagaytay City 43.60 231 P P 21 43 12.7 -1.5
TGY pmax pmax
comp=Z,74nm,0.4s
WMQ Urumqi 45.49 291 ⇑iP P 21 43 29.3 +0.1
WMQ AP pP 21 43 33.3 -0.9
WMQ XP sP 21 43 36.3 +0.1
WMQ PCP PcP 21 45 08.3 +0.3
WMQ PP PP 21 45 16.3 +0.6
WMQ PPP 21 45 58.4
WMQ S S 21 50 09.8 -0.5
WMQ XS sS 21 50 17.4 -1.1
WMQ AMB AMB
comp=Z,21nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,613nm,8.0s
WMQ LR LR
comp=N,3µm,16.3s,MS5.5
WMQ LR LR
comp=E,3µm,16.3s,MS5.5
WMQ LR LR
comp=Z,3µm,16.3s,MS5.3
QIZ Qiongzhong 46.13 247 ⇑P P 21 43 35.1 +0.8
QIZ AMB AMB
comp=Z,24nm,1.5s,mb4.9
QIZ LR LR
comp=N,804nm,15.2s,MS5.0
QIZ LR LR
comp=E,929nm,14.1s,MS5.0
QIZ LR LR
comp=Z,1µm,13.4s,MS5.0
KMI Kunming 46.38 260 P P 21 43 36.9 +0.6
KMI AP pP 21 43 39.9 -1.4
KMI AMB AMB
comp=Z,61nm,1.2s,mb5.4
KMI Kunming 46.38 260 P P 21 43 36.9 +0.6
comp=Z,61nm,1.2s,mb5.4
KMI pP pP 21 43 39.9 -1.4
MK31 Makanchi Array 47.37 297 eP P 21 43 43.3 -0.7
MK31 Makanchi Array 47.37 297 eP P 21 43 42.9 -1.0
MKAR Makanchi Array 47.37 297 P P 21 43 43.3 -0.7
comp=Z,7.2nm,0.6s,mb4.8,baz=74,slow=7.4,SNR=12
MKAR Makanchi Array 47.37 297 P P 21 43 43.3 -0.7
MKAR pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 47.64 303 P P 21 43 45.6 -0.5
comp=Z,307nm,0.7s,mb6.4,SNR=9.7
ALE Alert 48.67 6 P P 21 43 53.0 -1.1
comp=Z,262nm,0.8s,mb6.3,SNR=16
YKA Yellowknife Ar 49.56 38 P P 21 44 00.8 0.0
comp=Z,21nm,0.8s,mb5.2,baz=294,slow=7.2,SNR=12
YKA Yellowknife Ar 49.56 38 P P 21 44 00.8 0.0
YKA pmax pmax
comp=Z,21nm,0.8s
BVAR Borovoye Array 51.00 309 P P 21 44 11.5 -0.3
comp=Z,14nm,0.7s,mb5.0,baz=56,slow=8.4,SNR=15
BVAR Borovoye Array 51.00 309 P P 21 44 11.5 -0.2
BVAR pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 51.03 309 P P 21 44 11.0 -1.0
comp=Z,177nm,0.5s,mb6.2,SNR=5.7
BRVK Borovoye 51.03 309 P P 21 44 11.6 -0.4
LSA Lhasa 51.20 273 P P 21 44 15.0 +1.8
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
KBS Kingsbay 51.68 351 ⇑eP P 21 44 15.3 -1.6
ZRNK Zerenda 51.76 310 P P 21 44 17.2 -0.2
ZRNK pmax pmax
comp=Z,15nm,0.8s,mb5.0
ZRNK Zerenda 51.76 310 eP P 21 44 16.7 -0.7
comp=Z,15nm,0.8s,mb5.0
NANT Nan 52.15 256 ⇓P P 21 44 20.0 -0.4
comp=Z,412nm,1.0s,mb6.3
CHG Chitang Mai 53.29 257 ⇓P P 21 44 30.0 +1.2
comp=Z,89nm,0.9s,mb5.7
C05A Tolt Reservoir 53.60 57 ⇓P P 21 44 29.8 -1.3
baz=53
B07A Winthrop 54.05 55 ⇓P P 21 44 33.7 -0.6
baz=54
A08A Turner Farm, O 54.24 54 P P 21 44 36.0 +0.2
baz=54,SNR=7.5
AAK Ala-Archa 54.28 296 eP P 21 44 32.3 -3.7
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AAK Ala-Archa 54.28 296 eP P 21 44 34.3 -1.7
comp=Z,10nm,0.8s,mb4.8
D06A Cle Elum 54.35 57 ⇓P P 21 44 36.0 -0.6
baz=54
ETW Entiat 54.41 56 P P 21 44 36.9 -0.1
C07A Waterville 54.51 56 ⇑P P 21 44 36.8 -1.0
baz=54
B08A Colville Reser 54.54 55 P P 21 44 37.7 -0.2
baz=54,SNR=6.7
A09A Danville 54.60 54 P P 21 44 38.5 +0.1
baz=54,SNR=13
E06A Yakima 54.64 57 ⇑P P 21 44 37.8 -0.9
baz=54
EBG Ellensburg 54.67 57 P P 21 44 39.1 +0.2
I03A Eugene 54.78 61 ⇓P P 21 44 38.9 -0.8
baz=55
NST Nakhon Sawan 54.80 253 P P 21 44 40.5 +0.7
D07A Quincy 54.84 56 ⇑P P 21 44 38.9 -1.2
baz=55
EDM Edmonton 54.93 47 eP P 21 44 40.1 -0.7
J02A Umpqua 54.95 62 ⇑P P 21 44 40.1 -0.8
baz=55
ARU Arti 54.95 318 ⇑iP P 21 44 40.0 -0.9
ARU e 21 45 42.0
ARU e 21 46 41.1
ARU ePPP 21 47 57.5
ARU eS S 21 52 21.3 -0.8
ARU eSS SS 21 56 10.3 +4.7
ARU pmax pmax
comp=Z,30nm,0.8s,mb5.4
EPH Ephrata 54.96 56 P P 21 44 40.5 -0.6
H04A Detroit Lake 55.01 60 ⇑P P 21 44 40.5 -0.9
baz=55
C08A Higginbotham F 55.02 55 ⇑P P 21 44 40.8 -0.6
baz=55
B09A Rice 55.16 54 P P 21 44 42.2 -0.2
baz=55,SNR=6.8
A10A Northport 55.16 53 ⇑P P 21 44 41.7 -0.7
baz=55
KSH Kashi 55.19 293 eP P 21 44 43.3 +0.7
KSH eAP pP 21 44 49.3 +1.6
KSH eXP sP 21 44 53.8 +4.2
KSH ePCP PcP 21 45 42.6 -1.0
KSH ePP PP 21 46 48.0 +2.0
KSH ePPP 21 48 01.5
KSH eSCP ScP 21 49 43.1 +1.5
KSH LR LR
comp=Z,23µm,22.2s,MS6.2
G05A Wamic 55.19 59 ⇑P P 21 44 42.7 +0.1
baz=55
F06A Goldendale 55.20 58 ⇓P P 21 44 41.8 -0.9
baz=55
E07A Sunnyside 55.27 57 ⇓P P 21 44 42.9 -0.3
baz=55
MDW Midway 55.29 57 P P 21 44 43.3 -0.1
J03A Ideyld Park 55.31 62 ⇑P P 21 44 43.6 +0.1
baz=55
K02A Glendale 55.35 62 ⇓P P 21 44 43.3 -0.5
baz=55
I04A Tendick Farm, 55.39 61 ⇑P P 21 44 43.6 -0.5
baz=55
OD2 Odessa Site #2 55.44 55 P P 21 44 43.7 -0.8
C09A Chrisman Ranch 55.44 55 ⇓P P 21 44 44.1 -0.3
baz=55
D08A Wollman Farm, 55.51 56 ⇓P P 21 44 44.2 -0.7
baz=55
H05A Madras 55.59 59 ⇑P P 21 44 44.6 -0.9
baz=55
G06A Carlson Farm, 55.59 59 ⇓P P 21 44 45.9 +0.4
baz=55
F07A Phinny Hill Vi 55.61 58 ⇓P P 21 44 45.4 -0.3
baz=55
L02A Cave Junction 55.64 63 ⇓P P 21 44 45.7 -0.2
baz=56
DAG Danmarks Havn 55.71 358 ⇓iP P 21 44 45.9 -0.5
comp=Z,27nm,1.3s,mb5.1
DAG Danmarks Havn 55.71 358 ⇓iP P 21 44 45.9 -0.5
DAG pmax pmax
comp=Z,27nm,1.3s,mb5.1
B10A Chitwood Farm, 55.73 54 ⇑P P 21 44 46.2 -0.3
baz=56
E08A Dider Farm, El 55.76 57 ⇑P P 21 44 45.8 -0.9
baz=56
HUMO Hull Mountain 55.76 62 ⇑P P 21 44 47.2 +0.4
baz=56
NEW Newport 55.81 54 P P 21 44 47.1 0.0
comp=Z,12nm,0.9s,mb4.9,baz=302,slow=6.5,SNR=7.5
NEW Newport 55.81 54 P P 21 44 47.1 0.0
NEW pmax pmax
comp=Z,12nm,0.9s
A11A Hall Mountain, 55.82 53 ⇑P P 21 44 46.9 -0.3
baz=56,SNR=9.0
JIRN Jiri 55.84 275 eP P 21 44 48.5 +1.2
comp=Z,117nm,0.8s,mb6.0
I05A Bend 55.85 60 ⇑P P 21 44 47.1 -0.2
baz=56
D09A Jones Farm, Ri 55.85 56 ⇑P P 21 44 45.8 -1.6
baz=56
GUN Gumba 55.89 275 eP P 21 44 48.5 +0.8
comp=Z,45nm,0.6s,mb5.7
VIPM Ingram Point 56.02 59 P P 21 44 49.3 +0.7
H06A Lindquist Farm 56.06 59 ⇑P P 21 44 48.9 +0.1
baz=56
B11A Sandpoint 56.12 53 P P 21 44 49.5 +0.1
baz=56,SNR=7.2
G07A Ruggs Ranch, H 56.13 58 ⇑P P 21 44 47.8 -1.5
baz=56
A12A Yaak River Ran 56.21 53 ⇓P P 21 44 50.3 +0.3
baz=56
E09A Wood Farm, Sta 56.26 56 P P 21 44 50.0 -0.3
baz=56,SNR=9.5
F08A Pendleton 56.33 57 ⇓P P 21 44 49.2 -1.6
baz=56
KKN Kakani 56.37 276 eP P 21 44 52.0 +0.9
comp=Z,235nm,1.2s,mb6.1
J05A Fort Rock 56.38 61 ⇓P P 21 44 51.8 +0.6
baz=56,SNR=9.9
YBH Yreka Blue Hor 56.42 63 P P 21 44 52.1 +0.6
comp=Z,20nm,1.0s,mb5.1,baz=308,slow=2.9,SNR=14
YBH Yreka Blue Hor 56.42 63 P P 21 44 52.1 +0.6
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 56.42 63 ⇓P P 21 44 51.9 +0.4
baz=56,SNR=9.2
PKI Pulchoki 56.42 275 eP P 21 44 52.4 +0.9
K04A Chilquin 56.49 62 ⇓P P 21 44 52.4 +0.4
baz=56
G08A Pilot Rock 56.52 58 ⇑P P 21 44 52.4 +0.2
baz=56
M02C Callahan 56.54 63 ⇑P P 21 44 53.3 +0.9
baz=56,SNR=8.1
I06A Prineville 56.59 60 P P 21 44 53.8 +1.1
baz=56,SNR=8.0
DMN Daman 56.60 276 eP P 21 44 53.9 +1.1
comp=Z,221nm,1.0s,mb6.2
N02C Big Bar 56.61 64 ⇓P P 21 44 53.1 +0.3
baz=56
L04A Klamath Falls 56.65 62 ⇑P P 21 44 53.7 +0.5
baz=56,SNR=6.9
GKN Gorkha 56.66 276 eP P 21 44 53.9 +0.7
comp=Z,204nm,1.1s,mb6.1
O01C Eel River Cons 56.70 65 ⇑P P 21 44 53.9 +0.4
baz=56
KEV Kevo 56.75 341 ep P 21 44 52.5 -1.3
comp=Z,8.0nm,0.9s,mb4.8
KEV Kevo 56.75 341 eP P 21 44 52.5 -1.3
KEV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
E10A Myers Farm, Un 56.86 56 P P 21 44 54.8 +0.2
baz=57,SNR=6.1
F09A S2 Ranch, Elgi 56.87 57 ⇓P P 21 44 54.7 +0.1
baz=57
K05A Summer Lake 56.92 61 ⇓P P 21 44 56.0 +1.0
baz=57,SNR=6.6
M04C Macdoel 56.92 63 P P 21 44 55.6 +0.7
baz=57,SNR=8.4
I07A Izee 56.92 59 ⇑P P 21 44 55.5 +0.5
baz=57,SNR=7.6
D11A Klaveano Farm, 56.95 55 P P 21 44 55.0 -0.2
baz=57,SNR=9.2
M03C McCloud 57.05 63 ⇓P P 21 44 56.1 +0.1
baz=57
F10A Beach Ranch, E 57.09 56 ⇓P P 21 44 56.4 +0.2
baz=57
H08A Prairie City 57.14 58 ⇑P P 21 44 56.9 +0.3
baz=57,SNR=11
B13A Whitefish 57.18 52 P P 21 44 57.2 +0.4
baz=57,SNR=19
WDC Whiskeytown Da 57.22 64 P P 21 44 57.3 +0.2
baz=57,SNR=6.8
K06A Valley Falls 57.25 61 P P 21 44 58.3 +0.9
baz=57,SNR=12
ARCES ARCESS Array B 57.25 341 P P 21 44 56.9 -0.4
comp=Z,7.8nm,0.8s,mb4.8,baz=20,slow=8.1,SNR=7.5
ARCES ARCESS Array B 57.25 341 P P 21 44 56.9 -0.5
ARCES pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 57.25 341 P P 21 44 56.9 -0.4
PMG Port Moresby 57.26 189 ⇑eP P 21 44 52.5 -4.9
O02C Red Bluff 57.31 65 ⇑P P 21 44 58.1 +0.3
baz=57,SNR=9.7
BSMT Bassoo Peak 57.32 53 P P 21 44 58.6 +0.7
NNT Nongplab 57.35 251 P P 21 45 00.0 +2.0
L05A Lakeview 57.36 62 ⇑P P 21 44 58.6 +0.5
baz=57,SNR=11
P01C Double 8 Ranch 57.40 66 ⇓P P 21 44 58.5 +0.1
baz=57,SNR=6.4
J07A Hines 57.46 60 ⇑P P 21 44 59.6 +0.8
baz=57,SNR=5.8
KOLN Koldanda 57.51 277 eP P 21 45 00.2 +1.0
comp=Z,121nm,1.0s,mb5.9
C13A Hot Springs 57.54 53 P P 21 45 00.0 +0.7
baz=57,SNR=5.7
I08A Drewsey 57.56 59 ⇓P P 21 44 60.0 +0.4
baz=57,SNR=11
M05C Lookout 57.59 63 ⇓P P 21 45 00.1 +0.4
baz=57,SNR=12
H09A Durkee 57.63 58 ⇑P P 21 45 00.6 +0.6
baz=57
GASB Alder Springs 57.67 65 ⇑P P 21 45 00.8 +0.4
baz=58,SNR=11
HATC Hat Creek Radi 57.73 63 ⇓P P 21 45 01.1 +0.4
baz=58
F11A Grangeville 57.74 56 P P 21 45 01.1 +0.3
baz=58,SNR=5.0
MOD Modoc 57.76 62 eP P 21 45 00.6 -0.4
comp=Z,83nm,1.2s,mb5.6
MOD Modoc 57.76 62 P P 21 45 01.5 +0.5
baz=58,SNR=12
HOPS Hopland 57.85 66 ⇓P P 21 45 02.0 +0.4
baz=58
K07A Rock Creek Ran 57.91 60 ⇓P P 21 45 02.0 +0.1
baz=58,SNR=11
TMCR Tamitsa 57.93 332 eP P 21 45 03.0 +0.9
D13A Huson 57.95 54 P P 21 45 02.3 0.0
baz=58,SNR=8.8
J08A Circle Bar Ran 57.95 59 ⇓P P 21 45 02.7 +0.4
baz=58,SNR=10
G11A Walters Elk Ra 57.98 56 ⇑P P 21 45 02.3 -0.2
baz=58
I09A Lost Marbles R 58.00 58 P P 21 45 03.0 +0.4
baz=58,SNR=13
M06C Likely Place G 58.08 62 ⇑P P 21 45 03.6 +0.4
baz=58,SNR=7.6
KTK1 Kautokeino 58.16 341 eP P 21 45 03.9 +0.2
O04C Chester 58.26 63 ⇓P P 21 45 04.9 +0.5
baz=58,SNR=7.3
L07A Adell 58.26 61 ⇑P P 21 45 05.1 +0.6
baz=58,SNR=8.2
MNRC McLaughlin Nat 58.31 66 ⇑P P 21 45 05.6 +0.7
baz=58,SNR=10
K08A Mann Creek Ran 58.33 60 P P 21 45 05.7 +0.7
baz=58,SNR=11
J09A Fry Pan Ranch, 58.38 59 P P 21 45 05.8 +0.5
baz=58,SNR=24
MSO Missoula 58.39 54 eP P 21 45 05.3 -0.1
comp=Z,45nm,1.2s,mb5.4
WVOR Wild Horse Val 58.42 60 eP P 21 45 05.6 0.0
WVOR pmax pmax
comp=Z,196nm,1.1s,mb6.0

WVOR **Wild Horse Val** 58.42 60 *e*P P 21 45 05.6 0.0
comp=Z,196nm,1.1s,mb6.0
NSHM **Saint Helena R** 58.43 66 *e*P P 21 45 05.8 +0.2
ORV **Oroville** 58.47 64 ⇑P P 21 45 05.2 -0.8
baz=58
D14A **Greenough** 58.48 53 P P 21 45 06.1 +0.1
baz=58,SNR=33
E13A **Victor** 58.49 54 P P 21 45 06.6 +0.5
baz=58,SNR=10
SUTB **Sutter Butte** 58.50 65 ⇑P P 21 45 05.4 -0.7
baz=58
TRO **Tromso** 58.53 343 *e*P P 21 45 04.0 -2.4
H11A **Donnelly** 58.54 57 ⇓P P 21 45 06.3 -0.1
baz=58,SNR=20
O05C **Quincy** 58.58 64 ⇑P P 21 45 06.7 0.0
baz=58
OHCM **Honcut** 58.62 65 *e*P P 21 45 06.7 -0.3
CVS **Carmenet Viney** 58.63 66 ⇑P P 21 45 06.7 -0.4
baz=58
FARB **Farallon Islan** 58.70 67 ⇓P P 21 45 06.8 -0.7
baz=58
CHMT **Chamberlain Mo** 58.72 53 P P 21 45 07.6 -0.1
L08A **Fields** 58.74 60 ⇓P P 21 45 08.1 +0.3
baz=59,SNR=12
N06A **Buffalo Meadow** 58.74 62 P P 21 45 08.2 +0.3
baz=59,SNR=15
M07A **Soldier Meadow** 58.75 61 ⇑P P 21 45 08.0 +0.2
baz=59
K09A **Rome** 58.79 59 ⇓P P 21 45 08.4 +0.2
baz=59,SNR=8.3
AKTK **Aktyubinsk** 58.80 312 P P 21 45 08.4 +0.2
AKTO **Aktyubinsk** 58.80 312 P P 21 45 08.4 +0.2
comp=Z,6.4nm,0.5s,mb4.9,baz=66,slow=6.6,SNR=8.5
AKTO **Aktyubinsk** 58.80 312 P P 21 45 08.4 +0.2
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
F13A **Darby** 58.82 55 ⇑P P 21 45 07.9 -0.4
baz=59,SNR=15
E14A **Clinton** 58.89 54 P P 21 45 08.9 +0.1
baz=59,SNR=16
BEKR **Beckwourth** 58.97 63 ⇑P P 21 45 09.2 -0.2
baz=59,SNR=16
D15A **Lincoln** 59.03 53 ⇑P P 21 45 09.9 0.0
baz=59
O06A **Flanigan** 59.11 63 ⇑P P 21 45 10.4 0.0
baz=59,SNR=10
P05C **Yuba Gap, Truc** 59.17 64 ⇑P P 21 45 10.8 0.0
baz=59
N07B **Gerlach** 59.24 62 P P 21 45 11.7 +0.4
baz=59,SNR=13
L09A **Wilkinson Ranc** 59.24 60 ⇓P P 21 45 11.7 +0.4
baz=59,SNR=7.3
F14A **Wisdom** 59.33 54 ⇓P P 21 45 11.9 0.0
baz=59
E15A **Deer Lodge** 59.35 53 P P 21 45 12.2 +0.2
baz=59,SNR=16
JRSC **Jasper Ridge** 59.35 67 ⇓P P 21 45 11.5 -0.5
baz=59
FFC **Flin Flon** 59.36 41 P P 21 45 12.8 +0.7
comp=Z,360nm,0.9s,mb6.4,SNR=9.2
FFC **Flin Flon** 59.36 41 P P 21 45 12.5 +0.4
WENL **Wente Brothers** 59.52 66 ⇑P P 21 45 12.8 -0.4
baz=59
BNLO **Ben Lomond (Sa** 59.57 67 ⇑P P 21 45 13.0 -0.5
baz=59
R04C **Big Horse Ranc** 59.62 65 ⇓P P 21 45 13.5 -0.5
baz=60
SUMG **Summit** 59.66 5 *e*P P 21 45 14.8 +0.7
comp=Z,34nm,0.8s,mb5.4
O07A **Toulon** 59.68 62 P P 21 45 14.8 +0.5
baz=60,SNR=20
WCN **Washoe City** 59.69 64 ⇑P P 21 45 14.5 +0.2
baz=60,SNR=7.5
N08A **GE Springer Mi** 59.74 61 P P 21 45 15.2 +0.5
baz=60,SNR=17
M09A **Marrel Ranch,** 59.74 60 ⇓P P 21 45 15.3 +0.5
baz=60
F15A **Butte** 59.79 54 ⇑P P 21 45 15.3 +0.2
baz=60,SNR=37
KSM **Kuching** 59.84 234 *e*P P 21 45 17.1 +1.6
S04C **Ingram Canyon,** 59.85 66 ⇓P P 21 45 15.0 -0.5
baz=60
R05C **Kirkwood Meado** 59.87 64 P P 21 45 15.8 +0.2
baz=60,SNR=9.6
EGMT **Eagleton** 59.88 51 *e*P P 21 45 15.5 -0.2
comp=Z,68nm,1.1s,mb5.6
EGMT **Eagleton** 59.88 51 ⇓P P 21 45 15.5 -0.2
baz=60,SNR=9.7
FCC **Fort Churchill** 59.91 34 *e*P P 21 45 15.0 -0.9
FCC pmax pmax
comp=Z,99nm,1.1s,mb5.8
FCC **Fort Churchill** 59.91 34 *e*P P 21 45 15.0 -0.9
comp=Z,99nm,1.1s,mb5.8
DLMT **Dillon** 60.04 54 *e*P P 21 45 17.1 +0.4
comp=Z,106nm,1.4s,mb5.7
N09A **Rock Creek Ran** 60.05 61 ⇓P P 21 45 17.3 +0.4
baz=60,SNR=22
CMB **Columbia Colle** 60.10 65 *e*P P 21 45 17.4 +0.2
CMB pmax pmax
comp=Z,47nm,1.4s,mb5.3
CMB **Columbia Colle** 60.10 65 *e*P P 21 45 17.4 +0.2
comp=Z,47nm,1.4s,mb5.3
CMB **Columbia Colle** 60.10 65 ⇓P P 21 45 17.1 -0.1
baz=60,SNR=13
HLID **Hailey** 60.15 57 *e*P P 21 45 17.9 +0.3
comp=Z,29nm,1.1s,mb5.2
HLID **Hailey** 60.15 57 P P 21 45 18.2 +0.6
baz=60,SNR=23
PACP **Pacheco Peak** 60.19 67 ⇓P P 21 45 17.7 -0.1
baz=60,SNR=16
M10A **I.L. Ranch, Tu** 60.21 60 ⇑P P 21 45 18.4 +0.5
baz=60,SNR=23
G15A **Dillon** 60.22 54 P P 21 45 18.2 +0.2
baz=60,SNR=22
R06C **Coleville** 60.36 64 P P 21 45 19.6 +0.6
baz=60,SNR=22
BOZ **Bozeman (W)** 60.38 54 *e*P P 21 45 19.9 +0.7
BOZ pmax pmax
comp=Z,70nm,1.1s,mb5.6
BOZ **Bozeman (W)** 60.38 54 *e*P P 21 45 19.9 +0.7
comp=Z,70nm,1.1s,mb5.6
HAST **UC Hastings Re** 60.42 67 ⇓P P 21 45 19.1 -0.3
baz=60,SNR=6.4
P08A **Dixie Valley** 60.45 62 ⇓P P 21 45 18.8 -0.8
baz=60
BMN **Battle Mountai** 60.50 61 *e*P P 21 45 20.2 +0.3
BMN pmax pmax
comp=Z,56nm,1.1s,mb5.5
BMN **Battle Mountai** 60.50 61 *e*P P 21 45 20.2 +0.3
comp=Z,56nm,1.1s,mb5.5
S06C **San Francisco** 60.53 65 P P 21 45 20.1 -0.1
baz=60,SNR=22
S05C **Merced** 60.57 66 ⇑P P 21 45 19.7 -0.7
baz=60,SNR=5.3
O09A **Fish Creek Ran** 60.68 61 P P 21 45 21.9 +0.8
baz=60,SNR=15
M11A **Holland Ranch,** 60.71 60 ⇑P P 21 45 22.1 +0.7
baz=60,SNR=24
LRV **Little Rabbit** 60.73 67 *e*P P 21 45 21.8 +0.3
R07C **Lee Vining** 60.88 64 P P 21 45 23.2 +0.7
baz=61,SNR=21
U04C **Hernandez Rese** 60.92 67 ⇑P P 21 45 22.9 +0.2
baz=61,SNR=8.2
O10A **Cortez Mining,** 61.01 61 ⇑P P 21 45 24.1 +0.7
baz=61,SNR=11
QLMT **Earthquake Lak** 61.01 54 *e*P P 21 45 24.0 +0.6
Q08A **Gabbs** 61.07 63 P P 21 45 24.2 +0.4
baz=61,SNR=15
P09A **Austin** 61.10 62 ⇑P P 21 45 24.5 +0.5
baz=61
N11A **Elko Archery C** 61.13 60 ⇑P P 21 45 24.8 +0.6
baz=61
T06C **Millerton Lake** 61.17 66 ⇑P P 21 45 24.1 -0.4
baz=61
KCC **Kaiser Creek** 61.21 65 ⇑P P 21 45 24.6 -0.2
baz=61,SNR=12
M12A **Wells** 61.22 59 P P 21 45 25.8 +0.9
baz=61,SNR=33
V04C **Ramage Ranch,** 61.33 68 ⇓P P 21 45 25.5 -0.1
baz=61
PKD **Parkfield** 61.33 67 ⇑P P 21 45 25.3 -0.3
baz=61,SNR=5.4
GCMT **Greycliff** 61.35 52 *e*P P 21 45 26.6 +0.9
YMR **Madison River** 61.37 54 *e*P P 21 45 26.7 +0.8
comp=Z,126nm,1.2s,mb5.9
P10A **Eureka** 61.46 62 ⇓P P 21 45 26.6 +0.1
baz=61
ELK **Elko** 61.46 60 *e*P P 21 45 27.3 +0.8
ELK pmax pmax
comp=Z,22nm,0.9s
ELK **Elko** 61.46 60 *e*P P 21 45 27.3 +0.8
comp=Z,22nm,0.9s,mb5.3
YNR **Norris Junctio** 61.50 54 *e*P P 21 45 28.4 +1.7
N12A **Clover Valley,** 61.51 60 ⇑P P 21 45 26.8 0.0
baz=61,SNR=16
Q09A **Carvers** 61.54 63 ⇓P P 21 45 27.0 +0.1
baz=61,SNR=5.1
YFT **Old Faithful** 61.58 54 *e*P P 21 45 29.3 +2.0
O11A **Cowboy Ranch,** 61.61 61 ⇓P P 21 45 27.9 +0.4
baz=61,SNR=6.3
MTUM **Tungsten Hills** 61.65 65 *e*P P 21 45 28.1 +0.4
M13A **Montello** 61.69 59 ⇑P P 21 45 28.5 +0.5
baz=62,SNR=11
V05C **Boulder Hill,** 61.78 67 ⇑P P 21 45 28.9 +0.3
baz=62
S08C **White Mtn Res** 61.79 64 P P 21 45 29.3 +0.6
baz=62,SNR=14
HELL **Mitchell Peak,** 61.80 66 ⇑P P 21 45 28.4 -0.3
baz=62
IMW **Indian Meadow** 61.88 55 *e*P P 21 45 30.6 +1.3
comp=Z,69nm,1.1s,mb5.7
FLWY **Flagg Ranch** 61.89 55 *e*P P 21 45 30.1 +0.7
comp=Z,74nm,1.1s,mb5.7
P11A **Circle Ranch,** 61.92 61 ⇓P P 21 45 29.8 +0.2
baz=62,SNR=9.1
R09A **Tonopah** 61.98 63 P P 21 45 30.2 +0.2
baz=62,SNR=39
N13A **Wendover, West** 61.99 59 ⇑P P 21 45 30.8 +0.7
baz=62
TPH **Tonopah** 62.00 63 P P 21 45 30.8 +0.7
TPH *e* 21 45 40.5
TPH pmax pmax
comp=Z,100nm,1.4s,mb5.8
TPH **Tonopah** 62.00 63 *e*P P 21 45 30.5 +0.4
comp=Z,104nm,1.4s,mb5.8
RLMT **Red Lodge** 62.00 53 *e*P P 21 45 30.6 +0.5
comp=Z,110nm,1.2s,mb5.9
TIN **Tinemaha** 62.05 65 ⇑P P 21 45 30.7 +0.3
baz=62
O12A **Currie** 62.06 60 P P 21 45 31.0 +0.5
baz=62,SNR=35
SMMC **Simmler** 62.08 67 ⇑P P 21 45 30.6 0.0
baz=62,SNR=6.2
MOOW **Moose Ponds** 62.09 55 *e*P P 21 45 31.4 +0.7
comp=Z,42nm,1.0s,mb5.5
TPAW **Tetas Pass** 62.14 55 *e*P P 21 45 32.3 +1.2
comp=Z,154nm,1.1s,mb6.0
HVU **Hansel Valley** 62.22 58 *e*P P 21 45 32.1 +0.5
HVU pmax pmax
comp=Z,35nm,1.0s,mb5.4
HVU **Hansel Valley** 62.22 58 *e*P P 21 45 32.1 +0.5
comp=Z,35nm,1.0s,mb5.5
S09A **Goldfield** 62.22 64 P P 21 45 31.7 +0.1
baz=62,SNR=20
LOHW **Long Hollow** 62.25 55 *e*P P 21 45 33.0 +1.2
comp=Z,111nm,1.2s,mb5.9
SNOW **Snow King Moun** 62.27 55 *e*P P 21 45 33.5 +1.7
comp=Z,110nm,1.0s,mb5.9
REDW **Red Top Meadow** 62.28 55 *e*P P 21 45 33.0 +1.1
comp=Z,126nm,1.0s,mb6.0
VES **Vestal, Richgr** 62.31 66 ⇓P P 21 45 31.5 -0.7
baz=62
MOR8 **Moi Rana** 62.38 343 ⇑*i*P P 21 45 30.7 -2.0
MOR8 AMb AMB 21 45 33.3
comp=Z,63nm,2.3s,mb5.3
MOR8 **Moi Rana** 62.38 343 *e*P P 21 45 30.7 -2.0
comp=Z,63nm,2.3s,mb5.3
R10A **Warm Springs** 62.41 63 ⇓P P 21 45 32.8 -0.1
baz=62
DGMT **Dagmar** 62.43 47 *e*P P 21 45 33.0 0.0
comp=Z,134nm,1.0s,mb6.0
Q11A **Duckwater** 62.44 62 P P 21 45 33.0 -0.1
baz=62,SNR=13
PKM **Peak Mountain** 62.46 68 ⇓P P 21 45 33.3 +0.1
baz=62,SNR=8.1
P12A **McGill** 62.48 61 ⇑P P 21 45 33.5 +0.2
baz=62,SNR=24
AHID **Auburn Hatcher** 62.53 56 *e*P P 21 45 33.9 +0.3
comp=Z,42nm,1.0s,mb5.5
CWC **Cottonwood Cre** 62.53 65 ⇑P P 21 45 33.6 0.0
baz=62,SNR=12
LAO **LASA Array** 62.58 50 *e*P P 21 45 34.4 +0.4
comp=Z,140nm,1.0s,mb6.0
GRAC **Grapevine Rang** 62.60 64 ⇑P P 21 45 34.3 +0.2
baz=62,SNR=13
SPUT **South Promonto** 62.71 58 *e*P P 21 45 32.3 -2.6
ISA **Isabella** 62.80 66 *e*P P 21 45 34.5 -1.0
comp=Z,0.1nm,1.5s
ISA **Isabella** 62.80 66 ⇑P P 21 45 34.8 -0.7
baz=63,SNR=12
Q12A **Willow Creek R** 62.80 61 P P 21 45 36.0 +0.5
baz=63,SNR=21
SBC **Santa Barbara** 62.82 68 ⇓P P 21 45 35.3 -0.3
baz=63
ARVC **Arvin** 62.92 67 ⇑P P 21 45 35.7 -0.6
baz=63
DAC **Darwin (Calif)** 62.94 65 *e*P P 21 45 36.0 -0.4
DAC pmax pmax
comp=Z,31nm,1.5s,mb5.2
DAC **Darwin (Calif)** 62.94 65 *e*P P 21 45 36.0 -0.4
comp=Z,31nm,1.5s,mb5.2
HWUT **Hardware Ranch** 63.02 57 *e*P P 21 45 37.6 +0.7
comp=Z,170nm,1.1s,mb5.6
MPMC **Manual Prospec** 63.14 65 P P 21 45 37.8 +0.1
baz=63,SNR=28
BSC **Santa Cruz Isl** 63.16 68 ⇑P P 21 45 37.3 -0.6
baz=63
DUG **Dugway** 63.23 59 *e*P P 21 45 38.5 +0.2
DUG **Dugway** 63.23 59 P P 21 45 39.0 +0.7
baz=63,SNR=31
FURC **Furnace Creek,** 63.26 64 P P 21 45 38.6 +0.1
baz=63,SNR=16
KAKA **Kakadu** 63.31 204 *e*P P 21 45 38.1 -0.8
comp=Z,20nm,0.6s,mb5.4
KAKA *e* 21 45 47.8
OSI **Osito Adit** 63.33 67 ⇑P P 21 45 39.0 0.0
baz=63
NOQ **North Oquirrh** 63.33 58 *e*P P 21 45 39.5 +0.6
comp=Z,85nm,1.0s,mb5.8
PDAR **Pinedale Array** 63.38 55 P P 21 45 39.6 +0.3
comp=Z,46nm,0.8s,mb5.6,baz=289,slow=2.0,SNR=98
LRMC **Lael Mountai** 63.40 66 P P 21 45 39.2 -0.3
baz=63,SNR=18
BLG **Laguna Peak** 63.45 68 ⇓P P 21 45 39.0 -0.7
baz=63
CTU **Camp Tracy** 63.52 58 *e*P P 21 45 40.8 +0.6
comp=Z,38nm,0.9s,mb5.4
FINES **FINESS Array B** 63.57 335 P P 21 45 40.0 -0.6
comp=Z,8.8nm,0.6s,mb5.0,baz=38,slow=9.0,SNR=18
FINES **FINESS Array B** 63.57 335 P P 21 45 40.0 -0.6
FINES pmax pmax
comp=Z,9.0nm,0.6s
EDW2 **Edwards Air Fo** 63.61 66 P P 21 45 40.7 -0.1
baz=63,SNR=38
U10A **Ash Meadows, A** 63.62 64 ⇓P P 21 45 40.9 +0.1
baz=63,SNR=15
SNCC **San Nicolas Is** 63.72 69 ⇓P P 21 45 41.5 -0.1
baz=64
JLU **Jordanelle** 63.75 58 *e*P P 21 45 42.0 +0.2
DECC **Green Verdugo** 63.81 67 ⇑P P 21 45 41.8 -0.3
baz=64
NLU **North Lily Min** 63.81 59 *e*P P 21 45 41.5 -0.7
DAU **Daniels Canyon** 63.98 58 *e*P P 21 45 44.0 +0.7
SHOC **Shoshone** 63.99 65 ⇓P P 21 45 43.0 -0.3
baz=64
MPU **Maple Canyon** 64.03 58 *e*P P 21 45 44.5 +0.9
comp=Z,48nm,0.8s,mb5.6
GSC **Goldstone** 64.06 65 *e*P P 21 45 43.3 -0.5
GSC **Goldstone** 64.06 65 ⇓P P 21 45 43.4 -0.4
baz=64,SNR=5.8
MOS **Moscow** 64.19 326 *e*P P 21 45 47.6 +3.0
MOS pmax pmax
comp=Z,80nm,1.6s,mb5.5
U11A **Corn Creek** 64.19 64 ⇓P P 21 45 44.6 0.0
baz=64
FMP **Fort Macarthur** 64.19 68 ⇑P P 21 45 44.4 -0.3
baz=64
BFSC **Mount Baldy St** 64.23 67 ⇑P P 21 45 44.5 -0.4
baz=64,SNR=7.6
CIS **Catalina Islan** 64.32 68 ⇑P P 21 45 45.0 -0.5
baz=64
ARUT **Antelope Range** 64.45 61 P P 21 45 46.3 0.0
ARUT **Antelope Range** 64.45 61 *e*P P 21 45 46.8 +0.4
TUQ **Turquoise Mtn.** 64.51 65 P P 21 45 46.8 +0.1
baz=64,SNR=22
SCI **San Clemente I** 64.51 68 ⇓P P 21 45 46.2 -0.6
baz=64
V11A **Goodsprings** 64.55 64 ⇑P P 21 45 46.9 0.0
baz=64
CCUT **Cedar City** 64.65 62 *e*P P 21 45 47.9 +0.2
HEC **Hector,Ludlow** 64.66 66 ⇓P P 21 45 47.6 -0.2
baz=64,SNR=10
BBRC **Big Bear Sol-O** 64.68 66 ⇓P P 21 45 47.4 -0.4
baz=64
U12A **Valley of Fire** 64.69 63 ⇓P P 21 45 48.0 +0.1
baz=64
MSU **Marysvale** 64.71 60 *e*P P 21 45 48.2 +0.2
TMUT **Trail Mountain** 64.75 59 *e*P P 21 45 48.5 +0.2
MURC **Murrieta** 64.94 67 ⇓P P 21 45 49.0 -0.6
baz=65,SNR=5.1
V12A **Nelson** 64.97 64 P P 21 45 50.0 +0.3
baz=65,SNR=13
OBN **Obninsk** 65.05 326 *e*P P 21 45 48.3 -2.0
OBN *i* 21 46 21.5
OBN pmax pmax
comp=Z,46nm,1.6s,mb5.3
ULM **Lac du Bonnet** 65.14 42 P P 21 45 50.2 -0.6
comp=Z,10nm,0.8s,mb4.9,baz=320,slow=7.2,SNR=12
ULM **Lac du Bonnet** 65.14 42 P P 21 45 50.2 -0.6
W12A **Cal Nev Ari** 65.24 64 ⇓P P 21 45 51.4 -0.1
baz=65,SNR=5.3
PFO **Pinyon Flat Ob** 65.40 67 ⇓P P 21 45 51.9 -0.6
baz=65
BELC **Belle Mtn.** 65.42 66 ⇑P P 21 45 51.9 -0.8
baz=65,SNR=13
RSSD **Black Hills** 65.45 51 *e*P P 21 45 52.8 0.0
RSSD pmax pmax
comp=Z,92nm,1.0s,mb5.8
RSSD **Black Hills** 65.45 51 *e*P P 21 45 52.8 0.0
comp=Z,92nm,1.0s,mb5.8
109C **Camp Elliot, M** 65.48 68 ⇓P P 21 45 52.4 -0.7
baz=65
NEE2 **Needles Airpor** 65.75 65 ⇑P P 21 45 54.2 -0.6
baz=66
IRM **Iron Mountain** 65.83 65 P P 21 45 55.3 0.0
baz=66,SNR=34
MONP **Monument Peak** 65.90 67 ⇓P P 21 45 55.4 -0.4
baz=66,SNR=5.1
W13A **Hualapai Mount** 65.98 64 ⇓P P 21 45 56.2 0.0
baz=66,SNR=18
BC3 **Big Chuckw Mtn** 65.99 66 P P 21 45 56.0 -0.3
baz=66,SNR=19
DVTC **Desert V Tower** 66.26 67 P P 21 45 57.8 -0.2
baz=66,SNR=6.7
SWSC **Sam W. Stewart** 66.26 67 ⇑P P 21 45 57.4 -0.7
baz=66
X13A **Yucca** 66.35 64 P P 21 45 58.6 0.0
baz=66,SNR=26
PDMCI **Parker Dam,Lak** 66.36 65 P P 21 45 58.6 -0.1
baz=66,SNR=15
W14A **Seligman** 66.38 63 P P 21 45 59.4 +0.5
baz=66,SNR=34
Y12C **Blythe** 66.50 65 ⇑P P 21 45 59.6 0.0
baz=66,SNR=8.5
AGMN **Agassiz Refuge** 66.55 43 *e*P P 21 45 59.5 -0.4
comp=Z,53nm,1.1s,mb5.5
GLA **Glamis** 66.78 66 *e*P P 21 46 01.4 0.0
GLA **Glamis** 66.78 66 ⇓P P 21 46 01.6 +0.2
baz=67,SNR=17
W15A **Williams** 66.90 63 ⇑P P 21 46 02.9 +0.7
baz=67,SNR=17
ABKT **Ailbek** 66.94 301 P P 21 46 03.9 +1.5
comp=Z,92nm,0.8s,mb5.9,SNR=5.2
VRSR **Storozhevoye** 66.95 322 *e*P P 21 46 02.3 -0.1
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,20nm,0.8s
X14A **Yava** 67.00 64 P P 21 46 03.4 +0.6
baz=67,SNR=26
WUAZ **Wupatki** 67.20 62 *e*P P 21 46 04.5 +0.4
comp=N,69nm,1.3s,mb5.5
WUAZ **Wupatki** 67.20 62 ⇑P P 21 46 04.5 +0.4
baz=67,SNR=16
Y14A **Wickenburg** 67.30 64 P P 21 46 04.9 +0.2
baz=67,SNR=16
X15A **Humboldt** 67.39 63 P P 21 46 05.9 +0.6
baz=67,SNR=27
ISCO **Idaho Springs** 67.58 55 *e*P P 21 46 07.2 +0.7
comp=N,63nm,1.0s,mb5.6
NB2 **NORSAR Subarra** 67.62 342 P P 21 46 06.3 -0.4
comp=Z,34nm,0.8s,mb5.4,baz=26,slow=6.5
NOA **NORSAR Array B** 67.62 342 P P 21 46 06.3 -0.4
comp=Z,27nm,0.8s,mb5.3,baz=26,slow=6.4,SNR=38
NOA **NORSAR Array B** 67.62 342 P P 21 46 06.3 -0.4
NOA pmax pmax
comp=Z,27nm,0.8s
Z14A **Winternberg** 67.72 65 ⇓P P 21 46 07.2 -0.2
baz=68,SNR=5.4
MVCO **Mesa Verde** 67.73 59 *e*P P 21 46 07.5 0.0
comp=Z,64nm,1.0s,mb5.6
MVCO **Mesa Verde** 67.73 59 ⇓P P 21 46 07.6 +0.2
baz=68,SNR=30
BORG **Borgarnes** 67.82 358 P P 21 46 07.1 -0.9
comp=Z,41nm,0.9s,mb5.4,baz=0.0,slow=2.0,SNR=3.1
BORG **Borgarnes** 67.82 358 P P 21 46 07.1 -0.9
CTA **Charters Tower** 67.91 188 *e*P P 21 46 07.3 -1.2
comp=Z,20nm,1.0s,mb5.1
CTA *e* 21 46 17.0
CTA **Charters Tower** 67.91 188 *e*P P 21 46 07.3 -1.2
CTA *e* 21 46 17.0
CTA pmax pmax
comp=Z,20nm,1.0s
CTAO **Charters Tower** 67.91 188 *e*P P 21 46 06.6 -1.9
CTAO pmax pmax
comp=Z,50nm,1.3s,mb5.4
CTAO **Charters Tower** 67.91 188 *e*P P 21 46 06.6 -2.0
comp=Z,50nm,1.3s,mb5.4
HYB **Hyderabad** 67.95 272 *i*P P 21 46 09.0 +0.2
HYB **Hyderabad** 67.95 272 *e*P P 21 46 09.0 +0.2
115A **Sonoran Desert** 68.62 65 ⇑P P 21 46 13.3 +0.4
baz=68,SNR=13
EYMN **Ely** 68.79 41 *e*P P 21 46 12.9 -1.1
comp=Z,35nm,1.0s,mb5.2
116A **Eloy** 69.03 64 ⇓P P 21 46 15.8 +0.3
baz=69,SNR=6.5
SDCO **Great Sand Dun** 69.07 57 *e*P P 21 46 16.1 +0.2
comp=Z,88nm,1.5s,mb5.5
KONO **Kongsberg** 69.22 342 *e*P P 21 46 16.9 +0.2
KONO AMb AMB 21 46 28.1
comp=Z,58nm,1.4s,mb5.3
KONO **Kongsberg** 69.22 342 *e*P P 21 46 16.7 0.0
KONO pmax pmax
comp=Z,42nm,1.0s,mb5.3
KONO **Kongsberg** 69.22 342 *e*P P 21 46 16.6 -0.1
comp=Z,42nm,1.0s,mb5.3
ASK **Askoy** 69.32 344 *e*P P 21 46 17.6 +0.3
ASK AMb AMB 21 46 18.9
comp=Z,269nm,1.9s,mb5.8
ASK **Askoy** 69.32 344 *e*P P 21 46 17.6 +0.3
comp=Z,269nm,1.9s,mb5.8
RUND **Rundenannen** 69.35 344 ⇑*i*P P 21 46 17.9 +0.3
RUND AMb AMB 21 46 20.5
comp=Z,192nm,1.0s,mb6.0
RUND **Rundenannen** 69.35 344 *e*P P 21 46 17.9 +0.4
comp=Z,192nm,1.0s,mb6.0
BER **Bergen** 69.38 344 *e*P P 21 46 18.2 +0.5
BER AMb AMB 21 46 23.3
comp=Z,156nm,1.5s,mb5.7
BER **Bergen** 69.38 344 *e*P P 21 46 18.2 +0.5
comp=Z,156nm,1.5s,mb5.7
ECSD **EROS,Sioux Fal** 69.50 47 *e*P P 21 46 17.6 -0.9
comp=Z,55nm,1.0s,mb5.4
EGD **Espegrend** 69.51 344 *e*P P 21 46 19.1 +0.5
EGD AMb AMB 21 46 21.7
comp=Z,318nm,1.7s,mb6.0
EGD **Espegrend** 69.51 344 *e*P P 21 46 19.1 +0.5
comp=Z,318nm,1.7s,mb6.0
ODD1 **Odda** 69.58 343 ⇑*i*P P 21 46 18.3 -0.6
ODD1 AMb AMB 21 46 21.0
comp=Z,144nm,1.0s,mb5.9
ODD1 **Odda** 69.58 343 *e*P P 21 46 18.4 -0.6
comp=Z,144nm,1.0s,mb5.9
WRAB **Tennant Creek** 69.75 200 P P 21 46 19.3 -0.7
comp=Z,479nm,1.0s,mb6.4,SNR=14
WRAB **Tennant Creek** 69.75 200 *e*P P 21 46 16.4 -3.6
WRAB **Tennant Creek** 69.75 200 P P 21 46 19.5 -0.5
WB2 **Warramunga Arr** 69.76 200 *e*P P 21 46 19.5 -0.5
WB2 *e* 21 46 28.8
WRA **Warramunga Arr** 69.76 200 P P 21 46 19.3 -0.8

comp=Z,54nm,1.0s,mb5.5,baz=18,slow=6.5,SNR=53
WRA Warramunga Arr 69.76 200 P P 21 46 19.3 -0.8
WRA pmax pmax
comp=Z,54nm,1.0s
TUC Tucson 69.77 64 P P 21 46 20.0 -0.1
TUC pmax pmax
comp=Z,30nm,1.2s,mb5.1
TUC Tucson 69.77 64 eP P 21 46 20.0 -0.1
comp=Z,30nm,1.2s,mb5.1
BLS5 Blasjo 70.06 343 eP P 21 46 23.5 +1.6
LAZ Ladron 70.48 60 eP P 21 46 25.1 +0.6
ANMO Albuquerque 70.49 59 eP P 21 46 25.2 +0.7
ANMO pmax pmax
comp=Z,39nm,1.0s
ANMO Albuquerque 70.49 59 eP P 21 46 24.7 +0.2
comp=Z,39nm,1.0s,mb5.3
SUW Suwalki 70.60 332 eP P 21 46 25.0 -0.2
SUW L 22 06 28.8
comp=Z,13nm,22.8s
SUW Suwalki 70.60 332 eP P 21 46 24.6 -0.6
SUW pmax pmax
comp=Z,55nm,1.0s,mb5.4
LENM Lemitar 70.74 60 eP P 21 46 27.1 +1.1
KIV Kislovodsk 70.81 315 eP P 21 46 22.7 -3.8
KIV pmax pmax
comp=Z,12nm,1.3s,mb4.7
LPM Los Pinos Moun 70.84 60 eP P 21 46 27.0 +0.3
ZEI Tsey 71.11 313 eP P 21 46 28.6 +0.3
ZEI e 21 46 41.9
ZEI pmax pmax
comp=Z,22nm,1.0s,mb5.0
AKASG Malin Array Be 71.28 327 P P 21 46 28.5 -0.8
comp=Z,14nm,0.6s,mb5.0,baz=34,slow=6.2,SNR=26
AKASG Malin Array Be 71.28 327 P P 21 46 28.5 -0.8
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 71.28 327 eP P 21 46 27.8 -1.5
KIEV Kiev 71.29 327 eP P 21 46 27.8 -1.6
CBKS Cedar Bluff 71.48 52 P P 21 46 30.1 -0.5
CBKS e 21 46 39.6
CBKS pmax pmax
comp=Z,89nm,1.1s,mb5.6
CBKS Cedar Bluff 71.48 52 eP P 21 46 29.8 -0.7
comp=Z,65nm,1.3s,mb5.4
SCHQ Schefferville 72.03 24 P P 21 46 33.8 -0.1
comp=Z,19nm,0.8s,mb5.1,baz=349,slow=6.6,SNR=16
BSD Bornholm Skovb 72.05 337 i P P 21 46 33.8 -0.2
comp=Z,58nm,1.0s,mb5.5
BSD Bornholm Skovb 72.05 337 i P P 21 46 33.8 -0.2
BSD pmax pmax
comp=Z,58nm,1.0s,mb5.5
COP Copenhagen 72.17 339 i P P 21 46 34.8 +0.1
comp=Z,67nm,1.0s,mb5.5
COP Copenhagen 72.17 339 i P P 21 46 34.8 +0.1
COP pmax pmax
comp=Z,67nm,1.0s,mb5.5
MUD Monsted U'grnd 72.24 341 i P P 21 46 35.6 +0.5
comp=Z,30nm,1.0s,mb5.2
MUD Monsted U'grnd 72.24 341 i P P 21 46 35.6 +0.5
MUD pmax pmax
comp=Z,30nm,1.0s,mb5.2
SOC Sochi 72.50 316 eP P 21 46 35.5 -1.2
SOC eS S 21 56 01.6 +1.3
SOC pmax pmax
comp=Z,95nm,1.1s,mb5.6
SCIA State Center 72.53 46 eP P 21 46 36.8 0.0
comp=Z,84nm,0.7s,mb5.8
GNI Garni 72.64 311 P P 21 46 38.0 +0.5
comp=Z,9.9nm,0.6s,mb4.9,baz=23,slow=2.9,SNR=9.5
GNI Garni 72.64 311 eP P 21 46 33.7 -3.8
GNI pmax pmax
comp=Z,25nm,1.7s
GKP Gorka Klasztor 73.04 335 eP P 21 46 39.9 0.0
GKP L 22 09 45.0
comp=Z,26nm,18.9s
AMTX Amarillo 73.27 56 eP P 21 46 41.3 +0.1
comp=Z,32nm,0.9s,mb5.2
MNTX Cornudas Mount 73.44 61 eP P 21 46 42.0 -0.2
comp=Z,40nm,1.2s,mb5.2
AS31 Alice Springs 73.45 200 eP P 21 46 41.6 -0.7
ASAR Alice Springs 73.45 200 P P 21 46 42.5 +0.2
comp=Z,43nm,1.1s,mb5.3,baz=11,slow=5.1,SNR=50
ASAR Alice Springs 73.45 200 P P 21 46 42.5 +0.2
ASAR pmax pmax
comp=Z,43nm,1.1s
PALK Pallekele 73.79 263 eP P 21 46 43.9 -0.4
comp=Z,49nm,1.0s,mb5.4
LVV L'vov 73.87 329 eP P 21 46 44.1 -0.6
LVV e 21 46 58.5
SIM Simferopol' 73.95 320 eP P 21 46 45.0 -0.2
SIM pmax pmax
comp=Z,32nm,1.1s,mb5.2
KIS Kishinev 74.46 325 eP P 21 46 46.0 -2.2
KWP Kalwaria 74.48 330 eP P 21 46 48.7 +0.4
KWP Kalwaria 74.48 330 eP P 21 46 48.5 +0.2
KWP pmax pmax
comp=Z,180nm,1.2s,mb5.9
ERZM Erzurum 74.52 313 i P P 21 46 50.0 +1.5
TVAN Van 74.54 311 i P P 21 46 50.7 +2.1
OJC Ojcow 74.93 332 eP P 21 46 50.9 0.0
WMOK Wichita Mounta 74.99 55 eP P 21 46 50.8 -0.5
WMOK pmax pmax
comp=Z,38nm,1.0s,mb5.3
WMOK Wichita Mounta 74.99 55 eP P 21 46 50.8 -0.5
comp=Z,38nm,1.0s,mb5.3
HAKT HAKKARI 75.12 310 i P P 21 46 52.9 +0.9
STHS Stebnicka Huta 75.16 331 i P P 21 46 53.1 +0.9
STHS pmax pmax
comp=Z,42nm,0.9s,mb5.4
STHS Stebnicka Huta 75.16 331 i P P 21 46 53.1 +0.9
comp=Z,42nm,0.9s,mb5.4
KOLS Kolonicke sedl 75.22 330 eP P 21 46 52.7 +0.1
BURAR Bucovina Array 75.31 327 i P P 21 46 53.2 +0.1
BURAR Bucovina Array 75.31 327 P P 21 46 53.2 +0.1
KSP Ksiaz 75.46 334 eP P 21 46 54.4 +0.4
KSP L 22 12 36.5
comp=Z,40nm,19.1s
KSP Ksiaz 75.46 334 eP P 21 46 53.7 -0.3
NIE Niedzica 75.46 331 eP P 21 46 54.3 +0.3
UZH Uzhgorod 75.48 330 eP P 21 46 53.4 -0.7
EKA Eskdalemuir Ar 75.62 347 P P 21 46 53.8 -1.1
comp=Z,6.9nm,0.7s,mb4.7,baz=20,slow=5.4,SNR=17
EKA Eskdalemuir Ar 75.62 347 P P 21 46 53.8 -1.1
EKA pmax pmax
comp=Z,7.0nm,0.7s
OKC Ostrava-Krasne 75.78 333 i P P 21 46 56.3 +0.5
OKC eP CP P 21 47 06.3 -2.1
UPC Upice 75.84 334 i P P 21 46 56.7 +0.5
DPC Dobruska-Polom 75.89 334 eP P 21 46 56.8 +0.4
DPC eP CP P 21 47 07.1 -1.8
CLL Collm 75.97 336 i P P 21 46 56.7 -0.2
CLL i 21 47 06.9
CLL pmax pmax
comp=Z,221nm,1.0s,mb6.0
CLL Collm 75.97 336 i P P 21 46 56.7 -0.2
comp=Z,91nm,1.0s,mb5.7
CLL i 21 47 06.9
CLL Collm 75.97 336 i P P 21 46 56.7 -0.2
comp=Z,91nm,1.0s,mb5.7
CLL i pP pP 21 47 06.9 +4.7
MORC Moravsky Berou 76.03 333 i P P 21 46 57.6 +0.4
MORC Moravsky Berou 76.03 333 eP P 21 46 57.4 +0.2
MORC Moravsky Berou 76.03 333 P P 21 46 57.6 +0.4
BRG Berggiesshubel 76.11 336 i P P 21 46 57.4 -0.2
comp=Z,16nm,1.0s,mb4.9
LTX Lajitas 76.16 62 eP P 21 46 58.1 +0.1
LTX pmax pmax
comp=Z,73nm,0.9s,mb5.6
LTX Lajitas 76.16 62 eP P 21 46 58.1 +0.1
comp=Z,73nm,0.9s,mb5.6
TXAR Lajitas Array 76.16 62 P P 21 46 58.2 +0.2
comp=Z,64nm,0.9s,mb5.5,baz=296,slow=4.0,SNR=99
TXAR Lajitas Array 76.16 62 P P 21 46 58.2 +0.2
TXAR pmax pmax
comp=Z,64nm,0.9s
TXAR Lajitas Array 76.16 62 P P 21 46 58.2 +0.2
LIKS Likavka 76.17 332 eP P 21 46 58.6 +0.5
VRI Vrincioaia 76.21 325 i P P 21 46 58.7 +0.4
VRI Vrincioaia 76.21 325 P P 21 46 58.7 +0.4
KECS Kecovo 76.22 331 i P P 21 46 58.6 +0.3
KECS pmax pmax
comp=Z,19nm,1.0s,mb5.0
KECS Kecovo 76.22 331 i P P 21 46 58.6 +0.3
comp=Z,18nm,1.0s,mb5.0
CFR Carcaliu 76.23 324 i P P 21 46 58.3 -0.1
CFR Carcaliu 76.23 324 i P P 21 46 58.2 -0.1
PVCC Panska Ves 76.24 335 i P P 21 46 59.0 +0.6
PVCC eP CP PcP 21 47 09.1 -1.3
PLOR Plostina 76.25 325 i P P 21 46 58.9 +0.4
MSL Mosul 76.40 309 i x x 21 46 59.0
BOYT Boyabat 76.41 318 i P P 21 47 00.7 +1.3
CCM Cathedral Cave 76.45 48 P P 21 46 53.6 -6.0
CCM pmax pmax
comp=Z,98nm,1.5s,mb5.5
CCM Cathedral Cave 76.45 48 eP P 21 46 53.2 -6.4
comp=Z,98nm,1.5s,mb5.5
PRA Prague 76.69 335 P P 21 47 01.0 0.0
TIRR Tirgusor 76.72 324 i P P 21 47 01.2 +0.1
TIRR Tirgusor 76.72 324 eP P 21 47 00.9 -0.2
TIRR Tirgusor 76.72 324 P P 21 47 01.2 +0.1
VRAC Vranov 76.73 333 P P 21 47 02.1 +0.8
comp=Z,32nm,0.8s,mb5.3,baz=31,slow=5.7,SNR=24
VRAC Vranov 76.73 333 i P P 21 47 01.9 +0.7
VRAC Vranov 76.73 333 P P 21 47 02.1 +0.9
VRAC pmax pmax
comp=Z,32nm,0.8s
VRAC Vranov 76.73 333 i P P 21 47 01.9 +0.7
PRU Pruhonice 76.73 335 i P P 21 47 01.7 +0.5
PRU eP CP PcP 21 47 11.6 -0.9
VYHS Vyhne 76.75 331 i P P 21 47 01.6 +0.3
VYHS pmax pmax
comp=Z,26nm,1.2s,mb5.0
VYHS Vyhne 76.75 331 i P P 21 47 01.6 +0.3
comp=Z,26nm,1.2s,mb5.0
ELZG Elazig 76.78 313 i P P 21 47 03.6 +2.1
MLR Muntele Rosu 76.82 326 P P 21 47 02.2 +0.5
comp=Z,43nm,0.7s,mb5.5,baz=300,slow=3.2,SNR=34
MLR Muntele Rosu 76.82 326 i P P 21 47 02.5 +0.8
MLR Muntele Rosu 76.82 326 P P 21 47 02.2 +0.5
MLR pmax pmax
comp=Z,43nm,0.7s
MLR Muntele Rosu 76.82 326 i P P 21 47 02.5 +0.8
PSZ Piszkesteto 76.90 331 i P P 21 47 02.8 +0.6
PSZ Piszkesteto 76.90 331 eP P 21 47 02.8 +0.6
PSZ Piszkesteto 76.90 331 i P P 21 47 02.8 +0.6
PSZ Piszkesteto 76.90 331 eP P 21 47 03.2 +1.0
DRGR 76.91 328 i P P 21 47 02.3 +0.1
DRGR 76.91 328 P P 21 47 02.3 +0.1
MOX Moxa 76.95 337 eP P 21 47 02.7 +0.3
comp=Z,95nm,1.8s,mb5.4
MOX Moxa 76.95 337 eP P 21 47 02.7 +0.3
MOX pmax pmax
comp=Z,98nm,1.8s,mb5.4
WSAR Wadi Sarin 76.98 290 P P 21 47 03.3 +0.7
comp=Z,7.8nm,0.7s,mb4.8,baz=103,slow=6.9,SNR=5.9
BALT Daday 77.00 319 i P P 21 47 03.6 +0.9
CTKT Corum 77.10 317 i P P 21 47 04.8 +1.5
NKC Novy Kostel 77.10 336 i P P 21 47 03.8 +0.5
NKC eP CP PcP 21 47 13.8 -0.3
SNX Sinaia 77.10 326 i P P 21 47 01.0 -2.3
MALT Malatya 77.20 314 i P P 21 47 05.8 +2.0
MALT Malatya 77.20 314 P P 21 47 05.8 +1.9
VOIR 77.21 326 i P P 21 47 04.6 +0.7
VOIR 77.21 326 P P 21 47 04.6 +0.7
PSN Preselentsi 77.45 323 i P P 21 47 05.7 +0.4
ZST Bratislava 77.56 332 eP P 21 47 07.0 +1.1
ZST pmax pmax
comp=Z,29nm,1.0s,mb5.2
ZST Bratislava 77.56 332 eP P 21 47 07.0 +1.1
comp=Z,29nm,1.0s,mb5.2
BUD Budapest 77.57 331 eP P 21 47 06.6 +0.7
JCT Junction City 77.58 58 eP P 21 47 06.0 0.0
JCT pmax pmax
comp=Z,84nm,1.2s,mb5.5
JCT Junction City 77.58 58 eP P 21 47 06.0 0.0
comp=Z,84nm,1.2s,mb5.5
SIUC Southern Illin 77.72 47 eP P 21 47 05.3 -1.5
comp=Z,76nm,1.2s,mb5.5
KHC Kasperske Hory 77.78 335 i P P 21 47 07.9 +0.8
KHC eP CP PcP 21 47 17.4 +0.3
ELDT Eldivan 77.82 318 i P P 21 47 08.6 +1.3
GRA1 Grafenberg Arr 77.92 337 eP P 21 47 08.2 +0.3
comp=Z,74nm,1.2s,mb5.5
GRF Grafenberg Arr 77.92 337 eP P 21 47 08.2 +0.3
comp=Z,74nm,1.2s,mb5.5
GRF Grafenberg Arr 77.92 337 eP P 21 47 08.2 +0.3
GRF pmax pmax
comp=Z,74nm,1.2s,mb5.5
GRFO Grafenberg 77.92 337 eP P 21 47 08.3 +0.4
GRFO pmax pmax
comp=Z,150nm,1.5s,mb5.7
GRFO Grafenberg 77.92 337 eP P 21 47 08.4 +0.5
comp=Z,149nm,1.5s,mb5.7
GEC2 GERESS Array S 78.00 335 eP P 21 47 08.1 -0.2
GERES GERESS Array B 78.00 335 P P 21 47 08.4 +0.1
comp=Z,11nm,0.6s,mb4.9,baz=33,slow=5.1,SNR=42
GERES GERESS Array B 78.00 335 P P 21 47 08.4 +0.1
GERES pmax pmax
comp=Z,11nm,0.6s
BHD Baghdad 78.01 306 ex x 21 47 03.0
GZR Gura Zlata 78.08 328 i P P 21 47 08.6 -0.2
GZR Gura Zlata 78.08 328 P P 21 47 08.6 -0.1
PRD Provadia 78.17 323 i P P 21 47 08.0 -1.3
CONA Conrad Observa 78.18 333 i P P 21 47 10.1 +0.8
SNR=10
SOP Sopron 78.18 332 eP P 21 47 10.1 +0.8
BEBN Eben Emael 78.27 340 P P 21 47 09.5 -0.3
BZS Buzias 78.31 328 i P P 21 47 09.9 -0.1
BZS Buzias 78.31 328 P P 21 47 09.9 -0.1
BR131 Keskin Array S 78.34 317 eP P 21 47 10.9 +0.7
comp=Z,28nm,0.9s,mb5.2
BRTR Keskin Array B 78.34 317 P P 21 47 10.7 +0.5
comp=Z,25nm,0.8s,mb5.2,baz=68,slow=3.8,SNR=38
BRTR Keskin Array B 78.34 317 P P 21 47 10.7 +0.5
BRTR pmax pmax
comp=Z,25nm,0.9s
MEM Membach 78.37 340 P P 21 47 10.3 0.0
comp=Z,21nm,1.1s,mb5.0
GZT Gaziantep 78.37 314 i P P 21 47 11.9 +1.5
AVNT Avonos 78.54 316 i P P 21 47 11.9 +0.6
UCC Uccle 78.56 341 P P 21 47 11.5 0.0
ANTO Ankara 78.61 318 i P P 21 47 12.7 +1.0
ANTO Ankara 78.61 318 eP P 21 47 12.7 +1.0
ANTO pmax pmax
comp=Z,38nm,0.8s,mb5.4
ANTO Ankara 78.61 318 P P 21 47 12.7 +1.0
HENT Hendek 78.67 320 i P P 21 47 11.8 -0.3
ALLY Alegheny Colle 78.70 39 eP P 21 47 12.2 +0.1
BCLA Clavier 78.71 341 P P 21 47 11.6 -0.7
comp=Z,12nm,0.9s,mb4.8
WCI Wyandotte Cave 78.72 45 eP P 21 47 12.2 -0.1
WCI pmax pmax
comp=Z,95nm,0.9s,mb5.7
WCI Wyandotte Cave 78.72 45 eP P 21 47 12.2 -0.1
comp=Z,95nm,0.8s,mb5.8
MOA Molln 78.73 334 i P P 21 47 13.1 +0.7
SNR=6.6
PKSM Moragy 78.81 330 i P P 21 47 12.3 -0.5
PKSM Moragy 78.81 330 P P 21 47 12.3 -0.5
ARSA Arzberg 78.89 333 i P P 21 47 13.8 +0.6
comp=Z,32nm,1.2s,mb5.1,SNR=10
UMR Umm Al-Rimmam 78.95 302 eP P 21 47 14.1 +0.5
UMR AMb AMB 21 47 15.4
comp=Z,241nm,0.7s,mb6.2
MIB Mutribah 78.98 302 eP P 21 47 14.1 +0.4
MIB AMb AMB 21 47 15.7
comp=Z,353nm,0.8s,mb6.4
NCB Newcomb 79.10 34 eP P 21 47 13.7 -0.7
comp=Z,3.5nm,0.8s,mb4.3
JMB Yambol 79.11 324 i P P 21 47 14.0 -0.5
GIVF Givet 79.11 341 eP P 21 47 14.0 -0.5
DOU Dourbes 79.17 341 P P 21 47 15.0 +0.2
comp=Z,6.9nm,1.5s,mb4.4
KBD Kabd 79.25 302 eP P 21 47 15.7 +0.5
KBD AMb AMB 21 47 17.3
comp=Z,596nm,0.8s
BAIF Baives 79.29 341 eP P 21 47 14.8 -0.6
comp=Z,52nm,1.1s,mb5.0
BAIF Baives 79.29 341 eP P 21 47 14.8 -0.6
BAIF pmax pmax
comp=Z,26nm,1.1s,mb5.1
BAIF Baives 79.29 341 eP P 21 47 14.8 -0.6
comp=Z,26nm,1.1s,mb5.1
QRN Al-Qurain 79.44 301 eP P 21 47 16.8 +0.6
QRN AMb AMB 21 47 18.3
comp=Z,253nm,0.8s,mb6.2
NAY Al-Naaiem 79.45 302 eP P 21 47 16.5 +0.2
NAY AMb AMB 21 47 18.2
comp=Z,147nm,0.8s,mb6.0
RDF Al-Radifah 79.52 302 eP P 21 47 17.2 +0.6
RDF AMb AMB 21 47 19.0
comp=Z,347nm,1.0s,mb6.2
PERS Pernice 79.56 333 eP P 21 47 17.1 +0.2
WVT Waverly 79.65 47 eP P 21 47 17.2 -0.2
WVT pmax pmax
comp=Z,877nm,2.8s,mb6.2
WVT Waverly 79.65 47 eP P 21 47 17.1 -0.3
comp=Z,877nm,2.8s,mb6.2
KBA Koelnbreinsper 79.70 334 i P P 21 47 18.8 +1.2
SNR=57
ESKT Eskisehir 79.76 319 i P P 21 47 17.9 -0.1
OBKA Obir 79.85 333 i P P 21 47 18.8 +0.4
SNR=7.3
DIM Dimitrovgrad 79.88 324 i P P 21 47 18.4 -0.3
BFO Black Forest 79.93 338 P P 21 47 19.0 +0.1
comp=Z,175nm,1.1s,mb5.9,SNR=6.0
BFO Black Forest 79.93 338 P P 21 47 19.2 +0.3
WATA Walderalm 79.97 335 i P P 21 47 20.2 +1.0
comp=Z,41nm,0.9s,mb5.4,SNR=16
WATA Walderalm 79.97 335 P P 21 47 20.2 +1.0
WTTA Wattenberg 80.02 335 i P P 21 47 20.3 +0.9
comp=Z,127nm,1.4s,mb5.7,SNR=28
STKA Stephens Creek 80.09 191 eP P 21 47 18.8 -1.0
comp=Z,7.4nm,1.0s,mb4.6
STKA Stephens Creek 80.09 191 P P 21 47 19.1 -0.7
comp=Z,9.4nm,0.9s,mb4.7,baz=34,slow=4.2,SNR=6.6
MOTA Moosalm 80.10 336 i P P 21 47 20.5 +0.7
comp=Z,69nm,1.1s,mb5.5,SNR=22
CDF Champ du Feu 80.12 339 eP P 21 47 19.7 -0.2
comp=Z,194nm,1.4s,mb5.5
CDF Champ du Feu 80.12 339 eP P 21 47 19.7 -0.2
CDF pmax pmax
comp=Z,97nm,1.4s,mb5.5
CDF Champ du Feu 80.12 339 eP P 21 47 19.7 -0.2
comp=Z,97nm,1.4s,mb5.5
SQTA Sankt Quirin 80.18 336 i P P 21 47 21.2 +0.9
comp=Z,51nm,1.1s,mb5.4,SNR=18
CRES Cresnjev 80.18 332 eP P 21 47 20.0 -0.2
DIVS Divcibare 80.20 329 eP P 21 47 19.9 -0.5
LJU Ljubljana 80.28 333 i P P 21 47 20.3 -0.4
VTS Vitosha 80.33 326 eP P 21 47 21.1 +0.1
VTS Vitosha 80.33 326 i P P 21 47 21.6 +0.6
VTS Vitosha 80.33 326 i P P 21 47 20.0 -1.0
MCWV Mont Chateau 80.48 40 eP P 21 47 21.7 -0.1
comp=Z,130nm,1.6s,mb5.6
DAVA Damuels 80.48 336 i P P 21 47 22.7 +0.8
comp=Z,36nm,1.0s,mb5.3,SNR=12
SSPA Standing Stone 80.48 38 eP P 21 47 21.3 -0.6
comp=Z,46nm,1.3s,mb5.2
BOJS Bojanci 80.53 332 i P P 21 47 21.9 -0.3
MEZF Maizieres J'vi 80.56 340 eP P 21 47 21.2 -1.1
comp=Z,87nm,1.0s,mb5.3
MEZF Maizieres J'vi 80.56 340 eP P 21 47 21.2 -1.1
comp=Z,87nm,1.0s,mb5.6
ALN Alexandroupoli 80.65 323 eP P 21 47 22.5 -0.3
HAU Haudompre 80.72 339 eP P 21 47 22.8 -0.4
comp=Z,49nm,1.0s,mb5.1
HAU Haudompre 80.72 339 eP P 21 47 22.8 -0.4
HAU pmax pmax
comp=Z,25nm,1.0s,mb5.1
HAU Haudompre 80.72 339 eP P 21 47 22.8 -0.4
comp=Z,25nm,1.0s,mb5.1
HINF Hinteralfeld 80.78 339 eP P 21 47 23.0 -0.5
comp=Z,50nm,1.2s,mb5.0
HINF Hinteralfeld 80.78 339 eP P 21 47 23.0 -0.5
HINF pmax pmax
comp=Z,25nm,1.2s,mb5.0
HINF Hinteralfeld 80.78 339 eP P 21 47 23.0 -0.5
comp=Z,25nm,1.2s,mb5.0
BTOK Tokmak 80.78 321 i P P 21 47 23.4 -0.1
DAVOX Davos 80.95 336 P P 21 47 25.0 +0.6
comp=Z,19nm,0.7s,mb5.1,baz=11,slow=3.4,SNR=18
MMB Musomiste 80.98 325 i P P 21 47 24.0 -0.6
TKTP Tekketepe 81.21 319 i P P 21 47 26.0 +0.2
FLN La Foliniere 81.48 344 eP P 21 47 26.7 -0.5
comp=Z,73nm,1.1s,mb5.2
FLN La Foliniere 81.48 344 eP P 21 47 26.7 -0.5
FLN pmax pmax
comp=Z,36nm,1.1s,mb5.2
FLN La Foliniere 81.48 344 eP P 21 47 26.7 -0.5
comp=Z,36nm,1.1s,mb5.2
STIP Stip 81.48 326 i P P 21 47 26.4 -0.8
SKO Skopje 81.52 327 i P P 21 47 28.0 +0.6
LUPA Lehigh Univers 81.54 36 eP P 21 47 27.1 -0.4
WES Weston 81.54 33 eP P 21 47 27.5 0.0
WES pmax pmax
comp=Z,135nm,1.9s,mb5.5
WES Weston 81.54 33 eP P 21 47 27.4 -0.1
comp=Z,135nm,1.9s,mb5.5
LDF La Druitiere 81.58 343 eP P 21 47 27.0 -0.7
MVL Millersville 81.65 37 eP P 21 47 27.9 -0.2
VAY Valandovo 81.66 326 i P P 21 47 27.8 -0.4
KNT Kendrikon 81.67 325 eP P 21 47 28.4 +0.2
FORT Forrest 81.69 203 eP P 21 47 28.4 +0.1
comp=Z,44nm,0.8s,mb5.4
FORT e 21 47 38.6
PAL Palisades 81.76 35 eP P 21 47 27.9 -0.8
PAL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PAL Palisades 81.76 35 eP P 21 47 27.9 -0.8
comp=Z,9.7nm,0.8s,mb4.8
LOS Limnos 81.86 323 eP P 21 47 29.0 -0.2
GRR Gorron 81.92 344 eP P 21 47 29.2 -0.3
comp=Z,286nm,1.5s,mb5.7
GRR Gorron 81.92 344 eP P 21 47 29.2 -0.3
GRR pmax pmax
comp=Z,143nm,1.5s,mb5.7
GRR Gorron 81.92 344 eP P 21 47 29.2 -0.3
comp=Z,143nm,1.5s,mb5.7
LOR Lormes 82.00 340 eP P 21 47 29.3 -0.6
comp=Z,47nm,0.9s,mb5.1
LOR Lormes 82.00 340 eP P 21 47 29.3 -0.6
LOR pmax pmax
comp=Z,23nm,0.9s,mb5.1
LOR Lormes 82.00 340 eP P 21 47 29.3 -0.6
comp=Z,23nm,0.9s,mb5.1
GRG Griva 82.04 325 eP P 21 47 29.6 -0.5
DNZL Cakiroluk 82.07 319 i P P 21 47 36.8 +6.5
CABF La Chapelle 82.09 339 eP P 21 47 30.0 -0.4
comp=Z,39nm,1.1s,mb5.0
CABF La Chapelle 82.09 339 eP P 21 47 30.0 -0.4
CABF pmax pmax
comp=Z,20nm,1.1s,mb5.0
CABF La Chapelle 82.09 339 eP P 21 47 30.0 -0.4
comp=Z,20nm,1.1s,mb5.0
ELN Prospectdale 82.09 41 eP P 21 47 30.1 -0.4
KRUS Krusevo 82.12 326 i P P 21 47 30.8 +0.3
PLG Polygyros 82.13 324 eP P 21 47 29.9 -0.8
KDAG Bornova 82.24 321 i P P 21 47 31.1 -0.2
BLA Blacksburg 82.25 41 eP P 21 47 31.6 +0.3
BLA pmax pmax
comp=Z,2.0nm,0.9s
BLA Blacksburg 82.25 41 eP P 21 47 30.7 -0.6
comp=Z,31nm,0.9s,mb5.2
SSF Saint Saulge 82.27 340 eP P 21 47 30.8 -0.6
comp=Z,29nm,0.8s,mb5.0
SSF Saint Saulge 82.27 340 eP P 21 47 30.8 -0.6
SSF pmax pmax
comp=Z,14nm,0.8s,mb4.9
SSF Saint Saulge 82.27 340 eP P 21 47 30.8 -0.6
comp=Z,14nm,0.8s,mb5.0
CSS Prodhromos 82.34 315 eP P 21 47 31.8 +0.1
comp=Z,44nm,0.6s,mb5.6
SGMF Saint Gilles 82.36 345 eP P 21 47 31.4 -0.4
comp=Z,83nm,1.1s,mb5.3
SGMF Saint Gilles 82.36 345 eP P 21 47 31.4 -0.4
SGMF pmax pmax
comp=Z,41nm,1.1s,mb5.3
SGMF Saint Gilles 82.36 345 eP P 21 47 31.4 -0.4
comp=Z,41nm,1.1s,mb5.3
BIA Bitola 82.39 326 eP P 21 47 31.1 -0.9
ROSF Rostrenen 82.40 345 eP P 21 47 31.4 -0.6
comp=Z,173nm,1.3s,mb5.5
ROSF Rostrenen 82.40 345 eP P 21 47 31.4 -0.6
ROSF pmax pmax
comp=Z,87nm,1.3s,mb5.5
ROSF Rostrenen 82.40 345 eP P 21 47 31.4 -0.6
comp=Z,87nm,1.3s,mb5.5
PAIG Paliouri 82.42 324 eP P 21 47 31.3 -0.8
OHR Ohrid 82.51 327 i P P 21 47 31.5 -1.1
URLA Izmir 82.56 321 i P P 21 47 32.4 -0.5
AVF Avril sur Loir 82.56 340 eP P 21 47 31.6 -1.3
comp=Z,131nm,1.2s,mb5.5
AVF Avril sur Loir 82.56 340 eP P 21 47 31.6 -1.3

AVF pmax pmax
comp=Z,66nm,1.2s,mb5.5
AVF Avril sur Loir 82.56 340 *eP* **P 21 47 31.6 -1.3**
comp=Z,66nm,1.2s,mb5.5
FNA Florina 82.58 326 *eP* **P 21 47 32.0 -0.9**
SMF Signal de Mont 82.59 340 *eP* **P 21 47 32.4 -0.6**
comp=Z,261nm,1.3s,mb5.8
SMF Signal de Mont 82.59 340 *eP* **P 21 47 32.4 -0.6**
SMF pmax pmax
comp=Z,130nm,1.3s,mb5.8
SMF Signal de Mont 82.59 340 *eP* **P 21 47 32.4 -0.6**
comp=Z,130nm,1.3s,mb5.8
QUIF Quistinic 82.79 345 *eP* **P 21 47 33.0 -1.1**
BGF Bois d'Agland 82.90 341 *eP* **P 21 47 33.9 -0.7**
LPL La Plagne 82.95 338 *eP* **P 21 47 34.6 -0.3**
comp=Z,109nm,1.1s,mb5.5
LPL La Plagne 82.95 338 *eP* **P 21 47 34.6 -0.3**
LPL pmax pmax
comp=Z,54nm,1.1s,mb5.5
LPL La Plagne 82.95 338 *eP* **P 21 47 34.6 -0.3**
comp=Z,54nm,1.1s,mb5.5
LPG La Plagne 82.96 338 *eP* **P 21 47 34.8 -0.2**
comp=Z,151nm,1.2s,mb5.6
LPG La Plagne 82.96 338 *eP* **P 21 47 34.8 -0.2**
LPG pmax pmax
comp=Z,76nm,1.2s,mb5.6
LPG La Plagne 82.96 338 *eP* **P 21 47 34.8 -0.2**
comp=Z,76nm,1.2s,mb5.6
BDRM Kayabasi 83.29 320 *i* P **P 21 47 35.9 -0.7**
TCF Toulx Ste Croi 83.29 341 *eP* **P 21 47 35.9 -0.8**
comp=Z,60nm,0.9s,mb5.3
TCF Toulx Ste Croi 83.29 341 *eP* **P 21 47 35.9 -0.8**
TCF pmax pmax
comp=Z,30nm,0.9s,mb5.3
TCF Toulx Ste Croi 83.29 341 *eP* **P 21 47 35.9 -0.8**
comp=Z,30nm,0.9s,mb5.3
MFF Saint Martin d 83.49 343 *eP* **P 21 47 37.0 -0.7**
comp=Z,31nm,0.7s,mb5.1
MFF Saint Martin d 83.49 343 *eP* **P 21 47 37.0 -0.7**
MFF pmax pmax
comp=Z,15nm,0.7s,mb5.1
MFF Saint Martin d 83.49 343 *eP* **P 21 47 37.0 -0.7**
comp=Z,15nm,0.7s,mb5.1
MBDF Montbardon 83.67 338 *eP* **P 21 47 38.1 -0.5**
comp=Z,101nm,1.2s,mb5.5
MBDF Montbardon 83.67 338 *eP* **P 21 47 38.1 -0.5**
MBDF pmax pmax
comp=Z,50nm,1.2s,mb5.5
MBDF Montbardon 83.67 338 *eP* **P 21 47 38.1 -0.5**
comp=Z,50nm,1.2s,mb5.5
ORIF Oris-en-Rattie 83.72 338 *eP* **P 21 47 38.5 -0.4**
comp=Z,86nm,0.9s,mb5.6
ORIF Oris-en-Rattie 83.72 338 *eP* **P 21 47 38.5 -0.4**
ORIF pmax pmax
comp=Z,43nm,0.9s,mb5.6
ORIF Oris-en-Rattie 83.72 338 *eP* **P 21 47 38.5 -0.4**
comp=Z,43nm,0.9s,mb5.6
AQU L'Aquila 83.95 332 ⇓ *iP* **P 21 47 41.6 +1.5**
AQU L'Aquila 83.95 332 ⇓P **P 21 47 41.6 +1.5**
IGT Igoumenitsa 84.06 326 *eP* **P 21 47 39.6 -1.0**
VIVF Saint-Julien-l 84.08 339 *eP* **P 21 47 39.8 -0.9**
comp=Z,80nm,1.1s,mb5.5
VIVF Saint-Julien-l 84.08 339 *eP* **P 21 47 39.8 -0.9**
VIVF pmax pmax
comp=Z,40nm,1.1s,mb5.5
VIVF Saint-Julien-l 84.08 339 *eP* **P 21 47 39.8 -0.9**
comp=Z,40nm,1.1s,mb5.5
SBF Sospel 84.30 337 *eP* **P 21 47 41.2 -0.7**
comp=Z,128nm,0.9s,mb5.8
SBF Sospel 84.30 337 *eP* **P 21 47 41.2 -0.7**
SBF pmax pmax
comp=Z,64nm,0.9s,mb5.8
SBF Sospel 84.30 337 *eP* **P 21 47 41.2 -0.7**
comp=Z,64nm,0.9s,mb5.8
RJF Les Rejaudoux 84.38 341 *eP* **P 21 47 41.6 -0.6**
CAF Calviac 84.62 341 *eP* **P 21 47 42.8 -0.6**
SMRF Simiane la Rot 84.68 338 *eP* **P 21 47 43.0 -0.8**
comp=Z,174nm,1.5s,mb5.7
SMRF Simiane la Rot 84.68 338 *eP* **P 21 47 43.0 -0.8**
comp=Z,174nm,1.5s,mb6.0
FRF La Foret Royal 84.79 337 *eP* **P 21 47 42.9 -1.4**
comp=Z,204nm,1.5s,mb5.7
FRF La Foret Royal 84.79 337 *eP* **P 21 47 42.9 -1.4**
FRF pmax pmax
comp=Z,102nm,1.5s,mb5.7
FRF La Foret Royal 84.79 337 *eP* **P 21 47 42.9 -1.4**
comp=Z,102nm,1.5s,mb5.7
LFF La Frestale 84.89 342 *eP* **P 21 47 44.1 -0.7**
LASF Ste Croix 85.01 339 *eP* **P 21 47 44.7 -0.7**
LMR La Mourre 85.04 337 *eP* **P 21 47 44.8 -0.8**
comp=Z,138nm,1.1s,mb5.7
LMR La Mourre 85.04 337 *eP* **P 21 47 44.8 -0.8**
LMR pmax pmax
comp=Z,69nm,1.1s,mb5.7
LMR La Mourre 85.04 337 *eP* **P 21 47 44.8 -0.8**
comp=Z,69nm,1.1s,mb5.7
PGF Pioggiola 85.09 335 *eP* **P 21 47 45.1 -0.7**
comp=Z,40nm,1.0s,mb5.2
PGF Pioggiola 85.09 335 *eP* **P 21 47 45.1 -0.7**
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.2
PGF Pioggiola 85.09 335 *eP* **P 21 47 45.1 -0.7**
comp=Z,20nm,1.0s,mb5.2
TIP Timpagrande 85.67 328 *eP* **P 21 47 48.4 -0.4**
EIL Elat 85.81 311 *eP* **P 21 47 49.4 0.0**
IDI Anoyia 85.89 321 P **P 21 47 48.2 -1.6**
comp=Z,16nm,0.6s,mb5.4,baz=23,slow=8.7,SNR=17
MTLF Montolieu 86.09 340 *eP* **P 21 47 49.8 -1.0**
comp=Z,60nm,1.4s,mb5.3
MTLF Montolieu 86.09 340 *eP* **P 21 47 49.8 -1.0**
MTLF pmax pmax
comp=Z,30nm,1.4s,mb5.3
MTLF Montolieu 86.09 340 *eP* **P 21 47 49.8 -1.0**
comp=Z,30nm,1.4s,mb5.3
EPF Esparros 86.80 341 *eP* **P 21 47 53.4 -0.9**
comp=Z,20nm,0.9s,mb5.0
EPF Esparros 86.80 341 *eP* **P 21 47 53.4 -0.9**
EPF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
EPF Esparros 86.80 341 *eP* **P 21 47 53.4 -0.9**
comp=Z,10nm,0.9s,mb5.0
ETSF Etsaut 87.12 342 *eP* **P 21 47 54.7 -1.1**
comp=Z,10nm,0.8s,mb4.8
ETSF Etsaut 87.12 342 *eP* **P 21 47 54.7 -1.1**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ETSF Etsaut 87.12 342 *eP* **P 21 47 54.7 -1.1**
comp=Z,5.2nm,0.8s,mb4.8
ESDC Sonseca Array 90.91 344 P **P 21 48 13.1 -0.6**
comp=Z,3.8nm,0.8s,mb4.8,baz=8.9,slow=3.8,SNR=11
KEST Kesra 91.27 332 P **P 21 48 15.5 +0.1**
comp=Z,6.5nm,0.8s,mb5.0,baz=338,slow=0.7,SNR=13
TORD Torodi Ar. Bea 114.74 331 PKP PKiKP 21 53 49.6 -0.8
comp=Z,2.9nm,0.8s,baz=10,slow=1.4,SNR=7.1
LIC Lamto 123.34 335 *e*PKIKP PKPdf 21 54 04.9 -2.0
comp=Z,28nm,1.0s
VNDA Vanda 125.05 178 PKP PKPdf 21 54 07.7 -2.6
comp=Z,2.0nm,1.1s,baz=303,slow=4.7,SNR=4.1
VNDA Vanda 125.05 178 PKIKP PKPdf 21 54 07.7 -2.5
VNDA pmax pmax
comp=Z,2.0nm,1.1s
LPAZ La Paz 133.02 63 PKP PKPdf 21 54 24.6 -0.8
comp=Z,6.4nm,1.1s,baz=352,slow=7.0,SNR=8.7
LPAZ La Paz 133.02 63 PKIKP PKPdf 21 54 24.6 -0.8
LPAZ pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 133.55 212 PKP PKPdf 21 54 24.8 -1.6
comp=Z,3.8nm,0.8s,baz=314,slow=10,SNR=6.4
MAW Mawson 133.55 212 PKIKP PKPdf 21 54 24.8 -1.6
MAW pmax pmax
comp=Z,4.0nm,0.8s
TSUM Tsumeb 135.04 294 PKP PKPdf 21 54 27.3 -1.8
comp=Z,4.7nm,0.8s,baz=22,slow=5.3,SNR=6.8
SYO Syowa Base 142.26 212 ⇑ *e*PKPdf PKPdf 21 54 44.4 +2.0
CFAA Coronel Fontan 143.85 79 PKP PKPdf 21 54 41.9 -3.3
comp=Z,2.4nm,0.9s,baz=300,slow=3.1,SNR=18
NVL N'lazarevskaya 150.93 204 *e*PKIKP PKPbc 21 55 00.0 -2.6
NVL pmax pmax
comp=Z,62nm,1.5s
NVL MLR MLR
comp=Z,2μm,21.0s,MS5.8
CAM4 Nova Friburgo 151.20 34 *eP* PKPbc 21 55 02.5 -0.7
CAM4 *i* 21 55 12.6
CAM4 *i* 21 55 20.1
SNAA Sanae 153.76 196 PKP PKPdf 21 54 57.9 -3.3
comp=Z,2.8nm,1.2s,baz=48,slow=12,SNR=3.3
SNAA PKPbc PKPbc 21 55 06.2 -2.8
comp=Z,2.9nm,0.9s,baz=181,slow=2.1,SNR=7.6
SNAA Sanae 153.76 196 *e*PKPdf PKPdf 21 54 59.9 -1.2
SNAA *e* 21 55 05.5
SNAA *e* 21 55 20.0
SNAA *e* 21 55 28.4
SNAA Sanae 153.76 196 PKIKP PKPdf 21 54 57.9 -3.2
SNAA 21 55 06.2
SNAA pmax pmax
comp=Z,3.0nm,1.3s
VNA2 Neumayer--Watz 155.19 194 *e*PKPdf PKPdf 21 55 01.5 -1.6
VNA2 *e* 21 55 09.9
VNA2 *e* 21 55 26.4
VNA2 *e* 21 55 35.3
VNA3 Neumayer Olymp 155.26 192 *e*PKPdf PKPdf 21 55 00.7 -2.5
VNA3 *e* 21 55 14.3
VNA3 *e* 21 55 26.3
VNA3 *e* 21 55 35.1
VNA1 Neumayer--Stat 155.57 194 *e*PKPdf PKPdf 21 55 05.8 +2.2
VNA1 *e* 21 55 28.2
VNA1 *e* 21 55 36.9

IDC 15 21:39:05.9±1.8, 4750N×15415E, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/24, mbtmp4.1/9, ML3.1/1, MS5.2/1, Ms1 5.2/1, ms1mx4.1/41, Error ellipse: s-maj=47.8km s-min=29.5km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.09**	**233**	Pn		Pn		21 42 52.0	-1.5
	0.1nm,0.3s,baz=35,slow=12,SNR=4.2								
KSRS	**Korea Array**	**21.70**	**252**	P		P		21 43 58.9	+0.5
	4.2nm,0.8s,baz=62,slow=9.8,SNR=4.5								
BVAR	**Borovoye Array**	**50.93**	**309**	P		P		21 48 08.1	-0.8
	2.5nm,0.6s,baz=50,slow=7.6,SNR=4.8								
KEV	**Kevo**	**56.87**	**341**	*ep*		P		21 48 50.1	-2.3
	3.5nm,0.7s								
PMG	**Port Moresby**	**56.99**	**188**	LR		LR		22 13 45.7	
	comp=Z,2μm,18.4s,baz=188,slow=36								
FINES	**FINESS Array B**	**63.66**	**335**	P		P		21 49 37.0	-1.9
	1.2nm,0.3s,baz=39,slow=8.0,SNR=11								
NB2	**NORSAR Subarra**	**67.75**	**342**	P		P		21 50 04.9	-0.4
	comp=Z,1.2nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.75**	**342**	P		P		21 50 05.2	-0.1
	comp=Z,2.2nm,0.7s,baz=26,slow=6.4,SNR=5.2								
CLL	**Collm**	**76.08**	**336**	*i* P		P		21 50 54.3	-1.0
	comp=Z,10.0nm,1.0s								
TXAR	**Lajitas Array**	**76.51**	**61**	P		P		21 50 57.8	0.0
	comp=Z,0.6nm,0.5s,baz=299,slow=4.7,SNR=5.0								
MLR	**Muntele Rosu**	**76.86**	**325**	P		P		21 51 00.9	+1.2
	comp=Z,4.8nm,0.8s,baz=163,slow=6.1,SNR=4.7								
GERES	**GERESS Array B**	**78.09**	**335**	P		P		21 51 06.9	+0.3
	comp=Z,0.5nm,0.4s,baz=34,slow=6.8,SNR=5.8								
BRTR	**Keskin Array B**	**78.33**	**317**	P		P		21 51 08.4	+0.5
	comp=Z,1.5nm,0.8s,baz=64,slow=4.0,SNR=4.1								

IDC 15 21:40:06.7±0.5, 4672N×15326E, h0km, mb4.8/25, mb1 5.0/26, mb1mx5.0/29, mbtmp4.8/26, ML3.6/1, Error ellipse: s-maj=15.6km s-min=12.2km az=159.0
NEIC 15 21:40:08.6±0.2, 4672N×15330E, h10km, mb5.5/47, Error ellipse: s-maj=6.5km s-min=3.3km az=175.0
BJI 15 21:40:08.1, 4657N×153.41E, h15km, mB5.0, mb4.9, Ms4.9, Msz4.9
ISCJB 15 21:40:09.2±1.2, 4667N±005×15339E±004, h26km±9km, mb5.1/101, MS4.9/1, Error ellipse: s-maj=8.1km s-min=3.6km az=144.5
SZGRF 15 21:40:09.8, 4599N×153.15E, h33km, mb5.1, East of Kuril Islands, Russia
SKHL 15 21:40:10.8±1.3, 4628N×15346E, h49km±19km
JMA 15 21:40:11.7±0.8, 4702N×153.19E, h30km, M5.4
MOS 15 21:40:11.6±1.1, 4685N×15330E, h40km, mb5.1/38, Error ellipse: s-maj=8.5km s-min=5.7km az=98.0

ISC 15 21:40:12.4±1.2, 4684N±004×15331E±004, h32km±9km, n318, σ0.98/327, mb5.1/101, MS4.9/1, 15C-26D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.12**	**249**	*eP*		**Pn**		**21 41 12.0**	**-1.1**
KUR				*eS*		**Sn**		**21 41 59.0**	**-1.1**
KUR	**Kuril'sk**	**4.12**	**249**	*e*PN		**Pn**		**21 41 13.5**	**+0.4**
SKR	**Severo-Kuril's**	**4.27**	**25**	PN		**Pb**		**21 41 32.0**	**+5.3**
SKR				*eS*		**Sn**		**21 42 03.5**	**-0.2**
SKR				pmax	pmax				
	comp=Z,390nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.95**	**245**	*eP*		**Pn**		**21 41 38.8**	**+0.6**
YUK				AMB	AMB			21 41 42.0	
	comp=Z,190nm,0.5s								
YUK				AMB	AMB			21 41 42.0	
	comp=Z,580nm,0.5s								
YUK				AMB	AMB			21 41 46.0	
	comp=Z,5μm,1.5s								
YUK				*eS*		**Sn**		**21 42 44.5**	**-0.7**
YUK				A				21 42 59.5	
	comp=Z,2μm,0.6s								
YUK				A				21 42 59.5	
	comp=Z,2μm,1.0s								
YUK				A				21 43 02.0	
	comp=Z,5μm,1.0s								
YUK				A				21 43 02.0	
	comp=Z,7μm,1.5s								
NEM2	**Nemuro 2**	**6.39**	**240**	P		**Pn**		**21 41 42.9**	**-1.3**
NEM2				*eS*		**Sn**		**21 42 50.8**	**-5.2**
JRA	**Rausu**	**6.46**	**246**	P		**Pn**		**21 41 46.5**	**+1.3**
JRA				*eS*		**Sn**		**21 42 58.5**	**+0.8**
JNK	**Nakash**	**6.89**	**245**	P		**Pn**		**21 41 51.5**	**+0.4**
JNK				*eS*		**Sn**		**21 43 07.1**	**-1.2**
PET	**Petropavlovsk**	**7.08**	**27**	⇓ *i* PN		**Pn**		**21 41 50.3**	**-3.4**
PET				pmax	pmax				
	comp=Z,115nm,0.6s								
PET				MLR	MLR				
	comp=Z,10μm,14.0s								
JTKR	**Abashiri--Toko**	**7.22**	**250**	P		**Pn**		**21 41 57.2**	**+1.6**
JAK	**Akkeshi**	**7.22**	**241**	P		**Pn**		**21 41 54.5**	**-1.2**
JAK				*eS*		**Sn**		**21 43 11.8**	**-4.8**
YSS	**Yuzh-Sakhalins**	**7.24**	**275**	*eP*		**Pn**		**21 42 00.5**	**+4.6**
YSS				AMB	AMB			21 42 03.8	
	comp=Z,180nm,1.0s								
YSS				AMB	AMB			21 42 03.8	
	comp=Z,80nm,0.9s								
YSS				AMB	AMB			21 42 03.8	
	comp=Z,120nm,1.0s								
YSS				*eS*		**Sn**		**21 43 22.0**	**+5.1**
YSS				A				21 43 24.3	
	comp=Z,120nm,0.8s								
YSS				A				21 43 24.3	
	comp=Z,90nm,0.7s								
YSS	**Yuzh-Sakhalins**	**7.24**	**275**	PN		**Pn**		**21 42 00.5**	**+4.6**
YSS				*eS*		**Sn**		**21 43 22.0**	**+5.1**
YSS				pmax	pmax				
	comp=E,180nm,1.0s								
YSS				pmax	pmax				
	comp=Z,120nm,1.0s								
YSS				pmax	pmax				
	comp=N,80nm,0.9s								
YSS				smax					
	comp=E,120nm,0.8s								
YSS				smax					
	comp=N,90nm,0.7s								
JMP	**Maruseppu**	**7.56**	**252**	P		**Pn**		**21 42 02.1**	**+1.9**
JAR	**Ashorobuto**	**7.63**	**246**	P		**Pn**		**21 42 02.1**	**+0.8**
JAR				*eS*		**Sn**		**21 43 26.3**	**-0.3**
JOB	**Onbets**	**7.80**	**243**	P		**Pn**		**21 42 03.6**	**0.0**
JOB				*eS*		**Sn**		**21 43 26.9**	**-3.8**
UGL	**Uglegorsk**	**7.88**	**291**	*eP*		**Pn**		**21 42 10.0**	**+5.4**
UGL				AMB	AMB			21 42 14.0	
	comp=N,83nm,0.6s								
ASAJ	**Asahikawa**	**8.01**	**254**	Pn		**Pn**		**21 42 09.6**	**+3.1**
	comp=N,14nm,0.3s,baz=79,slow=18,SNR=14								
ASAJ	**Asahikawa**	**8.01**	**254**	PN		**Pn**		**21 42 09.6**	**+3.1**
ASAJ				pmax	pmax				
	comp=Z,14nm,0.3s								
JKK2	**Kamakawa 2**	**8.01**	**252**	P		**Pn**		**21 42 08.9**	**+2.4**
JWK2	**Keihoku**	**8.09**	**263**	P		**Pn**		**21 42 13.6**	**+6.1**
TYV	**Tymovskoe**	**8.10**	**304**	*eP*		**Pn**		**21 42 11.5**	**+3.8**
TYV				AMB	AMB			21 42 25.2	
	comp=Z,31nm,0.8s								
TYV				AMB	AMB			21 42 25.2	
	comp=Z,62nm,0.8s								
JCH	**Churui**	**8.25**	**243**	P		**Pn**		**21 42 09.4**	**-0.4**
JCH				*eS*		**Sn**		**21 43 36.4**	**-5.4**
JFR	**Furan**	**8.44**	**248**	P		**Pn**		**21 42 13.6**	**+1.2**
JAB	**Ashibetsu**	**8.52**	**251**	P		**Pn**		**21 42 15.4**	**+2.0**
JEM	**Erimo**	**8.72**	**240**	P		**Pn**		**21 42 16.2**	**0.0**
ERM	**Erimo**	**8.72**	**240**	*e*PN		**Pn**		**21 42 16.6**	**+0.4**
ERM				pmax	pmax				
	comp=Z,152nm,0.6s								
ERM	**Erimo**	**8.72**	**240**	*eP*		**Pn**		**21 42 16.6**	**+0.4**
	comp=Z,152nm,0.6s								
JBT2	**Biratori 2**	**8.78**	**246**	P		**Pn**		**21 42 16.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**8.81**	**243**	P		**Pn**		**21 42 16.4**	**-1.0**
JNBK				*eS*		**Sn**		**21 43 50.6**	**-5.0**
JEW	**Eniwo**	**9.33**	**249**	P		**Pn**		**21 42 26.8**	**+2.2**
JKB	**Kayabe**	**10.09**	**245**	P		**Pn**		**21 42 32.9**	**-2.1**
JKB				*eS*		**Sn**		**21 44 18.4**	**-8.6**
NKL	**Nikolayevsk**	**10.29**	**312**	*eP*		**Pn**		**21 42 38.8**	**+1.1**
JSH	**Shimam**	**10.33**	**251**	P		**Pn**		**21 42 37.9**	**-0.4**
JOT	**Ohata**	**10.37**	**243**	P		**Pn**		**21 42 35.3**	**-3.5**
JYM2	**Yakumo 2**	**10.38**	**248**	P		**Pn**		**21 42 37.6**	**-1.4**
JTM	**Tenmabayashi**	**10.72**	**240**	P		**Pn**		**21 42 40.8**	**-2.8**
JTM				*eS*		**Sn**		**21 44 31.7**	**-11**
JANG	**Nango**	**10.72**	**237**	P		**Pn**		**21 42 39.0**	**-4.6**
JANG				*eS*		**Sn**		**21 44 30.3**	**-12**
JTH	**Tanohata**	**10.81**	**234**	P		**Pn**		**21 42 41.6**	**-3.3**
JTH				*eS*		**Sn**		**21 44 29.5**	**-15**
JOSM	**Okushiri--Mats**	**10.97**	**249**	P		**Pn**		**21 42 45.9**	**-1.2**
OFUJ	**Ofunato**	**11.52**	**232**	*eS*		**Sn**		**21 44 50.1**	**-12**
JRG	**Rokugo**	**11.88**	**236**	P		**Pn**		**21 42 57.5**	**-1.9**
JIO	**Ouri**	**12.15**	**231**	*eS*		**Sn**		**21 45 03.9**	**-14**
HABR	**Khabarovsk**	**12.42**	**284**	*e*PN		**Pn**		**21 43 12.5**	**+5.6**
HABR				*eS*		**Sn**		**21 45 33.1**	**+8.9**
KLR	**Kul'dur**	**14.62**	**287**	*eP*		**Pn**		**21 43 38.0**	**+1.2**
SMY	**Shemya**	**14.64**	**59**	*eP*		**Pn**		**21 43 28.3**	**-8.8**
SMY				pmax	pmax				
	comp=Z,20nm,0.5s								
SMY	**Shemya**	**14.64**	**59**	*eP*		**Pn**		**21 43 28.3**	**-8.8**
	comp=Z,20nm,0.5s								
MAT	**Matsushiro**	**15.25**	**233**	P		**Pn**		**21 43 41.2**	**-4.0**
MAT	**Matsushiro**	**15.25**	**233**	P		**Pn**		**21 43 41.3**	**-3.9**
MJAR	**Matsushiro Arr**	**15.25**	**233**	Pn		**Pn**		**21 43 41.4**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=4.8								
SEY	**Seymchan**	**16.13**	**358**	*eP*		**Pn**		**21 43 54.4**	**-2.3**
ZEA	**Zeya**	**17.96**	**302**	*eP*		**Pn**		**21 44 21.6**	**+2.1**
ZEA				AMB	AMB			21 44 23.5	
	comp=Z,29nm,1.0s								
YAK	**Yakutsk**	**20.32**	**327**	⇑ *eP*		**P**		**21 44 44.9**	**-0.7**
YAK				pmax	pmax				
	comp=Z,21nm,1.1s								
KSRS	**Korea Array**	**20.96**	**253**	P		**P**		**21 44 51.1**	**-1.4**
	comp=Z,26nm,0.9s,baz=56,slow=11,SNR=18								
SNY	**Shenyang**	**21.78**	**268**	⇓P		**P**		**21 45 01.3**	**-0.1**
SNY				AMB	AMB				
	comp=Z,27nm,0.6s,mb4.8								
JNU	**Nakatsue**	**21.89**	**239**	P		**P**		**21 45 03.6**	**+1.1**
	comp=Z,41nm,0.8s,mb4.9,baz=250,slow=20,SNR=4.5								
BILL	**Bilibino**	**22.27**	**13**	*eP*		**P**		**21 45 04.9**	**-1.7**
BILL				pmax	pmax				
	comp=Z,47nm,0.8s,mb5.0								
HIA	**Hailar**	**22.47**	**289**	*eP*		**P**		**21 45 04.7**	**-4.0**
DL2	**Dalian**	**24.41**	**263**	P		**P**		**21 45 29.3**	**+1.5**
DL2				AMB	AMB				
	comp=Z,30nm,1.0s,mb4.7								
BOD	**Bodaibo**	**26.04**	**309**	*eP*		**P**		**21 45 36.4**	**-6.2**
BOD				pmax	pmax				
	comp=Z,11nm,1.5s,mb4.2								
TIXI	**Tiksi**	**27.42**	**343**	*eP*		**P**		**21 45 53.5**	**-1.5**
BJI	**Beijing**	**27.62**	**269**	*eP*		**P**		**21 45 55.5**	**-1.3**
BJI				AMB	AMB				
	comp=Z,13nm,0.9s,mb4.6								
BJI	**Beijing**	**27.62**	**269**	*eP*		**P**		**21 45 55.5**	**-1.3**
	comp=Z,13nm,0.9s,mb4.6								
NJ2	**Nanjing**	**30.16**	**253**	*eP*		**P**		**21 46 18.4**	**-1.0**
NJ2				AMB	AMB				
	comp=Z,30nm,0.5s,mb5.3								
ULN	**Ulaanbaatar**	**31.00**	**289**	*eP*		**P**		**21 46 27.2**	**+0.4**
SONM	**Songino Array**	**31.43**	**289**	P		**P**		**21 46 29.2**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=42,slow=18,SNR=3.6								
IMA2	**Indian Mountai**	**33.65**	**36**	*eP*		**P**		**21 46 50.4**	**+0.4**
KDAK	**Kodiak Island**	**33.94**	**51**	P		**P**		**21 46 51.3**	**-1.2**
	comp=Z,15nm,0.7s,mb5.0,baz=327,slow=2.3,SNR=7.3								
COLA	**College**	**35.98**	**38**	*eP*		**P**		**21 47 10.1**	**0.0**
DIV	**Divide**	**37.09**	**45**	*eP*		**P**		**21 47 18.8**	**-0.8**
	comp=Z,89nm,1.0s,mb5.5								
LZH	**Lanzhou**	**38.02**	**272**	*eP*		**P**		**21 47 29.0**	**+1.5**
LZH				AP	pP			21 47 34.4	-2.6
LZH				XP	sP			21 47 36.6	-4.3
LZH				PP	PP			21 48 59.6	+4.9
LZH				AMB	AMB				
	comp=Z,23nm,1.0s,mb4.9								
LZH				AMB	AMB				
	comp=Z,120nm,4.4s								
LZH				LR	LR				
	comp=E,1μm,14.0s								
LZH				LR	LR				
	comp=Z,1μm,15.5s								
LZH	**Lanzhou**	**38.02**	**272**	*eP*		**P**		**21 47 29.0**	**+1.5**
	comp=Z,23nm,1.0s,mb4.9								
LZH				pP	pP			21 47 34.4	-2.6
LZH				sP	sP			21 47 36.6	-4.3
LZH				PP	PP			21 48 59.6	+4.9
LZH				LR	LR				
	comp=Z,1μm,15.5s,MS4.9								
EGAK	**Eagle**	**38.84**	**38**	*eP*		**P**		**21 47 33.4**	**-0.9**
GTA	**Gaotai**	**39.09**	**279**	*eP*		**P**		**21 47 37.5**	**+1.0**
GTA				AP	pP			21 47 44.4	-1.6
GTA				XP	sP			21 47 48.5	-1.4
DAWY	**Dawson**	**39.68**	**39**	*eP*		**P**		**21 47 42.1**	**+0.7**
CD2	**Chengdu**	**41.02**	**265**	P		**P**		**21 47 52.9**	**+0.4**
CD2				AMB	AMB				
	comp=Z,40nm,1.3s,mb4.9								
INK	**Inuvik**	**41.50**	**32**	P		**P**		**21 47 56.9**	**+0.5**
	comp=Z,12nm,0.5s,mb4.8,baz=285,slow=7.4,SNR=39								
INK	**Inuvik**	**41.50**	**32**	P		**P**		**21 47 56.9**	**+0.5**
INK				pmax	pmax				
	comp=Z,12nm,0.5s								
GYA	**Guiyang**	**41.87**	**258**	⇓ *i* P		**P**		**21 48 00.0**	**+0.6**
GYA				AMB	AMB				
	comp=Z,20nm,0.8s,mb4.8								
ZAL	**Zalesovo**	**42.69**	**306**	P		**P**		**21 48 05.3**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.1,baz=71,slow=4.8,SNR=2.6								
ZAL				PcP	PcP			21 49 56.7	-0.8
	comp=Z,3.1nm,0.8s,baz=165,slow=0.7,SNR=5.0								
ZAL	**Zalesovo**	**42.69**	**306**	P		**P**		**21 48 05.4**	**-0.7**
ZAL								21 49 56.7	
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KMI	**Kunming**	**45.40**	**260**	P		**P**		**21 48 28.3**	**+0.5**
KMI				XP	sP			21 48 35.8	-5.5
KMI				AMB	AMB				
	comp=Z,13nm,1.0s,mb4.7								
KMI	**Kunming**	**45.40**	**260**	P		**P**		**21 48 28.2**	**+0.4**
KMI				*SP	sP			21 48 35.8	-5.5
KMI				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.7								
KMI	**Kunming**	**45.40**	**260**	P		**P**		**21 48 28.2**	**+0.

AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ARU Arti 55.04 318⇑ *iP* **P 21 49 39.4 -1.4**
ARU *e* 21 51 43.3
ARU *eS* **S 21 57 19.9 -1.1**
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
JIRN Jiri 55.08 275 *eP* **P 21 49 42.6 +1.5**
comp=Z,64nm,0.7s,mb5.8
GUN Gumba 55.13 275 *eP* **P 21 49 42.8 +1.3**
NLW Nelson Butte 55.34 54 P **P 21 49 43.1 +0.1**
TWW Teanaway 55.56 56 P **P 21 49 45.3 +0.7**
KKN Kakani 55.62 275 *eP* **P 21 49 46.3 +1.3**
comp=Z,36nm,0.6s,mb5.5
PKI Pulchoki 55.67 275 *eP* **P 21 49 46.0 +0.6**
comp=Z,18nm,0.6s,mb5.3
WTV Waterville 55.76 55 P **P 21 49 45.7 -0.4**
DMN Daman 55.85 275 *eP* **P 21 49 47.8 +1.1**
comp=Z,72nm,0.8s,mb5.8
EBG Ellensburg 55.86 56 P **P 21 49 47.0 +0.2**
GKN Gorkha 55.92 276 *eP* **P 21 49 48.0 +0.8**
comp=Z,62nm,0.7s,mb5.7
SSOR Sweet Springs 55.92 59 P **P 21 49 48.3 +1.1**
EDM Edmonton 56.15 46 *eP* **P 21 49 47.6 -1.2**
EPH Ephrata 56.16 55 P **P 21 49 48.3 -0.5**
MDW Midway 56.48 56 P **P 21 49 51.3 +0.1**
DAG Danmarks Havn 56.56 358⇓ *iP* **P 21 49 50.4 -1.3**
comp=Z,25nm,1.0s,mb5.2
DAG Danmarks Havn 56.56 358⇓ *iP* **P 21 49 50.4 -1.3**
DAG pmax pmax
comp=Z,25nm,1.0s,mb5.2
SNIWA Snively Ranch 56.63 56 P **P 21 49 52.6 +0.4**
OD2 Odessa Site #2 56.63 54 P **P 21 49 51.9 -0.4**
KOLN Koldanda 56.78 277 *eP* **P 21 49 54.4 +1.1**
comp=Z,60nm,0.8s,mb5.7
NEW Newport 57.01 53 P **P 21 49 54.9 0.0**
comp=Z,33nm,1.0s,mb5.3,baz=316,slow=6.5,SNR=11
NEW Newport 57.01 53 P **P 21 49 54.9 0.0**
NEW pmax pmax
comp=Z,33nm,1.0s
NEW Newport 57.01 53 P **P 21 49 54.9 0.0**
VIPM Ingram Point 57.20 58 P **P 21 49 56.9 +0.6**
KEV Kevo 57.30 341 *ep* **P 21 49 55.2 -1.8**
YBH Yreka Blue Hor 57.58 62 P **P 21 50 00.1 +1.2**
comp=Z,26nm,1.1s,mb5.2,baz=304,slow=1.7,SNR=12
YBH Yreka Blue Hor 57.58 62 P **P 21 50 00.1 +1.2**
YBH pmax pmax
comp=Z,26nm,1.2s
ARCES ARCESS Array B 57.81 341 P **P 21 49 59.5 -1.1**
comp=Z,2.9nm,0.7s,mb4.5,baz=18,slow=6.8,SNR=12
ARCES ARCESS Array B 57.81 341 P **P 21 49 59.5 -1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
BSMT Bassoo Peak 58.52 52 P **P 21 50 06.0 +0.4**
AKTK Aktyubinsk 58.77 312 P **P 21 50 06.8 -0.4**
AKTO Aktyubinsk 58.77 312 P **P 21 50 06.8 -0.4**
comp=Z,2.0nm,0.6s,mb4.3,baz=64,slow=11,SNR=4.0
AKTO Aktyubinsk 58.77 312 P **P 21 50 06.8 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MOD Modoc 58.92 60 *eP* **P 21 50 08.4 +0.1**
comp=Z,36nm,1.2s,mb5.3
NSHM Saint Helena R 59.56 65 *eP* **P 21 50 12.6 -0.2**
WVOR Wild Horse Val 59.59 59 *eP* **P 21 50 13.1 +0.1**
WVOR pmax pmax
comp=Z,51nm,1.0s,mb5.5
WVOR Wild Horse Val 59.59 59 *eP* **P 21 50 13.1 +0.2**
comp=Z,51nm,1.0s,mb5.5
MSO Missoula 59.60 53 *eP* **P 21 50 12.9 0.0**
comp=Z,74nm,1.3s,mb5.6
CHMT Chamberlain Mo 59.92 52 P **P 21 50 15.2 0.0**
EGMT Eagleton 61.09 50 *eP* **P 21 50 23.3 +0.1**
CMB Columbia Colle 61.24 64 *eP* **P 21 50 24.1 -0.1**
CMB pmax pmax
comp=Z,56nm,1.4s,mb5.5
CMB Columbia Colle 61.24 64 *eP* **P 21 50 24.1 -0.2**
comp=Z,56nm,1.4s,mb5.5
HLID Hailey 61.34 56 *eP* **P 21 50 25.1 +0.2**
comp=Z,34nm,1.0s,mb5.4
MCMT McKenzie Canyo 61.43 54 *eP* **P 21 50 25.3 -0.2**
BMN Battle Mountai 61.66 60 *eP* **P 21 50 27.6 +0.5**
BMN pmax pmax
comp=Z,71nm,1.3s,mb5.6
BMN Battle Mountai 61.66 60 *eP* **P 21 50 27.6 +0.5**
comp=Z,71nm,1.3s,mb5.6
QLMT Earthquake Lak 62.21 53 *eP* **P 21 50 31.3 +0.5**
GCMT Greycliff 62.56 51 *eP* **P 21 50 33.7 +0.6**
YMR Madison River 62.57 53 *eP* **P 21 50 33.0 -0.2**
YNR Norris Junctio 62.70 53 *eP* **P 21 50 34.1 +0.1**
YFT Old Faithful 62.78 53 *eP* **P 21 50 36.5 +1.9**
MTUM Tungsten Hills 62.79 64 *eP* **P 21 50 35.1 +0.4**
IMW Indian Meadow 63.08 54 *eP* **P 21 50 37.6 +1.1**
comp=Z,80nm,1.3s,mb5.7
TPH Tonopah 63.15 62 *eP* **P 21 50 37.3 +0.3**
TPH pmax pmax
comp=Z,94nm,1.4s,mb5.7
TPH Tonopah 63.15 62 *eP* **P 21 50 37.3 +0.3**
comp=Z,94nm,1.4s,mb5.7
RLMT Red Lodge 63.20 52 *eP* **P 21 50 38.2 +0.8**
comp=Z,74nm,1.2s,mb5.7
RRI2 Red Ridge 63.22 54 *eP* **P 21 50 38.6 +1.1**
comp=Z,98nm,0.8s,mb6.0
LOHW Long Hollow 63.45 54 *eP* **P 21 50 40.0 +0.9**
comp=Z,144nm,1.5s,mb5.9
REDW Red Top Meadow 63.47 54 *eP* **P 21 50 40.2 +1.0**
comp=Z,99nm,1.1s,mb5.8
DGMT Dagmar 63.64 46 *eP* **P 21 50 39.2 -1.1**
comp=Z,112nm,1.1s,mb5.8
AHID Auburn Hatcher 63.72 55 *eP* **P 21 50 40.5 -0.3**
comp=Z,38nm,1.2s,mb5.3
SPUT South Promonto 63.90 57 *eP* **P 21 50 38.5 -3.5**
TRCR Troy Canyon 63.96 61 *eP* **P 21 50 42.6 +0.2**
FINES FINESS Array B 64.02 335 P **P 21 50 41.8 -1.0**
comp=Z,15nm,0.7s,mb5.1,baz=36,slow=8.8,SNR=32
FINES FINESS Array B 64.02 335 P **P 21 50 41.8 -0.9**
FINES pmax pmax
comp=Z,15nm,0.7s
HWUT Hardware Ranch 64.21 56 *eP* **P 21 50 44.2 +0.2**
comp=Z,55nm,1.1s,mb5.5
DUG Dugway 64.41 58 *eP* **P 21 50 45.6 +0.3**
NOQ North Oquirrh 64.51 57 *eP* **P 21 50 46.4 +0.4**
comp=Z,93nm,1.2s,mb5.7
PDAR Pinedale Array 64.58 54 P **P 21 50 46.6 +0.2**
comp=Z,36nm,1.0s,mb5.4,baz=288,slow=2.0,SNR=84
CTU Camp Tracy 64.70 57 *eP* **P 21 50 46.3 -0.9**
comp=Z,56nm,1.3s,mb5.4
JLU Jordanelle 64.93 57 *eP* **P 21 50 49.1 +0.4**
NLU North Lily Min 64.99 58 *eP* **P 21 50 48.5 -0.6**
DAU Daniels Canyon 65.17 57 *eP* **P 21 50 50.9 +0.7**
MPU Maple Canyon 65.21 57 *eP* **P 21 50 50.7 +0.2**
comp=Z,50nm,1.0s,mb5.5
OBN Obninsk 65.31 326 *eP* **P 21 50 49.2 -2.0**
OBN *i* 21 51 18.9
OBN pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARUT Antelope Range 65.61 60 *eP* **P 21 50 53.1 0.0**
CCUT Cedar City 65.81 60 *eP* **P 21 50 54.7 +0.2**
MSU Marysvale 65.88 59 *eP* **P 21 50 55.4 +0.5**
ULM Lac du Bonnet 66.36 41 P **P 21 50 57.2 -0.8**
comp=Z,17nm,0.5s,mb5.3,baz=312,slow=6.9,SNR=35
ULM Lac du Bonnet 66.36 41 P **P 21 50 57.2 -0.8**
SRU San Rafael 66.45 58 *eP* **P 21 50 58.4 -0.1**
SRU pmax pmax
comp=Z,63nm,0.9s,mb5.7
SRU San Rafael 66.45 58 *eP* **P 21 50 58.4 -0.2**
comp=Z,63nm,0.9s,mb5.7
AGMN Agassiz Refuge 67.77 42 *eP* **P 21 51 05.9 -1.0**
comp=Z,79nm,1.3s,mb5.6
NB2 NORSAR Subarra 68.19 341 P **P 21 51 08.9 -0.6**
comp=Z,18nm,0.6s,mb5.3,baz=26,slow=6.5
NOA NORSAR Array B 68.19 341 P **P 21 51 09.1 -0.4**
comp=Z,13nm,0.5s,mb5.2,baz=27,slow=6.4,SNR=40
NOA NORSAR Array B 68.19 341 P **P 21 51 09.1 -0.4**
NOA pmax pmax
comp=Z,13nm,0.5s
NOA NORSAR Array B 68.19 341 P **P 21 51 09.1 -0.4**
WUAZ Wupatki 68.36 61 *eP* **P 21 51 10.6 0.0**
comp=Z,84nm,1.6s,mb5.5
NAO01 NORSAR Array S 68.43 341 *eP* **P 21 51 09.0 -2.0**
comp=Z,4.0nm,0.4s,mb4.8
WRA Warramunga Arr 68.64 199 P **P 21 51 10.7 -1.6**
comp=Z,7.9nm,0.9s,mb4.6,baz=17,slow=6.3,SNR=83
WRA Warramunga Arr 68.64 199 P **P 21 51 10.7 -1.7**
WRA pmax pmax
comp=Z,8.0nm,1.0s

POO Poona 69.59 276 *eP* **P 21 51 16.0 -2.2**
KONO Kongsberg 69.79 341⇑ *eP* **P 21 51 17.7 -1.8**
GOF Gofitskoye 69.86 315 *eP* **P 21 51 15.2 -4.7**
EYMN Ely 70.01 40 *eP* **P 21 51 19.8 -1.0**
comp=Z,49nm,1.0s,mb5.4
SDCO Great Sand Dun 70.26 56 *eP* **P 21 51 22.5 +0.1**
comp=Z,58nm,1.5s,mb5.3
ECSD EROS,Sioux Fal 70.72 46 *eP* **P 21 51 24.1 -1.1**
comp=Z,66nm,1.1s,mb5.5
ZEI Tsey 71.10 313 *eP* **P 21 51 25.6 -1.8**
ZEI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AKASG Malin Array Be 71.55 326 P **P 21 51 29.1 -1.0**
comp=Z,14nm,0.6s,mb5.0,baz=33,slow=6.3,SNR=32
AKASG Malin Array Be 71.55 326 P **P 21 51 29.2 -1.0**
AKASG pmax pmax
comp=Z,14nm,0.6s
LAZ Ladron 71.65 59 *eP* **P 21 51 31.3 +0.5**
ANMO Albuquerque 71.67 58⇑ *eP* **P 21 51 30.5 -0.4**
LPM Los Pinos Moun 72.01 59 *eP* **P 21 51 33.5 +0.6**
BNM Barren Site 72.13 59 *eP* **P 21 51 33.9 +0.2**
AS31 Alice Springs 72.34 199 *eP* **P 21 51 34.3 -0.6**
ASAR Alice Springs 72.34 199 P **P 21 51 34.4 -0.5**
comp=Z,3.6nm,0.6s,mb4.5,baz=11,slow=5.9,SNR=34
ASAR Alice Springs 72.34 199 P **P 21 51 34.4 -0.5**
ASAR pmax pmax
comp=Z,4.0nm,0.6s
SCHQ Schefferville 73.17 23 P **P 21 51 39.6 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=346,slow=6.4,SNR=11
SCIA State Center 73.75 45 *eP* **P 21 51 42.7 -0.6**
comp=Z,243nm,1.4s,mb5.9
SIM Simferopol' 74.09 320 *eP* **P 21 51 45.8 +0.6**
SIM pmax pmax
comp=Z,12nm,0.9s,mb4.8
AMTX Amarillo 74.46 56 *eP* **P 21 51 47.3 -0.1**
comp=Z,124nm,1.5s,mb5.6
KIS Kishinev 74.69 324 *eP* **P 21 51 46.0 -2.7**
KWP Kalwaria 74.81 329 *eP* **P 21 51 50.1 +0.6**
KWP L 22 10 09.5
comp=Z,16nm,20.4s
IAS Iasi 75.03 325 P **P 21 51 50.9 +0.2**
OJC Ojcow 75.31 331 *eP* **P 21 51 52.2 -0.1**
STHS Stebnicka Huta 75.50 330 *eP* **P 21 51 54.0 +0.6**
STHS pmax pmax
comp=Z,16nm,1.0s,mb4.9
STHS Stebnicka Huta 75.50 330 *eP* **P 21 51 54.0 +0.6**
comp=Z,16nm,1.0s,mb4.9
STHS *e* 21 57 41.0
KOLS Kolonicke sedl 75.56 329 *eP* **P 21 51 53.8 +0.1**
BURAR Bucovina Array 75.59 327⇓ *iP* **P 21 51 54.2 +0.3**
BURAR Bucovina Array 75.59 327⇓⇓ *P* **P 21 51 54.2 +0.3**
UZH Uzhgorod 75.81 329 *eP* **P 21 51 55.4 +0.2**
KSP Ksiaz 75.88 334 *eP* **P 21 51 55.8 +0.2**
OKC Ostrava-Krasne 76.17 332 *eP* **P 21 51 57.7 +0.4**
UPC Upice 76.26 334 *eP* **P 21 51 58.7 +1.0**
DPC Dobruska-Polom 76.30 333 *eP* **P 21 51 58.3 +0.3**
MORC Moravsky Berou 76.42 332⇓ *iP* **P 21 51 59.0 +0.3**
MORC Moravsky Berou 76.42 332⇓⇓ *P* **P 21 51 59.0 +0.3**
CLL Collm 76.44 336 *i P* **P 21 51 58.0 -0.8**
CLL *e* 21 52 12.0
CLL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CLL Collm 76.44 336 *i P* **P 21 51 58.0 -0.8**
comp=Z,39nm,1.2s,mb5.2
CLL *e* 21 52 12.0
CLL Collm 76.44 336 *i P* **P 21 51 58.0 -0.8**
comp=Z,39nm,1.2s,mb5.2
CLL *epP* pP 21 52 12.0 +3.1
CLL *i x* x 21 52 26.1
CFR Carcaliu 76.45 324⇓ *iP* **P 21 52 00.1 +1.3**
CFR Carcaliu 76.45 324⇓⇓ *P* **P 21 52 00.1 +1.3**
PLOR Plostina 76.49 325⇓ *iP* **P 21 51 59.3 +0.2**
BRG Berggiesshubel 76.56 335 *i P* **P 21 51 58.6 -0.8**
comp=Z,12nm,1.4s,mb4.6
BRG Berggiesshubel 76.56 335 *i P* **P 21 51 58.6 -0.8**
BRG pmax pmax
comp=Z,16nm,1.4s,mb4.8
KECS Kecovo 76.56 330 *eP* **P 21 51 59.0 -0.5**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KECS Kecovo 76.56 330 *eP* **P 21 51 59.0 -0.5**
comp=Z,5.1nm,1.1s,mb4.4
PVCC Panska Ves 76.68 334 *eP* **P 21 52 00.8 +0.7**
TIRR Tirgusor 76.92 323⇑ *iP* **P 21 52 02.1 +0.6**
TIRR Tirgusor 76.92 323 P **P 21 52 01.8 +0.3**
TIRR Tirgusor 76.92 323⇑⇑ *P* **P 21 52 02.1 +0.6**
MLR Muntele Rosu 77.07 325 P **P 21 52 02.9 +0.6**
comp=Z,11nm,0.7s,mb4.9,baz=329,slow=5.2,SNR=13
MLR Muntele Rosu 77.07 325⇓ *iP* **P 21 52 03.6 +1.3**
MLR Muntele Rosu 77.07 325 P **P 21 52 02.9 +0.6**
MLR pmax pmax
comp=Z,11nm,0.7s
MLR Muntele Rosu 77.07 325⇓⇓ *P* **P 21 52 03.6 +1.3**
VYHS Vyhne 77.11 331 *eP* **P 21 52 02.8 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
VYHS Vyhne 77.11 331 *eP* **P 21 52 02.8 +0.2**
comp=Z,10.0nm,1.4s,mb4.5
VYHS *e* 21 57 50.0
VRAC Vranov 77.13 333⇓ *iP* **P 21 52 03.0 +0.3**
VRAC Vranov 77.13 333⇓⇓ *P* **P 21 52 03.0 +0.3**
PRU Pruhonice 77.17 334 *eP* **P 21 52 03.5 +0.7**
MALT Malatya 77.19 313⇓ *iP* **P 21 52 05.1 +2.1**
MALT Malatya 77.19 313 P **P 21 52 04.8 +1.8**
MALT Malatya 77.19 313⇓⇓ *P* **P 21 52 05.1 +2.1**
DRGR 77.21 328⇓ *iP* **P 21 52 03.1 0.0**
DRGR 77.21 328⇓⇓ *P* **P 21 52 03.1 0.0**
PSZ Piszkesteto 77.25 330⇑ *iP* **P 21 52 04.6 +1.3**
PSZ Piszkesteto 77.25 330⇑⇑ *P* **P 21 52 04.6 +1.2**
TXAR Lajitas Array 77.33 61 P **P 21 52 03.6 -0.2**
comp=Z,29nm,0.8s,mb5.3,baz=298,slow=4.3,SNR=88
TXAR Lajitas Array 77.33 61 P **P 21 52 03.6 -0.2**
TXAR pmax pmax
comp=Z,29nm,0.8s
MOX Moxa 77.42 336 *eP* **P 21 52 03.9 -0.4**
comp=Z,32nm,1.6s,mb5.0
MOX Moxa 77.42 336 *eP* **P 21 52 03.9 -0.4**
MOX pmax pmax
comp=Z,95nm,1.6s,mb5.5
VOIR 77.46 326⇓ *iP* **P 21 52 05.2 +0.7**
NKC Novy Kostel 77.56 335 *eP* **P 21 52 05.1 +0.1**
ZST Bratislava 77.94 332 *eP* **P 21 52 07.9 +0.7**
ZST pmax pmax
comp=Z,11nm,1.2s,mb4.7
ZST Bratislava 77.94 332 *eP* **P 21 52 07.9 +0.7**
comp=Z,11nm,1.2s,mb4.7
KHC Kasperske Hory 78.22 334 *eP* **P 21 52 09.0 +0.3**
GRA1 Grafenberg Arr 78.39 336 *eP* **P 21 52 09.7 0.0**
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 78.39 336 *eP* **P 21 52 09.7 0.0**
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 78.39 336 *eP* **P 21 52 09.7 0.0**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.0
BRTR Keskin Array B 78.42 317 P **P 21 52 10.4 +0.6**
comp=Z,7.6nm,0.9s,mb4.7,baz=66,slow=4.1,SNR=22
BRTR Keskin Array B 78.42 317 P **P 21 52 10.5 +0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 78.43 334 P **P 21 52 09.8 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=33,slow=5.1,SNR=12
GERES GERESS Array B 78.43 334 P **P 21 52 09.8 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
BZS Buzias 78.61 328⇑ *iP* **P 21 52 11.1 +0.2**
BZS Buzias 78.61 328⇑⇑ *P* **P 21 52 11.1 +0.2**
UMR Umm Al-Rimmam 78.70 301 *eP* **P 21 52 11.7 +0.4**
UMR AMb AMb 21 52 15.5
comp=Z,49nm,0.6s,mb5.7
ANTO Ankara 78.70 317⇓ *iP* **P 21 52 12.5 +1.1**
ANTO Ankara 78.70 317 P **P 21 52 12.3 +0.9**
ANTO Ankara 78.70 317⇓⇓ *P* **P 21 52 12.5 +1.1**
MIB Mutribah 78.73 302 *eP* **P 21 52 11.8 +0.2**
MIB AMb AMb 21 52 15.8
comp=Z,73nm,0.6s,mb5.8
JCT Junction City 78.76 57 *eP* **P 21 52 11.0 -0.7**
JCT pmax pmax
comp=Z,110nm,1.6s,mb5.5
JCT Junction City 78.76 57 *eP* **P 21 52 11.0 -0.7**
comp=Z,110nm,1.6s,mb5.5
KBD Kabd 78.99 301 *eP* **P 21 52 13.5 +0.6**
KBD AMb AMb 21 52 17.3
comp=Z,227nm,1.1s,mb6.0
MOA Molln 79.15 333⇑ *iP* **P 21 52 13.0 -0.8**
comp=Z,13nm,1.3s,mb4.7
PKSM Moragy 79.16 330⇓ *iP* **P 21 52 13.2 -0.7**
PKSM Moragy 79.16 330⇓⇓ *P* **P 21 52 13.2 -0.7**
QRN Al-Qurain 79.17 300 *eP* **P 21 52 14.5 +0.6**
QRN AMb AMb 21 52 18.3
comp=Z,63nm,0.7s,mb5.7
NAY Al-Naaiem 79.20 301 *eP* **P 21 52 14.1 0.0**
NAY AMb AMb 21 52 18.3
comp=Z,27nm,0.8s,mb5.2
RDF Al-Radifah 79.26 301 *eP* **P 21 52 15.0 +0.6**
RDF AMb AMb 21 52 18.9
comp=Z,85nm,0.6s,mb5.8
ARSA Arzberg 79.28 332⇑ *iP* **P 21 52 16.1 +1.5**
comp=Z,12nm,1.4s,mb4.6
ALLY Alegheny Colle 79.91 38 *eP* **P 21 52 17.1 -0.9**
KBA Koelnbreinsper 80.12 333⇓ *iP* **P 21 52 20.1 +0.9**
comp=Z,20nm,1.2s,mb4.9
VTS Vitosha 80.57 325⇑ *iP* **P 21 52 22.2 +0.6**
VTS Vitosha 80.57 325⇑⇑ *P* **P 21 52 22.2 +0.7**
CDF Champ du Feu 80.62 338 *eP* **P 21 52 21.4 -0.4**
comp=Z,34nm,1.2s,mb4.9
CDF Champ du Feu 80.62 338 *eP* **P 21 52 21.4 -0.4**
CDF pmax pmax
comp=Z,17nm,1.2s,mb4.8
CDF Champ du Feu 80.62 338 *eP* **P 21 52 21.4 -0.4**
comp=Z,17nm,1.2s,mb4.9
SQTA Sankt Quirin 80.63 335⇑ *iP* **P 21 52 24.6 +2.7**
comp=Z,20nm,1.2s,mb4.9
GRR Gorron 82.52 343 *eP* **P 21 52 31.5 -0.3**
comp=Z,74nm,1.2s,mb5.3
GRR Gorron 82.52 343 *eP* **P 21 52 31.5 -0.3**
GRR pmax pmax
comp=Z,37nm,1.2s,mb5.3
GRR Gorron 82.52 343 *eP* **P 21 52 31.5 -0.3**
comp=Z,37nm,1.2s,mb5.3
SMF Signal de Mont 83.13 339 *eP* **P 21 52 34.9 -0.1**
comp=Z,119nm,1.2s,mb5.5
SMF Signal de Mont 83.13 339 *eP* **P 21 52 34.9 -0.1**
SMF pmax pmax
comp=Z,59nm,1.2s,mb5.5
SMF Signal de Mont 83.13 339 *eP* **P 21 52 34.9 -0.1**
comp=Z,59nm,1.2s,mb5.5
LPG La Plagne 83.45 337 *eP* **P 21 52 37.1 +0.4**
comp=Z,5.7nm,0.7s,mb4.4
LPG La Plagne 83.45 337 *eP* **P 21 52 37.1 +0.4**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPG La Plagne 83.45 337 *eP* **P 21 52 37.1 +0.4**
comp=Z,2.8nm,0.7s,mb4.4
BLA Blacksburg 83.47 40 *eP* **P 21 52 36.3 -0.5**
BLA pmax pmax
comp=Z,28nm,1.0s,mb5.2
BLA Blacksburg 83.47 40 *eP* **P 21 52 36.3 -0.4**
comp=Z,28nm,1.0s,mb5.2
CAF Calviac 85.17 340 *eP* **P 21 52 45.0 -0.4**
comp=Z,10nm,0.6s,mb4.8
CAF Calviac 85.17 340 *eP* **P 21 52 45.0 -0.4**
CAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
CAF Calviac 85.17 340 *eP* **P 21 52 45.0 -0.4**
comp=Z,5.1nm,0.6s,mb4.8
EIL Elat 85.74 310 *eP* **P 21 52 48.3 +0.1**
IDI Anoyia 86.03 320 P **P 21 52 49.0 -0.7**
comp=Z,7.0nm,0.5s,mb5.1,baz=12,slow=9.7,SNR=9.3
ESDC Sonseca Array 91.51 343 P **P 21 53 14.4 -1.2**
comp=Z,1.1nm,0.8s,mb4.2,baz=4.7,slow=4.8,SNR=4.7
TORD Torodi Ar. Bea 115.08 329 PKP PKiKP 21 58 49.1 -1.0
comp=Z,0.5nm,0.5s,baz=28,slow=0.7,SNR=8.8
VNDA Vanda 124.20 178 PKP PKPdf 21 59 05.0 -2.7
comp=Z,1.0nm,0.5s,baz=316,slow=3.8,SNR=11
VNDA Vanda 124.20 178 PKIKP PKPdf 21 59 05.0 -2.7
VNDA pmax pmax
comp=Z,1.0nm,0.5s
MAW Mawson 132.35 211 PKP PKPdf 21 59 20.0 -3.2
comp=Z,2.4nm,0.8s,baz=255,slow=6.2,SNR=5.7
MAW Mawson 132.35 211 PKIKP PKPdf 21 59 20.0 -3.2
MAW pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 134.18 62 PKP PKPdf 21 59 27.1 +0.5
comp=Z,1.8nm,0.8s,baz=344,slow=7.2,SNR=6.2
LPAZ La Paz 134.18 62 PKIKP PKPdf 21 59 27.2 +0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
CFAA Coronel Fontan 144.84 79 PKP PKPdf 21 59 43.4 -2.6
comp=Z,3.2nm,0.6s,baz=283,slow=3.3,SNR=40
SNAA Sanae 152.68 196 PKPbc PKPbc 22 00 02.7 -3.0
comp=Z,3.3nm,0.7s,baz=195,slow=3.7,SNR=31
SNAA Sanae 152.68 196 PKIKP PKPbc 22 00 02.7 -3.0
SNAA pmax pmax
comp=Z,3.0nm,0.7s

*ISCJB **15** 21:45:02.6±1.7, 475N±02×1544E±04, h10km, mb4.2/9, Error ellipse: s-maj=39.1km s-min=26.4km az=31.5*
*IDC **15** 21:45:03.5±2.0, 4742N×15375E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=71.7km s-min=31.0km az=81.0*
ISC 15 21:45:03.8±1.7, 476N±02×1547E±04, h10km, n12, σ0s95/12, mb4.2/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.50**	**297**	P		P	P	**21 53 36.3**	**-2.7**
	0.8nm,0.7s,mb3.8,baz=68,slow=8.5,SNR=4.2								
BVAR	**Borovoye Array**	**51.15**	**309**	P		P	P	**21 54 04.9**	**-1.9**
	0.7nm,0.6s,mb3.8,baz=32,slow=8.5,SNR=3.4								
JIRN	**Jiri**	**55.93**	**275**	*eP*		P	P	**21 54 42.5**	**+0.6**
	7.0nm,0.5s,mb4.9								
GUN	**Gumba**	**55.98**	**276**	*eP*		P	P	**21 54 42.5**	**+0.2**
KKN	**Kakani**	**56.46**	**276**	*eP*		P	P	**21 54 46.5**	**+0.8**
DMN	**Daman**	**56.69**	**276**	*eP*		P	P	**21 54 47.9**	**+0.5**
	8.9nm,0.6s,mb5.0								
GKN	**Gorkha**	**56.75**	**276**	*eP*		P	P	**21 54 48.0**	**+0.2**
	8.4nm,0.6s,mb5.0								
KOLN	**Koldanda**	**57.60**	**277**	*eP*		P	P	**21 54 54.1**	**+0.3**
FINES	**FINESS Array B**	**63.74**	**335**	P		P	P	**21 55 36.5**	**+0.8**
	1.4nm,0.6s,mb4.1,baz=36,slow=12,SNR=4.6								
NOA	**NORSAR Array B**	**67.78**	**342**	P		P	P	**21 56 01.6**	**-0.1**
	1.0nm,0.7s,mb4.0,baz=27,slow=6.4,SNR=3.6								
ASAR	**Alice Springs**	**73.33**	**200**	P		P	P	**21 56 34.9**	**-0.7**
	1.1nm,0.8s,mb3.9,baz=13,slow=5.4,SNR=6.6								
GERES	**GERESS Array B**	**78.17**	**335**	P		P	P	**21 57 03.9**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=38,slow=6.8,SNR=3.7								

*IDC **15** 21:45:33.2±0.8, 4633N×15454E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/26, mbtmp4.1/16, ML3.5/1, Error ellipse: s-maj=26.2km s-min=15.4km az=165.0*
*NEIC **15** 21:45:34.7±0.5, 4633N×15452E, h10km, mb4.6/7, Error ellipse: s-maj=14.5km s-min=7.3km az=160.0*
*ISCJB **15** 21:45:35.3±4.5, 463N±0.1×1545E±0.1, h26km±33km, mb4.3/23, Error ellipse: s-maj=21.3km s-min=11.5km az=143.9*
*BJI **15** 21:45:35.2, 4695N×15423E, h10km, mb4.4*
*MOS **15** 21:45:36.2±1.1, 4630N×15448E, h33km, mb4.5/14, Error ellipse: s-maj=16.0km s-min=13.2km az=86.8*
ISC 15 21:45:38.2±4.3, 464N±01×1545E±01, h33km±31km, n54, σ0s88/52, mb4.3/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.10**	**279**	PN		Pn	Pn	**21 47 41.0**	**+7.6**
ASAJ	**Asahikawa**	**8.69**	**259**	Pn		Pn	Pn	**21 47 41.3**	**-0.2**
	1.4nm,0.3s,baz=66,slow=19,SNR=5.1								
ASAJ	**Asahikawa**	**8.69**	**259**	PN		Pn	Pn	**21 47 41.3**	**-0.2**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.63**	**237**	Pn		Pn	Pn	**21 49 14.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=35,slow=11,SNR=3.3								
MDJ	**Mudanjiang**	**17.53**	**273**	P		Pn	Pn	**21 49 38.8**	**-1.1**
MDJ				AMB	AMB				
	comp=Z,8.0nm,1.2s								
KSRS	**Korea Array**	**21.60**	**255**	P		P	P	**21 50 27.2**	**+2.0**
	comp=Z,3.0nm,0.8s,mb3.8,baz=59,slow=12,SNR=4.4								
BILL	**Bilibino**	**22.58**	**12**	*eP*		P	P	**21 50 36.7**	**+1.1**
BILL				pmax	pmax				
	comp=Z,31nm,1.5s,mb4.5								
SONM	**Songino Array**	**32.37**	**290**	P		P	P	**21 52 06.1**	**+1.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=62,slow=6.7,SNR=3.4								
SONM	**Songino Array**	**32.37**	**290**	P		P	P	**21 52 06.1**	**+1.6**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SML	**Sawmill**	**35.61**	**43**	*eP*		P	P	**21 52 32.1**	**-0.5**
EGAK	**Eagle**	**38.73**	**38**	*eP*		P	P	**21 52 58.8**	**-0.3**

comp=Z,28nm,1.0s,mb5.0
LZH Lanzhou 38.86 273 *e*P **P** **21 53 01.8 +1.6**
LZH AP pP 21 53 07.0 -2.9
LZH XP sP 21 53 11.8 -2.1
LZH AMB AMB
comp=Z,13nm,1.1s,mb4.6
LZH Lanzhou 38.86 273 *e*P **P** **21 53 01.8 +1.6**
LZH *SP sP 21 53 11.7 -2.2
LZH pmax pmax
comp=Z,13nm,1.1s,mb4.6
LZH Lanzhou 38.86 273 *e*P **P** **21 53 01.8 +1.6**
comp=Z,13nm,1.1s,mb4.6
LZH pP pP 21 53 07.0 -2.9
LZH sP sP 21 53 11.7 -2.2
DAWY Dawson 39.55 39 *e*P **P** **21 53 06.6 +0.6**
INK Inuvik 41.48 32 P **P** **21 53 22.6 +0.7**
comp=Z,5.0nm,0.6s,mb4.3,baz=272,slow=6.6,SNR=18
INK Inuvik 41.48 32 P **P** **21 53 22.7 +0.8**
INK pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 47.97 298 P **P** **21 54 13.1 -0.5**
comp=Z,1.3nm,0.6s,mb4.1,baz=68,slow=8.0,SNR=6.0
MKAR Makanchi Array 47.97 298 P **P** **21 54 13.1 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
LSA Lhasa 51.25 274 P **P** **21 54 39.6 +1.0**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSA Lhasa 51.25 274 P **P** **21 54 39.6 +1.0**
comp=Z,5.0nm,0.6s,mb4.6
BVAR Borovoye Array 51.85 310 P **P** **21 54 42.9 -0.2**
comp=Z,9.9nm,0.6s,mb3.9,baz=46,slow=8.4,SNR=3.3
BVAR Borovoye Array 51.85 310 P **P** **21 54 42.9 -0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
ZRNK Zerenda 52.61 311 P **P** **21 54 47.8 -1.0**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZRNK Zerenda 52.61 311 P **P** **21 54 47.8 -1.0**
comp=Z,5.1nm,1.0s,mb4.4
ARU Arti 55.95 318 *e*P **P** **21 55 12.4 -0.6**
ARU Arti 55.95 318 *e*P **P** **21 55 12.3 -0.7**
comp=Z,6.0nm,0.8s,mb4.7
AKTK Aktyubinsk 59.70 313 P **P** **21 55 39.5 +0.1**
AKTO Aktyubinsk 59.70 313 P **P** **21 55 39.5 +0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=28,slow=0.9,SNR=4.8
AKTO Aktyubinsk 59.70 313 P **P** **21 55 39.5 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NVAR Mina Array Bea 61.77 63 P **P** **21 55 54.4 +0.9**
comp=Z,2.3nm,0.7s,mb4.4,baz=295,slow=6.9,SNR=12
PDAR Pinedale Array 64.21 54 P **P** **21 56 10.2 +0.5**
comp=Z,4.0nm,0.9s,mb4.5,baz=298,slow=3.2,SNR=9.6
FINES FINESS Array B 64.81 335 P **P** **21 56 12.6 -1.0**
comp=Z,2.1nm,1.0s,mb4.1,baz=34,slow=6.5,SNR=4.8
FINES FINESS Array B 64.81 335 P **P** **21 56 12.6 -1.0**
FINES pmax pmax
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 66.20 41 P **P** **21 56 21.4 -1.1**
comp=Z,0.6nm,0.5s,mb3.9,baz=330,slow=8.1,SNR=3.2
ULM Lac du Bonnet 66.20 41 P **P** **21 56 21.4 -1.1**
RSSD Black Hills 66.35 50 *e*P **P** **21 56 22.6 -0.9**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RSSD Black Hills 66.35 50 *e*P **P** **21 56 22.6 -0.9**
comp=Z,3.4nm,0.8s,mb4.4
ISCO Idaho Springs 68.40 55 *e*P **P** **21 56 36.9 +0.4**
ISCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ISCO Idaho Springs 68.40 55 *e*P **P** **21 56 36.9 +0.4**
comp=Z,3.8nm,0.9s,mb4.4
NOA NORSAR Array B 68.91 342 P **P** **21 56 38.8 -0.9**
comp=Z,1.5nm,0.9s,mb3.9,baz=29,slow=6.3,SNR=2.5
NOA NORSAR Array B 68.91 342 P **P** **21 56 38.8 -0.9**
NOA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 72.14 200 P **P** **21 56 58.8 -0.6**
comp=Z,2.7nm,1.0s,mb4.1,baz=13,slow=6.1,SNR=7.6
ASAR Alice Springs 72.14 200 P **P** **21 56 58.8 -0.6**
ASAR pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 72.41 327 P **P** **21 57 00.2 -0.8**
comp=Z,0.4nm,0.3s,mb3.8,baz=33,slow=5.7,SNR=4.2
AKASG Malin Array Be 72.41 327 P **P** **21 57 00.2 -0.8**
TXAR Lajitas Array 76.86 61 P **P** **21 57 26.8 +0.1**
comp=Z,9.2nm,0.6s,mb4.9,baz=304,slow=4.2,SNR=48
TXAR Lajitas Array 76.86 61 P **P** **21 57 26.8 0.0**
TXAR pmax pmax
comp=Z,9.0nm,0.6s
DPC Dobruska-Polom 77.11 334 *e*PCP PcP 21 57 46.1 +7.2
CLL Collm 77.22 336 *e*P **P** **21 57 28.0 -0.8**
CLL *ex* x 21 57 46.0
PRU Pruhonice 77.96 335 *e*PCP PcP 21 57 43.4 +0.8
KHC Kasperske Hory 79.01 335 *e*P **P** **21 57 39.0 +0.3**
BRTR Keskin Array B 79.33 318 P **P** **21 57 41.5 +1.0**
comp=Z,1.2nm,0.8s,mb3.9,baz=84,slow=5.1,SNR=4.2
BRTR Keskin Array B 79.33 318 P **P** **21 57 41.5 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

*IDC **15** 21:55:15.7±0.7, 4685N×1533E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/24, mbtmp4.2/18, ML3.5/1, Error ellipse: s-maj=19.7km s-min=15.4km az=146.0*
*ISCJB **15** 21:55:17.9±2.3, 4678N±007×1534E±009, h28km±16km, mb4.4/26, Error ellipse: s-maj=14.8km s-min=5.8km az=104.8*
*MOS **15** 21:55:19.6±1.3, 4681N×1533E, h41km, mb4.4/13, Error ellipse: s-maj=14.1km s-min=9.5km az=67.5*
ISC 15 21:55:22.6±1.1, 4687N±008×1535E±01, h50km±8km, n53, σ1§04/56, mb4.4/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.20**	**23**	*e*PN		**Pn**	**21 56 24.0**	**0.0**
SKR				*e*S		**Sn**	**21 57 11.6**	**-0.2**
SKR				pmax	pmax			
	comp=Z,230nm,0.5s							
SKR				pmax	pmax			
	comp=N,180nm,0.3s							
SKR				pmax	pmax			
	comp=E,140nm,0.5s							
SKR				smax				
	comp=E,310nm,0.3s							
SKR				smax				
	comp=N,230nm,0.5s							
SKR				smax				
	comp=Z,90nm,0.5s							
KUR	**Kuril'sk**	**4.25**	**249**	*e*PN		**Pn**	**21 56 20.0**	**-4.7**
KUR				*i* S		**Sn**	**21 57 08.0**	**-5.0**
KUR				smax				
	comp=N,450nm,0.7s							
KUR				smax				
	comp=E,390nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**6.07**	**245**	*e*PN		**Pn**	**21 56 46.5**	**-3.3**
YUK				*e*S		**Sn**	**21 57 57.5**	**-0.4**
YUK				smax				
	comp=E,330nm,0.7s							
YUK				smax				
	comp=N,1μm,0.8s							
YUK				smax				
	comp=N,2μm,1.0s							
YUK				smax				
	comp=E,2μm,1.0s							
PET	**Petropavlovsk**	**7.00**	**26**	*e*PN		**Pn**	**21 57 02.8**	**+0.3**
PET				MLR		MLR		
	comp=Z,7μm,12.0s							
YSS	**Yuzh-Sakhalins**	**7.36**	**275**	*e*PN		**Pn**	**21 57 08.8**	**+1.4**
YSS				*e*S		**Sn**	**21 58 31.9**	**+2.3**
ASAJ	**Asahikawa**	**8.14**	**254**	Pn		**Pn**	**21 57 18.1**	**0.0**
	comp=Z,2.7nm,0.3s,baz=85,slow=12,SNR=18							
ASAJ	**Asahikawa**	**8.14**	**254**	PN		**Pn**	**21 57 18.1**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MAT	**Matsushiro**	**15.36**	**233**	P		**Pn**	**21 58 59.2**	**+3.2**
MJAR	**Matsushiro Arr**	**15.36**	**233**	Pn		**Pn**	**21 58 52.6**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=4.7							
KSRS	**Korea Array**	**21.08**	**253**	P		**P**	**22 00 02.5**	**-0.1**
	comp=Z,11nm,1.0s,mb4.1,baz=56,slow=10,SNR=13							
BILL	**Bilibino**	**22.22**	**13**	*e*P		**P**	**22 00 13.9**	**-0.9**
BILL				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.2							
SONM	**Songino Array**	**31.54**	**289**	P		**P**	**22 01 40.6**	**+0.6**
	comp=Z,0.7nm,0.9s,mb3.5,baz=88,slow=9.8,SNR=3.0							
SONM	**Songino Array**	**31.54**	**289**	P		**P**	**22 01 40.6**	**+0.6**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ZAK	**Zakamensk**	**32.87**	**295**	*e*P		**P**	**22 01 49.7**	**-1.9**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.7s,mb3.8							
INK	**Inuvik**	**41.41**	**33**	P		**P**	**22 03 05.4**	**+1.3**
	comp=Z,2.4nm,0.4s,mb4.2,baz=305,slow=4.3,SNR=9.5							
INK	**Inuvik**	**41.41**	**33**	P		**P**	**22 03 05.4**	**+1.3**
INK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**47.12**	**297**	P		**P**	**22 03 48.8**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.8,baz=61,slow=6.8,SNR=7.0							
MKAR	**Makanchi Array**	**47.12**	**297**	P		**P**	**22 03 48.8**	**-0.9**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**50.67**	**37**	P		**P**	**22 04 17.6**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=299,slow=7.1,SNR=5.3							
YKA	**Yellowknife Ar**	**50.67**	**37**	P		**P**	**22 04 17.6**	**+0.7**
YKA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BVAR	**Borovoye Array**	**50.99**	**309**	P		**P**	**22 04 18.0**	**-1.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=49,slow=8.1,SNR=6.4							
BVAR	**Borovoye Array**	**50.99**	**309**	P		**P**	**22 04 18.0**	**-1.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JIRN	**Jiri**	**55.20**	**275**	*e*P		**P**	**22 04 50.9**	**+0.7**
	comp=Z,19nm,0.8s,mb5.2							
GUN	**Gumba**	**55.25**	**275**	*e*P		**P**	**22 04 52.1**	**+1.5**
	comp=Z,11nm,0.6s,mb5.1							
KKN	**Kakani**	**55.74**	**275**	*e*P		**P**	**22 04 54.5**	**+0.4**
	comp=Z,14nm,0.7s,mb5.1							
PKI	**Pulchoki**	**55.79**	**275**	*e*P		**P**	**22 04 54.5**	**0.0**
DMN	**Daman**	**55.97**	**275**	*e*P		**P**	**22 04 56.4**	**+0.6**
	comp=Z,27nm,0.8s,mb5.3							
GKN	**Gorkha**	**56.04**	**276**	*e*P		**P**	**22 04 56.7**	**+0.4**
	comp=Z,15nm,0.6s,mb5.2							
KOLN	**Koldanda**	**56.90**	**277**	*e*P		**P**	**22 05 03.0**	**+0.6**
	comp=Z,24nm,1.0s,mb5.2							
ARCES	**ARCESS Array B**	**57.83**	**341**	P		**P**	**22 05 07.0**	**-1.9**
	comp=Z,2.3nm,0.8s,mb4.3,baz=20,slow=8.0,SNR=5.7							
ARCES	**ARCESS Array B**	**57.83**	**341**	P		**P**	**22 05 07.1**	**-1.8**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**64.05**	**335**	P		**P**	**22 05 50.2**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.5,baz=36,slow=8.7,SNR=14							
FINES	**FINESS Array B**	**64.05**	**335**	P		**P**	**22 05 50.2**	**-0.9**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
PDAR	**Pinedale Array**	**64.47**	**54**	P		**P**	**22 05 54.8**	**+0.9**
	comp=Z,5.3nm,0.8s,mb4.6,baz=287,slow=2.1,SNR=24							
ULM	**Lac du Bonnet**	**66.26**	**41**	P		**P**	**22 06 05.6**	**+0.1**
	comp=Z,4.4nm,0.5s,mb4.7,baz=317,slow=7.2,SNR=9.7							
NB2	**NORSAR Subarra**	**68.20**	**341**	P		**P**	**22 06 17.1**	**-0.7**
	comp=Z,3.2nm,0.5s,mb4.6,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.20**	**341**	P		**P**	**22 06 17.3**	**-0.5**
	comp=Z,3.2nm,0.5s,mb4.6,baz=28,slow=6.4,SNR=12							
NOA	**NORSAR Array B**	**68.20**	**341**	P		**P**	**22 06 17.3**	**-0.5**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
WRA	**Warramunga Arr**	**68.71**	**199**	P		**P**	**22 06 21.0**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=6.4,slow=6.3,SNR=2.9							
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**	**22 06 37.5**	**-1.1**
	comp=Z,2.7nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=8.5							
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**	**22 06 37.5**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**72.40**	**199**	P		**P**	**22 06 42.9**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=12,slow=5.9,SNR=14							
ASAR	**Alice Springs**	**72.40**	**199**	P		**P**	**22 06 42.9**	**-0.5**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CLL	**Collm**	**76.47**	**336**	*i* P		**P**	**22 07 07.1**	**+0.1**
CLL				pmax	pmax			
	comp=Z,39nm,0.8s,mb5.4							
CLL	**Collm**	**76.47**	**336**	*i* P		**P**	**22 07 07.1**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.5							
TXAR	**Lajitas Array**	**77.21**	**61**	P		**P**	**22 07 11.9**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=298,slow=4.3,SNR=44							
TXAR	**Lajitas Array**	**77.21**	**61**	P		**P**	**22 07 11.9**	**+0.7**
TXAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KHC	**Kasperske Hory**	**78.25**	**334**	*e*P		**P**	**22 07 17.7**	**+0.7**
GERES	**GERESS Array B**	**78.47**	**334**	P		**P**	**22 07 17.7**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=3.4,slow=6.7,SNR=5.6							
GERES	**GERESS Array B**	**78.47**	**334**	P		**P**	**22 07 17.7**	**-0.5**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**78.49**	**317**	P		**P**	**22 07 18.9**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.1,baz=69,slow=3.8,SNR=7.5							
BRTR	**Keskin Array B**	**78.49**	**317**	P		**P**	**22 07 19.0**	**+0.7**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CFAA	**Coronel Fontan**	**144.71**	**79**	PKP		PKPdf	22 14 51.8	-1.9
	comp=Z,0.1nm,0.3s,baz=257,slow=3.5,SNR=10							

*NEIC **15** 21:56:25.6, 3874N×2093E, h29km, MD3.0(ATH), After ATH.*
*ATH **15** 21:56:25.6, 3874N×2093E, h29km±1km, MD3.0/3*
*ISCJB **15** 21:56:26.1±0.5, 3876N±003×2088E±004, h10km, Error ellipse: s-maj=5.1km s-min=4.1km az=67.0*
*THE **15** 21:56:26.8, 3878N×2088E, h10km, ML2.7*
*CSEM **15** 21:56:26.6±0.1, 3874N×2092E, h2km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.1km az=135.0*
ISC 15 21:56:26.3±0.6, 3876N±003×2089E±004, h2km±7km, n15, σ1§06/22, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.19**	**253**	*e*Pg		**Pg**	**21 56 30.6**	**+0.6**
VLS	**Valsamata**	**0.63**	**202**	*e*PN		**Pg**	**21 56 38.3**	**0.0**
VLS				*e*SN		**Sg**	**21 56 48.4**	**+1.9**
EVR	**Evrytania**	**0.73**	**78**	*e*PN		**Pg**	**21 56 39.9**	**-0.4**
EVR				*e*SN		**Sg**	**21 56 49.9**	**0.0**
RLS	**Riolos of Patr**	**0.84**	**147**	*e*PN		**Pg**	**21 56 41.5**	**-0.8**
IGT	**Igoumenitsa**	**0.88**	**331**	*e*Pg		**Pg**	**21 56 42.0**	**-1.2**
JAN	**Janina**	**0.89**	**358**	*e*PN		**Pg**	**21 56 43.2**	**-0.2**
JAN				*e*SN		**Sg**	**21 56 56.2**	**+1.2**
MEV	**Metsovon**	**1.05**	**14**	*e*Pg		**Pg**	**21 56 44.9**	**-1.6**
MEV				*e*Sg		**Sg**	**21 57 01.2**	**+1.1**
AGG	**Agios Georgios**	**1.16**	**77**	*e*Pg		**Pg**	**21 56 47.6**	**-0.7**
AGG				*e*Sg		**Sg**	**21 57 05.1**	**+1.8**
THL	**Klokotos Trika**	**1.19**	**47**	*e*PN		**Pn**	**21 56 48.2**	**-1.7**
KEK	**Kerkira**	**1.27**	**319**	*e*PN		**Pn**	**21 56 49.8**	**-1.2**
LIT	**Litokhoron**	**1.82**	**42**	*e*Pb		**Pb**	**21 56 59.4**	**-1.0**
XOR	**Xorichti**	**1.89**	**71**	*e*Pb		**Pb**	**21 57 00.7**	**-0.8**
XOR				*e*Sb		**Sb**	**21 57 25.9**	**+0.4**
FNA	**Florina**	**2.05**	**10**	*e*PN		**Pn**	**21 57 02.2**	**+0.4**
FNA				*e*Sn		**Sn**	**21 57 30.1**	**+2.1**
AOS	**Alonnisos**	**2.37**	**79**	*e*Pn		**Pn**	**21 57 06.7**	**+0.6**
KNT	**Kendrikon**	**2.85**	**32**	*e*Pn		**Pn**	**21 57 12.8**	**0.0**

*IDC **15** 22:04:21.7±0.7, 4596N×1543E, h0km, mb4.0/17, mb1 4.2/17, mb1mx4.1/25, mbtmp4.0/17, Error ellipse: s-maj=18.5km s-min=16.9km az=162.0*
*ISCJB **15** 22:04:23.3±3.1, 4586N±007×1543E±0.10, h22km±21km, mb4.1/30, Error ellipse: s-maj=13.9km s-min=9.5km az=96.6*
*NEIC **15** 22:04:23.3±0.4, 4590N×1543E, h10km, mb4.3/12, Error ellipse: s-maj=10.6km s-min=8.4km az=147.0*
*MOS **15** 22:04:24.7±1.3, 4586N×1543E, h33km, mb4.4/22, Error ellipse: s-maj=13.4km s-min=9.1km az=101.1*
*BJI **15** 22:04:24.7, 46.12N×1539.4E, h10km, mb4.4*
ISC 15 22:04:26.8±3.3, 4591N±007×1543E±01, h33km±23km, n72, σ1§09/71, mb4.1/30, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**7.66**	**20**	*e*P		**P**	**22 06 18.3**	**+2.4**
YSS	**Yuzh-Sakhalins**	**8.06**	**282**	*e*Pn		**Pn**	**22 06 21.5**	**+0.1**
MAJO	**Matsushiro**	**15.29**	**238**	*e*P		**Pn**	**22 07 59.9**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,14nm,0.9s							
MAJO	**Matsushiro**	**15.29**	**238**	*e*Pn		**Pn**	**22 07 59.9**	**-0.2**
	comp=Z,14nm,0.9s							
MJAR	**Matsushiro Arr**	**15.29**	**238**	Pn		**Pn**	**22 07 56.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=3.3							
KLR	**Kul'dur**	**15.58**	**290**	*e*P		**Pn**	**22 08 05.0**	**+1.2**
MDJ	**Mudanjiang**	**17.44**	**275**	*e*Pn		**Pn**	**22 08 26.3**	**-1.2**
	comp=Z,4.5nm,0.5s							
CN2	**Changchun**	**20.53**	**275**	*e*P		**P**	**22 09 02.0**	**-0.2**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s							
KSRS	**Korea Array**	**21.38**	**256**	P		**P**	**22 09 09.4**	**-1.9**
	comp=Z,1.5nm,0.8s,mb3.4,baz=51,slow=11,SNR=2.3							
YAK	**Yakutsk**	**21.48**	**328**	P		**P**	**22 09 10.2**	**-2.2**
BILL	**Bilibino**	**23.03**	**11**	*e*P		**P**	**22 09 29.9**	**+0.9**
BILL				pmax	pmax			
	comp=Z,18nm,1.4s,mb4.3							
ULN	**Ulaanbaatar**	**31.97**	**291**	*e*P		**P**	**22 10 50.4**	**+0.8**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.0							
ULN	**Ulaanbaatar**	**31.97**	**291**	*e*P		**P**	**22 10 50.4**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.1							
SONM	**Songino Array**	**32.41**	**291**	P		**P**	**22 10 53.6**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=57,slow=11,SNR=3.3							
SONM	**Songino Array**	**32.41**	**291**	P		**P**	**22 10 53.6**	**+0.1**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
COLA	**College**	**36.28**	**38**	*e*P		**P**	**22 11 25.4**	**-1.6**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
COLA	**College**	**36.28**	**38**	*e*P		**P**	**22 11 25.4**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.4							
GTA	**Gaotai**	**39.94**	**281**	*e*P		**P**	**22 11 59.8**	**+2.0**
GTA				AP	pP		22 12 08.4	+0.9
GTA				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.2							
INK	**Inuvik**	**41.92**	**32**	P		**P**	**22 12 13.9**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.6,baz=305,slow=8.7,SNR=3.8							
INK	**Inuvik**	**41.92**	**32**	P		**P**	**22 12 13.9**	**-0.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GYA	**Guiyang**	**42.37**	**259**	*i*P		**P**	**22 12 18.8**	**+1.0**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**43.80**	**307**	P		**P**	**22 12 27.7**	**-1.6**
	comp=Z,0.8nm,0.3s,mb3.9,baz=179,slow=1.0,SNR=3.0							
ZAL	**Zalesovo**	**43.80**	**307**	P		**P**	**22 12 27.7**	**-1.6**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**48.07**	**299**	*e*P		**P**	**22 13 02.5**	**-0.5**
MKAR	**Makanchi Array**	**48.07**	**299**	P		**P**	**22 13 03.5**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=71,slow=7.6,SNR=13							
MKAR	**Makanchi Array**	**48.07**	**299**	P		**P**	**22 13 03.5**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**48.07**	**299**	P		**P**	**22 13 03.5**	**+0.4**
LSA	**Lhasa**	**51.16**	**275**	*e*P		**P**	**22 13 29.4**	**+2.8**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
LSA	**Lhasa**	**51.16**	**275**	*e*P		**P**	**22 13 29.4**	**+2.8**
	comp=Z,1.9nm,0.5s,mb4.3							
RES	**Resolute Bay**	**51.37**	**19**	P		**P**	**22 13 28.6**	**+0.5**
CHKZ	**Chkalovo**	**51.61**	**311**	*e*P		**P**	**22 13 29.2**	**-0.7**
CHKZ				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
CHKZ	**Chkalovo**	**51.61**	**311**	*e*P		**P**	**22 13 29.2**	**-0.7**
	comp=Z,6.8nm,0.9s,mb4.6							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**22 13 32.8**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=58,slow=7.7,SNR=6.1							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**22 13 32.8**	**-0.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**22 13 34.1**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4							
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**22 13 34.1**	**+0.7**
	comp=Z,1.8nm,0.4s,mb4.3							
ZRNK	**Zerenda**	**52.81**	**311**	*e*P		**P**	**22 13 38.6**	**-0.2**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**52.81**	**311**	*e*P		**P**	**22 13 38.5**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.3							
AAK	**Ala-Archa**	**54.96**	**297**	*e*P		**P**	**22 13 55.7**	**+1.2**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.9							
AAK	**Ala-Archa**	**54.96**	**297**	*e*P		**P**	**22 13 55.7**	**+1.1**
	comp=Z,1.3nm,0.8s,mb4.0							
PMG	**Port Moresby**	**55.44**	**189**	*e*P		**P**	**22 13 56.4**	**-1.6**
PMG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
PMG	**Port Moresby**	**55.44**	**189**	*e*P		**P**	**22 13 56.4**	**-1.6**
	comp=Z,1.9nm,0.4s,mb4.5							
ARU	**Arti**	**56.20**	**318**	*e*P		**P**	**22 14 03.1**	**-0.3**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
ARU	**Arti**	**56.20**	**318**	*e*P		**P**	**22 14 03.1**	**-0.3**
	comp=Z,6.8nm,0.9s,mb4.7							
ARCES	**ARCESS Array B**	**58.92**	**341**	P		**P**	**22 14 20.7**	**-1.9**
	comp=Z,2.5nm,0.8s,mb4.3,baz=6.2,slow=9.2,SNR=3.1							
ARCES	**ARCESS Array B**	**58.92**	**341**	P		**P**	**22 14 20.7**	**-1.9**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKTK	**Aktyubinsk**	**59.91**	**313**	P		**P**	**22 14 30.6**	**+1.2**
AKTO	**Aktyubinsk**	**59.91**	**313**	P		**P**	**22 14 30.6**	**+1.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=50,slow=11,SNR=4.4							
AKTO	**Aktyubinsk**	**59.91**	**313**	P		**P**	**22 14 30.6**	**+1.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.9							
NVAR	**Mina Array Bea**	**62.08**	**63**	P		**P**	**22 14 44.4**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=297,slow=9.0,SNR=7.2							
NVAR	**Mina Array Bea**	**62.08**	**63**	P		**P**	**22 14 44.4**	**+0.3**
PDAR	**Pinedale Array**	**64.56**	**54**	P		**P**	**22 14 59.9**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=285,slow=5.7,SNR=5.7							
FINES	**FINESS Array B**	**65.15**	**335**	P		**P**	**22 15 03.4**	**-1.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=46,slow=9.9,SNR=3.0		

KUR	**Kuril'sk**	**4.04**	**243**	*e*PN	**Pn**	**22 07 08.0**	**+2.0**
KUR				*i* S	**Sn**	**22 07 53.5**	**+1.4**
KUR				smax			
	comp=N,270nm,0.6s						
KUR				smax			
	comp=E,400nm,0.6s						
SKR	**Severo-Kuril's**	**4.07**	**29**	*e*PN	**Pn**	**22 07 12.0**	**+5.5**
SKR				*e*		22 07 57.5	
YSS	**Yuzh-Sakhalins**	**6.98**	**272**	PN	**Pn**	**22 07 49.5**	**+3.1**
YSS	**Yuzh-Sakhalins**	**6.98**	**272**	Pn	**Pn**	**22 07 43.8**	**-2.6**
ASAJ	**Asahikawa**	**7.89**	**251**	Pn	**Pn**	**22 08 02.7**	**+3.9**
	comp=E,1.8nm,0.3s,baz=64,slow=11,SNR=8.5						
ASAJ	**Asahikawa**	**7.89**	**251**	PN	**Pn**	**22 08 02.7**	**+3.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	**Magadan**	**12.49**	**355**	PN	**Pn**	**22 09 00.8**	**-1.0**
MAJO	**Matsushiro**	**15.27**	**231**	*e*P	**Pn**	**22 09 36.6**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAJO	**Matsushiro**	**15.27**	**231**	*e*Pn	**Pn**	**22 09 36.6**	**-2.8**
	comp=Z,2.4nm,0.5s						
MJAR	**Matsushiro Arr**	**15.27**	**231**	Pn	**Pn**	**22 09 38.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=38,slow=6.2,SNR=2.9						
MDJ	**Mudanjiang**	**16.46**	**270**	Pn	**Pn**	**22 09 54.2**	**-0.6**
	comp=Z,0.9nm,0.3s						
YAK	**Yakutsk**	**19.91**	**327**	P	**Pn**	**22 10 35.3**	**-1.6**
KSRS	**Korea Array**	**20.84**	**251**	P	**P**	**22 10 45.3**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=58,slow=9.8,SNR=5.5						
BJT	**Baijiatuau**	**27.40**	**268**	*e*P	**P**	**22 11 48.9**	**+0.2**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BJT	**Baijiatuau**	**27.40**	**268**	*e*P	**P**	**22 11 48.9**	**+0.2**
	comp=Z,4.6nm,0.3s,mb4.5						
ULN	**Ulaanbaatar**	**30.67**	**288**	*e*P	**P**	**22 12 17.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
ULN	**Ulaanbaatar**	**30.67**	**288**	*e*P	**P**	**22 12 17.5**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.8						
SONM	**Songino Array**	**31.10**	**289**	LR	LR	22 25 25.0	
	comp=Z,2μm,18.7s,MS4.7,baz=12,slow=37						
TLY	**Talaya**	**31.90**	**297**	P	**P**	**22 12 28.4**	**-0.1**
TATO	**Taipei**	**33.38**	**239**	*e*P	**P**	**22 12 41.0**	**-0.5**
	comp=Z,12nm,0.4s,mb5.2						
YHNB	**Yeheng**	**33.68**	**239**	*e*P	**P**	**22 12 44.6**	**+0.5**
NACB	**Ninganchiao**	**33.93**	**238**	P	**P**	**22 12 45.2**	**-1.1**
GUMO	**Guam**	**34.17**	**194**	LR	LR	22 23 41.7	
	comp=Z,366nm,21.0s,MS4.1,baz=270,slow=31						
COLA	**College**	**35.86**	**39**	*e*P	**P**	**22 13 03.2**	**+0.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
COLA	**College**	**35.86**	**39**	*e*P	**P**	**22 13 03.2**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.4						
ENH	**Enshi**	**37.35**	**259**	*e*P	**P**	**22 13 15.8**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.7						
INK	**Inuvik**	**41.34**	**33**	P	**P**	**22 13 49.6**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.1,baz=309,slow=7.3,SNR=9.2						
INK	**Inuvik**	**41.34**	**33**	P	**P**	**22 13 49.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**46.66**	**297**	P	**P**	**22 14 31.7**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=57,slow=5.8,SNR=5.8						
MKAR	**Makanchi Array**	**46.66**	**297**	P	**P**	**22 14 31.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHKZ	**Chkalovo**	**50.08**	**310**	*e*P	**P**	**22 14 57.6**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**50.08**	**310**	*e*P	**P**	**22 14 57.5**	**-0.3**
	comp=Z,1.6nm,0.4s,mb4.4						
LSA	**Lhasa**	**50.15**	**273**	*e*P	**P**	**22 14 59.6**	**+1.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
LSA	**Lhasa**	**50.15**	**273**	*e*P	**P**	**22 14 59.6**	**+1.2**
	comp=Z,2.4nm,0.3s,mb4.7						
RES	**Resolute Bay**	**50.46**	**19**	P	**P**	**22 15 01.6**	**+0.8**
BRVK	**Borovoye**	**50.55**	**309**	P	**P**	**22 15 00.8**	**-0.7**
ZRNK	**Zerenda**	**51.28**	**310**	*e*P	**P**	**22 15 06.9**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**51.28**	**310**	*e*P	**P**	**22 15 06.9**	**0.0**
	comp=Z,1.0nm,0.3s,mb4.2						
AAK	**Ala-Archa**	**53.56**	**296**	P	**P**	**22 15 23.2**	**-0.6**
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**22 15 30.7**	**-0.9**
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**22 15 30.7**	**-0.9**
ARCES	**ARCESS Array B**	**57.42**	**341**	P	**P**	**22 15 51.9**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.4,baz=23,slow=7.2,SNR=8.0						
ARCES	**ARCESS Array B**	**57.42**	**341**	P	**P**	**22 15 51.9**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**63.61**	**335**	P	**P**	**22 16 33.4**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=30,slow=7.4,SNR=20						
FINES	**FINESS Array B**	**63.61**	**335**	P	**P**	**22 16 33.4**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**63.61**	**335**	P	**P**	**22 16 33.4**	**-0.4**
PDAR	**Pinedale Array**	**64.57**	**54**	P	**P**	**22 16 41.1**	**+0.9**
	comp=Z,1.7nm,0.7s,mb4.2,baz=319,slow=0.6,SNR=7.3						
CTAO	**Charters Tower**	**67.22**	**187**	P	**P**	**22 16 55.8**	**-1.4**
NB2	**NORSAR Subarra**	**67.79**	**341**	P	**P**	**22 17 01.1**	**+0.3**
	comp=Z,5.8nm,0.7s,mb4.7,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.79**	**341**	P	**P**	**22 17 01.1**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**67.79**	**341**	P	**P**	**22 17 01.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WB2	**Warramunga Arr**	**68.88**	**199**	P	**P**	**22 17 06.7**	**-0.9**
KIV	**Kislovodsk**	**70.43**	**314**	P	**P**	**22 17 18.9**	**+1.8**
KIV	**Kislovodsk**	**70.43**	**314**	P	**P**	**22 17 18.9**	**+1.8**
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**22 17 21.1**	**-0.3**
	comp=Z,5.5nm,0.3s,mb4.9,baz=34,slow=6.1,SNR=16						
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**22 17 21.1**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KIEV	**Kiev**	**71.15**	**326**	*e*P	**P**	**22 17 21.5**	**0.0**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KIEV	**Kiev**	**71.15**	**326**	*e*P	**P**	**22 17 21.5**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**72.58**	**198**	P	**P**	**22 17 29.1**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=5.7,SNR=5.6						
ASAR	**Alice Springs**	**72.58**	**198**	P	**P**	**22 17 29.1**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**72.66**	**262**	P	**P**	**22 17 31.5**	**+1.0**
CLL	**Collm**	**76.03**	**335**	*i* pP	**P**	**22 17 50.2**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.6						
TXAR	**Lajitas Array**	**77.37**	**61**	P	**P**	**22 17 58.6**	**+0.9**
	comp=Z,1.5nm,0.5s,mb4.2,baz=300,slow=4.8,SNR=20						
TXAR	**Lajitas Array**	**77.37**	**61**	P	**P**	**22 17 58.6**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**78.01**	**317**	P	**P**	**22 18 01.7**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=2.5,SNR=5.0						
BRTR	**Keskin Array B**	**78.01**	**317**	P	**P**	**22 18 01.7**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.03**	**334**	P	**P**	**22 18 01.6**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=37,slow=6.1,SNR=11						
GERES	**GERESS Array B**	**78.03**	**334**	P	**P**	**22 18 01.6**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***15*** *22:06:59.8±0.4, 4646N×15290E, h0km, mb4.8/29, mb1 4.9/30, mb1mx4.9/31, mbtmp4.8/30, ML4.1/1, MS4.7/4, Ms1 4.7/4, ms1mx4.2/50, Error ellipse: s-maj=14.4km s-min=11.1km az=148.0*

SKHL ***15*** *22:07:01.7±1.7, 46.19N×153.46E, h50km±19km, Ms5.2/1, msh5.9/2*

ISCJB ***15*** *22:07:02.7±0.2, 4641N±003×15294E±003, h26km, mb5.3/183, MS5.1/10, Error ellipse: s-maj=4.9km s-min=2.3km az=116.7*

JMA ***15*** *22:07:02.1±0.9, 4628N×15339E, h30km, M5.5*

MOS ***15*** *22:07:03.6±1.0, 4654N×15288E, h28km, mb5.5/87, Error ellipse: s-maj=7.2km s-min=3.9km az=106.2*

BJI ***15*** *22:07:03.1, 4667N×15281E, h25km, mB5.7, mb5.2, Ms5.1, Msz5.0*

NEIC ***15*** *22:07:05.2±0.3, 4650N×15290E, h30km±2km, mb5.4/104, Error ellipse: s-maj=5.0km s-min=3.3km az=154.0*

ISC 15 22:07:04.8±0.2, 4650N±003×15289E±004, h28km, h28km±1.0km:pP-P, n687, σ1§06/697, mb5.3/183, MS5.1/10, 49C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SKR	**Severo-Kuril's**	**4.70**	**26**	*e*P	**Pn**	**22 08 15.0**	**+1.1**
SKR				AMB	AMB	22 08 17.0	
	2μm,1.0s						
SKR				AMB	AMB	22 08 17.0	
	280nm,0.3s						
SKR				AMB	AMB	22 08 17.0	
	920nm,0.3s						
SKR				*e*S	**Sn**	**22 09 02.0**	**-5.5**
SKR				A		22 09 12.0	
	3μm,2.0s						
SKR				A		22 09 36.4	
	2μm,0.9s						
SKR				A		22 09 36.4	
	1μm,0.9s						
SKR				A		22 09 36.4	
	820nm,0.9s						
SKR				AMS	AMS	22 10 18.0	
	5μm,12.0s						
SKR				AMS	AMS	22 10 18.0	
	14μm,12.0s						
SKR				AMS	AMS	22 10 18.0	
	12μm,12.0s						
SKR				AMS	AMS	22 10 18.0	
	5μm,12.0s						
SKR				AMS	AMS	22 10 18.0	
	14μm,12.0s						
SKR				AMS	AMS	22 10 18.0	
	12μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	⇓*i*P	**Pn**	**22 08 27.0**	**+1.6**
YUK				AMB	AMB	22 08 27.8	
	2μm,0.5s						
YUK				AMB	AMB	22 08 42.0	
	3μm,1.2s						
YUK				*i* S	**Sn**	**22 09 32.3**	**+4.2**
YUK				A		22 09 36.5	
	4μm,0.7s						
YUK				A		22 09 36.5	
	1μm,0.5s						
YUK				A		22 09 52.0	
	12μm,1.2s						
YUK				A		22 09 52.0	
	9μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	*i* PN	**Pn**	**22 08 27.0**	**+1.6**
YUK				*i* S	**Sn**	**22 09 32.3**	**+4.2**
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,1.2s						
YUK				smax			
	comp=N,4μm,0.7s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,9μm,2.0s						
YUK				smax			
	comp=E,12μm,1.2s						
NEM2	**Nemuro 2**	**5.96**	**241**	P	**Pn**	**22 08 30.4**	**-0.8**
NEM2				*e*S	**Sn**	**22 09 35.2**	**-3.4**
JRA	**Rausu**	**6.05**	**248**	P	**Pn**	**22 08 34.5**	**+2.0**
JNK	**Nakash**	**6.48**	**246**	P	**Pn**	**22 08 39.6**	**+1.3**
JNK				*e*S	**Sn**	**22 09 52.1**	**+0.8**
JAK	**Akkeshi**	**6.80**	**242**	P	**Pn**	**22 08 42.1**	**-0.6**
JAK				*e*S	**Sn**	**22 09 55.9**	**-3.4**
JTKR	**Abashiri--Toko**	**6.83**	**251**	P	**Pn**	**22 08 45.5**	**+2.4**
YSS	**Yuzh-Sakhalins**	**6.98**	**277**	*e*P	**Pn**	**22 08 48.9**	**+3.7**
YSS				AMB	AMB	22 08 51.2	
	comp=E,170nm,1.0s						
YSS				AMB	AMB	22 08 51.2	
	comp=E,180nm,1.0s						
YSS				*e*S	**Sn**	**22 10 09.2**	**+5.6**
YSS				A		22 10 10.1	
	comp=E,90nm,0.9s						
YSS				A		22 10 10.1	
	comp=E,110nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.98**	**277**	*e*PN	**Pn**	**22 08 48.9**	**+3.7**
YSS				*e*S	**Sn**	**22 10 09.2**	**+5.6**
YSS				pmax	pmax		
	comp=E,180nm,1.0s						
YSS				pmax	pmax		
	comp=Z,170nm,1.0s						
YSS				smax			
	comp=N,90nm,0.9s						
YSS				smax			
	comp=Z,110nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.98**	**277**	*e*P	**Pn**	**22 08 45.2**	**0.0**
YSS				*e*Sn	**Sn**	**22 10 06.6**	**+3.0**
JMP	**Maruseppu**	**7.17**	**253**	P	**Pn**	**22 08 50.4**	**+2.6**
JAR	**Ashorobuto**	**7.22**	**247**	P	**Pn**	**22 08 50.1**	**+1.6**
JAR				*e*S	**Sn**	**22 10 11.3**	**+1.7**
JSE	**Soyaes**	**7.37**	**262**	P	**Pn**	**22 08 55.1**	**+4.5**
JOB	**Onbets**	**7.38**	**244**	P	**Pn**	**22 08 50.9**	**+0.2**
JOB				*e*S	**Sn**	**22 10 10.7**	**-2.9**
PET	**Petropavlovsk**	**7.52**	**28**	*e*PN	**Pn**	**22 08 54.2**	**+1.6**
PET				pmax	pmax		
	comp=Z,137nm,0.7s						
PET	**Petropavlovsk**	**7.52**	**28**⇑	*e*P	**Pn**	**22 08 51.6**	**-1.0**
PET				*e*Sn	**Sn**	**22 10 14.6**	**-2.3**
JKK2	**Kamakawa 2**	**7.63**	**254**	P	**Pn**	**22 08 57.1**	**+3.0**
ASAJ	**Asahikawa**	**7.64**	**256**	Pn	**Pn**	**22 08 57.9**	**+3.7**
	comp=Z,8.1nm,0.3s,baz=86,slow=14,SNR=24						
ASAJ				Sn	**Sn**	**22 10 38.1**	**+18**
	baz=66,slow=20,SNR=1.7						
ASAJ				LR	LR	22 11 53.6	
	comp=Z,2μm,18.0s,baz=103,slow=38						
ASAJ	**Asahikawa**	**7.64**	**256**	P	**Pn**	**22 08 57.7**	**+3.5**
ASAJ	**Asahikawa**	**7.64**	**256**	PN	**Pn**	**22 08 57.9**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.0s						
UGL	**Uglegorsk**	**7.73**	**293**⇑	*i*P	**Pn**	**22 08 59.7**	**+4.2**
UGL				AMB	AMB	22 09 01.5	
	comp=Z,330nm,0.7s						
UGL				*e*S	**Sn**	**22 10 27.0**	**+4.9**
UGL				A		22 10 32.0	
	comp=Z,180nm,0.7s						
UGL				A		22 10 32.0	
	comp=Z,93nm,0.7s						
UGL	**Uglegorsk**	**7.73**	**293**⇑	*i*PN	**Pn**	**22 08 59.7**	**+4.2**
UGL				S	**Sn**	**22 10 27.0**	**+4.9**
UGL				pmax	pmax		
	comp=Z,330nm,0.7s						
UGL				smax			
	comp=N,180nm,0.7s						
UGL				smax			
	comp=E,93nm,0.7s						
JWK2	**Keihoku**	**7.76**	**265**	P	**Pn**	**22 09 02.0**	**+6.2**
JCH	**Churui**	**7.83**	**244**	P	**Pn**	**22 08 56.9**	**0.0**
JCH				*e*S	**Sn**	**22 10 21.2**	**-3.4**
JSS	**Shosan**	**8.04**	**259**	P	**Pn**	**22 09 05.7**	**+6.0**
JFR	**Furan**	**8.04**	**249**	P	**Pn**	**22 09 01.4**	**+1.7**
TYV	**Tymovskoe**	**8.05**	**307**	*e*P	**Pn**	**22 09 03.8**	**+3.9**
TYV				AMB	AMB	22 09 22.2	
	comp=E,88nm,0.8s						
TYV				AMB	AMB	22 09 22.2	
	comp=E,202nm,0.8s						
JAB	**Ashibetsu**	**8.13**	**252**	P	**Pn**	**22 09 04.2**	**+3.3**
JEM	**Erimo**	**8.30**	**241**	P	**Pn**	**22 09 02.2**	**-1.0**
ERM	**Erimo**	**8.30**	**241**	Pn	**Pn**	**22 09 04.5**	**+1.2**
	comp=E,2μm,0.7s,SNR=6.4						
ERM	**Erimo**	**8.30**	**241**	*e*PN	**Pn**	**22 09 04.6**	**+1.3**
ERM				pmax	pmax		
	comp=Z,290nm,0.6s						
ERM	**Erimo**	**8.30**	**241**	*e*Pn	**Pn**	**22 09 04.6**	**+1.3**
	comp=Z,290nm,0.6s						
ERM				*e*Sn	**Sn**	**22 10 34.0**	**-2.0**
JHR	**Hokuryu**	**8.36**	**255**	P	**Pn**	**22 09 07.5**	**+3.4**
JBT2	**Biratori 2**	**8.38**	**247**	P	**Pn**	**22 09 04.6**	**+0.3**
JBT2				*e*S	**Sn**	**22 10 36.1**	**-1.8**
JNBK	**Urakawa-nobuka**	**8.39**	**243**	P	**Pn**	**22 09 04.0**	**-0.6**
JNBK				*e*S	**Sn**	**22 10 36.1**	**-2.3**
JEW	**Eniwo**	**8.93**	**250**	P	**Pn**	**22 09 12.2**	**+0.2**
JNB	**Noboribetsu**	**9.38**	**249**	P	**Pn**	**22 09 18.4**	**+0.3**
JNB				*e*S	**Sn**	**22 11 00.2**	**-2.4**
JKB	**Kayabe**	**9.68**	**246**	P	**Pn**	**22 09 20.6**	**-1.6**
JKB				*e*S	**Sn**	**22 11 03.5**	**-6.5**
JSH	**Shimam**	**9.94**	**252**	P	**Pn**	**22 09 27.6**	**+1.8**
JOT	**Ohata**	**9.95**	**243**	P	**Pn**	**22 09 24.1**	**-1.8**
JYM2	**Yakumo 2**	**9.98**	**248**	P	**Pn**	**22 09 25.7**	**-0.7**
JSR	**Shiriuchi**	**10.26**	**246**	P	**Pn**	**22 09 29.2**	**-1.0**
JANG	**Nango**	**10.29**	**238**	P	**Pn**	**22 09 26.9**	**-3.6**
JANG				*e*S	**Sn**	**22 11 13.7**	**-11**
JTM	**Tenmabayashi**	**10.29**	**241**	P	**Pn**	**22 09 28.8**	**-1.8**
JTM				*e*S	**Sn**	**22 11 14.5**	**-10**
NKL	**Nikolayevsk**	**10.31**	**315**	*e*P	**Pn**	**22 09 32.0**	**+1.2**
NKL				AMB	AMB	22 09 34.2	
	comp=Z,100nm,1.0s						
NKL				AMB	AMB	22 09 34.2	
	comp=Z,110nm,1.0s						
JTH	**Tanohata**	**10.37**	**235**	P	**Pn**	**22 09 28.0**	**-3.7**
JTH				*e*S	**Sn**	**22 11 15.7**	**-11**
JOSM	**Okushiri--Mats**	**10.58**	**250**	P	**Pn**	**22 09 34.8**	**+0.3**
JOM	**Ohasama**	**11.01**	**235**	P	**Pn**	**22 09 37.4**	**-3.1**
JOM				*e*S	**Sn**	**22 11 33.7**	**-9.0**
OFUJ	**Ofunato**	**11.08**	**232**	P	**Pn**	**22 09 38.0**	**-3.4**
OFUJ				*e*S	**Sn**	**22 11 32.2**	**-12**
JRG	**Rokugo**	**11.44**	**236**	P	**Pn**	**22 09 44.0**	**-2.3**
JRG				*e*S	**Sn**	**22 11 46.7**	**-6.4**
TEY	**Ternei**	**11.47**	**269**	*e*P	**Pn**	**22 09 48.0**	**+1.3**
JIO	**Ouri**	**11.71**	**231**	P	**Pn**	**22 09 45.9**	**-4.0**
JIO				*e*S	**Sn**	**22 11 47.6**	**-12**
HABR	**Khabarovsk**	**12.23**	**286**	*e*PN	**Pn**	**22 10 04.1**	**+7.0**
HABR				*e*S	**Sn**	**22 12 27.0**	**+15**
HABR				pmax	pmax		
	comp=Z,102nm,1.1s						
JYA	**Atsumi**	**12.51**	**236**	P	**Pn**	**22 10 01.3**	**+0.4**
JFK	**Kawauchi**	**12.77**	**229**	*e*S	**Sn**	**22 12 14.4**	**-11**
MA2	**Magadan**	**13.16**	**355**	*e*PN	**Pn**	**22 10 12.2**	**+2.4**
MA2				pmax	pmax		
	comp=N,30nm,0.4s						
MA2				pmax	pmax		
	comp=Z,40nm,0.4s						
MA2	**Magadan**	**13.16**	**355**	*e*Pn	**Pn**	**22 10 11.8**	**+2.0**
	comp=Z,42nm,0.5s						
JFY	**Yanaizu**	**13.36**	**232**	P	**Pn**	**22 10 09.9**	**-2.6**
KLR	**Kul'dur**	**14.44**	**289**	*e*P	**Pn**	**22 10 27.7**	**+0.4**
MJAR	**Matsushiro Arr**	**14.80**	**233**	Pn	**Pn**	**22 10 28.6**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=28,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**14.80**	**233**	P	**Pn**	**22 10 28.6**	**-3.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.81**	**233**	*e*P	**Pn**	**22 10 31.2**	**-1.1**
MAT	**Matsushiro**	**14.81**	**233**	P	**Pn**	**22 10 29.2**	**-3.1**
MAT	**Matsushiro**	**14.81**	**233**	P	**Pn**	**22 10 28.9**	**-3.4**
SMY	**Shemya**	**15.07**	**58**	*e*P	**Pn**	**22 10 32.3**	**-3.4**
SMY				pmax	pmax		
	comp=Z,42nm,0.5s						
SMY	**Shemya**	**15.07**	**58**	*e*P	**Pn**	**22 10 32.3**	**-3.4**
	comp=Z,46nm,0.5s						
MDJ	**Mudanjiang**	**16.41**	**272**	P	**Pn**	**22 10 53.4**	**+0.2**
MDJ				AP	pP	22 11 01.8	-1.3
MDJ				XP	sP	22 11 04.5	-2.1
MDJ				S	**Sn**	**22 13 55.3**	**+0.8**
MDJ				PCS	PcS	22 19 21.0	+0.6
MDJ				AMB	AMB		
	comp=Z,23nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,2μm,9.6s						
MDJ				LR	LR		
	comp=N,1μm,12.6s						
MDJ				LR	LR		
	comp=E,3μm,14.4s						
MDJ				LR	LR		
	comp=Z,3μm,13.2s						
MDJ	**Mudanjiang**	**16.41**	**272**	*e*Pn	**Pn**	**22 10 53.0**	**-0.1**
	comp=Z,71nm,0.9s						
SEY	**Seymchan**	**16.47**	**359**	*e*P	**Pn**	**22 10 52.9**	**-1.0**
JWT	**Wachi**	**17.29**	**236**	P	**Pn**	**22 11 03.0**	**-1.1**
ZEA	**Zeya**	**17.90**	**303**	*e*P	**Pn**	**22 11 09.9**	**-1.7**
ZEA				AMB	AMB	22 11 15.7	
	comp=Z,29nm,1.2s						
ZEA				AMB	AMB	22 11 15.7	
	comp=Z,52nm,1.0s						
CN2	**Changchun**	**19.50**	**272**	⇑P	**Pn**	**22 11 28.0**	**-3.1**
CN2				*e*XP	sP	22 11 39.0	-1.7
CN2				*e*S	**Sn**	**22 15 00.0**	**-9.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,13.0s						
CN2				LR	LR		
	comp=E,3μm,13.0s						
CN2				LR	LR		
	comp=Z,5μm,15.0s						
CLNS	**Chul'man**	**20.07**	**311**	*e*P	**P**	**22 11 36.2**	**+0.3**
CLNS				pmax	pmax		
	comp=N,32nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,38nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.7s						
YAK	**Yakutsk**	**20.45**	**328**	*e*P	**P**	**22 11 41.4**	**+1.4**
YAK				pmax	pmax		
	comp=Z,68nm,0.8s						
YAK				pmax	pmax		
	comp=N,16nm,0.9s						
YAK				pmax	pmax		
	comp=E,20nm,1.0s						
YAK	**Yakutsk**	**20.45**	**328**	*e*P	**P**	**22 11 44.4**	**+4.3**
	comp=E,98nm,0.6s						
KSRS	**Korea Array**	**20.57**	**253**	P	**P**	**22 11 41.7**	**+0.3**
	comp=E,22nm,0.8s,baz=60,slow=10,SNR=26						
KS15	**Wonju Array Si**	**20.61**	**253**	*e*P	**P**	**22 11 43.0**	**+1.2**
INCN	**Inchon**	**21.41**	**255**	*e*P	**P**	**22 11 51.5**	**+1.1**
	comp=E,81nm,1.0s,mb5.0						
JNU	**Nakatsue**	**21.46**	**239**	P	**P**	**22 11 51.2**	**+0.3**
	comp=E,24nm,0.9s,mb4.5,baz=230,slow=12,SNR=2.3						
SNY	**Shenyang**	**21.47**	**268**	⇑P	**P**	**22 11 50.3**	**-0.8**
SNY				AMB	AMB		
	comp=Z,42nm,0.6s,mb5.0						
HIA	**Hailar**	**22.30**	**289**	*e*P	**P**	**22 11 58.1**	**-1.8**
HIA				pmax	pmax		
	comp=Z,18nm,0.8s						
HIA	**Hailar**	**22.30**	**289**	*e*P	**P**	**22 11 58.1**	**-1.9**
	comp=Z,18nm,0.8s,mb4

comp=Z,13nm,0.8s,mb4.8
ULN Ulaanbaatar 30.84 290 *e*P P **22 13 20.1 +1.8**
comp=Z,13nm,0.8s,mb4.8
SONM Songino Array 31.27 290 P P **22 13 21.4 -0.8**
comp=Z,3.0nm,0.5s,mb4.4,baz=69,slow=7.8,SNR=31
SONM Songino Array 31.27 290 P P **22 13 21.4 -0.8**
SONM pmax pmax
comp=Z,3.0nm,0.5s
TLY Talaya 32.16 298 P P **22 13 29.1 -0.9**
comp=Z,95nm,0.7s,mb5.7,SNR=5.2
TLY Talaya 32.16 298 *e*P P **22 13 29.4 -0.6**
TLY pmax pmax
comp=Z,24nm,1.4s,mb4.8
TLY Talaya 32.16 298 *e*P P **22 13 29.3 -0.7**
comp=Z,19nm,1.1s,mb4.8
TLY *e*PcP PcP 22 16 18.5 -0.1
ZAK Zakamensk 32.64 295 *e*P P **22 13 33.5 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YHNB Yeheng 33.29 240 P P **22 13 40.6 +0.6**
WHN Wuhan 33.72 256 ⇓P P **22 13 44.5 +0.8**
IMA2 Indian Mountai 34.10 36 *e*P P **22 13 47.1 +0.1**
KDAK Kodiak Island 34.38 51 P P **22 13 47.1 -2.3**
comp=Z,12nm,0.8s,mb4.9,baz=302,slow=18,SNR=6.8
XAN Xi'an 35.34 265 P P **22 13 58.3 +0.6**
XAN AMB AMB
comp=Z,42nm,1.1s,mb5.3
MCK McKinley 35.94 40 *e*P P **22 14 02.6 -0.3**
SML Sawmill 36.26 43 *e*P P **22 14 06.1 +0.5**
COLA College 36.43 38 P P **22 14 07.3 +0.3**
COLA pmax pmax
comp=Z,34nm,1.0s,mb5.2
COLA College 36.43 38 *e*P P **22 14 06.9 -0.2**
comp=Z,34nm,1.0s,mb5.2
LZH Lanzhou 37.74 272 ⇑P P **22 14 20.0 +1.8**
LZH AP pP 22 14 28.3 +1.9
LZH XP sP 22 14 31.4 +1.7
LZH AMB AMB
comp=Z,170nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,710nm,5.0s
LZH Lanzhou 37.74 272 ⇑P P **22 14 20.0 +1.8**
LZH *PP pP 22 14 28.2 +1.8
LZH *SP sP 22 14 31.4 +1.7
LZH pmax pmax
comp=Z,170nm,1.2s,mb5.7
LZH Lanzhou 37.74 272 ⇑P P **22 14 20.0 +1.8**
comp=Z,170nm,1.2s,mb5.7
LZH pP pP 22 14 28.2 +1.8
LZH sP sP 22 14 31.4 +1.7
GTA Gaotai 38.86 279 *e*P P **22 14 29.3 +1.7**
GTA AP pP 22 14 36.8 +1.0
GTA XP sP 22 14 40.9 +1.8
GTA PP PP 22 16 05.5 +8.7
GTA AMB AMB
comp=Z,47nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,252nm,4.6s
GTA LR LR
comp=N,1μm,15.2s,MS5.0
GTA LR LR
comp=E,992nm,15.2s,MS5.0
GTA LR LR
comp=Z,2μm,13.7s,MS5.1
EGAK Eagle 39.29 38 *e*P P **22 14 30.1 -1.1**
comp=Z,20nm,0.9s,mb4.8
DAWY Dawson 40.13 39 *e*P P **22 14 39.5 +1.3**
CD2 Chengdu 40.70 265 P P **22 14 43.8 +0.9**
CD2 AP pP 22 14 51.3 +0.1
CD2 XP sP 22 14 54.6 +0.1
CD2 PP PP 22 16 21.6 +4.7
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,1μm,8.4s
CD2 LR LR
comp=N,2μm,14.4s
CD2 LR LR
comp=Z,3μm,14.4s,MS5.3
GYA Guiyang 41.51 258 ⇑*i*P P **22 14 50.3 +0.8**
GYA AP pP 22 14 59.0 +1.2
GYA XP sP 22 15 02.8 +1.7
GYA PP PP 22 16 30.4 +4.8
GYA PCP PcP 22 16 49.3 +2.5
GYA AMB AMB
comp=Z,80nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,670nm,4.8s
GYA LR LR
comp=N,680nm,16.9s,MS4.8
GYA LR LR
comp=E,940nm,17.2s,MS4.8
GYA LR LR
comp=Z,840nm,17.6s,MS4.7
INK Inuvik 41.95 32 P P **22 14 52.9 -0.2**
comp=Z,15nm,0.8s,mb4.7,baz=289,slow=7.2,SNR=29
INK Inuvik 41.95 32 *e*P P **22 14 55.0 +1.9**
INK pmax pmax
comp=Z,18nm,0.9s
INK Inuvik 41.95 32 *e*P P **22 14 55.0 +1.9**
comp=Z,584nm,0.9s,mb6.2
ZAL Zalesovo 42.65 306 P P **22 14 57.1 -1.7**
comp=Z,14nm,0.4s,mb5.0,baz=47,slow=6.6,SNR=64
ZAL PcP PcP 22 16 50.0 -0.5
comp=Z,4.1nm,0.8s,baz=50,slow=3.2,SNR=7.2
ZAL Zalesovo 42.65 306 P P **22 14 57.1 -1.7**
ZAL 22 16 50.1
ZAL pmax pmax
comp=Z,15nm,0.4s
NVS Novosibirsk 43.22 308 *e*P P **22 15 01.1 -2.3**
NVS pmax pmax
comp=E,18nm,0.9s
NVS pmax pmax
comp=Z,18nm,0.9s,mb4.8
WMQ Urumqi 44.87 291 ⇑*i*P P **22 15 17.1 +0.4**
WMQ AP pP 22 15 24.8 -0.2
WMQ XP sP 22 15 28.3 0.0
WMQ PCP PcP 22 16 58.8 +0.7
WMQ PP PP 22 17 02.9 +1.2
WMQ PPP 22 17 43.3
WMQ S S **22 21 53.1 +0.4**
WMQ XS sS 22 22 05.5 -0.9
WMQ AMB AMB
comp=Z,22nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,706nm,7.0s
WMQ LR LR
comp=N,1μm,15.0s,MS5.1
WMQ LR LR
comp=E,1μm,17.3s,MS5.1
WMQ LR LR
comp=Z,2μm,14.7s,MS5.1
KMI Kunming 45.04 260 P P **22 15 19.3 +1.2**
KMI AP pP 22 15 27.1 +0.7
KMI PP PP 22 17 06.8 +3.2
KMI AMB AMB
comp=Z,49nm,0.9s,mb5.3
KMI Kunming 45.04 260 P P **22 15 19.2 +1.1**
KMI *PP pP 22 15 27.1 +0.7
KMI 22 17 06.8
KMI pmax pmax
comp=Z,49nm,0.9s,mb5.3
KMI Kunming 45.04 260 P P **22 15 19.2 +1.1**
comp=Z,49nm,0.9s,mb5.3
KMI pP pP 22 15 27.1 +0.7
KMI PP PP 22 17 06.8 +3.2
MK31 Makanchi Array 46.92 297 *e*P P **22 15 32.4 -0.5**
MKAR Makanchi Array 46.92 297 P P **22 15 31.9 -0.9**
comp=Z,13nm,0.4s,mb5.2,baz=68,slow=7.1,SNR=152
MKAR PcP PcP 22 17 04.7 -0.5
comp=Z,4.6nm,0.8s,baz=69,slow=3.8,SNR=3.0
MKAR Makanchi Array 46.92 297 P P **22 15 32.0 -0.9**
MKAR 22 17 04.7
MKAR pmax pmax
comp=Z,13nm,0.4s
KURK Kurchatov 47.37 304 P P **22 15 35.1 -1.3**
comp=Z,358nm,0.6s,mb6.5,SNR=40
ALE Alert 50.01 6 P P **22 15 55.2 -1.4**
comp=Z,148nm,1.3s,mb5.9,SNR=6.1
LSA Lhasa 50.13 273 P P **22 16 00.3 +2.7**
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.2
LSA Lhasa 50.13 273 *e*P P **22 15 59.7 +2.1**
LSA pmax pmax
comp=Z,51nm,0.6s,mb5.7
LSA Lhasa 50.13 273 *e*P P **22 15 59.7 +2.1**
comp=Z,51nm,0.6s,mb5.7
CHKZ Chkalovo 50.47 310 *e*P P **22 15 58.4 -1.8**
BVAR Borovoye Array 50.90 309 P P **22 16 02.5 -0.8**
comp=Z,16nm,0.4s,mb5.2,baz=48,slow=7.3,SNR=78
BVAR PcP PcP 22 17 19.3 -0.3
comp=Z,6.9nm,0.7s,baz=72,slow=4.8,SNR=3.9
BVAR Borovoye Array 50.90 309 P P **22 16 02.5 -0.9**
BVAR 22 17 19.3
BVAR pmax pmax
comp=Z,16nm,0.4s
BRVK Borovoye 50.94 310 P P **22 16 02.2 -1.5**
comp=Z,304nm,0.6s,mb6.4,SNR=15
BRVK Borovoye 50.94 310 P P **22 16 02.9 -0.8**
SNR=11
BRVK Borovoye 50.94 310 P P **22 16 02.9 -0.8**
SNR=11
BRVK Borovoye 50.94 310 P P **22 16 02.9 -0.8**
SNR=11
BRVK Borovoye 50.94 310 P P **22 16 02.9 -0.8**
SNR=11
BRVK Borovoye 50.94 310 P P **22 16 02.9 -0.8**
SNR=11
BRVK Borovoye 50.94 310 *e*P P **22 16 03.6 -0.1**
BRVK pmax pmax
comp=Z,18nm,0.6s,mb5.2
BRVK Borovoye 50.94 310 *e*P P **22 16 03.6 -0.1**
comp=Z,28nm,0.6s,mb5.4
RES Resolute Bay 51.12 18 *e*P P **22 16 04.6 -0.5**
RES pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
RES Resolute Bay 51.12 18 *e*P P **22 16 04.6 -0.5**
comp=Z,282nm,0.7s,mb6.3
YKA Yellowknife Ar 51.22 37 P P **22 16 05.4 -0.3**
comp=Z,12nm,0.8s,mb4.8,baz=296,slow=7.1,SNR=8.6
YKA PcP PcP 22 17 20.0 -0.8
comp=Z,0.8nm,0.5s,baz=301,slow=3.9,SNR=4.2
YKA Yellowknife Ar 51.22 37 P P **22 16 05.4 -0.4**
YKA 22 17 20.0
YKA pmax pmax
comp=Z,12nm,0.9s
ZRNK Zerenda 51.67 310 *e*P P **22 16 08.3 -0.8**
ZRNK *e* 22 17 21.8
ZRNK pmax pmax
comp=Z,21nm,0.6s,mb5.2
ZRNK Zerenda 51.67 310 *e*P P **22 16 08.3 -0.8**
comp=Z,21nm,0.6s,mb5.2
ZRNK *e*PcP PcP 22 17 21.8 -0.7
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 P P **22 16 12.8 +1.8**
SNR=20
CHTO Chiang Mai 51.91 257 *e*P P **22 16 12.3 +1.4**
CHTO *e* 22 16 23.3
CHTO pmax pmax
comp=Z,66nm,0.9s,mb5.6
CHTO Chiang Mai 51.91 257 *e*P P **22 16 12.3 +1.4**
comp=Z,66nm,0.9s,mb5.6
CHTO *e* 22 16 23.3
CM31 Chiang Mai Arr 52.16 256 *e*P P **22 16 14.3 +1.5**
CM31 *e* 22 16 25.7
ULHL Ulahol 52.93 295 P P **22 16 19.1 +0.6**
SNR=15
TKM2 Tokmak 2 52.97 296 P P **22 16 19.4 +0.6**
SNR=23
CHMS Chumysh 53.45 297 P P **22 16 22.6 +0.3**
SNR=19
USP Ospenovka 53.46 297 P P **22 16 22.1 -0.3**
SNR=90
KBK Karagaybulak 53.51 296 P P **22 16 23.1 +0.3**
SNR=33
FRU Bishkek 53.62 297 *e*P P **22 16 22.8 -0.8**
FRU pmax pmax
comp=Z,60nm,1.2s,mb5.4
KZA Kyzart 53.64 295 P P **22 16 25.0 +1.2**
SNR=18
AAK Ala-Archa 53.81 296 P P **22 16 24.3 -0.7**
comp=Z,261nm,0.9s,mb6.2,SNR=40
AAK Ala-Archa 53.81 296 P P **22 16 25.1 +0.2**
SNR=50
AAK Ala-Archa 53.81 296 *e*P P **22 16 22.8 -2.2**
AAK pmax pmax
comp=Z,38nm,0.8s,mb5.4
AAK Ala-Archa 53.81 296 *e*P P **22 16 22.9 -2.1**
UCH Uchtor 54.02 296 P P **22 16 27.5 +1.1**
SNR=8.2
EKS2 Erkin-Say 54.23 297 P P **22 16 28.4 +0.3**
SNR=50
AML Almayashu 54.58 296 P P **22 16 31.5 +0.9**
SNR=28
KSH Kashi 54.60 292 *e*P P **22 16 32.3 +1.5**
KSH *e*AP pP 22 16 38.1 -1.1
KSH *e*XP sP 22 16 41.6 -0.9
KSH *e*PCP PcP 22 17 36.0 +2.4
KSH *e*PP PP 22 18 34.8 +1.5
KSH *e*SCP ScP 22 21 32.9 +2.8
KSH *e*S S **22 24 07.0 -1.7**
KSH *e*PS 22 24 25.3
KSH *e*SCS ScS 22 26 17.0 -1.1
KSH *e*SS SS 22 27 47.9 -3.6
KSH LR LR
comp=N,6μm,14.0s,MS5.9
KSH LR LR
comp=E,4μm,12.7s,MS5.9
KSH LR LR
comp=Z,2μm,8.1s
JIRN Jiri 54.81 275 *e*P P **22 16 34.1 +1.8**
comp=Z,118nm,0.5s,mb6.2
GUN Gumba 54.87 275 *e*P P **22 16 34.2 +1.5**
comp=Z,98nm,0.4s,mb6.2
ARU Arti 55.09 318 P P **22 16 32.7 -1.6**
comp=Z,268nm,0.6s,mb6.5,SNR=15
ARU Arti 55.09 318 ⇑*i*P P **22 16 32.8 -1.5**
ARU *e* 22 18 33.8
ARU *e*S S **22 24 18.2 +3.0**
ARU *e*SS SS 22 27 55.4 -3.8
ARU pmax pmax
comp=Z,30nm,0.8s,mb5.4
ARU Arti 55.09 318 ⇑*e*P P **22 16 32.7 -1.6**
KKN Kakani 55.36 275 *e*P P **22 16 37.7 +1.5**
comp=Z,229nm,0.9s,mb6.2
PKI Pulchoki 55.41 275 *e*P P **22 16 37.8 +1.3**
DMN Daman 55.59 275 *e*P P **22 16 39.6 +1.7**
comp=Z,250nm,1.0s,mb6.2
GKN Gorkha 55.66 276 *e*P P **22 16 39.9 +1.5**
comp=Z,148nm,0.5s,mb6.3
HNR Honiara 56.03 172 LR LR 22 37 36.8
comp=Z,611nm,18.3s,MS4.7,baz=359,slow=33
KOLN Koldanda 56.52 276 *e*P P **22 16 46.2 +1.7**
comp=Z,268nm,1.0s,mb6.2
EDM Edmonton 56.60 46 *e*P P **22 16 45.0 -0.1**
DAG Danmarks Havn 56.89 358 ⇑*i*P P **22 16 46.1 -1.0**
comp=Z,38nm,1.2s,mb5.3
DAG Danmarks Havn 56.89 358 ⇑*i*P P **22 16 46.1 -1.0**
DAG pmax pmax
comp=Z,38nm,1.2s,mb5.3
NEW Newport 57.45 52 P P **22 16 50.7 -0.4**
comp=Z,1.0nm,0.3s,mb4.4,baz=296,slow=4.9,SNR=3.8
NEW Newport 57.45 52 P P **22 16 50.7 -0.4**
NEW pmax pmax
comp=Z,1.0nm,0.3s
NEW Newport 57.45 52 P P **22 16 50.7 -0.4**
APA Apatity 57.51 337 ⇓*i*P P **22 16 49.4 -2.1**
APA pmax pmax
comp=Z,11nm,0.6s,mb5.1
KEV Kevo 57.53 340 *e*p P **22 16 49.2 -2.5**
comp=Z,3.9nm,0.4s,mb4.8
KEV Kevo 57.53 340 *e*P P **22 16 50.5 -1.2**
KEV pmax pmax
comp=Z,12nm,0.8s,mb5.0
KEV Kevo 57.53 340 *e*P P **22 16 50.5 -1.2**
comp=Z,12nm,0.8s,mb5.0
ARCES ARCESS Array B 58.04 341 P P **22 16 54.1 -1.2**
comp=Z,9.1nm,0.5s,mb5.0,baz=42,slow=7.5,SNR=60
ARCES ARCESS Array B 58.04 341 P P **22 16 54.1 -1.1**
ARCES pmax pmax
comp=Z,9.0nm,0.5s
AKTK Aktyubinsk 58.78 312 P P **22 16 59.4 -1.0**
AKTK LR LR 22 45 26.6
AKTO Aktyubinsk 58.78 312 P P **22 16 59.4 -1.0**
comp=Z,5.0nm,0.5s,mb4.8,baz=48,slow=7.8,SNR=14
AKTO LR LR 22 45 26.6
comp=Z,1μm,18.4s,MS5.1,baz=295,slow=39
AKTO Aktyubinsk 58.78 312 P P **22 16 59.4 -1.0**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
AKTO MLR MLR
comp=Z,1μm,18.4s,MS5.1
KTK1 Kautokeino 58.96 341 *e*P P **22 17 01.6 0.0**
BSMT Bassoo Peak 58.96 52 *e*pP pP 22 17 13.0 +2.7
BMO Blue Mountains 59.34 56 *e*P P **22 17 04.9 +0.5**
comp=Z,6.9nm,1.0s,mb4.6
BMO *e*pP pP 22 17 10.2 -2.7
MOD Modoc 59.35 60 *e*P P **22 17 05.4 +1.0**
TRO Tromso 59.38 343 *e*P P **22 17 02.6 -2.0**
ORR Orenburg 59.71 314 *e*P P **22 17 05.8 -1.1**
ORR pmax pmax
comp=Z,40nm,1.3s,mb5.3
NIL Nilore 59.84 288 P P **22 17 09.2 +1.5**
comp=Z,235nm,0.8s,mb6.3,SNR=16
WVOR Wild Horse Val 60.02 59 *e*P P **22 17 09.3 +0.3**
WVOR *e* 22 17 56.2
WVOR pmax pmax
comp=Z,13nm,1.0s,mb4.9
WVOR Wild Horse Val 60.02 59 *e*P P **22 17 09.3 +0.3**
comp=Z,13nm,1.0s,mb4.9
WVOR *e*PcP PcP 22 17 56.2 +1.3
MSO Missoula 60.04 52 *e*pP pP 22 17 22.8 +5.2
OHCM Honcut 60.18 63 *e*pP pP 22 17 16.0 -2.6
CHMT Chamberlain Mo 60.36 52 *e*P P **22 17 11.6 +0.3**
SUMG Summit 60.96 4 *e*P P **22 17 15.5 +0.1**
LRM Limekiln Ridge 61.47 52 *e*P P **22 17 19.4 +0.5**
EGMT Eagleton 61.54 49 *e*P P **22 17 19.5 +0.2**
comp=Z,17nm,1.1s,mb5.1
FCC Fort Churchill 61.56 33 P P **22 17 18.6 -0.8**
CMB Columbia Colle 61.65 64 *e*P P **22 17 27.0 +6.9**
CMB Columbia Colle 61.65 64 *e*pP pP 22 17 27.0 -1.7
LOF Lofoten 61.70 344 *e*P P **22 17 21.2 +0.8**
LOF AMb AMB 22 17 22.9
comp=Z,238nm,1.5s,mb6.1
LOF Lofoten 61.70 344 *e*P P **22 17 21.2 +0.8**
comp=Z,238nm,1.5s,mb6.1
HLID Hailey 61.78 55 *e*P P **22 17 21.4 +0.4**
WAKR Walker 61.95 63 *e*P P **22 17 23.2 +1.2**
NVAR Mina Array Bea 62.69 62 P P **22 17 27.4 +0.3**
comp=Z,3.9nm,0.7s,mb4.6,baz=292,slow=7.7,SNR=20
MTUM Tungsten Hills 63.21 63 P P **22 17 31.5 +1.0**
MOR8 Moi Rana 63.21 342 *e*P P **22 17 28.2 -2.4**
MOR8 AMb AMB 22 17 29.9
comp=Z,88nm,1.0s,mb5.8
MOR8 Moi Rana 63.21 342 *e*P P **22 17 28.2 -2.4**
comp=Z,88nm,1.0s,mb5.8
IMW Indian Meadow 63.52 53 *e*pP pP 22 17 46.2 +5.1
RRI2 Red Ridge 63.66 54 *e*P P **22 17 38.7 +5.2**
MOOW Moose Ponds 63.72 53 *e*pP pP 22 17 43.2 +0.7
TPAW Teton Pass 63.77 54 *e*pP pP 22 17 45.1 +2.3
REDW Red Top Meadow 63.91 54 *e*P P **22 17 36.3 +1.2**
comp=Z,15nm,1.0s,mb5.0
FIA1 FINESS Array S 64.20 335 *e*P P **22 17 35.9 -1.1**
FIA1 *e*PcP PcP 22 18 12.6 +0.8
FINES FINESS Array B 64.20 335 P P **22 17 35.8 -1.2**
comp=Z,9.8nm,0.3s,mb5.3,baz=39,slow=7.2,SNR=85
FINES FINESS Array B 64.20 335 P P **22 17 35.8 -1.2**
FINES pmax pmax
comp=Z,10.0nm,0.3s
HWUT Hardware Ranch 64.64 56 *e*P P **22 17 40.7 +0.7**
comp=Z,5.0nm,0.7s,mb4.7
DUG Dugway 64.84 58 P P **22 17 41.9 +0.7**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
DUG Dugway 64.84 58 *e*P P **22 17 41.4 +0.2**
comp=Z,9.3nm,0.9s,mb4.8
BW06 Boulder Array 65.02 54 *e*pP pP 22 17 49.4 -1.6
PDAR Pinedale Array 65.02 54 P P **22 17 42.0 -0.3**
comp=Z,4.9nm,0.8s,mb4.6,baz=287,slow=1.8,SNR=21
NSS Namsos 65.16 343 *e*P P **22 17 41.4 -1.9**
NSS *e*pP pP 22 17 50.3 -1.6
NLU North Lily Min 65.43 57 *e*P P **22 17 39.9 -5.1**
OBN Obninsk 65.43 326 *e*P P **22 17 43.0 -2.0**
OBN pmax pmax
comp=Z,39nm,0.9s,mb5.4
DAU Daniels Canyon 65.60 57 P P **22 17 50.7 +4.6**
DAU Daniels Canyon 65.60 57 *e*P P **22 17 46.2 +0.1**
SHPR Sheep Range 65.84 62 *e*P P **22 17 48.7 +1.0**
MSU Marysvale 66.31 59 P P **22 17 52.0 +1.3**
MSU Marysvale 66.31 59 *e*P P **22 17 51.5 +0.8**
TMUT Trail Mountain 66.36 57 P P **22 17 49.6 -1.4**
CTAO Charters Tower 66.54 187 P P **22 17 54.0 +1.8**
ABKT Ailbek 66.60 301 P P **22 17 53.0 +0.5**
comp=Z,352nm,0.7s,mb6.5,SNR=8.2
ULM Lac du Bonnet 66.81 41 P P **22 17 52.5 -1.4**
comp=Z,2.7nm,0.5s,mb4.5,baz=309,slow=7.9,SNR=6.0
HYB Hyderabad 66.85 271 *i*P P **22 17 54.0 -0.1**
HYB Hyderabad 66.85 271 *e*P P **22 17 54.0 -0.1**
SRU San Rafael 66.88 57 *e*P P **22 17 55.2 +0.8**
PFO Pinyon Flat Ob 66.94 65 P P **22 17 54.3 -0.4**
comp=Z,1.6nm,0.5s,mb4.3,baz=323,slow=5.1,SNR=2.3
PFO Pinyon Flat Ob 66.94 65 P P **22 17 54.3 -0.4**
PFO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
RSSD Black Hills 67.10 50 *e*P P **22 17 55.0 -0.8**
RSSD *e* 22 18 06.9
RSSD pmax pmax
comp=Z,11nm,1.0s,mb4.8
RSSD Black Hills 67.10 50 *e*P P **22 17 55.0 -0.8**
comp=Z,11nm,1.0s,mb4.8
RSSD *e* 22 18 06.9
VRSR Storozhevoye 67.20 321 *e*P P **22 17 55.3 -1.1**
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VORD Divnogorie 67.34 321 *e*P P **22 17 53.2 -4.0**
VORD pmax pmax
comp=E,70nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
VORD pmax pmax
comp=N,90nm,0.8s
DOMB Dombas 67.98 343 *e*P P **22 18 00.9 -0.4**
DOMB AMb AMB 22 18 02.4
comp=Z,75nm,1.1s,mb5.7
DOMB Dombas 67.98 343 *e*P P **22 18 00.9 -0.4**
comp=Z,75nm,1.0s,mb5.7
WB2 Warramunga Arr 68.22 199 *e*P P **22 18 01.8 -1.0**
WB2 Warramunga Arr 68.22 199 *e*P P **22 18 02.3 -0.6**
WB2 *e* 22 18 13.2
WRA Warramunga Arr 68.23 199 P P **22 18 01.1 -1.8**
comp=Z,4.0nm,0.7s,mb4.5,baz=17,slow=6.7,SNR=9.5
WRA Warramunga Arr 68.23 199 P P **22 18 01.1 -1.7**
WRA pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 68.41 341 P P **22 18 03.5 -0.5**
comp=Z,52nm,0.7s,mb5.7,baz=27,slow=6.5
NOA NORSAR Array B 68.41 341 P P **22 18 03.4 -0.6**
comp=Z,34nm,0.6s,mb5.6,baz=28,slow=6.4,SNR=97
NOA NORSAR Array B 68.41 341 P P **22 18 03.4 -0.6**
NOA pmax pmax
comp=Z,34nm,0.6s
NAO01 NORSAR Array S 68.66 341 *e*P P **22 18 05.3 -0.3**
WUAZ Wupatki 68.79 61 *e*P P **22 18 08.0 +1.7**
FITZ Fitzroy Crossi 68.85 208 *e*P P **22 18 04.7 -2.0**
comp=Z,5.2nm,0.7s,mb4.6
MNK Minsk 69.15 329 *e*P P **22 18 04.0 -4.6**
ISCO Idaho Springs 69.21 54 *e*P P **22 18 09.7 +0.7**
MVCO Mesa Verde 69.34 58 *e*P P **22 18 09.9 +0.1**
comp=Z,4.2nm,0.6s,mb4.5
HYA Hoyanger 69.36 343 *e*P P **22 18 10.0 +0.1**
HYA *e*pP pP 22 18 19.2 +0.6
KONO Kongsberg 70.02 341 *e*P P **22 18 13.8 -0.2**
ASK Askoy 70.18 344 *e*P P **22 18 14.6 -0.4**
ASK AMb AMB 22 18 20.1
comp=Z,172nm,1.4s,mb5.8
ASK Askoy 70.18 344 *e*P P **22 18 14.6 -0.4**
comp=Z,172nm,1.4s,mb5.8
BER Bergen 70.25 344 *e*P P **22 18 15.6 +0.3**
BER *e*pP pP 22 18 24.6 +0.5
EGD Espegrend 70.37 344 *e*P P **22 18 15.8 -0.3**

SDCO Great Sand Dun 70.70 55 *e*P **P** **22 18 18.9 +0.8**
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
comp=Z,339nm,0.8s,mb6.3,SNR=9.5
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314 P **P** **22 18 20.9 +1.8**
SNR=5.2
KIV Kislovodsk 70.86 314⇑ *e*P **P** **22 18 18.5 -0.6**
KIV pmax pmax
comp=Z,59nm,1.1s,mb5.4
KIV Kislovodsk 70.86 314⇑ *e*P **P** **22 18 18.6 -0.5**
BLS5 Blasjo 70.90 343 *e*P **P** **22 18 19.8 +0.5**
BLS5 AMb AMB 22 18 21.7
comp=Z,44nm,1.2s,mb5.3
BLS5 Blasjo 70.90 343 *e*P **P** **22 18 19.8 +0.5**
comp=Z,44nm,1.2s,mb5.3
ZEI Tsey 71.11 313 *e*P **P** **22 18 20.8 +0.2**
ZEI *e**PP pP 22 18 28.1 -1.2
ZEI *e* 22 21 00.6
ZEI pmax pmax
comp=Z,36nm,1.0s,mb5.3
SUW Suwalki 71.14 331 *e*P **P** **22 18 19.6 -1.2**
AKASG Malin Array Be 71.67 326 P **P** **22 18 22.6 -1.4**
comp=Z,23nm,0.5s,mb5.3,baz=34,slow=6.2,SNR=58
AKASG Malin Array Be 71.67 326 P **P** **22 18 22.6 -1.4**
AKASG pmax pmax
comp=Z,23nm,0.5s
AKBB Malin Array Si 71.67 326 P **P** **22 18 23.0 -1.0**
AKBB Malin Array Si 71.67 326 *e*P **P** **22 18 22.9 -1.1**
KIEV Kiev 71.68 326 *e*P **P** **22 18 22.9 -1.2**
KIEV pmax pmax
comp=Z,50nm,1.0s,mb5.4
KIEV Kiev 71.68 326 *e*P **P** **22 18 22.8 -1.2**
comp=Z,50nm,1.0s,mb5.4
SNART Snartemo 71.74 342 *e*P **P** **22 18 24.1 -0.3**
AS31 Alice Springs 71.92 198 *e*P **P** **22 18 24.9 -0.6**
ASAR Alice Springs 71.92 198 P **P** **22 18 25.4 -0.2**
comp=Z,3.3nm,0.6s,mb4.4,baz=14,slow=5.7,SNR=14
ASAR LR LR 22 51 15.8
comp=Z,592nm,18.6s,MS4.9,baz=13,slow=37
ASAR Alice Springs 71.92 198 P **P** **22 18 25.4 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR MLR MLR
comp=Z,592nm,18.6s
ASPA Alice Springs 71.92 198 *e*P **P** **22 18 24.9 -0.6**
PALK Pallekele 72.51 262 *e*P **P** **22 18 29.4 +0.4**
comp=Z,19nm,0.7s,mb5.1
GNI Garni 72.57 310 P **P** **22 18 31.5 +2.1**
SNR=8.8
GNI Garni 72.57 310 P **P** **22 18 31.5 +2.1**
SNR=8.8
GNI Garni 72.57 310 P **P** **22 18 31.5 +2.1**
SNR=8.8
GNI Garni 72.57 310⇑ *e*P **P** **22 18 26.6 -2.8**
GNI pmax pmax
comp=Z,43nm,1.1s
GNI Garni 72.57 310 *e*P **P** **22 18 33.2 +3.8**
comp=Z,22nm,0.6s,mb5.3
BSD Bornholm Skovb 72.72 336 *i*P **P** **22 18 29.9 -0.4**
comp=Z,56nm,0.7s,mb5.6
BSD Bornholm Skovb 72.72 336 *i*P **P** **22 18 29.9 -0.4**
BSD pmax pmax
comp=Z,56nm,0.7s,mb5.6
COP Copenhagen 72.89 338 *i*P **P** **22 18 31.4 +0.1**
comp=Z,28nm,0.5s,mb5.4
COP Copenhagen 72.89 338 *i*P **P** **22 18 31.4 +0.1**
COP pmax pmax
comp=Z,28nm,0.5s,mb5.5
MUD Monsted U'grnd 73.01 340 *i*P **P** **22 18 32.6 +0.6**
comp=Z,31nm,0.9s,mb5.2
MUD Monsted U'grnd 73.01 340 *i*P **P** **22 18 32.6 +0.6**
MUD pmax pmax
comp=Z,31nm,0.9s,mb5.2
SCHQ Schefferville 73.60 23 P **P** **22 18 34.8 -0.7**
comp=Z,7.6nm,0.7s,mb4.7,baz=330,slow=6.1,SNR=7.8
GKP Gorka Klasztor 73.66 334 *e*P **P** **22 18 35.7 -0.1**
MBWA Marble Bar 73.72 212 *e*P **P** **22 18 35.8 -0.4**
MBWA *e* pP 22 18 44.4 -0.5
LVV L'vov 74.33 328 *e*P **P** **22 18 39.1 -0.6**
LVV *e* 22 18 52.7
KIS Kishinev 74.80 324 *e*P **P** **22 18 40.0 -2.4**
KWP Kalwaria 74.96 329 *e*P **P** **22 18 43.7 +0.3**
KWP Kalwaria 74.96 329 P **P** **22 18 43.6 +0.2**
KWP pmax pmax
comp=Z,210nm,1.0s,mb6.0
MNTX Cornudas Mount 75.03 60 *e*P **P** **22 18 47.2 +3.4**
IAS Iasi 75.14 325 P **P** **22 18 44.5 +0.1**
OJC Ojcow 75.46 331 *e*P **P** **22 18 46.2 -0.1**
STHS Stebnicka Huta 75.65 330 *i*P **P** **22 18 48.1 +0.7**
STHS pmax pmax
comp=Z,42nm,0.9s,mb5.4
STHS Stebnicka Huta 75.65 330 *i*P **P** **22 18 48.1 +0.7**
comp=Z,42nm,0.9s,mb5.4
KOLS Kolonicke sedl 75.70 329 *e*P **P** **22 18 47.5 -0.1**
BURAR Bucovina Array 75.71 326⇑ *i*P **P** **22 18 48.0 +0.3**
BURAR Bucovina Array 75.71 326⇓ *i*P **P** **22 18 48.0 +0.3**
UZH Uzhgorod 75.95 329⇓ *i*P **P** **22 18 48.4 -0.7**
NIE Niedzica 75.97 330 *i*P **P** **22 18 49.5 +0.3**
KSP Ksiaz 76.06 333 *e*P **P** **22 18 50.0 +0.3**
KSP Ksiaz 76.06 333 *e*P **P** **22 18 48.9 -0.8**
KSP *e*pP pP 22 18 57.1 -1.3
OKC Ostrava-Krasne 76.34 332 *e*P **P** **22 18 51.2 -0.1**
OKC *e*pP pP 22 18 59.8 -0.3
UPC Upice 76.44 333 *e*P **P** **22 18 51.9 +0.1**
UPC *e*pP pP 22 18 59.7 -0.9
BIDO Bidbid 76.45 290 P **P** **22 18 53.9 +2.0**
SNR=5.6
BIDO Bidbid 76.45 290 P **P** **22 18 53.9 +2.0**
SNR=6.5
BIDO Bidbid 76.45 290 P **P** **22 18 53.9 +2.0**
SNR=6.5
BIDO P 22 18 53.9
SNR=5.6
BIDO Bidbid 76.45 290 P **P** **22 18 53.9 +2.0**
SNR=6.5
BIDO Bidbid 76.45 290 P **P** **22 18 53.9 +2.0**
SNR=6.5
DPC Dobruska-Polom 76.48 333 *e*P **P** **22 18 52.2 +0.1**
DPC *e*pP pP 22 19 00.4 -0.4
WBK Wadi Bani Khal 76.54 289 P **P** **22 18 54.6 +2.2**
SNR=7.2
WBK Wadi Bani Khal 76.54 289 P **P** **22 18 54.6 +2.2**
SNR=7.2
WBK Wadi Bani Khal 76.54 289 P **P** **22 18 54.6 +2.2**
SNR=7.2
CFR Carcaliu 76.55 323⇓ *i*P **P** **22 18 53.3 +0.8**
CFR Carcaliu 76.55 323 P **P** **22 18 53.0 +0.5**
CFR Carcaliu 76.55 323⇓ P **P** **22 18 53.2 +0.8**
VRI Vrincioaia 76.56 325⇓ *i*P **P** **22 18 53.1 +0.6**
VRI Vrincioaia 76.56 325 P **P** **22 18 52.9 +0.4**
MORC Moravsky Berou 76.59 332⇑ *i*P **P** **22 18 53.0 +0.3**
MORC Moravsky Berou 76.59 332 *e*P **P** **22 18 53.0 +0.3**
MORC pmax pmax
comp=Z,51nm,1.0s,mb5.4
MORC Moravsky Berou 76.59 332 *e*P **P** **22 18 53.0 +0.3**
comp=Z,51nm,1.0s,mb5.4
PLOR Plostina 76.60 325⇓ *i*P **P** **22 18 53.4 +0.6**
CLL Collm 76.63 335 *i*P **P** **22 18 52.2 -0.7**
CLL *e* pP 22 19 01.0 -0.7
CLL pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
CLL Collm 76.63 335 *i*P **P** **22 18 52.2 -0.7**
comp=Z,99nm,1.2s,mb5.6
CLL *e*(pP) pP 22 19 01.0 -0.7
LIKS Likavka 76.70 331 *e*P **P** **22 18 54.2 +0.9**
LIKS pmax pmax
comp=Z,60nm,1.3s,mb5.4
LIKS Likavka 76.70 331 *e*P **P** **22 18 54.2 +0.9**
comp=Z,60nm,1.3s,mb5.4
KECS Kecovo 76.71 330 *e*P **P** **22 18 53.0 -0.4**
KECS pmax pmax
comp=Z,20nm,0.8s,mb5.1
KECS Kecovo 76.71 330 *e*P **P** **22 18 53.0 -0.4**
comp=Z,20nm,0.8s,mb5.1

BRG Berggiesshubel 76.74 335 *i*P **P** **22 18 53.1 -0.5**
comp=Z,14nm,1.1s,mb4.8
BRG Berggiesshubel 76.74 335 *i*P **P** **22 18 53.1 -0.5**
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.7
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.1 +1.1**
SNR=27
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
HATD Hatta, Dubai 76.82 292 P **P** **22 18 55.4 +1.4**
SNR=9.3
SMDO Samad 76.83 290 P **P** **22 18 56.2 +2.2**
SNR=7.9
SMDO Samad 76.83 290 P **P** **22 18 56.2 +2.2**
SNR=7.9
SMDO Samad 76.83 290 P **P** **22 18 56.2 +2.2**
SNR=7.9
PVCC Panska Ves 76.86 334 *e*P **P** **22 18 54.1 -0.1**
PVCC *e*pP pP 22 19 03.7 +0.7
WIT Witteveen 76.93 340 *e*P **P** **22 18 56.6 +2.0**
HOQ Hoqain 76.94 290 P **P** **22 18 55.7 +1.1**
SNR=28
HOQ Hoqain 76.94 290 P **P** **22 18 56.0 +1.3**
SNR=19
HOQ Hoqain 76.94 290 P **P** **22 18 56.0 +1.3**
SNR=19
HOQ Hoqain 76.94 290 P **P** **22 18 56.0 +1.3**
SNR=19
HOQ Hoqain 76.94 290 P **P** **22 18 56.0 +1.3**
SNR=19
ASHO Ashiyiah 76.96 292 P **P** **22 18 56.2 +1.4**
SNR=7.3
ASHO Ashiyiah 76.96 292 P **P** **22 18 56.2 +1.4**
SNR=7.3
ASHO Ashiyiah 76.96 292 P **P** **22 18 56.2 +1.4**
SNR=7.3
ASHO Ashiyiah 76.96 292 P **P** **22 18 56.2 +1.4**
SNR=7.3
TIRR Tirgujor 77.02 323⇑ *i*P **P** **22 18 55.4 +0.3**
HARR Harsova 77.03 323 P **P** **22 18 55.1 -0.1**
MLR Muntele Rosu 77.18 325⇓ *i*P **P** **22 18 56.6 +0.6**
MLR Muntele Rosu 77.18 325⇓ P **P** **22 18 56.6 +0.6**
MALT Malatya 77.21 313⇑ *i*P **P** **22 18 58.2 +2.0**
MALT Malatya 77.21 313 *e*P **P** **22 18 57.8 +1.6**
VYHS Vyhne 77.27 331 *i*P **P** **22 18 56.8 +0.3**
VYHS pmax pmax
comp=Z,24nm,1.3s,mb5.0
VYHS Vyhne 77.27 331 *i*P **P** **22 18 56.8 +0.3**
comp=Z,24nm,1.3s,mb5.0
JMDO Jabal Madar 77.28 289 P **P** **22 18 57.7 +1.2**
SNR=30
JMDO Jabal Madar 77.28 289 P **P** **22 18 57.9 +1.3**
SNR=17
JMDO Jabal Madar 77.28 289 P **P** **22 18 57.9 +1.3**
SNR=17
JMDO Jabal Madar 77.28 289 P **P** **22 18 57.9 +1.3**
SNR=17
JMDO Jabal Madar 77.28 289 P **P** **22 18 57.9 +1.3**
SNR=17
VRAC Vranov 77.30 332⇑ *i*P **P** **22 18 57.3 +0.6**
VRAC Vranov 77.30 332 ⇑P **P** **22 18 57.3 +0.6**
DRGR 77.34 327⇓ *i*P **P** **22 18 57.2 +0.3**
DRGR 77.34 327 ⇓P **P** **22 18 57.2 +0.3**
PRU Pruhonice 77.34 334 *e*P **P** **22 18 56.5 -0.5**
PRU *e*pP pP 22 19 05.4 -0.3
PRU Pruhonice 77.34 334 *e*P **P** **22 18 56.5 -0.5**
PRU *e* pP 22 19 05.4 -0.3
PSZ Piszkesteto 77.40 330⇑ *i*P **P** **22 18 57.8 +0.5**
PSZ Piszkesteto 77.40 330 *e*P **P** **22 18 59.2 +1.9**
PSZ pmax pmax
comp=Z,47nm,1.2s,mb5.3
PSZ Piszkesteto 77.40 330 ⇑P **P** **22 18 57.8 +0.5**
PSZ Piszkesteto 77.40 330⇓ *e*P **P** **22 18 58.2 +0.9**
SNX Sinaia 77.46 325⇓ *i*P **P** **22 18 58.9 +1.3**
SNX Sinaia 77.46 325 ⇓P **P** **22 18 58.9 +1.3**
VOIR 77.58 325⇑ *i*P **P** **22 18 59.2 +0.9**
VOIR 77.58 325 ⇑P **P** **22 18 59.2 +0.9**
BSY Bisya 77.60 290 P **P** **22 18 59.5 +1.1**
SNR=31
BSY Bisya 77.60 290 P **P** **22 18 59.5 +1.1**
SNR=31
BSY Bisya 77.60 290 P **P** **22 18 59.7 +1.3**
SNR=18
BSY Bisya 77.60 290 P **P** **22 18 59.7 +1.3**
SNR=18
BSY Bisya 77.60 290 P **P** **22 18 59.7 +1.3**
SNR=18
MOX Moxa 77.62 336 *e*P **P** **22 18 58.4 -0.1**
comp=Z,43nm,1.2s,mb5.2
MOX Moxa 77.62 336 *e*P **P** **22 18 58.4 -0.1**
MOX pmax pmax
comp=Z,32nm,1.2s,mb5.1
ARQ Araqi 77.62 291 P **P** **22 18 59.7 +1.2**
SNR=15
ARQ Araqi 77.62 291 P **P** **22 18 59.9 +1.4**
SNR=8.9
ARQ Araqi 77.62 291 P **P** **22 18 59.9 +1.4**
SNR=8.9
ARQ Araqi 77.62 291 P **P** **22 18 59.9 +1.4**
SNR=8.9
WTSB Winterswijk 77.68 339 *e*P **P** **22 18 58.3 -0.5**
comp=Z,54nm,0.5s,mb5.7
SMOL Smolenice 77.72 331 *e*P **P** **22 18 59.6 +0.5**
NKC Novy Kostel 77.75 335 *e*P **P** **22 18 59.0 -0.2**
MTUR Matau 77.75 325⇓ *i*P **P** **22 19 00.6 +1.4**
MTUR Matau 77.75 325 ⇓P **P** **22 19 00.6 +1.4**
LTX Lajitas 77.75 60 *e*P **P** **22 18 59.1 -0.1**
LTX pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LTX Lajitas 77.75 60 *e*P **P** **22 18 59.1 -0.1**
comp=Z,6.8nm,0.6s,mb4.8
TXAR Lajitas Array 77.75 60 P **P** **22 18 59.1 -0.1**
comp=Z,2.8nm,0.5s,mb4.4,baz=300,slow=4.2,SNR=15
TXAR Lajitas Array 77.75 60 P **P** **22 18 59.2 0.0**
TXAR pmax pmax
comp=Z,3.0nm,0.5s
BUD Budapest 78.07 330⇑ *e*P **P** **22 19 02.6 +1.6**
ZST Bratislava 78.11 332 *e*P **P** **22 19 01.9 +0.7**
ZST pmax pmax
comp=Z,30nm,0.9s,mb5.2
ZST Bratislava 78.11 332 *e*P **P** **22 19 01.9 +0.7**
comp=Z,30nm,0.9s,mb5.2
KHC Kasperske Hory 78.39 334 *e*P **P** **22 19 02.7 -0.1**
BR131 Keskin Array S 78.47 317 *e*P **P** **22 19 04.0 +0.8**
comp=Z,34nm,0.9s,mb5.3
BRTR Keskin Array B 78.47 317 P **P** **22 19 03.7 +0.5**
comp=Z,37nm,0.9s,mb5.3,baz=67,slow=3.9,SNR=89
BRTR Keskin Array B 78.47 317 P **P** **22 19 03.7 +0.5**
BRTR pmax pmax
comp=Z,37nm,0.9s
GZR Gura Zlata 78.49 327⇓ *i*P **P** **22 19 03.5 +0.2**
GZR Gura Zlata 78.49 327 P **P** **22 19 03.7 +0.4**
GRA1 Grafenberg Arr 78.58 336 *e*P **P** **22 19 04.2 +0.4**
comp=Z,49nm,1.0s,mb5.4
GRF Grafenberg Arr 78.58 336 *e*P **P** **22 19 04.2 +0.4**
GRF pmax pmax
comp=Z,49nm,1.0s,mb5.4
GERES GERESS Array B 78.61 334 P **P** **22 19 03.7 -0.3**
comp=Z,10nm,0.7s,mb4.9,baz=35,slow=5.3,SNR=74
GERES GERESS Array B 78.61 334 P **P** **22 19 03.7 -0.3**
GERES pmax pmax
comp=Z,10.0nm,0.7s
UMR Umm Al-Rimmam 78.62 301 *e*P **P** **22 19 04.3 +0.3**
UMR AMb AMB 22 19 06.1
comp=Z,204nm,0.7s,mb6.2
MIB Mutribah 78.66 301 *e*P **P** **22 19 04.8 +0.5**
MIB AMb AMB 22 19 07.2
comp=Z,232nm,1.1s,mb6.0
STKA Stephens Creek 78.68 190 P **P** **22 19 04.2 -0.2**
comp=Z,3nm,0.8s,mb4.4,baz=22,slow=8.8,SNR=3.7
STKA Stephens Creek 78.68 190 P **P** **22 19 05.1 +0.7**
BZS Buzias 78.74 327⇓ *i*P **P** **22 19 04.5 -0.2**
BZS Buzias 78.74 327 P **P** **22 19 04.6 -0.1**
CONA Conrad Observa 78.74 332⇑ *i*P **P** **22 19 05.4 +0.7**
comp=Z,26nm,1.0s,mb5.1,SNR=28
ANTO Ankara 78.75 317 P **P** **22 19 06.1 +1.3**
SNR=14
ANTO Ankara 78.75 317 P **P** **22 19 06.2 +1.4**
SNR=7.6
ANTO Ankara 78.75 317⇑ *i*P **P** **22 19 05.9 +1.1**
ANTO Ankara 78.75 317 ⇑P **P** **22 19 05.9 +1.2**
KBD Kabd 78.91 301 *e*P **P** **22 19 06.3 +0.7**
ZIMR 78.93 324 P **P** **22 19 05.9 +0.2**
CRAR CRAIOVA 79.00 325 P **P** **22 19 06.8 +0.7**
HGN Heimansgroeve 79.00 339 *e*P **P** **22 19 05.6 -0.5**
comp=Z,48nm,1.1s,mb5.3
SZH Strazhica 79.02 324 *i*P **P** **22 19 06.4 +0.2**
QRN Al-Qurain 79.09 300 *e*P **P** **22 19 07.2 +0.6**
QRN AMb AMB 22 19 08.7
comp=Z,184nm,0.5s,mb6.3
NAY Al-Naaiem 79.12 301 *e*P **P** **22 19 07.1 +0.3**
NAY AMb AMB 22 19 09.8
comp=Z,74nm,0.9s,mb5.6
MEM Membach 79.13 339 P **P** **22 19 06.4 -0.4**
comp=Z,37nm,0.9s,mb5.3
MEM AP pP 22 19 20.3 +4.7
RDF Al-Radifah 79.18 301 *e*P **P** **22 19 07.8 +0.7**
RDF AMb AMB 22 19 10.3
comp=Z,226nm,0.6s,mb6.3
JCT Junction City 79.19 57 *e*P pP 22 19 17.9 +1.9
JCT Junction City 79.19 57 *e*pP pP 22 19 17.9 +1.9
PKSM Moragy 79.31 330⇓ *i*P **P** **22 19 07.3 -0.5**
PKSM Moragy 79.31 330 ⇓P **P** **22 19 07.2 -0.5**
MOA Molln 79.32 333⇑ *i*P **P** **22 19 08.1 +0.2**
comp=Z,27nm,0.8s,mb5.2,SNR=9.5
UCC Uccle 79.34 340 P **P** **22 19 07.7 -0.3**
ARSA Arzberg 79.45 332 *i*P **P** **22 19 08.8 +0.2**
comp=Z,28nm,1.2s,mb5.1,SNR=7.8
BCLA Clavier 79.47 340 P **P** **22 19 08.3 -0.4**
comp=Z,19nm,0.9s,mb5.0
SNF Seneffe 79.63 340 P **P** **22 19 09.4 -0.2**
comp=Z,9.4nm,1.2s,mb4.6
GIVF Givet 79.88 340 *e*P **P** **22 19 10.6 -0.3**
DOU Dourbes 79.94 340 P **P** **22 19 10.7 -0.6**
comp=Z,7.8nm,0.9s,mb4.6
WLF Walferdange 79.96 339 P **P** **22 19 11.4 0.0**
comp=Z,12nm,1.0s,mb4.8
BAIF Baives 80.07 340 *e*P **P** **22 19 11.4 -0.5**
comp=Z,44nm,1.0s,mb5.0
BAIF Baives 80.07 340 *e*P **P** **22 19 11.4 -0.5**
BAIF pmax pmax
comp=Z,22nm,1.0s,mb5.0
BAIF Baives 80.07 340 *e*P **P** **22 19 11.4 -0.5**
comp=Z,22nm,1.0s,mb5.0
PERS Pernice 80.12 332 *e*P **P** **22 19 12.1 -0.1**
DIM Dimitrovgrad 80.19 323 *i*P **P** **22 19 12.7 +0.1**
KBA Koelnbreinsper 80.29 333 *i*P **P** **22 19 13.8 +0.7**
comp=Z,74nm,0.7s,mb5.7,SNR=68
OBKA Obir 80.42 332⇑ *i*P **P** **22 19 13.7 -0.1**
comp=Z,18nm,0.7s,mb5.1,SNR=16
GRUS Gruza 80.55 327 *i*P **P** **22 19 13.8 -0.8**
WATA Walderalm 80.60 334⇑ *i*P **P** **22 19 15.3 +0.5**
comp=Z,52nm,0.6s,mb5.6,SNR=20
BFO Black Forest 80.62 337 P **P** **22 19 14.9 0.0**
comp=Z,280nm,1.0s,mb6.2,SNR=12
BFO Black Forest 80.62 337 *e*P **P** **22 19 14.7 -0.2**
BFO pmax pmax
comp=Z,47nm,0.9s,mb5.4
BFO Black Forest 80.62 337 *e*P **P** **22 19 14.7 -0.2**
comp=Z,47nm,0.9s,mb5.4
DIVS Divcibare 80.64 328 *i*P **P** **22 19 14.5 -0.5**
DIVS Divcibare 80.64 328 *e*P **P** **22 19 15.7 +0.7**
WTTA Wattenberg 80.65 334 *i*P **P** **22 19 15.7 +0.7**
comp=Z,53nm,0.6s,mb5.7,SNR=22
VTS Vitosha 80.69 325 *e*P **P** **22 19 15.2 0.0**
VTS Vitosha 80.69 325⇑ *i*P **P** **22 19 15.6 +0.3**
VTS Vitosha 80.69 325 *i*P **P** **22 19 15.0 -0.3**
MOTA Moosalm 80.73 335⇑ *i*P **P** **22 19 15.8 +0.3**
comp=Z,58nm,0.9s,mb5.5,SNR=32
SQTA Sankt Quirin 80.81 335⇑ *i*P **P** **22 19 16.6 +0.6**
comp=Z,57nm,1.0s,mb5.5,SNR=26
CDF Champ du Feu 80.83 338 *e*P **P** **22 19 15.7 -0.3**
comp=Z,90nm,0.9s,mb5.4
CDF Champ du Feu 80.83 338 *e*P **P** **22 19 15.7 -0.3**
CDF pmax pmax
comp=Z,45nm,0.9s,mb5.4
CDF Champ du Feu 80.83 338 *e*P **P** **22 19 15.7 -0.3**
comp=Z,45nm,0.9s,mb5.4
LJU Ljubljana 80.84 332 *e*P **P** **22 19 15.3 -0.8**
PTCC Patocco-Chiusa 80.89 333 P **P** **22 19 15.4 -1.0**
comp=Z,20nm,0.6s,mb5.2
ALN Alexandroupoli 80.93 322 *e*P **P** **22 19 16.5 -0.1**
GMNA Gemona 81.04 333 P **P** **22 19 16.3 -0.9**
comp=Z,141nm,0.7s,mb6.0
BBLS Bajina Basta - 81.05 328 *i*P **P** **22 19 17.9 +0.7**
BOJS Bojanci 81.08 331 *e*P **P** **22 19 16.7 -0.6**
DAVA Damuels 81.14 336⇑ *i*P **P** **22 19 17.8 +0.1**
comp=Z,30nm,0.7s,mb5.3,SNR=24
MEZF Maizieres J'vi 81.31 339 *e*P **P** **22 19 18.6 0.0**
comp=Z,114nm,1.0s,mb5.5
MEZF Maizieres J'vi 81.31 339 *e*P **P** **22 19 18.6 0.0**
comp=Z,114nm,1.0s,mb5.8
MMB Musomiste 81.32 324 *i*P **P** **22 19 18.0 -0.6**
HAU Haudompre 81.44 338 *e*P **P** **22 19 18.5 -0.8**
comp=Z,16nm,1.0s,mb5.1
HAU Haudompre 81.44 338 *e*P **P** **22 19 18.5 -0.8**
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.1
HAU Haudompre 81.44 338 *e*P **P** **22 19 18.5 -0.8**
comp=Z,23nm,1.0s,mb5.1
HINF Hinteralfeld 81.49 338 *e*P **P** **22 19 19.0 -0.5**
comp=Z,42nm,0.9s,mb5.0
HINF Hinteralfeld 81.49 338 *e*P **P** **22 19 19.0 -0.5**
HINF pmax pmax
comp=Z,21nm,0.9s,mb5.1
HINF Hinteralfeld 81.49 338 *e*P **P** **22 19 19.0 -0.5**
comp=Z,21nm,0.9s,mb5.1
PLE Pljevlja 81.52 328⇑ *i*P **P** **22 19 20.2 +0.5**
IVA Berane 81.73 327⇑ *i*P **P** **22 19 20.8 0.0**
CTI Castel Tesino 81.74 334 P **P** **22 19 20.2 -0.6**
CTI pmax pmax
comp=Z,17nm,0.6s,mb5.2
CTI Castel Tesino 81.74 334 P **P** **22 19 20.2 -0.6**
comp=Z,17nm,0.6s,mb5.1
UPM Unac-Piva 81.81 328⇑ *i*P **P** **22 19 20.5 -0.7**
STIP Stip 81.85 325 *i*P **P** **22 19 20.6 -0.8**
SKO Skopje 81.91 326 *i*P **P** **22 19 22.1 +0.4**
PVY Plav 81.94 327⇑ *i*P **P** **22 19 21.1 -0.7**
VAY Valandovo 82.01 325 *e*P **P** **22 19 21.9 -0.4**
VAY Valandovo 82.01 325 *i*P **P** **22 19 21.9 -0.4**
KNT Kendrikon 82.02 324 *e*P **P** **22 19 22.1 -0.2**
NKY Niksic 82.11 328⇑ *i*P **P** **22 19 20.8 -2.0**
SOH Sokhos 82.12 324 *e*P **P** **22 19 22.1 -0.7**
LOS Limnos 82.14 322 *e*P **P** **22 19 22.8 -0.2**
BRY Bratogost 82.20 328⇑ *i*P **P** **22 19 21.9 -1.4**
OUR Ouranopolis 82.27 323 *e*P **P** **22 19 22.7 -0.9**
FLN La Foliniere 82.33 343 *e*P **P** **22 19 23.5 -0.4**
comp=Z,60nm,1.1s,mb5.2
FLN La Foliniere 82.33 343 *e*P **P** **22 19 23.5 -0.4**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.2
FLN La Foliniere 82.33 343 *e*P **P** **22 19 23.5 -0.4**
comp=Z,30nm,1.0s,mb5.2
TTG Podgorica 82.35 327⇑ *i*P **P** **22 19 23.1 -0.9**
CSS Prodhromos 82.38 314 *e*P **P** **22 19 24.1 -0.1**
comp=Z,38nm,0.8s,mb5.4
GRG Griva 82.39 324 *e*P **P** **22 19 24.0 -0.2**
LDF La Druitiere 82.41 342 *e*P **P** **22 19 23.5 -0.9**
comp=Z,46nm,1.1s,mb5.0
LDF La Druitiere 82.41 342 *e*P **P** **22 19 23.5 -0.9**
LDF pmax pmax
comp=Z,23nm,1.1s,mb5.0
LDF La Druitiere 82.41 342 *e*P **P** **22 19 23.5 -0.9**
comp=Z,23nm,1.1s,mb5.0
PLG Polygyros 82.46 323 *e*P **P** **22 19 24.0 -0.6**
KRUS Krusevo 82.50 325 *i*P **P** **22 19 24.8 0.0**
BUM Brajici-Budva 82.59 327⇑ *i*P **P** **22 19 25.0 -0.3**
HCY Herceg Novi 82.61 328⇑ *i*P **P** **22 19 24.2 -1.2**
PAIG Paliouri 82.74 323 *e*P **P** **22 19 25.3 -0.8**
ULC Ulcinj 82.75 327⇑ *i*P **P** **22 19 25.1 -1.0**
LOR Lormes 82.76 339 *e*P **P** **22 19 25.8 -0.4**
comp=Z,36nm,0.7s,mb5.2
LOR Lormes 82.76 339 *e*P **P** **22 19 25.8 -0.4**
LOR pmax pmax
comp=Z,18nm,0.7s,mb5.2
LOR Lormes 82.76 339 *e*P **P** **22 19 25.8 -0.4**
comp=Z,18nm,0.7s,mb5.2
GRR Gorron 82.76 343 *e*P **P** **22 19 25.9 -0.3**
comp=Z,83nm,0.9s,mb5.5
GRR Gorron 82.76 343 *e*P **P** **22 19 25.9 -0.3**
GRR pmax pmax
comp=Z,42nm,0.9s,mb5.5
GRR Gorron 82.76 343 *e*P **P** **22 19 25.9 -0.3**

comp=Z,42nm,0.9s,mb5.5
BIA Bitola 82.76 325 *i* P **P 22 19 25.0 -1.2**
CABF La Chapelle 82.80 338 *e*P **P 22 19 26.1 -0.3**
comp=Z,52nm,1.1s,mb5.2
CABF La Chapelle 82.80 338 *e*P **P 22 19 26.1 -0.3**
CABF pmax pmax
comp=Z,26nm,1.1s,mb5.2
CABF La Chapelle 82.80 338 *e*P **P 22 19 26.1 -0.3**
comp=Z,26nm,1.1s,mb5.2
OHR Ohrid 82.89 326 *e*P **P 22 19 25.9 -1.0**
OHR Ohrid 82.89 326 *i* P **P 22 19 25.7 -1.2**
FNA Florina 82.94 325 *e*P **P 22 19 26.7 -0.4**
SSF Saint Saulge 83.03 339 *e*P **P 22 19 26.8 -0.8**
comp=Z,39nm,1.0s,mb5.1
SSF Saint Saulge 83.03 339 *e*P **P 22 19 26.8 -0.8**
SSF pmax pmax
comp=Z,20nm,1.0s,mb5.1
SSF Saint Saulge 83.03 339 *e*P **P 22 19 26.8 -0.8**
comp=Z,20nm,1.0s,mb5.1
SGMF Saint Gilles 83.23 344 *e*P **P 22 19 28.3 -0.3**
comp=Z,79nm,0.9s,mb5.4
SGMF Saint Gilles 83.23 344 *e*P **P 22 19 28.3 -0.3**
SGMF pmax pmax
comp=Z,40nm,0.9s,mb5.5
SGMF Saint Gilles 83.23 344 *e*P **P 22 19 28.3 -0.3**
comp=Z,40nm,0.9s,mb5.4
ROSF Rostrenen 83.28 344 *e*P **P 22 19 28.7 -0.2**
comp=Z,75nm,0.9s,mb5.4
ROSF Rostrenen 83.28 344 *e*P **P 22 19 28.7 -0.2**
ROSF pmax pmax
comp=Z,38nm,0.9s,mb5.4
ROSF Rostrenen 83.28 344 *e*P **P 22 19 28.7 -0.2**
comp=Z,38nm,0.9s,mb5.4
WHFO Wadi Hawf 83.29 289 P **P 22 19 29.7 +0.8**
SNR=9.2
WHFO Wadi Hawf 83.29 289 P **P 22 19 29.7 +0.8**
SNR=9.2
RBK Rabkut 83.30 288 P **P 22 19 29.5 +0.5**
SNR=13
RBK Rabkut 83.30 288 P **P 22 19 29.5 +0.5**
SNR=13
AVF Avril sur Loir 83.33 339 *e*P **P 22 19 28.7 -0.4**
comp=Z,60nm,0.9s,mb5.3
AVF Avril sur Loir 83.33 339 *e*P **P 22 19 28.7 -0.4**
AVF pmax pmax
comp=Z,30nm,0.9s,mb5.3
AVF Avril sur Loir 83.33 339 *e*P **P 22 19 28.7 -0.4**
comp=Z,30nm,0.9s,mb5.3
SMF Signal de Mont 83.34 339 *e*P **P 22 19 29.2 0.0**
comp=Z,165nm,1.0s,mb5.7
SMF Signal de Mont 83.34 339 *e*P **P 22 19 29.2 0.0**
SMF pmax pmax
comp=Z,83nm,1.0s,mb5.7
SMF Signal de Mont 83.34 339 *e*P **P 22 19 29.2 0.0**
comp=Z,83nm,1.0s,mb5.7
RSM Repubblica di 83.39 332 P **P 22 19 30.4 +0.9**
RSM pmax pmax
comp=Z,71nm,1.0s,mb5.7
RSM Repubblica di 83.39 332 P **P 22 19 30.4 +0.9**
comp=Z,70nm,1.0s,mb5.7
FSSB Fossombrone 83.50 332 P **P 22 19 30.2 +0.2**
ERBM Eremo 83.58 334 P **P 22 19 31.6 +1.2**
comp=Z,29nm,0.8s,mb5.5
GSCL Gusciola 83.59 334 P **P 22 19 31.3 +0.8**
comp=Z,63nm,1.0s,mb5.7
SEI Scarperia 83.62 333 P **P 22 19 31.3 +0.6**
comp=Z,159nm,0.6s,mb6.3
LPL La Plagne 83.64 337 *e*P **P 22 19 31.1 +0.4**
comp=Z,68nm,1.0s,mb5.5
LPL La Plagne 83.64 337 *e*P **P 22 19 31.1 +0.4**
LPL pmax pmax
comp=Z,34nm,1.0s,mb5.4
LPL La Plagne 83.64 337 *e*P **P 22 19 31.1 +0.4**
comp=Z,34nm,1.0s,mb5.4
VMG Vicchio 83.65 333 P **P 22 19 32.1 +1.3**
comp=Z,36nm,0.6s,mb5.7
LPG La Plagne 83.65 337 *e*P **P 22 19 31.6 +0.8**
comp=Z,97nm,1.1s,mb5.5
LPG La Plagne 83.65 337 *e*P **P 22 19 31.6 +0.8**
LPG pmax pmax
comp=Z,49nm,1.1s,mb5.5
LPG La Plagne 83.65 337 *e*P **P 22 19 31.6 +0.8**
comp=Z,49nm,1.1s,mb5.5
BGF Bois d'Agland 83.67 340 *e*P **P 22 19 30.7 -0.2**
comp=Z,16nm,0.6s,mb5.0
BGF Bois d'Agland 83.67 340 *e*P **P 22 19 30.7 -0.2**
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
BGF Bois d'Agland 83.67 340 *e*P **P 22 19 30.7 -0.2**
comp=Z,8.1nm,0.6s,mb5.0
QUIF Quistinic 83.67 344 *e*P **P 22 19 30.4 -0.5**
VLC Villacollemand 83.83 334 *e*P **P 22 19 31.2 -0.5**
comp=Z,45nm,0.9s,mb5.6
CRE Caprese Michel 83.83 333 P **P 22 19 32.3 +0.6**
CRE pmax pmax
comp=Z,18nm,0.7s,mb5.3
CRE Caprese Michel 83.83 333 P **P 22 19 32.3 +0.6**
comp=Z,18nm,0.7s,mb5.3
SNTG Esanatoglia 83.84 332 P **P 22 19 31.9 +0.2**
comp=Z,37nm,0.9s,mb5.5
ABTO Aybut 84.01 289 P **P 22 19 33.5 +0.8**
SNR=7.3
ABTO Aybut 84.01 289 P **P 22 19 33.5 +0.8**
SNR=7.3
AGG Agios Georgios 84.06 323 *e*P **P 22 19 31.4 -1.5**
TCF Toulx Ste Croi 84.07 340 *e*P **P 22 19 33.0 +0.1**
comp=Z,52nm,1.1s,mb5.3
TCF Toulx Ste Croi 84.07 340 *e*P **P 22 19 33.0 +0.1**
TCF pmax pmax
comp=Z,26nm,1.1s,mb5.3
TCF Toulx Ste Croi 84.07 340 *e*P **P 22 19 33.0 +0.1**
comp=Z,26nm,1.1s,mb5.3
BNI Bardonecchia 84.08 337 *e*P **P 22 19 33.9 +0.9**
BNI pmax pmax
comp=Z,27nm,1.2s,mb5.2
BNI Bardonecchia 84.08 337 *e*P **P 22 19 33.9 +0.9**
comp=Z,27nm,1.2s,mb5.3
ASS Assisi 84.10 332 P **P 22 19 33.9 +0.8**
ASS pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
ASS Assisi 84.10 332 P **P 22 19 33.9 +0.8**
comp=Z,2.4nm,0.6s,mb4.5
CSNT Castellina Chi 84.17 333 P **P 22 19 33.2 -0.2**
comp=Z,26nm,0.8s,mb5.4
FGMS Monte Sant'Ang 84.18 329 P **P 22 19 33.1 -0.4**
comp=Z,37nm,0.7s,mb5.6
PII Pisa 84.18 334 P **P 22 19 32.3 -1.2**
PII pmax pmax
comp=Z,30nm,1.1s,mb5.3
PII Pisa 84.18 334 P **P 22 19 32.3 -1.2**
comp=Z,30nm,1.1s,mb5.3
MFF Saint Martin d 84.31 342 *e*P **P 22 19 34.0 -0.1**
RGNG Rignano Grg 84.34 329 P **P 22 19 33.6 -0.7**
ORIF Oris-en-Rattie 84.42 337 *e*P **P 22 19 35.2 +0.5**
AQU L'Aquila 84.49 331 ⇑ *i*P **P 22 19 36.5 +1.4**
AQU L'Aquila 84.49 331 *e*P **P 22 19 35.5 +0.4**
IMI Imperia 84.79 335 P **P 22 19 36.6 0.0**
comp=Z,23nm,0.7s,mb5.4
FG5 Orsara di Pugl 84.80 329 P **P 22 19 37.1 +0.5**
FG5 pmax pmax
comp=Z,33nm,0.6s,mb5.6
FG5 Orsara di Pugl 84.80 329 P **P 22 19 37.1 +0.5**
comp=Z,33nm,0.6s,mb5.6
VIVF Saint-Julien-l 84.80 338 *e*P **P 22 19 37.0 +0.4**
FG4 Candela 84.84 329 P **P 22 19 36.8 0.0**
FG4 pmax pmax
comp=Z,101nm,0.8s,mb6.0
FG4 Candela 84.84 329 P **P 22 19 36.8 0.0**
comp=Z,101nm,0.8s,mb6.0
SDI San Donato 84.92 331 P **P 22 19 36.8 -0.5**
SDI pmax pmax
comp=Z,22nm,0.8s,mb5.3
SDI San Donato 84.92 331 P **P 22 19 36.8 -0.5**
comp=Z,22nm,0.8s,mb5.3
SBF Sospel 84.97 336 *e*P **P 22 19 37.1 -0.4**
comp=Z,69nm,1.0s,mb5.5
SBF Sospel 84.97 336 *e*P **P 22 19 37.1 -0.4**
SBF pmax pmax
comp=Z,34nm,1.0s,mb5.4
SBF Sospel 84.97 336 *e*P **P 22 19 37.1 -0.4**
comp=Z,34nm,1.0s,mb5.4
RJF Les Rejaudoux 85.16 340 *e*P **P 22 19 38.4 0.0**
NWAO Narrogin (SRO) 85.36 209 P **P 22 19 38.6 -0.8**
SMRF Simiane la Rot 85.38 337 *e*P **P 22 19 39.4 -0.1**
comp=Z,27nm,0.9s,mb5.1
SMRF Simiane la Rot 85.38 337 *e*P **P 22 19 39.4 -0.1**
comp=Z,27nm,0.9s,mb5.4

CAF Calviac 85.39 340 *e*P **P 22 19 39.6 0.0**
comp=Z,31nm,0.9s,mb5.1
CAF Calviac 85.39 340 *e*P **P 22 19 39.6 0.0**
CAF pmax pmax
comp=Z,15nm,0.9s,mb5.1
CAF Calviac 85.39 340 *e*P **P 22 19 39.6 0.0**
comp=Z,15nm,0.9s,mb5.1
FRF La Foret Royal 85.47 336 *e*P **P 22 19 39.6 -0.4**
LFF La Frestale 85.69 341 *e*P **P 22 19 40.5 -0.6**
comp=Z,37nm,0.8s,mb5.3
LFF La Frestale 85.69 341 *e*P **P 22 19 40.5 -0.6**
LFF pmax pmax
comp=Z,18nm,0.8s,mb5.3
LFF La Frestale 85.69 341 *e*P **P 22 19 40.5 -0.6**
comp=Z,18nm,0.8s,mb5.4
PGF Pioggiola 85.71 334 *e*P **P 22 19 41.0 -0.2**
comp=Z,32nm,0.8s,mb5.3
PGF Pioggiola 85.71 334 *e*P **P 22 19 41.0 -0.2**
PGF pmax pmax
comp=Z,16nm,0.8s,mb5.3
PGF Pioggiola 85.71 334 *e*P **P 22 19 41.0 -0.2**
comp=Z,16nm,0.8s,mb5.3
LMR La Mourre 85.72 336 *e*P **P 22 19 40.9 -0.3**
comp=Z,78nm,0.9s,mb5.6
LMR La Mourre 85.72 336 *e*P **P 22 19 40.9 -0.3**
LMR pmax pmax
comp=Z,39nm,0.9s,mb5.6
LMR La Mourre 85.72 336 *e*P **P 22 19 40.9 -0.3**
comp=Z,39nm,0.9s,mb5.6
EIL Elat 85.73 310 *e*P **P 22 19 44.2 +2.9**
TDS Terranova Siba 85.84 328 P **P 22 19 42.1 +0.3**
TDS pmax pmax
comp=Z,14nm,1.5s,mb5.0
TDS Terranova Siba 85.84 328 P **P 22 19 42.1 +0.3**
comp=Z,14nm,1.5s,mb5.0
JSC Jenkinsville 85.96 42 *e*P **P 22 19 49.0 +6.6**
TIP Timpagrande 86.11 327 *e*P **P 22 19 43.0 -0.1**
MTLF Montolieu 86.84 339 *e*P **P 22 19 46.8 +0.1**
comp=Z,44nm,1.1s,mb5.3
MTLF Montolieu 86.84 339 *e*P **P 22 19 46.8 +0.1**
MTLF pmax pmax
comp=Z,22nm,1.1s,mb5.3
MTLF Montolieu 86.84 339 *e*P **P 22 19 46.8 +0.1**
comp=Z,22nm,1.1s,mb5.3
SOI Samo 87.34 327 P **P 22 19 48.1 -1.1**
EPF Esparros 87.58 340 *e*P **P 22 19 50.0 -0.3**
comp=Z,54nm,1.3s,mb5.3
EPF Esparros 87.58 340 *e*P **P 22 19 50.0 -0.3**
EPF pmax pmax
comp=Z,27nm,1.3s,mb5.3
EPF Esparros 87.58 340 *e*P **P 22 19 50.0 -0.3**
comp=Z,27nm,1.3s,mb5.3
SJPF Ste Jean 87.86 341 *e*P **P 22 19 51.7 0.0**
ETSF Etsaut 87.92 341 *e*P **P 22 19 51.6 -0.3**
comp=Z,19nm,0.7s,mb5.1
ETSF Etsaut 87.92 341 *e*P **P 22 19 51.6 -0.3**
ETSF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
ETSF Etsaut 87.92 341 *e*P **P 22 19 51.6 -0.3**
comp=Z,9.7nm,0.7s,mb5.1
ESDC Sonseca Array 91.74 342 P **P 22 20 08.6 -1.3**
comp=Z,3.8nm,0.8s,mb4.8,baz=8.9,slow=3.0,SNR=10
KEST Kesra 91.81 331 P **P 22 20 10.2 0.0**
comp=Z,4.8nm,0.8s,mb4.9,baz=170,slow=2.5,SNR=12
TORD Torodi Ar. Bea 115.23 329 PKP PKiKP 22 25 41.5 -2.0
comp=Z,0.6nm,0.5s,baz=23,slow=2.0,SNR=14
TORD PP PP 22 26 29.8 -14
comp=Z,0.9nm,0.9s,baz=8.4,slow=10.0,SNR=3.6
TORD PKKPbc PKKPbc 22 36 18.9 +0.7
comp=Z,0.8nm,0.9s,baz=212,slow=2.9,SNR=6.0
VNDA Vanda 123.87 178 PKP PKPdf 22 25 57.4 -2.8
comp=Z,0.4nm,0.7s,baz=333,slow=5.1,SNR=4.3
LIC Lamto 123.95 333 *e*PKIKP PKPdf 22 25 58.9 -1.4
comp=Z,6.4nm,0.7s
MAW Mawson 131.91 211 PKP PKPdf 22 26 13.3 -2.2
comp=Z,1.8nm,0.9s,baz=47,slow=13,SNR=3.5
MAW Mawson 131.91 211 PKIKP PKPdf 22 26 13.3 -2.2
MAW pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 134.59 62 PKP PKPdf 22 26 20.3 -0.2
comp=Z,1.1nm,0.7s,baz=354,slow=8.3,SNR=5.1
LPAZ La Paz 134.59 62 PKIKP PKPdf 22 26 20.3 -0.2
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
CFAA Coronel Fontan 145.19 79 PKP PKPdf 22 26 37.8 -2.0
comp=Z,1.1nm,0.8s,baz=284,slow=3.3,SNR=13
SNAA Sanae 152.27 196 PKPbc PKPbc 22 26 55.3 -2.6
comp=Z,1.4nm,0.9s,baz=195,slow=5.4,SNR=5.7
SNAA PKPab PKPab 22 27 03.9 -3.9
comp=Z,1.6nm,0.8s,baz=21,slow=1.0,SNR=5.9
SNAA Sanae 152.27 196 *e*PKPdf PKPbc 22 26 56.9 -1.0
SNAA *e* 22 27 02.5
SNAA *e* 22 27 09.8
SNAA Sanae 152.27 196 PKIKP PKPbc 22 26 55.3 -2.6
SNAA 22 27 03.9
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA pmax pmax
comp=Z,2.0nm,0.8s
VNA2 Neumayer--Watz 153.72 195 *e*PKPdf PKPbc 22 26 59.4 -1.7
VNA2 *e* 22 27 06.0
VNA2 *e* 22 27 13.4
VNA2 *e* 22 27 25.5
VNA3 Neumayer Olymp 153.81 193 *e*PKPdf PKPbc 22 27 00.4 -0.9
VNA3 *e* 22 27 07.6
VNA3 *e* 22 27 14.6
VNA3 *e* 22 27 25.6

SKHL ***15*** *22:10:33.2, 46.78N×155.29E, h56km±12km*
ISCJB ***15*** *22:10:35.8±0.3, 46.93N±0.04×154.94E±0.06, h10km, mb4.8/69, MS5.0/2, Error ellipse: s-maj=7.5km s-min=5.0km az=93.4*
IDC ***15*** *22:10:35.6±0.6, 46.97N×154.99E, h0km, mb4.5/20, mb1 4.7/22, mb1mx4.5/29, mbtmp4.6/22, ML3.9/2, Error ellipse: s-maj=19.7km s-min=13.6km az=90.0*
NEIC ***15*** *22:10:37.6±0.3, 46.97N×154.97E, h10km, mb4.9/34, Error ellipse: s-maj=8.0km s-min=5.5km az=129.0*
MOS ***15*** *22:10:38.2±1.3, 46.91N×154.84E, h27km, mb4.9/41, Error ellipse: s-maj=9.2km s-min=6.0km az=105.8*
BJI ***15*** *22:10:39.5, 47.06N×154.38E, h10km, mB5.5, mb4.7, Ms5.1, Msz5.1*
SZGRF ***15*** *22:10:45.8, 47.32N×154.33E, h33km, mb5.1, Kuril Islands, Russia*
ISC 15 22:10:37.5±0.3, 46.97N±0.04×154.98E±0.06, h10km, (h13km±2.9km:pP-P), n219, σ1.9 30/217, mb4.8/69, MS5.0/2, 17C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**11**	*e*S	**Sn**	**22 12 16.0**	**-4.5**
SKR				A		22 12 22.0	
	220nm,0.6s						
SKR				A		22 12 22.0	
	140nm,0.6s						
SKR				A		22 12 22.0	
	1μm,1.2s						
KUR	**Kuril'sk**	**5.25**	**253**	*e*P	**Pn**	**22 11 53.3**	**-2.6**
KUR				AMB	AMB	22 11 55.2	
	199nm,0.9s						
KUR				AMB	AMB	22 11 55.2	
	426nm,0.9s						
KUR				*e*S	**Sn**	**22 12 53.0**	**-3.5**
KUR				A		22 12 57.0	
	426nm,0.9s						
KUR	**Kuril'sk**	**5.25**	**253**	*e*PN	**Pn**	**22 11 53.8**	**-2.1**
KUR				pmax	pmax		
	comp=N,200nm,0.9s						
KUR				pmax	pmax		
	comp=Z,430nm,0.9s						
PET	**Petropavlovsk**	**6.50**	**20**	PN	**Pn**	**22 12 11.4**	**-1.8**
YSS	**Yuzh-Sakhalins**	**8.37**	**274**	*e*rx	rx	22 12 52.0	
YSS	**Yuzh-Sakhalins**	**8.37**	**274**	Pn	**Pn**	**22 12 38.3**	**-0.5**
UGL	**Uglegorsk**	**8.91**	**288**	*e*P	**Pn**	**22 12 50.5**	**+4.2**
UGL				AMB	AMB	22 12 52.0	
	comp=Z,300nm,1.1s						
TYV	**Tymovskoe**	**9.00**	**300**	*e*P	**Pn**	**22 12 50.0**	**+2.5**
TYV				AMB	AMB	22 12 52.2	
	comp=Z,39nm,0.8s						
TYV				AMB	AMB	22 12 52.2	
	comp=Z,60nm,0.8s						
ASAJ	**Asahikawa**	**9.15**	**256**	Pn	**Pn**	**22 12 49.6**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=90,slow=16,SNR=3.0						
ASAJ	**Asahikawa**	**9.15**	**256**	PN	**Pn**	**22 12 49.7**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.79**	**244**	*e*PN	**Pn**	**22 12 55.9**	**-2.4**
MA2	**Magadan**	**12.87**	**350**	*e*PN	**Pn**	**22 13 42.5**	**+2.0**
MA2				pmax	pmax		
	comp=Z,2μm,3.5s						
MA2	**Magadan**	**12.87**	**350**	Pn	**Pn**	**22 13 39.5**	**-1.0**
KLR	**Kul'dur**	**15.67**	**287**	*e*P	**Pn**	**22 14 20.1**	**+1.8**
SEY	**Seymchan**	**16.06**	**356** ⇑	*e*P	**Pn**	**22 14 23.9**	**+0.5**
MAO	**Matsushiro**	**16.25**	**236**	*e*P	**Pn**	**22 14 23.2**	**-2.6**
MAT	**Matsushiro**	**16.25**	**236**	P	**Pn**	**22 14 23.0**	**-2.8**
MJAR	**Matsushiro Arr**	**16.25**	**236**	Pn	**Pn**	**22 14 23.1**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=5.5						
MDJ	**Mudanjiang**	**17.84**	**272**	*e*P	**Pn**	**22 14 45.4**	**-0.4**
	comp=Z,18nm,1.0s						
YAK	**Yakutsk**	**20.85**	**326** ⇑	*e*P	**P**	**22 15 17.4**	**-1.9**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK	**Yakutsk**	**20.85**	**326**	*e*P	**P**	**22 15 17.9**	**-1.4**
CN2	**Changchun**	**20.93**	**272**	*e*P	**P**	**22 15 18.3**	**-1.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.3s						
BILL	**Bilibino**	**21.90**	**11**	*e*P	**P**	**22 15 30.2**	**-0.5**
BILL				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.5						
BILL	**Bilibino**	**21.90**	**11**	*e*P	**P**	**22 15 29.0**	**-1.8**
KSRS	**Korea Array**	**22.09**	**254**	P	**P**	**22 15 34.0**	**+1.3**
	comp=Z,11nm,1.0s,mb4.3,baz=55,slow=9.8,SNR=10						
HIA	**Hailar**	**23.51**	**289**	*e*P	**P**	**22 15 46.3**	**-1.5**
BOD	**Bodaibo**	**26.84**	**309**	*e*P	**P**	**22 16 16.3**	**-1.8**
BOD				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.3						
BJI	**Beijing**	**28.76**	**270**	*e*P	**P**	**22 16 36.3**	**+1.1**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
BJI	**Beijing**	**28.76**	**270**	*e*P	**P**	**22 16 36.3**	**+1.1**
	comp=Z,10.0nm,0.8s,mb4.6						
BJT	**Baijiatuao**	**28.77**	**270**	*e*P	**P**	**22 16 35.8**	**+0.4**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJT	**Baijiatuao**	**28.77**	**270**	*e*P	**P**	**22 16 35.8**	**+0.4**
	comp=Z,9.1nm,0.8s,mb4.6						
NJ2	**Nanjing**	**31.29**	**255**	*e*P	**P**	**22 16 55.4**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
HHC	**Hu-ho-hao-te**	**31.55**	**275**	*e*P	**P**	**22 17 00.5**	**+0.5**
HHC				AP	pP	22 17 04.9	+1.9
HHC				PP	PP	22 18 05.4	-5.8
HHC				PCP	PcP	22 19 56.0	+3.5
HHC				S	**S**	**22 22 04.4**	**-4.1**
HHC				XS	sS	22 22 11.3	-2.2
HHC				SCP	ScP	22 23 38.4	+2.7
HHC				SS	SS	22 23 47.9	-36
HHC				SCS	ScS	22 27 32.8	-0.7
HHC				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,418nm,10.5s						
HHC				LR	LR		
	comp=N,2μm,15.1s,MS5.2						
HHC				LR	LR		
	comp=E,3μm,13.8s,MS5.2						
HHC				LR	LR		
	comp=Z,3μm,14.2s,MS5.1						
ULN	**Ulaanbaatar**	**32.03**	**290**	*e*P	**P**	**22 17 03.4**	**-0.8**
ULN				*e*		22 17 09.6	
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**32.03**	**290**	*e*P	**P**	**22 17 03.4**	**-0.8**
	comp=Z,5.4nm,0.9s,mb4.4						
ULN				*e*		22 17 09.6	
SONM	**Songino Array**	**32.47**	**290**	P	**P**	**22 17 07.3**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.2,baz=60,slow=8.4,SNR=6.3						
SONM				PcP	PcP	22 19 54.8	-0.2
	comp=Z,1.2nm,1.1s,baz=23,slow=1.9,SNR=3.9						
SONM	**Songino Array**	**32.47**	**290**	P	**P**	**22 17 07.3**	**-0.7**
SONM						22 19 54.8	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TLY	**Talaya**	**33.22**	**297**	*e*P	**P**	**22 17 14.3**	**-0.2**
TLY				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
TLY	**Talaya**	**33.22**	**297**	*e*P	**P**	**22 17 14.2**	**-0.3**
	comp=Z,7.3nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**33.74**	**295**	*e*P	**P**	**22 17 18.1**	**-1.0**
ZAK				*e*		22 18 50.7	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
TATO	**Taipei**	**34.48**	**242**	*e*P	**P**	**22 17 25.4**	**-0.1**
	comp=Z,13nm,0.4s,mb5.2						
MCK	**McKinley**	**34.65**	**40**	*e*P	**P**	**22 17 26.2**	**-0.8**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MCK	**McKinley**	**34.65**	**40**	*e*P	**P**	**22 17 26.1**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.3						
YHNB	**Yeheng**	**34.78**	**242**	P	**P**	**22 17 28.2**	**+0.1**
NACB	**Ninganchiao**	**35.02**	**241**	P	**P**	**22 17 29.9**	**-0.3**
COLA	**College**	**35.16**	**39**	*e*P	**P**	**22 17 31.0**	**-0.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
COLA	**College**	**35.16**	**39**	*e*P	**P**	**22 17 30.9**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.7						
XAN	**Xi'an**	**36.81**	**266**	P	**P**	**22 17 46.3**	**+0.8**
XAN				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.7						
EGAK	**Eagle**	**38.03**	**39**	*e*P	**P**	**22 17 55.2**	**-0.6**
DAWY	**Dawson**	**38.85**	**40**	P	**P**	**22 18 01.5**	**-1.3**
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**22 18 07.6**	**+2.2**
LZH				AP	pP	22 18 11.1	+2.6
LZH				XP	sP	22 18 12.8	+3.1
LZH				PP	PP	22 19 36.0	+0.9
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,196nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.1s,MS5.0						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**22 18 07.6**	**+2.2**
	comp=Z,40nm,1.0s,mb5.1						
LZH				pP	pP	22 18 11.1	+2.6
LZH				sP	sP	22 18 12.8	+3.1
LZH				PP	PP	22 19 36.0	+0.9
LZH				LR	LR		
	comp=Z,2μm,15.1s,MS5.0						
GTA	**Gaotai**	**40.20**	**280**	*e*P	**P**	**22 18 17.6**	**+3.6**
GTA				AP	pP	22 18 25.1	+8.0
GTA				PCP	PcP	22 20 19.0	+1.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
INK	**Inuvik**	**40.77**	**33**	P	**P**	**22 18 18.2**	**-0.5**
	comp=Z,12nm,0.9s,mb4.5,baz=291,slow=7.1,SNR=9.7						
INK	**Inuvik**	**40.77**	**33**	P	**P**	**22 18 18.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,12nm,0.9s						
INK	**Inuvik**	**40.77**	**33**	*e*P	**P**	**22 18 19.0**	**+0.2**
	comp=Z,330nm,0.7s,mb6.1						
CD2	**Chengdu**	**42.17**	**266**	*e*P	**P**	**22 18 30.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
GYA	**Guiyang**	**43.02**	**259** ⇑	*i*P	**P**	**22 18 38.8**	**+1.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**43.53**	**306**	P	**P**	**22 18 39.8**	**-1.5**
	comp=Z,4.4nm,0.8s,mb4.2,baz=40,slow=7.6,SNR=6.9						
ZAL	**Zalesovo**	**43.53**	**306**	P	**P**	**22 18 39.8**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVS	**Novosibirsk**	**44.07**	**308**	*e*P	**P**	**22 18 44.5**	**-1.1**
NVS				pmax	pmax		
	comp=N,16nm,1.4s						
NVS				pmax	pmax		
	comp=E,28nm,1.4s						
NVS				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
KMI	**Kunming**	**46.54**	**261**	P	**P**	**22 19 06.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5						
KMI	**Kunming**	**46.54**	**261**	P	**P**	**22 19 06.7**	**+1.5**
KMI				pmax	pmax		

comp=Z,9.0nm,1.4s,mb4.5
KMI Kunming 46.54 261 P **P** **22 19 06.7 +1.5**
comp=Z,9.0nm,1.4s,mb4.5
MK31 Makanchi Array 47.98 298 *e*P **P** **22 19 16.0 -0.4**
MKAR Makanchi Array 47.98 298 P **P** **22 19 15.9 -0.5**
comp=Z,7.4nm,0.9s,mb4.7,baz=67,slow=7.3,SNR=9.2
MKAR PcP PcP
comp=Z,0.6nm,0.6s,baz=64,slow=2.3,SNR=2.2 22 20 43.3 -1.2
MKAR Makanchi Array 47.98 298 P **P** **22 19 15.9 -0.5**
MKAR 22 20 43.3
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 50.21 19 *e*P **P** **22 19 33.9 +0.4**
RES pmax pmax
comp=Z,70nm,0.5s,mb6.0
RES Resolute Bay 50.21 19 *e*P **P** **22 19 33.9 +0.4**
comp=Z,70nm,0.5s,mb5.9
CHKZ Chkalovo 51.27 311 *e*P **P** **22 19 40.3 -1.2**
CHKZ pmax pmax
comp=Z,19nm,0.5s,mb5.3
CHKZ Chkalovo 51.27 311 *e*P **P** **22 19 40.2 -1.2**
comp=Z,18nm,0.5s,mb5.3
LSA Lhasa 51.54 274 *e*P **P** **22 19 47.0 +3.5**
LSA Lhasa 51.54 274 *e*P **P** **22 19 46.6 +3.1**
LSA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LSA Lhasa 51.54 274 *e*P **P** **22 19 46.6 +3.1**
comp=Z,6.9nm,0.5s,mb4.8
BVAR Borovoye Array 51.70 310 P **P** **22 19 44.4 -0.3**
comp=Z,6.2nm,0.5s,mb4.8,baz=56,slow=6.4,SNR=10
BVAR Borovoye Array 51.70 310 P **P** **22 19 44.4 -0.3**
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 51.74 310 *e*P **P** **22 19 44.1 -0.9**
BRVK pmax pmax
comp=Z,12nm,0.7s,mb4.9
BRVK Borovoye 51.74 310 *e*P **P** **22 19 44.1 -0.9**
comp=Z,12nm,0.7s,mb4.9
ZRNK Zerenda 52.47 310 *e*P **P** **22 19 50.0 -0.4**
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZRNK Zerenda 52.47 310 *e*P **P** **22 19 50.0 -0.4**
comp=Z,7.9nm,0.6s,mb4.8
CHTO Chiang Mai 53.42 258 *e*P **P** **22 19 59.2 +1.8**
AAK Ala-Archa 54.88 297 *e*P **P** **22 20 07.2 -0.9**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 54.88 297 *e*P **P** **22 20 07.5 -0.6**
comp=Z,6.6nm,0.7s,mb4.8
ARU Arti 55.71 318⇑*i*P **P** **22 20 14.0 -0.1**
ARU *e* 22 22 16.7
ARU *e*S **S** **22 27 58.0 -2.5**
ARU pmax pmax
comp=Z,11nm,0.6s,mb5.1
ARU Arti 55.71 318 *e*P **P** **22 20 13.9 -0.2**
comp=Z,12nm,0.6s,mb5.1
JIRN Jiri 56.20 276 *e*P **P** **22 20 20.2 +2.6**
comp=Z,36nm,0.9s,mb5.4
GUN Gumba 56.26 276 *e*P **P** **22 20 21.5 +3.5**
PMG Port Moresby 56.56 189 P **P** **22 20 20.6 +0.5**
comp=Z,1.7nm,0.3s,mb4.5,baz=278,slow=15,SNR=4.2
PMG Port Moresby 56.56 189 P **P** **22 20 20.6 +0.5**
PMG pmax pmax
comp=Z,2.0nm,0.4s
PMG Port Moresby 56.56 189 *e*P **P** **22 20 20.6 +0.4**
comp=Z,4.1nm,0.5s,mb4.7
KKN Kakani 56.74 276 *e*P **P** **22 20 24.0 +2.5**
comp=Z,28nm,0.8s,mb5.3
PKI Pulchoki 56.79 276 *e*P **P** **22 20 24.6 +2.8**
DMN Daman 56.98 276 *e*P **P** **22 20 25.6 +2.5**
GKN Gorkha 57.04 277 *e*P **P** **22 20 25.4 +1.8**
KOLN Koldanda 57.90 278 *e*P **P** **22 20 31.5 +1.9**
comp=Z,43nm,1.2s,mb5.3
ARCES ARCESS Array B 58.06 341 P **P** **22 20 30.2 -0.5**
comp=Z,6.8nm,0.8s,mb4.7,baz=10,slow=8.6,SNR=6.2
ARCES ARCESS Array B 58.06 341 P **P** **22 20 30.3 -0.5**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
TMCR Tamitsa 58.73 333 *e*P **P** **22 20 35.6 +0.2**
TMCR pmax pmax
comp=Z,26nm,0.7s,mb5.4
KLP Kalpa 59.11 284 *e*P **P** **22 20 38.5 +0.4**
KLP AMb AMB 22 20 40.9
comp=Z,12nm,1.2s,mb4.8
AKTK Aktyubinsk 59.53 313 P **P** **22 20 40.5 -0.5**
AKTO Aktyubinsk 59.53 313 P **P** **22 20 40.5 -0.5**
comp=Z,4.5nm,0.7s,mb4.6,baz=72,slow=3.8,SNR=5.2
AKTO Aktyubinsk 59.53 313 P **P** **22 20 40.5 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AYAN Aya Nagar 61.80 282 *e*P **P** **22 20 56.8 +0.3**
AYAN AMb AMB 22 20 59.1
comp=Z,5.8nm,0.8s,mb4.8
SONA Sohna 61.98 282 *e*P **P** **22 20 58.0 +0.3**
AGRA Agra 62.07 281 *e*P **P** **22 20 56.9 -1.3**
KHET Khetri 62.95 283 *e*P **P** **22 21 03.0 -1.1**
KHET AMb AMB 22 21 05.6
comp=Z,6.9nm,0.2s,mb5.4
FINES FINESS Array B 64.38 335 P **P** **22 21 12.8 -0.8**
comp=Z,7.7nm,0.8s,mb4.8,baz=41,slow=8.2,SNR=7.5
FINES FINESS Array B 64.38 335 P **P** **22 21 12.8 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 64.38 335 P **P** **22 21 12.8 -0.8**
MOS Moscow 64.98 326 *e*P **P** **22 21 16.0 -1.5**
MOS pmax pmax
comp=Z,71nm,1.7s,mb5.4
SRU San Rafael 65.41 59 P **P** **22 21 20.5 +0.2**
OBN Obninsk 65.84 326 *e*P **P** **22 21 21.3 -1.8**
OBN *e* 22 21 51.7
OBN pmax pmax
comp=Z,21nm,1.4s,mb5.0
OBN Obninsk 65.84 326 *e*P **P** **22 21 22.9 -0.2**
comp=Z,26nm,1.0s,mb5.2
JASL Jaisalmer 66.97 285 *e*P **P** **22 21 30.3 0.0**
CTAO Charters Tower 67.21 189 *e*P **P** **22 21 31.6 -0.2**
NB2 NORSAR Subarra 68.42 342 P **P** **22 21 38.3 -1.2**
comp=Z,13nm,1.2s,mb4.8,baz=25,slow=6.2
NOA NORSAR Array B 68.42 342 P **P** **22 21 38.4 -1.1**
comp=Z,4.6nm,0.9s,mb4.5,baz=26,slow=6.3,SNR=5.6
NOA NORSAR Array B 68.42 342 P **P** **22 21 38.4 -1.1**
NOA pmax pmax
comp=Z,5.0nm,0.9s
WB2 Warramunga Arr 69.15 201 *e*P **P** **22 21 43.5 -0.5**
WRA Warramunga Arr 69.16 201 P **P** **22 21 43.3 -0.8**
comp=Z,5.7nm,0.9s,mb4.5,baz=19,slow=6.6,SNR=12
WRA Warramunga Arr 69.16 201 P **P** **22 21 43.3 -0.8**
WRA pmax pmax
comp=Z,6.0nm,0.9s
FITZ Fitzroy Crossi 69.96 210 P **P** **22 21 49.2 +0.2**
comp=Z,2.5nm,0.8s,mb4.2,baz=78,slow=6.1,SNR=5.1
KONO Kongsberg 70.03 342 *e*P **P** **22 21 46.8 -2.6**
KIV Kislovodsk 71.56 315 *e*P **P** **22 21 58.1 -0.6**
KIV pmax pmax
comp=Z,25nm,1.6s,mb4.9
KIV Kislovodsk 71.56 315 *e*P **P** **22 21 57.9 -0.8**
comp=Z,14nm,0.9s,mb4.9
AKASG Malin Array Be 72.07 327 P **P** **22 22 00.9 -0.9**
comp=Z,8.0nm,0.7s,mb4.8,baz=33,slow=6.1,SNR=12
AKASG Malin Array Be 72.07 327 P **P** **22 22 00.9 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 72.07 327 *e*P **P** **22 22 00.3 -1.5**
KIEV Kiev 72.08 327 *e*P **P** **22 22 00.2 -1.7**
KIEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KIEV Kiev 72.08 327 *e*P **P** **22 22 00.2 -1.7**
comp=Z,7.3nm,0.7s,mb4.7
AS31 Alice Springs 72.84 200 *e*P **P** **22 22 06.8 +0.4**
ASAR Alice Springs 72.84 200 P **P** **22 22 06.8 +0.4**
comp=Z,5.1nm,0.8s,mb4.5,baz=14,slow=6.1,SNR=16
ASAR Alice Springs 72.84 200 P **P** **22 22 06.9 +0.5**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
PALK Pallekele 74.00 263 P **P** **22 22 12.8 -0.4**
KIS Kishinev 75.25 325 *e*P **P** **22 22 21.0 +0.5**
KWP Kalwaria 75.28 330 *e*P **P** **22 22 21.5 +0.8**
STHS Stebnicka Huta 75.96 331 *e*P **P** **22 22 25.3 +0.7**
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS Stebnicka Huta 75.96 331 *e*P **P** **22 22 25.3 +0.7**
comp=Z,10nm,0.8s,mb4.8
KOLS Kolonicke sedl 76.03 330 *e*P **P** **22 22 24.4 -0.5**

BURAR Bucovina Array 76.10 328⇓*i*P **P** **22 22 25.9 +0.5**
BURAR Bucovina Array 76.10 328⇓P **P** **22 22 25.9 +0.5**
LTX Lajitas 76.26 62 *e*P **P** **22 22 26.2 -0.1**
LTX pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LTX Lajitas 76.26 62 *e*P **P** **22 22 26.2 0.0**
comp=Z,3.0nm,0.8s,mb4.3
TXAR Lajitas Array 76.26 62 P **P** **22 22 26.5 +0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=300,slow=4.0,SNR=5.8
TXAR Lajitas Array 76.26 62 P **P** **22 22 26.5 +0.2**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 76.26 62 P **P** **22 22 26.5 +0.2**
OKC Ostrava-Krasne 76.59 333 *e*P **P** **22 22 30.4 +2.3**
UPC Upice 76.65 334 *e*P **P** **22 22 31.6 +3.1**
DPC Dobruska-Polom 76.69 334 *e*P **P** **22 22 32.4 +3.7**
CLL Collm 76.78 337 *i* P **P** **22 22 29.2 0.0**
CLL *i* Pmax pP 22 22 32.1 -0.4
comp=Z,30nm,1.0s
CLL *e*pP pP 22 22 43.0 +10
MORC Moravsky Berou 76.83 333⇑*i*P **P** **22 22 32.9 +3.4**
MORC Moravsky Berou 76.83 333⇑P **P** **22 22 32.9 +3.4**
BRG Berggiesshubel 76.92 336 *e*P **P** **22 22 33.3 +3.3**
comp=Z,6.1nm,1.1s,mb4.5
BRG Berggiesshubel 76.92 336 *e*P **P** **22 22 33.3 +3.3**
BRG pmax pmax
comp=Z,15nm,1.1s,mb4.8
CFR Carcaliu 77.02 324⇓*i*P **P** **22 22 34.4 +3.9**
CFR Carcaliu 77.02 324⇓P **P** **22 22 34.4 +3.8**
KECS Kecovo 77.02 331 *e*P **P** **22 22 30.7 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 77.02 331 *e*P **P** **22 22 30.7 +0.2**
comp=Z,4.2nm,0.8s,mb4.4
PLOR Plostina 77.04 326⇑*i*P **P** **22 22 34.9 +4.2**
PVCC Panska Ves 77.05 335 *e*P **P** **22 22 34.4 +3.7**
TIRR Tirgusor 77.50 324⇓*i*P **P** **22 22 36.4 +3.1**
TIRR Tirgusor 77.50 324⇓P **P** **22 22 36.4 +3.1**
VRAC Vranov 77.54 334⇑*i*P **P** **22 22 36.9 +3.4**
VRAC Vranov 77.54 334⇑P **P** **22 22 36.9 +3.5**
PRU Pruhonice 77.54 335 *e*P **P** **22 22 35.4 +1.9**
PRU *e*pP pP 22 22 37.1 +0.3
VYHS Vyhne 77.55 332 *e*P **P** **22 22 33.8 +0.3**
MLR Muntele Rosu 77.61 326⇓*i*P **P** **22 22 35.3 +1.4**
MLR Muntele Rosu 77.61 326⇓P **P** **22 22 35.2 +1.4**
DRGR 77.70 329⇑*i*P **P** **22 22 34.8 +0.4**
DRGR 77.70 329⇑P **P** **22 22 34.8 +0.4**
MOX Moxa 77.76 337 *e*P **P** **22 22 35.6 +0.9**
comp=Z,13nm,1.2s,mb4.7
MOX Moxa 77.76 337 *e*P **P** **22 22 35.6 +0.9**
MOX pmax pmax
comp=Z,43nm,1.2s,mb5.2
NKC Novy Kostel 77.91 336 *e*P **P** **22 22 39.0 +3.5**
MALT Malatya 77.93 314⇓*i*P **P** **22 22 37.8 +2.1**
MALT Malatya 77.93 314⇓P **P** **22 22 37.8 +2.1**
VOIR 78.00 326⇑*i*P **P** **22 22 37.0 +1.0**
VOIR 78.00 326⇑P **P** **22 22 37.0 +1.0**
ZST Bratislava 78.36 333 *e*P **P** **22 22 38.4 +0.3**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZST Bratislava 78.36 333 *e*P **P** **22 22 38.4 +0.3**
comp=Z,7.6nm,0.9s,mb4.6
KHC Kasperske Hory 78.59 335 *e*P **P** **22 22 40.0 +0.7**
KHC *e*pP pP 22 22 43.2 +0.6
GRA1 Grafenberg Arr 78.73 337 *e*P **P** **22 22 40.7 +0.6**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.73 337 *e*P **P** **22 22 40.7 +0.6**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.73 337 *e*P **P** **22 22 40.7 +0.6**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GERES GERESS Array B 78.81 335 P **P** **22 22 40.3 -0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=35,slow=4.9,SNR=8.4
GERES GERESS Array B 78.81 335 P **P** **22 22 40.3 -0.2**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GZR Gura Zlata 78.88 328⇑*i*P **P** **22 22 44.0 +3.1**
GZR Gura Zlata 78.88 328⇑P **P** **22 22 44.0 +3.2**
BR131 Keskin Array S 79.10 318 P **P** **22 22 43.4 +1.3**
comp=Z,4.6nm,1.0s,mb4.4
BRTR Keskin Array B 79.10 318 P **P** **22 22 42.6 +0.5**
comp=Z,3.4nm,0.8s,mb4.3,baz=60,slow=5.2,SNR=5.9
BRTR Keskin Array B 79.10 318 P **P** **22 22 42.7 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BZS Buzias 79.10 329⇓*i*P **P** **22 22 45.0 +2.9**
BZS Buzias 79.10 329⇓P **P** **22 22 45.0 +2.9**
STKA Stephens Creek 79.41 192 P **P** **22 22 43.8 0.0**
comp=Z,4.0nm,0.9s,mb4.4,baz=11,slow=7.2,SNR=4.5
STKA Stephens Creek 79.41 192 P **P** **22 22 43.3 -0.5**
PKSM Moragy 79.61 331⇑*i*P **P** **22 22 47.4 +2.5**
PKSM Moragy 79.61 331⇑P **P** **22 22 47.4 +2.5**
CDF Champ du Feu 80.92 339 *e*P **P** **22 22 50.8 -1.2**
comp=Z,73nm,1.6s,mb5.1
CDF Champ du Feu 80.92 339 *e*P **P** **22 22 50.8 -1.2**
CDF pmax pmax
comp=Z,37nm,1.6s,mb5.1
CDF Champ du Feu 80.92 339 *e*P **P** **22 22 50.8 -1.2**
comp=Z,37nm,1.6s,mb5.1
VTS Vitosha 81.11 326⇓*i*P **P** **22 22 56.9 +3.9**
GRR Gorron 82.72 344 *e*P **P** **22 23 00.8 -0.6**
comp=Z,170nm,1.6s,mb5.5
GRR Gorron 82.72 344 *e*P **P** **22 23 00.8 -0.6**
GRR pmax pmax
comp=Z,85nm,1.6s,mb5.5
GRR Gorron 82.72 344 *e*P **P** **22 23 00.8 -0.6**
comp=Z,85nm,1.6s,mb5.5
SMF Signal de Mont 83.40 340 *e*P **P** **22 23 04.0 -1.0**
comp=Z,106nm,1.5s,mb5.3
SMF Signal de Mont 83.40 340 *e*P **P** **22 23 04.0 -1.0**
SMF pmax pmax
comp=Z,53nm,1.5s,mb5.3
SMF Signal de Mont 83.40 340 *e*P **P** **22 23 04.0 -1.0**
comp=Z,53nm,1.5s,mb5.3
LPG La Plagne 83.77 338 *e*P **P** **22 23 06.9 0.0**
comp=Z,31nm,0.9s,mb5.2
LPG La Plagne 83.77 338 *e*P **P** **22 23 06.9 0.0**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.2
LPG La Plagne 83.77 338 *e*P **P** **22 23 06.9 0.0**
comp=Z,16nm,0.9s,mb5.1
CAF Calviac 85.43 341 *e*P **P** **22 23 14.4 -0.8**
comp=Z,28nm,1.1s,mb5.0
CAF Calviac 85.43 341 *e*P **P** **22 23 14.4 -0.8**
CAF pmax pmax
comp=Z,14nm,1.1s,mb5.0
CAF Calviac 85.43 341 *e*P **P** **22 23 14.4 -0.8**
comp=Z,14nm,1.1s,mb5.0
NWAO Narrogin (SRO) 86.49 211 P **P** **22 23 19.2 -1.3**
comp=Z,5.0nm,0.8s,mb4.8,baz=80,slow=6.1,SNR=2.9
NWAO Narrogin (SRO) 86.49 211 P **P** **22 23 19.2 -1.3**
NWAO pmax pmax
comp=Z,5.0nm,0.8s
NWAO Narrogin (SRO) 86.49 211 *e*P **P** **22 23 19.7 -0.8**
CFAA Coronel Fontan 143.69 81 PKP PKPdf 22 30 09.4 -3.2
comp=Z,0.5nm,0.7s,baz=300,slow=5.4,SNR=5.3
SNAA Sanae 153.12 195 PKPbc PKPbc 22 30 34.0 -1.3
comp=Z,1.0nm,1.1s,baz=261,slow=5.1,SNR=2.8
SNAA PKPab PKPab 22 30 42.8 -4.0
comp=Z,1.9nm,0.9s,baz=135,slow=0.8,SNR=6.4
SNAA Sanae 153.12 195 *e*PKPdf PKPdf 22 30 23.5 -4.5
SNAA *e* 22 30 44.4
VNA2 Neumayer--Watz 154.53 193 *e*PKPdf PKPdf 22 30 25.6 -4.4
VNA2 *e* 22 30 37.6
VNA2 *e* 22 30 50.7

IDC ***15*** *22:13:29.4±1.1, 46.41N×155.26E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=31.5km s-min=28.2km az=166.0*
ISCJB ***15*** *22:13:32.0±6.6, 46.4N±02×154.9E±02, h25km±47km, mb3.9/6, Error ellipse: s-maj=34.1km s-min=16.6km az=146.8*
MOS ***15*** *22:13:34.0±1.5, 46.37N×154.89E, h44km, mb4.2/5, Error ellipse: s-maj=44.8km s-min=39.9km az=11.7*
ISC 15 22:13:33.3±6.7, 46.4N±02×155.0E±02, h22km±48km, n12, σ0.7 7/13, mb3.9/6, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.10**	**259**	⇓*i*	PN	**22 14 48.0**	**-0.3**
KUR				*i*	S	**22 15 45.7**	**-0.8**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						

KUR smax
comp=N,170nm,0.9s
KUR smax
comp=E,80nm,0.9s
KSRS Korea Array 21.93 256 P **P** **22 18 25.7 +0.6**
comp=E,2.2nm,0.9s,mb3.6,baz=54,slow=10,SNR=2.8
MKAR Makanchi Array 48.24 298 P **P** **22 22 12.9 +0.5**
comp=E,0.5nm,0.7s,mb3.7,baz=70,slow=8.7,SNR=2.4
MKAR Makanchi Array 48.24 298 P **P** **22 22 12.9 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 52.07 310 P **P** **22 22 42.2 +0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=77,slow=7.6,SNR=3.8
BVAR Borovoye Array 52.07 310 P **P** **22 22 42.2 +0.8**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.91 336 P **P** **22 24 10.8 -0.1**
comp=Z,1.5nm,0.6s,mb4.2,baz=40,slow=8.5,SNR=5.8
FINES FINESS Array B 64.91 336 P **P** **22 24 10.8 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 72.29 200 P **P** **22 24 57.7 +0.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=18,slow=5.4,SNR=7.5
ASAR Alice Springs 72.29 200 P **P** **22 24 57.7 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 76.55 62 P **P** **22 25 20.2 -1.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=303,slow=4.0,SNR=8.1
TXAR Lajitas Array 76.55 62 P **P** **22 25 20.2 -1.5**
TXAR pmax pmax
comp=Z,2.0nm,0.7s

IDC ***15*** *22:16:48.2±0.8, 47.00N×154.91E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, ML3.6/2, Error ellipse: s-maj=21.7km s-min=17.7km az=121.0*
ISCJB ***15*** *22:16:49.2±0.4, 46.94N±0.06×154.79E±0.09, h10km, mb4.4/35, Error ellipse: s-maj=10.9km s-min=6.8km az=86.4*
NEIC ***15*** *22:16:51.1±0.6, 46.93N×154.83E, h10km, mb4.7/20, Error ellipse: s-maj=15.7km s-min=9.8km az=129.0*
BJI ***15*** *22:16:51.5, 47.36N×154.61E, h10km, mB5.0, mb4.3*
MOS ***15*** *22:16:53.2±2.4, 46.91N×154.70E, h33km, mb4.6/25, Error ellipse: s-maj=11.2km s-min=7.1km az=97.9*
ISC 15 22:16:51.1±0.4, 46.96N±0.06×154.80E±0.09, h10km, n116, σ1.9 60/116, mb4.4/35, 2C-15D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.12**	**253**	*e*P	N	**22 18 06.0**	**-1.8**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
PET	**Petropavlovsk**	**6.56**	**21**	*e*PN	**Pn**	**22 18 26.0**	**-1.6**
ASAJ	**Asahikawa**	**9.02**	**256**	Pn	**Pn**	**22 19 01.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=97,slow=14,SNR=2.6						
ASAJ	**Asahikawa**	**9.02**	**256**	PN	**Pn**	**22 19 01.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.14**	**236**	*e*P	**Pn**	**22 20 37.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAJO	**Matsushiro**	**16.14**	**236**	*e*P	**Pn**	**22 20 37.0**	**-0.9**
	comp=Z,10nm,0.7s						
MJAR	**Matsushiro Arr**	**16.14**	**236**	Pn	**Pn**	**22 20 36.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=5.6						
MDJ	**Mudanjiang**	**17.72**	**272**	*e*Pn	**Pn**	**22 20 59.0**	**+1.2**
	comp=Z,3.3nm,0.4s						
YAK	**Yakutsk**	**20.79**	**326**	*e*P	**P**	**22 21 32.6**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.4s						
YAK	**Yakutsk**	**20.79**	**326**	*e*P	**P**	**22 21 32.6**	**+0.3**
	comp=Z,12nm,0.4s						
BILL	**Bilibino**	**21.95**	**12**	*e*P	**P**	**22 21 42.9**	**-1.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
BILL	**Bilibino**	**21.95**	**12**	*e*P	**P**	**22 21 43.7**	**-1.1**
	comp=Z,11nm,1.1s,mb4.2						
KSRS	**Korea Array**	**21.96**	**254**	P	**P**	**22 21 46.2**	**+1.3**
	comp=Z,1.9nm,0.7s,mb3.7,baz=59,slow=10,SNR=4.6						
INCN	**Inchon**	**22.80**	**256**	*e*P	**P**	**22 21 54.1**	**+0.3**
	comp=Z,10nm,0.3s,mb4.7						
SONM	**Songino Array**	**32.35**	**290**	P	**P**	**22 23 19.1**	**-1.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=56,slow=9.9,SNR=4.0						
SONM	**Songino Array**	**32.35**	**290**	P	**P**	**22 23 19.1**	**-1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	**Zakamensk**	**33.64**	**295**	*e*P	**P**	**22 23 31.1**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
MCK	**McKinley**	**34.74**	**40**	P	**P**	**22 23 41.6**	**+0.2**
NACB	**Ninganchiao**	**34.90**	**241**	P	**P**	**22 23 43.1**	**+0.4**
COLA	**College**	**35.26**	**39**	*e*P	**P**	**22 23 43.9**	**-1.9**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
COLA	**College**	**35.26**	**39**	*e*P	**P**	**22 23 43.9**	**-1.9**
	comp=Z,3.5nm,0.5s,mb4.5						
ENH	**Enshi**	**38.54**	**261**	P	**P**	**22 24 14.9**	**+1.2**
LZH	**Lanzhou**	**39.04**	**273**	*e*P	**P**	**22 24 19.9**	**+2.0**
LZH				AP	pP	22 24 24.8	+3.8
LZH				XP	sP	22 24 27.8	+5.5
LZH				PP	PP	22 25 50.4	+3.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,110nm,5.0s						
LZH	**Lanzhou**	**39.04**	**273**	*e*P	**P**	**22 24 19.9**	**+2.0**
LZH				*SP	sP	22 24 27.8	+5.5
LZH						22 25 50.4	
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
LZH	**Lanzhou**	**39.04**	**273**	*e*P	**P**	**22 24 19.9**	**+2.0**
	comp=Z,20nm,1.0s,mb4.8						
LZH				pP	pP	22 24 24.8	+3.8
LZH				sP	sP	22 24 27.8	+5.5
LZH				PP	PP	22 25 50.4	+3.1
INK	**Inuvik**	**40.86**	**33**	P	**P**	**22 24 31.4**	**-1.7**
	comp=Z,4.5nm,0.7s,mb4.2,baz=299,slow=7.2,SNR=14						
INK	**Inuvik**	**40.86**	**33**	P	**P**	**22 24 31.4**	**-1.6**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAL	**Zalesovo**	**43.44**	**306**	P	**P**	**22 24 52.1**	**-2.0**
	comp=Z,3.6nm,0.5s,mb4.3,baz=47,slow=7.9,SNR=10						
ZAL	**Zalesovo**	**43.44**	**306**	P	**P**	**22 24 52.1**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS	**Novosibirsk**	**43.98**	**308**	*e*P	**P**	**22 24 56.4**	**-2.1**
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MK31	**Makanchi Array**	**47.87**	**298**	*e*P	**P**	**22 25 28.7**	**-0.5**
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**22 25 28.1**	**-1.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=73,slow=8.9,SNR=7.8						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**22 25 28.1**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RES	**Resolute Bay**	**50.27**	**19**	P	**P**	**22 25 48.3**	**+0.8**
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**22 25 53.0**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**22 25 53.0**	**-1.4**
	comp=Z,8.3nm,0.7s,mb4.8						
LSA	**Lhasa**	**51.42**	**274**	*e*P	**P**	**22 25 59.2**	**+3.0**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**51.42**	**274**	*e*P	**P**	**22 25 59.2**	**+3.0**
	comp=Z,4.1nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**22 25 56.2**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=55,slow=7.8,SNR=8.8						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**22 25 56.2**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.66**	**310**	*e*P	**P**	**22 25 57.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.66**	**310**	*e*P	**P**	**22 25 57.0**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.38**	**310**	*e*P	**P**	**22 26 02.3**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**52.38**	**310**	*e*P	**P**	**22 26 02.3**	**-1.1**
	comp=Z,3.9nm,0.8s,mb4.4						

ARU	**Arti**	**55.64**	**318**	*e*P		**P**	**22 26 26.5**	**-0.7**
ARU				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb5.0							
ARU	**Arti**	**55.64**	**318**	*e*P		**P**	**22 26 26.5**	**-0.6**
	comp=Z,8.9nm,0.6s,mb5.0							
PMG	**Port Moresby**	**56.52**	**189**	*e*P		**P**	**22 26 34.3**	**+0.8**
ARCES	**ARCESS Array B**	**58.03**	**341**	P		**P**	**22 26 41.2**	**-3.0**
	comp=Z,3.1nm,0.9s,mb4.3,baz=122,slow=15,SNR=6.9							
ARCES	**ARCESS Array B**	**58.03**	**341**	P		**P**	**22 26 41.2**	**-3.0**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AKTK	**Aktyubinsk**	**59.45**	**312**	P		**P**	**22 26 52.6**	**-1.4**
AKTO	**Aktyubinsk**	**59.45**	**312**	P		**P**	**22 26 52.6**	**-1.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=46,slow=6.4,SNR=5.0							
AKTO	**Aktyubinsk**	**59.45**	**312**	P		**P**	**22 26 52.6**	**-1.4**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**22 27 25.4**	**-1.5**
	comp=Z,1.9nm,0.5s,mb4.4,baz=39,slow=7.4,SNR=14							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**22 27 25.4**	**-1.5**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
OBN	**Obninsk**	**65.79**	**326**	P		**P**	**22 27 35.6**	**-0.7**
CTAO	**Charters Tower**	**67.17**	**189**	*e*P		**P**	**22 27 45.2**	**0.0**
CTAO				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
CTAO	**Charters Tower**	**67.17**	**189**	*e*P		**P**	**22 27 45.2**	**0.0**
	comp=Z,7.0nm,0.9s,mb4.7							
NB2	**NORSAR Subarra**	**68.40**	**342**	P		**P**	**22 27 51.6**	**-1.3**
	comp=Z,8.0nm,1.2s,mb4.6,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**68.40**	**342**	P		**P**	**22 27 51.6**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=33,slow=4.7,SNR=3.1							
NOA	**NORSAR Array B**	**68.40**	**342**	P		**P**	**22 27 51.6**	**-1.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
WB2	**Warramunga Arr**	**69.09**	**201**	P		**P**	**22 27 56.5**	**-0.7**
WRA	**Warramunga Arr**	**69.10**	**201**	P		**P**	**22 27 55.9**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=17,slow=6.1,SNR=3.9							
WRA	**Warramunga Arr**	**69.10**	**201**	P		**P**	**22 27 55.9**	**-1.4**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**72.01**	**327**	P		**P**	**22 28 13.4**	**-1.6**
	comp=Z,3.2nm,0.5s,mb4.5,baz=33,slow=6.2,SNR=11							
AKASG	**Malin Array Be**	**72.01**	**327**	P		**P**	**22 28 13.5**	**-1.6**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**72.78**	**200**	P		**P**	**22 28 19.3**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=10,slow=5.8,SNR=8.7							
ASAR	**Alice Springs**	**72.78**	**200**	P		**P**	**22 28 19.3**	**-0.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
STHS	**Stebnicka Huta**	**75.91**	**331**	*e*P		**P**	**22 28 40.3**	**+2.4**
STHS				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
STHS	**Stebnicka Huta**	**75.91**	**331**	*e*P		**P**	**22 28 40.3**	**+2.4**
	comp=Z,4.4nm,0.8s,mb4.4							
BURAR	**Bucovina Array**	**76.05**	**327**	⇓*i*P		**P**	**22 28 40.3**	**+1.6**
BURAR	**Bucovina Array**	**76.05**	**327**	⇓P		**P**	**22 28 40.3**	**+1.6**
TXAR	**Lajitas Array**	**76.38**	**62**	P		**P**	**22 28 38.5**	**-2.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=298,slow=4.3,SNR=6.5							
TXAR	**Lajitas Array**	**76.38**	**62**	P		**P**	**22 28 38.5**	**-2.1**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**76.38**	**62**	P		**P**	**22 28 38.5**	**-2.1**
DPC	**Dobruska-Polom**	**76.65**	**334**	*e*P		**P**	**22 28 45.5**	**+3.4**
CLL	**Collm**	**76.75**	**336**	*e*P		**P**	**22 28 44.0**	**+1.4**
CLL				pmax		pmax		
	comp=Z,99nm,1.0s							
CLL	**Collm**	**76.75**	**336**	*e*P		**P**	**22 28 44.0**	**+1.4**
	comp=Z,13nm,1.0s,mb4.8							
MORC	**Moravsky Berou**	**76.79**	**333**	⇓*i*P		**P**	**22 28 45.2**	**+2.3**
MORC	**Moravsky Berou**	**76.79**	**333**	⇓P		**P**	**22 28 45.2**	**+2.3**
PVCC	**Panska Ves**	**77.01**	**335**	*e*P		**P**	**22 28 48.0**	**+3.9**
TIRR	**Tirgusor**	**77.44**	**324**	⇑*i*P		**P**	**22 28 49.6**	**+3.1**
TIRR	**Tirgusor**	**77.44**	**324**	⇑P		**P**	**22 28 49.6**	**+3.1**
VRAC	**Vranov**	**77.49**	**333**	⇓*i*P		**P**	**22 28 51.2**	**+4.4**
PRU	**Pruhonice**	**77.50**	**335**	*e*P		**P**	**22 28 49.3**	**+2.4**
VYHS	**Vyhne**	**77.50**	**332**	*e*P		**P**	**22 28 49.0**	**+2.1**
MLR	**Muntele Rosu**	**77.55**	**326**	⇓*i*P		**P**	**22 28 50.0**	**+2.8**
MLR	**Muntele Rosu**	**77.55**	**326**	⇓P		**P**	**22 28 50.0**	**+2.9**
VOIR		**77.94**	**326**	⇓*i*P		**P**	**22 28 52.0**	**+2.7**
VOIR		**77.94**	**326**	⇓P		**P**	**22 28 52.0**	**+2.7**
KHC	**Kasperske Hory**	**78.55**	**335**	*e*P		**P**	**22 28 52.5**	**-0.2**
GERES	**GERESS Array B**	**78.77**	**335**	P		**P**	**22 28 52.6**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=40,slow=5.5,SNR=7.6							
GERES	**GERESS Array B**	**78.77**	**335**	P		**P**	**22 28 52.6**	**-1.3**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GZR	**Gura Zlata**	**78.82**	**328**	⇓*i*P		**P**	**22 28 55.7**	**+1.5**
GZR	**Gura Zlata**	**78.82**	**328**	⇓P		**P**	**22 28 55.7**	**+1.5**
BRTR	**Keskin Array B**	**79.03**	**318**	P		**P**	**22 28 54.5**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=65,slow=6.8,SNR=4.1							
BRTR	**Keskin Array B**	**79.03**	**318**	P		**P**	**22 28 54.5**	**-0.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BZS	**Buzias**	**79.05**	**329**	⇓*i*P		**P**	**22 28 57.5**	**+2.0**
BZS	**Buzias**	**79.05**	**329**	⇓P		**P**	**22 28 57.5**	**+2.0**
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**22 29 08.2**	**+2.8**
	comp=Z,6.8nm,0.8s,mb4.3							
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**22 29 08.2**	**+2.8**
CDF				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**22 29 08.2**	**+2.8**
	comp=Z,3.4nm,0.8s,mb4.3							
VTS	**Vitosha**	**81.06**	**326**	⇓*i*P		**P**	**22 29 09.1**	**+2.8**
VTS	**Vitosha**	**81.06**	**326**	⇓P		**P**	**22 29 09.1**	**+2.8**
GRR	**Gorron**	**82.70**	**344**	*e*P		**P**	**22 29 17.9**	**+3.0**
	comp=Z,54nm,1.2s,mb5.2							
GRR	**Gorron**	**82.70**	**344**	*e*P		**P**	**22 29 17.9**	**+3.0**
GRR				pmax		pmax		
	comp=Z,27nm,1.2s,mb5.2							
GRR	**Gorron**	**82.70**	**344**	*e*P		**P**	**22 29 17.9**	**+3.0**
	comp=Z,27nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**83.37**	**340**	*e*P		**P**	**22 29 21.2**	**+2.8**
	comp=Z,40nm,1.3s,mb5.0							
SMF	**Signal de Mont**	**83.37**	**340**	*e*P		**P**	**22 29 21.2**	**+2.8**
SMF				pmax		pmax		
	comp=Z,20nm,1.3s,mb5.0							
SMF	**Signal de Mont**	**83.37**	**340**	*e*P		**P**	**22 29 21.2**	**+2.8**
	comp=Z,20nm,1.3s,mb5.0							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**22 29 23.9**	**+3.6**
	comp=Z,10.0nm,0.6s,mb4.8							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**22 29 23.9**	**+3.6**
LPG				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.8							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**22 29 23.9**	**+3.6**
	comp=Z,5.0nm,0.6s,mb4.8							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**22 29 31.6**	**+2.9**
	comp=Z,8.9nm,0.8s,mb4.7							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**22 29 31.6**	**+2.9**
CAF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.6							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**22 29 31.6**	**+2.9**
	comp=Z,4.4nm,0.8s,mb4.6							
TGUH	**Tegucigalpa,Un**	**97.79**	**60**	P		**P**	**22 30 27.0**	**+0.5**

*ISCJB **15** 22:18:40.6±0.4, 4650N×007×15533E×009, h10km, mb4.3/32, Error ellipse: s-maj=11.0km s-min=6.8km az=106.1*
*IDC **15** 22:18:40.7±0.7, 4653N×15536E, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML3.6/2, Error ellipse: s-maj=21.0km s-min=16.2km az=154.0*
*NEIC **15** 22:18:42.5±0.4, 4651N×15532E, h10km, mb4.7/15, Error ellipse: s-maj=9.7km s-min=6.2km az=140.0*
*MOS **15** 22:18:43.8±1.4, 4652N×15525E, h31km, mb4.5/22, Error ellipse: s-maj=11.7km s-min=8.6km az=92.6*
*BJI **15** 22:18:44.5, 4736N×15527E, h12km, mb4.1*
ISC 15 22:18:42.4±0.4, 4653N±007×15535E±009, h10km, n84, σ0.9 97/84, mb4.3/32, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.84**	**17**	*e*PN		**Pn**	**Pn**	**22 20 21.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.66**	**277**	*e*PN		**Pn**	**Pn**	**22 20 47.7**	**0.0**
ASAJ	**Asahikawa**	**9.30**	**260**	Pn		**Pn**	**Pn**	**22 20 56.4**	**-0.2**
	0.8nm,0.3s,baz=140,slow=13,SNR=4.1								
ASAJ	**Asahikawa**	**9.30**	**260**	PN		**Pn**	**Pn**	**22 20 56.4**	**-0.1**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**16.22**	**238**	P		**Pn**	**Pn**	**22 22 29.8**	**-0.6**
MAJO				pmax		pmax			
	comp=Z,4.0nm,0.3s								
MAJO	**Matsushiro**	**16.22**	**238**	Pn		**Pn**	**Pn**	**22 22 29.8**	**-0.6**
	comp=Z,3.7nm,0.3s								
MJAR	**Matsushiro Arr**	**16.22**	**238**	Pn		**Pn**	**Pn**	**22 22 28.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=38,slow=22,SNR=2.5								
MDJ	**Mudanjiang**	**18.11**	**273**	P		**Pn**	**Pn**	**22 22 53.6**	**-0.4**
YAK	**Yakutsk**	**21.35**	**326**	*e*P		**P**	**P**	**22 23 28.1**	**-1.6**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.5s,mb4.2								
YAK	**Yakutsk**	**21.35**	**326**	*e*P		**P**	**P**	**22 23 28.1**	**-1.6**
	comp=Z,7.1nm,0.5s,mb4.2								
KSRS	**Korea Array**	**22.22**	**256**	P		**P**	**P**	**22 23 40.3**	**+1.3**
	comp=Z,2.3nm,0.8s,mb3.7,baz=50,slow=10,SNR=5.5								
BILL	**Bilibino**	**22.29**	**11**	*e*P		**P**	**P**	**22 23 35.2**	**-4.6**
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
HIA	**Hailar**	**23.89**	**290**	P		**P**	**P**	**22 23 55.7**	**-0.5**
SONM	**Songino Array**	**32.85**	**291**	P		**P**	**P**	**22 25 14.6**	**-1.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=75,slow=7.0,SNR=4.5								
SONM	**Songino Array**	**32.85**	**291**	P		**P**	**P**	**22 25 14.6**	**-1.7**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.9s								
GUMO	**Guam**	**34.00**	**198**	P		**P**	**P**	**22 25 26.1**	**-0.2**
TATO	**Taipei**	**34.50**	**243**	*e*P		**P**	**P**	**22 25 30.2**	**-0.4**
	comp=Z,10nm,0.4s,mb5.1								
PMR	**Palmer**	**34.69**	**44**	*e*P		**P**	**P**	**22 25 31.2**	**-1.0**
PMR				pmax		pmax			
	comp=Z,4.0nm,0.3s,mb4.8								
PMR	**Palmer**	**34.69**	**44**	*e*P		**P**	**P**	**22 25 31.2**	**-1.0**
	comp=Z,3.5nm,0.3s,mb4.8								
MCK	**McKinley**	**34.83**	**40**	*e*P		**P**	**P**	**22 25 34.6**	**+1.2**
NACB	**Ninganchiao**	**35.03**	**242**	P		**P**	**P**	**22 25 35.9**	**+0.7**
COLA	**College**	**35.36**	**38**	P		**P**	**P**	**22 25 37.1**	**-0.9**
GTA	**Gaotai**	**40.52**	**281**	*e*P		**P**	**P**	**22 26 24.5**	**+2.9**
GTA				AP		pP		22 26 31.3	+6.6
GTA				XP		sP		22 26 36.3	+10
GTA				AMB		AMB			
	comp=Z,3.0nm,1.2s,mb3.8								
INK	**Inuvik**	**41.01**	**32**	P		**P**	**P**	**22 26 25.6**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.5,baz=283,slow=3.7,SNR=3.6								
INK	**Inuvik**	**41.01**	**32**	P		**P**	**P**	**22 26 25.6**	**0.0**
INK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**48.41**	**298**	P		**P**	**P**	**22 27 24.6**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=78,slow=7.5,SNR=7.7								
MKAR	**Makanchi Array**	**48.41**	**298**	P		**P**	**P**	**22 27 24.6**	**0.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CHKZ	**Chkalovo**	**51.74**	**311**	*e*P		**P**	**P**	**22 27 49.8**	**-0.1**
CHKZ				*e*				22 27 58.9	
CHKZ				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
CHKZ	**Chkalovo**	**51.74**	**311**	*e*P		**P**	**P**	**22 27 49.8**	**-0.1**
	comp=Z,5.7nm,0.5s,mb4.8								
CHKZ				*e*				22 27 58.9	
LSA	**Lhasa**	**51.82**	**275**	*e*P		**P**	**P**	**22 27 52.5**	**+2.0**
LSA				pmax		pmax			
	comp=Z,2.0nm,0.3s,mb4.5								
LSA	**Lhasa**	**51.82**	**275**	*e*P		**P**	**P**	**22 27 52.5**	**+1.9**
	comp=Z,1.7nm,0.3s,mb4.5								
BVAR	**Borovoye Array**	**52.18**	**310**	P		**P**	**P**	**22 27 53.6**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.4,baz=63,slow=8.3,SNR=6.9								
BVAR	**Borovoye Array**	**52.18**	**310**	P		**P**	**P**	**22 27 53.6**	**+0.4**
BVAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BRVK	**Borovoye**	**52.22**	**310**	P		**P**	**P**	**22 27 54.1**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
BRVK	**Borovoye**	**52.22**	**310**	P		**P**	**P**	**22 27 54.1**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.6								
ZRNK	**Zerenda**	**52.94**	**311**	*e*P		**P**	**P**	**22 27 59.6**	**+0.7**
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.5								
ZRNK	**Zerenda**	**52.94**	**311**	*e*P		**P**	**P**	**22 27 59.6**	**+0.7**
	comp=Z,3.2nm,0.5s,mb4.5								
CM31	**Chiang Mai Arr**	**53.82**	**258**	*e*P		**P**	**P**	**22 28 04.9**	**-0.4**
AAK	**Ala-Archa**	**55.31**	**298**	*e*P		**P**	**P**	**22 28 16.3**	**+0.2**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
AAK	**Ala-Archa**	**55.31**	**298**	*e*P		**P**	**P**	**22 28 16.3**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.3								
ARU	**Arti**	**56.21**	**318**	*e*P		**P**	**P**	**22 28 22.7**	**+0.1**
ARU	**Arti**	**56.21**	**318**	*e*P		**P**	**P**	**22 28 22.2**	**-0.3**
	comp=Z,6.9nm,0.6s,mb4.9								
ARU				*e*				22 28 30.7	
YBH	**Yreka Blue Hor**	**56.48**	**63**	P		**P**	**P**	**22 28 25.2**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=225,slow=7.6,SNR=3.5								
YBH	**Yreka Blue Hor**	**56.48**	**63**	P		**P**	**P**	**22 28 25.2**	**+0.7**
YBH				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**58.56**	**342**	P		**P**	**P**	**22 28 39.8**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.2,baz=29,slow=8.3,SNR=3.6								
ARCES	**ARCESS Array B**	**58.56**	**342**	P		**P**	**P**	**22 28 39.8**	**+0.6**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
AKTK	**Aktyubinsk**	**60.01**	**313**	P		**P**	**P**	**22 28 50.0**	**+0.8**
AKTO	**Aktyubinsk**	**60.01**	**313**	P		**P**	**P**	**22 28 50.0**	**+0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=110,slow=7.2,SNR=4.3								
AKTO	**Aktyubinsk**	**60.01**	**313**	P		**P**	**P**	**22 28 50.0**	**+0.8**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**	**P**	**22 29 13.1**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=3.2,SNR=3.9								
FINES	**FINESS Array B**	**64.89**	**336**	P		**P**	**P**	**22 29 20.9**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.4,baz=42,slow=9.1,SNR=8.3								
FINES	**FINESS Array B**	**64.89**	**336**	P		**P**	**P**	**22 29 20.9**	**-0.9**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**64.89**	**336**	P		**P**	**P**	**22 29 20.9**	**-0.9**
WB2	**Warramunga Arr**	**68.83**	**201**	*e*P		**P**	**P**	**22 29 46.8**	**-0.2**
WRA	**Warramunga Arr**	**68.83**	**201**	P		**P**	**P**	**22 29 46.4**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.0,baz=13,slow=6.2,SNR=4.8								
WRA	**Warramunga Arr**	**68.83**	**201**	P		**P**	**P**	**22 29 46.4**	**-0.6**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
NB2	**NORSAR Subarra**	**68.92**	**342**	P		**P**	**P**	**22 29 46.7**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.92**	**342**	P		**P**	**P**	**22 29 47.0**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=24,slow=6.3,SNR=2.7								
NOA	**NORSAR Array B**	**68.92**	**342**	P		**P**	**P**	**22 29 47.0**	**-0.5**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KIV	**Kislovodsk**	**72.05**	**316**	*e*P		**P**	**P**	**22 30 06.4**	**-0.2**
KIV				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
KIV	**Kislovodsk**	**72.05**	**316**	*e*P		**P**	**P**	**22 30 06.4**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**72.51**	**201**	P		**P**	**P**	**22 30 09.8**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=18,slow=5.8,SNR=8.0								
ASAR	**Alice Springs**	**72.51**	**201**	P		**P**	**P**	**22 30 09.8**	**+0.4**
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**72.57**	**327**	P		**P**	**P**	**22 30 07.8**	**-2.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.6,SNR=3.7								
AKASG	**Malin Array Be**	**72.57**	**327**	P		**P**	**P**	**22 30 07.8**	**-1.9**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**76.25**	**62**	P		**P**	**P**	**22 30 30.8**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.3,baz=306,slow=4.4,SNR=18								
TXAR	**Lajitas Array**	**76.25**	**62**	P		**P**	**P**	**22 30 30.8**	**-0.3**
TXAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**77.29**	**337**	*e*P		**P**	**P**	**22 30 36.0**	**-1.0**
GERES	**GERESS Array B**	**79.31**	**335**	P		**P**	**P**	**22 30 47.5**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=42,slow=6.2,SNR=5.1								
BRTR	**Keskin Array B**	**79.59**	**318**	P		**P**	**P**	**22 30 49.3**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=72,slow=4.7,SNR=3.6								
BRTR	**Keskin Array B**	**79.59**	**318**	P		**P**	**P**	**22 30 49.3**	**-0.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
CDF	**Champ du Feu**	**81.43**	**339**	*e*P		**P**	**P**	**22 31 00.4**	**+0.8**
	comp=Z,13nm,1.0s,mb4.5								
CDF	**Champ du Feu**	**81.43**	**339**	*e*P		**P**	**P**	**22 31 00.4**	**+0.8**
CDF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
CDF	**Champ du Feu**	**81.43**	**339**	*e*P		**P**	**P**	**22 31 00.4**	**+0.8**
	comp=Z,6.7nm,1.0s,mb4.5								
GRR	**Gorron**	**83.21**	**344**	*e*P		**P**	**P**	**22 31 10.5**	**+1.6**
	comp=Z,14nm,0.7s,mb4.8								
GRR	**Gorron**	**83.21**	**344**	*e*P		**P**	**P**	**22 31 10.5**	**+1.6**
GRR				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.8								
GRR	**Gorron**	**83.21**	**344**	*e*P		**P**	**P**	**22 31 10.5**	**+1.6**
	comp=Z,6.9nm,0.7s,mb4.8								
SMF	**Signal de Mont**	**83.90**	**341**	*e*P		**P**	**P**	**22 31 13.3**	**+0.9**
	comp=Z,11nm,0.8s,mb4.7								
SMF	**Signal de Mont**	**83.90**	**341**	*e*P		**P**	**P**	**22 31 13.3**	**+0.9**
SMF				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
SMF	**Signal de Mont**	**83.90**	**341**	*e*P		**P**	**P**	**22 31 13.3**	**+0.9**
	comp=Z,5.5nm,0.8s,mb4.7								
LPG	**La Plagne**	**84.27**	**338**	*e*P		**P**	**P**	**22 31 16.3**	**+2.0**
	comp=Z,21nm,0.9s,mb5.0								
LPG	**La Plagne**	**84.27**	**338**	*e*P		**P**	**P**	**22 31 16.3**	**+2.0**
LPG				pmax		pmax			
	comp=Z,11nm,0.9s,mb5.0								
LPG	**La Plagne**	**84.27**	**338**	*e*P		**P**	**P**	**22 31 16.3**	**+2.0**
	comp=Z,11nm,0.9s,mb5.0								
CAF	**Calviac**	**85.93**	**341**	*e*P		**P**	**P**	**22 31 24.0**	**+1.4**

*BJI **15** 22:23:00.3, 4641N×15378E, h10km, mB5.0, mb4.5, Ms5.0, Msz5.0*
*IDC **15** 22:23:03.7±1.7, 4634N×15299E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/23, mbtmp4.0/13, Error ellipse: s-maj=49.2km s-min=20.0km az=171.0*
*ISCJB **15** 22:23:04.3±0.8, 4654N±0.1×1529E±0.1, h10km, mb4.2/22, MS4.9/1, Error ellipse: s-maj=19.3km s-min=7.7km az=110.9*
*NEIC **15** 22:23:05.8±0.8, 4645N×15286E, h10km, mb4.5/7, Error ellipse: s-maj=17.3km s-min=7.8km az=151.0*
*MOS **15** 22:23:07.7±1.4, 4649N×15284E, h33km, mb4.4/15, Error ellipse: s-maj=12.2km s-min=9.5km az=95.6*
ISC 15 22:23:05.8±0.8, 4654N±01×1529E±01, h10km, n57, σ0.9 99/58, mb4.2/22, MS4.9/1, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**252**	⇑*i*PN		**Pn**	**Pn**	**22 24 03.2**	**-0.2**
KUR				pmax		pmax			
	comp=Z,260nm,0.7s								
SKR	**Severo-Kuril's**	**4.73**	**26**	*e*PN		**Pn**	**Pn**	**22 24 20.7**	**+3.6**
YSS	**Yuzh-Sakhalins**	**6.99**	**278**	*e*PN		**Pn**	**Pn**	**22 24 55.2**	**+7.0**
YSS				S		**Sn**	**Sn**	**22 26 16.0**	**+8.2**
YSS				pmax		pmax			
	comp=Z,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**6.99**	**278**	Pn		**Pn**	**Pn**	**22 24 46.8**	**-1.4**
PET	**Petropavlovsk**	**7.54**	**27**	*e*PN		**Pn**	**Pn**	**22 24 55.0**	**-0.8**
ASAJ	**Asahikawa**	**7.64**	**256**	Pn		**Pn**	**Pn**	**22 25 01.0**	**+3.9**
	comp=Z,1.1nm,0.3s,baz=252,slow=19,SNR=5.1								
ASAJ	**Asahikawa**	**7.64**	**256**	PN		**Pn**	**Pn**	**22 25 01.0**	**+3.9**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsush

GERES	**GERESS Array B**	**78.65**	**334**	P		**P**		**22 35 08.2**	**+0.3**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.9s								

ISCJB ***15*** *22:27:46.0±2.3, 4754N±005×155.13E±008, h6km±14km, mb4.7/57, Error ellipse: s-maj=10.4km s-min=6.9km az=99.0*
BJI ***15*** *22:27:46.1, 4774N×15520E, h12km, mB5.3, mb4.7*
IDC ***15*** *22:27:46.4±0.6, 4755N×15504E, h0km, mb4.5/20, mb1 4.7/20, mb1mx4.6/26, mbtmp4.5/20, Error ellipse: s-maj=17.6km s-min=15.5km az=141.0*
NEIC ***15*** *22:27:48.4±0.4, 4753N×15509E, h10km, mb4.7/24, Error ellipse: s-maj=9.5km s-min=6.9km az=135.0*
MOS ***15*** *22:27:50.1±1.4, 4759N×15502E, h33km, mb4.8/31, Error ellipse: s-maj=10.0km s-min=6.4km az=103.7*

ISC 15 22:27:49.3±2.5, 4758N±005×15513E±008, h16km±15km, n153, σ1§10/154, mb4.7/57, 18C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.17**	**11**	*e*	P	**Pn**		**22 28 39.0**	**+0.6**
SKR					pmax	pmax			
	comp=N,350nm,0.5s								
SKR					pmax	pmax			
	comp=E,310nm,0.5s								
SKR					pmax	pmax			
	comp=Z,180nm,0.5s								
PET	**Petropavlovsk**	**5.89**	**21**	*e*	PN	**Pn**		**22 29 12.6**	**-3.3**
PET	**Petropavlovsk**	**5.89**	**21**	*e*	Pn	**Pn**		**22 29 19.2**	**+3.3**
YSS	**Yuzh-Sakhalins**	**8.44**	**270**	⇑*e*	PN	**Pn**		**22 29 51.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.44**	**270**	*e*	Pn	**Pn**		**22 29 54.7**	**+3.9**
	comp=Z,25nm,0.9s								
ASAJ	**Asahikawa**	**9.41**	**253**		Pn	**Pn**		**22 30 05.5**	**+1.3**
	comp=Z,21nm,0.3s,baz=93,slow=15,SNR=11								
ASAJ	**Asahikawa**	**9.41**	**253**		PN	**Pn**		**22 30 05.5**	**+1.4**
ASAJ					pmax	pmax			
	comp=Z,2.0nm,0.3s								
ERM	**Erimo**	**10.16**	**241**	*e*	PN	**Pn**		**22 30 13.1**	**-1.4**
MA2	**Magadan**	**12.29**	**350**	*e*	PN	**Pn**		**22 30 45.6**	**+2.1**
KLR	**Kul'dur**	**15.61**	**285**	*e*	P	**Pn**		**22 31 29.2**	**+0.8**
MAJO	**Matsushiro**	**16.68**	**235**	*e*	P	**Pn**		**22 31 43.3**	**+1.0**
MAJO					pmax	pmax			
	comp=Z,5.0nm,0.3s								
MAJO	**Matsushiro**	**16.68**	**235**	*e*	Pn	**Pn**		**22 31 43.3**	**+1.0**
	comp=Z,4.5nm,0.3s								
MJAR	**Matsushiro Arr**	**16.68**	**235**		Pn	**Pn**		**22 31 38.0**	**-4.3**
	comp=Z,0.7nm,0.3s,baz=25,slow=15,SNR=4.9								
MJAR	**Matsushiro Arr**	**16.68**	**235**		P	**Pn**		**22 31 38.0**	**-4.3**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MDJ	**Mudanjiang**	**17.93**	**270**	*e*	P	**Pn**		**22 31 57.9**	**0.0**
	comp=Z,2.9nm,0.4s								
YAK	**Yakutsk**	**20.40**	**324**	*d*	*i*P	**P**		**22 32 23.9**	**-1.6**
YAK					pmax	pmax			
	comp=Z,10.0nm,0.8s								
YAK	**Yakutsk**	**20.40**	**324**	*e*	P	**P**		**22 32 24.8**	**-0.6**
	comp=Z,13nm,0.6s								
CN2	**Changchun**	**21.01**	**271**	*e*	P	**P**		**22 32 30.3**	**-1.8**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.3								
BILL	**Bilibino**	**21.28**	**12**	*e*	P	**P**		**22 32 31.8**	**-3.2**
BILL					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.0								
BILL	**Bilibino**	**21.28**	**12**	P		**P**		**22 32 33.4**	**-1.6**
	comp=Z,6.9nm,0.6s,mb4.2								
KSRS	**Korea Array**	**22.36**	**253**		P	**P**		**22 32 46.2**	**-0.3**
	comp=Z,8.6nm,0.9s,mb4.2,baz=51,slow=10,SNR=13								
INCN	**Inchon**	**23.18**	**255**	*e*	P	**P**		**22 32 55.5**	**+0.3**
	comp=Z,15nm,0.5s,mb4.7								
HIA	**Hailar**	**23.42**	**287**	*e*	P	**P**		**22 32 56.7**	**-1.0**
HIA					pmax	pmax			
	comp=Z,4.0nm,0.3s								
HIA	**Hailar**	**23.42**	**287**	*e*	P	**P**		**22 32 56.7**	**-0.9**
	comp=Z,3.5nm,0.3s,mb4.3								
BOD	**Bodaibo**	**26.54**	**308**	*e*	P	**P**		**22 33 24.4**	**-1.8**
BOD					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.1								
BJT	**Baijiatuan**	**28.88**	**269**		P	**P**		**22 33 47.1**	**0.0**
ULN	**Ulaanbaatar**	**31.93**	**289**	*e*	P	**P**		**22 34 12.9**	**-1.2**
ULN					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1								
ULN	**Ulaanbaatar**	**31.93**	**289**	*e*	P	**P**		**22 34 12.9**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.1								
SONM	**Songino Array**	**32.36**	**289**		P	**P**		**22 34 16.3**	**-1.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=72,slow=8.4,SNR=12								
SONM					PcP	PcP		22 37 04.7	-0.7
	comp=Z,1.0nm,0.7s,baz=113,slow=2.9,SNR=4.7								
SONM	**Songino Array**	**32.36**	**289**		P	**P**		**22 34 16.3**	**-1.6**
SONM								22 37 04.7	
SONM					pmax	pmax			
	comp=Z,2.0nm,0.9s								
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
TLY	**Talaya**	**33.03**	**297**	*e*	P	**P**		**22 34 22.9**	**-0.8**
TLY					pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4								
TLY	**Talaya**	**33.03**	**297**	*e*	P	**P**		**22 34 22.9**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.5								
COLA	**College**	**34.62**	**39**	*e*	P	**P**		**22 34 37.2**	**-0.4**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
COLA	**College**	**34.62**	**39**	*e*	P	**P**		**22 34 37.2**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.5								
TATO	**Taipei**	**34.86**	**242**	*e*	P	**P**		**22 34 37.6**	**-2.0**
	comp=Z,12nm,0.3s,mb5.3								
XAN	**Xi'an**	**36.96**	**266**		P	**P**		**22 34 57.9**	**+0.3**
XAN					AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.5								
ENH	**Enshi**	**38.87**	**260**	*e*	P	**P**		**22 35 15.2**	**+1.5**
	comp=Z,0.3nm,0.3s								
GTA	**Gaotai**	**40.20**	**279**	*e*	P	**P**		**22 35 25.0**	**+0.2**
GTA					AP	pP		22 35 32.9	+3.1
GTA					XP	sP		22 35 37.5	+5.6
GTA					AMB	AMB			
	comp=Z,3.0nm,1.0s,mb4.0								
INK	**Inuvik**	**40.21**	**33**		P	**P**		**22 35 25.1**	**+0.2**
	comp=Z,7.4nm,0.5s,mb4.7,baz=298,slow=6.5,SNR=35								
INK	**Inuvik**	**40.21**	**33**		P	**P**		**22 35 25.1**	**+0.2**
INK					pmax	pmax			
	comp=Z,7.0nm,0.5s								
CD2	**Chengdu**	**42.32**	**266**	⇑*i*	P	**P**		**22 35 42.5**	**+0.3**
CD2					AMB	AMB			
	comp=Z,20nm,1.3s,mb4.6								
GYA	**Guiyang**	**43.24**	**258**	⇑*i*	P	**P**		**22 35 50.5**	**+0.8**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
ZAL	**Zalesovo**	**43.26**	**306**		P	**P**		**22 35 47.9**	**-2.0**
	comp=Z,2.4nm,0.4s,mb4.3,baz=59,slow=5.0,SNR=5.9								
ZAL					PcP	PcP		22 37 36.5	-2.3
	comp=Z,3.6nm,1.1s,baz=12,slow=5.7,SNR=4.9								
ZAL	**Zalesovo**	**43.26**	**306**		P	**P**		**22 35 47.9**	**-2.0**
ZAL								22 37 36.6	
ZAL					pmax	pmax			
	comp=Z,2.0nm,0.4s								
ZAL					pmax	pmax			
	comp=Z,4.0nm,1.2s								
NVS	**Novosibirsk**	**43.78**	**307**	*e*	P	**P**		**22 35 50.5**	**-3.5**
NVS					pmax	pmax			
	comp=N,2.0nm,0.6s								
NVS					pmax	pmax			
	comp=E,4.0nm,0.6s								
NVS					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2								
MK31	**Makanchi Array**	**47.78**	**298**	*e*	P	**P**		**22 36 24.7**	**-1.0**
MKAR	**Makanchi Array**	**47.78**	**298**		P	**P**		**22 36 24.2**	**-1.5**
	comp=Z,2.4nm,0.6s,mb4.4,baz=73,slow=8.0,SNR=22								
MKAR	**Makanchi Array**	**47.78**	**298**		P	**P**		**22 36 24.2**	**-1.5**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
RES	**Resolute Bay**	**49.60**	**19**	*e*	P	**P**		**22 36 40.0**	**+0.3**
RES					pmax	pmax			
	comp=Z,107nm,0.5s								
RES	**Resolute Bay**	**49.60**	**19**	*e*	P	**P**		**22 36 40.0**	**+0.4**
	comp=Z,107nm,0.5s								
CHKZ	**Chkalovo**	**50.95**	**310**	*e*	P	**P**		**22 36 48.6**	**-1.2**
CHKZ					pmax	pmax			
	comp=Z,19nm,0.6s,mb5.2								
CHKZ	**Chkalovo**	**50.95**	**310**	*e*	P	**P**		**22 36 48.6**	**-1.2**
	comp=Z,19nm,0.6s,mb5.2								
BVAR	**Borovoye Array**	**51.39**	**310**		P	**P**		**22 36 52.4**	**-0.8**
	comp=Z,7.8nm,0.4s,mb5.0,baz=59,slow=7.6,SNR=38								
BVAR					PcP	PcP		22 38 07.3	-0.4
	comp=Z,1.2nm,0.5s,baz=62,slow=3.9,SNR=2.1								
BVAR	**Borovoye Array**	**51.39**	**310**		P	**P**		**22 36 52.4**	**-0.8**
BVAR								22 38 07.3	
BVAR					pmax	pmax			
	comp=Z,8.0nm,0.4s								
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BRVK	**Borovoye**	**51.43**	**310**	*e*	P	**P**		**22 36 52.6**	**-0.9**
BRVK					pmax	pmax			
	comp=Z,13nm,0.6s,mb5.0								
BRVK	**Borovoye**	**51.43**	**310**	*e*	P	**P**		**22 36 52.6**	**-0.9**
	comp=Z,13nm,0.6s,mb5.0								
LSA	**Lhasa**	**51.60**	**274**	*e*	P	**P**		**22 36 57.3**	**+2.6**
LSA				*e*				22 37 10.0	
LSA					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**51.60**	**274**	*e*	P	**P**		**22 36 57.3**	**+2.5**
	comp=Z,8.9nm,0.6s,mb4.9								
LSA				*e*				22 37 10.0	
ZRNK	**Zerenda**	**52.15**	**310**	*e*	P	**P**		**22 36 58.3**	**-0.5**
ZRNK					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
ZRNK	**Zerenda**	**52.15**	**310**	*e*	P	**P**		**22 36 58.3**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.9								
AAK	**Ala-Archa**	**54.70**	**297**	*e*	P	**P**		**22 37 16.5**	**-1.0**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
ARU	**Arti**	**55.32**	**318**	⇑*i*	P	**P**		**22 37 21.1**	**-1.0**
ARU				*e*				22 38 19.2	
ARU				*e*				22 39 23.7	
ARU				*e*	S	**S**		**22 45 05.1**	**-0.4**
ARU				*e*	SSS			22 50 57.4	
ARU					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
ARU	**Arti**	**55.32**	**318**	*e*	P	**P**		**22 37 21.1**	**-1.0**
	comp=Z,17nm,0.9s,mb5.1								
JIRN	**Jiri**	**56.25**	**275**	*e*	P	**P**		**22 37 30.0**	**+1.3**
	comp=Z,18nm,0.5s,mb5.4								
GUN	**Gumba**	**56.29**	**276**	*e*	P	**P**		**22 37 30.3**	**+1.3**
	comp=Z,12nm,0.4s,mb5.3								
KKN	**Kakani**	**56.77**	**276**	*e*	P	**P**		**22 37 33.6**	**+1.1**
	comp=Z,29nm,0.8s,mb5.4								
PKI	**Pulchoki**	**56.83**	**276**	*e*	P	**P**		**22 37 34.0**	**+1.1**
	comp=Z,13nm,0.5s,mb5.2								
DMN	**Daman**	**57.01**	**276**	*e*	P	**P**		**22 37 35.6**	**+1.5**
	comp=Z,34nm,0.7s,mb5.5								
KEV	**Kevo**	**57.01**	**341**	*ep*		**P**		**22 37 31.5**	**-2.7**
GKN	**Gorkha**	**57.07**	**277**	*e*	P	**P**		**22 37 35.7**	**+1.1**
	comp=Z,21nm,0.4s,mb5.5								
PMG	**Port Moresby**	**57.18**	**189**		P	**P**		**22 37 35.4**	**+0.1**
ARCES	**ARCESS Array B**	**57.51**	**341**		P	**P**		**22 37 36.3**	**-1.4**
	comp=Z,4.2nm,0.9s,mb4.5,baz=34,slow=7.9,SNR=6.2								
ARCES	**ARCESS Array B**	**57.51**	**341**		P	**P**		**22 37 36.3**	**-1.4**
ARCES					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KOLN	**Koldanda**	**57.92**	**277**	*e*	P	**P**		**22 37 41.8**	**+1.3**
	comp=Z,30nm,0.8s,mb5.4								
AKTK	**Aktyubinsk**	**59.19**	**312**		P	**P**		**22 37 48.2**	**-1.2**
AKTO	**Aktyubinsk**	**59.19**	**312**		P	**P**		**22 37 48.2**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=52,slow=7.8,SNR=9.4								
AKTO	**Aktyubinsk**	**59.19**	**312**		P	**P**		**22 37 48.2**	**-1.2**
AKTO					pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
QLMT	**Earthquake Lak**	**60.78**	**54**	*e*	P	**P**		**22 38 00.8**	**+0.5**
PDAR	**Pinedale Array**	**63.14**	**55**		P	**P**		**22 38 16.2**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.4,baz=302,slow=2.8,SNR=14								
FINES	**FINESS Array B**	**63.87**	**335**		P	**P**		**22 38 20.6**	**-0.3**
	comp=Z,13nm,0.5s,mb5.2,baz=39,slow=8.9,SNR=79								
FINES	**FINESS Array B**	**63.87**	**335**		P	**P**		**22 38 20.7**	**-0.3**
FINES					pmax	pmax			
	comp=Z,13nm,0.5s								
ULM	**Lac du Bonnet**	**64.99**	**42**		P	**P**		**22 38 27.6**	**-0.7**
	comp=Z,2.3nm,0.4s,mb4.5,baz=313,slow=6.0,SNR=5.7								
RSSD	**Black Hills**	**65.23**	**51**	*e*	P	**P**		**22 38 29.4**	**-0.5**
RSSD					pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
RSSD	**Black Hills**	**65.23**	**51**	*e*	P	**P**		**22 38 29.4**	**-0.5**
	comp=Z,3.3nm,0.4s,mb4.7								
OBN	**Obninsk**	**65.39**	**326**	*e*	P	**P**		**22 38 26.4**	**-4.6**
OBN					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
OBN	**Obninsk**	**65.39**	**326**		P	**P**		**22 38 29.6**	**-1.3**
VRSR	**Storozhevoye**	**67.30**	**322**	*e*	P	**P**		**22 38 43.3**	**+0.1**
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
VRSR					pmax	pmax			
	comp=N,10.0nm,0.9s								
VRSR					pmax	pmax			
	comp=E,10.0nm,0.7s								
NB2	**NORSAR Subarra**	**67.87**	**342**		P	**P**		**22 38 46.5**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.5,baz=25,slow=6.5								
NOA	**NORSAR Array B**	**67.87**	**342**		P	**P**		**22 38 46.6**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.6,baz=26,slow=6.4,SNR=15								
NOA	**NORSAR Array B**	**67.87**	**342**		P	**P**		**22 38 46.6**	**-0.2**
NOA					pmax	pmax			
	comp=Z,4.0nm,0.6s								
HFS	**Hagfors**	**68.15**	**340**		P	**P**		**22 38 47.8**	**-0.7**
	comp=Z,6.5nm,0.6s,mb4.9,baz=62,slow=3.5,SNR=19								
HFS	**Hagfors**	**68.15**	**340**		P	**P**		**22 38 47.8**	**-0.7**
HFS					pmax	pmax			
	comp=Z,7.0nm,0.6s								
WB2	**Warramunga Arr**	**69.76**	**201**		P	**P**		**22 38 58.0**	**-0.6**
WRA	**Warramunga Arr**	**69.77**	**201**		P	**P**		**22 38 57.4**	**-1.2**
	comp=Z,2.9nm,1.0s,mb4.2,baz=17,slow=6.5,SNR=7.7								
WRA	**Warramunga Arr**	**69.77**	**201**		P	**P**		**22 38 57.4**	**-1.2**
WRA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ANMO	**Albuquerque**	**70.22**	**60**	⇑*e*	P	**P**		**22 38 59.9**	**-1.5**
KIV	**Kislovodsk**	**71.19**	**315**	⇑*e*	P	**P**		**22 39 07.2**	**-0.1**
KIV					pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9								
KIV	**Kislovodsk**	**71.19**	**315**	*e*	P	**P**		**22 39 08.6**	**+1.3**
	comp=Z,12nm,0.9s,mb4.8								
AKASG	**Malin Array Be**	**71.61**	**327**		P	**P**		**22 39 09.0**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.5,baz=33,slow=6.0,SNR=16								
AKASG	**Malin Array Be**	**71.61**	**327**		P	**P**		**22 39 09.0**	**-0.8**
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.6s								
AKASG	**Malin Array Be**	**71.61**	**327**		P	**P**		**22 39 09.0**	**-0.8**
ASAR	**Alice Springs**	**73.45**	**200**		P	**P**		**22 39 20.8**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=13,slow=5.4,SNR=25								
ASAR	**Alice Springs**	**73.45**	**200**		P	**P**		**22 39 20.8**	**0.0**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
STHS	**Stebnicka Huta**	**75.47**	**331**	*e*	P	**P**		**22 39 33.3**	**+0.8**
STHS					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
STHS	**Stebnicka Huta**	**75.47**	**331**	*e*	P	**P**		**22 39 33.3**	**+0.8**
	comp=Z,3.6nm,0.8s,mb4.3								
BURAR	**Bucovina Array**	**75.64**	**328**	⇑*i*	P	**P**		**22 39 33.7**	**+0.2**
BURAR	**Bucovina Array**	**75.64**	**328**	⇑	P	**P**		**22 39 33.6**	**+0.2**
LTX	**Lajitas**	**75.88**	**62**	*e*	P	**P**		**22 39 35.2**	**+0.3**
LTX					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
LTX	**Lajitas**	**75.88**	**62**	*e*	P	**P**		**22 39 35.2**	**+0.3**
	comp=Z,8.5nm,0.9s,mb4.7								
TXAR	**Lajitas Array**	**75.88**	**62**		P	**P**		**22 39 35.0**	**+0.2**
	comp=Z,5.7nm,0.5s,mb4.8,baz=301,slow=4.9,SNR=66								
TXAR	**Lajitas Array**	**75.88**	**62**		P	**P**		**22 39 35.1**	**+0.2**
TXAR					pmax	pmax			
	comp=Z,6.0nm,0.5s								
UPC	**Upice**	**76.14**	**335**	*e*	P	**P**		**22 39 36.7**	**+0.4**
DPC	**Dobruska-Polom**	**76.19**	**334**	*e*	P	**P**		**22 39 37.5**	**+0.9**
CLL	**Collm**	**76.26**	**337**	*e*	P	**P**		**22 39 38.0**	**+1.0**
MORC	**Moravsky Berou**	**76.33**	**333**	⇑*i*	P	**P**		**22 39 36.7**	**-0.7**
MORC	**Moravsky Berou**	**76.33**	**333**	⇑	P	**P**		**22 39 36.7**	**-0.8**
PVCC	**Panska Ves**	**76.53**	**335**	*e*	P	**P**		**22 39 40.5**	**+1.9**
VYHS	**Vyhne**	**77.06**	**332**	*e*	P	**P**		**22 39 41.8**	**+0.3**
TIRR	**Tirgusor**	**77.07**	**324**	⇓*i*	P	**P**		**22 39 43.6**	**+2.0**
TIRR	**Tirgusor**	**77.07**	**324**	⇑	P	**P**		**22 39 43.6**	**+2.0**
MLR	**Muntele Rosu**	**77.16**	**326**	⇓*i*	P	**P**		**22 39 43.3**	**+1.2**
MLR	**Muntele Rosu**	**77.16**	**326**	⇓	P	**P**		**22 39 43.3**	**+1.2**
DRGR		**77.23**	**329**	⇓*i*	P	**P**		**22 39 42.8**	**+0.3**
DRGR		**77.23**	**329**	⇓	P	**P**		**22 39 42.8**	**+0.2**
NKC	**Novy Kostel**	**77.39**	**336**	*e*	P	**P**		**22 39 45.7**	**+2.3**
KHC	**Kasperske Hory**	**78.07**	**335**	*e*	P	**P**		**22 39 47.7**	**+0.5**
GERES	**GERESS Array B**	**78.30**	**335**		P	**P**		**22 39 48.4**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=28,slow=6.0,SNR=11								
GERES	**GERESS Array B**	**78.30**	**335**		P	**P**		**22 39 48.4**	**0.0**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
GZR	**Gura Zlata**	**78.41**	**328**	⇑*i*	P	**P**		**22 39 51.0**	**+1.9**
GZR	**Gura Zlata**	**78.41**	**328**	⇑	P	**P**		**22 39 51.0**	**+1.9**
BZS	**Buzias**	**78.63**	**329**	⇑*i*	P	**P**		**22 39 50.2**	**-0.1**
BZS	**Buzias**	**78.63**	**329**	⇑	P	**P**		**22 39 50.2**	**-0.1**
BR131	**Keskin Array S**	**78.71**	**318**	*e*	P	**P**		**22 39 51.8**	**+1.1**
	comp=Z,4.6nm,0.9s,mb4.4								
BRTR	**Keskin Array B**	**78.71**	**318**		P	**P**		**22 39 52.0**	**+1.3**
	comp=Z,4.9nm,0.9s,mb4.4,baz=65,slow=2.4,SNR=18								
BRTR	**Keskin Array B**	**78.71**	**318**		P	**P**		**22 39 52.1**	**+1.4**
BRTR					pmax	pmax			
	comp=Z,5.0nm,0.9s								
STKA	**Stephens Creek**	**80.03**	**192**		P	**P**		**22 39 57.1**	**-0.8**
CDF	**Champ du Feu**	**80.39**	**339**	*e*	P	**P**		**22 39 59.9**	**0.0**
	comp=Z,54nm,1.4s,mb5.0								
CDF	**Champ du Feu**	**80.39**	**339**	*e*	P	**P**		**22 39 59.9**	**0.0**
CDF					pmax	pmax			
	comp=Z,27nm,1.4s,mb5.0								
CDF	**Champ du Feu**	**80.39**	**339**	*e*	P	**P**		**22 39 59.9**	**0.0**
	comp=Z,27nm,1.4s,mb5.0								
VTS	**Vitosha**	**80.66**	**326**	⇑*i*	P	**P**		**22 40 04.1**	**+2.8**
VTS	**Vitosha**	**80.66**	**326**	⇑	P	**P**		**22 40 04.1**	**+2.8**
GRR	**Gorron**	**82.16**	**344**	*e*	P	**P**		**22 40 09.7**	**+0.4**
	comp=Z,84nm,1.3s,mb5.2								
GRR	**Gorron**	**82.16**	**344**	*e*	P	**P**		**22 40 09.7**	**+0.4**
GRR					pmax	pmax			
	comp=Z,42nm,1.3s,mb5.2								
GRR	**Gorron**	**82.16**	**344**	*e*	P	**P**		**22 40 09.7**	**+0.4**
	comp=Z,42nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**82.86**	**341**	*e*	P	**P**		**22 40 13.0**	**+0.1**
	comp=Z,70nm,1.5s,mb5.2								
SMF	**Signal de Mont**	**82.86**	**341**	*e*	P	**P**		**22 40 13.0**	**+0.1**
SMF					pmax	pmax			
	comp=Z,35nm,1.5s,mb5.2								
SMF	**Signal de Mont**	**82.86**	**341**	*e*	P	**P**		**22 40 13.0**	**+0.1**
	comp=Z,35nm,1.5s,mb5.2								
LPG	**La Plagne**	**83.24**	**338**	*e*	P	**P**		**22 40 15.7**	**+0.8**
	comp=Z,7.3nm,0.5s,mb4.6								
LPG	**La Plagne**	**83.24**	**338**	*e*	P	**P**		**22 40 15.7**	**+0.8**
LPG					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7								
LPG	**La Plagne**	**83.24**	**338**	*e*	P	**P**		**22 40 15.7**	**+0.8**
	comp=Z,3.7nm,0.5s,mb4.7								
CAF	**Calviac**	**84.88**	**341**	*e*	P	**P**		**22 40 24.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**87.07**	**211**		P	**P**		**22 40 33.1**	**-1.0**
	comp=Z,15nm,1.0s,mb5.2,baz=342,slow=3.2,SNR=4.5								
NWAO	**Narrogin (SRO)**	**87.07**	**211**		P	**P**		**22 40 33.1**	**-1.0**
NWAO					pmax	pmax			
	comp=Z,15nm,1.0s								

CASC 15 22:29:36.3±3.7, 1321N×9025W, h20km±24km, MD3.7, ML3.7, 4C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.87**	**44**	⇑*e*	P		x	22 30 37.4	
SBLS					*e*S		x	22 30 51.6	
RTR	**El Retiro**	**0.90**	**40**	⇑*e*	P		x	22 30 37.4	
RTR					*e*S		x	22 30 50.6	
SNJE	**San Jose**	**0.90**	**43**	⇑*e*	P		x	22 30 37.6	
SNJE					*e*S		x	22 30 51.8	
RBDL	**Robledal**	**1.05**	**31**	⇓*e*	P		x	22 30 37.8	
RBDL					*e*S		x	22 30 51.1	
SNET	**Serv Nac Est T**	**1.09**	**64**	*e*	P		x	22 29 54.7	
SNET					*e*S		x	22 30 10.6	
LFRS	**El Faro**	**1.22**	**70**	*e*	P		x	22 30 41.7	
LFRS					*e*S		x	22 30 57.9	
LFU	**La Fuente**	**1.23**	**64**	*e*	P		x	22 30 41.3	
LFU					*e*S		x	22 30 59.0	
LCBS	**La Ceiba**	**1.

ZAK	**Zakamensk**	**33.95**	**295**	*e*P		**P**		**22 37 47.1**	**-0.1**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.3s,mb3.9								
TATO	**Taipei**	**34.62**	**243**	P		**P**		**22 37 52.8**	**-0.2**
YHNB	**Yeheng**	**34.92**	**242**	*e*P		**P**		**22 37 55.1**	**-0.4**
COLA	**College**	**35.10**	**38**	*e*P		**P**		**22 37 57.1**	**-0.1**
COLA				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
COLA	**College**	**35.10**	**38**	*e*P		**P**		**22 37 57.1**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5								
LZH	**Lanzhou**	**39.36**	**273**	*e*P		**P**		**22 38 36.9**	**+3.6**
LZH				AP		pP		22 38 44.4	+8.0
LZH				XP		sP		22 38 46.8	+9.2
LZH				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.5								
LZH	**Lanzhou**	**39.36**	**273**	*e*P		**P**		**22 38 36.9**	**+3.6**
	comp=Z,10.0nm,1.0s,mb4.5								
LZH				pP		pP		22 38 44.4	+8.0
LZH				sP		sP		22 38 46.8	+9.2
GTA	**Gaotai**	**40.40**	**280**	*e*P		**P**		**22 38 43.9**	**+1.9**
GTA				AP		pP		22 38 53.8	+8.7
GTA				PCP		PcP		22 40 45.9	+0.9
GTA				AMB		AMB			
	comp=Z,4.0nm,1.1s,mb4.1								
INK	**Inuvik**	**40.73**	**33**	P		**P**		**22 38 44.5**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.0,baz=290,slow=9.0,SNR=7.2								
INK	**Inuvik**	**40.73**	**33**	P		**P**		**22 38 44.5**	**-0.2**
INK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CD2	**Chengdu**	**42.36**	**267⇑**	*i*P		**P**		**22 39 00.8**	**+2.7**
CD2				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.7								
GYA	**Guiyang**	**43.19**	**259⇑**	*i*P		**P**		**22 39 06.5**	**+1.7**
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb4.9								
ZAL	**Zalesovo**	**43.73**	**306**	P		**P**		**22 39 08.3**	**-0.8**
	comp=Z,1.3nm,0.6s,mb3.8,baz=32,slow=6.9,SNR=5.2								
ZAL	**Zalesovo**	**43.73**	**306**	P		**P**		**22 39 08.4**	**-0.8**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.6s								
NVS	**Novosibirsk**	**44.27**	**308**	*e*P		**P**		**22 39 11.7**	**-1.7**
NVS				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.5								
NVS				pmax		pmax			
	comp=N,4.0nm,1.4s								
NVS				pmax		pmax			
	comp=E,6.0nm,0.7s								
MK31	**Makanchi Array**	**48.18**	**298**	*e*P		**P**		**22 39 44.7**	**+0.5**
MKAR	**Makanchi Array**	**48.18**	**298**	P		**P**		**22 39 44.4**	**+0.2**
	comp=E,1.9nm,0.6s,mb4.3,baz=70,slow=8.0,SNR=12								
MKAR	**Makanchi Array**	**48.18**	**298**	P		**P**		**22 39 44.4**	**+0.2**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
RES	**Resolute Bay**	**50.22**	**19**	P		**P**		**22 39 59.6**	**-0.2**
CHKZ	**Chkalovo**	**51.46**	**311**	P		**P**		**22 40 08.7**	**-0.5**
CHKZ				pmax		pmax			
	comp=Z,13nm,0.6s,mb5.0								
CHKZ	**Chkalovo**	**51.46**	**311**	P		**P**		**22 40 08.7**	**-0.5**
	comp=Z,13nm,0.6s,mb5.0								
LSA	**Lhasa**	**51.74**	**274**	*e*P		**P**		**22 40 11.7**	**+0.4**
LSA				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
LSA	**Lhasa**	**51.74**	**274**	*e*P		**P**		**22 40 11.7**	**+0.4**
	comp=Z,6.4nm,0.9s,mb4.5								
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**		**22 40 12.9**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.7,baz=56,slow=7.7,SNR=37								
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**		**22 40 12.9**	**+0.4**
BVAR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**		**22 40 13.3**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**		**22 40 13.3**	**+0.6**
	comp=Z,8.8nm,0.6s,mb4.9								
ZRNK	**Zerenda**	**52.66**	**311**	*e*P		**P**		**22 40 18.3**	**+0.2**
ZRNK				*e*				22 40 27.3	
ARU	**Arti**	**55.89**	**318**	*e*P		**P**		**22 40 41.5**	**-0.2**
ARU	**Arti**	**55.89**	**318**	*e*P		**P**		**22 40 41.7**	**0.0**
	comp=Z,19nm,1.1s,mb5.0								
ARU				*e*				22 40 51.6	
PMG	**Port Moresby**	**56.52**	**190**	*e*P		**P**		**22 40 46.1**	**-0.1**
PMG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
PMG	**Port Moresby**	**56.52**	**190**	*e*P		**P**		**22 40 46.1**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.7								
ARCES	**ARCESS Array B**	**58.19**	**341**	P		**P**		**22 40 59.0**	**+1.0**
	comp=Z,8.4nm,1.0s,mb4.7,baz=35,slow=11,SNR=3.9								
ARCES	**ARCESS Array B**	**58.19**	**341**	P		**P**		**22 40 59.0**	**+1.1**
ARCES				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AKTK	**Aktyubinsk**	**59.72**	**313**	P		**P**		**22 41 08.8**	**+0.2**
AKTO	**Aktyubinsk**	**59.72**	**313**	P		**P**		**22 41 08.8**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=290,slow=9.6,SNR=4.4								
AKTO	**Aktyubinsk**	**59.72**	**313**	P		**P**		**22 41 08.8**	**+0.2**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
PDAR	**Pinedale Array**	**63.46**	**55**	P		**P**		**22 41 34.0**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.6,baz=287,slow=7.4,SNR=2.6								
FINES	**FINESS Array B**	**64.52**	**336**	P		**P**		**22 41 39.9**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.3,baz=38,slow=8.2,SNR=7.6								
FINES	**FINESS Array B**	**64.52**	**336**	P		**P**		**22 41 39.9**	**-0.9**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**68.55**	**342**	P		**P**		**22 42 05.8**	**-0.8**
	comp=Z,30nm,1.7s,mb4.9,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.55**	**342**	P		**P**		**22 42 05.8**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=26,slow=6.4,SNR=4.5								
NOA	**NORSAR Array B**	**68.55**	**342**	P		**P**		**22 42 05.9**	**-0.7**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
HFS	**Hagfors**	**68.82**	**341**	P		**P**		**22 42 09.0**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=72,slow=4.8,SNR=6.6								
HFS	**Hagfors**	**68.82**	**341**	P		**P**		**22 42 09.0**	**+0.8**
HFS				pmax		pmax			
	comp=Z,2.0nm,0.6s								
WB2	**Warramunga Arr**	**69.16**	**201**	*e*P		**P**		**22 42 09.6**	**-0.7**
WRA	**Warramunga Arr**	**69.16**	**201**	P		**P**		**22 42 09.8**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.7,baz=19,slow=6.6,SNR=20								
WRA	**Warramunga Arr**	**69.16**	**201**	P		**P**		**22 42 09.8**	**-0.6**
WRA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**69.99**	**210**	P		**P**		**22 42 16.3**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=75,slow=0.9,SNR=5.7								
KIV	**Kislovodsk**	**71.74**	**315**	P		**P**		**22 42 26.1**	**0.0**
KIV	**Kislovodsk**	**71.74**	**315**	P		**P**		**22 42 26.1**	**-0.1**
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**		**22 42 28.2**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=31,slow=6.1,SNR=3.6								
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**		**22 42 28.3**	**-0.8**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AS31	**Alice Springs**	**72.84**	**200**	*e*P		**P**		**22 42 33.3**	**+0.6**
ASAR	**Alice Springs**	**72.84**	**200**	P		**P**		**22 42 33.1**	**+0.4**
	comp=Z,6.3nm,0.7s,mb4.7,baz=16,slow=5.5,SNR=46								
ASAR	**Alice Springs**	**72.84**	**200**	P		**P**		**22 42 33.1**	**+0.4**
ASAR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PALK	**Pallekele**	**74.18**	**264**	P		**P**		**22 42 41.5**	**+0.9**
TXAR	**Lajitas Array**	**76.12**	**62**	P		**P**		**22 42 52.2**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=301,slow=4.1,SNR=12								
TXAR	**Lajitas Array**	**76.12**	**62**	P		**P**		**22 42 52.2**	**+0.4**
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**76.12**	**62**	P		**P**		**22 42 52.2**	**+0.4**
OKC	**Ostrava-Krasne**	**76.74**	**333**	*e*pP		pP		22 43 02.5	+3.9
CLL	**Collm**	**76.92**	**337**	*e*P		**P**		**22 42 57.0**	**+0.7**
CLL				*e*pP		PcP		22 43 11.0	+3.6
PRU	**Pruhonice**	**77.68**	**335**	*e*P		**P**		**22 43 00.7**	**+0.1**
KHC	**Kasperske Hory**	**78.73**	**335**	*e*P		**P**		**22 43 06.7**	**+0.3**
KHC	**Kasperske Hory**	**78.73**	**335**	*e*P		**P**		**22 43 06.7**	**+0.3**
GERES	**GERESS Array B**	**78.95**	**335**	P		**P**		**22 43 08.5**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=47,slow=6.0,SNR=3.6								
BR131	**Keskin Array S**	**79.28**	**318**	*e*P		**P**		**22 43 10.3**	**+0.9**
	comp=Z,1.9nm,0.9s,mb4.0								
BRTR	**Keskin Array B**	**79.28**	**318**	P		**P**		**22 43 09.7**	**+0.4**
	comp=Z,1.6nm,1.1s,mb3.9,baz=39,slow=2.8,SNR=4.3								
BRTR	**Keskin Array B**	**79.28**	**318**	P		**P**		**22 43 09.7**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,2.0nm,1.1s								
BRTR	**Keskin Array B**	**79.28**	**318**	P		**P**		**22 43 09.7**	**+0.4**
STKA	**Stephens Creek**	**79.38**	**192**	P		**P**		**22 43 09.2**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=26,slow=9.2,SNR=3.2								
CDF	**Champ du Feu**	**81.06**	**339**	*e*P		pP		22 43 22.9	+0.6
GRR	**Gorron**	**82.84**	**344**	*e*P		pP		22 43 32.7	+1.0
SMF	**Signal de Mont**	**83.53**	**341**	*e*P		pP		22 43 36.1	+0.9
	comp=Z,58nm,1.3s								
SMF	**Signal de Mont**	**83.53**	**341**	*e*P		pP		22 43 36.1	+0.9
SMF				pmax		pmax			
	comp=Z,29nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**83.53**	**341**	*e*P		pP		22 43 36.1	+0.9
	comp=Z,29nm,1.3s								
LPG	**La Plagne**	**83.91**	**338**	*e*P		pP		22 43 38.8	+1.6
	comp=Z,6.1nm,0.5s								
LPG	**La Plagne**	**83.91**	**338**	*e*P		pP		22 43 38.8	+1.6
LPG				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.7								
LPG	**La Plagne**	**83.91**	**338**	*e*P		pP		22 43 38.8	+1.6
	comp=Z,3.0nm,0.5s								
CAF	**Calviac**	**85.56**	**341**	*e*P		pP		22 43 46.2	+0.7
	comp=Z,6.4nm,0.7s								
CAF	**Calviac**	**85.56**	**341**	*e*P		pP		22 43 46.2	+0.7
CAF				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.6								
CAF	**Calviac**	**85.56**	**341**	*e*P		pP		22 43 46.2	+0.7
	comp=Z,3.2nm,0.7s								

IDC ***15*** *22:31:40.6±2.3,* **4620N×15371E,h0km,mb4.1/4, mb1 4.3/5,mb1mx3.9/22,mbtmp4.2/5,ML3.8/1,Error ellipse: s-maj=69.1km s-min=32.2km az=83.0,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MJAR	**Matsushiro Arr**	**15.09**	**236**	Pn		Pn	22	35 15.9	+0.8
	0.4nm,0.3s,baz=29,slow=11,SNR=5.1								
ZAL	**Zalesovo**	**43.28**	**306**	P		P	22	39 43.2	-0.7
	1.3nm,0.4s,baz=70,slow=5.3,SNR=3.0								
MKAR	**Makanchi Array**	**47.56**	**298**	P		P	22	40 17.4	-0.4
	2.7nm,1.0s,baz=72,slow=7.1,SNR=4.6								
FINES	**FINESS Array B**	**64.72**	**335**	P		P	22	42 20.1	-0.3
	2.0nm,0.8s,baz=48,slow=8.3,SNR=2.3								
ASAR	**Alice Springs**	**71.82**	**199**	P		P	22	43 04.8	-0.2
	1.7nm,0.7s,baz=14,slow=6.7,SNR=5.6								

IDC ***15*** *22:32:07.2±1.7,0.42N×98.31E,h0km,mb4.0/7,mb1 4.2/8, mb1mx3.8/23,mbtmp4.0/8,MS4.2/2,Ms1 4.2/2, ms1mx3.6/42,Error ellipse: s-maj=64.9km s-min=17.2km az=62.0*

ISCJB ***15*** *22:32:10.4±0.7,0.47N±0.06×98.4E±0.1,h35km,mb4.1/11, Error ellipse: s-maj=16.2km s-min=8.9km az=165.2*

NEIC ***15*** *22:32:12.5±0.8,0.57N×98.58E,h30km,mb4.3/4,Error ellipse: s-maj=25.5km s-min=9.9km az=66.0*

ISC 15 22:32:12.7±0.7,044N±0.07×983E±0.1,h35km,n17, σ1§10/18,mb4.1/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PSI	**Prapat**	**2.42**	**14**	Pn		**Pn**	**22**	**32 46.0**	**-3.7**
	7.7nm,0.3s,baz=200,slow=0.9,SNR=25								
PSI				LR		LR	22	33 34.1	
	comp=Z,367nm,19.3s,baz=30,slow=37								
PSI	**Prapat**	**2.42**	**14**	Pn		**Pn**	**22**	**32 46.0**	**-3.7**
PSI				LR		LR	22	33 34.1	
KULM	**Kulim**	**5.34**	**25**	*e*Pn		**Pn**	**22**	**33 28.2**	**-1.7**
KULM				*e*Sn		**Sn**	**22**	**34 31.4**	**+1.3**
LSA	**Lhasa**	**29.89**	**347**	*e*P		**P**	**22**	**38 17.8**	**+0.8**
	2.1nm,0.4s,mb4.2								
MBWA	**Marble Bar**	**29.96**	**137**	P		**P**	**22**	**38 17.7**	**+0.1**
ENH	**Enshi**	**31.50**	**19**	P		**P**	**22**	**38 27.5**	**-3.7**
WRA	**Warramunga Arr**	**40.66**	**122**	P		**P**	**22**	**39 50.1**	**+0.5**
	1.3nm,0.8s,mb3.6,baz=301,slow=9.0,SNR=3.3								
WB2	**Warramunga Arr**	**40.67**	**122**	P		**P**	**22**	**39 49.5**	**-0.1**
ASAR	**Alice Springs**	**42.03**	**127**	P		**P**	**22**	**40 01.6**	**+0.9**
	1.0nm,0.4s,mb3.8,baz=300,slow=7.9,SNR=9.8								
SONM	**Songino Array**	**47.72**	**7**	P		**P**	**22**	**40 46.9**	**+0.9**
	1.4nm,0.6s,mb4.1,baz=197,slow=8.1,SNR=8.2								
MKAR	**Makanchi Array**	**48.26**	**345**	P		**P**	**22**	**40 48.5**	**-1.6**
	0.7nm,0.4s,mb4.0,baz=149,slow=7.4,SNR=5.9								
STKA	**Stephens Creek**	**52.00**	**132**	P		**P**	**22**	**41 17.4**	**-1.2**
	1.8nm,0.7s,mb4.1,baz=309,slow=6.5,SNR=2.8								
ZAL	**Zalesovo**	**54.48**	**350**	P		**P**	**22**	**41 37.2**	**+0.5**
	2.1nm,0.5s,mb4.3,baz=301,slow=4.8,SNR=4.6								
BVAR	**Borovoye Array**	**57.34**	**340**	P		**P**	**22**	**41 57.4**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=138,slow=9.9,SNR=6.9								
BRVK	**Borovoye**	**57.41**	**340**	*e*P		**P**	**22**	**41 57.5**	**-0.2**
	1.4nm,0.5s,mb4.2								
BRVK				*e*PcP		PcP	22	42 51.1	-0.1
ZRNK	**Zerenda**	**57.76**	**339**	*e*P		**P**	**22**	**41 59.9**	**-0.2**
	0.7nm,0.4s,mb4.0								
CHKZ	**Chkalovo**	**57.81**	**341**	*e*P		**P**	**22**	**42 01.9**	**+1.3**
	1.7nm,0.6s,mb4.2								

ISCJB ***15*** *22:33:39.7±0.5,46.18N±0.08×154.31E±0.10,h10km, mb4.2/24,MS4.4/1,Error ellipse: s-maj=12.8km s-min=7.2km az=106.0*

IDC ***15*** *22:33:39.8±0.8,46.13N×154.40E,h0km,mb4.1/14, mb1 4.2/16,mb1mx4.1/26,mbtmp4.1/16,ML3.7/2,MS4.3/1, Ms1 4.3/1,ms1mx3.4/39,Error ellipse: s-maj=21.3km s-min=17.3km az=139.0*

NEIC ***15*** *22:33:41.5±0.4,46.16N×154.36E,h10km,mb4.4/9,Error ellipse: s-maj=10.1km s-min=5.9km az=141.0*

MOS ***15*** *22:33:42.9±1.6,46.14N×154.20E,h33km,mb4.5/20,Error ellipse: s-maj=11.4km s-min=9.6km az=85.3*

ISC 15 22:33:40.6±4.2,4617N±0.08×1544E±.01,h5km±26km,n61, σ0§87/60,mb4.2/24,MS4.4/1,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KUR	**Kuril'sk**	**4.64**	**261**	*e*PN		**Pn**	**22**	**34 46.0**	**-5.3**
KUR				pmax		pmax			
	comp=Z,90nm,0.5s								
PET	**Petropavlovsk**	**7.40**	**21**	PN		**Pn**	**22**	**35 29.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.03**	**280**	PN		**Pn**	**22**	**35 38.7**	**+0.8**
ASAJ	**Asahikawa**	**8.56**	**260**	Pn		**Pn**	**22**	**35 44.8**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=54,slow=17,SNR=2.8								
ASAJ	**Asahikawa**	**8.56**	**260**	PN		**Pn**	**22**	**35 44.8**	**-0.4**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**15.45**	**237**	P		**Pn**	**22**	**37 17.8**	**-1.4**
MJAR	**Matsushiro Arr**	**15.45**	**237**	Pn		**Pn**	**22**	**37 20.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=29,slow=10,SNR=3.4								
MDJ	**Mudanjiang**	**17.44**	**274**	Pn		**Pn**	**22**	**37 44.6**	**-0.1**
YAK	**Yakutsk**	**21.27**	**327**	*e*P		**P**	**22**	**38 28.1**	**+0.3**
YAK				pmax		pmax			
	comp=Z,10.0nm,0.5s,mb4.4								
YAK	**Yakutsk**	**21.27**	**327**	*e*P		**P**	**22**	**38 28.1**	**+0.3**
	comp=Z,9.6nm,0.5s,mb4.4								
KSRS	**Korea Array**	**21.46**	**255**	P		**P**	**22**	**38 30.1**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.2,baz=57,slow=9.8,SNR=3.1								
INCN	**Inchon**	**22.32**	**257**	P		**P**	**22**	**38 38.5**	**-0.5**
BILL	**Bilibino**	**22.77**	**12**	*e*P		**P**	**22**	**38 46.5**	**+2.7**
BILL				pmax		pmax			
	comp=Z,25nm,1.5s,mb4.4								
BILL	**Bilibino**	**22.77**	**12**	P		**P**	**22**	**38 44.6**	**+0.8**
	comp=Z,11nm,0.9s,mb4.3								
BJT	**Baijiatuau**	**28.35**	**271**	*e*P		**P**	**22**	**39 34.5**	**-1.0**
BJT				pmax		pmax			
	comp=Z,3.0nm,0.4s								
BJT	**Baijiatuau**	**28.35**	**271**	*e*P		**P**	**22**	**39 34.5**	**-1.0**
	comp=Z,3.0nm,0.4s,mb4.3								
ULN	**Ulaanbaatar**	**31.90**	**291**	*e*P		**P**	**22**	**40 06.6**	**-0.3**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.0								
ULN	**Ulaanbaatar**	**31.90**	**291**	*e*P		**P**	**22**	**40 06.6**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0								
SONM	**Songino Array**	**32.33**	**291**	P		**P**	**22**	**40 12.2**	**+1.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=73,slow=6.5,SNR=4.2								
SONM	**Songino Array**	**32.33**	**291**	P		**P**	**22**	**40 12.2**	**+1.5**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ZAK	**Zakamensk**	**33.70**	**296**	*e*P		**P**	**22**	**40 21.6**	**-1.0**
ZAK				*e*			22	41 34.6	
ZAK				pmax		pmax			
	comp=Z,3.0nm,2.0s,mb3.9								
MCK	**McKinley**	**35.54**	**40**	P		**P**	**22**	**40 39.0**	**+0.4**
COLA	**College**	**36.06**	**38**	*e*P		**P**	**22**	**40 41.9**	**-1.1**
COLA				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
COLA	**College**	**36.06**	**38**	*e*P		**P**	**22**	**40 41.9**	**-1.1**
	comp=Z,3.2nm,0.6s,mb4.4								
INK	**Inuvik**	**41.68**	**32**	P		**P**	**22**	**41 29.6**	**-0.6**
	comp=Z,1.8nm,0.7s,mb3.8,baz=286,slow=7.0,SNR=3.6								
INK	**Inuvik**	**41.68**	**32**	P		**P**	**22**	**41 29.6**	**-0.6**
INK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**47.97**	**298**	P		**P**	**22**	**42 19.2**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=67,slow=7.3,SNR=6.5								
MKAR	**Makanchi Array**	**47.97**	**298**	P		**P**	**22**	**42 19.2**	**-1.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
LSA	**Lhasa**	**51.16**	**274**	*e*P		**P**	**22**	**42 47.0**	**+2.4**
LSA				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
LSA	**Lhasa**	**51.16**	**274**	*e*P		**P**	**22**	**42 47.0**	**+2.3**
	comp=Z,3.5nm,0.7s,mb4.4								
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P		**P**	**22**	**42 46.6**	**-0.2**
CHKZ				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.6								
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P		**P**	**22**	**42 46.6**	**-0.2**
	comp=Z,2.9nm,0.4s,mb4.6								
BVAR	**Borovoye Array**	**51.88**	**310**	P		**P**	**22**	**42 49.8**	**-0.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=57,slow=7.9,SNR=7.5								
BVAR	**Borovoye Array**	**51.88**	**310**	P		**P**	**22**	**42 49.8**	**-0.2**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZRNK	**Zerenda**	**52.65**	**311**	*e*P		**P**	**22**	**42 56.1**	**+0.4**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.3s,mb4.5								
ZRNK	**Zerenda**	**52.65**	**311**	*e*P		**P**	**22**	**42 56.1**	**+0.4**
	comp=Z,2.2nm,0.3s,mb4.6								
PMG	**Port Moresby**	**55.70**	**189**	LR		LR	23	07 04.7	
	comp=Z,279nm,18.9s,MS4.4,baz=153,slow=36								
ARU	**Arti**	**56.01**	**318**	*e*P		**P**	**22**	**43 19.9**	**-0.3**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
ARU	**Arti**	**56.01**	**318**	*e*P		**P**	**22**	**43 19.9**	**-0.3**
	comp=Z,2.6nm,0.5s,mb4.5								
KEV	**Kevo**	**58.17**	**341**	*e*p		**P**	**22**	**43 34.4**	**-1.1**
ARCES	**ARCESS Array B**	**58.68**	**341**	P		**P**	**22**	**43 38.5**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=25,slow=7.5,SNR=8.4								
ARCES	**ARCESS Array B**	**58.68**	**341**	P		**P**	**22**	**43 38.5**	**-0.5**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.68**	**341**	P		**P**	**22**	**43 38.5**	**-0.5**
PDAR	**Pinedale Array**	**64.39**	**54**	P		**P**	**22**	**44 18.4**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=300,slow=2.4,SNR=6.7								
FINES	**FINESS Array B**	**64.92**	**335**	P		**P**	**22**	**44 21.3**	**+0.2**
	comp=Z,1.1nm,0.3s,mb4.4,baz=37,slow=8.5,SNR=13								
FINES	**FINESS Array B**	**64.92**	**335**	P		**P**	**22**	**44 21.3**	**+0.2**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.3s								
WB2	**Warramunga Arr**	**68.25**	**200**	P		**P**	**22**	**44 43.8**	**+1.4**
WRA	**Warramunga Arr**	**68.26**	**200**	P		**P**	**22**	**44 41.1**	**-1.3**
	comp=Z,2.7nm,0.9s,mb4.3,baz=20,slow=6.7,SNR=5.1								
WRA	**Warramunga Arr**	**68.26**	**200**	P		**P**	**22**	**44 41.1**	**-1.3**
WRA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NB2	**NORSAR Subarra**	**69.05**	**342**	P		**P**	**22**	**44 50.3**	**+3.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.05**	**342**	P		**P**	**22**	**44 47.0**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=27,slow=6.4,SNR=3

PET pmax pmax
comp=Z,76nm,0.8s
PET Petropavlovsk 6.32 26 *e*Pn **Pn 22 42 17.4 -0.2**
comp=Z,187nm,0.9s
PET *e*Sn **Sn 22 43 28.0 -1.8**
YSS Yuzh-Sakhalins 7.73 271 *e*PN **Pn 22 42 41.5 +4.5**
YSS Yuzh-Sakhalins 7.73 271 Pn **Pn 22 42 33.7 -3.3**
comp=Z,266nm,0.7s
ASAJ Asahikawa 8.69 252 Pn **Pn 22 42 48.6 -1.4**
comp=Z,0.1nm,0.3s,baz=37,slow=10,SNR=2.8
MA2 Magadan 12.32 352 *e*PN **Pn 22 43 41.2 +1.3**
KLR Kul'dur 14.96 285 *e*P **Pn 22 44 21.8 +6.0**
MJAR Matsushiro Arr 16.02 233 Pn **Pn 22 44 28.4 -1.3**
comp=Z,0.2nm,0.3s,baz=13,slow=12,SNR=4.8
MAJO Matsushiro 16.02 233 P **Pn 22 44 28.8 -0.9**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 16.02 233 Pn **Pn 22 44 28.8 -0.9**
comp=Z,7.9nm,0.7s
MDJ Mudanjiang 17.22 270 *e*Pn **Pn 22 44 43.6 -1.4**
comp=Z,6.2nm,0.5s
CLNS Chul'man 20.10 309 *e*P **P 22 45 20.0 +1.9**
CLNS pmax pmax
comp=Z,27nm,0.7s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.9s
YAK Yakutsk 20.12 326 *e*P **P 22 45 19.5 +1.1**
YAK pmax pmax
comp=Z,14nm,0.5s
YAK Yakutsk 20.12 326 *e*P **P 22 45 19.5 +1.1**
comp=Z,14nm,0.5s
BILL Bilibino 21.58 12 *e*P **P 22 45 31.7 -2.5**
BILL pmax pmax
comp=Z,10.0nm,1.4s,mb4.0
BILL Bilibino 21.58 12 *e*P **P 22 45 33.7 -0.5**
comp=Z,8.2nm,0.6s,mb4.3
KSRS Korea Array 21.64 252 P **P 22 45 35.3 +0.6**
comp=Z,7.8nm,0.7s,mb4.2,baz=61,slow=10.0,SNR=21
INCN Inchon 22.45 254 P **P 22 45 42.6 -0.9**
BJT Baijiatuan 28.16 269 P **P 22 46 35.8 -1.0**
BJT pmax pmax
comp=Z,3.0nm,0.4s
BJT Baijiatuan 28.16 269 P **P 22 46 35.8 -1.0**
comp=Z,3.4nm,0.4s,mb4.3
ULN Ulaanbaatar 31.31 289 *e*P **P 22 47 04.2 -0.5**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
ULN Ulaanbaatar 31.31 289 *e*P **P 22 47 04.2 -0.5**
comp=Z,1.5nm,0.5s,mb4.1
SONM Songino Array 31.74 289 P **P 22 47 06.2 -2.3**
comp=Z,2.1nm,0.7s,mb4.1,baz=68,slow=8.7,SNR=15
SONM Songino Array 31.74 289 P **P 22 47 06.2 -2.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
GUMO Guam 34.60 196 P **P 22 47 33.8 +0.3**
MCK McKinley 34.70 41 P **P 22 47 34.8 +0.5**
NACB Ninganchiao 34.71 239 P **P 22 47 33.7 -0.7**
COLA College 35.19 39 *e*P **P 22 47 38.9 +0.3**
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
COLA College 35.19 39 *e*P **P 22 47 38.9 +0.3**
comp=Z,9.2nm,0.8s,mb4.8
XAN Xi'an 36.23 265 P **P 22 47 47.6 +0.1**
XAN AMB AMB
comp=Z,15nm,0.8s,mb5.0
GTA Gaotai 39.52 279 *e*P **P 22 48 16.1 +0.8**
GTA AP pP 22 48 25.5 +7.1
GTA XP sP 22 48 30.6 +11
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
INK Inuvik 40.72 33 P **P 22 48 24.8 -0.5**
comp=Z,9.0nm,0.7s,mb4.5,baz=297,slow=7.1,SNR=24
INK Inuvik 40.72 33 P **P 22 48 24.8 -0.4**
INK pmax pmax
comp=Z,9.0nm,0.7s
INK Inuvik 40.72 33 *e*P **P 22 48 25.7 +0.4**
comp=Z,275nm,0.8s,mb5.9
CD2 Chengdu 41.60 265⇑ *i*P **P 22 48 29.8 -2.6**
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.2
GYA Guiyang 42.51 258 P **P 22 48 40.3 +0.4**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
ZAL Zalesovo 42.77 305 P **P 22 48 40.5 -1.5**
comp=Z,4.8nm,0.7s,mb4.4,baz=49,slow=8.5,SNR=18
ZAL Zalesovo 42.77 305 P **P 22 48 40.5 -1.5**
ZAL pmax pmax
comp=Z,5.0nm,0.7s
NVS Novosibirsk 43.30 307 *e*P **P 22 48 45.3 -1.0**
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
MK31 Makanchi Array 47.22 297 *e*P **P 22 49 16.5 -0.9**
MKAR Makanchi Array 47.22 297 P **P 22 49 14.5 -2.9**
comp=Z,7.9nm,0.7s,mb4.7,baz=66,slow=8.1,SNR=41
MKAR Makanchi Array 47.22 297 P **P 22 49 14.5 -2.9**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
RES Resolute Bay 49.98 19 *e*P **P 22 49 38.8 +0.2**
RES pmax pmax
comp=Z,151nm,0.7s
RES Resolute Bay 49.98 19 *e*P **P 22 49 38.8 +0.2**
comp=Z,151nm,0.7s
CHKZ Chkalovo 50.50 310 *e*P **P 22 49 38.7 -3.9**
CHKZ pmax pmax
comp=Z,27nm,0.6s,mb5.3
CHKZ Chkalovo 50.50 310 *e*P **P 22 49 38.7 -3.9**
comp=Z,27nm,0.6s,mb5.3
LSA Lhasa 50.90 273 *e*P **P 22 49 47.8 +2.2**
LSA pmax pmax
comp=Z,25nm,0.6s,mb5.3
LSA Lhasa 50.90 273 *e*P **P 22 49 47.8 +2.2**
comp=Z,25nm,0.6s,mb5.3
BVAR Borovoye Array 50.94 309 P **P 22 49 42.6 -3.3**
comp=Z,9.3nm,0.6s,mb4.9,baz=58,slow=8.9,SNR=44
BVAR Borovoye Array 50.94 309 P **P 22 49 42.6 -3.3**
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 50.98 309 *e*P **P 22 49 45.5 -0.7**
BRVK pmax pmax
comp=Z,14nm,0.6s,mb5.1
BRVK Borovoye 50.98 309 *e*P **P 22 49 45.5 -0.7**
comp=Z,14nm,0.6s,mb5.1
ZRNK Zerenda 51.70 310 *e*P **P 22 49 50.5 -1.1**
ZRNK pmax pmax
comp=Z,11nm,0.7s,mb4.9
ZRNK Zerenda 51.70 310 *e*P **P 22 49 50.5 -1.2**
comp=Z,11nm,0.7s,mb4.9
ARU Arti 54.96 318 *e*P **P 22 50 14.0 -1.6**
ARU Arti 54.96 318 *e*P **P 22 50 14.3 -1.2**
comp=Z,5.3nm,0.6s,mb4.8
EDM Edmonton 55.37 47 *e*P **P 22 50 18.2 -0.3**
JIRN Jiri 55.55 275 *e*P **P 22 50 21.3 +1.5**
comp=Z,68nm,0.7s,mb5.8
GUN Gumba 55.60 275 *e*P **P 22 50 21.2 +1.0**
comp=Z,28nm,0.6s,mb5.5
KKN Kakani 56.08 276 *e*P **P 22 50 24.8 +1.1**
comp=Z,40nm,0.8s,mb5.5
PKI Pulchoki 56.14 275 *e*P **P 22 50 25.2 +1.2**
comp=Z,35nm,0.8s,mb5.5
DMN Daman 56.32 275 *e*P **P 22 50 26.8 +1.5**
comp=Z,84nm,0.8s,mb5.8
GKN Gorkha 56.38 276 *e*P **P 22 50 26.7 +0.9**
comp=Z,76nm,0.7s,mb5.8
PMG Port Moresby 56.92 188 *e*P **P 22 50 29.6 0.0**
PMG pmax pmax
comp=Z,2.0nm,0.3s
PMG Port Moresby 56.92 188 *e*P **P 22 50 29.6 0.0**
comp=Z,1.7nm,0.3s,mb4.5
KOLN Koldanda 57.23 277 *e*P **P 22 50 33.0 +1.2**
comp=Z,57nm,0.8s,mb5.7
ARCES ARCESS Array B 57.43 341 P **P 22 50 31.6 -1.7**
comp=Z,3.6nm,0.9s,mb4.4,baz=31,slow=6.7,SNR=5.0
ARCES ARCESS Array B 57.43 341 P **P 22 50 31.6 -1.6**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
AKTK Aktyubinsk 58.77 312 P **P 22 50 40.1 -2.4**
AKTK PcP PcP 22 51 30.9 -1.4
AKTO Aktyubinsk 58.77 312 P **P 22 50 40.1 -2.4**
comp=Z,1.5nm,0.6s,mb4.2,baz=54,slow=9.6,SNR=6.4
AKTO PcP PcP 22 51 30.9 -1.4
comp=Z,2.2nm,0.8s,baz=28,slow=4.4,SNR=4.9
AKTO Aktyubinsk 58.77 312 P **P 22 50 40.2 -2.4**
AKTO 22 51 30.9
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SUMG Summit 59.98 4 *e*P **P 22 50 51.6 +0.6**
comp=Z,28nm,0.8s,mb5.3
FCC Fort Churchill 60.33 34 *e*P **P 22 50 52.7 -0.7**
FCC pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FCC Fort Churchill 60.33 34 *e*P **P 22 50 52.7 -0.7**
comp=Z,3.6nm,0.5s,mb4.7
FINES FINESS Array B 63.71 335 P **P 22 51 11.8 -4.3**
comp=Z,6.4nm,0.6s,mb4.8,baz=35,slow=7.7,SNR=5.8
FINES FINESS Array B 63.71 335 P **P 22 51 11.8 -4.3**
FINES pmax pmax
comp=Z,6.0nm,0.6s
PDAR Pinedale Array 63.81 55 P **P 22 51 15.3 -1.5**
comp=Z,1.0nm,0.9s,mb3.9,baz=301,slow=2.4,SNR=6.5
ULM Lac du Bonnet 65.57 41 P **P 22 51 26.0 -2.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=282,slow=2.9,SNR=5.8
HYB Hyderabad 67.64 272 *i* P **P 22 51 42.0 +0.5**
HYB Hyderabad 67.64 272 *e*P **P 22 51 42.0 +0.5**
NB2 NORSAR Subarra 67.80 341 P **P 22 51 42.0 -0.4**
comp=Z,17nm,0.7s,mb5.2,baz=26,slow=6.5
NOA NORSAR Array B 67.80 341 P **P 22 51 42.0 -0.4**
comp=Z,15nm,0.7s,mb5.2,baz=26,slow=6.4,SNR=48
NOA NORSAR Array B 67.80 341 P **P 22 51 42.0 -0.4**
NOA pmax pmax
comp=Z,15nm,0.7s
HFS Hagfors 68.05 340 P **P 22 51 43.0 -1.1**
comp=Z,30nm,0.7s,mb5.4,baz=40,slow=2.5,SNR=54
HFS Hagfors 68.05 340 P **P 22 51 43.0 -1.0**
HFS pmax pmax
comp=Z,30nm,0.7s
AKASG Malin Array Be 71.35 327 P **P 22 52 03.4 -1.0**
comp=Z,9.5nm,0.6s,mb4.9,baz=33,slow=6.2,SNR=35
AKASG Malin Array Be 71.35 327 P **P 22 52 03.4 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
SCHQ Schefferville 72.42 23 P **P 22 52 10.7 -0.1**
comp=Z,4.7nm,0.8s,mb4.5,baz=348,slow=7.9,SNR=4.1
ASAR Alice Springs 73.06 199 P **P 22 52 14.4 -0.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=17,slow=6.1,SNR=10
ASAR Alice Springs 73.06 199 P **P 22 52 14.5 -0.1**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
KWP Kalwaria 74.58 330 *e*P **P 22 52 23.4 -0.1**
KWP pmax pmax
comp=Z,46nm,1.0s,mb5.4
KWP Kalwaria 74.58 330 *e*P **P 22 52 23.4 -0.1**
comp=Z,46nm,1.0s,mb5.4
OJC Ojcow 75.04 332 *e*P **P 22 52 26.3 +0.1**
STHS Stebnicka Huta 75.26 330 *i* P **P 22 52 28.2 +0.8**
STHS pmax pmax
comp=Z,12nm,0.7s,mb4.9
STHS Stebnicka Huta 75.26 330 *i* P **P 22 52 28.2 +0.8**
comp=Z,12nm,0.7s,mb4.9
KOLS Kolonicke sedl 75.32 329 *e*P **P 22 52 27.7 -0.1**
BURAR Bucovina Array 75.38 327⇑ *i*P **P 22 52 28.2 0.0**
BURAR Bucovina Array 75.38 327⇑ P **P 22 52 28.2 0.0**
NIE Niedzica 75.57 331 *e*P **P 22 52 30.0 +0.8**
OKC Ostrava-Krasne 75.90 332 *e*P **P 22 52 31.6 +0.5**
UPC Upice 75.97 334 *e*P **P 22 52 31.7 +0.2**
DPC Dobruska-Polom 76.01 334 *e*P **P 22 52 32.4 +0.6**
CLL Collm 76.12 336⇓ *i*P **P 22 52 32.1 -0.3**
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL Collm 76.12 336⇓ *i*P **P 22 52 32.1 -0.3**
comp=Z,23nm,0.9s,mb5.1
MORC Moravsky Berou 76.14 333⇑ *i*P **P 22 52 32.8 +0.3**
MORC Moravsky Berou 76.14 333⇑ P **P 22 52 32.8 +0.3**
CFR Carcaliu 76.28 324⇓ *i*P **P 22 52 34.0 +0.7**
PLOR Plostina 76.31 325⇑ *i*P **P 22 52 34.0 +0.5**
KECS Kecovo 76.32 330 *e*P **P 22 52 33.5 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 76.32 330 *e*P **P 22 52 33.5 0.0**
comp=Z,5.1nm,0.9s,mb4.5
PVCC Panska Ves 76.37 335 *e*P **P 22 52 33.2 -0.6**
TXAR Lajitas Array 76.58 61 P **P 22 52 34.4 -0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=300,slow=3.9,SNR=14
TXAR Lajitas Array 76.58 61 P **P 22 52 34.4 -0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TIRR Tirgusor 76.77 323⇓ *i*P **P 22 52 36.2 +0.2**
TIRR Tirgusor 76.77 323⇓ P **P 22 52 36.2 +0.2**
VRAC Vranov 76.85 333⇓ *i*P **P 22 52 37.4 +0.9**
VRAC Vranov 76.85 333⇓ P **P 22 52 37.4 +0.9**
VYHS Vyhne 76.85 331 *i* P **P 22 52 36.7 +0.2**
PRU Pruhonice 76.86 335 *e*P **P 22 52 36.6 0.0**
MLR Muntele Rosu 76.89 325⇓ *i*P **P 22 52 38.0 +1.3**
MLR Muntele Rosu 76.89 325⇓ P **P 22 52 38.0 +1.3**
DRGR 76.99 328⇑ *i*P **P 22 52 37.4 +0.1**
DRGR 76.99 328⇑ P **P 22 52 37.4 +0.1**
PSZ Piszkesteto 77.00 330⇑ *i*P **P 22 52 38.3 +0.9**
PSZ Piszkesteto 77.00 330⇑ P **P 22 52 38.3 +1.0**
MALT Malatya 77.17 313⇓ *i*P **P 22 52 39.9 +1.6**
MALT Malatya 77.17 313⇓ P **P 22 52 39.9 +1.6**
NKC Novy Kostel 77.24 336 *e*P **P 22 52 38.8 +0.1**
VOIR 77.28 326⇓ *i*P **P 22 52 39.9 +1.0**
VOIR 77.28 326⇓ P **P 22 52 39.9 +1.0**
ZST Bratislava 77.67 332 *i* P **P 22 52 42.4 +1.3**
ZST pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZST Bratislava 77.67 332 *i* P **P 22 52 42.4 +1.3**
comp=Z,7.0nm,1.0s,mb4.5
KHC Kasperske Hory 77.91 335 *e*P **P 22 52 42.8 +0.3**
GRA1 Grafenberg Arr 78.07 336 *e*P **P 22 52 43.8 +0.5**
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 78.07 336 *e*P **P 22 52 43.8 +0.5**
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 78.07 336 *e*P **P 22 52 43.8 +0.5**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.8
GERES GERESS Array B 78.13 335 P **P 22 52 43.4 -0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=28,slow=6.0,SNR=18
GERES GERESS Array B 78.13 335 P **P 22 52 43.4 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GZR Gura Zlata 78.16 327⇑ *i*P **P 22 52 44.4 +0.6**
BR131 Keskin Array S 78.34 317 *e*P **P 22 52 44.9 0.0**
comp=Z,7.1nm,0.9s,mb4.6
BRTR Keskin Array B 78.34 317 P **P 22 52 44.6 -0.2**
comp=Z,6.0nm,0.8s,mb4.6,baz=56,slow=4.1,SNR=26
BRTR Keskin Array B 78.34 317 P **P 22 52 44.6 -0.3**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BZS Buzias 78.39 328⇓ *i*P **P 22 52 45.0 -0.1**
BZS Buzias 78.39 328⇓ P **P 22 52 45.0 -0.1**
UMR Umm Al-Rimmam 78.84 302 *e*P **P 22 52 48.0 +0.4**
UMR AMb AMB 22 52 49.1
comp=Z,72nm,0.6s,mb5.8
MIB Mutribah 78.87 302 *e*P **P 22 52 48.0 +0.3**
MIB AMb AMB 22 52 49.3
comp=Z,93nm,0.7s,mb5.8
PKSM Moragy 78.91 330⇑ *i*P **P 22 52 47.5 -0.5**
PKSM Moragy 78.91 330⇑ P **P 22 52 47.5 -0.4**
KBD Kabd 79.13 301⇑ *e*P **P 22 52 50.2 +1.0**
QRN Al-Qurain 79.33 301 *e*P **P 22 52 51.2 +0.9**
QRN AMb AMB 22 52 51.9
comp=Z,82nm,0.7s,mb5.8
NAY Al-Naaiem 79.34 302 *e*P **P 22 52 50.7 +0.3**
NAY AMb AMB 22 52 52.7
comp=Z,32nm,1.0s,mb5.2
RDF Al-Radifah 79.40 301 *e*P **P 22 52 51.6 +0.9**
STKA Stephens Creek 79.74 191 P **P 22 52 53.6 +1.1**
comp=Z,0.8nm,0.3s,mb4.1,baz=86,slow=14,SNR=3.0
CDF Champ du Feu 80.28 338 *e*P **P 22 52 55.5 +0.1**
comp=Z,7.8nm,0.8s,mb4.4
CDF Champ du Feu 80.28 338 *e*P **P 22 52 55.5 +0.1**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 80.28 338 *e*P **P 22 52 55.5 +0.1**
comp=Z,3.9nm,0.8s,mb4.4
VTS Vitosha 80.39 326⇓ *i*P **P 22 52 56.9 +0.9**
VTS Vitosha 80.39 326⇓ P **P 22 52 56.9 +0.9**
GRR Gorron 82.11 343 *e*P **P 22 53 05.3 +0.1**
SMF Signal de Mont 82.76 340 *e*P **P 22 53 08.4 -0.1**
comp=Z,41nm,1.3s,mb5.0
SMF Signal de Mont 82.76 340 *e*P **P 22 53 08.4 -0.1**
SMF pmax pmax
comp=Z,21nm,1.3s,mb5.0
SMF Signal de Mont 82.76 340 *e*P **P 22 53 08.4 -0.1**
comp=Z,21nm,1.3s,mb5.0
ASF Jabal al Asfar 82.76 310 P **P 22 53 07.6 -1.0**
comp=Z,1.5nm,0.8s,mb4.1,baz=306,slow=8.7,SNR=3.6
ASF Jabal al Asfar 82.76 310 P **P 22 53 07.6 -1.0**
ASF pmax pmax
comp=Z,2.0nm,0.8s
LPG La Plagne 83.11 338 *e*P **P 22 53 11.3 +0.9**
comp=Z,7.7nm,0.7s,mb4.5
LPG La Plagne 83.11 338 *e*P **P 22 53 11.3 +0.9**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LPG La Plagne 83.11 338 *e*P **P 22 53 11.3 +0.9**
comp=Z,3.8nm,0.7s,mb4.5
CAF Calviac 84.79 340 *e*P **P 22 53 19.0 0.0**

ISCJB ***15*** *22:41:55.8*S*0.5, 4678*N*007*×*155.15*E*009, h10km, mb4.4/38, Error ellipse: s-maj=11.2km s-min=6.9km az=101.8*

IDC ***15*** *22:41:56.0*S*0.7, 4680*N*×15523*E*, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML3.8/1, Error ellipse: s-maj=19.8km s-min=17.0km az=145.0*

NEIC ***15*** *22:41:57.6*S*0.5, 4676*N*×155.12*E*, h10km, mb4.5/15, Error ellipse: s-maj=11.6km s-min=7.3km az=133.0*

BJI ***15*** *22:41:57.9, 4750*N*×15499*E, h5km, mb5.1, mb4.5*

MOS ***15*** *22:42:00.3*S*2.4, 4675*N*×15498*E, h33km, mb4.5/25, Error ellipse: s-maj=10.7km s-min=7.2km az=110.9*

ISC 15 22:41:57.8S**0.5, 4678N**L**007×15515E**L**009, h10km, n120, σ1ᵎ50/121, mb4.4/38, 12C-6D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.50**	**276**	PN **Pn**	**22 44 01.1**	**+0.2**
ASAJ	**Asahikawa**	**9.22**	**258**	Pn **Pn**	**22 44 11.8**	**+1.1**
	1.2nm,0.3s,baz=96,slow=15,SNR=2.7					
ASAJ	**Asahikawa**	**9.22**	**258**	PN **Pn**	**22 44 11.9**	**+1.1**
ASAJ				pmax pmax		
	comp=Z,1.0nm,0.3s					
MA2	**Magadan**	**13.08**	**350**	PN **Pn**	**22 45 03.0**	**-0.6**
KLR	**Kul'dur**	**15.84**	**287**	*e*P **Pn**	**22 45 40.8**	**0.0**
MJAR	**Matsushiro Arr**	**16.24**	**237**	Pn **Pn**	**22 45 43.2**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=3.3					
MAJO	**Matsushiro**	**16.25**	**237**	*e*P **Pn**	**22 45 44.5**	**-1.5**
MAJO				pmax pmax		
	comp=Z,10.0nm,0.6s					
MAJO	**Matsushiro**	**16.25**	**237**	*e*Pn **Pn**	**22 45 44.5**	**-1.5**
	comp=Z,10nm,0.6s					
MAT	**Matsushiro**	**16.25**	**237**	P **Pn**	**22 45 51.7**	**+5.7**
MDJ	**Mudanjiang**	**17.96**	**272**	*e*Pn **Pn**	**22 46 06.9**	**-0.7**
	comp=Z,5.6nm,0.4s					
CN2	**Changchun**	**21.05**	**273**	*e*P **P**	**22 46 40.8**	**-1.0**
CN2				AMB AMB		
	comp=Z,10.0nm,0.8s,mb4.2					
YAK	**Yakutsk**	**21.07**	**326**	*e*P **P**	**22 46 40.1**	**-1.9**
YAK				pmax pmax		
	comp=Z,16nm,0.6s,mb4.5					
YAK	**Yakutsk**	**21.07**	**326**	*e*P **P**	**22 46 40.0**	**-2.0**
	comp=Z,16nm,0.6s,mb4.5					
BILL	**Bilibino**	**22.07**	**11**	*e*P **P**	**22 46 51.8**	**-1.0**
BILL				pmax pmax		
	comp=Z,5.0nm,0.6s,mb4.1					
BILL	**Bilibino**	**22.07**	**11**	*e*P **P**	**22 46 51.8**	**-1.0**
	comp=Z,4.6nm,0.6s,mb4.1					
KSRS	**Korea Array**	**22.15**	**255**	P **P**	**22 46 55.2**	**+1.5**
	comp=Z,3.9nm,0.8s,mb3.9,baz=56,slow=11,SNR=4.6					
INCN	**Inchon**	**22.99**	**256**	P **P**	**22 47 02.1**	**-0.5**
HIA	**Hailar**	**23.68**	**289**	*e*P **P**	**22 47 08.4**	**-1.3**
HIA				pmax pmax		
	comp=Z,3.0nm,0.4s					
HIA	**Hailar**	**23.68**	**289**	*e*P **P**	**22 47 08.4**	**-1.2**
	comp=Z,2.6nm,0.4s,mb4.0					
BJT	**Baijiatuan**	**28.89**	**271**	P **P**	**22 47 58.7**	**+2.0**
ULN	**Ulaanbaatar**	**32.21**	**290**	*e*P **P**	**22 48 25.4**	**-0.6**
ULN				pmax pmax		
	comp=Z,3.0nm,0.9s,mb4.1					
ULN	**Ulaanbaatar**	**32.21**	**290**	*e*P **P**	**22 48 25.4**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.1					
SONM	**Songino Array**	**32.64**	**290**	P **P**	**22 48 29.0**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=62,slow=7.8,SNR=8.5					
SONM	**Songino Array**	**32.64**	**290**	P **P**	**22 48 29.0**	**-0.8**
SONM				pmax pmax		
	comp=Z,2.0nm,0.8s					
TLY	**Talaya**	**33.41**	**298**	*e*P **P**	**22 48 36.1**	**-0.4**
TLY				pmax pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
TLY	**Talaya**	**33.41**	**298**	*e*P **P**	**22 48 36.1**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.5					
ZAK	**Zakamensk**	**33.93**	**296**	*e*P **P**	**22 48 39.3**	**-1.7**
ZAK				pmax pmax		
	comp=Z,2.0nm,0.8s,mb4.1					
MCK	**McKinley**	**34.72**	**40**	P **P**	**22 48 46.6**	**-1.3**
YHNB	**Yeheng**	**34.79**	**242**	P **P**	**22 48 48.9**	**+0.4**
NACB	**Ninganchiao**	**35.03**	**242**	P **P**	**22 48 49.9**	**-0.6**
COLA	**College**	**35.24**	**38**	*e*P **P**	**22 48 51.8**	**-0.6**
COLA				pmax pmax		
	comp=Z,4.0nm,0.7s,mb4.5					
COLA	**College**	**35.24**	**38**	*e*P **P**	**22 48 51.8**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.5					
LZH	**Lanzhou**	**39.29**	**273**	*e*P **P**	**22 49 27.8**	**+1.1**
LZH				AP pP	22 49 30.3	+0.5
LZH				XP sP	22 49 31.9	+0.9
LZH				AMB AMB		
	comp=Z,12nm,1.0s,mb4.6					
LZH				AMB AMB		
	comp=Z,50nm,4.1s					
LZH	**Lanzhou**	**39.29**	**273**	*e*P **P**	**22 49 27.7**	**+1.0**
LZH				pmax pmax		
	comp=Z,12nm,1.0s,mb4.6					
LZH	**Lanzhou**	**39.29**	**273**	*e*P **P**	**22 49 27.7**	**+1.0**
	comp=Z,12nm,1.0s,mb4.6					
LZH				pP pP	22 49 30.3	+0.5
LZH				sP sP	22 49 31.9	+0.9
GTA	**Gaotai**	**40.35**	**280**	*e*P **P**	**22 49 37.8**	**+2.3**
GTA				AMB AMB		
	comp=Z,4.0nm,1.3s,mb4.0					
INK	**Inuvik**	**40.87**	**33**	P **P**	**22 49 37.9**	**-2.0**
	comp=Z,1.5nm,0.6s,mb3.8,baz=261,slow=6.1,SNR=2.1					
INK	**Inuvik**	**40.87**	**33**	P **P**	**22 49 37.9**	**-2.0**
INK				pmax pmax		
	comp=Z,2.0nm,0.6s					
INK	**Inuvik**	**40.87**	**33**	*e*P **P**	**22 49 38.5**	**-1.4**
	comp=Z,50nm,0.5s,mb5.4					
ZAL	**Zalesovo**	**43.74**	**306**	P **P**	**22 50 01.8**	**-1.5**
	comp=Z,1.7nm,0.5s,mb4.0,baz=41,slow=6.7,SNR=3.6					
ZAL				PcP PcP	22 51 49.5	-0.5
	comp=Z,1.0nm,0.4s,baz=26,slow=3.9,SNR=2.8					
ZAL	**Zalesovo**	**43.74**	**306**	P **P**	**22 50 01.8**	**-1.4**
ZAL					22 51 49.5	
ZAL				pmax pmax		
	comp=Z,2.0nm,0.5s					
ZAL				pmax pmax		
	comp=Z,1.0nm,0.4s					
ZAL	**Zalesovo**	**43.74**	**306**	P **P**	**22 50 01.8**	**-1.5**
ZAL				PcP PcP	22 51 49.5	-0.5
NVS	**Novosibirsk**	**44.28**	**308**	*e*P **P**	**22 50 04.1**	**-3.4**
NVS				pmax pmax		
	comp=Z,4.0nm,0.7s,mb4.3					
NVS				pmax pmax		
	comp=N,1.0nm,0.6s					
NVS				pmax pmax		
	comp=E,5.0nm,0.7s					
MKAR	**Makanchi Array**	**48.17**	**298**	P **P**	**22 50 37.0**	**-1.1**
	comp=E,2.4nm,0.7s,mb4.3,baz=69,slow=6.6,SNR=7.2					
MKAR	**Makanchi Array**	**48.17**	**298**	P **P**	**22 50 37.0**	**-1.1**
MKAR				pmax pmax		
	comp=Z,2.0nm,0.7s					
RES	**Resolute Bay**	**50.36**	**19**	*e*P **P**	**22 50 53.6**	**-1.3**
RES				pmax pmax		
	comp=Z,48nm,0.5s					
RES	**Resolute Bay**	**50.36**	**19**	*e*P **P**	**22 50 53.6**	**-1.3**
	comp=Z,48nm,0.5s					
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P **P**	**22 51 02.6**	**-0.7**
CHKZ				pmax pmax		
	comp=Z,15nm,0.6s,mb5.1					
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P **P**	**22 51 02.6**	**-0.7**
	comp=Z,15nm,0.6s,mb5.1					
LSA	**Lhasa**	**51.67**	**275**	P **P**	**22 51 09.6**	**+4.8**
LSA				AMB AMB		
	comp=Z,10.0nm,0.7s,mb4.8					
LSA	**Lhasa**	**51.67**	**275**	*e*P **P**	**22 51 08.4**	**+3.6**
LSA				pmax pmax		
	comp=Z,5.0nm,0.6s,mb4.6					
LSA	**Lhasa**	**51.67**	**275**	*e*P **P**	**22 51 08.4**	**+3.6**

	comp=Z,5.0nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**51.92**	**310**	P		**P**	**22 51 05.1**	**-1.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=76,slow=3.8,SNR=4.1							
BVAR	**Borovoye Array**	**51.92**	**310**	P		**P**	**22 51 05.1**	**-1.5**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**51.95**	**310**	*e*P		**P**	**22 51 06.5**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
BRVK	**Borovoye**	**51.95**	**310**	*e*P		**P**	**22 51 06.5**	**-0.4**
	comp=Z,10.0nm,0.7s,mb4.8							
ZRNK	**Zerenda**	**52.68**	**311**	*e*P		**P**	**22 51 12.2**	**-0.1**
ZRNK				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
ZRNK	**Zerenda**	**52.68**	**311**	*e*P		**P**	**22 51 12.2**	**-0.1**
	comp=Z,8.3nm,0.7s,mb4.8							
ARU	**Arti**	**55.93**	**318**	*e*P		**P**	**22 51 35.9**	**0.0**
ARU				*e*			22 52 37.5	
ARU				*e*			22 52 37.3	
ARU				*e*S		**S**	**22 59 15.7**	**-8.0**
ARU				*e*SS		SS	23 03 02.0	-7.5
ARU	**Arti**	**55.93**	**318**	*e*P		**P**	**22 51 35.9**	**0.0**
	comp=Z,9.1nm,0.4s,mb5.2							
PMG	**Port Moresby**	**56.39**	**189**	P		**P**	**22 51 38.4**	**-0.8**
ARCES	**ARCESS Array B**	**58.28**	**341**	P		**P**	**22 51 51.2**	**-1.3**
	comp=Z,4.4nm,1.0s,mb4.5,baz=43,slow=7.3,SNR=4.1							
ARCES	**ARCESS Array B**	**58.28**	**341**	P		**P**	**22 51 51.2**	**-1.4**
ARCES				pmax		pmax		
	comp=Z,4.0nm,1.0s							
AKTK	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 52 02.8**	**+0.1**
AKTO	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 52 02.8**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=46,slow=4.1,SNR=6.9							
AKTO	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 52 02.8**	**+0.1**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
PDAR	**Pinedale Array**	**63.59**	**55**	P		**P**	**22 52 26.4**	**-2.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=196,slow=36,SNR=2.2							
FINES	**FINESS Array B**	**64.60**	**336**	P		**P**	**22 52 34.2**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.6,baz=39,slow=7.3,SNR=7.8							
FINES	**FINESS Array B**	**64.60**	**336**	P		**P**	**22 52 34.2**	**-1.1**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.6s							
FINES	**FINESS Array B**	**64.60**	**336**	P		**P**	**22 52 34.2**	**-1.1**
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**	**22 53 02.0**	**+0.9**
	comp=Z,2.4nm,0.8s,mb4.2,baz=25,slow=6.3,SNR=2.9							
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**	**22 53 02.0**	**+0.9**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**68.91**	**340**	P		**P**	**22 53 03.3**	**+0.5**
	comp=Z,2.5nm,0.5s,mb4.4,baz=50,slow=4.6,SNR=5.9							
HFS	**Hagfors**	**68.91**	**340**	P		**P**	**22 53 03.3**	**+0.5**
HFS				pmax		pmax		
	comp=Z,3.0nm,0.5s							
WRA	**Warramunga Arr**	**69.02**	**201**	P		**P**	**22 53 02.2**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=23,slow=6.7,SNR=7.4							
WRA	**Warramunga Arr**	**69.02**	**201**	P		**P**	**22 53 02.2**	**-1.3**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KIV	**Kislovodsk**	**71.77**	**315**	P		**P**	**22 53 19.7**	**-0.6**
KIV	**Kislovodsk**	**71.77**	**315**	P		**P**	**22 53 19.7**	**-0.6**
AKASG	**Malin Array Be**	**72.29**	**327**	P		**P**	**22 53 23.1**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=6.3,SNR=6.7							
AKASG	**Malin Array Be**	**72.29**	**327**	P		**P**	**22 53 23.1**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.70**	**200**	P		**P**	**22 53 26.7**	**+0.8**
	comp=Z,3.9nm,0.8s,mb4.4,baz=18,slow=5.6,SNR=14							
ASAR	**Alice Springs**	**72.70**	**200**	P		**P**	**22 53 26.7**	**+0.8**
ASAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
STHS	**Stebnicka Huta**	**76.18**	**331**	*e*P		**P**	**22 53 48.5**	**+2.4**
TXAR	**Lajitas Array**	**76.25**	**62**	P		**P**	**22 53 47.5**	**+1.0**
	comp=Z,4.9nm,0.7s,mb4.5,baz=299,slow=4.2,SNR=17							
TXAR	**Lajitas Array**	**76.25**	**62**	P		**P**	**22 53 47.5**	**+1.0**
TXAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BURAR	**Bucovina Array**	**76.32**	**328**	⇑*i*P		**P**	**22 53 48.4**	**+1.5**
BURAR	**Bucovina Array**	**76.32**	**328**	⇑P		**P**	**22 53 48.4**	**+1.5**
OKC	**Ostrava-Krasne**	**76.81**	**333**	*e*P		**P**	**22 53 52.9**	**+3.2**
UPC	**Upice**	**76.87**	**335**	*e*P		**P**	**22 53 57.1**	**+7.1**
DPC	**Dobruska-Polom**	**76.92**	**334**	*e*P		**P**	**22 53 54.1**	**+3.8**
CLL	**Collm**	**77.00**	**337**	*e*P		**P**	**22 53 48.0**	**-2.8**
CLL				*i*			22 53 54.0	
CLL	**Collm**	**77.00**	**337**	*e*P		**P**	**22 53 51.0**	**+0.2**
CLL				*i* Pmax		pP	22 53 54.0	-0.1
	comp=Z,15nm,1.3s							
MORC	**Moravsky Berou**	**77.05**	**333**	⇑*i*P		**P**	**22 53 54.6**	**+3.6**
MORC	**Moravsky Berou**	**77.05**	**333**	⇑P		**P**	**22 53 54.6**	**+3.5**
KECS	**Kecovo**	**77.24**	**331**	*e*P		**P**	**22 53 55.3**	**+3.2**
PVCC	**Panska Ves**	**77.27**	**335**	*e*P		**P**	**22 53 55.4**	**+3.1**
TIRR	**Tirgusor**	**77.72**	**324**	⇓*i*P		**P**	**22 54 00.5**	**+5.7**
TIRR	**Tirgusor**	**77.72**	**324**	⇓P		**P**	**22 54 00.5**	**+5.7**
PRU	**Pruhonice**	**77.76**	**335**	*e*P		**P**	**22 53 58.5**	**+3.5**
MLR	**Muntele Rosu**	**77.83**	**326**	⇑*i*P		**P**	**22 53 58.2**	**+2.8**
MLR	**Muntele Rosu**	**77.83**	**326**	⇑P		**P**	**22 53 58.2**	**+2.8**
PSZ	**Piszkesteto**	**77.93**	**331**	⇑*i*P		**P**	**22 53 59.1**	**+3.2**
PSZ	**Piszkesteto**	**77.93**	**331**	⇑P		**P**	**22 53 59.1**	**+3.2**
DRGR		**77.93**	**329**	⇓*i*P		**P**	**22 53 59.2**	**+3.3**
DRGR		**77.93**	**329**	⇓P		**P**	**22 53 59.2**	**+3.3**
NKC	**Novy Kostel**	**78.13**	**337**	*e*P		**P**	**22 54 00.8**	**+3.8**
VOIR		**78.22**	**327**	⇑*i*P		**P**	**22 54 01.7**	**+4.1**
VOIR		**78.22**	**327**	⇑P		**P**	**22 54 01.7**	**+4.2**
KHC	**Kasperske Hory**	**78.81**	**335**	*e*P		**P**	**22 54 04.9**	**+4.1**
GERES	**GERESS Array B**	**79.03**	**335**	P		**P**	**22 54 03.3**	**+1.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.0,SNR=5.7							
GERES	**GERESS Array B**	**79.03**	**335**	P		**P**	**22 54 03.3**	**+1.3**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BZS	**Buzias**	**79.33**	**329**	⇑*i*P		**P**	**22 54 07.1**	**+3.5**
BZS	**Buzias**	**79.33**	**329**	⇑P		**P**	**22 54 07.1**	**+3.4**
PKSM	**Moragy**	**79.83**	**331**	⇓*i*P		**P**	**22 54 10.6**	**+4.2**
PKSM	**Moragy**	**79.83**	**331**	⇓P		**P**	**22 54 10.6**	**+4.2**
CDF	**Champ du Feu**	**81.14**	**339**	*e*P		**P**	**22 54 17.7**	**+4.3**
	comp=Z,7.2nm,0.8s,mb4.3							
GRR	**Gorron**	**82.94**	**344**	*e*P		**P**	**22 54 27.3**	**+4.5**
	comp=Z,4.6nm,0.5s,mb4.4							
SMF	**Signal de Mont**	**83.62**	**341**	*e*P		**P**	**22 54 31.0**	**+4.6**
	comp=Z,27nm,1.1s,mb5.0							
LPG	**La Plagne**	**83.99**	**338**	*e*P		**P**	**22 54 33.7**	**+5.4**
	comp=Z,14nm,1.0s,mb4.8							
CAF	**Calviac**	**85.64**	**341**	*e*P		**P**	**22 54 41.2**	**+4.6**
	comp=Z,11nm,0.8s,mb4.9							

IDC ***15*** *22:44:30.1±1.0, 48.10N×155.06E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/24, mbtmp4.1/13, ML3.4/1, Error ellipse: s-maj=26.9km s-min=22.5km az=132.0*

NEIC ***15*** *22:44:31.9±0.5, 48.07N×155.05E, h10km, mb4.4/14, Error ellipse: s-maj=12.6km s-min=7.9km az=132.0*

BJI ***15*** *22:44:31.0, 47.99N×155.25E, h22km, mB5.0, mb4.3*

ISCJB ***15*** *22:44:32.2±2.8, 48.10N±0.07×155.1E±0.1, h23km±19km, mb4.3/25, Error ellipse: s-maj=17.2km s-min=7.9km az=75.4*

MOS ***15*** *22:44:34.2±1.4, 48.08N×155.10E, h40km, mb4.5/17, Error ellipse: s-maj=12.2km s-min=8.0km az=101.5*

ISC 15 22:44:31.8±4.2, 4812N±007×1551E±01, h10km±25km, n75, σ1$00/75, mb4.3/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.66**	**15**	*e*PN		**Pn**	**22 45 18.0**	**+3.3**
SKR				*e*S		**Sn**	**22 45 46.0**	**-0.9**
SKR				pmax		pmax		
	comp=Z,140nm,0.5s							
SKR				smax				
	comp=N,510nm,0.8s							
SKR				smax				
	comp=E,60nm,0.8s							
PET	**Petropavlovsk**	**5.42**	**24**	PN		**Pn**	**22 45 52.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.41**	**267**	*e*PN		**Pn**	**22 46 38.6**	**+4.9**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**8.41**	**267**	*e*Pn		**Pn**	**22 46 38.0**	**+4.2**
	comp=Z,22nm,0.6s							
ASAJ	**Asahikawa**	**9.54**	**250**	Pn		**Pn**	**22 46 53.2**	**+4.1**
	comp=Z,0.8nm,0.3s,baz=91,slow=17,SNR=4.4							
ASAJ	**Asahikawa**	**9.54**	**250**	PN		**Pn**	**22 46 53.3**	**+4.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KLR	**Kul'dur**	**15.43**	**283**	*e*P		**Pn**	**22 48 11.7**	**+2.2**
MJAR	**Matsushiro Arr**	**16.96**	**233**	Pn		**Pn**	**22 48 28.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=35,slow=16,SNR=3.8							
YAK	**Yakutsk**	**19.94**	**324**	*e*P		**Pn**	**22 49 04.3**	**-1.2**
YAK				pmax		pmax		
	comp=Z,12nm,0.4s							
YAK	**Yakutsk**	**19.94**	**324**	*e*P		**Pn**	**22 49 04.3**	**-1.3**
	comp=Z,12nm,0.4s							
CN2	**Changchun**	**20.97**	**269**	*e*P		**P**	**22 49 14.4**	**-0.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
KSRS	**Korea Array**	**22.48**	**252**	P		**P**	**22 49 30.7**	**-0.5**
	comp=Z,3.9nm,0.8s,mb3.9,baz=59,slow=9.7,SNR=8.1							
ULN	**Ulaanbaatar**	**31.72**	**288**	P		**P**	**22 50 54.2**	**-1.5**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.8							
ULN	**Ulaanbaatar**	**31.72**	**288**	P		**P**	**22 50 54.2**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.7							
SONM	**Songino Array**	**32.15**	**288**	P		**P**	**22 50 59.7**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.6,baz=48,slow=7.7,SNR=4.2							
SONM	**Songino Array**	**32.15**	**288**	P		**P**	**22 50 59.7**	**+0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
COLA	**College**	**34.24**	**40**	P		**P**	**22 51 16.7**	**-1.1**
ENH	**Enshi**	**38.91**	**260**	P		**P**	**22 51 57.4**	**-0.3**
MK31	**Makanchi Array**	**47.49**	**297**	*e*P		**P**	**22 53 06.3**	**-0.7**
MKAR	**Makanchi Array**	**47.49**	**297**	P		**P**	**22 53 06.0**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.4,baz=63,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**47.49**	**297**	P		**P**	**22 53 06.0**	**-1.0**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
RES	**Resolute Bay**	**49.11**	**19**	*e*P		**P**	**22 53 19.7**	**+0.2**
RES				pmax		pmax		
	comp=Z,60nm,0.8s							
RES	**Resolute Bay**	**49.11**	**19**	*e*P		**P**	**22 53 19.7**	**+0.3**
	comp=Z,60nm,0.8s							
CHKZ	**Chkalovo**	**50.56**	**310**	*e*P		**P**	**22 53 29.2**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
CHKZ	**Chkalovo**	**50.56**	**310**	*e*P		**P**	**22 53 29.2**	**-1.4**
	comp=Z,2.9nm,0.5s,mb4.5							
BVAR	**Borovoye Array**	**51.01**	**309**	P		**P**	**22 53 33.1**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=58,slow=7.3,SNR=5.2							
BVAR	**Borovoye Array**	**51.01**	**309**	P		**P**	**22 53 33.1**	**-0.8**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**51.05**	**309**	*e*P		**P**	**22 53 33.3**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**51.05**	**309**	*e*P		**P**	**22 53 33.3**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.3							
LSA	**Lhasa**	**51.52**	**273**	*e*P		**P**	**22 53 39.9**	**+2.2**
LSA				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**51.52**	**273**	*e*P		**P**	**22 53 39.9**	**+2.3**
	comp=Z,1.7nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**51.77**	**310**	*e*P		**P**	**22 53 38.7**	**-0.8**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**51.77**	**310**	*e*P		**P**	**22 53 38.7**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2							
CHTO	**Chiang Mai**	**53.72**	**257**	*e*P		**P**	**22 53 55.0**	**+1.0**
CHTO				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
CHTO	**Chiang Mai**	**53.72**	**257**	*e*P		**P**	**22 53 55.0**	**+1.0**
	comp=Z,4.8nm,1.0s,mb4.4							
ARU	**Arti**	**54.90**	**318**	*e*P		**P**	**22 54 01.3**	**-1.2**
SUMG	**Summit**	**59.23**	**5**	*e*P		**P**	**22 54 34.0**	**+0.7**
	comp=Z,10nm,0.8s,mb4.9							
FINES	**FINESS Array B**	**63.36**	**335**	P		**P**	**22 55 00.1**	**-1.1**
	comp=Z,2.3nm,0.9s,mb4.3,baz=36,slow=7.1,SNR=3.4							
FINES	**FINESS Array B**	**63.36**	**335**	P		**P**	**22 55 00.1**	**-1.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**67.35**	**342**	P		**P**	**22 55 26.7**	**-0.4**
	comp=Z,3.0nm,0.7s,mb4.4,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.35**	**342**	P		**P**	**22 55 26.6**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=26,slow=6.5,SNR=8.0							
NOA	**NORSAR Array B**	**67.35**	**342**	P		**P**	**22 55 26.6**	**-0.5**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**67.63**	**340**	P		**P**	**22 55 28.4**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.6,baz=66,slow=5.0,SNR=13							
HFS	**Hagfors**	**67.63**	**340**	P		**P**	**22 55 28.4**	**-0.4**
HFS				pmax		pmax		
	comp=Z,3.0nm,0.5s							
CTAO	**Charters Tower**	**68.35**	**189**	P		**P**	**22 55 31.9**	**-1.5**
AKASG	**Malin Array Be**	**71.13**	**327**	P		**P**	**22 55 49.9**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=32,slow=5.9,SNR=5.8							
AKASG	**Malin Array Be**	**71.13**	**327**	P		**P**	**22 55 49.9**	**-0.6**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ASAR	**Alice Springs**	**73.94**	**200**	P		**P**	**22 56 07.0**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=20,slow=5.3,SNR=3.6							
KWP	**Kalwaria**	**74.31**	**330**	*e*P		**P**	**22 56 08.9**	**-0.5**
KWP				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.9							
KWP	**Kalwaria**	**74.31**	**330**	*e*P		**P**	**22 56 08.9**	**-0.5**
	comp=Z,17nm,1.0s,mb4.9							
STHS	**Stebnicka Huta**	**74.98**	**331**	*i* P		**P**	**22 56 14.5**	**+1.2**
STHS				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
STHS	**Stebnicka Huta**	**74.98**	**331**	*i* P		**P**	**22 56 14.5**	**+1.2**
	comp=Z,4.0nm,0.8s,mb4.4							
KOLS	**Kolonicke sedl**	**75.06**	**330**	*e*P		**P**	**22 56 13.8**	**+0.1**
UZH	**Uzhgorod**	**75.31**	**330**	*e*P		PcP	22 56 29.0	+0.5
OKC	**Ostrava-Krasne**	**75.59**	**333**	*e*P		**P**	**22 56 18.2**	**+1.4**
UPC	**Upice**	**75.63**	**334**	*e*P		**P**	**22 56 18.1**	**+1.1**
TXAR	**Lajitas Array**	**75.67**	**62**	P		**P**	**22 56 17.1**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=305,slow=4.3,SNR=8.9							
TXAR	**Lajitas Array**	**75.67**	**62**	P		**P**	**22 56 17.1**	**-0.2**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
DPC	**Dobruska-Polom**	**75.68**	**334**	*e*P		**P**	**22 56 18.2**	**+0.9**
CLL	**Collm**	**75.75**	**337**	*i* P		**P**	**22 56 17.4**	**-0.3**
CLL				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
CLL	**Collm**	**75.75**	**337**	*i* P		**P**	**22 56 17.4**	**-0.3**
	comp=Z,10.0nm,1.0s,mb4.7							
PVCC	**Panska Ves**	**76.03**	**335**	*e*P		**P**	**22 56 20.3**	**+1.0**
KECS	**Kecovo**	**76.04**	**331**	*e*P		**P**	**22 56 19.8**	**+0.4**
KECS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
KECS	**Kecovo**	**76.04**	**331**	*e*P		**P**	**22 56 19.8**	**+0.4**
	comp=Z,2.7nm,0.9s,mb4.2							
PRU	**Pruhonice**	**76.52**	**335**	*e*P		**P**	**22 56 22.9**	**+0.8**
VYHS	**Vyhne**	**76.56**	**332**	*e*P		**P**	**22 56 22.3**	**0.0**
NKC	**Novy Kostel**	**76.88**	**336**	*e*P		**P**	**22 56 25.1**	**+1.0**
MALT	**Malatya**	**77.17**	**314**	*e*P		**P**	**22 56 27.2**	**+1.4**
MALT				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
MALT	**Malatya**	**77.17**	**314**	*e*P		**P**	**22 56 27.2**	**+1.4**
	comp=Z,3.0nm,0.9s,mb4.2							
KHC	**Kasperske Hory**	**77.57**	**335**	*e*P		**P**	**22 56 29.2**	**+1.2**
GERES	**GERESS Array B**	**77.79**	**335**	P		**P**	**22 56 29.8**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=35,slow=5.5,SNR=12							
GERES	**GERESS Array B**	**77.79**	**335**	P		**P**	**22 56 29.8**	**+0.6**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BR131	**Keskin Array S**	**78.28**	**318**	*e*P		**P**	**22 56 32.2**	**+0.2**
	comp=Z,3.4nm,0.9s,mb4.3							
BRTR	**Keskin Array B**	**78.28**	**318**	P		**P**	**22 56 32.5**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.2,baz=60,slow=2.7,SNR=8.6							
BRTR	**Keskin Array B**	**78.28**	**318**	P		**P**	**22 56 32.5**	**+0.5**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.9s							

BJI ***15*** *22:45:11.9, 46.46N×153.45E, h29km, mB5.4, mb4.8, Ms4.8, Msz4.8*

IDC ***15*** *22:45:11.2±0.8, 46.39N×153.02E, h0km, mb4.4/20, mb1 4.6/21, mb1mx4.4/29, mbtmp4.4/21, ML3.9/1, Error ellipse: s-maj=23.7km s-min=16.6km az=170.0*

NEIC ***15*** *22:45:13.5±0.4, 46.35N×153.02E, h10km, mb4.9/22, Error ellipse: s-maj=10.6km s-min=5.7km az=161.0*

ISCJB ***15*** *22:45:15.4±0.4, 46.31N±0.07×153.00E±0.06, h35km, mb4.8/55, MS4.7/3, Error ellipse: s-maj=10.2km s-min=5.0km az=129.4*

MOS ***15*** *22:45:19.5±1.7, 46.21N×152.89E, h76km, mb4.9/32, Error ellipse: s-maj=10.6km s-min=6.8km az=112.9*

SZGRF ***15*** *22:45:20.6, 47.31N×154.65E, h33km, mb5.0, Kuril Islands, Russia*

ISC 15 22:45:17.4±0.4, 4639N±007×15297E±006, h35km, (h34km±4.2km:pP-P), n177, σ1$14/176, mb4.8/55, MS4.7/3, 14C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.75**	**254**	⇑*e*PN		**Pn**	**22 46 11.0**	**-1.7**
KUR				*i* S		**Sn**	**22 46 51.0**	**-4.7**
KUR				pmax		pmax		
	comp=E,270nm,0.6s							
KUR				pmax		pmax		
	comp=Z,320nm,0.6s							
KUR				smax				
	comp=N,520nm,0.7s							
KUR				smax				
	comp=E,1μm,0.7s							
YSS	**Yuzh-Sakhalins**	**7.05**	**278**	*e*PN		**Pn**	**22 47 03.8**	**+5.7**
YSS				S		**Sn**	**22 48 24.0**	**+7.0**
YSS				pmax		pmax		
	comp=E,60nm,1.0s							
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
YSS				smax				
	comp=N,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.05**	**278**	Pn		**Pn**	**22 46 56.7**	**-1.4**
	comp=N,62nm,1.0s							
MJAR	**Matsushiro Arr**	**14.79**	**234**	Pn		**Pn**	**22 48 41.5**	**-2.4**
	comp=N,0.6nm,0.3s,baz=33,slow=12,SNR=10							
MJAR	**Matsushiro Arr**	**14.79**	**234**	P		**Pn**	**22 48 41.5**	**-2.4**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**14.79**	**234**	*e*P		**Pn**	**22 48 41.9**	**-2.0**
MAJO				pmax		pmax		
	comp=Z,18nm,0.9s							
MAJO	**Matsushiro**	**14.79**	**234**	*e*P		**Pn**	**22 48 41.9**	**-2.0**
	comp=Z,18nm,0.9s							
MAT	**Matsushiro**	**14.79**	**234**	P		**Pn**	**22 48 41.9**	**-2.0**
MDJ	**Mudanjiang**	**16.48**	**272**	*e*Pn		**Pn**	**22 49 06.6**	**+0.8**
	comp=Z,28nm,1.0s							
KSRS	**Korea Array**	**20.60**	**253**	P		**P**	**22 49 53.5**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=57,slow=10,SNR=5.1							
INCN	**Inchon**	**21.44**	**255**	P		**P**	**22 50 03.2**	**+0.8**
BILL	**Bilibino**	**22.77**	**13**	*e*P		**P**	**22 50 14.6**	**-1.9**
BILL				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.1							
BOD	**Bodaibo**	**26.15**	**310**	*e*P		**P**	**22 50 45.9**	**-2.3**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.2							
BJI	**Beijing**	**27.38**	**270**	*e*P		**P**	**22 51 01.8**	**+2.5**
BJI				AMB		AMB		
	comp=Z,13nm,0.9s,mb4.5							
BJI	**Beijing**	**27.38**	**270**	*e*P		**P**	**22 51 01.7**	**+2.4**
BJI				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.5							
BJI	**Beijing**	**27.38**	**270**	*e*P		**P**	**22 51 01.7**	**+2.4**
	comp=Z,13nm,0.9s,mb4.5							
BJT	**Baijiatuao**	**27.39**	**270**	*e*P		**P**	**22 50 59.3**	**-0.1**
BJT				pmax		pmax		
	comp=Z,11nm,0.8s							
BJT	**Baijiatuao**	**27.39**	**270**	*e*P		**P**	**22 50 59.3**	**-0.1**
	comp=Z,12nm,0.8s,mb4.5							
FALS	**False Pass**	**28.52**	**57**	*e*pP		pP	22 51 34.4	+15
HHC	**Hu-ho-hao-te**	**30.23**	**275**	⇓P		**P**	**22 51 25.4**	**+0.8**
HHC				PP		PP	22 52 28.3	-4.8
HHC				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.8							
HHC				AMB		AMB		
	comp=Z,653nm,8.4s							
ULN	**Ulaanbaatar**	**30.93**	**290**	*e*P		**P**	**22 51 30.3**	**-0.5**
ULN				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.5							
ULN	**Ulaanbaatar**	**30.93**	**290**	*e*P		**P**	**22 51 30.3**	**-0.5**
	comp=Z,8.5nm,1.0s,mb4.5							
SONM	**Songino Array**	**31.36**	**290**	P		**P**	**22 51 33.7**	**-1.0**
	comp=Z,1.8nm,1.0s,mb3.

CHKZ Chkalovo 50.59 310 *e*P **P** **22 54 11.3 -1.3**
comp=Z,25nm,1.1s,mb5.0
BVAR Borovoye Array 51.01 310 P **P** **22 54 14.8 -1.0**
comp=Z,8.7nm,1.0s,mb4.7,baz=61,slow=7.1,SNR=11
BVAR PcP PcP 22 55 30.8 -0.7
comp=Z,2.1nm,0.9s,baz=101,slow=6.2,SNR=3.6
BVAR Borovoye Array 51.01 310 P **P** **22 54 14.8 -1.0**
BVAR 22 55 30.8
BVAR pmax pmax
comp=Z,9.0nm,1.0s
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 51.05 310 *e*P **P** **22 54 15.0 -1.1**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRVK Borovoye 51.05 310 *e*P **P** **22 54 15.0 -1.1**
comp=Z,12nm,1.0s,mb4.8
RES Resolute Bay 51.21 18 *e*P **P** **22 54 17.0 -0.2**
ZRNK Zerenda 51.79 310 *e*P **P** **22 54 20.0 -1.6**
ZRNK pmax pmax
comp=Z,17nm,1.3s,mb4.8
ZRNK Zerenda 51.79 310 *e*P **P** **22 54 20.0 -1.6**
comp=Z,17nm,1.3s,mb4.8
TKM2 Tokmak 2 53.07 296 P **P** **22 54 31.9 +0.8**
SNR=6.0
USP Ospenovka 53.56 297 P **P** **22 54 35.2 +0.5**
SNR=18
KBK Karagaybulak 53.62 296 P **P** **22 54 35.8 +0.7**
SNR=5.7
AAK Ala-Archa 53.91 297 P **P** **22 54 37.8 +0.6**
SNR=8.7
EKS2 Erkin-Say 54.34 297 P **P** **22 54 41.0 +0.7**
SNR=11
JIRN Jiri 54.88 275 *e*P **P** **22 54 45.8 +1.5**
comp=Z,31nm,0.7s,mb5.4
GUN Gumba 54.94 275 *e*P **P** **22 54 46.1 +1.4**
ARU Arti 55.21 318 *e*P **P** **22 54 44.2 -2.5**
ARU Arti 55.21 318 *e*P **P** **22 54 45.4 -1.3**
comp=Z,33nm,1.4s,mb5.1
KKN Kakani 55.42 275 *e*P **P** **22 54 49.7 +1.5**
comp=Z,58nm,1.1s,mb5.5
PKI Pulchoki 55.47 275 *e*P **P** **22 54 49.8 +1.2**
DMN Daman 55.66 275 *e*P **P** **22 54 51.4 +1.5**
comp=Z,50nm,1.0s,mb5.5
GKN Gorkha 55.73 276 *e*P **P** **22 54 51.7 +1.3**
comp=Z,85nm,1.3s,mb5.6
PMG Port Moresby 55.78 187 P **P** **22 54 49.4 -1.4**
KOLN Koldanda 56.59 277 *e*P **P** **22 54 57.9 +1.3**
comp=Z,58nm,1.0s,mb5.6
ARCES ARCESS Array B 58.16 341 P **P** **22 55 06.1 -1.6**
comp=Z,2.2nm,0.6s,mb4.4,baz=28,slow=7.6,SNR=11
ARCES ARCESS Array B 58.16 341 P **P** **22 55 06.1 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 58.16 341 P **P** **22 55 06.1 -1.6**
AKTK Aktyubinsk 58.90 312 P **P** **22 55 10.8 -1.9**
AKTO Aktyubinsk 58.90 312 P **P** **22 55 10.8 -1.9**
comp=Z,1.7nm,0.6s,mb4.3,baz=79,slow=8.8,SNR=5.5
AKTO Aktyubinsk 58.90 312 P **P** **22 55 10.9 -1.8**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CHMT Chamberlain Mo 60.38 52 *e*P **P** **22 55 22.2 -0.8**
SUMG Summit 61.07 4 *e*P **P** **22 55 27.8 +0.1**
comp=Z,31nm,1.0s,mb5.4
LRM Limekiln Ridge 61.49 52 *e*P **P** **22 55 30.5 0.0**
HLID Hailey 61.79 55 *e*P **P** **22 55 33.0 +0.4**
BOZ Bozeman (W) 62.05 52 *e*pP pP 22 55 53.6 +8.6
QLMT Earthquake Lak 62.67 53 P **P** **22 55 38.8 +0.3**
RRI2 Red Ridge 63.68 54 *e*P **P** **22 55 45.8 +0.7**
MOOW Moose Ponds 63.74 53 *e*P **P** **22 55 46.3 +0.8**
TPAW Teton Pass 63.79 54 *e*P **P** **22 55 47.1 +1.2**
LOHW Long Hollow 63.91 53 *e*P **P** **22 55 48.3 +1.6**
REDW Red Top Meadow 63.93 54 *e*P **P** **22 55 46.9 +0.2**
FINES FINESS Array B 64.33 335 P **P** **22 55 48.3 -1.0**
comp=Z,7.8nm,0.9s,mb4.7,baz=41,slow=6.6,SNR=8.3
FINES FINESS Array B 64.33 335 P **P** **22 55 48.3 -1.1**
FINES pmax pmax
comp=Z,8.0nm,1.0s
HWUT Hardware Ranch 64.66 56 *e*P **P** **22 55 51.9 +0.4**
PDAR Pinedale Array 65.04 54 P **P** **22 55 53.0 -1.0**
comp=Z,4.1nm,0.8s,mb4.5,baz=280,slow=2.0,SNR=19
NLU North Lily Min 65.44 57 *e*P **P** **22 55 57.4 +0.8**
OBN Obninsk 65.55 326 *e*P **P** **22 55 56.2 -1.1**
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.9
SRU San Rafael 66.89 57 *e*P **P** **22 56 05.7 -0.2**
RSSD Black Hills 67.13 50 P **P** **22 56 05.9 -1.5**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
RSSD Black Hills 67.13 50 P **P** **22 56 05.9 -1.5**
comp=Z,3.9nm,0.8s,mb4.5
NB2 NORSAR Subarra 68.54 341 P **P** **22 56 15.4 -0.9**
comp=Z,12nm,0.9s,mb4.8,baz=31,slow=6.5
NOA NORSAR Array B 68.54 341 P **P** **22 56 15.4 -0.9**
comp=Z,5.4nm,0.8s,mb4.5,baz=28,slow=6.4,SNR=6.8
NOA NORSAR Array B 68.54 341 P **P** **22 56 15.4 -0.9**
NOA pmax pmax
comp=Z,5.0nm,0.8s
HFS Hagfors 68.76 339 P **P** **22 56 16.1 -1.6**
comp=Z,8.5nm,0.7s,mb4.8,baz=21,slow=8.7,SNR=9.3
HFS Hagfors 68.76 339 P **P** **22 56 16.1 -1.6**
HFS pmax pmax
comp=Z,9.0nm,0.7s
POO Poona 69.40 275 *e*P **P** **22 56 19.0 -2.6**
KIV Kislovodsk 70.98 314 *e*P **P** **22 56 31.2 -0.1**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.0
AKASG Malin Array Be 71.79 326 P **P** **22 56 35.0 -1.2**
comp=Z,5.9nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=31
AKASG Malin Array Be 71.79 326 P **P** **22 56 35.0 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 71.83 198 P **P** **22 56 35.6 -0.8**
comp=Z,1.6nm,1.0s,mb3.9,baz=14,slow=5.8,SNR=4.8
ASAR Alice Springs 71.83 198 P **P** **22 56 35.7 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
GNI Garni 72.69 310 P **P** **22 56 43.1 +1.5**
comp=Z,7.3nm,0.8s,mb4.6,baz=104,slow=13,SNR=3.4
GNI Garni 72.69 310 P **P** **22 56 43.1 +1.5**
GNI pmax pmax
comp=Z,7.0nm,0.8s
KWP Kalwaria 75.08 329 *e*P **P** **22 56 56.1 +0.5**
KWP *e* pP 22 57 07.3 +0.8
KWP pmax pmax
comp=Z,37nm,1.0s,mb5.3
KWP Kalwaria 75.08 329 *e*P **P** **22 56 56.1 +0.5**
comp=Z,37nm,1.0s,mb5.3
KWP ePcP PcP 22 57 07.3 -1.8
STHS Stebnicka Huta 75.78 330 *e*P **P** **22 57 00.4 +0.8**
KOLS Kolonicke sedl 75.83 329 *e*P **P** **22 57 00.1 +0.3**
BURAR Bucovina Array 75.84 327 ⇑*i*P **P** **22 57 00.3 +0.4**
BURAR Bucovina Array 75.84 327 ⇑⇑P **P** **22 57 00.3 +0.4**
UZH Uzhgorod 76.07 329 *e*P **P** **22 57 01.6 +0.3**
WSAR Wadi Sarin 76.41 289 P **P** **22 57 03.5 +0.3**
comp=Z,8.6nm,1.0s,mb4.6,baz=330,slow=7.0,SNR=2.5
OKC Ostrava-Krasne 76.47 332 *e*P **P** **22 57 05.4 +1.9**
OKC *e*PCP PcP 22 57 15.0 -0.1
UPC Upice 76.56 333 *e*P **P** **22 57 05.9 +1.9**
UPC *e*PCP PcP 22 57 15.7 +0.2
DPC Dobruska-Polom 76.60 333 *e*P **P** **22 57 05.7 +1.4**
DPC *e*PCP PcP 22 57 16.1 +0.4
VRI Vrincioaia 76.68 325 ⇑*i*P **P** **22 57 07.3 +2.6**
VRI Vrincioaia 76.68 325 ⇑⇑P **P** **22 57 07.3 +2.6**
CLL Collm 76.75 335 *i* P **P** **22 57 04.8 -0.3**
CLL *i* pP pP 22 57 16.1 0.0
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 76.75 335 *i* P **P** **22 57 04.8 -0.3**
comp=Z,16nm,1.0s,mb4.9
CLL *i* pP pP 22 57 16.1 0.0
PVCC Panska Ves 76.98 334 *e*P **P** **22 57 07.9 +1.5**
TIRR Tirgusor 77.14 323 ⇓*i*P **P** **22 57 07.9 +0.6**
TIRR Tirgusor 77.14 323 ⇓⇓P **P** **22 57 07.9 +0.6**
MLR Muntele Rosu 77.31 325 ⇑*i*P **P** **22 57 09.4 +1.2**
MLR Muntele Rosu 77.31 325 ⇑⇑P **P** **22 57 09.4 +1.2**
MALT Malatya 77.33 313 ⇑*i*P **P** **22 57 10.3 +2.0**
MALT Malatya 77.33 313 ⇑⇑P **P** **22 57 10.3 +2.0**
VYHS Vyhne 77.39 331 *e*P **P** **22 57 08.8 +0.1**
VYHS Vyhne 77.39 331 *e*P **P** **22 57 08.9 +0.2**
VRAC Vranov 77.43 332 ⇓*i*P **P** **22 57 08.5 -0.4**
VRAC Vranov 77.43 332 ⇓⇓P **P** **22 57 08.5 -0.4**
DRGR 77.47 328 ⇑*i*P **P** **22 57 11.0 +1.9**
DRGR 77.47 328 ⇑⇑P **P** **22 57 11.0 +1.9**

PRU Pruhonice 77.47 334 *e*P **P** **22 57 09.1 0.0**
VOIR 77.70 325 ⇑*i*P **P** **22 57 11.6 +1.2**
VOIR 77.70 325 ⇑⇑P **P** **22 57 11.7 +1.2**
TXAR Lajitas Array 77.75 60 P **P** **22 57 10.0 -0.7**
comp=Z,3.5nm,0.6s,mb4.5,baz=299,slow=4.2,SNR=14
TXAR Lajitas Array 77.75 60 P **P** **22 57 10.0 -0.7**
TXAR pmax pmax
comp=Z,4.0nm,0.6s
NKC Novy Kostel 77.87 335 *e*P **P** **22 57 11.9 +0.5**
KHC Kasperske Hory 78.52 334 *e*P **P** **22 57 15.2 +0.2**
KHC *e*PCP PcP 22 57 27.3 +3.3
BRTR Keskin Array B 78.59 317 P **P** **22 57 15.8 +0.5**
comp=Z,5.5nm,1.0s,mb4.4,baz=56,slow=2.2,SNR=11
BRTR Keskin Array B 78.59 317 P **P** **22 57 15.8 +0.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
GZR Gura Zlata 78.62 327 ⇓*i*P **P** **22 57 15.1 -0.4**
GRA1 Grafenberg Arr 78.71 336 *e*P **P** **22 57 16.0 0.0**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 78.71 336 *e*P **P** **22 57 16.0 0.0**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 78.71 336 *e*P **P** **22 57 16.0 0.0**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
GERES GERESS Array B 78.74 334 P **P** **22 57 15.6 -0.6**
comp=Z,2.9nm,0.9s,mb4.2,baz=74,slow=4.7,SNR=8.2
GERES GERESS Array B 78.74 334 P **P** **22 57 15.6 -0.6**
GERES pmax pmax
comp=Z,3.0nm,1.0s
BZS Buzias 78.87 328 ⇓*i*P **P** **22 57 17.5 +0.6**
BZS Buzias 78.87 328 ⇓⇓P **P** **22 57 17.4 +0.6**
HGN Heimansgroeve 79.13 339 *e*P **P** **22 57 19.8 +1.5**
comp=Z,25nm,1.7s,mb4.9
PKSM Moragy 79.43 330 ⇓*i*P **P** **22 57 20.2 +0.2**
PKSM Moragy 79.43 330 ⇓⇓P **P** **22 57 20.2 +0.2**
BFO Black Forest 80.75 337 *e*P **P** **22 57 25.7 -1.4**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 80.75 337 *e*P **P** **22 57 25.7 -1.3**
comp=Z,12nm,1.1s,mb4.8
VTS Vitosha 80.81 325 ⇓*i*P **P** **22 57 28.6 +1.2**
VTS Vitosha 80.81 325 ⇓⇓P **P** **22 57 28.6 +1.2**
CDF Champ du Feu 80.95 338 *e*P **P** **22 57 27.0 -1.2**
comp=Z,27nm,1.1s,mb4.8
CDF Champ du Feu 80.95 338 *e*P **P** **22 57 27.0 -1.2**
CDF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CDF Champ du Feu 80.95 338 *e*P **P** **22 57 27.0 -1.2**
comp=Z,13nm,1.1s,mb4.8
ASF Jabal al Asfar 82.85 310 P **P** **22 57 37.6 -0.5**
comp=Z,4.8nm,1.0s,mb4.5,baz=345,slow=3.8,SNR=5.7
ASF Jabal al Asfar 82.85 310 P **P** **22 57 37.6 -0.6**
ASF pmax pmax
comp=Z,5.0nm,1.0s
GRR Gorron 82.88 343 *e*P **P** **22 57 36.8 -1.5**
comp=Z,61nm,1.2s,mb5.2
GRR Gorron 82.88 343 *e*P **P** **22 57 36.8 -1.5**
GRR pmax pmax
comp=Z,31nm,1.2s,mb5.2
GRR Gorron 82.88 343 *e*P **P** **22 57 36.8 -1.5**
comp=Z,31nm,1.2s,mb5.2
SMF Signal de Mont 83.47 339 *e*P **P** **22 57 40.4 -0.9**
comp=Z,116nm,1.3s,mb5.4
SMF Signal de Mont 83.47 339 *e*P **P** **22 57 40.4 -0.9**
SMF pmax pmax
comp=Z,58nm,1.3s,mb5.5
SMF Signal de Mont 83.47 339 *e*P **P** **22 57 40.4 -0.9**
comp=Z,58nm,1.3s,mb5.5
LPG La Plagne 83.78 337 *e*P **P** **22 57 42.5 -0.4**
comp=Z,22nm,1.1s,mb4.9
LPG La Plagne 83.78 337 *e*P **P** **22 57 42.5 -0.4**
LPG pmax pmax
comp=Z,11nm,1.1s,mb4.9
LPG La Plagne 83.78 337 *e*P **P** **22 57 42.5 -0.4**
comp=Z,11nm,1.1s,mb4.9
CAF Calviac 85.51 340 *e*P **P** **22 57 50.5 -1.2**
comp=Z,22nm,0.9s,mb5.1
CAF Calviac 85.51 340 *e*P **P** **22 57 50.5 -1.2**
CAF pmax pmax
comp=Z,11nm,0.9s,mb5.1
CAF Calviac 85.51 340 *e*P **P** **22 57 50.5 -1.2**
comp=Z,11nm,0.9s,mb5.1
TIP Timpagrande 86.23 327 *e*P **P** **22 57 55.3 +0.1**
TIP ePP PP 23 01 17.7 +1.5
CFAA Coronel Fontan 145.15 80 PKPbc PKPbc 23 04 49.1 -1.6
comp=Z,0.0nm,0.3s,baz=281,slow=2.5,SNR=6.9

MEX 15 22:45:32.7±0.8, 1730N×9729W, h63km±10km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.58**	**113**	*i* P		Pn 22 45 44.9	-0.8
VHO				*i* S		Sn 22 45 54.4	-0.8
OXX	**Oaxaca**	**0.58**	**111**	*i* P		Pn 22 45 44.0	-1.8
OXX				*i* S		Sn 22 45 53.0	-2.3
UTMO	**Huajuapan**	**0.72**	**317**	*i* P		Pn 22 45 46.0	-1.4
UTMO				*i* S		Sn 22 45 56.7	-1.5
TPIG	**Tehuac#an**	**1.12**	**357**	*i* P		Pn 22 45 51.0	-1.4
TPIG				*i* S		Sn 22 46 05.9	-1.1
PNIG	**Pinotepa**	**1.20**	**222**	*i* P		Pn 22 45 51.8	-1.7
PNIG				*i* S		Sn 22 46 07.7	-1.3
PPM	**Popocatepetl**	**2.17**	**324**	*e*P		Pn 22 46 06.0	-0.5
MEIG	**Mezcala**	**2.31**	**286**	*i* P		Pn 22 46 07.9	-0.4
MEIG				*i* S		Sn 22 46 34.0	-1.7

IDC ***15*** *22:50:30.3±0.8, 4698N×155.12E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.4/26, mbtmp4.4/18, ML3.9/1, Error ellipse: s-maj=20.4km s-min=17.2km az=116.0*
ISCJB ***15*** *22:50:31.8±0.6, 4699N×009×15506E±0.10, h10km, mb4.7/54, MS4.7/2, Error ellipse: s-maj=14.7km s-min=7.0km az=122.2*
NEIC ***15*** *22:50:33.1±0.8, 4697N×155.35E, h10km, mb5.0/26, Error ellipse: s-maj=22.5km s-min=11.8km az=156.0*
MOS ***15*** *22:50:34.9±2.1, 4689N×154.89E, h33km, mb4.9/33, Error ellipse: s-maj=10.0km s-min=6.3km az=111.8*
BJI ***15*** *22:50:34.3, 4753N×154.53E, h10km, mB5.1, mb4.5, Ms4.7, Msz4.7*
SZGRF ***15*** *22:50:42.7, 4697N×152.72E, h33km, mb5.1, Kuril Islands, Russia*

ISC 15 22:50:33.4±0.6, 4708N±009×15515E±010, h10km, (h37km±4.5km: pP-P), n176, σ1§47/178, mb4.7/55, MS4.7/2, 10C-18D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.39**	**253**	*e*PN		**Pn 22 51 49.0**	**-4.8**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.47**	**274**	*e*PN		**Pn 22 52 38.0**	**+1.9**
ASAJ	**Asahikawa**	**9.29**	**256**	Pn		**Pn 22 52 46.8**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=109,slow=15,SNR=9.0						
ASAJ	**Asahikawa**	**9.29**	**256**	PN		**Pn 22 52 46.8**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.75**	**286**	*e*P		**Pn 22 54 14.8**	**-0.5**
MAJO	**Matsushiro**	**16.41**	**236**	*e*P		**Pn 22 54 18.8**	**-4.9**
MAJO				pmax	pmax		
	comp=Z,35nm,0.9s						
MAJO	**Matsushiro**	**16.41**	**236**	*e*Pn		**Pn 22 54 18.8**	**-4.9**
	comp=Z,35nm,0.9s						
MAJO				*e*		22 54 26.5	
MAT	**Matsushiro**	**16.41**	**236**	P		**Pn 22 54 17.9**	**-5.8**
MJAR	**Matsushiro Arr**	**16.41**	**236**	Pn		**Pn 22 54 17.4**	**-6.3**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=9.9						
MJAR	**Matsushiro Arr**	**16.41**	**236**	Pn		**Pn 22 54 17.4**	**-6.3**
CN2	**Changchun**	**21.04**	**272**	*e*P		**P 22 55 12.5**	**-4.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.2						
BILL	**Bilibino**	**21.77**	**11**	*e*P		**P 22 55 23.4**	**-1.9**
BILL				*i*		22 55 36.8	
BILL				*i*		22 55 56.8	
BILL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
BILL	**Bilibino**	**21.77**	**11**	*e*P		**P 22 55 23.2**	**-2.1**
	comp=Z,43nm,1.1s,mb4.8						
BILL				*e*		22 55 36.8	
KSRS	**Korea Array**	**22.23**	**254**	P		**P 22 55 29.4**	**-0.8**
	comp=Z,2.1nm,0.6s,mb3.8,baz=53,slow=12,SNR=6.5						
BOD	**Bodaibo**	**26.86**	**309**	*e*P		**P 22 56 10.6**	**-3.6**
BOD				*e*		22 56 22.6	
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.0						
BOD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.4						
CIT	**Chita 27.15 296**			*e*P		**P 22 56 14.3**	**-2.5**
CIT				*e*		22 56 23.6	
TIXI	**Tiksi 27.56 342**			*e*P		**P 22 56 17.4**	**-3.0**
TIXI				*e*		22 56 29.2	
TIXI				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
TIXI	**Tiksi 27.56 342**			*e*P		**P 22 56 17.4**	**-3.1**
	comp=Z,27nm,1.3s,mb4.7						
TIXI				*e*		22 56 29.2	
BJI	**Beijing 28.87 270**			*e*P		**P 22 56 33.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.3						
BJI	**Beijing 28.87 270**			*e*P		**P 22 56 33.4**	**+1.2**
	comp=Z,9.0nm,1.5s,mb4.3						
HHC	**Hu-ho-hao-te 31.66 275**			*e*P		**P 22 56 55.9**	**-0.9**
HHC				XP	sP	22 57 03.0	+1.9
HHC				PP	PP	22 57 56.4	-12
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,704nm,11.1s						
SONM	**Songino Array 32.54 290**			P		**P 22 57 02.2**	**-2.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=65,slow=7.5,SNR=13						
SONM	**Songino Array 32.54 290**			P		**P 22 57 02.2**	**-2.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK	**Zakamensk 33.80 295**			*e*P		**P 22 57 12.4**	**-3.1**
ZAK				*e*		22 57 21.7	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
MCK	**McKinley 34.49 41**			*e*P		**P 22 57 20.1**	**-1.5**
MCK				*e*		22 57 31.8	
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MCK	**McKinley 34.49 41**			*e*P		**P 22 57 20.1**	**-1.5**
	comp=Z,2.6nm,0.8s,mb4.2						
MCK				*e*		22 57 31.8	
COLA	**College 35.01 39**			*e*P		**P 22 57 25.4**	**-0.6**
COLA				*e*		22 57 35.6	
COLA				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
COLA	**College 35.01 39**			*e*P		**P 22 57 25.4**	**-0.6**
	comp=Z,33nm,1.4s,mb5.1						
COLA				*e*		22 57 35.6	
XAN	**Xi'an 36.93 266**			P		**P 22 57 42.4**	**-0.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.4						
EGAK	**Eagle 37.87 39**			*e*P		**P 22 57 48.8**	**-1.6**
	comp=Z,19nm,0.9s,mb4.8						
DAWY	**Dawson 38.70 40**			*e*P		**P 22 57 54.9**	**-2.5**
DAWY				*e*		22 58 07.9	
LZH	**Lanzhou 39.27 273**			*e*P		**P 22 58 02.5**	**+0.3**
LZH				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,210nm,5.5s						
LZH				LR	LR		
	comp=E,753nm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,15.0s,MS4.8						
LZH	**Lanzhou 39.27 273**			*e*P		**P 22 58 02.5**	**+0.3**
	comp=Z,40nm,1.1s,mb5.1						
LZH				pP	pP	22 58 12.8	+7.5
LZH				sP	sP	22 58 19.0	+12
LZH				LR	LR		
	comp=Z,1μm,15.0s,MS4.8						
GTA	**Gaotai 40.29 280**			*e*P		**P 22 58 10.1**	**-0.6**
GTA				PP	PP	22 59 45.5	+2.1
GTA				PPP		23 00 10.6	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,680nm,6.1s						
GTA				LR	LR		
	comp=N,387nm,11.8s,MS4.6						
GTA				LR	LR		
	comp=E,474nm,15.2s,MS4.6						
GTA				LR	LR		
	comp=Z,779nm,14.4s,MS4.7						
INK	**Inuvik 40.62 33**			P		**P 22 58 12.6**	**-0.8**
	comp=Z,5.3nm,0.6s,mb4.4,baz=288,slow=7.5,SNR=18						
INK	**Inuvik 40.62 33**			P		**P 22 58 12.6**	**-0.8**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik 40.62 33**			*e*P		**P 22 58 12.9**	**-0.5**
	comp=Z,143nm,0.5s,mb5.9						
CD2	**Chengdu 42.30 266**			*e*P		**P 22 58 27.3**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
ZAL	**Zalesovo 43.56 306**			P		**P 22 58 34.7**	**-2.7**
	comp=Z,5.4nm,0.9s,mb4.3,baz=43,slow=7.8,SNR=19						
ZAL	**Zalesovo 43.56 306**			P		**P 22 58 34.7**	**-2.7**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL	**Zalesovo 43.56 306**			P		**P 22 58 34.7**	**-2.7**
NVS	**Novosibirsk 44.09 308**			*e*P		**P 22 58 38.9**	**-2.8**
NVS				*e*S		**S 23 05 10.2**	**-4.0**
NVS				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,20nm,1.3s						
NVS				smax			
	comp=N,8.0nm,1.8s						
NVS				smax			
	comp=E,18nm,2.4s						
KMI	**Kunming 46.67 261**			P		**P 22 59 03.4**	**+1.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
KMI	**Kunming 46.67 261**			P		**P 22 59 03.4**	**+1.2**
	comp=Z,9.0nm,1.2s,mb4.6						
MK31	**Makanchi Array 48.02 298**			*e*P		**P 22 59 10.9**	**-1.8**
MK31				*e*		22 59 21.4	
MKAR	**Makanchi Array 48.02 298**			P		**P 22 59 10.5**	**-2.2**
	comp=Z,4.7nm,0.7s,mb4.7,baz=70,slow=7.8,SNR=29						
MKAR	**Makanchi Array 48.02 298**			P		**P 22 59 10.5**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHKZ	**Chkalovo 51.28 311**			*e*P		**P 22 59 35.7**	**-1.8**
CHKZ				*e*		22 59 46.6	
CHKZ				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.3						
CHKZ	**Chkalovo 51.28 311**			*e*P		**P 22 59 35.7**	**-1.8**
	comp=Z,22nm,0.6s,mb5.3						
CHKZ				*e*		22 59 46.6	
BVAR	**Borovoye Array 51.72 310**			P		**P 22 59 38.8**	**-1.9**
	comp=Z,4.5nm,0.6s,mb4.6,baz=55,slow=7.8,SNR=29						
BVAR	**Borovoye Array 51.72 310**			P		**P 22 59 38.8**	**-2.0**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye 51.76 310**			*e*P		**P 22 59 39.6**	**-1.5**
BRVK				*e*		22 59 50.5	
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
BRVK	**Borovoye 51.76 310**			*e*P		**P 22 59 39.6**	**-1.4**
	comp=Z,14nm,0.6s,mb5.1						
BRVK				*e*		22 59 50.5	
CHTO	**Chiang Mai 53.55 258**			*e*P		**P 22 59 53.8**	**-0.5**
CHTO				*e*		23 00 06.5	
CHTO				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
CHTO	**Chiang Mai 53.55 258**			*e*P		**P 22 59 53.8**	**-0.5**
	comp=Z,18nm,1.3s,mb4.8						
CHTO				*e*		23 00 06.5	
USP	**Ospenovka 54.57 298**			P		**P 23 00 00.8**	**-1.0**
	SNR=19						
KBK	**Karagaybulak 54.64 297**			P		**P 23 00 02.5**	**+0.2**
	SNR=5.3						
AAK	**Ala-Archa 54.93 297**			P		**P 23 00 04.3**	**-0.1**
	SNR=7.7						
EKS2	**Erkin-Say 55.35 298**			P		**P 23 00 07.4**	**0.0**
	SNR=10						
ARU	**Arti 55.70 318**			⇓*i*P		**P 23 00 09.0**	**-1.0**
ARU				*e*S		**S 23 07 50.8**	**-5.6**
ARU				*e*SS		SS 23 11 40.4	-1.2
ARU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
ARU	**Arti 55.70 318**			*e*P		**P 23 00 08.4**	**-1.5**
	comp=Z,15nm,0.7s,mb5.1						
ARU				*e*		23 00 20.2	

AML	Almayashu	55.70	297	P		P	23 00 10.6	+0.6
	SNR=5.1							
JIRN	Jiri	56.31	276	*e*P		P	23 00 15.1	+0.8
	comp=Z,22nm,1.1s,mb5.1							
GUN	Gumba	56.36	276	*e*P		P	23 00 16.2	+1.6
KKN	Kakani	56.84	276	*e*P		P	23 00 18.6	+0.5
PKI	Pulchoki	56.89	276	*e*P		P	23 00 18.5	0.0
DMN	Daman	57.08	276	*e*P		P	23 00 20.6	+0.9
GKN	Gorkha	57.14	277	*e*P		P	23 00 20.7	+0.5
	comp=Z,24nm,1.0s,mb5.2							
KEV	Kevo	57.49	341	*e*p		P	23 00 20.6	-2.1
ARCES	ARCESS Array B	57.99	341	P		P	23 00 23.8	-2.4
	comp=Z,5.0nm,0.9s,mb4.6,baz=18,slow=4.2,SNR=12							
ARCES	ARCESS Array B	57.99	341	P		P	23 00 23.8	-2.4
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ARCES	ARCESS Array B	57.99	341	P		P	23 00 23.8	-2.4
KOLN	Koldanda	57.99	278	*e*P		P	23 00 26.8	+0.6
	comp=Z,22nm,0.9s,mb5.2							
AKTK	Aktyubinsk	59.54	313	P		P	23 00 35.5	-1.5
AKTO	Aktyubinsk	59.54	313	P		P	23 00 35.5	-1.5
	comp=Z,3.2nm,0.6s,mb4.5,baz=44,slow=5.0,SNR=9.6							
AKTO	Aktyubinsk	59.54	313	P		P	23 00 35.5	-1.5
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
ORR	Orenburg	60.40	315	*e*P		P	23 00 41.2	-1.7
ORR				*e*			23 00 53.3	
ORR				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
FINES	FINESS Array B	64.33	336	P		P	23 01 08.0	-1.1
	comp=Z,3.2nm,0.4s,mb4.7,baz=39,slow=8.3,SNR=40							
FINES	FINESS Array B	64.33	336	P		P	23 01 08.0	-1.2
FINES				pmax	pmax			
	comp=Z,3.0nm,0.4s							
FINES	FINESS Array B	64.33	336	P		P	23 01 08.0	-1.1
OBN	Obninsk	65.82	326	*e*P		P	23 01 17.0	-1.8
OBN				*i*			23 01 29.0	
OBN				pmax	pmax			
	comp=Z,20nm,1.3s,mb5.0							
NB2	NORSAR Subarra	68.36	342	P		P	23 01 33.8	-1.2
	comp=Z,5.9nm,0.9s,mb4.6,baz=30,slow=6.5							
NOA	NORSAR Array B	68.36	342	P		P	23 01 33.9	-1.1
	comp=Z,3.4nm,1.0s,mb4.3,baz=26,slow=6.3,SNR=6.1							
NOA	NORSAR Array B	68.36	342	P		P	23 01 33.9	-1.1
NOA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
HFS	Hagfors	68.62	340	P		P	23 01 35.3	-1.4
	comp=Z,2.7nm,0.4s,mb4.6,baz=54,slow=4.7,SNR=31							
HFS	Hagfors	68.62	340	P		P	23 01 35.3	-1.4
HFS				pmax	pmax			
	comp=Z,3.0nm,0.4s							
WRA	Warramunga Arr	69.30	201	P		P	23 01 37.8	-3.1
	comp=Z,4.2nm,0.9s,mb4.4,baz=23,slow=6.6,SNR=10							
WRA	Warramunga Arr	69.30	201	P		P	23 01 37.8	-3.1
WRA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
POO	Poona	70.81	277	*e*P		P	23 01 47.5	-2.6
POO				*e*P			23 04 24.0	
CBKS	Cedar Bluff	71.55	53	P		P	23 01 55.4	+0.8
CBKS				pmax	pmax			
	comp=Z,14nm,0.5s,mb5.2							
CBKS	Cedar Bluff	71.55	53	P		P	23 01 55.4	+0.8
	comp=Z,14nm,0.5s,mb5.1							
KIV	Kislovodsk	71.56	315	*e*P		P	23 01 56.2	+1.5
KIV				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.1							
AKASG	Malin Array Be	72.04	327	P		P	23 01 55.6	-1.9
	comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=6.3,SNR=14							
AKASG	Malin Array Be	72.04	327	P		P	23 01 55.6	-1.9
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASAR	Alice Springs	72.98	200	P		P	23 02 01.5	-1.7
	comp=Z,2.9nm,0.7s,mb4.3,baz=14,slow=5.1,SNR=23							
ASAR	Alice Springs	72.98	200	P		P	23 02 01.5	-1.7
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KIS	Kishinev	75.22	325	*e*P		P	23 02 16.0	-0.3
OJC	Ojcow	75.69	332	*e*P		P	23 02 19.0	0.0
STHS	Stebnicka Huta	75.92	331	*e*P		P	23 02 22.6	+2.4
STHS				*e*			23 02 33.8	
STHS				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9							
STHS	Stebnicka Huta	75.92	331	*e*P		P	23 02 22.6	+2.4
	comp=Z,13nm,0.9s,mb4.8							
STHS				*e*			23 02 33.8	
KOLS	Kolonicke sedl	75.99	330	*e*P		P	23 02 19.6	-1.0
BURAR	Bucovina Array	76.07	328	⇑*i*P		P	23 02 20.6	-0.5
BURAR	Bucovina Array	76.07	328	⇑P		P	23 02 20.6	-0.5
TXAR	Lajitas Array	76.11	62	P		P	23 02 19.9	-1.5
	comp=Z,1.0nm,0.7s,mb3.8,baz=306,slow=4.2,SNR=9.0							
TXAR	Lajitas Array	76.11	62	P		P	23 02 19.9	-1.4
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NIE	Niedzica	76.22	332	*e*P		P	23 02 23.7	+1.7
OKC	Ostrava-Krasne	76.54	333	*e*P		P	23 02 25.4	+1.6
UPC	Upice	76.60	335	*e*P		P	23 02 25.2	+1.1
UPC				*e*PCP		PcP	23 02 37.5	+1.9
DPC	Dobruska-Polom	76.64	334	*e*P		P	23 02 25.4	+1.0
DPC				*e*PCP		PcP	23 02 37.5	+1.7
CLL	Collm	76.73	337	*e*P		P	23 02 24.0	-0.8
CLL				*i*			23 02 37.6	
CLL				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9							
CLL	Collm	76.73	337	*e*P		P	23 02 24.0	-0.8
	comp=Z,17nm,1.1s,mb4.9							
CLL				*i*	pP	pP	23 02 28.5	+0.4
CLL				*i*			23 02 37.6	
CLL	Collm	76.73	337	*e*P		P	23 02 25.0	+0.2
	comp=Z,17nm,1.1s,mb4.9							
CLL				*i*	pP	pP	23 02 37.6	+9.5
	comp=Z,23nm,0.9s							
MORC	Moravsky Berou	76.78	333	⇓*i*P		P	23 02 26.5	+1.3
MORC	Moravsky Berou	76.78	333	⇓P		P	23 02 26.6	+1.4
BRG	Berggiesshubel	76.86	336	*e*P		P	23 02 25.3	-0.3
	comp=Z,2.0nm,1.0s,mb4.0							
BRG				*e*			23 02 38.1	
	comp=Z,6.1nm,1.1s							
BRG	Berggiesshubel	76.86	336	*e*P		P	23 02 25.3	-0.3
BRG				*e*			23 02 38.1	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
LIKS	Likavka	76.93	332	*e*P		P	23 02 28.8	+2.8
VRI	Vrincioaia	76.97	326	⇓*i*P		P	23 02 30.4	+4.2
KECS	Kecovo	76.97	331	*e*P		P	23 02 28.1	+1.9
KECS				*e*			23 02 35.8	
KECS				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
KECS	Kecovo	76.97	331	*e*P		P	23 02 28.1	+1.9
	comp=Z,5.4nm,0.9s,mb4.5							
KECS				*e*			23 02 35.8	
CFR	Carcaliu	76.99	325	⇓*i*P		P	23 02 28.2	+1.9
PVCC	Panska Ves	77.00	335	*e*P		P	23 02 28.0	+1.6
PVCC				*e*PCP		PcP	23 02 39.2	+1.9
PVCC	Panska Ves	77.00	335	*e*P		P	23 02 28.0	+1.6
PVCC				*e*pP		pP	23 02 39.2	+10
TIRR	Tirgusor	77.48	324	⇓*i*P		P	23 02 30.0	+0.9
TIRR	Tirgusor	77.48	324	⇓P		P	23 02 30.0	+0.9
PRU	Pruhonice	77.49	335	*e*P		P	23 02 31.5	+2.4
PRU				*e*PCP		PcP	23 02 42.4	+2.9
VRAC	Vranov	77.49	334	⇓*i*P		P	23 02 31.5	+2.4
VRAC	Vranov	77.49	334	P		P	23 02 31.2	+2.1
VRAC	Vranov	77.49	334	⇓P		P	23 02 31.5	+2.3
VYHS	Vyhne	77.50	332	*e*P		P	23 02 29.0	-0.2
VYHS				*e*PCP		PcP	23 02 41.9	+2.4
VYHS	Vyhne	77.50	332	*e*P		P	23 02 29.0	-0.2
VYHS				*e*			23 02 42.0	
MLR	Muntele Rosu	77.58	326	⇑*i*P		P	23 02 30.0	+0.3
MLR	Muntele Rosu	77.58	326	⇑P		P	23 02 30.0	+0.4
PSZ	Piszkesteto	77.66	331	⇓*i*P		P	23 02 30.8	+0.7
PSZ	Piszkesteto	77.66	331	⇓P		P	23 02 30.8	+0.7
DRGR		77.67	329	⇓*i*P		P	23 02 32.2	+2.1
DRGR		77.67	329	P		P	23 02 31.6	+1.5
DRGR		77.67	329	⇓P		P	23 02 32.2	+2.1
NKC	Novy Kostel	77.85	337	*e*P		P	23 02 32.3	+1.2
NKC				*e*PCP		PcP	23 02 42.7	+1.7
MALT	Malatya	77.94	314	⇓*i*P		P	23 02 32.7	+1.1
MALT	Malatya	77.94	314	P		P	23 02 29.2	-2.4
MALT	Malatya	77.94	314	⇓P		P	23 02 32.7	+1.1
VOIR		77.97	327	⇑*i*P		P	23 02 34.3	+2.5
VOIR		77.97	327	⇑P		P	23 02 34.3	+2.5
ZST	Bratislava	78.32	333	*e*P		P	23 02 36.7	+3.0
ZST				*e*			23 02 45.7	
ZST				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
ZST	Bratislava	78.32	333	*e*P		P	23 02 36.7	+3.0
	comp=Z,7.4nm,0.9s,mb4.6							
ZST				*e*			23 02 45.7	
KHC	Kasperske Hory	78.53	335	*e*P		P	23 02 35.7	+0.8
KHC				*e*PCP		PcP	23 02 46.6	+2.6
GRA1	Grafenberg Arr	78.67	337	*e*P		P	23 02 36.9	+1.2
	comp=Z,17nm,1.0s,mb4.9							
GRA1				*e*			23 02 49.6	
GRF	Grafenberg Arr	78.67	337	*e*P		P	23 02 36.9	+1.2
	comp=Z,17nm,1.0s,mb4.9							
GRF				*e*			23 02 49.6	
GRF	Grafenberg Arr	78.67	337	*e*P		P	23 02 36.9	+1.2
GRF				*e*			23 02 49.6	
GRF				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9							
GERES	GERESS Array B	78.76	335	P		P	23 02 36.4	+0.3
	comp=Z,1.5nm,0.7s,mb4.0,baz=46,slow=3.9,SNR=9.3							
GERES	GERESS Array B	78.76	335	P		P	23 02 36.4	+0.2
GERES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GZR	Gura Zlata	78.84	328	⇓*i*P		P	23 02 38.7	+2.1
BZS	Buzias	79.07	329	⇑*i*P		P	23 02 39.7	+1.8
BZS	Buzias	79.07	329	⇑P		P	23 02 39.7	+1.9
BRTR	Keskin Array B	79.09	318	P		P	23 02 38.0	+0.1
	comp=Z,4.6nm,0.9s,mb4.4,baz=68,slow=2.7,SNR=16							
BRTR	Keskin Array B	79.09	318	P		P	23 02 38.1	+0.1
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PKSM	Moragy	79.57	331	⇓*i*P		P	23 02 42.2	+1.6
PKSM	Moragy	79.57	331	⇓P		P	23 02 42.2	+1.6
CDF	Champ du Feu	80.86	339	*e*P		P	23 02 49.0	+1.4
	comp=Z,26nm,1.1s,mb4.8							
CDF	Champ du Feu	80.86	339	*e*P		P	23 02 49.0	+1.4
CDF				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8							
CDF	Champ du Feu	80.86	339	*e*P		P	23 02 49.0	+1.4
	comp=Z,13nm,1.1s,mb4.8							
VTS	Vitosha	81.09	326	⇑*i*P		P	23 02 50.7	+1.9
VTS	Vitosha	81.09	326	⇑P		P	23 02 50.7	+1.9
GRR	Gorron	82.65	344	*e*P		P	23 02 58.5	+1.5
	comp=Z,106nm,1.3s,mb5.4							
GRR	Gorron	82.65	344	*e*P		P	23 02 58.5	+1.5
GRR				pmax	pmax			
	comp=Z,53nm,1.3s,mb5.4							
GRR	Gorron	82.65	344	*e*P		P	23 02 58.5	+1.5
	comp=Z,53nm,1.3s,mb5.4							
SMF	Signal de Mont	83.33	341	*e*P		P	23 03 02.1	+1.6
	comp=Z,85nm,1.4s,mb5.3							
SMF	Signal de Mont	83.33	341	*e*P		P	23 03 02.1	+1.6
SMF				pmax	pmax			
	comp=Z,42nm,1.4s,mb5.3							
SMF	Signal de Mont	83.33	341	*e*P		P	23 03 02.1	+1.6
	comp=Z,42nm,1.4s,mb5.3							
LPG	La Plagne	83.71	338	*e*P		P	23 03 04.8	+2.3
	comp=Z,20nm,0.7s,mb5.0							
LPG	La Plagne	83.71	338	*e*P		P	23 03 04.8	+2.3
LPG				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
LPG	La Plagne	83.71	338	*e*P		P	23 03 04.8	+2.3
	comp=Z,9.9nm,0.7s,mb5.0							
CAF	Calviac	85.36	341	*e*P		P	23 03 12.3	+1.5
	comp=Z,105nm,1.6s,mb5.4							
CAF	Calviac	85.36	341	*e*P		P	23 03 12.3	+1.5
CAF				pmax	pmax			
	comp=Z,52nm,1.6s,mb5.4							
CAF	Calviac	85.36	341	*e*P		P	23 03 12.3	+1.5
	comp=Z,52nm,1.6s,mb5.4							

IDC ***15*** *22:53:08.5±0.5, 46.46N×154.79E, h0km, mb4.6/26, mb1 4.7/28, mb1mx4.7/31, mbtmp4.6/28, ML4.0/2, MS4.5/1, Ms1 4.5/1, ms1mx3.3/45, Error ellipse: s-maj=14.5km s-min=12.5km az=136.0*

ISCJB ***15*** *22:53:10.8±0.2, 46.51N±0.04°×154.78E±0.04, h22km, mb4.8/82, MS4.6/4, Error ellipse: s-maj=6.5km s-min=3.8km az=143.5*

MOS ***15*** *22:53:10.5±0.9, 46.49N×154.69E, h22km, mb5.0/48, Error ellipse: s-maj=8.8km s-min=5.9km az=95.0*

BJI ***15*** *22:53:11.5, 46.71N×154.36E, h11km, mB5.1, mb4.8, Ms4.7, Msz4.7*

NEIC ***15*** *22:53:14.0±2.5, 46.50N×154.75E, h32km±17km, mb4.9/42, Error ellipse: s-maj=5.9km s-min=4.1km az=166.0*

ISC 15 22:53:10.8±2.2, 4654N±0.04°×15476E±0.04, h10km±13km, h15km±3.8km:pP-P, n249, σ1°03/243, mb4.8/82, MS4.6/4, 11C-15D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	4.24	12	*e*PN	Pn	22 54 16.5	+1.0
KUR	Kuril'sk	4.99	257	*e*PN	Pn	22 54 23.0	-2.8
KUR				pmax	pmax		
	comp=Z,390nm,0.6s						
PET	Petropavlovsk	6.96	20	PN	Pn	22 54 52.8	-0.1
YSS	Yuzh-Sakhalins	8.26	277⇑	*e*PN	Pn	22 55 14.0	+3.3
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	Yuzh-Sakhalins	8.26	277	Pn	Pn	22 55 12.1	+1.4
YSS				*e*Sn	Sn	22 56 42.9	-1.2
ASAJ	Asahikawa	8.91	259	Pn	Pn	22 55 20.4	+0.8
	comp=Z,3.0nm,0.3s,baz=82,slow=14,SNR=8.5						
ASAJ	Asahikawa	8.91	259	PN	Pn	22 55 20.4	+0.8
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	Magadan	13.27	351	PN	Pn	22 56 19.3	-0.1
KLR	Kul'dur	15.66	288	*e*P	Pn	22 56 46.7	-4.9
MJAR	Matsushiro Arr	15.89	237	Pn	Pn	22 56 52.3	-2.3
	comp=Z,0.2nm,0.3s,baz=36,slow=11,SNR=7.4						
MAJO	Matsushiro	15.89	237	*e*P	Pn	22 56 54.0	-0.6
MAT	Matsushiro	15.89	237	P	Pn	22 56 53.3	-1.3
MDJ	Mudanjiang	17.71	273	*e*Pn	Pn	22 57 16.6	-0.9
	comp=Z,39nm,1.0s						
CN2	Changchun	20.80	273	*e*P	P	22 57 48.4	-3.8
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
YAK	Yakutsk	21.12	326	*e*P	P	22 57 54.3	-1.4
YAK				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
YAK	Yakutsk	21.12	326	*e*P	P	22 57 54.3	-1.4
	comp=Z,21nm,0.6s,mb4.7						
KSRS	Korea Array	21.83	255	P	P	22 58 03.5	+0.1
	comp=Z,11nm,0.7s,mb4.4,baz=55,slow=11,SNR=14						
BILL	Bilibino	22.36	11	*e*P	P	22 58 08.3	-0.7
BILL				*e*		22 58 30.2	
BILL				pmax	pmax		
	comp=Z,44nm,0.9s,mb4.9						
BILL	Bilibino	22.36	11	*e*P	P	22 58 06.9	-2.1
	comp=Z,58nm,1.0s,mb5.0						
INCN	Inchon	22.68	257	*e*P	P	22 58 12.8	+0.4
	comp=Z,14nm,0.3s,mb4.9						
BOD	Bodaibo	27.00	310	*e*P	P	22 58 50.9	-2.0
BOD				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
BJI	Beijing	28.61	271	*e*P	P	22 59 10.4	+3.0
BJI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
BJI	Beijing	28.61	271	*e*P	P	22 59 10.4	+3.0
	comp=Z,20nm,1.0s,mb4.8						
BJT	Baijiatuan	28.63	271	*e*P	P	22 59 10.1	+2.6
BJT				pmax	pmax		
	comp=Z,21nm,1.0s						
BJT	Baijiatuan	28.63	271	*e*P	P	22 59 10.1	+2.6
	comp=Z,21nm,1.0s,mb4.8						
HHC	Hu-ho-hao-te	31.44	275	*e*P	P	22 59 33.1	+0.7
HHC				XP	sP	22 59 40.1	+3.6
HHC				PP	PP	23 00 36.9	-6.4
HHC				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,561nm,10.5s						
ULN	Ulaanbaatar	32.04	290	*e*P	P	22 59 37.2	-0.4
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	Ulaanbaatar	32.04	290	*e*P	P	22 59 37.2	-0.4
	comp=Z,2.9nm,0.9s,mb4.1						
SONM	Songino Array	32.47	290	P	P	22 59 39.7	-1.8
	comp=Z,0.9nm,0.5s,mb3.8,baz=68,slow=7.1,SNR=4.6						
SONM	Songino Array	32.47	290	P	P	22 59 39.7	-1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	Talaya	33.28	298	*e*P	P	22 59 47.9	-0.6
TLY				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
TLY	Talaya	33.28	298	*e*P	P	22 59 47.9	-0.7
	comp=Z,6.6nm,0.5s,mb4.8						
KDAK	Kodiak Island	33.35	51	LR	LR	23 13 41.5	
	comp=Z,696nm,18.4s,MS4.4,baz=288,slow=37						
ZAK	Zakamensk	33.80	296	*e*P	P	22 59 51.7	-1.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GUMO	Guam	33.89	197	P	P	22 59 53.7	-0.1
GUMO				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.5						
GUMO	Guam	33.89	197	P	P	22 59 53.7	-0.1
	comp=Z,64nm,0.9s,mb5.5						
TATO	Taipei	34.15	243	P	P	22 59 56.0	-0.1
YHNB	Yeheng	34.44	242	P	P	22 59 59.6	+1.0
COLA	College	35.60	38	*e*P	P	23 00 08.3	-0.3
COLA				*e*		23 00 19.8	
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
COLA	College	35.60	38	*e*P	P	23 00 08.3	-0.2
	comp=Z,6.3nm,0.8s,mb4.6						
COLA				*e*		23 00 19.8	
ENH	Enshi	38.45	261	P	P	23 00 34.4	+1.6
LZH	Lanzhou	39.03	273	*e*P	P	23 00 39.6	+1.9
LZH				AP	pP	23 00 43.1	+2.4
LZH				XP	sP	23 00 45.4	+3.6
LZH				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
LZH				AMB	AMB		
	comp=Z,150nm,5.0s						
LZH				LR	LR		
	comp=E,623nm,13.7s						
LZH				LR	LR		
	comp=Z,963nm,15.0s,MS4.8						
LZH	Lanzhou	39.03	273	*e*P	P	23 00 39.6	+1.9
	comp=Z,30nm,1.1s,mb4.9						
LZH				pP	pP	23 00 43.1	+2.4
LZH				sP	sP	23 00 45.4	+3.6
LZH				LR	LR		
	comp=Z,960nm,15.0s,MS4.8						
GTA	Gaotai	40.13	280	*e*P	P	23 00 48.3	+1.5
GTA				AP	pP	23 00 57.3	+7.5
GTA				PP	PP	23 02 24.9	+5.8
GTA				PPP		23 02 47.8	
GTA				PCP	PcP	23 02 51.5	+0.3
GTA				S	S	23 06 51.8	-1.4
GTA				XS	sS	23 07 02.8	+4.7
GTA				SS	SS	23 09 41.8	-8.9
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,499nm,6.5s						
GTA				LR	LR		
	comp=N,291nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=E,550nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=Z,847nm,14.5s,MS4.7						
INK	Inuvik	41.22	32	P	P	23 00 55.4	-0.5
	comp=Z,8.3nm,0.8s,mb4.4,baz=281,slow=6.4,SNR=14						
INK	Inuvik	41.22	32	*e*P	P	23 00 55.8	-0.1
	comp=Z,242nm,0.7s,mb5.9						
CD2	Chengdu	42.00	267	*e*P	P	23 00 58.4	-3.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GYA	Guiyang	42.79	259⇑	*i*P	P	23 01 09.6	+0.9
GYA				AP	pP	23 01 13.8	+2.2
GYA				XP	sP	23 01 16.8	+4.0
GYA				PP	PP	23 02 48.9	+1.0
GYA				S	S	23 07 22.0	-11
GYA				SCS	ScS	23 11 09.4	-0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,480nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,490nm,17.0s,MS4.6						
GYA				LR	LR		
	comp=Z,470nm,17.6s,MS4.4						
ZAL	Zalesovo	43.67	306	P	P	23 01 14.3	-1.5
	comp=Z,2.1nm,0.5s,mb4.2,baz=56,slow=9.0,SNR=3.9						
ZAL				PcP	PcP	23 03 00.9	-2.0
	comp=Z,1.7nm,0.5s,baz=3.4,slow=7.2,SNR=3.6						
ZAL	Zalesovo	43.67	306	P	P	23 01 14.3	-1.5
ZAL						23 03 01.0	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVS	Novosibirsk	44.22	308	*e*P	P	23 01 17.0	-3.2
NVS				*e*		23 08 01.2	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
MK31	Makanchi Array	48.05	298	*e*P	P	23 01 49.3	-1.0
MKAR	Makanchi Array	48.05	298	P	P	23 01 49.9	-0.5
	comp=E,5.6nm,0.7s,mb4.7,baz=67,slow=8.1,SNR=13						
MKAR	Makanchi Array	48.05	298	P	P	23 01 49.9	-0.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YKA	Yellowknife Ar	50.41	37	P	P	23 02 07.7	-0.7
	comp=Z,7.4nm,0.7s,mb4.8,baz=294,slow=7.1,SNR=8.1						
YKA	Yellowknife Ar	50.41	37	P	P	23 02 07.7	-0.7
YKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
RES	Resolute Bay	50.67	19	*e*P	P	23 02 10.3	-0.1
	comp=Z,160nm,0.9s,mb6.0						
LSA	Lhasa	51.42	274	*e*P	P	23 02 19.0	+2.9
LSA	Lhasa	51.42	274	*e*P	P	23 02 18.8	+2.7
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
LSA	Lhasa	51.42	274	*e*P	P	23 02 18.8	+2.8
	comp=Z,6.4nm,

PMG	**Port Moresby**	**56.11**	**189**	P		**P**	**23 02 49.3**	**-1.0**
	comp=Z,2.4nm,0.5s,mb4.5,baz=335,slow=6.3,SNR=4.3							
PMG	**Port Moresby**	**56.11**	**189**	*e*P		**P**	**23 02 49.6**	**-0.8**
PMG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
PMG	**Port Moresby**	**56.11**	**189**	*e*P		**P**	**23 02 49.6**	**-0.7**
	comp=Z,3.5nm,0.7s,mb4.5							
GUN	**Gumba**	**56.15**	**276**	*e*P		**P**	**23 02 52.0**	**+1.3**
KKN	**Kakani**	**56.64**	**277**	*e*P		**P**	**23 02 55.6**	**+1.4**
	comp=Z,38nm,0.8s,mb5.5							
PKI	**Pulchoki**	**56.69**	**276**	*e*P		**P**	**23 02 55.8**	**+1.3**
	comp=Z,18nm,0.6s,mb5.2							
YBH	**Yreka Blue Hor**	**56.84**	**62**	P		**P**	**23 02 55.7**	**+0.1**
	comp=Z,8.4nm,1.0s,mb4.7,baz=241,slow=2.0,SNR=6.3							
YBH	**Yreka Blue Hor**	**56.84**	**62**	P		**P**	**23 02 55.7**	**+0.1**
YBH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
DMN	**Daman**	**56.87**	**277**	*e*P		**P**	**23 02 57.5**	**+1.7**
	comp=Z,114nm,1.3s,mb5.7							
GKN	**Gorkha**	**56.95**	**277**	*e*P		**P**	**23 02 57.7**	**+1.4**
	comp=Z,59nm,1.1s,mb5.5							
KOLN	**Koldanda**	**57.80**	**278**	*e*P		**P**	**23 03 03.7**	**+1.3**
	comp=Z,53nm,1.2s,mb5.4							
KEV	**Kevo**	**57.91**	**341**	*e*p		**P**	**23 03 01.8**	**-1.4**
	comp=Z,4.3nm,0.5s,mb4.7							
KEV	**Kevo**	**57.91**	**341**	*e*P		**P**	**23 03 01.8**	**-1.4**
KEV				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
BMO	**Blue Mountains**	**58.24**	**57**	*e*P		**P**	**23 03 05.6**	**+0.1**
	comp=Z,12nm,1.2s,mb4.8							
ARCES	**ARCESS Array B**	**58.42**	**341**	P		**P**	**23 03 06.2**	**-0.6**
	comp=Z,7.8nm,0.6s,mb4.9,baz=36,slow=8.2,SNR=17							
ARCES	**ARCESS Array B**	**58.42**	**341**	P		**P**	**23 03 06.2**	**-0.5**
ARCES				pmax		pmax		
	comp=Z,8.0nm,0.6s							
OHCM	**Honcut**	**59.00**	**64**	*e*P		**P**	**23 03 10.3**	**-0.4**
AKTK	**Aktyubinsk**	**59.71**	**313**	P		**P**	**23 03 14.9**	**-0.8**
AKTK				PcP		PcP	23 04 00.9	-1.6
AKTO	**Aktyubinsk**	**59.71**	**313**	P		**P**	**23 03 14.9**	**-0.8**
	comp=Z,8.8nm,0.8s,mb4.8,baz=50,slow=6.1,SNR=16							
AKTO				PcP		PcP	23 04 00.9	-1.7
	comp=Z,2.5nm,0.9s,baz=280,slow=3.4,SNR=3.7							
AKTO	**Aktyubinsk**	**59.71**	**313**	P		**P**	**23 03 14.9**	**-0.7**
AKTO							23 04 00.9	
AKTO				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
PAHR	**Pah Rah Range**	**60.07**	**63**	*e*P		**P**	**23 03 18.2**	**+0.1**
LRM	**Limekiln Ridge**	**60.41**	**53**	*e*P		**P**	**23 03 20.6**	**+0.1**
EGMT	**Eagleton**	**60.53**	**50**	*e*P		**P**	**23 03 21.2**	**-0.1**
	comp=Z,17nm,1.1s,mb5.1							
ORR	**Orenburg**	**60.60**	**315**	*e*P		**P**	**23 03 20.6**	**-1.2**
ORR				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.2							
HLID	**Hailey**	**60.68**	**56**	*e*P		**P**	**23 03 22.3**	**0.0**
	comp=Z,17nm,1.5s,mb5.0							
WAKR	**Walker**	**60.77**	**64**	*e*P		**P**	**23 03 23.4**	**+0.4**
SUMG	**Summit**	**60.83**	**5**	*e*P		**P**	**23 03 23.1**	**-0.1**
BMN	**Battle Mountai**	**60.94**	**61**	*e*P		**P**	**23 03 24.6**	**+0.5**
BMN				pmax		pmax		
	comp=Z,18nm,1.1s,mb5.1							
BMN	**Battle Mountai**	**60.94**	**61**	*e*P		**P**	**23 03 24.6**	**+0.5**
	comp=Z,18nm,1.1s,mb5.1							
QLMT	**Earthquake Lak**	**61.59**	**54**	*e*P		**P**	**23 03 28.6**	**+0.2**
MTUM	**Tungsten Hills**	**62.03**	**64**	*e*P		**P**	**23 03 31.8**	**+0.3**
YFT	**Old Faithful**	**62.16**	**54**	*e*P		**P**	**23 03 34.5**	**+2.3**
IMW	**Indian Meadow**	**62.45**	**54**	*e*P		**P**	**23 03 35.1**	**+0.9**
	comp=Z,16nm,1.1s,mb5.1							
RRI2	**Red Ridge**	**62.58**	**55**	*e*P		**P**	**23 03 35.7**	**+0.6**
	comp=Z,15nm,0.8s,mb5.2							
RRI2				*e*			23 03 45.1	
MOOW	**Moose Ponds**	**62.65**	**54**	*e*P		**P**	**23 03 36.0**	**+0.4**
SNOW	**Snow King Moun**	**62.83**	**55**	*e*P		**P**	**23 03 38.0**	**+1.2**
REDW	**Red Top Meadow**	**62.84**	**55**	*e*P		**P**	**23 03 40.0**	**+3.1**
TRCR	**Troy Canyon**	**63.23**	**62**	*e*P		**P**	**23 03 39.1**	**-0.4**
DAC	**Darwin (Calif)**	**63.31**	**65**	*e*P		**P**	**23 03 39.9**	**-0.1**
HWUT	**Hardware Ranch**	**63.55**	**57**	*e*P		**P**	**23 03 41.9**	**+0.4**
	comp=Z,7.4nm,0.4s,mb5.1							
DUG	**Dugway**	**63.72**	**59**	*e*P		**P**	**23 03 43.6**	**+0.9**
DUG				pmax		pmax		
	comp=Z,16nm,1.3s,mb4.9							
DUG	**Dugway**	**63.72**	**59**	*e*P		**P**	**23 03 43.6**	**+0.9**
	comp=Z,16nm,1.3s,mb4.9							
BW06	**Boulder Array**	**63.95**	**55**	*e*P		**P**	**23 03 43.8**	**-0.3**
	comp=Z,10nm,1.0s,mb4.8							
PDAR	**Pinedale Array**	**63.95**	**55**	P		**P**	**23 03 43.8**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.6,baz=285,slow=2.1,SNR=22							
NLU	**North Lily Min**	**64.31**	**58**	*e*P		**P**	**23 03 46.9**	**+0.3**
MWC	**Mount Wilson**	**64.33**	**67**	*e*P		**P**	**23 03 46.6**	**-0.1**
DAU	**Daniels Canyon**	**64.49**	**58**	*e*P		**P**	**23 03 47.3**	**-0.5**
DAU				*e*			23 03 56.1	
SHPR	**Sheep Range**	**64.67**	**63**	*e*P		**P**	**23 03 49.1**	**+0.2**
FIA1	**FINESS Array S**	**64.71**	**335**	*e*P		**P**	**23 03 49.3**	**+0.1**
FIA1				*e*PP		PP	23 06 06.9	-4.5
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**23 03 48.2**	**-1.0**
	comp=Z,7.6nm,0.5s,mb5.0,baz=36,slow=9.5,SNR=34							
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**23 03 48.2**	**-1.0**
FINES				pmax		pmax		
	comp=Z,8.0nm,0.5s							
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**23 03 48.2**	**-1.0**
ARUT	**Antelope Range**	**64.89**	**61**	*e*P		**P**	**23 03 50.8**	**+0.4**
MSU	**Marysvale**	**65.18**	**60**	*e*P		**P**	**23 03 52.4**	**+0.2**
TMUT	**Trail Mountain**	**65.24**	**58**	*e*P		**P**	**23 03 52.9**	**+0.2**
TMUT				*e*			23 04 00.8	
ULM	**Lac du Bonnet**	**65.93**	**42**	P		**P**	**23 03 55.6**	**-1.4**
	comp=Z,4.7nm,0.8s,mb4.6,baz=306,slow=7.2,SNR=8.1							
OBN	**Obninsk**	**66.12**	**326**	*e*P		**P**	**23 03 57.1**	**-1.2**
	comp=Z,4.6nm,0.4s,mb4.9							
SMCO	**Snowmass**	**67.78**	**56**	*e*P		**P**	**23 04 01.8**	**-7.0**
	comp=Z,14nm,1.0s,mb4.9							
ISCO	**Idaho Springs**	**68.14**	**55**	*e*P		**P**	**23 04 11.4**	**+0.3**
ISCO				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
ISCO	**Idaho Springs**	**68.14**	**55**	*e*P		**P**	**23 04 11.4**	**+0.2**
	comp=Z,9.3nm,0.9s,mb4.8							
HYB	**Hyderabad**	**68.14**	**273**	*i* P		**P**	**23 04 08.0**	**-3.1**
HYB	**Hyderabad**	**68.14**	**273**	*e*P		**P**	**23 04 08.0**	**-3.1**
WRAB	**Tennant Creek**	**68.69**	**201**	P		**P**	**23 04 13.1**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,19nm,1.4s,mb4.8							
WRAB	**Tennant Creek**	**68.69**	**201**	P		**P**	**23 04 13.1**	**-1.5**
	comp=Z,19nm,1.4s,mb4.8							
WB2	**Warramunga Arr**	**68.70**	**201**	P		**P**	**23 04 14.2**	**-0.5**
WRA	**Warramunga Arr**	**68.70**	**201**	P		**P**	**23 04 13.3**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.3,baz=17,slow=6.4,SNR=8.1							
WRA	**Warramunga Arr**	**68.70**	**201**	P		**P**	**23 04 13.3**	**-1.3**
WRA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
NB2	**NORSAR Subarra**	**68.79**	**342**	P		**P**	**23 04 16.0**	**+0.8**
	comp=Z,5.6nm,0.5s,mb4.8,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.79**	**342**	P		**P**	**23 04 15.1**	**-0.1**
	comp=Z,5.4nm,0.5s,mb4.7,baz=26,slow=6.3,SNR=16							
NOA	**NORSAR Array B**	**68.79**	**342**	P		**P**	**23 04 15.1**	**-0.1**
NOA				pmax		pmax		
	comp=Z,5.0nm,0.5s							
EYMN	**Ely**	**69.59**	**41**	*e*P		**P**	**23 04 19.2**	**-0.9**
SDCO	**Great Sand Dun**	**69.60**	**56**	*e*P		**P**	**23 04 20.5**	**+0.2**
	comp=Z,23nm,1.5s,mb4.9							
ANMO	**Albuquerque**	**70.97**	**59**	*e*P		**P**	**23 04 28.9**	**+0.3**
LPM	**Los Pinos Moun**	**71.31**	**60**	*e*P		**P**	**23 04 30.6**	**-0.1**
KIV	**Kislovodsk**	**71.75**	**315**	*e*P		**P**	**23 04 33.7**	**+0.3**
KIV				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
KIV	**Kislovodsk**	**71.75**	**315**	P		**P**	**23 04 33.8**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8							
AKASG	**Malin Array Be**	**72.35**	**327**	P		**P**	**23 04 35.5**	**-1.4**
	comp=Z,4.7nm,0.7s,mb4.5,baz=33,slow=6.1,SNR=12							
AKASG	**Malin Array Be**	**72.35**	**327**	P		**P**	**23 04 35.6**	**-1.3**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KIEV	**Kiev**	**72.36**	**327**	*e*P		**P**	**23 04 35.4**	**-1.6**
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
KIEV	**Kiev**	**72.36**	**327**	*e*P		**P**	**23 04 35.4**	**-1.6**
	comp=Z,6.2nm,0.8s,mb4.6							
AS31	**Alice Springs**	**72.38**	**200**	*e*P		**P**	**23 04 36.9**	**-0.3**
ASAR	**Alice Springs**	**72.39**	**200**	P		**P**	**23 04 36.5**	**-0.7**
	comp=Z,5.3nm,0.7s,mb4.6,baz=13,slow=5.5,SNR=18							
ASAR	**Alice Springs**	**72.39**	**200**	P		**P**	**23 04 36.5**	**-0.6**
ASAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
SCHQ	**Schefferville**	**73.05**	**24**	P		**P**	**23 04 40.0**	**-1.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=352,slow=5.0,SNR=6.8							
SCHQ	**Schefferville**	**73.05**	**24**	P		**P**	**23 04 40.0**	**-1.1**
PALK	**Pallekele**	**73.80**	**263**	P		**P**	**23 04 46.6**	**+1.1**
GDL2	**Guadalupe Moun**	**74.14**	**60**	*e*P		**P**	**23 04 47.4**	**-0.1**
MBWA	**Marble Bar**	**74.46**	**214**	P		**P**	**23 04 48.4**	**-1.0**
WMOK	**Wichita Mounta**	**75.56**	**55**	*e*P		**P**	**23 04 54.8**	**-0.9**
WMOK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
WMOK	**Wichita Mounta**	**75.56**	**55**	*e*P		**P**	**23 04 54.8**	**-0.9**
	comp=Z,5.3nm,1.0s,mb4.4							
STHS	**Stebnicka Huta**	**76.26**	**331**	*e*P		**P**	**23 05 00.0**	**+0.3**
STHS				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
STHS	**Stebnicka Huta**	**76.26**	**331**	*e*P		**P**	**23 05 00.0**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.5							
KOLS	**Kolonicke sedl**	**76.32**	**330**	*e*P		**P**	**23 04 59.5**	**-0.6**
BURAR	**Bucovina Array**	**76.38**	**328**	⇑*i*P		**P**	**23 05 00.3**	**-0.1**
LTX	**Lajitas**	**76.60**	**62**	*e*P		**P**	**23 05 01.8**	**+0.2**
LTX				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
LTX	**Lajitas**	**76.60**	**62**	*e*P		**P**	**23 05 01.8**	**+0.2**
	comp=Z,15nm,0.9s,mb4.9							
TXAR	**Lajitas Array**	**76.60**	**62**	P		**P**	**23 05 00.9**	**-0.7**
	comp=Z,8.8nm,0.8s,mb4.8,baz=300,slow=4.3,SNR=41							
TXAR	**Lajitas Array**	**76.60**	**62**	P		**P**	**23 05 00.9**	**-0.7**
TXAR				pmax		pmax		
	comp=Z,9.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**76.80**	**347**	P		**P**	**23 05 04.0**	**+1.3**
	comp=Z,2.4nm,0.5s,mb4.4,baz=18,slow=5.1,SNR=16							
EKA	**Eskdalemuir Ar**	**76.80**	**347**	P		**P**	**23 05 04.0**	**+1.2**
EKA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
UPC	**Upice**	**76.97**	**334**	*e*P		**P**	**23 05 06.9**	**+3.2**
DPC	**Dobruska-Polom**	**77.02**	**334**	*e*P		**P**	**23 05 04.6**	**+0.6**
DPC				*ex*		x	23 05 07.6	
CLL	**Collm**	**77.12**	**337**	*i* P		**P**	**23 05 03.9**	**-0.7**
CLL				*i* pP		pP	23 05 07.1	-0.6
	comp=Z,13nm,0.8s							
MORC	**Moravsky Berou**	**77.15**	**333**	⇑*i*P		**P**	**23 05 08.2**	**+3.5**
MORC	**Moravsky Berou**	**77.15**	**333**	⇑P		**P**	**23 05 08.2**	**+3.5**
CFR	**Carcaliu**	**77.28**	**324**	⇓*i*P		**P**	**23 05 07.9**	**+2.4**
CFR	**Carcaliu**	**77.28**	**324**	⇓P		**P**	**23 05 07.9**	**+2.4**
KECS	**Kecovo**	**77.32**	**331**	*e*P		**P**	**23 05 05.2**	**-0.5**
KECS				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
KECS	**Kecovo**	**77.32**	**331**	*e*P		**P**	**23 05 05.2**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.1							
TIRR	**Tirgusor**	**77.76**	**324**	⇑*i*P		**P**	**23 05 08.1**	**0.0**
TIRR	**Tirgusor**	**77.76**	**324**	⇑P		**P**	**23 05 08.1**	**-0.1**
VRAC	**Vranov**	**77.86**	**333**	⇓*i*P		**P**	**23 05 12.5**	**+3.8**
VRAC	**Vranov**	**77.86**	**333**	⇓P		**P**	**23 05 12.5**	**+3.8**
VYHS	**Vyhne**	**77.86**	**332**	*e*P		**P**	**23 05 08.8**	**+0.1**
PRU	**Pruhonice**	**77.87**	**335**	*e*P		**P**	**23 05 08.6**	**-0.1**
PRU				*ex*		x	23 05 12.3	
MLR	**Muntele Rosu**	**77.88**	**326**	⇓*i*P		**P**	**23 05 09.1**	**+0.3**
MLR	**Muntele Rosu**	**77.88**	**326**	⇓P		**P**	**23 05 09.1**	**+0.3**
DRGR		**77.99**	**329**	⇑*i*P		**P**	**23 05 09.0**	**-0.4**
DRGR		**77.99**	**329**	⇑P		**P**	**23 05 09.0**	**-0.5**
JCT	**Junction City**	**78.08**	**58**	*e*P		**P**	**23 05 09.4**	**-0.5**
JCT				pmax		pmax		
	comp=Z,21nm,1.1s,mb5.0							
JCT	**Junction City**	**78.08**	**58**	*e*P		**P**	**23 05 09.4**	**-0.5**
	comp=Z,21nm,1.1s,mb5.0							
MOX	**Moxa**	**78.10**	**337**	*e*P		**P**	**23 05 14.2**	**+4.2**
MALT	**Malatya**	**78.12**	**314**	⇓*i*P		**P**	**23 05 11.6**	**+1.4**
MALT	**Malatya**	**78.12**	**314**	⇓P		**P**	**23 05 11.6**	**+1.4**
NKC	**Novy Kostel**	**78.24**	**336**	*e*P		**P**	**23 05 11.1**	**+0.3**
NKC				*ex*		x	23 05 15.1	
VOIR		**78.27**	**326**	⇓*i*P		**P**	**23 05 11.6**	**+0.6**
VOIR		**78.27**	**326**	⇓P		**P**	**23 05 11.6**	**+0.6**
KHC	**Kasperske Hory**	**78.91**	**335**	*e*P		**P**	**23 05 14.5**	**0.0**
KHC				*ex*		x	23 05 18.5	
STKA	**Stephens Creek**	**78.95**	**191**	P		**P**	**23 05 13.4**	**-1.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=85,slow=21,SNR=3.0							
UALR	**University of**	**79.06**	**51**	*e*P		**P**	**23 05 17.4**	**+2.0**
GERES	**GERESS Array B**	**79.14**	**335**	P		**P**	**23 05 14.7**	**-1.1**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
GERES	**GERESS Array B**	**79.14**	**335**	P		**P**	**23 05 14.7**	**-1.0**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
GZR	**Gura Zlata**	**79.16**	**328**	⇑*i*P		**P**	**23 05 09.8**	**-6.1**
GZR	**Gura Zlata**	**79.16**	**328**	⇑P		**P**	**23 05 09.8**	**-6.0**
BR131	**Keskin Array S**	**79.31**	**318**	*e*P		**P**	**23 05 17.2**	**+0.5**
BRTR	**Keskin Array B**	**79.32**	**318**	P		**P**	**23 05 16.0**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.3,baz=64,slow=2.9,SNR=9.5							
BRTR	**Keskin Array B**	**79.32**	**318**	P		**P**	**23 05 16.0**	**-0.7**
BRTR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BZS	**Buzias**	**79.39**	**329**	⇓*i*P		**P**	**23 05 16.8**	**-0.3**
BZS	**Buzias**	**79.39**	**329**	⇓P		**P**	**23 05 16.8**	**-0.3**
CDF	**Champ du Feu**	**81.27**	**339**	*e*P		**P**	**23 05 26.7**	**-0.6**
	comp=Z,20nm,1.1s,mb4.7							
CDF	**Champ du Feu**	**81.27**	**339**	*e*P		**P**	**23 05 26.7**	**-0.6**
CDF				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
CDF	**Champ du Feu**	**81.27**	**339**	*e*P		**P**	**23 05 26.7**	**-0.6**
	comp=Z,10nm,1.1s,mb4.7							
VTS	**Vitosha**	**81.39**	**326**	⇓*i*P		**P**	**23 05 27.4**	**-0.5**
VTS	**Vitosha**	**81.39**	**326**	⇓P		**P**	**23 05 27.4**	**-0.4**
TKL	**Tuckaleechee C**	**82.73**	**44**	P		**P**	**23 05 33.3**	**-1.6**
	comp=Z,5.1nm,1.0s,mb4.5,baz=136,slow=4.5,SNR=4.1							
TKL	**Tuckaleechee C**	**82.73**	**44**	P		**P**	**23 05 33.3**	**-1.6**
TKL				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
GRR	**Gorron**	**83.09**	**344**	*e*P		**P**	**23 05 36.6**	**-0.2**
	comp=Z,15nm,0.7s,mb4.8							
GRR	**Gorron**	**83.09**	**344**	*e*P		**P**	**23 05 36.6**	**-0.2**
GRR				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
GRR	**Gorron**	**83.09**	**344**	*e*P		**P**	**23 05 36.6**	**-0.2**
	comp=Z,7.7nm,0.7s,mb4.8							
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**	**23 05 39.9**	**0.0**
	comp=Z,4.1nm,0.9s,mb4.6,baz=357,slow=3.3,SNR=7.2							
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**	**23 05 39.9**	**0.0**
ASF				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SMF	**Signal de Mont**	**83.75**	**340**	*e*P		**P**	**23 05 39.8**	**-0.4**
	comp=Z,27nm,0.8s,mb5.1							
SMF	**Signal de Mont**	**83.75**	**340**	*e*P		**P**	**23 05 39.8**	**-0.4**
SMF				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.1							
SMF	**Signal de Mont**	**83.75**	**340**	*e*P		**P**	**23 05 39.8**	**-0.4**
	comp=Z,13nm,0.8s,mb5.1							
LPG	**La Plagne**	**84.11**	**338**	*e*P		**P**	**23 05 42.5**	**+0.5**
	comp=Z,56nm,1.3s,mb5.2							
LPG	**La Plagne**	**84.11**	**338**	*e*P		**P**	**23 05 42.5**	**+0.5**
LPG				pmax		pmax		
	comp=Z,28nm,1.3s,mb5.2							
LPG	**La Plagne**	**84.11**	**338**	*e*P		**P**	**23 05 42.5**	**+0.5**
	comp=Z,28nm,1.3s,mb5.2							
CAF	**Calviac**	**85.79**	**341**	*e*P		**P**	**23 05 49.9**	**-0.6**
	comp=Z,18nm,0.7s,mb5.1							
CAF	**Calviac**	**85.79**	**341**	*e*P		**P**	**23 05 49.9**	**-0.6**
CAF				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb5.1							
CAF	**Calviac**	**85.79**	**341**	*e*P		**P**	**23 05 49.9**	**-0.6**
	comp=Z,9.2nm,0.7s,mb5.1							
TORD	**Torodi Ar. Bea**	**115.85**	**331**	PKP		PKPdf	23 11 52.0	-1.7
	comp=Z,0.5nm,0.7s,baz=349,slow=2.8,SNR=4.5							
VNDA	**Vanda**	**123.86**	**178**	PKP		PKPdf	23 12 05.4	-3.8
	comp=Z,0.7nm,0.7s,baz=322,slow=7.1,SNR=6.0							
VNDA	**Vanda**	**123.86**	**178**	PKIKP		PKPdf	23 12 05.4	-3.8
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**133.42**	**64**	PKP		PKPdf	23 12 28.2	+0.9
	comp=Z,0.6nm,0.6s,baz=6.1,slow=18,SNR=3.9							
LPAZ	**La Paz**	**133.42**	**64**	PKIKP		PKPdf	23 12 28.2	+0.9
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SNAA	**Sanae**	**152.66**	**195**	PKPbc		PKPbc	23 13 04.6	-3.2
	comp=Z,0.9nm,0.7s,baz=317,slow=6.5,SNR=5.4							
SNAA				PKPab		PKPab	23 13 15.5	-2.9
	comp=Z,1.9nm,0.8s,baz=185,slow=3.2,SNR=7.8							
SNAA	**Sanae**	**152.66**	**195**	*e*		PKPbc	23 13 04.2	-3.6
SNAA				*e*			23 13 15.9	
VNA2	**Neumayer--Watz**	**154.07**	**193**	*e*		PKPbc	23 13 08.2	-2.7
VNA2				*e*			23 13 22.2	
VNA3	**Neumayer Olymp**	**154.13**	**191**	*e*		PKPbc	23 13 07.0	-4.0
VNA3				*e*			23 13 21.1	

*ISCJB **15** 22:55:29.6±0.6,47.1N±008×155.13E±0.10,h10km, mb4.3/17, Error ellipse: s-maj=12.5km s-min=8.3km az=113.4*
*IDC **15** 22:55:30.2±2.4,47.1N×155.14E,h0km,mb4.2/8, mb1 4.4/8,mb1mx4.0/24,mbtmp4.2/8, Error ellipse: s-maj=69.6km s-min=23.0km az=5.0*

*NEIC **15** 22:55:31.5±0.4,47.13N×155.10E,h10km,mb4.4/11,Error ellipse: s-maj=9.1km s-min=6.1km az=145.0*
*MOS **15** 22:55:32.8±0.7,47.10N×155.08E,h33km,mb4.5/15,Error ellipse: s-maj=15.8km s-min=11.2km az=102.2*

ISC 15 22:55:32.0±5.4,4712N±008×1551E±01,h14km±33km,n53, σ0ᵉ72/53,mb4.3/17,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.45**	**273**			PN	**Pn**	**22 57 34.0**	**+0.1**
ASAJ	**Asahikawa**	**9.28**	**256**			Pn	**Pn**	**22 57 51.4**	**+6.1**
	0.6nm,0.3s,baz=29,slow=14,SNR=3.4								
ASAJ	**Asahikawa**	**9.28**	**256**			PN	**Pn**	**22 57 51.4**	**+6.1**
ASAJ						pmax	pmax		
	comp=Z,1.0nm,0.3s								
MA2	**Magadan**	**12.74**	**350**			PN	**Pn**	**22 58 31.3**	**-1.3**
MAJO	**Matsushiro**	**16.42**	**236**	*e*P		**Pn**	**Pn**	**22 59 22.0**	**+0.1**
MDJ	**Mudanjiang**	**17.93**	**271**	*e*Pn		**Pn**	**Pn**	**22 59 41.7**	**+0.9**
	comp=Z,3.1nm,0.4s								
YAK	**Yakutsk**	**20.77**	**325**	*e*P		**P**	**23 00 13.8**	**+1.3**	
YAK						pmax	pmax		
	comp=Z,9.0nm,0.4s								
YAK	**Yakutsk**	**20.77**	**325**	*e*Pn		**P**	**23 00 13.8**	**+1.4**	
	comp=Z,9.1nm,0.4s								
BILL	**Bilibino**	**21.74**	**11**	P		P	**P**	**23 00 23.5**	**+0.7**
BILL	**Bilibino**	**21.74**	**11**	P		P	**P**	**23 00 23.5**	**+0.7**
INCN	**Inchon**	**23.06**	**256**	*e*P		P	**P**	**23 00 36.8**	**-0.1**
	comp=Z,12nm,0.4s,mb4.7								
HIA	**Hailar**	**23.55**	**288**	P		P	**P**	**23 00 42.0**	**0.0**
ULN	**Ulaanbaatar**	**32.07**	**289**	P		P	**P**	**23 01 58.5**	**+0.1**
SONM	**Songino Array**	**32.51**	**290**	P		P	**P**	**23 02 02.6**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=67,slow=11,SNR=2.5								
SONM	**Songino Array**	**32.51**	**290**	P		P	**P**	**23 02 02.6**	**+0.4**
SONM						pmax	pmax		
	comp=Z,1.0nm,0.6s								
TLY	**Talaya**	**33.23**	**297**	*e*P		P	**P**	**23 02 08.5**	**0.0**
TLY						pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2								
TLY	**Talaya**	**33.23**	**297**	*e*P		P	**P**	**23 02 08.5**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3								
MCK	**McKinley**	**34.47**	**41**	*e*P		P	**P**	**23 02 19.5**	**+0.2**
MCK						pmax

WATZ	**Wairara**	**0.67**	**221**	⇑PN	**Pn**	**22 56 38.5**	**+1.0**
HATZ	**Hinemaiaia**	**0.70**	**193**	P	**Pn**	**22 56 38.6**	**+0.9**
HATZ	**Hinemaiaia**	**0.70**	**193**	⇑PN	**Pn**	**22 56 38.6**	**+0.9**
HATZ				SN	**Sn**	**22 56 56.7**	**-0.1**
RATZ	**Rangitukua**	**0.78**	**212**	P	**Pn**	**22 56 39.2**	**+1.0**
RATZ	**Rangitukua**	**0.78**	**212**	⇑PN	**Pn**	**22 56 39.2**	**+1.0**
TOZ	**Tahuroa Road**	**0.78**	**307**	P	**Pn**	**22 56 38.0**	**-0.2**
TOZ	**Tahuroa Road**	**0.78**	**307**	⇓PN	**Pn**	**22 56 38.0**	**-0.2**
TOZ				SN	**Sn**	**22 56 55.8**	**-1.9**
RITZ	**Rihia Road**	**0.85**	**204**	P	**Pn**	**22 56 40.0**	**+1.4**
RITZ	**Rihia Road**	**0.85**	**204**	⇑PN	**Pn**	**22 56 40.0**	**+1.4**
KATZ	**Kakaramea**	**0.90**	**211**	P	**Pn**	**22 56 40.1**	**+1.1**
KATZ	**Kakaramea**	**0.90**	**211**	⇑PN	**Pn**	**22 56 40.1**	**+1.1**
BKZ	**Black Stump Fm**	**0.97**	**171**	P	**Pn**	**22 56 40.7**	**+1.2**
BKZ	**Black Stump Fm**	**0.97**	**171**	⇑PN	**Pn**	**22 56 40.7**	**+1.2**
WIZ	**White Island**	**0.98**	**47**	P	**Pn**	**22 56 38.3**	**-1.2**
WIZ	**White Island**	**0.98**	**47**	PN	**Pn**	**22 56 38.8**	**-0.8**
MWZ	**Matawai**	**0.98**	**98**	P	**Pn**	**22 56 40.0**	**+0.4**
MWZ				S	**Sn**	**22 56 59.0**	**-1.1**
MWZ	**Matawai**	**0.98**	**98**	⇓PN	**Pn**	**22 56 40.0**	**+0.5**
MWZ				SN	**Sn**	**22 56 59.0**	**-1.1**
KRVZ	**Karewarewa**	**1.03**	**210**	⇑PN	**Pn**	**22 56 41.0**	**+1.1**
WTVZ	**West Tongariro**	**1.06**	**211**	P	**Pn**	**22 56 41.3**	**+1.1**
WTVZ	**West Tongariro**	**1.06**	**211**	⇑PN	**Pn**	**22 56 41.3**	**+1.1**
OTVZ	**Oturere**	**1.08**	**207**	PN	**Pn**	**22 56 41.8**	**+1.5**
TWVZ	**Taurewa**	**1.10**	**217**	P	**Pn**	**22 56 40.7**	**+0.2**
TWVZ	**Taurewa**	**1.10**	**217**	PN	**Pn**	**22 56 40.7**	**+0.3**
NGZ	**Ngauruhoe**	**1.11**	**209**	P	**Pn**	**22 56 41.9**	**+1.3**
NGZ	**Ngauruhoe**	**1.11**	**209**	PN	**Pn**	**22 56 41.9**	**+1.3**
WPVZ	**Whakapapa**	**1.16**	**210**	PN	**Pn**	**22 56 42.0**	**+1.0**
TUVZ	**Tukino**	**1.18**	**205**	P	**Pn**	**22 56 42.6**	**+1.5**
TUVZ	**Tukino**	**1.18**	**205**	⇑PN	**Pn**	**22 56 42.6**	**+1.4**
FWVZ	**Far West T-bar**	**1.20**	**209**	P	**Pn**	**22 56 42.4**	**+1.1**
FWVZ	**Far West T-bar**	**1.20**	**209**	⇓PN	**Pn**	**22 56 42.4**	**+1.0**
DRZ	**Dome Shelter**	**1.21**	**208**	P	**Pn**	**22 56 43.0**	**+1.5**
DRZ	**Dome Shelter**	**1.21**	**208**	PN	**Pn**	**22 56 43.0**	**+1.5**
TRVZ	**Turoa**	**1.24**	**208**	PN	**Pn**	**22 56 43.0**	**+1.3**
WNVZ	**Wahianoa**	**1.25**	**206**	P	**Pn**	**22 56 43.0**	**+1.2**
WNVZ	**Wahianoa**	**1.25**	**206**	⇑PN	**Pn**	**22 56 43.0**	**+1.3**
MOVZ	**Moawhango**	**1.27**	**199**	P	**Pn**	**22 56 42.9**	**+0.9**
MOVZ	**Moawhango**	**1.27**	**199**	⇑PN	**Pn**	**22 56 42.9**	**+0.9**
PKVZ	**Pokaka**	**1.31**	**214**	PN	**Pn**	**22 56 43.5**	**+1.1**
KNZ	**Kokohu**	**1.35**	**127**	P	**Pn**	**22 56 44.1**	**+1.4**
KNZ	**Kokohu**	**1.35**	**127**	⇓PN	**Pn**	**22 56 44.1**	**+1.3**
VRZ	**Vera Road**	**1.51**	**232**	P	**Pn**	**22 56 45.5**	**+1.3**
VRZ	**Vera Road**	**1.51**	**232**	⇑PN	**Pn**	**22 56 45.5**	**+1.3**
KUZ	**Kuaotunu**	**1.52**	**342**	P	**Pn**	**22 56 43.3**	**-1.0**
KUZ				S	**Sn**	**22 57 05.2**	**-3.4**
KUZ	**Kuaotunu**	**1.52**	**342**	PN	**Pn**	**22 56 43.3**	**-1.0**
KUZ				SN	**Sn**	**22 57 05.2**	**-3.4**
PUZ	**Puketiti**	**1.55**	**86**	P	**Pn**	**22 56 44.8**	**+0.2**
PUZ				S	**Sn**	**22 57 08.1**	**-1.0**
PUZ	**Puketiti**	**1.55**	**86**	⇓PN	**Pn**	**22 56 44.8**	**+0.1**
PUZ				SN	**Sn**	**22 57 08.1**	**-1.0**
MXZ	**Matakaoa Point**	**1.72**	**69**	P	**Pn**	**22 56 46.4**	**+0.1**
MXZ				S	**Sn**	**22 57 10.7**	**-1.4**
MXZ	**Matakaoa Point**	**1.72**	**69**	⇓PN	**Pn**	**22 56 46.4**	**+0.1**
MXZ				SN	**Sn**	**22 57 10.7**	**-1.3**
RAEZ	**Rainy Point**	**1.84**	**233**	P	**Pn**	**22 56 49.2**	**+1.6**
RAEZ	**Rainy Point**	**1.84**	**233**	PN	**Pn**	**22 56 49.2**	**+1.6**
WAZ	**Wanganui**	**1.86**	**213**	⇑PN	**Pn**	**22 56 48.9**	**+1.1**
WPHZ	**Waipukurau**	**1.86**	**177**	PN	**Pn**	**22 56 49.1**	**+1.3**
TSZ	**Takapari Road**	**1.87**	**188**	⇑PN	**Pn**	**22 56 49.0**	**+1.1**
PXZ	**Pawanui**	**1.88**	**167**	⇑PN	**Pn**	**22 56 49.5**	**+1.5**
NEZ	**North Egmont**	**2.02**	**238**	P	**Pn**	**22 56 51.4**	**+1.8**
NEZ	**North Egmont**	**2.02**	**238**	PN	**Pn**	**22 56 51.4**	**+1.8**
BFZ	**Birch Farm**	**2.48**	**181**	P	**Pn**	**22 56 55.5**	**+0.7**
BFZ	**Birch Farm**	**2.48**	**181**	PN	**Pn**	**22 56 55.5**	**+0.7**
MRZ	**Mangatainoka R**	**2.52**	**192**	⇑PN	**Pn**	**22 56 55.6**	**+0.3**
TIWZ	**Tintock**	**2.59**	**187**	PN	**Pn**	**22 56 56.7**	**+0.6**
KIW	**Kapiti Island**	**2.86**	**202**	P	**Pn**	**22 56 59.1**	**-0.3**
KIW	**Kapiti Island**	**2.86**	**202**	PN	**Pn**	**22 56 59.1**	**-0.3**
MTW	**Mount Morrison**	**3.01**	**191**	P	**Pn**	**22 57 00.9**	**-0.4**
MTW	**Mount Morrison**	**3.01**	**191**	PN	**Pn**	**22 57 00.9**	**-0.3**
CAW	**Cannon Point**	**3.05**	**198**	P	**Pn**	**22 57 00.7**	**-1.0**
DUWZ	**D'Urville Isla**	**3.18**	**215**	PN	**Pn**	**22 57 02.5**	**-0.8**
TRWZ	**Traveller**	**3.23**	**188**	PN	**Pn**	**22 57 03.6**	**-0.3**
PAWZ	**Paruwai Farm**	**3.24**	**192**	P	**Pn**	**22 57 03.6**	**-0.5**
PAWZ	**Paruwai Farm**	**3.24**	**192**	PN	**Pn**	**22 57 03.6**	**-0.5**
MRW	**Makara Radio**	**3.26**	**202**	PN	**Pn**	**22 57 03.6**	**-0.7**
WEL	**Wellington**	**3.29**	**200**	P	**Pn**	**22 57 04.1**	**-0.6**
WEL	**Wellington**	**3.29**	**200**	PN	**Pn**	**22 57 04.1**	**-0.6**
MSWZ	**Moikau Station**	**3.31**	**194**	P	**Pn**	**22 57 04.3**	**-0.6**
MSWZ	**Moikau Station**	**3.31**	**194**	PN	**Pn**	**22 57 04.3**	**-0.6**
SNZO	**South Karori**	**3.33**	**201**	P	**Pn**	**22 57 04.5**	**-0.9**
SNZO				P		**22 57 04.5**	
SNZO	**South Karori**	**3.33**	**201**	PN	**Pn**	**22 57 04.3**	**-0.9**
BHW	**Baring Head**	**3.38**	**198**	P	**Pn**	**22 57 05.0**	**-0.8**
BHW	**Baring Head**	**3.38**	**198**	PN	**Pn**	**22 57 05.0**	**-0.8**
TCW	**Tory Channel**	**3.38**	**207**	P	**Pn**	**22 57 04.9**	**-1.0**
TCW	**Tory Channel**	**3.38**	**207**	PN	**Pn**	**22 57 04.9**	**-1.0**
NNZ	**Nelson**	**3.76**	**216**	P	**Pn**	**22 57 09.1**	**-1.5**
NNZ	**Nelson**	**3.76**	**216**	PN	**Pn**	**22 57 09.1**	**-1.5**
QRZ	**Quartz Range**	**3.92**	**227**	P	**Pn**	**22 57 10.7**	**-1.9**
QRZ	**Quartz Range**	**3.92**	**227**	PN	**Pn**	**22 57 10.7**	**-1.9**
BSWZ	**Blackbirch Sta**	**3.97**	**207**	P	**Pn**	**22 57 12.2**	**-1.1**
BSWZ	**Blackbirch Sta**	**3.97**	**207**	PN	**Pn**	**22 57 12.2**	**-1.0**
THZ	**Tophouse**	**4.41**	**215**	P	**Pn**	**22 57 17.1**	**-1.8**
THZ	**Tophouse**	**4.41**	**215**	PN	**Pn**	**22 57 17.1**	**-1.8**
KHZ	**Kahutara**	**4.71**	**206**	P	**Pn**	**22 57 21.4**	**-1.4**
KHZ	**Kahutara**	**4.71**	**206**	PN	**Pn**	**22 57 21.4**	**-1.4**
LTZ	**Lake Taylor**	**5.51**	**213**	P	**Pn**	**22 57 30.9**	**-2.3**
LTZ	**Lake Taylor**	**5.51**	**213**	PN	**Pn**	**22 57 30.9**	**-2.3**
CRLZ	**Canterbury Las**	**6.04**	**206**	P	**Pn**	**22 57 37.6**	**-2.7**
CRLZ	**Canterbury Las**	**6.04**	**206**	PN	**Pn**	**22 57 37.6**	**-2.7**
MQZ	**McQueen's Vall**	**6.15**	**205**	P	**Pn**	**22 57 38.5**	**-3.2**
MQZ	**McQueen's Vall**	**6.15**	**205**	PN	**Pn**	**22 57 38.5**	**-3.2**
RPZ	**Rata Peaks**	**6.79**	**214**	P	**Pn**	**22 57 47.8**	**-2.2**
	12nm,0.3s,baz=5.7,slow=1.4,SNR=29						
RPZ				S	**Sn**	**22 58 59.5**	**-7.1**
	53nm,0.3s,baz=234,slow=4.9,SNR=29						
RPZ	**Rata Peaks**	**6.79**	**214**	P	**Pn**	**22 57 47.8**	**-2.2**
RPZ	**Rata Peaks**	**6.79**	**214**	PN	**Pn**	**22 57 47.8**	**-2.2**
FOZ	**Fox Glacier**	**7.33**	**221**	*eP*	**Pn**	**22 57 52.1**	**-5.1**
FOZ	**Fox Glacier**	**7.33**	**221**	PN	**Pn**	**22 57 52.1**	**-5.1**
LBZ	**Lake Benmore**	**7.70**	**215**	*eP*	**Pn**	**22 57 58.6**	**-3.5**
ODZ	**Otahua Downs**	**8.04**	**210**	*eP*	**Pn**	**22 58 03.8**	**-2.8**
ODZ	**Otahua Downs**	**8.04**	**210**	PN	**Pn**	**22 58 03.8**	**-2.8**
EAZ	**Earnscleugh**	**8.75**	**214**	*eP*	**Pn**	**22 58 12.2**	**-3.8**
HHSZ	**Highcliff Hill**	**8.77**	**207**	PN	**Pn**	**22 58 14.1**	**-2.0**
TUZ	**Tuapeka**	**9.19**	**210**	*eP*	**Pn**	**22 58 19.4**	**-2.4**
SYZ	**Scrubby Hill**	**9.86**	**210**	PN	**Pn**	**22 58 28.6**	**-2.1**
WHZ	**Wether Hill Ro**	**9.87**	**216**	*eP*	**Pn**	**22 58 27.4**	**-3.4**
APZ	**The Paps**	**10.57**	**213**	PN	**Pn**	**22 58 36.8**	**-3.1**
AFI	**Afiamalu**	**26.41**	**27**	*eP*	**P**	**23 01 32.7**	**-0.7**
STKA	**Stephens Creek**	**28.99**	**272**	P	**P**	**23 01 58.1**	**+1.8**
	2.9nm,0.7s,mb4.1,baz=106,slow=11,SNR=7.4						
HNR	**Honiara**	**32.20**	**329**	*eP*	**P**	**23 02 24.2**	**-0.4**
	27nm,0.4s,mb5.3						
AS31	**Alice Springs**	**38.80**	**279**	*eP*	**P**	**23 03 21.5**	**+0.7**
ASAR	**Alice Springs**	**38.80**	**279**	P	**P**	**23 03 21.6**	**+0.8**
	4.3nm,0.6s,mb4.3,baz=125,slow=8.5,SNR=60						
ASPA	**Alice Springs**	**38.80**	**279**	*eP*	**P**	**23 03 21.5**	**+0.7**
PMG	**Port Moresby**	**38.83**	**310**	P	**P**	**23 03 21.0**	**-0.1**
VNDA	**Vanda**	**39.91**	**185**	P	**P**	**23 03 33.9**	**+3.9**
	0.8nm,0.5s,mb3.6,baz=355,slow=8.9,SNR=19						
VNDA	**Vanda**	**39.91**	**185**	*eP*	**P**	**23 03 34.4**	**+4.4**
	0.9nm,0.6s,mb3.6						
WB2	**Warramunga Arr**	**40.53**	**285**	*eP*	**P**	**23 03 35.3**	**+0.2**
WB2	**Warramunga Arr**	**40.53**	**285**	*eP*	**P**	**23 03 35.6**	**+0.5**
WRA	**Warramunga Arr**	**40.54**	**285**	P	**P**	**23 03 35.0**	**-0.1**
	1.6nm,0.5s,mb3.9,baz=128,slow=7.1,SNR=9.0						
CASY	**Casey**	**46.04**	**211**	*eP*	**P**	**23 04 19.7**	**+0.5**
CASY	**Casey**	**46.04**	**211**	*eP*	**P**	**23 04 19.7**	**+0.5**
	4.3nm,0.7s,mb4.2						
KLBR	**Kellerberrin**	**47.78**	**259**	*eP*	**P**	**23 04 32.3**	**-0.4**
	4.8nm,0.3s,mb4.6						
MUN	**Mundaring**	**48.81**	**258**	*eP*	**P**	**23 04 41.4**	**+0.8**
MBWA	**Marble Bar**	**51.23**	**273**	*eP*	**P**	**23 04 58.9**	**+0.1**
	5.9nm,0.4s,mb4.6						
QSPA	**South Pole Qui**	**51.92**	**180**	*eP*	**P**	**23 05 08.0**	**+4.1**
	7.4nm,0.4s,mb4.7						
MAW	**Mawson**	**63.33**	**203**	P	**P**	**23 06 24.8**	**+1.3**
	1.3nm,0.6s,mb3.9,baz=134,slow=3.9,SNR=6.2						
SNAA	**Sanae**	**70.43**	**180**	*eP*	**P**	**23 07 10.0**	**+1.7**
	1.3nm,0.5s,mb3.9						
TORD	**Torodi Ar. Bea**	**154.59**	**192**	PKPbc	PKPbc	23 15 51.8	-1.4
	0.2nm,0.5s,baz=210,slow=0.8,SNR=9.5						
TORD				PKPab	PKPab	23 16 08.3	-0.2
	1.0nm,0.4s,baz=183,slow=1.5,SNR=23						
TORD	**Torodi Ar. Bea**	**154.59**	**192**	PKPbc	PKPbc	23 15 51.8	-1.4
TORD				PKPab	PKPab	23 16 08.3	-0.2

*ISCJB **15** 23:02:39.1±0.5, 46.41N±0.008×154.74E±0.10, h10km, mb4.1/25, Error ellipse: s-maj=12.6km s-min=8.4km az=121.5*
*BJI **15** 23:02:39.1, 47.18N×154.86E, h11km, mB5.0, mb4.4*
*IDC **15** 23:02:39.4±0.9, 46.46N×154.79E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML4.0/2, Error ellipse: s-maj=25.3km s-min=17.2km az=160.0*
*MOS **15** 23:02:40.9±0.9, 46.39N×154.68E, h24km, mb4.5/18, Error ellipse: s-maj=14.2km s-min=11.4km az=104.9*
*NEIC **15** 23:02:40.8±0.5, 46.43N×154.77E, h10km, mb4.4/8, Error ellipse: s-maj=11.8km s-min=8.5km az=144.0*

ISC 15 23:02:40.7±0.5, 46.45N±0.008×154.79E±0.010, h10km, (h17km±4.8km:pP-P), n59, σ0.98/57, mb4.1/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.91**	**259**	Pn	**Pn**	**23 04 49.9**	**+0.4**
	2.3nm,0.3s,baz=39,slow=22,SNR=9.3						
ASAJ	**Asahikawa**	**8.91**	**259**	PN	**Pn**	**23 04 49.9**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**9.45**	**246**	PN	**Pn**	**23 04 57.2**	**+0.3**
KLR	**Kul'dur**	**15.70**	**289**	*eP*	**Pn**	**23 06 22.2**	**+0.2**
MJAR	**Matsushiro Arr**	**15.85**	**237**	Pn	**Pn**	**23 06 21.9**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=3.0						
MDJ	**Mudanjiang**	**17.73**	**273**	*ePn*	**Pn**	**23 06 46.8**	**-0.9**
	comp=Z,31nm,1.3s						
CN2	**Changchun**	**20.82**	**273**	*eP*	**P**	**23 07 20.1**	**-2.2**
KSRS	**Korea Array**	**21.82**	**255**	P	**P**	**23 07 34.4**	**+1.2**
	comp=Z,5.9nm,0.9s,mb4.0,baz=55,slow=12,SNR=8.1						
BILL	**Bilibino**	**22.44**	**11**	*eP*	**P**	**23 07 39.6**	**-0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**22.44**	**11**	*eP*	**P**	**23 07 39.4**	**-0.3**
	comp=Z,6.7nm,0.8s,mb4.1						
HHC	**Hu-ho-hao-te**	**31.47**	**276**	*eP*	**P**	**23 09 03.1**	**+0.7**
HHC				AP	pP	23 09 07.5	+2.0
HHC				XP	sP	23 09 10.1	+3.3
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,109nm,6.7s						
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**23 09 12.6**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=84,slow=7.5,SNR=2.5						
LZH	**Lanzhou**	**39.05**	**273**	*eP*	**P**	**23 10 09.8**	**+2.1**
LZH				AP	pP	23 10 12.5	+1.7
LZH				XP	sP	23 10 14.5	+2.4
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.05**	**273**	*eP*	**P**	**23 10 09.7**	**+2.0**
LZH				*SP	sP	23 10 14.5	+2.4
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.05**	**273**	*eP*	**P**	**23 10 09.7**	**+2.0**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	23 10 12.5	+1.7
LZH				sP	sP	23 10 14.5	+2.4
GTA	**Gaotai**	**40.16**	**280**	*eP*	**P**	**23 10 18.1**	**+1.2**
GTA				AP	pP	23 10 25.3	+5.3
GTA				XP	sP	23 10 29.3	+8.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.1						
INK	**Inuvik**	**41.28**	**32**	P	**P**	**23 10 26.2**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.0,baz=261,slow=12,SNR=9.7						
INK	**Inuvik**	**41.28**	**32**	P	**P**	**23 10 26.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**23 11 19.8**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=66,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**23 11 19.8**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**51.50**	**311**	*eP*	**P**	**23 11 46.0**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**51.50**	**311**	*eP*	**P**	**23 11 46.0**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**23 11 49.5**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=56,slow=7.8,SNR=15						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**23 11 49.5**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.97**	**310**	*eP*	**P**	**23 11 50.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.97**	**310**	*eP*	**P**	**23 11 50.0**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**52.70**	**311**	*eP*	**P**	**23 11 55.3**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**52.70**	**311**	*eP*	**P**	**23 11 55.3**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.0						
ARU	**Arti**	**56.01**	**318**	*eP*	**P**	**23 12 19.0**	**-0.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**56.01**	**318**	*eP*	**P**	**23 12 19.0**	**-0.5**
	comp=Z,7.9nm,0.8s,mb4.8						
PMG	**Port Moresby**	**56.02**	**189**	P	**P**	**23 12 19.5**	**-0.1**
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**23 12 36.9**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.5,baz=32,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**23 12 36.9**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.78**	**313**	P	**P**	**23 12 46.1**	**+0.2**
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**23 12 46.1**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=65,slow=8.7,SNR=7.0						
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**23 12 46.1**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**63.98**	**55**	P	**P**	**23 13 14.3**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=298,slow=3.2,SNR=4.4						
FINES	**FINESS Array B**	**64.80**	**336**	P	**P**	**23 13 18.8**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.4,baz=41,slow=9.9,SNR=8.6						
FINES	**FINESS Array B**	**64.80**	**336**	P	**P**	**23 13 18.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.88**	**342**	P	**P**	**23 13 46.7**	**+1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.88**	**342**	P	**P**	**23 13 46.5**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=5.8						
NOA	**NORSAR Array B**	**68.88**	**342**	P	**P**	**23 13 46.6**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**	**23 14 06.8**	**+0.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=20,slow=5.9,SNR=7.0						
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**	**23 14 06.9**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**72.43**	**327**	P	**P**	**23 14 06.2**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=33,slow=6.4,SNR=5.0						
LTX	**Lajitas**	**76.63**	**62**	*eP*	**P**	**23 14 31.7**	**+0.1**
LTX				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
LTX	**Lajitas**	**76.63**	**62**	*eP*	**P**	**23 14 31.7**	**+0.1**
	comp=Z,3.8nm,1.1s,mb4.2						
TXAR	**Lajitas Array**	**76.63**	**62**	P	**P**	**23 14 32.1**	**+0.5**
	comp=Z,2.9nm,1.0s,mb4.2,baz=305,slow=3.8,SNR=17						
TXAR	**Lajitas Array**	**76.63**	**62**	P	**P**	**23 14 32.1**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLL	**Collm**	**77.20**	**337**	*eP*	pP	23 14 40.0	+1.8
CLL				*e*	sP	23 14 44.0	+4.6
CLL	**Collm**	**77.20**	**337**	*ep*	pP	23 14 40.0	+1.8
KHC	**Kasperske Hory**	**79.00**	**335**	*eP*	**P**	**23 14 45.2**	**+0.4**
GERES	**GERESS Array B**	**79.22**	**335**	P	**P**	**23 14 43.2**	**-2.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=23,slow=7.2,SNR=4.1						
GERES	**GERESS Array B**	**79.22**	**335**	P	**P**	**23 14 43.2**	**-2.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**79.39**	**318**	P	**P**	**23 14 47.6**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=56,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**79.39**	**318**	P	**P**	**23 14 47.6**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASF	**Jabal al Asfar**	**83.77**	**311**	P	**P**	**23 15 11.0**	**+0.9**
	comp=Z,0.7nm,0.4s,mb4.1,baz=40,slow=9.5,SNR=4.2						
ASF	**Jabal al Asfar**	**83.77**	**311**	P	**P**	**23 15 11.0**	**+0.9**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SNZO	**South Karori**	**89.17**	**165**	P	**P**	**23 15 35.9**	**-0.7**

*IDC **15** 23:03:32.7±0.5, 46.47N×154.83E, h0km, mb4.5/25, mb1 4.7/27, mb1mx4.7/30, mbtmp4.5/27, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/42, Error ellipse: s-maj=16.9km s-min=12.5km az=161.0*
*ISCJB **15** 23:03:34.6±0.2, 46.55N±0.005×154.76E±0.004, h17km, mb4.8/88, MS4.3/3, Error ellipse: s-maj=6.6km s-min=3.7km az=155.6*
*SKHL **15** 23:03:35.6±3.0, 46.27N×154.83E, h42km±11km*
*MOS **15** 23:03:36.4±3.6, 46.45N×154.82E, h33km, mb5.0/53, Error ellipse: s-maj=7.8km s-min=5.9km az=107.2*
*NEIC **15** 23:03:36.4±3.6, 46.53N×154.83E, h18km±22km, mb4.9/39, Error ellipse: s-maj=6.9km s-min=4.8km az=166.0*
*BJI **15** 23:03:37.8, 46.68N×154.20E, h17km, mB5.1, mb4.7, Ms4.7, Msz4.5*
*SZGRF **15** 23:03:49.8, 47.85N×153.03E, h33km, mb4.9, Kuril Islands, Russia*

ISC 15 23:03:36.6±0.2, 46.61N±0.004×154.80E±0.004, h18km, h18km±2.9km:pP-P, n251, σ1.907/250, mb4.8/88, MS4.3/3, 11C-17D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.17**	**12**	*ePN*	**Pn**	**23 04 38.0**	**-1.3**
KUR	**Kuril'sk**	**5.03**	**257**	*eP*	**Pn**	**23 04 47.8**	**-3.3**
KUR				AMB	AMB	23 04 48.6	
	76nm,0.6s						
KUR				AMB	AMB	23 04 48.6	
	167nm,0.6s						
KUR				AMB	AMB	23 04 48.6	
	266nm,0.6s						
KUR				*eS*	**Sn**	**23 05 42.0**	**-6.7**
KUR				A		23 05 50.3	
	602nm,0.7s						
KUR				A		23 05 50.3	
	430nm,0.7s						
KUR	**Kuril'sk**	**5.03**	**257**	⇑*i*PN	**Pn**	**23 04 47.8**	**-3.3**
KUR				pmax	pmax		
	comp=N,90nm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
KUR				pmax	pmax		
	comp=Z,270nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.80**	**251**	*eP*	**Pn**	**23 05 14.7**	**-0.8**

comp=Z,12nm,1.2s,mb4.5
INK Inuvik 41.15 32 P **P 23 11 19.4 -0.2**
comp=Z,12nm,0.9s,mb4.5,baz=276,slow=7.9,SNR=17
INK Inuvik 41.15 32 P **P 23 11 19.5 -0.2**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 41.15 32 *e*P **P 23 11 20.3 +0.6**
comp=Z,408nm,0.9s,mb6.1
CD2 Chengdu 42.02 267 *e*P **P 23 11 27.0 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,50nm,5.8s
GYA Guiyang 42.82 259⇑ *i*P **P 23 11 33.9 +0.5**
GYA AP pP 23 11 37.9 -1.2
GYA XP sP 23 11 40.8 -0.6
GYA PP PP 23 13 14.3 +1.5
GYA PCP PcP 23 13 24.8 +0.4
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,460nm,16.4s,MS4.6
GYA LR LR
comp=E,540nm,17.0s,MS4.6
GYA LR LR
comp=Z,580nm,17.4s,MS4.5
ZAL Zalesovo 43.64 306 P **P 23 11 38.3 -1.7**
comp=Z,2.9nm,0.6s,mb4.2,baz=44,slow=7.1,SNR=9.9
ZAL PcP PcP 23 13 26.5 -0.6
comp=Z,1.9nm,0.7s,baz=51,slow=3.0,SNR=5.2
ZAL Zalesovo 43.64 306 P **P 23 11 38.3 -1.7**
ZAL 23 13 26.5
ZAL pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 44.19 308 *e*P **P 23 11 43.1 -1.3**
NVS *e* 23 13 27.0
NVS pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,5.0nm,0.7s
KMI Kunming 46.36 261 P **P 23 12 02.4 +0.8**
KMI *PP pP 23 12 19.4 +12
KMI pmax pmax
comp=Z,13nm,1.1s,mb4.8
KMI Kunming 46.36 261 P **P 23 12 02.4 +0.8**
comp=Z,13nm,1.1s,mb4.8
KMI pP pP 23 12 19.4 +12
MK31 Makanchi Array 48.03 298 *e*P **P 23 12 14.6 0.0**
MK31 *e* 23 13 42.0
MKAR Makanchi Array 48.03 298 P **P 23 12 14.0 -0.6**
comp=Z,6.5nm,0.8s,mb4.7,baz=68,slow=8.3,SNR=24
MKAR PcP PcP 23 13 41.9 -0.5
comp=Z,2.2nm,0.7s,baz=62,slow=2.7,SNR=4.9
MKAR Makanchi Array 48.03 298 P **P 23 12 14.0 -0.6**
MKAR 23 13 41.9
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 48.03 298 P **P 23 12 14.0 -0.6**
MKAR PcP PcP 23 13 41.9 -0.5
YKA Yellowknife Ar 50.34 37 P **P 23 12 32.1 -0.2**
comp=Z,9.1nm,0.7s,mb4.9,baz=295,slow=7.1,SNR=7.9
YKA Yellowknife Ar 50.34 37 P **P 23 12 32.1 -0.2**
YKA pmax pmax
comp=Z,9.0nm,0.7s
RES Resolute Bay 50.60 19 *e*P **P 23 12 35.0 +0.8**
RES pmax pmax
comp=Z,11nm,1.3s,mb4.6
RES Resolute Bay 50.60 19 *e*P **P 23 12 35.0 +0.8**
comp=Z,11nm,1.3s,mb4.6
CHKZ Chkalovo 51.40 311 *e*P **P 23 12 40.0 -0.3**
CHKZ pmax pmax
comp=Z,31nm,0.6s,mb5.4
CHKZ Chkalovo 51.40 311 *e*P **P 23 12 40.0 -0.3**
comp=Z,31nm,0.6s,mb5.4
LSA Lhasa 51.44 274 P **P 23 12 42.8 +2.2**
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.1
LSA Lhasa 51.44 274 *e*P **P 23 12 43.1 +2.5**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.44 274 *e*P **P 23 12 43.1 +2.5**
comp=Z,8.7nm,0.6s,mb4.9
BVAR Borovoye Array 51.84 310 P **P 23 12 43.8 +0.2**
comp=Z,9.2nm,0.6s,mb4.9,baz=53,slow=8.1,SNR=45
BVAR PcP PcP 23 13 54.9 -1.5
comp=Z,3.3nm,0.8s,baz=90,slow=4.4,SNR=4.4
BVAR Borovoye Array 51.84 310 P **P 23 12 43.8 +0.2**
BVAR 23 13 54.9
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 51.88 310 *e*P **P 23 12 44.3 +0.4**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.2
BRVK Borovoye 51.88 310 *e*P **P 23 12 44.3 +0.4**
comp=Z,23nm,0.8s,mb5.2
ZRNK Zerenda 52.60 311 *e*P **P 23 12 49.5 +0.3**
ZRNK *e* 23 13 58.5
ZRNK pmax pmax
comp=Z,13nm,0.7s,mb5.0
ZRNK Zerenda 52.60 311 *e*P **P 23 12 49.5 +0.2**
comp=Z,13nm,0.7s,mb5.0
ZRNK *e*PcP PcP 23 13 58.5 -0.8
CHTO Chiang Mai 53.22 258 *e*P **P 23 12 54.6 +0.8**
CHTO *e* 23 14 02.2
CHTO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CHTO Chiang Mai 53.22 258 *e*P **P 23 12 54.6 +0.8**
comp=Z,6.1nm,1.0s,mb4.5
CHTO *e*PcP PcP 23 14 02.2 +0.6
TKM2 Tokmak 2 54.10 297 P **P 23 13 01.8 +1.5**
SNR=8.1
CHMS Chumysh 54.57 298 P **P 23 13 04.8 +1.1**
SNR=5.1
USP Ospenovka 54.58 298 P **P 23 13 04.7 +1.0**
SNR=28
KBK Karagaybulak 54.64 297 P **P 23 13 05.3 +1.2**
SNR=10
FRU Bishkek 54.75 297 *e*P **P 23 13 06.2 +1.2**
KZA Kyzart 54.78 296 P **P 23 13 07.5 +2.3**
SNR=8.7
AAK Ala-Archa 54.93 297 P **P 23 13 07.1 +0.8**
SNR=12
AAK Ala-Archa 54.93 297 *d i*P **P 23 13 06.1 -0.2**
AAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
EKS2 Erkin-Say 55.35 298 P **P 23 13 10.2 +0.9**
SNR=17
EDM Edmonton 55.57 47 *e*P **P 23 13 10.6 -0.3**
AML Almayashu 55.70 297 P **P 23 13 13.8 +1.9**
SNR=7.7
ARU Arti 55.89 318⇓ *i*P **P 23 13 12.8 -0.4**
ARU *e* 23 14 08.9
ARU *e* 23 15 13.5
ARU *e*PPP 23 16 31.0
ARU *e*S **S 23 20 58.6 -1.3**
ARU *e*SS SS 23 24 47.0 +1.3
ARU *e*SSS 23 26 55.2
ARU pmax pmax
comp=Z,42nm,1.4s,mb5.3
ARU Arti 55.89 318 *e*P **P 23 13 12.8 -0.4**
JIRN Jiri 56.11 276 *e*P **P 23 13 16.4 +1.6**
comp=Z,49nm,0.9s,mb5.5
GUN Gumba 56.17 276 *e*P **P 23 13 16.7 +1.5**
PMG Port Moresby 56.18 189 *e*P **P 23 13 14.0 -1.3**
KKN Kakani 56.65 277 *e*P **P 23 13 20.2 +1.5**
PKI Pulchoki 56.70 276 *e*P **P 23 13 19.9 +0.9**
comp=Z,26nm,0.8s,mb5.3
YBH Yreka Blue Hor 56.78 62 P **P 23 13 17.9 -1.7**
comp=Z,5.1nm,0.9s,mb4.5,baz=315,slow=4.3,SNR=4.5
YBH Yreka Blue Hor 56.78 62 P **P 23 13 17.9 -1.7**
YBH pmax pmax
comp=Z,5.0nm,0.9s
DMN Daman 56.89 276 *e*P **P 23 13 21.9 +1.6**
comp=Z,70nm,1.0s,mb5.6
GKN Gorkha 56.96 277 *e*P **P 23 13 22.1 +1.3**
comp=Z,81nm,1.2s,mb5.6
LVZ Lovozero 57.35 337⇓ *e*P **P 23 13 22.5 -1.1**
LVZ pmax pmax
comp=Z,28nm,0.9s,mb5.3
LVZ pmax pmax
comp=N,16nm,1.3s
LVZ pmax pmax
comp=E,4.0nm,1.0s
KOLN Koldanda 57.82 278 *e*P **P 23 13 28.3 +1.4**
comp=E,60nm,1.2s,mb5.5
KEV Kevo 57.85 341 *e*p **P 23 13 24.9 -2.2**
comp=E,3.7nm,0.6s,mb4.6
KEV Kevo 57.85 341 *e*P **P**
KEV pmax pmax **23 13 24.9 -2.2**
comp=Z,4.0nm,0.6s,mb4.6
MOD Modoc 58.15 61 *e*P **P 23 13 29.9 +0.7**
ARCES ARCESS Array B 58.36 341 P **P 23 13 30.1 -0.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=46,slow=8.7,SNR=8.9
ARCES ARCESS Array B 58.36 341 P **P**
ARCES pmax pmax **23 13 30.1 -0.6**
comp=Z,7.0nm,0.8s
MSO Missoula 58.92 53 *e*P **P 23 13 34.6 0.0**
comp=Z,6.0nm,1.0s,mb4.6
TMCR Tamitsa 58.99 333 *e*P **P 23 13 35.0 -0.1**
TMCR pmax pmax
comp=Z,53nm,1.5s,mb5.3
CHMT Chamberlain Mo 59.25 53 *e*P **P 23 13 36.4 -0.5**
AKTK Aktyubinsk 59.68 313 P **P 23 13 39.2 -0.6**
AKTO Aktyubinsk 59.68 313 P **P 23 13 39.2 -0.6**
comp=Z,3.4nm,0.6s,mb4.6,baz=63,slow=8.0,SNR=7.6
AKTO Aktyubinsk 59.68 313 P **P**
AKTO pmax pmax **23 13 39.2 -0.6**
comp=Z,3.0nm,0.6s,mb4.5
HRY Holter Researc 60.15 52 *e*P **P 23 13 43.4 +0.3**
LRM Limekiln Ridge 60.35 53 *e*P **P 23 13 45.0 +0.6**
EGMT Eagleton 60.46 50 *e*P **P 23 13 45.5 +0.3**
comp=Z,15nm,1.0s,mb5.0
ORR Orenburg 60.57 315 *e*P **P**
ORR pmax pmax **23 13 45.5 -0.4**
comp=Z,20nm,1.0s,mb5.2
SUMG Summit 60.75 5 *e*P **P 23 13 48.3 +1.1**
NVAR Mina Array Bea 61.47 63 P **P 23 13 52.0 -0.1**
comp=Z,4.4nm,0.8s,mb4.6,baz=291,slow=8.3
QLMT Earthquake Lak 61.53 54 *e*P **P 23 13 53.3 +0.8**
IMW Indian Meadow 62.39 54 *e*P **P 23 13 59.1 +0.9**
comp=Z,15nm,1.1s,mb5.0
MOOW Moose Ponds 62.59 54 *e*P **P 23 14 00.8 +1.2**
comp=Z,8.9nm,1.1s,mb4.8
TPAW Teton Pass 62.64 55 *e*P **P 23 14 01.4 +1.5**
SNOW Snow King Moun 62.77 55 *e*P **P 23 14 02.4 +1.6**
REDW Red Top Meadow 62.78 55 *e*P **P 23 14 02.1 +1.3**
SPUT South Promonto 63.17 57 *e*P **P 23 14 01.2 -2.2**
DUG Dugway 63.66 59 *e*P **P 23 14 05.3 -1.4**
BW06 Boulder Array 63.89 55 *e*P **P 23 14 09.5 +1.3**
comp=Z,11nm,1.1s,mb4.8
PDAR Pinedale Array 63.89 55 P **P 23 14 08.2 +0.1**
comp=Z,5.9nm,0.9s,mb4.6,baz=286,slow=2.6,SNR=19
NLU North Lily Min 64.25 58 *e*P **P 23 14 05.2 -5.4**
GSC Goldstone 64.37 65 *e*P **P 23 14 11.5 +0.1**
SHPR Sheep Range 64.62 63 *e*P **P 23 14 13.5 +0.5**
FINES FINESS Array B 64.65 335 P **P 23 14 12.6 -0.6**
comp=Z,6.1nm,0.6s,mb4.8,baz=35,slow=9.8,SNR=18
FINES FINESS Array B 64.65 335 P **P**
FINES pmax pmax **23 14 12.6 -0.6**
comp=Z,6.0nm,0.6s
ULM Lac du Bonnet 65.86 42 P **P 23 14 20.1 -0.9**
comp=Z,4.8nm,0.8s,mb4.6,baz=321,slow=4.5,SNR=9.9
RSSD Black Hills 66.02 51 *e*P **P 23 14 21.7 -0.3**
OBN Obninsk 66.07 326 *e*P **P 23 14 21.0 -1.4**
OBN *e* 23 14 50.1
OBN *e* 23 16 45.1
OBN pmax pmax
comp=Z,25nm,1.6s,mb5.0
AGMN Agassiz Refuge 67.25 43 *e*P **P 23 14 29.4 -0.4**
comp=Z,11nm,0.9s,mb4.9
AGMN *e* 23 14 39.1
SMCO Snowmass 67.72 56 P **P 23 14 23.9 -9.0**
comp=Z,8.9nm,0.9s,mb4.8
ISCO Idaho Springs 68.08 55 *e*P **P**
ISCO pmax pmax **23 14 36.1 +1.0**
comp=Z,8.0nm,0.8s,mb4.8
ISCO Idaho Springs 68.08 55 *e*P **P 23 14 36.1 +1.0**
comp=Z,8.3nm,0.8s,mb4.8
HYB Hyderabad 68.16 273 *i*P **P 23 14 35.5 -0.1**
HYB Hyderabad 68.16 273 *e*P **P 23 14 35.5 -0.1**
NB2 NORSAR Subarra 68.73 342 P **P 23 14 38.6 -0.6**
comp=Z,7.5nm,0.8s,mb4.7,baz=30,slow=6.5
NOA NORSAR Array B 68.73 342 P **P**
comp=Z,5.0nm,0.8s,mb4.5,baz=27,slow=6.4,SNR=10 **23 14 37.6 -1.6**
NOA NORSAR Array B 68.73 342 P **P**
NOA pmax pmax **23 14 37.6 -1.6**
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 68.76 201 P **P 23 14 38.5 -0.9**
WB2 Warramunga Arr 68.77 201 P **P 23 14 37.9 -1.6**
WRA Warramunga Arr 68.78 201 P **P 23 14 37.3 -2.1**
comp=Z,4.5nm,1.1s,mb4.3,baz=18,slow=6.4,SNR=6.0
WRA Warramunga Arr 68.78 201 P **P**
WRA pmax pmax **23 14 37.3 -2.2**
comp=Z,5.0nm,1.1s
EYMN Ely 69.52 41 *e*P **P 23 14 43.6 -0.5**
SDCO Great Sand Dun 69.54 57 *e*P **P 23 14 44.9 +0.7**
comp=Z,17nm,1.4s,mb4.8
KONO Kongsberg 70.33 342⇑ *e*P **P 23 14 46.8 -2.3**
POO Poona 70.63 277 *e*P **P 23 14 48.0 -2.9**
ANMO Albuquerque 70.91 59 *e*P **P 23 14 51.6 -1.0**
ANMO Albuquerque 70.91 59 *e*P **P 23 14 53.2 +0.6**
KIV Kislovodsk 71.72 315 *e*P **P 23 14 57.0 -0.5**
KIV pmax pmax
comp=Z,19nm,1.2s,mb4.9
ZEI Tsey 72.00 314 *e*P **P 23 14 58.1 -1.1**
ZEI *e**PP pP 23 15 07.3 +2.1
ZEI *e* 23 15 15.4
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AKASG Malin Array Be 72.30 327 P **P 23 15 00.3 -0.7**
comp=Z,6.0nm,0.7s,mb4.6,baz=33,slow=6.0,SNR=12
AKASG Malin Array Be 72.30 327 P **P**
AKASG pmax pmax **23 15 00.3 -0.7**
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 72.30 327 P **P 23 15 00.3 -0.7**
AKBB Malin Array Si 72.30 327 *e*P **P 23 15 00.3 -0.7**
KIEV Kiev 72.31 327 *e*P **P 23 15 00.4 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIEV Kiev 72.31 327 *e*P **P**
comp=Z,7.2nm,0.8s,mb4.7 **23 15 00.3 -0.7**
AS31 Alice Springs 72.46 200 *e*P **P 23 15 01.4 -0.6**
ASAR Alice Springs 72.46 200 P **P 23 15 00.8 -1.2**
comp=Z,9.5nm,1.0s,mb4.7,baz=12,slow=5.1,SNR=30
ASAR Alice Springs 72.46 200 P **P**
ASAR pmax pmax **23 15 00.8 -1.1**
comp=Z,10.0nm,1.0s
SCHQ Schefferville 72.98 24 P **P 23 15 04.0 -1.0**
comp=Z,5.6nm,0.7s,mb4.6,baz=352,slow=9.2,SNR=7.0
GNI Garni 73.50 311⇑ *e*P **P 23 15 09.3 +1.2**
GNI pmax pmax
comp=Z,36nm,1.7s
GNI Garni 73.50 311 *e*P **P 23 15 10.6 +2.5**
comp=Z,18nm,1.0s,mb5.0
MNTX Cornudas Mount 73.83 61 *e*P **P 23 15 09.8 -0.2**
GDL2 Guadalupe Moun 74.08 60 *e*P **P 23 15 11.8 +0.3**
KWP Kalwaria 75.53 330 *e*P **P 23 15 20.3 +0.4**
KWP pmax pmax
comp=Z,18nm,1.1s,mb4.9
KWP Kalwaria 75.53 330 *e*P **P**
comp=Z,18nm,1.1s,mb4.9 **23 15 20.3 +0.4**
STHS Stebnicka Huta 76.21 331 *e*P **P 23 15 24.1 +0.3**
STHS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
STHS Stebnicka Huta 76.21 331 *e*P **P**
comp=Z,7.8nm,1.3s,mb4.5 **23 15 24.1 +0.3**
KOLS Kolonicke sedl 76.27 330 *e*P **P 23 15 24.2 +0.1**
BURAR Bucovina Array 76.33 328⇓ *i*P **P 23 15 24.6 +0.1**
BURAR Bucovina Array 76.33 328⇓ *e*P **P 23 15 24.6 +0.1**
LTX Lajitas 76.55 62 *e*P **P 23 15 25.6 -0.1**
LTX pmax pmax
comp=Z,20nm,1.0s,mb5.0
LTX Lajitas 76.55 62 *e*P **P**
comp=Z,20nm,1.0s,mb5.0 **23 15 25.6 -0.1**
TXAR Lajitas Array 76.55 62 P **P 23 15 25.5 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=297,slow=4.1,SNR=36
TXAR Lajitas Array 76.55 62 P **P**
TXAR pmax pmax **23 15 25.5 -0.2**
comp=Z,11nm,0.8s
EKA Eskdalemuir Ar 76.74 347 P **P 23 15 26.9 +0.1**
comp=Z,6.5nm,1.2s,mb4.4,baz=4.7,slow=32,SNR=2.8
EKA Eskdalemuir Ar 76.74 347 P **P**
EKA pmax pmax **23 15 26.9 +0.1**
comp=Z,7.0nm,1.2s
OKC Ostrava-Krasne 76.85 333 *e*P **P 23 15 28.3 +0.9**
DPC Dobruska-Polom 76.96 334 *e*P **P 23 15 28.7 +0.7**
DPC *ex* x 23 15 51.5
DPC Dobruska-Polom 76.96 334 *e*P **P 23 15 28.7 +0.7**
comp=Z,7.2nm,0.7s,mb4.7
DPC *e* 23 15 51.5
CLL Collm 77.06 337 *i*P **P 23 15 28.0 -0.6**
CLL *i* pP 23 15 32.1 -2.5
CLL pmax pmax
comp=Z,17nm,0.9s,mb5.0
CLL Collm 77.06 337 *i*P **P 23 15 28.0 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
CLL *i* pP 23 15 32.1 -2.5
CLL *i* 23 15 50.7
CLL Collm 77.06 337 *i*P **P 23 15 28.0 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
CLL *i* pP pP 23 15 32.1 -2.5
MORC Moravsky Berou 77.09 333⇓ *i*P **P 23 15 29.5 +0.7**
MORC Moravsky Berou 77.09 333⇓ P **P 23 15 29.5 +0.7**
CFR Carcaliu 77.23 324⇓ *i*P **P 23 15 31.6 +2.0**
KECS Kecovo 77.27 331 *e*P **P 23 15 29.5 -0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 77.27 331 *e*P **P 23 15 29.5 -0.2**
comp=Z,2.3nm,0.9s,mb4.1
TIRR Tirgusor 77.71 324⇑ *i*P **P 23 15 32.6 +0.4**
TIRR Tirgusor 77.71 324 ⇑P **P 23 15 32.6 +0.3**
VRAC Vranov 77.80 333⇓ *i*P **P 23 15 37.1 +4.4**
VYHS Vyhne 77.81 332 *e*P **P 23 15 33.0 +0.3**
PRU Pruhonice 77.81 335 *e*P **P 23 15 33.1 +0.3**
PRU *ex* x 23 15 49.2
MLR Muntele Rosu 77.84 326⇓ *i*P **P 23 15 33.8 +0.9**
MLR Muntele Rosu 77.84 326⇓ P **P 23 15 33.8 +0.9**
DRGR 77.94 329⇑ *i*P **P 23 15 33.4 -0.1**
DRGR 77.94 329 ⇑P **P 23 15 33.4 -0.2**
JCT Junction City 78.02 58 *e*P **P 23 15 33.7 -0.3**
JCT pmax pmax
comp=Z,20nm,1.2s,mb4.9
JCT Junction City 78.02 58 *e*P **P 23 15 33.7 -0.3**
comp=Z,20nm,1.2s,mb4.9
MALT Malatya 78.09 314⇑ *i*P **P 23 15 36.1 +1.8**
MALT Malatya 78.09 314 ⇑P **P 23 15 36.1 +1.7**
NKC Novy Kostel 78.19 336 *e*P **P 23 15 35.3 +0.4**
VOIR 78.22 326⇓ *i*P **P 23 15 36.0 +0.9**
VOIR 78.22 326⇓ P **P 23 15 36.0 +0.9**
KHC Kasperske Hory 78.86 335 *e*P **P 23 15 39.1 +0.5**
KHC *ex* x 23 15 55.7
GRA1 Grafenberg Arr 79.01 337 *e*P **P 23 15 40.0 +0.6**
comp=Z,14nm,1.4s,mb4.7
GRF Grafenberg Arr 79.01 337 *e*P **P 23 15 40.0 +0.6**
comp=Z,14nm,1.4s,mb4.7
GRF Grafenberg Arr 79.01 337 *e*P **P 23 15 40.0 +0.6**
GRF pmax pmax
comp=Z,14nm,1.4s,mb4.7
GERES GERESS Array B 79.08 335 P **P 23 15 39.9 +0.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=38,slow=5.8,SNR=9.8
GERES GERESS Array B 79.08 335 P **P 23 15 39.9 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 79.28 318 *e*P **P 23 15 41.6 +0.7**
BRTR Keskin Array B 79.28 318 P **P 23 15 41.3 +0.4**
comp=Z,3.9nm,0.9s,mb4.3,baz=43,slow=5.8,SNR=13
BRTR Keskin Array B 79.28 318 P **P**
BRTR pmax pmax **23 15 41.3 +0.4**
comp=Z,4.0nm,0.9s
BZS Buzias 79.34 329⇓ *i*P **P 23 15 40.7 -0.5**
BZS Buzias 79.34 329⇓ P **P 23 15 40.7 -0.5**
WCI Wyandotte Cave 79.40 45 *e*P **P 23 15 41.0 -0.5**
WCI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WCI Wyandotte Cave 79.40 45 *e*P **P 23 15 41.0 -0.6**
comp=Z,7.5nm,0.9s,mb4.6
MIB Mutribah 79.72 303 *e*P **P 23 15 43.4 +0.1**
MIB AMb AMB 23 15 45.0
comp=Z,35nm,0.9s,mb5.3
NAY Al-Naaiem 80.19 302 *e*P **P 23 15 45.9 +0.1**
NAY AMb AMB 23 15 47.5
comp=Z,28nm,0.8s,mb5.2
RDF Al-Radifah 80.25 302 *e*P **P 23 15 46.6 +0.5**
RDF AMb AMB 23 15 48.2
comp=Z,67nm,0.9s,mb5.6
CDF Champ du Feu 81.21 339 *e*P **P 23 15 51.0 -0.3**
comp=Z,22nm,1.1s,mb4.7
CDF Champ du Feu 81.21 339 *e*P **P**
CDF pmax pmax **23 15 51.0 -0.3**
comp=Z,11nm,1.1s,mb4.7
CDF Champ du Feu 81.21 339 *e*P **P 23 15 51.0 -0.3**
comp=Z,11nm,1.1s,mb4.7
VTS Vitosha 81.34 326⇓ *i*P **P 23 15 52.6 +0.6**
VTS Vitosha 81.34 326⇓ P **P 23 15 52.6 +0.6**
GRR Gorron 83.03 344 *e*P **P 23 16 01.1 +0.3**
comp=Z,105nm,1.3s,mb5.4
GRR Gorron 83.03 344 *e*P **P 23 16 01.1 +0.3**
GRR pmax pmax
comp=Z,52nm,1.3s,mb5.4
GRR Gorron 83.03 344 *e*P **P 23 16 01.1 +0.3**
comp=Z,52nm,1.3s,mb5.4
ASF Jabal al Asfar 83.67 311 P **P 23 16 04.5 +0.4**
comp=Z,7.7nm,0.9s,mb4.8,baz=296,slow=1.4,SNR=11
ASF Jabal al Asfar 83.67 311 P **P**
ASF pmax pmax **23 16 04.5 +0.4**
comp=Z,8.0nm,0.9s
SMF Signal de Mont 83.69 340 *e*P **P 23 16 04.3 +0.1**
comp=Z,79nm,1.2s,mb5.4
SMF Signal de Mont 83.69 340 *e*P **P**
SMF pmax pmax **23 16 04.3 +0.1**
comp=Z,39nm,1.2s,mb5.4
SMF Signal de Mont 83.69 340 *e*P **P 23 16 04.3 +0.1**
comp=Z,39nm,1.2s,mb5.4
LPG La Plagne 84.06 338 *e*P **P 23 16 07.0 +0.9**
comp=Z,56nm,1.1s,mb5.3
LPG La Plagne 84.06 338 *e*P **P**
LPG pmax pmax **23 16 07.0 +0.9**
comp=Z,28nm,1.1s,mb5.3
LPG La Plagne 84.06 338 *e*P **P 23 16 07.0 +0.9**
comp=Z,28nm,1.1s,mb5.3
CAF Calviac 85.73 341 *e*P **P 23 16 14.6 +0.1**
comp=Z,13nm,0.7s,mb5.0
CAF Calviac 85.73 341 *e*P **P**
CAF pmax pmax **23 16 14.6 +0.1**
comp=Z,6.0nm,0.7s,mb4.9
CAF Calviac 85.73 341 *e*P **P 23 16 14.6 +0.1**
comp=Z,6.4nm,0.7s,mb5.0
TIP Timpagrande 86.71 329 *e*P **P 23 16 18.7 -0.6**
SNZO South Karori 89.32 165 *e*P **P 23 16 32.6 +0.8**
ESDC Sonseca Array 92.02 344 P **P 23 16 43.4 -0.9**
comp=Z,0.5nm,0.7s,mb4.0,baz=347,slow=4.6,SNR=4.1
TORD Torodi Ar. Bea 115.80 331 PKP PKPdf 23 22 16.7 -1.2
comp=Z,0.7nm,0.8s,baz=354,slow=2.5,SNR=4.0
VNDA Vanda 123.93 178 PKP PKPdf 23 22 29.7 -3.9
comp=Z,0.5nm,0.7s,baz=335,slow=2.6,SNR=6.6
VNDA Vanda 123.93 178 PKIKP PKPdf 23 22 29.7 -3.9
VNDA pmax pmax
comp=Z,1.0nm,0.7s
SNAA Sanae 152.74 195 PKPbc PKPbc 23 23 28.9 -3.4
comp=Z,1.5nm,0.9s,baz=250,slow=4.9,SNR=5.7
SNAA Sanae 152.74 195 *e*PKPdf PKPdf 23 23 21.8 -3.3
SNAA *e* 23 23 28.8
SNAA *e* 23 23 39.8
VNA2 Neumayer--Watz 154.15 193 *e*PKPdf PKPdf 23 23 24.2 -3.0
VNA2 *e* 23 23 32.0
VNA2 *e* 23 23 46.1
VNA3 Neumayer Olymp 154.20 191 *e*PKPdf PKPdf 23 23 24.5 -2.7
VNA3 *e* 23 23 30.7
VNA3 *e* 23 23 44.8

ISCJB ***15*** *23:07:33.8±7.0, 478N±0.1×1537E±02, h16km±49km, mb4.3/13, Error ellipse: s-maj=24.4km s-min=19.8km az=167.4*
IDC ***15*** *23:07:33.8±2.9, 4793N×15367E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, ML3.6/2, Error ellipse: s-maj=66.1km s-min=24.5km az=147.0*
NEIC ***15*** *23:07:34.8±0.5, 4785N×15375E, h10km, mb4.6/3, Error ellipse: s-maj=13.2km s-min=9.7km az=115.0*

ISC 15 23:07:35.9±9.6, 479N±01×1538E±02, h19km±59km, n24, s0 66/24, mb4.3/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ASAJ	**Asahikawa**	**8.64**	**248**	Pn	**Pn**	**23 09 40.2**	**+0.3**
	0.7nm,0.3s,baz=76,slow=8.3,SNR=2.8						
MJAR	**Matsushiro Arr**	**16.13**	**231**	Pn	**Pn**	**23 11 21.0**	**-0.6**
	0.4nm,0.3s,baz=29,slow=11,SNR=4.7						
MJAR	**Matsushiro Arr**	**16.13**	**231**	Pn	**Pn**	**23 11 21.0**	**-0.6**
SONM	**Songino Array**	**31.39**	**288**	P	**P**	**23 13 56.2**	**+0.5**
	0.4nm,0.6s,baz=69,slow=9.7,SNR=2.3						

INK	**Inuvik**	**40.46**	**33**	P		**P**	**23 15 13.5**	**+0.2**
	1.0nm,0.6s,mb3.8,baz=307,slow=10,SNR=5.5							
ZAL	**Zalesovo**	**42.33**	**305**	P		**P**	**23 15 28.4**	**-0.2**
	1.1nm,0.5s,mb3.7,baz=40,slow=8.7,SNR=4.1							
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**	**23 16 04.0**	**-0.5**
	1.6nm,0.8s,mb4.0,baz=72,slow=7.3,SNR=7.7							
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**	**23 16 04.0**	**-0.5**
CHKZ	**Chkalovo**	**50.05**	**310**	*e*P		**P**	**23 16 29.0**	**-0.3**
	8.2nm,0.5s,mb5.0							
BVAR	**Borovoye Array**	**50.48**	**309**	P		**P**	**23 16 32.7**	**0.0**
	2.1nm,0.5s,mb4.5,baz=54,slow=7.5,SNR=21							
BRVK	**Borovoye**	**50.52**	**309**	*e*P		**P**	**23 16 33.0**	**0.0**
	2.8nm,0.4s,mb4.5							
LSA	**Lhasa**	**50.66**	**273**	*e*P		**P**	**23 16 35.5**	**+1.5**
	3.3nm,0.5s,mb4.5							
ARCES	**ARCESS Array B**	**56.93**	**341**	P		**P**	**23 17 20.1**	**+0.3**
	2.6nm,0.8s,mb4.3,baz=17,slow=7.0,SNR=4.8							
PMG	**Port Moresby**	**57.34**	**188**	P		**P**	**23 17 24.0**	**+1.3**
AKTK	**Aktyubinsk**	**58.30**	**312**	P		**P**	**23 17 28.9**	**-0.6**
AKTO	**Aktyubinsk**	**58.30**	**312**	P		**P**	**23 17 28.9**	**-0.6**
	0.5nm,0.3s,mb4.0,baz=21,slow=14,SNR=3.9							
FINES	**FINESS Array B**	**63.20**	**335**	P		**P**	**23 18 02.4**	**-0.5**
	1.8nm,0.4s,mb4.5,baz=37,slow=8.7,SNR=17							
NB2	**NORSAR Subarra**	**67.30**	**341**	P		**P**	**23 18 29.8**	**+0.4**
	comp=Z,3.3nm,0.5s,mb4.6,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.30**	**341**	P		**P**	**23 18 29.9**	**+0.4**
	comp=Z,3.3nm,0.5s,mb4.6,baz=26,slow=6.3,SNR=16							
WRAB	**Tennant Creek**	**69.72**	**199**	P		**P**	**23 18 43.0**	**-1.6**
AKASG	**Malin Array Be**	**70.85**	**326**	P		**P**	**23 18 51.2**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=32,slow=6.3,SNR=7.0							
CLL	**Collm**	**75.61**	**336**	*i* P		**P**	**23 19 20.0**	**+0.4**
BRTR	**Keskin Array B**	**77.86**	**317**	P		**P**	**23 19 32.8**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=108,slow=1.2,SNR=4.7							
PVMO	**Portageville**	**78.78**	**47**	P		**P**	**23 19 37.2**	**-0.2**
	comp=Z,310nm,0.6s							

ISCJB ***15*** *23:08:55.8±0.5, 4685N×10071×15541E±009, h10km, mb4.4/34, Error ellipse: s-maj=11.4km s-min=7.1km az=102.0*
IDC ***15*** *23:08:56.1±0.7, 4695N×15535E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.3/27, mbtmp4.3/19, ML3.7/2, Error ellipse: s-maj=20.0km s-min=16.1km az=140.0*
MOS ***15*** *23:08:57.7±1.1, 4687N×15535E, h23km, mb4.7/24, Error ellipse: s-maj=13.0km s-min=9.0km az=107.2*
NEIC ***15*** *23:08:57.9±0.5, 4687N×15531E, h10km, mb4.8/11, Error ellipse: s-maj=13.3km s-min=9.5km az=135.0*
BJI ***15*** *23:08:57.3, 47.10N×15552E, h19km, mb4.3*
ISC 15 23:08:56.1±4.2, 4689N±007×1554E±01, h0km±25km, n105, σ1ᵗ19/104, mb4.5/34, 5C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.82**	**7**	*e*PN		**Pn**	**23 09 57.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**8.66**	**275**	*e*PN		**Pn**	**23 11 07.0**	**+4.4**
ASAJ	**Asahikawa**	**9.41**	**257**	Pn		**Pn**	**23 11 14.4**	**+1.5**
	0.7nm,0.3s,baz=92,slow=12,SNR=4.6							
ASAJ	**Asahikawa**	**9.41**	**257**	PN		**Pn**	**23 11 14.4**	**+1.5**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KLR	**Kul'dur**	**15.97**	**287**	*e*P		**Pn**	**23 12 42.7**	**+0.6**
MAT	**Matsushiro**	**16.45**	**237**	P		**Pn**	**23 12 45.8**	**-2.5**
MJAR	**Matsushiro Arr**	**16.45**	**237**	Pn		**Pn**	**23 12 46.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=23,slow=14,SNR=5.1							
MJAR	**Matsushiro Arr**	**16.45**	**237**	Pn		**Pn**	**23 12 46.5**	**-1.8**
BILL	**Bilibino**	**21.92**	**11**	*e*P		**P**	**23 13 50.0**	**-0.9**
BILL				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.2							
BILL	**Bilibino**	**21.92**	**11**	*e*P		**P**	**23 13 50.3**	**-0.6**
	comp=Z,13nm,0.8s,mb4.4							
KSRS	**Korea Array**	**22.35**	**255**	P		**P**	**23 13 56.9**	**+1.4**
	comp=Z,6.0nm,0.9s,mb4.0,baz=50,slow=11,SNR=9.2							
SONM	**Songino Array**	**32.77**	**290**	P		**P**	**23 15 28.5**	**-2.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=62,slow=8.4,SNR=4.1							
SONM	**Songino Array**	**32.77**	**290**	P		**P**	**23 15 28.5**	**-2.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KDAK	**Kodiak Island**	**32.79**	**51**	P		**P**	**23 15 29.7**	**-1.1**
	comp=Z,16nm,1.0s,mb4.9,baz=301,slow=12,SNR=3.7							
ZAK	**Zakamensk**	**34.04**	**295**	*e*P		**P**	**23 15 41.3**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.0							
SML	**Sawmill**	**34.78**	**44**	*e*P		**P**	**23 15 44.9**	**-3.3**
COLA	**College**	**35.05**	**38**	*e*P		**P**	**23 15 50.8**	**+0.3**
COLA				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
COLA	**College**	**35.05**	**38**	*e*P		**P**	**23 15 50.8**	**+0.3**
	comp=Z,7.9nm,0.6s,mb4.8							
EGAK	**Eagle**	**37.91**	**39**	*e*P		**P**	**23 16 14.5**	**-0.5**
	comp=Z,14nm,1.0s,mb4.6							
GTA	**Gaotai**	**40.50**	**280**	*e*P		**P**	**23 16 37.9**	**+1.3**
GTA				AP			23 16 47.4	
GTA				XP		sP	23 16 52.8	+16
GTA				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.1							
INK	**Inuvik**	**40.68**	**33**	P		**P**	**23 16 38.0**	**-0.1**
	comp=Z,8.4nm,0.9s,mb4.5,baz=280,slow=7.4,SNR=13							
INK	**Inuvik**	**40.68**	**33**	P		**P**	**23 16 38.1**	**0.0**
INK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CD2	**Chengdu**	**42.46**	**267**	*e*P		**P**	**23 16 53.8**	**+1.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
GYA	**Guiyang**	**43.29**	**259**	⇑*i*P		**P**	**23 17 00.6**	**+1.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**43.82**	**306**	P		**P**	**23 17 03.4**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.0,baz=41,slow=5.7,SNR=7.8							
ZAL	**Zalesovo**	**43.82**	**306**	P		**P**	**23 17 03.4**	**-0.3**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NVS	**Novosibirsk**	**44.35**	**308**	*e*P		**P**	**23 17 07.4**	**-0.5**
NVS				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
NVS				pmax		pmax		
	comp=N,6.0nm,1.3s							
NVS				pmax		pmax		
	comp=E,8.0nm,0.9s							
MKAR	**Makanchi Array**	**48.27**	**298**	P		**P**	**23 17 37.5**	**-1.3**
	comp=E,2.2nm,0.7s,mb4.4,baz=67,slow=6.8,SNR=11							
MKAR	**Makanchi Array**	**48.27**	**298**	P		**P**	**23 17 37.5**	**-1.3**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P		**P**	**23 18 03.1**	**-0.5**
CHKZ				*e*			23 18 13.0	
CHKZ				pmax		pmax		
	comp=Z,14nm,0.7s,mb5.0							
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P		**P**	**23 18 03.1**	**-0.6**
	comp=Z,14nm,0.7s,mb5.0							
CHKZ				*e*			23 18 13.0	
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**23 18 06.3**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.6,baz=56,slow=7.1,SNR=16							
BVAR				PcP		PcP	23 19 19.1	-0.3
	comp=Z,1.4nm,0.7s,baz=64,slow=6.6,SNR=2.5							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**23 18 06.3**	**-0.6**
BVAR							23 19 19.1	
BVAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**23 18 07.4**	**+0.2**
BRVK				*e*			23 18 17.2	
BRVK				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**23 18 07.4**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9							
BRVK				*e*			23 18 17.2	
ZRNK	**Zerenda**	**52.74**	**311**	*e*P		**P**	**23 18 12.3**	**-0.3**
ZRNK				*e*			23 18 22.3	
ZRNK				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**52.74**	**311**	*e*P		**P**	**23 18 12.3**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8							
ZRNK				*e*			23 18 22.3	
CHTO	**Chiang Mai**	**53.69**	**258**	*e*P		**P**	**23 18 21.0**	**+1.4**
CHTO				*e*			23 18 31.3	
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
CHTO	**Chiang Mai**	**53.69**	**258**	*e*P		**P**	**23 18 21.0**	**+1.4**
	comp=Z,4.5nm,0.9s,mb4.5							
CHTO				*e*			23 18 31.3	
ARU	**Arti**	**55.96**	**318**	⇓*i*P		**P**	**23 18 35.3**	**-0.8**
ARU				*e*			23 19 35.6	
ARU				*e*S		**S**	**23 26 16.1**	**-9.0**
ARU				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0							
ARCES	**ARCESS Array B**	**58.23**	**341**	P		**P**	**23 18 51.5**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.7,baz=51,slow=9.6,SNR=4.2							
ARCES	**ARCESS Array B**	**58.23**	**341**	P		**P**	**23 18 51.5**	**-0.6**
ARCES				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ARCES	**ARCESS Array B**	**58.23**	**341**	P		**P**	**23 18 51.5**	**-0.6**
AKTK	**Aktyubinsk**	**59.80**	**313**	P		**P**	**23 19 02.0**	**-1.0**
AKTO	**Aktyubinsk**	**59.80**	**313**	P		**P**	**23 19 02.0**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.4,baz=53,slow=7.7,SNR=7.2							
AKTO	**Aktyubinsk**	**59.80**	**313**	P		**P**	**23 19 02.0**	**-1.0**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
NLU	**North Lily Min**	**63.74**	**59**	*e*P		**P**	**23 19 31.4**	**+1.8**
FINES	**FINESS Array B**	**64.57**	**336**	P		**P**	**23 19 33.4**	**-1.6**
	comp=Z,3.8nm,0.6s,mb4.8,baz=40,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**64.57**	**336**	P		**P**	**23 19 33.4**	**-1.6**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.6s							
FINES	**FINESS Array B**	**64.57**	**336**	P		**P**	**23 19 33.4**	**-1.6**
NB2	**NORSAR Subarra**	**68.59**	**342**	P		**P**	**23 20 00.3**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.6,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**68.59**	**342**	P		**P**	**23 20 00.2**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.1,baz=214,slow=7.5,SNR=3.4							
NOA	**NORSAR Array B**	**68.59**	**342**	P		**P**	**23 20 00.2**	**-0.5**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRAB	**Tennant Creek**	**69.18**	**201**	*e*P		**P**	**23 20 03.8**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**69.18**	**201**	*e*P		**P**	**23 20 03.8**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.7							
WB2	**Warramunga Arr**	**69.19**	**201**	*e*P		**P**	**23 20 03.8**	**-0.7**
WRA	**Warramunga Arr**	**69.19**	**201**	P		**P**	**23 20 04.0**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.6,baz=20,slow=6.7,SNR=7.4							
WRA	**Warramunga Arr**	**69.19**	**201**	P		**P**	**23 20 04.0**	**-0.4**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**72.29**	**327**	P		**P**	**23 20 22.4**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.5,baz=34,slow=6.6,SNR=6.0							
AKASG	**Malin Array Be**	**72.29**	**327**	P		**P**	**23 20 22.5**	**-0.8**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ASAR	**Alice Springs**	**72.87**	**201**	P		**P**	**23 20 27.4**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.5,baz=17,slow=5.7,SNR=23							
ASAR	**Alice Springs**	**72.87**	**201**	P		**P**	**23 20 27.4**	**+0.6**
ASAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TXAR	**Lajitas Array**	**76.04**	**62**	P		**P**	**23 20 45.9**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.3,baz=303,slow=4.9,SNR=9.9							
TXAR	**Lajitas Array**	**76.04**	**62**	P		**P**	**23 20 45.9**	**+0.7**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
STHS	**Stebnicka Huta**	**76.17**	**331**	*e*P		**P**	**23 20 43.7**	**-2.3**
STHS	**Stebnicka Huta**	**76.17**	**331**	*e*		**P**	**23 20 43.7**	**-2.3**
KOLS	**Kolonicke sedl**	**76.24**	**330**	*e*pP		**P**	**23 20 52.5**	**+6.1**
BURAR	**Bucovina Array**	**76.32**	**328**	⇓*i*P		**P**	**23 20 46.9**	**+0.1**
BURAR	**Bucovina Array**	**76.32**	**328**	⇓P		**P**	**23 20 46.9**	**0.0**
OKC	**Ostrava-Krasne**	**76.79**	**333**	*e*P		**P**	**23 20 50.3**	**+0.8**
DPC	**Dobruska-Polom**	**76.89**	**334**	*e*pP		pP	23 20 55.9	+5.8
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**23 20 51.0**	**+0.5**
CLL				*e*			23 20 55.0	
CLL				*e*			23 21 04.0	
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**23 20 51.0**	**+0.5**
CLL				*i*	pP		23 20 56.6	
CLL				*i* (PcP)		PcP	23 21 05.8	+2.3
MORC	**Moravsky Berou**	**77.03**	**333**	⇑*i*P		**P**	**23 20 56.5**	**+5.7**
PVCC	**Panska Ves**	**77.24**	**336**	*e*P		**P**	**23 20 52.0**	**0.0**
CFR	**Carcaliu**	**77.25**	**325**	⇓*i*P		**P**	**23 21 00.1**	**+8.0**
CFR	**Carcaliu**	**77.25**	**325**	⇓P		**P**	**23 21 00.1**	**+8.0**
VYHS	**Vyhne**	**77.75**	**332**	*e*pP		**P**	**23 21 00.7**	**+5.8**
MLR	**Muntele Rosu**	**77.84**	**326**	⇓*i*P		**P**	**23 20 56.4**	**+1.0**
MLR	**Muntele Rosu**	**77.84**	**326**	⇓P		**P**	**23 20 56.4**	**+1.0**
DRGR		**77.92**	**329**	⇓*i*P		**P**	**23 21 00.9**	**+5.1**
DRGR		**77.92**	**329**	⇓P		**P**	**23 21 00.9**	**+5.1**
MALT	**Malatya**	**78.20**	**314**	⇑*i*P		**P**	**23 20 58.9**	**+1.5**
MALT	**Malatya**	**78.20**	**314**	⇑P		**P**	**23 20 58.9**	**+1.5**
VOIR		**78.22**	**327**	⇓*i*P		**P**	**23 21 03.2**	**+5.7**
VOIR		**78.22**	**327**	⇓P		**P**	**23 21 03.2**	**+5.7**
KHC	**Kasperske Hory**	**78.78**	**336**	*e*pP		pP	23 21 04.8	+4.2
GERES	**GERESS Array B**	**79.00**	**335**	P		**P**	**23 21 01.2**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=168,slow=2.5,SNR=3.6							
GERES	**GERESS Array B**	**79.00**	**335**	P		**P**	**23 21 01.2**	**-0.6**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BZS	**Buzias**	**79.32**	**329**	⇑*i*P		**P**	**23 21 07.7**	**+4.2**
BRTR	**Keskin Array B**	**79.35**	**318**	P		**P**	**23 21 03.8**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=90,slow=2.3,SNR=5.5							
BRTR	**Keskin Array B**	**79.35**	**318**	P		**P**	**23 21 03.8**	**+0.1**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CDF	**Champ du Feu**	**81.10**	**339**	*e*P		**P**	**23 21 15.8**	**+2.6**
VTS	**Vitosha**	**81.34**	**326**	⇓*i*P		**P**	**23 21 19.2**	**+4.8**
VTS	**Vitosha**	**81.34**	**326**	⇓P		**P**	**23 21 19.2**	**+4.7**
GRR	**Gorron**	**82.88**	**344**	*e*P		**P**	**23 21 25.8**	**+3.3**
	comp=Z,8.5nm,0.6s,mb4.8							
GRR	**Gorron**	**82.88**	**344**	*e*P		**P**	**23 21 25.8**	**+3.3**
GRR				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.8							
GRR	**Gorron**	**82.88**	**344**	*e*P		**P**	**23 21 25.8**	**+3.3**
	comp=Z,4.3nm,0.6s,mb4.9							
SMF	**Signal de Mont**	**83.57**	**341**	*e*P		**P**	**23 21 29.3**	**+3.2**
LPG	**La Plagne**	**83.95**	**338**	*e*P		**P**	**23 21 32.0**	**+4.0**
	comp=Z,20nm,0.9s,mb5.0							
LPG	**La Plagne**	**83.95**	**338**	*e*P		**P**	**23 21 32.0**	**+4.0**
LPG				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb5.0							
LPG	**La Plagne**	**83.95**	**338**	*e*P		**P**	**23 21 32.0**	**+4.0**
	comp=Z,10.0nm,0.9s,mb5.0							
CAF	**Calviac**	**85.59**	**341**	*e*P		**P**	**23 21 39.3**	**+3.0**
	comp=Z,14nm,0.8s,mb4.9							
CAF	**Calviac**	**85.59**	**341**	*e*P		**P**	**23 21 39.3**	**+3.0**
CAF				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.8							
CAF	**Calviac**	**85.59**	**341**	*e*P		**P**	**23 21 39.3**	**+3.0**
	comp=Z,7.0nm,0.8s,mb4.8							

CSEM ***15*** *23:09:26.7, 67.19N×2066E, h0km, ML3.2, Mining explosion. After UPP*
UPP ***15*** *23:09:26.7, 67.19N×2066E, h0km, ML3.2, Mining explosion.*
HEL 15 23:09:27.3±0.1, 6718N×2065E, h0km, ML1.3, MLS3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**210**	*i* P		Pg	23 09 28.4	-0.1
DUNU	**Dundret**	**0.07**	**210**	P		Pg	23 09 28.5	-0.1
	baz=112							
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P		Pg	23 09 37.9	-0.8
KUA	**Kurravaara**	**0.79**	**351**	*i* P		Pg	23 09 41.2	-1.2
SALU	**Saltoluokta**	**0.86**	**285**	*i* P		Pg	23 09 42.9	-0.8
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P		Pg	23 09 44.1	-1.0
PAJU	**Pajala**	**0.97**	**98**	*e*P		Pg	23 09 44.7	-1.3
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	23 09 45.3	-1.4
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	23 09 45.3	-1.4
	baz=284							
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	23 09 45.7	-1.4
HARU	**Harads**	**1.03**	**173**	P		Pg	23 09 45.7	-1.3
	baz=339							
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		Pn	23 10 00.2	+0.2
KIF				*e*S		Sn	23 10 25.1	+1.1
LILU	**Lilltraesk**	**1.93**	**190**	*e*P		Pn	23 10 01.0	-0.3
SGF	**Sodankyl**	**2.29**	**81**	*e*P		Pn	23 10 07.1	+0.7
SGF				*e*S		Sn	23 10 36.6	+1.3
BURU	**Burvik**	**2.62**	**173**	*e*P		Pn	23 10 11.2	+0.3
KEV	**Kevo**	**3.49**	**39**	*e*P		Pn	23 10 22.9	+0.1
KEV				*e*S		Sn	23 11 03.7	-1.1
KEV				MSG			23 11 19.7	
	comp=Z,0.7nm,0.2s							
MSF	**Maaselka**	**3.59**	**107**	*e*P		Pn	23 10 26.0	+1.8
MSF				*e*S		Sn	23 11 06.7	-0.5
MSF				MSG			23 11 21.5	
	comp=Z,0.4nm,0.2s							
KU4	**Liikasenvaara**	**3.63**	**99**	*e*S		Sn	23 11 08.5	+0.2
KU4				MSG			23 11 23.9	
	comp=Z,0.6nm,0.2s							

ISCJB ***15*** *23:11:58.8±5.5, 4569N±007×1542E±0.1, h3km±33km, mb4.3/33, Error ellipse: s-maj=16.4km s-min=11.7km az=41.6*
BJI ***15*** *23:11:59.4, 4589N×154.15E, h6km, mB5.1, mb4.5*
IDC ***15*** *23:11:59.6±0.6, 4575N×15423E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.2/18, ML3.8/1, Error ellipse: s-maj=19.1km s-min=15.9km az=118.0*
NEIC ***15*** *23:12:01.4±0.4, 4570N×154.19E, h10km, mb4.4/12, Error ellipse: s-maj=11.7km s-min=9.6km az=94.0*
MOS ***15*** *23:12:02.4±1.1, 4565N×15398E, h26km, mb4.6/24, Error ellipse: s-maj=13.3km s-min=9.7km az=123.1*
ISC 15 23:12:05.9±1.8, 4578N±007×1542E±01, h40km±15km, h31km±5.6km: pP-P, n91, σ0ᵗ95/82, mb4.3/33, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.47**	**265**	*e*PN		**Pn**	**23 13 05.4**	**-5.8**
KUR				pmax		pmax		
	comp=N,90nm,0.5s							
KUR				pmax		pmax		
	comp=E,80nm,0.5s							
KUR				pmax		pmax		
	comp=Z,230nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**6.16**	**257**	*e*PN		**Pn**	**23 13 30.2**	**-4.1**
YSS	**Yuzh-Sakhalins**	**7.99**	**283**	*e*PN		**Pn**	**23 14 01.0**	**+1.5**
ASAJ	**Asahikawa**	**8.38**	**263**	Pn		**Pn**	**23 14 03.9**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=98,slow=12,SNR=7.8							
ASAJ	**Asahikawa**	**8.38**	**263**	PN		**Pn**	**23 14 03.9**	**-1.0**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MAT	**Matsushiro**	**15.14**	**238**	P		**Pn**	**23 15 40.8**	**+3.9**
MJAR	**Matsushiro Arr**	**15.14**	**238**	Pn		**Pn**	**23 15 38.8**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=36,slow=9.7,SNR=10							
KLR	**Kul'dur**	**15.53**	**291**	*e*P		**Pn**	**23 15 39.2**	**-2.8**
MDJ	**Mudanjiang**	**17.36**	**275**	*e*Pn		**Pn**	**23 16 03.2**	**-1.9**
	comp=Z,16nm,0.9s							
MDJ				*e*			23 16 12.4	
CN2	**Changchun**	**20.44**	**275**	*e*P		**P**	**23 16 40.4**	**+0.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
KSRS	**Korea Array**	**21.25**	**256**	P		**P**	**23 16 49.0**	**+0.5**
	comp=Z,4.6nm,0.8s,mb3.9,baz=59,slow=9.6,SNR=9.4							
BILL	**Bilibino**	**23.19**	**12**	*e*P		**P**	**23 17 09.6**	**+0.5**
BILL				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.0							
BILL	**Bilibino**	**23.19**	**12**	*e*P		**P**	**23 17 09.7**	**+0.6**
	comp=Z,10nm,1.1s,mb4.2							
BJI	**Beijing**	**28.23**	**272**	*e*P		**P**	**23 17 59.4**	**+4.4**
BJI				AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.4							
BJI	**Beijing**	**28.23**	**272**	*e*P		**P**	**23 17 59.4**	**+4.4**
	comp=Z,7.0nm,0.7s,mb4.4							
HHC	**Hu-ho-hao-te**	**31.12**	**276**	*e*P		**P**	**23 18 21.4**	**+0.8**
HHC				AP		pP	23 18 26.0	-5.6
HHC				PP		PP	23 19 22.0	-9.2
HHC				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.6							
HHC				AMB		AMB		
	comp=Z,282nm,9.4s							
SONM	**Songino Array**	**32.37**	**291**	P		**P**	**23 18 32.6**	**+1.1**
	comp=Z,1.1nm,0.8s,mb3.7,baz=88,slow=12,SNR=3.3							
SONM	**Songino Array**	**32.37**	**291**	P		**P**	**23 18 32.6**	**+1.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.9s							
GTA	**Gaotai**	**39.87**	**281**	*e*P		**P**	**23 19 36.6**	**+1.0**
GTA				AP		pP	23 19 45.1	-1.8
GTA				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.4							
CD2	**Chengdu**	**41.55**	**267**	*e*P		**P**	**23 19 48.8**	**-0.7**
CD2				AMB		AMB		
	comp=

AKASG	**Malin Array Be**	72.77	327	P		**P**	23 23 29.4	-0.6
MBWA	**Marble Bar**	73.60	213	*e*P		**P**	23 23 35.4	+0.5
KWP	**Kalwaria**	76.04	330	*e*P		**P**	23 23 49.5	+0.4
KWP				*e*	pP		23 24 00.5	-0.7
KWP				pmax	pmax			
	comp=Z,31nm,1.1s,mb5.2							
KWP	**Kalwaria**	76.04	330	*e*P		**P**	23 23 49.5	+0.4
	comp=Z,31nm,1.1s,mb5.2							
KWP				*e*PcP	PcP		23 24 00.5	-0.7
STHS	**Stebnicka Huta**	76.73	331	*e*P		**P**	23 23 54.0	+1.0
STHS				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
STHS	**Stebnicka Huta**	76.73	331	*e*P		**P**	23 23 54.0	+1.0
	comp=Z,4.8nm,0.8s,mb4.5							
KOLS	**Kolonicke sedl**	76.78	330	*e*P		**P**	23 23 53.6	+0.3
TXAR	**Lajitas Array**	77.32	61	P		**P**	23 23 56.9	+0.6
	comp=Z,3.4nm,0.6s,mb4.4,baz=306,slow=4.1,SNR=29							
TXAR	**Lajitas Array**	77.32	61	P		**P**	23 23 56.9	+0.6
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
OKC	**Ostrava-Krasne**	77.40	333	*e*P		**P**	23 23 57.1	+0.4
CLL	**Collm**	77.66	336	⇑*i*P		**P**	23 23 58.0	-0.2
CLL				*i*	pP		23 24 08.6	-1.7
CLL				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
CLL	**Collm**	77.66	336	⇑*i*P		**P**	23 23 58.0	-0.2
	comp=Z,12nm,1.0s,mb4.8							
CLL				*i*	pP		23 24 08.6	-1.7
CLL	**Collm**	77.66	336	⇑*i*P		**P**	23 23 58.0	-0.2
	comp=Z,12nm,1.0s,mb4.8							
CLL				*i* pP	pP		23 24 08.6	-1.7
KECS	**Kecovo**	77.79	331	*e*P		**P**	23 23 59.7	+0.8
KECS				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
KECS	**Kecovo**	77.79	331	*e*P		**P**	23 23 59.7	+0.8
	comp=Z,2.0nm,0.8s,mb4.1							
STKA	**Stephens Creek**	78.13	191	P		**P**	23 24 00.2	-0.6
	comp=Z,1.7nm,0.8s,mb4.0,baz=318,slow=18,SNR=2.5							
STKA	**Stephens Creek**	78.13	191	P		**P**	23 24 00.2	-0.6
VYHS	**Vyhne**	78.34	331	*e*P		**P**	23 24 02.6	+0.7
VYHS				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
VYHS	**Vyhne**	78.34	331	*e*P		**P**	23 24 02.6	+0.7
	comp=Z,2.1nm,1.0s,mb4.0							
PRU	**Pruhonice**	78.39	335	*e*P		**P**	23 24 02.7	+0.5
KHC	**Kasperske Hory**	79.44	335	*e*P		**P**	23 24 08.8	+0.8
GERES	**GERESS Array B**	79.65	335	P		**P**	23 24 07.3	-1.9
	comp=Z,1.1nm,0.6s,mb4.0,baz=19,slow=5.8,SNR=8.8							
GERES	**GERESS Array B**	79.65	335	P		**P**	23 24 07.3	-1.9
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SBA	**Scott Base**	123.60	177	PKIKP	PKPdf		23 30 56.8	-2.2
SAML	**Samuel**	131.30	53	PKPdf	PKPdf		23 31 16.3	+2.6
CFAA	**Coronel Fontan**	144.42	82	PKP	PKPdf		23 31 34.9	-2.8
	comp=Z,0.9nm,0.9s,baz=283,slow=3.9,SNR=11							
CFAA	**Coronel Fontan**	144.42	82	PKP	PKPdf		23 31 34.9	-2.8
SNAA	**Sanae**	151.82	195	PKPbc	PKPbc		23 31 53.2	-3.1
	comp=Z,0.7nm,0.6s,baz=168,slow=7.2,SNR=5.8							
SNAA	**Sanae**	151.82	195	*e*	PKPbc		23 31 53.1	-3.2
SNAA				*e*			23 32 03.6	
SNAA	**Sanae**	151.82	195	PKIKP	PKPbc		23 31 53.2	-3.1
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNA2	**Neumayer--Watz**	153.24	193	*e*	PKPbc		23 31 57.4	-2.0
VNA2				*e*			23 32 07.3	
VNA3	**Neumayer Olymp**	153.30	192	*e*	PKPbc		23 31 58.2	-1.4
VNA3				*e*			23 32 09.9	

*ISCJB **15** 23:16:06.4±0.2, 4736N±001×1150E±002, h10km, Error ellipse: s-maj=1.8km s-min=1.7km az=169.3*
*ROM **15** 23:16:07.2±0.5, 4730N×1145E, h21km±6km, Md2.7/5, Ml2.5/2, Error ellipse: s-maj=6.0km s-min=5.6km az=9.0*
*VIE **15** 23:16:07.3±0.2, 4737N×1149E, h6km±3km, mb2.2/4, ML2.8/7, Error ellipse: s-maj=3.2km s-min=1.0km az=1.0*
10 km N of Hall in Tirol felt 4 EMS98 north of Hall in Tirol / TYROL
*STR **15** 23:16:07.3±1.1, 4737N×1182E, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **15** 23:16:07.6±0.1, 4729N×1151E, h12km, ML3.0/14, Error ellipse: s-maj=1.1km s-min=1.1km az=20.0*
*NEIC **15** 23:16:07.2, 4730N×1145E, h21km, ML2.5(ROM), ML2.7(LDG), ML2.7(SZGRF). After ROM.*
*BGR **15** 23:16:08.4±0.3, 4731N×1148E, h5km, ML2.7/6, Error ellipse: s-maj=4.4km s-min=3.3km az=27.0*
*PRU **15** 23:16:11.1, 4749N×1143E, h0km*
*LDG **15** 23:16:11.9±0.3, 4723N×1128E, h10km, Ml2.7/10, Error ellipse: s-maj=6.5km s-min=3.6km az=62.0*

ISC 15 23:16:07.5±0.2, 4736N±001×1147E±002, h3km±2km, n109, σ1§17/200, 20C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WATA	**Walderalm**	0.08	106	⇑*i*Pg		**Pg**	23 16 09.4	+0.2
	109nm,0.1s,SNR=183							
WATA				⇑*i*Sg		**Sg**	23 16 11.1	+0.9
	516nm,0.1s							
WTTA	**Wattenberg**	0.15	129	*e*Pg		**Pg**	23 16 10.1	-0.3
	SNR=57							
WTTA				*e*Sg		**Sg**	23 16 13.0	+0.6
WTTA	**Wattenberg**	0.15	129	⇑*i*Pg		**Pg**	23 16 10.6	+0.2
	111nm,0.1s,SNR=446							
WTTA				⇑*i*Sg		**Sg**	23 16 13.0	+0.6
	422nm,0.1s							
WTTA	**Wattenberg**	0.15	129	Pg		**Pg**	23 16 10.6	+0.2
WTTA				Sg		**Sg**	23 16 13.0	+0.6
SQTA	**Sankt Quirin**	0.22	232	⇑*i*Pg		**Pg**	23 16 11.4	-0.4
	32nm,0.1s,SNR=262							
SQTA				⇓*i*Sg		**Sg**	23 16 15.4	+0.6
	254nm,0.2s							
MOTA	**Moosalm**	0.25	267	⇑*i*Pg		**Pg**	23 16 11.9	-0.4
	30nm,0.1s,SNR=125							
MOTA				⇑*i*Sg		**Sg**	23 16 16.0	+0.4
	402nm,0.1s							
FUR	**Furstenfeldbru**	0.82	351	*e*Pg		**Pg**	23 16 24.6	+1.4
	SNR=22							
APPI	**Appiano**	0.89	191	Pg		**Pg**	23 16 24.2	-0.5
APPI				Sg		**Sg**	23 16 36.7	+0.5
	63nm,0.4s							
RWMO	**Wildenmoos**	0.94	65	Pg		**Pg**	23 16 29.1	+3.5
RNON	**Nonn-Bad Reich**	1.02	67	⇓*i*Pg		**Pg**	23 16 30.4	+3.2
RNON				*i* Sg		**Sg**	23 16 47.9	+7.5
DAVA	**Damuels**	1.08	267	*e*Pg		**Pg**	23 16 28.5	+0.3
	SNR=64							
DAVA				*e*Sg		**Sg**	23 16 48.1	+5.8
DAVA	**Damuels**	1.08	267	⇑*e*Pg		**Pg**	23 16 28.4	+0.2
	SNR=100							
DAVA				⇑*i*Sg		**Sg**	23 16 44.2	+2.0
	428nm,0.5s							
DAVA	**Damuels**	1.08	267	Pg		**Pg**	23 16 28.4	+0.2
DAVA				Sg		**Sg**	23 16 44.2	+2.0
DAVA	**Damuels**	1.08	267	Pg		**Pg**	23 16 28.5	+0.2
	SNR=64							
DAVA				Sg		**Sg**	23 16 44.2	+1.9
	428nm,0.5s							
BGLD	**Berchtesgaden**	1.09	74	⇑*i*Pg		**Pg**	23 16 30.9	+2.5
BGLD				*i* Sg		**Sg**	23 16 48.6	+6.1
BRMO	**Bormio**	1.16	221	Pg		**Pg**	23 16 29.2	-0.5
	7.0nm,0.2s							
CSMI	**Casera Mimoias**	1.17	136	⇓*e*Pg		**Pg**	23 16 29.6	-0.5
CSMI				*e*Sg		**Sg**	23 16 44.7	-0.5
CSMI	**Casera Mimoias**	1.17	136	*e*Pg		**Pg**	23 16 29.5	-0.5
CSMI				*e*Sg		**Sg**	23 16 44.7	-0.5
FVI	**Forni Avoltri**	1.18	130	Pg		**Pg**	23 16 29.7	-0.4
	16nm,0.2s							
DAVOX	**Davos**	1.23	243	Pg		**Pg**	23 16 29.8	-1.3
DAVOX				Sg		**Sg**	23 16 49.6	+2.6
ZOU	**Zoufplan**	1.31	127	⇑*i*Pg		**Pg**	23 16 32.1	-0.4
ZOU				*i* Sg		**Sg**	23 16 49.1	-0.4
KBA	**Koelnbreinsper**	1.31	102	*e*Pg		**Pg**	23 16 32.2	-0.5
	SNR=5.9							
KBA	**Koelnbreinsper**	1.31	102	⇑*i*Pg		**Pg**	23 16 32.2	-0.4
	12nm,0.2s							
KBA				⇑*i*Sg		**Sg**	23 16 51.1	+1.5
	12nm,0.2s							
KBA	**Koelnbreinsper**	1.31	102	Pg		**Pg**	23 16 32.2	-0.5
	12nm,0.2s							
KBA				Sg		**Sg**	23 16 51.1	+1.5
	12nm,0.2s							
CTI	**Castel Tesino**	1.31	174	Pg		**Pg**	23 16 32.1	-0.6
CTI				Sg		**Sg**	23 16 50.1	+0.3
	132nm,0.3s							

NORI	**Noerdlinger Ri**	1.48	338	⇑*i*Pn		**Pn**	23 16 35.1	+0.1
NORI				*e*Sn		**Sn**	23 16 54.8	0.0
CGRP	**Cima Grappa**	1.50	171	⇑*i*Pg		**Pg**	23 16 35.1	-1.1
CGRP				*i* Sg		**Sg**	23 16 55.6	+0.1
DRE	**Drenchia**	1.91	128	⇑*i*Pg		**Pg**	23 16 43.3	-0.8
MOA	**Molln**	1.96	74	*e*Pg		**Pg**	23 16 44.1	-1.0
	SNR=8.6							
MOA				*e*Sg		**Sg**	23 17 10.9	+0.5
	SNR=4.5							
MOA	**Molln**	1.96	74	⇑*i*Pg		**Pg**	23 16 44.0	-1.1
	6.3nm,0.3s,SNR=13							
MOA				⇑*e*Sg		**Sg**	23 17 11.3	+0.8
	15nm,0.2s							
TEOL	**Teolo**	2.00	176	⇓*e*Pg		**Pg**	23 16 44.4	-1.5
TEOL				*e*Sg		**Sg**	23 17 11.5	-0.4
WET	**Wettzell**	2.02	27	*e*Pn		**Pn**	23 16 42.7	+0.3
	SNR=23							
WET				*e*Sn		**Sn**	23 17 08.6	+0.4
	SNR=5.2							
WET	**Wettzell**	2.02	27	*e*Pn		**Pn**	23 16 42.5	0.0
WET				*e*Sn		**Sn**	23 17 08.9	+0.7
WET	**Wettzell**	2.02	27	*e*Pn		**Pn**	23 16 42.5	0.0
WET				Sn		**Sn**	23 17 08.6	+0.4
	SNR=5.2							
STU	**Stuttgart**	2.08	314	*e*Pg		**Pg**	23 16 50.2	+2.8
	SNR=3.2							
STU				*e*Sg		**Sg**	23 17 14.2	-0.2
	SNR=5.0							
STU	**Stuttgart**	2.08	314	*e*Pn		**Pn**	23 16 40.3	-3.0
STU				*e*Sn		**Sn**	23 17 07.0	-2.7
STU	**Stuttgart**	2.08	314	*e*Pn		**Pn**	23 16 40.3	-3.0
STU	**Stuttgart**	2.08	314	Pg		**Pg**	23 16 50.2	+2.8
	SNR=3.2							
STU				*e*Sn		**Sn**	23 17 07.0	-2.6
STU				Sg		**Sg**	23 17 14.2	-0.2
	SNR=5.0							
GEC2	**GERESS Array S**	2.11	44	*e*Pn		**Pn**	23 16 44.2	+0.5
	SNR=2.7							
GEC2				*e*Sn		**Sn**	23 17 11.9	+1.5
	SNR=2.5							
KHC	**Kasperske Hory**	2.27	38	*e*PN		**Pn**	23 16 49.4	+3.6
KHC				*e*SN		**Sn**	23 17 14.4	+0.1
KHC				*e*SG		**Sg**	23 17 20.7	+0.3
	22nm,0.3s							
OBKA	**Obir**	2.28	111	*e*Pg		**Pg**	23 16 49.9	-1.2
	SNR=4.5							
OBKA				*e*Sg		**Sg**	23 17 20.0	-0.7
	SNR=2.5							
OBKA	**Obir**	2.28	111	⇓*i*Pg		**Pg**	23 16 49.8	-1.3
	2.5nm,0.2s							
OBKA				⇑*e*Sg		**Sg**	23 17 20.7	+0.1
	7.2nm,0.3s							
OBKA	**Obir**	2.28	111	Pg		**Pg**	23 16 49.8	-1.4
	2.5nm,0.2s							
OBKA				Sg		**Sg**	23 17 20.0	-0.7
	SNR=2.5							
BFO	**Black Forest**	2.33	296	*e*Pn		**Pn**	23 16 46.9	+0.2
	SNR=2.3							
BFO				*e*Sg		**Sg**	23 17 22.3	0.0
	SNR=3.8							
BFO	**Black Forest**	2.33	296	*e*Pn		**Pn**	23 16 48.5	+1.9
BFO				*e*Sn		**Sn**	23 17 12.9	-2.8
BFO	**Black Forest**	2.33	296	Pn		**Pn**	23 16 46.9	+0.3
	SNR=2.3							
BFO				*e*Sn		**Sn**	23 17 12.9	-2.8
BFO				Sg		**Sg**	23 17 22.3	0.0
	SNR=3.8							
GRFO	**Grafenberg**	2.34	356	*e*Pn		**Pn**	23 16 44.4	-2.4
GRFO				*e*Sn		**Sn**	23 17 24.6	+8.5
GRFO	**Grafenberg**	2.34	356	*e*Pn		**Pn**	23 16 44.4	-2.5
GRA1	**Grafenberg Arr**	2.34	356	Pg		**Pg**	23 16 54.5	+2.1
	SNR=5.0							
GRA1				Sn		**Sn**	23 17 16.2	+0.1
GRA1				Sg		**Sg**	23 17 23.6	+0.8
	SNR=3.5							
GRA1				*e*Sn		**Sn**	23 17 16.2	+0.1
GRA1	**Grafenberg Arr**	2.34	356	*e*Pg		**Pg**	23 16 55.0	+2.6
GRF	**Grafenberg Arr**	2.34	356	*e*Pg		**Pg**	23 16 54.5	+2.1
	SNR=5.0							
GRF				*e*Sn		**Sn**	23 17 16.2	+0.1
GRF				*e*Sg		**Sg**	23 17 23.6	+0.8
	SNR=3.5							
FELD	**Feldberg im Sc**	2.40	284	P		**Pn**	23 16 50.5	+2.9
ROTZ	**Rotzenmuhle**	2.46	11	*e*Pn		**Pn**	23 16 47.9	-0.6
MANZ	**Manzenberg**	2.67	9	*e*Sn		**Sn**	23 17 24.0	-0.1
ARSA	**Arzberg**	2.76	91	⇓*i*Pg		**Pg**	23 16 58.9	-1.6
	2.9nm,0.5s							
ARSA				⇓*e*Sg		**Sg**	23 17 39.0	+2.7
	4.9nm,0.5s							
ARSA	**Arzberg**	2.76	91	Pg		**Pg**	23 16 58.8	-1.7
	2.9nm,0.5s							
ARSA				Sg		**Sg**	23 17 35.4	-0.9
	SNR=2.1							
TOD	**Tromm**	2.86	323	P		**Pn**	23 16 54.8	+0.8
NKC	**Novy Kostel**	2.95	12	*e*PN		**Pn**	23 16 55.7	+0.5
NKC				*e*SG		**Sg**	23 17 42.6	+0.3
	20nm,0.4s							
WLS	**Welschbruch**	2.96	292	P		**Pn**	23 16 57.6	+2.2
MOF	**Molkenrain**	2.97	281	P		**Pn**	23 16 56.8	+1.3
CDF	**Champ du Feu**	3.01	292	*e*Pg		**Pg**	23 17 05.8	+0.6
CDF				*e*Sg		**Sg**	23 17 43.8	-0.5
	7.0nm,0.3s							
CDF	**Champ du Feu**	3.01	292	*e*Pn		**Pn**	23 16 57.1	+1.0
CDF				*e*Pg		**Pg**	23 17 05.8	+0.6
CDF				*e*Sg		**Sg**	23 17 43.8	-0.5
CDF	**Champ du Feu**	3.01	292	*e*Pg		**Pg**	23 17 05.8	+0.6
CDF				*e*Sg		**Sg**	23 17 43.8	-0.5
	3.5nm,0.3s							
CONA	**Conrad Observa**	3.03	77	⇑*i*Pg		**Pg**	23 17 05.0	-0.5
	0.3nm,0.1s							
CONA				⇓*i*Sg		**Sg**	23 17 46.6	+1.8
	2.5nm,0.2s							
ECH	**Echery**	3.03	288	P		**Pn**	23 16 58.2	+1.9
GUNZ	**Gunzen**	3.06	10	*e*Pg		**Pg**	23 17 06.5	+0.3
	SNR=4.0							
GUNZ				*e*Sg		**Sg**	23 17 46.0	+0.1
	SNR=3.0							
TANN	**Tannenbergstha**	3.13	12	*e*Pn		**Pn**	23 16 58.4	+0.7
	SNR=2.3							
TANN				*e*Pg		**Pg**	23 17 07.5	0.0
	SNR=4.2							
TANN				*e*Sn		**Sn**	23 17 35.4	-0.1
WERD	**Werda**	3.14	10	*e*Pg		**Pg**	23 17 08.0	+0.2
	SNR=2.6							
WERD				*e*Sg		**Sg**	23 17 49.1	+0.6
	SNR=3.6							
HINF	**Hinteralfeld**	3.16	280	*e*Pn		**Pn**	23 16 58.2	+0.1
HINF				*e*Sn		**Sn**	23 17 32.8	-3.4
HINF				*e*Sg		**Sg**	23 17 47.8	-1.1
	16nm,0.7s							
HINF	**Hinteralfeld**	3.16	280	*e*Pn		**Pn**	23 16 58.2	+0.1
HINF				*e*Sn		**Sn**	23 17 32.8	-3.4
HINF				*e*Sg		**Sg**	23 17 47.8	-1.1
	7.8nm,0.7s							
MOX	**Moxa**	3.29	2	*e*Pn		**Pn**	23 17 00.3	+0.4
	SNR=1.9							
MOX				*e*Sn		**Sn**	23 17 38.1	-1.4
	SNR=2.5							
MOX				*e*Sg		**Sg**	23 17 54.9	+1.6
MOX	**Moxa**	3.29	2	*e*PN		**Pn**	23 16 59.4	-0.5
MOX				*e*SN		**Sn**	23 17 38.7	-0.9
MOX				*e*SG		**Sg**	23 17 54.9	+1.6
MOX	**Moxa**	3.29	2	*e*Pn		**Pn**	23 16 59.4	-0.5
MOX				*e*Sn		**Sn**	23 17 38.7	-0.9
PRU	**Pruhonice**	3.33	37	*e*PN		**Pn**	23 17 00.7	+0.3
PRU				*e*PG		**Pg**	23 17 09.5	-1.8
PRU				*e*SG		**Sg**	23 17 53.5	-1.0
	4.9nm,0.3s							
TNS	**Taunus Mts**	3.49	326	*e*Pn		**Pn**	23 17 03.5	+0.8
	SNR=2.9							
TNS				*e*Sn		**Sn**	23 17 43.1	-1.5
	SNR=3.0							
HAU	**Haudompre**	3.52	283	*e*Pn		**Pn**	23 17 03.8	+0.8
HAU				*e*Sg		**Sg**	23 18 00.0	-0.6
	6.3nm,0.3s							
HAU	**Haudompre**	3.52	283	*e*Pn		**Pn**	23 17 03.8	+0.8
HAU				*e*Sg		**Sg**	23 18 00.0	-0.6
	3.2nm,0.3s							
LPG	**La Plagne**	3.75	242	*e*P		**Pn**	23 17 08.8	+2.5
LPG				*e*Sg		**Sg**	23 18 04.3	-3.8
	7.3nm,0.6s							
LPG	**La Plagne**	3.75	242	*e*Pn		**Pn**	23 17 06.1	-0.2
LPG				*e*Sg		**Sg**	23 18 04.3	-3.8
LPG	**La Plagne**	3.75	242	*e*P		**Pn**	23 17 08.8	+2.5
LPG				*e*Sg		**Sg**	23 18 04.3	-3.8
	3.7nm,0.6s							
LPL	**La Plagne**	3.75	242	*e*Pn		**Pn**	23 17 06.1	-0.2
LPL	**La Plagne**	3.75	242	*e*P		**Pn**	23 17 08.7	+2.4
LPL	**La Plagne**	3.75	242	*e*P		**Pn**	23 17 08.7	+2.4
CABF	**La Chapelle**	3.76	261	*e*Pn		**Pn**	23 17 06.8	+0.5
CABF				*e*Sg		**Sg**	23 18 05.6	-2.6
	3.0nm,0.3s							
CABF	**La Chapelle**	3.76	261	*e*Pn		**Pn**	23 17 06.8	+0.5
CABF				*e*Sg		**Sg**	23 18 05.6	-2.6
	1.5nm,0.3s							
PVCC	**Panska Ves**	3.78	32	*e*SG		**Sg**	23 18 06.7	-2.1
BRG	**Berggiesshubel**	3.88	24	PG		**Sn**	23 17 52.3	-1.7
BRG				SG		**Sg**	23 18 12.4	+0.3
	3.2nm,0.5s							
CLL	**Collm**	4.08	14	*e*Pn		**Pn**	23 17 11.0	+0.2
CLL				*e*Pg		**Pg**	23 17 27.0	+1.3
CLL				*e*Sg		**Sg**	23 18 18.0	-0.6
	comp=Z,11nm,0.9s							
MBDF	**Montbardon**	4.20	233	*e*Pn		**Pn**	23 17 12.3	0.0
MBDF				*e*Sn		**Sn**	23 17 55.4	-6.4
	comp=Z,2.9nm,0.4s							
MBDF	**Montbardon**	4.20	233	*e*Pn		**Pn**	23 17 12.3	0.0
MBDF				*e*Sn		**Sn**	23 17 55.4	-6.4
	comp=Z,1.5nm,0.4s							
UPC	**Upice**	4.35	42	*e*PG		**Pg**	23 17 27.0	-3.9
UPC				*e*SG		**Sg**	23 18 25.9	-1.3
DPC	**Dobruska-Polom**	4.39	45	*e*SG		**Sg**	23 18 27.0	-1.5
	comp=Z,7.2nm,0.7s							
SFTF	**Sexfontaines**	4.42	283	*e*Pn		**Pn**	23 17 16.0	+0.6
	baz=111							
SFTF				*e*Sn		**Sn**	23 18 02.9	-4.4
SFTF				*e*Sg		**Sg**	23 18 27.8	-1.6
	comp=Z,2.0nm,0.3s							
SFTF	**Sexfontaines**	4.42	283	*e*Pn		**Pn**	23 17 16.0	+0.6
SFTF				*e*Sn		**Sn**	23 18 02.9	-4.4
SFTF				*e*Sg		**Sg**	23 18 27.8	-1.6
	comp=Z,1.0nm,0.3s							
SBF	**Sospel**	4.50	220	*e*P		**Pn**	23 17 18.9	+2.4
CLZ	**Clausthal**	4.55	351	*e*Sn		**Sn**	23 18 07.1	-3.3
	SNR=1.6							
ORIF	**Oris-en-Rattie**	4.58	240	*e*Pn		**Pn**	23 17 16.9	-0.8
ORIF	**Oris-en-Rattie**	4.58	240	*e*P		**Pn**	23 17 20.2	+2.5
ORIF	**Oris-en-Rattie**	4.58	240	*e*P		**Pn**	23 17 20.2	+2.5
OKC	**Ostrava-Krasne**	5.08	58	*e*SG		**Sg**	23 18 49.2	-1.5
LOR	**Lormes**	5.17	272	*e*Pn		**Pn**	23 17 25.6	-0.2
	baz=98							
LOR				*e*Sg		**Sg**	23 18 50.4	-3.4
	comp=Z,1.6nm,0.2s							
LOR	**Lormes**	5.17	272	*e*Pn		**Pn**	23 17 25.6	-0.2
LOR				*e*Sg		**Sg**	23 18 50.4	-3.4
	comp=Z,0.8nm,0.2s							
SMF	**Signal de Mont**	5.26	265	*e*Pn		**Pn**	23 17 26.2	-0.8
SMRF	**Simiane la Rot**	5.34	233	*e*Pn		**Pn**	23 17 27.8	-0.2
VIVF	**Saint-Julien-l**	5.34	245	*e*Pn		**Pn**	23 17 28.4	+0.3
SSF	**Saint Saulge**	5.43	270	*e*Pn		**Pn**	23 17 28.5	-0.9
AVF	**Avril sur Loir**	5.57	267	*e*Pn		**Pn**	23 17 31.4	+0.1
BGF	**Bois d'Agland**	5.96	265	*e*Pn		**Pn**	23 17 36.7	+0.2
TCF	**Toulx Ste Croi**	6.44	264	*e*Pn		**Pn**	23 17 43.2	0.0

*LDG **15** 23:19:14.6±0.1, 4288N×121E, h10km, Md1.8/1, Ml1.6/3, Error ellipse: s-maj=0.9km s-min=0.8km az=34.0*
*STR **15** 23:19:15.0±0.2, 4285N×1.16E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 15 23:19:15.1±0.4, 4287N×119E, h10km±1km, mbLg1.3/12, Error ellipse: s-maj=2.9km s-min=2.3km az=50.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SALF	**Salau**	0.11	182		Pg	Pg	23 19 17.6	-0.2
SALF					Sg	Sg	23 19 19.2	-0.5
SALF	**Salau**	0.11	182		Pg	Pg	23 19 17.6	-0.2
SALF					Lg		23 19 19.2	
MLS	**Moulis**	0.12	322		Pg	Pg	23 19 17

MJAR Matsushiro Arr 16.52 237 Pn **Pn 23 23 37.3 -0.6**
comp=Z,0.3nm,0.3s,baz=32,slow=10.0,SNR=12
MAJO Matsushiro 16.52 237 *e*P **Pn 23 23 40.7 +2.8**
MAJO pmax pmax
comp=Z,11nm,0.8s
MAJO Matsushiro 16.52 237 *e*Pn **Pn 23 23 40.7 +2.8**
comp=Z,11nm,0.8s
MAJO *e* 23 23 50.2
MAT Matsushiro 16.52 237 P **Pn 23 23 35.4 -2.5**
YAK Yakutsk 20.94 325 *e*P **P 23 24 29.8 +1.1**
CN2 Changchun 21.20 272 *e*P **P 23 24 33.8 +2.4**
BILL Bilibino 21.78 11 *e*P **P 23 24 36.5 -1.1**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb3.9
BILL Bilibino 21.78 11 *e*P **P 23 24 37.6 0.0**
comp=Z,2.3nm,0.4s,mb4.0
KSRS Korea Array 22.38 255 P **P 23 24 43.5 -0.5**
comp=Z,1.0nm,0.7s,mb3.4,baz=280,slow=37,SNR=4.3
HIA Hailar 23.75 289 P **P 23 25 01.6 +3.6**
BJT Baijiatuan 29.05 270 P **P 23 25 49.2 +3.4**
SONM Songino Array 32.70 290 P **P 23 26 16.5 -1.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=68,slow=9.9,SNR=6.8
SONM Songino Array 32.70 290 P **P 23 26 16.5 -1.5**
SONM pmax pmax
comp=Z,1.0nm,0.9s
MCK McKinley 34.41 41 P **P 23 26 32.7 -0.2**
GUMO Guam 34.50 198 P **P 23 26 33.3 -0.4**
TATO Taipei 34.76 243 P **P 23 26 36.8 +0.8**
COLA College 34.94 39 *e*P **P 23 26 37.3 -0.1**
COLA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
COLA College 34.94 39 *e*P **P 23 26 37.2 -0.2**
comp=Z,3.7nm,0.6s,mb4.5
ENH Enshi 38.95 261 *e*P **P 23 27 13.9 +2.3**
comp=Z,0.4nm,0.3s,mb3.6
INK Inuvik 40.56 33 P **P 23 27 25.9 +0.9**
comp=Z,1.1nm,0.5s,mb3.8,baz=287,slow=7.4,SNR=7.1
INK Inuvik 40.56 33 P **P 23 27 25.9 +0.9**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 40.56 33 P **P 23 27 25.9 +0.9**
CD2 Chengdu 42.45 267 *e*P **P 23 27 38.4 -2.1**
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
CD2 AMB AMB
comp=Z,30nm,5.2s
TGY Tagaytay City 43.63 233 P **P 23 27 50.9 +0.9**
comp=Z,313nm,0.5s,baz=203,slow=13,SNR=3.7
TGY Tagaytay City 43.63 233 P **P 23 27 50.9 +0.9**
TGY pmax pmax
comp=Z,313nm,0.5s
ZAL Zalesovo 43.71 306 P **P 23 27 49.3 -1.4**
comp=Z,1.3nm,0.5s,mb4.0,baz=87,slow=4.7,SNR=6.5
ZAL Zalesovo 43.71 306 P **P 23 27 49.3 -1.4**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
NVS Novosibirsk 44.24 308 *e*P **P 23 27 52.8 -2.1**
MK31 Makanchi Array 48.18 298 *e*P **P 23 28 25.1 -0.8**
MKAR Makanchi Array 48.18 298 P **P 23 28 24.3 -1.6**
comp=Z,1.5nm,0.7s,mb4.1,baz=66,slow=8.2,SNR=11
MKAR Makanchi Array 48.18 298 P **P 23 28 24.3 -1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 48.18 298 P **P 23 28 24.3 -1.6**
RES Resolute Bay 50.05 19 *e*P **P 23 28 41.5 +1.3**
RES pmax pmax
comp=Z,23nm,0.5s,mb5.5
RES Resolute Bay 50.05 19 *e*P **P 23 28 41.5 +1.2**
comp=Z,23nm,0.5s,mb5.5
CHKZ Chkalovo 51.43 311 *e*P **P 23 28 49.3 -1.2**
CHKZ *e* 23 28 59.7 -0.6
CHKZ pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
CHKZ Chkalovo 51.43 311 *e*P **P 23 28 49.3 -1.3**
comp=Z,4.3nm,0.5s,mb4.6
CHKZ *e* 23 28 59.7 -0.6
LSA Lhasa 51.81 274 *e*P **P 23 28 56.1 +2.7**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSA Lhasa 51.81 274 *e*P **P 23 28 56.1 +2.7**
comp=Z,2.0nm,0.6s,mb4.2
BVAR Borovoye Array 51.87 310 P **P 23 28 52.5 -1.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=55,slow=8.4,SNR=10
BVAR Borovoye Array 51.87 310 P **P 23 28 52.5 -1.3**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 51.91 310 *e*P **P 23 28 54.0 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 51.91 310 *e*P **P 23 28 54.0 -0.2**
comp=Z,3.3nm,0.6s,mb4.4
ZRNK Zerenda 52.63 311 *e*P **P 23 28 58.5 -1.0**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 52.63 311 *e*P **P 23 28 58.5 -1.0**
comp=Z,4.4nm,0.8s,mb4.4
ARU Arti 55.84 318 *e*P **P 23 29 21.9 -1.0**
ARU Arti 55.84 318 *e*P **P 23 29 22.3 -0.5**
comp=Z,7.3nm,1.0s,mb4.7
PMG Port Moresby 56.67 190 *e*P **P 23 29 28.5 -0.3**
PMG pmax pmax
comp=Z,2.0nm,0.4s
PMG Port Moresby 56.67 190 *e*P **P 23 29 28.4 -0.4**
comp=Z,1.5nm,0.4s,mb4.4
ARCES ARCESS Array B 58.08 341 P **P 23 29 38.6 -0.1**
comp=Z,4.2nm,1.0s,mb4.4,baz=12,slow=6.2,SNR=5.4
ARCES ARCESS Array B 58.08 341 P **P 23 29 38.6 -0.1**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
AKTK Aktyubinsk 59.68 313 P **P 23 29 49.3 -0.6**
AKTO Aktyubinsk 59.68 313 P **P 23 29 49.3 -0.6**
comp=Z,2.0nm,0.9s,mb4.2,baz=94,slow=8.4,SNR=5.5
AKTO Aktyubinsk 59.68 313 P **P 23 29 49.3 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
FINES FINESS Array B 64.42 336 P **P 23 30 20.7 -1.0**
comp=Z,0.9nm,0.5s,mb4.1,baz=45,slow=8.3,SNR=8.9
FINES FINESS Array B 64.42 336 P **P 23 30 20.7 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 68.44 342 P **P 23 30 48.8 +1.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=26,slow=6.4,SNR=3.3
NOA NORSAR Array B 68.44 342 P **P 23 30 48.8 +1.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 69.31 201 *e*P **P 23 30 52.3 -0.5**
WRAB pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
WRAB Tennant Creek 69.31 201 *e*P **P 23 30 52.3 -0.5**
comp=Z,2.3nm,0.8s,mb4.2
WB2 Warramunga Arr 69.32 201 P **P 23 30 52.4 -0.5**
WRA Warramunga Arr 69.33 201 P **P 23 30 51.9 -1.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=21,slow=6.7,SNR=5.8
WRA Warramunga Arr 69.33 201 P **P 23 30 51.9 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.6s
KIV Kislovodsk 71.70 315 *e*P **P 23 31 09.8 +2.5**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV Kislovodsk 71.70 315 *e*P **P 23 31 09.8 +2.4**
comp=Z,5.3nm,0.7s,mb4.6
ASAR Alice Springs 73.01 201 P **P 23 31 14.8 -0.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=15,slow=5.6,SNR=14
ASAR Alice Springs 73.01 201 P **P 23 31 14.9 -0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
PALK Pallekele 74.28 264 P **P 23 31 24.8 +2.1**
TXAR Lajitas Array 75.98 62 P **P 23 31 33.0 +0.6**
comp=Z,0.3nm,0.5s,mb3.5,baz=295,slow=3.9,SNR=3.7
CLL Collm 76.82 337 *e*P **P 23 31 38.0 +0.8**
GERES GERESS Array B 78.86 335 P **P 23 31 50.2 +1.7**
comp=Z,0.3nm,0.3s,mb3.6,baz=20,slow=4.3,SNR=4.3
BRTR Keskin Array B 79.23 318 P **P 23 31 51.9 +1.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=60,slow=4.9,SNR=3.8
BRTR Keskin Array B 79.23 318 P **P 23 31 51.9 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

*ISCJB **15** 23:24:39.9±1.0, 475N±0.1×1550E±0.2, h10km, mb4.3/16, Error ellipse: s-maj=23.5km s-min=9.8km az=107.2*
*NEIC **15** 23:24:41.5±0.8, 4743N×15506E, h10km, mb4.4/4, Error ellipse: s-maj=17.1km s-min=7.2km az=145.0*
*IDC **15** 23:24:41.0±3.9, 4756N×15495E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.8/24, mbtmp4.0/9, Error ellipse: s-maj=89.9km s-min=27.5km az=150.0*
*MOS **15** 23:24:43.7±1.1, 4757N×15495E, h33km, mb4.4/10, Error ellipse: s-maj=19.7km s-min=12.5km az=115.2*

ISC 15 23:24:41.4±1.0, 475N±01×1551E±02, h10km, n40, σ0§67/40, mb4.3/16, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.40**	**271**	PN	**Pn**	**23 26 42.7**	**-0.5**
MDJ	**Mudanjiang**	**17.89**	**270**	Pn	**Pn**	**23 28 50.3**	**0.0**
YAK	**Yakutsk**	**20.46**	**325**	P	**P**	**23 29 18.9**	**-0.2**
BILL	**Bilibino**	**21.39**	**12**	P	**P**	**23 29 28.8**	**-0.4**
BILL	**Bilibino**	**21.39**	**12**	P	**P**	**23 29 28.8**	**-0.3**
KSRS	**Korea Array**	**22.29**	**253**	P	**P**	**23 29 39.8**	**+0.9**
	1.6nm,0.8s,mb3.5,baz=56,slow=11,SNR=4.1						
INCN	**Inchon**	**23.12**	**255**	*e*P	**P**	**23 29 45.8**	**-1.8**
	21nm,0.3s,mb5.0						
HIA	**Hailar**	**23.41**	**288**	P	**P**	**23 29 50.2**	**-0.5**
SONM	**Songino Array**	**32.35**	**289**	P	**P**	**23 31 10.5**	**-0.4**
	0.9nm,0.9s,mb3.6,baz=73,slow=7.9,SNR=11						
SONM	**Songino Array**	**32.35**	**289**	P	**P**	**23 31 10.5**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MCK	**McKinley**	**34.22**	**41**	P	**P**	**23 31 26.4**	**-0.8**
YHNB	**Yeheng**	**35.08**	**241**	P	**P**	**23 31 35.1**	**+0.5**
NACB	**Ninganchiao**	**35.32**	**241**	*e*P	**P**	**23 31 36.3**	**-0.4**
INK	**Inuvik**	**40.31**	**33**	P	**P**	**23 32 19.6**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.6,baz=209,slow=8.9,SNR=3.8						
INK	**Inuvik**	**40.31**	**33**	P	**P**	**23 32 19.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.79**	**298**	P	**P**	**23 33 18.9**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=64,slow=7.0,SNR=7.6						
MKAR	**Makanchi Array**	**47.79**	**298**	P	**P**	**23 33 18.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**49.71**	**19**	P	**P**	**23 33 33.6**	**0.0**
CHKZ	**Chkalovo**	**50.98**	**310**	*e*P	**P**	**23 33 43.4**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**50.98**	**310**	*e*P	**P**	**23 33 43.4**	**+0.2**
	comp=Z,4.4nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.42**	**310**	P	**P**	**23 33 47.5**	**+0.9**
	comp=Z,1.9nm,0.6s,mb4.2,baz=62,slow=8.1,SNR=8.7						
BVAR	**Borovoye Array**	**51.42**	**310**	P	**P**	**23 33 47.5**	**+0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**51.46**	**310**	*e*P	**P**	**23 33 47.5**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.46**	**310**	*e*P	**P**	**23 33 47.5**	**+0.6**
	comp=Z,2.8nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.56**	**274**	*e*P	**P**	**23 33 48.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.2s,mb5.2						
LSA	**Lhasa**	**51.56**	**274**	*e*P	**P**	**23 33 48.8**	**+1.2**
	comp=Z,6.1nm,0.2s,mb5.2						
ZRNK	**Zerenda**	**52.18**	**310**	*e*P	**P**	**23 33 53.0**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.18**	**310**	*e*P	**P**	**23 33 53.0**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.3						
ARU	**Arti**	**55.37**	**318**	*e*P	**P**	**23 34 15.3**	**-0.3**
ARU	**Arti**	**55.37**	**318**	*e*P	**P**	**23 34 15.3**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.5						
APA	**Apatity**	**57.19**	**337**	*i*P	**P**	**23 34 19.8**	**-8.8**
APA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
ARCES	**ARCESS Array B**	**57.59**	**341**	P	**P**	**23 34 31.9**	**+0.4**
	comp=Z,5.2nm,1.1s,mb4.5,baz=54,slow=8.2,SNR=5.6						
ARCES	**ARCESS Array B**	**57.59**	**341**	P	**P**	**23 34 31.9**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKTK	**Aktyubinsk**	**59.23**	**312**	P	**P**	**23 34 43.1**	**+0.3**
AKTO	**Aktyubinsk**	**59.23**	**312**	P	**P**	**23 34 43.1**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=66,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**59.23**	**312**	P	**P**	**23 34 43.1**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**23 35 14.4**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=38,slow=9.6,SNR=5.4						
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**23 35 14.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.96**	**342**	P	**P**	**23 35 39.3**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.1,baz=26,slow=6.4,SNR=3.6						
NOA	**NORSAR Array B**	**67.96**	**342**	P	**P**	**23 35 39.3**	**-1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

JMA 15 23:30:43.4±0.1, 2964N×14159E, h137km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.59**	**168**	P	Pn	23 31 25.4	+0.4
CBIJ				*e*S	Sn	23 31 58.0	+1.0
JIE	**Ise**	**6.29**	**320**	P	Pn	23 32 14.8	+0.9
JKN2	**Miekihoku**	**6.44**	**317**	P	Pn	23 32 17.1	+1.3

*ISCJB **15** 23:33:34.3±0.6, 4675N±007×1554E±0.1, h10km, mb4.1/17, Error ellipse: s-maj=13.6km s-min=7.0km az=68.4*
*IDC **15** 23:33:34.9±1.3, 4670N×15538E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=38.1km s-min=29.8km az=35.0*
*NEIC **15** 23:33:36.4±0.5, 4671N×15537E, h10km, mb4.4/10, Error ellipse: s-maj=11.2km s-min=7.1km az=134.0*
*MOS **15** 23:33:37.2±1.1, 4673N×15534E, h30km, mb4.4/10, Error ellipse: s-maj=15.6km s-min=12.0km az=90.8*

ISC 15 23:33:36.3±0.6, 4674N±007×1553E±01, h10km, n38, σ0§69/39, mb4.1/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.64**	**18**	Pn	**Pn**	**23 35 13.6**	**-0.3**
PET				*e*Sn	**Sn**	**23 36 29.8**	**+0.1**
ERM	**Erimo**	**9.92**	**246**	PN	**Pn**	**23 35 58.6**	**-0.3**
MAJO	**Matsushiro**	**16.33**	**238**	P	**Pn**	**23 37 25.1**	**-0.6**
YAK	**Yakutsk**	**21.17**	**326**	*e*P	**P**	**23 38 20.8**	**-0.9**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.5						
YAK	**Yakutsk**	**21.17**	**326**	*e*Pn	**P**	**23 38 20.8**	**-0.9**
	comp=Z,15nm,0.6s,mb4.5						
INCN	**Inchon**	**23.11**	**257**	P	**P**	**23 38 42.3**	**-0.1**
HIA	**Hailar**	**23.82**	**289**	*e*P	**P**	**23 38 50.4**	**+1.0**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HIA	**Hailar**	**23.82**	**289**	*e*P	**P**	**23 38 50.4**	**+1.0**
	comp=Z,2.3nm,0.3s,mb4.1						
BJT	**Baijiatuan**	**29.02**	**271**	P	**P**	**23 39 36.0**	**-0.4**
SONM	**Songino Array**	**32.77**	**290**	P	**P**	**23 40 09.2**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=40,slow=11,SNR=3.3						
MCK	**McKinley**	**34.67**	**40**	*e*P	**P**	**23 40 24.7**	**-1.3**
YHNB	**Yeheng**	**34.89**	**243**	*e*P	**P**	**23 40 28.0**	**+0.1**
ENH	**Enshi**	**38.87**	**262**	P	**P**	**23 40 59.8**	**-2.0**
	comp=Z,0.3nm,0.3s,mb3.5						
ZAL	**Zalesovo**	**43.87**	**306**	P	**P**	**23 41 42.9**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=43,slow=6.4,SNR=4.4						
ZAL	**Zalesovo**	**43.87**	**306**	P	**P**	**23 41 42.9**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
QIZ	**Qiongzhong**	**46.26**	**249**	P	**P**	**23 42 03.3**	**+1.4**
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**23 42 18.0**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=62,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**23 42 18.0**	**+0.3**
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**23 42 43.5**	**+0.7**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**23 42 43.5**	**+0.7**
	comp=Z,10nm,0.5s,mb5.0						
BVAR	**Borovoye Array**	**52.04**	**310**	P	**P**	**23 42 46.3**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=62,slow=10,SNR=4.5						
BVAR	**Borovoye Array**	**52.04**	**310**	P	**P**	**23 42 46.3**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**52.08**	**310**	P	**P**	**23 42 45.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.08**	**310**	P	**P**	**23 42 45.9**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**23 42 52.4**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**23 42 52.4**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.9						
ARU	**Arti**	**56.04**	**318**	*e*P	**P**	**23 43 15.5**	**+0.2**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ARU	**Arti**	**56.04**	**318**	*e*P	**P**	**23 43 15.5**	**+0.2**
	comp=Z,1.1nm,0.3s,mb4.4						
PMG	**Port Moresby**	**56.37**	**190**	*e*P	**P**	**23 43 17.3**	**-0.4**
PMG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PMG	**Port Moresby**	**56.37**	**190**	*e*P	**P**	**23 43 17.3**	**-0.4**
	comp=Z,2.7nm,0.4s,mb4.6						
LKWY	**Lake**	**61.89**	**54**	*e*P	**P**	**23 43 56.4**	**+0.5**
LKWY				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
LKWY	**Lake**	**61.89**	**54**	*e*P	**P**	**23 43 56.4**	**+0.5**
	comp=Z,7.1nm,0.6s,mb5.0						
FINES	**FINESS Array B**	**64.69**	**336**	P	**P**	**23 44 15.2**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.1,baz=32,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**64.69**	**336**	P	**P**	**23 44 15.2**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**69.02**	**201**	*e*P	**P**	**23 44 42.7**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
WRAB	**Tennant Creek**	**69.02**	**201**	*e*P	**P**	**23 44 42.7**	**+0.7**
	comp=Z,1.9nm,0.3s,mb4.5						
ASAR	**Alice Springs**	**72.71**	**201**	P	**P**	**23 45 04.8**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=15,slow=6.1,SNR=5.2						
TXAR	**Lajitas Array**	**76.16**	**62**	P	**P**	**23 45 24.5**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=304,slow=4.7,SNR=3.8						

*IDC **15** 23:33:55.6±0.8, 4679N×15486E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/24, mbtmp4.2/16, ML3.9/1, Error ellipse: s-maj=22.9km s-min=19.6km az=102.0*
*ISCJB **15** 23:33:56.9±0.7, 4681N±0.1×1547E±0.1, h10km, mb4.3/31, Error ellipse: s-maj=16.7km s-min=8.0km az=112.2*
*NEIC **15** 23:33:58.0±0.9, 4667N×15481E, h10km, mb4.6/11, Error ellipse: s-maj=21.7km s-min=14.7km az=135.0*
*MOS **15** 23:34:00.7±2.1, 4669N×15452E, h33km, mb4.5/25, Error ellipse: s-maj=14.5km s-min=8.1km az=115.5*

ISC 15 23:33:58.1±0.7, 4674N±010×1548E±01, h10km, n103, σ1§61/104, mb4.3/31, 8C-12D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.04**	**12**	*e*PN	**Pn**	**23 34 55.5**	**-4.5**
KUR	**Kuril'sk**	**5.08**	**255**	*e*PN	**Pn**	**23 35 15.0**	**+0.7**
KUR				*i* S	**Sn**	**23 36 14.2**	**+1.3**
KUR				pmax	pmax		
	comp=E,40nm,0.5s						
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax			
	comp=N,160nm,0.6s						
KUR				smax			
	comp=E,60nm,0.6s						
MJAR	**Matsushiro Arr**	**16.03**	**236**	Pn	**Pn**	**23 37 41.9**	**-1.8**
	comp=E,0.4nm,0.3s,baz=283,slow=23,SNR=3.4						
KSRS	**Korea Array**	**21.92**	**255**	P	**P**	**23 38 55.6**	**+4.0**
	comp=E,2.5nm,0.8s,mb3.7,baz=52,slow=10,SNR=4.4						
BILL	**Bilibino**	**22.15**	**11**	*e*P	**P**	**23 38 49.3**	**-4.7**
BILL				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.2						
INCN	**Inchon**	**22.77**	**256**	P	**P**	**23 39 01.2**	**+0.6**
HIA	**Hailar**	**23.48**	**289**	P	**P**	**23 39 10.1**	**+2.0**
BOD	**Bodaibo**	**26.90**	**309**	*e*P	**P**	**23 39 36.6**	**-2.7**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb3.8						
BJI	**Beijing**	**28.65**	**271**	*e*P	**P**	**23 39 59.5**	**+4.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
BJI	**Beijing**	**28.65**	**271**	*e*P	**P**	**23 39 59.5**	**+4.6**
	comp=Z,10.0nm,1.1s,mb4.5						
BJT	**Baijiatuan**	**28.67**	**271**	*e*P	**P**	**23 39 54.7**	**-0.3**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BJT	**Baijiatuan**	**28.67**	**271**	*e*P	**P**	**23 39 54.7**	**-0.4**
	comp=Z,4.0nm,0.4s,mb4.5						
ULN	**Ulaanbaatar**	**32.01**	**290**	P	**P**	**23 40 19.7**	**-4.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**32.01**	**290**	P	**P**	**23 40 19.7**	**-4.9**
	comp=Z,2.1nm,0.9s,mb4.0						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**23 40 27.5**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=65,slow=8.0,SNR=11						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**23 40 27.5**	**-0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TLY	**Talaya**	**33.23**	**298**	*e*P	**P**	**23 40 32.0**	**-3.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY	**Talaya**	**33.23**	**298**	*e*P	**P**	**23 40 32.0**	**-3.3**
	comp=Z,3.5nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**33.75**	**296**	*e*P	**P**	**23 40 39.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
INK	**Inuvik**	**41.03**	**33**	P	**P**	**23 41 39.6**	**-1.9**
	comp=Z,6.9nm,0.5s,mb4.6,baz=295,slow=6.6,SNR=40						
INK	**Inuvik**	**41.03**	**33**	P	**P**	**23 41 39.6**	**-1.9**
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAL	**Zalesovo**	**43.58**	**306**	P	**P**	**23 42 00.3**	**-2.0**
	comp=Z,3.3nm,0.4s,mb4.4,baz=46,slow=6.7,SNR=9.9						
ZAL	**Zalesovo**	**43.58**	**306**	P	**P**	**23 42 00.3**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**43.58**	**306**	P	**P**	**23 42 00.3**	**-2.0**
NVS	**Novosibirsk**	**44.13**	**308**	*e*P	**P**	**23 42 03.3**	**-3.4**
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
MK31	**Makanchi Array**	**47.99**	**298**	*e*P	**P**	**23 42 36.7**	**-0.4**
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**23 42 36.4**	**-0.7**
	comp=E,2.1nm,0.7s,mb4.3,baz=67,slow=8.0,SNR=15						
MKAR				PcP	PcP	23 44 05.0	-0.2
	comp=E,0.4nm,0.6s,baz=66,slow=3.5,SNR=2.8						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**23 42 36.4**	**-0.7**
MKAR						23 44 05.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**50.47**	**19**	*e*P	**P**	**23 42 59.5**	**+3.4**
RES				pmax	pmax		
	comp=Z,52nm,0.4s						
RES	**Resolute Bay**	**50.47**	**19**	*e*P	**P**	**23 42 59.5**	**+3.4**
	comp=Z,52nm,0.4s						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**23 43 04.4**	**-1.4**
	comp=Z,2.1

FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 64.55 335 P **P** **23 44 33.7 -1.6**
NB2 NORSAR Subarra 68.61 342 P **P** **23 44 58.8 -2.5**
comp=Z,12nm,1.4s,mb4.6,baz=30,slow=6.5
NOA NORSAR Array B 68.61 342 P **P** **23 45 00.7 -0.6**
comp=Z,0.9nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=4.0
NOA NORSAR Array B 68.61 342 P **P** **23 45 00.7 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 68.90 201 P **P** **23 45 02.0 -1.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=17,slow=6.7,SNR=4.7
WRA Warramunga Arr 68.90 201 P **P** **23 45 02.0 -1.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 72.20 327 P **P** **23 45 20.6 -2.7**
comp=Z,1.4nm,0.4s,mb4.3,baz=33,slow=6.2,SNR=8.6
AKASG Malin Array Be 72.20 327 P **P** **23 45 20.6 -2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 72.59 200 P **P** **23 45 25.1 -0.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=16,slow=5.8,SNR=11
ASAR Alice Springs 72.59 200 P **P** **23 45 25.2 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
KWP Kalwaria 75.43 330 *eP* **P** **23 45 41.7 -0.5**
KWP pmax pmax
comp=Z,21nm,1.0s,mb5.0
KWP Kalwaria 75.43 330 *eP* **P** **23 45 41.7 -0.5**
comp=Z,20nm,1.0s,mb5.0
BURAR Bucovina Array 76.24 328⇑*iP* **P** **23 45 46.2 -0.6**
BURAR Bucovina Array 76.24 328 ⇑P **P** **23 45 46.2 -0.6**
TXAR Lajitas Array 76.47 62 P **P** **23 45 47.0 -1.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=305,slow=4.8,SNR=5.0
TXAR Lajitas Array 76.47 62 P **P** **23 45 47.0 -1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.47 62 P **P** **23 45 47.0 -1.1**
OKC Ostrava-Krasne 76.75 333 *eP* **P** **23 45 51.7 +2.0**
DPC Dobruska-Polom 76.86 334 *eP* **P** **23 45 52.1 +1.8**
CLL Collm 76.95 337 *eP* **P** **23 45 50.0 -0.8**
CLL *i* pP 23 45 52.4 -1.7
CLL Collm 76.95 337 *eP* **P** **23 45 50.0 -0.8**
CLL *i* Pmax pP 23 45 52.4 -1.7
comp=Z,7.0nm,0.9s
CLL *ep*P pP 23 46 02.0 +7.9
MORC Moravsky Berou 76.99 333⇓*iP* **P** **23 45 53.8 +2.8**
MORC Moravsky Berou 76.99 333 ⇓P **P** **23 45 53.8 +2.7**
CFR Carcaliu 77.14 324⇑*iP* **P** **23 45 58.9 +7.0**
CFR Carcaliu 77.14 324 ⇑P **P** **23 45 58.9 +7.0**
PVCC Panska Ves 77.21 335 *eP* **P** **23 45 54.9 +2.6**
TIRR Tirgusor 77.62 324⇓*iP* **P** **23 45 56.3 +1.7**
TIRR Tirgusor 77.62 324 ⇓P **P** **23 45 56.3 +1.7**
PRU Pruhonice 77.70 335 *eP* **P** **23 45 56.6 +1.6**
MLR Muntele Rosu 77.74 326⇓*iP* **P** **23 45 55.8 +0.5**
MLR Muntele Rosu 77.74 326 ⇓P **P** **23 45 55.8 +0.6**
DRGR 77.84 329⇑*iP* **P** **23 45 57.0 +1.2**
DRGR 77.84 329 ⇑P **P** **23 45 57.0 +1.1**
VOIR 78.13 326⇓*iP* **P** **23 45 59.9 +2.5**
VOIR 78.13 326 ⇓P **P** **23 45 59.9 +2.5**
KHC Kasperske Hory 78.75 335 *eP* **P** **23 46 03.1 +2.3**
GERES GERESS Array B 78.97 335 P **P** **23 46 00.0 -2.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=27,slow=9.0,SNR=3.2
GERES GERESS Array B 78.97 335 P **P** **23 46 00.0 -2.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GZR Gura Zlata 79.02 328⇓*iP* **P** **23 46 04.2 +1.9**
GZR Gura Zlata 79.02 328 ⇓P **P** **23 46 04.2 +1.9**
BRTR Keskin Array B 79.20 318 P **P** **23 46 03.4 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=48,slow=4.5,SNR=7.1
BRTR Keskin Array B 79.20 318 P **P** **23 46 03.4 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BZS Buzias 79.24 329⇑*iP* **P** **23 46 05.7 +2.2**
BZS Buzias 79.24 329 ⇑P **P** **23 46 05.7 +2.2**
CDF Champ du Feu 81.10 339 *eP* **P** **23 46 14.9 +1.3**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 81.10 339 *eP* **P** **23 46 14.9 +1.3**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CDF Champ du Feu 81.10 339 *eP* **P** **23 46 14.9 +1.3**
comp=Z,8.7nm,1.1s,mb4.6
VTS Vitosha 81.25 326⇓*iP* **P** **23 46 16.9 +2.6**
VTS Vitosha 81.25 326 ⇓P **P** **23 46 16.9 +2.6**
GRR Gorron 82.91 344 *eP* **P** **23 46 25.2 +2.1**
comp=Z,102nm,1.2s,mb5.4
GRR Gorron 82.91 344 *eP* **P** **23 46 25.2 +2.1**
GRR pmax pmax
comp=Z,51nm,1.3s,mb5.4
GRR Gorron 82.91 344 *eP* **P** **23 46 25.2 +2.1**
comp=Z,51nm,1.3s,mb5.4
SMF Signal de Mont 83.58 340 *eP* **P** **23 46 27.9 +1.4**
LPG La Plagne 83.94 338 *eP* **P** **23 46 31.4 +3.0**
comp=Z,6.9nm,0.6s,mb4.6
LPG La Plagne 83.94 338 *eP* **P** **23 46 31.4 +3.0**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPG La Plagne 83.94 338 *eP* **P** **23 46 31.4 +3.0**
comp=Z,3.5nm,0.6s,mb4.7
CAF Calviac 85.61 341 *eP* **P** **23 46 37.9 +1.1**

ISCJB ***15*** *23:35:55.5±0.9, 465N±0.1×1533E±02, h10km, mb4.1/7, Error ellipse: s-maj=21.7km s-min=17.1km az=34.7*
IDC ***15*** *23:35:55.9±1.0, 4646N×15342E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/21, mbtmp4.1/4, Error ellipse: s-maj=55.4km s-min=27.3km az=111.0*
NEIC ***15*** *23:35:57.3±0.9, 4656N×15333E, h10km, mb4.2/3, Error ellipse: s-maj=21.8km s-min=17.4km az=106.0*

ISC 15 23:35:57.2±0.9, 466N±01×1533E±02, h10km, n13, σ1§11/13, mb4.1/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**15.08**	**234**	Pn	**Pn**	**23 39 29.5**	**-0.8**
HIA	**Hailar**	**22.55**	**289**	*eP*	**P**	**23 40 58.4**	**+1.0**
	3.7nm,0.3s,mb4.3						
TLY	**Talaya**	**32.38**	**298**	*eP*	**P**	**23 42 26.1**	**-0.8**
	1.9nm,0.7s,mb4.0						
NACB	**Ninganchiao**	**33.82**	**240**	*eP*	**P**	**23 42 41.6**	**+2.1**
CHKZ	**Chkalovo**	**50.65**	**310**	*eP*	**P**	**23 44 57.2**	**+0.7**
	1.1nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.85**	**310**	P	**P**	**23 45 05.2**	**-0.3**
ARU	**Arti**	**55.24**	**318**	P	**P**	**23 45 28.3**	**-2.1**
MCMT	**McKenzie Canyo**	**61.59**	**54**	P	**P**	**23 46 10.5**	**-4.2**
WRA	**Warramunga Arr**	**68.39**	**199**	P	**P**	**23 46 57.7**	**-1.2**
	0.7nm,0.3s,mb4.1,baz=3.0,slow=6.8,SNR=6.4						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**23 46 59.9**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**23 47 00.1**	**+0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=5.2						
ASAR	**Alice Springs**	**72.08**	**199**	P	**P**	**23 47 22.1**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=11,slow=5.6,SNR=13						
TXAR	**Lajitas Array**	**77.46**	**61**	P	**P**	**23 47 53.1**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=300,slow=3.9,SNR=12						

ECX 15 23:38:29.9±0.3, 3051N×11429W, h7km, MD3.7, ML3.8, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.14**	**298**⇑	*eP*	Pg	23 38 50.0	-1.8
SPX				*eS*	Sg	23 39 05.5	-1.2
ECBX	**El Chinero**	**1.16**	**326**	*eP*	Pg	23 38 50.0	-2.2
EMX	**El Mayor**	**1.68**	**331**	*eP*	Pn	23 38 58.5	-1.2
EMX				*eS*	Sn	23 39 21.0	-0.5
EMX				⇓*e*		23 39 27.4	
	comp=N,509nm,0.6s						
EMX				⇑*e*		23 39 35.1	
	comp=E,625nm,0.6s						
RDX	**Rancho Dowling**	**2.00**	**315**	*ePN*	Pn	23 39 04.3	+0.2
RDX				*eS*	Sn	23 39 30.6	+1.1
RDX				⇑*e*		23 39 40.8	
	comp=N,378nm,0.5s						
ECNX	**Esteban Cantu**	**2.28**	**301**	*eP*	Pn	23 39 07.8	-0.2
PBX	**Punta Banda**	**2.42**	**301**	*eP*	Pn	23 39 12.0	+2.1
ENX	**Ensenada**	**2.45**	**304**	*eP*	Pn	23 39 11.8	+1.5
ENX				*eS*	Sn	23 39 44.0	+3.5
RMX	**La Rumorosa**	**2.58**	**324**	*eP*	Pn	23 39 15.5	+3.4
CBX	**Cerro Bola**	**2.71**	**312**	*eP*	Pn	23 39 16.3	+2.5

ISCJB ***15*** *23:39:05.7±3.1, 4735N±006×15369E±008, h9km±19km, mb4.5/40, Error ellipse: s-maj=11.2km s-min=7.2km az=87.8*
IDC ***15*** *23:39:05.3±0.6, 4727N×15358E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, ML3.8/1, Error ellipse: s-maj=18.9km s-min=15.9km az=138.0*
NEIC ***15*** *23:39:07.2±0.4, 4728N×15360E, h10km, mb4.7/16, Error ellipse: s-maj=9.2km s-min=6.2km az=146.0*
BJI ***15*** *23:39:07.1, 4730N×15360E, h10km, mB4.7, mb4.5*
MOS ***15*** *23:39:10.2±1.4, 4735N×15355E, h39km, mb4.5/20, Error ellipse: s-maj=10.8km s-min=6.7km az=104.5*

ISC 15 23:39:10.9±2.4, 4736N±005×15367E±007, h33km±16km, n142, σ1§00/144, mb4.5/40, 16C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.70**	**25**	*ePN*	**Pn**	**23 40 09.0**	**+3.3**
SKR				pmax	pmax		
	comp=Z,360nm,0.2s						
KUR	**Kuril'sk**	**4.55**	**244**	*ePN*	**Pn**	**23 40 18.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**6.40**	**242**	PN	**Pn**	**23 40 43.9**	**+1.1**
PET	**Petropavlovsk**	**6.51**	**28**	*ePN*	**Pn**	**23 40 52.2**	**+7.8**
PET				pmax	pmax		
	comp=Z,74nm,1.7s						
PET	**Petropavlovsk**	**6.51**	**28**	Pn	**Pn**	**23 40 42.0**	**-2.3**
PET				*eSn*	**Sn**	**23 41 57.2**	**-0.3**
YSS	**Yuzh-Sakhalins**	**7.45**	**271**	*ePN*	**Pn**	**23 41 03.0**	**+5.7**
YSS				*eS*	**Sn**	**23 42 27.2**	**+6.6**
YSS				smax			
	comp=E,80nm,1.0s						
YSS				MLR	MLR		
	comp=E,900nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.45**	**271**	*ePn*	**Pn**	**23 40 50.1**	**-7.2**
	comp=Z,42nm,0.6s						
YSS				*eSn*	**Sn**	**23 42 18.5**	**-2.1**
ASAJ	**Asahikawa**	**8.39**	**251**	Pn	**Pn**	**23 41 05.3**	**-4.9**
	comp=Z,1.3nm,0.3s,baz=326,slow=30,SNR=2.5						
ASAJ	**Asahikawa**	**8.39**	**251**	PN	**Pn**	**23 41 05.3**	**-4.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**12.36**	**353**	*ePn*	**Pn**	**23 42 04.6**	**+0.1**
MA2				*eSn*	**Sn**	**23 44 24.9**	**+3.9**
KLR	**Kul'dur**	**14.70**	**285**	*eP*	**Pn**	**23 42 38.0**	**+1.5**
MJAR	**Matsushiro Arr**	**15.75**	**232**	Pn	**Pn**	**23 42 43.6**	**-6.6**
	comp=Z,0.7nm,0.3s,baz=2.0,slow=34,SNR=3.4						
MJAR	**Matsushiro Arr**	**15.75**	**232**	P	**Pn**	**23 42 43.6**	**-6.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.75**	**232**	Pn	**Pn**	**23 42 43.6**	**-6.6**
CLNS	**Chul'man**	**19.92**	**309**	*eP*	**Pn**	**23 43 41.5**	**-0.1**
CLNS				*eS*	**Sn**	**23 47 25.9**	**+1.4**
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=E,18nm,1.0s						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,30nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,1.2s						
CLNS				smax			
	comp=E,1μm,15.1s						
CLNS				smax			
	comp=N,98nm,12.3s						
CLNS				smax			
	comp=Z,256nm,12.3s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s						
CLNS				MLR	MLR		
	comp=E,1μm,14.0s						
YAK	**Yakutsk**	**20.02**	**326**	*eP*	**P**	**23 43 39.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,23nm,0.4s						
YAK	**Yakutsk**	**20.02**	**326**	*eP*	**P**	**23 43 39.1**	**-1.8**
	comp=Z,23nm,0.4s						
KSRS	**Korea Array**	**21.34**	**252**	P	**P**	**23 43 56.6**	**+1.4**
	comp=Z,3.4nm,0.6s,mb3.9,baz=45,slow=11,SNR=6.1						
BILL	**Bilibino**	**21.71**	**13**	*eP*	**P**	**23 43 58.6**	**-0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.2						
BILL	**Bilibino**	**21.71**	**13**	*eP*	**P**	**23 43 58.6**	**-0.6**
	comp=Z,2.6nm,0.3s,mb4.1						
INCN	**Inchon**	**22.16**	**253**	*eP*	**P**	**23 44 01.9**	**-2.0**
	comp=Z,19nm,0.4s,mb4.9						
HIA	**Hailar**	**22.54**	**287**	P	**P**	**23 44 05.9**	**-2.0**
BJT	**Baijiatuan**	**27.88**	**269**	P	**P**	**23 44 55.3**	**-2.3**
ULN	**Ulaanbaatar**	**31.06**	**288**	*eP*	**P**	**23 45 24.0**	**-1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**31.06**	**288**	*eP*	**P**	**23 45 24.0**	**-1.8**
	comp=Z,1.2nm,0.5s,mb4.0						
SONM	**Songino Array**	**31.49**	**289**	P	**P**	**23 45 29.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=67,slow=8.4,SNR=3.7						
SONM	**Songino Array**	**31.49**	**289**	P	**P**	**23 45 29.1**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TLY	**Talaya**	**32.24**	**297**	P	**P**	**23 45 35.3**	**-0.9**
GUMO	**Guam**	**34.46**	**195**	P	**P**	**23 45 55.4**	**-0.1**
	comp=Z,32nm,0.4s,mb5.6,baz=8.2,slow=16,SNR=3.8						
GUMO	**Guam**	**34.46**	**195**	P	**P**	**23 45 55.4**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,32nm,0.4s,mb5.6						
COLA	**College**	**35.42**	**39**	*eP*	**P**	**23 46 04.8**	**+1.0**
COLA				*e*		23 48 34.1	
COLA				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
COLA	**College**	**35.42**	**39**	*eP*	**P**	**23 46 04.8**	**+0.9**
	comp=Z,20nm,0.9s,mb5.0						
COLA				*e*PcP	PcP	23 48 34.1	+1.0
ENH	**Enshi**	**37.85**	**259**	P	**P**	**23 46 24.1**	**-0.4**
LZH	**Lanzhou**	**38.25**	**271**	*eP*	**P**	**23 46 30.0**	**+2.1**
LZH				AP	pP	23 46 37.8	+0.4
LZH				XP	sP	23 46 41.5	+0.1
LZH				PP	PP	23 48 01.1	+5.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,60nm,4.4s						
LZH	**Lanzhou**	**38.25**	**271**	*eP*	**P**	**23 46 30.0**	**+2.1**
LZH				*SP	sP	23 46 41.5	+0.1
LZH						23 48 01.1	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**38.25**	**271**	*eP*	**P**	**23 46 30.0**	**+2.1**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	23 46 37.7	+0.3
LZH				sP	sP	23 46 41.5	+0.1
LZH				PP	PP	23 48 01.1	+5.5
EGAK	**Eagle**	**38.29**	**39**	*eP*	**P**	**23 46 28.6**	**+0.4**
	comp=Z,15nm,0.9s,mb4.7						
INK	**Inuvik**	**40.94**	**33**	P	**P**	**23 46 50.2**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.3,baz=275,slow=9.2,SNR=12						
INK	**Inuvik**	**40.94**	**33**	P	**P**	**23 46 50.2**	**0.0**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CD2	**Chengdu**	**41.31**	**265**	*eP*	**P**	**23 46 53.3**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
GYA	**Guiyang**	**42.22**	**257**	P	**P**	**23 47 00.8**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**42.58**	**305**	P	**P**	**23 47 03.2**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.0,baz=33,slow=7.6,SNR=3.5						
ZAL				PcP	PcP	23 48 55.0	-0.6
	comp=Z,1.5nm,0.3s,baz=21,slow=4.2,SNR=4.5						
ZAL	**Zalesovo**	**42.58**	**305**	P	**P**	**23 47 03.2**	**-0.5**
ZAL						23 48 55.0	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**42.58**	**305**	P	**P**	**23 47 03.2**	**-0.5**
ZAL				PcP	PcP	23 48 55.0	-0.6
MKAR	**Makanchi Array**	**47.00**	**297**	P	**P**	**23 47 37.6**	**-1.2**
	comp=Z,2.3nm,1.1s,mb4.0,baz=67,slow=8.3,SNR=7.6						
MKAR				PcP	PcP	23 49 10.6	-0.3
	comp=Z,1.0nm,0.8s,baz=64,slow=5.6,SNR=3.7						
MKAR	**Makanchi Array**	**47.00**	**297**	P	**P**	**23 47 37.7**	**-1.2**
MKAR						23 49 10.6	
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**50.14**	**19**	*eP*	**P**	**23 48 03.7**	**+0.7**
RES				pmax	pmax		
	comp=Z,157nm,0.7s						
RES	**Resolute Bay**	**50.14**	**19**	*eP*	**P**	**23 48 03.7**	**+0.7**
	comp=Z,157nm,0.7s						
YKA	**Yellowknife Ar**	**50.21**	**37**	P	**P**	**23 48 03.5**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.5,baz=296,slow=7.0,SNR=7.1						
YKA	**Yellowknife Ar**	**50.21**	**37**	P	**P**	**23 48 03.5**	**-0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	**Chkalovo**	**50.33**	**310**	*eP*	**P**	**23 48 03.1**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**50.33**	**310**	*eP*	**P**	**23 48 03.1**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**50.62**	**273**	*eP*	**P**	**23 48 05.6**	**-1.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**50.62**	**273**	*eP*	**P**	**23 48 05.6**	**-1.0**
	comp=Z,3.4nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**23 48 06.3**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=58,slow=7.7,SNR=7.1						
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**23 48 06.3**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**50.80**	**309**	*eP*	**P**	**23 48 02.9**	**-5.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**50.80**	**309**	*eP*	**P**	**23 48 02.9**	**-5.2**
	comp=Z,2.7nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**51.53**	**310**	*eP*	**P**	**23 48 12.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.53**	**310**	*eP*	**P**	**23 48 12.8**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.1						
CHTO	**Chiang Mai**	**52.63**	**257**	*eP*	**P**	**23 48 21.9**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.63**	**257**	*eP*	**P**	**23 48 21.9**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.5						
ARU	**Arti**	**54.82**	**317**	*eP*	**P**	**23 48 35.9**	**-1.8**
ARU	**Arti**	**54.82**	**317**	*eP*	**P**	**23 48 36.8**	**-0.9**
JIRN	**Jiri**	**55.27**	**275**	*eP*	**P**	**23 48 41.7**	**+0.7**
	comp=Z,6.2nm,0.3s,mb5.2						
GUN	**Gumba**	**55.32**	**275**	*eP*	**P**	**23 48 42.0**	**+0.6**
KKN	**Kakani**	**55.81**	**275**	*eP*	**P**	**23 48 45.9**	**+1.1**
	comp=Z,20nm,0.9s,mb5.1						
PKI	**Pulchoki**	**55.86**	**275**	*eP*	**P**	**23 48 45.9**	**+0.7**
DMN	**Daman**	**56.04**	**275**	*eP*	**P**	**23 48 47.4**	**+0.9**
	comp=Z,34nm,0.9s,mb5.3						
GKN	**Gorkha**	**56.11**	**276**	*eP*	**P**	**23 48 47.3**	**+0.3**
	comp=Z,26nm,0.8s,mb5.3						
KEV	**Kevo**	**56.89**	**341**	*ep*	**P**	**23 48 50.7**	**-1.9**
KOLN	**Koldanda**	**56.96**	**276**	*eP*	**P**	**23 48 53.6**	**+0.6**
	comp=Z,26nm,0.9s,mb5.2						
ARCES	**ARCESS Array B**	**57.40**	**341**	P	**P**	**23 48 55.3**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.1,baz=23,slow=7.2,SNR=9.5						
ARCES	**ARCESS Array B**	**57.40**	**341**	P	**P**	**23 48 55.3**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SUMG	**Summit**	**60.07**	**4**	*eP*	**P**	**23 49 13.7**	**-1.0**
	comp=Z,20nm,0.8s,mb5.2						
BMN	**Battle Mountai**	**61.20**	**61**	P	**P**	**23 49 22.5**	**+0.1**
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**23 49 38.1**	**-0.6**
	comp=Z,2.5nm,0.4s,mb4.6,baz=38,slow=8.1,SNR=38						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**23 49 38.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PDAR	**Pinedale Array**	**64.08**	**54**	P	**P**	**23 49 42.0**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=270,slow=1.5,SNR=4.2						
ULM	**Lac du Bonnet**	**65.81**	**41**	P	**P**	**23 49 53.2**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=147,slow=5.0,SNR=3.4						
ULM	**Lac du Bonnet**	**65.81**	**41**	P	**P**	**23 49 53.2**	**+0.3**
NB2	**NORSAR Subarra**	**67.77**	**341**	P	**P**	**23 50 04.7**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.77**	**341**	P	**P**	**23 50 05.1**	**-0.3**
	comp=Z,7.6nm,0.8s,mb4.8,baz=26,slow=6.3,SNR=20						
NOA	**NORSAR Array B**	**67.77**	**341**	P	**P**	**23 50 05.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NOA	**NORSAR Array B**	**67.77**	**341**	P	**P**	**23 50 05.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**69.86**	**208**	P	**P**	**23 50 17.5**	**-0.9**
	comp=Z,3.7nm,1.0s,mb4.3,baz=59,slow=7.7,SNR=4.3						
KIV	**Kislovodsk**	**70.64**	**314**	P	**P**	**23 50 25.9**	**+2.7**
KIV	**Kislovodsk**	**70.64**	**314**	P	**P**	**23 50 25.9**	**+2.8**
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**23 50 25.8**	**-1.1**
	comp=Z,1.0nm,0.3s,mb4.2,baz=34,slow=6.2,SNR=17						
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**23 50 25.8**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.25**	**326**	P	**P**	**23 50 25.8**	**-1.1**
SCHQ	**Schefferville**	**72.60**	**23**	P	**P**	**23 50 34.4**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=242,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**72.91**	**199**	P	**P**	**23 50 35.1**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=9.1,slow=5.8,SNR=6.5						
ASAR	**Alice Springs**	**72.91**	**199**	P	**P**	**23 50 35.2**	**-1.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KWP	**Kalwaria**	**74.49**	**329**	*eP*	**P**	**23 50 46.4**	**+0.4**
KWP				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
KWP	**Kalwaria**	**74.49**	**329**	*eP*	**P**	**23 50 46.4**	**+0.3**
	comp=Z,17nm,0.9s,mb5.0						
OJC	**Ojcow**	**74.97**	**331**	*eP*	**P**	**23 50 48.9**	**+0.1**
BURAR	**Bucovina Array**	**75.29**	**327**⇑*iP*		**P**	**23 50 50.7**	**+0.1**
BURAR	**Bucovina Array**	**75.29**	**327** ⇑P		**P**	**23 50 50.7**	**+0.1**
NIE	**Niedzica**	**75.49**	**331**	*eP*	**P**	**23 50 52.2**	**+0.4**
UPC	**Upice**

BZS	**Buzias**	**78.30**	**328**	⇑P		**P**	**23 51 07.9**	**+0.3**
PKSM	**Moragy**	**78.83**	**330**	⇓*i*P		**P**	**23 51 10.7**	**+0.2**
PKSM	**Moragy**	**78.83**	**330**	⇓P		**P**	**23 51 10.7**	**+0.2**
VTS	**Vitosha**	**80.29**	**325**	⇑*i*P		**P**	**23 51 19.4**	**+0.9**
VTS	**Vitosha**	**80.29**	**325**	⇑P		**P**	**23 51 19.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**114.76**	**330**	PKP	PKiKP		23 57 46.2	-1.8
	comp=Z,0.2nm,0.3s,baz=24,slow=2.2,SNR=14							
TORD	**Torodi Ar. Bea**	**114.76**	**330**	PKP	PKiKP		23 57 46.2	-1.8
CFAA	**Coronel Fontan**	**144.51**	**79**	PKP	PKPdf		23 58 41.0	-2.8
	comp=Z,0.5nm,0.5s,baz=12,slow=0.4,SNR=11							

BJI ***15*** *23:41:14.8, 4693N×153.76E, h10km, mB5.1, mb4.5*
IDC ***15*** *23:41:18.8±0.8, 4680N×153.01E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/24, mbtmp4.1/13, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/44, Error ellipse: s-maj=25.9km s-min=18.5km az=132.0*
NEIC ***15*** *23:41:20.2±0.4, 4679N×153.02E, h10km, mb4.6/8, Error ellipse: s-maj=11.1km s-min=6.7km az=142.0*
MOS ***15*** *23:41:23.8±1.6, 4676N×153.11E, h55km, mb4.5/14, Error ellipse: s-maj=14.9km s-min=9.6km az=56.7*
ISCJB ***15*** *23:41:24.3±1.2, 4675N±008×153.1E±01, h57km±10km, mb4.2/19, Error ellipse: s-maj=17.4km s-min=6.8km az=87.6*

ISC 15 23:41:24.5±1.1, 4680N±008×1529E±01, h41km±10km, n55, σ1@22/57, mb4.2/19, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**3.87**	**248**	*e*PN		**Pn**		**23 42 20.8**	**-0.6**
KUR						pmax	pmax		
	comp=E,90nm,0.7s								
KUR						pmax	pmax		
	comp=Z,380nm,0.7s								
SKR	**Severo-Kuril's**	**4.42**	**27**	*e*PN		**Pn**		**23 42 29.5**	**+0.5**
SKR				*e*S		**Sn**		**23 43 22.4**	**+3.2**
SKR						pmax	pmax		
	comp=N,160nm,0.4s								
SKR						pmax	pmax		
	comp=Z,410nm,0.4s								
SKR						smax			
	comp=E,230nm,0.5s								
SKR						smax			
	comp=Z,150nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.70**	**244**	*e*PN		**Pn**		**23 42 51.3**	**+4.7**
YUK				*i* S		**Sn**		**23 44 03.2**	**+13**
YUK						pmax	pmax		
	comp=Z,380nm,0.5s								
YUK						smax			
	comp=N,2μm,0.8s								
YUK						smax			
	comp=E,750nm,0.8s								
YSS	**Yuzh-Sakhalins**	**6.99**	**275**	⇓*e*PN		**Pn**		**23 43 11.0**	**+6.7**
YSS						pmax	pmax		
	comp=Z,50nm,0.9s								
YSS						pmax	pmax		
	comp=E,60nm,1.0s								
YSS						MLR	MLR		
	comp=Z,800nm,15.0s								
YSS						MLR	MLR		
	comp=E,600nm,16.0s								
YSS	**Yuzh-Sakhalins**	**6.99**	**275**	*e*Pn		**Pn**		**23 43 03.5**	**-0.7**
ASAJ	**Asahikawa**	**7.75**	**254**	Pn		**Pn**		**23 43 20.0**	**+5.2**
	comp=E,3.6nm,0.3s,baz=75,slow=16,SNR=11								
ASAJ	**Asahikawa**	**7.75**	**254**	PN		**Pn**		**23 43 20.0**	**+5.2**
ASAJ						pmax	pmax		
	comp=Z,4.0nm,0.3s								
MAJO	**Matsushiro**	**15.02**	**232**	*e*P		**Pn**		**23 44 52.6**	**-1.2**
MAJO						pmax	pmax		
	comp=Z,36nm,0.8s								
MAJO	**Matsushiro**	**15.02**	**232**	*e*P		**Pn**		**23 44 52.6**	**-1.2**
	comp=Z,36nm,0.8s								
MAT	**Matsushiro**	**15.02**	**232**	P		**Pn**		**23 44 55.5**	**+1.7**
MJAR	**Matsushiro Arr**	**15.02**	**232**	Pn		**Pn**		**23 44 52.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=4.5								
YAK	**Yakutsk**	**20.22**	**327**	P		**P**		**23 45 54.5**	**-1.4**
KSRS	**Korea Array**	**20.70**	**252**	P		**P**		**23 46 02.7**	**+1.6**
	comp=Z,5.5nm,0.8s,baz=58,slow=9.9,SNR=9.5								
INCN	**Inchon**	**21.53**	**254**	P		**P**		**23 46 08.7**	**-1.4**
ULN	**Ulaanbaatar**	**30.77**	**289**	*e*P		**P**		**23 47 32.8**	**-3.2**
ULN						pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1								
ULN	**Ulaanbaatar**	**30.77**	**289**	*e*P		**P**		**23 47 32.8**	**-3.2**
	comp=Z,2.5nm,1.0s,mb4.0								
MCK	**McKinley**	**35.69**	**40**	P		**P**		**23 48 16.9**	**-1.9**
MCK						pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7								
MCK	**McKinley**	**35.69**	**40**	P		**P**		**23 48 16.9**	**-1.9**
	comp=Z,12nm,1.2s,mb4.7								
ENH	**Enshi**	**37.26**	**259**	P		**P**		**23 48 32.1**	**-0.1**
EGAK	**Eagle**	**39.04**	**38**	*e*P		**P**		**23 48 46.8**	**-0.4**
	comp=Z,14nm,0.9s,mb4.7								
CD2	**Chengdu**	**40.77**	**265**	⇑*i*P		**P**		**23 49 02.9**	**+1.4**
CD2						AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0								
CD2						AMB	AMB		
	comp=Z,50nm,5.2s								
INK	**Inuvik**	**41.68**	**32**	P		**P**		**23 49 08.9**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.1,baz=304,slow=6.4,SNR=6.7								
INK	**Inuvik**	**41.68**	**32**	P		**P**		**23 49 09.0**	**0.0**
INK						pmax	pmax		
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**		**23 49 51.0**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=70,slow=6.3,SNR=3.5								
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**		**23 49 51.0**	**+0.9**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.8s								
LSA	**Lhasa**	**50.16**	**273**	*e*P		**P**		**23 50 18.7**	**+2.9**
LSA						pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4								
LSA	**Lhasa**	**50.16**	**273**	*e*P		**P**		**23 50 18.7**	**+2.9**
	comp=Z,2.4nm,0.5s,mb4.5								
ZRNK	**Zerenda**	**51.51**	**310**	P		**P**		**23 50 25.2**	**-0.8**
CHTO	**Chiang Mai**	**52.02**	**256**	*e*P		**P**		**23 50 31.8**	**+2.0**
CHTO						pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5								
CHTO	**Chiang Mai**	**52.02**	**256**	*e*P		**P**		**23 50 31.8**	**+2.0**
	comp=Z,5.8nm,0.9s,mb4.5								
PMG	**Port Moresby**	**56.18**	**187**	*e*P		**P**		**23 51 00.2**	**+0.1**
PMG						pmax	pmax		
	comp=Z,2.0nm,0.5s								
PMG	**Port Moresby**	**56.18**	**187**	*e*P		**P**		**23 51 00.2**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.5								
FCC	**Fort Churchill**	**61.29**	**33**	P		**P**		**23 51 35.6**	**0.0**
FINES	**FINESS Array B**	**63.95**	**335**	P		**P**		**23 51 51.9**	**-1.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=35,slow=10,SNR=4.6								
FINES	**FINESS Array B**	**63.95**	**335**	P		**P**		**23 51 51.9**	**-1.5**
FINES						pmax	pmax		
	comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**64.81**	**54**	P		**P**		**23 51 59.5**	**+0.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=318,slow=2.0,SNR=5.3								
ARUT	**Antelope Range**	**65.86**	**60**	*e*P		**P**		**23 52 04.5**	**-1.3**
ULM	**Lac du Bonnet**	**66.56**	**41**	P		**P**		**23 52 10.0**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=256,slow=11,SNR=3.3								
NB2	**NORSAR Subarra**	**68.15**	**341**	P		**P**		**23 52 20.3**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.15**	**341**	P		**P**		**23 52 20.5**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=4.8								
NOA	**NORSAR Array B**	**68.15**	**341**	P		**P**		**23 52 20.5**	**+0.2**
NOA						pmax	pmax		
	comp=Z,2.0nm,0.7s								
NOA	**NORSAR Array B**	**68.15**	**341**	P		**P**		**23 52 20.5**	**+0.2**
WRAB	**Tennant Creek**	**68.50**	**199**	*e*P		**P**		**23 52 22.6**	**+0.1**
WRAB						pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7								
WRAB	**Tennant Creek**	**68.50**	**199**	*e*P		**P**		**23 52 22.6**	**+0.1**
	comp=Z,9.0nm,1.0s,mb4.7								
WRA	**Warramunga Arr**	**68.52**	**199**	P		**P**		**23 52 22.5**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=14,slow=6.7,SNR=5.5								
WRA	**Warramunga Arr**	**68.52**	**199**	P		**P**		**23 52 22.5**	**-0.1**
WRA						pmax	pmax		
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**71.44**	**326**	P		**P**		**23 52 39.7**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.3,baz=33,slow=6.2,SNR=6.2								
AKASG	**Malin Array Be**	**71.44**	**326**	P		**P**		**23 52 39.7**	**-0.9**
AKASG						pmax	pmax		
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**71.44**	**326**	P		**P**		**23 52 39.7**	**-0.9**
ASAR	**Alice Springs**	**72.21**	**198**	P		**P**		**23 52 45.5**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=16,slow=5.7,SNR=7.1								
ASAR	**Alice Springs**	**72.21**	**198**	P		**P**		**23 52 45.6**	**+0.4**
ASAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**77.57**	**60**	P		**P**		**23 53 16.6**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=303,slow=4.6,SNR=5.7								
TXAR	**Lajitas Array**	**77.57**	**60**	P		**P**		**23 53 16.7**	**+0.6**
TXAR						pmax	pmax		
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**78.28**	**317**	P		**P**		**23 53 21.5**	**+1.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=77,slow=5.3,SNR=4.5								
BRTR	**Keskin Array B**	**78.28**	**317**	P		**P**		**23 53 21.5**	**+1.4**
BRTR						pmax	pmax		
	comp=Z,1.0nm,0.8s								

IDC 15 23:48:18.2±0.9, 4690N×15539E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/24, mbtmp3.9/7, Error ellipse: s-maj=30.5km s-min=23.9km az=104.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
INK	**Inuvik**	**40.69**	**33**	P		P		23 55 59.7	-0.6
	4.3nm,1.1s,baz=273,slow=6.8,SNR=6.5								
MKAR	**Makanchi Array**	**48.25**	**298**	P		P		23 56 59.9	-0.9
	0.8nm,0.8s,baz=62,slow=8.5,SNR=4.0								
BVAR	**Borovoye Array**	**51.96**	**310**	P		P		23 57 27.9	-1.0
	0.9nm,0.3s,baz=58,slow=8.0,SNR=11								
FINES	**FINESS Array B**	**64.56**	**336**	P		P		23 58 57.5	+0.4
	2.9nm,1.0s,baz=44,slow=6.2,SNR=3.5								
WRA	**Warramunga Arr**	**69.19**	**201**	P		P		23 59 26.7	+0.1
	0.9nm,0.6s,baz=29,slow=7.0,SNR=4.6								
ASAR	**Alice Springs**	**72.87**	**201**	P		P		23 59 49.0	0.0
	0.7nm,0.7s,baz=18,slow=5.3,SNR=8.3								
TXAR	**Lajitas Array**	**76.05**	**62**	P		P		00 00 07.2	-0.2
	0.3nm,0.6s,baz=320,slow=3.7,SNR=5.4								

ISCJB ***15*** *23:55:55.5±2.8, 4639N±002×1530E±02, h34km±26km, mb4.0/10, Error ellipse: s-maj=29.2km s-min=18.6km az=142.2*
MOS ***15*** *23:55:56.6±1.0, 4632N×152.96E, h47km, mb4.2/9, Error ellipse: s-maj=23.3km s-min=21.8km az=46.1*
IDC ***15*** *23:56:00.3±4.6, 4631N×153.10E, h62km±42km, mb3.7/11, mb1 3.8/12, mb1mx3.6/26, mbtmp3.7/12, ML3.2/1, Error ellipse: s-maj=24.9km s-min=20.3km az=171.0*

ISC 15 23:55:57.6±2.6, 4640N±002×1530E±02, h37km±24km, n24, σ0@99/24, mb4.0/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**3.79**	**255**	⇑*i*PN		**Pn**		**23 56 51.8**	**-1.6**
KUR				*e*S		**Sn**		**23 57 36.0**	**-0.7**
KUR						pmax	pmax		
	comp=N,60nm,0.4s								
KUR						pmax	pmax		
	comp=Z,170nm,0.4s								
KUR						smax			
	comp=N,260nm,0.9s								
KUR						smax			
	comp=E,280nm,0.9s								
ASAJ	**Asahikawa**	**7.71**	**257**	P		**Pn**		**23 57 49.7**	**+2.5**
	comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=2.5								
KSRS	**Korea Array**	**20.63**	**253**	P		**P**		**00 00 36.5**	**+2.7**
	comp=E,0.9nm,0.5s,baz=34,slow=8.8,SNR=3.6								
INK	**Inuvik**	**42.01**	**32**	P		**P**		**00 03 45.0**	**-0.2**
	comp=E,2.1nm,0.7s,mb3.9,baz=270,slow=7.5,SNR=8.1								
INK	**Inuvik**	**42.01**	**32**	P		**P**		**00 03 45.0**	**-0.2**
INK						pmax	pmax		
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**		**00 04 25.1**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=72,slow=6.3,SNR=11								
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**		**00 04 25.1**	**-0.5**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**51.07**	**310**	P		**P**		**00 04 55.8**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=48,slow=7.9,SNR=6.8								
BVAR	**Borovoye Array**	**51.07**	**310**	P		**P**		**00 04 55.8**	**-0.4**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
AKTO	**Aktyubinsk**	**58.95**	**312**	P		**P**		**00 05 53.0**	**-0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=54,slow=11,SNR=3.6								
AKTO	**Aktyubinsk**	**58.95**	**312**	P		**P**		**00 05 53.0**	**-0.1**
AKTO						pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1								
FINES	**FINESS Array B**	**64.38**	**335**	P		**P**		**00 06 29.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=34,slow=7.2,SNR=8.5								
FINES	**FINESS Array B**	**64.38**	**335**	P		**P**		**00 06 29.4**	**-0.2**
FINES						pmax	pmax		
	comp=Z,2.0nm,0.7s								
PDAR	**Pinedale Array**	**65.02**	**54**	P		**P**		**00 06 33.8**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=335,slow=0.4,SNR=7.8								
NB2	**NORSAR Subarra**	**68.58**	**341**	P		**P**		**00 06 56.4**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.58**	**341**	P		**P**		**00 06 57.1**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=4.8								
NOA	**NORSAR Array B**	**68.58**	**341**	P		**P**		**00 06 57.2**	**+0.7**
NOA						pmax	pmax		
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**71.82**	**198**	P		**P**		**00 07 15.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=11,slow=5.4,SNR=5.7								
ASAR	**Alice Springs**	**71.82**	**198**	P		**P**		**00 07 15.8**	**-0.5**
ASAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**		**00 07 16.9**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.3,baz=34,slow=6.0,SNR=8.2								
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**		**00 07 16.9**	**+0.4**
AKASG						pmax	pmax		
	comp=Z,3.0nm,0.6s								
TXAR	**Lajitas Array**	**77.73**	**60**	P		**P**		**00 07 50.4**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=302,slow=4.3,SNR=15								
TXAR	**Lajitas Array**	**77.73**	**60**	P		**P**		**00 07 50.4**	**-0.1**
TXAR						pmax	pmax		
	comp=Z,2.0nm,0.6s								
CFAA	**Coronel Fontan**	**145.11**	**80**	PKPbc	PKPbc			00 15 29.2	-1.2
	comp=Z,0.4nm,0.6s,baz=268,slow=6.0,SNR=6.9								

NEIC ***15*** *23:58:35.6±1.1, 6.17S×151.64E, h10km, mb3.7/3, Error ellipse: s-maj=29.0km s-min=19.9km az=135.0*
ISCJB ***15*** *23:58:41.2±4.9, 6.3S±02×1515E±02, h58km±37km, mb3.5/7, Error ellipse: s-maj=37.8km s-min=33.0km az=69.7*
IDC ***15*** *23:58:45.2±8.7, 6.36S×151.32E, h75km±62km, mb3.5/4, mb1 3.6/5, mb1mx3.4/14, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=64.3km s-min=54.4km az=105.0*

ISC 15 23:58:42.4±4.7, 6.3S±02×1515E±02, h57km±35km, n11, σ0@79/11, mb3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**5.31**	**234**	P		**Pn**		**23 59 58.7**	**-0.3**
	0.9nm,0.3s,baz=22,slow=13,SNR=5.5								
PMG				S		**Sn**		**00 00 58.8**	**+0.1**
	1.8nm,0.3s,baz=108,slow=21,SNR=4.1								
WRAB	**Tennant Creek**	**21.49**	**229**	*e*P		**P**		**00 03 27.6**	**+1.4**
	0.5nm,0.4s,mb3.2								
WB2	**Warramunga Arr**	**21.50**	**229**	*e*P		**P**		**00 03 27.5**	**+1.2**
WRA	**Warramunga Arr**	**21.50**	**229**	P		**P**		**00 03 25.5**	**-0.9**
	0.9nm,0.6s,mb3.4,baz=56,slow=11,SNR=5.5								
ASAR	**Alice Springs**	**24.19**	**223**	P		**P**		**00 03 52.8**	**-0.7**
	0.7nm,0.6s,mb3.2,baz=25,slow=12,SNR=12								
STKA	**Stephens Creek**	**27.10**	**199**	P		**P**		**00 04 20.4**	**+0.7**
	0.8nm,0.5s,mb3.5,baz=35,slow=9.5,SNR=2.9								
FITZ	**Fitzroy Crossi**	**27.83**	**243**	P		**P**		**00 04 25.0**	**-1.2**
	0.8nm,0.4s,mb3.7,baz=11,slow=15,SNR=5.7								
VNDA	**Vanda**	**71.42**	**178**	*e*P		**P**		**00 09 56.3**	**-0.2**
	0.5nm,0.8s,mb3.5								
SBA	**Scott Base**	**71.99**	**177**	*e*P		**P**		**00 09 59.6**	**-0.3**
ZRNK	**Zerenda**	**90.45**	**323**	*e*P		**P**		**00 11 38.2**	**+0.5**
	0.3nm,0.4s,mb4.0								
TORD	**Torodi Ar. Bea**	**149.48**	**285**	PKPbc	PKPbc			00 18 26.8	+1.6
	0.6nm,0.6s,baz=107,slow=3.0,SNR=11								

BJI ***16*** *00:00:14.5, 4682N×153.76E, h10km, mB4.8, mb4.5*
NEIC ***16*** *00:00:21.2±0.4, 4685N×152.95E, h10km, mb4.4/16, Error ellipse: s-maj=10.6km s-min=7.2km az=149.0*
MOS ***16*** *00:00:25.5±1.0, 4678N×152.89E, h56km, mb4.6/18, Error ellipse: s-maj=9.7km s-min=7.2km az=89.8*
ISCJB ***16*** *00:00:27.0±1.0, 4681N±006×152.92E±008, h70km±8km, mb4.4/41, Error ellipse: s-maj=12.8km s-min=6.0km az=103.6*
IDC ***16*** *00:00:29.7±3.5, 4685N×152.78E, h78km±31km, mb3.9/17, mb1 4.1/19, mb1mx4.1/26, mbtmp3.9/19, MS3.5/2, Ms1 3.5/2, ms1mx3.1/47, Error ellipse: s-maj=16.5km s-min=13.8km az=137.0*

ISC 16 00:00:28.8±0.9, 4686N±006×15293E±008, h71km±7km, n126, σ0@92/124, mb4.4/41, 5C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**3.88**	**247**	⇓*i*PN		**Pn**		**00 01 20.5**	**-5.5**
KUR				*i* S		**Sn**		**00 02 04.0**	**-6.3**
KUR						pmax	pmax		
	comp=N,50nm,0.7s								
KUR						pmax	pmax		
	comp=Z,200nm,0.7s								
KUR						smax			
	comp=N,2μm,1.2s								
KUR						smax			
	comp=E,2μm,1.2s								
KUR						smax			
	comp=N,700nm,0.8s								
KUR						smax			
	comp=E,540nm,0.8s								
SKR	**Severo-Kuril's**	**4.37**	**28**	*e*PN		**Pn**		**00 01 32.0**	**-0.6**
SKR						pmax	pmax		
	comp=Z,80nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.72**	**243**	*e*PN		**Pn**		**00 01 49.0**	**-2.1**
YUK				*e*S		**Sn**		**00 02 56.5**	**+1.2**
YUK						smax			
	comp=N,750nm,0.8s								
YUK						smax			
	comp=E,750nm,0.8s								
YUK						smax			
	comp=N,3μm,2.0s								
YUK						smax			
	comp=E,3μm,2.0s								
YSS	**Yuzh-Sakhalins**	**6.97**	**274**	*e*PN		**Pn**		**00 02 08.9**	**+0.7**
YSS						pmax	pmax		
	comp=E,60nm,1.0s								
YSS						MLR	MLR		
	comp=E,500nm,15.0s								
YSS						MLR	MLR		
	comp=Z,600nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.97**	**274**	*e*Pn		**Pn**		**00 02 08.8**	**+0.6**
PET	**Petropavlovsk**	**7.19**	**29**	PN		**Pn**		**00 02 14.3**	**+3.1**
ASAJ	**Asahikawa**	**7.76**	**253**	P		**Pn**		**00 02 19.4**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=70,slow=11,SNR=15								
ASAJ				LR		LR		00 05 05.4	
	comp=Z,368nm,18.3s,baz=6.7,slow=36								
ASAJ	**Asahikawa**	**7.76**	**253**	PN		**Pn**		**00 02 19.5**	**+0.5**
ASAJ						pmax	pmax		
	comp=Z,2.0nm,0.3s								
ASAJ						MLR	MLR		
	comp=Z,368nm,18.3s								
MA2	**Magadan**	**12.80**	**355**	*e*PN		**Pn**		**00 03 27.9**	**+0.1**
KLR	**Kul'dur**	**14.36**	**287**	*e*P		**Pn**		**00 03 47.8**	**-0.6**
MJAR	**Matsushiro Arr**	**15.05**	**232**	P		**Pn**		**00 03 56.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=36,slow=9.4,SNR=4.6								
MJAR				LR		LR		00 09 16.5	
	comp=Z,138nm,18.7s,baz=65,slow=35								
MAJO	**Matsushiro**	**15.05**	**232**	*e*P		**Pn**		**00 04 00.8**	**+3.5**
MAJO						pmax	pmax		
	comp=Z,10.0nm,0.5s								
MAJO	**Matsushiro**	**15.05**	**232**	*e*P		**Pn**		**00 04 00.8**	**+3.6**
	comp=Z,9.6nm,0.5s								
MAT	**Matsushiro**	**15.05**	**232**	P		**Pn**		**00 03 55.6**	**-1.7**
MDJ	**Mudanjiang**	**16.44**	**271**	*e*Pn		**Pn**		**00 04 15.9**	**+1.1**
	comp=Z,3.7nm,0.4s								
YAK	**Yakutsk**	**20.16**	**327**	P		**P**		**00 04 58.3**	**+1.0**
KSRS	**Korea Array**	**20.71**	**252**	P		**P**		**00 05 02.9**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=61,slow=11,SNR=7.1								
SNY	**Shenyang**	**21.52**	**267**	⇑P		**P**		**00 05 10.1**	**-1.8**
SNY						AMB	AMB		
	comp=Z,11nm,0.9s,mb4.2								
INCN	**Inchon**	**21.54**	**254**	*e*P		**P**		**00 05 12.2**	**+0.1**
BILL	**Bilibino**	**22.31**	**13**	*e*P		**P**		**00 05 24.3**	**+4.0**
BILL						pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9								
BILL	**Bilibino**	**22.31**	**13**	*e*P		**P**		**00 05 20.4**	**0.0**
BJT	**Baijiatuau**	**27.37**	**269**	*e*P		**P**		**00 06 08.1**	**+0.9**
HHC	**Hu-ho-hao-te**	**30.16**	**274**	*e*P		**P**		**00 06 32.8**	**+0.8**
HHC						PP	PP	00 07 34.9	-6.3
HHC						AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4								
HHC						AMB	AMB		
	comp=Z,218nm,9.9s								
ULN	**Ulaanbaatar**	**30.74**	**289**	*e*P		**P**		**00 06 36.9**	**-0.3**
ULN						pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2								
ULN	**Ulaanbaatar**	**30.74**	**289**	*e*P		**P**		**00 06 36.9**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.1								
SONM	**Songino Array**	**31.18**	**289**	P		**P**		**00 06 40.1**	**-0.9**
	comp=Z,3.7nm,1.1s,mb4.0,baz=77,slow=6.4,SNR=4.8								
SONM				PcP		PcP		00 09 34.4	0.0
	comp=Z,0.8nm,0.8s,ba

CHTO	**Chiang Mai**	**52.02**	**256**	*e*P		**P**	**00 09 31.6**	**+0.6**
CHTO				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4								
CHTO	**Chiang Mai**	**52.02**	**256**	*e*P		**P**	**00 09 31.6**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.5								
AAK	**Ala-Archa**	**53.67**	**296**	P		**P**	**00 09 44.1**	**+1.0**
JIRN	**Jiri**	**54.81**	**274**	*e*P		**P**	**00 09 52.3**	**+0.9**
	comp=Z,19nm,0.7s,mb5.2								
GUN	**Gumba**	**54.87**	**275**	*e*P		**P**	**00 09 53.4**	**+1.6**
KKN	**Kakani**	**55.35**	**275**	*e*P		**P**	**00 09 56.2**	**+0.9**
	comp=Z,28nm,0.9s,mb5.3								
PKI	**Pulchoki**	**55.40**	**275**	*e*P		**P**	**00 09 56.2**	**+0.5**
	comp=Z,23nm,0.9s,mb5.2								
DMN	**Daman**	**55.59**	**275**	*e*P		**P**	**00 09 57.8**	**+0.8**
	comp=Z,37nm,1.0s,mb5.4								
GKN	**Gorkha**	**55.66**	**276**	*e*P		**P**	**00 09 58.0**	**+0.5**
	comp=Z,34nm,0.9s,mb5.3								
KOLN	**Koldanda**	**56.51**	**276**	*e*P		**P**	**00 10 04.3**	**+0.7**
	comp=Z,24nm,1.0s,mb5.2								
NVAR	**Mina Array Bea**	**62.49**	**62**	P		**P**	**00 10 45.8**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=300,slow=9.0,SNR=8.9								
FINES	**FINESS Array B**	**63.89**	**335**	P		**P**	**00 10 52.9**	**-1.1**
	comp=Z,5.3nm,0.7s,mb4.5,baz=36,slow=9.4,SNR=21								
FINES	**FINESS Array B**	**63.89**	**335**	P		**P**	**00 10 52.9**	**-1.1**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.7s								
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**00 11 00.8**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.0,baz=318,slow=2.0,SNR=13								
ULM	**Lac du Bonnet**	**66.52**	**41**	P		**P**	**00 11 10.6**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.2,baz=305,slow=4.8,SNR=6.0								
HYB	**Hyderabad**	**66.87**	**271**	*i* P		**P**	**00 11 13.0**	**-0.2**
HYB	**Hyderabad**	**66.87**	**271**	*e*P		**P**	**00 11 13.0**	**-0.2**
NB2	**NORSAR Subarra**	**68.08**	**341**	P		**P**	**00 11 20.0**	**-0.9**
	comp=Z,9.9nm,0.8s,mb4.7,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**00 11 20.0**	**-0.9**
	comp=Z,8.8nm,0.8s,mb4.6,baz=27,slow=6.3,SNR=22								
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**00 11 20.0**	**-0.9**
NOA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
WRA	**Warramunga Arr**	**68.57**	**199**	P		**P**	**00 11 22.6**	**-1.4**
	comp=Z,1.4nm,1.0s,mb3.7,baz=22,slow=7.0,SNR=4.7								
WRA	**Warramunga Arr**	**68.57**	**199**	P		**P**	**00 11 22.6**	**-1.3**
WRA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
FITZ	**Fitzroy Crossi**	**69.18**	**208**	P		**P**	**00 11 27.4**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.1,baz=80,slow=10,SNR=4.8								
AKASG	**Malin Array Be**	**71.39**	**326**	P		**P**	**00 11 40.3**	**-0.9**
	comp=Z,5.4nm,0.5s,mb4.6,baz=34,slow=6.4,SNR=13								
AKASG	**Malin Array Be**	**71.39**	**326**	P		**P**	**00 11 40.3**	**-0.9**
AKASG				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ASAR	**Alice Springs**	**72.27**	**198**	P		**P**	**00 11 46.5**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.9,baz=16,slow=5.9,SNR=18								
ASAR	**Alice Springs**	**72.27**	**198**	P		**P**	**00 11 46.5**	**0.0**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KWP	**Kalwaria**	**74.67**	**329**	*e*P		**P**	**00 11 59.9**	**-0.6**
KWP				pmax	pmax				
	comp=Z,23nm,1.1s,mb4.8								
KWP	**Kalwaria**	**74.67**	**329**	*e*P		**P**	**00 11 59.9**	**-0.7**
	comp=Z,23nm,1.1s,mb4.8								
STHS	**Stebnicka Huta**	**75.36**	**330**	*i* P		**P**	**00 12 05.0**	**+0.5**
STHS				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.4								
STHS	**Stebnicka Huta**	**75.36**	**330**	*i* P		**P**	**00 12 05.0**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.4								
KOLS	**Kolonicke sedl**	**75.41**	**329**	*e*P		**P**	**00 12 04.5**	**-0.3**
BURAR	**Bucovina Array**	**75.43**	**326**	⇓*i* P		**P**	**00 12 04.8**	**-0.1**
UPC	**Upice**	**76.13**	**333**	*e*P		**P**	**00 12 09.5**	**+0.6**
DPC	**Dobruska-Polom**	**76.17**	**333**	*e*P		**P**	**00 12 09.0**	**-0.2**
MORC	**Moravsky Berou**	**76.28**	**332**	⇓*i* P		**P**	**00 12 09.9**	**+0.1**
MORC	**Moravsky Berou**	**76.28**	**332**	⇓P		**P**	**00 12 09.9**	**+0.1**
CLL	**Collm**	**76.31**	**335**	*i* P		**P**	**00 12 09.0**	**-1.0**
CLL				pmax	pmax				
	comp=Z,17nm,1.2s,mb4.7								
CLL	**Collm**	**76.31**	**335**	*i* P		**P**	**00 12 09.0**	**-1.0**
	comp=Z,17nm,1.2s,mb4.7								
CLL				*ex*	x		00 12 24.0		
LIKS	**Likavka**	**76.40**	**331**	*e*P		**P**	**00 12 12.2**	**+1.7**
KECS	**Kecovo**	**76.42**	**330**	*e*P		**P**	**00 12 10.2**	**-0.3**
BRG	**Berggiesshubel**	**76.43**	**335**	*e*P		**P**	**00 12 09.9**	**-0.7**
	comp=Z,2.5nm,1.1s,mb3.9								
BRG	**Berggiesshubel**	**76.43**	**335**	*e*P		**P**	**00 12 09.9**	**-0.7**
BRG				pmax	pmax				
	comp=Z,3.0nm,1.1s,mb3.9								
TIRR	**Tirgusor**	**76.75**	**323**	⇑*i* P		**P**	**00 12 12.2**	**-0.2**
TIRR	**Tirgusor**	**76.75**	**323**	⇑P		**P**	**00 12 12.2**	**-0.2**
MLR	**Muntele Rosu**	**76.90**	**325**	⇑*i* P		**P**	**00 12 14.1**	**+0.8**
MLR	**Muntele Rosu**	**76.90**	**325**	⇑P		**P**	**00 12 14.2**	**+0.9**
VYHS	**Vyhne**	**76.97**	**331**	*i* P		**P**	**00 12 13.7**	**0.0**
VYHS				pmax	pmax				
	comp=Z,23nm,2.3s,mb4.5								
VYHS	**Vyhne**	**76.97**	**331**	*i* P		**P**	**00 12 13.7**	**0.0**
	comp=Z,23nm,2.3s,mb4.5								
VRAC	**Vranov**	**77.00**	**332**	⇓*i* P		**P**	**00 12 14.4**	**+0.6**
VRAC	**Vranov**	**77.00**	**332**	⇓P		**P**	**00 12 14.4**	**+0.6**
PRU	**Pruhonice**	**77.03**	**334**	*e*P		**P**	**00 12 12.9**	**-1.1**
DRGR		**77.06**	**327**	⇓*i* P		**P**	**00 12 14.1**	**0.0**
DRGR		**77.06**	**327**	⇓P		**P**	**00 12 14.2**	**0.0**
VOIR		**77.30**	**325**	⇓*i* P		**P**	**00 12 16.1**	**+0.6**
VOIR		**77.30**	**325**	⇓P		**P**	**00 12 16.1**	**+0.6**
LTX	**Lajitas**	**77.55**	**60**	*e*P		**P**	**00 12 17.5**	**+0.6**
LTX				*e*			00 12 26.8		
LTX				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.2								
LTX	**Lajitas**	**77.55**	**60**	*e*P		**P**	**00 12 17.5**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.2								
LTX				*e*PcP	PcP		00 12 26.8	-0.2	
TXAR	**Lajitas Array**	**77.55**	**60**	P		**P**	**00 12 17.3**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.0,baz=300,slow=4.7,SNR=42								
TXAR	**Lajitas Array**	**77.55**	**60**	P		**P**	**00 12 17.3**	**+0.4**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
TXAR	**Lajitas Array**	**77.55**	**60**	P		**P**	**00 12 17.3**	**+0.4**
ZST	**Bratislava**	**77.80**	**332**	*e*P		**P**	**00 12 18.9**	**+0.6**
ZST				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.2								
ZST	**Bratislava**	**77.80**	**332**	*e*P		**P**	**00 12 18.9**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.2								
KHC	**Kasperske Hory**	**78.09**	**334**	*e*P		**P**	**00 12 20.2**	**+0.3**
KHC				*e*			00 12 20.6		
BR131	**Keskin Array S**	**78.22**	**317**	*e*P		**P**	**00 12 18.7**	**-1.9**
	comp=Z,2.0nm,0.9s,mb3.9								
BRTR	**Keskin Array B**	**78.22**	**317**	P		**P**	**00 12 21.3**	**+0.7**
	comp=Z,2.6nm,0.9s,mb4.0,baz=53,slow=5.3,SNR=11								
GERES	**GERESS Array B**	**78.30**	**334**	P		**P**	**00 12 21.0**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=17,slow=5.9,SNR=9.4								
BZS	**Buzias**	**78.45**	**327**	⇓*i* P		**P**	**00 12 21.4**	**-0.5**
BZS	**Buzias**	**78.45**	**327**	⇓P		**P**	**00 12 21.4**	**-0.5**
PKSM	**Moragy**	**79.01**	**330**	⇓*i* P		**P**	**00 12 24.2**	**-0.8**
PKSM	**Moragy**	**79.01**	**330**	⇓P		**P**	**00 12 24.2**	**-0.8**
VTS	**Vitosha**	**80.41**	**325**	⇓*i* P		**P**	**00 12 32.9**	**+0.4**
VNDA	**Vanda**	**124.23**	**178**	PKP	PKPdf		00 19 17.5	-1.8	
	comp=Z,0.4nm,0.8s,baz=334,slow=2.9,SNR=4.6								
CFAA	**Coronel Fontan**	**145.10**	**79**	PKPbc	PKPbc		00 19 57.2	-0.4	
	comp=Z,0.4nm,0.7s,baz=258,slow=2.1,SNR=9.0								
CFAA	**Coronel Fontan**	**145.10**	**79**	PKPbc	PKPbc		00 19 57.2	-0.4	

NEIC ***16*** *00:06:17.0±0.7, 47.24N×153.46E, h10km, mb4.6/5, Error ellipse: s-maj=17.2km s-min=9.3km az=139.0*
MOS ***16*** *00:06:22.4±1.5, 47.22N×153.33E, h72km, mb4.5/8, Error ellipse: s-maj=15.6km s-min=10.4km az=68.6*
ISCJB ***16*** *00:06:23.8±1.3, 47.26N±0.09N×153.3E±0.1, h82km±10km, mb4.1/13, Error ellipse: s-maj=18.0km s-min=6.8km az=106.8*
IDC ***16*** *00:06:25.9±4.3, 47.21N×153.40E, h87km±39km, mb3.7/10, mb1 3.9/12, mb1mx3.7/24, mbtmp3.8/12, Error ellipse: s-maj=26.6km s-min=22.8km az=127.0*

ISC 16 00:06:25.6±1.1, 4725N±0.09N×1534E±0.1, h86km±9km, n44, σ0=82/46, mb4.1/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.89**	**27**	*e*PN		**Pn**	**00 07 20.5**	**-2.5**
SKR				*e*S		**Sn**	**00 08 08.4**	**+0.8**
SKR				pmax	pmax			
	comp=Z,90nm,0.5s							
SKR				smax				
	comp=N,150nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
SKR				smax				
	comp=Z,80nm,0.5s							

KUR	**Kuril'sk**	**4.31**	**244**	*e*PN		**Pn**	**00 07 23.0**	**-5.7**
KUR				*i* S		**Sn**	**00 08 12.4**	**-5.3**
KUR				pmax	pmax			
	comp=Z,110nm,0.5s							
KUR				smax				
	comp=N,460nm,0.5s							
KUR				smax				
	comp=E,380nm,0.5s							
PET	**Petropavlovsk**	**6.71**	**29**	PN		**Pn**	**00 08 01.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.24**	**272**	*e*PN		**Pn**	**00 08 10.5**	**+1.8**
YSS				*e*S		**Sn**	**00 09 29.0**	**-0.3**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.24**	**272**	*e*Pn		**Pn**	**00 08 10.8**	**+2.1**
	comp=Z,24nm,0.6s							
ASAJ	**Asahikawa**	**8.16**	**251**	P		**Pn**	**00 08 21.7**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=82,slow=14,SNR=13							
ASAJ	**Asahikawa**	**8.16**	**251**	PN		**Pn**	**00 08 21.7**	**+0.6**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.51**	**232**	P		**Pn**	**00 09 58.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=32,slow=12,SNR=4.9							
MDJ	**Mudanjiang**	**16.73**	**270**	*e*P		**Pn**	**00 10 14.0**	**-0.5**
	comp=Z,3.8nm,0.5s							
YAK	**Yakutsk**	**20.00**	**326**	P		**P**	**00 10 50.6**	**-0.6**
KSRS	**Korea Array**	**21.11**	**252**	P		**P**	**00 11 04.5**	**+1.4**
	comp=Z,5.1nm,0.9s,mb3.8,baz=62,slow=11,SNR=7.8							
INCN	**Inchon**	**21.93**	**253**	P		**P**	**00 11 11.8**	**-0.1**
BJT	**Baijiatuan**	**27.66**	**269**	P		**P**	**00 12 05.5**	**+0.2**
TLY	**Talaya**	**32.10**	**297**	P		**P**	**00 12 43.7**	**-0.8**
TATO	**Taipei**	**33.64**	**240**	*e*P		**P**	**00 12 57.6**	**-0.3**
COLA	**College**	**35.65**	**39**	*e*P		**P**	**00 13 15.4**	**+0.2**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
COLA	**College**	**35.65**	**39**	*e*P		**P**	**00 13 15.4**	**+0.2**
	comp=Z,6.2nm,0.8s,mb4.6							
INK	**Inuvik**	**41.15**	**33**	P		**P**	**00 14 01.4**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.1,baz=260,slow=4.3,SNR=7.5							
INK	**Inuvik**	**41.15**	**33**	P		**P**	**00 14 01.4**	**+0.1**
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**41.15**	**33**	*e*P		**P**	**00 14 01.8**	**+0.5**
	comp=Z,85nm,0.8s,mb5.6							
MKAR	**Makanchi Array**	**46.86**	**297**	P		**P**	**00 14 46.5**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.3,baz=76,slow=9.7,SNR=3.2							
RES	**Resolute Bay**	**50.31**	**19**	P		**P**	**00 15 13.7**	**+0.2**
CM31	**Chiang Mai Arr**	**52.65**	**256**	*e*P		**P**	**00 15 30.5**	**-0.3**
	comp=Z,17nm,0.6s,mb5.2							
ARU	**Arti**	**54.76**	**317**	*e*P		**P**	**00 15 46.4**	**+0.1**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
ARU	**Arti**	**54.76**	**317**	*e*P		**P**	**00 15 46.4**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**57.44**	**341**	P		**P**	**00 16 04.5**	**-0.9**
	comp=Z,6.5nm,1.1s,mb4.6,baz=22,slow=7.8,SNR=6.1							
ARCES	**ARCESS Array B**	**57.44**	**341**	P		**P**	**00 16 04.5**	**-0.9**
ARCES				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ARCES	**ARCESS Array B**	**57.44**	**341**	P		**P**	**00 16 04.5**	**-0.9**
FINES	**FINESS Array B**	**63.66**	**335**	P		**P**	**00 16 47.5**	**-0.2**
	comp=Z,0.9nm,0.3s,mb4.0,baz=34,slow=7.5,SNR=18							
FINES	**FINESS Array B**	**63.66**	**335**	P		**P**	**00 16 47.5**	**-0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NB2	**NORSAR Subarra**	**67.81**	**341**	P		**P**	**00 17 14.3**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.81**	**341**	P		**P**	**00 17 14.6**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.3,baz=26,slow=6.3,SNR=12							
NOA	**NORSAR Array B**	**67.81**	**341**	P		**P**	**00 17 14.6**	**+0.2**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NOA	**NORSAR Array B**	**67.81**	**341**	P		**P**	**00 17 14.6**	**+0.2**
AKASG	**Malin Array Be**	**71.23**	**326**	P		**P**	**00 17 35.1**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.1,baz=27,slow=5.9,SNR=5.5							
AKASG	**Malin Array Be**	**71.23**	**326**	P		**P**	**00 17 35.2**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**72.73**	**199**	P		**P**	**00 17 44.5**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=13,slow=5.8,SNR=4.1							
ASAR	**Alice Springs**	**72.73**	**199**	P		**P**	**00 17 44.5**	**+0.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CLL	**Collm**	**76.08**	**336**	*e*P		**P**	**00 18 04.0**	**+0.2**
TXAR	**Lajitas Array**	**77.11**	**61**	P		**P**	**00 18 09.8**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.6,baz=289,slow=4.8,SNR=8.9							
TXAR	**Lajitas Array**	**77.11**	**61**	P		**P**	**00 18 09.8**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**78.14**	**317**	P		**P**	**00 18 17.1**	**+1.8**
	comp=Z,0.5nm,0.7s,mb3.3,baz=57,slow=4.6,SNR=3.7							
BRTR	**Keskin Array B**	**78.14**	**317**	P		**P**	**00 18 17.1**	**+1.8**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CFAA	**Coronel Fontan**	**144.74**	**79**	PKP	PKPdf		00 25 50.4	-1.9	
	comp=Z,0.2nm,0.6s,baz=326,slow=3.1,SNR=4.6								

ISCJB ***16*** *00:07:32.7±0.6, 46.0N±0.1×153.52E±0.09, h10km, mb4.1/19, Error ellipse: s-maj=15.2km s-min=8.9km az=147.3*
BJI ***16*** *00:07:32.3, 46.35N×153.89E, h17km, mB4.7, mb4.3*
IDC ***16*** *00:07:32.6±1.0, 45.89N×153.57E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.0/12, Error ellipse: s-maj=29.0km s-min=21.2km az=2.0*
NEIC ***16*** *00:07:33.7±0.5, 45.80N×153.61E, h10km, mb4.4/6, Error ellipse: s-maj=12.2km s-min=8.7km az=158.0*
MOS ***16*** *00:07:35.2±1.1, 45.95N×153.42E, h27km, mb4.3/15, Error ellipse: s-maj=15.3km s-min=10.2km az=115.0*

ISC 16 00:07:34.5±5.3, 459N±01×1535E±01, h11km±32km, n54, σ0=90/53, mb4.1/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.51**	**282**	*e*PN		**Pn**	**00 09 23.4**	**-0.5**
YSS				pmax	pmax			
	comp=Z,7.0nm,0.4s							
YSS	**Yuzh-Sakhalins**	**7.51**	**282**	*e*Pn		**Pn**	**00 09 23.4**	**-0.6**
	comp=Z,7.3nm,0.4s							
PET	**Petropavlovsk**	**7.84**	**23**	PN		**Pn**	**00 09 28.7**	**+0.3**
MAJO	**Matsushiro**	**14.84**	**236**	*e*P		**Pn**	**00 11 13.4**	**+9.2**
MAT	**Matsushiro**	**14.84**	**236**	P		**Pn**	**00 11 13.1**	**+8.9**
KLR	**Kul'dur**	**15.05**	**291**	*e*P		**Pn**	**00 11 06.4**	**-0.7**
MDJ	**Mudanjiang**	**16.89**	**274**	*e*Pn		**Pn**	**00 11 32.3**	**+1.5**
	comp=Z,4.7nm,0.5s							
BILL	**Bilibino**	**23.12**	**12**	*e*P		**P**	**00 12 41.8**	**+1.3**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.9							
BILL	**Bilibino**	**23.12**	**12**	P		**P**	**00 12 42.3**	**+1.8**
BOD	**Bodaibo**	**26.73**	**311**	*e*P		**P**	**00 13 11.7**	**-2.2**
ULN	**Ulaanbaatar**	**31.45**	**291**	P		**P**	**00 13 56.7**	**+0.9**
SONM	**Songino Array**	**31.88**	**291**	P		**P**	**00 13 58.4**	**-1.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=81,slow=8.9,SNR=4.5							
SONM	**Songino Array**	**31.88**	**291**	P		**P**	**00 13 58.4**	**-1.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TLY	**Talaya**	**32.81**	**299**	*e*P		**P**	**00 14 07.5**	**-0.3**
COLA	**College**	**36.60**	**38**	*e*P		**P**	**00 14 39.4**	**-1.2**
ENH	**Enshi**	**37.51**	**261**	P		**P**	**00 14 48.9**	**+0.6**
GTA	**Gaotai**	**39.39**	**280**	*e*P		**P**	**00 15 05.5**	**+1.4**
GTA				AP	pP		00 15 10.0	+2.5	
GTA				XP	sP		00 15 13.1	+4.2	
GTA				AMB	AMB				
	comp=Z,5.0nm,1.0s,mb4.2								
INK	**Inuvik**	**42.19**	**32**	P		**P**	**00 15 26.6**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.8,baz=258,slow=7.3,SNR=4.5								
INK	**Inuvik**	**42.19**	**32**	P		**P**	**00 15 26.6**	**-0.6**
INK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	**47.58**	**298**	*e*P		**P**	**00 16 09.7**	**-0.4**
MK31				*e*			00 16 22.3		
MKAR	**Makanchi Array**	**47.58**	**298**	P		**P**	**00 16 09.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=62,slow=8.0,SNR=14								
MKAR	**Makanchi Array**	**47.58**	**298**	P		**P**	**00 16 10.0**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P		**P**	**00 16 36.6**	**-1.0**
CHKZ				*e*			00 16 50.0		
CHKZ				pmax	pmax				
	comp=Z,16nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P		**P**	**00 16 36.6**	**-1.0**
	comp=Z,16nm,0.6s,mb5.1								
CHKZ				*e*			00 16 50.0		
BVAR	**Borovoye Array**	**51.60**	**310**	P		**P**	**00 16 40.1**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.3,baz=51,slow=6.3,SNR=13								
BVAR	**Borovoye Array**	**51.60**	**310**	P		**P**	**00 16 40.1**	**-0.7**

BVAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BRVK	**Borovoye**	**51.64**	**310**	*e*P		**P**	**00 16 40.9**	**-0.2**
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4								
BRVK	**Borovoye**	**51.64**	**310**	*e*P		**P**	**00 16 40.9**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.3								
ZRNK	**Zerenda**	**52.37**	**310**	*e*P		**P**	**00 16 46.3**	**-0.3**
ZRNK				*e*			00 16 59.3		
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**52.37**	**310**	*e*P		**P**	**00 16 46.2**	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.4								
ZRNK				*e*			00 16 59.3		
AAK	**Ala-Archa**	**54.46**	**297**	*e*P		**P**	**00 17 02.5**	**+0.6**
AAK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
AAK	**Ala-Archa**	**54.46**	**297**	*e*P		**P**	**00 17 02.5**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.2								
PMG	**Port Moresby**	**55.38**	**188**	*e*P		**P**	**00 17 05.0**	**-3.6**
ARCES	**ARCESS Array B**	**58.72**	**341**	P		**P**	**00 17 33.4**	**+1.2**
	comp=Z,4.0nm,0.9s,mb4.4,baz=32,slow=7.5,SNR=3.6								
ARCES	**ARCESS Array B**	**58.72**	**341**	P		**P**	**00 17 33.4**	**+1.2**
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	**64.90**	**335**	P		**P**	**00 18 13.4**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=29,slow=8.7,SNR=6.0								
FINES	**FINESS Array B**	**64.90**	**335**	P		**P**	**00 18 13.4**	**-0.4**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
PDAR	**Pinedale Array**	**65.00**	**54**	P		**P**	**00 18 14.2**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=300,slow=2.9,SNR=7.7								
SRU	**San Rafael**	**66.81**	**57**	*e*P		**P**	**00 18 26.3**	**+0.1**
SRU				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
SRU	**San Rafael**	**66.81**	**57**	*e*P		**P**	**00 18 26.3**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.4								
WRAB	**Tennant Creek**	**67.83**	**199**	P		**P**	**00 18 32.0**	**-0.6**
NB2	**NORSAR Subarra**	**69.09**	**341**	P		**P**	**00 18 41.8**	**+1.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.09**	**341**	P		**P**	**00 18 40.9**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=27,slow=6.4,SNR=3.2								
NOA	**NORSAR Array B**	**69.09**	**341**	P		**P**	**00 18 40.9**	**+0.4**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**71.53**	**199**	P		**P**	**00 18 56.0**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=7.4,SNR=5.4								
ASAR	**Alice Springs**	**71.53**	**199**	P		**P**	**00 18 56.0**	**+0.6**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	**71.57**	**315**	P		**P**	**00 18 55.9**	**+0.2**
KIV	**Kislovods

VNA2 Neumayer--Watz 45.29 168 *e* **P** **00 26 28.9 -0.2**
VNA2 *e* pP 00 26 33.5 +1.3
VNA2 *e* 00 26 42.9
VNA1 Neumayer--Stat 45.47 168 *e* **P** **00 26 31.8 +1.3**
VNA1 *e* 00 26 36.8
VNA1 *e* 00 26 45.4
PPT Papeete 45.96 16 *e*S **S** **00 33 23.8 +4.6**
comp=Z,1µm,25.5s
PPT *e*LQ 00 37 18.2
comp=Z,10µm,29.5s
PPT *e*LR LR 00 39 25.5
comp=Z,10µm,25.0s,baz=193
PPT Papeete 45.96 16 LR LR 00 40 38.0
comp=Z,3µm,20.2s,MS5.3,baz=190,slow=30
MAW Mawson 46.01 202 P **P** **00 26 35.9 +1.2**
comp=Z,2.6nm,1.0s,mb4.1,baz=205,slow=11,SNR=4.4
MAW LR LR 00 44 48.2
comp=Z,2µm,18.0s,MS5.2,baz=149,slow=35
MAW Mawson 46.01 202 *e*P **P** **00 26 35.6 +0.8**
comp=Z,22nm,1.4s,mb4.9
DZM Mont Dzumac 46.21 317 P **P** **00 26 37.6 +1.2**
comp=Z,10nm,1.1s,mb4.7,baz=122,slow=16,SNR=3.9
STKA Stephens Creek 47.22 283 P **P** **00 26 45.1 +0.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=132,slow=13,SNR=7.7
STKA LR LR 00 42 40.8
comp=Z,3µm,20.1s,MS5.2,baz=144,slow=31
RPN Rapa Nui 49.10 68 P **P** **00 27 10.2 +11**
RPN *e*S **S** **00 34 09.2 +5.4**
RPN LR LR
comp=Z,2µm,22.0s,MS5.0
AFI Afiamalu 49.42 347 LR LR 00 45 23.4
comp=Z,3µm,18.7s,MS5.3,baz=212,slow=33
AFI Afiamalu 49.42 347 P **P** **00 27 00.9 -0.3**
AFI *e*S **S** **00 34 12.6 +4.3**
AFI LR LR
comp=Z,3µm,20.0s,MS5.3
EFI East Falkland 50.98 129 PFAKE 00 27 20.0 +6.9
EFI LR LR
comp=Z,477nm,19.0s,MS4.5
CTAO Charters Tower 55.50 295 PFAKE 00 28 00.0 +14
CTAO LR LR
comp=Z,1µm,19.0s,MS5.0
HOPE Hope Point 55.53 144 PFAKE 00 28 00.0 +13
HOPE LR LR
comp=Z,883nm,20.0s,MS4.8
TAOE Nuku Hiva Isla 56.03 26 *e*S **S** **00 35 46.5 +7.9**
comp=Z,2µm,26.5s
TAOE *e*LQ 00 41 41.5
comp=Z,6µm,26.4s
TAOE *e*LR LR 00 44 00.5
comp=Z,10µm,26.6s,baz=212
NWAO Narrogin (SRO) 57.44 261 PFAKE 00 28 10.0 +10
NWAO LR LR
comp=Z,3µm,21.0s,MS5.3
AS31 Alice Springs 57.72 281 *e*P **P** **00 28 01.8 -0.4**
ASAR Alice Springs 57.72 281 P **P** **00 28 01.1 -1.1**
comp=Z,2.4nm,0.9s,mb4.2,baz=149,slow=6.5,SNR=24
ASAR LR LR 00 49 09.3
comp=Z,4µm,21.4s,MS5.5,baz=156,slow=32
HNR Honiara 60.14 315 PFAKE 00 28 30.0 +11
HNR LR LR
comp=Z,984nm,20.0s,MS5.0
WRA Warramunga Arr 60.77 284 P **P** **00 28 21.2 -2.1**
comp=Z,1.3nm,0.7s,mb4.2,baz=156,slow=5.7,SNR=5.7
WRA LR LR 00 52 30.8
comp=Z,2µm,18.1s,MS5.3,baz=160,slow=34
TRQA Tornquist 60.89 117 *e*P **P** **00 28 23.5 -0.6**
comp=Z,16nm,1.1s,mb5.1
TRQA LR LR
comp=Z,2µm,19.0s,MS5.3
CFAA Coronel Fontan 63.76 108 P **P** **00 28 41.8 -1.5**
comp=Z,0.5nm,0.8s,baz=211,slow=4.8,SNR=6.0
CFAA LR LR 00 50 27.6
comp=Z,164nm,19.5s,baz=224,slow=30
PMG Port Moresby 64.78 301 P **P** **00 28 49.6 -0.3**
comp=Z,4.1nm,0.8s,mb4.5,baz=289,slow=14,SNR=3.3
PMG Port Moresby 64.78 301 *e*P **P** **00 28 51.0 +1.0**
comp=Z,20nm,1.2s,mb5.0
PMG LR LR
comp=Z,1µm,19.0s,MS5.1
FITZ Fitzroy Crossi 66.31 277 P **P** **00 28 60.0 +0.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=187,slow=10,SNR=3.8
MBWA Marble Bar 66.36 270 PFAKE 00 29 10.0 +10
MBWA LR LR
comp=Z,3µm,19.0s,MS5.5
LVC Limon Verde 71.23 103 *e*P **P** **00 29 26.3 -4.3**
comp=Z,23nm,1.1s,mb5.0
LVC LR LR
comp=Z,2µm,21.0s,MS5.3
ARE Arequipa 75.44 98 *e*P **P** **00 29 56.0 +0.6**
NNA Nana 76.91 91 *e*P **P** **00 30 08.8 +5.1**
comp=Z,58nm,1.4s,mb5.3
NNA LR LR
comp=Z,623nm,22.0s,MS4.9
LPAZ La Paz 77.11 100 P **P** **00 30 06.4 +1.5**
comp=Z,2.8nm,0.9s,mb4.2,baz=136,slow=1.8,SNR=9.9
LPAZ LR LR 00 56 42.8
comp=Z,756nm,19.3s,MS5.0,baz=340,slow=30
LPAZ La Paz 77.11 100 *e*P **P** **00 30 05.9 +1.0**
comp=Z,22nm,1.1s,mb5.0
LPAZ LR LR
comp=Z,917nm,20.0s,MS5.1
TRIS Tristan da Cun 77.38 155 *e*P **P** **00 30 07.3 +0.9**
comp=Z,110nm,0.9s,mb5.8
TRIS LR LR
comp=Z,3µm,21.0s,MS5.5
PAYG Puerto Ayora 80.83 73 PFAKE 00 30 30.0 +4.8
PAYG LR LR
comp=Z,3µm,21.0s,MS5.6
POHA Pohakuloa 82.44 6 PFAKE 00 30 40.0 +6.2
POHA LR LR
comp=Z,3µm,19.0s,MS5.6
COCO West Island 84.58 254 *e*P **P** **00 30 47.3 +2.5**
COCO LR LR
comp=Z,423nm,22.0s,MS4.8
SUR Sutherland 85.10 182 *e*P **P** **00 30 45.0 -2.4**
comp=Z,76nm,1.3s,mb5.7
SUR LR LR
comp=Z,555nm,21.0s,MS4.9
SAML Samuel 85.81 101 *e*P **P** **00 30 47.0 -3.9**
comp=Z,4.1nm,1.0s,mb4.6
SAML LR LR
comp=Z,1µm,22.0s,MS5.2
GUMO Guam 86.78 308 PFAKE 00 31 10.0 +14
GUMO LR LR
comp=Z,539nm,19.0s,MS5.0
OTAV Otavalo 86.95 84 P **P** **00 30 50.7 -5.9**
comp=Z,14nm,1.3s,mb5.0
OTAV LR LR
comp=Z,830nm,20.0s,MS5.1
DAV Davao City (W) 88.63 288 PFAKE 00 31 20.0 +15
DAV LR LR
comp=Z,433nm,20.0s,MS4.9
BOSA Boshof 88.71 186 P **P** **00 31 02.0 -3.0**
comp=Z,3.0nm,0.9s,mb4.6,baz=175,slow=8.8,SNR=3.6
BOSA Boshof 88.71 186 P **P** **00 31 03.3 -1.6**
comp=Z,18nm,1.3s,mb5.2
BOSA LR LR
comp=Z,4µm,19.0s,MS5.8
LBTB Lobatse 92.28 186 P **P** **00 31 22.3 +0.7**
comp=Z,18nm,1.4s,mb5.2
LBTB LR LR
comp=Z,3µm,19.0s,MS5.8
ROSC El Rosal 92.91 85 LR LR 01 05 09.2
comp=Z,878nm,20.2s,MS5.2,baz=93,slow=30
JTS JuntasAbangare 92.94 73 PFAKE 00 31 30.0 +5.4
JTS LR LR
comp=Z,472nm,19.0s,MS5.0
TGUH Tegucigalpa,Un 95.28 70 PFAKE 00 31 40.0 +4.6
TGUH LR LR
comp=Z,478nm,21.0s,MS4.9
SDV Santo Domingo 98.16 87 PFAKE 00 32 00.0 +12
SDV LR LR
comp=Z,860nm,20.0s,MS5.2
TSUM Tsumeb 98.23 179 PFAKE 00 32 00.0 +11
TSUM LR LR
comp=Z,5µm,19.0s,MS6.0
DGAR Diego Garcia 98.92 234 PFAKE 00 32 00.0 +8.2
DGAR LR LR
comp=Z,298nm,20.0s,MS4.8
SHEL Horse Pasture 99.16 156 PFAKE 00 32 00.0 +7.1
SHEL LR LR
comp=Z,242nm,19.0s,MS4.7
RCBR Riachuelo 100.08 125 PFAKE 00 32 10.0 +13
RCBR LR LR
comp=Z,1µm,19.0s,MS5.5
TEIG Tepich 100.35 66 PFAKE 00 32 10.0 +12
TEIG LR LR
comp=Z,1µm,22.0s,MS5.3
SNCC San Nicolas Is 101.43 35 PFAKE 00 32 10.0 +7.0
SNCC LR LR
comp=Z,2µm,20.0s,MS5.6
LSZ Lusaka 101.78 189 PFAKE 00 32 20.0 +15
LSZ LR LR
comp=Z,2µm,22.0s,MS5.5
PFO Pinyon Flat Ob 102.60 37 PFAKE 00 32 20.0 +12
PFO LR LR
comp=Z,323nm,20.0s,MS4.8
LTX Lajitas 102.63 49 PFAKE 00 32 20.0 +12
LTX LR LR
comp=Z,736nm,21.0s,MS5.2
TUC Tucson 103.04 42 PFAKE 00 32 20.0 +10
TUC LR LR
comp=Z,620nm,19.0s,MS5.2
ISA Isabella 103.99 35 PFAKE 00 32 20.0 +5.6
ISA LR LR
comp=Z,334nm,21.0s,MS4.8
MNTX Cornudas Mount 104.21 47 PFAKE 00 32 20.0 +4.6
MNTX LR LR
comp=Z,536nm,20.0s,MS5.1
SAO San Andreas Ge 104.28 32 PFAKE 00 32 20.0 +4.3
SAO LR LR
comp=Z,1µm,19.0s,MS5.5
DAC Darwin (Calif) 104.80 35 PFAKE 00 32 30.0 +12
DAC LR LR
comp=Z,1µm,20.0s,MS5.5
JCT Junction City 105.04 52 PFAKE 00 32 30.0 +11
JCT LR LR
comp=Z,582nm,20.0s,MS5.1
CMB Columbia Colle 105.75 33 PFAKE 00 36 40.0 +5.0
CMB LR LR
comp=Z,1µm,20.0s,MS5.4
HOPS Hopland 106.02 30 PFAKE 00 36 50.0 +14
HOPS LR LR
comp=Z,2µm,19.0s,MS5.6
HKT Hockley 106.03 55 PFAKE 00 36 50.0 +14
HKT LR LR
comp=Z,465nm,20.0s,MS5.0
QIZ Qiongzhong 106.20 280 PDIF Pdif 00 32 26.6 +2.4
QIZ PP PP 00 36 51.9 +3.8
QIZ S Sdif 00 44 26.9 +3.8
QIZ LR LR
comp=N,349nm,25.1s,MS4.9
QIZ LR LR
comp=E,304nm,25.8s,MS4.9
QIZ LR LR
comp=Z,657nm,27.9s,MS5.0
QIZ Qiongzhong 106.20 280 PFAKE 00 36 50.0 +14
QIZ LR LR
comp=Z,3µm,22.0s,MS5.8
TATO Taipei 106.30 293 PFAKE 00 36 50.0 +14
TATO LR LR
comp=Z,564nm,19.0s,MS5.1
TPH Tonopah 106.59 35 PFAKE 00 36 50.0 +13
TPH LR LR
comp=Z,1µm,19.0s,MS5.5
ANMO Albuquerque 106.84 45 PFAKE 00 36 50.0 +13
ANMO LR LR
comp=Z,649nm,19.0s,MS5.2
BBGH Gun Hill 106.97 94 PFAKE 00 36 50.0 +13
BBGH LR LR
comp=Z,1µm,20.0s,MS5.4
MSEY Mahe Island 107.12 219 PFAKE 00 36 50.0 +12
MSEY LR LR
comp=Z,223nm,19.0s,MS4.7
WDC Whiskeytown Da 107.65 30 PFAKE 00 36 50.0 +11
WDC LR LR
comp=Z,2µm,20.0s,MS5.6
MVCO Mesa Verde 108.28 42 PFAKE 00 36 50.0 +10
MVCO LR LR
comp=Z,899nm,19.0s,MS5.3
MVU Marysvale 108.37 39 PFAKE 00 36 50.0 +10
MVU LR LR
comp=Z,928nm,20.0s,MS5.3
AMTX Amarillo 108.37 48 PFAKE 00 36 50.0 +10
AMTX LR LR
comp=Z,651nm,19.0s,MS5.2
YBH Yreka Blue Hor 108.71 30 PFAKE 00 36 50.0 +9.5
YBH LR LR
comp=Z,1µm,19.0s,MS5.5
BMN Battle Mountai 108.81 34 PFAKE 00 36 50.0 +9.3
BMN LR LR
comp=Z,938nm,19.0s,MS5.4
PALK Pallekele 108.98 248 PFAKE 00 36 50.0 +9.0
PALK LR LR
comp=Z,313nm,20.0s,MS4.9
MOD Modoc 109.43 31 PFAKE 00 36 50.0 +8.1
MOD LR LR
comp=Z,675nm,19.0s,MS5.2
HUMO Hull Mountain 109.49 29 PFAKE 00 36 50.0 +8.0
HUMO LR LR
comp=Z,1µm,19.0s,MS5.5
ELK Elko 109.62 36 PFAKE 00 36 50.0 +7.8
ELK LR LR
comp=Z,2µm,19.0s,MS5.7
SDCO Great Sand Dun 109.71 44 PFAKE 00 36 50.0 +7.6
SDCO LR LR
comp=Z,709nm,20.0s,MS5.2
DUG Dugway 109.77 38 PFAKE 00 36 50.0 +7.5
DUG LR LR
comp=Z,1µm,20.0s,MS5.4
MPU Maple Canyon 109.94 39 PFAKE 00 36 50.0 +7.2
MPU LR LR
comp=Z,933nm,19.0s,MS5.4
MAJO Matsushiro 110.15 312 PFAKE 00 36 50.0 +6.8
MAJO LR LR
comp=Z,695nm,19.0s,MS5.2
DWPF Disney 110.20 68 PFAKE 00 36 50.0 +6.7
DWPF LR LR
comp=Z,835nm,19.0s,MS5.3
CTU Camp Tracy 110.53 38 *e*Pdif Pdif 00 32 44.1 +0.6
CM31 Chiang Mai Arr 110.68 270 PFAKE 00 37 00.0 +16
CM31 LR LR
comp=Z,636nm,19.0s,MS5.2
CHTO Chiang Mai 110.99 270 PFAKE 00 37 00.0 +15
CHTO LR LR
comp=Z,863nm,22.0s,MS5.3
HWUT Hardware Ranch 111.43 38 PFAKE 00 37 00.0 +14
HWUT LR LR
comp=Z,999nm,19.0s,MS5.4
ISCO Idaho Springs 111.55 43 PFAKE 00 37 00.0 +14
ISCO LR LR
comp=Z,692nm,19.0s,MS5.3
HLID Hailey 112.47 35 PFAKE 00 37 00.0 +12
HLID LR LR
comp=Z,1µm,20.0s,MS5.6
OXF Oxford 112.55 58 PFAKE 00 37 00.0 +12
OXF LR LR
comp=Z,701nm,20.0s,MS5.2
CBKS Cedar Bluff 112.58 48 PFAKE 00 37 00.0 +12
CBKS LR LR
comp=Z,630nm,19.0s,MS5.2
AHID Auburn Hatcher 112.64 38 PFAKE 00 37 00.0 +12
AHID LR LR
comp=Z,689nm,19.0s,MS5.3
BMO Blue Mountains 112.94 32 PFAKE 00 37 00.0 +11
BMO LR LR
comp=Z,873nm,19.0s,MS5.4
BW06 Boulder Array 113.08 39 PFAKE 00 37 00.0 +11
BW06 LR LR
comp=Z,933nm,20.0s,MS5.4
ERM Erimo 113.50 318 PFAKE 00 37 00.0 +10
ERM LR LR
comp=Z,373nm,19.0s,MS5.0
NJ2 Nanjing 113.60 294 *e*PKP PKiKP 00 36 45.6 -4.2
NLWA Neilton Lookou 113.85 27 PFAKE 00 37 00.0 +10
NLWA LR LR
comp=Z,5µm,22.0s,MS6.0
HAWA Hanford 113.86 30 PFAKE 00 37 00.0 +10
HAWA LR LR
comp=Z,2µm,19.0s,MS5.8
KSU1 Kansas State U 113.93 50 PFAKE 00 37 00.0 +10
KSU1 LR LR
comp=Z,700nm,21.0s,MS5.2
MDRS Chennai 114.36 250 *e*x x 00 36 56.6
LKWY Lake 114.49 38 PFAKE 00 37 00.0 +8.5
LKWY LR LR
comp=Z,885nm,19.0s,MS5.4
KMBO Kilima Mbogo 114.68 201 PFAKE 00 37 00.0 +8.1
KMBO LR LR
comp=Z,2µm,20.0s,MS5.6
KMI Kunming 114.72 277 PKP PKiKP 00 36 52.0 +0.1
CCM Cathedral Cave 114.96 55 PFAKE 00 37 00.0 +7.6
CCM LR LR
comp=Z,599nm,19.0s,MS5.2
BOZ Bozeman (W) 115.15 36 PFAKE 00 37 00.0 +7.2
BOZ LR LR
comp=Z,1µm,22.0s,MS5.4
INCN Inchon 115.20 303 PFAKE 00 37 00.0 +7.1
INCN LR LR
comp=Z,445nm,19.0s,MS5.1
MSKU Masuku 115.56 174 PFAKE 00 37 00.0 +6.5
MSKU LR LR
comp=Z,6.0nm,20.0s
MSO Missoula 115.63 34 PFAKE 00 37 00.0 +6.3
MSO LR LR
comp=Z,936nm,19.0s,MS5.4
NEW Newport 116.18 31 PFAKE 00 37 00.0 +5.3
NEW LR LR
comp=Z,1µm,20.0s,MS5.6
UNV Unalaska Valle 116.42 357 PFAKE 00 37 00.0 +4.8
UNV LR LR
comp=Z,4µm,19.0s,MS6.1
SMY Shemya 116.84 344 PFAKE 00 37 10.0 +14
SMY LR LR
comp=Z,855nm,20.0s,MS5.4
SCIA State Center 117.61 51 PFAKE 00 37 10.0 +12
SCIA LR LR
comp=Z,668nm,20.0s,MS5.3
LAO LASA Array 117.63 40 PFAKE 00 37 10.0 +12
LAO LR LR
comp=Z,902nm,20.0s,MS5.4
EGMT Eagleton 117.84 36 PFAKE 00 37 10.0 +12
EGMT LR LR
comp=Z,1µm,20.0s,MS5.6
CNNC Cliffs of the 117.87 67 PFAKE 00 37 10.0 +12
CNNC LR LR
comp=Z,1µm,22.0s,MS5.4
ECSD EROS,Sioux Fal 118.03 48 PFAKE 00 37 10.0 +12
ECSD LR LR
comp=Z,708nm,20.0s,MS5.3
YSS Yuzh-Sakhalins 118.10 320 PFAKE 00 37 10.0 +12
YSS LR LR
comp=Z,1µm,21.0s,MS5.5
BLA Blacksburg 118.50 64 PFAKE 00 37 10.0 +11
BLA LR LR
comp=Z,870nm,20.0s,MS5.4
CD2 Chengdu 119.20 281 *e*PKP PKPdf 00 36 58.1 -2.5
CD2 XPKP 00 37 05.3
CD2 PP PP 00 38 25.1 +4.2
CD2 PKS 00 40 33.5
CD2 PP PP
comp=Z,290nm,10.2s
CD2 LR LR
comp=N,570nm,22.8s,MS5.3
CD2 LR LR
comp=E,500nm,20.4s,MS5.3
CD2 LR LR
comp=Z,550nm,21.6s,MS5.2
JFWS Jewell Farm 119.57 53 PFAKE 00 37 10.0 +8.7
JFWS LR LR
comp=Z,587nm,20.0s,MS5.2
PET Petropavlovsk 119.72 333 PFAKE 00 37 10.0 +8.5
PET LR LR
comp=Z,1µm,19.0s,MS5.5
DGMT Dagmar 119.83 40 PFAKE 00 37 10.0 +8.2
DGMT LR LR
comp=Z,956nm,20.0s,MS5.4
KDAK Kodiak Island 120.48 5 PFAKE 00 37 10.0 +7.0
KDAK LR LR
comp=Z,531nm,22.0s,MS5.1
CBN Corbin 120.61 66 PFAKE 00 37 10.0 +6.7
CBN LR LR
comp=Z,993nm,22.0s,MS5.4
MCWV Mont Chateau 120.82 63 PFAKE 00 37 10.0 +6.3
MCWV LR LR
comp=Z,1µm,19.0s,MS5.5
BBSR BB Station 121.22 79 PFAKE 00 37 10.0 +5.6
BBSR LR LR
comp=Z,597nm,20.0s,MS5.2
SIT Sitka 121.25 16 PFAKE 00 37 10.0 +5.5
SIT LR LR
comp=Z,2µm,19.0s,MS5.8
BJT Baijiatuan 121.54 297 PFAKE 00 37 20.0 +15
BJT LR LR
comp=Z,675nm,19.0s,MS5.3
AAM Ann Arbor 121.54 58 PFAKE 00 37 10.0 +5.0
AAM LR LR
comp=Z,536nm,20.0s,MS5.2
AGMN Agassiz Refuge 122.28 46 PFAKE 00 37 20.0 +14
AGMN LR LR
comp=Z,718nm,20.0s,MS5.3
SSPA Standing Stone 122.44 64 PFAKE 00 37 20.0 +13
SSPA LR LR
comp=Z,739nm,19.0s,MS5.4
EYMN Ely 123.46 49 PFAKE 00 37 20.0 +11
EYMN LR LR
comp=Z,615nm,19.0s,MS5.3
LZH Lanzhou 123.52 284 *e*P PKPdf 00 37 06.5 -2.4
LZH pP 00 37 10.2
LZH sP 00 37 12.5
LSA Lhasa 123.93 270 PFAKE 00 37 20.0 +10
LSA LR LR
comp=Z,323nm,22.0s,MS4.9
ULM Lac du Bonnet 123.97 45 PFAKE 00 37 20.0 +10
ULM LR LR
comp=Z,1µm,19.0s,MS5.5
DIV Divide 124.21 9 PFAKE 00 37 20.0 +10
DIV LR LR
comp=Z,6µm,20.0s,MS6.3
PMR Palmer 124.46 7 PFAKE 00 37 20.0 +9.4
PMR LR LR
comp=Z,2µm,19.0s,MS5.7
BINY Binghamton 124.53 64 PFAKE 00 37 20.0 +9.2
BINY LR LR
comp=Z,534nm,22.0s,MS5.2
MCK McKinley 126.60 7 PFAKE 00 37 20.0 +5.3
MCK LR LR
comp=Z,785nm,19.0s,MS5.4
HRV Harvard--Oak R 126.64 67 PFAKE 00 37 20.0 +5.2
HRV LR LR
comp=Z,1µm,20.0s,MS5.5
WES Weston 126.64 67 PFAKE 00 37 20.0 +5.2
WES LR LR
comp=Z,791nm,19.0s,MS5.4
NCB Newcomb 126.72 64 PFAKE 00 37 20.0 +5.0
NCB LR LR
comp=Z,1µm,22.0s,MS5.5
LONY Lake Ozonia 127.11 63 PFAKE 00 37 30.0 +14
LONY LR LR
comp=Z,749nm,20.0s,MS5.4
MA2 Magadan 127.46 332 *e*PKPdf PKPdf 00 37 15.5 -0.9
MA2 LR LR
comp=Z,684nm,20.0s,MS5.3
COLA College 127.80 7 PFAKE 00 37 30.0 +13
COLA LR LR
comp=Z,1µm,20.0s,MS5.5
HIA Hailar 127.85 305 PFAKE 00 37 30.0 +13
HIA LR LR
comp=Z,584nm,20.0s,MS5.3
LBNH Lisbon 127.90 66 PFAKE 00 37 30.0 +13
LBNH LR LR
comp=Z,1µm,20.0s,MS5.5
EGAK Eagle 128.18 11 PFAKE 00 37 30.0 +12
EGAK LR LR
comp=Z,1µm,21.0s,MS5.6
TNA Tin City 128.19 357 PFAKE 00 37 30.0 +12
TNA LR LR
comp=Z,278nm,21.0s,MS4.9
TORD Torodi Ar. Bea 128.93 159 PKP PKPdf 00 37 17.7 -1.5
comp=Z,1.0nm,0.9s,baz=202,slow=3.6,SNR=3.7
PKME Peaks-Kenny Pk 129.83 67 PFAKE 00 37 30.0 +9.1
PKME LR LR
comp=Z,1µm,19.0s,MS5.5
ULN Ulaanbaatar 131.73 296 PFAKE 00 37 30.0 +5.5
ULN LR LR
comp=Z,548nm,19.0s,MS5.3
BILL Bilibino 132.65 344 PFAKE 00 37 40.0 +14
BILL LR LR
comp=Z,988nm,21.0s,MS5.5
TLY Talaya 136.08 297 PFAKE 00 37 40.0 +7.3
TLY LR LR
comp=Z,150nm,19.0s,MS4.7
WMQ Urumqi 137.05 277 ⇑PKP PKPdf 00 37 29.8 -4.7
WMQ XPKP 00 37 41.0
WMQ PP PP 00 40 18.5 +0.3
WMQ PP PP

comp=Z,135nm,6.6s
WMQ LR LR
comp=N,320nm,23.8s,MS5.1
WMQ LR LR
comp=E,234nm,23.8s,MS5.1
WMQ LR LR
comp=Z,273nm,26.2s,MS4.9
SCHQ Schefferville 138.20 60 PFAKE 00 37 50.0 +13
SCHQ LR LR
comp=Z,914nm,20.0s,MS5.5
MKAR Makanchi Array 141.78 276 PKP PKPdf 00 37 41.2 -1.8
comp=Z,0.8nm,0.7s,baz=98,slow=2.6,SNR=4.1
AAK Ala-Archa 142.17 265 PFAKE
AAK LR LR
comp=Z,142nm,21.0s,MS4.7
EIL Elat 145.18 205 *e*PKPdf PKPdf 00 37 47.0 -2.1
ZAL Zalesovo 145.72 286 PKPbc PKPbc 00 37 48.2 -2.2
comp=Z,1.1nm,0.5s,baz=11,slow=5.2,SNR=5.3
ZAL Zalesovo 145.72 286 PKPbc PKPbc 00 37 48.2 -2.2
BVAR Borovoye Array 151.62 274 PKPbc PKPbc 00 38 03.8 -2.0
comp=Z,4.9nm,0.7s,baz=177,slow=2.7,SNR=18
BRVK Borovoye 151.69 274 *e*PKPbc PKPbc 00 38 04.0 -1.9
BRVK LR LR
comp=Z,209nm,22.0s,MS4.9
SFJD Kangerlussuaq 151.73 51 PFAKE 00 38 10.0 +10
SFJD LR LR
comp=Z,1μm,22.0s,MS5.6
CHKZ Chkalovo 151.94 275 *e*PKPbc PKPbc 00 38 03.7 -2.8
ZRNK Zerenda 152.21 273 *e*PKPdf PKPdf 00 37 57.6 -2.8
ZRNK *e*PKPbc PKPbc 00 38 04.1 -3.0
GNI Garni 152.45 227 PFAKE 00 38 10.0 +9.2
GNI LR LR
comp=Z,788nm,22.0s,MS5.5
PAB San Pablo 152.88 138 PFAKE 00 38 10.0 +8.6
PAB LR LR
comp=Z,849nm,20.0s,MS5.5
ESDC Sonseca Array 153.11 139 PKPbc PKPbc 00 38 09.1 0.0
comp=Z,1.8nm,0.8s,baz=232,slow=1.9,SNR=5.2
ESLA Sonseca Array 153.11 139 PFAKE 00 38 10.0 +8.3
ESLA LR LR
comp=Z,6μm,21.0s
BR131 Keskin Array S 155.16 208 PFAKE 00 38 10.0 +5.4
BR131 LR LR
comp=Z,468nm,19.0s,MS5.3
BRTR Keskin Array B 155.16 208 PKPbc PKPdf 00 38 15.3 +11
comp=Z,1.8nm,1.0s,baz=106,slow=2.1,SNR=2.8
BRTR PKPab PKPab 00 38 30.8 +1.4
comp=Z,3.3nm,1.1s,baz=180,slow=4.8,SNR=3.9
ANTO Ankara 155.48 207 PFAKE 00 38 10.0 +4.9
ANTO LR LR
comp=Z,811nm,19.0s,MS5.6
KIV Kislovodsk 156.53 228 PFAKE 00 38 20.0 +14
KIV LR LR
comp=Z,207nm,20.0s,MS5.0
ARU Arti 159.13 270 PFAKE 00 38 20.0 +10
ARU LR LR
comp=Z,177nm,21.0s,MS4.9
KBS Kingsbay 163.70 5 PFAKE 00 38 20.0 +5.5
KBS LR LR
comp=Z,1μm,21.0s
BFO Black Forest 164.36 154 PFAKE 00 38 20.0 +4.9
BFO LR LR
comp=Z,683nm,21.0s
GRFO Grafenberg 166.20 159 PFAKE 00 38 30.0 +13
GRFO LR LR
comp=Z,920nm,21.0s
KIEV Kiev 166.55 210 PFAKE 00 38 30.0 +13
KIEV LR LR
comp=Z,1μm,21.0s
AKASG Malin Array Be 166.55 210 PKPab PKPab 00 39 19.8 +0.8
comp=Z,0.7nm,0.6s,baz=184,slow=4.9,SNR=5.9
OBN Obninsk 167.99 238 PFAKE 00 38 30.0 +12
OBN LR LR
comp=Z,221nm,20.0s
KEV Kevo 172.29 338 PFAKE 00 38 30.0 +10
KEV LR LR
comp=Z,974nm,20.0s
KONO Kongsberg 174.58 122 PFAKE 00 38 30.0 +8.8
KONO LR LR
comp=Z,1μm,19.0s

IDC 16 00:21:49.4±16.0, 4616N×15334E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, MS4.4/1, Ms1 4.4/1, ms1mx3.7/33, Error ellipse: s-maj=389.0km s-min=70.1km az=159.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**43.10**	**306**	P	P	00 29 51.1	-0.2
	0.8nm,0.4s,baz=145,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**47.36**	**298**	P	P	00 30 24.8	-0.3
	0.4nm,0.5s,baz=67,slow=9.0,SNR=5.8						
BVAR	**Borovoye Array**	**51.36**	**310**	P	P	00 30 55.1	-0.6
	0.4nm,0.4s,baz=43,slow=6.9,SNR=4.6						
FINES	**FINESS Array B**	**64.64**	**335**	P	P	00 32 28.4	-0.5
	0.7nm,0.5s,baz=43,slow=8.6,SNR=7.5						
NB2	**NORSAR Subarra**	**68.84**	**341**	P	P	00 32 55.3	-0.3
	comp=Z,1.0nm,0.6s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.84**	**341**	P	P	00 32 55.2	-0.4
	comp=Z,1.3nm,0.8s,baz=28,slow=6.5,SNR=3.3						
AKASG	**Malin Array Be**	**72.12**	**326**	P	P	00 33 15.4	-0.3
	comp=Z,1.5nm,0.5s,baz=33,slow=6.2,SNR=6.4						

NIED **16** *00:22:00, 46.90N×153.90E, h32km, Mw5.1 Best double couple: M0 4.24000×10^16 NP1:φs227.00000°, δ64.00000°, λ95.00000°. NP2:φs35.00000°, δ26.00000°, λ79.00000°.*

BJI **16** *00:22:54.8, 4723N×15400E, h26km, mB5.1, mb4.9, Ms4.8, Msz4.7*

NEIC **16** *00:22:56.2±0.1, 47.16N×153.49E, h10km, mb5.3/82, MS4.5/3, Error ellipse: s-maj=4.6km s-min=2.9km az=163.0*

ISCJB **16** *00:22:58.4±0.1, 47.11N±003×153.54E±002, h38km, mb5.1/142, MS4.6/27, Error ellipse: s-maj=3.9km s-min=1.6km az=138.8*

MOS **16** *00:23:00.8±1.0, 47.13N×153.49E, h60km, mb5.3/64, MS4.5/14, Error ellipse: s-maj=6.5km s-min=4.4km az=93.8*

SZGRF **16** *00:23:02.2, 47.68N×154.41E, h33km, mb5.4, Kuril Islands, Russia*

IDC **16** *00:23:02.4±2.2, 47.17N×153.48E, h60km±18km, mb4.5/24, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, MS4.5/9, Ms1 4.5/9, ms1mx4.2/33, Error ellipse: s-maj=13.4km s-min=10.6km az=125.0*

SKHL **16** *00:23:02.2±0.2, 47.21N×153.70E, h59km±16km, mb5.7/3, mbh5.5/2, Ms4.8/6, msh5.7/5*

ISC 16 00:23:00.6±0.1, 4719N±002×15346E±002, h40km, h40km±2.9km:pP-P, n713, σ0:92/741, mb5.1/142, MS4.6/26, 94C-105D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.91**	**26**	*e*P	**Pn**	**00 23 58.0**	**-0.1**
SKR				AMB	AMB	00 23 59.4	
	180nm,0.5s						
SKR				AMB	AMB	00 23 59.4	
	90nm,0.5s						
SKR				AMB	AMB	00 23 59.4	
	390nm,0.5s						
SKR				*e*S	**Sn**	**00 24 40.0**	**-2.7**
SKR				A		00 24 48.0	
	1μm,0.5s						
SKR				A		00 24 48.0	
	650nm,0.6s						
SKR				A		00 24 48.0	
	5μm,1.0s						
SKR				A		00 24 49.0	
	8μm,2.0s						
SKR				A		00 24 49.0	
	2μm,2.0s						
SKR				A		00 24 49.0	
	8μm,2.0s						
SKR				AMS	AMS	00 25 50.0	
	5μm,10.0s						
SKR				AMS	AMS	00 25 50.0	
	6μm,10.0s						
SKR				AMS	AMS	00 25 50.0	
	6μm,10.0s						
SKR				AMS	AMS	00 25 50.0	
	5μm,10.0s						
KUR	**Kuril's k**	**4.35**	**245**	↓*i*P	**Pn**	**00 24 02.6**	**-1.5**
KUR				AMB	AMB	00 24 07.0	
	4μm,1.5s						
KUR				AMB	AMB	00 24 13.0	
	430nm,0.5s						
KUR				AMB	AMB	00 24 13.0	
	380nm,0.5s						
KUR				AMB	AMB	00 24 13.0	
	780nm,0.5s						
KUR				*i* S	**Sn**	**00 24 52.2**	**-1.4**
KUR				A		00 24 57.6	
	18μm,2.0s						
KUR				A		00 24 57.6	
	10μm,2.0s						
KUR				A		00 25 13.4	
	11μm,0.9s						
KUR				A		00 25 13.4	
	4μm,0.9s						
KUR				AMS	AMS	00 25 50.0	
	11μm,14.0s						
KUR				AMS	AMS	00 25 50.0	
	9μm,14.0s						
KUR				AMS	AMS	00 25 50.0	
	11μm,14.0s						
KUR	**Kuril's k**	**4.35**	**245**	↓*i*PN	**Pn**	**00 24 02.6**	**-1.5**
KUR				*i* S	**Sn**	**00 24 52.2**	**-1.4**
KUR				pmax	pmax		
	comp=Z,4μm,1.5s						
KUR				pmax	pmax		
	comp=N,430nm,0.5s						
KUR				pmax	pmax		
	comp=E,380nm,0.5s						
KUR				pmax	pmax		
	comp=Z,780nm,0.5s						
KUR				smax			
	comp=N,18μm,2.0s						
KUR				smax			
	comp=E,10μm,2.0s						
KUR				smax			
	comp=N,11μm,0.9s						
KUR				smax			
	comp=E,4μm,0.9s						
KUR				MLR	MLR		
	comp=N,9μm,14.0s						
KUR				MLR	MLR		
	comp=E,11μm,14.0s						
KUR				MLR	MLR		
	comp=Z,11μm,14.0s						
YUK	**Yuzh-Kuril's k**	**6.19**	**242**	↓*i*P	**Pn**	**00 24 32.7**	**+3.2**
YUK				AMB	AMB	00 24 34.3	
	comp=Z,370nm,0.5s						
YUK				AMB	AMB	00 24 34.3	
	comp=Z,920nm,0.5s						
YUK				AMB	AMB	00 24 41.0	
	comp=Z,5μm,1.5s						
YUK				AMB	AMB	00 24 41.0	
	comp=Z,3μm,1.5s						
YUK				*i* S	**Sn**	**00 25 40.5**	**+1.5**
YUK				A		00 25 56.5	
	comp=Z,15μm,3.0s						
YUK				A		00 25 56.5	
	comp=Z,12μm,3.0s						
YUK				A		00 26 04.7	
	comp=Z,3μm,0.5s						
YUK				A		00 26 04.7	
	comp=Z,3μm,0.5s						
YUK	**Yuzh-Kuril's k**	**6.19**	**242**	↓*i*PN	**Pn**	**00 24 32.7**	**+3.2**
YUK				*i* S	**Sn**	**00 25 40.5**	**+1.5**
YUK				pmax	pmax		
	comp=N,370nm,0.5s						
YUK				pmax	pmax		
	comp=E,370nm,0.5s						
YUK				pmax	pmax		
	comp=Z,920nm,0.5s						
YUK				pmax	pmax		
	comp=N,3μm,1.5s						
YUK				pmax	pmax		
	comp=E,3μm,1.5s						
YUK				pmax	pmax		
	comp=Z,5μm,1.5s						
YUK				smax			
	comp=N,15μm,3.0s						
YUK				smax			
	comp=E,12μm,3.0s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,3μm,0.5s						
NEM2	**Nemuro 2**	**6.65**	**238**	P	**Pn**	**00 24 35.2**	**-0.6**
NEM2				*e*S	**Sn**	**00 25 46.1**	**-4.2**
JRA	**Rausu**	**6.70**	**244**	P	**Pn**	**00 24 39.0**	**+2.6**
JRA				*e*S	**Sn**	**00 25 53.1**	**+1.7**
PET	**Petropavlovsk**	**6.73**	**28**	*e*PN	**Pn**	**00 24 39.3**	**+2.5**
PET				pmax	pmax		
	comp=Z,386nm,1.7s						
PET	**Petropavlovsk**	**6.73**	**28**	*e*Pn	**Pn**	**00 24 36.3**	**-0.5**
PET				*e*Sn	**Sn**	**00 25 48.3**	**-3.8**
JNK	**Nakash**	**7.13**	**243**	P	**Pn**	**00 24 43.4**	**+1.0**
JNK				*e*S	**Sn**	**00 26 02.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.32**	**272**	*e*P	**Pn**	**00 24 50.0**	**+5.1**
YSS				AMB	AMB	00 24 53.9	
	comp=Z,110nm,0.9s						
YSS				AMB	AMB	00 24 53.9	
	comp=Z,190nm,0.9s						
YSS				AMB	AMB	00 24 53.9	
	comp=Z,110nm,0.9s						
YSS				*e*S	**Sn**	**00 26 11.0**	**+4.4**
YSS				*e*LQ		00 26 40.0	
YSS				AMS	AMS	00 27 32.0	
	comp=Z,6μm,17.0s						
YSS				AMS	AMS	00 27 32.0	
	comp=Z,2μm,15.0s						
YSS				AMS	AMS	00 27 32.0	
	comp=Z,6μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.32**	**272**	*e*PN	**Pn**	**00 24 50.0**	**+5.1**
YSS				*e*S	**Sn**	**00 26 11.0**	**+4.4**
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.32**	**272**	*e*Pn	**Pn**	**00 24 49.6**	**+4.7**
YSS				*e*Sn	**Sn**	**00 26 12.3**	**+5.7**
JTKR	**Abashiri--Toko**	**7.44**	**248**	P	**Pn**	**00 24 49.1**	**+2.6**
JAK	**Akkeshi**	**7.49**	**239**	P	**Pn**	**00 24 46.8**	**-0.4**
JAK				*e*S	**Sn**	**00 26 07.2**	**-3.6**
JMP	**Maruseppu**	**7.77**	**249**	P	**Pn**	**00 24 53.9**	**+2.8**
UGL	**Uglegorsk**	**7.86**	**288**	*e*PN	**Pn**	**00 24 58.0**	**+5.7**
UGL				*e*		00 26 28.0	
UGL				pmax	pmax		
	comp=Z,132nm,0.8s						
UGL				MLR	MLR		
	comp=Z,6μm,16.0s						
UGL				MLR	MLR		
	comp=N,5μm,15.0s						
UGL				MLR	MLR		
	comp=E,6μm,18.0s						
JAR	**Ashorobuto**	**7.87**	**244**	P	**Pn**	**00 24 54.1**	**+1.6**
JAR				*e*S	**Sn**	**00 26 20.4**	**+0.2**
JSE	**Soyaes**	**7.89**	**258**	P	**Pn**	**00 24 58.6**	**+5.9**
TYV	**Tymovskoe**	**8.00**	**301**	*e*P	**Pn**	**00 24 57.8**	**+3.6**
TYV				AMB	AMB	00 25 02.0	
	comp=E,299nm,1.0s						
TYV				AMB	AMB	00 25 04.0	
	comp=E,1μm,4.0s						
TYV				AMB	AMB	00 25 04.0	
	comp=E,500nm,9.0s						
TYV				AMB	AMB	00 25 04.0	
	comp=E,1μm,9.0s						
TYV				*e*S	**Sn**	**00 26 26.0**	**+2.7**
TYV				A		00 26 29.0	
	comp=E,334nm,1.0s						
TYV				A		00 26 30.0	
	comp=E,600nm,4.0s						
TYV				A		00 26 30.0	
	comp=E,300nm,4.0s						
TYV				AMS	AMS	00 28 24.0	
	comp=E,3μm,16.0s						
TYV				AMS	AMS	00 28 24.0	
	comp=E,4μm,16.0s						
TYV				AMS	AMS	00 28 24.0	
	comp=E,3μm,14.0s						
JOB	**Onbets**	**8.05**	**241**	P	**Pn**	**00 24 56.3**	**+1.3**
JOB				*e*S	**Sn**	**00 26 22.1**	**-2.6**
ASAJ	**Asahikawa**	**8.21**	**252**	P	**Pn**	**00 25 00.1**	**+3.0**
	comp=E,12nm,0.3s,baz=94,slow=18,SNR=40						
ASAJ				LR	LR	00 28 00.6	
	comp=E,4μm,19.5s,baz=76,slow=36						
ASAJ	**Asahikawa**	**8.21**	**252**	P	**Pn**	**00 25 00.8**	**+3.7**
ASAJ	**Asahikawa**	**8.21**	**252**	PN	**Pn**	**00 25 00.1**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,4μm,19.5s						
JKK2	**Kamakawa 2**	**8.22**	**250**	P	**Pn**	**00 25 00.5**	**+3.2**
JCH	**Churui**	**8.50**	**241**	P	**Pn**	**00 25 01.2**	**+0.1**
JCH				*e*S	**Sn**	**00 26 31.5**	**-4.3**
JFR	**Furan**	**8.67**	**246**	P	**Pn**	**00 25 06.1**	**+2.7**
JAB	**Ashibetsu**	**8.73**	**249**	P	**Pn**	**00 25 07.5**	**+3.2**
ERM	**Erimo**	**8.99**	**239**	Pn	**Pn**	**00 25 10.3**	**+2.5**
	comp=Z,1μm,0.4s,SNR=13						
ERM	**Erimo**	**8.99**	**239**	*e*Pn	**Pn**	**00 25 08.9**	**+1.1**
	comp=Z,219nm,0.6s						
ERM				*e*Sn	**Sn**	**00 26 45.9**	**-1.8**
JBT2	**Biratori 2**	**9.02**	**245**	P	**Pn**	**00 25 09.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**9.06**	**241**	P	**Pn**	**00 25 08.2**	**-0.6**
OKH	**Okha**	**9.26**	**317**	*e*S	**Sn**	**00 26 54.9**	**+0.6**
OKH				*e*L		00 27 20.0	
OKH				AMS	AMS	00 28 56.0	
	comp=Z,5μm,14.0s						
OKH				AMS	AMS	00 28 56.0	
	comp=Z,3μm,15.0s						
OKH				AMS	AMS	00 28 56.0	
	comp=Z,5μm,12.0s						
JEW	**Eniwo**	**9.55**	**247**	P	**Pn**	**00 25 18.8**	**+3.3**
JNB	**Noboribetsu**	**10.01**	**246**	P	**Pn**	**00 25 22.4**	**+0.7**
JNB				*e*S	**Sn**	**00 27 10.7**	**-2.0**
NKL	**Nikolayevsk**	**10.13**	**311**	*e*P	**Pn**	**00 25 22.0**	**-1.5**
NKL				AMB	AMB	00 25 28.0	
	comp=Z,800nm,4.5s						
NKL				AMB	AMB	00 25 28.0	
	comp=Z,800nm,4.5s						
NKL				AMB	AMB	00 25 29.0	
	comp=Z,80nm,0.9s						
NKL				*e*L		00 28 11.0	
NKL				AMS	AMS	00 29 40.0	
	comp=Z,1μm,16.0s						
NKL				AMS	AMS	00 29 40.0	
	comp=Z,3μm,16.0s						
NKL				AMS	AMS	00 29 40.0	
	comp=Z,4μm,18.0s						
JKB	**Kayabe**	**10.33**	**244**	P	**Pn**	**00 25 25.9**	**-0.3**
JKB				*e*S	**Sn**	**00 27 14.1**	**-6.6**
JSH	**Shimam**	**10.54**	**249**	P	**Pn**	**00 25 30.3**	**+1.2**
JYM2	**Yakumo 2**	**10.61**	**246**	P	**Pn**	**00 25 30.7**	**+0.7**
JOT	**Ohata**	**10.62**	**241**	P	**Pn**	**00 25 29.0**	**-1.2**
JOT				*e*S	**Sn**	**00 27 20.3**	**-7.4**
JSR	**Shiriuchi**	**10.91**	**244**	P	**Pn**	**00 25 33.3**	**-0.9**
JTM	**Tenmabayashi**	**10.98**	**239**	P	**Pn**	**00 25 32.8**	**-2.3**
JTM				*e*S	**Sn**	**00 27 26.2**	**-10**
JANG	**Nango**	**10.99**	**236**	P	**Pn**	**00 25 31.6**	**-3.7**
JANG				*e*S	**Sn**	**00 27 25.5**	**-11**
JTH	**Tanohata**	**11.10**	**233**	P	**Pn**	**00 25 33.5**	**-3.2**
JTH				*e*S	**Sn**	**00 27 27.9**	**-12**
JOSM	**Okushiri--Mats**	**11.19**	**248**	P	**Pn**	**00 25 38.1**	**+0.1**
JOM	**Ohasama**	**11.74**	**233**	P	**Pn**	**00 25 44.5**	**-0.9**
JOM				*e*S	**Sn**	**00 27 46.6**	**-8.5**
OFUJ	**Ofunato**	**11.82**	**231**	P	**Pn**	**00 25 42.7**	**-3.8**
OFUJ				*e*S	**Sn**	**00 27 43.8**	**-13**
TEY	**Ternei**	**11.90**	**266**	*e*P	**Pn**	**00 25 51.0**	**+3.3**
TEY				AMS	AMS	00 30 07.0	
	comp=Z,2μm,19.0s						
TEY				AMS	AMS	00 30 07.0	
	comp=Z,1μm,15.0s						
JRG	**Rokugo**	**12.16**	**235**	P	**Pn**	**00 25 48.7**	**-2.4**
HABR	**Khabarovsk**	**12.44**	**283**	↓*e*PN	**Pn**	**00 26 01.1**	**+6.1**
HABR				*e*S	**Sn**	**00 28 27.3**	**+15**
HABR				pmax	pmax		
	comp=Z,257nm,2.1s						
MA2	**Magadan**	**12.51**	**354**	*e*Pn	**Pn**	**00 25 58.9**	**+2.9**
MA2				*e*Sn	**Sn**	**00 28 11.4**	**-2.6**
JYA	**Atsumi**	**13.23**	**234**	P	**Pn**	**00 26 04.0**	**-1.8**
JYA				*e*S	**Sn**	**00 28 23.2**	**-8.3**
JFK	**Kawauchi**	**13.52**	**228**	P	**Pn**	**00 26 05.6**	**-4.1**
JFK				*e*S	**Sn**	**00 28 28.5**	**-10**
SMY	**Shemya**	**14.37**	**60**	*e*Pn	**Pn**	**00 26 17.9**	**-3.4**
SMY				*e*Sn	**Sn**	**00 28 45.4**	**-14**
JSD	**Sado**	**14.43**	**236**	P	**Pn**	**00 26 29.6**	**+7.4**
KLR	**Kul'dur**	**14.62**	**286**	*e*P	**Pn**	**00 26 23.7**	**-1.0**
KLR				MLR	MLR		
	comp=E,2μm,18.0s						
MJAR	**Matsushiro Arr**	**15.54**	**232**	P	**Pn**	**00 26 33.8**	**-2.9**
	comp=E,1.2nm,0.3s,baz=34,slow=11,SNR=17						
MJAR				LR	LR	00 32 59.5	
	comp=E,702nm,20.4s,baz=55,slow=38						
MJAR	**Matsushiro Arr**	**15.54**	**232**	P	**Pn**	**00 26 33.8**	**-2.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,702nm,20.4s						
MAJO	**Matsushiro**	**15.54**	**232**	*e*P	**Pn**	**00 26 34.9**	**-1.8**
MAT	**Matsushiro**	**15.54**	**232**	P	**Pn**	**00 26 36.4**	**-0.3**
MAT				S	**S**	**00 29 20.0**	**-13**
MAT	**Matsushiro**	**15.54**	**232**	P	**Pn**	**00 26 35.4**	**-1.3**
MAT				*e*S	**S**	**00 29 29.6**	**-12**
JRY	**Ryogami san**	**15.57**	**229**	P	**Pn**	**00 26 36.9**	**-0.2**
JRY				*e*S	S	00 29 18.1	-24
SEY	**Seymchan**	**15.79**	**358**	*e*P	**Pn**	**00 26 41.7**	**+1.7**
JGF	**Kuroka**	**16.70**	**232**	P	**Pn**	**00 26 51.5**	**0.0**
JHJ	**Hachijo jima 2**	**17.48**	**221**	LR	LR	00 33 34.8	
	comp=Z,296nm,19.5s,baz=241,slow=36						
ZEA	**Zeya**	**17.86**	**301**	*e*P	**Pn**	**00 27 06.4**	**+0.4**
ZEA				AMB	AMB	00 27 08.2	
	comp=Z,54nm,0.9s						
ZEA				AMB	AMB	00 27 19.0	
	comp=Z,500nm,4.0s						
ZEA				AMB	AMB	00 27 19.0	
	comp=Z,600nm,4.0s						
ZEA				A		00 30 32.0	
	comp=Z,500nm,10.0s						
JIE	**Ise**	**17.96**	**231**	P	**Pn**	**00 27 05.9**	**-1.3**
JWT	**Wachi**	**18.00**	**235**	P	**Pn**	**00 27 08.6**	**+0.9**
JAD	**Aida**	**18.95**	**237**	P	**Pn**	**00 27 18.8**	**-0.4**
JWZ	**Kozaga**	**19.15**	**231**	P	**Pn**	**00 27 23.2**	**+1.6**
CN2	**Changchun**	**19.88**	**270**	*e*P	**Pn**	**00 27 29.1**	**-1.2**
CN2				*e*S	**S**	**00 31 07.4**	**-2.6**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,1μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
CLNS	**Chul'man**	**19.92**	**310**	*e*P	**Pn**	**00 27 31.8**	**+1.1**
CLNS				*e*S	**S**	**00 31 12.7**	**+1.9**
CLNS				pmax	pmax		
	comp=E,49nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,96nm,1.1s						
CLNS				pmax	pmax		
	comp=N,74nm,1.6s						
CLNS				smax			
	comp=E,1μm,12.9s						
CLNS				smax			
	comp=Z,508nm,17.6s						
CLNS				smax			
	comp=N,68nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,19.0s						
CLNS				MLR	MLR		
	comp=N,600nm,16.0s						
CLNS				MLR	MLR		
	comp=E,4μm,22.0s						
JMN	**Monobe**	**20.00**	**235**	P	**Pn**	**00 27 35.5**	**+3.9**
YAK	**Yakutsk**	**20.08**	**326**	*e*P	**P**	**00 27 33.3**	**+2.7**
YAK				*e*S	**S**	**00 31 19.1**	**+5.1**
YAK				pmax	pmax		
	comp=Z,28nm,0.7s						
YAK				pmax	pmax		
	comp=N,24nm,1.2s						
YAK				pmax	pmax		
	comp=E,33nm,1.3s						
YAK				smax			
	comp=N,240nm,2.3s						
YAK				smax			
	comp=Z,252nm,2.0s						
YAK				smax			
	comp=E,296nm,2.8s						
YAK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,919nm,21.0s,MS4.2						

YAK MLR MLR
comp=E,692nm,18.0s,MS4.2
YAK Yakutsk 20.08 326 *e*Pn **P 00 27 30.6 0.0**
comp=E,112nm,0.8s
KSRS Korea Array 21.16 252 P **P 00 27 44.4 +2.1**
comp=E,31nm,0.9s,mb4.6,baz=61,slow=10,SNR=25
KSRS LR LR 00 34 50.1
comp=E,1μm,20.1s,MS4.3,baz=32,slow=33
KS15 Wonju Array Si 21.19 252 *e*P **P 00 27 44.6 +2.0**
SNY Shenyang 21.90 267 ⇑P **P 00 27 51.1 +0.9**
SNY AP 00 27 55.8
SNY PP 00 28 19.5
SNY S **S 00 31 52.3 +2.5**
SNY AMB AMB
comp=Z,66nm,0.8s,mb5.1
SNY AMB AMB
comp=Z,175nm,5.4s
SNY LR LR
comp=E,2μm,17.1s
SNY LR LR
comp=Z,3μm,19.6s,MS4.6
BILL Bilibino 21.91 13 *e*P **P 00 27 48.0 -2.3**
BILL pmax pmax
comp=Z,40nm,1.2s,mb4.7
BILL Bilibino 21.91 13 *e*Pn **P 00 27 49.5 -0.8**
comp=Z,48nm,1.0s,mb4.9
BILL *e* 00 31 46.2
INCN Inchon 21.98 254 *e*P **P 00 27 55.6 +4.6**
comp=Z,77nm,0.8s,mb5.2
JNU Nakatsue 22.15 239 P **P 00 27 58.2 +5.3**
comp=Z,16nm,0.6s,mb4.7,baz=248,slow=20,SNR=4.7
JNU LR LR 00 36 29.9
comp=Z,2μm,21.6s,MS4.5,baz=80,slow=36
JNU Nakatsue 22.15 239 P **P 00 27 58.8 +5.9**
HIA Hailar 22.46 288 *e*P **P 00 27 56.9 +0.8**
DL2 Dalian 24.56 262 P **P 00 28 21.1 +4.5**
DL2 S **S 00 32 42.6 +7.9**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb4.9
DL2 LR LR
comp=N,260nm,12.6s,MS4.1
DL2 LR LR
comp=E,280nm,14.5s,MS4.1
DL2 LR LR
comp=Z,440nm,16.0s,MS4.0
BOD Bodaibo 25.90 309 *e*P **P 00 28 27.5 -1.2**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.2
BJI Beijing 27.72 269 P **P 00 28 48.9 +3.8**
BJI XP sP 00 29 01.5 +0.6
BJI PCP PcP 00 31 58.3 -2.8
BJI S **S 00 33 23.5 -1.3**
BJI AMB AMB
comp=Z,18nm,0.9s,mb4.7
BJI LR LR
comp=N,1μm,16.8s,MS4.7
BJI LR LR
comp=E,871nm,16.8s,MS4.7
BJI LR LR
comp=Z,2μm,21.4s,MS4.6
BJI Beijing 27.72 269 P **P 00 28 48.9 +3.8**
BJI *SP sP 00 29 01.5 +0.6
BJI 00 31 58.3
BJI S **S 00 33 23.5 -1.3**
BJI pmax pmax
comp=Z,18nm,0.9s,mb4.7
BJI MLR MLR
comp=Z,2μm,21.4s,MS4.6
BJI Beijing 27.72 269 P **P 00 28 48.9 +3.8**
comp=Z,18nm,0.9s,mb4.7
BJI sP sP 00 29 01.5 +0.6
BJI PcP PcP 00 31 58.3 -2.8
BJI S **S 00 33 23.5 -1.3**
BJI LR LR
comp=Z,2μm,21.4s,MS4.6
BJT Baijiatuau 27.74 269 *e*P **P 00 28 47.6 +2.3**
SSE Sheshan 29.48 249 P **P 00 29 02.3 +1.5**
SSE XP sP 00 29 14.8 -1.8
SSE S **S 00 33 53.4 +1.0**
SSE XS sS 00 34 08.9 -1.9
SSE AMB AMB
comp=Z,21nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,114nm,8.6s
SSE LR LR
comp=N,404nm,16.5s,MS4.3
SSE LR LR
comp=E,369nm,16.5s,MS4.3
SSE LR LR
comp=Z,610nm,17.1s,MS4.3
SSE Sheshan 29.48 249 P **P 00 29 02.3 +1.5**
comp=Z,21nm,0.9s,mb4.9
SSE sP sP 00 29 14.7 -1.9
SSE S **S 00 33 53.4 +1.0**
SSE sS sS 00 34 08.9 -1.9
SSE LR LR
comp=Z,610nm,17.1s,MS4.3
HHC Hu-ho-hao-te 30.50 274 *e*P **P 00 29 10.6 +0.8**
HHC PP PP 00 30 10.4 -8.7
HHC PCP PcP 00 32 10.6 +2.4
HHC S **S 00 34 09.8 +1.4**
HHC SCP ScP 00 35 50.8 +3.4
HHC PCS PcS 00 35 53.3 +1.4
HHC AMB AMB
comp=Z,39nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,241nm,5.5s
HHC LR LR
comp=N,882nm,15.1s,MS4.7
HHC LR LR
comp=E,880nm,16.9s,MS4.7
HHC LR LR
comp=Z,984nm,17.2s,MS4.5
ULN Ulaanbaatar 30.98 289 P **P 00 29 18.2 +4.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ULN Ulaanbaatar 30.98 289 *e*P **P 00 29 14.9 +0.8**
SONM Songino Array 31.42 289 P **P 00 29 18.4 +0.5**
comp=Z,1.6nm,0.6s,baz=66,slow=7.9,SNR=13
SONM ScP ScP 00 35 49.9 -0.5
comp=Z,1.8nm,1.1s,baz=95,slow=3.2,SNR=5.3
BTO Baotou 31.66 274 *e*P **P 00 29 21.8 +1.8**
TLY Talaya 32.19 297 P **P 00 29 26.0 +1.3**
ZAK Zakamensk 32.71 295 *e*P **P 00 29 29.0 -0.2**
ZAK *e* 00 32 09.6
IMA2 Indian Mountai 33.31 36 *e*P **P 00 29 33.6 -0.8**
KDAK Kodiak Island 33.64 51 P **P 00 29 36.1 -1.2**
comp=Z,22nm,0.8s,mb5.2,baz=264,slow=7.1,SNR=11
KDAK Kodiak Island 33.64 51 *e*P **P 00 29 35.8 -1.6**
TAIO Taipei 33.68 240 *e*P **P 00 29 37.7 0.0**
NACB Ninganchiao 34.23 239 P **P 00 29 43.4 +1.0**
WHN Wuhan 34.27 255 P **P 00 29 45.3 +2.5**
SLKM Skilak Lake 34.65 46 *e*P **P 00 29 44.6 -1.4**
PMR Palmer 35.12 44 *e*P **P 00 29 49.7 -0.4**
PMR pmax pmax
comp=Z,47nm,0.9s,mb5.4
PMR Palmer 35.12 44 *e*P **P 00 29 49.4 -0.7**
comp=Z,66nm,1.0s,mb5.5
MCK McKinley 35.16 41 *e*P **P 00 29 50.2 -0.3**
MCK pmax pmax
comp=Z,66nm,1.1s,mb5.5
MCK McKinley 35.16 41 *e*P **P 00 29 50.2 -0.3**
comp=Z,66nm,1.2s,mb5.4
SML Sawmill 35.49 44 *e*P **P 00 29 53.0 -0.3**
COLA College 35.64 39 P **P 00 29 54.7 +0.1**
COLA pmax pmax
comp=Z,130nm,0.9s,mb5.9
COLA College 35.64 39 *e*P **P 00 29 54.5 -0.2**
comp=Z,133nm,0.8s,mb5.9
XAN Xi'an 35.79 265 P **P 00 29 56.3 +0.4**
XAN AP pP 00 30 04.8 -2.2
XAN PP PP 00 31 20.8 +3.1
XAN S **S 00 35 32.9 +2.4**
XAN AMB AMB
comp=Z,15nm,1.2s,mb4.8
XAN LR LR
comp=N,464nm,15.7s,MS4.5
XAN LR LR
comp=E,507nm,15.2s,MS4.5
XAN LR LR
comp=Z,1μm,17.7s,MS4.6
DIV Divide 36.77 45 *e*P **P 00 30 04.5 +0.3**
LZH Lanzhou 38.12 272 *e*P **P 00 30 19.8 +4.2**
LZH AP pP 00 30 28.1 +1.3
LZH XP sP 00 30 32.3 +0.7
LZH PP PP 00 31 50.0 +6.8
LZH *e*S **S 00 36 05.3 -0.5**
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,220nm,5.0s
LZH LR LR
comp=E,862nm,14.3s
LZH LR LR
comp=Z,1μm,17.0s,MS4.8
LZH Lanzhou 38.12 272 *e*P **P 00 30 19.7 +4.1**
LZH *SP sP 00 30 32.2 +0.6
LZH 00 31 50.0
LZH *e*S **S 00 36 05.2 -0.6**
LZH SS SS 00 38 49.0 -4.8
LZH pmax pmax
comp=Z,50nm,1.2s,mb5.1
LZH MLR MLR
comp=Z,1μm,17.0s,MS4.8
LZH Lanzhou 38.12 272 *e*P **P 00 30 19.7 +4.1**
comp=Z,50nm,1.2s,mb5.1
LZH pP pP 00 30 28.1 +1.3
LZH sP sP 00 30 32.2 +0.6
LZH PP PP 00 31 50.0 +6.8
LZH *e*S **S 00 36 05.2 -0.6**
LZH sS sS 00 36 18.0 -6.4
LZH SS SS 00 38 49.0 -4.8
LZH LR LR
comp=Z,1μm,17.0s,MS4.8
EGAK Eagle 38.51 39 *e*P **P 00 30 18.3 -0.7**
comp=Z,100nm,0.9s,mb5.5
GTA Gaotai 39.14 279 *e*P **P 00 30 26.8 +2.6**
GTA AP pP 00 30 34.1 -1.4
GTA XP sP 00 30 37.4 -2.8
GTA PP PP 00 32 01.3 +6.9
GTA PCP PcP 00 32 33.6 +0.4
GTA SCP ScP 00 36 18.8 +0.4
GTA PCS PcS 00 36 24.8 +1.9
GTA S **S 00 36 27.8 +6.5**
GTA XS sS 00 36 40.0 +0.1
GTA SS SS 00 39 16.3 +1.4
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.1
GTA AMB AMB
comp=Z,60nm,5.3s
GTA LR LR
comp=N,412nm,17.5s,MS4.6
GTA LR LR
comp=E,675nm,18.6s,MS4.6
GTA LR LR
comp=Z,931nm,16.4s,MS4.7
DAWY Dawson 39.35 40 *e*P **P 00 30 26.1 +0.1**
INK Inuvik 41.15 33 P **P 00 30 41.4 +0.5**
comp=Z,39nm,0.6s,mb5.2,baz=288,slow=6.6,SNR=127
INK LR LR 00 47 46.5
comp=Z,392nm,21.4s,MS4.2,baz=271,slow=36
INK Inuvik 41.15 33 P **P 00 30 41.4 +0.5**
INK pmax pmax
comp=Z,39nm,0.6s
INK MLR MLR
comp=Z,392nm,21.4s
INK Inuvik 41.15 33 *e*P **P 00 30 41.4 +0.5**
comp=Z,3μm,1.0s
CD2 Chengdu 41.16 265 ⇑*i*P **P 00 30 41.3 +0.4**
CD2 AP pP 00 30 48.6 -3.6
CD2 XP sP 00 30 52.0 -5.0
CD2 PP PP 00 32 19.4 +3.1
CD2 S **S 00 36 52.4 +1.0**
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,150nm,5.2s
CD2 LR LR
comp=N,820nm,20.4s,MS4.7
CD2 LR LR
comp=E,660nm,18.0s,MS4.7
CD2 LR LR
comp=Z,950nm,18.0s,MS4.7
GYA Guiyang 42.04 257 ⇑*i*P **P 00 30 48.1 -0.1**
GYA AP pP 00 30 57.9 -1.6
GYA XP sP 00 31 01.3 -3.0
GYA PP PP 00 32 29.8 +3.8
GYA PCP PcP 00 32 44.8 +2.2
GYA SCP ScP 00 36 31.3 +1.5
GYA S **S 00 37 06.3 +1.8**
GYA SCS ScS 00 40 47.8 +0.5
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,570nm,16.8s,MS4.7
GYA LR LR
comp=E,590nm,17.0s,MS4.7
GYA LR LR
comp=Z,560nm,17.2s,MS4.5
SKAG Skagway 42.19 46 *e*P **P 00 30 50.6 +1.2**
comp=Z,47nm,1.0s,mb5.1
ZAL Zalesovo 42.56 305 P **P 00 30 50.9 -1.5**
comp=Z,2.6nm,0.5s,mb4.2,baz=62,slow=6.0,SNR=8.6
ZAL PcP PcP 00 32 43.6 -0.7
comp=Z,1.8nm,0.4s,baz=72,slow=4.0,SNR=7.9
ZAL LR LR 00 50 23.3
comp=Z,1μm,19.6s,MS4.8,baz=42,slow=38
ZAL Zalesovo 42.56 305 P **P 00 30 50.9 -1.5**
ZAL 00 32 43.6
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,1μm,19.6s
NVS Novosibirsk 43.11 307 *e*P **P 00 30 55.9 -1.0**
NVS *e* 00 32 44.3
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
WMQ Urumqi 44.99 291 ⇓*i*P **P 00 31 14.8 +2.9**
WMQ AP pP 00 31 22.8 -0.5
WMQ XP sP 00 31 26.3 -1.8
WMQ PCP PcP 00 32 56.4 +3.9
WMQ PP PP 00 33 00.8 +3.3
WMQ PPP 00 33 41.3
WMQ SCP ScP 00 36 45.3 +3.5
WMQ PCS PcS 00 36 48.9 +2.6
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,201nm,5.6s
WMQ LR LR
comp=N,568nm,21.0s,MS4.6
WMQ LR LR
comp=E,382nm,18.8s,MS4.6
WMQ LR LR
comp=Z,957nm,19.0s,MS4.8
DLBC Dease Lake 45.12 46 *e*P **P 00 31 14.8 +1.9**
QIZ Qiongzhong 45.24 247 P **P 00 31 16.0 +2.1**
QIZ LR LR
comp=E,482nm,19.1s
QIZ LR LR
comp=Z,475nm,22.5s,MS4.4
KMI Kunming 45.56 259 P **P 00 31 17.3 +0.9**
KMI PP PP 00 33 00.3 -3.2
KMI PPP 00 33 42.8
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,60nm,3.1s
KMI LR LR
comp=N,554nm,16.8s,MS4.6
KMI LR LR
comp=E,343nm,21.0s,MS4.6
KMI LR LR
comp=Z,382nm,21.0s,MS4.3
KMI Kunming 45.56 259 P **P 00 31 17.2 +0.8**
KMI 00 33 00.3
KMI PPP 00 33 42.7
KMI S **S 00 37 53.6 -2.2**
KMI *SS sS 00 38 01.8 -13
KMI SS SS 00 41 00.0 -20
KMI pmax pmax
comp=Z,14nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,380nm,21.0s,MS4.3
KMI Kunming 45.56 259 P **P 00 31 17.2 +0.8**
comp=Z,14nm,1.2s,mb4.8
KMI pP pP 00 31 21.2 -6.6
KMI sP sP 00 31 23.5 -9.1
KMI PP PP 00 33 00.3 -3.2
KMI PPP 00 33 42.7
KMI S **S 00 37 53.6 -2.2**
KMI sS sS 00 38 01.8 -13
KMI SS SS 00 41 00.0 -20
KMI SSS 00 41 59.4
KMI LR LR
comp=Z,380nm,21.0s,MS4.3
MK31 Makanchi Array 46.95 297 P **P 00 31 26.8 -0.6**
MK31 Makanchi Array 46.95 297 *e*P **P 00 31 26.7 -0.7**
MKAR Makanchi Array 46.95 297 P **P 00 31 26.8 -0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=67,slow=7.5,SNR=24
MKAR ScP ScP 00 36 45.7 -4.2
comp=Z,1.0nm,0.9s,baz=53,slow=4.3,SNR=3.2
KURK Kurchatov 47.32 303 P **P 00 31 28.5 -1.8**
comp=Z,100nm,0.5s,mb6.0,SNR=12
ALE Alert 49.28 6 P **P 00 31 45.6 +0.2**
comp=Z,110nm,0.8s,mb5.9,SNR=8.0
CHKZ Chkalovo 50.33 310 *e*P **P 00 31 51.9 -1.5**
RES Resolute Bay 50.34 19 *e*P **P 00 31 53.4 0.0**
RES pmax pmax
comp=Z,46nm,1.1s,mb5.4
RES Resolute Bay 50.34 19 *e*P **P 00 31 53.4 0.0**
comp=Z,1μm,1.1s
YKW3 Yellowknife Ar 50.39 37 *e*P **P 00 31 53.9 +0.1**
YKA Yellowknife Ar 50.43 37 P **P 00 31 53.9 -0.1**
comp=Z,55nm,0.9s,mb5.6,baz=296,slow=7.0,SNR=42
YKA PcP PcP 00 33 11.0 -1.0
comp=Z,4.1nm,0.7s,baz=304,slow=3.9,SNR=7.5
YKA Yellowknife Ar 50.43 37 P **P 00 31 53.9 -0.2**
YKA 00 33 11.0
YKA pmax pmax
comp=Z,55nm,0.9s
YKA Yellowknife Ar 50.43 37 P **P 00 31 53.9 -0.1**
YKA PcP PcP 00 33 11.0 -1.0
LSA Lhasa 50.49 273 P **P 00 31 56.9 +2.4**
LSA Lhasa 50.49 273 *e*P **P 00 31 57.0 +2.5**
BVAR Borovoye Array 50.77 309 P **P 00 31 55.7 -0.9**
comp=Z,3.7nm,0.6s,mb4.5,baz=54,slow=7.5,SNR=18
BVAR PcP PcP 00 33 12.9 -0.3
comp=Z,1.9nm,0.4s,baz=68,slow=3.9,SNR=3.7
BVAR Borovoye Array 50.77 309 P **P 00 31 55.7 -0.9**
BVAR 00 33 12.9
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 50.80 309 P **P 00 31 56.8 -0.1**
comp=Z,77nm,0.8s,mb5.7,SNR=9.9
BRVK Borovoye 50.80 309 P **P 00 31 55.7 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BRVK Borovoye 50.80 309 *e*P **P 00 31 56.0 -0.9**
ZRNK Zerenda 51.53 310 P **P 00 32 01.7 -0.7**
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ZRNK Zerenda 51.53 310 *e*P **P 00 32 01.4 -1.0**
comp=Z,4.7nm,0.6s,mb4.6
CHTO Chiang Mai 52.45 257 P **P 00 32 10.6 +1.4**
CHTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CHTO Chiang Mai 52.45 257 *e*P **P 00 32 10.2 +1.0**
comp=Z,10.0nm,0.7s,mb4.8
AAK Ala-Archa 53.85 296 *e*P **P 00 32 18.6 -0.9**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
AAK Ala-Archa 53.85 296 *e*P **P 00 32 18.9 -0.6**
comp=Z,4.1nm,0.8s,mb4.4
AAK *e* pP 00 32 32.1 +0.9
ARU Arti 54.85 317 P **P 00 32 25.7 -1.1**
comp=Z,139nm,0.9s,mb6.0,SNR=9.8
ARU Arti 54.85 317 ⇓*i*P **P 00 32 25.2 -1.6**
ARU *e*S **S 00 40 07.0 +1.9**
ARU *e*SS SS 00 43 52.3 +3.6
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
ARU Arti 54.85 317 *e*P **P 00 32 24.7 -2.1**
comp=Z,14nm,0.6s,mb5.2
JIRN Jiri 55.15 274 *e*P **P 00 32 30.3 +1.4**
comp=Z,34nm,0.5s,mb5.7
A08A Turner Farm, O 55.15 53 ⇑P **P 00 32 28.0 -1.0**
baz=55
GUN Gumba 55.20 275 *e*P **P 00 32 30.3 +1.0**
comp=Z,22nm,0.3s,mb5.6
B08A Colville Reser 55.45 54 ⇑P **P 00 32 30.6 -0.5**
baz=55
A09A Danville 55.52 53 ⇓P **P 00 32 31.5 0.0**
baz=55
KKN Kakani 55.69 275 *e*P **P 00 32 34.0 +1.2**
PKI Pulchoki 55.74 275 *e*P **P 00 32 34.1 +0.9**
comp=Z,38nm,0.7s,mb5.5
EDM Edmonton 55.84 47 P **P 00 32 33.9 0.0**
EDM Edmonton 55.84 47 *e*P **P 00 32 33.2 -0.7**
J02A Umpqua 55.85 61 ⇑P **P 00 32 33.9 -0.1**
baz=56
DMN Daman 55.92 275 *e*P **P 00 32 35.9 +1.4**
comp=Z,67nm,0.8s,mb5.7
GKN Gorkha 55.99 276 *e*P **P 00 32 35.7 +0.8**
comp=Z,25nm,0.4s,mb5.6
B09A Rice 56.07 53 ⇓P **P 00 32 35.3 -0.3**
baz=56
A10A Northport 56.07 53 ⇑P **P 00 32 35.4 -0.2**
baz=56
E07A Sunnyside 56.18 56 ⇑P **P 00 32 35.9 -0.4**
baz=56
C09A Chrisman Ranch 56.35 54 ⇓P **P 00 32 36.9 -0.7**
baz=56
D08A Wollman Farm, 56.42 55 ⇓P **P 00 32 37.0 -1.0**
baz=56
H05A Madras 56.50 59 ⇓P **P 00 32 38.8 +0.2**
baz=56
F07A Phinny Hill Vi 56.52 57 ⇓P **P 00 32 39.0 +0.2**
baz=56
PMG Port Moresby 56.62 187 *e*P **P 00 32 38.6 -0.9**
HUMO Hull Mountain 56.66 61 ⇑P **P 00 32 39.7 -0.1**
baz=56
E08A Dider Farm, El 56.67 56 ⇑P **P 00 32 39.1 -0.8**
baz=56
NEW Newport 56.72 53 *e*P **P 00 32 40.1 -0.1**
NEW pmax pmax
comp=Z,56nm,1.6s
NEW Newport 56.72 53 *e*P **P 00 32 40.0 -0.1**
comp=Z,56nm,1.6s,mb5.3
A11A Hall Mountain, 56.73 52 ⇓P **P 00 32 40.8 +0.5**
baz=56
D09A Jones Farm, Ri 56.76 55 ⇓P **P 00 32 40.4 -0.1**
baz=56
KOLN Koldanda 56.84 276 *e*P **P 00 32 42.0 +1.0**
KEV Kevo 57.01 341 *e*p **P 00 32 40.1 -2.1**
comp=Z,3.1nm,0.3s,mb4.8
KEV Kevo 57.01 341 *e*P **P 00 32 40.1 -2.1**
KEV pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
B11A Sandpoint 57.03 53 ⇓P **P 00 32 42.3 0.0**
baz=57
G07A Ruggs Ranch, H 57.04 57 ⇓P **P 00 32 42.3 -0.2**
baz=57
A12A Yaak River Ran 57.12 52 ⇓P **P 00 32 43.1 +0.1**
baz=57
E09A Wood Farm, Sta 57.17 55 ⇓P **P 00 32 43.4 0.0**
baz=57
F08A Pendleton 57.24 56 ⇓P **P 00 32 43.8 -0.1**
baz=57
J05A Fort Rock 57.29 60 ⇓P **P 00 32 44.9 +0.7**
baz=57
YBH Yreka Blue Hor 57.33 62 *e*P **P 00 32 44.5 0.0**
YBH Yreka Blue Hor 57.33 62 ⇑P **P 00 32 45.0 +0.6**
baz=57
G08A Pilot Rock 57.43 57 ⇓P **P 00 32 45.5 +0.3**
baz=57
M02C Callahan 57.44 63 ⇑P **P 00 32 46.3 +1.0**
baz=57
I06A Prineville 57.50 59 ⇑P **P 00 32 46.4 +0.7**
baz=57
ARCES ARCESS Array B 57.52 341 P **P 00 32 45.1 -0.7**
comp=Z,3.5nm,0.6s,mb4.6,baz=24,slow=7.4,SNR=52
ARCES ARCESS Array B 57.52 341 P **P 00 32 45.1 -0.7**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
L04A Klamath Falls 57.55 61 ⇑P **P 00 32 47.1 +1.0**
baz=57
O01C Eel River Cons 57.60 64 ⇓P **P 00 32 47.4 +1.1**
baz=57
M04C Macdoel 57.82 62 ⇑P **P 00 32 48.5 +0.5**

baz=58
K05A **Summer Lake** 57.82 60 ⇑P P 00 32 48.6 +0.6
baz=58
I07A **Izee** 57.83 58 ⇓P P 00 32 48.7 +0.7
baz=58
D11A **Klaveano Farm,** 57.86 54 P P 00 32 48.0 -0.3
baz=58,SNR=5.0
WALA **Waterton Lakes** 57.98 51 P P 00 32 48.9 -0.1
F10A **Beach Ranch, E** 58.01 55 ⇓P P 00 32 49.3 0.0
baz=58
H08A **Prairie City** 58.05 57 P P 00 32 50.3 +0.7
baz=58,SNR=8.1
B13A **Whitefish** 58.09 52 P P 00 32 50.2 +0.4
baz=58,SNR=9.6
WDC **Whiskeytown Da** 58.12 63 *e*P P 00 32 50.0 0.0
WDC **Whiskeytown Da** 58.12 63 ⇓P P 00 32 49.9 -0.1
baz=58
K06A **Valley Falls** 58.16 60 ⇓P P 00 32 50.5 +0.2
baz=58
O02C **Red Bluff** 58.21 64 ⇑P P 00 32 51.3 +0.6
baz=58,SNR=5.0
BSMT **Bassoo Peak** 58.23 52 *e*P P 00 32 51.6 +0.8
L05A **Lakeview** 58.26 61 ⇓P P 00 32 51.9 +0.9
baz=58,SNR=5.2
P01C **Double 8 Ranch** 58.30 65 ⇑P P 00 32 51.8 +0.5
baz=58
KTK1 **Kautokeino** 58.43 341 *e*P P 00 32 52.2 0.0
C13A **Hot Springs** 58.45 52 ⇓P P 00 32 52.1 -0.2
baz=58
M05C **Lookout** 58.49 62 ⇑P P 00 32 53.2 +0.6
baz=58
H09A **Durkee** 58.54 57 P P 00 32 53.5 +0.5
baz=58,SNR=5.0
GASB **Alder Springs** 58.57 64 ⇑P P 00 32 54.1 +1.0
baz=58,SNR=6.4
AKTO **Aktyubinsk** 58.61 312 LR LR 01 00 33.7
comp=Z,940nm,18.6s,MS4.9,baz=235,slow=38
HATC **Hat Creek Radi** 58.63 62 ⇓P P 00 32 53.8 +0.2
baz=58
BMO **Blue Mountains** 58.63 56 *e*P P 00 32 54.2 +0.6
comp=Z,58nm,1.6s,mb5.4
F11A **Grangeville** 58.66 55 ⇑P P 00 32 53.9 +0.2
baz=58
MOD **Modoc** 58.67 61 *e*P P 00 32 54.5 +0.6
comp=Z,32nm,1.5s,mb5.1
MOD **Modoc** 58.67 61 P P 00 32 54.7 +0.9
baz=58,SNR=5.6
HOPS **Hopland** 58.75 65 ⇓P P 00 32 54.7 +0.3
baz=58
K07A **Rock Creek Ran** 58.81 59 ⇓P P 00 32 55.3 +0.4
baz=59,SNR=5.4
TRO **Tromso** 58.83 343 *e*P P 00 32 52.9 -2.1
TRO AMb AMB 00 32 58.3
comp=Z,51nm,2.1s,mb5.2
TRO **Tromso** 58.83 343 *e*P P 00 32 52.9 -2.1
comp=Z,51nm,2.1s,mb5.2
J08A **Circle Bar Ran** 58.86 58 ⇑P P 00 32 55.6 +0.4
baz=59
D13A **Huson** 58.86 53 ⇑P P 00 32 55.0 -0.2
baz=59
G11A **Walters Elk Ra** 58.89 55 ⇓P P 00 32 55.6 +0.2
baz=59
I09A **Lost Marbles R** 58.91 57 ⇓P P 00 32 55.6 0.0
baz=59
M06C **Likely Place G** 58.98 61 ⇓P P 00 32 56.5 +0.5
baz=59
O04C **Chester** 59.16 63 ⇑P P 00 32 57.7 +0.4
baz=59
L07A **Adell** 59.17 60 ⇑P P 00 32 57.7 +0.4
baz=59
MNRC **McLaughlin Nat** 59.21 65 ⇑P P 00 32 58.2 +0.6
baz=59,SNR=6.1
K08A **Mann Creek Ran** 59.23 59 ⇑P P 00 32 57.8 0.0
baz=59
J09A **Fry Pan Ranch,** 59.29 58 ⇓P P 00 32 58.7 +0.5
baz=59,SNR=6.4
MSO **Missoula** 59.31 53 *e*pP P 00 32 58.4 +0.2
ORV **Oroville** 59.37 64 ⇓P P 00 32 58.4 -0.3
baz=59
D14A **Greenough** 59.39 52 P P 00 32 58.9 0.0
baz=59,SNR=13
E13A **Victor** 59.41 53 ⇓P P 00 32 59.0 0.0
baz=59,SNR=6.1
H11A **Donnelly** 59.45 56 P P 00 32 59.3 0.0
baz=59,SNR=7.7
ORR **Orenburg** 59.51 314 *e*P P 00 32 58.2 -1.5
ORR MLR MLR
comp=Z,870nm,16.0s,MS5.0
OHCM **Honcut** 59.52 64 *e*P P 00 32 59.3 -0.4
CVS **Carmenet Viney** 59.53 65 ⇓P P 00 32 59.4 -0.4
baz=59
FARB **Farallon Islan** 59.59 66 ⇓P P 00 32 59.8 -0.4
baz=59
CHMT **Chamberlain Mo** 59.63 52 *e*P P 00 33 00.6 +0.1
L08A **Fields** 59.65 59 ⇓P P 00 33 00.7 +0.1
baz=59,SNR=5.4
N06A **Buffalo Meadow** 59.65 62 ⇓P P 00 33 00.5 -0.1
baz=59,SNR=7.8
M07A **Soldier Meadow** 59.65 61 ⇓P P 00 33 01.1 +0.5
baz=59,SNR=6.1
K09A **Rome** 59.70 59 ⇑P P 00 33 01.1 +0.1
baz=60
F13A **Darby** 59.73 54 ⇑P P 00 33 01.1 -0.1
baz=60
E14A **Clinton** 59.80 53 ⇓P P 00 33 01.8 +0.1
baz=60,SNR=5.1
BEKR **Beckwourth** 59.88 63 P P 00 33 02.1 -0.1
baz=60,SNR=7.5
D15A **Lincoln** 59.94 52 ⇑P P 00 33 02.6 0.0
baz=60,SNR=8.7
O06A **Flanigan** 60.01 62 ⇓P P 00 33 03.2 +0.1
baz=60,SNR=6.5
P05C **Yuba Gap, Truc** 60.07 63 ⇑P P 00 33 03.4 -0.1
baz=60
N07B **Gerlach** 60.15 61 ⇑P P 00 33 04.2 +0.1
baz=60
L09A **Wilkinson Ranc** 60.15 59 ⇓P P 00 33 04.3 +0.2
baz=60
SUMG **Summit** 60.25 4 *e*P P 00 33 04.6 -0.1
FFC **Flin Flon** 60.25 40 P P 00 33 04.2 -0.6
comp=Z,235nm,0.8s,SNR=9.2
FFC **Flin Flon** 60.25 40 P P 00 33 04.8 +0.1
E15A **Deer Lodge** 60.26 53 ⇑P P 00 33 04.8 -0.1
baz=60,SNR=7.0
BNLO **Ben Lomond (Sa** 60.46 66 ⇓P P 00 33 07.0 +0.9
baz=60
NDI **New Delhi** 60.55 281 *e*P P 00 33 06.5 -0.3
O07A **Toulon** 60.59 62 P P 00 33 07.5 +0.4
baz=60,SNR=7.0
WCN **Washoe City** 60.59 63 ⇑P P 00 33 07.6 +0.5
baz=60
N08A **GE Springer Mi** 60.64 61 P P 00 33 07.8 +0.3
baz=60,SNR=9.6
M09A **Marrel Ranch,** 60.65 60 ⇓P P 00 33 07.4 -0.1
baz=60
F15A **Butte** 60.70 53 P P 00 33 08.1 +0.2
baz=60,SNR=11
LRM **Limekiln Ridge** 60.74 53 *e*P P 00 33 08.8 +0.7
S04C **Ingram Canyon,** 60.75 65 ⇑P P 00 33 08.2 0.0
baz=60
FCC **Fort Churchill** 60.76 34 *e*P P 00 33 08.1 -0.2
FCC pmax pmax
comp=Z,28nm,0.6s,mb5.6
FCC **Fort Churchill** 60.76 34 *e*P P 00 33 08.1 -0.2
comp=Z,28nm,0.6s,mb5.6
R05C **Kirkwood Meado** 60.77 63 P P 00 33 08.9 +0.6
baz=60,SNR=7.8
EGMT **Eagleton** 60.79 50 *e*P P 00 33 08.6 +0.1
EGMT **Eagleton** 60.79 50 P P 00 33 08.6 +0.1
baz=60,SNR=8.5
N09A **Rock Creek Ran** 60.96 60 P P 00 33 10.2 +0.6
baz=61,SNR=9.2
CMB **Columbia Colle** 61.00 64 *e*P P 00 33 09.8 -0.1
CMB pmax pmax
comp=Z,42nm,1.5s,mb5.3
CMB **Columbia Colle** 61.00 64 *e*P P 00 33 09.8 -0.1
comp=Z,42nm,1.5s,mb5.3
CMB **Columbia Colle** 61.00 64 P P 00 33 10.3 +0.4
baz=61,SNR=13
HLID **Hailey** 61.06 56 *e*P P 00 33 11.0 +0.7
HLID **Hailey** 61.06 56 P P 00 33 11.1 +0.8
baz=61,SNR=9.5
PACP **Pacheco Peak** 61.09 66 ⇑P P 00 33 10.7 +0.2
baz=61,SNR=5.9
M10A **I.L. Ranch, Tu** 61.12 59 ⇓P P 00 33 11.4 +0.7
baz=61,SNR=5.6
G15A **Dillon** 61.13 54 P P 00 33 10.8 +0.1
baz=61,SNR=12
R06C **Coleville** 61.26 63 P P 00 33 12.2 +0.6
baz=61,SNR=10
WAKR **Walker** 61.28 63 *e*P P 00 33 12.7 +0.9
BOZ **Bozeman (W)** 61.30 53 *e*P P 00 33 03.6 -8.3
BOZ pmax pmax
comp=Z,20nm,0.6s,mb5.4
HAST **UC Hastings Re** 61.31 66 ⇓P P 00 33 11.8 -0.1
baz=61
BMN **Battle Mountai** 61.40 60 *e*P P 00 33 12.8 +0.2
BMN pmax pmax
comp=Z,22nm,1.1s,mb5.2
BMN **Battle Mountai** 61.40 60 *e*P P 00 33 12.8 +0.2
comp=Z,22nm,1.1s,mb5.2
S06C **San Francisco** 61.42 64 P P 00 33 12.6 -0.1
baz=61,SNR=19
S05C **Merced** 61.47 65 ⇑P P 00 33 12.5 -0.5
baz=61
O09A **Fish Creek Ran** 61.59 61 ⇑P P 00 33 14.3 +0.5
baz=61,SNR=7.4
M11A **Holland Ranch,** 61.61 59 ⇓P P 00 33 14.7 +0.7
baz=61,SNR=7.8
R07C **Lee Vining** 61.78 63 ⇓P P 00 33 15.8 +0.6
baz=62,SNR=5.7
U04C **Hernandez Rese** 61.81 66 ⇓P P 00 33 15.8 +0.5
baz=62
O10A **Cortez Mining,** 61.92 60 ⇑P P 00 33 16.2 +0.1
baz=62
QLMT **Earthquake Lak** 61.92 53 *e*P P 00 33 16.8 +0.7
Q08A **Gabbs** 61.97 62 P P 00 33 16.7 +0.3
baz=62,SNR=9.1
N11A **Elko Archery C** 62.03 59 ⇑P P 00 33 16.8 0.0
baz=62
T06C **Millerton Lake** 62.06 65 ⇓P P 00 33 16.6 -0.5
baz=62,SNR=5.7
KCC **Kaiser Creek** 62.10 64 P P 00 33 17.6 +0.3
baz=62,SNR=7.1
M12A **Wells** 62.13 58 ⇓P P 00 33 17.8 +0.2
baz=62,SNR=13
R08A **Mina** 62.19 63 ⇑P P 00 33 18.0 +0.1
baz=62
PKD **Parkfield** 62.22 66 ⇓P P 00 33 17.9 -0.3
baz=62
GCMT **Greycliff** 62.26 52 *e*P P 00 33 18.9 +0.5
YMR **Madison River** 62.28 53 *e*P P 00 33 19.3 +0.8
comp=Z,77nm,1.7s,mb5.6
P10A **Eureka** 62.37 61 ⇓P P 00 33 19.2 +0.1
baz=62
ELK **Elko** 62.37 59 *e*P P 00 33 19.9 +0.8
YNR **Norris Junctio** 62.41 53 *e*P P 00 33 21.7 +2.4
N12A **Clover Valley,** 62.42 59 ⇓P P 00 33 19.6 +0.2
baz=62,SNR=7.7
Q09A **Carvers** 62.44 62 ⇓P P 00 33 19.7 +0.1
baz=62
YFT **Old Faithful** 62.49 53 *e*P P 00 33 22.3 +2.3
O11A **Cowboy Ranch,** 62.52 60 ⇑P P 00 33 20.2 +0.1
baz=62
KAKA **Kakadu** 62.53 203 *e*P P 00 33 18.8 -1.3
comp=Z,6.3nm,0.6s,mb4.9
MTUM **Tungsten Hills** 62.55 64 *e*P P 00 33 21.1 +0.8
M13A **Montello** 62.60 58 ⇑P P 00 33 20.7 0.0
baz=62
V05C **Boulder Hill,** 62.67 66 ⇑P P 00 33 21.4 +0.3
baz=62
MOR8 **Moi Rana** 62.67 343 *e*P P 00 33 19.0 -2.2
MOR8 AMb AMB 00 33 20.8
comp=Z,64nm,1.5s,mb5.5
MOR8 **Moi Rana** 62.67 343 *e*P P 00 33 19.0 -2.2
comp=Z,64nm,1.5s,mb5.5
S08C **White Mtn Res** 62.69 63 P P 00 33 21.8 +0.6
baz=62,SNR=11
HELL **Mitchell Peak,** 62.70 65 ⇑P P 00 33 20.5 -0.7
baz=62
IMW **Indian Meadow** 62.79 54 *e*P P 00 33 22.9 +1.0
comp=Z,51nm,1.6s,mb5.4
FLWY **Flagg Ranch** 62.81 54 *e*P P 00 33 23.7 +1.7
comp=Z,43nm,1.6s,mb5.3
P11A **Circle Ranch,** 62.83 60 ⇓P P 00 33 22.5 +0.3
baz=63
R09A **Tonopah** 62.88 62 ⇑P P 00 33 22.5 0.0
baz=63,SNR=18
TPH **Tonopah** 62.90 62 *e*P P 00 33 23.2 +0.6
N13A **Wendover, West** 62.90 58 ⇓P P 00 33 23.0 +0.3
baz=63
RRI2 **Red Ridge** 62.94 55 *e*P P 00 33 24.0 +1.1
TIN **Tinemaha** 62.94 64 ⇓P P 00 33 23.0 +0.1
baz=63
O12A **Currie** 62.97 59 P P 00 33 23.4 +0.3
baz=63,SNR=15
SMMC **Simmler** 62.97 66 ⇑P P 00 33 23.0 -0.1
baz=63
MOOW **Moose Ponds** 63.00 54 *e*P P 00 33 24.2 +0.9
comp=Z,48nm,1.6s,mb5.4
TPAW **Teton Pass** 63.05 54 *e*P P 00 33 24.7 +1.0
S09A **Goldfield** 63.12 63 ⇓P P 00 33 23.9 -0.2
baz=63,SNR=9.9
HVU **Hansel Valley** 63.13 57 *e*P P 00 33 25.0 +0.8
LOHW **Long Hollow** 63.16 54 *e*P P 00 33 25.7 +1.3
comp=Z,42nm,1.4s,mb5.4
SNOW **Snow King Moun** 63.18 54 *e*P P 00 33 24.3 -0.2
REDW **Red Top Meadow** 63.19 54 *e*P P 00 33 25.4 +0.9
VES **Vestal, Richgr** 63.20 65 ⇑P P 00 33 23.5 -1.1
baz=63,SNR=7.9
R10A **Warm Springs** 63.32 62 ⇑P P 00 33 25.0 -0.4
baz=63
DGMT **Dagmar** 63.33 47 *e*P P 00 33 25.8 +0.3
Q11A **Duckwater** 63.35 61 ⇓P P 00 33 25.5 -0.1
baz=63,SNR=5.1
PKM **Peak Mountain** 63.35 67 ⇑P P 00 33 25.7 +0.1
baz=63,SNR=6.6
P12A **McGill** 63.38 60 ⇑P P 00 33 25.9 0.0
baz=63,SNR=7.3
CWC **Cottonwood Cre** 63.43 64 ⇓P P 00 33 25.9 -0.2
baz=63,SNR=8.4
LAO **LASA Array** 63.49 49 *e*P P 00 33 26.8 +0.3
GRAC **Grapevine Rang** 63.50 63 ⇓P P 00 33 26.6 0.0
baz=63,SNR=7.1
SPUT **South Promonto** 63.62 57 *e*P P 00 33 25.2 -2.2
ISA **Isabella** 63.69 65 *e*P P 00 33 26.8 -1.1
ISA **Isabella** 63.69 65 ⇑P P 00 33 26.5 -1.3
baz=64,SNR=11
SBC **Santa Barbara** 63.71 67 ⇑P P 00 33 27.7 -0.3
baz=64
Q12A **Willow Creek R** 63.71 60 ⇓P P 00 33 28.0 0.0
baz=64,SNR=5.6
FINES **FINESS Array B** 63.74 335 P P 00 33 27.3 -0.9
comp=Z,8.2nm,0.3s,mb5.2,baz=36,slow=7.3,SNR=157
FINES **FINESS Array B** 63.74 335 P P 00 33 27.3 -0.9
FINES pmax pmax
comp=Z,8.0nm,0.3s
ARVC **Arvin** 63.82 66 ⇓P P 00 33 27.7 -1.0
baz=64
DAC **Darwin (Calif)** 63.83 64 *e*P P 00 33 29.0 +0.2
DAC pmax pmax
comp=Z,19nm,1.3s,mb5.0
DAC **Darwin (Calif)** 63.83 64 *e*P P 00 33 28.9 +0.1
comp=Z,20nm,1.4s,mb4.9
HWUT **Hardware Ranch** 63.93 56 *e*P P 00 33 30.2 +0.8
comp=Z,37nm,1.5s,mb5.2
MPMC **Manual Prospec** 64.04 64 ⇑P P 00 33 29.9 -0.3
baz=64,SNR=19
DUG **Dugway** 64.14 58 *e*P P 00 33 31.2 +0.4
DUG **Dugway** 64.14 58 P P 00 33 31.3 +0.5
baz=64,SNR=18
FURC **Furnace Creek,** 64.16 64 ⇓P P 00 33 30.7 -0.3
baz=64,SNR=13
OSI **Osito Adit** 64.22 66 ⇓P P 00 33 31.0 -0.3
baz=64
NOQ **North Oquirrh** 64.24 57 *e*P P 00 33 31.9 +0.4
BW06 **Boulder Array** 64.30 54 *e*P P 00 33 31.6 -0.3
comp=Z,43nm,1.6s,mb5.2
LRMC **Laurel Mountai** 64.30 65 ⇓P P 00 33 31.3 -0.5
baz=64,SNR=13
PDAR **Pinedale Array** 64.30 54 P P 00 33 31.9 +0.1
comp=Z,4.9nm,0.8s,mb4.6,baz=318,slow=2.0,SNR=36
BLG **Laguna Peak** 64.33 67 ⇑P P 00 33 31.2 -0.9
baz=64
PSI **Prapat** 64.49 244 P P 00 33 33.2 +0.2
comp=Z,3.7nm,0.7s,mb4.5,baz=219,slow=5.1,SNR=3.1
PSI **Prapat** 64.49 244 P P 00 33 33.3 +0.2
PSI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
EDW2 **Edwards Air Fo** 64.50 66 P P 00 33 33.1 -0.1
baz=64,SNR=24
U10A **Ash Meadows, A** 64.51 63 ⇓P P 00 33 33.2 -0.1
baz=64,SNR=12
NSS **Namsos** 64.62 343 *e*P P 00 33 32.2 -1.8
NSS AMb AMB 00 33 52.2
comp=Z,146nm,1.8s,mb5.7
NSS **Namsos** 64.62 343 *e*P P 00 33 32.2 -1.8
comp=Z,146nm,1.8s,mb5.7
JLU **Jordanelle** 64.66 57 *e*P P 00 33 35.1 +0.9
DECC **Green Verdugo** 64.70 66 ⇓P P 00 33 33.5 -1.0
baz=64
NLU **North Lily Min** 64.72 58 *e*P P 00 33 35.3 +0.7
SHOC **Shoshone** 64.89 64 ⇓P P 00 33 35.2 -0.5
baz=65,SNR=7.5
MWC **Mount Wilson** 64.89 66 *e*P P 00 33 35.9 +0.2
DAU **Daniels Canyon** 64.89 57 P P 00 33 36.4 +0.7
DAU **Daniels Canyon** 64.89 57 *e*P P 00 33 36.2 +0.4
MPU **Maple Canyon** 64.94 58 *e*P P 00 33 36.5 +0.5
GSC **Goldstone** 64.95 65 *e*P P 00 33 36.3 +0.2
GSC **Goldstone** 64.95 65 ⇑P P 00 33 35.6 -0.5
baz=65,SNR=9.4
OBN **Obninsk** 65.08 326 ⇓*e*P P 00 33 35.0 -2.0
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,400nm,22.0s,MS4.6
OBN **Obninsk** 65.08 326 *e*P P 00 33 36.5 -0.5
comp=Z,10.0nm,0.6s,mb5.0
U11A **Corn Creek** 65.09 63 ⇓P P 00 33 37.0 -0.1
baz=65
BFSC **Mount Baldy St** 65.13 66 ⇓P P 00 33 36.6 -0.6
baz=65,SNR=8.1
SHPR **Sheep Range** 65.17 63 *e*P P 00 33 37.7 +0.2
CIS **Catalina Islan** 65.21 67 ⇑P P 00 33 37.1 -0.7
baz=65
ARUT **Antelope Range** 65.35 61 P P 00 33 39.3 +0.6
ARUT **Antelope Range** 65.35 61 *e*P P 00 33 38.9 +0.2
SCI **San Clemente I** 65.40 68 ⇓P P 00 33 39.1 +0.1
baz=65
TUQ **Turquoise Mtn.** 65.41 64 P P 00 33 39.1 0.0
baz=65,SNR=21
V11A **Goodsprings** 65.44 63 ⇑P P 00 33 39.3 0.0
baz=65
HEC **Hector,Ludlow** 65.56 65 ⇑P P 00 33 39.8 -0.2
baz=65
BBRC **Big Bear Sol-O** 65.57 65 ⇑P P 00 33 39.8 -0.3
baz=65
U12A **Valley of Fire** 65.59 62 ⇑P P 00 33 40.3 +0.1
baz=65
MSU **Marysvale** 65.62 59 *e*P P 00 33 41.1 +0.7
MURC **Murrieta** 65.83 66 ⇑P P 00 33 41.1 -0.7
baz=66,SNR=6.0
V12A **Nelson** 65.87 63 ⇓P P 00 33 42.1 0.0
baz=66,SNR=13
ULM **Lac du Bonnet** 66.03 41 P P 00 33 42.3 -0.8
comp=Z,5.7nm,0.6s,mb4.8,baz=308,slow=8.3,SNR=12
W12A **Cal Nev Ari** 66.14 63 ⇑P P 00 33 43.5 -0.3
baz=66
SRU **San Rafael** 66.18 58 *e*P P 00 33 44.2 +0.1
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU **San Rafael** 66.18 58 *e*P P 00 33 44.1 +0.1
PFO **Pinyon Flat Ob** 66.29 66 *e*P P 00 33 44.3 -0.5
PFO **Pinyon Flat Ob** 66.29 66 ⇑P P 00 33 44.0 -0.8
baz=66
BELC **Belle Mtn.** 66.31 65 ⇑P P 00 33 43.9 -1.0
baz=66,SNR=9.2
RSSD **Black Hills** 66.36 50 *e*P P 00 33 44.9 -0.3
RSSD pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
RSSD **Black Hills** 66.36 50 *e*P P 00 33 44.9 -0.3
comp=Z,9.5nm,0.7s,mb4.9
109C **Camp Elliot, M** 66.36 67 ⇓P P 00 33 44.7 -0.6
baz=66
IRM **Iron Mountain** 66.73 64 ⇑P P 00 33 47.3 -0.3
baz=66,SNR=12
BAR **Barrett** 66.78 67 *e*P P 00 33 47.9 0.0
MONP **Monument Peak** 66.79 66 ⇑P P 00 33 47.8 -0.2
baz=67
W13A **Hualapai Mount** 66.88 63 ⇓P P 00 33 48.2 -0.3
baz=67,SNR=10.0
BC3 **Big Chuckw Mtn** 66.88 65 ⇓P P 00 33 47.9 -0.6
baz=67,SNR=9.5
VRSR **Storozhevoye** 66.91 321 *e*P P 00 33 48.5 -0.2
VRSR pmax pmax
comp=Z,20nm,1.3s,mb5.0
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,20nm,1.1s
DVTC **Desert V Tower** 67.15 66 ⇓P P 00 33 49.9 -0.3
baz=67
SWSC **Sam W. Stewart** 67.15 66 ⇑P P 00 33 49.6 -0.6
baz=67
X13A **Yucca** 67.25 63 P P 00 33 50.7 -0.2
baz=67,SNR=17
PDMCI **Parker Dam,Lak** 67.26 64 ⇑P P 00 33 50.5 -0.4
baz=67,SNR=14
W14A **Seligman** 67.28 62 ⇓P P 00 33 51.2 +0.1
baz=67,SNR=21
Y12C **Blythe** 67.39 64 P P 00 33 51.7 0.0
baz=67,SNR=8.5
AGMN **Agassiz Refuge** 67.44 43 *e*P P 00 33 51.0 -1.1
comp=E,53nm,1.4s,mb5.5
PHWY **Pilot Hill** 67.54 53 *e*P P 00 33 52.5 -0.2
GLA **Glamis** 67.67 65 P P 00 33 54.0 +0.4
GLA **Glamis** 67.67 65 *e*P P 00 33 53.9 +0.3
GLA **Glamis** 67.67 65 ⇓P P 00 33 53.2 -0.4
baz=67,SNR=9.6
W15A **Williams** 67.80 62 ⇓P P 00 33 54.5 +0.2
baz=68
NB2 **NORSAR Subarra** 67.89 341 P P 00 33 54.2 -0.7
comp=Z,48nm,0.8s,mb5.6,baz=26,slow=6.5
NOA **NORSAR Array B** 67.89 341 P P 00 33 54.0 -0.9
comp=Z,30nm,0.7s,mb5.5,baz=26,slow=6.3,SNR=97
NOA **NORSAR Array B** 67.89 341 P P 00 33 54.0 -0.9
NOA pmax pmax
comp=Z,31nm,0.7s
NOA **NORSAR Array B** 67.89 341 P P 00 33 54.0 -0.9
X14A **Yava** 67.90 63 ⇓P P 00 33 55.1 +0.1
baz=68,SNR=13
WUAZ **Wupatki** 68.11 61 *e*P P 00 33 57.0 +0.8
comp=Z,31nm,1.4s,mb5.1
WUAZ **Wupatki** 68.11 61 ⇓P P 00 33 56.4 +0.2
baz=68,SNR=9.5
HFS **Hagfors** 68.13 340 LR LR 01 02 55.3
comp=Z,257nm,21.9s,MS4.4,baz=244,slow=36
NAO01 **NORSAR Array S** 68.14 341 *e*P P 00 33 55.9 -0.6
SMCO **Snowmass** 68.16 56 P P 00 33 47.6 -9.0
comp=Z,10.0nm,0.9s,mb4.8
Y14A **Wickenburg** 68.19 63 P P 00 33 56.9 +0.1
baz=68,SNR=11
X15A **Humboldt** 68.29 62 P P 00 33 58.0 +0.6
baz=68,SNR=23
ISCO **Idaho Springs** 68.49 54 P P 00 33 59.2 +0.5
ISCO pmax pmax
comp=Z,36nm,1.6s,mb5.2
ISCO **Idaho Springs** 68.49 54 *e*P P 00 33 58.9 +0.2
comp=Z,27nm,1.4s,mb5.1
Z14A **Wintersburg** 68.62 64 ⇓P P 00 33 59.3 -0.2
baz=68
MVCO **Mesa Verde** 68.64 58 *e*P P 00 33 59.7 +0.1
comp=Z,37nm,1.4s,mb5.1
MVCO **Mesa Verde** 68.64 58 P P 00 33 59.6 0.0
baz=68,SNR=8.5
HYA **Hoyanger** 68.81 344 *e*P P 00 34 01.9 +1.3
WRAB **Tennant Creek** 68.99 199 *e*P P 00 34 00.3 -1.5
WRAB pmax pmax
comp=Z,18nm,1.1s,mb4.9
WRAB **Tennant Creek** 68.99 199 *e*P P 00 34 00.2 -1.6
comp=Z,13nm,1.1s,mb4.8
WB2 **Warramunga Arr** 69.00 199 *e*P P 00 33 59.2 -2.7
WB2 **Warramunga Arr** 69.00 199 *e*P P 00 34 01.2 -0.7
WB2 *e* pP 00 34 15.1 +1.2
WRA **Warramunga Arr** 69.01 199 P P 00 34 00.6 -1.3
comp=Z,27nm,1.4s,mb5.0,baz=18,slow=6.6,SNR=13
WRA **Warramunga Arr** 69.01 199 P P 00 34 00.6 -1.3
WRA pmax pmax
comp=Z,27nm,1.4s
KONO **Kongsberg** 69.50 341 *e*P P 00 34 05.2 +0.3
115A **Sonoran Desert** 69.51 64 ⇑P P 00 34 05.2 +0.2
baz=69,SNR=7.3
ASK **Askoy** 69.63 344 *e*P P 00 34 06.0 +0.2
FITZ **Fitzroy Crossi** 69.64 208 *e*P P 00 34 05.6 -0.2
comp=Z,27nm,1.0s,mb5.1
FITZ **Fitzroy Crossi** 69.64 208 P P 00 34 05.7 -0.2
comp=Z,13nm,0.9s,mb4.9,baz=6.0,slow=6.0,SNR=19
POO **Poona** 69.66 276 *e*P P 00 34 03.0 -2.9
EYMN **Ely** 69.68 41 *e*P P 00 34 05.1 -0.9
BER **Bergen** 69.69 344 *e*P P 00 34 05.5 -0.7
EGD **Espegrend** 69.82 344 *e*P P 00 34 07.3 +0.4

ODD1	**Odda**	**69.88**	**343**	*e*P		**P**	**00 34 06.4**	**-0.9**
DZM	**Mont Dzumac**	**69.92**	**167**	P		**P**	**00 34 06.8**	**-0.7**
	comp=Z,4.9nm,1.0s,mb4.4,baz=41,slow=16,SNR=3.1							
116A	**Eloy**	**69.93**	**64**	⇑P		**P**	**00 34 07.6**	**0.0**
	baz=70							
SDCO	**Great Sand Dun**	**69.98**	**56**	*e*P		**P**	**00 34 08.1**	**+0.2**
	comp=Z,47nm,1.8s,mb5.1							
KAD	**Karad**	**70.28**	**274**	*ex*		**P**	**00 34 10.5**	**+0.8**
BLS5	**Blasjo**	**70.36**	**343**	*e*P		**P**	**00 34 11.7**	**+1.5**
ECSD	**EROS,Sioux Fal**	**70.41**	**46**	*e*P		**P**	**00 34 09.4**	**-1.1**
	comp=Z,90nm,1.5s,mb5.5							
KIV	**Kislovodsk**	**70.66**	**314**	*e*P		**P**	**00 34 11.1**	**-1.0**
KIV				pmax	pmax			
	comp=Z,29nm,1.1s,mb5.1							
KIV				MLR	MLR			
	comp=Z,640nm,18.0s,MS4.9							
KIV	**Kislovodsk**	**70.66**	**314**	*e*P		**P**	**00 34 12.8**	**+0.8**
	comp=Z,15nm,0.8s,mb5.0							
TUC	**Tucson**	**70.66**	**63**	P		**P**	**00 34 12.0**	**-0.1**
TUC				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
TUC	**Tucson**	**70.66**	**63**	*e*P		**P**	**00 34 11.8**	**-0.3**
	comp=Z,16nm,1.3s,mb4.8							
SUW	**Suwalki**	**70.72**	**332**	*e*P		**P**	**00 34 11.4**	**-1.0**
ZEI	**Tsey**	**70.94**	**313**	*e*P		**P**	**00 34 12.3**	**-1.4**
ZEI				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
SNART	**Snartemo**	**71.20**	**342**	*e*P		**P**	**00 34 15.5**	**+0.2**
SNART				*e*pP	pP		00 34 18.9	-8.5
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**00 34 14.8**	**-1.2**
	comp=Z,9.7nm,0.4s,mb5.1,baz=33,slow=6.2,SNR=62							
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**00 34 14.8**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,10.0nm,0.4s							
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**	**00 34 14.8**	**-1.2**
AKBB	**Malin Array Si**	**71.31**	**326**	P		**P**	**00 34 15.1**	**-0.9**
AKBB	**Malin Array Si**	**71.31**	**326**	*e*P		**P**	**00 34 14.8**	**-1.2**
KIEV	**Kiev**	**71.33**	**326**	P		**P**	**00 34 14.8**	**-1.3**
KIEV				pmax	pmax			
	comp=Z,18nm,0.6s,mb5.2							
KIEV	**Kiev**	**71.33**	**326**	*e*P		**P**	**00 34 14.7**	**-1.4**
	comp=Z,18nm,0.6s,mb5.2							
LAZ	**Ladron**	**71.39**	**59**	*e*P		**P**	**00 34 17.2**	**+0.8**
ANMO	**Albuquerque**	**71.40**	**59**	*e*P		**P**	**00 34 16.9**	**+0.4**
LENM	**Lemitar**	**71.65**	**59**	*e*P		**P**	**00 34 18.9**	**+0.9**
LPM	**Los Pinos Moun**	**71.75**	**59**	*e*P		**P**	**00 34 19.5**	**+0.9**
BNM	**Barren Site**	**71.86**	**59**	*e*P		**P**	**00 34 19.6**	**+0.3**
CBKS	**Cedar Bluff**	**72.39**	**52**	*e*P		**P**	**00 34 21.6**	**-0.9**
CBKS				pmax	pmax			
	comp=Z,52nm,1.5s,mb5.2							
CBKS	**Cedar Bluff**	**72.39**	**52**	*e*P		**P**	**00 34 21.6**	**-0.9**
	comp=Z,52nm,1.5s,mb5.2							
COP	**Copenhagen**	**72.40**	**338**	*i* P		**P**	**00 34 22.6**	**+0.1**
	comp=Z,34nm,0.7s,mb5.4							
COP	**Copenhagen**	**72.40**	**338**	*i* P		**P**	**00 34 22.6**	**+0.1**
COP				pmax	pmax			
	comp=Z,34nm,0.7s,mb5.4							
GNI	**Garni**	**72.43**	**310**	P		**P**	**00 34 24.6**	**+1.9**
GNI				pmax	pmax			
	comp=Z,23nm,1.0s							
GNI	**Garni**	**72.43**	**310**	*e*P		**P**	**00 34 24.5**	**+1.8**
	comp=Z,23nm,1.0s,mb5.1							
MUD	**Monsted U'grnd**	**72.49**	**340**	*i* P		**P**	**00 34 23.7**	**+0.6**
	comp=Z,19nm,0.6s,mb5.2							
MUD	**Monsted U'grnd**	**72.49**	**340**	*i* P		**P**	**00 34 23.7**	**+0.6**
MUD				pmax	pmax			
	comp=Z,19nm,0.6s,mb5.2							
AS31	**Alice Springs**	**72.70**	**199**	*e*P		**P**	**00 34 23.9**	**-0.4**
ASAR	**Alice Springs**	**72.70**	**199**	P		**P**	**00 34 24.2**	**-0.1**
	comp=Z,7.4nm,0.6s,mb4.8,baz=10,slow=5.7,SNR=95							
ASAR	**Alice Springs**	**72.70**	**199**	P		**P**	**00 34 24.2**	**-0.1**
ASAR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SCHQ	**Schefferville**	**72.81**	**23**	P		**P**	**00 34 24.6**	**-0.3**
	comp=Z,16nm,0.8s,mb5.0,baz=349,slow=5.9,SNR=18							
PALK	**Pallekele**	**72.99**	**262**	*e*P		**P**	**00 34 26.0**	**-0.1**
GKP	**Gorka Klasztor**	**73.21**	**334**	*e*P		**P**	**00 34 26.9**	**-0.4**
SCIA	**State Center**	**73.44**	**46**	*e*P		**P**	**00 34 28.3**	**-0.3**
	comp=Z,133nm,1.3s,mb5.7							
SIM	**Simferopol'**	**73.89**	**320**	*de*P		**P**	**00 34 31.6**	**+0.3**
SIM				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.0							
SIM				MLR	MLR			
	comp=Z,390nm,15.0s,MS4.8							
LVV	**L'vov**	**73.94**	**329**	*e*P		**P**	**00 34 30.7**	**-1.0**
AMTX	**Amarillo**	**74.18**	**56**	*e*P		**P**	**00 34 32.4**	**-0.7**
MNTX	**Cornudas Mount**	**74.34**	**60**	*e*P		**P**	**00 34 33.8**	**-0.2**
KIS	**Kishinev**	**74.47**	**324**	*e*P		**P**	**00 34 32.0**	**-2.7**
KIS				*e*	pP		00 34 45.0	-1.8
KWP	**Kalwaria**	**74.57**	**329**	*e*P		**P**	**00 34 35.6**	**+0.3**
KWP	**Kalwaria**	**74.57**	**329**	P		**P**	**00 34 34.7**	**-0.6**
KWP				pmax	pmax			
	comp=Z,130nm,1.2s,mb5.7							
GDL2	**Guadalupe Moun**	**74.58**	**59**	*e*pP		pP	00 34 47.8	+0.3
IAS	**Iasi**	**74.81**	**325**	P		**P**	**00 34 36.4**	**-0.3**
OJC	**Ojcow**	**75.05**	**331**	*e*P		**P**	**00 34 37.5**	**-0.6**
STHS	**Stebnicka Huta**	**75.26**	**330**	*e*P		**P**	**00 34 39.5**	**+0.3**
STHS				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0							
STHS	**Stebnicka Huta**	**75.26**	**330**	*e*P		**P**	**00 34 39.5**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0							
KOLS	**Kolonicke sedl**	**75.31**	**329**	*e*P		**P**	**00 34 39.4**	**-0.2**
BURAR	**Bucovina Array**	**75.35**	**327**	⇑*i*P		**P**	**00 34 39.3**	**-0.5**
BURAR	**Bucovina Array**	**75.35**	**327**	⇑P		**P**	**00 34 39.3**	**-0.5**
UZH	**Uzhgorod**	**75.56**	**329**	⇑*i*P		**P**	**00 34 40.6**	**-0.4**
UZH				*i*	pP		00 34 54.0	+0.9
NIE	**Niedzica**	**75.57**	**331**	*e*P		**P**	**00 34 41.0**	**0.0**
KSP	**Ksiaz**	**75.62**	**334**	*e*P		**P**	**00 34 41.4**	**+0.1**
KSP	**Ksiaz**	**75.62**	**334**	*e*P		**P**	**00 34 40.7**	**-0.6**
WMOK	**Wichita Mounta**	**75.91**	**54**	*e*P		**P**	**00 34 42.2**	**-0.8**
WMOK				*e*	pP		00 34 55.2	+0.1
OKC	**Ostrava-Krasne**	**75.92**	**332**	*e*P		**P**	**00 34 42.9**	**-0.1**
OKC				*e*PCP	PcP		00 34 55.0	-0.3
UPC	**Upice**	**76.00**	**334**	*e*P		**P**	**00 34 43.4**	**-0.1**
DPC	**Dobruska-Polom**	**76.04**	**333**	*e*P		**P**	**00 34 43.4**	**-0.3**
DPC				*e*PCP	PcP		00 34 55.6	-0.3
MORC	**Moravsky Berou**	**76.16**	**332**	⇑P		**P**	**00 34 44.5**	**+0.1**
MORC	**Moravsky Berou**	**76.16**	**332**	P		**P**	**00 34 44.6**	**+0.2**
MORC				pmax	pmax			
	comp=Z,45nm,1.2s,mb5.3							
MORC	**Moravsky Berou**	**76.16**	**332**	*e*P		**P**	**00 34 44.5**	**+0.1**
	comp=Z,45nm,1.3s,mb5.2							
CLL	**Collm**	**76.16**	**336**	⇑*i*P		**P**	**00 34 43.3**	**-1.1**
CLL				pmax	pmax			
	comp=Z,47nm,0.8s,mb5.5							
CLL	**Collm**	**76.16**	**336**	⇑*i*P		**P**	**00 34 43.3**	**-1.1**
	comp=Z,47nm,0.8s,mb5.5							
CLL				*e*pP	pP		00 34 49.0	-7.5
MSL	**Mosul**	**76.17**	**309**	*ex*		x	00 34 45.0	
VRI	**Vrincioaia**	**76.22**	**325**	⇓*i*P		**P**	**00 34 45.1**	**+0.3**
VRI	**Vrincioaia**	**76.22**	**325**	P		**P**	**00 34 46.0**	**+1.2**
VRI	**Vrincioaia**	**76.22**	**325**	⇓P		**P**	**00 34 45.1**	**+0.3**
PLOR	**Plostina**	**76.27**	**325**	⇓*i*P		**P**	**00 34 45.0**	**0.0**
BRG	**Berggiesshubel**	**76.28**	**335**	*i* P		**P**	**00 34 44.7**	**-0.4**
	comp=Z,19nm,1.3s,mb4.9							
BRG	**Berggiesshubel**	**76.28**	**335**	*i* P		**P**	**00 34 44.7**	**-0.4**
BRG				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.1							
KECS	**Kecovo**	**76.31**	**330**	*i* P		**P**	**00 34 44.6**	**-0.7**
KECS	**Kecovo**	**76.31**	**330**	*i* P		**P**	**00 34 44.7**	**-0.6**
KECS				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
KECS	**Kecovo**	**76.31**	**330**	*i* P		**P**	**00 34 44.7**	**-0.6**
	comp=Z,9.7nm,1.1s,mb4.7							
PVCC	**Panska Ves**	**76.41**	**334**	*e*P		**P**	**00 34 45.7**	**-0.1**
PVCC				*e*PCP	PcP		00 34 58.7	+1.2
TIRR	**Tirgusor**	**76.71**	**323**	⇓*i*P		**P**	**00 34 47.5**	**0.0**
TIRR	**Tirgusor**	**76.71**	**323**	P		**P**	**00 34 48.0**	**+0.5**
TIRR	**Tirgusor**	**76.71**	**323**	⇓P		**P**	**00 34 47.5**	**0.0**
HARR	**Harsova**	**76.71**	**323**	P		**P**	**00 34 47.6**	**+0.1**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑*i*P		**P**	**00 34 48.2**	**-0.1**
MLR	**Muntele Rosu**	**76.84**	**325**	P		**P**	**00 34 48.6**	**+0.3**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑P		**P**	**00 34 48.2**	**-0.1**
VYHS	**Vyhne**	**76.86**	**331**	*e*P		**P**	**00 34 48.4**	**0.0**
VYHS				pmax	pmax			
	comp=Z,13nm,1.3s,mb4.7							
VYHS	**Vyhne**	**76.86**	**331**	*e*P		**P**	**00 34 48.4**	**0.0**
	comp=Z,13nm,1.3s,mb4.7							
VRAC	**Vranov**	**76.87**	**333**	⇓*i*P		**P**	**00 34 49.1**	**+0.7**
VRAC	**Vranov**	**76.87**	**333**	⇓P		**P**	**00 34 49.1**	**+0.7**
PRU	**Pruhonice**	**76.90**	**334**	*e*P		**P**	**00 34 48.4**	**-0.2**
PRU				*e*PCP	PcP		00 35 01.1	+1.5
DRGR		**76.97**	**328**	⇓*i*P		**P**	**00 34 49.1**	**+0.1**
PSZ	**Piszkesteto**	**77.00**	**330**	⇓*i*P		**P**	**00 34 49.4**	**+0.2**
PSZ	**Piszkesteto**	**77.00**	**330**	P		**P**	**00 34 49.7**	**+0.5**
PSZ				pmax	pmax			
	comp=Z,35nm,1.3s,mb5.1							
PSZ	**Piszkesteto**	**77.00**	**330**	*e*P		**P**	**00 34 49.3**	**+0.1**
	comp=Z,40nm,1.4s,mb5.2							
MALT	**Malatya**	**77.03**	**313**	⇑*i*P		**P**	**00 34 50.5**	**+1.2**
MALT	**Malatya**	**77.03**	**313**	P		**P**	**00 34 50.7**	**+1.4**
MALT				pmax	pmax			
	comp=Z,37nm,1.2s,mb5.2							
MALT	**Malatya**	**77.03**	**313**	*e*P		**P**	**00 34 50.6**	**+1.3**
	comp=Z,38nm,1.3s,mb5.2							
LTX	**Lajitas**	**77.07**	**61**	*e*P		**P**	**00 34 49.5**	**-0.1**
LTX				pmax	pmax			
	comp=Z,34nm,1.0s,mb5.2							
LTX	**Lajitas**	**77.07**	**61**	*e*P		**P**	**00 34 49.5**	**0.0**
	comp=Z,34nm,1.0s,mb5.2							
TXAR	**Lajitas Array**	**77.07**	**61**	P		**P**	**00 34 49.4**	**-0.1**
	comp=Z,22nm,0.9s,mb5.1,baz=297,slow=4.4,SNR=113							
TXAR	**Lajitas Array**	**77.07**	**61**	P		**P**	**00 34 49.4**	**-0.2**
TXAR				pmax	pmax			
	comp=Z,22nm,0.9s							
TXAR	**Lajitas Array**	**77.07**	**61**	P		**P**	**00 34 49.4**	**-0.1**
MOX	**Moxa**	**77.15**	**336**	*e*P		**P**	**00 34 50.1**	**+0.1**
	comp=Z,42nm,1.5s,mb5.2							
MOX				*e*	pP		00 35 02.2	+0.1
MOX	**Moxa**	**77.15**	**336**	*e*P		**P**	**00 34 50.1**	**+0.1**
MOX				*e*	pP		00 35 02.2	+0.1
MOX				pmax	pmax			
	comp=Z,42nm,1.5s,mb5.2							
VOIR		**77.23**	**326**	⇓*i*P		**P**	**00 34 51.2**	**+0.7**
VOIR		**77.23**	**326**	⇓P		**P**	**00 34 51.2**	**+0.7**
NKC	**Novy Kostel**	**77.28**	**336**	*e*P		**P**	**00 34 50.6**	**-0.2**
CCM	**Cathedral Cave**	**77.36**	**47**	P		**P**	**00 34 45.1**	**-6.1**
CCM				pmax	pmax			
	comp=Z,96nm,2.0s,mb5.4							
CCM	**Cathedral Cave**	**77.36**	**47**	*e*P		**P**	**00 34 45.0**	**-6.2**
	comp=Z,96nm,2.0s,mb5.4							
ZST	**Bratislava**	**77.69**	**332**	*e*P		**P**	**00 34 54.1**	**+1.1**
ZST				pmax	pmax			
	comp=Z,20nm,1.3s,mb4.9							
ZST				MLR	MLR			
	comp=Z,400nm,20.8s,MS4.7							
ZST	**Bratislava**	**77.69**	**332**	*e*P		**P**	**00 34 54.1**	**+1.1**
	comp=Z,20nm,1.3s,mb4.9							
ZST				LR	LR			
	comp=Z,400nm,20.8s,MS4.7							
BHD	**Baghdad**	**77.73**	**306**	*ex*		x	00 34 48.0	
FVM	**French Village**	**77.82**	**47**	*e*P		**P**	**00 34 52.8**	**-0.9**
FVM				pmax	pmax			
	comp=Z,33nm,1.4s,mb5.1							
FVM	**French Village**	**77.82**	**47**	*e*P		**P**	**00 34 52.8**	**-0.9**
	comp=Z,33nm,1.4s,mb5.1							
KHC	**Kasperske Hory**	**77.95**	**334**	*e*P		**P**	**00 34 54.5**	**0.0**
KHC				*e*PCP	PcP		00 35 06.7	+2.6
GRA1	**Grafenberg Arr**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
	comp=Z,45nm,1.3s,mb5.2							
GRA1				*e*	pP		00 35 08.3	+0.8
GRF	**Grafenberg Arr**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
	comp=Z,45nm,1.3s,mb5.2							
GRF				*e*	pP		00 35 08.3	+0.8
GRF	**Grafenberg Arr**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
GRF				*e*	pP		00 35 08.3	+0.8
GRF				pmax	pmax			
	comp=Z,45nm,1.3s,mb5.2							
GRF	**Grafenberg Arr**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
	comp=Z,45nm,1.3s,mb5.2							
GRFO	**Grafenberg**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
GRFO				*e*	pP		00 35 08.3	+0.8
GRFO				pmax	pmax			
	comp=Z,41nm,1.0s,mb5.3							
GRFO	**Grafenberg**	**78.12**	**336**	*e*P		**P**	**00 34 55.4**	**0.0**
	comp=Z,41nm,1.0s,mb5.3							
GRFO				*e*	pP		00 35 08.3	+0.8
GZR	**Gura Zlata**	**78.13**	**327**	⇑*i*P		**P**	**00 34 55.4**	**-0.1**
GZR	**Gura Zlata**	**78.13**	**327**	P		**P**	**00 34 55.5**	**0.0**
GZR	**Gura Zlata**	**78.13**	**327**	⇑P		**P**	**00 34 55.4**	**-0.1**
GEC2	**GERESS Array S**	**78.17**	**334**	P		**P**	**00 34 56.3**	**+0.6**
GEC2	**GERESS Array S**	**78.17**	**334**	*e*P		**P**	**00 34 56.0**	**+0.3**
GERES	**GERESS Array B**	**78.17**	**334**	P		**P**	**00 34 55.2**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.4,baz=38,slow=5.2,SNR=28							
GERES	**GERESS Array B**	**78.17**	**334**	P		**P**	**00 34 55.2**	**-0.5**
GERES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
BR131	**Keskin Array S**	**78.23**	**317**	*e*P		**P**	**00 34 56.6**	**+0.6**
BRTR	**Keskin Array B**	**78.23**	**317**	P		**P**	**00 34 56.5**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=79,slow=2.6,SNR=34							
BRTR	**Keskin Array B**	**78.23**	**317**	P		**P**	**00 34 56.6**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,12nm,1.0s							
CONA	**Conrad Observa**	**78.32**	**332**	⇓*i*P		**P**	**00 34 56.8**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9							
BZS	**Buzias**	**78.37**	**328**	⇓*i*P		**P**	**00 34 56.0**	**-0.8**
BZS	**Buzias**	**78.37**	**328**	P		**P**	**00 34 56.3**	**-0.5**
BZS	**Buzias**	**78.37**	**328**	⇓P		**P**	**00 34 56.0**	**-0.8**
JCT	**Junction City**	**78.49**	**58**	P		**P**	**00 34 57.4**	**-0.1**
JCT				pmax	pmax			
	comp=Z,62nm,1.3s,mb5.4							
JCT	**Junction City**	**78.49**	**58**	*e*P		**P**	**00 34 57.3**	**-0.2**
ANTO	**Ankara**	**78.51**	**318**	⇑*i*P		**P**	**00 34 58.2**	**+0.6**
ANTO	**Ankara**	**78.51**	**318**	P		**P**	**00 34 58.4**	**+0.8**
ANTO				pmax	pmax			
	comp=Z,33nm,1.2s,mb5.1							
ANTO	**Ankara**	**78.51**	**318**	⇑P		**P**	**00 34 58.2**	**+0.6**
ZIMR		**78.60**	**324**	P		**P**	**00 34 57.7**	**-0.4**
MEM	**Membach**	**78.62**	**340**	P		**P**	**00 34 58.6**	**+0.4**
	comp=Z,11nm,1.0s,mb4.7							
SIUC	**Southern Illin**	**78.62**	**46**	*e*P		**P**	**00 34 57.9**	**-0.3**
	comp=Z,15nm,0.8s,mb5.0							
MOA	**Molln**	**78.88**	**333**	⇑*i*P		**P**	**00 35 00.5**	**+0.9**
	comp=Z,10nm,1.1s,mb4.7							
PKSM	**Moragy**	**78.91**	**330**	P		**P**	**00 34 58.5**	**-1.3**
BCLA	**Clavier**	**78.96**	**340**	P		**P**	**00 34 59.5**	**-0.5**
ARSA	**Arzberg**	**79.03**	**332**	⇑*i*P		**P**	**00 35 01.1**	**+0.7**
	comp=Z,19nm,1.4s,mb4.8,SNR=6.8							
JMB	**Yambol**	**79.10**	**323**	*e*P		**P**	**00 35 00.8**	**0.0**
USIN	**University of**	**79.18**	**45**	*e*P		**P**	**00 35 01.1**	**-0.1**
STKA	**Stephens Creek**	**79.42**	**190**	P		**P**	**00 35 01.8**	**-0.8**
	comp=Z,7.4nm,1.1s,mb4.5,baz=34,slow=7.3,SNR=5.3							
STKA				LR	LR		01 07 57.9	
	comp=Z,308nm,18.9s,MS4.7,baz=21,slow=34							
STKA	**Stephens Creek**	**79.42**	**190**	*e*P		**P**	**00 35 01.8**	**-0.8**
WLF	**Walferdange**	**79.46**	**339**	AP		pP	00 35 11.6	-3.3
ALLY	**Alegheny Colle**	**79.58**	**38**	*e*P		**P**	**00 35 03.2**	**-0.2**
WCI	**Wyandotte Cave**	**79.62**	**44**	P		**P**	**00 35 03.1**	**-0.6**
WCI				pmax	pmax			
	comp=Z,90nm,1.5s,mb5.5							
WCI	**Wyandotte Cave**	**79.62**	**44**	*e*P		**P**	**00 35 03.1**	**-0.6**
	comp=Z,90nm,1.5s,mb5.5							
KBA	**Koelnbreinsper**	**79.85**	**334**	⇑*i*P		**P**	**00 35 05.3**	**+0.4**
	comp=Z,28nm,0.8s,mb5.2,SNR=25							
NCB	**Newcomb**	**79.95**	**33**	*e*P		**P**	**00 35 04.6**	**-0.9**
OBKA	**Obir**	**79.99**	**333**	⇑*i*P		**P**	**00 35 05.2**	**-0.5**
	comp=Z,8.9nm,0.8s,mb4.8							
GOLS	**Golise**	**80.09**	**332**	*i* P		**P**	**00 35 06.4**	**+0.2**
WATA	**Walderalm**	**80.15**	**335**	*i* P		**P**	**00 35 07.3**	**+0.8**
	comp=Z,6.2nm,0.5s,mb4.8,SNR=5.5							
GRUS	**Gruza**	**80.18**	**327**	*i* P		**P**	**00 35 05.7**	**-1.0**
WTTA	**Wattenberg**	**80.20**	**335**	*i* P		**P**	**00 35 07.3**	**+0.6**
	comp=Z,18nm,0.7s,mb5.1,SNR=9.5							
DIVS	**Divcibare**	**80.27**	**328**	*i* P		**P**	**00 35 05.9**	**-1.2**
DIVS	**Divcibare**	**80.27**	**328**	*e*P		**P**	**00 35 05.8**	**-1.4**
MOTA	**Moosalm**	**80.28**	**335**	⇑*i*P		**P**	**00 35 07.7**	**+0.5**
	comp=Z,39nm,1.3s,mb5.2,SNR=13							
CDF	**Champ du Feu**	**80.34**	**338**	*e*P		**P**	**00 35 06.5**	**-1.0**
	comp=Z,8.1nm,0.6s,mb4.6							
CDF	**Champ du Feu**	**80.34**	**338**	*e*P		**P**	**00 35 06.5**	**-1.0**
CDF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**80.34**	**338**	*e*P		**P**	**00 35 06.5**	**-1.0**
	comp=Z,4.1nm,0.6s,mb4.5							
VTS	**Vitosha**	**80.35**	**325**	*e*P		**P**	**00 35 07.1**	**-0.5**
VTS	**Vitosha**	**80.35**	**325**	⇓*i*P		**P**	**00 35 08.1**	**+0.5**
VTS	**Vitosha**	**80.35**	**325**	⇓P		**P**	**00 35 08.1**	**+0.5**
SQTA	**Sankt Quirin**	**80.36**	**335**	⇑*i*P		**P**	**00 35 08.4**	**+0.8**
	comp=Z,36nm,1.4s,mb5.1							
WVT	**Waverly**	**80.56**	**46**	P		**P**	**00 35 08.1**	**-0.6**
WVT				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
WVT	**Waverly**	**80.56**	**46**	*e*P		**P**	**00 35 08.0**	**-0.7**
	comp=Z,8.8nm,1.0s,mb4.6							
ALN	**Alexandroupoli**	**80.63**	**322**	*e*P		**P**	**00 35 08.8**	**-0.2**
DAVA	**Damuels**	**80.68**	**336**	⇑*i*P		**P**	**00 35 10.1**	**+0.7**
	comp=Z,24nm,1.4s,mb4.9							
FORT	**Forrest**	**80.92**	**202**	*e*P		**P**	**00 35 10.6**	**0.0**
	comp=Z,22nm,0.7s,mb5.2							
OXF	**Oxford**	**81.05**	**48**	*e*P		**P**	**00 35 11.0**	**-0.3**
OXF				pmax	pmax			
	comp=Z,55nm,1.0s,mb5.4							
OXF	**Oxford**	**81.05**	**48**	*e*P		**P**	**00 35 11.0**	**-0.3**
	comp=Z,55nm,1.1s,mb5.4							
MCWV	**Mont Chateau**	**81.36**	**39**	*e*P		**P**	**00 35 13.0**	**0.0**
	comp=Z,49nm,1.1s,mb5.3							
STIP	**Stip**	**81.51**	**325**	*e*P		**P**	**00 35 12.3**	**-1.5**
SKO	**Skopje**	**81.56**	**326**	*e*P		**P**	**00 35 15.5**	**+1.5**
VAY	**Valandovo**	**81.68**	**325**	*e*P		**P**	**00 35 09.4**	**-5.3**
VAY	**Valandovo**	**81.68**	**325**	*e*P		**P**	**00 35 09.5**	**-5.2**
KNT	**Kendrikon**	**81.69**	**325**	*e*P		**P**	**00 35 13.9**	**-0.8**
LOS	**Limnos**	**81.84**	**322**	*e*P		**P**	**00 35 14.9**	**-0.6**
OUR	**Ouranopolis**	**81.95**	**323**	*e*P		**P**	**00 35 13.9**	**-2.2**
GRG	**Griva**	**82.06**	**325**	*e*P		**P**	**00 35 15.8**	**-0.8**
HORT	**Hortiatis**	**82.08**	**324**	*e*P		**P**	**00 35 15.7**	**-1.1**
PLG	**Polygyros**	**82.14**	**324**	*e*P		**P**	**00 35 15.9**	**-1.1**
KRUS	**Krusevo**	**82.15**	**326**	*i* P		**P**	**00 35 16.8**	**-0.4**
CSS	**Prodhromos**	**82.19**	**314**	*e*P		**P**	**00 35 17.6**	**+0.3**
	comp=Z,15nm,0.8s,mb5.0							
GRR	**Gorron**	**82.22**	**343**	*e*P		**P**	**00 35 16.5**	**-1.0**
	comp=Z,40nm,0.9s,mb5.0							
GRR	**Gorron**	**82.22**	**343**	*e*P		**P**	**00 35 16.5**	**-1.0**
GRR				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.0							
GRR	**Gorron**	**82.22**	**343**	*e*P		**P**	**00 35 16.5**	**-1.0**
	comp=Z,20nm,0.9s,mb5.0							
PAIG	**Paliouri**	**82.42**	**323**	*e*P		**P**	**00 35 17.4**	**-1.2**
FNA	**Florina**	**82.60**	**325**	*e*P		**P**	**00 35 18.8**	**-0.7**
TIR	**Tirane**	**82.69**	**327**	*e*P		**P**	**00 35 17.8**	**-2.2**
SMF	**Signal de Mont**	**82.84**	**339**	*e*P		**P**	**00 35 19.6**	**-1.1**
	comp=Z,34nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**82.84**	**339**	*e*P		**P**	**00 35 19.6**	**-1.1**
SMF				pmax	pmax			
	comp=Z,17nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**82.84**	**339**	*e*P		**P**	**00 35 19.6**	**-1.1**
	comp=Z,17nm,1.0s,mb5.0							
AOS	**Alonnisos**	**82.98**	**323**	*e*P		**P**	**00 35 20.5**	**-1.0**
ELN	**Prospectd

390nm,0.4s
SKR AMB AMB 00 33 57.5
150nm,0.4s
SKR AMB AMB 00 33 57.5
570nm,0.4s
SKR eS Sn 00 34 36.0 -0.6
SKR A 00 34 38.9
990nm,0.3s
SKR A 00 34 38.9
280nm,0.3s
SKR A 00 34 38.9
360nm,0.2s
SKR Severo-Kuril's 3.75 22 ePN Pn **00 33 54.0 +0.3**
SKR eS Sn **00 34 36.0 -0.6**
SKR pmax pmax
comp=N,390nm,0.4s
SKR pmax pmax
comp=E,150nm,0.4s
SKR pmax pmax
comp=Z,570nm,0.4s
SKR smax
comp=E,990nm,0.3s
SKR smax
comp=N,360nm,0.2s
KUR Kuril'sk 4.63 247⇑ *i*P Pn **00 34 04.8 -0.9**
KUR AMB AMB 00 34 09.0
comp=N,2μm,1.2s
KUR AMB AMB 00 34 14.6
comp=N,140nm,0.6s
KUR AMB AMB 00 34 14.6
comp=N,160nm,0.6s
KUR AMB AMB 00 34 14.6
comp=N,460nm,0.6s
KUR sP 00 34 28.4
KUR *i* S Sn **00 34 56.5 -1.7**
KUR A 00 35 02.6
comp=N,8μm,2.0s
KUR A 00 35 02.6
comp=N,4μm,2.0s
KUR A 00 35 14.2
comp=N,2μm,0.8s
KUR A 00 35 14.2
comp=N,1μm,0.8s
KUR AMS AMS 00 35 56.0
comp=N,8μm,14.0s
KUR AMS AMS 00 35 56.0
comp=N,5μm,14.0s
KUR AMS AMS 00 35 56.0
comp=N,5μm,14.0s
YUK Yuzh-Kuril'sk 6.47 243 eP Pn **00 34 31.0 0.0**
YUK eS Sn **00 35 41.5 -2.0**
YUK A 00 36 07.0
comp=N,8μm,3.0s
YUK A 00 36 10.0
comp=N,1μm,0.5s
YUK A 00 36 10.0
comp=N,580nm,0.5s
PET Petropavlovsk 6.56 26 ePN Pn **00 34 31.3 -0.9**
PET pmax pmax
comp=Z,82nm,1.1s
PET Petropavlovsk 6.56 26 ePn Pn **00 34 31.4 -0.8**
PET eSn Sn **00 35 42.7 -3.0**
NEM2 Nemuro 2 6.92 239 P Pn **00 34 36.7 -0.5**
NEM2 eS Sn **00 35 49.6 -5.0**
JRA Rausu 6.97 245 P Pn **00 34 40.5 +2.6**
JNK Nakash 7.41 244 P Pn **00 34 45.1 +1.2**
JNK eS Sn **00 36 06.2 -0.4**
YSS Yuzh-Sakhalins 7.60 272 eP Pn **00 34 50.5 +4.0**
YSS AMB AMB 00 34 54.0
comp=Z,110nm,1.0s
YSS AMB AMB 00 34 54.0
comp=Z,90nm,1.0s
YSS eS Sn **00 36 15.8 +4.4**
YSS A 00 36 19.0
comp=Z,90nm,1.0s
YSS A 00 36 19.0
comp=Z,160nm,1.0s
YSS eLQ 00 36 42.0
YSS AMS AMS 00 37 35.0
comp=Z,3μm,16.0s
YSS AMS AMS 00 37 35.0
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 7.60 272 ePN Pn **00 34 50.5 +4.0**
YSS pmax pmax
comp=E,110nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=E,2μm,17.0s
YSS Yuzh-Sakhalins 7.60 272 ePn Pn **00 34 50.2 +3.6**
comp=E,122nm,0.9s
YSS eSn Sn **00 36 13.6 +2.2**
JTKR Abashiri--Toko 7.72 249 P Pn **00 34 50.4 +2.3**
JAK Akkeshi 7.75 240 P Pn **00 34 47.6 -1.0**
JAK eS Sn **00 36 09.0 -6.2**
JMP Maruseppu 8.05 250 P Pn **00 34 57.5 +4.8**
UGL Uglegorsk 8.12 287 eP Pn **00 34 59.0 +5.4**
UGL AMB AMB 00 35 02.5
comp=E,271nm,1.1s
UGL AMS AMS 00 37 55.0
comp=E,2μm,16.0s
UGL AMS AMS 00 37 55.0
comp=E,3μm,16.0s
UGL AMS AMS 00 37 55.0
comp=E,3μm,15.0s
JAR Ashorobuto 8.15 245 P Pn **00 34 55.5 +1.5**
JAR eS Sn **00 36 20.8 -4.0**
TYV Tymovskoe 8.22 300 eP Pn **00 34 57.8 +2.8**
TYV AMB AMB 00 35 02.0
comp=E,44nm,1.0s
TYV AMB AMB 00 35 02.0
comp=E,15nm,1.2s
TYV eS Sn **00 36 27.5 +0.9**
TYV A 00 36 33.0
comp=E,39nm,1.0s
JOB Onbets 8.32 242 P Pn **00 34 57.1 +0.7**
ASAJ Asahikawa 8.49 253 Pn Pn **00 35 01.9 +3.1**
comp=E,3.9nm,0.3s,baz=55,slow=12,SNR=11
ASAJ Asahikawa 8.49 253 P Pn **00 35 02.0 +3.2**
ASAJ Asahikawa 8.49 253 PN Pn **00 35 01.9 +3.1**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
JKK2 Kamakawa 2 8.51 251 P Pn **00 35 01.3 +2.4**
JWK2 Keihoku 8.52 261 P Pn **00 35 04.4 +5.2**
JCH Churui 8.78 242 P Pn **00 35 02.2 -0.4**
JCH eS Sn **00 36 34.9 -5.3**
JEM Erimo 9.25 240 P Pn **00 35 11.8 +2.6**
JBT2 Biratori 2 9.29 246 P Pn **00 35 10.8 +1.1**
JNBK Urakawa-nobuka 9.34 242 P Pn **00 35 09.6 -0.7**
JEW Eniwo 9.83 248 P Pn **00 35 25.1 +8.0**
JNB Noboribetsu 10.29 247 P Pn **00 35 23.0 -0.3**
NKL Nikolayevsk 10.32 310⇓ *i*P Pn **00 35 26.0 +2.2**
NKL AMB AMB 00 35 26.9
comp=Z,170nm,1.1s
NKL AMB AMB 00 35 26.9
comp=Z,140nm,1.1s
NKL eL 00 38 24.0
JKB Kayabe 10.61 244 P Pn **00 35 26.6 -1.1**
JKB eS Sn **00 37 17.7 -7.5**
JOT Ohata 10.89 242 P Pn **00 35 31.1 -0.5**
JTM Tenmabayashi 11.25 240 eS Sn **00 37 29.5 -11**
JANG Nango 11.26 237 P Pn **00 35 32.9 -3.7**
JANG eS Sn **00 37 28.6 -13**
JOM Ohasama 12.00 234 P Pn **00 35 45.0 -1.7**
OFUJ Ofunato 12.07 232 eS Sn **00 37 49.5 -11**
TEY Ternei 12.19 266 eP Pn **00 35 52.0 +2.6**
TEY AMB AMB 00 35 53.0
comp=Z,130nm,1.5s
TEY AMS AMS 00 40 10.0
comp=Z,1μm,16.0s
TEY AMS AMS 00 40 10.0
comp=Z,700nm,14.0s
JRG Rokugo 12.42 236 P Pn **00 35 50.4 -2.1**
JRG eS Sn **00 37 59.2 -10**
MA2 Magadan 12.50 353 PN Pn **00 35 53.1 -0.5**
JIO Ouri 12.70 231 P Pn **00 35 53.5 -2.8**
JIO eS Sn **00 38 05.8 -11**
HABR Khabarovsk 12.71 283 ePN Pn **00 36 02.0 +5.5**
HABR eS Sn **00 38 25.1 +8.4**
HABR pmax pmax
comp=Z,95nm,1.6s
KLR Kul'dur 14.88 286 eP Pn **00 36 27.0 +1.0**
MAJO Matsushiro 15.79 233 eP Pn **00 36 37.4 -0.5**
MAJO pmax pmax
comp=Z,32nm,0.9s
MAJO Matsushiro 15.79 233 ePn Pn **00 36 37.4 -0.4**
comp=Z,32nm,0.9s
MAJO Sn Sn **00 39 21.4 -10**
MAT Matsushiro 15.79 233 P Pn **00 36 36.4 -1.5**
MAT Matsushiro 15.79 233 P Pn **00 36 36.8 -1.1**
MJAR Matsushiro Arr 15.79 233 Pn Pn **00 36 36.7 -1.1**
comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=14
MJAR Matsushiro Arr 15.79 233 Pn Pn **00 36 36.7 -1.1**
JHJ Hachijo jima 2 17.70 222 LR LR 00 42 42.7
comp=Z,303nm,18.8s,baz=231,slow=33
ZEA Zeya 18.09 301 eP Pn **00 37 04.1 -2.5**
ZEA AMB AMB 00 37 07.2
comp=Z,55nm,1.4s
CN2 Changchun 20.17 271 eP P **00 37 31.0 +1.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
YAK Yakutsk 20.21 326 eP P **00 37 33.3 +3.4**
YAK *e* 00 37 54.5
YAK eS S **00 41 12.1 -2.5**
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,27nm,1.3s
YAK pmax pmax
comp=E,33nm,1.5s
YAK pmax pmax
comp=Z,60nm,1.1s
YAK pmax pmax
comp=N,172nm,2.4s
YAK pmax pmax
comp=E,137nm,2.0s
YAK smax
comp=N,297nm,2.9s
YAK smax
comp=Z,275nm,3.3s
YAK smax
comp=E,100nm,2.1s
YAK MLR MLR
comp=N,305nm,14.0s,MS4.0
YAK MLR MLR
comp=Z,477nm,14.0s,MS4.0
YAK MLR MLR
comp=E,416nm,16.0s,MS4.0
YAK Yakutsk 20.21 326 P P **00 37 28.9 -1.0**
KSRS Korea Array 21.45 252 P P **00 37 43.8 +0.5**
comp=E,7.3nm,0.8s,mb4.1,baz=57,slow=10,SNR=16
KSRS LR LR 00 44 53.5
comp=E,437nm,19.7s,MS3.9,baz=32,slow=34
BILL Bilibino 21.80 13⇑ eP P **00 37 47.4 +0.3**
BILL pmax pmax
comp=Z,14nm,1.7s,mb4.1
BILL Bilibino 21.80 13 eP P **00 37 46.6 -0.4**
comp=Z,7.9nm,0.8s,mb4.2
SNY Shenyang 22.19 267⇑ P P **00 37 49.8 -1.4**
SNY AMB AMB
comp=Z,21nm,1.0s,mb4.5
SNY AMB AMB
comp=Z,908nm,12.0s
SNY LR LR
comp=N,393nm,15.1s,MS4.4
SNY LR LR
comp=E,1μm,16.3s,MS4.4
SNY LR LR
comp=Z,1μm,14.7s,MS4.5
INCN Inchon 22.27 254 P P **00 37 51.5 -0.5**
HIA Hailar 22.71 288 P P **00 37 56.1 -0.7**
HIA pmax pmax
comp=Z,14nm,1.1s
HIA Hailar 22.71 288 P P **00 37 56.1 -0.6**
comp=Z,14nm,1.1s,mb4.3
BJI Beijing 28.01 269 P P **00 38 51.8 +6.1**
BJI LR LR
comp=N,770nm,14.7s,MS4.5
BJI LR LR
comp=E,395nm,14.7s,MS4.5
BJI LR LR
comp=Z,652nm,19.8s
HHC Hu-ho-hao-te 30.79 274 eP P **00 39 11.8 +1.5**
HHC AP pP 00 39 16.4 -4.4
HHC XP sP 00 39 19.1 -6.2
HHC PP PP 00 40 16.4 -3.7
HHC AMB AMB
comp=Z,22nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,387nm,9.6s
HHC LR LR
comp=N,452nm,15.1s,MS4.4
HHC LR LR
comp=E,432nm,14.3s,MS4.4
HHC LR LR
comp=Z,684nm,16.1s,MS4.4
ULN Ulaanbaatar 31.24 289 eP P **00 39 14.2 -0.1**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
ULN Ulaanbaatar 31.24 289 eP P **00 39 14.2 -0.1**
comp=Z,5.1nm,1.1s,mb4.3
SONM Songino Array 31.67 289 P P **00 39 17.0 -1.1**
comp=Z,1.0nm,0.9s,baz=60,slow=8.6,SNR=5.7
SONM LR LR 00 52 36.2
comp=Z,717nm,19.4s,MS4.4,baz=68,slow=37
SONM Songino Array 31.67 289 P P **00 39 17.0 -1.1**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,717nm,19.4s
KDAK Kodiak Island 33.39 52 P P **00 39 31.5 -1.7**
comp=Z,17nm,0.6s,mb5.2,baz=294,slow=6.5,SNR=23
PMR Palmer 34.89 45 eP P **00 39 47.2 +1.1**
PMR pmax pmax
comp=Z,14nm,1.1s,mb4.8
PMR Palmer 34.89 45 eP P **00 39 47.2 +1.1**
comp=Z,14nm,1.1s,mb4.8
MCK McKinley 34.94 41 eP P **00 39 46.7 +0.1**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MCK McKinley 34.94 41 eP P **00 39 46.7 +0.1**
comp=Z,7.1nm,0.8s,mb4.7
COLA College 35.43 39 eP P **00 39 51.1 +0.3**
COLA pmax pmax
comp=Z,30nm,1.0s,mb5.2
COLA College 35.43 39 eP P **00 39 51.0 +0.3**
comp=Z,30nm,1.0s,mb5.2
XAN Xi'an 36.08 265 P P **00 39 56.3 -0.1**
XAN AP pP 00 40 06.3 -0.7
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.7
DIV Divide 36.53 45 eP P **00 40 00.2 0.0**
comp=Z,122nm,0.9s,mb5.7
EGAK Eagle 38.29 39 eP P **00 40 14.4 -0.7**
comp=Z,24nm,1.0s,mb4.9
LZH Lanzhou 38.40 272 eP P **00 40 17.5 +1.5**
LZH AP pP 00 40 21.0 -5.7
LZH PP PP 00 41 46.8 +2.5
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,156nm,4.8s
LZH LR LR
comp=E,653nm,16.3s
LZH LR LR
comp=Z,963nm,17.2s,MS4.7
LZH Lanzhou 38.40 272 eP P **00 40 17.5 +1.5**
comp=Z,30nm,1.0s,mb5.0
LZH pP pP 00 40 21.0 -5.7
LZH sP sP 00 40 22.1 -9.0
LZH PP PP 00 41 46.8 +2.5
LZH LR LR
comp=Z,960nm,17.2s,MS4.7
GTA Gaotai 39.41 279 eP P **00 40 26.5 +2.0**
GTA AP pP 00 40 33.6 -1.6
GTA AMB AMB
comp=Z,3.0nm,1.6s,mb3.8
INK Inuvik 40.96 33 P P **00 40 37.0 -0.4**
comp=Z,4.4nm,0.5s,mb4.3,baz=292,slow=6.2,SNR=33
INK Inuvik 40.96 33 P P **00 40 37.0 -0.3**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 40.96 33 P P **00 40 37.0 -0.4**
CD2 Chengdu 41.45 265⇓ *i*P P **00 40 41.4 +0.1**
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,80nm,4.8s
GYA Guiyang 42.33 258⇑ *i*P P **00 40 49.3 +0.7**
GYA PP PP 00 42 30.1 +3.1
GYA PCP PcP 00 42 41.6 0.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,460nm,16.7s,MS4.6
GYA LR LR
comp=E,510nm,17.0s,MS4.6
GYA LR LR
comp=Z,430nm,16.3s,MS4.4
ZAL Zalesovo 42.77 306 P P **00 40 50.5 -1.6**
comp=Z,2.8nm,0.5s,mb4.2,baz=41,slow=8.3,SNR=6.9
ZAL Zalesovo 42.77 306 P P **00 40 50.6 -1.5**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
DLBC Dease Lake 44.88 46 eP P **00 41 10.7 +1.7**
WMQ Urumqi 45.24 291 eP P **00 41 07.5 -4.4**
KMI Kunming 45.85 260 P P **00 41 17.3 +0.6**
KMI AMB AMB
comp=Z,19nm,1.2s,mb4.9
KMI Kunming 45.85 260 P P **00 41 17.2 +0.5**
KMI pmax pmax
comp=Z,19nm,1.2s,mb4.9
KMI Kunming 45.85 260 P P **00 41 17.2 +0.5**
comp=Z,19nm,1.2s,mb4.9
KMI pP pP 00 41 21.4 -6.2
MK31 Makanchi Array 47.19 297 eP P **00 41 26.0 -1.2**
MKAR Makanchi Array 47.19 297 P P **00 41 26.1 -1.2**
comp=Z,3.8nm,1.0s,mb4.3,baz=60,slow=7.0,SNR=16
MKAR Makanchi Array 47.19 297 P P **00 41 26.1 -1.1**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 50.21 19 eP P **00 41 50.4 0.0**
RES pmax pmax
comp=Z,184nm,0.8s
RES Resolute Bay 50.21 19 eP P **00 41 50.4 -0.1**
comp=Z,184nm,0.8s
YKA Yellowknife Ar 50.22 37 P P **00 41 49.8 -0.7**
comp=Z,5.9nm,0.7s,mb4.7,baz=296,slow=6.9,SNR=8.7
YKA Yellowknife Ar 50.22 37 P P **00 41 49.8 -0.7**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 50.22 37 P P **00 41 49.8 -0.7**
CHKZ Chkalovo 50.52 310 eP P **00 41 51.1 -1.7**
CHKZ *e* 00 43 48.7
CHKZ pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
CHKZ Chkalovo 50.52 310 eP P **00 41 51.1 -1.7**
comp=Z,8.2nm,0.5s,mb4.9
CHKZ ePP PP 00 43 48.7 -0.1
LSA Lhasa 50.77 273 P P **00 41 54.9 +0.2**
LSA Lhasa 50.77 273 eP P **00 41 57.0 +2.3**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA Lhasa 50.77 273 eP P **00 41 57.0 +2.3**
comp=Z,6.8nm,0.6s,mb4.8
BVAR Borovoye Array 50.96 309 P P **00 41 55.0 -1.1**
comp=Z,2.6nm,0.5s,mb4.5,baz=56,slow=7.7,SNR=17
BVAR Borovoye Array 50.96 309 P P **00 41 55.0 -1.1**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 51.00 309 eP P **00 41 55.2 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.00 309 eP P **00 41 55.2 -1.2**
comp=Z,4.5nm,0.6s,mb4.6
ZRNK Zerenda 51.72 310 eP P **00 42 00.0 -1.8**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZRNK Zerenda 51.72 310 eP P **00 42 00.0 -1.8**
comp=Z,3.7nm,0.6s,mb4.5
CHTO Chiang Mai 52.74 257 eP P **00 42 09.9 +0.5**
CHTO pmax pmax
comp=Z,13nm,0.9s,mb4.9
CHTO Chiang Mai 52.74 257 eP P **00 42 09.9 +0.6**
comp=Z,12nm,0.9s,mb4.8
ARU Arti 55.01 318⇓ *i*P P **00 42 23.7 -2.3**
ARU eS S **00 50 04.0 -1.5**
ARU eSS SS 00 53 45.2 -4.2
ARU pmax pmax
comp=Z,25nm,1.4s,mb5.0
ARU Arti 55.01 318 eP P **00 42 24.2 -1.7**
comp=Z,26nm,1.1s,mb5.2
JIRN Jiri 55.43 275 eP P **00 42 30.1 +1.1**
GUN Gumba 55.48 275 eP P **00 42 30.1 +0.7**
EDM Edmonton 55.60 47 eP P **00 42 30.3 +0.1**
KKN Kakani 55.97 276 eP P **00 42 33.7 +0.9**
comp=Z,91nm,1.3s,mb5.7
PKI Pulchoki 56.02 275 eP P **00 42 34.1 +0.9**
comp=Z,69nm,1.2s,mb5.6
DMN Daman 56.20 275 eP P **00 42 35.5 +1.0**
comp=Z,128nm,1.2s,mb5.8
GKN Gorkha 56.27 276 eP P **00 42 35.8 +0.8**
comp=Z,138nm,1.3s,mb5.8
NEW Newport 56.46 53 P P **00 42 35.5 -0.8**
comp=Z,1.7nm,0.8s,mb4.1,baz=334,slow=3.8,SNR=3.6
NEW Newport 56.46 53 eP P **00 42 35.7 -0.7**
NEW pmax pmax
comp=Z,27nm,1.8s
NEW Newport 56.46 53 eP P **00 42 35.7 -0.7**
comp=Z,27nm,1.8s,mb5.0
KOLN Koldanda 57.12 277 eP P **00 42 41.9 +0.9**
comp=Z,67nm,1.1s,mb5.6
ARCES ARCESS Array B 57.57 341 P P **00 42 43.3 -0.9**
comp=Z,5.4nm,0.9s,mb4.6,baz=32,slow=7.4,SNR=13
ARCES ARCESS Array B 57.57 341 P P **00 42 43.3 -0.9**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 60.18 4 P P **00 43 02.4 +0.1**
comp=Z,15nm,0.9s,mb5.0
FCC Fort Churchill 60.57 34 P P **00 43 04.6 -0.4**
CMB Columbia Colle 60.72 65 eP P **00 43 05.1 -0.9**
CMB pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
CMB Columbia Colle 60.72 65 eP P **00 43 05.1 -0.9**
comp=Z,1.1nm,0.6s,mb4.2
HLID Hailey 60.80 56 eP P **00 43 07.3 +0.7**
comp=Z,5.4nm,1.2s,mb4.5
QLMT Earthquake Lak 61.67 54 eP P **00 43 13.3 +0.9**
GCMT Greycliff 62.01 52 eP P **00 43 16.4 +1.7**
TPH Tonopah 62.62 63 P P **00 43 20.5 +1.7**
ISA Isabella 63.41 65 P P **00 43 23.4 -0.6**
FINES FINESS Array B 63.83 335 P P **00 43 25.6 -1.2**
comp=Z,3.1nm,0.3s,mb4.8,baz=39,slow=8.0,SNR=48
FINES FINESS Array B 63.83 335 P P **00 43 25.6 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.3s
DUG Dugway 63.87 58 eP P **00 43 27.7 +0.6**
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
DUG Dugway 63.87 58 eP P **00 43 27.7 +0.6**
comp=Z,5.7nm,1.1s,mb4.5
BW06 Boulder Array 64.04 54 eP P **00 43 28.5 +0.3**
comp=Z,6.0nm,1.4s,mb4.4
PDAR Pinedale Array 64.04 54 P P **00 43 28.7 +0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=318,slow=2.0,SNR=15
ULM Lac du Bonnet 65.81 41 P P **00 43 38.7 -1.0**
comp=Z,3.2nm,0.8s,mb4.4,baz=329,slow=7.2,SNR=6.0
ULM Lac du Bonnet 65.81 41 P P **00 43 38.7 -1.0**
RSSD Black Hills 66.11 50 eP P **00 43 41.4 -0.2**
RSSD pmax pmax
comp=Z,28nm,1.5s,mb5.1
RSSD Black Hills 66.11 50 eP P **00 43 41.4 -0.2**
comp=Z,28nm,1.5s,mb5.1
HYB Hyderabad 67.51 272 *i* P P **00 43 51.0 +0.4**
HYB Hyderabad 67.51 272 eP P **00 43 51.0 +0.4**
NB2 NORSAR Subarra 67.94 341 P P **00 43 52.0 -1.3**
comp=Z,11nm,0.8s,mb5.0,baz=29,slow=6.5
NOA NORSAR Array B 67.94 341 P P **00 43 52.3 -1.0**
comp=Z,10nm,0.9s,mb4.8,baz=26,slow=6.3,SNR=15
NOA NORSAR Array B 67.94 341 P P **00 43 52.3 -1.0**
NOA pmax pmax
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 68.23 55 eP P **00 43 56.2 +1.1**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ISCO Idaho Springs 68.23 55 eP P **00 43 56.2 +1.2**
comp=Z,3.0nm,0.8s,mb4.4
WB2 Warramunga Arr 69.14 200 eP P **00 44 00.6 -0.1**
WB2 Warramunga Arr 69.14 200 P P **00 44 00.6 -0.2**
WRA Warramunga Arr 69.14 200 P P **00 44 00.2 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=14,slow=6.6,SNR=4.5
WRA Warramunga Arr 69.14 200 P P **00 44 00.2 -0.6**
WRA pmax pmax

comp=Z,1.0nm,0.5s
SDCO Great Sand Dun 69.72 56 P **P 00 44 04.8 +0.5**
comp=Z,2.2nm,1.1s,mb4.0
FITZ Fitzroy Crossi 69.82 209 *e*P **P 00 44 05.1 +0.2**
comp=Z,5.3nm,0.8s,mb4.5
POO Poona 69.94 276 *e*P **P 00 44 02.5 -3.2**
ECSD EROS,Sioux Fal 70.17 47 *e*P **P 00 44 06.5 -0.6**
comp=Z,6.0nm,0.7s,mb4.6
KIV Kislovodsk 70.84 315 *e*P **P 00 44 11.2 0.0**
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.7
ANMO Albuquerque 71.13 59 P **P 00 44 13.5 +0.6**
AKASG Malin Array Be 71.44 327 P **P 00 44 13.4 -1.4**
comp=Z,2.9nm,0.3s,mb4.6,baz=36,slow=6.4,SNR=16
AKASG Malin Array Be 71.44 327 P **P 00 44 13.4 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
BSD Bornholm Skovb 72.32 337 *i* P **P 00 44 19.7 -0.4**
comp=Z,15nm,0.6s,mb5.1
BSD Bornholm Skovb 72.32 337 *i* P **P 00 44 19.7 -0.4**
BSD pmax pmax
comp=Z,15nm,0.6s,mb5.1
SCHQ Schefferville 72.66 23 P **P 00 44 21.2 -0.9**
comp=Z,5.2nm,0.7s,mb4.5,baz=330,slow=6.6,SNR=8.2
ASAR Alice Springs 72.83 199 P **P 00 44 23.6 +0.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=11,slow=5.6,SNR=32
ASAR Alice Springs 72.83 199 P **P 00 44 23.6 +0.4**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
KIS Kishinev 74.60 324 *e*P **P 00 44 32.0 -1.5**
KIS *e* pP 00 44 42.0 -2.9
KWP Kalwaria 74.68 330 *e*P **P 00 44 34.5 +0.6**
OJC Ojcow 75.15 331 *e*P **P 00 44 37.2 +0.5**
STHS Stebnicka Huta 75.36 330 *e*P **P 00 44 38.1 +0.2**
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
STHS Stebnicka Huta 75.36 330 *e*P **P 00 44 38.1 +0.2**
comp=Z,7.5nm,0.9s,mb4.6
KOLS Kolonicke sedl 75.42 329 *e*P **P 00 44 37.8 -0.4**
BURAR Bucovina Array 75.47 327⇑*i*P **P 00 44 38.0 -0.5**
BURAR Bucovina Array 75.47 327⇑P **P 00 44 38.0 -0.5**
WMOK Wichita Mounta 75.65 54 P **P 00 44 39.6 +0.1**
UZH Uzhgorod 75.67 329⇓*i*P **P 00 44 38.8 -0.9**
OKC Ostrava-Krasne 76.01 332 *e*P **P 00 44 42.0 +0.4**
UPC Upice 76.08 334 *e*P **P 00 44 42.0 0.0**
DPC Dobruska-Polom 76.13 334 *e*P **P 00 44 42.0 -0.3**
CLL Collm 76.24 336 *e*P **P 00 44 43.0 +0.1**
CLL pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLL Collm 76.24 336 *e*P **P 00 44 43.0 +0.1**
comp=Z,22nm,0.9s,mb5.1
CLL *e*pP pP 00 44 47.0 -7.4
MORC Moravsky Berou 76.26 333⇓*i*P **P 00 44 43.0 0.0**
MORC Moravsky Berou 76.26 333 *e*P **P 00 44 42.5 -0.5**
MORC pmax pmax
comp=Z,19nm,1.3s,mb4.9
MORC Moravsky Berou 76.26 333 *e*P **P 00 44 42.5 -0.6**
comp=Z,19nm,1.3s,mb4.9
VRI Vrincioaia 76.35 325⇓*i*P **P 00 44 44.3 +0.7**
VRI Vrincioaia 76.35 325 ⇓P **P 00 44 44.4 +0.8**
BRG Berggiesshubel 76.37 335 *e*P **P 00 44 43.7 +0.1**
comp=Z,7.6nm,1.3s,mb4.5
BRG Berggiesshubel 76.37 335 *e*P **P 00 44 43.7 +0.1**
BRG pmax pmax
comp=Z,19nm,1.3s,mb4.9
LIKS Likavka 76.39 331 *e*P **P 00 44 39.1 -4.7**
KECS Kecovo 76.42 330 *e*P **P 00 44 43.3 -0.6**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 76.42 330 *e*P **P 00 44 43.3 -0.6**
comp=Z,2.3nm,0.8s,mb4.2
PVCC Panska Ves 76.49 335 *e*P **P 00 44 43.7 -0.6**
LTX Lajitas 76.80 61 *e*P **P 00 44 46.3 +0.2**
LTX pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LTX Lajitas 76.80 61 *e*P **P 00 44 46.3 +0.2**
comp=Z,6.4nm,1.1s,mb4.5
TXAR Lajitas Array 76.80 61 P **P 00 44 46.2 +0.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=304,slow=4.9,SNR=9.7
TXAR Lajitas Array 76.80 61 P **P 00 44 46.2 +0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 76.80 61 P **P 00 44 46.2 +0.1**
TIRR Tirgusor 76.84 323⇓*i*P **P 00 44 46.4 +0.1**
TIRR Tirgusor 76.84 323 ⇓P **P 00 44 46.4 +0.1**
VYHS Vyhne 76.96 331 *e*P **P 00 44 46.4 -0.6**
VRAC Vranov 76.96 333⇑P **P 00 44 47.3 +0.3**
MLR Muntele Rosu 76.97 325⇓*i*P **P 00 44 47.9 +0.9**
MLR Muntele Rosu 76.97 325 ⇓P **P 00 44 47.9 +0.8**
PRU Pruhonice 76.98 334 *e*P **P 00 44 46.9 -0.2**
DRGR 77.09 328⇑*i*P **P 00 44 47.3 -0.4**
DRGR 77.09 328⇑P **P 00 44 47.3 -0.4**
PSZ Piszkesteto 77.11 330 *e*P **P 00 44 48.6 +0.8**
MALT Malatya 77.21 313⇓*i*P **P 00 44 49.3 +0.9**
MALT Malatya 77.21 313 ⇓P **P 00 44 49.3 +0.9**
MOX Moxa 77.22 336 *e*P **P 00 44 48.9 +0.5**
VOIR 77.36 326⇓*i*P **P 00 44 49.4 +0.2**
VOIR 77.36 326 ⇓P **P 00 44 49.4 +0.1**
NKC Novy Kostel 77.36 336 *e*P **P 00 44 48.9 -0.3**
ZST Bratislava 77.78 332 *e*P **P 00 44 53.2 +1.6**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZST Bratislava 77.78 332 *e*P **P 00 44 53.2 +1.6**
comp=Z,4.7nm,0.8s,mb4.5
KHC Kasperske Hory 78.03 335 *e*P **P 00 44 52.5 -0.5**
KHC Kasperske Hory 78.03 335⇑*i*P **P 00 44 53.1 +0.1**
GRA1 Grafenberg Arr 78.19 336 *e*P **P 00 44 53.8 -0.1**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.19 336 *e*P **P 00 44 53.8 -0.1**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.19 336 *e*P **P 00 44 53.8 -0.1**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 78.19 336 *e*P **P 00 44 53.8 -0.1**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRFO Grafenberg 78.19 336 *e*P **P 00 44 53.7 -0.2**
GRFO pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRFO Grafenberg 78.19 336 *e*P **P 00 44 53.7 -0.2**
comp=Z,12nm,0.8s,mb4.9
GERES GERESS Array B 78.25 334 P **P 00 44 54.4 +0.3**
comp=Z,1.1nm,0.4s,mb4.1,baz=39,slow=5.5,SNR=12
GERES GERESS Array B 78.25 334 P **P 00 44 54.4 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
BR131 Keskin Array S 78.40 317 *e*P **P 00 44 55.2 +0.2**
comp=Z,7.6nm,1.0s,mb4.6
BRTR Keskin Array B 78.40 317 P **P 00 44 55.4 +0.4**
comp=Z,8.9nm,1.1s,mb4.6,baz=64,slow=2.9,SNR=18
BZS Buzias 78.49 328⇑*i*P **P 00 44 54.8 -0.7**
BZS Buzias 78.49 328⇑P **P 00 44 54.9 -0.6**
MEM Membach 78.68 340 P **P 00 44 56.9 +0.3**
comp=Z,8.2nm,1.0s,mb4.6
PKSM Moragy 79.01 330⇑*i*P **P 00 44 58.1 -0.3**
BCLA Clavier 79.02 340 E 00 44 59.5 -
SNF Seneffe 79.17 341 AP pP 00 45 01.1 -10
WLF Walferdange 79.52 339 P **P 00 45 00.9 -0.3**
STU Stuttgart 79.58 337 P **P 00 45 00.8 -0.7**
KBA Koelnbreinsper 79.94 334⇑*i*P **P 00 45 04.5 +1.1**
comp=Z,19nm,0.8s,mb5.0
WTTA Wattenberg 80.28 335⇑*i*P **P 00 45 06.3 +1.0**
comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 80.36 335⇑*i*P **P 00 45 07.2 +1.5**
comp=Z,13nm,1.0s,mb4.8
CDF Champ du Feu 80.41 338 *e*P **P 00 45 05.9 0.0**
comp=Z,29nm,1.1s,mb4.8
CDF Champ du Feu 80.41 338 *e*P **P 00 45 05.9 0.0**
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
CDF Champ du Feu 80.41 338 *e*P **P 00 45 05.9 0.0**
comp=Z,14nm,1.1s,mb4.8
SQTA Sankt Quirin 80.44 335⇑*i*P **P 00 45 07.7 +1.6**
comp=Z,6.6nm,0.8s,mb4.6
VTS Vitosha 80.47 325⇓*i*P **P 00 45 06.1 -0.2**
VTS Vitosha 80.47 325 ⇓P **P 00 45 06.1 -0.2**
GRR Gorron 82.26 343 *e*P **P 00 45 15.7 0.0**
SMF Signal de Mont 82.90 340 *e*P **P 00 45 19.0 -0.1**
comp=Z,32nm,1.0s,mb5.0
SMF Signal de Mont 82.90 340 *e*P **P 00 45 19.0 -0.1**
SMF pmax pmax
comp=Z,16nm,1.0s,mb5.0
SMF Signal de Mont 82.90 340 *e*P **P 00 45 19.0 -0.1**
comp=Z,16nm,1.0s,mb5.0
LPG La Plagne 83.24 337 *e*P **P 00 45 21.7 +0.8**
comp=Z,20nm,1.0s,mb4.8
LPG La Plagne 83.24 337 *e*P **P 00 45 21.7 +0.8**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LPG La Plagne 83.24 337 *e*P **P 00 45 21.7 +0.8**
comp=Z,9.9nm,1.0s,mb4.8
CAF Calviac 84.93 340 *e*P **P 00 45 29.3 -0.2**
TORD Torodi Ar. Bea 114.94 330 PKP PKiKP 00 51 34.7 -0.4
comp=Z,0.2nm,0.3s,baz=14,slow=2.1,SNR=16
SBA Scott Base 125.06 177 PKIKP PKPdf 00 51 51.7 -2.9
CFAA Coronel Fontan 144.38 79 PKP PKPdf 00 52 28.2 -2.2
comp=Z,1.2nm,0.9s,baz=304,slow=3.2,SNR=12

*ISCJB **16** 00:35:36.9±0.3, 46.31N±0.006×154.27E±0.006, h10km, mb4.6/46, Error ellipse: s-maj=9.3km s-min=5.2km az=138.2*
*NEIC **16** 00:35:38.8±0.3, 46.32N×154.36E, h10km, mb4.9/23, Error ellipse: s-maj=7.7km s-min=4.9km az=158.0*
*BJI **16** 00:35:38.0, 46.61N×154.09E, h7km, mB5.3, mb4.5, Ms4.7, Ms2.4.3*
*MOS **16** 00:35:40.4±1.0, 46.18N×154.11E, h37km, mb4.8/26, Error ellipse: s-maj=10.0km s-min=7.8km az=99.8*
*IDC **16** 00:35:43.5±3.9, 46.28N×154.25E, h47km±37km, mb4.0/17, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, ML3.8/2, Error ellipse: s-maj=19.9km s-min=18.1km az=108.0*

ISC 16 00:35:40.1±2.6, 46.35N±0.006×154.27E±0.006, h19km±16km, h34km±2.2km:pP-P, n135, σ0.9/97/134, mb4.6/46, 6C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.50**	**15**	*e*PN	**Pn**	**Pn**	**00 36 51.0**	**+3.7**
SKR					pmax	pmax		
comp=Z,80nm,0.5s								
KUR	**Kuril'sk**	**4.62**	**258**	*e*PN	**Pn**	**Pn**	**00 36 45.0**	**-3.8**
KUR					pmax	pmax		
comp=N,170nm,0.6s								
KUR					pmax	pmax		
comp=E,100nm,0.6s								
KUR					pmax	pmax		
comp=Z,380nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**6.38**	**252**	*e*PN	**Pn**	**Pn**	**00 37 11.4**	**-1.6**
PET	**Petropavlovsk**	**7.25**	**21**	PN	**Pn**	**Pn**	**00 37 24.1**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.95**	**278**	*e*PN	**Pn**	**Pn**	**00 37 39.0**	**+4.4**
YSS	**Yuzh-Sakhalins**	**7.95**	**278**	Pn	**Pn**	**Pn**	**00 37 36.2**	**+1.6**
ASAJ	**Asahikawa**	**8.54**	**259**	P	**Pn**	**Pn**	**00 37 43.2**	**+0.5**
comp=Z,14nm,0.3s,baz=180,slow=6.1,SNR=4.0								
ASAJ	**Asahikawa**	**8.54**	**259**	PN	**Pn**	**Pn**	**00 37 43.2**	**+0.5**
ASAJ					pmax	pmax		
comp=Z,1.0nm,0.3s								
KLR	**Kul'dur**	**15.39**	**289**	*e*P	**Pn**	**Pn**	**00 39 14.8**	**-1.4**
MJAR	**Matsushiro Arr**	**15.50**	**236**	P	**Pn**	**Pn**	**00 39 19.2**	**+1.6**
comp=Z,0.3nm,0.3s,baz=44,slow=8.1,SNR=4.3								
CN2	**Changchun**	**20.47**	**273**	*e*P		**P**	**00 40 14.8**	**-1.8**
CN2					AMB	AMB		
comp=Z,10.0nm,1.0s								
KSRS	**Korea Array**	**21.45**	**255**	P		**P**	**00 40 28.9**	**+1.7**
comp=Z,5.3nm,0.7s,mb4.0,baz=57,slow=11,SNR=7.0								
SNY	**Shenyang**	**22.43**	**269**	⇓P		**P**	**00 40 37.1**	**-0.6**
SNY				AP			00 40 45.3	
SNY				XP		sP	00 40 49.0	+3.6
SNY				AMB		AMB		
comp=Z,22nm,1.0s,mb4.5								
BILL	**Bilibino**	**22.61**	**12**	⇑*i*P		**P**	**00 40 42.3**	**+2.7**
BILL				pmax		pmax		
comp=Z,90nm,1.4s,mb5.0								
BILL	**Bilibino**	**22.61**	**12**	*e*P		**P**	**00 40 39.4**	**-0.2**
comp=Z,111nm,1.4s,mb5.1								
BOD	**Bodaibo**	**26.86**	**310**	*e*P		**P**	**00 41 16.6**	**-2.9**
BOD				pmax		pmax		
comp=Z,15nm,1.3s,mb4.4								
BJI	**Beijing**	**28.28**	**271**	P		**P**	**00 41 36.0**	**+3.8**
BJI				AMB		AMB		
comp=Z,9.0nm,0.9s,mb4.4								
BJI	**Beijing**	**28.28**	**271**	P		**P**	**00 41 36.0**	**+3.8**
comp=Z,9.0nm,0.9s,mb4.4								
BJT	**Baijiatuan**	**28.29**	**271**	P		**P**	**00 41 33.5**	**+1.2**
HHC	**Hu-ho-hao-te**	**31.12**	**275**	*e*P		**P**	**00 41 58.1**	**+0.7**
HHC				PP		PP	00 43 00.6	-7.1
HHC				AMB		AMB		
comp=Z,23nm,1.5s,mb4.8								
HHC				AMB		AMB		
comp=Z,768nm,7.1s								
ULN	**Ulaanbaatar**	**31.78**	**290**	*e*P		**P**	**00 42 02.8**	**-0.4**
ULN				pmax		pmax		
comp=Z,13nm,1.2s,mb4.6								
ULN	**Ulaanbaatar**	**31.78**	**290**	*e*P		**P**	**00 42 02.8**	**-0.5**
comp=Z,13nm,1.2s,mb4.6								
SONM	**Songino Array**	**32.22**	**290**	P		**P**	**00 42 06.6**	**-0.5**
comp=Z,0.8nm,0.7s,mb3.7,baz=57,slow=7.8,SNR=3.9								
SONM	**Songino Array**	**32.22**	**290**	P		**P**	**00 42 06.6**	**-0.5**
SONM				pmax		pmax		
comp=Z,1.0nm,0.7s								
TLY	**Talaya**	**33.07**	**298**	*e*P		**P**	**00 42 13.2**	**-1.3**
TLY				pmax		pmax		
comp=Z,13nm,1.3s,mb4.7								
TLY	**Talaya**	**33.07**	**298**	*e*P		**P**	**00 42 14.4**	**-0.1**
comp=Z,5.5nm,0.7s,mb4.6								
ZAK	**Zakamensk**	**33.57**	**296**	*e*P		**P**	**00 42 17.5**	**-1.4**
ZAK				pmax		pmax		
comp=Z,5.0nm,1.3s,mb4.3								
TATO	**Taipei**	**33.76**	**242**	P		**P**	**00 42 21.4**	**+0.9**
YHNB	**Yeheng**	**34.05**	**242**	P		**P**	**00 42 23.0**	**-0.1**
MCK	**McKinley**	**35.44**	**40**	*e*P		**P**	**00 42 34.8**	**-0.3**
MCK				pmax		pmax		
comp=Z,10.0nm,1.2s,mb4.6								
MCK	**McKinley**	**35.44**	**40**	*e*P		**P**	**00 42 34.8**	**-0.2**
comp=Z,10nm,1.2s,mb4.6								
SML	**Sawmill**	**35.71**	**43**	*e*P		**P**	**00 42 37.8**	**+0.4**
COLA	**College**	**35.95**	**38**	*e*P		**P**	**00 42 39.7**	**+0.2**
COLA				pmax		pmax		
comp=Z,35nm,1.3s,mb5.1								
COLA	**College**	**35.95**	**38**	*e*P		**P**	**00 42 39.7**	**+0.2**
comp=Z,35nm,1.3s,mb5.1								
XAN	**Xi'an**	**36.28**	**267**	P		**P**	**00 42 42.8**	**+0.5**
XAN				AP		pP	00 42 51.5	+3.5
XAN				AMB		AMB		
comp=Z,5.0nm,1.0s,mb4.4								
ENH	**Enshi**	**38.09**	**261**	*e*P		**P**	**00 43 00.8**	**+3.2**
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**00 43 05.1**	**+2.3**
LZH				AMB		AMB		
comp=Z,90nm,1.6s,mb5.2								
LZH				AMB		AMB		
comp=Z,301nm,5.0s								
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**00 43 05.1**	**+2.3**
LZH				*PP		pP	00 43 15.7	+7.2
LZH				*SP		sP	00 43 21.0	+10
LZH				pmax		pmax		
comp=Z,90nm,1.6s,mb5.2								
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**00 43 05.1**	**+2.3**
comp=Z,90nm,1.6s,mb5.2								
LZH				pP		pP	00 43 15.7	+7.2
LZH				sP		sP	00 43 21.0	+10
EGAK	**Eagle**	**38.82**	**38**	*e*P		**P**	**00 43 04.0**	**+0.2**
comp=Z,35nm,1.3s,mb4.9								
GTA	**Gaotai**	**39.82**	**280**	*e*P		**P**	**00 43 13.6**	**+1.5**
GTA				AP		pP	00 43 22.8	+4.9
GTA				AMB		AMB		
comp=Z,14nm,1.6s,mb4.4								
INK	**Inuvik**	**41.56**	**32**	P		**P**	**00 43 27.2**	**+0.7**
comp=Z,2.7nm,0.5s,mb4.2,baz=291,slow=6.1,SNR=8.4								
INK	**Inuvik**	**41.56**	**32**	P		**P**	**00 43 27.2**	**+0.7**
INK				pmax		pmax		
comp=Z,3.0nm,0.5s								
INK	**Inuvik**	**41.56**	**32**	*e*P		**P**	**00 43 27.1**	**+0.6**
comp=Z,78nm,0.5s,mb5.6								
ZAL	**Zalesovo**	**43.51**	**306**	P		**P**	**00 43 41.2**	**-1.1**
comp=Z,2.1nm,0.3s,mb4.3,baz=83,slow=4.3,SNR=4.1								
ZAL	**Zalesovo**	**43.51**	**306**	P		**P**	**00 43 41.2**	**-1.1**
ZAL				pmax		pmax		
comp=Z,2.0nm,0.3s								
ZAL	**Zalesovo**	**43.51**	**306**	P		**P**	**00 43 41.2**	**-1.1**
HON	**Honolulu**	**45.96**	**106**	P		**P**	**00 44 00.6**	**-1.3**
MK31	**Makanchi Array**	**47.83**	**298**	*e*P		**P**	**00 44 16.1**	**-0.4**
MKAR	**Makanchi Array**	**47.83**	**298**	P		**P**	**00 44 15.3**	**-1.2**
comp=Z,1nm,0.5s,mb4.5,baz=64,slow=8.2,SNR=14								
MKAR	**Makanchi Array**	**47.83**	**298**	P		**P**	**00 44 15.3**	**-1.2**
MKAR				pmax		pmax		
comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**47.83**	**298**	P		**P**	**00 44 15.3**	**-1.2**
RES	**Resolute Bay**	**50.96**	**19**	*e*P		**P**	**00 44 41.5**	**+1.1**
RES				pmax		pmax		
comp=Z,515nm,1.1s								
RES	**Resolute Bay**	**50.96**	**19**	*e*P		**P**	**00 44 41.5**	**+1.1**
comp=Z,515nm,1.1s								
LSA	**Lhasa**	**51.10**	**274**	P		**P**	**00 44 42.0**	**+0.6**
LSA	**Lhasa**	**51.10**	**274**	*e*P		**P**	**00 44 43.9**	**+2.5**
LSA				pmax		pmax		
comp=Z,5.0nm,0.5s,mb4.7								
LSA	**Lhasa**	**51.10**	**274**	*e*P		**P**	**00 44 43.9**	**+2.5**
comp=Z,5.1nm,0.5s,mb4.7								
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P		**P**	**00 44 42.5**	**-0.4**
BVAR	**Borovoye Array**	**51.73**	**310**	P		**P**	**00 44 46.1**	**0.0**
comp=Z,3.1nm,0.4s,mb4.6,baz=57,slow=7.6,SNR=22								
BVAR	**Borovoye Array**	**51.73**	**310**	P		**P**	**00 44 46.1**	**0.0**
BVAR				pmax		pmax		
comp=Z,3.0nm,0.4s								
BRVK	**Borovoye**	**51.77**	**310**	*e*P		**P**	**00 44 46.7**	**+0.3**
ZRNK	**Zerenda**	**52.49**	**311**	*e*P		**P**	**00 44 51.7**	**-0.1**
ZRNK				pmax		pmax		
comp=Z,4.0nm,0.6s,mb4.5								
ZRNK	**Zerenda**	**52.49**	**311**	*e*P		**P**	**00 44 51.6**	**-0.2**
comp=Z,4.3nm,0.6s,mb4.6								
ARU	**Arti**	**55.84**	**318**⇑*i*P			**P**	**00 45 16.1**	**-0.2**
ARU				*eS		**S**	**00 53 02.3**	**-0.3**
ARU				pmax		pmax		
comp=Z,26nm,1.4s,mb5.1								
ARU	**Arti**	**55.84**	**318**	*e*P		**P**	**00 45 16.3**	**+0.1**
NEW	**Newport**	**56.78**	**53**	P		**P**	**00 45 24.2**	**+1.3**
ARCES	**ARCESS Array B**	**58.49**	**341**	P		**P**	**00 45 35.3**	**+0.4**
comp=Z,6.4nm,0.8s,mb4.7,baz=34,slow=6.8,SNR=11								
ARCES	**ARCESS Array B**	**58.49**	**341**	P		**P**	**00 45 35.3**	**+0.3**
ARCES				pmax		pmax		
comp=Z,6.0nm,0.9s								
ARE0	**ARCESS Array S**	**58.49**	**341**	P		**P**	**00 45 34.4**	**-0.5**
ORR	**Orenburg**	**60.49**	**315**	*e*P		**P**	**00 45 48.4**	**-0.4**
ORR				pmax		pmax		
comp=Z,20nm,1.4s,mb5.0								
CMB	**Columbia Colle**	**60.86**	**64**	P		**P**	**00 45 50.1**	**-1.2**
SUMG	**Summit**	**61.04**	**4**	P		**P**	**00 45 53.1**	**+0.6**
comp=Z,23nm,1.3s,mb5.2								
HLID	**Hailey**	**61.07**	**56**	P		**P**	**00 45 52.4**	**-0.3**
HWUT	**Hardware Ranch**	**63.93**	**56**	P		**P**	**00 46 10.4**	**-1.4**
DUG	**Dugway**	**64.11**	**58**	*e*P		**P**	**00 46 14.2**	**+1.2**
DUG				pmax		pmax		
comp=Z,2.0nm,0.8s,mb4.2								
DUG	**Dugway**	**64.11**	**58**	*e*P		**P**	**00 46 14.2**	**+1.2**
comp=Z,2.1nm,0.8s,mb4.2								
BW06	**Boulder Array**	**64.33**	**54**	*e*P		**P**	**00 46 14.8**	**+0.3**
comp=Z,3.1nm,1.1s,mb4.2								
BW06				*ePcP		PcP	00 46 48.7	-0.3
PDAR	**Pinedale Array**	**64.33**	**54**	P		**P**	**00 46 13.8**	**-0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=318,slow=2.0,SNR=4.6								
FINES	**FINESS Array B**	**64.74**	**335**	P		**P**	**00 46 16.2**	**-0.9**
comp=Z,2.5nm,0.4s,mb4.6,baz=38,slow=7.8,SNR=12								
FINES	**FINESS Array B**	**64.74**	**335**	P		**P**	**00 46 16.3**	**-0.8**
FINES				pmax		pmax		
comp=Z,3.0nm,0.4s								
OBN	**Obninsk**	**66.09**	**326**⇑*i*P			**P**	**00 46 25.9**	**0.0**
OBN				pmax		pmax		
comp=Z,40nm,1.4s,mb5.3								
OBN	**Obninsk**	**66.09**	**326**	*e*P		**P**	**00 46 24.9**	**-1.0**
comp=Z,57nm,1.5s,mb5.4								
RSSD	**Black Hills**	**66.47**	**50**	*e*P		**P**	**00 46 28.6**	**+0.3**
WB2	**Warramunga Arr**	**68.40**	**200**	P		**P**	**00 46 39.8**	**-0.8**
WRA	**Warramunga Arr**	**68.41**	**200**	P		**P**	**00 46 39.3**	**-1.3**
comp=Z,3.2nm,1.1s,mb4.3,baz=20,slow=6.7,SNR=5.3								
WRA	**Warramunga Arr**	**68.41**	**200**	P		**P**	**00 46 39.3**	**-1.3**
WRA				pmax		pmax		
comp=Z,3.0nm,1.1s								
ISCO	**Idaho Springs**	**68.52**	**55**	P		**P**	**00 46 42.1**	**+0.8**
NB2	**NORSAR Subarra**	**68.86**	**342**	P		**P**	**00 46 44.1**	**+0.7**
comp=Z,28nm,1.7s,mb4.9,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.86**	**342**	P		**P**	**00 46 43.5**	**+0.1**
comp=Z,0.8nm,0.5s,mb3.9,baz=30,slow=6.7,SNR=4.8								
NOA	**NORSAR Array B**	**68.86**	**342**	P		**P**	**00 46 43.5**	**+0.1**
NOA				pmax		pmax		
comp=Z,1.0nm,0.5s								
NOA	**NORSAR Array B**	**68.86**	**342**	P		**P**	**00 46 43.5**	**+0.1**
HFS	**Hagfors**	**69.11**	**340**	P		**P**	**00 46 44.6**	**-0.4**
ASAR	**Alice Springs**	**72.09**	**200**	P		**P**	**00 47 02.6**	**-0.5**
comp=Z,1.8nm,0.8s,mb4.0,baz=13,slow=5.6,SNR=9.9								
ASAR	**Alice Springs**	**72.09**	**200**	P		**P**	**00 47 02.7**	**-0.4**
ASAR				pmax		pmax		
comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**72.32**	**327**	P		**P**	**00 47 03.3**	**-1.2**
comp=Z,1.5nm,0.4s,mb4.3,baz=33,slow=6.0,SNR=7.8								
AKASG	**Malin Array Be**	**72.32**	**327**	P		**P**	**00 47 03.3**	**-1.2**
AKASG				pmax		pmax		
comp=Z,2.0nm,0.4s								
SCHQ	**Schefferville**	**73.36**	**23**	P		**P**	**00 47 11.3**	**+0.7**
KWP	**Kalwaria**	**75.57**	**330**	*e*P		**P**	**00 47 23.9**	**+0.4**
KWP				pmax		pmax		
comp=Z,53nm,1.4s,mb5.3								
KWP	**Kalwaria**	**75.57**	**330**	*e*P		**P**	**00 47 23.9**	**+0.4**
comp=Z,53nm,1.4s,mb5.3								
WMOK	**Wichita Mounta**	**75.95**	**54**	*e*P		**P**	**00 47 25.7**	**0.0**
BURAR	**Bucovina Array**	**76.36**	**327**⇑*i*P			**P**	**00 47 28.3**	**+0.3**
UZH	**Uzhgorod**	**76.56**	**330**⇑*i*P			**P**	**00 47 28.8**	**-0.4**
LTX	**Lajitas**	**76.99**	**61**	*e*P		**P**	**00 47 31.6**	**0.0**
LTX				pmax		pmax		
comp=Z,4.0nm,0.8s,mb4.4								
LTX	**Lajitas**	**76.99**	**61**	*e*P		**P**	**00 47 31.6**	**+0.1**
comp=Z,4.0nm,0.8s,mb4.4								
TXAR	**Lajitas Array**	**76.99**	**61**	P		**P**	**00 47 31.6**	**0.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=304,slow=4.4,SNR=13								
TXAR	**Lajitas Array**	**76.99**	**61**	P		**P**	**00 47 31.6**	**0.0**
TXAR				pmax		pmax		
comp=Z,3.0nm,0.8s								
CLL	**Collm**	**77.15**	**336**	*e*P		**P**	**00 47 33.0**	**+0.5**
comp=Z,17nm,1.5s,mb4.8								
MORC	**Moravsky Berou**	**77.16**	**333**⇑*i*P			**P**	**00 47 39.0**	**+6.5**
TIRR	**Tirgusor**	**77.71**	**324**⇓*i*P			**P**	**00 47 39.2**	**+3.6**
MLR	**Muntele Rosu**	**77.85**	**326**	P		**P**	**00 47 37.4**	**+1.0**
comp=Z,

IDC ***16*** *00:38:01.4±0.5, 46.85N×155.10E, h0km, mb4.4/23, mb1 4.6/25, mb1mx4.5/29, mbtmp4.4/25, ML4.0/2, Error ellipse: s-maj=15.3km s-min=14.1km az=118.0*

MOS ***16*** *00:38:03.2±1.1, 46.82N×154.97E, h23km, mb4.9/39, Error ellipse: s-maj=9.2km s-min=6.1km az=101.8*

NEIC ***16*** *00:38:03.2±0.2, 46.84N×155.07E, h10km, mb4.8/33, Error ellipse: s-maj=6.7km s-min=5.0km az=144.0*

BJI ***16*** *00:38:03.5, 47.18N×154.75E, h10km, mB4.9, mb4.7, Ms4.3, Msz4.4*

ISCJB ***16*** *00:38:05.9±0.3, 46.88N±0.05×155.07E±0.06, h40km, mb4.7/68, MS4.6/3, Error ellipse: s-maj=7.5km s-min=5.1km az=130.0*

SZGRF ***16*** *00:38:15.3, 47.53N×155.43E, h33km, mb4.8, East of Kuril Islands, Russia*

ISC 16 00:38:07.9±0.3, 46.94N±0.05×155.07E±0.06, h42km, h42km±3.2km:pP-P, n201, σ1s00/199, mb4.7/68, MS4.6/3, 15C-9D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.81**	**10**	*e*PN	**Pn**		**00 39 04.0**	**-0.1**
SKR				pmax	pmax			
	comp=Z,50nm,0.5s							
KUR	**Kuril'sk**	**5.29**	**254**	⇑*i*PN	**Pn**		**00 39 19.5**	**-4.9**
KUR				pmax	pmax			
	comp=Z,1μm,1.0s							
KUR				pmax	pmax			
	comp=N,90nm,0.7s							
KUR				pmax	pmax			
	comp=E,120nm,0.7s							
KUR				pmax	pmax			
	comp=Z,450nm,0.7s							
PET	**Petropavlovsk**	**6.51**	**19**	PN	**Pn**		**00 39 38.1**	**-3.1**
YSS	**Yuzh-Sakhalins**	**8.43**	**275**	PN	**Pn**		**00 40 17.0**	**+10**
ASAJ	**Asahikawa**	**9.20**	**257**	Pn	**Pn**		**00 40 16.9**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=104,slow=11,SNR=8.5							
ASAJ	**Asahikawa**	**9.20**	**257**	PN	**Pn**		**00 40 16.9**	**-1.1**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MA2	**Magadan**	**12.91**	**350**	PN	**Pn**		**00 41 07.9**	**-0.9**
KLR	**Kul'dur**	**15.74**	**287**	*e*P	**Pn**		**00 41 45.3**	**-1.3**
MJAR	**Matsushiro Arr**	**16.28**	**236**	Pn	**Pn**		**00 41 48.9**	**-4.7**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=13							
MJAR	**Matsushiro Arr**	**16.28**	**236**	P	**Pn**		**00 41 48.9**	**-4.7**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**16.29**	**236**	P	**Pn**		**00 41 49.1**	**-4.5**
MAJO				pmax	pmax			
	comp=Z,55nm,0.8s							
MAJO	**Matsushiro**	**16.29**	**236**	Pn	**Pn**		**00 41 49.1**	**-4.5**
	comp=Z,55nm,0.8s							
MAT	**Matsushiro**	**16.29**	**236**	P	**Pn**		**00 41 48.8**	**-4.8**
YAK	**Yakutsk**	**20.91**	**325**	*e*P	**P**		**00 42 47.3**	**+0.6**
YAK				pmax	pmax			
	comp=Z,24nm,0.6s							
YAK	**Yakutsk**	**20.91**	**325**	*e*P	**P**		**00 42 47.3**	**+0.6**
	comp=Z,24nm,0.6s							
BILL	**Bilibino**	**21.92**	**11**	⇓*i*P	**P**		**00 42 57.4**	**-0.3**
BILL				*i*			00 43 37.9	
BILL				pmax	pmax			
	comp=Z,18nm,0.7s,mb4.6							
BILL	**Bilibino**	**21.92**	**11**	*e*P	**P**		**00 42 57.0**	**-0.6**
	comp=Z,28nm,1.0s,mb4.6							
KSRS	**Korea Array**	**22.14**	**254**	P	**P**		**00 42 59.7**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.0,baz=59,slow=9.2,SNR=9.7							
INCN	**Inchon**	**22.98**	**256**	P	**P**		**00 43 07.5**	**-1.3**
SNY	**Shenyang**	**22.99**	**269**	⇑P	**P**		**00 43 07.1**	**-1.8**
SNY				AMB	AMB			
	comp=Z,18nm,0.8s,mb4.5							
HIA	**Hailar**	**23.58**	**289**	P	**P**		**00 43 11.7**	**-3.1**
BOD	**Bodaibo**	**26.91**	**309**	*e*P	**P**		**00 43 42.3**	**-2.7**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.5s,mb4.0							
BJT	**Baijiatuau**	**28.83**	**270**	*e*P	**P**		**00 44 02.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**31.62**	**275**	*e*P	**P**		**00 44 27.5**	**+0.7**
HHC				XP	sP		00 44 34.5	-8.6
HHC				PP	PP		00 45 30.0	-8.7
HHC				AMB	AMB			
	comp=Z,39nm,1.1s,mb5.2							
HHC				AMB	AMB			
	comp=Z,169nm,9.8s							
ULN	**Ulaanbaatar**	**32.10**	**290**	*e*P	**P**		**00 44 29.4**	**-1.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
ULN	**Ulaanbaatar**	**32.10**	**290**	*e*P	**P**		**00 44 29.4**	**-1.6**
	comp=Z,2.5nm,0.6s,mb4.2							
SONM	**Songino Array**	**32.53**	**290**	P	**P**		**00 44 34.0**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=66,slow=8.1,SNR=10							
SONM				PcP	PcP		00 47 19.7	-1.1
	comp=Z,1.0nm,0.9s,baz=77,slow=3.2,SNR=3.5							
SONM	**Songino Array**	**32.53**	**290**	P	**P**		**00 44 34.0**	**-0.9**
SONM							00 47 19.7	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TLY	**Talaya**	**33.28**	**298**	*e*P	**P**		**00 44 40.9**	**-0.5**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
TLY	**Talaya**	**33.28**	**298**	*e*P	**P**		**00 44 40.9**	**-0.6**
	comp=Z,4.0nm,0.5s,mb4.6							
ZAK	**Zakamensk**	**33.81**	**295**	*e*P	**P**		**00 44 43.8**	**-2.2**
ZAK				*e*			00 47 23.8	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
MCK	**McKinley**	**34.64**	**40**	*e*P	**P**		**00 44 52.1**	**-1.1**
COLA	**College**	**35.15**	**38**	*e*P	**P**		**00 44 57.0**	**-0.6**
COLA				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
COLA	**College**	**35.15**	**38**	*e*P	**P**		**00 44 57.0**	**-0.6**
	comp=Z,5.8nm,1.0s,mb4.5							
XAN	**Xi'an**	**36.87**	**266**	P	**P**		**00 45 12.1**	**-0.2**
XAN				AP	pP		00 45 22.4	-1.3
XAN				AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.4							
EGAK	**Eagle**	**38.02**	**39**	*e*P	**P**		**00 45 20.9**	**-1.1**
DAWY	**Dawson**	**38.84**	**40**	P	**P**		**00 45 30.6**	**+1.7**
LZH	**Lanzhou**	**39.22**	**273**	*e*P	**P**		**00 45 33.8**	**+1.7**
LZH				AP	pP		00 45 37.8	-5.8
LZH				XP	sP		00 45 39.9	-8.6
LZH				AMB	AMB			
	comp=Z,40nm,1.0s,mb5.1							
LZH				AMB	AMB			
	comp=Z,213nm,4.8s							
LZH	**Lanzhou**	**39.22**	**273**	*e*P	**P**		**00 45 33.7**	**+1.6**
LZH				*SP	sP		00 45 39.9	-8.6
LZH				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.1							
LZH	**Lanzhou**	**39.22**	**273**	*e*P	**P**		**00 45 33.7**	**+1.6**
	comp=Z,40nm,1.0s,mb5.1							
LZH				pP	pP		00 45 37.8	-5.8
LZH				sP	sP		00 45 39.9	-8.6
GTA	**Gaotai**	**40.26**	**280**	*e*P	**P**		**00 45 41.3**	**+0.5**
GTA				AP	pP		00 45 51.4	-0.9
GTA				PCP	PcP		00 47 44.9	+1.0
GTA				AMB	AMB			
	comp=Z,9.0nm,1.4s,mb4.3							
GTA				AMB	AMB			
	comp=Z,126nm,5.3s							
GTA				LR	LR			
	comp=N,297nm,21.7s,MS4.2							
GTA				LR	LR			
	comp=E,261nm,22.4s,MS4.2							
GTA				LR	LR			
	comp=Z,683nm,27.4s,MS4.4							
INK	**Inuvik**	**40.77**	**33**	P	**P**		**00 45 44.4**	**-0.5**
	comp=Z,9.2nm,1.1s,mb4.3,baz=286,slow=8.6,SNR=6.1							
INK	**Inuvik**	**40.77**	**33**	*e*P	**P**		**00 45 44.6**	**-0.4**
INK				pmax	pmax			
	comp=Z,192nm,0.8s							
INK	**Inuvik**	**40.77**	**33**	*e*P	**P**		**00 45 44.6**	**-0.4**
	comp=Z,192nm,0.8s,mb5.8							
CD2	**Chengdu**	**42.23**	**266**	⇑*i*P	**P**		**00 45 57.8**	**+0.9**
CD2				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.6							
GYA	**Guiyang**	**43.07**	**259**	⇑*i*P	**P**		**00 46 04.6**	**+0.9**
GYA				AP	pP		00 46 08.9	-6.4
GYA				XP	sP		00 46 11.8	-8.4
GYA				PP	PP		00 47 44.8	+0.6
GYA				PCP	PcP		00 47 56.4	+3.2
GYA				SCP	ScP		00 51 44.9	+4.0
GYA				S	**S**		**00 52 21.4**	**-5.3**
GYA				SCS	ScS		00 56 04.3	+3.6
GYA				AMB	AMB			
	comp=Z,30nm,0.9s,mb5.0							
GYA				AMB	AMB			
	comp=Z,130nm,4.9s							
GYA				LR	LR			
	comp=N,580nm,16.4s,MS4.7							
GYA				LR	LR			
	comp=E,540nm,17.0s,MS4.7							
GYA				LR	LR			
	comp=Z,570nm,16.8s,MS4.5							
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**		**00 46 06.3**	**-1.7**
	comp=Z,2.5nm,0.3s,mb4.4,baz=50,slow=7.1,SNR=7.0							
ZAL				PcP	PcP		00 47 54.2	-0.7
	comp=Z,1.9nm,0.7s,baz=49,slow=1.9,SNR=4.0							
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**		**00 46 06.4**	**-1.6**
ZAL							00 47 54.3	
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ZAL				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NVS	**Novosibirsk**	**44.13**	**308**	*e*P	**P**		**00 46 10.2**	**-2.1**
NVS				pmax	pmax			
	comp=N,9.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,11nm,1.3s							
NVS				pmax	pmax			
	comp=Z,15nm,1.3s,mb4.6							
KMI	**Kunming**	**46.60**	**261**	P	**P**		**00 46 31.8**	**0.0**
KMI				AP	pP		00 46 44.5	+1.0
KMI				AMB	AMB			
	comp=Z,12nm,1.5s,mb4.6							
KMI	**Kunming**	**46.60**	**261**	P	**P**		**00 46 31.8**	**0.0**
	comp=Z,12nm,1.5s,mb4.6							
KMI				pP	pP		00 46 44.5	+1.0
MK31	**Makanchi Array**	**48.04**	**298**	*e*P	**P**		**00 46 42.6**	**-0.4**
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**		**00 46 42.7**	**-0.3**
	comp=Z,4.4nm,0.6s,mb4.6,baz=67,slow=8.2,SNR=17							
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**		**00 46 42.7**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
YKA	**Yellowknife Ar**	**49.96**	**37**	P	**P**		**00 46 57.2**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=293,slow=7.1,SNR=4.1							
YKA				PcP	PcP		00 48 17.2	-0.2
	comp=Z,2.7nm,0.9s,baz=301,slow=3.6,SNR=4.3							
YKA	**Yellowknife Ar**	**49.96**	**37**	P	**P**		**00 46 57.2**	**-0.6**
YKA							00 48 17.2	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YKA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
YKA	**Yellowknife Ar**	**49.96**	**37**	P	**P**		**00 46 57.2**	**-0.6**
YKA				PcP	PcP		00 48 17.2	-0.2
RES	**Resolute Bay**	**50.23**	**19**	*e*P	**P**		**00 46 59.5**	**-0.2**
RES				pmax	pmax			
	comp=Z,53nm,0.5s,mb5.8							
RES	**Resolute Bay**	**50.23**	**19**	*e*P	**P**		**00 46 59.5**	**-0.2**
	comp=Z,53nm,0.5s,mb5.8							
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**		**00 47 06.6**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,16nm,0.5s,mb5.2							
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**		**00 47 06.6**	**-1.4**
	comp=Z,16nm,0.5s,mb5.2							
LSA	**Lhasa**	**51.60**	**274**	P	**P**		**00 47 11.3**	**+1.2**
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**		**00 47 12.9**	**+2.8**
LSA				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.0							
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**		**00 47 12.9**	**+2.8**
	comp=Z,11nm,0.6s,mb5.0							
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**		**00 47 10.8**	**-0.5**
	comp=Z,4.3nm,0.5s,mb4.6,baz=65,slow=8.4,SNR=13							
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**		**00 47 10.8**	**-0.5**
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**		**00 47 10.8**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**		**00 47 10.8**	**-0.8**
	comp=Z,9.5nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**52.53**	**310**	*e*P	**P**		**00 47 16.0**	**-1.0**
CHTO	**Chiang Mai**	**53.47**	**258**	*e*P	**P**		**00 47 24.8**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,22nm,1.0s,mb5.0							
CHTO	**Chiang Mai**	**53.47**	**258**	*e*P	**P**		**00 47 24.8**	**+0.8**
	comp=Z,22nm,1.0s,mb5.0							
TKM2	**Tokmak 2**	**54.11**	**297**	P	**P**		**00 47 29.5**	**+0.8**
	SNR=6.0							
USP	**Ospenovka**	**54.59**	**298**	P	**P**		**00 47 33.2**	**+1.1**
	SNR=17							
KBK	**Karagaybulak**	**54.66**	**297**	P	**P**		**00 47 33.4**	**+0.8**
	SNR=6.2							
KZA	**Kyzart**	**54.80**	**296**	P	**P**		**00 47 35.3**	**+1.7**
	SNR=6.0							
AAK	**Ala-Archa**	**54.95**	**297**	P	**P**		**00 47 35.3**	**+0.6**
	SNR=9.3							
EKS2	**Erkin-Say**	**55.37**	**298**	P	**P**		**00 47 38.6**	**+0.9**
	SNR=11							
ARU	**Arti**	**55.77**	**318**	⇑*i*P	**P**		**00 47 40.0**	**-0.6**
ARU				*e*			00 49 41.9	
ARU				*e*PPP			00 50 55.9	
ARU				S	**S**		**00 55 23.5**	**-1.0**
ARU				pmax	pmax			
	comp=Z,14nm,0.8s,mb5.0							
ARU	**Arti**	**55.77**	**318**	*e*P	**P**		**00 47 40.1**	**-0.5**
NEW	**Newport**	**55.99**	**54**	P	**P**		**00 47 41.4**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=333,slow=4.5,SNR=3.2							
NEW	**Newport**	**55.99**	**54**	P	**P**		**00 47 41.4**	**-0.7**
NEW				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NEW	**Newport**	**55.99**	**54**	P	**P**		**00 47 41.4**	**-0.7**
JIRN	**Jiri**	**56.27**	**276**	*e*P	**P**		**00 47 45.4**	**+1.3**
	comp=Z,20nm,0.7s,mb5.3							
GUN	**Gumba**	**56.32**	**276**	*e*P	**P**		**00 47 46.1**	**+1.6**
	comp=Z,11nm,0.5s,mb5.2							
KKN	**Kakani**	**56.80**	**277**	*e*P	**P**		**00 47 49.1**	**+1.2**
PKI	**Pulchoki**	**56.85**	**276**	*e*P	**P**		**00 47 49.1**	**+0.8**
DMN	**Daman**	**57.04**	**276**	*e*P	**P**		**00 47 50.2**	**+0.6**
GKN	**Gorkha**	**57.10**	**277**	*e*P	**P**		**00 47 51.1**	**+1.0**
	comp=Z,14nm,0.5s,mb5.2							
KOLN	**Koldanda**	**57.96**	**278**	*e*P	**P**		**00 47 57.3**	**+1.2**
	comp=Z,19nm,1.0s,mb5.1							
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**		**00 47 56.2**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.6,baz=9.1,slow=10.0,SNR=5.4							
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**		**00 47 56.3**	**-0.8**
ARCES				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CMB	**Columbia Colle**	**60.11**	**65**	P	**P**		**00 48 10.9**	**-0.1**
ORR	**Orenburg**	**60.47**	**315**	*e*P	**P**		**00 48 12.9**	**-0.5**
ORR				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9							
KAKA	**Kakadu**	**62.75**	**205**	*e*P	**P**		**00 48 28.1**	**-0.7**
	comp=Z,12nm,0.8s,mb5.1							
ISA	**Isabella**	**62.79**	**66**	P	**P**		**00 48 29.1**	**0.0**
HWUT	**Hardware Ranch**	**63.15**	**57**	P	**P**		**00 48 31.7**	**+0.2**
DUG	**Dugway**	**63.33**	**59**	P	**P**		**00 48 33.5**	**+0.8**
BW06	**Boulder Array**	**63.55**	**55**	*e*P	**P**		**00 48 34.4**	**+0.3**
	comp=Z,10nm,1.7s,mb4.6							
PDAR	**Pinedale Array**	**63.55**	**55**	P	**P**		**00 48 33.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=326,slow=4.4,SNR=4.3							
FINES	**FINESS Array B**	**64.43**	**336**	P	**P**		**00 48 39.5**	**-0.4**
	comp=Z,4.5nm,0.6s,mb4.7,baz=31,slow=8.3,SNR=12							
FINES	**FINESS Array B**	**64.43**	**336**	P	**P**		**00 48 39.5**	**-0.4**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.6s							
FINES	**FINESS Array B**	**64.43**	**336**	P	**P**		**00 48 39.5**	**-0.5**
RSSD	**Black Hills**	**65.67**	**51**	*e*P	**P**		**00 48 47.9**	**-0.1**
RSSD				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
RSSD	**Black Hills**	**65.67**	**51**	*e*P	**P**		**00 48 47.9**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.2							
OBN	**Obninsk**	**65.90**	**326**	*e*P	**P**		**00 48 49.4**	**-0.1**
OBN				pmax	pmax			
	comp=Z,22nm,1.1s,mb5.1							
OBN	**Obninsk**	**65.90**	**326**	*e*P	**P**		**00 48 49.6**	**+0.1**
	comp=Z,51nm,1.5s,mb5.3							
CTAO	**Charters Tower**	**67.19**	**189**	P	**P**		**00 48 56.5**	**-1.1**
ISCO	**Idaho Springs**	**67.73**	**55**	*e*P	**P**		**00 49 02.0**	**+0.9**
NB2	**NORSAR Subarra**	**68.47**	**342**	P	**P**		**00 49 05.4**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**		**00 49 04.8**	**-0.9**
	comp=Z,3.7nm,0.9s,mb4.4,baz=27,slow=6.4,SNR=5.2							
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**		**00 49 04.9**	**-0.8**
NOA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
HFS	**Hagfors**	**68.74**	**340**	P	**P**		**00 49 07.5**	**+0.1**
	comp=Z,4.1nm,0.3s,mb4.8,baz=51,slow=4.1,SNR=22							
HFS	**Hagfors**	**68.74**	**340**	P	**P**		**00 49 07.5**	**+0.1**
HFS				pmax	pmax			
	comp=Z,4.0nm,0.4s							
WRAB	**Tennant Creek**	**69.14**	**201**	*e*P	**P**		**00 49 08.8**	**-1.1**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
WRAB	**Tennant Creek**	**69.14**	**201**	*e*P	**P**		**00 49 08.8**	**-1.0**
	comp=Z,5.6nm,0.6s,mb4.7							
WB2	**Warramunga Arr**	**69.15**	**201**	*e*P	**P**		**00 49 09.0**	**-0.9**
WB2	**Warramunga Arr**	**69.15**	**201**	*e*P	**P**		**00 49 08.9**	**-1.1**
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**		**00 49 08.8**	**-1.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=19,slow=6.7,SNR=17							
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**		**00 49 08.8**	**-1.2**
WRA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SDCO	**Great Sand Dun**	**69.21**	**57**	P	**P**		**00 49 11.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**69.96**	**210**	*e*P	**P**		**00 49 14.9**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.5							
KIV	**Kislovodsk**	**71.62**	**315**	*e*P	**P**		**00 49 26.8**	**+1.8**
KIV				pmax	pmax			
	comp=Z,15nm,1.0s,mb4.9							
KIV	**Kislovodsk**	**71.62**	**315**	P	**P**		**00 49 26.9**	**+1.9**
	comp=Z,12nm,0.8s,mb4.9							
AKASG	**Malin Array Be**	**72.12**	**327**	P	**P**		**00 49 27.3**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=33,slow=6.3,SNR=6.6							
AKASG	**Malin Array Be**	**72.12**	**327**	P	**P**		**00 49 27.3**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**72.83**	**200**	P	**P**		**00 49 32.1**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=15,slow=5.9,SNR=37							
ASAR	**Alice Springs**	**72.83**	**200**	P	**P**		**00 49 32.2**	**-0.1**
ASAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PALK	**Pallekele**	**74.05**	**264**	*e*P	**P**		**00 49 39.8**	**+0.3**
	comp=Z,11nm,0.6s,mb5.0							
STHS	**Stebnicka Huta**	**76.01**	**331**	*e*P	**P**		**00 49 54.0**	**+3.2**
STHS				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
STHS	**Stebnicka Huta**	**76.01**	**331**	*e*P	**P**		**00 49 54.0**	**+3.2**
	comp=Z,5.9nm,0.7s,mb4.6							
KOLS	**Kolonicke sedl**	**76.08**	**330**	*e*P	**P**		**00 49 50.7**	**-0.5**
BURAR	**Bucovina Array**	**76.16**	**328**	⇑*i*P	**P**		**00 49 51.8**	**+0.2**
LTX	**Lajitas**	**76.22**	**62**	*e*P	**P**		**00 49 52.2**	**+0.2**
LTX				*e*	pP		00 50 03.3	-1.1
LTX				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
LTX	**Lajitas**	**76.22**	**62**	*e*P	**P**		**00 49 52.1**	**+0.2**
	comp=Z,6.2nm,0.9s,mb4.5							
LTX				*e*	pP		00 50 03.3	-1.1
TXAR	**Lajitas Array**	**76.22**	**62**	P	**P**		**00 49 52.1**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.5,baz=298,slow=4.1,SNR=15							
TXAR	**Lajitas Array**	**76.22**	**62**	P	**P**		**00 49 52.1**	**+0.1**
TXAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OKC	**Ostrava-Krasne**	**76.64**	**333**	*e*pP	pP		00 49 57.7	-9.1
UPC	**Upice**	**76.70**	**335**	*e*P	**P**		**00 49 55.4**	**+0.7**
DPC	**Dobruska-Polom**	**76.75**	**334**	*e*P	**P**		**00 49 54.6**	**-0.3**
CLL	**Collm**	**76.83**	**337**	*e*P	**P**		**00 49 55.0**	**-0.4**
CLL				pmax	pmax			
	comp=Z,15nm,1.2s,mb4.8							
CLL	**Collm**	**76.83**	**337**	*e*P	**P**		**00 49 55.0**	**-0.4**
	comp=Z,6.0nm,1.0s,mb4.5							
CLL				*i* Pmax			00 49 59.3	
	comp=Z,15nm,1.2s							
CLL				*i* pP	pP		00 50 09.1	+1.3
MORC	**Moravsky Berou**	**76.89**	**333**	*e*P	**P**		**00 49 56.1**	**+0.4**
MORC				*e*	pP		00 50 10.0	+1.9
MORC				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.5							
MORC	**Moravsky Berou**	**76.89**	**333**	*e*P	**P**		**00 49 56.1**	**+0.4**
	comp=Z,9.4nm,1.3s,mb4.6							
MORC				*e*	pP		00 50 10.0	+1.8
KECS	**Kecovo**	**77.07**	**331**	*e*P	**P**		**00 49 55.1**	**-1.7**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
KECS	**Kecovo**	**77.07**	**331**	*e*P	**P**		**00 49 55.1**	**-1.7**
	comp=Z,1.8nm,0.9s,mb4.0							
PLOR	**Plostina**	**77.10**	**326**	⇑*i*P	**P**		**00 50 00.3**	**+3.4**
TIRR	**Tirgusor**	**77.56**	**324**	⇑*i*P	**P**		**00 49 59.9**	**+0.4**
TIRR	**Tirgusor**	**77.56**	**324**	⇑P	**P**		**00 49 59.9**	**+0.4**
VRAC	**Vranov**	**77.59**	**334**	P	**P**		**00 50 00.4**	**+0.8**
	comp=Z,3.4nm,0.6s,mb4.5,baz=47,slow=4.7,SNR=6.4							
VRAC	**Vranov**	**77.59**	**334**	⇓*i*P	**P**		**00 50 02.1**	**+2.4**
VRAC	**Vranov**	**77.59**	**334**	P	**P**		**00 50 00.4**	**+0.7**
VRAC				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VRAC	**Vranov**	**77.59**	**334**	⇓P	**P**		**00 50 02.1**	**+2.5**
PRU	**Pruhonice**	**77.59**	**335**	*e*P	**P**		**00 49 59.8**

SMF	**Signal de Mont**	**83.45**	**340**	*eP*		**P**	**00 50 30.7**	**-0.4**
	comp=Z,77nm,1.5s,mb5.2							
SMF	**Signal de Mont**	**83.45**	**340**	*eP*		**P**	**00 50 30.7**	**-0.4**
SMF					pmax	pmax		
	comp=Z,38nm,1.5s,mb5.2							
SMF	**Signal de Mont**	**83.45**	**340**	*eP*		**P**	**00 50 30.7**	**-0.4**
	comp=Z,38nm,1.5s,mb5.2							
LPG	**La Plagne**	**83.82**	**338**	*eP*		**P**	**00 50 33.6**	**+0.6**
	comp=Z,24nm,0.9s,mb5.0							
LPG	**La Plagne**	**83.82**	**338**	*eP*		**P**	**00 50 33.6**	**+0.6**
LPG					pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0							
LPG	**La Plagne**	**83.82**	**338**	*eP*		**P**	**00 50 33.6**	**+0.6**
	comp=Z,12nm,0.9s,mb5.0							
CAF	**Calviac**	**85.48**	**341**	*eP*		**P**	**00 50 41.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**115.60**	**331**	PP		PP	00 57 45.1	-3.0
	comp=Z,1.2nm,1.1s,baz=3.8,slow=7.4,SNR=3.6							
CFAA	**Coronel Fontan**	**143.64**	**81**	PKP		PKPdf	00 57 35.4	-2.8
	comp=Z,0.4nm,0.5s,baz=312,slow=4.0,SNR=6.6							
SNAA	**Sanae**	**153.10**	**195**	PKPbc		PKPbc	00 57 59.2	-1.8
	comp=Z,0.6nm,0.5s,baz=165,slow=6.7,SNR=3.0							
SNAA				PKPab		PKPab	00 58 09.2	-3.4
	comp=Z,0.5nm,0.5s,baz=318,slow=20,SNR=5.9							

IDC 16 00:42:03.2±3.5, 4644N×15486E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=98.1km s-min=35.6km az=4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.27**	**32**	P	P	00 49 49.3	-0.9
	1.8nm,0.8s,baz=264,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**48.15**	**298**	P	P	00 50 44.6	-0.5
	0.3nm,0.5s,baz=68,slow=8.4,SNR=2.8						
FINES	**FINESS Array B**	**64.83**	**336**	P	P	00 52 43.0	-1.0
	0.6nm,0.5s,baz=38,slow=7.4,SNR=5.9						
HFS	**Hagfors**	**69.17**	**340**	P	P	00 53 11.9	+0.4
	1.4nm,0.7s,baz=47,slow=6.3,SNR=4.3						
TXAR	**Lajitas Array**	**76.59**	**62**	P	P	00 53 55.8	+0.2
	0.7nm,0.7s,baz=302,slow=4.2,SNR=5.8						

IDC 16 00:52:38.4±3.7, 4731N×15490E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, MS4.7/1, Ms1 4.7/1, ms1mx3.0/45, Error ellipse: s-maj=108.5km s-min=38.7km az=8.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.77**	**298**	P	P	01 01 16.9	-0.3
	0.5nm,0.5s,baz=71,slow=8.3,SNR=11						
YKA	**Yellowknife Ar**	**49.74**	**37**	LR	LR	01 24 37.8	
	comp=Z,741nm,19.2s,baz=200,slow=39						
FINES	**FINESS Array B**	**64.05**	**335**	P	P	01 03 13.5	-0.5
	1.6nm,0.5s,baz=39,slow=9.4,SNR=18						
NOA	**NORSAR Array B**	**68.09**	**342**	P	P	01 03 39.4	-0.6
	0.7nm,0.6s,baz=25,slow=6.4,SNR=2.9						
HFS	**Hagfors**	**68.36**	**340**	P	P	01 03 41.3	-0.4
	1.4nm,0.7s,baz=66,slow=8.1,SNR=5.2						
TXAR	**Lajitas Array**	**76.16**	**62**	P	P	01 04 28.4	+0.2
	0.2nm,0.6s,baz=309,slow=5.5,SNR=3.9						

CSEM 16 00:53:56.2±0.8, 3705N×2451W, h5km, ML2.7, Error ellipse: s-maj=5.2km s-min=3.1km az=87.0, After PDA
PDA 16 00:53:56.2±0.8, 3705N×2451W, h5km, MD2.6, ML2.7, Error ellipse: s-maj=5.2km s-min=3.1km az=87.0
SVSA 16 00:53:56.2±0.8, 3705N×2451W, h5km, MD2.6, ML2.7, Error ellipse: s-maj=5.2km s-min=3.1km az=87.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.45**	**264**	*i* P	Pg	00 54 03.8	-1.0
PSMN				*e*S	Sg	00 54 09.9	-0.7
PSMN	**Pico do Norte,**	**0.45**	**264**	*e*S	Sg	00 54 09.9	-0.7
MIRA	**Miradouro**	**0.96**	**320**	*e*S	Sg	00 54 22.8	-4.1
FRA1	**Furnas**	**0.97**	**316**	*e*P	Pg	00 54 11.6	-3.1
FRA1				*e*S	Sg	00 54 22.8	-4.5
PCNG	**Congro**	**1.00**	**316**	*e*S	Sg	00 54 24.4	-4.1
PCNG							
	48nm,0.2s						
VIF	**Vila Franca**	**1.01**	**313**	*e*P	Pg	00 54 12.1	-3.6
VIF				*e*S	Sg	00 54 24.7	-4.1
VIF							
	71nm,0.2s						
VIF	**Vila Franca**	**1.01**	**313**	*e*P	Pg	00 54 12.1	-3.6
VIF				*e*S	Sg	00 54 24.7	-4.1
PFAD	**Fenais da Ajud**	**1.02**	**321**	*e*P	Pg	00 54 12.1	-3.7
PFAD				*e*S	Sg	00 54 24.1	-4.9
PRCH	**Ribeira Ch**	**1.03**	**312**	*e*P	Pg	00 54 12.4	-3.5
PRCH				*e*S	Sg	00 54 25.1	-4.1
PRCH							
	218nm,0.3s						
PRCH	**Ribeira Ch**	**1.03**	**312**	*e*P	Pg	00 54 12.4	-3.5
PRCH				*e*S	Sg	00 54 25.1	-4.1
MESC	**Monte Escuro**	**1.05**	**315**	*e*P	Pg	00 54 12.7	-3.7
MESC				*e*S	Sg	00 54 24.9	-5.1
LFA	**Lagoa do Fogo**	**1.06**	**313**	*e*P	Pg	00 54 12.9	-3.6
LFA				*e*S	Sg	00 54 25.1	-5.1
PMAT	**Coroa da Mata**	**1.08**	**315**	*e*S	Sg	00 54 25.6	-5.4
CML	**Cha da Macela**	**1.09**	**311**	*e*P	Pg	00 54 13.4	-3.8
CML				*e*S	Sg	00 54 26.1	-5.3
FAC	**Faja de Cima**	**1.16**	**309**	*e*P	Pg	00 54 14.5	-3.9
FAC				*e*S	Sg	00 54 27.6	-5.9
PSAN	**Santo Antonio**	**1.25**	**310**	*e*P	Pg	00 54 27.7	+7.4
PFET	**Feteiras**	**1.27**	**307**	*e*P	Pg	00 54 28.8	+8.2

NEIC 16 01:00:02.3±0.7, 4699N×155.14E, h10km, mb4.3/5, Error ellipse: s-maj=14.7km s-min=11.1km az=116.0
ISCJB 16 01:00:04.6±0.8, 4694N±009×1550E±02, h35km, mb4.2/10, Error ellipse: s-maj=16.2km s-min=10.7km az=65.6
MOS 16 01:00:04.5±1.3, 4692N×15494E, h33km, mb4.4/7, Error ellipse: s-maj=16.0km s-min=14.3km az=84.5
IDC 16 01:00:09.6±11.0, 4689N×15493E, h62km±102km, mb3.6/5, mb1 3.8/6, mb1mx3.4/23, mbtmp3.6/6, Error ellipse: s-maj=35.9km s-min=29.7km az=63.0
ISC 16 01:00:06.1±0.8, 4700N±009×1551E±02, h35km, n32, σ0§74/31, mb4.2/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.46**	**20**	PN	**Pn**	**01 01 43.4**	**+4.7**
YSS	**Yuzh-Sakhalins**	**8.41**	**274**	PN	**Pn**	**01 02 07.0**	**+1.6**
MAJO	**Matsushiro**	**16.31**	**236**	P	**Pn**	**01 03 52.7**	**+0.4**
MJAR	**Matsushiro Arr**	**16.31**	**236**	P	**Pn**	**01 03 53.0**	**+0.6**
	0.2nm,0.3s,baz=25,slow=11,SNR=4.7						
HIA	**Hailar**	**23.54**	**289**	*e*P	**P**	**01 05 12.6**	**-0.7**
BJT	**Baijiatuau**	**28.82**	**270**	*e*P	**P**	**01 06 00.7**	**-0.2**
TLY	**Talaya**	**33.24**	**297**	P	**P**	**01 06 38.2**	**-1.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TLY	**Talaya**	**33.24**	**297**	P	**P**	**01 06 38.2**	**-1.6**
	comp=Z,2.3nm,0.6s,mb4.3						
TATO	**Taipei**	**34.54**	**242**	*e*P	**P**	**01 06 50.5**	**-0.6**
	comp=Z,20nm,0.5s,mb5.3						
YHNB	**Yeheng**	**34.83**	**242**	*e*P	**P**	**01 06 54.3**	**+0.7**
NACB	**Ninganchiao**	**35.07**	**241**	P	**P**	**01 06 55.6**	**-0.1**
ENH	**Enshi**	**38.72**	**261**	*e*P	**P**	**01 07 26.6**	**-0.1**
MKAR	**Makanchi Array**	**48.00**	**298**	P	**P**	**01 08 41.3**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=64,slow=6.6,SNR=7.2						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**01 09 06.4**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**01 09 06.4**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.2						
LSA	**Lhasa**	**51.58**	**274**	P	**P**	**01 09 07.8**	**-1.0**
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**01 09 10.4**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=56,slow=8.9,SNR=6.1						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**01 09 10.4**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**01 09 10.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**01 09 10.3**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2						
CM31	**Chiang Mai Arr**	**53.72**	**258**	*e*P	**P**	**01 09 25.0**	**+0.4**
AAK	**Ala-Archa**	**54.91**	**297**	*e*P	**P**	**01 09 37.7**	**+4.5**
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**01 09 38.9**	**-0.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**01 09 38.9**	**-0.1**
	comp=Z,2.1nm,0.3s,mb4.7						
PMG	**Port Moresby**	**56.59**	**189**	P	**P**	**01 09 44.5**	**-0.8**
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**01 10 39.0**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.3,baz=38,slow=9.6,SNR=7.0						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**01 10 39.1**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	**Obninsk**	**65.84**	**326**	P	**P**	**01 10 47.4**	**-0.6**
MDRS	**Chennai**	**70.20**	**268**	*ex*	x	01 11 19.6	
ASAR	**Alice Springs**	**72.89**	**200**	P	**P**	**01 11 31.1**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=20,slow=7.3,SNR=5.3						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**01 11 52.1**	**+1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=301,slow=4.8,SNR=15						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**01 11 52.1**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

ISCJB 16 01:00:53.8±0.5, 4682N±009×1548E±0.1, h10km, mb4.1/24, Error ellipse: s-maj=13.0km s-min=9.3km az=131.6
IDC 16 01:00:53.9±0.9, 4690N×15477E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/26, mbtmp4.0/16, ML3.8/1, Error ellipse: s-maj=24.9km s-min=21.0km az=94.0
NEIC 16 01:00:55.6±0.6, 4678N×15479E, h10km, mb4.4/8, Error ellipse: s-maj=16.0km s-min=11.4km az=154.0
MOS 16 01:00:57.6±1.9, 4681N×15470E, h33km, mb4.3/20, Error ellipse: s-maj=15.6km s-min=9.2km az=105.9
ISC 16 01:00:55.6±0.5, 4683N±009×1547E±01, h10km, n76, σ1§32/76, mb4.1/24, 9C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MA2	**Magadan**	**12.99**	**351**	*e*PN	**Pn**	**01 04 00.2**	**+0.1**
MJAR	**Matsushiro Arr**	**16.03**	**236**	Pn	**Pn**	**01 04 39.8**	**-1.3**
	0.4nm,0.3s,baz=90,slow=8.0,SNR=3.1						
BJT	**Baijiatuau**	**28.61**	**270**	P	**P**	**01 06 51.5**	**-0.5**
SONM	**Songino Array**	**32.36**	**290**	P	**P**	**01 07 23.0**	**-2.1**
	0.2nm,0.4s,mb3.3,baz=54,slow=8.0,SNR=3.0						
COLA	**College**	**35.38**	**38**	*e*P	**P**	**01 07 50.0**	**-1.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
COLA	**College**	**35.38**	**38**	*e*P	**P**	**01 07 50.0**	**-1.4**
	comp=Z,2.1nm,0.7s,mb4.2						
ENH	**Enshi**	**38.48**	**261**	P	**P**	**01 08 18.4**	**+0.6**
INK	**Inuvik**	**40.99**	**33**	P	**P**	**01 08 36.8**	**-1.8**
	comp=Z,2.1nm,0.8s,mb3.8,baz=256,slow=5.1,SNR=5.4						
INK	**Inuvik**	**40.99**	**33**	P	**P**	**01 08 36.8**	**-1.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**40.99**	**33**	*e*P	**P**	**01 08 36.9**	**-1.7**
	comp=Z,73nm,0.8s,mb5.4						
ZAL	**Zalesovo**	**43.49**	**306**	P	**P**	**01 08 57.4**	**-1.6**
	comp=Z,1.4nm,0.4s,mb4.1,baz=43,slow=7.6,SNR=7.1						
ZAL	**Zalesovo**	**43.49**	**306**	P	**P**	**01 08 57.4**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	**Novosibirsk**	**44.03**	**308**	*e*P	**P**	**01 09 01.6**	**-1.7**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**01 09 33.7**	**-0.1**
	comp=E,1.0nm,0.7s,mb4.0,baz=69,slow=7.5,SNR=8.8						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**01 09 33.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**01 09 33.7**	**-0.1**
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**01 09 57.8**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**01 09 57.8**	**-1.5**
	comp=Z,6.6nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**01 10 01.8**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=58,slow=8.7,SNR=12						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**01 10 01.8**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**01 10 02.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**01 10 02.0**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.43**	**310**	*e*P	**P**	**01 10 07.2**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**52.43**	**310**	*e*P	**P**	**01 10 07.2**	**-1.0**
	comp=Z,3.7nm,1.0s,mb4.3						
WALA	**Waterton Lakes**	**57.52**	**51**	P	**P**	**01 10 43.2**	**-1.9**
AKTK	**Aktyubinsk**	**59.51**	**313**	P	**P**	**01 10 57.7**	**-1.2**
AKTO	**Aktyubinsk**	**59.51**	**313**	P	**P**	**01 10 57.7**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=107,slow=4.4,SNR=4.0						
AKTO	**Aktyubinsk**	**59.51**	**313**	P	**P**	**01 10 57.7**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CMB	**Columbia Colle**	**60.36**	**65**	P	**P**	**01 11 04.1**	**-0.7**
SUMG	**Summit**	**60.54**	**5**	*e*P	**P**	**01 11 05.0**	**-1.0**
ELK	**Elko**	**61.80**	**60**	P	**P**	**01 11 15.1**	**+0.5**
DUG	**Dugway**	**63.58**	**59**	P	**P**	**01 11 26.1**	**-0.3**
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**01 11 31.1**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.3,baz=39,slow=8.3,SNR=16						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**01 11 31.2**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.51**	**342**	P	**P**	**01 11 58.3**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=25,slow=6.2						
NOA	**NORSAR Array B**	**68.51**	**342**	P	**P**	**01 11 57.9**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=27,slow=6.0,SNR=4.7						
NOA	**NORSAR Array B**	**68.51**	**342**	P	**P**	**01 11 57.9**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.96**	**201**	P	**P**	**01 12 00.7**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=15,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**68.96**	**201**	P	**P**	**01 12 00.7**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.10**	**327**	P	**P**	**01 12 18.9**	**-1.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=32,slow=6.2,SNR=9.0						
AKASG	**Malin Array Be**	**72.10**	**327**	P	**P**	**01 12 19.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.65**	**200**	P	**P**	**01 12 24.6**	**+1.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=17,slow=5.7,SNR=9.0						
ASAR	**Alice Springs**	**72.65**	**200**	P	**P**	**01 12 24.6**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PALK	**Pallekele**	**73.81**	**263**	P	**P**	**01 12 29.9**	**-0.3**
STHS	**Stebnicka Huta**	**76.00**	**331**	*e*P	**P**	**01 12 45.0**	**+2.1**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
STHS	**Stebnicka Huta**	**76.00**	**331**	*e*P	**P**	**01 12 45.0**	**+2.1**
	comp=Z,3.2nm,0.7s,mb4.4						
BURAR	**Bucovina Array**	**76.13**	**327**	↑*i*P	**P**	**01 12 45.2**	**+1.6**
BURAR	**Bucovina Array**	**76.13**	**327**	↑P	**P**	**01 12 45.2**	**+1.6**
LTX	**Lajitas**	**76.48**	**62**	P	**P**	**01 12 46.3**	**+0.7**
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**01 12 44.4**	**-1.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=314,slow=4.6,SNR=3.9						
CLL	**Collm**	**76.85**	**336**	↓*i*P	**P**	**01 12 48.7**	**+1.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CLL	**Collm**	**76.85**	**336**	↓P	**P**	**01 12 48.7**	**+1.0**
	comp=Z,7.0nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**76.89**	**333**	↑*i*P	**P**	**01 12 49.7**	**+1.8**
MORC	**Moravsky Berou**	**76.89**	**333**	*e*P	**P**	**01 12 48.8**	**+0.9**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MORC	**Moravsky Berou**	**76.89**	**333**	*e*P	**P**	**01 12 48.8**	**+0.9**
	comp=Z,2.5nm,0.7s,mb4.2						
KECS	**Kecovo**	**77.06**	**331**	*e*P	**P**	**01 12 50.4**	**+1.5**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KECS	**Kecovo**	**77.06**	**331**	*e*P	**P**	**01 12 50.4**	**+1.5**
	comp=Z,1.7nm,0.9s,mb4.0						
VRAC	**Vranov**	**77.59**	**333**	↑*i*P	**P**	**01 12 54.1**	**+2.3**
VRAC	**Vranov**	**77.59**	**333**	↑P	**P**	**01 12 54.1**	**+2.2**
VYHS	**Vyhne**	**77.60**	**332**	*e*P	**P**	**01 12 53.7**	**+1.8**
MLR	**Muntele Rosu**	**77.64**	**326**	↑*i*P	**P**	**01 12 55.0**	**+2.9**
MLR	**Muntele Rosu**	**77.64**	**326**	↑P	**P**	**01 12 55.0**	**+2.9**
DRGR		**77.74**	**329**	↑*i*P	**P**	**01 12 54.5**	**+1.8**
DRGR		**77.74**	**329**	↑P	**P**	**01 12 54.5**	**+1.8**
MALT	**Malatya**	**77.91**	**314**	↓*i*P	**P**	**01 12 56.8**	**+3.2**
MALT	**Malatya**	**77.91**	**314**	↓P	**P**	**01 12 56.8**	**+3.1**
GERES	**GERESS Array B**	**78.87**	**335**	P	**P**	**01 12 59.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=33,slow=5.1,SNR=9.5						
GERES	**GERESS Array B**	**78.87**	**335**	P	**P**	**01 12 59.6**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**01 13 02.0**	**+1.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=46,slow=3.6,SNR=6.0						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**01 13 02.0**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BZS	**Buzias**	**79.14**	**329**	↓*i*P	**P**	**01 13 01.9**	**+1.5**
BZS	**Buzias**	**79.14**	**329**	↓P	**P**	**01 13 01.9**	**+1.4**
VTS	**Vitosha**	**81.14**	**326**	↓*i*P	**P**	**01 13 14.1**	**+2.9**
VTS	**Vitosha**	**81.14**	**326**	↓P	**P**	**01 13 14.1**	**+2.9**
ASF	**Jabal al Asfar**	**83.50**	**311**	P	**P**	**01 13 24.0**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=84,slow=5.9,SNR=3.4						
ASF	**Jabal al Asfar**	**83.50**	**311**	P	**P**	**01 13 24.0**	**+0.5**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 16 01:01:35.6±0.9, 4752N×15404E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/22, mbtmp3.9/8, Error ellipse: s-maj=30.3km s-min=25.8km az=141.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.66**	**33**	P	P	01 09 18.1	+0.6
	1.4nm,0.5s,baz=279,slow=3.5,SNR=6.4						
MKAR	**Makanchi Array**	**47.15**	**297**	P	P	01 10 10.4	+0.8
	0.9nm,0.9s,baz=69,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**63.61**	**335**	P	P	01 12 07.8	-0.5
	0.7nm,0.5s,baz=47,slow=7.7,SNR=3.6						
PDAR	**Pinedale Array**	**63.78**	**55**	P	P	01 12 09.3	-0.2
	0.9nm,0.8s,baz=322,slow=2.5,SNR=3.9						
NOA	**NORSAR Array B**	**67.70**	**341**	P	P	01 12 34.1	-0.6
	0.7nm,0.8s,baz=209,slow=15,SNR=2.3						
ASAR	**Alice Springs**	**73.14**	**199**	P	P	01 13 08.2	+0.2
	1.0nm,0.6s,baz=10.0,slow=5.7,SNR=9.7						
TXAR	**Lajitas Array**	**76.57**	**61**	P	P	01 13 28.0	+0.2
	1.1nm,0.5s,baz=301,slow=5.5,SNR=10.0						
GERES	**GERESS Array B**	**78.03**	**334**	P	P	01 13 35.2	-0.8
	0.3nm,0.4s,baz=17,slow=5.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**114.75**	**330**	PKP	PKiKP	01 20 16.8	-1.3
	0.2nm,0.5s,baz=359,slow=3.6,SNR=4.8						

ISCJB 16 01:04:19.8±1.0, 468N±0.1×1549E±02, h10km, mb4.1/13, Error ellipse: s-maj=21.4km s-min=11.7km az=67.4
IDC 16 01:04:20.1±1.1, 4668N×15489E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, Error ellipse: s-maj=35.6km s-min=29.4km az=36.0
NEIC 16 01:04:21.5±0.7, 4670N×15494E, h10km, mb4.2/7, Error ellipse: s-maj=16.3km s-min=8.7km az=123.0
MOS 16 01:04:22.7±1.1, 4689N×15498E, h26km, mb4.3/11, Error ellipse: s-maj=21.9km s-min=12.2km az=95.8
ISC 16 01:04:23.6±4.0, 468N±01×1550E±02, h21km±28km, n32, σ0§93/32, mb4.1/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.66**	**19**	PN	**Pn**	**01 05 59.5**	**-0.7**
MA2	**Magadan**	**13.04**	**350**	PN	**Pn**	**01 07 27.8**	**+0.3**
MAJO	**Matsushiro**	**16.16**	**237**	P	**Pn**	**01 08 06.4**	**-2.9**
MJAR	**Matsushiro Arr**	**16.16**	**237**	Pn	**Pn**	**01 08 11.9**	**+2.6**
	0.3nm,0.3s,baz=34,slow=6.7,SNR=4.0						
BILL	**Bilibino**	**22.07**	**11**	*e*P	**P**	**01 09 17.4**	**+0.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
BILL	**Bilibino**	**22.07**	**11**	*e*P	**P**	**01 09 17.4**	**+0.3**
	comp=Z,1.1nm,0.3s,mb3.8						
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**01 13 00.5**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.6,baz=67,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**01 13 00.5**	**-0.9**
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**01 13 25.8**	**-0.8**
CHKZ				pmax

BJI **16** *01:10:26.6, 4730N× 153.10E, h10km, mB4.5, mb4.6, Ms3.9, Msz4.0*
MOS **16** *01:10:28.3± 1.0, 4733N× 153.11E, h49km, mb4.7/32, Error ellipse: s-maj=9.9km s-min=6.2km az=92.9*
ISCJB **16** *01:10:28.6± 0.3, 4726N± 005× 15323E± 006, h55km, mb4.5/52, MS4.2/2, Error ellipse: s-maj=8.5km s-min=3.2km az=93.8*
IDC **16** *01:10:30.5± 0.5, 4732N× 15308E, h56km± 5km, mb4.1/19, mb1 4.2/20, mb1mx4.1/25, mbtmp4.0/20, Error ellipse: s-maj=16.1km s-min=11.8km az=129.0*
ISC 16 01:10:30.6± 0.3, 4732N± 004× 15320E± 006, h57km, h57km± 1.4km: pP-P, n203, σ1§21/216, mb4.5/52, MS4.2/2, 14C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**29**	*e*PN	**Pn**	**01 11 28.5**	**+0.9**
SKR				*e*		01 12 11.0	
KUR	**Kuril'sk**	**4.25**	**243**	⇓*i*PN	**Pn**	**01 11 32.0**	**-0.7**
KUR				*e*S	**Sn**	**01 12 22.0**	**+1.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=N,100nm,0.6s						
KUR				pmax	pmax		
	comp=Z,530nm,0.6s						
KUR				smax			
	comp=N,3μm,1.6s						
KUR				smax			
	comp=E,4μm,1.6s						
KUR				smax			
	comp=N,1μm,0.6s						
KUR				smax			
	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.10**	**240**	PN	**Pn**	**01 11 58.7**	**+0.6**
YUK				*e*S	**Sn**	**01 13 13.0**	**+6.5**
YUK				smax			
	comp=E,580nm,0.5s						
YUK				smax			
	comp=N,1μm,0.6s						
NEM2	**Nemuro 2**	**6.57**	**236**	P	**Pn**	**01 12 04.2**	**-0.4**
NEM2				*e*S	**Sn**	**01 13 15.9**	**-2.3**
JRA	**Rausu**	**6.59**	**242**	P	**Pn**	**01 12 07.2**	**+2.3**
PET	**Petropavlovsk**	**6.70**	**29**	*e*Pn	**Pn**	**01 12 05.4**	**-0.9**
PET				*e*Sn	**Sn**	**01 13 18.9**	**-2.3**
JNK	**Nakash**	**7.04**	**241**	P	**Pn**	**01 12 12.8**	**+1.9**
JNK				*e*S	**Sn**	**01 13 31.7**	**+2.2**
YSS	**Yuzh-Sakhalins**	**7.13**	**271**	*e*PN	**Pn**	**01 12 16.9**	**+4.6**
YSS				*e*S	**Sn**	**01 13 38.0**	**+6.1**
YSS				pmax	pmax		
	comp=Z,200nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.13**	**271**	*e*Pn	**Pn**	**01 12 17.0**	**+4.7**
JTKR	**Abashiri--Toko**	**7.32**	**246**	P	**Pn**	**01 12 17.9**	**+3.1**
JAK	**Akkeshi**	**7.40**	**237**	P	**Pn**	**01 12 15.7**	**-0.2**
JAK				*e*S	**Sn**	**01 13 35.8**	**-2.7**
JMP	**Maruseppu**	**7.65**	**248**	P	**Pn**	**01 12 23.5**	**+4.2**
JAR	**Ashorobuto**	**7.77**	**242**	P	**Pn**	**01 12 22.7**	**+1.8**
JAR				*e*S	**Sn**	**01 13 50.6**	**+3.2**
JOB	**Onbets**	**7.96**	**240**	P	**Pn**	**01 12 24.7**	**+1.1**
JOB				*e*S	**Sn**	**01 13 51.2**	**-0.9**
ASAJ	**Asahikawa**	**8.08**	**251**	P	**Pn**	**01 12 30.3**	**+5.1**
	comp=Z,5.1nm,0.3s,baz=75,slow=15,SNR=12						
ASAJ	**Asahikawa**	**8.08**	**251**	P	**Pn**	**01 12 29.9**	**+4.7**
ASAJ	**Asahikawa**	**8.08**	**251**	PN	**Pn**	**01 12 30.3**	**+5.1**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.10**	**249**	P	**Pn**	**01 12 29.1**	**+3.6**
JCH	**Churui**	**8.41**	**240**	P	**Pn**	**01 12 29.9**	**+0.2**
JCH				*e*S	**Sn**	**01 14 00.5**	**-2.7**
JAB	**Ashibetsu**	**8.61**	**248**	P	**Pn**	**01 12 37.2**	**+4.7**
JEM	**Erimo**	**8.90**	**237**	P	**Pn**	**01 12 37.4**	**+0.9**
JBT2	**Biratori 2**	**8.91**	**243**	P	**Pn**	**01 12 38.4**	**+1.8**
JNBK	**Urakawa-nobuka**	**8.97**	**240**	P	**Pn**	**01 12 36.8**	**-0.6**
JNBK				*e*S	**Sn**	**01 14 13.5**	**-3.5**
JEW	**Eniwo**	**9.44**	**246**	P	**Pn**	**01 12 47.0**	**+3.2**
JNB	**Noboribetsu**	**9.89**	**245**	P	**Pn**	**01 12 51.0**	**+0.9**
JOT	**Ohata**	**10.53**	**240**	P	**Pn**	**01 12 58.1**	**-0.6**
JOT				*e*S	**Sn**	**01 14 46.7**	**-8.3**
JTM	**Tenmabayashi**	**10.89**	**238**	P	**Pn**	**01 13 01.5**	**-2.2**
JTM				*e*S	**Sn**	**01 14 54.5**	**-10**
JANG	**Nango**	**10.92**	**235**	P	**Pn**	**01 13 00.8**	**-3.2**
JANG				*e*S	**Sn**	**01 14 55.0**	**-10**
JTH	**Tanohata**	**11.03**	**232**	*e*S	**Sn**	**01 14 57.5**	**-10**
JOM	**Ohasama**	**11.67**	**232**	P	**Pn**	**01 13 11.0**	**-3.3**
JOM				*e*S	**Sn**	**01 15 13.4**	**-10**
OFUJ	**Ofunato**	**11.76**	**230**	*e*S	**Sn**	**01 15 15.1**	**-10**
JRG	**Rokugo**	**12.09**	**234**	P	**Pn**	**01 13 17.6**	**-2.4**
MA2	**Magadan**	**12.36**	**354**	*e*PN	**Pn**	**01 13 24.1**	**+0.3**
JIO	**Ouri**	**12.40**	**229**	*e*S	**Sn**	**01 15 28.2**	**-1.3**
JMM	**Marumori**	**13.13**	**228**	*e*S	**Sn**	**01 15 49.2**	**-9.3**
KLR	**Kul'dur**	**14.41**	**286**	*e*P	**Pn**	**01 13 53.3**	**+2.0**
MAJO	**Matsushiro**	**15.48**	**231**	*e*P	**Pn**	**01 14 04.0**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,50nm,0.9s						
MAJO	**Matsushiro**	**15.48**	**231**	*e*Pn	**Pn**	**01 14 04.0**	**-1.2**
	comp=Z,50nm,0.9s						
MAJO				*e*		01 14 10.7	
MAT	**Matsushiro**	**15.48**	**231**	P	**Pn**	**01 14 10.5**	**+5.3**
MJAR	**Matsushiro Arr**	**15.48**	**231**	P	**Pn**	**01 14 02.3**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=27,slow=14,SNR=7.2						
CLNS	**Chul'man**	**19.70**	**309**	*e*P	**Pn**	**01 14 58.8**	**+1.8**
CLNS				pmax	pmax		
	comp=Z,24nm,0.9s						
CLNS				pmax	pmax		
	comp=N,11nm,1.2s						
CLNS				pmax	pmax		
	comp=E,16nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,1μm,24.0s						
CLNS				MLR	MLR		
	comp=N,100nm,11.0s						
CLNS				MLR	MLR		
	comp=E,2μm,16.0s						
CN2	**Changchun**	**19.70**	**270**	*e*P	**Pn**	**01 15 00.9**	**+3.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**19.88**	**326**	*e*P	**Pn**	**01 14 56.2**	**-2.9**
YAK				pmax	pmax		
	comp=Z,19nm,0.5s						
YAK	**Yakutsk**	**19.88**	**326**	*e*P	**Pn**	**01 14 56.2**	**-2.9**
	comp=Z,19nm,0.5s						
KSRS	**Korea Array**	**21.03**	**251**	P	**P**	**01 15 11.4**	**+1.9**
	comp=Z,12nm,0.9s,mb4.2,baz=58,slow=10,SNR=12						
BILL	**Bilibino**	**21.82**	**13**	*e*P	**P**	**01 15 24.4**	**+6.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
BILL				MLR	MLR		
	comp=Z,1μm,24.0s,MS4.2						
INCN	**Inchon**	**21.85**	**253**	P	**P**	**01 15 16.7**	**-1.6**
HIA	**Hailar**	**22.25**	**287**	P	**P**	**01 15 20.4**	**-2.1**
BOD	**Bodaibo**	**25.68**	**309**	*e*P	**P**	**01 15 53.7**	**-1.4**
AKUT	**Akutan**	**26.55**	**60**	P	**P**	**01 16 10.1**	**+7.1**
JOW	**Kunigami**	**28.31**	**233**	P	**P**	**01 16 17.7**	**-1.1**
	comp=Z,16nm,0.8s,mb4.7,baz=185,slow=1.9,SNR=4.4						
SONM	**Songino Array**	**31.20**	**289**	P	**P**	**01 16 44.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=66,slow=8.0,SNR=7.4						
SONM				PcP	PcP	01 19 36.3	-1.7
	comp=Z,0.2nm,0.6s,baz=47,slow=2.0,SNR=3.6						
SONM	**Songino Array**	**31.20**	**289**	P	**P**	**01 16 44.0**	**-0.4**
SONM						01 19 36.3	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KDAK	**Kodiak Island**	**33.70**	**52**	P	**P**	**01 17 05.7**	**-0.6**
	comp=Z,16nm,0.9s,mb4.9,baz=90,slow=2.0,SNR=3.2						
YHNB	**Yeheng**	**33.89**	**239**	P	**P**	**01 17 07.8**	**-0.1**
NACB	**Ninganchiao**	**34.14**	**239**	P	**P**	**01 17 09.5**	**-0.5**
MCK	**McKinley**	**35.18**	**41**	*e*P	**P**	**01 17 19.5**	**+0.5**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
MCK	**McKinley**	**35.18**	**41**	*e*P	**P**	**01 17 19.5**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0						
XAN	**Xi'an**	**35.63**	**264**	P	**P**	**01 17 23.8**	**+1.0**
XAN				AP	pP	01 17 31.4	-5.8
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
XAN				LR	LR		
	comp=N,196nm,21.5s,MS4.0						
XAN				LR	LR		
	comp=E,173nm,18.1s,MS4.0						
XAN				LR	LR		
	comp=Z,491nm,20.5s,MS4.3						
COLA	**College**	**35.66**	**39**	*e*P	**P**	**01 17 23.8**	**+0.7**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
COLA	**College**	**35.66**	**39**	*e*P	**P**	**01 17 23.8**	**+0.7**
	comp=Z,7.6nm,0.5s,mb4.9						
CD2	**Chengdu**	**40.99**	**265**	*e*P	**P**	**01 18 08.1**	**+0.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**01 18 09.8**	**+0.7**
	comp=Z,3.4nm,0.5s,mb4.2,baz=304,slow=7.2,SNR=33						
INK	**Inuvik**	**41.14**	**33**	*e*P	**P**	**01 18 09.9**	**+0.8**
INK				*e*	pP	01 18 23.4	-0.3
INK				*e*		01 19 44.0	
INK				pmax	pmax		
	comp=Z,84nm,0.4s						
INK	**Inuvik**	**41.14**	**33**	*e*P	**P**	**01 18 09.9**	**+0.7**
	comp=Z,84nm,0.4s,mb5.7						
INK				*e*	pP	01 18 23.4	-0.3
INK				*e*PP	PP	01 19 44.0	-0.9
GYA	**Guiyang**	**41.90**	**257**	P	**P**	**01 18 16.3**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**42.34**	**305**	P	**P**	**01 18 16.9**	**-2.1**
	comp=Z,1.1nm,0.4s,mb3.9,baz=92,slow=12,SNR=2.8						
ZAL				PcP	PcP	01 20 10.7	-0.8
	comp=Z,1.1nm,0.4s,baz=70,slow=4.7,SNR=4.7						
ZAL	**Zalesovo**	**42.34**	**305**	P	**P**	**01 18 16.9**	**-2.1**
ZAL						01 20 10.7	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMI	**Kunming**	**45.41**	**259**	P	**P**	**01 18 44.6**	**+1.1**
KMI				AP	pP	01 18 51.6	-6.7
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
KMI	**Kunming**	**45.41**	**259**	P	**P**	**01 18 44.6**	**+1.1**
	comp=Z,14nm,1.0s,mb4.8						
KMI				pP	pP	01 18 51.6	-6.7
MK31	**Makanchi Array**	**46.73**	**297**	*e*P	**P**	**01 18 53.2**	**-0.8**
MK31				*e*	pP	01 19 07.8	-1.0
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**	**01 18 53.4**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=68,slow=7.7,SNR=8.3						
MKAR				PcP	PcP		
	comp=Z,1.6nm,0.8s,baz=71,slow=3.8,SNR=5.0					01 20 25.9	-0.7
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**	**01 18 53.4**	**-0.6**
MKAR						01 20 25.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**	**01 18 53.4**	**-0.6**
MKAR				PcP	PcP	01 20 25.9	-0.7
CHKZ	**Chkalovo**	**50.11**	**310**	*e*P	**P**	**01 19 18.6**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**50.11**	**310**	*e*P	**P**	**01 19 18.6**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.6						
RES	**Resolute Bay**	**50.28**	**19**	*e*P	**P**	**01 19 21.2**	**0.0**
RES				pmax	pmax		
	comp=Z,72nm,0.6s						
RES	**Resolute Bay**	**50.28**	**19**	*e*P	**P**	**01 19 21.2**	**0.0**
	comp=Z,72nm,0.6s						
LSA	**Lhasa**	**50.30**	**273**	*e*P	**P**	**01 19 23.8**	**+2.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**50.30**	**273**	*e*P	**P**	**01 19 23.8**	**+2.4**
	comp=Z,4.6nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**50.43**	**37**	P	**P**	**01 19 22.8**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.3,baz=298,slow=6.9,SNR=6.9						
YKA	**Yellowknife Ar**	**50.43**	**37**	P	**P**	**01 19 22.8**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**50.43**	**37**	P	**P**	**01 19 22.8**	**+0.5**
BVAR	**Borovoye Array**	**50.55**	**309**	P	**P**	**01 19 22.7**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=63,slow=6.8,SNR=10						
BVAR				PcP	PcP	01 20 38.8	-1.6
	comp=Z,1.2nm,0.6s,baz=72,slow=4.8,SNR=5.1						
BVAR	**Borovoye Array**	**50.55**	**309**	P	**P**	**01 19 22.7**	**-0.5**
BVAR						01 20 38.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**50.58**	**309**	*e*P	**P**	**01 19 22.6**	**-0.9**
BRVK				*e*	pP	01 19 36.0	-2.5
BRVK				*e*		01 20 39.7	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**50.58**	**309**	*e*P	**P**	**01 19 22.6**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.2						
BRVK				*e*	pP	01 19 36.0	-2.6
BRVK				*e*PcP	PcP	01 20 39.7	-0.9
ZRNK	**Zerenda**	**51.31**	**310**	*e*P	**P**	**01 19 28.3**	**-0.7**
ZRNK				*e*		01 20 42.6	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.31**	**310**	*e*P	**P**	**01 19 28.3**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.2						
ZRNK				*e*PcP	PcP	01 20 42.6	-0.6
CHTO	**Chiang Mai**	**52.31**	**256**	*e*P	**P**	**01 19 37.7**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**52.31**	**256**	*e*P	**P**	**01 19 37.6**	**+1.3**
	comp=Z,14nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**01 19 45.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**01 19 45.4**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.0						
ARU	**Arti**	**54.63**	**317**	⇓*i*P	**P**	**01 19 52.3**	**-1.1**
ARU				*e*S	**S**	**01 27 37.1**	**+8.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**01 19 52.4**	**-1.0**
	comp=Z,4.3nm,0.6s,mb4.7						
JIRN	**Jiri**	**54.96**	**274**	*e*P	**P**	**01 19 57.1**	**+1.3**
	comp=Z,11nm,0.4s,mb5.2						
GUN	**Gumba**	**55.01**	**275**	*e*P	**P**	**01 19 57.6**	**+1.4**
KKN	**Kakani**	**55.49**	**275**	*e*P	**P**	**01 20 00.6**	**+1.0**
PKI	**Pulchoki**	**55.55**	**275**	*e*P	**P**	**01 20 00.3**	**+0.3**
GKN	**Gorkha**	**55.79**	**276**	*e*P	**P**	**01 20 03.2**	**+1.4**
	comp=Z,21nm,0.6s,mb5.3						
KOLN	**Koldanda**	**56.65**	**276**	*e*P	**P**	**01 20 09.3**	**+1.4**
	comp=Z,12nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**57.34**	**341**	P	**P**	**01 20 11.4**	**-1.4**
	comp=Z,2.9nm,0.9s,mb4.3,baz=26,slow=7.0,SNR=7.8						
ARCES	**ARCESS Array B**	**57.34**	**341**	P	**P**	**01 20 11.4**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FIA1	**FINESS Array S**	**63.55**	**335**	*e*P	**P**	**01 20 54.8**	**-0.3**
FINES	**FINESS Array B**	**63.55**	**335**	P	**P**	**01 20 54.2**	**-0.9**
	comp=Z,2.2nm,0.3s,mb4.6,baz=38,slow=8.0,SNR=44						
FINES	**FINESS Array B**	**63.55**	**335**	P	**P**	**01 20 54.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DUG	**Dugway**	**64.22**	**58**	*e*P	**P**	**01 20 58.2**	**-1.3**
DUG				*e*	pP	01 21 14.9	-0.1
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
DUG	**Dugway**	**64.22**	**58**	*e*P	**P**	**01 20 58.2**	**-1.3**
	comp=Z,7.0nm,1.1s,mb4.6						
DUG				*e*	pP	01 21 14.9	-0.2
PDAR	**Pinedale Array**	**64.36**	**54**	P	**P**	**01 21 01.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=305,slow=2.1,SNR=9.6						
PDAR				pP	pP	01 21 16.2	+0.2
	comp=Z,3.4nm,0.8s,baz=48,slow=2.2,SNR=16						
SRU	**San Rafael**	**66.26**	**58**	*e*P	**P**	**01 21 12.7**	**0.0**
SRU				*e*	pP	01 21 28.7	+0.4
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SRU	**San Rafael**	**66.26**	**58**	*e*P	**P**	**01 21 12.7**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.7						
SRU				*e*	pP	01 21 28.7	+0.4
RSSD	**Black Hills**	**66.41**	**50**	*e*P	**P**	**01 21 13.9**	**+0.2**
RSSD				*e*	pP	01 21 29.6	+0.3
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
RSSD	**Black Hills**	**66.41**	**50**	*e*P	**P**	**01 21 13.9**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.1						
RSSD				*e*	pP	01 21 29.6	+0.3
HYB	**Hyderabad**	**67.05**	**271**	*i*P	**P**	**01 21 18.0**	**+0.3**
HYB	**Hyderabad**	**67.05**	**271**	*e*P	**P**	**01 21 18.0**	**+0.3**
NB2	**NORSAR Subarra**	**67.71**	**341**	P	**P**	**01 21 21.5**	**-0.4**
	comp=Z,9.8nm,0.8s,mb4.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**01 21 21.8**	**-0.1**
	comp=Z,7.6nm,0.8s,mb4.8,baz=26,slow=6.3,SNR=25						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**01 21 21.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SMCO	**Snowmass**	**68.23**	**56**	*e*P	**P**	**01 21 32.7**	**+7.4**
	comp=Z,4.8nm,0.8s,mb4.6						
ISCO	**Idaho Springs**	**68.56**	**54**	*e*P	**P**	**01 21 28.5**	**+1.3**
ISCO				*e*	pP	01 21 43.5	+0.6
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ISCO	**Idaho Springs**	**68.56**	**54**	*e*P	**P**	**01 21 28.5**	**+1.2**
	comp=Z,6.2nm,1.3s,mb4.4						
ISCO				*e*	pP	01 21 43.5	+0.6
WRAB	**Tennant Creek**	**69.06**	**199**	*e*P	**P**	**01 21 30.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**69.06**	**199**	*e*P	**P**	**01 21 30.3**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**69.07**	**199**	*e*P	**P**	**01 21 30.4**	**0.0**
WRA	**Warramunga Arr**	**69.07**	**199**	P	**P**	**01 21 29.7**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=17,slow=6.7,SNR=6.5						
WRA				pP	pP	01 21 45.0	-1.1
	comp=Z,1.6nm,0.9s,baz=18,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**69.07**	**199**	P	**P**	**01 21 29.7**	**-0.7**
WRA				*PP	pP	01 21 45.0	-1.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**70.45**	**314**	P	**P**	**01 21 38.9**	**0.0**
KIV	**Kislovodsk**	**70.45**	**314**	P	**P**	**01 21 38.9**	**+0.1**
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**01 21 42.1**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.6,baz=34,slow=6.4,SNR=14						
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**01 21 42.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SCHQ	**Schefferville**	**72.76**	**23**	P	**P**	**01 21 52.2**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.3,baz=311,slow=7.2,SNR=5.6						
SCHQ				pP	pP	01 22 07.7	-0.9
	comp=Z,5.1nm,0.8s,baz=314,slow=7.2,SNR=3.7						
SCHQ	**Schefferville**	**72.76**	**23**	P	**P**	**01 21 52.2**	**-0.6**
SCHQ				pP	pP	01 22 07.7	-0.9
AS31	**Alice Springs**	**72.76**	**198**	*e*P	**P**	**01 21 53.9**	**+1.1**
AS31				*e*	pP	01 22 08.7	+0.1
ASAR	**Alice Springs**	**72.77**	**198**	P	**P**	**01 21 53.9**	**+1.0**
	comp=Z,5.0nm,0.7s,mb4.6,baz=14,slow=6.2,SNR=55						
ASAR				pP	pP	01 22 09.4	+0.9
	comp=Z,2.8nm,0.8s,baz=13,slow=5.9,SNR=7.4						
ASAR	**Alice Springs**	**72.77**	**198**	P	**P**	**01 21 53.9**	**+1.1**
ASAR				*PP	pP	01 22 09.5	+0.9
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MBWA	**Marble Bar**	**74.53**	**212**	P	**P**	**01 22 01.3**	**-1.8**
STHS	**Stebnicka Huta**	**75.05**	**330**	*e*P	**P**	**01 22 06.8**	**+0.6**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**75.05**	**330**	*e*P	**P**	**01 22 06.8**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.5						
KOLS	**Kolonicke sedl**	**75.11**	**329**	*e*P	**P**	**01 22 06.3**	**-0.2**
BURAR	**Bucovina Array**	**75.15**	**327**	⇓*i*P	**P**	**01 22 07.0**	**+0.3**
BURAR	**Bucovina Array**	**75.15**	**327**	⇓P	**P**	**01 22 07.0**	**+0.2**
DPC	**Dobruska-Polom**	**75.84**	**333**	*e*P	**P**	**01 22 11.2**	**+0.5**
MORC	**Moravsky Berou**	**75.96**	**332**	⇓*i*P	**P**	**01 22 11.7**	**+0.3**
CLL	**Collm**	**75.97**	**336**	*i*P	**P**	**01 22 11.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
CLL	**Collm**	**75.97**	**336**	*i*P	**P**	**01 22 11.0**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0						
VRI	**Vrincioaia**	**76.02**	**325**	⇑*i*P	**P**	**01 22 14.2**	**+2.5**
PLOR	**Plostina**	**76.06**	**325**	⇓*i*P	**P**	**01 22 13.5**	**+1.6**
BRG	**Berggiesshubel**	**76.09**	**335**	*e*P	**P**	**01 22 11.9**	**-0.2**
	comp=Z,7.1nm,1.4s,mb4.4						
BRG	**Berggiesshubel**	**76.09**	**335**	*e*P	**P**	**01 22 11.9**	**-0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
KECS	**Kecovo**	**76.11**	**330**	*e*P	**P**	**01 22 11.9**	**-0.3**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KECS	**Kecovo**	**76.11**	**330**	*e*P	**P**	**01 22 11.9**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.2						
MLR	**Muntele Rosu**	**76.63**	**325**	⇓*i*P	**P**	**01 22 16.2**	**+1.0**
MLR	**Muntele Rosu**	**76.63**	**325**	⇓P	**P**	**01 22 16.2**	**+1.0**
VYHS	**Vyhne**	**76.66**	**331**	*e*P	**P**	**01 22 15.5**	**+0.2**
VRAC	**Vranov**	**76.67**	**332**	⇑*i*P	**P**	**01 22 16.1**	**+0.7**
VRAC	**Vranov**	**76.67**	**332**	⇑P	**P**	**01 22 16.1**	**+0.6**
PRU	**Pruhonice**	**76.70**	**334**	*e*P	**P**	**01 22 15.8**	**+0.2**
DRGR		**76.77

LPG	**La Plagne**	**82.98**	**337**	*e*P		**P**	**01 22 49.0**	**-0.6**
	comp=Z,3.2nm,0.4s,mb4.7								
CAF	**Calviac**	**84.69**	**340**	*e*P		**P**	**01 22 56.6**	**-1.7**
EIL	**Elat**	**85.37**	**310**	*e*P		**P**	**01 23 02.9**	**+1.3**
CFAA	**Coronel Fontan**	**144.83**	**79**	PKP	PKPdf		01 29 58.5	-2.6
	comp=Z,0.5nm,0.6s,baz=266,slow=3.0,SNR=8.6								
CFAA				pPKP	pPKPdf		01 30 14.0	-3.9	
	comp=Z,0.4nm,0.5s,baz=280,slow=5.2,SNR=3.9								
SNAA	**Sanae**	**153.12**	**197**	PKPbc	PKPbc		01 30 19.0	-2.8	
	comp=Z,0.6nm,0.6s,baz=207,slow=22,SNR=3.8								
SNAA				PKPab	PKPab		01 30 31.7	-1.8	
	comp=Z,0.7nm,0.8s,baz=269,slow=7.8,SNR=3.7								
SNAA	**Sanae**	**153.12**	**197**	PKP2	PKPab		01 30 31.7	-1.8	
SNAA				pmax	pmax				
	comp=Z,1.0nm,0.8s								

BJI ***16*** *01:18:26.5, 47.36N×153.76E, h10km, mB5.0, mb4.7, Ms4.6, Msz4.2*
NEIC ***16*** *01:18:31.6±0.2, 47.36N×153.01E, h10km, mb4.9/53, Error ellipse: s-maj=5.9km s-min=3.7km az=159.0*
ISCJB ***16*** *01:18:36.4±0.2, 47.37N±004×153.06E±004, h58km, mb4.7/91, MS4.0/3, Error ellipse: s-maj=6.5km s-min=3.1km az=121.1*
IDC ***16*** *01:18:37.8±0.6, 47.35N×153.12E, h61km±5km, mb4.2/25, mb1 4.4/26, mb1mx4.3/28, mbtmp4.2/26, MS3.7/1, Ms1 3.7/1, ms1mx3.2/53, Error ellipse: s-maj=13.9km s-min=11.0km az=143.0*
SZGRF ***16*** *01:18:38.0, 47.93N×153.77E, h33km, mb5.1, Kuril Islands, Russia*
MOS ***16*** *01:18:39.7±1.0, 47.30N×153.07E, h93km, mb4.6/40, Error ellipse: s-maj=8.0km s-min=5.7km az=87.2*

ISC 16 01:18:38.5±0.2, 4746N±004×15302E±004, h60km, h60km±1.0km:pP-P,n305,σ1§08/290, mb4.7/91, 15C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SKR	**Severo-Kuril's**	**3.81**	**31**	*e*PN		**Pn**	**01 19 36.5**		**+1.8**
SKR				*e*			01 20 18.5		
KUR	**Kuril'sk**	**4.21**	**240**	*e*PN		**Pn**	**01 19 39.0**		**-1.1**
KUR				*e*S		**Sn**	**01 20 28.0**		**0.0**
KUR				pmax	pmax				
	comp=Z,2μm,1.0s								
KUR				smax					
	comp=N,5μm,3.0s								
KUR				smax					
	comp=E,2μm,3.0s								
KUR				smax					
	comp=N,750nm,0.8s								
KUR				smax					
	comp=E,1μm,0.8s								
YUK	**Yuzh-Kuril'sk**	**6.07**	**238**	*e*PN		**Pn**	**01 20 08.5**		**+2.9**
PET	**Petropavlovsk**	**6.63**	**31**	*e*PN		**Pn**	**01 20 17.1**		**+3.8**
PET				pmax	pmax				
	comp=Z,97nm,1.8s								
PET	**Petropavlovsk**	**6.63**	**31**	Pn		**Pn**	**01 20 12.4**		**-0.9**
PET				*e*Sn		**Sn**	**01 21 26.2**		**-1.3**
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	*e*PN		**Pn**	**01 20 23.0**		**+4.5**
YSS				*e*S		**Sn**	**01 21 45.0**		**+8.2**
YSS				pmax	pmax				
	comp=Z,200nm,0.7s								
YSS				MLR	MLR				
	comp=Z,600nm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	*e*Pn		**Pn**	**01 20 22.6**		**+4.1**
UGL	**Uglegorsk**	**7.49**	**286**	*e*PN		**Pn**	**01 20 30.5**		**+5.5**
UGL				pmax	pmax				
	comp=Z,126nm,0.6s								
UGL				MLR	MLR				
	comp=N,1μm,20.0s								
UGL				MLR	MLR				
	comp=E,1μm,20.0s								
UGL				MLR	MLR				
	comp=Z,1μm,20.0s								
JMP	**Maruseppu**	**7.59**	**246**	P		**Pn**	**01 20 30.5**		**+4.1**
JWK2	**Keihoku**	**7.99**	**258**	P		**Pn**	**01 20 38.6**		**+6.8**
ASAJ	**Asahikawa**	**8.02**	**249**	P		**Pn**	**01 20 37.0**		**+4.7**
	comp=Z,2.9nm,0.3s,baz=86,slow=14,SNR=14								
ASAJ	**Asahikawa**	**8.02**	**249**	P		**Pn**	**01 20 36.6**		**+4.4**
ASAJ	**Asahikawa**	**8.02**	**249**	PN		**Pn**	**01 20 37.0**		**+4.8**
ASAJ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ERM	**Erimo**	**8.88**	**236**	*e*PN		**Pn**	**01 20 44.8**		**+0.7**
ERM				pmax	pmax				
	comp=Z,84nm,0.7s								
ERM	**Erimo**	**8.88**	**236**	*e*Pn		**Pn**	**01 20 44.8**		**+0.8**
	comp=Z,84nm,0.7s								
ERM				*e*Sn		**Sn**	**01 22 20.8**		**-1.8**
JEW	**Eniwo**	**9.39**	**245**	P		**Pn**	**01 20 53.0**		**+2.0**
JOT	**Ohata**	**10.50**	**239**	P		**Pn**	**01 21 06.7**		**+0.6**
JTM	**Tenmabayashi**	**10.87**	**236**	P		**Pn**	**01 21 08.8**		**-2.5**
JOM	**Ohasama**	**11.67**	**231**	P		**Pn**	**01 21 20.4**		**-1.7**
MA2	**Magadan**	**12.21**	**355**	*e*PN		**Pn**	**01 21 28.2**		**-1.3**
KLR	**Kul'dur**	**14.25**	**285**	*e*P		**Pn**	**01 22 03.0**		**+5.9**
JSD	**Sado**	**14.34**	**234**	P		**Pn**	**01 22 02.7**		**+4.4**
SMY	**Shemya**	**14.50**	**61**	*e*P		**Pn**	**01 21 57.1**		**-3.2**
MAJO	**Matsushiro**	**15.47**	**231**	*e*P		**Pn**	**01 22 09.6**		**-3.3**
MAJO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MAJO	**Matsushiro**	**15.47**	**231**	*e*Pn		**Pn**	**01 22 09.6**		**-3.3**
	comp=Z,9.6nm,0.8s								
MAJO				*e*			01 22 17.1		
MAT	**Matsushiro**	**15.47**	**231**	P		**Pn**	**01 22 09.9**		**-3.0**
MJAR	**Matsushiro Arr**	**15.47**	**231**	P		**Pn**	**01 22 10.6**		**-2.3**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=13								
MJAR	**Matsushiro Arr**	**15.47**	**231**	P		**Pn**	**01 22 10.6**		**-2.3**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JRY	**Ryogami san**	**15.52**	**228**	P		**Pn**	**01 22 16.4**		**+2.8**
JGF	**Kuroka**	**16.64**	**230**	P		**Pn**	**01 22 28.3**		**+0.7**
CLNS	**Chul'man**	**19.51**	**309**	*e*P		**Pn**	**01 23 04.7**		**+2.2**
CLNS				pmax	pmax				
	comp=Z,28nm,0.9s								
CLNS				pmax	pmax				
	comp=N,14nm,1.0s								
CLNS				pmax	pmax				
	comp=E,20nm,0.8s								
CN2	**Changchun**	**19.58**	**269**	*e*P		**Pn**	**01 23 00.3**		**-3.0**
YAK	**Yakutsk**	**19.69**	**326**	*e*P		**Pn**	**01 23 05.5**		**+0.9**
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,66nm,0.9s								
YAK				pmax	pmax				
	comp=N,79nm,1.3s								
YAK				pmax	pmax				
	comp=E,71nm,1.4s								
YAK				MLR	MLR				
	comp=Z,369nm,20.0s								
YAK				MLR	MLR				
	comp=N,168nm,16.0s								
YAK				MLR	MLR				
	comp=E,224nm,17.0s								
YAK	**Yakutsk**	**19.69**	**326**	*e*P		**Pn**	**01 23 05.2**		**+0.6**
	comp=E,51nm,0.8s								
KSRS	**Korea Array**	**20.96**	**251**	P		**P**	**01 23 18.0**		**+1.6**
	comp=E,20nm,0.9s,baz=54,slow=10,SNR=22								
KSRS				LR		LR	01 30 35.0		
	comp=E,215nm,18.7s,baz=333,slow=34								
KS15	**Wonju Array Si**	**20.99**	**251**	*e*P		**P**	**01 23 21.1**		**+4.3**
SNY	**Shenyang**	**21.62**	**266**	⇑P		**P**	**01 23 22.9**		**-0.6**
SNY				AMB	AMB				
	comp=Z,12nm,0.9s,mb4.3								
BILL	**Bilibino**	**21.71**	**13**	*e*P		**P**	**01 23 20.0**		**-4.5**
BILL				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb3.9								
BILL	**Bilibino**	**21.71**	**13**	*e*P		**P**	**01 23 24.3**		**-0.2**
	comp=Z,5.1nm,0.3s,mb4.4								
INCN	**Inchon**	**21.77**	**252**	P		**P**	**01 23 23.4**		**-1.7**
BOD	**Bodaibo**	**25.49**	**308**	*e*P		**P**	**01 23 58.1**		**-2.9**
BOD				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.2								
NJ2	**Nanjing**	**30.15**	**252**	*e*P		**P**	**01 24 44.6**		**+1.9**
NJ2				AMB	AMB				
	comp=Z,20nm,0.6s,mb5.0								
HHC	**Hu-ho-hao-te**	**30.19**	**273**	*e*P		**P**	**01 24 43.4**		**+0.4**
HHC				PP	PP		01 25 41.4		-11
HHC				S	S		**01 29 40.3**		**+2.4**
HHC				AMB	AMB				
	comp=Z,15nm,1.1s,mb4.6								
HHC				AMB	AMB				
	comp=Z,209nm,5.0s								
HHC				LR	LR				
	comp=N,218nm,15.2s								
HHC				LR	LR				
	comp=E,253nm,15.7s								
HHC				LR	LR				
	comp=Z,223nm,14.9s								
ULN	**Ulaanbaatar**	**30.61**	**288**	*e*P		**P**	**01 24 48.1**		**+1.4**
ULN				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.1								
ULN	**Ulaanbaatar**	**30.61**	**288**	*e*P		**P**	**01 24 48.1**		**+1.4**
	comp=Z,1.7nm,0.7s,mb4.0								
SONM	**Songino Array**	**31.04**	**288**	P		**P**	**01 24 52.0**		**+1.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=66,slow=7.6,SNR=9.2								
SONM				PcP	PcP		01 27 44.1		-0.9
	comp=Z,1.2nm,0.7s,baz=114,slow=2.0,SNR=6.4								
SONM	**Songino Array**	**31.04**	**288**	P		**P**	**01 24 52.0**		**+1.5**
SONM							01 27 44.1		
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SONM				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ZAK	**Zakamensk**	**32.32**	**294**	*e*P		**P**	**01 25 02.5**		**+0.7**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.0s,mb3.9								
IMA2	**Indian Mountai**	**33.27**	**37**	*e*P		**P**	**01 25 09.3**		**-0.7**
TATO	**Taipei**	**33.56**	**239**	P		**P**	**01 25 10.8**		**-1.8**
KDAK	**Kodiak Island**	**33.71**	**52**	P		**P**	**01 25 11.8**		**-2.0**
	comp=Z,7.9nm,0.7s,mb4.8,baz=260,slow=6.5,SNR=4.7								
MCK	**McKinley**	**35.15**	**41**	*e*P		**P**	**01 25 27.0**		**+0.7**
XAN	**Xi'an**	**35.52**	**264**	P		**P**	**01 25 29.1**		**-0.4**
XAN				AMB	AMB				
	comp=Z,2.0nm,0.5s,mb4.3								
COLA	**College**	**35.62**	**39**	*e*P		**P**	**01 25 30.3**		**-0.1**
COLA				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8								
COLA	**College**	**35.62**	**39**	*e*P		**P**	**01 25 30.3**		**-0.1**
	comp=Z,8.2nm,0.7s,mb4.8								
LZH	**Lanzhou**	**37.81**	**271**	*e*P		**P**	**01 25 51.5**		**+2.5**
LZH				AP	pP		01 25 58.5		-5.6
LZH				XP	sP		01 26 01.3		-10
LZH				AMB	AMB				
	comp=Z,16nm,1.1s,mb4.7								
LZH	**Lanzhou**	**37.81**	**271**	*e*P		**P**	**01 25 51.5**		**+2.5**
	comp=Z,16nm,1.1s,mb4.7								
LZH				pP	pP		01 25 58.5		-5.6
LZH				sP	sP		01 26 01.2		-10
EGAK	**Eagle**	**38.48**	**39**	*e*P		**P**	**01 25 54.0**		**-0.6**
	comp=Z,20nm,1.3s,mb4.7								
EGAK				*e*		pP	01 26 09.0		-0.8
GTA	**Gaotai**	**38.80**	**278**	*e*P		**P**	**01 25 59.0**		**+1.7**
GTA				AP	pP		01 26 05.1		-7.4
GTA				XP	sP		01 26 08.8		-11
GTA				AMB	AMB				
	comp=Z,6.0nm,1.1s,mb4.2								
CD2	**Chengdu**	**40.88**	**264**	*e*P		**P**	**01 26 14.4**		**-0.2**
CD2				PP	PP		01 27 52.0		+2.3
CD2				S	S		**01 32 24.8**		**+3.2**
CD2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.5								
INK	**Inuvik**	**41.09**	**33**	P		**P**	**01 26 16.0**		**-0.3**
	comp=Z,11nm,0.7s,mb4.6,baz=291,slow=7.5,SNR=43								
INK	**Inuvik**	**41.09**	**33**	*e*P		**P**	**01 26 16.6**		**+0.4**
INK				pmax	pmax				
	comp=Z,493nm,0.8s								
INK	**Inuvik**	**41.09**	**33**	*e*P		**P**	**01 26 16.6**		**+0.4**
	comp=Z,493nm,0.8s								
GYA	**Guiyang**	**41.81**	**257**	⇑*i*P		**P**	**01 26 22.6**		**+0.4**
GYA				PP	PP		01 28 05.4		+5.6
GYA				PCP	PcP		01 28 12.8		-4.5
GYA				S	S		**01 32 44.4**		**+9.0**
GYA				SCS	ScS		01 36 21.8		+2.4
GYA				AMB	AMB				
	comp=Z,20nm,0.9s,mb4.8								
GYA				AMB	AMB				
	comp=Z,120nm,4.8s								
GYA				LR	LR				
	comp=N,460nm,16.8s								
GYA				LR	LR				
	comp=E,570nm,17.0s								
GYA				LR	LR				
	comp=Z,480nm,16.9s								
ZAL	**Zalesovo**	**42.16**	**305**	P		**P**	**01 26 23.6**		**-1.4**
	comp=Z,1.3nm,0.4s,mb4.0,baz=61,slow=4.5,SNR=5.3								
ZAL				PcP	PcP		01 28 17.8		-0.7
	comp=Z,2.1nm,0.8s,baz=32,slow=4.7,SNR=8.9								
ZAL	**Zalesovo**	**42.16**	**305**	P		**P**	**01 26 23.6**		**-1.4**
ZAL							01 28 17.8		
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ZAL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
WRAK	**Wrangell Islan**	**44.71**	**50**	P		**P**	**01 26 48.4**		**+2.8**
KMI	**Kunming**	**45.31**	**259**	P		**P**	**01 26 51.3**		**+1.0**
KMI				AP	pP		01 27 00.8		-5.1
KMI				AMB	AMB				
	comp=Z,14nm,1.0s,mb4.8								
KMI	**Kunming**	**45.31**	**259**	P		**P**	**01 26 51.3**		**+1.0**
	comp=Z,14nm,1.0s,mb4.8								
KMI				pP	pP		01 27 00.7		-5.2
MK31	**Makanchi Array**	**46.56**	**297**	*e*P		**P**	**01 26 59.7**		**-0.4**
MK31				*e*			01 28 33.1		
MKAR	**Makanchi Array**	**46.56**	**297**	P		**P**	**01 26 59.7**		**-0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=64,slow=8.7,SNR=13								
MKAR				PcP	PcP		01 28 32.9		-0.5
	comp=Z,2.4nm,0.7s,baz=62,slow=4.1,SNR=6.7								
MKAR	**Makanchi Array**	**46.56**	**297**	P		**P**	**01 26 59.7**		**-0.4**
MKAR							01 28 32.9		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**46.92**	**303**	P		**P**	**01 27 02.0**		**-0.9**
	comp=Z,50nm,0.7s,mb5.6,SNR=5.9								
CHKZ	**Chkalovo**	**49.93**	**310**	*e*P		**P**	**01 27 25.2**		**-0.9**
CHKZ				*e*			01 28 44.2		
CHKZ				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.6								
CHKZ	**Chkalovo**	**49.93**	**310**	*e*P		**P**	**01 27 25.2**		**-0.8**
	comp=Z,3.9nm,0.6s,mb4.6								
CHKZ				*e*PcP	PcP		01 28 44.2		-1.4
LSA	**Lhasa**	**50.17**	**272**	*e*P		**P**	**01 27 29.0**		**+1.0**
LSA				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**50.17**	**272**	*e*P		**P**	**01 27 29.0**		**+1.0**
	comp=Z,8.3nm,0.6s,mb4.9								
RES	**Resolute Bay**	**50.18**	**19**	*e*P		**P**	**01 27 28.0**		**0.0**
YKW3	**Yellowknife Ar**	**50.36**	**37**	*e*P		**P**	**01 27 29.0**		**-0.3**
BVAR	**Borovoye Array**	**50.36**	**309**	P		**P**	**01 27 29.0**		**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=61,slow=7.0,SNR=9.8								
BVAR				PcP	PcP		01 28 46.5		-0.7
	comp=Z,3.0nm,0.7s,baz=72,slow=4.8,SNR=7.7								
BVAR	**Borovoye Array**	**50.36**	**309**	P		**P**	**01 27 29.0**		**-0.3**
BVAR							01 28 46.5		
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
YKA	**Yellowknife Ar**	**50.39**	**37**	P		**P**	**01 27 29.5**		**-0.1**
	comp=Z,16nm,0.8s,mb5.1,baz=296,slow=7.2,SNR=13								
YKA	**Yellowknife Ar**	**50.39**	**37**	P		**P**	**01 27 29.5**		**-0.1**
YKA				pmax	pmax				
	comp=Z,16nm,0.8s								
BRVK	**Borovoye**	**50.40**	**309**	*e*P		**P**	**01 27 29.2**		**-0.4**
BRVK				*e*			01 28 46.3		
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.3								
BRVK	**Borovoye**	**50.40**	**309**	*e*P		**P**	**01 27 29.2**		**-0.5**
	comp=Z,2.5nm,0.7s,mb4.3								
BRVK				*e*PcP	PcP		01 28 46.3		-1.1
ZRNK	**Zerenda**	**51.12**	**309**	*e*P		**P**	**01 27 34.3**		**-0.8**
ZRNK				*e*			01 28 49.2		
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.2								
ZRNK	**Zerenda**	**51.12**	**309**	*e*P		**P**	**01 27 34.3**		**-0.8**
	comp=Z,3.1nm,0.9s,mb4.2								
ZRNK				*e*PcP	PcP		01 28 49.2		-0.8
CHTO	**Chiang Mai**	**52.23**	**256**	*e*P		**P**	**01 27 43.3**		**0.0**
CHTO				pmax	pmax				
	comp=Z,21nm,0.9s,mb5.1								
CHTO	**Chiang Mai**	**52.23**	**256**	*e*P		**P**	**01 27 43.3**		**0.0**
	comp=Z,21nm,0.9s,mb5.1								
AAK	**Ala-Archa**	**53.46**	**296**	*e*P		**P**	**01 27 51.4**		**-1.0**
AAK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
AAK	**Ala-Archa**	**53.46**	**296**	*e*P		**P**	**01 27 51.4**		**-1.1**
	comp=Z,1.1nm,0.5s,mb4.0								
ARU	**Arti**	**54.45**	**317**	*e*P		**P**	**01 27 58.6**		**-1.0**
ARU				*e*			01 30 00.8		
ARU				*e*S		**S**	**01 35 42.1**		**+8.3**
ARU	**Arti**	**54.45**	**317**	*e*P		**P**	**01 27 58.7**		**-0.9**
	comp=Z,5.2nm,0.6s,mb4.6								
JIRN	**Jiri**	**54.83**	**274**	*e*P		**P**	**01 28 03.6**		**+1.2**
GUN	**Gumba**	**54.88**	**274**	*e*P		**P**	**01 28 03.7**		**+1.0**
KKN	**Kakani**	**55.36**	**275**	*e*P		**P**	**01 28 07.8**		**+1.6**
PKI	**Pulchoki**	**55.41**	**274**	*e*P		**P**	**01 28 07.4**		**+0.8**
DMN	**Daman**	**55.60**	**275**	*e*P		**P**	**01 28 09.4**		**+1.5**
GKN	**Gorkha**	**55.66**	**275**	*e*P		**P**	**01 28 09.3**		**+1.0**
	comp=Z,36nm,0.9s,mb5.4								
EDM	**Edmonton**	**55.87**	**46**	*e*P		**P**	**01 28 09.6**		**-0.2**
KOLN	**Koldanda**	**56.51**	**276**	*e*P		**P**	**01 28 15.6**		**+1.2**
	comp=Z,15nm,0.8s,mb5.0								
NEW	**Newport**	**56.80**	**53**	P		**P**	**01 28 15.8**		**-0.6**
	comp=Z,3.9nm,0.9s,mb4.5,baz=318,slow=11,SNR=3.0								
NEW				PcP	PcP		01 29 10.9		-0.7
	comp=Z,4.4nm,0.9s,baz=14,slow=13,SNR=3.5								
NEW	**Newport**	**56.80**	**53**	P		**P**	**01 28 15.8**		**-0.6**
NEW							01 29 10.9		
NEW				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NEW				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NEW	**Newport**	**56.80**	**53**	P		**P**	**01 28 15.8**		**-0.6**
NEW				PcP	PcP		01 29 10.9		-0.7
ARCES	**ARCESS Array B**	**57.16**	**341**	P		**P**	**01 28 17.9**		**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=30,slow=6.6,SNR=10.0								
ARCES	**ARCESS Array B**	**57.16**	**341**	P		**P**	**01 28 17.9**		**-1.1**
ARCES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ARCES	**ARCESS Array B**	**57.16**	**341**	P		**P**	**01 28 17.9**		**-1.1**
AKTK	**Aktyubinsk**	**58.20**	**311**	P		**P**	**01 28 25.4**		**-1.0**
AKTK				PcP	PcP		01 29 16.4		-0.8
AKTO	**Aktyubinsk**	**58.20**	**311**	P		**P**	**01 28 25.4**		**-1.0**
	comp=Z,0.7nm,0.5s,mb4.0,baz=63,slow=11,SNR=3.0								
AKTO				PcP	PcP		01 29 16.4		-0.8
	comp=Z,2.0nm,0.6s,baz=119,slow=3.4,SNR=5.6								
AKTO	**Aktyubinsk**	**58.20**	**311**	P		**P**	**01 28 25.4**		**-1.0**
AKTO							01 29 16.4		
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.1								
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
MOD	**Modoc**	**58.79**	**61**	*e*pP		pP	01 28 46.6		+0.1
MSO	**Missoula**	**59.38**	**53**	*e*P		**P**	**01 28 34.9**		**+0.3**
	comp=Z,9.8nm,1.1s,mb4.8								
MSO				*e*pP		pP	01 28 50.7		0.0
WVOR	**Wild Horse Val**	**59.45**	**59**	*e*P		**P**	**01 28 35.2**		**+0.2**
WVOR				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.9								
WVOR	**Wild Horse Val**	**59.45**	**59**	*e*P		**P**	**01 28 35.2**		**+0.2**
	comp=Z,12nm,0.9s,mb4.9								
WVOR				*e*		pP	01 28 50.9		-0.2
CHMT	**Chamberlain Mo**	**59.70**	**52**	*e*P		**P**	**01 28 36.7**		**0.0**
CHMT				*e*		pP	01 28 53.1		+0.2
SUMG	**Summit**	**59.99**	**4**	*e*P		**P**	**01 28 37.2**		**-1.6**
HRY	**Holter Researc**	**60.59**	**52**	*e*pP		pP	01 28 57.2		-1.8
FCC	**Fort Churchill**	**60.70**	**33**	*e*P		**P**	**01 28 43.2**		**-0.4**
FCC				pmax	pmax				
	comp=Z,19nm,0.7s,mb5.3								
FCC	**Fort Churchill**	**60.70**	**33**	*e*P		**P**	**01 28 43.1**		**-0.4**
	comp=Z,18nm,0.7s,mb5.3								
LRM	**Limekiln Ridge**	**60.82**	**53**	*e*P		**P**	**01 28 44.8**		**+0.5**
EGMT	**Eagleton**	**60.85**	**50**	*e*P		**P**	**01 28 43.6**		**-0.9**
	comp=Z,18nm,1.1s,mb5.1								
HLID	**Hailey**	**61.16**	**56**	*e*pP		pP	01 29 03.3		+0.4
BOZ	**Bozeman (W)**	**61.37**	**53**	*e*P		**P**	**01 28 47.4**		**-0.7**
BOZ				*e*PP		pP	01 29 08.6		+4.3
BMN	**Battle Mountai**	**61.53**	**60**	*e*P		**P**	**01 28 47.4**		**-1.8**
BMN				pmax	pmax				
	comp=Z,11nm,0.8s,mb5.0								
BMN	**Battle Mountai**	**61.53**	**60**	*e*P		**P**	**01 28 47.4**		**-1.8**
	comp=Z,11nm,0.8s,mb5.0								
QLMT	**Earthquake Lak**	**62.00**	**53**	*e*P		**P**	**01 28 53.6**		**+1.3**
QLMT				*e*pP		pP	01 29 09.3		+0.8
GCMT	**Greycliff**	**62.33**	**52**	*e*P		**P**	**01 28 55.3**		**+0.8**
GCMT				*e*		pP	01 29 11.1		+0.4
YFT	**Old Faithful**	**62.57**	**53**	*e*P		**P**	**01 28 59.3**		**+3.1**
IMW	**Indian Meadow**	**62.88**	**54**	*e*P		**P**	**01 28 60.0**		**+1.8**
	comp=Z,6.3nm,0.8s,mb4.8								
IMW				*e*pP		pP	01 29 16.1		+1.7
RRI2	**Red Ridge**	**63.02**	**55**	*e*P		**P**	**01 29 00.5**		**+1.3**
RRI2				*e*pP		pP	01 29 16.3		+0.9
MOOW	**Moose Ponds**	**63.08**	**54**	*e*P		**P**	**01 29 00.6

ISCO	**Idaho Springs**	**68.57**	**54**	*eP*		**P**		**01 29 35.3**	**+0.5**
ISCO					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7								
ISCO	**Idaho Springs**	**68.57**	**54**	*eP*		**P**		**01 29 35.3**	**+0.4**
	comp=Z,8.0nm,0.8s,mb4.7								
MVCO	**Mesa Verde**	**68.75**	**58**	*eP*		**P**		**01 29 36.4**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.4								
MVCO				*e*		pP		01 29 52.0	-0.4
WRAB	**Tennant Creek**	**69.16**	**199**	*eP*		**P**		**01 29 37.2**	**-1.2**
WRAB					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
WRAB	**Tennant Creek**	**69.16**	**199**	*eP*		**P**		**01 29 37.2**	**-1.2**
	comp=Z,8.8nm,1.1s,mb4.6								
WB2	**Warramunga Arr**	**69.16**	**199**	*eP*		**P**		**01 29 37.0**	**-1.5**
WRA	**Warramunga Arr**	**69.17**	**199**	P		**P**		**01 29 36.9**	**-1.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=17,slow=6.8,SNR=9.8								
WRA	**Warramunga Arr**	**69.17**	**199**	P		**P**		**01 29 36.9**	**-1.6**
WRA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
POO	**Poona**	**69.33**	**275**	*eP*		**P**		**01 29 36.5**	**-3.0**
EYMN	**Ely**	**69.67**	**40**	*eP*		**P**		**01 29 40.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**69.74**	**208**	*eP*		**P**		**01 29 41.2**	**-0.9**
	comp=Z,5.9nm,0.6s,mb4.7								
SDCO	**Great Sand Dun**	**70.08**	**56**	*eP*		**P**		**01 29 44.9**	**+0.8**
KIV	**Kislovodsk**	**70.26**	**314**	P		**P**		**01 29 45.8**	**+0.6**
KIV	**Kislovodsk**	**70.26**	**314**	P		**P**		**01 29 45.8**	**+0.6**
ECSD	**EROS,Sioux Fal**	**70.44**	**46**	*eP*		**P**		**01 29 45.6**	**-0.7**
	comp=Z,22nm,0.8s,mb5.2								
AKASG	**Malin Array Be**	**70.92**	**326**	P		**P**		**01 29 48.6**	**-0.7**
	comp=Z,3.6nm,0.5s,mb4.6,baz=34,slow=6.1,SNR=18								
AKASG	**Malin Array Be**	**70.92**	**326**	P		**P**		**01 29 48.6**	**-0.7**
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.5s								
AKBB	**Malin Array Si**	**70.92**	**326**	*eP*		**P**		**01 29 48.2**	**-1.1**
KIEV	**Kiev**	**70.93**	**326**	*eP*		**P**		**01 29 48.4**	**-0.9**
KIEV					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
KIEV	**Kiev**	**70.93**	**326**	*eP*		**P**		**01 29 48.4**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.6								
LAZ	**Ladron**	**71.50**	**59**	*eP*		**P**		**01 29 53.3**	**+0.5**
ANMO	**Albuquerque**	**71.51**	**58**	*eP*		**P**		**01 29 53.2**	**+0.4**
ANMO				*e**PP		pP		01 30 09.3	-0.1
SCHQ	**Schefferville**	**72.68**	**23**	P		**P**		**01 29 58.9**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.7,baz=31,slow=6.8,SNR=14								
SCHQ					pP	pP		01 30 16.2	-0.1
	comp=Z,8.3nm,0.6s,baz=332,slow=7.1,SNR=7.0								
SCHQ	**Schefferville**	**72.68**	**23**	P		**P**		**01 29 58.9**	**-0.9**
SCHQ					pP	pP		01 30 16.2	-0.1
AS31	**Alice Springs**	**72.86**	**198**	*eP*		**P**		**01 30 00.3**	**-0.6**
AS31				*e*PcP		PcP		01 30 17.3	-0.4
ASAR	**Alice Springs**	**72.86**	**198**	P		**P**		**01 30 00.6**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.7,baz=13,slow=5.8,SNR=51								
ASAR	**Alice Springs**	**72.86**	**198**	P		**P**		**01 30 00.6**	**-0.3**
ASAR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
SCIA	**State Center**	**73.46**	**45**	*eP*		**P**		**01 30 03.9**	**-0.5**
	comp=Z,52nm,0.7s,mb5.6								
SCIA				*e*PcP		PcP		01 30 19.7	-0.6
AMTX	**Amarillo**	**74.28**	**55**	*eP*		**P**		**01 30 09.2**	**+0.1**
AMTX				*e*pP		pP		01 30 25.7	-0.2
MNTX	**Cornudas Mount**	**74.47**	**60**	*eP*		**P**		**01 30 10.2**	**-0.1**
MNTX				*e*pP		pP		01 30 26.3	-0.7
STHS	**Stebnicka Huta**	**74.87**	**330**	*iP*		**P**		**01 30 13.7**	**+1.1**
STHS					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
STHS	**Stebnicka Huta**	**74.87**	**330**	*iP*		**P**		**01 30 13.7**	**+1.1**
	comp=Z,4.4nm,0.8s,mb4.4								
KOLS	**Kolonicke sedl**	**74.92**	**329**	*eP*		**P**		**01 30 12.7**	**-0.2**
BURAR	**Bucovina Array**	**74.96**	**326**	⇑*iP*		**P**		**01 30 13.2**	**+0.1**
BURAR	**Bucovina Array**	**74.96**	**326**	⇑P		**P**		**01 30 13.2**	**+0.1**
UPC	**Upice**	**75.62**	**333**	*eP*		**P**		**01 30 17.1**	**+0.2**
DPC	**Dobruska-Polom**	**75.66**	**333**	*eP*		**P**		**01 30 17.3**	**+0.1**
MORC	**Moravsky Berou**	**75.78**	**332**	⇓*iP*		**P**		**01 30 18.3**	**+0.4**
MORC	**Moravsky Berou**	**75.78**	**332**	⇓P		**P**		**01 30 18.3**	**+0.4**
CLL	**Collm**	**75.79**	**335**	*iP*		**P**		**01 30 17.2**	**-0.7**
	comp=Z,27nm,1.2s,mb5.0								
CLL					LmV			01 56 00.0	
	comp=Z,1μm,22.0s								
BRG	**Berggiesshubel**	**75.91**	**335**	*eP*		**P**		**01 30 17.9**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.1								
BRG	**Berggiesshubel**	**75.91**	**335**	*eP*		**P**		**01 30 17.9**	**-0.7**
BRG					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
KECS	**Kecovo**	**75.93**	**330**	*eP*		**P**		**01 30 18.5**	**-0.2**
KECS					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
KECS	**Kecovo**	**75.93**	**330**	*eP*		**P**		**01 30 18.5**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.2								
WMOK	**Wichita Mounta**	**75.99**	**54**	*eP*		**P**		**01 30 18.6**	**-0.4**
WMOK				*e**PP		pP		01 30 34.8	-0.9
WMOK					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
WMOK	**Wichita Mounta**	**75.99**	**54**	*eP*		**P**		**01 30 18.6**	**-0.4**
	comp=Z,8.7nm,0.9s,mb4.7								
WMOK				*e*pP		pP		01 30 34.8	-0.9
TIRR	**Tirgusor**	**76.31**	**323**	⇓*iP*		**P**		**01 30 21.0**	**+0.2**
TIRR	**Tirgusor**	**76.31**	**323**	⇓P		**P**		**01 30 21.0**	**+0.1**
MLR	**Muntele Rosu**	**76.45**	**325**	⇑*iP*		**P**		**01 30 22.3**	**+0.7**
MLR	**Muntele Rosu**	**76.45**	**325**	⇑P		**P**		**01 30 22.3**	**+0.7**
VYHS	**Vyhne**	**76.47**	**331**	*iP*		**P**		**01 30 21.7**	**-0.1**
VRAC	**Vranov**	**76.49**	**332**	⇑*iP*		**P**		**01 30 22.4**	**+0.5**
PRU	**Pruhonice**	**76.52**	**334**	*eP*		**P**		**01 30 22.0**	**-0.1**
DRGR		**76.58**	**327**	⇓*iP*		**P**		**01 30 22.6**	**+0.2**
DRGR		**76.58**	**327**	⇓P		**P**		**01 30 22.6**	**+0.2**
PSZ	**Piszkesteto**	**76.61**	**330**	⇑*iP*		**P**		**01 30 23.4**	**+0.8**
PSZ	**Piszkesteto**	**76.61**	**330**	⇑P		**P**		**01 30 23.4**	**+0.8**
MALT	**Malatya**	**76.62**	**313**	⇑*iP*		**P**		**01 30 24.4**	**+1.8**
MALT	**Malatya**	**76.62**	**313**	⇑P		**P**		**01 30 24.4**	**+1.8**
MOX	**Moxa**	**76.77**	**336**	*eP*		**P**		**01 30 23.3**	**-0.2**
VOIR		**76.84**	**325**	⇓*iP*		**P**		**01 30 24.7**	**+0.8**
VOIR		**76.84**	**325**	⇓P		**P**		**01 30 24.7**	**+0.9**
SMOL	**Smolenice**	**76.92**	**331**	*eP*		**P**		**01 30 25.4**	**+1.1**
LTX	**Lajitas**	**77.20**	**61**	*eP*		**P**		**01 30 25.9**	**0.0**
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**		**01 30 25.4**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=298,slow=4.5,SNR=42								
TXAR					pP	pP		01 30 42.1	-0.5
	comp=Z,17nm,0.6s,baz=298,slow=4.4,SNR=38								
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**		**01 30 25.5**	**-0.4**
TXAR				*PP		pP		01 30 42.2	-0.4
TXAR					pmax	pmax			
	comp=Z,4.0nm,0.6s								
TXAR					pmax	pmax			
	comp=Z,17nm,0.6s								
ZST	**Bratislava**	**77.30**	**332**	*eP*		**P**		**01 30 26.6**	**+0.1**
ZST					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
ZST	**Bratislava**	**77.30**	**332**	*eP*		**P**		**01 30 26.6**	**+0.1**
	comp=Z,6.2nm,1.0s,mb4.5								
CCM	**Cathedral Cave**	**77.39**	**47**	P		**P**		**01 30 20.9**	**-6.0**
CCM					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
CCM	**Cathedral Cave**	**77.39**	**47**	P		**P**		**01 30 20.9**	**-6.1**
	comp=Z,2.9nm,0.8s,mb4.3								
KHC	**Kasperske Hory**	**77.57**	**334**	*eP*		**P**		**01 30 27.9**	**0.0**
GZR	**Gura Zlata**	**77.74**	**327**	⇑*iP*		**P**		**01 30 28.7**	**-0.2**
GZR	**Gura Zlata**	**77.74**	**327**	⇑P		**P**		**01 30 28.7**	**-0.2**
GRA1	**Grafenberg Arr**	**77.74**	**336**	*eP*		**P**		**01 30 28.9**	**0.0**
	comp=Z,18nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**77.74**	**336**	*eP*		**P**		**01 30 28.9**	**0.0**
	comp=Z,18nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**77.74**	**336**	*eP*		**P**		**01 30 28.9**	**0.0**
GRF					pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**77.74**	**336**	*eP*		**P**		**01 30 28.9**	**0.0**
GRF					pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9								
GRFO	**Grafenberg**	**77.75**	**336**	*eP*		**P**		**01 30 29.3**	**+0.4**
GRFO					pmax	pmax			
	comp=Z,19nm,1.0s,mb5.0								
GRFO	**Grafenberg**	**77.75**	**336**	*eP*		**P**		**01 30 29.3**	**+0.4**
	comp=Z,19nm,1.0s,mb5.0								
GERES	**GERESS Array B**	**77.79**	**334**	P		**P**		**01 30 28.9**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=36,slow=5.5,SNR=23								
GERES	**GERESS Array B**	**77.79**	**334**	P		**P**		**01 30 28.9**	**-0.3**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
BR131	**Keskin Array S**	**77.83**	**317**	*eP*		**P**		**01 30 30.4**	**+1.0**
BRTR	**Keskin Array B**	**77.83**	**317**	P		**P**		**01 30 29.9**	**+0.6**
	comp=Z,2.9nm,0.9s,mb4.2,baz=69,slow=4.1,SNR=10								
BRTR	**Keskin Array B**	**77.83**	**317**	P		**P**		**01 30 30.0**	**+0.6**
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
BZS	**Buzias**	**77.98**	**327**	⇓*iP*		**P**		**01 30 29.8**	**-0.4**
BZS	**Buzias**	**77.98**	**327**	⇓P		**P**		**01 30 29.8**	**-0.5**
UMR	**Umm Al-Rimmam**	**78.20**	**301**	*eP*		**P**		**01 30 32.0**	**+0.5**
UMR					AMb	AMB		01 30 32.8	
	comp=Z,41nm,0.7s,mb5.5								
MIB	**Mutribah**	**78.24**	**301**	*eP*		**P**		**01 30 32.2**	**+0.6**
MIB					AMb	AMB		01 30 33.0	
	comp=Z,60nm,0.7s,mb5.7								
MEM	**Membach**	**78.26**	**339**	P		**P**		**01 30 30.1**	**-1.7**
	comp=Z,7.9nm,0.9s,mb4.6								
PKSM	**Moragy**	**78.52**	**330**	⇓*iP*		**P**		**01 30 32.6**	**-0.6**
PKSM	**Moragy**	**78.52**	**330**	⇓P		**P**		**01 30 32.6**	**-0.6**
JCT	**Junction City**	**78.60**	**57**	*eP*		**P**		**01 30 33.2**	**-0.4**
JCT					pmax	pmax			
	comp=Z,13nm,0.6s,mb5.0								
JCT	**Junction City**	**78.60**	**57**	*eP*		**P**		**01 30 33.2**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0								
JCT				*e*pP		pP		01 30 49.8	-0.6
BCLA	**Clavier**	**78.60**	**340**	P		**P**		**01 30 33.3**	**-0.4**
	comp=Z,5.9nm,1.0s,mb4.5								
NAY	**Al-Naaiem**	**78.71**	**301**	*eP*		**P**		**01 30 34.5**	**+0.3**
NAY					AMb	AMB		01 30 35.5	
	comp=Z,18nm,0.8s,mb5.0								
RDF	**Al-Radifah**	**78.77**	**301**	*eP*		**P**		**01 30 35.3**	**+0.7**
DOU	**Dourbes**	**79.07**	**340**	P		**P**		**01 30 37.0**	**+0.7**
WCI	**Wyandotte Cave**	**79.63**	**44**	*eP*		**P**		**01 30 38.7**	**-0.6**
WCI				*e*				01 30 47.0	
WCI					pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9								
WCI	**Wyandotte Cave**	**79.63**	**44**	*eP*		**P**		**01 30 38.7**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9								
WCI				*e*PcP		PcP		01 30 47.0	0.0
STKA	**Stephens Creek**	**79.64**	**190**	P		**P**		**01 30 36.9**	**-2.4**
	comp=Z,5.1nm,1.1s,mb4.3,baz=185,slow=10,SNR=3.1								
STKA	**Stephens Creek**	**79.64**	**190**	P		**P**		**01 30 37.8**	**-1.5**
DIVS	**Divcibare**	**79.87**	**328**	*iP*		**P**		**01 30 39.9**	**-0.7**
VTS	**Vitosha**	**79.95**	**325**	⇑*iP*		**P**		**01 30 41.1**	**+0.1**
CDF	**Champ du Feu**	**79.97**	**338**	*eP*		**P**		**01 30 39.3**	**-1.8**
	comp=Z,16nm,0.8s,mb4.7								
CDF	**Champ du Feu**	**79.97**	**338**	*eP*		**P**		**01 30 39.3**	**-1.8**
CDF					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7								
CDF	**Champ du Feu**	**79.97**	**338**	*eP*		**P**		**01 30 39.3**	**-1.8**
	comp=Z,8.1nm,0.8s,mb4.7								
MCWV	**Mont Chateau**	**81.33**	**39**	*eP*		**P**		**01 30 48.0**	**-0.4**
GRR	**Gorron**	**81.87**	**343**	*eP*		**P**		**01 30 49.1**	**-2.1**
	comp=Z,184nm,1.6s,mb5.5								
GRR	**Gorron**	**81.87**	**343**	*eP*		**P**		**01 30 49.1**	**-2.1**
GRR					pmax	pmax			
	comp=Z,92nm,1.6s,mb5.5								
GRR	**Gorron**	**81.87**	**343**	*eP*		**P**		**01 30 49.1**	**-2.1**
	comp=Z,92nm,1.6s,mb5.5								
SMF	**Signal de Mont**	**82.47**	**339**	*eP*		**P**		**01 30 52.4**	**-2.0**
	comp=Z,91nm,1.5s,mb5.2								
SMF	**Signal de Mont**	**82.47**	**339**	*eP*		**P**		**01 30 52.4**	**-2.0**
SMF					pmax	pmax			
	comp=Z,46nm,1.5s,mb5.2								
SMF	**Signal de Mont**	**82.47**	**339**	*eP*		**P**		**01 30 52.4**	**-2.0**
	comp=Z,46nm,1.5s,mb5.2								
LPG	**La Plagne**	**82.80**	**337**	*eP*		**P**		**01 30 55.2**	**-0.9**
	comp=Z,19nm,0.9s,mb4.8								
LPG	**La Plagne**	**82.80**	**337**	*eP*		**P**		**01 30 55.2**	**-0.9**
LPG					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
LPG	**La Plagne**	**82.80**	**337**	*eP*		**P**		**01 30 55.2**	**-0.9**
	comp=Z,9.6nm,0.9s,mb4.8								
CAF	**Calviac**	**84.52**	**340**	*eP*		**P**		**01 31 02.8**	**-2.1**
EIL	**Elat**	**85.19**	**310**	*eP*		**P**		**01 31 08.4**	**+0.2**
TIP	**Timpagrande**	**85.35**	**327**	*eP*		**P**		**01 31 08.5**	**-0.5**
NHSC	**New Hope**	**86.67**	**42**	*eP*		**P**		**01 31 17.3**	**+1.8**
KEST	**Kesra**	**91.01**	**331**	P		**P**		**01 31 37.2**	**+1.2**
	comp=Z,1.4nm,0.9s,mb4.3,baz=249,slow=7.7,SNR=6.5								
TORD	**Torodi Ar. Bea**	**114.45**	**329**	PKP		PKiKP		01 37 09.2	-2.3
	comp=Z,0.3nm,0.7s,baz=9.5,slow=2.6,SNR=6.0								
VNDA	**Vanda**	**124.83**	**178**	PKP		PKPdf		01 37 27.8	-3.7
	comp=Z,0.7nm,0.9s,baz=323,slow=3.9,SNR=5.7								
VNDA	**Vanda**	**124.83**	**178**	PKIKP		PKPdf		01 37 27.8	-3.6
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
VNDA	**Vanda**	**124.83**	**178**	PKP		PKPdf		01 37 27.8	-3.7
BOSA	**Boshof**	**135.67**	**276**	PKP		PKPdf		01 37 49.3	-2.7
	comp=Z,4.6nm,1.0s,baz=55,slow=22,SNR=4.1								
BOSA	**Boshof**	**135.67**	**276**	PKIKP		PKPdf		01 37 49.3	-2.7
BOSA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
SYO	**Syowa Base**	**141.48**	**212**	⇑*e*PKiKP		PKiKP		01 38 08.0	+2.6
CFAA	**Coronel Fontan**	**144.92**	**78**	PKP		PKPdf		01 38 06.3	-2.3
	comp=Z,0.8nm,0.6s,baz=265,slow=3.7,SNR=14								
CFAA					pPKP	pPKPdf		01 38 23.2	-3.2
	comp=Z,1.1nm,0.6s,baz=271,slow=2.9,SNR=8.1								
CFAA	**Coronel Fontan**	**144.92**	**78**	PKP		PKPdf		01 38 06.3	-2.4
CFAA					pPKP	pPKPdf		01 38 23.2	-3.2
SNAA	**Sanae**	**153.22**	**197**	PKPbc		PKPbc		01 38 25.7	-3.7
	comp=Z,1.4nm,0.6s,baz=225,slow=7.1,SNR=9.1								
SNAA					PKPab	PKPab		01 38 39.3	-2.1
	comp=Z,1.2nm,0.6s,baz=193,slow=1.9,SNR=7.3								
SNAA	**Sanae**	**153.22**	**197**	*e*PKPdf		PKPbc		01 38 26.5	-3.0
SNAA				*e*				01 38 38.8	
SNAA				*e*				01 38 45.2	
SNAA	**Sanae**	**153.22**	**197**	PKIKP		PKPbc		01 38 25.7	-3.8
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
VNA2	**Neumayer--Watz**	**154.68**	**195**	*e*PKPdf		PKPbc		01 38 37.4	+4.8
VNA2				*e*				01 38 46.3	
VNA2				*e*				01 38 52.6	
VNA2				*e*				01 39 03.5	
VNA3	**Neumayer Olymp**	**154.77**	**193**	*e*PKPdf		PKPbc		01 38 38.1	+5.3
VNA3				*e*				01 38 46.0	
VNA3				*e*				01 39 03.4	
VNA1	**Neumayer--Stat**	**155.06**	**195**	*e*PKPdf		PKPdf		01 38 40.3	+16
VNA1				*e*				01 38 48.0	

IDC ***16*** *01:20:37.4±15.0,* **1266N×12538E,h0**km**,mb3.9**/3,
mb1 4.1/4**,mb1mx3.7**/20**,mbtmp4.2**/4**,ML4.7**/1**,1C,Error
ellipse: s-maj=292.0km s-min=68.6km az=145.0,Samar**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**6.07**	**326**	⇑*e*P	Pn		01 22 07.0	-1.4
JOW	**Kunigami**	**14.36**	**10**	Pn	Pn		01 24 02.5	+0.7
	6.3nm,0.3s,baz=208,slow=7.6,SNR=7.8							
KSRS	**Korea Array**	**24.79**	**5**	P	P		01 26 00.8	-0.1
	3.7nm,0.7s,baz=197,slow=11,SNR=8.1							
SONM	**Songino Array**	**38.48**	**339**	P	P		01 28 01.2	+0.1
	1.0nm,0.5s,baz=149,slow=7.7,SNR=8.2							
MKAR	**Makanchi Array**	**49.61**	**322**	P	P		01 29 30.6	+0.2
	1.0nm,0.6s,baz=112,slow=9.2,SNR=4.1							

IDC ***16*** *01:23:29.6±0.8, 4660N×15377E, h0km, mb3.9/9,
mb1 4.1/10, mb1mx3.9/24, mbtmp3.9/10, ML3.7/1, Error
ellipse: s-maj=26.7km s-min=22.6km az=108.0*

ISCJB ***16*** *01:23:31.4±5.2, 466N±0.1×1536E±0.2, h23km±36km,
mb3.9/9, Error ellipse: s-maj=25.9km s-min=14.6km
az=128.4*

MOS ***16*** *01:23:33.0±1.4, 4663N×15350E, h33km, mb4.3/6, Error
ellipse: s-maj=27.1km s-min=22.6km az=50.9*

**ISC 16 01:23:34.1±5.5,466N±01×1536E±01,h28km±38km,n19,
σ1§06/20,mb3.9/9,1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.20**	**253**	⇑*i*PN		**Pn**	**01 24 34.6**	**-1.6**
KUR				*i* S		**Sn**	**01 25 24.0**	**-0.4**
KUR				pmax	pmax			
	comp=N,80nm,0.5s							
KUR				pmax	pmax			
	comp=Z,130nm,0.5s							
KUR				smax				
	comp=N,160nm,0.6s							
KUR				smax				
	comp=E,60nm,0.6s							
ASAJ	**Asahikawa**	**8.11**	**256**	Pn		**Pn**	**01 25 32.1**	**+2.2**
	comp=E,0.9nm,0.3s,baz=143,slow=8.2,SNR=2.8							
ASAJ	**Asahikawa**	**8.11**	**256**	PN		**Pn**	**01 25 32.2**	**+2.3**
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**47.29**	**298**	P		**P**	**01 32 04.5**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=69,slow=7.9,SNR=3.9							
FINES	**FINESS Array B**	**64.31**	**335**	P		**P**	**01 34 07.2**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=37,slow=6.8,SNR=9.3							
FINES	**FINESS Array B**	**64.31**	**335**	P		**P**	**01 34 07.2**	**+0.3**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**64.59**	**54**	P		**P**	**01 34 07.8**	**-0.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=308,slow=4.9,SNR=3.7							
WRA	**Warramunga Arr**	**68.47**	**199**	P		**P**	**01 34 35.1**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=21,slow=6.7,SNR=4.1							
NB2	**NORSAR Subarra**	**68.47**	**341**	P		**P**	**01 34 35.1**	**+1.5**
	comp=Z,2.9nm,0.8s,mb4.4,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.47**	**341**	P		**P**	**01 34 32.8**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=25,slow=6.5,SNR=3.8							
NOA	**NORSAR Array B**	**68.47**	**341**	P		**P**	**01 34 32.8**	**-0.8**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**68.71**	**340**	P		**P**	**01 34 34.8**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.3,baz=64,slow=6.8,SNR=15							
HFS	**Hagfors**	**68.71**	**340**	P		**P**	**01 34 34.8**	**-0.2**
HFS					pmax	pmax		
	comp=Z,2.0nm,0.4s							
ASAR	**Alice Springs**	**72.16**	**199**	P		**P**	**01 34 55.1**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=12,slow=4.9,SNR=3.9							
ASAR	**Alice Springs**	**72.16**	**199**	P		**P**	**01 34 55.1**	**-1.0**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**77.30**	**61**	P		**P**	**01 35 25.8**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=305,slow=4.3,SNR=11							
TXAR	**Lajitas Array**	**77.30**	**61**	P		**P**	**01 35 25.8**	**0.0**
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MLR	**Muntele Rosu**	**77.37**	**325**	P		**P**	**01 35 27.3**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=240,slow=7.0,SNR=3.6							
MLR	**Muntele Rosu**	**77.37**	**325**	P		**P**	**01 35 27.3**	**+1.0**
MLR					pmax	pmax		
	comp=Z,1.0nm,0.5s							

ISCJB ***16*** *01:25:57.5±0.6, 4683N±008×1547E±0.1, h10km, mb4.0/23,
Error ellipse: s-maj=13.0km s-min=11.5km az=85.9*

IDC ***16*** *01:25:57.8±0.9, 4681N×15480E, h0km, mb4.0/18,
mb1 4.2/18, mb1mx4.1/26, mbtmp4.0/18, Error ellipse:
s-maj=26.1km s-min=17.6km az=177.0*

NEIC ***16*** *01:25:59.3±0.5, 4682N×15469E, h10km, mb4.3/5, Error
ellipse: s-maj=11.1km s-min=9.8km az=132.0*

MOS ***16*** *01:26:01.1±1.1, 4685N×15463E, h33km, mb4.4/16, Error
ellipse: s-maj=22.5km s-min=10.0km az=108.5*

**ISC 16 01:25:59.0±7.2,4682N±010×1547E±01,h10km±43km,n50,
σ0§82/50,mb4.0/23,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**13.00**	**351**		PN	**Pn**	**01 29 04.0**	**+0.2**
MJAR	**Matsushiro Arr**	**16.02**	**236**		Pn	**Pn**	**01 29 50.2**	**+5.9**
	0.5

ISCJB ***16*** *01:28:35.7±0.3, 46.39N±004×153.18E±004, h19km, mb4.7/81, MS4.3/8, Error ellipse: s-maj=7.0km s-min=3.4km az=125.0*

NEIC ***16*** *01:28:35.9±0.2, 46.39N×153.11E, h10km, mb4.8/35, Error ellipse: s-maj=7.1km s-min=4.5km az=157.0*

SKHL ***16*** *01:28:35.9±0.9, 46.13N×153.38E, h35km±1km, Ms4.6/4, msh5.6/1*

MOS ***16*** *01:28:39.3±1.2, 46.36N×153.12E, h48km, mb4.8/44, Error ellipse: s-maj=7.4km s-min=5.4km az=103.6*

IDC ***16*** *01:28:41.0±3.5, 46.38N×153.20E, h51km±30km, mb4.2/29, mb1 4.3/31, mb1mx4.3/34, mbtmp4.2/31, ML3.9/2, MS3.9/3, Ms1 3.9/3, ms1mx3.3/54, Error ellipse: s-maj=15.4km s-min=14.0km az=144.0*

SZGRF ***16*** *01:28:44.5, 46.96N×152.52E, h33km, mb5.0, Kuril Islands, Russia*

ISC 16 01:28:37.8±0.3, 4646N±004×15312E±005, h20km, h20km±2.8km:pP-P,n259,σ1§09/263, mb4.7/81, MS4.3/8, 25C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**253**	⇓*i*	*i*P	**Pn**	**01 29 35.0**	**-1.2**
KUR				⇓*i*	*i*P		01 29 35.0	
KUR					AMB	AMB	01 29 35.5	
	170nm,0.6s							
KUR					AMB	AMB	01 29 35.5	
	140nm,0.6s							
KUR					AMB	AMB	01 29 35.5	
	840nm,0.6s							
KUR					AMB	AMB	01 29 37.2	
	2μm,1.5s							
KUR					pP		01 29 46.0	
KUR				*i*	S	**Sn**	**01 30 20.0**	**-1.1**
KUR					A		01 30 27.0	
	810nm,0.8s							
KUR					A		01 30 27.0	
	430nm,0.8s							
KUR					A		01 30 40.0	
	6μm,2.5s							
KUR					A		01 30 40.0	
	2μm,2.5s							
KUR					AMS	AMS	01 31 09.0	
	5μm,14.0s							
KUR					AMS	AMS	01 31 09.0	
	5μm,14.0s							
KUR					AMS	AMS	01 31 09.0	
	5μm,14.0s							
KUR	**Kuril'sk**	**3.87**	**253**	*i*PN		**Pn**	**01 29 35.0**	**-1.2**
KUR				*i*	S	**Sn**	**01 30 20.0**	**-1.1**
KUR					pmax	pmax		
	comp=N,170nm,0.6s							
KUR					pmax	pmax		
	comp=E,140nm,0.6s							
KUR					pmax	pmax		
	comp=Z,840nm,0.6s							
KUR					pmax	pmax		
	comp=Z,2μm,1.5s							
KUR					smax			
	comp=N,810nm,0.8s							
KUR					smax			
	comp=E,430nm,0.8s							
KUR					smax			
	comp=N,6μm,2.5s							
KUR					smax			
	comp=E,2μm,2.5s							
KUR					MLR	MLR		
	comp=N,5μm,14.0s							
KUR					MLR	MLR		
	comp=E,5μm,14.0s							
KUR					MLR	MLR		
	comp=Z,5μm,14.0s							
SKR	**Severo-Kuril's**	**4.67**	**24**	*e*P		**Pn**	**01 29 49.5**	**+2.3**
SKR				*e*S		**Sn**	**01 30 39.7**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**5.67**	**247**	*e*P		**Pn**	**01 30 02.3**	**+1.4**
YUK					AMB	AMB	01 30 06.5	
	comp=Z,420nm,0.5s							
YUK				*e*S		**Sn**	**01 31 06.4**	**+1.0**
YUK					A		01 31 27.5	
	comp=Z,380nm,0.5s							
YUK					A		01 31 27.5	
	comp=Z,2μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**5.67**	**247**	*e*PN		**Pn**	**01 30 02.3**	**+1.4**
YUK				*e*S		**Sn**	**01 31 06.4**	**+1.0**
YUK					pmax	pmax		
	comp=Z,420nm,0.5s							
YUK					smax			
	comp=N,380nm,0.5s							
YUK					smax			
	comp=E,2μm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.15**	**278**	*e*PN		**Pn**	**01 30 27.0**	**+5.8**
YSS					pmax	pmax		
	comp=E,60nm,1.0s							
YSS					pmax	pmax		
	comp=Z,60nm,1.0s							
YSS					MLR	MLR		
	comp=Z,2μm,16.0s							
YSS					MLR	MLR		
	comp=N,800nm,14.0s							
YSS					MLR	MLR		
	comp=E,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.15**	**278**	*e*Pn		**Pn**	**01 30 26.6**	**+5.4**
PET	**Petropavlovsk**	**7.48**	**27**	*e*PN		**Pn**	**01 30 30.9**	**+5.1**
PET				*e*S		**Sn**	**01 32 00.6**	**+11**
PET					pmax	pmax		
	comp=Z,104nm,1.2s							
PET					smax			
	comp=E,269nm,1.0s							
PET					MLR	MLR		
	comp=Z,400nm,15.0s							
PET	**Petropavlovsk**	**7.48**	**27**	*e*Pn		**Pn**	**01 30 26.1**	**+0.3**
PET				*e*Sn		**Sn**	**01 31 51.4**	**+1.4**
ASAJ	**Asahikawa**	**7.78**	**256**	P		**Pn**	**01 30 33.5**	**+3.6**
	comp=Z,2.1nm,0.3s,baz=99,slow=15,SNR=10							
ASAJ					LR	LR	01 33 16.2	
	comp=Z,843nm,21.6s,baz=359,slow=35							
ASAJ	**Asahikawa**	**7.78**	**256**	PN		**Pn**	**01 30 33.5**	**+3.6**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,843nm,21.6s							
UGL	**Uglegorsk**	**7.90**	**293**	*e*P		**Pn**	**01 30 36.0**	**+4.5**
UGL					AMB	AMB	01 30 38.0	
	comp=Z,82nm,0.9s							
UGL					AMS	AMS	01 33 42.0	
	comp=Z,2μm,15.0s							
UGL					AMS	AMS	01 33 42.0	
	comp=Z,2μm,15.0s							
UGL					AMS	AMS	01 33 42.0	
	comp=Z,2μm,15.0s							
TYV	**Tymovskoe**	**8.21**	**306**	*e*P		**Pn**	**01 30 39.5**	**+3.8**
TYV					AMB	AMB	01 30 48.0	
	comp=Z,44nm,1.0s							
TYV					AMB	AMB	01 30 48.0	
	comp=Z,55nm,1.0s							
TYV					A		01 32 23.0	
	comp=Z,56nm,1.2s							
NKL	**Nikolayevsk**	**10.46**	**314**	*e*P		**Pn**	**01 31 10.0**	**+3.5**
NKL				*e*L			01 34 44.0	
NKL					AMS	AMS	01 36 28.0	
	comp=Z,2μm,14.0s							
NKL					AMS	AMS	01 36 28.0	
	comp=Z,3μm,14.0s							
TEY	**Ternei**	**11.63**	**269**	*e*P		**Pn**	**01 31 27.0**	**+4.3**
HABR	**Khabarovsk**	**12.39**	**286**	*e*PN		**Pn**	**01 31 37.2**	**+4.1**
KLR	**Kul'dur**	**14.61**	**289**	*e*P		**Pn**	**01 32 04.0**	**+0.7**
MJAR	**Matsushiro Arr**	**14.91**	**234**	P		**Pn**	**01 32 06.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=11							
MJAR					LR	LR	01 38 09.9	
	comp=Z,180nm,20.2s,baz=65,slow=38							
MAJO	**Matsushiro**	**14.91**	**234**	*e*P		**Pn**	**01 32 07.3**	**-0.1**
MAT	**Matsushiro**	**14.91**	**234**	P		**Pn**	**01 32 06.2**	**-1.2**
ZEA	**Zeya**	**18.05**	**303**	*e*P		**Pn**	**01 32 48.6**	**+1.2**
ZEA					AMB	AMB	01 32 50.5	
	comp=Z,36nm,1.6s							
ZEA					sP	sP	01 33 02.7	+6.7
CN2	**Changchun**	**19.67**	**272**	*e*P		**Pn**	**01 33 07.0**	**+0.1**
CN2					AMB	AMB		
	comp=Z,10.0nm,1.0s							
YAK	**Yakutsk**	**20.57**	**328**	*e*P		**P**	**01 33 16.1**	**+0.8**
YAK					pmax	pmax		
	comp=Z,18nm,0.9s							
YAK					pmax	pmax		
	comp=N,9.0nm,1.4s							
YAK					pmax	pmax		
	comp=E,6.0nm,1.2s							
YAK	**Yakutsk**	**20.57**	**328**	*e*P		**P**	**01 33 15.9**	**+0.6**
	comp=E,13nm,0.4s							
KSRS	**Korea Array**	**20.72**	**253**	P		**P**	**01 33 18.6**	**+1.7**
	comp=E,8.7nm,1.0s,baz=58,slow=11,SNR=11							
INCN	**Inchon**	**21.56**	**255**	P		**P**	**01 33 24.5**	**-1.4**
JNU	**Nakatsue**	**21.58**	**240**	LR		LR	01 41 11.5	
	comp=E,720nm,19.2s,MS4.1,baz=68,slow=35							
SNY	**Shenyang**	**21.63**	**268**	⇑P		**P**	**01 33 27.5**	**+0.8**
SNY					AP		01 33 30.5	
SNY					XP	sP	01 33 33.9	-1.1
SNY					S	**S**	**01 37 16.9**	**-8.5**
SNY					AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6							
SNY					AMB	AMB		
	comp=Z,230nm,5.1s							
SNY					LR	LR		
	comp=E,700nm,15.3s							
SNY					LR	LR		
	comp=Z,693nm,16.7s,MS4.1							
HIA	**Hailar**	**22.47**	**289**	⇑*e*P		**P**	**01 33 33.9**	**-1.7**
BILL	**Bilibino**	**22.67**	**13**	⇑*e*P		**P**	**01 33 37.7**	**-0.1**
BILL				*e*			01 33 53.5	
BILL				*e*S		**S**	**01 37 47.9**	**+2.5**
BILL					pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5							
BILL					MLR	MLR		
	comp=Z,400nm,14.0s,MS4.0							
BILL	**Bilibino**	**22.67**	**13**	*e*P		**P**	**01 33 37.1**	**-0.7**
	comp=Z,25nm,1.1s,mb4.5							
BOD	**Bodaibo**	**26.18**	**310**	*e*P		**P**	**01 34 08.4**	**-2.5**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.9							
BJI	**Beijing**	**27.48**	**270**	P		**P**	**01 34 25.3**	**+2.7**
BJI					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
BJI					AMB	AMB		
	comp=Z,269nm,7.8s							
BJI					LR	LR		
	comp=N,272nm,16.2s,MS4.3							
BJI					LR	LR		
	comp=E,637nm,16.2s,MS4.3							
BJI					LR	LR		
	comp=Z,461nm,17.3s,MS4.1							
BJI	**Beijing**	**27.48**	**270**	P		**P**	**01 34 25.2**	**+2.6**
BJI					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4							
BJI					MLR	MLR		
	comp=Z,460nm,17.3s,MS4.1							
BJI	**Beijing**	**27.48**	**270**	P		**P**	**01 34 25.2**	**+2.6**
	comp=Z,10.0nm,0.8s,mb4.4							
BJI					S	**S**	**01 39 12.9**	**+11**
BJI					LR	LR		
	comp=Z,460nm,17.3s,MS4.1							
BJT	**Baijiatuau**	**27.50**	**270**	*e*P		**P**	**01 34 23.9**	**+1.1**
BJT					pmax	pmax		
	comp=Z,16nm,0.9s							
BJT	**Baijiatuau**	**27.50**	**270**	*e*P		**P**	**01 34 23.9**	**+1.2**
	comp=Z,16nm,0.9s,mb4.5							
HHC	**Hu-ho-hao-te**	**30.32**	**275**	*e*P		**P**	**01 34 47.5**	**-0.4**
HHC					XP	sP	01 34 54.8	-1.7
HHC					PP	PP	01 35 50.8	-5.6
HHC					PCP	PcP	01 37 42.3	-5.5
HHC					S	**S**	**01 39 54.0**	**+7.0**
HHC					XS	sS	01 40 01.0	+4.0
HHC					SCP	ScP	01 41 22.4	-6.7
HHC					PCS	PcS	01 41 24.6	-6.8
HHC					SCS	ScS	01 45 18.9	-6.0
HHC					AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7							
HHC					AMB	AMB		
	comp=Z,127nm,5.9s							
HHC					LR	LR		
	comp=N,473nm,16.5s,MS4.4							
HHC					LR	LR		
	comp=E,468nm,16.3s,MS4.4							
HHC					LR	LR		
	comp=Z,718nm,16.8s,MS4.4							
ULN	**Ulaanbaatar**	**31.00**	**290**	*e*P		**P**	**01 34 53.8**	**-0.1**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**31.00**	**290**	*e*P		**P**	**01 34 53.8**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.3							
SONM	**Songino Array**	**31.44**	**290**	P		**P**	**01 34 57.7**	**0.0**
	comp=Z,1.8nm,0.9s,mb3.9,baz=80,slow=7.6,SNR=9.3							
SONM					PcP	PcP	01 37 49.9	-0.9
	comp=Z,1.4nm,0.8s,baz=98,slow=2.1,SNR=5.5							
SONM	**Songino Array**	**31.44**	**290**	P		**P**	**01 34 57.7**	**0.0**
SONM							01 37 49.9	
SONM					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SONM					pmax	pmax		
	comp=Z,1.0nm,0.8s							
TLY	**Talaya**	**32.32**	**298**	*e*P		**P**	**01 35 05.1**	**-0.4**
ZAK	**Zakamensk**	**32.81**	**295**	*e*P		**P**	**01 35 02.5**	**-7.2**
ZAK				*e*			01 36 22.0	
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
TATO	**Taipei**	**33.11**	**241**	P		**P**	**01 35 11.0**	**-1.4**
GUMO	**Guam**	**33.49**	**195**	P		**P**	**01 35 14.1**	**-1.7**
XAN	**Xi'an**	**35.50**	**266**	P		**P**	**01 35 33.5**	**+0.4**
XAN					AP	pP	01 35 40.9	+1.7
XAN					AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6							
MCK	**McKinley**	**35.87**	**40**	*e*P		**P**	**01 35 37.5**	**+1.2**
MCK					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
MCK	**McKinley**	**35.87**	**40**	*e*P		**P**	**01 35 37.5**	**+1.2**
	comp=Z,9.5nm,1.2s,mb4.6							
SML	**Sawmill**	**36.18**	**43**	*e*P		**P**	**01 35 41.4**	**+2.5**
COLA	**College**	**36.36**	**38**	*e*P		**P**	**01 35 40.2**	**-0.3**
COLA					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
COLA	**College**	**36.36**	**38**	*e*P		**P**	**01 35 40.2**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.6							
LZH	**Lanzhou**	**37.90**	**272**	*e*P		**P**	**01 35 55.5**	**+1.9**
LZH					AP	pP	01 35 59.6	-0.2
LZH					XP	sP	01 36 02.8	+0.6
LZH					PP	PP	01 37 26.6	+6.3
LZH					AMB	AMB		
	comp=Z,60nm,1.2s,mb5.2							
LZH					AMB	AMB		
	comp=Z,286nm,5.0s							
LZH					LR	LR		
	comp=N,523nm,15.9s							
LZH					LR	LR		
	comp=Z,863nm,16.9s,MS4.6							
LZH	**Lanzhou**	**37.90**	**272**	*e*P		**P**	**01 35 55.5**	**+1.9**
	comp=Z,60nm,1.2s,mb5.2							
LZH					pP	pP	01 35 59.6	-0.2
LZH					sP	sP	01 36 02.8	+0.6
LZH					PP	PP	01 37 26.6	+6.3
LZH					LR	LR		
	comp=Z,860nm,16.9s,MS4.6							
GTA	**Gaotai**	**39.02**	**279**	*e*P		**P**	**01 36 04.1**	**+1.1**
GTA					AP	pP	01 36 11.5	+2.3
GTA					XP	sP	01 36 14.8	+3.1
GTA					AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3							
GTA					LR	LR		
	comp=N,784nm,18.6s,MS4.7							
GTA					LR	LR		
	comp=E,668nm,17.9s,MS4.7							
GTA					LR	LR		
	comp=Z,721nm,16.4s,MS4.6							
EGAK	**Eagle**	**39.23**	**38**	*e*P		**P**	**01 36 03.4**	**-1.3**
	comp=Z,56nm,1.8s,mb5.0							
EGAK					*e*PP	PP	01 37 31.5	-3.3
CD2	**Chengdu**	**40.86**	**266**	⇑*i*P		**P**	**01 36 19.0**	**+0.7**
CD2					AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7							
GYA	**Guiyang**	**41.66**	**258**	⇑*i*P		**P**	**01 36 25.3**	**+0.5**
GYA					AP	pP	01 36 29.8	-1.2
GYA					XP	sP	01 36 32.5	-1.0
GYA					PP	PP	01 38 07.8	+6.6
GYA					SCP	ScP	01 42 05.8	-4.7
GYA					S	**S**	**01 42 51.0**	**+11**
GYA					SCS	ScS	01 46 24.8	-2.3
GYA					AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9							
GYA					AMB	AMB		
	comp=Z,130nm,5.0s							
GYA					LR	LR		
	comp=N,570nm,17.2s,MS4.7							
GYA					LR	LR		
	comp=E,590nm,16.8s,MS4.7							
GYA					LR	LR		
	comp=Z,490nm,17.0s,MS4.5							
INK	**Inuvik**	**41.90**	**32**	P		**P**	**01 36 26.4**	**-0.3**
	comp=Z,6.3nm,0.8s,mb4.3,baz=308,slow=6.4,SNR=11							
INK	**Inuvik**	**41.90**	**32**	P		**P**	**01 36 26.4**	**-0.3**
INK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ZAL	**Zalesovo**	**42.80**	**306**	P		**P**	**01 36 32.5**	**-1.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=54,slow=5.2,SNR=6.3							
ZAL					PcP	PcP	01 38 24.8	-0.4
	comp=Z,2.3nm,1.0s,baz=43,slow=3.5,SNR=7.0							
ZAL	**Zalesovo**	**42.80**	**306**	P		**P**	**01 36 32.5**	**-1.6**
ZAL							01 38 24.8	
ZAL					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ZAL					pmax	pmax		
	comp=Z,2.0nm,1.0s							
KMI	**Kunming**	**45.20**	**260**	P		**P**	**01 36 54.4**	**+1.1**
KMI					AP	pP	01 36 59.3	-0.3
KMI					AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7							
KMI	**Kunming**	**45.20**	**260**	P		**P**	**01 36 54.4**	**+1.1**
	comp=Z,16nm,1.2s,mb4.7							
KMI					pP	pP	01 36 59.2	-0.4
MK31	**Makanchi Array**	**47.08**	**298**	*e*P		**P**	**01 37 07.2**	**-1.0**
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**	**01 37 07.6**	**-0.6**
	comp=Z,10.0nm,0.9s,mb4.7,baz=64,slow=8.4,SNR=39							
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**	**01 37 07.6**	**-0.6**
MKAR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**	**01 37 07.6**	**-0.6**
LSA	**Lhasa**	**50.30**	**273**	P		**P**	**01 37 34.8**	**+1.9**
LSA	**Lhasa**	**50.30**	**273**	P		**P**	**01 37 35.5**	**+2.6**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
LSA	**Lhasa**	**50.30**	**273**	P		**P**	**01 37 35.5**	**+2.6**
	comp=Z,7.6nm,0.7s,mb4.8							
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P		**P**	**01 37 33.4**	**-2.0**
BVAR	**Borovoye Array**	**51.05**	**310**	P		**P**	**01 37 37.4**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=60,slow=8.9,SNR=11							
BVAR	**Borovoye Array**	**51.05**	**310**	P		**P**	**01 37 37.4**	**-1.2**
BVAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**51.09**	**310**	*e*P		**P**	**01 37 37.9**	**-1.0**
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
BRVK	**Borovoye**	**51.09**	**310**	*e*P		**P**	**01 37 37.9**	**-1.0**
	comp=Z,5.5nm,0.8s,mb4.5							
RES	**Resolute Bay**	**51.11**	**18**	*e*P		**P**	**01 37 38.9**	**-0.1**
RES					pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8							
RES	**Resolute Bay**	**51.11**	**18**	*e*P		**P**	**01 37 38.9**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8							
YKA	**Yellowknife Ar**	**51.16**	**37**	P		**P**	**01 37 38.1**	**-1.3**
	comp=Z,5.5nm,0.8s,mb4.5,baz=299,slow=7.8,SNR=4.8							
YKA	**Yellowknife Ar**	**51.16**	**37**	P		**P**	**01 37 38.1**	**-1.3**
YKA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ZRNK	**Zerenda**	**51.82**	**310**	*e*P		**P**	**01 37 43.1**	**-1.2**
ZRNK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**51.82**	**310**	*e*P		**P**	**01 37 43.0**	**-1.3**
	comp=Z,4.4nm,0.8s,mb4.4							
CHTO	**Chiang Mai**	**52.06**	**257**	*e*P		**P**	**01 37 47.1**	**+1.0**
CHTO					pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9							
CHTO	**Chiang Mai**	**52.06**	**257**	*e*P		**P**	**01 37 47.1**	**+1.0**
	comp=Z,15nm,1.0s,mb4.9							
KBS	**Kingsbay**	**52.79**	**351**	⇓*e*P		**P**	**01 37 51.6**	**+0.1**
TKM2	**Tokmak 2**	**53.13**	**296**	P		**P**	**01 37 51.3**	**-2.8**
	SNR=5.1							
USP	**Ospenovka**	**53.62**	**297**	P		**P**	**01 37 58.3**	**+0.6**
	SNR=13							
KBK	**Karagaybulak**	**53.68**	**296**	P		**P**	**01 37 58.5**	**+0.4**
	SNR=7.2							
AAK	**Ala-Archa**	**53.97**	**297**	P		**P**	**01 38 00.6**	**+0.4**
	SNR=9.0							
AAK	**Ala-Archa**	**53.97**	**297**	*i*P		**P**	**01 37 59.4**	**-0.8**
AAK					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**53.97**	**297**	*e*P		**P**	**01 37 59.2**	**-1.0**
	comp=Z,6.2nm,0.8s,mb4.6							
EKS2	**Erkin-Say**	**54.40**	**297**	P		**P**	**01 38 04.1**	**+0.7**
	SNR=6.6							
AML	**Almayashu**	**54.74**	**296**	P		**P**	**01 38 07.2**	**+1.3**
	SNR=5.5							
JIRN	**Jiri**	**54.98**	**275**	*e*P		**P**	**01 38 09.3**	**+1.8**
GUN	**Gumba**	**55.03**	**275**	*e*P		**P**	**01 38 09.4**	**+1.5**
	comp=Z,33nm,0.8s,mb5.4							
ARU	**Arti**	**55.23**	**318**	⇑*i*P		**P**	**01 38 07.7**	**-1.7**
ARU					*e*S	**S**	**01 45 44.9**	**-6.9**
ARU					*e*SS	SS	01 49 29.5	-6.6
ARU					pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7							
ARU	**Arti**	**55.23**	**318**	*e*P		**P**	**01 38 07.9**	**-1.5**
	comp=Z,4.1nm,0.6s,mb4.6							
KKN	**Kakani**	**55.52**	**276**	*e*P		**P**	**01 38 12.7**	**+1.2**
PKI	**Pulchoki**	**55.57**	**275**	*e*P		**P**	**01 38 13.0**	**+1.2**
	comp=Z,14nm,0.5s,mb5.2							
DMN	**Daman**	**55.75**	**275**	*e*P		**P**	**01 38 14.6**	**+1.5**
	comp=Z,59nm,1.0s,mb5.6							
GKN	**Gorkha**	**55.83**	**276**	*e*P		**P**	**01 38 15.0**	**+1.3**
	comp=Z,52nm,0.8s,mb5.6							
EDM	**Edmonton**	**56.51**	**46**	*e*P		**P**	**01 38 18.3**	**-0.3**
KOLN	**Koldanda**	**56.69**	**277**	*e*P		**P**	**01 38 21.4**	**+1.6**
	comp=Z,50nm,0.9s,mb5.5							
DAG	**Danmarks Havn**	**56.94**	**358**	⇑*i*P		**P**	**01 38 20.8**	**-0.8**
	comp=Z,10.0nm,0.9s,mb4.8							
DAG	**Danmarks Havn**	**56.94**	**358**	*i*P		**P**	**01 38 20.8**	**-0.8**
DAG					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
ARCES	**ARCESS Array B**	**58.13**	**341**	P		**P**	**01 38 28.5**	**-1.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=26,slow=6.9,SNR=13							
ARCES	**ARCESS Array B**	**58.13**	**341**	P		**P**	**01 38 28.5**	**-1.5**
ARCES					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.13**	**341**	P		**P**	**01 38 28.5**	**-1.5**
AKTK	**Aktyubinsk**	**58.92**	**312**	P		**P**	**01 38 33.9**	**-1.7**
AKTK					PcP	PcP	01 39 23.9	-0.7
AKTO	**Aktyubinsk**	**58.92**	**312**	P		**P**	**01 38 33.9**	**-1.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=49,slow=3.1,SNR=6.7							
AKTO					PcP	PcP	01 39 23.9	-0.8
	comp=Z,2.3nm,0.9s,baz=82,slow=6.8,SNR=3.7							
AKTO	**Aktyubinsk**	**58.92**	**312**	P		**P**	**01 38 33.9**	**-1.6**
AKTO							01 39 23.9	
AKTO					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
AKTO					pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
MSO	**Missoula**	**59.94**	**52**	*e*P		**P**	**01 38 42.8**	**+0.3**
	comp=Z,16nm,1.5s,mb4.8							
LRM	**Limekiln Ridge**	**61.37**	**53**	*e*P		**P**	**01 38 52.1**	**-0.1**
HLID	**Hailey**	**61.67**	**56**	*e*P		**P**	**01 38 55.3**	**+1.0**
QLMT	**Earthquake Lak**	**62.55**	**53**	*e*P		**P**	**01 39 00.2**	**0.0**
GCMT	**Greycliff**	**62.90**	**51**	*e*P		**P**	**01 39 02.3**	**-0.3**
IMW	**Indian Meadow**	**63.41**	**54**	*e*P		**P**	**

comp=Z,2.0nm,1.0s
NB2 NORSAR Subarra 68.51 341 P **P** **01 39 37.8 -0.9**
comp=Z,4.3nm,0.6s,mb4.6,baz=28,slow=6.2
NOA NORSAR Array B 68.51 341 P **P** **01 39 38.1 -0.6**
comp=Z,3.5nm,0.5s,mb4.5,baz=27,slow=6.3,SNR=16
NOA NORSAR Array B 68.51 341 P **P** **01 39 38.1 -0.6**
NOA pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 68.73 340 P **P** **01 39 39.3 -0.8**
comp=Z,8.9nm,0.5s,mb5.0,baz=63,slow=6.8,SNR=60
HFS Hagfors 68.73 340 P **P** **01 39 39.3 -0.8**
HFS pmax pmax
comp=Z,9.0nm,0.5s
NAO01 NORSAR Array S 68.75 341 *e*P **P** **01 39 39.9 -0.3**
SMCO Snowmass 68.77 55 P **P** **01 39 30.6 -10**
ISCO Idaho Springs 69.11 54 *e*P **P** **01 39 42.5 +0.1**
ISCO pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ISCO Idaho Springs 69.11 54 *e*P **P** **01 39 42.5 +0.1**
comp=Z,5.4nm,1.1s,mb4.4
MAK Makhachkala 69.27 311 *e*P **P** **01 39 41.8 -1.6**
POO Poona 69.49 276 *e*P **P** **01 39 42.5 -2.3**
KIV Kislovodsk 71.01 314 P **P** **01 39 52.6 -1.5**
KIV Kislovodsk 71.01 314 P **P** **01 39 52.5 -1.6**
AKASG Malin Array Be 71.79 326 P **P** **01 39 57.9 -1.0**
comp=Z,10.0nm,0.6s,mb4.9,baz=34,slow=6.3,SNR=37
AKASG Malin Array Be 71.79 326 P **P** **01 39 57.9 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 71.79 326 *e*P **P** **01 39 57.7 -1.2**
KIEV Kiev 71.80 326 *e*P **P** **01 39 57.8 -1.1**
KIEV pmax pmax
comp=Z,21nm,1.0s,mb5.0
KIEV Kiev 71.80 326 *e*P **P** **01 39 57.8 -1.2**
comp=Z,22nm,1.0s,mb5.0
ASAR Alice Springs 71.93 199 P **P** **01 39 59.0 -0.7**
comp=Z,1.7nm,1.0s,mb4.0,baz=3.7,slow=4.5,SNR=12
ASAR Alice Springs 71.93 199 P **P** **01 39 59.0 -0.7**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
LAZ Ladron 71.96 59 *e*P **P** **01 40 00.2 +0.4**
ANMO Albuquerque 71.98 58↑*e*P **P** **01 39 58.8 -1.2**
GNI Garni 72.72 310 P **P** **01 40 04.2 -0.3**
comp=Z,5.1nm,0.7s,mb4.5,baz=200,slow=5.5,SNR=3.7
GNI Garni 72.72 310 P **P** **01 40 04.2 -0.2**
GNI pmax pmax
comp=Z,5.0nm,0.7s
SCHQ Schefferville 73.58 23 P **P** **01 40 09.1 -0.3**
comp=Z,2.8nm,1.0s,mb4.2,baz=216,slow=14,SNR=2.6
KWP Kalwaria 75.08 329 *e*P **P** **01 40 18.8 +0.6**
OJC Ojcow 75.58 331 *e*P **P** **01 40 21.0 -0.1**
STHS Stebnicka Huta 75.77 330 *e*P **P** **01 40 22.7 +0.5**
STHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
STHS Stebnicka Huta 75.77 330 *e*P **P** **01 40 22.7 +0.5**
comp=Z,7.9nm,1.1s,mb4.6
KOLS Kolonicke sedl 75.82 329 *e*P **P** **01 40 22.1 -0.3**
BURAR Bucovina Array 75.83 327↓*i*P **P** **01 40 22.7 +0.2**
UZH Uzhgorod 76.07 329↑*i*P **P** **01 40 23.6 -0.3**
OKC Ostrava-Krasne 76.45 332 *e*P **P** **01 40 26.3 +0.2**
UPC Upice 76.55 333 *e*P **P** **01 40 27.4 +0.8**
DPC Dobruska-Polom 76.59 333 *e*P **P** **01 40 25.5 -1.3**
MORC Moravsky Berou 76.70 332↓*i*P **P** **01 40 27.7 +0.2**
MORC Moravsky Berou 76.70 332 P **P** **01 40 27.8 +0.3**
MORC Moravsky Berou 76.70 332↓↓P **P** **01 40 27.7 +0.2**
CLL Collm 76.73 336↑↑*i*P **P** **01 40 26.9 -0.7**
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 76.73 336↑*i*P **P** **01 40 26.9 -0.7**
comp=Z,15nm,1.2s,mb4.8
CLL *i* (PcP) PcP 01 40 37.3 -1.6
KECS Kecovo 76.83 330 *e*P **P** **01 40 27.5 -0.7**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.83 330 *e*P **P** **01 40 27.5 -0.7**
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 76.85 335 *e*P **P** **01 40 27.5 -0.8**
comp=Z,3.5nm,1.0s,mb4.3
BRG Berggiesshubel 76.85 335 *e*P **P** **01 40 27.5 -0.8**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TIRR Tirgusor 77.15 323↓↓*i*P **P** **01 40 31.3 +1.3**
TIRR Tirgusor 77.15 323↓↓P **P** **01 40 31.3 +1.3**
MLR Muntele Rosu 77.31 325 P **P** **01 40 31.7 +0.8**
comp=Z,4.3nm,0.5s,mb4.6,baz=190,slow=3.3,SNR=10
MLR Muntele Rosu 77.31 325↓*i*P **P** **01 40 31.1 +0.2**
MLR Muntele Rosu 77.31 325 P **P** **01 40 31.7 +0.8**
MLR pmax pmax
comp=Z,4.0nm,0.5s
MALT Malatya 77.36 313↓↓*i*P **P** **01 40 33.1 +2.0**
MALT Malatya 77.36 313 P **P** **01 40 32.8 +1.7**
MALT Malatya 77.36 313↓↓P **P** **01 40 33.1 +2.0**
VYHS Vyhne 77.38 331 *e*P **P** **01 40 31.1 -0.2**
VRAC Vranov 77.41 333 P **P** **01 40 31.5 0.0**
comp=Z,7.3nm,1.0s,mb4.6,baz=39,slow=6.4,SNR=7.1
VRAC Vranov 77.41 333↓↓*i*P **P** **01 40 31.9 +0.4**
VRAC Vranov 77.41 333 P **P** **01 40 31.5 0.0**
VRAC pmax pmax
comp=Z,7.0nm,1.0s
VRAC Vranov 77.41 333↓↓P **P** **01 40 31.9 +0.4**
PRU Pruhonice 77.45 334 *e*P **P** **01 40 31.5 -0.2**
DRGR 77.46 328↑↑P **P** **01 40 31.3 -0.4**
DRGR 77.46 328 P **P** **01 40 31.7 0.0**
DRGR 77.46 328↑↑P **P** **01 40 31.3 -0.4**
PSZ Piszkesteto 77.52 330↓↓*i*P **P** **01 40 34.2 +2.2**
PSZ Piszkesteto 77.52 330↓↓P **P** **01 40 34.2 +2.2**
TXAR Lajitas Array 77.63 60 P **P** **01 40 31.8 -0.9**
comp=Z,3.8nm,0.7s,mb4.4,baz=300,slow=4.1,SNR=31
TXAR Lajitas Array 77.63 60 P **P** **01 40 31.8 -0.9**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
VOIR 77.70 325↓↓*i*P **P** **01 40 33.4 +0.3**
VOIR 77.70 325↓↓P **P** **01 40 33.4 +0.3**
MOX Moxa 77.72 336 *e*P **P** **01 40 33.1 -0.1**
NKC Novy Kostel 77.85 335 *e*P **P** **01 40 33.9 0.0**
KHC Kasperske Hory 78.50 334 *e*P **P** **01 40 37.4 -0.1**
BR131 Keskin Array S 78.61 317 *e*P **P** **01 40 38.6 +0.5**
comp=Z,4.1nm,0.9s,mb4.4
BRTR Keskin Array B 78.61 317 P **P** **01 40 38.5 +0.4**
comp=Z,4.7nm,1.1s,mb4.3,baz=116,slow=2.9,SNR=14
BRTR Keskin Array B 78.61 317 P **P** **01 40 38.5 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,1.1s
GZR Gura Zlata 78.62 327↑↑*i*P **P** **01 40 37.6 -0.6**
GZR Gura Zlata 78.62 327 P **P** **01 40 38.0 -0.2**
GZR Gura Zlata 78.62 327↑↑P **P** **01 40 37.6 -0.6**
GRA1 Grafenberg Arr 78.69 336 *e*P **P** **01 40 38.4 -0.1**
comp=Z,15nm,1.2s,mb4.8
GRF Grafenberg Arr 78.69 336 *e*P **P** **01 40 38.4 -0.1**
comp=Z,15nm,1.2s,mb4.8
GRF Grafenberg Arr 78.69 336 *e*P **P** **01 40 38.4 -0.1**
GRF pmax pmax
comp=Z,15nm,1.2s,mb4.8
GRF Grafenberg Arr 78.69 336 *e*P **P** **01 40 38.4 -0.1**
GRF pmax pmax
comp=Z,15nm,1.2s,mb4.8
GERES GERESS Array B 78.72 334 P **P** **01 40 38.5 -0.2**
comp=Z,2.9nm,0.8s,mb4.2,baz=34,slow=5.2,SNR=18
GERES GERESS Array B 78.72 334 P **P** **01 40 38.5 -0.2**
GERES pmax pmax
comp=Z,3.0nm,0.8s
CONA Conrad Observa 78.86 332↓*i*P **P** **01 40 40.0 +0.5**
comp=Z,6.0nm,1.2s,mb4.4
BZS Buzias 78.86 328↑↑*i*P **P** **01 40 39.3 -0.2**
BZS Buzias 78.86 328↑↑P **P** **01 40 39.3 -0.2**
PKSM Moragy 79.42 330↓↓*i*P **P** **01 40 42.8 +0.2**
PKSM Moragy 79.42 330↓↓P **P** **01 40 42.8 +0.2**
KBA Koelnbreinsper 80.40 333↑↑*i*P **P** **01 40 48.5 +0.7**
comp=Z,27nm,1.1s,mb5.1
OBKA Obir 80.53 332↑↑*i*P **P** **01 40 48.3 -0.3**
comp=Z,7.7nm,1.1s,mb4.6
WATA Walderalm 80.71 335↑↑*i*P **P** **01 40 50.5 +1.0**
comp=Z,7.8nm,0.5s,mb4.9
WTTA Wattenberg 80.75 335↑↑*i*P **P** **01 40 50.4 +0.7**
comp=Z,28nm,1.2s,mb5.1
VTS Vitosha 80.81 325↓↓*i*P **P** **01 40 50.4 +0.3**
VTS Vitosha 80.81 325↓↓P **P** **01 40 50.4 +0.3**
MOTA Moosalm 80.84 335↑↑*i*P **P** **01 40 49.9 -0.3**
comp=Z,25nm,1.2s,mb5.0
SQTA Sankt Quirin 80.92 335↑↑*i*P **P** **01 40 51.6 +0.9**
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 80.93 338 *e*P **P** **01 40 49.6 -1.1**
comp=Z,44nm,1.3s,mb4.9
CDF Champ du Feu 80.93 338 *e*P **P** **01 40 49.6 -1.1**
CDF pmax pmax
comp=Z,22nm,1.3s,mb4.9
CDF Champ du Feu 80.93 338 *e*P **P** **01 40 49.6 -1.1**
comp=Z,22nm,1.3s,mb4.9
DAVA Damuels 81.25 336↑↑*i*P **P** **01 40 53.0 +0.6**
comp=Z,9.0nm,1.0s,mb4.7
DAVOX Davos 81.71 335 P **P** **01 40 54.8 0.0**
comp=Z,4.8nm,0.8s,mb4.5
GRR Gorron 82.85 343 *e*P **P** **01 40 59.5 -1.3**
ASF Jabal al Asfar 82.89 310 P **P** **01 41 00.3 -0.7**
comp=Z,3.2nm,0.9s,mb4.3,baz=294,slow=4.3,SNR=4.8
ASF Jabal al Asfar 82.89 310 P **P** **01 41 00.3 -0.7**
ASF pmax pmax
comp=Z,3.0nm,1.0s
MMAI Mount Meron Ar 83.01 311 P **P** **01 41 02.4 +0.7**
comp=Z,9.3nm,0.9s,mb4.8,baz=39,slow=5.4,SNR=10
SMF Signal de Mont 83.44 339 *e*P **P** **01 41 02.7 -1.1**
comp=Z,48nm,1.1s,mb5.2
SMF Signal de Mont 83.44 339 *e*P **P** **01 41 02.7 -1.1**
SMF pmax pmax
comp=Z,24nm,1.1s,mb5.1
SMF Signal de Mont 83.44 339 *e*P **P** **01 41 02.7 -1.1**
comp=Z,24nm,1.1s,mb5.1
LPG La Plagne 83.75 337 *e*P **P** **01 41 05.4 -0.1**
comp=Z,42nm,1.4s,mb5.1
LPG La Plagne 83.75 337 *e*P **P** **01 41 05.4 -0.1**
LPG pmax pmax
comp=Z,21nm,1.4s,mb5.1
LPG La Plagne 83.75 337 *e*P **P** **01 41 05.4 -0.1**
comp=Z,21nm,1.4s,mb5.1
LFF La Frestale 85.78 341 *e*P **P** **01 41 14.1 -1.6**
comp=Z,68nm,1.3s,mb5.4
LFF La Frestale 85.78 341 *e*P **P** **01 41 14.1 -1.6**
LFF pmax pmax
comp=Z,34nm,1.3s,mb5.4
LFF La Frestale 85.78 341 *e*P **P** **01 41 14.1 -1.6**
comp=Z,34nm,1.3s,mb5.4
IDI Anoyia 86.24 320 P **P** **01 41 18.2 +0.3**
comp=Z,6.1nm,0.8s,mb4.9,baz=35,slow=12,SNR=4.0
KEST Kesra 91.93 331 P **P** **01 41 46.2 +1.4**
comp=Z,2.0nm,1.0s,mb4.4,baz=48,slow=7.2,SNR=3.8
TORD Torodi Ar. Bea 115.35 329 PKP PKPdf 01 47 16.7 -1.3
comp=Z,0.5nm,0.7s,baz=346,slow=1.5,SNR=4.7
VNDA Vanda 123.82 178 PKP PKPdf 01 47 30.5 -3.8
comp=Z,0.6nm,0.8s,baz=337,slow=9.6,SNR=4.3
VNDA Vanda 123.82 178 PKIKP PKPdf 01 47 30.5 -3.8
VNDA pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 134.47 63 PKP PKPdf 01 47 54.0 -0.5
comp=Z,0.8nm,0.8s,baz=250,slow=9.4,SNR=3.7
LPAZ La Paz 134.47 63 PKIKP PKPdf 01 47 54.0 -0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 145.04 80 PKPbc PKPbc 01 48 10.8 -2.3
comp=Z,0.3nm,0.4s,baz=246,slow=3.3,SNR=4.0
SNAA Sanae 152.28 196 PKPbc PKPbc 01 48 28.6 -3.5
comp=Z,0.9nm,0.8s,baz=329,slow=22,SNR=2.7
VNA2 Neumayer--Watz 153.72 194 *e*PKPdf PKPdf 01 48 27.6 +0.1
VNA2 *e* 01 48 40.8
VNA2 *e* 01 48 45.5
VNA2 *e* 01 48 59.0
VNA2 *e* 01 49 02.5

*STR **16** 01:32:32.5±0.4, 45.01N×3.15E, h2km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 16 01:32:31.6±0.1, 4499N×326E, h5km, Md1.9/1, **Ml2.0**/12, **Error ellipse: s-maj=1.2km s-min=0.9km az=82.0, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBL	**Lubilhac**	**0.24**	**358**	Pg	Pg	01 32 37.0	+0.6
LBL				Sg	Sg	01 32 40.6	+1.0
PYM	**Petit Puy Mans**	**0.78**	**347**	Pg	Pg	01 32 46.8	+0.2
CAF	**Calviac**	**0.85**	**266**	*e*Pg	Pg	01 32 47.7	-0.2
CAF				*e*Sg	Sg	01 32 58.5	-0.4
	4.0nm,0.2s						
LASF	**Ste Croix**	**1.01**	**155**	*e*Pg	Pg	01 32 50.7	-0.2
LASF				*e*Sg	Sg	01 33 03.9	-0.1
	1.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.01**	**97**	*e*Pg	Pg	01 32 50.8	-0.3
VIVF				*e*Sg	Sg	01 33 03.6	-0.6
	6.3nm,0.2s						
RJF	**Les Rejaudoux**	**1.27**	**285**	*e*Sg	Sg	01 33 11.6	-0.9
	3.7nm,0.2s						
TCF	**Toulx Ste Croi**	**1.49**	**331**	*e*Pg	Pg	01 32 59.7	-0.5
TCF				*e*Sg	Sg	01 33 18.9	-0.7
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**1.59**	**350**	*e*Pg	Pg	01 33 01.4	-0.8
BGF				*e*Sg	Sg	01 33 22.3	-0.6
	5.4nm,0.3s						
SMF	**Signal de Mont**	**1.71**	**14**	*e*Pg	Pg	01 33 03.3	-1.0
SMF				*e*Sg	Sg	01 33 25.2	-1.2
	1.5nm,0.2s						
LFF	**La Frestale**	**1.79**	**269**	*e*Sg	Sg	01 33 27.7	-1.3
	3.2nm,0.2s						
AVF	**Avril sur Loir**	**1.80**	**2**	*e*Sg	Sg	01 33 28.2	-1.4
	1.7nm,0.2s						
MTLF	**Montolieu**	**1.81**	**205**	*e*Pg	Pg	01 33 05.5	-0.8
MTLF				*e*Sg	Sg	01 33 27.7	-2.0
	3.0nm,0.2s						
SSF	**Saint Saulge**	**2.08**	**5**	*e*Sg	Sg	01 33 37.2	-1.2
	1.3nm,0.2s						
LOR	**Lormes**	**2.32**	**10**	*e*Sg	Sg	01 33 44.1	-2.0
	1.3nm,0.2s						

IDC 16 01:34:53.0±1.1, 4660N×15492E, h0km, mb3.8/7, **mb1 4.0**/7, **mb1mx3.7**/23, **mbtmp3.8**/7, **Error ellipse: s-maj=34.3km s-min=30.0km az=53.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.11**	**298**	P	P	01 43 33.2	-1.3
	0.3nm,0.5s,baz=63,slow=6.0,SNR=4.8						
BVAR	**Borovoye Array**	**51.91**	**310**	P	P	01 44 02.0	-1.4
	0.9nm,0.6s,baz=60,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**64.70**	**336**	P	P	01 45 32.0	-0.8
	1.7nm,0.7s,baz=38,slow=9.6,SNR=4.7						
NOA	**NORSAR Array B**	**68.76**	**342**	P	P	01 45 59.5	+0.7
	1.2nm,0.9s,baz=109,slow=6.6,SNR=2.7						
HFS	**Hagfors**	**69.02**	**340**	P	P	01 46 00.8	+0.4
	0.9nm,0.4s,baz=74,slow=6.3,SNR=4.9						
ASAR	**Alice Springs**	**72.48**	**200**	P	P	01 46 21.8	+0.4
	0.5nm,0.7s,baz=19,slow=5.3,SNR=5.5						
TXAR	**Lajitas Array**	**76.47**	**62**	P	P	01 46 44.2	-0.5
	0.9nm,0.6s,baz=304,slow=4.3,SNR=14						

*ISCJB **16** 01:35:42.4±0.7, 47.1N±0.1×154.66E±0.10, h0km, mb4.2/19, Error ellipse: s-maj=15.8km s-min=7.7km az=128.8*
*IDC **16** 01:35:44.0±1.0, 46.99N×154.81E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/26, mbtmp4.0/15, Error ellipse: s-maj=26.6km s-min=24.2km az=177.0*
*NEIC **16** 01:35:45.4±0.7, 47.01N×154.79E, h10km, mb4.5/5, Error ellipse: s-maj=15.0km s-min=8.1km az=145.0*
*MOS **16** 01:35:47.0±1.2, 47.06N×154.68E, h33km, mb4.4/17, Error ellipse: s-maj=14.8km s-min=10.4km az=104.1*
ISC 16 01:35:43.7±0.7, 470N±01×15476E±010, h0km, n49, σ0s78/50, **mb4.2**/19, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.12**	**252**	PN	**Pn**	**01 37 00.5**	**-1.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
PET	**Petropavlovsk**	**6.50**	**21**	*e*PN	**Pn**	**01 37 20.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.21**	**274**	Pn	**Pn**	**01 37 44.5**	**+0.4**
YSS				*e*Sn	**Sn**	**01 39 17.1**	**-0.5**
YAK	**Yakutsk**	**20.71**	**326**	*e*P	**P**	**01 40 26.1**	**+0.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
YAK	**Yakutsk**	**20.71**	**326**	*e*P	**P**	**01 40 26.1**	**+0.5**
	comp=Z,10nm,0.3s						
BILL	**Bilibino**	**21.88**	**12**	*e*P	**P**	**01 40 37.6**	**-0.5**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.1						
BILL	**Bilibino**	**21.88**	**12**	*e*P	**P**	**01 40 39.3**	**+1.2**
	comp=Z,3.4nm,0.2s,mb4.4						
INCN	**Inchon**	**22.80**	**255**	P	**P**	**01 40 48.1**	**+0.2**
ULN	**Ulaanbaatar**	**31.88**	**289**	*e*P	**P**	**01 42 09.9**	**-0.6**
SONM	**Songino Array**	**32.31**	**290**	P	**P**	**01 42 13.7**	**-0.6**
	comp=Z,0.6nm,0.9s,mb3.5,baz=58,slow=11,SNR=3.6						
SONM	**Songino Array**	**32.31**	**290**	P	**P**	**01 42 13.7**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NACB	**Ninganchiao**	**34.91**	**241**	P	**P**	**01 42 37.3**	**+0.3**
COLA	**College**	**35.21**	**39**	*e*P	**P**	**01 42 37.9**	**-1.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
COLA	**College**	**35.21**	**39**	*e*P	**P**	**01 42 37.9**	**-1.7**
	comp=Z,2.9nm,0.4s,mb4.6						
INK	**Inuvik**	**40.81**	**33**	P	**P**	**01 43 25.9**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.0,baz=306,slow=4.8,SNR=8.5						
INK	**Inuvik**	**40.81**	**33**	P	**P**	**01 43 25.9**	**-0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**01 43 47.0**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.6,baz=50,slow=12,SNR=2.8						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**01 43 47.0**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**01 43 47.0**	**-0.8**
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**01 44 22.7**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=74,slow=6.1,SNR=5.4						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**01 44 47.9**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**01 44 47.9**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.39**	**274**	P	**P**	**01 44 51.2**	**+1.0**
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**01 44 51.8**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=57,slow=7.2,SNR=6.8						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**01 44 51.8**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.59**	**310**	*e*P	**P**	**01 44 51.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	**Borovoye**	**51.59**	**310**	*e*P	**P**	**01 44 51.8**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.4						
AAK	**Ala-Archa**	**54.72**	**297**	P	**P**	**01 45 14.7**	**-0.1**
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**	**01 45 37.3**	**-0.6**
	comp=Z,7.7nm,1.0s,mb4.5,baz=40,slow=5.6,SNR=5.1						
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**	**01 45 37.3**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.38**	**312**	P	**P**	**01 45 47.5**	**-0.3**
AKTO	**Aktyubinsk**	**59.38**	**312**	P	**P**	**01 45 47.5**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.1,baz=40,slow=3.2,SNR=3.7						
AKTO	**Aktyubinsk**	**59.38**	**312**	P	**P**	**01 45 47.5**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**01 46 20.9**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.4,baz=40,slow=8.1,SNR=9.6						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**01 46 20.9**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.32**	**342**	P	**P**	**01 46 48.4**	**+1.7**
	comp=Z,1.2nm,0.9s,mb4.1,baz=338,slow=13,SNR=3.4						
NOA	**NORSAR Array B**	**68.32**	**342**	P	**P**	**01 46 48.4**	**+1.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**68.32**	**342**	P	**P**	**01 46 48.4**	**+1.7**
HFS	**Hagfors**	**68.59**	**340**	P	**P**	**01 46 50.0**	**+1.7**
	comp=Z,0.9nm,0.4s,mb4.4,baz=56,slow=5.6,SNR=8.9						
HFS	**Hagfors**	**68.59**	**340**	P	**P**	**01 46 50.0**	**+1.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.94**	**327**	P	**P**	**01 47 08.1**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.2,baz=34,slow=6.2,SNR=4.8						
AKASG	**Malin Array Be**	**71.94**	**327**	P	**P**	**01 47 08.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Sprngs**	**72.84**	**200**	P	**P**	**01 47 14.7**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=16,slow=5.6,SNR=8.3						
ASAR	**Alice Springs**	**72.84**	**200**	P	**P**	**01 47 14.7**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**01 47 34.4**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.1,baz=302,slow=4.2,SNR=8.5						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**01 47 34.4**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**77.48**	**326**	P	**P**	**01 47 42.0**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.3,baz=334,slow=5.7,SNR=3.7						
MLR	**Muntele Rosu**	**77.48**	**326**	P	**P**	**01 47 42.0**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.69**	**335**	P	**P**	**01 47 49.0**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=33,slow=5.1,SNR=5.0						

*NEIC **16** 01:37:07.8±0.5, 46.88N×155.12E, h10km, mb4.9/25, Error ellipse: s-maj=12.6km s-min=7.2km az=139.0*
*BJI **16** 01:37:08.9, 47.66N×154.76E, h10km, mB4.9, mb4.4, Ms4.4, Msz4.2*
*MOS **16** 01:37:10.2±1.6, 46.92N×154.92E, h33km, mb4.7/36, Error ellipse: s-maj=10.4km s-min=6.1km az=101.5*
*ISCJB **16** 01:37:10.5±0.5, 46.86N±007×154.99E±009, h39km, mb4.6/61, Error ellipse: s-maj=11.6km s-min=6.1km az=93.6*
*IDC **16** 01:37:11.4±0.6, 46.94N×155.11E, h35km±4km, mb4.1/26, mb1 4.2/27, mb1mx4.2/33, mbtmp4.1/27, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/53, Error ellipse: s-maj=14.7km s-min=13.5km az=130.0*
*SZGRF **16** 01:37:19.6, 48.08N×154.79E, h33km, mb5.0, Kuril Islands, Russia*
ISC 16 01:37:12.2±0.4, 4691N±006×15503E±009, h41km, h41km±1.1km: pP-P, n171, σ1s38/168, **mb4.6**/61, **14C-13D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.84**	**10**	*e*PN	**Pn**	**01 38 07.2**	**-1.6**
KUR	**Kuril'sk**	**5.26**	**254**	*e*PN	**Pn**	**01 38 24.5**	**-3.8**
KUR				pmax	pmax		
	comp=E,100nm,0.9s						
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
PET	**Petropavlovsk**	**6.55**	**20**	PN	**Pn**	**01 38 42.7**	**-3.3**
YSS	**Yuzh-Sakhalins**	**8.40**	**275**	PN	**Pn**	**01 39 16.9**	**+5.5**
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
ASAJ	**Asahikawa**	**9.17**	**257**	Pn	**Pn**	**01 39 22.4**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=58,slow=16,SNR=4.7						
ASAJ	**Asahikawa**	**9.17**	**257**	PN	**Pn**	**01 39 22.4**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.72**	**287**	*e*P	**Pn**	**01 40 45.3**	**-5.4**
MJAR	**Matsushiro Arr**	**16.25**	**236**	Pn	**Pn**	**01 40 54.7**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=5.6						
MJAR	**Matsushiro Arr**	**16.25**	**236**	Pn	**Pn**	**01 40 54.7**	**-2.7**
MAJO	**Matsushiro**	**16.25**	**236**	*e*P	**Pn**	**01 40 56.0**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**16.25**	**

comp=Z,1.1nm,0.7s,mb3.9,baz=57,slow=8.9,SNR=6.6
SONM pP pP 01 43 49.5 -0.8
comp=Z,3.5nm,0.8s,baz=64,slow=9.2,SNR=16
SONM Songino Array 32.52 290 P P 01 43 37.6 -1.5
SONM *PP pP 01 43 49.5 -0.8
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,4.0nm,0.8s
KDAK Kodiak Island 32.98 51 P P 01 43 40.3 -2.8
comp=Z,20nm,1.2s,mb4.9,baz=276,slow=10,SNR=3.6
TLY Talaya 33.27 298 P P 01 43 45.6 -0.1
ZAK Zakamensk 33.80 295 *eP* **P 01 43 42.5 -7.8**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GUMO Guam 34.29 198 *eP* **P 01 43 50.8 -3.7**
GUMO pmax pmax
comp=Z,142nm,0.9s,mb5.9
GUMO Guam 34.29 198 *eP* **P 01 43 50.8 -3.7**
comp=Z,142nm,0.9s,mb5.9
TATO Taipei 34.48 242 *eP* **P 01 43 55.7 -0.5**
comp=Z,19nm,0.5s,mb5.3
MCK McKinley 34.68 40 *eP* **P 01 43 56.3 -1.6**
MCK *e* pP 01 44 05.8 -3.3
COLA College 35.19 38 *eP* **P 01 44 00.9 -1.4**
COLA *e* pP 01 44 11.6 -2.0
COLA pmax pmax
comp=Z,17nm,0.8s,mb5.0
COLA College 35.19 38 *eP* **P 01 44 00.9 -1.4**
comp=Z,17nm,0.8s,mb5.0
COLA *e* pP 01 44 11.6 -2.1
XAN Xi'an 36.84 266 P P 01 44 15.6 -0.8
XAN AP pP 01 44 27.8 +0.1
XAN AMB AMB
comp=Z,3.0nm,0.5s,mb4.4
EGAK Eagle 38.06 39 *eP* **P 01 44 24.4 -2.3**
comp=Z,24nm,1.0s,mb4.9
EGAK *e* pP 01 44 35.1 -2.9
ENH Enshi 38.69 261 P P 01 44 31.3 -0.7
GTA Gaotai 40.24 280 *eP* **P 01 44 45.3 +0.4**
GTA AP pP 01 44 54.4 -2.0
GTA XP sP 01 44 57.8 -3.4
INK Inuvik 40.81 33 P P 01 44 48.2 -1.4
comp=Z,13nm,0.9s,mb4.5,baz=288,slow=6.0,SNR=23
INK pP pP 01 44 59.2 -1.9
comp=Z,8.3nm,0.7s,baz=290,slow=6.2,SNR=9.9
INK Inuvik 40.81 33 P P 01 44 48.2 -1.4
INK *PP pP 01 44 59.2 -1.9
INK pmax pmax
comp=Z,13nm,0.9s
INK pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 40.81 33 *eP* **P 01 44 48.2 -1.5**
comp=Z,485nm,0.9s,mb6.1
INK pP pP 01 44 59.2 -1.9
CD2 Chengdu 42.20 266⇓*iP* **P 01 45 01.8 +0.8**
CD2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
ZAL Zalesovo 43.60 306 P P 01 45 10.4 -1.9
comp=Z,1.9nm,0.8s,mb3.9,baz=41,slow=9.4,SNR=9.1
ZAL pP pP 01 45 22.0 -1.9
comp=Z,3.9nm,0.7s,baz=47,slow=10,SNR=9.3
ZAL Zalesovo 43.60 306 P P 01 45 10.5 -1.8
ZAL *PP pP 01 45 22.0 -1.9
ZAL pmax pmax
comp=Z,2.0nm,0.9s
ZAL pmax pmax
comp=Z,4.0nm,0.7s
NVS Novosibirsk 44.13 308 *eP* **P 01 45 14.5 -2.1**
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,21nm,1.5s
NVS pmax pmax
comp=Z,18nm,1.5s,mb4.6
MK31 Makanchi Array 48.03 298 *eP* **P 01 45 45.9 -1.4**
MK31 *e* pP 01 45 57.7 -1.3
MKAR Makanchi Array 48.03 298 P P 01 45 45.7 -1.6
comp=Z,3.9nm,0.9s,mb4.4,baz=71,slow=8.1,SNR=11
MKAR pP pP 01 45 58.0 -0.9
comp=Z,8.4nm,0.7s,baz=66,slow=8.0,SNR=25
MKAR Makanchi Array 48.03 298 P P 01 45 45.7 -1.6
MKAR *PP pP 01 45 58.1 -0.9
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR pmax pmax
comp=Z,8.0nm,0.7s
RES Resolute Bay 50.26 19 P P 01 46 03.9 -0.5
CHKZ Chkalovo 51.33 311 *eP* **P 01 46 10.5 -1.9**
CHKZ *e* pP 01 46 21.9 -2.2
CHKZ pmax pmax
comp=Z,16nm,0.7s,mb5.1
CHKZ Chkalovo 51.33 311 *eP* **P 01 46 10.5 -1.9**
comp=Z,16nm,0.7s,mb5.1
CHKZ *e* pP 01 46 21.9 -2.3
LSA Lhasa 51.58 274 *eP* **P 01 46 15.5 +1.3**
LSA *e* pP 01 46 28.5 +2.5
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.58 274 *eP* **P 01 46 15.5 +1.2**
comp=Z,8.7nm,0.6s,mb4.9
LSA *e* pP 01 46 28.5 +2.5
BVAR Borovoye Array 51.77 310 P P 01 46 14.4 -1.3
comp=Z,3.4nm,0.6s,mb4.5,baz=60,slow=8.8,SNR=12
BVAR pP pP 01 46 25.4 -2.0
comp=Z,6.2nm,0.7s,baz=52,slow=9.0,SNR=11
BVAR Borovoye Array 51.77 310 P P 01 46 14.4 -1.3
BVAR *PP pP 01 46 25.4 -2.0
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 51.81 310 *eP* **P 01 46 14.2 -1.8**
BRVK *e* pP 01 46 24.6 -3.1
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRVK Borovoye 51.81 310 *eP* **P 01 46 14.2 -1.8**
comp=Z,7.0nm,0.8s,mb4.6
BRVK *e* pP 01 46 24.6 -3.1
ZRNK Zerenda 52.53 310 *eP* **P 01 46 19.5 -1.8**
ZRNK *e* pP 01 46 31.3 -1.8
ZRNK pmax pmax
comp=Z,17nm,1.4s,mb4.8
ZRNK Zerenda 52.53 310 *eP* **P 01 46 19.5 -1.9**
comp=Z,17nm,1.4s,mb4.8
ZRNK *e* pP 01 46 31.3 -1.8
CHTO Chiang Mai 53.44 258 *eP* **P 01 46 29.5 +1.5**
CHTO *e* pP 01 46 40.7 +0.9
CHTO pmax pmax
comp=Z,30nm,1.4s,mb5.0
CHTO Chiang Mai 53.44 258 *eP* **P 01 46 29.4 +1.4**
comp=Z,30nm,1.4s,mb5.0
CHTO *e* pP 01 46 40.7 +0.9
FRU Bishkek 54.75 297 *eP* **P 01 46 38.5 +0.9**
AAK Ala-Archa 54.94 297 *eP* **P 01 46 38.3 -0.7**
AAK *e* pP 01 46 49.5 -1.3
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
AAK Ala-Archa 54.94 297 *eP* **P 01 46 38.3 -0.6**
comp=Z,8.4nm,0.8s,mb4.8
AAK *e* pP 01 46 49.5 -1.3
ARU Arti 55.78 318⇓*iP* **P 01 46 43.4 -1.6**
ARU *e* 01 47 39.4
ARU *e*S **S 01 54 28.3 -0.7**
ARU *e*SS SS 01 58 18.2 +3.4
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 55.78 318 *eP* **P 01 46 43.3 -1.7**
comp=Z,9.8nm,0.8s,mb4.9
ARU *e* pP 01 46 55.4 -1.4
ARCES ARCESS Array B 58.13 341 P P 01 46 60.0 -1.7
comp=Z,7.5nm,1.0s,mb4.7,baz=344,slow=4.0,SNR=5.5
ARCES ARCESS Array B 58.13 341 P P 01 47 00.0 -1.6
ARCES pmax pmax
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 58.13 341 P P 01 46 60.0 -1.7
AKTK Aktyubinsk 59.59 313 P P 01 47 10.8 -1.1
AKTO Aktyubinsk 59.59 313 P P 01 47 10.8 -1.1
comp=Z,1.3nm,0.5s,mb4.3,baz=48,slow=7.5,SNR=6.3
AKTO Aktyubinsk 59.59 313 P P 01 47 10.8 -1.0
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ORR Orenburg 60.47 315 *eP* **P 01 47 16.4 -1.4**
ORR pmax pmax
comp=Z,20nm,1.8s,mb4.8

PDAR Pinedale Array 63.58 55 P P 01 47 38.0 -0.7
comp=Z,0.9nm,0.9s,mb3.8,baz=354,slow=3.0,SNR=4.8
FINES FINESS Array B 64.45 336 P P 01 47 42.7 -1.7
comp=Z,2.6nm,0.5s,mb4.5,baz=39,slow=8.9,SNR=18
FINES FINESS Array B 64.45 336 P P 01 47 42.7 -1.7
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 64.45 336 P P 01 47 42.7 -1.7
OBN Obninsk 65.91 326⇑*iP* **P 01 47 53.2 -0.7**
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.1
OBN Obninsk 65.91 326 P P 01 47 53.4 -0.5
CTAO Charters Tower 67.15 189 P P 01 48 01.8 0.0
NB2 NORSAR Subarra 68.49 342 P P 01 48 10.7 +0.5
comp=Z,1.4nm,0.6s,mb4.2,baz=27,slow=6.9
NOA NORSAR Array B 68.49 342 P P 01 48 10.7 +0.5
comp=Z,1.6nm,0.7s,mb4.2,baz=26,slow=6.4,SNR=5.5
NOA NORSAR Array B 68.49 342 P P 01 48 10.7 +0.5
NOA pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 68.76 340 P P 01 48 12.2 +0.3
comp=Z,2.2nm,0.4s,mb4.5,baz=68,slow=5.3,SNR=18
HFS Hagfors 68.76 340 P P 01 48 12.2 +0.3
HFS pmax pmax
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 69.11 201 P P 01 48 13.6 -0.5
comp=Z,2.2nm,0.8s,mb4.1,baz=16,slow=6.5,SNR=8.3
WRA pP pP 01 48 24.3 -1.9
comp=Z,2.2nm,0.7s,baz=21,slow=6.6,SNR=7.4
WRA Warramunga Arr 69.11 201 P P 01 48 13.6 -0.5
WRA *PP pP 01 48 24.3 -1.9
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.7s
POO Poona 70.75 277 *eP* **P 01 48 20.0 -4.1**
AKASG Malin Array Be 72.14 327 P P 01 48 31.4 -1.0
comp=Z,2.6nm,0.6s,mb4.3,baz=32,slow=6.0,SNR=12
AKASG Malin Array Be 72.14 327 P P 01 48 31.5 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 72.79 200 P P 01 48 37.0 +0.6
comp=Z,1.9nm,0.6s,mb4.2,baz=16,slow=5.9,SNR=14
ASAR pP pP 01 48 47.8 -0.8
comp=Z,2.2nm,0.6s,baz=8.5,slow=4.6,SNR=8.9
ASAR Alice Springs 72.79 200 P P 01 48 37.0 +0.6
ASAR *PP pP 01 48 47.8 -0.8
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 76.03 331 *eP* **P 01 48 56.6 +1.4**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 76.03 331 *eP* **P 01 48 56.6 +1.4**
comp=Z,6.3nm,0.9s,mb4.5
KOLS Kolonicke sedl 76.09 330 *eP* **P 01 48 58.3 +2.7**
BURAR Bucovina Array 76.17 328⇑*iP* **P 01 48 56.1 +0.1**
BURAR Bucovina Array 76.17 328⇑P **P 01 48 56.1 +0.1**
TXAR Lajitas Array 76.26 62 P P 01 48 55.1 -1.4
comp=Z,0.9nm,0.7s,mb3.8,baz=297,slow=3.9,SNR=6.9
TXAR Lajitas Array 76.26 62 P P 01 48 55.1 -1.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 76.48 347 P P 01 48 57.3 -0.5
comp=Z,1.1nm,0.5s,mb4.0,baz=17,slow=4.7,SNR=4.4
EKA Eskdalemuir Ar 76.48 347 P P 01 48 57.3 -0.5
EKA pmax pmax
comp=Z,1.0nm,0.5s
OKC Ostrava-Krasne 76.66 333 *eP* **P 01 49 01.5 +2.7**
UPC Upice 76.72 335 *eP* **P 01 48 59.8 +0.7**
DPC Dobruska-Polom 76.76 334 *eP* **P 01 49 00.3 +0.9**
DPC *e*PCP PcP 01 49 11.3 +0.8
CLL Collm 76.85 337 *eP* **P 01 49 01.0 +1.1**
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 76.85 337 *eP* **P 01 49 01.0 +1.1**
comp=Z,14nm,1.2s,mb4.8
CLL *e*pP pP 01 49 13.0 +0.8
MORC Moravsky Berou 76.90 333⇓*iP* **P 01 49 01.8 +1.7**
MORC Moravsky Berou 76.90 333⇓P **P 01 49 01.8 +1.7**
BRG Berggiesshubel 76.98 336 *eP* **P 01 49 02.4 +1.8**
comp=Z,5.8nm,1.4s,mb4.3
BRG Berggiesshubel 76.98 336 *eP* **P 01 49 02.4 +1.8**
BRG pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
KECS Kecovo 77.09 331 *eP* **P 01 49 03.0 +1.8**
KECS Kecovo 77.09 331 *eP* **P 01 49 03.1 +1.9**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 77.09 331 *eP* **P 01 49 03.1 +1.9**
comp=Z,3.3nm,0.9s,mb4.3
PVCC Panska Ves 77.12 335 *eP* **P 01 49 05.6 +4.2**
VRAC Vranov 77.61 334 P **P 01 49 05.4 +1.3**
comp=Z,3.6nm,0.8s,mb4.4,baz=34,slow=6.9,SNR=4.9
VRAC Vranov 77.61 334⇓*iP* **P 01 49 06.4 +2.3**
VRAC Vranov 77.61 334 P **P 01 49 05.4 +1.3**
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 77.61 334⇓P **P 01 49 06.4 +2.3**
PRU Pruhonice 77.61 335 *eP* **P 01 49 05.0 +0.9**
PRU *e*PCP PcP 01 49 14.5 +0.3
VYHS Vyhne 77.62 332 *eP* **P 01 49 05.7 +1.5**
MLR Muntele Rosu 77.68 326 P **P 01 49 06.3 +1.8**
comp=Z,4.3nm,0.6s,mb4.6,baz=231,slow=3.3,SNR=9.2
MLR Muntele Rosu 77.68 326⇓*iP* **P 01 49 07.1 +2.6**
MLR Muntele Rosu 77.68 326 P **P 01 49 06.3 +1.8**
MLR pmax pmax
comp=Z,4.0nm,0.6s
DRGR 77.77 329⇓*iP* **P 01 49 05.9 +0.9**
DRGR 77.77 329⇓P **P 01 49 06.0 +0.9**
NKC Novy Kostel 77.98 336 *eP* **P 01 49 04.9 -1.3**
MALT Malatya 78.00 314⇑*iP* **P 01 49 09.4 +3.1**
MALT Malatya 78.00 314⇑P **P 01 49 09.4 +3.1**
ZST Bratislava 78.43 333 *eP* **P 01 49 09.4 +0.7**
KHC Kasperske Hory 78.66 335 *eP* **P 01 49 10.7 +0.8**
GRA1 Grafenberg Arr 78.80 337 *eP* **P 01 49 11.3 +0.6**
comp=Z,18nm,1.5s,mb4.8
GRF Grafenberg Arr 78.80 337 *eP* **P 01 49 11.3 +0.6**
comp=Z,18nm,1.5s,mb4.8
GRF Grafenberg Arr 78.80 337 *eP* **P 01 49 11.3 +0.6**
GRF pmax pmax
comp=Z,18nm,1.5s,mb4.8
GRF Grafenberg Arr 78.80 337 *eP* **P 01 49 11.3 +0.6**
GRF pmax pmax
comp=Z,18nm,1.5s,mb4.8
GERES GERESS Array B 78.88 335 P P 01 49 11.6 +0.5
comp=Z,0.9nm,0.7s,mb3.8,baz=38,slow=2.4,SNR=7.9
GERES GERESS Array B 78.88 335 P P 01 49 11.6 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
CONA Conrad Observa 79.06 333⇓*iP* **P 01 49 14.7 +2.6**
comp=Z,6.1nm,1.2s,mb4.4
BR131 Keskin Array S 79.16 318 *eP* **P 01 49 13.3 +0.6**
comp=Z,2.3nm,0.9s,mb4.1
BR131 *e* pP 01 49 24.3 -0.7
BRTR Keskin Array B 79.17 318 P **P 01 49 12.5 -0.2**
comp=Z,2.3nm,0.9s,mb4.1,baz=77,slow=3.6,SNR=6.0
BRTR Keskin Array B 79.17 318 P **P 01 49 12.5 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BZS Buzias 79.17 329⇓*iP* **P 01 49 13.8 +1.1**
BZS Buzias 79.17 329⇓P **P 01 49 13.8 +1.0**
PKSM Moragy 79.68 331⇑*iP* **P 01 49 16.8 +1.3**
PKSM Moragy 79.68 331⇑P **P 01 49 16.8 +1.2**
KBA Koelnbreinsper 80.57 335⇑*iP* **P 01 49 20.8 +0.5**
comp=Z,14nm,1.1s,mb4.8
WTTA Wattenberg 80.90 336⇑*iP* **P 01 49 23.2 +1.2**
comp=Z,27nm,1.3s,mb5.0
MOTA Moosalm 80.97 336⇑*iP* **P 01 49 24.2 +1.8**
comp=Z,20nm,1.2s,mb4.9
CDF Champ du Feu 80.99 339 *eP* **P 01 49 23.3 +0.7**
comp=Z,24nm,1.2s,mb4.7
CDF Champ du Feu 80.99 339 *eP* **P 01 49 23.3 +0.7**
CDF pmax pmax
comp=Z,12nm,1.2s,mb4.7
CDF Champ du Feu 80.99 339 *eP* **P 01 49 23.3 +0.7**
comp=Z,12nm,1.2s,mb4.7
SQTA Sankt Quirin 81.06 336⇑*iP* **P 01 49 24.8 +1.9**
comp=Z,20nm,1.3s,mb4.9
VTS Vitosha 81.18 326⇑*iP* **P 01 49 25.0 +1.4**
VTS Vitosha 81.18 326⇑P **P 01 49 24.9 +1.4**
DAVOX Davos 81.83 337 P **P 01 49 28.6 +1.6**
comp=Z,5.0nm,0.9s,mb4.4
GRR Gorron 82.79 344 *eP* **P 01 49 33.0 +1.0**
comp=Z,78nm,1.2s,mb5.3
GRR Gorron 82.79 344 *eP* **P 01 49 33.0 +1.0**
GRR pmax pmax
comp=Z,39nm,1.3s,mb5.3
GRR Gorron 82.79 344 *eP* **P 01 49 33.0 +1.0**
comp=Z,39nm,1.3s,mb5.3
SMF Signal de Mont 83.47 340 *eP* **P 01 49 36.5 +1.0**
comp=Z,49nm,1.2s,mb5.1
SMF Signal de Mont 83.47 340 *eP* **P 01 49 36.5 +1.0**
SMF pmax pmax
comp=Z,25nm,1.3s,mb5.1
SMF Signal de Mont 83.47 340 *eP* **P 01 49 36.5 +1.0**
comp=Z,25nm,1.3s,mb5.1
ASF Jabal al Asfar 83.59 311 P **P 01 49 38.2 +2.1**
comp=Z,1.1nm,0.5s,mb4.3,baz=82,slow=19,SNR=2.6
ASF Jabal al Asfar 83.59 311 P **P 01 49 38.2 +2.0**
ASF pmax pmax
comp=Z,1.0nm,0.5s
MMAI Mount Meron Ar 83.68 313 P **P 01 49 36.0 -0.6**
comp=Z,2.5nm,0.8s,mb4.4,baz=350,slow=41,SNR=3.1
LPG La Plagne 83.84 338 *eP* **P 01 49 39.1 +1.7**
comp=Z,12nm,0.7s,mb4.8
LPG La Plagne 83.84 338 *eP* **P 01 49 39.1 +1.7**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
LPG La Plagne 83.84 338 *eP* **P 01 49 39.1 +1.7**
comp=Z,6.3nm,0.7s,mb4.8
CAF Calviac 85.50 341 *eP* **P 01 49 46.7 +0.9**
KEST Kesra 92.15 333 P **P 01 50 18.6 +1.3**
comp=Z,3.6nm,1.2s,mb4.6,baz=167,slow=14,SNR=2.7
TORD Torodi Ar. Bea 115.61 331 PP PP 01 56 49.6 -2.9
comp=Z,1.6nm,1.1s,baz=1.4,slow=6.2,SNR=4.9
LPAZ La Paz 133.09 64 PKP PKPdf 01 56 24.1 +0.8
comp=Z,0.5nm,0.5s,baz=300,slow=5.6,SNR=3.6
LPAZ La Paz 133.09 64 PKIKP PKPdf 01 56 24.1 +0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 133.09 64 *e*PKPdf PKPdf 01 56 24.1 +0.8
LPAZ *e* 01 56 33.9

IDC 16 01:47:33.3±3.4,**4682N**×**15464E**,**h0**km,**mb3.7**/5,
mb1 3.9/5,**mb1mx3.6**/23,**mbtmp3.7**/5,**Error ellipse: s-maj=98.9km s-min=30.5km az=0.0,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**41.03**	**33**	P	P	P	01 55 17.8	-0.4
	1.2nm,0.9s,baz=229,slow=3.5,SNR=3.7							
MKAR	**Makanchi Array**	**47.84**	**298**	P	P	P	01 56 12.5	-0.2
	0.3nm,0.7s,baz=72,slow=8.9,SNR=3.0							
BVAR	**Borovoye Array**	**51.62**	**310**	P	P	P	01 56 41.3	-0.2
	0.8nm,0.4s,baz=62,slow=7.4,SNR=7.9							
FINES	**FINESS Array B**	**64.42**	**335**	P	P	P	01 58 10.5	-0.8
	2.7nm,0.7s,baz=40,slow=8.3,SNR=11							
TXAR	**Lajitas Array**	**76.54**	**62**	P	P	P	01 59 25.5	+0.2
	0.1nm,0.4s,baz=287,slow=4.3,SNR=4.9							

ISCJB ***16*** *01:48:59.9*±*1.8,46*3*0N*±*005*×*154.19E*±*005,h1km*±*11km, mb4.6/56,MS4.1/3,Error ellipse: s-maj=9.6km s-min=5.3km az=130.3*

IDC ***16*** *01:49:01.0*±*0.7,4631N*×*154.30E,h0km,mb4.3/21, mb1 4.5/23,mb1mx4.4/30,mbtmp4.3/23,ML4.3/1,MS3.7/1, Ms1 3.7/1,ms1mx2.8/49,Error ellipse: s-maj=18.1km s-min=15.9km az=137.0*

NEIC ***16*** *01:49:03.0*±*0.2,4630N*×*154.14E,h10km,mb4.8/27,Error ellipse: s-maj=5.3km s-min=3.4km az=153.0*

BJI ***16*** *01:49:02.2,4646N*×*154*2*3E,h15km,mB4.9,mb4.7,Ms4.5, Msz4.3*

MOS ***16*** *01:49:04.3*±*1.1,4631N*×*154.11E,h32km,mb4.8/32,Error ellipse: s-maj=9.6km s-min=6.8km az=87.6*

ISC 16 01:49:03.2±2.0,**4634N**±005×**15416E**±005,**h10**km±12km,
h30km±2.7km**:pP-P,n146,**σ**093**/147,**mb4.6**/56,**MS4.1**/3,
6C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.54**	**258**	⇑*i*PN	**Pn**		**01 50 09.8**	**-2.1**
KUR				pmax	pmax			
	comp=N,110nm,0.7s							
KUR				pmax	pmax			
	comp=E,60nm,0.7s							
KUR				pmax	pmax			
	comp=Z,540nm,0.7s							
SKR	**Severo-Kuril's**	**4.54**	**16**	*e*PN	**Pn**		**01 50 15.0**	**+3.1**
PET	**Petropavlovsk**	**7.30**	**22**	*e*PN	**Pn**		**01 50 49.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.87**	**279**	*e*PN	**Pn**		**01 51 03.0**	**+5.3**
ASAJ	**Asahikawa**	**8.46**	**259**	Pn	**Pn**		**01 51 07.8**	**+2.1**
	comp=Z,4.2nm,0.3s,baz=92,slow=23,SNR=11							
ASAJ	**Asahikawa**	**8.46**	**259**	PN	**Pn**		**01 51 07.8**	**+2.1**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MA2	**Magadan**	**13.41**	**353**	PN	**Pn**		**01 52 13.0**	**-0.5**
MAJO	**Matsushiro**	**15.43**	**236**	*e*P	**Pn**		**01 52 40.9**	**+0.1**
MAT	**Matsushiro**	**15.43**	**236**	P	**Pn**		**01 52 40.9**	**+0.1**
MJAR	**Matsushiro Arr**	**15.43**	**236**	Pn	**Pn**		**01 52 38.6**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=37,slow=12,SNR=13							
KS15	**Wonju Array Si**	**21.41**	**255**	*e*P			**01 53 54.4**	**+3.3**
CBIJ	**Chichi jima**	**21.42**	**210**	LR	LR		02 00 04.8	
	comp=Z,200nm,20.1s,MS3.5,baz=104,slow=31							
SNY	**Shenyang**	**22.35**	**269**	⇓P	**P**		**01 54 02.0**	**+0.9**
SNY				AMB	AMB			
	comp=Z,52nm,0.8s,mb5.0							
BILL	**Bilibino**	**22.64**	**12**⇑	*e*P	**P**		**01 54 03.3**	**-0.9**
BILL				*e*			01 54 11.2	
BILL				pmax	pmax			
	comp=Z,27nm,1.1s,mb4.6							
BILL	**Bilibino**	**22.64**	**12**	*e*P	**P**		**01 54 03.6**	**-0.6**
	comp=Z,31nm,1.1s,mb4.7							
BOD	**Bodaibo**	**26.81**	**310**	*e*P	**P**		**01 54 40.6**	**-2.8**
BOD				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.4							
BJT	**Baijiatuau**	**28.21**	**271**	*e*P	**P**		**01 54 56.0**	**0.0**
BJT				pmax	pmax			
	comp=Z,19nm,0.8s							
BJT	**Baijiatuau**	**28.21**	**271**	*e*P	**P**		**01 54 56.0**	**-0.1**
	comp=Z,19nm,0.8s,mb4.8							
NJ2	**Nanjing**	**30.58**	**255**	*e*P	**P**		**01 55 19.6**	**+2.6**
NJ2				AMB	AMB			
	comp=Z,130nm,1.0s,mb5.7							
HHC	**Hu-ho-hao-te**	**31.05**	**275**	*e*P	**P**		**01 55 22.8**	**+1.7**
HHC				AP	pP		01 55 27.3	+3.1
HHC				XP	sP		01 55 30.0	+4.5
HHC				PP	PP		01 56 25.1	-6.1
HHC				PCP	PcP		01 58 17.9	+1.1
HHC				S	**S**		**02 00 26.0**	**-0.2**
HHC				XS	sS		02 00 34.1	+2.8
HHC				SCP	ScP		02 02 00.0	+0.4
HHC				SS	SS		02 02 10.8	-28
HHC				AMB	AMB			
	comp=Z,30nm,1.3s,mb5.0							
HHC				AMB	AMB			
	comp=Z,123nm,8.3s							
HHC				LR	LR			
	comp=N,252nm,13.5s,MS4.2							
HHC				LR	LR			
	comp=E,253nm,15.7s,MS4.2							
HHC				LR	LR			
	comp=Z,594nm,15.9s,MS4.3							
ULN	**Ulaanbaatar**	**31.72**	**290**	*e*P	**P**		**01 55 27.1**	**+0.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**31.72**	**290**	*e*P	**P**		**01 55 27.1**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.3							
SONM	**Songino Array**	**32.15**	**290**	P	**P**		**01 55 30.3**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.8,baz=64,slow=8.4,SNR=8.1							
SONM	**Songino Array**	**32.15**	**290**	P	**P**		**01 55 30.3**	**-0.6**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TLY	**Talaya**	**33.01**	**298**	*e*P	**P**		**01 55 37.8**	**-0.6**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
TLY	**Talaya**	**33.01**	**298**	*e*P	**P**		**01 55 37.8**	**-0.6**
	comp=Z,5.2nm,0.7s,mb4.6							
ZAK	**Zakamensk**	**33.51**	**296**	*e*P	**P**		**01 55 42.3**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
TATO	**Taipei**	**33.69**	**242**	P	**P**		**01 55 43.2**	**-1.1**
IMA2	**Indian Mountai**	**33.72**	**35**	*e*P	**P**		**01 55 44.4**	**-0.2**
MCK	**McKinley**	**35.50**	**40**	*e*P	**P**		**01 55 59.7**	**-0.3**
SML	**Sawmill**	**35.77**	**43**	*e*P	**P**		**01 56 02.0**	**-0.3**
COLA	**College**	**36.01**	**38**	*e*P	**P**		**01 56 04.2**	**-0.2**

COLA *e* 01 56 13.8
COLA pmax pmax
comp=Z,20nm,1.0s,mb5.0
COLA College 36.01 38 *e*P **P** **01 56 04.2 -0.2**
comp=Z,20nm,1.0s,mb5.0
COLA 01 56 13.8
XAN Xi'an 36.21 267 P **P** **01 56 07.3 +1.3**
XAN AP pP 01 56 16.5 +7.4
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
ENH Enshi 38.01 261 P **P** **01 56 20.7 -0.6**
CD2 Chengdu 41.57 266 *e*P **P** **01 56 51.0 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
INK Inuvik 41.61 32 P **P** **01 56 50.1 -1.2**
comp=Z,5.1nm,0.8s,mb4.2,baz=293,slow=7.3,SNR=15
INK Inuvik 41.61 32 P **P** **01 56 50.2 -1.1**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 41.61 32 *e*P **P** **01 56 51.5 +0.2**
comp=Z,145nm,0.7s,mb5.7
GYA Guiyang 42.34 259 P **P** **01 56 58.8 +1.6**
GYA AP pP 01 57 02.9 +2.5
GYA PP PP 01 58 39.6 +4.3
GYA PCP PcP 01 58 52.8 +2.1
GYA S **S** **02 03 19.4 +1.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,340nm,15.9s,MS4.5
GYA LR LR
comp=E,410nm,16.4s,MS4.5
GYA LR LR
comp=Z,420nm,16.8s,MS4.4
ZAL Zalesovo 43.45 306 P **P** **01 57 05.5 -0.8**
comp=Z,1.6nm,0.6s,mb3.9,baz=66,slow=7.7,SNR=6.7
ZAL Zalesovo 43.45 306 P **P** **01 57 05.5 -0.8**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
NVS Novosibirsk 44.01 308 *e*P **P** **01 57 07.8 -3.0**
KMI Kunming 45.88 261 P **P** **01 57 27.6 +1.9**
KMI AMB AMB
comp=Z,11nm,0.6s,mb5.0
KMI Kunming 45.88 261 P **P** **01 57 27.6 +1.9**
comp=Z,11nm,0.6s,mb5.0
MK31 Makanchi Array 47.77 298 *e*P **P** **01 57 40.0 -0.5**
MKAR Makanchi Array 47.77 298 P **P** **01 57 40.4 -0.1**
comp=Z,5.3nm,0.8s,mb4.6,baz=69,slow=7.7,SNR=23
MKAR PcP PcP 01 59 09.4 0.0
comp=Z,1.3nm,0.6s,baz=64,slow=2.6,SNR=5.2
MKAR Makanchi Array 47.77 298 P **P** **01 57 40.4 -0.1**
MKAR 01 59 09.4
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 51.00 19 *e*P **P** **01 58 05.6 +0.5**
RES pmax pmax
comp=Z,246nm,1.0s
RES Resolute Bay 51.00 19 *e*P **P** **01 58 05.6 +0.5**
comp=Z,246nm,1.0s
LSA Lhasa 51.02 274 P **P** **01 58 05.8 +0.5**
CHKZ Chkalovo 51.25 311 *e*P **P** **01 58 06.5 -0.5**
CHKZ pmax pmax
comp=Z,12nm,0.7s,mb4.9
CHKZ Chkalovo 51.25 311 *e*P **P** **01 58 06.5 -0.5**
comp=Z,12nm,0.7s,mb4.9
BVAR Borovoye Array 51.68 310 P **P** **01 58 10.5 +0.3**
comp=Z,4.2nm,0.6s,mb4.6,baz=57,slow=8.8,SNR=21
BVAR Borovoye Array 51.68 310 P **P** **01 58 10.5 +0.3**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 51.72 310 *e*P **P** **01 58 10.7 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.72 310 *e*P **P** **01 58 10.7 +0.2**
comp=Z,7.1nm,0.6s,mb4.8
ZRNK Zerenda 52.45 310 *e*P **P** **01 58 15.7 -0.2**
ZRNK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ZRNK Zerenda 52.45 310 *e*P **P** **01 58 15.7 -0.2**
comp=Z,6.8nm,0.7s,mb4.7
AAK Ala-Archa 54.67 297 *e*P **P** **01 58 33.0 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 54.67 297 *e*P **P** **01 58 33.0 +0.7**
comp=Z,9.2nm,0.8s,mb4.9
ARU Arti 55.80 318 ⇑*i*P **P** **01 58 40.1 -0.3**
ARU *e*PPP 02 02 00.7
ARU *e*S **S** **02 06 24.9 -2.5**
ARU *e*SS SS 02 10 14.4 +1.5
ARU pmax pmax
comp=Z,19nm,0.7s,mb5.2
ARU Arti 55.80 318 *e*P **P** **01 58 40.1 -0.3**
PMG Port Moresby 55.84 188 P **P** **01 58 40.1 -0.6**
PMG pmax pmax
comp=Z,7.0nm,0.7s
PMG Port Moresby 55.84 188 P **P** **01 58 40.1 -0.6**
comp=Z,7.2nm,0.7s,mb4.8
EDM Edmonton 56.08 46 *e*P **P** **01 58 42.1 -0.3**
ARCES ARCESS Array B 58.48 341 P **P** **01 58 59.0 -0.3**
comp=Z,8.2nm,1.0s,mb4.7,baz=35,slow=5.6,SNR=12
ARCES ARCESS Array B 58.48 341 P **P** **01 58 59.0 -0.3**
ARCES pmax pmax
comp=Z,8.0nm,1.0s
MSO Missoula 59.44 53 *e*P **P** **01 59 06.6 +0.6**
comp=Z,5.0nm,0.9s,mb4.5
OHCM Honcut 59.47 64 P **P** **01 59 05.6 -0.6**
AKTK Aktyubinsk 59.54 312 P **P** **01 59 07.1 +0.4**
AKTO Aktyubinsk 59.54 312 P **P** **01 59 07.1 +0.4**
comp=Z,3.4nm,0.6s,mb4.5,baz=61,slow=5.7,SNR=13
AKTO Aktyubinsk 59.54 312 P **P** **01 59 07.1 +0.4**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORR Orenburg 60.45 315 *e*P **P** **01 59 13.3 +0.4**
ORR pmax pmax
comp=Z,20nm,1.2s,mb5.0
LRM Limekiln Ridge 60.87 53 *e*P **P** **01 59 16.1 +0.3**
CMB Columbia Colle 60.94 64 P **P** **01 59 15.8 -0.5**
CMB pmax pmax
comp=Z,1.0nm,0.9s,mb4.0
CMB Columbia Colle 60.94 64 P **P** **01 59 15.8 -0.5**
comp=Z,1.2nm,0.9s,mb4.0
HLID Hailey 61.14 56 *e*P **P** **01 59 17.9 +0.3**
comp=Z,7.3nm,1.3s,mb4.7
BOZ Bozeman (W) 61.43 53 *e*P **P** **01 59 16.4 -3.2**
QLMT Earthquake Lak 62.05 53 *e*P **P** **01 59 24.4 +0.6**
IMW Indian Meadow 62.91 54 *e*P **P** **01 59 30.6 +1.1**
comp=Z,7.8nm,1.1s,mb4.8
RRI2 Red Ridge 63.04 55 *e*P **P** **01 59 31.6 +1.1**
RRI2 *e*pP pP 01 59 41.0 +7.3
MOOW Moose Ponds 63.11 54 *e*P **P** **01 59 31.4 +0.5**
TPAW Teton Pass 63.16 54 *e*P **P** **01 59 32.0 +0.8**
LOHW Long Hollow 63.27 54 *e*P **P** **01 59 32.4 +0.5**
comp=Z,11nm,1.3s,mb4.8
LOHW *e*pP pP 01 59 42.7 +7.5
SNOW Snow King Moun 63.29 54 *e*P **P** **01 59 33.3 +1.2**
SNOW *e*pP pP 01 59 43.1 +7.8
REDW Red Top Meadow 63.30 54 *e*P **P** **01 59 32.7 +0.6**
comp=Z,13nm,1.2s,mb4.9
DUG Dugway 64.18 58 *e*P **P** **01 59 37.9 0.0**
DUG *e**PP pP 01 59 47.7 +6.5
DUG pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
DUG Dugway 64.18 58 *e*P **P** **01 59 37.9 0.0**
comp=Z,8.2nm,1.2s,mb4.6
DUG *e*pP pP 01 59 47.7 +6.5
BW06 Boulder Array 64.40 54 *e*P **P** **01 59 39.1 -0.3**
comp=Z,5.4nm,1.0s,mb4.5
PDAR Pinedale Array 64.40 54 P **P** **01 59 39.0 -0.5**
comp=Z,4.1nm,1.1s,mb4.4,baz=298,slow=3.2,SNR=18
FINES FINESS Array B 64.72 335 P **P** **01 59 40.7 -0.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=36,slow=7.8,SNR=7.0
FINES FINESS Array B 64.72 335 P **P** **01 59 40.7 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.72 335 P **P** **01 59 40.7 -0.7**
SHPR Sheep Range 65.14 63 *e*P **P** **01 59 44.8 +0.6**
SRU San Rafael 66.23 58 *e*P **P** **01 59 51.3 +0.1**
WRAB Tennant Creek 68.35 200 *e*P **P** **02 00 03.9 -0.8**
WB2 Warramunga Arr 68.36 200 P **P** **02 00 04.3 -0.5**
WRA Warramunga Arr 68.36 200 P **P** **02 00 03.6 -1.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=20,slow=6.6,SNR=7.0
WRA Warramunga Arr 68.36 200 P **P** **02 00 03.6 -1.2**
WRA pmax pmax
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 68.59 55 *e*P **P** **02 00 06.6 +0.4**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ISCO Idaho Springs 68.59 55 *e*P **P** **02 00 06.6 +0.4**
comp=Z,5.5nm,1.1s,mb4.4
NB2 NORSAR Suburra 68.85 342 P **P** **02 00 07.4 -0.4**
comp=Z,11nm,1.4s,mb4.6,baz=28,slow=6.2
NOA NORSAR Array B 68.85 342 P **P** **02 00 07.2 -0.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=30,slow=6.8,SNR=3.0
NOA NORSAR Array B 68.85 342 P **P** **02 00 07.2 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
FITZ Fitzroy Crossi 69.13 209 P **P** **02 00 08.6 -0.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=12,slow=8.7,SNR=4.1
POO Poona 70.22 276 *e*P **P** **02 00 14.0 -2.3**
ANMO Albuquerque 71.43 59 *e*P **P** **02 00 23.8 +0.2**
ASAR Alice Springs 72.05 199 P **P** **02 00 27.6 +0.2**
comp=Z,3.6nm,0.9s,mb4.3,baz=11,slow=5.5,SNR=12
ASAR Alice Springs 72.05 199 P **P** **02 00 27.6 +0.2**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 72.29 327 P **P** **02 00 28.1 -0.7**
comp=Z,1.5nm,0.5s,mb4.2,baz=34,slow=6.1,SNR=6.6
AKASG Malin Array Be 72.29 327 P **P** **02 00 28.1 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 73.41 23 P **P** **02 00 33.7 -1.7**
comp=Z,3.0nm,0.9s,mb4.2,baz=333,slow=11,SNR=2.5
MNTX Cornudas Mount 74.34 61 *e*P **P** **02 00 40.4 -0.5**
KWP Kalwaria 75.55 330 *e*P **P** **02 00 48.0 +0.2**
KWP pmax pmax
comp=Z,17nm,1.0s,mb4.9
KWP Kalwaria 75.55 330 *e*P **P** **02 00 48.0 +0.1**
comp=Z,18nm,1.0s,mb4.9
BURAR Bucovina Array 76.33 327 ⇑*i*P **P** **02 00 52.7 +0.4**
EKA Eskdalemuir Ar 76.91 347 P **P** **02 00 55.1 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=0.0,slow=5.7,SNR=2.6
EKA Eskdalemuir Ar 76.91 347 P **P** **02 00 55.2 -0.4**
EKA pmax pmax
comp=Z,2.0nm,0.6s
LTX Lajitas 77.06 61 *e*P **P** **02 00 55.8 -0.7**
LTX e*PP pP 02 01 05.7 +5.9
LTX pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LTX Lajitas 77.06 61 *e*P **P** **02 00 55.8 -0.6**
comp=Z,6.9nm,0.9s,mb4.6
LTX *e*pP pP 02 01 05.7 +5.9
TXAR Lajitas Array 77.06 61 P **P** **02 00 55.8 -0.7**
comp=Z,2.9nm,0.6s,mb4.4,baz=304,slow=4.4,SNR=40
TXAR Lajitas Array 77.06 61 P **P** **02 00 55.8 -0.7**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 77.14 336 *e*P **P** **02 00 57.0 +0.1**
CLL *ex* x 02 01 15.0
MLR Muntele Rosu 77.82 326 ⇑*i*P **P** **02 01 01.8 +1.1**
VOIR 78.21 326 ⇑*i*P **P** **02 01 03.7 +0.8**
BRTR Keskin Array B 79.18 317 P **P** **02 01 07.3 -0.9**
comp=Z,1.2nm,0.8s,mb3.9,baz=68,slow=4.0,SNR=5.4
BRTR Keskin Array B 79.18 317 P **P** **02 01 07.3 -0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BZS Buzias 79.35 328 ⇓*i*P **P** **02 01 09.4 +0.3**
CDF Champ du Feu 81.31 338 *e*P **P** **02 01 19.6 -0.1**
comp=Z,9.8nm,0.8s,mb4.5
CDF Champ du Feu 81.31 338 *e*P **P** **02 01 19.6 -0.1**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 81.31 338 *e*P **P** **02 01 19.6 -0.1**
comp=Z,4.9nm,0.8s,mb4.5
GRR Gorron 83.17 344 *e*P **P** **02 01 29.5 +0.1**
comp=Z,52nm,1.1s,mb5.2
GRR Gorron 83.17 344 *e*P **P** **02 01 29.5 +0.1**
GRR pmax pmax
comp=Z,26nm,1.1s,mb5.2
GRR Gorron 83.17 344 *e*P **P** **02 01 29.5 +0.1**
comp=Z,26nm,1.1s,mb5.2
ASF Jabal al Asfar 83.51 311 P **P** **02 01 31.8 +0.6**
comp=Z,2.1nm,0.8s,mb4.3,baz=198,slow=7.2,SNR=4.7
ASF Jabal al Asfar 83.51 311 P **P** **02 01 31.8 +0.6**
ASF pmax pmax
comp=Z,2.0nm,0.9s
MMAI Mount Meron Ar 83.63 312 P **P** **02 01 33.0 +1.3**
comp=Z,7.3nm,0.9s,mb4.8,baz=50,slow=6.6,SNR=7.9
SMF Signal de Mont 83.80 340 *e*P **P** **02 01 32.8 +0.1**
comp=Z,39nm,1.3s,mb5.1
SMF Signal de Mont 83.80 340 *e*P **P** **02 01 32.8 +0.1**
SMF pmax pmax
comp=Z,19nm,1.3s,mb5.1
SMF Signal de Mont 83.80 340 *e*P **P** **02 01 32.8 +0.1**
comp=Z,20nm,1.3s,mb5.1
LPG La Plagne 84.14 338 *e*P **P** **02 01 35.5 +1.1**
comp=Z,26nm,1.1s,mb5.0
LPG La Plagne 84.14 338 *e*P **P** **02 01 35.5 +1.1**
LPG pmax pmax
comp=Z,13nm,1.1s,mb5.0
LPG La Plagne 84.14 338 *e*P **P** **02 01 35.5 +1.1**
comp=Z,13nm,1.1s,mb5.0
CAF Calviac 85.84 341 *e*P **P** **02 01 43.2 +0.3**
TORD Torodi Ar. Bea 115.82 330 PP PP 02 08 48.5 -0.7
comp=Z,0.8nm,1.0s,baz=7.1,slow=6.0,SNR=3.8

NIED ***16*** *01:50:00,23.10N×122.20E,h65km,Mw5.1 Best double couple: M₀5.77000×10¹⁶ NP1:φ=55.00000°,δ87.00000°, λ115.00000°. NP2:φ=152.00000°,δ26.00000°,λ8.00000°.*
IDC ***16*** *01:50:16.3±0.7,2303N×122.24E,h0km,mb4.3/12, mb1 4.4/15,mb1mx4.3/24,mbtmp4.3/15,ML4.1/3,MS3.9/3, Ms1 3.9/3,ms1mx3.3/41,Error ellipse: s-maj=23.6km s-min=14.7km az=83.0*
ISCJB ***16*** *01:50:19.0±0.7,2309N±004×122.15E±003,h33km±7km, mb4.2/19,MS4.0/3,Error ellipse: s-maj=6.3km s-min=4.6km az=14.6*
NEIC ***16*** *01:50:19.0,23.10N×122.09E,h35km,mb4.4/9,After TAP.*
NEIC Recorded [2 TAP] in Hua-lien, I-lan and T'ai-tung; [1 TAP] in Chang-hua, Nan-t'ou and Yun-lin Counties.
BJI ***16*** *01:50:20.0,2339N×121.96E,h8km,mB4.7,mb4.5,ML4.4, Ms4.5,Msz4.2*
JMA ***16*** *01:50:20.5±0.2,2314N×122.18E,h50km,M4.8*
MAN ***16*** *01:51:07.9,1955N×121.56E,h9km,mb3.4,ML4.5,MS7.3*
ISC 16 01:50:20.5±1.4,2315N±003×12219E±003,h29km±11km, n68,σ1ᵗ28/87,mb4.2/19,MS4.0/3,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.16**	**332**	*e*P	**Pn**	**01 50 39.0**	**-1.7**
NACB				*e*S	**Sn**	**01 50 53.4**	**-2.0**
YOJ	**Yonaguni jima**	**1.51**	**30**	P	**Pn**	**01 50 45.9**	**+0.4**
YOJ				S	**Sn**	**01 51 04.6**	**+0.4**
YHNB	**Yeheng**	**1.69**	**334**	*e*P	**Pn**	**01 50 47.9**	**0.0**
YHNB				*e*S	**Sn**	**01 51 07.1**	**-1.4**
HATJ	**Hateruma jima**	**1.74**	**58**	P	**Pn**	**01 50 49.1**	**+0.4**
HATJ				S	**Sn**	**01 51 10.0**	**+0.2**
IRIF	**Iriomote-Funau**	**1.84**	**50**	P	**Pn**	**01 50 50.8**	**+0.7**
IRIF				S	**Sn**	**01 51 13.5**	**+1.1**
TATO	**Taipei**	**1.93**	**341**	*e*Pn	**Pn**	**01 50 51.7**	**+0.5**
TATO				*e*Sn	**Sn**	**01 51 15.8**	**+1.3**
JKRS	**Kuro-shima**	**1.99**	**57**	P	**Pn**	**01 50 53.0**	**+0.9**
JKRS				S	**Sn**	**01 51 17.0**	**+0.9**
JIJ	**Ishigaki jima**	**2.16**	**56**	P	**Pn**	**01 50 54.7**	**+0.2**
JIJ				S	**Sn**	**01 51 20.2**	**-0.1**
JTJ	**Tarama**	**2.74**	**57**	P	**Pn**	**01 51 03.5**	**+1.1**
JTJ				S	**Sn**	**01 51 35.3**	**+0.7**
JMJ	**Miyako jima 2**	**3.29**	**59**	P	**Pn**	**01 51 11.3**	**+1.3**
JMJ				S	**Sn**	**01 51 48.6**	**+0.5**
JOGS	**Gusukube**	**3.35**	**61**	P	**Pn**	**01 51 12.3**	**+1.4**
JOGS				S	**Sn**	**01 51 49.8**	**+0.1**
QZH	**Quanzhou**	**3.74**	**299**	P	**Pn**	**01 51 15.0**	**-1.2**
QZH				S	**Sn**	**01 51 55.3**	**-3.9**
QZH				Smax			
	comp=N,1μm,0.9s						
QZH				Smax			
	comp=E,1μm,1.1s						
QZH				LR	LR		
	comp=N,5μm,7.6s						
QZH				LR	LR		
	comp=E,3μm,3.8s						
QZH				LR	LR		
	comp=Z,3μm,11.8s						
JKE	**Kume jima 2**	**5.24**	**52**	P	**Pn**	**01 51 36.4**	**-0.4**
JKE				S	**Sn**	**01 52 33.7**	**-2.6**
CVP	**Callao Caves**	**5.43**	**184**	*e*P	**Pn**	**01 51 39.0**	**-0.4**
JAGN	**Aguni-jima**	**5.73**	**52**	P	**Pn**	**01 51 43.2**	**-0.3**
JAGN				S	**Sn**	**01 52 46.3**	**-1.9**
JIH	**Iheya**	**6.51**	**52**	S	**Sn**	**01 53 06.0**	**-1.6**
JOW	**Kunigami**	**6.63**	**55**	Pn	**Pn**	**01 51 55.0**	**-0.8**
	comp=Z,7.0nm,0.3s,baz=202,slow=10,SNR=12						
JOW				Sn	**Sn**	**01 53 07.2**	**-3.2**
	comp=Z,6.1nm,0.3s,baz=114,slow=25,SNR=6.3						
JOW	**Kunigami**	**6.63**	**55**	P	**Pn**	**01 51 55.0**	**-0.9**
JOW				S	**Sn**	**01 53 04.8**	**-5.7**
JTK	**Tokunoshima**	**7.66**	**52**	P	**Pn**	**01 52 08.4**	**-1.6**
JTK				S	**Sn**	**01 53 27.1**	**-8.7**
JAM	**Amami Oshima**	**8.49**	**50**	P	**Pn**	**01 52 18.9**	**-2.6**
JAM				S	**Sn**	**01 53 51.4**	**-4.9**
JMZ	**Minamidaito 2**	**8.65**	**70**	P	**Pn**	**01 52 20.2**	**-3.4**
JMZ				S	**Sn**	**01 53 48.5**	**-12**
WHN	**Wuhan**	**10.15**	**318**	*e*P	**Pn**	**01 52 43.5**	**-0.7**
WHN				S	**Sn**	**01 54 30.0**	**-7.1**
WHN				LR	LR		
	comp=Z,2μm,12.6s						
GYA	**Guiyang**	**14.47**	**286**	⇑*i*P	**Pn**	**01 53 43.4**	**+0.1**
GYA				AP	pP	01 53 47.8	-10
GYA				XP	sP	01 53 50.8	-10
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=N,490nm,16.8s						
GYA				LR	LR		
	comp=E,540nm,17.0s						
GYA				LR	LR		
	comp=Z,510nm,17.5s						
INCN	**Inchon**	**14.79**	**14**	*e*Pn	**Pn**	**01 53 46.2**	**-1.3**
	comp=Z,19nm,0.3s						
KSRS	**Korea Array**	**15.09**	**18**	Pn	**Pn**	**01 53 52.4**	**+0.8**
	baz=200,slow=13,SNR=54						
KSRS				LR	LR	02 00 47.8	
	comp=Z,338nm,19.0s,baz=169,slow=42						
XAN	**Xi'an**	**15.90**	**316**	P	**Pn**	**01 54 01.3**	**-0.8**
XAN				AP	pP	01 54 08.8	-4.5
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s						
XAN				LR	LR		
	comp=N,1μm,18.9s						
XAN				LR	LR		
	comp=E,1μm,17.7s						
XAN				LR	LR		
	comp=Z,779nm,11.9s						
BJT	**Baijiatuan**	**17.57**	**345**	*e*Pn	**Pn**	**01 54 21.8**	**-1.3**
	comp=Z,14nm,0.9s						
BJI	**Beijing**	**17.59**	**345**	P	**Pn**	**01 54 25.3**	**+1.9**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
BJI				AMB	AMB		
	comp=Z,97nm,4.3s						
BJI				LR	LR		
	comp=N,257nm,12.7s						
BJI				LR	LR		
	comp=E,606nm,12.7s						
BJI				LR	LR		
	comp=Z,215nm,19.5s						
BJI	**Beijing**	**17.59**	**345**	P	**Pn**	**01 54 25.2**	**+1.8**
	comp=Z,6.0nm,0.8s						
SNY	**Shenyang**	**18.66**	**3**	⇓P	**Pn**	**01 54 38.0**	**+1.5**
SNY				AMB	AMB		
	comp=Z,41nm,1.1s						
MJAR	**Matsushiro Arr**	**19.23**	**42**	P	**Pn**	**01 54 44.5**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=238,slow=9.8,SNR=4.5						
HHC	**Hu-ho-hao-te**	**19.79**	**336**	*e*P	**Pn**	**01 54 51.3**	**+1.4**
HHC				AP	pP	01 54 55.8	-0.4
HHC				XP	sP	01 54 58.4	-1.5
HHC				AMB	AMB		
	comp=Z,24nm,1.1s						
HHC				AMB	AMB		
	comp=Z,189nm,8.0s						
LZH	**Lanzhou**	**20.46**	**313**	⇑P	**P**	**01 54 58.5**	**+2.9**
LZH				AP		01 55 03.1	
LZH				XP	sP	01 55 05.5	-1.8
LZH				AMB	AMB		
	comp=Z,36nm,1.4s						
LZH				AMB	AMB		
	comp=Z,158nm,4.2s						
LZH				LR	LR		
	comp=N,2μm,6.2s						
LZH				LR	LR		
	comp=Z,2μm,7.2s						
CN2	**Changchun**	**20.77**	**7**	*e*P	**P**	**01 54 59.8**	**+0.8**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CHTO	**Chiang Mai**	**22.12**	**263**	*e*P	**P**	**01 55 16.2**	**+2.8**
	comp=Z,40nm,1.4s,mb4.7						
GTA	**Gaotai**	**24.96**	**316**	*e*P	**P**	**01 55 42.4**	**+1.1**
GTA				AP		01 55 48.8	
GTA				XP	sP	01 55 51.4	-2.0
GTA				AMB	AMB		
	comp=Z,3.0nm,2.0s,mb3.5						
GTA				AMB	AMB		
	comp=Z,130nm,6.8s						
GTA				LR	LR		
	comp=N,493nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=E,406nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=Z,618nm,17.5s,MS4.2						
ULN	**Ulaanbaatar**	**27.47**	**338**	*e*P	**P**	**01 56 04.7**	**+0.8**
	comp=Z,6.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**27.68**	**337**	P	**P**	**01 56 07.2**	**+1.4**
	comp=Z,5.7nm,0.9s,mb4.2,baz=151,slow=9.6,SNR=18						
LSA	**Lhasa**	**28.49**	**290**	P	**P**	**01 56 11.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**28.94**	**30**	P	**P**	**01 56 14.2**	**-2.9**
PSI	**Prapat**	**30.28**	**231**	P	**P**	**01 56 30.2**	**+1.3**
	comp=Z,3.6nm,0.5s,mb4.4,baz=137,slow=23,SNR=5.8						
PSI				LR	LR	02 08 26.7	
	comp=Z,241nm,18.6s,MS3.9,baz=204,slow=36						
PSI	**Prapat**	**30.28**	**231**	P	**P**	**01 56 30.2**	**+1.3**
PSI				LR	LR	02 08 26.7	
MKAR	**Makanchi Array**	**39.72**	**316**	P	**P**	**01 57 51.3**	**+1.2**
	comp=Z,2.3nm,0.9s,mb3.9,baz=108,slow=9.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**41.14**	**175**	*e*P	**P**	**01 58 00.7**	**-1.2**
	comp=Z,9.0nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.14**	**175**	P	**P**	**01 58 00.1**	**-1.8**
	comp=Z,5.3nm,1.0s,mb4.1,baz=356,slow=8.1,SNR=6.7						
ZAL	**Zalesovo**	**41.61**	**327**	P	**P**	**01 58 08.0**	**+2.1**
	comp=Z,1.1nm,0.4s,mb3.8,baz=345,slow=8.3,SNR=4.2						
AAK	**Ala-Archa**	**43.86**	**308**	P	**P**	**01 58 22.4**	**-1.7**
MBWA	**Marble Bar**	**44.10**	**183**	P	**P**	**01 58 24.3**	**-1.7**
WRAB	**Tennant Creek**	**44.43**	**164**	*e*P	**P**	**01 58 28.7**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**44.44**	**164**	P	**P**	**01 58 27.9**	**-0.8**
	comp=Z,4.9nm,0.9s,mb4.2,baz=345,slow=8.6,SNR=15						
WB2	**Warramunga Arr**	**44.44**	**164**	*e*P	**P**	**01 58 28.6**	**-0.1**
WB2	**Warramunga Arr**	**44.44**	**164**	P	**P**	**01 58 28.4**	**-0.3**
ASAR	**Alice Springs**	**47.91**	**165**	P	**P**	**01 58 56.5**	**+0.5**
	comp=Z,4.1nm,1.1s,mb4.4,baz=343,slow=6.2,SNR=17						
CTA	**Charters Tower**	**48.97**	**149**	LR	LR	02 16 40.7	
	comp=Z,203nm,21.6s,MS4.1,baz=46,slow=32						
BVAR	**Borovoye Array**	**49.05**	**321**	P	**P**	**01 59 06.0**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=94,slow=8.7,SNR=3.0						
CHKZ	**Chkalovo**	**49.11**	**322**	P	**P**	**01 59 05.0**	**-0.3**
BRVK	**Borovoye**	**49.12**	**321**	*e*P	**P**	**01 59 02.1**	**-3.2**
ZRNK	**Zerenda**	**49.84**	**321**	*e*P	**P**	**01 59 10.5**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.3						
ARU	**Arti**	**56.48**	**323**	P	**P**	**01 59 59.5**	**-0.2**
KDAK	**Kodiak Island**	**68.22**	**35**	P	**P**	**02 01 18.1**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.8,baz=331,slow=13,SNR=3.0						
OBN	**Obninsk**	**68.88**	**322**	P	**P**	**02 01 19.0**	**-3.4**
MCK	**McKinley**	**69.02**	**28**	*e*P	**P**	**02 01 25.4**	**+2.2**
	comp=Z,2.2nm,0.6s,mb4.3						
COLA	**College**	**69.29**	**27**	P	**P**	**02 01 22.3**	**-2.5**
FINES	**FINESS Array B**	**72.80**	**330**	P	**P**	**02 01 46.7**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=118,slow=15,SNR=3.5						
INK	**Inuvik**	**73.84**	**22**	P	**P**	**02 01 53.0**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.4,baz=304,slow=8.7,SNR=7.2						
INK	**Inuvik**	**73.84**	**22**	*e*P	**P**	**02 01 53.3**	**+1.0**
	comp=Z,90nm,0.6s,mb5.9						
YKA	**Yellowknife Ar**	**83.56**	**23**	P	**P**	**02 02 49.6**	**+3.9**
	comp=Z,3.5nm,0.8s,mb4.5,baz=321,slow=6.1,SNR=5.1						
GERES	**GERESS Array B**	**84.22**	**321**	P	**P**	**02 02 49.9**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=108,slow=3.2,SNR=3.4						

IDC ***16*** *01:55:11.3±0.7,1782S×17367W,h0km,mb4.4/12, mb1 4.5/14,mb1mx4.3/23,mbtmp4.4/14,ML2.9/2,MS3.6/2, Ms1 3.6/2,ms1mx3.0/33,Error ellipse: s-maj=32.5km*

s-min=14.9km az=145.0

ISCJB ***16*** *01:55:14.9±0.4, 1782S±009×173?79W±008, h33km, mb4.5/15, Error ellipse: s-maj=15.3km s-min=7.5km az=100.5*

NEIC ***16*** *01:55:16.9±0.3, 1780S×173?75W, h35km, mb4.6/4, Error ellipse: s-maj=14.0km s-min=6.8km az=137.0*

ISC 16 01:55:14.1±4.9, 1781S±009×17373W±008, h14km±30km, n42, σ0970/37, mb4.5/15, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.31**	**26**	Pn		**Pn**		**01 56 19.3**	**+0.1**
	14nm,0.3s,baz=232,slow=18,SNR=3.9								
AFI				Sn		**Sn**		**01 56 58.8**	**-10**
	38nm,0.3s,baz=67,slow=21,SNR=5.5								
AFI				LR		LR		01 57 08.5	
	comp=Z,322nm,21.5s,baz=165,slow=27								
AFI				T				02 00 49.2	
	23nm,0.3s,baz=85,slow=18,SNR=4.2								
AFI	**Afiamalu**	**4.31**	**26**	Pn		**Pn**		**01 56 19.3**	**+0.1**
AFI				Sn		**Sn**		**01 56 58.8**	**-10**
AFI				LR		LR		01 57 08.5	
RAO	**Raoul Island**	**12.02**	**198**	Pn		**Pn**		**01 58 04.4**	**-0.5**
DZM	**Mont Dzumac**	**19.11**	**254**	P		**Pn**		**01 59 38.0**	**+0.7**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.5								
URZ	**Urewera**	**21.89**	**200**	P		**P**		**02 00 06.1**	**-0.6**
	23nm,0.6s,mb4.8,baz=344,slow=5.1,SNR=20								
HNR	**Honiara**	**26.87**	**285**	P		**P**		**02 00 54.2**	**-0.1**
RPZ	**Rata Peaks**	**28.85**	**203**	P		**P**		**02 01 13.6**	**+1.6**
	10nm,0.4s,mb4.9,baz=33,slow=12,SNR=2.6								
CTA	**Charters Tower**	**37.85**	**260**	P		**P**		**02 02 31.2**	**+0.9**
	3.5nm,0.5s,mb4.3,baz=88,slow=7.0,SNR=6.8								
CTAO	**Charters Tower**	**37.85**	**260**	*eP*		**P**		**02 02 31.2**	**+0.9**
	6.0nm,0.7s,mb4.4								
STKA	**Stephens Creek**	**42.60**	**242**	P		**P**		**02 03 08.8**	**-0.8**
	1.1nm,0.4s,mb3.9,baz=84,slow=11,SNR=3.2								
STKA	**Stephens Creek**	**42.60**	**242**	P		**P**		**02 03 08.8**	**-0.8**
WB2	**Warramunga Arr**	**49.01**	**259**	*eP*		**P**		**02 03 59.7**	**-0.6**
WRAB	**Tennant Creek**	**49.02**	**259**	P		**P**		**02 04 00.9**	**+0.6**
WRA	**Warramunga Arr**	**49.02**	**259**	P		**P**		**02 04 00.2**	**-0.3**
	3.6nm,0.7s,mb4.5,baz=97,slow=8.4,SNR=22								
WRA				LR		LR		02 22 59.9	
	comp=Z,141nm,19.3s,baz=45,slow=34								
AS31	**Alice Springs**	**49.10**	**254**	*eP*		**P**		**02 04 00.4**	**-0.6**
ASAR	**Alice Springs**	**49.10**	**254**	P		**P**		**02 04 00.3**	**-0.7**
	6.9nm,0.7s,mb4.8,baz=88,slow=8.3,SNR=57								
ASPA	**Alice Springs**	**49.10**	**254**	*eP*		**P**		**02 04 00.4**	**-0.6**
KAKA	**Kakadu**	**52.04**	**268**	*eP*		**P**		**02 04 24.1**	**+0.9**
	13nm,1.4s,mb4.7								
FITZ	**Fitzroy Crossi**	**57.43**	**260**	*eP*		**P**		**02 05 03.4**	**+1.1**
	5.3nm,0.9s,mb4.6								
FITZ	**Fitzroy Crossi**	**57.43**	**260**	P		**P**		**02 05 03.0**	**+0.7**
	1.8nm,0.7s,mb4.2,baz=194,slow=12,SNR=5.9								
CASY	**Casey**	**68.10**	**205**	P		**P**		**02 06 14.2**	**+0.8**
MAJO	**Matsushiro**	**70.58**	**321**	P		**P**		**02 06 27.0**	**-1.7**
	60nm,0.4s,mb5.9								
CMB	**Columbia Colle**	**74.78**	**41**	*eP*		**P**		**02 06 53.6**	**-0.1**
	1.0nm,0.7s,mb3.9								
MTUM	**Tungsten Hills**	**75.53**	**42**	P		**P**		**02 06 58.3**	**+0.3**
YBH	**Yreka Blue Hor**	**75.70**	**37**	P		**P**		**02 06 59.6**	**+0.6**
	4.4nm,0.8s,mb4.4,baz=178,slow=5.9,SNR=4.5								
ARUT	**Antelope Range**	**79.13**	**44**	*eP*		**P**		**02 07 17.9**	**-0.3**
MSU	**Marysvale**	**80.36**	**44**	*eP*		**P**		**02 07 25.5**	**+0.6**
TMUT	**Trail Mountain**	**81.41**	**44**	*eP*		**P**		**02 07 31.0**	**+0.5**
TXAR	**Lajitas Array**	**82.21**	**56**	P		**P**		**02 07 34.4**	**-0.4**
	2.6nm,1.1s,mb4.1,baz=224,slow=6.5,SNR=11								
ANMO	**Albuquerque**	**82.59**	**50**	P		**P**		**02 07 36.2**	**-0.5**
	0.9nm,0.7s,mb3.9,baz=300,slow=3.4,SNR=3.4								
TPAW	**Teton Pass**	**83.76**	**41**	*eP*		**P**		**02 07 42.7**	**-0.1**
QLMT	**Earthquake Lak**	**84.17**	**39**	*eP*		**P**		**02 07 45.3**	**+0.4**
PDAR	**Pinedale Array**	**84.26**	**42**	P		**P**		**02 07 44.8**	**-0.6**
	3.9nm,0.7s,mb4.6,baz=215,slow=3.2,SNR=33								
WALA	**Waterton Lakes**	**85.06**	**35**	P		**P**		**02 07 50.0**	**+0.6**
CFAA	**Coronel Fontan**	**93.36**	**125**	P		**P**		**02 08 27.9**	**-0.8**
	0.2nm,0.5s,mb3.8,baz=214,slow=3.6,SNR=4.5								
BVAR	**Borovoye Array**	**119.57**	**321**	PKP		PKPdf		02 14 03.1	-0.3
	0.5nm,0.6s,baz=352,slow=3.0,SNR=3.7								
BRVK	**Borovoye**	**119.62**	**321**	PKPdf		PKPdf		02 14 01.5	-2.0
ZRNK	**Zerenda**	**120.40**	**321**	PKPdf		PKPdf		02 14 03.9	-1.1
EKA	**Eskdalemuir Ar**	**141.86**	**9**	PKP		PKPdf		02 14 44.7	-0.6
	1.1nm,0.5s,baz=23,slow=6.5,SNR=4.1								
CLL	**Collm**	**146.15**	**352**	⇑*iP*		PKPdf		02 14 53.7	+0.9
CLL	**Collm**	**146.15**	**352**	⇑*i*PKPbc		PKPbc		02 14 53.7	-0.1
	comp=Z,19nm,0.9s								
CLL				*e*PKiKP		PKiKP		02 14 58.0	+0.9
BRG	**Berggiesshubel**	**146.45**	**351**	*eP*		PKPdf		02 14 55.6	+2.2
	comp=Z,18nm,1.9s								

SKHL ***16*** *01:58:00.0±2.1, 4630N×155?71E, h65km±34km, mb5.4/3, mbh5.3/1, Ms4.5/2, msh5.7/1*

IDC ***16*** *01:58:02.3±0.4, 4683N×155?08E, h0km, mb4.6/35, mb1 4.7/37, mb1mx4.7/38, mbtmp4.6/37, ML3.9/1, MS4.1/14, Ms1 4.2/14, ms1mx3.9/38, Error ellipse: s-maj=13.1km s-min=11.8km az=117.0*

ISCJB ***16*** *01:58:03.3±0.2, 4681N±004×155.10E±004, h16km, mb4.9/122, MS4.3/22, Error ellipse: s-maj=6.4km s-min=3.8km az=145.1*

MOS ***16*** *01:58:04.9±1.0, 4679N×155?02E, h28km, mb5.2/59, MS4.2/14, Error ellipse: s-maj=8.2km s-min=5.1km az=106.4*

NEIC ***16*** *01:58:04.0±0.2, 4680N×155?07E, h10km, mb5.1/51, Error ellipse: s-maj=5.6km s-min=3.7km az=161.0*

BJI ***16*** *01:58:06.0, 4730N×154?50E, h10km, mB5.1, mb4.8, Ms4.6, Msz4.5*

SZGRF ***16*** *01:58:12.0, 4755N×154?97E, h16km, mb5.4, Kuril Islands, Russia*

ISC 16 01:58:05.4±0.2, 4690N±004×15509E±004, h16km, h16km±2.2km; pP-P, n332, σ1§05/331, mb4.9/120, MS4.3/22, 22C-26D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.85**	**10**	*eP*		**Pn**		**01 59 05.0**	**+1.1**
SKR				AMB		AMB		01 59 06.7	
	220nm,1.0s								
SKR				A				01 59 50.5	
	640nm,0.6s								
SKR				A				01 59 50.5	
	330nm,0.6s								
SKR				AMS		AMS		02 00 14.0	
	3μm,10.0s								
SKR				AMS		AMS		02 00 14.0	
	8μm,10.0s								
SKR				AMS		AMS		02 00 14.0	
	3μm,10.0s								
KUR	**Kuril'sk**	**5.30**	**254**	⇑*iP*		**Pn**		**01 59 20.2**	**-3.5**
KUR				AMB		AMB		01 59 21.0	
	80nm,0.8s								
KUR				AMB		AMB		01 59 21.0	
	110nm,0.8s								
KUR				AMB		AMB		01 59 21.0	
	540nm,0.8s								
KUR				*i* S		**Sn**		**02 00 18.8**	**-5.6**
KUR				A				02 00 20.6	
	150nm,0.8s								
KUR				A				02 00 20.6	
	400nm,0.8s								
KUR				A				02 00 25.0	
	6μm,4.0s								
KUR				A				02 00 25.0	
	2μm,4.0s								
PET	**Petropavlovsk**	**6.55**	**19**	⇑*e*PN		**Pn**		**01 59 38.0**	**-2.9**
PET	**Petropavlovsk**	**6.55**	**19**	*e*Pn		**Pn**		**01 59 38.4**	**-2.6**
YSS	**Yuzh-Sakhalins**	**8.45**	**275**	*eP*		**Pn**		**02 00 09.4**	**+2.4**
YSS				AMB		AMB		02 00 13.7	
	30nm,0.9s								
YSS				AMB		AMB		02 00 13.7	
	40nm,1.0s								
YSS				*e*S		**Sn**		**02 01 48.0**	**+6.0**
YSS				A				02 01 50.0	
	40nm,1.0s								
YSS				AMS		AMS		02 04 32.0	
	2μm,15.0s								
YSS				AMS		AMS		02 04 32.0	
	2μm,14.0s								
YSS				AMS		AMS		02 04 32.0	
	1μm,12.0s								
YSS	**Yuzh-Sakhalins**	**8.45**	**275**	*e*PN		**Pn**		**02 00 09.4**	**+2.4**
YSS				S		**Sn**		**02 01 48.0**	**+6.0**
YSS				pmax		pmax			
	comp=Z,30nm,0.9s								
YSS				pmax		pmax			
	comp=E,40nm,1.0s								
YSS				smax					
	comp=E,40nm,1.0s								
YSS				MLR		MLR			
	comp=Z,2μm,14.0s								
YSS				MLR		MLR			
	comp=N,1μm,12.0s								
YSS				MLR		MLR			
	comp=E,2μm,15.0s								
YSS	**Yuzh-Sakhalins**	**8.45**	**275**	*e*Pn		**Pn**		**02 00 06.4**	**-0.6**
UGL	**Uglegorsk**	**9.01**	**289**	*eP*		**Pn**		**02 00 18.0**	**+3.3**
UGL				AMB		AMB		02 00 20.8	
	comp=E,90nm,1.0s								
UGL				AMB		AMB		02 00 23.0	
	comp=E,1μm,6.0s								
UGL				AMS		AMS		02 03 32.0	
	comp=E,2μm,14.0s								
UGL				AMS		AMS		02 03 32.0	
	comp=E,2μm,16.0s								
UGL				AMS		AMS		02 03 32.0	
	comp=E,1μm,16.0s								
TYV	**Tymovskoe**	**9.10**	**300**	*eP*		**Pn**		**02 00 17.0**	**+1.0**
TYV				AMB		AMB		02 00 19.0	
	comp=E,64nm,1.0s								
TYV				AMB		AMB		02 00 19.0	
	comp=E,260nm,1.8s								
TYV				AMB		AMB		02 00 22.0	
	comp=E,500nm,6.0s								
TYV				AMB		AMB		02 00 22.0	
	comp=E,700nm,6.0s								
TYV				AMB		AMB		02 00 22.0	
	comp=E,1μm,6.0s								
TYV				AMS		AMS		02 03 44.0	
	comp=E,2μm,16.0s								
TYV				AMS		AMS		02 03 44.0	
	comp=E,1μm,18.0s								
TYV				AMS		AMS		02 03 44.0	
	comp=E,2μm,18.0s								
ASAJ	**Asahikawa**	**9.21**	**257**	Pn		**Pn**		**02 00 17.4**	**0.0**
	baz=108,slow=11								
ASAJ				LR		LR		02 03 48.9	
	comp=E,316nm,18.3s,baz=336,slow=38								
ERM	**Erimo**	**9.83**	**245**	*e*Pn		**Pn**		**02 00 23.0**	**-2.9**
ERM				*e*Sn		**Sn**		**02 02 08.5**	**-7.3**
NKL	**Nikolayevsk**	**11.18**	**309**	*eP*		**Pn**		**02 00 43.0**	**-1.4**
SMY	**Shemya**	**13.57**	**58**	*e*Pn		**Pn**		**02 01 14.9**	**-2.2**
SMY				*e*Sn		**Sn**		**02 03 33.6**	**-14**
KLR	**Kul'dur**	**15.77**	**287**	*eP*		**Pn**		**02 01 41.2**	**-5.4**
MJAR	**Matsushiro Arr**	**16.27**	**237**	Pn		**Pn**		**02 01 50.0**	**-3.1**
	comp=E,0.5nm,0.3s,baz=28,slow=14,SNR=19								
MJAR	**Matsushiro Arr**	**16.27**	**237**	P		**Pn**		**02 01 50.0**	**-3.1**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**16.27**	**237**	*eP*		**Pn**		**02 01 49.5**	**-3.7**
MAJO				pmax		pmax			
	comp=Z,44nm,0.9s								
MAJO	**Matsushiro**	**16.27**	**237**	*e*Pn		**Pn**		**02 01 49.5**	**-3.6**
	comp=Z,44nm,0.9s								
MAT	**Matsushiro**	**16.27**	**237**	P		**Pn**		**02 01 49.7**	**-3.5**
JHJ	**Hachijo jima 2**	**18.03**	**226**	LR		LR		02 09 48.4	
	comp=Z,90nm,19.0s,baz=56,slow=39								
ZEA	**Zeya**	**18.97**	**301**	*eP*		**Pn**		**02 02 22.5**	**-4.1**
ZEA				AMB		AMB		02 02 27.0	
	comp=Z,36nm,1.2s								
ZEA				AMB		AMB		02 02 30.0	
	comp=Z,400nm,8.0s								
YAK	**Yakutsk**	**20.95**	**326**	*eP*		**P**		**02 02 46.4**	**-1.0**
YAK				*e**PP				02 02 54.5	
YAK				*e*				02 03 10.1	
YAK				*eS*		**S**		**02 06 30.3**	**-10**
YAK				*e*SS				02 06 42.4	
YAK				pmax		pmax			
	comp=Z,23nm,1.1s								
YAK				pmax		pmax			
	comp=N,27nm,1.6s								
YAK				pmax		pmax			
	comp=E,26nm,1.5s								
YAK				pmax		pmax			
	comp=Z,43nm,1.0s								
YAK				pmax		pmax			
	comp=N,130nm,1.9s								
YAK				pmax		pmax			
	comp=E,80nm,1.7s								
YAK				smax					
	comp=N,121nm,2.1s								
YAK				smax					
	comp=Z,44nm,2.0s								
YAK				smax					
	comp=E,105nm,2.3s								
YAK				MLR		MLR			
	comp=Z,862nm,12.0s,MS4.3								
YAK				MLR		MLR			
	comp=N,568nm,15.0s,MS4.4								
YAK				MLR		MLR			
	comp=E,1μm,14.0s,MS4.4								
YAK	**Yakutsk**	**20.95**	**326**	P		**P**		**02 02 46.9**	**-0.5**
CLNS	**Chul'man**	**20.97**	**309**	*eP*		**P**		**02 02 45.4**	**-2.2**
CLNS				*e*				02 03 22.4	
CLNS				*eS*		S		02 07 15.6	+35
CLNS				pmax		pmax			
	comp=Z,53nm,1.1s								
CLNS				pmax		pmax			
	comp=N,30nm,1.4s								
CLNS				pmax		pmax			
	comp=E,34nm,1.2s								
CLNS				smax					
	comp=E,860nm,12.6s								
CLNS				smax					
	comp=Z,114nm,11.8s								
CLNS				smax					
	comp=N,118nm,10.7s								
CLNS				MLR		MLR			
	comp=E,2μm,13.0s,MS4.7								
CLNS				MLR		MLR			
	comp=Z,1μm,13.0s,MS4.5								
CLNS				MLR		MLR			
	comp=N,300nm,12.0s,MS4.7								
CN2	**Changchun**	**21.00**	**272**	*eP*		**P**		**02 02 44.8**	**-3.2**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.1								
BILL	**Bilibino**	**21.96**	**11**	⇓*eP*		**P**		**02 02 56.7**	**-1.6**
BILL				pmax		pmax			
	comp=Z,63nm,1.0s,mb5.0								
BILL	**Bilibino**	**21.96**	**11**	*eP*		**P**		**02 02 56.5**	**-1.8**
	comp=Z,132nm,1.4s,mb5.2								
KSRS	**Korea Array**	**22.14**	**255**	P		**P**		**02 02 59.7**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.3,baz=57,slow=11,SNR=21								
KSRS				LR		LR		02 11 04.8	
	comp=Z,223nm,18.4s,MS3.6,baz=4.1,slow=35								
KS15	**Wonju Array Si**	**22.17**	**255**	*eP*		**P**		**02 03 03.6**	**+3.0**
JNU	**Nakatsue**	**22.98**	**242**	LR		LR		02 12 35.5	
	comp=Z,755nm,18.7s,MS4.2,baz=70,slow=38								
SNY	**Shenyang**	**23.00**	**269**	⇑P		**P**		**02 03 07.8**	**-1.5**
SNY				AP				02 03 11.0	
SNY				XP		sP		02 03 14.1	-2.1
SNY				S		**S**		**02 07 06.0**	**-13**
SNY				AMB		AMB			
	comp=Z,23nm,1.2s,mb4.5								
SNY				AMB		AMB			
	comp=Z,732nm,12.0s								
SNY				LR		LR			
	comp=E,654nm,13.8s								
SNY				LR		LR			
	comp=Z,760nm,14.5s,MS4.3								
BOD	**Bodaibo**	**26.95**	**309**	*eP*		**P**		**02 03 42.0**	**-3.9**
BOD				pmax		pmax			
	comp=Z,21nm,1.3s,mb4.5								
CIT	**Chita**	**27.20**	**296**	*eP*		**P**		**02 03 46.2**	**-2.0**
BJI	**Beijing**	**28.84**	**271**	P		**P**		**02 04 02.4**	**-0.4**
BJI				AMB		AMB			
	comp=Z,9.0nm,1.3s,mb4.3								
BJI	**Beijing**	**28.84**	**271**	P		**P**		**02 04 02.4**	**-0.4**
	comp=Z,9.0nm,1.3s,mb4.3								
BJT	**Baijiatuau**	**28.85**	**271**	P		**P**		**02 04 02.2**	**-0.7**
NJ2	**Nanjing**	**31.34**	**255**	*eP*		**P**		**02 04 28.8**	**+3.8**
NJ2				AP		pP		02 04 32.1	+2.1
NJ2				XP		sP		02 04 37.3	+5.2
NJ2				PP		PP		02 05 32.9	-2.9
NJ2				S		**S**		**02 09 34.5**	**+3.1**
NJ2				XS		sS		02 09 42.5	+2.8
NJ2				AMB		AMB			
	comp=Z,30nm,1.0s,mb5.1								
NJ2				AMB		AMB			
	comp=Z,270nm,10.0s								
NJ2				LR		LR			
	comp=N,1μm,15.2s,MS4.9								
NJ2				LR		LR			
	comp=E,2μm,16.0s,MS4.9								
NJ2				LR		LR			
	comp=Z,2μm,17.4s,MS4.9								
HHC	**Hu-ho-hao-te**	**31.64**	**275**	⇑P		**P**		**02 04 27.5**	**-0.1**
HHC				AP		pP		02 04 32.3	-0.3
HHC				XP		sP		02 04 34.4	-0.3
HHC				PP		PP		02 05 32.0	-7.0
HHC				PCP		PcP		02 07 20.6	+1.1
HHC				S		**S**		**02 09 35.0**	**-1.0**
HHC				XS		sS		02 09 41.3	-3.0
HHC				SCP		ScP		02 11 02.3	+0.3
HHC				PCS		PcS		02 11 04.4	+0.5
HHC				SS		SS		02 11 22.0	-30
HHC				SCS		ScS		02 14 59.1	-0.8
HHC				AMB		AMB			
	comp=Z,49nm,1.4s,mb5.1								
HHC				AMB		AMB			
	comp=Z,512nm,10.7s								
HHC				LR		LR			
	comp=N,514nm,14.7s,MS4.4								
HHC				LR		LR			
	comp=E,434nm,15.1s,MS4.4								
HHC				LR		LR			
	comp=Z,434nm,14.0s,MS4.3								
ULN	**Ulaanbaatar**	**32.13**	**290**	*eP*		**P**		**02 04 30.6**	**-1.3**
ULN				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.5								
ULN	**Ulaanbaatar**	**32.13**	**290**	*eP*		**P**		**02 04 30.6**	**-1.3**
	comp=Z,8.8nm,1.1s,mb4.5								
SONM	**Songino Array**	**32.56**	**290**	P		**P**		**02 04 34.9**	**-0.8**
	comp=Z,4.4nm,0.9s,mb4.4,baz=65,slow=8.7,SNR=29								
SONM				PcP		PcP		02 07 20.1	-1.8
	comp=Z,2.0nm,1.1s,baz=64,slow=2.6,SNR=4.1								
SONM				LR		LR		02 18 34.5	
	comp=Z,547nm,19.3s,MS4.3,baz=346,slow=38								
SONM	**Songino Array**	**32.56**	**290**	P		**P**		**02 04 34.9**	**-0.8**
SONM								02 07 20.1	
SONM				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SONM				MLR		MLR			
	comp=Z,547nm,19.3s								
IMA2	**Indian Mountai**	**32.89**	**36**	*eP*		**P**		**02 04 38.2**	**-0.3**
KDAK	**Kodiak Island**	**32.95**	**51**	P		**P**		**02 04 37.7**	**-1.4**
	comp=Z,13nm,0.9s,mb4.9,baz=56,slow=15,SNR=2.3								
KDAK	**Kodiak Island**	**32.95**	**51**	P		**P**		**02 04 37.7**	**-1.4**
TLY	**Talaya**	**33.32**	**298**	*eP*		**P**		**02 04 41.6**	**-0.7**
TLY				pmax		pmax			
	comp=Z,16nm,0.8s,mb5.0								
TLY				MLR		MLR			
	comp=Z,397nm,14.0s,MS4.3								
TLY	**Talaya**	**33.32**	**298**	*eP*		**P**		**02 04 41.7**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0								
ZAK	**Zakamensk**	**33.85**	**295**	*eP*		**P**		**02 04 43.9**	**-3.0**
ZAK				*e*				02 07 23.5	
ZAK				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
MCK	**McKinley**	**34.66**	**40**	*eP*		**P**		**02 04 53.2**	**-0.7**
SML	**Sawmill**	**34.92**	**44**	*eP*		**P**		**02 04 56.5**	**+0.3**
COLA	**College**	**35.18**	**38**	*eP*		**P**		**02 04 58.2**	**-0.2**
COLA				*e*				02 05 08.6	
COLA				pmax		pmax			
	comp=Z,18nm,0.8s,mb5.0								
COLA	**College**	**35.18**	**38**	*eP*		**P**		**02 04 58.2**	**-0.3**
	comp=E,18nm,0.8s,mb5.0								
COLA				*e*				02 05 08.6	
XAN	**Xi'an**	**36.88**	**267**	P		**P**		**02 05 12.9**	**-0.1**
XAN				AMB		AMB			
	comp=Z,20nm,1.7s,mb4.7								
EGAK	**Eagle**	**38.04**	**39**	*eP*		**P**		**02 05 21.9**	**-0.9**
	comp=Z,25nm,0.8s,mb5.0								
EGAK				*e*				02 05 32.6	
DAWY	**Dawson**	**38.86**	**40**	*eP*		**P**		**02 05 30.3**	**+0.5**
LZH	**Lanzhou**	**39.24**	**273**	*eP*		**P**		**02 05 34.8**	**+1.9**
LZH				AP		pP		02 05 40.8	+2.8
LZH				XP		sP		02 05 45.0	+5.0
LZH				AMB		AMB			
	comp=Z,90nm,1.2s,mb5.4								
LZH				AMB		AMB			
	comp=Z,360nm,5.0s								
LZH				LR		LR			
	comp=E,502nm,14.5s								
LZH				LR		LR			
	comp=Z,869nm,15.8s,MS4.7								
LZH	**Lanzhou**	**39.24**	**273**	*eP*		**P**		**02 05 34.8**	**+1.9**
	comp=Z,90nm,1.2s,mb5.4								
LZH				pP		pP		02 05 40.7	+2.7
LZH				sP		sP		02 05 45.0	+5.0
LZH				LR		LR			
	comp=Z,870nm,15.8s,MS4.7								
GTA	**Gaotai**	**40.29**	**280**	*eP*		**P**		**02 05 42.4**	**+0.8**
GTA				AP		pP		02 05 51.3	+4.6
GTA				XP		sP		02 05 54.8	+6.0
GTA				PCP		PcP		02 07 45.5	+0.4
GTA				AMB		AMB			
	comp=Z,22nm,1.5s,mb4.7								
GTA				AMB		AMB			
	comp=Z,175nm,8.4s								
GTA				LR		LR			
	comp=N,493nm,17.9s,MS4.5								
GTA				LR		LR			
	comp=E,295nm,16.0s,MS4.5								
GTA				LR		LR			
	comp=Z,645nm,14.1s,MS4.6								
INK	**Inuvik**	**40.80**	**33**	P		**P**		**02 05 45.6**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6,baz=291,slow=6.5,SNR=28								
INK	**Inuvik**	**40.80**	**33**	P		**P**		**02 05 45.7**	**-0.1**
INK				pmax		pmax			
	comp=Z,13nm,0.8s								
INK	**Inuvik**	**40.80**	**33**	*eP*		**P**		**02 05 46.1**	**+0.2**
	comp=Z,641nm,0.9s								
CD2	**Chengdu**	**42.25**	**267**	⇑*iP*		**P**		**02 05 58.3**	**+0.6**
CD2				XP		sP		02 06 06.5	+1.6
CD2				S		**S**		**02 12 18.8**	**+1.3**
CD2				SS		SS		02 15 21.0	-4.8
CD2				AMB		AMB			
	comp=Z,30nm,1.1s,mb4.8								
GYA	**Guiyang**	**43.08**	**259**	⇑*iP*		**P**		**02 06 04.8**	**+0.4**
GYA				AP		pP		02 06 08.9	-0.7
GYA				XP		sP		02 06 11.8	+0.2
GYA				PP		PP		02 07 47.3	+2.8
GYA				PCP		PcP		02 07 55.3	+1.0
GYA				SCP		ScP		02 11 45.3	+0.6
GYA				S		**S**		**02 12 30.3**	**+0.6**
GYA				SCS		ScS		02 16 03.8	-0.5
GYA				AMB		AMB			

comp=Z,140nm,26.8s,MS3.8
MK31 Makanchi Array 48.08 298 *e*P P **02 06 43.5 -0.5**
MKAR Makanchi Array 48.08 298 P P **02 06 43.5 -0.5**
comp=Z,8.6nm,0.8s,mb4.8,baz=64,slow=7.5,SNR=43
MKAR PcP PcP 02 08 11.2 -0.4
comp=Z,3.2nm,0.8s,baz=54,slow=6.2,SNR=4.3
MKAR LR LR 02 28 05.4
comp=Z,261nm,18.3s,MS4.2,baz=12,slow=38
MKAR Makanchi Array 48.08 298 P P **02 06 43.6 -0.4**
MKAR 02 08 11.2
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR MLR MLR
comp=Z,261nm,18.3s
MKAR Makanchi Array 48.08 298 P P **02 06 43.5 -0.5**
MKAR PcP PcP 02 08 11.2 -0.4
MKAR LR LR 02 28 05.4
KURK Kurchatov 48.41 304 P P **02 06 46.6 0.0**
comp=Z,228nm,0.8s,SNR=24
YKA Yellowknife Ar 49.99 37 P P **02 06 57.9 -0.8**
comp=Z,6.4nm,0.9s,mb4.6,baz=189,slow=35,SNR=3.7
YKA Yellowknife Ar 49.99 37 P P **02 06 57.9 -0.8**
YKA pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 50.26 19 *e*P P **02 07 01.0 +0.3**
CHKZ Chkalovo 51.37 311 *e*P P **02 07 07.3 -1.8**
LSA Lhasa 51.62 274 P P **02 07 12.3 +1.3**
LSA Lhasa 51.62 274 P P **02 07 10.9 -0.1**
LSA pmax pmax
comp=Z,13nm,0.6s,mb5.0
LSA Lhasa 51.62 274 P P **02 07 10.9 0.0**
comp=Z,13nm,0.6s,mb5.0
BVAR Borovoye Array 51.81 310 P P **02 07 11.5 -0.9**
comp=Z,22nm,0.8s,mb5.2,baz=60,slow=8.8,SNR=88
BVAR LR LR 02 30 44.9
comp=Z,431nm,18.6s,MS4.5,baz=318,slow=38
BVAR Borovoye Array 51.81 310 P P **02 07 11.5 -0.9**
BVAR pmax pmax
comp=Z,22nm,0.8s
BVAR MLR MLR
comp=Z,431nm,18.6s
BRVK Borovoye 51.85 310 P P **02 07 12.3 -0.4**
comp=Z,314nm,0.8s,SNR=30
BRVK Borovoye 51.85 310 *e*P P **02 07 12.4 -0.3**
ZRNK Zerenda 52.57 311 *e*P P **02 07 17.4 -0.6**
ZRNK *e* 02 09 13.9
ZRNK pmax pmax
comp=Z,61nm,1.1s,mb5.4
ZRNK Zerenda 52.57 311 *e*P P **02 07 17.4 -0.7**
comp=Z,61nm,1.1s,mb5.4
ZRNK *e*PP PP 02 09 13.9 -3.2
CHTO Chiang Mai 53.48 258 *e*P P **02 07 25.6 +0.9**
CHTO pmax pmax
comp=Z,51nm,1.4s,mb5.3
CHTO Chiang Mai 53.48 258 *e*P P **02 07 25.6 +0.9**
comp=Z,51nm,1.4s,mb5.3
ULHL Ulahol 54.13 296 P P **02 07 30.9 +1.4**
SNR=7.7
TKM2 Tokmak 2 54.15 297 P P **02 07 30.9 +1.2**
SNR=13
CHMS Chumysh 54.62 297 P P **02 07 34.3 +1.2**
SNR=5.4
USP Ospenovka 54.62 298 P P **02 07 34.4 +1.3**
SNR=41
KBK Karagaybulak 54.69 297 P P **02 07 34.9 +1.3**
SNR=13
FRU Bishkek 54.80 297⇑ *i*P P **02 07 35.0 +0.7**
FRU *e* 02 07 50.0
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.4
SOKR Solikamsk 54.83 322 *e*P P **02 07 34.4 -0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
KZA Kyzart 54.83 296 P P **02 07 36.8 +2.2**
SNR=9.7
AAK Ala-Archa 54.98 297 P P **02 07 34.5 -1.2**
comp=Z,158nm,0.9s,mb6.0,SNR=14
AAK Ala-Archa 54.98 297 P P **02 07 37.0 +1.3**
SNR=25
AAK Ala-Archa 54.98 297 *c i*P P **02 07 35.4 -0.3**
AAK pmax pmax
comp=Z,44nm,1.7s,mb5.2
AAK Ala-Archa 54.98 297 *e*P P **02 07 34.4 -1.3**
comp=Z,22nm,0.8s,mb5.2
EKS2 Erkin-Say 55.40 298 P P **02 07 40.1 +1.3**
SNR=16
AML Almayashu 55.76 297 P P **02 07 42.7 +1.4**
SNR=12
ARU Arti 55.82 318 P P **02 07 41.3 -0.4**
comp=Z,312nm,0.8s,SNR=12
ARU Arti 55.82 318⇑ *i*P P **02 07 41.1 -0.6**
ARU *e* 02 08 39.1
ARU *e* 02 09 45.2
ARU *e*S **S** **02 15 27.4 -0.7**
ARU *e*SS SS 02 19 13.2 -0.5
ARU pmax pmax
comp=Z,36nm,0.8s,mb5.5
ARU Arti 55.82 318 *e*P P **02 07 40.7 -1.0**
KSH Kashi 55.85 293 *e*P P **02 07 43.8 +1.9**
JIRN Jiri 56.29 276 *e*P P **02 07 46.6 +1.5**
comp=Z,41nm,0.9s,mb5.5
GUN Gumba 56.34 276 *e*P P **02 07 46.7 +1.3**
comp=Z,18nm,0.6s,mb5.3
DAG Danmarks Havn 56.55 358⇓ *i*P P **02 07 46.1 -0.8**
comp=Z,17nm,1.3s,mb4.9
DAG Danmarks Havn 56.55 358⇓ *i*P P **02 07 46.1 -0.8**
DAG pmax pmax
comp=Z,17nm,1.3s,mb4.9
KKN Kakani 56.83 277 *e*P P **02 07 50.1 +1.2**
comp=Z,179nm,1.6s,mb5.8
PKI Pulchoki 56.88 276 *e*P P **02 07 50.6 +1.3**
DMN Daman 57.06 277 *e*P P **02 07 52.0 +1.5**
comp=Z,68nm,1.0s,mb5.6
GKN Gorkha 57.13 277 *e*P P **02 07 52.2 +1.2**
comp=Z,55nm,1.0s,mb5.5
LVZ Lovozero 57.17 337 *e*P P **02 07 49.0 -2.3**
LVZ pmax pmax
comp=Z,51nm,1.3s,mb5.4
LVZ pmax pmax
comp=N,25nm,1.5s
LVZ pmax pmax
comp=E,14nm,1.4s
APA Apatity 57.73 337⇑ *i*P P **02 07 54.0 -1.3**
APA pmax pmax
comp=Z,73nm,1.3s,mb5.5
KOLN Koldanda 57.98 278 *e*P P **02 07 58.4 +1.4**
comp=Z,39nm,1.0s,mb5.4
ARCES ARCESS Array B 58.16 341 P P **02 07 57.8 -0.5**
comp=Z,17nm,1.0s,mb5.0,baz=32,slow=7.1,SNR=12
ARCES ARCESS Array B 58.16 341 P P **02 07 57.8 -0.5**
ARCES pmax pmax
comp=Z,17nm,1.0s
ARE0 ARCESS Array S 58.16 341 *e*P P **02 07 57.8 -0.5**
TMCR Tamitsa 58.83 333 *e*P P **02 08 03.0 0.0**
TMCR pmax pmax
comp=Z,137nm,1.5s,mb5.8
AKTK Aktyubinsk 59.63 313 P P **02 08 08.4 -0.1**
AKTO Aktyubinsk 59.63 313 P P **02 08 08.4 -0.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=69,slow=7.1,SNR=21
AKTO Aktyubinsk 59.63 313 P P **02 08 08.4 -0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HRY Holter Researc 59.82 53 *e*P P **02 08 04.2 -5.6**
HRY *e*pP pP 02 08 20.4 +5.3
CMB Columbia Colle 60.12 65 *e*P P **02 08 11.7 -0.1**
CMB pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
CMB Columbia Colle 60.12 65 *e*P P **02 08 11.7 -0.2**
comp=Z,4.9nm,1.2s,mb4.4
HLID Hailey 60.30 57 *e*P P **02 08 13.9 +0.8**
SUMG Summit 60.45 5 *e*P P **02 08 15.3 +1.1**
comp=Z,9.5nm,0.8s,mb4.9
ORR Orenburg 60.51 315 *e*P P **02 08 13.1 -1.4**
ORR pmax pmax
comp=Z,50nm,1.2s,mb5.5
QLMT Earthquake Lak 61.20 54 P P **02 08 19.9 +0.7**
IMW Indian Meadow 62.06 55 *e*P P **02 08 26.8 +1.7**
comp=Z,21nm,1.4s,mb5.1
RRI2 Red Ridge 62.19 55 *e*P P **02 08 27.1 +1.2**
MOOW Moose Ponds 62.26 55 *e*P P **02 08 27.4 +1.0**
comp=Z,11nm,1.5s,mb4.8
TPAW Teton Pass 62.31 55 *e*P P **02 08 28.1 +1.3**
comp=Z,18nm,1.3s,mb5.0
TPAW *e*pP pP 02 08 39.6 +7.6
LOHW Long Hollow 62.43 55 *e*P P **02 08 28.2 +0.7**
comp=Z,18nm,1.5s,mb5.0

REDW Red Top Meadow 62.45 55 *e*P P **02 08 28.6 +1.0**
comp=Z,12nm,1.1s,mb4.9
LAO LASA Array 62.83 50 *e*P P **02 08 31.0 +0.8**
DUG Dugway 63.34 59 *e*P P **02 08 34.1 +0.5**
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
DUG Dugway 63.34 59 *e*P P **02 08 34.1 +0.5**
comp=Z,7.8nm,1.1s,mb4.8
BW06 Boulder Array 63.56 55 *e*P P **02 08 35.2 +0.2**
comp=Z,13nm,1.4s,mb4.8
PDAR Pinedale Array 63.56 55 P P **02 08 35.0 0.0**
comp=Z,3.5nm,0.9s,mb4.4,baz=298,slow=3.2,SNR=14
PDAR LR LR 02 35 40.3
comp=Z,193nm,18.4s,MS4.3,baz=20,slow=36
FIA1 FINESS Array S 64.48 336 *e*P P **02 08 40.2 -0.8**
FINES FINESS Array B 64.48 336 P P **02 08 40.3 -0.8**
comp=Z,9.6nm,0.8s,mb4.9,baz=37,slow=10,SNR=22
FINES LR LR 02 38 01.7
comp=Z,149nm,21.2s,MS4.2,baz=66,slow=37
FINES FINESS Array B 64.48 336 P P **02 08 40.3 -0.8**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES MLR MLR
comp=Z,149nm,21.2s
MOS Moscow 65.08 326 *e*P P **02 08 41.0 -4.0**
MOS pmax pmax
comp=Z,113nm,2.0s,mb5.5
SRU San Rafael 65.39 59 *e*P P **02 08 46.0 -1.0**
ULM Lac du Bonnet 65.52 42 P P **02 08 47.0 -0.9**
comp=Z,12nm,0.7s,mb4.1,baz=322,slow=6.2,SNR=3.3
RSSD Black Hills 65.69 51 *e*P P **02 08 48.0 -0.9**
RSSD *e* 02 09 20.7
RSSD pmax pmax
comp=Z,30nm,1.5s,mb5.1
RSSD Black Hills 65.69 51 *e*P P **02 08 48.0 -0.9**
comp=Z,30nm,1.5s,mb5.1
RSSD *e*PcP PcP 02 09 20.7 +0.5
OBN Obninsk 65.95 326⇈ *e*P P **02 08 49.6 -1.0**
OBN pmax pmax
comp=Z,54nm,1.7s,mb5.3
OBN Obninsk 65.95 326 *e*P P **02 08 49.1 -1.5**
comp=Z,5.1nm,0.4s,mb4.9
CTA Charters Tower 67.14 189 P P **02 08 57.7 -0.6**
comp=Z,2.5nm,0.6s,mb4.4,baz=16,slow=7.4,SNR=4.0
CTA Charters Tower 67.14 189 P P **02 08 57.7 -0.5**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 67.14 189 P P **02 08 57.7 -0.6**
WUAZ Wupatki 67.27 62 *e*P P **02 08 59.8 +0.8**
comp=Z,26nm,1.7s,mb5.0
AFI Afiamalu 67.43 145 LR LR 02 31 54.9
comp=Z,190nm,20.6s,MS4.3,baz=112,slow=30
ISCO Idaho Springs 67.75 55 *e*P P **02 09 02.0 -0.1**
ISCO pmax pmax
comp=Z,13nm,1.4s,mb4.8
ISCO Idaho Springs 67.75 55 *e*P P **02 09 02.0 0.0**
comp=Z,13nm,1.4s,mb4.8
HYB Hyderabad 68.35 273 *i*P P **02 09 06.0 +0.1**
HYB Hyderabad 68.35 273 *e*P P **02 09 06.0 +0.1**
NB2 NORSAR Subarra 68.52 342 P P **02 09 06.6 -0.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=26,slow=6.5
NOA NORSAR Array B 68.52 342 P P **02 09 06.9 0.0**
comp=Z,7.8nm,0.9s,mb4.6,baz=26,slow=6.3,SNR=12
NOA NORSAR Array B 68.52 342 P P **02 09 06.9 0.0**
NOA pmax pmax
comp=Z,8.0nm,0.9s
BORG Borgarnes 68.66 358 P P **02 09 08.0 +0.2**
comp=Z,24nm,1.0s,mb5.1,baz=308,slow=13,SNR=3.1
BORG Borgarnes 68.66 358 P P **02 09 08.0 +0.2**
HFS Hagfors 68.79 340 P P **02 09 08.3 -0.3**
comp=Z,9.2nm,0.8s,mb4.8,baz=44,slow=4.3,SNR=12
HFS Hagfors 68.79 340 P P **02 09 08.3 -0.3**
HFS pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 69.10 201 *e*P P **02 09 09.9 -0.6**
WRAB pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WRAB Tennant Creek 69.10 201 *e*P P **02 09 09.9 -0.6**
comp=Z,9.3nm,1.0s,mb4.7
WB2 Warramunga Arr 69.11 201 *e*P P **02 09 09.8 -0.8**
WB2 Warramunga Arr 69.11 201 *e*P P **02 09 09.7 -0.9**
WRA Warramunga Arr 69.11 201 P P **02 09 08.9 -1.7**
comp=Z,3.9nm,1.0s,mb4.3,baz=18,slow=6.5,SNR=7.9
WRA Warramunga Arr 69.11 201 P P **02 09 08.9 -1.7**
WRA pmax pmax
comp=Z,4.0nm,1.0s
SDCO Great Sand Dun 69.22 57 *e*P P **02 09 11.8 +0.5**
DZM Mont Dzumac 69.40 169 P P **02 09 12.3 -0.1**
comp=Z,4.0nm,0.9s,mb4.3,baz=325,slow=19,SNR=2.8
FITZ Fitzroy Crossi 69.93 210 P P **02 09 15.0 -0.7**
comp=Z,2.6nm,0.7s,mb4.3,baz=20,slow=7.0,SNR=7.7
LAZ Ladron 70.57 60 *e*P P **02 09 19.7 +0.1**
ANMO Albuquerque 70.59 59 P P **02 09 20.1 +0.4**
comp=Z,3.0nm,1.0s,mb4.2,baz=318,slow=7.0,SNR=6.4
ANMO Albuquerque 70.59 59 P P **02 09 20.1 +0.4**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
SUW Suwalki 71.51 332 *e*P P **02 09 24.3 -1.0**
KIV Kislovodsk 71.66 315 *e*P P **02 09 26.2 0.0**
KIV pmax pmax
comp=Z,25nm,0.9s,mb5.1
KIV Kislovodsk 71.66 315 *e*P P **02 09 28.3 +2.1**
comp=Z,21nm,0.8s,mb5.1
ZEI Tsey 71.95 314 *e*P P **02 09 28.0 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AKASG Malin Array Be 72.17 327 P P **02 09 28.4 -0.9**
comp=Z,8.9nm,0.8s,mb4.7,baz=34,slow=6.2,SNR=24
AKASG Malin Array Be 72.17 327 P P **02 09 28.4 -0.8**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 72.17 327 *e*P P **02 09 28.3 -0.9**
KIEV Kiev 72.18 327 *e*P P **02 09 28.4 -0.9**
KIEV pmax pmax
comp=Z,15nm,0.9s,mb4.9
KIEV Kiev 72.18 327 *e*P P **02 09 28.4 -0.9**
comp=Z,15nm,0.9s,mb4.9
SCHQ Schefferville 72.64 24 P P **02 09 32.4 +0.4**
comp=Z,2.5nm,0.9s,mb4.1,baz=246,slow=20,SNR=2.8
ASAR Alice Springs 72.80 200 P P **02 09 32.8 -0.2**
comp=Z,6.0nm,0.9s,mb4.5,baz=16,slow=5.8,SNR=40
ASAR Alice Springs 72.80 200 P P **02 09 32.8 -0.2**
ASAR pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 73.46 311 LR LR 02 45 16.0
comp=Z,241nm,19.6s,MS4.5,baz=134,slow=39
GNI Garni 73.46 311⇑ *i*P P **02 09 37.8 +0.9**
GNI pmax pmax
comp=Z,35nm,1.7s
GNI Garni 73.46 311 *e*P P **02 09 38.6 +1.7**
comp=Z,27nm,1.1s,mb5.1
MNTX Cornudas Mount 73.51 61 *e*P P **02 09 37.4 +0.2**
MBWA Marble Bar 74.88 214 *e*P P **02 09 44.2 -1.0**
WMOK Wichita Mounta 75.17 55 *e*P P **02 09 45.9 -0.9**
WMOK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WMOK Wichita Mounta 75.17 55 *e*P P **02 09 45.9 -0.9**
comp=Z,4.2nm,0.8s,mb4.4
KWP Kalwaria 75.38 330 *e*P P **02 09 48.5 +0.4**
OJC Ojcow 75.84 332 *e*P P **02 09 50.7 0.0**
STHS Stebnicka Huta 76.06 331 *e*P P **02 09 52.3 +0.3**
STHS pmax pmax
comp=Z,16nm,0.9s,mb5.0
STHS Stebnicka Huta 76.06 331 *e*P P **02 09 52.3 +0.3**
comp=Z,16nm,0.9s,mb5.0
KOLS Kolonicke sedl 76.13 330 *e*P P **02 09 52.2 -0.1**
BURAR Bucovina Array 76.20 328⇓ *i*P P **02 09 52.7 -0.1**
BURAR Bucovina Array 76.20 328⇓ *i*P P **02 09 52.7 0.0**
LTX Lajitas 76.23 62 *e*P P **02 09 52.6 -0.3**
LTX *e* 02 10 04.7
LTX pmax pmax
comp=Z,17nm,0.8s,mb5.0
LTX Lajitas 76.23 62 *e*P P **02 09 52.6 -0.3**
comp=Z,17nm,0.8s,mb5.0
LTX *e*PcP PcP 02 10 04.7 -0.2
TXAR Lajitas Array 76.23 62 P P **02 09 53.0 +0.1**
comp=Z,13nm,0.8s,mb4.9,baz=300,slow=4.2,SNR=100
TXAR Lajitas Array 76.23 62 P P **02 09 53.1 +0.2**
TXAR pmax pmax
comp=Z,13nm,0.8s
NIE Niedzica 76.37 332 *e*P P **02 09 54.2 +0.5**
KSP Ksiaz 76.37 335 *e*P P **02 09 54.6 +0.9**
UZH Uzhgorod 76.38 330⇓ *i*P P **02 09 53.0 -0.8**
EKA Eskdalemuir Ar 76.51 347 P P **02 09 54.0 -0.4**
comp=Z,4.4nm,1.1s,mb4.3,baz=64,slow=12,SNR=3.0
EKA Eskdalemuir Ar 76.51 347 P P **02 09 54.1 -0.4**

EKA pmax pmax
comp=Z,4.0nm,1.1s
OKC Ostrava-Krasne 76.69 333 *e*P P **02 09 55.2 -0.3**
UPC Upice 76.75 335 *e*P P **02 09 56.2 +0.4**
DPC Dobruska-Polom 76.80 334 *e*P P **02 09 56.4 +0.3**
CLL Collm 76.88 337 *i*P P **02 09 56.3 -0.3**
CLL *e* 02 10 11.0
CLL pmax pmax
comp=Z,34nm,1.1s,mb5.2
CLL Collm 76.88 337 *i*P P **02 09 56.3 -0.3**
comp=Z,27nm,1.3s,mb5.0
CLL *i*pP pP 02 09 59.8 -2.2
comp=Z,34nm,1.1s
CLL *i*sP sP 02 10 01.2 -2.8
CLL *ex* x 02 10 11.0
MORC Moravsky Berou 76.93 333⇓ *i*P P **02 09 57.7 +0.8**
MORC Moravsky Berou 76.93 333 *e*P P **02 09 56.7 -0.2**
MORC pmax pmax
comp=Z,17nm,1.0s,mb4.9
MORC Moravsky Berou 76.93 333 *e*P P **02 09 56.6 -0.2**
comp=Z,17nm,1.0s,mb4.9
BRG Berggiesshubel 77.02 336 *e*P P **02 09 55.5 -1.8**
comp=Z,12nm,1.5s,mb4.6
BRG Berggiesshubel 77.02 336 *e*P P **02 09 55.5 -1.9**
BRG pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
VRI Vrincioaia 77.10 326⇑ *i*P P **02 09 59.2 +1.4**
VRI Vrincioaia 77.10 326⇑ P P **02 09 59.2 +1.3**
KECS Kecovo 77.12 331 *e*P P **02 09 57.8 -0.1**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 77.12 331 *e*P P **02 09 57.8 -0.1**
comp=Z,5.2nm,1.0s,mb4.4
PVCC Panska Ves 77.15 335 *e*P P **02 09 58.0 -0.1**
BOYT Boyabat 77.27 318 *i*P P **02 09 57.7 -1.1**
TIRR Tirgusor 77.61 324⇓ *i*P P **02 10 00.9 +0.2**
TIRR Tirgusor 77.61 324⇓ P P **02 10 00.9 +0.2**
WSAR Wadi Sarin 77.61 291 LR LR 02 46 35.0
comp=Z,132nm,21.3s,MS4.2,baz=17,slow=38
VRAC Vranov 77.64 334 P P **02 10 00.7 -0.1**
comp=Z,9.6nm,0.9s,mb4.7,baz=17,slow=6.9,SNR=8.8
VRAC Vranov 77.64 334⇓ *i*P P **02 10 01.7 +0.9**
VRAC Vranov 77.64 334 P P **02 10 00.7 -0.1**
VRAC pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 77.64 334⇓ P P **02 10 01.7 +0.9**
PRU Pruhonice 77.64 335 *e*P P **02 10 00.7 -0.2**
VYHS Vyhne 77.65 332 *e*P P **02 10 00.8 -0.1**
VYHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
VYHS Vyhne 77.65 332 *e*P P **02 10 00.8 -0.1**
comp=Z,10nm,1.3s,mb4.6
MLR Muntele Rosu 77.72 326⇓ *i*P P **02 10 02.0 +0.7**
MLR Muntele Rosu 77.72 326⇓ P P **02 10 02.0 +0.7**
PSZ Piszkesteto 77.81 331 *e*P P **02 10 02.4 +0.6**
PSZ pmax pmax
comp=Z,17nm,1.2s,mb4.8
PSZ Piszkesteto 77.81 331 *e*P P **02 10 02.4 +0.7**
comp=Z,17nm,1.2s,mb4.9
DRGR 77.81 329⇓ *i*P P **02 10 02.1 +0.3**
DRGR 77.81 329⇓ P P **02 10 02.1 +0.3**
WTSB Winterswijk 77.83 341 *e*P P **02 10 04.9 +2.9**
comp=Z,11nm,17.0s
MOX Moxa 77.86 337 *e*P P **02 10 02.0 -0.1**
comp=Z,109nm,2.4s,mb5.4
MOX Moxa 77.86 337 *e*P P **02 10 02.0 -0.1**
MOX pmax pmax
comp=Z,109nm,2.4s,mb5.4
BALT Daday 77.87 319 *i*P P **02 10 03.0 +0.9**
CTKT Corum 77.96 318 *i*P P **02 10 01.9 -0.7**
NKC Novy Kostel 78.01 337 *e*P P **02 10 01.8 -1.1**
MALT Malatya 78.04 314⇓ *i*P P **02 10 05.1 +2.0**
MALT Malatya 78.04 314 *e*P P **02 10 04.1 +1.0**
MALT pmax pmax
comp=Z,21nm,1.4s,mb4.9
MALT Malatya 78.04 314 *e*P P **02 10 04.0 +1.0**
comp=Z,21nm,1.4s,mb4.9
SMOL Smolenice 78.08 333 *e*P P **02 10 07.7 +4.4**
VOIR 78.10 327⇓ *i*P P **02 10 03.8 +0.4**
VOIR 78.10 327⇓ P P **02 10 03.8 +0.3**
ZST Bratislava 78.47 333 *e*P P **02 10 09.5 +4.1**
ZST pmax pmax
comp=Z,13nm,1.1s,mb4.8
ZST Bratislava 78.47 333 *e*P P **02 10 09.5 +4.1**
comp=Z,13nm,1.1s,mb4.8
KHC Kasperske Hory 78.69 335 *e*P P **02 10 06.3 -0.4**
ELDT Eldivan 78.69 319 *i*P P **02 10 07.8 +1.1**
GRA1 Grafenberg Arr 78.83 337 *e*P P **02 10 06.7 -0.7**
comp=Z,34nm,1.1s,mb5.2
GRA1 *e*pP pP 02 10 11.1 -1.8
GRF Grafenberg Arr 78.83 337 *e*P P **02 10 06.7 -0.7**
comp=Z,34nm,1.1s,mb5.2
GRF *e*pP pP 02 10 11.1 -1.8
GRF Grafenberg Arr 78.83 337 *e*P P **02 10 06.7 -0.7**
GRF *e**PP pP 02 10 11.1 -1.8
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 78.83 337 *e*P P **02 10 06.7 -0.7**
GRF *e**PP pP 02 10 11.1 -1.8
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRFO Grafenberg 78.83 337 *e*P P **02 10 07.3 -0.2**
GRFO pmax pmax
comp=Z,39nm,1.1s,mb5.2
GRFO Grafenberg 78.83 337 *e*P P **02 10 07.3 -0.1**
comp=Z,39nm,1.1s,mb5.2
GEC2 GERESS Array S 78.91 335 *e*P P **02 10 07.4 -0.5**
GERES GERESS Array B 78.91 335 P P **02 10 08.1 +0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=37,slow=4.9,SNR=19
GERES LR LR 02 47 14.7
comp=Z,180nm,20.3s,MS4.4,baz=196,slow=37
GERES GERESS Array B 78.91 335 P P **02 10 08.1 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES MLR MLR
comp=Z,180nm,20.3s
GZR Gura Zlata 78.98 328⇓ *i*P P **02 10 08.5 +0.2**
GZR Gura Zlata 78.98 328⇓ P P **02 10 08.5 +0.2**
RAR Rarotonga 79.07 138 P P **02 10 08.9 +0.2**
comp=Z,24nm,0.9s,mb5.1,baz=90,slow=17,SNR=1.8
RAR Rarotonga 79.07 138 P P **02 10 08.9 +0.1**
RAR pmax pmax
comp=Z,24nm,0.9s
CONA Conrad Observa 79.09 333⇑ *i*P P **02 10 09.7 +0.9**
comp=Z,7.5nm,1.0s,mb4.6
HGN Heimansgroeve 79.15 341 *e*P P **02 10 09.3 +0.1**
comp=Z,50nm,7.3s
BR131 Keskin Array S 79.20 318 *e*P P **02 10 10.5 +1.0**
BR131 *e* 02 10 23.3
BRTR Keskin Array B 79.20 318 P P **02 10 10.1 +0.6**
comp=Z,4.4nm,1.0s,mb4.3,baz=48,slow=3.7,SNR=13
BRTR Keskin Array B 79.20 318 P P **02 10 10.1 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BZS Buzias 79.21 329⇓ *i*P P **02 10 09.3 -0.2**
BZS Buzias 79.21 329⇓ P P **02 10 09.3 -0.2**
GZT Gaziantep 79.21 314 *i*P P **02 10 09.1 +1.3**
MEM Membach 79.28 341 AP pP 02 10 13.4 -1.9
STKA Stephens Creek 79.35 192 P P **02 10 08.6 -1.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=224,slow=3.5,SNR=4.4
STKA Stephens Creek 79.35 192 P P **02 10 08.6 -1.7**
AVNT Avonos 79.39 317 *i*P P **02 10 10.9 +0.3**
MOA Molln 79.64 334⇑ *i*P P **02 10 13.8 +2.0**
comp=Z,13nm,1.4s,mb4.7
PKSM Moragy 79.72 331⇓ *i*P P **02 10 12.0 -0.3**
PKSM Moragy 79.72 331⇓ P P **02 10 12.0 -0.3**
ARSA Arzberg 79.80 333⇑ *i*P P **02 10 13.3 +0.6**
comp=Z,18nm,1.3s,mb4.8
KBA KoelnbreinsperR 80.61 335⇑ P P **02 10 17.8 +0.8**
comp=Z,46nm,1.0s,mb5.4,SNR=27
OBKA Obir 80.76 334⇑ *i*P P **02 10 19.5 +1.6**
comp=Z,10nm,0.9s,mb4.7
MCWV Mont Chateau 80.88 40 *e*P P **02 10 18.1 -0.4**
comp=Z,18nm,0.9s,mb5.0
WATA Walderalm 80.88 336⇑ *i*P P **02 10 19.6 +1.0**
comp=Z,28nm,1.2s,mb5.0
WTTA Wattenberg 80.93 336⇑ P P **02 10 19.9 +1.0**
comp=Z,49nm,1.2s,mb5.3,SNR=11
GCIS Gornji Cirnik 81.00 333 *i*P P **02 10 22.9 +3.8**
MOTA Moosalm 81.00 336 *i*P P **02 10 20.3 +1.1**
comp=Z,29nm,1.0s,mb5.2,SNR=9.4
CDF Champ du Feu 81.02 339 *e*P P **02 10 18.0 -1.3**
comp=Z,97nm,1.4s,mb5.2
CDF Champ du Feu 81.02 339 *e*P P **02 10 18.0 -1.3**
CDF pmax pmax

comp=Z,49nm,1.4s,mb5.2
CDF Champ du Feu 81.02 339 *e*P **P 02 10 18.0 -1.3**
comp=Z,48nm,1.4s,mb5.2
SQTA Sankt Quirin 81.09 336 *i* P **P 02 10 20.7 +1.1**
comp=Z,22nm,1.0s,mb5.0
VTS Vitosha 81.22 326 ⇓ *i*P **P 02 10 20.7 +0.3**
VTS Vitosha 81.22 326 ⇓ P **P 02 10 20.7 +0.3**
DAVA Damuels 81.39 337 ⇑ *i*P **P 02 10 23.5 +2.2**
comp=Z,26nm,1.1s,mb5.1
DAVOX Davos 81.86 337 P **P 02 10 23.9 +0.1**
comp=Z,9.8nm,1.0s,mb4.7
GRR Gorron 82.81 344 *e*P **P 02 10 27.7 -1.0**
SMF Signal de Mont 83.50 341 *e*P **P 02 10 30.9 -1.4**
comp=Z,210nm,1.4s,mb5.7
SMF Signal de Mont 83.50 341 *e*P **P 02 10 30.9 -1.4**
SMF pmax pmax
comp=Z,105nm,1.4s,mb5.7
SMF Signal de Mont 83.50 341 *e*P **P 02 10 30.9 -1.4**
comp=Z,105nm,1.4s,mb5.7
LPG La Plagne 83.87 338 *e*P **P 02 10 33.8 -0.4**
comp=Z,53nm,1.0s,mb5.3
LPG La Plagne 83.87 338 *e*P **P 02 10 33.8 -0.4**
LPG pmax pmax
comp=Z,26nm,1.0s,mb5.3
LPG La Plagne 83.87 338 *e*P **P 02 10 33.8 -0.4**
comp=Z,26nm,1.0s,mb5.3
BNI Bardonecchia 84.30 338 *e*P **P 02 10 37.4 +1.0**
CAF Calviac 85.52 341 *e*P **P 02 10 41.5 -1.0**
comp=Z,48nm,1.0s,mb5.4
CAF Calviac 85.52 341 *e*P **P 02 10 41.5 -1.0**
CAF pmax pmax
comp=Z,24nm,1.0s,mb5.4
CAF Calviac 85.52 341 *e*P **P 02 10 41.5 -1.0**
comp=Z,24nm,1.0s,mb5.4
TIP Timpagrande 86.58 329 *e*P **P 02 10 47.9 +0.1**
EIL Elat 86.63 311 *e*P **P 02 10 52.4 +4.4**
CMIG Matias Romero 90.69 64 P **P 02 11 06.4 -0.8**
comp=Z,1.3nm,0.8s,mb3.4,baz=2.1,slow=21,SNR=5.1
ESDC Sonseca Array 91.81 344 P **P 02 11 11.8 -0.6**
comp=Z,1.7nm,0.8s,mb4.4,baz=17,slow=5.1,SNR=7.5
KEST Kesra 92.18 333 P **P 02 11 13.3 -0.8**
comp=Z,1.5nm,0.7s,mb4.4,baz=273,slow=3.8,SNR=4.8
RKT Rikitea 93.87 120 *e*LR LR 02 12 11.5
comp=Z,224nm,26.8s
TORD Torodi Ar. Bea 115.65 331 PP PP 02 17 46.3 -2.9
comp=Z,3.7nm,1.1s,baz=15,slow=6.1,SNR=10
MAW Mawson 133.03 212 PKP PKPdf 02 17 18.3 -1.7
comp=Z,0.6nm,0.6s,baz=336,slow=4.8,SNR=3.0
MAW Mawson 133.03 212 PKIKP PKPdf 02 17 18.3 -1.6
MAW pmax pmax
comp=Z,1.0nm,0.6s
SIV San Ignacio 137.03 56 PKP PKPdf 02 17 27.9 +0.5
comp=Z,2.4nm,0.8s,baz=238,slow=15,SNR=3.7
CFAA Coronel Fontan 143.63 81 PKP PKPdf 02 17 36.2 -3.2
comp=Z,0.5nm,0.7s,baz=276,slow=4.7,SNR=8.8
CFAA Coronel Fontan 143.63 81 PKP PKPdf 02 17 36.2 -3.2

ISCJB ***16*** *02:02:43.6±0.4, 4595N±008×154.10E±0.10, h10km, mb4.0/26, Error ellipse: s-maj=12.0km s-min=9.0km az=114.0*
IDC ***16*** *02:02:43.9±0.7, 4599N×154.11E, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.1/27, mbtmp4.0/20, ML3.7/2, Error ellipse: s-maj=20.3km s-min=17.3km az=131.0*
BJI ***16*** *02:02:44.8, 46.11N×153.98E, h8km, mB5.4, mb4.2*
NEIC ***16*** *02:02:45.3±0.3, 4598N×154.08E, h10km, mb4.4/8, Error ellipse: s-maj=9.5km s-min=7.9km az=140.0*
ISC 16 02:02:45.4±0.4, 4600N±008×15411E±010, h10km, n43, σ0§86/43, mb4.0/26, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.37**	**261**	Pn		**Pn**		**02 04 46.8**	**+0.2**
	0.8nm,0.3s,baz=96,slow=19,SNR=2.8								
MJAR	**Matsushiro Arr**	**15.21**	**237**	Pn		**Pn**		**02 06 19.2**	**-1.0**
	0.5nm,0.3s,baz=11,slow=20,SNR=4.0								
KSRS	**Korea Array**	**21.25**	**256**	P		**P**		**02 07 32.5**	**+0.8**
	1.2nm,0.7s,mb3.4,baz=68,slow=10,SNR=4.2								
SONM	**Songino Array**	**32.24**	**291**	P		**P**		**02 09 14.0**	**+0.2**
	1.5nm,1.0s,mb3.8,baz=81,slow=8.9,SNR=2.3								
GTA	**Gaotai**	**39.78**	**280**	*e*P		**P**		**02 10 20.0**	**+1.6**
GTA				AP		pP		02 10 27.1	+5.6
GTA				XP		sP		02 10 30.6	+7.9
GTA				AMB		AMB			
	comp=Z,4.0nm,1.2s,mb4.0								
INK	**Inuvik**	**41.92**	**32**	P		**P**		**02 10 36.0**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=264,slow=9.8,SNR=5.6								
ZAL	**Zalesovo**	**43.63**	**307**	P		**P**		**02 10 48.4**	**-1.5**
	comp=Z,0.7nm,0.5s,mb3.7,baz=67,slow=10.0,SNR=3.2								
ZAL	**Zalesovo**	**43.63**	**307**	P		**P**		**02 10 48.4**	**-1.5**
MKAR	**Makanchi Array**	**47.90**	**298**	P		**P**		**02 11 23.1**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.2,baz=71,slow=8.5,SNR=8.0								
CHKZ	**Chkalovo**	**51.44**	**311**	*e*P		**P**		**02 11 49.7**	**-1.0**
	comp=Z,3.4nm,0.6s,mb4.5								
BVAR	**Borovoye Array**	**51.87**	**310**	P		**P**		**02 11 53.4**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=64,slow=9.2,SNR=4.3								
BRVK	**Borovoye**	**51.91**	**310**	*e*P		**P**		**02 11 54.0**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**52.64**	**311**	*e*P		**P**		**02 11 59.0**	**-0.6**
AAK	**Ala-Archa**	**54.79**	**297**	*e*P		**P**		**02 12 15.4**	**+0.1**
	comp=Z,2.7nm,0.9s,mb4.3								
ARU	**Arti**	**56.03**	**318**	*e*P		**P**		**02 12 23.4**	**-0.8**
EDM	**Edmonton**	**56.34**	**46**	*e*P		**P**		**02 12 25.7**	**-0.7**
ARCES	**ARCESS Array B**	**58.79**	**341**	P		**P**		**02 12 44.0**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=21,slow=7.7,SNR=7.8								
ARCES	**ARCESS Array B**	**58.79**	**341**	P		**P**		**02 12 44.0**	**+0.2**
TPAW	**Teton Pass**	**63.38**	**54**	*e*P		**P**		**02 13 16.4**	**+1.5**
	comp=Z,2.4nm,0.7s,mb4.4								
DUG	**Dugway**	**64.39**	**58**	*e*P		**P**		**02 13 22.0**	**+0.4**
	comp=Z,2.6nm,1.0s,mb4.2								
PDAR	**Pinedale Array**	**64.63**	**54**	P		**P**		**02 13 22.8**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=291,slow=2.5,SNR=3.7								
FINES	**FINESS Array B**	**65.01**	**335**	P		**P**		**02 13 25.8**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=34,slow=8.1,SNR=11								
RSSD	**Black Hills**	**66.78**	**50**	*e*P		**P**		**02 13 35.3**	**-1.7**
	comp=Z,2.2nm,0.9s,mb4.2								
WRAB	**Tennant Creek**	**68.02**	**200**	*e*P		**P**		**02 13 44.5**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.3								
WB2	**Warramunga Arr**	**68.03**	**200**	*e*P		**P**		**02 13 44.2**	**-0.7**
WRA	**Warramunga Arr**	**68.03**	**200**	P		**P**		**02 13 44.6**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=18,slow=6.9,SNR=6.9								
NB2	**NORSAR Subarra**	**69.16**	**342**	P		**P**		**02 13 54.7**	**+2.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=25,slow=6.5								
NOA	**NORSAR Array B**	**69.16**	**342**	P		**P**		**02 13 53.3**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=26,slow=6.4,SNR=3.4								
HFS	**Hagfors**	**69.40**	**340**	P		**P**		**02 13 52.6**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1,baz=52,slow=5.8,SNR=6.2								
AS31	**Alice Springs**	**71.72**	**199**	*e*P		**P**		**02 14 08.2**	**+0.5**
ASAR	**Alice Springs**	**71.72**	**199**	P		**P**		**02 14 08.2**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.3,baz=14,slow=4.9,SNR=20								
AKASG	**Malin Array Be**	**72.55**	**327**	P		**P**		**02 14 11.8**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=32,slow=5.6,SNR=4.2								
AKASG	**Malin Array Be**	**72.55**	**327**	P		**P**		**02 14 11.8**	**-0.8**
BURAR	**Bucovina Array**	**76.59**	**327**	⇑ *i*P		**P**		**02 14 36.9**	**+0.8**
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**		**02 14 40.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=302,slow=4.1,SNR=17								
CLL	**Collm**	**77.43**	**336**	*e*P		**P**		**02 14 40.0**	**-0.8**
MLR	**Muntele Rosu**	**78.08**	**326**	⇓ *i*P		**P**		**02 14 45.7**	**+1.3**
MALT	**Malatya**	**78.17**	**314**	⇓ *i*P		**P**		**02 14 46.8**	**+1.9**
BR131	**Keskin Array S**	**79.41**	**317**	*e*P		**P**		**02 14 52.7**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8								
BRTR	**Keskin Array B**	**79.41**	**317**	P		**P**		**02 14 52.2**	**+0.5**
	comp=Z,2.5nm,1.0s,mb4.1,baz=51,slow=4.6,SNR=6.7								
GERES	**GERESS Array B**	**79.43**	**335**	P		**P**		**02 14 52.1**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=45,slow=7.6,SNR=3.6								
BZS	**Buzias**	**79.62**	**328**	⇑ *i*P		**P**		**02 14 53.0**	**+0.2**
DAVOX	**Davos**	**82.41**	**336**	P		**P**		**02 15 07.3**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.4								

ISCJB ***16*** *02:04:23.5±1.0, 848S±005×7532W±005, h44km±14km, mb4.0/4, Error ellipse: s-maj=9.6km s-min=8.1km az=98.7*
NEIC ***16*** *02:04:25.3±0.7, 850S×7539W, h46km±8km, mb4.0/4, Error ellipse: s-maj=10.4km s-min=6.3km az=70.0*
IDC ***16*** *02:04:26.4±2.2, 856S×7529W, h54km±23km, mb3.4/2, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=20.8km s-min=11.5km az=62.0*
ISC 16 02:04:26.0±0.7, 850S±005×7536W±005, h48km±11km, n20, σ0§83/19, mb4.0/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.35**	**296**	P		**P**	**Pn**	**02 05 15.2**	**-0.7**
	22nm,0.3s,baz=111,slow=15,SNR=47								
ATAH				S		**Sn**		**02 05 58.1**	**+3.6**
	20nm,0.3s,baz=200,slow=17,SNR=7.9								
NNA	**Nana**	**3.76**	**203**	P		**Pn**		**02 05 20.7**	**-0.7**
	4.4nm,0.3s,baz=16,slow=14,SNR=21								
NNA				S		**Sn**		**02 06 04.7**	**+0.4**
	18nm,0.3s,baz=238,slow=17,SNR=7.2								
OTAV	**Otavalo**	**9.21**	**340**	*e*Pn		**Pn**		**02 06 35.2**	**-1.0**
LPAZ	**La Paz**	**10.47**	**138**	P		**Pn**		**02 06 54.2**	**+0.7**
	0.2nm,0.3s,baz=314,slow=14,SNR=7.5								
LPAZ				Lg				02 09 52.1	
	0.2nm,0.3s,baz=177,slow=22,SNR=3.8								
LPAZ	**La Paz**	**10.47**	**138**	P		**Pn**		**02 06 54.2**	**+0.7**
LPAZ				Lg				02 09 52.1	
SAML	**Samuel**	**12.05**	**93**	*e*Pn		**Pn**		**02 07 14.4**	**-0.6**
	9.6nm,0.4s								
SAML				*e*Sn		**Sn**		**02 09 28.2**	**+0.4**
ROSC	**El Rosal**	**13.31**	**4**	Lg				02 11 20.5	
	0.6nm,0.3s,baz=270,slow=20,SNR=3.2								
ROSC	**El Rosal**	**13.31**	**4**	*e*Pn		**Pn**		**02 07 33.2**	**+1.0**
SIV	**San Ignacio**	**15.82**	**119**	P		**Pn**		**02 08 04.7**	**-0.6**
	1.2nm,0.3s,baz=295,slow=12,SNR=58								
SIV				Lg				02 12 36.9	
	0.2nm,0.3s,baz=18,slow=13,SNR=4.1								
SDV	**Santo Domingo**	**17.90**	**15**	P		**Pn**		**02 08 31.5**	**+0.1**
	0.4nm,0.3s,baz=192,slow=9.3,SNR=5.0								
SDV				Lg				02 13 58.0	
	0.1nm,0.3s,baz=8.1,slow=15,SNR=3.8								
SDV				LR		LR		02 16 24.3	
	comp=Z,107nm,20.9s,baz=358,slow=40								
SDV	**Santo Domingo**	**17.90**	**15**	*e*P		**Pn**		**02 08 31.2**	**-0.2**
	9.1nm,1.0s								
SDV				Lg				02 13 58.0	
SDV				LR		LR		02 16 24.3	
JTS	**JuntasAbangare**	**20.97**	**333**	*e*P		**P**		**02 09 05.0**	**0.0**
	3.2nm,0.6s								
TXAR	**Lajitas Array**	**46.46**	**325**	P		**P**		**02 12 47.2**	**-0.9**
	0.4nm,0.7s,mb3.4,baz=146,slow=8.4,SNR=4.3								
TXAR	**Lajitas Array**	**46.46**	**325**	P		**P**		**02 12 47.2**	**-0.9**
SDCO	**Great Sand Dun**	**53.94**	**331**	*e*P		**P**		**02 13 44.5**	**-0.2**
	1.3nm,0.6s,mb4.0								
TORD	**Torodi Ar. Bea**	**79.48**	**75**	P		**P**		**02 16 28.4**	**+1.1**
	1.1nm,0.8s,mb3.9,baz=272,slow=5.2,SNR=10.0								
QSPA	**South Pole Qui**	**81.61**	**180**	*e*P		**P**		**02 16 38.8**	**+0.1**
	7.4nm,1.2s,mb4.5								
ASAR	**Alice Springs**	**137.10**	**221**	PKP		PKPdf		02 23 44.7	+1.1
	1.0nm,0.7s,baz=135,slow=2.7,SNR=6.7								
WRA	**Warramunga Arr**	**139.33**	**226**	PKP		PKPdf		02 23 48.3	+0.6
	0.6nm,0.3s,baz=135,slow=1.6,SNR=5.0								
FITZ	**Fitzroy Crossi**	**146.40**	**218**	PKPbc		PKPbc		02 24 01.4	-0.2
	1.9nm,0.7s,baz=116,slow=1.9,SNR=4.4								

NEIC ***16*** *02:05:14.9±2.0, 4609N×152.89E, h10km, mb4.1/3, Error ellipse: s-maj=56.0km s-min=15.7km az=178.0*
ISCJB ***16*** *02:05:15.8±1.6, 466N±003×1528E±02, h10km, mb4.0/12, Error ellipse: s-maj=39.5km s-min=18.8km az=139.0*
IDC ***16*** *02:05:15.3±2.3, 4648N×153.01E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/24, mbtmp3.9/10, Error ellipse: s-maj=59.3km s-min=27.6km az=164.0*
ISC 16 02:05:17.7±1.6, 467N±003×1529E±02, h10km, n16, σ0§66/16, mb4.0/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.63**	**252**	P		**P**		**02 09 57.9**	**+0.7**
	1.5nm,0.6s,baz=59,slow=11,SNR=4.5								
INK	**Inuvik**	**41.80**	**32**	P		**P**		**02 13 08.3**	**+1.0**
	0.9nm,0.7s,mb3.5,baz=337,slow=2.8,SNR=3.9								
MKAR	**Makanchi Array**	**46.84**	**297**	P		**P**		**02 13 47.4**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=74,slow=8.9,SNR=4.3								
CHKZ	**Chkalovo**	**50.36**	**310**	*e*P		**P**		**02 14 14.1**	**-0.7**
	2.1nm,0.6s,mb4.3								
BVAR	**Borovoye Array**	**50.78**	**309**	P		**P**		**02 14 18.1**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=45,slow=4.5,SNR=4.0								
BRVK	**Borovoye**	**50.82**	**309**	*e*P		**P**		**02 14 18.0**	**-0.3**
	1.8nm,0.6s,mb4.2								
ZRNK	**Zerenda**	**51.55**	**310**	*e*P		**P**		**02 14 23.0**	**-0.8**
	1.0nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**64.04**	**335**	P		**P**		**02 15 52.1**	**+0.6**
	0.8nm,0.4s,mb4.1,baz=38,slow=9.6,SNR=5.9								
NB2	**NORSAR Subarra**	**68.25**	**341**	P		**P**		**02 16 19.2**	**+0.7**
	comp=Z,1.1nm,1.4s,mb4.7,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**68.25**	**341**	P		**P**		**02 16 19.1**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=30,slow=6.4,SNR=3.2								
HFS	**Hagfors**	**68.47**	**339**	P		**P**		**02 16 19.3**	**-0.6**
	comp=Z,3.6nm,1.0s,mb4.4,baz=48,slow=6.6,SNR=5.4								
HFS	**Hagfors**	**68.47**	**339**	P		**P**		**02 16 19.3**	**-0.6**
AKASG	**Malin Array Be**	**71.52**	**326**	P		**P**		**02 16 38.7**	**0.0**
	comp=Z,2.3nm,0.4s,mb4.4,baz=33,slow=5.9,SNR=8.3								
AKASG	**Malin Array Be**	**71.52**	**326**	P		**P**		**02 16 38.7**	**0.0**
TXAR	**Lajitas Array**	**77.66**	**60**	P		**P**		**02 17 13.2**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=317,slow=5.3,SNR=3.4								
GERES	**GERESS Array B**	**78.45**	**334**	P		**P**		**02 17 19.5**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=38,slow=6.8,SNR=3.6								

ISCJB ***16*** *02:05:40.3±1.2, 467N±002×1560E±02, h10km, mb4.2/20, Error ellipse: s-maj=28.2km s-min=10.8km az=129.6*
NEIC ***16*** *02:05:40.0±1.7, 46.18N×155.95E, h10km, mb4.6/5, Error ellipse: s-maj=47.9km s-min=13.4km az=178.0*
MOS ***16*** *02:05:41.3±0.9, 4662N×15601E, h20km, mb4.5/17, Error ellipse: s-maj=18.3km s-min=13.0km az=120.1*
IDC ***16*** *02:05:46.2±4.7, 4643N×15605E, h49km±52km, mb3.8/14, mb1 4.0/15, mb1mx3.8/26, mbtmp3.9/15, ML3.7/1, Error ellipse: s-maj=51.4km s-min=20.2km az=179.0*
ISC 16 02:05:41.8±1.2, 466N±002×1559E±01, h10km, n42, σ0§86/43, mb4.2/20, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.77**	**259**	P		**Pn**		**02 07 08.0**	**+0.6**
KUR				*e*S		**Sn**		**02 08 11.5**	**-2.2**
KUR				smax					
	comp=N,90nm,0.5s								
KUR				smax					
	comp=E,50nm,0.5s								
ASAJ	**Asahikawa**	**9.69**	**260**	P		**Pn**		**02 08 05.5**	**+4.3**
	comp=E,0.8nm,0.3s,baz=76,slow=19,SNR=4.9								
ASAJ	**Asahikawa**	**9.69**	**260**	P		**Pn**		**02 08 05.6**	**+4.4**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CLNS	**Chul'man**	**21.59**	**310**	*e*P		**P**		**02 10 25.4**	**-6.3**
CLNS				pmax		pmax			
	comp=N,9.0nm,0.9s								
CLNS				pmax		pmax			
	comp=E,12nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,16nm,0.9s,mb4.5								
BILL	**Bilibino**	**22.16**	**10**	⇑ *e*P		**P**		**02 10 37.0**	**-0.7**
BILL				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.0								
KSRS	**Korea Array**	**22.61**	**256**	P		**P**		**02 10 43.3**	**+0.8**
	comp=Z,1.0nm,0.5s,mb3.5,baz=23,slow=7.5,SNR=2.6								
SONM	**Songino Array**	**33.19**	**291**	P		**P**		**02 12 18.4**	**-0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=69,slow=8.3,SNR=5.8								
SONM	**Songino Array**	**33.19**	**291**	P		**P**		**02 12 18.4**	**-0.2**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.9s								
INK	**Inuvik**	**40.76**	**32**	P		**P**		**02 13 21.7**	**-1.2**
	comp=Z,2.2nm,0.8s,mb3.8,baz=270,slow=4.7,SNR=5.1								
INK	**Inuvik**	**40.76**	**32**	P		**P**		**02 13 21.7**	**-1.2**
INK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**40.76**	**32**	P		**P**		**02 13 24.9**	**+2.0**
	comp=Z,54nm,0.6s,mb5.4								
ZAL	**Zalesovo**	**44.27**	**307**	P		**P**		**02 13 50.5**	**-0.9**
	comp=Z,1.8nm,0.3s,mb4.3,baz=60,slow=9.7,SNR=6.4								
ZAL	**Zalesovo**	**44.27**	**307**	P		**P**		**02 13 50.6**	**-0.9**
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**48.71**	**299**	P		**P**		**02 14 26.9**	**+0.5**
	comp=Z,4.4nm,0.8s,mb4.5,baz=64,slow=8.2,SNR=12								
MKAR	**Makanchi Array**	**48.71**	**299**	P		**P**		**02 14 26.9**	**+0.6**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CHKZ	**Chkalovo**	**51.99**	**311**	*e*P		**P**		**02 14 50.4**	**-0.8**
CHKZ				pmax		pmax			
	comp=Z,4.0nm,0.4s,mb4.7								
CHKZ	**Chkalovo**	**51.99**	**311**	*e*P		**P**		**02 14 50.4**	**-0.7**
	comp=Z,4.3nm,0.4s,mb4.7								
BVAR	**Borovoye Array**	**52.43**	**311**	P		**P**		**02 14 54.6**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.5,baz=57,slow=7.7,SNR=17								
BVAR	**Borovoye Array**	**52.43**	**311**	P		**P**		**02 14 54.6**	**+0.2**
BVAR				pmax		pmax			

comp=Z,2.0nm,0.4s
BRVK Borovoye 52.47 311 *e*P **P 02 14 55.1 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BRVK Borovoye 52.47 311 *e*P **P 02 14 55.1 +0.4**
comp=Z,2.5nm,0.5s,mb4.4
ZRNK Zerenda 53.19 311 *e*P **P 02 14 59.7 -0.4**
ZRNK pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
ZRNK Zerenda 53.19 311 *e*P **P 02 14 59.7 -0.4**
comp=Z,2.6nm,0.4s,mb4.5
AAK Ala-Archa 55.62 298 *e*P **P 02 15 19.2 +1.5**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AAK Ala-Archa 55.62 298 *e*P **P 02 15 19.2 +1.5**
comp=Z,2.1nm,0.8s,mb4.2
ARU Arti 56.42 319 *e*P **P 02 15 23.2 -0.2**
ARCES ARCESS Array B 58.62 342 P **P 02 15 38.1 -0.8**
comp=Z,1.9nm,0.8s,mb4.2,baz=29,slow=7.6,SNR=3.3
ARCES ARCESS Array B 58.62 342 P **P 02 15 38.8 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
AKTK Aktyubinsk 60.25 313 P **P 02 15 50.8 +0.5**
AKTO Aktyubinsk 60.25 313 P **P 02 15 50.8 +0.5**
comp=Z,2.2nm,0.5s,mb4.4,baz=59,slow=6.3,SNR=9.8
AKTO Aktyubinsk 60.25 313 P **P 02 15 50.8 +0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
PDAR Pinedale Array 63.27 55 P **P 02 16 10.4 -0.2**
comp=Z,0.4nm,0.8s,mb3.6,baz=298,slow=1.9,SNR=3.3
FINES FINESS Array B 64.99 336 P **P 02 16 21.7 -0.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=37,slow=8.1,SNR=8.4
FINES FINESS Array B 64.99 336 P **P 02 16 21.7 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 68.98 342 P **P 02 16 47.5 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=26,slow=6.3,SNR=3.9
NOA NORSAR Array B 68.98 342 P **P 02 16 47.5 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 69.26 341 P **P 02 16 49.0 0.0**
comp=Z,2.0nm,0.6s,mb4.2,baz=74,slow=6.3,SNR=4.4
HFS Hagfors 69.26 341 P **P 02 16 49.0 0.0**
HFS pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 75.88 62 P **P 02 17 26.9 -1.5**
comp=Z,0.7nm,0.6s,mb3.8,baz=309,slow=4.2,SNR=5.3
TXAR Lajitas Array 75.88 62 P **P 02 17 26.9 -1.5**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.42 336 P **P 02 17 49.6 +1.4**
comp=Z,0.7nm,0.8s,mb3.7,baz=37,slow=5.3,SNR=3.7
GERES GERESS Array B 79.42 336 P **P 02 17 49.6 +1.5**
GERES pmax pmax
comp=Z,1.0nm,0.8s

ISCJB ***16*** *02:07:08.8±2.0, 465N±02×277W±04, h10km, mb4.1/9, MS3.7/1, Error ellipse: s-maj=43.1km s-min=18.5km az=107.4*
IDC ***16*** *02:07:09.3±1.6, 4643N×2760W, h0km, mb4.0/5, mb1 3.9/6, mb1mx3.7/25, mbtmp3.9/6, ML4.7/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/38, Error ellipse: s-maj=47.2km s-min=30.5km az=81.0*
NEIC ***16*** *02:07:10.6±0.8, 4644N×2767W, h10km, mb4.4/4, Error ellipse: s-maj=21.4km s-min=14.9km az=60.0*
CSEM ***16*** *02:07:10.6, 4644N×2767W, h10km, mb4.4/4, After NEIC*
ISC 16 02:07:10.3±2.0, 464N±02×277W±04, h10km, n19, σ0§51/15, mb4.1/9, MS3.7/1, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.56**	**103**	P		**Pn**		**02 11 27.8**	**+0.3**
	0.5nm,0.3s,baz=298,slow=13,SNR=7.1								
STU	**Stuttgart**	**24.82**	**71**	*e*P		**P**		**02 12 31.9**	**-0.6**
	8.8nm,0.6s,mb4.5								
STU	**Stuttgart**	**24.82**	**71**	*e*P		**P**		**02 12 31.9**	**-0.7**
	8.8nm,0.6s,mb4.5								
SCHQ	**Schefferville**	**25.92**	**303**	LR		LR		02 22 19.5	
	comp=Z,217nm,18.6s,MS3.7,baz=224,slow=35								
SUMG	**Summit**	**26.69**	**353**	*e*P		**P**		**02 12 48.9**	**-0.7**
	4.8nm,0.5s,mb4.3								
SUMG	**Summit**	**26.69**	**353**	*e*P		**P**		**02 12 48.9**	**-0.6**
	4.8nm,0.5s,mb4.3								
TORD	**Torodi Ar. Bea**	**41.38**	**134**	P		**P**		**02 14 56.3**	**-0.3**
	2.

IGT				*e*Sg	**Sg**	**02 08 42.8**	**+0.9**
LSK	**Leskovik**	**0.65**	**331**	*i* Pg	**Pg**	**02 08 37.0**	**-0.1**
LSK				*i* Sg	**Sg**	**02 08 49.0**	**+3.4**
THL	**Klokotos Trika**	**0.77**	**91**	*e*PN	**Pn**	**02 08 38.3**	**-3.7**
THL				*e*SN	**Sg**	**02 08 48.9**	**-0.7**
EVR	**Evrytania**	**0.91**	**137**	*e*PB	**Pb**	**02 08 40.5**	**-2.3**
LKD	**Levkas**	**0.92**	**198**	*e*Pg	**Pg**	**02 08 40.4**	**-2.0**
LKD				*e*Sg	**Sg**	**02 08 56.1**	**+1.7**
KZN	**Kozani**	**0.93**	**39**	*e*PN	**Pn**	**02 08 40.0**	**-4.1**
KEK	**Kerkira**	**0.95**	**278**	*e*PN	**Pn**	**02 08 41.9**	**-2.5**
AGG	**Agios Georgios**	**1.17**	**118**	*e*Pg	**Pg**	**02 08 45.7**	**-1.4**
AGG				*e*Sg	**Sg**	**02 09 03.8**	**+1.6**
FNA	**Florina**	**1.23**	**13**	*e*Pg	**Pg**	**02 08 47.4**	**-0.9**
FNA				*e*Sg	**Sg**	**02 09 07.1**	**+2.9**
LIT	**Litokhoron**	**1.25**	**65**	*e*Pg	**Pg**	**02 08 48.5**	**-0.1**
LIT				*e*Sg	**Sg**	**02 09 07.0**	**+2.2**
VLS	**Valsamata**	**1.45**	**193**	*e*PN	**Pn**	**02 08 52.0**	**+0.7**
VLS				*e*SN	**Sn**	**02 09 12.2**	**+1.7**
RLS	**Riolos of Patr**	**1.57**	**167**	*e*PN	**Pn**	**02 08 53.6**	**+0.6**
XOR	**Xorichti**	**1.70**	**97**	*e*Pb	**Pb**	**02 08 56.0**	**-0.3**
XOR				*e*Sb	**Sb**	**02 09 18.1**	**+0.2**
GRG	**Griva**	**1.73**	**37**	*e*Pb	**Pb**	**02 08 55.9**	**-1.0**
NEO	**Neokhori**	**1.73**	**99**	*e*PN	**Pn**	**02 08 54.3**	**-0.9**
AOS	**Alonnisos**	**2.26**	**100**	*e*Pn	**Pn**	**02 09 02.1**	**-0.4**
AOS				*e*Sn	**Sn**	**02 09 31.7**	**+1.1**
ESKT	**Eskisehir**	**7.60**	**87**	*i* P	**Pn**	**02 10 15.9**	**+0.1**
SEYT	**Eskypehyr**	**7.60**	**87**	*i* P	**Pn**	**02 10 15.9**	**0.0**

MOS ***16*** *02:10:26.9±0.9, 46.95N×155.06E, h22km, mb4.4/17, Error ellipse: s-maj=16.4km s-min=11.5km az=110.3*
NEIC ***16*** *02:10:26.6±0.7, 46.84N×155.05E, h10km, mb4.4/4, Error ellipse: s-maj=17.1km s-min=11.7km az=168.0*
ISCJB ***16*** *02:10:28.5±1.1, 47.4N±02×154.8E±02, h10km, mb4.1/20, Error ellipse: s-maj=27.2km s-min=10.4km az=102.2*
IDC ***16*** *02:10:33.4±4.4, 47.11N×155.04E, h49km±49km, mb3.8/16, mb1 3.9/18, mb1mx3.8/28, mbtmpb3.8/18, ML3.8/2, Error ellipse: s-maj=48.7km s-min=22.8km az=169.0*

ISC 16 02:10:29.6±1.1**, 47.4N**±01×**155.0E**±02**, h10km, n57,**
σ1§**11/57, mb4.1**/20**, 4C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.37**	**249**	*e*PN	**Pn**	**02 11 45.0**	**-4.8**
ASAJ	**Asahikawa**	**9.25**	**254**	P	**Pn**	**02 12 43.2**	**+0.2**
	1.0nm,0.3s,baz=200,slow=13,SNR=3.5						
ASAJ	**Asahikawa**	**9.25**	**254**	PN	**Pn**	**02 12 43.2**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.48**	**235**	P	**Pn**	**02 14 20.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=31,slow=8.0,SNR=5.1						
MJAR	**Matsushiro Arr**	**16.48**	**235**	P	**Pn**	**02 14 20.7**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**21.49**	**12**	*e*P	**P**	**02 15 18.0**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb3.9						
KSRS	**Korea Array**	**22.20**	**253**	P	**P**	**02 15 26.8**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.5,baz=52,slow=13,SNR=4.5						
SONM	**Songino Array**	**32.32**	**289**	P	**P**	**02 16 58.1**	**-0.7**
	comp=Z,0.8nm,0.9s,mb3.5,baz=59,slow=9.0,SNR=5.1						
SONM	**Songino Array**	**32.32**	**289**	P	**P**	**02 16 58.1**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**40.43**	**33**	P	**P**	**02 18 08.2**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.3,baz=302,slow=7.2,SNR=11						
INK	**Inuvik**	**40.43**	**33**	P	**P**	**02 18 08.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAL	**Zalesovo**	**43.28**	**306**	P	**P**	**02 18 30.4**	**-1.0**
	comp=Z,1.3nm,0.4s,mb4.0,baz=38,slow=9.6,SNR=5.2						
ZAL	**Zalesovo**	**43.28**	**306**	P	**P**	**02 18 30.4**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**47.77**	**298**	*e*P	**P**	**02 19 06.5**	**-0.4**
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**02 19 06.3**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.3,baz=66,slow=8.1,SNR=8.4						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**02 19 06.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**49.82**	**19**	*e*P	**P**	**02 19 22.8**	**+0.1**
RES				pmax	pmax		
	comp=Z,45nm,0.5s						
RES	**Resolute Bay**	**49.82**	**19**	*e*P	**P**	**02 19 22.8**	**+0.1**
	comp=Z,45nm,0.5s						
CHKZ	**Chkalovo**	**50.98**	**310**	*e*P	**P**	**02 19 30.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**50.98**	**310**	*e*P	**P**	**02 19 30.6**	**-0.9**
	comp=Z,5.6nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**51.43**	**310**	P	**P**	**02 19 34.8**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=53,slow=7.5,SNR=12						
BVAR	**Borovoye Array**	**51.43**	**310**	P	**P**	**02 19 34.8**	**0.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**51.47**	**310**	*e*P	**P**	**02 19 34.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**51.47**	**310**	*e*P	**P**	**02 19 34.6**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**52.19**	**310**	*e*P	**P**	**02 19 39.9**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.19**	**310**	*e*P	**P**	**02 19 39.9**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**02 19 58.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**02 19 58.6**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**02 20 19.6**	**-0.5**
	comp=Z,4.9nm,1.0s,mb4.5,baz=31,slow=7.5,SNR=5.1						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**02 20 19.6**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.24**	**312**	P	**P**	**02 20 30.9**	**-0.2**
AKTO	**Aktyubinsk**	**59.24**	**312**	P	**P**	**02 20 30.9**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=59,slow=8.5,SNR=4.8						
AKTO	**Aktyubinsk**	**59.24**	**312**	P	**P**	**02 20 30.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**02 21 03.0**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=43,slow=8.4,SNR=16						
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**02 21 03.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**02 21 03.0**	**-0.2**
NB2	**NORSAR Subarra**	**68.02**	**342**	P	**P**	**02 21 31.0**	**+1.9**
	comp=Z,4.3nm,1.0s,mb4.4,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.02**	**342**	P	**P**	**02 21 30.4**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.2,SNR=4.2						
NOA	**NORSAR Array B**	**68.02**	**342**	P	**P**	**02 21 30.4**	**+1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.29**	**340**	P	**P**	**02 21 32.3**	**+1.5**
	comp=Z,1.2nm,0.3s,mb4.3,baz=46,slow=4.3,SNR=13						
HFS	**Hagfors**	**68.29**	**340**	P	**P**	**02 21 32.3**	**+1.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**02 21 50.8**	**-1.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=34,slow=6.2,SNR=7.5						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**02 21 50.8**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BURAR	**Bucovina Array**	**75.74**	**328**	⇓*i*P	**P**	**02 22 11.4**	**-4.1**
EKA	**Eskdalemuir Ar**	**76.00**	**347**	P	**P**	**02 22 15.7**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=19,slow=4.8,SNR=5.0						
EKA	**Eskdalemuir Ar**	**76.00**	**347**	P	**P**	**02 22 15.7**	**-1.3**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.07**	**62**	P	**P**	**02 22 15.6**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=298,slow=6.0,SNR=4.4						
CLL	**Collm**	**76.39**	**337**	*e*P	**P**	**02 22 21.0**	**+1.8**
MORC	**Moravsky Berou**	**76.45**	**333**	⇑*i*P	**P**	**02 22 18.8**	**-0.7**
TIRR	**Tirgusor**	**77.15**	**324**	⇓*i*P	**P**	**02 22 25.8**	**+2.3**
MLR	**Muntele Rosu**	**77.25**	**326**	⇑*i*P	**P**	**02 22 27.3**	**+3.2**
DRGR		**77.34**	**329**	⇑*i*P	**P**	**02 22 27.4**	**+2.9**
MALT	**Malatya**	**77.63**	**314**	⇑*i*P	**P**	**02 22 27.8**	**+1.6**
GERES	**GERESS Array B**	**78.42**	**335**	P	**P**	**02 22 30.4**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=301,slow=14,SNR=6.8						
BZS	**Buzias**	**78.74**	**329**	⇓*i*P	**P**	**02 22 35.0**	**+2.7**
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**02 22 31.2**	**-1.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=68,slow=2.8,SNR=5.6						
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**02 22 31.2**	**-1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

ISCJB ***16*** *02:11:34.3±0.7, 41.91N×003.2×332.2E±006, h3km, Error ellipse: s-maj=6.6km s-min=4.0km az=172.7*
THE ***16*** *02:11:35.4, 41.92N×332.25E, h3km, ML2.5*
CSEM ***16*** *02:11:35.7±0.1, 41.98N×316.2E, h20km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.1km az=93.0*
SKO ***16*** *02:11:36.1, 41.94N×332.7E, h0km, M1.3, ML1.7*

ISC 16 02:11:35.0±0.7**, 41.93N**±003×**331.2E**±007**, h10km**±13km**,**
n15, σ0§**40/26, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.67**	**354**	*e*Pg	**Pg**	**02 11 48.0**	**0.0**
VTS				*e*Sg	**Sg**	**02 11 56.9**	**+0.2**
VAY	**Valandovo**	**0.82**	**223**	*e*Pg	**Pg**	**02 11 50.9**	**+0.1**
VAY				*e*Sg	**Sg**	**02 12 01.2**	**-0.3**
VAY	**Valandovo**	**0.82**	**223**	*i* Pg	**Pg**	**02 11 51.0**	**+0.2**
VAY				*i* Sg	**Sg**	**02 12 01.8**	**+0.3**
VAY				*e*Lg		02 12 04.1	
	comp=N,21nm,0.5s						
VAY				*e*Lg		02 12 04.5	
	comp=E,15nm,0.5s						
VAY	**Valandovo**	**0.82**	**223**	*e*Pg	**Pg**	**02 11 50.9**	**+0.1**
VAY				*i* Sg	**Sg**	**02 12 01.7**	**+0.2**
KNT	**Kendrikon**	**0.82**	**202**	*e*Pg	**Pg**	**02 11 50.9**	**+0.1**
KNT				*e*Sg	**Sg**	**02 12 02.1**	**+0.6**
SRS	**Serrai**	**0.83**	**165**	*e*Pg	**Pg**	**02 11 51.3**	**+0.2**
STIP	**Stip**	**0.87**	**255**	*e*Pg	**Pg**	**02 11 51.2**	**-0.6**
STIP				*e*Sg	**Sg**	**02 12 02.8**	**-0.3**
STIP	**Stip**	**0.87**	**255**	*i* Pg	**Pg**	**02 11 51.3**	**-0.5**
STIP				*i* Sg	**Sg**	**02 12 03.2**	**+0.1**
STIP	**Stip**	**0.87**	**255**	*e*Pg	**Pg**	**02 11 51.2**	**-0.6**
STIP				*i* Sg	**Sg**	**02 12 03.2**	**+0.1**
SOH	**Sokhos**	**1.10**	**178**	*e*Pg	**Pg**	**02 11 56.1**	**0.0**
SOH				*e*Sg	**Sg**	**02 12 11.1**	**+0.6**
GRG	**Griva**	**1.19**	**216**	*e*Pg	**Pg**	**02 11 57.4**	**-0.3**
HORT	**Hortiatis**	**1.34**	**187**	*e*Pg	**Pg**	**02 12 00.6**	**0.0**
HORT				*e*Sg	**Sg**	**02 12 18.4**	**+0.4**
PLG	**Polygyros**	**1.55**	**176**	*e*Pg	**Pg**	**02 12 04.3**	**-0.5**
PLG				*e*Sg	**Sg**	**02 12 23.9**	**-1.0**
OUR	**Ouranopolis**	**1.67**	**162**	*e*Pb	**Pb**	**02 12 05.7**	**-0.2**
PAIG	**Paliouri**	**2.02**	**172**	*e*Pn	**Pn**	**02 12 09.4**	**+0.3**

IDC ***16*** *02:12:45.9±5.2, 45.75N×154.64E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/24, mbtmpb3.9/6, Error ellipse: s-maj=164.5km s-min=40.3km az=13.0*
ISCJB ***16*** *02:12:46.3±0.9, 45.9N±02×154.6E±03, h10km, mb4.0/10, Error ellipse: s-maj=30.8km s-min=20.8km az=138.1*
NEIC ***16*** *02:12:47.4±0.8, 45.72N×154.64E, h10km, mb4.1/4, Error ellipse: s-maj=25.1km s-min=19.6km az=54.0*

ISC 16 02:12:48.1±0.9**, 45.9N**±02×**154.6E**±03**, h10km, n12,**
σ0§**90/12, mb4.0/10, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKZ	**Chkalovo**	**51.77**	**311**	*e*P	**P**	**02 21 55.9**	**0.0**
	1.9nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**02 21 59.1**	**+0.1**
	1.1nm,0.5s,mb4.1,baz=58,slow=8.1,SNR=5.8						
BRVK	**Borovoye**	**52.24**	**311**	*e*P	**P**	**02 21 59.8**	**+0.5**
	1.3nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**52.97**	**311**	*e*P	**P**	**02 22 04.7**	**-0.1**
	1.3nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**60.06**	**313**	P	**P**	**02 22 55.0**	**-0.2**
AKTO	**Aktyubinsk**	**60.06**	**313**	P	**P**	**02 22 55.0**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=84,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**65.24**	**336**	P	**P**	**02 23 28.4**	**-1.5**
	1.9nm,0.8s,mb4.2,baz=43,slow=7.7,SNR=4.7						
WRAB	**Tennant Creek**	**68.06**	**201**	*e*P	**P**	**02 23 46.0**	**-1.8**
	1.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**68.07**	**201**	*e*P	**P**	**02 23 49.8**	**+1.9**
NOA	**NORSAR Array B**	**69.36**	**342**	P	**P**	**02 23 56.5**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=27,slow=6.5,SNR=2.6						
HFS	**Hagfors**	**69.61**	**340**	P	**P**	**02 23 58.1**	**+0.7**
	0.8nm,0.5s,mb4.0,baz=40,slow=2.5,SNR=6.0						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**02 24 41.0**	**0.0**
	0.8nm,1.0s,mb3.6,baz=320,slow=4.9,SNR=3.7						

IDC 16 02:13:30.1±0.8**, 2838N**×**14005E, h480**km±28km**, mb3.0/5,**
mb1 3.1/6, mb1mx2.9/20, mbtmp3.0/6, Error ellipse:
s-maj=91.7km s-min=17.9km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.28**	**124**	P	P	02 14 34.2	-0.5
	30nm,0.3s,baz=292,slow=18,SNR=8.6						
CBIJ				S	S	02 15 27.9	+0.5
	29nm,0.3s,baz=289,slow=22,SNR=8.3						
MKAR	**Makanchi Array**	**48.20**	**309**	P	P	02 21 25.5	-0.5
	0.3nm,0.5s,baz=94,slow=9.9,SNR=1.8						
WRA	**Warramunga Arr**	**48.35**	**187**	P	P	02 21 27.0	-0.1
	0.6nm,0.3s,baz=3.7,slow=7.6,SNR=6.6						
ASAR	**Alice Springs**	**52.08**	**187**	P	P	02 21 54.9	+0.4
	0.5nm,0.7s,baz=12,slow=6.7,SNR=4.8						
BVAR	**Borovoye Array**	**55.82**	**317**	P	P	02 22 21.2	+0.2
	1.6nm,0.4s,baz=88,slow=7.4,SNR=9.2						
FINES	**FINESS Array B**	**75.96**	**333**	P	P	02 24 26.4	-0.6
	0.5nm,0.3s,baz=76,slow=6.2,SNR=5.6						

BJI ***16*** *02:16:59.4, 47.25N×154.55E, h8km, mB4.8, mb4.5, Ms4.5, Msz4.1*
NEIC ***16*** *02:17:00.4±0.6, 46.54N×154.61E, h10km, mb4.4/9, Error ellipse: s-maj=15.8km s-min=9.5km az=157.0*
ISCJB ***16*** *02:17:02.4±2.0, 466N±0.1×154.6E±0.1, h36km±18km, mb4.3/33, Error ellipse: s-maj=19.0km s-min=10.9km az=148.1*
MOS ***16*** *02:17:02.1±1.2, 46.56N×154.54E, h33km, mb4.5/21, Error ellipse: s-maj=14.2km s-min=10.8km az=119.3*
IDC ***16*** *02:17:03.5±7.2, 46.48N×154.59E, h33km±55km, mb3.9/17, mb1 4.1/19, mb1mx4.0/27, mbtmpb3.9/19, ML3.9/2, Error ellipse: s-maj=22.6km s-min=18.0km az=167.0*

ISC 16 02:17:04.7±1.6**, 466N**±01×**154.6E**±01**, h40km**±15km**, n77,**
σ1§**12/77, mb4.3/33, 3C-6D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.88**	**256**	⇓*i*PN	**Pn**	**02 18 10.0**	**-5.4**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,50nm,0.6s						
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.12**	**277**	*e*PN	**Pn**	**02 19 10.8**	**+11**
ASAJ	**Asahikawa**	**8.79**	**258**	Pn	**Pn**	**02 19 07.5**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=98,slow=20,SNR=6.1						
ASAJ	**Asahikawa**	**8.79**	**258**	PN	**Pn**	**02 19 07.6**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**15.51**	**288**	*e*P	**Pn**	**02 20 41.0**	**+0.6**
MJAR	**Matsushiro Arr**	**15.82**	**236**	Pn	**Pn**	**02 20 44.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=36,slow=8.5,SNR=4.6						
KSRS	**Korea Array**	**21.72**	**255**	P	**P**	**02 21 52.8**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.1,baz=55,slow=11,SNR=13						
BILL	**Bilibino**	**22.31**	**12**	⇑*e*P	**P**	**02 21 59.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**22.31**	**12**	*e*P	**P**	**02 21 58.9**	**+0.3**
	comp=Z,9.5nm,0.9s,mb4.2						
SNY	**Shenyang**	**22.64**	**269**	⇑P	**P**	**02 22 01.0**	**-1.0**
SNY				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.5						
BOD	**Bodaibo**	**26.85**	**310**	*e*P	**P**	**02 22 36.9**	**-4.4**
BJI	**Beijing**	**28.48**	**271**	P	**P**	**02 22 58.6**	**+2.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
BJI	**Beijing**	**28.48**	**271**	P	**P**	**02 22 58.6**	**+2.7**
	comp=Z,7.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**32.32**	**290**	P	**P**	**02 23 29.0**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=70,slow=9.3,SNR=4.3						
SONM	**Songino Array**	**32.32**	**290**	P	**P**	**02 23 29.0**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	**Zakamensk**	**33.64**	**296**	*e*P	**P**	**02 23 40.1**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
XAN	**Xi'an**	**36.50**	**266**	P	**P**	**02 24 08.0**	**+2.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
LZH	**Lanzhou**	**38.89**	**273**	*e*P	**P**	**02 24 27.5**	**+1.3**
LZH				AP	pP	02 24 33.6	-3.9
LZH				XP	sP	02 24 35.1	-7.1
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
LZH	**Lanzhou**	**38.89**	**273**	*e*P	**P**	**02 24 27.5**	**+1.3**
	comp=Z,20nm,1.3s,mb4.7						
LZH				pP	pP	02 24 33.6	-3.9
LZH				sP	sP	02 24 35.1	-7.1
GTA	**Gaotai**	**39.98**	**280**	*e*P	**P**	**02 24 36.8**	**+1.5**
GTA				AP	pP	02 24 42.8	-3.7
GTA				XP	sP	02 24 45.8	-5.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
INK	**Inuvik**	**41.23**	**32**	P	**P**	**02 24 46.2**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.0,baz=281,slow=7.5,SNR=12						
INK	**Inuvik**	**41.23**	**32**	P	**P**	**02 24 46.2**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**41.23**	**32**	P	**P**	**02 24 46.2**	**+0.6**
MK31	**Makanchi Array**	**47.89**	**298**	*e*P	**P**	**02 25 39.1**	**+0.4**
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**02 25 37.9**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.5,baz=64,slow=7.9,SNR=16						
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**02 25 37.9**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RES	**Resolute Bay**	**50.65**	**19**	*e*P	**P**	**02 26 00.6**	**+0.8**
RES				pmax	pmax		
	comp=Z,110nm,0.8s						
RES	**Resolute Bay**	**50.65**	**19**	*e*P	**P**	**02 26 00.6**	**+0.8**
	comp=Z,110nm,0.8s						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**02 26 04.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**02 26 04.4**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**02 26 08.5**	**+0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=58,slow=8.9,SNR=14						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**02 26 08.5**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**02 26 08.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**02 26 08.6**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**02 26 13.7**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**02 26 13.7**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**54.79**	**297**	*e*P	**P**	**02 26 30.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**54.79**	**297**	*e*P	**P**	**02 26 30.6**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.5						
ARU	**Arti**	**55.79**	**318**	⇓*i*P	**P**	**02 26 37.2**	**-0.4**
ARU				*e*		02 28 44.6	
ARU				*e*S	**S**	**02 34 21.5**	**-0.2**
ARU				*e*SS	SS	02 38 09.3	+1.8
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**02 26 53.8**	**-1.6**
	comp=Z,3.6nm,0.8s,mb4.5,baz=54,slow=6.2,SNR=5.1						
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**02 26 53.8**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTK	**Aktyubinsk**	**59.56**	**313**	P	**P**	**02 27 04.2**	**+0.1**
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**02 27 04.2**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=70,slow=6.2,SNR=9.8						
AKTO	**Akt

NEIC ***16*** *02:19:55.7, 41.22S×172.70E, h203km, MG3.7(WEL), After WEL.*

WEL 16 02:19:55.7±0.5, 41.22S×172.70E, h203km±3km, ML3.6/8, 2C, Error ellipse: s-maj=3.8km s-min=2.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.41**	**342**	P	Pn	02 20 22.6	-0.2
QRZ				S	Sn	02 20 42.5	-1.3
QRZ	**Quartz Range**	**0.41**	**342**	⇑PN	Pn	02 20 22.5	-0.3
QRZ				SN	Sn	02 20 42.5	-1.3
NNZ	**Nelson**	**0.52**	**90**	P	Pn	02 20 23.1	-0.1
NNZ				S	Sn	02 20 43.7	-0.7
NNZ	**Nelson**	**0.52**	**90**	⇑PN	Pn	02 20 23.1	-0.1
NNZ				SN	Sn	02 20 43.7	-0.8
THZ	**Tophouse**	**0.57**	**164**	*e*P	Pn	02 20 23.7	+0.3
THZ				S	Sn	02 20 44.3	-0.5
THZ	**Tophouse**	**0.57**	**164**	PN	Pn	02 20 23.7	+0.3
THZ				SN	Sn	02 20 44.3	-0.5
DUWZ	**D'Urville Isla**	**1.02**	**66**	PN	Pn	02 20 26.0	+0.1
BSWZ	**Blackbirch Sta**	**1.02**	**120**	P	Pn	02 20 26.2	+0.4
BSWZ	**Blackbirch Sta**	**1.02**	**120**	PN	Pn	02 20 26.2	+0.3
TCW	**Tory Channel**	**1.19**	**90**	P	Pn	02 20 27.2	+0.1
TCW	**Tory Channel**	**1.19**	**90**	PN	Pn	02 20 27.2	+0.1
KHZ	**Kahutara**	**1.36**	**153**	P	Pn	02 20 28.2	-0.2
KHZ	**Kahutara**	**1.36**	**153**	PN	Pn	02 20 28.2	-0.2
MRW	**Makara Radio**	**1.51**	**91**	P	Pn	02 20 29.6	-0.1
MRW	**Makara Radio**	**1.51**	**91**	PN	Pn	02 20 29.6	-0.1
SNZO	**South Karori**	**1.52**	**94**	P	Pn	02 20 29.6	-0.2
SNZO	**South Karori**	**1.52**	**94**	PN	Pn	02 20 29.6	-0.2
LTZ	**Lake Taylor**	**1.60**	**191**	P	Pn	02 20 30.0	-0.5
LTZ	**Lake Taylor**	**1.60**	**191**	PN	Pn	02 20 30.0	-0.5
BHW	**Baring Head**	**1.65**	**97**	P	Pn	02 20 30.8	-0.2
BHW	**Baring Head**	**1.65**	**97**	PN	Pn	02 20 30.8	-0.2
KIW	**Kapiti Island**	**1.71**	**79**	PN	Pn	02 20 31.4	-0.2
MTW	**Mount Morrison**	**2.12**	**89**	P	Pn	02 20 35.0	-0.6
MTW	**Mount Morrison**	**2.12**	**89**	PN	Pn	02 20 35.0	-0.6
MRZ	**Mangatainoka R**	**2.25**	**77**	P	Pn	02 20 36.6	-0.5
MRZ	**Mangatainoka R**	**2.25**	**77**	PN	Pn	02 20 36.6	-0.5
WVZ	**Waitaha Valley**	**2.36**	**217**	PN	Pn	02 20 36.6	-1.6
MQZ	**McQueen's Vall**	**2.49**	**181**	*e*P	Pn	02 20 37.8	-1.8
MQZ	**McQueen's Vall**	**2.49**	**181**	PN	Pn	02 20 37.8	-1.8
TSZ	**Takapari Road**	**2.74**	**66**	P	Pn	02 20 41.7	-0.8
TSZ	**Takapari Road**	**2.74**	**66**	PN	Pn	02 20 41.7	-0.7
BFZ	**Birch Farm**	**2.74**	**80**	P	Pn	02 20 41.8	-0.7
FOZ	**Fox Glacier**	**3.23**	**223**	*e*P	Pn	02 20 44.8	-3.4
FOZ	**Fox Glacier**	**3.23**	**223**	PN	Pn	02 20 44.8	-3.5
LBZ	**Lake Benmore**	**3.67**	**209**	*e*P	Pn	02 20 51.3	-2.2
LBZ	**Lake Benmore**	**3.67**	**209**	PN	Pn	02 20 51.3	-2.2

ISCJB ***16*** *02:22:27.7±1.1, 46.1N±0.02×154.0E±0.2, h10km, mb3.8/11, Error ellipse: s-maj=29.1km s-min=23.4km az=50.2*
IDC ***16*** *02:22:27.8±1.2, 46.07N×154.15E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, Error ellipse: s-maj=34.1km s-min=30.3km az=41.0*
NEIC ***16*** *02:22:29.4±0.9, 46.08N×154.08E, h10km, mb4.1/3, Error ellipse: s-maj=23.8km s-min=19.4km az=204.0*

ISC 16 02:22:29.4±1.1, 46.1N±0.02×154.1E±0.2, h10km, n14, σ0§65/14, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**32.18**	**291**	P	**P**	**02 28 56.9**	**-0.4**
	0.2nm,0.4s,mb3.3,baz=72,slow=9.3,SNR=2.8						
MK31	**Makanchi Array**	**47.83**	**298**	*e*P	**P**	**02 31 07.5**	**+0.3**
MKAR	**Makanchi Array**	**47.83**	**298**	P	**P**	**02 31 06.3**	**-0.8**
	1.0nm,0.8s,mb3.9,baz=61,slow=9.9,SNR=6.1						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**02 31 33.6**	**-0.4**
	1.5nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**02 31 37.3**	**+0.1**
	0.6nm,0.4s,mb3.9,baz=54,slow=6.9,SNR=5.2						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**02 31 42.6**	**-0.3**
	1.2nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**54.72**	**297**	*e*P	**P**	**02 31 59.1**	**+0.3**
	1.1nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**64.90**	**335**	P	**P**	**02 33 08.2**	**-0.7**
	0.9nm,0.5s,mb4.0,baz=53,slow=9.8,SNR=5.2						
NOA	**NORSAR Array B**	**69.04**	**342**	P	**P**	**02 33 36.5**	**+1.2**
	0.4nm,0.5s,mb3.6,baz=26,slow=6.4,SNR=2.6						
HFS	**Hagfors**	**69.28**	**340**	P	**P**	**02 33 37.8**	**+1.1**
	0.8nm,0.4s,mb4.0,baz=46,slow=6.4,SNR=9.8						
HFS	**Hagfors**	**69.28**	**340**	P	**P**	**02 33 37.8**	**+1.1**
ASAR	**Alice Springs**	**71.82**	**199**	P	**P**	**02 33 52.6**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=3.2,slow=4.8,SNR=4.6						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**02 34 22.8**	**-0.8**
	0.3nm,0.5s,mb3.4,baz=293,slow=3.8,SNR=5.9						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**02 34 22.8**	**-0.8**

BJI ***16*** *02:26:08.9, 46.27N×153.45E, h23km, mB4.9, mb4.6, Ms4.0, Msz3.7*
NEIC ***16*** *02:26:09.7±0.5, 46.53N×153.22E, h10km, mb4.6/18, Error ellipse: s-maj=13.2km s-min=9.6km az=155.0*
ISCJB ***16*** *02:26:13.0±1.3, 46.64N±0.08×153.3E±0.1, h42km±10km, mb4.6/50, Error ellipse: s-maj=16.5km s-min=7.5km az=106.5*
MOS ***16*** *02:26:12.9±1.5, 46.64N×153.22E, h44km, mb4.7/28, Error ellipse: s-maj=10.4km s-min=7.1km az=104.9*
IDC ***16*** *02:26:15.2±4.0, 46.55N×153.20E, h54km±36km, mb4.0/19, mb1 4.1/20, mb1mx4.1/25, mbtmp4.0/20, ML3.7/1, Error ellipse: s-maj=18.2km s-min=15.9km az=139.0*

ISC 16 02:26:15.5±1.1, 46.70N±0.08×153.3E±0.1, h49km±9km, h15km±4.2km: pP-P, n134, σ1§15/133, mb4.6/50, 20C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04**	**251**	*e*PN	**Pn**	**02 27 10.0**	**-4.8**
SKR	**Severo-Kuril's**	**4.42**	**24**	*e*PN	**Pn**	**02 27 20.5**	**+0.5**
SKR				*e*		02 28 09.5	
YUK	**Yuzh-Kuril'sk**	**5.86**	**246**	*e*PN	**Pn**	**02 27 40.0**	**+0.3**
YUK				*e*S	**Sn**	**02 28 45.4**	**-0.1**
YUK				smax			
	comp=E,380nm,0.5s						
YUK				smax			
	comp=N,620nm,0.6s						
YUK				smax			
	comp=N,460nm,0.6s						
YUK				smax			
	comp=E,380nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.22**	**276**	*e*PN	**Pn**	**02 28 06.0**	**+7.6**
YSS				pmax	pmax		
	comp=Z,300nm,0.9s						
YSS				MLR	MLR		
	comp=Z,900nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
ASAJ	**Asahikawa**	**7.94**	**255**	P	**Pn**	**02 28 07.2**	**-1.1**
	comp=E,1.2nm,0.3s,baz=95,slow=17,SNR=10.0						
ASAJ	**Asahikawa**	**7.94**	**255**	PN	**Pn**	**02 28 07.2**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.63**	**288**	*e*P	**Pn**	**02 29 41.3**	**+1.8**
MJAR	**Matsushiro Arr**	**15.13**	**233**	P	**Pn**	**02 29 46.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=4.5						
MJAR	**Matsushiro Arr**	**15.13**	**233**	P	**Pn**	**02 29 46.5**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.88**	**253**	P	**P**	**02 30 52.9**	**-0.6**
	comp=Z,6.0nm,0.9s,baz=60,slow=10,SNR=10						
SNY	**Shenyang**	**21.74**	**268**	⇓P	**P**	**02 31 02.5**	**-0.2**
SNY				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.6						
BILL	**Bilibino**	**22.42**	**13**	*e*P	**P**	**02 31 08.2**	**-1.8**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**22.42**	**13**	*e*P	**P**	**02 31 11.0**	**+1.1**
	comp=Z,7.3nm,0.4s,mb4.5						
BOD	**Bodaibo**	**26.10**	**310**	*e*P	**P**	**02 31 42.0**	**-2.7**
NJ2	**Nanjing**	**30.08**	**253**	*e*P	**P**	**02 32 14.6**	**-5.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
SONM	**Songino Array**	**31.45**	**290**	P	**P**	**02 32 30.1**	**-2.1**
	comp=Z,1.1nm,0.8s,mb3.7,baz=80,slow=7.4,SNR=4.5						
SONM				PcP	PcP	02 35 23.6	-0.9
	comp=Z,0.5nm,0.7s,baz=122,slow=2.8,SNR=3.6						
SONM	**Songino Array**	**31.45**	**290**	P	**P**	**02 32 30.1**	**-2.1**
SONM						02 35 23.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WHN	**Wuhan**	**34.02**	**256**	*e*P	**P**	**02 32 52.8**	**-1.9**
XAN	**Xi'an**	**35.62**	**265**	P	**P**	**02 33 09.5**	**+1.1**
XAN				AP	pP	02 33 15.0	-6.4
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**37.99**	**272**	*e*P	**P**	**02 33 30.1**	**+1.4**
LZH				AP	pP	02 33 35.3	-6.4
LZH				XP	sP	02 33 37.0	-10
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**37.99**	**272**	*e*P	**P**	**02 33 30.1**	**+1.4**
	comp=Z,18nm,1.2s,mb4.7						
LZH				pP	pP	02 33 35.2	-6.5
LZH				sP	sP	02 33 37.0	-10
GTA	**Gaotai**	**39.08**	**279**	*e*P	**P**	**02 33 39.1**	**+1.3**
GTA				AP	pP	02 33 46.1	-4.7
GTA				XP	sP	02 33 49.0	-7.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**02 34 00.1**	**+1.2**
	comp=Z,2.5nm,0.9s,mb3.9,baz=265,slow=6.8,SNR=5.4						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**02 34 00.1**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL	**Zalesovo**	**42.74**	**306**	P	**P**	**02 34 06.0**	**-1.9**
	comp=Z,1.1nm,0.5s,mb3.8,baz=35,slow=6.9,SNR=4.5						
ZAL	**Zalesovo**	**42.74**	**306**	P	**P**	**02 34 06.0**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMI	**Kunming**	**45.34**	**260**	P	**P**	**02 34 28.9**	**+0.2**
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
KMI	**Kunming**	**45.34**	**260**	P	**P**	**02 34 28.9**	**+0.2**
	comp=Z,13nm,1.1s,mb4.7						
MK31	**Makanchi Array**	**47.06**	**297**	*e*P	**P**	**02 34 41.3**	**-0.9**
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**	**02 34 41.4**	**-0.9**
	comp=Z,4.8nm,0.8s,mb4.5,baz=62,slow=7.8,SNR=23						
MKAR				PcP	PcP	02 36 13.0	-0.6
	comp=Z,1.6nm,0.8s,baz=70,slow=2.1,SNR=4.4						
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**	**02 34 41.4**	**-0.8**
MKAR						02 36 13.0	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSA	**Lhasa**	**50.38**	**273**	*e*P	**P**	**02 35 09.9**	**+2.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**50.38**	**273**	*e*P	**P**	**02 35 09.9**	**+2.2**
	comp=Z,7.1nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**02 35 06.9**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**02 35 06.8**	**-2.1**
	comp=Z,10nm,0.7s,mb4.9						
RES	**Resolute Bay**	**50.86**	**19**	*e*P	**P**	**02 35 11.1**	**-0.2**
RES				pmax	pmax		
	comp=Z,129nm,0.8s						
RES	**Resolute Bay**	**50.86**	**19**	*e*P	**P**	**02 35 11.1**	**-0.2**
	comp=Z,129nm,0.8s						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**02 35 11.4**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.4,baz=294,slow=6.7,SNR=3.6						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**02 35 11.4**	**-0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**50.98**	**310**	P	**P**	**02 35 11.1**	**-1.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=56,slow=8.9,SNR=16						
BVAR				PcP	PcP	02 36 26.9	-1.0
	comp=Z,1.1nm,0.7s,baz=83,slow=4.6,SNR=4.0						
BVAR	**Borovoye Array**	**50.98**	**310**	P	**P**	**02 35 11.1**	**-1.1**
BVAR						02 36 26.9	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**51.02**	**310**	*e*P	**P**	**02 35 11.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**51.02**	**310**	*e*P	**P**	**02 35 11.4**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**02 35 16.2**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**02 35 16.2**	**-1.7**
	comp=Z,4.6nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.21**	**257**	*e*P	**P**	**02 35 22.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.21**	**257**	*e*P	**P**	**02 35 22.0**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**53.95**	**296**	*e*P	**P**	**02 35 33.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**53.95**	**296**	*e*P	**P**	**02 35 33.2**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.4						
GUN	**Gumba**	**55.11**	**275**	*e*P	**P**	**02 35 43.3**	**+0.7**
	comp=Z,24nm,0.8s,mb5.3						
ARU	**Arti**	**55.12**	**318**	*e*P	**P**	**02 35 41.1**	**-1.6**
KKN	**Kakani**	**55.60**	**275**	*e*P	**P**	**02 35 47.0**	**+0.9**
	comp=Z,26nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.65**	**275**	*e*P	**P**	**02 35 47.3**	**+0.8**
	comp=Z,12nm,0.6s,mb5.1						
DMN	**Daman**	**55.83**	**275**	*e*P	**P**	**02 35 49.0**	**+1.2**
	comp=Z,16nm,0.6s,mb5.2						
GKN	**Gorkha**	**55.90**	**276**	*e*P	**P**	**02 35 49.1**	**+0.8**
	comp=Z,22nm,0.6s,mb5.4						
KOLN	**Koldanda**	**56.76**	**277**	*e*P	**P**	**02 35 54.8**	**+0.4**
	comp=Z,14nm,0.7s,mb5.1						
ARCES	**ARCESS Array B**	**57.94**	**341**	P	**P**	**02 36 01.8**	**-1.0**
	comp=Z,2.5nm,0.8s,mb4.3,baz=25,slow=7.1,SNR=3.6						
ARCES	**ARCESS Array B**	**57.94**	**341**	P	**P**	**02 36 01.8**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TPAW	**Teton Pass**	**63.45**	**54**	*e*P	**P**	**02 36 41.9**	**+1.7**
	comp=Z,1.3nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**02 36 43.8**	**-1.0**
	comp=Z,5.6nm,0.7s,mb4.7,baz=41,slow=9.6,SNR=15						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**02 36 43.8**	**-0.9**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PDAR	**Pinedale Array**	**64.70**	**54**	P	**P**	**02 36 48.4**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=317,slow=1.2,SNR=6.9						
ULM	**Lac du Bonnet**	**66.50**	**41**	P	**P**	**02 36 59.3**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.1,baz=233,slow=8.7,SNR=3.2						
NB2	**NORSAR Subarra**	**68.31**	**341**	P	**P**	**02 37 11.0**	**-0.5**
	comp=Z,5.5nm,0.6s,mb4.8,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.31**	**341**	P	**P**	**02 37 11.1**	**-0.4**
	comp=Z,6.1nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=26						
NOA	**NORSAR Array B**	**68.31**	**341**	P	**P**	**02 37 11.1**	**-0.4**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**68.49**	**199**	P	**P**	**02 37 10.1**	**-2.5**
	comp=Z,2.0nm,0.9s,mb4.1,baz=17,slow=6.6,SNR=6.5						
WRA	**Warramunga Arr**	**68.49**	**199**	P	**P**	**02 37 10.1**	**-2.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**	**02 37 31.1**	**-0.9**
	comp=Z,6.8nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=31						
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**	**02 37 31.1**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKBB	**Malin Array Si**	**71.65**	**326**	*e*P	**P**	**02 37 30.8**	**-1.2**
ASAR	**Alice Springs**	**72.19**	**199**	P	**P**	**02 37 33.6**	**-1.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=10.0,slow=4.8,SNR=18						
ASAR	**Alice Springs**	**72.19**	**199**	P	**P**	**02 37 33.6**	**-1.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GNI	**Garni**	**72.65**	**310**	P	**P**	**02 37 38.9**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.2,baz=45,slow=5.7,SNR=2.9						
GNI	**Garni**	**72.65**	**310**	P	**P**	**02 37 38.9**	**+1.0**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KWP	**Kalwaria**	**74.92**	**329**	*e*P	**P**	**02 37 52.0**	**+0.8**
KWP				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KWP	**Kalwaria**	**74.92**	**329**	*e*P	**P**	**02 37 52.0**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.5						
STHS	**Stebnicka Huta**	**75.62**	**330**	*e*P	**P**	**02 37 55.7**	**+0.5**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
STHS	**Stebnicka Huta**	**75.62**	**330**	*e*P	**P**	**02 37 55.7**	**+0.5**
	comp=Z,3.7nm,0.9s,mb4.3						
BURAR	**Bucovina Array**	**75.69**	**327**	⇑*i*P	**P**	**02 37 55.9**	**+0.2**
BURAR	**Bucovina Array**	**75.69**	**327**	⇑P	**P**	**02 37 55.9**	**+0.3**
OKC	**Ostrava-Krasne**	**76.29**	**332**	*e*pP	pP	02 38 04.3	-8.9
UPC	**Upice**	**76.38**	**334**	*e*P	**P**	**02 38 00.5**	**+0.9**
DPC	**Dobruska-Polom**	**76.42**	**333**	*e*P	**P**	**02 38 01.1**	**+1.3**
MORC	**Moravsky Berou**	**76.54**	**332**	⇑*i*P	**P**	**02 38 00.7**	**+0.2**
MORC	**Moravsky Berou**	**76.54**	**332**	⇑P	**P**	**02 38 00.7**	**+0.2**
CLL	**Collm**	**76.56**	**336**	*e*P	**P**	**02 38 00.0**	**-0.6**
CLL				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
CLL	**Collm**	**76.56**	**336**	*e*P	**P**	**02 38 00.0**	**-0.6**
	comp=Z,13nm,0.7s,mb5.0						
CLL	**Collm**	**76.56**	**336**	⇓*i*P	**P**	**02 38 00.5**	**-0.1**
	comp=Z,13nm,0.7s,mb5.0						
CLL				*i* pP	pP	02 38 05.5	-9.3
KECS	**Kecovo**	**76.67**	**330**	*e*P	**P**	**02 38 00.2**	**-1.0**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
KECS	**Kecovo**	**76.67**	**330**	*e*P	**P**	**02 38 00.2**	**-1.0**
	comp=Z,2.9nm,1.1s,mb4.1						
TIRR	**Tirgusor**	**77.02**	**323**	⇓*i*P	**P**	**02 38 04.6**	**+1.4**
TIRR	**Tirgusor**	**77.02**	**323**	⇓P	**P**	**02 38 04.6**	**+1.4**
MLR	**Muntele Rosu**	**77.17**	**325**	⇑*i*P	**P**	**02 38 05.0**	**+1.0**
MLR	**Muntele Rosu**	**77.17**	**325**	⇑P	**P**	**02 38 05.0**	**+0.9**
VYHS	**Vyhne**	**77.23**	**331**	*e*P	**P**	**02 38 04.7**	**+0.4**
VRAC	**Vranov**	**77.25**	**333**	⇑*i*P	**P**	**02 38 05.2**	**+0.7**
VRAC	**Vranov**	**77.25**	**333**	⇑P	**P**	**02 38 05.2**	**+0.7**
MALT	**Malatya**	**77.27**	**313**	⇑*i*P	**P**	**02 38 06.4**	**+1.8**
MALT	**Malatya**	**77.27**	**313**	⇑P	**P**	**02 38 06.4**	**+1.9**
PRU	**Pruhonice**	**77.28**	**334**	*e*P	**P**	**02 38 04.9**	**+0.2**
DRGR		**77.32**	**328**	⇑P	**P**	**02 38 05.2**	**+0.4**
PSZ	**Piszkesteto**	**77.36**	**330**	⇑*i*P	**P**	**02 38 05.5**	**+0.4**
PSZ	**Piszkesteto**	**77.36**	**330**	⇑P	**P**	**02 38 05.5**	**+0.4**
TXAR	**Lajitas Array**	**77.43**	**61**	P	**P**	**02 38 05.0**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=294,slow=3.3,SNR=13						
TXAR	**Lajitas Array**	**77.43**	**61**	P	**P**	**02 38 05.0**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**78.33**	**334**	*e*P	**P**	**02 38 11.0**	**+0.5**
BR131	**Keskin Array S**	**78.50**	**317**	*e*P	**P**	**02 38 12.3**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**78.50**	**317**	P	**P**	**02 38 11.3**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=33,slow=3.8,SNR=8.5						
BRTR	**Keskin Array B**	**78.50**	**317**	P	**P**	**02 38 11.4**	**0.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**02 38 11.8**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=29,slow=4.8,SNR=15						
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**02 38 11.8**	**+0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BZS	**Buzias**	**78.72**	**328**	⇑*i*P	**P**	**02 38 13.0**	**+0.4**
BZS	**Buzias**	**78.72**	**328**	⇑P	**P**	**02 38 13.0**	**+0.4**
MIB	**Mutribah**	**78.78**	**302**	*e*P	**P**	**02 38 14.2**	**+1.2**
MIB				AMb	AMB	02 38 15.1	
	comp=Z,36nm,0.6s,mb5.5						
NAY	**Al-Naaiem**	**79.25**	**301**	*e*P	**P**	**02 38 16.5**	**+1.0**
NAY				AMb	AMB	02 38 17.6	
	comp=Z,13nm,0.8s,mb4.9						
RDF	**Al-Radifah**	**79.30**	**301**	*e*P	**P**	**02 38 16.9**	**+1.1**
KBA	**Koelnbreinsper**	**80.24**	**333**	⇑*i*P	**P**	**02 38 21.8**	**+1.0**
	comp=Z,9.9nm,0.8s,mb4.8						
WTTA	**Wattenberg**	**80.58**	**335**	⇑*i*P	**P**	**02 38 23.7**	**+1.0**
	comp=Z,6.8nm,0.6s,mb4.8						
MOTA	**Moosalm**	**80.67**	**335**	⇑*i*P	**P**	**02 38 23.8**	**+0.6**
	comp=Z,5.2nm,0.8s,mb4.5						
VTS	**Vitosha**	**80.68**	**325**	⇑*i*P	**P**	**02 38 23.7**	**+0.5**
VTS	**Vitosha**	**80.68**	**325**	⇑P	**P**	**02 38 23.7**	**+0.5**
CDF	**Champ du Feu**	**80.75**	**338**	*e*P	**P**	**02 38 20.1**	**-3.5**
GRR	**Gorron**	**82.65**	**343**	*e*P	**P**	**02 38 30.5**	**-3.1**
	comp=Z,13nm,0.6s,mb4.8						
GRR	**Gorron**	**82.65**	**343**	*e*P

KUR pmax pmax
comp=Z,110nm,0.8s
ASAJ Asahikawa 9.37 256 P **Pn** **02 34 26.7 +0.6**
comp=Z,1.5nm,0.3s,baz=131,slow=16,SNR=3.4
ASAJ Asahikawa 9.37 256 PN **Pn** **02 34 26.7 +0.6**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
KLR Kul'dur 15.86 287 *eP* **Pn** **02 35 58.0 +3.7**
MJAR Matsushiro Arr 16.46 237 P **Pn** **02 36 02.5 +0.5**
comp=Z,0.5nm,0.3s,baz=33,slow=10.0,SNR=8.8
MJAR S **Sn** **02 39 08.3 +3.8**
comp=Z,0.4nm,0.3s,baz=59,slow=47,SNR=2.7
MJAR Matsushiro Arr 16.46 237 P **Pn** **02 36 02.5 +0.5**
MJAR S **Sn** **02 39 08.3 +3.8**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
CN2 Changchun 21.14 272 *eP* **P** **02 36 59.1 +3.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
BILL Bilibino 21.80 11⇑ *eP* **P** **02 37 05.0 +1.9**
BILL *e* 02 37 14.2
BILL pmax pmax
comp=Z,17nm,1.0s,mb4.4
BILL Bilibino 21.80 11 *eP* **P** **02 37 04.7 +1.6**
comp=Z,12nm,0.8s,mb4.4
KSRS Korea Array 22.31 255 P **P** **02 37 09.6 +1.1**
comp=Z,4.1nm,0.9s,mb3.9,baz=61,slow=10,SNR=8.2
BOD Bodaibo 26.97 309 *eP* **P** **02 37 50.1 -2.5**
SONM Songino Array 32.65 290 P **P** **02 38 41.6 -1.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=66,slow=6.3,SNR=6.2
SONM Songino Array 32.65 290 P **P** **02 38 41.6 -1.4**
SONM pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 40.61 33 P **P** **02 39 52.0 +1.2**
comp=Z,2.2nm,0.5s,mb4.0,baz=285,slow=6.9,SNR=16
INK Inuvik 40.61 33 P **P** **02 39 52.0 +1.2**
INK pmax pmax
comp=Z,2.0nm,0.5s
ZAL Zalesovo 43.67 306 P **P** **02 40 14.8 -1.0**
comp=Z,1.7nm,0.5s,mb4.1,baz=39,slow=12,SNR=5.0
ZAL Zalesovo 43.67 306 P **P** **02 40 14.8 -1.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 44.20 308 *eP* **P** **02 40 19.3 -0.7**
MK31 Makanchi Array 48.13 298 *eP* **P** **02 40 50.8 -0.2**
MKAR Makanchi Array 48.13 298 P **P** **02 40 51.1 +0.1**
comp=Z,1.4nm,0.6s,mb4.2,baz=71,slow=7.6,SNR=10
MKAR Makanchi Array 48.13 298 P **P** **02 40 51.1 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 50.09 19 *eP* **P** **02 41 06.2 +0.2**
RES pmax pmax
comp=Z,69nm,0.6s
RES Resolute Bay 50.09 19 *eP* **P** **02 41 06.2 +0.2**
comp=Z,70nm,0.6s
CHKZ Chkalovo 51.39 311 *eP* **P** **02 41 15.4 -0.4**
CHKZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 51.39 311 *eP* **P** **02 41 15.4 -0.3**
comp=Z,15nm,0.6s,mb5.1
BVAR Borovoye Array 51.83 310 P **P** **02 41 19.4 +0.3**
comp=Z,7.1nm,0.6s,mb4.8,baz=57,slow=8.0,SNR=38
BVAR Borovoye Array 51.83 310 P **P** **02 41 19.4 +0.3**
BVAR pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 51.87 310 *eP* **P** **02 41 19.7 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BRVK Borovoye 51.87 310 *eP* **P** **02 41 19.7 +0.3**
comp=Z,10nm,0.6s,mb4.9
ZRNK Zerenda 52.59 311 *eP* **P** **02 41 24.9 +0.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ZRNK Zerenda 52.59 311 *eP* **P** **02 41 24.9 +0.1**
comp=Z,5.8nm,0.6s,mb4.7
AAK Ala-Archa 55.04 297 *eP* **P** **02 41 42.9 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AAK Ala-Archa 55.04 297 *eP* **P** **02 41 42.9 +0.2**
comp=Z,2.5nm,0.7s,mb4.3
ARU Arti 55.81 318 *eP* **P** **02 41 48.4 +0.2**
ARU *e* 02 43 51.3
ARU eS **S** **02 49 31.3 -3.6**
ARU eSS SS 02 53 15.3 -5.1
ARU Arti 55.81 318 *eP* **P** **02 41 48.4 +0.2**
comp=Z,9.6nm,0.6s,mb5.0
ARCES ARCESS Array B 58.07 341 P **P** **02 42 03.8 -0.5**
comp=Z,5.0nm,1.0s,mb4.5,baz=33,slow=5.9,SNR=8.4
ARCES ARCESS Array B 58.07 341 P **P** **02 42 03.8 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
PDAR Pinedale Array 63.37 55 P **P** **02 42 41.0 +0.7**
comp=Z,0.5nm,0.9s,mb3.6,baz=298,slow=3.2,SNR=4.4
FINES FINESS Array B 64.41 336 P **P** **02 42 47.4 +0.2**
comp=Z,1.9nm,0.4s,mb4.5,baz=36,slow=8.4,SNR=20
FINES FINESS Array B 64.41 336 P **P** **02 42 47.4 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
NB2 NORSAR Subarra 68.43 342 P **P** **02 43 13.2 +0.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=26,slow=6.9
NOA NORSAR Array B 68.43 342 P **P** **02 43 13.4 +0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=46,slow=8.5,SNR=3.0
NOA NORSAR Array B 68.43 342 P **P** **02 43 13.4 +0.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 69.28 201 *eP* **P** **02 43 16.9 -1.3**
WRAB pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WRAB Tennant Creek 69.28 201 *eP* **P** **02 43 16.9 -1.3**
comp=Z,3.4nm,0.9s,mb4.3
WRA Warramunga Arr 69.29 201 P **P** **02 43 16.5 -1.7**
comp=Z,3.0nm,1.0s,mb4.2,baz=20,slow=6.4,SNR=8.5
WRA Warramunga Arr 69.29 201 P **P** **02 43 16.5 -1.8**
WRA pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 72.13 327 P **P** **02 43 34.6 -1.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=31,slow=5.9,SNR=4.7
AKASG Malin Array Be 72.13 327 P **P** **02 43 34.6 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 72.13 327 *eP* **P** **02 43 35.4 -0.2**
ASAR Alice Springs 72.97 200 P **P** **02 43 40.1 -0.4**
comp=Z,1.4nm,0.6s,mb4.0,baz=15,slow=5.7,SNR=14
ASAR Alice Springs 72.97 200 P **P** **02 43 40.2 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.05 62 P **P** **02 43 58.8 +0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=300,slow=4.9,SNR=9.2
TXAR Lajitas Array 76.05 62 P **P** **02 43 58.8 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.84 335 P **P** **02 44 14.3 +0.2**
comp=Z,0.4nm,0.6s,baz=36,slow=5.2,SNR=3.4
BR131 Keskin Array S 79.19 318 *eP* **P** **02 44 16.9 +0.9**
comp=Z,0.5nm,0.5s,mb3.7
BRTR Keskin Array B 79.19 318 P **P** **02 44 16.8 +0.7**
comp=Z,1.0nm,0.9s,mb3.7,baz=29,slow=2.8,SNR=4.9
BRTR Keskin Array B 79.19 318 P **P** **02 44 16.8 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

IDC 16 02:33:16.0±3.9, 4613N×15502E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/22, mbtmp4.0/5, Error ellipse: s-maj=125.7km s-min=33.8km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.40**	**299**	P		P	02 41 59.3	-0.5
	0.8nm,0.6s,baz=58,slow=8.8,SNR=2.7							
BVAR	**Borovoye Array**	**52.27**	**310**	P		P	02 42 28.8	-0.2
	1.0nm,0.5s,baz=48,slow=7.2,SNR=2.4							
FINES	**FINESS Array B**	**65.16**	**336**	P		P	02 43 58.2	-0.6
	2.1nm,0.8s,baz=43,slow=7.1,SNR=3.4							
NOA	**NORSAR Array B**	**69.23**	**342**	P		P	02 44 24.4	-0.3
	0.7nm,0.7s,baz=26,slow=6.6,SNR=2.6							
TXAR	**Lajitas Array**	**76.64**	**62**	P		P	02 45 08.8	+0.2
	1.1nm,0.6s,baz=304,slow=4.4,SNR=6.6							

*ISCJB **16** 02:33:30.7±1.3, 462N±0.3×1547E±0.1, h10km, mb4.1/14, Error ellipse: s-maj=37.0km s-min=12.0km az=163.5*
*IDC **16** 02:33:32.2±3.2, 4642N×15487E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/23, mbtmp4.0/8, Error ellipse: s-maj=90.3km s-min=27.5km az=6.0*
*MOS **16** 02:33:33.6±0.9, 4613N×15468E, h33km, mb4.3/12, Error ellipse: s-maj=24.5km s-min=17.4km az=127.2*
*NEIC **16** 02:33:33.8±1.5, 4644N×15479E, h10km, mb4.2/6, Error ellipse: s-maj=45.3km s-min=11.1km az=181.0*

ISC 16 02:33:32.7±1.2, 462N±03×1547E±01, h10km, n28, σ0s85/28, mb4.1/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.88**	**261**	PN		**Pn**	**02 34 45.0**	**-1.2**
KUR				pmax	pmax			
	comp=Z,220nm,0.8s							
INK	**Inuvik**	**41.50**	**32**	P		**P**	**02 41 18.1**	**-1.9**
	comp=Z,1.3nm,0.8s,mb3.6,baz=274,slow=7.8,SNR=3.3							
INK	**Inuvik**	**41.50**	**32**	P		**P**	**02 41 18.1**	**-1.8**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MK31	**Makanchi Array**	**48.15**	**298**	*eP*		**P**	**02 42 13.5**	**+0.6**
MKAR	**Makanchi Array**	**48.15**	**298**	P		**P**	**02 42 13.4**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=108,slow=2.7,SNR=2.8							
MKAR	**Makanchi Array**	**48.15**	**298**	P		**P**	**02 42 13.4**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CHKZ	**Chkalovo**	**51.59**	**311**	*eP*		**P**	**02 42 38.7**	**-0.4**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.59**	**311**	*eP*		**P**	**02 42 38.7**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**52.02**	**310**	P		**P**	**02 42 42.6**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=52,slow=8.6,SNR=4.3							
BVAR	**Borovoye Array**	**52.02**	**310**	P		**P**	**02 42 42.6**	**+0.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**52.06**	**310**	*eP*		**P**	**02 42 42.6**	**0.0**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**52.06**	**310**	*eP*		**P**	**02 42 42.6**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**52.79**	**311**	*eP*		**P**	**02 42 47.9**	**-0.1**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**52.79**	**311**	*eP*		**P**	**02 42 47.9**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2							
AAK	**Ala-Archa**	**55.04**	**297**	*eP*		**P**	**02 43 05.5**	**+1.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**55.04**	**297**	*eP*		**P**	**02 43 05.5**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.0							
ARCES	**ARCESS Array B**	**58.69**	**341**	P		**P**	**02 43 29.0**	**-1.4**
	comp=Z,1.3nm,0.6s,mb4.2,baz=39,slow=7.8,SNR=3.6							
ARCES	**ARCESS Array B**	**58.69**	**341**	P		**P**	**02 43 29.0**	**-1.4**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TPAW	**Teton Pass**	**62.91**	**55**	*eP*		**P**	**02 43 59.8**	**+0.7**
	comp=Z,3.4nm,0.9s,mb4.5							
DUG	**Dugway**	**63.92**	**58**	*eP*		**P**	**02 44 05.7**	**-0.1**
DUG				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
DUG	**Dugway**	**63.92**	**58**	*eP*		**P**	**02 44 05.7**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.9							
PDAR	**Pinedale Array**	**64.16**	**54**	P		**P**	**02 44 07.2**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=320,slow=3.9,SNR=5.7							
FINES	**FINESS Array B**	**64.96**	**336**	P		**P**	**02 44 12.6**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.2,baz=38,slow=7.3,SNR=4.3							
FINES	**FINESS Array B**	**64.96**	**336**	P		**P**	**02 44 12.6**	**0.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**69.06**	**342**	P		**P**	**02 44 40.3**	**+1.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=26,slow=6.3,SNR=2.8							
NOA	**NORSAR Array B**	**69.06**	**342**	P		**P**	**02 44 40.3**	**+1.6**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**76.78**	**61**	P		**P**	**02 45 24.7**	**+0.2**
	comp=Z,1.5nm,1.0s,mb3.9,baz=302,slow=4.5,SNR=5.2							
TXAR	**Lajitas Array**	**76.78**	**61**	P		**P**	**02 45 24.7**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							

*ISCJB **16** 02:39:06.9±1.1, 466N±02×153.1E±02, h10km, mb4.0/15, Error ellipse: s-maj=28.3km s-min=8.0km az=122.4*
*NEIC **16** 02:39:08.4±1.2, 4658N×153.17E, h10km, mb4.2/4, Error ellipse: s-maj=33.1km s-min=10.4km az=170.0*
*MOS **16** 02:39:10.6±0.9, 4654N×153.03E, h39km, mb4.2/12, Error ellipse: s-maj=17.7km s-min=14.6km az=133.1*
*IDC **16** 02:39:13.4±5.2, 4646N×153.19E, h51km±55km, mb3.6/12, mb1 3.8/13, mb1mx3.7/25, mbtmp3.7/13, ML3.6/1, Error ellipse: s-maj=53.5km s-min=20.9km az=178.0*

ISC 16 02:39:08.6±1.1, 466N±02×1531E±02, h10km, n43, σ0s87/44, mb4.0/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.90**	**251**	*i*P	N	**Pn**	**02 40 07.2**	**-1.4**
KUR				*i* S		**Sn**	**02 40 52.5**	**-2.0**
KUR				pmax	pmax			
	comp=N,30nm,0.5s							
KUR				pmax	pmax			
	comp=Z,150nm,0.5s							
KUR				smax				
	comp=N,180nm,0.8s							
KUR				smax				
	comp=E,220nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.11**	**276**	*e*PN		**Pn**	**02 41 00.0**	**+7.4**
ASAJ	**Asahikawa**	**7.81**	**255**	P		**Pn**	**02 41 04.2**	**+2.0**
	comp=E,0.9nm,0.3s,baz=144,slow=14,SNR=3.5							
ASAJ	**Asahikawa**	**7.81**	**255**	PN		**Pn**	**02 41 04.2**	**+2.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.75**	**253**	P		**P**	**02 43 51.1**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=57,slow=11,SNR=3.7							
SONM	**Songino Array**	**31.36**	**290**	P		**P**	**02 45 29.9**	**+0.5**
	comp=Z,0.8nm,0.9s,mb3.5,baz=74,slow=5.1,SNR=4.7							
SONM	**Songino Array**	**31.36**	**290**	P		**P**	**02 45 29.9**	**+0.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
LZH	**Lanzhou**	**37.88**	**272**	*eP*		**P**	**02 46 27.5**	**+1.8**
LZH				*SP	sP		02 46 35.1	+5.1
LZH				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.7							
LZH	**Lanzhou**	**37.88**	**272**	*eP*		**P**	**02 46 27.5**	**+1.8**
	comp=Z,16nm,1.1s,mb4.7							
LZH				pP	pP		02 46 32.5	+3.7
LZH				sP	sP		02 46 35.1	+5.1
INK	**Inuvik**	**41.77**	**32**	P		**P**	**02 46 58.3**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.7,baz=315,slow=3.7,SNR=8.6							
INK	**Inuvik**	**41.77**	**32**	P		**P**	**02 46 58.3**	**+0.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**46.99**	**297**	*eP*		**P**	**02 47 39.5**	**-0.3**
MKAR	**Makanchi Array**	**46.99**	**297**	P		**P**	**02 47 39.9**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=68,slow=6.8,SNR=8.6							
MKAR	**Makanchi Array**	**46.99**	**297**	P		**P**	**02 47 39.9**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**46.99**	**297**	P		**P**	**02 47 39.9**	**+0.1**
CHKZ	**Chkalovo**	**50.50**	**310**	*eP*		**P**	**02 48 05.9**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**50.50**	**310**	*eP*		**P**	**02 48 05.9**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.2							
BVAR	**Borovoye Array**	**50.93**	**309**	P		**P**	**02 48 09.9**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=79,slow=7.5,SNR=4.0							
BVAR	**Borovoye Array**	**50.93**	**309**	P		**P**	**02 48 09.9**	**-0.1**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
RES	**Resolute Bay**	**50.96**	**18**	*eP*		**P**	**02 48 10.1**	**-0.2**
RES				pmax	pmax			
	comp=Z,102nm,0.9s							
RES	**Resolute Bay**	**50.96**	**18**	*eP*		**P**	**02 48 10.1**	**-0.2**
	comp=Z,102nm,0.9s							
ZRNK	**Zerenda**	**51.70**	**310**	*eP*		**P**	**02 48 15.2**	**-0.6**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**51.70**	**310**	*eP*		**P**	**02 48 15.2**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**53.88**	**296**	*eP*		**P**	**02 48 31.8**	**-0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**53.88**	**296**	*eP*		**P**	**02 48 31.8**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1							
AKTK	**Aktyubinsk**	**58.80**	**312**	P		**P**	**02 49 07.3**	**+0.2**
AKTO	**Aktyubinsk**	**58.80**	**312**	P		**P**	**02 49 07.3**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=102,slow=2.8,SNR=3.5							
AKTO	**Aktyubinsk**	**58.80**	**312**	P		**P**	**02 49 07.3**	**+0.3**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**02 49 43.4**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.2,baz=51,slow=10.0,SNR=6.8							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**02 49 43.4**	**+0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**64.83**	**54**	P		**P**	**02 49 46.8**	**-0.9**
	comp=Z,0.9nm,1.0s,mb3.7,baz=323,slow=2.2,SNR=3.9							
NB2	**NORSAR Subarra**	**68.34**	**341**	P		**P**	**02 50 10.1**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**02 50 10.4**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=5.1							
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**02 50 10.4**	**+0.3**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.64**	**326**	P		**P**	**02 50 30.5**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=34,slow=6.1,SNR=14							
AKASG	**Malin Array Be**	**71.64**	**326**	P		**P**	**02 50 30.5**	**+0.1**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**71.64**	**326**	P		**P**	**02 50 30.5**	**+0.2**
AKBB	**Malin Array Si**	**71.64**	**326**	*eP*		**P**	**02 50 30.0**	**-0.4**
CLL	**Collm**	**76.57**	**336**	*eP*		**P**	**02 50 59.0**	**-0.2**
TXAR	**Lajitas Array**	**77.57**	**61**	P		**P**	**02 51 04.3**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=297,slow=3.7,SNR=10.0							
TXAR	**Lajitas Array**	**77.57**	**61**	P		**P**	**02 51 04.3**	**-0.4**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**78.56**	**334**	P		**P**	**02 51 10.3**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=27,slow=6.6,SNR=5.7							
GERES	**GERESS Array B**	**78.56**	**334**	P		**P**	**02 51 10.3**	**0.0**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*NEIC **16** 02:39:41.7±0.6, 4706N×15347E, h10km, mb4.0/2, Error ellipse: s-maj=16.0km s-min=13.9km az=148.0*
*ISCJB **16** 02:39:49.5±1.5, 473N±0.1×1536E±02, h77km±12km, mb3.9/15, Error ellipse: s-maj=26.5km s-min=11.3km az=100.0*
*MOS **16** 02:39:49.9±1.0, 4729N×15355E, h81km, mb4.1/10, Error ellipse: s-maj=23.1km s-min=12.2km az=75.0*
*IDC **16** 02:39:55.0±3.8, 4718N×15349E, h116km±35km, mb3.7/13, mb1 3.9/14, mb1mx3.7/23, mbtmp3.7/14, Error ellipse: s-maj=23.8km s-min=17.8km az=141.0*

ISC 16 02:39:51.3±1.3, 473N±01×1536E±02, h79km±11km, n37, σ0s78/35, mb3.9/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.76**	**26**	*e*PN		**Pn**	**02 40 46.5**	**-0.4**
SKR				*e*			02 41 31.5	
KUR	**Kuril'sk**	**4.47**	**244**	PN		**Pn**	**02 40 55.5**	**-1.1**
ASAJ	**Asahikawa**	**8.32**	**251**	P		**Pn**	**02 41 51.3**	**+2.2**
	1.4nm,0.3s,baz=88,slow=19,SNR=6.5							
ASAJ	**Asahikawa**	**8.32**	**251**	PN		**Pn**	**02 41 51.3**	**+2.2**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.27**	**252**	P		**P**	**02 44 31.4**	**+0.3**
	comp=Z,2.3nm,0.6s,mb3.7,baz=52,slow=11,SNR=3.6							
BILL	**Bilibino**	**21.76**	**13**	*eP*		**P**	**02 44 35.6**	**-0.8**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.7							
BILL	**Bilibino**	**21.76**	**13**	*eP*		**P**	**02 44 35.6**	**-0.8**
	comp=Z,3.4nm,0.7s,mb3.8							
INK	**Inuvik**	**41.00**	**33**	P		**P**	**02 47 27.3**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=270,slow=6.6,SNR=12							
INK	**Inuvik**	**41.00**	**33**	P		**P**	**02 47 27.3**	**+0.7**
INK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
RES	**Resolute Bay**	**50.19**	**19**	*eP*		**P**	**02 48 39.3**	**+0.3**
RES				pmax	pmax			
	comp=Z,64nm,0.5s							
RES	**Resolute Bay**	**50.19**	**19**	*eP*		**P**	**02 48 39.3**	**+0.3**
	comp=Z,64nm,0.5s							
YKA	**Yellowknife Ar**	**50.28**	**37**	P		**P**	**02 48 40.5**	**+0.8**
	comp=Z,2.1nm,0.5s,mb4.3,baz=296,slow=7.1,SNR=5.7							
YKA	**Yellowknife Ar**	**50.28**	**37**	P		**P**	**02 48 40.5**	**+0.8**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**50.28**	**37**	P		**P**	**02 48 40.5**	**+0.8**
CHKZ	**Chkalovo**	**50.30**	**310**	*eP*		**P**	**02 48 39.6**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
CHKZ	**Chkalovo**	**50.30**	**310**	*eP*		**P**	**02 48 39.5**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2							
ARCES	**ARCESS Array B**	**57.41**	**341**	P		**P**	**02 49 31.3**	**-0.3**
	comp=Z,6.0nm,0.9s,mb4.6,baz=51,slow=7.1,SNR=7.1							
ARCES	**ARCESS Array B**	**57.41**	**341**	P		**P**	**02 49 31.3**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FINES	**FINESS Array B**	**63.65**	**335**	P		**P**	**02 50 13.7**	**-0.4**
	comp=Z,1.2nm,0.4s,mb4.0,baz=34,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**63.65**	**335**	P		**P**	**02 50 13.7**	**-0.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**64.16**	**54**	P		**P**	**02 50 17.7**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.4,baz=336,slow=2.0,SNR=4.4							
ULM	**Lac du Bonnet**	**65.89**	**41**	P		**P**	**02 50 28.6**	**-0.1**
	comp=Z,2.0nm,1.0s,mb3.9,baz=315,slow=10.0,SNR=2.0							
NOA	**NORSAR Array B**	**67.78**	**341**	P		**P**	**02 50 40.6**	**-0.1**
	comp=Z,4.4nm,0.8s,mb4.3,baz=26,slow=6.4,SNR=9.4							
NOA	**NORSAR Array B**	**67.78**	**341**	P		**P**	**02 50 40.7**	**0.0**
NOA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**71.24**	**326**	P		**P**	**02 51 01.3**	**-0.7**
	comp=Z,0.8nm,0.4s,mb3.9,baz=31,slow=6.0,SNR=4.3							
AKASG	**Malin Array Be**	**71.24**	**326**	P		**P**	**02 51 01.3**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**72.85**	**199**	P		**P**	**02 51 10.0**	**-1.6**
	comp=Z,1.0nm,0.9s,mb3.6,baz=13,slow=4.9,SNR=7.1							
ASAR	**Alice Springs**	**72.85**	**199**	P		**P**	**02 51 10.0**	**-1.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CLL	**Collm**	**76.07**	**336**	*eP*		**P**	**02 51 30.0**	**-0.3**

NOA	**NORSAR Array B**	**69.15**	**342**	P	P	03 00 37.6	0.0
	0.5nm,0.7s,baz=28,slow=6.5,SNR=2.3						
TXAR	**Lajitas Array**	**76.78**	**61**	P	P	03 01 23.0	+0.2
	0.4nm,0.7s,baz=296,slow=4.6,SNR=5.0						

IDC 16 02:52:37.0±3.3, 641S×1514 2E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML1.9/1, Error ellipse: s-maj=125.1km s-min=43.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**235**	Pn	Pn	02 53 54.5	-1.0
	0.3nm,0.3s,baz=60,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.36**	**229**	P	P	02 57 26.0	+0.1
	1.5nm,0.8s,baz=54,slow=10.0,SNR=7.2						
ASAR	**Alice Springs**	**24.04**	**223**	P	P	02 57 53.6	-0.1
	1.0nm,0.5s,baz=59,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**27.70**	**243**	P	P	02 58 28.3	+1.5
	1.5nm,0.5s,baz=61,slow=10,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.45**	**285**	PKPbc	PKPbc	03 12 28.6	+0.5
	0.5nm,0.6s,baz=52,slow=2.9,SNR=7.1						

*ISCJB **16** 03:01:05.4±0.7, 462N±0.1×1542E±0.1, h10km, mb4.0/20, Error ellipse: s-maj=17.5km s-min=12.9km az=132.9*
*IDC **16** 03:01:05.7±0.8, 4628N×1543 2E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/29, mbtmp4.1/16, ML3.1/1, Error ellipse: s-maj=22.3km s-min=19.1km az=136.0*
*NEIC **16** 03:01:07.2±0.5, 4628N×154.30E, h10km, mb4.2/4, Error ellipse: s-maj=13.9km s-min=12.3km az=174.0*
*MOS **16** 03:01:08.0±1.2, 4622N×154.13E, h28km, mb4.3/16, Error ellipse: s-maj=20.6km s-min=13.1km az=106.7*

ISC 16 03:01:07.2±0.7, 463N±01×1543E±01, h10km, n41, σ0§87/41, mb4.0/20, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.52**	**260**	Pn	**Pn**	**03 03 10.8**	**+0.2**
	0.2nm,0.3s,baz=52,slow=19,SNR=3.0						
BILL	**Bilibino**	**22.68**	**12**	*e*P	**P**	**03 06 11.5**	**+2.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.1						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**03 08 56.3**	**+0.8**
	comp=Z,1.9nm,0.6s,mb3.9,baz=298,slow=6.8,SNR=18						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**03 08 56.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**47.87**	**298**	*e*P	**P**	**03 09 45.3**	**+0.1**
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**03 09 45.1**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=74,slow=8.4,SNR=5.3						
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**03 10 11.2**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**03 10 11.2**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**03 10 14.3**	**-0.7**
	comp=Z,0.7nm,0.3s,mb4.0,baz=55,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**03 10 14.3**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**03 10 15.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.81**	**310**	*e*P	**P**	**03 10 15.3**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**03 10 20.8**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**03 10 20.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**54.76**	**297**	*e*P	**P**	**03 10 37.4**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.76**	**297**	*e*P	**P**	**03 10 37.4**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**58.56**	**341**	P	**P**	**03 11 03.2**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.4,baz=39,slow=7.8,SNR=4.4						
ARCES	**ARCESS Array B**	**58.56**	**341**	P	**P**	**03 11 03.2**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.63**	**313**	P	**P**	**03 11 11.4**	**0.0**
AKTO	**Aktyubinsk**	**59.63**	**313**	P	**P**	**03 11 11.4**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=59,slow=6.0,SNR=6.8						
AKTO	**Aktyubinsk**	**59.63**	**313**	P	**P**	**03 11 11.5**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**64.38**	**54**	P	**P**	**03 11 43.3**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=11,slow=1.5,SNR=5.6						
FINES	**FINESS Array B**	**64.80**	**335**	P	**P**	**03 11 45.1**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=78,slow=9.9,SNR=4.1						
FINES	**FINESS Array B**	**64.80**	**335**	P	**P**	**03 11 45.1**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FRB	**Frobisher Bay**	**65.23**	**19**	P	**P**	**03 11 46.5**	**-2.4**
	comp=Z,5.4nm,0.7s,mb4.7,baz=256,slow=14,SNR=5.3						
FRB	**Frobisher Bay**	**65.23**	**19**	P	**P**	**03 11 46.5**	**-2.4**
FRB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**03 12 08.1**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=16,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**03 12 08.1**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.93**	**342**	P	**P**	**03 12 12.4**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.93**	**342**	P	**P**	**03 12 12.1**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=26,slow=6.2,SNR=3.0						
NOA	**NORSAR Array B**	**68.93**	**342**	P	**P**	**03 12 12.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**69.18**	**340**	P	**P**	**03 12 13.4**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=72,slow=4.8,SNR=6.0						
HFS	**Hagfors**	**69.18**	**340**	P	**P**	**03 12 13.4**	**-0.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.02**	**200**	P	**P**	**03 12 31.9**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=12,slow=6.3,SNR=7.2						
ASAR	**Alice Springs**	**72.02**	**200**	P	**P**	**03 12 31.9**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**03 13 00.1**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=300,slow=3.8,SNR=12						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**03 13 00.2**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**77.22**	**336**	*e*P	**P**	**03 13 01.0**	**-0.4**
MLR	**Muntele Rosu**	**77.91**	**326**	P	**P**	**03 13 06.6**	**+1.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=200,slow=3.5,SNR=4.2						
MLR	**Muntele Rosu**	**77.91**	**326**	P	**P**	**03 13 06.6**	**+1.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MMAI	**Mount Meron Ar**	**83.72**	**312**	P	**P**	**03 13 38.2**	**+1.8**
	comp=Z,2.8nm,0.9s,mb4.4,baz=36,slow=7.6,SNR=4.2						

*IDC **16** 03:05:05.3±0.7, 4676N×1546 3E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.3/31, mbtmp4.2/24, ML3.8/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/38, Error ellipse: s-maj=19.2km s-min=16.1km az=145.0*
*ISCJB **16** 03:05:06.5±2.4, 4678N±008×1544 9E±0.10, h19km±17km, mb4.3/37, Error ellipse: s-maj=14.6km s-min=9.3km az=110.9*
*NEIC **16** 03:05:06.7±0.4, 4675N×154.55E, h10km, mb4.5/13, Error ellipse: s-maj=10.2km s-min=6.9km az=145.0*
*BJI **16** 03:05:06.0, 47.47N×154.76E, h9km, mB4.4, mb4.5*
*MOS **16** 03:05:08.7±1.0, 4678N×154.40E, h33km, mb4.6/26, Error ellipse: s-maj=11.9km s-min=8.4km az=99.7*

ISC 16 03:05:05.4±4.2, 4681N±008×1545E±01, h0km±26km, n87, σ1§01/87, mb4.4/37, **3D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**15**	*e*PN	**Pn**	**03 06 10.4**	**+2.3**
KUR	**Kuril'sk**	**4.90**	**254**	*e*PN	**Pn**	**03 06 20.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.07**	**275**	PN	**Pb**	**03 07 21.5**	**-4.6**
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
ASAJ	**Asahikawa**	**8.81**	**257**	Pn	**Pn**	**03 07 16.5**	**+2.5**
	comp=E,1.4nm,0.3s,baz=29,slow=13,SNR=4.3						
ASAJ				LR	LR	03 11 13.2	
ASAJ	**Asahikawa**	**8.81**	**257**	PN	**Pn**	**03 07 16.5**	**+2.5**
ASAJ				pmax	pmax		
	comp=E,109nm,18.1s,baz=56,slow=42						
ASAJ				MLR	MLR		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,109nm,18.1s						
KLR	**Kul'dur**	**15.42**	**287**	*e*P	**Pn**	**03 08 50.8**	**+6.5**
MJAR	**Matsushiro Arr**	**15.91**	**236**	Pn	**Pn**	**03 08 49.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=6.0						
MAJO	**Matsushiro**	**15.91**	**236**	*e*P	**Pn**	**03 08 50.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**15.91**	**236**	*e*P	**Pn**	**03 08 50.2**	**-0.4**
	comp=Z,10nm,0.8s						
MAT	**Matsushiro**	**15.91**	**236**	P	**Pn**	**03 08 57.1**	**+6.5**
CLNS	**Chul'man**	**20.72**	**310**	*e*P	**P**	**03 09 45.7**	**-1.7**
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,1.1s						
KSRS	**Korea Array**	**21.75**	**254**	P	**P**	**03 09 59.2**	**+0.8**
	comp=E,2.1nm,0.9s,mb3.5,baz=54,slow=11,SNR=3.9						
BILL	**Bilibino**	**22.12**	**12**	*e*P	**P**	**03 10 00.8**	**-1.6**
BILL				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
BILL	**Bilibino**	**22.12**	**12**	*e*P	**P**	**03 10 01.3**	**-1.1**
	comp=Z,15nm,0.9s,mb4.4						
BOD	**Bodaibo**	**26.70**	**309**	*e*P	**P**	**03 10 44.3**	**-2.0**
SONM	**Songino Array**	**32.23**	**290**	P	**P**	**03 11 34.7**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=72,slow=9.5,SNR=5.9						
SONM	**Songino Array**	**32.23**	**290**	P	**P**	**03 11 34.7**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,145nm,19.3s						
ZAK	**Zakamensk**	**33.53**	**295**	*e*P	**P**	**03 11 46.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
LZH	**Lanzhou**	**38.86**	**273**	*e*P	**P**	**03 12 35.8**	**+3.5**
LZH				AP		03 12 38.6	
LZH				XP	sP	03 12 40.9	+8.6
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH	**Lanzhou**	**38.86**	**273**	*e*P	**P**	**03 12 35.7**	**+3.4**
LZH				*SP	sP	03 12 40.9	+8.6
LZH				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.86**	**273**	*e*P	**P**	**03 12 35.7**	**+3.4**
	comp=Z,23nm,1.0s,mb4.8						
LZH				pP		03 12 38.6	
LZH				sP	sP	03 12 40.9	+8.6
INK	**Inuvik**	**41.07**	**33**	P	**P**	**03 12 50.5**	**-0.3**
	comp=Z,3.2nm,0.9s,mb4.0,baz=271,slow=5.3,SNR=6.7						
INK	**Inuvik**	**41.07**	**33**	P	**P**	**03 12 50.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CD2	**Chengdu**	**41.86**	**266**	*i*P	**P**	**03 12 59.6**	**+2.5**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**03 13 08.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.0,baz=54,slow=8.7,SNR=5.4						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**03 13 09.0**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**43.92**	**308**	*e*P	**P**	**03 13 13.6**	**-0.3**
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**03 13 44.2**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.2,baz=67,slow=5.4,SNR=7.4						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**03 13 44.2**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**50.46**	**19**	*e*P	**P**	**03 14 04.8**	**-0.1**
RES				pmax	pmax		
	comp=Z,88nm,0.9s						
RES	**Resolute Bay**	**50.46**	**19**	*e*P	**P**	**03 14 04.8**	**-0.1**
	comp=Z,88nm,0.9s						
CHKZ	**Chkalovo**	**51.13**	**311**	*e*P	**P**	**03 14 09.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**51.13**	**311**	*e*P	**P**	**03 14 09.2**	**-0.8**
	comp=Z,7.0nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**51.57**	**310**	P	**P**	**03 14 13.4**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=53,slow=8.7,SNR=8.9						
BVAR	**Borovoye Array**	**51.57**	**310**	P	**P**	**03 14 13.4**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.61**	**310**	*e*P	**P**	**03 14 13.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.61**	**310**	*e*P	**P**	**03 14 13.2**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.33**	**310**	*e*P	**P**	**03 14 18.7**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.33**	**310**	*e*P	**P**	**03 14 18.7**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**03 14 36.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**03 14 36.5**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.4						
ARU	**Arti**	**55.62**	**318**	*i*P	**P**	**03 14 42.8**	**-0.2**
ARU				*e*		03 16 43.4	
ARU				*e*PPP		03 17 56.8	
ARU				*e*S	**S**	**03 22 23.8**	**-6.1**
ARU				*e*SS	SS	03 26 06.6	-8.2
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
ARU	**Arti**	**55.62**	**318**	*e*P	**P**	**03 14 42.2**	**-0.8**
	comp=Z,8.2nm,0.6s,mb4.9						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**03 15 00.5**	**-0.1**
	comp=Z,14nm,1.1s,mb4.9,baz=48,slow=5.9,SNR=7.1						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**03 15 00.5**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,14nm,1.1s						
AKTK	**Aktyubinsk**	**59.41**	**312**	P	**P**	**03 15 10.8**	**+1.2**
AKTO	**Aktyubinsk**	**59.41**	**312**	P	**P**	**03 15 10.8**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=8.8,SNR=5.7						
AKTO	**Aktyubinsk**	**59.41**	**312**	P	**P**	**03 15 10.9**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
HLID	**Hailey**	**60.66**	**56**	*e*P	**P**	**03 15 18.0**	**-0.3**
	comp=Z,4.3nm,1.2s,mb4.5						
TPAW	**Teton Pass**	**62.67**	**55**	*e*P	**P**	**03 15 32.2**	**+0.4**
	comp=Z,16nm,1.6s,mb4.9						
DUG	**Dugway**	**63.71**	**59**	*e*P	**P**	**03 15 38.4**	**-0.4**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
DUG	**Dugway**	**63.71**	**59**	*e*P	**P**	**03 15 38.4**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**63.92**	**55**	P	**P**	**03 15 39.5**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.3,baz=298,slow=1.5,SNR=13						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**03 15 43.1**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.9,baz=38,slow=8.2,SNR=26						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**03 15 43.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN	**Obninsk**	**65.80**	**326**	*e*P	**P**	**03 15 52.1**	**-0.3**
OBN				pmax	pmax		
	comp=Z,19nm,1.7s,mb5.0						
NB2	**NORSAR Subarra**	**68.48**	**342**	P	**P**	**03 16 09.1**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.48**	**342**	P	**P**	**03 16 09.6**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.4,baz=26,slow=6.3,SNR=5.5						
NOA	**NORSAR Array B**	**68.48**	**342**	P	**P**	**03 16 09.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**03 16 11.0**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.8,baz=57,slow=5.5,SNR=17						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**03 16 11.0**	**0.0**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**68.90**	**200**	P	**P**	**03 16 11.3**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.9,baz=20,slow=6.4,SNR=4.5						
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**03 16 30.5**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.3,baz=35,slow=6.1,SNR=5.3						
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**03 16 30.5**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**72.03**	**327**	*e*P	**P**	**03 16 29.4**	**-1.8**
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**	**03 16 35.0**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.4,baz=16,slow=5.6,SNR=25						
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**	**03 16 35.0**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**76.50**	**347**	P	**P**	**03 16 58.3**	**+1.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=20,slow=4.7,SNR=4.8						
EKA	**Eskdalemuir Ar**	**76.50**	**347**	P	**P**	**03 16 58.3**	**+1.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	**03 16 57.5**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.7,baz=295,slow=4.1,SNR=33						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	**03 16 57.5**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	**03 16 57.5**	**-0.4**
CLL	**Collm**	**76.81**	**336**	*e*P	**P**	**03 17 02.0**	**+3.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
CLL	**Collm**	**76.81**	**336**	*e*P	**P**	**03 17 02.0**	**+3.1**
	comp=Z,7.0nm,0.9s,mb4.8						
CLL	**Collm**	**76.81**	**336**	*e*P	**P**	**03 16 59.0**	**+0.1**
CLL				*e*Pmax		03 17 02.0	
	comp=Z,7.0nm,0.9s						
BRG	**Berggiesshubel**	**76.93**	**336**	*e*P	**P**	**03 17 02.0**	**+2.3**
	comp=Z,1.7nm,0.9s,mb4.2						
BRG	**Berggiesshubel**	**76.93**	**336**	*e*P	**P**	**03 17 02.0**	**+2.3**
BRG				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.2						
VRAC	**Vranov**	**77.54**	**333**	P	**P**	**03 17 03.2**	**+0.1**
	comp=Z,3.2nm,0.9s,mb4.5,baz=315,slow=4.3,SNR=3.8						
VRAC	**Vranov**	**77.54**	**333**	P	**P**	**03 17 03.2**	**+0.1**
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MLR	**Muntele Rosu**	**77.57**	**326**	P	**P**	**03 17 04.4**	**+1.2**
	comp=Z,1.3nm,0.8s,mb4.1,baz=302,slow=24,SNR=3.0						
MLR	**Muntele Rosu**	**77.57**	**326**	P	**P**	**03 17 04.4**	**+1.2**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.82**	**335**	P	**P**	**03 17 10.4**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=36,slow=5.0,SNR=6.3						
GERES	**GERESS Array B**	**78.82**	**335**	P	**P**	**03 17 10.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.01**	**318**	P	**P**	**03 17 11.9**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=105,slow=3.8,SNR=4.2						
BRTR	**Keskin Array B**	**79.01**	**318**	P	**P**	**03 17 11.9**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MMAI	**Mount Meron Ar**	**83.50**	**312**	P	**P**	**03 17 34.7**	**-0.4**
	comp=Z,9.7nm,1.1s,mb4.9,baz=17,slow=9.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**115.53**	**330**	PKP	PKPdf	03 23 48.6	-0.8
	comp=Z,0.3nm,0.6s,baz=35,slow=0.8,SNR=5.7						
TORD				PP	PP	03 24 48.5	-2.5
	comp=Z,0.6nm,0.9s,baz=7.2,slow=8.0,SNR=3.8						

*BJI **16** 03:14:17.3, 174N×96.17E, h20km, mb4.8*
*IDC **16** 03:14:24.0±1.7, 267N×9562E, h0km, mb4.3/6, mb1 4.3/7, mb1mx3.9/23, mbtmp4.3/7, ML3.4/1, Error ellipse: s-maj=49.7km s-min=21.2km az=41.0*
*ISCJB **16** 03:14:28.9±3.1, 27N±02×957E±01, h49km±24km, mb4.5/19, Error ellipse: s-maj=32.6km s-min=13.8km az=74.9*
*NEIC **16** 03:14:28.4±0.8, 266N×9566E, h30km, mb4.4/8, Error ellipse: s-maj=15.6km s-min=7.7km az=209.0*

ISC 16 03:14:30.9±3.0, 27N±02×957E±01, h47km±24km, n28, σ0§64/29, mb4.5/19, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.21**	**88**	Pn	**Pn**	**03 15 18.1**	**-0.7**
	4.0nm,0.3s,baz=276,slow=7.3,SNR=17						
PSI				Sn	**Sn**	**03 15 57.1**	**+1.4**
	2.9nm,0.3s,baz=315,slow=20,SNR=2.6						
KULM	**Kulim**	**5.56**	**62**	*e*Pn	**Pn**	**03 15 50.3**	**-0.7**
CHTO	**Chiang Mai**	**16.33**	**11**	*e*P	**Pn**	**03 18 16.4**	**-0.4**
	4.3nm,0.7s						
KKM	**Kota Kinabalu**	**20.70**	**80**	*e*P	**P**	**03 19 06.4**	**-0.7**
JIRN	**Jiri**	**26.44**	**341**	*e*P	**P**	**03 20 04.0**	**+0.7**
	30nm,0.6s,mb5.0						
PKI	**Pulchoki**	**26.63**	**339**	*e*P	**P**	**03 20 05.5**	**+0.5**
DMN	**Daman**	**26.77**	**339**	*e*P	**P**	**03 20 06.6**	**+0.4**
GUN	**Gumba**	**26.78**	**340**	*e*P	**P**	**03 20 07.0**	**+0.7**
	29nm,0.6s,mb5.0						
KKN	**Kakani**	**26.88**	**339**	*e*P	**P**	**03 20 07.6**	**+0.4**
	8.7nm,0.5s,mb4.6						
LSA	**Lhasa**	**27.21**	**351**	*e*P	**P**	**03 20 10.5**	**+0.4**
	8.2nm,0.7s,mb4.4						
GKN	**

MJAR	**Matsushiro Arr**	**15.67**	**237**	Pn		**Pn**		**03 20 51.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=6.1								
CN2	**Changchun**	**20.66**	**273**	*e*P		**P**		**03 21 51.3**	**-1.6**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s								
KSRS	**Korea Array**	**21.64**	**255**	P		**P**		**03 22 02.6**	**-0.9**
	comp=Z,2.7nm,0.9s,mb3.7,baz=56,slow=7.6,SNR=2.9								
BILL	**Bilibino**	**22.56**	**11**	*e*P		**P**		**03 22 12.4**	**-0.9**
BILL				*e*				03 22 23.7	
BILL				pmax		pmax			
	comp=Z,19nm,1.0s,mb4.5								
BILL	**Bilibino**	**22.56**	**11**	*e*P		**P**		**03 22 12.9**	**-0.4**
	comp=Z,23nm,1.1s,mb4.5								
SNY	**Shenyang**	**22.62**	**270**	⇑P		**P**		**03 22 14.4**	**+0.4**
SNY				AP				03 22 17.1	
SNY				XP		sP		03 22 20.1	+2.0
SNY				AMB		AMB			
	comp=Z,25nm,0.6s,mb4.8								
BOD	**Bodaibo**	**27.00**	**310**	*e*P		**P**		**03 22 52.8**	**-2.3**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.4s,mb4.0								
BJI	**Beijing**	**28.47**	**271**	P		**P**		**03 23 13.0**	**+4.7**
BJI				AMB		AMB			
	comp=Z,18nm,0.9s,mb4.7								
BJI				LR		LR			
	comp=N,403nm,15.6s,MS4.2								
BJI				LR		LR			
	comp=E,148nm,15.6s,MS4.2								
BJI				LR		LR			
	comp=Z,298nm,17.3s,MS4.0								
HHC	**Hu-ho-hao-te**	**31.31**	**276**	*e*P		**P**		**03 23 34.3**	**+0.9**
HHC				AP		pP		03 23 38.8	+2.3
HHC				XP		sP		03 23 41.3	+3.6
HHC				PP		PP		03 24 36.8	-7.3
HHC				AMB		AMB			
	comp=Z,18nm,1.5s,mb4.7								
HHC				AMB		AMB			
	comp=Z,82nm,7.4s								
SONM	**Songino Array**	**32.40**	**290**	P		**P**		**03 23 42.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=83,slow=10,SNR=2.8								
ZAK	**Zakamensk**	**33.74**	**296**	*e*P		**P**		**03 23 52.8**	**-1.9**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.5s,mb4.0								
EGAK	**Eagle**	**38.69**	**38**	*e*P		**P**		**03 24 36.0**	**-1.0**
	comp=Z,8.4nm,0.9s,mb4.5								
LZH	**Lanzhou**	**38.90**	**273**	*e*P		**P**		**03 24 41.5**	**+2.8**
LZH				AP		pP		03 24 47.3	+5.5
LZH				XP		sP		03 24 50.9	+7.8
LZH				AMB		AMB			
	comp=Z,21nm,1.0s,mb4.8								
LZH				AMB		AMB			
	comp=Z,142nm,5.0s								
LZH	**Lanzhou**	**38.90**	**273**	*e*P		**P**		**03 24 41.5**	**+2.8**
	comp=Z,21nm,1.0s,mb4.8								
LZH				pP		pP		03 24 47.3	+5.5
LZH				sP		sP		03 24 50.9	+7.8
GTA	**Gaotai**	**40.01**	**280**	*e*P		**P**		**03 24 50.0**	**+1.9**
GTA				AP		pP		03 24 56.8	+5.6
GTA				XP		sP		03 25 00.5	+8.1
GTA				AMB		AMB			
	comp=Z,7.0nm,1.3s,mb4.2								
INK	**Inuvik**	**41.45**	**32**	P		**P**		**03 25 00.3**	**+0.4**
	comp=Z,5.4nm,0.9s,mb4.2,baz=270,slow=6.4,SNR=12								
INK	**Inuvik**	**41.45**	**32**	*e*P		**P**		**03 25 00.0**	**+0.1**
INK				pmax		pmax			
	comp=Z,246nm,0.9s								
INK	**Inuvik**	**41.45**	**32**	*e*P		**P**		**03 25 00.0**	**+0.1**
	comp=Z,246nm,0.9s,mb5.8								
CD2	**Chengdu**	**41.84**	**267**	⇓*i*P		**P**		**03 25 04.3**	**+1.2**
CD2				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.7								
MK31	**Makanchi Array**	**48.00**	**298**	*e*P		**P**		**03 25 52.4**	**+0.2**
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**03 25 52.5**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.6,baz=66,slow=7.8,SNR=22								
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**03 25 52.5**	**+0.3**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**03 25 52.5**	**+0.3**
RES	**Resolute Bay**	**50.89**	**19**	*e*P		**P**		**03 26 14.2**	**0.0**
RES				pmax		pmax			
	comp=Z,212nm,0.9s								
RES	**Resolute Bay**	**50.89**	**19**	*e*P		**P**		**03 26 14.2**	**0.0**
	comp=Z,212nm,0.9s								
CHKZ	**Chkalovo**	**51.44**	**311**	*e*P		**P**		**03 26 17.7**	**-0.6**
CHKZ				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
CHKZ	**Chkalovo**	**51.44**	**311**	*e*P		**P**		**03 26 17.7**	**-0.6**
	comp=Z,9.8nm,0.9s,mb4.7								
BVAR	**Borovoye Array**	**51.87**	**310**	P		**P**		**03 26 21.8**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=53,slow=8.4,SNR=12								
BVAR	**Borovoye Array**	**51.87**	**310**	P		**P**		**03 26 21.8**	**+0.2**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BRVK	**Borovoye**	**51.91**	**310**	*e*P		**P**		**03 26 21.9**	**0.0**
BRVK				pmax		pmax			
	comp=Z,22nm,1.8s,mb4.8								
BRVK	**Borovoye**	**51.91**	**310**	*e*P		**P**		**03 26 21.9**	**+0.1**
	comp=Z,22nm,1.8s,mb4.8								
ZRNK	**Zerenda**	**52.63**	**311**	*e*P		**P**		**03 26 27.2**	**-0.1**
ZRNK				pmax		pmax			
	comp=Z,13nm,1.5s,mb4.6								
ZRNK	**Zerenda**	**52.63**	**311**	*e*P		**P**		**03 26 27.2**	**-0.1**
	comp=Z,13nm,1.5s,mb4.6								
AAK	**Ala-Archa**	**54.89**	**297**	*e*P		**P**		**03 26 44.0**	**+0.2**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
AAK	**Ala-Archa**	**54.89**	**297**	*e*P		**P**		**03 26 44.0**	**+0.2**
	comp=Z,6.2nm,0.9s,mb4.6								
EDM	**Edmonton**	**55.86**	**47**	*e*P		**P**		**03 26 50.1**	**-0.7**
ARU	**Arti**	**55.96**	**318**	⇑*i*P		**P**		**03 26 50.4**	**-1.1**
ARU				*e*				03 28 51.2	
ARU				*e*S		**S**		**03 34 33.3**	**-6.2**
ARU				*e*SS		SS		03 38 20.3	-5.1
ARU				pmax		pmax			
	comp=Z,12nm,0.7s,mb5.0								
ARU	**Arti**	**55.96**	**318**	*e*P		**P**		**03 26 50.9**	**-0.6**
	comp=Z,11nm,0.6s,mb5.1								
JIRN	**Jiri**	**55.97**	**276**	*e*P		**P**		**03 26 53.6**	**+2.1**
	comp=Z,31nm,0.8s,mb5.4								
GUN	**Gumba**	**56.02**	**276**	*e*P		**P**		**03 26 53.2**	**+1.2**
	comp=Z,22nm,0.7s,mb5.3								
KKN	**Kakani**	**56.51**	**277**	*e*P		**P**		**03 26 57.5**	**+2.1**
	comp=Z,50nm,1.0s,mb5.5								
PKI	**Pulchoki**	**56.56**	**276**	*e*P		**P**		**03 26 57.2**	**+1.4**
DMN	**Daman**	**56.75**	**276**	*e*P		**P**		**03 26 58.0**	**+0.9**
	comp=Z,46nm,0.9s,mb5.5								
GKN	**Gorkha**	**56.82**	**277**	*e*P		**P**		**03 26 59.4**	**+1.8**
	comp=Z,38nm,0.9s,mb5.5								
KOLN	**Koldanda**	**57.68**	**278**	*e*P		**P**		**03 27 05.2**	**+1.5**
	comp=Z,30nm,0.9s,mb5.3								
ARCES	**ARCESS Array B**	**58.54**	**341**	P		**P**		**03 27 09.5**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.5,baz=14,slow=7.7,SNR=7.3								
ARCES	**ARCESS Array B**	**58.54**	**341**	P		**P**		**03 27 09.5**	**-0.2**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AKTK	**Aktyubinsk**	**59.72**	**313**	P		**P**		**03 27 17.9**	**0.0**
AKTO	**Aktyubinsk**	**59.72**	**313**	P		**P**		**03 27 17.9**	**0.0**
	baz=72,slow=8.4,SNR=2.0								
ORR	**Orenburg**	**60.62**	**315**	*e*P		**P**		**03 27 24.0**	**-0.1**
ORR				pmax		pmax			
	comp=Z,10.0nm,1.4s,mb4.8								
HLID	**Hailey**	**60.90**	**56**	*e*P		**P**		**03 27 26.0**	**0.0**
	comp=Z,4.4nm,1.2s,mb4.5								
NVAR	**Mina Array Bea**	**61.73**	**63**	P		**P**		**03 27 31.9**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.2,baz=304,slow=8.6,SNR=9.4								
QLMT	**Earthquake Lak**	**61.81**	**54**	*e*P		**P**		**03 27 32.6**	**+0.4**
TPAW	**Teton Pass**	**62.92**	**55**	*e*P		**P**		**03 27 40.7**	**+1.1**
	comp=Z,8.8nm,1.0s,mb4.8								
DUG	**Dugway**	**63.94**	**58**	*e*P		**P**		**03 27 46.5**	**+0.2**
DUG				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
DUG	**Dugway**	**63.94**	**58**	*e*P		**P**		**03 27 46.5**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.5								
PDAR	**Pinedale Array**	**64.17**	**54**	P		**P**		**03 27 48.0**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.4,baz=308,slow=2.5,SNR=21								
FINES	**FINESS Array B**	**64.81**	**335**	P		**P**		**03 27 51.2**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=31,slow=8.9,SNR=8.6								
FINES	**FINESS Array B**	**64.81**	**335**	P		**P**		**03 27 51.3**	**-0.7**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
PFO	**Pinyon Flat Ob**	**65.95**	**66**	P		**P**		**03 28 01.1**	**+1.7**
	comp=Z,2.6nm,0.7s,mb4.4,baz=293,slow=6.0,SNR=3.7								
PFO	**Pinyon Flat Ob**	**65.95**	**66**	P		**P**		**03 28 01.1**	**+1.7**
PFO				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
SRU	**San Rafael**	**65.99**	**58**	*e*P		**P**		**03 27 59.2**	**-0.4**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
SRU	**San Rafael**	**65.99**	**58**	*e*P		**P**		**03 27 59.2**	**-0.5**
	comp=Z,6.2nm,0.9s,mb4.6								
ULM	**Lac du Bonnet**	**66.16**	**41**	P		**P**		**03 28 00.1**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.3,baz=301,slow=8.1,SNR=5.6								
RSSD	**Black Hills**	**66.31**	**50**	*e*P		**P**		**03 28 01.2**	**-0.5**
RSSD				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
RSSD	**Black Hills**	**66.31**	**50**	*e*P		**P**		**03 28 01.2**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.6								
MVCO	**Mesa Verde**	**68.44**	**58**	*e*P		**P**		**03 28 14.8**	**-0.4**
	comp=Z,15nm,1.4s,mb4.8								
WRA	**Warramunga Arr**	**68.48**	**200**	P		**P**		**03 28 14.6**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=20,slow=6.7,SNR=4.9								
WRA	**Warramunga Arr**	**68.48**	**200**	P		**P**		**03 28 14.6**	**-0.9**
WRA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
NB2	**NORSAR Subarra**	**68.91**	**342**	P		**P**		**03 28 17.6**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.91**	**342**	P		**P**		**03 28 17.7**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=26,slow=6.4,SNR=7.9								
NOA	**NORSAR Array B**	**68.91**	**342**	P		**P**		**03 28 17.7**	**-0.4**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ANMO	**Albuquerque**	**71.19**	**59**	P		**P**		**03 28 32.4**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=310,slow=8.4,SNR=5.8								
ANMO	**Albuquerque**	**71.19**	**59**	P		**P**		**03 28 32.4**	**+0.3**
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ASAR	**Alice Springs**	**72.17**	**200**	P		**P**		**03 28 38.5**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.4,baz=9.5,slow=5.1,SNR=11								
ASAR	**Alice Springs**	**72.17**	**200**	P		**P**		**03 28 38.6**	**+0.6**
ASAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AKASG	**Malin Array Be**	**72.42**	**327**	P		**P**		**03 28 38.1**	**-1.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=33,slow=5.9,SNR=7.3								
AKASG	**Malin Array Be**	**72.42**	**327**	P		**P**		**03 28 38.2**	**-1.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KWP	**Kalwaria**	**75.66**	**330**	*e*P		**P**		**03 28 58.6**	**+0.2**
KWP				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.0								
KWP	**Kalwaria**	**75.66**	**330**	*e*P		**P**		**03 28 58.6**	**+0.2**
	comp=Z,19nm,1.0s,mb5.0								
KOLS	**Kolonicke sedl**	**76.40**	**330**	*e*P		**P**		**03 29 02.7**	**0.0**
BURAR	**Bucovina Array**	**76.45**	**327**	⇓*i*P		**P**		**03 29 03.4**	**+0.4**
BURAR	**Bucovina Array**	**76.45**	**327**	⇓P		**P**		**03 29 03.4**	**+0.4**
TXAR	**Lajitas Array**	**76.81**	**61**	P		**P**		**03 29 04.8**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.6,baz=303,slow=4.2,SNR=56								
TXAR	**Lajitas Array**	**76.81**	**61**	P		**P**		**03 29 04.8**	**-0.2**
TXAR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
TXAR	**Lajitas Array**	**76.81**	**61**	P		**P**		**03 29 04.8**	**-0.2**
DPC	**Dobruska-Polom**	**77.11**	**334**	*e*P		**P**		**03 29 07.0**	**+0.3**
CLL	**Collm**	**77.22**	**336**	⇓*i*P		**P**		**03 29 06.4**	**-0.9**
CLL				*i*				03 29 13.1	
CLL				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
CLL	**Collm**	**77.22**	**336**	⇓*i*P		**P**		**03 29 06.4**	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.5								
CLL				*i*				03 29 13.1	
CLL	**Collm**	**77.22**	**336**	⇓*i*P		**P**		**03 29 06.4**	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.5								
CLL				*i*	pP	pP		03 29 13.1	+2.5
CLL				*i*	x	x		03 29 25.9	
MORC	**Moravsky Berou**	**77.24**	**333**	⇑*i*P		**P**		**03 29 07.7**	**+0.3**
MORC	**Moravsky Berou**	**77.24**	**333**	⇑P		**P**		**03 29 07.7**	**+0.3**
VYHS	**Vyhne**	**77.94**	**332**	*e*P		**P**		**03 29 11.5**	**+0.2**
MLR	**Muntele Rosu**	**77.95**	**326**	P		**P**		**03 29 12.0**	**+0.6**
	baz=220,slow=7.9								
MLR	**Muntele Rosu**	**77.95**	**326**	⇓*i*P		**P**		**03 29 12.6**	**+1.2**
MLR	**Muntele Rosu**	**77.95**	**326**	⇓P		**P**		**03 29 12.6**	**+1.2**
VRAC	**Vranov**	**77.95**	**333**	⇑*i*P		**P**		**03 29 12.1**	**+0.7**
VRAC	**Vranov**	**77.95**	**333**	⇑P		**P**		**03 29 12.1**	**+0.8**
PRU	**Pruhonice**	**77.96**	**335**	*e*P		**P**		**03 29 10.8**	**-0.7**
DRGR		**78.07**	**328**	⇓*i*P		**P**		**03 29 12.4**	**+0.4**
DRGR		**78.07**	**328**	⇓P		**P**		**03 29 12.4**	**+0.3**
MALT	**Malatya**	**78.14**	**314**	⇑*i*P		**P**		**03 29 14.3**	**+1.9**
MALT	**Malatya**	**78.14**	**314**	⇑P		**P**		**03 29 14.3**	**+1.8**
VOIR		**78.34**	**326**	⇓*i*P		**P**		**03 29 14.6**	**+1.1**
VOIR		**78.34**	**326**	⇓P		**P**		**03 29 14.6**	**+1.0**
NKC	**Novy Kostel**	**78.34**	**336**	*e*P		**P**		**03 29 13.5**	**-0.1**
STKA	**Stephens Creek**	**78.75**	**191**	P		**P**		**03 29 15.7**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=304,slow=13,SNR=3.9								
KHC	**Kasperske Hory**	**79.01**	**335**	*e*P		**P**		**03 29 17.5**	**+0.3**
GERES	**GERESS Array B**	**79.23**	**335**	P		**P**		**03 29 18.5**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=4.6,SNR=11								
GERES	**GERESS Array B**	**79.23**	**335**	P		**P**		**03 29 18.5**	**+0.1**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BR131	**Keskin Array S**	**79.35**	**318**	*e*P		**P**		**03 29 19.4**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8								
BRTR	**Keskin Array B**	**79.35**	**318**	P		**P**		**03 29 19.5**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=62,slow=4.0,SNR=6.0								
BRTR	**Keskin Array B**	**79.35**	**318**	P		**P**		**03 29 19.5**	**+0.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
PKSM	**Moragy**	**80.00**	**331**	⇑*i*P		**P**		**03 29 21.8**	**-0.8**
PKSM	**Moragy**	**80.00**	**331**	⇑P		**P**		**03 29 21.8**	**-0.8**
CDF	**Champ du Feu**	**81.38**	**339**	*e*P		**P**		**03 29 28.4**	**-1.6**
	comp=Z,14nm,0.9s,mb4.6								
CDF	**Champ du Feu**	**81.38**	**339**	*e*P		**P**		**03 29 28.4**	**-1.6**
CDF				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
CDF	**Champ du Feu**	**81.38**	**339**	*e*P		**P**		**03 29 28.4**	**-1.6**
	comp=Z,6.9nm,0.9s,mb4.6								
VTS	**Vitosha**	**81.45**	**326**	⇓*i*P		**P**		**03 29 30.9**	**+0.5**
VTS	**Vitosha**	**81.45**	**326**	⇓P		**P**		**03 29 30.9**	**+0.5**
GRR	**Gorron**	**83.22**	**344**	*e*P		**P**		**03 29 38.1**	**-1.6**
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**		**03 29 42.6**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.3,baz=347,slow=2.1,SNR=4.0								
ASF	**Jabal al Asfar**	**83.70**	**311**	P		**P**		**03 29 42.6**	**+0.5**
ASF				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MMAI	**Mount Meron Ar**	**83.81**	**312**	P		**P**		**03 29 43.5**	**+0.9**
	comp=Z,6.2nm,0.7s,mb4.8,baz=42,slow=9.0,SNR=8.9								
SMF	**Signal de Mont**	**83.87**	**340**	*e*P		**P**		**03 29 41.6**	**-1.4**
	comp=Z,42nm,1.2s,mb5.2								
SMF	**Signal de Mont**	**83.87**	**340**	*e*P		**P**		**03 29 41.6**	**-1.4**
SMF				pmax		pmax			
	comp=Z,21nm,1.2s,mb5.1								
SMF	**Signal de Mont**	**83.87**	**340**	*e*P		**P**		**03 29 41.6**	**-1.4**
	comp=Z,21nm,1.2s,mb5.2								
LPG	**La Plagne**	**84.22**	**338**	*e*P		**P**		**03 29 44.2**	**-0.6**
	comp=Z,26nm,0.9s,mb5.1								
LPG	**La Plagne**	**84.22**	**338**	*e*P		**P**		**03 29 44.2**	**-0.6**
LPG				pmax		pmax			
	comp=Z,13nm,0.9s,mb5.1								
LPG	**La Plagne**	**84.22**	**338**	*e*P		**P**		**03 29 44.2**	**-0.6**
	comp=Z,13nm,0.9s,mb5.1								
CAF	**Calviac**	**85.90**	**341**	*e*P		**P**		**03 29 51.9**	**-1.3**

*IDC **16** 03:19:03.2ₛ2.6, 6.90S×13198E, h0ᵏᵐ, mb3.9/1, mb1 4.1/4, mb1mx3.7/13, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=105.3km s-min=29.2km az=81.0*
*ISCJB **16** 03:19:07.5ₛ1.5, 7.24S×009.×1315E±02, h35ᵏᵐ, mb3.8/1, Error ellipse: s-maj=22.0km s-min=12.1km az=164.6*

ISC 16 03:19:10.0±1.6, 7.20S×009.×1316E±01, h35ᵏᵐ, n6, σ1§53/10, mb3.8/1, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.54**	**171**	*e*P	**Pn**	**03 20 34.0**	**+4.1**
	29nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.29**	**208**	*e*P	**Pn**	**03 22 06.3**	**+3.8**
	3.9nm,0.4s						
FITZ				*e*S	**Sn**	**03 24 17.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.29**	**208**	Pn	**Pn**	**03 22 05.5**	**+3.0**
	0.6nm,0.3s,baz=40,slow=13,SNR=21						
FITZ				Sn	**Sn**	**03 24 17.7**	**-0.4**
	1.3nm,0.3s,baz=200,slow=18,SNR=15						
WRA	**Warramunga Arr**	**12.94**	**168**	Pn	**Pn**	**03 22 11.6**	**+0.2**
	0.8nm,0.3s,baz=351,slow=14,SNR=6.9						
WRA				Sn	**Sn**	**03 24 34.2**	**+0.2**
	0.8nm,0.3s,baz=351,slow=22,SNR=7.6						
ASAR	**Alice Springs**	**16.52**	**173**	Pn	**Pn**	**03 23 00.0**	**+1.1**
	0.2nm,0.3s,baz=348,slow=8.2,SNR=4.4						
ASAR				Sn	**Sn**	**03 25 58.4**	**-2.7**
	0.1nm,0.3s,baz=354,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**69.27**	**326**	P	**P**	**03 30 12.0**	**-1.5**
	1.1nm,0.9s,mb3.8,baz=121,slow=6.7,SNR=4.2						

*BJI **16** 03:24:14.7, 47.30N×154.03E, h8ᵏᵐ, mB4.5, mb4.4*
*NEIC **16** 03:24:19.6±4.5, 46.87N×153.24E, h8ᵏᵐ, 28ᵏᵐ, mb4.7/41, Error ellipse: s-maj=13.0km s-min=4.8km az=179.0*
*ISCJB **16** 03:24:21.9±1.0, 46.66N±0.07×153.31E±0.05, h42ᵏᵐ±9ᵏᵐ, mb4.6/78, MS4.1/2, Error ellipse: s-maj=12.3km s-min=5.1km az=147.0*
*MOS **16** 03:24:21.6±1.1, 46.61N×153.30E, h44ᵏᵐ, mb4.8/29, Error ellipse: s-maj=9.4km s-min=6.8km az=68.6*
*IDC **16** 03:24:26.2ₛ3.6, 46.66N×153.13E, h71ᵏᵐ±33ᵏᵐ, mb4.1/22, mb1 4.3/24, mb1mx4.2/29, mbtmp4.1/24, ML4.2/2, MS4.1/2, Ms1 4.1/2, ms1mx3.2/40, Error ellipse: s-maj=17.3km s-min=13.5km az=152.0*

ISC 16 03:24:24.6±0.9, 46.77N±0.07×153.27E±0.05, h48ᵏᵐ±8ᵏᵐ, n189, σ1§00/189, mb4.6/78, MS4.1/2, 6C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.07**	**250**	*e*PN	**Pn**	**03 25 19.4**	**-4.9**
KUR				pmax	pmax		
	comp=N,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,260nm,0.5s						
SKR	**Severo-Kuril's**	**4.35**	**25**	*e*PN	**Pn**	**03 25 29.0**	**+0.9**
SKR				pmax	pmax		
	comp=Z,670nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.89**	**245**	*e*PN	**Pn**	**03 25 47.4**	**-1.9**
YUK				pmax	pmax		
	comp=Z,770nm,0.5s						
YUK				pmax	pmax		
	comp=N,420nm,0.4s						
YUK				pmax	pmax		
	comp=E,390nm,0.4s						
PET	**Petropavlovsk**	**7.16**	**27**	*e*PN	**Pn**	**03 26 09.7**	**+3.0**
PET				pmax	pmax		
	comp=Z,190nm,1.2s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
PET	**Petropavlovsk**	**7.16**	**27**	*e*Pn	**Pn**	**03 25 58.6**	**-8.1**
PET				*e*Pg	**Pn**	**03 26 14.8**	**+8.0**
YSS	**Yuzh-Sakhalins**	**7.21**	**275**	*e*PN	**Pn**	**03 26 08.0**	**+0.6**
YSS				*e*S	**Sn**	**03 27 36.7**	**+8.7**
YSS	**Yuzh-Sakhalins**	**7.21**	**275**	*e*Pn	**Pn**	**03 26 08.8**	**+1.3**
	comp=Z,47nm,0.7s						
ASAJ	**Asahikawa**	**7.96**	**254**	P	**Pn**	**03 26 17.4**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=83,slow=13,SNR=12						
ASAJ	**Asahikawa**	**7.96**	**254**	PN	**Pn**	**03 26 17.4**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ERM	**Erimo**	**8.66**	**240**	*e*PN	**Pn**	**03 26 25.8**	**-1.4**
ERM				pmax	pmax		
	comp=Z,130nm,0.6s						
ERM	**Erimo**	**8.66**	**240**	*e*Pn	**Pn**	**03 26 25.8**	**-1.5**
	comp=Z,130nm,0.6s						
ERM				*e*Sn	**Sn**	**03 27 56.0**	**-7.4**
KLR	**Kul'dur**	**14.61**	**288**	*e*P	**Pn**	**03 27 49.8**	**+1.4**
MJAR	**Matsushiro Arr**	**15.18**	**233**	P	**Pn**	**03 27 56.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=35,slow=9.6,SNR=7.5						
MJAR	**Matsushiro Arr**	**15.18**	**233**	P	**Pn**	**03 27 56.0**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
**KSRS

comp=Z,11nm,1.2s,mb4.8
ARCES ARCESS Array B 57.87 341 P **P** 03 34 10.3 -1.2
comp=Z,9.0nm,1.1s,mb4.7,baz=26,slow=7.0,SNR=3.7
ARCES ARCESS Array B 57.87 341 P **P** 03 34 10.3 -1.2
ARCES pmax pmax
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 57.87 341 P **P** 03 34 10.3 -1.2
KLP Kalpa 58.02 283 *eP* **P** 03 34 13.1 +0.7
KLP AMb AMB 03 34 17.9
comp=Z,5.4nm,0.7s,mb4.7
BMO Blue Mountains 58.98 56 *eP* **P** 03 34 18.2 -1.0
comp=Z,18nm,1.6s,mb4.8
MOD Modoc 58.99 60 *eP* **P** 03 34 17.8 -1.5
comp=Z,2.1nm,0.7s,mb4.3
WVOR Wild Horse Val 59.66 59 *eP* **P** 03 34 23.1 -0.8
MSO Missoula 59.67 53 *eP* **P** 03 34 24.6 +0.6
comp=Z,6.7nm,1.0s,mb4.6
KKR Kurukshetra 59.96 283 *eP* **P** 03 34 26.9 +1.0
KKR AMb AMB 03 34 38.4
comp=Z,273nm,0.1s
CHMT Chamberlain Mo 59.99 52 *eP* **P** 03 34 26.0 -0.1
NDI New Delhi 60.51 282 *eP* **P** 03 34 28.3 -1.3
NDI AMb AMB 03 34 33.2
comp=Z,12nm,0.5s,mb5.3
AYAN Aya Nagar 60.70 281 *eP* **P** 03 34 30.4 -0.5
AYAN AMb AMB 03 34 31.9
comp=Z,6.5nm,0.6s,mb4.9
SONA Sohna 60.87 281 *eP* **P** 03 34 32.1 -0.1
SONA AMb AMB 03 34 37.5
comp=Z,6.3nm,0.3s,mb5.3
AGRA Agra 60.95 280 *eP* **P** 03 34 34.8 +2.1
AGRA AMb AMB 03 34 36.3
comp=Z,58nm,0.2s
LRM Limekiln Ridge 61.10 53 *eP* **P** 03 34 34.5 +0.8
EGMT Eagleton 61.17 50 *eP* **P** 03 34 35.3 +1.1
comp=Z,9.9nm,1.0s,mb4.9
CMB Columbia Colle 61.30 64 *eP* **P** 03 34 34.7 -0.4
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CMB Columbia Colle 61.30 64 *eP* **P** 03 34 34.7 -0.4
comp=Z,4.3nm,0.9s,mb4.6
KUDL Kundal 61.34 282 *eP* **P** 03 34 35.0 -0.3
KUDL AMb AMB 03 34 47.5
comp=Z,7.3nm,2.4s,mb4.4
HLID Hailey 61.41 56 *eP* **P** 03 34 36.7 +0.9
BMN Battle Mountai 61.73 60 *eP* **P** 03 34 37.1 -0.8
BMN pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BMN Battle Mountai 61.73 60 *eP* **P** 03 34 37.1 -0.8
comp=Z,6.8nm,0.8s,mb4.8
KHET Khetri 61.85 282 *eP* **P** 03 34 38.3 -0.5
KHET AMb AMB 03 34 41.5
comp=Z,4.3nm,0.7s,mb4.7
QLMT Earthquake Lak 62.28 53 *eP* **P** 03 34 42.0 +0.3
GCMT Greycliff 62.63 51 *eP* **P** 03 34 44.7 +0.7
IMW Indian Meadow 63.15 54 *eP* **P** 03 34 48.5 +1.1
comp=Z,6.0nm,0.9s,mb4.7
RRI2 Red Ridge 63.29 54 *eP* **P** 03 34 46.8 -1.6
MOOW Moose Ponds 63.35 54 *eP* **P** 03 34 49.6 +0.8
comp=Z,3.4nm,0.8s,mb4.5
TPAW Teton Pass 63.41 54 *eP* **P** 03 34 50.2 +1.1
comp=Z,21nm,1.2s,mb5.1
HVU Hansel Valley 63.47 57 *eP* **P** 03 34 50.0 +0.4
HVU pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
HVU Hansel Valley 63.47 57 *eP* **P** 03 34 50.0 +0.4
comp=Z,4.9nm,0.8s,mb4.7
LOHW Long Hollow 63.52 54 *eP* **P** 03 34 50.5 +0.6
comp=Z,8.1nm,1.1s,mb4.7
SNOW Snow King Moun 63.53 54 *eP* **P** 03 34 51.8 +1.8
REDW Red Top Meadow 63.54 54 *eP* **P** 03 34 51.6 +1.5
comp=Z,9.5nm,0.9s,mb4.8
LAO LASA Array 63.87 49 *eP* **P** 03 34 52.1 -0.1
comp=Z,7.2nm,0.9s,mb4.7
ISA Isabella 63.99 65 *eP* **P** 03 34 52.5 -0.5
FINES FINESS Array B 64.07 335 P **P** 03 34 52.1 -1.4
comp=Z,3.8nm,0.7s,mb4.5,baz=45,slow=11,SNR=11
FINES FINESS Array B 64.07 335 P **P** 03 34 52.1 -1.4
FINES pmax pmax
comp=Z,4.0nm,0.7s
DAC Darwin (Calif) 64.14 64 *eP* **P** 03 34 54.0 0.0
NGP Nagpur 64.22 274 *eP* **P** 03 34 52.9 -1.6
NGP AMb AMB 03 34 58.9
comp=Z,15nm,1.8s,mb4.7
HWUT Hardware Ranch 64.28 56 *eP* **P** 03 34 55.0 +0.2
comp=Z,8.5nm,1.2s,mb4.7
DUG Dugway 64.47 58 *eP* **P** 03 34 56.5 +0.3
DUG pmax pmax
comp=Z,13nm,1.3s,mb4.8
DUG Dugway 64.47 58 *eP* **P** 03 34 56.5 +0.3
comp=Z,13nm,1.3s,mb4.8
NOQ North Oquirrh 64.58 57 *eP* **P** 03 34 58.2 +1.3
BW06 Boulder Array 64.65 54 *eP* **P** 03 34 57.3 0.0
comp=Z,5.9nm,0.9s,mb4.6
PDAR Pinedale Array 64.65 54 P **P** 03 34 57.5 +0.2
comp=Z,4.4nm,0.8s,mb4.6,baz=284,slow=1.9,SNR=35
FRB Frobisher Bay 65.00 19 P **P** 03 34 58.4 -1.2
comp=Z,17nm,0.8s,mb5.1,baz=317,slow=4.3,SNR=5.7
FRB Frobisher Bay 65.00 19 P **P** 03 34 58.4 -1.2
FRB pmax pmax
comp=Z,17nm,0.8s
FRB Frobisher Bay 65.00 19 P **P** 03 34 58.4 -1.2
NLU North Lily Min 65.06 58 *eP* **P** 03 35 00.9 +0.9
GSC Goldstone 65.26 64 *eP* **P** 03 35 01.6 +0.4
MPU Maple Canyon 65.28 57 *eP* **P** 03 35 02.3 +1.0
SHPR Sheep Range 65.48 62 *eP* **P** 03 35 03.5 +0.8
ARUT Antelope Range 65.68 60 *eP* **P** 03 35 04.0 0.0
MSU Marysvale 65.95 59 *eP* **P** 03 35 05.9 +0.2
TMUT Trail Mountain 66.00 58 *eP* **P** 03 35 06.4 +0.4
ULM Lac du Bonnet 66.44 41 P **P** 03 35 08.3 -0.5
comp=Z,2.9nm,0.8s,mb4.4,baz=311,slow=8.1,SNR=9.2
SRU San Rafael 66.52 57 *eP* **P** 03 35 09.3 -0.1
SRU pmax pmax
comp=Z,11nm,0.8s,mb4.9
SRU San Rafael 66.52 57 *eP* **P** 03 35 09.3 -0.1
comp=Z,11nm,0.8s,mb4.9
RSSD Black Hills 66.73 50 *eP* **P** 03 35 10.5 -0.2
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RSSD Black Hills 66.73 50 *eP* **P** 03 35 10.5 -0.2
comp=Z,2.7nm,0.7s,mb4.4
NB2 NORSAR Subarra 68.25 341 P **P** 03 35 19.3 -1.0
comp=Z,6.2nm,0.6s,mb4.8,baz=28,slow=6.5
NOA NORSAR Array B 68.25 341 P **P** 03 35 19.5 -0.8
comp=Z,5.4nm,0.6s,mb4.8,baz=27,slow=6.4,SNR=19
NOA NORSAR Array B 68.25 341 P **P** 03 35 19.5 -0.8
NOA pmax pmax
comp=Z,5.0nm,0.6s
SMCO Snowmass 68.51 55 *eP* **P** 03 35 13.1 -8.8
comp=Z,4.7nm,0.8s,mb4.5
WRA Warramunga Arr 68.56 199 P **P** 03 35 19.6 -2.7
comp=Z,0.6nm,0.6s,mb3.7,baz=17,slow=6.7,SNR=4.4
WRA Warramunga Arr 68.56 199 P **P** 03 35 19.6 -2.7
WRA pmax pmax
comp=Z,1.0nm,0.6s
ISCO Idaho Springs 68.84 54 *eP* **P** 03 35 24.6 +0.6
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ISCO Idaho Springs 68.84 54 *eP* **P** 03 35 24.6 +0.6
comp=Z,4.6nm,0.8s,mb4.5
MVCO Mesa Verde 68.98 58 *eP* **P** 03 35 25.0 +0.2
comp=Z,5.4nm,0.8s,mb4.5
KAD Karad 70.18 274 *eP* **P** 03 35 32.0 -0.3
KAD AMb AMB 03 35 38.3
comp=Z,9.5nm,0.7s,mb4.9
AKASG Malin Array Be 71.59 326 P **P** 03 35 39.6 -1.3
comp=Z,4.1nm,0.6s,mb4.5,baz=33,slow=6.2,SNR=17
AKASG Malin Array Be 71.59 326 P **P** 03 35 39.6 -1.2
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 71.59 326 *eP* **P** 03 35 39.2 -1.6
KIEV Kiev 71.61 326 *eP* **P** 03 35 39.4 -1.5
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 71.61 326 *eP* **P** 03 35 39.4 -1.5
comp=Z,7.5nm,0.8s,mb4.7
LAZ Ladron 71.72 59 *eP* **P** 03 35 42.0 +0.5
ANMO Albuquerque 71.73 58 *eP* **P** 03 35 41.3 -0.4
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 71.73 58 *eP* **P** 03 35 41.3 -0.3
comp=Z,3.1nm,0.9s,mb4.2
ASAR Alice Springs 72.26 199 P **P** 03 35 43.4 -1.4
comp=Z,1.4nm,0.8s,mb4.0,baz=15,slow=5.5,SNR=9.5
ASAR Alice Springs 72.26 199 P **P** 03 35 43.4 -1.4
ASAR pmax pmax
comp=Z,1.0nm,0.8s
SCHQ Schefferville 73.25 23 P **P** 03 35 49.5 -1.2
comp=Z,4.9nm,1.1s,mb4.4,baz=15,slow=12,SNR=4.1
SCIA State Center 73.83 45 *eP* **P** 03 35 53.4 -0.7
comp=Z,7.1nm,0.7s,mb4.7
AMTX Amarillo 74.53 55 *eP* **P** 03 35 58.5 +0.3
comp=Z,8.7nm,0.8s,mb4.7
MNTX Cornudas Mount 74.67 60 *eP* **P** 03 35 58.8 -0.2
comp=Z,3.9nm,1.0s,mb4.3
KWP Kalwaria 74.86 329 *eP* **P** 03 35 59.5 -0.6
KWP pmax pmax
comp=Z,30nm,1.0s,mb5.2
KWP Kalwaria 74.86 329 *eP* **P** 03 35 59.5 -0.6
comp=Z,30nm,1.0s,mb5.2
STHS Stebnicka Huta 75.56 330 *eP* **P** 03 36 04.7 +0.6
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 75.56 330 *eP* **P** 03 36 04.7 +0.6
comp=Z,6.3nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.61 329 *eP* **P** 03 36 03.0 -1.4
BURAR Bucovina Array 75.64 327⇓ *iP* **P** 03 36 04.5 0.0
BURAR Bucovina Array 75.64 327⇓ *P* **P** 03 36 04.5 -0.1
WMOK Wichita Mounta 76.26 54 *eP* **P** 03 36 06.9 -1.2
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WMOK Wichita Mounta 76.26 54 *eP* **P** 03 36 06.9 -1.2
comp=Z,4.4nm,0.9s,mb4.4
EKA Eskdalemuir Ar 76.35 346 P **P** 03 36 09.2 +0.5
comp=Z,0.8nm,0.5s,mb4.0,baz=25,slow=5.5,SNR=5.1
EKA Eskdalemuir Ar 76.35 346 P **P** 03 36 09.2 +0.6
EKA pmax pmax
comp=Z,1.0nm,0.5s
MORC Moravsky Berou 76.48 332⇓ *iP* **P** 03 36 10.2 +0.9
MORC Moravsky Berou 76.48 332⇓ *P* **P** 03 36 10.2 +0.9
CLL Collm 76.50 336 *eP* **P** 03 36 09.0 -0.4
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 76.50 336 *eP* **P** 03 36 09.0 -0.4
comp=Z,12nm,1.0s,mb4.8
KECS Kecovo 76.61 330 *eP* **P** 03 36 09.6 -0.5
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.61 330 *eP* **P** 03 36 09.6 -0.5
comp=Z,2.6nm,0.9s,mb4.2
TIRR Tirgusor 76.97 323⇓ *iP* **P** 03 36 12.0 -0.1
TIRR Tirgusor 76.97 323⇓ *P* **P** 03 36 12.0 -0.1
LPIG La Paz 77.02 69 LR LR 04 02 27.5
comp=Z,105nm,20.0s,MS4.2,baz=155,slow=30
MLR Muntele Rosu 77.11 325⇑ *iP* **P** 03 36 14.3 +1.4
MLR Muntele Rosu 77.11 325⇑ *P* **P** 03 36 14.3 +1.4
VYHS Vyhne 77.17 331 *eP* **P** 03 36 13.3 +0.1
MALT Malatya 77.22 313⇓ *iP* **P** 03 36 15.0 +1.5
DRGR 77.26 328⇓ *iP* **P** 03 36 14.2 +0.5
DRGR 77.26 328⇓ *P* **P** 03 36 14.2 +0.4
LTX Lajitas 77.39 61 *eP* **P** 03 36 14.6 +0.1
LTX pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LTX Lajitas 77.39 61 *eP* **P** 03 36 14.6 +0.1
comp=Z,8.4nm,0.7s,mb4.8
TXAR Lajitas Array 77.39 61 P **P** 03 36 14.4 0.0
comp=Z,7.9nm,0.7s,mb4.8,baz=299,slow=4.7,SNR=80
TXAR Lajitas Array 77.39 61 P **P** 03 36 14.4 -0.1
TXAR pmax pmax
comp=Z,8.0nm,0.7s
VOIR 77.51 325⇓ *iP* **P** 03 36 16.6 +1.5
VOIR 77.51 325⇓ *P* **P** 03 36 16.6 +1.5
BR131 Keskin Array S 78.45 317 *eP* **P** 03 36 20.8 +0.4
comp=Z,5.1nm,0.8s,mb4.5
BRTR Keskin Array B 78.45 317 P **P** 03 36 20.1 -0.3
comp=Z,4.7nm,0.8s,mb4.5,baz=68,slow=4.1,SNR=20
BRTR Keskin Array B 78.45 317 P **P** 03 36 20.1 -0.3
BRTR pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 78.49 334 P **P** 03 36 20.1 -0.4
comp=Z,0.7nm,0.7s,mb3.7,baz=34,slow=5.0,SNR=7.4
GERES GERESS Array B 78.49 334 P **P** 03 36 20.1 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
BZS Buzias 78.66 328⇑ *iP* **P** 03 36 21.5 0.0
BZS Buzias 78.66 328⇑ *P* **P** 03 36 21.4 -0.1
ANTO Ankara 78.73 317 *eP* **P** 03 36 22.4 +0.5
ANTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ANTO Ankara 78.73 317 *eP* **P** 03 36 22.4 +0.5
comp=Z,5.2nm,0.7s,mb4.6
VTS Vitosha 80.62 325⇓ *iP* **P** 03 36 31.9 -0.2
VTS Vitosha 80.62 325⇓ *P* **P** 03 36 31.9 -0.2
MMAI Mount Meron Ar 82.89 312 P **P** 03 36 44.9 +0.8
comp=Z,1.9nm,0.4s,mb4.5,baz=45,slow=6.0,SNR=5.8
IDI Anoyia 86.07 320 P **P** 03 36 58.5 -1.7
comp=Z,7.4nm,0.9s,mb4.9,baz=37,slow=10,SNR=3.4
CFAA Coronel Fontan 144.88 79 PKPbc PKPdf 03 43 54.1 -2.2
comp=Z,0.8nm,0.8s,baz=286,slow=3.4,SNR=11

*NEIC **16** 03:25:14.3, 3169S×7172W, h32km, ML4.2(GUC), After GUC.*

GUC 16 03:25:14.3±1.0, 3169S×7172W, h32km±2km, MD4.3, ML4.2, 15C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.27**	**136**	⇓ *iP*	Pb	03 25 21.4	-0.1
CHNG				*i* S	Sb	03 25 26.3	-0.1
CHNG				AML	AML	03 25 26.8	
	comp=N,29μm,0.3s						
CMCH	**Combarbala**	**0.80**	**50**	⇑ *iP*	Pn	03 25 29.2	-0.1
CMCH				*i* S	Sn	03 25 40.4	+0.2
CMCH				AML	AML	03 25 41.8	
	comp=E,42μm,0.7s						
CMCH	**Combarbala**	**0.80**	**50**	⇑ *iP*	Pn	03 25 29.2	-0.1
CMCH				*i* S	Sn	03 25 40.4	+0.2
PTCH	**Petorca**	**0.88**	**131**	⇓ *iP*	Pn	03 25 30.6	+0.2
PTCH				*i* S	Sn	03 25 42.4	+0.3
PTCH				AML	AML	03 25 46.2	
	comp=N,21μm,0.2s						
PTCH	**Petorca**	**0.88**	**131**	⇓ *iP*	Pn	03 25 30.6	+0.2
PTCH				*i* S	Sn	03 25 42.4	+0.3
OVCH	**Ovalle**	**1.17**	**22**	⇑ *iP*	Pn	03 25 35.2	+0.8
OVCH				*i* S	Sn	03 25 50.8	+1.6
OVCH				AML	AML	03 26 02.3	
	comp=E,4μm,0.5s						
OVCH	**Ovalle**	**1.17**	**22**	⇑ *iP*	Pn	03 25 35.2	+0.8
OVCH				*i* S	Sn	03 25 50.8	+1.6
IHA	**Instituto Hidr**	**1.33**	**177**	⇓ *iP*	Pn	03 25 37.2	+0.5
IHA				*i* S	Sn	03 25 55.3	+2.1
ROCH	**El Roble**	**1.41**	**155**	*eP*	Pn	03 25 39.3	+1.6
ROCH				*i* S	Sn	03 25 57.3	+2.1
PEL	**Peldehue**	**1.69**	**149**	⇑ *iP*	Pn	03 25 43.2	+1.6
PEL				*i* S	Sn	03 26 05.4	+3.3
PEL				AML	AML	03 26 14.9	
	comp=E,6μm,0.3s						
PEL	**Peldehue**	**1.69**	**149**	⇑ *iP*	Pn	03 25 43.2	+1.6
PEL				*i* S	Sn	03 26 05.4	+3.3
TLL	**Tololo Astrono**	**1.71**	**28**	⇑ *iP*	Pn	03 25 43.4	+1.5
TLL				*i* S	Sn	03 26 06.9	+4.3
TLL				AML	AML	03 26 19.9	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**1.71**	**28**	⇑ *iP*	Pn	03 25 43.4	+1.5
TLL				*i* S	Sn	03 26 06.9	+4.3
LSCH	**La Serena**	**1.82**	**13**	*i* P	Pn	03 25 44.5	+1.1
LSCH				*i* S	Sn	03 26 10.6	+5.2
RCDM	**Rinconada Maip**	**1.95**	**157**	*eP*	Pn	03 25 46.5	+1.3
RCDM				*i* S	Sn	03 26 10.7	+2.2
RCDM				AML	AML	03 26 20.1	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.95**	**157**	*eP*	Pn	03 25 46.5	+1.3
RCDM				*i* S	Sn	03 26 10.7	+2.2
DSCH	**Colegio Aleman**	**1.96**	**151**	⇑ *iP*	Pn	03 25 46.7	+1.4
DSCH				*i* S	Sn	03 26 11.6	+2.8
STL	**Santa Lucia**	**1.96**	**153**	⇑ *iP*	Pn	03 25 46.1	+0.8
STL				*i* S	Sn	03 26 11.2	+2.4
SAN	**Santiago**	**1.97**	**153**	*eP*	Pn	03 25 47.1	+1.7
SAN				*i* S	Sn	03 26 11.7	+2.7
SAN				AML	AML	03 26 22.2	
	comp=E,2μm,0.5s						
SAN	**Santiago**	**1.97**	**153**	*eP*	Pn	03 25 47.1	+1.7
SAN				*i* S	Sn	03 26 11.7	+2.7
CLCH	**Cerro Calan**	**1.97**	**150**	⇑ *iP*	Pn	03 25 47.4	+1.9
CLCH				*i* S	Sn	03 26 11.6	+2.6
CLCH				AML	AML	03 26 21.7	
	comp=N,4μm,0.4s						
LACH	**Colegio Las Am**	**2.02**	**151**	*eP*	Pn	03 25 47.3	+1.2
LACH				*i* S	Sn	03 26 13.4	+3.1
LACH				AML	AML	03 26 23.3	
	comp=N,1μm,0.5s						
FCH	**Farellones**	**2.03**	**144**	⇑ *iP*	Pn	03 25 48.5	+2.2
FCH				*i* S	Sn	03 26 14.2	+3.8
FCH				AML	AML	03 26 18.7	
	comp=E,2μm,0.9s						
TACH	**Talagante**	**2.06**	**162**	*eP*	Pn	03 25 48.2	+1.5
TACH				*i* S	Sn	03 26 12.7	+1.4
ANTU	**Antumapu**	**2.08**	**154**	⇑ *iP*	Pn	03 25 48.0	+1.1
ANTU				*i* S	Sn	03 26 14.1	+2.2
ANTU				AML	AML	03 26 25.9	
	comp=N,2μm,0.3s						
ANTU	**Antumapu**	**2.08**	**154**	⇑ *iP*	Pn	03 25 48.0	+1.1
ANTU				*i* S	Sn	03 26 14.1	+2.2
PCH	**Pirque**	**2.17**	**152**	⇑ *iP*	Pn	03 25 50.2	+2.0
YECH	**El Yeso**	**2.40**	**145**	*eP*	Pn	03 25 53.1	+1.8
YECH				AML	AML	03 26 37.6	
	comp=N,2μm,0.5s						
CHCH	**Chadas Angostu**	**2.41**	**158**	*i* P	Pn	03 25 53.3	+1.9
CHCH				*i* S	Sn	03 26 22.5	+2.7
CICH	**Cipreses**	**2.84**	**158**	*eP*	Pn	03 25 59.7	+2.4
TRQA	**Tornquist**	**10.21**	**131**	*ePn*	Pn	03 27 41.0	+2.4
	comp=N,7.3nm,0.6s						

*ISCJB **16** 03:27:40.8±1.0, 458N±02×1542E±02, h10km, mb4.0/12, Error ellipse: s-maj=27.4km s-min=19.6km az=20.1*
*IDC **16** 03:27:40.9±1.2, 4580N×15425E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, Error ellipse: s-maj=33.2km s-min=29.8km az=46.0*
*NEIC **16** 03:27:42.6±0.7, 4581N×154.19E, h10km, mb4.2/3, Error ellipse: s-maj=19.0km s-min=13.6km az=189.0*

ISC 16 03:27:42.6±1.0, 458N±02×1542E±02, h10km, n14, σ0s49/14, mb4.0/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**32.33**	**291**	P	**P**	**03 34 12.4**	**+0.6**
	0.5nm,0.9s,mb3.3,baz=86,slow=7.9,SNR=2.7						
MK31	**Makanchi Array**	**48.01**	**299**	*eP*	**P**	**03 36 21.7**	**0.0**
MKAR	**Makanchi Array**	**48.01**	**299**	P	**P**	**03 36 21.4**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=66,slow=7.2,SNR=6.7						
MKAR	**Makanchi Array**	**48.01**	**299**	P	**P**	**03 36 21.4**	**-0.3**
CHKZ	**Chkalovo**	**51.57**	**311**	*eP*	**P**	**03 36 48.5**	**-0.3**
	1.5nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**52.00**	**310**	P	**P**	**03 36 52.3**	**+0.3**
	1.0nm,0.4s,mb4.1,baz=56,slow=7.4,SNR=5.7						
ZRNK	**Zerenda**	**52.77**	**311**	*eP*	**P**	**03 36 57.9**	**+0.1**
	1.3nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**58.95**	**341**	P	**P**	**03 37 41.2**	**-0.9**
	2.2nm,0.8s,mb4.2,baz=66,slow=5.1,SNR=3.4						
TPAW	**Teton Pass**	**63.45**	**54**	*eP*	**P**	**03 38 13.0**	**+0.4**
	2.3nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**65.17**	**335**	P	**P**	**03 38 24.1**	**+0.2**
	0.6nm,0.3s,mb4.0,baz=38,slow=6.4,SNR=6.1						
NOA	**NORSAR Array B**	**69.32**	**342**	P	**P**	**03 38 51.1**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=27,slow=6.4,SNR=2.9						
ASAR	**Alice Springs**	**71.58**	**200**	P	**P**	**03 39 03.9**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=20,slow=5.1,SNR=4.4						
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**03 39 10.0**	**-0.7**
	0.9nm,0.5s,mb4.0,baz=34,slow=6.1,SNR=5.3						
TXAR	**Lajitas Array**	**77.31**	**61**	P	**P**	**03 39 37.0**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=306,slow=4.1,SNR=5.0						

*BJI **16** 03:30:32.0, 47.11N×154.39E, h10km, mB4.8, mb4.5*
*NEIC **16** 03:30:37.6±0.4, 4688N×15361E, h10km, mb4.6/26, Error ellipse: s-maj=11.4km s-min=7.4km az=166.0*
*MOS **16** 03:30:40.6±1.2, 4691N×15365E, h41km, mb4.7/33, Error ellipse: s-maj=12.4km s-min=7.1km az=104.7*
*ISCJB **16** 03:30:40.1±1.4, 4692N±009×15367E±009, h36km±11km, mb4.6/56, Error ellipse: s-maj=16.1km s-min=8.1km az=124.5*
*SZGRF **16** 03:30:44.8, 47.12N×15351E, h33km, mb4.9, Kuril Islands, Russia*
*IDC **16** 03:30:44.5±4.0, 4691N×15355E, h66km±38km, mb3.9/17, mb1 4.1/19, mb1mx4.0/27, mbtmp4.0/19, ML3.9/2, Error ellipse: s-maj=22.5km s-min=16.2km az=0.0*

ISC 16 03:30:43.7±1.2, 4704N±009×15364E±009, h50km±10km, n146, σ0s98/143, mb4.6/56, 20C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.00**	**23**	*ePN*	**Pn**	**03 31 42.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**7.45**	**273**	*ePN*	**Pn**	**03 32 31.8**	**+2.1**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=N,900nm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.45**	**273**	*ePn*	**Pn**	**03 32 30.4**	**+0.7**
	comp=Z,32nm,0.8s						
ASAJ	**Asahikawa**	**8.28**	**253**	P	**Pn**	**03 32 41.3**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=86,slow=16,SNR=10						
ASAJ	**Asahikawa**	**8.28**	**253**	PN	**Pn**	**03 32 41.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**14.78**	**287**	*eP*	**Pn**	**03 34 12.8**	**+3.3**
MJAR	**Matsushiro Arr**	**15.54**	**233**	P	**Pn**	**03 34 16.4**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=31,slow=11,SNR=5.0						
MJAR	**Matsushiro Arr**	**15.54**	**233**	P	**Pn**	**03 34 16.4**	**-3.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.54**	**233**	P	**Pn**	**03 34 16.4**	**-3.1**
KSRS	**Korea Array**	**21.23**	**253**	P	**P**	**03 35 25.3**	**0.0**
	comp=Z,5.2nm,0.8s,mb3.9,baz=57,slow=9.4,SNR=13						
BILL	**Bilibino**	**22.03**	**13**	⇑ *eP*	**P**	**03 35 34.5**	**+0.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**22.03**	**13**	*eP*	**P**	**03 35 33.8**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.2						
BOD	**Bodaibo**	**26.09**	**309**	*eP*	**P**	**03 36 07.2**	**-5.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**31.58**	**289**	P	**P**	**03 36 59.1**	**-2.3**
	comp=Z,0.6nm,0.8s,mb3.5,baz=48,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**31.58**	**289**	P	**P**	**03 36 59.1**	**-2.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	**Lanzhou**	**38.24**	**272**	*eP*	**P**	**03 37 59.9**	**+1.1**
LZH				AP	pP	03 38 03.8	-8.2
LZH				XP	sP	03 38 07.0	-11
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,53nm,4.1s						
LZH	**Lanzhou**	**38.24**	**272**	*eP*	**P**	**03 37 59.9**	**+1.1**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	03 38 03.8	-8.2
LZH				sP	sP	03 38 07.0	-11
INK	**Inuvik**	**41.21**	**33**	P	**P**	**03 38 23.2**	**-0.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=281,slow=6.3,SNR=6.4						
INK	**Inuvik**	**41.21**	**33**	P	**P**	**03 38 23.2**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CD2	**Chengdu**	**41.27**	**265**	*eP*	**P**	**03 38 23.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**42.75**	**306**	P	**P**	**03 38 34.1**	**-1.9**
	comp=Z,2.5nm,0.3s,mb4.4,baz=68,slow=4.8,SNR=4.3						
ZAL	**Zalesovo**	**42.75**	**306**	P	**P**	**03 38 34.1**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MK31	**Makanchi Array**	**47.13**	**297**	*eP*	**P**	**03 39 09.2**	**-1.6**
MKAR

comp=Z,4.8nm,0.9s,mb4.4
LSA Lhasa 50.62 273 *e*P **P** 03 39 39.2 +1.6
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 50.62 273 *e*P **P** 03 39 39.2 +1.6
comp=Z,11nm,0.8s,mb4.8
BVAR Borovoye Array 50.96 309 P **P** 03 39 38.7 -1.4
comp=Z,1.3nm,0.6s,mb4.0,baz=64,slow=10,SNR=6.8
BVAR Borovoye Array 50.96 309 P **P** 03 39 38.7 -1.4
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 51.00 310 *e*P **P** 03 39 38.9 -1.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 51.00 310 *e*P **P** 03 39 38.9 -1.5
comp=Z,2.8nm,0.8s,mb4.2
ZRNK Zerenda 51.72 310 *e*P **P** 03 39 44.2 -1.6
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 51.72 310 *e*P **P** 03 39 44.2 -1.6
comp=Z,1.9nm,0.6s,mb4.2
AAK Ala-Archa 54.03 296 *e*P **P** 03 40 01.5 -1.4
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 54.03 296 *e*P **P** 03 40 01.5 -1.4
comp=Z,3.0nm,0.8s,mb4.3
ARU Arti 55.04 318 *e*P **P** 03 40 07.6 -2.6
JIRN Jiri 55.29 275 *e*P **P** 03 40 12.6 +0.7
comp=Z,36nm,0.8s,mb5.5
GUN Gumba 55.34 275 *e*P **P** 03 40 12.9 +0.6
KKN Kakani 55.82 275 *e*P **P** 03 40 16.8 +1.0
comp=Z,27nm,0.7s,mb5.4
PKI Pulchoki 55.88 275 *e*P **P** 03 40 16.6 +0.4
comp=Z,25nm,0.8s,mb5.3
DMN Daman 56.06 275 *e*P **P** 03 40 18.2 +0.7
comp=Z,42nm,0.8s,mb5.5
GKN Gorkha 56.12 276 *e*P **P** 03 40 18.4 +0.5
comp=Z,50nm,0.8s,mb5.6
KOLN Koldanda 56.98 277 *e*P **P** 03 40 24.6 +0.6
comp=Z,40nm,0.8s,mb5.5
ARCES ARCESS Array B 57.70 341 P **P** 03 40 28.5 -0.6
comp=Z,5.1nm,0.8s,mb4.6,baz=25,slow=7.1,SNR=8.6
ARCES ARCESS Array B 57.70 341 P **P** 03 40 28.5 -0.6
ARCES pmax pmax
comp=Z,5.0nm,0.8s
NDI New Delhi 60.70 282 *ex* x 03 40 48.0
NDI *ex* x 03 41 49.0
HLID Hailey 61.05 56 *e*P **P** 03 40 52.1 -0.1
comp=Z,1.9nm,0.9s,mb4.2
NVAR Mina Array Bea 61.98 63 P **P** 03 40 58.6 +0.1
comp=Z,0.6nm,0.7s,mb3.8,baz=297,slow=8.9
TPAW Teton Pass 63.04 54 *e*P **P** 03 41 06.5 +0.9
comp=Z,7.3nm,1.2s,mb4.7
FINES FINESS Array B 63.93 335 P **P** 03 41 10.3 -1.1
comp=Z,6.1nm,0.9s,mb4.7,baz=26,slow=11,SNR=12
FINES FINESS Array B 63.93 335 P **P** 03 41 10.4 -1.0
FINES pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway 64.11 58 *e*P **P** 03 41 12.4 -0.2
DUG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
DUG Dugway 64.11 58 *e*P **P** 03 41 12.4 -0.2
comp=Z,3.6nm,1.1s,mb4.3
PDAR Pinedale Array 64.28 54 P **P** 03 41 13.6 -0.2
comp=Z,2.5nm,0.8s,mb4.3,baz=305,slow=2.2,SNR=21
SRU San Rafael 66.16 58 *e*P **P** 03 41 25.7 -0.2
SRU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SRU San Rafael 66.16 58 *e*P **P** 03 41 25.7 -0.2
comp=Z,4.5nm,0.9s,mb4.5
NB2 NORSAR Subarra 68.07 341 P **P** 03 41 37.0 -1.0
comp=Z,9.5nm,0.7s,mb4.9,baz=27,slow=6.5
NOA NORSAR Array B 68.07 341 P **P** 03 41 37.9 -0.1
comp=Z,10.0nm,0.8s,mb4.9,baz=27,slow=6.4,SNR=24
NOA NORSAR Array B 68.07 341 P **P** 03 41 37.9 -0.1
NOA pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 71.51 326 P **P** 03 41 58.1 -1.0
comp=Z,6.4nm,0.7s,mb4.6,baz=35,slow=6.1,SNR=18
AKASG Malin Array Be 71.51 326 P **P** 03 41 58.2 -0.9
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 71.51 326 *e*P **P** 03 41 57.6 -1.5
KIEV Kiev 71.52 326 *e*P **P** 03 41 57.7 -1.5
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIEV Kiev 71.52 326 *e*P **P** 03 41 57.7 -1.5
comp=Z,4.4nm,0.6s,mb4.6
ASAR Alice Springs 72.60 199 P **P** 03 42 04.1 -1.6
comp=Z,0.9nm,0.8s,mb3.7,baz=14,slow=7.1,SNR=6.2
ASAR Alice Springs 72.60 199 P **P** 03 42 04.1 -1.6
ASAR pmax pmax
comp=Z,1.0nm,0.9s
KWP Kalwaria 74.76 329 *e*P **P** 03 42 18.4 +0.1
KWP pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KWP Kalwaria 74.76 329 *e*P **P** 03 42 18.4 +0.1
comp=Z,3.0nm,0.4s,mb4.6
STHS Stebnicka Huta 75.45 330 *e*P **P** 03 42 23.5 +1.2
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 75.45 330 *e*P **P** 03 42 23.5 +1.2
comp=Z,5.3nm,1.1s,mb4.4
BURAR Bucovina Array 75.55 327⇑*i*P **P** 03 42 23.4 +0.5
BURAR Bucovina Array 75.55 327⇑P **P** 03 42 23.4 +0.5
EKA Eskdalemuir Ar 76.14 347 P **P** 03 42 26.6 +0.3
comp=Z,2.7nm,0.8s,mb4.2,baz=14,slow=3.8,SNR=4.1
EKA Eskdalemuir Ar 76.14 347 P **P** 03 42 26.6 +0.3
EKA pmax pmax
comp=Z,3.0nm,0.8s
UPC Upice 76.19 334 *e*P **P** 03 42 27.3 +0.8
DPC Dobruska-Polom 76.23 333 *e*P **P** 03 42 26.3 -0.5
CLL Collm 76.35 336⇑*i*P **P** 03 42 27.3 -0.1
CLL pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLL Collm 76.35 336⇑*i*P **P** 03 42 27.3 -0.1
comp=Z,15nm,0.8s,mb5.0
CLL *e*pP pP 03 42 35.0 -6.8
MORC Moravsky Berou 76.35 332⇓*i*P **P** 03 42 28.1 +0.6
MORC Moravsky Berou 76.35 332⇓P **P** 03 42 28.1 +0.6
KECS Kecovo 76.51 330 *e*P **P** 03 42 28.4 +0.1
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KECS Kecovo 76.51 330 *e*P **P** 03 42 28.4 +0.1
comp=Z,3.4nm,1.1s,mb4.2
TIRR Tirgusor 76.90 323⇑*i*P **P** 03 42 31.3 +0.8
TIRR Tirgusor 76.90 323⇑P **P** 03 42 31.3 +0.8
LTX Lajitas 77.03 61 *e*P **P** 03 42 30.7 -0.6
LTX pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LTX Lajitas 77.03 61 *e*P **P** 03 42 30.6 -0.6
comp=Z,3.6nm,0.8s,mb4.3
TXAR Lajitas Array 77.03 61 P **P** 03 42 30.8 -0.5
comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=4.5,SNR=28
TXAR Lajitas Array 77.03 61 P **P** 03 42 30.8 -0.5
TXAR pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 77.04 325⇑*i*P **P** 03 42 32.0 +0.7
MLR Muntele Rosu 77.04 325⇑P **P** 03 42 32.0 +0.7
VYHS Vyhne 77.05 331 *e*P **P** 03 42 31.6 +0.2
VRAC Vranov 77.06 333⇓*i*P **P** 03 42 32.5 +1.0
VRAC Vranov 77.06 333⇓P **P** 03 42 32.5 +1.1
PRU Pruhonice 77.09 334 *e*P **P** 03 42 31.9 +0.3
DRGR 77.17 328⇓P **P** 03 42 32.5 +0.5
MALT Malatya 77.22 313⇑*i*P **P** 03 42 34.0 +1.7
MALT Malatya 77.22 313⇑P **P** 03 42 34.0 +1.7
MOX Moxa 77.33 336 *e*P **P** 03 42 33.3 +0.3
VOIR 77.43 326⇑*i*P **P** 03 42 34.9 +1.4
VOIR 77.43 326⇑P **P** 03 42 34.9 +1.4
NKC Novy Kostel 77.47 336 *e*P **P** 03 42 33.8 0.0
ZST Bratislava 77.88 332 *e*P **P** 03 42 37.6 +1.6
ZST pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZST Bratislava 77.88 332 *e*P **P** 03 42 37.6 +1.6
comp=Z,5.3nm,1.0s,mb4.4
KHC Kasperske Hory 78.14 334 *e*P **P** 03 42 37.8 +0.4
GRA1 Grafenberg Arr 78.30 336 *e*P **P** 03 42 39.5 +1.1
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.30 336 *e*P **P** 03 42 39.5 +1.1
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.30 336 *e*P **P** 03 42 39.5 +1.1
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.30 336 *e*P **P** 03 42 39.5 +1.1
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 78.36 334 P **P** 03 42 38.3 -0.3
comp=Z,1.2nm,0.7s,mb4.0,baz=36,slow=5.0,SNR=12
GERES GERESS Array B 78.36 334 P **P** 03 42 38.3 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 78.43 317 *e*P **P** 03 42 39.5 +0.4
comp=Z,3.0nm,0.8s,mb4.3
BRTR Keskin Array B 78.43 317 P **P** 03 42 39.0 -0.1
comp=Z,3.4nm,0.8s,mb4.3,baz=77,slow=4.4,SNR=14
BRTR Keskin Array B 78.43 317 P **P** 03 42 39.0 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BZS Buzias 78.56 328⇑*i*P **P** 03 42 40.3 +0.5
MIB Mutribah 78.82 302 *e*P **P** 03 42 41.4 +0.2
MIB AMb AMB 03 42 43.3
comp=Z,45nm,0.7s,mb5.5
MOA Molln 79.07 333⇑*i*P **P** 03 42 36.6 -6.0
comp=Z,5.9nm,1.4s,mb4.3
RST Umm Al-Ruwaisa 79.25 302 *e*P **P** 03 42 43.4 -0.1
RST AMb AMB 03 42 44.7
comp=Z,43nm,0.6s,mb5.5
NAY Al-Naaiem 79.29 301 *e*P **P** 03 42 43.5 -0.3
KBA Koelnbreinsper 80.04 334⇓*i*P **P** 03 42 49.2 +1.4
WATA Walderalm 80.34 335⇑*i*P **P** 03 42 50.3 +0.9
comp=Z,6.7nm,0.9s,mb4.6
WTTA Wattenberg 80.38 335⇑*i*P **P** 03 42 50.7 +1.0
comp=Z,9.7nm,0.7s,mb4.8
MOTA Moosalm 80.47 335⇑*i*P **P** 03 42 50.1 0.0
comp=Z,7.8nm,0.9s,mb4.7
CDF Champ du Feu 80.53 338 *e*P **P** 03 42 49.8 -0.7
comp=Z,6.7nm,0.7s,mb4.4
CDF Champ du Feu 80.53 338 *e*P **P** 03 42 49.8 -0.7
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CDF Champ du Feu 80.53 338 *e*P **P** 03 42 49.8 -0.7
comp=Z,3.3nm,0.7s,mb4.4
VTS Vitosha 80.54 325⇑*i*P **P** 03 42 51.5 +1.0
VTS Vitosha 80.54 325⇑P **P** 03 42 51.5 +0.9
SQTA Sankt Quirin 80.55 335⇓*i*P **P** 03 42 51.9 +1.3
comp=Z,8.1nm,1.1s,mb4.6
GRR Gorron 82.40 343 *e*P **P** 03 42 59.6 -0.8
comp=Z,16nm,0.6s,mb4.8
GRR Gorron 82.40 343 *e*P **P** 03 42 59.6 -0.8
GRR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
GRR Gorron 82.40 343 *e*P **P** 03 42 59.6 -0.8
comp=Z,8.3nm,0.6s,mb4.8
SMF Signal de Mont 83.02 340 *e*P **P** 03 43 03.1 -0.5
comp=Z,25nm,1.0s,mb4.9
SMF Signal de Mont 83.02 340 *e*P **P** 03 43 03.1 -0.5
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.9
SMF Signal de Mont 83.02 340 *e*P **P** 03 43 03.1 -0.5
comp=Z,13nm,1.0s,mb4.9
LPG La Plagne 83.36 337 *e*P **P** 03 43 05.7 +0.4
comp=Z,12nm,1.0s,mb4.6
LPG La Plagne 83.36 337 *e*P **P** 03 43 05.7 +0.4
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LPG La Plagne 83.36 337 *e*P **P** 03 43 05.7 +0.4
comp=Z,6.3nm,1.0s,mb4.6
CAF Calviac 85.06 340 *e*P **P** 03 43 13.3 -0.7
comp=Z,17nm,0.9s,mb4.8
CAF Calviac 85.06 340 *e*P **P** 03 43 13.3 -0.7
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CAF Calviac 85.06 340 *e*P **P** 03 43 13.3 -0.7
comp=Z,8.4nm,0.9s,mb4.9
CFAA Coronel Fontan 144.58 79 PKP PKPdf 03 50 10.8 -3.7
comp=Z,0.4nm,0.7s,baz=263,slow=1.0,SNR=5.9
SNAA Sanae 152.93 196 *e*PKIKP PKPdf 03 50 31.5 +3.5

BJI ***16*** *03:31:37.7, 4658N×15390E, h20km, mB4.9, mb4.7, Ms4.3, Msz4.2*
JMA ***16*** *03:31:38.4±0.9, 4671N×15379E, h30km, M5.2*
NEIC ***16*** *03:31:39.1±4.5, 4648N×15366E, h11km±27km, mb4.8/30, Error ellipse: s-maj=10.1km s-min=7.8km az=140.0*
ISCJB ***16*** *03:31:40.4±0.9, 4632N±006×15355E±007, h33km±7km, mb4.7/60, MS4.5/7, Error ellipse: s-maj=10.9km s-min=6.1km az=111.4*
MOS ***16*** *03:31:42.4±1.6, 4640N×15347E, h45km, mb4.9/39, Error ellipse: s-maj=9.0km s-min=6.8km az=100.4*
IDC ***16*** *03:31:44.1±3.7, 4649N×15354E, h51km±32km, mb4.1/22, mb1 4.3/24, mb1mx4.2/29, mbtmp4.2/24, ML4.2/2, MS4.5/4, Ms1 4.4/4, ms1mx3.5/34, Error ellipse: s-maj=16.6km s-min=13.4km az=127.0*
SZGRF ***16*** *03:31:46.7, 4667N×15434E, h33km, mb4.7, East of Kuril Islands, Russia*
ISC 16 03:31:42.7±0.7, 4639N±006×15356E±007, h36km±6km, h23km±9.6km:pP-P, n222, σ1s48/226, mb4.7/60, MS4.5/7, 11C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.14**	**256**	PN	**Pn**		**03 32 41.0**	**-2.4**
KUR				*e*S	**Sn**		**03 33 30.0**	**-0.6**
KUR				pmax	pmax			
	comp=Z,3μm,2.0s							
KUR				pmax	pmax			
	comp=Z,2μm,0.7s							
KUR				smax				
	comp=N,8μm,1.6s							
KUR				smax				
	comp=E,4μm,1.6s							
KUR				smax				
	comp=N,1μm,0.8s							
KUR				smax				
	comp=E,2μm,0.8s							
KUR				MLR	MLR			
	comp=Z,6μm,16.0s							
SKR	**Severo-Kuril's**	**4.63**	**21**	*e*PN	**Pn**		**03 32 54.0**	**+3.9**
YUK	**Yuzh-Kuril'sk**	**5.92**	**249**	*e*PN	**Pn**		**03 33 09.5**	**+1.6**
YUK				*e*S	**Sn**		**03 34 15.4**	**+0.9**
YUK				pmax	pmax			
	comp=Z,770nm,0.5s							
NEM2	**Nemuro 2**	**6.32**	**244**	P	**Pn**		**03 33 12.3**	**-1.1**
NEM2				*e*S	**Sn**		**03 34 21.9**	**-2.4**
JRA	**Rausu**	**6.45**	**251**	P	**Pn**		**03 33 16.5**	**+1.4**
JNK	**Nakash**	**6.86**	**249**	P	**Pn**		**03 33 21.5**	**+0.7**
JNK				*e*S	**Sn**		**03 34 38.7**	**+1.0**
JAK	**Akkeshi**	**7.16**	**245**	P	**Pn**		**03 33 23.9**	**-1.1**
JAK				*e*S	**Sn**		**03 34 42.3**	**-2.8**
JTKR	**Abashiri--Toko**	**7.23**	**254**	P	**Pn**		**03 33 27.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.45**	**278**	*e*PN	**Pn**		**03 33 36.0**	**+7.1**
JMP	**Maruseppu**	**7.58**	**255**	P	**Pn**		**03 33 33.3**	**+2.6**
JAR	**Ashorobuto**	**7.61**	**250**	P	**Pn**		**03 33 32.4**	**+1.3**
JAR				*e*S	**Sn**		**03 34 57.3**	**+1.3**
JOB	**Onbets**	**7.76**	**247**	P	**Pn**		**03 33 33.4**	**+0.3**
JOB				*e*S	**Sn**		**03 34 58.7**	**+0.9**
JKK2	**Kamakawa 2**	**8.04**	**256**	P	**Pn**		**03 33 38.9**	**+1.9**
ASAJ	**Asahikawa**	**8.06**	**258**	P	**Pn**		**03 33 39.5**	**+2.3**
	comp=Z,4.1nm,0.3s,baz=86,slow=18,SNR=5.6							
ASAJ	**Asahikawa**	**8.06**	**258**	P	**Pn**		**03 33 40.5**	**+3.3**
ASAJ	**Asahikawa**	**8.06**	**258**	PN	**Pn**		**03 33 39.6**	**+2.4**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
JCH	**Churui**	**8.20**	**246**	P	**Pn**		**03 33 39.2**	**0.0**
JCH				*e*S	**Sn**		**03 35 07.4**	**-3.2**
UGL	**Uglegorsk**	**8.20**	**293**	*e*PN	**Pn**		**03 33 43.0**	**+3.8**
JWK2	**Keihoku**	**8.21**	**267**	P	**Pn**		**03 33 45.1**	**+5.8**
JFR	**Furan**	**8.44**	**252**	P	**Pn**		**03 33 45.4**	**+3.0**
ERM	**Erimo**	**8.65**	**243**	*e*PN	**Pn**		**03 33 46.5**	**+1.1**
ERM				pmax	pmax			
	comp=Z,90nm,0.6s							
ERM	**Erimo**	**8.65**	**243**	*e*Pn	**Pn**		**03 33 46.5**	**+1.1**
	comp=Z,90nm,0.6s							
JEM	**Erimo**	**8.65**	**243**	P	**Pn**		**03 33 47.5**	**+2.1**
JEM				*e*S	**Sn**		**03 35 13.8**	**-7.8**
JNBK	**Urakawa-nobuka**	**8.76**	**246**	P	**Pn**		**03 33 45.6**	**-1.3**
JNBK				*e*S	**Sn**		**03 35 20.8**	**-3.6**
JEW	**Eniwo**	**9.33**	**252**	P	**Pn**		**03 33 56.4**	**+1.7**
JNB	**Noboribetsu**	**9.77**	**251**	P	**Pn**		**03 34 00.3**	**-0.4**
JNB				*e*S	**Sn**		**03 35 46.7**	**-2.5**
JKB	**Kayabe**	**10.06**	**248**	P	**Pn**		**03 34 03.0**	**-1.7**
JKB				*e*S	**Sn**		**03 35 49.8**	**-6.4**
JOT	**Ohata**	**10.32**	**245**	P	**Pn**		**03 34 06.7**	**-1.5**
JOT				*e*S	**Sn**		**03 35 56.7**	**-5.8**
JSH	**Shimam**	**10.35**	**254**	P	**Pn**		**03 34 12.1**	**+3.5**
JYM2	**Yakumo 2**	**10.38**	**250**	P	**Pn**		**03 34 08.4**	**-0.6**
JANG	**Nango**	**10.62**	**240**	P	**Pn**		**03 34 09.0**	**-3.3**
JANG				*e*S	**Sn**		**03 36 00.4**	**-10**
JTM	**Tenmabayashi**	**10.64**	**243**	P	**Pn**		**03 34 10.3**	**-2.3**
JTM				*e*S	**Sn**		**03 36 02.6**	**-7.9**
JTH	**Tanohata**	**10.69**	**237**	*e*S	**Sn**		**03 36 02.5**	**-9.2**
JOM	**Ohasama**	**11.33**	**237**	P	**Pn**		**03 34 20.0**	**-2.0**
JOM				*e*S	**Sn**		**03 36 21.5**	**-5.8**
OFUJ	**Ofunato**	**11.38**	**234**	*e*S	**Sn**		**03 36 19.3**	**-9.3**
JRG	**Rokugo**	**11.76**	**238**	P	**Pn**		**03 34 26.1**	**-1.9**
JRG				*e*S	**Sn**		**03 36 31.2**	**-6.8**
JIO	**Ouri**	**12.00**	**233**	P	**Pn**		**03 34 27.5**	**-3.7**
JIO				*e*S	**Sn**		**03 36 33.2**	**-10**
JYA	**Atsumi**	**12.83**	**238**	P	**Pn**		**03 34 43.2**	**+0.6**
JFK	**Kawauchi**	**13.04**	**231**	P	**Pn**		**03 34 43.4**	**-2.0**
JFK				*e*S	**Sn**		**03 36 59.0**	**-10**
JFY	**Yanaizu**	**13.65**	**234**	P	**Pn**		**03 34 53.4**	**-0.4**
KLR	**Kul'dur**	**14.92**	**289**	*e*P	**Pn**		**03 35 09.7**	**-1.2**
MJAR	**Matsushiro Arr**	**15.11**	**235**	P	**Pn**		**03 35 13.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=31,slow=11,SNR=6.5							
MJAR	**Matsushiro Arr**	**15.11**	**235**	P	**Pn**		**03 35 13.1**	**-0.4**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.11**	**235**	P	**Pn**		**03 35 13.1**	**-0.4**
MAJO	**Matsushiro**	**15.11**	**235**	*e*P	**Pn**		**03 35 14.0**	**+0.5**
MAJO				pmax	pmax			
	comp=Z,22nm,0.7s							
MAJO	**Matsushiro**	**15.11**	**235**	*e*Pn	**Pn**		**03 35 14.0**	**+0.5**
	comp=Z,22nm,0.7s							
MAT	**Matsushiro**	**15.11**	**235**	P	**Pn**		**03 35 14.0**	**+0.5**
MAT	**Matsushiro**	**15.11**	**235**	P	**Pn**		**03 35 14.7**	**+1.2**
CN2	**Changchun**	**19.97**	**273**	*e*P	**Pn**		**03 36 10.8**	**-2.9**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**20.98**	**254**	P	**P**		**03 36 24.4**	**+1.6**
	comp=Z,5.6nm,0.5s,baz=60,slow=9.7,SNR=10							
SNY	**Shenyang**	**21.93**	**269**	⇑P	**P**		**03 36 34.1**	**+1.1**
SNY				AP			03 36 38.8	
SNY				XP	sP		03 36 40.5	-6.5
SNY				S	**S**		**03 40 41.9**	**+8.8**
SNY				AMB	AMB			
	comp=Z,14nm,0.7s,mb4.5							
SNY				AMB	AMB			
	comp=Z,325nm,5.0s							
SNY				LR	LR			
	comp=E,716nm,16.9s							
SNY				LR	LR			
	comp=Z,770nm,17.2s,MS4.2							
BILL	**Bilibino**	**22.68**	**12**⇓	*e*P	**P**		**03 36 42.0**	**+1.1**
BILL				*i*			03 36 52.5	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.2							
BILL	**Bilibino**	**22.68**	**12**	*e*P	**P**		**03 36 38.6**	**-2.3**
	comp=Z,8.4nm,0.5s,mb4.4							
ULN	**Ulaanbaatar**	**31.31**	**290**	*e*P	**P**		**03 38 01.7**	**+2.3**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.4							
ULN	**Ulaanbaatar**	**31.31**	**290**	*e*P	**P**		**03 38 01.7**	**+2.3**
	comp=Z,5.8nm,0.9s,mb4.4							
SONM	**Songino Array**	**31.75**	**290**	P	**P**		**03 38 03.2**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.7,baz=48,slow=7.3,SNR=5.9							
SONM	**Songino Array**	**31.75**	**290**	P	**P**		**03 38 03.2**	**-0.1**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KDAK	**Kodiak Island**	**34.10**	**51**	P	**P**		**03 38 21.4**	**-2.5**
	comp=Z,15nm,1.0s,mb4.9,baz=315,slow=4.3,SNR=4.0							
XAN	**Xi'an**	**35.79**	**266**	P	**P**		**03 38 39.0**	**+0.6**
XAN				AP	pP		03 38 52.8	+4.0
XAN				AMB	AMB			
	comp=Z,9.0nm,1.4s,mb4.5							
COLA	**College**	**36.23**	**38**	*e*P	**P**		**03 38 38.2**	**-4.0**
COLA				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
COLA	**College**	**36.23**	**38**	*e*P	**P**		**03 38 38.1**	**-4.1**
	comp=Z,9.2nm,0.8s,mb4.8							
LZH	**Lanzhou**	**38.21**	**273**	*e*P	**P**		**03 39 01.0**	**+2.0**
LZH				AP	pP		03 39 06.3	-3.1
LZH				XP	sP		03 39 10.9	-2.8
LZH				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
LZH				AMB	AMB			
	comp=Z,90nm,4.0s							
LZH				LR	LR			
	comp=E,465nm,14.6s							
LZH				LR	LR			
	comp=Z,776nm,15.5s,MS4.6							
LZH	**Lanzhou**	**38.21**	**273**	*e*P	**P**		**03 39 01.0**	**+2.0**
	comp=Z,20nm,1.0s,mb4.8							
LZH				pP	pP		03 39 06.3	-3.1
LZH				sP	sP		03 39 10.9	-2.8
LZH				LR	LR			
	comp=Z,780nm,15.5s,MS4.6							
GTA	**Gaotai**	**39.33**	**280**	*e*P	**P**		**03 39 09.3**	**+0.9**
GTA				AP	pP		03 39 14.3	-4.5
GTA				XP	sP		03 39 17.9	-5.2
GTA				PP	PP		03 40 48.0	+9.0
GTA				AMB	AMB			
	comp=Z,9.0nm,1.8s,mb4.2							
GTA				LR	LR			
	comp=N,296nm,14.8s,MS4.4							
GTA				LR	LR			
	comp=E,302nm,15.2s,MS4.4							
GTA				LR	LR			
	comp=Z,552nm,14.1s,MS4.5							
INK	**Inuvik**	**41.80**	**32**	P	**P**		**03 39 28.4**	**-0.3**
	comp=Z,1.5nm,0.5s,mb3.9,baz=302,slow=6.1,SNR=6.3							
INK	**Inuvik**	**41.80**	**32**	P	**P**		**03 39 28.4**	**-0.3**
INK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
GYA	**Guiyang**	**41.94**	**258**⇑	*i*P	**P**		**03 39 31.5**	**+1.6**
GYA				AMB	AMB			
	comp=Z,30nm,1.0s,mb4.9							
ZAL	**Zalesovo**	**43.09**	**306**	P	**P**		**03 39 36.8**	**-2.4**
	comp=Z,2.4nm,0.4s,mb4.3,baz=48,slow=5.0,SNR=3.4							
ZAL				LR	LR		03 59 26.9	
	comp=Z,528nm,21.0s,MS4.4,baz=35,slow=39							
ZAL	**Zalesovo**	**43.09**	**306**	P	**P**		**03 39 36.8**	**-2.4**
ZAL				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ZAL				MLR	MLR			
	comp=Z,528nm,21.0s							
KMI	**Kunming**	**45.48**	**260**	P	**P**		**03 40 00.8**	**+2.4**
KMI				AMB	AMB			
	comp=Z,17nm,1.2s,mb4.8							
KMI	**Kunming**	**45.48**	**260**	P	**P**		**03 40 00.7**	**+2.3**
KMI				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.8							
KMI	**Kunming**	**45.48**	**260**	P	**P**		**03 40 00.7**	**+2.3**
	comp=Z,17nm,1.2s,mb4.8							
MK31	**Makanchi Array**	**47.38**	**298**	*e*P	**P**		**03 40 11.8**	**-1.5**
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**		**03 40 12.1**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.4,baz=68,slow=8.0,SNR=9.6							
MKAR				LR	LR		04 01 38.0	
	comp=Z,476nm,18.1s,MS4.5,baz=238,slow=38							
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**		**03 40 12.1**	**-1.2**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MKAR				MLR	MLR			
	comp=Z,476nm,18.2s							
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**		**03 40 12.1**	**-1.2**
MKAR				LR	LR		04 01 38.0	
LSA	**Lhasa**	**50.60**	**274**	P	**P**		**03 40 42.9**	**+5.0**
LSA	**Lhasa**	**50.60**	**274**	*e*P	**P**		**03 40 40.6**	**+2.7**
LSA				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
LSA	**Lhasa**	**50.60**	**274**	*e*P	**P**		**03 40 40.6**	**+2.6**
	comp=Z,13nm,0.8s,mb4.9							
CHKZ	**Chkalovo**	**50.90**	**310**	*e*P	**P**		**03 40 37.8**	**-2.4**
CHKZ				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**50.90**	**310**	*e*P	**P**		**03 40 37.8**	**-2.4**
	comp=Z,11nm,0.8s,mb4.8							
YKA	**Yellowknife

BRVK	**Borovoye**	**51.37**	**310**	*e*P		**P**	**03 40 41.9**	**-1.8**
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
BRVK	**Borovoye**	**51.37**	**310**	*e*P		**P**	**03 40 41.9**	**-1.8**
	comp=Z,4.2nm,0.6s,mb4.5								
ZRNK	**Zerenda**	**52.10**	**310**	*e*P		**P**	**03 40 47.3**	**-1.9**
ZRNK					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7								
ZRNK	**Zerenda**	**52.10**	**310**	*e*P		**P**	**03 40 47.3**	**-1.9**
	comp=Z,5.4nm,0.5s,mb4.7								
CHTO	**Chiang Mai**	**52.33**	**257**	*e*P		**P**	**03 40 52.5**	**+1.6**
CHTO					pmax	pmax			
	comp=Z,33nm,1.5s,mb5.0								
CHTO	**Chiang Mai**	**52.33**	**257**	*e*P		**P**	**03 40 52.5**	**+1.6**
	comp=Z,33nm,1.5s,mb5.0								
AAK	**Ala-Archa**	**54.27**	**297**	*e*P		**P**	**03 41 03.9**	**-1.3**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**54.27**	**297**	*e*P		**P**	**03 41 03.9**	**-1.2**
	comp=Z,3.9nm,0.8s,mb4.4								
JIRN	**Jiri**	**55.28**	**275**	*e*P		**P**	**03 41 14.3**	**+1.8**
	comp=Z,31nm,0.4s,mb5.7								
GUN	**Gumba**	**55.34**	**276**	*e*P		**P**	**03 41 14.4**	**+1.5**
	comp=Z,18nm,0.4s,mb5.5								
KKN	**Kakani**	**55.83**	**276**	*e*P		**P**	**03 41 18.0**	**+1.6**
PKI	**Pulchoki**	**55.88**	**276**	*e*P		**P**	**03 41 17.9**	**+1.2**
DMN	**Daman**	**56.06**	**276**	*e*P		**P**	**03 41 19.9**	**+1.9**
	comp=Z,40nm,0.7s,mb5.6								
GKN	**Gorkha**	**56.14**	**276**	*e*P		**P**	**03 41 20.1**	**+1.5**
	comp=Z,22nm,0.4s,mb5.6								
KOLN	**Koldanda**	**56.99**	**277**	*e*P		**P**	**03 41 26.2**	**+1.5**
	comp=Z,77nm,1.2s,mb5.6								
ARCES	**ARCESS Array B**	**58.30**	**341**	P		**P**	**03 41 32.6**	**-1.2**
	comp=Z,1.2nm,0.4s,mb4.2,baz=21,slow=7.4,SNR=9.0								
ARCES	**ARCESS Array B**	**58.30**	**341**	P		**P**	**03 41 32.6**	**-1.3**
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKTK	**Aktyubinsk**	**59.20**	**312**	P		**P**	**03 41 38.2**	**-1.9**
AKTO	**Aktyubinsk**	**59.20**	**312**	P		**P**	**03 41 38.2**	**-1.9**
	comp=Z,1.1nm,0.5s,mb4.2,baz=88,slow=15,SNR=4.0								
AKTO	**Aktyubinsk**	**59.20**	**312**	P		**P**	**03 41 38.3**	**-1.8**
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
SUMG	**Summit**	**61.04**	**4**	*e*P		**P**	**03 41 51.6**	**-1.2**
	comp=Z,17nm,0.9s,mb5.2								
JMIC	**Jan Mayen**	**62.23**	**353**	LR		LR	04 05 19.3		
	comp=Z,732nm,21.3s,MS4.8,baz=84,slow=32								
TPAW	**Teton Pass**	**63.47**	**54**	*e*P		**P**	**03 42 10.1**	**+1.1**
	comp=Z,7.5nm,0.9s,mb4.8								
HWUT	**Hardware Ranch**	**64.33**	**56**	*e*P		**P**	**03 42 14.6**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.3								
FIA1	**FINESS Array S**	**64.50**	**335**	*e*P		**P**	**03 42 13.7**	**-2.1**
FINES	**FINESS Array B**	**64.50**	**335**	P		**P**	**03 42 14.2**	**-1.6**
	comp=Z,3.6nm,0.4s,mb4.8,baz=40,slow=7.9,SNR=25								
FINES	**FINESS Array B**	**64.50**	**335**	P		**P**	**03 42 14.2**	**-1.6**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.4s								
DUG	**Dugway**	**64.51**	**58**	*e*P		**P**	**03 42 15.2**	**-0.6**
DUG					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
DUG	**Dugway**	**64.51**	**58**	*e*P		**P**	**03 42 15.2**	**-0.6**
	comp=Z,4.4nm,1.0s,mb4.4								
PDAR	**Pinedale Array**	**64.72**	**54**	P		**P**	**03 42 16.8**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=270,slow=1.5,SNR=6.0								
FRB	**Frobisher Bay**	**65.30**	**19**	P		**P**	**03 42 18.9**	**-2.0**
	comp=Z,5.5nm,0.5s,mb4.8,baz=319,slow=9.7,SNR=4.9								
FRB	**Frobisher Bay**	**65.30**	**19**	P		**P**	**03 42 18.9**	**-2.0**
FRB					pmax	pmax			
	comp=Z,6.0nm,0.5s								
ULM	**Lac du Bonnet**	**66.60**	**41**	P		**P**	**03 42 28.2**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=319,slow=7.6,SNR=3.7								
WB2	**Warramunga Arr**	**68.26**	**199**	*e*P		**P**	**03 42 39.8**	**-0.1**
WRA	**Warramunga Arr**	**68.27**	**199**	P		**P**	**03 42 39.6**	**-0.3**
	comp=Z,6.3nm,0.8s,mb4.7,baz=17,slow=6.8,SNR=21								
WRA	**Warramunga Arr**	**68.27**	**199**	P		**P**	**03 42 39.6**	**-0.3**
WRA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
NB2	**NORSAR Subarra**	**68.67**	**341**	P		**P**	**03 42 41.5**	**-0.9**
	comp=Z,11nm,0.6s,mb5.0,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.67**	**341**	P		**P**	**03 42 41.7**	**-0.7**
	comp=Z,10.0nm,0.6s,mb4.9,baz=27,slow=6.4,SNR=14								
NOA	**NORSAR Array B**	**68.67**	**341**	P		**P**	**03 42 41.7**	**-0.7**
NOA					pmax	pmax			
	comp=Z,10.0nm,0.6s								
NOA	**NORSAR Array B**	**68.67**	**341**	P		**P**	**03 42 41.7**	**-0.7**
NAO01	**NORSAR Array S**	**68.92**	**341**	*e*P		**P**	**03 42 42.8**	**-1.1**
	comp=Z,8.3nm,0.7s,mb4.8								
AS31	**Alice Springs**	**71.96**	**199**	*e*P		**P**	**03 43 03.0**	**+0.6**
ASAR	**Alice Springs**	**71.96**	**199**	P		**P**	**03 43 03.5**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=15,slow=5.9,SNR=20								
ASAR	**Alice Springs**	**71.96**	**199**	P		**P**	**03 43 03.6**	**+1.1**
ASAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
AKASG	**Malin Array Be**	**72.02**	**326**	P		**P**	**03 43 01.3**	**-1.6**
	comp=Z,3.2nm,0.4s,mb4.6,baz=32,slow=6.3,SNR=9.7								
AKASG	**Malin Array Be**	**72.02**	**326**	P		**P**	**03 43 01.3**	**-1.6**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.4s								
AKASG	**Malin Array Be**	**72.02**	**326**	P		**P**	**03 43 01.3**	**-1.6**
AKBB	**Malin Array Si**	**72.02**	**326**	*e*P		**P**	**03 43 01.5**	**-1.4**
KIEV	**Kiev**	**72.03**	**326**	*e*P		**P**	**03 43 01.4**	**-1.5**
KIEV					pmax	pmax			
	comp=Z,14nm,0.8s,mb4.9								
KIEV	**Kiev**	**72.03**	**326**	*e*P		**P**	**03 43 01.4**	**-1.6**
	comp=Z,14nm,0.8s,mb5.0								
KWP	**Kalwaria**	**75.29**	**329**	*e*P		**P**	**03 43 22.9**	**+0.8**
KWP					pmax	pmax			
	comp=Z,51nm,1.3s,mb5.3								
KWP	**Kalwaria**	**75.29**	**329**	*e*P		**P**	**03 43 22.9**	**+0.9**
	comp=Z,51nm,1.3s,mb5.3								
STHS	**Stebnicka Huta**	**75.99**	**330**	*e*P		**P**	**03 43 26.3**	**+0.3**
STHS	**Stebnicka Huta**	**75.99**	**330**	*e*		**P**	**03 43 26.3**	**+0.3**
KOLS	**Kolonicke sedl**	**76.04**	**329**	*e*PCP		PcP	03 43 38.1	-0.4
BURAR	**Bucovina Array**	**76.06**	**327**	⇓*i*P		**P**	**03 43 26.2**	**-0.3**
BURAR	**Bucovina Array**	**76.06**	**327**	⇓P		**P**	**03 43 26.2**	**-0.3**
UPC	**Upice**	**76.75**	**334**	*e*pP		pP	03 43 34.5	-7.0
EKA	**Eskdalemuir Ar**	**76.77**	**347**	P		**P**	**03 43 30.9**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=26,slow=6.3,SNR=6.3								
EKA	**Eskdalemuir Ar**	**76.77**	**347**	P		**P**	**03 43 30.9**	**+0.4**
EKA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
DPC	**Dobruska-Polom**	**76.79**	**333**	*e*P		**P**	**03 43 31.8**	**+1.2**
DPC				*e*PCP		PcP	03 43 42.7	+1.0
DPC	**Dobruska-Polom**	**76.79**	**333**	*e*		PcP	03 43 42.7	+1.0
MORC	**Moravsky Berou**	**76.91**	**332**	⇓*i*P		**P**	**03 43 30.9**	**-0.3**
MORC	**Moravsky Berou**	**76.91**	**332**	⇓P		**P**	**03 43 30.9**	**-0.4**
CLL	**Collm**	**76.92**	**336**	*i*P		**P**	**03 43 31.6**	**+0.3**
CLL				*i* PcP		PcP	03 43 42.6	+0.3
BRG	**Berggiesshubel**	**77.04**	**335**	*e*P		**P**	**03 43 34.8**	**+2.8**
	comp=Z,2.0nm,0.7s,mb4.1								
BRG				*e*		pP	03 43 45.0	+1.9
	comp=Z,8.2nm,1.3s								
BRG	**Berggiesshubel**	**77.04**	**335**	*e*P		**P**	**03 43 34.8**	**+2.8**
BRG				*e*		pP	03 43 45.0	+1.8
BRG					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
KECS	**Kecovo**	**77.04**	**330**	*e*P		**P**	**03 43 34.6**	**+2.6**
KECS	**Kecovo**	**77.04**	**330**	*e*		**P**	**03 43 34.6**	**+2.6**
PVCC	**Panska Ves**	**77.16**	**335**	*e*P		**P**	**03 43 34.3**	**+1.6**
TIRR	**Tirgusor**	**77.39**	**323**	⇑*i*P		**P**	**03 43 35.2**	**+1.3**
TIRR	**Tirgusor**	**77.39**	**323**	⇑P		**P**	**03 43 35.2**	**+1.3**
LTX	**Lajitas**	**77.41**	**61**	*e*P		**P**	**03 43 33.6**	**-0.4**
LTX					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
LTX	**Lajitas**	**77.41**	**61**	*e*P		**P**	**03 43 33.6**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.9								
TXAR	**Lajitas Array**	**77.41**	**61**	P		**P**	**03 43 33.9**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.5,baz=302,slow=4.7,SNR=31								
TXAR	**Lajitas Array**	**77.41**	**61**	P		**P**	**03 43 33.9**	**-0.1**
TXAR					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MLR	**Muntele Rosu**	**77.54**	**325**	⇓*i*P		**P**	**03 43 35.6**	**+0.8**
MLR	**Muntele Rosu**	**77.54**	**325**	⇓P		**P**	**03 43 35.6**	**+0.8**
VYHS	**Vyhne**	**77.59**	**331**	*e*P		**P**	**03 43 35.0**	**-0.1**
VYHS	**Vyhne**	**77.59**	**331**	*e*		**P**	**03 43 35.0**	**-0.1**
VRAC	**Vranov**	**77.62**	**333**	⇑*i*P		**P**	**03 43 34.8**	**-0.4**
VRAC	**Vranov**	**77.62**	**333**	⇑P		**P**	**03 43 34.8**	**-0.5**
MALT	**Malatya**	**77.63**	**313**	*e*P		**P**	**03 43 36.6**	**+1.3**
MALT					pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9								
MALT	**Malatya**	**77.63**	**313**	*e*P		**P**	**03 43 36.6**	**+1.4**
	comp=Z,12nm,0.8s,mb4.9								
PRU	**Pruhonice**	**77.65**	**334**	*e*P		**P**	**03 43 35.9**	**+0.5**
VOIR		**77.94**	**326**	⇓*i*P		**P**	**03 43 37.3**	**+0.3**
VOIR		**77.94**	**326**	⇓P		**P**	**03 43 37.3**	**+0.3**
STKA	**Stephens Creek**	**78.64**	**190**	LR		LR	04 20 52.7		
	comp=Z,141nm,18.5s,MS4.3,baz=26,slow=37								
KHC	**Kasperske Hory**	**78.70**	**334**	*e*P		**P**	**03 43 41.0**	**-0.2**
KHC				*e*PCP		PcP	03 43 52.3	+2.3
GZR	**Gura Zlata**	**78.84**	**327**	⇑*i*P		**P**	**03 43 43.0**	**+1.0**
GZR	**Gura Zlata**	**78.84**	**327**	⇑P		**P**	**03 43 43.0**	**+0.9**
BR131	**Keskin Array S**	**78.87**	**317**	*e*P		**P**	**03 43 44.0**	**+1.8**
	comp=Z,4.6nm,0.7s,mb4.5								
BRTR	**Keskin Array B**	**78.87**	**317**	P		**P**	**03 43 40.2**	**-1.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=35,slow=5.5,SNR=3.3								
BRTR	**Keskin Array B**	**78.87**	**317**	P		**P**	**03 43 40.3**	**-1.8**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
GRA1	**Grafenberg Arr**	**78.88**	**336**	*e*P		**P**	**03 43 44.8**	**+2.6**
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.88**	**336**	*e*P		**P**	**03 43 44.8**	**+2.6**
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.88**	**336**	*e*P		**P**	**03 43 44.8**	**+2.6**
GRF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.88**	**336**	*e*P		**P**	**03 43 44.8**	**+2.6**
GRF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
GERES	**GERESS Array B**	**78.92**	**334**	P		**P**	**03 43 41.7**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=35,slow=4.7,SNR=13								
GERES	**GERESS Array B**	**78.92**	**334**	P		**P**	**03 43 41.7**	**-0.7**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BZS	**Buzias**	**79.09**	**328**	⇓*i*P		**P**	**03 43 43.4**	**+0.1**
BZS	**Buzias**	**79.09**	**328**	⇓P		**P**	**03 43 43.4**	**0.0**
KBA	**Koelnbreinsper**	**80.60**	**334**	⇑*i*P		**P**	**03 43 52.2**	**+0.6**
	comp=Z,7.9nm,0.6s,mb4.8								
WATA	**Walderalm**	**80.90**	**335**	⇑*i*P		**P**	**03 43 56.7**	**+3.6**
	comp=Z,7.0nm,0.7s,mb4.7								
WATA	**Walderalm**	**80.90**	**335**	⇓*i*P		**P**	**03 43 55.0**	**+1.8**
	comp=Z,7.0nm,0.7s,mb4.7								
MOTA	**Moosalm**	**81.03**	**335**	⇑*i*P		**P**	**03 43 54.9**	**+1.1**
	comp=Z,12nm,1.1s,mb4.7								
VTS	**Vitosha**	**81.05**	**325**	⇓*i*P		**P**	**03 43 55.5**	**+1.6**
VTS	**Vitosha**	**81.05**	**325**	⇓P		**P**	**03 43 55.5**	**+1.6**
CDF	**Champ du Feu**	**81.11**	**338**	*e*P		**P**	**03 43 53.7**	**-0.6**
	comp=Z,18nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**81.11**	**338**	*e*P		**P**	**03 43 53.7**	**-0.6**
CDF					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**81.11**	**338**	*e*P		**P**	**03 43 53.7**	**-0.6**
	comp=Z,8.9nm,0.9s,mb4.7								
GRR	**Gorron**	**83.01**	**343**	*e*P		**P**	**03 44 03.3**	**-0.9**
	comp=Z,32nm,1.0s,mb5.0								
GRR	**Gorron**	**83.01**	**343**	*e*P		**P**	**03 44 03.3**	**-0.9**
GRR					pmax	pmax			
	comp=Z,16nm,1.0s,mb5.0								
GRR	**Gorron**	**83.01**	**343**	*e*P		**P**	**03 44 03.3**	**-0.9**
	comp=Z,16nm,1.0s,mb5.0								
SMF	**Signal de Mont**	**83.61**	**340**	*e*P		**P**	**03 44 06.8**	**-0.5**
	comp=Z,22nm,0.9s,mb5.0								
SMF	**Signal de Mont**	**83.61**	**340**	*e*P		**P**	**03 44 06.8**	**-0.5**
SMF					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.0								
SMF	**Signal de Mont**	**83.61**	**340**	*e*P		**P**	**03 44 06.8**	**-0.5**
	comp=Z,11nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**	**03 44 09.6**	**+0.6**
	comp=Z,9.4nm,0.8s,mb4.7								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**	**03 44 09.6**	**+0.6**
LPG					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.7								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**	**03 44 09.6**	**+0.6**
	comp=Z,4.7nm,0.8s,mb4.7								
CAF	**Calviac**	**85.66**	**340**	*e*P		**P**	**03 44 17.1**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.8								
CAF	**Calviac**	**85.66**	**340**	*e*P		**P**	**03 44 17.1**	**-0.5**
CAF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
CAF	**Calviac**	**85.66**	**340**	*e*P		**P**	**03 44 17.1**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.8								
TORD	**Torodi Ar. Bea**	**115.56**	**329**	PKP		PKPdf	03 50 19.8	-1.1
	comp=Z,0.4nm,0.6s,baz=29,slow=2.0,SNR=9.7								
VNDA	**Vanda**	**123.73**	**178**	PKP		PKPdf	03 50 34.0	-2.6
	comp=Z,0.8nm,0.8s,baz=310,slow=5.1,SNR=6.2								
VNDA	**Vanda**	**123.73**	**178**	PKIKP		PKPdf	03 50 34.0	-2.6
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
VNDA	**Vanda**	**123.73**	**178**	PKP		PKPdf	03 50 34.0	-2.6
MAW	**Mawson**	**132.05**	**211**	PKP		PKPdf	03 50 52.3	-0.1
	comp=Z,1.4nm,0.7s,baz=36,slow=2.6,SNR=4.5								
MAW	**Mawson**	**132.05**	**211**	PKIKP		PKPdf	03 50 52.3	-0.1
MAW					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SNAA	**Sanae**	**152.29**	**196**	PKPbc		PKPbc	03 51 32.3	-2.4
	comp=Z,0.9nm,0.7s,baz=76,slow=2.7,SNR=7.0								
SNAA	**Sanae**	**152.29**	**196**	*e*PKPdf		PKPbc	03 51 32.8	-1.8
SNAA				*e*			03 51 39.0		
SNAA				*e*			03 51 45.7		
SNAA				*e*			03 52 04.7		
SNAA	**Sanae**	**152.29**	**196**	PKIKP		PKPbc	03 51 32.3	-2.3
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SNAA	**Sanae**	**152.29**	**196**	*e*PKPbc		PKPbc	03 51 32.0	-2.6
VNA2	**Neumayer--Watz**	**153.72**	**194**	*e*PKPdf		PKPdf	03 51 32.0	+2.1
VNA2				*e*			03 51 39.2		
VNA2				*e*			03 51 50.6		
VNA2				*e*			03 52 10.7		

*ISCJB **16** 03:33:09.8±0.8, 448N±02×278W±02, h10km, mb3.8/7, MS3.8/14, Error ellipse: s-maj=27.5km s-min=16.0km az=46.8*
*IDC **16** 03:33:09.1±2.3, 4483N×2799W, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.8/5, MS3.8/15, Ms1 3.8/15, ms1mx3.7/32, Error ellipse: s-maj=57.5km s-min=33.2km az=65.0*
*NEIC **16** 03:33:11.5±0.7, 4483N×2779W, h10km, mb4.2/2, Error ellipse: s-maj=26.4km s-min=14.9km az=204.0*
*CSEM **16** 03:33:11.5, 4483N×2779W, h10km, mb4.2/2, After NEIC*
ISC 16 03:33:11.7±0.8, 449N±02×278W±02, h10km, n24, σ0°91/10, mb3.8/7, MS3.8/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.35**	**98**	LR		LR	03 43 43.3	
	comp=Z,202nm,18.6s,baz=285,slow=34							
MDT	**Midelt**	**21.61**	**116**	P		**P**	**03 38 02.9**	**+1.2**
	2.6nm,0.9s,mb3.7,baz=280,slow=4.4,SNR=3.9							
MDT				LR		LR	03 44 28.6	
	comp=Z,161nm,19.0s,MS3.4,baz=310,slow=31							
SCHQ	**Schefferville**	**26.75**	**306**	LR		LR	03 47 59.6	
	comp=Z,219nm,18.4s,MS3.7,baz=207,slow=33							
NOA	**NORSAR Array B**	**27.96**	**41**	LR		LR	03 49 12.7	
	comp=Z,43nm,18.3s,MS3.1,baz=30,slow=34							
GERES	**GERESS Array B**	**28.38**	**67**	LR		LR	03 49 46.2	
	comp=Z,138nm,21.6s,MS3.5,baz=286,slow=35							
KEST	**Kesra**	**29.53**	**95**	LR		LR	03 49 34.0	
	comp=Z,72nm,18.6s,MS3.3,baz=100,slow=33							
AKASG	**Malin Array Be**	**37.91**	**60**	P		**P**	**03 40 29.1**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=284,slow=7.8,SNR=3.0							
TOA0	**Torodi Ar. Sit**	**40.37**	**132**	*e*P		**P**	**03 40 49.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**40.37**	**132**	P		**P**	**03 40 48.8**	**-0.8**
	3.3nm,1.1s,mb4.0,baz=326,slow=7.3,SNR=9.0							
TORD				LR		LR	03 56 08.3	
	comp=Z,256nm,18.1s,MS4.1,baz=330,slow=34							
BRTR	**Keskin Array B**	**44.77**	**74**	P		**P**	**03 41 25.1**	**-0.2**
	1.5nm,1.0s,mb3.8,baz=287,slow=5.9,SNR=3.3							
BRTR				LR		LR	04 00 08.8	
	comp=Z,89nm,18.7s,MS3.7,baz=141,slow=36							
BRTR	**Keskin Array B**	**44.77**	**74**	P		**P**	**03 41 25.1**	**-0.2**
BRTR				LR		LR	04 00 08.8	
ULM	**Lac du Bonnet**	**44.81**	**302**	LR		LR	03 58 02.0	
	comp=Z,230nm,20.0s,MS4.1,baz=83,slow=33							
YKA	**Yellowknife Ar**	**50.13**	**323**	LR		LR	04 00 16.2	
	comp=Z,139nm,18.5s,MS4.0,baz=65,slow=32							
PDAR	**Pinedale Array**	**56.59**	**299**	LR		LR	04 05 32.4	
	comp=Z,205nm,19.4s,MS4.2,baz=63,slow=34							
ROSC	**El Rosal**	**56.88**	**240**	LR		LR	04 01 42.7	
	comp=Z,74nm,21.9s,MS3.7,baz=14,slow=30							
ANMO	**Albuquerque**	**58.96**	**290**	*e*P		**P**	**03 43 13.0**	**+1.8**
	1.0nm,0.6s,mb4.0							
MNTX	**Cornudas Mount**	**60.15**	**286**	*e*P		**P**	**03 43 18.2**	**-1.2**
	2.0nm,0.8s,mb4.2							
MNTX	**Cornudas Mount**	**60.15**	**286**	*e*P		**P**	**03 43 18.2**	**-1.2**
	2.0nm,0.8s,mb4.2							
YBH	**Yreka Blue Hor**	**65.13**	**305**	LR		LR	04 10 39.5	
	comp=Z,170nm,18.1s,MS4.3,baz=355,slow=35							
KMBO	**Kilima Mbogo**	**73.36**	**109**	LR		LR	04 18 00.1	
	comp=Z,82nm,18.7s,MS4.0,baz=282,slow=37							
SONM	**Songino Array**	**79.29**	**29**	P		**P**	**03 45 16.9**	**-0.4**
	0.9nm,0.9s,mb3.7,baz=323,slow=4.6,SNR=5.4							
BOSA	**Boshof**	**87.65**	**135**	LR		LR	04 22 39.9	
	comp=Z,102nm,18.9s,MS4.3,baz=316,slow=34							
ASAR	**Alice Springs**	**154.10**	**41**	PKPbc		PKPbc	03 53 11.7	0.0
	0.2nm,0.7s,baz=328,slow=3.4,SNR=3.5							
ASAR				PKPab		PKPab	03 53 24.3	-0.9
	0.6nm,0.7s,baz=335,slow=3.9,SNR=4.4							
ASAR	**Alice Springs**	**154.10**	**41**	PKPbc		PKPbc	03 53 11.6	0.0

*IDC **16** 03:35:57.5±0.9, 4704N×153.15E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=36.4km s-min=21.5km az=132.0*
*ISCJB **16** 03:36:01.5±1.6, 47.1N±0.1×1530E±02, h41km±15km, mb3.9/6, Error ellipse: s-maj=30.8km s-min=8.2km az=86.4*
*MOS **16** 03:36:02.5±1.6, 4708N×15303E, h50km, mb4.2/5, Error ellipse: s-maj=29.0km s-min=15.2km az=51.0*
ISC 16 03:36:03.2±1.5, 470N±01×1531E±02, h41km±14km, n20, σ0°64/21, mb3.9/6, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04**	**245**	⇑*i*PN		**Pn**	**03 37 03.0**	**+0.6**
KUR					pmax	pmax		
	comp=Z,150nm,0.7s							
SKR	**Severo-Kuril's**	**4.17**	**28**	*e*PN		**Pn**	**03 37 04.5**	**+0.3**
SKR				*e*S		**Sn**	**03 37 51.5**	**-0.2**
SKR					pmax	pmax		
	comp=Z,230nm,0.5s							
SKR					smax			
	comp=N,230nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.05**	**273**	*e*PN		**Pn**	**03 37 44.0**	**+0.2**
ASAJ	**Asahikawa**	**7.90**	**252**	Pn		**Pn**	**03 38 00.5**	**+5.0**
	comp=N,1.0nm,0.3s,baz=74,slow=15,SNR=5.6							
ASAJ	**Asahikawa**	**7.90**	**252**	PN		**Pn**	**03 38 00.5**	**+5.1**
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAT	**Matsushiro**	**15.23**	**232**	P		**Pn**	**03 39 35.6**	**+0.4**
MJAR	**Matsushiro Arr**	**15.23**	**232**	Pn		**Pn**	**03 39 33.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=31,slow=15,SNR=3.7							
MJAR	**Matsushiro Arr**	**15.23**	**232**	P		**Pn**	**03 39 33.9**	**-1.3**
KSRS	**Korea Array**	**20.85**	**252**	P		**P**	**03 40 40.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=41,slow=10,SNR=3.7							
INK	**Inuvik**	**41.43**	**33**	P		**P**	**03 43 45.4**	**-0.2**
	comp=Z,2.8nm,

comp=Z,1.0nm,0.6s
WRA Warramunga Arr 68.85 201 P **P** **03 51 26.4 -0.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=23,slow=6.7,SNR=5.2
WRA Warramunga Arr 68.85 201 P **P** **03 51 26.4 -0.6**
WRA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 72.32 327 P **P** **03 51 48.1 -0.1**
comp=Z,0.2nm,0.2s,mb3.6,baz=28,slow=5.8,SNR=2.4
ASAR Alice Springs 72.54 200 P **P** **03 51 49.8 +0.3**
comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=5.6,SNR=25
ASAR Alice Springs 72.54 200 P **P** **03 51 49.8 +0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 76.44 62 P **P** **03 52 12.2 0.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=301,slow=4.3,SNR=46
TXAR Lajitas Array 76.44 62 P **P** **03 52 12.2 +0.1**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 77.06 337 *e*P **P** **03 52 19.0 +3.3**
CLL Collm 77.06 337 *e*Pmax 03 52 19.0
GERES GERESS Array B 79.08 335 P **P** **03 52 28.0 +1.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=34,slow=7.3,SNR=3.5
BRTR Keskin Array B 79.31 318 P **P** **03 52 32.0 +3.9**
comp=Z,0.9nm,0.9s,mb3.7,baz=66,slow=6.9,SNR=4.3
BRTR Keskin Array B 79.31 318 P **P** **03 52 32.0 +3.9**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

*IDC **16** 03:47:54.4±1.7, 4740N×15544E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, Error ellipse: s-maj=49.9km s-min=20.0km az=172.0*
*NEIC **16** 03:47:55.9±1.4, 4737N×15533E, h10km, mb4.3/5, Error ellipse: s-maj=43.8km s-min=10.5km az=178.0*
*ISCJB **16** 03:47:57.1±2.1, 476N±0.1×1553E±02, h23km±15km, mb4.0/16, Error ellipse: s-maj=26.4km s-min=13.8km az=126.6*
*MOS **16** 03:47:58.9±0.7, 4765N×155.19E, h33km, mb4.2/11, Error ellipse: s-maj=26.9km s-min=13.8km az=110.1*
ISC 16 03:47:55.9±3.9, **476N**±01×**1553E**±02, **h5**km±25km, **n34, σ0§54/34, mb4.0**/16, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.14**	**9**	*e*PN	**Pn**		**03 48 46.0**	**-0.1**
SKR				*e*			03 49 22.0	
YUK	**Yuzh-Kuril'sk**	**7.49**	**245**	PN	**Pb**		**03 50 06.4**	**+0.1**
YUK				S			03 51 22.2	
YUK				smax				
	comp=N,470nm,0.6s							
YUK				smax				
	comp=E,520nm,0.6s							
KSRS	**Korea Array**	**22.47**	**253**	P	**P**		**03 52 55.9**	**0.0**
	comp=E,2.0nm,0.8s,mb3.6,baz=61,slow=9.7,SNR=4.8							
SONM	**Songino Array**	**32.47**	**289**	P	**P**		**03 54 28.1**	**+1.0**
	comp=E,0.3nm,0.7s,mb3.2,baz=74,slow=11,SNR=2.8							
INK	**Inuvik**	**40.14**	**33**	P	**P**		**03 55 32.7**	**0.0**
	comp=E,1.2nm,0.7s,mb3.7,baz=308,slow=9.8,SNR=5.4							
INK	**Inuvik**	**40.14**	**33**	P	**P**		**03 55 32.7**	**0.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MK31	**Makanchi Array**	**47.88**	**298**	*e*P	**P**		**03 56 33.9**	**-0.9**
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**		**03 56 34.5**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=60,slow=7.2,SNR=4.1							
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**		**03 56 34.5**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CHKZ	**Chkalovo**	**51.03**	**310**	*e*P	**P**		**03 56 58.4**	**-0.5**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.03**	**310**	*e*P	**P**		**03 56 58.4**	**-0.5**
	comp=Z,3.6nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**51.48**	**310**	P	**P**		**03 57 02.3**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=52,slow=9.0,SNR=8.0							
BVAR	**Borovoye Array**	**51.48**	**310**	P	**P**		**03 57 02.3**	**+0.1**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**		**03 57 02.8**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**		**03 57 02.8**	**+0.2**
	comp=Z,4.8nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**52.23**	**310**	*e*P	**P**		**03 57 07.9**	**0.0**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**52.23**	**310**	*e*P	**P**		**03 57 07.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**		**03 57 26.2**	**-0.5**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**		**03 57 26.2**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.1							
AKTK	**Aktyubinsk**	**59.27**	**312**	P	**P**		**03 57 58.6**	**+0.2**
AKTO	**Aktyubinsk**	**59.27**	**312**	P	**P**		**03 57 58.6**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=64,slow=8.9,SNR=4.8							
AKTO	**Aktyubinsk**	**59.27**	**312**	P	**P**		**03 57 58.6**	**+0.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
TPAW	**Teton Pass**	**61.80**	**55**	*e*P	**P**		**03 58 16.7**	**+1.1**
	comp=Z,1.4nm,0.8s,mb4.1							
PDAR	**Pinedale Array**	**63.04**	**55**	P	**P**		**03 58 22.6**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=297,slow=1.3,SNR=6.9							
FINES	**FINESS Array B**	**63.91**	**336**	P	**P**		**03 58 29.9**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.5,baz=27,slow=13,SNR=9.2							
FINES	**FINESS Array B**	**63.91**	**336**	P	**P**		**03 58 29.9**	**+0.2**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NB2	**NORSAR Subarra**	**67.91**	**342**	P	**P**		**03 58 55.4**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**67.91**	**342**	P	**P**		**03 58 55.6**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=26,slow=6.4,SNR=6.0							
NOA	**NORSAR Array B**	**67.91**	**342**	P	**P**		**03 58 55.7**	**+0.2**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKBB	**Malin Array Si**	**71.67**	**327**	*e*P	**P**		**03 59 18.6**	**0.0**
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**		**03 59 43.0**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=295,slow=5.9,SNR=8.9							
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**		**03 59 43.0**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**78.34**	**335**	P	**P**		**03 59 57.8**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=38,slow=6.8,SNR=5.2							
GERES	**GERESS Array B**	**78.34**	**335**	P	**P**		**03 59 57.8**	**+0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*IDC **16** 03:48:27.4±1.6, 4670N×15304E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/26, mbtmp4.0/15, ML3.6/1, Error ellipse: s-maj=45.1km s-min=19.5km az=168.0*
*ISCJB **16** 03:48:28.1±4.9, 467N±02×1530E±01, h16km±37km, mb4.1/18, Error ellipse: s-maj=33.6km s-min=12.2km az=137.9*
*NEIC **16** 03:48:28.0±1.2, 4651N×15303E, h10km, mb4.4/6, Error ellipse: s-maj=35.9km s-min=11.5km az=174.0*
*MOS **16** 03:48:30.2±0.8, 4663N×15300E, h33km, mb4.4/14, Error ellipse: s-maj=18.0km s-min=13.7km az=129.8*
ISC 16 03:48:30.8±5.0, **467N**±02×**1531E**±01, **h24**km±38km, **n47, σ0§78/48, mb4.1**/18, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.90**	**250**	PN	**Pn**		**03 49 28.0**	**-1.2**
KUR				*e*S	**Sn**		**03 50 14.6**	**+0.3**
KUR				pmax	pmax			
	comp=N,50nm,0.6s							
KUR				pmax	pmax			
	comp=Z,150nm,0.6s							
KUR				smax				
	comp=N,320nm,0.8s							
KUR				smax				
	comp=E,220nm,0.8s							
ASAJ	**Asahikawa**	**7.80**	**254**	Pn	**Pn**		**03 50 23.9**	**+1.2**
	comp=E,0.9nm,0.3s,baz=101,slow=15,SNR=7.0							
ASAJ	**Asahikawa**	**7.80**	**254**	PN	**Pn**		**03 50 23.9**	**+1.2**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.74**	**253**	P	**P**		**03 53 10.0**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=65,slow=10,SNR=5.2							
SONM	**Songino Array**	**31.30**	**289**	P	**P**		**03 54 48.0**	**-1.0**
	comp=Z,0.6nm,1.0s,mb3.4,baz=52,slow=5.7,SNR=2.9							
SONM	**Songino Array**	**31.30**	**289**	P	**P**		**03 54 48.0**	**-1.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
LZH	**Lanzhou**	**37.84**	**272**	*e*P	**P**		**03 55 45.5**	**-0.1**
LZH				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.5							
LZH	**Lanzhou**	**37.84**	**272**	*e*P	**P**		**03 55 45.5**	**-0.1**
	comp=Z,11nm,1.0s,mb4.5							
LZH				pP	pP		03 55 48.5	-4.2
LZH				sP	sP		03 55 50.4	-5.2
INK	**Inuvik**	**41.71**	**32**	P	**P**		**03 56 18.3**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.4,baz=242,slow=17,SNR=2.6							
INK	**Inuvik**	**41.71**	**32**	P	**P**		**03 56 18.3**	**+0.6**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**41.71**	**32**	P	**P**		**03 56 18.3**	**+0.5**
MK31	**Makanchi Array**	**46.92**	**297**	*e*P	**P**		**03 56 59.5**	**+0.1**
MKAR	**Makanchi Array**	**46.92**	**297**	P	**P**		**03 56 59.8**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=64,slow=8.5,SNR=9.2							
MKAR	**Makanchi Array**	**46.92**	**297**	P	**P**		**03 56 59.8**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CHKZ	**Chkalovo**	**50.42**	**310**	*e*P	**P**		**03 57 26.0**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**50.42**	**310**	*e*P	**P**		**03 57 26.0**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.5							
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**		**03 57 29.6**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=34,slow=9.1,SNR=3.6							
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**		**03 57 29.6**	**+0.1**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**51.62**	**310**	*e*P	**P**		**03 57 34.9**	**-0.4**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.5							
ZRNK	**Zerenda**	**51.62**	**310**	*e*P	**P**		**03 57 34.9**	**-0.4**
	comp=Z,1.7nm,0.3s,mb4.5							
AAK	**Ala-Archa**	**53.81**	**296**	*e*P	**P**		**03 57 51.5**	**0.0**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**53.81**	**296**	*e*P	**P**		**03 57 51.5**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.0							
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**		**03 58 21.1**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=13,slow=8.3,SNR=3.3							
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**		**03 58 21.1**	**+0.4**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AKTK	**Aktyubinsk**	**58.72**	**312**	P	**P**		**03 58 26.6**	**+0.1**
AKTO	**Aktyubinsk**	**58.72**	**312**	P	**P**		**03 58 26.6**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=75,slow=12,SNR=4.5							
AKTO	**Aktyubinsk**	**58.72**	**312**	P	**P**		**03 58 26.6**	**0.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**64.06**	**335**	P	**P**		**03 59 02.7**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.4,baz=35,slow=8.1,SNR=8.8							
FINES	**FINESS Array B**	**64.06**	**335**	P	**P**		**03 59 02.7**	**0.0**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
SPUT	**South Promonto**	**64.12**	**57**	*e*P	**P**		**03 59 02.0**	**-1.1**
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**		**03 59 10.1**	**+2.5**
	comp=Z,0.7nm,0.9s,mb3.7,baz=214,slow=1.1,SNR=4.0							
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**		**03 59 29.9**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.5,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**		**03 59 30.0**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.4,baz=28,slow=6.4,SNR=7.0							
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**		**03 59 30.0**	**+0.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**71.55**	**326**	P	**P**		**03 59 48.2**	**-1.6**
	comp=Z,1.6nm,0.4s,mb4.3,baz=36,slow=6.7,SNR=7.8							
AKASG	**Malin Array Be**	**71.55**	**326**	P	**P**		**03 59 48.2**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**71.55**	**326**	P	**P**		**03 59 48.2**	**-1.7**
AKBB	**Malin Array Si**	**71.55**	**326**	*e*P	**P**		**03 59 49.7**	**-0.2**
CLL	**Collm**	**76.48**	**336**	*e*P	**P**		**04 00 19.0**	**+0.3**
CLL				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.7							
CLL	**Collm**	**76.48**	**336**	*e*P	**P**		**04 00 19.0**	**+0.3**
	comp=Z,11nm,1.2s,mb4.7							
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**		**04 00 23.8**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.9,baz=307,slow=3.9,SNR=8.9							
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**		**04 00 23.8**	**-0.9**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BR131	**Keskin Array S**	**78.39**	**317**	*e*P	**P**		**04 00 28.9**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0							
BRTR	**Keskin Array B**	**78.39**	**317**	P	**P**		**04 00 30.9**	**+1.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=74,slow=2.7,SNR=4.0							
BRTR	**Keskin Array B**	**78.39**	**317**	P	**P**		**04 00 30.9**	**+1.6**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**78.47**	**334**	P	**P**		**04 00 29.9**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=29,slow=3.8,SNR=6.2							
GERES	**GERESS Array B**	**78.47**	**334**	P	**P**		**04 00 29.9**	**+0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							

*ISCJB **16** 03:50:02.6±2.0, 459N×03×154.1E±02, h10km, mb4.0/9, Error ellipse: s-maj=48.2km s-min=15.9km az=143.0*
*MOS **16** 03:50:05.4±1.7, 4579N×154.08E, h33km, mb4.3/8, Error ellipse: s-maj=27.2km s-min=20.7km az=106.4*
*IDC **16** 03:50:05.7±11.0, 4632N×15443E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/22, mbtmp3.9/4, Error ellipse: s-maj=257.5km s-min=45.7km az=165.0*
*NEIC **16** 03:50:07.6±1.8, 4641N×15429E, h10km, mb4.1/5, Error ellipse: s-maj=41.2km s-min=16.6km az=169.0*
ISC 16 03:50:07.7±2.2, **465N**±03×**1543E**±02, **h10**km, **n18, σ0§55/19, mb4.0**/9, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**4.64**	**257**	*e*P	**Pn**		**03 51 09.0**	**-8.8**
KUR				*e*S	**Sn**		**03 51 55.0**	**-17**
KUR				pmax	pmax			
	comp=N,150nm,0.7s							
KUR				pmax	pmax			
	comp=E,70nm,0.7s							
KUR				pmax	pmax			
	comp=Z,260nm,0.7s							
KUR				smax				
	comp=N,210nm,0.5s							
KUR				smax				
	comp=E,80nm,0.5s							
BILL	**Bilibino**	**22.49**	**12**	*e*P	**P**		**03 55 07.5**	**+0.3**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.0							
BILL	**Bilibino**	**22.49**	**12**	*e*P	**P**		**03 55 07.5**	**+0.3**
	comp=Z,2.6nm,0.5s,mb3.9							
INK	**Inuvik**	**41.46**	**32**	P	**P**		**03 57 54.0**	**-0.7**
	comp=Z,1.5nm,0.8s,mb3.7,baz=296,slow=5.2,SNR=3.8							
INK	**Inuvik**	**41.46**	**32**	P	**P**		**03 57 54.0**	**-0.6**
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**		**03 58 45.3**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=65,slow=9.1,SNR=4.1							
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**		**03 58 45.3**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**		**03 59 10.5**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**		**03 59 10.5**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1							
BRVK	**Borovoye**	**51.69**	**310**	*e*P	**P**		**03 59 15.1**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**51.69**	**310**	*e*P	**P**		**03 59 15.1**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.2							
ZRNK	**Zerenda**	**52.41**	**310**	*e*P	**P**		**03 59 19.9**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.41**	**310**	*e*P	**P**		**03 59 19.9**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0							
ARCES	**ARCESS Array B**	**58.38**	**341**	P	**P**		**04 00 02.8**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.4,baz=30,slow=7.3,SNR=4.1							
ARCES	**ARCESS Array B**	**58.38**	**341**	P	**P**		**04 00 02.8**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DUG	**Dugway**	**64.05**	**58**	*e*P	**P**		**04 00 41.9**	**+0.3**
DUG				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
DUG	**Dugway**	**64.05**	**58**	*e*P	**P**		**04 00 41.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb4.0							
FINES	**FINESS Array B**	**64.63**	**335**	P	**P**		**04 00 46.5**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=31,slow=8.3,SNR=3.5							

*IDC **16** 03:50:53.1±1.2, 4763N×154.12E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, ML3.3/2, Error ellipse: s-maj=35.0km s-min=17.8km az=163.0*
*NEIC **16** 03:50:54.0±0.6, 4753N×154.02E, h10km, mb4.1/2, Error ellipse: s-maj=17.8km s-min=10.4km az=158.0*
*ISCJB **16** 03:50:56.9±1.7, 475N±0.1×1540E±02, h43km±15km, mb4.0/14, Error ellipse: s-maj=26.2km s-min=11.9km az=109.8*
*MOS **16** 03:50:58.3±1.7, 4748N×154.10E, h62km, mb4.3/9, Error ellipse: s-maj=18.9km s-min=14.7km az=77.7*
ISC 16 03:50:59.2±1.5, **476N**±01×**1540E**±02, **h48**km±13km, **n30, σ0§82/29, mb4.0**/14, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.41**	**23**	*e*PN	**Pn**		**03 51 50.0**	**+0.1**
SKR				*e*			03 52 27.1	
YSS	**Yuzh-Sakhalins**	**7.67**	**270**	*e*PN	**Pn**		**03 52 54.5**	**+6.2**
ASAJ	**Asahikawa**	**8.67**	**251**	Pn	**Pn**		**03 53 02.6**	**+0.6**
	0.3nm,0.3s,baz=180,slow=20,SNR=1.9							
MJAR	**Matsushiro Arr**	**16.06**	**232**	Pn	**Pn**		**03 54 39.9**	**-1.8**
	0.3nm,0.3s,baz=31,slow=12,SNR=4.5							
KSRS	**Korea Array**	**21.62**	**252**	P	**P**		**03 55 46.7**	**+1.5**
	4.3nm,0.7s,mb4.0,baz=59,slow=10,SNR=11							
INK	**Inuvik**	**40.63**	**33**	P	**P**		**03 58 34.7**	**+0.2**
	2.3nm,0.6s,mb4.0,baz=267,slow=6.6,SNR=9.0							
INK	**Inuvik**	**40.63**	**33**	P	**P**		**03 58 34.7**	**+0.2**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**40.63**	**33**	P	**P**		**03 58 34.7**	**+0.1**
MK31	**Makanchi Array**	**47.10**	**297**	*e*P	**P**		**03 59 26.3**	**-0.1**
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**		**03 59 26.9**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=71,slow=9.4,SNR=4.1							
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**		**03 59 26.9**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CHKZ	**Chkalovo**	**50.36**	**310**	*e*P	**P**		**03 59 50.8**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**50.36**	**310**	*e*P	**P**		**03 59 50.8**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2							
BRVK	**Borovoye**	**50.84**	**309**	*e*P	**P**		**03 59 53.9**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
BRVK	**Borovoye**	**50.84**	**309**	*e*P	**P**		**03 59 53.9**	**-1.2**
	comp=Z,2.5nm,0.9s,mb4.1							
ARCES	**ARCESS Array B**	**57.27**	**341**	P	**P**		**04 00 41.1**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.3,baz=41,slow=7.5,SNR=3.4							
ARCES	**ARCESS Array B**	**57.27**	**341**	P	**P**		**04 00 41.1**	**-0.8**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NVAR	**Mina Array Bea**	**61.52**	**63**	P	**P**		**04 01 10.7**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.9,baz=301,slow=7.2,SNR=3.2							
FINES	**FINESS Array B**	**63.55**	**335**	P	**P**		**04 01 24.0**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.3,baz=36,slow=7.3,SNR=12							
FINES	**FINESS Array B**	**63.55**	**335**	P	**P**		**04 01 24.0**	**-0.8**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**63.78**	**55**	P	**P**		**04 01 26.6**	**+0.3**
	comp=Z,0.9nm,0.9s,mb3.8,baz=318,slow=2.0,SNR=4.0							
NOA	**NORSAR Array B**	**67.64**	**341**	P	**P**		**04 01 50.8**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=32,slow=7.4,SNR=2.4							
CLL	**Collm**	**75.96**	**336**	*i* P	**P**		**04 02 41.3**	**+0.2**
	comp=Z,5.0nm,0.7s,mb4.5							
TXAR	**Lajitas Array**	**76.57**	**61**	P	**P**		**04 02 44.8**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=295,slow=5.0,SNR=7.1							
TXAR	**Lajitas Array**	**76.57**	**61**	P	**P**		**04 02 44.8**	**+0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**77.98**	**334**	P	**P**		**04 02 53.2**	**+0.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=32,slow=5.7,SNR=14							
GERES	**GERESS Array B**	**77.98**	**334**	P	**P**		**04 02 53.2**	**+0.8**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRTR	**Keskin Array B**	**78.20**	**317**	P	**P**		**04 02 55.1**	**+1.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=72,slow=3.2,SNR=5.7							
BRTR	**Keskin Array B**	**78.20**	**317**	P	**P**		**04 02 55.2**	**+1.6**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**114.69**	**330**	PKP	PKiKP		04 09 34.5	+0.2
	comp=Z,0.6nm,1.0s,baz=36,slow=2.2,SNR=4.8							

*IDC **16** 03:57:33.1±1.1, 4698N×154.61E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/47, Error ellipse: s-maj=34.1km s-min=27.7km az=127.0*
*NEIC **16** 03:57:34.7±0.8, 4701N×154.55E, h10km, mb4.0/2, Error ellipse: s-maj=22.4km s-min=19.1km az=173.0*
*ISCJB **16

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.76**	**244**	**P**	**Pg**	**04 12 22.0**	**-4.1**
KUR				*eS*	**Sb**	**04 13 16.0**	**+0.2**
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**04 18 36.5**	**+0.7**
	comp=E,0.8nm,0.4s,mb3.7,baz=305,slow=2.3,SNR=5.7						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**04 18 36.5**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**04 18 36.5**	**+0.7**
CHKZ	**Chkalovo**	**50.39**	**310**	*eP*	**P**	**04 19 51.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.39**	**310**	*eP*	**P**	**04 19 51.4**	**-0.8**
	comp=Z,1.3nm,0.6s,mb4.1						
BRVK	**Borovoye**	**50.87**	**309**	*eP*	**P**	**04 19 55.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**50.87**	**309**	*eP*	**P**	**04 19 55.5**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**04 21 25.7**	**-0.3**
	comp=Z,0.6nm,0.4s,mb4.0,baz=37,slow=7.9,SNR=8.2						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**04 21 25.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**04 21 25.7**	**-0.3**
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**04 21 52.6**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=26,slow=6.2,SNR=2.7						
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**04 21 52.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**67.97**	**340**	P	**P**	**04 21 54.0**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=50,slow=4.6,SNR=12						
HFS	**Hagfors**	**67.97**	**340**	P	**P**	**04 21 54.0**	**0.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**67.97**	**340**	P	**P**	**04 21 54.0**	**+0.1**
ASAR	**Alice Springs**	**73.08**	**199**	P	**P**	**04 22 25.2**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=2.5,slow=5.1,SNR=5.8						
TXAR	**Lajitas Array**	**76.65**	**61**	P	**P**	**04 22 45.1**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=318,slow=5.6,SNR=3.9						
BRTR	**Keskin Array B**	**78.24**	**317**	P	**P**	**04 22 55.9**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=78,slow=3.4,SNR=4.1						
BRTR	**Keskin Array B**	**78.24**	**317**	P	**P**	**04 22 55.9**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

NEIC **16** *04:13:49.3±0.9, 4693N×15487E, h10km, mb4.2/2, Error ellipse: s-maj=23.8km s-min=19.9km az=182.0*
ISCJB **16** *04:13:50.3±5.6, 469N±02×1548E±02, h29km±39km, mb3.9/12, Error ellipse: s-maj=28.1km s-min=20.1km az=102.2*
MOS **16** *04:13:51.0±1.2, 4694N×15481E, h33km, mb4.3/9, Error ellipse: s-maj=20.4km s-min=16.9km az=88.9*
IDC **16** *04:13:54.6±4.7, 4694N×15492E, h48km±45km, mb3.6/9, mb1 3.8/10, mb1mx3.5/26, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=29.3km s-min=26.2km az=140.0*
ISC 16 04:13:49.3±8.1, 469N±01×1549E±02, h11km±50km, n24, σ0§83/24, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.15**	**253**	*e*PN	**Pn**	**04 15 06.0**	**-0.3**
KUR				pmax	pmax		
	comp=N,40nm,0.8s						
KUR				pmax	pmax		
	comp=Z,120nm,0.8s						
ASAJ	**Asahikawa**	**9.06**	**256**	P	**Pn**	**04 16 03.8**	**+3.8**
	comp=Z,0.5nm,0.3s,baz=98,slow=15,SNR=3.7						
ASAJ	**Asahikawa**	**9.06**	**256**	PN	**Pn**	**04 16 03.8**	**+3.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**04 18 43.4**	**+0.4**
BILL				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.2						
INK	**Inuvik**	**40.85**	**33**	P	**P**	**04 21 30.6**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.7,baz=295,slow=5.0,SNR=9.2						
INK	**Inuvik**	**40.85**	**33**	P	**P**	**04 21 30.6**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**04 22 27.3**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=63,slow=10.0,SNR=4.0						
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**	**04 22 51.3**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**	**04 22 51.3**	**-1.5**
	comp=Z,1.0nm,0.4s,mb4.1						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**04 22 55.2**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=56,slow=9.6,SNR=5.8						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**04 22 55.2**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**04 22 57.3**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**04 22 57.3**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**59.49**	**313**	P	**P**	**04 23 52.6**	**+0.2**
AKTO	**Aktyubinsk**	**59.49**	**313**	P	**P**	**04 23 52.6**	**+0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=71,slow=14,SNR=3.6						
AKTO	**Aktyubinsk**	**59.49**	**313**	P	**P**	**04 23 52.6**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**64.37**	**335**	P	**P**	**04 24 24.3**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=42,slow=7.2,SNR=8.3						
FINES	**FINESS Array B**	**64.37**	**335**	P	**P**	**04 24 24.3**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**68.69**	**340**	P	**P**	**04 24 53.8**	**+1.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=35,slow=5.3,SNR=4.8						
HFS	**Hagfors**	**68.69**	**340**	P	**P**	**04 24 53.8**	**+1.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**72.78**	**200**	P	**P**	**04 25 17.9**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=21,slow=4.8,SNR=5.3						
ASAR	**Alice Springs**	**72.78**	**200**	P	**P**	**04 25 17.9**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**04 25 38.1**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=315,slow=4.8,SNR=4.4						
GERES	**GERESS Array B**	**78.80**	**335**	P	**P**	**04 25 53.4**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=40,slow=5.2,SNR=4.2						

ISCJB **16** *04:15:39.9±1.2, 462N±02×1543E±0.1, h10km, mb4.1/18, Error ellipse: s-maj=35.2km s-min=12.4km az=167.5*
IDC **16** *04:15:39.4±2.7, 4608N×15436E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/27, mbtmp4.0/10, Error ellipse: s-maj=82.2km s-min=22.9km az=2.0*
NEIC **16** *04:15:41.5±0.8, 4619N×15434E, h10km, mb4.2/6, Error ellipse: s-maj=23.7km s-min=8.4km az=178.0*
MOS **16** *04:15:43.0±0.5, 4617N×15427E, h33km, mb4.4/14, Error ellipse: s-maj=28.4km s-min=15.2km az=113.1*
BJI **16** *04:15:47.2, 4623N×15342E, h15km, mB4.8, mb4.3*
ISC 16 04:15:41.9±1.2, 463N±02×1543E±01, h10km, n37, σ0§36/37, mb4.1/18, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.63**	**259**	*e*PN	**Pn**	**04 16 44.0**	**-7.9**
KUR				pmax	pmax		
	comp=N,20nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
SNY	**Shenyang**	**22.45**	**270**	⇑P	**P**	**04 20 41.1**	**+0.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**22.65**	**12**	*e*P	**P**	**04 20 43.2**	**+0.1**
BILL				*e*		04 20 52.2	
BILL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
BILL	**Bilibino**	**22.65**	**12**	*e*P	**P**	**04 20 43.4**	**+0.3**
INK	**Inuvik**	**41.59**	**32**	P	**P**	**04 23 30.3**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.0,baz=290,slow=7.0,SNR=21						
INK	**Inuvik**	**41.59**	**32**	P	**P**	**04 23 30.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**47.88**	**298**	*e*P	**P**	**04 24 20.2**	**+0.2**
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**04 24 20.4**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=68,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**04 24 20.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**04 24 20.4**	**+0.4**
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**04 24 46.0**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**04 24 46.0**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**04 24 50.2**	**+0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=48,slow=8.8,SNR=5.0						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**04 24 50.2**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**04 24 50.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**04 24 50.2**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**04 24 54.7**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**04 24 54.7**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**54.77**	**297**	*e*P	**P**	**04 25 11.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.77**	**297**	*e*P	**P**	**04 25 11.8**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**59.64**	**313**	P	**P**	**04 25 46.0**	**-0.2**
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**04 25 46.0**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=44,slow=4.9,SNR=4.3						
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**04 25 46.0**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
TPAW	**Teton Pass**	**63.09**	**54**	*e*P	**P**	**04 26 09.6**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.3						
DUG	**Dugway**	**64.11**	**58**	*e*P	**P**	**04 26 16.2**	**0.0**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
DUG	**Dugway**	**64.11**	**58**	*e*P	**P**	**04 26 16.2**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**64.34**	**54**	P	**P**	**04 26 17.7**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.7,baz=270,slow=1.5,SNR=5.2						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**04 26 20.4**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=49,slow=8.6,SNR=4.7						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**04 26 20.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**69.16**	**340**	P	**P**	**04 26 47.8**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=45,slow=5.0,SNR=4.5						
HFS	**Hagfors**	**69.16**	**340**	P	**P**	**04 26 47.8**	**-0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**04 27 34.5**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=303,slow=3.9,SNR=15						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**04 27 34.5**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**04 27 34.5**	**-0.3**
MLR	**Muntele Rosu**	**77.90**	**326**	P	**P**	**04 27 40.5**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.1,baz=234,slow=1.9,SNR=4.3						
MLR	**Muntele Rosu**	**77.90**	**326**	P	**P**	**04 27 40.5**	**+0.6**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**79.22**	**335**	P	**P**	**04 27 47.1**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=38,slow=5.0,SNR=3.9						

CSEM **16** *04:20:40.0±0.4, 3564N×2320E, h27km±3km, MD3.5, Error ellipse: s-maj=12.0km s-min=3.3km az=45.0*
NEIC **16** *04:20:40.0, 3566N×2326E, h54km, MD3.5(ATH), After ATH.*
ATH 16 04:20:40.0, 3566N×2326E, h54km±10km, MD3.5/9, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.65**	**344**	*e*P	Pn	04 20 53.5	+0.3
VAM	**Vamos**	**0.81**	**108**	||*i*P	Pn	04 20 56.4	+1.1
VAM				*e*S	Sn	04 21 07.9	+1.5
GVD	**Gavdhos**	**1.06**	**140**	*e*P	Pn	04 20 59.5	+0.9
VLI	**Veliai**	**1.09**	**346**	*e*P	Pn	04 21 00.2	+1.2
VLI				*e*S	Sn	04 21 15.3	+2.2
ITM	**Ithomi**	**1.86**	**325**	*e*P	Pn	04 21 10.4	+1.0
NPS	**Neapolis**	**1.96**	**101**	*e*P	Pn	04 21 12.6	+1.8
NAIG	**Nisos Aigina**	**2.10**	**5**	*e*P	Pn	04 21 15.0	+2.2
KVR	**Kavouri**	**2.20**	**11**	*e*P	Pn	04 21 15.0	+0.9
APE	**Apeiranthos**	**2.31**	**52**	*e*P	Pn	04 21 16.3	+0.7
PTL	**Penteli**	**2.43**	**11**	*e*P	Pn	04 21 18.5	+1.2
KARP	**Karpathos**	**3.18**	**91**	*e*P	Pn	04 21 28.7	+1.2

ISCJB **16** *04:20:44.1±0.4, 4829N±003×659E±003, h15km±3km, Error ellipse: s-maj=4.2km s-min=3.2km az=174.9*
STR **16** *04:20:45.0±0.3, 4839N×666E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG **16** *04:20:45.3±0.1, 4832N×667E, h8km, Md2.4/2, Ml2.5/11, Error ellipse: s-maj=1.3km s-min=0.9km az=155.0*
NEIC **16** *04:20:45.4±0.1, 4832N×667E, h10km, ML2.1(STR), ML2.5(LDG), After STR.*
CSEM **16** *04:20:45.4±0.1, 4832N×667E, h10km, ML2.4/10, Error ellipse: s-maj=2.0km s-min=1.3km az=177.0*
ISC 16 04:20:44.6±0.4, 4831N±003×664E±003, h19km±3km, n38, σ0§83/85, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**105**	Pg	**Pg**	**04 20 52.2**	**0.0**
HAU	**Haudompre**	**0.36**	**213**	*e*Pg	**Pg**	**04 20 53.0**	**+0.7**
HAU				*e*Sg	**Sg**	**04 20 57.9**	**+0.4**
	18nm,0.2s						
HAU	**Haudompre**	**0.36**	**213**	*e*Pg	**Pg**	**04 20 53.0**	**+0.7**
HAU				*e*Sg	**Sg**	**04 20 57.9**	**+0.4**
	8.9nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	**Pg**	**04 20 53.5**	**-0.1**
CDF				*e*Sg	**Sg**	**04 20 58.9**	**-0.7**
	62nm,0.3s						
CDF	**Champ du Feu**	**0.43**	**76**	*e*Pg	**Pg**	**04 20 53.5**	**-0.1**
CDF				*e*Sg	**Sg**	**04 20 58.9**	**-0.7**
	31nm,0.3s						
THEF	**They Montfort**	**0.45**	**260**	Pg	**Pg**	**04 20 54.1**	**+0.3**
THEF				Sg	**Sg**	**04 21 01.3**	**+1.3**
WLS	**Welschbruch**	**0.48**	**77**	Pg	**Pg**	**04 20 54.3**	**-0.2**
HINF	**Hinteralfeld**	**0.51**	**164**	*e*Pn	**Pg**	**04 20 57.0**	**+2.0**
HINF				*e*Sg	**Sg**	**04 21 02.2**	**+0.3**
	24nm,0.2s						
HINF				*e*Sn	**Sg**	**04 21 05.2**	**+3.3**
HINF	**Hinteralfeld**	**0.51**	**164**	*e*Pg	**Pg**	**04 20 55.5**	**+0.5**
HINF				*e*Pn	**Pg**	**04 20 57.0**	**+2.0**
HINF				*e*Sg	**Sg**	**04 21 02.2**	**+0.3**
HINF				*e*Sn	**Sg**	**04 21 05.2**	**+3.3**
HINF	**Hinteralfeld**	**0.51**	**164**	*e*Pn	**Pg**	**04 20 57.0**	**+2.0**
HINF				*e*Sg	**Sg**	**04 21 02.2**	**+0.3**
	12nm,0.2s						
HINF				*e*Sn	**Sg**	**04 21 05.2**	**+3.3**
MOF	**Molkenrain**	**0.56**	**144**	Pg	**Pg**	**04 20 57.1**	**+1.2**
RFYF	**Reffroy**	**0.84**	**293**	*e*Pn	**Pn**	**04 21 02.2**	**+0.8**
	baz=107						
RFYF				*e*Sg	**Sg**	**04 21 12.9**	**+0.7**
	16nm,0.2s						
RFYF	**Reffroy**	**0.84**	**293**	*e*Pn	**Pn**	**04 21 02.2**	**+0.8**
	baz=107						
RFYF				*e*Sg	**Sg**	**04 21 12.9**	**+0.7**
	7.8nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	**Pg**	**04 21 06.0**	**+0.5**
	baz=89						
SFTF				*e*Sg	**Sg**	**04 21 20.3**	**+0.6**
	12nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pn	**Pn**	**04 21 05.6**	**+0.9**
SFTF				*e*Pg	**Pg**	**04 21 06.0**	**+0.5**
SFTF				*e*Sg	**Sg**	**04 21 20.3**	**+0.6**
SFTF	**Sexfontaines**	**1.08**	**265**	*e*Pg	**Pg**	**04 21 06.0**	**+0.5**
	baz=89						
SFTF				*e*Sg	**Sg**	**04 21 20.3**	**+0.6**
	5.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pg	**Pg**	**04 21 05.9**	**+0.3**
	baz=96						
MEZF				*e*Sg	**Sg**	**04 21 20.0**	**+0.3**
	9.3nm,0.2s						
MEZF	**Maizieres J'vi**	**1.08**	**281**	*e*Pg	**Pg**	**04 21 05.9**	**+0.3**
	baz=96						
MEZF				*e*Sg	**Sg**	**04 21 20.0**	**+0.3**
	4.7nm,0.2s						
BFO	**Black Forest**	**1.13**	**88**	*e*Pg	**Pg**	**04 21 06.6**	**+0.2**
BFO				*e*Sg	**Sg**	**04 21 18.8**	**-2.4**
WLF	**Walferdange**	**1.40**	**347**	*e*Sg	**Sg**	**04 21 29.1**	**-0.7**
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	**Pg**	**04 21 18.0**	**-0.1**
CABF				*e*Sn	**Sn**	**04 21 35.6**	**+0.2**
CABF				*e*Sg	**Sg**	**04 21 41.1**	**+0.3**
	3.8nm,0.2s						
CABF	**La Chapelle**	**1.74**	**193**	*e*Pn	**Pn**	**04 21 14.7**	**+0.9**
CABF				*e*Pg	**Pg**	**04 21 18.0**	**-0.1**
CABF				*e*Sn	**Sn**	**04 21 35.6**	**+0.2**
CABF				*e*Sg	**Sg**	**04 21 41.1**	**+0.3**
CABF	**La Chapelle**	**1.74**	**193**	*e*Pg	**Pg**	**04 21 18.0**	**-0.1**
CABF				*e*Sn	**Sn**	**04 21 35.6**	**+0.2**
CABF				*e*Sg	**Sg**	**04 21 41.1**	**+0.3**
	1.9nm,0.2s						
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**04 21 25.0**	**-0.9**
	baz=62						
LOR				*e*Sg	**Sg**	**04 21 52.9**	**-0.9**
	6.3nm,0.2s						
LOR	**Lormes**	**2.15**	**242**	*e*Pn	**Pn**	**04 21 19.8**	**+0.4**
LOR				*e*Pg	**Pg**	**04 21 25.0**	**-0.9**
LOR				*e*Sg	**Sg**	**04 21 52.9**	**-0.9**
LOR	**Lormes**	**2.15**	**242**	*e*Pg	**Pg**	**04 21 25.0**	**-0.9**
	baz=62						
LOR				*e*Sg	**Sg**	**04 21 52.9**	**-0.9**
	3.2nm,0.2s						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**04 21 31.1**	**-0.7**
SSF				*e*Sg	**Sg**	**04 22 02.9**	**-0.9**
	2.5nm,0.2s						
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pn	**Pn**	**04 21 24.0**	**+0.3**
SSF				*e*Pg	**Pg**	**04 21 31.1**	**-0.7**
SSF				*e*Sg	**Sg**	**04 22 02.9**	**-0.9**
SSF	**Saint Saulge**	**2.46**	**241**	*e*Pg	**Pg**	**04 21 31.1**	**-0.7**
SSF				*e*Sg	**Sg**	**04 22 02.9**	**-0.9**
	1.2nm,0.2s						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**04 21 31.9**	**-1.2**
SMF				*e*Sn	**Sn**	**04 21 54.6**	**-0.2**
SMF				*e*Sg	**Sg**	**04 22 04.9**	**-1.0**
	4.5nm,0.2s						
SMF	**Signal de Mont**	**2.53**	**230**	*e*Pg	**Pg**	**04 21 31.9**	**-1.2**
SMF				*e*Sn	**Sn**	**04 21 54.6**	**-0.2**
SMF				*e*Sg	**Sg**	**04 22 04.9**	**-1.0**
	2.2nm,0.2s						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**04 21 36.4**	**0.0**
AVF				*e*Sn	**Sn**	**04 21 57.8**	**-1.2**
AVF				*e*Sg	**Sg**	**04 22 11.2**	**-0.1**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pn	**Pn**	**04 21 27.5**	**+0.6**
AVF				*e*Pg	**Pg**	**04 21 36.4**	**0.0**
AVF				*e*Sn	**Sn**	**04 21 57.8**	**-1.2**
AVF				*e*Sg	**Sg**	**04 22 11.2**	**-0.1**
AVF	**Avril sur Loir**	**2.70**	**237**	*e*Pg	**Pg**	**04 21 36.4**	**0.0**
AVF				*e*Sn	**Sn**	**04 21 57.8**	**-1.2**
AVF				*e*Sg	**Sg**	**04 22 11.2**	**-0.1**
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Sg	**Sg**	**04 22 23.9**	**-0.9**
	3.2nm,0.3s						
BGF	**Bois d'Agland**	**3.12**	**237**	*e*Sg	**Sg**	**04 22 23.9**	**-0.9**
	1.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.63**	**238**	*e*Sg	**Sg**	**04 22 39.7**	**-1.6**
	1.5nm,0.2s						
TCF	**Toulx Ste Croi**	**3.63**	**238**	*e*Sg	**Sg**	**04 22 39.7**	**-1.6**
	0.8nm,0.2s						

ISCJB **16** *04:21:03.3±0.9, 467N±02×1549E±02, h10km, mb3.8/10, Error ellipse: s-maj=23.2km s-min=21.5km az=131.3*
IDC **16** *04:21:03.7±0.9, 4669N×155.14E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=31.0km s-min=24.3km az=112.0*
NEIC **16** *04:21:05.2±0.8, 4674N×154.98E, h10km, mb4.1/3, Error ellipse: s-maj=22.6km s-min=20.9km az=76.0*
ISC 16 04:21:05.0±0.9, 468N±02×1550E±02, h10km, n10, σ0§87/10, mb3.8/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.94**	**33**	P	**P**	**04 28 47.2**	**-0.4**
	1.1nm,0.8s,mb3.5,baz=307,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**48.06**	**298**	P	**P**	**04 29 44.6**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=46,slow=7.7,SNR=4.1						
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**04 30 08.7**	**-1.2**
	1.5nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**51.82**	**310**	P	**P**	**04 30 13.4**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=43,slow=6.7,SNR=5.1						
BRVK	**Borovoye**	**51.86**	**310**	*e*P	**P**	**04 30 13.5**	**+0.1**
	2.2nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**52.58**	**311**	*e*P	**P**	**04 30 18.3**	**-0.5**
	1.6nm,0.8s,mb4.0						
HFS	**Hagfors**	**68.86**	**340**	P	**P**	**04 32 12.3**	**+2.6**
	2.4nm,0.9s,mb4.1,baz=44,slow=4.5,SNR=4.4						
WRA	**Warramunga Arr**	**68.98**	**201**	P	**P**	**04 32 09.8**	**-0.7**
	0.5nm,0

	comp=Z,0.7nm,0.6s,mb3.8,baz=298,slow=3.8,SNR=10								
TXAR	**Lajitas Array**	**76.78**	**61**	P	**P**	**04 41 36.0**	**-2.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***16*** *04:31:58.7±0.7, 4689N×15486E, h0km, mb4.2/19, mb1 4.4/21, mb1mx4.3/29, mbtmp4.2/21, ML3.7/2, Error ellipse: s-maj=19.3km s-min=16.5km az=136.0*
ISCJB ***16*** *04:31:59.7±0.6, 4687N±008×1546E±01, h10km, mb4.4/38, Error ellipse: s-maj=14.4km s-min=6.6km az=101.9*
BJI ***16*** *04:32:00.2, 4781N×15529E, h30km, mB4.8, mb4.4*
NEIC ***16*** *04:32:00.6±0.7, 4685N×15472E, h10km, mb4.7/18, Error ellipse: s-maj=18.4km s-min=11.7km az=135.0*
MOS ***16*** *04:32:01.9±1.9, 4684N×15451E, h25km, mb4.6/26, Error ellipse: s-maj=11.9km s-min=8.2km az=107.7*

ISC 16 04:32:00.9±0.6, 4687N±008×1547E±01, h10km, n103, σ1§41/104, mb4.4/38, 3C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.00**	**253**	*e*PN	**Pn**	**04 33 15.4**	**-0.6**
KUR				*i* S	**Sn**	**04 34 13.5**	**-0.3**
KUR				pmax	pmax		
	comp=N,30nm,0.5s						
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,180nm,0.6s						
ASAJ	**Asahikawa**	**8.90**	**256**	Pn	**Pn**	**04 34 11.3**	**+1.8**
	comp=E,1.1nm,0.3s,baz=86,slow=15,SNR=9.4						
ASAJ	**Asahikawa**	**8.90**	**256**	PN	**Pn**	**04 34 11.4**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.48**	**287**	*e*P	**Pn**	**04 35 37.8**	**-1.5**
MJAR	**Matsushiro Arr**	**16.01**	**236**	Pn	**Pn**	**04 35 45.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=6.1						
MAJO	**Matsushiro**	**16.01**	**236**	*e*P	**Pn**	**04 35 45.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**16.01**	**236**	*e*P	**Pn**	**04 35 45.8**	**-0.4**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**16.01**	**236**	P	**Pn**	**04 35 45.2**	**-0.9**
CN2	**Changchun**	**20.70**	**272**	*e*P	**P**	**04 36 47.1**	**+5.9**
KSRS	**Korea Array**	**21.84**	**254**	P	**P**	**04 36 55.4**	**+1.8**
	comp=Z,3.3nm,0.8s,mb3.8,baz=53,slow=11,SNR=7.5						
BILL	**Bilibino**	**22.05**	**12**	⇓*e*P	**P**	**04 36 53.5**	**-2.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
BILL	**Bilibino**	**22.05**	**12**	*e*P	**P**	**04 36 53.1**	**-2.7**
	comp=Z,15nm,1.0s,mb4.4						
SNY	**Shenyang**	**22.70**	**269**	⇓P	**P**	**04 37 07.3**	**+4.7**
SNY				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.5						
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**04 38 28.9**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.7,baz=94,slow=10,SNR=5.7						
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**04 38 28.9**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**33.58**	**295**	*e*P	**P**	**04 38 40.2**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
COLA	**College**	**35.39**	**38**	*e*P	**P**	**04 38 54.7**	**-2.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**35.39**	**38**	*e*P	**P**	**04 38 54.7**	**-2.1**
	comp=Z,4.6nm,0.8s,mb4.5						
XAN	**Xi'an**	**36.58**	**266**	P	**P**	**04 39 07.5**	**+0.5**
XAN				AP	pP	04 39 17.1	+7.0
XAN				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.2						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**04 39 42.4**	**-1.6**
	comp=Z,3.3nm,0.8s,mb4.0,baz=282,slow=10,SNR=8.9						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**04 39 42.4**	**-1.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**40.98**	**33**	*e*P	**P**	**04 39 41.9**	**-2.0**
	comp=Z,187nm,1.1s,mb5.6						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**04 40 01.9**	**-1.8**
	comp=Z,2.4nm,0.5s,mb4.2,baz=46,slow=11,SNR=11						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**04 40 01.9**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**47.82**	**298**	*e*P	**P**	**04 40 37.9**	**-0.7**
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**04 40 38.4**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=68,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**04 40 38.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**04 40 38.4**	**-0.2**
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**	**04 41 02.2**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**	**04 41 02.2**	**-1.9**
	comp=Z,5.2nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**04 41 06.1**	**-1.2**
	comp=Z,1.4nm,0.4s,mb4.3,baz=55,slow=6.3,SNR=10						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**04 41 06.1**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**04 41 06.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**04 41 06.4**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.36**	**310**	*e*P	**P**	**04 41 12.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.36**	**310**	*e*P	**P**	**04 41 12.1**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.72**	**297**	*e*P	**P**	**04 41 30.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**54.72**	**297**	*e*P	**P**	**04 41 30.0**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3						
ARU	**Arti**	**55.63**	**318**	*e*P	**P**	**04 41 34.8**	**-2.2**
ARU	**Arti**	**55.63**	**318**	*e*P	**P**	**04 41 35.7**	**-1.2**
	comp=Z,12nm,0.6s,mb5.1						
AKTK	**Aktyubinsk**	**59.43**	**312**	P	**P**	**04 42 03.7**	**0.0**
AKTO	**Aktyubinsk**	**59.43**	**312**	P	**P**	**04 42 03.7**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.4,baz=73,slow=6.8,SNR=8.6						
AKTO	**Aktyubinsk**	**59.43**	**312**	P	**P**	**04 42 03.7**	**0.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**63.82**	**55**	P	**P**	**04 42 31.8**	**-1.6**
	comp=Z,0.4nm,0.9s,mb3.4,baz=286,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**04 42 35.9**	**-1.2**
	comp=Z,3.9nm,0.6s,mb4.6,baz=37,slow=7.2,SNR=13						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**04 42 35.9**	**-1.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.45**	**342**	P	**P**	**04 43 01.4**	**-1.7**
	comp=Z,8.1nm,1.1s,mb4.7,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.45**	**342**	P	**P**	**04 43 01.8**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=26,slow=6.6,SNR=4.1						
NOA	**NORSAR Array B**	**68.45**	**342**	P	**P**	**04 43 01.8**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**68.71**	**340**	P	**P**	**04 43 05.2**	**+0.5**
	comp=Z,1.9nm,0.4s,mb4.4,baz=46,slow=6.4,SNR=16						
HFS	**Hagfors**	**68.71**	**340**	P	**P**	**04 43 05.2**	**+0.5**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**68.98**	**200**	P	**P**	**04 43 05.7**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=18,slow=6.4,SNR=8.6						
WRA	**Warramunga Arr**	**68.98**	**200**	P	**P**	**04 43 05.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**04 43 23.7**	**-1.3**
	comp=Z,4.0nm,0.6s,mb4.5,baz=33,slow=6.1,SNR=9.0						
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**04 43 23.7**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	**Malin Array Si**	**72.03**	**327**	*e*P	**P**	**04 43 24.0**	**-1.0**
ASAR	**Alice Springs**	**72.67**	**200**	P	**P**	**04 43 29.4**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=14,slow=5.5,SNR=22						
ASAR	**Alice Springs**	**72.67**	**200**	P	**P**	**04 43 29.4**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KWP	**Kalwaria**	**75.25**	**330**	*e*P	**P**	**04 43 43.5**	**-0.5**
KWP				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
KWP	**Kalwaria**	**75.25**	**330**	*e*P	**P**	**04 43 43.5**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9						
OJC	**Ojcow**	**75.72**	**332**	*e*PX	**P**	**04 43 48.2**	**+1.6**
STHS	**Stebnicka Huta**	**75.93**	**331**	*e*P	**P**	**04 43 50.0**	**+2.1**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
STHS	**Stebnicka Huta**	**75.93**	**331**	*e*P	**P**	**04 43 50.0**	**+2.1**
	comp=Z,5.0nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**76.00**	**330**	*e*P	**P**	**04 43 50.0**	**+1.8**
BURAR	**Bucovina Array**	**76.06**	**327**	⇑*i*P	**P**	**04 43 48.5**	**-0.1**
TXAR	**Lajitas Array**	**76.51**	**62**	P	**P**	**04 43 48.8**	**-2.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=298,slow=4.0,SNR=14						
TXAR	**Lajitas Array**	**76.51**	**62**	P	**P**	**04 43 48.8**	**-2.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OKC	**Ostrava-Krasne**	**76.58**	**333**	*e*P	**P**	**04 43 53.8**	**+2.3**
DPC	**Dobruska-Polom**	**76.69**	**334**	*e*P	**P**	**04 43 54.2**	**+2.1**
CLL	**Collm**	**76.78**	**336**	*e*P	**P**	**04 43 52.0**	**-0.7**
	comp=Z,10.0nm,1.2s,mb4.6						
CLL				*i* Pmax	pP	04 43 55.3	-0.7
	comp=Z,13nm,1.0s						
MORC	**Moravsky Berou**	**76.82**	**333**	⇑*i*P	**P**	**04 43 55.2**	**+2.3**
MORC	**Moravsky Berou**	**76.82**	**333**	*e*P	**P**	**04 43 53.8**	**+0.9**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**76.82**	**333**	*e*P	**P**	**04 43 53.8**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.6						
PVCC	**Panska Ves**	**77.04**	**335**	*e*P	**P**	**04 43 56.8**	**+2.6**
VRAC	**Vranov**	**77.52**	**333**	P	**P**	**04 43 57.7**	**+0.9**
	comp=Z,4.8nm,0.7s,mb4.6,baz=52,slow=7.7,SNR=6.8						
VRAC	**Vranov**	**77.52**	**333**	⇓*i*P	**P**	**04 44 00.4**	**+3.6**
VRAC	**Vranov**	**77.52**	**333**	P	**P**	**04 43 57.7**	**+0.9**
VRAC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PRU	**Pruhonice**	**77.53**	**335**	*e*P	**P**	**04 43 58.8**	**+1.9**
MLR	**Muntele Rosu**	**77.57**	**326**	P	**P**	**04 43 57.2**	**+0.2**
	comp=Z,4.8nm,0.7s,mb4.6,baz=186,slow=6.2,SNR=11						
MLR	**Muntele Rosu**	**77.57**	**326**	⇑*i*P	**P**	**04 43 59.9**	**+2.8**
MLR	**Muntele Rosu**	**77.57**	**326**	P	**P**	**04 43 57.2**	**+0.1**
MLR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DRGR		**77.67**	**328**	⇓*i*P	**P**	**04 43 59.6**	**+1.9**
KHC	**Kasperske Hory**	**78.58**	**335**	*e*P	**P**	**04 44 06.1**	**+3.4**
GERES	**GERESS Array B**	**78.80**	**335**	P	**P**	**04 44 05.1**	**+1.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=20,slow=4.3,SNR=12						
GERES	**GERESS Array B**	**78.80**	**335**	P	**P**	**04 44 05.1**	**+1.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**79.02**	**318**	P	**P**	**04 44 05.2**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.9,baz=106,slow=3.9,SNR=7.4						
BRTR	**Keskin Array B**	**79.02**	**318**	P	**P**	**04 44 05.2**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BZS	**Buzias**	**79.07**	**328**	⇓*i*P	**P**	**04 44 04.9**	**-0.5**
CDF	**Champ du Feu**	**80.94**	**339**	*e*P	**P**	**04 44 17.3**	**+1.8**
	comp=Z,27nm,1.2s,mb4.8						
CDF	**Champ du Feu**	**80.94**	**339**	*e*P	**P**	**04 44 17.3**	**+1.8**
CDF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CDF	**Champ du Feu**	**80.94**	**339**	*e*P	**P**	**04 44 17.3**	**+1.8**
	comp=Z,14nm,1.2s,mb4.8						
GRR	**Gorron**	**82.75**	**344**	*e*P	**P**	**04 44 27.0**	**+1.9**
	comp=Z,13nm,0.6s,mb4.8						
GRR	**Gorron**	**82.75**	**344**	*e*P	**P**	**04 44 27.0**	**+1.9**
GRR				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
GRR	**Gorron**	**82.75**	**344**	*e*P	**P**	**04 44 27.0**	**+1.9**
	comp=Z,6.7nm,0.6s,mb4.8						
SMF	**Signal de Mont**	**83.42**	**340**	*e*P	**P**	**04 44 30.5**	**+2.0**
	comp=Z,38nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**83.42**	**340**	*e*P	**P**	**04 44 30.5**	**+2.0**
SMF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**83.42**	**340**	*e*P	**P**	**04 44 30.5**	**+2.0**
	comp=Z,19nm,1.2s,mb5.0						
LPG	**La Plagne**	**83.78**	**338**	*e*P	**P**	**04 44 33.2**	**+2.8**
	comp=Z,12nm,0.7s,mb4.8						
LPG	**La Plagne**	**83.78**	**338**	*e*P	**P**	**04 44 33.2**	**+2.8**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
LPG	**La Plagne**	**83.78**	**338**	*e*P	**P**	**04 44 33.2**	**+2.8**
	comp=Z,5.8nm,0.7s,mb4.8						
CAF	**Calviac**	**85.45**	**341**	*e*P	**P**	**04 44 40.6**	**+1.8**
	comp=Z,14nm,0.8s,mb4.8						
CAF	**Calviac**	**85.45**	**341**	*e*P	**P**	**04 44 40.6**	**+1.8**
CAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
CAF	**Calviac**	**85.45**	**341**	*e*P	**P**	**04 44 40.6**	**+1.8**
	comp=Z,6.9nm,0.8s,mb4.8						

IDC ***16*** *04:34:58.6±1.0, 4694N×15492E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/26, mbtmp4.0/16, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/39, Error ellipse: s-maj=26.7km s-min=20.6km az=152.0*
ISCJB ***16*** *04:34:59.2±0.9, 4704N±0.1×1547E±02, h10km, mb4.2/24, Error ellipse: s-maj=22.0km s-min=12.3km az=117.1*
NEIC ***16*** *04:35:00.0±1.0, 4691N×15476E, h10km, mb4.4/4, Error ellipse: s-maj=25.9km s-min=19.1km az=180.0*
MOS ***16*** *04:35:01.3±7.4, 4700N×15477E, h33km, mb4.3/16, Error ellipse: s-maj=21.6km s-min=14.0km az=116.6*

ISC 16 04:35:01.3±7.4, 4714N±01×1548E±02, h14km±45km, n52, σ1§10/51, mb4.2/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.07**	**255**	Pn	**Pn**	**04 37 12.6**	**+0.9**
	0.8nm,0.3s,baz=100,slow=17,SNR=4.1						
ASAJ	**Asahikawa**	**9.07**	**255**	PN	**Pn**	**04 37 12.6**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**21.82**	**12**	*e*P	**P**	**04 39 52.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
KSRS	**Korea Array**	**22.02**	**254**	P	**P**	**04 39 56.7**	**+1.6**
	comp=Z,1.8nm,0.7s,mb3.6,baz=57,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**32.33**	**290**	P	**P**	**04 41 28.9**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.5,baz=79,slow=8.5,SNR=3.8						
SONM	**Songino Array**	**32.33**	**290**	P	**P**	**04 41 28.9**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**40.74**	**33**	P	**P**	**04 42 41.4**	**-0.3**
	comp=Z,2.1nm,0.7s,mb3.9,baz=269,slow=7.6,SNR=8.4						
INK	**Inuvik**	**40.74**	**33**	*e*P	**P**	**04 42 41.2**	**-0.4**
INK				pmax	pmax		
	comp=Z,74nm,0.7s						
INK	**Inuvik**	**40.74**	**33**	*e*P	**P**	**04 42 41.2**	**-0.4**
	comp=Z,74nm,0.7s,mb5.4						
TGY	**Tagaytay City**	**43.35**	**232**	LR	LR	05 00 38.0	
	comp=Z,3.8nm,18.0s,baz=152,slow=36						
ZAL	**Zalesovo**	**43.39**	**306**	P	**P**	**04 43 02.6**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=63,slow=5.6,SNR=6.2						
ZAL	**Zalesovo**	**43.39**	**306**	P	**P**	**04 43 02.6**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**47.83**	**298**	*e*P	**P**	**04 43 37.2**	**-1.2**
MKAR	**Makanchi Array**	**47.83**	**298**	P	**P**	**04 43 37.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=68,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**47.83**	**298**	P	**P**	**04 43 37.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**04 44 01.9**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**04 44 01.9**	**-1.5**
	comp=Z,3.6nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**04 44 06.0**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=53,slow=8.4,SNR=11						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**04 44 06.0**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.59**	**310**	*e*P	**P**	**04 44 06.3**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.59**	**310**	*e*P	**P**	**04 44 06.3**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**52.32**	**310**	*e*P	**P**	**04 44 11.6**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.32**	**310**	*e*P	**P**	**04 44 11.6**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3						
ARU	**Arti**	**55.56**	**318**	*e*P	**P**	**04 44 35.9**	**-0.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ARU	**Arti**	**55.56**	**318**	*e*P	**P**	**04 44 35.9**	**-0.2**
	comp=Z,7.6nm,0.6s,mb4.9						
AKTK	**Aktyubinsk**	**59.38**	**312**	P	**P**	**04 45 02.5**	**-0.5**
AKTO	**Aktyubinsk**	**59.38**	**312**	P	**P**	**04 45 02.5**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.2,baz=62,slow=2.7,SNR=4.8						
AKTO	**Aktyubinsk**	**59.38**	**312**	P	**P**	**04 45 02.5**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**04 45 35.0**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.3,baz=39,slow=7.1,SNR=8.2						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**04 45 35.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**04 46 02.9**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=29,slow=7.1,SNR=2.9						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**04 46 02.9**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**04 46 02.9**	**+1.2**
AKASG	**Malin Array Be**	**71.92**	**327**	P	**P**	**04 46 22.4**	**-1.6**
	comp=Z,2.1nm,0.5s,mb4.3,baz=34,slow=6.3,SNR=6.8						
AKASG	**Malin Array Be**	**71.92**	**327**	P	**P**	**04 46 22.4**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.90**	**200**	P	**P**	**04 46 28.3**	**-1.6**
	comp=Z,0.8nm,1.0s,mb3.6,baz=14,slow=5.1,SNR=8.1						
ASAR	**Alice Springs**	**72.90**	**200**	P	**P**	**04 46 28.3**	**-1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
STHS	**Stebnicka Huta**	**75.81**	**331**	*e*P	**P**	**04 46 48.9**	**+2.1**
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**04 46 48.8**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=300,slow=4.7,SNR=5.3						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**04 46 48.8**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CLL	**Collm**	**76.64**	**336**	*e*P	**P**	**04 46 52.0**	**+0.5**
MLR	**Muntele Rosu**	**77.46**	**326**	P	**P**	**04 46 58.3**	**+2.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=184,slow=7.7,SNR=6.9						
MLR	**Muntele Rosu**	**77.46**	**326**	P	**P**	**04 46 58.3**	**+2.2**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**04 47 04.9**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=38,slow=5.8,SNR=7.1						
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**04 47 04.9**	**+2.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.95**	**318**	P	**P**	**04 47 06.7**	**+2.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=36,slow=6.5,SNR=4.4						
BRTR	**Keskin Array B**	**78.95**	**318**	P	**P**	**04 47 06.7**	**+2.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CDF	**Champ du Feu**	**80.79**	**339**	*e*P	**P**	**04 47 14.5**	**+0.2**
GRR	**Gorron**	**82.59**	**344**	*e*P	**P**	**04 47 24.4**	**+0.5**
	comp=Z,25nm,0.7s,mb5.0						
SMF	**Signal de Mont**	**83.26**	**340**	*e*P	**P**	**04 47 27.7**	**+0.4**
	comp=Z,23nm,1.1s,mb4.8						
LPG	**La Plagne**	**83.63**	**338**	*e*P	**P**	**04 47 30.3**	**+1.1**
	comp=Z,6.6nm,0.6s,mb4.6						
CAF	**Calviac**	**85.29**	**341**	*e*P	**P**	**04 47 38.0**	**+0.3**
	comp=Z,15nm,0.9s,mb4.8						

BJI ***16*** *04:35:48.8, 4720N×15474E, h5km, mB4.8, mb4.6, Ms4.4, Msz4.4*
IDC ***16*** *04:35:48.3±0.7, 4694N×15489E, h0km, mb4.4/18, mb1 4.6/20, mb1mx4.5/27, mbtmp4.4/20, ML4.1/2, Error ellipse: s-maj=18.9km s-min=16.0km az=140.0*
NEIC ***16*** *04:35:49.7±0.4, 4689N×15485E, h10km, mb4.8/28, Error ellipse: s-maj=11.4km s-min=7.4km az=136.0*
ISCJB ***16*** *04:35:49.0±0.5, 4693N±006×15476E±009, h10km, mb4.7/71, MS4.2/2, Error ellipse: s-maj=11.1km s-min=5.9km az=99.6*
MOS ***16*** *04:35:51.6±1.8, 4692N×15464E, h27km, mb5.0/41, Error ellipse: s-maj=9.8km s-min=6.3km az=109.6*
SZGRF ***16*** *04:35:59.8, 4750N×15573E, h33km, mb5.1, East of Kuril Islands, Russia*

**ISC 16 04:35:50.6±0.5, 4696N±006×15479E±008, h10km, (h17km±4.0km: pP-P), n172, σ1§46/172, mb4.7/71, MS4.2

XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
XAN LR LR
comp=N,249nm,15.9s,MS4.3
XAN LR LR
comp=E,278nm,15.2s,MS4.3
XAN LR LR
comp=Z,571nm,15.2s,MS4.5
EGAK Eagle 38.12 39 *e*P **P 04 43 07.2 -2.5**
comp=Z,11nm,0.8s,mb4.6
LZH Lanzhou 39.03 273 *e*P **P 04 43 18.4 +1.0**
LZH AP pP 04 43 21.9 +1.4
LZH XP sP 04 43 23.4 +1.6
LZH AMB AMB
comp=Z,21nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.5s
LZH Lanzhou 39.03 273 *e*P **P 04 43 18.4 +1.0**
comp=Z,21nm,1.0s,mb4.8
LZH pP pP 04 43 21.9 +1.4
LZH sP sP 04 43 23.4 +1.6
GTA Gaotai 40.07 280 *e*P **P 04 43 26.6 +0.5**
GTA AP pP 04 43 31.0 +1.8
GTA XP sP 04 43 34.4 +4.0
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb3.6
INK Inuvik 40.86 33 P **P 04 43 31.7 -0.9**
comp=Z,8.0nm,0.9s,mb4.4,baz=289,slow=7.4,SNR=19
INK Inuvik 40.86 33 P **P 04 43 31.7 -0.9**
INK pmax pmax
comp=Z,8.0nm,0.9s
CD2 Chengdu 42.04 266⇑ *i*P **P 04 43 43.3 +1.0**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA Guiyang 42.88 259⇑ *i*P **P 04 43 50.3 +1.1**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
ZAL Zalesovo 43.44 306 P **P 04 43 51.7 -1.9**
comp=Z,4.5nm,0.6s,mb4.4,baz=39,slow=7.2,SNR=11
ZAL Zalesovo 43.44 306 P **P 04 43 51.7 -2.0**
ZAL pmax pmax
comp=Z,5.0nm,0.6s
ZAL Zalesovo 43.44 306 P **P 04 43 51.7 -1.9**
NVS Novosibirsk 43.98 308 *e*P **P 04 43 56.5 -1.5**
NVS pmax pmax
comp=N,31nm,1.7s
NVS pmax pmax
comp=E,34nm,1.7s
NVS pmax pmax
comp=Z,43nm,1.7s,mb4.9
KMI Kunming 46.41 261 P **P 04 44 16.3 -1.0**
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
KMI Kunming 46.41 261 P **P 04 44 16.2 -1.1**
KMI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KMI Kunming 46.41 261 P **P 04 44 16.2 -1.1**
comp=Z,8.0nm,1.0s,mb4.6
MK31 Makanchi Array 47.87 298 *e*P **P 04 44 27.7 -1.0**
MKAR Makanchi Array 47.87 298 P **P 04 44 27.9 -0.8**
comp=Z,1.9nm,0.5s,mb4.4,baz=73,slow=5.9,SNR=15
MKAR Makanchi Array 47.87 298 P **P 04 44 27.9 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
RES Resolute Bay 50.27 19 *e*P **P 04 44 45.8 -1.3**
comp=Z,120nm,0.7s
CHKZ Chkalovo 51.18 311 *e*P **P 04 44 52.0 -1.9**
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHKZ Chkalovo 51.18 311 *e*P **P 04 44 52.0 -1.9**
comp=Z,8.5nm,0.8s,mb4.7
LSA Lhasa 51.41 274 P **P 04 44 58.0 +2.3**
BVAR Borovoye Array 51.61 310 P **P 04 44 55.7 -1.5**
comp=Z,5.1nm,0.5s,mb4.7,baz=56,slow=6.5,SNR=14
BVAR Borovoye Array 51.61 310 P **P 04 44 55.7 -1.5**
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BRVK Borovoye 51.65 310 *e*P **P 04 44 56.0 -1.5**
BRVK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BRVK Borovoye 51.65 310 *e*P **P 04 44 56.0 -1.5**
comp=Z,10nm,0.7s,mb4.9
ZRNK Zerenda 52.38 310 *e*P **P 04 45 01.3 -1.6**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ZRNK Zerenda 52.38 310 *e*P **P 04 45 01.3 -1.6**
comp=Z,6.8nm,0.6s,mb4.8
CHTO Chiang Mai 53.29 258 *e*P **P 04 45 10.2 +0.6**
CHTO pmax pmax
comp=Z,11nm,1.0s,mb4.7
CHTO Chiang Mai 53.29 258 *e*P **P 04 45 10.2 +0.5**
comp=Z,11nm,1.0s,mb4.7
AAK Ala-Archa 54.77 297 *e*P **P 04 45 20.0 -0.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 54.77 297 *e*P **P 04 45 20.0 -0.4**
comp=Z,3.2nm,0.8s,mb4.4
ARU Arti 55.63 318⇑ *i*P **P 04 45 25.7 -1.0**
ARU *e*S **S 04 53 07.9 -4.8**
ARU *e*SS SS 04 56 59.8 +2.1
ARU pmax pmax
comp=Z,14nm,0.6s,mb5.2
ARU Arti 55.63 318 *e*P **P 04 45 25.7 -1.0**
comp=Z,18nm,0.6s,mb5.3
JIRN Jiri 56.08 276 *e*P **P 04 45 31.8 +1.9**
comp=Z,30nm,0.8s,mb5.4
GUN Gumba 56.13 276 *e*P **P 04 45 33.2 +3.0**
KKN Kakani 56.61 276 *e*P **P 04 45 35.9 +2.2**
PKI Pulchoki 56.66 276 *e*P **P 04 45 35.4 +1.3**
DMN Daman 56.85 276 *e*P **P 04 45 37.0 +1.7**
comp=Z,48nm,0.8s,mb5.6
GKN Gorkha 56.91 277 *e*P **P 04 45 37.4 +1.6**
comp=Z,43nm,0.9s,mb5.5
APA Apatity 57.60 337⇑ *e*P **P 04 45 41.0 +0.3**
APA *i* 04 45 51.0
APA pmax pmax
comp=Z,29nm,1.2s,mb5.2
KOLN Koldanda 57.77 277 *e*P **P 04 45 42.2 +0.3**
comp=Z,37nm,0.9s,mb5.4
ARCES ARCESS Array B 58.03 341 P **P 04 45 42.6 -1.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=18,slow=7.6,SNR=7.8
ARCES ARCESS Array B 58.03 341 P **P 04 45 42.6 -1.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
AKTK Aktyubinsk 59.44 312 P **P 04 45 52.9 -0.6**
AKTO Aktyubinsk 59.44 312 P **P 04 45 52.9 -0.6**
comp=Z,2.8nm,0.5s,mb4.5,baz=64,slow=6.2,SNR=10
AKTO Aktyubinsk 59.44 312 P **P 04 45 52.9 -0.6**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
DUG Dugway 63.49 59 *e*P **P 04 46 20.0 -0.9**
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
DUG Dugway 63.49 59 *e*P **P 04 46 20.0 -0.8**
comp=Z,2.1nm,0.9s,mb4.3
PDAR Pinedale Array 63.69 55 P **P 04 46 20.9 -1.3**
comp=Z,1.1nm,0.9s,mb3.9,baz=318,slow=2.0,SNR=5.1
FIA1 FINESS Array S 64.34 335 *e*P **P 04 46 25.3 -1.2**
FINES FINESS Array B 64.34 335 P **P 04 46 25.3 -1.2**
comp=Z,9.2nm,0.6s,mb5.0,baz=36,slow=7.8,SNR=23
FINES FINESS Array B 64.34 335 P **P 04 46 25.3 -1.2**
FINES pmax pmax
comp=Z,9.0nm,0.6s
MOS Moscow 64.92 326 *e*P **P 04 46 27.4 -2.8**
MOS pmax pmax
comp=Z,64nm,1.1s,mb5.6
OBN Obninsk 65.78 326⇓ *e*P **P 04 46 34.4 -1.5**
OBN *i* 04 46 46.8
OBN pmax pmax
comp=Z,45nm,1.2s,mb5.4
NB2 NORSAR Subarra 68.40 342 P **P 04 46 53.2 +0.7**
comp=Z,25nm,1.4s,mb5.1,baz=29,slow=6.5
NOA NORSAR Array B 68.40 342 P **P 04 46 51.3 -1.2**
comp=Z,3.0nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=7.5
NOA NORSAR Array B 68.40 342 P **P 04 46 51.3 -1.2**
NOA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 69.10 201 P **P 04 46 55.4 -1.4**
comp=Z,2.4nm,0.9s,mb4.1,baz=19,slow=6.6,SNR=10
WRA Warramunga Arr 69.10 201 P **P 04 46 55.4 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 71.47 315 *e*P **P 04 47 12.9 +1.5**
KIV pmax pmax
comp=Z,25nm,1.2s,mb5.0
AKASG Malin Array Be 72.01 327 P **P 04 47 12.9 -1.6**
comp=Z,6.8nm,0.5s,mb4.8,baz=33,slow=6.2,SNR=21
AKASG Malin Array Be 72.01 327 P **P 04 47 13.0 -1.6**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 72.01 327 *e*P **P 04 47 15.3 +0.7**
AS31 Alice Springs 72.78 200 *e*P **P 04 47 18.4 -0.8**
ASAR Alice Springs 72.78 200 P **P 04 47 18.9 -0.3**
comp=Z,3.6nm,0.9s,mb4.3,baz=12,slow=5.7,SNR=15
ASAR Alice Springs 72.78 200 P **P 04 47 18.9 -0.3**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 73.27 311⇑ *e*P **P 04 47 24.1 +2.0**
GNI pmax pmax
comp=Z,21nm,1.4s
ANN Anapa 73.29 319 *e*P **P 04 47 15.5 -6.7**
ANN pmax pmax
comp=Z,100nm,1.0s,mb5.7
OJC Ojcow 75.69 332 *e*P **P 04 47 39.1 +2.9**
STHS Stebnicka Huta 75.91 331 *e*P **P 04 47 37.2 -0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
STHS Stebnicka Huta 75.91 331 *e*P **P 04 47 37.2 -0.2**
comp=Z,6.3nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.97 330 *e*P **P 04 47 37.1 -0.7**
BURAR Bucovina Array 76.04 327⇓ *i*P **P 04 47 38.0 -0.2**
TXAR Lajitas Array 76.39 62 P **P 04 47 39.0 -1.1**
comp=Z,3.8nm,0.9s,mb4.3,baz=296,slow=4.1,SNR=16
TXAR Lajitas Array 76.39 62 P **P 04 47 39.0 -1.1**
TXAR pmax pmax
comp=Z,4.0nm,0.9s
OKC Ostrava-Krasne 76.54 333 *e*P **P 04 47 43.9 +2.9**
UPC Upice 76.60 334 *e*P **P 04 47 43.0 +1.6**
DPC Dobruska-Polom 76.65 334 *e*P **P 04 47 43.1 +1.5**
CLL Collm 76.75 336 *i* P **P 04 47 41.5 -0.7**
CLL pmax pmax
comp=Z,18nm,0.8s,mb5.0
CLL Collm 76.75 336 *i* P **P 04 47 41.5 -0.7**
comp=Z,18nm,0.8s,mb5.0
CLL *e*sPcP 04 47 59.0
MORC Moravsky Berou 76.79 333⇓ *i*P **P 04 47 42.6 +0.2**
MORC Moravsky Berou 76.79 333 *e*P **P 04 47 43.4 +1.0**
MORC pmax pmax
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 76.79 333 *e*P **P 04 47 43.4 +1.0**
comp=Z,12nm,0.9s,mb4.8
BRG Berggiesshubel 76.88 336 *e*P **P 04 47 45.2 +2.3**
comp=Z,7.8nm,1.4s,mb4.5
BRG Berggiesshubel 76.88 336 *e*P **P 04 47 45.2 +2.3**
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
KECS Kecovo 76.97 331 *e*P **P 04 47 42.8 -0.6**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 76.97 331 *e*P **P 04 47 42.8 -0.6**
comp=Z,2.7nm,0.8s,mb4.2
VRAC Vranov 77.49 333⇓ *i*P **P 04 47 49.1 +2.7**
PRU Pruhonice 77.50 335 *e*P **P 04 47 45.9 -0.5**
VYHS Vyhne 77.50 332 *e*P **P 04 47 45.8 -0.6**
MLR Muntele Rosu 77.55 326 P **P 04 47 47.8 +1.1**
comp=Z,8.9nm,0.6s,mb4.9,baz=144,slow=10,SNR=14
MLR Muntele Rosu 77.55 326⇓ *i*P **P 04 47 47.9 +1.2**
MLR Muntele Rosu 77.55 326 P **P 04 47 47.8 +1.1**
MLR pmax pmax
comp=Z,9.0nm,0.6s
MOX Moxa 77.72 337 *e*P **P 04 47 49.6 +2.0**
comp=Z,28nm,1.6s,mb4.9
MOX Moxa 77.72 337 *e*P **P 04 47 49.6 +2.0**
MOX pmax pmax
comp=Z,28nm,1.6s,mb4.9
KHC Kasperske Hory 78.55 335 *e*P **P 04 47 50.9 -1.3**
KHC Kasperske Hory 78.55 335⇓ *i*P **P 04 47 52.4 +0.2**
GRA1 Grafenberg Arr 78.69 337 *e*P **P 04 47 55.8 +2.8**
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.69 337 *e*P **P 04 47 55.8 +2.8**
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.69 337 *e*P **P 04 47 55.8 +2.8**
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.69 337 *e*P **P 04 47 55.8 +2.8**
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRFO Grafenberg 78.69 337 *e*P **P 04 47 52.8 -0.2**
GRFO pmax pmax
comp=Z,39nm,1.2s,mb5.2
GRFO Grafenberg 78.69 337 *e*P **P 04 47 52.8 -0.3**
comp=Z,39nm,1.2s,mb5.2
GERES GERESS Array B 78.77 335 P **P 04 47 54.2 +0.8**
comp=Z,1.9nm,0.5s,mb4.3,baz=37,slow=5.2,SNR=17
GERES GERESS Array B 78.77 335 P **P 04 47 54.2 +0.8**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GZR Gura Zlata 78.82 328⇓ *i*P **P 04 47 55.7 +2.0**
CONA Conrad Observa 78.94 333⇓ *i*P **P 04 47 55.6 +1.2**
comp=Z,4.9nm,0.7s,mb4.6
BR131 Keskin Array S 79.02 318 *e*P **P 04 47 54.8 -0.1**
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 79.02 318 P **P 04 47 55.0 +0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=75,slow=4.5,SNR=7.6
BRTR Keskin Array B 79.02 318 P **P 04 47 55.0 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BZS Buzias 79.05 329⇑ *i*P **P 04 47 56.8 +1.8**
MOA Molln 79.50 334⇑ *i*P **P 04 48 01.5 +4.0**
comp=Z,10nm,1.3s,mb4.6
MOA Molln 79.50 334⇑ *e*P **P 04 47 56.9 -0.5**
comp=Z,10nm,1.3s,mb4.6
ARSA Arzberg 79.65 333⇓ *i*P **P 04 48 01.1 +2.8**
comp=Z,4.7nm,0.7s,mb4.5
ARSA Arzberg 79.65 333⇑ *e*P **P 04 47 58.1 -0.2**
comp=Z,4.7nm,0.7s,mb4.5
KBA Koelnbreinsper 80.46 334⇑ *i*P **P 04 48 05.0 +2.3**
comp=Z,21nm,0.8s,mb5.1
KBA Koelnbreinsper 80.46 334⇓ *e*P **P 04 48 02.1 -0.6**
comp=Z,21nm,0.8s,mb5.1
OBKA Obir 80.61 333⇑ *i*P **P 04 48 06.6 +3.1**
comp=Z,6.2nm,0.6s,mb4.7
OBKA Obir 80.61 333⇑ *i*P **P 04 48 04.2 +0.8**
comp=Z,6.2nm,0.6s,mb4.7
WATA Walderalm 80.74 336⇑ *i*P **P 04 48 07.7 +3.6**
comp=Z,9.9nm,0.5s,mb5.0
WATA Walderalm 80.74 336⇓ *i*P **P 04 48 05.3 +1.1**
comp=Z,9.9nm,0.5s,mb5.0
WTTA Wattenberg 80.79 336⇓ *i*P **P 04 48 07.9 +3.5**
comp=Z,15nm,0.5s,mb5.1
WTTA Wattenberg 80.79 336⇑ *i*P **P 04 48 05.7 +1.3**
comp=Z,15nm,0.5s,mb5.1
MOTA Moosalm 80.86 336⇑ *i*P **P 04 48 04.9 +0.1**
comp=Z,8.4nm,0.6s,mb4.9
CDF Champ du Feu 80.89 339 *e*P **P 04 48 06.7 +1.7**
comp=Z,19nm,0.8s,mb4.7
CDF Champ du Feu 80.89 339 *e*P **P 04 48 06.7 +1.7**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CDF Champ du Feu 80.89 339 *e*P **P 04 48 06.7 +1.7**
comp=Z,9.3nm,0.8s,mb4.8
SQTA Sankt Quirin 80.95 336⇑ *i*P **P 04 48 08.0 +2.7**
comp=Z,6.2nm,0.6s,mb4.7
VTS Vitosha 81.05 326⇑ *i*P **P 04 48 08.4 +2.6**
DAVA Damuels 81.25 337⇓ *i*P **P 04 48 11.1 +4.2**
comp=Z,12nm,0.8s,mb4.9
DAVA Damuels 81.25 337⇓ *i*P **P 04 48 09.4 +2.5**
comp=Z,12nm,0.8s,mb4.9
GRR Gorron 82.70 344 *e*P **P 04 48 16.3 +1.8**
comp=Z,97nm,1.2s,mb5.4
GRR Gorron 82.70 344 *e*P **P 04 48 16.3 +1.8**
GRR pmax pmax
comp=Z,49nm,1.2s,mb5.4
GRR Gorron 82.70 344 *e*P **P 04 48 16.3 +1.8**
comp=Z,49nm,1.2s,mb5.4
SMF Signal de Mont 83.37 340 *e*P **P 04 48 19.6 +1.6**
comp=Z,37nm,1.1s,mb5.0
SMF Signal de Mont 83.37 340 *e*P **P 04 48 19.6 +1.6**
SMF pmax pmax
comp=Z,18nm,1.1s,mb5.0
SMF Signal de Mont 83.37 340 *e*P **P 04 48 19.6 +1.6**
comp=Z,18nm,1.1s,mb5.0
LPG La Plagne 83.73 338 *e*P **P 04 48 22.4 +2.6**
comp=Z,17nm,0.5s,mb5.1
LPG La Plagne 83.73 338 *e*P **P 04 48 22.4 +2.6**
LPG pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
LPG La Plagne 83.73 338 *e*P **P 04 48 22.4 +2.6**
comp=Z,8.3nm,0.5s,mb5.1
CAF Calviac 85.40 341 *e*P **P 04 48 29.8 +1.5**
comp=Z,16nm,0.9s,mb4.9
CAF Calviac 85.40 341 *e*P **P 04 48 29.8 +1.5**
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CAF Calviac 85.40 341 *e*P **P 04 48 29.8 +1.5**
comp=Z,8.1nm,0.9s,mb4.8
TORD Torodi Ar. Bea 115.49 331 PP PP 04 55 33.0 -1.4
comp=Z,2.4nm,1.2s,baz=13,slow=5.9,SNR=5.8

ISCJB ***16*** *04:40:20.4±0.6, 5890S±007×1497E±03, h10km, mb4.3/9, MS3.8/6, Error ellipse: s-maj=20.4km s-min=9.8km az=170.1*
IDC ***16*** *04:40:20.6±1.2, 5885S×14987E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.3/12, mbtmp4.3/7, ML3.1/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/23, Error ellipse: s-maj=37.9km s-min=21.3km az=89.0*
NEIC ***16*** *04:40:22.4±0.6, 5891S×14965E, h10km, mb4.4/7, Error ellipse: s-maj=21.0km s-min=9.8km az=87.0*
ISC 16 04:40:21.9±0.6, 5895S±007×1497E±03, h10km, n17, σ1§15/15, mb4.3/9, MS3.8/6, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.12**	**354**	*e*P	**P**	**Pn**	**04 44 11.4**	**+2.8**
	56nm,1.1s							
VNDA	**Vanda**	**19.11**	**172**	P	**P**	**Pn**	**04 44 44.9**	**-0.8**
	0.1nm,0.3s,baz=339,slow=12,SNR=17							
VNDA				LR	LR		04 51 28.2	
	comp=Z,1μm,19.1s,baz=9.2,slow=35							
VNDA	**Vanda**	**19.11**	**172**	*e*P	**Pn**		**04 44 44.8**	**-0.9**
	13nm,1.1s							
VNDA				LR	LR		04 51 28.2	
CASY	**Casey**	**19.14**	**231**	*e*P	**Pn**		**04 44 44.0**	**-2.0**
	12nm,1.1s							
SBA	**Scott Base**	**19.83**	**169**	*e*P	**Pn**		**04 44 53.9**	**-0.4**
	11nm,1.0s							
URZ	**Urewera**	**27.19**	**53**	P	**P**		**04 46 04.5**	**-1.1**
	30nm,1.2s,mb4.7,baz=187,slow=16,SNR=3.1							
URZ				LR	LR		04 56 34.5	
	comp=Z,131nm,18.1s,MS3.5,baz=119,slow=36							
STKA	**Stephens Creek**	**27.62**	**345**	P	**P**		**04 46 09.6**	**+0.1**
	6.6nm,1.2s,mb4.2,baz=168,slow=3.3,SNR=3.1							
STKA				LR	LR		04 55 46.7	
	comp=Z,280nm,19.4s,MS3.9,baz=314,slow=34							
STKA	**Stephens Creek**	**27.62**	**345**	P	**P**		**04 46 09.6**	**+0.1**
STKA				LR	LR		04 55 46.7	
QSPA	**South Pole Qui**	**31.15**	**180**	*e*P	**P**		**04 46 42.6**	**+1.8**
	5.8nm,0.9s,mb4.4							
MAW	**Mawson**	**36.77**	**220**	P	**P**		**04 47 30.7**	**+1.0**
	1.3nm,0.6s,mb4.0,baz=120,slow=14,SNR=4.3							
MAW				LR	LR		05 02 00.3	
	comp=Z,178nm,19.8s,MS3.9,baz=195,slow=35							
ASAR	**Alice Springs**	**36.99**	**336**	P	**P**		**04 47 30.9**	**-0.5**
	3.0nm,1.0s,mb4.1,baz=163,slow=9.5,SNR=16							
ASAR				LR	LR		05 00 11.0	
	comp=Z,204nm,21.5s,MS3.9,baz=170,slow=32							
WRA	**Warramunga Arr**	**40.51**	**338**	P	**P**		**04 47 59.9**	**-1.1**
	3.9nm,0.9s,mb4.0,baz=168,slow=8.0,SNR=13							
WRA				LR	LR		05 04 55.9	
	comp=Z,131nm,18.4s,MS3.8,baz=90,slow=36							
MBWA	**Marble Bar**	**43.43**	**317**	*e*P	**P**		**04 48 24.8**	**0.0**
	11nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**44.40**	**326**	P	**P**		**04 48 32.9**	**+0.2**
	3.3nm,1.0s,mb4.0,baz=174,slow=10,SNR=4.2							
SNAA	**Sanae**	**48.26**	**191**	LR	LR		05 10 04.5	
	comp=Z,57nm,18.6s,MS3.6,baz=23,slow=37							
SNAA	**Sanae**	**48.26**	**191**	*e*P	**P**		**04 49 04.2**	**+1.2**
	16nm,1.3s,mb4.9							
AKASG	**Malin Array Be**	**145.79**	**283**	PKPbc	PKPbc		04 59 59.9	-1.4
	0.7nm,0.6s,baz=93,slow=2.6,SNR=4.4							

ISCJB ***16*** *04:41:13.7±0.8, 4674N±0.1×1546E±0.1, h10km, mb4.1/19, Error ellipse: s-maj=19.7km s-min=10.4km az=133.1*
IDC ***16*** *04:41:13.9±0.9, 4670N×15473E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.1/14, ML3.7/1, Error ellipse: s-maj=25.8km s-min=17.4km az=166.0*
NEIC ***16*** *04:41:15.5±0.6, 4668N×15466E, h10km, mb4.5/5, Error ellipse: s-maj=15.0km s-min=9.5km az=173.0*
MOS ***16*** *04:41:16.1±0.8, 4664N×15456E, h28km, mb4.4/13, Error ellipse: s-maj=18.1km s-min=14.5km az=120.5*
ISC 16 04:41:15.6±7.3, 4688N±01×1547E±01, h10km±46km, n42, σ0§81/42, mb4.1/19, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.97**	**255**⇑	*i*PN	**Pn**		**04 42 27.2**	**-3.1**
KUR				pmax	pmax			
	comp=Z,130nm,0.5s							
ASAJ	**Asahikawa**	**8.88**	**257**	Pn	**Pn**		**04 43 25.2**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=83,slow=17,SNR=3.7							
ASAJ	**Asahikawa**	**8.88**	**257**	PN	**Pn**		**04 43 25.3**	**+1.3**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.81**	**254**	P	**P**		**04 46 09.3**	**+1.4**
	comp=Z,2.9nm,0.7s,mb3.8,baz=59,slow=10,SNR=5.1							
BILL	**Bilibino**	**22.16**	**12**	*e*P	**P**		**04 46 11.5**	**-0.1**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8							
BILL	**Bilibino**	**22.16**	**12**	*e*P	**P**		**04 46 11.6**	**-0.1**
BOD	**Bodaibo**	**26.80**	**309**	*e*P	**P**		**04 46 51.0**	**-4.9**
SONM	**Songino Array**	**32.33**	**290**	P	**P**		**04 47 44.5**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=73,slow=8.3,SNR=4.4							
INK	**Inuvik**	**41.08**	**33**	P	**P**		**04 48 58.5**	**-1.0**
	comp=Z,2.8nm,1.1s,mb3.8,baz=290,slow=6.0,SNR=4.5							
INK	**Inuvik**	**41.08**	**33**	P	**P**		**04 48 58.5**	**-0.9**
INK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**41.08**	**33**	P	**P**		**04 48 58.5**	**-1.0**
ZAL	**Zalesovo**	**43.48**	**306**	P	**P**		**04 49 18.6**	**-0.3**
	comp=Z,1.3nm,0.3s,mb4.1,baz=188,slow=1.9,SNR=4.8							
ZAL	**Zalesovo**	**43.48**	**306**	P	**P**		**04 49 18.7**	**-0.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**		**04 49 53.3**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=68,slow=8.3,SNR=9.0							
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**		**04 49 53.3**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**		**04 50 19.1**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**		**04 50 19.1**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.8							
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**		**04 50 23.1**	**+0.4**
	comp=Z,2.1nm,0.4s,mb4.4,baz=56,slow=8.7,SNR=12							
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**		**04 50 23.1**	**+0.5**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**		**04 50 23.2**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**		**04 50 23.2**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**52.43**	**310**	*e*P	**P**		**04 50 28.6**	**+0.3**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**52.43**	**310**	*e*P	**P**		**04 50 28.6**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**54.78**	**297**	*e*P	**P**		**04 50 45.4**	**-0.1**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**54.78**	**297**	*e*P	**P**		**04 50 45.4**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.3							
AKTK	**Aktyubinsk**	**59.51**	**313**	P	**P**		**04 51 18.6**	**-0.4**
AKTO	**Aktyubinsk**	**59.51**	**313**	P	**P**		**04 51 18.6**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.3,baz=75,slow=7.2,SNR=4.0							
AKTO	**Aktyubinsk**	**59.51**	**313**	P	**P**		**04 51 18.6**	**-0.4**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
TPAW	**Teton Pass**	**62.64**	**55**	*e*P	**P**		**04 51 41.0**	**+0.7**
	comp=Z,4.5nm,1.0s,mb4.5							
PDAR	**Pinedale Array**	**63.88**	**55**	P	**P**		**04 51 48.8**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.9,baz=270,slow=3.0,SNR=6.8							
FINES	**FINESS Array B**	**64.48**	**335**	P	**P**		**04 51 52.3**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=32,slow=7.6,SNR=16							
FINES	**FINESS Array B**	**64.48**	**335**	P	**P**		**04 51 52.3**	**-0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
NB2	**NORSAR Subarra**	**68.56**	**342**	P	**P**		**04 52 20.7**	**+2.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=27,slow=6.9							
NOA	**NORSAR Array B**	**68.56**	**342**	P	**P**		**04 52 19.9**	**+1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=26,slow=6.6,SNR=3.9							
NOA	**NORSAR Array B**	**68.56**	**342**	P	**P**		**04 52 19.9**	**+1.4**
NOA				pmax	pmax			

comp=Z,1.0nm,0.7s
NOA NORSAR Array B 68.56 342 P **P** **04 52 19.9 +1.4**
AKASG Malin Array Be 72.12 327 P **P** **04 52 40.0 -0.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=32,slow=6.2,SNR=4.2
ASAR Alice Springs 72.56 200 P **P** **04 52 42.1 -0.8**
comp=Z,0.8nm,0.6s,mb3.8,baz=17,slow=5.7,SNR=8.6
ASAR Alice Springs 72.56 200 P **P** **04 52 42.2 -0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.56 62 P **P** **04 53 06.2 +0.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=295,slow=4.0,SNR=16
TXAR Lajitas Array 76.56 62 P **P** **04 53 06.2 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 76.56 62 P **P** **04 53 06.2 +0.1**

SKHL ***16*** *04:42:23.4±4.1, 46.83N×155.89E, h35km±4km, mb6.4/1, Ms4.6/2*
ISCJB ***16*** *04:42:26.7±0.1, 47.34N±004×155.15E±003, h10km, mb5.0/155, MS4.4/21, Error ellipse: s-maj=5.6km s-min=2.3km az=158.9*
BJI ***16*** *04:42:26.8, 47.60N×154.96E, h8km, mB5.0, mb4.9, Ms4.6, Msz4.5*
IDC ***16*** *04:42:26.9±0.5, 47.47N×155.05E, h0km, mb4.7/32, mb1 4.9/33, mb1mx4.8/35, mbtmp4.7/33, MS4.2/5, Ms1 4.2/5, ms1mx3.7/31, Error ellipse: s-maj=14.3km s-min=11.9km az=140.0*
NEIC ***16*** *04:42:28.6±0.2, 47.38N×155.06E, h10km, mb5.0/70, Error ellipse: s-maj=7.0km s-min=3.9km az=164.0*
MOS ***16*** *04:42:28.2±1.4, 47.37N×155.04E, h20km, mb5.1/76, MS4.3/9, Error ellipse: s-maj=6.6km s-min=4.8km az=101.9*
SZGRF ***16*** *04:42:39.6, 48.39N×155.65E, h42km, mb5.4, Kuril Islands, Russia*

ISC 16 04:42:27.8±1.2, 47.44N±004×155.07E±003, h5km±7km, h15km±2.2km; pP-P, n494, σ0.99/506, mb5.0/154, MS4.4/21, 69C-73D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.32**	**12**	*e*P		**Pn**	**04 43 21.5**	**+1.1**
SKR					AMB	AMB	04 43 26.8	
	210nm,0.6s							
SKR					A		04 44 01.5	
	390nm,0.5s							
KUR	**Kuril'sk**	**5.45**	**249**	⇓*i*P		**Pn**	**04 43 48.0**	**-1.7**
KUR				⇓*i*P			04 43 48.0	
KUR					AMB	AMB	04 43 49.0	
	2μm,2.0s							
KUR					AMB	AMB	04 43 50.0	
	380nm,0.6s							
KUR				*e*S		**Sn**	**04 44 54.5**	**+1.7**
KUR					A		04 45 04.0	
	250nm,0.8s							
KUR					A		04 45 04.0	
	220nm,0.8s							
KUR					AMS	AMS	04 46 20.8	
	4μm,14.0s							
KUR					AMS	AMS	04 46 20.8	
	6μm,14.0s							
KUR	**Kuril'sk**	**5.45**	**249**	*k i*PN		**Pn**	**04 43 48.0**	**-1.7**
KUR				S		**Sn**	**04 44 54.5**	**+1.7**
KUR				pmax	pmax			
	comp=Z,2μm,2.0s							
KUR				pmax	pmax			
	comp=Z,380nm,0.6s							
KUR				smax				
	comp=N,250nm,0.8s							
KUR				smax				
	comp=E,220nm,0.8s							
KUR				MLR	MLR			
	comp=N,4μm,14.0s							
KUR				MLR	MLR			
	comp=E,4μm,14.0s							
KUR				MLR	MLR			
	comp=Z,6μm,14.0s							
PET	**Petropavlovsk**	**6.05**	**21**	*e*PN		**Pn**	**04 43 57.1**	**-0.8**
PET				pmax	pmax			
	comp=Z,61nm,1.2s							
PET	**Petropavlovsk**	**6.05**	**21**	*e*Pn		**Pn**	**04 43 56.4**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**7.28**	**246**	*e*P		**Pn**	**04 44 15.4**	**+0.6**
YUK					AMB	AMB	04 44 17.5	
	comp=Z,460nm,0.4s							
YUK					A		04 45 16.5	
	comp=Z,420nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.40**	**271**	*e*P		**Pn**	**04 44 34.0**	**+3.8**
YSS					AMB	AMB	04 44 36.8	
	comp=Z,90nm,1.0s							
YSS					AMB	AMB	04 44 36.8	
	comp=Z,90nm,1.0s							
YSS				sP			04 44 48.4	
YSS				*e*S		**Sn**	**04 46 08.9**	**+3.5**
YSS				AMS	AMS		04 48 20.0	
	comp=Z,1μm,15.0s							
YSS				AMS	AMS		04 48 20.0	
	comp=Z,1μm,14.0s							
YSS				AMS	AMS		04 48 20.0	
	comp=Z,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.40**	**271**	*e*Pn		**Pn**	**04 44 34.6**	**+4.4**
TYV	**Tymovskoe**	**8.83**	**297**	*e*P		**Pn**	**04 44 39.8**	**+3.8**
TYV					AMB	AMB	04 44 41.0	
	comp=Z,22nm,0.8s							
UGL	**Uglegorsk**	**8.83**	**285**	*e*L			04 46 40.0	
ASAJ	**Asahikawa**	**9.32**	**254**	Pn		**Pn**	**04 44 45.3**	**+2.5**
	comp=Z,5.0nm,0.3s,baz=87,slow=15,SNR=40							
ASAJ				LR		LR	04 48 26.6	
	comp=Z,841nm,18.4s,baz=163,slow=39							
ASAJ	**Asahikawa**	**9.32**	**254**	PN		**Pn**	**04 44 45.3**	**+2.5**
ASAJ				pmax	pmax			
	comp=Z,5.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,841nm,18.4s							
OKH	**Okha**	**9.85**	**313**	*e*L			04 48 15.6	
OKH					AMS	AMS	04 49 28.2	
	comp=Z,4μm,14.0s							
ERM	**Erimo**	**10.06**	**242**	Pn		**Pn**	**04 44 52.2**	**-0.7**
	comp=Z,589nm,0.4s,SNR=13							
ERM	**Erimo**	**10.06**	**242**	*e*Pn		**Pn**	**04 44 51.9**	**-0.9**
	comp=Z,81nm,0.8s							
NKL	**Nikolayevsk**	**10.83**	**307**	*e*P		**Pn**	**04 45 10.0**	**+6.6**
SMY	**Shemya**	**13.31**	**60**	*e*PN		**Pn**	**04 45 36.9**	**-0.4**
HABR	**Khabarovsk**	**13.46**	**282**	*e*PN		**Pn**	**04 45 46.5**	**+7.1**
HABR				*e*S		**Sn**	**04 48 17.5**	**+8.2**
KLR	**Kul'dur**	**15.60**	**285**	*e*P		**Pn**	**04 46 08.7**	**+0.4**
MAJO	**Matsushiro**	**16.56**	**235**	*e*P		**Pn**	**04 46 18.3**	**-2.5**
MAT	**Matsushiro**	**16.56**	**235**	P		**Pn**	**04 46 17.9**	**-2.9**
MJAR	**Matsushiro Arr**	**16.56**	**235**	Pn		**Pn**	**04 46 18.3**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=31,slow=12,SNR=13							
MJAR				LR		LR	04 53 45.8	
	comp=Z,458nm,18.2s,baz=50,slow=41							
MJAR	**Matsushiro Arr**	**16.56**	**235**	P		**Pn**	**04 46 18.3**	**-2.5**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,458nm,18.2s							
MJAR	**Matsushiro Arr**	**16.56**	**235**	Pn		**Pn**	**04 46 18.3**	**-2.5**
MJAR				LR		LR	04 53 45.8	
ZEA	**Zeya**	**18.68**	**300**	*e*P		**Pn**	**04 46 44.3**	**-2.7**
ZEA					AMB	AMB	04 46 51.3	
	comp=Z,35nm,1.0s							
ZEA					AMS	AMS	04 48 19.0	
	comp=Z,400nm,15.0s							
ZEA					AMS	AMS	04 48 19.0	
	comp=Z,500nm,14.0s							
YAK	**Yakutsk**	**20.50**	**325**	*e*P		**P**	**04 47 08.8**	**+2.2**
YAK				*e**PP			04 47 17.1	
YAK				*e*			04 47 28.2	
YAK				*e*S		**S**	**04 51 01.1**	**+4.7**
YAK				*e*SS			04 51 16.1	
YAK				pmax	pmax			
	comp=Z,31nm,0.9s							
YAK				pmax	pmax			
	comp=N,21nm,1.2s							
YAK				pmax	pmax			
	comp=E,25nm,1.2s							
YAK				pmax	pmax			
	comp=Z,50nm,1.3s							
YAK				pmax	pmax			
	comp=N,45nm,1.4s							
YAK				pmax	pmax			
	comp=E,83nm,1.5s							
YAK				smax				
	comp=N,92nm,2.4s							
YAK				smax				
	comp=Z,138nm,2.5s							
YAK				smax				
	comp=E,200nm,3.2s							
YAK				MLR	MLR			
	comp=Z,757nm,17.0s,MS4.1							
YAK				MLR	MLR			
	comp=N,375nm,15.0s,MS4.0							
YAK				MLR	MLR			
	comp=E,437nm,16.0s,MS4.0							
YAK	**Yakutsk**	**20.50**	**325**	*e*P		**P**	**04 47 04.5**	**-2.1**
	comp=E,45nm,0.7s							
CLNS	**Chul'man**	**20.61**	**308**	*e*P		**P**	**04 47 07.4**	**-0.5**
CLNS					pmax	pmax		
	comp=Z,78nm,1.0s							
CLNS					pmax	pmax		
	comp=N,34nm,0.9s							
CLNS					pmax	pmax		
	comp=E,43nm,0.9s							
CLNS					MLR	MLR		
	comp=Z,1μm,15.0s,MS4.3							
CLNS					MLR	MLR		
	comp=N,400nm,13.0s,MS4.7							
CLNS					MLR	MLR		
	comp=E,2μm,14.0s,MS4.7							
CN2	**Changchun**	**20.97**	**271**	⇓P		**P**	**04 47 09.6**	**-2.1**
CN2				*e*XP		sP	04 47 17.0	+3.3
CN2				*e*S		**S**	**04 50 58.0**	**-7.8**
CN2					AMB	AMB		
	comp=Z,20nm,0.5s							
CN2					AMB	AMB		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,600nm,14.0s,MS4.3							
CN2					LR	LR		
	comp=E,600nm,14.0s,MS4.3							
CN2					LR	LR		
	comp=Z,600nm,16.0s,MS4.1							
BILL	**Bilibino**	**21.44**	**12**	*e*P		**P**	**04 47 16.4**	**-0.4**
BILL					pmax	pmax		
	comp=Z,56nm,1.1s,mb4.8							
BILL	**Bilibino**	**21.44**	**12**	*e*P		**P**	**04 47 16.4**	**-0.4**
	comp=Z,56nm,1.1s,mb4.8							
KSRS	**Korea Array**	**22.27**	**253**	P		**P**	**04 47 26.2**	**+0.5**
	comp=Z,80nm,1.0s,mb5.1,baz=49,slow=10,SNR=42							
KS15	**Wonju Array Si**	**22.31**	**253**	*e*P		**P**	**04 47 27.4**	**+1.3**
SNY	**Shenyang**	**23.00**	**268**	⇑P		**P**	**04 47 32.0**	**-1.4**
SNY					AP		04 47 36.3	
SNY					XP	sP	04 47 39.3	+3.9
SNY					AMB	AMB		
	comp=Z,16nm,0.5s,mb4.7							
SNY					AMB	AMB		
	comp=Z,120nm,3.5s							
SNY					LR	LR		
	comp=N,434nm,11.7s							
SNY					LR	LR		
	comp=E,971nm,17.1s							
SNY					LR	LR		
	comp=Z,1μm,15.1s,MS4.5							
INCN	**Inchon**	**23.10**	**255**	*e*P		**P**	**04 47 35.9**	**+1.4**
JNU	**Nakatsue**	**23.22**	**241**	P		**P**	**04 47 36.2**	**+0.4**
	comp=Z,19nm,0.8s,mb4.6,baz=286,slow=29,SNR=2.7							
JNU					LR	LR	04 56 41.5	
	comp=Z,1μm,19.0s,MS4.3,baz=79,slow=37							
HIA	**Hailar**	**23.42**	**288**	*e*P		**P**	**04 47 36.5**	**-1.4**
HIA					pmax	pmax		
	comp=Z,9.0nm,0.8s							
HIA	**Hailar**	**23.42**	**288**	*e*P		**P**	**04 47 36.5**	**-1.4**
	comp=Z,9.3nm,0.8s,mb4.3							
DL2	**Dalian**	**25.67**	**263**	P		**P**	**04 47 59.3**	**+0.7**
DL2				S		**S**	**04 52 25.8**	**-1.8**
DL2					AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0							
DL2					LR	LR		
	comp=N,210nm,11.4s,MS4.1							
DL2					LR	LR		
	comp=E,210nm,10.1s,MS4.1							
DL2					LR	LR		
	comp=Z,240nm,11.7s,MS4.0							
BOD	**Bodaibo**	**26.59**	**308**	*e*P		**P**	**04 48 04.2**	**-2.7**
BOD					pmax	pmax		
	comp=Z,12nm,1.3s,mb4.3							
CIT	**Chita**	**26.95**	**295**	*e*P		**P**	**04 48 07.8**	**-2.3**
BJI	**Beijing**	**28.82**	**270**	P		**P**	**04 48 27.5**	**+0.7**
BJI					AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3							
BJI					AMB	AMB		
	comp=Z,173nm,4.7s							
BJI					LR	LR		
	comp=N,674nm,16.0s,MS4.5							
BJI					LR	LR		
	comp=E,674nm,16.0s,MS4.5							
BJI					LR	LR		
	comp=Z,394nm,17.1s,MS4.1							
BJI	**Beijing**	**28.82**	**270**	P		**P**	**04 48 27.5**	**+0.7**
	comp=Z,10.0nm,1.4s,mb4.3							
BJI					S	**S**	**04 53 33.6**	**+16**
BJI					LR	LR		
	comp=Z,390nm,17.1s,MS4.1							
NJ2	**Nanjing**	**31.47**	**254**	*e*P		**P**	**04 48 51.8**	**+1.5**
NJ2					AP	pP	04 48 55.1	+3.4
NJ2					XP	sP	04 48 58.3	+6.0
NJ2					PP	PP	04 49 55.9	-5.4
NJ2					S	**S**	**04 53 57.5**	**-1.3**
NJ2					XS	sS	04 54 05.5	+4.4
NJ2					AMB	AMB		
	comp=Z,130nm,1.1s,mb5.7							
NJ2					AMB	AMB		
	comp=Z,240nm,4.0s							
NJ2					LR	LR		
	comp=N,1μm,15.7s,MS4.9							
NJ2					LR	LR		
	comp=E,1μm,16.4s,MS4.9							
NJ2					LR	LR		
	comp=Z,3μm,15.3s,MS5.0							
HHC	**Hu-ho-hao-te**	**31.57**	**274**	*e*P		**P**	**04 48 49.8**	**-1.4**
HHC					AP	pP	04 48 54.3	+1.7
HHC					XP	sP	04 48 56.8	+3.6
HHC					PP	PP	04 49 53.8	-8.6
HHC					PCP	PcP	04 51 43.0	-0.7
HHC					S	**S**	**04 53 55.8**	**-4.6**
HHC					XS	sS	04 54 03.8	+1.1
HHC					SS	SS	04 55 43.5	-32
HHC					AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9							
HHC					AMB	AMB		
	comp=Z,59nm,5.7s							
ULN	**Ulaanbaatar**	**31.93**	**289**	*c i*P		**P**	**04 48 53.6**	**-0.8**
ULN	**Ulaanbaatar**	**31.93**	**289**	*e*P		**P**	**04 48 52.5**	**-1.9**
SONM	**Songino Array**	**32.37**	**289**	P		**P**	**04 48 56.3**	**-1.9**
	comp=Z,4.4nm,0.3s,mb4.8,baz=70,slow=9.1,SNR=4.3							
SONM	**Songino Array**	**32.37**	**289**	P		**P**	**04 48 56.3**	**-1.9**
SONM					pmax	pmax		
	comp=Z,4.0nm,0.3s							
TLY	**Talaya**	**33.05**	**297**	*e*P		**P**	**04 49 03.2**	**-1.0**
TLY					pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0							
TLY					MLR	MLR		
	comp=Z,611nm,16.0s,MS4.4							
TLY	**Talaya**	**33.05**	**297**	*e*P		**P**	**04 49 05.1**	**+0.9**
ZAK	**Zakamensk**	**33.60**	**295**	*e*P		**P**	**04 49 07.4**	**-1.6**
ZAK					pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3							
MCK	**McKinley**	**34.26**	**41**	*e*P		**P**	**04 49 15.9**	**+1.2**
SML	**Sawmill**	**34.55**	**44**	*e*P		**P**	**04 49 17.7**	**+0.5**
MOY	**Mondy**	**34.66**	**298**	*e*P		**P**	**04 49 18.7**	**+0.5**
MOY					pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8							
COLA	**College**	**34.77**	**39**	*e*P		**P**	**04 49 18.5**	**-0.6**
COLA					pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0							
COLA	**College**	**34.77**	**39**	*e*P		**P**	**04 49 18.5**	**-0.6**
	comp=Z,19nm,1.0s,mb5.0							
WHN	**Wuhan**	**35.39**	**256**	*e*P		**P**	**04 49 26.6**	**+2.1**
XAN	**Xi'an**	**36.90**	**266**	P		**P**	**04 49 37.8**	**+0.4**
XAN					AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9							
XAN					LR	LR		
	comp=N,276nm,13.6s,MS4.5							
XAN					LR	LR		
	comp=E,484nm,14.7s,MS4.5							
XAN					LR	LR		
	comp=E,735nm,14.7s							
EGAK	**Eagle**	**37.63**	**39**	*e*P		**P**	**04 49 42.2**	**-1.4**
	comp=E,15nm,0.9s,mb4.7							
DAWY	**Dawson**	**38.46**	**40**	*e*P		**P**	**04 49 52.7**	**+2.1**
LZH	**Lanzhou**	**39.20**	**272**	*e*P		**P**	**04 49 57.4**	**+0.6**
LZH					AP	pP	04 50 00.0	+1.8
LZH					XP	sP	04 50 02.8	+4.0
LZH					PP	PP	04 51 27.5	+1.0
LZH				*e*S		**S**	**04 55 56.0**	**-1.5**
LZH					XS	sS	04 56 01.5	+1.7
LZH					SS	SS	04 58 40.5	-10
LZH					AMB	AMB		
	comp=Z,36nm,1.3s,mb4.9							
LZH					AMB	AMB		
	comp=Z,160nm,5.0s							
LZH					LR	LR		
	comp=E,470nm,13.8s							
LZH					LR	LR		
	comp=Z,860nm,15.0s,MS4.7							
LZH	**Lanzhou**	**39.20**	**272**	*e*P		**P**	**04 49 57.4**	**+0.6**
LZH				*SP		sP	04 50 02.7	+3.9
LZH							04 51 27.5	
LZH				*e*S		**S**	**04 55 56.0**	**-1.5**
LZH				*SS		sS	04 56 01.5	+1.7
LZH					SS	SS	04 58 40.5	-10
LZH					pmax	pmax		
	comp=Z,36nm,1.3s,mb4.9							
LZH					MLR	MLR		
	comp=Z,860nm,15.0s,MS4.7							
LZH	**Lanzhou**	**39.20**	**272**	*e*P		**P**	**04 49 57.4**	**+0.6**
	comp=Z,36nm,1.3s,mb4.9							
LZH					pP	pP	04 50 00.0	+1.8
LZH					sP	sP	04 50 02.7	+3.9
LZH					PP	PP	04 51 27.5	+1.0
LZH				*e*S		**S**	**04 55 56.0**	**-1.5**
LZH					sS	sS	04 56 01.5	+1.7
LZH					SS	SS	04 58 40.5	-10
LZH					LR	LR		
	comp=Z,860nm,15.0s,MS4.7							
GTA	**Gaotai**	**40.18**	**279**	*e*P		**P**	**04 50 05.3**	**+0.4**
GTA					AP	pP	04 50 09.9	+3.5
GTA					XP	sP	04 50 12.8	+5.9
GTA					PP	PP	04 51 42.8	+5.6
GTA					PCP	PcP	04 52 11.8	+2.6
GTA					S	**S**	**04 56 12.0**	**-0.2**
GTA					XS	sS	04 56 18.5	+4.0
GTA					AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
GTA					AMB	AMB		
	comp=Z,234nm,6.5s							
GTA					LR	LR		
	comp=N,334nm,13.4s,MS4.6							
GTA					LR	LR		
	comp=E,501nm,14.5s,MS4.6							
GTA					LR	LR		
	comp=Z,432nm,15.3s,MS4.4							
INK	**Inuvik**	**40.35**	**33**	P		**P**	**04 50 06.2**	**-0.3**
	comp=Z,8.3nm,0.7s,mb4.6,baz=278,slow=5.7,SNR=42							
INK	**Inuvik**	**40.35**	**33**	P		**P**	**04 49 58.3**	**-8.1**
INK				*e*			04 50 04.8	
INK					pmax	pmax		
	comp=Z,17nm,1.0s							
INK	**Inuvik**	**40.35**	**33**	*e*P		**P**	**04 50 04.8**	**-1.6**
	comp=Z,558nm,1.0s,mb6.2							
CD2	**Chengdu**	**42.26**	**266**	⇓*i*P		**P**	**04 50 22.5**	**+0.4**
CD2					AP	pP	04 50 27.0	+3.5
CD2					XP	sP	04 50 29.5	+5.4
CD2					S	**S**	**04 56 42.0**	**-1.1**
CD2					XS	sS	04 56 49.1	+3.6
CD2					SS	SS	04 59 44.3	-6.9
CD2					AMB	AMB		
	comp=Z,90nm,1.0s,mb5.3							
CD2					AMB	AMB		
	comp=Z,120nm,5.2s							
CD2					LR	LR		
	comp=N,280nm,15.6s,MS4.6							
CD2					LR	LR		
	comp=E,520nm,13.2s,MS4.6							
CD2					LR	LR		
	comp=Z,680nm,14.4s,MS4.7							
GYA	**Guiyang**	**43.16**	**259**	⇑*i*P		**P**	**04 50 30.3**	**+0.9**
GYA					AP	pP	04 50 34.3	+3.5
GYA					XP	sP	04 50 37.8	+6.4
GYA					PP	PP	04 52 13.3	+3.8
GYA					PCP	PcP	04 52 21.3	+2.3
GYA					AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0							
GYA					AMB	AMB		
	comp=Z,130nm,4.8s							
GYA					LR	LR		
	comp=N,540nm,16.8s,MS4.7							
GYA					LR	LR		
	comp=E,640nm,17.2s,MS4.7							
GYA					LR	LR		
	comp=Z,590nm,17.4s,MS4.5							
ZAL	**Zalesovo**	**43.31**	**306**	P		**P**	**04 50 28.6**	**-2.0**
	comp=Z,3.9nm,0.6s,mb4.3,baz=49,slow=8.6,SNR=17							
ZAL					PcP	PcP	04 52 18.6	-0.8
	comp=Z,1.5nm,0.4s,baz=351,slow=10.0,SNR=3.4							
ZAL					LR	LR	05 09 26.8	
	comp=Z,322nm,20.2s,MS4.2,baz=42,slow=37							
ZAL	**Zalesovo**	**43.31**	**306**	P		**P**	**04 50 28.6**	**-2.0**
ZAL							04 52 18.7	
ZAL					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ZAL					MLR	MLR		
	comp=Z,322nm,20.2s							
NVS	**Novosibirsk**	**43.83**	**307**	*e*P		**P**	**04 50 32.8**	**-2.0**
NVS					pmax	pmax		
	comp=N,32nm,1.7s							
NVS					pmax	pmax		
	comp=E,44nm,1.7s							
NVS					pmax	pmax		
	comp=Z,40nm,1.7s,mb4.9							
WMQ	**Urumqi**	**45.92**	**292**	⇑*i*P		**P**	**04 50 52.4**	**+1.0**
WMQ					AP	pP	04 50 56.9	+4.0
WMQ					XP	sP	04 50 59.4	+6.0
WMQ					PCP	PcP	04 52 30.4	+2.0
WMQ					PP	PP	04 52 40.3	+1.4
WMQ					PPP		04 53 23.4	
WMQ					SCP	ScP	04 56 21.5	-0.7
WMQ					S	**S**	**04 57 35.4**	**-1.0**
WMQ					XS	sS	04 57 42.9	+4.1
WMQ					AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1							
WMQ					AMB	AMB		
	comp=Z,91nm,3.7s							
WMQ					LR	LR		
	comp=N,554nm,21.2s,MS4.5							
WMQ					LR	LR		
	comp=E,213nm,21.2s,MS4.5							
WMQ					LR	LR		
	comp=Z,360nm,17.0s,MS4.4							
QIZ	**Qiongzhong**	**46.34**	**248**	P		**P**	**04 50 53.1**	**-1.7**
QIZ					S	**S**	**04 57 41.8**	**-0.8**
QIZ					LR	LR		
	comp=N,321nm,17.5s							
KMI	**Kunming**	**46.67**	**260**	P		**P**	**04 50 58.1**	**+0.7**
KMI					AP	pP	04 51 00.9	+2.1
KMI					XP	sP	04 51 03.3	+3.9
KMI					S	**S**	**04 57 47.5**	**+0.2**
KMI					XS	sS	04 57 53.3	+3.6
KMI					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
KMI					AMB	AMB		
	comp=Z,54nm,3.1s							
KMI					LR	LR		
	comp=N,304nm,18.5s,MS4.4							
KMI					LR	LR		
	comp=E,231nm,17.3s,MS4.4							
KMI					LR	LR		
	comp=Z,103nm,21.7s,MS3.8							
KMI	**Kunming**	**46.67**	**260**	P		**P**	**04 50 58.1**	**+0.7**
KMI				*SP		sP	04 51 03.3	+3.9
KMI					S	**S**	**04 57 47.5**	**+0.2**
KMI				*SS		sS	04 57 53.2	+3.5
KMI				SSS			05 02 13.6	
KMI					pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
KMI					MLR	MLR		
	comp=Z,100nm,21.7s,MS3.7							
KMI	**Kunming**	**46.67**	**260**	P		**P**	**04 50 58.1**	**+0.7**
	comp=Z,10.0nm,1.0s,mb4.7							
KMI					pP	pP	04 51 00.9	+2.1
KMI					sP	sP	04 51 03.3	+3.9
KMI					S	**S**	**04 57 47.5**	**+0.2**
KMI					sS	sS	04 57 53.2	+3.5

KMI SSS 05 02 13.6
KMI LR LR
comp=Z,100nm,21.7s,MS3.7
MK31 Makanchi Array 47.81 298 *e*P **P** **04 51 04.3 -1.9**
MKAR Makanchi Array 47.81 298 P **P** **04 51 04.8 -1.4**
comp=Z,12nm,0.9s,mb4.9,baz=69,slow=7.4,SNR=26
MKAR Makanchi Array 47.81 298 P **P** **04 51 04.9 -1.3**
MKAR pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 48.09 304 P **P** **04 51 07.2 -1.2**
comp=Z,207nm,1.0s,mb6.1,SNR=24
KURK Kurchatov 48.09 304 P **P** **04 51 06.3 -2.1**
KURK pmax pmax
comp=Z,21nm,0.9s,mb5.2
ALE Alert 48.92 6 P **P** **04 51 16.0 +1.2**
comp=Z,103nm,0.9s,mb5.9,SNR=6.5
YKA Yellowknife Ar 49.57 38 P **P** **04 51 18.1 -1.6**
comp=Z,5.4nm,0.8s,mb4.6,baz=297,slow=8.0,SNR=5.7
YKA Yellowknife Ar 49.57 38 P **P** **04 51 18.1 -1.7**
YKA pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 49.76 19 *e*P **P** **04 51 21.4 +0.2**
RES pmax pmax
comp=Z,15nm,1.0s,mb5.0
RES Resolute Bay 49.76 19 *e*P **P** **04 51 21.4 +0.3**
comp=Z,474nm,1.1s,mb6.4
CHKZ Chkalovo 51.01 310 P **P** **04 51 28.8 -1.8**
CHKZ pmax pmax
comp=Z,29nm,0.6s,mb5.4
CHKZ Chkalovo 51.01 310 *e*P **P** **04 51 29.4 -1.2**
VOSK Vostochnaya 51.29 309 P **P** **04 51 31.1 -1.7**
VOSK pmax pmax
comp=Z,20nm,0.7s,mb5.2
BVA0 Borovoye Array 51.45 310 *i* P **P** **04 51 32.5 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVAR Borovoye Array 51.45 310 P **P** **04 51 33.1 -0.9**
comp=Z,26nm,0.6s,mb5.3,baz=55,slow=8.2,SNR=48
BVAR Borovoye Array 51.45 310 P **P** **04 51 33.1 -0.9**
BVAR pmax pmax
comp=Z,26nm,0.6s
BRVK Borovoye 51.49 310 P **P** **04 51 33.0 -1.3**
comp=Z,370nm,0.6s,mb6.5,SNR=24
BRVK Borovoye 51.49 310 P **P** **04 51 32.9 -1.4**
BRVK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BRVK Borovoye 51.49 310 *e*P **P** **04 51 33.2 -1.0**
LSA Lhasa 51.56 274 P **P** **04 51 35.8 +1.0**
LSA Lhasa 51.56 274 *e*P **P** **04 51 37.1 +2.3**
LSA pmax pmax
comp=Z,37nm,0.9s,mb5.3
LSA Lhasa 51.56 274 *e*P **P** **04 51 37.1 +2.2**
comp=Z,37nm,0.9s,mb5.3
ZRNK Zerenda 52.21 310 *e*P **P** **04 51 38.2 -1.4**
ZRNK pmax pmax
comp=Z,27nm,0.7s,mb5.3
ZRNK Zerenda 52.21 310 *e*P **P** **04 51 38.2 -1.4**
comp=Z,27nm,0.7s,mb5.3
CHTO Chiang Mai 53.57 258 *e*P **P** **04 51 51.0 +1.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 53.57 258 *e*P **P** **04 51 51.0 +1.3**
comp=Z,9.2nm,0.8s,mb4.8
SOKR Solikamsk 54.39 322 *e*P **P** **04 51 55.2 -0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
FRU Bishkek 54.53 297 *e*P **P** **04 51 58.0 +1.3**
AAK Ala-Archa 54.72 297 *e*P **P** **04 51 56.6 -1.5**
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AAK Ala-Archa 54.72 297 *e*P **P** **04 51 56.6 -1.4**
comp=Z,3.8nm,0.6s,mb4.6
EDM Edmonton 54.87 47 *e*P **P** **04 51 58.9 -0.3**
ARU Arti 55.40 318 ⇓*i*P **P** **04 52 01.3 -1.7**
ARU *e* 04 52 56.2
ARU *e* 04 54 02.1
ARU *e*S **S** **04 59 45.0 -3.1**
ARU *e*SS SS 05 03 26.6 -6.0
ARU pmax pmax
comp=Z,52nm,0.8s,mb5.6
ARU Arti 55.40 318 *e*P **P** **04 52 01.7 -1.3**
KSH Kashi 55.62 293 *e*P **P** **04 52 06.8 +2.2**
KSH *e*AP pP 04 52 12.1 +6.1
KSH *e*XP sP 04 52 15.9 +9.3
KSH *e*PCP PcP 04 53 06.4 +2.2
KSH *e*PP PP 04 54 12.1 +3.4
KSH *e*S **S** **04 59 51.5 +0.5**
KSH *e*XS sS 05 00 00.5 +7.1
KSH *e*PS 05 00 09.9
KSH *e*SCS ScS 05 01 49.1 -5.5
KSH LR LR
comp=Z,981nm,6.4s
JIRN Jiri 56.22 275 *e*P **P** **04 52 09.9 +1.0**
comp=Z,141nm,1.0s,mb6.0
YBH Yreka Blue Hor 56.24 63 P **P** **04 52 10.0 +0.9**
comp=Z,6.5nm,1.1s,mb4.6,baz=139,slow=2.2,SNR=4.0
YBH Yreka Blue Hor 56.24 63 P **P** **04 52 10.0 +0.9**
YBH pmax pmax
comp=Z,7.0nm,1.1s
GUN Gumba 56.26 276 *e*P **P** **04 52 10.1 +0.9**
comp=Z,45nm,0.6s,mb5.7
L04A Klamath Falls 56.48 62 ⇓P **P** **04 52 10.9 +0.2**
baz=56
KKN Kakani 56.75 276 *e*P **P** **04 52 13.6 +1.0**
comp=Z,184nm,1.1s,mb6.0
K05A Summer Lake 56.75 61 ⇓P **P** **04 52 12.7 0.0**
baz=57
I07A Izee 56.77 59 ⇑P **P** **04 52 12.7 -0.1**
baz=57
PKI Pulchoki 56.80 276 *e*P **P** **04 52 14.0 +1.0**
comp=Z,97nm,1.1s,mb5.7
KKAR Karatay Array 56.83 299 *i* P **P** **04 52 12.1 -1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
D11A Klaveano Farm, 56.83 55 ⇑P **P** **04 52 13.6 +0.3**
baz=57
M03C McCloud 56.87 63 ⇑P **P** **04 52 14.0 +0.5**
baz=57
F10A Beach Ranch, E 56.96 56 ⇑P **P** **04 52 14.5 +0.3**
baz=57
DMN Daman 56.98 276 *e*P **P** **04 52 15.5 +1.2**
comp=Z,196nm,1.0s,mb6.1
H08A Prairie City 57.00 58 ⇓P **P** **04 52 15.1 +0.7**
baz=57
GKN Gorkha 57.04 277 *e*P **P** **04 52 15.6 +0.9**
comp=Z,195nm,1.0s,mb6.1
B13A Whitefish 57.08 53 P **P** **04 52 15.2 +0.3**
baz=57,SNR=5.3
K06A Valley Falls 57.09 61 ⇑P **P** **04 52 15.4 +0.3**
baz=57
L05A Lakeview 57.19 62 ⇓P **P** **04 52 15.7 -0.1**
baz=57
APA Apatity 57.23 337 ⇑*e*P **P** **04 52 16.0 -0.1**
APA *i* 04 52 21.2
APA pmax pmax
comp=Z,13nm,1.0s,mb4.9
M05C Lookout 57.41 63 ⇓P **P** **04 52 17.6 +0.3**
baz=57
I08A Drewsey 57.41 59 ⇓P **P** **04 52 17.2 -0.2**
baz=57
GASB Alder Springs 57.48 65 ⇑P **P** **04 52 18.9 +1.1**
baz=57
BMO Blue Mountains 57.58 57 *e*P **P** **04 52 17.5 -1.0**
comp=Z,4.8nm,1.0s,mb4.5
MOD Modoc 57.59 62 ⇑P **P** **04 52 19.2 +0.6**
baz=57
ARCES ARCESS Array B 57.64 341 P **P** **04 52 16.3 -2.7**
comp=Z,2.1nm,0.5s,mb4.4,baz=32,slow=7.5,SNR=10
ARCES ARCESS Array B 57.64 341 P **P** **04 52 16.3 -2.6**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 57.64 341 P **P** **04 52 16.3 -2.7**
D13A Huson 57.84 54 ⇓P **P** **04 52 20.1 -0.3**
baz=58
I09A Lost Marbles R 57.86 58 ⇑P **P** **04 52 20.9 +0.4**
baz=58
KOLN Koldanda 57.89 277 *e*P **P** **04 52 21.6 +0.9**
comp=Z,128nm,1.0s,mb5.9
MNRC McLaughlin Nat 58.11 66 ⇓P **P** **04 52 22.3 0.0**
baz=58
WVOR Wild Horse Val 58.26 60 *e*P **P** **04 52 22.6 -0.7**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WVOR Wild Horse Val 58.26 60 *e*P **P** **04 52 22.6 -0.7**
comp=Z,4.7nm,0.8s,mb4.6
MSO Missoula 58.28 54 *e*P **P** **04 52 23.5 0.0**
comp=Z,13nm,1.4s,mb4.8
ORV Oroville 58.28 65 ⇑P **P** **04 52 23.1 -0.4**
baz=58
TMCR Tamitsa 58.34 333 *e*P **P** **04 52 24.3 +0.4**
TMCR pmax pmax
comp=Z,25nm,0.8s,mb5.3
D14A Greenough 58.37 53 ⇓P **P** **04 52 23.8 -0.3**
baz=58
E13A Victor 58.38 54 ⇑P **P** **04 52 23.8 -0.4**
baz=58
O05C Quincy 58.39 64 ⇑P **P** **04 52 23.9 -0.4**
baz=58
H11A Donnelly 58.41 57 P **P** **04 52 24.5 +0.1**
baz=58,SNR=6.0
OHCM Honcut 58.43 65 *e*P **P** **04 52 24.0 -0.5**
N06A Buffalo Meadow 58.57 63 ⇓P **P** **04 52 25.7 +0.3**
baz=58
M07A Soldier Meadow 58.58 62 ⇑P **P** **04 52 25.7 +0.1**
baz=58
F13A Darby 58.70 55 ⇓P **P** **04 52 26.2 -0.1**
baz=58
E14A Clinton 58.78 54 ⇑P **P** **04 52 26.5 -0.4**
baz=59
BEKR Beckwourth 58.79 64 ⇑P **P** **04 52 27.0 0.0**
baz=59
D15A Lincoln 58.93 53 ⇑P **P** **04 52 27.1 -0.9**
baz=59
O06A Flanigan 58.93 63 ⇓P **P** **04 52 27.5 -0.5**
baz=59
L09A Wilkinson Ranc 59.08 60 ⇓P **P** **04 52 29.0 0.0**
baz=59
E15A Deer Lodge 59.24 54 ⇓P **P** **04 52 29.6 -0.5**
baz=59
LAVA Lava Cap Winer 59.24 65 ⇑P **P** **04 52 30.2 +0.1**
baz=59
AKTK Aktyubinsk 59.26 312 P **P** **04 52 29.6 -0.7**
AKTO Aktyubinsk 59.26 312 P **P** **04 52 29.6 -0.7**
comp=Z,6.3nm,0.7s,mb4.7,baz=60,slow=6.1,SNR=9.2
AKTO Aktyubinsk 59.26 312 P **P** **04 52 29.0 -1.2**
WCN Washoe City 59.50 64 ⇓P **P** **04 52 31.2 -0.8**
baz=59
O07A Toulon 59.51 63 ⇓P **P** **04 52 31.7 -0.3**
baz=59
N08A GE Springer Mi 59.57 62 ⇓P **P** **04 52 31.4 -1.0**
baz=59
M09A Marrel Ranch, 59.58 61 ⇓P **P** **04 52 32.4 -0.1**
baz=59
R05C Kirkwood Meado 59.68 65 ⇓P **P** **04 52 33.1 -0.1**
baz=60
F15A Butte 59.68 54 P **P** **04 52 33.6 +0.5**
baz=60,SNR=7.6
LRM Limekiln Ridge 59.72 54 *e*P **P** **04 52 34.3 +0.9**
EGMT Eagleton 59.80 51 ⇓P **P** **04 52 33.6 -0.3**
baz=60
P07A Fallon 59.88 63 ⇑P **P** **04 52 34.2 -0.4**
baz=60
N09A Rock Creek Ran 59.89 61 ⇓P **P** **04 52 34.6 0.0**
baz=60
CMB Columbia Colle 59.91 65 *e*P **P** **04 52 34.8 +0.1**
CMB pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
CMB Columbia Colle 59.91 65 *e*P **P** **04 52 34.8 +0.1**
comp=Z,10nm,1.3s,mb4.7
CMB Columbia Colle 59.91 65 ⇓P **P** **04 52 34.3 -0.4**
baz=60
SUMG Summit 59.91 5 *e*P **P** **04 52 36.5 +1.8**
SUMG *e*pP pP 04 52 50.4 +14
KSM Kuching 59.96 234 *e*P **P** **04 52 36.1 +1.1**
PACP Pacheco Peak 59.99 67 ⇓P **P** **04 52 35.3 +0.1**
baz=60
HLID Hailey 60.02 57 *e*P **P** **04 52 36.0 +0.5**
HLID Hailey 60.02 57 ⇑P **P** **04 52 35.1 -0.4**
baz=60
M10A I.L. Ranch, Tu 60.05 60 ⇑P **P** **04 52 35.7 0.0**
baz=60
G15A Dillon 60.10 55 ⇓P **P** **04 52 35.9 -0.1**
baz=60
R06C Coleville 60.17 64 P **P** **04 52 37.2 +0.7**
baz=60,SNR=5.3
WAKR Walker 60.20 64 *e*P **P** **04 52 37.3 +0.6**
HAST UC Hastings Re 60.21 67 ⇑P **P** **04 52 36.7 -0.1**
baz=60
BMN Battle Mountai 60.33 61 *e*P **P** **04 52 37.7 +0.1**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BMN Battle Mountai 60.33 61 *e*P **P** **04 52 37.7 +0.1**
comp=Z,6.1nm,0.8s,mb4.7
S06C San Francisco 60.33 65 P **P** **04 52 37.3 -0.3**
baz=60,SNR=5.8
S05C Merced 60.37 66 ⇓P **P** **04 52 37.6 -0.3**
baz=60
O09A Fish Creek Ran 60.51 62 ⇑P **P** **04 52 38.9 0.0**
baz=60
M11A Holland Ranch, 60.55 60 ⇑P **P** **04 52 39.2 +0.1**
baz=60
Q08A Gabbs 60.89 63 ⇓P **P** **04 52 41.4 0.0**
baz=61
QLMT Earthquake Lak 60.90 54 *e*P **P** **04 52 42.3 +0.8**
QLMT *e*pP pP 04 52 55.0 +12
P09A Austin 60.93 62 ⇓P **P** **04 52 42.5 +0.8**
baz=61
T06C Millerton Lake 60.97 66 ⇑P **P** **04 52 41.5 -0.5**
baz=61
KCC Kaiser Creek 61.01 65 ⇑P **P** **04 52 42.1 -0.2**
baz=61
M12A Wells 61.07 59 ⇓P **P** **04 52 42.8 +0.1**
baz=61
R08A Mina 61.10 64 ⇑P **P** **04 52 43.2 +0.3**
baz=61
GCMT Greycliff 61.25 53 *e*P **P** **04 52 44.3 +0.4**
N12A Clover Valley, 61.36 60 ⇑P **P** **04 52 43.6 -1.0**
baz=61
O11A Cowboy Ranch, 61.45 61 ⇑P **P** **04 52 44.6 -0.6**
baz=61
YFT Old Faithful 61.47 54 *e*P **P** **04 52 47.9 +2.5**
M13A Montello 61.54 59 ⇑P **P** **04 52 45.6 -0.2**
baz=61,SNR=5.4
HELL Mitchell Peak, 61.60 66 P **P** **04 52 45.7 -0.6**
baz=61,SNR=7.5
IMW Indian Meadow 61.76 55 *e*P **P** **04 52 48.3 +0.9**
comp=Z,7.1nm,1.0s,mb4.8
FLWY Flagg Ranch 61.78 55 *e*P **P** **04 52 49.0 +1.5**
comp=Z,10.0nm,1.0s,mb4.9
R09A Tonopah 61.80 63 ⇑P **P** **04 52 47.5 -0.1**
baz=62
N13A Wendover, West 61.84 59 ⇑P **P** **04 52 47.8 -0.1**
baz=62
O12A Currie 61.90 60 ⇑P **P** **04 52 48.3 0.0**
baz=62
MOOW Moose Ponds 61.97 55 *e*P **P** **04 52 49.8 +1.1**
comp=Z,16nm,1.4s,mb5.0
TPAW Teton Pass 62.02 55 *e*P **P** **04 52 50.5 +1.4**
comp=Z,18nm,1.0s,mb5.2
S09A Goldfield 62.04 64 ⇓P **P** **04 52 48.3 -0.9**
baz=62
HVU Hansel Valley 62.08 58 *e*P **P** **04 52 49.7 +0.2**
HVU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
HVU Hansel Valley 62.08 58 *e*P **P** **04 52 49.7 +0.2**
comp=Z,4.2nm,0.9s,mb4.6
LOHW Long Hollow 62.13 55 *e*P **P** **04 52 51.0 +1.1**
comp=Z,17nm,1.4s,mb5.0
SNOW Snow King Moun 62.14 55 *e*P **P** **04 52 51.3 +1.4**
comp=Z,13nm,0.9s,mb5.0
REDW Red Top Meadow 62.15 55 *e*P **P** **04 52 51.0 +1.0**
comp=Z,16nm,1.0s,mb5.1
R10A Warm Springs 62.24 63 ⇓P **P** **04 52 50.4 -0.1**
baz=62
PKM Peak Mountain 62.25 68 ⇑P **P** **04 52 50.4 -0.3**
baz=62
Q11A Duckwater 62.27 62 ⇓P **P** **04 52 50.2 -0.6**
baz=62
P12A Mc Gill 62.31 61 ⇓P **P** **04 52 50.9 -0.2**
baz=62
CWC Cottonwood Cre 62.34 65 ⇑P **P** **04 52 51.1 -0.2**
baz=62
GRAC Grapevine Rang 62.41 64 ⇓P **P** **04 52 51.9 +0.2**
baz=62
LAO LASA Array 62.50 50 *e*P **P** **04 52 52.5 +0.2**
comp=Z,24nm,1.0s,mb5.3
ISA Isabella 62.59 66 *e*P **P** **04 52 52.1 -0.8**
ISA Isabella 62.59 66 ⇑P **P** **04 52 52.0 -0.9**
baz=62
Q12A Willow Creek R 62.64 61 ⇑P **P** **04 52 53.3 +0.1**
baz=62
ARVC Arvin 62.72 67 ⇑P **P** **04 52 53.5 -0.2**
baz=63
HWUT Hardware Ranch 62.88 57 *e*P **P** **04 52 56.5 +1.7**
MPMC Manual Prospec 62.95 65 ⇓P **P** **04 52 55.8 +0.5**
baz=63
FURC Furnace Creek, 63.07 65 P **P** **04 52 56.4 +0.3**
baz=63,SNR=5.6
DUG Dugway 63.08 59 *e*P **P** **04 52 56.3 +0.1**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DUG Dugway 63.08 59 *e*P **P** **04 52 56.3 +0.1**
comp=Z,7.8nm,0.9s,mb4.8
DUG Dugway 63.08 59 P **P** **04 52 56.3 +0.2**
baz=63,SNR=7.9
OSI Osito Adit 63.12 67 ⇑P **P** **04 52 56.0 -0.4**
baz=63
LRMC Laurel Mountai 63.20 66 ⇑P **P** **04 52 56.4 -0.6**
baz=63
BW06 Boulder Array 63.26 55 *e*P **P** **04 52 57.6 +0.2**
comp=Z,8.9nm,0.9s,mb4.9
PDAR Pinedale Array 63.26 55 P **P** **04 52 57.4 0.0**
comp=Z,8.0nm,0.9s,mb4.9,baz=291,slow=1.9,SNR=43
EDW2 Edwards Air Fo 63.40 67 P **P** **04 52 58.4 +0.1**
baz=63,SNR=7.4
U10A Ash Meadows, A 63.43 64 ⇑P **P** **04 52 58.9 +0.4**
baz=63
NLU North Lily Min 63.66 59 *e*P **P** **04 53 00.9 +0.8**
SHOC Shoshone 63.80 65 ⇓P **P** **04 53 00.2 -0.7**
baz=64
GSC Goldstone 63.86 66 *e*P **P** **04 53 01.3 0.0**
GSC Goldstone 63.86 66 ⇓P **P** **04 53 01.1 -0.2**
baz=64
MPU Maple Canyon 63.88 59 *e*P **P** **04 53 01.6 +0.1**
comp=Z,5.4nm,0.8s,mb4.6
FIA1 FINESS Array S 63.98 335 *e*P **P** **04 53 01.2 -0.9**
FINES FINESS Array B 63.98 335 P **P** **04 53 01.5 -0.6**
comp=Z,20nm,0.7s,mb5.3,baz=39,slow=8.5,SNR=54
FINES FINESS Array B 63.98 335 P **P** **04 53 01.5 -0.6**
FINES pmax pmax
comp=Z,20nm,0.7s
ARUT Antelope Range 64.28 62 *e*P **P** **04 53 04.0 -0.1**
TUQ Turquoise Mtn. 64.32 65 P **P** **04 53 04.1 -0.2**
baz=64,SNR=5.9
V11A Goodsprings 64.36 64 ⇑P **P** **04 53 04.3 -0.3**
baz=64
HEC Hector,Ludlow 64.47 66 ⇑P **P** **04 53 05.0 -0.4**
baz=64
BBRC Big Bear Sol-O 64.47 67 ⇓P **P** **04 53 05.0 -0.3**
baz=64
MSU Marysvale 64.55 60 *e*P **P** **04 53 06.3 +0.4**
TMUT Trail Mountain 64.60 59 *e*P **P** **04 53 06.1 -0.1**
MURC Murrieta 64.73 67 ⇓P **P** **04 53 06.4 -0.7**
baz=65
W12A Cal Nev Ari 65.05 64 ⇓P **P** **04 53 08.9 -0.2**
baz=65
SRU San Rafael 65.12 59 *e*P **P** **04 53 09.6 0.0**
comp=Z,12nm,0.8s,mb5.0
ULM Lac du Bonnet 65.12 42 P **P** **04 53 08.5 -1.1**
comp=Z,3.7nm,0.8s,mb4.5,baz=308,slow=7.2,SNR=7.1
BELC Belle Mtn. 65.22 66 ⇓P **P** **04 53 09.6 -0.6**
baz=65
109C Camp Elliot, M 65.26 68 ⇓P **P** **04 53 10.0 -0.5**
baz=65
RSSD Black Hills 65.36 51 P **P** **04 53 10.8 -0.3**
RSSD pmax pmax
comp=Z,20nm,1.0s,mb5.1
RSSD Black Hills 65.36 51 *e*P **P** **04 53 10.8 -0.4**
comp=Z,18nm,0.9s,mb5.1
OBN Obninsk 65.49 326 ⇑*i*P **P** **04 53 10.8 -1.2**
OBN *i* 04 53 24.2
OBN pmax pmax
comp=Z,46nm,1.2s,mb5.4
IRM Iron Mountain 65.64 66 P **P** **04 53 12.9 0.0**
baz=66,SNR=6.0
MONP Monument Peak 65.69 67 ⇑P **P** **04 53 12.9 -0.4**
baz=66
BC3 Big Chuckw Mtn 65.79 66 ⇓P **P** **04 53 13.0 -0.9**
baz=66
W13A Hualapai Mount 65.79 64 ⇑P **P** **04 53 13.2 -0.7**
baz=66
SWSC Sam W. Stewart 66.05 67 ⇓P **P** **04 53 14.3 -1.3**
baz=66
X13A Yucca 66.16 64 P **P** **04 53 16.3 0.0**
baz=66,SNR=5.4
PDMCI Parker Dam,Lak 66.17 65 ⇓P **P** **04 53 15.7 -0.7**
baz=66
W14A Seligman 66.20 63 P **P** **04 53 16.9 +0.4**
baz=66,SNR=7.5
VSU Vasula 66.21 333 ⇓*i*P **P** **04 53 16.5 -0.1**
Y12C Blythe 66.30 65 ⇓P **P** **04 53 16.9 -0.3**
baz=66
AGMN Agassiz Refuge 66.52 43 *e*P **P** **04 53 17.6 -1.0**
comp=Z,23nm,1.2s,mb5.1
GLA Glamis 66.58 66 *e*P **P** **04 53 19.0 0.0**
GLA Glamis 66.58 66 ⇓P **P** **04 53 18.7 -0.3**
baz=66
Y13A Salome 66.68 65 ⇓P **P** **04 53 19.6 -0.1**
baz=66
W15A Williams 66.72 63 ⇓P **P** **04 53 19.9 +0.1**
baz=66
X14A Yava 66.82 64 ⇓P **P** **04 53 20.4 -0.1**
baz=67
WUAZ Wupatki 67.03 62 ⇑P **P** **04 53 22.0 +0.2**
baz=67
Y14A Wickenburg 67.11 64 P **P** **04 53 22.2 -0.1**
baz=67,SNR=5.3
X15A Humboldt 67.20 64 P **P** **04 53 23.4 +0.5**
baz=67,SNR=5.7
VRSR Storozhevoye 67.39 322 *e*P **P** **04 53 23.1 -1.0**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
ISCO Idaho Springs 67.45 55 *e*P **P** **04 53 25.0 +0.5**
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ISCO Idaho Springs 67.45 55 *e*P **P** **04 53 25.0 +0.4**
comp=Z,8.7nm,0.9s,mb4.8
VORD Divnogorie 67.53 322 *e*P **P** **04 53 23.2 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.9s
Z14A Wintersburg 67.53 65 ⇓P **P** **04 53 24.5 -0.5**
baz=67
MVCO Mesa Verde 67.58 59 *e*P **P** **04 53 25.0 -0.3**
comp=E,5.5nm,0.8s,mb4.6
MVCO Mesa Verde 67.58 59 P **P** **04 53 25.3 0.0**
baz=67,SNR=5.6
NB2 NORSAR Subarra 68.00 342 P **P** **04 53 27.2 -0.8**
comp=Z,79nm,1.2s,mb5.6,baz=25,slow=6.5
NOA NORSAR Array B 68.00 342 P **P** **04 53 26.2 -1.8**
comp=Z,9.6nm,0.6s,mb5.0,baz=25,slow=6.3,SNR=23
NOA NORSAR Array B 68.00 342 P **P** **04 53 26.2 -1.8**
NOA pmax pmax
comp=Z,10.0nm,0.6s
NAO01 NORSAR Array S 68.24 342 *e*P **P** **04 53 30.4 +0.9**
comp=Z,31nm,1.1s,mb5.2
HYB Hyderabad 68.31 272 *i* P **P** **04 53 29.0 -0.9**
HYB Hyderabad 68.31 272 *e*P **P** **04 53 29.0 -0.9**
115A Sonoran Desert 68.42 65 ⇑P **P** **04 53 30.6 -0.1**
baz=68
116A Eloy 68.84 65 ⇑P **P** **04 53 33.4 +0.2**
baz=69
SDCO Great Sand Dun 68.94 57 *e*P **P** **04 53 34.3 +0.5**
ECSD EROS,Sioux Fal 69.44 47 *e*P **P** **04 53 35.9 -1.1**
comp=Z,13nm,0.9s,mb4.9
WRAB Tennant Creek 69.60 201 ⇑*i*P **P** **04 53 37.5 -0.5**
KONO Kongsberg 69.60 342 ⇓*e*P **P** **04 53 37.3 -0.7**
WB2 Warramunga Arr 69.61 201 *e*P **P** **04 53 37.1 -0.9**
WRA Warramunga Arr 69.61 201 P **P** **04 53 37.3 -0.8**
comp=Z,8.9nm,0.8s,mb4.7,baz=19,slow=6.5,SNR=38
WRA Warramunga Arr 69.61 201 P **P** **04 53 37.3 -0.7**
WRA pmax pmax
comp=Z,9.0nm,0.9s
LAZ Ladron 70.32 60 *e*P **P** **04 53 42.7 +0.3**
ANMO Albuquerque 70.33 60 P **P** **04 53 42.6 +0.1**
comp=Z,4.2nm,0.9s,mb4.4,baz=304,slow=8.1,SNR=17
ANMO Albuquerque 70.33 60 P **P** **04 53 42.6 +0.1**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
FITZ Fitzroy Crossi 70.39 210 *e*P **P** **04 53 43.2 +0.4**
comp=Z,12nm,1.1s,mb4.7
FITZ Fitzroy Crossi 70.39 210 P **P** **04 53 43.6 +0.8**
comp=Z,6.9nm,1.0s,mb4.5,baz=22,slow=9.5,SNR=7.2

POO Poona 70.71 277 *e*P P **04 53 42.0 -2.8**
SUW Suwalki 71.02 332 *e*P P **04 53 45.8 -0.9**
SUW Suwalki 71.02 332 *e*P P **04 53 45.7 -1.0**
SUW *e**PP pP 04 53 58.9 +11
KIV Kislovodsk 71.26 315 *e*P P **04 53 49.8 +1.7**
KIV pmax pmax
comp=Z,81nm,1.1s,mb5.6
KIV MLR MLR
comp=Z,485nm,17.0s,MS4.8
KIV Kislovodsk 71.26 315 *e*P P **04 53 49.4 +1.2**
ZEI Tsey 71.56 314 *e*P P **04 53 49.7 -0.2**
ZEI *i* 04 54 01.7
ZEI pmax pmax
comp=Z,29nm,1.3s,mb5.0
AKASG Malin Array Be 71.71 327 P P **04 53 49.4 -1.4**
comp=Z,11nm,0.6s,mb5.0,baz=33,slow=6.1,SNR=43
AKASG LR LR 05 32 03.0
comp=Z,181nm,18.9s,MS4.4,baz=355,slow=42
AKBB Malin Array Si 71.71 327 *e*P P **04 53 49.5 -1.3**
KIEV Kiev 71.72 327 *e*P P **04 53 49.4 -1.5**
KIEV pmax pmax
comp=Z,52nm,1.1s,mb5.4
KIEV Kiev 71.72 327 *e*P P **04 53 49.4 -1.5**
comp=Z,52nm,1.1s,mb5.4
SCHQ Schefferville 72.15 24 P P **04 53 52.4 -1.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=324,slow=7.0,SNR=4.0
SCIA State Center 72.48 47 *e*P P **04 53 54.6 -0.8**
comp=Z,38nm,0.9s,mb5.3
ANN Anapa 73.05 319 *e*P P **04 54 04.0 +5.2**
ANN pmax pmax
comp=Z,79nm,0.9s,mb5.6
GNI Garni 73.09 311 P P **04 54 00.7 +1.6**
comp=Z,12nm,0.7s,mb4.9,baz=49,slow=17,SNR=9.6
GNI Garni 73.09 311 P P **04 54 00.7 +1.6**
GNI pmax pmax
comp=Z,12nm,0.7s
GNI Garni 73.09 311 *e*P P **04 54 00.6 +1.5**
comp=Z,96nm,1.4s,mb5.5
AMTX Amarillo 73.14 57 *e*P P **04 53 58.8 -0.6**
comp=Z,12nm,0.9s,mb4.8
MNTX Cornudas Mount 73.27 61 *e*P P **04 53 59.8 -0.3**
AS31 Alice Springs 73.30 200 *e*P P **04 53 59.8 -0.5**
ASAR Alice Springs 73.30 200 P P **04 54 00.6 +0.3**
comp=Z,5.4nm,0.8s,mb4.5,baz=16,slow=5.9,SNR=34
ASAR Alice Springs 73.30 200 P P **04 54 00.6 +0.3**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
SIM Simferopol' 74.39 321⇓*e*P P **04 54 08.8 +2.1**
SIM *e* 04 54 19.8
SIM pmax pmax
comp=Z,17nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,210nm,16.0s,MS4.5
WMOK Wichita Mounta 74.87 55 P P **04 54 01.4 -8.1**
WMOK *e* 04 54 21.5
WMOK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WMOK Wichita Mounta 74.87 55 *e*P P **04 54 08.4 -1.1**
comp=Z,6.6nm,0.9s,mb4.6
KWP Kalwaria 74.90 330 *e*P P **04 54 09.9 +0.2**
KWP Kalwaria 74.90 330 P P **04 54 09.7 0.0**
KWP pmax pmax
comp=Z,61nm,1.2s,mb5.4
MBWA Marble Bar 75.32 214 *e*P P **04 54 12.4 +0.3**
comp=Z,32nm,1.3s,mb5.1
STHS Stebnicka Huta 75.58 331 *e*P P **04 54 16.3 +2.7**
STHS pmax pmax
comp=Z,13nm,1.2s,mb4.7
STHS Stebnicka Huta 75.58 331 *e*P P **04 54 16.3 +2.7**
comp=Z,13nm,1.2s,mb4.7
KOLS Kolonicke sedl 75.65 330 *e*P P **04 54 13.2 -0.8**
BURAR Bucovina Array 75.74 328⇓*i*P P **04 54 14.5 0.0**
BURAR Bucovina Array 75.74 328 ⇓P P **04 54 14.5 0.0**
UZH Uzhgorod 75.90 330 *e*P P **04 54 10.0 -5.4**
LTX Lajitas 75.99 62 *e*P P **04 54 15.8 -0.1**
LTX *e**PP pP 04 54 28.8 +11
LTX pmax pmax
comp=Z,12nm,0.9s,mb4.8
LTX Lajitas 75.99 62 *e*P P **04 54 15.8 -0.2**
comp=Z,12nm,0.9s,mb4.8
TXAR Lajitas Array 75.99 62 P P **04 54 15.6 -0.3**
comp=Z,9.5nm,0.7s,mb4.8,baz=298,slow=4.3,SNR=37
TXAR Lajitas Array 75.99 62 P P **04 54 15.6 -0.3**
TXAR pmax pmax
comp=Z,10.0nm,0.7s
OKC Ostrava-Krasne 76.20 333 *e*P P **04 54 20.3 +3.2**
UPC Upice 76.25 334 *e*P P **04 54 18.8 +1.4**
UPC *e*PCP PcP 04 54 31.8 +2.4
DPC Dobruska-Polom 76.30 334 *e*P P **04 54 17.8 +0.1**
DPC *e*PCP PcP 04 54 31.0 +1.4
CLL Collm 76.38 337 *i* P P **04 54 18.7 +0.6**
CLL pmax pmax
comp=Z,38nm,1.2s,mb5.2
CLL Collm 76.38 337 *i* P P **04 54 18.7 +0.6**
comp=Z,38nm,1.2s,mb5.2
CLL *i* pP pP 04 54 30.9 +11
CLL *ex* x 04 54 44.0
CCM Cathedral Cave 76.39 48 P P **04 54 12.0 -6.2**
CCM *e* 04 54 24.5
CCM pmax pmax
comp=Z,15nm,1.3s,mb4.8
CCM Cathedral Cave 76.39 48 *e*P P **04 54 11.6 -6.5**
comp=Z,6.9nm,0.9s,mb4.6
MORC Moravsky Berou 76.44 333⇑*i*P P **04 54 18.8 +0.3**
MORC Moravsky Berou 76.44 333 *e*P P **04 54 18.5 0.0**
MORC pmax pmax
comp=Z,17nm,1.0s,mb4.9
MORC Moravsky Berou 76.44 333 *e*P P **04 54 18.5 0.0**
comp=Z,17nm,1.0s,mb4.9
BRG Berggiesshubel 76.51 336 *e*P P **04 54 20.2 +1.3**
comp=Z,5.4nm,1.1s,mb4.4
BRG *e* 04 54 32.0
comp=Z,9.6nm,1.3s
BRG Berggiesshubel 76.51 336 *e*P P **04 54 20.2 +1.3**
BRG *e* 04 54 32.0
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KECS Kecovo 76.64 331 *e*P P **04 54 21.0 +1.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.64 331 *e*P P **04 54 21.0 +1.4**
comp=Z,3.2nm,0.9s,mb4.2
PVCC Panska Ves 76.65 335 *e*P P **04 54 21.5 +1.9**
PRU Pruhonice 77.14 335 *e*P P **04 54 22.1 -0.3**
PRU *e*PCP PcP 04 54 36.3 +3.1
VRAC Vranov 77.14 334 P P **04 54 22.6 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=20,slow=6.3,SNR=7.5
VRAC Vranov 77.14 334⇑*i*P P **04 54 23.8 +1.4**
VRAC Vranov 77.14 334 P P **04 54 22.6 +0.2**
VRAC pmax pmax
comp=Z,13nm,1.0s
VRAC Vranov 77.14 334⇑P P **04 54 23.8 +1.3**
TIRR Tirgusor 77.16 324⇓*i*P P **04 54 22.5 0.0**
TIRR Tirgusor 77.16 324 *e*P P **04 54 21.9 -0.6**
TIRR pmax pmax
comp=Z,11nm,0.9s,mb4.8
TIRR Tirgusor 77.16 324 *e*P P **04 54 21.9 -0.6**
comp=Z,11nm,0.9s,mb4.8
VYHS Vyhne 77.16 332 *e*P P **04 54 24.0 +1.4**
VYHS pmax pmax
comp=Z,13nm,1.5s,mb4.6
VYHS Vyhne 77.16 332 *e*P P **04 54 24.0 +1.4**
comp=Z,13nm,1.5s,mb4.7
MLR Muntele Rosu 77.26 326 P P **04 54 23.6 +0.5**
comp=Z,14nm,0.7s,mb5.0,baz=348,slow=6.3,SNR=22
MLR Muntele Rosu 77.26 326⇓*i*P P **04 54 23.6 +0.5**
MLR Muntele Rosu 77.26 326 P P **04 54 23.6 +0.5**
MLR pmax pmax
comp=Z,14nm,0.7s
MLR Muntele Rosu 77.26 326 ⇓P P **04 54 23.6 +0.6**
WTSB Winterswijk 77.31 341 *e*P P **04 54 25.4 +2.0**
comp=Z,19nm,1.3s,mb4.9
PSZ Piszkesteto 77.32 331 *e*P P **04 54 21.8 -1.7**
PSZ pmax pmax
comp=Z,22nm,1.4s,mb4.9
PSZ Piszkesteto 77.32 331 *e*P P **04 54 21.8 -1.7**
comp=Z,22nm,1.4s,mb4.9
DRGR 77.34 329⇓*i*P P **04 54 23.8 +0.3**
DRGR 77.34 329 P P **04 54 23.2 -0.3**
DRGR 77.34 329 ⇓P P **04 54 23.8 +0.3**
MOX Moxa 77.35 337 *e*P P **04 54 24.5 +0.9**
comp=Z,21nm,1.1s,mb5.0
MOX Moxa 77.35 337 *e*P P **04 54 24.5 +0.9**
MOX pmax pmax
comp=Z,21nm,1.1s,mb5.0

JCT Junction City 77.43 59 *e*P P **04 54 23.2 -0.9**
JCT pmax pmax
comp=Z,13nm,1.1s,mb4.8
JCT Junction City 77.43 59 *e*P P **04 54 23.1 -0.9**
comp=Z,13nm,1.1s,mb4.8
NKC Novy Kostel 77.50 336 *e*P P **04 54 24.1 -0.3**
NKC *e*PCP PcP 04 54 38.6 +3.8
SMOL Smolenice 77.59 333 *e*P P **04 54 27.5 +2.5**
VOIR 77.64 326⇑*i*P P **04 54 26.4 +1.2**
VOIR 77.64 326⇑P P **04 54 26.4 +1.1**
MALT Malatya 77.65 314⇑*i*P P **04 54 26.9 +1.6**
MALT Malatya 77.65 314 *e*P P **04 54 26.2 +0.9**
MALT pmax pmax
comp=Z,32nm,1.1s,mb5.2
MALT Malatya 77.65 314 *e*P P **04 54 26.2 +0.9**
comp=Z,32nm,1.1s,mb5.2
ZST Bratislava 77.97 333 *e*P P **04 54 27.6 +0.5**
ZST pmax pmax
comp=Z,18nm,1.4s,mb4.8
ZST MLR MLR
comp=Z,200nm,18.6s,MS4.5
ZST Bratislava 77.97 333 *e*P P **04 54 27.6 +0.5**
comp=Z,18nm,1.4s,mb4.8
ZST LR LR
comp=Z,200nm,18.6s,MS4.5
KHC Kasperske Hory 78.19 335 *e*P P **04 54 28.1 -0.2**
KHC *e*PCP PcP 04 54 40.7 +2.9
GRA1 Grafenberg Arr 78.32 337 *e*P P **04 54 30.9 +1.9**
comp=Z,34nm,1.1s,mb5.2
GRA1 *e*pP pP 04 54 43.0 +12
GRF Grafenberg Arr 78.32 337 *e*P P **04 54 30.9 +1.9**
comp=Z,34nm,1.1s,mb5.2
GRF *e*pP pP 04 54 43.0 +12
GRF Grafenberg Arr 78.32 337 *e*P P **04 54 30.9 +1.9**
GRF *e**PP pP 04 54 43.0 +12
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 78.32 337 *e*P P **04 54 30.9 +1.9**
GRF *e**PP pP 04 54 43.0 +12
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRFO Grafenberg 78.33 337 *e*P P **04 54 30.4 +1.4**
GRFO pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRFO Grafenberg 78.33 337 *e*P P **04 54 30.4 +1.4**
comp=Z,32nm,1.0s,mb5.2
GERES GERESS Array B 78.41 335 P P **04 54 29.8 +0.3**
comp=Z,6.1nm,1.0s,mb4.5,baz=20,slow=4.3,SNR=16
GERES GERESS Array B 78.41 335 P P **04 54 29.8 +0.3**
GERES pmax pmax
comp=Z,6.0nm,1.0s
CONA Conrad Observa 78.59 333⇓*i*P P **04 54 29.1 -1.4**
comp=Z,13nm,1.1s,mb4.8
HGN Heimansgroeve 78.63 341 *e*P P **04 54 32.8 +2.1**
comp=Z,35nm,1.1s,mb5.2
WCI Wyandotte Cave 78.69 45 *e*P P **04 54 30.3 -0.7**
WCI pmax pmax
comp=Z,12nm,0.8s,mb4.9
WCI Wyandotte Cave 78.69 45 *e*P P **04 54 30.3 -0.7**
comp=Z,12nm,0.8s,mb4.9
BZS Buzias 78.73 329⇓*i*P P **04 54 33.2 +1.9**
BZS Buzias 78.73 329 ⇓P P **04 54 33.2 +1.9**
BR131 Keskin Array S 78.79 318 *e*P P **04 54 32.5 +0.9**
comp=Z,17nm,1.0s,mb4.9
BRTR Keskin Array B 78.79 318 P P **04 54 32.5 +0.9**
comp=Z,14nm,1.0s,mb4.9,baz=56,slow=2.2,SNR=18
BRTR Keskin Array B 78.79 318 P P **04 54 32.5 +0.9**
BRTR pmax pmax
comp=Z,15nm,1.0s
ANTO Ankara 79.06 318 *e*P P **04 54 33.9 +0.8**
ANTO pmax pmax
comp=Z,11nm,0.7s,mb4.9
ANTO Ankara 79.06 318 *e*P P **04 54 33.9 +0.9**
comp=Z,11nm,0.7s,mb4.9
BCLA Clavier 79.09 341 XP sP 04 54 36.7 +1.4
comp=Z,10.0nm,0.9s
BCLA PCP PcP 04 54 46.4 +4.6
MOA Molln 79.14 334⇑*i*P P **04 54 34.5 +0.9**
comp=Z,9.2nm,1.1s,mb4.6
PKSM Moragy 79.23 331⇑*i*P P **04 54 35.0 +1.0**
PKSM Moragy 79.23 331 ⇑P P **04 54 35.0 +1.0**
SNF Seneffe 79.23 342 AP pP 04 54 36.3 +0.8
SNF E 04 54 47.2
ARSA Arzberg 79.30 333⇑*i*P P **04 54 34.7 +0.3**
comp=Z,11nm,1.1s,mb4.7
MIB Mutribah 79.43 303 *e*P P **04 54 35.1 0.0**
MIB AMb AMB 04 54 36.6
comp=Z,45nm,0.8s,mb5.5
DOU Dourbes 79.56 341 AP pP 04 54 37.8 +0.5
comp=Z,4.9nm,1.3s
WVT Waverly 79.59 47 *e*P P **04 54 35.3 -0.7**
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WVT Waverly 79.59 47 *e*P P **04 54 35.3 -0.7**
comp=Z,4.1nm,0.8s,mb4.4
WLF Walferdange 79.61 340 E 04 54 52.1
RST Umm Al-Ruwaisa 79.85 303 *e*P P **04 54 36.9 -0.5**
RST AMb AMB 04 54 39.9
comp=Z,58nm,0.7s,mb5.6
NAY Al-Naaiem 79.90 302 *e*P P **04 54 37.4 -0.3**
NAY AMb AMB 04 54 41.3
comp=Z,43nm,0.9s,mb5.4
RDF Al-Radifah 79.97 302 *e*P P **04 54 38.0 -0.1**
RDF AMb AMB 04 54 42.0
comp=Z,112nm,1.0s,mb5.8
KBA Koelnbreinsper 80.11 335⇑*i*P P **04 54 39.4 +0.6**
comp=Z,53nm,1.4s,mb5.3,SNR=14
OBKA Obir 80.26 334⇑*i*P P **04 54 43.1 +3.5**
comp=Z,11nm,1.2s,mb4.7
OBKA Obir 80.26 334⇓*i*P P **04 54 39.4 -0.2**
comp=Z,11nm,1.2s,mb4.7
DOBS Dobrina 80.30 333 *e*P P **04 54 41.8 +2.0**
WATA Walderalm 80.38 336⇑*i*P P **04 54 42.7 +2.5**
comp=Z,37nm,1.2s,mb5.2
WATA Walderalm 80.38 336⇑*i*P P **04 54 40.8 +0.6**
comp=Z,37nm,1.2s,mb5.2
WTTA Wattenberg 80.43 336⇑*i*P P **04 54 41.2 +0.7**
comp=Z,64nm,1.4s,mb5.4
MOTA Moosalm 80.50 336 *i* P P **04 54 41.8 +0.9**
comp=Z,48nm,1.2s,mb5.3,SNR=11
CDF Champ du Feu 80.51 339 *e*P P **04 54 40.2 -0.7**
comp=Z,129nm,1.4s,mb5.3
CDF Champ du Feu 80.51 339 *e*P P **04 54 40.2 -0.7**
CDF pmax pmax
comp=Z,64nm,1.4s,mb5.4
CDF Champ du Feu 80.51 339 *e*P P **04 54 40.2 -0.7**
comp=Z,64nm,1.4s,mb5.4
GRUS Gruza 80.55 328 *i* P P **04 54 40.6 -0.6**
SQTA Sankt Quirin 80.59 336⇓*i*P P **04 54 42.1 +0.7**
comp=Z,30nm,1.0s,mb5.2,SNR=7.6
DIVS Divcibare 80.62 329 *i* P P **04 54 42.2 +0.7**
DIVS Divcibare 80.62 329 *e*P P **04 54 41.1 -0.5**
VTS Vitosha 80.76 326 *e*P P **04 54 42.0 -0.3**
VTS Vitosha 80.76 326⇓*i*P P **04 54 44.9 +2.6**
VTS Vitosha 80.76 326 *e*P P **04 54 45.0 +2.7**
DAVA Damuels 80.89 337⇑*i*P P **04 54 43.3 +0.3**
comp=Z,31nm,1.2s,mb5.1
RZN Rozhen 80.95 325 *e*P P **04 54 44.9 +1.6**
ALN Alexandroupoli 81.09 323 *e*P P **04 54 45.5 +1.5**
DAVOX Davos 81.35 337 P P **04 54 48.6 +3.2**
comp=Z,9.5nm,0.8s,mb4.8,baz=9.9,slow=9.7,SNR=6.3
MMB Musomiste 81.42 325 *i* P P **04 54 48.0 +2.2**
KKB Krupnik 81.43 326 *e*P P **04 54 48.0 +2.2**
VAY Valandovo 82.09 326 *i* P P **04 54 48.9 -0.4**
KNT Kendrikon 82.11 326 *e*P P **04 54 49.0 -0.4**
GRR Gorron 82.29 344 *e*P P **04 54 49.7 -0.7**
comp=Z,252nm,1.4s,mb5.7
GRR Gorron 82.29 344 *e*P P **04 54 49.7 -0.7**
GRR pmax pmax
comp=Z,126nm,1.4s,mb5.7
GRR Gorron 82.29 344 *e*P P **04 54 49.7 -0.7**
comp=Z,126nm,1.4s,mb5.7
LOS Limnos 82.30 324 *e*P P **04 54 49.4 -1.0**
OUR Ouranopolis 82.39 324 *e*P P **04 54 50.9 -0.1**
GRG Griva 82.47 326 *e*P P **04 54 52.4 +1.1**
KRUS Krusevo 82.55 327 *i* P P **04 54 53.6 +1.8**
PAIG Paliouri 82.86 324 *e*P P **04 54 53.3 0.0**
SMF Signal de Mont 82.98 340 *e*P P **04 54 53.3 -0.7**
comp=Z,163nm,1.4s,mb5.6
SMF Signal de Mont 82.98 340 *e*P P **04 54 53.3 -0.7**
SMF pmax pmax
comp=Z,81nm,1.4s,mb5.6
SMF Signal de Mont 82.98 340 *e*P P **04 54 53.3 -0.7**
comp=Z,81nm,1.4s,mb5.6
FNA Florina 83.01 326 *e*P P **04 54 54.9 +0.7**

ASF Jabal al Asfar 83.26 311 P P **04 54 55.6 +0.2**
comp=Z,12nm,1.1s,mb4.8,baz=179,slow=2.5
ASF Jabal al Asfar 83.26 311 P P **04 54 55.6 +0.2**
ASF pmax pmax
comp=Z,12nm,1.2s
LPG La Plagne 83.36 338 *e*P P **04 54 56.1 +0.2**
comp=Z,58nm,1.0s,mb5.3
LPG La Plagne 83.36 338 *e*P P **04 54 56.1 +0.2**
LPG pmax pmax
comp=Z,29nm,1.0s,mb5.3
LPG La Plagne 83.36 338 *e*P P **04 54 56.1 +0.2**
comp=Z,29nm,1.0s,mb5.3
XOR Xorichti 83.54 324 *e*P P **04 54 54.9 -1.9**
BNI Bardonecchia 83.79 338 *e*P P **04 54 58.0 -0.2**
BNI *e**PP pP 04 55 09.9 +10
IGT Igoumenitsa 84.49 326 *e*P P **04 55 00.6 -1.1**
CAF Calviac 85.00 341 *e*P P **04 55 04.6 +0.3**
comp=Z,27nm,0.8s,mb5.1
CAF Calviac 85.00 341 *e*P P **04 55 04.6 +0.3**
CAF pmax pmax
comp=Z,14nm,0.8s,mb5.1
CAF Calviac 85.00 341 *e*P P **04 55 04.6 +0.3**
comp=Z,14nm,0.8s,mb5.1
TIP Timpagrande 86.10 329 *e*P P **04 55 09.7 -0.1**
IDI Anoyia 86.33 321 P P **04 55 11.4 +0.5**
comp=Z,14nm,0.6s,mb5.4,baz=18,slow=8.8,SNR=15
NWAO Narrogin (SRO) 86.92 211 P P **04 55 13.5 -0.3**
comp=Z,7.7nm,0.7s,mb5.1,baz=40,slow=6.7,SNR=3.6
NWAO Narrogin (SRO) 86.92 211 P P **04 55 13.5 -0.3**
NWAO pmax pmax
comp=Z,8.0nm,0.7s
NWAO Narrogin (SRO) 86.92 211 *e*P P **04 55 13.4 -0.3**
comp=Z,8.3nm,0.8s,mb5.0
ESDC Sonseca Array 91.28 344 P P **04 55 33.8 -0.5**
comp=Z,2.4nm,0.8s,mb4.5,baz=3.3,slow=5.9,SNR=4.1
KEST Kesra 91.69 333 P P **04 55 36.0 -0.2**
comp=Z,1.1nm,0.7s,mb4.3,baz=327,slow=2.8,SNR=3.1
TORD Torodi Ar. Bea 115.16 331 PKP PKiKP 05 01 08.7 -1.5
comp=Z,0.4nm,0.9s,baz=26,slow=1.5,SNR=4.4
TORD PP PP 05 02 01.5 -8.6
comp=Z,1.0nm,0.8s,baz=12,slow=7.3,SNR=5.7
VNDA Vanda 124.75 178 PKP PKPdf 05 01 26.1 -2.6
comp=Z,0.3nm,0.7s,baz=337,slow=4.1,SNR=4.0
SNAA Sanae 153.58 196 PKPbc PKPbc 05 02 24.8 -2.8
comp=Z,0.8nm,0.9s,baz=190,slow=6.1,SNR=4.4
SNAA PKPab PKPab 05 02 37.8 -2.3
comp=Z,1.1nm,0.8s,baz=61,slow=4.6,SNR=5.9
SNAA Sanae 153.58 196 *e*PKPbc PKPbc 05 02 24.7 -2.9
SNAA *e*PKPab PKPab 05 02 37.9 -2.2

ISCJB ***16*** *04:46:51.8±0.5, 4673N±008×15452E±008, h10km, mb4.5/41, Error ellipse: s-maj=12.0km s-min=6.6km az=121.8*
IDC ***16*** *04:46:51.9±0.6, 4672N×15460E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/31, mbtmp4.3/22, ML3.8/2, Error ellipse: s-maj=18.3km s-min=15.4km az=153.0*
NEIC ***16*** *04:46:53.3±0.4, 4669N×15453E, h10km, mb4.7/19, Error ellipse: s-maj=11.8km s-min=7.9km az=152.0*
BJI ***16*** *04:46:54.8, 4729N×15429E, h9km, mB4.9, mb4.4*
MOS ***16*** *04:46:54.1±0.8, 4672N×15442E, h29km, mb4.7/27, Error ellipse: s-maj=11.6km s-min=9.2km az=86.9*
ISC 16 04:46:53.6±0.5, 4676N±008×15453E±008, h10km, n109, σ1§11/105, mb4.5/41, 5C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.07**	**14**	*e*PN	**Pn**	**04 47 55.7**	**-0.2**
KUR	**Kuril'sk**	**4.89**	**254**	*e*PN	**Pn**	**04 48 04.0**	**-3.1**
KUR	comp=N,50nm,0.7s			pmax	pmax		
KUR	comp=E,50nm,0.7s			pmax	pmax		
KUR	comp=Z,120nm,0.7s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.07**	**276**	*e*PN	**Pn**	**04 48 51.8**	**+0.9**
ASAJ	**Asahikawa**	**8.80**	**257**	Pn	**Pn**	**04 49 01.4**	**+0.6**
ASAJ	comp=Z,0.9nm,0.3s,baz=125,slow=3.7,SNR=3.6			PN	**Pn**	**04 49 01.4**	**+0.6**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
KLR	**Kul'dur**	**15.44**	**288**	*e*P	**Pn**	**04 50 35.9**	**+4.5**
MAJO	**Matsushiro**	**15.87**	**236**	*e*P	**Pn**	**04 50 35.7**	**-1.3**
MAJO	comp=Z,10.0nm,0.6s			pmax	pmax		
MAJO	**Matsushiro**	**15.87**	**236**	*e*Pn	**Pn**	**04 50 35.6**	**-1.4**
MJAR	comp=Z,10nm,0.6s **Matsushiro Arr**	**15.87**	**236**	Pn	**Pn**	**04 50 35.3**	**-1.7**
MJAR	comp=Z,0.8nm,0.3s,baz=29,slow=13,SNR=4.0 **Matsushiro Arr**	**15.87**	**236**	P	**Pn**	**04 50 35.3**	**-1.7**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
KSRS	**Korea Array**	**21.73**	**254**	P	**P**	**04 51 46.6**	**+1.6**
BILL	comp=Z,4.3nm,0.7s,mb4.0,baz=62,slow=9.4,SNR=9.5 **Bilibino**	**22.18**	**12**	*e*P	**P**	**04 51 48.4**	**-1.4**
BILL	comp=Z,16nm,0.9s,mb4.5			pmax	pmax		
BILL	**Bilibino**	**22.18**	**12**	*e*P	**P**	**04 51 48.6**	**-1.2**
SNY	comp=Z,7.8nm,0.6s,mb4.3 **Shenyang**	**22.61**	**269**	⇑P	**P**	**04 51 54.8**	**+0.4**
SNY	comp=Z,11nm,0.5s,mb4.5			AMB	AMB		
SONM	**Songino Array**	**32.25**	**290**	P	**P**	**04 53 21.8**	**-0.3**
SONM	comp=Z,0.9nm,0.8s,baz=62,slow=8.6,SNR=4.2 **Songino Array**	**32.25**	**290**	P	**P**	**04 53 21.8**	**-0.3**
ZAK	comp=Z,1.0nm,0.8s **Zakamensk**	**33.56**	**295**	*e*P	**P**	**04 53 32.9**	**-0.7**
ZAK	comp=Z,3.0nm,1.4s,mb4.0			pmax	pmax		
INK	**Inuvik**	**41.13**	**33**	P	**P**	**04 54 37.1**	**-0.6**
INK	comp=Z,1.5nm,0.7s,mb3.7,baz=318,slow=7.7,SNR=9.5 **Inuvik**	**41.13**	**33**	P	**P**	**04 54 37.2**	**-0.6**
INK	comp=Z,2.0nm,0.7s			pmax	pmax		
GYA	**Guiyang**	**42.67**	**259**	⇑*i*P	**P**	**04 54 52.1**	**+1.7**
GYA	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB		
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**04 54 55.1**	**-1.3**
ZAL	comp=Z,1.4nm,0.3s,mb4.2,baz=44,slow=6.5,SNR=3.3 **Zalesovo**	**43.41**	**306**	P	**P**	**04 54 55.1**	**-1.3**
ZAL	comp=Z,1.0nm,0.3s			pmax	pmax		
MK31	**Makanchi Array**	**47.80**	**298**	*e*P	**P**	**04 55 30.6**	**-0.5**
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**04 55 30.6**	**-0.5**
MKAR	comp=Z,2.2nm,0.7s,mb4.3,baz=70,slow=6.4,SNR=8.6 **Makanchi Array**	**47.80**	**298**	P	**P**	**04 55 30.6**	**-0.5**
RES	comp=Z,2.0nm,0.7s **Resolute Bay**	**50.52**	**19**	*e*P	**P**	**04 55 52.1**	**+0.2**
RES	comp=Z,68nm,0.7s			pmax	pmax		
RES	**Resolute Bay**	**50.52**	**19**	*e*P	**P**	**04 55 52.1**	**+0.2**
CHKZ	comp=Z,68nm,0.7s **Chkalovo**	**51.17**	**311**	*e*P	**P**	**04 55 55.8**	**-1.0**
LSA	comp=Z,5.9nm,0.5s,mb4.8 **Lhasa**	**51.24**	**274**	*e*P	**P**	**04 56 00.6**	**+3.2**
LSA	comp=Z,7.0nm,0.6s,mb4.8			pmax	pmax		
LSA	**Lhasa**	**51.24**	**274**	*e*P	**P**	**04 56 00.6**	**+3.2**
BVAR	comp=Z,7.3nm,0.6s,mb4.8 **Borovoye Array**	**51.60**	**310**	P	**P**	**04 55 59.7**	**-0.4**
BVAR	comp=Z,1.9nm,0.4s,mb4.4,baz=58,slow=8.1,SNR=9.8 **Borovoye Array**	**51.60**	**310**	P	**P**	**04 55 59.7**	**-0.4**
BVAR	comp=Z,2.0nm,0.4s			pmax	pmax		
BRVK	**Borovoye**	**51.65**	**310**	*e*P	**P**	**04 55 59.2**	**-1.2**
BRVK	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
BRVK	**Borovoye**	**51.65**	**310**	*e*P	**P**	**04 55 59.2**	**-1.2**
ZRNK	comp=Z,3.5nm,0.6s,mb4.5 **Zerenda**	**52.37**	**310**	*e*P	**P**	**04 56 05.5**	**-0.3**
ZRNK	comp=Z,3.0nm,0.4s,mb4.6			pmax	pmax		
ZRNK	**Zerenda**	**52.37**	**310**	*e*P	**P**	**04 56 05.5**	**-0.3**
AAK	comp=Z,2.6nm,0.4s,mb4.5 **Ala-Archa**	**54.70**	**297**	*e*P	**P**	**04 56 22.7**	**-0.2**
AAK	comp=Z,2.0nm,0.6s,mb4.3			pmax	pmax		
AAK	**Ala-Archa**	**54.70**	**297**	*e*P	**P**	**04 56 22.7**	**-0.3**
ARU	comp=Z,2.5nm,0.6s,mb4.4 **Arti**	**55.66**	**318**	*e*P	**P**	**04 56 29.0**	**-0.8**
ARU	**Arti**	**55.66**	**318**	*e*P	**P**	**04 56 29.4**	**-0.4**
ARCES	comp=Z,6.9nm,0.6s,mb4.9 **ARCESS Array B**	**58.17**	**341**	P	**P**	**04 56 46.8**	**-0.8**

53C-65D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.58**	**259**	⇓*i*PN	**Pn**	**04 53 47.5**	**-2.5**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=N,100nm,0.7s						
KUR				pmax	pmax		
	comp=E,150nm,0.7s						
KUR				pmax	pmax		
	comp=Z,600nm,0.7s						
SKR	**Severo-Kuril's**	**4.58**	**15**	*e*PN	**Pn**	**04 53 50.2**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**6.33**	**252**	*e*PN	**Pn**	**04 54 16.0**	**+1.9**
YUK				pmax	pmax		
	comp=Z,330nm,0.5s						
PET	**Petropavlovsk**	**7.33**	**21**⇑	*e*PN	**Pn**	**04 54 18.4**	**-9.5**
YSS	**Yuzh-Sakhalins**	**7.94**	**279**	*e*PN	**Pn**	**04 54 39.2**	**+3.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.94**	**279**	*e*Pn	**Pn**	**04 54 40.0**	**+3.9**
JMP	**Maruseppu**	**8.02**	**257**	P	**Pn**	**04 54 37.1**	**-0.1**
ASAJ	**Asahikawa**	**8.50**	**259**	Pn	**Pn**	**04 54 43.1**	**-0.8**
	comp=E,6.6nm,0.3s,baz=108,slow=22,SNR=9.8						
ASAJ	**Asahikawa**	**8.50**	**259**	P	**Pn**	**04 54 47.0**	**+3.1**
ASAJ	**Asahikawa**	**8.50**	**259**	PN	**Pn**	**04 54 43.1**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
JWK2	**Keihoku**	**8.68**	**268**	P	**Pn**	**04 54 51.9**	**+5.6**
JEM	**Erimo**	**9.03**	**246**	P	**Pn**	**04 54 54.1**	**+3.0**
JEM				*e*S	**Sn**	**04 56 28.2**	**-4.2**
ERM	**Erimo**	**9.03**	**246**	*e*PN	**Pn**	**04 54 52.0**	**+0.8**
JEW	**Eniwo**	**9.75**	**254**	P	**Pn**	**04 55 01.5**	**+0.5**
JOT	**Ohata**	**10.71**	**248**	P	**Pn**	**04 55 12.8**	**-1.3**
JTM	**Tenmabayashi**	**11.02**	**245**	P	**Pn**	**04 55 16.7**	**-1.7**
JTM				*e*S	**Sn**	**04 57 13.0**	**-8.1**
JOM	**Ohasama**	**11.67**	**239**	P	**Pn**	**04 55 24.8**	**-2.5**
JOM				*e*S	**Sn**	**04 57 28.9**	**-8.3**
JRY	**Ryogami san**	**15.42**	**234**	P	**Pn**	**04 56 17.6**	**-0.6**
MJAR	**Matsushiro Arr**	**15.44**	**237**	Pn	**Pn**	**04 56 16.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=34,slow=12,SNR=15						
MJAR	**Matsushiro Arr**	**15.44**	**237**	P	**Pn**	**04 56 16.8**	**-1.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.44**	**237**	*e*P	**Pn**	**04 56 15.7**	**-2.8**
MAT	**Matsushiro**	**15.44**	**237**	P	**Pn**	**04 56 18.1**	**-0.4**
MAT	**Matsushiro**	**15.44**	**237**	P	**Pn**	**04 56 17.3**	**-1.2**
CN2	**Changchun**	**20.45**	**273**	*e*P	**P**	**04 57 16.4**	**-1.7**
CN2				*e*XP	sP	04 57 23.5	-1.9
CN2				*e*S	**S**	**05 01 04.8**	**-1.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.1						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.1						
CN2				LR	LR		
	comp=Z,500nm,16.0s,MS4.0						
YAK	**Yakutsk**	**21.14**	**327**	⇓*i*P	**P**	**04 57 22.5**	**-3.1**
YAK				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5						
KSRS	**Korea Array**	**21.41**	**255**	P	**P**	**04 57 29.2**	**+0.7**
	comp=Z,13nm,0.8s,mb4.3,baz=57,slow=10,SNR=16						
JNU	**Nakatsue**	**22.16**	**242**	P	**P**	**04 57 37.6**	**+1.1**
	comp=Z,25nm,0.9s,mb4.7,baz=243,slow=20,SNR=3.9						
SNY	**Shenyang**	**22.40**	**270**	⇑P	**P**	**04 57 39.9**	**+0.8**
SNY				AP		04 57 44.8	
SNY				XP	sP	04 57 48.0	+1.6
SNY				PP		04 58 01.6	
SNY				S	**S**	**05 01 37.9**	**-6.8**
SNY				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
SNY				AMB	AMB		
	comp=Z,1μm,12.0s						
SNY				LR	LR		
	comp=E,1μm,18.2s						
SNY				LR	LR		
	comp=Z,1μm,20.6s,MS4.4						
BILL	**Bilibino**	**22.69**	**12**⇑	*e*P	**P**	**04 57 36.5**	**-5.7**
BILL				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.6						
BILL	**Bilibino**	**22.69**	**12**	*e*P	**P**	**04 57 43.2**	**+1.0**
	comp=Z,37nm,1.2s,mb4.7						
HIA	**Hailar**	**23.25**	**290**⇓	*e*P	**P**	**04 57 47.5**	**-0.6**
BJI	**Beijing**	**28.25**	**271**	P	**P**	**04 58 38.8**	**+5.1**
BJI				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.9						
BJI				AMB	AMB		
	comp=Z,171nm,8.5s						
BJI				LR	LR		
	comp=N,1μm,15.9s,MS4.6						
BJI				LR	LR		
	comp=E,438nm,15.9s,MS4.6						
BJI				LR	LR		
	comp=Z,1μm,21.2s						
BJI	**Beijing**	**28.25**	**271**	P	**P**	**04 58 38.8**	**+5.1**
	comp=Z,27nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,1μm,21.2s,MS4.4						
BJT	**Baijiatuao**	**28.27**	**271**	*e*P	**P**	**04 58 36.8**	**+2.9**
BJT				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	**Baijiatuao**	**28.27**	**271**	*e*P	**P**	**04 58 36.8**	**+2.9**
	comp=Z,13nm,0.7s,mb4.7						
NJ2	**Nanjing**	**30.61**	**255**	*e*P	**P**	**04 58 55.8**	**+1.2**
NJ2				AP	pP	04 58 59.1	-0.9
NJ2				XP	sP	04 59 03.3	+1.1
NJ2				PP	PP	04 59 55.9	-7.9
NJ2				S	**S**	**05 03 55.5**	**-0.4**
NJ2				XS	sS	05 04 03.5	-1.3
NJ2				AMB	AMB		
	comp=Z,130nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,18.7s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,15.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,16.5s,MS4.9						
HHC	**Hu-ho-hao-te**	**31.11**	**276**	*e*P	**P**	**04 58 59.5**	**+0.5**
HHC				AP	pP	04 59 03.9	-0.5
HHC				XP	sP	04 59 06.6	+0.1
HHC				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,164nm,8.2s						
ULN	**Ulaanbaatar**	**31.79**	**290**⇓	*e*P	**P**	**04 59 08.4**	**+3.4**
SONM	**Songino Array**	**32.22**	**291**	P	**P**	**04 59 08.5**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.8,baz=62,slow=8.9,SNR=9.5						
SONM	**Songino Array**	**32.22**	**291**	P	**P**	**04 59 08.5**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TLY	**Talaya**	**33.08**	**298**	*d*iP	**P**	**04 59 15.4**	**-1.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TLY	**Talaya**	**33.08**	**298**	*e*P	**P**	**04 59 15.6**	**-0.7**
ZAK	**Zakamensk**	**33.58**	**296**	*e*P	**P**	**04 59 19.4**	**-1.3**
ZAK				*e*		05 02 00.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
KDAK	**Kodiak Island**	**33.80**	**50**	P	**P**	**04 59 20.2**	**-2.5**
	comp=Z,6.3nm,0.8s,mb4.6,baz=257,slow=14,SNR=2.3						
WHN	**Wuhan**	**34.57**	**257**	*e*P	**P**	**04 59 30.3**	**+1.0**
MCK	**McKinley**	**35.51**	**40**	*e*P	**P**	**04 59 37.4**	**0.0**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
MCK	**McKinley**	**35.51**	**40**	*e*P	**P**	**04 59 37.4**	**0.0**
	comp=Z,10nm,1.2s,mb4.6						
SML	**Sawmill**	**35.78**	**43**	*e*P	**P**	**04 59 39.5**	**-0.2**
COLA	**College**	**36.03**	**38**	*e*P	**P**	**04 59 41.8**	**-0.1**
COLA				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
COLA	**College**	**36.03**	**38**	*e*P	**P**	**04 59 41.8**	**-0.1**
	comp=Z,28nm,1.1s,mb5.1						
XAN	**Xi'an**	**36.25**	**267**	P	**P**	**04 59 45.3**	**+1.5**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
LZH	**Lanzhou**	**38.68**	**273**	⇑P	**P**	**05 00 07.3**	**+3.0**
LZH				AP	pP	05 00 11.8	+2.0
LZH				XP	sP	05 00 13.8	+1.9
LZH				PP	PP	05 01 37.0	+4.0
LZH				*e*S	**S**	**05 05 59.3**	**-1.0**
LZH				XS	sS	05 06 08.0	-1.2
LZH				*e*SS	SS	05 08 38.0	-13
LZH				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
LZH				LR	LR		
	comp=E,558nm,13.6s						
LZH				LR	LR		
	comp=Z,852nm,14.8s,MS4.7						
LZH	**Lanzhou**	**38.68**	**273**	⇑P	**P**	**05 00 07.2**	**+2.9**
LZH				*SP	sP	05 00 13.7	+1.8
LZH						05 01 37.0	
LZH				*e*S	**S**	**05 05 59.2**	**-1.1**
LZH				*SS	sS	05 06 08.0	-1.2
LZH				*e*SS	SS	05 08 38.0	-13
LZH				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.1						
LZH				MLR	MLR		
	comp=Z,850nm,14.8s,MS4.7						
LZH	**Lanzhou**	**38.68**	**273**	⇑P	**P**	**05 00 07.2**	**+2.9**
	comp=Z,40nm,1.1s,mb5.1						
LZH				pP	pP	05 00 11.7	+1.9
LZH				sP	sP	05 00 13.7	+1.8
LZH				PP	PP	05 01 37.0	+4.0
LZH				*e*S	**S**	**05 05 59.2**	**-1.1**
LZH				sS	sS	05 06 08.0	-1.2
LZH				*e*SS	SS	05 08 38.0	-13
LZH				LR	LR		
	comp=Z,850nm,14.8s,MS4.7						
EGAK	**Eagle**	**38.89**	**38**	*e*P	**P**	**05 00 05.3**	**-0.8**
	comp=Z,31nm,1.1s,mb4.9						
DAWY	**Dawson**	**39.72**	**39**	*e*P	**P**	**05 00 14.3**	**+1.3**
CD2	**Chengdu**	**41.62**	**267**	*e*P	**P**	**05 00 27.6**	**-1.1**
CD2				AP	pP	05 00 32.1	-2.1
CD2				XP	sP	05 00 34.8	-1.5
CD2				PP	PP	05 02 06.8	+1.9
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,420nm,18.0s,MS4.5						
CD2				LR	LR		
	comp=E,400nm,16.8s,MS4.5						
CD2				LR	LR		
	comp=Z,770nm,18.0s,MS4.6						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**05 00 29.3**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.2,baz=291,slow=6.0,SNR=30						
INK	**Inuvik**	**41.64**	**32**	*e*P	**P**	**05 00 28.7**	**-0.1**
INK				pmax	pmax		
	comp=Z,223nm,0.9s						
INK	**Inuvik**	**41.64**	**32**	*e*P	**P**	**05 00 28.7**	**-0.2**
	comp=Z,223nm,0.9s,mb5.8						
GYA	**Guiyang**	**42.38**	**259**⇑	*i*P	**P**	**05 00 35.9**	**+1.0**
GYA				AP	pP	05 00 39.8	-0.6
GYA				XP	sP	05 00 42.6	+0.1
GYA				PP	PP	05 02 15.5	+2.4
GYA				PCP	PcP	05 02 29.4	+1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,490nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=Z,510nm,17.6s,MS4.5						
ZAL	**Zalesovo**	**43.53**	**307**	P	**P**	**05 00 43.9**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.1,baz=46,slow=11,SNR=6.3						
ZAL				PcP	PcP	05 02 31.9	0.0
	comp=Z,2.0nm,0.5s,baz=59,slow=3.3,SNR=6.4						
ZAL	**Zalesovo**	**43.53**	**307**	P	**P**	**05 00 43.9**	**-0.3**
ZAL						05 02 31.9	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**43.53**	**307**	P	**P**	**05 00 43.9**	**-0.4**
ZAL				PcP	PcP	05 02 31.9	0.0
NVS	**Novosibirsk**	**44.09**	**308**	*e*P	**P**	**05 00 48.6**	**-0.1**
KMI	**Kunming**	**45.92**	**261**	P	**P**	**05 01 05.3**	**+2.0**
KMI				AP	pP	05 01 11.0	+2.2
KMI				XP	sP	05 01 13.8	+2.8
KMI				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
KMI				AMB	AMB		
	comp=Z,67nm,3.9s						
KMI				LR	LR		
	comp=N,182nm,15.5s,MS4.3						
KMI				LR	LR		
	comp=E,171nm,14.5s,MS4.3						
KMI				LR	LR		
	comp=Z,229nm,17.4s,MS4.2						
KMI	**Kunming**	**45.92**	**261**	P	**P**	**05 01 05.2**	**+1.9**
KMI				*PP	pP	05 01 11.0	+2.2
KMI				*SP	sP	05 01 13.7	+2.7
KMI						05 02 42.7	
KMI				S	**S**	**05 07 44.6**	**-2.5**
KMI				*SS	sS	05 07 55.2	-0.9
KMI				SS	SS	05 10 58.8	-13
KMI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
KMI				MLR	MLR		
	comp=Z,230nm,17.4s,MS4.2						
KMI	**Kunming**	**45.92**	**261**	P	**P**	**05 01 05.2**	**+1.9**
	comp=Z,6.0nm,1.5s,mb4.3						
KMI				pP	pP	05 01 11.0	+2.2
KMI				sP	sP	05 01 13.7	+2.7
KMI				PP	PP	05 02 42.7	-8.3
KMI				S	**S**	**05 07 44.6**	**-2.5**
KMI				sS	sS	05 07 55.2	-0.9
KMI				SS	SS	05 10 58.8	-13
KMI				LR	LR		
	comp=Z,230nm,17.4s,MS4.2						
MK31	**Makanchi Array**	**47.85**	**298**	*e*P	**P**	**05 01 18.2**	**-0.2**
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**05 01 18.1**	**-0.3**
	comp=Z,7.8nm,0.8s,mb4.8,baz=66,slow=8.1,SNR=26						
MKAR				P	PcP	05 02 46.6	-0.3
	comp=Z,2.2nm,0.8s,baz=69,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**05 01 18.1**	**-0.3**
MKAR						05 02 46.6	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**05 01 40.8**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=295,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**05 01 40.8**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**51.04**	**19**	*e*P	**P**	**05 01 42.3**	**-0.4**
RES				pmax	pmax		
	comp=Z,213nm,1.0s						
RES	**Resolute Bay**	**51.04**	**19**	*e*P	**P**	**05 01 42.3**	**-0.4**
	comp=Z,213nm,1.0s						
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**05 01 44.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**05 01 44.1**	**-0.8**
	comp=Z,14nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**05 01 48.3**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=61,slow=8.6,SNR=23						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**05 01 48.3**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**51.80**	**310**	*e*P	**P**	**05 01 47.0**	**-1.4**
ZRNK	**Zerenda**	**52.52**	**311**	*e*P	**P**	**05 01 53.6**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**52.52**	**311**	*e*P	**P**	**05 01 53.6**	**-0.2**
	comp=Z,7.7nm,0.8s,mb4.7						
ULHL	**Ulahol**	**53.87**	**296**	P	**P**	**05 02 04.7**	**+1.0**
	SNR=8.7						
USP	**Ospenovka**	**54.39**	**298**	P	**P**	**05 02 08.6**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**54.74**	**297**	P	**P**	**05 02 11.9**	**+1.9**
	SNR=12						
AAK	**Ala-Archa**	**54.74**	**297**	*e*P	**P**	**05 02 10.2**	**+0.2**
AAK				pmax	pmax		

ISCJB ***16*** *04:52:38.4±1.4, 4620N±005×15431E±003, h9km±9km, mb4.6/82, MS4.5/8, Error ellipse: s-maj=8.3km s-min=3.3km az=150.2*

IDC ***16*** *04:52:38.7±0.6, 4626N×15432E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.5/36, mbtmp4.5/30, ML4.3/2, Error ellipse: s-maj=16.1km s-min=12.6km az=144.0*

MOS ***16*** *04:52:40.6±0.9, 4625N×15423E, h24km, mb4.8/42, Error ellipse: s-maj=8.9km s-min=7.2km az=81.7*

BJI ***16*** *04:52:41.1, 4652N×15401E, h16km, mB4.9, mb4.8, Ms4.6, Msz4.4*

NEIC ***16*** *04:52:43.2±2.5, 4628N×15423E, h26km±18km, mb4.8/44, Error ellipse: s-maj=6.5km s-min=4.0km az=160.0*

ISC 16 04:52:41.6±1.7,4628N±005×15423E±003,h18km±10km, h20km±2.9km:pP-P,n324,σ0=80/328,mb4.6/82,MS4.5/8,

comp=Z,11nm,0.8s,mb4.9
AAK Ala-Archa 54.74 297 *e*P P 05 02 10.2 +0.2
comp=Z,11nm,0.8s,mb4.9
EKS2 Erkin-Say 55.16 298 P P 05 02 15.1 +2.0
SNR=11
AML Almayashu 55.51 297 P P 05 02 18.2 +2.6
SNR=6.4
KSH Kashi 55.55 293 *e*P P 05 02 19.1 +3.2
KSH *e*AP pP 05 02 24.3 +2.8
KSH *e*XP sP 05 02 27.8 +4.2
KSH *e*PCP PcP 05 03 19.3 +3.7
KSH *e*PP PP 05 04 25.6 +5.6
KSH *e*S **S** **05 10 05.3 +4.7**
KSH *e*XS sS 05 10 14.5 +4.7
KSH *e*PS 05 10 23.3
KSH *e*SCS ScS 05 12 04.8 +0.5
KSH *e*SS SS 05 13 47.3 +1.8
KSH AMB AMB
comp=Z,757nm,2.6s
KSH LR LR
comp=Z,981nm,6.4s
A09A Danville 55.64 53 ⇑P P 05 02 16.1 -0.4
baz=56
ARU Arti 55.88 318 ⇓*i*P P **05 02 18.0 -0.3**
ARU *e* 05 04 24.1
ARU *e*S **S** **05 09 59.2 -5.8**
ARU *e*SS SS 05 13 45.8 -5.0
ARU pmax pmax
comp=Z,20nm,0.7s,mb5.3
ARU Arti 55.88 318 *e*P P 05 02 18.1 -0.2
comp=Z,18nm,0.6s,mb5.3
HOOD Mount Hood Mea 55.90 58 *e*P P **05 02 14.7 -3.7**
EDM Edmonton 56.08 46 *e*P P **05 02 19.0 -0.7**
B09A Rice 56.19 53 ⇑P P 05 02 20.4 -0.1
baz=56
NEW Newport 56.84 53 P P 05 02 24.2 -0.9
comp=Z,1.4nm,0.5s,mb4.3,baz=322,slow=5.9,SNR=4.0
NEW Newport 56.84 53 P P 05 02 24.2 -0.9
NEW pmax pmax
comp=Z,1.0nm,0.5s
K05A Summer Lake 57.81 60 ⇓P P 05 02 32.4 +0.4
baz=58
M03C McCloud 57.91 62 ⇑P P 05 02 33.2 +0.5
baz=58
H08A Prairie City 58.10 57 ⇓P P 05 02 34.4 +0.5
baz=58
O02C Red Bluff 58.14 64 ⇓P P 05 02 34.5 +0.3
baz=58
K06A Valley Falls 58.16 60 ⇑P P 05 02 35.0 +0.6
baz=58
B13A Whitefish 58.24 52 P P 05 02 35.4 +0.4
baz=58,SNR=7.0
GASB Alder Springs 58.49 64 ⇑P P 05 02 37.3 +0.5
baz=58
I08A Drewsey 58.51 58 ⇓P P 05 02 37.2 +0.4
baz=58
ARCES ARCESS Array B 58.55 341 P P 05 02 36.6 -0.5
comp=Z,8.0nm,0.9s,mb4.7,baz=16,slow=4.7,SNR=8.4
ARCES ARCESS Array B 58.55 341 P P 05 02 36.7 -0.4
ARCES pmax pmax
comp=Z,8.0nm,0.9s
MOD Modoc 58.65 61 ⇓P P 05 02 37.7 -0.1
baz=58
BMO Blue Mountains 58.69 56 *e*P P 05 02 39.1 +0.9
comp=Z,2.4nm,0.7s,mb4.3
K07A Rock Creek Ran 58.82 59 ⇓P P 05 02 39.0 0.0
baz=59
J08A Circle Bar Ran 58.89 58 ⇓P P 05 02 39.7 +0.2
baz=59
M06C Likely Place G 58.95 61 ⇑P P 05 02 40.1 +0.1
baz=59
I09A Lost Marbles R 58.96 57 ⇑P P 05 02 40.0 0.0
baz=59
G11A Walters Elk Ra 58.97 55 ⇓P P 05 02 40.3 +0.2
baz=59
D13A Huson 58.99 53 ⇑P P 05 02 40.4 +0.2
baz=59
TMCR Tamitsa 59.11 333 *e*P P 05 02 40.2 -0.8
TMCR pmax pmax
comp=Z,19nm,0.8s,mb5.2
MNRC McLaughlin Nat 59.12 65 ⇓P P 05 02 41.0 -0.1
baz=59
L07A Adell 59.16 60 ⇓P P 05 02 41.8 +0.4
baz=59
K08A Mann Creek Ran 59.25 59 ⇑P P 05 02 41.9 -0.1
baz=59
ORV Oroville 59.30 63 ⇓P P 05 02 42.2 -0.2
baz=59
J09A Fry Pan Ranch, 59.32 58 ⇓P P 05 02 42.7 +0.2
baz=59
SUTB Sutter Butte 59.32 64 ⇑P P 05 02 42.4 -0.1
baz=59
WVOR Wild Horse Val 59.34 59 *e*P P 05 02 42.7 +0.1
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
WVOR Wild Horse Val 59.34 59 *e*P P 05 02 42.7 +0.1
comp=Z,4.8nm,1.0s,mb4.5
O05C Quincy 59.42 63 ⇑P P 05 02 42.8 -0.3
baz=59
MSO Missoula 59.43 53 *e*P P 05 02 43.9 +0.6
comp=Z,9.7nm,1.2s,mb4.7
D14A Greenough 59.52 52 ⇓P P 05 02 43.7 -0.2
baz=59,SNR=5.7
E13A Victor 59.52 53 ⇑P P 05 02 43.6 -0.3
baz=59
H11A Donnelly 59.53 56 ⇑P P 05 02 43.6 -0.3
baz=59
N06A Buffalo Meadow 59.62 61 ⇓P P 05 02 44.4 -0.1
baz=60
AKTK Aktyubinsk 59.62 313 P P 05 02 44.9 +0.3
AKTO Aktyubinsk 59.62 313 P P 05 02 44.9 +0.3
comp=Z,3.5nm,0.6s,mb4.6,baz=57,slow=9.0,SNR=13
AKTO Aktyubinsk 59.62 313 P P 05 02 44.9 +0.4
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
M07A Soldier Meadow 59.64 61 ⇑P P 05 02 45.2 +0.5
baz=60
K09A Rome 59.72 59 ⇑P P 05 02 45.2 0.0
baz=60
BEKR Beckwourth 59.82 63 ⇑P P 05 02 45.6 -0.3
baz=60
F13A Darby 59.83 54 ⇑P P 05 02 45.8 -0.3
baz=60
O06A Flanigan 59.97 62 ⇓P P 05 02 47.2 +0.3
baz=60
D15A Lincoln 60.09 52 ⇓P P 05 02 47.6 -0.2
baz=60
L09A Wilkinson Ranc 60.16 59 ⇓P P 05 02 48.8 +0.5
baz=60
LAVA Lava Cap Winer 60.26 64 ⇑P P 05 02 49.2 +0.3
baz=60
E15A Deer Lodge 60.39 53 ⇓P P 05 02 49.9 +0.1
baz=60,SNR=5.1
O07A Toulon 60.55 61 ⇑P P 05 02 51.2 +0.3
baz=60
N08A GE Springer Mi 60.63 61 ⇓P P 05 02 51.6 +0.1
baz=60
R05C Kirkwood Meado 60.70 63 ⇑P P 05 02 51.6 -0.3
baz=61
F15A Butte 60.83 53 ⇓P P 05 02 52.2 -0.6
baz=61,SNR=7.0
LRM Limekiln Ridge 60.86 53 *e*P P 05 02 53.5 +0.4
CMB Columbia Colle 60.91 64 *e*P P 05 02 53.3 -0.1
CMB pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
CMB Columbia Colle 60.91 64 *e*P P 05 02 53.3 -0.1
comp=Z,3.8nm,1.3s,mb4.4
CMB Columbia Colle 60.91 64 ⇑P P 05 02 53.2 -0.2
baz=61
N09A Rock Creek Ran 60.95 60 ⇑P P 05 02 53.4 -0.2
baz=61
EGMT Eagleton 60.98 50 *e*P P 05 02 54.4 +0.6
comp=Z,8.4nm,0.8s,mb4.9
EGMT Eagleton 60.98 50 ⇓P P 05 02 53.5 -0.3
baz=61
PACP Pacheco Peak 60.98 66 ⇓P P 05 02 53.6 -0.2
baz=61
HLID Hailey 61.13 56 *e*P P 05 02 54.5 -0.4
comp=Z,7.0nm,1.2s,mb4.7
HLID Hailey 61.13 56 P P 05 02 54.6 -0.3
baz=61,SNR=5.8
M10A I.L. Ranch, Tu 61.13 59 ⇓P P 05 02 55.0 +0.1
baz=61
R06C Coleville 61.20 63 ⇑P P 05 02 55.5 +0.2
baz=61
G15A Dillon 61.24 54 ⇓P P 05 02 54.8 -0.9
baz=61
S06C San Francisco 61.34 64 ⇓P P 05 02 55.6 -0.7
baz=61
S05C Merced 61.37 65 ⇑P P 05 02 56.2 -0.3
baz=61
BMN Battle Mountai 61.39 60 *e*P P 05 02 57.3 +0.6
BOZ Bozeman (W) 61.42 53 *e*P P 05 02 57.6 +0.7
BOZ *e**PP pP 05 03 12.0 +9.5
O09A Fish Creek Ran 61.57 61 ⇑P P 05 02 57.8 -0.1
baz=61
M11A Holland Ranch, 61.63 59 ⇓P P 05 02 58.0 -0.2
baz=62
KAKA Kakadu 61.91 204 *e*P P 05 03 00.3 +0.2
comp=Z,12nm,0.6s,mb5.2
Q08A Gabbs 61.93 62 ⇓P P 05 02 59.9 -0.3
baz=62,SNR=6.3
T06C Millerton Lake 61.97 65 ⇑P P 05 03 00.2 -0.3
baz=62
P09A Austin 61.98 61 ⇓P P 05 03 00.2 -0.5
baz=62
KCC Kaiser Creek 62.02 64 ⇓P P 05 03 00.7 -0.2
baz=62
QLMT Earthquake Lak 62.04 53 *e*P P 05 03 01.7 +0.6
V04C Ramage Ranch, 62.09 67 ⇑P P 05 03 01.0 -0.3
baz=62
R08A Mina 62.14 63 ⇑P P 05 03 01.2 -0.4
baz=62
M12A Wells 62.16 58 ⇓P P 05 03 02.1 +0.3
baz=62
P10A Eureka 62.35 61 ⇑P P 05 03 03.1 0.0
baz=62
GCMT Greycliff 62.41 52 *e*P P 05 03 03.7 +0.1
N12A Clover Valley, 62.44 59 ⇑P P 05 03 02.8 -0.8
baz=62
O11A Cowboy Ranch, 62.52 60 ⇓P P 05 03 03.6 -0.6
baz=62
HELL Mitchell Peak, 62.60 65 ⇑P P 05 03 04.2 -0.6
baz=62,SNR=5.5
S08C White Mtn Res 62.62 63 ⇓P P 05 03 04.5 -0.4
baz=62
M13A Montello 62.64 58 ⇑P P 05 03 04.4 -0.6
baz=62
R09A Tonopah 62.84 62 ⇓P P 05 03 05.9 -0.4
baz=63,SNR=9.9
IMW Indian Meadow 62.90 54 *e*P P 05 03 08.4 +1.7
comp=Z,7.7nm,1.0s,mb4.8
IMW *e*pP pP 05 03 17.9 +5.4
FLWY Flagg Ranch 62.92 54 *e*P P 05 03 08.3 +1.4
comp=Z,4.4nm,0.7s,mb4.7
N13A Wendover, West 62.93 58 ⇓P P 05 03 07.1 +0.1
baz=63
O12A Currie 62.98 59 ⇑P P 05 03 07.1 -0.2
baz=63,SNR=6.9
S09A Goldfield 63.07 63 ⇑P P 05 03 07.6 -0.3
baz=63
MOOW Moose Ponds 63.10 54 *e*P P 05 03 09.1 +1.0
comp=Z,11nm,1.3s,mb4.8
TPAW Teton Pass 63.15 54 *e*P P 05 03 09.6 +1.1
comp=Z,21nm,1.1s,mb5.2
HVU Hansel Valley 63.19 57 *e*P P 05 03 09.5 +0.8
HVU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
HVU Hansel Valley 63.19 57 *e*P P 05 03 09.4 +0.8
comp=Z,5.5nm,1.0s,mb4.6
LOHW Long Hollow 63.27 54 *e*P P 05 03 10.2 +1.0
comp=Z,17nm,1.4s,mb5.0
SNOW Snow King Moun 63.28 54 *e*P P 05 03 10.6 +1.3
SNOW *e*pP pP 05 03 20.8 +5.9
REDW Red Top Meadow 63.29 54 *e*P P 05 03 09.5 +0.2
Q11A Duckwater 63.33 61 ⇑P P 05 03 09.3 -0.3
baz=63
CWC Cottonwood Cre 63.35 64 ⇓P P 05 03 09.7 -0.1
baz=63
P12A McGill 63.38 60 ⇓P P 05 03 09.7 -0.2
baz=63
GRAC Grapevine Rang 63.44 63 ⇓P P 05 03 10.2 -0.2
baz=63
ISA Isabella 63.59 65 ⇑P P 05 03 10.8 -0.5
baz=64
Q12A Willow Creek R 63.70 60 ⇑P P 05 03 12.1 0.0
baz=64
MPMC Manual Prospec 63.95 64 ⇑P P 05 03 13.7 0.0
baz=64,SNR=5.9
HWUT Hardware Ranch 64.00 56 *e*P P 05 03 14.6 +0.6
comp=Z,12nm,1.4s,mb4.7
FURC Furnace Creek, 64.09 64 P P 05 03 14.8 +0.2
baz=64,SNR=6.5
DUG Dugway 64.17 58 *e*P P 05 03 15.6 +0.5
DUG pmax pmax
comp=Z,11nm,1.1s,mb4.8
DUG Dugway 64.17 58 *e*P P 05 03 15.6 +0.5
comp=Z,11nm,1.1s,mb4.8
DUG Dugway 64.17 58 ⇓P P 05 03 14.9 -0.2
baz=64,SNR=8.8
LRMC Laurel Mountai 64.20 65 ⇓P P 05 03 15.2 -0.1
baz=64
EDW2 Edwards Air Fo 64.39 66 P P 05 03 16.3 -0.3
baz=64,SNR=5.5
BW06 Boulder Array 64.40 54 *e*P P 05 03 16.3 -0.4
comp=Z,6.3nm,1.0s,mb4.6
PDAR Pinedale Array 64.40 54 P P 05 03 16.6 0.0
comp=Z,5.9nm,1.1s,mb4.5,baz=270,slow=1.5,SNR=20
U10A Ash Meadows, A 64.45 63 ⇓P P 05 03 16.8 -0.2
baz=64,SNR=6.0
FIA1 FINESS Array S 64.79 335 *e*P P 05 03 19.1 -0.1
FINES FINESS Array B 64.80 335 P P 05 03 17.7 -1.5
comp=Z,2.3nm,0.6s,mb4.4,baz=33,slow=7.1,SNR=9.8
FINES FINESS Array B 64.80 335 P P 05 03 17.7 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
GSC Goldstone 64.87 65 ⇓P P 05 03 19.8 +0.1
baz=65
MPU Maple Canyon 64.98 58 *e*P P 05 03 20.9 +0.5
comp=Z,5.0nm,0.9s,mb4.5
SHPR Sheep Range 65.12 63 *e*P P 05 03 22.1 +0.8
FRB Frobisher Bay 65.24 19 P P 05 03 20.9 -1.3
comp=Z,13nm,0.9s,mb5.0,baz=328,slow=6.7,SNR=6.2
FRB Frobisher Bay 65.24 19 P P 05 03 20.9 -1.2
FRB pmax pmax
comp=Z,13nm,0.9s
TUQ Turquoise Mtn. 65.33 64 ⇓P P 05 03 22.2 -0.5
baz=65,SNR=5.1
ARUT Antelope Range 65.34 61 *e*P P 05 03 22.5 -0.3
V11A Goodsprings 65.38 63 ⇓P P 05 03 22.5 -0.5
baz=65
BBRC Big Bear Sol-O 65.46 66 ⇓P P 05 03 23.2 -0.4
baz=65
HEC Hector,Ludlow 65.47 65 ⇓P P 05 03 23.5 -0.2
baz=65
MURC Murrieta 65.72 66 ⇓P P 05 03 24.7 -0.5
baz=66
V12A Nelson 65.81 63 ⇓P P 05 03 25.5 -0.3
baz=66
OBN Obninsk 66.14 326 ⇑*i*P P 05 03 27.8 -0.1
OBN *e* 05 03 41.5
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BELC Belle Mtn. 66.22 65 ⇓P P 05 03 28.3 -0.1
baz=66
SRU San Rafael 66.22 58 *e*P P 05 03 29.0 +0.6
RSSD Black Hills 66.53 50 *e*P P 05 03 29.9 -0.6
RSSD pmax pmax
comp=Z,12nm,1.3s,mb4.8
RSSD Black Hills 66.53 50 *e*P P 05 03 29.9 -0.6
comp=Z,12nm,1.3s,mb4.8
IRM Iron Mountain 66.64 65 ⇑P P 05 03 30.9 -0.2
baz=66
BC3 Big Chuckw Mtn 66.78 65 ⇓P P 05 03 31.8 -0.3
baz=67
W13A Hualapai Mount 66.82 63 ⇓P P 05 03 32.1 -0.2
baz=67
X13A Yucca 67.18 63 ⇓P P 05 03 34.2 -0.4
baz=67,SNR=5.9
PDMCI Parker Dam,Lak 67.18 64 ⇓P P 05 03 34.0 -0.7
baz=67
W14A Seligman 67.24 63 ⇑P P 05 03 34.4 -0.5
baz=67,SNR=9.5
GLA Glamis 67.57 65 ⇓P P 05 03 36.5 -0.6
baz=67
PHWY Pilot Hill 67.66 53 *e*P P 05 03 40.3 +2.7
Y13A Salome 67.70 64 ⇑P P 05 03 37.7 -0.1
baz=68
W15A Williams 67.76 62 ⇓P P 05 03 38.2 0.0
baz=68
HYB Hyderabad 67.79 272 *i*P P 05 03 39.5 +1.1
HYB Hyderabad 67.79 272 *e*P P 05 03 39.5 +1.1
X14A Yava 67.85 63 ⇓P P 05 03 38.9 +0.1
baz=68,SNR=6.4
WUAZ Wupatki 68.08 61 ⇓P P 05 03 39.9 -0.4
baz=68
Y14A Wickenburg 68.13 63 ⇓P P 05 03 40.4 -0.1
baz=68
SMCO Snowmass 68.23 56 *e*P P 05 03 32.0 -9.2
comp=Z,6.5nm,1.0s,mb4.6
X15A Humboldt 68.24 63 ⇑P P 05 03 41.7 +0.5
baz=68,SNR=7.8
WRAB Tennant Creek 68.31 200 *e*P P 05 03 41.2 -0.5
WRAB pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WRAB Tennant Creek 68.31 200 *e*P P 05 03 41.2 -0.6
comp=Z,7.3nm,0.9s,mb4.7
WB2 Warramunga Arr 68.32 200 *e*P P 05 03 41.7 -0.1
WRA Warramunga Arr 68.33 200 P P 05 03 41.6 -0.3
comp=Z,4.1nm,0.7s,mb4.5,baz=19,slow=6.7,SNR=20
WRA Warramunga Arr 68.33 200 P P 05 03 41.6 -0.2
WRA pmax pmax
comp=Z,4.0nm,0.7s
ISCO Idaho Springs 68.59 55 *e*P P 05 03 44.1 +0.7
MVCO Mesa Verde 68.67 58 *e*P P 05 03 43.8 -0.2
comp=Z,8.5nm,1.2s,mb4.5
MVCO Mesa Verde 68.67 58 ⇑P P 05 03 44.0 +0.1
baz=68
NB2 NORSAR Subarra 68.92 342 P P 05 03 45.0 -0.5
comp=Z,2.4nm,0.8s,mb4.2,baz=29,slow=6.5
NOA NORSAR Array B 68.92 342 P P 05 03 44.6 -0.9
comp=Z,1.6nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=4.8
NOA NORSAR Array B 68.92 342 P P 05 03 44.7 -0.8
NOA pmax pmax
comp=Z,2.0nm,0.7s
FITZ Fitzroy Crossi 69.10 209 *e*P P 05 03 47.5 +0.9
comp=Z,8.5nm,0.9s,mb4.7
HFS Hagfors 69.17 340 P P 05 03 46.4 -0.6
comp=Z,2.8nm,0.5s,mb4.5,baz=22,slow=5.5,SNR=17
HFS Hagfors 69.17 340 P P 05 03 46.4 -0.7
HFS pmax pmax
comp=Z,3.0nm,0.5s
LAZ Ladron 71.39 60 *e*P P 05 04 00.8 +0.1
ANMO Albuquerque 71.42 59 *e*P P 05 04 00.9 +0.1
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 71.42 59 *e*P P 05 04 00.9 +0.1
comp=Z,2.8nm,0.9s,mb4.2
AS31 Alice Springs 72.01 200 *e*P P 05 04 04.6 +0.2
ASAR Alice Springs 72.01 200 P P 05 04 05.0 +0.6
comp=Z,4.9nm,0.8s,mb4.5,baz=11,slow=5.8,SNR=36
ASAR Alice Springs 72.01 200 P P 05 04 05.0 +0.6
ASAR pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 72.37 327 P P 05 04 05.5 -1.0
comp=Z,1.7nm,0.6s,mb4.2,baz=30,slow=6.2,SNR=8.2
AKASG Malin Array Be 72.37 327 P P 05 04 05.5 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
MNTX Cornudas Mount 74.33 61 *e*P P 05 04 17.7 -0.4
comp=Z,2.8nm,0.7s,mb4.3
WMOK Wichita Mounta 76.01 54 *e*P P 05 04 26.6 -1.2
WMOK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
WMOK Wichita Mounta 76.01 54 *e*P P 05 04 26.6 -1.2
comp=Z,8.0nm,1.4s,mb4.5
STHS Stebnicka Huta 76.31 331 *e*P P 05 04 29.8 +0.3
STHS *e*pP pP 05 04 40.3 +5.0
KOLS Kolonicke sedl 76.37 330 *e*P P 05 04 28.7 -1.1
BURAR Bucovina Array 76.41 327 ⇑*i*P P 05 04 30.4 +0.4
EKA Eskdalemuir Ar 76.98 347 P P 05 04 34.2 +0.9
comp=Z,1.3nm,0.6s,mb4.1,baz=14,slow=4.3,SNR=5.7
EKA Eskdalemuir Ar 76.98 347 P P 05 04 34.2 +0.9
EKA pmax pmax
comp=Z,1.0nm,0.6s
LTX Lajitas 77.05 61 *e*P P 05 04 33.9 +0.3
comp=Z,6.9nm,0.6s,mb4.8
TXAR Lajitas Array 77.05 61 P P 05 04 33.5 -0.1
comp=Z,8.2nm,0.7s,mb4.8,baz=304,slow=4.5,SNR=67
CLL Collm 77.21 336 *e*P P 05 04 34.0 -0.6
CLL *es*PcP 05 04 55.0
MORC Moravsky Berou 77.22 333 ⇓*i*P P 05 04 34.8 +0.2
MLR Muntele Rosu 77.89 326 P P 05 04 39.4 +1.0
comp=Z,2.7nm,0.6s,mb4.4,baz=208,slow=2.7,SNR=8.4
MLR Muntele Rosu 77.89 326 ⇑*i*P P 05 04 40.0 +1.6
MLR Muntele Rosu 77.89 326 P P 05 04 39.4 +1.0
MLR pmax pmax
comp=Z,3.0nm,0.6s
VRAC Vranov 77.92 333 P P 05 04 39.1 +0.5
comp=Z,2.4nm,0.4s,mb4.5,baz=107,slow=22,SNR=3.3
VRAC Vranov 77.92 333 P P 05 04 39.1 +0.5
VRAC pmax pmax
comp=Z,2.0nm,0.4s
JCT Junction City 78.53 58 *e*P P 05 04 42.1 +0.2
JCT pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
JCT Junction City 78.53 58 *e*P P 05 04 42.1 +0.2
comp=Z,4.0nm,0.3s,mb4.8
KHC Kasperske Hory 79.00 335 *e*P P 05 04 44.5 0.0
GERES GERESS Array B 79.22 335 P P 05 04 45.8 +0.2
comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=4.9,SNR=5.6
GERES GERESS Array B 79.22 335 P P 05 04 45.8 +0.1
GERES pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 79.26 317 *e*P P 05 04 46.4 +0.4
BRTR Keskin Array B 79.26 317 P P 05 04 46.2 +0.3
comp=Z,1.1nm,0.8s,mb3.9,baz=78,slow=3.5,SNR=6.1
BRTR Keskin Array B 79.26 317 P P 05 04 46.2 +0.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CDF Champ du Feu 81.38 338 *e*P P 05 04 56.8 -0.5
comp=Z,13nm,1.0s,mb4.5
CDF Champ du Feu 81.38 338 *e*P P 05 04 56.8 -0.5
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CDF Champ du Feu 81.38 338 *e*P P 05 04 56.8 -0.5
comp=Z,6.3nm,1.0s,mb4.5
VTS Vitosha 81.40 326 ⇓*i*P P 05 04 57.9 +0.5
GRR Gorron 83.24 344 *e*P P 05 05 06.7 -0.4
comp=Z,144nm,1.5s,mb5.5
GRR Gorron 83.24 344 *e*P P 05 05 06.7 -0.4
GRR pmax pmax
comp=Z,72nm,1.5s,mb5.5
GRR Gorron 83.24 344 *e*P P 05 05 06.7 -0.4
comp=Z,72nm,1.5s,mb5.5
ASF Jabal al Asfar 83.59 311 P P 05 05 09.5 +0.7
comp=Z,3.6nm,0.7s,mb4.6,baz=266,slow=4.4,SNR=5.6
ASF Jabal al Asfar 83.59 311 P P 05 05 09.5 +0.6
ASF pmax pmax
comp=Z,4.0nm,0.7s
MMAI Mount Meron Ar 83.71 312 P P 05 05 11.1 +1.6
comp=Z,4.0nm,0.6s,mb4.7,baz=33,slow=8.2,SNR=6.0
SMF Signal de Mont 83.88 340 *e*P P 05 05 09.9 -0.4
comp=Z,16nm,0.9s,mb4.8
SMF Signal de Mont 83.88 340 *e*P P 05 05 09.9 -0.4
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SMF Signal de Mont 83.88 340 *e*P P 05 05 09.9 -0.4
comp=Z,7.9nm,0.9s,mb4.8
LPG La Plagne 84.22 338 *e*P P 05 05 12.7 +0.6
comp=Z,32nm,1.2s,mb5.0
LPG La Plagne 84.22 338 *e*P P 05 05 12.7 +0.6
LPG pmax pmax
comp=Z,16nm,1.2s,mb5.0
LPG La Plagne 84.22 338 *e*P P 05 05 12.7 +0.6
comp=Z,16nm,1.2s,mb5.0
CAF Calviac 85.91 341 *e*P P 05 05 20.3 -0.3
comp=Z,7.8nm,0.7s,mb4.8
CAF Calviac 85.91 341 *e*P P 05 05 20.3 -0.3
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
CAF Calviac 85.91 341 *e*P P 05 05 20.3 -0.3
comp=Z,3.9nm,0.7s,mb4.8
TBI Tubuai 86.00 130 *e*LR LR 05 05 25.5
comp=Z,260nm,32.0s
TORD Torodi Ar. Bea 115.89 330 PP PP 05 12 27.0 0.0
comp=Z,0.8nm,1.0s,baz=3.1,slow=11,SNR=3.5
SNAA Sanae 152.31 195 PKPbc PKPbc 05 12 33.2 -3.2
comp=Z,1.5nm,1.0s,baz=104,slow=5.6,SNR=6.5
SNAA PKPab PKPab 05 12 44.7 -1.7
comp=Z,2.4nm,0.9s,baz=149,slow=3.0,SNR=9.8
SNAA Sanae 152.31 195 *e*PKPdf PKPab 05 12 44.9 -1.5
SNAA Sanae 152.31 195 PKIKP PKPdf 05 12 33.2 +3.5
SNAA 05 12 44.7
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 152.31 195 *e*PKPbc PKPbc 05 12 33.9 -2.6
SNAA *e*PKPab PKPab 05 12 44.0 -2.3

VNA2	**Neumayer--Watz**	**153.73**	**194**	*e*PKPdf	PKPab	05 12 51.5 -0.9
	baz=133,slow=3.5					
VNA2				*e*		05 13 11.5
VNA2				*e*		05 13 20.0
VNA3	**Neumayer Olymp**	**153.79**	**192**	*e*PKPdf	PKPab	05 12 51.3 -1.4
VNA3				*e*		05 13 19.6
VNA1	**Neumayer--Stat**	**154.11**	**193**	*e*PKPdf	PKPab	05 12 52.1 -1.9

NIED **16** *04:57:00, 4720N×15370E, h5km, Mw5.3 Best double couple: M₀9.11000×10¹⁶ NP1:φs118.00000°, δ86.00000°, λ-77.00000°. NP2:φs223.00000°, δ14.00000°, λ-165.00000°.*

IDC **16** *04:57:09.0±0.6, 4704N×153.17E, h0km, mb4.4/23, mb1 4.6/24, mb1mx4.5/31, mbtmp4.4/24, ML4.1/1, MS4.2/15, Ms1 4.2/15, ms1mx3.9/42, Error ellipse: s-maj=18.1km s-min=13.7km az=125.0*

JMA **16** *04:57:10.8±0.8, 4716N×15373E, h30km, M5.3*

GCMT **16** *04:57:12.8±0.5, 4705N×15370E, h42km±1km, MW5.1/58, Moment Tensor Solution. s17,c18; s58,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.58±.50; Mθθ0.11±.31; Mϕϕ-4.69±.29; Mrθ-2.20±.27; Mθϕ-1.36±.21; Mϕr2.57±.21; Best double couple: M₀5.86000×10¹⁶ NP1:φs217.00000°, δ39.00000°, λ130.00000°. NP2: φs350.00000°, δ61.00000°, λ63.00000°. Principal axes: T 6.2480, Plg63.0000°, Azm214.0000°; N -0.7750, Plg24.0000°, Azm3.0000°; P -5.4720, Plg12.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI **16** *04:57:12.7, 4700N×15330E, h20km, mB4.9, mb4.7, Ms4.5, Msz4.4*

NEIC **16** *04:57:12.8±1.9, 4696N×15327E, h24km±13km, mb4.7/20, Error ellipse: s-maj=7.3km s-min=4.7km az=138.0*

ISCJB **16** *04:57:12.5±0.7, 4687N±005×15338E±006, h37km±6km, mb4.6/54, MS4.2/17, Error ellipse: s-maj=9.8km s-min=4.4km az=99.5*

MOS **16** *04:57:13.6±1.1, 4696N×15330E, h45km, mb4.6/28, MS4.0/7, Error ellipse: s-maj=9.9km s-min=6.6km az=83.8*

ISC 16 04:57:14.9±0.6, 4695N±005×15336E±007, h41km±5km, h25km±6.5km:pP-P, n185, σ1s23/190, mb4.6/54, MS4.2/17, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.16**	**25**	*e*PN	**Pn**	**04 58 16.1**	**+0.3**
SKR				*e*S	**Sn**	**04 59 02.0**	**-1.2**
SKR				pmax	pmax		
	comp=Z,690nm,0.5s						
SKR				smax			
	comp=E,5μm,2.0s						
SKR				MLR	MLR		
	comp=E,8μm,14.0s						
SKR				MLR	MLR		
	comp=Z,4μm,14.0s						
KUR	**Kuril'sk**	**4.19**	**248**	*i*PN	**Pn**	**04 58 14.6**	**-1.6**
KUR				*i*S	**Sn**	**04 59 03.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,2μm,1.5s						
KUR				pmax	pmax		
	comp=N,220nm,0.8s						
KUR				pmax	pmax		
	comp=E,280nm,0.8s						
KUR				pmax	pmax		
	comp=Z,560nm,0.8s						
KUR				smax			
	comp=N,7μm,2.5s						
KUR				smax			
	comp=E,5μm,2.5s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,990nm,0.6s						
KUR				MLR	MLR		
	comp=N,8μm,14.0s						
KUR				MLR	MLR		
	comp=E,4μm,14.0s						
KUR				MLR	MLR		
	comp=Z,6μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**6.02**	**244**	*e*PN	**Pn**	**04 58 44.0**	**+2.6**
YUK				*e*S	**Sn**	**04 59 54.0**	**+5.0**
YUK				pmax	pmax		
	comp=Z,600nm,0.4s						
YUK				pmax	pmax		
	comp=N,380nm,0.5s						
YUK				pmax	pmax		
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,650nm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=E,8μm,1.2s						
NEM2	**Nemuro 2**	**6.47**	**239**	P	**Pn**	**04 58 47.3**	**-0.2**
NEM2				*e*S	**Sn**	**04 59 59.2**	**-0.8**
JRA	**Rausu**	**6.53**	**246**	P	**Pn**	**04 58 50.9**	**+2.6**
JNK	**Nakash**	**6.96**	**244**	P	**Pn**	**04 58 56.1**	**+1.8**
JNK				*e*S	**Sn**	**05 00 15.0**	**+2.9**
PET	**Petropavlovsk**	**6.97**	**27**	*e*PN	**Pn**	**04 58 55.5**	**+1.1**
PET				pmax	pmax		
	comp=Z,100nm,0.6s						
PET	**Petropavlovsk**	**6.97**	**27**	*e*Pn	**Pn**	**04 58 53.0**	**-1.4**
	comp=Z,52nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.26**	**274**	*e*PN	**Pn**	**04 59 03.5**	**+5.1**
YSS				*e*S	**Sn**	**05 00 23.8**	**+4.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**274**	*e*Pn	**Pn**	**04 59 01.4**	**+3.0**
	comp=E,45nm,0.5s						
JTKR	**Abashiri--Toko**	**7.28**	**249**	P	**Pn**	**04 59 01.3**	**+2.6**
JAK	**Akkeshi**	**7.30**	**240**	P	**Pn**	**04 58 59.2**	**+0.2**
JAK				*e*S	**Sn**	**05 00 19.8**	**-0.7**
JMP	**Maruseppu**	**7.62**	**251**	P	**Pn**	**04 59 06.3**	**+3.0**
JAR	**Ashorobuto**	**7.70**	**245**	P	**Pn**	**04 59 06.1**	**+1.7**
JAR				*e*S	**Sn**	**05 00 32.3**	**+2.0**
JOB	**Onbets**	**7.87**	**243**	P	**Pn**	**04 59 07.9**	**+1.1**
JOB				*e*S	**Sn**	**05 00 34.6**	**0.0**
ASAJ	**Asahikawa**	**8.07**	**253**	Pn	**Pn**	**04 59 13.2**	**+3.8**
	comp=E,7.8nm,0.3s,baz=62,slow=12,SNR=20						
ASAJ				LR	LR	05 02 07.8	
	comp=E,2μm,20.6s,baz=234,slow=38						
ASAJ	**Asahikawa**	**8.07**	**253**	PN	**Pn**	**04 59 13.3**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,20.6s						
JKK2	**Kamakawa 2**	**8.07**	**251**	P	**Pn**	**04 59 12.6**	**+3.1**
JWK2	**Keihoku**	**8.13**	**263**	P	**Pn**	**04 59 15.5**	**+5.2**
JCH	**Churui**	**8.32**	**242**	P	**Pn**	**04 59 13.3**	**+0.3**
JCH				*e*S	**Sn**	**05 00 43.1**	**-2.6**
JFR	**Furan**	**8.51**	**248**	P	**Pn**	**04 59 17.6**	**+2.1**
JAB	**Ashibetsu**	**8.58**	**250**	P	**Pn**	**04 59 19.9**	**+3.4**
JEM	**Erimo**	**8.80**	**240**	P	**Pn**	**04 59 20.6**	**+1.1**
ERM	**Erimo**	**8.80**	**240**	*e*PN	**Pn**	**04 59 20.4**	**+0.9**
ERM				pmax	pmax		
	comp=Z,162nm,0.5s						
ERM	**Erimo**	**8.80**	**240**	*e*Pn	**Pn**	**04 59 20.4**	**+0.9**
	comp=Z,162nm,0.5s						
ERM				*e*Sn	**Sn**	**05 00 55.7**	**-1.7**
JBT2	**Biratori 2**	**8.85**	**246**	P	**Pn**	**04 59 21.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.89**	**242**	P	**Pn**	**04 59 21.1**	**+0.4**
JNBK				*e*S	**Sn**	**05 00 58.5**	**-0.9**
JEW	**Eniwo**	**9.39**	**248**	P	**Pn**	**04 59 30.0**	**+2.4**
JNB	**Noboribetsu**	**9.85**	**247**	P	**Pn**	**04 59 34.5**	**+0.7**
JKB	**Kayabe**	**10.16**	**245**	P	**Pn**	**04 59 37.7**	**-0.4**
JKB				*e*S	**Sn**	**05 01 25.5**	**-5.3**
JSH	**Shimam**	**10.39**	**250**	P	**Pn**	**04 59 45.0**	**+3.7**
JOT	**Ohata**	**10.44**	**242**	P	**Pn**	**04 59 39.2**	**-2.8**
JYM2	**Yakumo 2**	**10.45**	**247**	P	**Pn**	**04 59 41.7**	**-0.4**
JTM	**Tenmabayashi**	**10.79**	**240**	P	**Pn**	**04 59 44.9**	**-1.9**
JTM				*e*S	**Sn**	**05 01 38.3**	**-7.9**
JANG	**Nango**	**10.80**	**237**	P	**Pn**	**04 59 43.6**	**-3.3**
JANG				*e*S	**Sn**	**05 01 38.4**	**-8.0**
JTH	**Tanohata**	**10.90**	**234**	P	**Pn**	**04 59 45.4**	**-2.8**
JTH				*e*S	**Sn**	**05 01 39.6**	**-9.2**
JOSM	**Okushiri--Mats**	**11.04**	**249**	P	**Pn**	**04 59 49.4**	**-0.7**
JOM	**Ohasama**	**11.54**	**234**	P	**Pn**	**04 59 55.0**	**-2.0**
JOM				*e*S	**Sn**	**05 01 54.9**	**-10**
OFUJ	**Ofunato**	**11.61**	**232**	P	**Pn**	**04 59 54.8**	**-3.2**
OFUJ				*e*S	**Sn**	**05 01 57.6**	**-8.6**
JRG	**Rokugo**	**11.96**	**235**	P	**Pn**	**05 00 00.8**	**-1.9**
JIO	**Ouri**	**12.24**	**230**	P	**Pn**	**05 00 04.0**	**-2.5**
JIO				*e*S	**Sn**	**05 02 11.2**	**-10**
MA2	**Magadan**	**12.74**	**354**	*e*PN	**Pn**	**05 00 13.9**	**+0.5**
JYA	**Atsumi**	**13.03**	**235**	P	**Pn**	**05 00 16.7**	**-0.7**
JSD	**Sado**	**14.24**	**237**	P	**Pn**	**05 00 39.5**	**+5.7**
KLR	**Kul'dur**	**14.62**	**287**	*e*P	**Pn**	**05 00 40.7**	**+1.8**
KLR				MLR	MLR		
	comp=E,1μm,16.0s						
MJAR	**Matsushiro Arr**	**15.33**	**233**	Pn	**Pn**	**05 00 46.5**	**-1.8**
	comp=E,0.8nm,0.3s,baz=28,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**15.33**	**233**	P	**Pn**	**05 00 46.5**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.33**	**233**	*e*P	**Pn**	**05 00 45.8**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,50nm,0.6s						
MAJO	**Matsushiro**	**15.33**	**233**	*e*Pn	**Pn**	**05 00 45.8**	**-2.5**
	comp=Z,50nm,0.6s						
MAJO				*e*P		05 00 54.3	
MAT	**Matsushiro**	**15.33**	**233**	P	**Pn**	**05 00 46.0**	**-2.3**
MAT	**Matsushiro**	**15.33**	**233**	P	**Pn**	**05 00 45.8**	**-2.5**
JRY	**Ryogami san**	**15.36**	**230**	P	**Pn**	**05 00 52.1**	**+3.5**
CN2	**Changchun**	**19.82**	**271**	*e*P	**Pn**	**05 01 42.6**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**21.02**	**252**	P	**P**	**05 01 56.8**	**+1.9**
	comp=Z,29nm,1.1s,mb4.5,baz=54,slow=11,SNR=22						
KSRS				LR	LR	05 11 10.9	
	comp=Z,605nm,18.5s,MS4.0,baz=63,slow=40						
CBIJ	**Chichi jima**	**21.69**	**208**	P	**P**	**05 02 00.5**	**-1.6**
	comp=Z,114nm,0.9s,mb5.3,baz=285,slow=17,SNR=5.9						
SNY	**Shenyang**	**21.82**	**267**	⇓P	**P**	**05 02 05.8**	**+2.3**
SNY				AP		05 02 08.8	
SNY				XP	sP	05 02 10.9	-8.0
SNY				AMB	AMB		
	comp=Z,27nm,0.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,377nm,11.4s						
SNY				LR	LR		
	comp=E,1μm,18.8s						
SNY				LR	LR		
	comp=Z,1μm,21.4s,MS4.4						
JNU	**Nakatsue**	**21.97**	**239**	LR	LR	05 10 12.8	
	comp=Z,1μm,20.5s,MS4.3,baz=325,slow=36						
BILL	**Bilibino**	**22.16**	**13**	*e*P	**P**	**05 02 07.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
BILL	**Bilibino**	**22.16**	**13**	*e*P	**P**	**05 02 05.6**	**-1.5**
	comp=Z,5.0nm,0.6s,mb4.1						
JOW	**Kunigami**	**28.18**	**233**	P	**P**	**05 03 03.2**	**-0.1**
	comp=Z,15nm,0.8s,mb4.7,baz=27,slow=4.5,SNR=3.6						
HHC	**Hu-ho-hao-te**	**30.45**	**274**	*e*P	**P**	**05 03 26.6**	**+3.1**
HHC				AP	pP	05 03 31.0	-3.8
HHC				XP	sP	05 03 33.9	-5.8
HHC				PP	PP	05 04 28.3	-4.4
HHC				PCP	PcP	05 06 23.8	+1.6
HHC				S	**S**	**05 08 28.6**	**+7.0**
HHC				XS	sS	05 08 35.8	-4.6
HHC				SCP	ScP	05 10 05.3	+4.0
HHC				SCS	ScS	05 13 59.8	+2.4
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,246nm,5.6s						
HHC				LR	LR		
	comp=N,496nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,565nm,15.2s,MS4.4						
HHC				LR	LR		
	comp=Z,775nm,16.9s,MS4.4						
SONM	**Songino Array**	**31.43**	**289**	P	**P**	**05 03 31.4**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.5,baz=82,slow=10,SNR=3.4						
SONM				LR	LR	05 16 54.3	
	comp=Z,731nm,19.3s,MS4.4,baz=2.9,slow=38						
SONM	**Songino Array**	**31.43**	**289**	P	**P**	**05 03 31.4**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,731nm,19.3s						
ZAK	**Zakamensk**	**32.75**	**295**	*e*P	**P**	**05 03 42.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
KDAK	**Kodiak Island**	**33.85**	**51**	P	**P**	**05 03 53.0**	**-0.3**
	comp=Z,42nm,1.3s,mb5.2,baz=257,slow=14,SNR=4.7						
KDAK				LR	LR	05 17 05.1	
	comp=Z,641nm,20.8s,MS4.3,baz=280,slow=35						
XAN	**Xi'an**	**35.70**	**265**	P	**P**	**05 04 09.6**	**+0.3**
XAN				AP	pP	05 04 19.9	-0.8
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
COLA	**College**	**35.88**	**39**	*e*P	**P**	**05 04 10.9**	**+0.1**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
COLA	**College**	**35.88**	**39**	*e*P	**P**	**05 04 10.9**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0						
EGAK	**Eagle**	**38.74**	**39**	*e*P	**P**	**05 04 34.1**	**-0.9**
	comp=Z,37nm,1.4s,mb4.9						
CD2	**Chengdu**	**41.06**	**265**	⇑*i*P	**P**	**05 04 53.9**	**-0.4**
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.0						
INK	**Inuvik**	**41.40**	**33**	P	**P**	**05 04 57.1**	**+0.1**
	comp=Z,7.0nm,0.6s,mb4.5,baz=297,slow=7.0,SNR=39						
INK	**Inuvik**	**41.40**	**33**	P	**P**	**05 04 57.2**	**+0.1**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GYA	**Guiyang**	**41.92**	**258**	⇑*i*P	**P**	**05 05 01.8**	**+0.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
KMI	**Kunming**	**45.44**	**260**	P	**P**	**05 05 30.8**	**+1.1**
KMI				AP	pP	05 05 40.0	-1.3
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=N,330nm,19.8s,MS4.4						
KMI				LR	LR		
	comp=E,290nm,20.6s,MS4.4						
KMI				LR	LR		
	comp=Z,394nm,21.3s,MS4.3						
KMI	**Kunming**	**45.44**	**260**	P	**P**	**05 05 30.8**	**+1.1**
	comp=Z,14nm,1.1s,mb4.7						
KMI				pP	pP	05 05 40.0	-1.3
KMI				LR	LR		
	comp=Z,390nm,21.3s,MS4.3						
MK31	**Makanchi Array**	**47.00**	**297**	*e*P	**P**	**05 05 40.9**	**-1.0**
MKAR	**Makanchi Array**	**47.00**	**297**	P	**P**	**05 05 41.1**	**-0.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=69,slow=6.6,SNR=5.3						
MKAR				LR	LR	05 26 24.4	
	comp=Z,328nm,18.8s,MS4.3,baz=73,slow=38						
MKAR	**Makanchi Array**	**47.00**	**297**	P	**P**	**05 05 41.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,328nm,18.8s						
CHKZ	**Chkalovo**	**50.43**	**310**	*e*P	**P**	**05 06 06.4**	**-1.9**
RES	**Resolute Bay**	**50.60**	**19**	*e*P	**P**	**05 06 09.1**	**-0.4**
RES				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.5						
RES	**Resolute Bay**	**50.60**	**19**	*e*P	**P**	**05 06 09.1**	**-0.4**
	comp=Z,41nm,0.7s,mb5.5						
YKA	**Yellowknife Ar**	**50.67**	**37**	P	**P**	**05 06 10.2**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.6,baz=296,slow=7.0,SNR=11						
YKA				LR	LR	05 31 05.0	
	comp=Z,194nm,18.6s,MS4.2,baz=255,slow=40						
YKA	**Yellowknife Ar**	**50.67**	**37**	P	**P**	**05 06 10.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,194nm,18.6s						
YKA	**Yellowknife Ar**	**50.67**	**37**	P	**P**	**05 06 10.2**	**+0.2**
YKA				LR	LR	05 31 05.0	
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**05 06 11.1**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=64,slow=10,SNR=4.9						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**05 06 11.1**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.90**	**309**	*e*P	**P**	**05 06 11.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**50.90**	**309**	*e*P	**P**	**05 06 11.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**51.63**	**310**	*e*P	**P**	**05 06 16.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**51.63**	**310**	*e*P	**P**	**05 06 16.5**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2						
CHTO	**Chiang Mai**	**52.33**	**257**	*e*P	**P**	**05 06 23.8**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
CHTO	**Chiang Mai**	**52.33**	**257**	*e*P	**P**	**05 06 23.8**	**+1.3**
	comp=Z,26nm,1.4s,mb5.0						
AAK	**Ala-Archa**	**53.90**	**296**	*e*P	**P**	**05 06 34.1**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**53.90**	**296**	*e*P	**P**	**05 06 34.1**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.2						
JIRN	**Jiri**	**55.10**	**275**	*e*P	**P**	**05 06 43.8**	**+1.1**
	comp=Z,26nm,0.8s,mb5.3						
GUN	**Gumba**	**55.15**	**275**	*e*P	**P**	**05 06 43.6**	**+0.5**
KKN	**Kakani**	**55.64**	**275**	*e*P	**P**	**05 06 47.6**	**+1.0**
PKI	**Pulchoki**	**55.69**	**275**	*e*P	**P**	**05 06 47.8**	**+0.8**
DMN	**Daman**	**55.87**	**275**	*e*P	**P**	**05 06 49.3**	**+1.0**
	comp=Z,44nm,0.9s,mb5.5						
GKN	**Gorkha**	**55.94**	**276**	*e*P	**P**	**05 06 49.7**	**+0.9**
EDM	**Edmonton**	**56.06**	**46**	*e*P	**P**	**05 06 50.0**	**+0.4**
PMG	**Port Moresby**	**56.37**	**187**	LR	LR	05 26 48.0	
	comp=Z,128nm,19.8s,MS4.0,baz=6.7,slow=32						
HNR	**Honiara**	**56.43**	**172**	LR	LR	05 28 43.8	
	comp=Z,172nm,19.2s,MS4.2,baz=0.8,slow=34						
KOLN	**Koldanda**	**56.80**	**276**	*e*P	**P**	**05 06 55.7**	**+0.8**
	comp=Z,32nm,1.2s,mb5.2						
NEW	**Newport**	**56.92**	**53**	LR	LR	05 31 16.0	
	comp=Z,158nm,19.7s,MS4.1,baz=347,slow=36						
ARCES	**ARCESS Array B**	**57.72**	**341**	P	**P**	**05 07 00.0**	**-1.4**
	comp=Z,5.2nm,0.9s,mb4.5,baz=14,slow=9.0,SNR=9.9						
ARCES	**ARCESS Array B**	**57.72**	**341**	P	**P**	**05 07 00.0**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HLID	**Hailey**	**61.26**	**56**	*e*P	**P**	**05 07 26.2**	**+0.4**
	comp=Z,6.0nm,1.4s,mb4.5						
QLMT	**Earthquake Lak**	**62.13**	**53**	*e*P	**P**	**05 07 33.3**	**+1.7**
TPAW	**Teton Pass**	**63.25**	**54**	*e*P	**P**	**05 07 40.2**	**+1.1**
	comp=Z,66nm,1.9s,mb5.4						
FIA1	**FINESS Array S**	**63.93**	**335**	*e*P	**P**	**05 07 43.0**	**-0.6**
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**05 07 42.1**	**-1.5**
	comp=Z,1.7nm,0.3s,mb4.5,baz=37,slow=7.9,SNR=24						
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**05 07 42.1**	**-1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**64.50**	**54**	P	**P**	**05 07 48.0**	**+0.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=309,slow=1.3,SNR=8.6						
FRB	**Frobisher Bay**	**64.81**	**19**	P	**P**	**05 07 48.6**	**-0.8**
	comp=Z,5.3nm,0.5s,mb4.8,baz=300,slow=6.3,SNR=6.9						
FRB	**Frobisher Bay**	**64.81**	**19**	P	**P**	**05 07 48.6**	**-0.7**
FRB				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ULM	**Lac du Bonnet**	**66.26**	**41**	LR	LR	05 40 31.0	
	comp=Z,153nm,18.0s,MS4.2,baz=258,slow=39						
NB2	**NORSAR Subarra**	**68.10**	**341**	P	**P**	**05 08 09.3**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.5,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**05 08 09.3**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.4,baz=26,slow=6.3,SNR=7.1						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**05 08 09.3**	**-1.1**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**05 08 09.3**	**-1.0**
HFS	**Hagfors**	**68.33**	**340**	P	**P**	**05 08 10.5**	**-1.3**
	comp=Z,5.8nm,0.6s,mb4.8,baz=56,slow=5.6,SNR=28						
HFS	**Hagfors**	**68.33**	**340**	P	**P**	**05 08 10.5**	**-1.3**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**68.74**	**199**	*e*P	**P**	**05 08 14.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**68.74**	**199**	*e*P	**P**	**05 08 14.2**	**-0.2**
	comp=Z,7.3nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**68.75**	**199**	P	**P**	**05 08 14.6**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=14,slow=6.4,SNR=9.4						
WRA	**Warramunga Arr**	**68.75**	**199**	P	**P**	**05 08 14.6**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**69.40**	**208**	*e*P	**P**	**05 08 19.3**	**+0.9**
	comp=Z,6.4nm,0.7s,mb4.7						
ECSD	**EROS,Sioux Fal**	**70.63**	**46**	*e*P	**P**	**05 08 26.1**	**+0.1**
	comp=Z,23nm,1.3s,mb5.0						
AKASG	**Malin Array Be**	**71.48**	**326**	P	**P**	**05 08 29.6**	**-1.5**
	comp=Z,2.4nm,0.4s,mb4.4,baz=34,slow=6.2,SNR=14						
AKASG	**Malin Array Be**	**71.48**	**326**	P	**P**	**05 08 29.6**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**71.48**	**326**	*e*P	**P**	**05 08 29.5**	**-1.6**
LAZ	**Ladron**	**71.57**	**59**	*e*P	**P**	**05 08 32.5**	**+0.8**
ASAR	**Alice Springs**	**72.45**	**199**	P	**P**	**05 08 38.1**	**+1.2**
	comp=Z,3.2nm,0.6s,mb4.4,baz=10,slow=5.6,SNR=64						
ASAR				LR	LR	05 36 22.1	
	comp=Z,168nm,21.7s,MS4.3,baz=339,slow=32						
SCHQ	**Schefferville**	**73.06**	**23**	LR	LR	05 45 30.8	
	comp=Z,103nm,19.8s,MS4.1,baz=12,slow=40						
SCHQ	**Schefferville**	**73.06**	**23**	*e*P	**P**	**05 08 40.8**	**+0.2**
	comp=Z,25nm,1.2s,mb5.0						
STHS	**Stebnicka Huta**	**75.43**	**330**	*e*P	**P**	**05 08 54.2**	**-0.2**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
STHS	**Stebnicka Huta**	**75.43**	**330**	*e*P	**P**	**05 08 54.2**	**-0.2**
	comp=Z,3.3nm,1.0s,mb4.2						
KOLS	**Kolonicke sedl**	**75.48**	**329**	*e*P	**P**	**05 08 55.0**	**+0.3**
BURAR	**Bucovina Array**	**75.52**	**327**	⇓*i*P	**P**	**05 08 54.4**	**-0.5**
BURAR	**Bucovina Array**	**75.52**	**327**	⇓P	**P**	**05 08 54.4**	**-0.5**
EKA	**Eskdalemuir Ar**	**76.19**	**346**	P	**P**	**05 08 58.6**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=21,slow=5.1,SNR=5.5				

comp=Z,12nm,0.9s,mb4.8
WTTA Wattenberg 80.39 335 *i* P **P 05 09 23.3 +1.4**
comp=Z,11nm,0.9s,mb4.8
VTS Vitosha 80.51 325 ⇓ *i* P **P 05 09 23.3 +0.7**
VTS Vitosha 80.51 325 ⇓ *i* P **P 05 09 23.3 +0.7**
SQTA Sankt Quirin 80.55 335 ⇑ *i* P **P 05 09 23.0 +0.2**
comp=Z,13nm,1.3s,mb4.7
PPT Papeete 82.14 126 *e*LR LR 05 34 59.1
comp=Z,218nm,22.8s
MMAI Mount Meron Ar 82.81 312 P **P 05 09 34.1 -0.6**
comp=Z,3.3nm,0.6s,mb4.5,baz=56,slow=7.4,SNR=5.3
TBI Tubuai 86.89 129 *e*LR LR 05 37 10.5
comp=Z,263nm,26.8s
RKT Rikitea 94.93 119 *e*LR LR 05 40 56.5
comp=Z,161nm,30.0s
TORD Torodi Ar. Bea 115.01 329 PKP PKiKP 05 15 50.4 -0.9
comp=Z,0.4nm,0.9s,baz=29,slow=1.7,SNR=3.9
CFAA Coronel Fontan 144.79 79 PKP PKPdf 05 16 46.3 -0.9
comp=Z,0.3nm,0.6s,baz=257,slow=4.8,SNR=4.0
SNAA Sanae 152.79 196 *e*PKIKP PKPbc 05 17 05.3 -1.9
SNAA *e* PKPab 05 17 17.0 -1.2

BJI 16 04:58:58.3, 3888N×9568E, h13km, mB4.3, mb4.2, ML3.9, Ms3.8, Msz3.5, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**7.77**	**312**	⇓ *i* P	Pn	05 00 53.3	+2.2
WMQ				LR	LR		
	comp=N,263nm,21.1s						
WMQ				LR	LR		
	comp=E,235nm,21.1s						
WMQ				LR	LR		
	comp=Z,364nm,20.0s						

MEX 16 05:05:48.4±0.4, 1759N×9553W, h62km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.79**	**129**	*i* P	Pn	05 06 02.5	-1.4
CMIG				*i* S	Sn	05 06 13.4	-1.8
OXX	**Oaxaca**	**1.25**	**246**	*i* P	Pn	05 06 08.0	-1.8
OXX				*i* S	Sn	05 06 24.0	-1.8
VHO	**Vista Hermosa**	**1.26**	**246**	*i* P	Pn	05 06 08.9	-1.1
VHO				*i* S	Sn	05 06 24.4	-1.6
TPIG	**Tehuac#an**	**1.93**	**296**	*i* P	Pn	05 06 17.6	-1.4
TPIG				*i* S	Sn	05 06 40.8	-1.4

*ISCJB **16** 05:09:27.8±2.9, 471N±06×1539E±02, h10km, mb3.9/10, Error ellipse: s-maj=80.6km s-min=22.1km az=176.5*
*IDC **16** 05:09:27.5±3.5, 4697N×1540.3E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=97.2km s-min=30.4km az=178.0*
*NEIC **16** 05:09:29.0±2.2, 4700N×1539.6E, h10km, mb4.1/3, Error ellipse: s-maj=64.5km s-min=17.3km az=178.0*
ISC 16 05:09:29.6±2.9, 472N±06×1539E±02, h10km, n13, σ0°47/13, mb3.9/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.00**	**33**	P	**P**	**05 17 12.8**	**+0.1**
	0.6nm,0.4s,mb3.5,baz=281,slow=4.0,SNR=9.1						
MKAR	**Makanchi Array**	**47.25**	**297**	P	**P**	**05 18 03.6**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=74,slow=8.9,SNR=4.7						
CHKZ	**Chkalovo**	**50.60**	**310**	*e*P	**P**	**05 18 28.0**	**-0.5**
	1.6nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**51.03**	**309**	P	**P**	**05 18 31.8**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=52,slow=9.3,SNR=3.8						
BVAR	**Borovoye Array**	**51.03**	**309**	P	**P**	**05 18 31.8**	**+0.1**
BRVK	**Borovoye**	**51.07**	**310**	*e*P	**P**	**05 18 32.2**	**+0.1**
	1.1nm,0.3s,mb4.3						
ZRNK	**Zerenda**	**51.80**	**310**	*e*P	**P**	**05 18 36.6**	**-0.9**
	0.5nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**63.91**	**335**	P	**P**	**05 20 02.4**	**-0.1**
	0.6nm,0.4s,mb3.9,baz=35,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**63.91**	**335**	P	**P**	**05 20 02.4**	**-0.1**
NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**05 20 29.0**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=29,slow=6.5						
EKA	**Eskdalemuir Ar**	**76.07**	**347**	P	**P**	**05 21 18.0**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=19,slow=5.3,SNR=4.7						
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**05 21 21.2**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=322,slow=4.7,SNR=4.1						
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**05 21 21.2**	**-0.2**

*ISCJB **16** 05:11:15.8±1.0, 468N±02×1548E±02, h10km, mb3.9/10, Error ellipse: s-maj=27.5km s-min=20.1km az=4.6*
*IDC **16** 05:11:16.1±1.0, 4673N×1549.8E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.8/7, Error ellipse: s-maj=31.3km s-min=27.1km az=12.0*
*NEIC **16** 05:11:17.6±0.8, 4675N×1548.8E, h10km, mb4.1/3, Error ellipse: s-maj=22.8km s-min=16.9km az=181.0*
ISC 16 05:11:17.6±1.0, 468N±02×1549E±02, h10km, n11, σ0°68/11, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**05 19 57.4**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=65,slow=7.7,SNR=5.3						
RES	**Resolute Bay**	**50.41**	**19**	*e*P	**P**	**05 20 14.9**	**-0.3**
	168nm,1.1s						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**05 20 21.3**	**-0.7**
	2.6nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**51.75**	**310**	P	**P**	**05 20 24.5**	**-0.7**
	0.7nm,0.4s,mb3.9,baz=54,slow=7.7,SNR=5.0						
ZRNK	**Zerenda**	**52.52**	**310**	*e*P	**P**	**05 20 30.9**	**0.0**
	1.9nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**54.88**	**297**	*e*P	**P**	**05 20 47.8**	**-0.4**
	1.5nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**63.75**	**55**	P	**P**	**05 21 49.2**	**-0.3**
	0.6nm,0.9s,mb3.6,baz=261,slow=4.2,SNR=4.0						
FINES	**FINESS Array B**	**64.51**	**335**	P	**P**	**05 21 54.3**	**-0.2**
	0.8nm,0.4s,mb4.1,baz=46,slow=7.1,SNR=7.1						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**05 22 22.3**	**+1.8**
	0.9nm,0.8s,mb3.8,baz=31,slow=6.6,SNR=2.4						
ASAR	**Alice Springs**	**72.64**	**200**	P	**P**	**05 22 45.4**	**+0.1**
	0.6nm,0.7s,mb3.6,baz=11,slow=5.8,SNR=6.7						
TXAR	**Lajitas Array**	**76.42**	**62**	P	**P**	**05 23 07.3**	**0.0**
	2.0nm,0.7s,mb4.1,baz=302,slow=4.2,SNR=22						

*IDC **16** 05:14:11.8±1.6, 4596N×1542.5E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, Error ellipse: s-maj=45.7km s-min=18.8km az=171.0*
*NEIC **16** 05:14:12.3±2.0, 4579N×1541.6E, h10km, mb4.3/4, Error ellipse: s-maj=59.2km s-min=16.2km az=177.0*
*ISCJB **16** 05:14:14.6±2.2, 457N±02×1540E±02, h37km±14km, mb4.0/18, Error ellipse: s-maj=35.9km s-min=14.1km az=123.6*
*MOS **16** 05:14:14.7±1.0, 4574N×15386E, h33km, mb4.4/14, Error ellipse: s-maj=18.3km s-min=12.8km az=122.5*
ISC 16 05:14:17.8±2.0, 458N±02×1540E±02, h48km±13km, n40, σ1°08/40, mb4.0/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.34**	**265**	*e*PN	**Pn**	**05 15 18.0**	**-3.2**
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
SKR	**Severo-Kuril's**	**5.12**	**15**	*e*PN	**Pn**	**05 15 32.5**	**+0.6**
ASAJ	**Asahikawa**	**8.25**	**263**	PN	**Pn**	**05 16 15.8**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=92,slow=23,SNR=4.3						
ASAJ	**Asahikawa**	**8.25**	**263**	PN	**Pn**	**05 16 15.8**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.12**	**256**	P	**P**	**05 19 01.1**	**+2.8**
	comp=Z,2.0nm,0.7s,mb3.6,baz=56,slow=11,SNR=6.8						
BILL	**Bilibino**	**23.22**	**12**	*e*P	**P**	**05 19 13.6**	**-7.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**32.24**	**291**	P	**P**	**05 20 41.0**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.4,baz=68,slow=6.7,SNR=3.7						
INK	**Inuvik**	**42.16**	**32**	P	**P**	**05 22 01.5**	**-4.0**
	comp=Z,1.6nm,0.9s,mb3.6,baz=276,slow=5.1,SNR=4.6						
INK	**Inuvik**	**42.16**	**32**	P	**P**	**05 22 01.5**	**-4.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**42.16**	**32**	P	**P**	**05 22 01.5**	**-4.0**
MK31	**Makanchi Array**	**47.94**	**299**	*e*P	**P**	**05 22 50.8**	**-0.6**
MKAR	**Makanchi Array**	**47.94**	**299**	P	**P**	**05 22 51.0**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=73,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**47.94**	**299**	P	**P**	**05 22 51.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**51.53**	**311**	*e*P	**P**	**05 23 17.5**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.53**	**311**	*e*P	**P**	**05 23 17.5**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.95**	**310**	P	**P**	**05 23 21.3**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=212,slow=38,SNR=5.6						
BVAR	**Borovoye Array**	**51.95**	**310**	P	**P**	**05 23 21.3**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**52.00**	**310**	*e*P	**P**	**05 23 21.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**52.00**	**310**	*e*P	**P**	**05 23 21.9**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**52.73**	**311**	*e*P	**P**	**05 23 26.4**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.73**	**311**	*e*P	**P**	**05 23 26.4**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**05 23 42.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**05 23 42.9**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**58.98**	**341**	P	**P**	**05 24 11.7**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.3,baz=28,slow=6.4,SNR=8.9						
ARCES	**ARCESS Array B**	**58.98**	**341**	P	**P**	**05 24 11.7**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**59.84**	**313**	P	**P**	**05 24 19.1**	**+0.8**
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**05 24 19.1**	**+0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=66,slow=16,SNR=4.7						
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**05 24 19.1**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**64.83**	**54**	P	**P**	**05 24 49.9**	**-1.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=345,slow=1.7,SNR=4.9						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**05 24 53.9**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=36,slow=8.8,SNR=9.6						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**05 24 53.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**69.35**	**342**	P	**P**	**05 25 21.6**	**+1.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.35**	**342**	P	**P**	**05 25 21.4**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=7.0						
NOA	**NORSAR Array B**	**69.35**	**342**	P	**P**	**05 25 21.4**	**+1.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**05 25 41.2**	**+0.6**
	comp=Z,2.7nm,0.5s,mb4.5,baz=33,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**05 25 41.2**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKBB	**Malin Array Si**	**72.70**	**327**	*e*P	**P**	**05 25 41.4**	**+0.8**
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**05 26 08.2**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=300,slow=4.1,SNR=22						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**05 26 08.2**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**79.61**	**335**	P	**P**	**05 26 21.6**	**+1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=54,slow=6.8,SNR=4.5						

*ISCJB **16** 05:15:39.7±1.1, 459N±02×1543E±0.1, h10km, mb4.3/16, Error ellipse: s-maj=31.0km s-min=7.8km az=153.4*
*IDC **16** 05:15:41.2±2.5, 4605N×1544.0E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/25, mbtmp4.2/10, Error ellipse: s-maj=72.9km s-min=19.6km az=178.0*
*MOS **16** 05:15:42.9±0.8, 4591N×15422E, h29km, mb4.4/13, Error ellipse: s-maj=20.4km s-min=14.1km az=118.1*
*NEIC **16** 05:15:42.6±0.9, 4606N×1543.7E, h10km, mb4.3/7, Error ellipse: s-maj=23.9km s-min=7.9km az=175.0*
ISC 16 05:15:41.9±1.1, 460N±02×1543E±01, h10km, n35, σ0°79/36, mb4.3/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.54**	**263**	*e*P	**Pn**	**05 16 50.0**	**-0.6**
KUR				*i* S	**Sn**	**05 17 42.0**	**-1.4**
KUR				pmax	pmax		
	comp=N,100nm,0.4s						
KUR				pmax	pmax		
	comp=E,70nm,0.4s						
KUR				pmax	pmax		
	comp=Z,180nm,0.4s						
KUR				smax			
	comp=N,270nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
BILL	**Bilibino**	**23.01**	**12**	*e*P	**P**	**05 20 46.2**	**-0.7**
BILL				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
BILL	**Bilibino**	**23.01**	**12**	*e*P	**P**	**05 20 45.7**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.1						
SONM	**Songino Array**	**32.35**	**291**	P	**P**	**05 22 13.3**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=77,slow=6.2,SNR=2.5						
KDAK	**Kodiak Island**	**34.01**	**50**	P	**P**	**05 22 24.6**	**-1.1**
	comp=Z,18nm,0.8s,mb5.1,baz=302,slow=8.8,SNR=6.9						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**05 23 32.6**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.1,baz=288,slow=6.9,SNR=13						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**05 23 32.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**48.01**	**298**	*e*P	**P**	**05 24 22.2**	**+1.1**
MKAR	**Makanchi Array**	**48.01**	**298**	P	**P**	**05 24 22.1**	**+1.0**
	comp=Z,3.1nm,0.9s,mb4.4,baz=64,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**48.01**	**298**	P	**P**	**05 24 22.1**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**51.35**	**19**	*e*P	**P**	**05 24 46.3**	**-0.2**
	comp=Z,71nm,0.7s						
CHKZ	**Chkalovo**	**51.55**	**311**	*e*P	**P**	**05 24 47.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**51.55**	**311**	*e*P	**P**	**05 24 47.5**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**05 24 51.5**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=54,slow=7.5,SNR=4.9						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**05 24 51.5**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**05 24 52.1**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**05 24 52.1**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**52.75**	**311**	*e*P	**P**	**05 24 56.9**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.75**	**311**	*e*P	**P**	**05 24 56.9**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2						
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**05 25 12.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**05 25 12.9**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.2						
ARU	**Arti**	**56.14**	**318**	*e*P	**P**	**05 25 20.4**	**-1.1**
ARCES	**ARCESS Array B**	**58.87**	**341**	P	**P**	**05 25 40.2**	**-0.5**
	comp=Z,7.0nm,1.0s,mb4.7,baz=28,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**58.87**	**341**	P	**P**	**05 25 40.3**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.85**	**313**	P	**P**	**05 25 48.2**	**+0.7**
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**05 25 48.2**	**+0.7**
	comp=Z,0.6nm,0.3s,mb4.1,baz=39,slow=4.1,SNR=4.0						
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**05 25 48.3**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
TPAW	**Teton Pass**	**63.33**	**54**	*e*P	**P**	**05 26 10.7**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.6						
DUG	**Dugway**	**64.33**	**58**	*e*P	**P**	**05 26 17.7**	**0.0**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
DUG	**Dugway**	**64.33**	**58**	*e*P	**P**	**05 26 17.7**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**64.58**	**54**	P	**P**	**05 26 19.4**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=263,slow=3.2,SNR=4.9						
FINES	**FINESS Array B**	**65.10**	**335**	P	**P**	**05 26 22.1**	**-0.6**
	comp=Z,0.6nm,0.4s,mb4.0,baz=39,slow=7.3,SNR=4.5						
FINES	**FINESS Array B**	**65.10**	**335**	P	**P**	**05 26 22.1**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**05 27 36.2**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=304,slow=4.0,SNR=8.7						
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**05 27 36.3**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **16** 05:17:59.6±0.7, 4644N×154.39E, h0km, mb4.0/15, mb1 4.3/15, mb1mx4.1/23, mbtmp4.0/15, Error ellipse: s-maj=22.8km s-min=16.3km az=152.0*
*MOS **16** 05:18:01.0±1.1, 4640N×154.06E, h21km, mb4.3/14, Error ellipse: s-maj=18.7km s-min=11.7km az=86.2*
*NEIC **16** 05:18:01.3±0.4, 4647N×154.33E, h10km, mb4.3/4, Error ellipse: s-maj=11.0km s-min=8.6km az=152.0*
*ISCJB **16** 05:18:05.5±2.4, 465N±0.1×1543E±0.1, h56km±20km, mb4.1/19, Error ellipse: s-maj=18.2km s-min=12.6km az=127.9*
ISC 16 05:18:07.7±2.2, 465N±01×1543E±01, h60km±18km, n46, σ0°61/46, mb4.1/19, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.32**	**16**	*e*PN	**Pn**	**05 19 11.1**	**+0.3**
KUR	**Kuril'sk**	**4.68**	**256**	⇑ *i* PN	**Pn**	**05 19 06.8**	**-8.9**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
KSRS	**Korea Array**	**21.52**	**255**	P	**P**	**05 22 52.2**	**+0.5**
	comp=Z,2.4nm,0.8s,mb3.7,baz=56,slow=10,SNR=5.7						
BILL	**Bilibino**	**22.42**	**12**	*e*P	**P**	**05 23 00.5**	**-0.8**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BILL	**Bilibino**	**22.42**	**12**	*e*P	**P**	**05 22 59.7**	**-1.6**
	comp=Z,2.7nm,0.3s,mb4.2						
SONM	**Songino Array**	**32.17**	**290**	P	**P**	**05 24 28.6**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=64,slow=10,SNR=2.7						
SONM	**Songino Array**	**32.17**	**290**	P	**P**	**05 24 28.6**	**-1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**41.39**	**32**	P	**P**	**05 25 48.5**	**+0.5**
	comp=Z,2.8nm,0.6s,mb4.0,baz=252,slow=6.6,SNR=7.7						
INK	**Inuvik**	**41.39**	**32**	P	**P**	**05 25 48.5**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**41.39**	**32**	P	**P**	**05 25 48.5**	**+0.5**
MK31	**Makanchi Array**	**47.76**	**298**	*e*P	**P**	**05 26 38.5**	**-0.3**
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**05 26 38.8**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.1,baz=67,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**05 26 38.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.60**	**37**	P	**P**	**05 27 00.3**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=295,slow=7.1,SNR=6.6						
YKA	**Yellowknife Ar**	**50.60**	**37**	P	**P**	**05 27 00.3**	**-0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.60**	**37**	P	**P**	**05 27 00.3**	**-0.1**
RES	**Resolute Bay**	**50.77**	**19**	*e*P	**P**	**05 27 02.0**	**+0.3**
RES				pmax	pmax		
	comp=Z,83nm,0.5s						
RES	**Resolute Bay**	**50.77**	**19**	*e*P	**P**	**05 27 02.0**	**+0.3**
	comp=Z,83nm,0.5s						
ZRNK	**Zerenda**	**52.39**	**310**	*e*P	**P**	**05 27 14.2**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**52.39**	**310**	*e*P	**P**	**05 27 14.2**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**54.66**	**297**	*e*P	**P**	**05 27 30.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.66**	**297**	*e*P	**P**	**05 27 30.8**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2						
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**05 27 37.1**	**-0.9**
AKTK	**Aktyubinsk**	**59.47**	**312**	P	**P**	**05 28 04.1**	**-0.3**
AKTO	**Aktyubinsk**	**59.47**	**312**	P	**P**	**05 28 04.1**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=57,slow=7.8,SNR=4.4						
AKTO	**Aktyubinsk**	**59.47**	**312**	P	**P**	**05 28 04.1**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**61.80**	**63**	P	**P**	**05 28 20.2**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.2,baz=295,slow=8.5,SNR=7.4						
DUG	**Dugway**	**63.99**	**58**	*e*P	**P**	**05 28 34.9**	**+0.1**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
DUG	**Dugway**	**63.99**	**58**	*e*P	**P**	**05 28 34.9**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**64.21**	**54**	P	**P**	**05 28 36.0**	**-0.2**
	comp=Z,1.8nm,0.9s,mb4.1,baz=299,slow=1.7,SNR=11						
FINES	**FINESS Array B**	**64.57**	**335**	P	**P**	**05 28 38.8**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.2,baz=32,slow=8.4,SNR=10.0						
FINES	**FINESS Array B**	**64.57**	**335**	P	**P**	**05 28 38.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,

*IDC **16** 05:21:21.5±1.1, 46.21N×154.36E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/22, mbtmp4.1/7, Error ellipse: s-maj=33.2km s-min=24.1km az=150.0*

*MOS **16** 05:21:23.4±0.8, 46.12N×154.04E, h24km, mb4.3/8, Error ellipse: s-maj=25.4km s-min=16.5km az=85.2*

*NEIC **16** 05:21:23.1±0.7, 46.24N×154.32E, h10km, mb4.0/2, Error ellipse: s-maj=21.1km s-min=13.0km az=173.0*

ISC 16 05:21:22.4±0.9, 461N±01×1542E±01, h10km, n21, σ0§93/22, mb4.1/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.51**	**261**	*e*PN		**Pn**		**05 22 30.0**	**-0.8**
KUR				*e*S		**Sn**		**05 23 23.0**	**-0.3**
KUR	comp=Z,130nm,0.4s			pmax	pmax				
KUR	comp=N,240nm,0.6s			smax					
KUR	comp=E,90nm,0.6s			smax					
SKR	**Severo-Kuril's**	**4.78**	**15**	*e*PN		**Pn**		**05 22 36.2**	**+1.7**
BILL	**Bilibino**	**22.89**	**12**	*e*P		**P**		**05 26 25.9**	**-0.2**
BILL	comp=Z,9.0nm,0.8s,mb4.2			pmax	pmax				
KDAK	**Kodiak Island**	**33.95**	**50**	P		**P**		**05 28 04.3**	**-1.6**
	comp=Z,7.9nm,0.6s,mb4.8,baz=302,slow=9.5,SNR=5.5								
INK	**Inuvik**	**41.82**	**32**	P		**P**		**05 29 12.2**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.1,baz=238,slow=4.0,SNR=17								
INK	**Inuvik**	**41.82**	**32**	P		**P**		**05 29 12.3**	**0.0**
INK	comp=Z,3.0nm,0.6s			pmax	pmax				
MK31	**Makanchi Array**	**47.91**	**298**	*e*P		**P**		**05 30 01.4**	**+0.6**
MKAR	**Makanchi Array**	**47.91**	**298**	P		**P**		**05 30 01.9**	**+1.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=63,slow=7.7,SNR=7.2								
MKAR	**Makanchi Array**	**47.91**	**298**	P		**P**		**05 30 01.9**	**+1.1**
MKAR	comp=Z,2.0nm,0.7s			pmax	pmax				
MKAR	**Makanchi Array**	**47.91**	**298**	P		**P**		**05 30 01.9**	**+1.1**
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P		**P**		**05 30 27.5**	**-0.1**
CHKZ	comp=Z,2.0nm,0.8s,mb4.1			pmax	pmax				
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P		**P**		**05 30 27.5**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0								
ZRNK	**Zerenda**	**52.63**	**311**	*e*P		**P**		**05 30 36.4**	**-0.1**
ZRNK	comp=Z,1.0nm,0.5s,mb4.0			pmax	pmax				
ZRNK	**Zerenda**	**52.63**	**311**	*e*P		**P**		**05 30 36.4**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.0								
PDAR	**Pinedale Array**	**64.54**	**54**	P		**P**		**05 31 59.1**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=276,slow=1.9,SNR=5.6								
FINES	**FINESS Array B**	**64.96**	**335**	P		**P**		**05 32 01.4**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=36,slow=7.6,SNR=9.2								
FINES	**FINESS Array B**	**64.96**	**335**	P		**P**		**05 32 01.4**	**-0.9**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax				
ASAR	**Alice Springs**	**71.82**	**200**	P		**P**		**05 32 47.1**	**+1.9**
	comp=Z,1.3nm,1.0s,mb3.8,baz=23,slow=5.7,SNR=6.2								
ASAR	**Alice Springs**	**71.82**	**200**	P		**P**		**05 32 47.1**	**+1.9**
ASAR	comp=Z,1.0nm,1.0s			pmax	pmax				
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**		**05 33 15.9**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=305,slow=4.0,SNR=11								
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**		**05 33 16.0**	**-0.3**
TXAR	comp=Z,1.0nm,0.7s			pmax	pmax				

*ISCJB **16** 05:21:50.3±0.9, 472N±02×1556E±02, h10km, mb4.0/16, Error ellipse: s-maj=22.6km s-min=14.3km az=146.2*

*IDC **16** 05:21:50.3±1.0, 47.16N×155.62E, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/23, mbtmp3.9/13, Error ellipse: s-maj=28.5km s-min=20.3km az=161.0*

*NEIC **16** 05:21:52.0±0.7, 47.15N×155.56E, h10km, mb4.5/3, Error ellipse: s-maj=18.4km s-min=11.7km az=172.0*

ISC 16 05:21:52.1±0.9, 472N±02×1556E±02, h10km, n21, σ0§72/20, mb4.0/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.54**	**254**	P		**P**		**05 26 52.8**	**+0.7**
	2.2nm,0.8s,mb3.7,baz=62,slow=10,SNR=4.9								
SONM	**Songino Array**	**32.74**	**290**	P		**P**		**05 28 24.5**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=67,slow=8.2,SNR=5.2								
SONM				PcP		PcP		05 31 09.2	-1.1
	0.9nm,1.1s,baz=76,slow=1.8,SNR=3.7								
INK	**Inuvik**	**40.33**	**33**	P		**P**		**05 29 30.1**	**+0.4**
	1.5nm,0.5s,mb4.0,baz=288,slow=7.9,SNR=7.2								
ZAL	**Zalesovo**	**43.69**	**306**	PcP		PcP		05 31 44.0	-0.2
	1.2nm,0.3s,baz=58,slow=2.7,SNR=3.8								
MK31	**Makanchi Array**	**48.19**	**298**	*e*P		**P**		**05 30 32.4**	**-0.3**
MKAR	**Makanchi Array**	**48.19**	**298**	P		**P**		**05 30 33.2**	**+0.6**
	1.2nm,0.7s,mb4.1,baz=74,slow=8.9,SNR=5.1								
MKAR	**Makanchi Array**	**48.19**	**298**	P		**P**		**05 30 33.2**	**+0.6**
RES	**Resolute Bay**	**49.83**	**19**	*e*P		**P**		**05 30 45.6**	**+0.5**
	111nm,0.8s								
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P		**P**		**05 30 56.8**	**-0.1**
	4.8nm,0.6s,mb4.6								
BVAR	**Borovoye Array**	**51.83**	**310**	P		**P**		**05 31 00.7**	**+0.4**
	1.9nm,0.5s,mb4.2,baz=52,slow=6.9,SNR=6.1								
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**		**05 31 00.7**	**+0.1**
	3.2nm,0.6s,mb4.4								
AAK	**Ala-Archa**	**55.10**	**297**	*e*P		**P**		**05 31 24.3**	**0.0**
	2.6nm,0.7s,mb4.4								
ARCES	**ARCESS Array B**	**57.93**	**341**	P		**P**		**05 31 44.6**	**+0.2**
	3.1nm,0.9s,mb4.3,baz=29,slow=6.9,SNR=6.7								
AKTK	**Aktyubinsk**	**59.63**	**313**	P		**P**		**05 31 54.8**	**-1.5**
AKTO	**Aktyubinsk**	**59.63**	**313**	P		**P**		**05 31 54.8**	**-1.5**
	0.9nm,0.5s,mb4.0,baz=80,slow=12,SNR=2.2								
PDAR	**Pinedale Array**	**63.10**	**55**	P		**P**		**05 32 19.7**	**0.0**
	0.4nm,0.7s,mb3.7,baz=296,slow=4.8,SNR=4.3								
FINES	**FINESS Array B**	**64.29**	**336**	P		**P**		**05 32 27.0**	**-0.6**
	1.9nm,0.8s,mb4.2,baz=42,slow=8.3,SNR=3.5								
WRA	**Warramunga Arr**	**69.55**	**201**	P		**P**		**05 33 00.8**	**-0.3**
	0.9nm,0.8s,mb3.8,baz=18,slow=6.3,SNR=5.1								
TXAR	**Lajitas Array**	**75.79**	**62**	P		**P**		**05 33 37.5**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=298,slow=4.3,SNR=4.6								
GERES	**GERESS Array B**	**78.72**	**335**	P		**P**		**05 33 55.3**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=38,slow=6.8,SNR=3.1								
BRTR	**Keskin Array B**	**79.16**	**318**	P		**P**		**05 33 58.6**	**+1.7**
	0.3nm,0.3s,mb3.6,baz=91,slow=5.9,SNR=3.6								

*IDC **16** 05:30:11.9±4.4, 46.05N×153.11E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=148.4km s-min=31.7km az=8.0*

*ISCJB **16** 05:30:12.6±3.1, 463N±08×153.1E±02, h10km, mb3.8/6, Error ellipse: s-maj=109.0km s-min=22.0km az=5.5*

*NEIC **16** 05:30:13.6±2.3, 46.09N×153.09E, h10km, mb3.9/2, Error ellipse: s-maj=85.8km s-min=16.3km az=183.0*

ISC 16 05:30:14.6±3.1, 464N±07×1531E±02, h10km, n8, σ0§24/8, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**47.10**	**298**	*e*P		**P**		**05 38 46.9**	**+0.3**
MKAR	**Makanchi Array**	**47.10**	**298**	P		**P**		**05 38 46.5**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=80,slow=7.5,SNR=4.2								
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P		**P**		**05 39 13.9**	**-0.1**
	0.9nm,0.5s,mb4.0								
AAK	**Ala-Archa**	**53.98**	**297**	*e*P		**P**		**05 39 38.6**	**0.0**
	0.9nm,0.6s,mb3.9								
FINES	**FINESS Array B**	**64.38**	**335**	P		**P**		**05 40 51.0**	**+0.3**
	1.2nm,0.8s,mb4.0,baz=36,slow=7.3,SNR=2.3								
PDAR	**Pinedale Array**	**65.00**	**54**	P		**P**		**05 40 55.0**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=270,slow=1.5,SNR=5.4								
CLL	**Collm**	**76.81**	**336**	*e*P		**P**		**05 42 06.0**	**-0.5**
CLL				*e*pP		pP		05 42 15.0	+5.2
TXAR	**Lajitas Array**	**77.71**	**60**	P		**P**		**05 42 11.4**	**-0.1**
	0.7nm,0.6s,mb3.8,baz=301,slow=4.2,SNR=11								

*ISCJB **16** 05:31:33.1±1.1, 468N±02×1552E±03, h10km, mb3.9/10, Error ellipse: s-maj=33.0km s-min=23.7km az=59.5*

*IDC **16** 05:31:33.2±1.2, 46.77N×155.27E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, Error ellipse: s-maj=36.6km s-min=28.6km az=20.0*

*NEIC **16** 05:31:34.9±0.7, 46.76N×155.26E, h10km, mb4.1/4, Error ellipse: s-maj=21.1km s-min=15.3km az=209.0*

ISC 16 05:31:34.8±1.1, 468N±02×1552E±03, h10km, n11, σ0§26/11, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.70**	**290**	P		**P**		**05 38 07.4**	**0.0**
	0.4nm,0.6s,mb3.5,baz=67,slow=9.6,SNR=3.9								
MK31	**Makanchi Array**	**48.22**	**298**	*e*P		**P**		**05 40 15.5**	**-0.1**
MKAR	**Makanchi Array**	**48.22**	**298**	P		**P**		**05 40 15.4**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=73,slow=7.4,SNR=4.9								
CHKZ	**Chkalovo**	**51.52**	**311**	*e*P		**P**		**05 40 40.7**	**0.0**
	2.6nm,0.6s,mb4.3								
BVAR	**Borovoye Array**	**51.96**	**310**	P		**P**		**05 40 44.0**	**0.0**
	0.7nm,0.6s,mb3.8,baz=60,slow=8.5,SNR=3.6								
BRVK	**Borovoye**	**52.00**	**310**	*e*P		**P**		**05 40 44.6**	**+0.3**
	1.9nm,0.6s,mb4.2								
ZRNK	**Zerenda**	**52.72**	**311**	*e*P		**P**		**05 40 49.8**	**+0.1**
	1.4nm,0.6s,mb4.1								
AAK	**Ala-Archa**	**55.12**	**297**	*e*P		**P**		**05 41 07.8**	**+0.6**
	0.9nm,0.5s,mb4.1								
FINES	**FINESS Array B**	**64.63**	**336**	P		**P**		**05 42 12.1**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=35,slow=10,SNR=4.3								
ASAR	**Alice Springs**	**72.72**	**200**	P		**P**		**05 43 03.0**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=20,slow=4.8,SNR=5.2								
TXAR	**Lajitas Array**	**76.20**	**62**	P		**P**		**05 43 23.4**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=303,slow=5.4,SNR=10								

*NIED **16** 05:34:00, 47.00N×154.70E, h20km, Mw4.9 Best double couple: M0 2.33000×10^16 NP1:φs175.00000°, δ68.00000°, λ-114.00000°. NP2:φs44.00000°, δ32.00000°, λ-45.00000°.*

*ISCJB **16** 05:34:36.1±0.1, 46.64N±0.03×154.82E±0.02, h2km, mb5.0/162, MS4.4/36, Error ellipse: s-maj=4.6km s-min=1.9km az=146.8*

*IDC **16** 05:34:37.9±0.4, 46.75N×154.82E, h0km, mb4.7/26, mb1 4.9/27, mb1mx4.8/30, mbtmp4.7/27, ML4.2/1, MS4.2/13, Ms1 4.2/13, ms1mx3.8/44, Error ellipse: s-maj=14.2km s-min=11.7km az=130.0*

*GCMT **16** 05:34:38.4±0.5, 46.86N×155.07E, h12km, MW5.0/64, Moment Tensor Solution. s15,c18; s64,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.18±.17; Mθθ 1.78±.17; Mφφ 2.40±.15; Mrθ 0.58±.64; Mrφ 2.03±.12; Mθφ-0.19±.61; Best double couple: M0 4.20500×10^16 NP1:φs33.00000°, δ44.00000°, λ-101.00000°. NP2: φs228.00000°, δ47.00000°, λ-80.00000°. Principal axes: T 4.1500, Plg2.0000°, Azm311.0000°; N 0.1100, Plg7.0000°, Azm41.0000°; P -4.2600, Plg82.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 05:34:38.4±2.7, 46.76N×154.85E, h2km±16km, mb5.2/91 Error ellipse: s-maj=5.6km s-min=3.5km az=167.0*

*SKHL **16** 05:34:39.7±1.3, 46.66N×154.91E, h30km±3km, mb5.7/2, mbh5.3/1, Ms5.0/5, msh6.1/1*

*BJI **16** 05:34:39.4, 46.83N×154.53E, h10km, mB5.0, mb4.8, Ms4.7, Msz4.6*

*MOS **16** 05:34:39.7±1.1, 46.73N×154.75E, h23km, mb5.2/75, MS4.4/15, Error ellipse: s-maj=6.6km s-min=4.7km az=101.6*

*JMA **16** 05:34:41.1±0.9, 46.98N×154.67E, h30km, M5.3*

*BGS **16** 05:34:43.5, 46.76N×154.85E, h10km, mb5.5*

*SZGRF **16** 05:34:47.0, 47.18N×154.82E, h16km, mb5.3, Kuril Islands, Russia*

ISC 16 05:34:38.1±0.9, 4671N±003×15477E±002, h2km±5km, n616, σ0§96/641, mb5.0/161, MS4.4/36, 81C-89D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.08**	**12**	*e*P		**Pn**		**05 35 40.7**	**-0.8**
SKR	230nm,0.5s			AMB	AMB			05 35 47.0	
SKR				*e*S		**Sn**		**05 36 25.5**	**-4.4**
SKR	620nm,0.5s			A				05 36 42.0	
SKR	390nm,0.5s			A				05 36 42.0	
SKR	5μm,10.0s			AMS	AMS			05 38 22.0	
SKR	13μm,10.0s			AMS	AMS			05 38 22.0	
SKR	10μm,10.0s			AMS	AMS			05 38 22.0	
SKR	5μm,10.0s			AMS	AMS			05 38 22.0	
SKR	12μm,10.0s			AMS	AMS			05 38 22.0	
SKR	10μm,10.0s			AMS	AMS			05 38 22.0	
KUR	**Kuril'sk**	**5.04**	**255**	*e*P		**Pn**		**05 35 53.0**	**-1.7**
KUR	150nm,0.6s			AMB	AMB			05 35 55.4	
KUR	140nm,0.6s			AMB	AMB			05 35 55.4	
KUR	780nm,0.6s			AMB	AMB			05 35 55.4	
KUR				pP				05 36 03.0	
KUR	2μm,1.5s			AMB	AMB			05 36 05.6	
KUR				*i* S		**Sn**		**05 36 49.0**	**-4.4**
KUR	1μm,0.8s			A				05 36 50.6	
KUR	650nm,0.8s			A				05 36 50.6	
KUR	8μm,2.0s			A				05 36 52.4	
KUR	3μm,2.0s			A				05 36 52.4	
KUR	3μm,12.0s			AMS	AMS			05 38 14.0	
KUR	5μm,12.0s			AMS	AMS			05 38 14.0	
KUR	8μm,12.0s			AMS	AMS			05 38 14.0	
PET	**Petropavlovsk**	**6.80**	**20**	*e*PN		**Pn**		**05 36 16.3**	**-2.7**
PET	comp=Z,57nm,1.2s			pmax	pmax				
PET	comp=Z,1μm,19.0s			MLR	MLR				
PET	**Petropavlovsk**	**6.80**	**20**	*e*Pn		**Pn**		**05 36 15.7**	**-3.2**
	comp=Z,55nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**6.82**	**250**	*e*P		**Pn**		**05 36 20.0**	**+0.8**
YUK	comp=Z,370nm,0.5s			AMB	AMB			05 36 22.5	
YUK				*e*S		**Sn**		**05 37 34.0**	**-3.5**
YUK	comp=Z,570nm,0.5s			A				05 37 39.0	
YUK	comp=Z,950nm,0.5s			A				05 37 39.0	
NEM2	**Nemuro 2**	**7.22**	**246**	P		**Pn**		**05 36 23.8**	**-0.8**
NEM2				*e*S		**Sn**		**05 37 40.1**	**-7.1**
JRA	**Rausu**	**7.34**	**251**	P		**Pn**		**05 36 29.0**	**+2.6**
JNK	**Nakash**	**7.76**	**250**	P		**Pn**		**05 36 33.1**	**+1.0**
JAK	**Akkeshi**	**8.06**	**246**	P		**Pn**		**05 36 35.6**	**-0.6**
JAK				*e*S		**Sn**		**05 38 00.7**	**-7.3**
JTKR	**Abashiri--Toko**	**8.13**	**254**	P		**Pn**		**05 36 40.4**	**+3.2**
YSS	**Yuzh-Sakhalins**	**8.25**	**276**	*i*eP		**Pn**		**05 36 43.0**	**+4.2**
YSS				*e*pP				05 36 52.0	
YSS	comp=Z,4μm,14.0s			AMS	AMS			05 40 46.0	
YSS	comp=Z,4μm,14.0s			AMS	AMS			05 40 46.0	
YSS	comp=Z,3μm,13.0s			AMS	AMS			05 40 46.0	
YSS	**Yuzh-Sakhalins**	**8.25**	**276**	*e*PN		**Pn**		**05 36 43.0**	**+4.2**
YSS				*e*S		**Sn**		**05 38 19.0**	**+6.4**
YSS	**Yuzh-Sakhalins**	**8.25**	**276**	*e*Pn		**Pn**		**05 36 43.0**	**+4.2**
	comp=Z,60nm,0.6s								
JMP	**Maruseppu**	**8.48**	**256**	P		**Pn**		**05 36 44.1**	**+2.1**
JAR	**Ashorobuto**	**8.51**	**250**	P		**Pn**		**05 36 43.3**	**+0.9**
JAR				*e*S		**Sn**		**05 38 15.2**	**-3.8**
JOB	**Onbets**	**8.65**	**248**	P		**Pn**		**05 36 44.6**	**+0.2**
JOB				*e*S		**Sn**		**05 38 17.4**	**-5.2**
UGL	**Uglegorsk**	**8.86**	**290**	*e*L				05 38 50.0	
UGL	comp=Z,6μm,13.0s			AMS	AMS			05 41 11.0	
UGL	comp=Z,5μm,13.0s			AMS	AMS			05 41 11.0	
UGL	comp=Z,4μm,14.0s			AMS	AMS			05 41 11.0	
JKK2	**Kamakawa 2**	**8.94**	**256**	P		**Pn**		**05 36 50.2**	**+1.9**
ASAJ	**Asahikawa**	**8.95**	**258**	Pn		**Pn**		**05 36 52.1**	**+3.7**
ASAJ	comp=Z,14nm,0.3s,baz=92,slow=14,SNR=25			LR	LR			05 40 37.6	
ASAJ	comp=Z,714nm,18.1s,baz=283,slow=40 **Asahikawa**	**8.95**	**258**	P		**Pn**		**05 36 51.2**	**+2.8**
ASAJ	**Asahikawa**	**8.95**	**258**	PN		**Pn**		**05 36 52.2**	**+3.8**
ASAJ	comp=Z,15nm,0.3s			pmax	pmax				
ASAJ	comp=Z,714nm,18.1s			MLR	MLR				
TYV	**Tymovskoe**	**9.01**	**302**	*e*P		**Pn**		**05 36 50.7**	**+1.4**
TYV				AMB	AMB			05 36 50.7	
TYV	comp=Z,600nm,4.0s			AMB	AMB			05 36 50.7	
TYV	comp=Z,800nm,4.0s			AMB	AMB			05 36 53.4	
TYV	comp=Z,18nm,0.8s			AMB	AMB			05 36 53.4	
TYV	comp=Z,38nm,0.8s			AMS	AMS			05 40 39.0	
TYV	comp=Z,4μm,13.0s			AMS	AMS			05 40 39.0	
TYV	comp=Z,3μm,16.0s			AMS	AMS			05 40 39.0	
JWK2	comp=Z,3μm,16.0s **Keihoku**	**9.07**	**266**	P		**Pn**		**05 36 55.6**	**+5.5**
JCH	**Churui**	**9.10**	**247**	P		**Pn**		**05 36 50.2**	**-0.3**
JCH				*e*S		**Sn**		**05 38 26.7**	**-6.8**
JFR	**Furan**	**9.34**	**252**	P		**Pn**		**05 36 56.1**	**+2.4**
ERM	**Erimo**	**9.55**	**245**	Pn		**Pn**		**05 36 57.4**	**+0.8**
	comp=Z,649nm,0.5s,SNR=12								
ERM	**Erimo**	**9.55**	**245**	*e*PN		**Pn**		**05 36 56.9**	**+0.3**
ERM	comp=Z,98nm,0.8s			pmax	pmax				
ERM	**Erimo**	**9.55**	**245**	*e*Pn		**Pn**		**05 36 56.9**	**+0.2**
	comp=Z,98nm,0.8s								
ERM				*e*Sn		**Sn**		**05 38 39.5**	**-5.0**
JEM	**Erimo**	**9.55**	**245**	P		**Pn**		**05 36 57.0**	**+0.4**
JNBK	**Urakawa-nobuka**	**9.66**	**247**	P		**Pn**		**05 36 57.0**	**-1.2**
JNBK				*e*S		**Sn**		**05 38 38.8**	**-8.5**
JBT2	**Biratori 2**	**9.66**	**251**	P		**Pn**		**05 36 58.4**	**+0.2**
OKH	**Okha**	**10.22**	**316**	*e*L				05 39 54.0	
OKH	comp=Z,5μm,14.0s			AMS	AMS			05 41 32.2	
OKH	comp=Z,5μm,12.0s			AMS	AMS			05 41 32.2	
JEW	**Eniwo**	**10.23**	**253**	P		**Pn**		**05 37 07.4**	**+1.4**
JKB	**Kayabe**	**10.96**	**249**	P		**Pn**		**05 37 14.5**	**-1.5**
JKB				*e*S		**Sn**		**05 39 07.9**	**-11**
NKL	**Nikolayevsk**	**11.13**	**311**	*e*P		**Pn**		**05 37 18.0**	**-0.3**
NKL	comp=Z,100nm,1.1s			AMB	AMB			05 37 20.0	
NKL	comp=Z,1μm,4.0s			AMB	AMB			05 37 22.0	
NKL				*e*L				05 40 10.0	
NKL	comp=Z,3μm,14.0s			AMS	AMS			05 42 26.0	
NKL	comp=Z,3μm,16.0s			AMS	AMS			05 42 26.0	
JOT	**Ohata**	**11.22**	**247**	P		**Pn**		**05 37 17.9**	**-1.6**
JOT				*e*S		**Sn**		**05 39 14.0**	**-11**
JSH	**Shimam**	**11.24**	**254**	P		**Pn**		**05 37 20.9**	**+1.0**
JYM2	**Yakumo 2**	**11.27**	**251**	P		**Pn**		**05 37 19.5**	**-0.8**
JANG	**Nango**	**11.51**	**241**	P		**Pn**		**05 37 20.2**	**-3.3**
JANG				*e*S		**Sn**		**05 39 19.9**	**-13**
JTM	**Tenmabayashi**	**11.54**	**244**	P		**Pn**		**05 37 21.8**	**-2.1**
JTM				*e*S		**Sn**		**05 39 20.9**	**-12**
JTH	**Tanohata**	**11.57**	**239**	P		**Pn**		**05 37 22.6**	**-1.8**
JTH				*e*S		**Sn**		**05 39 21.9**	**-12**
JOSM	**Okushiri--Mats**	**11.88**	**253**	P		**Pn**		**05 37 27.7**	**-0.8**
JOM	**Ohasama**	**12.21**	**239**	P		**Pn**		**05 37 30.6**	**-2.5**
JOM				*e*S		**Sn**		**05 39 37.1**	**-13**
OFUJ	**Ofunato**	**12.25**	**236**	P		**Pn**		**05 37 31.0**	**-2.7**
OFUJ				*e*S		**Sn**		**05 39 37.9**	**-13**
JRG	**Rokugo**	**12.65**	**240**	P		**Pn**		**05 37 37.3**	**-1.8**
JRG				*e*S		**Sn**		**05 39 49.8**	**-11**
TEY	**Ternei**	**12.78**	**269**	*e*P		**Pn**		**05 37 45.0**	**+4.2**
TEY				*e*L				05 40 40.0	
JIO	**Ouri**	**12.87**	**235**	P		**Pn**		**05 37 39.6**	**-2.4**
JIO				*e*S		**Sn**		**05 39 51.4**	**-14**
HABR	**Khabarovsk**	**13.43**	**285**	*e*PN		**Pn**		**05 37 53.2**	**+3.5**
HABR	comp=Z,17nm,0.8s			pmax	pmax				
JMM	**Marumori**	**13.59**	**234**	*e*S		**Sn**		**05 40 12.8**	**-11**
JYA	**Atsumi**	**13.72**	**239**	P		**Pn**		**05 37 52.0**	**-1.6**
SMY	**Shemya**	**13.86**	**57**	*e*P		**Pn**		**05 37 51.4**	**-4.2**
SMY	comp=Z,36nm,0.7s			pmax	pmax				
SMY	**Shemya**	**13.86**	**57**	*e*P		**Pn**		**05 37 52.4**	**-3.2**
	comp=Z,37nm,0.6s								
JFK	**Kawauchi**	**13.90**	**233**	*e*S		**Sn**		**05 40 17.5**	**-14**
JFY	**Yanaizu**	**14.53**	**236**	P		**Pn**		**05 38 03.2**	**-1.5**
JFY				*e*S		**Sn**		**05 40 39.5**	**-6.8**
KLR	**Kul'dur**	**15.61**	**288**	*e*P		**Pn**		**05 38 20.7**	**+1.4**
JRY	**Ryogami san**	**15.97**	**234**	P		**Pn**		**05 38 25.0**	**+1.1**
JRY				*e*S		**Sn**		**05 41 11.0**	**-10**
MJAR	**Matsushiro Arr**	**15.98**	**236**	Pn		**Pn**		**05 38 23.3**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=28,slow=14,SNR=15								
MJAR	**Matsushiro Arr**	**15.98**	**236**	P		**Pn**		**05 38 23.3**	**-0.8**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax				
MAJO	**Matsushiro**	**15.99**	**236**	*e*P		**Pn**		**05 38 23.0**	**-1.1**
MAJO	comp=Z,30nm,0.7s			pmax	pmax				
MAJO	**Matsushiro**	**15.99**	**236**	*e*Pn		**Pn**		**05 38 23.0**	**-1.1**
	comp=Z,30nm,0.7s								
MAJO				*e*P				05 38 29.9	
MAT	**Matsushiro**	**15.99**	**236**	P		**Pn**		**05 38 23.1**	**-1.0**
MAT				S		**Sn**		**05 41 21.0**	**-0.9**
MAT	**Matsushiro**	**15.99**	**236**	P		**Pn**		**05 38 23.0**	**-1.1**
SEY	**Seymchan**	**16.32**	**356**	*e*P		**Pn**		**05 38 27.0**	**-1.4**
JWT	**Wachi**	**18.50**	**239**	P		**Pn**		**05 38 57.7**	**+2.2**
ZEA	**Zeya**	**18.88**	**302**	*e*P		**Pn**		**05 39 00.5**	**+0.3**
ZEA	comp=Z,24nm,0.9s			AMB	AMB			05 39 01.4	
CN2	**Changchun**	**20.79**	**273**	*e*P		**P**		**05 39 19.1**	**-1.5**
CN2				*e*S		**S**		**05 43 07.1**	**-6.2**
CN2	comp=Z,10.0nm,0.5s			AMB	AMB				
CN2	comp=Z,300nm,5.0s			AMB	AMB				
CN2	comp=N,700nm,14.0s,MS4.4			LR	LR				
CN2	comp=E,800nm,14.0s,MS4.4			LR	LR				
CN2	comp=Z,800nm,16.0s,MS4.2			LR	LR				
CLNS	**

comp=N,342nm,2.5s
YAK smax
comp=Z,431nm,3.0s
YAK smax
comp=E,374nm,2.3s
YAK MLR MLR
comp=Z,1μm,14.0s,MS4.5
YAK MLR MLR
comp=N,798nm,12.0s,MS4.4
YAK MLR MLR
comp=E,779nm,15.0s,MS4.4
YAK Yakutsk 20.98 326 *e*P **P 05 39 23.7 +1.0**
comp=E,52nm,0.6s
KSRS Korea Array 21.88 255 P **P 05 39 34.6 +2.3**
comp=E,14nm,0.8s,mb4.5,baz=57,slow=10,SNR=36
KSRS PcP PcP 05 43 32.4 +0.5
comp=E,0.8nm,0.5s,baz=90,slow=2.5,SNR=4.5
KSRS LR LR 05 48 55.1
comp=E,342nm,18.0s,MS3.8,baz=65,slow=39
BILL Bilibino 22.19 11⇑ *e*P **P 05 39 34.0 -1.7**
BILL *i* 05 39 39.9
BILL *e*S **S 05 43 36.1 -4.7**
BILL *e* 05 43 49.1
BILL pmax pmax
comp=Z,52nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,900nm,16.0s,MS4.3
BILL Bilibino 22.19 11 *e*P **P 05 39 33.4 -2.3**
comp=Z,27nm,0.4s,mb5.0
JNU Nakatsue 22.69 242 P **P 05 39 44.0 +3.1**
comp=Z,37nm,0.9s,mb4.8,baz=204,slow=20,SNR=4.7
JNU LR LR 05 48 24.0
comp=Z,1μm,20.5s,MS4.3,baz=253,slow=36
JNU Nakatsue 22.69 242 P **P 05 39 43.6 +2.6**
SNY Shenyang 22.78 269⇑ P **P 05 39 41.8 -0.1**
SNY AP 05 39 46.3
SNY XP sP 05 39 48.6 +6.1
SNY AMB AMB
comp=Z,51nm,0.6s,mb5.1
SNY AMB AMB
comp=Z,359nm,4.1s
SNY LR LR
comp=N,505nm,12.8s,MS4.5
SNY LR LR
comp=E,1μm,14.5s,MS4.5
SNY LR LR
comp=Z,1μm,16.7s,MS4.4
HIA Hailar 23.46 289 *e*P **P 05 39 47.5 -1.6**
HIA pmax pmax
comp=Z,12nm,0.5s
HIA Hailar 23.46 289 *e*P **P 05 39 47.5 -1.6**
comp=Z,12nm,0.5s,mb4.6
DL2 Dalian 25.39 264⇑ *i*P **P 05 40 09.1 +2.2**
DL2 S **S 05 44 37.5 +3.3**
DL2 AMB AMB
comp=Z,30nm,0.6s,mb5.0
DL2 AMB AMB
comp=Z,210nm,5.2s
DL2 LR LR
comp=N,280nm,13.8s,MS4.1
DL2 LR LR
comp=E,260nm,13.4s,MS4.1
DL2 LR LR
comp=Z,360nm,13.8s,MS4.0
BOD Bodaibo 26.90 309 *e*P **P 05 40 17.1 -3.4**
BOD *e* 05 45 01.4
BOD pmax pmax
comp=Z,13nm,0.8s,mb4.5
BJI Beijing 28.62 271 P **P 05 40 37.8 +1.9**
BJI S **S 05 45 26.3 +1.2**
BJI AMB AMB
comp=Z,18nm,1.6s,mb4.5
BJI AMB AMB
comp=Z,196μm,3.0s
BJI LR LR
comp=N,637nm,15.3s,MS4.5
BJI LR LR
comp=E,774nm,15.3s,MS4.5
BJI LR LR
comp=Z,636nm,17.8s,MS4.3
BJI Beijing 28.62 271 P **P 05 40 37.7 +1.8**
BJI S **S 05 45 26.3 +1.2**
BJI pmax pmax
comp=Z,18nm,1.6s,mb4.5
BJI MLR MLR
comp=Z,640nm,17.8s,MS4.3
BJI Beijing 28.62 271 P **P 05 40 37.7 +1.8**
comp=Z,18nm,1.6s,mb4.5
BJI S **S 05 45 26.3 +1.2**
BJI LR LR
comp=Z,640nm,17.8s,MS4.3
SSE Sheshan 30.16 251 P **P 05 40 50.3 +0.8**
SSE XP sP 05 40 54.8 +4.6
SSE S **S 05 45 47.6 -1.7**
SSE AMB AMB
comp=Z,22nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,111nm,7.3s
SSE LR LR
comp=N,52nm,15.4s,MS4.0
SSE LR LR
comp=E,255nm,15.3s,MS4.0
SSE LR LR
comp=Z,261nm,16.3s,MS4.0
SSE Sheshan 30.16 251 P **P 05 40 50.2 +0.7**
comp=Z,22nm,0.8s,mb4.9
SSE sP sP 05 40 54.7 +4.5
SSE S **S 05 45 47.6 -1.7**
SSE sS sS 05 45 52.6 +2.5
SSE LR LR
comp=Z,260nm,16.3s,MS4.0
NJ2 Nanjing 31.08 255 *e*P **P 05 40 59.8 +2.1**
NJ2 AP 05 41 03.1
NJ2 XP sP 05 41 07.3 +8.9
NJ2 PP PP 05 42 01.9 -5.8
NJ2 S **S 05 46 03.5 -0.3**
NJ2 XS sS 05 46 11.5 +6.9
NJ2 AMB AMB
comp=Z,420nm,4.3s
NJ2 LR LR
comp=N,1μm,14.6s,MS5.1
NJ2 LR LR
comp=E,2μm,14.2s,MS5.1
NJ2 LR LR
comp=Z,2μm,16.3s,MS4.9
HHC Hu-ho-hao-te 31.43 275 *e*P **P 05 41 01.3 +0.5**
HHC AP 05 41 05.6
HHC XP sP 05 41 08.4 +6.9
HHC PP PP 05 42 03.3 -8.3
HHC PCP PcP 05 43 54.3 +0.1
HHC S **S 05 46 07.1 -2.2**
HHC XS sS 05 46 14.3 +4.2
HHC SCP ScP 05 47 35.3 -3.0
HHC SS SS 05 47 54.4 -29
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,154nm,6.4s
HHC LR LR
comp=N,712nm,14.5s,MS4.6
HHC LR LR
comp=E,662nm,14.6s,MS4.6
HHC LR LR
comp=Z,848nm,15.4s,MS4.5
ULN Ulaanbaatar 31.99 290 *e*P **P 05 41 05.3 -0.4**
ULN pmax pmax
comp=Z,11nm,1.1s,mb4.6
ULN Ulaanbaatar 31.99 290 *e*P **P 05 41 05.3 -0.4**
comp=Z,11nm,1.1s,mb4.6
SONM Songino Array 32.42 290 P **P 05 41 08.3 -1.2**
comp=Z,3.8nm,0.6s,mb4.4,baz=67,slow=7.8,SNR=28
SONM LR LR 05 56 02.5
comp=Z,1μm,18.1s,MS4.7,baz=76,slow=40
SONM Songino Array 32.42 290 P **P 05 41 08.3 -1.2**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM MLR MLR
comp=Z,1μm,18.1s
TLY Talaya 33.21 298 *e*P **P 05 41 15.9 -0.5**
TLY *e* 05 41 26.6
TLY *e*S **S 05 46 37.6 +0.6**
TLY *e*SS SS 05 49 03.7 +3.9
TLY pmax pmax
comp=Z,13nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,1μm,14.0s,MS4.7
TLY Talaya 33.21 298 *e*P **P 05 41 15.9 -0.5**
comp=Z,11nm,0.8s,mb4.8
ZAK Zakamensk 33.73 296 *e*P **P 05 41 19.0 -1.9**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
GUMO Guam 34.05 197 LR LR 05 56 50.0
comp=Z,142nm,18.2s,MS3.7,baz=23,slow=39
PMR Palmer 34.84 44 *e*P **P 05 41 26.9 -3.6**
PMR pmax pmax
comp=Z,206nm,2.4s,mb5.6
PMR Palmer 34.84 44 *e*P **P 05 41 26.9 -3.7**
comp=Z,206nm,2.4s,mb5.6
MCK McKinley 34.95 40 *e*P **P 05 41 30.5 -1.0**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MCK McKinley 34.95 40 *e*P **P 05 41 30.5 -1.0**
comp=Z,8.0nm,1.0s,mb4.6
WHN Wuhan 35.03 257 P **P 05 41 32.8 +0.6**
COLA College 35.46 38 P **P 05 41 35.5 -0.4**
COLA pmax pmax
comp=Z,13nm,0.7s,mb5.0
COLA College 35.46 38 *e*P **P 05 41 35.1 -0.8**
comp=Z,13nm,0.7s,mb5.0
QZH Quanzhou 36.05 246 P **P 05 41 42.4 +1.5**
QZH S **S 05 47 23.6 +2.9**
QZH AMB AMB
comp=Z,40nm,0.8s,mb5.4
QZH AMB AMB
comp=Z,690nm,3.9s
QZH LR LR
comp=Z,590nm,20.8s,MS4.3
XAN Xi'an 36.65 267 P **P 05 41 49.3 +3.2**
XAN S **S 05 47 31.9 +1.9**
XAN AMB AMB
comp=Z,16nm,0.8s,mb4.9
XAN LR LR
comp=N,397nm,14.5s,MS4.5
XAN LR LR
comp=E,323nm,12.9s,MS4.5
XAN LR LR
comp=Z,625nm,15.0s,MS4.5
EGAK Eagle 38.33 38 *e*P **P 05 41 58.9 -1.4**
comp=Z,15nm,0.8s,mb4.8
LZH Lanzhou 39.03 273 *e*P **P 05 42 07.9 +1.7**
LZH AP 05 42 10.6
LZH XP sP 05 42 12.9 +6.0
LZH *e*S **S 05 48 05.3 -0.8**
LZH XS sS 05 48 14.0 +7.1
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,344nm,5.0s
LZH LR LR
comp=E,657nm,15.0s
LZH LR LR
comp=Z,968nm,16.0s,MS4.7
LZH Lanzhou 39.03 273 *e*P **P 05 42 07.9 +1.7**
LZH *SP sP 05 42 12.9 +6.0
LZH *e*S **S 05 48 05.2 -0.9**
LZH *SS sS 05 48 14.0 +7.1
LZH *e*SS SS 05 50 42.0 -16
LZH pmax pmax
comp=Z,50nm,1.2s,mb5.1
LZH MLR MLR
comp=Z,970nm,16.0s,MS4.7
LZH Lanzhou 39.03 273 *e*P **P 05 42 07.9 +1.7**
comp=Z,50nm,1.2s,mb5.1
LZH pP 05 42 10.6
LZH sP sP 05 42 12.9 +6.0
LZH PP PP 05 43 11.2 -24
LZH *e*S **S 05 48 05.2 -0.9**
LZH sS sS 05 48 14.0 +7.1
LZH *e*SS SS 05 50 42.0 -16
LZH LR LR
comp=Z,970nm,16.0s,MS4.7
DAWY Dawson 39.15 39 *e*P **P 05 42 06.7 -0.5**
GTA Gaotai 40.10 280 *e*P **P 05 42 16.8 +1.7**
GTA AP 05 42 20.8
GTA XP sP 05 42 24.0 +8.2
GTA PP PP 05 43 54.3 +7.1
GTA PCP PcP 05 44 20.8 +1.0
GTA S **S 05 48 25.6 +3.4**
GTA XS sS 05 48 32.4 +9.4
GTA AMB AMB
comp=Z,11nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,200nm,5.3s
GTA LR LR
comp=N,519nm,14.5s,MS4.7
GTA LR LR
comp=E,677nm,16.1s,MS4.7
GTA LR LR
comp=Z,905nm,15.7s,MS4.7
GZH Guangzhou 40.71 249 P **P 05 42 17.1 -3.1**
GZH S **S 05 48 20.4 -11**
GZH LR LR
comp=N,383nm,16.2s,MS4.5
GZH LR LR
comp=E,370nm,14.9s,MS4.5
GZH LR LR
comp=Z,595nm,16.2s,MS4.5
INK Inuvik 41.08 32 P **P 05 42 23.1 0.0**
comp=Z,7.3nm,0.6s,mb4.5,baz=299,slow=6.8,SNR=46
INK Inuvik 41.08 32 *e*P **P 05 42 22.7 -0.5**
comp=Z,250nm,0.6s,mb6.0
CD2 Chengdu 42.02 267⇑ *i*P **P 05 42 32.4 +1.5**
CD2 AP 05 42 36.9
CD2 XP sP 05 42 39.5 +7.9
CD2 PP PP 05 43 12.6 +4.6
CD2 S **S 05 48 49.9 -0.7**
CD2 XS sS 05 48 57.4 +6.0
CD2 AMB AMB
comp=Z,60nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,570nm,14.4s,MS4.7
CD2 LR LR
comp=E,490nm,14.4s,MS4.7
CD2 LR LR
comp=Z,780nm,14.4s,MS4.7
GYA Guiyang 42.82 259⇑ *i*P **P 05 42 38.3 +0.8**
GYA AP 05 42 41.8
GYA PP PP 05 44 20.0 +3.3
GYA PCP PcP 05 44 30.3 +1.6
GYA SCP ScP 05 48 20.0 -0.7
GYA S **S 05 49 01.8 -0.7**
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,160nm,5.2s
GYA LR LR
comp=N,670nm,16.9s,MS4.8
GYA LR LR
comp=E,680nm,17.2s,MS4.8
GYA LR LR
comp=Z,690nm,17.8s,MS4.6
ZAL Zalesovo 43.58 306 P **P 05 42 42.1 -1.4**
comp=Z,6.3nm,0.3s,mb4.8,baz=56,slow=5.3,SNR=14
ZAL PcP PcP 05 44 31.1 -0.1
comp=Z,2.8nm,0.4s,baz=98,slow=19,SNR=4.8
ZAL Zalesovo 43.58 306 P **P 05 42 42.2 -1.4**
ZAL 05 44 31.1
ZAL pmax pmax
comp=Z,6.0nm,0.3s
NVS Novosibirsk 44.12 308 *e*P **P 05 42 46.2 -1.7**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.7s
NVS pmax pmax
comp=Z,17nm,0.7s,mb4.9
QIZ Qiongzhong 45.89 249 P **P 05 43 03.0 +1.0**
QIZ S **S 05 49 51.8 +4.7**
QIZ AMB AMB
comp=Z,21nm,1.7s,mb4.8
QIZ LR LR
comp=E,421nm,16.0s
QIZ LR LR
comp=Z,374nm,16.0s,MS4.4
WMQ Urumqi 46.00 292⇑ *i*P **P 05 43 04.8 +1.9**
WMQ AP 05 43 09.3
WMQ XP sP 05 43 11.8 +8.2
WMQ PCP PcP 05 44 41.8 +2.2
WMQ PP PP 05 44 52.8 +2.2
WMQ PPP 05 45 37.3
WMQ SCP ScP 05 48 32.8 -0.9
WMQ S **S 05 49 48.8 0.0**
WMQ XS sS 05 49 56.3 +6.7
WMQ AMB AMB
comp=Z,16nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,147nm,8.2s
WMQ LR LR
comp=N,735nm,20.0s,MS4.6
WMQ LR LR
comp=E,174nm,20.0s,MS4.6
WMQ LR LR
comp=Z,441nm,18.6s,MS4.4
KMI Kunming 46.36 261 P **P 05 43 06.8 +1.1**
KMI AP 05 43 12.8
KMI XP sP 05 43 16.3 +10
KMI PP PP 05 44 55.1 +0.7
KMI PPP 05 45 39.9
KMI S **S 05 49 52.3 -1.6**
KMI XS sS 05 50 02.1 +7.4
KMI AMB AMB
comp=Z,22nm,1.5s,mb4.9
KMI AMB AMB
comp=Z,193nm,3.4s
KMI LR LR
comp=N,193nm,16.8s,MS4.4
KMI LR LR
comp=E,284nm,15.5s,MS4.4
KMI LR LR
comp=Z,264nm,16.1s,MS4.3
KMI Kunming 46.36 261 P **P 05 43 06.7 +1.0**
KMI *PP 05 43 12.8
KMI *SP sP 05 43 16.3 +10
KMI 05 44 55.1
KMI PPP 05 45 39.9
KMI S **S 05 49 52.3 -1.6**
KMI *SS sS 05 50 02.1 +7.4
KMI SS SS 05 53 11.0 -8.4
KMI pmax pmax
comp=Z,22nm,1.5s,mb4.9
KMI MLR MLR
comp=Z,260nm,16.1s,MS4.3
KMI Kunming 46.36 261 P **P 05 43 06.7 +1.0**
comp=Z,22nm,1.5s,mb4.9
KMI pP 05 43 12.8
KMI sP sP 05 43 16.3 +10
KMI PP PP 05 44 55.1 +0.7
KMI PPP 05 45 39.9
KMI S **S 05 49 52.3 -1.6**
KMI sS sS 05 50 02.1 +7.4
KMI SS SS 05 53 11.0 -8.4
KMI LR LR
comp=Z,260nm,16.1s,MS4.3
MK31 Makanchi Array 47.97 298 *e*P **P 05 43 17.3 -1.0**
MKAR Makanchi Array 47.97 298 P **P 05 43 17.6 -0.7**
comp=Z,7.6nm,0.7s,mb4.8,baz=67,slow=7.3,SNR=38
MKAR LR LR 06 06 45.5
comp=Z,374nm,18.2s,MS4.4,baz=60,slow=40
MKAR Makanchi Array 47.97 298 P **P 05 43 17.7 -0.6**
MKAR pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 48.34 304 P **P 05 43 20.1 -1.0**
comp=Z,144nm,0.7s,mb6.1,SNR=12
KURK Kurchatov 48.34 304 P **P 05 43 19.7 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ALE Alert 49.67 6 P **P 05 43 31.0 -0.4**
comp=Z,95nm,0.6s,mb6.0,SNR=9.6
YKA Yellowknife Ar 50.27 37 P **P 05 43 35.5 -0.4**
comp=Z,5.3nm,0.7s,mb4.7,baz=294,slow=7.0,SNR=7.1
YKA Yellowknife Ar 50.27 37 P **P 05 43 35.5 -0.4**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 50.27 37 P **P 05 43 35.5 -0.5**
RES Resolute Bay 50.51 19 P **P 05 43 37.9 +0.2**
RES pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
RES Resolute Bay 50.51 19 *e*P **P 05 43 37.3 -0.4**
comp=Z,253nm,0.5s,mb6.4
CHKZ Chkalovo 51.33 311 P **P 05 43 42.5 -1.4**
CHKZ pmax pmax
comp=Z,11nm,0.5s,mb5.0
CHKZ Chkalovo 51.33 311 *e*P **P 05 43 42.4 -1.5**
comp=Z,39nm,0.4s,mb5.7
LSA Lhasa 51.41 274 P **P 05 43 48.3 +3.8**
VOSK Vostochnaya 51.60 310 P **P 05 43 44.9 -1.0**
VOSK pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
BVA0 Borovoye Array 51.77 310 *i*P **P 05 43 46.1 -1.1**
BVAR Borovoye Array 51.77 310 P **P 05 43 46.7 -0.4**
comp=Z,12nm,0.4s,mb5.2,baz=56,slow=7.6,SNR=49
BVAR Borovoye Array 51.77 310 P **P 05 43 46.7 -0.5**
BVAR pmax pmax
comp=Z,12nm,0.4s
BRVK Borovoye 51.80 310 P **P 05 43 46.0 -1.5**
comp=Z,198nm,0.6s,mb6.2,SNR=7.6
BRVK Borovoye 51.80 310 *e*P **P 05 43 46.4 -1.1**
BRVK pmax pmax
comp=Z,17nm,0.6s,mb5.2
BRVK Borovoye 51.80 310 *e*P **P 05 43 46.4 -1.0**
comp=Z,17nm,0.6s,mb5.2
ZRNK Zerenda 52.53 311 P **P 05 43 51.8 -1.0**
ZRNK pmax pmax
comp=Z,19nm,0.4s,mb5.4
ZRNK Zerenda 52.53 311 *e*P **P 05 43 51.5 -1.3**
comp=Z,19nm,0.4s,mb5.4
KBS Kingsbay 52.71 352⇓ *e*P **P 05 43 54.4 +0.2**
CHTO Chiang Mai 53.22 258 *e*P **P 05 43 58.7 +0.7**
CHTO pmax pmax
comp=Z,38nm,1.4s,mb5.1
CHTO Chiang Mai 53.22 258 *e*P **P 05 43 58.7 +0.8**
comp=Z,38nm,1.4s,mb5.1
ULHL Ulahol 54.01 296 P **P 05 44 04.8 +1.0**
SNR=12
E04A Onalaska 54.03 58⇑ P **P 05 44 04.1 +0.2**
baz=54
TKM2 Tokmak 2 54.04 297 P **P 05 44 05.4 +1.4**
SNR=10
USP Ospenovka 54.52 298 P **P 05 44 08.8 +1.3**
SNR=16
FRU Bishkek 54.69 297⇑ *i*P **P 05 44 10.0 +1.3**
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.2
KZA Kyzart 54.72 296 P **P 05 44 10.8 +1.8**
SNR=15
AAK Ala-Archa 54.87 297 P **P 05 44 09.1 -0.9**
comp=Z,75nm,0.7s,mb5.8,SNR=11
AAK Ala-Archa 54.87 297 P **P 05 44 11.2 +1.2**
SNR=12
AAK Ala-Archa 54.87 297 P **P 05 44 09.9 -0.2**
C07A Waterville 54.97 55⇑ P **P 05 44 09.2 -1.5**
baz=55
B08A Colville Reser 55.01 54⇓ P **P 05 44 09.9 -1.1**
baz=55
E06A Yakima 55.07 57⇑ P **P 05 44 11.6 +0.2**
baz=55
A09A Danville 55.09 53⇓ P **P 05 44 11.5 -0.1**
baz=55
EKS2 Erkin-Say 55.30 298 P **P 05 44 14.5 +1.4**
SNR=8.3
J02A Umpqua 55.30 61⇓ P **P 05 44 12.6 -0.5**
baz=55
EDM Edmonton 55.52 47 P **P 05 44 14.0 -0.7**
EDM Edmonton 55.52 47 *e*P **P 05 44 13.0 -1.6**
F06A Goldendale 55.61 58⇑ P **P 05 44 14.8 -0.6**
baz=55
B09A Rice 55.63 54⇑ P **P 05 44 14.9 -0.6**
baz=55
AML Almayashu 55.65 297 P **P 05 44 17.1 +1.5**
SNR=8.2
A10A Northport 55.65 53⇑ P **P 05 44 14.9 -0.7**
baz=55
E07A Sunnyside 55.71 56⇑ P **P 05 44 16.0 0.0**
baz=56
KSH Kashi 55.72 293 *e*P **P 05 44 18.1 +2.0**
KSH *e*AP 05 44 23.3
KSH *e*XP sP 05 44 26.3 +9.5
KSH *e*PCP PcP 05 45 18.6 +3.1
KSH *e*PP PP 05 46 24.3 +3.9
KSH *e*PPP 05 47 37.3
KSH *e*SCP ScP 05 49 16.3 +0.8
KSH *e*S **S 05 52 02.8 -0.7**
KSH *e*XS sS 05 52 12.5 +8.2
KSH *e*PS 05 52 21.5

KSH eSCS ScS 05 54 03.4 -3.1
KSH eSS SS 05 55 45.8 -2.9
KSH AMB AMB
comp=Z,808nm,2.7s,mb6.3
ARU Arti 55.81 318 ⇓*i*P **P 05 44 16.0 -0.8**
ARU *e* 05 46 21.3
ARU *e*S **S 05 52 00.3 -4.4**
ARU *e*SS SS 05 55 43.1 -7.0
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU Arti 55.81 318 *e*P **P 05 44 15.4 -1.3**
comp=Z,23nm,0.4s,mb5.6
C09A Chrisman Ranch 55.91 54 ⇓P **P 05 44 16.6 -0.9**
baz=56
HNR Honiara 56.07 174 LR LR 06 06 47.0
comp=Z,127nm,20.6s,MS4.0,baz=360,slow=34
JIRN Jiri 56.09 276 *e*P **P 05 44 20.4 +1.6**
comp=Z,30nm,0.5s,mb5.5
GUN Gumba 56.14 276 *e*P **P 05 44 20.9 +1.7**
comp=Z,33nm,0.4s,mb5.7
PMG Port Moresby 56.27 189 LR LR 06 02 54.0
comp=Z,63nm,21.0s,MS3.7,baz=106,slow=30
NEW Newport 56.29 53 P **P 05 44 18.6 -1.7**
comp=Z,7.6nm,1.1s,mb4.6,baz=314,slow=7.4,SNR=4.7
NEW Newport 56.29 53 P **P 05 44 18.6 -1.6**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 56.29 53 *e*P **P 05 44 19.2 -1.0**
D09A Jones Farm, Ri 56.30 55 ⇓P **P 05 44 19.5 -0.8**
baz=56
A11A Hall Mountain, 56.32 52 ⇑P **P 05 44 20.7 +0.3**
baz=56
KKN Kakani 56.63 276 *e*P **P 05 44 24.0 +1.4**
comp=Z,34nm,0.5s,mb5.6
PKI Pulchoki 56.68 276 *e*P **P 05 44 24.3 +1.3**
E09A Wood Farm, Sta 56.71 56 ⇓P **P 05 44 22.7 -0.5**
baz=56
A12A Yaak River Ran 56.72 52 ⇑P **P 05 44 23.0 -0.2**
baz=56
DAG Danmarks Havn 56.73 358 ⇓*i*P **P 05 44 22.6 -0.8**
comp=Z,4.8nm,0.7s,mb4.6
DAG Danmarks Havn 56.73 358 ⇓*i*P **P 05 44 22.6 -0.8**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
J05A Fort Rock 56.75 60 ⇓P **P 05 44 23.7 +0.2**
baz=56
F08A Pendleton 56.76 57 ⇑P **P 05 44 23.7 +0.2**
baz=56
YBH Yreka Blue Hor 56.76 63 P **P 05 44 23.5 -0.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=90,slow=3.8,SNR=5.2
YBH Yreka Blue Hor 56.76 63 P **P 05 44 23.5 0.0**
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 56.76 63 ⇓P **P 05 44 23.9 +0.4**
baz=56
DMN Daman 56.86 276 *e*P **P 05 44 25.8 +1.5**
M02C Callahan 56.86 63 ⇓P **P 05 44 24.8 +0.5**
baz=57
GKN Gorkha 56.93 277 *e*P **P 05 44 26.1 +1.3**
KKAR Karatay Array 57.02 300 *e*P **P 05 44 25.3 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LVZ Lovozero 57.26 337 *e*P **P 05 44 26.1 -1.0**
LVZ pmax pmax
comp=N,21nm,1.3s
LVZ pmax pmax
comp=Z,50nm,1.3s,mb5.4
LVZ pmax pmax
comp=E,10.0nm,2.0s
D11A Klaveano Farm, 57.42 54 ⇑P **P 05 44 27.9 -0.4**
baz=57
WDC Whiskeytown Da 57.53 64 *e*P **P 05 44 29.2 +0.2**
WDC Whiskeytown Da 57.53 64 ⇓P **P 05 44 29.2 +0.2**
baz=57
F10A Beach Ranch, E 57.54 56 ⇓P **P 05 44 29.1 +0.1**
baz=57
H08A Prairie City 57.55 58 ⇓P **P 05 44 29.4 +0.2**
baz=57
K06A Valley Falls 57.62 60 ⇑P **P 05 44 30.3 +0.6**
baz=57
B13A Whitefish 57.68 52 P **P 05 44 30.0 -0.1**
baz=57,SNR=13
P01C Double 8 Ranch 57.69 65 ⇓P **P 05 44 30.0 -0.2**
baz=58
KEV Kevo 57.76 341 *e*p **P 05 44 29.1 -1.5**
comp=E,3.2nm,0.4s,mb4.7
KEV Kevo 57.76 341 *e*P **P 05 44 29.1 -1.5**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
KOLN Koldanda 57.79 278 *e*P **P 05 44 32.2 +1.4**
comp=Z,34nm,0.7s,mb5.5
APA Apatity 57.83 337 ⇓*i*P **P 05 44 30.3 -0.8**
APA pmax pmax
comp=Z,43nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,19.0s,MS5.0
I08A Drewsey 57.97 58 P **P 05 44 32.9 +0.8**
baz=58,SNR=5.5
GASB Alder Springs 57.97 65 ⇓P **P 05 44 32.5 +0.4**
baz=58
C13A Hot Springs 58.03 53 ⇓P **P 05 44 32.4 -0.1**
baz=58
H09A Durkee 58.05 57 ⇓P **P 05 44 33.1 +0.4**
baz=58
MOD Modoc 58.12 61 *e*P **P 05 44 33.3 +0.2**
MOD Modoc 58.12 61 ⇓P **P 05 44 33.6 +0.4**
baz=58
BMO Blue Mountains 58.15 57 *e*P **P 05 44 32.5 -0.9**
F11A Grangeville 58.20 55 ⇑P **P 05 44 33.5 -0.3**
baz=58
ARCES ARCESS Array B 58.27 341 P **P 05 44 33.6 -0.6**
comp=Z,15nm,0.8s,mb5.1,baz=28,slow=7.9,SNR=55
ARCES LR LR 06 12 33.4
comp=Z,457nm,21.6s,MS4.6,baz=214,slow=39
ARCES ARCESS Array B 58.27 341 P **P 05 44 33.6 -0.6**
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES MLR MLR
comp=Z,457nm,21.6s
ARE0 ARCESS Array S 58.27 341 *e*P **P 05 44 33.4 -0.8**
K07A Rock Creek Ran 58.28 60 ⇓P **P 05 44 35.0 +0.7**
baz=58
J08A Circle Bar Ran 58.35 59 ⇑P **P 05 44 35.2 +0.5**
baz=58
I09A Lost Marbles R 58.41 58 ⇓P **P 05 44 35.2 0.0**
baz=58
G11A Walters Elk Ra 58.42 56 ⇓P **P 05 44 35.5 +0.3**
baz=58
D13A Huson 58.44 53 ⇑P **P 05 44 35.2 -0.2**
baz=58
O04C Chester 58.58 63 ⇑P **P 05 44 36.7 +0.3**
baz=58
MNRC McLaughlin Nat 58.60 65 ⇑P **P 05 44 36.9 +0.4**
baz=58
L07A Adell 58.63 61 ⇑P **P 05 44 37.1 +0.4**
baz=58
J09A Fry Pan Ranch, 58.78 58 ⇑P **P 05 44 37.9 +0.1**
baz=58,SNR=5.3
ORV Oroville 58.78 64 P **P 05 44 37.3 -0.5**
baz=59,SNR=5.5
SUTB Sutter Butte 58.80 64 ⇓P **P 05 44 38.0 +0.1**
baz=59
WVOR Wild Horse Val 58.80 60 *e*P **P 05 44 37.4 -0.5**
MSO Missoula 58.88 53 *e*P **P 05 44 36.7 -1.7**
comp=Z,16nm,1.3s,mb4.9
O05C Quincy 58.90 63 ⇓P **P 05 44 38.6 0.0**
baz=59
TMCR Tamitsa 58.90 333 *e*P **P 05 44 38.4 -0.2**
CVS Carmenet Viney 58.91 66 ⇓P **P 05 44 39.0 +0.3**
baz=59
FARB Farallon Islan 58.96 67 ⇓P **P 05 44 39.3 +0.2**
baz=59
D14A Greenough 58.97 53 P **P 05 44 38.8 -0.2**
baz=59,SNR=16
E13A Victor 58.97 54 ⇑P **P 05 44 38.7 -0.4**
baz=59,SNR=7.0
H11A Donnelly 58.98 56 ⇓P **P 05 44 39.0 -0.1**
baz=59,SNR=11
N06A Buffalo Meadow 59.09 62 ⇓P **P 05 44 40.4 +0.5**
baz=59
M07A Soldier Meadow 59.10 61 P **P 05 44 40.3 +0.3**
baz=59,SNR=7.0
KTK1 Kautokeino 59.18 342 *e*P **P 05 44 40.8 +0.3**
KTK1 AMb AMb 05 44 47.3
comp=Z,81nm,1.7s,mb5.5
KTK1 Kautokeino 59.18 342 *e*P **P 05 44 40.8 +0.3**
comp=Z,81nm,1.7s,mb5.5

K09A Rome 59.18 59 ⇑P **P 05 44 40.7 +0.2**
baz=59
CHMT Chamberlain Mo 59.21 53 *e*P **P 05 44 40.1 -0.6**
F13A Darby 59.28 54 P **P 05 44 41.2 -0.1**
baz=59,SNR=6.3
BEKR Beckwourth 59.30 63 ⇑P **P 05 44 41.1 -0.2**
baz=59,SNR=7.3
E14A Clinton 59.37 53 ⇓P **P 05 44 41.6 -0.3**
baz=59,SNR=5.8
O06A Flanigan 59.44 63 ⇑P **P 05 44 42.4 0.0**
baz=59
P05C Yuba Gap, Truc 59.48 64 ⇓P **P 05 44 43.0 +0.4**
baz=59
D15A Lincoln 59.53 52 ⇑P **P 05 44 42.7 -0.2**
baz=59
TRO Tromso 59.55 344 *e*P **P 05 44 41.3 -1.8**
TRO AMb AMB 05 44 44.1
comp=Z,91nm,1.7s,mb5.5
TRO Tromso 59.55 344 *e*P **P 05 44 41.3 -1.8**
comp=Z,91nm,1.7s,mb5.5
N07B Gerlach 59.59 61 ⇓P **P 05 44 43.5 +0.1**
baz=59
AKTK Aktyubinsk 59.60 313 P **P 05 44 43.3 -0.2**
AKTO Aktyubinsk 59.60 313 P **P 05 44 43.3 -0.2**
comp=Z,2.7nm,0.5s,mb4.6,baz=65,slow=8.6,SNR=11
AKTO Aktyubinsk 59.60 313 P **P 05 44 42.8 -0.7**
L09A Wilkinson Ranc 59.62 60 ⇓P **P 05 44 43.9 +0.3**
baz=59
LAVA Lava Cap Winer 59.73 64 ⇓P **P 05 44 44.3 0.0**
baz=60
E15A Deer Lodge 59.84 53 ⇓P **P 05 44 44.9 -0.1**
baz=60,SNR=7.5
WCN Washoe City 60.01 63 ⇑P **P 05 44 46.5 +0.2**
baz=60
O07A Toulon 60.02 62 ⇑P **P 05 44 46.4 0.0**
baz=60
FFC Flin Flon 60.03 41 P **P 05 44 46.1 -0.3**
comp=Z,147nm,1.3s,mb5.8,SNR=7.3
FFC Flin Flon 60.03 41 P **P 05 44 46.5 0.0**
N08A GE Springer Mi 60.09 61 ⇑P **P 05 44 47.2 +0.3**
baz=60
M09A Marrel Ranch, 60.12 60 ⇓P **P 05 44 47.5 +0.5**
baz=60
S04C Ingram Canyon, 60.13 66 ⇑P **P 05 44 47.4 +0.3**
baz=60
R05C Kirkwood Meado 60.18 64 ⇓P **P 05 44 47.5 0.0**
baz=60,SNR=6.0
F15A Butte 60.27 54 ⇓P **P 05 44 47.8 -0.3**
baz=60,SNR=11
CMB Columbia Colle 60.40 65 *e*P **P 05 44 49.0 +0.1**
CMB pmax pmax
comp=Z,22nm,1.4s,mb5.0
CMB Columbia Colle 60.40 65 *e*P **P 05 44 49.0 0.0**
comp=Z,22nm,1.4s,mb5.0
CMB Columbia Colle 60.40 65 P **P 05 44 49.1 +0.2**
baz=60,SNR=9.4
EGMT Eagleton 60.42 50 *e*P **P 05 44 48.5 -0.5**
comp=Z,57nm,1.4s,mb5.4
EGMT Eagleton 60.42 50 ⇓P **P 05 44 48.8 -0.2**
baz=60,SNR=8.4
N09A Rock Creek Ran 60.42 61 P **P 05 44 49.5 +0.5**
baz=60,SNR=5.8
PACP Pacheco Peak 60.46 66 ⇓P **P 05 44 49.6 +0.2**
baz=60,SNR=5.7
HLID Hailey 60.59 57 *e*P **P 05 44 49.7 -0.5**
comp=Z,11nm,1.4s,mb4.8
HLID Hailey 60.59 57 P **P 05 44 50.1 -0.1**
baz=60,SNR=6.4
M10A I.L. Ranch, Tu 60.59 60 ⇑P **P 05 44 50.5 +0.3**
baz=60
SUMG Summit 60.66 5 *e*P **P 05 44 50.9 +0.2**
comp=Z,33nm,0.9s,mb5.5
R06C Coleville 60.67 64 ⇑P **P 05 44 51.1 +0.3**
baz=60,SNR=7.8
HAST UC Hastings Re 60.68 67 ⇓P **P 05 44 51.7 +0.9**
baz=60
G15A Dillon 60.69 54 ⇑P **P 05 44 50.6 -0.3**
baz=60,SNR=6.6
S06C San Francisco 60.82 65 P **P 05 44 51.8 -0.1**
baz=61,SNR=12
BMN Battle Mountai 60.86 61 *e*P **P 05 44 52.1 0.0**
BMN pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
BMN Battle Mountai 60.86 61 *e*P **P 05 44 52.1 0.0**
comp=Z,4.7nm,0.5s,mb4.9
BOZ Bozeman (W) 60.87 53 *e*P **P 05 44 52.6 +0.4**
BOZ pmax pmax
comp=Z,21nm,1.1s,mb5.2
BOZ Bozeman (W) 60.87 53 *e*P **P 05 44 52.6 +0.4**
comp=Z,21nm,1.1s,mb5.2
O09A Fish Creek Ran 61.04 61 P **P 05 44 53.9 +0.6**
baz=61,SNR=7.6
M11A Holland Ranch, 61.09 59 P **P 05 44 54.6 +0.9**
baz=61,SNR=5.7
U04C Hernandez Rese 61.18 66 ⇑P **P 05 44 54.2 0.0**
baz=61
R07C Lee Vining 61.19 64 ⇓P **P 05 44 54.8 +0.5**
baz=61
O10A Cortez Mining, 61.38 61 ⇓P **P 05 44 56.1 +0.5**
baz=61
Q08A Gabbs 61.40 63 P **P 05 44 56.1 +0.4**
baz=61,SNR=9.9
P09A Austin 61.45 62 ⇓P **P 05 44 56.1 +0.1**
baz=61
T06C Millerton Lake 61.45 65 P **P 05 44 55.7 -0.4**
baz=61,SNR=5.5
QLMT Earthquake Lak 61.49 54 *e*P **P 05 44 56.5 +0.1**
KCC Kaiser Creek 61.50 65 P **P 05 44 56.8 +0.4**
baz=61,SNR=5.5
NDI New Delhi 61.53 283 *ex* **P 05 44 58.0 +1.4**
PKD Parkfield 61.59 67 ⇑P **P 05 44 57.0 -0.1**
baz=61
M12A Wells 61.62 59 P **P 05 44 58.0 +0.8**
baz=61,SNR=7.0
YMR Madison River 61.85 54 *e*P **P 05 44 59.1 +0.4**
comp=Z,46nm,1.5s,mb5.4
GCMT Greycliff 61.85 52 *e*P **P 05 44 59.2 +0.4**
Q09A Carvers 61.87 62 ⇓P **P 05 44 59.7 +0.7**
baz=62
N12A Clover Valley, 61.90 59 ⇑P **P 05 44 59.5 +0.4**
baz=62
MTUM Tungsten Hills 61.95 64 *e*P **P 05 44 59.6 +0.2**
O11A Cowboy Ranch, 61.98 60 ⇓P **P 05 44 60.0 +0.3**
baz=62
V05C Boulder Hill, 62.05 66 ⇑P **P 05 45 00.5 +0.4**
baz=62
HELL Mitchell Peak, 62.09 65 P **P 05 45 00.1 -0.3**
baz=62,SNR=15
M13A Montello 62.09 58 ⇓P **P 05 45 00.4 0.0**
baz=62,SNR=6.0
S08C White Mtn Res 62.10 64 ⇓P **P 05 45 00.9 +0.4**
baz=62,SNR=7.6
RCTC Rector, Farmer 62.18 66 ⇓P **P 05 45 00.6 -0.4**
baz=62
P11A Circle Ranch, 62.29 61 ⇑P **P 05 45 02.1 +0.4**
baz=62
R09A Tonopah 62.31 63 ⇑P **P 05 45 01.7 -0.2**
baz=62,SNR=12
SMMC Simmler 62.34 67 ⇑P **P 05 45 02.4 +0.4**
baz=62
IMW Indian Meadow 62.35 54 *e*P **P 05 45 02.9 +0.8**
comp=Z,19nm,1.2s,mb5.1
FLWY Flagg Ranch 62.37 54 *e*P **P 05 45 03.0 +0.8**
comp=Z,38nm,1.5s,mb5.3
N13A Wendover, West 62.39 59 ⇓P **P 05 45 02.5 +0.1**
baz=62
O12A Currie 62.44 60 ⇓P **P 05 45 03.0 +0.3**
baz=62,SNR=7.7
S09A Goldfield 62.54 63 P **P 05 45 03.5 +0.1**
baz=62,SNR=8.3
MOOW Moose Ponds 62.55 55 *e*P **P 05 45 04.1 +0.6**
comp=Z,21nm,1.4s,mb5.1
VES Vestal, Richgr 62.58 66 ⇓P **P 05 45 03.1 -0.6**
baz=62,SNR=6.3
TPAW Teton Pass 62.60 55 *e*P **P 05 45 04.5 +0.7**
comp=Z,12nm,0.8s,mb5.1
HVU Hansel Valley 62.64 57 *e*P **P 05 45 04.1 0.0**
PKM Peak Mountain 62.71 67 ⇓P **P 05 45 04.9 +0.3**
baz=62
LOHW Long Hollow 62.72 55 *e*P **P 05 45 04.9 +0.3**
comp=Z,44nm,1.4s,mb5.4
SNOW Snow King Moun 62.73 55 *e*P **P 05 45 05.6 +1.0**
comp=Z,26nm,1.2s,mb5.2
REDW Red Top Meadow 62.74 55 *e*P **P 05 45 05.3 +0.5**
comp=Z,32nm,1.2s,mb5.3
R10A Warm Springs 62.75 62 ⇑P **P 05 45 05.1 +0.3**
baz=62
Q11A Duckwater 62.79 61 ⇓P **P 05 45 05.1 0.0**
baz=63
CWC Cottonwood Cre 62.83 65 ⇓P **P 05 45 05.5 +0.2**
baz=63
P12A McGill 62.84 60 ⇓P **P 05 45 05.6 +0.1**
baz=63
GRAC Grapevine Rang 62.91 64 ⇓P **P 05 45 06.0 +0.1**
baz=63
DGMT Dagmar 63.01 47 *e*P **P 05 45 06.2 -0.3**
comp=Z,21nm,0.7s,mb5.4
ISA Isabella 63.07 66 P **P 05 45 06.2 -0.8**
baz=63,SNR=8.2
LAO LASA Array 63.12 50 *e*P **P 05 45 07.5 +0.2**
comp=Z,29nm,1.1s,mb5.3
TRCR Troy Canyon 63.15 62 *e*P **P 05 45 07.1 -0.4**
Q12A Willow Creek R 63.17 61 ⇓P **P 05 45 07.7 +0.1**
baz=63,SNR=5.3
ARVC Arvin 63.19 66 ⇓P **P 05 45 07.1 -0.6**
baz=63
DAC Darwin (Calif) 63.23 65 *e*P **P 05 45 08.4 +0.4**
DAC *e* 05 45 19.2
DAC pmax pmax
comp=Z,13nm,1.3s,mb4.9
DAC Darwin (Calif) 63.23 65 *e*P **P 05 45 07.7 -0.3**
comp=Z,14nm,1.4s,mb4.9
MOR8 Moi Rana 63.40 343 *e*P **P 05 45 07.7 -1.4**
MPMC Manual Prospec 63.44 65 P **P 05 45 09.5 +0.2**
baz=63,SNR=15
FURC Furnace Creek, 63.56 64 P **P 05 45 10.4 +0.1**
baz=63,SNR=18
OSI Osito Adit 63.59 67 ⇓P **P 05 45 10.3 -0.1**
baz=63
DUG Dugway 63.63 59 P **P 05 45 11.3 +0.7**
DUG pmax pmax
comp=Z,27nm,1.4s,mb5.1
DUG Dugway 63.63 59 *e*P **P 05 45 10.7 +0.1**
comp=Z,27nm,1.4s,mb5.1
DUG Dugway 63.63 59 P **P 05 45 10.8 +0.2**
baz=63,SNR=12
LRMC Laurel Mountai 63.68 65 P **P 05 45 10.8 -0.2**
baz=64,SNR=8.8
BLG Laguna Peak 63.69 67 ⇓P **P 05 45 10.7 -0.4**
baz=64
BW06 Boulder Array 63.85 55 *e*P **P 05 45 11.7 -0.4**
comp=Z,33nm,1.5s,mb5.2
PDAR Pinedale Array 63.85 55 P **P 05 45 11.9 -0.1**
comp=Z,6.6nm,0.9s,mb4.7,baz=299,slow=3.1,SNR=37
EDW2 Edwards Air Fo 63.88 66 P **P 05 45 12.3 +0.1**
baz=64,SNR=16
U10A Ash Meadows, A 63.93 64 ⇓P **P 05 45 13.1 +0.5**
baz=64,SNR=8.6
DECC Green Verdugo 64.07 67 ⇓P **P 05 45 13.2 -0.3**
baz=64
NLU North Lily Min 64.22 58 *e*P **P 05 45 14.2 -0.3**
SHOC Shoshone 64.29 64 ⇑P **P 05 45 14.9 -0.1**
baz=64,SNR=7.9
GSC Goldstone 64.35 65 ⇓P **P 05 45 15.1 -0.3**
baz=64,SNR=6.6
DAU Daniels Canyon 64.40 58 *e*P **P 05 45 15.9 +0.2**
MPU Maple Canyon 64.44 58 *e*P **P 05 45 16.1 +0.2**
comp=Z,4.7nm,0.7s,mb4.6
BFSC Mount Baldy St 64.50 66 P **P 05 45 16.6 +0.2**
baz=64,SNR=5.9
U11A Corn Creek 64.51 63 ⇓P **P 05 45 16.6 +0.2**
baz=64
FIA1 FINESS Array S 64.56 335 *e*P **P 05 45 15.8 -0.9**
FINES FINESS Array B 64.56 335 P **P 05 45 16.4 -0.4**
comp=Z,16nm,0.4s,mb5.4,baz=37,slow=8.4,SNR=107
FINES LR LR 06 16 21.1
comp=Z,267nm,19.0s,MS4.5,baz=218,slow=39
FINES FINESS Array B 64.56 335 P **P 05 45 16.4 -0.4**
FINES pmax pmax
comp=Z,16nm,0.4s
FINES MLR MLR
comp=Z,267nm,19.0s
CIS Catalina Islan 64.57 68 ⇓P **P 05 45 16.9 +0.1**
baz=64
SCI San Clemente I 64.75 68 ⇑P **P 05 45 18.1 0.0**
baz=65
ARUT Antelope Range 64.81 61 P **P 05 45 18.9 +0.5**
ARUT Antelope Range 64.81 61 *e*P **P 05 45 18.5 +0.2**
TUQ Turquoise Mtn. 64.81 64 P **P 05 45 18.4 0.0**
baz=65,SNR=20
V11A Goodsprings 64.86 64 ⇑P **P 05 45 18.5 -0.2**
baz=65,SNR=7.2
BBRC Big Bear Sol-O 64.95 66 ⇓P **P 05 45 19.3 0.0**
baz=65,SNR=7.4
HEC Hector,Ludlow 64.95 65 ⇓P **P 05 45 19.0 -0.3**
baz=65,SNR=12
U12A Valley of Fire 65.02 63 ⇓P **P 05 45 19.7 -0.1**
baz=65
MSU Marysvale 65.09 60 *e*P **P 05 45 20.6 +0.4**
PSI Prapat 65.10 246 P **P 05 45 21.9 +1.6**
comp=Z,5.4nm,0.8s,mb4.6,baz=330,slow=19,SNR=6.1
PSI Prapat 65.10 246 P **P 05 45 21.9 +1.6**
PSI pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TMUT Trail Mountain 65.15 59 *e*P **P 05 45 21.1 +0.5**
MURC Murrieta 65.20 67 P **P 05 45 20.8 -0.1**
baz=65,SNR=6.4
V12A Nelson 65.29 64 ⇓P **P 05 45 21.7 +0.2**
baz=65,SNR=11
NSS Namsos 65.34 343 *e*P **P 05 45 22.2 +0.4**
W12A Cal Nev Ari 65.55 64 ⇑P **P 05 45 23.0 -0.2**
baz=65
PFO Pinyon Flat Ob 65.67 66 ⇓P **P 05 45 23.7 -0.2**
baz=66
SRU San Rafael 65.67 58 *e*P **P 05 45 24.1 +0.1**
SRU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SRU San Rafael 65.67 58 *e*P **P 05 45 24.1 +0.1**
comp=Z,10nm,0.7s,mb5.0
BELC Belle Mtn. 65.70 66 ⇑P **P 05 45 23.5 -0.7**
baz=66,SNR=7.2
109C Camp Elliot, M 65.73 67 ⇑P **P 05 45 24.1 -0.3**
baz=66
ULM Lac du Bonnet 65.80 42 P **P 05 45 23.7 -1.2**
comp=Z,3.8nm,0.6s,mb4.6,baz=326,slow=6.5,SNR=11
ULM Lac du Bonnet 65.80 42 *e*P **P 05 45 22.9 -1.9**
comp=Z,5.0nm,0.6s,mb4.7
RSSD Black Hills 65.97 51 P **P 05 45 25.5 -0.4**
RSSD pmax pmax
comp=Z,12nm,0.7s,mb5.0
RSSD Black Hills 65.97 51 *e*P **P 05 45 25.2 -0.7**
comp=Z,10nm,0.7s,mb5.0
OBN Obninsk 65.98 326 ⇓*e*P **P 05 45 24.8 -1.2**
OBN *e* 05 45 29.8
OBN pmax pmax
comp=Z,73nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
IRM Iron Mountain 66.12 65 ⇓P **P 05 45 26.7 -0.2**
baz=66,SNR=20
MONP Monument Peak 66.16 67 ⇑P **P 05 45 26.9 -0.3**
baz=66
BC3 Big Chuckw Mtn 66.27 66 P **P 05 45 27.5 -0.3**
baz=66,SNR=6.5
W13A Hualapai Mount 66.29 64 ⇑P **P 05 45 27.8 -0.2**
baz=66,SNR=5.5
SWSC Sam W. Stewart 66.52 66 ⇓P **P 05 45 28.6 -0.8**
baz=66
X13A Yucca 66.66 64 ⇑P **P 05 45 30.4 +0.1**
baz=66
PDMCI Parker Dam,Lak 66.66 64 P **P 05 45 30.3 -0.1**
baz=66,SNR=13
W14A Seligman 66.71 63 ⇓P **P 05 45 30.9 +0.3**
baz=66,SNR=22
VSU Vasula 66.78 333 ⇑*e*P **P 05 45 31.5 +0.4**
Y12C Blythe 66.79 65 P **P 05 45 31.1 0.0**
baz=67,SNR=10
CTA Charters Tower 66.92 189 LR LR 06 12 53.5
comp=Z,104nm,19.5s,MS4.1,baz=53,slow=34
GLA Glamis 67.06 66 P **P 05 45 33.4 +0.5**
GLA Glamis 67.06 66 *e*P **P 05 45 33.0 +0.1**
GLA Glamis 67.06 66 ⇓P **P 05 45 32.6 -0.3**
baz=67,SNR=7.1
Y13A Salome 67.18 65 ⇓P **P 05 45 33.2 -0.4**
baz=67
AGMN Agassiz Refuge 67.19 43 *e*P **P 05 45 32.1 -1.6**
comp=Z,46nm,1.4s,mb5.3
W15A Williams 67.23 63 ⇓P **P 05 45 34.7 +0.7**
baz=67,SNR=7.5
X14A Yava 67.32 63 ⇑P **P 05 45 34.9 +0.4**
baz=67,SNR=20
WUAZ Wupatki 67.55 62 *e*P **P 05 45 36.2 +0.2**
comp=Z,34nm,1.5s,mb5.2
WUAZ Wupatki 67.55 62 P **P 05 45 36.4 +0.4**
baz=67,SNR=7.0

Y14A	**Wickenburg**	**67.61**	**64**	⇑P		**P**	**05 45 36.3**	**0.0**		
	baz=67,SNR=15									
SMCO	**Snowmass**	**67.69**	**56**	*e*P		**P**	**05 45 27.6**	**-9.3**		
	comp=Z,7.3nm,0.6s,mb4.9									
X15A	**Humboldt**	**67.71**	**63**	P		**P**	**05 45 37.5**	**+0.5**		
	baz=68,SNR=21									
VRSR	**Storozhevoye**	**67.84**	**322**	*e*P		**P**	**05 45 37.3**	**-0.5**		
VRSR					pmax	pmax				
	comp=Z,20nm,1.3s,mb5.0									
VRSR					pmax	pmax				
	comp=N,10.0nm,1.2s									
VRSR					pmax	pmax				
	comp=E,10.0nm,1.4s									
Z14A	**Wintersburg**	**68.03**	**64**	⇓P		**P**	**05 45 38.8**	**-0.2**		
	baz=68									
ISCO	**Idaho Springs**	**68.04**	**55**	*e*P		**P**	**05 45 39.2**	**+0.1**		
ISCO					pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.9									
ISCO	**Idaho Springs**	**68.04**	**55**	*e*P		**P**	**05 45 39.2**	**+0.2**		
	comp=Z,7.1nm,0.6s,mb4.9									
MVCO	**Mesa Verde**	**68.13**	**59**	*e*P		**P**	**05 45 39.4**	**-0.2**		
	comp=Z,7.4nm,0.7s,mb4.8									
MVCO	**Mesa Verde**	**68.13**	**59**	⇓P		**P**	**05 45 39.5**	**-0.1**		
	baz=68,SNR=9.0									
HYB	**Hyderabad**	**68.14**	**272**	*i* P		**P**	**05 45 40.0**	**+0.3**		
HYB	**Hyderabad**	**68.14**	**272**	*e*P		**P**	**05 45 40.0**	**+0.3**		
NB2	**NORSAR Subarra**	**68.63**	**342**	P		**P**	**05 45 41.8**	**-1.0**		
	comp=Z,6.8nm,0.6s,mb4.8,baz=26,slow=6.5									
NOA	**NORSAR Array B**	**68.63**	**342**	P		**P**	**05 45 42.1**	**-0.7**		
	comp=Z,8.5nm,0.7s,mb4.8,baz=28,slow=6.1,SNR=23									
NOA					LR	LR	06 23 41.9			
	comp=Z,250nm,18.6s,MS4.5,baz=20,slow=43									
WRAB	**Tennant Creek**	**68.85**	**201**	P		**P**	**05 45 44.0**	**-0.1**		
	comp=Z,80nm,1.3s,mb5.5,SNR=5.6									
WRAB	**Tennant Creek**	**68.85**	**201**	*e*P		**P**	**05 45 43.8**	**-0.3**		
WRAB					pmax	pmax				
	comp=Z,55nm,1.6s,mb5.2									
WRAB	**Tennant Creek**	**68.85**	**201**	*e*P		**P**	**05 45 43.8**	**-0.3**		
	comp=Z,54nm,1.6s,mb5.2									
WB2	**Warramunga Arr**	**68.86**	**201**	*e*P		**P**	**05 45 43.8**	**-0.4**		
WRA	**Warramunga Arr**	**68.86**	**201**	P		**P**	**05 45 43.7**	**-0.5**		
	comp=Z,11nm,1.1s,mb4.7,baz=21,slow=6.9,SNR=37									
WRA	**Warramunga Arr**	**68.86**	**201**	P		**P**	**05 45 43.7**	**-0.5**		
WRA					pmax	pmax				
	comp=Z,11nm,1.1s									
NAO01	**NORSAR Array S**	**68.88**	**342**	*e*P		**P**	**05 45 41.7**	**-2.6**		
115A	**Sonoran Desert**	**68.92**	**64**	⇑P		**P**	**05 45 44.8**	**+0.2**		
	baz=69,SNR=5.7									
116A	**Eloy**	**69.33**	**64**	⇑P		**P**	**05 45 47.1**	**-0.1**		
	baz=69,SNR=5.6									
EYMN	**Ely**	**69.46**	**41**	*e*P		**P**	**05 45 47.1**	**-0.9**		
	comp=Z,4.0nm,0.9s,mb4.3									
SDCO	**Great Sand Dun**	**69.51**	**57**	*e*P		**P**	**05 45 48.2**	**0.0**		
	comp=Z,29nm,1.4s,mb5.0									
HYA	**Hoyanger**	**69.52**	**344**	*e*P		**P**	**05 45 50.9**	**+2.6**		
HYA					AMb	AMB	05 46 01.0			
	comp=Z,79nm,2.0s,mb5.3									
HYA	**Hoyanger**	**69.52**	**344**	*e*P		**P**	**05 45 50.9**	**+2.6**		
	comp=Z,79nm,2.0s,mb5.3									
FITZ	**Fitzroy Crossi**	**69.66**	**210**	*e*P		**P**	**05 45 49.9**	**+0.8**		
	comp=Z,8.6nm,0.8s,mb4.7									
FITZ	**Fitzroy Crossi**	**69.66**	**210**	P		**P**	**05 45 49.8**	**+0.6**		
	comp=Z,4.9nm,0.7s,mb4.5,baz=66,slow=6.9,SNR=12									
ECSD	**EROS,Sioux Fal**	**70.09**	**47**	*e*P		**P**	**05 45 50.4**	**-1.4**		
	comp=Z,50nm,1.4s,mb5.3									
KONO	**Kongsberg**	**70.24**	**342**	*e*P		**P**	**05 45 54.2**	**+1.5**		
ASK	**Askoy**	**70.34**	**345**	*e*P		**P**	**05 45 54.9**	**+1.5**		
ASK					AMb	AMB	05 46 00.6			
	comp=Z,221nm,2.2s,mb5.7									
ASK	**Askoy**	**70.34**	**345**	*e*P		**P**	**05 45 54.9**	**+1.5**		
	comp=Z,221nm,2.3s,mb5.7									
BER	**Bergen**	**70.41**	**344**	*e*P		**P**	**05 45 57.5**	**+3.7**		
EGD	**Espegrend**	**70.53**	**344**	*e*P		**P**	**05 45 58.0**	**+3.4**		
LAZ	**Ladron**	**70.85**	**60**	*e*P		**P**	**05 45 56.9**	**+0.4**		
ANMO	**Albuquerque**	**70.88**	**59**	P		**P**	**05 45 56.9**	**+0.3**		
ANMO					pmax	pmax				
	comp=Z,5.0nm,0.7s									
ANMO	**Albuquerque**	**70.88**	**59**	*e*P		**P**	**05 45 56.7**	**+0.1**		
	comp=Z,4.6nm,0.7s,mb4.5									
BLS5	**Blasjo**	**71.08**	**344**	*e*P		**P**	**05 46 00.7**	**+2.8**		
BLS5				*e*P			05 46 00.7			
BLS5					AMb	AMB	05 46 08.2			
	comp=Z,27nm,1.4s,mb5.0									
LPM	**Los Pinos Moun**	**71.22**	**60**	*e*P		**P**	**05 45 58.4**	**-0.3**		
BNM	**Barren Site**	**71.33**	**60**	*e*P		**P**	**05 45 59.9**	**+0.5**		
KIV	**Kislovodsk**	**71.64**	**315**	*e*P		**P**	**05 46 02.3**	**+1.0**		
KIV				*e*			05 46 22.4			
KIV				*e*S		S	05 55 18.8	**-2.9**		
KIV					pmax	pmax				
	comp=Z,26nm,1.0s,mb5.1									
KIV					MLR	MLR				
	comp=Z,528nm,17.0s,MS4.9									
ZEI	**Tsey**	**71.92**	**314**	*e*P		**P**	**05 46 02.2**	**-0.7**		
ZEI					pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6									
AKASG	**Malin Array Be**	**72.21**	**327**	P		**P**	**05 46 03.6**	**-1.1**		
	comp=Z,11nm,0.6s,mb5.0,baz=34,slow=6.2,SNR=25									
AKASG					LR	LR	06 21 32.2			
	comp=Z,266nm,18.7s,MS4.5,baz=0.0,slow=39									
AKASG	**Malin Array Be**	**72.21**	**327**	P		**P**	**05 46 03.6**	**-1.1**		
AKASG					pmax	pmax				
	comp=Z,11nm,0.6s									
AKASG					MLR	MLR				
	comp=Z,267nm,18.7s									
AKBB	**Malin Array Si**	**72.21**	**327**	*e*P		**P**	**05 46 03.0**	**-1.7**		
KIEV	**Kiev**	**72.22**	**327**	*e*P		**P**	**05 46 03.1**	**-1.6**		
KIEV					pmax	pmax				
	comp=Z,11nm,0.6s,mb5.0									
KIEV	**Kiev**	**72.22**	**327**	*e*P		**P**	**05 46 03.1**	**-1.6**		
	comp=Z,11nm,0.6s,mb5.0									
AS31	**Alice Springs**	**72.54**	**200**	*e*P		**P**	**05 46 07.4**	**+0.8**		
ASAR	**Alice Springs**	**72.54**	**200**	P		**P**	**05 46 07.5**	**+0.9**		
	comp=Z,11nm,0.8s,mb4.8,baz=16,slow=5.7,SNR=89									
ASAR	**Alice Springs**	**72.54**	**200**	P		**P**	**05 46 07.6**	**+0.9**		
ASAR					pmax	pmax				
	comp=Z,11nm,0.8s									
SCHQ	**Schefferville**	**72.90**	**24**	P		**P**	**05 46 07.9**	**-0.9**		
	comp=Z,9.6nm,1.1s,mb4.6,baz=360,slow=6.1,SNR=7.0									
BSD	**Bornholm Skovb**	**73.05**	**337**	*i* P		**P**	**05 46 11.7**	**+2.0**		
	comp=Z,19nm,0.6s,mb5.2									
BSD	**Bornholm Skovb**	**73.05**	**337**	*i* P		**P**	**05 46 11.7**	**+2.0**		
BSD					pmax	pmax				
	comp=Z,19nm,0.6s,mb5.2									
SCIA	**State Center**	**73.13**	**46**	*e*P		**P**	**05 46 09.2**	**-0.9**		
	comp=Z,30nm,0.6s,mb5.4									
GNI	**Garni**	**73.42**	**311**	P		**P**	**05 46 13.4**	**+1.5**		
	comp=Z,3.6nm,0.4s,mb4.7,baz=27,slow=16,SNR=3.4									
GNI	**Garni**	**73.42**	**311**	P		**P**	**05 46 13.4**	**+1.5**		
GNI					pmax	pmax				
	comp=Z,4.0nm,0.4s									
AMTX	**Amarillo**	**73.71**	**56**	*e*P		**P**	**05 46 13.5**	**0.0**		
	comp=Z,47nm,1.4s,mb5.2									
MNTX	**Cornudas Mount**	**73.80**	**61**	*e*P		**P**	**05 46 13.8**	**-0.2**		
	comp=Z,36nm,1.4s,mb5.1									
KWP	**Kalwaria**	**75.44**	**330**	*e*P		**P**	**05 46 23.5**	**-0.1**		
KWP					pmax	pmax				
	comp=Z,27nm,0.9s,mb5.2									
KWP	**Kalwaria**	**75.44**	**330**	*e*P		**P**	**05 46 23.5**	**-0.1**		
	comp=Z,28nm,0.9s,mb5.2									
WMOK	**Wichita Mounta**	**75.46**	**55**	P		**P**	**05 46 23.0**	**-0.7**		
WMOK				*e*			05 46 42.6			
WMOK					pmax	pmax				
	comp=Z,24nm,1.2s,mb5.0									
WMOK	**Wichita Mounta**	**75.46**	**55**	*e*P		**P**	**05 46 22.4**	**-1.3**		
	comp=Z,24nm,1.3s,mb5.0									
WMOK				*e*			05 46 42.1			
OJC	**Ojcow**	**75.90**	**332**	*e*PX		**P**	**05 46 26.4**	**+0.1**		
EAB	**Aberfoyle**	**75.99**	**348**	*e*P		**P**	**05 46 29.9**	**+3.2**		
STHS	**Stebnicka Huta**	**76.12**	**331**	*e*P		**P**	**05 46 27.9**	**+0.4**		
STHS					pmax	pmax				
	comp=Z,11nm,0.7s,mb4.9									
STHS	**Stebnicka Huta**	**76.12**	**331**	*e*P		**P**	**05 46 27.9**	**+0.4**		
	comp=Z,11nm,0.7s,mb4.9									
EAU	**Auchinoon**	**76.19**	**348**	*e*P		**P**	**05 46 31.3**	**+3.4**		
BURAR	**Bucovina Array**	**76.25**	**328**	⇓*i*P		**P**	**05 46 28.3**	**+0.1**		
BURAR	**Bucovina Array**	**76.25**	**328**	⇓P		**P**	**05 46 28.3**	**+0.1**		
PGBU	**Glenifferbraes**	**76.37**	**348**	*e*P		**P**	**05 46 32.6**	**+3.7**		
PGBU					AMb	AMB	05 46 33.5			
	comp=Z,50nm,1.4s,mb5.3									
UZH	**Uzhgorod**	**76.43**	**330**	*e*P		**P**	**05 46 23.6**	**-5.7**		
KSP	**Ksiaz**	**76.44**	**334**	*e*P		**P**	**05 46 29.3**	**0.0**		
KSP				*e**PP			05 46 32.5			
KSP				*e*			05 46 42.5			
LTX	**Lajitas**	**76.52**	**62**	P		**P**	**05 46 29.8**	**+0.1**		
LTX					pmax	pmax				
	comp=Z,50nm,1.1s,mb5.4									
LTX	**Lajitas**	**76.52**	**62**	*e*P		**P**	**05 46 29.6**	**-0.1**		
	comp=Z,50nm,1.1s,mb5.4									
TXAR	**Lajitas Array**	**76.52**	**62**	P		**P**	**05 46 29.6**	**-0.1**		
	comp=Z,19nm,0.7s,mb5.1,baz=297,slow=3.7,SNR=135									
TXAR	**Lajitas Array**	**76.52**	**62**	P		**P**	**05 46 29.7**	**0.0**		
TXAR					pmax	pmax				
	comp=Z,19nm,0.7s									
ESK	**Eskdalemuir**	**76.67**	**347**	P		**P**	**05 46 34.2**	**+3.6**		
	comp=Z,104nm,0.6s,mb5.9,SNR=5.2									
ESK	**Eskdalemuir**	**76.67**	**347**	*e*P		**P**	**05 46 32.9**	**+2.3**		
ESK					AMb	AMB	05 46 34.4			
	comp=Z,112nm,1.5s,mb5.6									
ESK	**Eskdalemuir**	**76.67**	**347**	P		**P**	**05 46 34.3**	**+3.7**		
OKC	**Ostrava-Krasne**	**76.76**	**333**	*e*P		**P**	**05 46 31.6**	**+0.5**		
UPC	**Upice**	**76.82**	**334**	*e*P		**P**	**05 46 29.4**	**-2.1**		
UPC				*e*pP			05 46 34.2			
DPC	**Dobruska-Polom**	**76.87**	**334**	*e*P		**P**	**05 46 31.4**	**-0.3**		
DPC				*e*pP			05 46 35.4			
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**05 46 32.0**	**-0.3**		
CLL				*e**PP			05 46 35.0			
CLL					pmax	pmax				
	comp=Z,17nm,1.3s,mb4.8									
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**05 46 32.0**	**-0.3**		
	comp=Z,17nm,1.3s,mb4.8									
CLL				*e*pP			05 46 35.0			
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**05 46 32.0**	**-0.3**		
	comp=Z,17nm,1.3s,mb4.8									
CLL					LmV		05 24 00.0			
	comp=Z,200nm,18.8s									
CLL				*i* pP			05 46 35.3			
CLL				*i* PcP		PcP	05 46 45.3	+2.0		
MORC	**Moravsky Berou**	**77.00**	**333**	⇓*i*P		**P**	**05 46 32.7**	**+0.2**		
MORC	**Moravsky Berou**	**77.00**	**333**	*e*P		**P**	**05 46 32.2**	**-0.3**		
MORC					pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.8									
MORC	**Moravsky Berou**	**77.00**	**333**	*e*P		**P**	**05 46 32.2**	**-0.3**		
	comp=Z,7.8nm,0.6s,mb4.8									
CCM	**Cathedral Cave**	**77.02**	**48**	P		**P**	**05 46 26.9**	**-5.7**		
CCM					pmax	pmax				
	comp=Z,40nm,1.4s,mb5.2									
CCM	**Cathedral Cave**	**77.02**	**48**	*e*P		**P**	**05 46 26.4**	**-6.2**		
	comp=Z,40nm,1.4s,mb5.2									
BRG	**Berggiesshubel**	**77.10**	**336**	*e*P		**P**	**05 46 33.9**	**+0.9**		
	comp=Z,1.2nm,0.8s,mb3.9									
BRG				*i*			05 46 36.0			
	comp=Z,6.3nm,1.1s									
BRG	**Berggiesshubel**	**77.10**	**336**	*e*P		**P**	**05 46 33.9**	**+0.9**		
BRG				*i*			05 46 36.0			
BRG					pmax	pmax				
	comp=Z,13nm,0.8s,mb4.9									
VRI	**Vrincioaia**	**77.13**	**326**	⇑*i*P		**P**	**05 46 33.1**	**-0.1**		
VRI	**Vrincioaia**	**77.13**	**326**	⇑P		**P**	**05 46 33.1**	**-0.1**		
KECS	**Kecovo**	**77.18**	**331**	*e*P		**P**	**05 46 32.6**	**-0.9**		
KECS	**Kecovo**	**77.18**	**331**	*e*P		**P**	**05 46 32.7**	**-0.8**		
KECS					pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4									
KECS	**Kecovo**	**77.18**	**331**	*e*P		**P**	**05 46 32.7**	**-0.8**		
	comp=Z,4.9nm,0.9s,mb4.4									
PVCC	**Panska Ves**	**77.23**	**335**	*e*P		**P**	**05 46 33.5**	**-0.3**		
FVM	**French Village**	**77.49**	**47**	P		**P**	**05 46 34.2**	**-1.1**		
FVM					pmax	pmax				
	comp=Z,29nm,1.3s,mb5.0									
FVM	**French Village**	**77.49**	**47**	*e*P		**P**	**05 46 34.1**	**-1.2**		
	comp=Z,31nm,1.4s,mb5.0									
TIRR	**Tirgusor**	**77.63**	**324**	⇑*i*P		**P**	**05 46 35.7**	**-0.3**		
TIRR	**Tirgusor**	**77.63**	**324**	*e*P		**P**	**05 46 36.2**	**+0.2**		
TIRR					pmax	pmax				
	comp=Z,16nm,1.3s,mb4.8									
TIRR	**Tirgusor**	**77.63**	**324**	*e*P		**P**	**05 46 36.1**	**+0.1**		
	comp=Z,16nm,1.3s,mb4.8									
VRAC	**Vranov**	**77.71**	**333**	⇑*i*P		**P**	**05 46 37.2**	**+0.7**		
VRAC	**Vranov**	**77.71**	**333**	⇑P		**P**	**05 46 37.2**	**+0.7**		
VYHS	**Vyhne**	**77.71**	**332**	*e*P		**P**	**05 46 35.9**	**-0.6**		
PRU	**Pruhonice**	**77.72**	**335**	*e*P		**P**	**05 46 35.1**	**-1.4**		
PRU				*e*pP			05 46 39.4			
MLR	**Muntele Rosu**	**77.75**	**326**	⇑*i*P		**P**	**05 46 36.6**	**-0.1**		
MLR	**Muntele Rosu**	**77.75**	**326**	⇑P		**P**	**05 46 36.6**	**0.0**		
DRGR		**77.86**	**329**	⇓*i*P		**P**	**05 46 37.7**	**+0.4**		
DRGR		**77.86**	**329**	⇓P		**P**	**05 46 37.7**	**+0.4**		
PSZ	**Piszkesteto**	**77.86**	**331**	*e*P		**P**	**05 46 36.9**	**-0.4**		
PSZ					pmax	pmax				
	comp=Z,35nm,1.6s,mb5.0									
PSZ	**Piszkesteto**	**77.86**	**331**	*e*P		**P**	**05 46 36.9**	**-0.4**		
	comp=Z,35nm,1.6s,mb5.0									
WTSB	**Winterswijk**	**77.94**	**340**	*e*P		**P**	**05 46 41.3**	**+3.5**		
	comp=Z,26nm,1.1s,mb5.1									
MOX	**Moxa**	**77.95**	**337**	*e*P		**P**	**05 46 37.9**	**+0.1**		
JCT	**Junction City**	**77.99**	**58**	P		**P**	**05 46 37.8**	**-0.2**		
JCT					pmax	pmax				
	comp=Z,63nm,1.4s,mb5.3									
JCT	**Junction City**	**77.99**	**58**	*e*P		**P**	**05 46 37.4**	**-0.6**		
	comp=Z,63nm,1.4s,mb5.3									
MALT	**Malatya**	**78.01**	**314**	⇑*i*P		**P**	**05 46 39.4**	**+1.3**		
MALT	**Malatya**	**78.01**	**314**	*e*P		**P**	**05 46 39.2**	**+1.1**		
MALT					pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6									
MALT	**Malatya**	**78.01**	**314**	*e*P		**P**	**05 46 39.2**	**+1.0**		
	comp=Z,6.1nm,0.7s,mb4.6									
NKC	**Novy Kostel**	**78.09**	**336**	*e*P		**P**	**05 46 39.2**	**+0.6**		
VOIR		**78.14**	**326**	⇓*i*P		**P**	**05 46 39.7**	**+0.9**		
ZST	**Bratislava**	**78.53**	**333**	*e*P		**P**	**05 46 44.9**	**+3.9**		
KHC	**Kasperske Hory**	**78.77**	**335**	*e*P		**P**	**05 46 41.8**	**-0.5**		
KHC				*e*pP			05 46 46.0			
GRA1	**Grafenberg Arr**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.2**		
	comp=Z,30nm,1.3s,mb5.1									
GRA1				*e*pP			05 46 47.8			
GRF	**Grafenberg Arr**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.2**		
	comp=Z,30nm,1.3s,mb5.1									
GRF				*e*pP			05 46 47.8			
GRF	**Grafenberg Arr**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.2**		
GRF				*e**PP			05 46 47.8			
GRF					pmax	pmax				
	comp=Z,30nm,1.3s,mb5.1									
GRF	**Grafenberg Arr**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.2**		
GRF				*e**PP			05 46 47.8			
GRF					pmax	pmax				
	comp=Z,30nm,1.3s,mb5.1									
GRFO	**Grafenberg**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.1**		
GRFO					pmax	pmax				
	comp=Z,23nm,0.9s,mb5.1									
GRFO	**Grafenberg**	**78.92**	**337**	*e*P		**P**	**05 46 43.3**	**+0.1**		
	comp=Z,24nm,0.9s,mb5.1									
GEC2	**GERESS Array S**	**78.99**	**335**	*e*P		**P**	**05 46 42.8**	**-0.7**		
GERES	**GERESS Array B**	**78.99**	**335**	P		**P**	**05 46 43.1**	**-0.4**		
	comp=Z,17nm,0.4s,mb4.3,baz=40,slow=5.3,SNR=12									
GERES	**GERESS Array B**	**78.99**	**335**	P		**P**	**05 46 43.1**	**-0.4**		
GERES					pmax	pmax				
	comp=Z,2.0nm,0.4s									
GZR	**Gura Zlata**	**79.03**	**328**	⇑*i*P		**P**	**05 46 45.5**	**+1.8**		
GZR	**Gura Zlata**	**79.03**	**328**	⇑P		**P**	**05 46 45.5**	**+1.8**		
STKA	**Stephens Creek**	**79.12**	**191**	P		**P**	**05 46 44.4**	**+0.1**		
	comp=Z,5.0nm,0.9s,mb4.5,baz=337,slow=7.9,SNR=8.0									
CONA	**Conrad Observa**	**79.16**	**333**	⇓*i*P		**P**	**05 46 44.4**	**-0.1**		
	comp=Z,6.5nm,0.7s,mb4.7									
BR131	**Keskin Array S**	**79.20**	**318**	*e*P		**P**	**05 46 44.8**	**+0.1**		
	comp=Z,3.3nm,0.8s,mb4.3									
BRTR	**Keskin Array B**	**79.20**	**318**	P		**P**	**05 46 45.0**	**+0.3**		
	comp=Z,3.3nm,1.0s,mb4.2,baz=37,slow=2.5,SNR=11									
BRTR	**Keskin Array B**	**79.20**	**318**	P		**P**	**05 46 45.0**	**+0.3**		
BRTR					pmax	pmax				
	comp=Z,3.0nm,1.0s									
HGN	**Heimansgroeve**	**79.25**	**340**	*e*P		**P**	**05 46 48.9**	**+3.9**		
	comp=Z,18nm,0.2s,mb5.6									
HGN				*e*P			05 55 25.9			
	comp=Z,33nm,1.0s									
WCI	**Wyandotte Cave**	**79.35**	**45**	P		**P**	**05 46 45.3**	**-0.2**		
WCI				*e*			05 46 56.3			
WCI					pmax	pmax				
	comp=Z,57nm,1.2s,mb5.4									
WCI	**Wyandotte Cave**	**79.35**	**45**	*e*P		**P**	**05 46 45.0**	**-0.5**		
	comp=Z,58nm,1.3s,mb5.3									
MEM	**Membach**	**79.38**	**340**	PCP		PcP	05 46 49.7	-4.1		
MIB	**Mutribah**	**79.66**	**303**	*e*P		**P**	**05 46 47.3**	**+0.1**		
MIB					AMb	AMB	05 47 01.3			
	comp=Z,25nm,0.5s,mb5.4									
BCLA	**Clavier**	**79.72**	**341**	PCP		PcP	05 46 52.4	-2.9		
ARSA	**Arzberg**	**79.87**	**333**	⇑*i*P		**P**	**05 46 48.7**	**+0.4**		
	comp=Z,1.1nm,1.0s,mb4.5									
RST	**Umm Al-Ruwaisa**	**80.08**	**303**	*e*P		**P**	**05 46 49.5**	**0.0**		
RST					AMb	AMB	05 46 56.9			
	comp=Z,39nm,0.6s,mb5.5									
NAY	**Al-Naaiem**	**80.12**	**302**	*e*P		**P**	**05 46 49.5**	**-0.2**		
NAY					AMb	AMB	05 46 57.3			
	comp=Z,13nm,0.7s,mb5.0									
HGH	**Gray Hill**	**80.16**	**346**	*e*P		**P**	**05 46 52.9**	**+3.0**		
DOU	**Dourbes**	**80.18**	**341**	PCP		PcP	05 46 54.6	-2.7		
RDF	**Al-Radifah**	**80.18**	**302**	*e*P		**P**	**05 46 50.0**	**-0.1**		
RDF					AMb	AMB	05 46 53.3			
	comp=Z,61nm,0.7s,mb5.7									
KBA	**Koelnbreinsper**	**80.68**	**334**	⇑*i*P		**P**	**05 46 53.4**	**+0.7**		
	comp=Z,9.4nm,0.5s,mb5.0									
WATA	**Walderalm**	**80.96**	**336**	⇑*i*P		**P**	**05 46 58.9**	**+4.7**		
	comp=Z,8.9nm,0.4s,mb5.0									
WATA	**Walderalm**	**80.96**	**336**	⇑*i*P		**P**	**05 46 55.7**	**+1.5**		
	comp=Z,8.9nm,0.4s,mb5.0									
WTTA	**Wattenberg**	**81.01**	**336**	⇑*i*P		**P**	**05 46 55.2**	**+0.7**		
	comp=Z,22nm,0.6s,mb5.2									
MOTA	**Moosalm**	**81.09**	**336**	⇑*i*P		**P**	**05 46 56.3**	**+1.4**		
	comp=Z,20nm,1.0s,mb5.0									
CDF	**Champ du Feu**	**81.12**	**339**	*e*P		**P**	**05 46 55.3**	**+0.2**		
	comp=Z,16nm,0.7s,mb4.8									
CDF	**Champ du Feu**	**81.12**	**339**	*e*P		**P**	**05 46 55.3**	**+0.2**		
CDF					pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8									
CDF	**Champ du Feu**	**81.12**	**339**	*e*P		**P**	**05 46 55.3**	**+0.2**		
	comp=Z,8.1nm,0.7s,mb4.8									
MCWV	**Mont Chateau**	**81.17**	**40**	*e*P		**P**	**05 46 55.0**	**-0.3**		
	comp=Z,37nm,1.2s,mb5.2									
SQTA	**Sankt Quirin**	**81.17**	**336**	⇑*i*P		**P**	**05 46 56.8**	**+1.4**		
	comp=Z,5.6nm,0.6s,mb4.7									
SSPA	**Standing Stone**	**81.20**	**38**	*e*P		**P**	**05 46 54.3**	**-1.2**		
	comp=Z,74nm,1.6s,mb5.4									
VTS	**Vitosha**	**81.25**	**326**	⇑*i*P		**P**	**05 46 59.8**	**+4.0**		
VTS	**Vitosha**	**81.25**	**326**	*e*P		**P**	**05 46 55.8**	**0.0**		
RZN	**Rozhen**	**81.43**	**325**	*e*P		**P**	**05 46 55.4**	**-1.3**		
DAVA	**Damuels**	**81.48**	**337**	⇑*i*P		**P**	**05 46 58.8**	**+1.8**		
	comp=Z,21nm,1.2s,mb4.9									
MMB	**Musomiste**	**81.91**	**325**	*e*P		**P**	**05 46 59.0**	**-0.2**		
KKB	**Krupnik**	**81.92**	**326**	*e*P		**P**	**05 47 01.0**	**+1.7**		
ELN	**Prospectdale**	**82.75**	**42**	*e*P		**P**	**05 47 02.7**	**-0.9**		
GRR	**Gorron**	**82.94**	**344**	*e*P

ASAJ pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 15.70 232 P **Pn 05 43 50.4 -0.1**
comp=Z,0.4nm,0.3s,baz=36,slow=9.3,SNR=4.9
KSRS Korea Array 21.27 252 P **P 05 44 53.6 -0.2**
comp=Z,1.7nm,0.5s,mb3.6,baz=49,slow=11,SNR=5.1
INK Inuvik 40.95 33 P **P 05 47 49.3 +0.4**
comp=Z,1.0nm,0.6s,mb3.8,baz=305,slow=5.5,SNR=4.9
INK Inuvik 40.95 33 P **P 05 47 49.3 +0.4**
INK pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 50.24 37 P **P 05 49 02.4 +0.3**
comp=Z,3.3nm,0.7s,mb4.3,baz=292,slow=6.5,SNR=3.7
YKA Yellowknife Ar 50.24 37 P **P 05 49 02.4 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 50.68 309 P **P 05 49 07.3 +1.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=72,slow=4.7,SNR=3.3
BVAR Borovoye Array 50.68 309 P **P 05 49 07.3 +1.9**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 63.59 335 P **P 05 50 34.9 -1.6**
comp=Z,0.8nm,0.7s,mb3.7,baz=39,slow=9.8,SNR=3.4
FINES FINESS Array B 63.59 335 P **P 05 50 34.9 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 67.72 341 P **P 05 51 02.1 -0.9**
comp=Z,2.8nm,0.8s,mb4.1,baz=30,slow=6.5
NOA NORSAR Array B 67.72 341 P **P 05 51 02.6 -0.4**
comp=Z,1.5nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=5.2
NOA NORSAR Array B 67.72 341 P **P 05 51 02.6 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 76.92 61 P **P 05 51 57.8 0.0**
comp=Z,1.0nm,0.9s,mb3.5,baz=299,slow=5.2,SNR=5.9
TXAR Lajitas Array 76.92 61 P **P 05 51 57.8 0.0**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
CFAA Coronel Fontan 144.58 79 PKP PKPdf 05 59 38.0 -3.4
comp=Z,0.4nm,1.1s,baz=270,slow=5.9,SNR=5.0

ISCJB ***16*** *05:40:50.8±0.9, 456N±02×1547E±02, h10km, mb4.1/14, Error ellipse: s-maj=22.6km s-min=16.5km az=157.4*
NEIC ***16*** *05:40:52.7±0.7, 4566N×1548OE, h10km, mb4.3/6, Error ellipse: s-maj=18.1km s-min=13.4km az=166.0*
IDC ***16*** *05:40:52.4±3.1, 4589N×1548SE, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, Error ellipse: s-maj=84.0km s-min=29.2km az=2.0*
MOS ***16*** *05:40:53.9±0.8, 4563N×1547.7E, h33km, mb4.3/13, Error ellipse: s-maj=30.9km s-min=15.9km az=109.0*
ISC 16 05:40:52.7±0.9, 457N±02×1548E±02, h10km, n29, σ0s85/29, mb4.1/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**23.18**	**11**	*e*P	**P**	**05 45 58.8**	**-0.7**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BILL	**Bilibino**	**23.18**	**11**	*e*P	**P**	**05 45 58.5**	**-1.0**
INK	**Inuvik**	**41.93**	**32**	P	**P**	**05 48 43.0**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.7,baz=308,slow=7.9,SNR=6.3						
INK	**Inuvik**	**41.93**	**32**	P	**P**	**05 48 43.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**48.46**	**299**	*e*P	**P**	**05 49 35.7**	**+0.4**
MKAR	**Makanchi Array**	**48.46**	**299**	P	**P**	**05 49 36.2**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=70,slow=7.4,SNR=8.5						
MKAR	**Makanchi Array**	**48.46**	**299**	P	**P**	**05 49 36.2**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.46**	**299**	P	**P**	**05 49 36.2**	**+0.8**
CHKZ	**Chkalovo**	**51.99**	**311**	*e*P	**P**	**05 50 01.7**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.99**	**311**	*e*P	**P**	**05 50 01.7**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**52.42**	**311**	P	**P**	**05 50 05.6**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=45,slow=9.0,SNR=3.3						
BVAR	**Borovoye Array**	**52.42**	**311**	P	**P**	**05 50 05.6**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**52.46**	**311**	*e*P	**P**	**05 50 05.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**52.46**	**311**	*e*P	**P**	**05 50 05.5**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**53.19**	**311**	*e*P	**P**	**05 50 10.6**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**53.19**	**311**	*e*P	**P**	**05 50 10.6**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**55.34**	**298**	*e*P	**P**	**05 50 28.3**	**+1.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AAK	**Ala-Archa**	**55.34**	**298**	*e*P	**P**	**05 50 28.3**	**+1.6**
	comp=Z,0.9nm,0.3s,mb4.3						
ARCES	**ARCESS Array B**	**59.22**	**342**	P	**P**	**05 50 54.0**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.4,baz=35,slow=8.0,SNR=5.9						
ARCES	**ARCESS Array B**	**59.22**	**342**	P	**P**	**05 50 54.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TPAW	**Teton Pass**	**63.18**	**54**	*e*P	**P**	**05 51 22.4**	**+1.5**
	comp=Z,3.0nm,0.9s,mb4.4						
FINES	**FINESS Array B**	**65.48**	**336**	P	**P**	**05 51 34.8**	**-1.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=44,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**65.48**	**336**	P	**P**	**05 51 34.8**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRAB	**Tennant Creek**	**67.91**	**201**	*e*P	**P**	**05 51 50.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**67.91**	**201**	*e*P	**P**	**05 51 50.1**	**-1.4**
	comp=Z,5.1nm,0.9s,mb4.5						
NOA	**NORSAR Array B**	**69.59**	**342**	P	**P**	**05 52 01.6**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=27,slow=6.5,SNR=2.9						
NOA	**NORSAR Array B**	**69.59**	**342**	P	**P**	**05 52 01.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**05 52 46.4**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=302,slow=3.6,SNR=7.1						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**05 52 46.4**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

SKHL ***16*** *05:43:12.5±0.6, 4552N×154.19E, h55km±24km, Ms4.4/1*
IDC ***16*** *05:43:12.8±0.5, 4569N×154.16E, h0km, mb4.6/23, mb1 4.7/25, mb1mx4.7/29, mbtmp4.6/25, ML4.0/2, Error ellipse: s-maj=15.3km s-min=12.5km az=126.0*
ISCJB ***16*** *05:43:14.0±0.2, 4561N±004×15402E±003, h20km, mb4.8/102, MS4.4/7, Error ellipse: s-maj=6.5km s-min=2.9km az=139.3*
NEIC ***16*** *05:43:13.3±2.6, 4568N×154.13E, h3km±16km, mb4.9/54, Error ellipse: s-maj=6.5km s-min=4.3km az=160.0*
SZGRF ***16*** *05:43:14.9, 4459N×15402E, h38km, mb5.0, East of Kuril Islands, Russia*
BJI ***16*** *05:43:15.1, 4578N×15373E, h12km, mB5.0, mb4.9, Ms4.5, Msz4.4*
MOS ***16*** *05:43:15.8±1.3, 4573N×15397E, h29km, mb5.0/53, Error ellipse: s-maj=7.3km s-min=5.5km az=107.9*
JMA ***16*** *05:43:16.1±0.7, 4632N×15371E, h30km, M5.0*
ISC 16 05:43:16.2±0.2, 4567N±004×15404E±004, h21km, h21km±3.3km:pP-P, n292, σ1s18/304, mb4.8/102, MS4.4/7, 15C-11D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.37**	**266**	⇑*i*P	**Pn**	**05 44 17.6**	**-3.7**
KUR				AMB	AMB	05 44 19.0	
	2μm,1.0s						
KUR				AMB	AMB	05 44 19.2	
	280nm,0.8s						
KUR				AMB	AMB	05 44 19.2	
	300nm,0.8s						
KUR				AMB	AMB	05 44 19.2	
	840nm,0.8s						
KUR				*i* S	**Sn**	**05 45 06.0**	**-5.5**
KUR				A		05 45 12.6	
	1μm,0.8s						
KUR				A		05 45 12.6	
	1μm,0.8s						
KUR				A		05 45 16.0	
	3μm,1.6s						
KUR				A		05 45 16.0	
	5μm,1.6s						
KUR				AMS	AMS	05 46 35.0	
	4μm,12.0s						
KUR				AMS	AMS	05 46 35.0	
	4μm,12.0s						
SKR	**Severo-Kuril's**	**5.20**	**15**	*e*P	**Pn**	**05 44 31.5**	**-1.3**
SKR				*e*S	**Sn**	**05 45 24.6**	**-7.5**
YUK	**Yuzh-Kuril'sk**	**6.04**	**257**	*e*P	**Pn**	**05 44 44.5**	**+0.2**
YUK				*e*S	**Sn**	**05 45 49.0**	**-3.7**
YUK				A		05 45 56.0	
	1μm,0.8s						
YUK				A		05 45 56.0	
	750nm,0.8s						
NEM2	**Nemuro 2**	**6.36**	**252**	P	**Pn**	**05 44 47.2**	**-1.5**
NEM2				*e*S	**Sn**	**05 45 54.8**	**-5.9**
JRA	**Rausu**	**6.58**	**258**	P	**Pn**	**05 44 52.1**	**+0.5**
JRA				*e*S	**Sn**	**05 46 05.2**	**-0.8**
JNK	**Nakash**	**6.97**	**256**	P	**Pn**	**05 44 57.0**	**0.0**
JNK				*e*S	**Sn**	**05 46 11.6**	**-4.0**
JAK	**Akkeshi**	**7.21**	**252**	P	**Pn**	**05 44 59.0**	**-1.4**
JAK				*e*S	**Sn**	**05 46 15.6**	**-6.0**
JTKR	**Abashiri--Toko**	**7.40**	**260**	P	**Pn**	**05 45 03.3**	**+0.3**
JAR	**Ashorobuto**	**7.72**	**256**	P	**Pn**	**05 45 07.5**	**+0.2**
JAR				*e*S	**Sn**	**05 46 30.9**	**-3.2**
JMP	**Maruseppu**	**7.77**	**261**	P	**Pn**	**05 45 08.5**	**+0.5**
JOB	**Onbets**	**7.83**	**253**	P	**Pn**	**05 45 08.3**	**-0.5**
JOB				*e*S	**Sn**	**05 46 31.6**	**-5.1**
YSS	**Yuzh-Sakhalins**	**7.92**	**283**	⇑*i*P	**Pn**	**05 45 12.2**	**+2.2**
YSS				AMB	AMB	05 45 13.4	
	90nm,1.0s						
YSS				AMB	AMB	05 45 13.4	
	60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.92**	**283**	⇑*i*PN	**Pn**	**05 45 12.2**	**+2.2**
YSS				*e*S	**Sn**	**05 46 42.4**	**+3.4**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.92**	**283**	*e*Pn	**Pn**	**05 45 12.7**	**+2.6**
PET	**Petropavlovsk**	**7.95**	**21**	*e*PN	**Pn**	**05 45 08.2**	**-2.3**
JKK2	**Kamakawa 2**	**8.23**	**261**	P	**Pn**	**05 45 14.9**	**+0.5**
JCH	**Churui**	**8.26**	**252**	P	**Pn**	**05 45 14.0**	**-0.8**
JCH				*e*S	**Sn**	**05 46 41.3**	**-6.2**
ASAJ	**Asahikawa**	**8.27**	**263**	Pn	**Pn**	**05 45 15.7**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=114,slow=7.6,SNR=18						
ASAJ	**Asahikawa**	**8.27**	**263**	P	**Pn**	**05 45 15.9**	**+1.0**
ASAJ	**Asahikawa**	**8.27**	**263**	PN	**Pn**	**05 45 15.7**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JWK2	**Keihoku**	**8.54**	**272**	P	**Pn**	**05 45 20.5**	**+1.9**
ERM	**Erimo**	**8.67**	**249**	*e*PN	**Pn**	**05 45 21.4**	**+1.0**
JEM	**Erimo**	**8.67**	**249**	*e*S	**Sn**	**05 46 50.9**	**-6.6**
JNBK	**Urakawa-nobuka**	**8.82**	**251**	P	**Pn**	**05 45 21.4**	**-1.0**
JNBK				*e*S	**Sn**	**05 46 54.2**	**-6.9**
JBT2	**Biratori 2**	**8.87**	**255**	P	**Pn**	**05 45 22.4**	**-0.7**
TYV	**Tymovskoe**	**9.19**	**308**	*e*P	**Pn**	**05 45 27.8**	**+0.3**
TYV				AMB	AMB	05 45 29.8	
	comp=Z,18nm,1.0s						
TYV				AMB	AMB	05 45 29.8	
	comp=Z,32nm,1.0s						
JKB	**Kayabe**	**10.14**	**253**	*e*S	**Sn**	**05 47 24.5**	**-9.0**
JOT	**Ohata**	**10.36**	**250**	P	**Pn**	**05 45 41.0**	**-2.5**
JYM2	**Yakumo 2**	**10.48**	**255**	P	**Pn**	**05 45 43.6**	**-1.6**
JANG	**Nango**	**10.58**	**244**	*e*S	**Sn**	**05 47 32.8**	**-12**
JTH	**Tanohata**	**10.62**	**242**	P	**Pn**	**05 45 43.6**	**-3.5**
JTH				*e*S	**Sn**	**05 47 33.6**	**-12**
JTM	**Tenmabayashi**	**10.65**	**247**	P	**Pn**	**05 45 45.2**	**-2.2**
JTM				*e*S	**Sn**	**05 47 36.2**	**-10**
JOM	**Ohasama**	**11.25**	**241**	P	**Pn**	**05 45 52.2**	**-3.5**
JOM				*e*S	**Sn**	**05 47 50.8**	**-10**
OFUJ	**Ofunato**	**11.27**	**239**	*e*S	**Sn**	**05 47 50.2**	**-11**
JRG	**Rokugo**	**11.70**	**242**	P	**Pn**	**05 45 59.1**	**-2.8**
JRG				*e*S	**Sn**	**05 48 00.5**	**-11**
JIO	**Ouri**	**11.86**	**237**	P	**Pn**	**05 46 01.2**	**-2.9**
JIO				*e*S	**Sn**	**05 48 04.2**	**-12**
TEY	**Ternei**	**12.29**	**273**	*e*P	**Pn**	**05 46 08.0**	**-1.9**
HABR	**Khabarovsk**	**13.24**	**289**	*e*PN	**Pn**	**05 46 32.7**	**+10**
JRY	**Ryogami san**	**14.95**	**235**	P	**Pn**	**05 46 51.1**	**+4.8**
MJAR	**Matsushiro Arr**	**15.00**	**238**	Pn	**Pn**	**05 46 45.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=12						
MAJO	**Matsushiro**	**15.00**	**238**	*e*P	**Pn**	**05 46 44.5**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,93nm,1.0s						
MAJO	**Matsushiro**	**15.00**	**238**	*e*Pn	**Pn**	**05 46 44.5**	**-2.3**
	comp=Z,93nm,1.0s						
MAJO				*e*P		05 46 54.1	
MAT	**Matsushiro**	**15.00**	**238**	P	**Pn**	**05 46 44.5**	**-2.4**
MAT	**Matsushiro**	**15.00**	**238**	P	**Pn**	**05 46 45.0**	**-1.9**
KLR	**Kul'dur**	**15.48**	**291**	*e*P	**Pn**	**05 46 52.6**	**-0.6**
JGF	**Kuroka**	**16.14**	**237**	P	**Pn**	**05 47 06.7**	**+4.9**
JHJ2	**Mitsune**	**16.65**	**226**	P	**Pn**	**05 47 12.4**	**+4.2**
ZEA	**Zeya**	**19.02**	**305**	*e*P	**Pn**	**05 47 34.0**	**-3.5**
ZEA				AMB	AMB	05 47 36.9	
	comp=Z,46nm,1.4s						
ZEA				AMS	AMS	05 48 08.0	
	comp=Z,2μm,14.0s						
ZEA				AMS	AMS	05 48 08.0	
	comp=Z,2μm,14.0s						
ZEA				AMS	AMS	05 48 08.0	
	comp=Z,500nm,12.0s						
CN2	**Changchun**	**20.35**	**275**	⇑P	**P**	**05 47 51.0**	**-0.2**
CN2				*e*S	**S**	**05 51 39.3**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s,MS3.9						
CN2				LR	LR		
	comp=E,300nm,13.0s,MS3.9						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS3.6						
KSRS	**Korea Array**	**21.13**	**256**	P	**P**	**05 48 01.5**	**+1.9**
	comp=Z,16nm,1.0s,mb4.3,baz=60,slow=11,SNR=16						
CLNS	**Chul'man**	**21.21**	**312**	*e*P	**P**	**05 47 59.9**	**-0.6**
CLNS				pmax	pmax		
	comp=N,24nm,0.8s						
CLNS				pmax	pmax		
	comp=E,14nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.6						
YAK	**Yakutsk**	**21.57**	**328**	*ce*P	**P**	**05 48 02.2**	**-2.2**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.8						
YAK	**Yakutsk**	**21.57**	**328**	*e*P	**P**	**05 48 01.9**	**-2.5**
SNY	**Shenyang**	**22.27**	**271**	⇑P	**P**	**05 48 12.8**	**+1.0**
SNY				AP		05 48 14.8	
SNY				XP	sP	05 48 17.4	-3.0
SNY				AMB	AMB		
	comp=Z,63nm,1.1s,mb5.0						
BILL	**Bilibino**	**23.31**	**12**	⇑*e*P	**P**	**05 48 22.5**	**-0.3**
BILL				pmax	pmax		
	comp=Z,49nm,1.7s,mb4.7						
BILL	**Bilibino**	**23.31**	**12**	*e*P	**P**	**05 48 22.7**	**-0.1**
	comp=Z,48nm,1.3s,mb4.8						
HIA	**Hailar**	**23.34**	**291**	*e*P	**P**	**05 48 19.5**	**-3.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**23.34**	**291**	*e*P	**P**	**05 48 19.5**	**-3.6**
	comp=Z,14nm,0.9s,mb4.4						
BOD	**Bodaibo**	**27.18**	**311**	*e*P	**P**	**05 48 55.0**	**-3.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
BJI	**Beijing**	**28.13**	**272**	P	**P**	**05 49 08.9**	**+2.2**
BJI				AMB	AMB		
	comp=Z,35nm,1.1s,mb4.9						
BJI	**Beijing**	**28.13**	**272**	P	**P**	**05 49 08.9**	**+2.2**
	comp=Z,35nm,1.1s,mb4.9						
BJT	**Baijiatuau**	**28.15**	**272**	*e*P	**P**	**05 49 09.2**	**+2.4**
BJT				pmax	pmax		
	comp=Z,14nm,0.5s						
BJT	**Baijiatuau**	**28.15**	**272**	*e*P	**P**	**05 49 09.2**	**+2.4**
	comp=Z,14nm,0.5s,mb4.8						
NJ2	**Nanjing**	**30.32**	**256**	*e*P	**P**	**05 49 28.8**	**+2.6**
NJ2				AP	pP	05 49 32.1	-0.4
NJ2				XP	sP	05 49 36.3	+1.2
NJ2				PP	PP	05 50 28.9	-5.8
NJ2				S	**S**	**05 54 28.5**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,230nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,15.6s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,16.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,13.4s,MS5.0						
HHC	**Hu-ho-hao-te**	**31.03**	**276**	*e*P	**P**	**05 49 33.8**	**+1.4**
HHC				AP	pP	05 49 38.1	-0.7
HHC				XP	sP	05 49 40.9	-0.5
HHC				PP	PP	05 50 36.3	-6.3
HHC				PCP	PcP	05 52 29.1	+1.2
HHC				S	**S**	**05 54 36.9**	**+0.6**
HHC				XS	sS	05 54 43.9	-2.8
HHC				SCP	ScP	05 56 10.8	+1.3
HHC				SS	SS	05 56 21.3	-28
HHC				SCS	ScS	06 00 07.8	+1.3
HHC				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,130nm,7.6s						
HHC				LR	LR		
	comp=N,452nm,15.2s,MS4.4						
HHC				LR	LR		
	comp=E,395nm,16.2s,MS4.4						
HHC				LR	LR		
	comp=Z,452nm,15.1s,MS4.2						
ULN	**Ulaanbaatar**	**31.87**	**291**	*e*P	**P**	**05 49 40.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**31.87**	**291**	*e*P	**P**	**05 49 40.0**	**+0.1**
	comp=Z,14nm,1.1s,mb4.7						
SONM	**Songino Array**	**32.31**	**291**	P	**P**	**05 49 43.9**	**+0.3**
	comp=Z,3.1nm,0.8s,mb4.2,baz=69,slow=7.0,SNR=12						
SONM				PcP	PcP	05 52 31.2	-0.2
	comp=Z,1.3nm,0.8s,baz=105,slow=1.3,SNR=4.4						
SONM	**Songino Array**	**32.31**	**291**	P	**P**	**05 49 43.9**	**+0.3**
SONM						05 52 31.2	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**33.25**	**299**	⇑*i*P	**P**	**05 49 51.3**	**-0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
TLY	**Talaya**	**33.25**	**299**	*e*P	**P**	**05 49 50.8**	**-1.1**
	comp=Z,7.0nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**33.73**	**297**	*e*P	**P**	**05 49 55.0**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
WHN	**Wuhan**	**34.31**	**258**	P	**P**	**05 50 01.5**	**+0.4**
XAN	**Xi'an**	**36.09**	**267**	P	**P**	**05 50 16.8**	**+0.4**
XAN				AP	pP	05 50 26.3	+3.5
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
COLA	**College**	**36.59**	**37**	*e*P	**P**	**05 50 19.7**	**-1.0**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
COLA	**College**	**36.59**	**37**	*e*P	**P**	**05 50 19.7**	**-1.0**
	comp=Z,7.6nm,0.8s,mb4.6						
LZH	**Lanzhou**	**38.58**	**274**	*e*P	**P**	**05 50 39.9**	**+2.4**
LZH				AP	pP	05 50 45.1	+1.1
LZH				XP	sP	05 50 49.5	+2.9
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
LZH	**Lanzhou**	**38.58**	**274**	*e*P	**P**	**05 50 39.9**	**+2.4**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	05 50 45.1	+1.1
LZH				sP	sP	05 50 49.5	+2.9
EGAK	**Eagle**	**39.45**	**38**	*e*P	**P**	**05 50 43.8**	**-1.0**
	comp=Z,12nm,0.9s,mb4.6						
GTA	**Gaotai**	**39.79**	**281**	*e*P	**P**	**05 50 49.5**	**+1.9**
GTA				AP	pP	05 50 54.3	+0.2
GTA				XP	sP	05 50 56.9	+0.2
GTA				PCP	PcP	05 52 53.8	+0.2
GTA				S	**S**	**05 56 53.0**	**+2.4**
GTA				XS	sS	05 57 01.1	-0.2
GTA				SS	SS	05 59 41.8	-5.0
GTA				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,194nm,5.3s						
GTA				LR	LR		
	comp=N,519nm,14.9s,MS4.7						
GTA				LR	LR		
	comp=E,677nm,15.3s,MS4.7						
GTA				LR	LR		
	comp=Z,905nm,16.0s,MS4.7						
DAWY	**Dawson**	**40.27**	**39**	*e*P	**P**	**05 50 51.2**	**-0.5**
CD2	**Chengdu**	**41.45**	**267**	⇓*i*P	**P**	**05 51 02.0**	**+0.7**
CD2				AP	pP	05 51 06.5	-1.3
CD2				XP	sP	05 51 09.1	-1.3
CD2				PP	PP	05 52 41.1	+3.9
CD2				S	**S**	**05 57 16.3**	**+0.9**
CD2				SS	SS	06 00 15.3	-4.6
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=N,470nm,18.0s,MS4.5						
CD2				LR	LR		
	comp=E,340nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=Z,360nm,14.4s,MS4.4						
GYA	**Guiyang**	**42.13**	**260**	⇓*i*P	**P**	**05 51 07.0**	**+0.1**
GYA				AP	pP	05 51 11.3	-2.1
GYA				XP	sP	05 51 14.6	-1.4
GYA				PP	PP	05 52 49.6	+5.1
GYA				PCP	PcP	05 53 04.3	+3.1
GYA				SCP	ScP	05 56 53.5	+3.0
GYA				S	**S**	**05 57 28.5**	**+3.0**
GYA				SCS	ScS	06 01 09.5	+1.4
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,460nm,16.7s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=Z,430nm,17.2s,MS4.4						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**05 51 06.8**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.1,baz=278,slow=6.2,SNR=13						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**05 51 06.8**	**-0.9**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**42.22**	**32**	*e*P	**P**	**05 51 07.2**	**-0.4**
	comp=Z,181nm,0.8s,mb5.8						
NVS	**Novosibirsk**	**44.36**	**309**	*e*P	**P**	**05 51 23.9**	**-1.0**
KMI	**Kunming**	**45.70**	**261**	P	**P**	**05 51 36.6**	**+1.0**
KMI				AP	pP	05 51 42.0	-0.1
KMI				XP	sP	05 51 45.9	+1.3
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
KMI	**Kunming**	**45.70**	**261**	P	**P**	**05 51

comp=Z,5.5nm,0.8s,mb4.5,baz=295,slow=7.1,SNR=7.5
YKA Yellowknife Ar 51.41 36 P P 05 52 19.3 -0.2
CHKZ Chkalovo 51.62 311 P P 05 52 19.7 -1.4
CHKZ pmax pmax
comp=Z,19nm,1.2s,mb4.9
CHKZ Chkalovo 51.62 311 eP P 05 52 19.6 -1.5
comp=Z,22nm,1.0s,mb5.0
RES Resolute Bay 51.66 18 eP P 05 52 20.7 -0.7
comp=Z,396nm,1.1s,mb6.3
VOSK Vostochnaya 51.87 310 P P 05 52 21.7 -1.2
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BVA0 Borovoye Array 52.04 310 i P P 05 52 24.1 -0.2
BVA0 pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
BVAR Borovoye Array 52.04 310 P P 05 52 23.8 -0.4
comp=Z,2.8nm,0.5s,mb4.5,baz=33,slow=8.9,SNR=14
BVAR Borovoye Array 52.04 310 P P 05 52 23.8 -0.5
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 52.08 310 eP P 05 52 24.3 -0.3
BRVK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BRVK Borovoye 52.08 310 eP P 05 52 24.2 -0.3
comp=Z,16nm,1.0s,mb4.9
CHTO Chiang Mai 52.51 258 eP P 05 52 28.8 +1.1
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 52.51 258 eP P 05 52 28.8 +1.1
comp=Z,4.4nm,1.0s,mb4.7
ZRNK Zerenda 52.81 311 eP P 05 52 29.1 -0.9
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 52.81 311 eP P 05 52 29.1 -0.9
comp=Z,11nm,0.9s,mb4.8
ULHL Ulahol 54.01 296 P P 05 52 40.4 +1.6
SNR=21
TKM2 Tokmak 2 54.06 297 P P 05 52 40.6 +1.5
SNR=14
USP Ospenovka 54.55 298 P P 05 52 44.1 +1.4
SNR=30
KBK Karagaybulak 54.60 297 P P 05 52 44.6 +1.5
SNR=7.7
FRU Bishkek 54.71 298 ⇓ i P P 05 52 45.0 +1.1
FRU pmax pmax
comp=Z,50nm,1.5s,mb5.3
KZA Kyzart 54.72 297 P P 05 52 46.3 +2.3
SNR=20
AAK Ala-Archa 54.90 297 P P 05 52 46.5 +1.3
SNR=20
AAK Ala-Archa 54.90 297 eP P 05 52 45.3 +0.1
AAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
AAK Ala-Archa 54.90 297 eP P 05 52 45.3 +0.1
comp=Z,18nm,0.9s,mb5.1
EKS2 Erkin-Say 55.33 298 P P 05 52 49.7 +1.4
SNR=19
AML Almayashu 55.67 297 P P 05 52 52.8 +2.0
SNR=11
JIRN Jiri 55.68 276 eP P 05 52 52.4 +1.5
comp=Z,25nm,0.7s,mb5.3
GUN Gumba 55.75 276 eP P 05 52 53.1 +1.8
KKN Kakani 56.24 277 eP P 05 52 56.2 +1.3
comp=Z,15nm,0.5s,mb5.2
ARU Arti 56.24 318 ⇓ i P P 05 52 52.6 -2.3
ARU e 05 55 00.5
ARU eS S 06 00 39.7 -3.8
ARU eSS SS 06 04 26.5 -3.7
ARU pmax pmax
comp=Z,22nm,1.1s,mb5.1
ARU Arti 56.24 318 eP P 05 52 54.5 -0.4
PKI Pulchoki 56.28 276 eP P 05 52 56.4 +1.2
comp=Z,12nm,0.5s,mb5.2
DMN Daman 56.47 277 eP P 05 52 57.7 +1.2
comp=Z,22nm,0.7s,mb5.3
GKN Gorkha 56.55 277 eP P 05 52 58.2 +1.1
comp=Z,19nm,0.4s,mb5.5
EDM Edmonton 56.60 46 eP P 05 52 56.5 -0.9
KKAR Karatay Array 57.09 300 i P P 05 53 01.2 +0.3
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KOLN Koldanda 57.42 278 eP P 05 53 04.5 +1.3
comp=Z,30nm,0.9s,mb5.3
ARCES ARCESS Array B 59.08 341 P P 05 53 14.2 -0.6
comp=Z,8.5nm,0.8s,mb4.8,baz=10,slow=6.7,SNR=9.4
ARCES ARCESS Array B 59.08 341 P P 05 53 14.3 -0.5
ARCES pmax pmax
comp=Z,9.0nm,0.8s
TMCR Tamitsa 59.59 333 P P 05 53 17.7 -0.7
MSO Missoula 59.91 52 eP P 05 53 20.7 +0.2
comp=Z,13nm,1.4s,mb4.8
AKTK Aktyubinsk 59.93 313 P P 05 53 20.6 0.0
AKTO Aktyubinsk 59.93 313 P P 05 53 20.6 0.0
comp=Z,6.8nm,0.8s,mb4.7,baz=55,slow=7.2,SNR=13
AKTO Aktyubinsk 59.93 313 P P 05 53 19.7 -1.0
CHMT Chamberlain Mo 60.24 52 eP P 05 53 22.4 -0.5
CMB Columbia Colle 61.30 64 eP P 05 53 29.6 -0.5
CMB pmax pmax
comp=Z,14nm,1.6s,mb4.8
CMB Columbia Colle 61.30 64 eP P 05 53 29.6 -0.4
comp=Z,14nm,1.6s,mb4.8
LRM Limekiln Ridge 61.34 53 eP P 05 53 30.8 +0.5
EGMT Eagleton 61.47 49 eP P 05 53 31.3 +0.1
EGMT epP pP 05 53 42.8 +4.9
HLID Hailey 61.59 56 eP P 05 53 31.8 -0.2
comp=Z,3.0nm,1.0s,mb4.4
BOZ Bozeman (W) 61.90 52 eP P 05 53 34.5 +0.4
QLMT Earthquake Lak 62.51 53 eP P 05 53 38.4 +0.2
GCMT Greycliff 62.90 51 eP P 05 53 41.1 +0.3
IMW Indian Meadow 63.37 54 eP P 05 53 43.7 -0.2
MOOW Moose Ponds 63.57 54 eP P 05 53 45.4 +0.1
comp=Z,6.7nm,1.2s,mb4.5
TPAW Teton Pass 63.62 54 eP P 05 53 46.4 +0.8
comp=Z,14nm,1.0s,mb5.0
LOHW Long Hollow 63.74 54 eP P 05 53 47.4 +1.1
comp=Z,18nm,1.4s,mb4.9
SNOW Snow King Moun 63.74 54 eP P 05 53 47.6 +1.2
comp=Z,12nm,1.2s,mb4.8
REDW Red Top Meadow 63.75 54 eP P 05 53 46.9 +0.5
LAO LASA Array 64.18 49 eP P 05 53 49.1 -0.2
PSI Prapat 64.20 246 P P 05 53 50.6 +1.2
comp=Z,3.5nm,0.6s,mb4.6,baz=96,slow=1.8,SNR=3.3
PSI Prapat 64.20 246 P P 05 53 50.6 +1.2
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DUG Dugway 64.61 58 eP P 05 53 52.2 +0.2
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
DUG Dugway 64.61 58 eP P 05 53 52.2 +0.2
comp=Z,6.7nm,1.0s,mb4.6
BW06 Boulder Array 64.86 54 eP P 05 53 51.6 -2.1
comp=Z,8.0nm,1.3s,mb4.6
PDAR Pinedale Array 64.86 54 P P 05 53 53.5 -0.2
comp=Z,2.5nm,0.9s,mb4.2,baz=318,slow=2.0,SNR=12
NLU North Lily Min 65.19 58 eP P 05 53 56.2 +0.3
FIA1 FINESS Array S 65.29 335 eP P 05 53 55.5 -0.9
FINES FINESS Array B 65.29 335 P P 05 53 55.6 -0.8
comp=Z,12nm,0.7s,mb5.0,baz=36,slow=10,SNR=27
FINES FINESS Array B 65.29 335 P P 05 53 55.6 -0.9
FINES pmax pmax
comp=Z,12nm,0.7s
MPU Maple Canyon 65.42 57 eP P 05 53 57.5 +0.2
ARUT Antelope Range 65.76 60 eP P 05 53 59.9 +0.4
TMUT Trail Mountain 66.13 58 eP P 05 54 01.9 0.0
OBN Obninsk 66.56 326 ⇓ eP P 05 54 04.0 -0.7
OBN e 05 54 15.1
OBN pmax pmax
comp=Z,23nm,1.0s,mb5.2
SRU San Rafael 66.66 58 eP P 05 54 05.2 -0.1
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 66.66 58 eP P 05 54 05.2 -0.1
comp=Z,6.1nm,0.8s,mb4.7
ULM Lac du Bonnet 66.92 41 P P 05 54 06.1 -0.8
comp=Z,3.7nm,0.6s,mb4.6,baz=305,slow=6.2,SNR=9.8
RSSD Black Hills 67.03 50 eP P 05 54 07.3 -0.3
RSSD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
RSSD Black Hills 67.03 50 eP P 05 54 07.3 -0.3
comp=Z,6.9nm,0.9s,mb4.7
WRAB Tennant Creek 67.70 200 ⇑ i P P 05 54 12.3 +0.4
WB2 Warramunga Arr 67.71 200 eP P 05 54 12.1 +0.2
WRA Warramunga Arr 67.71 200 P P 05 54 12.0 +0.1
comp=Z,13nm,1.1s,mb4.9,baz=18,slow=6.7,SNR=26
WRA Warramunga Arr 67.71 200 P P 05 54 12.0 0.0
WRA pmax pmax
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 68.50 209 eP P 05 54 18.0 +1.1
comp=Z,12nm,1.3s,mb4.7
FITZ Fitzroy Crossi 68.50 209 P P 05 54 17.9 +1.0
comp=Z,5.8nm,1.0s,mb4.5,baz=13,slow=4.9,SNR=5.6
SMCO Snowmass 68.69 55 eP P 05 54 16.7 -1.4
ISCO Idaho Springs 69.05 54 eP P 05 54 21.1 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 69.05 54 eP P 05 54 21.1 +0.7
comp=Z,3.8nm,0.8s,mb4.4
MVCO Mesa Verde 69.11 58 eP P 05 54 20.6 0.0
comp=Z,2.8nm,0.8s,mb4.2
NB2 NORSAR Subarra 69.45 342 P P 05 54 22.2 -0.6
comp=Z,8.4nm,0.7s,mb4.8,baz=30,slow=6.5
NOA NORSAR Array B 69.45 342 P P 05 54 22.4 -0.4
comp=Z,6.3nm,0.8s,mb4.6,baz=26,slow=6.3,SNR=13
NOA NORSAR Array B 69.45 342 P P 05 54 22.4 -0.4
NOA pmax pmax
comp=Z,6.0nm,0.8s
NAO01 NORSAR Array S 69.70 342 eP P 05 54 23.5 -0.9
comp=Z,22nm,1.2s,mb5.0
SDCO Great Sand Dun 70.51 56 eP P 05 54 29.9 +0.6
ECSD EROS,Sioux Fal 71.17 46 eP P 05 54 31.8 -1.5
comp=Z,7.0nm,1.0s,mb4.5
AS31 Alice Springs 71.39 199 eP P 05 54 35.6 +0.9
ASAR Alice Springs 71.40 199 P P 05 54 36.0 +1.2
comp=Z,6.6nm,0.9s,mb4.6,baz=14,slow=5.7,SNR=34
ASAR Alice Springs 71.40 199 P P 05 54 36.0 +1.3
ASAR pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 71.85 58 eP P 05 54 37.4 0.0
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 71.85 58 eP P 05 54 37.4 0.0
comp=Z,2.5nm,0.8s,mb4.2
KIV Kislovodsk 72.01 315 c i P P 05 54 39.9 +1.5
KIV pmax pmax
comp=Z,52nm,1.3s,mb5.3
KIV Kislovodsk 72.01 315 eP P 05 54 40.4 +2.0
comp=Z,45nm,1.1s,mb5.3
SUW Suwalki 72.25 332 eP P 05 54 38.9 -0.9
ZEI Tsey 72.26 313 eP P 05 54 40.1 +0.2
ZEI e*PP pP 05 54 50.4 +3.7
AKASG Malin Array Be 72.80 327 P P 05 54 42.6 -0.5
comp=Z,19nm,0.7s,mb5.2,baz=34,slow=6.0,SNR=44
AKASG Malin Array Be 72.80 327 P P 05 54 42.6 -0.5
AKASG pmax pmax
comp=Z,19nm,0.7s
AKBB Malin Array Si 72.80 327 eP P 05 54 41.8 -1.3
KIEV Kiev 72.81 327 eP P 05 54 42.0 -1.2
KIEV pmax pmax
comp=Z,25nm,0.8s,mb5.2
KIEV Kiev 72.81 327 eP P 05 54 42.0 -1.2
comp=Z,25nm,0.8s,mb5.2
GNI Garni 73.72 311 P P 05 54 50.8 +2.2
comp=Z,6.4nm,0.5s,mb4.8,baz=109,slow=8.8,SNR=5.7
GNI Garni 73.72 311 c i P P 05 54 50.5 +2.0
GNI pmax pmax
comp=Z,52nm,1.7s
SCHQ Schefferville 74.05 23 P P 05 54 49.7 -0.8
comp=Z,4.7nm,0.8s,mb4.5,baz=347,slow=10,SNR=5.8
SCHQ Schefferville 74.05 23 P P 05 54 49.7 -0.8
SCIA State Center 74.21 46 eP P 05 54 50.2 -1.2
comp=Z,14nm,0.7s,mb5.0
MNTX Cornudas Mount 74.75 60 eP P 05 54 54.8 +0.2
KWP Kalwaria 76.08 330 eP P 05 55 02.6 +0.4
WMOK Wichita Mounta 76.47 54 eP P 05 55 03.4 -1.0
OJC Ojcow 76.57 332 eP P 05 55 05.3 +0.3
STHS Stebnicka Huta 76.77 331 eP P 05 55 06.5 +0.4
STHS pmax pmax
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 76.77 331 eP P 05 55 06.5 +0.4
comp=Z,14nm,1.1s,mb4.8
KOLS Kolonicke sedl 76.82 330 eP P 05 55 06.2 -0.2
BURAR Bucovina Array 76.84 327 ⇑ i P P 05 55 06.8 +0.3
UZH Uzhgorod 77.07 329 eP P 05 55 06.8 -1.0
NIE Niedzica 77.09 331 eP P 05 55 08.8 +0.9
KSP Ksiaz 77.15 334 eP P 05 55 08.8 +0.6
OKC Ostrava-Krasne 77.44 333 eP P 05 55 10.5 +0.6
LTX Lajitas 77.46 61 eP P 05 55 10.3 +0.3
LTX pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LTX Lajitas 77.46 61 eP P 05 55 10.3 +0.3
comp=Z,9.7nm,0.8s,mb4.8
TXAR Lajitas Array 77.46 61 P P 05 55 10.1 +0.2
comp=Z,6.0nm,0.7s,mb4.6,baz=303,slow=4.1,SNR=29
TXAR Lajitas Array 77.46 61 P P 05 55 10.1 +0.1
TXAR pmax pmax
comp=Z,6.0nm,0.7s
UPC Upice 77.53 334 eP P 05 55 10.5 +0.1
UPC ePCP PcP 05 55 22.2 +1.6
DPC Dobruska-Polom 77.58 334 eP P 05 55 11.1 +0.5
MORC Moravsky Berou 77.69 333 ⇓ i P P 05 55 11.9 +0.6
MORC Moravsky Berou 77.69 333 eP P 05 55 11.4 +0.1
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 77.69 333 eP P 05 55 11.4 +0.1
comp=Z,13nm,1.0s,mb4.8
CLL Collm 77.71 336 i P P 05 55 11.2 -0.2
CLL pmax pmax
comp=Z,28nm,1.0s,mb5.2
CLL Collm 77.71 336 i P P 05 55 11.2 -0.2
comp=Z,28nm,1.0s,mb5.2
CLL ePcP PcP 05 55 22.0 +0.6
KECS Kecovo 77.83 330 eP P 05 55 12.5 +0.5
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 77.83 330 eP P 05 55 12.5 +0.5
comp=Z,5.4nm,0.9s,mb4.5
BRG Berggiesshubel 77.83 335 eP P 05 55 10.6 -1.4
comp=Z,7.0nm,1.3s,mb4.4
BRG e 05 55 23.0
comp=Z,9.3nm,1.3s
BRG Berggiesshubel 77.83 335 eP P 05 55 10.6 -1.4
BRG e 05 55 23.0
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
PVCC Panska Ves 77.95 335 eP P 05 55 12.8 +0.1
STKA Stephens Creek 78.01 191 P P 05 55 13.6 +0.6
comp=Z,2.7nm,0.8s,mb4.2,baz=320,slow=13,SNR=3.7
MLR Muntele Rosu 78.32 326 ⇓ i P P 05 55 15.8 +1.1
MALT Malatya 78.36 314 eP P 05 55 15.0 0.0
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MALT Malatya 78.36 314 eP P 05 55 15.0 +0.1
comp=Z,5.9nm,0.8s,mb4.6
VYHS Vyhne 78.38 331 eP P 05 55 14.7 -0.4
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VYHS Vyhne 78.38 331 eP P 05 55 14.7 -0.4
comp=Z,5.5nm,1.2s,mb4.4
PRU Pruhonice 78.44 335 eP P 05 55 15.6 +0.2
PRU ePCP PcP 05 55 26.8 +2.2
DRGR 78.47 328 ⇓ i P P 05 55 16.8 +1.2
MOX Moxa 78.70 337 eP P 05 55 16.9 +0.1
comp=Z,25nm,1.5s,mb4.9
MOX Moxa 78.70 337 eP P 05 55 16.9 +0.1
MOX pmax pmax
comp=Z,25nm,1.5s,mb4.9
WTSB Winterswijk 78.73 340 eP P 05 55 15.7 -1.3
comp=Z,29nm,1.3s,mb5.0
NKC Novy Kostel 78.83 336 eP P 05 55 18.0 +0.4
NKC ePCP PcP 05 55 28.0 +1.7
JCT Junction City 78.97 58 eP P 05 55 17.7 -0.6
KHC Kasperske Hory 79.49 335 eP P 05 55 21.6 +0.4
KHC ePCP PcP 05 55 31.5 +2.4
BR131 Keskin Array S 79.62 317 eP P 05 55 22.0 +0.2
comp=Z,4.0nm,0.8s,mb4.4
BRTR Keskin Array B 79.62 317 P P 05 55 22.7 +0.9
comp=Z,3.6nm,0.8s,mb4.3,baz=67,slow=4.3,SNR=16
BRTR Keskin Array B 79.62 317 P P 05 55 22.7 +0.8
BRTR pmax pmax
comp=Z,4.0nm,0.8s
GRA1 Grafenberg Arr 79.67 336 eP P 05 55 22.2 +0.1
comp=Z,20nm,1.2s,mb4.9
GRA1 epP pP 05 55 33.3 +4.3
GRF Grafenberg Arr 79.67 336 eP P 05 55 22.2 +0.1
comp=Z,20nm,1.2s,mb4.9
GRF epP pP 05 55 33.3 +4.3
GRF Grafenberg Arr 79.67 336 eP P 05 55 22.2 +0.1
GRF e*PP pP 05 55 33.3 +4.3
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.9
GEC2 GERESS Array S 79.71 335 eP P 05 55 22.1 -0.2
GERES GERESS Array B 79.71 335 P P 05 55 22.4 0.0
comp=Z,2.1nm,0.6s,mb4.2,baz=35,slow=5.0,SNR=15
GERES GERESS Array B 79.71 335 P P 05 55 22.4 +0.1
GERES pmax pmax
comp=Z,2.0nm,0.6s
WCI Wyandotte Cave 80.44 44 eP P 05 55 25.4 -0.9
WCI pmax pmax
comp=Z,16nm,0.9s,mb5.0
WCI Wyandotte Cave 80.44 44 eP P 05 55 25.4 -0.9
comp=Z,16nm,0.9s,mb4.9
KBA Koelnbreinsper 81.39 334 ⇓ i P P 05 55 33.3 +1.9
comp=Z,15nm,0.9s,mb4.9
WTTA Wattenberg 81.74 335 ⇑ i P P 05 55 34.8 +1.6
comp=Z,8.3nm,0.6s,mb4.8
MOTA Moosalm 81.82 336 ⇑ i P P 05 55 35.4 +1.7
comp=Z,17nm,1.1s,mb4.9
VTS Vitosha 81.82 326 ⇓ i P P 05 55 40.3 +6.6
CDF Champ du Feu 81.90 338 eP P 05 55 30.4 -3.7
comp=Z,8.5nm,0.7s,mb4.5
CDF Champ du Feu 81.90 338 eP P 05 55 30.4 -3.7
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CDF Champ du Feu 81.90 338 eP P 05 55 30.4 -3.7
comp=Z,4.3nm,0.7s,mb4.5
SQTA Sankt Quirin 81.90 335 ⇓ i P P 05 55 35.4 +1.3
comp=Z,5.3nm,0.7s,mb4.6
GRR Gorron 83.78 343 eP P 05 55 40.4 -3.5
comp=Z,58nm,1.1s,mb5.3
GRR Gorron 83.78 343 eP P 05 55 40.4 -3.5
GRR pmax pmax
comp=Z,29nm,1.1s,mb5.3
GRR Gorron 83.78 343 eP P 05 55 40.4 -3.5
comp=Z,29nm,1.1s,mb5.3
SMF Signal de Mont 84.40 340 eP P 05 55 43.2 -3.8
comp=Z,110nm,1.6s,mb5.5
SMF Signal de Mont 84.40 340 eP P 05 55 43.2 -3.8
SMF pmax pmax
comp=Z,55nm,1.5s,mb5.5
SMF Signal de Mont 84.40 340 eP P 05 55 43.2 -3.8
comp=Z,55nm,1.5s,mb5.5
LPG La Plagne 84.73 338 eP P 05 55 46.4 -2.2
comp=Z,38nm,1.1s,mb5.1
LPG La Plagne 84.73 338 eP P 05 55 46.4 -2.2
LPG pmax pmax
comp=Z,19nm,1.1s,mb5.1
LPG La Plagne 84.73 338 eP P 05 55 46.4 -2.2
comp=Z,19nm,1.1s,mb5.1
CAF Calviac 86.44 340 eP P 05 55 53.9 -3.3
TORD Torodi Ar. Bea 116.35 330 PKP PKPdf 06 01 57.2 -0.9
comp=Z,0.5nm,0.9s,baz=49,slow=1.2,SNR=4.7
TORD PP PP 06 02 57.1 -7.1
comp=Z,0.8nm,0.9s,baz=19,slow=8.3,SNR=3.6
VNDA Vanda 123.01 178 PKP PKPdf 06 02 07.8 -3.1
comp=Z,1.0nm,1.0s,baz=262,slow=5.1,SNR=4.4
VNDA Vanda 123.01 178 PKIKP PKPdf 06 02 07.8 -3.1
VNDA pmax pmax
comp=Z,1.0nm,1.0s
LSZ Lusaka 125.66 286 ePKIKP PKPdf 06 02 17.0 +1.0
LPAZ La Paz 134.25 64 PKP PKPdf 06 02 33.3 +1.0
comp=Z,0.4nm,0.6s,baz=246,slow=2.2,SNR=3.6
CFAA Coronel Fontan 144.54 82 PKP PKPdf 06 02 48.8 -2.2
comp=Z,1.3nm,0.8s,baz=287,slow=3.3,SNR=23
SNAA Sanae 151.69 195 PKPbc PKPbc 06 03 06.9 -2.1
comp=Z,1.3nm,0.6s,baz=172,slow=2.4,SNR=19
SNAA Sanae 151.69 195 ePKPdf PKPbc 06 03 06.7 -2.3
SNAA e 06 03 16.7
SNAA e 06 03 25.3
SNAA Sanae 151.69 195 ePKPbc PKPbc 06 03 06.5 -2.5
SNAA ePKPab PKPab 06 03 16.1 -1.7
PMSA Palmer Station 151.73 146 PKPbc PKPbc 06 03 06.6 -2.5
comp=Z,6.8nm,0.6s,baz=110,slow=9.2,SNR=4.9
TRQA Tornquist 152.30 87 ePKPbc PKPbc 06 03 09.6 -0.8
VNA2 Neumayer--Watz 153.11 193 ePKPdf PKPbc 06 03 09.3 -2.9
VNA2 e 06 03 15.1
VNA2 e 06 03 22.7
VNA2 e 06 03 30.3
VNA3 Neumayer Olymp 153.17 192 ePKPdf PKPbc 06 03 08.8 -3.5
VNA3 e 06 03 15.4
VNA3 e 06 03 21.6
VNA3 e 06 03 29.4

WEL 16 05:51:35.9±0.7, 3723S×17709E, h154km±5km, ML3.6/7, Error ellipse: s-maj=10.0km s-min=5.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.03**	**110**	PN	Pn	05 52 01.3	0.0
MXZ				SN	Sn	05 52 19.9	-0.7
URZ	**Urewera**	**1.03**	**179**	PN	Pn	05 52 02.2	+0.9
URZ				SN	Sn	05 52 20.8	+0.1
KNZ	**Kokohu**	**1.85**	**166**	PN	Pn	05 52 10.0	+0.5
KNZ				SN	Sn	05 52 34.3	-1.1
TSZ	**Takapari Road**	**2.96**	**197**	PN	Pn	05 52 22.6	-0.4
TSZ				SN	Sn	05 52 58.6	-0.8
MRZ	**Mangatainoka R**	**3.63**	**198**	PN	Pn	05 52 30.2	-1.2
KIW	**Kapiti Island**	**4.01**	**204**	PN	Pn	05 52 34.7	-1.6
TRWZ	**Traveller**	**4.31**	**194**	PN	Pn	05 52 38.1	-2.1
TCW	**Tory Channel**	**4.54**	**208**	PN	Pn	05 52 41.3	-2.0
THZ	**Tophouse**	**5.57**	**214**	PN	Pn	05 52 55.3	-1.6
KHZ	**Kahutara**	**5.86**	**207**	PN	Pn	05 52 58.3	-2.4
MQZ	**McQueen's Vall**	**7.30**	**206**	SN	Sn	05 54 33.8	-7.8

*ISCJB **16** 05:56:00.9±2.5, 470N±05×1553E±02, h10km, mb4.2/8, Error ellipse: s-maj=68.1km s-min=19.1km az=166.1*
*IDC **16** 05:56:00.5±3.6, 4680N×15537E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=100.6km s-min=30.4km az=178.0*
*NEIC **16** 05:56:02.3±1.6, 4687N×15533E, h10km, mb4.3/4, Error ellipse: s-maj=45.5km s-min=12.7km az=173.0*

ISC 16 05:56:02.9±2.5, 470N±05×1553E±02, h10km, n12, σ0≥28/12, mb4.2/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.59**	**33**	P	**P**	**06 03 42.6**	**0.0**
	6.8nm,1.3s,mb4.1,baz=274,slow=2.2,SNR=6.1						
ZAL	**Zalesovo**	**43.67**	**306**	P	**P**	**06 04 07.5**	**-0.3**
	1.2nm,0.3s,mb4.1,baz=51,slow=8.7,SNR=4.5						
ZAL	**Zalesovo**	**43.67**	**306**	P	**P**	**06 04 07.5**	**-0.3**
MK31	**Makanchi Array**	**48.14**	**298**	eP	**P**	**06 04 42.9**	**-0.1**
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**06 04 43.3**	**+0.3**
	2.5nm,0.8s,mb4.1,baz=76,slow=7.9,SNR=8.7						
RES	**Resolute Bay**	**50.07**	**19**	eP	**P**	**06 04 57.8**	**0.0**
	136nm,1.2s						
CHKZ	**Chkalovo**	**51.39**	**311**	eP	**P**	**06 05 07.2**	**-0.6**
	5.0nm,0.5s,mb4.7						
BRVK	**Borovoye**	**51.87**	**310**	eP	**P**	**06 05 11.2**	**-0.1**
	2.3nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**52.59**	**311**	eP	**P**	**06 05 16.8**	**+0.1**
	1.9nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**55.05**	**297**	eP	**P**	**06 05 35.0**	**+0.3**
	1.9nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**06 06 39.6**	**+0.5**
	1.9nm,0.7s,mb4.2,baz=38,slow=10,SNR=6.6						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**06 07 50.2**	**-0.1**
	0.3nm,0.7s,baz=299,slow=2.6,SNR=3.4						

*IDC **16** 05:59:10.5±1.3, 4687N×15539E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=43.6km s-min=37.4km az=83.0*

NEIC 16 05:59:12.2±0.8, 4687N×15538E, h10km, mb4.1/3, Error ellipse: s-maj=24.6km s-min=18.2km az=216.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**48.27**	**298**	eP	P	06 07 53.1	-0.3
MKAR	**Makanchi Array**	**48.27**	**298**	P	P	06 07 53.2	-0.1
	0.5nm,0.7s,baz=66,slow=9.4,SNR=3.9						
CHKZ	**Chkalovo**	**51.54**	**311**	eP	P	06 08 17.8	-0.5
	1.6nm,0.6s						
BRVK	**Borovoye**	**52.02**	**310**	eP	P	06 08 21.9	+0.1
	2.2nm,0.6s						
ZRNK	**Zerenda**	**52.74**	**311**	eP	P	06 08 26.9	-0.3
	1.6nm,0.6s						
FINES	**FINESS Array B**	**64.59**	**336**	P	P	06 09 48.9	-0.8

1.8nm,0.9s,baz=42,slow=8.8,SNR=3.5
ASAR Alice Springs 72.84 201 P P 06 10 41.0 -0.2
0.3nm,0.7s,baz=2.3,slow=4.9,SNR=6.0
TXAR Lajitas Array 76.07 62 P P 06 11 00.2 +0.3
0.1nm,0.5s,baz=306,slow=5.4,SNR=2.3

ISCJB ***16*** *06:06:29.4±0.4, 44.36N±0.002×67.74E±0.003, h7km±4km, Error ellipse: s-maj=4.6km s-min=2.9km az=113.2*
STR ***16*** *06:06:30.3±0.3, 44.46N×6.94E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***16*** *06:06:30.5±0.1, 44.37N×6.77E, h2km, Md2.4/1, Ml2.3/7, Error ellipse: s-maj=1.5km s-min=1.1km az=69.0*
ISC 16 06:06:30.1±0.3, 44.37N±0.002×6.77E±0.003, h12km±3km, n17, σ0.77/33, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SURF	**Saint Ours**	**0.11**	**14**	Pg	**Pg**		**06 06 32.9**	**-0.2**
SURF				Sg	**Sg**		**06 06 34.5**	**-0.7**
MBDF	**Montbardon**	**0.36**	**360**	*e*Pg	**Pg**		**06 06 37.8**	**+0.6**
MBDF				*e*Sg	**Sg**		**06 06 42.5**	**+0.5**
28nm,0.3s								
TOUF	**Mont Tournerai**	**0.49**	**136**	Pg	**Pg**		**06 06 39.7**	**-0.1**
TOUF				Sg	**Sg**		**06 06 47.3**	**+1.0**
AUTN	**L'Aution**	**0.60**	**128**	Pg	**Pg**		**06 06 42.1**	**+0.3**
AUTN				Sg	**Sg**		**06 06 49.9**	**+0.2**
LUCF	**Luceram**	**0.63**	**139**	Pg	**Pg**		**06 06 42.3**	**-0.1**
LUCF				Sg	**Sg**		**06 06 51.1**	**+0.4**
SAOF	**Saorge**	**0.68**	**124**	Pg	**Pg**		**06 06 42.4**	**-0.9**
SAOF				Sg	**Sg**		**06 06 51.5**	**-0.8**
SBF	**Sospel**	**0.70**	**137**	*e*Pg	**Pg**		**06 06 43.5**	**-0.1**
SBF				*e*Sg	**Sg**		**06 06 52.6**	**-0.1**
7.8nm,0.2s								
FRF	**La Foret Royal**	**0.81**	**186**	*e*Pg	**Pg**		**06 06 46.2**	**+0.3**
FRF				*e*Sg	**Sg**		**06 06 56.7**	**+0.2**
13nm,0.2s								
ORIF	**Oris-en-Rattie**	**0.84**	**311**	*e*Pg	**Pg**		**06 06 46.8**	**+0.5**
ORIF				*e*Sg	**Sg**		**06 06 57.4**	**+0.1**
10nm,0.3s								
SMRF	**Simiane la Rot**	**0.95**	**246**	*e*P	**Pg**		**06 06 50.4**	**+2.0**
SNR=1.0								
SMRF				*e*Sn	**Sn**		**06 07 03.0**	**+0.2**
18nm,0.3s								
LMR	**La Mourre**	**1.05**	**191**	*e*Pg	**Pg**		**06 06 51.0**	**+0.6**
SNR=1.0								
LMR				*e*Sn	**Sn**		**06 07 05.3**	**-0.1**
14nm,0.2s								
LPG	**La Plagne**	**1.13**	**359**	*e*Pg	**Pg**		**06 06 51.9**	**+0.1**
LPG				*e*Sn	**Sn**		**06 07 07.4**	**+0.2**
4.5nm,0.2s,SNR=1.0								
LPL	**La Plagne**	**1.15**	**359**	*e*Pg	**Pg**		**06 06 52.3**	**+0.2**
LPL				*e*Sn	**Sn**		**06 07 07.5**	**-0.1**
3.6nm,0.2s,SNR=1.0								
VIVF	**Saint-Julien-l**	**1.58**	**289**	*e*Pg	**Pg**		**06 06 59.6**	**-0.8**
VIVF				*e*Sg	**Sg**		**06 07 20.0**	**-0.8**
3.5nm,0.3s,SNR=1.0								
LASF	**Ste Croix**	**2.12**	**263**	*e*P	**Pn**		**06 07 07.3**	**+1.9**
LASF	**Ste Croix**	**2.12**	**263**	*e*Pg	**Pg**		**06 07 09.5**	**-1.2**
LASF				*e*Sg	**Sg**		**06 07 36.8**	**-1.4**
0.9nm,0.2s								
PGF	**Pioggiola**	**2.44**	**138**	*e*Pn	**Pn**		**06 07 10.0**	**+0.2**
SNR=1.0								
PGF				*e*Sn	**Sn**		**06 07 37.5**	**-2.0**
2.0nm,0.2s								

IDC ***16*** *06:09:12.7±0.7, 46.80N×15.462E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, Error ellipse: s-maj=19.1km s-min=15.3km az=156.0*
NEIC ***16*** *06:09:14.3±0.5, 46.78N×15.461E, h10km, mb4.7/5, Error ellipse: s-maj=13.5km s-min=9.7km az=148.0*
ISCJB ***16*** *06:09:15.7±2.4, 46.76N±0.009×15.458E±0.10, h31km±17km, mb4.3/26, Error ellipse: s-maj=16.4km s-min=8.3km az=116.7*
BJI ***16*** *06:09:15.1, 47.59N×15.44E, h6km, mB4.7, mb4.5*
MOS ***16*** *06:09:16.6±0.9, 46.78N×15.49E, h41km, mb4.6/17, Error ellipse: s-maj=15.3km s-min=11.2km az=89.2*
ISC 16 06:09:18.1±1.3, 46.81N±0.009×15.46E±0.1, h36km±11km, n57, σ1.9/10/58, mb4.3/26, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**4.01**	**14**	*e*Pn	**Pn**		**06 10 18.5**	**+1.5**
KUR	**Kuril'sk**	**4.93**	**254**	*e*Pn	**Pn**		**06 10 27.5**	**-2.2**
KUR				*i* S	**Sn**		**06 11 24.5**	**-0.9**
KUR				pmax	pmax			
comp=Z,190nm,0.7s								
KUR				smax				
comp=N,160nm,0.5s								
KUR				smax				
comp=E,80nm,0.5s								
ASAJ	**Asahikawa**	**8.84**	**257**	Pn	**Pn**		**06 11 25.8**	**+2.5**
comp=E,3.4nm,0.3s,baz=62,slow=15,SNR=7.2								
ASAJ	**Asahikawa**	**8.84**	**257**	PN	**Pn**		**06 11 25.8**	**+2.5**
ASAJ				pmax	pmax			
comp=Z,3.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.93**	**236**	Pn	**Pn**		**06 12 57.6**	**-1.9**
comp=Z,0.5nm,0.3s,baz=32,slow=13,SNR=4.6								
MJAR	**Matsushiro Arr**	**15.93**	**236**	P	**Pn**		**06 12 57.6**	**-1.9**
MJAR				pmax	pmax			
comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**21.77**	**254**	P	**P**		**06 14 07.8**	**+1.0**
comp=Z,2.8nm,0.7s,mb3.8,baz=56,slow=9.6,SNR=10								
BILL	**Bilibino**	**22.12**	**12**	*e*P	**P**		**06 14 08.6**	**-1.8**
BILL				pmax	pmax			
comp=Z,11nm,1.0s,mb4.2								
BILL	**Bilibino**	**22.12**	**12**	*e*P	**P**		**06 14 09.7**	**-0.7**
comp=Z,8.0nm,0.6s,mb4.3								
SNY	**Shenyang**	**22.64**	**269**	⇓P	**P**		**06 14 16.8**	**+0.8**
SNY				AMB	AMB			
comp=Z,21nm,0.6s,mb4.7								
SONM	**Songino Array**	**32.26**	**290**	P	**P**		**06 15 42.9**	**-0.3**
comp=Z,0.7nm,0.6s,mb3.7,baz=69,slow=9.3,SNR=7.5								
SONM	**Songino Array**	**32.26**	**290**	P	**P**		**06 15 42.9**	**-0.3**
SONM				pmax	pmax			
comp=Z,1.0nm,0.6s								
XAN	**Xi'an**	**36.52**	**266**	P	**P**		**06 16 22.3**	**+2.2**
XAN				AMB	AMB			
comp=Z,5.0nm,0.6s,mb4.5								
INK	**Inuvik**	**41.06**	**33**	P	**P**		**06 16 57.7**	**-0.4**
comp=Z,2.6nm,0.8s,mb3.9,baz=279,slow=6.6,SNR=9.8								
INK	**Inuvik**	**41.06**	**33**	P	**P**		**06 16 57.7**	**-0.5**
INK				pmax	pmax			
comp=Z,3.0nm,0.8s								
INK	**Inuvik**	**41.06**	**33**	P	**P**		**06 16 57.7**	**-0.4**
CD2	**Chengdu**	**41.88**	**266**	*e*P	**P**		**06 17 06.8**	**+1.9**
CD2				AMB	AMB			
comp=Z,20nm,0.6s,mb4.9								
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**		**06 17 16.8**	**-0.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=60,slow=9.1,SNR=4.9								
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**		**06 17 16.8**	**-0.4**
ZAL				pmax	pmax			
comp=Z,2.0nm,0.6s								
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**		**06 17 16.8**	**-0.4**
MK31	**Makanchi Array**	**47.80**	**298**	*e*P	**P**		**06 17 52.1**	**+0.1**
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**		**06 17 52.0**	**0.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=71,slow=7.2,SNR=15								
MKAR				PcP	PcP		06 19 19.9	-0.6
comp=Z,0.7nm,0.8s,baz=45,slow=8.4,SNR=3.4								
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**		**06 17 52.0**	**0.0**
MKAR							06 19 19.9	
MKAR				pmax	pmax			
comp=Z,1.0nm,0.5s								
MKAR				pmax	pmax			
comp=Z,1.0nm,0.8s								
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**		**06 18 17.1**	**-0.5**
CHKZ				pmax	pmax			
comp=Z,7.0nm,0.6s,mb4.8								
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**		**06 18 17.1**	**-0.5**
comp=Z,7.3nm,0.6s,mb4.8								
LSA	**Lhasa**	**51.27**	**274**	*e*P	**P**		**06 18 21.7**	**+3.3**
LSA				pmax	pmax			
comp=Z,7.0nm,0.6s,mb4.8								
LSA	**Lhasa**	**51.27**	**274**	*e*P	**P**		**06 18 21.6**	**+3.2**
comp=Z,7.1nm,0.6s,mb4.8								
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**		**06 18 21.0**	**+0.1**
comp=Z,2.7nm,0.6s,mb4.4,baz=47,slow=9.2,SNR=10								
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**		**06 18 21.0**	**+0.2**
BVAR				pmax	pmax			
comp=Z,3.0nm,0.6s								
ZRNK	**Zerenda**	**52.36**	**310**	*e*P	**P**		**06 18 25.4**	**-1.1**
ZRNK				pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**52.36**	**310**	*e*P	**P**		**06 18 25.4**	**-1.1**
comp=Z,2.9nm,0.6s,mb4.4								
ARU	**Arti**	**55.64**	**318**	⇑*i*P	**P**		**06 18 50.4**	**-0.1**
ARU				*e*			06 20 52.0	
ARU				*e*S	**S**		**06 26 33.5**	**-0.6**
ARU				*e*SS	SS		06 30 17.0	-2.5
ARU				pmax	pmax			
comp=Z,7.0nm,0.7s,mb4.8								
ARU	**Arti**	**55.64**	**318**	*e*P	**P**		**06 18 50.4**	**-0.1**
comp=Z,6.5nm,0.7s,mb4.8								
ARCES	**ARCESS Array B**	**58.12**	**341**	P	**P**		**06 19 06.5**	**-1.6**
comp=Z,6.1nm,0.8s,mb4.7,baz=30,slow=5.1,SNR=8.3								
ARCES	**ARCESS Array B**	**58.12**	**341**	P	**P**		**06 19 06.5**	**-1.6**
ARCES				pmax	pmax			
comp=Z,6.0nm,0.8s								
NVAR	**Mina Array Bea**	**61.52**	**63**	P	**P**		**06 19 31.4**	**+0.1**
comp=Z,0.8nm,0.7s,mb4.0,baz=292,slow=7.6,SNR=5.5								
PDAR	**Pinedale Array**	**63.90**	**55**	P	**P**		**06 19 47.4**	**+0.1**
comp=Z,1.7nm,0.9s,mb4.1,baz=273,slow=2.8,SNR=9.3								
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**		**06 19 50.7**	**+0.1**
comp=Z,3.6nm,0.4s,mb4.7,baz=40,slow=7.9,SNR=32								
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**		**06 19 50.7**	**+0.1**
FINES				pmax	pmax			
comp=Z,4.0nm,0.4s								
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**		**06 19 50.7**	**+0.1**
ULM	**Lac du Bonnet**	**65.82**	**42**	P	**P**		**06 19 59.0**	**-0.7**
comp=Z,1.8nm,0.9s,mb4.1,baz=300,slow=8.1,SNR=3.3								
NB2	**NORSAR Subarra**	**68.49**	**342**	P	**P**		**06 20 17.2**	**+0.5**
comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**		**06 20 16.7**	**0.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.4,SNR=8.7								
NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**		**06 20 16.7**	**0.0**
NOA				pmax	pmax			
comp=Z,2.0nm,0.6s								
WRA	**Warramunga Arr**	**68.91**	**200**	P	**P**		**06 20 18.9**	**-0.4**
comp=Z,1.4nm,0.9s,mb3.9,baz=19,slow=6.8,SNR=7.1								
WRA	**Warramunga Arr**	**68.91**	**200**	P	**P**		**06 20 18.9**	**-0.4**
WRA				pmax	pmax			
comp=Z,1.0nm,1.0s								
AKASG	**Malin Array Be**	**72.05**	**327**	P	**P**		**06 20 37.8**	**-0.7**
comp=Z,1.7nm,0.4s,mb4.3,baz=33,slow=6.1,SNR=9.3								
AKASG	**Malin Array Be**	**72.05**	**327**	P	**P**		**06 20 37.8**	**-0.7**
AKASG				pmax	pmax			
comp=Z,2.0nm,0.4s								
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**		**06 20 42.0**	**+0.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=15,slow=5.4,SNR=18								
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**		**06 20 42.0**	**+0.3**
ASAR				pmax	pmax			
comp=Z,2.0nm,0.7s								
TXAR	**Lajitas Array**	**76.59**	**62**	P	**P**		**06 21 05.0**	**+0.1**
comp=Z,3.1nm,0.6s,mb4.4,baz=303,slow=4.2,SNR=33								
TXAR	**Lajitas Array**	**76.59**	**62**	P	**P**		**06 21 05.0**	**+0.1**
TXAR				pmax	pmax			
comp=Z,3.0nm,0.6s								
CLL	**Collm**	**76.82**	**336**	*e*P	**P**		**06 21 09.0**	**+2.8**
CLL	**Collm**	**76.82**	**336**	*e*Pmax			06 21 09.0	
CLL				*e*pP	pP		06 21 14.0	-3.3
CLL				*e*PcP	PcP		06 21 18.0	+0.7
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**		**06 21 17.3**	**-0.2**
comp=Z,0.3nm,0.3s,mb3.8,baz=30,slow=10,SNR=3.2								
BRTR	**Keskin Array B**	**79.03**	**318**	P	**P**		**06 21 18.7**	**+0.2**
comp=Z,1.2nm,1.0s,mb3.8,baz=52,slow=7.9,SNR=3.4								
BRTR	**Keskin Array B**	**79.03**	**318**	P	**P**		**06 21 18.7**	**+0.2**
BRTR				pmax	pmax			
comp=Z,1.0nm,1.0s								

NIED ***16*** *06:20:00, 46.40N×15.450E, h14km, Mw5.9 Best double couple: M0 9.26000×10^17 NP1:φs=208.00000°, δ61.00000°, λ=-103.00000°. NP2:φs=54.00000°, δ31.00000°, λ=-68.00000°.*
MOS ***16*** *06:20:20.3±1.0, 46.33N×15.449E, h19km, mb6.1/171, MS5.5/95, Error ellipse: s-maj=5.7km s-min=3.5km az=102.1*
ISCJB ***16*** *06:20:20.1±0.1, 46.24N±0.002×15.455E±0.002, h17km, mb5.9/398, MS5.5/231, Error ellipse: s-maj=3.2km s-min=1.5km az=161.0*
GCMT ***16*** *06:20:20.8±0.1, 46.40N×15.468E, h12km, MW6.0/112, Moment Tensor Solution. s87,c177; s112,c264; Duration: 23 Moment tensor: Scale 10^18Nm; Mrr=1.02±.01; Mθθ 0.48±.01; Mφφ 0.54±.01; Mrθ 0.19±.02; Mrφ 0.57±.01; Mθφ 0.12±.02; Best double couple: M0 1.07600×10^18 NP1:φs=40.00000°, δ39.00000°, λ=95.00000°. NP2:φs=227.00000°, δ51.00000°, λ=86.00000°. Principal axes: T 1.1060, Plg6.0000°, Azm314.0000°; N -0.0580, Plg3.0000°, Azm44.0000°; P -1.0460, Plg83.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *06:20:20.8±0.1, 46.36N×15.447E, h9km, mb6.0/264, ME6.5, MS5.4/173, MW5.9 Error ellipse: s-maj=3.8km s-min=2.5km az=169.0, Moment Tensor Solution. s62 Moment tensor: Scale 10^17Nm; Mrr=9.62; Mθθ 5.44; Mφφ 4.19; Mrθ -1.35; Mθφ 4.74; Mφr -0.96; Best double couple: M0 9.70000×10^17 NP1:φs=50.00000°, δ50.00000°, λ=89.00000°. NP2:φs=228.00000°, δ40.00000°, λ=91.00000°. Principal axes: T 9.7400, Plg5.0000°, Azm139.0000°; N 0.0300, Plg1.0000°, Azm229.0000°; P -9.7700, Plg85.0000°, Azm330.0000°; Broadband fault plane solution: P waves. NP1:φs=322.00000°, δ52.00000°, λ=161.00000°. NP2:φs=220.00000°, δ75.00000°, λ=40.00000°. Principal axes: T Plg15.0000°, Azm276.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm174.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
SKHL ***16*** *06:20:21.3±0.7, 46.47N×15.438E, h41km±3km, mb6.7/7, mbh6.7/5, Ms6.1/8, msh6.2/5*
JMA ***16*** *06:20:21.3±0.9, 46.40N×15.450E, h30km, M6.1*
BJI ***16*** *06:20:22.1, 46.51N×15.392E, h10km, mB6.2, mb5.8, Ms5.9, Msz5.7*
IDC ***16*** *06:20:24.2±2.0, 46.40N×15.447E, h33km±15km, mb5.4/41, mb1 5.4/43, mb1mx5.4/44, mbtmp5.4/43, ML5.0/2, MS5.5/31, Ms1 5.5/31, ms1mx5.4/44, Error ellipse: s-maj=9.3km s-min=8.7km az=141.0*
SZGRF ***16*** *06:20:27.3, 47.43N×15.472E, h10km, mb6.1, MS5.6, Kuril Islands, Russia*
ISC 16 06:20:22.3±0.1, 46.37N±0.002×15.447E±0.002, h19km, h19km±1.2km: pP-P, n1591, σ1.01/1559, mb5.9/397, MS5.5/231, 163C-124D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**4.46**	**14**	*e*P	**Pn**		**06 21 27.5**	**-1.4**
SKR				AMB	AMB		06 21 31.5	
170nm,0.5s								
SKR				AMB	AMB		06 21 31.5	
620nm,0.5s								
SKR				AMB	AMB		06 21 31.5	
490nm,0.9s								
SKR				AMB	AMB		06 21 44.0	
18μm,6.0s								
SKR				AMB	AMB		06 21 44.0	
23μm,6.0s								
SKR				AMB	AMB		06 21 44.0	
18μm,6.0s								
SKR				AMB	AMB		06 21 44.0	
18μm,6.0s								
SKR				AMB	AMB		06 21 44.0	
22μm,6.0s								
SKR				AMB	AMB		06 21 44.0	
18μm,6.0s								
SKR				*e*S	**Sn**		**06 22 17.0**	**-3.3**
SKR				A			06 22 23.5	
4μm,0.5s								
SKR				A			06 22 23.5	
1μm,0.5s								
SKR				A			06 22 23.5	
14μm,1.0s								
SKR				A			06 22 34.0	
56μm,10.0s								
SKR				A			06 22 34.0	
80μm,10.0s								
SKR				A			06 22 34.0	
60μm,10.0s								
SKR				A			06 22 34.0	
56μm,10.0s								
SKR				A			06 22 34.0	
80μm,10.0s								
SKR				A			06 22 34.0	
62μm,10.0s								
SKR				AMS	AMS		06 23 34.0	
47μm,14.0s								
SKR				AMS	AMS		06 23 34.0	
255μm,14.0s								
SKR				AMS	AMS		06 23 34.0	
94μm,14.0s								
SKR				AMS	AMS		06 23 34.0	
49μm,14.0s								
SKR				AMS	AMS		06 23 34.0	
246μm,14.0s								
SKR				AMS	AMS		06 23 34.0	
98μm,14.0s								
KUR	**Kuril'sk**	**4.75**	**259**	⇓*i*P	**Pn**		**06 21 28.8**	**-4.2**
KUR				AMB	AMB		06 21 35.0	
2μm,0.5s								
KUR				AMB	AMB		06 21 35.0	
1μm,0.5s								
KUR				AMB	AMB		06 21 35.0	
7μm,0.5s								
KUR				AMB	AMB		06 21 36.0	
8μm,6.0s								
KUR				AMB	AMB		06 21 36.0	
22μm,6.0s								
KUR				AMB	AMB		06 21 36.0	
10μm,1.0s								
KUR				AMB	AMB		06 21 36.0	
28μm,6.0s								
KUR				*i* S	**Sn**		**06 22 20.0**	**-7.6**
KUR				A			06 22 26.0	
30μm,1.5s								
KUR				A			06 22 26.0	
32μm,1.5s								
KUR				A			06 22 26.0	
85μm,2.0s								
KUR				A			06 22 26.0	
70μm,2.0s								
KUR				A			06 22 30.0	
12μm,0.9s								
KUR				A			06 22 30.0	
18μm,0.9s								
KUR				AMS	AMS		06 24 37.0	
50μm,15.0s								
KUR				AMS	AMS		06 24 37.0	
56μm,15.0s								
KUR				AMS	AMS		06 24 37.0	
72μm,15.0s								
KUR				AMS	AMS		06 24 37.0	
108μm,15.0s								
KUR				AMS	AMS		06 24 37.0	
98μm,15.0s								
KUR				AMS	AMS		06 24 37.0	
168μm,15.0s								
KUR	**Kuril'sk**	**4.75**	**259**	*i* P	**Pn**		**06 21 29.0**	**-4.0**
YUK	**Yuzh-Kuril'sk**	**6.51**	**252**	⇑*i*P	**Pn**		**06 21 57.0**	**-0.2**
YUK				AMB	AMB		06 22 02.0	
960nm,0.5s								
YUK				AMB	AMB		06 22 02.0	
760nm,0.5s								
YUK				AMB	AMB		06 22 02.0	
2μm,0.5s								
YUK				AMB	AMB		06 22 05.0	
14μm,1.5s								
YUK				AMB	AMB		06 22 05.0	
12μm,1.5s								
YUK				AMB	AMB		06 22 05.0	
10μm,1.0s								
YUK				*i* S	**Sn**		**06 23 08.4**	**-2.5**
YUK				A			06 23 13.0	
20μm,1.0s								
YUK				A			06 23 13.0	
15μm,1.0s								
YUK				A			06 23 16.5	
4μm,0.5s								
YUK				A			06 23 16.5	
5μm,0.5s								
YUK				AMS	AMS		06 25 39.0	
129μm,16.0s								
YUK				AMS	AMS		06 25 39.0	
84μm,16.0s								
YUK				AMS	AMS		06 25 39.0	
35μm,13.0s								
YUK	**Yuzh-Kuril'sk**	**6.51**	**252**	*e*PN	**Pn**		**06 21 57.5**	**+0.3**
NEM2	**Nemuro 2**	**6.89**	**247**	P	**Pn**		**06 21 59.8**	**-2.5**
NEM2				*e*S	**Sn**		**06 23 12.5**	**-7.7**
JRA	**Rausu**	**7.04**	**253**	P	**Pn**		**06 22 03.6**	**-0.8**
PET	**Petropavlovsk**	**7.19**	**21**	*e*PN	**Pn**		**06 22 03.7**	**-2.8**
PET				pmax	pmax			
comp=Z,177nm,0.9s								
PET				MLR	MLR			
comp=Z,30μm,18.0s								
PET				MLR	MLR			
comp=Z,30μm,14.0s								
PET	**Petropavlovsk**	**7.19**	**21**	*e*Pn	**Pn**		**06 22 03.8**	**-2.8**
PET				*e*Sn	**Sn**		**06 23 21.5**	**-6.2**
JNK	**Nakash**	**7.45**	**252**	P	**Pn**		**06 22 08.4**	**-1.6**
JNK				*e*S	**Sn**		**06 23 27.0**	**-7.0**
JAK	**Akkeshi**	**7.74**	**248**	P	**Pn**		**06 22 10.7**	**-3.2**
JAK				*e*S	**Sn**		**06 23 32.9**	**-8.1**
JTKR	**Abashiri--Toko**	**7.84**	**256**	P	**Pn**		**06 22 14.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.08**	**278**	⇑*e*P	**Pn**		**06 22 21.0**	**+2.3**
YSS				⇑*i*P			06 22 21.0	
YSS				⇑*i*P			06 22 21.0	
YSS				AMB	AMB		06 22 26.5	
comp=Z,1μm,1.0s								
YSS				AMB	AMB		06 22 26.5	
comp=Z,430nm,1.0s								
YSS				AMB	AMB		06 22 26.5	
comp=Z,2μm,1.0s								
YSS				*es*P			06 22 35.5	
YSS				A			06 23 55.4	
comp=Z,400nm,1.0s								
YSS				A			06 23 55.4	
comp=Z,350nm,1.0s								
YSS				*e*LQ			06 23 58.0	
YSS				AMS	AMS		06 26 27.0	
comp=Z,58μm,14.0s								
YSS				AMS	AMS		06 26 27.0	
comp=Z,65μm,15.0s								
YSS				AMS	AMS		06 26 27.0	
comp=Z,54μm,14.0s								
YSS				AMS	AMS		06 26 27.0	
comp=Z,76μm,15.0s								
YSS				AMS	AMS		06 26 27.0	
comp=Z,23μm,11.0s								
YSS				AMS	AMS		06 26 27.0	
comp=Z,23μm,11.0s								
YSS	**Yuzh-Sakhalins**	**8.08**	**278**	*oe*PN	**Pn**		**06 22 21.0**	**+2.3**
YSS				pmax	pmax			
comp=N,430nm,1.0s								
YSS				pmax	pmax			
comp=E,2μm,1.0s								
YSS				pmax	pmax			
comp=Z,1μm,1.0s								
YSS				MLR	MLR			
comp=Z,65μm,15.0s								
YSS				MLR	MLR			
comp=N,23μm,11.0s								
YSS				MLR	MLR			
comp=E,58μm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.08**	**278**	⇑*i*P	**Pn**		**06 22 20.3**	**+1.6**
JMP	**Maruseppu**	**8.19**	**257**	P	**Pn**		**06 22 20.7**	**+0.5**
JAR	**Ashorobuto**	**8.20**	**252**	P	**Pn**		**06 22 18.4**	**-1.9**
JAR				*e*S	**Sn**		**06 23 48.6**	**-3.9**
JOB	**Onbets**	**8.34**	**249**	P	**Pn**		**06 22 20.4**	**-1.8**
JOB				*e*S	**Sn**		**06 23 47.9**	**-7.9**
JSE	**Soyaes**	**8.44**	**265**	P	**Pn**		**06 22 26.5**	**+2.8**
JKK2	**Kamakawa 2**	**8.65**	**257**

comp=E,16μm,7.0s
UGL A 06 24 24.0
comp=E,17μm,8.0s
UGL A 06 24 24.0
comp=E,17μm,6.0s
UGL eL 06 24 46.0
UGL AMS AMS 06 27 00.0
comp=E,82μm,12.0s
UGL AMS AMS 06 27 00.0
comp=E,147μm,14.0s
UGL AMS AMS 06 27 00.0
comp=E,121μm,14.0s
UGL Uglegorsk 8.79 292 ePN **Pn 06 22 30.0 +1.6**
UGL eS **Sn 06 24 16.0 +9.0**
UGL pmax pmax
comp=Z,1μm,1.0s
UGL pmax pmax
comp=N,5μm,7.0s
UGL pmax pmax
comp=Z,12μm,7.0s
UGL pmax pmax
comp=E,11μm,6.0s
UGL smax
comp=E,17μm,6.0s
UGL smax
comp=N,17μm,8.0s
UGL smax
comp=Z,16μm,7.0s
UGL MLR MLR
comp=E,147μm,14.0s
UGL MLR MLR
comp=Z,121μm,14.0s
UGL MLR MLR
comp=N,82μm,12.0s
JWK2 Keihoku 8.84 268 P **Pn 06 22 32.6 +3.5**
TYV Tymovskoe 9.02 304 eP **Pn 06 22 32.0 +0.4**
TYV AMB AMB 06 22 37.5
comp=N,176nm,0.7s
TYV AMB AMB 06 22 37.5
comp=N,414nm,0.7s
TYV AMB AMB 06 22 40.0
comp=N,8μm,7.0s
TYV AMB AMB 06 22 40.0
comp=N,10μm,7.0s
TYV AMB AMB 06 22 40.0
comp=N,10μm,7.0s
TYV eS **Sn 06 24 06.0 -6.7**
TYV A 06 24 14.0
comp=N,187nm,0.8s
JFR Furan 9.03 254 P **Pn 06 22 31.5 -0.3**
JAB Ashibetsu 9.14 256 P **Pn 06 22 35.4 +2.1**
ERM Erimo 9.21 246 Pn **Pn 06 22 33.0 -1.2**
comp=N,5μm,1.0s,SNR=15
ERM Erimo 9.21 246 ePN **Pn 06 22 33.1 -1.1**
ERM Erimo 9.21 246⇓ eP **Pn 06 22 33.4 -0.8**
JEM Erimo 9.21 246 P **Pn 06 22 33.7 -0.5**
JEM eS **Sn 06 24 08.1 -9.3**
JNBK Urakawa-nobuka 9.34 248 P **Pn 06 22 32.7 -3.2**
JNBK eS **Sn 06 24 09.9 -10**
JBT2 Biratori 2 9.35 252 P **Pn 06 22 35.4 -0.7**
JBT2 eS **Sn 06 24 14.3 -6.5**
JHR Hokuryu 9.39 258 P **Pn 06 22 39.5 +2.8**
JEW Eniwo 9.93 254 P **Pn 06 22 44.2 +0.2**
OKH Okha 10.33 318⇑ iP **Pn 06 22 47.8 -1.7**
OKH eP 06 22 47.9
OKH AMB AMB 06 22 52.1
comp=N,7μm,2.0s
OKH AMB AMB 06 22 54.0
comp=N,20μm,8.0s
OKH AMB AMB 06 22 54.0
comp=N,15μm,5.0s
OKH AMB AMB 06 22 54.0
comp=N,10μm,5.6s
OKH eS **Sn 06 24 41.9 -2.9**
OKH eS **Sn 06 24 42.0 -2.8**
OKH A 06 24 45.8
comp=N,8μm,8.4s
OKH eLQ 06 26 41.8
OKH AMS AMS 06 28 12.0
comp=N,94μm,14.0s
OKH AMS AMS 06 28 12.0
comp=N,71μm,14.0s
OKH AMS AMS 06 28 12.0
comp=N,100μm,14.0s
JNB Noboribetsu 10.37 253 P **Pn 06 22 48.1 -1.9**
JSK Shakotan 10.38 258 P **Pn 06 22 51.0 +0.8**
JKB Kayabe 10.64 250 P **Pn 06 22 50.6 -3.2**
JKB eS **Sn 06 24 41.4 -11**
JSH Shimam 10.95 255 P **Pn 06 22 57.3 -0.7**
JYM2 Yakumo 2 10.97 252 P **Pn 06 22 55.2 -3.0**
JANG Nango 11.16 242 P **Pn 06 22 55.9 -5.0**
JANG eS **Sn 06 24 50.9 -14**
NKL Nikolayevsk 11.20 312 iP **Pn 06 22 59.0 -2.4**
NKL AMB AMB 06 23 05.0
comp=N,5μm,3.0s
NKL AMB AMB 06 23 05.0
comp=N,2μm,2.0s
NKL AMB AMB 06 23 05.0
comp=N,6μm,2.7s
NKL AMB AMB 06 23 06.0
comp=N,5μm,7.0s
NKL AMB AMB 06 23 06.0
comp=N,9μm,7.0s
NKL AMB AMB 06 23 06.0
comp=N,10μm,7.5s
NKL A 06 25 20.0
comp=N,8μm,8.0s
NKL eL 06 26 07.0
NKL AMS AMS 06 28 10.0
comp=N,39μm,16.0s
NKL AMS AMS 06 28 10.0
comp=N,48μm,16.0s
NKL AMS AMS 06 28 10.0
comp=N,67μm,17.0s
JTM Tenmabayashi 11.20 245 P **Pn 06 22 57.7 -3.7**
JTM eS **Sn 06 24 54.2 -12**
JSR Shiriuchi 11.22 250 P **Pn 06 22 58.8 -2.9**
JTH Tanohata 11.22 240 P **Pn 06 22 57.0 -4.7**
JTH eS **Sn 06 24 51.7 -15**
JOSM Okushiri–Mats 11.58 254 P **Pn 06 23 03.5 -3.1**
JRG Rokugo 12.30 240 P **Pn 06 23 12.5 -3.9**
JIO Ouri 12.50 235 P **Pn 06 23 14.7 -4.5**
JIO eS **Sn 06 25 22.4 -15**
JOG2 Oga 2 12.50 244 P **Pn 06 23 17.7 -1.5**
TEY Ternei 12.56 270 iP **Pn 06 23 20.0 -0.1**
TEY AMB AMB 06 23 24.0
comp=N,420nm,1.0s
TEY AMB AMB 06 23 24.0
comp=N,470nm,1.0s
TEY AMB AMB 06 23 31.0
comp=N,1μm,5.0s
TEY AMB AMB 06 23 31.0
comp=N,8μm,6.0s
TEY AMS AMS 06 29 05.0
comp=N,24μm,13.0s
TEY AMS AMS 06 29 05.0
comp=N,33μm,14.0s
HABR Khabarovsk 13.32 286⇑ iPN **Pn 06 23 32.7 +2.4**
HABR eS **Sn 06 26 02.7 +4.8**
HABR pmax pmax
comp=Z,317nm,2.2s
JYA Atsumi 13.36 240 P **Pn 06 23 27.2 -3.8**
MA2 Magadan 13.41 352 diPN **Pn 06 23 31.1 -0.6**
MA2 eS **Sn 06 26 04.3 +4.0**
MA2 pmax pmax
comp=Z,400nm,0.7s
MA2 pmax pmax
comp=N,100nm,0.5s
MA2 MLR MLR
comp=Z,76μm,16.4s
MA2 Magadan 13.41 352 ePn **Pn 06 23 30.8 -0.9**
JFK Kawauchi 13.53 233 P **Pn 06 26 28.1 -5.2**
JFK eS **Sn 06 25 47.7 -15**
JFY Yanaizu 14.16 236 P **Pn 06 23 38.3 -3.6**
SMY Shemya 14.22 56 eP **Pn 06 23 40.9 -1.8**
SMY pmax pmax
comp=Z,84nm,0.4s
SMY Shemya 14.22 56 eP **Pn 06 23 40.9 -1.8**
comp=Z,84nm,0.4s
KLR Kul'dur 15.52 289 eP **Pn 06 23 56.3 -3.8**
KLR e 06 26 42.5
KLR pmax pmax
comp=Z,1μm,2.6s
MAJO Matsushiro 15.62 237 eP **Pn 06 23 58.6 -2.9**
MAJO pmax pmax
comp=Z,1μm,1.2s
MAJO Matsushiro 15.62 237 ePn **Pn 06 23 58.6 -2.8**
comp=Z,1μm,1.2s
MAT Matsushiro 15.62 237 P **Pn 06 23 58.0 -3.5**
MAT S **Sn 06 26 50.0 -4.1**
MJAR Matsushiro Arr 15.62 237 Pn **Pn 06 23 58.2 -3.3**
comp=Z,3.6nm,0.3s,baz=32,slow=11,SNR=43
MJAR Sn **Sn 06 26 47.0 -7.1**
comp=Z,1.0nm,0.3s,baz=42,slow=15,SNR=3.2
MJAR Matsushiro Arr 15.62 237 P **Pn 06 23 58.2 -3.3**
MJAR
MJAR pmax pmax
comp=Z,4.0nm,0.3s
MJAR smax
comp=N,1.0nm,0.3s
SEY Seymchan 16.64 357⇑ eP **Pn 06 24 12.9 -1.7**
AMKA Amchitka 17.05 64 P **Pn 06 24 21.4 +1.7**
AMKA eSn **Sn 06 27 10.2 -19**
JHJ Hachijo jima 2 17.36 225 P **Pn 06 24 24.6 +1.1**
comp=N,8.9nm,0.3s,baz=277,slow=11,SNR=5.6
JHJ S **Sn 06 27 18.8 -17**
comp=N,31nm,0.3s,baz=240,slow=18,SNR=4.5
ZEA Zeya 18.89 303⇑ eP **Pn 06 24 37.5 -4.8**
ZEA AMB AMB 06 24 45.0
comp=N,3μm,6.0s
ZEA AMB AMB 06 24 45.0
comp=N,11μm,7.0s
ZEA AMB AMB 06 24 45.0
comp=N,14μm,9.0s
ZEA AMB AMB 06 24 45.3
comp=N,740nm,1.8s
ZEA sP sP 06 24 53.0 +3.7
ZEA eS **Sn 06 27 59.0 -14**
ZEA A 06 28 08.0
comp=N,2μm,6.0s
ZEA A 06 28 08.0
comp=N,3μm,13.0s
CN2 Changchun 20.60 273⇑ P **P 06 24 57.3 -3.0**
CN2 eXP sP 06 25 04.3 -3.7
CN2 AMB AMB
comp=Z,30nm,0.6s
CN2 AMB AMB
comp=Z,2μm,7.0s
CN2 LR LR
comp=N,20μm,18.0s,MS5.7
CN2 LR LR
comp=E,22μm,18.0s,MS5.7
CN2 LR LR
comp=Z,27μm,21.0s,MS5.6
CLNS Chul'man 20.98 311 eP **P 06 25 04.7 +0.3**
CLNS e 06 25 11.5
CLNS ePPP 06 25 28.4
CLNS eS **S 06 28 57.3 0.0**
CLNS e 06 29 06.0
CLNS eSS 06 29 30.4
CLNS pmax pmax
comp=Z,170nm,0.6s
CLNS pmax pmax
comp=N,70nm,0.7s
CLNS pmax pmax
comp=E,133nm,0.9s
CLNS smax
comp=N,405nm,1.4s
CLNS smax
comp=Z,123nm,1.1s
CLNS smax
comp=E,233nm,0.9s
CLNS MLR MLR
comp=E,57μm,14.0s,MS6.1
CLNS MLR MLR
comp=Z,69μm,14.0s,MS6.2
CLNS MLR MLR
comp=N,12μm,13.0s,MS6.1
CLNS Chul'man 20.98 311 eP **P 06 25 04.1 -0.3**
NRGR Nerungri 21.02 310 eP **P 06 25 07.2 +2.4**
YAK Yakutsk 21.15 327 eP **P 06 25 05.5 -0.8**
YAK e*PP 06 25 12.1
YAK eS **S 06 28 56.5 -4.3**
YAK eSS 06 29 23.2
YAK pmax pmax
comp=E,94nm,1.0s
YAK pmax pmax
comp=Z,354nm,1.0s,mb5.7
YAK pmax pmax
comp=N,82nm,1.2s
YAK smax
comp=N,4μm,5.3s
YAK smax
comp=Z,4μm,7.6s
YAK smax
comp=E,2μm,3.5s
YAK MLR MLR
comp=Z,16μm,15.0s,MS5.5
YAK MLR MLR
comp=N,14μm,16.0s
YAK Yakutsk 21.15 327 eP **P 06 25 04.6 -1.7**
YAK LR LR
comp=Z,14μm,21.0s,MS5.3
CBIJ Chichi jima 21.56 211 P **P 06 25 11.4 +0.8**
comp=Z,474nm,0.8s,mb6.0,baz=87,slow=2.9,SNR=12
CBIJ S **S 06 28 59.0 -10**
comp=Z,85nm,0.5s,baz=103,slow=21,SNR=3.3
KSRS Korea Array 21.59 255 P **P 06 25 11.9 +1.0**
comp=Z,373nm,0.9s,mb5.8,baz=62,slow=9.3,SNR=54
KSRS PcP PcP 06 29 11.8 -0.8
comp=Z,24nm,1.0s,baz=47,slow=1.3,SNR=6.5
KSRS LR LR 06 34 36.9
comp=Z,6μm,18.3s,MS5.0,baz=60,slow=39
KSRS P3KPbc 06 59 06.0
comp=Z,2.5nm,0.9s,baz=242,slow=5.4,SNR=5.6
JNU Nakatsue 22.35 242 P **P 06 25 19.9 +0.8**
comp=Z,230nm,0.8s,mb5.7,baz=274,slow=25,SNR=23
JNU LR LR 06 32 35.4
comp=Z,23μm,20.2s,MS5.6,baz=252,slow=33
INCN Inchon 22.44 257 P **P 06 25 21.4 +1.3**
SNR=40
INCN Inchon 22.44 257 eP **P 06 25 20.9 +0.8**
comp=Z,684nm,0.9s,mb6.1
INCN LR LR
comp=Z,7μm,22.0s,MS5.0
SNY Shenyang 22.56 270⇑ P **P 06 25 20.3 -1.1**
SNY AP 06 25 24.4
SNY XP sP 06 25 29.4 +0.3
SNY S **S 06 29 24.3 -4.0**
SNY AMB AMB
comp=Z,677nm,0.9s,mb6.1
SNY AMB AMB
comp=Z,8μm,8.4s
SNY LR LR
comp=N,10μm,11.7s,MS5.8
SNY LR LR
comp=E,24μm,15.7s,MS5.8
SNY LR LR
comp=Z,28μm,15.6s,MS5.8
BILL Bilibino 22.57 12 diP **P 06 25 19.8 -1.6**
BILL pmax pmax
comp=Z,89nm,0.7s,mb5.3
BILL MLR MLR
comp=Z,17μm,18.0s,MS5.5
BILL Bilibino 22.57 12 eP **P 06 25 20.2 -1.2**
comp=Z,733nm,1.1s,mb6.0
BILL LR LR
comp=Z,15μm,19.0s,MS5.5
HIA Hailar 23.38 290 eP **P 06 25 26.9 -3.1**
HIA pmax pmax
comp=Z,90nm,0.8s
HIA MLR MLR
comp=Z,22μm,20.0s
HIA Hailar 23.38 290 eP **P 06 25 26.9 -3.0**
comp=Z,90nm,0.8s,mb5.2
HIA LR LR
comp=Z,22μm,20.0s,MS5.6
SPIA Saint Paul Isl 24.09 50 eP **P 06 25 38.0 +1.4**
DL2 Dalian 25.15 265 P **P 06 25 47.0 +0.7**
DL2 S **S 06 30 10.9 +0.6**
DL2 AMB AMB
comp=Z,350nm,1.1s,mb5.8
DL2 AMB AMB
comp=Z,4μm,6.4s
DL2 LR LR
comp=N,5μm,15.2s,MS5.2
DL2 LR LR
comp=E,4μm,15.2s,MS5.2
DL2 LR LR
comp=Z,8μm,14.4s,MS5.3
UNV Unalaska Valle 25.86 59 PFAKE 06 26 00.0 +7.3
UNV LR LR
comp=Z,16μm,21.0s,MS5.5
BOD Bodaibo 26.95 310 eP **P 06 26 00.3 -2.3**
BOD e 06 30 37.1
BOD pmax pmax
comp=Z,187nm,1.0s,mb5.6
CIT Chita 27.05 297 eP **P 06 26 04.0 +0.5**
CIT e 06 26 13.8
CIT e 06 27 01.4
CIT e 06 30 34.8
CIT pmax pmax
comp=Z,315nm,1.6s,mb5.6
TNA Tin City 27.84 33 eP **P 06 26 10.6 +0.1**
comp=Z,117nm,1.3s,mb5.3
TNA LR LR
comp=Z,5μm,20.0s,MS5.1
BJI Beijing 28.41 271 P **P 06 26 19.8 +4.1**
BJI S **S 06 31 02.4 +0.5**
BJI AMB AMB
comp=Z,354nm,0.8s,mb6.0
BJI AMB AMB
comp=Z,4μm,7.5s
BJI LR LR
comp=N,23μm,15.2s,MS5.9
BJI LR LR
comp=E,8μm,15.2s,MS5.9
BJI LR LR
comp=Z,14μm,15.9s,MS5.7
BJI Beijing 28.41 271 P **P 06 26 19.7 +4.0**
BJI S **S 06 31 02.4 +0.5**
BJI pmax pmax
comp=Z,354nm,0.8s,mb6.0
BJI MLR MLR
comp=Z,14μm,15.9s,MS5.7
BJI Beijing 28.41 271 P **P 06 26 19.7 +4.0**
comp=Z,354nm,0.8s,mb6.0
BJI S **S 06 31 02.4 +0.5**
BJI LR LR
comp=Z,14μm,15.9s,MS5.7
BJT Baijiatuau 28.43 271 eP **P 06 26 18.2 +2.4**
BJT pmax pmax
comp=Z,328nm,0.8s
BJT MLR MLR
comp=Z,12μm,19.0s
BJT Baijiatuau 28.43 271 eP **P 06 26 18.2 +2.4**
comp=Z,328nm,0.8s,mb6.0
BJT LR LR
comp=Z,12μm,19.0s,MS5.5
JOW Kunigami 28.46 236 P **P 06 26 15.7 -0.5**
comp=Z,123nm,1.0s,mb5.5,baz=58,slow=8.5,SNR=13
MIDW Midway 28.59 119 PFAKE 06 26 30.0 +13
MIDW LR LR
comp=Z,12μm,22.0s,MS5.5
TIA Tai'an 29.59 263 eP **P 06 26 25.3 -0.9**
TIA AP pP 06 26 32.3 +0.5
TIA XP sP 06 26 35.5 +1.4
TIA S **S 06 31 20.0 -0.4**
TIA AMB AMB
comp=Z,83nm,1.1s,mb5.4
TIA AMB AMB
comp=Z,2μm,7.0s
TIA LR LR
comp=N,4μm,13.0s,MS5.4
TIA LR LR
comp=E,5μm,15.0s,MS5.4
SSE Sheshan 29.85 251 P **P 06 26 29.1 +0.7**
SSE AP pP 06 26 35.3 +1.2
SSE XP sP 06 26 37.3 +0.9
SSE S **S 06 31 23.8 -0.6**
SSE XS sS 06 31 34.5 +0.8
SSE AMB AMB
comp=Z,79nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,1μm,6.0s
SSE LR LR
comp=N,2μm,16.2s,MS5.3
SSE LR LR
comp=E,6μm,16.1s,MS5.3
SSE LR LR
comp=Z,7μm,14.1s,MS5.5
SSE Sheshan 29.85 251 P **P 06 26 29.1 +0.7**
comp=Z,79nm,1.0s,mb5.4
SSE pP pP 06 26 35.2 +1.1
SSE sP sP 06 26 37.3 +0.9
SSE S **S 06 31 23.8 -0.6**
SSE sS sS 06 31 34.5 +0.8
SSE LR LR
comp=Z,7μm,14.1s,MS5.5
NJ2 Nanjing 30.79 255 eP **P 06 26 37.4 +0.6**
NJ2 AP pP 06 26 42.5 +0.1
NJ2 XP sP 06 26 45.4 +0.7
NJ2 PP PP 06 27 40.4 -5.9
NJ2 S **S 06 31 41.5 +2.3**
NJ2 XS sS 06 31 51.0 +2.5
NJ2 AMB AMB
comp=Z,160nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,5μm,4.9s
NJ2 LR LR
comp=N,30μm,15.4s,MS6.2
NJ2 LR LR
comp=E,24μm,14.8s,MS6.2
NJ2 LR LR
comp=Z,42μm,15.4s,MS6.2
HHC Hu-ho-hao-te 31.26 276⇓ eP **P 06 26 41.8 +0.9**
HHC AP pP 06 26 46.8 +0.3
HHC XP sP 06 26 48.8 -0.1
HHC PP PP 06 27 44.6 -6.9
HHC PCP PcP 06 29 37.4 +2.3
HHC S **S 06 31 46.5 0.0**
HHC XS sS 06 31 53.3 -2.5
HHC SCP ScP 06 33 17.3 +0.2
HHC SCS ScS 06 37 15.5 +1.1
HHC AMB AMB
comp=Z,242nm,1.4s,mb5.8
HHC AMB AMB
comp=Z,3μm,8.2s
HHC LR LR
comp=N,17μm,16.5s,MS5.8
HHC LR LR
comp=E,9μm,16.9s,MS5.8
HHC LR LR
comp=Z,13μm,15.9s,MS5.7
ULN Ulaanbaatar 31.91 290⇑ P **P 06 26 45.3 -1.3**
SNR=7.2
ULN Ulaanbaatar 31.91 290 P **P 06 26 44.9 -1.7**
ULN pmax pmax
comp=Z,230nm,1.0s,mb6.0
ULN Ulaanbaatar 31.91 290⇑ iP **P 06 26 46.7 +0.1**
ULN LR LR
comp=Z,16μm,21.0s,MS5.7
SONM Songino Array 32.34 290 P **P 06 26 49.4 -1.0**
comp=Z,67nm,0.9s,mb5.5,baz=70,slow=8.3,SNR=59
SONM PcP PcP 06 29 39.3 +1.3
comp=Z,18nm,0.9s,baz=48,slow=1.5,SNR=3.7
SONM LR LR 06 40 33.1
comp=Z,16μm,18.5s,MS5.7,baz=75,slow=37
SONM P3KPbc 06 58 19.1
comp=Z,0.8nm,0.8s,baz=251,slow=2.8,SNR=5.2
SONM Songino Array 32.34 290 P **P 06 26 49.4 -1.0**
SONM PcP PcP 06 29 39.3 +1.3
SONM LR LR 06 40 33.1
SONM e 06 58 19.1
BTO Baotou 32.42 276 eP **P 06 26 51.8 +0.7**
BTO S **S 06 31 56.0 -8.7**
BTO LR LR
comp=N,2μm,19.6s,MS5.0
BTO LR LR
comp=E,2μm,15.5s,MS5.0
IRK Irkutsk 32.70 299 eP **P 06 26 53.0 -0.5**
IRK e 06 29 34.2
TLY Talaya 33.19 298 P **P 06 26 57.9 +0.1**
comp=E,1μm,1.0s,mb6.7,SNR=39
TLY Talaya 33.19 298 P **P 06 26 57.6 -0.2**
SNR=70
TLY Talaya 33.19 298 eP **P 06 26 57.1 -0.7**
TLY e 06 27 10.1
TLY e 06 28 03.3
TLY e 06 29 36.0
TLY eS **S 06 32 12.1 -4.4**
TLY eSSS 06 34 41.1
TLY pmax pmax
comp=Z,207nm,1.0s,mb6.0
TLY MLR MLR
comp=Z,30μm,15.0s,MS6.1

TLY Talaya 33.19 298 *e*P **P 06 26 57.2 -0.6**
comp=Z,146nm,0.8s,mb6.0
TLY LR LR
comp=Z,5μm,19.0s,MS5.3
IMA2 Indian Mountai 33.57 35 *e*P **P 06 27 00.3 -0.9**
KDAK Kodiak Island 33.62 51 P **P 06 27 00.1 -1.5**
comp=Z,338nm,1.0s,mb6.2,baz=329,slow=4.1,SNR=35
KDAK PcP PcP 06 29 41.7 +0.1
comp=Z,44nm,0.9s,baz=152,slow=2.8,SNR=3.6
KDAK Kodiak Island 33.62 51 *e*P **P 06 27 00.3 -1.3**
comp=Z,430nm,1.1s,mb6.3
KDAK *e*PcP PcP 06 29 41.4 -0.2
KDAK LR LR
comp=Z,2μm,19.0s,MS4.9
GUMO Guam 33.66 197 PFAKE 06 27 10.0 +8.1
GUMO LR LR
comp=Z,5μm,20.0s,MS5.3
ZAK Zakamensk 33.69 296 *e*P **P 06 27 01.6 -0.6**
ZAK *e* 06 29 43.0
ZAK pmax pmax
comp=Z,106nm,1.0s,mb5.7
TATO Taipei 33.89 242 PFAKE 06 27 20.0 +16
TATO LR LR
comp=Z,7μm,19.0s,MS5.4
YHNB Yeheng 34.18 242 *e*P **P 06 27 07.0 +0.5**
YHNB *e*PcP PcP 06 29 46.7 +3.6
SLKM Skilak Lake 34.72 46 *e*P **P 06 27 11.1 0.0**
WHN Wuhan 34.75 257 ⇓P **P 06 27 11.4 0.0**
WHN PCP PcP 06 29 46.8 +2.0
WHN S **S 06 32 37.0 -3.7**
WHN LR LR
comp=Z,21μm,16.8s,MS6.0
MOY Mondy 34.80 299 *e*P **P 06 27 12.8 +1.0**
MOY pmax pmax
comp=Z,221nm,3.0s
PMR Palmer 35.23 44 *e*P **P 06 27 14.5 -1.0**
PMR pmax pmax
comp=Z,300nm,1.1s,mb6.1
PMR Palmer 35.23 44 *e*P **P 06 27 15.0 -0.5**
comp=Z,365nm,1.2s,mb6.2
PMR LR LR
comp=Z,5μm,20.0s,MS5.3
MCK McKinley 35.34 40 *e*P **P 06 27 15.8 -0.7**
MCK pmax pmax
comp=Z,193nm,1.1s,mb5.9
MCK MLR MLR
comp=Z,4μm,21.0s,MS5.2
MCK McKinley 35.34 40 *e*P **P 06 27 15.8 -0.7**
comp=Z,193nm,1.1s,mb5.9
MCK LR LR
comp=Z,4μm,21.0s,MS5.2
SML Sawmill 35.60 43 *e*P **P 06 27 18.1 -0.6**
QZH Quanzhou 35.71 246 ⇑*i*P **P 06 27 21.5 +1.8**
QZH S **S 06 32 59.0 +3.4**
QZH AMB AMB
comp=Z,1μm,1.9s,mb6.5
QZH AMB AMB
comp=Z,5μm,6.2s
QZH LR LR
comp=N,3μm,12.1s
QZH LR LR
comp=E,11μm,22.0s
QZH LR LR
comp=Z,10μm,18.4s
COLA College 35.86 38 P **P 06 27 20.6 -0.3**
COLA pmax pmax
comp=Z,650nm,1.0s,mb6.5
COLA College 35.86 38 *e*P **P 06 27 20.9 0.0**
comp=Z,649nm,0.9s,mb6.6
COLA LR LR
comp=Z,9μm,19.0s,MS5.5
DIV Divide 36.87 44 *e*P **P 06 27 29.1 -0.5**
comp=Z,1μm,1.1s,mb6.6
DIV LR LR
comp=Z,14μm,21.0s,MS5.7
EYAK Cordova Ski Ar 36.93 45 *e*P **P 06 27 30.2 +0.1**
MENT Mentasta 37.71 41 *e*P **P 06 27 37.2 +0.6**
ENH Enshi 38.22 261 PFAKE 06 27 50.0 +9.0
ENH LR LR
comp=Z,3.0nm,21.0s
EGAK Eagle 38.72 38 *e*P **P 06 27 44.2 -1.0**
comp=Z,719nm,0.9s,mb6.4
EGAK LR LR
comp=Z,5μm,19.0s,MS5.4
LZH Lanzhou 38.84 273 *e*P **P 06 27 47.0 +0.8**
LZH AP pP 06 27 56.8 +4.9
LZH XP sP 06 27 59.6 +5.4
LZH S **S 06 33 41.0 -2.1**
LZH XS sS 06 33 56.0 +3.5
LZH AMB AMB
comp=Z,1μm,1.2s,mb6.5
LZH AMB AMB
comp=Z,5μm,4.3s
LZH LR LR
comp=E,14μm,13.8s
LZH LR LR
comp=Z,16μm,16.2s,MS6.0
LZH Lanzhou 38.84 273 *e*P **P 06 27 47.0 +0.8**
comp=Z,1μm,1.2s,mb6.5
LZH PP PP 06 29 28.0 +13
LZH S **S 06 33 41.0 -2.1**
LZH sS sS 06 33 56.0 +3.5
LZH SS SS 06 36 28.0 -6.4
LZH LR LR
comp=Z,16μm,16.2s,MS6.0
CVP Callao Caves 39.30 234 *e*P **P 06 27 50.0 0.0**
DAWY Dawson 39.55 39 *e*P **P 06 27 52.0 -0.1**
GTA Gaotai 39.96 280 P **P 06 27 56.3 +0.8**
GTA AP pP 06 28 00.6 -0.7
GTA XP sP 06 28 03.8 +0.2
GTA PCP PcP 06 30 03.1 +2.4
GTA S **S 06 33 53.4 -6.5**
GTA SCS ScS 06 38 03.8 +2.0
GTA AMB AMB
comp=Z,2μm,4.6s
GTA LR LR
comp=N,14μm,15.7s,MS6.1
GTA LR LR
comp=E,14μm,15.7s,MS6.1
GTA LR LR
comp=Z,14μm,15.7s,MS5.9
HKC Hong Kong 40.42 247 P **P 06 28 04.0 +4.7**
INK Inuvik 41.48 32 P **P 06 28 08.1 0.0**
comp=Z,216nm,0.9s,mb5.8,baz=282,slow=7.1,SNR=163
INK Inuvik 41.48 32 *e*P **P 06 28 07.9 -0.2**
comp=Z,10μm,1.0s
CD2 Chengdu 41.78 267 ⇑*i*P **P 06 28 10.1 -0.5**
CD2 AP pP 06 28 16.1 -0.3
CD2 XP sP 06 28 19.1 +0.5
CD2 PP PP 06 29 49.8 +2.5
CD2 PCP PcP 06 30 06.8 +0.2
CD2 S **S 06 34 25.9 -1.2**
CD2 XS sS 06 34 36.3 -0.3
CD2 SS SS 06 37 27.3 -5.9
CD2 SCS ScS 06 38 09.4 -3.4
CD2 AMB AMB
comp=Z,710nm,1.0s,mb6.2
CD2 AMB AMB
comp=Z,5μm,6.4s
CD2 LR LR
comp=N,7μm,16.6s,MS5.8
CD2 LR LR
comp=E,9μm,15.5s,MS5.8
CD2 LR LR
comp=Z,10μm,15.5s,MS5.8
SKAG Skagway 42.27 46 *e*P **P 06 28 15.7 +1.2**
comp=Z,1μm,2.2s,mb6.2
GYA Guiyang 42.55 259 ⇑*i*P **P 06 28 16.8 0.0**
GYA AP pP 06 28 20.8 -1.8
GYA XP sP 06 28 23.9 -1.0
GYA PP PP 06 29 59.4 +3.8
GYA PCP PcP 06 30 11.3 +2.2
GYA SCP ScP 06 33 59.8 +0.8
GYA S **S 06 34 39.3 +0.9**
GYA SS SS 06 37 42.3 -6.0
GYA SCS ScS 06 38 16.6 -0.9
GYA AMB AMB
comp=Z,290nm,0.9s,mb6.0
GYA AMB AMB
comp=Z,2μm,7.2s
GYA LR LR
comp=N,5μm,17.1s,MS5.6
GYA LR LR
comp=E,3μm,14.0s,MS5.6
GYA LR LR
comp=Z,5μm,15.9s,MS5.5
TGY Tagaytay City 42.72 232 P **P 06 28 18.1 -0.1**
comp=Z,103nm,0.3s,baz=90,slow=16,SNR=2.4
TGY Tagaytay City 42.72 232 P **P 06 28 18.1 -0.1**
TGY pmax pmax
comp=Z,103nm,0.3s
SIT Sitka 42.92 49 *e*P **P 06 28 22.3 +2.5**
SIT pmax pmax
comp=Z,680nm,1.9s,mb6.0
SIT MLR MLR
comp=Z,7μm,20.0s,MS5.5
SIT Sitka 42.92 49 *e*P **P 06 28 22.3 +2.5**
comp=Z,680nm,1.9s,mb6.0
SIT LR LR
comp=Z,7μm,20.0s,MS5.5
ZAL Zalesovo 43.61 306 P **P 06 28 24.1 -1.3**
comp=Z,51nm,1.0s,mb5.2,baz=50,slow=9.2,SNR=60
PcP PcP
ZAL comp=Z,23nm,0.9s,baz=341,slow=1.3,SNR=4.4 06 30 13.4 +0.8
ZAL LR LR 06 49 14.2
comp=Z,24μm,18.4s,MS6.1,baz=40,slow=40
ZAL Zalesovo 43.61 306 P **P 06 28 24.1 -1.3**
ZAL 06 30 13.5
ZAL pmax pmax
comp=Z,51nm,1.0s
ZAL MLR MLR
comp=Z,24μm,18.4s
NVS Novosibirsk 44.16 308 *e*P **P 06 28 28.2 -1.6**
NVS *e*S **S 06 34 55.7 -6.3**
NVS *e*SS SS 06 38 12.9 -6.9
NVS pmax pmax
comp=E,556nm,2.1s
NVS pmax pmax
comp=Z,646nm,2.1s,mb6.0
NVS pmax pmax
comp=N,335nm,2.4s
NVS smax
comp=N,94nm,1.8s
NVS smax
comp=E,46nm,1.8s
CRAG Craig 44.58 51 *e*P **P 06 28 35.2 +2.0**
comp=E,496nm,1.5s,mb6.1
WRAK Wrangell Islan 44.67 49 *e*P **P 06 28 35.8 +1.8**
comp=E,454nm,1.5s,mb6.1
WRAK LR LR
comp=Z,5μm,19.0s,MS5.4
DLBC Dease Lake 45.19 46 *e*P **P 06 28 39.5 +1.4**
QIZ Qiongzhong 45.57 249 P **P 06 28 42.5 +1.5**
QIZ AP pP 06 28 46.8 -0.1
QIZ PPP 06 31 13.8
QIZ S **S 06 35 26.8 +4.4**
QIZ SS SS 06 38 38.6 -7.8
QIZ AMB AMB
comp=Z,55nm,1.0s,mb5.4
QIZ AMB AMB
comp=Z,2μm,8.0s
QIZ LR LR
comp=N,7μm,18.5s,MS5.8
QIZ LR LR
comp=E,6μm,16.6s,MS5.8
QIZ LR LR
comp=Z,7μm,17.7s,MS5.7
QIZ Qiongzhong 45.57 249 PFAKE 06 28 50.0 +9.0
QIZ LR LR
comp=Z,4μm,19.0s,MS5.4
WMQ Urumqi 45.94 292 ⇑P **P 06 28 43.6 -0.3**
WMQ AP pP 06 28 48.1 -1.7
WMQ XP sP 06 28 50.6 -1.4
WMQ PCP PcP 06 30 21.4 +0.7
WMQ PP PP 06 30 31.5 -0.2
WMQ PPP 06 31 15.0
WMQ SCP ScP 06 34 12.4 -0.4
WMQ S **S 06 35 27.3 -0.4**
WMQ XS sS 06 35 35.0 -2.2
WMQ AMB AMB
comp=Z,160nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,640nm,6.8s
WMQ LR LR
comp=N,8μm,18.1s,MS5.9
WMQ LR LR
comp=E,8μm,15.1s,MS5.9
WMQ LR LR
comp=Z,14μm,16.3s,MS6.0
KMI Kunming 46.10 261 P **P 06 28 45.8 +0.6**
KMI AP pP 06 28 51.9 +0.9
KMI XP sP 06 28 54.8 +1.5
KMI PP PP 06 30 38.1 +4.7
KMI PPP 06 31 20.3
KMI S **S 06 35 31.8 +1.8**
KMI AMB AMB
comp=Z,61nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,3μm,6.7s
KMI LR LR
comp=N,3μm,15.2s,MS5.6
KMI LR LR
comp=E,4μm,15.2s,MS5.6
KMI LR LR
comp=Z,6μm,15.2s,MS5.6
KMI Kunming 46.10 261 P **P 06 28 45.8 +0.6**
KMI *PP pP 06 28 51.9 +0.9
KMI *SP sP 06 28 54.8 +1.5
KMI 06 30 38.1
KMI PPP 06 31 20.3
KMI S **S 06 35 31.8 +1.8**
KMI *SS sS 06 35 46.8 +7.2
KMI pmax pmax
comp=Z,61nm,1.1s,mb5.4
KMI MLR MLR
comp=Z,6μm,15.2s,MS5.6
KMI Kunming 46.10 261 P **P 06 28 45.8 +0.6**
comp=Z,61nm,1.1s,mb5.4
KMI pP pP 06 28 51.9 +0.9
KMI sP sP 06 28 54.8 +1.5
KMI PP PP 06 30 38.1 +4.7
KMI PPP 06 31 20.3
KMI S **S 06 35 31.8 +1.8**
KMI sS sS 06 35 46.8 +7.2
KMI SS SS 06 38 57.1 +2.0
KMI LR LR
comp=Z,6μm,15.2s,MS5.6
DAV Davao City (W) 46.37 221 PFAKE 06 29 00.0 +13
DAV LR LR
comp=Z,3μm,19.0s,MS5.3
MK31 Makanchi Array 47.95 298 *e*P **P 06 28 59.2 -0.5**
MKAR Makanchi Array 47.95 298 P **P 06 28 59.0 -0.7**
comp=Z,34nm,0.6s,mb5.5,baz=67,slow=6.3,SNR=150
MKAR PcP PcP 06 30 29.4 +1.6
comp=Z,20nm,0.7s,baz=70,slow=5.2,SNR=3.4
MKAR S **S 06 35 53.4 -3.0**
comp=Z,5.5nm,1.1s,baz=56,slow=18,SNR=3.1
MKAR LR LR 06 49 59.2
comp=Z,11μm,19.2s,MS5.8,baz=63,slow=37
MKAR Makanchi Array 47.95 298 P **P 06 28 59.0 -0.7**
MKAR 06 30 29.4
MKAR S **S 06 35 53.4 -3.0**
MKAR pmax pmax
comp=Z,34nm,0.6s
MKAR smax
comp=N,6.0nm,1.1s
MKAR MLR MLR
comp=Z,11μm,19.2s
MKAR Makanchi Array 47.95 298 P **P 06 28 59.0 -0.7**
MKAR PcP PcP 06 30 29.4 +1.6
MKAR S **S 06 35 53.4 -3.0**
MKAR LR LR 06 49 59.1
KURK Kurchatov 48.35 304 P **P 06 29 01.8 -1.0**
comp=Z,832nm,1.1s,mb6.7,SNR=67
KURK Kurchatov 48.35 304 P **P 06 29 01.1 -1.7**
KURK pmax pmax
comp=Z,62nm,0.9s,mb5.6
POHA Pohakuloa 48.57 106 PFAKE 06 29 20.0 +15
POHA LR LR
comp=Z,6μm,21.0s,MS5.5
KHU Kahuku 48.88 106 *e*P **P 06 29 07.8 +1.0**
ALE Alert 50.03 6 P **P 06 29 15.0 -0.6**
comp=Z,654nm,0.6s,mb6.8,SNR=16
YKW3 Yellowknife Ar 50.64 37 *e*P **P 06 29 20.0 -0.2**
YKA Yellowknife Ar 50.67 37 P **P 06 29 19.8 -0.6**
comp=Z,97nm,0.7s,mb5.8,baz=295,slow=7.0,SNR=84
YKA PcP PcP 06 30 38.8 +1.1
comp=Z,21nm,1.0s,baz=302,slow=3.6,SNR=6.2
YKA LR LR 06 52 06.2
comp=Z,3μm,20.8s,MS5.3,baz=230,slow=38
YKA Yellowknife Ar 50.67 37 P **P 06 29 19.8 -0.7**
YKA 06 30 38.8
YKA pmax pmax
comp=Z,97nm,0.7s
YKA MLR MLR
comp=Z,3μm,20.8s
YKA Yellowknife Ar 50.67 37 P **P 06 29 19.8 -0.6**
YKA PcP PcP 06 30 38.8 +1.1
YKA LR LR 06 52 06.2
RES Resolute Bay 50.90 19 *e*P **P 06 29 22.2 0.0**
RES pmax pmax
comp=Z,180nm,0.9s,mb6.0
RES Resolute Bay 50.90 19 *e*P **P 06 29 21.8 -0.4**
LSA Lhasa 51.23 274 P **P 06 29 27.0 +2.3**
LSA PCP PcP 06 30 38.8 -1.0
LSA PP PP 06 31 25.9 +4.3
LSA PCS PcS 06 34 38.4 +0.9
LSA S **S 06 36 48.1 +5.8**
LSA AMB AMB
comp=Z,3μm,8.1s
LSA LR LR
comp=N,4μm,32.4s
LSA LR LR
comp=E,6μm,39.2s
LSA LR LR
comp=Z,8μm,28.4s,MS5.6
LSA Lhasa 51.23 274 *e*P **P 06 29 26.8 +2.1**
comp=Z,305nm,0.9s,mb6.2
LSA LR LR
comp=Z,4μm,20.0s,MS5.4
CHKZ Chkalovo 51.39 311 P **P 06 29 24.8 -1.1**
CHKZ pmax pmax
comp=Z,200nm,1.0s,mb6.0
CHKZ Chkalovo 51.39 311 *e*P **P 06 29 24.6 -1.3**
comp=Z,214nm,0.8s,mb6.1
VOSK Vostochnaya 51.65 310 P **P 06 29 26.6 -1.3**
VOSK pmax pmax
comp=Z,103nm,0.9s,mb5.8
NANT Nan 51.77 257 ⇓P **P 06 29 27.0 -1.7**
comp=Z,662nm,1.0s,mb6.5
BVAR Borovoye Array 51.82 310 P **P 06 29 28.3 -0.8**
comp=Z,82nm,0.9s,mb5.7,baz=60,slow=7.5,SNR=59
BVAR S **S 06 36 49.9 -0.6**
comp=Z,2.3nm,0.6s,baz=92,slow=8.9,SNR=3.6
BVAR LR LR 06 53 57.2
comp=Z,11μm,18.2s,MS5.9,baz=320,slow=39
BVAR Borovoye Array 51.82 310 P **P 06 29 28.3 -0.8**
BVAR S **S 06 36 49.9 -0.6**
BVAR pmax pmax
comp=Z,82nm,0.9s
BVAR smax
comp=N,2.0nm,0.6s
BVAR MLR MLR
comp=Z,11μm,18.2s
BVA2 Borovoye Array 51.82 310 P **P 06 29 28.4 -0.7**
BVA2 pmax pmax
comp=Z,19nm,1.0s,mb5.0
BRVK Borovoye 51.86 310 P **P 06 29 28.5 -0.9**
comp=Z,822nm,1.2s,mb6.5,SNR=40
BRVK Borovoye 51.86 310 ⇑P **P 06 29 28.8 -0.7**
SNR=59
BRVK Borovoye 51.86 310 P **P 06 29 29.5 +0.1**
BRVK pmax pmax
comp=Z,56nm,1.1s,mb5.4
BRVK Borovoye 51.86 310 *e*P **P 06 29 28.6 -0.9**
comp=Z,129nm,1.0s,mb5.8
BRVK LR LR
comp=Z,3μm,20.0s,MS5.3
KKM Kota Kinabalu 51.96 231 P **P 06 29 32.9 +2.8**
KKM Kota Kinabalu 51.96 231 *e*P **P 06 29 31.6 +1.5**
IMP Imphal 52.38 268 *e*P **P 06 29 33.0 -0.3**
IMP *e*S **S 06 37 01.0 +2.8**
TSM Tawau 52.55 228 P **P 06 29 37.0 +2.5**
ZRNK Zerenda 52.59 311 *e*P **P 06 29 34.0 -0.8**
ZRNK pmax pmax
comp=Z,67nm,0.8s,mb5.6
ZRNK Zerenda 52.59 311 *e*P **P 06 29 34.0 -0.8**
comp=Z,67nm,0.8s,mb5.6
C03A Quillayute Air 52.62 57 ⇓P **P 06 29 34.9 -0.1**
baz=52
PGC Sidney 52.90 55 *e*P **P 06 29 35.7 -1.4**
comp=Z,341nm,1.3s,mb6.1
CHG Chiang Mai 52.95 258 ⇑P **P 06 29 37.9 +0.4**
comp=Z,120nm,1.0s,mb5.8
CHTO Chiang Mai 52.95 258 P **P 06 29 38.7 +1.2**
SNR=28
CHTO Chiang Mai 52.95 258 *e*P **P 06 29 38.0 +0.5**
CHTO pmax pmax
comp=Z,174nm,1.3s,mb5.8
CHTO MLR MLR
comp=Z,3μm,19.0s,MS5.4
CHTO Chiang Mai 52.95 258 *e*P **P 06 29 38.0 +0.5**
comp=Z,174nm,1.3s,mb5.8
CHTO LR LR
comp=Z,3μm,19.0s,MS5.4
AAA Alma-Ata 52.98 297 *i*P **P 06 29 40.8 +3.1**
AAA *i*S **S 06 37 04.9 -1.5**
AAA pmax pmax
comp=Z,3μm,4.3s
AAA smax
comp=E,1μm,5.9s
AAA MLR MLR
comp=Z,4μm,12.4s,MS5.6
AAA Alma-Ata 52.98 297 *e*P **P 06 29 39.7 +2.0**
KBS Kingsbay 53.02 352 *e* **P 06 29 38.3 +0.3**
KBS *e*P 06 29 38.3
KBS AMb AMB 06 29 46.6
comp=Z,205nm,1.4s,mb5.9
KBS *e*S **S 06 37 06.7 -0.2**
KBS AMS AMS 06 56 30.9
comp=Z,2μm,18.5s,MS5.2
KBS Kingsbay 53.02 352 *e*P **P 06 29 38.1 +0.1**
KBS pmax pmax
comp=Z,96nm,1.0s,mb5.7
KBS MLR MLR
comp=Z,3μm,20.0s,MS5.4
KBS Kingsbay 53.02 352 *e*P **P 06 29 38.1 +0.1**
comp=Z,96nm,1.0s,mb5.7
KBS LR LR
comp=Z,3μm,20.0s,MS5.4
SPB4 Spitsbergen Ar 53.16 350 *e*P **P 06 29 39.0 0.0**
B04A Port Angeles 53.17 56 ⇓P **P 06 29 39.0 -0.1**
baz=53
CM31 Chiang Mai Arr 53.20 258 *e*P **P 06 29 40.8 +1.5**
comp=Z,21nm,0.6s,mb5.2
CM31 LR LR
comp=Z,4μm,20.0s,MS5.5
SHL Shillong 53.30 270 *e*P **P 06 29 40.0 -0.1**
SHL *ex* x 06 37 25.0
NLWA Neilton Lookou 53.30 57 PFAKE 06 29 50.0 +10
NLWA LR LR
comp=Z,3μm,20.0s,MS5.4
NLWA Neilton Lookou 53.30 57 ⇑P **P 06 29 39.4 -0.7**
baz=53,SNR=7.6
C04A Brinnon 53.65 56 ⇑P **P 06 29 42.4 -0.3**
baz=53
MBW Mount Baker 53.71 55 P **P 06 29 42.9 -0.2**
A06A Chilliwack 53.78 54 ⇓P **P 06 29 43.9 +0.3**
baz=54
GNW Green Mountain 53.82 56 *e*P **P 06 29 46.3 +2.4**
E03A Lebam 53.93 58 ⇑P **P 06 29 44.8 +0.1**
baz=54
ULHL Ulahol 53.97 296 P **P 06 29 45.8 +0.8**
SNR=50
BDT Bhumibol Dam 54.01 257 P **P 06 29 49.0 +3.8**
TKM2 Tokmak 2 54.01 297 P **P 06 29 45.6 +0.3**
SNR=50
RPW Rockport 54.10 55 P **P 06 29 46.2 +0.3**
NST Nakhon Sawan 54.37 254 P **P 06 29 49.0 +1.1**
E04A Onalaska 54.39 57 ⇑P **P 06 29 48.8 +0.7**
baz=54,SNR=5.8
C05A Tolt Reservoir 54.40 56 ⇓P **P 06 29 48.1 0.0**
baz=54,SNR=18
GTK Gangtok 54.44 274 *e*P **P 06 29 48.0 -0.4**
CHMS Chumysh 54.48 298 P **P 06 29 49.0 +0.3**
SNR=25
USP Ospenovka 54.49 298 P **P 06 29 49.3 +0.5**
SNR=62
D05A Enumclaw 54.50 56 ⇑P **P 06 29 49.7 +0.8**
baz=54,SNR=13
KBK Karagaybulak 54.55 297 P **P 06 29 49.6 +0.4**
SNR=34
FRU Bishkek 54.66 297 ⇑*i*P **P 06 29 50.5 +0.5**
FRU *e*S **S 06 37 31.0 +2.0**
FRU *i*S **S 06 37 34.0 +5.0**
FRU *e* 06 39 38.0

FRU *e* 06 41 08.0
FRU pmax pmax
comp=Z,1μm,2.8s,mb6.5
KZA Kyzart 54.68 296 P **P**
SNR=44
G03A Yamhill 54.75 59 ⇑P **P** **06 29 52.0 +1.4**
baz=54
AGT Agartala 54.83 269 *ex* **P** **06 29 55.0 +3.8**
AAK Ala-Archa 54.84 297 P **P** **06 29 50.5 -0.8**
comp=Z,844nm,0.8s,mb6.8,SNR=72
AAK Ala-Archa 54.84 297 P **P** **06 29 51.8 +0.5**
SNR=67
AAK Ala-Archa 54.84 297 P **P** **06 29 50.8 -0.5**
AAK LR LR
comp=Z,3μm,19.0s,MS5.4
B07A Winthrop 54.88 54 ⇓P **P** **06 29 52.8 +1.2**
baz=55,SNR=24
F04A Amboy 54.93 58 ⇑P **P** **06 29 53.6 +1.7**
baz=55,SNR=9.0
E05A Randle 54.97 57 ⇓P **P** **06 29 53.1 +0.9**
baz=55,SNR=12
SOKR Solikamsk 54.98 322 ⇓*i*P **P** **06 29 52.1 -0.2**
SOKR *e* 06 30 03.0
SOKR S **S** **06 37 26.5 -6.8**
SOKR pmax pmax
comp=Z,240nm,1.4s,mb6.0
SOKR MLR MLR
comp=Z,7μm,16.0s,MS5.8
UCH Uchtor 55.05 297 P **P** **06 29 53.8 +1.0**
SNR=21
A08A Turner Farm, O 55.09 53 ⇑P **P** **06 29 54.2 +1.0**
baz=55,SNR=30
H03A Soap Creek Ran 55.09 60 ⇑P **P** **06 29 53.1 -0.1**
baz=55
COR Corvallis 55.14 60 *e*P **P** **06 29 52.1 -1.4**
COR pmax pmax
comp=Z,436nm,1.2s,mb6.4
COR Corvallis 55.14 60 *e*P **P** **06 29 52.1 -1.3**
comp=Z,436nm,1.2s,mb6.4
I02A Mapleton 55.14 60 ⇑P **P** **06 29 53.5 +0.1**
baz=55
D06A Cle Elum 55.16 56 ⇓P **P** **06 29 53.3 -0.3**
baz=55,SNR=15
EKS2 Erkin-Say 55.27 298 P **P** **06 29 54.9 +0.5**
SNR=61
G04A Mulino 55.29 59 ⇓P **P** **06 29 54.9 +0.4**
baz=55,SNR=8.3
C07A Waterville 55.33 55 ⇓P **P** **06 29 55.6 +0.7**
baz=55,SNR=19
B08A Colville Reser 55.38 54 ⇓P **P** **06 29 55.8 +0.6**
baz=55,SNR=48
K01A Sixes 55.41 62 ⇑P **P** **06 29 55.8 +0.3**
baz=55
E06A Yakima 55.43 57 ⇓P **P** **06 29 56.1 +0.5**
baz=55,SNR=16
A09A Danville 55.46 53 ⇓P **P** **06 29 55.7 -0.1**
baz=55,SNR=120
KEBM Edson Butte 55.46 62 *e*P **P** **06 29 59.7 +3.9**
I03A Eugene 55.49 60 ⇑P **P** **06 29 56.3 +0.3**
baz=55,SNR=14
SSOR Sweet Springs 55.49 59 P **P** **06 29 57.2 +1.2**
F05A White Salmon 55.52 57 ⇓P **P** **06 29 57.3 +1.1**
baz=55,SNR=5.8
AML Almayashu 55.61 297 P **P** **06 29 58.1 +1.2**
SNR=41
J02A Umpqua 55.65 61 ⇑P **P** **06 29 57.0 -0.2**
baz=55,SNR=12
D07A Quincy 55.65 55 ⇓P **P** **06 29 57.1 0.0**
baz=55,SNR=11
KSH Kashi 55.66 293 ⇑P **P** **06 29 59.8 +2.6**
KSH *e*AP pP 06 30 07.9 +4.7
KSH *e*XP sP 06 30 10.8 +5.4
KSH *e*PCP PcP 06 30 58.3 +1.7
KSH *e*PP PP 06 32 05.3 +3.8
KSH *e*PPP 06 33 19.6
KSH *e*SCP ScP 06 34 56.8 +2.2
KSH *e*S **S** **06 37 43.1 +0.6**
KSH *e*XS sS 06 37 51.8 -0.4
KSH *e*PS 06 38 02.8
KSH *e*SCS ScS 06 39 43.1 -2.4
KSH *e*SS SS 06 41 26.5 -1.2
KSH AMB AMB
comp=Z,26μm,3.4s
HOOD Mount Hood Mea 55.71 58 *e*P **P** **06 29 58.9 +1.3**
H04A Detroit Lake 55.75 59 P **P** **06 29 58.4 +0.6**
baz=56,SNR=30
HNR Honiara 55.76 173 P **P** **06 29 58.7 +0.8**
comp=Z,51nm,0.4s,mb6.0,baz=269,slow=7.3,SNR=2.9
HNR LR LR 06 48 09.3
comp=Z,4μm,22.0s,MS5.5,baz=0.4,slow=30
HNR Honiara 55.76 173 P **P** **06 29 58.7 +0.8**
HNR pmax pmax
comp=Z,51nm,0.4s,mb5.9
BJO Bjornoya 55.76 347 *e*P **P** **06 29 59.5 +1.5**
BJO *e*S **S** **06 37 44.5 +0.6**
BJO *e*SS SS 06 41 35.5 +6.2
BJO AMS AMS 07 02 19.3
comp=Z,2μm,14.5s,MS5.4
EPH Ephrata 55.78 55 P **P** **06 29 57.1 -0.9**
BJO1 Bjornoya 55.80 347 *e*P **P** **06 29 59.5 +1.3**
BJO1 LR LR
comp=Z,2μm,14.5s,MS5.4
C08A Higginbotham F 55.85 54 ⇓P **P** **06 29 58.2 -0.4**
baz=56,SNR=15
KBO Bosley Butte 55.90 62 *e*P **P** **06 30 02.7 +3.8**
PMG Port Moresby 55.90 189 LR LR 06 51 50.6
comp=Z,1μm,19.8s,MS5.0,baz=61,slow=34
PMG Port Moresby 55.90 189 *e*P **P** **06 29 59.0 0.0**
PMG pmax pmax
comp=Z,101nm,1.0s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 55.90 189 *e*P **P** **06 29 59.0 +0.1**
comp=Z,101nm,1.0s,mb5.8
PMG LR LR
comp=Z,2μm,20.0s,MS5.1
EDM Edmonton 55.90 47 *e*P **P** **06 29 58.3 -0.7**
JIRN Jiri 55.91 276 *e*P **P** **06 30 00.2 +1.2**
comp=Z,1μm,0.8s,mb6.9
ARU Arti 55.92 318 P **P** **06 29 58.0 -1.1**
comp=Z,2μm,0.6s,SNR=24
ARU Arti 55.92 318 ⇑*i*P **P** **06 29 58.1 -1.0**
ARU *e* 06 30 58.1
ARU *e* 06 32 01.6
ARU *e*PPP 06 33 19.5
ARU *e*S **S** **06 37 46.7 +0.7**
ARU *e* 06 39 46.6
ARU *e*SS SS 06 41 37.1 +5.2
ARU *e*SSS 06 43 36.0
ARU pmax pmax
comp=Z,226nm,0.9s,mb6.2
ARU MLR MLR
comp=Z,10μm,17.0s,MS6.0
ARU MLR MLR
comp=N,6μm,19.0s,MS5.9
ARU MLR MLR
comp=E,7μm,16.0s,MS5.9
ARU Arti 55.92 318 *e*P **P** **06 29 58.2 -0.9**
comp=E,202nm,0.6s,mb6.3
ARU LR LR
comp=Z,2μm,20.0s,MS5.3
G05A Wamic 55.95 58 ⇓P **P** **06 29 59.5 +0.1**
baz=56,SNR=13
GUN Gumba 55.97 276 *e*P **P** **06 30 00.5 +1.1**
F06A Goldendale 55.98 57 ⇑P **P** **06 29 59.6 +0.1**
baz=56,SNR=17
B09A Rice 56.00 53 ⇑P **P** **06 29 59.5 -0.2**
baz=56,SNR=44
J03A Ideyld Park 56.01 61 ⇑P **P** **06 30 00.2 +0.4**
baz=56,SNR=14
A10A Northport 56.02 53 ⇓P **P** **06 29 59.9 +0.1**
baz=56
K02A Glendale 56.03 62 ⇑P **P** **06 30 00.1 +0.2**
baz=56,SNR=11
E07A Sunnyside 56.07 56 ⇓P **P** **06 30 00.0 -0.1**
baz=56,SNR=20
I04A Tendick Farm, 56.11 60 ⇓P **P** **06 30 01.1 +0.7**
baz=56,SNR=24
M01C Crescent City 56.17 63 ⇓P **P** **06 30 01.3 +0.5**
baz=56
OD2 Odessa Site #2 56.26 55 P **P** **06 30 00.4 -1.1**
C09A Chrisman Ranch 56.28 54 ⇓P **P** **06 30 01.5 -0.2**
baz=56,SNR=36
L02A Cave Junction 56.31 62 ⇓P **P** **06 30 01.9 0.0**
baz=56,SNR=11
D08A Wollman Farm, 56.33 55 ⇑P **P** **06 30 01.8 -0.1**
baz=56,SNR=8.8
H05A Madras 56.34 59 ⇓P **P** **06 30 02.1 0.0**
baz=56,SNR=21
HAWA Hanford 56.35 56 *e*P **P** **06 30 01.8 -0.4**
comp=Z,209nm,1.3s,mb6.0
HAWA LR LR
comp=Z,2μm,20.0s,MS5.1
G06A Carlson Farm, 56.36 58 ⇑P **P** **06 30 02.6 +0.4**
baz=56,SNR=14
F07A Phinny Hill Vi 56.40 57 ⇓P **P** **06 30 03.2 +0.7**
baz=56,SNR=17
VTHM Trough 56.43 58 P **P** **06 30 03.3 +0.6**
HUMO Hull Mountain 56.45 61 *e*P **P** **06 30 03.8 +0.9**
comp=Z,259nm,1.4s,mb6.1
HUMO LR LR
comp=Z,2μm,19.0s,MS5.3
HUMO Hull Mountain 56.45 61 ⇑P **P** **06 30 03.8 +0.9**
baz=56,SNR=12
KKN Kakani 56.46 276 *e*P **P** **06 30 04.1 +1.2**
comp=Z,814nm,0.9s,mb6.8
KRMB Red Mountain 56.48 63 *e*P **P** **06 30 04.5 +1.4**
PKI Pulchoki 56.51 276 *e*P **P** **06 30 04.1 +0.8**
comp=Z,774nm,1.1s,mb6.7
E08A Dider Farm, El 56.56 56 ⇓P **P** **06 30 03.9 +0.2**
baz=56,SNR=6.5
B10A Chitwood Farm, 56.59 53 ⇑P **P** **06 30 04.1 +0.3**
baz=56,SNR=12
I05A Bend 56.59 59 P **P** **06 30 04.7 +0.8**
baz=56,SNR=20
J04A Umpqua Nationa 56.60 60 ⇓P **P** **06 30 04.3 +0.3**
baz=56,SNR=15
NEW Newport 56.66 53 P **P** **06 30 03.5 -0.8**
comp=Z,123nm,1.1s,mb5.8,baz=312,slow=6.3,SNR=51
NEW Newport 56.66 53 *e*P **P** **06 30 02.4 -2.0**
NEW pmax pmax
comp=Z,228nm,1.3s
NEW MLR MLR
comp=Z,2μm,20.0s
NEW Newport 56.66 53 *e*P **P** **06 30 02.4 -2.0**
comp=Z,228nm,1.3s,mb6.0
NEW LR LR
comp=Z,2μm,20.0s,MS5.3
D09A Jones Farm, Ri 56.67 55 P **P** **06 30 04.1 -0.3**
baz=56,SNR=26
A11A Hall Mountain, 56.69 52 P **P** **06 30 04.8 +0.2**
baz=56,SNR=53
DMN Daman 56.69 276 *e*P **P** **06 30 05.8 +1.2**
comp=Z,943nm,0.8s,mb6.9
GKN Gorkha 56.77 277 *e*P **P** **06 30 05.8 +0.7**
comp=Z,1μm,1.0s,mb7.0
VIPM Ingram Point 56.77 58 P **P** **06 30 05.1 -0.1**
C10A Spilker Farm, 56.81 54 P **P** **06 30 05.0 -0.5**
baz=57,SNR=19
JCC Jacoby Creek 56.81 64 ⇓P **P** **06 30 05.8 +0.4**
baz=57,SNR=7.3
H06A Linguist Farm 56.81 58 P **P** **06 30 05.5 +0.1**
baz=57,SNR=39
NNT Nongplab 56.87 252 P **P** **06 30 09.4 +3.6**
G07A Ruggs Ranch, H 56.90 57 P **P** **06 30 06.8 +0.7**
baz=57,SNR=20
KHMM Horse Mountain 56.96 64 *e*P **P** **06 30 08.1 +1.6**
B11A Sandpoint 56.98 53 P **P** **06 30 06.9 +0.2**
baz=57,SNR=37
KKAR Karatay Array 57.00 300 *i* P **P** **06 30 06.4 -0.4**
KKAR pmax pmax
comp=Z,27nm,0.7s,mb5.4
DAG Danmarks Havn 57.06 358 ⇑*i*P **P** **06 30 06.0 -1.2**
DAG
comp=Z,56nm,1.1s,mb5.5
DAG
comp=Z,5μm,18.0s
DAG Danmarks Havn 57.06 358 ⇑*i*P **P** **06 30 06.0 -1.2**
DAG pmax pmax
comp=Z,56nm,1.1s,mb5.5
DAG MLR MLR
comp=N,4μm,18.0s
DAG MLR MLR
comp=Z,5μm,18.0s,MS5.6
BUOR Burton Butte 57.07 61 P **P** **06 30 08.0 +0.7**
E09A Wood Farm, Sta 57.07 55 P **P** **06 30 07.2 0.0**
baz=57,SNR=44
A12A Yaak River Ran 57.09 52 P **P** **06 30 07.8 +0.4**
baz=57,SNR=31
YBH Yreka Blue Hor 57.10 62 P **P** **06 30 07.9 +0.4**
comp=Z,142nm,1.1s,mb5.9,baz=293,slow=2.8,SNR=43
YBH Yreka Blue Hor 57.10 62 *e*P **P** **06 30 08.2 +0.7**
YBH pmax pmax
comp=Z,170nm,1.1s
YBH MLR MLR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 57.10 62 *e*P **P** **06 30 08.2 +0.7**
comp=Z,170nm,1.1s,mb6.0
YBH LR LR
comp=Z,2μm,20.0s,MS5.2
YBH Yreka Blue Hor 57.10 62 P **P** **06 30 08.7 +1.3**
baz=57,SNR=40
J05A Fort Rock 57.10 60 P **P** **06 30 08.4 +0.9**
baz=57,SNR=42
F08A Pendleton 57.12 56 ⇑P **P** **06 30 09.0 +1.3**
baz=57,SNR=31
DANN Dangsing 57.15 278 *e*P **P** **06 30 10.1 +2.3**
comp=Z,7.7nm,0.8s
K04A Chilquin 57.19 61 ⇓P **P** **06 30 09.2 +1.1**
baz=57,SNR=10
M02C Callahan 57.21 63 ⇑P **P** **06 30 08.7 +0.5**
baz=57,SNR=27
VSP Spence Mountai 57.21 61 P **P** **06 30 11.2 +2.9**
N02C Big Bar 57.26 63 ⇑P **P** **06 30 09.7 +1.1**
baz=57,SNR=14
G08A Pilot Rock 57.30 57 P **P** **06 30 09.3 +0.4**
baz=57,SNR=25
O01C Eel River Cons 57.33 64 ⇑P **P** **06 30 09.4 +0.3**
baz=57,SNR=10.0
I06A Prineville 57.34 59 ⇓P **P** **06 30 09.6 +0.4**
baz=57,SNR=36
L04A Klamath Falls 57.34 61 ⇑P **P** **06 30 09.2 0.0**
baz=57,SNR=23
B12A Libby 57.39 52 ⇓P **P** **06 30 09.8 +0.3**
baz=57,SNR=7.8
LVZ Lovozero 57.49 337 P **P** **06 30 09.6 -0.6**
comp=Z,817nm,1.2s,mb6.6,SNR=9.9
LVZ Lovozero 57.49 337 *e*⇑*i*P **P** **06 30 10.1 -0.1**
LVZ *e*S **S** **06 38 07.5 +0.8**
LVZ *e*SS SS 06 42 00.9 +4.4
LVZ pmax pmax
comp=Z,167nm,1.2s,mb5.9
LVZ pmax pmax
comp=N,81nm,1.3s
LVZ pmax pmax
comp=E,42nm,1.5s
LVZ pmax pmax
comp=Z,2μm,2.5s,mb6.6
LVZ pmax pmax
comp=N,812nm,3.2s
LVZ pmax pmax
comp=E,687nm,3.0s
LVZ smax
comp=N,881nm,4.2s
LVZ smax
comp=Z,2μm,5.9s
LVZ smax
comp=E,3μm,6.2s
LVZ smax
comp=N,369nm,8.3s
LVZ smax
comp=Z,1μm,11.7s
LVZ smax
comp=E,830nm,8.1s
LVZ Lovozero 57.49 337 ⇓*i*P **P** **06 30 09.1 -1.1**
M04C Macdoel 57.60 62 ⇓P **P** **06 30 11.7 +0.7**
baz=57,SNR=36
KOLN Koldanda 57.62 278 *e*P **P** **06 30 12.2 +1.0**
comp=E,1μm,0.9s,mb6.9
K05A Sumer Lake 57.63 60 ⇓P **P** **06 30 11.7 +0.4**
baz=57,SNR=38
F09A S2 Ranch, Elgi 57.67 56 ⇑P **P** **06 30 12.1 +0.6**
baz=57,SNR=27
I07A Izee 57.67 58 ⇑P **P** **06 30 11.8 +0.3**
baz=57,SNR=30
E10A Myers Farm, Un 57.68 55 P **P** **06 30 11.3 -0.3**
baz=57,SNR=33
M03C McCloud 57.72 62 ⇓P **P** **06 30 12.0 +0.1**
baz=58,SNR=30
CAL Calcutta 57.73 270 ⇑*i*P **P** **06 30 15.4 +3.5**
CAL *e*S **S** **06 38 16.5 +6.7**
KIPM Iron Peak 57.74 64 *e*P **P** **06 30 11.1 -0.8**
KCPM Cahto Peak 57.74 65 *e*P **P** **06 30 13.1 +1.1**
D11A Klaveano Farm, 57.79 54 ⇑P **P** **06 30 12.3 0.0**
baz=58,SNR=81
WDC Whiskeytown Da 57.87 63 *e*P **P** **06 30 12.7 -0.2**
WDC pmax pmax
comp=Z,142nm,1.1s,mb5.9
WDC MLR MLR
comp=Z,2μm,20.0s,MS5.2
WDC Whiskeytown Da 57.87 63 *e*P **P** **06 30 12.7 -0.2**
comp=Z,142nm,1.1s,mb5.9
WDC LR LR
comp=Z,2μm,20.0s,MS5.2
WDC Whiskeytown Da 57.87 63 P **P** **06 30 13.4 +0.5**
baz=58,SNR=29
F10A Beach Ranch, E 57.91 55 P **P** **06 30 13.8 +0.6**
baz=58,SNR=40
H08A Prairie City 57.91 57 P **P** **06 30 13.4 +0.2**
baz=58,SNR=56
O02C Red Bluff 57.95 64 ⇑P **P** **06 30 14.0 +0.5**
baz=58,SNR=34
WALA Waterton Lakes 57.96 51 *e*P **P** **06 30 13.3 -0.2**
comp=Z,234nm,1.1s,mb6.1
K06A Valley Falls 57.97 60 P **P** **06 30 14.4 +0.7**
baz=58,SNR=44
KEV Kevo 58.01 341 *e*P **P** **06 30 12.5 -1.4**
comp=Z,41nm,0.8s,mb5.5
KEV LR LR
comp=Z,7μm,22.0s,MS5.7
P01C Double 8 Ranch 58.03 65 ⇑P **P** **06 30 14.3 +0.3**
baz=58,SNR=19
B13A Whitefish 58.06 52 ⇓P **P** **06 30 14.3 +0.1**
baz=58,SNR=175
APA Apatity 58.06 337 ⇑*i*P **P** **06 30 13.2 -1.0**
APA *i* 06 30 24.2
APA *i* 06 32 32.6
APA *i*S **S** **06 38 10.0 -4.1**
APA *i* 06 40 00.0
APA *i*SS SS 06 42 13.0 +7.6
APA pmax pmax
comp=Z,110nm,0.8s,mb5.9
APA pmax pmax
comp=Z,4μm,6.0s
APA MLR MLR
comp=Z,9μm,18.0s,MS5.9
L05A Lakeview 58.06 61 ⇓P **P** **06 30 14.5 +0.2**
baz=58,SNR=44
LTIM Timbered Crate 58.17 62 P **P** **06 30 15.2 +0.2**
BSMT Bassoo Peak 58.19 52 P **P** **06 30 15.5 +0.4**
J07A Hines 58.20 59 ⇑P **P** **06 30 15.0 -0.2**
baz=58,SNR=13
M05C Lookout 58.27 62 P **P** **06 30 16.0 +0.3**
baz=58,SNR=54
GASB Alder Springs 58.30 64 ⇓P **P** **06 30 16.6 +0.6**
baz=58,SNR=37
I08A Drewsey 58.33 58 P **P** **06 30 16.5 +0.4**
baz=58,SNR=57
HATC Hat Creek Radi 58.40 62 ⇑P **P** **06 30 16.8 +0.2**
baz=58,SNR=34
C13A Hot Springs 58.40 52 P **P** **06 30 16.9 +0.3**
baz=58,SNR=35
H09A Durkee 58.41 57 P **P** **06 30 17.3 +0.6**
baz=58,SNR=52
MOD Modoc 58.47 61 *e*P **P** **06 30 17.2 +0.2**
comp=Z,128nm,1.0s,mb5.9
MOD LR LR
comp=Z,2μm,19.0s,MS5.2
MOD Modoc 58.47 61 P **P** **06 30 17.3 +0.3**
baz=58,SNR=57
HOPS Hopland 58.47 65 *e*P **P** **06 30 17.4 +0.2**
comp=Z,234nm,1.4s,mb6.0
HOPS LR LR
comp=Z,2μm,22.0s,MS5.3
HOPS Hopland 58.47 65 ⇑P **P** **06 30 17.1 -0.1**
baz=58,SNR=17
BMO Blue Mountains 58.51 56 *e*P **P** **06 30 17.4 +0.1**
comp=Z,212nm,1.2s,mb6.0
BMO LR LR
comp=Z,2μm,19.0s,MS5.2
ARCES ARCESS Array B 58.52 341 P **P** **06 30 16.2 -1.3**
comp=Z,77nm,0.9s,mb5.7,baz=25,slow=6.7,SNR=58
ARCES LR LR 06 58 23.4
comp=Z,9μm,21.6s,MS5.9,baz=31,slow=39
ARCES ARCESS Array B 58.52 341 P **P** **06 30 16.2 -1.2**
ARCES pmax pmax
comp=Z,77nm,0.9s
ARCES MLR MLR
comp=Z,9μm,21.6s
ARCES ARCESS Array B 58.52 341 P **P** **06 30 16.2 -1.3**
ARCES LR LR 06 58 23.4
ARE0 ARCESS Array S 58.52 341 *e*P **P** **06 30 17.1 -0.4**
O03C Acorn Hollow, 58.53 63 ⇓P **P** **06 30 17.4 -0.1**
baz=58,SNR=17
F11A Grangeville 58.56 55 ⇓P **P** **06 30 17.5 -0.3**
baz=58,SNR=72
BOK Bokaro 58.60 272 *i* P **P** **06 30 16.8 -1.2**
BOK *e*P 06 30 19.5
BOK AMb AMB 06 30 36.5
comp=Z,312nm,2.3s,mb5.9
BOK *i*S **S** **06 38 22.8 +1.7**
K07A Rock Creek Ran 58.64 60 ⇓P **P** **06 30 18.1 -0.2**
baz=58,SNR=43
J08A Circle Bar Ran 58.70 58 P **P** **06 30 19.1 +0.4**
baz=58,SNR=49
M06C Likely Place G 58.77 62 ⇑P **P** **06 30 19.7 +0.5**
baz=58,SNR=20
I09A Lost Marbles R 58.77 58 ⇓P **P** **06 30 19.0 -0.2**
baz=58,SNR=48
G11A Walters Elk Ra 58.79 55 ⇓P **P** **06 30 19.2 -0.1**
baz=58,SNR=36
D13A Huson 58.81 53 P **P** **06 30 19.1 -0.4**
baz=59,SNR=59
PTH Pithoragarh 58.82 281 *e*P **P** **06 30 22.2 +2.7**
PTH *ex* x 06 30 38.2
LGTI Lohaghat 58.86 281 *i* P **P** **06 30 22.0 +2.2**
KLP Kalpa 58.91 284 *e*P **P** **06 30 21.9 +1.7**
KLP AMb AMB 06 30 25.8
comp=Z,118nm,0.8s,mb6.0
KLP *e*S **S** **06 38 28.8 +3.5**
O04C Chester 58.92 63 ⇑P **P** **06 30 19.5 -0.7**
baz=59,SNR=47
MNRC McLaughlin Nat 58.94 65 ⇑P **P** **06 30 20.4 +0.1**
baz=59,SNR=50
FUNA Funafuti 58.95 151 PFAKE 06 30 30.0 +10
FUNA LR LR
comp=Z,3μm,19.0s,MS5.4
ELFS Eagle Lake Fie 58.96 62 ⇓P **P** **06 30 20.6 0.0**
baz=59,SNR=9.8
L07A Adell 58.98 60 ⇑P **P** **06 30 20.7 +0.1**
baz=59,SNR=32
KSM Kuching 59.00 234 *e*P **P** **06 30 21.9 +1.1**
NSHM Saint Helena R 59.05 65 *e*P **P** **06 30 21.0 -0.1**
K08A Mann Creek Ran 59.07 59 P **P** **06 30 22.1 +0.8**
baz=59,SNR=44
TMCR Tamitsa 59.11 333 *e*P **P** **06 30 21.8 +0.3**
ORV Oroville 59.12 64 P **P** **06 30 20.9 -0.7**
baz=59,SNR=62
J09A Fry Pan Ranch, 59.13 58 ⇓P **P** **06 30 21.7 -0.1**
baz=59,SNR=71
SUTB Sutter Butte 59.14 64 ⇓P **P** **06 30 21.1 -0.7**
baz=59,SNR=11
WVOR Wild Horse Val 59.15 59 *e*P **P** **06 30 21.9 +0.1**
WVOR pmax pmax
comp=Z,199nm,1.1s,mb6.1
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.3
WVOR Wild Horse Val 59.15 59 *e*P **P** **06 30 21.9 +0.1**
comp=Z,199nm,1.1s,mb6.1
WVOR LR LR
comp=Z,2μm,19.0s,MS5.3
O05C Quincy 59.24 63 ⇓P **P** **06 30 21.9 -0.6**
baz=59,SNR=26
CVS Carmenet Viney 59.24 65 ⇓P **P** **06 30 22.3 -0.2**
baz=59,SNR=26
MSO Missoula 59.25 53 *e*P **P** **06 30 22.3 -0.3**
comp=Z,284nm,1.2s,mb6.2
MSO LR LR
comp=Z,2μm,20.0s,MS5.3
OHCM Honcut 59.26 64 *e*P **P** **06 30 22.0 -0.6**
FARB Farallon Islan 59.29 66 ⇑P **P** **06 30 22.3 -0.5**
baz=59,SNR=11
D14A Greenough 59.34 53 P **P** **06 30 22.6 -0.6**
baz=59,SNR=196
E13A Victor 59.34 53 ⇑P **P** **06 30 22.4 -0.8**
baz=59,SNR=112
H11A Donnelly 59.34 56 ⇓P **P** **06 30 23.1 -0.1**
baz=59,SNR=108
Q03C Winters 59.35 65 ⇓P **P** **06 30 23.7 +0.4**
baz=59,SNR=19
KTK1 Kautokeino 59.43 342 *e*P **P** **06 30 23.8 0.0**

KTK1 AMb AMB 06 30 33.1
comp=Z,428nm,2.0s,mb6.1
KTK1 Kautokeino 59.43 342 *eP* **P 06 30 23.8 0.0**
comp=Z,428nm,2.0s,mb6.1
N06A Buffalo Meadow 59.43 62 ⇑P **P 06 30 23.7 -0.1**
baz=59,SNR=92
M07A Soldier Meadow 59.45 61 ⇑P **P 06 30 24.0 +0.1**
baz=59,SNR=153
L08A Fields 59.47 60 P **P 06 30 24.5 +0.4**
baz=59,SNR=26
K09A Rome 59.54 59 P **P 06 30 24.6 +0.1**
baz=59,SNR=38
CHMT Chamberlain Mo 59.58 53 *eP* **P 06 30 24.4 -0.5**
Q04C Lincoln 59.62 64 ⇓P **P 06 30 25.2 +0.1**
baz=59,SNR=14
BEKR Beckwourth 59.64 63 P **P 06 30 25.1 -0.1**
baz=59,SNR=116
F13A Darby 59.65 54 ⇑P **P 06 30 25.3 0.0**
baz=59,SNR=172
AKTK Aktyubinsk 59.68 313 P **P 06 30 24.6 -0.8**
AKTO Aktyubinsk 59.68 313 P **P 06 30 24.6 -0.8**
comp=Z,25nm,0.6s,mb5.4,baz=65,slow=7.3,SNR=70
AKTO Aktyubinsk 59.68 313 P **P 06 30 24.5 -1.0**
AKTO pmax pmax
comp=Z,92nm,2.5s,mb5.4
KAPI Kappang 59.71 221 P **P 06 30 25.2 -0.5**
comp=Z,847nm,0.9s,mb6.8,SNR=13
SAC San Andreas 59.73 66 *eP* **P 06 30 26.3 +0.5**
E14A Clinton 59.74 53 P **P 06 30 25.8 -0.2**
baz=60,SNR=66
O06A Flanigan 59.79 62 ⇓P **P 06 30 25.9 -0.3**
baz=60,SNR=53
SDNR Sundarnagar 59.79 285 *eP* **P 06 30 26.9 +0.6**
DDI Dehra Dun 59.80 283 *eP* **P 06 30 26.6 +0.3**
TRO Tromso 59.82 344 *eP* **P 06 30 25.4 -1.1**
TRO AMb AMB 06 30 31.4
comp=Z,361nm,2.2s,mb6.0
TRO *eS* **S 06 38 37.8 +0.8**
TRO *eSS* SS 06 42 38.2 +5.2
TRO AMS AMS 07 03 04.3
comp=Z,4μm,11.6s,MS5.8
TRO Tromso 59.82 344 *eP* **P 06 30 25.4 -1.0**
TRO pmax pmax
comp=Z,361nm,2.2s,mb6.0
TRO MLR MLR
comp=Z,4μm,11.6s,MS5.8
TRO Tromso 59.82 344 *eP* **P 06 30 25.4 -1.1**
comp=Z,361nm,2.2s,mb6.0
TRO LR LR
comp=Z,4μm,11.6s,MS5.8
P05C Yuba Gap, Truc 59.82 63 ⇓P **P 06 30 26.3 -0.2**
baz=60,SNR=19
BDM Black Diamond 59.85 65 ⇓P **P 06 30 26.9 +0.2**
baz=60,SNR=6.7
SMLA Simla 59.89 285 *eP* **P 06 30 27.0 +0.1**
SMLA *ex* x 06 30 46.0
D15A Lincoln 59.90 52 ⇑P **P 06 30 26.4 -0.6**
baz=60,SNR=65
N07B Gerlach 59.94 61 ⇓P **P 06 30 27.2 -0.1**
baz=60,SNR=61
JRSC Jasper Ridge 59.95 66 ⇑P **P 06 30 27.0 -0.4**
baz=60,SNR=9.8
L09A Wilkinson Ranc 59.98 59 ⇓P **P 06 30 27.4 -0.2**
baz=60,SNR=70
P06A Stead Airport, 60.03 63 ⇓P **P 06 30 27.6 -0.3**
baz=60,SNR=26
THN Thein Dam 60.05 287 *eP* **P 06 30 29.1 +1.1**
LAVA Lava Cap Winer 60.07 64 ⇑P **P 06 30 28.3 +0.1**
baz=60
WENL Wente Brothers 60.12 66 ⇓P **P 06 30 28.5 0.0**
baz=60,SNR=9.7
BNLO Ben Lomond (Sa 60.16 66 ⇑P **P 06 30 28.4 -0.4**
baz=60,SNR=14
F14A Wisdom 60.18 54 ⇑P **P 06 30 28.3 -0.6**
baz=60,SNR=24
E15A Deer Lodge 60.21 53 P **P 06 30 28.9 -0.2**
baz=60,SNR=130
BHK Bhakra 60.21 285 *eP* **P 06 30 30.0 +0.9**
R04C Big Horse Ranc 60.25 65 ⇑P **P 06 30 28.9 -0.5**
baz=60,SNR=21
SNG Songkhla 60.34 247 P **P 06 30 31.0 +1.0**
comp=Z,150nm,0.9s,mb6.0
WCN Washoe City 60.35 63 P **P 06 30 30.3 +0.2**
baz=60,SNR=55
O07A Toulon 60.37 62 P **P 06 30 30.5 +0.3**
baz=60,SNR=115
ALBI Allahabad 60.43 277 *eP* **P 06 30 29.5 -1.1**
FFC Flin Flon 60.43 40 P **P 06 30 30.0 -0.6**
comp=Z,2μm,0.8s,SNR=100
FFC Flin Flon 60.43 40 P **P 06 30 30.4 -0.3**
N08A GE Springer Mi 60.45 61 P **P 06 30 30.6 -0.2**
baz=60,SNR=88
S04C Ingram Canyon, 60.46 65 ⇓P **P 06 30 30.8 0.0**
baz=60,SNR=28
M09A Marrel Ranch, 60.47 60 ⇑P **P 06 30 30.6 -0.3**
baz=60,SNR=60
HRY Holter Researc 60.48 52 *eP* **P 06 30 31.0 0.0**
R05C Kirkwood Meado 60.52 64 ⇑P **P 06 30 31.2 -0.1**
baz=60,SNR=58
ORR Orenburg 60.58 315 *eP* **P 06 30 31.2 -0.5**
ORR pmax pmax
comp=Z,70nm,0.7s,mb5.9
F15A Butte 60.65 53 P **P 06 30 32.1 0.0**
baz=60,SNR=242
LRM Limekiln Ridge 60.68 53 *eP* **P 06 30 32.4 +0.1**
O08A Rochester Mine 60.73 61 ⇑P **P 06 30 32.5 -0.2**
baz=60
CMB Columbia Colle 60.73 64 *eP* **P 06 30 32.5 -0.2**
CMB pmax pmax
comp=Z,236nm,1.3s,mb6.2
CMB MLR MLR
comp=Z,2μm,19.0s,MS5.3
CMB Columbia Colle 60.73 64 *eP* **P 06 30 32.5 -0.2**
comp=Z,236nm,1.3s,mb6.2
CMB LR LR
comp=Z,2μm,19.0s,MS5.3
CMB Columbia Colle 60.73 64 P **P 06 30 32.6 -0.1**
baz=60,SNR=99
P07A Fallon 60.74 62 ⇑P **P 06 30 32.5 -0.2**
baz=60,SNR=10
N09A Rock Creek Ran 60.77 60 P **P 06 30 33.3 +0.4**
baz=60,SNR=109
PACP Pacheco Peak 60.79 66 P **P 06 30 33.1 0.0**
baz=61,SNR=38
EGMT Eagleton 60.80 50 *eP* **P 06 30 32.8 -0.4**
comp=Z,432nm,1.2s,mb6.5
EGMT LR LR
comp=Z,3μm,19.0s,MS5.5
EGMT Eagleton 60.80 50 P **P 06 30 32.9 -0.2**
baz=60,SNR=108
SAO San Andreas Ge 60.84 66 *eP* **P 06 30 33.6 +0.2**
SAO pmax pmax
comp=Z,88nm,1.3s,mb5.7
SAO MLR MLR
comp=Z,2μm,19.0s,MS5.2
SAO San Andreas Ge 60.84 66 *eP* **P 06 30 33.6 +0.2**
comp=Z,88nm,1.3s,mb5.7
SAO LR LR
comp=Z,2μm,19.0s,MS5.2
DLMT Dillon 60.88 54 *eP* **P 06 30 33.9 +0.2**
comp=Z,260nm,1.5s,mb6.1
NIL Nilore 60.91 289 P **P 06 30 38.1 +4.2**
comp=Z,862nm,0.8s,mb6.9,SNR=15
HLID Hailey 60.95 56 *eP* **P 06 30 34.3 +0.1**
comp=Z,146nm,1.1s,mb6.0
HLID LR LR
comp=Z,3μm,20.0s,MS5.4
HLID Hailey 60.95 56 ⇑P **P 06 30 33.7 -0.4**
baz=61,SNR=86
M10A I.L. Ranch, Tu 60.95 59 ⇓P **P 06 30 34.2 0.0**
baz=61,SNR=127
HAST UC Hastings Re 61.01 67 ⇑P **P 06 30 34.2 -0.3**
baz=61,SNR=27
R06C Coleville 61.01 63 P **P 06 30 35.0 +0.3**
baz=61,SNR=136
SUMG Summit 61.02 4 *eP* **P 06 30 34.7 +0.1**
comp=Z,295nm,0.9s,mb6.4
G15A Dillon 61.06 54 P **P 06 30 34.7 -0.2**
baz=61,SNR=110
MCMT McKenzie Canyo 61.07 54 *eP* **P 06 30 34.9 -0.1**
FCC Fort Churchill 61.07 34 *eP* **P 06 30 33.9 -1.1**
FCC pmax pmax
comp=Z,234nm,1.0s,mb6.3
FCC Fort Churchill 61.07 34 *eP* **P 06 30 33.9 -1.0**
comp=Z,234nm,1.0s,mb6.3
P08A Dixie Valley 61.14 62 ⇑P **P 06 30 35.5 0.0**
baz=61,SNR=19
Q07A Schurz 61.16 63 ⇓P **P 06 30 34.5 -1.0**
baz=61
S06C San Francisco 61.16 64 ⇓P **P 06 30 34.7 -0.9**
baz=61,SNR=132
S05C Merced 61.19 65 ⇑P **P 06 30 35.1 -0.7**
baz=61,SNR=53
BMN Battle Mountai 61.21 61 *eP* **P 06 30 36.2 +0.3**
BMN pmax pmax
comp=Z,197nm,1.0s,mb6.2
BMN MLR MLR
comp=Z,2μm,19.0s,MS5.3
BMN Battle Mountai 61.21 61 *eP* **P 06 30 36.2 +0.3**
comp=Z,197nm,1.0s,mb6.2
BMN LR LR
comp=Z,2μm,19.0s,MS5.3
BOZ Bozeman (W) 61.24 53 *eP* **P 06 30 36.6 +0.4**
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.2
T05C Eagle Field, D 61.25 66 ⇓P **P 06 30 36.2 0.0**
baz=61,SNR=7.4
LRV Little Rabbit 61.32 66 *eP* **P 06 30 37.0 +0.3**
O09A Fish Creek Ran 61.39 61 ⇑P **P 06 30 36.6 -0.6**
baz=61,SNR=110
NDI New Delhi 61.40 283 *eP* **P 06 30 37.0 -0.2**
NDI *eP* 06 30 38.2
NDI AMb AMB 06 31 00.1
comp=Z,398nm,1.4s,mb6.4
NDI *ex* x 06 34 32.0
V03C Hunter Liggett 61.43 67 ⇑P **P 06 30 36.6 -0.8**
baz=61,SNR=9.0
M11A Holland Ranch, 61.45 59 ⇓P **P 06 30 36.9 -0.6**
baz=61,SNR=123
N10A Dunphy 61.46 60 ⇑P **P 06 30 36.7 -1.0**
baz=61,SNR=22
U04C Hernandez Rese 61.51 66 ⇑P **P 06 30 38.4 +0.4**
baz=61,SNR=20
R07C Lee Vining 61.53 64 ⇓P **P 06 30 38.4 +0.3**
baz=61,SNR=18
AYAN Aya Nagar 61.59 282 *eP* **P 06 30 38.6 +0.1**
AYAN AMb AMB 06 30 46.2
comp=Z,159nm,0.9s,mb6.1
O10A Cortez Mining, 61.73 60 ⇓P **P 06 30 39.8 +0.4**
baz=62,SNR=39
Q08A Gabbs 61.74 62 P **P 06 30 39.4 -0.2**
baz=62,SNR=181
KULM Kulim 61.76 246 *eP* **P 06 30 40.4 +0.8**
T06C Millerton Lake 61.79 65 P **P 06 30 39.3 -0.6**
baz=62,SNR=74
P09A Austin 61.80 61 ⇓P **P 06 30 39.7 -0.2**
baz=62,SNR=49
AGRA Agra 61.83 281 *eP* **P 06 30 40.4 +0.2**
AGRA AMb AMB 06 30 48.0
comp=Z,146nm,0.4s,mb6.5
KCC Kaiser Creek 61.84 64 P **P 06 30 40.1 -0.1**
baz=62,SNR=83
QLMT Earthquake Lak 61.86 54 *eP* **P 06 30 40.6 +0.3**
N11A Elko Archery C 61.86 59 ⇓P **P 06 30 40.5 +0.1**
baz=62,SNR=24
V04C Ramage Ranch, 61.91 67 ⇓P **P 06 30 40.8 +0.2**
baz=62,SNR=17
PKD Parkfield 61.92 66 ⇑P **P 06 30 40.8 0.0**
baz=62,SNR=18
U05C Westside ANR, 61.95 66 ⇓P **P 06 30 40.7 -0.2**
baz=62,SNR=7.2
MLAC Mammoth Lakes 61.95 64 ⇓P **P 06 30 41.3 +0.3**
baz=62,SNR=26
R08A Mina 61.95 63 ⇑P **P 06 30 40.8 -0.2**
baz=62,SNR=28
M12A Wells 61.98 58 ⇓P **P 06 30 41.1 0.0**
baz=62,SNR=127
KAKA Kakadu 62.05 204 ⇑*iP* **P 06 30 40.5 -1.1**
comp=Z,196nm,0.6s,mb6.4
LOF Lofoten 62.13 345 *eP* **P 06 30 43.3 +1.2**
LOF AMb AMB 06 30 50.0
comp=Z,375nm,1.1s,mb6.4
LOF Lofoten 62.13 345 *eP* **P 06 30 43.3 +1.2**
comp=Z,375nm,1.1s,mb6.4
IPM Ipoh 62.15 245 P **P 06 30 45.1 +2.8**
P10A Eureka 62.17 61 ⇑P **P 06 30 42.3 -0.1**
baz=62,SNR=43
ELK Elko 62.20 59 *eP* **P 06 30 42.9 +0.3**
ELK pmax pmax
comp=Z,77nm,0.9s
ELK MLR MLR
comp=Z,2μm,20.0s
ELK Elko 62.20 59 *eP* **P 06 30 42.9 +0.2**
comp=Z,77nm,0.9s,mb5.8
ELK LR LR
comp=Z,2μm,20.0s,MS5.3
Q09A Carvers 62.22 62 ⇑P **P 06 30 43.2 +0.4**
baz=62,SNR=33
YMR Madison River 62.22 54 *eP* **P 06 30 43.3 +0.5**
comp=Z,259nm,1.1s,mb6.3
YMR LR LR
comp=Z,3μm,19.0s,MS5.5
GCMT Greycliff 62.23 52 *eP* **P 06 30 43.3 +0.4**
N12A Clover Valley, 62.25 59 ⇑P **P 06 30 42.7 -0.2**
baz=62,SNR=83
MTUM Tungsten Hills 62.29 64 *eP* **P 06 30 43.8 +0.6**
PTRM Twissleman Ran 62.31 66 *eP* **P 06 30 43.4 0.0**
JMIC Jan Mayen 62.32 354 *eP* **P 06 30 49.0 +5.6**
JMIC AMS AMS 07 04 11.6
comp=Z,2μm,18.8s,MS5.3
O11A Cowboy Ranch, 62.33 60 P **P 06 30 43.5 0.0**
baz=62,SNR=55
YNR Norris Junctio 62.35 53 *eP* **P 06 30 45.1 +1.5**
V05C Boulder Hill, 62.38 66 ⇑P **P 06 30 44.1 +0.3**
baz=62,SNR=10.0
HELL Mitchell Peak, 62.42 65 P **P 06 30 43.4 -0.7**
baz=62,SNR=214
YFT Old Faithful 62.43 54 *eP* **P 06 30 45.8 +1.7**
S08C White Mtn Res 62.44 64 P **P 06 30 44.6 +0.4**
baz=62,SNR=99
M13A Montello 62.45 58 ⇓P **P 06 30 43.9 -0.4**
baz=62,SNR=134
RCTC Rector, Farmer 62.52 65 ⇑P **P 06 30 45.0 +0.3**
baz=62,SNR=25
LKWY Lake 62.60 53 *eP* **P 06 30 47.2 +1.9**
LKWY pmax pmax
comp=Z,135nm,1.0s,mb6.0
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.5
LKWY Lake 62.60 53 *eP* **P 06 30 47.2 +1.9**
comp=Z,135nm,1.0s,mb6.0
LKWY LR LR
comp=Z,3μm,19.0s,MS5.5
P11A Circle Ranch, 62.64 61 ⇑P **P 06 30 45.5 -0.1**
baz=62,SNR=30
KGM Kluang 62.66 241 P **P 06 30 47.7 +2.1**
R09A Tonopah 62.66 62 ⇑P **P 06 30 46.0 +0.3**
baz=62,SNR=373
SMMC Simmler 62.66 67 ⇑P **P 06 30 45.5 -0.2**
baz=62,SNR=24
TPH Tonopah 62.67 63 *eP* **P 06 30 46.2 +0.5**
TPH pmax pmax
comp=Z,261nm,1.1s,mb6.3
TPH MLR MLR
comp=Z,2μm,20.0s,MS5.3
TPH Tonopah 62.67 63 *eP* **P 06 30 46.2 +0.4**
comp=Z,261nm,1.1s,mb6.3
TPH LR LR
comp=Z,2μm,20.0s,MS5.3
TIN Tinemaha 62.68 64 ⇓P **P 06 30 45.8 0.0**
baz=62,SNR=9.6
IMW Indian Meadow 62.72 54 *eP* **P 06 30 47.0 +0.9**
comp=Z,284nm,1.1s,mb6.3
FLWY Flagg Ranch 62.73 54 *eP* **P 06 30 47.2 +1.0**
comp=Z,240nm,1.1s,mb6.2
N13A Wendover, West 62.75 59 P **P 06 30 46.7 +0.4**
baz=62,SNR=20
DCID1 Drake Creek 62.77 55 *eP* **P 06 30 47.8 +1.4**
O12A Currie 62.79 59 P **P 06 30 46.5 -0.1**
baz=63,SNR=202
RRI2 Red Ridge 62.85 55 *eP* **P 06 30 47.9 +0.9**
comp=Z,424nm,1.0s,mb6.5
RLMT Red Lodge 62.87 52 *eP* **P 06 30 47.4 +0.3**
comp=Z,377nm,1.3s,mb6.4
RLMT LR LR
comp=Z,3μm,19.0s,MS5.4
S09A Goldfield 62.88 63 P **P 06 30 47.1 -0.1**
baz=63,SNR=143
VES Vestal, Richgr 62.91 66 P **P 06 30 46.5 -0.9**
baz=63,SNR=59
MOOW Moose Ponds 62.92 54 *eP* **P 06 30 48.1 +0.7**
comp=Z,227nm,1.2s,mb6.2
TPAW Teton Pass 62.97 55 *eP* **P 06 30 48.4 +0.7**
comp=Z,401nm,1.0s,mb6.5
HVU Hansel Valley 63.00 57 *eP* **P 06 30 47.8 -0.2**
HVU pmax pmax
comp=Z,141nm,1.0s,mb6.0
HVU Hansel Valley 63.00 57 *eP* **P 06 30 47.8 -0.2**
comp=Z,141nm,1.0s,mb6.0
PKM Peak Mountain 63.04 67 ⇓P **P 06 30 47.7 -0.5**
baz=63,SNR=27
JBP Jabalpur 63.08 276 ⇓*eP* **P 06 30 49.1 +0.6**
JBP *ex* x 06 30 60.0
comp=Z,346nm,1.0s
JBP *i* S **S 06 39 21.2 +2.8**
LOHW Long Hollow 63.09 54 *eP* **P 06 30 48.8 +0.3**
comp=Z,385nm,1.3s,mb6.4
SNOW Snow King Moun 63.09 54 *eP* **P 06 30 49.6 +1.0**
comp=Z,384nm,1.0s,mb6.5
R10A Warm Springs 63.10 62 P **P 06 30 48.6 0.0**
baz=63,SNR=94
REDW Red Top Meadow 63.10 55 *eP* **P 06 30 49.4 +0.7**
comp=Z,776nm,1.2s,mb6.7
Q11A Duckwater 63.14 61 ⇓P **P 06 30 48.2 -0.7**
baz=63,SNR=71
CWC Cottonwood Cre 63.16 65 P **P 06 30 49.0 0.0**
baz=63,SNR=65
P12A McGill 63.20 60 P **P 06 30 49.4 +0.1**
baz=63,SNR=77
GRAC Grapevine Rang 63.25 64 P **P 06 30 49.8 +0.2**
baz=63,SNR=152
AHID Auburn Hatcher 63.34 55 *eP* **P 06 30 50.9 +0.7**
comp=Z,171nm,1.1s,mb6.1
AHID LR LR
comp=Z,2μm,19.0s,MS5.3
DGMT Dagmar 63.39 47 PFAKE 06 31 00.0 +9.4
DGMT LR LR
comp=Z,4μm,20.0s,MS5.6
SBC Santa Barbara 63.39 67 ⇓P **P 06 30 50.2 -0.4**
baz=63,SNR=5.8
BGU Big Grassy Mou 63.39 58 *eP* **P 06 30 50.8 +0.2**
ISA Isabella 63.41 65 *eP* **P 06 30 49.0 -1.7**
comp=Z,0.2nm,1.1s
ISA LR LR
comp=Z,274nm,19.0s
ISA Isabella 63.41 65 ⇑P **P 06 30 49.8 -0.8**
baz=63,SNR=74
SPUT South Promonto 63.49 57 *eP* **P 06 30 48.5 -2.7**
TRCR Troy Canyon 63.50 61 *eP* **P 06 30 51.4 +0.1**
LAO LASA Array 63.50 49 *eP* **P 06 30 51.6 +0.3**
comp=Z,280nm,0.9s,mb6.3
LAO LR LR
comp=Z,3μm,19.0s,MS5.5
Q12A Willow Creek R 63.52 60 P **P 06 30 51.3 -0.1**
baz=63,SNR=84
ARVC Arvin 63.52 66 ⇓P **P 06 30 51.2 -0.2**
baz=63,SNR=29
DAC Darwin (Calif) 63.57 64 *eP* **P 06 30 51.3 -0.4**
DAC pmax pmax
comp=Z,80nm,1.0s,mb5.7
DAC MLR MLR
comp=Z,2μm,19.0s,MS5.3
DAC Darwin (Calif) 63.57 64 *eP* **P 06 30 51.3 -0.4**
comp=Z,80nm,1.0s,mb5.7
DAC LR LR
comp=Z,2μm,19.0s,MS5.3
MOR8 Moi Rana 63.66 343 *eP* **P 06 30 50.1 -2.2**
MOR8 AMb AMB 06 31 09.6
comp=Z,455nm,1.6s,mb6.2
MOR8 Moi Rana 63.66 343 *eP* **P 06 30 50.1 -2.2**
comp=Z,455nm,1.6s,mb6.2
BSC Santa Cruz Isl 63.73 68 ⇓P **P 06 30 52.4 -0.4**
baz=64,SNR=5.7
MPMC Manual Prospec 63.77 65 P **P 06 30 52.6 -0.5**
baz=64,SNR=195
STOK Stokkvaagen 63.80 344 *eP* **P 06 30 53.9 +0.6**
STOK AMb AMB 06 31 11.8
comp=Z,336nm,1.6s,mb6.1
STOK Stokkvaagen 63.80 344 *eP* **P 06 30 53.9 +0.6**
comp=Z,336nm,1.6s,mb6.1
HWUT Hardware Ranch 63.81 56 *eP* **P 06 30 53.5 +0.2**
comp=Z,197nm,1.1s,mb6.0
HWUT LR LR
comp=Z,3μm,19.0s,MS5.4
FURC Furnace Creek, 63.90 64 P **P 06 30 53.8 -0.1**
baz=64,SNR=279
OSI Osito Adit 63.91 66 ⇓P **P 06 30 53.7 -0.3**
baz=64,SNR=12
DUG Dugway 63.98 58 *eP* **P 06 30 54.3 -0.2**
DUG pmax pmax
comp=Z,260nm,1.1s,mb6.2
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.2
DUG Dugway 63.98 58 *eP* **P 06 30 54.3 -0.2**
comp=Z,260nm,1.1s,mb6.2
DUG LR LR
comp=Z,2μm,19.0s,MS5.2
DUG Dugway 63.98 58 ⇓P **P 06 30 53.8 -0.7**
baz=64,SNR=252
LRMC Laurel Mountai 64.02 65 P **P 06 30 54.2 -0.5**
baz=64,SNR=76
BLG Laguna Peak 64.02 67 ⇑P **P 06 30 54.1 -0.6**
baz=64,SNR=11
NOQ North Oquirrh 64.10 58 *eP* **P 06 30 55.4 +0.2**
comp=Z,294nm,1.0s,mb6.3
EDW2 Edwards Air Fo 64.21 66 P **P 06 30 55.6 -0.4**
baz=64,SNR=205
BW06 Boulder Array 64.21 54 *eP* **P 06 30 55.5 -0.5**
BW06 LR LR
comp=Z,2μm,20.0s,MS5.4
PDAR Pinedale Array 64.21 54 P **P 06 30 55.5 -0.5**
comp=Z,137nm,0.9s,mb6.0,baz=294,slow=1.5,SNR=135
PDAR PKPPKP 06 59 45.6
comp=Z,1.4nm,0.9s,baz=316,slow=7.7,SNR=3.2
U10A Ash Meadows, A 64.27 64 ⇑P **P 06 30 56.2 -0.1**
baz=64,SNR=158
SNCC San Nicolas Is 64.27 68 *eP* **P 06 30 55.6 -0.7**
comp=Z,0.3nm,1.0s
SNCC LR LR
comp=Z,1μm,20.0s
SNCC San Nicolas Is 64.27 68 ⇑P **P 06 30 56.1 -0.2**
baz=64,SNR=6.7
CTU Camp Tracy 64.29 57 *eP* **P 06 30 56.3 -0.2**
comp=Z,155nm,1.1s,mb6.0
DECC Green Verdugo 64.40 67 ⇓P **P 06 30 56.9 -0.3**
baz=64,SNR=18
VIS Vishakhapatnam 64.43 269 *iP* **P 06 30 55.0 -2.4**
VIS *eP* 06 30 57.8
VIS AMb AMB 06 31 01.9
comp=Z,181nm,1.3s,mb5.9
VIS *i* S **S 06 39 37.4 +2.2**
JLU Jordanelle 64.52 57 *eP* **P 06 30 58.2 +0.2**
AJM Ajmer 64.56 282 *iP* **P 06 30 58.0 -0.2**
AJM *eP* 06 30 58.9
AJM AMb AMB 06 31 06.7
comp=Z,272nm,0.9s,mb6.3
NLU North Lily Min 64.57 58 *eP* **P 06 30 58.5 +0.1**
MWC Mount Wilson 64.58 66 *eP* **P 06 30 59.3 +0.9**
SHOC Shoshone 64.63 64 P **P 06 30 58.3 -0.3**
baz=64,SNR=66
GSC Goldstone 64.68 65 *eP* **P 06 30 58.6 -0.4**
GSC Goldstone 64.68 65 P **P 06 30 59.0 -0.1**
baz=64,SNR=64
DAU Daniels Canyon 64.76 57 P **P 06 30 59.9 +0.4**
DAU Daniels Canyon 64.76 57 *eP* **P 06 30 59.7 +0.2**
PSI Prapat 64.76 246 P **P 06 30 59.1 -0.4**
comp=Z,27nm,0.9s,mb5.3,baz=6.0,slow=3.5,SNR=15
PSI PKPPKP 06 59 46.0
comp=Z,2.9nm,0.3s,baz=197,slow=8.9,SNR=6.5
PSI LR LR 07 01 53.3
comp=Z,2μm,18.2s,MS5.3,baz=6.4,slow=38
FMP Fort Macarthur 64.77 67 ⇓P **P 06 30 58.9 -0.6**
baz=65,SNR=5.0
FIA1 FINESS Array S 64.78 335 *eP* **P 06 30 58.4 -1.3**
FINES FINESS Array B 64.78 335 P **P 06 30 58.1 -1.6**
comp=Z,27nm,0.5s,mb5.6,baz=38,slow=7.9,SNR=74
FINES PKPPKP 06 59 44.0
comp=Z,2.3nm,1.0s,baz=161,slow=30,SNR=3.9
FINES LR LR 07 03 11.5
comp=Z,4μm,19.6s,MS5.6,baz=40,slow=40
MPU Maple Canyon 64.79 58 *eP* **P 06 30 59.9 +0.2**
comp=Z,199nm,1.0s,mb6.1
MPU LR LR
comp=Z,3μm,22.0s,MS5.4
BHPL Bhopal 64.79 278 *eP* **P 06 30 60.0 +0.2**
BHPL AMb AMB 06 31 06.7
comp=Z,381nm,0.9s,mb6.4
PUL Pulkovo 64.82 332 *eP* **P 06 31 00.9 +1.0**
PUL *e*PPP 06 35 05.0
PUL *eS* **S 06 39 37.6 -2.3**
PUL pmax pmax

comp=Z,207nm,0.8s,mb6.2
PUL pmax pmax
comp=N,318nm,0.9s
PUL pmax pmax
comp=E,221nm,1.0s
PUL pmax pmax
comp=Z,3µm,4.4s
PUL smax
comp=N,2µm,4.8s
PUL smax
comp=E,3µm,5.3s
PUL smax
comp=N,520nm,9.4s
PUL smax
comp=Z,380nm,5.8s
PUL smax
comp=E,1µm,9.9s
PUL MLR MLR
comp=Z,6µm,21.0s,MS5.8
PUL MLR MLR
comp=N,7µm,20.0s,MS6.0
PUL MLR MLR
comp=E,5µm,18.0s,MS6.0
BFSC Mount Baldy St 64.83 66 P **P** **06 30 59.6 -0.4**
baz=65,SNR=61
RRX Edison Barstow 64.83 65 ⇓P **P** **06 30 59.6 -0.4**
baz=65
U11A Corn Creek 64.85 63 P **P** **06 31 00.4 +0.3**
baz=65,SNR=45
CIS Catalina Islan 64.89 67 ⇑P **P** **06 30 59.9 -0.5**
baz=65,SNR=13
SHPR Sheep Range 64.93 63 *e*P **P** **06 31 00.7 0.0**
NGP Nagpur 65.07 275 *e*P **P** **06 31 01.0 -0.6**
NGP AMb AMB 06 31 06.6
comp=Z,276nm,1.0s,mb6.3
SCI San Clemente I 65.07 68 ⇑P **P** **06 31 01.1 -0.5**
baz=65
TUQ Turquoise Mtn. 65.15 64 P **P** **06 31 01.6 -0.4**
baz=65,SNR=204
ARUT Antelope Range 65.16 61 *e*P **P** **06 31 01.9 -0.2**
V11A Goodsprings 65.19 64 P **P** **06 31 02.4 0.0**
baz=65,SNR=111
BBRC Big Bear Sol-O 65.28 66 P **P** **06 31 02.7 -0.2**
baz=65,SNR=71
MOS Moscow 65.28 326 *e*P **P** **06 31 02.7 -0.2**
MOS *e* 06 31 13.8
MOS *e* 06 33 24.7
MOS *e*PPP 06 34 57.5
MOS *e*S S 06 39 45.4 -0.3
MOS *e* 06 40 55.5
MOS *i* SS SS 06 43 57.4 -1.1
MOS pmax pmax
comp=Z,468nm,2.4s,mb6.1
MOS pmax pmax
comp=Z,3µm,3.4s
MOS pmax pmax
comp=N,3µm,4.1s
MOS pmax pmax
comp=E,700nm,4.1s
MOS Moscow 65.28 326 *e*P **P** **06 31 01.4 -1.5**
HEC Hector,Ludlow 65.28 65 P **P** **06 31 02.6 -0.4**
baz=65,SNR=151
CCUT Cedar City 65.36 61 *e*P **P** **06 31 03.3 -0.1**
SFJD Kangerlussuaq 65.36 11 ⇓*i*P **P** **06 31 02.8 -0.6**
SFJD *i* S S 06 39 46.9 +0.3
SFJD Kangerlussuaq 65.36 11 ⇓*i*P **P** **06 31 02.8 -0.6**
SFJD *i* S S 06 39 46.9 +0.3
SFJD LR LR
comp=Z,3µm,19.0s,MS5.5
U12A Valley of Fire 65.36 63 ⇓P **P** **06 31 03.1 -0.3**
baz=65,SNR=67
MVU Marysvale 65.43 59 PFAKE 06 31 20.0 +16
MVU LR LR
comp=Z,2µm,20.0s,MS5.2
MSU Marysvale 65.44 59 P **P** **06 31 04.3 +0.3**
MSU Marysvale 65.44 59 *e*P **P** **06 31 04.4 +0.4**
TMUT Trail Mountain 65.51 58 *e*P **P** **06 31 04.5 +0.1**
MURC Murrieta 65.53 66 P **P** **06 31 03.8 -0.7**
baz=65,SNR=54
NSS Namsos 65.61 343 *e*P **P** **06 31 07.7 +2.6**
NSS *e*S S 06 39 50.9 +1.3
NSS *e* 06 44 16.4
NSS AMS AMS 07 03 09.2
comp=Z,5µm,20.2s,MS5.7
V12A Nelson 65.63 63 P **P** **06 31 05.2 0.0**
baz=65,SNR=123
W12A Cal Nev Ari 65.89 64 P **P** **06 31 06.8 -0.1**
baz=66,SNR=61
PFO Pinyon Flat Ob 66.00 66 P **P** **06 31 07.4 -0.2**
comp=Z,348nm,1.2s,mb6.3,SNR=11
PFO Pinyon Flat Ob 66.00 66 *e*P **P** **06 31 07.3 -0.3**
PFO pmax pmax
comp=Z,111nm,1.3s,mb5.7
PFO MLR MLR
comp=Z,443nm,19.0s,MS4.7
PFO Pinyon Flat Ob 66.00 66 *e*P **P** **06 31 07.3 -0.3**
comp=Z,111nm,1.3s,mb5.7
PFO LR LR
comp=Z,443nm,19.0s,MS4.7
PFO Pinyon Flat Ob 66.00 66 ⇑P **P** **06 31 07.2 -0.4**
baz=66,SNR=26
BELC Belle Mtn. 66.03 65 P **P** **06 31 06.9 -0.9**
baz=66,SNR=56
SRU San Rafael 66.03 58 *e*P **P** **06 31 07.7 -0.1**
SRU pmax pmax
comp=Z,286nm,0.9s,mb6.3
SRU San Rafael 66.03 58 *e*P **P** **06 31 07.7 -0.1**
comp=Z,286nm,0.9s,mb6.3
109C Camp Elliot, M 66.05 67 ⇓P **P** **06 31 07.5 -0.5**
baz=66,SNR=32
OBN Obninsk 66.15 326 P **P** **06 31 07.9 -0.6**
comp=Z,770nm,1.4s,mb6.5,SNR=7.8
OBN Obninsk 66.15 326 ⇑*i*P **P** **06 31 07.5 -1.0**
OBN *i* 06 31 20.1
OBN *i* 06 31 37.8
OBN *e* 06 33 29.8
OBN *e*PPP 06 35 13.9
OBN *i* S S 06 39 58.2 +1.9
OBN *i* SS SS 06 44 16.4 +4.4
OBN pmax pmax
comp=Z,237nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,5µm,19.0s,MS5.8
OBN Obninsk 66.15 326 *e*P **P** **06 31 07.7 -0.9**
comp=Z,816nm,2.1s,mb6.4
OBN LR LR
comp=Z,2µm,22.0s,MS5.2
ULM Lac du Bonnet 66.20 41 P **P** **06 31 07.7 -1.2**
comp=Z,66nm,1.0s,mb5.6,baz=312,slow=7.0,SNR=49
ULM PKPPKP 06 59 42.8
comp=Z,3.1nm,1.0s,baz=102,slow=2.4,SNR=3.1
ULM Lac du Bonnet 66.20 41 *e*P **P** **06 31 07.7 -1.2**
comp=Z,116nm,1.0s,mb5.9
ULM LR LR
comp=Z,4µm,19.0s,MS5.7
RWWY Rawlins 66.24 54 *e*P **P** **06 31 09.1 0.0**
comp=Z,200nm,1.0s,mb6.1
RSSD Black Hills 66.35 50 P **P** **06 31 09.0 -0.8**
RSSD pmax pmax
comp=Z,250nm,1.0s,mb6.2
RSSD Black Hills 66.35 50 *e*P **P** **06 31 09.3 -0.5**
comp=Z,226nm,1.0s,mb6.2
RSSD LR LR
comp=Z,3µm,19.0s,MS5.5
NEE2 Needles Airpor 66.39 64 ⇑P **P** **06 31 09.3 -0.8**
baz=66
IRM Iron Mountain 66.46 65 P **P** **06 31 09.8 -0.7**
baz=66,SNR=209
BAR Barrett 66.47 67 *e*P **P** **06 31 10.1 -0.4**
MONP Monument Peak 66.49 67 ⇓P **P** **06 31 09.9 -0.9**
baz=66,SNR=47
CTA Charters Tower 66.56 188 *e*P **P** **06 31 09.9 -1.2**
comp=Z,28nm,0.7s,mb5.4
CTA *e* 06 31 31.6
CTA Charters Tower 66.56 188 LR LR 07 00 04.1
comp=Z,2µm,18.8s,MS5.4,baz=3.0,slow=36
CTA Charters Tower 66.56 188 *e*P **P** **06 31 09.9 -1.2**
CTA pmax pmax
comp=Z,28nm,0.7s
CTAO Charters Tower 66.56 188 *e*P **P** **06 31 09.4 -1.7**
CTAO pmax pmax
comp=Z,102nm,1.2s,mb5.7
CTAO MLR MLR
comp=Z,2µm,20.0s,MS5.3
CTAO Charters Tower 66.56 188 *e*P **P** **06 31 09.4 -1.7**
comp=Z,102nm,1.2s,mb5.7
CTAO LR LR
comp=Z,2µm,20.0s,MS5.3
BC3 Big Chuckw Mtn 66.60 65 P **P** **06 31 10.8 -0.6**
baz=66,SNR=80
W13A Hualapai Mount 66.63 63 P **P** **06 31 11.2 -0.4**
baz=66,SNR=125
DVTC Desert V Tower 66.84 67 ⇓P **P** **06 31 12.6 -0.3**
baz=67,SNR=20
SWSC Sam W. Stewart 66.85 66 ⇓P **P** **06 31 12.3 -0.7**
baz=67,SNR=32
VSU Vasula 66.98 333 ⇑*e*P **P** **06 31 13.3 -0.6**
VSU Vasula 66.98 333 ⇑*e*P **P** **06 31 13.4 -0.5**
X13A Yucca 67.00 64 P **P** **06 31 13.6 -0.3**
baz=67,SNR=178
PDMCI Parker Dam,Lak 67.00 64 P **P** **06 31 13.5 -0.5**
baz=67,SNR=152
VRHR Novokhopersk 67.02 321 *e*P **P** **06 31 13.7 -0.4**
VRHR *e*S S 06 40 01.8 -5.0
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR smax
comp=E,610nm,7.5s
VRHR smax
comp=Z,690nm,7.7s
VRHR smax
comp=N,7.0nm,14.5s
VRHR MLR MLR
comp=Z,9µm,21.0s,MS5.9
VRHR MLR MLR
comp=E,3µm,20.0s
W14A Seligman 67.05 63 ⇓P **P** **06 31 13.5 -0.8**
baz=67,SNR=312
Y12C Blythe 67.12 65 ⇓P **P** **06 31 13.7 -1.0**
baz=67,SNR=88
AFI Afiamalu 67.25 144 P **P** **06 31 16.1 +0.5**
comp=E,94nm,0.8s,mb5.8,baz=282,slow=3.5,SNR=6.6
AFI LR LR 06 54 06.5
comp=E,5µm,21.0s,MS5.7,baz=335,slow=30
AFI Afiamalu 67.25 144 *e*P **P** **06 31 15.9 +0.4**
comp=E,111nm,0.9s,mb5.9
AFI LR LR
comp=Z,5µm,22.0s,MS5.7
GLA Glamis 67.39 65 *e*P **P** **06 31 15.7 -0.7**
GLA Glamis 67.39 65 P **P** **06 31 16.2 -0.2**
baz=67,SNR=77
PHWY Pilot Hill 67.47 53 *e*P **P** **06 31 16.4 -0.6**
Y13A Salome 67.51 64 ⇓P **P** **06 31 17.1 -0.1**
baz=67
W15A Williams 67.58 62 P **P** **06 31 18.1 +0.4**
baz=67,SNR=112
AGMN Agassiz Refuge 67.58 43 *e*P **P** **06 31 16.2 -1.5**
comp=Z,220nm,1.1s,mb6.1
AGMN LR LR
comp=Z,3µm,20.0s,MS5.5
VOR Voronezh 67.60 323 P **P** **06 31 18.0 +0.3**
VOR *e* 06 40 15.0
VOR pmax pmax
comp=N,330nm,2.5s
VOR pmax pmax
comp=E,270nm,2.5s
VOR pmax pmax
comp=Z,750nm,2.5s,mb6.3
ABKT Ailbek 67.60 302 P **P** **06 31 18.2 +0.4**
comp=Z,772nm,0.8s,mb6.8,SNR=31
X14A Yava 67.66 63 P **P** **06 31 18.1 0.0**
baz=67,SNR=212
WUAZ Wupatki 67.90 61 *e*P **P** **06 31 19.8 +0.2**
comp=Z,210nm,1.1s,mb6.1
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.2
WUAZ Wupatki 67.90 61 ⇑P **P** **06 31 19.2 -0.4**
baz=68,SNR=114
HYB Hyderabad 67.94 272 *i* P **P** **06 31 19.5 -0.4**
comp=Z,140nm,1.0s,mb6.0
HYB *e*S S 06 40 20.0 +2.1
HYB *e*SPP 06 40 44.0
HYB *e*ScS ScS 06 41 16.0 -1.9
HYB *e*SS SS 06 44 44.0 +4.2
HYB Hyderabad 67.94 272 *e*P **P** **06 31 19.5 -0.4**
HYB *e*S S 06 40 20.0 +2.1
HYB pmax pmax
comp=Z,140nm,1.0s,mb6.0
HYB Hyderabad 67.94 272 *e*P **P** **06 31 19.5 -0.4**
comp=Z,140nm,1.0s,mb6.0
HYB *e*S S 06 40 20.0 +2.1
Y14A Wickenburg 67.94 64 P **P** **06 31 19.6 -0.3**
baz=68,SNR=145
VRSR Storozhevoye 67.98 322 *e*P **P** **06 31 19.8 -0.4**
VRSR *e*S S 06 40 19.1 +0.8
VRSR *e*SS SS 06 44 45.7 +5.3
VRSR pmax pmax
comp=E,50nm,0.9s
VRSR pmax pmax
comp=Z,60nm,0.9s,mb5.6
VRSR pmax pmax
comp=N,60nm,0.8s
VRSR smax
comp=N,1µm,5.6s
VRSR smax
comp=Z,1µm,4.9s
VRSR smax
comp=E,620nm,4.2s
VRSR MLR MLR
comp=Z,8µm,18.0s,MS6.0
VRSR MLR MLR
comp=N,5µm,17.0s,MS6.0
VRSR MLR MLR
comp=E,6µm,17.0s,MS6.0
SMCO Snowmass 68.05 56 *e*P **P** **06 31 11.2 -9.4**
comp=E,205nm,1.0s,mb6.1
X15A Humboldt 68.05 63 P **P** **06 31 20.7 0.0**
baz=68,SNR=294
VORD Divnogorie 68.12 322 *e*P **P** **06 31 18.0 -3.1**
VORD pmax pmax
comp=N,50nm,1.5s
VORD pmax pmax
comp=Z,40nm,1.5s,mb5.2
VORD pmax pmax
comp=E,30nm,0.6s
VORD MLR MLR
comp=Z,5µm,13.0s,MS6.0
VORD MLR MLR
comp=N,5µm,17.0s,MS5.9
VORD MLR MLR
comp=E,4µm,16.0s,MS5.9
MOL Molde 68.24 344 *e*P **P** **06 31 24.0 +2.2**
MOL *e*S S 06 40 26.5 +5.1
Z14A Wintersburg 68.36 64 P **P** **06 31 22.4 -0.1**
baz=68,SNR=39
ISCO Idaho Springs 68.40 55 *e*P **P** **06 31 22.8 0.0**
ISCO pmax pmax
comp=Z,203nm,1.0s,mb6.1
ISCO MLR MLR
comp=Z,3µm,20.0s,MS5.5
ISCO Idaho Springs 68.40 55 *e*P **P** **06 31 22.8 0.0**
comp=Z,203nm,1.0s,mb6.1
ISCO LR LR
comp=Z,3µm,20.0s,MS5.5
DOMB Dombas 68.43 343 *e*P **P** **06 31 24.3 +1.3**
DOMB AMb AMB 06 31 32.8
comp=Z,234nm,1.7s,mb5.9
DOMB Dombas 68.43 343 *e*P **P** **06 31 24.3 +1.3**
comp=Z,234nm,1.7s,mb5.9
WRAB Tennant Creek 68.45 200 P **P** **06 31 21.5 -1.6**
comp=Z,585nm,0.9s,mb6.6,SNR=33
WRAB Tennant Creek 68.45 200 P **P** **06 31 21.9 -1.2**
WRAB pmax pmax
comp=Z,320nm,1.3s,mb6.2
WRAB Tennant Creek 68.45 200 PFAKE 06 31 40.0 +17
WRAB LR LR
comp=Z,412nm,19.0s,MS4.7
WB2 Warramunga Arr 68.46 200 *e*P **P** **06 31 21.5 -1.7**
WRA Warramunga Arr 68.47 200 P **P** **06 31 22.0 -1.2**
comp=Z,50nm,0.6s,mb5.7,baz=20,slow=6.7,SNR=112
WRA PKPPKP 06 59 35.6
comp=Z,4.1nm,0.9s,baz=192,slow=2.9,SNR=8.1
WRA LR LR 07 02 32.5
comp=Z,1µm,19.4s,MS5.1,baz=45,slow=37
MVCO Mesa Verde 68.49 58 *e*P **P** **06 31 22.9 -0.4**
comp=Z,224nm,1.1s,mb6.1
MVCO LR LR
comp=Z,2µm,19.0s,MS5.3
MVCO Mesa Verde 68.49 58 P **P** **06 31 23.1 -0.2**
baz=68,SNR=113
LATR Latur 68.64 275 *ex* x 06 31 14.6
NB2 NORSAR Subarra 68.89 342 P **P** **06 31 24.6 -1.2**
comp=Z,229nm,1.1s,mb6.0,baz=29,slow=6.5
NOA NORSAR Array B 68.89 342 P **P** **06 31 24.4 -1.4**
comp=Z,26nm,0.7s,mb5.3,baz=26,slow=6.2,SNR=47
NOA PKPPKP 06 59 33.9
comp=Z,3.6nm,0.9s,baz=203,slow=3.4,SNR=3.6
NOA LR LR 07 05 40.5
comp=Z,3µm,18.1s,MS5.6,baz=15,slow=39
DZM Mont Dzumac 68.97 168 P **P** **06 31 26.4 0.0**
comp=Z,20nm,1.0s,mb5.0,baz=30,slow=7.0,SNR=13
DZM LR LR 07 00 31.5
comp=Z,4µm,18.3s,MS5.7,baz=5.9,slow=35
NAO01 NORSAR Array S 69.14 342 *e*P **P** **06 31 26.8 -0.6**
comp=Z,76nm,0.9s,mb5.6
NAO01 LR LR
comp=Z,5µm,22.0s,MS5.7
BORG Borgarnes 69.18 358 *e*P **P** **06 31 29.7 +2.0**
comp=Z,334nm,1.4s,mb6.1
115A Sonoran Desert 69.25 64 P **P** **06 31 28.3 +0.2**
baz=69,SNR=41
FITZ Fitzroy Crossi 69.25 209 *e*P **P** **06 31 27.5 -0.6**
comp=Z,92nm,0.9s,mb5.7
FITZ Fitzroy Crossi 69.25 209 PKPPKP 06 59 36.6
comp=Z,9.3nm,1.0s,baz=208,slow=6.3,SNR=7.8
116A Eloy 69.67 64 P **P** **06 31 30.4 -0.3**
baz=69,SNR=54
MDRS Chennai 69.78 268 *e*P **P** **06 31 31.2 -0.2**
MDRS AMb AMB 06 32 04.8
comp=Z,155nm,1.6s,mb5.7
MDRS Chennai 69.78 268 *e*S S 06 40 44.6 +4.9
HYA Hoyanger 69.79 344 *e*P **P** **06 31 34.3 +2.9**
MNK Minsk 69.82 330 ⇑*e*P **P** **06 31 28.0 -3.6**
MNK *e*S S 06 40 36.0 -4.1
EYMN Ely 69.85 41 *e*P **P** **06 31 31.1 -0.8**
comp=Z,124nm,1.1s,mb5.8
EYMN LR LR
comp=Z,2µm,20.0s,MS5.5
SDCO Great Sand Dun 69.87 56 *e*P **P** **06 31 31.6 -0.4**
comp=Z,162nm,1.2s,mb5.8
SDCO LR LR
comp=Z,3µm,20.0s,MS5.5
MAK Makhachkala 70.03 312 *i* P **P** **06 31 30.5 -2.4**
MAK *e*PPP 06 35 47.6
MAK *e*S S 06 40 40.8 -1.7
MAK pmax pmax
comp=Z,433nm,1.8s,mb6.1
MAK smax
comp=N,5µm,10.1s
MAK smax
comp=E,4µm,10.4s
MAK Makhachkala 70.03 312 *e*P **P** **06 31 30.2 -2.7**
TUC Tucson 70.42 64 *e*P **P** **06 31 34.8 -0.5**
TUC pmax pmax
comp=Z,73nm,1.1s,mb5.5
TUC MLR MLR
comp=Z,1µm,19.0s,MS5.2
TUC Tucson 70.42 64 *e*P **P** **06 31 34.8 -0.5**
comp=Z,73nm,1.1s,mb5.5
TUC LR LR
comp=Z,1µm,19.0s,MS5.2
ECSD EROS,Sioux Fal 70.47 47 *e*P **P** **06 31 33.8 -1.8**
comp=Z,190nm,1.1s,mb5.9
ECSD LR LR
comp=Z,4µm,19.0s,MS5.7
KONO Kongsberg 70.50 342 *e*P **P** **06 31 38.2 +2.5**
KONO *e*S S 06 40 48.4 +0.4
KONO *e*SS SS 06 45 19.5 +0.3
KONO Kongsberg 70.50 342 *e*P **P** **06 31 34.6 -1.1**
KONO pmax pmax
comp=Z,154nm,1.1s,mb5.8
KONO MLR MLR
comp=Z,4µm,20.0s,MS5.7
KONO Kongsberg 70.50 342 *e*P **P** **06 31 34.6 -1.2**
comp=Z,154nm,1.1s,mb5.8
KONO LR LR
comp=Z,4µm,20.0s,MS5.7
ASK Askoy 70.61 344 *e*P **P** **06 31 36.7 +0.2**
ASK AMb AMB 06 31 45.1
comp=Z,667nm,1.6s,mb6.3
ASK Askoy 70.61 344 *e*P **P** **06 31 36.7 +0.2**
comp=Z,667nm,1.6s,mb6.3
RUND Rundenannen 70.64 344 *e*P **P** **06 31 38.4 +1.8**
RUND AMb AMB 06 31 45.3
comp=Z,724nm,1.2s,mb6.5
RUND Rundenannen 70.64 344 *e*P **P** **06 31 38.4 +1.8**
comp=Z,724nm,1.2s,mb6.5
BER Bergen 70.68 344 *e*P **P** **06 31 37.3 +0.4**
BER *e*P 06 31 39.9
BER AMb AMB 06 31 46.1
comp=Z,371nm,1.3s,mb6.2
BER *e*S S 06 40 54.4 +4.2
BER Bergen 70.68 344 *e*P **P** **06 31 39.9 +3.1**
BER pmax pmax
comp=Z,371nm,1.3s,mb6.2
BER Bergen 70.68 344 *e*P **P** **06 31 39.9 +3.0**
comp=Z,371nm,1.3s,mb6.2
EGD Espegrend 70.80 344 *e*P **P** **06 31 41.1 +3.5**
EGD AMb AMB 06 31 46.5
comp=Z,793nm,1.9s,mb6.3
EGD Espegrend 70.80 344 *e*P **P** **06 31 41.1 +3.5**
comp=Z,793nm,1.9s,mb6.3
BOM Bombay 70.89 278 *e*P **P** **06 31 33.5 -4.6**
BOM *ex* x 06 31 43.4
comp=Z,247nm,1.1s
BOM *e*S S 06 40 48.6 -4.0
BOM *e*S S 06 40 48.6 -4.0
KAD Karad 71.04 275 *e*P **P** **06 31 38.3 -0.7**
KAD *e*P 06 31 39.4
KAD AMb AMB 06 31 44.3
comp=Z,215nm,1.3s,mb5.9
KAD *e*S S 06 40 59.4 +5.1
LAZ Ladron 71.21 60 *e*P **P** **06 31 40.4 +0.3**
ANMO Albuquerque 71.23 59 P **P** **06 31 39.7 -0.5**
ANMO pmax pmax
comp=Z,120nm,1.0s
ANMO Albuquerque 71.23 59 *e*P **P** **06 31 40.0 -0.2**
comp=Z,122nm,1.0s,mb5.8
ANMO LR LR
comp=Z,2µm,20.0s,MS5.3
BLS5 Blasjo 71.35 343 *e*P **P** **06 31 42.4 +1.4**
BLS5 AMb AMB 06 31 50.2
comp=Z,114nm,1.5s,mb5.6
BLS5 Blasjo 71.35 343 *e*P **P** **06 31 42.4 +1.4**
comp=Z,114nm,1.5s,mb5.6
LENM Lemitar 71.47 60 *e*P **P** **06 31 42.0 +0.3**
Y22C IRIS PASSCAL I 71.56 60 ⇓P **P** **06 31 42.2 0.0**
baz=71,SNR=12
LPM Los Pinos Moun 71.57 60 *e*P **P** **06 31 42.4 +0.1**
BNM Barren Site 71.69 60 *e*P **P** **06 31 43.3 +0.3**
KIV Kislovodsk 71.73 315 P **P** **06 31 45.8 +2.5**
comp=Z,1µm,1.1s,mb6.7,SNR=24
KIV Kislovodsk 71.73 315 P **P** **06 31 45.4 +2.1**
SNR=32
KIV Kislovodsk 71.73 315 *e*P **P** **06 31 42.5 -0.8**
KIV *e* 06 32 03.7
KIV *e*PPP 06 36 05.7
KIV *e*S S 06 41 03.8 +1.4
KIV *e*SS SS 06 45 41.6 +3.4
KIV pmax pmax
comp=Z,186nm,0.9s,mb6.0
KIV pmax pmax
comp=Z,5µm,4.8s
KIV MLR MLR
comp=Z,14µm,17.0s,MS6.3
KIV Kislovodsk 71.73 315 *e*P **P** **06 31 44.9 +1.6**
comp=Z,277nm,1.1s,mb6.1
KIV LR LR
comp=Z,2µm,21.0s,MS5.2
SUW Suwalki 71.78 332 *e*P **P** **06 31 42.9 -0.6**
SUW *e*PcP pP 06 31 48.2 -1.4
SUW L 07 01 26.8
comp=Z,6.3nm,27.5s
SUW Suwalki 71.78 332 *e*P **P** **06 31 42.9 -0.6**
SUW *e*PcP pP 06 31 48.2 -1.4
ZEI Tsey 72.00 314 *e*P **P** **06 31 43.6 -1.3**
ZEI *e**PP pP 06 31 47.0 -3.9
ZEI *e* 06 32 02.2
AS31 Alice Springs 72.15 200 *e*P **P** **06 31 45.8 +0.1**
ASAR Alice Springs 72.15 200 P **P** **06 31 45.4 -0.4**
comp=Z,48nm,0.6s,mb5.6,baz=16,slow=6.3,SNR=165
ASAR PKPPKP 06 59 25.9
comp=Z,1.1nm,1.0s,baz=0.0,slow=0.9,SNR=3.0
ASAR LR LR 07 04 20.2
comp=Z,2µm,18.5s,MS5.4,baz=22,slow=36

ASPA Alice Springs 72.15 200 *e*P P **06 31 45.8 0.0**
SNART Snartemo 72.20 343 *e*P P **06 31 49.0 +2.9**
SNART AMb AMB 06 31 55.0
comp=Z,227nm,1.0s,mb6.1
TBLG Delisi 72.34 312 P P **06 31 49.3 +2.4**
CBKS Cedar Bluff 72.36 52 *e*P P **06 31 45.1 -1.9**
CBKS pmax pmax
comp=Z,260nm,1.2s,mb6.0
CBKS Cedar Bluff 72.36 52 *e*P P **06 31 43.9 -3.1**
comp=Z,264nm,1.2s,mb6.0
CBKS LR LR
comp=Z,3µm,19.0s,MS5.5
AKASG Malin Array Be 72.38 327 P P **06 31 45.5 -1.6**
comp=Z,30nm,0.7s,mb5.4,baz=34,slow=6.4,SNR=45
AKASG S S 06 41 07.5 -2.4
comp=Z,0.4nm,0.5s,baz=26,slow=12,SNR=3.3
AKASG LR LR 07 05 16.6
comp=Z,5µm,21.8s,MS5.7,baz=35,slow=37
AKASG Malin Array Be 72.38 327 P P **06 31 45.5 -1.6**
AKASG S S 06 41 07.5 -2.3
AKASG pmax pmax
comp=Z,30nm,0.7s
AKASG MLR MLR
comp=Z,5µm,21.8s
AKBB Malin Array Si 72.38 327 *e*P P **06 31 45.5 -1.6**
KIEV Kiev 72.39 327 *e*P P **06 31 45.5 -1.7**
KIEV pmax pmax
comp=Z,116nm,0.9s,mb5.8
KIEV MLR MLR
comp=Z,5µm,22.0s,MS5.8
KIEV Kiev 72.39 327 *e*P P **06 31 45.5 -1.7**
comp=Z,116nm,0.9s,mb5.8
KIEV LR LR
comp=Z,5µm,22.0s,MS5.8
BSD Bornholm Skovb 73.28 337⇑ *i*P P **06 31 52.9 +0.4**
comp=Z,202nm,1.3s,mb5.9
BSD *i* S S 06 41 22.2 +2.2
BSD
comp=Z,5µm,17.0s
BSD Bornholm Skovb 73.28 337⇑ *e*P P **06 31 52.9 +0.4**
BSD *i* S S 06 41 22.2 +2.2
BSD pmax pmax
comp=Z,200nm,1.3s,mb5.9
BSD MLR MLR
comp=Z,4µm,17.0s,MS5.8
BSD Bornholm Skovb 73.28 337⇑ *e*P P **06 31 52.9 +0.4**
comp=Z,203nm,1.3s,mb5.9
BSD *i* S S 06 41 22.2 +2.2
SCHQ Schefferville 73.30 23 P P **06 31 51.6 -0.9**
comp=Z,59nm,0.9s,mb5.5,baz=347,slow=6.3,SNR=41
SCHQ LR LR 07 09 52.2
comp=Z,2µm,18.5s,MS5.4,baz=346,slow=40
SCHQ Schefferville 73.30 23 *e*P P **06 31 51.6 -0.9**
comp=Z,146nm,1.1s,mb5.8
SCHQ LR LR
comp=Z,3µm,21.0s,MS5.6
COP Copenhagen 73.42 339 *i*P P **06 31 57.9 +4.6**
comp=Z,118nm,0.8s,mb5.9
COP *i* S S 06 41 26.0 +4.4
COP
comp=Z,3µm,22.0s
COP Copenhagen 73.42 339 *i*P P **06 31 57.9 +4.6**
COP *i* S S 06 41 26.0 +4.4
COP pmax pmax
comp=Z,120nm,0.8s,mb5.9
COP MLR MLR
comp=Z,3µm,22.0s,MS5.5
SOC Sochi 73.44 316*c* *i*P P **06 31 55.3 +1.9**
SOC *e**PP pP 06 31 58.6 -0.9
SOC *e* 06 32 10.6
SOC *e* 06 34 39.2
SOC *e*PPP 06 36 21.9
SOC *i* S S 06 41 25.2 +3.3
SOC *e* 06 41 57.1
SOC pmax pmax
comp=Z,342nm,2.3s,mb5.9
SOC pmax pmax
comp=Z,73nm,1.1s,mb5.5
GNI Garni 73.49 311 P P **06 31 55.7 +2.0**
GNI Garni 73.49 311 P P **06 31 54.8 +1.1**
comp=Z,22nm,0.6s,mb5.2,baz=128,slow=3.0,SNR=10
GNI Garni 73.49 311 P P **06 31 56.6 +2.9**
SNR=19
GNI Garni 73.49 311⇑ *e*P P **06 31 55.4 +1.7**
GNI pmax pmax
comp=Z,294nm,2.5s
GNI MLR MLR
comp=Z,10µm,20.0s
GNI Garni 73.49 311 *e*P P **06 31 56.2 +2.5**
GNI LR LR
comp=Z,10µm,19.0s,MS6.1
MUD Monsted U'grnd 73.50 341 *i*P P **06 31 56.4 +2.6**
comp=Z,74nm,0.8s,mb5.7
MUD *i* S S 06 41 27.9 +5.3
MUD
comp=Z,4µm,17.0s
MUD Monsted U'grnd 73.50 341 *i*P P **06 31 56.4 +2.6**
MUD *i* S S 06 41 27.9 +5.3
MUD pmax pmax
comp=Z,74nm,0.8s,mb5.7
MUD MLR MLR
comp=Z,4µm,17.0s,MS5.8
MUD Monsted U'grnd 73.50 341 *i*P P **06 31 56.4 +2.6**
comp=Z,74nm,0.8s,mb5.7
MUD *i* S S 06 41 27.9 +5.3
SCIA State Center 73.51 46 *e*P P **06 31 52.8 -1.1**
comp=Z,329nm,0.9s,mb6.3
SCIA LR LR
comp=Z,3µm,19.0s,MS5.6
PALK Pallekele 73.57 263 *e*P P **06 31 54.3 +0.1**
comp=Z,70nm,1.1s,mb5.5
PALK LR LR
comp=Z,551nm,19.0s,MS4.9
ANN Anapa 73.59 319 *e*P P **06 31 55.6 +1.3**
ANN *e**PP pP 06 31 59.6 -0.8
ANN *e* 06 32 09.9
ANN *e*PPP 06 36 24.1
ANN *e*S S 06 41 25.4 +1.9
ANN pmax pmax
comp=Z,154nm,1.1s,mb5.8
MNGI Mangalore 73.63 272 *i*P P **06 31 57.1 +2.6**
MNGI *i* S S 06 41 24.0 0.0
KSU1 Kansas State U 73.83 50 *e*P P **06 31 53.4 -2.4**
comp=Z,133nm,0.9s,mb5.9
KSU1 LR LR
comp=Z,3µm,19.0s,MS5.6
WAR Warsaw 73.97 332 *e*P P **06 31 55.2 -1.3**
WAR *e*PcP PcP 06 32 04.5 -7.3
KARS Kars 74.00 312 P P **06 31 57.4 +0.7**
AMTX Amarillo 74.07 56 *e*P P **06 31 56.9 -0.2**
comp=Z,205nm,1.0s,mb6.0
AMTX LR LR
comp=Z,2µm,19.0s,MS5.5
BCA Borcka 74.12 314 P P **06 31 59.2 +1.8**
MNTX Cornudas Mount 74.14 61 *e*P P **06 31 57.2 -0.4**
comp=Z,160nm,1.1s,mb5.9
MNTX LR LR
comp=Z,1µm,19.0s,MS5.3
MBWA Marble Bar 74.20 214⇑ P P **06 31 56.9 -0.9**
SNR=5.5
MBWA Marble Bar 74.20 214 *e*P P **06 31 57.2 -0.7**
comp=Z,39nm,0.9s,mb5.3
MBWA LR LR
comp=Z,842nm,21.0s,MS5.0
JFWS Jewell Farm 74.21 44 *e*P P **06 31 55.9 -2.0**
JFWS pmax pmax
comp=Z,47nm,0.8s,mb5.5
JFWS MLR MLR
comp=Z,3µm,19.0s,MS5.6
JFWS Jewell Farm 74.21 44 *e*P P **06 31 55.9 -2.0**
comp=Z,47nm,0.8s,mb5.5
JFWS LR LR
comp=Z,3µm,19.0s,MS5.6
GKP Gorka Klasztor 74.25 335 *e*P P **06 31 57.4 -0.7**
GKP L 07 07 51.2
comp=Z,8.5nm,19.4s
GDL2 Guadalupe Moun 74.40 60 *e*P P **06 31 58.9 -0.2**
CLDR Calderan 74.66 311 P P **06 32 02.2 +1.6**
SIM Simferopol' 74.96 321 *e*P P **06 32 02.4 +0.1**
LVV L'vov 75.01 329 *i*P P **06 32 02.5 0.0**
LVV *e* 06 34 53.1
LVV *e*S S 06 41 38.1 -1.3
LVV *e* 06 42 09.7
LVV *e* 06 46 26.5
MDO Dochfour 75.07 348 *e*P P **06 32 04.1 +1.2**

KAC Achnashellach 75.14 349 *e*P P **06 32 04.7 +1.4**
TRD Trivandrum 75.28 267 *e*P P **06 32 04.9 +0.8**
TRD AMb AMB 06 32 10.3
comp=Z,108nm,1.6s,mb5.5
KPL Plockton 75.34 349 *e*P P **06 32 05.8 +1.4**
KPL AMb AMB 06 32 13.7
comp=Z,426nm,1.2s,mb6.2
VANB Van 75.34 311 P P **06 32 06.5 +2.0**
TVAN Van 75.38 311 *i*P P **06 32 08.7 +4.0**
KTUT Trabzon 75.39 315 P P **06 32 05.3 +0.6**
ERZM Erzurum 75.41 313 *i*P P **06 32 07.0 +2.1**
EZM Erzurum 75.41 313 P P **06 32 05.3 +0.4**
MACK Trabzon 75.42 315 *i*P P **06 32 06.1 +1.2**
KSB Sheil Bridge 75.44 349 *e*P P **06 32 05.6 +0.5**
BSEG Bad Segeberg 75.53 339 *e*P P **06 32 04.7 -0.8**
comp=Z,131nm,1.1s,mb5.8
BSEG Bad Segeberg 75.53 339 *e*P P **06 32 04.7 -0.8**
BSEG pmax pmax
comp=Z,131nm,1.1s,mb5.8
KIS Kishinev 75.54 325κ *i*P P **06 32 03.0 -2.6**
KIS *e* 06 34 54.0
KIS *e*PPP 06 36 40.0
KIS *i*S S 06 41 42.0 -3.4
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,3µm,6.0s
KIS MLR MLR
comp=E,7µm,15.0s,MS6.3
KIS MLR MLR
comp=Z,10µm,15.0s,MS6.2
KIS MLR MLR
comp=N,8µm,14.0s,MS6.3
KIS MLR MLR
comp=Z,5µm,15.0s
KIS Kishinev 75.54 325⇓ *i*P P **06 32 03.0 -2.6**
comp=Z,400nm,1.0s,mb6.3
KIS Kishinev 75.54 325 *e*PP PP 06 34 54.0 -0.9
KIS Kishinev 75.54 325 *e*PPP 06 36 40.0
KIS *i*S S 06 41 42.0 -3.4
KWP Kalwaria 75.63 330 *e*P P **06 32 06.2 +0.1**
KWP *e*PcP PcP 06 32 11.4 -7.5
KWP L 07 02 23.6
comp=Z,7.6nm,30.9s
KWP Kalwaria 75.63 330 *e*P P **06 32 06.2 +0.1**
KWP *e*PcP PcP 06 32 11.4 -7.5
KAR1 Arisaig 75.77 349 *e*P P **06 32 07.1 +0.1**
WMOK Wichita Mounta 75.83 54 *e*P P **06 32 06.1 -1.2**
WMOK pmax pmax
comp=Z,144nm,1.1s,mb5.8
WMOK MLR MLR
comp=Z,3µm,19.0s,MS5.5
WMOK Wichita Mounta 75.83 54 *e*P P **06 32 06.1 -1.1**
comp=Z,144nm,1.1s,mb5.8
WMOK LR LR
comp=Z,3µm,19.0s,MS5.5
HKR Hakkari 75.91 310 P P **06 32 14.4 +6.7**
HAKT HAKKARI 75.95 310 *i*P P **06 32 08.8 +0.8**
OJC Ojcow 76.10 332 *e*P P **06 32 08.4 -0.4**
OJC *e*S S 06 41 49.1 -2.5
OJC L 07 11 46.1
comp=Z,35nm,17.4s
OJC Ojcow 76.10 332 *e*P P **06 32 08.4 -0.4**
OJC *e*S S 06 41 49.1 -2.5
GRSN GIRESUNGRSN 76.17 316 *i*P P **06 32 10.6 +1.4**
CUKT Cukurca 76.23 310 P P **06 32 10.0 +0.5**
BNGL BINGOL 76.23 313 *i*P P **06 32 11.8 +2.2**
KELT Kelkit 76.28 314 *i*P P **06 32 09.2 -0.7**
EAB Aberfoyle 76.28 348 *e*P P **06 32 10.3 +0.5**
EZC Erzincan 76.30 314 P P **06 32 10.8 +0.8**
STHS Stebnicka Huta 76.31 331 *e*P P **06 32 09.9 -0.1**
STHS *e* 06 35 00.8
STHS pmax pmax
comp=Z,64nm,1.1s,mb5.5
STHS Stebnicka Huta 76.31 331 *e*P P **06 32 09.9 -0.1**
comp=Z,64nm,1.1s,mb5.5
STHS *e*PP PP 06 35 00.8 -0.6
EDI Edinburgh 76.36 347 *e*P P **06 32 12.2 +1.9**
EDI AMb AMB 06 32 18.8
comp=Z,251nm,1.2s,mb6.0
KOLS Kolonicke sedl 76.37 330 *e*P P **06 32 09.6 -0.7**
KOLS *e*S S 06 41 52.1 -2.4
LPIG La Paz 76.39 69 *i*P P **06 32 12.5 +2.0**
BURAR Bucovina Array 76.42 327 P P **06 32 09.6 -1.0**
EAU Auchinoon 76.48 347 *e*P P **06 32 12.0 +1.1**
EBL Broad Law 76.48 347 *e*P P **06 32 11.5 +0.5**
UZH Uzhgorod 76.62 330 *e*P P **06 32 11.6 -0.2**
UZH *e* 06 35 11.0
UZH *i*S S 06 41 56.8 -0.5
UZH *i* 06 42 25.0
UZH *e*SS SS 06 46 59.0 +6.4
UZH MLR MLR
comp=Z,6µm,16.0s,MS6.0
NIE Niedzica 76.62 331 *e*P P **06 32 12.0 +0.2**
SIRT Sirnak 76.66 311 P P **06 32 14.4 +2.4**
KSP Ksiaz 76.66 334 *e*P P **06 32 11.5 -0.5**
KSP *e*PcP PcP 06 32 17.3 -6.1
KSP Ksiaz 76.66 334 *e*P P **06 32 10.8 -1.2**
KSP *e*pP pP 06 32 17.9 -0.2
KSP *e* 06 32 28.2
KSP *e*S S 06 41 56.0 -1.7
KSP *e*SS SS 06 47 00.0 +6.8
KSP LR LR
comp=Z,18µm,17.9s,MS6.4
PGBU Glenifferbraes 76.66 348 *e*P P **06 32 13.5 +1.5**
PGBU AMb AMB 06 32 21.5
comp=Z,281nm,1.2s,mb6.1
LTX Lajitas 76.86 61 *e*P P **06 32 12.8 -0.3**
LTX MLR MLR
comp=Z,2µm,20.0s,MS5.4
TXAR Lajitas Array 76.86 61 P P **06 32 12.4 -0.7**
comp=Z,240nm,0.8s,mb6.2,baz=302,slow=4.0,SNR=331
TXAR PKKPbc PKKPbc 06 51 21.0 -0.9
comp=Z,1.2nm,0.8s,baz=134,slow=5.4,SNR=6.5
NRDL Niedersach Rie 76.89 339 *e*P P **06 32 11.9 -1.4**
comp=Z,104nm,0.9s,mb5.8
ESK Eskdalemuir 76.95 347 P P **06 32 15.5 +1.9**
comp=Z,534nm,0.8s,mb6.5,SNR=8.4
ESK Eskdalemuir 76.95 347 *e*P P **06 32 15.2 +1.6**
ESK AMb AMB 06 32 25.1
comp=Z,224nm,1.6s,mb5.8
ESK Eskdalemuir 76.95 347 *e*P P **06 32 15.4 +1.8**
ESK pmax pmax
comp=Z,65nm,0.8s,mb5.6
ESK MLR MLR
comp=Z,778nm,21.0s,MS5.0
ESK Eskdalemuir 76.95 347 *e*P P **06 32 15.4 +1.8**
comp=Z,65nm,0.8s,mb5.6
ESK LR LR
comp=Z,778nm,21.0s,MS5.0
OKC Ostrava-Krasne 76.97 333 *e*P P **06 32 13.2 -0.5**
OKC *e*pP pP 06 32 21.0 +1.2
OKC *e*S S 06 41 58.4 -2.6
OKC AMS AMS 07 08 20.0
comp=Z,5µm,19.9s
OKC Ostrava-Krasne 76.97 333 *e*P P **06 32 13.2 -0.5**
OKC *e* 06 32 21.0
OKC *e*S S 06 41 58.4 -2.6
BANOM Banah 76.99 294⇓ P P **06 32 14.4 +0.5**
SNR=16
DIKM Dikmen 77.03 318 P P **06 32 13.8 -0.3**
UPC Upice 77.04 334 *e*P P **06 32 13.9 -0.2**
UPC *e*pP pP 06 32 20.4 +0.2
DPC Dobruska-Polom 77.08 334 *e*P P **06 32 14.0 -0.4**
DPC *e*pP pP 06 32 20.9 +0.4
DPC *e*S S 06 42 04.4 +2.1
DPC AMS AMS 07 10 30.0
comp=Z,9µm,18.2s
KVT Kavak 77.11 317 P P **06 32 15.0 +0.5**
PTK Pertek 77.17 314 P P **06 32 16.4 +1.6**
CLL Collm 77.20 336 *e*P P **06 32 13.5 -1.5**
comp=Z,272nm,0.8s,mb6.2
CLL *e*(PcP) PcP 06 32 28.2 +2.5
CLL *e*PP PP 06 35 03.9 -5.0
CLL *e*S S 06 42 06.0 +2.4
CLL *e*SKSac SKSac 06 42 31.9 +5.1
CLL *e*(SS) 06 47 17.3
CLL *e*LR LR 06 57 17.3
CLL *e*L 07 06 39.6
comp=Z,6µm,22.0s
CLL Collm 77.20 336⇑ *i*P P **06 32 13.9 -1.1**
CLL *i**PP pP 06 32 20.9 -0.2
CLL *e*S S 06 42 06.0 +2.4
CLL pmax pmax
comp=Z,97nm,1.0s,mb5.7
CLL Collm 77.20 336⇑ *i*P P **06 32 13.9 -1.1**
comp=Z,97nm,1.0s,mb5.7
CLL *i* pP pP 06 32 20.9 -0.2
CLL *e*S S 06 42 06.0 +2.4
CLL Collm 77.20 336⇑ *i*P P **06 32 13.9 -1.1**
comp=Z,97nm,1.0s,mb5.7
CLL L 06 10 00.0
comp=Z,4µm,20.8s
CLL *e*Plp pP 06 32 18.0 -3.1
CLL *i* sP sP 06 32 20.9 -2.4
CLL *e*sPcP 06 32 28.0
CLL *e*PP PP 06 35 08.0 -0.9
CLL *e*S S 06 42 06.0 +2.4
CLL *e*SKSac SKSac 06 42 35.0 +8.2
CLL *e*SS SS 06 47 42.0 +41
MORC Moravsky Berou 77.21 333⇓ *i*P P **06 32 15.5 +0.4**
MORC Moravsky Berou 77.21 333 *e*P P **06 32 15.0 -0.1**
MORC pmax pmax
comp=Z,127nm,1.0s,mb5.8
MORC Moravsky Berou 77.21 333 *e*P P **06 32 15.0 -0.1**
comp=Z,127nm,1.0s,mb5.8
MSL Mosul 77.22 310 *ex* x 06 32 15.0
MSL *ex* x 06 42 06.0
VRI Vrincioaia 77.30 325⇑ *i*P P **06 32 17.5 +1.9**
VRI Vrincioaia 77.30 325 P P **06 32 16.7 +1.1**
VRI Vrincioaia 77.30 325⇑ P P **06 32 17.5 +2.0**
CFR Carcaliu 77.30 324 P P **06 32 16.3 +0.7**
BRG Berggiesshubel 77.32 336 *e*P P **06 32 14.4 -1.3**
comp=Z,108nm,1.1s,mb5.7
BRG Berggiesshubel 77.32 336 *i*P P **06 32 15.0 -0.7**
comp=Z,50nm,1.6s,mb5.2
BRG *i* 06 32 22.7
comp=Z,64nm,1.1s
BRG *i* 06 32 29.3
comp=Z,38nm,1.2s
BRG *i* 06 35 02.7
comp=Z,17nm,1.1s
BRG S S 06 42 07.0 +2.1
BRG *e* 06 42 37.4
comp=Z,4.6nm,1.3s
BRG SS SS 06 47 35.0 +32
BRG
comp=N,6µm,16.7s
BRG
comp=E,3µm,14.4s
BRG
comp=Z,4µm,15.1s
BRG Berggiesshubel 77.32 336 *i*P P **06 32 15.0 -0.7**
BRG *i* 06 32 22.7
BRG *i* 06 32 29.3
BRG S S 06 42 07.0 +2.1
BRG *e* 06 42 37.4
BRG MLR MLR
comp=N,5µm,16.7s,MS6.1
BRG MLR MLR
comp=E,6µm,14.4s,MS6.1
BRG MLR MLR
comp=Z,3µm,15.1s,MS5.7
BRG Berggiesshubel 77.32 336 *i*P P **06 32 15.0 -0.7**
comp=Z,50nm,1.6s,mb5.2
BRG *i* 06 32 22.7
BRG *i* 06 32 29.3
BRG *i* 06 35 02.7
BRG S S 06 42 07.0 +2.1
BRG *e* 06 42 37.4
BRG SS SS 06 47 35.0 +32
BRG LR LR
comp=Z,4µm,15.1s,MS5.8
LIKS Likavka 77.34 332 *e*P P **06 32 16.3 +0.5**
LIKS pmax pmax
comp=Z,71nm,1.1s,mb5.5
LIKS Likavka 77.34 332 *e*P P **06 32 16.3 +0.5**
comp=Z,71nm,1.1s,mb5.5
BZK Bozkurt 77.37 319 P P **06 32 16.7 +0.8**
KECS Kecovo 77.37 331 *e*P P **06 32 15.3 -0.7**
KECS pmax pmax
comp=Z,38nm,1.1s,mb5.2
KECS Kecovo 77.37 331 *e*P P **06 32 15.3 -0.7**
comp=Z,38nm,1.1s,mb5.2
BOYT Boyabat 77.38 318 *i*P P **06 32 16.4 +0.4**
WSAR Wadi Sarin 77.39 290 P P **06 32 16.9 +0.7**
comp=Z,28nm,1.0s,mb5.2,baz=75,slow=4.9,SNR=11
CCM Cathedral Cave 77.41 48 *e*P P **06 32 10.0 -6.2**
CCM pmax pmax
comp=Z,146nm,1.1s,mb5.8
CCM MLR MLR
comp=Z,3µm,20.0s,MS5.6
CCM Cathedral Cave 77.41 48 *e*P P **06 32 10.0 -6.2**
comp=Z,146nm,1.1s,mb5.8
CCM LR LR
comp=Z,3µm,20.0s,MS5.6
CLZ Clausthal 77.42 338 *e*P P **06 32 15.7 -0.6**
comp=Z,252nm,1.1s,mb6.1
CLZ Clausthal 77.42 338 *e*P P **06 32 15.7 -0.6**
CLZ pmax pmax
comp=Z,252nm,1.1s,mb6.1
WIT Witteveen 77.43 341 *e*P P **06 32 20.0 +3.7**
PVCC Panska Ves 77.45 335 *e*P P **06 32 15.8 -0.6**
PVCC *e*pP pP 06 32 22.6 +0.1
PVCC *e*S S 06 42 05.7 -0.6
PVCC AMS AMS 07 15 30.0
comp=Z,6µm,16.0s
SLM Saint Louis 77.48 46 *e*P P **06 32 15.8 -0.8**
SLM pmax pmax
comp=Z,193nm,1.1s,mb5.9
SLM Saint Louis 77.48 46 *e*P P **06 32 15.8 -0.8**
comp=Z,193nm,1.1s,mb6.0
BIDO Bidbid 77.52 291 P P **06 32 18.8 +2.0**
SNR=15
SVSK Karacayir 77.56 316 P P **06 32 17.9 +0.9**
GAL1 Galloway 77.61 348 *e*P P **06 32 18.8 +1.5**
GAL1 *e*P 06 32 18.8
GAL1 AMb AMB 06 32 26.7
comp=Z,302nm,1.3s,mb6.1
WBK Wadi Bani Khal 77.61 290 P P **06 32 19.0 +1.6**
SNR=20
CKE Keswick 77.64 347 *e*P P **06 32 19.4 +2.0**
IBBN Ibbenburen 77.64 340 *e*P P **06 32 16.7 -0.8**
comp=Z,274nm,1.2s,mb6.1
MARD Mardin 77.66 312 *i*P P **06 32 18.7 +1.0**
ELZG Elazig 77.67 314 *i*P P **06 32 19.6 +1.9**
AAM Ann Arbor 77.73 40 *e*P P **06 32 18.1 +0.1**
AAM pmax pmax
comp=Z,93nm,1.0s,mb5.7
AAM MLR MLR
comp=Z,2µm,20.0s,MS5.5
AAM Ann Arbor 77.73 40 *e*P P **06 32 18.1 +0.1**
comp=Z,93nm,1.0s,mb5.7
AAM LR LR
comp=Z,2µm,20.0s,MS5.5
TIRR Tirgusor 77.78 324⇓ *i*P P **06 32 18.2 -0.1**
TIRR Tirgusor 77.78 324 P P **06 32 18.1 -0.2**
TIRR Tirgusor 77.78 324 *e*P P **06 32 18.2 -0.1**
comp=Z,103nm,1.0s,mb5.7
XDE Dent Fell 77.78 347 *e*P P **06 32 18.8 +0.6**
HARR Harsova 77.78 324⇓ *i*P P **06 32 21.0 +2.7**
HARR Harsova 77.78 324 P P **06 32 18.2 -0.1**
COCO West Island 77.81 238 PFAKE 06 32 30.0 +12
COCO LR LR
comp=Z,325nm,19.0s,MS4.7
HATD Hatta, Dubai 77.88 293 P P **06 32 19.9 +1.1**
SNR=30
FVM French Village 77.88 47 *e*P P **06 32 17.5 -1.3**
FVM pmax pmax
comp=Z,58nm,0.8s,mb5.6
FVM French Village 77.88 47 *e*P P **06 32 17.5 -1.3**
comp=Z,58nm,0.8s,mb5.6
PRA Prague 77.90 335 P P **06 32 20.0 +1.1**
PRA pP pP 06 32 24.0 -1.0
SMDO Samad 77.90 291 P P **06 32 20.8 +1.9**
SNR=26
MLR Muntele Rosu 77.91 326 P P **06 32 19.6 +0.6**
comp=Z,34nm,0.6s,mb5.5,baz=321,slow=3.6,SNR=46
MLR Muntele Rosu 77.91 326⇓ *i*P P **06 32 18.9 -0.1**
MLR Muntele Rosu 77.91 326 P P **06 32 19.6 +0.6**
MLR pmax pmax
comp=Z,35nm,0.6s
MLR Muntele Rosu 77.91 326⇓ P P **06 32 18.9 -0.1**
VYHS Vyhne 77.91 332 *e*P P **06 32 18.5 -0.5**
VYHS *e*pP pP 06 32 25.4 +0.3
VYHS *e*PP PP 06 35 06.5 -8.4
VYHS *e*S S 06 42 08.8 -2.5
VYHS Vyhne 77.91 332 *e*P P **06 32 18.5 -0.5**

VYHS *e* pP 06 32 25.4 +0.3
VYHS *eS* S 06 42 08.8 -2.5
VYHS pmax pmax
comp=Z,65nm,1.1s,mb5.5
VYHS Vyhne 77.91 332 *eP* **P 06 32 18.5 -0.5**
comp=Z,65nm,1.1s,mb5.5
VYHS *e* pP 06 32 25.4 +0.3
VYHS *ePP* PP 06 35 06.5 -8.4
VYHS *eS* S 06 42 08.8 -2.5
VYHS LR LR
comp=Z,3μm,34.7s,MS5.4
VRAC Vranov 77.92 333 ⇓*iP* **P 06 32 19.1 +0.1**
VRAC Vranov 77.92 333 ⇓P **P 06 32 19.1 +0.1**
PRU Pruhonice 77.94 335 *eP* **P 06 32 18.5 -0.6**
PRU *epP* pP 06 32 24.8 -0.5
PRU *eS* S 06 42 12.0 +0.4
PRU AMS AMS 07 11 10.0
comp=Z,5μm,16.6s
BALT Daday 77.98 319 *i* P **P 06 32 19.9 +0.5**
HOQ Hoqain 78.00 291 P **P 06 32 20.9 +1.3**
SNR=29
ASHO Ashiyiah 78.03 293 P **P 06 32 20.7 +1.1**
SNR=35
DRGR 78.03 328 ⇑*iP* **P 06 32 19.1 -0.6**
DRGR 78.03 328 ⇑P **P 06 32 19.1 -0.5**
CTKT Corum 78.06 317 *i* P **P 06 32 20.8 +0.9**
PSZ Piszkesteto 78.06 331 ⇓*iP* **P 06 32 20.1 +0.3**
PSZ Piszkesteto 78.06 331 *eP* **P 06 32 19.8 0.0**
PSZ pmax pmax
comp=Z,151nm,1.3s,mb5.8
PSZ Piszkesteto 78.06 331 *eP* **P 06 32 19.8 0.0**
comp=Z,151nm,1.3s,mb5.8
PSZ Piszkesteto 78.06 331 *eP* **P 06 32 20.2 +0.4**
TOS Tosya 78.09 318 P **P 06 32 19.6 -0.4**
MALT Malatya 78.10 314 ⇓*iP* **P 06 32 21.6 +1.6**
MALT Malatya 78.10 314 P **P 06 32 21.1 +1.1**
MALT pmax pmax
comp=Z,85nm,0.9s,mb5.7
MALT Malatya 78.10 314 *eP* **P 06 32 21.2 +1.2**
comp=Z,85nm,0.9s,mb5.7
TANN Tannenbergstha 78.15 336 *eP* **P 06 32 19.6 -0.7**
comp=Z,63nm,1.0s,mb5.5
MOX Moxa 78.18 337 *eP* **P 06 32 19.6 -0.9**
comp=Z,159nm,1.0s,mb5.9
MOX Moxa 78.18 337 *eP* **P 06 32 20.7 +0.2**
MOX *e* pP 06 32 26.4 -0.2
comp=Z,234nm,1.4s
MOX
comp=Z,4μm,20.0s
MOX Moxa 78.18 337 *eP* **P 06 32 20.7 +0.2**
MOX *e* pP 06 32 26.4 -0.2
MOX pmax pmax
comp=Z,234nm,1.4s,mb5.9
MOX MLR MLR
comp=Z,4μm,20.0s,MS5.7
MOX Moxa 78.18 337 *eP* **P 06 32 20.7 +0.2**
comp=Z,234nm,1.4s,mb5.9
MOX *e* pP 06 32 26.4 -0.2
MOX LR LR
comp=Z,4μm,20.0s,MS5.7
WTSB Winterswijk 78.18 340 *eP* **P 06 32 22.3 +1.8**
comp=Z,233nm,0.8s,mb6.1
SNX Sinaia 78.19 326 ⇓*iP* **P 06 32 21.5 +0.9**
SNX Sinaia 78.19 326 ⇓P **P 06 32 21.5 +1.0**
VOIR 78.30 326 ⇑*iP* **P 06 32 21.5 +0.3**
VOIR 78.30 326 ⇑P **P 06 32 21.5 +0.3**
WIM Isle of Man 78.30 348 *eP* **P 06 32 22.5 +1.3**
NKC Novy Kostel 78.32 336 *eP* **P 06 32 20.5 -0.8**
NKC *epP* pP 06 32 27.2 -0.2
NKC *eS* S 06 42 15.6 -0.1
NKC AMS AMS 07 15 00.0
comp=Z,6μm,14.4s
NKC Novy Kostel 78.32 336 *eP* **P 06 32 20.5 -0.8**
NKC *e* pP 06 32 27.2 -0.2
NKC *eS* S 06 42 15.6 -0.1
JCT Junction City 78.34 58 *eP* **P 06 32 20.5 -0.9**
JCT pmax pmax
comp=Z,324nm,1.1s,mb6.2
JCT MLR MLR
comp=Z,2μm,20.0s,MS5.4
JCT Junction City 78.34 58 *eP* **P 06 32 20.5 -0.9**
comp=Z,324nm,1.1s,mb6.2
JCT LR LR
comp=Z,2μm,20.0s,MS5.4
JMDO Jabal Madar 78.35 290 P **P 06 32 22.3 +0.8**
SNR=55
SMOL Smolenice 78.35 332 *eP* **P 06 32 22.5 +1.0**
SMOL *epP* pP 06 32 28.1 +0.5
LHO Holmfirth 78.44 346 P **P 06 32 23.7 +1.8**
MTUR Matau 78.48 326 ⇑*iP* **P 06 32 24.4 +2.3**
MTUR Matau 78.48 326 ⇑P **P 06 32 24.4 +2.3**
CORM Corum 78.48 317 P **P 06 32 22.2 +0.1**
AWI1 Witton 78.52 344 *eP* **P 06 32 25.0 +2.6**
ABA1 Baconsthorpe 78.52 344 *eP* **P 06 32 24.4 +2.0**
SAFT Safranbolu 78.54 319 P **P 06 32 22.6 +0.1**
BUG Bochum--Univer 78.56 340 *eP* **P 06 32 21.8 -0.8**
comp=Z,217nm,1.0s,mb6.0
URFA Urfa 78.57 313 P **P 06 32 24.1 +1.5**
MANZ Manzenberg 78.64 336 *eP* **P 06 32 22.4 -0.6**
comp=Z,105nm,1.0s,mb5.7
BSY Bisya 78.67 291 P **P 06 32 24.1 +0.9**
SNR=44
ARQ Araqi 78.69 292 ⇓P **P 06 32 25.2 +2.0**
SNR=32
SIUC Southern Illin 78.70 46 *eP* **P 06 32 22.3 -1.0**
comp=Z,234nm,1.1s,mb6.0
BUD Budapest 78.73 331 *ePcP* PcP 06 32 26.0 -6.3
ZST Bratislava 78.74 332 *eP* **P 06 32 24.5 +0.9**
ZST *epP* pP 06 32 30.1 +0.4
ZST Bratislava 78.74 332 *eP* **P 06 32 24.5 +0.9**
ZST *e* pP 06 32 30.1 +0.4
ZST pmax pmax
comp=Z,95nm,0.9s,mb5.7
ZST MLR MLR
comp=Z,7μm,17.2s,MS6.1
ZST Bratislava 78.74 332 *eP* **P 06 32 24.5 +0.9**
comp=Z,95nm,0.9s,mb5.7
ZST *e* pP 06 32 30.1 +0.4
ZST LR LR
comp=Z,7μm,17.2s,MS6.1
STKA Stephens Creek 78.74 191 *eP* **P 06 32 22.4 -1.2**
comp=Z,23nm,0.6s,mb5.3
STKA *e* 06 32 45.1
STKA Stephens Creek 78.74 191 P **P 06 32 23.3 -0.3**
comp=Z,24nm,0.5s,mb5.4,baz=347,slow=6.9,SNR=66
STKA LR LR 07 07 17.0
comp=Z,3μm,19.6s,MS5.6,baz=12,slow=36
AEU East Anglia Un 78.76 344 *eP* **P 06 32 25.7 +2.0**
BHD Baghdad 78.78 307 *ex* x 06 32 18.0
BHD *ex* x 06 42 18.0
ELDT Eldivan 78.80 318 *iP* **P 06 32 24.7 +0.8**
ROTZ Rotzenmuhle 78.81 336 *eP* **P 06 32 23.6 -0.3**
comp=Z,127nm,1.0s,mb5.8
ATAB Bozova 78.81 313 *iP* **P 06 32 25.7 +1.7**
BLO Bloomington 78.88 44 *eP* **P 06 32 23.2 -1.2**
BLO pmax pmax
comp=Z,63nm,0.9s,mb5.5
BLO Bloomington 78.88 44 *eP* **P 06 32 23.2 -1.1**
comp=Z,63nm,0.9s,mb5.5
BNN Bunyan 78.95 316 P **P 06 32 27.2 +2.5**
RAR Rarotonga 78.97 137 LR LR 07 00 21.0
comp=Z,4μm,20.2s,MS5.8,baz=271,slow=30
KHC Kasperske Hory 78.99 335 *eP* **P 06 32 24.4 -0.5**
KHC *epP* pP 06 32 30.7 -0.4
KHC *eS* S 06 42 17.8 -5.0
KHC AMS AMS 07 12 10.0
comp=Z,7μm,15.8s
WCB1 Church Bay 79.03 347 *eP* **P 06 32 27.8 +2.6**
KDZE Karadeniz Ereo 79.04 320 P **P 06 32 24.8 -0.5**
CDAG Cicekdag 79.04 317 *iP* **P 06 32 25.7 +0.4**
GRA1 Grafenberg Arr 79.15 337 *eP* **P 06 32 25.6 -0.2**
comp=Z,303nm,0.9s,mb6.2
GRA1 *epP* pP 06 32 28.2 -3.7
GRA1 *e* pP 06 32 31.8 -0.1
GRA1 *ePP* PP 06 35 24.5 -0.7
GRA1 *eS* S 06 42 27.2 +2.7
GRA1 *eSS* SS 06 48 02.9 +32
GRA1 LR LR
comp=Z,3μm,21.9s,MS5.6
GRF Grafenberg Arr 79.15 337 *eP* **P 06 32 25.6 -0.2**
comp=Z,303nm,0.9s,mb6.2
GRF *epP* pP 06 32 28.2 -3.7
GRF *e* pP 06 32 31.8 -0.1
GRF *ePP* PP 06 35 24.5 -0.7
GRF *eS* S 06 42 27.2 +2.7
GRF *eSS* SS 06 48 02.9 +32
GRF *eL* 07 07 13.0
comp=Z,3μm,21.9s
GRF Grafenberg Arr 79.15 337 *eP* **P 06 32 25.6 -0.2**
GRF *e**PP pP 06 32 28.2 -3.7
GRF *e* pP 06 32 31.8 -0.1
GRF *e* 06 35 24.5
GRF *eS* S 06 42 27.2 +2.7
GRF pmax pmax
comp=Z,303nm,0.9s,mb6.2
GRF MLR MLR
comp=Z,3μm,21.9s,MS5.6
GRF Grafenberg Arr 79.15 337 *eP* **P 06 32 25.6 -0.2**
GRF *e**PP pP 06 32 28.2 -3.7
GRF *e* pP 06 32 31.8 -0.1
GRF *e* 06 35 24.5
GRF *eS* S 06 42 27.2 +2.7
GRF pmax pmax
comp=Z,303nm,0.9s,mb6.2
GRF MLR MLR
comp=Z,3μm,20.0s,MS5.6
GRFO Grafenberg 79.15 337 *eP* **P 06 32 25.7 -0.1**
GRFO pmax pmax
comp=Z,249nm,0.9s,mb6.1
GRFO MLR MLR
comp=Z,3μm,20.0s,MS5.6
GRFO Grafenberg 79.15 337 *eP* **P 06 32 25.7 -0.1**
comp=Z,249nm,0.9s,mb6.1
GRFO LR LR
comp=Z,3μm,20.0s,MS5.6
MSNY Massena 79.15 33 *eP* **P 06 32 25.3 -0.5**
WET Wettzell 79.18 335 *eP* **P 06 32 25.7 -0.3**
comp=Z,158nm,1.0s,mb5.9
WET Wettzell 79.18 335 *eP* **P 06 32 25.7 -0.3**
WET pmax pmax
comp=Z,158nm,1.0s,mb5.9
GZR Gura Zlata 79.20 328 ⇓*iP* **P 06 32 25.5 -0.6**
GZR Gura Zlata 79.20 328 ⇓P **P 06 32 25.5 -0.6**
GEC2 GERESS Array S 79.21 335 *eP* **P 06 32 25.4 -0.7**
comp=Z,87nm,1.1s,mb5.6
GEC2 GERESS Array S 79.21 335 *eP* **P 06 32 25.4 -0.7**
GEC2 pmax pmax
comp=Z,87nm,1.1s,mb5.6
GERES GERESS Array B 79.21 335 P **P 06 32 25.4 -0.8**
comp=Z,8.9nm,0.6s,mb4.9,baz=38,slow=5.0,SNR=32
GERES PKKPbc PKKPbc 06 51 15.6 -1.2
comp=Z,0.4nm,0.4s,baz=204,slow=2.9,SNR=5.9
GERES LR LR 07 12 47.2
comp=Z,8μm,18.1s,MS6.1,baz=20,slow=40
PRD Provadia 79.23 324 *iP* **P 06 32 28.0 +1.7**
GZT Gaziantep 79.27 314 *iP* **P 06 32 26.5 0.0**
USIN University of 79.27 45 *eP* **P 06 32 26.1 -0.4**
comp=Z,225nm,1.1s,mb6.0
BR131 Keskin Array S 79.31 318 *eP* **P 06 32 26.9 +0.2**
comp=Z,46nm,0.8s,mb5.5
BR131 LR LR
comp=Z,2μm,19.0s,MS5.5
BRTR Keskin Array B 79.31 318 LR LR 07 14 32.5
comp=Z,3μm,18.0s,MS5.6,baz=43,slow=41
RAO Raoul Island 79.31 156 LR LR 07 01 52.0
comp=Z,4μm,20.8s,MS5.7,baz=336,slow=31
RAO Raoul Island 79.31 156 PFAKE 06 32 40.0 +13
RAO LR LR
comp=Z,4μm,21.0s,MS5.7
UALR University of 79.33 50 *eP* **P 06 32 25.8 -1.0**
SGKT Sivrigoynuk 79.36 319 *iP* **P 06 32 27.4 +0.4**
SOP Sopron 79.36 333 *ePcP* PcP 06 32 33.2 -1.9
CONA Conrad Observa 79.37 333 ⇑*iP* **P 06 32 27.0 0.0**
comp=Z,100nm,1.1s,mb5.7,SNR=24
TNS Taunus Mts 79.39 339 *eP* **P 06 32 26.7 -0.5**
comp=Z,182nm,0.9s,mb6.0
TNS Taunus Mts 79.39 339 *eP* **P 06 32 26.7 -0.5**
TNS pmax pmax
comp=Z,182nm,0.9s,mb6.0
DLF Lyons Farm 79.40 349 *eP* **P 06 32 22.9 -4.3**
DSB Dublin 79.43 348 *eP* **P 06 32 27.6 +0.2**
comp=Z,40nm,0.6s,mb5.5
BZS Buzias 79.43 328 ⇑*iP* **P 06 32 27.2 -0.2**
BZS Buzias 79.43 328 P **P 06 32 27.1 -0.3**
BZS Buzias 79.43 328 ⇑P **P 06 32 27.2 -0.2**
DCN Croghan 79.45 349 *eP* **P 06 32 23.2 -4.3**
PVMO Portageville 79.46 48 *eP* **P 06 32 27.9 +0.4**
comp=Z,474nm,1.1s,mb6.3
AVNT Avonos 79.48 316 *iP* **P 06 32 27.1 -0.5**
KMRS Kahramanmaras 79.48 314 P **P 06 32 25.4 -2.3**
HGN Heimansgroeve 79.50 340 *eP* **P 06 32 29.9 +2.1**
comp=Z,272nm,2.1s,mb5.8
HGN Heimansgroeve 79.50 340 *eS* S 06 42 38.4 +10
HGN *eSS* SS 06 48 20.5 +44
BEBN Eben Emael 79.53 340 AP pP 06 32 29.7 -4.4
BEBN XP sP 06 32 31.1 -5.1
BEBN E 06 32 32.1
BEBN PCP PcP 06 32 35.1 -0.8
LONY Lake Ozonia 79.58 33 *eP* **P 06 32 26.6 -1.6**
comp=Z,28nm,1.0s,mb5.2
LONY LR LR
comp=Z,2μm,20.0s,MS5.3
ANTO Ankara 79.58 318 P **P 06 32 29.1 +0.8**
ANTO Ankara 79.58 318 P **P 06 32 29.9 +1.7**
SNR=16
ANTO Ankara 79.58 318 ⇑*iP* **P 06 32 28.6 +0.4**
ANTO Ankara 79.58 318 *eP* **P 06 32 28.9 +0.7**
ANTO pmax pmax
comp=Z,90nm,0.9s,mb5.7
ANTO MLR MLR
comp=Z,3μm,21.0s,MS5.6
ANTO Ankara 79.58 318 *eP* **P 06 32 28.9 +0.7**
comp=Z,90nm,0.9s,mb5.7
ANTO LR LR
comp=Z,3μm,21.0s,MS5.6
GAZ Gaziantep 79.59 314 P **P 06 32 21.1 -7.1**
MEM Membach 79.63 340 P **P 06 32 27.8 -0.7**
comp=Z,211nm,0.9s,mb6.1
MEM PCP PcP 06 32 34.1 -2.1
MIB Mutribah 79.66 302 *eP* **P 06 32 29.2 +0.6**
MIB AMb AMB 06 32 37.0
comp=Z,595nm,0.8s,mb6.6
ZIMR 79.67 325 P **P 06 32 28.8 +0.1**
HENT Hendek 79.67 320 *iP* **P 06 32 27.9 -0.8**
WCI Wyandotte Cave 79.74 44 PFAKE 06 32 40.0 +11
WCI LR LR
comp=Z,3μm,20.0s,MS5.7
FRNY Flat Rock 79.77 33 *eP* **P 06 32 29.4 +0.2**
UCC Uccle 79.83 341 AP pP 06 32 31.8 -3.9
UCC PCP PcP 06 32 35.5 -1.6
TOD Tromm 79.87 338 *eP* **P 06 32 30.0 +0.3**
KBD Kabd 79.91 302 *eP* **P 06 32 30.6 +0.6**
KBD AMb AMB 06 32 38.6
comp=Z,1μm,0.9s,mb6.8
MOA Molln 79.93 334 ⇑*iP* **P 06 32 29.8 -0.3**
comp=Z,117nm,0.8s,mb5.8,SNR=8.2
ABH Alteburg 79.93 339 *eP* **P 06 32 29.4 -0.7**
UTMT University of 79.94 47 *eP* **P 06 32 29.8 -0.3**
comp=Z,401nm,1.0s,mb6.3
TAOE Nuku Hiva Isla 79.94 114 *eLR* LR 06 57 26.6
comp=Z,36μm,29.2s
SSW Stow on the Wo 79.95 345 *eP* **P 06 32 32.2 +2.0**
PKSM Moragy 79.97 331 ⇑*iP* **P 06 32 30.9 +0.6**
PKSM Moragy 79.97 331 P **P 06 32 29.9 -0.4**
PKSM Moragy 79.97 331 ⇑P **P 06 32 30.9 +0.6**
BCLA Clavier 79.97 341 P **P 06 32 30.0 -0.3**
comp=Z,121nm,0.9s,mb5.8
BCLA AP pP 06 32 32.1 -4.3
BCLA PCP PcP 06 32 36.5 -1.3
SKP1 Kophill 80.00 345 *eP* **P 06 32 31.7 +1.2**
KOZT Kozan 80.03 315 P **P 06 32 30.2 -0.4**
PVL Pavlikeni 80.05 325 *iP* **P 06 32 31.6 +0.9**
PMOR Pomariorio Ree 80.06 124 *eP* **P 06 32 32.3 +1.5**
comp=Z,135nm,0.9s,mb5.9
ARSA Arzberg 80.07 333 *iP* **P 06 32 31.6 +0.8**
comp=Z,81nm,1.5s,mb5.4,SNR=26
QRN Al-Qurain 80.10 301 *eP* **P 06 32 31.1 +0.1**
QRN AMb AMB 06 32 39.5
comp=Z,450nm,0.8s,mb6.4
SNF Seneffe 80.12 341 P **P 06 32 31.4 +0.3**
comp=Z,61nm,0.9s,mb5.5
SNF AP pP 06 32 33.0 -4.2
SNF XP sP 06 32 33.9 -5.5
SNF PCP PcP 06 32 36.9 -1.5
MCH1 Michaelchurch 80.12 346 *eP* **P 06 32 32.8 +1.7**
MCH1 AMb AMB 06 32 41.0
comp=Z,164nm,1.3s,mb5.8
NAY Al-Naaiem 80.12 302 *eP* **P 06 32 31.0 -0.1**
NAY AMb AMB 06 32 39.6
comp=Z,276nm,0.9s,mb6.2
KLYT Kilyos 80.14 321 P **P 06 32 30.3 -0.9**
JMB Yambol 80.17 324 *eP* **P 06 32 30.7 -0.7**
RDF Al-Radifah 80.18 302 *eP* **P 06 32 32.1 +0.7**
RDF AMb AMB 06 32 40.2
comp=Z,624nm,0.8s,mb6.6
RUP Ruppelstein 80.22 339 *eP* **P 06 32 33.0 +1.4**
NCB Newcomb 80.27 33 *eP* **P 06 32 30.7 -1.2**
comp=Z,66nm,1.0s,mb5.5
NCB LR LR
comp=Z,1μm,20.0s,MS5.3
ISK Istanbul-Kandi 80.29 321 P **P 06 32 31.4 -0.6**
GIVF Givet 80.38 341 *eP* **P 06 32 31.8 -0.7**
comp=Z,423nm,1.0s,mb6.0
GIVF Givet 80.38 341 *eP* **P 06 32 31.8 -0.7**
GIVF pmax pmax
comp=Z,211nm,1.0s,mb6.0
GIVF Givet 80.38 341 *eP* **P 06 32 31.8 -0.7**
comp=Z,211nm,1.0s,mb6.0
SWN1 Swindon 80.38 345 *eP* **P 06 32 32.8 +0.2**
SWN1 *eP* 06 32 32.8
SWN1 AMb AMB 06 32 42.7
comp=Z,404nm,1.2s,mb6.2
VAH Vaihoa 80.40 124 *eP* **P 06 32 33.9 +1.3**
comp=Z,127nm,1.0s,mb5.8
FORT Forrest 80.42 203 *eP* **P 06 32 31.9 -0.8**
comp=Z,111nm,0.7s,mb5.9
DOU Dourbes 80.44 341 P **P 06 32 33.0 +0.2**
comp=Z,56nm,0.9s,mb5.5
DOU AP pP 06 32 34.5 -4.4
DOU PCP PcP 06 32 38.6 -1.2
HGH Gray Hill 80.44 346 *eP* **P 06 32 33.0 +0.2**
CEYT Ceyhan 80.44 315 P **P 06 32 32.6 -0.2**
WLF Walferdange 80.47 340 *eP* **P 06 32 32.9 -0.1**
comp=Z,200nm,1.1s,mb6.0
WLF Walferdange 80.47 340 AP pP 06 32 34.6 -4.5
comp=Z,59nm,1.0s
WLF XP sP 06 32 37.7 -3.6
WLF PCP PcP 06 32 40.8 +0.8
WLF Walferdange 80.47 340 *eP* **P 06 32 35.3 +2.3**
WLF pmax pmax
comp=Z,144nm,1.0s,mb5.9
WLF Walferdange 80.47 340 *eP* **P 06 32 35.2 +2.2**
comp=Z,144nm,1.0s,mb5.9
ELBA Catalca 80.49 322 *iP* **P 06 32 33.6 +0.5**
ADVT Abdulvahap 80.51 321 P **P 06 32 30.8 -2.4**
FUR Furstenfeldbru 80.52 336 *eP* **P 06 32 33.0 -0.2**
comp=Z,241nm,1.0s,mb6.1
FUR Furstenfeldbru 80.52 336 *eP* **P 06 32 33.0 -0.2**
FUR pmax pmax
comp=Z,241nm,1.0s,mb6.1
MENF Mencas 80.53 343 *eP* **P 06 32 35.4 +2.1**
STU Stuttgart 80.53 338 *eP* **P 06 32 32.8 -0.5**
comp=Z,174nm,0.9s,mb6.0
STU Stuttgart 80.53 338 *eP* **P 06 32 33.8 +0.5**
STU pmax pmax
comp=Z,162nm,0.9s,mb6.0
STU Stuttgart 80.53 338 *eP* **P 06 32 33.8 +0.5**
comp=Z,162nm,0.9s,mb6.0
BAIF Baives 80.56 341 *eP* **P 06 32 32.9 -0.6**
comp=Z,312nm,1.0s,mb5.9
BAIF Baives 80.56 341 *eP* **P 06 32 32.9 -0.6**
BAIF pmax pmax
comp=Z,156nm,1.0s,mb5.9
BAIF Baives 80.56 341 *eP* **P 06 32 32.9 -0.6**
comp=Z,156nm,1.0s,mb5.9
YLV Yalova 80.56 321 P **P 06 32 30.8 -2.6**
COBT Iskenderun 80.58 314 *iP* **P 06 32 34.4 +0.8**
KARA Karaisali 80.58 315 P **P 06 32 32.0 -1.6**
EDRB Edirne 80.62 323 P **P 06 32 34.0 +0.2**
WVT Waverly 80.62 47 *eP* **P 06 32 32.8 -1.0**
WVT pmax pmax
comp=Z,108nm,1.0s,mb5.7
WVT MLR MLR
comp=Z,2μm,19.0s,MS5.5
WVT Waverly 80.62 47 *eP* **P 06 32 32.8 -1.0**
comp=Z,108nm,1.0s,mb5.7
WVT LR LR
comp=Z,2μm,19.0s,MS5.5
BORA Eskisehir 80.64 320 *iP* **P 06 32 33.9 0.0**
LANF Langenberg 80.70 338 *eP* **P 06 32 34.5 +0.3**
GEMT Gemlik 80.75 321 P **P 06 32 35.1 +0.6**
ESKT Eskisehir 80.75 319 P **P 06 32 32.6 -1.9**
ESKT Eskisehir 80.75 319 *iP* **P 06 32 35.0 +0.4**
LBNH Lisbon 80.89 32 *eP* **P 06 32 35.9 +0.7**
LBNH MLR MLR
comp=Z,2μm,20.0s,MS5.4
KBA Koelnbreinsper 80.90 334 ⇑*iP* **P 06 32 35.6 +0.3**
comp=Z,468nm,0.9s,mb6.4,SNR=42
PKME Peaks-Kenny Pk 80.94 30 *eP* **P 06 32 35.0 -0.5**
comp=Z,84nm,1.0s,mb5.6
PKME LR LR
comp=Z,3μm,20.0s,MS5.6
HTY Hatay 80.95 314 P **P 06 32 38.1 +2.6**
DIM Dimitrovgrad 80.95 324 *iP* **P 06 32 38.0 +2.4**
KRTS Karatas 80.97 315 P **P 06 32 35.7 0.0**
ACCN Adirondack Com 80.98 33 *eP* **P 06 32 34.7 -1.0**
KDHN Kadinhani 80.98 318 *iP* **P 06 32 35.6 -0.1**
OBKA Obir 81.04 333 ⇑*iP* **P 06 32 36.1 +0.1**
comp=Z,77nm,0.8s,mb5.7,SNR=19
HKT Hockley 81.04 56 *eP* **P 06 32 36.2 +0.2**
HKT pmax pmax
comp=Z,69nm,1.4s,mb5.4
HKT MLR MLR
comp=Z,2μm,19.0s,MS5.5
HKT Hockley 81.04 56 *eP* **P 06 32 36.2 +0.1**
comp=Z,69nm,1.4s,mb5.4
HKT LR LR
comp=Z,2μm,19.0s,MS5.5
DOBS Dobrina 81.07 333 *eP* **P 06 32 36.3 +0.1**
BINY Binghamton 81.07 35 *eP* **P 06 32 35.6 -0.6**
comp=Z,29nm,1.0s,mb5.2
BINY LR LR
comp=Z,2μm,19.0s,MS5.5
OXF Oxford 81.08 49 *eP* **P 06 32 35.5 -0.7**
OXF pmax pmax
comp=Z,311nm,1.1s,mb6.2
OXF MLR MLR
comp=Z,3μm,19.0s,MS5.7
OXF Oxford 81.08 49 *eP* **P 06 32 35.5 -0.7**
comp=Z,311nm,1.1s,mb6.2
OXF LR LR
comp=Z,3μm,19.0s,MS5.7
HEX Exmoor 81.15 346 *eP* **P 06 32 36.4 -0.3**
MERS Mersin 81.16 315 P **P 06 32 36.2 -0.5**
BFO Black Forest 81.17 338 P **P 06 32 36.6 -0.1**
comp=Z,1μm,0.9s,mb6.8,SNR=20
BFO Black Forest 81.17 338 *eP* **P 06 32 36.3 -0.4**
comp=Z,193nm,0.9s,mb6.0
BFO LR LR
comp=Z,872nm,20.0s,MS5.1
PPT Papeete 81.18 127 *eP* **P 06 32 38.2 +1.4**
comp=Z,86nm,1.2s,mb5.5
PPT Papeete 81.18 127 *eS* S 06 42 51.0 +5.1
comp=Z,10μm,32.0s
PPT *eLR* LR 06 57 53.7
comp=Z,14μm,25.8s,baz=328
PPT Papeete 81.18 127 P **P 06 32 36.7 0.0**
comp=Z,54nm,0.9s,mb5.5,baz=53,slow=18,SNR=3.5
PPT LR LR 07 00 45.5
comp=Z,4μm,21.4s,MS5.8,baz=264,slow=30
WATA Walderalm 81.19 335 ⇑*iP* **P 06 32 37.6 +0.8**
comp=Z,106nm,0.6s,mb5.9,SNR=21
VAL Valentia 81.20 350 *eP* **P 06 32 34.3 -2.6**
HNH Hanover 81.22 32 *eP* **P 06 32 37.0 0.0**
WTTA Wattenberg 81.23 335 *iP* **P 06 32 37.3 +0.2**
comp=Z,316nm,1.1s,mb6.1,SNR=38
PLD Plovdiv 81.24 325 *eP* **P 06 32 37.8 +0.7**
PLD Plovdiv 81.24 325 *iP* **P 06 32 40.2 +3.1**
PAE Paea 81.25 127 *eP* **P 06 32 38.5 +1.3**
comp=Z,118nm,1.1s,mb5.7
PAE Paea 81.25 127 *eP* **P 06 32 38.5 +1.3**
PAE pmax pmax
comp=Z,119nm,1.1s,mb5.7
MFT Murefte 81.28 322 P **P 06 32 36.9 -0.4**
MOTA Moosalm 81.31 336 *iP* **P 06 32 38.2 +0.8**
comp=Z,227nm,0.9s,mb6.1,SNR=32
KONT Konya--Tatoy 81.33 317 P **P 06 32 35.5 -2.1**
DIVS Divcibare 81.33 329 *iP* **P 06 32 36.4 -1.2**
DIVS Divcibare 81.33 329 *eP* **P 06 32 35.9 -1.7**
HTL Hartland 81.33 347 *eP* **P 06 32 38.0 +0.4**
HTL AMb AMB 06 32 47.8
comp=Z,128nm,1.3s,mb5.7
KDZ Kurdzhali 81.33 324 *iP* **P 06 32 40.5 +2.9**

WLS Welschbruch 81.34 339 *e*P P 06 32 38.2 +0.6
CDF Champ du Feu 81.36 339 *e*P P 06 32 37.3 -0.4
comp=Z,492nm,1.0s,mb6.1
CDF Champ du Feu 81.36 339 *e*P P 06 32 37.3 -0.4
CDF pmax pmax
comp=Z,246nm,1.0s,mb6.1
CDF Champ du Feu 81.36 339 *e*P P 06 32 37.3 -0.4
comp=Z,246nm,1.0s,mb6.1
SISC Sisak 81.38 332 P P 06 32 39.1 +1.3
SQTA Sankt Quirin 81.39 336⇑*i*P P 06 32 38.8 +0.9
comp=Z,120nm,0.8s,mb5.9,SNR=24
SART Tekirdag 81.40 322 *i*P P 06 32 37.6 -0.3
RKY Sarkoy-Tekirda 81.40 322 P P 06 32 37.3 -0.7
VTS Vitosha 81.42 326 *e*P P 06 32 37.8 -0.3
VTS Vitosha 81.42 326⇑*i*P P 06 32 37.8 -0.2
VTS Vitosha 81.42 326 *i*P P 06 32 37.3 -0.7
WVL Waterville 81.42 30 *e*P P 06 32 37.5 -0.6
LIBD Limburg 81.52 338 *e*P P 06 32 40.6 +2.0
TVO Taravao 81.53 127 *e*P P 06 32 40.3 +1.7
comp=Z,243nm,1.1s,mb6.0
TVO Taravao 81.53 127 *e*P P 06 32 40.3 +1.7
TVO pmax pmax
comp=Z,243nm,1.1s,mb6.0
MCWV Mont Chateau 81.56 39 *e*P P 06 32 38.2 -0.6
MCWV *e*PP PP 06 35 52.5 +7.3
MCWV LR LR
comp=Z,3µm,19.0s,MS5.7
ECH Echery 81.57 339 *e*P P 06 32 38.9 0.0
RZN Rozhen 81.58 324 *i*P P 06 32 41.3 +2.4
SSPA Standing Stone 81.60 38 *e*P P 06 32 36.7 -2.3
comp=Z,142nm,1.1s,mb5.8
SSPA LR LR
comp=Z,2µm,19.0s,MS5.4
KVTX Kingsville 81.63 59 *e*P P 06 32 40.9 +1.7
comp=Z,296nm,0.9s,mb6.2
KVTX LR LR
comp=Z,2µm,20.0s,MS5.5
FFD Franklin Falls 81.66 32 *e*P P 06 32 39.9 +0.6
comp=Z,79nm,0.9s,mb5.6
FELD Feldberg im Sc 81.67 338 *e*P P 06 32 39.5 +0.1
VOY Vojsko 81.67 333 *e*P P 06 32 38.3 -1.1
VOY *e* 06 32 41.3
SHUT Suhut-Afyon 81.67 319 P P 06 32 39.9 +0.5
ALN Alexandroupoli 81.70 323 *e*P P 06 32 38.9 -0.7
RDO Rodhopi 81.70 324 *e*P P 06 32 40.0 +0.4
DAVA Damuels 81.71 337 *i*P P 06 32 39.7 +0.1
comp=Z,131nm,0.8s,mb5.9,SNR=9.2
GDZ Gediz 81.72 320 *i*P P 06 32 38.2 -1.4
DYA Yadsworthy 81.78 346 *e*P P 06 32 40.6 +0.6
BTOK Tokmak 81.80 321 *i*P P 06 32 39.7 -0.4
MEZF Maizieres J'vi 81.82 340 *e*P P 06 32 39.9 -0.3
comp=Z,549nm,0.9s,mb6.2
MEZF Maizieres J'vi 81.82 340 *e*P P 06 32 39.9 -0.3
comp=Z,549nm,0.9s,mb6.5
THEF They Montfort 81.85 339 *e*P P 06 32 40.6 +0.3
HAU Haudompre 81.97 339 *e*P P 06 32 40.5 -0.5
comp=Z,308nm,1.0s,mb5.9
HAU *e*R
comp=Z,5µm,17.2s
HAU Haudompre 81.97 339 *e*P P 06 32 40.5 -0.5
HAU pmax pmax
comp=Z,154nm,1.0s,mb5.9
HAU MLR MLR
comp=Z,5µm,17.3s,MS6.0
HAU Haudompre 81.97 339 *e*P P 06 32 40.5 -0.5
comp=Z,154nm,1.0s,mb5.9
HAU LR LR
comp=Z,5µm,17.3s,MS6.0
CANB Canakkale 82.01 322 P P 06 32 40.6 -0.6
CANB Canakkale 82.01 322 *i*P P 06 32 40.5 -0.7
HINF Hinteralfeld 82.02 339 *e*P P 06 32 40.4 -0.8
comp=Z,253nm,1.0s,mb5.8
HINF Hinteralfeld 82.02 339 *e*P P 06 32 40.4 -0.8
HINF pmax pmax
comp=Z,127nm,1.0s,mb5.8
HINF Hinteralfeld 82.02 339 *e*P P 06 32 40.4 -0.8
comp=Z,127nm,1.0s,mb5.8
EMMW East Machias 82.04 29 *e*P P 06 32 40.4 -1.0
comp=Z,117nm,1.0s,mb5.8
IKL Isikli 82.06 315 P P 06 32 41.5 0.0
MMB Musomiste 82.06 325 *i*P P 06 32 40.9 -0.6
KKB Krupnik 82.08 326 *i*P P 06 32 42.0 +0.5
BBS Basel-Blauen 82.18 338 *e*P P 06 32 44.1 +2.0
TKTP Tekketepe 82.20 319 *i*P P 06 32 41.5 -0.6
PLE Pljevlja 82.21 329⇑*i*P P 06 32 42.3 0.0
ISP Isparta 82.27 318 P P 06 32 40.9 -1.6
ISP Isparta 82.27 318⇓*e*P P 06 32 42.0 -0.5
ZAIG Zacatecas 82.29 65 *i*P P 06 32 44.7 +2.1
TZTN Tazewell 82.40 44 *e*P P 06 32 42.7 -0.5
comp=Z,54nm,0.9s,mb5.5
TZTN LR LR
comp=Z,3µm,20.0s,MS5.7
QUA2 Belchertown 82.42 33 *e*P P 06 32 42.2 -1.1
comp=Z,72nm,1.1s,mb5.5
IVA Berane 82.43 328⇑*i*P P 06 32 42.8 -0.6
LOMF Lomont 82.46 338 *e*P P 06 32 44.1 +0.6
EZN Ezine 82.48 322 P P 06 32 42.4 -1.2
UPM Unac-Piva 82.50 329⇑*i*P P 06 32 43.0 -0.7
HRV Harvard--Oak R 82.52 32 *e*P P 06 32 42.8 -1.1
HRV pmax pmax
comp=Z,93nm,1.0s,mb5.8
HRV MLR MLR
comp=Z,2µm,19.0s,MS5.5
HRV Harvard--Oak R 82.52 32 *e*P P 06 32 42.8 -1.0
comp=Z,93nm,1.0s,mb5.8
HRV LR LR
comp=Z,2µm,19.0s,MS5.5
BOZC Bozcaada 82.58 323 *i*P P 06 32 43.5 -0.7
MANT Manisa 82.62 320 *i*P P 06 32 43.4 -0.9
SKO Skopje 82.63 327⇑*i*P P 06 32 46.7 +2.3
PVY Plav 82.64 328⇑*i*P P 06 32 43.3 -1.2
LUPA Lehigh Univers 82.67 36 *e*P P 06 32 43.4 -1.2
NVLJ Novalja 82.67 332 *i*P P 06 32 44.9 +0.3
WES Weston 82.72 32 *e*P P 06 32 44.3 -0.6
WES pmax pmax
comp=Z,156nm,1.0s,mb6.0
WES MLR MLR
comp=Z,2µm,22.0s,MS5.4
WES Weston 82.72 32 *e*P P 06 32 44.3 -0.5
comp=Z,156nm,1.0s,mb6.0
WES LR LR
comp=Z,2µm,22.0s,MS5.4
VAY Valandovo 82.75 326 *e*P P 06 32 44.2 -0.8
VAY Valandovo 82.75 326⇑*i*P P 06 32 44.2 -0.8
KNT Kendrikon 82.75 325 *e*P P 06 32 44.2 -0.8
AYVA Ayvalik 82.76 322 *i*P P 06 32 42.3 -2.8
FLN La Foliniere 82.77 344 *e*P P 06 32 44.8 -0.3
comp=Z,422nm,1.1s,mb6.1
FLN *e*R
comp=Z,4µm,19.5s
FLN La Foliniere 82.77 344 *e*P P 06 32 44.8 -0.3
FLN pmax pmax
comp=Z,211nm,1.1s,mb6.1
FLN MLR MLR
comp=Z,4µm,19.5s,MS5.8
FLN La Foliniere 82.77 344 *e*P P 06 32 44.8 -0.3
comp=Z,211nm,1.1s,mb6.1
FLN LR LR
comp=Z,4µm,19.5s,MS5.8
MVL Millersville 82.77 37 *e*P P 06 32 44.4 -0.7
BCI Bajram Curri 82.80 328 *i*Pn P 06 32 45.6 +0.3
NKY Niksic 82.80 329⇑*i*P P 06 32 43.6 -1.7
FWV Forest Hill 82.83 41 *e*P P 06 32 44.8 -0.6
LDF La Druitiere 82.86 343 *e*P P 06 32 44.9 -0.7
comp=Z,234nm,1.0s,mb5.9
LDF La Druitiere 82.86 343 *e*P P 06 32 44.9 -0.7
LDF pmax pmax
comp=Z,117nm,1.0s,mb5.9
LDF La Druitiere 82.86 343 *e*P P 06 32 44.9 -0.7
comp=Z,117nm,1.0s,mb5.9
BRY Bratogost 82.89 329⇑*i*P P 06 32 44.1 -1.6
PAL Palisades 82.91 35 *e*P P 06 32 45.0 -0.9
PAL pmax pmax
comp=Z,97nm,0.9s,mb5.8
PAL Palisades 82.91 35 *e*P P 06 32 45.0 -0.9
comp=Z,97nm,0.9s,mb5.8
LOS Limnos 82.91 323 *e*P P 06 32 44.9 -1.0
BRNJ Basking Ridge 82.92 35 *e*P P 06 32 46.5 +0.5
BHL Bhannes 82.94 313 *e*P P 06 32 47.0 +1.0
PRK Paraskevi 82.99 322 *e*P P 06 32 44.0 -2.3
DENT Denizli 83.01 319 *e*P P 06 32 52.0 +5.6
OUR Ouranopolis 83.03 324 *e*P P 06 32 45.3 -1.1
TTG Podgorica 83.04 328⇑*i*P P 06 32 45.6 -1.0
DNZL Cakiroluk 83.06 319 *i*P P 06 32 53.7 +7.0

CPNY Central Park 83.07 35 *e*P P 06 32 46.0 -0.7
SHAO Shalim 83.08 289 P P 06 32 47.2 +0.5
SNR=13
GRG Griva 83.13 326 *e*P P 06 32 55.6 +8.6
ELN Prospectdale 83.15 41 *e*P P 06 32 46.3 -0.8
HORT Hortiatis 83.16 325 *e*P P 06 32 48.3 +1.2
GOLH Golhisar 83.20 319 *i*P P 06 32 47.4 0.0
GRR Gorron 83.20 344 *e*P P 06 32 47.0 -0.4
comp=Z,566nm,1.0s,mb6.2
GRR Gorron 83.20 344 *e*P P 06 32 47.0 -0.4
GRR pmax pmax
comp=Z,283nm,1.0s,mb6.2
GRR Gorron 83.20 344 *e*P P 06 32 47.0 -0.4
comp=Z,283nm,1.0s,mb6.2
PLG Polygyros 83.21 325 *e*P P 06 32 46.4 -1.0
PLG Polygyros 83.21 325 *e*P P 06 32 46.5 -0.9
STON Ston 83.21 330 *i*P P 06 32 47.4 0.0
KRUS Krusevo 83.22 326 *i*P P 06 32 47.1 -0.3
PHP Peshkopia 83.25 327 *i*Pn P 06 32 47.8 +0.2
CSS Prodhromos 83.25 315 P P 06 32 49.8 +2.1
LOR Lormes 83.26 340 *e*P P 06 32 47.4 -0.3
comp=Z,481nm,0.9s,mb6.2
LOR *e*R
comp=Z,5µm,18.0s
LOR Lormes 83.26 340 *e*P P 06 32 47.4 -0.3
LOR pmax pmax
comp=Z,240nm,0.9s,mb6.2
LOR MLR MLR
comp=Z,5µm,18.0s,MS5.9
LOR Lormes 83.26 340 *e*P P 06 32 47.4 -0.3
comp=Z,240nm,0.9s,mb6.2
LOR LR LR
comp=Z,5µm,18.0s,MS5.9
KDAG Bornova 83.26 321 *i*P P 06 32 43.9 -3.8
BUM Brajici-Budva 83.29 328⇑*i*P P 06 32 46.7 -1.2
HCY Herceg Novi 83.30 329⇑*i*P P 06 32 46.8 -1.1
BLA Blacksburg 83.31 41 *e*P P 06 32 47.2 -0.7
BLA pmax pmax
comp=Z,164nm,1.0s,mb6.0
BLA MLR MLR
comp=Z,2µm,20.0s,MS5.5
BLA Blacksburg 83.31 41 *e*P P 06 32 47.2 -0.7
comp=Z,164nm,1.0s,mb6.0
BLA LR LR
comp=Z,2µm,20.0s,MS5.5
CABF La Chapelle 83.33 339 *e*P P 06 32 47.3 -0.8
comp=Z,268nm,1.0s,mb5.9
CABF La Chapelle 83.33 339 *e*P P 06 32 47.3 -0.8
CABF pmax pmax
comp=Z,134nm,1.0s,mb5.9
CABF La Chapelle 83.33 339 *e*P P 06 32 47.3 -0.8
comp=Z,134nm,1.0s,mb5.9
ELL Elmali 83.44 318 P P 06 32 45.4 -3.2
ULC Ulcinj 83.45 328⇑*i*P P 06 32 47.6 -1.0
ALFC Alevga 83.46 316 P P 06 32 48.7 0.0
comp=Z,2.0nm,0.6s
PAIG Paliouri 83.49 324 *e*P P 06 32 48.3 -0.6
SSF Saint Saulge 83.53 340 *e*P P 06 32 48.9 -0.2
comp=Z,331nm,0.8s,mb6.2
SSF Saint Saulge 83.53 340 *e*P P 06 32 48.9 -0.2
SSF pmax pmax
comp=Z,165nm,0.8s,mb6.2
SSF Saint Saulge 83.53 340 *e*P P 06 32 48.9 -0.2
comp=Z,165nm,0.8s,mb6.2
URLA Izmir 83.59 321 *i*P P 06 32 48.6 -0.8
OHR Ohrid 83.61 327 *e*P P 06 32 48.6 -0.9
OHR Ohrid 83.61 327⇑*i*P P 06 32 47.8 -1.7
SZAC Souni-Zanaja 83.64 315 P P 06 32 49.8 +0.2
SGMF Saint Gilles 83.65 345 *e*P P 06 32 49.0 -0.7
comp=Z,182nm,0.7s,mb6.0
SGMF Saint Gilles 83.65 345 *e*P P 06 32 49.0 -0.7
SGMF pmax pmax
comp=Z,91nm,0.7s,mb6.0
SGMF Saint Gilles 83.65 345 *e*P P 06 32 49.0 -0.7
comp=Z,91nm,0.7s,mb6.0
ASF Jabal al Asfar 83.66 311 P P 06 32 50.1 +0.4
comp=Z,40nm,0.9s,mb5.5,baz=336,slow=0.7,SNR=29
ASF Jabal al Asfar 83.66 311 P P 06 32 50.1 +0.4
ASF pmax pmax
comp=Z,40nm,0.9s
FNA Florina 83.67 326 *e*P P 06 32 48.8 -1.0
AKMC Akamas 83.69 316 P P 06 32 49.2 -0.7
comp=Z,2.7nm,0.8s
ROSF Rostrenen 83.70 345 *e*P P 06 32 49.4 -0.5
comp=Z,281nm,0.8s,mb6.1
ROSF Rostrenen 83.70 345 *e*P P 06 32 49.4 -0.5
ROSF pmax pmax
comp=Z,141nm,0.8s,mb6.2
ROSF Rostrenen 83.70 345 *e*P P 06 32 49.4 -0.5
comp=Z,141nm,0.8s,mb6.1
TIR Tirane 83.76 327 *e*P P 06 32 49.9 -0.4
MMAI Mount Meron Ar 83.77 312 P P 06 32 50.7 +0.4
comp=Z,87nm,0.9s,mb5.9,baz=46,slow=6.0,SNR=36
LIT Litokhoron 83.82 325 *e*P P 06 32 48.9 -1.6
AVF Avril sur Loir 83.83 340 *e*P P 06 32 49.9 -0.7
comp=Z,552nm,1.0s,mb6.3
AVF Avril sur Loir 83.83 340 *e*P P 06 32 49.9 -0.7
AVF pmax pmax
comp=Z,276nm,1.0s,mb6.3
AVF Avril sur Loir 83.83 340 *e*P P 06 32 49.9 -0.7
comp=Z,276nm,1.0s,mb6.3
CBN Corbin 83.84 39 PFAKE 06 33 00.0 +9.3
CBN LR LR
comp=Z,3µm,20.0s,MS5.7
SMF Signal de Mont 83.85 340 *e*P P 06 32 50.1 -0.6
comp=Z,691nm,1.0s,mb6.5
SMF Signal de Mont 83.85 340 *e*P P 06 32 50.1 -0.6
SMF pmax pmax
comp=Z,345nm,1.0s,mb6.4
SMF Signal de Mont 83.85 340 *e*P P 06 32 50.1 -0.6
comp=Z,345nm,1.0s,mb6.4
YER Yerkesik 83.86 320 *e*P P 06 32 51.6 +0.9
TOO Toolangi 83.95 187 *e*P P 06 32 50.3 -0.9
comp=Z,21nm,1.7s,mb5.0
TOO Toolangi 83.95 187 *e*P P 06 32 50.3 -0.9
TOO pmax pmax
comp=Z,21nm,1.7s,mb5.0
MLSB Milas 83.95 320 *e*P P 06 32 50.3 -1.0
DALT Dalyan (Mudla) 84.00 319 *e*P P 06 32 51.0 -0.5
KBN Korca 84.04 326 *i*p P 06 32 52.9 +1.2
QUIF Quistinic 84.09 345 *e*P P 06 32 51.4 -0.5
comp=Z,81nm,0.8s,mb5.6
QUIF Quistinic 84.09 345 *e*P P 06 32 51.4 -0.5
QUIF pmax pmax
comp=Z,40nm,0.8s,mb5.6
QUIF Quistinic 84.09 345 *e*P P 06 32 51.4 -0.5
comp=Z,40nm,0.8s,mb5.6
BGF Bois d'Agland 84.16 341 *e*P P 06 32 51.8 -0.5
comp=Z,225nm,0.7s,mb6.1
BGF Bois d'Agland 84.16 341 *e*P P 06 32 51.8 -0.5
BGF pmax pmax
comp=Z,112nm,0.7s,mb6.1
BGF Bois d'Agland 84.16 341 *e*P P 06 32 51.8 -0.5
comp=Z,112nm,0.7s,mb6.1
LPL La Plagne 84.19 338 *e*P P 06 32 52.2 -0.2
comp=Z,410nm,1.0s,mb6.2
LPL La Plagne 84.19 338 *e*P P 06 32 52.2 -0.2
LPL pmax pmax
comp=Z,205nm,1.0s,mb6.2
LPL La Plagne 84.19 338 *e*P P 06 32 52.2 -0.2
comp=Z,205nm,1.0s,mb6.2
LPG La Plagne 84.20 338 *e*P P 06 32 52.5 0.0
comp=Z,486nm,0.9s,mb6.3
LPG La Plagne 84.20 338 *e*P P 06 32 52.5 0.0
LPG pmax pmax
comp=Z,243nm,0.9s,mb6.3
LPG La Plagne 84.20 338 *e*P P 06 32 52.5 0.0
comp=Z,243nm,0.9s,mb6.3
BDRM Kayabasi 84.29 320 *i*P P 06 32 51.8 -1.2
WHFO Wadi Hawf 84.36 290 P P 06 32 53.2 -0.1
SNR=49
RBK Rabkut 84.38 289⇑P P 06 32 54.0 +0.6
SNR=17
KLBR Kellerberrin 84.40 211 *e*P P 06 32 52.9 -0.6
comp=Z,94nm,0.9s,mb5.9
VLC Villacollemand 84.42 335 *e*P P 06 32 55.1 +1.5
comp=Z,131nm,0.8s,mb6.1
DAT Datca 84.51 320 *e*P P 06 32 51.5 -2.6
PLDF La Plantade 84.54 340 *e*P P 06 32 54.8 +0.6
TCF Toulx Ste Croi 84.56 341 *e*P P 06 32 53.8 -0.5
comp=Z,335nm,0.9s,mb6.2
TCF Toulx Ste Croi 84.56 341 *e*P P 06 32 53.8 -0.5
TCF pmax pmax
comp=Z,167nm,0.9s,mb6.2
TCF Toulx Ste Croi 84.56 341 *e*P P 06 32 53.8 -0.5
comp=Z,167nm,0.9s,mb6.2

AGO Saint Agoulin 84.57 340 *e*P P 06 32 56.0 +1.6
BNI Bardonecchia 84.63 338 *e*P P 06 32 55.4 +0.7
BNI pmax pmax
comp=Z,120nm,0.9s,mb6.0
BNI Bardonecchia 84.63 338 *e*P P 06 32 55.4 +0.7
comp=Z,120nm,0.9s,mb6.0
GDM Grand'Maison 84.64 338 *e*P P 06 32 55.4 +0.7
GRN Grenoble 84.69 338 *e*P P 06 32 54.9 -0.1
MFF Saint Martin d 84.77 343 *e*P P 06 32 55.0 -0.4
comp=Z,347nm,1.0s,mb6.1
MFF Saint Martin d 84.77 343 *e*P P 06 32 55.0 -0.4
MFF pmax pmax
comp=Z,173nm,1.0s,mb6.1
MFF Saint Martin d 84.77 343 *e*P P 06 32 55.0 -0.4
comp=Z,173nm,1.0s,mb6.1
AGG Agios Georgios 84.81 325 *e*P P 06 32 52.7 -2.9
JAN Janina 84.85 326 *e*P P 06 32 54.0 -1.8
PYM Petit Puy Mans 84.89 340 *e*P P 06 32 58.8 +2.8
MBDF Montbardon 84.91 338 *e*P P 06 32 55.7 -0.4
comp=Z,99nm,0.7s,mb5.7
MBDF Montbardon 84.91 338 *e*P P 06 32 55.7 -0.4
MBDF pmax pmax
comp=Z,49nm,0.7s,mb5.8
MBDF Montbardon 84.91 338 *e*P P 06 32 55.7 -0.4
comp=Z,49nm,0.7s,mb5.8
ORIF Oris-en-Rattie 84.96 338 *e*P P 06 32 56.0 -0.3
comp=Z,361nm,0.9s,mb6.2
ORIF *e*R
comp=Z,4µm,19.5s
ORIF Oris-en-Rattie 84.96 338 *e*P P 06 32 56.0 -0.3
ORIF pmax pmax
comp=Z,180nm,0.9s,mb6.2
ORIF Oris-en-Rattie 84.96 338 *e*P P 06 32 56.0 -0.3
comp=Z,180nm,0.9s,mb6.2
SRN Sarande 84.98 327 *i*p P 06 32 55.6 -0.8
BRAL Brewton 85.05 49 PFAKE 06 33 10.0 +13
BRAL LR LR
comp=Z,3µm,19.0s,MS5.7
ABTO Aybut 85.08 290 P P 06 32 57.5 +0.5
SNR=22
EVR Evrytania 85.11 325 *e*P P 06 32 56.0 -1.1
AQU L'Aquila 85.12 332⇑*i*P P 06 32 58.5 +1.3
AQU L'Aquila 85.12 332 *e*P P 06 32 59.6 +2.4
AQU pmax pmax
comp=Z,161nm,0.8s,mb6.2
AQU L'Aquila 85.12 332 *e*P P 06 32 59.6 +2.4
comp=Z,161nm,0.8s,mb6.2
SURF Saint Ours 85.13 337 *e*P P 06 32 57.1 -0.1
APE Apeiranthos 85.13 321⇑*i*P P 06 32 57.3 +0.1
APE Apeiranthos 85.13 321⇑P P 06 32 57.3 +0.1
KEK Kerkira 85.20 327 *e*P P 06 32 56.5 -1.1
MUN Mundaring 85.30 212 *e*P P 06 32 58.7 +0.6
JSC Jenkinsville 85.32 43 *e*P P 06 32 58.2 +0.1
VIVF Saint-Julien-l 85.33 339 *e*P P 06 32 57.7 -0.5
comp=Z,321nm,1.0s,mb6.1
VIVF Saint-Julien-l 85.33 339 *e*P P 06 32 57.7 -0.5
VIVF pmax pmax
comp=Z,160nm,1.0s,mb6.1
VIVF Saint-Julien-l 85.33 339 *e*P P 06 32 57.7 -0.5
comp=Z,160nm,1.0s,mb6.1
SAOF Saorge 85.38 337 *e*P P 06 32 57.7 -0.8
AUTN L'Aution 85.41 337 *e*P P 06 32 59.0 +0.4
TOUF Mont Tournerai 85.44 337 *e*P P 06 32 59.3 +0.6
LUCF Luceram 85.53 337 *e*P P 06 32 59.3 +0.1
SBF Sospel 85.53 337 *e*P P 06 32 58.6 -0.6
comp=Z,415nm,1.0s,mb6.3
SBF Sospel 85.53 337 *e*P P 06 32 58.6 -0.6
SBF pmax pmax
comp=Z,208nm,1.0s,mb6.3
SBF Sospel 85.53 337 *e*P P 06 32 58.6 -0.6
comp=Z,208nm,1.0s,mb6.3
REVF Revere 85.66 337 *e*P P 06 33 00.0 +0.2
LKD Levkas 85.75 326 *e*P P 06 32 59.0 -1.3
SANT Santorini 85.75 321 P P 06 33 03.1 +2.8
NWAO Narrogin (SRO) 85.79 211 *e*P P 06 33 00.0 -0.5
NWAO pmax pmax
comp=Z,98nm,0.9s
NWAO MLR MLR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 85.79 211 *e*P P 06 32 60.0 -0.5
comp=Z,98nm,0.9s,mb6.0
NWAO LR LR
comp=Z,1µm,19.0s,MS5.3
CAF Calviac 85.88 341 *e*P P 06 33 00.3 -0.6
comp=Z,377nm,1.0s,mb6.3
CAF Calviac 85.88 341 *e*P P 06 33 00.3 -0.6
CAF pmax pmax
comp=Z,188nm,1.0s,mb6.3
CAF Calviac 85.88 341 *e*P P 06 33 00.3 -0.6
comp=Z,188nm,1.0s,mb6.3
SMRF Simiane la Rot 85.92 338 *e*P P 06 33 00.5 -0.6
comp=Z,226nm,1.1s,mb6.0
SMRF Simiane la Rot 85.92 338 *e*P P 06 33 00.5 -0.6
comp=Z,226nm,1.1s,mb6.3
TBI Tubuai 85.93 130 *e*S S 06 43 33.7 -0.2
comp=Z,5µm,30.2s
TBI *e*LR LR 06 59 36.1
comp=Z,11µm,34.8s,baz=324
FRF La Foret Royal 86.02 337 *e*P P 06 33 01.0 -0.6
comp=Z,282nm,1.3s,mb6.0
FRF La Foret Royal 86.02 337 *e*P P 06 33 01.0 -0.6
FRF pmax pmax
comp=Z,141nm,1.3s,mb6.0
FRF La Foret Royal 86.02 337 *e*P P 06 33 01.0 -0.6
comp=Z,141nm,1.3s,mb6.0
CNNC Cliffs of the 86.09 41 PFAKE 06 33 10.0 +8.0
CNNC LR LR
comp=Z,3µm,19.0s,MS5.7
TAVF Tavernes 86.13 338 *e*P P 06 33 02.8 +0.7
LFF La Frestale 86.17 342 *e*P P 06 33 01.9 -0.4
comp=Z,448nm,1.1s,mb6.3
LFF La Frestale 86.17 342 *e*P P 06 33 01.9 -0.4
LFF pmax pmax
comp=Z,224nm,1.1s,mb6.3
LFF La Frestale 86.17 342 *e*P P 06 33 01.9 -0.4
comp=Z,224nm,1.1s,mb6.3
PRAF Pradon 86.19 338 *e*P P 06 33 02.8 +0.4
VLS Valsamata 86.23 325 *e*P P 06 33 01.5 -1.1
LASF Ste Croix 86.26 339 *e*P P 06 33 02.4 -0.4
comp=Z,209nm,1.0s,mb6.0
LMR La Mourre 86.27 337 *e*P P 06 33 02.2 -0.7
comp=Z,396nm,1.0s,mb6.3
LMR La Mourre 86.27 337 *e*P P 06 33 02.2 -0.7
LMR pmax pmax
comp=Z,198nm,1.0s,mb6.3
LMR La Mourre 86.27 337 *e*P P 06 33 02.2 -0.7
comp=Z,198nm,1.0s,mb6.3
PGF Pioggiola 86.30 335 *e*P P 06 33 02.5 -0.5
comp=Z,211nm,1.0s,mb6.0
PGF Pioggiola 86.30 335 *e*P P 06 33 02.5 -0.5
PGF pmax pmax
comp=Z,105nm,1.0s,mb6.0
PGF Pioggiola 86.30 335 *e*P P 06 33 02.5 -0.5
comp=Z,105nm,1.0s,mb6.0
ZKR Zakros 86.47 320 *e*P P 06 33 03.2 -0.6
CORF Corte 86.49 335 *e*P P 06 33 04.3 +0.4
VLI Velíai 86.53 323 *e*P P 06 33 02.0 -2.1
ITM Ithomi 86.55 324 *e*P P 06 33 03.0 -1.2
EIL Elat 86.65 311 *e*P P 06 33 05.5 +0.8
comp=Z,3µm,0.9s
URZ Urewera 86.66 162 P P 06 33 03.3 -1.5
comp=Z,39nm,1.0s,mb5.6,baz=46,slow=5.4,SNR=5.7
URZ LR LR 07 04 34.1
comp=Z,3µm,20.0s,MS5.6,baz=170,slow=31
NHSC New Hope 86.80 43 PFAKE 06 33 20.0 +15
NHSC LR LR
comp=Z,3µm,19.0s,MS5.7
TIP Timpagrande 86.80 328 *e*P P 06 33 07.2 +1.7
KYTH Kithira 86.86 323 *e*P P 06 33 04.0 -1.7
VAM Vamos 87.11 321 *e*P P 06 33 07.0 +0.1
SIVA Sivas 87.17 321 *e*P P 06 33 04.3 -2.9
KARN Karanos 87.23 322 *e*P P 06 33 05.4 -2.1
MTLF Montolieu 87.35 340 *e*P P 06 33 07.3 -0.8
comp=Z,157nm,0.9s,mb5.9
MTLF Montolieu 87.35 340 *e*P P 06 33 07.3 -0.8
MTLF pmax pmax
comp=Z,78nm,0.9s,mb5.9
MTLF Montolieu 87.35 340 *e*P P 06 33 07.3 -0.8
comp=Z,78nm,0.9s,mb5.9
LRDF Laroque-de-Fa 87.65 340 *e*P P 06 33 11.5 +1.9
MLS Moulis 87.97 341 *e*P P 06 33 11.4 +0.3
EJON La Jonquera 88.03 339 P P 06 33 13.3 +1.9
comp=Z,67nm,0.7s,mb6.0
EPF Esparros 88.07 341 *e*P P 06 33 11.0 -0.6
comp=Z,103nm,0.8s,mb5.8

EPF	**Esparros**	**88.07**	**341**	*e*P	**P**	**06 33 11.0**	**-0.6**		
EPF				pmax	pmax				
	comp=Z,52nm,0.8s,mb5.8								
EPF	**Esparros**	**88.07**	**341**	*e*P	**P**	**06 33 11.0**	**-0.6**		
	comp=Z,52nm,0.8s,mb5.8								
SALF	**Salau**	**88.14**	**341**	*e*P	**P**	**06 33 17.1**	**+5.2**		
RESF	**Ens**	**88.28**	**341**	*e*P	**P**	**06 33 14.6**	**+2.0**		
EALK	**Alkurruntz**	**88.29**	**343**	P	**P**	**06 33 12.8**	**+0.3**		
	comp=Z,119nm,1.3s,mb6.0								
SJPF	**Ste Jean**	**88.33**	**342**	*e*P	**P**	**06 33 12.1**	**-0.7**		
	comp=Z,76nm,1.1s,mb5.5								
SJPF	**Ste Jean**	**88.33**	**342**	*e*P	**P**	**06 33 12.1**	**-0.7**		
SJPF				pmax	pmax				
	comp=Z,38nm,1.1s,mb5.5								
SJPF	**Ste Jean**	**88.33**	**342**	*e*P	**P**	**06 33 12.1**	**-0.7**		
	comp=Z,38nm,1.1s,mb5.5								
ELIZ	**Elizondo**	**88.34**	**343**	P	**P**	**06 33 13.4**	**+0.5**		
ELIZ				pmax	pmax				
	comp=Z,16nm,0.5s,mb5.5								
ELIZ	**Elizondo**	**88.34**	**343**	P	**P**	**06 33 13.4**	**+0.6**		
	comp=Z,16nm,0.5s,mb5.5								
ETSF	**Etsaut**	**88.39**	**342**	*e*P	**P**	**06 33 12.7**	**-0.4**		
	comp=Z,46nm,0.6s,mb5.6								
ETSF	**Etsaut**	**88.39**	**342**	*e*P	**P**	**06 33 12.7**	**-0.4**		
ETSF				pmax	pmax				
	comp=Z,23nm,0.6s,mb5.6								
ETSF	**Etsaut**	**88.39**	**342**	*e*P	**P**	**06 33 12.7**	**-0.4**		
	comp=Z,23nm,0.6s,mb5.6								
ELAN	**Lanestosa**	**88.66**	**344**	P	**P**	**06 33 14.8**	**+0.5**		
	comp=Z,38nm,1.0s,mb5.7								
EMIR	**Miracle**	**88.86**	**340**	P	**P**	**06 33 16.4**	**+1.1**		
	comp=Z,44nm,0.7s,mb5.9								
EARI	**Arriondas**	**88.92**	**345**	P	**P**	**06 33 15.3**	**-0.3**		
	comp=Z,49nm,1.1s,mb5.8								
VSL	**Villasalto**	**88.99**	**334**	*e*P	**P**	**06 33 17.8**	**+1.8**		
	comp=Z,138nm,0.9s,mb6.3								
ECRI	**Cripan**	**89.08**	**343**	P	**P**	**06 33 15.6**	**-0.7**		
ECRI				pmax	pmax				
	comp=Z,33nm,0.9s,mb5.7								
ECRI	**Cripan**	**89.08**	**343**	P	**P**	**06 33 15.6**	**-0.8**		
	comp=Z,33nm,0.9s,mb5.7								
TAU	**Tasmania Unive**	**89.12**	**185**	PFAKE		06 33 30.0	+13		
TAU				LR	LR				
	comp=Z,681nm,21.0s,MS5.0								
SNZO	**South Karori**	**89.14**	**165**	PFAKE		06 33 30.0	+13		
SNZO				LR	LR				
	comp=Z,3μm,22.0s,MS5.7								
EPON	**Pontenova**	**89.21**	**347**	P	**P**	**06 33 16.2**	**-0.8**		
	comp=Z,91nm,0.9s,mb5.8								
ESAC	**San Caprasio**	**89.50**	**342**	P	**P**	**06 33 19.3**	**+1.0**		
	comp=Z,153nm,0.9s,mb6.3								
EPOB	**Poblet**	**89.50**	**340**	P	**P**	**06 33 18.8**	**+0.5**		
	comp=Z,50nm,0.8s,mb5.9								
DGAR	**Diego Garcia**	**89.83**	**259**	PFAKE		06 33 30.0	+10		
DGAR				LR	LR				
	comp=Z,355nm,19.0s,MS4.8								
STS	**Santiago**	**89.86**	**348**	P	**P**	**06 33 18.0**	**-2.0**		
STS				pmax	pmax				
	comp=Z,30nm,0.8s,mb5.7								
STS	**Santiago**	**89.86**	**348**	P	**P**	**06 33 18.0**	**-2.0**		
	comp=Z,30nm,0.8s,mb5.7								
ERTA	**Horta de San J**	**90.05**	**341**	P	**P**	**06 33 22.0**	**+1.1**		
	comp=Z,79nm,2.3s,mb5.6								
ERUA	**La Rua**	**90.12**	**346**	P	**P**	**06 33 20.0**	**-1.2**		
ERUA				pmax	pmax				
	comp=Z,16nm,0.6s,mb5.5								
ERUA	**La Rua**	**90.12**	**346**	P	**P**	**06 33 20.0**	**-1.2**		
	comp=Z,16nm,0.6s,mb5.5								
DWPF	**Disney**	**90.28**	**47**	PFAKE		06 33 30.0	+8.1		
DWPF				LR	LR				
	comp=Z,3μm,19.0s,MS5.7								
ECAL	**Calabor**	**90.50**	**346**	P	**P**	**06 33 21.8**	**-1.1**		
	comp=Z,100nm,1.5s,mb5.9								
ETOS	**Mallorca**	**90.58**	**339**	P	**P**	**06 33 24.8**	**+1.5**		
	comp=Z,20nm,0.9s,mb5.5								
EZAM	**Zamans**	**90.60**	**348**	P	**P**	**06 33 21.2**	**-2.2**		
EZAM				pmax	pmax				
	comp=Z,40nm,0.8s,mb5.8								
EZAM	**Zamans**	**90.60**	**348**	P	**P**	**06 33 21.2**	**-2.3**		
	comp=Z,40nm,0.8s,mb5.8								
PBRG	**Braganca**	**90.63**	**346**	*e*P	**P**	**06 33 23.4**	**-0.2**		
ETOR	**Torete**	**90.70**	**342**	P	**P**	**06 33 24.2**	**+0.3**		
ETOR				pmax	pmax				
	comp=Z,13nm,1.0s,mb5.2								
ETOR	**Torete**	**90.70**	**342**	P	**P**	**06 33 24.2**	**+0.2**		
	comp=Z,13nm,1.0s,mb5.2								
EMOS	**Mosqueruela**	**90.80**	**341**	P	**P**	**06 33 25.2**	**+0.8**		
	comp=Z,28nm,0.7s,mb5.7								
RPZ	**Rata Peaks**	**90.89**	**168**	P	**P**	**06 33 24.8**	**0.0**		
	comp=Z,38nm,0.9s,mb5.7,baz=341,slow=7.7,SNR=6.0								
RPZ				LR	LR	07 08 37.7			
	comp=Z,2μm,19.5s,MS5.5,baz=175,slow=32								
RPZ	**Rata Peaks**	**90.89**	**168**	P	**P**	**06 33 24.8**	**0.0**		
RPZ				LR	LR	07 08 37.7			
GUD	**Guadarrama**	**91.30**	**344**	P	**P**	**06 33 26.0**	**-0.7**		
GUD				pmax	pmax				
	comp=Z,11nm,0.9s,mb5.2								
GUD	**Guadarrama**	**91.30**	**344**	P	**P**	**06 33 26.0**	**-0.7**		
	comp=Z,11nm,0.9s,mb5.2								
PVRL	**Vila Real**	**91.31**	**347**	*e*P	**P**	**06 33 25.7**	**-1.0**		
	comp=Z,153nm,1.4s,mb6.1								
EIBI	**Ibiza**	**91.64**	**339**	P	**P**	**06 33 28.9**	**+0.6**		
	comp=Z,45nm,0.9s,mb5.8								
PVIS	**Viseu**	**91.88**	**347**	*e*P	**P**	**06 33 30.5**	**+1.1**		
	comp=Z,95nm,1.2s,mb6.0								
ESDC	**Sonseca Array**	**92.19**	**344**	P	**P**	**06 33 28.6**	**-2.2**		
	comp=Z,16nm,0.9s,mb5.3,baz=11,slow=4.0,SNR=27								
ESDC				PP	PP	06 37 09.9	-1.1		
	comp=Z,0.9nm,0.5s,baz=11,slow=6.6,SNR=2.7								
ESDC				LR	LR	07 20 49.6			
	comp=Z,3μm,18.9s,MS5.8,baz=10.0,slow=39								
ESDC	**Sonseca Array**	**92.19**	**344**	P	**P**	**06 33 29.3**	**-1.5**		
	comp=Z,18nm,1.0s,mb5.3								
ESLA	**Sonseca Array**	**92.19**	**344**	*e*P	**P**	**06 33 30.2**	**-0.7**		
	comp=Z,6.2nm,1.1s								
ESLA				LR	LR				
	comp=Z,21μm,19.0s,MS6.6								
CMAH	**Djebel Manchou**	**92.23**	**334**	P	**P**	**06 33 32.0**	**+1.0**		
EBEN	**Beniarda**	**92.32**	**340**	P	**P**	**06 33 32.1**	**+0.6**		
	comp=Z,97nm,1.5s,mb5.9								
PAB	**San Pablo**	**92.39**	**344**	PFAKE		06 33 40.0	+8.3		
PAB				LR	LR				
	comp=Z,3μm,19.0s,MS5.8								
KEST	**Kesra**	**92.45**	**332**	P	**P**	**06 33 30.8**	**-1.2**		
	comp=Z,16nm,1.2s,mb5.2,baz=261,slow=1.1,SNR=14								
KEST				LR	LR	07 18 49.3			
	comp=Z,1μm,18.9s,MS5.4,baz=335,slow=38								
CKFL	**Kef-Lekhel**	**92.65**	**334**	P	**P**	**06 33 34.0**	**+1.1**		
PCBR	**Castelo Branco**	**92.67**	**346**	*e*P	**P**	**06 33 32.9**	**-0.1**		
ETOB	**Tobarra**	**92.68**	**341**	P	**P**	**06 33 33.6**	**+0.6**		
	comp=Z,21nm,0.8s,mb5.6								
DFRA	**Djebel Bou Aff**	**92.76**	**335**	P	**P**	**06 33 37.0**	**+3.5**		
CASM	**Ain Smara**	**92.85**	**335**	P	**P**	**06 33 35.0**	**+1.2**		
TEIG	**Tepich**	**92.86**	**57**	PFAKE		06 33 50.0	+16		
TEIG				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
EVIA	**Vianos**	**92.89**	**342**	P	**P**	**06 33 34.1**	**+0.1**		
EVIA				pmax	pmax				
	comp=Z,12nm,0.8s,mb5.4								
EVIA	**Vianos**	**92.89**	**342**	P	**P**	**06 33 34.1**	**+0.1**		
	comp=Z,12nm,0.8s,mb5.4								
CTEI	**Djebel Teioual**	**93.06**	**335**	P	**P**	**06 33 38.0**	**+3.2**		
SET	**Setif**	**93.22**	**335**	P	**P**	**06 33 37.0**	**+1.4**		
EMUR	**La Murta**	**93.38**	**341**	P	**P**	**06 33 36.3**	**0.0**		
	comp=Z,25nm,1.5s,mb5.4								
EBAN	**Banos Encina**	**93.62**	**343**	P	**P**	**06 33 36.8**	**-0.6**		
EBAN				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.5								
EBAN	**Banos Encina**	**93.62**	**343**	P	**P**	**06 33 36.8**	**-0.5**		
	comp=Z,20nm,1.0s,mb5.5								
CMER	**Merouana**	**93.62**	**335**	P	**P**	**06 33 39.0**	**+1.6**		
PESTR	**Estremoz**	**93.64**	**346**	eLQ		06 59 26.9			
PESTR				eLR	LR	07 05 52.8			
	comp=Z,2μm,18.0s								
EBAD	**Badajoz**	**93.65**	**346**	P	**P**	**06 33 36.5**	**-1.0**		
	comp=Z,31nm,1.3s,mb5.6								
EHUE	**Huescar**	**93.70**	**342**	P	**P**	**06 33 36.7**	**-1.1**		
EHUE				pmax	pmax				
	comp=Z,23nm,1.6s,mb5.4								
EHUE	**Huescar**	**93.70**	**342**	P	**P**	**06 33 36.7**	**-1.1**		
	comp=Z,23nm,1.6s,mb5.4								
EADA	**Adamuz**	**93.77**	**344**	P	**P**	**06 33 36.9**	**-1.2**		
	comp=Z,26nm,1.1s,mb5.6								
EQES	**Quesada**	**93.82**	**342**	P	**P**	**06 33 37.2**	**-1.1**		
	comp=Z,31nm,2.4s,mb5.3								
RKT	**Rikitea**	**93.98**	**120**	*e*PP	PP	06 37 11.8	-13		
	comp=Z,142nm,29.5s								
RKT	**Rikitea**	**93.98**	**120**	*e*PS	PS	06 46 09.7	+4.9		
	comp=Z,2μm,25.8s								
RKT	**Rikitea**	**93.98**	**120**	*e*SKSac	SKSac	06 44 12.9	-0.1		
	comp=Z,624nm,28.0s								
RKT				*e*SS	SS	06 51 08.5	+0.4		
	comp=Z,2μm,26.0s								
RKT				*e*LR	LR	07 03 30.3			
	comp=Z,11μm,33.2s,baz=317								
BBSR	**BB Station**	**94.01**	**32**	PFAKE		06 33 50.0	+11		
BBSR				LR	LR				
	comp=Z,1μm,19.0s,MS5.3								
EVO	**Evora**	**94.03**	**346**	*e*P	**P**	**06 33 38.5**	**-0.8**		
	comp=Z,69nm,1.1s,mb5.7								
ECOG	**Cogollos-Vega**	**94.43**	**343**	P	**P**	**06 33 40.2**	**-0.9**		
ECOG				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb5.0								
ECOG	**Cogollos-Vega**	**94.43**	**343**	P	**P**	**06 33 40.2**	**-0.9**		
	comp=Z,6.0nm,0.9s,mb5.0								
PBEJ	**Beja**	**94.50**	**346**	*e*P	**P**	**06 33 41.0**	**-0.5**		
EMIN	**Mina Concepcio**	**94.55**	**345**	P	**P**	**06 33 39.6**	**-2.1**		
	comp=Z,85nm,2.9s,mb5.7								
EBER	**Berja**	**94.65**	**342**	P	**P**	**06 33 41.6**	**-0.5**		
	comp=Z,11nm,0.9s,mb5.3								
EGRO	**El Granado**	**94.92**	**346**	P	**P**	**06 33 41.0**	**-2.4**		
	comp=Z,107nm,1.7s,mb6.0								
EMIJ	**Mijas**	**95.36**	**343**	P	**P**	**06 33 44.0**	**-1.4**		
	comp=Z,24nm,1.3s,mb5.5								
EJIF	**Jimena Fronter**	**95.61**	**344**	P	**P**	**06 33 44.8**	**-1.7**		
EJIF				pmax	pmax				
	comp=Z,42nm,1.1s,mb5.8								
EJIF	**Jimena Fronter**	**95.61**	**344**	P	**P**	**06 33 44.8**	**-1.7**		
	comp=Z,42nm,1.1s,mb5.8								
ATD	**Arta Tunnel**	**96.13**	**294**	P	**P**	**06 33 49.7**	**+0.8**		
	comp=Z,16nm,0.9s,mb5.5,baz=278,slow=20,SNR=11								
TGUH	**Tegucigalpa,Un**	**98.28**	**60**	*e*P	**P**	**06 33 57.2**	**-1.4**		
	comp=Z,62nm,1.0s,mb6.1								
TGUH				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
PTCN	**Pitcairn Islan**	**98.40**	**117**	PFAKE		06 34 10.0	+11		
PTCN				LR	LR				
	comp=Z,3μm,20.0s,MS5.8								
MSEY	**Mahe Island**	**99.57**	**273**	PFAKE		06 34 20.0	+16		
MSEY				LR	LR				
	comp=Z,435nm,22.0s,MS4.9								
JTS	**JuntasAbangare**	**102.63**	**60**	PFAKE		06 34 30.0	+12		
JTS				LR	LR				
	comp=Z,214nm,19.0s,MS4.7								
CPD	**Cerro la Pandu**	**106.25**	**40**	*e*PKPdf	PP	06 38 58.2	0.0		
KMBO	**Kilima Mbogo**	**109.31**	**290**	PP	PP	06 39 19.5	-1.1		
	comp=Z,1.4nm,0.3s,baz=227,slow=23,SNR=2.4								
KMBO	**Kilima Mbogo**	**109.31**	**290**	PFAKE		06 39 00.0	+8.7		
KMBO				LR	LR				
	comp=Z,4μm,19.0s,MS6.0								
SDV	**Santo Domingo**	**111.86**	**49**	*e*PKPdf	PKiKP	06 38 55.6	-0.5		
SDV				LR	LR				
	comp=Z,511nm,19.0s,MS5.1								
RPN	**Rapa Nui**	**113.19**	**105**	PFAKE		06 39 10.0	+11		
RPN				LR	LR				
	comp=Z,436nm,20.0s,MS5.0								
ROSC	**El Rosal**	**113.19**	**55**	PKiKP	PKiKP	06 39 00.4	+1.8		
	comp=Z,5.2nm,0.7s,baz=285,slow=15,SNR=5.4								
ROSC				PP	PP	06 39 43.8	-4.6		
	comp=Z,2.1nm,0.6s,baz=97,slow=22,SNR=3.7								
ROSC	**El Rosal**	**113.19**	**55**	*e*PKPdf	PKiKP	06 39 00.8	+2.2		
DRV	**Dumont d'Urvil**	**113.24**	**186**	PP	PP	06 39 46.0	-2.8		
DRV				SP	SP	06 49 22.0	-0.1		
DRV				SS	SS	06 55 32.0	-1.0		
BBGH	**Gun Hill**	**113.33**	**36**	PFAKE		06 39 10.0	+11		
BBGH				LR	LR				
	comp=Z,2μm,21.0s,MS5.7								
OTAV	**Otavalo**	**114.49**	**61**	*e*PKPdf	PKiKP	06 39 04.7	+3.6		
OTAV				LR	LR				
	comp=Z,650nm,20.0s,MS5.2								
TOA0	**Torodi Ar. Sit**	**115.90**	**330**	*e*PKPdf	PKPdf	06 39 03.2	-0.6		
TORD	**Torodi Ar. Bea**	**115.90**	**330**	PKP	PKPdf	06 39 02.5	-1.3		
	comp=Z,3.2nm,0.5s,baz=19,slow=2.3,SNR=25								
TORD				PP	PP	06 39 59.2	-8.3		
	comp=Z,4.2nm,0.9s,baz=13,slow=4.9,SNR=4.9								
TORD				PKKPbc	PKKPbc	06 49 28.1	-6.7		
	comp=Z,1.7nm,1.0s,baz=185,slow=3.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**115.90**	**330**	PKP	PKPdf	06 39 02.5	-1.3		
TORD				PP	PP	06 39 59.2	-8.3		
TORD				PKKPbc	PKKPbc	06 49 28.1	-6.7		
CASY	**Casey**	**117.26**	**198**	PFAKE		06 39 20.0	+14		
CASY				LR	LR				
	comp=Z,2μm,19.0s,MS5.7								
VNDA	**Vanda**	**123.69**	**178**	PKP	PKPdf	06 39 15.4	-3.4		
	comp=Z,7.0nm,0.9s,baz=316,slow=4.0,SNR=27								
VNDA				PKKPbc	PKKPbc	06 49 05.0	-1.0		
	comp=Z,2.4nm,0.9s,baz=231,slow=3.4,SNR=9.4								
VNDA	**Vanda**	**123.69**	**178**	*e*PKPdf	PKPdf	06 39 15.7	-3.1		
VNDA				LR	LR				
	comp=Z,1μm,22.0s,MS5.4								
SBA	**Scott Base**	**124.18**	**177**	*e*PKIKP	PKPdf	06 39 17.5	-2.2		
SBA				MLR	MLR				
	comp=Z,1μm,22.0s,MS5.4								
LIC	**Lamto**	**124.55**	**335**	*e*PKIKP	PKPdf	06 39 19.2	-1.2		
	comp=Z,77nm,1.1s								
LIC				*e*R					
	comp=Z,2μm,21.5s								
LIC	**Lamto**	**124.55**	**335**	*e*PKPdf	PKPdf	06 39 19.2	-1.2		
LIC				LR	LR				
	comp=Z,830nm,21.5s,MS5.4								
NNA	**Nana**	**124.92**	**69**	PFAKE		06 39 30.0	+8.9		
NNA				LR	LR				
	comp=Z,243nm,21.0s,MS4.8								
LSZ	**Lusaka**	**125.76**	**287**	*e*PKIKP	PKPdf	06 39 23.2	+0.5		
LSZ				MLR	MLR				
	comp=Z,4μm,19.0s,MS6.2								
SAML	**Samuel**	**130.78**	**53**	PFAKE		06 39 40.0	+7.7		
SAML				LR	LR				
	comp=Z,1μm,19.0s,MS5.7								
ARE	**Arequipa**	**131.69**	**67**	*e*PKIKP	PKPdf	06 39 37.0	+3.0		
MAW	**Mawson**	**132.36**	**211**	PKP	PKPdf	06 39 33.4	-1.9		
	comp=Z,27nm,1.1s,baz=7.3,slow=3.1,SNR=12								
MAW	**Mawson**	**132.36**	**211**	PKIKP	PKPdf	06 39 33.4	-1.9		
MAW				pmax	pmax				
	comp=Z,27nm,1.2s								
MAW	**Mawson**	**132.36**	**211**	*e*PKPdf	PKPdf	06 39 33.2	-2.1		
LPAZ	**La Paz**	**133.68**	**64**	PKhKP		06 39 24.2			
	comp=Z,1.1nm,0.7s,baz=21,slow=15,SNR=4.6								
LPAZ				PKP	PKPdf	06 39 37.9	+0.1		
	comp=Z,22nm,1.1s,baz=1.4,slow=3.2,SNR=26								
LPAZ	**La Paz**	**133.68**	**64**	*i* PKHKP		06 39 24.2			
LPAZ						06 39 37.9			
LPAZ				pmax	pmax				
	comp=Z,22nm,1.1s								
LPAZ	**La Paz**	**133.68**	**64**	PKP	PKPdf	06 39 37.9	+0.1		
LBTB	**Lobatse**	**134.24**	**280**	*e*PKIKP	PKPdf	06 39 38.9	+0.1		
LBTB				MLR	MLR				
	comp=Z,2μm,19.0s,MS5.8								
TSUM	**Tsumeb**	**135.53**	**293**	*e*PKPdf	PKPdf	06 39 34.6	-6.6		
TSUM				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
QSPA	**South Pole Qui**	**136.10**	**180**	PFAKE		06 39 50.0	+7.7		
QSPA				LR	LR				
	comp=Z,1μm,22.0s,MS5.6								
BOSA	**Boshof**	**136.77**	**276**	PKhKP		06 39 30.4			
	comp=Z,2.1nm,0.6s,baz=108,slow=3.2,SNR=3.8								
BOSA				PKP	PKPdf	06 39 44.6	+1.1		
	comp=Z,16nm,0.9s,baz=55,slow=2.2,SNR=12								
BOSA				PP	PP	06 42 25.7	-0.4		
	comp=Z,15nm,1.0s,baz=51,slow=4.3,SNR=5.0								
BOSA	**Boshof**	**136.77**	**276**	*i* PKHKP		06 39 30.4			
BOSA						06 39 44.6			
BOSA						06 42 25.7			
BOSA				pmax	pmax				
	comp=Z,16nm,0.9s								
BOSA				pmax	pmax				
	comp=Z,15nm,1.0s								
BOSA	**Boshof**	**136.77**	**276**	*e*PKPdf	PKPdf	06 39 44.6	+1.0		
BOSA				LR	LR				
	comp=Z,2μm,19.0s,MS5.9								
LVC	**Limon Verde**	**137.81**	**71**	*e*PKPdf	PKPdf	06 39 45.9	+0.5		
LVC				LR	LR				
	comp=Z,1μm,21.0s,MS5.6								
RCBR	**Riachuelo**	**138.63**	**16**	PFAKE		06 40 00.0	+13		
RCBR				LR	LR				
	comp=Z,1μm,19.0s,MS5.7								
ASCN	**Ascension**	**140.52**	**342**	PFAKE		06 40 00.0	+10		
ASCN				LR	LR				
	comp=Z,402nm,19.0s,MS5.2								
SYO	**Syowa Base**	**141.07**	**211**⇑	*e*P	PKPdf	06 39 42.8	-8.6		
SYO	**Syowa Base**	**141.07**	**211**⇓	*e*PKPdf	PKPdf	06 39 49.6	-1.8		
SUR	**Sutherland**	**142.09**	**275**	PFAKE		06 40 10.0	+17		
SUR				LR	LR				
	comp=Z,791nm,21.0s,MS5.5								
CLCH	**Cerro Calan**	**143.59**	**85**⇑	*i* P	PKPdf	06 39 54.0	-1.9		
FCH	**Farellones**	**143.73**	**85**⇑	*i* P	PKPdf	06 39 53.7	-2.4		
CFAA	**Coronel Fontan**	**144.14**	**81**	PKP	PKPdf	06 39 53.3	-3.6		
	comp=Z,8.1nm,0.7s,baz=262,slow=2.7,SNR=72								
NVL	**N'lazarevskaya**	**149.66**	**203***c*	*i* PKHKP		06 40 04.9			
NVL				*i*		06 43 42.3			
NVL				pmax	pmax				
	comp=Z,187nm,1.2s								
MAIT	**Maitri**	**149.68**	**203**	*e*PKPdf	PKPdf	06 40 05.3	-0.8		
TRQA	**Tornquist**	**151.96**	**86**	*e*PKPdf	PKPdf	06 40 09.1	-0.5		
TRQA				*e*PKPbc	PKPbc	06 40 17.3	+1.1		
TRQA				LR	LR				
	comp=Z,2μm,19.0s,MS5.9								
PMSA	**Palmer Station**	**152.13**	**145**	PKPbc	PKPbc	06 40 14.1	-2.5		
	comp=Z,209nm,1.0s,baz=205,slow=2.0,SNR=22								
PMSA	**Palmer Station**	**152.13**	**145**	*e*PKPbc	PKPbc	06 40 14.4	-2.1		
PMSA				LR	LR				
	comp=Z,3μm,19.0s,MS6.1								
SNAA	**Sanae**	**152.44**	**195**	PKP	PKPdf	06 40 09.4	-0.9		
	comp=Z,5.5nm,0.8s,baz=192,slow=1.1,SNR=15								
SNAA				PKPbc	PKPbc	06 40 14.7	-2.5		
	comp=Z,26nm,1.1s,baz=193,slow=5.2,SNR=63								
SNAA				PKPab	PKPab	06 40 25.5	-1.9		
	comp=Z,48nm,1.1s,baz=180,slow=6.5,SNR=17								
SNAA				PP	PP	06 44 04.5	+4.8		
	comp=Z,6.7nm,1.1s,baz=168,slow=5.7,SNR=3.2								
SNAA	**Sanae**	**152.44**	**195**	*e*PKPdf	PKPdf	06 40 08.6	-1.8		
SNAA				*e*		06 40 14.5			
SNAA				*e*		06 40 18.6			
SNAA				*e*		06 40 20.8			
SNAA				*e*		06 40 26.0			
SNAA				*e*		06 40 28.7			
SNAA				*e*		06 40 31.4			
SNAA				*e*		06 40 47.9			
SNAA				*e*		06 41 14.5			
SNAA	**Sanae**	**152.44**	**195**	PKIKP	PKPdf	06 40 09.4	-1.0		
SNAA						06 40 14.7			
SNAA						06 40 25.5			
SNAA						06 44 04.5			
SNAA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
SNAA				pmax	pmax				
	comp=Z,48nm,1.1s								
SNAA				pmax	pmax				
	comp=Z,7.0nm,1.1s								
SNAA	**Sanae**	**152.44**	**195**	*e*PKPdf	PKPdf	06 40 09.5	-0.9		
SNAA				*e*PKPab	PKPab	06 40 28.1	+0.7		
LPA	**La Plata**	**153.06**	**76**	*de*PKP	PKPdf	06 40 10.0	-1.3		
VNA2	**Neumayer--Watz**	**153.86**	**193**	*e*PKPdf	PKPdf	06 40 10.6	-1.8		
VNA2				*e*		06 40 16.0			
VNA2				*e*		06 40 21.0			
VNA2				*e*		06 40 23.2			
VNA2				*e*		06 40 29.0			
VNA2				*e*		06 40 32.2			
VNA2				*e*		06 40 36.0			
VNA2				*e*		06 40 37.9			
VNA2				*e*		06 40 45.5			
VNA2				*e*		06 40 48.5			
VNA2				*e*		06 40 52.1			
VNA2				*e*		06 41 01.9			
VNA2				*e*		06 41 18.1			
VNA2				*e*		06 41 39.8			
VNA2				*e*		06 41 52.8			
VNA3	**Neumayer Olymp**	**153.91**	**192**	*e*PKPdf	PKPdf	06 40 10.5	-2.0		
VNA3				*e*		06 40 15.5			
VNA3				*e*		06 40 21.0			
VNA3				*e*		06 40 23.2			
VNA3				*e*		06 40 29.0			
VNA3				*e*		06 40 32.1			
VNA3				*e*		06 40 35.0			
VNA3		

ISC 16 06:32:06.8±0.1,4623N±003×15443E±002,h17km,
h17km±1.8km:pP-P,n701,σ1900/717,mb5.2/169,MS5.2/9,
81C-96D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.59**	**14**	*e*P		**Pn**	**06 33 14.0**	**-1.5**
SKR				AMB		AMB	06 33 18.5	
	150nm,0.5s							
SKR				AMB		AMB	06 33 18.5	
	180nm,0.5s							
SKR				AMB		AMB	06 33 18.5	
	390nm,0.5s							
SKR				*e*S		**Sn**	**06 34 01.2**	**-7.2**
SKR				A			06 34 02.5	
	690nm,0.5s							
SKR				A			06 34 02.5	
	150nm,0.5s							
SKR	**Severo-Kuril's**	**4.59**	**14**	*e*PN		**Pn**	**06 33 14.0**	**-1.5**
SKR				pmax		pmax		
	comp=N,150nm,0.5s							
SKR				pmax		pmax		
	comp=E,180nm,0.5s							
SKR				pmax		pmax		
	comp=Z,390nm,0.5s							
KUR	**Kuril'sk**	**4.70**	**260**	*e*P		**Pn**	**06 33 13.5**	**-3.4**
KUR				AMB		AMB	06 33 18.5	
	comp=Z,270nm,0.5s							
KUR				AMB		AMB	06 33 18.5	
	comp=Z,300nm,0.5s							
KUR				AMB		AMB	06 33 18.5	
	comp=Z,1μm,0.5s							
KUR				sP			06 33 28.8	
KUR				*i* S		**Sn**	**06 34 06.0**	**-5.1**
KUR				A			06 34 10.0	
	comp=Z,3μm,0.6s							
KUR				A			06 34 10.0	
	comp=Z,740nm,0.6s							
KUR	**Kuril'sk**	**4.70**	**260**	*e*PN		**Pn**	**06 33 13.5**	**-3.4**
KUR				pmax		pmax		
	comp=N,270nm,0.5s							
KUR				pmax		pmax		
	comp=E,300nm,0.5s							
KUR				pmax		pmax		
	comp=Z,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**6.45**	**253**	*e*P		**Pn**	**06 33 41.9**	**+1.0**
YUK				AMB		AMB	06 33 43.0	
	comp=Z,390nm,0.2s							
YUK				*i* S		**Sn**	**06 34 48.6**	**-5.5**
YUK				A			06 35 01.5	
	comp=Z,2μm,0.5s							
YUK				A			06 35 01.5	
	comp=Z,1μm,0.5s							
NEM2	**Nemuro 2**	**6.81**	**248**	P		**Pn**	**06 33 44.6**	**-1.3**
NEM2				*e*S		**Sn**	**06 34 55.2**	**-7.9**
JRA	**Rausu**	**6.97**	**254**	P		**Pn**	**06 33 48.7**	**+0.5**
JRA				*e*S		**Sn**	**06 35 05.3**	**-1.8**
PET	**Petropavlovsk**	**7.33**	**20**	*e*PN		**Pn**	**06 33 57.0**	**+4.0**
PET				pmax		pmax		
	comp=Z,44nm,0.5s							
JNK	**Nakash**	**7.38**	**252**	P		**Pn**	**06 33 53.5**	**-0.3**
JNK				*e*S		**Sn**	**06 35 12.7**	**-4.5**
JAK	**Akkeshi**	**7.66**	**248**	P		**Pn**	**06 33 56.7**	**-0.9**
JAK				*e*S		**Sn**	**06 35 16.4**	**-7.6**
JTKR	**Abashiri--Toko**	**7.78**	**257**	P		**Pn**	**06 33 59.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**8.07**	**279**	⇑*i*P		**Pn**	**06 34 05.6**	**+2.3**
YSS				AMB		AMB	06 34 07.3	
	comp=Z,150nm,1.0s							
YSS				AMB		AMB	06 34 07.3	
	comp=Z,150nm,1.0s							
YSS				*e*S		**Sn**	**06 35 33.2**	**-0.9**
YSS				A			06 35 39.2	
	comp=Z,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.07**	**279**	⇑*i*PN		**Pn**	**06 34 05.6**	**+2.3**
YSS				pmax		pmax		
	comp=E,150nm,1.0s							
YSS				pmax		pmax		
	comp=Z,150nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.07**	**279**	*e*P		**Pn**	**06 34 04.8**	**+1.5**
JAR	**Ashorobuto**	**8.13**	**253**	P		**Pn**	**06 34 04.2**	**+0.1**
JAR				*e*S		**Sn**	**06 35 31.0**	**-4.6**
JMP	**Maruseppu**	**8.14**	**258**	P		**Pn**	**06 34 05.9**	**+1.8**
JOB	**Onbets**	**8.26**	**250**	P		**Pn**	**06 34 05.7**	**-0.1**
JOB				*e*S		**Sn**	**06 35 32.3**	**-6.5**
JKK2	**Kamakawa 2**	**8.60**	**258**	P		**Pn**	**06 34 11.2**	**+0.7**
ASAJ	**Asahikawa**	**8.62**	**260**	Pn		**Pn**	**06 34 10.9**	**+0.1**
	comp=Z,4.9nm,0.3s,baz=256,slow=31,SNR=7.4							
ASAJ	**Asahikawa**	**8.62**	**260**	P		**Pn**	**06 34 11.0**	**+0.2**
ASAJ	**Asahikawa**	**8.62**	**260**	PN		**Pn**	**06 34 10.9**	**+0.1**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
JCH	**Churui**	**8.70**	**249**	P		**Pn**	**06 34 11.2**	**-0.7**
JCH				*e*S		**Sn**	**06 35 42.7**	**-7.0**
JWK2	**Keihoku**	**8.81**	**269**	P		**Pn**	**06 34 17.6**	**+4.3**
UGL	**Uglegorsk**	**8.81**	**293**	*e*P		**Pn**	**06 34 15.0**	**+1.6**
UGL				AMB		AMB	06 34 17.5	
	comp=Z,90nm,1.0s							
UGL				sP			06 34 32.5	
JFR	**Furan**	**8.97**	**254**	P		**Pn**	**06 34 16.9**	**+1.4**
TYV	**Tymovskoe**	**9.07**	**305**	*e*P		**Pn**	**06 34 16.5**	**-0.5**
TYV				AMB		AMB	06 34 19.5	
	comp=Z,44nm,1.0s							
TYV				AMB		AMB	06 34 19.5	
	comp=Z,138nm,1.0s							
JAB	**Ashibetsu**	**9.09**	**257**	P		**Pn**	**06 34 19.4**	**+2.3**
ERM	**Erimo**	**9.13**	**247**	Pn		**Pn**	**06 34 18.9**	**+1.1**
	comp=Z,666nm,1.2s,SNR=7.2							
ERM	**Erimo**	**9.13**	**247**	*e*Pn		**Pn**	**06 34 18.7**	**+0.9**
ERM				*e*Sn		**Sn**	**06 36 02.3**	**+2.1**
JEM	**Erimo**	**9.13**	**247**	P		**Pn**	**06 34 18.3**	**+0.5**
JEM				*e*S		**Sn**	**06 35 53.1**	**-7.1**
JNBK	**Urakawa-nobuka**	**9.26**	**249**	P		**Pn**	**06 34 18.5**	**-1.0**
JNBK				*e*S		**Sn**	**06 35 54.3**	**-9.0**
JBT2	**Biratori 2**	**9.29**	**252**	P		**Pn**	**06 34 20.0**	**+0.1**
JEW	**Eniwo**	**9.87**	**255**	P		**Pn**	**06 34 28.2**	**+0.4**
JNB	**Noboribetsu**	**10.30**	**253**	P		**Pn**	**06 34 32.8**	**-1.0**
JNB				*e*S		**Sn**	**06 36 22.7**	**-6.1**
JKB	**Kayabe**	**10.57**	**251**	P		**Pn**	**06 34 35.5**	**-2.0**
JKB				*e*S		**Sn**	**06 36 25.7**	**-10**
JOT	**Ohata**	**10.81**	**248**	P		**Pn**	**06 34 38.5**	**-2.3**
JOT				*e*S		**Sn**	**06 36 31.2**	**-10**
JSH	**Shimam**	**10.89**	**256**	P		**Pn**	**06 34 42.1**	**+0.2**
JYM2	**Yakumo 2**	**10.90**	**253**	P		**Pn**	**06 34 40.8**	**-1.2**
JANG	**Nango**	**11.08**	**243**	P		**Pn**	**06 34 41.2**	**-3.2**
JANG				*e*S		**Sn**	**06 36 34.4**	**-13**
JTM	**Tenmabayashi**	**11.12**	**245**	P		**Pn**	**06 34 42.2**	**-2.8**
JTM				*e*S		**Sn**	**06 36 36.7**	**-12**
JTH	**Tanohata**	**11.13**	**240**	*e*S		**Sn**	**06 36 36.3**	**-13**
JSR	**Shiriuchi**	**11.15**	**250**	P		**Pn**	**06 34 44.0**	**-1.4**
JOSM	**Okushiri--Mats**	**11.51**	**254**	P		**Pn**	**06 34 48.6**	**-1.8**
JOM	**Ohasama**	**11.76**	**240**	P		**Pn**	**06 34 51.5**	**-2.3**
JOM				*e*S		**Sn**	**06 36 54.7**	**-10**
OFUJ	**Ofunato**	**11.79**	**237**	P		**Pn**	**06 34 51.7**	**-2.5**
OFUJ				*e*S		**Sn**	**06 36 53.2**	**-12**
JRG	**Rokugo**	**12.21**	**241**	*e*S		**Sn**	**06 37 05.3**	**-10**
JIO	**Ouri**	**12.40**	**236**	P		**Pn**	**06 34 59.2**	**-3.3**
JIO				*e*S		**Sn**	**06 37 06.3**	**-14**
TEY	**Ternei**	**12.54**	**271**	*e*P		**Pn**	**06 35 08.0**	**+3.6**
JMM	**Marumori**	**13.12**	**235**	*e*S		**Sn**	**06 37 25.6**	**-12**
HABR	**Khabarovsk**	**13.33**	**287**	*e*PN		**Pn**	**06 35 16.2**	**+1.0**
JFK	**Kawauchi**	**13.43**	**234**	P		**Pn**	**06 35 12.4**	**-4.1**
JFK				*e*S		**Sn**	**06 37 30.7**	**-15**
JFY	**Yanaizu**	**14.06**	**236**	P		**Pn**	**06 35 22.7**	**-2.5**
SMY	**Shemya**	**14.32**	**56**	*e*Pn		**Pn**	**06 35 24.5**	**-4.2**
SMY				*e*Sn		**Sn**	**06 37 51.9**	**-15**
JRY	**Ryogami san**	**15.50**	**234**	P		**Pn**	**06 35 41.3**	**-3.2**
JRY				*e*S		**Sn**	**06 38 23.8**	**-12**
MJAR	**Matsushiro Arr**	**15.53**	**237**	Pn		**Pn**	**06 35 43.0**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=35,slow=11,SNR=22							
MJAR				Sn		**Sn**	**06 38 35.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=70,slow=7.0,SNR=3.7							
MJAR	**Matsushiro Arr**	**15.53**	**237**	P		**Pn**	**06 35 43.0**	**-1.9**
MJAR							06 38 35.0	
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR				smax				
	comp=N,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.53**	**237**	Pn		**Pn**	**06 35 43.0**	**-1.9**
MJAR				Sn		**Sn**	**06 38 35.0**	**-1.6**
MAJO	**Matsushiro**	**15.53**	**237**	*e*P		**Pn**	**06 35 42.8**	**-2.1**
MAJO				pmax		pmax		
	comp=Z,155nm,1.2s							
MAJO	**Matsushiro**	**15.53**	**237**	*e*Pn		**Pn**	**06 35 42.8**	**-2.1**
	comp=Z,155nm,1.2s							
MAT	**Matsushiro**	**15.53**	**237**	P		**Pn**	**06 35 42.8**	**-2.1**
MAT				S		**Sn**	**06 38 52.2**	**+16**
MAT	**Matsushiro**	**15.53**	**237**	P		**Pn**	**06 35 42.6**	**-2.3**
SEY	**Seymchan**	**16.78**	**357**	⇑*e*P		**Pn**	**06 35 58.6**	**-2.3**
JWT	**Wachi**	**18.05**	**239**	P		**Pn**	**06 36 17.2**	**+0.5**
CN2	**Changchun**	**20.58**	**274**	*e*P		**P**	**06 36 41.9**	**-2.9**
CN2				*e*S		**S**	**06 40 30.1**	**-4.3**
CN2				AMB		AMB		
	comp=Z,20nm,0.7s							
CN2				AMB		AMB		
	comp=Z,800nm,5.0s							
CN2				LR		LR		
	comp=N,1μm,16.0s,MS4.5							
CN2				LR		LR		
	comp=E,1μm,16.0s,MS4.5							
CN2				LR		LR		
	comp=Z,2μm,17.0s,MS4.4							
CLNS	**Chul'man**	**21.04**	**311**	*e*P		**P**	**06 36 46.5**	**-3.3**
CLNS				pmax		pmax		
	comp=E,26nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,43nm,0.9s,mb4.8							
CLNS				pmax		pmax		
	comp=N,34nm,1.0s							
YAK	**Yakutsk**	**21.25**	**327**	*e*P		**P**	**06 36 50.5**	**-1.5**
YAK				*e**PP			06 36 56.5	
YAK				*e*S		**S**	**06 40 45.4**	**-2.1**
YAK				*e*SS			06 41 17.1	
YAK				pmax		pmax		
	comp=Z,45nm,1.3s,mb4.6							
YAK				pmax		pmax		
	comp=N,47nm,1.2s							
YAK				pmax		pmax		
	comp=E,46nm,1.1s							
YAK				smax				
	comp=N,3μm,8.2s							
YAK				smax				
	comp=Z,743nm,4.9s							
YAK				smax				
	comp=E,421nm,3.4s							
YAK				MLR		MLR		
	comp=Z,6μm,17.0s,MS5.1							
YAK				MLR		MLR		
	comp=N,4μm,13.0s,MS5.1							
YAK				MLR		MLR		
	comp=E,4μm,12.0s,MS5.1							
YAK	**Yakutsk**	**21.25**	**327**	*e*P		**P**	**06 36 48.9**	**-3.1**
	comp=E,4.5nm,0.6s							
KSRS	**Korea Array**	**21.53**	**255**	P		**P**	**06 36 57.3**	**+2.3**
	comp=E,25nm,0.8s,mb4.7,baz=57,slow=10,SNR=42							
KSRS				PcP		PcP		
	comp=E,2.1nm,0.7s,baz=54,slow=1.6,SNR=6.4							
KS15	**Wonju Array Si**	**21.56**	**255**	*e*P		**P**	**06 36 57.8**	**+2.4**
JNU	**Nakatsue**	**22.26**	**242**	P		**P**	**06 37 06.0**	**+3.2**
	comp=E,66nm,1.0s,mb5.0,baz=242,slow=20,SNR=5.4							
JNU	**Nakatsue**	**22.26**	**242**	P		**P**	**06 37 04.0**	**+1.1**
INCN	**Inchon**	**22.38**	**257**	*e*P		**P**	**06 37 05.2**	**+1.0**
	comp=E,169nm,1.1s,mb5.4							
SNY	**Shenyang**	**22.53**	**270**	⇓P		**P**	**06 37 05.5**	**-0.3**
SNY				AP			06 37 08.1	
SNY				XP	sP		06 37 10.0	-2.7
SNY				PP			06 37 31.1	
SNY				AMB		AMB		
	comp=Z,117nm,0.9s,mb5.3							
BILL	**Bilibino**	**22.70**	**12**	⇓*e*P		**P**	**06 37 05.2**	**-2.4**
BILL				pmax		pmax		
	comp=Z,52nm,1.7s,mb4.7							
HIA	**Hailar**	**23.39**	**290**	⇓*e*P		**P**	**06 37 09.4**	**-5.5**
DL2	**Dalian**	**25.11**	**265**	P		**P**	**06 37 33.8**	**+3.1**
DL2				AMB		AMB		
	comp=Z,40nm,1.0s,mb4.9							
BOD	**Bodaibo**	**27.02**	**310**	*e*P		**P**	**06 37 44.2**	**-3.7**
BOD				*e*			06 42 24.2	
BOD				pmax		pmax		
	comp=Z,111nm,1.1s,mb5.3							
JOW	**Kunigami**	**28.36**	**236**	P		**P**	**06 38 00.9**	**+0.9**
	comp=Z,27nm,1.0s,mb4.8,baz=61,slow=19,SNR=2.8							
BJI	**Beijing**	**28.39**	**271**	P		**P**	**06 38 00.0**	**-0.2**
BJI				AMB		AMB		
	comp=Z,54nm,0.9s,mb5.2							
BJI	**Beijing**	**28.39**	**271**	P		**P**	**06 38 00.0**	**-0.2**
	comp=Z,54nm,0.9s,mb5.2							
BJT	**Baijiatuan**	**28.40**	**271**	*e*P		**P**	**06 38 01.2**	**+0.9**
BJT				pmax		pmax		
	comp=Z,50nm,0.9s							
BJT	**Baijiatuan**	**28.40**	**271**	*e*P		**P**	**06 38 01.2**	**+0.8**
	comp=Z,50nm,0.9s,mb5.2							
NJ2	**Nanjing**	**30.73**	**255**	*e*P		**P**	**06 38 23.4**	**+2.5**
NJ2				AP	pP		06 38 27.5	+1.5
NJ2				XP	sP		06 38 30.4	+2.3
NJ2				PP	PP		06 39 24.4	-5.9
NJ2				S	**S**		**06 43 24.5**	**+1.4**
NJ2				XS	sS		06 43 32.0	+0.5
NJ2				AMB	AMB			
	comp=Z,210nm,1.1s,mb5.9							
NJ2				AMB		AMB		
	comp=Z,2μm,4.3s							
NJ2				LR		LR		
	comp=N,3μm,14.6s,MS5.2							
NJ2				LR		LR		
	comp=E,2μm,15.4s,MS5.2							
NJ2				LR		LR		
	comp=Z,2μm,18.4s,MS4.9							
HHC	**Hu-ho-hao-te**	**31.24**	**276**	⇓P		**P**	**06 38 26.5**	**+1.0**
HHC				PP		PP	06 39 27.3	-8.7
HHC				AMB		AMB		
	comp=Z,99nm,1.3s,mb5.5							
HHC				AMB		AMB		
	comp=Z,6μm,11.8s							
ULN	**Ulaanbaatar**	**31.93**	**290**	*e*P		**P**	**06 38 30.2**	**-1.3**
ULN				pmax		pmax		
	comp=Z,40nm,1.1s,mb5.2							
ULN	**Ulaanbaatar**	**31.93**	**290**	*e*P		**P**	**06 38 30.2**	**-1.3**
	comp=Z,40nm,1.1s,mb5.2							
SONM	**Songino Array**	**32.36**	**291**	P		**P**	**06 38 34.0**	**-1.4**
	comp=E,6.3nm,1.0s,mb4.4,baz=64,slow=7.2,SNR=9.7							
SONM				PcP		PcP	06 41 22.1	-0.7
	comp=Z,2.2nm,0.7s,baz=142,slow=2.8,SNR=4.2							
SONM	**Songino Array**	**32.36**	**291**	P		**P**	**06 38 34.0**	**-1.3**
SONM							06 41 22.1	
SONM				pmax		pmax		
	comp=Z,6.0nm,1.0s							
IRK	**Irkutsk**	**32.74**	**299**	*e*P		**P**	**06 38 30.4**	**-8.2**
IRK				pmax		pmax		
	comp=Z,84nm,0.6s,mb5.8							
TLY	**Talaya**	**33.22**	**298**	P		**P**	**06 38 40.8**	**-2.1**
	comp=Z,183nm,0.8s,mb6.1,SNR=10							
TLY	**Talaya**	**33.22**	**298**	*e*P		**P**	**06 38 41.2**	**-1.7**
TLY				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.2							
TLY	**Talaya**	**33.22**	**298**	*e*P		**P**	**06 38 41.2**	**-1.7**
	comp=Z,31nm,1.0s,mb5.2							
ZAK	**Zakamensk**	**33.72**	**296**	⇑*i*P		**P**	**06 38 45.4**	**-1.8**
ZAK				pmax		pmax		
	comp=Z,20nm,1.3s,mb4.9							
KDAK	**Kodiak Island**	**33.73**	**50**	P		**P**	**06 38 45.0**	**-2.2**
	comp=Z,28nm,0.8s,mb5.2,baz=351,slow=2.3,SNR=11							
KDAK	**Kodiak Island**	**33.73**	**50**	*e*P		**P**	**06 38 45.1**	**-2.1**
	comp=Z,8.7nm,0.5s,mb4.9							
WHN	**Wuhan**	**34.69**	**257**	⇓P		**P**	**06 38 55.8**	**+0.2**
MCK	**McKinley**	**35.46**	**40**	*e*P		**P**	**06 39 01.2**	**-1.1**
MCK				*e**PP		pP	06 39 13.3	+5.9
SML	**Sawmill**	**35.72**	**43**	*e*P		**P**	**06 39 03.4**	**-1.1**
SML	**Sawmill**	**35.72**	**43**	*e*P		**P**	**06 39 03.5**	**-0.9**
COLA	**College**	**35.98**	**38**	*d i*P		**P**	**06 39 05.9**	**-0.8**
COLA	**College**	**35.98**	**38**	*e*P		**P**	**06 39 06.5**	**-0.2**
	comp=E,44nm,0.8s,mb5.4							
XAN	**Xi'an**	**36.38**	**267**	P		**P**	**06 39 11.1**	**+0.9**
XAN				AP		pP	06 39 20.6	+5.3
XAN				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5							
LZH	**Lanzhou**	**38.82**	**273**	*e*P		**P**	**06 39 33.4**	**+2.7**
LZH				AMB		AMB		
	comp=Z,23nm,1.2s,mb4.8							
LZH				AMB		AMB		
	comp=Z,156nm,5.0s							
LZH				LR		LR		
	comp=N,4μm,14.3s							
LZH				LR		LR		
	comp=Z,5μm,15.4s,MS5.5							
LZH	**Lanzhou**	**38.82**	**273**	*e*P		**P**	**06 39 33.4**	**+2.7**
	comp=Z,23nm,1.2s,mb4.8							
LZH				pP		pP	06 39 45.1	+9.2
LZH				sP		sP	06 39 50.9	+13
LZH				LR		LR		
	comp=Z,5μm,15.4s,MS5.5							
EGAK	**Eagle**	**38.84**	**38**	*e*P		**P**	**06 39 29.4**	**-1.5**
	comp=Z,51nm,0.8s,mb5.3							
DAWY	**Dawson**	**39.67**	**39**	*e*P		**P**	**06 39 36.8**	**-1.0**
DAWY				*e*PcP		PcP	06 41 43.7	-0.8
GTA	**Gaotai**	**39.95**	**280**	*e*P		**P**	**06 39 41.0**	**+0.8**
GTA				AP		pP	06 39 45.0	-0.4
GTA				XP		sP	06 39 48.3	+0.9
GTA				PP		PP	06 41 17.6	+5.5
GTA				PCP		PcP	06 41 46.3	+0.9
GTA				S		**S**	**06 45 47.5**	**+2.8**
GTA				XS		sS	06 45 54.4	+1.2
GTA				AMB		AMB		
	comp=Z,39nm,1.7s,mb4.9							
GTA				AMB		AMB		
	comp=Z,1μm,3.8s							
GTA				LR		LR		
	comp=N,2μm,14.8s,MS5.5							
GTA				LR		LR		
	comp=E,5μm,14.8s,MS5.5							
GTA				LR		LR		
	comp=Z,6μm,14.5s,MS5.6							
INK	**Inuvik**	**41.60**	**32**	P		**P**	**06 39 53.7**	**-0.1**
	comp=Z,12nm,0.6s,mb4.8,baz=299,slow=6.1,SNR=60							
INK	**Inuvik**	**41.60**	**32**	P		**P**	**06 39 53.7**	**-0.1**
INK				pmax		pmax		
	comp=Z,13nm,0.6s							
INK	**Inuvik**	**41.60**	**32**	*e*P		**P**	**06 39 53.6**	**-0.2**
	comp=Z,305nm,0.6s,mb6.1							
CD2	**Chengdu**	**41.75**	**267**	*e*P		**P**	**06 39 55.5**	**+0.5**
CD2				S		**S**	**06 46 12.8**	**+1.3**
CD2				AMB		AMB		
	comp=Z,100nm,1.0s,mb5.4							
GYA	**Guiyang**	**42.50**	**259**	⇑*i*P		**P**	**06 40 02.3**	**+1.1**
GYA				AP		pP	06 40 06.8	+0.5
GYA				XP		sP	06 40 09.4	+1.0
GYA				PP		PP	06 41 44.3	+4.6
GYA				PCP		PcP	06 41 56.3	+2.6
GYA				SCP		ScP	06 45 45.9	+2.1
GYA				S		**S**	**06 46 24.9**	**+2.3**
GYA				SCS		ScS	06 50 02.8	+0.7
GYA				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,140nm,5.2s							
GYA				LR		LR		
	comp=N,640nm,16.8s,MS4.7							
GYA				LR		LR		
	comp=E,590nm,17.2s,MS4.7							
GYA				LR		LR		
	comp=Z,660nm,17.8s,MS4.6							
ZAL	**Zalesovo**	**43.66**	**307**	P		**P**	**06 40 08.6**	**-2.0**
	comp=Z,7.5nm,0.6s,mb4.6,baz=45,slow=7.7,SNR=15							
ZAL				PcP		PcP	06 41 56.9	-0.8
	comp=Z,3.6nm,0.8s,baz=61,slow=5.1,SNR=4.6							
ZAL	**Zalesovo**	**43.66**	**307**	P		**P**	**06 40 08.6**	**-2.0**
ZAL							06 41 56.9	
ZAL				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NVS	**Novosibirsk**	**44.22**	**308**	*e*P		**P**	**06 40 11.5**	**-3.6**
NVS				*e*			06 41 58.3	
NVS				*e*S		**S**	**06 46 40.9**	**-6.9**
NVS				pmax		pmax		
	comp=N,57nm,2.2s							
NVS				pmax		pmax		
	comp=E,89nm,2.2s							
NVS				pmax		pmax		
	comp=Z,80nm,2.2s,mb5.1							
NVS				smax				
	comp=N,52nm,2.2s							
NVS				smax				
	comp=E,26nm,2.2s							
DLBC	**Dease Lake**	**45.30**	**46**	*e*P		**P**	**06 40 25.2**	**+1.5**
WMQ	**Urumqi**	**45.96**	**292**	⇓*i*P		**P**	**06 40 29.3**	**+0.4**
WMQ				AP		pP	06 40 33.8	-0.3
WMQ				XP		sP	06 40 36.3	+0.2
WMQ				PCP		PcP	06 42 06.3	+0.8
WMQ				PP		PP	06 42 17.4	+0.8
WMQ				PPP			06 43 01.8	
WMQ				SCP		ScP	06 45 57.4	-0.5
WMQ				S		**S**	**06 47 13.3**	**+0.3**
WMQ				XS		sS	06 47 20.8	-0.7
WMQ				AMB		AMB		
	comp=Z,27nm,1.1s,mb5.1							
WMQ				AMB		AMB		
	comp=Z,527nm,5.1s							
WMQ				LR		LR		
	comp=N,2μm,15.6s,MS5.3							
WMQ				LR		LR		
	comp=E,2μm,15.7s,MS5.3							
WMQ				LR		LR		
	comp=Z,3μm,18.6s,MS5.2							
KMI	**Kunming**	**46.05**	**261**	P		**P**	**06 40 31.1**	**+1.5**
KMI				AP		pP	06 40 36.4	+1.6
KMI				XP		sP	06 40 38.1	+1.3
KMI				AMB		AMB		
	comp=Z,15nm,1.2s,mb4.8							
KMI				LR		LR		
	comp=N,3μm,14.9s,MS5.6							
KMI				LR		LR		
	comp=E,4μm,14.9s,MS5.6							
KMI				LR		LR		
	comp=Z,5μm,14.9s,MS5.6							
KMI	**Kunming**	**46.05**	**261**	P		**P**	**06 40 31.1**	**+1.5**
	comp=Z,15nm,1.2s,mb4.8							
KMI				pP		pP	06 40 36.4	+1.6
KMI				sP		sP	06 40 38.1	+1.3
KMI				LR		LR		
	comp=Z,5μm,14.9s,MS5.6							
MK31	**Makanchi Array**	**47.98**	**298**	*e*P		**P**	**06 40 43.7**	**-1.0**
MK31				*e*			06 42 11.9	
MKAR	**Makanchi Array**	**47.98**	**298**	P		**P**	**06 40 43.4**	**-1.3**
	comp=Z,16nm,0.7s,mb5.2,baz=66,slow=6.6,SNR=70							
MKAR				PcP		PcP	06 42 11.9	-0.8
	comp=Z,3.0nm,0.6s,baz=238,slow=2.7,SNR=3.5							
MKAR	**Makanchi Array**	**47.98**	**298**	P		**P**	**06 40 43.4**	**-1.3**
MKAR							06 42 11.9	
MKAR				pmax		pmax		
	comp=Z,16nm,0.7s							
MKAR	**Makanchi Array**	**47.98**	**298**	P		**P**	**06 40 43.4**	**-1.3**
MKAR				PcP		PcP	06 42 11.9	-0.8
KURK	**Kurchatov**	**48.41**	**305**	P		**P**	**06 40 46.4**	**-1.5**
	comp=Z,300nm,0.9s,mb6.3,SN

comp=Z,25nm,1.0s,mb5.1
ZRNK Zerenda 52.65 311 *e*P **P** **06 41 18.7 -1.4**
comp=Z,25nm,1.0s,mb5.1
ZRNK *e*PcP PcP 06 42 30.4 +0.5
ZRNK *e*PP PP 06 43 19.9 +0.7
CHTO Chiang Mai 52.89 258 *e*P **P** **06 41 22.8 +1.0**
CHTO pmax pmax
comp=Z,106nm,1.9s,mb5.5
CHTO Chiang Mai 52.89 258 *e*P **P** **06 41 22.8 +1.0**
comp=Z,106nm,1.9s,mb5.5
ULHL Ulahol 54.01 296 P **P** **06 41 30.4 +0.4**
SNR=6.3
TKM2 Tokmak 2 54.04 297 P **P** **06 41 30.2 0.0**
SNR=7.2
E04A Onalaska 54.49 57 ⇑P **P** **06 41 33.4 -0.2**
baz=54
C05A Tolt Reservoir 54.50 56 ⇓P **P** **06 41 33.4 -0.2**
baz=54
CHMS Chumysh 54.52 298 P **P** **06 41 34.9 +1.1**
SNR=6.0
USP Ospenovka 54.53 298 P **P** **06 41 34.4 +0.6**
SNR=20
KBK Karagaybulak 54.59 297 P **P** **06 41 35.1 +0.9**
SNR=7.2
FRU Bishkek 54.69 297 *i* P **P** **06 41 35.5 +0.5**
FRU *i* pP 06 41 40.5 +0.2
FRU *i* 06 41 48.0
KZA Kyzart 54.72 296 P **P** **06 41 37.5 +2.4**
SNR=15
AAK Ala-Archa 54.88 297 P **P** **06 41 36.2 -0.1**
comp=Z,119nm,0.8s,mb6.0,SNR=10
AAK Ala-Archa 54.88 297 P **P** **06 41 37.2 +0.8**
SNR=12
AAK Ala-Archa 54.88 297 *e*P **P** **06 41 36.0 -0.3**
AAK pmax pmax
comp=Z,28nm,1.1s,mb5.2
AAK Ala-Archa 54.88 297 *e*P **P** **06 41 36.0 -0.3**
comp=Z,28nm,1.1s,mb5.2
B07A Winthrop 54.98 54 ⇓P **P** **06 41 36.3 -0.8**
baz=55
F04A Amboy 55.02 58 ⇑P **P** **06 41 35.4 -1.9**
baz=55
SOKR Solikamsk 55.06 322 *e*P **P** **06 41 36.8 -0.9**
SOKR pmax pmax
comp=Z,40nm,1.4s,mb5.3
D06A Cle Elum 55.25 56 ⇓P **P** **06 41 38.5 -0.6**
baz=55
EKS2 Erkin-Say 55.30 298 P **P** **06 41 39.8 +0.4**
SNR=11
C07A Waterville 55.43 55 ⇑P **P** **06 41 38.1 -2.2**
baz=55
B08A Colville Reser 55.48 54 P **P** **06 41 40.1 -0.6**
baz=55,SNR=5.3
A09A Danville 55.56 53 ⇓P **P** **06 41 40.7 -0.6**
baz=55,SNR=6.8
AML Almayashu 55.65 297 P **P** **06 41 43.4 +1.6**
SNR=9.6
KSH Kashi 55.69 293 *e*P **P** **06 41 43.0 +0.8**
KSH *e*AP pP 06 41 48.9 +1.4
KSH *e*XP sP 06 41 51.8 +2.3
KSH *e*PCP PcP 06 42 43.8 +2.3
KSH *e*PP PP 06 43 48.9 +2.4
KSH *e*PPP 06 45 02.9
KSH *e*SCP ScP 06 46 40.6 +0.9
KSH *e*S **S** **06 49 26.4 -1.4**
KSH *e*XS sS 06 49 36.1 -0.4
KSH *e*PS 06 49 46.1
KSH *e*SCS ScS 06 51 27.5 -3.2
KSH *e*SS SS 06 53 11.8 -1.3
KSH AMB AMB
comp=Z,808nm,2.7s,mb6.3
KSH LR LR
comp=Z,3μm,8.6s
J02A Umpqua 55.74 61 ⇓P **P** **06 41 42.2 -0.3**
baz=56
D07A Quincy 55.75 55 ⇑P **P** **06 41 42.1 -0.6**
baz=56
H04A Detroit Lake 55.84 59 ⇓P **P** **06 41 42.1 -1.1**
baz=56
JIRN Jiri 55.90 276 *e*P **P** **06 41 45.3 +1.6**
comp=Z,253nm,1.1s,mb6.2
GUN Gumba 55.95 276 *e*P **P** **06 41 45.5 +1.4**
comp=Z,154nm,1.1s,mb5.9
C08A Higginbotham F 55.95 54 ⇑P **P** **06 41 43.3 -0.8**
baz=56
ARU Arti 56.00 318 P **P** **06 41 43.9 -0.5**
comp=Z,368nm,0.5s,SNR=8.2
ARU Arti 56.00 318 ⇑*i*P **P** **06 41 43.0 -1.4**
ARU *e* 06 43 49.5
ARU *e*PPP 06 45 00.4
ARU *e*S **S** **06 49 31.1 -0.9**
ARU *e*SS SS 06 53 12.7 -5.3
ARU pmax pmax
comp=Z,72nm,1.6s,mb5.5
ARU Arti 56.00 318 *e*P **P** **06 41 42.8 -1.6**
comp=Z,31nm,0.5s,mb5.6
ARU *e*PP PP 06 43 46.6 -2.7
EDM Edmonton 56.02 46 *e*P **P** **06 41 43.3 -1.2**
G05A Wamic 56.05 58 ⇓P **P** **06 41 44.6 -0.1**
baz=56
F06A Goldendale 56.07 57 ⇑P **P** **06 41 43.8 -1.1**
baz=56
J03A Ideyld Park 56.10 61 ⇓P **P** **06 41 45.9 +0.7**
baz=56
B09A Rice 56.11 53 ⇓P **P** **06 41 43.8 -1.4**
baz=56
K02A Glendale 56.12 61 ⇓P **P** **06 41 45.0 -0.3**
baz=56
A10A Northport 56.13 52 ⇑P **P** **06 41 44.5 -0.8**
baz=56
E07A Sunnyside 56.17 56 ⇑P **P** **06 41 45.5 -0.2**
baz=56
I04A Tendick Farm, 56.20 60 ⇑P **P** **06 41 45.5 -0.3**
baz=56
C09A Chrisman Ranch 56.38 54 ⇑P **P** **06 41 46.1 -1.0**
baz=56
L02A Cave Junction 56.40 62 ⇓P **P** **06 41 46.6 -0.7**
baz=56
H05A Madras 56.43 58 ⇓P **P** **06 41 47.2 -0.3**
baz=56
KKN Kakani 56.44 277 *e*P **P** **06 41 49.7 +2.1**
comp=Z,199nm,1.1s,mb6.0
G06A Carlson Farm, 56.45 58 ⇑P **P** **06 41 48.3 +0.7**
baz=56
PKI Pulchoki 56.49 276 *e*P **P** **06 41 49.0 +1.1**
comp=Z,167nm,1.2s,mb5.9
F07A Phinny Hill Vi 56.50 57 ⇓P **P** **06 41 47.8 -0.1**
baz=56
HUMO Hull Mountain 56.54 61 ⇑P **P** **06 41 47.8 -0.5**
baz=56
E08A Dider Farm, El 56.66 56 ⇓P **P** **06 41 48.6 -0.6**
baz=56
DMN Daman 56.68 276 *e*P **P** **06 41 50.9 +1.7**
comp=Z,281nm,1.2s,mb6.2
I05A Bend 56.68 59 ⇑P **P** **06 41 49.3 +0.1**
baz=56
B10A Chitwood Farm, 56.69 53 ⇑P **P** **06 41 48.9 -0.4**
baz=56
J04A Umpqua Nationa 56.70 60 ⇓P **P** **06 41 49.7 +0.3**
baz=56
GKN Gorkha 56.75 277 *e*P **P** **06 41 51.0 +1.2**
comp=Z,236nm,1.0s,mb6.2
NEW Newport 56.77 53 *e*P **P** **06 41 49.3 -0.6**
NEW pmax pmax
comp=Z,22nm,1.2s
NEW Newport 56.77 53 *e*P **P** **06 41 49.3 -0.6**
comp=Z,22nm,1.2s,mb5.1
D09A Jones Farm, Ri 56.77 55 ⇑P **P** **06 41 48.3 -1.6**
baz=56
A11A Hall Mountain, 56.80 52 P **P** **06 41 50.4 +0.4**
baz=56,SNR=5.5
H06A Lindquist Farm 56.91 58 ⇑P **P** **06 41 50.8 -0.1**
baz=57
C10A Spilker Farm, 56.91 54 ⇑P **P** **06 41 49.7 -1.2**
baz=57
G07A Ruggs Ranch, H 57.00 57 ⇑P **P** **06 41 51.2 -0.3**
baz=57
KKAR Karatay Array 57.04 300 *e*P **P** **06 41 51.1 -0.7**
KKAR pmax pmax
comp=Z,35nm,1.2s,mb5.3
B11A Sandpoint 57.09 52 ⇓P **P** **06 41 51.1 -1.0**
baz=57
E09A Wood Farm, Sta 57.17 55 ⇑P **P** **06 41 51.8 -1.0**
baz=57
YBH Yreka Blue Hor 57.19 62 *e*P **P** **06 41 54.1 +1.3**
YBH Yreka Blue Hor 57.19 62 ⇑P **P** **06 41 54.0 +1.1**
baz=57
DAG Danmarks Havn 57.20 358 ⇓*i*P **P** **06 41 51.7 -1.2**
comp=Z,22nm,1.2s,mb5.1
DAG Danmarks Havn 57.20 358 ⇓*e*P **P** **06 41 51.7 -1.2**
DAG pmax pmax
comp=Z,22nm,1.2s,mb5.1
DAG Danmarks Havn 57.20 358 ⇓*e*P **P** **06 41 51.7 -1.2**
comp=Z,22nm,1.2s,mb5.1
A12A Yaak River Ran 57.20 52 ⇓P **P** **06 41 51.9 -1.0**
baz=57
J05A Fort Rock 57.20 60 P **P** **06 41 54.0 +1.1**
baz=57,SNR=5.4
F08A Pendleton 57.22 56 ⇑P **P** **06 41 53.5 +0.5**
baz=57
K04A Chilquin 57.28 61 ⇑P **P** **06 41 53.6 +0.1**
baz=57
M02C Callahan 57.29 62 ⇑P **P** **06 41 54.1 +0.6**
baz=57
N02C Big Bar 57.34 63 ⇓P **P** **06 41 54.3 +0.4**
baz=57
G08A Pilot Rock 57.40 57 ⇑P **P** **06 41 54.6 +0.3**
baz=57
O01C Eel River Cons 57.42 64 ⇓P **P** **06 41 55.2 +0.8**
baz=57
I06A Prineville 57.43 59 ⇑P **P** **06 41 55.3 +0.7**
baz=57
L04A Klamath Falls 57.43 61 ⇓P **P** **06 41 55.3 +0.7**
baz=57
B12A Libby 57.49 52 ⇑P **P** **06 41 55.2 +0.2**
baz=57
LVZ Lovozero 57.60 337 ⇑*e*P **P** **06 41 54.4 -1.3**
LVZ pmax pmax
comp=Z,52nm,1.3s,mb5.4
KOLN Koldanda 57.61 278 *e*P **P** **06 41 57.4 +1.6**
comp=Z,161nm,1.0s,mb6.0
M04C Macdoel 57.69 62 ⇑P **P** **06 41 57.1 +0.7**
baz=57
K05A Sumner Lake 57.72 60 ⇓P **P** **06 41 56.7 +0.1**
baz=58
F09A S2 Ranch, Elgi 57.77 56 ⇓P **P** **06 41 56.8 -0.1**
baz=58
I07A Izee 57.77 58 ⇑P **P** **06 41 56.8 -0.1**
baz=58
E10A Myers Farm, Un 57.78 55 ⇑P **P** **06 41 56.8 -0.2**
baz=58
M03C McCloud 57.81 62 ⇓P **P** **06 41 57.6 +0.4**
baz=58
D11A Klaveano Farm, 57.89 54 P **P** **06 41 57.2 -0.6**
baz=58,SNR=7.2
WDC Whiskeytown Da 57.96 63 *e*P **P** **06 41 58.8 +0.5**
WDC Whiskeytown Da 57.96 63 ⇓P **P** **06 41 57.8 -0.4**
baz=58
F10A Beach Ranch, E 58.01 55 ⇑P **P** **06 41 58.0 -0.5**
baz=58
H08A Prairie City 58.01 57 P **P** **06 41 59.2 +0.6**
baz=58,SNR=6.2
O02C Red Bluff 58.04 64 ⇑P **P** **06 41 59.4 +0.6**
baz=58
K06A Valley Falls 58.06 60 ⇓P **P** **06 41 58.9 -0.1**
baz=58
P01C Double 8 Ranch 58.11 65 ⇑P **P** **06 41 59.3 0.0**
baz=58
KEV Kevo 58.13 341 *e*p **P** **06 41 57.1 -2.4**
comp=Z,5.7nm,0.5s,mb4.9
KEV Kevo 58.13 341 *e*P **P** **06 41 57.1 -2.4**
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
L05A Lakeview 58.15 61 ⇓P **P** **06 41 60.0 +0.3**
baz=58,SNR=7.4
B13A Whitefish 58.16 52 P **P** **06 41 59.8 +0.1**
baz=58,SNR=12
APA Apatity 58.17 337 ⇑*i*P **P** **06 41 58.3 -1.4**
APA *i* 06 42 09.8
APA *i* 06 44 11.0
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA MLR MLR
comp=Z,5μm,15.0s,MS5.8
J07A Hines 58.29 59 ⇓P **P** **06 42 00.5 -0.1**
baz=58
M05C Lookout 58.36 62 P **P** **06 42 01.6 +0.5**
baz=58,SNR=5.7
GASB Alder Springs 58.39 64 ⇑P **P** **06 42 01.7 +0.4**
baz=58
I08A Drewsey 58.42 58 ⇓P **P** **06 42 01.4 -0.1**
baz=58,SNR=7.4
HATC Hat Creek Radi 58.48 62 ⇑P **P** **06 42 02.1 +0.2**
baz=58
C13A Hot Springs 58.51 52 ⇓P **P** **06 42 01.3 -0.8**
baz=58
H09A Durkee 58.51 57 ⇑P **P** **06 42 02.0 -0.1**
baz=58,SNR=6.3
HOPS Hopland 58.55 65 *e*P **P** **06 42 01.0 -1.4**
HOPS Hopland 58.55 65 ⇑P **P** **06 42 01.9 -0.6**
baz=58
MOD Modoc 58.56 61 *e*P **P** **06 42 02.9 +0.5**
MOD Modoc 58.56 61 ⇑P **P** **06 42 01.8 -0.7**
baz=58,SNR=6.3
BMO Blue Mountains 58.61 56 *e*P **P** **06 42 03.2 +0.4**
comp=Z,59nm,1.6s,mb5.4
O03C Acorn Hollow, 58.61 63 ⇓P **P** **06 42 02.0 -0.8**
baz=58
ARCES ARCESS Array B 58.64 341 P **P** **06 42 02.3 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=43,slow=8.2,SNR=23
ARCES ARCESS Array B 58.64 341 P **P** **06 42 02.3 -0.7**
ARCES pmax pmax
comp=Z,12nm,0.9s
F11A Grangeville 58.66 55 ⇑P **P** **06 42 03.1 -0.1**
baz=58
K07A Rock Creek Ran 58.73 59 ⇓P **P** **06 42 03.4 -0.3**
baz=58
J08A Circle Bar Ran 58.80 58 P **P** **06 42 04.7 +0.6**
baz=58,SNR=6.4
M06C Likely Place G 58.86 61 ⇓P **P** **06 42 04.5 0.0**
baz=59
I09A Lost Marbles R 58.87 57 P **P** **06 42 05.1 +0.5**
baz=59,SNR=5.6
D13A Huson 58.91 53 P **P** **06 42 04.8 -0.1**
baz=59,SNR=5.3
O04C Chester 59.01 63 P **P** **06 42 06.4 +0.8**
baz=59,SNR=5.7
MNRC McLaughlin Nat 59.02 65 ⇑P **P** **06 42 06.1 +0.4**
baz=59,SNR=5.3
L07A Adel 59.07 60 ⇑P **P** **06 42 06.2 +0.1**
baz=59
K08A Mann Creek Ran 59.16 59 P **P** **06 42 07.4 +0.7**
baz=59,SNR=5.8
ORV Oroville 59.20 64 P **P** **06 42 06.7 -0.3**
baz=59,SNR=5.2
TMCR Tamitsa 59.21 333 P **P** **06 42 06.1 -0.9**
J09A Fry Pan Ranch, 59.23 58 P **P** **06 42 07.8 +0.6**
baz=59,SNR=12
WVOR Wild Horse Val 59.24 59 *e*P **P** **06 42 07.1 -0.1**
WVOR pmax pmax
comp=Z,20nm,1.0s,mb5.1
WVOR Wild Horse Val 59.24 59 *e*P **P** **06 42 07.1 -0.2**
comp=Z,20nm,1.0s,mb5.1
O05C Quincy 59.32 63 P **P** **06 42 08.1 +0.3**
baz=59,SNR=5.6
OHCM Honcut 59.34 64 *e*P **P** **06 42 07.6 -0.3**
MSO Missoula 59.35 53 *e*P **P** **06 42 08.0 0.0**
comp=Z,38nm,1.3s,mb5.3
FARB Farallon Islan 59.37 66 ⇑P **P** **06 42 08.0 -0.1**
baz=59
Q03C Winters 59.43 65 ⇓P **P** **06 42 09.4 +0.8**
baz=59
H11A Donnelly 59.44 56 P **P** **06 42 08.7 +0.1**
baz=59,SNR=12
D14A Greenough 59.44 52 P **P** **06 42 08.4 -0.2**
baz=59,SNR=17
E13A Victor 59.45 53 P **P** **06 42 08.4 -0.2**
baz=59,SNR=9.1
N06A Buffalo Meadow 59.52 62 P **P** **06 42 09.7 +0.5**
baz=59,SNR=8.6
M07A Soldier Meadow 59.54 61 P **P** **06 42 10.2 +0.8**
baz=59,SNR=17
L08A Fields 59.56 59 ⇓P **P** **06 42 09.6 +0.1**
baz=59
K09A Rome 59.63 59 P **P** **06 42 10.0 +0.1**
baz=59,SNR=5.5
CHMT Chamberlain Mo 59.68 53 *e*P **P** **06 42 09.5 -0.7**
Q04C Lincoln 59.71 64 ⇓P **P** **06 42 10.7 +0.2**
baz=60
BEKR Beckwourth 59.73 63 P **P** **06 42 10.7 +0.2**
baz=60,SNR=8.7
AKTK Aktyubinsk 59.75 313 P **P** **06 42 10.4 -0.3**
AKTO Aktyubinsk 59.75 313 P **P** **06 42 10.4 -0.3**
baz=56,slow=9.8
F13A Darby 59.75 54 P **P** **06 42 10.3 -0.4**
baz=60,SNR=14
E14A Clinton 59.85 53 P **P** **06 42 11.0 -0.4**
baz=60,SNR=8.1
O06A Flanigan 59.87 62 ⇓P **P** **06 42 11.4 -0.2**
baz=60
P05C Yuba Gap, Truc 59.91 63 ⇓P **P** **06 42 11.8 0.0**
baz=60
D15A Lincoln 60.01 52 ⇑P **P** **06 42 12.5 0.0**
baz=60
N07B Gerlach 60.03 61 P **P** **06 42 13.2 +0.5**
baz=60,SNR=8.2
L09A Wilkinson Ranc 60.07 59 P **P** **06 42 13.6 +0.6**
baz=60,SNR=6.3
P06A Stead Airport, 60.12 63 ⇑P **P** **06 42 13.1 -0.2**
baz=60
LAVA Lava Cap Winer 60.16 64 ⇑P **P** **06 42 12.9 -0.6**
baz=60
WENL Wente Brothers 60.20 65 ⇓P **P** **06 42 13.9 +0.1**
baz=60
F14A Wisdom 60.28 54 ⇓P **P** **06 42 14.0 -0.3**
baz=60
E15A Deer Lodge 60.31 53 P **P** **06 42 14.7 +0.1**
baz=60,SNR=13
R04C Big Horse Ranc 60.34 64 ⇓P **P** **06 42 14.0 -0.8**
baz=60
WCN Washoe City 60.44 63 P **P** **06 42 15.9 +0.5**
baz=60,SNR=5.2
O07A Toulon 60.46 62 P **P** **06 42 16.2 +0.7**
baz=60,SNR=12
N08A GE Springer Mi 60.53 61 P **P** **06 42 16.6 +0.5**
baz=60,SNR=11
S04C Ingram Canyon, 60.55 65 ⇓P **P** **06 42 16.6 +0.5**
baz=60
FFC Flin Flon 60.55 40 P **P** **06 42 15.0 -1.2**
comp=Z,38nm,0.8s,mb6.1,SNR=5.4
FFC Flin Flon 60.55 40 P **P** **06 42 15.7 -0.6**
M09A Marrel Ranch, 60.56 60 P **P** **06 42 17.1 +0.8**
baz=60,SNR=5.8
R05C Kirkwood Meado 60.60 64 P **P** **06 42 16.9 +0.3**
baz=60,SNR=7.1
F15A Butte 60.75 53 P **P** **06 42 17.6 0.0**
baz=60,SNR=16
LRM Limekiln Ridge 60.78 53 *e*P **P** **06 42 18.1 +0.3**
LRM *e*pP pP 06 42 29.9 +6.8
CMB Columbia Colle 60.81 64 *e*P **P** **06 42 18.2 +0.2**
CMB pmax pmax
comp=Z,27nm,1.3s,mb5.2
CMB Columbia Colle 60.81 64 *e*P **P** **06 42 18.2 +0.2**
comp=Z,27nm,1.3s,mb5.2
CMB Columbia Colle 60.81 64 P **P** **06 42 18.1 +0.1**
baz=61,SNR=10
P07A Fallon 60.83 62 ⇓P **P** **06 42 18.7 +0.6**
baz=61
N09A Rock Creek Ran 60.86 60 P **P** **06 42 19.0 +0.7**
baz=61,SNR=11
PACP Pacheco Peak 60.87 66 P **P** **06 42 18.7 +0.3**
baz=61,SNR=7.1
EGMT Eagleton 60.90 50 *e*P **P** **06 42 18.1 -0.5**
comp=Z,31nm,1.1s,mb5.3
EGMT Eagleton 60.90 50 P **P** **06 42 18.6 0.0**
baz=61,SNR=7.5
M10A I.L. Ranch, Tu 61.04 59 P **P** **06 42 20.4 +0.9**
baz=61,SNR=11
HLID Hailey 61.05 56 *e*P **P** **06 42 19.4 -0.2**
comp=Z,25nm,1.3s,mb5.2
HLID *e*PcP PcP 06 43 03.1 +0.4
HLID Hailey 61.05 56 P **P** **06 42 20.0 +0.4**
baz=61,SNR=14
HAST UC Hastings Re 61.09 66 ⇓P **P** **06 42 20.2 +0.3**
baz=61
R06C Coleville 61.10 63 P **P** **06 42 20.6 +0.7**
baz=61,SNR=13
SUMG Summit 61.15 4 *e*P **P** **06 42 23.4 +3.1**
G15A Dillon 61.16 54 P **P** **06 42 20.4 0.0**
baz=61,SNR=9.2
P08A Dixie Valley 61.23 62 ⇑P **P** **06 42 20.8 0.0**
baz=61
Q07A Schurz 61.24 63 ⇓P **P** **06 42 20.5 -0.4**
baz=61
S06C San Francisco 61.24 64 P **P** **06 42 21.1 +0.1**
baz=61,SNR=16
S05C Merced 61.27 65 P **P** **06 42 20.9 -0.2**
baz=61,SNR=6.9
BMN Battle Mountai 61.30 60 *e*P **P** **06 42 21.2 -0.1**
BMN *e* 06 43 02.4
BMN pmax pmax
comp=Z,38nm,1.2s,mb5.4
BMN Battle Mountai 61.30 60 *e*P **P** **06 42 21.2 -0.1**
comp=Z,38nm,1.2s,mb5.4
BMN *e*PcP PcP 06 43 02.4 -1.2
T05C Eagle Field, D 61.33 66 ⇑P **P** **06 42 22.2 +0.7**
baz=61
BOZ Bozeman (W) 61.35 53 *e*P **P** **06 42 20.0 -1.6**
BOZ pmax pmax
comp=Z,59nm,1.4s,mb5.5
O09A Fish Creek Ran 61.48 61 P **P** **06 42 23.3 +0.8**
baz=61,SNR=12
M11A Holland Ranch, 61.54 59 P **P** **06 42 24.0 +1.1**
baz=61,SNR=10
N10A Dunphy 61.55 60 ⇑P **P** **06 42 23.0 0.0**
baz=61
U04C Hernandez Rese 61.59 66 ⇓P **P** **06 42 22.8 -0.5**
baz=61
R07C Lee Vining 61.62 64 ⇓P **P** **06 42 23.5 +0.1**
baz=61
O10A Cortez Mining, 61.82 60 ⇑P **P** **06 42 25.2 +0.4**
baz=62,SNR=5.7
Q08A Gabbs 61.83 62 P **P** **06 42 25.4 +0.5**
baz=62,SNR=21
NVAR Mina Array Bea 61.87 63 P **P** **06 42 25.6 +0.4**
comp=Z,12nm,0.7s,mb5.1,baz=296,slow=7.1,SNR=69
T06C Milleton Lake 61.87 65 P **P** **06 42 24.9 -0.2**
baz=62,SNR=6.7
P09A Austin 61.89 61 P **P** **06 42 26.1 +0.8**
baz=62,SNR=5.2
KAKA Kakadu 61.92 204 *e*P **P** **06 42 25.2 -0.3**
comp=Z,46nm,0.7s,mb5.7
KCC Kaiser Creek 61.92 64 P **P** **06 42 25.6 +0.2**
baz=62,SNR=7.4
N11A Elko Archery C 61.95 59 P **P** **06 42 26.5 +0.8**
baz=62,SNR=5.2
QLMT Earthquake Lak 61.96 54 *e*P **P** **06 42 26.2 +0.4**
V04C Ramage Ranch, 61.98 67 ⇓P **P** **06 42 26.2 +0.3**
baz=62
PKD Parkfield 62.00 66 ⇓P **P** **06 42 25.2 -0.9**
baz=62
MLAC Mammoth Lakes 62.03 64 ⇑P **P** **06 42 27.3 +1.1**
baz=62
R08A Mina 62.04 63 P **P** **06 42 26.9 +0.7**
baz=62,SNR=6.4
M12A Wells 62.07 58 P **P** **06 42 27.3 +0.8**
baz=62,SNR=14
P10A Eureka 62.26 61 P **P** **06 42 28.6 +0.8**
baz=62,SNR=6.0
ELK Elko 62.30 59 *e*P **P** **06 42 28.5 +0.5**
Q09A Carvers 62.31 62 ⇓P **P** **06 42 28.9 +0.8**
baz=62
YMR Madison River 62.32 53 *e*P **P** **06 42 28.1 -0.1**
comp=Z,28nm,1.2s,mb5.3
GCMT Greycliff 62.34 52 *e*P **P** **06 42 28.0 -0.3**
N12A Clover Valley, 62.35 59 P **P** **06 42 29.0 +0.6**
baz=62,SNR=11
MTUM Tungsten Hills 62.37 64 *e*P **P** **06 42 28.7 +0.2**
PTRM Twissleman Ran 62.39 66 *e*P **P** **06 42 28.4 -0.3**
O11A Cowboy Ranch, 62.43 60 P **P** **06 42 29.5 +0.6**
baz=62,SNR=6.3
YNR Norris Junctio 62.45 53 *e*P **P** **06 42 30.8 +1.7**
HELL Mitchell Peak, 62.50 65 P **P** **06 42 29.1 -0.3**
baz=62,SNR=19
S08C White Mtn Res 62.53 64 P **P** **06 42 30.2 +0.7**
baz=62,SNR=11
YFT Old Faithful 62.53 54 *e*P **P** **06 42 29.4 -0.2**
M13A Montello 62.55 58 P **P** **06 42 30.2 +0.6**
baz=62,SNR=21
RCTC Rector, Farmer 62.60 65 ⇓P **P** **06 42 29.7 -0.3**
baz=62
P11A Circle Ranch, 62.73 60 ⇓P **P** **06 42 31.7 +0.8**
baz=62
SMMC Simmler 62.74 67 ⇓P **P** **06 42 31.1 +0.1**
baz=62
R09A Tonopah 62.74 62 P **P** **06 42 31.3 +0.3**
baz=62,SNR=38
TPH Tonopah 62.75 63 *e*P **P** **06 42 30.8 -0.3**
TPH pmax pmax
comp=Z,22nm,0.9s,mb5.3
TPH Tonopah 62.75 63 *e*P **P** **06 42 30.8 -0.3**
comp=Z,22nm,0.9s,mb5.3

TIN Tinemaha 62.77 64 ⇓P P 06 42 31.6 +0.5
baz=62
IMW Indian Meadow 62.82 54 eP P 06 42 31.5 0.0
comp=Z,39nm,1.2s,mb5.4
IMW eP cP P 06 43 07.9 -1.9
FLWY Flagg Ranch 62.84 54 eP P 06 42 32.7 +1.0
comp=Z,22nm,0.9s,mb5.3
FLWY eP cP P 06 43 10.2 +0.3
FLWY eP P P 06 44 43.8 -6.1
N13A Wendover, West 62.84 58 P P 06 42 32.3 +0.7
baz=63,SNR=7.2
DCID1 Drake Creek 62.87 54 eP P 06 42 32.7 +0.9
O12A Currie 62.89 59 ⇓P P 06 42 32.7 +0.8
baz=63,SNR=22
RRI2 Red Ridge 62.95 55 eP P 06 42 32.5 +0.1
comp=Z,45nm,0.9s,mb5.6
S09A Goldfield 62.97 63 P P 06 42 32.8 +0.3
baz=63,SNR=13
VES Vestal, Richgr 62.99 66 P P 06 42 32.0 -0.6
baz=63,SNR=6.8
MOOW Moose Ponds 63.02 54 eP P 06 42 33.8 +1.0
comp=Z,37nm,1.3s,mb5.3
TPAW Teton Pass 63.07 54 eP P 06 42 33.0 -0.2
comp=Z,31nm,0.8s,mb5.5
HVU Hansel Valley 63.10 57 eP P 06 42 33.7 +0.3
PKM Peak Mountain 63.12 67 ⇓P P 06 42 33.5 0.0
baz=63
R10A Warm Springs 63.19 62 P P 06 42 34.1 +0.2
baz=63,SNR=12
LOHW Long Hollow 63.19 54 eP P 06 42 33.9 0.0
comp=Z,48nm,1.3s,mb5.5
SNOW Snow King Moun 63.20 54 eP P 06 42 34.1 +0.1
comp=Z,26nm,0.9s,mb5.4
REDW Red Top Meadow 63.20 55 eP P 06 42 34.1 0.0
comp=Z,34nm,0.9s,mb5.5
Q11A Duckwater 63.23 61 P P 06 42 34.4 +0.1
baz=63,SNR=8.9
CWC Cottonwood Cre 63.24 64 ⇓P P 06 42 33.6 -0.7
baz=63
P12A McGill 63.29 60 P P 06 42 35.0 +0.4
baz=63,SNR=6.0
GRAC Grapevine Rang 63.34 64 ⇓P P 06 42 34.9 -0.1
baz=63
AHID Auburn Hatcher 63.44 55 eP P 06 42 35.5 -0.1
comp=Z,42nm,1.4s,mb5.4
ISA Isabella 63.49 65 eP P 06 42 35.1 -0.8
ISA Isabella 63.49 65 P P 06 42 35.0 -0.9
baz=63,SNR=8.4
DGMT Dagmar 63.50 47 eP P 06 42 35.9 -0.1
comp=Z,28nm,1.1s,mb5.2
TRCR Troy Canyon 63.59 61 eP P 06 42 36.5 -0.1
TRCR eP cP P 06 43 11.4 -1.6
SPUT South Promonto 63.59 57 eP P 06 42 32.9 -3.7
SPUT eP cP P 06 43 12.9 0.0
ARVC Arvin 63.60 66 ⇑P P 06 42 35.6 -1.0
baz=63
Q12A Willow Creek R 63.61 60 P P 06 42 37.2 +0.4
baz=63,SNR=9.0
LAO LASA Array 63.61 49 eP P 06 42 36.8 +0.1
comp=Z,33nm,1.1s,mb5.3
MPMC Manual Prospec 63.85 64 P P 06 42 38.6 +0.2
baz=64,SNR=15
HWUT Hardware Ranch 63.91 56 eP P 06 42 38.8 0.0
comp=Z,18nm,1.0s,mb5.0
FURC Furnace Creek, 63.99 64 P P 06 42 39.0 -0.2
baz=64,SNR=31
OSI Osito Adit 63.99 66 ⇓P P 06 42 39.2 0.0
baz=64
DUG Dugway 64.08 58 eP P 06 42 39.4 -0.4
DUG pmax pmax
comp=Z,55nm,1.3s,mb5.4
DUG Dugway 64.08 58 eP P 06 42 39.4 -0.4
comp=Z,55nm,1.3s,mb5.4
DUG Dugway 64.08 58 P P 06 42 40.3 +0.5
baz=64,SNR=29
BLG Laguna Peak 64.10 67 ⇑P P 06 42 38.7 -1.2
baz=64
LRMC Laurel Mountai 64.10 65 P P 06 42 39.8 -0.1
baz=64,SNR=8.2
NOQ North Oquirrh 64.19 58 eP P 06 42 40.5 -0.1
comp=Z,64nm,1.4s,mb5.5
EDW2 Edwards Air Fo 64.29 66 P P 06 42 41.3 +0.1
baz=64,SNR=18
BW06 Boulder Array 64.31 54 eP P 06 42 41.3 -0.1
comp=Z,32nm,1.1s,mb5.3
PDAR Pinedale Array 64.31 54 P P 06 42 41.0 -0.4
comp=Z,15nm,0.9s,mb5.0,baz=277,slow=2.0,SNR=68
U10A Ash Meadows, A 64.35 63 P P 06 42 42.1 +0.5
baz=64,SNR=11
CTU Camp Tracy 64.39 57 eP P 06 42 41.9 0.0
comp=Z,33nm,1.5s,mb5.2
DECC Green Verdugo 64.47 66 ⇑P P 06 42 41.8 -0.6
baz=64
JLU Jordanelle 64.62 57 eP P 06 42 43.8 +0.5
MWC Mount Wilson 64.67 66 eP P 06 42 43.5 -0.2
NLU North Lily Min 64.67 58 eP P 06 42 43.6 -0.1
PSI Prapat 64.68 246 P P 06 42 45.0 +1.3
comp=Z,3.0nm,0.7s,mb4.4,baz=347,slow=12,SNR=3.8
PSI Prapat 64.68 246 P P 06 42 45.1 +1.3
PSI pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
GSC Goldstone 64.77 65 eP P 06 42 44.2 -0.1
GSC Goldstone 64.77 65 P P 06 42 44.1 -0.2
baz=64,SNR=6.8
DAU Daniels Canyon 64.85 57 eP P 06 42 45.0 +0.1
MPU Maple Canyon 64.89 58 eP P 06 42 45.0 -0.1
comp=Z,28nm,0.9s,mb5.3
FIA1 FINESS Array S 64.89 335 eP P 06 42 44.4 -0.8
FINES FINESS Array B 64.89 335 P P 06 42 44.5 -0.7
comp=Z,7.0nm,0.6s,mb4.9,baz=36,slow=8.7,SNR=41
FINES FINESS Array B 64.89 335 P P 06 42 44.5 -0.7
FINES pmax pmax
comp=Z,7.0nm,0.6s
BFSC Mount Baldy St 64.91 66 P P 06 42 45.2 0.0
baz=65,SNR=5.9
U11A Corn Creek 64.93 63 ⇓P P 06 42 45.7 +0.3
baz=65
CIS Catalina Islan 64.97 67 ⇑P P 06 42 45.4 -0.2
baz=65
SHPR Sheep Range 65.02 63 eP P 06 42 46.3 +0.4
TUQ Turquoise Mtn. 65.23 64 P P 06 42 47.3 0.0
baz=65,SNR=22
ARUT Antelope Range 65.25 61 eP P 06 42 47.7 +0.2
V11A Goodsprings 65.28 63 ⇓P P 06 42 47.6 -0.1
baz=65
BBRC Big Bear Sol-O 65.36 66 ⇓P P 06 42 47.6 -0.6
baz=65
HEC Hector,Ludlow 65.37 65 P P 06 42 48.3 0.0
baz=65,SNR=16
CCUT Cedar City 65.44 61 eP P 06 42 49.1 +0.4
U12A Valley of Fire 65.45 62 P P 06 42 49.3 +0.5
baz=65,SNR=6.4
SFJD Kangerlussuaq 65.50 11 i P P 06 42 48.5 -0.6
MSU Marysvale 65.54 59 eP P 06 42 49.4 +0.1
TMUT Trail Mountain 65.60 58 eP P 06 42 49.9 +0.1
MURC Murrieta 65.61 66 P P 06 42 49.6 -0.2
baz=65,SNR=6.4
V12A Nelson 65.71 63 P P 06 42 50.7 +0.3
baz=66,SNR=13
W12A Cal Nev Ari 65.98 64 P P 06 42 51.8 -0.3
baz=66,SNR=7.4
PFO Pinyon Flat Ob 66.08 66 eP P 06 42 52.5 -0.3
PFO Pinyon Flat Ob 66.08 66 ⇓P P 06 42 52.6 -0.2
baz=66
BELC Belle Mtn. 66.11 65 P P 06 42 52.5 -0.5
baz=66,SNR=7.2
SRU San Rafael 66.13 58 eP P 06 42 52.9 -0.2
SRU pmax pmax
comp=Z,31nm,0.7s,mb5.5
SRU San Rafael 66.13 58 eP P 06 42 52.9 -0.3
comp=Z,31nm,0.7s,mb5.4
109C Camp Elliot, M 66.13 67 ⇓P P 06 42 53.0 -0.2
baz=66
OBN Obninsk 66.25 326 d i P P 06 42 53.0 -0.9
OBN i 06 42 55.1
OBN e 06 43 04.6
OBN pmax pmax
comp=Z,21nm,0.9s,mb5.2
ULM Lac du Bonnet 66.32 41 P P 06 42 53.1 -1.2
comp=Z,5.1nm,0.7s,mb4.7,baz=284,slow=5.6,SNR=11
CTA Charters Tower 66.42 188 eP P 06 42 55.0 0.0
comp=Z,9.5nm,0.8s,mb4.9
CTA Charters Tower 66.42 188 P P 06 42 55.1 +0.1
comp=Z,12nm,0.8s,mb5.0,baz=6.8,slow=7.4,SNR=13
CTA Charters Tower 66.42 188 P P 06 42 55.1 +0.1
CTA pmax pmax
comp=Z,12nm,0.8s
CTAO Charters Tower 66.42 188 eP P 06 42 54.7 -0.3
CTAO pmax pmax
comp=Z,24nm,1.0s,mb5.2
CTAO Charters Tower 66.42 188 eP P 06 42 54.7 -0.3
comp=Z,24nm,1.0s,mb5.2
RSSD Black Hills 66.46 50 P P 06 42 54.0 -1.3
RSSD pmax pmax
comp=Z,37nm,1.1s,mb5.3
RSSD Black Hills 66.46 50 eP P 06 42 54.6 -0.7
comp=Z,34nm,1.1s,mb5.3
IRM Iron Mountain 66.54 65 P P 06 42 55.4 -0.4
baz=66,SNR=16
MONP Monument Peak 66.57 66 ⇓P P 06 42 55.4 -0.6
baz=66
BC3 Big Chuckw Mtn 66.68 65 P P 06 42 56.3 -0.4
baz=66,SNR=11
W13A Hualapai Mount 66.72 63 P P 06 42 56.9 0.0
baz=66,SNR=14
SWSC Sam W. Stewart 66.93 66 ⇓P P 06 42 57.1 -1.2
baz=67
PDMCI Parker Dam,Lak 67.08 64 P P 06 42 59.2 -0.1
baz=67,SNR=16
X13A Yucca 67.08 64 P P 06 42 59.3 +0.1
baz=67,SNR=22
W14A Seligman 67.14 63 P P 06 42 59.5 -0.1
baz=67,SNR=40
Y12C Blythe 67.20 65 P P 06 42 60.0 0.0
baz=67,SNR=10.0
GLA Glamis 67.47 65 eP P 06 43 01.5 -0.2
GLA Glamis 67.47 65 P P 06 43 01.6 -0.1
baz=67,SNR=7.4
PHWY Pilot Hill 67.58 53 eP P 06 43 01.9 -0.4
Y13A Salome 67.60 64 ⇓P P 06 43 02.3 -0.2
baz=67
ABKT Ailbek 67.65 302 P P 06 43 04.6 +1.8
comp=Z,146nm,1.1s,mb5.9,SNR=6.1
W15A Williams 67.66 62 ⇑P P 06 43 03.7 +0.8
baz=67
VOR Voronezh 67.69 323 P P 06 43 01.0 -2.1
VOR pmax pmax
comp=Z,100nm,1.8s,mb5.5
AGMN Agassiz Refuge 67.70 43 eP P 06 43 02.1 -1.0
comp=Z,28nm,1.3s,mb5.1
AGMN eP cP P 06 43 29.7 -0.2
X14A Yava 67.75 63 P P 06 43 04.1 +0.7
baz=68,SNR=18
HYB Hyderabad 67.92 272 i P P 06 43 05.0 +0.5
HYB Hyderabad 67.92 272 eP P 06 43 05.0 +0.5
WUAZ Wupatki 67.99 61 eP P 06 43 04.9 0.0
comp=Z,19nm,1.0s,mb5.1
WUAZ Wupatki 67.99 61 P P 06 43 05.5 +0.6
baz=68,SNR=10
Y14A Wickenburg 68.03 64 P P 06 43 05.3 +0.1
baz=68,SNR=17
VRSR Storozhevoye 68.07 322 eP P 06 43 05.2 -0.3
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,30nm,1.2s
VRSR pmax pmax
comp=E,20nm,1.1s
X15A Humboldt 68.14 63 P P 06 43 06.7 +0.8
baz=68,SNR=26
SMCO Snowmass 68.15 56 eP P 06 42 56.6 -9.4
comp=E,19nm,0.8s,mb5.2
SMCO eP cP P 06 43 27.7 -4.2
WRAB Tennant Creek 68.32 200 P P 06 43 07.9 +0.9
comp=E,241nm,0.8s,mb6.3,SNR=9.2
WRAB Tennant Creek 68.32 200 d i P P 06 43 06.7 -0.3
WB2 Warramunga Arr 68.33 200 eP P 06 43 07.0 -0.1
WB2 es P sP 06 43 19.2 +4.7
WRA Warramunga Arr 68.33 200 P P 06 43 06.9 -0.2
comp=E,21nm,0.7s,mb5.3,baz=16,slow=6.3,SNR=116
WRA Warramunga Arr 68.33 200 P P 06 43 06.9 -0.2
WRA pmax pmax
comp=Z,21nm,0.7s
Z14A Wintersburg 68.45 64 ⇑P P 06 43 07.3 -0.6
baz=68
ISCO Idaho Springs 68.50 55 eP P 06 43 08.4 +0.2
ISCO pmax pmax
comp=Z,59nm,1.4s,mb5.3
ISCO Idaho Springs 68.50 55 eP P 06 43 08.4 +0.2
comp=Z,59nm,1.4s,mb5.3
MVCO Mesa Verde 68.58 58 eP P 06 43 07.9 -0.8
comp=Z,22nm,0.9s,mb5.1
MVCO Mesa Verde 68.58 58 P P 06 43 08.9 +0.3
baz=68,SNR=16
DZM Mont Dzumac 68.85 168 P P 06 43 11.1 +0.8
comp=Z,5.2nm,0.8s,mb4.5,baz=92,slow=13,SNR=5.5
NB2 NORSAR Subarra 69.01 342 P P 06 43 10.9 -0.4
comp=Z,59nm,1.4s,mb5.3,baz=27,slow=6.5
NOA NORSAR Array B 69.01 342 P P 06 43 10.6 -0.7
comp=Z,6.8nm,0.9s,mb4.6,baz=28,slow=6.4,SNR=16
NOA NORSAR Array B 69.01 342 P P 06 43 10.6 -0.7
NOA pmax pmax
comp=Z,7.0nm,0.9s
FITZ Fitzroy Crossi 69.12 209 eP P 06 43 12.5 +0.4
comp=Z,19nm,0.7s,mb5.1
FITZ e 06 43 26.2
115A Sonoran Desert 69.34 64 P P 06 43 13.9 +0.5
baz=69,SNR=5.2
116A Eloy 69.76 64 ⇑P P 06 43 15.8 -0.1
baz=70
SDCO Great Sand Dun 69.97 56 eP P 06 43 17.6 +0.3
ECSD EROS,Sioux Fal 70.59 47 eP P 06 43 19.3 -1.7
comp=Z,43nm,1.5s,mb5.2
ECSD eP cP P 06 43 40.3 -1.8
KONO Kongsberg 70.61 342 ⇑ eP P 06 43 22.0 +0.8
LAZ Ladron 71.30 60 eP P 06 43 25.3 0.0
ANMO Albuquerque 71.33 59 eP P 06 43 25.4 -0.2
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO Albuquerque 71.33 59 eP P 06 43 25.4 -0.1
comp=Z,11nm,0.9s,mb4.8
LENM Lemitar 71.56 60 eP P 06 43 26.4 -0.6
Y22C IRIS PASSCAL I 71.66 60 ⇑P P 06 43 28.3 +0.8
baz=71
LPM Los Pinos Moun 71.66 59 eP P 06 43 27.6 +0.1
BNM Barren Site 71.78 60 eP P 06 43 28.4 +0.1
KIV Kislovodsk 71.81 315 ce P P 06 43 28.9 +0.4
KIV pmax pmax
comp=Z,66nm,1.3s,mb5.4
KIV Kislovodsk 71.81 315 eP P 06 43 29.4 +1.0
comp=Z,62nm,1.1s,mb5.5
AS31 Alice Springs 72.01 200 eP P 06 43 29.7 0.0
AS31 eP cP P 06 43 42.7 -5.5
ASAR Alice Springs 72.02 200 P P 06 43 30.1 +0.3
comp=Z,26nm,1.0s,mb5.1,baz=15,slow=6.3,SNR=93
ASAR Alice Springs 72.02 200 P P 06 43 30.1 +0.4
ASAR pmax pmax
comp=Z,26nm,1.0s
ZEI Tsey 72.07 314 eP P 06 43 29.5 -0.5
ZEI e* P pP 06 43 32.6 -2.9
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CBKS Cedar Bluff 72.46 52 eP P 06 43 30.7 -1.7
CBKS pmax pmax
comp=Z,39nm,1.3s,mb5.2
CBKS Cedar Bluff 72.46 52 eP P 06 43 30.7 -1.7
comp=Z,39nm,1.3s,mb5.2
AKASG Malin Array Be 72.48 327 P P 06 43 30.8 -1.7
comp=Z,4.8nm,0.5s,mb4.7,baz=34,slow=6.2,SNR=13
AKASG PP PP 06 46 08.8 -4.8
comp=Z,1.1nm,0.5s,baz=34,slow=8.7,SNR=4.5
AKASG Malin Array Be 72.48 327 P P 06 43 30.8 -1.7
AKASG 06 46 08.8
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 72.48 327 eP P 06 43 31.2 -1.3
KIEV Kiev 72.49 327 eP P 06 43 31.3 -1.2
KIEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
KIEV Kiev 72.49 327 eP P 06 43 31.3 -1.2
comp=Z,11nm,0.8s,mb4.8
SCHQ Schefferville 73.43 23 P P 06 43 36.9 -1.2
comp=Z,3.1nm,0.7s,mb4.4,baz=23,slow=5.9,SNR=5.6
GNI Garni 73.56 311 ⇑ eP P 06 43 40.4 +1.6
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 73.56 311 P P 06 43 39.6 +0.7
comp=Z,79nm,1.5s,mb5.4
SCIA State Center 73.63 46 eP P 06 43 38.5 -0.8
comp=Z,39nm,1.1s,mb5.2
MBWA Marble Bar 74.07 214 eP P 06 43 42.4 +0.5
comp=Z,27nm,1.1s,mb5.1
AMTX Amarillo 74.17 56 eP P 06 43 41.8 -0.6
comp=Z,56nm,1.5s,mb5.3
AMTX eP cP P 06 43 57.6 +0.2
MNTX Cornudas Mount 74.23 61 eP P 06 43 41.6 -1.2
comp=Z,9.8nm,0.6s,mb4.9
GDL2 Guadalupe Moun 74.50 60 eP P 06 43 44.3 0.0
KWP Kalwaria 75.73 330 eP P 06 43 44.4 -7.0
KWP e 06 44 03.7
KWP pmax pmax
comp=Z,19nm,0.5s,mb5.3
KWP Kalwaria 75.73 330 P P 06 43 51.9 +0.5
comp=Z,19nm,0.4s,mb5.4
WMOK Wichita Mounta 75.93 54 eP P 06 43 51.8 -0.8
WMOK pmax pmax
comp=Z,12nm,1.0s,mb4.8
WMOK Wichita Mounta 75.93 54 eP P 06 43 51.8 -0.8
comp=Z,12nm,1.0s,mb4.8
OJC Ojcow 76.21 332 eP P 06 43 55.8 +1.6
EAB Aberfoyle 76.40 348 eP P 06 43 58.4 +3.1
ESY Stoneypath 76.40 347 eP P 06 43 58.2 +2.9
STHS Stebnicka Huta 76.42 331 eP P 06 43 56.2 +0.8
STHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
STHS Stebnicka Huta 76.42 331 eP P 06 43 56.2 +0.8
comp=Z,15nm,1.0s,mb4.9
KOLS Kolonicke sedl 76.47 330 eP P 06 43 56.1 +0.4
KOLS Kolonicke sedl 76.47 330 eP P 06 43 56.2 +0.5
BURAR Bucovina Array 76.52 327 ⇓ i P P 06 43 54.7 -1.2
KSP Ksiaz 76.77 334 eP P 06 43 59.1 +1.8
PGBU Glenifferbraes 76.79 348 eP P 06 44 00.8 +3.3
PGBU AMb AMB 06 44 05.4
comp=Z,59nm,1.4s,mb5.3
LTX Lajitas 76.95 61 eP P 06 43 57.8 -0.6
LTX pmax pmax
comp=Z,38nm,0.6s,mb5.5
LTX Lajitas 76.95 61 eP P 06 43 57.8 -0.6
comp=Z,38nm,0.6s,mb5.5
TXAR Lajitas Array 76.95 61 P P 06 43 57.6 -0.8
comp=Z,38nm,0.6s,mb5.5,baz=303,slow=4.1,SNR=270
TXAR Lajitas Array 76.95 61 P P 06 43 57.6 -0.8
TXAR pmax pmax
comp=Z,38nm,0.6s
OKC Ostrava-Krasne 77.07 333 eP P 06 44 01.6 +2.5
ESK Eskdalemuir 77.07 347 eP P 06 44 02.1 +3.1
ESK AMb AMB 06 44 03.9
comp=Z,85nm,1.6s,mb5.4
UPC Upice 77.15 334 eP P 06 44 02.2 +2.7
DPC Dobruska-Polom 77.19 334 eP P 06 44 02.2 +2.5
CLL Collm 77.31 336 eP P 06 43 58.0 -2.4
CLL i *PP pP 06 44 03.1 -2.8
CLL Collm 77.31 336 eP P 06 44 00.0 -0.4
CLL i pP pP 06 44 03.1 -2.8
comp=Z,59nm,1.2s
CLL eP P P 06 46 56.0 +1.5
MORC Moravsky Berou 77.32 333 ⇑ i P P 06 44 02.3 +1.9
MORC Moravsky Berou 77.32 333 eP P 06 44 02.9 +2.5
MORC pmax pmax
comp=Z,26nm,1.1s,mb5.1
MORC Moravsky Berou 77.32 333 ⇑P P 06 44 02.3 +1.9
VRI Vrincioaia 77.39 325 ⇑ i P P 06 44 02.9 +2.1
VRI Vrincioaia 77.39 325 ⇑P P 06 44 02.9 +2.0
KECS Kecovo 77.47 331 eP P 06 44 00.9 -0.4
KECS Kecovo 77.47 331 eP P 06 44 01.0 -0.3
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KECS Kecovo 77.47 331 eP P 06 44 01.0 -0.3
comp=Z,6.4nm,1.1s,mb4.5
CCM Cathedral Cave 77.52 47 P P 06 43 55.4 -6.2
CCM pmax pmax
comp=Z,29nm,1.5s,mb5.0
CCM Cathedral Cave 77.52 47 eP P 06 43 55.2 -6.4
comp=Z,29nm,1.5s,mb5.0
PVCC Panska Ves 77.56 335 eP P 06 44 05.4 +3.6
GAL1 Galloway 77.74 348 eP P 06 44 05.2 +2.5
GAL1 AMb AMB 06 44 06.4
comp=Z,170nm,1.7s,mb5.7
TIRR Tirgusor 77.87 324 ⇓ i P P 06 44 03.8 +0.3
TIRR Tirgusor 77.87 324 eP P 06 44 03.4 -0.1
TIRR pmax pmax
comp=Z,11nm,1.3s,mb4.6
TIRR Tirgusor 77.87 324 eP P 06 44 03.4 -0.1
comp=Z,11nm,1.3s,mb4.6
MLR Muntele Rosu 78.01 326 P P 06 44 05.5 +1.2
comp=Z,22nm,0.8s,mb5.2,baz=115,slow=1.6,SNR=5.7
MLR Muntele Rosu 78.01 326 ⇓ i P P 06 44 04.6 +0.3
MLR Muntele Rosu 78.01 326 P P 06 44 05.5 +1.2
MLR pmax pmax
comp=Z,22nm,0.8s
MLR Muntele Rosu 78.01 326 ⇓P P 06 44 04.6 +0.3
VYHS Vyhne 78.02 332 eP P 06 44 06.9 +2.6
VYHS pmax pmax
comp=Z,11nm,1.1s,mb4.7
VYHS Vyhne 78.02 332 eP P 06 44 06.9 +2.6
comp=Z,10nm,1.1s,mb4.7
VRAC Vranov 78.03 333 ⇓ i P P 06 44 04.8 +0.4
VRAC Vranov 78.03 333 ⇓P P 06 44 04.8 +0.4
PRU Pruhonice 78.05 335 eP P 06 44 05.8 +1.3
PRU ex x 06 44 19.4
DRGR 78.13 328 ⇓ i P P 06 44 04.7 -0.3
DRGR 78.13 328 ⇓P P 06 44 04.7 -0.3
PSZ Piszkesteto 78.16 331 ⇓ i P P 06 44 04.2 -0.9
PSZ Piszkesteto 78.16 331 eP P 06 44 05.3 +0.2
PSZ pmax pmax
comp=Z,38nm,1.4s,mb5.1
PSZ Piszkesteto 78.16 331 ⇓P P 06 44 04.2 -0.9
MALT Malatya 78.17 314 eP P 06 44 06.0 +0.8
MALT pmax pmax
comp=Z,29nm,1.8s,mb4.9
MALT Malatya 78.17 314 eP P 06 44 06.0 +0.8
comp=Z,29nm,1.8s,mb4.9
MOX Moxa 78.29 337 eP P 06 44 07.3 +1.5
comp=Z,41nm,1.7s,mb5.1
MOX Moxa 78.29 337 eP P 06 44 07.3 +1.5
MOX pmax pmax
comp=Z,41nm,1.7s,mb5.1
WTSB Winterswijk 78.30 340 eP P 06 44 09.4 +3.5
comp=Z,45nm,1.1s,mb5.3
NKC Novy Kostel 78.43 336 eP P 06 44 10.2 +3.6
JCT Junction City 78.44 58 eP P 06 44 05.5 -1.2
JCT pmax pmax
comp=Z,49nm,1.2s,mb5.3
JCT Junction City 78.44 58 eP P 06 44 05.5 -1.2
comp=Z,48nm,1.2s,mb5.3
STKA Stephens Creek 78.61 191 eP P 06 44 07.7 +0.1
comp=Z,10nm,0.6s,mb4.9
STKA Stephens Creek 78.61 191 P P 06 44 07.7 +0.1
comp=Z,15nm,0.7s,mb5.0,baz=349,slow=6.5,SNR=29
SIUC Southern Illin 78.81 46 eP P 06 44 07.9 -0.8
comp=Z,28nm,1.0s,mb5.2
ZST Bratislava 78.84 332 eP P 06 44 13.0 +4.1
ZST pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZST Bratislava 78.84 332 eP P 06 44 13.0 +4.1
comp=Z,16nm,1.0s,mb4.9
KHC Kasperske Hory 79.09 335 eP P 06 44 11.2 +0.9
KHC ex x 06 44 21.7
GRA1 Grafenberg Arr 79.26 337 eP P 06 44 14.6 +3.4
comp=Z,35nm,1.3s,mb5.1
GRF Grafenberg Arr 79.26 337 eP P 06 44 14.6 +3.4
comp=Z,35nm,1.3s,mb5.1
GRF Grafenberg Arr 79.26 337 eP P 06 44 14.6 +3.4
GRF pmax pmax
comp=Z,35nm,1.3s,mb5.1
GRF Grafenberg Arr 79.26 337 eP P 06 44 14.6 +3.4
GRF pmax pmax
comp=Z,35nm,1.3s,mb5.1
GRFO Grafenberg 79.26 337 P P 06 44 10.5 -0.7
GRFO pmax pmax
comp=Z,43nm,1.2s,mb5.2
GRFO Grafenberg 79.26 337 P P 06 44 10.5 -0.7
comp=Z,43nm,1.2s,mb5.3
GZR Gura Zlata 79.30 328 ⇑ i P P 06 44 12.0 +0.6
GZR Gura Zlata 79.30 328 P P 06 44 14.3 +2.9
GZR Gura Zlata 79.30 328 ⇑P P 06 44 12.0 +0.6
GEC2 GERESS Array S 79.31 335 eP P 06 44 12.5 +1.0
GERES GERESS Array B 79.31 335 P P 06 44 12.5 +1.0
comp=Z,2.4nm,0.7s,mb4.2,baz=37,slow=5.8,SNR=9.5
GERES GERESS Array B 79.31 335 P P 06 44 12.5 +1.0
GERES pmax pmax
comp=Z,2.0nm,0.7s
BR131 Keskin Array S 79.39 318 eP P 06 44 12.8 +1.0
comp=Z,12nm,1.0s,mb4.8
BRTR Keskin Array B 79.39 318 P P 06 44 12.0 +0.2
comp=Z,5.4nm,0.9s,mb4.5,baz=33,slow=5.9,SNR=13

BRTR	**Keskin Array B**	**79.39**	**318**	P	**P**	**06 44 12.0**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CONA	**Conrad Observa**	**79.47**	**333**	⇑*i*P	**P**	**06 44 13.8**	**+1.5**
	comp=Z,15nm,1.3s,mb4.8							
BZS	**Buzias**	**79.53**	**328**	⇓*i*P	**P**	**06 44 12.5**	**-0.2**
BZS	**Buzias**	**79.53**	**328**	⇓P	**P**	**06 44 12.5**	**-0.2**
HGN	**Heimansgroeve**	**79.62**	**340**	*e*P	**P**	**06 44 14.8**	**+1.6**
	comp=Z,44nm,1.3s,mb5.2							
MEM	**Membach**	**79.75**	**340**	AP	pP	06 44 16.3	-3.0	
	comp=Z,21nm,0.9s							
MEM				XP	sP	06 44 17.7	-3.6	
TOD	**Tromm**	**79.98**	**338**	*e*P	**P**	**06 44 18.9**	**+3.8**
ABH	**Alteburg**	**80.05**	**339**	*e*P	**P**	**06 44 19.1**	**+3.6**
PKSM	**Moragy**	**80.07**	**331**	⇑*i*P	**P**	**06 44 14.9**	**-0.7**
PKSM	**Moragy**	**80.07**	**331**	⇑P	**P**	**06 44 14.9**	**-0.7**
BCLA	**Clavier**	**80.09**	**341**	AP	pP	06 44 18.4	-2.8	
	comp=Z,16nm,1.2s							
BCLA				XP	sP	06 44 19.4	-3.8	
SNF	**Seneffe**	**80.24**	**341**	AP	pP	06 44 19.2	-2.7	
	comp=Z,11nm,1.3s							
MCH1	**Michaelchurch**	**80.24**	**346**	*e*P	**P**	**06 44 20.0**	**+3.5**
MCH1				AMb	AMB	06 44 21.1		
	comp=Z,65nm,1.5s,mb5.3							
FORT	**Forrest**	**80.28**	**203**	*e*P	**P**	**06 44 17.4**	**+0.6**
	comp=Z,24nm,0.7s,mb5.2							
RUP	**Ruppelstein**	**80.33**	**339**	*e*P	**P**	**06 44 20.8**	**+3.8**
DOU	**Dourbes**	**80.55**	**341**	XP	sP	06 44 22.0	-3.6	
WLF	**Walferdange**	**80.59**	**340**	XP	sP	06 44 23.3	-2.6	
KBA	**Koelnbreinsper**	**81.00**	**334**	⇑*i*P	**P**	**06 44 23.1**	**+2.5**
	comp=Z,46nm,0.9s,mb5.4							
KBA	**Koelnbreinsper**	**81.00**	**334**	⇓*i*P	**P**	**06 44 21.5**	**+0.9**
	comp=Z,46nm,0.9s,mb5.4							
BFO	**Black Forest**	**81.28**	**338**	*e*P	**P**	**06 44 21.7**	**-0.4**
BFO				pmax	pmax			
	comp=Z,22nm,1.0s,mb5.0							
BFO	**Black Forest**	**81.28**	**338**	*e*P	**P**	**06 44 21.6**	**-0.4**
	comp=Z,22nm,1.0s,mb5.0							
WTTA	**Wattenberg**	**81.34**	**335**	⇑*i*P	**P**	**06 44 24.0**	**+1.6**
	comp=Z,17nm,0.8s,mb5.0							
WTTA	**Wattenberg**	**81.34**	**335**	⇓*i*P	**P**	**06 44 23.5**	**+1.1**
	comp=Z,17nm,0.8s,mb5.0							
MOTA	**Moosalm**	**81.42**	**336**	⇑*i*P	**P**	**06 44 27.0**	**+4.2**
	comp=Z,28nm,1.0s,mb5.2							
MOTA	**Moosalm**	**81.42**	**336**	⇓*i*P	**P**	**06 44 23.5**	**+0.6**
	comp=Z,28nm,1.0s,mb5.2							
WLS	**Welschbruch**	**81.45**	**339**	*e*P	**P**	**06 44 26.9**	**+3.9**
CDF	**Champ du Feu**	**81.47**	**339**	*e*P	**P**	**06 44 23.0**	**-0.1**
	comp=Z,45nm,0.8s,mb5.1							
CDF	**Champ du Feu**	**81.47**	**339**	*e*P	**P**	**06 44 23.0**	**-0.1**
CDF				pmax	pmax			
	comp=Z,23nm,0.8s,mb5.2							
CDF	**Champ du Feu**	**81.47**	**339**	*e*P	**P**	**06 44 23.0**	**-0.1**
	comp=Z,22nm,0.8s,mb5.2							
VTS	**Vitosha**	**81.51**	**326**	⇓*i*P	**P**	**06 44 23.0**	**-0.3**
VTS	**Vitosha**	**81.51**	**326**	⇓P	**P**	**06 44 23.1**	**-0.2**
ECH	**Echery**	**81.69**	**339**	*e*P	**P**	**06 44 26.9**	**+2.7**
SSPA	**Standing Stone**	**81.72**	**37**	*e*P	**P**	**06 44 23.0**	**-1.4**
	comp=Z,60nm,1.8s,mb5.2							
FELD	**Feldberg im Sc**	**81.78**	**338**	*e*P	**P**	**06 44 27.3**	**+2.6**
DYA	**Yadsworthy**	**81.91**	**346**	*e*P	**P**	**06 44 29.1**	**+3.7**
THEF	**They Montfort**	**81.97**	**339**	*e*P	**P**	**06 44 28.2**	**+2.5**
GRR	**Gorron**	**83.32**	**344**	*e*P	**P**	**06 44 32.6**	**-0.2**
	comp=Z,87nm,1.1s,mb5.4							
GRR	**Gorron**	**83.32**	**344**	*e*P	**P**	**06 44 32.6**	**-0.2**
GRR				pmax	pmax			
	comp=Z,44nm,1.1s,mb5.4							
GRR	**Gorron**	**83.32**	**344**	*e*P	**P**	**06 44 32.6**	**-0.2**
	comp=Z,44nm,1.1s,mb5.4							
ASF	**Jabal al Asfar**	**83.72**	**311**	P	**P**	**06 44 35.6**	**+0.8**
	comp=Z,3.2nm,0.6s,mb4.6,baz=333,slow=2.3,SNR=4.5							
ASF	**Jabal al Asfar**	**83.72**	**311**	P	**P**	**06 44 35.6**	**+0.8**
ASF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
MMAI	**Mount Meron Ar**	**83.83**	**312**	P	**P**	**06 44 36.0**	**+0.6**
	comp=Z,6.8nm,0.6s,mb5.0,baz=41,slow=8.0,SNR=7.2							
SMF	**Signal de Mont**	**83.96**	**340**	*e*P	**P**	**06 44 35.8**	**-0.2**
	comp=Z,146nm,1.1s,mb5.7							
SMF	**Signal de Mont**	**83.96**	**340**	*e*P	**P**	**06 44 35.8**	**-0.2**
SMF				pmax	pmax			
	comp=Z,73nm,1.1s,mb5.7							
SMF	**Signal de Mont**	**83.96**	**340**	*e*P	**P**	**06 44 35.8**	**-0.2**
	comp=Z,73nm,1.1s,mb5.7							
KLBR	**Kellerberrin**	**84.27**	**211**	*e*P	**P**	**06 44 37.5**	**-0.1**
	comp=Z,19nm,0.8s,mb5.3							
LPG	**La Plagne**	**84.31**	**338**	*e*P	**P**	**06 44 38.8**	**+1.0**
	comp=Z,74nm,1.1s,mb5.4							
LPG	**La Plagne**	**84.31**	**338**	*e*P	**P**	**06 44 38.8**	**+1.0**
LPG				pmax	pmax			
	comp=Z,37nm,1.1s,mb5.4							
LPG	**La Plagne**	**84.31**	**338**	*e*P	**P**	**06 44 38.8**	**+1.0**
	comp=Z,37nm,1.1s,mb5.4							
PLDF	**La Plantade**	**84.65**	**340**	*e*P	**P**	**06 44 44.2**	**+4.7**
AGO	**Saint Agoulin**	**84.69**	**340**	*e*P	**P**	**06 44 44.3**	**+4.6**
BNI	**Bardonecchia**	**84.74**	**338**	*e*P	**P**	**06 44 41.1**	**+1.1**
BNI				pmax	pmax			
	comp=Z,25nm,1.2s,mb5.2							
BNI	**Bardonecchia**	**84.74**	**338**	*e*P	**P**	**06 44 41.1**	**+1.1**
	comp=Z,25nm,1.2s,mb5.2							
GDM	**Grand'Maison**	**84.75**	**338**	*e*P	**P**	**06 44 43.8**	**+3.8**
GRN	**Grenoble**	**84.81**	**338**	*e*P	**P**	**06 44 44.2**	**+3.9**
SURF	**Saint Ours**	**85.24**	**337**	*e*P	**P**	**06 44 46.2**	**+3.7**
LBL	**Lubilhac**	**85.43**	**340**	*e*P	**P**	**06 44 47.4**	**+3.9**
NWAO	**Narrogin (SRO)**	**85.66**	**211**	*e*P	**P**	**06 44 45.1**	**+0.5**
CAF	**Calviac**	**86.00**	**341**	*e*P	**P**	**06 44 46.4**	**+0.1**
	comp=Z,33nm,0.8s,mb5.3							
CAF	**Calviac**	**86.00**	**341**	*e*P	**P**	**06 44 46.4**	**+0.1**
CAF				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.3							
CAF	**Calviac**	**86.00**	**341**	*e*P	**P**	**06 44 46.4**	**+0.1**
	comp=Z,17nm,0.8s,mb5.3							
EIL	**Elat**	**86.72**	**311**	*e*P	**P**	**06 44 49.4**	**-0.4**
	comp=Z,604nm,1.1s							
OTAV	**Otavalo**	**114.58**	**61**	*e*PKPdf	PKiKP	06 50 47.0	+1.0	
TORD	**Torodi Ar. Bea**	**116.00**	**330**	PKP	PKPdf	06 50 47.2	-1.6	
	comp=Z,0.6nm,0.6s,baz=7.5,slow=1.5,SNR=5.3							
TORD				PP	PP	06 51 49.7	-3.3	
	comp=Z,5.4nm,1.2s,baz=24,slow=3.7,SNR=6.6							
TORD				PKKPbc	PKKPbc	07 01 17.1	-2.0	
	comp=Z,0.8nm,0.7s,baz=191,slow=3.7,SNR=5.8							
TORD	**Torodi Ar. Bea**	**116.00**	**330**	PKP	PKPdf	06 50 47.2	-1.6	
TORD				PP	PP	06 51 49.7	-3.3	
TORD				PKKPbc	PKKPbc	07 01 17.1	-2.0	
MAW	**Mawson**	**132.23**	**211**	PKP	PKPdf	06 51 17.5	-2.3	
	comp=Z,1.3nm,0.7s,baz=80,slow=8.6,SNR=6.9							
MAW	**Mawson**	**132.23**	**211**	PKIKP	PKPdf	06 51 17.5	-2.3	
MAW				pmax	pmax			
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**133.76**	**64**	PKP	PKPdf	06 51 22.6	-0.1	
	comp=Z,2.2nm,0.9s,baz=321,slow=3.9,SNR=6.7							
LPAZ	**La Paz**	**133.76**	**64**	PKIKP	PKPdf	06 51 22.7	0.0	
LPAZ				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SYO	**Syowa Base**	**140.94**	**211**	⇓*e*PKPdf	PKPdf	06 51 34.0	-1.9	
NVL	**N'lazarevskaya**	**149.53**	**203**	⇑*i*PKP2	PKPbc	06 51 52.7	-2.5	
NVL				pmax	pmax			
	comp=Z,51nm,1.8s							
USHA	**Ushuaia**	**151.82**	**124**	PKPbc	PKPbc	06 51 58.8	-1.9	
	comp=Z,25nm,0.8s,baz=138,slow=1.5,SNR=7.0							
PMSA	**Palmer Station**	**152.04**	**145**	PKPbc	PKPbc	06 51 58.6	-2.5	
	comp=Z,30nm,1.0s,baz=187,slow=3.5,SNR=5.6							
SNAA	**Sanae**	**152.30**	**195**	PKPbc	PKPbc	06 51 59.3	-2.4	
	comp=Z,2.0nm,0.6s,baz=190,slow=3.4,SNR=25							
SNAA				PKPab	PKPab	06 52 10.1	-1.6	
	comp=Z,8.5nm,0.9s,baz=162,slow=4.7,SNR=18							
SNAA	**Sanae**	**152.30**	**195**	*e*PKPdf	PKPdf	06 51 59.1	+4.2	
SNAA				*e*		06 52 10.2		
SNAA				*e*		06 52 13.1		
SNAA				*e*		06 52 22.7		
SNAA				*e*		06 52 31.5		
SNAA	**Sanae**	**152.30**	**195**	*e*PKPbc	PKPbc	06 51 59.2	-2.5	
SNAA				*e*PKPab	PKPab	06 52 10.3	-1.3	
VNA2	**Neumayer--Watz**	**153.72**	**193**	*e*PKPdf	PKPbc	06 52 03.1	-1.7	
	baz=132,slow=0.6							
VNA2				*e*		06 52 16.5		
VNA2				*e*		06 52 21.2		
VNA2				*e*		06 52 29.3		
VNA2				*e*		06 52 35.9		
VNA2				*e*		06 55 52.0		
VNA3	**Neumayer Olymp**	**153.78**	**192**	*e*PKPdf	PKPbc	06 52 02.7	-2.2	
VNA3				*e*		06 52 16.3		
VNA3				*e*		06 52 20.5		
VNA3				*e*		06 52 29.1		
VNA3				*e*		06 52 35.5		
VNA3				*e*		06 55 51.4		
VNA1	**Neumayer--Stat**	**154.10**	**193**	*e*PKPdf	PKPab	06 52 18.6	-0.6	
VNA1				*e*		06 52 22.0		

IDC 16 06:43:31.2±4.4, 4729N×15560E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmpg3.7/4, Error ellipse: s-maj=154.9km s-min=35.3km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.20**	**298**	P	P	06 52 13.2	-0.2
	0.8nm,0.7s,baz=69,slow=7.6,SNR=5.6						
BVAR	**Borovoye Array**	**51.82**	**310**	P	P	06 52 40.4	-0.5
	1.0nm,0.5s,baz=55,slow=9.2,SNR=6.3						
FINES	**FINESS Array B**	**64.27**	**336**	P	P	06 54 07.7	-0.5
	1.2nm,0.9s,baz=39,slow=7.6,SNR=5.2						
TXAR	**Lajitas Array**	**75.74**	**62**	P	P	06 55 18.9	+0.2
	0.1nm,0.5s,baz=298,slow=4.6,SNR=5.1						

*ISCJB **16** 06:46:18.5±2.9, 4623N±009×15440E±009, h26km±20km, mb4.4/35, Error ellipse: s-maj=15.5km s-min=8.4km az=124.3*
*MOS **16** 06:46:18.5±1.0, 4622N×15429E, h27km, mb4.6/21, Error ellipse: s-maj=13.2km s-min=9.6km az=99.8*
*BJI **16** 06:46:19.2, 4669N×15423E, h19km, mB5.3, mb4.7*
*NEIC **16** 06:46:21.4±0.4, 4621N×15433E, mb4.7/10, Error ellipse: s-maj=11.7km s-min=7.3km az=164.0*
*IDC **16** 06:46:21.4±7.0, 4624N×15434E, h33km±54km, mb4.0/17, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, ML4.2/2, Error ellipse: s-maj=19.0km s-min=15.7km az=147.0*
ISC 16 06:46:23.1±1.3, 4635N±008×15438E±009, h45km±10km, h35km±1.9km: pP-P, n86, σ1§03/85, mb4.4/35, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.49**	**14**	*e*PN	**Pn**	**06 47 27.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.02**	**279**	*e*PN	**Pn**	**06 48 18.0**	**+1.0**
ASAJ	**Asahikawa**	**8.61**	**259**	Pn	**Pn**	**06 48 23.6**	**-1.4**
	4.6nm,0.3s,baz=129,slow=13,SNR=9.0						
ASAJ	**Asahikawa**	**8.61**	**259**	PN	**Pn**	**06 48 23.7**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KLR	**Kul'dur**	**15.47**	**289**	*e*P	**Pn**	**06 50 00.0**	**+1.9**
MJAR	**Matsushiro Arr**	**15.56**	**237**	Pn	**Pn**	**06 49 56.0**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=34,slow=11,SNR=3.8						
MAT	**Matsushiro**	**15.56**	**237**	P	**Pn**	**06 50 01.3**	**+2.0**
CN2	**Changchun**	**20.54**	**273**	*e*P	**P**	**06 50 59.3**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**21.53**	**255**	P	**P**	**06 51 08.4**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.0,baz=59,slow=10,SNR=12						
SNY	**Shenyang**	**22.50**	**270**	⇑P	**P**	**06 51 17.3**	**-1.4**
SNY				PP		06 51 47.4	
SNY				AMB	AMB		
	comp=Z,37nm,0.8s,mb4.9						
BILL	**Bilibino**	**22.59**	**12**	⇓*e*P	**P**	**06 51 20.7**	**+1.1**
BILL				*i*		06 51 27.2	
BILL				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.7						
BOD	**Bodaibo**	**26.91**	**310**	*e*P	**P**	**06 51 56.3**	**-3.6**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.0						
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**06 52 45.3**	**-2.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=85,slow=6.3,SNR=4.8						
SONM				PcP	PcP	06 55 35.0	+0.2
	comp=Z,0.8nm,0.9s,baz=46,slow=3.4,SNR=4.3						
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**06 52 45.3**	**-2.2**
SONM						06 55 35.0	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**33.64**	**296**	*e*P	**P**	**06 52 56.8**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
EGAK	**Eagle**	**38.77**	**38**	*e*P	**P**	**06 53 43.4**	**+0.3**
EGAK				*e*pP	pP	06 53 53.8	-1.6
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**06 53 45.3**	**+2.1**
LZH				AP	pP	06 53 54.8	-0.7
LZH				XP	sP	06 53 58.3	-2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,4.5s						
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**06 53 45.2**	**+2.0**
LZH				*PP	pP	06 53 54.8	-0.7
LZH				*SP	sP	06 53 58.3	-2.5
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**06 53 45.2**	**+2.0**
	comp=Z,20nm,1.0s,mb4.8						
LZH				pP	pP	06 53 54.8	-0.7
LZH				sP	sP	06 53 58.3	-2.5
GTA	**Gaotai**	**39.90**	**280**	*e*P	**P**	**06 53 53.3**	**+0.8**
GTA				AP	pP	06 53 57.8	-7.0
GTA				XP	sP	06 54 01.5	-8.7
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.3						
INK	**Inuvik**	**41.52**	**32**	P	**P**	**06 54 06.6**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.2,baz=280,slow=6.6,SNR=26						
INK	**Inuvik**	**41.52**	**32**	P	**P**	**06 54 06.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GYA	**Guiyang**	**42.49**	**259**	P	**P**	**06 54 13.4**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**43.57**	**306**	PcP	PcP	06 56 09.8	+0.3
	comp=Z,1.4nm,0.4s,baz=68,slow=2.9,SNR=4.2						
MK31	**Makanchi Array**	**47.90**	**298**	*e*P	**P**	**06 54 55.9**	**-0.8**
MK31				*e*PP	pP	06 55 05.3	-4.0
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**06 54 55.8**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.4,baz=65,slow=6.9,SNR=16						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**06 54 55.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**06 55 22.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**06 55 22.1**	**-0.8**
	comp=Z,9.4nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**06 55 25.9**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.5,baz=52,slow=7.8,SNR=15						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**06 55 25.9**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**51.83**	**310**	*e*P	**P**	**06 55 26.0**	**-0.5**
BRVK				*e*PP	pP	06 55 36.1	-3.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.83**	**310**	*e*P	**P**	**06 55 26.0**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.5						
BRVK				*e*pP	pP	06 55 36.1	-3.1
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**06 55 31.4**	**-0.5**
ZRNK				*e*PP	pP	06 55 42.3	-2.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**06 55 31.4**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK				*e*pP	pP	06 55 42.3	-2.3
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**06 55 47.7**	**-0.6**
AAK				*e*PP	pP	06 55 58.2	-2.9
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**06 55 47.7**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.6						
AAK				*e*pP	pP	06 55 58.2	-2.9
JIRN	**Jiri**	**55.85**	**276**	*e*P	**P**	**06 55 56.5**	**+0.6**
ARU	**Arti**	**55.89**	**318**	*e*P	**P**	**06 55 54.7**	**-1.5**
GUN	**Gumba**	**55.91**	**276**	*e*P	**P**	**06 55 57.1**	**+0.8**
EDM	**Edmonton**	**55.96**	**46**	*e*P	**P**	**06 55 57.0**	**+0.3**
EDM				*e*PP	pP	06 56 07.2	-2.3
KKN	**Kakani**	**56.40**	**276**	*e*P	**P**	**06 55 59.9**	**+0.1**
DMN	**Daman**	**56.63**	**276**	*e*P	**P**	**06 56 02.8**	**+1.3**
	comp=Z,42nm,1.1s,mb5.4						
GKN	**Gorkha**	**56.71**	**277**	*e*P	**P**	**06 56 02.7**	**+0.7**
KOLN	**Koldanda**	**57.56**	**278**	*e*P	**P**	**06 56 09.0**	**+0.9**
	comp=Z,29nm,1.0s,mb5.3						
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**06 56 15.3**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.4,baz=24,slow=9.3,SNR=9.2						
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**06 56 15.3**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**06 56 15.3**	**+0.6**
NVAR	**Mina Array Bea**	**61.84**	**63**	P	**P**	**06 56 37.6**	**+0.2**
	comp=Z,1.8nm,0.3s,mb4.6,baz=248,slow=12,SNR=28						
ISA	**Isabella**	**63.47**	**65**	*e*P	**P**	**06 56 47.7**	**-0.6**
DAC	**Darwin (Calif)**	**63.63**	**64**	*e*P	**P**	**06 56 49.5**	**+0.1**
DAC				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
DAC	**Darwin (Calif)**	**63.63**	**64**	*e*P	**P**	**06 56 49.5**	**+0.1**
	comp=Z,1.9nm,0.3s,mb4.6						
PDAR	**Pinedale Array**	**64.27**	**54**	P	**P**	**06 56 53.7**	**+0.1**
	comp=Z,2.3nm,1.0s,mb4.2,baz=299,slow=2.8,SNR=12						
FINES	**FINESS Array B**	**64.77**	**335**	P	**P**	**06 56 56.6**	**-0.2**
	comp=Z,1.2nm,0.3s,mb4.3,baz=37,slow=4.9,SNR=9.3						
FINES	**FINESS Array B**	**64.77**	**335**	P	**P**	**06 56 56.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULM	**Lac du Bonnet**	**66.25**	**41**	P	**P**	**06 57 05.3**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.2,baz=11,slow=5.5,SNR=3.6						
ULM	**Lac du Bonnet**	**66.25**	**41**	P	**P**	**06 57 05.3**	**-1.1**
WRA	**Warramunga Arr**	**68.43**	**200**	P	**P**	**06 57 18.4**	**-1.8**
	comp=Z,2.2nm,0.9s,mb4.2,baz=21,slow=6.7,SNR=7.8						
WRA	**Warramunga Arr**	**68.43**	**200**	P	**P**	**06 57 18.4**	**-1.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.88**	**342**	P	**P**	**06 57 22.8**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.3,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.88**	**342**	P	**P**	**06 57 24.2**	**+1.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=27,slow=6.3,SNR=4.8						
NOA	**NORSAR Array B**	**68.88**	**342**	P	**P**	**06 57 24.2**	**+1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**72.12**	**200**	P	**P**	**06 57 42.6**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=9.8,slow=5.9,SNR=14						
ASAR	**Alice Springs**	**72.12**	**200**	P	**P**	**06 57 42.6**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**72.36**	**327**	P	**P**	**06 57 43.4**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=34,slow=6.5,SNR=5.5						
AKASG	**Malin Array Be**	**72.36**	**327**	P	**P**	**06 57 43.4**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.36**	**327**	P	**P**	**06 57 43.4**	**-0.8**
LTX	**Lajitas**	**76.92**	**61**	*e*P	**P**	**06 58 11.0**	**+0.4**
LTX				*e*	pP	06 58 21.2	-2.7
LTX				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LTX	**Lajitas**	**76.92**	**61**	*e*P	**P**	**06 58 11.0**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.5						
LTX				*e*	pP	06 58 21.2	-2.7
TXAR	**Lajitas Array**	**76.92**	**61**	P	**P**	**06 58 11.2**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=302,slow=3.7,SNR=29						
TXAR	**Lajitas Array**	**76.92**	**61**	P	**P**	**06 58 11.3**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**	**06 58 23.8**	**+0.6**
	comp=Z,0.4nm,0.2s,mb3.9,baz=17,slow=1.0,SNR=2.8						
BRTR	**Keskin Array B**	**79.28**	**318**	P	**P**	**06 58 23.2**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=54,slow=7.3,SNR=2.5						
BRTR	**Keskin Array B**	**79.28**	**318**	P	**P**	**06 58 23.2**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CDF	**Champ du Feu**	**81.35**	**339**	*e*P	**P**	**06 58 34.8**	**0.0**
GRR	**Gorron**	**83.20**	**344**	*e*P	**P**	**06 58 44.3**	**-0.2**
SMF	**Signal de Mont**	**83.84**	**340**	*e*P	**P**	**06 58 47.8**	**0.0**
	comp=Z,41nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**83.84**	**340**	*e*P	**P**	**06 58 47.8**	**0.0**
SMF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**83.84**

CFAA Coronel Fontan 145.14 80 PKPbc PKPbc 07 15 06.2 -0.9
comp=Z,0.1nm,0.4s,baz=268,slow=2.6,SNR=4.2

SKHL ***16*** *06:57:06.8±1.9, 45.82N×153.57E, h47km±17km, Ms5.1/2, msh5.9/1*
BJI ***16*** *06:57:07.8, 46.41N×153.08E, h7km, mB5.4, mb4.7, Ms5.1, Msz4.9*
ISCJB ***16*** *06:57:07.7±0.1, 46.11N×003.4×153.23E±002, h13km, mb4.9/122, MS4.9/12, Error ellipse: s-maj=5.0km s-min=1.9km az=151.9*
JMA ***16*** *06:57:07.5±1.0, 45.92N×153.66E, h30km, M5.1*
NEIC ***16*** *06:57:08.8±0.2, 46.13N×153.25E, h10km, mb5.1/62, Error ellipse: s-maj=5.9km s-min=3.4km az=165.0*
GCMT ***16*** *06:57:08.8±0.7, 45.98N×153.45E, h22km±1km, MW5.1/39, Moment Tensor Solution. s15,c18; s39,c54; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.88±.52; Mθθ=3.92±.34; Mϕϕ=0.95±.31; Mrθ=0.05±.46; Mrϕ=1.33±.18; Mθϕ=2.13±.51; Best double couple: Mo=5.04800×10^16 NP1: ϕs=231.00000°, δs=53.00000°, λs=-112.00000°. Principal axes: T 4.5060, Plg5.0000°, Azm336.0000°; N 1.0770, Plg18.0000°, Azm245.0000°; P -5.5890, Plg71.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***16*** *06:57:11.6±1.4, 46.13N×153.16E, h44km, mb5.1/60, MS4.7/8 Error ellipse: s-maj=6.7km s-min=5.1km az=97.3*
IDC ***16*** *06:57:12.6±3.5, 46.16N×153.21E, h39km±30km, mb4.4/27, mb1 4.5/29, mb1mx4.5/32, mbtmp4.4/29, ML4.3/2, MS4.8/5, Ms1 4.8/5, ms1mx4.2/41, Error ellipse: s-maj=13.3km s-min=10.8km az=129.0*
SZGRF ***16*** *06:57:16.1, 46.87N×154.61E, h33km, mb5.0, East of Kuril Islands, Russia*
ISC 16 06:57:10.0±0.1, 46.21N±003×153.18E±002, h14km±9km: pP-P, n569, σ0.86/575, mb4.9/122, MS4.9/12, 104C-77D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**257**	⇑*i*P		**Pn**	**06 58 05.5**	**-3.2**
KUR				Op		AMB	06 58 10.0	
	1μm,0.5s							
KUR						AMB	06 58 13.0	
	4μm,1.5s							
KUR				*e*S		**Sn**	**06 58 51.0**	**-2.8**
KUR				A			06 59 02.4	
	2μm,0.6s							
KUR				A			06 59 02.4	
	1μm,0.6s							
KUR				A			06 59 06.0	
	16μm,3.5s							
KUR				A			06 59 06.0	
	12μm,3.5s							
KUR				AMS		AMS	07 00 18.0	
	11μm,13.0s							
KUR				AMS		AMS	07 00 18.0	
	15μm,13.0s							
KUR	**Kuril'sk**	**3.85**	**257**	⇑*i*PN		**Pn**	**06 58 05.5**	**-3.2**
KUR				*e*S		**Sn**	**06 58 51.0**	**-2.8**
KUR				pmax		pmax		
	comp=Z,1μm,0.5s							
KUR				pmax		pmax		
	comp=Z,4μm,1.5s							
KUR				smax				
	comp=N,2μm,0.6s							
KUR				smax				
	comp=E,1μm,0.6s							
KUR				smax				
	comp=N,16μm,3.5s							
KUR				smax				
	comp=E,12μm,3.5s							
KUR				MLR		MLR		
	comp=N,11μm,13.0s							
KUR				MLR		MLR		
	comp=E,11μm,13.0s							
KUR				MLR		MLR		
	comp=Z,15μm,13.0s							
SKR	**Severo-Kuril's**	**4.88**	**22**	*e*P		**Pn**	**06 58 24.5**	**+1.6**
SKR				AMB		AMB	06 58 30.0	
	comp=Z,230nm,0.5s							
SKR				AMB		AMB	06 58 30.0	
	comp=Z,170nm,0.5s							
SKR				AMB		AMB	06 58 30.0	
	comp=Z,370nm,0.5s							
SKR				*e*S		**Sn**	**06 59 17.5**	**-1.6**
SKR				A			06 59 27.0	
	comp=Z,640nm,0.6s							
SKR				A			06 59 27.0	
	comp=Z,320nm,0.6s							
SKR				A			06 59 27.0	
	comp=Z,160nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.62**	**250**	*e*P		**Pn**	**06 58 34.0**	**+0.9**
YUK				AMB		AMB	06 58 39.0	
	comp=Z,420nm,0.5s							
YUK				*e*S		**Sn**	**06 59 38.0**	**+0.6**
YUK				A			06 59 45.5	
	comp=Z,710nm,0.4s							
YUK				A			06 59 45.5	
	comp=Z,2μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.62**	**250**	*e*PN		**Pn**	**06 58 34.0**	**+0.9**
YUK				*e*S		**Sn**	**06 59 38.0**	**+0.6**
YUK				pmax		pmax		
	comp=Z,420nm,0.5s							
YUK				smax				
	comp=N,2μm,0.7s							
YUK				smax				
	comp=E,710nm,0.4s							
NEM2	**Nemuro 2**	**6.01**	**244**	P		**Pn**	**06 58 36.4**	**-2.0**
NEM2				*e*S		**Sn**	**06 59 41.3**	**-5.7**
JRA	**Rausu**	**6.15**	**251**	P		**Pn**	**06 58 40.6**	**+0.3**
JNK	**Nakash**	**6.56**	**249**	P		**Pn**	**06 58 45.5**	**-0.5**
JAK	**Akkeshi**	**6.86**	**245**	P		**Pn**	**06 58 47.7**	**-2.4**
JAK				*e*S		**Sn**	**07 00 01.2**	**-6.7**
JTKR	**Abashiri--Toko**	**6.94**	**254**	P		**Pn**	**06 58 52.3**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.23**	**280**	⇑*e*P		**Pn**	**06 58 59.7**	**+4.6**
YSS				AMB		AMB	06 59 03.0	
	comp=E,60nm,1.0s							
YSS				AMB		AMB	06 59 03.0	
	comp=E,50nm,0.8s							
YSS				AMB		AMB	06 59 03.0	
	comp=E,40nm,0.8s							
YSS				*e*S		**Sn**	**07 00 17.2**	**+0.3**
YSS				A			07 00 22.0	
	comp=E,90nm,1.0s							
YSS				A			07 00 22.0	
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.23**	**280**	*e*PN		**Pn**	**06 58 59.7**	**+4.6**
YSS				pmax		pmax		
	comp=N,40nm,0.8s							
YSS				pmax		pmax		
	comp=Z,50nm,0.8s							
YSS				pmax		pmax		
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.23**	**280**	*e*Pn		**Pn**	**06 58 55.1**	**0.0**
YSS				*e*Sn		**Sn**	**07 00 17.9**	**+1.0**
JMP	**Maruseppu**	**7.29**	**256**	P		**Pn**	**06 58 58.2**	**+2.2**
JAR	**Ashorobuto**	**7.31**	**250**	P		**Pn**	**06 58 56.5**	**+0.3**
JAR				*e*S		**Sn**	**07 00 16.8**	**-2.2**
JOB	**Onbets**	**7.45**	**247**	*e*S		**Sn**	**07 00 17.7**	**-4.8**
JSE	**Soyaes**	**7.54**	**264**	P		**Pn**	**06 59 02.9**	**+3.4**
PET	**Petropavlovsk**	**7.68**	**26**	*e*PN		**Pn**	**06 59 02.6**	**+1.2**
PET				pmax		pmax		
	comp=Z,162nm,1.2s							
PET				MLR		MLR		
	comp=Z,3μm,14.0s							
PET	**Petropavlovsk**	**7.68**	**26**	*e*Pn		**Pn**	**06 59 01.4**	**0.0**
	comp=Z,390nm,1.4s							
PET				*e*Sn		**Sn**	**07 00 28.6**	**+0.4**
JKK2	**Kamakawa 2**	**7.75**	**256**	P		**Pn**	**06 59 02.8**	**+0.5**
ASAJ	**Asahikawa**	**7.77**	**258**	Pn		**Pn**	**06 59 04.3**	**+1.8**
	comp=Z,6.5nm,0.3s,baz=228,slow=6.9,SNR=10							
ASAJ	**Asahikawa**	**7.77**	**258**	P		**Pn**	**06 59 05.0**	**+2.4**
ASAJ	**Asahikawa**	**7.77**	**258**	PN		**Pn**	**06 59 04.4**	**+1.8**
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.3s							
JCH	**Churui**	**7.90**	**246**	P		**Pn**	**06 59 02.5**	**-1.8**
JCH				*e*S		**Sn**	**07 00 27.3**	**-6.2**
JWK2	**Keihoku**	**7.95**	**268**	P		**Pn**	**06 59 10.2**	**+5.2**
UGL	**Uglegorsk**	**8.04**	**295**	*e*P		**Pn**	**06 59 10.0**	**+3.8**
UGL				AMB		AMB	06 59 13.5	
	comp=Z,180nm,0.9s							
UGL	**Uglegorsk**	**8.04**	**295**	*e*PN		**Pn**	**06 59 10.0**	**+3.8**
UGL				*e*			07 00 43.5	
UGL				pmax		pmax		
	comp=Z,180nm,0.9s							
UGL				MLR		MLR		
	comp=E,7μm,16.0s							
UGL				MLR		MLR		
	comp=Z,6μm,16.0s							
UGL				MLR		MLR		
	comp=N,9μm,13.0s							
JEM	**Erimo**	**8.34**	**243**	P		**Pn**	**06 59 13.1**	**+2.7**
ERM	**Erimo**	**8.35**	**243**	Pn		**Pn**	**06 59 13.3**	**+2.8**
	comp=N,748nm,0.5s,SNR=5.3							
ERM	**Erimo**	**8.35**	**243**	*e*PN		**Pn**	**06 59 10.2**	**-0.3**
ERM				pmax		pmax		
	comp=Z,133nm,0.8s							
ERM	**Erimo**	**8.35**	**243**	*e*Pn		**Pn**	**06 59 10.2**	**-0.3**
	comp=Z,133nm,0.8s							
ERM				*e*Sn		**Sn**	**07 00 44.3**	**-0.1**
TYV	**Tymovskoe**	**8.39**	**307**	*e*P		**Pn**	**06 59 13.8**	**+2.7**
TYV				AMB		AMB	06 59 17.2	
	comp=Z,33nm,0.8s							
TYV				AMB		AMB	06 59 17.2	
	comp=Z,72nm,0.8s							
JNBK	**Urakawa-nobuka**	**8.46**	**246**	*e*S		**Sn**	**07 00 40.3**	**-6.9**
JKB	**Kayabe**	**9.76**	**248**	P		**Pn**	**06 59 27.4**	**-2.4**
JKB				*e*S		**Sn**	**07 01 10.7**	**-8.5**
JOT	**Ohata**	**10.01**	**245**	P		**Pn**	**06 59 32.4**	**-0.9**
JOT				*e*S		**Sn**	**07 01 16.3**	**-9.1**
JYM2	**Yakumo 2**	**10.07**	**251**	P		**Pn**	**06 59 33.3**	**-0.9**
JANG	**Nango**	**10.31**	**240**	P		**Pn**	**06 59 32.2**	**-5.2**
JANG				*e*S		**Sn**	**07 01 20.0**	**-13**
JTM	**Tenmabayashi**	**10.34**	**243**	*e*S		**Sn**	**07 01 21.3**	**-12**
JTH	**Tanohata**	**10.38**	**237**	*e*S		**Sn**	**07 01 20.5**	**-14**
JOSM	**Okushiri--Mats**	**10.68**	**252**	P		**Pn**	**06 59 40.7**	**-1.8**
JRG	**Rokugo**	**11.46**	**238**	*e*S		**Sn**	**07 01 50.1**	**-11**
JIO	**Ouri**	**11.69**	**233**	P		**Pn**	**06 59 50.8**	**-5.5**
JIO				*e*S		**Sn**	**07 01 52.8**	**-14**
JFK	**Kawauchi**	**12.73**	**230**	*e*S		**Sn**	**07 02 18.6**	**-14**
KLR	**Kul'dur**	**14.73**	**290**	*e*P		**Pn**	**07 00 36.8**	**-1.0**
JRY	**Ryogami san**	**14.80**	**232**	P		**Pn**	**07 00 42.2**	**+3.5**
MJAR	**Matsushiro Arr**	**14.80**	**235**	Pn		**Pn**	**07 00 37.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=28,slow=10,SNR=13							
MAJO	**Matsushiro**	**14.80**	**235**	*e*P		**Pn**	**07 00 37.8**	**-1.0**
MAJO	**Matsushiro**	**14.80**	**235**	*e*Pn		**Pn**	**07 00 38.3**	**-0.4**
MAT	**Matsushiro**	**14.80**	**235**	P		**Pn**	**07 00 39.8**	**+1.0**
MAT	**Matsushiro**	**14.80**	**235**	P		**Pn**	**07 00 39.6**	**+0.8**
SMY	**Shemya**	**15.05**	**57**	*e*P		**Pn**	**07 00 38.9**	**-3.2**
SEY	**Seymchan**	**16.76**	**359**	⇑*e*P		**Pn**	**07 01 07.8**	**+3.6**
ZEA	**Zeya**	**18.23**	**304**	*e*P		**Pn**	**07 01 19.7**	**-2.7**
ZEA				AMB		AMB	07 01 26.3	
	comp=Z,74nm,1.4s							
ZEA				AMB		AMB	07 01 26.3	
	comp=Z,120nm,1.6s							
ZEA				AMB		AMB	07 01 26.3	
	comp=Z,150nm,1.6s							
CN2	**Changchun**	**19.72**	**273**	*e*P		**Pn**	**07 01 39.5**	**-1.0**
CN2				*e*XP		sP	07 01 46.3	+1.4
CN2				AMB		AMB		
	comp=Z,30nm,0.7s							
CN2				AMB		AMB		
	comp=Z,600nm,6.0s							
CN2				LR		LR		
	comp=N,800nm,15.0s							
CN2				LR		LR		
	comp=E,900nm,15.0s							
CN2				LR		LR		
	comp=Z,900nm,16.0s							
CLNS	**Chul'man**	**20.41**	**312**	*e*P		**P**	**07 01 46.3**	**-0.2**
CLNS				pmax		pmax		
	comp=N,11nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,21nm,0.8s							
CLNS				pmax		pmax		
	comp=E,16nm,0.9s							
KSRS	**Korea Array**	**20.69**	**254**	P		**P**	**07 01 51.3**	**+1.8**
	comp=E,12nm,0.7s,baz=58,slow=11,SNR=17							
KS15	**Wonju Array Si**	**20.72**	**254**	*e*Pn		**P**	**07 01 51.6**	**+1.7**
YAK	**Yakutsk**	**20.80**	**328**	*e*P		**P**	**07 01 51.5**	**+0.8**
YAK				*e*			07 02 08.8	
YAK				*e*S		**S**	**07 05 40.4**	**-2.0**
YAK				*e*SS			07 06 03.3	
YAK				pmax		pmax		
	comp=E,6.0nm,0.8s							
YAK				pmax		pmax		
	comp=Z,25nm,0.8s							
YAK				pmax		pmax		
	comp=N,10.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,96nm,1.4s							
YAK				pmax		pmax		
	comp=N,118nm,1.7s							
YAK				pmax		pmax		
	comp=E,166nm,1.8s							
YAK				smax				
	comp=N,976nm,3.8s							
YAK				smax				
	comp=Z,225nm,3.3s							
YAK				smax				
	comp=E,350nm,3.1s							
YAK				MLR		MLR		
	comp=E,2μm,15.0s,MS4.8							
YAK				MLR		MLR		
	comp=Z,3μm,15.0s,MS4.8							
YAK				MLR		MLR		
	comp=N,2μm,12.0s,MS4.8							
YAK	**Yakutsk**	**20.80**	**328**	*e*P		**P**	**07 01 51.0**	**+0.2**
	comp=N,44nm,0.6s							
JNU	**Nakatsue**	**21.49**	**240**	P		**P**	**07 01 59.1**	**+1.0**
	comp=N,18nm,0.9s,mb4.4,baz=175,slow=15,SNR=3.0							
JNU	**Nakatsue**	**21.49**	**240**	P		**P**	**07 02 00.5**	**+2.3**
SNY	**Shenyang**	**21.67**	**269**	⇑P		**P**	**07 02 00.4**	**+0.3**
SNY				AP			07 02 05.3	
SNY				XP		sP	07 02 12.4	+6.4
SNY				PP			07 02 23.3	
SNY				AMB		AMB		
	comp=Z,28nm,1.4s,mb4.5							
HIA	**Hailar**	**22.59**	**290**	⇓*e*P		**P**	**07 02 14.7**	**+4.8**
BILL	**Bilibino**	**22.90**	**13**	⇑*e*P		**P**	**07 02 12.2**	**-1.0**
BILL				pmax		pmax		
	comp=Z,78nm,2.5s,mb4.7							
BILL	**Bilibino**	**22.90**	**13**	*e*P		**P**	**07 02 12.0**	**-1.2**
	comp=Z,36nm,1.0s,mb4.8							
BOD	**Bodaibo**	**26.37**	**310**	*e*P		**P**	**07 02 43.3**	**-2.4**
BOD				pmax		pmax		
	comp=Z,18nm,1.5s,mb4.4							
BJI	**Beijing**	**27.52**	**270**	P		**P**	**07 02 52.6**	**-3.5**
BJI				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.2							
BJI	**Beijing**	**27.52**	**270**	P		**P**	**07 02 52.6**	**-3.5**
	comp=Z,7.0nm,1.0s,mb4.2							
NJ2	**Nanjing**	**29.89**	**254**	*e*P		**P**	**07 03 19.4**	**+2.3**
NJ2				AP		pP	07 03 23.5	+2.1
NJ2				XP		sP	07 03 27.4	+4.2
NJ2				PP		PP	07 04 17.4	-7.2
NJ2				S		**S**	**07 08 15.5**	**+1.7**
NJ2				XS		sS	07 08 23.0	+2.0
NJ2				AMB		AMB		
	comp=Z,1μm,4.7s							
NJ2				LR		LR		
	comp=N,3μm,14.6s,MS5.2							
NJ2				LR		LR		
	comp=E,2μm,15.4s,MS5.2							
NJ2				LR		LR		
	comp=Z,2μm,18.4s,MS4.8							
HHC	**Hu-ho-hao-te**	**30.39**	**275**	*e*P		**P**	**07 03 21.4**	**-0.1**
HHC				XP		sP	07 03 28.8	+1.2
HHC				PP		PP	07 04 21.3	-8.8
HHC				PCP		PcP	07 06 21.8	+0.7
HHC				S		**S**	**07 08 20.6**	**-1.0**
HHC				XS		sS	07 08 28.8	+0.1
HHC				SS		SS	07 09 59.8	-31
HHC				SCS		ScS	07 13 55.8	-3.2
HHC				AMB		AMB		
	comp=Z,26nm,1.4s,mb4.8							
HHC				AMB		AMB		
	comp=Z,913nm,9.2s							
HHC				LR		LR		
	comp=N,2μm,13.7s,MS5.1							
HHC				LR		LR		
	comp=E,2μm,15.2s,MS5.1							
HHC				LR		LR		
	comp=Z,3μm,15.6s,MS5.0							
ULN	**Ulaanbaatar**	**31.12**	**290**	⇑*e*P		**P**	**07 03 28.1**	**+0.1**
ULN	**Ulaanbaatar**	**31.12**	**290**	*e*P		**P**	**07 03 27.4**	**-0.6**
BTO	**Baotou**	**31.55**	**276**	*e*P		**P**	**07 03 31.9**	**+0.1**
SONM	**Songino Array**	**31.56**	**290**	P		**P**	**07 03 31.2**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.2,baz=82,slow=8.4,SNR=10.0							
SONM				PcP		PcP	07 06 23.7	-0.6
	comp=Z,1.1nm,0.6s,baz=90,slow=2.9,SNR=4.0							
SONM				LR		LR	07 17 10.0	
	comp=Z,2μm,18.5s,MS4.7,baz=45,slow=38							
SONM	**Songino Array**	**31.56**	**290**	P		**P**	**07 03 31.2**	**-0.6**
SONM							07 06 23.7	
SONM				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SONM				MLR		MLR		
	comp=Z,2μm,18.5s							
TLY	**Talaya**	**32.47**	**298**	⇓*e*P		**P**	**07 03 39.1**	**-0.7**
TLY				pmax		pmax		
	comp=Z,8.0nm,1.7s,mb4.3							
ZAK	**Zakamensk**	**32.95**	**296**	*e*P		**P**	**07 03 42.6**	**-1.4**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
WHN	**Wuhan**	**33.85**	**256**	P		**P**	**07 03 53.1**	**+1.3**
KDAK	**Kodiak Island**	**34.41**	**50**	P		**P**	**07 03 55.8**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0,baz=207,slow=1.1,SNR=8.8							
XAN	**Xi'an**	**35.52**	**266**	P		**P**	**07 04 06.8**	**+0.5**
XAN				AMB		AMB		
	comp=Z,4.0nm,0.6s,mb4.5							
MCK	**McKinley**	**36.03**	**40**	*e*P		**P**	**07 04 10.7**	**0.0**
SML	**Sawmill**	**36.33**	**43**	*e*P		**P**	**07 04 12.7**	**-0.5**
COLA	**College**	**36.53**	**38**	*c i*P		**P**	**07 04 12.6**	**-2.3**
LZH	**Lanzhou**	**37.96**	**273**	*e*P		**P**	**07 04 28.6**	**+1.5**
LZH				AP		pP	07 04 32.3	+0.8
LZH				XP		sP	07 04 34.8	+1.6
LZH				AMB		AMB		
	comp=Z,50nm,1.1s,mb5.2							
LZH				AMB		AMB		
	comp=Z,225nm,4.5s							
LZH				LR		LR		
	comp=E,2μm,12.7s							
LZH				LR		LR		
	comp=Z,2μm,14.0s,MS5.1							
LZH	**Lanzhou**	**37.96**	**273**	*e*P		**P**	**07 04 28.6**	**+1.5**
	comp=Z,50nm,1.1s,mb5.2							
LZH				pP		pP	07 04 32.3	+0.8
LZH				sP		sP	07 04 34.7	+1.5
LZH				LR		LR		
	comp=Z,2μm,14.0s,MS5.1							
GTA	**Gaotai**	**39.11**	**280**	*e*P		**P**	**07 04 37.6**	**+0.9**
GTA				AP		pP	07 04 41.8	+0.7
GTA				XP		sP	07 04 44.8	+1.9
GTA				AMB		AMB		
	comp=Z,20nm,1.6s,mb4.6							
EGAK	**Eagle**	**39.39**	**38**	*e*P		**P**	**07 04 38.4**	**-0.7**
	comp=Z,27nm,0.9s,mb5.0							
DAWY	**Dawson**	**40.23**	**39**	*e*P		**P**	**07 04 45.6**	**-0.4**
CD2	**Chengdu**	**40.89**	**266**	*e*P		**P**	**07 04 51.1**	**-0.4**
CD2				S		**S**	**07 11 02.6**	**+0.1**
CD2				AMB		AMB		
	comp=Z,50nm,1.1s,mb5.1							
GYA	**Guiyang**	**41.65**	**258**	⇑*i*P		**P**	**07 04 57.9**	**+0.1**
GYA				AP		pP	07 05 02.1	-0.1
GYA				XP		sP	07 05 04.8	+0.8
GYA				PP		PP	07 06 37.6	+3.5
GYA				PCP		PcP	07 06 56.4	+1.9
GYA				SCP		ScP	07 10 45.3	+1.1
GYA				S		**S**	**07 11 14.0**	**+0.2**
GYA				SCS		ScS	07 15 00.0	-0.8
GYA				AMB		AMB		
	comp=Z,50nm,0.8s,mb5.2							
GYA				AMB		AMB		
	comp=Z,140nm,5.0s							
GYA				LR		LR		
	comp=N,540nm,15.9s,MS4.7							
GYA				LR		LR		
	comp=E,570nm,16.4s,MS4.7							
GYA				LR		LR		
	comp=Z,530nm,16.8s,MS4.5							
INK	**Inuvik**	**42.08**	**32**	P		**P**	**07 05 00.9**	**-0.4**
	comp=Z,12nm,0.7s,mb4.6,baz=288,slow=7.5,SNR=44							
INK	**Inuvik**	**42.08**	**32**	*e*P		**P**	**07 05 00.7**	**-0.6**
	comp=Z,800nm,0.9s							
ZAL	**Zalesovo**	**42.98**	**306**	P		**P**	**07 05 06.3**	**-2.3**
	comp=Z,1.5nm,0.4s,mb4.0,baz=66,slow=9.6,SNR=8.0							
ZAL				PcP		PcP	07 06 57.7	-1.2
	comp=Z,1.7nm,0.4s,baz=57,slow=6.0,SNR=3.2							
ZAL	**Zalesovo**	**42.98**	**306**	P		**P**	**07 05 06.4**	**-2.2**
ZAL							07 06 57.7	
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.4s							
NVS	**Novosibirsk**	**43.56**	**308**	*e*P		**P**	**07 05 05.4**	**-7.9**
NVS				pmax		pmax		
	comp=N,28nm,2.4s							
NVS				pmax		pmax		
	comp=E,40nm,2.4s							
NVS				pmax		pmax		
	comp=Z,50nm,2.4s,mb4.8							
WMQ	**Urumqi**	**45.17**	**292**	⇓*i*P		**P**	**07 05 26.3**	**+0.1**
WMQ				AP		pP	07 05 30.8	+0.2
WMQ				XP		sP	07 05 33.3	+0.9
WMQ				PCP		PcP	07 07 07.8	+1.4
WMQ				PP		PP	07 07 12.4	+0.6
WMQ				PPP			07 07 52.6	
WMQ				SCP		ScP	07 10 58.4	-0.1
WMQ				S		**S**	**07 12 04.4**	**-0.9**
WMQ				XS		sS	07 12 11.8	-0.9
WMQ				AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.7							
WMQ				LR		LR		
	comp=N,1μm,16.1s,MS5.0							
WMQ				LR		LR		
	comp=E,941nm,15.3s,MS5.0							
WMQ				LR		LR		
	comp=Z,1μm,16.1s,MS4.8							
KMI	**Kunming**	**45.20**	**260**	P		**P**	**07 05 27.1**	**+0.7**
KMI				AP		pP	07 05 30.6	-0.2
KMI				XP		sP	07 05 32.1	-0.5
KMI				AMB		AMB		
	comp=Z,15nm,0.7s,mb4.9							
KMI				LR		LR		
	comp=N,1μm,15.0s,MS5.1							
KMI				LR		LR		
	comp=E,1μm,14.0s,MS5.1							
KMI				LR		LR		
	comp=Z,1μm,12.4s,MS5.0							
KMI	**Kunming**	**45.20**	**260**	P		**P**	**07 05 27.1**	**+0.7**
	comp=Z,15nm,0.7s,mb4.9							
KMI				pP		pP	07 05 30.6	-0.2
KMI				sP		sP	07 05 32.1	-0.5
KMI				LR		LR		
	comp=Z,1μm,12.4s,MS5.0							
MK31	**Makanchi Array**	**47.23**	**298**	P		**P**	**07 05 40.7**	**-1.7**
MK31	**Makanchi Array**	**47.23**	**298**	*e*P		**P**	**07 05 40.4**	**-2.0**
MKAR	**Makanchi Array**	**47.23**	**298**	P		**P**	**07 05 40.5**	**-2.0**
	comp=Z,7.5nm,0.7s,mb4.7,baz=68,slow=7.7,SNR=40							
MKAR				PcP		PcP	07 07 13.3	-0.3
	comp=Z,2.3nm,0.6s,baz=62,slow=3.0,SNR=3.7							
MKAR				LR		LR	07 26 52.9	
	comp=Z,2μm,19.0s,MS5.0,baz=70,slow=38							
MKAR	**Makanchi Array**	**47.23**	**298**	P		**P**	**07 05 40.5**	**-1.9**
MKAR							07 07 13.3	
MKAR				pmax		pmax		
	comp=Z,8.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,2μm,19.0s							
MKAR	**Makanchi Array**	**47.23**	**298**	P		**P**	**07 05 40.5**	**-2.0**
MKAR				PcP		PcP	07 07 13.3	-0.3
MKAR				LR		LR	07 26 52.9	
KURK	**Kurchatov**	**47.70**	**304**	P		**P**	**07 05 44.4**	**-1.7**
	comp=Z,99nm,0.9s,mb5.8,SNR=13							
KURK	**Kurchatov**	**47.70**	**304**	P		**P**	**07 05 43.9**	**-2.2**
KURK				pmax		pmax		
	comp=Z,6.0

comp=Z,36nm,1.7s,mb5.0
BVA0 Borovoye Array 51.24 310 *i* P **P** **07 06 11.8 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BVAR Borovoye Array 51.24 310 P **P** **07 06 11.7 -1.3**
comp=Z,6.2nm,0.5s,mb4.8,baz=47,slow=7.4,SNR=24
BVAR Borovoye Array 51.24 310 P **P** **07 06 11.7 -1.4**
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 51.28 310 P **P** **07 06 12.3 -1.1**
comp=Z,102nm,0.6s,mb5.9,SNR=7.6
BRVK Borovoye 51.28 310 *e*P **P** **07 06 12.2 -1.2**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 51.28 310 *e*P **P** **07 06 12.2 -1.2**
comp=Z,8.4nm,0.6s,mb4.8
YKA Yellowknife Ar 51.33 36 P **P** **07 06 12.3 -1.4**
comp=Z,9.3nm,0.7s,mb4.8,baz=295,slow=7.1,SNR=12
YKA PcP PcP 07 07 27.6 -0.8
comp=Z,2.1nm,0.7s,baz=310,slow=4.2,SNR=4.3
YKA Yellowknife Ar 51.33 36 P **P** **07 06 12.3 -1.4**
YKA 07 07 27.6
YKA pmax pmax
comp=Z,9.0nm,0.7s
RES Resolute Bay 51.33 18 *e*P **P** **07 06 13.3 -0.4**
ZRNK Zerenda 52.01 310 *e*P **P** **07 06 17.4 -1.4**
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZRNK Zerenda 52.01 310 *e*P **P** **07 06 17.4 -1.5**
comp=Z,8.2nm,0.7s,mb4.8
CHTO Chiang Mai 52.05 257 P **P** **07 06 20.3 +1.2**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb5.0
ULHL Ulahol 53.24 295 P **P** **07 06 28.5 +0.5**
SNR=9.9
TKM2 Tokmak 2 53.28 296 P **P** **07 06 28.6 +0.3**
SNR=7.8
USP Ospenovka 53.77 297 P **P** **07 06 32.1 +0.2**
SNR=19
FRU Bishkek 53.94 297 *e*P **P** **07 06 33.5 +0.5**
KZA Kyzart 53.95 296 P **P** **07 06 34.9 +1.8**
SNR=8.8
AAK Ala-Archa 54.12 297 P **P** **07 06 33.0 -1.4**
comp=Z,62nm,0.7s,mb5.7,SNR=9.8
AAK Ala-Archa 54.12 297 P **P** **07 06 34.6 +0.3**
SNR=12
AAK Ala-Archa 54.12 297 P **P** **07 06 33.7 -0.7**
KSH Kashi 54.91 293 *e*P **P** **07 06 42.3 +2.2**
KSH *e*AP pP 07 06 47.5 +2.9
KSH *e*XP sP 07 06 50.9 +4.5
KSH *e*PCP PcP 07 07 42.6 +0.6
KSH *e*PP PP 07 08 45.5 +2.5
KSH *e*PPP 07 09 58.8
KSH *e*SCP ScP 07 11 40.1 0.0
KSH *e*S **S** **07 14 21.9 +0.8**
KSH *e*XS sS 07 14 31.3 +2.7
KSH *e*PS 07 14 41.3
KSH *e*SCS ScS 07 16 26.6 -2.3
KSH AMB AMB
comp=Z,808nm,2.7s
KSH LR LR
comp=Z,3μm,8.6s
JIRN Jiri 55.04 275 *e*P **P** **07 06 42.2 +1.1**
comp=Z,69nm,0.8s,mb5.7
GUN Gumba 55.10 275 *e*P **P** **07 06 43.3 +1.8**
ARU Arti 55.44 318 *i* P **P** **07 06 42.2 -1.8**
ARU *e* 07 08 50.1
ARU *e*PPP 07 09 57.6
ARU *e*S **S** **07 14 27.8 -0.5**
ARU *e*SS SS 07 18 14.4 +1.4
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU Arti 55.44 318 *e*P **P** **07 06 42.4 -1.6**
comp=Z,12nm,0.6s,mb5.1
KKN Kakani 55.59 276 *e*P **P** **07 06 46.8 +1.8**
comp=Z,64nm,0.9s,mb5.7
PMG Port Moresby 55.63 187 LR LR 07 27 37.8
comp=Z,493nm,18.3s,MS4.6,baz=154,slow=33
PKI Pulchoki 55.64 275 *e*P **P** **07 06 46.1 +0.7**
comp=Z,151nm,1.5s,mb5.8
B07A Winthrop 55.69 54 ⇑P **P** **07 06 45.7 0.0**
baz=56
DMN Daman 55.82 276 *e*P **P** **07 06 48.3 +1.6**
comp=Z,171nm,1.2s,mb5.9
A08A Turner Farm, O 55.89 53 ⇑P **P** **07 06 47.4 +0.2**
baz=56
GKN Gorkha 55.90 276 *e*P **P** **07 06 48.5 +1.3**
comp=Z,255nm,1.3s
D06A Cle Elum 55.98 55 ⇑P **P** **07 06 47.7 -0.1**
baz=56
C07A Waterville 56.15 54 ⇑P **P** **07 06 48.7 -0.3**
baz=56
B08A Colville Reser 56.19 53 P **P** **07 06 48.9 -0.4**
baz=56,SNR=7.1
A09A Danville 56.26 52 P **P** **07 06 49.8 0.0**
baz=56,SNR=8.6
KKAR Karatay Array 56.30 299 *i* P **P** **07 06 49.1 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
H04A Detroit Lake 56.59 58 ⇑P **P** **07 06 52.5 +0.3**
baz=56
EDM Edmonton 56.65 46 *e*P **P** **07 06 51.5 -1.1**
C08A Higginbotham F 56.66 54 ⇓P **P** **07 06 52.5 -0.2**
baz=56
KOLN Koldanda 56.76 277 *e*P **P** **07 06 54.5 +1.1**
comp=Z,92nm,1.1s,mb5.7
G05A Wamic 56.79 57 ⇓P **P** **07 06 53.5 0.0**
baz=57
F06A Goldendale 56.80 57 ⇑P **P** **07 06 54.1 +0.4**
baz=57
B09A Rice 56.81 53 ⇑P **P** **07 06 53.5 -0.3**
baz=57
A10A Northport 56.82 52 ⇓P **P** **07 06 54.0 +0.2**
baz=57
E07A Sunnyside 56.89 55 ⇑P **P** **07 06 54.4 +0.1**
baz=57
I04A Tendick Farm, 56.96 59 ⇑P **P** **07 06 55.2 +0.4**
baz=57
C09A Chrisman Ranch 57.09 53 ⇑P **P** **07 06 55.6 -0.1**
baz=57,SNR=5.7
D08A Wollman Farm, 57.14 54 ⇓P **P** **07 06 56.0 -0.1**
baz=57
H05A Madras 57.17 58 ⇑P **P** **07 06 56.4 +0.1**
baz=57
G06A Carlson Farm, 57.19 57 ⇓P **P** **07 06 56.8 +0.4**
baz=57
F07A Phinny Hill Vi 57.22 56 ⇓P **P** **07 06 56.9 +0.2**
baz=57
E08A Dider Farm, El 57.38 55 ⇓P **P** **07 06 57.9 +0.1**
baz=57
B10A Chitwood Farm, 57.39 52 ⇓P **P** **07 06 57.7 -0.1**
baz=57
I05A Bend 57.43 58 ⇑P **P** **07 06 58.0 -0.1**
baz=57
NEW Newport 57.46 52 P **P** **07 06 57.6 -0.8**
comp=Z,13nm,1.0s,mb4.9,baz=320,slow=5.2,SNR=12
NEW Newport 57.46 52 P **P** **07 06 57.6 -0.8**
NEW pmax pmax
comp=Z,13nm,1.0s
A11A Hall Mountain, 57.48 51 ⇓P **P** **07 06 58.9 +0.4**
baz=57,SNR=8.3
D09A Jones Farm, Ri 57.48 54 ⇑P **P** **07 06 58.4 -0.1**
baz=57
C10A Spilker Farm, 57.61 53 ⇑P **P** **07 06 59.3 -0.1**
baz=57
H06A Lindquist Farm 57.65 57 ⇑P **P** **07 07 00.1 +0.4**
baz=57
G07A Ruggs Ranch, H 57.73 57 ⇑P **P** **07 07 00.5 +0.2**
baz=58
B11A Sandpoint 57.78 52 ⇑P **P** **07 07 00.5 -0.1**
baz=58
A12A Yaak River Ran 57.88 51 ⇓P **P** **07 07 01.6 +0.3**
baz=58
E09A Wood Farm, Sta 57.89 55 ⇓P **P** **07 07 01.4 0.0**
baz=58,SNR=6.7
F08A Pendleton 57.94 56 ⇑P **P** **07 07 02.1 +0.4**
baz=58
J05A Fort Rock 57.95 59 ⇓P **P** **07 07 02.6 +0.8**
baz=58
YBH Yreka Blue Hor 57.96 61 P **P** **07 07 00.4 -1.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=353,slow=5.8,SNR=5.8
YBH Yreka Blue Hor 57.96 61 P **P** **07 07 00.4 -1.4**
YBH pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 57.96 61 ⇑P **P** **07 07 02.4 +0.5**
baz=58
KLP Kalpa 58.09 284 *e*P **P** **07 07 04.9 +2.1**
KLP AMb AMB 07 07 08.7
comp=Z,37nm,1.3s,mb5.3
N02C Big Bar 58.12 63 ⇓P **P** **07 07 03.4 +0.5**
baz=58
G08A Pilot Rock 58.13 56 ⇓P **P** **07 07 03.8 +0.7**
baz=58
I06A Prineville 58.18 58 ⇓P **P** **07 07 03.9 +0.6**
baz=58
B12A Libby 58.18 52 ⇓P **P** **07 07 03.3 -0.1**
baz=58
L04A Klamath Falls 58.20 61 ⇑P **P** **07 07 03.8 +0.3**
baz=58
O01C Eel River Cons 58.20 64 ⇑P **P** **07 07 03.8 +0.3**
baz=58
ARCES ARCESS Array B 58.38 341 P **P** **07 07 03.0 -1.7**
comp=Z,2.7nm,0.6s,mb4.4,baz=29,slow=6.9,SNR=20
ARCES ARCESS Array B 58.38 341 P **P** **07 07 03.0 -1.8**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
M04C Macdoel 58.46 61 ⇓P **P** **07 07 05.5 +0.2**
baz=58
K05A Summer Lake 58.48 60 ⇓P **P** **07 07 05.8 +0.3**
baz=58
F09A S2 Ranch, Elgi 58.49 55 ⇓P **P** **07 07 05.6 +0.1**
baz=58
E10A Myers Farm, Un 58.49 54 ⇓P **P** **07 07 05.6 0.0**
baz=58
I07A Izee 58.51 58 ⇑P **P** **07 07 06.2 +0.5**
baz=58
M03C McCloud 58.58 62 ⇓P **P** **07 07 06.3 -0.1**
baz=58
D11A Klaveano Farm, 58.60 53 P **P** **07 07 06.4 +0.1**
baz=58,SNR=9.3
F10A Beach Ranch, E 58.72 55 P **P** **07 07 07.9 +0.7**
baz=58,SNR=5.3
WDC Whiskeytown Da 58.73 62 ⇓P **P** **07 07 07.4 +0.1**
baz=58
H08A Prairie City 58.74 57 ⇑P **P** **07 07 07.5 +0.2**
baz=58
WALA Waterton Lakes 58.74 50 *e*P **P** **07 07 07.3 -0.1**
comp=Z,19nm,0.8s,mb5.2
O02C Red Bluff 58.82 63 ⇑P **P** **07 07 08.5 +0.7**
baz=59
K06A Valley Falls 58.82 59 ⇑P **P** **07 07 08.2 +0.4**
baz=59
B13A Whitefish 58.85 51 ⇑P **P** **07 07 08.2 +0.1**
baz=59,SNR=18
L05A Lakeview 58.91 60 ⇑P **P** **07 07 08.9 +0.4**
baz=59
AKTK Aktyubinsk 59.12 312 P **P** **07 07 09.3 -0.6**
AKTK LR LR 07 33 28.3
AKTO Aktyubinsk 59.12 312 P **P** **07 07 09.3 -0.6**
comp=Z,3.3nm,0.5s,mb4.6,baz=61,slow=6.8,SNR=15
AKTO LR LR 07 33 28.3
comp=Z,995nm,19.4s,MS5.0,baz=88,slow=37
AKTO Aktyubinsk 59.12 312 P **P** **07 07 09.3 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO MLR MLR
comp=Z,995nm,19.4s,MS5.0
M05C Lookout 59.13 61 ⇓P **P** **07 07 10.4 +0.4**
baz=59
I08A Drewsey 59.16 57 ⇓P **P** **07 07 10.3 +0.1**
baz=59,SNR=6.1
GASB Alder Springs 59.17 63 ⇑P **P** **07 07 10.7 +0.4**
baz=59
C13A Hot Springs 59.20 52 ⇑P **P** **07 07 10.7 +0.2**
baz=59
H09A Durkee 59.24 56 ⇓P **P** **07 07 11.0 +0.3**
baz=59
HATC Hat Creek Radi 59.26 62 ⇑P **P** **07 07 11.1 +0.2**
baz=59
MOD Modoc 59.31 60 *e*P **P** **07 07 10.7 -0.6**
MOD Modoc 59.31 60 ⇑P **P** **07 07 11.5 +0.2**
baz=59
BMO Blue Mountains 59.34 56 *e*P **P** **07 07 10.6 -0.8**
comp=Z,28nm,1.4s,mb5.1
HOPS Hopland 59.34 64 ⇑P **P** **07 07 11.7 +0.2**
baz=59
F11A Grangeville 59.38 54 ⇑P **P** **07 07 11.7 -0.1**
baz=59
O03C Acorn Hollow, 59.39 63 ⇑P **P** **07 07 12.0 +0.2**
baz=59
K07A Rock Creek Ran 59.48 59 ⇑P **P** **07 07 12.5 +0.1**
baz=59
J08A Circle Bar Ran 59.54 58 ⇓P **P** **07 07 13.1 +0.2**
baz=59
C14A Swan Lake 59.59 51 ⇓P **P** **07 07 13.4 +0.2**
baz=59
G11A Walters Elk Ra 59.60 55 P **P** **07 07 13.8 +0.6**
baz=59,SNR=7.0
I09A Lost Marbles R 59.60 57 ⇑P **P** **07 07 13.3 0.0**
baz=59
D13A Huson 59.61 52 ⇑P **P** **07 07 13.5 +0.2**
baz=59,SNR=10
M06C Likely Place G 59.62 61 ⇑P **P** **07 07 13.9 +0.4**
baz=59
O04C Chester 59.78 62 ⇑P **P** **07 07 15.0 +0.5**
baz=60
MNRC McLaughlin Nat 59.80 64 ⇓P **P** **07 07 14.9 +0.2**
baz=60
ELFS Eagle Lake Fie 59.82 61 ⇑P **P** **07 07 15.0 +0.2**
baz=60
L07A Adell 59.82 59 ⇑P **P** **07 07 14.9 +0.1**
baz=60
K08A Mann Creek Ran 59.91 58 ⇑P **P** **07 07 15.4 0.0**
baz=60
J09A Fry Pan Ranch, 59.97 57 ⇑P **P** **07 07 15.8 0.0**
baz=60,SNR=6.5
ORV Oroville 59.98 63 ⇓P **P** **07 07 15.7 -0.2**
baz=60
SUTB Sutter Butte 60.00 63 ⇓P **P** **07 07 15.9 -0.1**
baz=60
MSO Missoula 60.05 52 *e*P **P** **07 07 16.3 -0.1**
comp=Z,19nm,1.0s,mb5.1
O05C Quincy 60.10 62 ⇓P **P** **07 07 16.9 +0.3**
baz=60
OHCM Honcut 60.12 63 *e*P **P** **07 07 15.8 -1.1**
D14A Greenough 60.14 52 P **P** **07 07 16.4 -0.6**
baz=60,SNR=32
E13A Victor 60.15 53 P **P** **07 07 16.9 -0.1**
baz=60,SNR=12
H11A Donnelly 60.16 55 P **P** **07 07 16.8 -0.4**
baz=60,SNR=14
Q03C Winters 60.22 64 ⇑P **P** **07 07 17.8 +0.3**
baz=60
N06A Buffalo Meadow 60.29 61 ⇑P **P** **07 07 18.2 +0.2**
baz=60,SNR=7.8
M07A Soldier Meadow 60.30 60 ⇑P **P** **07 07 18.3 +0.3**
baz=60,SNR=8.9
L08A Fields 60.31 59 ⇑P **P** **07 07 18.4 +0.3**
baz=60
K09A Rome 60.37 58 ⇑P **P** **07 07 18.4 -0.2**
baz=60
CHMT Chamberlain Mo 60.38 52 *e*P **P** **07 07 17.5 -1.1**
F13A Darby 60.46 53 P **P** **07 07 18.8 -0.4**
baz=60,SNR=12
BEKR Beckwourth 60.50 62 ⇑P **P** **07 07 19.5 +0.1**
baz=60,SNR=7.0
E14A Clinton 60.55 52 P **P** **07 07 19.7 0.0**
baz=60,SNR=8.8
NDI New Delhi 60.56 282 *ex* **P** **07 07 20.0 +0.2**
NDI *e*P 07 07 20.6
NDI AMb AMB 07 07 24.1
comp=Z,44nm,2.5s,mb5.2
O06A Flanigan 60.64 61 ⇑P **P** **07 07 20.3 -0.1**
baz=60
P05C Yuba Gap, Truc 60.69 63 ⇑P **P** **07 07 20.8 +0.1**
baz=60
D15A Lincoln 60.70 51 P **P** **07 07 20.8 0.0**
baz=60,SNR=7.0
AYAN Aya Nagar 60.75 282 *e*P **P** **07 07 22.4 +1.3**
AYAN AMb AMB 07 07 25.7
comp=Z,24nm,1.0s,mb5.2
N07B Gerlach 60.79 60 ⇑P **P** **07 07 21.4 0.0**
baz=61
L09A Wilkinson Ranc 60.82 59 ⇑P **P** **07 07 21.5 -0.1**
baz=61,SNR=6.0
SONA Sohna 60.92 282 *e*P **P** **07 07 24.0 +1.6**
SONA AMb AMB 07 07 27.5
comp=Z,15nm,0.4s,mb5.5
LAVA Lava Cap Winer 60.94 63 ⇓P **P** **07 07 22.3 -0.1**
baz=61
F14A Wisdom 60.98 53 ⇓P **P** **07 07 22.5 -0.2**
baz=61
AGRA Agra 60.98 280 *e*P **P** **07 07 23.6 +0.9**
AGRA AMb AMB 07 07 24.6
comp=Z,50nm,0.3s
E15A Deer Lodge 61.01 52 ⇓P **P** **07 07 22.8 -0.1**
baz=61,SNR=14
FFC Flin Flon 61.12 40 P **P** **07 07 23.8 +0.1**
comp=Z,202nm,0.8s,SNR=7.9
FFC Flin Flon 61.12 40 P **P** **07 07 23.3 -0.3**
WCN Washoe City 61.21 62 ⇓P **P** **07 07 24.3 +0.1**
baz=61
O07A Toulon 61.22 61 ⇓P **P** **07 07 24.4 +0.1**
baz=61,SNR=7.9
SUMG Summit 61.23 4 *e*P **P** **07 07 23.3 -1.1**
N08A GE Springer Mi 61.29 60 P **P** **07 07 25.1 +0.2**
baz=61,SNR=6.8
M09A Marrel Ranch, 61.31 59 ⇓P **P** **07 07 25.4 +0.4**
baz=61
S04C Ingram Canyon, 61.34 65 ⇑P **P** **07 07 25.4 +0.2**
baz=61
R05C Kirkwood Meado 61.38 63 ⇓P **P** **07 07 25.3 -0.1**
baz=61,SNR=5.5
F15A Butte 61.45 53 P **P** **07 07 26.2 +0.3**
baz=61,SNR=23
LRM Limekiln Ridge 61.48 53 *e*P **P** **07 07 26.4 +0.2**
EGMT Eagleton 61.57 49 *e*P **P** **07 07 26.6 -0.2**
EGMT Eagleton 61.57 49 P **P** **07 07 26.6 -0.1**
baz=61,SNR=8.9
P07A Fallon 61.60 61 ⇓P **P** **07 07 27.5 +0.6**
baz=61
CMB Columbia Colle 61.60 64 *e*P **P** **07 07 26.8 -0.1**
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CMB Columbia Colle 61.60 64 *e*P **P** **07 07 26.8 -0.1**
comp=Z,8.6nm,0.9s,mb4.9
CMB Columbia Colle 61.60 64 ⇑P **P** **07 07 27.1 +0.2**
baz=61,SNR=7.5
N09A Rock Creek Ran 61.62 60 ⇑P **P** **07 07 27.3 +0.3**
baz=61,SNR=9.2
PACP Pacheco Peak 61.67 65 ⇓P **P** **07 07 27.6 +0.3**
baz=62
DLMT Dillon 61.69 53 *e*P **P** **07 07 27.7 +0.3**
HLID Hailey 61.77 56 *e*P **P** **07 07 28.2 +0.1**
comp=Z,8.0nm,0.3s,mb5.3
HLID Hailey 61.77 56 ⇓P **P** **07 07 28.4 +0.3**
baz=62
M10A i.L. Ranch, Tu 61.79 58 ⇑P **P** **07 07 28.3 +0.1**
baz=62,SNR=7.0
G15A Dillon 61.87 53 P **P** **07 07 28.6 -0.2**
baz=62,SNR=18
MCMT McKenzie Canyo 61.88 54 *e*P **P** **07 07 29.0 +0.3**
R06C Coleville 61.88 63 ⇑P **P** **07 07 29.0 +0.3**
baz=62,SNR=8.1
HAST UC Hastings Re 61.88 66 ⇓P **P** **07 07 29.0 +0.2**
baz=62
KHET Khetri 61.90 282 *e*P **P** **07 07 29.8 +0.9**
KHET AMb AMB 07 07 32.6
comp=Z,19nm,2.1s,mb4.9
P08A Dixie Valley 61.99 61 ⇑P **P** **07 07 30.1 +0.6**
baz=62
S06C San Francisco 62.03 63 P **P** **07 07 29.6 -0.2**
baz=62,SNR=14
BOZ Bozeman (W) 62.04 52 *e*P **P** **07 07 30.2 +0.3**
BOZ pmax pmax
comp=Z,11nm,0.6s,mb5.2
BOZ Bozeman (W) 62.04 52 *e*P **P** **07 07 30.2 +0.3**
comp=Z,11nm,0.6s,mb5.2
BMN Battle Mountai 62.06 60 *e*P **P** **07 07 30.4 +0.4**
BMN pmax pmax
comp=Z,14nm,0.8s,mb5.1
BMN Battle Mountai 62.06 60 *e*P **P** **07 07 30.4 +0.4**
comp=Z,14nm,0.8s,mb5.1
S05C Merced 62.06 64 P **P** **07 07 30.3 +0.3**
baz=62,SNR=5.5
O09A Fish Creek Ran 62.24 60 P **P** **07 07 31.8 +0.6**
baz=62,SNR=9.0
M11A Holland Ranch, 62.29 58 P **P** **07 07 32.2 +0.7**
baz=62,SNR=10
N10A Dunphy 62.30 59 ⇓P **P** **07 07 32.2 +0.5**
baz=62
R07C Lee Vining 62.40 63 ⇑P **P** **07 07 32.6 +0.3**
baz=62
O10A Cortez Mining, 62.58 60 ⇓P **P** **07 07 33.9 +0.4**
baz=62
Q08A Gabbs 62.60 62 P **P** **07 07 33.9 +0.3**
baz=62,SNR=16
P09A Austin 62.65 61 ⇓P **P** **07 07 34.1 +0.1**
baz=62
T06C Millerton Lake 62.66 64 P **P** **07 07 33.4 -0.6**
baz=62,SNR=8.6
QLMT Earthquake Lak 62.66 53 *e*P **P** **07 07 34.1 +0.1**
KCC Kaiser Creek 62.70 64 P **P** **07 07 34.9 +0.6**
baz=62,SNR=5.9
N11A Elko Archery C 62.70 59 ⇑P **P** **07 07 34.6 +0.3**
baz=62
R08A Mina 62.81 62 ⇑P **P** **07 07 35.1 +0.1**
baz=63
M12A Wells 62.81 58 ⇑P **P** **07 07 35.4 +0.3**
baz=63,SNR=8.9
P10A Eureka 63.02 60 ⇓P **P** **07 07 36.7 +0.4**
baz=63
GCMT Greycliff 63.02 51 *e*P **P** **07 07 36.5 +0.1**
YMR Madison River 63.02 53 *e*P **P** **07 07 36.5 0.0**
comp=Z,11nm,0.7s,mb5.1
N12A Clover Valley, 63.09 58 P **P** **07 07 37.4 +0.5**
baz=63,SNR=8.3
YNR Norris Junctio 63.15 53 *e*P **P** **07 07 39.1 +1.8**
MTUM Tungsten Hills 63.15 63 *e*P **P** **07 07 37.4 +0.1**
O11A Cowboy Ranch, 63.18 59 P **P** **07 07 37.6 +0.1**
baz=63,SNR=8.1
PTRM Twisselman Ran 63.19 66 *e*P **P** **07 07 37.5 -0.1**
V05C Boulder Hill, 63.25 65 ⇑P **P** **07 07 37.7 -0.3**
baz=63
M13A Montello 63.29 57 P **P** **07 07 38.5 +0.3**
baz=63,SNR=12
HELL Mitchell Peak, 63.29 64 P **P** **07 07 37.6 -0.6**
baz=63,SNR=13
S08C White Mtn Res 63.30 63 P **P** **07 07 38.7 +0.4**
baz=63,SNR=7.8
RCTC Rector, Farmer 63.39 65 ⇑P **P** **07 07 38.8 -0.1**
baz=63
P11A Circle Ranch, 63.48 60 ⇓P **P** **07 07 39.5 0.0**
baz=63
R09A Tonopah 63.51 62 P **P** **07 07 39.8 +0.1**
baz=63,SNR=25
IMW Indian Meadow 63.53 53 *e*P **P** **07 07 40.6 +0.9**
SMMC Simmler 63.54 66 ⇓P **P** **07 07 40.1 +0.2**
baz=63
DCID1 Drake Creek 63.58 54 *e*P **P** **07 07 40.1 -0.1**
N13A Wendover, West 63.58 58 ⇓P **P** **07 07 40.4 +0.3**
baz=63
O12A Currie 63.63 59 P **P** **07 07 40.8 +0.3**
baz=63,SNR=17
RRI2 Red Ridge 63.66 54 *e*P **P** **07 07 40.9 +0.3**
comp=Z,38nm,0.8s,mb5.5
AJM Ajmer 63.72 282 *e*P **P** **07 07 41.2 +0.2**
AJM AMb AMB 07 07 46.9
comp=Z,46nm,1.8s,mb5.2
MOOW Moose Ponds 63.73 53 *e*P **P** **07 07 41.7 +0.6**
comp=Z,13nm,0.8s,mb5.0
S09A Goldfield 63.74 62 P **P** **07 07 41.2 0.0**
baz=64,SNR=9.6
TPAW Teton Pass 63.78 54 *e*P **P** **07 07 41.6 +0.2**
VES Vestal, Richgr 63.78 65 ⇑P **P** **07 07 41.2 -0.3**
baz=64
LOHW Long Hollow 63.90 54 *e*P **P** **07 07 42.3 +0.1**
SNOW Snow King Moun 63.91 54 *e*P **P** **07 07 42.5 +0.2**
comp=Z,21nm,0.7s,mb5.3
PKM Peak Mountain 63.91 66 ⇑P **P** **07 07 42.5 +0.2**
baz=64
REDW Red Top Meadow 63.92 54 *e*P **P** **07 07 42.4 +0.1**
comp=Z,24nm,0.7s,mb5.3
R10A Warm Springs 63.95 61 ⇑P **P** **07 07 42.3 -0.3**
baz=64,SNR=6.5
Q11A Duckwater 63.99 60 P **P** **07 07 42.8 0.0**
baz=64,SNR=6.6
CWC Cottonwood Cre 64.03 64 ⇓P **P** **07 07 43.1 0.0**
baz=64
P12A McGill 64.04 59 ⇓P **P** **07 07 42.9 -0.2**
baz=64,SNR=5.3
GRAC Grapevine Rang 64.11 63 ⇓P **P** **07 07 43.6 0.0**
baz=64,SNR=8.7
DGMT Dagmar 64.14 46 *e*P **P** **07 07 43.4 -0.4**
comp=Z,20nm,0.6s,mb5.3
NGP Nagpur 64.19 274 *e*P **P** **07 07 45.1 +0.9**
NGP AMb AMB 07 07 55.8
comp=Z,36nm,1.5s,mb5.2
SBC Santa Barbara 64.27 66 ⇓P **P** **07 07 44.7 0.0**
baz=64
LAO LASA Array 64.27 49 *e*P **P** **07 07 44.8 +0.1**
ISA Isabella 64.28 65 *e*P **P** **07 07 43.7 -1.0**

ISA **Isabella** 64.28 65 P P 07 07 44.4 -0.3
baz=64,SNR=5.6
SPUT **South Promonto** 64.32 56 eP P 07 07 43.1 -1.9
TRCR **Troy Canyon** 64.35 61 eP P 07 07 45.0 -0.2
Q12A **Willow Creek R** 64.36 60 ⇑P P 07 07 45.6 +0.4
baz=64
ARVC **Arvin** 64.39 65 ⇑P P 07 07 45.1 -0.3
baz=64
DAC **Darwin (Calif)** 64.44 64 eP P 07 07 43.9 -1.9
DAC pmax pmax
comp=Z,13nm,1.3s,mb4.8
DAC **Darwin (Calif)** 64.44 64 eP P 07 07 43.9 -1.9
comp=Z,13nm,1.3s,mb4.8
FINES **FINESS Array B** 64.55 335 P P 07 07 45.2 -1.3
comp=Z,12nm,0.7s,mb5.0,baz=40,slow=9.9,SNR=32
FINES **FINESS Array B** 64.55 335 P P 07 07 45.2 -1.3
FINES pmax pmax
comp=Z,12nm,0.7s
FINES **FINESS Array B** 64.55 335 P P 07 07 45.2 -1.3
HWUT **Hardware Ranch** 64.64 56 eP P 07 07 46.6 -0.4
comp=Z,28nm,1.3s,mb5.1
MPMC **Manual Prospec** 64.64 64 P P 07 07 47.0 0.0
baz=64,SNR=12
FURC **Furnace Creek,** 64.77 63 P P 07 07 48.7 +0.8
baz=65,SNR=22
OSI **Osito Adit** 64.79 66 ⇑P P 07 07 48.3 +0.2
baz=65
DUG **Dugway** 64.82 58 eP P 07 07 48.0 -0.3
DUG pmax pmax
comp=Z,23nm,1.0s,mb5.2
DUG **Dugway** 64.82 58 eP P 07 07 48.0 -0.3
comp=Z,23nm,1.0s,mb5.2
DUG **Dugway** 64.82 58 P P 07 07 49.3 +1.0
baz=65,SNR=23
LRMC **Laurel Mountai** 64.89 64 P P 07 07 49.1 +0.4
baz=65,SNR=8.1
NOQ **North Oquirrh** 64.93 57 P P 07 07 47.0 -2.0
comp=Z,22nm,0.7s,mb5.3
BW06 **Boulder Array** 65.02 54 eP P 07 07 49.7 +0.1
comp=Z,18nm,0.9s,mb5.1
PDAR **Pinedale Array** 65.02 54 P P 07 07 49.1 -0.4
comp=Z,11nm,0.8s,mb5.0,baz=250,slow=2.3,SNR=74
EDW2 **Edwards Air Fo** 65.08 65 P P 07 07 49.8 -0.1
baz=65,SNR=8.2
CTU **Camp Tracy** 65.12 57 eP P 07 07 50.1 -0.1
U10A **Ash Meadows, A** 65.13 63 P P 07 07 50.5 +0.3
baz=65,SNR=10
DECC **Green Verdugo** 65.27 66 ⇑P P 07 07 50.7 -0.5
baz=65
JLU **Jordanelle** 65.35 57 eP P 07 07 53.0 +1.2
NLU **North Lily Min** 65.41 57 eP P 07 07 52.3 +0.2
MWC **Mount Wilson** 65.46 66 eP P 07 07 52.3 -0.1
SHOC **Shoshone** 65.49 63 ⇓P P 07 07 52.4 -0.3
baz=65
GSC **Goldstone** 65.55 64 eP P 07 07 52.6 -0.4
GSC **Goldstone** 65.55 64 ⇓P P 07 07 53.2 +0.2
baz=65
DAU **Daniels Canyon** 65.59 57 eP P 07 07 54.0 +0.8
MPU **Maple Canyon** 65.63 57 eP P 07 07 53.6 +0.2
comp=Z,13nm,0.7s,mb5.1
BFSC **Mount Baldy St** 65.70 65 ⇓P P 07 07 54.2 +0.2
baz=66
U11A **Corn Creek** 65.71 62 ⇑P P 07 07 54.3 +0.2
baz=66
OBN **Obninsk** 65.78 326⇑eP P 07 07 53.0 -1.5
OBN e 07 08 01.9
OBN e 07 08 31.1
OBN pmax pmax
comp=Z,57nm,1.6s,mb5.3
SHPR **Sheep Range** 65.79 62 eP P 07 07 54.2 -0.3
ARUT **Antelope Range** 66.00 60 eP P 07 07 55.9 0.0
TUQ **Turquoise Mtn.** 66.01 63 P P 07 07 55.3 -0.6
baz=66,SNR=16
V11A **Goodsprings** 66.06 63 P P 07 07 56.1 -0.2
baz=66,SNR=7.2
BBRC **Big Bear Sol-O** 66.15 65 ⇓P P 07 07 56.8 -0.1
baz=66
HEC **Hector,Ludlow** 66.15 64 P P 07 07 57.4 +0.5
baz=66,SNR=5.8
U12A **Valley of Fire** 66.22 62 ⇓P P 07 07 57.0 -0.3
baz=66
MSU **Marysvale** 66.29 59 eP P 07 07 57.8 +0.1
TMUT **Trail Mountain** 66.34 57 eP P 07 07 58.6 +0.5
MURC **Murrieta** 66.41 66 ⇑P P 07 07 58.3 -0.2
baz=66
V12A **Nelson** 66.49 62 ⇑P P 07 07 58.7 -0.3
baz=66,SNR=8.8
VSU **Vasula** 66.71 333⇓eP P 07 07 59.5 -1.0
W12A **Cal Nev Ari** 66.75 63 ⇑P P 07 08 00.5 -0.2
baz=66
SRU **San Rafael** 66.87 57 eP P 07 08 00.8 -0.6
SRU pmax pmax
comp=Z,23nm,0.8s,mb5.3
SRU **San Rafael** 66.87 57 eP P 07 08 00.8 -0.6
comp=Z,23nm,0.8s,mb5.3
PFO **Pinyon Flat Ob** 66.87 65 ⇑P P 07 08 00.8 -0.7
baz=67
ULM **Lac du Bonnet** 66.90 41 P P 07 08 00.1 -1.5
comp=Z,3.1nm,0.7s,mb4.5,baz=317,slow=6.9,SNR=8.3
BELC **Belle Mtn.** 66.90 65 ⇓P P 07 08 00.8 -0.9
baz=67
109C **Camp Elliot, M** 66.93 66 ⇑P P 07 08 01.2 -0.6
baz=67
RSSD **Black Hills** 67.13 50 eP P 07 08 02.1 -1.0
RSSD pmax pmax
comp=Z,18nm,0.8s,mb5.2
RSSD **Black Hills** 67.13 50 eP P 07 08 02.1 -1.0
comp=Z,18nm,0.8s,mb5.2
IRM **Iron Mountain** 67.33 64 P P 07 08 04.0 -0.3
baz=67,SNR=9.4
BC3 **Big Chuckw Mtn** 67.47 65 ⇓P P 07 08 04.9 -0.4
baz=67
W13A **Hualapai Mount** 67.49 62 P P 07 08 05.0 -0.4
baz=67,SNR=9.1
AFI **Afiamalu** 67.65 143 LR LR 07 34 48.9
comp=Z,783nm,18.1s,MS5.0,baz=36,slow=33
DVTC **Desert V Tower** 67.72 66 ⇑P P 07 08 06.7 -0.2
baz=68
SWSC **Sam W. Stewart** 67.73 65 ⇑P P 07 08 06.0 -0.9
baz=68
X13A **Yucca** 67.86 63 P P 07 08 07.6 -0.1
baz=68,SNR=11
PDMCI **Parker Dam,Lak** 67.86 63 P P 07 08 07.9 +0.1
baz=68,SNR=6.2
W14A **Seligman** 67.91 62 P P 07 08 07.8 -0.2
baz=68,SNR=16
Y12C **Blythe** 67.99 64 ⇑P P 07 08 08.6 0.0
baz=68
WB2 **Warramunga Arr** 68.02 199 eP P 07 08 07.4 -1.3
WRA **Warramunga Arr** 68.02 199 P P 07 08 06.2 -2.6
comp=Z,3.1nm,0.8s,mb4.4,baz=16,slow=6.7,SNR=20
WRA **Warramunga Arr** 68.02 199 P P 07 08 06.2 -2.5
WRA pmax pmax
comp=Z,3.0nm,0.8s
GLA **Glamis** 68.26 65 ⇓P P 07 08 10.3 0.0
baz=68
Y13A **Salome** 68.38 63 ⇑P P 07 08 11.0 0.0
baz=68
W15A **Williams** 68.43 61 ⇓P P 07 08 12.1 +0.8
baz=68,SNR=7.0
X14A **Yava** 68.52 62 P P 07 08 12.4 +0.5
baz=68,SNR=8.1
FITZ **Fitzroy Crossi** 68.69 208 eP P 07 08 11.0 -2.0
comp=Z,7.2nm,0.8s,mb4.7
FITZ **Fitzroy Crossi** 68.69 208 P P 07 08 11.6 -1.3
comp=Z,3.9nm,1.1s,mb4.3,baz=1.5,slow=12,SNR=5.4
WUAZ **Wupatki** 68.75 61 eP P 07 08 13.9 +0.6
comp=Z,17nm,1.2s,mb4.8
WUAZ **Wupatki** 68.75 61 eP P 07 08 13.8 +0.5
baz=68,SNR=7.6
NB2 **NORSAR Subarra** 68.75 341 P P 07 08 12.6 -0.7
comp=Z,16nm,0.8s,mb5.0,baz=28,slow=6.5
NOA **NORSAR Array B** 68.75 341 P P 07 08 11.8 -1.5
comp=Z,7.3nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=29
NOA **NORSAR Array B** 68.75 341 P P 07 08 11.9 -1.4
NOA pmax pmax
comp=Z,7.0nm,0.6s
Y14A **Wickenburg** 68.81 63 P P 07 08 13.6 -0.1
baz=69,SNR=7.8
SMCO **Snowmass** 68.87 55 eP P 07 08 04.3 -10
comp=Z,14nm,0.8s,mb4.9
X15A **Humboldt** 68.91 62 P P 07 08 14.8 +0.5
baz=69,SNR=16
NAO01 **NORSAR Array S** 69.00 341 eP P 07 08 14.3 -0.6
comp=Z,4.0nm,0.6s,mb4.5
DZM **Mont Dzumac** 69.02 167 P P 07 08 14.4 -0.5
comp=Z,4.8nm,0.9s,mb4.4,baz=313,slow=8.8,SNR=5.0

ISCO **Idaho Springs** 69.22 54 eP P 07 08 16.2 0.0
ISCO pmax pmax
comp=Z,13nm,0.9s,mb4.9
ISCO **Idaho Springs** 69.22 54 eP P 07 08 16.2 0.0
comp=Z,13nm,0.9s,mb4.9
Z14A **Wintersburg** 69.23 63 ⇓P P 07 08 16.5 +0.2
baz=69
MVCO **Mesa Verde** 69.32 58 eP P 07 08 16.9 +0.1
comp=Z,16nm,0.8s,mb5.0
MVCO **Mesa Verde** 69.32 58 P P 07 08 16.9 0.0
baz=69,SNR=14
POO **Poona** 69.56 276 ex x 07 08 12.0
115A **Sonoran Desert** 70.12 63 ⇓P P 07 08 22.5 +0.7
baz=70
KONO **Kongsberg** 70.36 341 eP P 07 08 22.4 -0.9
116A **Eloy** 70.54 63 ⇑P P 07 08 24.4 0.0
baz=70
KIV **Kislovodsk** 71.21 314⇓eP P 07 08 28.8 +0.4
KIV pmax pmax
comp=Z,46nm,1.7s,mb5.1
ZEI **Tsey** 71.46 313 eP P 07 08 29.3 -0.6
ZEI e*PP pP 07 08 43.3 +8.7
ZEI pmax pmax
comp=Z,12nm,1.2s,mb4.7
SUW **Suwalki** 71.49 332 eP P 07 08 30.4 +0.3
AS31 **Alice Springs** 71.71 199 eP P 07 08 30.9 -0.6
ASAR **Alice Springs** 71.71 199 P P 07 08 30.4 -1.0
comp=Z,3.2nm,0.7s,mb4.3,baz=13,slow=5.3,SNR=30
ASAR **Alice Springs** 71.71 199 P P 07 08 30.5 -1.0
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASPA **Alice Springs** 71.72 199 eP P 07 08 30.9 -0.6
AKASG **Malin Array Be** 72.02 326 P P 07 08 32.2 -1.1
comp=Z,14nm,0.5s,mb5.1,baz=33,slow=6.2,SNR=41
AKASG **Malin Array Be** 72.02 326 P P 07 08 32.2 -1.1
AKASG pmax pmax
comp=Z,14nm,0.5s
ANMO **Albuquerque** 72.07 58⇑eP P 07 08 30.6 -3.0
ANMO **Albuquerque** 72.07 58 eP P 07 08 33.9 +0.3
LENM **Lemitar** 72.31 59 eP P 07 08 35.5 +0.5
Y22C **IRIS PASSCAL I** 72.41 59 ⇓P P 07 08 35.6 -0.1
baz=72
LPM **Los Pinos Moun** 72.41 59 eP P 07 08 35.8 +0.1
BNM **Barren Site** 72.53 59 eP P 07 08 36.4 +0.1
GNI **Garni** 72.92 310⇑eP P 07 08 39.7 +1.1
GNI pmax pmax
comp=Z,35nm,1.7s
GNI **Garni** 72.92 310 eP P 07 08 39.3 +0.7
comp=Z,13nm,0.8s,mb4.9
SCHQ **Schefferville** 73.78 23 P P 07 08 43.5 -0.2
comp=Z,4.2nm,0.9s,mb4.4,baz=321,slow=12,SNR=4.8
SCIA **State Center** 74.26 45 eP P 07 08 45.3 -1.3
comp=Z,17nm,0.6s,mb5.2
KSU1 **Kansas State U** 74.61 49 eP P 07 08 46.1 -2.5
comp=Z,18nm,0.6s,mb5.2
AMTX **Amarillo** 74.89 55 eP P 07 08 49.9 -0.3
MNTX **Cornudas Mount** 74.99 60 eP P 07 08 50.5 -0.3
comp=Z,6.2nm,0.8s,mb4.6
KIS **Kishinev** 75.15 324 eP P 07 08 48.0 -3.7
KIS e 07 09 04.0
GDL2 **Guadalupe Moun** 75.25 59 eP P 07 08 52.1 -0.1
KWP **Kalwaria** 75.31 329 eP P 07 08 52.9 +0.3
OJC **Ojcow** 75.81 331 eP P 07 08 55.6 +0.1
STHS **Stebnicka Huta** 76.00 330 eP P 07 08 57.5 +0.9
STHS e 07 09 10.9
STHS pmax pmax
comp=Z,19nm,1.2s,mb4.9
STHS **Stebnicka Huta** 76.00 330 eP P 07 08 57.5 +0.9
comp=Z,19nm,1.2s,mb4.9
STHS e 07 09 10.9
KOLS **Kolonicke sedl** 76.05 329 eP P 07 08 57.4 +0.5
KOLS ePCP PcP 07 09 12.3 +3.2
BURAR **Bucovina Array** 76.06 327⇑iP P 07 08 57.1 +0.2
UZH **Uzhgorod** 76.30 329 eP P 07 08 59.2 +0.9
NIE **Niedzica** 76.32 330 eP P 07 08 59.2 +0.8
KSP **Ksiaz** 76.40 334 eP P 07 09 00.5 +1.6
KSP L 07 10 43.3
comp=Z,15nm,17.9s
KSP **Ksiaz** 76.40 334 eP P 07 09 00.3 +1.4
KSP ePcP PcP 07 09 11.6 +1.0
WMOK **Wichita Mounta** 76.64 54 eP P 07 08 59.2 -1.0
OKC **Ostrava-Krasne** 76.69 332 eP P 07 09 01.8 +1.3
UPC **Upice** 76.78 334 eP P 07 09 00.9 -0.1
UPC ex x 07 09 10.2
DPC **Dobruska-Polom** 76.83 333 eP P 07 09 00.8 -0.5
DPC ex x 07 09 10.7
MORC **Moravsky Berou** 76.94 332⇑iP P 07 09 02.7 +0.8
MORC **Moravsky Berou** 76.94 332 eP P 07 09 02.0 +0.1
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC **Moravsky Berou** 76.94 332 eP P 07 09 02.0 +0.1
comp=Z,13nm,1.0s,mb4.8
CLL **Collm** 76.97 336 eP P 07 09 01.0 -1.1
CLL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLL **Collm** 76.97 336 eP P 07 09 01.0 -1.1
comp=Z,10.0nm,0.7s,mb4.8
CLL epP pP 07 09 04.0 -2.8
CLL ePcP PcP 07 09 12.0 -1.1
KECS **Kecovo** 77.06 330 eP P 07 09 02.7 +0.1
KECS e 07 09 13.0
KECS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
KECS **Kecovo** 77.06 330 eP P 07 09 02.7 +0.1
comp=Z,7.1nm,1.3s,mb4.4
KECS e 07 09 13.0
BRG **Berggiesshubel** 77.09 335 eP P 07 09 04.5 +1.8
comp=Z,4.5nm,1.0s,mb4.3
BRG **Berggiesshubel** 77.09 335 eP P 07 09 04.6 +1.9
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
PVCC **Panska Ves** 77.21 334 eP P 07 09 05.1 +1.7
PVCC ex x 07 09 13.5
MLR **Muntele Rosu** 77.53 325⇓iP P 07 09 06.4 +1.2
MALT **Malatya** 77.55 313⇓iP P 07 09 07.9 +2.5
MALT **Malatya** 77.55 313 P P 07 09 06.8 +1.4
MALT pmax pmax
comp=Z,16nm,1.0s,mb4.9
VYHS **Vyhne** 77.62 331 eP P 07 09 06.3 +0.6
VYHS pmax pmax
comp=Z,19nm,1.7s,mb4.8
VYHS **Vyhne** 77.62 331 eP P 07 09 06.3 +0.6
comp=Z,19nm,1.7s,mb4.7
PRU **Pruhonice** 77.69 334 eP P 07 09 08.6 +2.5
PRU ex x 07 09 18.8
DRGR 77.69 328⇓iP P 07 09 06.0 -0.1
LTX **Lajitas** 77.71 60 eP P 07 09 05.4 -0.8
LTX pmax pmax
comp=Z,19nm,0.7s,mb5.1
LTX **Lajitas** 77.71 60 eP P 07 09 05.4 -0.9
comp=Z,19nm,0.7s,mb5.1
TXAR **Lajitas Array** 77.71 60 P P 07 09 05.2 -1.1
comp=Z,14nm,0.6s,mb5.0,baz=302,slow=3.6,SNR=116
TXAR **Lajitas Array** 77.71 60 P P 07 09 05.2 -1.0
TXAR pmax pmax
comp=Z,14nm,0.6s
PSZ **Piszkesteto** 77.75 330 eP P 07 09 06.9 +0.5
PSZ pmax pmax
comp=Z,48nm,1.6s,mb5.2
PSZ **Piszkesteto** 77.75 330 eP P 07 09 06.8 +0.4
comp=Z,48nm,1.6s,mb5.2
VOIR 77.93 326⇓iP P 07 09 08.9 +1.4
MOX **Moxa** 77.96 336 eP P 07 09 07.6 0.0
comp=Z,32nm,1.7s,mb5.0
MOX **Moxa** 77.96 336 eP P 07 09 07.6 0.0
MOX pmax pmax
comp=Z,32nm,1.7s,mb5.0
NKC **Novy Kostel** 78.09 335 eP P 07 09 07.9 -0.5
NKC ex x 07 09 17.0
STKA **Stephens Creek** 78.43 190 P P 07 09 09.1 -1.1
comp=Z,1.5nm,0.7s,mb4.1,baz=333,slow=9.4,SNR=4.5
STKA **Stephens Creek** 78.43 190 P P 07 09 09.1 -1.1
ZST **Bratislava** 78.46 332 eP P 07 09 06.3 -4.1
ZST pmax pmax
comp=Z,21nm,0.6s,mb5.2
ZST **Bratislava** 78.46 332 eP P 07 09 06.3 -4.1
comp=Z,21nm,0.6s,mb5.2
FVM **French Village** 78.63 46 eP P 07 09 10.5 -0.8
KHC **Kasperske Hory** 78.74 334 eP P 07 09 12.2 +0.3
KHC ex x 07 09 21.5
BR131 **Keskin Array S** 78.81 317 eP P 07 09 11.8 -0.5
comp=Z,7.3nm,1.0s,mb4.6
BRTR **Keskin Array B** 78.81 317 P P 07 09 12.1 -0.3
comp=Z,6.2nm,1.1s,mb4.4,baz=74,slow=5.0,SNR=12

BRTR **Keskin Array B** 78.81 317 P P 07 09 12.1 -0.2
BRTR pmax pmax
comp=Z,6.0nm,1.1s
GZR **Gura Zlata** 78.85 327⇓iP P 07 09 12.9 +0.4
GRA1 **Grafenberg Arr** 78.93 336 eP P 07 09 13.7 +0.7
comp=Z,21nm,1.5s,mb4.8
GRF **Grafenberg Arr** 78.93 336 eP P 07 09 13.7 +0.7
comp=Z,21nm,1.5s,mb4.8
GRF **Grafenberg Arr** 78.93 336 eP P 07 09 13.7 +0.7
GRF pmax pmax
comp=Z,21nm,1.5s,mb4.8
GRF **Grafenberg Arr** 78.93 336 eP P 07 09 13.7 +0.7
GRF pmax pmax
comp=Z,21nm,1.5s,mb4.8
GRFO **Grafenberg** 78.93 336 eP P 07 09 13.1 +0.1
GRFO pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRFO **Grafenberg** 78.93 336 eP P 07 09 13.1 +0.1
comp=Z,24nm,1.0s,mb5.1
GERES **GERESS Array B** 78.96 334 P P 07 09 12.9 -0.2
comp=Z,1.7nm,0.6s,mb4.2,baz=45,slow=6.0,SNR=12
GERES **GERESS Array B** 78.96 334 P P 07 09 12.9 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.6s
BZS **Buzias** 79.09 328⇑iP P 07 09 14.3 +0.4
JCT **Junction City** 79.18 57 eP P 07 09 14.0 -0.3
JCT pmax pmax
comp=Z,23nm,1.2s,mb5.0
JCT **Junction City** 79.18 57 eP P 07 09 14.3 0.0
comp=Z,23nm,1.2s,mb5.0
SIUC **Southern Illin** 79.44 46 eP P 07 09 15.0 -0.8
comp=Z,19nm,0.9s,mb5.0
MEM **Membach** 79.47 339 AP pP 07 09 17.7 -2.9
MEM pmax pmax
comp=Z,14nm,0.9s
MEM XP sP 07 09 20.0 -2.3
ARSA **Arzberg** 79.80 332⇑iP P 07 09 17.9 +0.2
comp=Z,11nm,1.6s,mb4.6
BCLA **Clavier** 79.81 340 AP pP 07 09 19.7 -2.8
comp=Z,8.4nm,1.0s
KBA **Koelnbreinsper** 80.64 333⇑iP P 07 09 23.8 +1.5
comp=Z,5.1nm,1.0s,mb5.4
BFO **Black Forest** 80.97 337 eP P 07 09 24.1 +0.1
BFO pmax pmax
comp=Z,15nm,1.0s,mb4.9
BFO **Black Forest** 80.97 337 eP P 07 09 24.1 +0.1
comp=Z,15nm,1.0s,mb4.9
WTTA **Wattenberg** 81.00 335⇓iP P 07 09 25.0 +0.9
comp=Z,20nm,0.7s,mb5.1
VTS **Vitosha** 81.04 325⇑iP P 07 09 24.0 -0.4
MOTA **Moosalm** 81.08 335⇑iP P 07 09 25.7 +1.1
comp=Z,11nm,0.7s,mb4.9
MOTA **Moosalm** 81.08 335 P P 07 09 25.7 +1.1
SQTA **Sankt Quirin** 81.16 335⇑iP P 07 09 27.6 +2.6
comp=Z,13nm,0.9s,mb4.9
SQTA **Sankt Quirin** 81.16 335⇓iP P 07 09 26.4 +1.3
comp=Z,13nm,0.9s,mb4.9
CDF **Champ du Feu** 81.17 338 eP P 07 09 24.7 -0.4
comp=Z,58nm,1.2s,mb5.1
CDF **Champ du Feu** 81.17 338 eP P 07 09 24.7 -0.4
CDF pmax pmax
comp=Z,29nm,1.2s,mb5.1
CDF **Champ du Feu** 81.17 338 eP P 07 09 24.7 -0.4
comp=Z,29nm,1.2s,mb5.1
GRR **Gorron** 83.09 343 eP P 07 09 34.9 -0.3
SMF **Signal de Mont** 83.68 339 eP P 07 09 38.1 -0.1
comp=Z,140nm,1.5s,mb5.6
SMF **Signal de Mont** 83.68 339 eP P 07 09 38.1 -0.1
SMF pmax pmax
comp=Z,70nm,1.5s,mb5.6
SMF **Signal de Mont** 83.68 339 eP P 07 09 38.1 -0.1
comp=Z,1.5nm,1.5s,mb5.6
LPG **La Plagne** 84.00 337 eP P 07 09 40.8 +1.0
CAF **Calviac** 85.73 340 eP P 07 09 48.9 +0.4
TIP **Timpagrande** 86.46 328 eP P 07 09 52.6 +0.4
TORD **Torodi Ar. Bea** 115.58 329 PKP PKPdf 07 15 50.1 -1.4
comp=Z,0.6nm,0.6s,baz=51,slow=1.4,SNR=5.1
VNDA **Vanda** 123.58 178 PKP PKPdf 07 16 03.8 -3.1
comp=Z,0.7nm,0.8s,baz=339,slow=5.6,SNR=6.8
VNDA **Vanda** 123.58 178 PKIKP PKPdf 07 16 03.8 -3.1
VNDA pmax pmax
comp=Z,1.0nm,0.8s
MAW **Mawson** 131.77 211 PKP PKPdf 07 16 20.7 -1.8
comp=Z,1.1nm,0.7s,baz=142,slow=7.3,SNR=4.4
MAW **Mawson** 131.77 211 PKIKP PKPdf 07 16 20.7 -1.8
MAW pmax pmax
comp=Z,1.0nm,0.7s
LPAZ **La Paz** 134.54 63 PKP PKPdf 07 16 29.0 +1.2
comp=Z,1.4nm,0.6s,baz=289,slow=2.4,SNR=6.6
LPAZ **La Paz** 134.54 63 PKIKP PKPdf 07 16 29.0 +1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
CFAA **Coronel Fontan** 145.04 80 PKPbc PKPbc 07 16 43.8 -2.4
comp=Z,3.0nm,0.6s,baz=280,slow=2.8,SNR=88
SNAA **Sanae** 152.05 196 PKPbc PKPdf 07 17 00.2 +2.1
comp=Z,1.7nm,0.6s,baz=186,slow=3.5,SNR=31
SNAA **Sanae** 152.05 196 ePKPdf PKPdf 07 17 01.5 +3.4
SNAA e 07 17 11.4
SNAA e 07 17 16.8
SNAA e 07 17 20.8
SNAA e 07 17 24.4
SNAA e 07 17 31.7
SNAA e 07 17 40.7
SNAA **Sanae** 152.05 196 ePKPdf PKPdf 07 16 56.3 -1.9
SNAA ePKPbc PKPbc 07 17 01.4 -3.3
SNAA ePKPab PKPab 07 17 11.8 -2.4
PMSA **Palmer Station** 152.51 146 PKPbc PKPbc 07 17 01.3 -4.5
comp=Z,12nm,0.9s,baz=101,slow=3.3,SNR=3.1
VNA2 **Neumayer--Watz** 153.50 194 ePKPdf PKPdf 07 16 58.0 -2.3
VNA2 e 07 17 05.7
VNA2 e 07 17 18.2
VNA2 e 07 17 30.7
VNA2 e 07 17 41.3
VNA2 e 07 17 51.8
VNA3 **Neumayer Olymp** 153.58 192 ePKPdf PKPdf 07 16 57.0 -3.4
VNA3 e 07 17 06.2
VNA3 e 07 17 17.4
VNA3 e 07 17 30.6
VNA3 e 07 17 41.0
VNA3 e 07 17 51.3

NEIC ***16*** *06:57:13.9, 3147S×7167W, h33km, ML2.8(GUC), After GUC.*

GUC 16 06:57:13.9±0.6, 3147S×7167W, h33km±2km**, MD3.6, ML2.8, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**161**	⇓*i*P		Pb		06 57 23.0	-0.5
CHNG				*i* S		Sb		06 57 30.1	0.0
CMCH	**Combarbala**	**0.64**	**63**	⇑*i*P		Pn		06 57 26.4	-0.4
CMCH				*i* S		Sb		06 57 36.0	+0.5
CMCH				AML		AML		06 57 37.5	
	comp=E,2μm,0.5s								
CMCH	**Combarbala**	**0.64**	**63**	⇑*i*P		Pn		06 57 26.4	-0.4
CMCH				*i* S		Sb		06 57 36.0	+0.5
PTCH	**Petorca**	**1.01**	**142**	⇑*i*P		Pn		06 57 32.2	+0.4
PTCH				*i* S		Sn		06 57 45.8	+0.8
PTCH				AML		AML		06 57 49.2	
	comp=E,702nm,0.2s								
PTCH	**Petorca**	**1.01**	**142**	⇑*i*P		Pn		06 57 32.2	+0.4
PTCH				*i* S		Sn		06 57 45.8	+0.8
TLL	**Tololo Astrono**	**1.50**	**30**	e*i*P		Pn		06 57 40.1	+1.6
TLL				*i* S		Sn		06 58 00.1	+3.3
TLL				AML		AML		06 58 04.7	
	comp=E,116nm,0.4s								
TLL	**Tololo Astrono**	**1.50**	**30**	e*P*		Pn		06 57 40.1	+1.6
TLL				*i* S		Sn		06 58 00.1	+3.3
PEL	**Peldehue**	**1.87**	**154**	e*P*		Pn		06 57 45.3	+1.7
PEL				e*S*		Sn		06 58 09.1	+3.1
PEL				AML		AML		06 58 14.2	
	comp=N,156nm,0.3s								
PEL	**Peldehue**	**1.87**	**154**	e*P*		Pn		06 57 45.3	+1.7
PEL				e*S*		Sn		06 58 09.1	+3.1
RCDM	**Rinconada Maip**	**2.15**	**160**	e*P*		Pn		06 57 48.6	+1.3
RCDM				*i* S		Sn		06 58 15.4	+2.6
RCDM				AML		AML		06 58 25.8	
	comp=E,86nm,0.2s								
RCDM	**Rinconada Maip**	**2.15**	**160**	e*P*		Pn		06 57 48.6	+1.3
RCDM				*i* S		Sn		06 58 15.4	+2.6
CLCH	**Cerro Calan**	**2.15**	**154**	e*P*		Pn		06 57 49.2	+1.8
CLCH				e*S*		Sn		06 58 16.6	+3.7
CLCH				AML		AML		06 58 27.5	
	comp=E,102nm,0.5s								

FCH	**Farellones**	**2.19**	**148**	*e*P	Pn	06 57 50.1	+2.1
FCH				*i* S	Sn	06 58 17.3	+3.3
FCH				AML	AML	06 58 33.9	
	comp=E,56nm,0.1s						

BJI **16** *07:02:02.9, 4669N×154.03E, h10km, mB5.3, mb4.4*
NEIC **16** *07:02:08.3±0.5, 4663N×153.32E, h10km, mb4.5/8, Error ellipse: s-maj=15.3km s-min=10.2km az=129.0*
ISCJB **16** *07:02:13.1±1.5, 4653N±0.10×1534E±0.1, h60km±12km, mb4.4/23, Error ellipse: s-maj=20.2km s-min=10.3km az=97.1*
IDC **16** *07:02:16.7±4.3, 4660N×1532.3E, h79km±39km, mb3.9/14, mb1 4.0/15, mb1mx3.9/24, mbtmp3.9/15, ML4.1/1, Error ellipse: s-maj=21.8km s-min=18.6km az=110.0*
MOS **16** *07:02:16.2±1.3, 4670N×153.28E, h87km, mb4.3/16, Error ellipse: s-maj=15.5km s-min=12.3km az=86.8*

ISC 16 07:02:15.9±1.4, 466N±0.1×1534E±0.1, h69km±11km, n65, σ0§97/66, mb4.3/23, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.44**	**23**	*e*P	N	**Pn**		**07 03 21.5**	**+0.7**
SKR				*e*		07 04 09.0			
YUK	**Yuzh-Kuril'sk**	**5.90**	**247**	P	N	**Pn**		**07 03 46.0**	**+5.3**
YUK				*eS*		**Sn**		**07 04 55.0**	**+8.1**
YUK				smax					
	comp=N,420nm,0.5s								
YUK				smax					
	comp=E,580nm,0.5s								
YSS	**Yuzh-Sakhalins**	**7.30**	**276**	PN		**Pn**		**07 04 00.0**	**+0.1**
YSS				pmax	pmax				
	comp=Z,30nm,0.8s								
ASAJ	**Asahikawa**	**8.00**	**256**	P		**Pn**		**07 04 08.5**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=105,slow=11,SNR=9.2								
ASAJ	**Asahikawa**	**8.00**	**256**	PN		**Pn**		**07 04 08.5**	**-0.9**
ASAJ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.15**	**234**	P		**Pn**		**07 05 42.1**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=42,slow=16,SNR=3.8								
KSRS	**Korea Array**	**20.94**	**253**	P		**P**		**07 06 52.7**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=58,slow=9.7,SNR=8.6								
LZH	**Lanzhou**	**38.08**	**272**	*e*P		**P**		**07 09 28.8**	**+1.0**
LZH				AP		pP		07 09 33.8	-11
LZH				XP		sP		07 09 36.1	-17
LZH				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.9								
LZH				AMB		AMB			
	comp=Z,101nm,4.4s								
LZH	**Lanzhou**	**38.08**	**272**	*e*P		**P**		**07 09 28.8**	**+1.0**
	comp=Z,20nm,1.0s,mb4.9								
LZH				pP		pP		07 09 33.8	-11
LZH				sP		sP		07 09 36.1	-17
INK	**Inuvik**	**41.66**	**32**	P		**P**		**07 09 57.7**	**+0.2**
	comp=Z,2.1nm,0.8s,mb3.9,baz=243,slow=7.9,SNR=6.7								
INK	**Inuvik**	**41.66**	**32**	P		**P**		**07 09 57.7**	**+0.2**
INK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**41.66**	**32**	P		**P**		**07 09 57.7**	**+0.2**
MKAR	**Makanchi Array**	**47.16**	**298**	P		**P**		**07 10 40.0**	**-1.4**
	comp=Z,1.5nm,0.6s,mb3.9,baz=66,slow=6.8,SNR=13								
MKAR	**Makanchi Array**	**47.16**	**298**	P		**P**		**07 10 40.0**	**-1.4**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**51.08**	**310**	P		**P**		**07 11 09.8**	**-1.6**
	comp=Z,0.8nm,0.3s,mb4.2,baz=60,slow=8.8,SNR=4.9								
BVAR	**Borovoye Array**	**51.08**	**310**	P		**P**		**07 11 09.8**	**-1.5**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
CHTO	**Chiang Mai**	**52.27**	**257**	*e*P		**P**		**07 11 20.4**	**+0.2**
CHTO				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
CHTO	**Chiang Mai**	**52.27**	**257**	*e*P		**P**		**07 11 20.4**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5								
JIRN	**Jiri**	**55.14**	**275**	*e*P		**P**		**07 11 42.2**	**+1.0**
GUN	**Gumba**	**55.19**	**275**	*e*P		**P**		**07 11 44.4**	**+2.8**
KKN	**Kakani**	**55.68**	**276**	*e*P		**P**		**07 11 46.1**	**+1.0**
PKI	**Pulchoki**	**55.73**	**275**	*e*P		**P**		**07 11 45.4**	**0.0**
DMN	**Daman**	**55.91**	**276**	*e*P		**P**		**07 11 47.9**	**+1.2**
	comp=Z,29nm,0.9s,mb5.3								
GKN	**Gorkha**	**55.99**	**276**	*e*P		**P**		**07 11 48.0**	**+0.8**
	comp=Z,45nm,1.0s,mb5.5								
KOLN	**Koldanda**	**56.84**	**277**	*e*P		**P**		**07 11 54.2**	**+0.9**
	comp=Z,34nm,1.0s,mb5.3								
ARCES	**ARCESS Array B**	**58.03**	**341**	P		**P**		**07 12 00.5**	**-1.2**
	comp=Z,4.8nm,1.0s,mb4.5,baz=17,slow=6.5,SNR=6.7								
ARCES	**ARCESS Array B**	**58.03**	**341**	P		**P**		**07 12 00.5**	**-1.2**
ARCES				pmax	pmax				
	comp=Z,5.0nm,1.0s								
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**		**07 12 42.8**	**-0.9**
	comp=Z,4.8nm,0.8s,mb4.4,baz=51,slow=10,SNR=9.2								
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**		**07 12 42.8**	**-0.8**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.8s								
PDAR	**Pinedale Array**	**64.67**	**54**	P		**P**		**07 12 47.4**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.5,baz=256,slow=3.3,SNR=3.0								
NB2	**NORSAR Subarra**	**68.40**	**341**	P		**P**		**07 13 09.3**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.4,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.40**	**341**	P		**P**		**07 13 09.7**	**-0.6**
	comp=Z,4.6nm,0.5s,mb4.5,baz=28,slow=6.4,SNR=14								
NOA	**NORSAR Array B**	**68.40**	**341**	P		**P**		**07 13 09.7**	**-0.6**
NOA				pmax	pmax				
	comp=Z,5.0nm,0.5s								
WRA	**Warramunga Arr**	**68.46**	**199**	P		**P**		**07 13 09.5**	**-1.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=18,slow=6.7,SNR=5.0								
WRA	**Warramunga Arr**	**68.46**	**199**	P		**P**		**07 13 09.5**	**-1.1**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**71.75**	**326**	P		**P**		**07 13 28.9**	**-1.8**
	comp=Z,6.7nm,0.7s,mb4.6,baz=34,slow=6.0,SNR=11								
AKASG	**Malin Array Be**	**71.75**	**326**	P		**P**		**07 13 28.9**	**-1.9**
AKASG				pmax	pmax				
	comp=Z,7.0nm,0.7s								
AKASG	**Malin Array Be**	**71.75**	**326**	P		**P**		**07 13 28.9**	**-1.8**
ASAR	**Alice Springs**	**72.15**	**199**	P		**P**		**07 13 32.6**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=12,slow=6.9,SNR=6.4								
ASAR	**Alice Springs**	**72.15**	**199**	P		**P**		**07 13 32.7**	**-0.5**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
STHS	**Stebnicka Huta**	**75.71**	**330**	*e*P		**P**		**07 13 54.8**	**+0.8**
STHS				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.2								
STHS	**Stebnicka Huta**	**75.71**	**330**	*e*P		**P**		**07 13 54.8**	**+0.8**
	comp=Z,5.0nm,1.0s,mb4.2								
KOLS	**Kolonicke sedl**	**75.76**	**329**	*e*P		**P**		**07 13 53.1**	**-1.1**
BURAR	**Bucovina Array**	**75.79**	**327**	*i*P		**P**		**07 13 54.4**	**0.0**
MORC	**Moravsky Berou**	**76.63**	**332**	*i*P		**P**		**07 14 00.4**	**+1.2**
CLL	**Collm**	**76.65**	**336**	*e*P		**P**		**07 13 59.0**	**-0.3**
CLL				pmax	pmax				
	comp=Z,9.0nm,0.6s,mb4.7								
CLL	**Collm**	**76.65**	**336**	*e*P		**P**		**07 13 59.0**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.7								
KECS	**Kecovo**	**76.77**	**330**	*e*P		**P**		**07 13 58.8**	**-1.2**
KECS				pmax	pmax				
	comp=Z,2.0nm,1.0s,mb3.8								
KECS	**Kecovo**	**76.77**	**330**	*e*P		**P**		**07 13 58.8**	**-1.2**
	comp=Z,2.1nm,1.0s,mb3.8								
TIRR	**Tirgusor**	**77.12**	**323**	*i*P		**P**		**07 14 02.3**	**+0.4**
TIRR	**Tirgusor**	**77.12**	**323**	*e*P		**P**		**07 14 00.1**	**-1.8**
TIRR				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.1								
TIRR	**Tirgusor**	**77.12**	**323**	*e*P		**P**		**07 14 00.1**	**-1.8**
	comp=Z,3.0nm,0.7s,mb4.1								
MLR	**Muntele Rosu**	**77.27**	**325**	*i*P		**P**		**07 14 03.8**	**+1.0**
MALT	**Malatya**	**77.37**	**313**	*e*P		**P**		**07 14 03.3**	**0.0**
MALT				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.3								
MALT	**Malatya**	**77.37**	**313**	*e*P		**P**		**07 14 03.3**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.3								
TXAR	**Lajitas Array**	**77.39**	**61**	P		**P**		**07 14 03.4**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.8,baz=294,slow=4.2,SNR=7.9								
TXAR	**Lajitas Array**	**77.39**	**61**	P		**P**		**07 14 03.4**	**-0.1**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**77.39**	**61**	P		**P**		**07 14 03.4**	**0.0**
DRGR		**77.41**	**328**	*i*P		**P**		**07 14 03.7**	**+0.1**
VOIR		**77.66**	**326**	*i*P		**P**		**07 14 06.1**	**+1.1**
BR131	**Keskin Array S**	**78.60**	**317**	*e*P		**P**		**07 14 10.4**	**+0.2**
	comp=Z,0.7nm,0.2s,mb4.1								
BRTR	**Keskin Array B**	**78.60**	**317**	P		**P**		**07 14 10.7**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.3,baz=66,slow=3.3,SNR=13								
BRTR	**Keskin Array B**	**78.60**	**317**	P		**P**		**07 14 10.7**	**+0.5**
BRTR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GERES	**GERESS Array B**	**78.64**	**334**	P		**P**		**07 14 10.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=34,slow=5.0,SNR=4.7								
GERES	**GERESS Array B**	**78.64**	**334**	P		**P**		**07 14 10.0**	**-0.4**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								

ISCJB **16** *07:03:47.4±2.5, 1228N±0.007×4573E±0.006, h6km±18km, mb4.0/4, Error ellipse: s-maj=11.9km s-min=8.2km az=61.9*
CSEM **16** *07:03:47.6±0.5, 1224N×4565E, h10km, ML4.3, Error ellipse: s-maj=15.6km s-min=8.5km az=17.0*
DHMR **16** *07:03:48.2±1.4, 1234N×4574E, h17km±10km, ML4.3*
IDC **16** *07:03:48.7±2.5, 1210N×4608E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, ML3.9/1, MS4.7/1, Ms1mx3.8/30, Error ellipse: s-maj=115.0km s-min=38.1km az=116.0*
NEIC **16** *07:03:50.2±1.0, 1207N×4611E, h10km, mb4.3/1, Error ellipse: s-maj=38.4km s-min=14.7km az=130.0*

ISC 16 07:03:48.7±1.9, 1232N±006×4571E±007, h4km±13km, n14, σ1§01/20, mb4.0/4, 3C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.84**	**303**	*i* P		**Pg**		**07 04 04.5**	**-0.2**
ADEN				*i* S		**Sg**		**07 04 16.1**	**+0.6**
ADEN	**Aden**	**0.84**	**303**	*i* P		**Pg**		**07 04 04.5**	**-0.2**
ADEN				*i* S		**Sg**		**07 04 16.1**	**+0.5**
LBOS		**1.60**	**344**	⇑*i*P		**Pn**		**07 04 17.2**	**-0.5**
LBOS				*i* S		**Sn**		**07 04 39.2**	**+0.3**
BDHA	**Al Bayda'**	**1.65**	**355**	⇓*i*P		**Pn**		**07 04 17.3**	**-1.1**
BDHA				*i* S		**Sn**		**07 04 39.4**	**-0.7**
BDHA				AML		AML		07 04 50.5	
	comp=E,6μm,0.6s								
TRBA	**At Turbah**	**1.80**	**300**	⇑*i*P		**Pn**		**07 04 19.3**	**-1.1**
TRBA				AML		AML		07 04 56.9	
	comp=N,6μm,0.6s								
UDYN	**Al 'Udayn**	**2.35**	**314**	⇑*i*P		**Pn**		**07 04 28.0**	**0.0**
UDYN				AML		AML		07 05 08.7	
	comp=N,1μm,0.5s								
MUKL	**Al Mukalla**	**3.88**	**56**	*i* P		**Pn**		**07 04 48.7**	**-0.4**
MUKL				*i* S		**Sn**		**07 05 36.8**	**+1.6**
HAJJ	**Hajjah**	**3.93**	**329**	*i* P		**Pn**		**07 04 51.4**	**+1.6**
HAJJ				*i* S		**Sb**		**07 05 39.4**	**-7.0**
KMBO	**Kilima Mbogo**	**15.78**	**213**	Pn		**Pn**		**07 07 32.9**	**+1.3**
	comp=N,0.4nm,0.3s,baz=37,slow=14,SNR=5.7								
KMBO	**Kilima Mbogo**	**15.78**	**213**	Pn		**Pn**		**07 07 32.9**	**+1.3**
PALK	**Pallekele**	**34.83**	**95**	*e*P		**P**		**07 10 37.9**	**-2.7**
	comp=N,2.1nm,0.5s,mb4.3								
MKAR	**Makanchi Array**	**46.12**	**35**	P		**P**		**07 12 14.1**	**+0.1**
	comp=N,1.0nm,0.8s,mb3.8,baz=235,slow=6.8,SNR=5.0								
SONM	**Songino Array**	**61.38**	**42**	P		**P**		**07 14 06.6**	**+0.9**
	comp=N,0.6nm,0.7s,mb3.8,baz=250,slow=7.5,SNR=4.6								
ASAR	**Alice Springs**	**93.24**	**113**	P		**P**		**07 17 03.7**	**-0.7**
	comp=N,0.8nm,0.9s,mb4.2,baz=286,slow=4.7,SNR=5.7								

NEIC **16** *07:07:23.1±1.1, 4737N×153.59E, h10km, mb4.0/1, Error ellipse: s-maj=32.8km s-min=19.1km az=129.0*
ISCJB **16** *07:07:34.3±3.4, 472N±0.1×153.1E±0.3, h115km±30km, mb3.6/5, Error ellipse: s-maj=32.7km s-min=21.5km az=59.9*
MOS **16** *07:07:35.8±0.6, 4728N×152.87E, h131km, mb3.6/5, Error ellipse: s-maj=53.3km s-min=24.3km az=59.5*
IDC **16** *07:07:36.7±7.8, 4724N×153.06E, h123km±73km, mb3.4/6, mb1 3.6/7, mb1mx3.3/23, mbtmp3.4/7, Error ellipse: s-maj=33.7km s-min=22.1km az=125.0*

ISC 16 07:07:35.0±3.4, 472N±0.1×1531E±0.3, h108km±30km, n20, σ0§61/21, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.15**	**243**	*e*PN		**Pn**		**07 08 26.0**	**-10**
KUR				*eS*		**Sn**		**07 09 24.0**	**+0.2**
KUR				pmax	pmax				
	comp=Z,80nm,0.6s								
KUR				smax					
	comp=N,150nm,0.7s								
KUR				smax					
	comp=E,260nm,0.7s								
MJAR	**Matsushiro Arr**	**15.37**	**231**	P		**Pn**		**07 11 06.1**	**+0.2**
	comp=E,0.7nm,0.3s,baz=40,slow=8.6,SNR=5.4								
MJAR	**Matsushiro Arr**	**15.37**	**231**	P		**Pn**		**07 11 06.1**	**+0.2**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.37**	**231**	P		**Pn**		**07 11 06.1**	**+0.2**
MAJO	**Matsushiro**	**15.38**	**231**	*e*P		**Pn**		**07 11 04.8**	**-1.1**
MAJO				pmax	pmax				
	comp=Z,5.0nm,0.4s								
MAJO	**Matsushiro**	**15.38**	**231**	*e*Pn		**Pn**		**07 11 04.8**	**-1.1**
	comp=Z,4.8nm,0.4s								
KSRS	**Korea Array**	**20.94**	**251**	P		**P**		**07 12 09.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=52,slow=9.6,SNR=5.8								
INK	**Inuvik**	**41.24**	**33**	P		**P**		**07 15 09.5**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.8,baz=273,slow=8.9,SNR=4.8								
INK	**Inuvik**	**41.24**	**33**	P		**P**		**07 15 09.5**	**+0.3**
INK				pmax	pmax				
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**41.24**	**33**	P		**P**		**07 15 09.5**	**+0.3**
MKAR	**Makanchi Array**	**46.71**	**297**	P		**P**		**07 15 53.5**	**+0.6**
	comp=Z,0.8nm,1.0s,mb3.4,baz=68,slow=9.1,SNR=2.8								
MKAR	**Makanchi Array**	**46.71**	**297**	P		**P**		**07 15 53.5**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
FINES	**FINESS Array B**	**63.59**	**335**	P		**P**		**07 17 52.9**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=45,slow=5.9,SNR=4.4								
FINES	**FINESS Array B**	**63.59**	**335**	P		**P**		**07 17 52.9**	**-1.3**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**63.59**	**335**	P		**P**		**07 17 52.9**	**-1.2**
AS31	**Alice Springs**	**72.67**	**198**	*e*P		**P**		**07 18 50.8**	**0.0**
ASAR	**Alice Springs**	**72.67**	**198**	P		**P**		**07 18 51.0**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=12,slow=5.7,SNR=8.5								
ASAR	**Alice Springs**	**72.67**	**198**	P		**P**		**07 18 51.0**	**+0.1**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**		**07 19 17.6**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=296,slow=5.0,SNR=15								
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**		**07 19 17.6**	**+0.3**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								

ISCJB **16** *07:08:11.6±0.7, 464N±0.1×1554E±0.1, h10km, mb4.1/19, Error ellipse: s-maj=17.3km s-min=10.7km az=158.6*
IDC **16** *07:08:11.7±0.8, 4641N×155.36E, h0km, mb4.0/11, mb1 4.3/12, mb1mx4.1/23, mbtmp4.1/12, ML3.5/1, Error ellipse: s-maj=23.0km s-min=19.3km az=2.0*
BJI **16** *07:08:12.3, 4640N×155.40E, h10km, mb4.2*
NEIC **16** *07:08:13.4±0.6, 4643N×155.39E, h10km, mb4.6/3, Error ellipse: s-maj=18.1km s-min=14.4km az=184.0*
MOS **16** *07:08:17.1±3.2, 4630N×154.97E, h33km, mb4.5/12, Error ellipse: s-maj=18.5km s-min=12.5km az=126.9*

ISC 16 07:08:16.6±5.0, 465N±0.1×1553E±0.2, h30km±34km, n45, σ1§08/44, mb4.1/19, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**8.65**	**277**	*e*PN		**Pn**		**07 10 20.8**	**+1.1**
ASAJ	**Asahikawa**	**9.29**	**260**	Pn		**Pn**		**07 10 27.9**	**-0.5**
	0.6nm,0.3s,baz=71,slow=16,SNR=2.4								
ASAJ	**Asahikawa**	**9.29**	**260**	PN		**Pn**		**07 10 27.9**	**-0.5**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KLR	**Kul'dur**	**16.04**	**288**	*e*P		**Pn**		**07 11 58.7**	**-1.2**
CN2	**Changchun**	**21.19**	**274**	*e*P		**P**		**07 13 03.3**	**+3.8**
KSRS	**Korea Array**	**22.21**	**256**	P		**P**		**07 13 14.0**	**+3.6**
	comp=Z,3.5nm,0.6s,mb4.0,baz=54,slow=12,SNR=9.7								
BILL	**Bilibino**	**22.31**	**11**	⇑*e*P		**P**		**07 13 11.2**	**-0.3**
BILL				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.2								
ZAK	**Zakamensk**	**34.16**	**296**	*e*P		**P**		**07 14 57.0**	**-2.0**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.4s,mb3.9								
LZH	**Lanzhou**	**39.43**	**274**	*e*P		**P**		**07 15 45.8**	**+2.0**
LZH				AP		pP		07 15 51.6	-1.1
LZH				XP		sP		07 15 53.3	-3.1
LZH				AMB		AMB			
	comp=Z,17nm,1.2s,mb4.7								
LZH	**Lanzhou**	**39.43**	**274**	*e*P		**P**		**07 15 45.8**	**+2.0**
LZH				*SP		sP		07 15 53.2	-3.2
LZH				pmax	pmax				
	comp=Z,17nm,1.2s,mb4.7								
LZH	**Lanzhou**	**39.43**	**274**	*e*P		**P**		**07 15 45.8**	**+2.0**
LZH				pP		pP		07 15 51.6	-1.1
LZH				sP		sP		07 15 53.2	-3.2
GTA	**Gaotai**	**40.52**	**281**	*e*P		**P**		**07 15 53.9**	**+1.1**
GTA				AP		pP		07 15 58.3	-3.5
GTA				XP		sP		07 16 01.8	-3.6
GTA				AMB		AMB			
	comp=Z,4.0nm,1.8s,mb3.8								
ZAL	**Zalesovo**	**44.00**	**307**	P		**P**		**07 16 20.9**	**-0.2**
	comp=Z,1.6nm,0.3s,mb4.2,baz=23,slow=7.5,SNR=3.6								
ZAL	**Zalesovo**	**44.00**	**307**	P		**P**		**07 16 21.0**	**-0.2**
ZAL				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**48.41**	**299**	P		**P**		**07 16 55.4**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=66,slow=8.0,SNR=8.1								
MKAR	**Makanchi Array**	**48.41**	**299**	P		**P**		**07 16 55.4**	**-0.4**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**52.19**	**310**	P		**P**		**07 17 24.1**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=66,slow=8.1,SNR=9.5								
BVAR	**Borovoye Array**	**52.19**	**310**	P		**P**		**07 17 24.1**	**-0.3**
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ARU	**Arti**	**56.21**	**318**	*e*P		**P**		**07 17 52.6**	**-1.2**
AKTK	**Aktyubinsk**	**60.02**	**313**	P		**P**		**07 18 20.8**	**+0.5**
AKTO	**Aktyubinsk**	**60.02**	**313**	P		**P**		**07 18 20.8**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.4,baz=58,slow=5.7,SNR=8.2								
AKTO	**Aktyubinsk**	**60.02**	**313**	P		**P**		**07 18 20.8**	**+0.4**
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
NVAR	**Mina Array Bea**	**61.18**	**63**	P		**P**		**07 18 28.9**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.9,baz=284,slow=7.3								
PDAR	**Pinedale Array**	**63.64**	**55**	P		**P**		**07 18 45.2**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=267,slow=3.0,SNR=4.7								
FINES	**FINESS Array B**	**64.90**	**336**	P		**P**		**07 18 52.6**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.5,baz=36,slow=10,SNR=12								
FINES	**FINESS Array B**	**64.90**	**336**	P		**P**		**07 18 52.6**	**-0.4**
FINES				pmax	pmax				
	comp=Z,4.0nm,0.7s								
WRA	**Warramunga Arr**	**68.82**	**201**	P		**P**		**07 19 16.0**	**-1.9**
	comp=Z,1.2nm,0.9s,mb3.8,baz=23,slow=7.2,SNR=5.7								
WRA	**Warramunga Arr**	**68.82**	**201**	P		**P**		**07 19 16.0**	**-1.9**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
NOA	**NORSAR Array B**	**68.93**	**342**	P		**P**		**07 19 22.1**	**+3.5**
	comp=Z,1.8nm,1.0s,mb4.0,baz=27,slow=6.4,SNR=3.5								
NOA	**NORSAR Array B**	**68.93**	**342**	P		**P**		**07 19 22.1**	**+3.4**
NOA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ASAR	**Alice Springs**	**72.50**	**201**	P		**P**		**07 19 40.4**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=17,slow=7.1,SNR=7.7								
ASAR	**Alice Springs**	**72.50**	**201**	P		**P**		**07 19 40.4**	**0.0**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**72.58**	**327**	P		**P**		**07 19 41.0**	**+0.2**
	comp=Z,0.3nm,0.2s,mb3.8,baz=26,slow=5.7,SNR=5.5								
TXAR	**Lajitas Array**	**76.26**	**62**	P		**P**		**07 20 02.1**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=302,slow=4.0,SNR=12								
TXAR	**Lajitas Array**	**76.26**	**62**	P		**P**		**07 20 02.1**	**-0.2**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
CLL	**Collm**	**77.30**	**337**	*e*pP		pP		07 20 13.0	-4.7
CDF	**Champ du Feu**	**81.44**	**339**	*e*P		**P**		**07 20 36.3**	**+5.6**
	comp=Z,7.8nm,0.9s,mb4.3								
CDF	**Champ du Feu**	**81.44**	**339**	*e*P		**P**		**07 20 36.3**	**+5.6**
CDF				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
CDF	**Champ du Feu**	**81.44**	**339**	*e*P		**P**		**07 20 36.3**	**+5.6**
	comp=Z,3.9nm,0.9s,mb4.3								
GRR	**Gor

FINES FINESS Array B 64.50 335 P P 07 22 54.7 -0.7
comp=Z,0.6nm,0.4s,baz=47,slow=7.5,SNR=6.9
PDAR Pinedale Array 65.24 53 P P 07 23 00.7 +0.5
comp=Z,0.5nm,0.8s,baz=298,slow=3.2,SNR=3.7
NB2 NORSAR Subarra 68.73 341 P P 07 23 21.7 -0.7
comp=Z,28nm,2.0s,baz=30,slow=6.5
NOA NORSAR Array B 68.73 341 P P 07 23 21.9 -0.6
comp=Z,1.7nm,0.7s,baz=27,slow=6.3,SNR=5.1
AKASG Malin Array Be 71.94 326 P P 07 23 42.1 0.0
comp=Z,0.6nm,0.4s,baz=33,slow=5.8,SNR=4.1
TXAR Lajitas Array 77.94 60 P P 07 24 16.7 -0.1
comp=Z,0.8nm,0.9s,baz=288,slow=4.5,SNR=5.1

IDC ***16*** *07:14:35.6±0.5, 47.14N×155.32E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.5/28, mbtmp4.5/23, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/40, Error ellipse: s-maj=15.9km s-min=12.6km az=146.0*

NEIC ***16*** *07:14:37.9±0.3, 47.19N×155.36E, h10km, mb4.9/26, Error ellipse: s-maj=9.9km s-min=5.3km az=167.0*

ISCJB ***16*** *07:14:37.2±0.3, 47.22N±0.006×155.35E±0.05, h16km, mb4.7/70, MS4.7/9, Error ellipse: s-maj=8.4km s-min=4.6km az=149.4*

MOS ***16*** *07:14:38.3±1.5, 47.16N×155.18E, h26km, mb4.9/48, Error ellipse: s-maj=8.7km s-min=6.2km az=104.8*

BJI ***16*** *07:14:39.0, 47.42N×154.79E, h10km, mB5.4, mb4.6, Ms5.0, Msz4.9*

SZGRF ***16*** *07:14:53.8, 4884N×153.97E, h33km, mb5.2, Kuril Islands, Russia*

ISC 16 07:14:39.3±0.3, 4728N±006×15530E±005, h17km, h17km±2.1km:pP-P, n193, σ1°19/191, mb4.7/70, MS4.7/9, 15C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.45**	**9**	*e*PN		**Pn**	**07 15 34.5**	**+2.3**
SKR	comp=Z,80nm,0.6s			pmax		pmax		
KUR	**Kuril'sk**	**5.54**	**251**	⇑*i*PN		**Pn**	**07 15 56.5**	**-4.5**
KUR	comp=Z,260nm,0.7s			pmax		pmax		
PET	**Petropavlovsk**	**6.14**	**19**	*e*PN		**Pn**	**07 16 08.5**	**-0.7**
PET	comp=Z,116nm,1.0s			pmax		pmax		
YSS	**Yuzh-Sakhalins**	**8.56**	**272**	⇑*i*PN		**Pn**	**07 16 45.0**	**+2.6**
YSS	comp=N,20nm,0.6s			pmax		pmax		
YSS	comp=Z,30nm,0.6s			pmax		pmax		
YSS	comp=E,40nm,0.8s			pmax		pmax		
YSS	**Yuzh-Sakhalins**	**8.56**	**272**	*e*P		**Pn**	**07 16 44.4**	**+1.9**
ASAJ	**Asahikawa**	**9.43**	**255**	Pn		**Pn**	**07 16 51.3**	**-3.0**
	comp=E,1.6nm,0.3s,baz=86,slow=18,SNR=7.0							
ASAJ	**Asahikawa**	**9.43**	**255**	PN		**Pn**	**07 16 51.3**	**-3.0**
ASAJ	comp=Z,2.0nm,0.3s			pmax		pmax		
KLR	**Kul'dur**	**15.79**	**286**	*e*P		**Pn**	**07 18 19.1**	**-1.7**
KLR	comp=E,57nm,1.6s			pmax		pmax		
KLR	comp=Z,50nm,1.6s			pmax		pmax		
MJAR	**Matsushiro Arr**	**16.60**	**236**	Pn		**Pn**	**07 18 26.2**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=14							
MJAR	**Matsushiro Arr**	**16.60**	**236**	P		**Pn**	**07 18 26.2**	**-5.0**
MJAR	comp=Z,1.0nm,0.3s			pmax		pmax		
MAT	**Matsushiro**	**16.60**	**236**	P		**Pn**	**07 18 25.9**	**-5.3**
YAK	**Yakutsk**	**20.72**	**325**	*e*P		**P**	**07 19 20.2**	**+1.5**
YAK				*e**PP			07 19 28.2	
YAK				*e*			07 19 41.4	
YAK				*e*S		**S**	**07 23 06.6**	**-2.8**
YAK				*e*SS			07 23 23.2	
YAK	comp=Z,26nm,0.9s			pmax		pmax		
YAK	comp=N,25nm,1.5s			pmax		pmax		
YAK	comp=E,33nm,1.6s			pmax		pmax		
YAK	comp=Z,36nm,1.1s			pmax		pmax		
YAK	comp=N,179nm,2.9s			pmax		pmax		
YAK	comp=E,52nm,1.4s			smax				
YAK	comp=N,307nm,2.5s			smax				
YAK	comp=Z,328nm,3.6s			smax				
YAK	comp=E,298nm,2.7s			MLR		MLR		
YAK	comp=Z,893nm,13.0s,MS4.3			MLR		MLR		
YAK	comp=N,858nm,12.0s,MS4.4			MLR		MLR		
YAK	comp=E,697nm,13.0s,MS4.4			MLR		MLR		
CLNS	**Chul'man**	**20.84**	**309**	*e*P		**P**	**07 19 17.5**	**-2.5**
CLNS	comp=Z,21nm,1.0s			pmax		pmax		
CLNS	comp=N,17nm,0.9s			pmax		pmax		
CLNS	comp=E,14nm,0.8s			pmax		pmax		
CN2	**Changchun**	**21.13**	**272**	*e*P		**P**	**07 19 20.1**	**-3.1**
CN2				*e*XP		sP	07 19 27.3	-3.1
CN2				*e*S		**S**	**07 23 08.3**	**-9.3**
CN2	comp=Z,10.0nm,0.7s,mb4.2			AMB		AMB		
CN2	comp=Z,300nm,6.0s			AMB		AMB		
CN2	comp=N,500nm,14.0s,MS4.2			LR		LR		
CN2	comp=E,600nm,14.0s,MS4.2			LR		LR		
CN2	comp=Z,600nm,15.0s,MS4.1			LR		LR		
BILL	**Bilibino**	**21.56**	**11**	⇑*e*P		**P**	**07 19 27.2**	**-0.6**
BILL	comp=Z,34nm,1.3s,mb4.6			pmax		pmax		
KSRS	**Korea Array**	**22.38**	**254**	P		**P**	**07 19 36.5**	**-0.1**
	comp=Z,14nm,0.6s,mb4.5,baz=55,slow=11,SNR=21							
KS15	**Wonju Array Si**	**22.41**	**254**	*e*P		**P**	**07 19 38.2**	**+1.3**
SNY	**Shenyang**	**23.15**	**268**	⇑P		**P**	**07 19 42.9**	**-1.9**
SNY				AP			07 19 44.8	
SNY	comp=Z,20nm,0.7s,mb4.7			AMB		AMB		
BOD	**Bodaibo**	**26.82**	**308**	*e*P		**P**	**07 20 16.0**	**-2.6**
BOD	comp=Z,10.0nm,1.9s,mb4.0			pmax		pmax		
BJI	**Beijing**	**28.97**	**270**	P		**P**	**07 20 34.3**	**-3.5**
BJI	comp=Z,5.0nm,0.9s,mb4.2			AMB		AMB		
BJI	**Beijing**	**28.97**	**270**	P		**P**	**07 20 34.2**	**-3.6**
BJI	comp=Z,5.0nm,0.9s,mb4.2			pmax		pmax		
BJI	**Beijing**	**28.97**	**270**	P		**P**	**07 20 34.2**	**-3.6**
	comp=Z,5.0nm,0.9s,mb4.2							
BJT	**Baijiatuan**	**28.99**	**270**	*e*P		**P**	**07 20 40.0**	**+2.0**
NJ2	**Nanjing**	**31.58**	**254**	*e*P		**P**	**07 21 03.4**	**+2.5**
NJ2				S		**S**	**07 26 10.5**	**+1.7**
NJ2	comp=Z,320nm,4.7s			AMB		AMB		
NJ2	comp=N,1μm,13.3s,MS4.8			LR		LR		
NJ2	comp=E,530nm,14.4s,MS4.8			LR		LR		
NJ2	comp=Z,640nm,16.5s,MS4.4			LR		LR		
HHC	**Hu-ho-hao-te**	**31.74**	**275**	*e*P		**P**	**07 21 03.3**	**+1.0**
HHC				AP		pP	07 21 07.8	+0.2
HHC				PP		PP	07 22 06.5	-7.6
HHC	comp=Z,23nm,1.2s,mb4.9			AMB		AMB		
HHC	comp=Z,909nm,10.4s			AMB		AMB		
ULN	**Ulaanbaatar**	**32.14**	**289**	⇑*e*P		**P**	**07 21 04.6**	**-1.2**
SONM	**Songino Array**	**32.57**	**289**	P		**P**	**07 21 08.2**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=65,slow=9.0,SNR=15							
SONM				PcP		PcP	07 23 55.4	-0.4
	comp=Z,0.8nm,0.7s,baz=171,slow=3.1,SNR=3.9							
SONM	**Songino Array**	**32.57**	**289**	P		**P**	**07 21 08.2**	**-1.3**
SONM							07 23 55.4	
SONM				pmax		pmax		
SONM	comp=Z,2.0nm,0.8s			pmax		pmax		
SONM	comp=Z,1.0nm,0.7s			MLR		MLR		
KDAK	**Kodiak Island**	**32.61**	**52**	P		**P**	**07 21 08.5**	**-1.4**
	comp=Z,11nm,0.9s,mb4.8,baz=222,slow=6.1,SNR=4.6							
TLY	**Talaya**	**33.27**	**297**	⇑*e*P		**P**	**07 21 15.1**	**-0.6**
TLY	comp=Z,5.0nm,0.6s,mb4.6			pmax		pmax		
ZAK	**Zakamensk**	**33.81**	**295**	*e*P		**P**	**07 21 19.8**	**-0.6**
ZAK	comp=Z,4.0nm,2.0s,mb4.0			pmax		pmax		
MCK	**McKinley**	**34.28**	**41**	*e*P		**P**	**07 21 23.9**	**-0.6**
SML	**Sawmill**	**34.55**	**44**	*e*P		**P**	**07 21 26.4**	**-0.4**
COLA	**College**	**34.79**	**39**	⇑*i*P		**P**	**07 21 27.7**	**-1.2**
XAN	**Xi'an**	**37.05**	**266**	P		**P**	**07 21 46.6**	**-1.6**
XAN				AP		pP	07 21 55.8	+2.2
XAN	comp=Z,4.0nm,1.2s,mb4.1			AMB		AMB		
DAWY	**Dawson**	**38.48**	**40**	*e*P		**P**	**07 22 00.0**	**-0.3**
LZH	**Lanzhou**	**39.36**	**273**	*e*P		**P**	**07 22 08.4**	**+0.7**
LZH				AP		pP	07 22 14.9	+1.8
LZH				XP		sP	07 22 19.1	+3.9
LZH				AMB		AMB		
LZH	comp=Z,30nm,1.0s,mb5.0			AMB		AMB		
LZH	comp=Z,142nm,4.0s			LR		LR		
LZH	comp=E,1μm,13.0s			LR		LR		
LZH	comp=Z,2μm,14.2s,MS5.0			LR		LR		
LZH	**Lanzhou**	**39.36**	**273**	*e*P		**P**	**07 22 08.4**	**+0.7**
	comp=Z,30nm,1.0s,mb5.0							
LZH				pP		pP	07 22 14.9	+1.8
LZH				sP		sP	07 22 19.1	+3.9
LZH				LR		LR		
	comp=Z,2μm,14.2s,MS5.0							
GTA	**Gaotai**	**40.36**	**280**	*e*P		**P**	**07 22 16.3**	**+0.3**
GTA				AP		pP	07 22 23.9	+2.5
GTA				XP		sP	07 22 26.9	+3.4
GTA				PP		PP	07 23 50.3	+1.3
GTA				PCP		PcP	07 24 19.8	+0.7
GTA				S		**S**	**07 28 20.6**	**-2.6**
GTA				XS		sS	07 28 28.3	-3.7
GTA	comp=Z,12nm,1.8s,mb4.3			AMB		AMB		
GTA	comp=Z,714nm,5.4s			AMB		AMB		
GTA	comp=N,892nm,14.1s,MS5.0			LR		LR		
GTA	comp=E,1μm,13.7s,MS5.0			LR		LR		
GTA	comp=Z,1μm,13.8s,MS5.0			LR		LR		
INK	**Inuvik**	**40.40**	**33**	P		**P**	**07 22 16.4**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.5,baz=275,slow=7.3,SNR=22							
INK	**Inuvik**	**40.40**	**33**	P		**P**	**07 22 16.4**	**0.0**
INK	comp=Z,7.0nm,0.7s			pmax		pmax		
INK	**Inuvik**	**40.40**	**33**	P		**P**	**07 22 16.4**	**+0.1**
CD2	**Chengdu**	**42.41**	**266**	*e*P		**P**	**07 22 33.3**	**+0.5**
CD2				S		**S**	**07 28 57.9**	**+4.3**
CD2	comp=Z,20nm,1.2s,mb4.6			AMB		AMB		
CD2	comp=E,2μm,14.4s			LR		LR		
CD2	comp=Z,2μm,11.9s,MS5.1			LR		LR		
GYA	**Guiyang**	**43.29**	**259**	⇑*i*P		**P**	**07 22 40.3**	**+0.3**
GYA				AP		pP	07 22 44.8	-0.6
GYA				XP		sP	07 22 47.6	+0.1
GYA				PP		PP	07 24 25.3	+4.7
GYA				PCP		PcP	07 24 31.9	+3.1
GYA				SCP		ScP	07 28 22.3	+3.0
GYA				S		**S**	**07 29 09.4**	**+2.9**
GYA				SCS		ScS	07 32 40.4	+1.0
GYA	comp=Z,20nm,0.9s,mb4.8			AMB		AMB		
GYA	comp=Z,120nm,4.9s			AMB		AMB		
GYA	comp=N,460nm,16.8s,MS4.6			LR		LR		
GYA	comp=E,510nm,17.2s,MS4.6			LR		LR		
GYA	comp=Z,490nm,16.7s,MS4.5			LR		LR		
ZAL	**Zalesovo**	**43.53**	**306**	P		**P**	**07 22 40.7**	**-1.2**
	comp=Z,4.8nm,0.6s,mb4.4,baz=48,slow=9.1,SNR=18							
ZAL	**Zalesovo**	**43.53**	**306**	P		**P**	**07 22 40.7**	**-1.2**
ZAL	comp=Z,5.0nm,0.6s			pmax		pmax		
ZAL	**Zalesovo**	**43.53**	**306**	P		**P**	**07 22 40.7**	**-1.2**
WMQ	**Urumqi**	**46.12**	**292**	⇓*i*P		**P**	**07 23 04.8**	**+2.2**
WMQ				AP		pP	07 23 09.3	+1.3
WMQ				XP		sP	07 23 11.8	+1.6
WMQ				PCP		PcP	07 24 41.8	+3.3
WMQ				PP		PP	07 24 52.9	+2.1
WMQ				PPP			07 25 37.3	
WMQ				SCP		ScP	07 28 32.9	+2.0
WMQ				S		**S**	**07 29 48.8**	**+1.2**
WMQ				XS		sS	07 29 56.6	0.0
WMQ	comp=Z,7.0nm,1.1s,mb4.5			AMB		AMB		
WMQ	comp=Z,655nm,7.6s			AMB		AMB		
WMQ	comp=N,452nm,15.1s,MS4.6			LR		LR		
WMQ	comp=E,384nm,16.0s,MS4.6			LR		LR		
WMQ	comp=Z,732nm,16.0s,MS4.7			LR		LR		
KMI	**Kunming**	**46.80**	**261**	P		**P**	**07 23 08.9**	**+1.0**
KMI				AP		pP	07 23 12.9	-0.5
KMI				XP		sP	07 23 14.8	-0.7
KMI				AMB		AMB		
KMI	comp=Z,11nm,1.2s,mb4.7							
KMI	**Kunming**	**46.80**	**261**	P		**P**	**07 23 08.9**	**+1.0**
KMI				*SP		sP	07 23 14.7	-0.8
KMI	comp=Z,11nm,1.2s,mb4.7			pmax		pmax		
KMI	**Kunming**	**46.80**	**261**	P		**P**	**07 23 08.9**	**+1.0**
	comp=Z,11nm,1.2s,mb4.7							
KMI				pP		pP	07 23 12.9	-0.5
KMI				sP		sP	07 23 14.7	-0.8
MK31	**Makanchi Array**	**48.02**	**298**	*e*P		**P**	**07 23 16.5**	**-0.9**
MKAR	**Makanchi Array**	**48.02**	**298**	P		**P**	**07 23 16.4**	**-1.0**
MKAR	comp=Z,8.4nm,0.8s,mb4.8,baz=70,slow=7.9,SNR=27			PcP		PcP	07 24 44.5	-0.7
	comp=Z,1.5nm,0.6s,baz=83,slow=1.8,SNR=5.3							
MKAR	**Makanchi Array**	**48.02**	**298**	P		**P**	**07 23 16.4**	**-1.0**
MKAR							07 24 44.5	
MKAR	comp=Z,8.0nm,0.8s			pmax		pmax		
MKAR	comp=Z,2.0nm,0.6s			pmax		pmax		
KURK	**Kurchatov**	**48.31**	**304**	P		**P**	**07 23 17.8**	**-1.8**
KURK	comp=Z,13nm,0.8s,mb5.0			pmax		pmax		
YKA	**Yellowknife Ar**	**49.60**	**38**	P		**P**	**07 23 29.0**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.6,baz=295,slow=7.1,SNR=7.8							
YKA	**Yellowknife Ar**	**49.60**	**38**	P		**P**	**07 23 29.0**	**-0.5**
YKA	comp=Z,4.0nm,0.6s			pmax		pmax		
RES	**Resolute Bay**	**49.85**	**19**	*e*P		**P**	**07 23 31.7**	**+0.2**
CHKZ	**Chkalovo**	**51.23**	**311**	P		**P**	**07 23 41.1**	**-0.7**
CHKZ	comp=Z,8.0nm,0.6s,mb4.8			pmax		pmax		
VOSK	**Vostochnaya**	**51.51**	**309**	P		**P**	**07 23 43.1**	**-0.9**
VOSK	comp=Z,34nm,1.5s,mb5.1			pmax		pmax		
BVA0	**Borovoye Array**	**51.67**	**310**	*i* P		**P**	**07 23 44.4**	**-0.8**
BVA0	comp=Z,1.0nm,0.7s			pmax		pmax		
BVAR	**Borovoye Array**	**51.67**	**310**	P		**P**	**07 23 44.5**	**-0.7**
	comp=Z,11nm,0.5s,mb5.0,baz=56,slow=7.7,SNR=59							
BVAR	**Borovoye Array**	**51.67**	**310**	P		**P**	**07 23 44.5**	**-0.7**
BVAR	comp=Z,11nm,0.5s			pmax		pmax		
BRVK	**Borovoye**	**51.71**	**310**	P		**P**	**07 23 44.8**	**-0.6**
BRVK	comp=Z,2.0nm,0.6s,mb4.2			pmax		pmax		
BRVK	**Borovoye**	**51.71**	**310**	*e*P		**P**	**07 23 44.6**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0							
LSA	**Lhasa**	**51.73**	**274**	*e*P		**P**	**07 23 48.0**	**+2.4**
LSA	comp=Z,7.0nm,0.6s,mb4.8			pmax		pmax		
LSA	**Lhasa**	**51.73**	**274**	*e*P		**P**	**07 23 48.0**	**+2.4**
	comp=Z,6.5nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.43**	**310**	*e*P		**P**	**07 23 50.1**	**-0.7**
ZRNK	comp=Z,11nm,0.6s,mb5.0			pmax		pmax		
ZRNK	**Zerenda**	**52.43**	**310**	*e*P		**P**	**07 23 50.1**	**-0.7**
	comp=Z,11nm,0.6s,mb5.0							
ULHL	**Ulahol**	**54.09**	**296**	P		**P**	**07 24 03.8**	**+0.8**
	SNR=7.0							
TKM2	**Tokmak 2**	**54.10**	**297**	P		**P**	**07 24 04.5**	**+1.4**
	SNR=6.2							
USP	**Ospenovka**	**54.57**	**298**	P		**P**	**07 24 07.7**	**+1.2**
	SNR=16							
FRU	**Bishkek**	**54.74**	**297**	⇑*i*P		**P**	**07 24 09.0**	**+1.2**
FRU	comp=Z,60nm,2.1s,mb5.3			pmax		pmax		
KZA	**Kyzart**	**54.79**	**296**	P		**P**	**07 24 10.2**	**+2.1**
	SNR=10.0							
AAK	**Ala-Archa**	**54.93**	**297**	P		**P**	**07 24 09.8**	**+0.7**
	SNR=7.3							
EKS2	**Erkin-Say**	**55.35**	**298**	P		**P**	**07 24 13.3**	**+1.2**
	SNR=6.8							
ARU	**Arti**	**55.63**	**318**	⇑*i*P		**P**	**07 24 13.2**	**-0.9**
ARU				*e*			07 25 06.4	
ARU				*e*			07 26 15.9	
ARU				*e*PPP			07 27 31.1	
ARU				*e*S		**S**	**07 31 59.9**	**+0.6**
ARU				*e*SS		SS	07 35 48.6	+4.2
ARU	comp=Z,21nm,0.8s,mb5.2			pmax		pmax		
ARU	**Arti**	**55.63**	**318**	*e*P		**P**	**07 24 13.7**	**-0.4**
KSH	**Kashi**	**55.83**	**293**	*e*P		**P**	**07 24 17.5**	**+1.9**
KSH				*e*AP		pP	07 24 23.4	+2.3
KSH				*e*XP		sP	07 24 26.5	+3.3
KSH				*e*PCP		PcP	07 25 17.3	+2.9
KSH				*e*PP		PP	07 26 23.8	+3.7
KSH				*e*SCP		ScP	07 29 17.9	+5.3
KSH				*e*S		**S**	**07 32 01.5**	**-0.5**
KSH				*e*XS		sS	07 32 09.9	-1.2
KSH				*e*PS			07 32 20.5	
KSH				*e*SCS		ScS	07 34 03.0	-1.0
KSH				*e*SS		SS	07 35 46.6	-1.0
KSH	comp=Z,808nm,2.7s			AMB		AMB		
KSH	comp=N,2μm,6.4s			LR		LR		
KSH	comp=E,2μm,6.6s			LR		LR		
KSH	comp=Z,3μm,8.6s			LR		LR		
DAG	**Danmarks Havn**	**56.17**	**358**	⇑*i*P		**P**	**07 24 17.2**	**-0.8**
	comp=Z,8.9nm,1.1s,mb4.7							
DAG	**Danmarks Havn**	**56.17**	**358**	⇑*e*P		**P**	**07 24 17.2**	**-0.8**
DAG	comp=Z,9.0nm,1.1s,mb4.7			pmax		pmax		
DAG	**Danmarks Havn**	**56.17**	**358**	⇑*e*P		**P**	**07 24 17.2**	**-0.8**
	comp=Z,8.9nm,1.1s,mb4.7							
HNR	**Honiara**	**56.61**	**175**	LR		LR	07 48 50.2	
	comp=Z,245nm,18.3s,MS4.3,baz=0.2,slow=36							
LVZ	**Lovozero**	**56.87**	**337**	*e*P		**P**	**07 24 22.5**	**-0.5**
LVZ	comp=N,19nm,1.5s			pmax		pmax		
LVZ	comp=Z,40nm,1.5s,mb5.2			pmax		pmax		
LVZ	comp=E,20nm,1.7s			pmax		pmax		
KKAR	**Karatay Array**	**57.05**	**300**	*i* P		**P**	**07 24 24.1**	**-0.2**
KKAR	comp=Z,5.0nm,0.9s,mb4.5			pmax		pmax		
ARCES	**ARCESS Array B**	**57.84**	**341**	P		**P**	**07 24 29.3**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.5,baz=30,slow=7.7,SNR=15							
ARCES	**ARCESS Array B**	**57.84**	**341**	P		**P**	**07 24 29.3**	**-0.5**
ARCES	comp=Z,4.0nm,0.7s			pmax		pmax		
ARCES	**ARCESS Array B**	**57.84**	**341**	P		**P**	**07 24 29.3**	**-0.6**
AKTK	**Aktyubinsk**	**59.48**	**313**	P		**P**	**07 24 41.0**	**-0.2**
AKTO	**Aktyubinsk**	**59.48**	**313**	P		**P**	**07 24 41.0**	**-0.2**
	comp=Z,7.6nm,0.6s,mb4.9,baz=63,slow=6.7,SNR=32							
AKTO	**Aktyubinsk**	**59.48**	**313**	P		**P**	**07 24 40.6**	**-0.7**
AKTO	comp=Z,1.0nm,1.0s,mb3.8			pmax		pmax		
LRM	**Limekiln Ridge**	**59.68**	**54**	*e*P		**P**	**07 24 43.2**	**+0.5**
BOZ	**Bozeman (W)**	**60.24**	**54**	*e*P		**P**	**07 24 47.3**	**+0.8**
BOZ	comp=Z,6.0nm,0.7s,mb4.7			pmax		pmax		
BOZ	**Bozeman (W)**	**60.24**	**54**	*e*P		**P**	**07 24 47.3**	**+0.8**
	comp=Z,5.5nm,0.7s,mb4.7							
BOZ				*e*P'P'			07 54 24.8	
NVAR	**Mina Array Bea**	**60.86**	**64**	P		**P**	**07 24 50.0**	**-0.8**
	baz=309,slow=9.1,SNR=2.5							
QLMT	**Earthquake Lak**	**60.86**	**54**	*e*P		**P**	**07 24 50.6**	**-0.1**
IMW	**Indian Meadow**	**61.73**	**55**	*e*P		**P**	**07 24 56.8**	**+0.2**
	comp=Z,12nm,1.1s,mb4.9							
MOOW	**Moose Ponds**	**61.93**	**55**	*e*P		**P**	**07 24 59.0**	**+1.1**
	comp=Z,14nm,1.4s,mb4.9							
TPAW	**Teton Pass**	**61.98**	**55**	*e*P		**P**	**07 24 59.5**	**+1.2**
LOHW	**Long Hollow**	**62.09**	**55**	*e*P		**P**	**07 25 00.0**	**+0.9**
	comp=Z,15nm,1.3s,mb5.0							
REDW	**Red Top Meadow**	**62.11**	**55**	*e*P		**P**	**07 24 59.9**	**+0.7**
DUG	**Dugway**	**63.02**	**59**	*e*P		**P**	**07 25 05.6**	**+0.3**
DUG	comp=Z,12nm,1.4s,mb4.8			pmax		pmax		
DUG	**Dugway**	**63.02**	**59**	*e*P		**P**	**07 25 05.6**	**+0.3**
	comp=Z,12nm,1.4s,mb4.8							
BW06	**Boulder Array**	**63.22**	**55**	*e*P		**P**	**07 25 06.7**	**+0.1**
	comp=Z,10nm,1.1s,mb4.9							
PDAR	**Pinedale Array**	**63.22**	**55**	P		**P**	**07 25 06.3**	**-0.3**
	comp=Z,2.3nm,1.0s,mb4.2,baz=300,slow=3.3,SNR=10							
GSC	**Goldstone**	**63.78**	**66**	*e*P		**P**	**07 25 09.4**	**-0.9**
FIA1	**FINESS Array S**	**64.19**	**336**	*e*P		**P**	**07 25 12.6**	**-0.3**
FINES	**FINESS Array B**	**64.19**	**336**	P		**P**	**07 25 12.3**	**-0.7**
	comp=Z,4.0nm,0.5s,mb4.7,baz=36,slow=8.7,SNR=33							
FINES	**FINESS Array B**	**64.19**	**336**	P		**P**	**07 25 12.3**	**-0.7**
FINES	comp=Z,4.0nm,0.5s			pmax		pmax		
FINES	**FINESS Array B**	**64.19**	**336**	P		**P**	**07 25 12.3**	**-0.7**
MOS	**Moscow**	**64.84**	**326**	*e*P		**P**	**07 25 15.2**	**-2.0**
MOS				*e*			07 25 26.0	
MOS	comp=Z,104nm,1.7s,mb5.6			pmax		pmax		
SRU	**San Rafael**	**65.07**	**59**	*e*P		**P**	**07 25 19.0**	**+0.3**
ULM	**Lac du Bonnet**	**65.14**	**42**	P		**P**	**07 25 18.3**	**-0.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=291,slow=13,SNR=3.7							
RWWY	**Rawlins**	**65.24**	**55**	*e*P		**P**	**07 25 27.7**	**+7.8**
PSI	**Prapat**	**65.66**	**246**	P		**P**	**07 25 22.9**	**+0.3**
	comp=Z,3.8nm,0.6s,mb4.6,baz=352,slow=6.8,SNR=5.1							
PSI	**Prapat**	**65.66**	**246**	P		**P**	**07 25 22.9**	**+0.4**
PSI	comp=Z,4.0nm,0.6s,mb4.6			pmax		pmax		
OBN	**Obninsk**	**65.71**	**326**	⇓*e*P		**P**	**07 25 23.4**	**+0.5**
OBN				*e*			07 25 33.4	
OBN				*e*			07 25 52.1	
OBN	comp=Z,61nm,1.6s,mb5.4			pmax		pmax		
VOR	**Voronezh**	**67.22**	**323**	P		**P**	**07 25 32.0**	**-0.5**
VOR	comp=Z,100nm,1.8s,mb5.5			pmax		pmax		
NB2	**NORSAR Subarra**	**68.20**	**342**	P		**P**	**07 25 38.3**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.20**	**342**	P		**P**	**07 25 38.1**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.5,baz=26,slow=6.4,SNR=9.7							
NOA	**NORSAR Array B**	**68.20**	**342**	P		**P**	**07 25 38.1**	**-0.6**
NOA	comp=Z,5.0nm,0.9s			pmax		pmax		
SDCO	**Great Sand Dun**	**68.89**	**57**	*e*P		**P**	**07 25 43.7**	**+0.6**
WRAB	**Tennant Creek**	**69.51**	**201**	⇑*e*P		**P**	**07 25 45.3**	**-1.6**
WRA	**Warramunga Arr**	**69.52**	**201**	P		**P**	**07 25 44.8**	**-2.1**
	comp=Z,5.6nm,0.9s,mb4.5,baz=19,slow=6.7,SNR=21							
WRA	**Warramunga Arr**	**69.52**	**201**	P		**P**	**07 25 44.8**	**-2.1**
WRA	comp=Z,6.0nm,0.9s			pmax		pmax		
FITZ	**Fitzroy Crossi**	**70.33**	**210**	P		**P**	**07 25 50.5**	**-1.4**
	comp=Z,5.6nm,1.1s,mb4.4,baz=53,slow=8.6,SNR=3.8							
KIV	**Kislovodsk**	**71.49**	**315**	⇑*e*P		**P**	**07 26 02.0**	**+3.1**
KIV	comp=Z,11nm,0.6s,mb5.0			pmax		pmax		
AKASG	**Malin Array Be**	**71.93**	**327**	P		**P**	**07 26 00.3**	**-1.

ASAR	**Alice Springs**	**73.20**	**200**	P	**P**	**07 26 08.1**	**-1.1**
ASAR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GNI	**Garni**	**73.31**	**311**⇓	*e*P	**P**	**07 26 11.4**	**+1.6**
GNI				pmax	pmax			
	comp=Z,16nm,1.3s							
LVV	**L'vov**	**74.51**	**330**	*e*P	**P**	**07 26 10.5**	**-6.3**
LVV				*e*S	S	07 35 40.7	-11
WMOK	**Wichita Mounta**	**74.83**	**55**	*e*P	**P**	**07 26 20.0**	**+1.3**
KWP	**Kalwaria**	**75.12**	**330**	*e*P	**P**	**07 26 21.1**	**+0.7**
STHS	**Stebnicka Huta**	**75.79**	**331**	*e*P	**P**	**07 26 24.9**	**+0.7**
STHS				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
STHS	**Stebnicka Huta**	**75.79**	**331**	*e*P	**P**	**07 26 24.9**	**+0.7**
	comp=Z,6.3nm,1.1s,mb4.5							
TXAR	**Lajitas Array**	**75.93**	**62**	P	**P**	**07 26 24.6**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=303,slow=4.6,SNR=14							
TXAR	**Lajitas Array**	**75.93**	**62**	P	**P**	**07 26 24.6**	**-0.4**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KSP	**Ksiaz**	**76.08**	**335**	*e*P	**P**	**07 26 25.7**	**-0.2**
KSP	**Ksiaz**	**76.08**	**335**	*e*P	**P**	**07 26 29.4**	**+3.5**
OKC	**Ostrava-Krasne**	**76.42**	**333**	*e*P	**P**	**07 26 31.3**	**+3.5**
UPC	**Upice**	**76.46**	**335**	*e*P	**P**	**07 26 29.6**	**+1.6**
UPC				*e*pP	pP	07 26 33.3	-0.4
DPC	**Dobruska-Polom**	**76.51**	**334**	*e*P	**P**	**07 26 29.8**	**+1.5**
CLL	**Collm**	**76.59**	**337**	*e*P	**P**	**07 26 29.0**	**+0.3**
CLL				*e*pP	pP	07 26 32.0	-2.5
CLL				*ex*	x	07 26 53.0	
MORC	**Moravsky Berou**	**76.65**	**333**	*e*P	**P**	**07 26 29.7**	**+0.6**
MORC				pmax	pmax			
	comp=Z,27nm,1.4s,mb5.0							
MORC	**Moravsky Berou**	**76.65**	**333**	*e*P	**P**	**07 26 29.7**	**+0.6**
	comp=Z,27nm,1.4s,mb5.0							
BRG	**Berggiesshubel**	**76.72**	**336**	*e*P	**P**	**07 26 34.3**	**+4.8**
	comp=Z,0.9nm,0.5s,mb4.0							
BRG	**Berggiesshubel**	**76.72**	**336**	*e*P	**P**	**07 26 34.3**	**+4.8**
BRG				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7							
KECS	**Kecovo**	**76.85**	**331**	*e*P	**P**	**07 26 28.6**	**-1.6**
KECS				pmax	pmax			
	comp=Z,7.0nm,1.7s,mb4.3							
KECS	**Kecovo**	**76.85**	**331**	*e*P	**P**	**07 26 28.6**	**-1.6**
	comp=Z,6.5nm,1.7s,mb4.3							
PVCC	**Panska Ves**	**76.86**	**335**	*e*P	**P**	**07 26 34.0**	**+3.7**
PRU	**Pruhonice**	**77.35**	**335**	*e*P	**P**	**07 26 37.5**	**+4.5**
PRU				*e*PCP	PcP	07 26 43.1	-0.4
TIRR	**Tirgusor**	**77.38**	**324**	*e*P	**P**	**07 26 32.7**	**-0.5**
TIRR				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.8							
TIRR	**Tirgusor**	**77.38**	**324**	*e*P	**P**	**07 26 32.7**	**-0.5**
	comp=Z,16nm,1.2s,mb4.8							
VYHS	**Vyhne**	**77.38**	**332**	*e*P	**P**	**07 26 33.6**	**+0.4**
VYHS				pmax	pmax			
	comp=Z,24nm,1.9s,mb4.8							
VYHS	**Vyhne**	**77.38**	**332**	*e*P	**P**	**07 26 33.6**	**+0.4**
	comp=Z,24nm,1.9s,mb4.8							
PSZ	**Piszkesteto**	**77.54**	**331**	*e*P	**P**	**07 26 35.7**	**+1.6**
PSZ				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
PSZ	**Piszkesteto**	**77.54**	**331**	*e*P	**P**	**07 26 35.7**	**+1.6**
	comp=Z,6.4nm,0.8s,mb4.6							
MOX	**Moxa**	**77.56**	**337**	*e*(P)	**P**	**07 26 34.1**	**-0.1**
NKC	**Novy Kostel**	**77.71**	**337**	*e*P	**P**	**07 26 34.8**	**-0.3**
MALT	**Malatya**	**77.87**	**314**	*e*P	**P**	**07 26 38.0**	**+2.0**
MALT				pmax	pmax			
	comp=Z,13nm,1.2s,mb4.7							
MALT	**Malatya**	**77.87**	**314**	*e*P	**P**	**07 26 38.0**	**+2.0**
	comp=Z,13nm,1.2s,mb4.7							
ZST	**Bratislava**	**78.19**	**333**	*e*P	**P**	**07 26 42.6**	**+4.9**
KHC	**Kasperske Hory**	**78.40**	**335**	*e*P	**P**	**07 26 39.5**	**+0.6**
KHC				*e*pP	pP	07 26 43.2	-1.4
GRA1	**Grafenberg Arr**	**78.53**	**337**	*e*P	**P**	**07 26 40.3**	**+0.7**
	comp=Z,26nm,1.4s,mb5.0							
GRF	**Grafenberg Arr**	**78.53**	**337**	*e*P	**P**	**07 26 40.3**	**+0.7**
	comp=Z,26nm,1.4s,mb5.0							
GRF	**Grafenberg Arr**	**78.53**	**337**	*e*P	**P**	**07 26 40.3**	**+0.7**
GRF				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.0							
GRF	**Grafenberg Arr**	**78.53**	**337**	*e*P	**P**	**07 26 40.3**	**+0.7**
GRF				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.0							
GERES	**GERESS Array B**	**78.62**	**335**	P	**P**	**07 26 40.0**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=1.6,slow=4.7,SNR=4.5							
GERES	**GERESS Array B**	**78.62**	**335**	P	**P**	**07 26 40.0**	**-0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BR131	**Keskin Array S**	**79.01**	**318**	P	**P**	**07 26 41.0**	**-1.3**
	comp=Z,3.3nm,0.8s,mb4.3							
BRTR	**Keskin Array B**	**79.01**	**318**	P	**P**	**07 26 42.9**	**+0.6**
	comp=Z,4.3nm,1.0s,mb4.3,baz=72,slow=4.0,SNR=6.4							
BRTR	**Keskin Array B**	**79.01**	**318**	P	**P**	**07 26 42.9**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CDF	**Champ du Feu**	**80.72**	**339**	*e*P	**P**	**07 26 55.5**	**+4.0**
GRR	**Gorron**	**82.48**	**344**	*e*P	**P**	**07 27 05.3**	**+4.5**
SMF	**Signal de Mont**	**83.18**	**341**	*e*P	**P**	**07 27 09.0**	**+4.6**
	comp=Z,95nm,1.4s,mb5.3							
SMF	**Signal de Mont**	**83.18**	**341**	*e*P	**P**	**07 27 09.0**	**+4.6**
SMF				pmax	pmax			
	comp=Z,47nm,1.4s,mb5.3							
SMF	**Signal de Mont**	**83.18**	**341**	*e*P	**P**	**07 27 09.0**	**+4.6**
	comp=Z,47nm,1.4s,mb5.3							
LPG	**La Plagne**	**83.56**	**338**	*e*P	**P**	**07 27 11.8**	**+5.4**
	comp=Z,77nm,1.3s,mb5.4							
LPG	**La Plagne**	**83.56**	**338**	*e*P	**P**	**07 27 11.8**	**+5.4**
LPG				pmax	pmax			
	comp=Z,38nm,1.3s,mb5.4							
LPG	**La Plagne**	**83.56**	**338**	*e*P	**P**	**07 27 11.8**	**+5.4**
	comp=Z,38nm,1.3s,mb5.4							
ORIF	**Oris-en-Rattie**	**84.33**	**339**	*e*P	**P**	**07 27 15.6**	**+5.3**
	comp=Z,32nm,1.0s,mb5.1							
BBGH	**Gun Hill**	**112.26**	**37**	*e*PKPdf	PKiKP	07 33 14.6	+0.6
TORD	**Torodi Ar. Bea**	**115.38**	**331**	PP	PP	07 34 19.0	-2.1
	comp=Z,0.7nm,0.8s,baz=6.6,slow=5.5,SNR=5.3							
VNDA	**Vanda**	**124.59**	**178**	PKP	PKPdf	07 33 33.4	-4.2
	comp=Z,0.8nm,0.8s,baz=325,slow=6.0,SNR=4.3							
VNDA	**Vanda**	**124.59**	**178**	PKIKP	PKPdf	07 33 33.4	-4.3
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
VNDA	**Vanda**	**124.59**	**178**	PKP	PKPdf	07 33 33.4	-4.3
LPAZ	**La Paz**	**132.77**	**64**	PKP	PKPdf	07 33 53.5	+0.3
	comp=Z,3.2nm,1.3s,baz=202,slow=3.1,SNR=3.7							
LPAZ	**La Paz**	**132.77**	**64**	PKIKP	PKPdf	07 33 53.5	+0.3
LPAZ				pmax	pmax			
	comp=Z,3.0nm,1.3s							
MAW	**Mawson**	**133.43**	**212**	PKP	PKPdf	07 33 52.8	-1.7
	comp=Z,1.2nm,0.7s,baz=180,slow=6.1,SNR=3.0							
MAW	**Mawson**	**133.43**	**212**	PKIKP	PKPdf	07 33 52.8	-1.7
MAW				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SNAA	**Sanae**	**153.47**	**195**	PKPbc	PKPbc	07 34 33.0	-3.7
	comp=Z,1.3nm,0.9s,baz=323,slow=7.4,SNR=12							

BJI **16** *07:16:42.5, 46.95N×154.96E, h10km, mB4.8, mb4.7, Ms4.8, Msz4.5*
IDC **16** *07:16:47.2±0.5, 47.27N×154.19E, h0km, mb4.4/25, mb1 4.6/26, mb1mx4.6/29, mbtmp4.5/26, ML4.1/1, MS4.5/1, Ms1 4.4/1, ms1mx3.1/40, Error ellipse: s-maj=16.1km s-min=12.1km az=123.0*
NEIC **16** *07:16:49.0±0.3, 47.22N×154.15E, h10km, mb4.8/16, Error ellipse: s-maj=10.4km s-min=6.5km az=133.0*
ISCJB **16** *07:16:50.1±1.5, 47.16N±006×154.05E±007, h27km±11km, mb4.7/45, Error ellipse: s-maj=10.8km s-min=5.6km az=113.0*
SKHL **16** *07:16:51.0±1.7, 46.75N×154.33E, h45km, msh5.8/1*
SZGRF **16** *07:16:52.3, 46.67N×153.49E, h33km, mb5.0, Kuril Islands, Russia*
MOS **16** *07:16:52.9±1.1, 47.17N×153.98E, h53km, mb4.8/26, Error ellipse: s-maj=10.1km s-min=7.4km az=83.0*

ISC 16 07:16:52.1±1.6, 4717N±006×15413E±007, h31km±11km, n161, σ1s22/165, mb4.7/45, 15C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.76**	**248**	*e*P	**Pn**	**07 17 59.0**	**-2.6**
KUR				AMB	AMB	07 18 03.0	
	190nm,0.8s						
KUR				AMB	AMB	07 18 03.0	
	170nm,0.8s						
KUR				AMB	AMB	07 18 03.0	
	560nm,0.8s						
KUR				*e*S	**Sn**	**07 18 51.5**	**-4.2**
KUR				A		07 19 17.5	
	1μm,0.7s						
KUR				A		07 19 17.5	
	520nm,0.7s						
KUR				A		07 19 20.0	
	2μm,2.0s						
KUR				A		07 19 20.0	
	4μm,2.0s						
PET	**Petropavlovsk**	**6.54**	**25**	*e*PN	**Pn**	**07 18 26.1**	**0.0**
PET				pmax	pmax		
	comp=Z,43nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.59**	**245**	*e*P	**Pn**	**07 18 28.1**	**+1.3**
YUK				AMB	AMB	07 18 30.8	
	comp=Z,730nm,0.5s						
YUK				*e*S	**Sn**	**07 19 40.0**	**-0.8**
YUK				A		07 19 56.5	
	comp=Z,890nm,0.7s						
YUK				A		07 19 56.5	
	comp=Z,630nm,0.7s						
NEM2	**Nemuro 2**	**7.03**	**240**	P	**Pn**	**07 18 32.1**	**-0.7**
NEM2				*e*S	**Sn**	**07 19 46.9**	**-4.8**
JRA	**Rausu**	**7.10**	**246**	P	**Pn**	**07 18 36.2**	**+2.5**
JNK	**Nakash**	**7.53**	**245**	P	**Pn**	**07 18 40.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**7.77**	**273**⇑	*i*P	**Pn**	**07 18 45.9**	**+2.9**
YSS				AMB	AMB	07 18 48.3	
	comp=Z,50nm,0.7s						
YSS				AMB	AMB	07 18 48.3	
	comp=Z,50nm,0.7s						
YSS				*e*S	**Sn**	**07 20 11.6**	**+1.7**
YSS				A		07 20 19.6	
	comp=Z,70nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.77**	**273**⇑	*i*PN	**Pn**	**07 18 45.9**	**+2.9**
YSS				*e*S	**Sn**	**07 20 11.6**	**+1.7**
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				smax			
	comp=E,70nm,0.9s						
JTKR	**Abashiri--Toko**	**7.85**	**250**	P	**Pn**	**07 18 45.7**	**+1.6**
JAK	**Akkeshi**	**7.87**	**241**	P	**Pn**	**07 18 43.3**	**-1.0**
JAK				*e*S	**Sn**	**07 20 06.7**	**-5.6**
JMP	**Maruseppu**	**8.19**	**251**	P	**Pn**	**07 18 52.4**	**+3.7**
JAR	**Ashorobuto**	**8.27**	**246**	P	**Pn**	**07 18 52.1**	**+2.3**
JAR				*e*S	**Sn**	**07 20 20.9**	**-1.3**
JOB	**Onbets**	**8.44**	**243**	P	**Pn**	**07 18 52.6**	**+0.4**
ASAJ	**Asahikawa**	**8.64**	**254**	Pn	**Pn**	**07 18 58.0**	**+3.1**
	comp=E,3.9nm,0.3s,baz=79,slow=14,SNR=7.5						
ASAJ	**Asahikawa**	**8.64**	**254**	P	**Pn**	**07 18 59.0**	**+4.2**
ASAJ	**Asahikawa**	**8.64**	**254**	PN	**Pn**	**07 18 58.0**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JKK2	**Kamakawa 2**	**8.64**	**252**	P	**Pn**	**07 18 56.8**	**+1.9**
JWK2	**Keihoku**	**8.68**	**262**	P	**Pn**	**07 19 00.9**	**+5.5**
JCH	**Churui**	**8.89**	**243**	*e*S	**Sn**	**07 20 30.9**	**-6.5**
ERM	**Erimo**	**9.37**	**241**	*e*PN	**Pn**	**07 19 06.1**	**+1.2**
ERM				pmax	pmax		
	comp=Z,87nm,0.5s						
ERM	**Erimo**	**9.37**	**241**	*e*Pn	**Pn**	**07 19 06.0**	**+1.2**
	comp=Z,87nm,0.5s						
JEW	**Eniwo**	**9.97**	**249**	P	**Pn**	**07 19 14.6**	**+1.5**
JKB	**Kayabe**	**10.73**	**245**	P	**Pn**	**07 19 20.2**	**-3.4**
JSH	**Shimam**	**10.96**	**251**	P	**Pn**	**07 19 27.9**	**+1.2**
JOT	**Ohata**	**11.01**	**243**	P	**Pn**	**07 19 24.1**	**-3.3**
JTM	**Tenmabayashi**	**11.36**	**241**	P	**Pn**	**07 19 29.3**	**-2.9**
JTM				*e*S	**Sn**	**07 21 26.2**	**-12**
JANG	**Nango**	**11.36**	**238**	P	**Pn**	**07 19 28.8**	**-3.4**
JANG				*e*S	**Sn**	**07 21 24.0**	**-14**
JTH	**Tanohata**	**11.45**	**235**	P	**Pn**	**07 19 30.3**	**-3.1**
JTH				*e*S	**Sn**	**07 21 26.9**	**-13**
JOM	**Ohasama**	**12.09**	**235**	P	**Pn**	**07 19 40.5**	**-1.7**
OFUJ	**Ofunato**	**12.16**	**233**	P	**Pn**	**07 19 40.0**	**-3.1**
JRG	**Rokugo**	**12.52**	**237**	P	**Pn**	**07 19 45.4**	**-2.6**
JIO	**Ouri**	**12.79**	**232**	P	**Pn**	**07 19 49.1**	**-2.5**
JIO				*e*S	**Sn**	**07 22 00.7**	**-12**
JFK	**Kawauchi**	**13.85**	**230**	P	**Pn**	**07 20 07.5**	**+1.4**
JFY	**Yanaizu**	**14.44**	**233**	P	**Pn**	**07 20 13.6**	**-0.6**
KLR	**Kul'dur**	**15.06**	**286**	*e*P	**Pn**	**07 20 26.8**	**+4.3**
MAJO	**Matsushiro**	**15.89**	**234**	*e*P	**Pn**	**07 20 31.9**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,54nm,0.9s						
MAJO	**Matsushiro**	**15.89**	**234**	*e*Pn	**Pn**	**07 20 31.9**	**-1.4**
	comp=Z,54nm,0.9s						
MAT	**Matsushiro**	**15.89**	**234**	P	**Pn**	**07 20 32.8**	**-0.5**
MAT	**Matsushiro**	**15.89**	**234**	P	**Pn**	**07 20 32.4**	**-0.9**
MJAR	**Matsushiro Arr**	**15.89**	**234**	Pn	**Pn**	**07 20 32.0**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=31,slow=11,SNR=6.1						
MJAR	**Matsushiro Arr**	**15.89**	**234**	P	**Pn**	**07 20 32.0**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JGF	**Kuroka**	**17.05**	**233**	P	**Pn**	**07 20 53.7**	**+5.7**
YAK	**Yakutsk**	**20.36**	**326**⇓	*e*P	**P**	**07 21 26.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,22nm,0.6s						
KSRS	**Korea Array**	**21.59**	**253**	P	**P**	**07 21 39.5**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.2,baz=64,slow=10,SNR=5.6						
SNY	**Shenyang**	**22.35**	**267**	⇑P	**P**	**07 21 46.8**	**-0.5**
SNY				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.7						
JNU	**Nakatsue**	**22.53**	**240**	P	**P**	**07 21 51.4**	**+2.1**
	comp=Z,22nm,0.9s,mb4.6,baz=231,slow=12,SNR=2.3						
ULN	**Ulaanbaatar**	**31.42**	**289**⇓	*e*P	**P**	**07 23 10.9**	**+0.6**
SONM	**Songino Array**	**31.85**	**289**	P	**P**	**07 23 13.1**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.7,baz=62,slow=11,SNR=3.0						
SONM	**Songino Array**	**31.85**	**289**	P	**P**	**07 23 13.1**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KDAK	**Kodiak Island**	**33.30**	**51**	P	**P**	**07 23 27.6**	**+0.8**
	comp=Z,26nm,0.7s,mb5.2,baz=248,slow=5.0,SNR=10.0						
COLA	**College**	**35.38**	**39**⇓	*e*P	**P**	**07 23 45.7**	**+0.9**
EGAK	**Eagle**	**38.24**	**39**	*e*P	**P**	**07 24 10.1**	**+1.0**
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**38.57**	**272**	*e*P	**P**	**07 24 13.5**	**+1.6**
LZH				AP	pP	07 24 17.3	-3.8
LZH				XP	sP	07 24 20.4	-4.5
LZH				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,4.5s						
LZH	**Lanzhou**	**38.57**	**272**	*e*P	**P**	**07 24 13.5**	**+1.6**
	comp=Z,22nm,1.1s,mb4.8						
LZH				pP	pP	07 24 17.3	-3.8
LZH				sP	sP	07 24 20.4	-4.5
INK	**Inuvik**	**40.93**	**33**	P	**P**	**07 24 31.2**	**-0.3**
	comp=Z,6.9nm,0.6s,mb4.5,baz=288,slow=6.6,SNR=19						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**07 24 31.2**	**-0.3**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**	**07 24 47.2**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.3,baz=38,slow=8.2,SNR=5.9						
ZAL				LR	LR	07 43 56.8	
	comp=Z,503nm,18.5s,baz=82,slow=38						
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**	**07 24 47.2**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,503nm,18.5s						
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**	**07 24 47.2**	**-0.8**
ZAL				LR	LR	07 43 56.9	
MKAR	**Makanchi Array**	**47.37**	**297**	P	**P**	**07 25 21.4**	**-1.7**
	comp=Z,3.3nm,0.8s,mb4.3,baz=64,slow=7.8,SNR=6.0						
MKAR	**Makanchi Array**	**47.37**	**297**	P	**P**	**07 25 21.4**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**07 25 45.0**	**+0.3**
	comp=Z,11nm,0.9s,mb4.9,baz=300,slow=7.8,SNR=7.2						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**07 25 45.0**	**+0.3**
YKA				pmax	pmax		
	comp=Z,11nm,0.9s						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**07 25 45.0**	**+0.3**
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**07 25 50.5**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=54,slow=7.9,SNR=6.2						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**07 25 50.5**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**52.89**	**257**	*e*P	**P**	**07 26 05.3**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**52.89**	**257**	*e*P	**P**	**07 26 05.3**	**+0.4**
	comp=Z,6.7nm,0.8s,mb4.6						
ARU	**Arti**	**55.17**	**318**⇑	*i*P	**P**	**07 26 20.1**	**-1.6**
ARU				*e*		07 28 20.9	
ARU				*e*S	**S**	**07 34 00.0**	**-2.7**
ARU				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
EDM	**Edmonton**	**55.52**	**47**	*e*P	**P**	**07 26 25.3**	**+1.1**
JIRN	**Jiri**	**55.60**	**275**	*e*P	**P**	**07 26 25.6**	**+0.8**
	comp=Z,65nm,1.0s,mb5.6						
GUN	**Gumba**	**55.66**	**275**	*e*P	**P**	**07 26 25.5**	**+0.4**
KKN	**Kakani**	**56.14**	**276**	*e*P	**P**	**07 26 29.9**	**+1.3**
PKI	**Pulchoki**	**56.19**	**275**	*e*P	**P**	**07 26 30.0**	**+1.0**
DMN	**Daman**	**56.37**	**276**	*e*P	**P**	**07 26 30.9**	**+0.6**
	comp=Z,77nm,1.0s,mb5.7						
GKN	**Gorkha**	**56.44**	**276**	*e*P	**P**	**07 26 31.2**	**+0.5**
	comp=Z,39nm,0.7s,mb5.5						
KOLN	**Koldanda**	**57.29**	**277**	*e*P	**P**	**07 26 37.3**	**+0.5**
	comp=Z,44nm,0.9s,mb5.5						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**07 26 38.1**	**-1.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=21,slow=7.4,SNR=12						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**07 26 38.1**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SUMG	**Summit**	**60.23**	**4**	*e*P	**P**	**07 26 57.2**	**0.0**
	comp=Z,29nm,1.0s,mb5.3						
NVAR	**Mina Array Bea**	**61.62**	**63**	P	**P**	**07 27 04.3**	**-2.4**
	comp=Z,1.2nm,0.8s,mb4.1,baz=296,slow=8.7,SNR=4.0						
PDAR	**Pinedale Array**	**63.94**	**55**	P	**P**	**07 27 19.6**	**-2.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=308,slow=2.2,SNR=2.6						
FINES	**FINESS Array B**	**63.96**	**335**	P	**P**	**07 27 20.6**	**-1.6**
	comp=Z,2.9nm,0.4s,mb4.7,baz=31,slow=7.5,SNR=19						
FINES	**FINESS Array B**	**63.96**	**335**	P	**P**	**07 27 20.6**	**-1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PSI	**Prapat**	**64.89**	**245**	P	**P**	**07 27 29.9**	**+1.6**
	comp=Z,3.4nm,0.7s,mb4.5,baz=358,slow=7.7,SNR=3.6						
PSI	**Prapat**	**64.89**	**245**	P	**P**	**07 27 29.9**	**+1.6**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ULM	**Lac du Bonnet**	**65.75**	**41**	P	**P**	**07 27 34.1**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.6,baz=299,slow=2.9,SNR=8.1						
CTA	**Charters Tower**	**67.31**	**188**	P	**P**	**07 27 44.4**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=337,slow=7.3,SNR=4.1						
CTA	**Charters Tower**	**67.31**	**188**	P	**P**	**07 27 44.4**	**+0.6**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.06**	**342**	P	**P**	**07 27 47.7**	**-0.8**
	comp=Z,14nm,0.7s,mb5.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**07 27 48.0**	**-0.5**
	comp=Z,17nm,0.9s,mb5.1,baz=26,slow=6.2,SNR=17						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**07 27 48.0**	**-0.5**
NOA				pmax	pmax		
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**69.14**	**200**	P	**P**	**07 27 55.1**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=23,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**69.14**	**200**	P	**P**	**07 27 55.1**	**-0.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**69.84**	**209**	P	**P**	**07 28 01.0**	**+1.4**
	comp=Z,5.2nm,0.8s,mb4.5,baz=7.6,slow=6.8,SNR=8.1						
GOF	**Gofitskoye**	**70.02**	**315**	*e*P	**P**	**07 28 04.4**	**+3.7**
ANMO	**Albuquerque**	**71.02**	**59**⇓	*e*P	**P**	**07 28 08.7**	**+1.9**
AKASG	**Malin Array Be**	**71.58**	**327**	P	**P**	**07 28 08.0**	**-2.2**
	comp=Z,3.9nm,0.4s,mb4.6,baz=34,slow=6.2,SNR=7.6						
AKASG	**Malin Array Be**	**71.58**	**327**	P	**P**	**07 28 08.0**	**-2.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIEV	**Kiev**	**71.60**	**327**	*e*P	**P**	**07 28 08.5**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KIEV	**Kiev**	**71.60**	**327**	*e*P	**P**	**07 28 08.5**	**-1.8**
	comp=Z,11nm,1.0s,mb4.8						
BSD	**Bornholm Skovb**	**72.45**	**337**	*i*P	**P**	**07 28 14.8**	**-0.6**
	comp=Z,41nm,1.1s,mb5.3						
BSD	**Bornholm Skovb**	**72.45**	**337**	*i*P	**P**	**07 28 14.8**	**-0.6**
BSD				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
SCHQ	**Schefferville**	**72.65**	**23**	P	**P**	**07 28 17.2**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.6,baz=357,slow=7.3,SNR=7.7						

CFAA	**Coronel Fontan**	**144.23**	**80**	PKP	PKPdf	07 36 23.2	-1.6
SNAA	**Sanae**	**153.15**	**196**	PKPbc	PKPbc	07 36 45.1	-1.4
	comp=Z,0.5nm,0.7s,baz=234,slow=8.7,SNR=5.3						
SNAA				PKPab	PKPab	07 36 57.1	-1.1
	comp=Z,0.8nm,0.9s,baz=135,slow=6.5,SNR=5.5						
SNAA	**Sanae**	**153.15**	**196**	*e*PKPdf	PKPab	07 36 58.1	-0.1
SNAA				*e*		07 37 05.2	
VNA2	**Neumayer--Watz**	**154.58**	**194**	*e*PKPdf	PKPab	07 37 04.3	0.0
	baz=124,slow=3.7						
VNA2				*e*		07 37 12.0	
VNA2				*e*		07 37 15.3	
VNA2				*e*		07 37 27.6	
VNA3	**Neumayer Olymp**	**154.65**	**192**	*e*PKPdf	PKPab	07 37 04.6	0.0
VNA3				*e*		07 37 14.9	
VNA1	**Neumayer--Stat**	**154.96**	**194**	*e*PKPdf	PKPab	07 37 06.3	+0.4

*ISCJB **16** 07:19:52.5±0.7, 47.1N±0.1×1552E±0.1, h10km, mb4.1/18, Error ellipse: s-maj=17.3km s-min=12.4km az=115.3*
*MOS **16** 07:19:56.0±0.9, 4699N×15503E, h33km, mb4.4/16, Error ellipse: s-maj=20.7km s-min=12.4km az=96.1*
*NEIC **16** 07:19:57.6±1.5, 4749N×15490E, h10km, mb4.0/1, Error ellipse: s-maj=34.3km s-min=13.1km az=135.0*
*IDC **16** 07:20:03.4±7.1, 47.12N×15523E, h82km±65km, mb3.8/15, mb1 3.9/16, mb1mx3.8/25, mbtmp3.8/16, ML3.9/1, Error ellipse: s-maj=20.4km s-min=17.5km az=118.0*

ISC 16 07:19:54.4±0.7, 471N±01×1552E±01, h10km, n37, σ0s84/37, mb4.1/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.61**	**9**	*e*PN	**Pn**	**07 20 55.0**	**+4.6**
KUR	**Kuril'sk**	**5.44**	**252**	*e*PN	**Pn**	**07 21 14.6**	**-1.0**
KUR				pmax	pmax		
	comp=N,60nm,0.7s						
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
MJAR	**Matsushiro Arr**	**16.47**	**236**	P	**Pn**	**07 23 49.5**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=30,slow=9.8,SNR=4.2						
BILL	**Bilibino**	**21.72**	**11**	*e*P	**P**	**07 24 47.5**	**+1.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BILL	**Bilibino**	**21.72**	**11**	*e*P	**P**	**07 24 45.9**	**+0.2**
	comp=Z,1.8nm,0.2s,mb4.2						
KSRS	**Korea Array**	**22.28**	**254**	P	**P**	**07 24 54.7**	**+3.0**
	comp=Z,2.9nm,0.7s,mb3.8,baz=60,slow=8.9,SNR=6.2						
SONM	**Songino Array**	**32.56**	**290**	P	**P**	**07 26 25.1**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=63,slow=9.7,SNR=3.8						
SONM	**Songino Array**	**32.56**	**290**	P	**P**	**07 26 25.1**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**07 27 34.5**	**+0.6**
	comp=Z,4.2nm,0.7s,mb4.2,baz=288,slow=5.7,SNR=9.2						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**07 27 34.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL	**Zalesovo**	**43.57**	**306**	P	**P**	**07 27 58.6**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.0,baz=46,slow=7.0,SNR=4.4						
ZAL	**Zalesovo**	**43.57**	**306**	P	**P**	**07 27 58.6**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVS	**Novosibirsk**	**44.10**	**308**	*e*P	**P**	**07 28 02.1**	**-0.7**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.6s						
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**	**07 28 33.9**	**+0.1**
	comp=E,1.5nm,0.7s,mb4.2,baz=62,slow=8.4,SNR=5.7						
MKAR	**Makanchi Array**	**48.04**	**298**	P	**P**	**07 28 33.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**07 28 58.4**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**07 28 58.4**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**07 29 02.5**	**+0.7**
	comp=Z,3.6nm,0.4s,mb4.7,baz=58,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**07 29 02.5**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**	**07 29 46.1**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=30,slow=7.0,SNR=6.7						
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**	**07 29 46.1**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**07 29 58.4**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=39,slow=6.9,SNR=5.1						
AKTO	**Aktyubinsk**	**59.54**	**313**	P	**P**	**07 29 58.4**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**63.36**	**55**	P	**P**	**07 30 23.5**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.7,baz=269,slow=7.2,SNR=3.8						
FINES	**FINESS Array B**	**64.30**	**336**	P	**P**	**07 30 29.4**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=38,slow=8.1,SNR=8.9						
FINES	**FINESS Array B**	**64.30**	**336**	P	**P**	**07 30 29.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.33**	**342**	P	**P**	**07 30 56.6**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.2,baz=27,slow=6.9						
NOA	**NORSAR Array B**	**68.33**	**342**	P	**P**	**07 30 55.9**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=26,slow=6.3,SNR=4.7						
NOA	**NORSAR Array B**	**68.33**	**342**	P	**P**	**07 30 55.9**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.36**	**201**	P	**P**	**07 31 01.7**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.1,baz=20,slow=6.5,SNR=6.6						
WRA	**Warramunga Arr**	**69.36**	**201**	P	**P**	**07 31 01.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**72.02**	**327**	P	**P**	**07 31 18.2**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=33,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**72.02**	**327**	P	**P**	**07 31 18.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**73.04**	**200**	P	**P**	**07 31 24.8**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=16,slow=5.1,SNR=6.5						
ASAR	**Alice Springs**	**73.04**	**200**	P	**P**	**07 31 24.8**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**07 31 41.7**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=302,slow=3.3,SNR=3.8						
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**07 31 41.7**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **16** 07:34:32.5±2.8, 370N±0.2×690E±0.1, h10km, Error ellipse: s-maj=27.3km s-min=12.6km az=21.8*
*NNC **16** 07:34:34.2±12.0, 3704N×6902E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=107.7km s-min=98.8km az=118.0*

ISC 16 07:34:33.6±2.7, 369N±02×689E±01, h10km, n9, σ0s91/12, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.33**	**11**	⇓Pn	**Pn**	**07 36 09.4**	**+2.4**
	1.0nm,0.2s,baz=168,slow=13,SNR=49						
KK31				⇑Sn	**Sn**	**07 37 24.1**	**+4.7**
	0.9nm,0.3s,baz=198,slow=25,SNR=49						
AML	**Almayashu**	**6.41**	**34**	P	**Pn**	**07 36 08.1**	**+0.1**
	SNR=30						
UCH	**Uchtor**	**6.86**	**37**	P	**Pn**	**07 36 14.2**	**-0.1**
	SNR=10						
EKS2	**Erkin-Say**	**6.87**	**31**	P	**Pn**	**07 36 15.0**	**+0.6**
	SNR=16						
AAK	**Ala-Archa**	**7.16**	**35**	P	**Pn**	**07 36 18.6**	**+0.2**
	SNR=13						
USP	**Ospenovka**	**7.67**	**32**	P	**Pn**	**07 36 24.6**	**-0.8**
	SNR=25						
TKM2	**Tokmak 2**	**7.91**	**38**	P	**Pn**	**07 36 27.5**	**-1.2**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.91**	**38**	⇑Pn	**Pn**	**07 36 26.9**	**-1.8**
	0.1nm,0.4s						
TKM2				⇑Sn	**Sn**	**07 37 58.3**	**+0.1**
	0.2nm,0.6s						
AB31	**Akbulak array**	**13.99**	**335**	Pn	**Pn**	**07 37 51.9**	**0.0**
	0.6nm,0.4s,baz=161,slow=14,SNR=22						
AB31				⇓Sn	**Sn**	**07 40 26.7**	**-0.6**
	0.5nm,0.5s						

*ISCJB **16** 07:36:02.6±0.9, 469N±0.1×155.1E±0.2, h10km, mb4.0/11, Error ellipse: s-maj=22.2km s-min=11.8km az=95.1*
*MOS **16** 07:36:05.6±1.9, 4682N×15497E, h33km, mb4.3/9, Error ellipse: s-maj=21.0km s-min=15.4km az=45.9*
*NEIC **16** 07:36:05.0±1.5, 4701N×15499E, h10km, mb4.1/2, Error ellipse: s-maj=36.3km s-min=13.2km az=128.0*
*IDC **16** 07:36:07.3±8.6, 4672N×15520E, h33km±65km, mb3.7/9, mb1 3.9/11, mb1mx3.7/25, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=26.8km s-min=20.1km az=109.0*

ISC 16 07:36:09.0±3.0, 468N±01×1551E±02, h51km±26km, n27, σ0s96/27, mb4.0/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.29**	**255**	*e*PN	**Pn**	**07 37 19.0**	**-6.4**
KUR				pmax	pmax		
	comp=Z,70nm,0.5s						
ASAJ	**Asahikawa**	**9.20**	**257**	Pn	**Pn**	**07 38 18.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=83,slow=7.6,SNR=4.4						
ASAJ	**Asahikawa**	**9.20**	**257**	PN	**Pn**	**07 38 18.7**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.24**	**237**	*e*P	**Pn**	**07 39 53.5**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAJO	**Matsushiro**	**16.24**	**237**	*e*Pn	**Pn**	**07 39 53.5**	**-0.1**
	comp=Z,7.0nm,0.7s						
MJAR	**Matsushiro Arr**	**16.24**	**237**	Pn	**Pn**	**07 39 53.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=32,slow=11,SNR=7.3						
KSRS	**Korea Array**	**22.13**	**255**	P	**P**	**07 41 01.5**	**+1.3**
	comp=Z,0.6nm,0.3s,mb3.5,baz=39,slow=18,SNR=4.9						
INK	**Inuvik**	**40.86**	**33**	P	**P**	**07 43 45.5**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.6,baz=307,slow=4.9,SNR=5.9						
INK	**Inuvik**	**40.86**	**33**	P	**P**	**07 43 45.5**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.86**	**33**	P	**P**	**07 43 45.5**	**-0.4**
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**07 44 43.3**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=69,slow=7.7,SNR=7.2						
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**07 44 43.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P	**P**	**07 45 07.8**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P	**P**	**07 45 07.8**	**-1.2**
	comp=Z,3.3nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**07 45 12.9**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=40,slow=7.8,SNR=7.7						
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**07 45 12.9**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**52.63**	**311**	*e*P	**P**	**07 45 17.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.63**	**311**	*e*P	**P**	**07 45 17.4**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**	**07 46 40.1**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.2,baz=35,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**	**07 46 40.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.04**	**201**	P	**P**	**07 47 07.7**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=20,slow=6.8,SNR=5.0						
WRA	**Warramunga Arr**	**69.04**	**201**	P	**P**	**07 47 07.7**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.25**	**327**	P	**P**	**07 47 31.4**	**+2.6**
	comp=Z,0.3nm,0.2s,mb3.8,baz=37,slow=6.1,SNR=5.1						
ASAR	**Alice Springs**	**72.72**	**200**	P	**P**	**07 47 32.0**	**+0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=17,slow=5.6,SNR=13						
ASAR	**Alice Springs**	**72.72**	**200**	P	**P**	**07 47 32.1**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**07 47 53.1**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.2,baz=305,slow=4.8,SNR=38						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**07 47 53.1**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 16 07:55:20.0±3.5, 4630N×15468E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, Error ellipse: s-maj=111.6km s-min=31.4km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.11**	**298**	P	P	08 04 01.4	0.0
	0.3nm,0.5s,baz=73,slow=8.3,SNR=3.3						
BVAR	**Borovoye Array**	**51.98**	**310**	P	P	08 04 30.0	-0.9
	0.9nm,0.4s,baz=55,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**64.90**	**336**	P	P	08 05 59.6	-1.5
	1.5nm,0.7s,baz=43,slow=8.6,SNR=4.1						
NOA	**NORSAR Array B**	**69.00**	**342**	P	P	08 06 27.4	+0.2
	0.5nm,0.5s,baz=25,slow=6.3,SNR=3.2						
HFS	**Hagfors**	**69.25**	**340**	P	P	08 06 28.8	0.0
	0.9nm,0.5s,baz=55,slow=5.6,SNR=5.7						
TXAR	**Lajitas Array**	**76.77**	**61**	P	P	08 07 13.4	+0.1
	0.8nm,0.6s,baz=305,slow=4.8,SNR=14						

*IDC **16** 07:55:51.7±1.0, 4654N×15551E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=30.8km s-min=20.9km az=168.0*
*MOS **16** 07:55:54.4±1.6, 4637N×15525E, h33km, mb4.2/7, Error ellipse: s-maj=23.0km s-min=18.8km az=13.4*
*ISCJB **16** 07:55:56.4±3.4, 465N±02×1553E±02, h48km±29km, mb4.0/10, Error ellipse: s-maj=28.4km s-min=22.6km az=116.1*

ISC 16 07:55:58.8±2.5, 465N±02×1553E±02, h52km±22km, n20, σ0s91/20, mb4.0/10, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.38**	**259**	⇓*i*PN	**Pn**	**07 57 10.0**	**-6.4**
KUR				pmax	pmax		
	comp=N,70nm,0.7s						
KUR				pmax	pmax		
	comp=Z,140nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.66**	**277**	*e*PN	**Pn**	**07 58 02.3**	**+0.9**
ASAJ	**Asahikawa**	**9.30**	**260**	Pn	**Pn**	**07 58 08.7**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=111,slow=12,SNR=4.0						
ASAJ	**Asahikawa**	**9.30**	**260**	PN	**Pn**	**07 58 08.7**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.21**	**256**	P	**P**	**08 00 52.8**	**+2.0**
	comp=Z,2.2nm,0.7s,mb3.7,baz=55,slow=11,SNR=6.6						
BILL	**Bilibino**	**22.29**	**11**	⇓*e*P	**P**	**08 00 52.0**	**+0.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1						
ZAK	**Zakamensk**	**34.16**	**296**	*e*P	**P**	**08 02 38.0**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**08 04 35.1**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=68,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**08 04 35.1**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**52.18**	**310**	P	**P**	**08 05 03.4**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=50,slow=10,SNR=7.2						
BVAR	**Borovoye Array**	**52.18**	**310**	P	**P**	**08 05 03.4**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**08 06 01.2**	**+1.2**
	comp=Z,1.5nm,0.7s,mb4.2,baz=61,slow=12,SNR=4.4						
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**08 06 01.2**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**63.63**	**55**	P	**P**	**08 06 24.6**	**+0.3**
	comp=Z,0.9nm,1.0s,mb3.8,baz=318,slow=2.0,SNR=4.9						
FINES	**FINESS Array B**	**64.88**	**336**	P	**P**	**08 06 32.2**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.4,baz=35,slow=10,SNR=7.5						
FINES	**FINESS Array B**	**64.88**	**336**	P	**P**	**08 06 32.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**72.51**	**201**	P	**P**	**08 07 19.9**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=5.1,SNR=6.0						
ASAR	**Alice Springs**	**72.51**	**201**	P	**P**	**08 07 19.9**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.25**	**62**	P	**P**	**08 07 41.5**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=304,slow=4.3,SNR=16						
TXAR	**Lajitas Array**	**76.25**	**62**	P	**P**	**08 07 41.5**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*ISCJB **16** 07:58:17.0±1.0, 470N±02×1538E±02, h10km, mb3.9/5, Error ellipse: s-maj=28.9km s-min=10.7km az=119.3*
*IDC **16** 07:58:17.2±1.2, 4692N×15388E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/22, mbtmp4.0/5, Error ellipse: s-maj=53.8km s-min=31.9km az=86.0*
*MOS **16** 07:58:20.7±1.2, 4706N×15344E, h33km, mb4.2/4, Error ellipse: s-maj=33.5km s-min=31.8km az=68.6*

ISC 16 07:58:18.7±1.0, 470N±02×1538E±02, h10km, n11, σ0s58/12, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.47**	**249**	*e*PN	**Pn**	**07 59 26.0**	**-0.5**
KUR				*e*S	**Sn**	**08 00 19.0**	**+0.5**
KUR				smax			
	comp=N,60nm,0.6s						
KUR				smax			
	comp=E,140nm,0.6s						
KLR	**Kul'dur**	**14.88**	**287**	*e*P	**Pn**	**08 01 45.3**	**-3.8**
FINES	**FINESS Array B**	**64.02**	**335**	P	**P**	**08 08 52.5**	**0.0**
	comp=E,3.5nm,1.1s,mb4.3,baz=45,slow=5.7,SNR=4.7						
FINES	**FINESS Array B**	**64.02**	**335**	P	**P**	**08 08 52.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**08 09 19.4**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=26,slow=8.4,SNR=2.4						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**08 09 19.4**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.39**	**340**	P	**P**	**08 09 20.6**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.2,baz=52,slow=5.8,SNR=4.9						
HFS	**Hagfors**	**68.39**	**340**	P	**P**	**08 09 20.6**	**+0.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**72.58**	**199**	P	**P**	**08 09 45.9**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.5,baz=7.6,slow=6.2,SNR=5.1						
ASAR	**Alice Springs**	**72.58**	**199**	P	**P**	**08 09 45.9**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.98**	**61**	P	**P**	**08 10 11.7**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=291,slow=4.5,SNR=3.6						

*ISCJB **16** 08:02:01.8±0.6, 4770N±009×1545E±0.1, h10km, mb4.2/17, MS4.2/1, Error ellipse: s-maj=17.1km s-min=8.0km az=94.5*
*IDC **16** 08:02:02.3±0.7, 4773N×15448E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.2/18, MS3.4/2, Ms1 3.4/2, ms1mx2.9/41, Error ellipse: s-maj=20.5km s-min=16.1km az=136.0*
*NEIC **16** 08:02:03.5±0.5, 4768N×15443E, h10km, mb4.0/1, Error ellipse: s-maj=14.4km s-min=8.6km az=138.0*
*MOS **16** 08:02:04.8±1.4, 4769N×15449E, h33km, mb4.4/14, Error ellipse: s-maj=16.7km s-min=11.0km az=63.4*

ISC 16 08:02:03.5±0.6, 4772N±010×1544E±01, h10km, n45, σ0s89/45, mb4.2/17, MS4.2/1, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.16**	**244**	*e*PN	**Pn**	**08 03 20.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,180nm,0.8s						
PET	**Petropavlovsk**	**5.96**	**25**	*e*PN	**Pn**	**08 03 31.7**	**-0.1**
PET				pmax	pmax		
	comp=Z,44nm,1.2s						
YSS	**Yuzh-Sakhalins**	**7.96**	**269**	⇑*i*PN	**Pn**	**08 04 04.0**	**+4.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.96**	**269**	*e*Pn	**Pn**	**08 04 00.4**	**+1.2**
	comp=Z,9.5nm,0.5s						
ASAJ	**Asahikawa**	**8.99**	**251**	Pn	**Pn**	**08 04 17.6**	**+4.3**
	comp=Z,0.8nm,0.3s,baz=84,slow=18,SNR=4.8						
ASAJ				LR	LR	08 07 51.0	
	comp=Z,36nm,19.3s,baz=227,slow=39						
ASAJ	**Asahikawa**	**8.99**	**251**	PN	**Pn**	**08 04 17.7**	**+4.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,36nm,19.3s						
MAJO	**Matsushiro**	**16.37**	**233**	*e*P	**Pn**	**08 05 51.4**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**16.37**	**233**	*e*Pn	**Pn**	**08 05 51.4**	**-2.0**
	comp=Z,8.6nm,0.7s						
MJAR	**Matsushiro Arr**	**16.37**	**233**	Pn	**Pn**	**08 05 53.7**	**+0.3**
	baz=30,slow=13,SNR=4.6						
KSRS	**Korea Array**	**21.94**	**252**	P	**P**	**08 06 58.8**	**+1.7**
	comp=Z,7.6nm,0.8s,mb4.2,baz=61,slow=9.9,SNR=20						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**08 09 41.7**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.2,baz=297,slow=6.6,SNR=20						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**08 09 41.7**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**08 09 41.7**	**+0.4**
MK31	**Makanchi Array**	**47.29**	**297**	*e*P	**P**	**08 10 36.3**	**-0.8**
MKAR	**Makanchi Array**	**47.29**	**297**	P	**P**	**08 10 36.9**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=51,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array

comp=Z,0.7nm,0.4s,mb3.9,baz=31,slow=6.2,SNR=7.2
GERES GERESS Array B 77.97 335 P **P** **08 14 02.1 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 78.29 317 P **P** **08 14 04.5 +0.9**
comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=3.0,SNR=3.9
BRTR Keskin Array B 78.29 317 P **P** **08 14 04.6 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MMAI Mount Meron Ar 82.83 312 P **P** **08 14 29.6 +1.5**
comp=Z,2.9nm,0.5s,mb4.6,baz=35,slow=6.1,SNR=6.0

*IDC **16** 08:02:58.9±0.8, 47.12N×15503E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/26, mbtmp4.2/18, ML3.3/1, Error ellipse: s-maj=22.8km s-min=17.9km az=131.0*
*ISCJB **16** 08:02:59.1±0.7, 472N±0.1×1550E±0.1, h10km, mb4.2/21, Error ellipse: s-maj=17.5km s-min=9.9km az=100.5*
*NEIC **16** 08:03:00.9±0.8, 4709N×15503E, h10km, mb4.8/3, Error ellipse: s-maj=22.2km s-min=16.0km az=133.0*
*MOS **16** 08:03:02.1±2.0, 4701N×15503E, h33km, mb4.5/16, Error ellipse: s-maj=15.8km s-min=10.3km az=89.0*
*BJI **16** 08:03:02.0, 47.10N×155.00E, h10km, mB4.6, mb4.1, Ms3.9, Msz4.0*
ISC 16 08:03:00.7±0.7, 4720N±010×1550E±01, h10km, n51, σ1§17/51, mb4.2/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.31**	**251**	*e*PN	**Pn**	**08 04 19.0**	**-1.1**
PET	**Petropavlovsk**	**6.29**	**21**	*e*PN	**Pn**	**08 04 40.2**	**+6.7**
KLR	**Kul'dur**	**15.60**	**286**	*e*P	**Pn**	**08 06 45.8**	**+5.1**
MJAR	**Matsushiro Arr**	**16.38**	**235**	Pn	**Pn**	**08 06 51.8**	**+1.1**
	0.1nm,0.3s,baz=343,slow=30,SNR=3.2						
MAT	**Matsushiro**	**16.38**	**235**	P	**Pn**	**08 06 56.0**	**+5.3**
CN2	**Changchun**	**20.91**	**272**	*e*P	**P**	**08 07 47.8**	**+4.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BILL	**Bilibino**	**21.68**	**12**	*e*P	**P**	**08 07 50.9**	**-0.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
KSRS	**Korea Array**	**22.15**	**254**	P	**P**	**08 07 58.5**	**+1.9**
	comp=Z,2.6nm,0.8s,mb3.7,baz=53,slow=10,SNR=3.4						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**08 10 39.7**	**-0.7**
	comp=Z,6.2nm,0.7s,mb4.3,baz=282,slow=8.5,SNR=15						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**08 10 39.7**	**-0.7**
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**08 10 39.7**	**-0.7**
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**08 11 02.9**	**-0.5**
	comp=Z,3.4nm,0.3s,mb4.6,baz=99,slow=1.3,SNR=3.1						
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**08 11 02.9**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
NVS	**Novosibirsk**	**43.92**	**308**	*e*P	**P**	**08 11 06.8**	**-0.9**
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**08 11 38.0**	**-0.8**
	comp=Z,4.3nm,1.0s,mb4.4,baz=65,slow=9.8,SNR=6.3						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**08 11 38.0**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**08 11 38.0**	**-0.8**
YKA	**Yellowknife Ar**	**49.80**	**37**	P	**P**	**08 11 53.3**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.4,baz=300,slow=8.3,SNR=3.1						
YKA	**Yellowknife Ar**	**49.80**	**37**	P	**P**	**08 11 53.3**	**-0.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**08 12 06.1**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.3,baz=56,slow=6.9,SNR=5.9						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**08 12 06.1**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.84**	**341**	P	**P**	**08 12 52.0**	**-0.4**
	comp=Z,5.0nm,0.9s,mb4.5,baz=25,slow=9.0,SNR=3.7						
ARCES	**ARCESS Array B**	**57.84**	**341**	P	**P**	**08 12 52.0**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**57.84**	**341**	P	**P**	**08 12 52.0**	**-0.4**
AKTK	**Aktyubinsk**	**59.37**	**312**	P	**P**	**08 13 02.0**	**-1.1**
AKTO	**Aktyubinsk**	**59.37**	**312**	P	**P**	**08 13 02.0**	**-1.1**
	comp=Z,2.3nm,0.9s,mb4.2,baz=37,slow=9.4,SNR=4.4						
AKTO	**Aktyubinsk**	**59.37**	**312**	P	**P**	**08 13 02.0**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**60.47**	**54**	*e*P	**P**	**08 13 11.1**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
BOZ	**Bozeman (W)**	**60.47**	**54**	*e*P	**P**	**08 13 11.1**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**08 13 34.5**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=37,slow=8.9,SNR=8.0						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**08 13 34.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.20**	**342**	P	**P**	**08 14 01.9**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=29,slow=6.4,SNR=2.7						
NOA	**NORSAR Array B**	**68.20**	**342**	P	**P**	**08 14 02.0**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**68.47**	**340**	P	**P**	**08 14 04.1**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=46,slow=4.3,SNR=5.2						
WRA	**Warramunga Arr**	**69.37**	**201**	P	**P**	**08 14 06.5**	**-2.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=17,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**69.37**	**201**	P	**P**	**08 14 06.5**	**-2.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.87**	**327**	P	**P**	**08 14 23.4**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=33,slow=6.0,SNR=7.9						
AKASG	**Malin Array Be**	**71.87**	**327**	P	**P**	**08 14 23.4**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**73.06**	**200**	P	**P**	**08 14 30.6**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=15,slow=5.9,SNR=5.2						
ASAR	**Alice Springs**	**73.06**	**200**	P	**P**	**08 14 30.6**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.16**	**62**	P	**P**	**08 14 49.1**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=289,slow=3.8,SNR=2.7						
TXAR	**Lajitas Array**	**76.16**	**62**	P	**P**	**08 14 49.1**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DPC	**Dobruska-Polom**	**76.48**	**334**	*e*P	**P**	**08 14 54.3**	**+3.5**
CLL	**Collm**	**76.57**	**337**	*i* P	**P**	**08 14 54.4**	**+3.1**
CLL				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
CLL	**Collm**	**76.57**	**337**	*i* Pmax	**P**	**08 14 54.4**	**+3.1**
	comp=Z,18nm,1.3s,mb4.8						
BRG	**Berggiesshubel**	**76.70**	**336**	*e*P	**P**	**08 14 55.0**	**+3.0**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.3						
BRG	**Berggiesshubel**	**76.70**	**336**	*e*P	**P**	**08 14 55.0**	**+3.0**
	comp=Z,17nm,1.9s,mb4.7						
KHC	**Kasperske Hory**	**78.38**	**335**	*e*P	**P**	**08 15 02.2**	**+0.8**
GERES	**GERESS Array B**	**78.60**	**335**	P	**P**	**08 15 04.8**	**+2.2**
	comp=Z,0.4nm,0.2s,mb3.9,baz=116,slow=3.1,SNR=4.6						
BRTR	**Keskin Array B**	**78.92**	**318**	P	**P**	**08 15 05.0**	**+0.7**
	comp=Z,1.8nm,0.9s,mb4.0,baz=69,slow=4.1,SNR=5.1						
BRTR	**Keskin Array B**	**78.92**	**318**	P	**P**	**08 15 05.1**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*IDC **16** 08:07:09.9±1.0, 47.11N×155.80E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/25, mbtmp4.1/14, Error ellipse: s-maj=25.3km s-min=19.0km az=164.0*
*ISCJB **16** 08:07:11.4±6.0, 472N±0.1×1558E±0.2, h21km±42km, mb4.1/18, Error ellipse: s-maj=25.3km s-min=15.5km az=131.9*
*NEIC **16** 08:07:11.3±0.8, 47.10N×155.76E, h10km, mb4.5/3, Error ellipse: s-maj=21.0km s-min=13.1km az=173.0*
*MOS **16** 08:07:12.7±0.9, 47.12N×155.75E, h33km, mb4.5/14, Error ellipse: s-maj=21.7km s-min=14.1km az=108.9*
ISC 16 08:07:15.8±2.5, 472N±01×1558E±02, h40km±22km, n35, σ0§83/35, mb4.1/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.90**	**273**	*e*PN	**Pn**	**08 09 22.0**	**+0.3**
KLR	**Kul'dur**	**16.14**	**286**	*e*P	**Pn**	**08 11 09.2**	**+10**
BILL	**Bilibino**	**21.58**	**11**	*e*P	**P**	**08 12 02.1**	**+0.1**
BILL				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.3						
KSRS	**Korea Array**	**22.68**	**255**	P	**P**	**08 12 14.4**	**+0.8**
	comp=Z,1.6nm,0.6s,mb3.6,baz=61,slow=11,SNR=5.1						
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**08 13 44.7**	**-1.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=71,slow=8.1,SNR=5.3						
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**08 13 44.7**	**-1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**34.65**	**39**	*e*P	**P**	**08 14 00.6**	**-0.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
COLA	**College**	**34.65**	**39**	*e*P	**P**	**08 14 00.6**	**-0.6**
	comp=Z,3.0nm,0.7s,mb4.3						
INK	**Inuvik**	**40.29**	**33**	P	**P**	**08 14 47.8**	**-1.2**
	comp=Z,3.4nm,0.9s,mb4.0,baz=309,slow=6.5,SNR=3.1						
INK	**Inuvik**	**40.29**	**33**	P	**P**	**08 14 47.8**	**-1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAL	**Zalesovo**	**43.85**	**306**	P	**P**	**08 15 16.1**	**-1.9**
	comp=Z,1.4nm,0.4s,mb4.0,baz=42,slow=4.2,SNR=4.0						
ZAL	**Zalesovo**	**43.85**	**306**	P	**P**	**08 15 16.1**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.35**	**298**	P	**P**	**08 15 52.4**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.4,baz=75,slow=6.4,SNR=16						
MKAR	**Makanchi Array**	**48.35**	**298**	P	**P**	**08 15 52.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**08 16 20.8**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.5,baz=58,slow=7.7,SNR=15						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**08 16 20.8**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**08 16 21.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**08 16 21.1**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**08 16 26.4**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**08 16 26.4**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**58.03**	**342**	P	**P**	**08 17 05.7**	**+1.1**
	comp=Z,5.8nm,1.0s,mb4.5,baz=32,slow=8.6,SNR=4.2						
ARCES	**ARCESS Array B**	**58.03**	**342**	P	**P**	**08 17 05.7**	**+1.2**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.78**	**313**	P	**P**	**08 17 17.6**	**+0.8**
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**08 17 17.6**	**+0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=34,slow=9.0,SNR=2.9						
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**08 17 17.6**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**63.00**	**55**	P	**P**	**08 17 39.6**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.9,baz=277,slow=3.5,SNR=6.2						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**08 17 48.1**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.4,baz=39,slow=5.8,SNR=6.8						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**08 17 48.2**	**+0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**68.38**	**342**	P	**P**	**08 18 13.8**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=26,slow=6.4,SNR=2.8						
NOA	**NORSAR Array B**	**68.38**	**342**	P	**P**	**08 18 13.8**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.67**	**341**	P	**P**	**08 18 15.6**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=57,slow=5.3,SNR=4.0						
HFS	**Hagfors**	**68.67**	**341**	P	**P**	**08 18 15.6**	**+0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**69.56**	**202**	P	**P**	**08 18 20.3**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.4,baz=22,slow=6.8,SNR=2.9						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**08 18 56.4**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=300,slow=4.6,SNR=6.0						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**08 18 56.4**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*INMG **16** 08:08:17.1±0.8, 4235N×1156W, h10km, ML2.0, Error ellipse: s-maj=6.6km s-min=2.6km az=107.0*
MDD 16 08:08:16.1±2.0, 4221N×1104W, h0km, mbLg2.4/9, Error ellipse: s-maj=18.8km s-min=9.1km az=105.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**1.69**	**64**	P	**Pn**	**08 08 45.1**	**-1.8**
	2.6nm,0.1s,SNR=8.2						
EMAZ				S	Sn	08 09 05.8	-3.4
	6.8nm,0.1s,SNR=14						
EZAM	**Zamans**	**1.75**	**91**	P	**Pn**	**08 08 46.4**	**-1.2**
	2.5nm,0.1s,SNR=7.9						
EZAM				S	Sn	08 09 09.4	-1.1
	8.8nm,0.2s,SNR=7.9						
STS	**Santiago**	**1.96**	**69**	P	**Pn**	**08 08 49.1**	**-1.5**
	17nm,0.1s,SNR=7.9						
STS				S	Sn	08 09 12.7	-3.2
	11nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**2.31**	**102**	*e*Pn	**Pn**	**08 08 55.0**	**-0.3**
PCAB				*e*Sn	Sn	08 09 23.7	-0.6
PCAB							
	4.6nm,0.1s						
PVRL	**Vila Real**	**2.66**	**110**	*e*Pn	**Pn**	**08 08 59.8**	**-0.4**
PVRL				*e*Sn	Sn	08 09 31.8	-1.3
PVRL							
	4.4nm,0.1s						
PVIS	**Viseu**	**2.80**	**121**	*e*Sn	Sn	08 09 34.5	-2.0
EPON	**Pontenova**	**3.08**	**67**	S	Sn	08 09 39.4	-3.9
	3.3nm,0.1s,SNR=5.8						
PLOU	**Loures**	**3.62**	**156**	*e*Sn	Sn	08 09 52.2	-4.7
PLOU							
	14nm,0.2s						
PLOU	**Loures**	**3.62**	**156**	S	Sn	08 09 52.2	-4.7
	7.1nm,0.2s						
MOE	**Montemor**	**4.22**	**150**	*e*Sn	Sn	08 10 05.7	-5.9
PESTR	**Estremoz**	**4.25**	**141**	*e*Pn	Pn	08 09 20.3	-1.8
PESTR				*e*Sn	Sn	08 10 06.9	-5.5
EARI	**Arriondas**	**4.43**	**74**	P	Pn	08 09 23.6	-0.9
	0.2nm,0.2s,SNR=7.9						
EARI				S	Sn	08 10 12.5	-4.3
	7.4nm,1.1s,SNR=7.9						
EBAD	**Badajoz**	**4.62**	**137**	P	Pn	08 09 25.7	-1.5
	0.6nm,0.1s,SNR=6.8						
EBAD				S	Sn	08 10 16.3	-5.2
	2.6nm,0.2s,SNR=7.3						
PTEO	**Sao Teotonio**	**4.99**	**158**	*e*Sn	Sn	08 10 24.2	-6.4
GUD	**Guadarrama**	**5.41**	**105**	P	Pn	08 09 38.4	+0.4
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.42**	**148**	P	Pn	08 09 36.6	-1.5
	0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	08 10 35.0	-6.0
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.57**	**141**	P	Pn	08 09 39.0	-1.1
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 10 38.7	-6.0
	0.2nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**6.39**	**127**	P	Pn	08 09 50.5	-0.9
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	08 10 58.9	-6.1
	0.5nm,0.1s,SNR=7.9						

*NEIC **16** 08:09:13.1±5.9, 7124N×821W, h10km, Error ellipse: s-maj=74.1km s-min=13.5km az=149.0*
BER 16 08:09:13.5±0.3, 7123N×807W, h8km, MD3.6, ML3.5, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.23**	**210**	*i* P	Pg	08 09 17.9	-0.2
JNW				AML	AML	08 09 26.9	
	comp=Z,14μm,0.5s						
JNE	**Jan Mayen East**	**0.25**	**197**	*i* P	Pg	08 09 18.2	-0.3
JNE				*e*S	Sg	08 09 21.4	-0.5
JMIC	**Jan Mayen**	**0.28**	**211**	*i* P	Pg	08 09 18.5	-0.6
JMIC				*e*S	Sg	08 09 22.4	-0.5
JMI	**Jan Mayen**	**0.37**	**216**	*i* P	Pg	08 09 20.1	-0.6
JMI				*e*S	Sg	08 09 25.1	-0.6
JMI				AML	AML	08 09 28.9	
	comp=Z,2μm,0.3s						
JMI	**Jan Mayen**	**0.37**	**216**	*i* P	Pg	08 09 20.1	-0.6
JMI				*e*S	Sg	08 09 25.1	-0.6
JMI	**Jan Mayen**	**0.37**	**216**	*i* P	Pg	08 09 20.1	-0.7
	SNR=101						
JMI				*e*S	Sg	08 09 25.1	-0.6
	comp=Z,2μm,0.3s,SNR=101						
STOK	**Stokkvaagen**	**9.05**	**113**	*e*Pn	Pn	08 11 23.4	-0.9
STOK	**Stokkvaagen**	**9.05**	**113**	*i* P	Pn	08 11 24.1	-0.2
MOR8	**Moi Rana**	**9.58**	**111**	*e*Pn	Pn	08 11 31.1	-0.6
NSS	**Namsos**	**10.06**	**122**	*e*Pn	Pn	08 11 35.8	-2.4

*NEIC **16** 08:10:03.7±1.4, 4678N×15343E, h10km, mb4.3/1, Error ellipse: s-maj=40.0km s-min=13.5km az=172.0*
*ISCJB **16** 08:10:05.6±1.0, 475N±0.1×1536E±0.2, h10km, mb4.5/21, Error ellipse: s-maj=26.0km s-min=8.1km az=106.3*
*IDC **16** 08:10:05.6±1.5, 4760N×15372E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML3.3/1, Error ellipse: s-maj=40.3km s-min=17.7km az=167.0*
*MOS **16** 08:10:09.5±1.9, 4686N×15385E, h78km, mb4.4/10, Error ellipse: s-maj=19.1km s-min=16.1km az=21.3*
ISC 16 08:10:07.6±1.0, 476N±01×1536E±02, h10km, n44, σ1§16/45, mb4.5/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.62**	**242**	*e*PN	**Pn**	**08 11 15.5**	**-1.9**
KUR				*i* S	**Sn**	**08 12 10.0**	**-1.1**
KUR				pmax	pmax		
	comp=N,60nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				smax			
	comp=N,200nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.42**	**269**	*e*PN	**Pn**	**08 12 02.6**	**+6.7**
YSS				*e*		08 13 29.0	
YSS	**Yuzh-Sakhalins**	**7.42**	**269**	*e*Pn	**Pn**	**08 11 50.7**	**-5.3**
	comp=E,11nm,0.4s						
ASAJ	**Asahikawa**	**8.44**	**250**	Pn	**Pn**	**08 12 09.2**	**-0.7**
	comp=E,0.4nm,0.3s,baz=149,slow=30,SNR=1.9						
KSRS	**Korea Array**	**21.38**	**251**	P	**P**	**08 14 56.0**	**+0.7**
	comp=E,1.4nm,0.6s,mb3.5,baz=56,slow=11,SNR=4.1						
SONM	**Songino Array**	**31.39**	**288**	P	**P**	**08 16 29.5**	**+0.8**
	comp=E,0.6nm,0.6s,mb3.6,baz=64,slow=9.4,SNR=5.7						
SONM	**Songino Array**	**31.39**	**288**	P	**P**	**08 16 29.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**40.77**	**33**	P	**P**	**08 17 45.5**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=194,slow=22,SNR=3.7						
INK	**Inuvik**	**40.77**	**33**	P	**P**	**08 17 45.5**	**-3.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**42.43**	**305**	P	**P**	**08 18 01.5**	**-1.0**
	comp=Z,1.1nm,0.5s,mb3.7,baz=35,slow=7.3,SNR=3.7						
ZAL	**Zalesovo**	**42.43**	**305**	P	**P**	**08 18 01.5**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**08 18 35.9**	**-2.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=67,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**08 18 35.9**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**50.58**	**273**	P	**P**	**08 19 01.6**	**-4.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
LSA	**Lhasa**	**50.58**	**273**	P	**P**	**08 19 01.6**	**-4.8**
	comp=Z,5.9nm,1.5s,mb4.3						
BVAR	**Borovoye Array**	**50.61**	**309**	P	**P**	**08 19 06.8**	**+0.1**
	comp=Z,1.5nm,0.4s,mb4.2,baz=60,slow=7.4,SNR=10						
BVAR	**Borovoye Array**	**50.61**	**309**	P	**P**	**08 19 06.8**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JIRN	**Jiri**	**55.23**	**274**	*e*P	**P**	**08 19 42.2**	**+1.4**
	comp=Z,29nm,0.6s,mb5.5						
GUN	**Gumba**	**55.28**	**275**	*e*P	**P**	**08 19 42.3**	**+1.2**
	comp=Z,15nm,0.5s,mb5.3						
KKN	**Kakani**	**55.76**	**275**	*e*P	**P**	**08 19 45.9**	**+1.3**
	comp=Z,23nm,0.6s,mb5.3						
PKI	**Pulchoki**	**55.81**	**275**	*e*P	**P**	**08 19 46.3**	**+1.3**
	comp=Z,22nm,0.7s,mb5.3						
DMN	**Daman**	**55.99**	**275**	*e*P	**P**	**08 19 47.8**	**+1.5**
	comp=Z,47nm,0.9s,mb5.5						
GKN	**Gorkha**	**56.05**	**276**	*e*P	**P**	**08 19 47.8**	**+1.1**
	comp=Z,39nm,0.7s						
KOLN	**Koldanda**	**56.90**	**276**	*e*P	**P**	**08 19 54.0**	**+1.3**
	comp=Z,26nm,0.9s,mb5.3						
ARCES	**ARCESS Array B**	**57.19**	**341**	P	**P**	**08 19 54.5**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=30,slow=7.3,SNR=4.7						
AKTK	**Aktyubinsk**	**58.44**	**312**	P	**P**	**08 20 03.3**	**-0.3**
AKTO	**Aktyubinsk**	**58.44**	**312**	P	**P**	**08 20 03.3**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=56,slow=9.6,SNR=3.6						
AKTO	**Aktyubinsk**	**58.44**	**312**	P	**P**	**08 20 03.3**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**63.44**	**335**	P	**P**	**08 20 36.8**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.4,baz=38,slow=9.0,SNR=9.3						
FINES	**FINESS Array B**	**63.44**	**335**	P	**P**	**08 20 36.8**	**-0.8**

IDC ***16*** *08:15:40.9±1.4, 4753N×15553E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, ML3.5/1, Error ellipse: s-maj=40.0km s-min=17.3km az=166.0*

NEIC ***16*** *08:15:42.5±0.6, 4754N×15546E, h10km, mb4.6/5, Error ellipse: s-maj=15.4km s-min=8.3km az=146.0*

MOS ***16*** *08:15:43.6±1.4, 4741N×15540E, h33km, mb4.5/10, Error ellipse: s-maj=13.5km s-min=12.6km az=178.6*

ISCJB ***16*** *08:15:44.9±2.5, 475N±0.1×1554E±0.2, h42km±23km, mb4.2/17, Error ellipse: s-maj=23.9km s-min=16.1km az=125.5*

ISC 16 08:15:47.1±1.9**, 475N**±01×**1554E**±02**, h48**km±18km**, n41, σ0§61/41, mb4.2/17, 1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.69**	**250**	*e*PN	**Pn**	**08 17 03.0**	**-6.1**
KUR	comp=Z,80nm,0.6s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.65**	**271**↓↓	*e*PN	**Pn**	**08 17 50.2**	**+0.5**
YSS	comp=Z,30nm,0.9s			pmax	pmax		
ASAJ	**Asahikawa**	**9.57**	**254**	Pn	**Pn**	**08 18 00.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=49,slow=22,SNR=3.6						
ASAJ	**Asahikawa**	**9.57**	**254**	PN	**Pn**	**08 18 01.0**	**-1.3**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
KLR	**Kul'dur**	**15.84**	**285**	*e*P	**Pn**	**08 19 27.0**	**+0.2**
MAJO	**Matsushiro**	**16.78**	**236**	*e*P	**Pn**	**08 19 38.1**	**-0.6**
MAJO	comp=Z,6.0nm,0.8s			pmax	pmax		
MAJO	**Matsushiro**	**16.78**	**236**	*e*Pn	**Pn**	**08 19 38.1**	**-0.6**
	comp=Z,5.9nm,0.8s						
MJAR	**Matsushiro Arr**	**16.78**	**236**	Pn	**Pn**	**08 19 39.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=36,slow=9.9,SNR=6.8						
BILL	**Bilibino**	**21.37**	**11**	*e*P	**P**	**08 20 31.3**	**+0.9**
BILL	comp=Z,12nm,1.0s,mb4.2			pmax	pmax		
KSRS	**Korea Array**	**22.52**	**254**	P	**P**	**08 20 44.4**	**+1.7**
	comp=Z,0.6nm,0.4s,mb3.4,baz=51,slow=9.6,SNR=4.1						
SONM	**Songino Array**	**32.60**	**289**	P	**P**	**08 22 13.3**	**-0.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=86,slow=7.1,SNR=6.0						
SONM	**Songino Array**	**32.60**	**289**	P	**P**	**08 22 13.3**	**-0.7**
SONM	comp=Z,1.0nm,0.9s			pmax	pmax		
INK	**Inuvik**	**40.20**	**33**	P	**P**	**08 23 18.6**	**-0.2**
	comp=Z,1.8nm,0.7s,mb3.9,baz=267,slow=12,SNR=7.7						
INK	**Inuvik**	**40.20**	**33**	P	**P**	**08 23 18.6**	**-0.2**
INK	comp=Z,2.0nm,0.7s			pmax	pmax		
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**08 23 45.1**	**-0.7**
	comp=Z,1.3nm,0.3s,mb4.2,baz=306,slow=4.9,SNR=2.8						
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**08 23 45.1**	**-0.7**
ZAL	comp=Z,1.0nm,0.3s			pmax	pmax		
MK31	**Makanchi Array**	**48.02**	**298**	*e*P	**P**	**08 24 20.8**	**-0.6**
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**08 24 21.1**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.5,baz=68,slow=6.9,SNR=17						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**08 24 21.1**	**-0.3**
MKAR	comp=Z,4.0nm,1.0s			pmax	pmax		
CHKZ	**Chkalovo**	**51.19**	**311**	*e*P	**P**	**08 24 45.1**	**-0.4**
CHKZ	comp=Z,5.0nm,0.5s,mb4.7			pmax	pmax		
CHKZ	**Chkalovo**	**51.19**	**311**	*e*P	**P**	**08 24 45.1**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**51.63**	**310**	P	**P**	**08 24 49.3**	**+0.5**
	comp=Z,2.5nm,0.5s,mb4.4,baz=56,slow=7.3,SNR=14						
BVAR	**Borovoye Array**	**51.63**	**310**	P	**P**	**08 24 49.3**	**+0.5**
BVAR	comp=Z,3.0nm,0.5s			pmax	pmax		
LSA	**Lhasa**	**51.81**	**274**	*e*P	**P**	**08 24 50.6**	**+0.4**
LSA	comp=Z,7.0nm,0.4s,mb4.9			pmax	pmax		
LSA	**Lhasa**	**51.81**	**274**	*e*P	**P**	**08 24 50.6**	**+0.4**
	comp=Z,6.7nm,0.4s,mb4.9						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**08 25 13.3**	**+0.2**
AAK	comp=Z,1.0nm,0.6s,mb4.0			pmax	pmax		
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**08 25 13.3**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.2						
ARU	**Arti**	**55.56**	**318**	*e*P	**P**	**08 25 17.2**	**-0.4**
ARU	**Arti**	**55.56**	**318**	*e*P	**P**	**08 25 17.2**	**-0.3**
	comp=Z,5.6nm,0.5s,mb4.8						
AKTK	**Aktyubinsk**	**59.43**	**313**	P	**P**	**08 25 45.1**	**+0.2**
AKTO	**Aktyubinsk**	**59.43**	**313**	P	**P**	**08 25 45.1**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=43,slow=6.5,SNR=7.9						
AKTO	**Aktyubinsk**	**59.43**	**313**	P	**P**	**08 25 45.1**	**+0.3**
AKTO	comp=Z,2.0nm,0.6s,mb4.3			pmax	pmax		
PDAR	**Pinedale Array**	**63.05**	**55**	P	**P**	**08 26 09.2**	**0.0**
	comp=Z,0.9nm,0.8s,mb4.0,baz=288,slow=2.6,SNR=9.5						
FINES	**FINESS Array B**	**64.07**	**336**	P	**P**	**08 26 15.9**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=32,slow=7.6,SNR=5.4						
FINES	**FINESS Array B**	**64.07**	**336**	P	**P**	**08 26 15.9**	**-0.1**
FINES	comp=Z,1.0nm,0.6s			pmax	pmax		
NB2	**NORSAR Subarra**	**68.06**	**342**	P	**P**	**08 26 42.0**	**+0.3**
	comp=Z,9.4nm,1.2s,mb4.7,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**08 26 41.6**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.2,baz=26,slow=6.3,SNR=3.8						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**08 26 41.6**	**-0.1**
NOA	comp=Z,3.0nm,1.0s			pmax	pmax		
TXAR	**Lajitas Array**	**75.76**	**62**	P	**P**	**08 27 27.4**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=306,slow=4.6,SNR=7.6						
TXAR	**Lajitas Array**	**75.76**	**62**	P	**P**	**08 27 27.4**	**-0.4**
TXAR	comp=Z,1.0nm,0.7s			pmax	pmax		
GERES	**GERESS Array B**	**78.50**	**335**	P	**P**	**08 27 43.5**	**+0.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=322,slow=10,SNR=2.9						

IDC ***16*** *08:16:20.7±7.1, 1818S×17529W, h90km±43km, mb4.1/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, Error ellipse: s-maj=180.8km s-min=23.4km az=143.0*

ISCJB ***16*** *08:16:22.7±3.8, 186S±04×1743W±05, h197km±39km, mb4.0/5, Error ellipse: s-maj=103.2km s-min=33.6km az=80.1*

NEIC ***16*** *08:16:23.1±3.3, 1868S×174.14W, h193km±26km, mb4.0/2, Error ellipse: s-maj=81.9km s-min=24.3km az=139.0*

ISC 16 08:16:23.9±3.8**, 185S**±04×**1743W**±05**, h189**km±36km**, n13, σ0§44/12, mb4.2/5, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.18**	**28**	P	**Pn**	**08 17 40.7**	**+0.5**
	3.5nm,0.3s,baz=231,slow=17,SNR=6.0						
AFI				S	**Sn**	**08 18 40.0**	**-0.3**
	14nm,0.3s,baz=26,slow=23,SNR=9.1						
DZM	**Mont Dzumac**	**18.44**	**256**	P	**P**	**08 20 25.1**	**-0.1**
	0.3nm,0.3s,baz=88,slow=18,SNR=3.7						
CTA	**Charters Tower**	**37.24**	**261**	P	**P**	**08 23 17.1**	**-0.1**
	5.7nm,0.4s,mb4.5,baz=89,slow=10,SNR=24						
PMG	**Port Moresby**	**38.45**	**278**	*e*P	**P**	**08 23 27.9**	**+0.6**
	3.5nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**48.39**	**260**	*e*P	**P**	**08 24 46.2**	**-0.5**
WRA	**Warramunga Arr**	**48.40**	**260**	P	**P**	**08 24 46.3**	**-0.4**
	1.3nm,0.3s,mb4.0,baz=97,slow=7.5,SNR=86						
AS31	**Alice Springs**	**48.42**	**255**	*e*P	**P**	**08 24 46.7**	**-0.3**
ASAR	**Alice Springs**	**48.42**	**255**	P	**P**	**08 24 46.6**	**-0.4**
	3.3nm,0.7s,mb4.1,baz=90,slow=8.4,SNR=53						
ASPA	**Alice Springs**	**48.43**	**255**	*e*P	**P**	**08 24 47.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.82**	**260**	*e*P	**P**	**08 25 49.5**	**+1.0**
	4.1nm,2.0s,mb3.9						
KKM	**Kota Kinabalu**	**72.72**	**283**	*e*P	**P**	**08 27 31.1**	**-0.1**
BRTR	**Keskin Array B**	**147.97**	**317**	PKPbc	PKPab	08 35 53.5	+3.5
	1.1nm,0.6s,baz=64,slow=3.4,SNR=4.6						
GERES	**GERESS Array B**	**149.08**	**350**	PKPbc	PKPab	08 35 56.6	+2.1
	0.3nm,0.2s,baz=127,slow=2.6,SNR=1.6						

ISCJB ***16*** *08:16:34.1±0.7, 4689N±0.009×1553E±0.1, h10km, mb4.0/12, Error ellipse: s-maj=16.1km s-min=9.2km az=93.2*

IDC ***16*** *08:16:34.5±0.9, 4693N×15550E, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=26.0km s-min=21.4km az=119.0*

NEIC ***16*** *08:16:36.0±0.6, 4687N×15536E, h10km, mb4.4/3, Error ellipse: s-maj=14.3km s-min=8.9km az=130.0*

MOS ***16*** *08:16:37.5±1.2, 4692N×15525E, h33km, mb4.3/10, Error ellipse: s-maj=17.1km s-min=12.5km az=52.9*

ISC 16 08:16:36.9±5.0**, 4695N**±008×**1554E**±02**, h17**km±31km**, n33, σ1§16/34, mb4.0/12, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.49**	**254**	PN	**Pn**	**08 17 56.0**	**-1.8**
PET	**Petropavlovsk**	**6.44**	**18**	*e*PN	**Pn**	**08 18 11.8**	**+0.9**
PET	comp=Z,16nm,0.6s			pmax	pmax		
PET	**Petropavlovsk**	**6.44**	**18**	*e*Pn	**Pn**	**08 18 11.8**	**+0.9**
	comp=Z,16nm,0.6s						
PET				*e*Sn	**Sn**	**08 19 22.2**	**-1.7**
YSS	**Yuzh-Sakhalins**	**8.63**	**275**	*e*PN	**Pn**	**08 18 40.9**	**0.0**
YSS	comp=Z,27nm,1.3s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.63**	**275**	*e*Pn	**Pn**	**08 18 40.9**	**0.0**
	comp=Z,26nm,1.3s						
ASAJ	**Asahikawa**	**9.40**	**257**	Pn	**Pn**	**08 18 54.0**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=28,slow=18,SNR=2.5						
ASAJ	**Asahikawa**	**9.40**	**257**	PN	**Pn**	**08 18 54.0**	**+2.6**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MAJO	**Matsushiro**	**16.46**	**237**	*e*P	**Pn**	**08 20 25.6**	**-1.3**
MAJO	comp=Z,7.0nm,0.8s			pmax	pmax		
MAJO	**Matsushiro**	**16.46**	**237**	*e*Pn	**Pn**	**08 20 25.6**	**-1.4**
	comp=Z,6.9nm,0.8s						
MJAR	**Matsushiro Arr**	**16.46**	**237**	Pn	**Pn**	**08 20 25.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=4.9						
KSRS	**Korea Array**	**22.33**	**255**	P	**P**	**08 21 37.5**	**+3.7**
	comp=Z,2.8nm,0.8s,mb3.7,baz=58,slow=11,SNR=4.9						
SONM	**Songino Array**	**32.72**	**290**	P	**P**	**08 23 10.9**	**+2.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=8.5,SNR=3.1						
SONM	**Songino Array**	**32.72**	**290**	P	**P**	**08 23 10.9**	**+2.4**
SONM	comp=Z,1.0nm,0.6s			pmax	pmax		
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 24 15.8**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.8,baz=289,slow=13,SNR=5.0						
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 24 15.8**	**-0.2**
INK	comp=Z,2.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**08 25 16.4**	**0.0**
	comp=Z,2.3nm,1.0s,mb4.2,baz=67,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**08 25 16.5**	**0.0**
MKAR	comp=Z,2.0nm,1.0s			pmax	pmax		
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**08 25 40.9**	**-0.4**
CHKZ	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**08 25 40.9**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**08 25 44.8**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=53,slow=7.2,SNR=5.4						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**08 25 44.8**	**+0.2**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax		
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**08 27 12.7**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=36,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**08 27 12.7**	**+0.1**
FINES	comp=Z,1.0nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek**	**69.22**	**201**	*e*P	**P**	**08 27 42.2**	**-0.5**
WRAB	comp=Z,4.0nm,0.9s,mb4.3			pmax	pmax		
WRAB	**Tennant Creek**	**69.22**	**201**	*e*P	**P**	**08 27 42.2**	**-0.5**
	comp=Z,3.5nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 27 42.6**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=16,slow=6.6,SNR=8.4						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 27 42.6**	**-0.1**
WRA	comp=Z,2.0nm,0.8s			pmax	pmax		
AKASG	**Malin Array Be**	**72.22**	**327**	P	**P**	**08 28 01.8**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=29,slow=4.6,SNR=3.1						
AKASG	**Malin Array Be**	**72.22**	**327**	P	**P**	**08 28 01.8**	**+0.8**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**08 28 06.3**	**+1.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=5.8,SNR=8.7						
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**08 28 06.3**	**+1.2**
ASAR	comp=Z,1.0nm,0.8s			pmax	pmax		
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**08 28 23.4**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=295,slow=4.5,SNR=4.6						
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**08 28 23.5**	**+0.2**
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax		

NEIC ***16*** *08:17:40.9±2.2, 4725N×15421E, h10km, mb3.9/1, Error ellipse: s-maj=60.3km s-min=13.3km az=167.0*

ISCJB ***16*** *08:17:43.9±0.8, 476N±0.1×1544E±0.1, h30km, mb3.8/10, Error ellipse: s-maj=22.9km s-min=9.1km az=118.3*

IDC ***16*** *08:17:45.2±0.7, 4742N×15423E, h31km±4km, mb3.7/9, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, Error ellipse: s-maj=26.8km s-min=18.3km az=118.0*

MOS ***16*** *08:17:50.5±1.2, 4749N×15400E, h95km, mb3.8/9, Error ellipse: s-maj=24.4km s-min=16.3km az=69.7*

ISC 16 08:17:46.0±0.8**, 476N**±01×**1544E**±01**, h32**km**, h32**km±1.6km**:pP-P, n25**, σ1§21/23**, mb3.8**/10**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.11**	**244**	PN	**Pn**	**08 19 02.5**	**+2.3**
KUR				*e*S	**Sn**	**08 19 58.0**	**0.0**
KUR	comp=N,170nm,0.7s			smax			
KUR	comp=E,100nm,0.7s			smax			
YSS	**Yuzh-Sakhalins**	**7.94**	**269**↑	*e*PN	**Pn**	**08 19 41.0**	**+1.9**
YSS				*e*		08 21 13.0	
YSS	comp=Z,30nm,0.7s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**7.94**	**269**	*e*Pn	**Pn**	**08 19 34.5**	**-4.6**
YSS				*e*pPn		08 19 41.5	
INK	**Inuvik**	**40.44**	**33**	P	**P**	**08 25 21.4**	**0.0**
	comp=Z,1.8nm,0.7s,mb3.9,baz=288,slow=6.0,SNR=4.2						
INK				pP	pP	08 25 32.1	+1.2
	comp=Z,5.6nm,0.7s,baz=277,slow=6.3,SNR=10						
INK	**Inuvik**	**40.44**	**33**	P	**P**	**08 25 21.4**	**+0.1**
INK	comp=Z,2.0nm,0.7s			pmax	pmax		
INK	comp=Z,6.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**08 26 14.7**	**-1.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=69,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**08 26 14.7**	**-1.8**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
CHKZ	**Chkalovo**	**50.52**	**310**	*e*P	**P**	**08 26 40.0**	**-1.1**
CHKZ	comp=Z,1.0nm,0.7s,mb3.9			pmax	pmax		
CHKZ	**Chkalovo**	**50.52**	**310**	*e*P	**P**	**08 26 40.0**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.9						
NEW	**Newport**	**55.95**	**54**	pP	pP	08 27 30.2	-0.7
	comp=Z,3.2nm,1.0s,baz=292,slow=17,SNR=3.1						
YBH	**Yreka Blue Hor**	**56.57**	**63**	pP	pP	08 27 35.2	0.0
	comp=Z,5.1nm,0.9s,baz=355,slow=7.9,SNR=3.0						
PDAR	**Pinedale Array**	**63.53**	**55**	P	**P**	**08 28 13.8**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=338,slow=1.5,SNR=3.0						
PDAR				pP	pP	08 28 23.1	0.0
	comp=Z,4.6nm,0.8s,baz=289,slow=2.3,SNR=23						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**08 28 13.4**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=57,slow=8.8,SNR=2.5						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**08 28 13.4**	**-0.3**
FINES	comp=Z,2.0nm,0.9s			pmax	pmax		
NOA	**NORSAR Array B**	**67.66**	**342**	P	**P**	**08 28 40.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=28,slow=6.4,SNR=2.5						
NOA				pP	pP	08 28 49.5	-0.4
	comp=Z,1.4nm,0.7s,baz=26,slow=6.5,SNR=3.6						
NOA	**NORSAR Array B**	**67.66**	**342**	P	**P**	**08 28 40.1**	**+0.2**
NOA	comp=Z,1.0nm,0.7s			pmax	pmax		
NOA	comp=Z,1.0nm,0.7s			pmax	pmax		
WRA	**Warramunga Arr**	**69.64**	**200**	P	**P**	**08 28 48.6**	**-3.6**
	comp=Z,1.2nm,1.1s,mb3.8,baz=16,slow=6.9,SNR=3.0						
WRA	**Warramunga Arr**	**69.64**	**200**	P	**P**	**08 28 48.6**	**-3.6**
WRA	comp=Z,1.0nm,1.1s			pmax	pmax		
AKASG	**Malin Array Be**	**71.28**	**327**	pP	pP	08 29 10.8	-1.5
	comp=Z,1.8nm,0.6s,baz=36,slow=6.5,SNR=3.2						
ASAR	**Alice Springs**	**73.33**	**200**	P	**P**	**08 29 13.2**	**-1.2**
	comp=Z,1.0nm,0.9s,mb3.7,baz=15,slow=6.5,SNR=5.4						
ASAR				pP	pP	08 29 22.4	-2.1
	comp=Z,1.5nm,0.8s,baz=16,slow=4.9,SNR=6.7						
ASAR	**Alice Springs**	**73.33**	**200**	P	**P**	**08 29 13.2**	**-1.2**
ASAR				*P	pP	08 29 22.5	-2.1
ASAR	comp=Z,1.0nm,0.9s			pmax	pmax		
ASAR	comp=Z,2.0nm,0.8s			pmax	pmax		
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**08 29 33.0**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=305,slow=3.2,SNR=2.9						
TXAR				pP	pP	08 29 41.6	-0.2
	comp=Z,3.3nm,0.7s,baz=301,slow=4.4,SNR=16						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**08 29 33.0**	**+1.3**
TXAR				*P	pP	08 29 41.6	-0.2
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax		
TXAR	comp=Z,3.0nm,0.7s			pmax	pmax		
GERES	**GERESS Array B**	**78.03**	**335**	P	**P**	**08 29 41.9**	**+0.6**
	comp=Z,0.5nm,0.3s,mb4.0,baz=38,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**78.03**	**335**	P	**P**	**08 29 41.9**	**+0.6**
GERES	comp=Z,1.0nm,0.3s			pmax	pmax		

ISCJB ***16*** *08:20:53.2±0.6, 469N±0.1×1554E±0.1, h10km, mb3.8/9, Error ellipse: s-maj=21.3km s-min=10.5km az=119.7*

IDC ***16*** *08:20:53.4±0.9, 4695N×15551E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, ML3.5/2, Error ellipse: s-maj=29.3km s-min=22.2km az=130.0*

NEIC ***16*** *08:20:55.0±0.5, 4690N×15551E, h10km, mb4.6/1, Error ellipse: s-maj=19.0km s-min=11.6km az=140.0*

MOS ***16*** *08:20:56.8±1.4, 4692N×15524E, h33km, mb4.1/6, Error ellipse: s-maj=26.8km s-min=18.3km az=135.6*

ISC 16 08:20:54.9±0.6**, 469N**±01×**1554E**±01**, h10**km**, n22, σ0§88/22, mb3.8/9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.54**	**255**	*e*PN	**Pn**	**08 22 15.0**	**-2.4**
KUR	comp=Z,70nm,0.5s			pmax	pmax		
ASAJ	**Asahikawa**	**9.45**	**257**	Pn	**Pn**	**08 23 11.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=132,slow=23,SNR=1.7						
MJAR	**Matsushiro Arr**	**16.49**	**237**	Pn	**Pn**	**08 24 46.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=182,slow=16,SNR=3.7						
KSRS	**Korea Array**	**22.38**	**255**	P	**P**	**08 25 57.4**	**+4.1**
	comp=Z,0.7nm,0.6s,mb3.3,baz=62,slow=8.8,SNR=3.3						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**08 28 34.5**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.0,baz=292,slow=7.9,SNR=7.8						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**08 28 34.5**	**-0.6**
INK	comp=Z,3.0nm,0.8s			pmax	pmax		
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**08 29 35.6**	**-0.5**
	comp=Z,1.3nm,0.9s,mb4.0,baz=66,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**08 29 35.6**	**-0.5**
MKAR	comp=Z,1.0nm,0.9s			pmax	pmax		
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**08 30 03.6**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=63,slow=7.6,SNR=5.3						
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**08 30 03.6**	**-0.5**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax		
GCMT	**Greycliff**	**61.35**	**53**	*e*P	**P**	**08 31 11.2**	**+0.3**
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 32 01.8**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=20,slow=6.7,SNR=5.1						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 32 01.8**	**-0.1**
WRA	comp=Z,1.0nm,0.9s			pmax	pmax		
KONO	**Kongsberg**	**70.16**	**342**	*e*P	**P**	**08 32 09.3**	**+1.6**
KONO	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
KONO	**Kongsberg**	**70.16**	**342**	*e*P	**P**	**08 32 09.2**	**+1.6**
	comp=Z,2.9nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**72.27**	**327**	P	**P**	**08 32 21.0**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=34,slow=6.9,SNR=3.5						
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**08 32 25.0**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=17,slow=5.8,SNR=6.5						
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**08 32 25.0**	**+0.7**
ASAR	comp=Z,1.0nm,0.8s			pmax	pmax		
TXAR	**Lajitas Array**	**76.00**	**62**	P	**P**	**08 32 41.8**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=298,slow=3.9,SNR=4.9						
TXAR	**Lajitas Array**	**76.00**	**62**	P	**P**	**08 32 41.8**	**-0.4**
TXAR	comp=Z,1.0nm,0.7s			pmax	pmax		
ALLY	**Alegheny Colle**	**78.94**	**39**	*e*P	**P**	**08 32 58.8**	**+0.1**
TEIG	**Tepich**	**91.99**	**57**	*e*P	**P**	**08 34 03.0**	**-0.8**
	comp=Z,159nm,2.3s						

SKHL ***16*** *08:24:03.4±1.5, 4676N×15528E, h63km±26km, msh5.9/1*

IDC ***16*** *08:24:06.4±0.6, 4753N×15400E, h0km, mb4.4/21, mb1 4.5/22, mb1mx4.5/25, mbtmp4.3/22, ML3.9/1, Error ellipse: s-maj=17.5km s-min=14.2km az=152.0*

BJI ***16*** *08:24:08.0, 4760N×154.10E, h10km, mB4.7, mb4.3, Ms5.0, Msz4.9*

NEIC ***16*** *08:24:08.4±0.3, 4757N×15407E, h10km, mb4.8/16, Error ellipse: s-maj=10.3km s-min=5.9km az=140.0*

SZGRF ***16*** *08:24:08.4, 4673N×15486E, h33km, mb5.1, East of Kuril Islands, Russia*

ISCJB ***16*** *08:24:11.1±1.0, 4745N±006×15422E±008, h44km±8km, mb4.7/48, Error ellipse: s-maj=11.7km s-min=6.0km az=98.3*

MOS ***16*** *08:24:12.4±1.3, 4741N×15407E, h57km, mb4.7/28, Error ellipse: s-maj=9.8km s-min=7.1km az

comp=E,700nm,0.7s
YUK smax
comp=N,250nm,0.5s
YSS Yuzh-Sakhalins 7.82 270⇑ *i*P Pn 08 26 07.3 +2.6
YSS AMB AMB 08 26 08.0
comp=N,110nm,0.9s
YSS AMB AMB 08 26 08.0
comp=N,110nm,0.6s
YSS AMB AMB 08 26 08.0
comp=N,90nm,0.6s
YSS *e*S **Sn 08 27 34.8 +2.9**
YSS A 08 27 38.0
comp=N,50nm,0.9s
YSS Yuzh-Sakhalins 7.82 270⇑ *i*PN Pn 08 26 07.3 +2.6
YSS *e*S **Sn 08 27 34.8 +2.9**
YSS pmax pmax
comp=N,90nm,0.6s
YSS pmax pmax
comp=Z,110nm,0.6s
YSS pmax pmax
comp=E,110nm,0.9s
YSS smax
comp=E,50nm,0.9s
YSS Yuzh-Sakhalins 7.82 270 *e*P Pn 08 26 07.3 +2.5
comp=E,80nm,0.6s
UGL Uglegorsk 8.25 285 *e*P Pn 08 26 13.5 +2.9
UGL AMB AMB 08 26 14.5
comp=E,38nm,0.8s
TYV Tymovskoe 8.28 298 *e*P Pn 08 26 12.0 +1.0
TYV AMB AMB 08 26 22.5
comp=E,13nm,0.8s
TYV AMB AMB 08 26 22.5
comp=E,29nm,0.8s
ASAJ Asahikawa 8.79 252 Pn **Pn 08 26 17.9 -0.2**
comp=E,2.4nm,0.3s,baz=67,slow=11,SNR=14
ASAJ Asahikawa 8.79 252 PN **Pn 08 26 17.9 -0.2**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ERM Erimo 9.59 239 *e*PN Pn 08 26 26.2 -2.8
ERM pmax pmax
comp=Z,101nm,1.0s
ERM Erimo 9.59 239 *e*P Pn 08 26 26.2 -2.8
comp=Z,102nm,1.0s
KLR Kul'dur 15.02 285 *e*P Pn 08 27 42.4 -0.2
MAJO Matsushiro 16.14 233 *e*P Pn 08 27 56.1 -0.9
MAJO pmax pmax
comp=Z,10.0nm,0.6s
MAJO Matsushiro 16.14 233 *e*P Pn 08 27 56.1 -0.9
comp=Z,10nm,0.6s
MAT Matsushiro 16.14 233 P **Pn 08 27 56.2 -0.8**
MJAR Matsushiro Arr 16.14 233 Pn **Pn 08 27 53.5 -3.5**
comp=Z,0.5nm,0.3s,baz=24,slow=14,SNR=7.0
MJAR Matsushiro Arr 16.14 233 P **Pn 08 27 53.5 -3.5**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
ZEA Zeya 18.14 300 *e*P Pn 08 28 21.1 -0.6
ZEA AMB AMB 08 28 22.0
comp=Z,27nm,0.9s
YAK Yakutsk 20.10 325⇑ *e*P P 08 28 45.7 +2.8
YAK pmax pmax
comp=Z,29nm,1.0s
CLNS Chul'man 20.11 308 *e*P P 08 28 52.1 +9.0
CLNS pmax pmax
comp=Z,22nm,0.8s
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,26nm,0.9s
BILL Bilibino 21.48 12⇑ *e*P P 08 28 56.1 -1.7
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
KSRS Korea Array 21.75 252 P **P 08 29 00.8 +0.2**
comp=Z,8.2nm,0.6s,mb4.3,baz=56,slow=10,SNR=13
HIA Hailar 22.84 287⇑ *e*P P 08 29 12.4 +0.1
SONM Songino Array 31.79 289 P **P 08 30 32.5 -0.6**
comp=Z,0.7nm,0.7s,mb3.6,baz=75,slow=8.1,SNR=4.8
SONM PcP PcP 08 33 23.0 -0.3
comp=Z,1.0nm,0.9s,baz=90,slow=4.4,SNR=5.2
SONM Songino Array 31.79 289 P **P 08 30 32.5 -0.6**
SONM 08 33 23.0
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.9s
COLA College 35.07 39 *e*P P 08 31 01.8 +0.2
COLA pmax pmax
comp=Z,16nm,1.0s,mb4.9
COLA College 35.07 39 *e*P P 08 31 01.8 +0.1
comp=Z,16nm,1.0s,mb4.9
INK Inuvik 40.60 33 P **P 08 31 48.9 +0.7**
comp=Z,8.4nm,0.7s,mb4.5,baz=290,slow=6.6,SNR=43
INK Inuvik 40.60 33 P **P 08 31 48.9 +0.6**
INK pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 40.60 33 P **P 08 31 48.9 +0.7**
GYA Guiyang 42.61 258⇑ *i*P P 08 32 04.4 -0.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
ZAL Zalesovo 42.79 305 P **P 08 32 04.2 -1.9**
comp=Z,1.7nm,0.3s,mb4.3,baz=42,slow=13,SNR=4.5
ZAL Zalesovo 42.79 305 P **P 08 32 04.3 -1.9**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 47.26 297 *e*P P 08 32 39.9 -1.7
MKAR Makanchi Array 47.26 297 P **P 08 32 39.6 -2.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=64,slow=8.0,SNR=35
MKAR PcP PcP 08 34 11.6 -0.6
comp=Z,1.0nm,0.9s,baz=57,slow=4.3,SNR=2.7
MKAR Makanchi Array 47.26 297 P **P 08 32 39.6 -2.0**
MKAR 08 34 11.6
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 49.86 37 P **P 08 33 01.9 +0.3**
comp=Z,3.2nm,0.9s,mb4.4,baz=293,slow=6.7,SNR=3.5
YKA Yellowknife Ar 49.86 37 P **P 08 33 01.9 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 50.95 309 P **P 08 33 07.3 -2.5**
comp=Z,1.4nm,0.4s,mb4.3,baz=61,slow=9.6,SNR=8.6
BVAR PcP PcP 08 34 25.1 -0.4
comp=Z,1.8nm,0.8s,baz=46,slow=4.3,SNR=4.2
BVAR Borovoye Array 50.95 309 P **P 08 33 07.3 -2.6**
BVAR 08 34 25.1
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 50.98 273 *e*P P 08 33 12.1 +2.0
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA Lhasa 50.98 273 *e*P P 08 33 12.1 +2.0
comp=Z,7.2nm,0.6s,mb4.8
CHTO Chiang Mai 53.02 257 *e*P P 08 33 25.8 +0.5
CHTO *e* 08 35 23.0
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CHTO Chiang Mai 53.02 257 *e*P P 08 33 25.8 +0.5
comp=Z,4.0nm,0.8s,mb4.4
CHTO *e*PP PP 08 35 23.0 -2.4
JIRN Jiri 55.63 275 *e*P P 08 33 45.2 +1.0
comp=Z,33nm,0.7s,mb5.4
GUN Gumba 55.68 275 *e*P P 08 33 45.1 +0.5
comp=Z,18nm,0.6s,mb5.3
KKN Kakani 56.16 276 *e*P P 08 33 48.9 +0.9
comp=Z,22nm,0.6s,mb5.4
PKI Pulchoki 56.22 275 *e*P P 08 33 49.1 +0.7
comp=Z,18nm,0.6s,mb5.3
DMN Daman 56.40 275 *e*P P 08 33 50.8 +1.1
comp=Z,41nm,0.8s,mb5.5
GKN Gorkha 56.46 276 *e*P P 08 33 50.8 +0.7
comp=Z,38nm,0.7s,mb5.5
KOLN Koldanda 57.31 277 *e*P P 08 33 57.0 +0.9
comp=Z,35nm,0.8s,mb5.4
ARCES ARCESS Array B 57.38 341 P **P 08 33 55.0 -1.6**
comp=Z,2.3nm,0.7s,mb4.3,baz=46,slow=3.5,SNR=8.5
ARCES ARCESS Array B 57.38 341 P **P 08 33 55.0 -1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
AKTK Aktyubinsk 58.77 312 P **P 08 34 05.9 -0.5**
AKTK PcP PcP 08 34 54.8 -0.8
AKTO Aktyubinsk 58.77 312 P **P 08 34 05.9 -0.5**
comp=Z,0.8nm,0.6s,mb3.9,baz=63,slow=14,SNR=2.9
AKTO PcP PcP 08 34 54.8 -0.8
comp=Z,1.8nm,0.8s,baz=106,slow=2.5,SNR=4.6
AKTO Aktyubinsk 58.77 312 P **P 08 34 05.9 -0.5**
AKTO 08 34 54.8
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NVAR Mina Array Bea 61.42 63 P **P 08 34 25.4 +0.9**
baz=284,slow=7.3
NVAR Mina Array Bea 61.42 63 P **P 08 34 25.4 +0.9**
FINES FINESS Array B 63.66 335 P **P 08 34 37.3 -2.2**
comp=Z,4.3nm,0.5s,mb4.7,baz=39,slow=8.2,SNR=24
FINES FINESS Array B 63.66 335 P **P 08 34 37.3 -2.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
PDAR Pinedale Array 63.69 55 P **P 08 34 40.5 +0.9**
comp=Z,2.4nm,0.9s,mb4.2,baz=285,slow=2.2,SNR=16
PSI Prapat 65.09 245 P **P 08 34 48.8 0.0**
comp=Z,2.7nm,0.4s,mb4.7,baz=274,slow=8.2,SNR=4.1
PSI Prapat 65.09 245 P **P 08 34 48.8 0.0**
PSI pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ULM Lac du Bonnet 65.45 42 P **P 08 34 50.7 -0.4**
comp=Z,1.7nm,0.7s,mb4.2,baz=273,slow=5.0,SNR=5.6
NB2 NORSAR Subarra 67.74 342 P **P 08 35 04.7 -1.1**
comp=Z,1.6nm,0.5s,mb4.3,baz=26,slow=6.5
NOA NORSAR Array B 67.74 342 P **P 08 35 04.9 -0.8**
comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=6.3,SNR=8.0
NOA NORSAR Array B 67.74 342 P **P 08 35 04.9 -0.8**
NOA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 69.48 200 P **P 08 35 16.0 -0.6**
comp=Z,3.0nm,1.0s,mb4.2,baz=18,slow=6.3,SNR=8.8
WRA Warramunga Arr 69.48 200 P **P 08 35 16.0 -0.6**
WRA pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 71.32 327 P **P 08 35 26.5 -1.3**
comp=Z,1.1nm,0.4s,mb4.2,baz=33,slow=6.1,SNR=6.8
AKASG Malin Array Be 71.32 327 P **P 08 35 26.5 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
SCHQ Schefferville 72.31 24 P **P 08 35 33.8 0.0**
comp=Z,3.3nm,0.8s,mb4.3,baz=350,slow=6.7,SNR=5.6
ASAR Alice Springs 73.18 199 P **P 08 35 39.5 +0.6**
comp=Z,5.1nm,0.9s,mb4.4,baz=10,slow=5.8,SNR=42
ASAR Alice Springs 73.18 199 P **P 08 35 39.5 +0.6**
ASAR pmax pmax
comp=Z,5.0nm,0.9s
LVV L'vov 73.93 329 *e*P P 08 35 47.1 +3.8
STHS Stebnicka Huta 75.22 330 *e*P P 08 35 51.6 +0.8
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 75.22 330 *e*P P 08 35 51.6 +0.8
comp=Z,6.7nm,0.9s,mb4.6
KOLS Kolonicke sedl 75.29 330 *e*P P 08 35 50.8 -0.4
BURAR Bucovina Array 75.36 327⇑ *i*P P 08 35 51.8 +0.2
UPC Upice 75.93 334 *e*P P 08 35 54.5 -0.3
UPC *ex* x 08 36 31.7
DPC Dobruska-Polom 75.97 334 *e*P P 08 35 55.4 +0.3
CLL Collm 76.07 336⇑ *i*P P 08 35 55.1 -0.6
CLL pmax pmax
comp=Z,27nm,0.8s,mb5.2
CLL Collm 76.07 336⇑ *i*P P 08 35 55.1 -0.6
comp=Z,27nm,0.8s,mb5.2
MORC Moravsky Berou 76.11 333⇑ *i*P P 08 35 56.0 +0.1
BRG Berggiesshubel 76.20 335 *e*P P 08 35 55.9 -0.5
comp=Z,3.5nm,0.7s,mb4.4
BRG Berggiesshubel 76.20 335 *e*P P 08 35 55.9 -0.5
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 76.28 330 *e*P P 08 35 54.9 -2.0
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.28 330 *e*P P 08 35 54.9 -2.0
comp=Z,3.4nm,0.9s,mb4.3
PVCC Panska Ves 76.33 335 *e*P P 08 35 56.9 -0.2
LTX Lajitas 76.47 61 *e*P P 08 35 58.5 +0.6
LTX pmax pmax
comp=Z,24nm,0.6s,mb5.3
LTX Lajitas 76.47 61 *e*P P 08 35 58.5 +0.6
comp=Z,24nm,0.6s,mb5.3
TXAR Lajitas Array 76.47 61 P **P 08 35 58.5 +0.7**
comp=Z,3.0nm,0.6s,mb4.4,baz=300,slow=4.5,SNR=44
TXAR Lajitas Array 76.47 61 P **P 08 35 58.6 +0.7**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TIRR Tirgusor 76.75 323 *i*P P 08 35 59.1 -0.4
VRAC Vranov 76.81 333 *i*P P 08 36 00.5 +0.7
VYHS Vyhne 76.82 331 *e*P P 08 36 00.0 +0.1
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 76.82 331 *e*P P 08 36 00.0 +0.1
comp=Z,4.6nm,1.1s,mb4.3
PRU Pruhonice 76.82 335 *e*P P 08 36 00.1 +0.2
MLR Muntele Rosu 76.86 325 *i*P P 08 36 01.0 +0.9
DRGR 76.97 328 *i*P P 08 36 00.3 -0.4
MALT Malatya 77.18 313 *i*P P 08 36 03.6 +1.7
NKC Novy Kostel 77.20 336 *e*P P 08 36 01.5 -0.5
VOIR 77.25 326⇑ *i*P P 08 36 02.8 +0.5
KHC Kasperske Hory 77.87 335 *e*P P 08 36 06.0 +0.2
KHC *ex* x 08 36 10.0
KHC Kasperske Hory 77.87 335 *e*P P 08 36 06.0 +0.2
KHC *e* 08 36 10.0
GRA1 Grafenberg Arr 78.02 336 *e*P P 08 36 07.1 +0.5
comp=Z,17nm,0.8s,mb5.0
GRF Grafenberg Arr 78.02 336 *e*P P 08 36 07.1 +0.5
comp=Z,17nm,0.8s,mb5.0
GRF Grafenberg Arr 78.02 336 *e*P P 08 36 07.1 +0.5
GRF pmax pmax
comp=Z,17nm,0.8s,mb5.0
GRF Grafenberg Arr 78.02 336 *e*P P 08 36 07.1 +0.5
GRF pmax pmax
comp=Z,17nm,0.8s,mb5.0
GERES GERESS Array B 78.09 335 P **P 08 36 06.9 -0.1**
comp=Z,4.0nm,0.6s,mb4.5,baz=29,slow=5.4,SNR=25
GERES GERESS Array B 78.09 335 P **P 08 36 06.9 -0.1**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GZR Gura Zlata 78.14 327⇑ *i*P P 08 36 07.2 0.0
BRTR Keskin Array B 78.34 317 P **P 08 36 08.8 +0.4**
comp=Z,5.4nm,0.8s,mb4.5,baz=57,slow=4.6,SNR=16
BRTR Keskin Array B 78.34 317 P **P 08 36 08.8 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BZS Buzias 78.36 328⇑ *i*P P 08 36 08.7 +0.2
PKSM Moragy 78.88 330 *i*P P 08 36 10.5 -0.8
MIB Mutribah 78.90 302 *e*P P 08 36 11.6 +0.2
MIB AMb AMB 08 36 12.6
comp=Z,72nm,0.7s,mb5.7
NAY Al-Naaiem 79.37 302 *e*P P 08 36 14.0 0.0
NAY AMb AMB 08 36 15.1
comp=Z,21nm,0.7s,mb5.2
RDF Al-Radifah 79.43 301 *e*P P 08 36 14.8 +0.4
RDF AMb AMB 08 36 16.8
comp=Z,51nm,0.9s,mb5.4
CDF Champ du Feu 80.23 338 *e*P P 08 36 18.4 -0.2
comp=Z,17nm,0.8s,mb4.7
CDF Champ du Feu 80.23 338 *e*P P 08 36 18.4 -0.2
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 80.23 338 *e*P P 08 36 18.4 -0.2
comp=Z,8.3nm,0.8s,mb4.7
VTS Vitosha 80.37 326 *i*P P 08 36 19.9 +0.5
GRR Gorron 82.05 344 *e*P P 08 36 28.1 -0.2
SMF Signal de Mont 82.71 340 *e*P P 08 36 31.8 0.0
comp=Z,66nm,1.3s,mb5.2
SMF Signal de Mont 82.71 340 *e*P P 08 36 31.8 0.0
SMF pmax pmax
comp=Z,33nm,1.3s,mb5.2
SMF Signal de Mont 82.71 340 *e*P P 08 36 31.8 0.0
comp=Z,33nm,1.3s,mb5.2
LPG La Plagne 83.07 338 *e*P P 08 36 34.4 +0.8
comp=Z,14nm,0.8s,mb4.7
LPG La Plagne 83.07 338 *e*P P 08 36 34.4 +0.8
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPG La Plagne 83.07 338 *e*P P 08 36 34.4 +0.8
comp=Z,6.9nm,0.8s,mb4.7
ORIF Oris-en-Rattie 83.83 338 *e*P P 08 36 38.1 +0.6
comp=Z,16nm,0.8s,mb4.9
ORIF Oris-en-Rattie 83.83 338 *e*P P 08 36 38.1 +0.6
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 83.83 338 *e*P P 08 36 38.1 +0.6
comp=Z,7.8nm,0.8s,mb4.9
ESDC Sonseca Array 91.04 343 P **P 08 37 12.2 -0.2**
comp=Z,1.0nm,0.4s,mb4.5,baz=19,slow=6.9,SNR=7.7
TORD Torodi Ar. Bea 114.81 330 PKP PKiKP 08 42 47.9 -0.5
comp=Z,0.6nm,0.4s,baz=16,slow=2.2,SNR=8.4
SNAA Sanae 153.50 196 PKPbc PKPbc 08 44 03.3 -3.0
comp=Z,0.3nm,0.8s,baz=167,slow=14,SNR=3.3

NEIC **16** *08:29:20.7±0.6, 4644N×153.17E, h10km, mb3.9/1, Error ellipse: s-maj=16.0km s-min=15.6km az=89.0*
ISCJB **16** *08:29:24.3±2.8, 465N±0.1×153.1E±0.2, h48km±23km, mb3.9/12, Error ellipse: s-maj=22.9km s-min=19.3km az=108.1*
MOS **16** *08:29:24.7±1.1, 4648N×15308E, h55km, mb4.1/10, Error ellipse: s-maj=19.5km s-min=19.2km az=99.5*
IDC **16** *08:29:28.9±4.9, 4648N×153.14E, h74km±44km, mb3.6/12, mb1 3.7/13, mb1mx3.6/25, mbtmp3.6/13, ML3.7/1, Error ellipse: s-maj=25.3km s-min=20.7km az=97.0*

ISC 16 08:29:25.9±2.5, 465N±01×1532E±02, h48km±22km, n31, σ0s95/32, mb3.9/12, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.90**	**253**	⇓ *i*PN		**Pn**	**08 30 21.5**	**-1.8**
KUR				*i* S		**Sn**	**08 31 07.0**	**-0.7**
KUR				pmax	pmax			
	comp=N,110nm,0.4s							
KUR				pmax	pmax			
	comp=Z,200nm,0.4s							
KUR				smax				
	comp=N,140nm,0.9s							
KUR				smax				
	comp=E,280nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.16**	**277**	*e*PN		**Pn**	**08 31 15.0**	**+7.0**
ASAJ	**Asahikawa**	**7.81**	**256**	P		**Pn**	**08 31 19.1**	**+2.2**
	comp=E,1.1nm,0.3s,baz=94,slow=15,SNR=4.4							
ASAJ	**Asahikawa**	**7.81**	**256**	PN		**Pn**	**08 31 19.1**	**+2.2**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.74**	**253**	P		**P**	**08 34 04.5**	**+1.9**
	comp=Z,1.4nm,0.6s,baz=61,slow=11,SNR=5.0							
SONM	**Songino Array**	**31.44**	**290**	P		**P**	**08 35 43.4**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=57,slow=5.5,SNR=2.9							
INK	**Inuvik**	**41.86**	**32**	P		**P**	**08 37 11.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=307,slow=5.5,SNR=3.7							
INK	**Inuvik**	**41.86**	**32**	P		**P**	**08 37 11.4**	**+0.1**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**	**08 37 52.8**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=64,slow=8.2,SNR=11							
MKAR	**Makanchi Array**	**47.08**	**298**	P		**P**	**08 37 52.8**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**51.04**	**310**	P		**P**	**08 38 22.4**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=48,slow=9.0,SNR=4.3							
BVAR	**Borovoye Array**	**51.04**	**310**	P		**P**	**08 38 22.4**	**-0.8**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AAK	**Ala-Archa**	**53.97**	**297**	*e*P		**P**	**08 38 44.9**	**0.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
AAK	**Ala-Archa**	**53.97**	**297**	*e*P		**P**	**08 38 44.9**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9							
AKTK	**Aktyubinsk**	**58.92**	**312**	P		**P**	**08 39 19.9**	**-0.2**
AKTO	**Aktyubinsk**	**58.92**	**312**	P		**P**	**08 39 19.9**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=72,slow=3.2,SNR=4.0							
AKTO	**Aktyubinsk**	**58.92**	**312**	P		**P**	**08 39 19.9**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**08 39 56.0**	**-0.3**
	comp=Z,7.5nm,1.1s,mb4.7,baz=39,slow=9.0,SNR=9.9							
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**08 39 56.0**	**-0.3**
FINES				pmax	pmax			
	comp=Z,8.0nm,1.1s							
WRA	**Warramunga Arr**	**68.28**	**199**	P		**P**	**08 40 20.4**	**-1.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=19,slow=7.0,SNR=2.9							
WRA	**Warramunga Arr**	**68.28**	**199**	P		**P**	**08 40 20.4**	**-1.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.48**	**341**	P		**P**	**08 40 23.1**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.48**	**341**	P		**P**	**08 40 22.8**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=5.7							
NOA	**NORSAR Array B**	**68.48**	**341**	P		**P**	**08 40 22.8**	**-0.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**71.78**	**326**	P		**P**	**08 40 42.8**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=36,slow=6.9,SNR=7.6							
AKASG	**Malin Array Be**	**71.78**	**326**	P		**P**	**08 40 42.8**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ASAR	**Alice Springs**	**71.97**	**199**	P		**P**	**08 40 45.1**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=10,slow=6.0,SNR=7.0							
ASAR	**Alice Springs**	**71.97**	**199**	P		**P**	**08 40 45.2**	**+0.8**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CLL	**Collm**	**76.71**	**336**	*e*P		**P**	**08 41 13.0**	**+1.0**
TXAR	**Lajitas Array**	**77.60**	**61**	P		**P**	**08 41 16.9**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=286,slow=3.8,SNR=6.2							
TXAR	**Lajitas Array**	**77.60**	**61**	P		**P**	**08 41 17.0**	**0.0**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

ISCJB **16** *08:31:11.2±1.5, 466N±03×153.1E±02, h10km, mb3.9/5, Error ellipse: s-maj=43.0km s-min=10.3km az=120.0*
MOS **16** *08:31:14.5±0.7, 4666N×15307E, h33km, mb4.3/4, Error ellipse: s-maj=38.2km s-min=28.7km az=155.2*
IDC **16** *08:31:18.0±7.7, 4644N×153.17E, h54km±79km, mb3.6/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.7/7, Error ellipse: s-maj=75.8km s-min=41.2km az=5.0*

ISC 16 08:31:13.0±1.5, 466N±03×1531E±02, h10km, n12, σ0s75/13, mb3.9/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**251**	⇓ *i*PN		**Pn**	**08 32 13.0**	**-0.5**
KUR				*i* S		**Sn**	**08 32 58.8**	**-0.9**
KUR				pmax	pmax			
	comp=Z,140nm,0.4s							
KUR				smax				
	comp=N,110nm,0.6s							
KUR				smax				
	comp=E,60nm,0.6s							
ASAJ	**Asahikawa**	**7.84**	**255**	P		**Pn**	**08 33 09.0**	**+1.9**
	comp=E,0.2nm,0.3s,baz=320,slow=34,SNR=2.2							
KSRS	**Korea Array**	**20.78**	**253**	P		**P**	**08 35 54.4**	**+0.3**
	comp=E,1.3nm,0.7s,baz=57,slow=9.6,SNR=3.3							
MKAR	**Makanchi Array**	**47.01**	**297**	P		**P**	**08 39 44.3**	**-0.1**
	comp=E,1.3nm,0.8s,mb3.9,baz=58,slow=7.4,SNR=7.1							
MKAR	**Makanchi Array**	**47.01**	**297**	P		**P**	**08 39 44.3**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**08 41 47.0**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.1,baz=38,slow=9.6,SNR=5.8							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**08 41 47.1**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**08 42 14.9**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.5,SNR=3.3							
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**08 42 14.9**	**+0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.65**	**326**	P		**P**	**08 42 34.8**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=33,slow=5.7,SNR=5.9							
AKASG	**Malin Array Be**	**71.65**	**326**	P		**P**	**08 42 34.8**	**0.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**77.53**	**61**	P		**P**	**08 43 08.6**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=316,slow=3.8,SNR=2.7							

IDC **16** *08:35:38.9±2.8, 574N×9483E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=125.8km s-min=21.6km az=59.0*

NEIC 16 08:35:40.5±1.2, 535N×9412E, h30km, mb3.9/1, Error ellipse: s-maj=41.4km s-min=14.3km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**22.00**	**87**	*e*P		P	08 40 33.1	+0.9
MKAR	**Makanchi Array**	**42.53**	**348**	P		P	08 43 34.6	+1.3
	1.3nm,0.5s,baz=170,slow=7.1,SNR=16							
SONM	**Songino Array**	**43.62**	**12**	P		P	08 43 41.0	-1.1

0.3nm,0.4s,baz=190,slow=6.7,SNR=3.5
WRA Warramunga Arr 46.85 124 P P 08 44 08.3 +0.5
0.6nm,0.5s,baz=305,slow=9.3,SNR=11
WRAB Tennant Creek 46.86 124 *e*P P 08 44 08.1 +0.3
0.8nm,0.5s
ASAR Alice Springs 48.35 128 P P 08 44 20.0 +0.6
0.3nm,0.5s,baz=301,slow=7.8,SNR=7.5
BVAR Borovoye Array 51.36 342 P P 08 44 43.4 +1.1
0.7nm,0.5s,baz=120,slow=8.5,SNR=3.9

IDC ***16*** *08:37:36.8±0.4, 46.71N×154.82E, h0km, mb4.6/25, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, ML4.3/1, MS4.3/23, Ms1 4.3/23, ms1mx4.1/39, Error ellipse: s-maj=14.0km s-min=11.7km az=134.0*

ISCJB ***16*** *08:37:37.5±0.1, 46.67N±0.04×154.90E±0.02, h15km, mb5.0/129, MS4.4/39, Error ellipse: s-maj=5.6km s-min=2.2km az=161.5*

NEIC ***16*** *08:37:39.0±0.2, 46.69N×154.91E, h10km, mb5.1/59, Error ellipse: s-maj=6.9km s-min=3.8km az=168.0*

MOS ***16*** *08:37:39.7±1.4, 46.64N×154.73E, h29km, mb5.2/64, MS4.4/18, Error ellipse: s-maj=6.6km s-min=5.4km az=104.7*

GCMT ***16*** *08:37:39.0±0.4, 46.78N×155.14E, h12km, MW5.0/78, Moment Tensor Solution. s15,c16; s78,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.34±.12; Mθθ=2.02±.13; Mϕϕ=2.32±.12; Mrθ=0.45±.50; Mϕr=1.79±.10; Mθϕ=-1.13±.55; Best double couple: M0=4.30700×10^16 NP1:ϕs=234.00000°, δ43.00000°, λ=-72.00000°. NP2: ϕs=30.00000°, δ50.00000°, λ=-106.00000°. Principal axes: T 4.0010, Plg4.0000°, Azm131.0000°; N 0.6130, Plg12.0000°, Azm41.0000°; P -4.6140, Plg77.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***16*** *08:37:40.9, 47.02N×154.19E, h10km, mB5.2, mb4.9, Ms4.8, Msz4.5*

SKHL ***16*** *08:37:40.3±3.0, 46.60N×154.87E, h68km±22km, mb5.4/4, mbh5.5/2, Ms4.9/5, msh5.7/1*

SZGRF ***16*** *08:37:42.4, 46.26N×154.81E, h33km, mb5.3, East of Kuril Islands, Russia*

ISC 16 08:37:39.9±0.1, 46.78N±0.04×155.87E±0.02, h16km, h16km±1.5km: pP-P, n540, σ0°90/534, mb5.0/127, MS4.4/39, 80C-85D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SKR	**Severo-Kuril's**	**3.99**	**12**	*e*P		**Pn**	**08 38 40.0**	**-0.4**
SKR					AMB	AMB	08 38 45.5	
	140nm,0.5s							
SKR				*e*S		**Sn**	**08 39 22.5**	**-4.3**
SKR					A		08 39 27.5	
	460nm,0.5s							
SKR					A		08 39 27.5	
	250nm,0.5s							
SKR					AMS	AMS	08 41 05.0	
	6μm,10.0s							
SKR					AMS	AMS	08 41 05.0	
	8μm,10.0s							
SKR					AMS	AMS	08 41 05.0	
	5μm,10.0s							
SKR					AMS	AMS	08 41 05.0	
	6μm,10.0s							
SKR					AMS	AMS	08 41 05.0	
	8μm,10.0s							
SKR					AMS	AMS	08 41 05.0	
	5μm,10.0s							
KUR	**Kuril'sk**	**5.12**	**255**	⇑*i*P		**Pn**	**08 38 52.3**	**-3.5**
KUR				⇓*i*P			08 38 52.3	
KUR					AMB	AMB	08 38 55.0	
	140nm,0.6s							
KUR					AMB	AMB	08 38 55.0	
	130nm,0.6s							
KUR					AMB	AMB	08 38 55.0	
	520nm,0.6s							
KUR					AMB	AMB	08 38 56.0	
	3μm,1.6s							
KUR				sP			08 39 12.0	
KUR				*e*S		**Sn**	**08 39 48.5**	**-6.1**
KUR				A			08 39 56.0	
	5μm,3.0s							
KUR				A			08 39 56.0	
	2μm,3.0s							
KUR				A			08 39 56.2	
	220nm,0.8s							
KUR				A			08 39 56.2	
	600nm,0.8s							
KUR					AMS	AMS	08 41 56.0	
	6μm,13.0s							
KUR					AMS	AMS	08 41 56.0	
	5μm,13.0s							
KUR					AMS	AMS	08 41 56.0	
	6μm,13.0s							
KUR	**Kuril'sk**	**5.12**	**255**	*b i*PN		**Pn**	**08 38 52.3**	**-3.5**
KUR					pmax	pmax		
	comp=N,140nm,0.6s							
KUR					pmax	pmax		
	comp=E,130nm,0.6s							
KUR					pmax	pmax		
	comp=Z,520nm,0.6s							
KUR					pmax	pmax		
	comp=Z,3μm,1.6s							
KUR					MLR	MLR		
	comp=N,6μm,13.0s							
KUR					MLR	MLR		
	comp=E,5μm,13.0s							
KUR					MLR	MLR		
	comp=Z,6μm,13.0s							
PET	**Petropavlovsk**	**6.71**	**20**	*e*PN		**Pn**	**08 39 15.0**	**-2.7**
PET					pmax	pmax		
	comp=Z,60nm,1.5s							
YUK	**Yuzh-Kuril'sk**	**6.91**	**250**	*e*P		**Pn**	**08 39 19.2**	**-1.2**
YUK					A		08 40 39.5	
	comp=Z,380nm,0.7s							
YUK					A		08 40 39.5	
	comp=Z,2μm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	⇑*e*P		**Pn**	**08 39 41.8**	**+2.2**
YSS					AMB	AMB	08 39 44.8	
	comp=Z,50nm,1.0s							
YSS					AMB	AMB	08 39 44.8	
	comp=Z,60nm,1.0s							
YSS				sP			08 39 54.0	
YSS				*e*S		**Sn**	**08 41 13.0**	**-0.1**
YSS				A			08 41 14.7	
	comp=Z,50nm,0.9s							
YSS				*e*LQ			08 41 36.0	
YSS					AMS	AMS	08 43 54.0	
	comp=Z,2μm,12.0s							
YSS					AMS	AMS	08 43 54.0	
	comp=Z,3μm,15.0s							
YSS					AMS	AMS	08 43 54.0	
	comp=Z,3μm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	⇑*e*PN		**Pn**	**08 39 41.8**	**+2.2**
YSS					pmax	pmax		
	comp=E,60nm,1.0s							
YSS					pmax	pmax		
	comp=Z,50nm,1.0s							
YSS					MLR	MLR		
	comp=Z,3μm,15.0s							
YSS					MLR	MLR		
	comp=N,2μm,12.0s							
YSS					MLR	MLR		
	comp=E,3μm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	*e*Pn		**Pn**	**08 39 41.9**	**+2.3**
YSS				*e*Sn		**Sn**	**08 41 11.5**	**-1.6**
JMP	**Maruseppu**	**8.56**	**255**	P		**Pn**	**08 39 42.4**	**-0.7**
UGL	**Uglegorsk**	**8.90**	**290**	*e*P		**Pn**	**08 39 50.5**	**+2.7**
UGL					AMB	AMB	08 39 53.0	
	comp=E,78nm,1.0s							
UGL					AMB	AMB	08 39 54.0	
	comp=E,1μm,5.0s							
UGL					AMS	AMS	08 44 18.0	
	comp=E,3μm,14.0s							
UGL					AMS	AMS	08 44 18.0	
	comp=E,4μm,13.0s							
UGL					AMS	AMS	08 44 18.0	
	comp=E,5μm,14.0s							
ASAJ	**Asahikawa**	**9.03**	**257**	Pn		**Pn**	**08 39 49.6**	**+0.1**
	comp=E,3.4nm,0.3s,baz=74,slow=12,SNR=28							
ASAJ					LR	LR	08 44 13.5	
	comp=E,499nm,18.1s,baz=286,slow=44							
ASAJ	**Asahikawa**	**9.03**	**257**	P		**Pn**	**08 39 49.9**	**+0.4**
TYV	**Tymovskoe**	**9.03**	**301**	*e*P		**Pn**	**08 39 50.8**	**+1.2**
TYV					AMB	AMB	08 39 53.5	
	comp=E,145nm,1.8s							
TYV					AMB	AMB	08 39 53.5	
	comp=E,439nm,1.8s							
TYV					AMB	AMB	08 39 56.0	
	comp=E,900nm,9.0s							
TYV					AMB	AMB	08 39 56.0	
	comp=E,1μm,9.0s							
TYV					AMB	AMB	08 39 56.0	
	comp=E,1μm,7.0s							
TYV					AMS	AMS	08 44 40.0	
	comp=E,3μm,15.0s							
TYV					AMS	AMS	08 44 40.0	
	comp=E,2μm,13.0s							
JWK2	**Keihoku**	**9.14**	**265**	P		**Pn**	**08 39 57.2**	**+6.1**
ERM	**Erimo**	**9.64**	**245**	Pn		**Pn**	**08 39 57.5**	**-0.4**
	comp=E,440nm,0.8s,SNR=9.1							
ERM	**Erimo**	**9.64**	**245**	*e*PN		**Pn**	**08 39 56.1**	**-1.8**
ERM					pmax	pmax		
	comp=Z,71nm,0.8s							
ERM	**Erimo**	**9.64**	**245**	*e*Pn		**Pn**	**08 39 56.1**	**-1.8**
	comp=Z,71nm,0.8s							
ERM				*e*Sn		**Sn**	**08 41 40.2**	**-5.7**
JEM	**Erimo**	**9.64**	**245**	P		**Pn**	**08 39 57.4**	**-0.5**
OKH	**Okha**	**10.21**	**316**	*e*P		**Pn**	**08 40 04.0**	**-1.8**
OKH				*e*L			08 42 38.2	
OKH					AMS	AMS	08 46 33.6	
	comp=Z,5μm,11.0s							
OKH					AMS	AMS	08 46 33.6	
	comp=Z,5μm,12.0s							
OKH					AMS	AMS	08 46 33.6	
	comp=Z,6μm,12.0s							
JEW	**Eniwo**	**10.31**	**252**	P		**Pn**	**08 40 06.0**	**-1.2**
NKL	**Nikolayevsk**	**11.13**	**310**	*e*P		**Pn**	**08 40 17.2**	**-1.1**
NKL				*i* P			08 40 19.0	
NKL					AMB	AMB	08 40 21.0	
	comp=Z,1μm,5.0s							
NKL					AMB	AMB	08 40 21.0	
	comp=Z,1μm,5.0s							
NKL				*e*L			08 43 33.0	
NKL					AMS	AMS	08 45 24.0	
	comp=Z,3μm,14.0s							
NKL					AMS	AMS	08 45 24.0	
	comp=Z,2μm,14.0s							
JOT	**Ohata**	**11.30**	**246**	P		**Pn**	**08 40 16.8**	**-3.9**
JTM	**Tenmabayashi**	**11.63**	**244**	P		**Pn**	**08 40 20.4**	**-4.8**
JOM	**Ohasama**	**12.31**	**238**	P		**Pn**	**08 40 29.2**	**-5.2**
TEY	**Ternei**	**12.84**	**269**	*e*P		**Pn**	**08 40 38.0**	**-3.7**
HABR	**Khabarovsk**	**13.47**	**284**	*e*PN		**Pn**	**08 40 44.5**	**-5.8**
SMY	**Shemya**	**13.77**	**57**	*e*P		**Pn**	**08 40 52.3**	**-2.0**
KLR	**Kul'dur**	**15.65**	**287**	*e*P		**Pn**	**08 41 17.8**	**-1.9**
JRY	**Ryogami san**	**16.07**	**234**	P		**Pn**	**08 41 24.3**	**-0.8**
MAJO	**Matsushiro**	**16.08**	**236**	*e*P		**Pn**	**08 41 20.9**	**-4.4**
MAT	**Matsushiro**	**16.08**	**236**	P		**Pn**	**08 41 24.8**	**-0.5**
MAT	**Matsushiro**	**16.08**	**236**	P		**Pn**	**08 41 21.6**	**-3.7**
MJAR	**Matsushiro Arr**	**16.08**	**236**	Pn		**Pn**	**08 41 20.8**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=17							
ZEA	**Zeya**	**18.90**	**302**	*e*P		**Pn**	**08 41 56.4**	**-3.9**
ZEA					AMB	AMB	08 41 58.7	
	comp=Z,31nm,0.8s							
ZEA					AMB	AMB	08 42 03.0	
	comp=Z,400nm,7.0s							
ZEA					AMB	AMB	08 42 03.0	
	comp=Z,400nm,7.0s							
ZEA				sP		sP	08 42 06.8	+0.6
CN2	**Changchun**	**20.86**	**273**	*e*P		**P**	**08 42 17.4**	**-3.6**
CN2				*e*S		**S**	**08 46 05.9**	**-7.2**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s							
CN2					AMB	AMB		
	comp=Z,700nm,5.0s							
CN2					LR	LR		
	comp=N,600nm,14.0s,MS4.3							
CN2					LR	LR		
	comp=E,700nm,14.0s,MS4.3							
CN2					LR	LR		
	comp=Z,800nm,15.0s,MS4.2							
CLNS	**Chul'man**	**20.92**	**310**	*e*P		**P**	**08 42 19.6**	**-2.1**
CLNS				*e*			08 42 32.5	
CLNS				*e*PPP			08 42 38.9	
CLNS				*e*S		**S**	**08 46 07.9**	**-6.5**
CLNS				*e*			08 46 24.1	
CLNS				*e*SS			08 46 44.3	
CLNS					pmax	pmax		
	comp=Z,36nm,1.0s							
CLNS					pmax	pmax		
	comp=N,14nm,0.9s							
CLNS					pmax	pmax		
	comp=E,20nm,0.9s							
CLNS					smax			
	comp=N,8.0nm,1.2s							
CLNS					smax			
	comp=Z,5.0nm,0.9s							
CLNS					smax			
	comp=E,16nm,1.0s							
CLNS					MLR	MLR		
	comp=Z,1μm,11.0s,MS4.6							
CLNS					MLR	MLR		
	comp=N,500nm,14.0s,MS4.6							
CLNS					MLR	MLR		
	comp=E,2μm,14.0s,MS4.6							
YAK	**Yakutsk**	**20.96**	**326**	*e*P		**P**	**08 42 21.2**	**-0.9**
YAK				*e**PP			08 42 28.2	
YAK				*e*			08 42 40.4	
YAK				*e*S		**S**	**08 46 14.1**	**-1.0**
YAK				*e*SS			08 46 38.3	
YAK					pmax	pmax		
	comp=Z,29nm,0.8s							
YAK					pmax	pmax		
	comp=N,6.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,4.0nm,0.7s							
YAK					pmax	pmax		
	comp=Z,17nm,0.8s							
YAK					pmax	pmax		
	comp=N,48nm,1.3s							
YAK					pmax	pmax		
	comp=E,85nm,1.8s							
YAK					smax			
	comp=N,359nm,2.8s							
YAK					smax			
	comp=Z,202nm,2.0s							
YAK					smax			
	comp=E,311nm,2.6s							
YAK					MLR	MLR		
	comp=N,784nm,13.0s,MS4.4							
YAK					MLR	MLR		
	comp=Z,1μm,13.0s,MS4.4							
YAK					MLR	MLR		
	comp=E,627nm,12.0s,MS4.4							
YAK	**Yakutsk**	**20.96**	**326**	*e*P		**P**	**08 42 20.1**	**-2.1**
KSRS	**Korea Array**	**21.96**	**255**	P		**P**	**08 42 32.1**	**-0.8**
	comp=E,20nm,0.9s,mb4.5,baz=57,slow=10,SNR=22							
KSRS					LR	LR	08 50 33.3	
	comp=E,250nm,19.6s,MS3.6,baz=61,slow=35							
CBIJ	**Chichi jima**	**22.05**	**211**	LR		LR	08 49 41.2	
	comp=E,132nm,18.7s,MS3.4,baz=324,slow=33							
BILL	**Bilibino**	**22.11**	**11**	*de*P		**P**	**08 42 33.7**	**-0.8**
BILL					pmax	pmax		
	comp=Z,183nm,2.5s,mb5.1							
BILL	**Bilibino**	**22.11**	**11**	*e*P		**P**	**08 42 33.6**	**-0.8**
	comp=Z,157nm,1.4s,mb5.2							
JNU	**Nakatsue**	**22.78**	**242**	P		**P**	**08 42 42.0**	**+0.3**
	comp=Z,26nm,0.9s,mb4.7,baz=267,slow=23,SNR=4.5							
JNU					LR	LR	08 51 58.1	
	comp=Z,946nm,18.2s,MS4.3,baz=74,slow=38							
JNU	**Nakatsue**	**22.78**	**242**	P		**P**	**08 42 41.8**	**+0.1**
INCN	**Inchon**	**22.80**	**256**	*e*P		**P**	**08 42 43.6**	**+1.7**
	comp=Z,90nm,1.1s,mb5.1							
SNY	**Shenyang**	**22.84**	**269**	⇑P		**P**	**08 42 40.8**	**-1.5**
SNY				AP			08 42 44.8	
SNY				XP		sP	08 42 46.8	-2.1
SNY				PP			08 43 11.4	
SNY				S		**S**	**08 46 40.8**	**-10**
SNY					AMB	AMB		
	comp=Z,39nm,1.0s,mb4.8							
SNY					AMB	AMB		
	comp=Z,180nm,3.8s							
SNY					LR	LR		
	comp=E,840nm,15.7s							
SNY					LR	LR		
	comp=Z,1μm,13.7s,MS4.4							
HIA	**Hailar**	**23.50**	**289**	*e*P		**P**	**08 42 46.0**	**-3.2**
HIA					pmax	pmax		
	comp=Z,8.0nm,0.6s							
HIA	**Hailar**	**23.50**	**289**	*e*P		**P**	**08 42 46.0**	**-3.2**
	comp=Z,8.4nm,0.6s,mb4.3							
DL2	**Dalian**	**25.46**	**264**	P		**P**	**08 43 06.9**	**-0.2**
DL2				S		**S**	**08 47 34.9**	**+1.3**
DL2				XS		sS	08 47 42.3	+0.8
DL2					AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8							
DL2					AMB	AMB		
	comp=Z,210nm,4.3s							
DL2					LR	LR		
	comp=N,170nm,13.6s,MS4.0							
DL2					LR	LR		
	comp=E,250nm,12.3s,MS4.0							
DL2					LR	LR		
	comp=Z,300nm,12.8s,MS4.0							
BOD	**Bodaibo**	**26.90**	**309**	*e*P		**P**	**08 43 17.2**	**-2.9**
BOD				*e*			08 47 52.5	
BOD					pmax	pmax		
	comp=Z,26nm,1.4s,mb4.6							
BJI	**Beijing**	**28.68**	**271**	P		**P**	**08 43 36.9**	**+0.9**
BJI					AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0							
BJI					AMB	AMB		
	comp=Z,414nm,7.5s							
BJI					LR	LR		
	comp=N,739nm,14.6s,MS4.6							
BJI					LR	LR		
	comp=E,833nm,14.6s,MS4.6							
BJI					LR	LR		
	comp=Z,332nm,26.0s							
BJI	**Beijing**	**28.68**	**271**	P		**P**	**08 43 36.9**	**+0.9**
	comp=Z,32nm,1.0s,mb5.0							
BJI				S		**S**	**08 48 40.9**	**+17**
BJI					LR	LR		
	comp=Z,330nm,26.0s,MS3.8							
BJT	**Baijiatuau**	**28.70**	**271**	*e*P		**P**	**08 43 36.6**	**+0.4**
BJT					pmax	pmax		
	comp=Z,40nm,1.1s							
BJT	**Baijiatuau**	**28.70**	**271**	*e*P		**P**	**08 43 36.6**	**+0.5**
	comp=Z,40nm,1.1s,mb5.1							
NJ2	**Nanjing**	**31.16**	**255**	*e*P		**P**	**08 43 59.8**	**+1.8**
NJ2				AP		pP	08 44 03.1	+0.3
NJ2				XP		sP	08 44 07.3	+2.5
NJ2				PP		PP	08 45 02.9	-5.5
NJ2				S		**S**	**08 49 04.5**	**+1.2**
NJ2				XS		sS	08 49 12.5	+1.3
NJ2					AMB	AMB		
	comp=Z,570nm,4.4s							
NJ2					LR	LR		
	comp=N,1μm,15.3s,MS5.0							
NJ2					LR	LR		
	comp=E,2μm,17.4s,MS5.0							
NJ2					LR	LR		
	comp=Z,3μm,14.6s,MS5.0							
HHC	**Hu-ho-hao-te**	**31.49**	**275**	⇑P		**P**	**08 44 01.8**	**+0.9**
HHC				AP		pP	08 44 06.4	+0.7
HHC				XP		sP	08 44 09.3	+1.6
HHC				PP		PP	08 45 05.8	-6.2
HHC				PCP		PcP	08 46 55.0	+1.3
HHC				S		**S**	**08 49 07.8**	**-0.6**
HHC				XS		sS	08 49 12.9	-3.5
HHC				SCP		ScP	08 50 36.5	+0.3
HHC				SS		SS	08 50 53.1	-30
HHC				SCS		ScS	08 54 35.0	+1.1
HHC					AMB	AMB		
	comp=Z,52nm,1.0s,mb5.3							
HHC					AMB	AMB		
	comp=Z,170nm,5.6s							
HHC					LR	LR		
	comp=N,568nm,17.5s,MS4.5							
HHC					LR	LR		
	comp=E,468nm,13.5s,MS4.5							
HHC					LR	LR		
	comp=Z,551nm,16.3s,MS4.3							
ULN	**Ulaanbaatar**	**32.02**	**290**	⇑*i*P		**P**	**08 44 04.3**	**-1.3**
SONM	**Songino Array**	**32.46**	**290**	P		**P**	**08 44 07.7**	**-1.6**
	comp=Z,3.1nm,0.9s,mb4.1,baz=70,slow=8.4,SNR=19							
SONM					PcP	PcP	08 46 55.7	-0.6
	comp=Z,2.4nm,0.8s,baz=110,slow=2.3,SNR=6.0							
SONM					LR	LR	08 59 01.5	
	comp=Z,724nm,18.0s,MS4.4,baz=68,slow=40							
SONM	**Songino Array**	**32.46**	**290**	P		**P**	**08 44 07.7**	**-1.7**
SONM							08 46 55.7	
SONM					pmax	pmax		
	comp=Z,3.0nm,0.9s							
SONM					MLR	MLR		
	comp=Z,724nm,18.0s							
TLY	**Talaya**	**33.23**	**298**	*e*P		**P**	**08 44 14.2**	**-2.0**
ZAK	**Zakamensk**	**33.76**	**295**	*e*P		**P**	**08 44 19.2**	**-1.5**
ZAK					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
GUMO	**Guam**	**34.14**	**198**	LR		LR	08 55 02.1	
	comp=Z,191nm,20.6s,MS3.8,baz=278,slow=31							
WHN	**Wuhan**	**35.11**	**257**	P		**P**	**08 44 32.8**	**+0.4**
COLA	**College**	**35.36**	**38**	⇓*e*P		**P**	**08 44 35.4**	**+0.8**
XAN	**Xi'an**	**36.72**	**266**	P		**P**	**08 44 47.4**	**+1.2**
XAN					AMB	AMB		
	comp=Z,21nm,1.3s,mb4.8							
EGAK	**Eagle**	**38.23**	**38**	*e*P		**P**	**08 44 57.9**	**-1.1**
	comp=Z,10.0nm,0.7s,mb4.7							
DAWY	**Dawson**	**39.05**	**40**	*e*P		**P**	**08 45 06.3**	**+0.3**
LZH	**Lanzhou**	**39.09**	**273**	*e*P		**P**	**08 45 07.6**	**+1.3**
LZH				AP		pP	08 45 13.3	+2.1
LZH				XP		sP	08 45 17.8	+4.7
LZH				PP		PP	08 46 38.8	+2.9
LZH				*e*S		**S**	**08 51 06.0**	**+0.9**
LZH				XS		sS	08 51 14.0	+0.8
LZH				*e*SS		SS	08 53 45.0	-13
LZH					AMB	AMB		
	comp=Z,90nm,1.2s,mb5.4							
LZH					AMB	AMB		
	comp=Z,450nm,5.0s							
LZH					LR	LR		
	comp=E,770nm,15.8s							
LZH					LR	LR		
	comp=Z,1μm,16.0s,MS4.8							
LZH	**Lanzhou**	**39.09**	**273**	*e*P		**P**	**08 45 07.6**	**+1.3**
LZH				*SP		sP	08 45 17.7	+4.6
LZH							08 46 38.8	
LZH				*e*S		**S**	**08 51 06.0**	**+0.9**
LZH				*e*SS		SS	08 53 45.0	-13
LZH					pmax	pmax		
	comp=Z,90nm,1.2s,mb5.4							
LZH					MLR	MLR		
	comp=Z,1μm,16.0s,MS4.8							
LZH	**Lanzhou**	**39.09**	**273**	*e*P		**P**	**08 45 07.6**	**+1.3**
	comp=Z,90nm,1.2s,mb5.4							
LZH					pP	pP	08 45 13.2	+2.0
LZH					sP	sP	08 45 17.7	+4.6
LZH					PP	PP	08 46 38.8	+2.9
LZH				*e*S		**S**	**08 51 06.0**	**+0.9**
LZH					sS	sS	08 51 14.0	+0.8
LZH				*e*SS		SS	08 53 45.0	-13
LZH					LR	LR		
	comp=Z,1μm,16.0s,MS4.8							
GTA	**Gaotai**	**40.15**	**280**	*e*P		**P**	**08 45 16.8**	**+1.7**
GTA					AP	pP	08 45 21.1	+1.1
GTA					XP	sP	08 45 24.6	+2.6
GTA					PP	PP	08 46 54.0	+6.5
GTA					PCP	PcP	08 47 19.8	+0.5
GTA					S	**S**	**08 51 24.8**	**+3.7**
GTA					XS	sS	08 51 33.3	+4.2
GTA					AMB	AMB		
	comp=Z,21nm,1.5s,mb4.7							
GTA					AMB	AMB		
	comp=Z,368nm,5.7s							
GTA					LR	LR		
	comp=N,672nm,14.1s,MS4.7							
GTA					LR	LR		
	comp=E,422nm,14.1s,MS4.7							
GTA					LR	LR		
	comp=Z,720nm,14.4s,MS4.7							
INK	**Inuvik**	**40.98**	**33**	P		**P**	**08 45 21.6**	**-0.3**
	comp=Z,5.7nm,0.7s,mb4.3,baz=290,slow=7.8,SNR=38							
INK	**Inuvik**	**40.98**	**33**	P		**P**	**08 45 22.0**	**+0.1**
INK					pmax	pmax		
	comp=Z,8.0nm,0.7s							
INK	**Inuvik**	**40.98**	**33**	*e*P		**P**	**08 45 21.5**	**-0.4**
CD2	**Chengdu**	**42.08**	**267**	⇑*i*P		**P**	**08 45 30.9**	**-0.1**
CD2					AP	pP	08 45 35.4	-0.5
CD2					XP	sP	08 45 37.9	0.0
CD2					PP	PP	08 47 11.6	+3.2
CD2					S	**S**	**08 51 49.1**	**-0.6**
CD2					XS	sS	08 51 56.5	-1.3
CD2					SS	SS	08 54 50.5	-6.7
CD2					AMB	AMB		

comp=Z,50nm,0.9s,mb5.1
CD2 AMB AMB
comp=Z,110nm,5.2s
CD2 LR LR
comp=N,290nm,11.9s,MS4.7
CD2 LR LR
comp=E,480nm,13.1s,MS4.7
CD2 LR LR
comp=Z,560nm,16.6s,MS4.5
GYA Guiyang 42.90 259 ⇑*i*P **P 08 45 38.3 +0.7**
GYA AP pP 08 45 42.8 +0.2
GYA PP PP 08 47 20.8 +3.6
GYA PCP PcP 08 47 30.4 +2.1
GYA SCP ScP 08 51 20.3 +1.6
GYA S **S 08 52 02.9 +1.1**
GYA SCS ScS 08 55 37.8 -0.2
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,160nm,5.4s
GYA LR LR
comp=N,690nm,16.7s,MS4.8
GYA LR LR
comp=E,670nm,16.9s,MS4.8
GYA LR LR
comp=Z,810nm,17.2s,MS4.7
ZAL Zalesovo 43.58 306 P **P 08 45 41.6 -1.6**
comp=Z,5.5nm,0.6s,mb4.5,baz=47,slow=7.8,SNR=21
ZAL LR LR 09 05 30.1
comp=Z,826nm,18.9s,MS4.7,baz=34,slow=38
ZAL Zalesovo 43.58 306 P **P 08 45 41.6 -1.6**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL MLR MLR
comp=Z,826nm,18.9s
NVS Novosibirsk 44.12 308 *e*P **P 08 45 45.8 -1.7**
NVS *e* 08 47 31.4
NVS pmax pmax
comp=N,28nm,2.0s
NVS pmax pmax
comp=E,48nm,2.0s
NVS pmax pmax
comp=Z,48nm,2.0s,mb4.9
QIZ Qiongzhong 45.98 249 P **P 08 46 01.9 -0.3**
QIZ S **S 08 52 47.6 +1.1**
QIZ LR LR
comp=N,229nm,17.6s
QIZ LR LR
comp=Z,326nm,19.5s,MS4.3
WMQ Urumqi 46.03 292 ⇓*i*P **P 08 46 03.9 +1.2**
WMQ AP pP 08 46 08.4 +0.8
WMQ XP sP 08 46 10.9 +1.3
WMQ PCP PcP 08 47 40.9 +1.9
WMQ PP PP 08 47 52.0 +1.3
WMQ PPP 08 48 35.6
WMQ SCP ScP 08 51 32.0 +0.5
WMQ S **S 08 52 47.9 +0.6**
WMQ XS sS 08 52 55.8 +0.3
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,189nm,5.1s
WMQ LR LR
comp=N,745nm,20.0s,MS4.6
WMQ LR LR
comp=E,258nm,21.2s,MS4.6
WMQ LR LR
comp=Z,514nm,18.5s,MS4.5
KMI Kunming 46.44 261 P **P 08 46 02.1 -3.7**
KMI AP pP 08 46 09.0 -1.8
KMI XP sP 08 46 11.4 -1.3
KMI AMB AMB
comp=Z,16nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,177nm,4.1s
KMI LR LR
comp=N,244nm,15.7s,MS4.3
KMI LR LR
comp=E,192nm,17.1s,MS4.3
KMI LR LR
comp=Z,281nm,17.1s,MS4.3
KMI Kunming 46.44 261 P **P 08 46 02.1 -3.7**
comp=Z,16nm,1.1s,mb4.9
KMI pP pP 08 46 09.0 -1.8
KMI sP sP 08 46 11.4 -1.3
KMI LR LR
comp=Z,280nm,17.1s,MS4.3
MK31 Makanchi Array 47.99 298 *e*P **P 08 46 16.8 -1.2**
MKAR Makanchi Array 47.99 298 P **P 08 46 16.5 -1.4**
comp=Z,4.9nm,0.6s,mb4.8,baz=69,slow=7.3,SNR=44
MKAR PcP PcP 08 47 45.2 -0.7
comp=Z,2.5nm,0.8s,baz=81,slow=3.5,SNR=3.0
MKAR LR LR 09 06 42.7
comp=Z,332nm,19.5s,MS4.3,baz=21,slow=36
MKAR Makanchi Array 47.99 298 P **P 08 46 16.5 -1.5**
MKAR 08 47 45.2
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR MLR MLR
comp=Z,332nm,19.5s
KURK Kurchatov 48.35 304 P **P 08 46 20.0 -0.7**
comp=Z,280nm,0.8s,SNR=25
YKA Yellowknife Ar 50.17 37 P **P 08 46 34.5 -0.2**
comp=Z,5.9nm,0.7s,mb4.7,baz=296,slow=7.0,SNR=7.6
YKA Yellowknife Ar 50.17 37 P **P 08 46 34.5 -0.2**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA Yellowknife Ar 50.17 37 P **P 08 46 34.5 -0.2**
RES Resolute Bay 50.42 19 *e*P **P 08 46 37.1 +0.5**
CHKZ Chkalovo 51.33 311 P **P 08 46 41.6 -1.8**
CHKZ pmax pmax
comp=Z,29nm,0.9s,mb5.2
LSA Lhasa 51.48 274 P **P 08 46 45.0 +0.5**
LSA Lhasa 51.48 274 *e*P **P 08 46 46.7 +2.2**
LSA pmax pmax
comp=Z,13nm,0.6s,mb5.0
LSA Lhasa 51.48 274 *e*P **P 08 46 46.7 +2.2**
comp=Z,13nm,0.6s,mb5.0
BVA0 Borovoye Array 51.77 310 *i* P **P 08 46 46.0 -0.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
BVAR Borovoye Array 51.77 310 P **P 08 46 46.1 -0.6**
comp=Z,7.4nm,0.4s,mb5.0,baz=53,slow=8.2,SNR=47
BVAR PcP PcP 08 47 59.3 -0.4
comp=Z,4.5nm,0.8s,baz=93,slow=2.9,SNR=4.2
BVAR Borovoye Array 51.77 310 P **P 08 46 46.1 -0.6**
BVAR 08 47 59.3
BVAR pmax pmax
comp=Z,7.0nm,0.4s
BRVK Borovoye 51.80 310 P **P 08 46 45.2 -1.8**
comp=Z,184nm,1.3s,mb5.8,SNR=12
BRVK Borovoye 51.80 310 P **P 08 46 46.1 -0.9**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 51.80 310 *e*P **P 08 46 46.4 -0.6**
ZRNK Zerenda 52.53 310 P **P 08 46 51.1 -1.2**
ZRNK pmax pmax
comp=Z,32nm,1.2s,mb5.1
ZRNK Zerenda 52.53 310 *e*P **P 08 46 51.5 -0.8**
comp=Z,16nm,0.4s,mb5.3
CHTO Chiang Mai 53.30 258 *e*P **P 08 46 58.4 +0.4**
CHTO pmax pmax
comp=Z,23nm,1.2s,mb5.0
CHTO Chiang Mai 53.30 258 *e*P **P 08 46 58.4 +0.3**
comp=Z,23nm,1.2s,mb5.0
SHL Shillong 53.58 270 *e*P **P 08 47 01.1 +1.0**
ULHL Ulahol 54.04 296 P **P 08 47 03.8 +0.3**
SNR=21
TKM2 Tokmak 2 54.06 297 P **P 08 47 04.4 +0.8**
SNR=13
TKM2 Tokmak 2 54.06 297 P **P 08 47 03.9 +0.3**
TKM2 pmax pmax
comp=Z,29nm,1.3s,mb5.0
CHMS Chumysh 54.54 297 P **P 08 47 06.8 -0.3**
SNR=5.5
USP Ospenovka 54.54 298 P **P 08 47 07.8 +0.7**
SNR=39
A08A Turner Farm, O 54.62 54 ⇑P **P 08 47 06.9 -0.8**
baz=54
FRU Bishkek 54.71 297 ⇓*i*P **P 08 47 10.5 +2.2**
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.5
KZA Kyzart 54.74 296 P **P 08 47 10.2 +1.7**
SNR=13
AAK Ala-Archa 54.90 297 P **P 08 47 09.5 -0.2**
comp=Z,124nm,1.0s,mb5.9,SNR=8.5

AAK Ala-Archa 54.90 297 P **P 08 47 10.5 +0.8**
SNR=12
AAK Ala-Archa 54.90 297 *e*P **P 08 47 09.4 -0.3**
AAK pmax pmax
comp=Z,15nm,0.8s,mb5.1
AAK Ala-Archa 54.90 297 *e*P **P 08 47 09.3 -0.3**
comp=Z,15nm,0.8s,mb5.1
B08A Colville Reser 54.91 54 ⇑P **P 08 47 09.2 -0.6**
baz=55
A09A Danville 54.99 53 ⇑P **P 08 47 09.7 -0.6**
baz=55
UCH Uchtor 55.11 297 P **P 08 47 12.5 +1.3**
SNR=6.1
J02A Umpqua 55.21 61 ⇑P **P 08 47 11.7 -0.3**
baz=55
H04A Detroit Lake 55.30 59 ⇑P **P 08 47 12.3 -0.3**
baz=55
EKS2 Erkin-Say 55.32 298 P **P 08 47 13.5 +0.8**
SNR=15
EDM Edmonton 55.42 47 P **P 08 47 13.3 -0.1**
EDM Edmonton 55.42 47 *e*P **P 08 47 13.0 -0.4**
B09A Rice 55.54 54 ⇑P **P 08 47 14.1 -0.2**
baz=55
A10A Northport 55.55 53 ⇑P **P 08 47 14.3 -0.1**
baz=55
AML Almayashu 55.67 297 P **P 08 47 16.6 +1.4**
SNR=11
KSH Kashi 55.75 293 *e*P **P 08 47 17.3 +1.5**
KSH *e*AP pP 08 47 22.9 +2.0
KSH *e*XP sP 08 47 25.4 +2.6
KSH *e*PCP PcP 08 48 17.3 +2.4
KSH *e*PP PP 08 49 23.3 +3.1
KSH *e*SCP ScP 08 52 17.3 +4.0
KSH *e*S **S 08 55 01.1 -0.8**
KSH *e*XS sS 08 55 11.0 +0.8
KSH *e*PS 08 55 21.0
KSH *e*SCS ScS 08 57 02.3 -2.2
KSH *e*SS SS 08 58 45.9 -1.5
KSH AMB AMB
comp=Z,808nm,2.7s
KSH LR LR
comp=N,944nm,4.5s
KSH LR LR
comp=E,1μm,8.7s
ARU Arti 55.80 318 ⇑*i*P **P 08 47 15.3 -0.9**
ARU *e* 08 48 10.9
ARU *e* 08 49 21.6
ARU *e*S **S 08 55 02.6 0.0**
ARU *e*SS SS 08 58 50.9 +2.8
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.1
ARU Arti 55.80 318 *e*P **P 08 47 15.4 -0.8**
F07A Phinny Hill Vi 55.94 57 ⇓P **P 08 47 17.2 0.0**
baz=56
I05A Bend 56.14 60 ⇓P **P 08 47 18.5 -0.1**
baz=56
HNR Honiara 56.14 174 LR LR 09 07 46.6
comp=Z,325nm,18.9s,MS4.4,baz=359,slow=32
JIRN Jiri 56.14 276 *e*P **P 08 47 19.5 +0.8**
comp=Z,59nm,0.9s,mb5.6
J04A Umpqua Nationa 56.16 61 ⇑P **P 08 47 19.2 +0.5**
baz=56
NEW Newport 56.19 53 P **P 08 47 18.9 -0.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=319,slow=7.5,SNR=2.5
NEW LR LR 09 09 46.6
comp=Z,239nm,18.5s,MS4.3,baz=190,slow=34
GUN Gumba 56.20 276 *e*P **P 08 47 20.3 +1.3**
comp=Z,58nm,1.0s,mb5.6
A11A Hall Mountain, 56.22 52 ⇑P **P 08 47 19.1 -0.1**
baz=56
PMG Port Moresby 56.35 189 LR LR 09 10 07.3
comp=Z,284nm,18.8s,MS4.4,baz=276,slow=35
H06A Lindquist Farm 56.36 58 ⇓P **P 08 47 20.2 0.0**
baz=56
J05A Fort Rock 56.66 60 ⇓P **P 08 47 23.1 +0.8**
baz=56
YBH Yreka Blue Hor 56.66 63 P **P 08 47 22.9 +0.5**
comp=Z,4.4nm,0.7s,mb4.6,baz=302,slow=1.4,SNR=6.6
YBH Yreka Blue Hor 56.66 63 P **P 08 47 22.9 +0.5**
YBH pmax pmax
comp=Z,4.0nm,0.7s
YBH Yreka Blue Hor 56.66 63 ⇓P **P 08 47 22.7 +0.3**
baz=56
KKN Kakani 56.68 276 *e*P **P 08 47 23.4 +0.9**
comp=Z,59nm,1.0s,mb5.6
PKI Pulchoki 56.73 276 *e*P **P 08 47 24.2 +1.3**
K04A Chilquin 56.75 61 ⇓P **P 08 47 23.6 +0.7**
baz=57
I06A Prineville 56.89 59 ⇓P **P 08 47 24.4 +0.4**
baz=57
DMN Daman 56.92 276 *e*P **P 08 47 25.3 +1.1**
comp=Z,85nm,1.0s,mb5.7
GKN Gorkha 56.99 277 *e*P **P 08 47 25.2 +0.5**
comp=Z,55nm,0.7s,mb5.7
KKAR Karatay Array 57.04 300 P **P 08 47 24.4 -0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
M04C Macdoel 57.16 62 ⇓P **P 08 47 26.4 +0.5**
baz=57
K05A Summer Lake 57.19 61 ⇓P **P 08 47 26.3 +0.3**
baz=57
I07A Izee 57.22 59 ⇓P **P 08 47 26.2 -0.1**
baz=57
D11A Klaveano Farm, 57.32 54 ⇓P **P 08 47 25.9 -1.1**
baz=57
H08A Prairie City 57.46 58 ⇑P **P 08 47 27.8 -0.1**
baz=57
WALA Waterton Lakes 57.49 51 *e*P **P 08 47 27.4 -0.7**
K06A Valley Falls 57.53 60 ⇑P **P 08 47 28.0 -0.5**
baz=57
B13A Whitefish 57.58 52 ⇑P **P 08 47 28.4 -0.4**
baz=57,SNR=6.4
L05A Lakeview 57.62 61 ⇑P **P 08 47 28.9 -0.3**
baz=57
KEV Kevo 57.71 341 *e*p **P 08 47 26.4 -3.4**
comp=Z,13nm,0.9s,mb5.0
KEV Kevo 57.71 341 *e*P **P 08 47 26.4 -3.4**
KEV pmax pmax
comp=Z,13nm,0.9s,mb5.0
APA Apatity 57.78 337 ⇑*i*P **P 08 47 29.8 -0.5**
APA pmax pmax
comp=Z,39nm,1.0s,mb5.4
M05C Lookout 57.83 62 ⇑P **P 08 47 30.6 -0.1**
baz=58
KOLN Koldanda 57.84 278 *e*P **P 08 47 31.5 +0.8**
comp=Z,50nm,1.0s,mb5.5
I08A Drewsey 57.87 58 ⇑P **P 08 47 30.8 -0.1**
baz=58
H09A Durkee 57.96 57 ⇑P **P 08 47 31.3 -0.2**
baz=58
MOD Modoc 58.02 61 ⇑P **P 08 47 31.7 -0.3**
baz=58
HOPS Hopland 58.05 65 ⇓P **P 08 47 32.3 +0.2**
baz=58
BMO Blue Mountains 58.05 57 *e*P **P 08 47 32.7 +0.5**
comp=Z,32nm,1.6s,mb5.1
F11A Grangeville 58.10 55 ⇓P **P 08 47 32.3 -0.2**
baz=58
K07A Rock Creek Ran 58.19 60 ⇓P **P 08 47 32.7 -0.5**
baz=58
ARCES ARCESS Array B 58.22 341 P **P 08 47 32.5 -0.8**
comp=Z,14nm,0.9s,mb5.0,baz=32,slow=5.2,SNR=27
ARCES LR LR 09 15 33.0
comp=Z,612nm,21.7s,MS4.7,baz=319,slow=39
ARCES ARCESS Array B 58.22 341 P **P 08 47 32.5 -0.8**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES MLR MLR
comp=Z,612nm,21.7s
J08A Circle Bar Ran 58.25 59 ⇓P **P 08 47 33.3 -0.3**
baz=58
I09A Lost Marbles R 58.32 58 ⇑P **P 08 47 33.7 -0.3**
baz=58
G11A Walters Elk Ra 58.33 56 ⇑P **P 08 47 33.5 -0.5**
baz=58
C14A Swan Lake 58.33 52 ⇓P **P 08 47 33.5 -0.6**
baz=58
D13A Huson 58.34 53 ⇑P **P 08 47 33.9 -0.2**
baz=58
MNRC McLaughlin Nat 58.51 65 ⇑P **P 08 47 35.2 -0.2**
baz=58
K08A Mann Creek Ran 58.62 59 ⇓P **P 08 47 35.8 -0.3**
baz=58
J09A Fry Pan Ranch, 58.68 59 ⇑P **P 08 47 35.5 -1.0**
baz=58
ORV Oroville 58.69 64 ⇓P **P 08 47 36.2 -0.4**
baz=58

SUTB Sutter Butte 58.71 65 ⇓P **P 08 47 35.6 -1.1**
baz=58
MSO Missoula 58.78 53 *e*P **P 08 47 37.5 +0.3**
O05C Quincy 58.80 63 ⇑P **P 08 47 36.7 -0.8**
baz=59
BOK Bokaro 58.85 272 *e*P **P 08 47 37.8 0.0**
BOK AMb AMB 08 47 42.9
comp=Z,18nm,0.9s,mb5.1
TMCR Tamitsa 58.86 333 *e*P **P 08 47 37.3 -0.5**
D14A Greenough 58.87 53 P **P 08 47 37.8 0.0**
baz=59,SNR=12
FARB Farallon Islan 58.87 67 ⇑P **P 08 47 37.4 -0.5**
baz=59
E13A Victor 58.88 54 P **P 08 47 38.1 +0.2**
baz=59,SNR=6.4
H11A Donnelly 58.88 56 P **P 08 47 37.9 -0.1**
baz=59,SNR=8.3
N06A Buffalo Meadow 58.99 62 ⇑P **P 08 47 38.3 -0.4**
baz=59
M07A Soldier Meadow 59.01 61 ⇑P **P 08 47 38.8 -0.1**
baz=59,SNR=5.4
CHMT Chamberlain Mo 59.11 53 *e*P **P 08 47 39.6 0.0**
F13A Darby 59.19 55 ⇓P **P 08 47 39.7 -0.4**
baz=59
BEKR Beckwourth 59.20 63 ⇓P **P 08 47 40.4 +0.2**
baz=59,SNR=5.9
E14A Clinton 59.28 54 P **P 08 47 41.0 +0.3**
baz=59,SNR=6.0
O06A Flanigan 59.35 63 ⇓P **P 08 47 41.2 0.0**
baz=59
P05C Yuba Gap, Truc 59.39 64 ⇓P **P 08 47 41.1 -0.4**
baz=59
D15A Lincoln 59.43 53 ⇓P **P 08 47 41.2 -0.6**
baz=59
N07B Gerlach 59.50 62 ⇓P **P 08 47 42.0 -0.2**
baz=59
L09A Wilkinson Ranc 59.53 60 ⇑P **P 08 47 41.8 -0.6**
baz=59
AKTK Aktyubinsk 59.60 313 P **P 08 47 42.4 -0.6**
AKTK LR LR 09 15 31.4
AKTO Aktyubinsk 59.60 313 P **P 08 47 42.4 -0.6**
comp=Z,4.5nm,0.5s,mb4.7,baz=67,slow=5.8,SNR=16
AKTO LR LR 09 15 31.4
comp=Z,378nm,18.8s,MS4.5,baz=67,slow=38
AKTO Aktyubinsk 59.60 313 P **P 08 47 42.4 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
AKTO MLR MLR
comp=Z,378nm,18.8s,MS4.5
LAVA Lava Cap Winer 59.64 64 ⇓P **P 08 47 42.7 -0.5**
baz=60
F14A Wisdom 59.71 54 ⇑P **P 08 47 43.5 -0.2**
baz=60
E15A Deer Lodge 59.74 53 ⇓P **P 08 47 43.3 -0.6**
baz=60,SNR=6.6
WCN Washoe City 59.92 63 ⇑P **P 08 47 44.9 -0.2**
baz=60
O07A Toulon 59.93 62 ⇑P **P 08 47 45.0 -0.2**
baz=60
N08A GE Springer Mi 60.00 61 ⇑P **P 08 47 45.3 -0.4**
baz=60,SNR=5.4
M09A Marrel Ranch, 60.02 60 ⇓P **P 08 47 45.2 -0.6**
baz=60
S04C Ingram Canyon, 60.04 66 ⇓P **P 08 47 46.0 +0.1**
baz=60
R05C Kirkwood Meado 60.09 64 ⇓P **P 08 47 45.7 -0.5**
baz=60
F15A Butte 60.18 54 ⇑P **P 08 47 46.3 -0.6**
baz=60,SNR=8.1
LRM Limekiln Ridge 60.21 54 *e*P **P 08 47 47.8 +0.7**
CMB Columbia Colle 60.30 65 *e*P **P 08 47 47.8 +0.1**
CMB pmax pmax
comp=Z,26nm,1.5s,mb5.0
CMB Columbia Colle 60.30 65 *e*P **P 08 47 47.8 +0.1**
comp=Z,26nm,1.5s,mb5.0
CMB Columbia Colle 60.30 65 ⇓P **P 08 47 47.6 -0.1**
baz=60,SNR=6.6
EGMT Eagleton 60.32 50 *e*P **P 08 47 48.1 +0.3**
comp=Z,23nm,1.2s,mb5.1
EGMT Eagleton 60.32 50 ⇓P **P 08 47 47.6 -0.3**
baz=60
N09A Rock Creek Ran 60.33 61 ⇓P **P 08 47 47.7 -0.2**
baz=60,SNR=8.1
PACP Pacheco Peak 60.37 66 ⇓P **P 08 47 47.9 -0.3**
baz=60,SNR=5.8
HLID Hailey 60.49 57 *e*P **P 08 47 49.4 +0.4**
HLID Hailey 60.49 57 ⇓P **P 08 47 48.9 -0.1**
baz=60,SNR=7.5
M10A I.L. Ranch, Tu 60.50 60 ⇓P **P 08 47 49.0 -0.1**
baz=60,SNR=6.9
SUMG Summit 60.58 5 *e*P **P 08 47 50.2 +0.5**
comp=Z,38nm,1.2s,mb5.4
R06C Coleville 60.58 64 ⇓P **P 08 47 49.3 -0.3**
baz=60,SNR=6.0
HAST UC Hastings Re 60.59 67 ⇑P **P 08 47 49.4 -0.3**
baz=60
G15A Dillon 60.59 54 P **P 08 47 49.8 0.0**
baz=60,SNR=8.9
MCMT McKenzie Canyo 60.60 55 *e*P **P 08 47 50.0 +0.2**
S06C San Francisco 60.73 65 P **P 08 47 50.8 +0.1**
baz=60,SNR=10
S05C Merced 60.76 65 P **P 08 47 50.7 -0.2**
baz=61,SNR=7.3
BMN Battle Mountai 60.77 61 *e*P **P 08 47 51.6 +0.7**
BOZ Bozeman (W) 60.77 53 *e*P **P 08 47 51.1 +0.1**
BOZ pmax pmax
comp=Z,52nm,1.5s,mb5.4
BOZ Bozeman (W) 60.77 53 *e*P **P 08 47 51.1 +0.1**
comp=Z,52nm,1.5s,mb5.4
T05C Eagle Field, D 60.83 66 ⇑P **P 08 47 51.2 -0.1**
baz=61
O09A Fish Creek Ran 60.95 61 ⇓P **P 08 47 52.1 0.0**
baz=61,SNR=7.4
M11A Holland Ranch, 61.00 59 ⇓P **P 08 47 52.1 -0.4**
baz=61
N10A Dunphy 61.02 60 ⇑P **P 08 47 52.7 +0.1**
baz=61
U04C Hernandez Rese 61.09 67 ⇑P **P 08 47 53.2 +0.1**
baz=61
O10A Cortez Mining, 61.28 61 ⇓P **P 08 47 54.0 -0.4**
baz=61
Q08A Gabbs 61.31 63 P **P 08 47 55.0 +0.4**
baz=61,SNR=11
P09A Austin 61.36 62 ⇓P **P 08 47 54.5 -0.4**
baz=61
T06C Millerton Lake 61.36 65 P **P 08 47 54.9 -0.1**
baz=61,SNR=6.2
QLMT Earthquake Lak 61.39 54 *e*P **P 08 47 56.0 +0.8**
KCC Kaiser Creek 61.41 65 ⇑P **P 08 47 54.8 -0.5**
baz=61
N11A Elko Archery C 61.41 60 ⇓P **P 08 47 54.7 -0.6**
baz=61
R08A Mina 61.52 63 ⇑P **P 08 47 55.3 -0.7**
baz=61
M12A Wells 61.53 59 ⇑P **P 08 47 56.0 -0.1**
baz=61,SNR=6.7
P10A Eureka 61.72 61 ⇓P **P 08 47 57.4 0.0**
baz=62
GCMT Greycliff 61.76 52 *e*P **P 08 47 58.7 +1.1**
N12A Clover Valley, 61.80 59 ⇓P **P 08 47 57.7 -0.2**
baz=62
MTUM Tungsten Hills 61.86 64 *e*P **P 08 47 58.9 +0.5**
YNR Norris Junctio 61.88 54 *e*P **P 08 48 00.8 +2.4**
O11A Cowboy Ranch, 61.89 60 ⇑P **P 08 47 57.9 -0.6**
baz=62,SNR=5.7
PTRM Twissleman Ran 61.90 67 *e*P **P 08 47 58.9 +0.4**
YFT Old Faithful 61.96 54 *e*P **P 08 47 59.6 +0.6**
HELL Mitchell Peak, 62.00 65 ⇑P **P 08 47 59.1 -0.1**
baz=62
M13A Montello 62.00 58 ⇑P **P 08 47 58.8 -0.4**
baz=62
S08C White Mtn Res 62.01 64 ⇑P **P 08 47 59.2 -0.1**
baz=62
RCTC Rector, Farmer 62.09 66 ⇑P **P 08 47 59.2 -0.6**
baz=62
P11A Circle Ranch, 62.19 61 ⇓P **P 08 48 00.5 0.0**
baz=62
R09A Tonopah 62.22 63 P **P 08 48 00.8 +0.1**
baz=62,SNR=15
SMMC Simmler 62.25 67 ⇓P **P 08 48 01.0 +0.1**
baz=62
FLWY Flagg Ranch 62.27 54 *e*P **P 08 48 02.3 +1.3**
comp=Z,9.1nm,0.8s,mb5.0
N13A Wendover, West 62.30 59 ⇓P **P 08 48 01.7 +0.5**
baz=62,SNR=8.0
O12A Currie 62.35 60 P **P 08 48 02.1 +0.6**
baz=62,SNR=13

RLMT **Red Lodge** 62.40 53 *e*P P 08 48 02.6 +0.7
comp=Z,34nm,1.3s,mb5.3
S09A **Goldfield** 62.45 63 P P 08 48 02.6 +0.4
baz=62,SNR=12
MOOW **Moose Ponds** 62.45 55 *e*P P 08 48 03.2 +0.9
comp=Z,7.5nm,0.8s,mb4.9
VES **Vestal, Richgr** 62.49 66 ⇑P P 08 48 02.3 -0.3
baz=62,SNR=5.3
TPAW **Teton Pass** 62.50 55 *e*P P 08 48 03.8 +1.2
LOHW **Long Hollow** 62.62 55 *e*P P 08 48 04.4 +1.0
PKM **Peak Mountain** 62.62 67 ⇓P P 08 48 04.2 +0.8
baz=62
SNOW **Snow King Moun** 62.63 55 *e*P P 08 48 04.0 +0.6
comp=Z,13nm,0.8s,mb5.1
REDW **Red Top Meadow** 62.64 55 *e*P P 08 48 04.5 +1.0
R10A **Warm Springs** 62.66 62 ⇑P P 08 48 03.3 -0.3
baz=62
Q11A **Duckwater** 62.70 61 ⇓P P 08 48 03.4 -0.5
baz=62
CWC **Cottonwood Cre** 62.74 65 ⇓P P 08 48 03.9 -0.3
baz=62
P12A **McGill** 62.75 61 ⇑P P 08 48 03.9 -0.4
baz=62
GRAC **Grapevine Rang** 62.82 64 ⇑P P 08 48 04.5 -0.3
baz=63
DGMT **Dagmar** 62.91 47 *e*P P 08 48 05.7 +0.3
comp=Z,19nm,0.8s,mb5.3
ISA **Isabella** 62.98 66 *e*P P 08 48 05.3 -0.5
ISA **Isabella** 62.98 66 ⇓P P 08 48 04.5 -1.4
baz=63
LAO **LASA Array** 63.02 50 *e*P P 08 48 06.6 +0.5
SPUT **South Promonto** 63.03 58 *e*P P 08 48 04.0 -2.2
Q12A **Willow Creek R** 63.07 61 ⇓P P 08 48 06.4 0.0
baz=63,SNR=7.8
ARVC **Arvin** 63.10 67 ⇓P P 08 48 06.8 +0.1
baz=63
DAC **Darwin (Calif)** 63.14 65 *e*P P 08 48 07.2 +0.3
DAC pmax pmax
comp=Z,18nm,1.5s,mb5.0
DAC **Darwin (Calif)** 63.14 65 *e*P P 08 48 07.2 +0.3
comp=Z,18nm,1.5s,mb5.0
MPMC **Manual Prospec** 63.34 65 ⇑P P 08 48 08.0 -0.2
baz=63,SNR=10.0
HWUT **Hardware Ranch** 63.35 57 *e*P P 08 48 08.8 +0.6
comp=Z,15nm,1.2s,mb5.0
FURC **Furnace Creek,** 63.47 64 P P 08 48 09.4 +0.4
baz=63,SNR=19
DUG **Dugway** 63.53 59 P P 08 48 10.2 +0.7
DUG pmax pmax
comp=Z,36nm,1.4s,mb5.2
DUG **Dugway** 63.53 59 *e*P P 08 48 09.9 +0.5
comp=Z,36nm,1.5s,mb5.2
DUG **Dugway** 63.53 59 P P 08 48 09.9 +0.4
baz=63,SNR=14
LRMC **Laurel Mountai** 63.59 66 ⇓P P 08 48 09.1 -0.8
baz=63,SNR=7.2
BW06 **Boulder Array** 63.75 55 *e*P P 08 48 10.8 -0.1
comp=Z,14nm,0.9s,mb5.0
PDAR **Pinedale Array** 63.75 55 P P 08 48 10.9 +0.1
comp=Z,7.7nm,0.8s,mb4.8,baz=268,slow=2.0,SNR=52
EDW2 **Edwards Air Fo** 63.79 66 ⇑P P 08 48 10.7 -0.4
baz=64,SNR=14
U10A **Ash Meadows, A** 63.83 64 ⇑P P 08 48 11.5 +0.1
baz=64
DECC **Green Verdugo** 63.98 67 ⇑P P 08 48 12.0 -0.4
baz=64
JLU **Jordanelle** 64.07 58 *e*P P 08 48 13.8 +0.8
NLU **North Lily Min** 64.12 59 *e*P P 08 48 14.1 +0.8
MWC **Mount Wilson** 64.17 67 *e*P P 08 48 15.0 +1.4
SHOC **Shoshone** 64.20 64 ⇓P P 08 48 13.8 -0.1
baz=64
GSC **Goldstone** 64.26 65 *e*P P 08 48 14.4 +0.2
GSC **Goldstone** 64.26 65 P P 08 48 14.6 +0.3
baz=64,SNR=6.8
DAU **Daniels Canyon** 64.30 58 *e*P P 08 48 20.0 +5.5
MPU **Maple Canyon** 64.34 58 *e*P P 08 48 15.2 +0.5
BFSC **Mount Baldy St** 64.41 67 ⇑P P 08 48 14.7 -0.6
baz=64
U11A **Corn Creek** 64.42 63 ⇓P P 08 48 15.5 +0.3
baz=64
SHPR **Sheep Range** 64.50 63 *e*P P 08 48 16.6 +0.8
FIA1 **FINESS Array S** 64.52 335 *e*P P 08 48 15.7 -0.2
FINES **FINESS Array B** 64.52 335 P P 08 48 15.5 -0.4
comp=Z,18nm,0.8s,mb5.2,baz=38,slow=9.6,SNR=44
FINES LR LR 09 17 12.6
comp=Z,295nm,19.3s,MS4.5,baz=339,slow=37
FINES **FINESS Array B** 64.52 335 P P 08 48 15.5 -0.4
FINES pmax pmax
comp=Z,18nm,0.8s
FINES MLR MLR
comp=Z,295nm,19.3s
FINES **FINESS Array B** 64.52 335 P P 08 48 15.5 -0.4
FINES LR LR 09 17 12.6
VIS **Vishakhapatnam** 64.71 269 *e*P P 08 48 15.4 -1.8
VIS AMb AMB 08 48 20.4
comp=Z,30nm,1.6s,mb5.1
ARUT **Antelope Range** 64.71 61 P P 08 48 17.8 +0.6
ARUT **Antelope Range** 64.71 61 *e*P P 08 48 17.7 +0.4
TUQ **Turquoise Mtn.** 64.72 65 P P 08 48 17.6 +0.3
baz=64,SNR=12
V11A **Goodsprings** 64.76 64 P P 08 48 17.9 +0.4
baz=65,SNR=6.1
BBRC **Big Bear Sol-O** 64.86 66 ⇓P P 08 48 17.8 -0.4
baz=65,SNR=5.4
HEC **Hector,Ludlow** 64.86 65 ⇓P P 08 48 17.9 -0.2
baz=65
SFJD **Kangerlussuaq** 64.90 11 *i* P P 08 48 18.3 -0.1
CCUT **Cedar City** 64.91 61 *e*P P 08 48 18.4 -0.1
U12A **Valley of Fire** 64.93 63 ⇓P P 08 48 18.1 -0.5
baz=65
MSU **Marysvale** 65.00 60 *e*P P 08 48 19.8 +0.7
BHPL **Bhopal** 65.01 278 *e*P P 08 48 18.5 -0.6
BHPL AMb AMB 08 48 23.7
comp=Z,43nm,1.1s,mb5.4
TMUT **Trail Mountain** 65.06 59 *e*P P 08 48 20.3 +0.8
MOS **Moscow** 65.09 326 *e*P P 08 48 17.0 -2.7
MOS *e* 08 50 38.3
MURC **Murrieta** 65.11 67 ⇑P P 08 48 19.3 -0.5
baz=65
PSI **Prapat** 65.19 246 LR LR 09 17 31.2
comp=Z,160nm,18.6s,MS4.2,baz=357,slow=37
V12A **Nelson** 65.19 64 ⇑P P 08 48 19.9 -0.4
baz=65,SNR=9.4
NGP **Nagpur** 65.31 275 *e*P P 08 48 22.4 +1.3
NGP AMb AMB 08 48 25.7
comp=Z,37nm,0.5s,mb5.7
W12A **Cal Nev Ari** 65.46 64 ⇓P P 08 48 21.8 -0.2
baz=65
PFO **Pinyon Flat Ob** 65.58 66 *e*P P 08 48 23.3 +0.5
PFO pmax pmax
comp=Z,27nm,1.6s,mb5.0
PFO **Pinyon Flat Ob** 65.58 66 *e*P P 08 48 23.3 +0.5
comp=Z,27nm,1.6s,mb5.0
PFO **Pinyon Flat Ob** 65.58 66 ⇓P P 08 48 23.0 +0.2
baz=65
SRU **San Rafael** 65.58 58 P P 08 48 23.2 +0.4
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.2
SRU **San Rafael** 65.58 58 *e*P P 08 48 23.4 +0.6
BELC **Belle Mtn.** 65.61 66 ⇓P P 08 48 22.3 -0.7
baz=65
109C **Camp Elliot, M** 65.64 67 ⇑P P 08 48 22.3 -0.9
baz=66
ULM **Lac du Bonnet** 65.70 42 P P 08 48 22.9 -0.7
comp=Z,9.7nm,0.8s,mb4.9,baz=314,slow=7.3,SNR=20
OBN **Obninsk** 65.96 326 ⇓*e*P P 08 48 24.6 -0.7
OBN *e* 08 48 35.6
OBN *i* 08 48 51.2
OBN pmax pmax
comp=Z,38nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.5
IRM **Iron Mountain** 66.03 65 P P 08 48 25.9 +0.1
baz=66,SNR=13
BAR **Barrett** 66.05 67 *e*P P 08 48 26.4 +0.5
MONP **Monument Peak** 66.07 67 ⇑P P 08 48 25.3 -0.7
baz=66
BC3 **Big Chuckw Mtn** 66.18 66 P P 08 48 26.8 +0.1
baz=66,SNR=7.6
W13A **Hualapai Mount** 66.20 64 ⇓P P 08 48 26.8 0.0
baz=66
DVTC **Desert V Tower** 66.43 67 ⇓P P 08 48 27.4 -0.9
baz=66
SWSC **Sam W. Stewart** 66.43 67 ⇓P P 08 48 28.0 -0.3
baz=66
X13A **Yucca** 66.57 64 P P 08 48 29.4 +0.2
baz=66,SNR=12
PDMCI **Parker Dam,Lak** 66.57 64 P P 08 48 29.6 +0.3
baz=66,SNR=9.6
W14A **Seligman** 66.62 63 P P 08 48 30.2 +0.7
baz=66,SNR=18
Y12C **Blythe** 66.69 65 P P 08 48 30.5 +0.5
baz=66,SNR=6.3
VSU **Vasula** 66.74 333 ⇑*e*P P 08 48 30.0 -0.3
GLA **Glamis** 66.97 66 *e*P P 08 48 32.0 +0.3
GLA **Glamis** 66.97 66 P P 08 48 31.8 +0.1
baz=67,SNR=9.3
CTA **Charters Tower** 67.01 189 P P 08 48 30.0 -2.0
comp=Z,1.6nm,0.6s,mb4.3,baz=29,slow=7.4,SNR=5.3
CTA LR LR 09 10 38.3
comp=Z,163nm,21.9s,MS4.2,baz=157,slow=30
PHWY **Pilot Hill** 67.01 54 *e*P P 08 48 32.5 +0.5
AGMN **Agassiz Refuge** 67.09 43 *e*P P 08 48 32.0 -0.5
comp=Z,31nm,1.2s,mb5.2
W15A **Williams** 67.14 63 ⇓P P 08 48 32.8 -0.1
baz=67
X14A **Yava** 67.23 64 P P 08 48 34.1 +0.7
baz=67,SNR=10
VOR **Voronezh** 67.44 323 P P 08 48 33.0 -1.7
VOR pmax pmax
comp=Z,170nm,2.5s,mb5.6
WUAZ **Wupatki** 67.46 62 *e*P P 08 48 35.7 +0.9
WUAZ **Wupatki** 67.46 62 ⇓P P 08 48 35.1 +0.3
baz=67,SNR=7.1
Y14A **Wickenburg** 67.51 64 ⇑P P 08 48 35.4 +0.2
baz=67,SNR=12
X15A **Humboldt** 67.62 63 P P 08 48 36.8 +0.9
baz=67,SNR=17
VRSR **Storozhevoye** 67.82 322 *e*P P 08 48 38.7 +1.5
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
ISCO **Idaho Springs** 67.94 55 *e*P P 08 48 38.5 +0.6
ISCO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ISCO **Idaho Springs** 67.94 55 *e*P P 08 48 38.5 +0.6
comp=Z,10nm,0.8s,mb4.9
MVCO **Mesa Verde** 68.03 59 *e*P P 08 48 38.9 +0.4
comp=Z,9.8nm,0.9s,mb4.8
MVCO **Mesa Verde** 68.03 59 P P 08 48 38.9 +0.4
baz=68,SNR=8.4
HYB **Hyderabad** 68.20 272 *i* P P 08 48 39.5 0.0
HYB **Hyderabad** 68.20 272 *e*P P 08 48 39.5 0.0
NB2 **NORSAR Subarra** 68.58 342 P P 08 48 41.2 -0.7
comp=Z,32nm,1.4s,mb5.1,baz=27,slow=6.5
NOA **NORSAR Array B** 68.58 342 P P 08 48 41.3 -0.6
comp=Z,5.6nm,0.8s,mb4.5,baz=26,slow=6.4,SNR=11
NOA LR LR 09 26 33.0
comp=Z,159nm,18.7s,MS4.3,baz=5,0,slow=43
115A **Sonoran Desert** 68.83 65 ⇑P P 08 48 43.8 +0.4
baz=69
WRAB **Tennant Creek** 68.94 201 *e*P P 08 48 42.9 -1.2
WB2 **Warramunga Arr** 68.95 201 *e*P P 08 48 42.9 -1.3
WRA **Warramunga Arr** 68.95 201 P P 08 48 42.7 -1.5
comp=Z,5.9nm,1.0s,mb4.5,baz=19,slow=6.8,SNR=18
WRA LR LR 09 15 02.6
comp=Z,139nm,20.1s,MS4.2,baz=230,slow=33
116A **Eloy** 69.24 64 ⇑P P 08 48 46.3 +0.2
baz=69
EYMN **Ely** 69.36 41 *e*P P 08 48 46.2 -0.5
SDCO **Great Sand Dun** 69.41 57 *e*P P 08 48 47.9 +0.8
comp=Z,13nm,1.1s,mb4.8
FITZ **Fitzroy Crossi** 69.75 210 *e*P P 08 48 49.8 +0.6
comp=Z,8.3nm,0.9s,mb4.7
ECSD **EROS,Sioux Fal** 69.99 47 *e*P P 08 48 49.7 -1.0
comp=Z,57nm,1.6s,mb5.2
MDRS **Chennai** 70.07 268 *e*P P 08 48 51.5 +0.3
POO **Poona** 70.65 277 *e*P P 08 48 53.0 -1.7
LAZ **Ladron** 70.76 60 *e*P P 08 48 56.1 +0.7
ANMO **Albuquerque** 70.78 59 *e*P P 08 48 55.9 +0.4
ANMO pmax pmax
comp=Z,30nm,1.6s
ANMO **Albuquerque** 70.78 59 *e*P P 08 48 55.9 +0.4
comp=Z,30nm,1.6s,mb5.0
LENM **Lemitar** 71.02 60 *e*P P 08 48 57.8 +0.9
LPM **Los Pinos Moun** 71.12 60 *e*P P 08 48 58.1 +0.6
BNM **Barren Site** 71.24 60 *e*P P 08 48 59.4 +1.1
KAD **Karad** 71.27 276 *e*P P 08 48 57.5 -1.0
KAD AMb AMB 08 49 01.1
comp=Z,31nm,1.5s,mb5.0
KIV **Kislovodsk** 71.64 315 *e*P P 08 49 01.7 +1.1
KIV pmax pmax
comp=Z,14nm,0.6s,mb5.1
KIV MLR MLR
comp=Z,414nm,17.0s,MS4.8
ZEI **Tsey** 71.92 314 *e*P P 08 49 00.4 -1.9
AKASG **Malin Array Be** 72.18 327 P P 08 49 03.5 -0.5
comp=Z,5.3nm,0.7s,mb4.6,baz=34,slow=6.3,SNR=12
AKASG LR LR 09 24 41.9
comp=Z,263nm,18.8s,MS4.5,baz=40,slow=39
AKASG **Malin Array Be** 72.18 327 P P 08 49 03.5 -0.4
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,263nm,18.8s
AKASG **Malin Array Be** 72.18 327 P P 08 49 03.5 -0.5
AKASG LR LR 09 24 41.9
KIEV **Kiev** 72.19 327 *e*P P 08 49 04.1 +0.1
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIEV **Kiev** 72.19 327 *e*P P 08 49 04.1 +0.1
comp=Z,4.8nm,0.6s,mb4.6
AS31 **Alice Springs** 72.63 200 *e*P P 08 49 06.3 -0.3
ASAR **Alice Springs** 72.64 200 P P 08 49 06.2 -0.5
comp=Z,7.8nm,0.7s,mb4.8,baz=15,slow=5.7,SNR=77
ASAR LR LR 09 21 55.6
comp=Z,130nm,18.5s,MS4.2,baz=324,slow=37
ASAR **Alice Springs** 72.64 200 P P 08 49 06.2 -0.4
ASAR pmax pmax
comp=Z,8.0nm,0.7s
ASAR MLR MLR
comp=Z,130nm,18.5s
SCHQ **Schefferville** 72.81 24 P P 08 49 06.9 -0.8
comp=Z,3.9nm,0.8s,mb4.4,baz=277,slow=4.7,SNR=5.9
SCIA **State Center** 73.03 46 *e*P P 08 49 08.8 -0.1
comp=Z,27nm,0.7s,mb5.3
KSU1 **Kansas State U** 73.36 50 *e*P P 08 49 09.3 -1.6
comp=Z,11nm,0.7s,mb4.9
KSU1 *e*PcP PcP 08 49 27.7 +0.6
ANN **Anapa** 73.46 319 *e*P P 08 49 08.3 -3.2
ANN *e**PP pP 08 49 13.0 -3.7
ANN *e*S S 08 58 39.6 -0.7
ANN pmax pmax
comp=Z,88nm,1.2s,mb5.6
AMTX **Amarillo** 73.61 56 *e*P P 08 49 12.9 +0.5
MNTX **Cornudas Mount** 73.70 61 *e*P P 08 49 13.0 +0.1
comp=Z,35nm,1.5s,mb5.1
GDL2 **Guadalupe Moun** 73.96 60 *e*P P 08 49 14.8 +0.4
LVV **L'vov** 74.79 329 *e*P P 08 49 13.9 -5.4
WMOK **Wichita Mounta** 75.36 55 *e*P P 08 49 22.7 +0.1
WMOK pmax pmax
comp=Z,24nm,1.4s,mb4.9
WMOK **Wichita Mounta** 75.36 55 *e*P P 08 49 22.7 +0.1
comp=Z,24nm,1.4s,mb4.9
KWP **Kalwaria** 75.41 330 *e*P P 08 49 22.6 -0.2
KWP **Kalwaria** 75.41 330 *e*P P 08 49 23.1 +0.3
KWP pmax pmax
comp=Z,37nm,1.1s,mb5.2
OJC **Ojcow** 75.87 332 *e*P P 08 49 26.4 +0.9
STHS **Stebnicka Huta** 76.08 331 *e*P P 08 49 28.4 +1.7
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STHS **Stebnicka Huta** 76.08 331 *e*P P 08 49 28.4 +1.7
comp=Z,9.3nm,0.9s,mb4.7
BURAR **Bucovina Array** 76.22 328 ⇓*i*P P 08 49 27.5 0.0
NIE **Niedzica** 76.39 331 *e*P P 08 49 30.2 +1.7
UZH **Uzhgorod** 76.40 330 *e*P P 08 49 29.0 +0.5
LTX **Lajitas** 76.42 62 P P 08 49 28.9 +0.3
LTX pmax pmax
comp=Z,37nm,0.9s,mb5.3
LTX **Lajitas** 76.42 62 *e*P P 08 49 28.8 +0.2
TXAR **Lajitas Array** 76.42 62 P P 08 49 28.8 +0.1
comp=Z,28nm,0.7s,mb5.3,baz=300,slow=4.0,SNR=237
TXAR **Lajitas Array** 76.42 62 P P 08 49 28.8 +0.2
TXAR pmax pmax
comp=Z,28nm,0.7s
UPC **Upice** 76.78 334 *e*P P 08 49 32.6 +1.9
UPC *ex* x 08 49 56.7
DPC **Dobruska-Polom** 76.83 334 *e*P P 08 49 32.3 +1.4
CLL **Collm** 76.93 337 *e*P P 08 49 32.0 +0.5
CLL *ep*P pP 08 49 35.0 -1.7
CLL **Collm** 76.93 337 *e*P P 08 49 32.0 +0.5
CLL *ep*P pP 08 49 35.0 -1.7
CLL LmV 09 25 00.0
comp=Z,300nm,19.2s
MORC **Moravsky Berou** 76.97 333 ⇑*i*P P 08 49 34.8 +3.1
MORC **Moravsky Berou** 76.97 333 *e*P P 08 49 33.0 +1.3
MORC pmax pmax
comp=Z,11nm,1.0s,mb4.7
MORC **Moravsky Berou** 76.97 333 *e*P P 08 49 33.0 +1.3
comp=Z,12nm,1.0s,mb4.8
BRG **Berggiesshubel** 77.06 336 *e*P P 08 49 35.4 +3.2
comp=Z,7.0nm,1.2s,mb4.5
BRG **Berggiesshubel** 77.06 336 *e*P P 08 49 35.4 +3.2
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS **Kecovo** 77.14 331 *e*P P 08 49 35.0 +2.3
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS **Kecovo** 77.14 331 *e*P P 08 49 35.0 +2.3
comp=Z,3.9nm,0.9s,mb4.3
PVCC **Panska Ves** 77.19 335 *e*P P 08 49 36.1 +3.2
FVM **French Village** 77.39 47 *e*P P 08 49 33.6 -0.5
TIRR **Tirgusor** 77.61 324 ⇑*i*P P 08 49 36.8 +1.5
TIRR **Tirgusor** 77.61 324 *e*P P 08 49 35.8 +0.5
TIRR pmax pmax
comp=Z,14nm,1.3s,mb4.7
TIRR **Tirgusor** 77.61 324 *e*P P 08 49 35.8 +0.5
comp=Z,14nm,1.3s,mb4.7
PRU **Pruhonice** 77.68 335 *e*P P 08 49 35.5 -0.2
VYHS **Vyhne** 77.68 332 *e*P P 08 49 37.9 +2.2
MLR **Muntele Rosu** 77.72 326 ⇑*i*P P 08 49 37.2 +1.3
DRGR **77.83 329** ⇑*i*P P 08 49 40.3 +3.8
JCT **Junction City** 77.89 58 *e*P P 08 49 36.9 0.0
JCT pmax pmax
comp=Z,55nm,1.4s,mb5.3
JCT **Junction City** 77.89 58 *e*P P 08 49 36.8 0.0
MOX **Moxa** 77.90 337 *e*(P) P 08 49 39.0 +2.1
MALT **Malatya** 78.01 314 ⇓*i*P P 08 49 38.7 +1.2
MALT **Malatya** 78.01 314 *e*P P 08 49 38.8 +1.3
MALT pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MALT **Malatya** 78.01 314 *e*P P 08 49 38.8 +1.3
comp=Z,7.6nm,0.9s,mb4.6
NKC **Novy Kostel** 78.05 336 *e*P P 08 49 41.0 +3.2
VOIR **78.11 326** ⇓*i*P P 08 49 39.9 +1.8
SIUC **Southern Illin** 78.21 47 *e*P P 08 49 38.5 -0.2
BLO **Bloomington** 78.39 44 *e*P P 08 49 39.1 -0.6
BLO pmax pmax
comp=Z,13nm,0.8s,mb4.9
BLO **Bloomington** 78.39 44 *e*P P 08 49 39.1 -0.6
comp=Z,13nm,0.8s,mb4.9
ZST **Bratislava** 78.50 333 *e*P P 08 49 42.0 +1.8
KHC **Kasperske Hory** 78.73 335 *e*P P 08 49 41.3 -0.2
USIN **University of** 78.79 46 *e*P P 08 49 42.0 +0.2
comp=Z,40nm,0.9s,mb5.3
GRA1 **Grafenberg Arr** 78.88 337 *e*P P 08 49 43.4 +1.1
comp=Z,46nm,1.5s,mb5.2
GRF **Grafenberg Arr** 78.88 337 *e*P P 08 49 43.4 +1.1
comp=Z,46nm,1.5s,mb5.2
GRF **Grafenberg Arr** 78.88 337 *e*P P 08 49 43.4 +1.1
GRF pmax pmax
comp=Z,46nm,1.5s,mb5.2
GRF **Grafenberg Arr** 78.88 337 *e*P P 08 49 43.4 +1.1
GRF pmax pmax
comp=Z,46nm,1.5s,mb5.2
GRFO **Grafenberg** 78.88 337 *e*P P 08 49 43.7 +1.4
GRFO pmax pmax
comp=Z,41nm,1.1s,mb5.3
GRFO **Grafenberg** 78.88 337 *e*P P 08 49 43.7 +1.4
comp=Z,41nm,1.1s,mb5.3
GERES **GERESS Array B** 78.95 335 P P 08 49 42.7 0.0
comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=3.2,SNR=8.9
GERES **GERESS Array B** 78.95 335 P P 08 49 42.7 0.0
GERES pmax pmax
comp=Z,2.0nm,0.5s
GZR **Gura Zlata** 79.00 328 ⇓*i*P P 08 49 45.0 +2.0
BRTR **Keskin Array B** 79.19 318 P P 08 49 44.5 +0.4
comp=Z,3.6nm,0.8s,mb4.3,baz=66,slow=4.3,SNR=7.0
BRTR LR LR 09 32 51.9
comp=Z,176nm,18.1s,MS4.4,baz=148,slow=42
STKA **Stephens Creek** 79.20 191 P P 08 49 43.1 -1.0
comp=Z,5.6nm,0.9s,mb4.5,baz=35,slow=5.4,SNR=7.8
STKA LR LR 09 24 32.8
comp=Z,193nm,21.0s,MS4.4,baz=25,slow=36
BZS **Buzias** 79.22 329 ⇓*i*P P 08 49 42.1 -2.1
WCI **Wyandotte Cave** 79.25 45 *e*P P 08 49 44.3 0.0
WCI *e* 08 49 53.5
WCI pmax pmax
comp=Z,30nm,0.9s,mb5.2
WCI **Wyandotte Cave** 79.25 45 *e*P P 08 49 44.3 0.0
comp=Z,30nm,0.9s,mb5.2
WCI *e*PcP PcP 08 49 53.5 +0.9
ALLY **Alegheny Colle** 79.30 39 *e*P P 08 49 44.7 0.0
MEM **Membach** 79.33 340 AP pP 08 49 47.0 -3.1
BCLA **Clavier** 79.67 341 P P 08 49 47.3 +0.6
BCLA AP pP 08 49 50.2 -1.7
NCB **Newcomb** 79.77 34 *e*P P 08 49 46.3 -0.9
comp=Z,90nm,1.9s,mb5.4
TAOE **Nuku Hiva Isla** 79.86 115 *e*LR LR 09 13 54.2
comp=Z,1µm,23.3s
ACCN **Adirondack Com** 80.48 34 *e*P P 08 49 50.4 -0.6
OBKA **Obir** 80.79 333 ⇓*i*P P 08 49 57.4 +4.7
comp=Z,4.7nm,0.6s,mb4.6
OBKA **Obir** 80.79 333 ⇓*e*P P 08 49 57.4 +4.7
comp=Z,4.7nm,0.6s,mb4.6
BFO **Black Forest** 80.89 338 *e*P P 08 49 53.6 +0.4
BFO pmax pmax
comp=Z,29nm,1.4s,mb5.0
BFO **Black Forest** 80.89 338 *e*P P 08 49 53.6 +0.4
comp=Z,30nm,1.4s,mb5.0
WTTA **Wattenberg** 80.97 336 ⇓*i*P P 08 49 55.3 +1.7
comp=Z,15nm,0.6s,mb5.1
WTTA **Wattenberg** 80.97 336 ⇓*e*P P 08 49 55.3 +1.7
comp=Z,15nm,0.6s,mb5.1
MOTA **Moosalm** 81.05 336 ⇑*i*P P 08 49 59.4 +5.3
comp=Z,12nm,0.8s,mb4.9
MOTA **Moosalm** 81.05 336 ⇑*e*P P 08 49 54.4 +0.4
comp=Z,12nm,0.8s,mb4.9
MCWV **Mont Chateau** 81.07 40 *e*P P 08 49 54.5 +0.4
CDF **Champ du Feu** 81.07 339 *e*P P 08 49 53.2 -1.0
comp=Z,52nm,1.2s,mb5.0
CDF **Champ du Feu** 81.07 339 *e*P P 08 49 53.2 -1.0
CDF pmax pmax
comp=Z,26nm,1.2s,mb5.0
CDF **Champ du Feu** 81.07 339 *e*P P 08 49 53.2 -1.0
comp=Z,26nm,1.2s,mb5.0
SSPA **Standing Stone** 81.10 38 *e*P P 08 49 54.3 0.0
comp=Z,12nm,0.8s,mb4.9
PPT **Papeete** 81.21 127 *e*LR LR 09 14 31.3
comp=Z,502nm,22.8s,baz=326
PPT **Papeete** 81.21 127 LR LR 09 17 50.6
comp=Z,392nm,20.1s,MS4.8,baz=284,slow=30
VTS **Vitosha** 81.23 326 ⇓*i*P P 08 49 58.4 +3.4
DAVA **Damuels** 81.44 337 ⇑*i*P P 08 49 58.8 +2.6
comp=Z,19nm,1.0s,mb5.0
DAVA **Damuels** 81.44 337 ⇓*e*P P 08 49 57.8 +1.6
comp=Z,19nm,1.0s,mb5.0
LUPA **Lehigh Univers** 82.17 36 *e*P P 08 50 00.8 +0.8
MVL **Millersville** 82.28 37 *e*P P 08 50 00.8 +0.2
PAL **Palisades** 82.41 35 *e*P P 08 50 01.2 -0.1
ELN **Prospectdale** 82.66 42 *e*P P 08 50 02.2 -0.3
GRR **Gorron** 82.88 344 *e*P P 08 50 02.9 -0.8
comp=Z,101nm,1.3s,mb5.4
GRR **Gorron** 82.88 344 *e*P P 08 50 02.9 -0.8
GRR pmax pmax
comp=Z,51nm,1.3s,mb5.4
GRR **Gorron** 82.88 344 *e*P P 08 50 02.9 -0.8
comp=Z,51nm,1.3s,mb5.4
CBN **Corbin** 83.35 39 P P 08 50 02.8 -3.4
SMF **Signal de Mont** 83.55 340 *e*P P 08 50 06.7 -0.5
comp=Z,113nm,1.4s,mb5.5
SMF **Signal de Mont** 83.55 340 *e*P P 08 50 06.7 -0.5
SMF pmax pmax
comp=Z,57nm,1.4s,mb5.5
SMF **Signal de Mont** 83.55 340 *e*P P 08 50 06.7 -0.5
comp=Z,56nm,1.4s,mb5.5
LPG **La Plagne** 83.92 338 *e*P P 08 50 09.4 +0.4
comp=Z,24nm,0.7s,mb5.2
LPG **La Plagne** 83.92 338 *e*P P 08 50 09.4 +0.4
LPG pmax pmax
comp=Z,12nm,0.7s,mb5.1
LPG **La Plagne** 83.92 338 *e*P P 08 50 09.4 +0.4
comp=Z,12nm,0.7s,mb5.1

CAF	**Calviac**	**85.58**	**341**	*e*P		**P**		**08 50 17.7**	**+0.3**
TBI	**Tubuai**	**85.99**	**130**	*e*LR		LR		09 16 43.2	
	comp=Z,624nm,32.8s,baz=326								
KEST	**Kesra**	**92.21**	**333**	P		**P**		**08 50 48.8**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.5,baz=338,slow=5.4,SNR=5.2								
RKT	**Rikitea**	**93.95**	**120**	*e*LR		LR		09 20 24.8	
	comp=Z,398nm,32.5s,baz=317								
TORD	**Torodi Ar. Bea**	**115.67**	**331**	PKP	PKPdf			08 56 19.3	-2.0
	comp=Z,0.9nm,0.7s,baz=354,slow=1.7,SNR=5.9								
TORD				PP	PP			08 57 20.8	-3.1
	comp=Z,1.1nm,0.8s,baz=0.0,slow=8.5,SNR=5.5								
VNDA	**Vanda**	**124.10**	**178**	PKP	PKPdf			08 56 34.8	-2.8
	comp=Z,1.6nm,0.8s,baz=329,slow=5.0,SNR=8.2								
VNDA	**Vanda**	**124.10**	**178**	PKIKP	PKPdf			08 56 34.8	-2.8
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MAW	**Mawson**	**132.86**	**211**	PKP	PKPdf			08 56 52.3	-2.0
	comp=Z,4.3nm,0.9s,baz=328,slow=2.1,SNR=7.1								
MAW	**Mawson**	**132.86**	**211**	PKIKP	PKPdf			08 56 52.3	-1.9
MAW				pmax	pmax				
	comp=Z,4.0nm,1.0s								
LPAZ	**La Paz**	**133.25**	**64**	PKP	PKPdf			08 56 56.8	+1.9
	comp=Z,1.2nm,0.8s,baz=29,slow=6.6,SNR=5.1								
LPAZ	**La Paz**	**133.25**	**64**	PKIKP	PKPdf			08 56 56.8	+1.8
LPAZ				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BOSA	**Boshof**	**137.00**	**277**	PKP	PKPdf			08 57 03.4	+1.4
	comp=Z,2.5nm,1.0s,baz=60,slow=8.0,SNR=3.5								
BOSA	**Boshof**	**137.00**	**277**	PKIKP	PKPdf			08 57 03.4	+1.4
BOSA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
SYO	**Syowa Base**	**141.57**	**212**↑	*e*PKPdf	PKPdf			08 57 08.6	-1.7
CFAA	**Coronel Fontan**	**143.80**	**81**	PKhKP				08 57 10.3	
	comp=Z,0.8nm,0.7s,baz=280,slow=3.0,SNR=19								
CFAA	**Coronel Fontan**	**143.80**	**81**	PKP	PKPdf			08 57 10.3	-4.0
SNAA	**Sanae**	**152.91**	**195**	PKPbc	PKPbc			08 57 33.1	-3.2
	comp=Z,1.7nm,0.8s,baz=150,slow=3.0,SNR=13								
SNAA				PKPab	PKPab			08 57 45.1	-2.3
	comp=Z,3.6nm,0.9s,baz=165,slow=4.8,SNR=12								
SNAA	**Sanae**	**152.91**	**195**	*e*PKPdf	PKPbc			08 57 33.2	-3.1
SNAA				*e*				08 57 36.2	
SNAA				*e*				08 57 46.0	
SNAA				*e*				08 57 55.5	
SNAA				*e*				08 58 05.2	
SNAA	**Sanae**	**152.91**	**195**	PKIKP	PKPbc			08 57 33.1	-3.2
SNAA								08 57 45.1	
SNAA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SNAA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SNAA	**Sanae**	**152.91**	**195**	*e*PKPbc	PKPbc			08 57 33.1	-3.2
SNAA				*e*PKPab	PKPab			08 57 45.4	-2.1
VNA2	**Neumayer--Watz**	**154.32**	**193**	*e*PKPdf	PKPbc			08 57 37.7	-1.6
	baz=1.6,slow=1.9								
VNA2				*e*				08 57 40.7	
VNA2				*e*				08 57 52.5	
VNA2				*e*				08 58 02.2	
VNA2				*e*				08 58 11.6	
VNA2				*e*				08 58 24.0	
VNA3	**Neumayer Olymp**	**154.38**	**192**	*e*PKPdf	PKPbc			08 57 38.0	-1.5
VNA3				*e*				08 57 51.8	
VNA3				*e*				08 58 11.4	

ISCJB **16** *08:42:54.3±0.7, 469N±0.1×1554E±0.1, h10km, mb3.9/13, Error ellipse: s-maj=18.3km s-min=10.1km az=119.3*
IDC **16** *08:42:54.8±0.8, 4694N×15546E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/25, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=22.9km s-min=17.8km az=149.0*
NEIC **16** *08:42:55.2±1.2, 4677N×15543E, h10km, mb4.2/2, Error ellipse: s-maj=31.3km s-min=12.7km az=147.0*
MOS **16** *08:42:57.7±1.0, 4691N×15526E, h33km, mb4.2/11, Error ellipse: s-maj=19.1km s-min=16.1km az=45.8*

ISC 16 08:42:56.1±0.7, 470N±01×1554E±01, h10km, n30, σ1$02/30, mb3.9/13, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.51**	**255**↑	*i*PN	**Pn**	**08 44 16.3**	**-1.9**
KUR				pmax	pmax		
	comp=Z,120nm,0.7s						
ASAJ	**Asahikawa**	**9.42**	**257**	Pn	**Pn**	**08 45 13.9**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=148,slow=7.9,SNR=5.8						
ASAJ	**Asahikawa**	**9.42**	**257**	PN	**Pn**	**08 45 14.0**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.47**	**237**	Pn	**Pn**	**08 46 45.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=5.0						
KSRS	**Korea Array**	**22.35**	**255**	P	**P**	**08 47 56.2**	**+2.0**
	comp=Z,2.6nm,0.8s,mb3.7,baz=57,slow=10,SNR=5.9						
SONM	**Songino Array**	**32.74**	**290**	P	**P**	**08 49 28.8**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=61,slow=9.4,SNR=3.7						
SONM	**Songino Array**	**32.74**	**290**	P	**P**	**08 49 28.8**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
COLA	**College**	**35.01**	**38**	*e*P	**P**	**08 49 48.1**	**-0.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
COLA	**College**	**35.01**	**38**	*e*P	**P**	**08 49 48.1**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.2						
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 50 36.4**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.0,baz=292,slow=9.4,SNR=12						
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 50 36.4**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL	**Zalesovo**	**43.78**	**306**	P	**P**	**08 51 00.7**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.0,baz=13,slow=6.7,SNR=3.4						
ZAL	**Zalesovo**	**43.78**	**306**	P	**P**	**08 51 00.7**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**08 51 37.2**	**+0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=67,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**08 51 37.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**08 51 37.2**	**+0.2**
CHKZ	**Chkalovo**	**51.49**	**311**	*e*P	**P**	**08 52 01.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**51.49**	**311**	*e*P	**P**	**08 52 01.4**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**08 52 05.7**	**+0.6**
	baz=55,slow=8.1						
AKTO	**Aktyubinsk**	**59.75**	**313**	P	**P**	**08 53 01.1**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=63,slow=7.2,SNR=5.1						
AKTO	**Aktyubinsk**	**59.75**	**313**	P	**P**	**08 53 01.2**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**63.36**	**55**	P	**P**	**08 53 25.4**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=310,slow=7.0,SNR=3.3						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**08 53 33.8**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=36,slow=7.1,SNR=4.4						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**08 53 33.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 54 03.0**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=19,slow=6.9,SNR=7.0						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 54 03.0**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**08 54 26.4**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=5.4,SNR=7.2						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**08 54 26.4**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**08 54 43.7**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=292,slow=5.1,SNR=6.2						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**08 54 43.7**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC 16 08:52:06.9±3.5, 4640N×15291E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=96.3km s-min=34.3km az=1.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**42.03**	**32**	P	P	08 59 59.5	-0.5
	0.9nm,0.6s,baz=254,slow=4.5,SNR=5.9						
MKAR	**Makanchi Array**	**46.98**	**298**	P	P	09 00 39.6	-0.1
	0.2nm,0.4s,baz=65,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**64.30**	**335**	P	P	09 02 43.1	-1.0
	0.6nm,0.3s,baz=19,slow=6.5,SNR=6.1						
NB2	**NORSAR Subarra**	**68.52**	**341**	P	P	09 03 11.0	-0.2
	comp=Z,1.1nm,0.6s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.52**	**341**	P	P	09 03 11.2	0.0
	comp=Z,2.1nm,0.7s,baz=28,slow=6.2,SNR=5.4						
TXAR	**Lajitas Array**	**77.79**	**60**	P	P	09 04 06.2	+0.2
	comp=Z,0.3nm,0.9s,baz=299,slow=4.4,SNR=5.2						
GERES	**GERESS Array B**	**78.71**	**334**	P	P	09 04 10.9	-0.2
	comp=Z,0.3nm,0.3s,baz=22,slow=9.0,SNR=3.1						

ISCJB **16** *08:52:42.2±1.6, 470N±02×1556E±02, h10km, mb4.0/9, Error ellipse: s-maj=36.3km s-min=16.2km az=136.9*
IDC **16** *08:52:42.2±3.2, 4700N×15566E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, Error ellipse: s-maj=90.1km s-min=25.1km az=176.0*
NEIC **16** *08:52:43.5±1.2, 4694N×15564E, h10km, mb4.2/1, Error ellipse: s-maj=27.6km s-min=12.2km az=159.0*
MOS **16** *08:52:45.9±0.6, 4712N×15556E, h33km, mb4.2/8, Error ellipse: s-maj=29.6km s-min=17.8km az=105.1*

ISC 16 08:52:48.9±7.2, 472N±05×1556E±02, h43km±46km, n22, σ0$49/22, mb4.0/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.19**	**17**	*e*PN	**Pn**	**08 54 17.8**	**+0.1**
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**08 59 17.3**	**-0.8**
	0.9nm,0.8s,mb3.7,baz=61,slow=7.5,SNR=6.1						
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**08 59 17.3**	**-0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**40.39**	**33**	P	**P**	**09 00 22.5**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=270,slow=7.1,SNR=2.5						
INK	**Inuvik**	**40.39**	**33**	P	**P**	**09 00 22.5**	**-0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.39**	**33**	P	**P**	**09 00 22.5**	**-0.1**
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**09 00 50.5**	**+0.3**
	comp=Z,2.2nm,0.3s,mb4.3,baz=170,slow=1.6,SNR=4.0						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**09 00 50.5**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**09 00 50.5**	**+0.2**
MK31	**Makanchi Array**	**48.27**	**298**	*e*P	**P**	**09 01 25.9**	**+0.3**
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**09 01 25.9**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.1,baz=62,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**09 01 25.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**09 01 49.4**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**09 01 49.4**	**-0.6**
	comp=Z,1.0nm,0.3s,mb4.2						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 01 53.0**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.2,baz=44,slow=8.7,SNR=7.1						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 01 53.0**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**59.72**	**313**	P	**P**	**09 02 49.9**	**+0.7**
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**09 02 49.9**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=90,slow=8.6,SNR=3.6						
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**09 02 49.9**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.39**	**336**	P	**P**	**09 03 19.7**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=55,slow=10,SNR=2.2						
FINES	**FINESS Array B**	**64.39**	**336**	P	**P**	**09 03 19.7**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**75.80**	**62**	P	**P**	**09 04 30.4**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=317,slow=5.1,SNR=4.1						

ISCJB **16** *08:54:58.2±0.9, 469N±0.1×1529E±02, h10km, mb3.9/9, Error ellipse: s-maj=26.5km s-min=9.0km az=98.6*
NEIC **16** *08:54:59.9±0.8, 4681N×15299E, h10km, mb3.9/1, Error ellipse: s-maj=23.5km s-min=8.7km az=138.0*
MOS **16** *08:55:01.3±1.5, 4688N×15282E, h33km, mb4.2/6, Error ellipse: s-maj=27.4km s-min=15.1km az=60.5*
IDC **16** *08:55:03.5±5.5, 4642N×15293E, h50km±59km, mb3.6/9, mb1 3.7/10, mb1mx3.5/24, mbtmp3.6/10, ML3.6/1, Error ellipse: s-maj=59.2km s-min=24.7km az=178.0*

ISC 16 08:54:59.6±5.2, 469N±02×1529E±02, h8km±35km, n23, σ0$72/23, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**7.21**	**29**	*e*PN	**Pn**	**08 56 45.0**	**-0.2**
ASAJ	**Asahikawa**	**7.74**	**253**	P	**Pn**	**08 56 52.0**	**-0.5**
	1.0nm,0.3s,baz=80,slow=32,SNR=4.4						
ASAJ	**Asahikawa**	**7.74**	**253**	PN	**Pn**	**08 56 52.1**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.03**	**232**	*e*P	**Pn**	**08 58 31.9**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**15.03**	**232**	*e*Pn	**Pn**	**08 58 31.9**	**-0.4**
	comp=Z,2.9nm,0.6s						
MJAR	**Matsushiro Arr**	**15.03**	**232**	P	**Pn**	**08 58 33.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=10,SNR=4.2						
KSRS	**Korea Array**	**20.69**	**252**	P	**P**	**08 59 39.0**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=59,slow=10,SNR=4.7						
INCN	**Inchon**	**21.52**	**254**	*e*P	**P**	**08 59 49.8**	**+0.7**
	comp=Z,6.0nm,0.5s,mb4.3						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**09 02 49.0**	**+0.6**
	comp=Z,2.9nm,1.2s,mb3.8,baz=333,slow=4.5,SNR=3.5						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**09 02 49.0**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**09 02 49.0**	**+0.6**
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**09 03 28.4**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=67,slow=8.1,SNR=8.8						
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**09 03 28.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**09 03 59.9**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=20,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**09 05 33.8**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=52,slow=9.0,SNR=4.8						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**09 05 33.8**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**	**09 05 39.1**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=294,slow=2.7,SNR=3.4						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**09 05 59.5**	**-0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=26,slow=6.2,SNR=3.4						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**09 05 59.5**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.38**	**326**	P	**P**	**09 06 20.4**	**+0.3**
	comp=Z,2.2nm,0.5s,mb4.3,baz=33,slow=5.8,SNR=8.7						
AKASG	**Malin Array Be**	**71.38**	**326**	P	**P**	**09 06 20.4**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**77.57**	**60**	P	**P**	**09 06 55.0**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=303,slow=5.0,SNR=6.6						
TXAR	**Lajitas Array**	**77.57**	**60**	P	**P**	**09 06 55.1**	**-1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC **16** *08:55:53.0±1.9, 4794N×15497E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=62.8km s-min=24.4km az=165.0*
MOS **16** *08:56:00.9±2.0, 4823N×15489E, h70km, mb4.1/4, Error ellipse: s-maj=31.1km s-min=18.1km az=64.7*
ISCJB **16** *08:56:01.6±2.3, 481N±02×1549E±02, h77km±18km, mb3.8/5, Error ellipse: s-maj=38.9km s-min=10.8km az=95.0*

ISC 16 08:56:03.1±2.1, 481N±02×1549E±03, h79km±15km, n14, σ0$66/15, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.68**	**17**	*e*PN	**Pn**	**08 56 43.5**	**-0.6**
SKR				*e*S	**Sn**	**08 57 15.5**	**0.0**
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,310nm,0.5s						
SKR				smax			
	comp=Z,170nm,0.5s						
PET	**Petropavlovsk**	**5.45**	**25**	*e*PN	**Pn**	**08 57 17.1**	**-4.7**
PET				pmax	pmax		
	comp=Z,67nm,1.8s						
YSS	**Yuzh-Sakhalins**	**8.30**	**266**	*e*PN	**Pn**	**08 58 02.0**	**+1.3**
ASAJ	**Asahikawa**	**9.44**	**249**	Pn	**Pn**	**08 58 16.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=191,slow=4.5,SNR=2.6						
ASAJ	**Asahikawa**	**9.44**	**249**	PN	**Pn**	**08 58 16.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.38**	**251**	P	**P**	**09 00 53.6**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.5,baz=44,slow=11,SNR=4.6						
INK	**Inuvik**	**39.84**	**33**	P	**P**	**09 03 29.4**	**+0.6**
	comp=Z,1.5nm,0.9s,mb3.8,baz=292,slow=6.5,SNR=2.8						
INK	**Inuvik**	**39.84**	**33**	P	**P**	**09 03 29.4**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.39**	**297**	P	**P**	**09 04 29.3**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=60,slow=8.2,SNR=5.1						
MKAR	**Makanchi Array**	**47.39**	**297**	P	**P**	**09 04 29.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**09 04 56.2**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=59,slow=6.6,SNR=5.7						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**09 04 56.2**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**09 07 40.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=302,slow=4.0,SNR=8.7						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**09 07 40.6**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NEIC **16** *08:57:38.1, 4090N×2359E, h29km, MD3.0(ATH), After ATH.*
ATH **16** *08:57:38.1, 4090N×2359E, h29km±2km, MD3.0/3*
THE **16** *08:57:39.0, 4085N×2367E, h13km, ML2.5*
ISCJB **16** *08:57:39.2±0.5, 4084N±003×2367E±004, h21km±6km, Error ellipse: s-maj=5.2km s-min=4.5km az=168.8*
CSEM **16** *08:57:39.2±0.1, 4085N×2365E, h20km, ML2.5, Error ellipse: s-maj=2.4km s-min=2.2km az=55.0*

ISC 16 08:57:38.7±0.5, 4086N±003×2370E±004, h14km±6km, n15, σ0$61/29, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOH	**Sokhos**	**0.26**	**263**	*e*Pg	**Pg**	**08 57 44.2**	**0.0**
SOH				*e*Sg	**Sg**	**08 57 48.2**	**+0.2**
NVR	**Nevrokopi**	**0.51**	**14**	*e*PB	**Pb**	**08 57 49.2**	**-0.2**
NVR				*e*SB	**Sb**	**08 57 56.2**	**-0.4**
PLG	**Polygyros**	**0.52**	**202**	*e*Pg	**Pg**	**08 57 49.2**	**+0.3**
PLG				*e*Sg	**Sg**	**08 57 56.6**	**+0.8**
PLG	**Polygyros**	**0.52**	**202**	*e*PN	**Pg**	**08 57 49.1**	**+0.2**
PLG				*e*SN	**Sg**	**08 57 56.7**	**+0.9**
HORT	**Hortiatis**	**0.52**	**241**	*e*Pg	**Pg**	**08 57 48.9**	**0.0**
HORT				*e*Sg	**Sg**	**08 57 56.0**	**0.0**
OUR	**Ouranopolis**	**0.56**	**157**	*e*Pg	**Pg**	**08 57 49.8**	**0.0**
OUR				*e*Sg	**Sg**	**08 57 57.2**	**0.0**
THE	**Thessaloniki**	**0.60**	**248**	*e*Pg	**Pg**	**08 57 50.2**	**-0.2**
THE				*e*Sg	**Sg**	**08 57 58.0**	**-0.3**
KNT	**Kendrikon**	**0.68**	**297**	*e*Pg	**Pg**	**08 57 51.3**	**-0.5**
KNT				*e*Sg	**Sg**	**08 58 00.8**	**0.0**
PAIG	**Paliouri**	**0.93**	**181**	*e*Pg	**Pg**	**08 57 56.5**	**-0.1**
PAIG				*e*Sg	**Sg**	**08 58 09.3**	**+0.5**
VAY	**Valandovo**	**0.97**	**299**	*e*Pg	**Pg**	**08 57 57.5**	**+0.1**
VAY				*e*Sg	**Sg**	**08 58 10.0**	**-0.1**
VAY	**Valandovo**	**0.97**	**299**	*e*Pg	**Pg**	**08 57 57.5**	**+0.1**
GRG	**Griva**	**0.99**	**276**	*e*Pg	**Pg**	**08 57 57.2**	**-0.5**
GRG				*e*Sg	**Sg**	**08 58 11.6**	**+0.9**
LOS	**Limnos**	**1.40**	**131**	*e*Pn	**Pn**	**08 58 02.4**	**-1.4**
LOS				*e*Sg	**Sg**	**08 58 22.9**	**-1.0**
RDO	**Rodhopi**	**1.42**	**78**	*e*PN	**Pn**	**08 58 04.8**	**+0.7**
RDO				*e*SN	**Sn**	**08 58 24.4**	**+1.8**
XOR	**Xorichti**	**1.54**	**195**	*e*Pg	**Pn**	**08 58 05.7**	**0.0**
XOR				*e*Sg	**Sn**	**08 58 24.8**	**-0.6**

ISCJB **16** *08:57:41.6±1.3, 463N±02×1552E±02, h10km, mb4.0/6, Error ellipse: s-maj=33.8km s-min=14.7km az=115.0*
MOS **16** *08:57:43.5±2.6, 4620N×15564E, h33km, mb4.3/6, Error ellipse: s-maj=28.6km s-min=23.9km az=68.0*
NEIC **16** *08:57:43.1±1.3, 4618N×15523E, h10km, mb3.7/1, Error ellipse: s-maj=35.9km s-min=15.0km az=151.0*
IDC **16** *08:57:51.0±4.5, 4769N×15467E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.7/24, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=107.6km s

INK	**Inuvik**	**40.56**	**33**	P	**P**	**09 09 08.0**	**+0.1**		
INK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
INK	**Inuvik**	**40.56**	**33**	P	**P**	**09 09 08.0**	**0.0**		
ZAL	**Zalesovo**	**42.85**	**305**	P	**P**	**09 09 27.0**	**+0.3**		
	comp=Z,1.5nm,0.4s,mb4.1,baz=39,slow=6.0,SNR=3.5								
ZAL	**Zalesovo**	**42.85**	**305**	P	**P**	**09 09 27.0**	**+0.4**		
ZAL				pmax	pmax				
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**47.32**	**297**	P	**P**	**09 10 02.2**	**+0.1**		
	comp=Z,1.8nm,0.9s,mb3.8,baz=67,slow=7.3,SNR=11								
MKAR	**Makanchi Array**	**47.32**	**297**	P	**P**	**09 10 02.2**	**+0.1**		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**47.32**	**297**	P	**P**	**09 10 02.2**	**+0.1**		
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**09 10 21.3**	**+0.1**		
	comp=Z,3.6nm,0.9s,mb4.3,baz=303,slow=8.4,SNR=3.7								
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**09 10 21.3**	**+0.1**		
YKA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**09 10 21.3**	**+0.1**		
CHKZ	**Chkalovo**	**50.57**	**310**	*e*P	**P**	**09 10 26.7**	**-0.2**		
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.5								
CHKZ	**Chkalovo**	**50.57**	**310**	*e*P	**P**	**09 10 26.6**	**-0.3**		
	comp=Z,1.5nm,0.4s,mb4.4								
BVAR	**Borovoye Array**	**51.01**	**309**	P	**P**	**09 10 29.7**	**-0.6**		
	comp=Z,1.3nm,0.4s,mb4.3,baz=58,slow=7.8,SNR=6.6								
BVAR	**Borovoye Array**	**51.01**	**309**	P	**P**	**09 10 29.7**	**-0.5**		
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**57.40**	**341**	P	**P**	**09 11 15.4**	**-1.3**		
	comp=Z,6.1nm,0.9s,mb4.6,baz=26,slow=8.4,SNR=5.0								
ARCES	**ARCESS Array B**	**57.40**	**341**	P	**P**	**09 11 15.4**	**-1.3**		
ARCES				pmax	pmax				
	comp=Z,6.0nm,0.9s								
AKTK	**Aktyubinsk**	**58.83**	**312**	P	**P**	**09 11 26.0**	**-0.7**		
AKTO	**Aktyubinsk**	**58.83**	**312**	P	**P**	**09 11 26.0**	**-0.7**		
	comp=Z,1.1nm,0.6s,mb4.1,baz=74,slow=5.5,SNR=5.1								
AKTO	**Aktyubinsk**	**58.83**	**312**	P	**P**	**09 11 26.0**	**-0.7**		
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb4.0								
FINES	**FINESS Array B**	**63.69**	**335**	P	**P**	**09 11 58.8**	**-0.8**		
	comp=Z,0.7nm,0.4s,mb3.8,baz=29,slow=9.0,SNR=7.1								
FINES	**FINESS Array B**	**63.69**	**335**	P	**P**	**09 11 58.8**	**-0.8**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**67.76**	**342**	P	**P**	**09 12 27.2**	**+1.4**		
	comp=Z,1.5nm,0.8s,mb3.9,baz=27,slow=6.6,SNR=3.3								
NOA	**NORSAR Array B**	**67.76**	**342**	P	**P**	**09 12 27.2**	**+1.5**		
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**71.36**	**327**	P	**P**	**09 12 50.3**	**+2.4**		
	comp=Z,0.5nm,0.4s,mb3.7,baz=39,slow=6.0,SNR=5.2								
AKASG	**Malin Array Be**	**71.36**	**327**	P	**P**	**09 12 50.3**	**+2.4**		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**73.20**	**200**	P	**P**	**09 12 59.4**	**+0.5**		
	comp=Z,0.6nm,0.8s,mb3.5,baz=19,slow=8.0,SNR=4.1								
ASAR	**Alice Springs**	**73.20**	**200**	P	**P**	**09 12 59.4**	**+0.5**		
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
TXAR	**Lajitas Array**	**76.40**	**61**	P	**P**	**09 13 15.7**	**-1.7**		
	comp=Z,0.7nm,0.9s,mb3.4,baz=304,slow=5.3,SNR=6.2								
TXAR	**Lajitas Array**	**76.40**	**61**	P	**P**	**09 13 15.7**	**-1.6**		
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								

IDC 16 09:04:16.9±1.2, 4646N×15567E, *h*0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=38.3km s-min=32.7km az=29.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.63**	**299**	P	P	09 13 02.6	+0.1
	0.3nm,0.6s,baz=76,slow=8.3,SNR=3.4						
BVAR	**Borovoye Array**	**52.40**	**311**	P	P	09 13 30.5	-0.4
	1.3nm,0.6s,baz=67,slow=8.8,SNR=4.5						
FINES	**FINESS Array B**	**65.04**	**336**	P	P	09 14 58.0	-1.0
	0.6nm,0.6s,baz=30,slow=9.7,SNR=3.7						
ASAR	**Alice Springs**	**72.52**	**201**	P	P	09 15 45.4	-0.2
	0.3nm,0.7s,baz=16,slow=5.4,SNR=4.5						
TXAR	**Lajitas Array**	**76.09**	**62**	P	P	09 16 06.8	+0.4
	0.6nm,0.6s,baz=306,slow=4.1,SNR=7.7						

*IDC **16** 09:05:09.4±1.9, 47.14N×155.28E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, Error ellipse: s-maj=56.5km s-min=22.6km az=168.0*
*ISCJB **16** 09:05:10.6±1.2, 474N±0.2×1552E±0.2, h10km, mb3.9/9, Error ellipse: s-maj=31.8km s-min=15.8km az=110.8*
*NEIC **16** 09:05:13.4±1.5, 4750N×15500E, h10km, mb4.0/1, Error ellipse: s-maj=37.0km s-min=15.9km az=137.0*

ISC 16 09:05:12.0±1.2, 474N±0.2×1552E±0.2, h10km, n11, σ0=9.49/11, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.62**	**235**	Pn	**Pn**	**09 09 05.7**	**+0.7**
	0.2nm,0.3s,baz=34,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**16.62**	**235**	Pn	**Pn**	**09 09 05.7**	**+0.7**
KSRS	**Korea Array**	**22.35**	**254**	P	**P**	**09 10 09.4**	**-0.6**
	2.1nm,0.8s,mb3.6,baz=55,slow=9.9,SNR=6.5						
SONM	**Songino Array**	**32.46**	**289**	P	**P**	**09 11 42.1**	**-0.4**
	0.4nm,0.8s,mb3.3,baz=63,slow=10,SNR=3.3						
INK	**Inuvik**	**40.33**	**33**	P	**P**	**09 12 50.4**	**+0.7**
	2.2nm,0.8s,mb3.9,baz=277,slow=7.3,SNR=6.1						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**09 13 50.4**	**0.0**
	2.7nm,1.0s,mb4.2,baz=63,slow=8.3,SNR=9.4						
BVAR	**Borovoye Array**	**51.54**	**310**	P	**P**	**09 14 18.4**	**+0.4**
	1.2nm,0.5s,mb4.1,baz=46,slow=8.7,SNR=5.0						
AAK	**Ala-Archa**	**54.81**	**297**	*e*P	**P**	**09 14 42.0**	**-0.2**
	1.3nm,0.8s,mb4.0						
AKTO	**Aktyubinsk**	**59.34**	**312**	P	**P**	**09 15 14.6**	**+0.3**
	1.0nm,0.6s,mb4.0,baz=63,slow=4.9,SNR=4.1						
FINES	**FINESS Array B**	**64.04**	**336**	P	**P**	**09 15 45.6**	**-0.3**
	1.1nm,0.7s,mb4.0,baz=12,slow=9.8,SNR=3.6						
TXAR	**Lajitas Array**	**75.93**	**62**	P	**P**	**09 16 58.2**	**-0.7**
	0.5nm,0.8s,mb3.5,baz=282,slow=5.4,SNR=3.0						

*NEIC **16** 09:11:12.4±0.6, 47.14N×153.04E, h10km, mb4.5/3, Error ellipse: s-maj=19.2km s-min=10.1km az=135.0*
*ISCJB **16** 09:11:15.4±2.0, 470N±0.1×1529E±0.1, h46km±19km, mb4.1/17, Error ellipse: s-maj=20.0km s-min=12.9km az=111.1*
*MOS **16** 09:11:15.8±1.0, 4709N×15279E, h49km, mb4.4/12, Error ellipse: s-maj=18.6km s-min=11.4km az=56.9*
*IDC **16** 09:11:21.8±3.5, 4701N×15283E, h90km±31km, mb3.8/16, mb1 4.0/18, mb1mx3.9/25, mbtmp3.8/18, Error ellipse: s-maj=18.0km s-min=14.9km az=129.0*

ISC 16 09:11:16.9±1.8, 471N±01×1530E±01, h45km±17km, n51, σ0=9.98/52, mb4.1/17, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**245**	*e*PN	**Pn**	**09 12 13.6**	**-1.9**
KUR				*e*S	**Sn**	**09 13 01.5**	**+0.5**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,610nm,0.5s						
KUR				smax			
	comp=E,330nm,0.5s						
SKR	**Severo-Kuril's**	**4.18**	**29**	*e*PN	**Pn**	**09 12 09.5**	**-8.6**
SKR				*e*		09 13 08.0	
YUK	**Yuzh-Kuril'sk**	**5.84**	**241**	*e*PN	**Pn**	**09 12 39.5**	**-1.4**
YUK				*e*S	**Sn**	**09 13 51.6**	**+5.1**
YUK				pmax	pmax		
	comp=Z,390nm,0.3s						
YUK				smax			
	comp=E,820nm,0.5s						
YUK				smax			
	comp=N,630nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.99**	**273**	*e*PN	**Pn**	**09 13 01.4**	**+4.8**
YSS				*e*		09 14 19.3	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ASAJ	**Asahikawa**	**7.85**	**252**	P	**Pn**	**09 13 12.2**	**+3.7**
	comp=Z,2.6nm,0.3s,baz=87,slow=13,SNR=17						
ASAJ	**Asahikawa**	**7.85**	**252**	PN	**Pn**	**09 13 12.2**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**8.63**	**238**	*e*PN	**Pn**	**09 13 20.4**	**+1.2**
ERM				pmax	pmax		
	comp=Z,17nm,0.5s						
ERM	**Erimo**	**8.63**	**238**	*e*Pn	**Pn**	**09 13 20.4**	**+1.2**
	comp=Z,17nm,0.5s						
ERM				*e*Sn	**Sn**	**09 14 55.3**	**+0.1**
MJAR	**Matsushiro Arr**	**15.19**	**232**	P	**Pn**	**09 14 49.6**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=26,slow=12,SNR=4.5						
MJAR	**Matsushiro Arr**	**15.19**	**232**	P	**Pn**	**09 14 49.6**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.19**	**232**	*e*P	**Pn**	**09 14 48.4**	**0.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**15.19**	**232**	*e*Pn	**Pn**	**09 14 48.4**	**0.0**
	comp=Z,4.0nm,0.6s						
KSRS	**Korea Array**	**20.80**	**252**	P	**P**	**09 15 55.0**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=58,slow=10,SNR=10						
SONM	**Songino Array**	**31.14**	**289**	P	**P**	**09 17 30.6**	**-0.7**
	comp=Z,0.5nm,0.8s,mb3.4,baz=78,slow=9.0,SNR=3.4						
SONM	**Songino Array**	**31.14**	**289**	P	**P**	**09 17 30.6**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**09 18 59.7**	**+0.6**
	comp=Z,1.2nm,0.4s,mb3.9,baz=283,slow=8.2,SNR=12						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**09 18 59.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**09 18 59.7**	**+0.6**
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**09 19 41.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=62,slow=6.9,SNR=12						
MKAR				PcP	PcP	09 21 13.8	-0.5
	comp=Z,0.5nm,0.6s,baz=57,slow=1.9,SNR=3.7						
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**09 19 41.0**	**-0.3**
MKAR						09 21 13.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**50.16**	**273**	P	**P**	**09 20 08.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**50.16**	**273**	P	**P**	**09 20 08.3**	**+0.5**
	comp=Z,4.1nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**09 20 10.4**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=27,slow=7.0,SNR=4.6						
BVAR				PcP	PcP	09 21 27.7	-0.6
	comp=Z,0.9nm,0.4s,baz=102,slow=2.8,SNR=4.5						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**09 20 10.4**	**-0.7**
BVAR						09 21 27.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**09 20 13.0**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=301,slow=7.3,SNR=4.2						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**09 20 13.0**	**+0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**57.52**	**341**	P	**P**	**09 21 01.6**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=29,slow=7.5,SNR=5.2						
ARCES	**ARCESS Array B**	**57.52**	**341**	P	**P**	**09 21 01.6**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**63.71**	**335**	P	**P**	**09 21 42.6**	**-1.2**
	comp=Z,1.8nm,0.4s,mb4.4,baz=43,slow=8.4,SNR=8.4						
FINES	**FINESS Array B**	**63.71**	**335**	P	**P**	**09 21 42.6**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**64.64**	**54**	P	**P**	**09 21 50.6**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=269,slow=1.7,SNR=13						
NB2	**NORSAR Subarra**	**67.90**	**341**	P	**P**	**09 22 10.1**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.4,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**09 22 10.4**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.5,baz=28,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**09 22 10.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**68.78**	**199**	P	**P**	**09 22 14.7**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=9.7,slow=6.7,SNR=6.9						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**09 22 30.6**	**-0.7**
	comp=Z,4.1nm,0.4s,mb4.7,baz=35,slow=6.4,SNR=13						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**09 22 30.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ASAR	**Alice Springs**	**72.47**	**198**	P	**P**	**09 22 38.6**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=11,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**72.47**	**198**	P	**P**	**09 22 38.7**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCIA	**State Center**	**73.77**	**45**	*e*P	**P**	**09 22 44.0**	**-2.3**
	comp=Z,3.8nm,0.3s,mb4.8						
BURAR	**Bucovina Array**	**75.27**	**326**	⇓*i*P	**P**	**09 22 55.4**	**+0.3**
MORC	**Moravsky Berou**	**76.12**	**332**	⇑*i*P	**P**	**09 23 00.7**	**+0.8**
MLR	**Muntele Rosu**	**76.75**	**325**	⇑*i*P	**P**	**09 23 05.5**	**+2.0**
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**09 23 08.0**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=300,slow=4.8,SNR=36						
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**09 23 08.0**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.09**	**317**	P	**P**	**09 23 11.3**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=38,slow=2.2,SNR=5.8						
BRTR	**Keskin Array B**	**78.09**	**317**	P	**P**	**09 23 11.3**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.13**	**334**	P	**P**	**09 23 11.2**	**-0.1**
	comp=Z,0.6nm,0.2s,mb4.1,baz=20,slow=4.3,SNR=5.6						
GERES	**GERESS Array B**	**78.13**	**334**	P	**P**	**09 23 11.2**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.2s						
CFAA	**Coronel Fontan**	**145.03**	**79**	PKPbc	PKPbc	09 30 50.7	+2.1
	comp=Z,0.1nm,0.4s,baz=120,slow=8.1,SNR=3.4						
SNAA	**Sanae**	**152.83**	**196**	PKPbc	PKPbc	09 31 06.5	-2.4
	comp=Z,0.4nm,0.6s,baz=314,slow=20,SNR=5.7						

IDC 16 09:13:13.6±26.0, 4710N×15522E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, MS4.0/1, Ms1 4.0/1, ms1mx3.0/37, Error ellipse: s-maj=582.3km s-min=99.7km az=154.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**43.59**	**306**	P	P	09 21 18.8	-0.6
	0.9nm,0.4s,baz=51,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**48.06**	**298**	P	P	09 21 54.4	-0.3
	1.0nm,0.8s,baz=60,slow=7.2,SNR=5.4						
BVAR	**Borovoye Array**	**51.75**	**310**	P	P	09 22 22.6	-0.2
	1.1nm,0.4s,baz=55,slow=6.5,SNR=5.3						
FINES	**FINESS Array B**	**64.33**	**336**	P	P	09 23 50.4	-0.6
	1.1nm,0.9s,baz=44,slow=8.5,SNR=3.4						
PFO	**Pinyon Flat Ob**	**65.23**	**67**	LR	LR	09 47 48.1	
	comp=Z,126nm,21.6s,baz=253,slow=32						

*ISCJB **16** 09:14:20.3±0.9, 4689N±0.03×15356E±0.03, h15km±6km, mb4.8/76, MS4.2/16, Error ellipse: s-maj=6.2km s-min=2.6km az=136.5*
*BJI **16** 09:14:20.2, 4688N×15359E, h14km, mB4.9, mb4.5, Ms4.4, Msz4.2*
*NEIC **16** 09:14:21.7±0.2, 4702N×15346E, h10km, mb4.8/36, Error ellipse: s-maj=6.9km s-min=3.9km az=148.0*
*JMA **16** 09:14:22.6±0.8, 4682N×15392E, h30km, M5.5*
*MOS **16** 09:14:23.2±1.2, 4699N×15351E, h33km, mb5.0/31, Error ellipse: s-maj=9.1km s-min=6.5km az=69.1*
*IDC **16** 09:14:23.1±4.5, 4700N×15346E, h21km±28km, mb4.5/25, mb1 4.6/26, mb1mx4.6/29, mbtmp4.5/26, MS4.0/6, Ms1 4.0/6, ms1mx3.6/39, Error ellipse: s-maj=15.7km s-min=10.9km az=120.0*
*SKHL **16** 09:14:24.1±3.0, 4687N×15348E, h52km, mb6.2/1, Ms4.5/3, msh5.0/2*
*SZGRF **16** 09:14:39.2, 4768N×15393E, h33km, mb5.0, Kuril Islands, Russia*

ISC 16 09:14:24.1±0.9, 4696N±003×15353E±003, h24km±6km, h17km±2.6km: pP-P, n350, σ0=9.98/380, mb4.8/76, MS4.2/16, 55C-55D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.10**	**24**	*e*P	**Pn**	**09 15 25.8**	**+0.6**
SKR				AMB	AMB	09 15 28.8	
	2μm,2.0s						
SKR				AMB	AMB	09 15 28.8	
	240nm,0.6s						
SKR				AMB	AMB	09 15 28.8	
	650nm,0.6s						
SKR				*e*S	**Sn**	**09 16 11.0**	**-1.4**
SKR				A		09 16 28.5	
	2μm,2.0s						
SKR				A		09 16 28.5	
	670nm,1.0s						
SKR				A		09 16 28.5	
	1μm,1.0s						
SKR				AMS	AMS	09 17 18.0	
	5μm,12.0s						
SKR				AMS	AMS	09 17 18.0	
	2μm,12.0s						
SKR				AMS	AMS	09 17 18.0	
	6μm,12.0s						
SKR				AMS	AMS	09 17 18.0	
	3μm,12.0s						
SKR	**Severo-Kuril's**	**4.10**	**24**	*e*PN	**Pn**	**09 15 25.8**	**+0.6**
SKR				*e*S	**Sn**	**09 16 11.0**	**-1.4**
SKR				pmax	pmax		
	comp=E,240nm,0.6s						
SKR				pmax	pmax		
	comp=Z,650nm,0.6s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				smax			
	comp=N,670nm,1.0s						
SKR				smax			
	comp=E,1μm,1.0s						
SKR				smax			
	comp=N,2μm,2.0s						
SKR				MLR	MLR		
	comp=E,6μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
KUR	**Kuril'sk**	**4.30**	**248**	⇑*i*P	**Pn**	**09 15 26.0**	**-1.9**
KUR				⇓*i*P		09 15 26.0	
KUR				AMB	AMB	09 15 28.8	
	comp=Z,3μm,1.0s						
KUR				AMB	AMB	09 15 36.6	
	comp=Z,380nm,0.5s						
KUR				AMB	AMB	09 15 36.6	
	comp=Z,270nm,0.5s						
KUR				AMB	AMB	09 15 36.6	
	comp=Z,1μm,0.5s						
KUR				sP		09 15 46.2	
KUR				*i* S	**Sn**	**09 16 15.0**	**-2.3**
KUR				A		09 16 36.0	
	comp=Z,4μm,0.5s						
KUR				A		09 16 36.0	
	comp=Z,3μm,0.5s						
KUR				A		09 16 36.4	
	comp=Z,12μm,1.5s						
KUR				A		09 16 36.4	
	comp=Z,8μm,1.5s						
KUR	**Kuril'sk**	**4.30**	**248**	*b* *i*PN	**Pn**	**09 15 26.0**	**-1.9**
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				pmax	pmax		
	comp=N,380nm,0.5s						
KUR				pmax	pmax		
	comp=E,270nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.13**	**244**	*e*P	**Pn**	**09 15 54.5**	**+1.4**
YUK				AMB	AMB	09 15 58.5	
	comp=Z,350nm,0.4s						
YUK				AMB	AMB	09 15 58.5	
	comp=Z,760nm,0.4s						
YUK				*i* S	**Sn**	**09 17 03.3**	**+0.9**
YUK				A		09 17 10.2	
	comp=Z,5μm,0.8s						
YUK				A		09 17 10.2	
	comp=Z,2μm,0.8s						
YUK				A		09 17 32.0	
	comp=Z,12μm,1.0s						
YUK				A		09 17 32.0	
	comp=Z,8μm,0.7s						
NEM2	**Nemuro 2**	**6.57**	**240**	P	**Pn**	**09 15 58.6**	**-0.5**
NEM2				*e*S	**Sn**	**09 17 10.6**	**-2.7**
JRA	**Rausu**	**6.64**	**246**	⇑P	**Pn**	**09 16 02.3**	**+2.3**
JRA				*e*S	**Sn**	**09 17 19.1**	**+4.2**
PET	**Petropavlovsk**	**6.91**	**27**	*e*PN	**Pn**	**09 16 01.5**	**-2.3**
PET				pmax	pmax		
	comp=Z,103nm,0.8s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**6.91**	**27**	*e*Pn	**Pn**	**09 16 01.1**	**-2.7**
	comp=Z,136nm,1.0s						
JNK	**Nakash**	**7.07**	**245**	P	**Pn**	**09 16 07.5**	**+1.5**
JNK				*e*S	**Sn**	**09 17 25.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**7.37**	**274**	⇑*i*P	**Pn**	**09 16 15.7**	**+5.6**
YSS				AMB	AMB	09 16 17.6	
	comp=Z,80nm,0.9s						
YSS				AMB	AMB	09 16 17.6	
	comp=Z,50nm,0.9s						
YSS				AMB	AMB	09 16 17.6	
	comp=Z,100nm,0.9s						
YSS				*e*S	**Sn**	**09 17 36.9**	**+3.9**
YSS				A		09 17 47.0	
	comp=Z,160nm,0.7s						
YSS				*e*LQ		09 18 08.0	
YSS				AMS	AMS	09 19 30.0	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	09 19 30.0	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	09 19 30.0	
	comp=Z,800nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.37**	**274**	⇑*i*PN	**Pn**	**09 16 15.7**	**+5.6**
YSS				*e*S	**Sn**	**09 17 36.9**	**+3.9**
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,100nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax			
	comp=N,160nm,0.7s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.37**	**274**	*e*Pn	**Pn**	**09 16 15.0**	**+4.9**
YSS				*e*Sn	**Sn**	**09 17 34.1**	**+1.1**
JTKR	**Abashiri--Toko**	**7.39**	**250**

comp=Z,467nm,19.0s,baz=28,slow=44
JKK2 Kamakawa 2 8.19 252 P **Pn** **09 16 24.3 +3.0**
JWK2 Keihoku 8.24 263 P **Pn** **09 16 28.4 +6.3**
JCH Churui 8.43 243 P **Pn** **09 16 24.6 -0.1**
JCH eS **Sn** **09 17 55.0 -4.0**
JFR Furan 8.62 248 P **Pn** **09 16 29.1 +1.9**
JAB Ashibetsu 8.69 251 P **Pn** **09 16 31.6 +3.4**
JEM Erimo 8.91 240 P **Pn** **09 16 32.3 +1.2**
JEM eS **Sn** **09 18 09.7 -1.0**
ERM Erimo 8.91 240⇓ ePN **Pn** **09 16 32.7 +1.5**
JBT2 Biratori 2 8.96 246 P **Pn** **09 16 33.0 +1.1**
JBT2 eS **Sn** **09 18 11.3 -0.7**
JNBK Urakawa-nobuka 8.99 243 P **Pn** **09 16 31.5 -0.8**
JNBK eS **Sn** **09 18 09.1 -3.7**
JEW Eniwo 9.51 249 P **Pn** **09 16 41.3 +1.9**
JEW eS **Sn** **09 18 29.0 +3.6**
JNB Noboribetsu 9.96 248 P **Pn** **09 16 46.1 +0.5**
JNB eS **Sn** **09 18 33.0 -3.5**
JKB Kayabe 10.27 245 P **Pn** **09 16 49.3 -0.6**
JKB eS **Sn** **09 18 36.4 -7.8**
NKL Nikolayevsk 10.32 312 eP **Pn** **09 16 51.0 +0.5**
NKL AMB AMB 09 16 53.0
comp=Z,40nm,1.1s
NKL AMB AMB 09 16 53.0
comp=Z,30nm,1.0s
NKL AMB AMB 09 16 53.0
comp=Z,100nm,1.0s
NKL eL 09 19 56.0
NKL AMS AMS 09 21 37.0
comp=Z,900nm,15.0s
NKL AMS AMS 09 21 37.0
comp=Z,1μm,15.0s
NKL AMS AMS 09 21 37.0
comp=Z,2μm,15.0s
JSH Shimam 10.51 251 P **Pn** **09 16 53.8 +0.7**
JYM2 Yakumo 2 10.56 248 P **Pn** **09 16 53.8 -0.1**
JYM2 eS **Sn** **09 18 45.8 -5.6**
JSR Shiriuchi 10.85 245 P **Pn** **09 16 57.9 +0.1**
JTM Tenmabayashi 10.90 240 P **Pn** **09 16 56.4 -2.1**
JTM eS **Sn** **09 18 50.5 -9.1**
JANG Nango 10.90 237 P **Pn** **09 16 55.4 -3.1**
JANG eS **Sn** **09 18 49.4 -10**
JTH Tanohata 11.00 235 P **Pn** **09 16 56.1 -3.7**
JTH eS **Sn** **09 18 49.2 -13**
JOSM Okushiri--Mats 11.15 249 P **Pn** **09 17 01.9 0.0**
OFUJ Ofunato 11.71 232 P **Pn** **09 17 06.3 -3.2**
OFUJ eS **Sn** **09 19 08.1 -11**
TEY Ternei 11.93 267 eP **Pn** **09 17 14.0 +1.4**
JRG Rokugo 12.06 236 P **Pn** **09 17 12.1 -2.2**
JRG eS **Sn** **09 19 17.0 -11**
JIO Ouri 12.34 231 P **Pn** **09 17 14.8 -3.3**
JIO eS **Sn** **09 19 22.2 -13**
JYA Atsumi 13.13 235 P **Pn** **09 17 27.2 -1.8**
JYA eS **Sn** **09 19 47.4 -6.8**
JFK Kawauchi 13.40 229 P **Pn** **09 17 30.8 -1.8**
JFK eS **Sn** **09 19 48.7 -12**
JFY Yanaizu 13.98 232 P **Pn** **09 17 38.4 -2.2**
SMY Shemya 14.45 59 eP **Pn** **09 17 45.0 -2.0**
KLR Kul'dur 14.72 287 eP **Pn** **09 17 52.0 +1.3**
MAT Matsushiro 15.43 233 P **Pn** **09 18 00.8 +0.7**
MAT S **Sn** **09 20 57.0 +6.7**
MJAR Matsushiro Arr 15.43 233 Pn **Pn** **09 17 57.3 -2.8**
comp=Z,1.2nm,0.3s,baz=26,slow=12,SNR=18
MJAR Matsushiro Arr 15.43 233 P **Pn** **09 17 57.3 -2.8**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
ZEA Zeya 18.02 302 eP **Pn** **09 18 32.5 -0.3**
ZEA AMB AMB 09 18 33.5
comp=Z,23nm,1.0s
ZEA eS **Sn** **09 21 53.0 -0.1**
ZEA A 09 22 13.0
comp=Z,500nm,11.0s
CN2 Changchun 19.93 271 eP **Pn** **09 18 53.1 -2.7**
CN2 eXP sP 09 19 00.3 -3.6
CN2 eS **Sn** **09 22 40.1 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.5s
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
CLNS Chul'man 20.10 310 eP **P** **09 18 56.3 +0.4**
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.5
CLNS MLR MLR
comp=Z,900nm,13.0s,MS4.3
CLNS MLR MLR
comp=E,1μm,14.0s,MS4.5
YAK Yakutsk 20.30 327 eP **P** **09 18 58.5 +0.4**
YAK e*PP 09 19 09.9
YAK e 09 19 24.2
YAK eS **S** **09 22 47.4 +2.9**
YAK eSS 09 23 09.9
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
YAK smax
comp=N,206nm,2.8s
YAK smax
comp=Z,242nm,3.3s
YAK smax
comp=E,230nm,2.7s
YAK MLR MLR
comp=N,565nm,16.0s,MS4.1
YAK MLR MLR
comp=Z,577nm,16.0s,MS4.0
YAK MLR MLR
comp=E,319nm,15.0s,MS4.1
YAK Yakutsk 20.30 327 eP **P** **09 18 56.7 -1.4**
comp=E,11nm,0.4s
KSRS Korea Array 21.13 253 P **P** **09 19 08.1 +1.0**
comp=E,15nm,0.6s,mb4.5,baz=60,slow=9.8,SNR=63
KS15 Wonju Array Si 21.16 253 eP **P** **09 19 08.0 +0.6**
SNY Shenyang 21.93 267 ⇓P **P** **09 19 15.6 0.0**
SNY AP 09 19 18.8
SNY XP sP 09 19 22.1 -3.5
SNY PP 09 19 36.3
SNY AMB AMB
comp=Z,24nm,0.7s,mb4.7
SNY AMB AMB
comp=Z,239nm,4.0s
SNY LR LR
comp=E,631nm,14.1s
SNY LR LR
comp=Z,653nm,14.5s,MS4.2
INCN Inchon 21.96 254 eP **P** **09 19 16.6 +0.6**
comp=Z,26nm,0.6s,mb4.8
JNU Nakatsue 22.07 239 P **P** **09 19 19.3 +2.2**
comp=Z,24nm,0.7s,mb4.8,baz=246,slow=20,SNR=9.3
JNU LR LR 09 28 11.2
comp=Z,814nm,20.9s,MS4.1,baz=204,slow=38
BILL Bilibino 22.13 13⇑ eP **P** **09 19 16.4 -1.3**
BILL pmax pmax
comp=Z,14nm,1.0s,mb4.3
BILL Bilibino 22.13 13 eP **P** **09 19 15.8 -1.9**
comp=Z,17nm,0.8s,mb4.5
HIA Hailar 22.57 288⇑ eP **P** **09 19 22.9 +0.5**
BOD Bodaibo 26.08 309 eP **P** **09 19 54.2 -1.4**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
BJI Beijing 27.76 269 P **P** **09 20 07.3 -3.5**
BJI S **S** **09 24 58.0 +6.0**
BJI AMB AMB
comp=Z,2.0nm,0.7s,mb3.9
BJI AMB AMB
comp=Z,414nm,7.5s
BJI LR LR
comp=N,410nm,16.5s,MS4.1
BJI LR LR
comp=E,194nm,16.5s,MS4.1
BJI LR LR
comp=Z,332nm,26.0s
BJI Beijing 27.76 269 P **P** **09 20 07.2 -3.6**
BJI S **S** **09 24 58.0 +6.0**
BJI pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BJI MLR MLR
comp=Z,330nm,26.0s,MS3.8
BJI Beijing 27.76 269 P **P** **09 20 07.2 -3.6**
comp=Z,2.0nm,0.7s,mb3.9
BJI S **S** **09 24 58.0 +6.0**
BJI LR LR
comp=Z,330nm,26.0s,MS3.8
JOW Kunigami 28.28 234 P **P** **09 20 15.2 -0.2**
comp=Z,29nm,0.8s,mb5.0,baz=1.4,slow=5.5,SNR=6.2
JOW LR LR 09 30 13.9
comp=Z,179nm,20.6s,MS3.6,baz=171,slow=34
NJ2 Nanjing 30.33 253 eP **P** **09 20 35.4 +1.8**
NJ2 S **S** **09 25 33.5 +1.1**
NJ2 AMB AMB
comp=Z,630nm,4.2s
NJ2 LR LR
comp=N,1μm,15.6s,MS4.7
NJ2 LR LR
comp=E,450nm,14.5s,MS4.7
NJ2 LR LR
comp=Z,360nm,17.5s,MS4.1
HHC Hu-ho-hao-te 30.56 274 eP **P** **09 20 36.9 +1.2**
HHC XP sP 09 20 46.5 +0.5
HHC PP PP 09 21 37.3 -7.5
HHC PCP PcP 09 23 36.3 +2.3
HHC S **S** **09 25 37.5 +1.5**
HHC SCP ScP 09 27 15.9 +1.0
HHC SCS ScS 09 31 11.6 +0.4
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,309nm,10.6s
HHC LR LR
comp=N,337nm,15.9s,MS4.3
HHC LR LR
comp=E,378nm,15.7s,MS4.3
HHC LR LR
comp=Z,398nm,15.1s,MS4.2
ULN Ulaanbaatar 31.10 289⇑ eP **P** **09 20 45.9 +5.5**
SONM Songino Array 31.53 289 P **P** **09 20 43.1 -1.1**
comp=Z,0.7nm,0.5s,baz=66,slow=6.2,SNR=4.1
SONM Songino Array 31.53 289 P **P** **09 20 43.1 -1.1**
SONM pmax pmax
comp=Z,1.0nm,0.5s
ZAK Zakamensk 32.85 295 eP **P** **09 20 54.4 -1.4**
KDAK Kodiak Island 33.75 51 P **P** **09 21 02.1 -1.6**
comp=Z,9.3nm,0.7s,mb4.8,baz=270,slow=7.1,SNR=5.1
KDAK LR LR 09 33 09.3
comp=Z,355nm,19.8s,MS4.1,baz=287,slow=33
WHN Wuhan 34.26 256 P **P** **09 21 08.3 +0.3**
MCK McKinley 35.31 41 eP **P** **09 21 16.7 -0.4**
MCK pmax pmax
comp=Z,12nm,0.9s,mb4.8
MCK McKinley 35.31 41 eP **P** **09 21 16.7 -0.4**
comp=Z,12nm,0.9s,mb4.8
SML Sawmill 35.62 44 eP **P** **09 21 19.3 -0.5**
COLA College 35.80 39 eP **P** **09 21 20.9 -0.4**
COLA pmax pmax
comp=Z,37nm,0.8s,mb5.4
COLA College 35.80 39 eP **P** **09 21 20.9 -0.5**
comp=Z,37nm,0.8s,mb5.4
XAN Xi'an 35.82 265 P **P** **09 21 20.6 -0.9**
XAN AP pP 09 21 30.8 +2.0
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
XAN LR LR
comp=N,187nm,14.5s,MS4.2
XAN LR LR
comp=E,228nm,14.1s,MS4.2
XAN LR LR
comp=Z,384nm,14.5s,MS4.3
LZH Lanzhou 38.17 272 eP **P** **09 21 42.4 +1.0**
LZH AP pP 09 21 46.3 -2.5
LZH XP sP 09 21 48.1 -3.7
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,80nm,4.0s
LZH Lanzhou 38.17 272 eP **P** **09 21 42.4 +1.0**
comp=Z,20nm,1.0s,mb4.8
LZH pP pP 09 21 46.2 -2.6
LZH sP sP 09 21 48.1 -3.7
EGAK Eagle 38.66 39 eP **P** **09 21 44.3 -1.3**
comp=Z,30nm,1.0s,mb5.0
GTA Gaotai 39.22 279 eP **P** **09 21 51.8 +1.5**
GTA AP pP 09 21 56.0 -1.7
GTA XP sP 09 21 59.3 -1.4
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb3.9
DAWY Dawson 39.50 40 eP **P** **09 21 51.3 -1.3**
CD2 Chengdu 41.18 265 P **P** **09 22 06.5 0.0**
CD2 XP sP 09 22 13.6 -3.3
CD2 PP PP 09 23 44.8 +3.1
CD2 S **S** **09 28 18.6 +0.1**
CD2 XS sS 09 28 26.0 -4.7
CD2 SS SS 09 31 16.5 -5.3
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.1
CD2 AMB AMB
comp=Z,100nm,8.2s
CD2 LR LR
comp=N,290nm,14.3s,MS4.4
CD2 LR LR
comp=E,240nm,15.5s,MS4.4
CD2 LR LR
comp=Z,300nm,15.6s,MS4.3
INK Inuvik 41.32 33 P **P** **09 22 07.6 -0.1**
comp=Z,17nm,0.7s,mb4.8,baz=289,slow=7.2,SNR=57
INK Inuvik 41.32 33 eP **P** **09 22 07.7 0.0**
comp=Z,700nm,0.8s
GYA Guiyang 42.04 258⇑ iP **P** **09 22 14.0 +0.4**
GYA AP pP 09 22 18.4 -2.6
GYA XP sP 09 22 21.5 -2.5
GYA PP PP 09 23 55.3 +4.3
GYA PCP PcP 09 24 10.8 +2.6
GYA SCP ScP 09 28 00.3 +3.2
GYA S **S** **09 28 33.8 +2.6**
GYA SCS ScS 09 32 15.8 +1.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,16.9s,MS4.6
GYA LR LR
comp=E,480nm,17.0s,MS4.6
GYA LR LR
comp=Z,450nm,17.2s,MS4.4
ZAL Zalesovo 42.74 306 PcP PcP 09 24 09.2 -1.3
comp=Z,1.2nm,0.6s,baz=78,slow=3.1,SNR=3.2
WMQ Urumqi 45.12 291⇓ iP **P** **09 22 40.1 +1.8**
WMQ AP pP 09 22 44.6 -1.2
WMQ XP sP 09 22 47.1 -1.7
WMQ PCP PcP 09 24 17.3 -1.3
WMQ PP PP 09 24 28.3 +4.3
WMQ PPP 09 25 11.8
WMQ SCP ScP 09 28 08.3 -1.3
WMQ S **S** **09 29 24.3 +8.1**
WMQ XS sS 09 29 25.9 -2.6
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.6
WMQ AMB AMB
comp=Z,123nm,4.0s
WMQ LR LR
comp=N,266nm,20.3s,MS4.2
WMQ LR LR
comp=E,96nm,18.1s,MS4.2
WMQ LR LR
comp=Z,294nm,19.1s,MS4.2
KMI Kunming 45.56 260 P **P** **09 22 42.8 +0.9**
KMI AP pP 09 22 46.8 -2.5
KMI XP sP 09 22 48.9 -3.4
KMI AMB AMB
comp=Z,20nm,1.0s,mb5.0
KMI Kunming 45.56 260 P **P** **09 22 42.7 +0.8**
KMI *SP sP 09 22 48.9 -3.4
KMI pmax pmax
comp=Z,20nm,1.0s,mb5.0
KMI Kunming 45.56 260 P **P** **09 22 42.7 +0.8**
comp=Z,20nm,1.0s,mb5.0
KMI pP pP 09 22 46.7 -2.6
KMI sP sP 09 22 48.9 -3.4
MK31 Makanchi Array 47.10 297 eP **P** **09 22 52.5 -1.5**
MKAR Makanchi Array 47.10 297 P **P** **09 22 52.3 -1.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=68,slow=7.1,SNR=12
MKAR ScP ScP 09 28 16.8 -1.0
comp=Z,1.4nm,1.1s,baz=27,slow=4.8,SNR=3.6
MKAR Makanchi Array 47.10 297 P **P** **09 22 52.3 -1.7**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,1.1s
CHKZ Chkalovo 50.52 310 eP **P** **09 23 18.7 -1.5**
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHKZ Chkalovo 50.52 310 eP **P** **09 23 18.7 -1.5**
comp=Z,5.8nm,0.9s,mb4.5
RES Resolute Bay 50.55 19 eP **P** **09 23 20.2 -0.2**
comp=Z,464nm,0.9s
YKA Yellowknife Ar 50.59 37 P **P** **09 23 20.4 -0.3**
comp=Z,10nm,0.7s,mb4.8,baz=295,slow=7.1,SNR=11
YKA LR LR 09 48 24.0
comp=Z,151nm,19.5s,MS4.0,baz=185,slow=40
YKA Yellowknife Ar 50.59 37 P **P** **09 23 20.4 -0.3**
YKA pmax pmax
comp=Z,10.0nm,0.7s
YKA MLR MLR
comp=Z,151nm,19.5s
YKA Yellowknife Ar 50.59 37 P **P** **09 23 20.4 -0.3**
YKA LR LR 09 48 24.0
BVAR Borovoye Array 50.95 309 P **P** **09 23 21.5 -2.0**
comp=Z,1.4nm,0.4s,mb4.3,baz=62,slow=7.4,SNR=7.7
BVAR PcP PcP 09 24 40.2 +0.7
comp=Z,1.3nm,0.7s,baz=90,slow=5.8,SNR=2.4
BVAR Borovoye Array 50.95 309 P **P** **09 23 21.5 -1.9**
BVAR 09 24 40.2
BVAR pmax pmax
comp=Z,1.0nm,0.4s
CHTO Chiang Mai 52.44 257 eP **P** **09 23 35.5 +0.9**
CHTO pmax pmax
comp=Z,16nm,0.8s,mb5.0
CHTO Chiang Mai 52.44 257 eP **P** **09 23 35.5 +0.9**
comp=Z,16nm,0.8s,mb5.0
KSH Kashi 54.84 292 eP **P** **09 23 56.8 +4.6**
KSH eAP pP 09 24 00.5 +0.7
KSH eXP sP 09 24 04.5 +1.8
KSH ePCP PcP 09 24 56.5 +2.3
KSH ePP PP 09 26 02.5 +7.5
KSH eS **S** **09 31 37.8 +6.0**
KSH eXS sS 09 31 46.4 +2.1
KSH ePS 09 31 58.5
KSH eSCS ScS 09 33 40.8 +1.0
ARU Arti 55.05 318 eP **P** **09 23 54.3 +0.6**
ARU e 09 25 52.8
ARU eS **S** **09 31 36.2 +1.8**
ARU eSS SS 09 35 14.0 -4.5
GUN Gumba 55.27 275 eP **P** **09 23 55.8 +0.5**
comp=Z,21nm,0.6s,mb5.4
KKN Kakani 55.75 275 eP **P** **09 23 59.4 +0.7**
comp=Z,34nm,0.8s,mb5.4
PKI Pulchoki 55.80 275 eP **P** **09 23 59.6 +0.5**
comp=Z,18nm,0.6s,mb5.3
DMN Daman 55.99 275 eP **P** **09 24 01.2 +0.8**
comp=Z,61nm,0.9s,mb5.6
GKN Gorkha 56.05 276 eP **P** **09 24 01.4 +0.5**
KOLN Koldanda 56.91 277 eP **P** **09 24 07.5 +0.5**
comp=Z,46nm,1.0s,mb5.5
L04A Klamath Falls 57.63 61 ⇓P **P** **09 24 12.8 +0.7**
baz=57
ARCES ARCESS Array B 57.75 341 P **P** **09 24 10.9 -2.0**
comp=Z,4.8nm,0.9s,mb4.5,baz=43,slow=8.4,SNR=8.5
ARCES ARCESS Array B 57.75 341 P **P** **09 24 11.0 -1.9**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
BOK Bokaro 57.93 271 eP **P** **09 24 14.8 +0.6**
D11A Klaveano Farm, 57.96 54 ⇓P **P** **09 24 14.1 -0.3**
baz=58
K06A Valley Falls 58.23 60 ⇓P **P** **09 24 17.0 +0.7**
baz=58
GASB Alder Springs 58.63 64 ⇓P **P** **09 24 19.1 0.0**
baz=58
G11A Walters Elk Ra 58.98 55 ⇑P **P** **09 24 20.7 -0.8**
baz=59
I09A Lost Marbles R 59.00 57 ⇑P **P** **09 24 21.3 -0.4**
baz=59
ELFS Eagle Lake Fie 59.26 62 ⇑P **P** **09 24 22.8 -0.7**
baz=59
K08A Mann Creek Ran 59.32 59 ⇑P **P** **09 24 24.2 +0.4**
baz=59
J09A Fry Pan Ranch, 59.37 58 ⇓P **P** **09 24 24.2 0.0**
baz=59
MSO Missoula 59.41 53 eP **P** **09 24 25.4 +0.9**
comp=Z,6.5nm,1.2s,mb4.5
ORV Oroville 59.44 63 ⇓P **P** **09 24 23.7 -1.0**
baz=59
SUTB Sutter Butte 59.46 64 ⇑P **P** **09 24 24.9 +0.1**
baz=59
D14A Greenough 59.49 52 ⇑P **P** **09 24 24.5 -0.5**
baz=59
E13A Victor 59.51 53 ⇑P **P** **09 24 24.4 -0.7**
baz=59
O05C Quincy 59.54 63 ⇑P **P** **09 24 25.3 -0.1**
baz=59
H11A Donnelly 59.55 56 ⇓P **P** **09 24 24.9 -0.5**
baz=59
Q03C Winters 59.68 65 ⇓P **P** **09 24 26.7 +0.4**
baz=59
N06A Buffalo Meadow 59.72 61 ⇓P **P** **09 24 27.0 +0.4**
baz=60
M07A Soldier Meadow 59.73 60 P **P** **09 24 27.6 +1.0**
baz=60,SNR=5.9
L08A Fields 59.73 59 ⇓P **P** **09 24 27.2 +0.5**
baz=60
O06A Flanigan 60.08 62 ⇑P **P** **09 24 29.3 +0.2**
baz=60
SUMG Summit 60.47 4 eP **P** **09 24 31.0 -0.8**
comp=Z,21nm,0.8s,mb5.2
HRY Holter Researc 60.63 52 eP **P** **09 24 32.0 -0.8**
O07A Toulon 60.66 61 ⇑P **P** **09 24 33.1 0.0**
baz=60
N08A GE Springer Mi 60.72 60 ⇑P **P** **09 24 33.9 +0.5**
baz=60
M09A Marrel Ranch, 60.73 60 ⇑P **P** **09 24 33.8 +0.3**
baz=60
F15A Butte 60.81 53 ⇑P **P** **09 24 34.5 +0.5**
baz=60
R05C Kirkwood Meado 60.83 63 ⇑P **P** **09 24 34.1 -0.1**
baz=61
EGMT Eagleton 60.91 50 ⇑P **P** **09 24 34.1 -0.7**
baz=61
P07A Fallon 61.03 62 ⇓P **P** **09 24 35.9 +0.3**
baz=61
N09A Rock Creek Ran 61.04 60 ⇑P **P** **09 24 36.3 +0.7**
baz=61
CMB Columbia Colle 61.06 64 ⇓P **P** **09 24 36.0 +0.3**
baz=61
PACP Pacheco Peak 61.14 66 ⇑P **P** **09 24 36.8 +0.4**
baz=61
HLID Hailey 61.16 56 eP **P** **09 24 36.5 0.0**
HLID Hailey 61.16 56 ⇓P **P** **09 24 36.3 -0.1**
baz=61
M10A I.L. Ranch, Tu 61.20 59 ⇓P **P** **09 24 37.3 +0.5**
baz=61
G15A Dillon 61.23 54 ⇑P **P** **09 24 37.4 +0.5**
baz=61
R06C Coleville 61.33 63 ⇑P **P** **09 24 38.1 +0.5**
baz=61
HAST UC Hastings Re 61.36 66 ⇓P **P** **09 24 37.8 0.0**
baz=61
BOZ Bozeman (W) 61.40 53 eP **P** **09 24 40.0 +1.9**
BMN Battle Mountai 61.48 60 eP **P** **09 24 38.6 0.0**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BMN Battle Mountai 61.48 60 eP **P** **09 24 38.6 0.0**
comp=Z,6.5nm,0.8s,mb4.8
S06C San Francisco 61.48 64 ⇑P **P** **09 24 38.9 +0.3**
baz=61
S05C Merced 61.52 65 ⇓P **P** **09 24 39.1 +0.2**
baz=61
O09A Fish Creek Ran 61.66 61 ⇑P **P** **09 24 40.2 +0.4**
baz=61
M11A Holland Ranch, 61.70 59 ⇓P **P** **09 24 40.4 +0.3**
baz=61
O10A Cortez Mining, 61.99 60 ⇑P **P** **09 24 42.5 +0.4**
baz=62
QLMT Earthquake Lak 62.03 53 eP **P** **09 24 42.8 +0.5**
Q08A Gabbs 62.04 62 P **P** **09 24 43.0 +0.6**

baz=62,SNR=5.4
P09A **Austin** 62.08 61 ⇓P P 09 24 43.2 +0.5
baz=62
T06C **Millerton Lake** 62.12 65 ⇑P P 09 24 42.9 0.0
baz=62
KCC **Kaiser Creek** 62.16 64 ⇓P P 09 24 43.4 +0.2
baz=62
M12A **Wells** 62.22 58 ⇓P P 09 24 43.9 +0.3
baz=62
KAKA **Kakadu** 62.33 203 *e*P P 09 24 43.7 -0.7
comp=Z,10nm,0.6s,mb5.1
P10A **Eureka** 62.44 61 ⇓P P 09 24 45.1 0.0
baz=62
N12A **Clover Valley,** 62.50 59 ⇓P P 09 24 45.6 +0.1
baz=62
Q09A **Carvers** 62.51 62 ⇑P P 09 24 45.7 +0.2
baz=62
O11A **Cowboy Ranch,** 62.60 60 ⇓P P 09 24 46.1 0.0
baz=62
M13A **Montello** 62.69 58 ⇓P P 09 24 46.3 -0.4
baz=62,SNR=5.3
HELL **Mitchell Peak,** 62.75 65 ⇓P P 09 24 47.1 0.0
baz=62
S08C **White Mtn Res** 62.76 63 ⇓P P 09 24 47.3 +0.2
baz=62
RCTC **Rector, Farmer** 62.85 65 ⇑P P 09 24 47.4 -0.5
baz=63
R09A **Tonopah** 62.95 62 ⇑P P 09 24 48.1 -0.4
baz=63,SNR=7.5
N13A **Wendover, West** 62.99 58 ⇑P P 09 24 48.6 -0.1
baz=63
O12A **Currie** 63.05 59 ⇑P P 09 24 49.5 +0.4
baz=63,SNR=7.5
MOOW **Moose Ponds** 63.10 54 *e*P P 09 24 50.6 +1.1
comp=Z,6.8nm,1.3s,mb4.6
TPAW **Teton Pass** 63.15 54 *e*P P 09 24 51.1 +1.3
S09A **Goldfield** 63.19 63 ⇓P P 09 24 50.0 -0.1
baz=63
VES **Vestal, Richgr** 63.26 65 ⇑P P 09 24 49.8 -0.7
baz=63
LOHW **Long Hollow** 63.26 54 *e*P P 09 24 51.8 +1.3
comp=Z,7.0nm,1.1s,mb4.7
SNOW **Snow King Moun** 63.28 54 *e*P P 09 24 51.4 +0.7
REDW **Red Top Meadow** 63.29 54 *e*P P 09 24 51.8 +1.1
R10A **Warm Springs** 63.39 62 ⇑P P 09 24 51.5 +0.1
baz=63
Q11A **Duckwater** 63.42 61 ⇓P P 09 24 51.4 -0.2
baz=63
P12A **McGill** 63.46 60 ⇓P P 09 24 52.0 +0.2
baz=63
GRAC **Grapevine Rang** 63.57 63 ⇓P P 09 24 52.7 +0.1
baz=63
LAO **LASA Array** 63.61 49 *e*P P 09 24 51.9 -1.0
ISA **Isabella** 63.75 65 *e*P P 09 24 53.2 -0.5
ISA **Isabella** 63.75 65 P P 09 24 53.2 -0.5
baz=64,SNR=5.2
Q12A **Willow Creek R** 63.78 60 ⇓P P 09 24 54.0 -0.1
baz=64
VIS **Vishakhapatnam** 63.80 268 *e*P P 09 24 53.0 -1.0
VIS AMb AMB 09 24 56.5
comp=Z,22nm,0.8s,mb5.2
DAC **Darwin (Calif)** 63.89 64 *e*P P 09 24 54.6 -0.1
FINES **FINESS Array B** 63.97 335 P P 09 24 53.1 -2.1
comp=Z,4.3nm,0.4s,mb4.8,baz=35,slow=7.9,SNR=32
FINES **FINESS Array B** 63.97 335 P P 09 24 53.2 -2.1
FINES pmax pmax
comp=Z,4.0nm,0.4s
HWUT **Hardware Ranch** 64.02 56 *e*P P 09 24 56.0 +0.4
comp=Z,5.9nm,1.1s,mb4.5
BHPL **Bhopal** 64.08 277 *e*P P 09 24 56.1 +0.2
BSC **Santa Cruz Isl** 64.10 67 ⇓P P 09 24 57.2 +1.1
baz=64
MPMC **Manual Prospec** 64.10 64 P P 09 24 56.5 +0.4
baz=64,SNR=7.8
FURC **Furnace Creek,** 64.22 64 P P 09 24 57.3 +0.4
baz=64,SNR=12
DUG **Dugway** 64.22 58 *e*P P 09 24 56.8 -0.1
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DUG **Dugway** 64.22 58 *e*P P 09 24 56.8 -0.1
comp=Z,5.7nm,1.0s,mb4.6
DUG **Dugway** 64.22 58 P P 09 24 57.6 +0.7
baz=64,SNR=6.3
LRMC **Laurel Mountai** 64.35 65 P P 09 24 57.6 -0.1
baz=64,SNR=5.8
NGP **Nagpur** 64.38 274 *e*P P 09 24 57.4 -0.5
NGP AMb AMB 09 25 11.1
comp=Z,17nm,1.4s,mb4.9
BLG **Laguna Peak** 64.38 67 ⇓P P 09 24 57.7 -0.3
baz=64
BW06 **Boulder Array** 64.39 54 *e*P P 09 24 58.3 +0.3
comp=Z,4.8nm,0.9s,mb4.5
PDAR **Pinedale Array** 64.39 54 P P 09 24 58.1 +0.1
comp=Z,2.5nm,0.8s,mb4.3,baz=297,slow=2.3,SNR=19
PSI **Prapat** 64.43 245 P P 09 24 58.8 +0.6
comp=Z,3.4nm,0.7s,mb4.5,baz=239,slow=2.4,SNR=6.0
PSI **Prapat** 64.43 245 P P 09 24 58.8 +0.6
PSI pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
EDW2 **Edwards Air Fo** 64.55 66 P P 09 24 59.4 +0.3
baz=64,SNR=7.7
U10A **Ash Meadows, A** 64.58 63 ⇓P P 09 24 60.0 +0.8
baz=64
DECC **Green Verdugo** 64.75 66 ⇑P P 09 24 59.9 -0.4
baz=64
NLU **North Lily Min** 64.81 58 *e*P P 09 25 01.1 +0.4
SHOC **Shoshone** 64.95 64 ⇓P P 09 25 01.4 -0.2
baz=65
GSC **Goldstone** 65.01 64 *e*P P 09 25 02.2 +0.1
GSC **Goldstone** 65.01 64 P P 09 25 02.1 +0.1
baz=65,SNR=6.2
MPU **Maple Canyon** 65.03 58 *e*P P 09 25 02.7 +0.6
BFSC **Mount Baldy St** 65.18 66 ⇑P P 09 25 03.2 +0.1
baz=65
ARUT **Antelope Range** 65.43 60 *e*P P 09 25 04.5 -0.2
TUQ **Turquoise Mtn.** 65.47 64 P P 09 25 05.1 +0.1
baz=65,SNR=8.1
V11A **Goodsprings** 65.51 63 ⇓P P 09 25 05.7 +0.5
baz=65
HEC **Hector,Ludlow** 65.62 65 P P 09 25 06.3 +0.3
baz=65,SNR=9.5
BBRC **Big Bear Sol-O** 65.62 65 ⇓P P 09 25 06.1 +0.1
baz=65
U12A **Valley of Fire** 65.66 62 ⇑P P 09 25 06.0 -0.3
baz=65
MURC **Murrieta** 65.89 66 ⇑P P 09 25 07.3 -0.3
baz=66
V12A **Nelson** 65.94 63 ⇑P P 09 25 08.3 +0.3
baz=66
ULM **Lac du Bonnet** 66.18 41 P P 09 25 08.6 -1.0
comp=Z,1.6nm,0.7s,mb4.2,baz=295,slow=7.5,SNR=5.3
ULM LR LR 09 56 07.6
comp=Z,151nm,19.6s,MS4.2,baz=232,slow=38
W12A **Cal Nev Ari** 66.20 63 ⇓P P 09 25 10.5 +0.7
baz=66
SRU **San Rafael** 66.27 58 *e*P P 09 25 10.4 +0.3
PFO **Pinyon Flat Ob** 66.34 66 ⇑P P 09 25 09.5 -1.1
baz=66
BELC **Belle Mtn.** 66.37 65 ⇑P P 09 25 10.6 -0.2
baz=66
109C **Camp Elliot, M** 66.42 67 ⇑P P 09 25 10.9 -0.2
baz=66
IRM **Iron Mountain** 66.79 64 P P 09 25 13.7 +0.2
baz=66,SNR=7.7
MONP **Monument Peak** 66.84 66 ⇑P P 09 25 14.1 +0.2
baz=67
BC3 **Big Chuckw Mtn** 66.94 65 ⇓P P 09 25 14.0 -0.4
baz=67
W13A **Hualapai Mount** 66.94 63 ⇑P P 09 25 14.6 +0.1
baz=67
CTA **Charters Tower** 67.05 187 P P 09 25 14.1 -1.0
comp=Z,3.8nm,0.8s,mb4.5,baz=243,slow=21,SNR=3.7
CTA **Charters Tower** 67.05 187 P P 09 25 14.1 -1.0
CTA pmax pmax
comp=Z,4.0nm,0.9s
DVTC **Desert V Tower** 67.20 66 ⇓P P 09 25 16.1 0.0
baz=67
X13A **Yucca** 67.31 63 P P 09 25 17.1 +0.3
baz=67,SNR=5.4
PDMCI **Parker Dam,Lak** 67.32 64 ⇓P P 09 25 17.0 +0.1
baz=67
W14A **Seligman** 67.35 62 P P 09 25 17.9 +0.8
baz=67,SNR=10
Y12C **Blythe** 67.45 64 ⇑P P 09 25 17.9 +0.2
baz=67
GLA **Glamis** 67.73 65 *e*P P 09 25 19.8 +0.4
GLA **Glamis** 67.73 65 ⇑P P 09 25 19.9 +0.5
baz=68
X14A **Yava** 67.97 63 ⇑P P 09 25 21.6 +0.6
baz=68
NB2 **NORSAR Subarra** 68.12 341 P P 09 25 20.5 -1.4
comp=Z,18nm,0.8s,mb5.2,baz=27,slow=6.5
NOA **NORSAR Array B** 68.12 341 P P 09 25 20.8 -1.1
comp=Z,17nm,0.8s,mb5.2,baz=27,slow=6.3,SNR=42
NOA **NORSAR Array B** 68.12 341 P P 09 25 20.8 -1.1
NOA pmax pmax
comp=Z,17nm,0.8s
NOA **NORSAR Array B** 68.12 341 P P 09 25 20.8 -1.1
WUAZ **Wupatki** 68.18 61 *e*P P 09 25 23.1 +0.8
comp=Z,13nm,1.4s,mb4.8
WUAZ **Wupatki** 68.18 61 ⇓P P 09 25 22.5 +0.2
baz=68
Y14A **Wickenburg** 68.26 63 ⇑P P 09 25 23.4 +0.7
baz=68
X15A **Humboldt** 68.36 62 ⇑P P 09 25 24.0 +0.6
baz=68
ISCO **Idaho Springs** 68.59 54 *e*P P 09 25 25.5 +0.7
MVCO **Mesa Verde** 68.72 58 *e*P P 09 25 25.6 -0.1
comp=Z,4.0nm,0.8s,mb4.4
MVCO **Mesa Verde** 68.72 58 ⇓P P 09 25 25.9 +0.2
baz=68
WRAB **Tennant Creek** 68.79 199 ⇓*e*P P 09 25 24.7 -1.4
WB2 **Warramunga Arr** 68.80 199 *e*P P 09 25 25.3 -0.8
WRA **Warramunga Arr** 68.80 199 P P 09 25 25.2 -0.9
comp=Z,6.5nm,1.0s,mb4.5,baz=18,slow=6.8,SNR=25
WRA **Warramunga Arr** 68.80 199 P P 09 25 25.2 -1.0
WRA pmax pmax
comp=Z,7.0nm,1.0s
MDRS **Chennai** 69.17 267 *e*P P 09 25 24.0 -4.4
MDRS AMb AMB 09 25 25.4
comp=Z,58nm,0.2s
FITZ **Fitzroy Crossi** 69.46 208 *e*P P 09 25 30.4 +0.2
comp=Z,16nm,0.8s,mb5.0
FITZ **Fitzroy Crossi** 69.46 208 P P 09 25 30.4 +0.2
comp=Z,14nm,0.9s,mb4.9,baz=6.5,slow=6.5,SNR=6.3
ECSD **ERQS, Sioux Fal** 70.54 46 *e*P P 09 25 35.9 -1.0
comp=Z,14nm,1.1s,mb4.8
KIV **Kislovodsk** 70.86 314 *e*P P 09 25 38.4 -0.4
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.8
LAZ **Ladron** 71.47 59 *e*P P 09 25 42.8 +0.3
ANMO **Albuquerque** 71.48 59 *e*P P 09 25 43.2 +0.6
AKASG **Malin Array Be** 71.53 326 P P 09 25 41.1 -1.8
comp=Z,5.5nm,0.5s,mb4.8,baz=33,slow=6.2,SNR=22
AKASG **Malin Array Be** 71.53 326 P P 09 25 41.1 -1.8
AKASG pmax pmax
comp=Z,6.0nm,0.5s
KIEV **Kiev** 71.54 326 *e*P P 09 25 41.1 -1.9
KIEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KIEV **Kiev** 71.54 326 *e*P P 09 25 41.1 -1.8
comp=Z,8.5nm,0.6s,mb4.8
AS31 **Alice Springs** 72.49 199 *e*P P 09 25 48.9 +0.3
ASAR **Alice Springs** 72.50 199 P P 09 25 48.8 +0.1
comp=Z,12nm,0.7s,mb4.9,baz=9.4,slow=5.6,SNR=103
ASAR **Alice Springs** 72.50 199 P P 09 25 48.8 +0.1
ASAR pmax pmax
comp=Z,12nm,0.7s
ASPA **Alice Springs** 72.50 199 *e*P P 09 25 48.9 +0.2
SCHQ **Schefferville** 73.01 23 P P 09 25 50.9 -0.8
comp=Z,6.0nm,0.9s,mb4.5,baz=340,slow=3.9,SNR=6.4
SCHQ **Schefferville** 73.01 23 P P 09 25 50.9 -0.8
AMTX **Amarillo** 74.28 56 *e*P P 09 25 59.3 +0.2
MNTX **Cornudas Mount** 74.42 60 *e*P P 09 26 00.1 +0.2
comp=Z,11nm,1.6s,mb4.5
TRD **Trivandrum** 74.67 266 *e*P P 09 25 59.2 -2.3
TRD AMb AMB 09 26 07.9
comp=Z,37nm,1.5s,mb5.1
KWP **Kalwaria** 74.79 329 *e*P P 09 26 01.9 -0.2
BURAR **Bucovina Array** 75.57 327 ⇓*i*P P 09 26 06.1 -0.5
KSP **Ksiaz** 75.84 334 *e*P P 09 26 07.9 -0.3
KSP **Ksiaz** 75.84 334 *e*P P 09 26 07.8 -0.4
KSP *e*pP pP 09 26 16.7 +0.6
MORC **Moravsky Berou** 76.39 332 *e*P P 09 26 10.5 -0.8
MORC pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MORC **Moravsky Berou** 76.39 332 *e*P P 09 26 10.5 -0.8
comp=Z,5.5nm,0.6s,mb4.7
CLL **Collm** 76.39 336 *i* P P 09 26 10.4 -0.9
CLL *i* 09 26 20.3
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.9
CLL MLR MLR
comp=Z,500nm,18.9s,MS4.8
CLL **Collm** 76.39 336 *i* P P 09 26 10.4 -0.9
comp=Z,14nm,0.8s,mb4.9
CLL *i* PcP PcP 09 26 20.3 -2.7
MLR **Muntele Rosu** 77.06 325 ⇓*i*P P 09 26 16.4 +1.3
LTX **Lajitas** 77.14 61 *e*P P 09 26 15.8 +0.3
LTX pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LTX **Lajitas** 77.14 61 *e*P P 09 26 15.8 +0.3
comp=Z,7.0nm,0.7s,mb4.7
TXAR **Lajitas Array** 77.14 61 P P 09 26 15.5 -0.1
comp=Z,7.4nm,0.7s,mb4.7,baz=298,slow=4.3,SNR=55
TXAR **Lajitas Array** 77.14 61 P P 09 26 15.5 0.0
TXAR pmax pmax
comp=Z,7.0nm,0.7s
MALT **Malatya** 77.22 313 ⇓*i*P P 09 26 16.9 +0.9
MALT **Malatya** 77.22 313 *e*P P 09 26 17.1 +1.1
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT **Malatya** 77.22 313 *e*P P 09 26 17.1 +1.1
comp=Z,6.9nm,0.8s,mb4.6
VOIR 77.45 326 ⇓*i*P P 09 26 16.7 -0.6
KHC **Kasperske Hory** 78.17 334 ⇓*e*P P 09 26 21.4 +0.1
GRF **Grafenberg Arr** 78.35 336 *e*P pP 09 26 31.7 +1.6
comp=Z,16nm,1.2s
GRF **Grafenberg Arr** 78.35 336 *e*P pP 09 26 31.7 +1.6
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GZR **Gura Zlata** 78.35 327 ⇓*i*P P 09 26 21.3 -1.0
GERES **GERESS Array B** 78.39 334 P P 09 26 22.0 -0.5
comp=Z,1.0nm,0.4s,mb4.1,baz=46,slow=3.9,SNR=4.4
GERES **GERESS Array B** 78.39 334 P P 09 26 22.0 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.4s
BR131 **Keskin Array S** 78.43 317 *e*P P 09 26 23.3 +0.5
BRTR **Keskin Array B** 78.43 317 P P 09 26 22.9 +0.1
comp=Z,3.5nm,0.8s,mb4.3,baz=66,slow=4.2,SNR=12
BRTR **Keskin Array B** 78.43 317 P P 09 26 22.9 +0.2
BRTR pmax pmax
comp=Z,4.0nm,0.8s
STKA **Stephens Creek** 79.20 190 *e*P P 09 26 26.4 -0.6
comp=Z,3.2nm,0.8s,mb4.3
STKA **Stephens Creek** 79.20 190 P P 09 26 26.4 -0.6
comp=Z,3.5nm,0.8s,mb4.4,baz=325,slow=6.6,SNR=7.1
CDF **Champ du Feu** 80.57 338 *e*P P 09 26 28.8 -5.6
comp=Z,32nm,1.1s,mb4.8
CDF **Champ du Feu** 80.57 338 *e*P P 09 26 28.8 -5.6
CDF pmax pmax
comp=Z,16nm,1.1s,mb4.9
CDF **Champ du Feu** 80.57 338 *e*P P 09 26 28.8 -5.6
comp=Z,16nm,1.1s,mb4.9
GRR **Gorron** 82.45 343 *e*P P 09 26 39.3 -5.0
comp=Z,236nm,1.8s,mb5.5
GRR **Gorron** 82.45 343 *e*P P 09 26 39.3 -5.0
GRR pmax pmax
comp=Z,118nm,1.8s,mb5.5
GRR **Gorron** 82.45 343 *e*P P 09 26 39.3 -5.0
comp=Z,118nm,1.8s,mb5.5
SMF **Signal de Mont** 83.07 339 *e*P P 09 26 42.5 -5.0
comp=Z,70nm,1.4s,mb5.2
SMF **Signal de Mont** 83.07 339 *e*P P 09 26 42.5 -5.0
SMF pmax pmax
comp=Z,35nm,1.4s,mb5.2
SMF **Signal de Mont** 83.07 339 *e*P P 09 26 42.5 -5.0
comp=Z,35nm,1.4s,mb5.2
LPG **La Plagne** 83.40 337 *e*P P 09 26 45.2 -4.0
comp=Z,12nm,0.8s,mb4.7
LPG **La Plagne** 83.40 337 *e*P P 09 26 45.2 -4.0
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LPG **La Plagne** 83.40 337 *e*P P 09 26 45.2 -4.0
comp=Z,6.1nm,0.8s,mb4.7
KLBR **Kellerberrin** 84.58 210 *e*P P 09 26 54.7 -0.5
comp=Z,13nm,0.7s,mb5.2
LFF **La Frestale** 85.40 341 *e*P P 09 26 54.0 -5.4
NWAO **Narrogin (SRO)** 85.97 210 P P 09 27 02.4 +0.2
comp=Z,15nm,0.9s,mb5.2,baz=15,slow=8.8,SNR=4.8
NWAO **Narrogin (SRO)** 85.97 210 P P 09 27 02.4 +0.2
NWAO pmax pmax
comp=Z,15nm,0.9s
TORD **Torodi Ar. Bea** 115.06 329 PP PP 09 33 58.2 -4.3
comp=Z,0.3nm,0.8s,baz=10,slow=4.3,SNR=3.5
VNDA **Vanda** 124.31 178 PKP PKPdf 09 33 17.4 -3.3
comp=Z,0.5nm,0.8s,baz=326,slow=4.6,SNR=4.2
VNDA **Vanda** 124.31 178 PKP PKPdf 09 33 17.4 -3.3
CFAA **Coronel Fontan** 144.67 79 PKP PKPdf 09 33 56.0 -2.6
comp=Z,0.6nm,0.6s,baz=250,slow=3.1,SNR=8.6
SNAA **Sanae** 152.83 196 PKPbc PKPbc 09 34 16.5 -2.4
comp=Z,1.0nm,0.6s,baz=160,slow=7.2,SNR=12
SNAA PKPab PKPab 09 34 28.0 -1.9
comp=Z,3.5nm,1.1s,baz=118,slow=4.1,SNR=7.4
SNAA **Sanae** 152.83 196 *e*PKPdf PKPbc 09 34 16.1 -2.8
SNAA *e* 09 34 28.4
SNAA *e* 09 34 33.8
SNAA *e* 09 34 40.2
SNAA *e* 09 34 47.9
SNAA **Sanae** 152.83 196 *e*PKPbc PKPbc 09 34 16.4 -2.5
SNAA *e*PKPab PKPab 09 34 28.0 -1.9
VNA2 **Neumayer--Watz** 154.28 194 *e*PKPdf PKPab 09 34 34.5 -1.5
baz=139,slow=2.6
VNA2 *e* 09 34 39.7
VNA2 *e* 09 34 49.9
VNA2 *e* 09 35 02.2
VNA3 **Neumayer Olymp** 154.36 192 *e*PKPdf PKPab 09 34 34.6 -1.8
VNA3 *e* 09 34 40.2
VNA3 *e* 09 34 49.0
VNA1 **Neumayer--Stat** 154.66 194 *e*PKPdf PKPab 09 34 37.1 -0.6
VNA1 *e* 09 34 42.4

IDC 16 09:18:25.7±3.0, 4664N×15476E, h0km, mb4.0/8, mb1 4.3/8, mb1mx3.9/23, mbtmp4.0/8, MS4.9/2, Ms1 4.9/2, ms1mx3.4/46, Error ellipse: s-maj=91.5km s-min=24.0km az=4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.14**	**32**	P	P	09 26 11.2	-0.3
	1.9nm,0.8s,baz=257,slow=7.5,SNR=4.5						
ZAL	**Zalesovo**	**43.61**	**306**	P	P	09 26 32.5	+0.8
	1.3nm,0.3s,baz=63,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**48.00**	**298**	P	P	09 27 05.7	-0.7
	0.4nm,0.5s,baz=74,slow=8.6,SNR=3.6						
BVAR	**Borovoye Array**	**51.80**	**310**	P	P	09 27 34.5	-0.8
	1.4nm,0.4s,baz=61,slow=6.7,SNR=7.8						
PDAR	**Pinedale Array**	**63.89**	**55**	P	P	09 29 00.0	-0.2
	0.6nm,0.9s,baz=320,slow=2.7,SNR=2.6						
FINES	**FINESS Array B**	**64.62**	**335**	P	P	09 29 04.2	-0.9
	1.1nm,0.4s,baz=35,slow=8.1,SNR=13						
AKASG	**Malin Array Be**	**72.26**	**327**	LR	LR	10 04 09.8	
	comp=Z,596nm,19.0s,baz=115,slow=38						
TXAR	**Lajitas Array**	**76.55**	**62**	P	P	09 30 18.2	+0.4
	1.5nm,0.5s,baz=304,slow=4.8,SNR=18						
GERES	**GERESS Array B**	**79.05**	**335**	P	P	09 30 31.6	-0.1
	1.0nm,0.5s,baz=27,slow=6.3,SNR=3.5						
GERES				LR	LR	10 09 34.8	
	comp=Z,765nm,18.9s,baz=98,slow=39						

*ISCJB **16** 09:21:38.2±0.8, 469N×0.1×155.1E±0.2, h10km, mb4.0/14, Error ellipse: s-maj=19.2km s-min=13.1km az=97.1*
*IDC **16** 09:21:38.5±0.8, 4691N×155.17E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/22, mbtmp4.0/11, Error ellipse: s-maj=25.6km s-min=20.6km az=98.0*
*NEIC **16** 09:21:40.4±0.8, 4706N×155.30E, h10km, mb4.7/1, Error ellipse: s-maj=21.1km s-min=15.6km az=125.0*
*MOS **16** 09:21:41.5±0.6, 4693N×155.00E, h33km, mb4.4/11, Error ellipse: s-maj=22.7km s-min=15.9km az=97.9*

ISC 16 09:21:46.1±3.8, 471N±0.1×155.2E±0.2, h56km±35km, n29, σ0=85/29, mb4.0/14, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.41**	**253**	*e*PN	**Pn**	**09 22 58.5**	**-5.6**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
MJAR	**Matsushiro Arr**	**16.42**	**236**	Pn	**Pn**	**09 25 34.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=39,slow=11,SNR=5.4						
BILL	**Bilibino**	**21.80**	**11**	⇓*e*P	**P**	**09 26 32.7**	**-0.7**
BILL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
KSRS	**Korea Array**	**22.25**	**254**	P	**P**	**09 26 39.2**	**+1.1**
	comp=Z,1.8nm,0.7s,mb3.6,baz=55,slow=10,SNR=5.2						
SONM	**Songino Array**	**32.58**	**290**	P	**P**	**09 28 11.7**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=60,slow=7.7,SNR=2.2						
SONM	**Songino Array**	**32.58**	**290**	P	**P**	**09 28 11.7**	**-0.4**
INK	**Inuvik**	**40.63**	**33**	P	**P**	**09 29 20.7**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.2,baz=285,slow=5.5,SNR=14						
INK	**Inuvik**	**40.63**	**33**	P	**P**	**09 29 20.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**48.07**	**298**	*e*P	**P**	**09 30 19.7**	**-0.2**
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**09 30 19.6**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=63,slow=6.8,SNR=7.5						
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**09 30 19.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**09 30 44.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**09 30 44.0**	**-0.7**
	comp=Z,4.6nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**09 30 47.9**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.5,baz=56,slow=7.6,SNR=11						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**09 30 47.9**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**09 31 33.5**	**+0.2**
	comp=Z,5.4nm,1.0s,mb4.5,baz=33,slow=8.9,SNR=4.5						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**09 31 33.5**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**09 32 16.1**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.3,baz=39,slow=8.4,SNR=9.9						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**09 32 16.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.40**	**342**	P	**P**	**09 32 43.4**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.40**	**342**	P	**P**	**09 32 43.2**	**+1.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=26,slow=6.4,SNR=2.7						
NOA	**NORSAR Array B**	**68.40**	**342**	P	**P**	**09 32 43.2**	**+1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.28**	**201**	P	**P**	**09 32 46.1**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=20,slow=6.7,SNR=7.7						
WRA	**Warramunga Arr**	**69.28**	**201**	P	**P**	**09 32 46.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.08**	**327**	P	**P**	**09 33 04.4**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=33,slow=6.3,SNR=3.4						
AKASG	**Malin Array Be**	**72.08**	**327**	P	**P**	**09 33 04.4**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.96**	**200**	P	**P**	**09 33 09.4**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=15,slow=5.7,SNR=11						
ASAR	**Alice Springs**	**72.96**	**200**	P	**P**	**09 33 09.4**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.10**	**62**	P	**P**	**09 33 28.3**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=310,slow=4.7,SNR=6.9						

*BJI **16** 09:28:12.0, 950S×108.10E, h10km, mB5.2, mb4.4*
*IDC **16** 09:28:12.3±0.5, 953S×108.13E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/32, Error ellipse: s-maj=19.4km s-min=13.8km az=60.0*
*NEIC **16** 09:28:13.5±0.4, 949S×10809E, h10km, mb4.6/7, Error ellipse: s-maj=14.6km s-min=8.1km az=54.0*
*ISCJB **16** 09:28:17.8±1.3, 947S±0.6×10822E±0.7, h53km±11km, mb4.5/26, Error ellipse: s-maj=14.5km s-min=7.4km az=103.3*

ISC 16 09:28:19.0±1.2, 951S±0.6×10819E±0.8, h47km±11km, h21km±8.3km: pP-P, n52, σ0=88/50, mb4.5/26, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Banjamegara**	**2.63**	**35**	P	**Pn**	**09 28 57.5**	**-1.5**
	223nm,0.8s						
LEM	**Lembang**	**2.73**	**348**	P	**Pn**	**09 28 59.6**	**-0.6**
	786nm,1.1s						

JCJI	**Jatiwangi**	**3.00**	**2**	P		**Pn**	**09 29 00.1**	**-3.9**
	2μm,0.9s							
SBJI	**Serang**	**3.94**	**329**	P		**Pn**	**09 29 17.7**	**+0.8**
	350nm,0.9s							
KRKI	**Karangkates**	**4.42**	**73**	P		**Pn**	**09 29 25.3**	**+1.8**
	566nm,0.5s							
PSI	**Prapat**	**15.32**	**323**	LR		LR	09 38 34.3	
	comp=Z,140nm,18.4s,baz=314,slow=41							
FITZ	**Fitzroy Crossi**	**18.96**	**119**	*e*P		**Pn**	**09 32 37.1**	**-0.2**
	12nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.96**	**119**	P		**Pn**	**09 32 36.7**	**-0.7**
	0.2nm,0.3s,baz=259,slow=5.9,SNR=14							
FITZ				S		**S**	**09 35 52.1**	**-17**
	0.2nm,0.3s,baz=162,slow=16,SNR=5.6							
KAKA	**Kakadu**	**24.00**	**100**	*e*P		**P**	**09 33 29.2**	**-0.1**
	5.6nm,0.5s,mb4.2							
NWAO	**Narrogin (SRO)**	**24.76**	**162**	P		**P**	**09 33 35.3**	**-0.9**
	11nm,0.8s,mb4.4,baz=312,slow=12,SNR=4.3							
WRA	**Warramunga Arr**	**27.29**	**115**	P		**P**	**09 33 58.6**	**-0.4**
	6.8nm,0.9s,mb4.2,baz=287,slow=11,SNR=22							
WRA				PcP		PcP	09 37 19.0	+1.3
	1.0nm,0.6s,baz=299,slow=2.0,SNR=6.5							
WB2	**Warramunga Arr**	**27.30**	**115**	*e*P		**P**	**09 33 59.1**	**-0.1**
AS31	**Alice Springs**	**28.31**	**123**	*e*P		**P**	**09 34 10.1**	**+1.9**
ASAR	**Alice Springs**	**28.31**	**123**	P		**P**	**09 34 07.9**	**-0.2**
	4.5nm,0.8s,mb4.2,baz=301,slow=8.6,SNR=23							
ASAR				PcP		PcP	09 37 21.1	+0.9
	2.2nm,0.7s,baz=303,slow=1.9,SNR=14							
CHTO	**Chiang Mai**	**29.58**	**342**	*e*P		**P**	**09 34 19.3**	**-0.2**
	14nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**38.11**	**131**	*e*P		**P**	**09 35 33.8**	**+0.5**
	9.3nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**38.11**	**131**	P		**P**	**09 35 33.7**	**+0.4**
	12nm,0.8s,mb4.7,baz=305,slow=8.2,SNR=17							
CTA	**Charters Tower**	**38.19**	**110**	P		**P**	**09 35 34.5**	**+0.5**
	10nm,1.1s,mb4.5,baz=266,slow=12,SNR=5.8							
LSA	**Lhasa**	**42.30**	**338**	*e*P		**P**	**09 36 08.8**	**+0.8**
	22nm,0.8s,mb4.8							
JIRN	**Jiri**	**42.65**	**331**	*e*P		**P**	**09 36 11.5**	**+0.6**
	28nm,0.7s,mb5.1							
PKI	**Pulchoki**	**42.96**	**330**	*e*P		**P**	**09 36 13.6**	**+0.2**
GUN	**Gumba**	**43.01**	**330**	*e*P		**P**	**09 36 14.3**	**+0.5**
	32nm,0.6s,mb5.2							
DMN	**Daman**	**43.15**	**329**	*e*P		**P**	**09 36 15.3**	**+0.4**
KKN	**Kakani**	**43.21**	**330**	*e*P		**P**	**09 36 15.3**	**-0.1**
	23nm,0.8s,mb5.0							
XAN	**Xi'an**	**43.31**	**1**	P		**P**	**09 36 15.3**	**-0.9**
XAN				AP		pP	09 36 25.8	-3.1
XAN				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
GKN	**Gorkha**	**43.70**	**329**	*e*P		**P**	**09 36 19.7**	**+0.3**
KOLN	**Koldanda**	**44.05**	**328**	*e*P		**P**	**09 36 22.1**	**0.0**
	comp=Z,25nm,0.7s,mb5.0							
LZH	**Lanzhou**	**45.53**	**355**	*e*P		**P**	**09 36 35.1**	**+1.1**
LZH				AP		pP	09 36 41.3	-5.4
LZH				XP		sP	09 36 43.0	-9.2
LZH	**Lanzhou**	**45.53**	**355**	*e*P		**P**	**09 36 35.1**	**+1.1**
LZH				pP		pP	09 36 41.2	-5.5
LZH				sP		sP	09 36 43.0	-9.2
GTA	**Gaotai**	**49.29**	**351**	*e*P		**P**	**09 37 04.3**	**+1.2**
GTA				AP		pP	09 37 08.8	-7.2
GTA				XP		sP	09 37 11.6	-10
GTA				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.3							
BJI	**Beijing**	**49.85**	**8**	P		**P**	**09 37 05.9**	**-1.5**
KSRS	**Korea Array**	**50.24**	**20**	P		**P**	**09 37 10.3**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.9,baz=200,slow=6.5,SNR=3.2							
MJAR	**Matsushiro Arr**	**53.80**	**30**	P		**P**	**09 37 35.8**	**-1.1**
	comp=Z,2.2nm,1.0s,mb4.1,baz=213,slow=7.5,SNR=4.3							
SONM	**Songino Array**	**57.11**	**359**	P		**P**	**09 38 01.7**	**+1.0**
	comp=Z,7.7nm,0.7s,mb4.4,baz=171,slow=7.2,SNR=12							
SONM				PcP		PcP	09 38 55.6	+0.6
	comp=Z,0.9nm,0.6s,baz=179,slow=5.8,SNR=2.4							
ULN	**Ulaanbaatar**	**57.13**	**359**	*e*P		**P**	**09 38 01.1**	**+0.3**
	comp=Z,6.6nm,1.0s,mb4.6							
OPO	**Ambohidratompo**	**59.63**	**254**	P		**P**	**09 38 17.9**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=75,slow=7.6,SNR=3.8							
MK31	**Makanchi Array**	**60.63**	**340**	*e*P		**P**	**09 38 21.7**	**-3.3**
MAW	**Mawson**	**65.33**	**197**	*e*P		**P**	**09 38 55.9**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.6							
MAW	**Mawson**	**65.33**	**197**	P		**P**	**09 38 56.1**	**-0.2**
	comp=Z,8.3nm,0.9s,mb4.8,baz=43,slow=7.1,SNR=14							
ZAL	**Zalesovo**	**66.24**	**345**	P		**P**	**09 39 01.8**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.3,baz=202,slow=3.3,SNR=5.1							
BVAR	**Borovoye Array**	**70.12**	**337**	P		**P**	**09 39 26.5**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=144,slow=9.0,SNR=6.9							
VNDA	**Vanda**	**73.30**	**169**	P		**P**	**09 39 45.1**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.4,baz=305,slow=5.4,SNR=29							
AKTK	**Aktyubinsk**	**73.87**	**329**	P		**P**	**09 39 47.2**	**-1.7**
BOSA	**Boshof**	**79.35**	**243**	P		**P**	**09 40 19.7**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=74,slow=19,SNR=3.8							
BRTR	**Keskin Array B**	**84.36**	**312**	P		**P**	**09 40 46.6**	**+0.4**
	comp=Z,3.9nm,1.1s,mb4.5,baz=130,slow=6.0,SNR=9.8							
SNAA	**Sanae**	**87.50**	**197**	P		**P**	**09 41 01.4**	**-0.2**
	comp=Z,1.7nm,1.0s,mb4.2,baz=46,slow=5.2,SNR=6.1							
SNAA	**Sanae**	**87.50**	**197**	*e*		**P**	**09 41 02.5**	**+0.8**
VNA2	**Neumayer--Watz**	**89.14**	**197**	*e*		**P**	**09 41 10.0**	**+0.5**
	baz=92,slow=2.6							
VNA2				*e*			09 41 18.0	
VNA1	**Neumayer--Stat**	**89.53**	**197**	*e*		**P**	**09 41 12.2**	**+0.9**
VNA3	**Neumayer Olymp**	**89.65**	**197**	*e*		**P**	**09 41 09.9**	**-1.9**
TXAR	**Lajitas Array**	**144.25**	**52**	PKP		PKPdf	09 47 50.5	+0.8
	comp=Z,0.9nm,0.8s,baz=268,slow=1.4,SNR=9.5							
LPAZ	**La Paz**	**154.11**	**188**	PKPbc		PKPbc	09 48 17.6	+4.0
	comp=Z,0.5nm,0.5s,baz=207,slow=4.5,SNR=3.6							

IDC ***16*** *09:29:41.0±1.5, 4648N×154.76E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.2/25, mbtmp4.2/16, ML4.0/1, Error ellipse: s-maj=42.9km s-min=15.7km az=170.0*
MOS ***16*** *09:29:43.0±1.0, 4632N×154.64E, h33km, mb4.5/14, Error ellipse: s-maj=15.6km s-min=12.8km az=125.2*
NEIC ***16*** *09:29:43.7±0.9, 4669N×154.71E, h10km, mb4.5/5, Error ellipse: s-maj=23.3km s-min=11.3km az=158.0*
BJI ***16*** *09:29:44.5, 4763N×154.26E, h5km, mB4.9, mb4.4*
ISCJB ***16*** *09:29:46.2±2.4, 466N±02×1546E±01, h47km±22km, mb4.3/21, Error ellipse: s-maj=28.0km s-min=13.2km az=147.8*

ISC 16 09:29:48.6±1.8, 466N±01×1546E±01, h55km±17km, n48, σ0 98/48, mb4.3/21, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.91**	**256**	PN	**Pn**	**09 30 53.5**	**-6.3**
YSS	**Yuzh-Sakhalins**	**8.14**	**276**	*e*PN	**Pn**	**09 31 45.3**	**+1.2**
ASAJ	**Asahikawa**	**8.82**	**258**	Pn	**Pn**	**09 31 51.4**	**-2.1**
	1.7nm,0.3s,baz=84,slow=24,SNR=10						
ASAJ	**Asahikawa**	**8.82**	**258**	PN	**Pn**	**09 31 51.4**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.85**	**236**	Pn	**Pn**	**09 33 29.7**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=287,slow=23,SNR=5.2						
MJAR	**Matsushiro Arr**	**15.85**	**236**	Pn	**Pn**	**09 33 29.7**	**+1.5**
KSRS	**Korea Array**	**21.75**	**255**	P	**P**	**09 34 36.6**	**+1.1**
	comp=Z,2.9nm,0.6s,mb3.9,baz=54,slow=11,SNR=11						
BILL	**Bilibino**	**22.28**	**12**	*e*P	**P**	**09 34 41.1**	**0.0**
BILL				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.4						
BILL	**Bilibino**	**22.28**	**12**	*e*P	**P**	**09 34 41.5**	**+0.4**
	comp=Z,14nm,0.8s,mb4.4						
SNY	**Shenyang**	**22.66**	**269**	⇑P	**P**	**09 34 44.0**	**-1.1**
SNY				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.5						
BOD	**Bodaibo**	**26.84**	**310**	*e*P	**P**	**09 35 22.0**	**-1.9**
SONM	**Songino Array**	**32.33**	**290**	P	**P**	**09 36 11.8**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.3,baz=88,slow=7.6,SNR=3.1						
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**09 36 19.1**	**-0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**09 36 19.1**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2						
EGAK	**Eagle**	**38.45**	**38**	*e*P	**P**	**09 37 04.6**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.3						
INK	**Inuvik**	**41.19**	**32**	P	**P**	**09 37 28.5**	**+0.7**
	comp=Z,5.2nm,0.6s,mb4.4,baz=291,slow=7.5,SNR=38						
INK	**Inuvik**	**41.19**	**32**	P	**P**	**09 37 28.5**	**+0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**09 38 21.5**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.5,baz=67,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**09 38 21.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.39**	**37**	P	**P**	**09 38 40.4**	**0.0**
	comp=Z,4.4nm,0.8s,mb4.6,baz=295,slow=6.9,SNR=5.0						

YKA	**Yellowknife Ar**	**50.39**	**37**	P		**P**	**09 38 40.4**	**0.0**
YKA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P		**P**	**09 38 47.4**	**+0.4**
CHKZ				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P		**P**	**09 38 47.4**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.7								
BVAR	**Borovoye Array**	**51.72**	**310**	P		**P**	**09 38 51.4**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=60,slow=8.8,SNR=11								
BVAR	**Borovoye Array**	**51.72**	**310**	P		**P**	**09 38 51.4**	**+1.1**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
EDM	**Edmonton**	**55.65**	**47**	*e*P		**P**	**09 39 18.7**	**-0.3**
ARU	**Arti**	**55.78**	**318**	*e*P		**P**	**09 39 19.8**	**-0.2**
ARU	**Arti**	**55.78**	**318**	*e*P		**P**	**09 39 20.2**	**+0.3**
	comp=Z,9.3nm,0.4s,mb5.2								
ARCES	**ARCESS Array B**	**58.29**	**341**	P		**P**	**09 39 38.5**	**+0.8**
	comp=Z,4.0nm,0.8s,mb4.5,baz=34,slow=7.3,SNR=5.3								
ARCES	**ARCESS Array B**	**58.29**	**341**	P		**P**	**09 39 38.5**	**+0.8**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AKTO	**Aktyubinsk**	**59.56**	**313**	P		**P**	**09 39 47.2**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=61,slow=4.3,SNR=9.0								
AKTO	**Aktyubinsk**	**59.56**	**313**	P		**P**	**09 39 47.2**	**+0.7**
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
PDAR	**Pinedale Array**	**63.98**	**55**	P		**P**	**09 40 16.2**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=292,slow=3.5,SNR=15								
FINES	**FINESS Array B**	**64.57**	**335**	P		**P**	**09 40 20.1**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=57,slow=7.0,SNR=9.3								
FINES	**FINESS Array B**	**64.57**	**335**	P		**P**	**09 40 20.1**	**0.0**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ULM	**Lac du Bonnet**	**65.93**	**42**	P		**P**	**09 40 27.8**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=300,slow=10,SNR=5.0								
NB2	**NORSAR Subarra**	**68.65**	**342**	P		**P**	**09 40 49.1**	**+3.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.65**	**342**	P		**P**	**09 40 48.3**	**+2.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=5.7								
NOA	**NORSAR Array B**	**68.65**	**342**	P		**P**	**09 40 48.3**	**+2.2**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**72.20**	**327**	P		**P**	**09 41 07.3**	**-0.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=31,slow=5.5,SNR=4.9								
AKASG	**Malin Array Be**	**72.20**	**327**	P		**P**	**09 41 07.4**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
HKR	**Hakkari**	**75.81**	**310**	*e*P		**P**	**09 41 27.1**	**-1.7**
CUKT	**Cukurca**	**76.12**	**310**	*e*P		**P**	**09 41 29.8**	**-0.8**
TXAR	**Lajitas Array**	**76.65**	**61**	P		**P**	**09 41 33.3**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=304,slow=4.1,SNR=48								
TXAR	**Lajitas Array**	**76.65**	**61**	P		**P**	**09 41 33.3**	**-0.3**
TXAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**76.98**	**336**	*e*P		**P**	**09 41 36.0**	**+0.6**
GERES	**GERESS Array B**	**78.99**	**335**	P		**P**	**09 41 47.3**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=31,slow=6.2,SNR=3.5								
GERES	**GERESS Array B**	**78.99**	**335**	P		**P**	**09 41 47.3**	**+0.7**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.4s								

IDC ***16*** *09:34:59.6±1.3, 137S×138.21E, h0km, mb4.5/7, mb1 4.8/8, mb1mx4.5/17, mbtmp4.6/8, ML4.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=37.3km s-min=21.9km az=69.0*
ISCJB ***16*** *09:35:03.6±0.9, 156S±008×138.1E±01, h33km, mb4.6/8, Error ellipse: s-maj=14.9km s-min=11.6km az=14.3*
NEIC ***16*** *09:35:05.5±2.0, 147S×138.07E, h39km±17km, mb4.5/7, Error ellipse: s-maj=16.7km s-min=13.6km az=200.0*

ISC 16 09:35:09.3±2.1, 18S±01×1381E±01, h58km±18km, n22, σ1 §19/27, mb4.6/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**11.81**	**130**	Pn	**Pn**	**09 37 54.7**	**-0.1**
	0.5nm,0.3s,baz=13,slow=5.5,SNR=4.4						
KAKA	**Kakadu**	**12.23**	**207**	*e*P	**Pn**	**09 37 59.8**	**-0.8**
	21nm,0.4s						
KAKA				*e*S	**Sn**	**09 40 15.4**	**+0.1**
GUMO	**Guam**	**16.67**	**24**	LR	LR	09 43 29.3	
	comp=Z,129nm,21.9s,baz=263,slow=31						
WB2	**Warramunga Arr**	**18.44**	**191**	*e*P	**Pn**	**09 39 20.5**	**-0.1**
WB2				*e*S	**S**	**09 42 40.1**	**-6.7**
WRA	**Warramunga Arr**	**18.44**	**191**	P	**Pn**	**09 39 21.2**	**+0.5**
	3.0nm,0.3s,baz=13,slow=12,SNR=79						
WRA				S	**S**	**09 42 44.3**	**-2.6**
	0.5nm,0.3s,baz=355,slow=23,SNR=4.8						
CTA	**Charters Tower**	**19.90**	**157**	*e*P	**Pn**	**09 39 37.3**	**-0.7**
	10nm,0.6s						
CTA	**Charters Tower**	**19.90**	**157**	P	**Pn**	**09 39 37.1**	**-0.8**
	11nm,0.6s,baz=340,slow=10,SNR=26						
CTAO	**Charters Tower**	**19.90**	**157**	*e*P	**Pn**	**09 39 35.7**	**-2.3**
	6.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.32**	**216**	*e*P	**P**	**09 39 42.2**	**+1.8**
	30nm,0.9s						
FITZ				*e*S	**S**	**09 43 24.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.32**	**216**	P	**P**	**09 39 43.5**	**+3.1**
	18nm,0.9s,baz=57,slow=11,SNR=19						
FITZ				S	**S**	**09 43 23.5**	**-1.4**
	8.1nm,0.8s,baz=165,slow=13,SNR=6.6						
AS31	**Alice Springs**	**22.15**	**190**	*e*P	**P**	**09 40 01.8**	**+1.7**
ASAR	**Alice Springs**	**22.15**	**190**	P	**P**	**09 40 01.8**	**+1.6**
	44nm,0.8s,mb4.9,baz=23,slow=10,SNR=132						
ASAR				S	**S**	**09 44 09.3**	**+8.4**
	5.2nm,1.0s,baz=11,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**22.15**	**190**	P	**P**	**09 40 01.8**	**+1.6**
ASAR				S	**S**	**09 44 09.3**	**+8.4**
MBWA	**Marble Bar**	**26.30**	**222**	*e*P	**P**	**09 40 43.4**	**+4.1**
	8.2nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**30.14**	**174**	*e*P	**P**	**09 41 13.3**	**-0.3**
	4.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**30.14**	**174**	P	**P**	**09 41 13.4**	**-0.2**
	3.1nm,0.6s,mb4.2,baz=336,slow=10,SNR=4.4						
FORT	**Forrest**	**30.39**	**197**	*e*P	**P**	**09 41 15.8**	**+0.1**
	22nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**35.34**	**211**	*e*P	**P**	**09 41 59.8**	**+0.9**
	36nm,1.5s,mb5.1						
PSI	**Prapat**	**39.40**	**277**	P	**P**	**09 42 32.2**	**-1.0**
	7.8nm,0.6s,mb4.6,baz=126,slow=5.3,SNR=6.4						
VNDA	**Vanda**	**76.78**	**175**	P	**P**	**09 46 54.5**	**0.0**
	2.6nm,0.6s,mb4.3,baz=324,slow=6.7,SNR=33						
BVAR	**Borovoye Array**	**78.17**	**325**	P	**P**	**09 46 59.0**	**-3.3**
	3.9nm,0.7s,mb4.5,baz=119,slow=8.8,SNR=5.3						
LPAZ	**La Paz**	**148.52**	**126**	PKPbc	PKPbc	09 54 50.6	+1.2
	1.6nm,0.7s,baz=253,slow=6.4,SNR=6.0						

BJI ***16*** *09:36:19.4, 2228N×6280E, h10km, mB5.1, mb5.0, Ms5.0, Msz4.7*
CSEM ***16*** *09:36:24.8±0.1, 2261N×6330E, h12km, mb5.2/76, Ms4.5, Mw5.3, Error ellipse: s-maj=2.5km s-min=1.8km az=170.0*
ISCJB ***16*** *09:36:25.1±0.8, 2263N±003×6331E±002, h12km±5km, mb5.2/166, MS4.7/49, Error ellipse: s-maj=4.8km s-min=2.4km az=2.6*
IDC ***16*** *09:36:25.2±0.4, 2266N×6343E, h0km, mb5.0/30, mb1 5.1/31, mb1mx5.1/33, mbtmp5.1/31, ML5.6/1, MS4.7/21, Ms1 4.7/21, ms1mx4.5/36, Error ellipse: s-maj=12.0km s-min=11.5km az=4.0*
NEIC ***16*** *09:36:26.8±0.2, 2267N×6328E, h10km, mb5.2/74, Error ellipse: s-maj=5.3km s-min=3.8km az=14.0*
GCMT ***16*** *09:36:26.8±0.3, 2250N×6343E, h23km, MW5.3/79, Moment Tensor Solution. s36,c50; s79,c140; Duration: 1§1 Moment tensor: Scale 10 17 Nm; Mrr-0.54±.03; Mθθ0.30±.02; Mφφ0.24±.02; Mrθ-0.71±.04; Mφr-0.51±.01; Mθr-0.21±.03; Best double couple: M0 1.00100×10 17 NP1:ϕs98.00000°, δ70.00000°, λ-123.00000°. NP2: ϕs98.00000°, δ70.00000°, λ-123.00000°. Principal axes: T 0.9070, Plg19.0000°, Azm212.0000°; N 0.1910, Plg31.0000°, Azm111.0000°; P -1.0960, Plg52.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***16*** *09:36:28.3±1.0, 2267N×6327E, h33km, mb5.4/83, MS4.6/19 Error ellipse: s-maj=6.3km s-min=3.1km az=122.5*
SZGRF ***16*** *09:36:34.7, 2232N×6185E, h33km, mb5.2, MS4.4, Owen Fracture Zone region*

ISC 16 09:36:27.9±0.8, 2267N±003×6332E±002, h16km±5km, h16km±1.6km:pP-P, n623, σ0 §95/639, mb5.2/166, MS4.7/49,

39C-39D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBK	**Wadi Bani Khal**	**4.02**	**270**	P	**Pn**	**09 37 27.9**	**-0.9**
	SNR=1018						
WBK				⇓S	**Sn**	**09 38 11.5**	**-4.0**
WSAR	**Wadi Sarin**	**4.36**	**278**	Pn	**Pn**	**09 37 32.4**	**-1.1**
	332nm,0.3s,baz=119,slow=13,SNR=3597						
WSAR				Sn	**Sn**	**09 38 17.6**	**-6.2**
	120nm,0.3s,baz=284,slow=23,SNR=6.7						
WSAR				LR	LR	09 39 17.0	
	comp=Z,6μm,20.1s,baz=118,slow=38						
WSAR	**Wadi Sarin**	**4.36**	**278**	Sn	**Sn**	**09 38 17.6**	**-6.3**
JMDO	**Jabal Madar**	**4.83**	**267**	P	**Pn**	**09 37 39.6**	**-0.3**
	SNR=737						
JMDO				⇓S	**Sn**	**09 38 33.6**	**-2.0**
BIDO	**Bidbid**	**4.86**	**281**	⇓P	**Pn**	**09 37 39.8**	**-0.4**
	SNR=129						
BIDO				⇑S	**Sn**	**09 38 30.3**	**-5.9**
SMDO	**Samad**	**4.88**	**276**	P	**Pn**	**09 37 39.6**	**-1.0**
	SNR=456						
HOQ	**Hoqain**	**5.61**	**281**	P	**Pn**	**09 37 49.8**	**-0.8**
	SNR=299						
BSYO	**Bisya**	**5.61**	**272**	P	**Pn**	**09 37 51.1**	**+0.4**
	SNR=245						
BSY	**Bisya**	**5.65**	**272**	⇓P	**Pn**	**09 37 51.1**	**-0.1**
	SNR=245						
BSY				⇓S	**Sn**	**09 38 53.0**	**-2.8**
ARQ	**Araqi**	**6.30**	**277**	P	**Pn**	**09 38 00.6**	**+0.6**
	SNR=120						
HATD	**Hatta, Dubai**	**6.93**	**289**	P	**Pn**	**09 38 08.1**	**-0.5**
	SNR=150						
HATD				⇓S	**Sn**	**09 39 27.2**	**+0.1**
ASHO	**Ashiyiah**	**6.95**	**288**	⇓P	**Pn**	**09 38 08.5**	**-0.5**
	SNR=218						
BANOM	**Banah**	**7.18**	**298**	⇓P	**Pn**	**09 38 09.9**	**-2.2**
	SNR=235						
BHV	**Bhavnagar**	**8.23**	**95**	*e*P	**Pn**	**09 38 27.5**	**+1.0**
SHAO	**Shalim**	**8.57**	**239**	P	**Pn**	**09 38 30.9**	**-0.3**
	SNR=43						
BOM	**Bombay**	**9.64**	**111**	*e*P	**Pn**	**09 38 37.3**	**-8.6**
BOM				*e*S	**Sn**	**09 40 16.9**	**-17**
RBK	**Rabkut**	**9.99**	**241**	⇑P	**Pn**	**09 38 51.2**	**+0.6**
	SNR=51						
WHFO	**Wadi Hawf**	**10.13**	**244**	P	**Pn**	**09 38 52.0**	**-0.6**
	SNR=73						
POO	**Poona**	**10.69**	**111**	*e*P	**Pn**	**09 38 58.5**	**-1.7**
POO				*i* S	**Sn**	**09 40 51.5**	**-8.0**
ABTO	**Aybut**	**10.80**	**242**	⇑P	**Pn**	**09 39 01.9**	**+0.1**
	SNR=32						
DRP	**Derazinda**	**10.92**	**33**	P	**Pn**	**09 39 03.8**	**+0.4**
AJM	**Ajmer**	**10.98**	**68**	*i* P	**Pn**	**09 39 03.0**	**-1.3**
AJM				*i* x	**Sn**	**09 41 12.0**	**+5.3**
KAD	**Karad**	**11.52**	**116**	*e*P	**Pn**	**09 39 11.0**	**-0.7**
KAD				AMb	AMB	09 39 24.2	
	comp=Z,44nm,0.5s						
SBDP	**Sheikh Budin**	**11.67**	**33**	P	**Pn**	**09 39 12.0**	**-1.7**
THW	**Thamme Wali**	**12.54**	**35**	⇑P	**Pn**	**09 39 24.3**	**-1.3**
BHPL	**Bhopal**	**13.01**	**85**	*e*P	**Pn**	**09 39 31.4**	**-0.6**
BHPL				AMb	AMB	09 39 45.7	
	comp=Z,86nm,1.7s						
LATR	**Latur**	**13.10**	**106**	*ex*	x	09 39 21.2	
CEP	**Cherat**	**13.44**	**32**	P	**Pn**	**09 39 36.7**	**-1.2**
NDI	**New Delhi**	**13.88**	**62**	*e*P	**Pn**	**09 39 43.0**	**-0.9**
NDI				*ex*	**Sn**	**09 42 08.0**	**-10**
CHCP	**Chirah Chowk**	**14

AAK	**Ala-Archa**	21.98	22	⇓	*e*P		**P**	**09 41 20.9**	**-0.2**
	comp=Z,78nm,0.8s,mb5.2									
KBK	**Karagaybulak**	22.16	23		P		**P**	**09 41 24.7**	**+1.7**
	SNR=35									
MSL	**Mosul**	22.18	312		*ex*		x	09 41 23.0		
MSL					*ex*		x	09 45 36.0		
FRU	**Bishkek**	22.20	22	⇓	*i*P		**P**	**09 41 24.0**	**+0.6**
FRU					*i*			09 41 38.0		
FRU					*i*			09 42 03.0		
FRU					*e*			09 46 12.0		
FRU						pmax	pmax			
	comp=Z,320nm,1.9s,mb5.4									
FRU	**Bishkek**	22.20	22		*i* P		**P**	**09 41 24.0**	**+0.6**
	comp=Z,320nm,1.9s,mb5.4									
ULHL	**Ulahol**	22.31	26		P		**P**	**09 41 25.4**	**+0.8**
	SNR=150									
CHMS	**Chumysh**	22.39	22		P		**P**	**09 41 26.0**	**+0.6**
	SNR=28									
ATD	**Arta Tunnel**	22.45	244		P		**P**	**09 41 27.8**	**+1.7**
	comp=Z,46nm,0.8s,mb5.0,baz=32,slow=8.8,SNR=25									
ATD						LR	LR	09 49 46.8		
	comp=Z,627nm,18.0s,MS4.1,baz=200,slow=36									
HAKT	**HAKKARI**	22.47	316		*i* P		**P**	**09 41 27.2**	**+0.9**
USP	**Ospenovka**	22.54	22		P		**P**	**09 41 27.6**	**+0.5**
	SNR=47									
TKM2	**Tokmak 2**	22.63	24		P		**P**	**09 41 27.5**	**-0.5**
	SNR=11									
PALK	**Pallekele**	22.68	130		*e*P		**P**	**09 41 29.2**	**+0.7**
	comp=Z,195nm,1.8s,mb5.2									
PALK	**Pallekele**	22.68	130		*e*P		**P**	**09 41 29.2**	**+0.7**
	comp=Z,195nm,1.8s,mb5.2									
CAL	**Calcutta**	23.09	85		*e*P		**P**	**09 41 33.8**	**+0.9**
CAL					*ex*		x	09 46 01.6		
TVAN	**Van**	23.24	317		*i* P		**P**	**09 41 37.2**	**+2.7**
VANB	**Van**	23.29	318		*e*P		**P**	**09 41 36.9**	**+1.9**
CLDR	**Caldiran**	23.31	319		*e*P		**P**	**09 41 35.0**	**-0.1**
GNI	**Garni**	23.48	322		*e*P		**P**	**09 41 37.3**	**+0.3**
GNI	**Garni**	23.48	322		P		**P**	**09 41 38.1**	**+1.1**
	comp=Z,74nm,0.9s,mb5.1,baz=345,slow=2.4,SNR=20									
GNI						LR	LR	09 52 11.3		
	comp=Z,1μm,20.9s,MS4.4,baz=140,slow=40									
GNI	**Garni**	23.48	322	⇑	*i*P		**P**	**09 41 37.4**	**+0.4**
GNI						pmax	pmax			
	comp=Z,91nm,1.0s									
GNI	**Garni**	23.48	322		*e*P		**P**	**09 41 38.5**	**+1.5**
	comp=Z,90nm,0.8s,mb5.2									
GNI	**Garni**	23.48	322		*i* P		**P**	**09 41 37.4**	**+0.4**
	comp=Z,91nm,1.0s,mb5.2									
MAK	**Makhachkala**	24.13	331		*i* P		**P**	**09 41 41.9**	**-1.1**
MAK					*i*			09 42 09.4		
MAK					*e*S		**S**	**09 46 01.3**	**+1.1**
MAK					*e*SS			09 46 44.4		
MAK					*e*SSS			09 47 00.3		
MAK						pmax	pmax			
	comp=Z,170nm,1.2s,mb5.3									
MARD	**Mardin**	24.29	312		*i* P		**P**	**09 41 44.9**	**+0.5**
TBLG	**Delisi**	24.57	325		P		**P**	**09 41 49.4**	**+2.4**
KARS	**Kars**	24.73	321		*e*P		**P**	**09 41 49.9**	**+1.5**
BNGL	**BINGOL**	24.92	316		*i* P		**P**	**09 41 51.3**	**+1.2**
ASF	**Jabal al Asfar**	25.24	298		P		**P**	**09 41 55.1**	**+2.0**
	comp=Z,32nm,0.9s,mb4.8,baz=331,slow=3.7,SNR=24									
ASF						LR	LR	09 53 38.7		
	comp=Z,131nm,19.2s,MS3.5,baz=205,slow=41									
BINT	**Bingol**	25.31	315		*e*P		**P**	**09 41 54.8**	**+1.1**
ERZM	**Erzurum**	25.33	318		*i* P		**P**	**09 41 56.0**	**+2.1**
EZM	**Erzurum**	25.34	318		*e*P		**P**	**09 41 55.6**	**+1.7**
URFA	**Urfa**	25.71	310		*e*P		**P**	**09 41 59.0**	**+1.6**
ZEI	**Tsey**	25.75	326		*e*P		**P**	**09 41 57.9**	**+0.2**
LSA	**Lhasa**	25.90	68		P		**P**	**09 42 00.6**	**+1.6**
LSA	**Lhasa**	25.90	68		*e*P		**P**	**09 42 01.7**	**+2.7**
LSA						pmax	pmax			
	comp=Z,24nm,0.9s,mb4.7									
LSA	**Lhasa**	25.90	68		*e*P		**P**	**09 42 01.7**	**+2.7**
	comp=Z,24nm,0.9s,mb4.7									
PTK	**Pertek**	26.04	314		*e*P		**P**	**09 41 59.9**	**-0.4**
ATAB	**Bozova**	26.10	310		*i* P		**P**	**09 42 02.0**	**+1.2**
ELZG	**Elazig**	26.11	313		*i* P		**P**	**09 42 02.0**	**+1.0**
BCA	**Borcka**	26.12	321		*e*P		**P**	**09 42 01.8**	**+0.8**
SHL	**Shillong**	26.21	78		*e*P		**P**	**09 42 02.5**	**+0.7**
SHL					*ex*		**S**	**09 46 28.0**	**-5.3**
EIL	**Elat**	26.36	291		*e*P		**P**	**09 42 04.3**	**+1.1**
EIL	**Elat**	26.36	291		*e*P		**P**	**09 42 04.3**	**+1.1**
MALT	**Malatya**	26.40	312		*e*P		**P**	**09 42 05.2**	**+1.6**
MALT						pmax	pmax			
	comp=Z,53nm,0.9s,mb5.1									
MALT	**Malatya**	26.40	312		*e*P		**P**	**09 42 05.2**	**+1.6**
	comp=Z,53nm,0.9s,mb5.1									
MALT	**Malatya**	26.40	312		*e*P		**P**	**09 42 05.2**	**+1.6**
	comp=Z,53nm,0.9s,mb5.1									
MYA	**Malatya**	26.41	312		*e*P		**P**	**09 42 05.4**	**+1.7**
RCY	**Rachaya**	26.47	300		*e*P		**P**	**09 42 07.1**	**+2.9**
GZT	**Gaziantep**	26.47	309		*i* P		**P**	**09 42 06.7**	**+1.6**
MMAI	**Mount Meron Ar**	26.68	299		P		**P**	**09 42 08.0**	**+1.9**
	comp=Z,72nm,1.0s,mb5.2,baz=99,slow=16,SNR=20									
MMAI						PcP	PcP	09 45 30.2	+0.7	
	comp=Z,5.6nm,0.8s,baz=112,slow=6.4,SNR=4.2									
BHL	**Bhannes**	26.73	301		*e*P		**P**	**09 42 08.7**	**+2.1**
GAZ	**Gaziantep**	26.74	309		*e*P		**P**	**09 42 07.5**	**+0.9**
KELT	**Kelkit**	26.80	316		*i* P		**P**	**09 42 08.2**	**+1.0**
KTUT	**Trabzon**	26.95	318		*e*P		**P**	**09 42 09.2**	**+0.6**
KMRS	**Kahramanmaras**	27.11	309		*e*P		**P**	**09 42 10.9**	**+1.0**
COBT	**Iskenderun**	27.17	307		*i* P		**P**	**09 42 11.9**	**+1.4**
KIV	**Kislovodsk**	27.21	326		P		**P**	**09 42 12.7**	**+1.8**
	comp=Z,493nm,0.9s,mb6.0,SNR=6.6									
KIV	**Kislovodsk**	27.21	326		*e*P		**P**	**09 42 12.4**	**+1.5**
KIV					*e*			09 45 31.9		
KIV					*e*S		**S**	**09 46 54.2**	**+5.1**
KIV						pmax	pmax			
	comp=Z,109nm,1.1s,mb5.3									
KIV						pmax	pmax			
	comp=Z,460nm,3.2s									
KIV						MLR	MLR			
	comp=Z,458nm,14.0s,MS4.2									
KIV	**Kislovodsk**	27.21	326	⇓	*e*P		**P**	**09 42 12.6**	**+1.8**
	comp=Z,69nm,0.8s,mb5.2									
KIV	**Kislovodsk**	27.21	326	⇓	*e*P		**P**	**09 42 12.6**	**+1.7**
	comp=Z,69nm,0.8s,mb5.2									
AKTK	**Aktyubinsk**	28.02	353		P		**P**	**09 42 18.8**	**+0.6**
AKTO	**Aktyubinsk**	28.02	353		P		**P**	**09 42 18.8**	**+0.6**
	comp=Z,18nm,0.8s,mb4.7,baz=175,slow=8.2,SNR=37									
AKTO	**Aktyubinsk**	28.02	353		P		**P**	**09 42 18.0**	**-0.2**
AKTO						pmax	pmax			
	comp=Z,6.0nm,1.9s,mb3.9									
SVSK	**Karacayir**	28.16	314		*e*P		**P**	**09 42 19.9**	**+0.5**
MK31	**Makanchi Array**	28.53	28		*i* P		**P**	**09 42 22.9**	**+0.2**
MK31						pmax	pmax			
	comp=Z,42nm,0.7s,mb5.3									
MKAR	**Makanchi Array**	28.53	28		P		**P**	**09 42 23.0**	**+0.4**
	comp=Z,34nm,0.7s,mb5.2,baz=214,slow=8.9,SNR=153									
MKAR						LR	LR	09 55 33.3		
	comp=Z,2μm,21.7s,MS4.6,baz=55,slow=40									
MKAR	**Makanchi Array**	28.53	28		*i* P		**P**	**09 42 22.9**	**+0.2**
MKAR						pmax	pmax			
	comp=Z,30nm,0.7s									
MKAR	**Makanchi Array**	28.53	28		P		**P**	**09 42 23.0**	**+0.4**
MKAR						LR	LR	09 55 33.3		
SOC	**Sochi**	28.56	323		*e*P		**P**	**09 42 22.5**	**-0.4**
SOC					*e*S		**S**	**09 47 07.6**	**-2.8**
SOC						pmax	pmax			
	comp=Z,55nm,1.0s,mb5.2									
SOC						MLR	MLR			
	comp=Z,636nm,13.0s,MS4.4									
CSS	**Prodhromos**	28.88	302		*e*P		**P**	**09 42 26.4**	**+0.6**
	comp=Z,23nm,0.8s,mb5.0									
CSS	**Prodhromos**	28.88	302		*e*P		**P**	**09 42 26.4**	**+0.7**
	comp=Z,23nm,0.8s,mb5.0									
AVNT	**Avonos**	29.11	310		*i* P		**P**	**09 42 28.6**	**+0.8**
WMQ	**Urumqi**	29.15	38	⇓	*i*P		**P**	**09 42 29.5**	**+1.4**
WMQ						AP	pP	09 42 33.6	+0.6	
WMQ						XP	sP	09 42 36.5	+1.5	
WMQ						PP	PP	09 43 23.8	-10	
WMQ						PPP		09 43 36.8		
WMQ						S	**S**	**09 47 19.6**	**0.0**	
WMQ						SCP	ScP	09 49 17.5	+1.0	
WMQ						AMB	AMB			
	comp=Z,40nm,0.8s,mb5.2									
WMQ						AMB	AMB			
	comp=Z,215nm,8.6s									
WMQ						LR	LR			
	comp=N,898nm,16.4s,MS4.5									
WMQ						LR	LR			
	comp=E,625nm,18.1s,MS4.5									
WMQ						LR	LR			
	comp=Z,657nm,17.6s,MS4.3									

ORR	**Orenburg**	29.65	349		*e*P		**P**	**09 42 31.8**	**-0.8**
ORR						pmax	pmax			
	comp=Z,70nm,1.6s,mb5.1									
ORR						MLR	MLR			
	comp=Z,3μm,17.0s,MS5.0									
CDAG	**Cicekdag**	29.81	311		*i* P		**P**	**09 42 34.0**	**-0.1**
CTKT	**Corum**	29.98	313		*i* P		**P**	**09 42 32.5**	**-3.0**
BOYT	**Boyabat**	30.29	315		*i* P		**P**	**09 42 38.0**	**-0.2**
BR131	**Keskin Array S**	30.37	311		*e*P		**P**	**09 42 39.1**	**+0.2**
	comp=Z,26nm,0.8s,mb5.0									
BR131	**Keskin Array S**	30.37	311		*e*P		**P**	**09 42 39.2**	**+0.3**
	comp=Z,26nm,0.8s,mb5.0									
BRTR	**Keskin Array B**	30.37	311		P		**P**	**09 42 39.1**	**+0.2**
	comp=Z,33nm,0.9s,mb5.1,baz=128,slow=9.1,SNR=62									
BRTR						PcP	PcP	09 45 39.1	+0.4	
	comp=Z,8.3nm,0.7s,baz=145,slow=5.3,SNR=11									
BRTR						LR	LR	09 57 25.8		
	comp=Z,776nm,21.9s,MS4.3,baz=115,slow=41									
BRTR	**Keskin Array B**	30.37	311		P		**P**	**09 42 39.2**	**+0.3**
BRTR								09 45 39.1		
KURK	**Kurchatov**	30.44	19		P		**P**	**09 42 40.9**	**+1.3**
	comp=Z,487nm,0.8s,mb6.3,SNR=29									
KURK	**Kurchatov**	30.44	19		*i* P		**P**	**09 42 39.6**	**0.0**
VOSK	**Vostochnaya**	30.58	9		P		**P**	**09 42 40.7**	**-0.1**
VOSK						pmax	pmax			
	comp=Z,32nm,0.8s,mb5.2									
BVA2	**Borovoye Array**	30.78	8		P		**P**	**09 42 42.6**	**0.0**
BVA2						pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5									
BVAR	**Borovoye Array**	30.79	8		P		**P**	**09 42 43.2**	**+0.5**
	comp=Z,28nm,0.8s,mb5.2,baz=176,slow=8.9,SNR=90									
BVAR						LR	LR	09 57 21.5		
	comp=Z,3μm,19.5s,MS5.0,baz=139,slow=41									
BRVK	**Borovoye**	30.80	8		P		**P**	**09 42 43.8**	**+1.0**
	comp=Z,196nm,0.6s,mb6.1,SNR=11									
BRVK	**Borovoye**	30.80	8		*e*P		**P**	**09 42 42.9**	**+0.1**
BRVK						pmax	pmax			
	comp=Z,21nm,0.7s,mb5.1									
BRVK	**Borovoye**	30.80	8		*e*P		**P**	**09 42 42.9**	**+0.1**
	comp=Z,21nm,0.7s,mb5.1									
ELDT	**Eldivan**	30.84	312		*i* P		**P**	**09 42 43.4**	**+0.3**
ANTO	**Ankara**	31.02	311	⇑	*i*P		**P**	**09 42 45.0**	**+0.3**
ANTO	**Ankara**	31.02	311		*e*P		**P**	**09 42 44.8**	**+0.1**
ANTO						pmax	pmax			
	comp=Z,53nm,0.9s,mb5.4									
ANTO	**Ankara**	31.02	311		*e*P		**P**	**09 42 44.8**	**+0.1**
	comp=Z,53nm,0.9s,mb5.4									
ANTO	**Ankara**	31.02	311		*e*P		**P**	**09 42 44.8**	**+0.1**
	comp=Z,53nm,0.9s,mb5.4									
BALT	**Daday**	31.34	314		*i* P		**P**	**09 42 46.2**	**-1.3**
CHKZ	**Chkalovo**	31.45	8		*e*P		**P**	**09 42 48.9**	**+0.4**
CHKZ						pmax	pmax			
	comp=Z,94nm,0.8s,mb5.7									
CHKZ	**Chkalovo**	31.45	8		*e*P		**P**	**09 42 48.9**	**+0.4**
	comp=Z,94nm,0.8s,mb5.7									
CHKZ	**Chkalovo**	31.45	8		*e*P		**P**	**09 42 48.9**	**+0.4**
	comp=Z,94nm,0.8s,mb5.7									
SGKT	**Sivrigoynuk**	31.82	311		*i* P		**P**	**09 42 52.4**	**+0.7**
ISP	**Isparta**	31.93	306		*e*P		**P**	**09 42 53.3**	**+0.6**
TKTP	**Tekketepe**	32.13	306		*i* P		**P**	**09 42 55.1**	**+0.6**
ESKT	**Eskisehir**	32.26	309		*i* P		**P**	**09 42 55.9**	**+0.3**
GOLH	**Golhisar**	32.46	304		*i* P		**P**	**09 42 56.6**	**-0.8**
SIM	**Simferopol'**	32.61	320		*de*P		**P**	**09 42 58.9**	**+0.2**
SIM						pmax	pmax			
	comp=Z,73nm,0.8s,mb5.7									
BORA	**Eskisehir**	32.68	309		*i* P		**P**	**09 42 59.2**	**0.0**
DNZL	**Cakiroluk**	32.98	305		*i* P		**P**	**09 43 05.2**	**+3.3**
VRHR	**Novokhopersk**	33.01	335		*e*P		**P**	**09 43 00.3**	**-1.9**
VRHR						pmax	pmax			
	comp=N,1.0nm,0.5s									
VRHR						pmax	pmax			
	comp=E,20nm,0.5s									
VRHR						pmax	pmax			
	comp=Z,30nm,0.5s,mb5.5									
CHTO	**Chiang Mai**	33.49	90		*e*P		**P**	**09 43 05.8**	**-0.5**
CHTO						pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9									
CHTO	**Chiang Mai**	33.49	90		*e*P		**P**	**09 43 05.8**	**-0.5**
	comp=Z,13nm,0.8s,mb4.9									
CHTO	**Chiang Mai**	33.49	90		*e*P		**P**	**09 43 05.8**	**-0.5**
	comp=Z,13nm,0.8s,mb4.9									
ARU	**Arti**	33.90	355	⇓	*i*P		**P**	**09 43 10.3**	**+0.3**
ARU					*e*			09 44 21.4		
ARU					*e*			09 45 46.9		
ARU					*e*S		**S**	**09 48 35.7**	**+1.8**
ARU					*e*SS		SS	09 50 44.2	-16	
ARU						pmax	pmax			
	comp=Z,15nm,0.8s,mb5.0									
ARU						MLR	MLR			
	comp=N,1μm,18.0s,MS4.8									
ARU						MLR	MLR			
	comp=E,600nm,18.0s,MS4.8									
ARU						MLR	MLR			
	comp=Z,2μm,18.0s,MS4.8									
ARU	**Arti**	33.90	355		*e*P		**P**	**09 43 10.5**	**+0.6**
ARU	**Arti**	33.90	355		*e*P		**P**	**09 43 10.5**	**+0.5**
BDRM	**Kayabasi**	34.04	303		*i* P		**P**	**09 43 10.9**	**-0.3**
VRSR	**Storozhevoye**	34.10	333		*e*P		**P**	**09 43 11.3**	**-0.4**
VRSR						pmax	pmax			
	comp=N,50nm,1.0s									
VRSR						pmax	pmax			
	comp=E,60nm,1.0s									
VRSR						pmax	pmax			
	comp=Z,30nm,1.0s,mb5.2									
BTOK	**Tokmak**	34.38	308		*i* P		**P**	**09 43 14.2**	**0.0**
VOR	**Voronezh**	34.48	333		P		**P**	**09 43 15.0**	**+0.1**
VOR						pmax	pmax			
	comp=Z,80nm,1.5s,mb5.4									
KMBO	**Kilima Mbogo**	34.71	230		P		**P**	**09 43 19.4**	**+2.4**
	comp=Z,3.5nm,0.5s,mb4.5,baz=33,slow=13,SNR=14									
KMBO						LR	LR	09 56 13.4		
	comp=Z,1μm,20.9s,MS4.7,baz=59,slow=34									
KMBO	**Kilima Mbogo**	34.71	230		P		**P**	**09 43 19.4**	**+2.5**
KMBO						pmax	pmax			
	comp=Z,4.0nm,0.5s									
KMBO						MLR	MLR			
	comp=Z,1μm,20.9s									
KMBO	**Kilima Mbogo**	34.71	230		*e*P		**P**	**09 43 17.2**	**+0.3**
KMBO	**Kilima Mbogo**	34.71	230		*e*P		**P**	**09 43 17.2**	**+0.3**
URLA	**Izmir**	35.03	305		*i* P		**P**	**09 43 20.3**	**+0.6**
GTA	**Gaotai**	35.16	53		*e*P		**P**	**09 43 21.8**	**+1.0**
GTA						AP	pP	09 43 26.3	+0.6	
GTA						XP	sP	09 43 29.8	+2.1	
GTA						PP	PP	09 44 43.8	+3.2	
GTA						S	**S**	**09 48 55.8**	**+2.5**	
GTA						XS	sS	09 49 04.6	+3.3	
GTA						AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.5									
GTA						AMB	AMB			
	comp=Z,201nm,4.2s									
GTA						LR	LR			
	comp=N,2μm,19.8s,MS5.0									
GTA						LR	LR			
	comp=E,1μm,19.4s,MS5.0									
GTA						LR	LR			
	comp=Z,1μm,18.3s,MS4.8									
ZAL	**Zalesovo**	35.19	22		P		**P**	**09 43 21.3**	**+0.2**
	comp=Z,54nm,0.6s,mb5.6,baz=256,slow=7.6,SNR=158									
ZAL	**Zalesovo**	35.19	22		P		**P**	**09 43 21.3**	**+0.2**
SANT	**Santorini**	35.43	301		*e*P		**P**	**09 43 23.2**	**+0.1**
SANT	**Santorini**	35.43	301		*e*P		**P**	**09 43 23.2**	**0.0**
APE	**Apeiranthos**	35.53	302	⇑	*i*P		**P**	**09 43 24.6**	**+0.6**
APE	**Apeiranthos**	35.53	302	⇑	P		**P**	**09 43 24.6**	**+0.6**
TIRR	**Tirgusor**	35.91	316	⇓	*i*P		**P**	**09 43 24.9**	**-2.4**
TIRR	**Tirgusor**	35.91	316		*e*P		**P**	**09 43 26.2**	**-1.1**
TIRR						pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8									
TIRR	**Tirgusor**	35.91	316		*e*P		**P**	**09 43 26.2**	**-1.1**
	comp=Z,13nm,1.1s,mb4.8									
KMI	**Kunming**	36.04	78		P		**P**	**09 43 29.5**	**+1.1**
KMI						AP	pP	09 43 34.1	+0.8	
KMI						XP	sP	09 43 37.1	+1.8	
KMI						PP	PP	09 44 52.3	+1.9	
KMI						PPP		09 45 11.8		
KMI						S	**S**	**09 49 05.3**	**-1.5**	
KMI						AMB	AMB			
	comp=Z,23nm,0.9s,mb5.1									
KMI						AMB	AMB			
	comp=Z,40nm,3.1s									
KMI						LR	LR			
	comp=N,544nm,15.1s,MS4.6									
KMI						LR	LR			
	comp=E,597nm,16.1s,MS4.6									
KMI						LR	LR			
	comp=Z,728nm,14.1s,MS4.6									

KMI	**Kunming**	36.04	78		P		**P**	**09 43 29.5**	**+1.1**
KMI					*SP		sP	09 43 37.1	+1.8	
KMI								09 44 52.3		
KMI					PPP			09 45 11.7		
KMI					S		**S**	**09 49 05.2**	**-1.6**	
KMI					*SS		sS	09 49 16.3	+1.5	
KMI					SS		SS	09 51 24.8	-19	
KMI						pmax	pmax			
	comp=Z,23nm,0.9s,mb5.1									
KMI						MLR	MLR			
	comp=Z,730nm,14.1s,MS4.6									
KMI	**Kunming**	36.04	78		P		**P**	**09 43 29.5**	**+1.1**
	comp=Z,23nm,0.9s,mb5.1									
KMI					pP		pP	09 43 34.1	+0.8	
KMI					sP		sP	09 43 37.1	+1.8	
KMI					PP		PP	09 44 52.3	+1.9	
KMI					PPP			09 45 11.7		
KMI					S		**S**	**09 49 05.2**	**-1.6**	
KMI					sS		sS	09 49 16.3	+1.5	
KMI					SS		SS	09 51 24.8	-19	
KMI					LR		LR			
	comp=Z,730nm,14.1s,MS4.6									
ALN	**Alexandroupoli**	36.19	309		*e*P		**P**	**09 43 29.9**	**+0.2**
LOS	**Limnos**	36.60	307		*e*P		**P**	**09 43 33.8**	**+0.6**
CD2	**Chengdu**	36.86	68		P		**P**	**09 43 34.8**	**-0.6**
CD2					AP		pP	09 43 39.3	-1.0	
CD2					XP		sP	09 43 41.9	-0.4	
CD2					AMB		AMB			
	comp=Z,20nm,0.5s,mb5.2									
CD2					AMB		AMB			
	comp=Z,60nm,5.6s									
CD2					LR		LR			
	comp=N,920nm,16.6s									
CD2					LR		LR			
	comp=Z,320nm,20.2s,MS4.1									
SOKR	**Solikamsk**	37.16	355		*i* P		**P**	**09 43 38.8**	**+0.8**
SOKR						pmax	pmax			
	comp=Z,80nm,1.1s,mb5.5									
SOKR						MLR	MLR			
	comp=Z,1μm,16.0s,MS4.8									
AOS	**Alonnisos**	37.29	305		*e*P		**P**	**09 43 39.9**	**+0.8**
KYTH	**Kithira**	37.34	301		*e*P		**P**	**09 43 40.0**	**+0.6**
RZN	**Rozhen**	37.39	310		*e*P		**P**	**09 43 39.0**	**-0.9**
PVL	**Pavlikeni**	37.47	312		*e*P		**P**	**09 43 41.0**	**+0.4**
VLI	**Veliai**	37.49	301		*e*P		**P**	**09 43 40.0**	**-0.8**
LZH	**Lanzhou**	37.49	60		*e*P		**P**	**09 43 41.5**	**+0.7**
LZH						AP	pP	09 43 45.1	-0.6	
LZH						XP	sP	09 43 46.5	-1.2	
LZH						PP	PP	09 45 10.1	+3.7	
LZH					*e*S		**S**	**09 49 29.1**	**+0.2**	
LZH						AMB	AMB			
	comp=Z,33nm,1.2s,mb5.0									
LZH						AMB	AMB			
	comp=Z,120nm,4.5s									
LZH						LR	LR			
	comp=E,2μm,15.8s									
LZH						LR	LR			
	comp=Z,2μm,16.5s,MS5.0									
LZH	**Lanzhou**	37.49	60		*e*P		**P**	**09 43 41.5**	**+0.7**
LZH								09 45 10.1		
LZH					*e*S		**S**	**09 49 29.1**	**+0.2**	
LZH					*e*SS		SS	09 52 02.0	-11	
LZH						pmax	pmax			
	comp=Z,33nm,1.2s,mb5.0									
LZH						MLR	MLR			
	comp=Z,2μm,16.5s,MS5.0									
LZH	**Lanzhou**	37.49	60		*e*P		**P**	**09 43 41.5**	**+0.7**
	comp=Z,33nm,1.2s,mb5.0									
LZH					pP		pP	09 43 45.1	-0.6	
LZH					sP		sP	09 43 46.5	-1.2	
LZH					PP		PP	09 45 10.1	+3.7	
LZH					*e*S		**S**	**09 49 29.1**	**+0.2**	
LZH					sS		sS	09 49 35.1	-1.9	
LZH					*e*SS		SS	09 52 02.0	-11	
LZH					LR		LR			
	comp=Z,2μm,16.5s,MS5.0									
LZH	**Lanzhou**	37.49	60		*e*P		**P**	**09 43 41.5**	**+0.7**
	comp=Z,33nm,1.2s,mb5.0									
LZH					pP		pP	09 43 45.1	-0.6	
LZH					*e*S

KULM Kulim 39.96 110 *e*P **P 09 44 08.8 +7.3**
IGT Igoumenitsa 40.05 305 *e*P **P 09 44 01.8 -0.4**
OHR Ohrid 40.06 307 *e*P **P 09 44 01.4 -0.9**
OHR Ohrid 40.06 307⇓ *i*P **P 09 44 01.4 -0.9**
DRGR 40.52 316⇑ *i*P **P 09 44 06.8 +0.7**
DRGR 40.52 316 ⇑P **P 09 44 06.8 +0.7**
BZS Buzias 40.80 314⇑ *i*P **P 09 44 09.1 +0.6**
BZS Buzias 40.80 314 ⇑P **P 09 44 09.1 +0.6**
GRUS Gruza 40.86 312 *i* P **P 09 44 09.0 0.0**
MOY Mondy 40.96 35 *e*P **P 09 44 11.2 +1.4**
MOY pmax pmax
comp=Z,43nm,1.4s,mb4.9
XAN Xi'an 41.40 64 P **P 09 44 12.3 -1.1**
XAN AP pP 09 44 21.5 +3.2
XAN S **S 09 50 27.9 +0.3**
XAN AMB AMB
comp=Z,12nm,0.8s,mb4.6
XAN LR LR
comp=N,303nm,14.5s,MS4.7
XAN LR LR
comp=E,600nm,13.8s,MS4.7
XAN LR LR
comp=Z,836nm,17.6s,MS4.7
DIVS Divcibare 41.42 312 *i* P **P 09 44 13.6 0.0**
DIVS Divcibare 41.42 312 *e*P **P 09 44 12.4 -1.2**
UZH Uzhgorod 41.50 319 *e*P **P 09 44 08.6 -5.6**
UZH *i* 09 44 15.8
ZAK Zakamensk 41.62 38⇑ *i*P **P 09 44 15.4 +0.3**
ZAK *e* 09 45 55.0
ZAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
KOLS Kolonicke sedl 41.63 319 *e*P **P 09 44 16.3 +1.0**
KWP Kalwaria 41.66 320 *e*P **P 09 44 15.8 +0.3**
BBLS Bajina Basta - 41.76 311 *i* P **P 09 44 17.2 +0.9**
TLY Talaya 42.41 37 P **P 09 44 23.3 +1.6**
comp=Z,139nm,0.8s,mb5.6,SNR=9.5
TLY Talaya 42.41 37 *e*P **P 09 44 23.5 +1.8**
TLY *e*SS SS 09 54 11.5 +20
TLY pmax pmax
comp=Z,20nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,2µm,18.0s,MS5.0
TLY Talaya 42.41 37 *e*P **P 09 44 23.6 +2.0**
TLY Talaya 42.41 37 *e*P **P 09 44 23.6 +1.9**
STHS Stebnicka Huta 42.45 320 *e*P **P 09 44 21.9 0.0**
STHS *e* 09 50 33.5
STHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
STHS Stebnicka Huta 42.45 320 *e*P **P 09 44 21.9 0.0**
comp=Z,9.9nm,1.0s,mb4.4
STHS *e*Sn **S 09 50 33.5 -10**
SONM Songino Array 42.46 43 P **P 09 44 22.6 +0.6**
comp=Z,28nm,0.9s,mb4.9,baz=246,slow=7.5,SNR=126
KECS Kecovo 42.55 318 *i* P **P 09 44 23.2 +0.5**
KECS *e* 09 46 15.7
KECS Kecovo 42.55 318 *i* P **P 09 44 23.2 +0.5**
KECS *e* 09 46 15.7
KECS pmax pmax
comp=Z,62nm,0.8s,mb5.4
KECS Kecovo 42.55 318 *i* P **P 09 44 23.2 +0.5**
comp=Z,62nm,0.8s,mb5.4
KECS *e* 09 46 15.7
PSZ Piszkesteto 42.71 317⇑ *i*P **P 09 44 24.7 +0.6**
PSZ Piszkesteto 42.71 317 *e*P **P 09 44 24.1 0.0**
PSZ pmax pmax
comp=Z,31nm,1.0s,mb5.0
PSZ Piszkesteto 42.71 317 ⇑P **P 09 44 24.7 +0.6**
PSZ Piszkesteto 42.71 317 *e*P **P 09 44 24.1 +0.1**
comp=Z,31nm,1.0s,mb5.0
PSZ Piszkesteto 42.71 317 *e*P **P 09 44 24.7 +0.6**
PSZ Piszkesteto 42.71 317 *e*P **P 09 44 24.1 0.0**
comp=Z,31nm,1.0s,mb5.0
TIP Timpagrande 42.72 304 *e*P **P 09 44 23.8 -0.4**
TIP Timpagrande 42.72 304 *e*P **P 09 44 23.8 -0.3**
ULN Ulaanbaatar 42.89 43 *i* P **P 09 44 26.7 +1.2**
ULN Ulaanbaatar 42.89 43 *e*P **P 09 44 26.6 +1.1**
ULN Ulaanbaatar 42.89 43 *e*P **P 09 44 26.6 +1.1**
PKSM Moragy 42.96 314⇑ *i*P **P 09 44 26.5 +0.4**
NIE Niedzica 43.01 319 *e*P **P 09 44 27.4 +0.9**
BUD Budapest 43.12 316⇑ *e*P **P 09 44 27.9 +0.5**
SUW Suwalki 43.44 326 *e*P **P 09 44 29.6 -0.4**
QIZ Qiongzhong 43.50 86 P **P 09 44 30.0 -0.4**
QIZ AP pP 09 44 34.0 -1.4
QIZ S **S 09 50 57.9 -0.6**
QIZ LR LR
comp=N,299nm,14.1s,MS4.6
QIZ LR LR
comp=E,429nm,15.2s,MS4.6
QIZ LR LR
comp=Z,407nm,20.6s
VYHS Vyhne 43.58 317 *i* P **P 09 44 31.0 -0.1**
VYHS *e* 09 46 18.9
VYHS pmax pmax
comp=Z,19nm,0.9s,mb4.8
VYHS Vyhne 43.58 317 *i* P **P 09 44 31.0 -0.1**
comp=Z,18nm,0.9s,mb4.8
VYHS *e* 09 46 18.9
OJC Ojcow 43.62 320 *e*P **P 09 44 31.7 +0.3**
PUL Pulkovo 43.74 337 *e*P **P 09 44 32.8 +0.4**
PUL *e*S **S 09 51 04.8 +2.8**
PUL pmax pmax
comp=Z,120nm,0.6s,mb5.8
PUL pmax pmax
comp=N,138nm,0.8s
PUL pmax pmax
comp=E,130nm,0.7s
PUL smax
comp=N,82nm,6.8s
PUL MLR MLR
comp=Z,752nm,19.0s,MS4.6
PUL MLR MLR
comp=N,408nm,18.0s,MS4.5
PUL MLR MLR
comp=E,244nm,14.0s,MS4.5
PUL Pulkovo 43.74 337⇑ *e*P **P 09 44 33.5 +1.1**
OPO Ambohidratompo 43.91 202 P **P 09 44 35.6 +1.8**
comp=E,17nm,0.6s,mb4.9,baz=15,slow=6.4,SNR=43
HHC Hu-ho-hao-te 44.25 54 *e*P **P 09 44 37.5 +1.0**
HHC AP pP 09 44 42.3 +0.8
HHC XP sP 09 44 44.6 +1.2
HHC PP PP 09 46 22.4 +2.7
HHC S **S 09 51 10.4 +0.9**
HHC SCS ScS 09 54 33.4 -1.0
HHC AMB AMB
comp=Z,23nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,126nm,9.0s
HHC LR LR
comp=N,2µm,19.9s,MS5.1
HHC LR LR
comp=E,672nm,17.4s,MS5.1
HHC LR LR
comp=Z,700nm,19.6s,MS4.6
SMOL Smolenice 44.47 317 *e*P **P 09 44 38.3 +0.1**
OKC Ostrava-Krasne 44.47 319 *e*P **P 09 44 37.7 -0.5**
OKC *ex* x 09 44 46.6
ZST Bratislava 44.57 317 *e*P **P 09 44 39.2 +0.2**
ZST pmax pmax
comp=Z,18nm,0.7s,mb5.0
ZST Bratislava 44.57 317 *e*P **P 09 44 39.2 +0.2**
comp=Z,18nm,0.7s,mb5.0
TMCR Tamitsa 44.73 345 *e*P **P 09 44 40.3 0.0**
TMCR pmax pmax
comp=Z,68nm,1.2s,mb5.3
SOP Sopron 44.76 316⇑ *e*P **P 09 44 41.0 +0.4**
MORC Moravsky Berou 44.81 319⇑ *i*P **P 09 44 41.0 0.0**
MORC Moravsky Berou 44.81 319 *e*P **P 09 44 40.5 -0.5**
MORC pmax pmax
comp=Z,23nm,0.8s,mb5.1
MORC Moravsky Berou 44.81 319 *e*P **P 09 44 40.5 -0.5**
comp=Z,23nm,0.8s,mb5.1
MORC Moravsky Berou 44.81 319 *e*P **P 09 44 40.5 -0.5**
comp=Z,23nm,0.8s,mb5.1
VRAC Vranov 45.24 318⇑ *i*P **P 09 44 44.7 +0.3**
VRAC Vranov 45.24 318 ⇑P **P 09 44 44.7 +0.3**
CONA Conrad Observa 45.28 316⇑ *i*P **P 09 44 44.9 +0.2**
comp=Z,22nm,0.9s,mb5.0,SNR=13
ARSA Arzberg 45.31 315 *i* P **P 09 44 45.2 +0.3**
comp=Z,42nm,0.8s,mb5.3,SNR=20
AQU L'Aquila 45.73 308 *e*P **P 09 44 48.2 -0.1**
AQU pmax pmax
comp=Z,50nm,1.0s,mb5.4
AQU L'Aquila 45.73 308 *e*P **P 09 44 48.2 0.0**
comp=Z,50nm,1.0s,mb5.4
AQU L'Aquila 45.73 308 *e*P **P 09 44 48.2 -0.1**
comp=Z,50nm,1.0s,mb5.4
DPC Dobruska-Polom 45.75 319 *e*P **P 09 44 48.4 0.0**
OBKA Obir 45.77 314⇓ *i*P **P 09 44 48.1 -0.5**
comp=Z,36nm,0.9s,mb5.3,SNR=9.3
KSP Ksiaz 45.93 320 *e*P **P 09 44 50.1 +0.2**
KSP Ksiaz 45.93 320⇓ *e*P **P 09 44 50.0 +0.1**
UPC Upice 45.99 319 *e*P **P 09 44 50.5 +0.2**
GORS Gorjuse 46.09 313 *e*P **P 09 44 50.9 -0.2**
VOY Vojsko 46.10 311 *e*P **P 09 44 50.2 -1.0**
GKP Gorka Klasztor 46.28 323 *e*P **P 09 44 53.3 +0.7**
MOA Molln 46.30 315 *i* P **P 09 44 52.7 -0.1**
comp=Z,57nm,0.9s,mb5.5,SNR=18
FIA1 FINESS Array S 46.42 336 *e*P **P 09 44 53.5 -0.2**
FIA1 FINESS Array S 46.42 336 *e*P **P 09 44 53.5 -0.2**
FINES FINESS Array B 46.42 336 P **P 09 44 53.5 -0.1**
comp=Z,12nm,0.8s,mb4.9,baz=111,slow=10,SNR=26
FINES LR LR 10 08 26.5
comp=Z,364nm,19.0s,MS4.3,baz=330,slow=41
FINES FINESS Array B 46.42 336 P **P 09 44 53.5 -0.2**
KBA Koelnbreinsper 46.71 314⇓ *i*P **P 09 44 55.9 -0.1**
comp=Z,40nm,0.8s,mb5.4,SNR=9.7
PRU Pruhonice 46.72 318 *e*P **P 09 44 55.9 -0.2**
PVCC Panska Ves 46.87 319 *e*P **P 09 44 56.5 -0.7**
GEC2 GERESS Array S 46.92 316 *e*P **P 09 44 57.2 -0.4**
comp=Z,34nm,1.1s,mb5.2
GEC2 GERESS Array S 46.92 316 *e*P **P 09 44 57.2 -0.4**
GEC2 pmax pmax
comp=Z,34nm,1.1s,mb5.2
GERES GERESS Array B 46.92 316 P **P 09 44 57.6 -0.1**
comp=Z,18nm,0.9s,mb5.0,baz=108,slow=8.6,SNR=70
GERES PcP PcP 09 46 30.7 +0.5
comp=Z,12nm,0.9s,baz=116,slow=3.1,SNR=9.5
KHC Kasperske Hory 47.08 317*c i*P **P 09 44 58.7 -0.1**
KHC Kasperske Hory 47.08 317 *e*P **P 09 44 58.3 -0.5**
BRG Berggiesshubel 47.35 319 *e*P **P 09 45 00.7 -0.3**
comp=Z,16nm,0.9s,mb5.0
BRG Berggiesshubel 47.35 319 *i* P **P 09 45 01.4 +0.4**
comp=Z,9.6nm,0.9s,mb4.7
BRG *e* 09 46 32.5
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 47.35 319 *i* P **P 09 45 01.4 +0.4**
BRG *e* 09 46 32.5
BRG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WET Wettzell 47.52 317 *e*P **P 09 45 01.8 -0.5**
comp=Z,14nm,1.0s,mb5.0
WET Wettzell 47.52 317 *e*P **P 09 45 01.8 -0.5**
WET pmax pmax
comp=Z,14nm,1.0s,mb5.0
BJT Baijiatuao 47.64 56 *e*P **P 09 45 03.6 +0.4**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuao 47.64 56 *e*P **P 09 45 03.5 +0.3**
comp=Z,16nm,0.8s,mb5.1
BJT Baijiatuao 47.64 56 *e*P **P 09 45 03.5 +0.3**
comp=Z,16nm,0.8s,mb5.1
BJI Beijing 47.65 56 P **P 09 44 59.8 -3.5**
BJI AMB AMB
comp=Z,21nm,0.7s,mb5.3
BJI AMB AMB
comp=Z,158nm,7.5s
BJI LR LR
comp=N,947nm,16.3s,MS4.9
BJI LR LR
comp=E,671nm,16.4s,MS4.9
BJI LR LR
comp=Z,998nm,17.5s,MS4.8
BJI Beijing 47.65 56 P **P 09 44 59.7 -3.6**
BJI pmax pmax
comp=Z,21nm,0.7s,mb5.3
BJI MLR MLR
comp=Z,1µm,17.5s,MS4.8
BJI Beijing 47.65 56 P **P 09 44 59.7 -3.6**
comp=Z,21nm,0.7s,mb5.3
BJI S S 09 51 36.0 -22
BJI LR LR
comp=Z,1µm,17.5s,MS4.8
FBE Freiberg 47.72 319 *e*P **P 09 45 04.2 +0.3**
comp=Z,22nm,1.3s,mb5.0
WTTA Wattenberg 47.89 314⇑ *i*P **P 09 45 04.7 -0.4**
comp=Z,73nm,0.9s,mb5.7,SNR=17
WATA Walderalm 47.94 314⇑ *i*P **P 09 45 04.8 -0.8**
comp=Z,89nm,1.3s,mb5.7,SNR=11
RUE Ruedersdorf 47.95 321 *e*P **P 09 45 06.1 +0.5**
comp=Z,27nm,0.5s,mb5.5
CLL Collm 48.05 319 *e*P **P 09 45 06.5 +0.1**
comp=Z,114nm,1.1s,mb5.8
CLL Collm 48.05 319 *i* P **P 09 45 06.3 -0.1**
CLL pmax pmax
comp=Z,114nm,1.1s,mb5.8
CLL MLR MLR
comp=Z,500nm,18.9s,MS4.5
CLL Collm 48.05 319 *i* P **P 09 45 06.3 -0.1**
comp=Z,114nm,1.1s,mb5.8
NKC Novy Kostel 48.08 318 *e*P **P 09 45 06.8 +0.1**
ROTZ Rotzenmuhle 48.11 317 *e*P **P 09 45 06.6 -0.3**
comp=Z,46nm,0.8s,mb5.6
TANN Tannenbergstha 48.12 318 *e*P **P 09 45 07.0 0.0**
comp=Z,6.0nm,1.0s,mb4.6
WERN Wernitzgruen 48.14 318 *e*P **P 09 45 07.5 +0.4**
comp=Z,7.0nm,1.0s,mb4.7
SQTA Sankt Quirin 48.16 314⇑ *i*P **P 09 45 06.5 -0.7**
comp=Z,40nm,0.9s,mb5.4,SNR=10
GUNZ Gunzen 48.19 318 *e*P **P 09 45 07.9 +0.4**
comp=Z,8.0nm,1.1s,mb4.7
CIT Chita 48.21 40 *e*P **P 09 45 07.8 +0.1**
CIT *e* 09 45 20.4
CIT *e* 09 47 06.9
CIT pmax pmax
comp=Z,69nm,2.3s,mb5.3
MANZ Manzenberg 48.23 318 *e*P **P 09 45 08.2 +0.4**
comp=Z,8.0nm,0.9s,mb4.8
WERD Werda 48.23 318 *e*P **P 09 45 07.9 +0.1**
comp=Z,11nm,1.1s,mb4.8
BSD Bornholm Skovb 48.25 325⇓ *i*P **P 09 45 06.4 -1.5**
comp=Z,55nm,0.8s,mb5.6
BSD Bornholm Skovb 48.25 325⇓ *i*P **P 09 45 06.4 -1.5**
BSD pmax pmax
comp=Z,55nm,0.8s,mb5.6
MOTA Moosalm 48.26 314 *i* P **P 09 45 07.1 -0.9**
comp=Z,41nm,0.8s,mb5.5,SNR=14
KEST Kesa 48.33 298 P **P 09 45 08.7 +0.1**
comp=Z,5.1nm,1.0s,mb4.5,baz=131,slow=3.8,SNR=6.8
LVZ Lovozero 48.59 346 *e*P **P 09 45 09.4 -1.2**
LVZ pmax pmax
comp=N,22nm,1.4s
LVZ pmax pmax
comp=Z,51nm,1.4s,mb5.4
LVZ pmax pmax
comp=E,4.0nm,1.3s
LVZ MLR MLR
comp=N,2µm,20.0s,MS5.2
LVZ MLR MLR
comp=Z,2µm,20.0s,MS5.1
LVZ MLR MLR
comp=E,1µm,18.0s,MS5.2
LVZ Lovozero 48.59 346⇑ *e*P **P 09 45 10.2 -0.4**
APA Apatity 48.62 345⇓ *i*P **P 09 45 10.0 -0.8**
APA *i* 09 45 28.4
APA *e*S **S 09 52 18.0 +5.9**
APA pmax pmax
comp=Z,36nm,0.8s,mb5.5
APA MLR MLR
comp=Z,3µm,16.0s,MS5.4
MOX Moxa 48.71 318 *e*P **P 09 45 11.8 +0.3**
comp=Z,21nm,0.9s,mb5.2
MOX Moxa 48.71 318 *e*P **P 09 45 11.7 +0.2**
MOX pmax pmax
comp=Z,24nm,0.9s,mb5.2
MOX Moxa 48.71 318 *e*P **P 09 45 11.7 +0.2**
comp=Z,24nm,0.9s,mb5.2
GRA1 Grafenberg Arr 48.71 317 *e*P **P 09 45 11.1 -0.4**
comp=Z,81nm,1.1s,mb5.7
GRA1 LR LR
comp=Z,400nm,22.0s,MS4.4
GRF Grafenberg Arr 48.71 317 *e*P **P 09 45 11.1 -0.4**
comp=Z,81nm,1.1s,mb5.7
GRF *e*L 10 09 24.6
comp=Z,417nm,22.0s
GRF Grafenberg Arr 48.71 317 *e*P **P 09 45 11.1 -0.4**
GRF pmax pmax
comp=Z,81nm,1.1s,mb5.7
GRF MLR MLR
comp=Z,400nm,22.0s,MS4.4
GRF Grafenberg Arr 48.71 317 *e*P **P 09 45 11.1 -0.4**
GRF pmax pmax
comp=Z,81nm,1.1s,mb5.7
GRF MLR MLR
comp=Z,400nm,22.0s,MS4.4
GRFO Grafenberg 48.71 317 *e*P **P 09 45 11.7 +0.2**
GRFO pmax pmax
comp=Z,54nm,0.9s,mb5.6
GRFO Grafenberg 48.71 317 *e*P **P 09 45 11.7 +0.2**
comp=Z,54nm,0.9s,mb5.6
GRFO Grafenberg 48.71 317 *e*P **P 09 45 11.7 +0.2**
comp=Z,54nm,0.9s,mb5.6
PGF Pioggiola 48.98 307 *e*P **P 09 45 12.1 -1.5**
DAVA Damuels 49.06 314 *i* P **P 09 45 13.2 -1.0**
comp=Z,75nm,0.8s,mb5.8,SNR=19
UBBA Unterbreizbach 49.74 318 *e*P **P 09 45 19.5 +0.1**
comp=Z,28nm,1.5s,mb5.1
CLZ Clausthal 49.77 320 *e*P **P 09 45 19.9 +0.3**
comp=Z,51nm,0.9s,mb5.5
CLZ Clausthal 49.77 320 *e*P **P 09 45 19.9 +0.3**
CLZ pmax pmax
comp=Z,51nm,0.9s,mb5.5
COP Copenhagen 49.77 325 *i* P **P 09 45 20.8 +1.2**
comp=Z,84nm,0.8s,mb5.8
COP Copenhagen 49.77 325 *i* P **P 09 45 20.8 +1.2**
COP pmax pmax
comp=Z,84nm,0.8s,mb5.8
STU Stuttgart 49.80 315 *e*P **P 09 45 19.0 -0.8**
comp=Z,26nm,0.8s,mb5.3
CMAH Djebel Manchou 49.90 299 P **P 09 45 20.0 -0.5**
NRDL Niedersach Rie 50.10 320 *e*P **P 09 45 22.1 0.0**
comp=Z,45nm,1.0s,mb5.5
SBF Sospel 50.26 309 *e*P **P 09 45 22.6 -0.7**
comp=Z,110nm,0.9s,mb5.6
SBF Sospel 50.26 309 *e*P **P 09 45 22.6 -0.7**
SBF pmax pmax
comp=Z,55nm,0.9s,mb5.6
SBF Sospel 50.26 309 *e*P **P 09 45 22.6 -0.7**
comp=Z,55nm,0.9s,mb5.6
AUTN L'Aution 50.28 309 *e*P **P 09 45 23.2 -0.3**
BFO Black Forest 50.28 315 *e*P **P 09 45 22.3 -1.2**
comp=Z,12nm,1.2s,mb4.8
BFO Black Forest 50.28 315 *e*P **P 09 45 22.3 -1.2**
BFO pmax pmax
comp=Z,12nm,1.2s,mb4.8
CAEH 'Ain El Ouahch 50.35 300 P **P 09 45 23.0 -1.0**
BSEG Bad Segeberg 50.38 322 *e*P **P 09 45 24.8 +0.6**
comp=Z,64nm,1.3s,mb5.5
TOUF Mont Tournerai 50.41 309 *e*P **P 09 45 23.9 -0.6**
FELD Feldberg im Sc 50.42 314 *e*P **P 09 45 26.7 +2.2**
BOD Bodaibo 50.44 32 *e*P **P 09 45 24.0 -0.7**
BOD pmax pmax
comp=Z,15nm,1.1s,mb4.9
CKFL Kef-Lekhel 50.46 299 P **P 09 45 26.0 +1.2**
TNS Taunus Mts 50.58 317 *e*P **P 09 45 26.1 +0.4**
comp=Z,33nm,0.9s,mb5.3
TNS Taunus Mts 50.58 317 *e*P **P 09 45 26.1 +0.4**
TNS pmax pmax
comp=Z,33nm,0.9s,mb5.3
CASM Ain Smara 50.65 299 P **P 09 45 27.0 +0.8**
BBS Basel-Blauen 50.68 313 *e*P **P 09 45 25.8 -0.7**
CTEI Djebel Teioual 50.72 299 P **P 09 45 28.0 +1.2**
LIBD Limburg 50.73 314 *e*P **P 09 45 25.8 -1.1**
LANF Langenberg 50.74 315 *e*P **P 09 45 25.8 -1.2**
MBDF Montbardon 50.83 310 *e*P **P 09 45 27.7 +0.1**
comp=Z,53nm,0.8s,mb5.2
MBDF Montbardon 50.83 310 *e*P **P 09 45 27.7 +0.1**
MBDF pmax pmax
comp=Z,27nm,0.8s,mb5.2
MBDF Montbardon 50.83 310 *e*P **P 09 45 27.7 +0.1**
comp=Z,27nm,0.8s,mb5.2
LMR La Mourre 50.88 308 *e*P **P 09 45 26.9 -1.1**
BNI Bardonecchia 50.93 310 *e*P **P 09 45 27.1 -1.3**
BNI pmax pmax
comp=Z,25nm,0.9s,mb5.1
BNI Bardonecchia 50.93 310 *e*P **P 09 45 27.1 -1.2**
comp=Z,25nm,0.9s,mb5.1
BNI Bardonecchia 50.93 310 *e*P **P 09 45 27.1 -1.3**
comp=Z,25nm,0.9s,mb5.1
LPG La Plagne 50.93 311 *e*P **P 09 45 27.5 -0.9**
comp=Z,37nm,0.8s,mb5.1
LPG La Plagne 50.93 311 *e*P **P 09 45 27.5 -0.9**
LPG pmax pmax
comp=Z,18nm,0.8s,mb5.0
LPG La Plagne 50.93 311 *e*P **P 09 45 27.5 -0.9**
comp=Z,18nm,0.8s,mb5.1
WLS Welschbruch 50.94 315 *e*P **P 09 45 27.3 -1.1**
LPL La Plagne 50.94 311 *e*P **P 09 45 27.5 -1.0**
comp=Z,28nm,0.7s,mb5.0
LPL La Plagne 50.94 311 *e*P **P 09 45 27.5 -1.0**
LPL pmax pmax
comp=Z,14nm,0.7s,mb5.0
LPL La Plagne 50.94 311 *e*P **P 09 45 27.5 -1.0**
comp=Z,14nm,0.7s,mb5.0
CDF Champ du Feu 50.99 315 *e*P **P 09 45 26.9 -1.9**
comp=Z,19nm,0.9s,mb4.7
CDF Champ du Feu 50.99 315 *e*P **P 09 45 26.9 -1.9**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 50.99 315 *e*P **P 09 45 26.9 -1.9**
comp=Z,9.6nm,0.9s,mb4.7
MOF Molkenrain 50.99 314 *e*P **P 09 45 29.1 +0.3**
ECH Echery 51.03 314 *e*P **P 09 45 28.4 -0.8**
LSZ Lusaka 51.04 226 *e*P **P 09 45 31.9 +2.7**
LOMF Lomont 51.12 313 *e*P **P 09 45 29.1 -0.7**
DFRA Djebel Bou Aff 51.14 299 P **P 09 45 31.0 +1.1**
HIA Hailar 51.38 44 *e*P **P 09 45 32.7 +0.9**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA Hailar 51.38 44 *e*P **P 09 45 32.7 +1.0**
comp=Z,14nm,0.8s,mb4.9
HIA Hailar 51.38 44 *e*P **P 09 45 32.7 +0.9**
comp=Z,14nm,0.8s,mb4.9
ORIF Oris-en-Rattie 51.48 310 *e*P **P 09 45 30.3 -2.2**
comp=Z,18nm,0.8s,mb4.7
ORIF *e*R
comp=Z,648nm,22.8s
ORIF Oris-en-Rattie 51.48 310 *e*P **P 09 45 30.3 -2.2**
ORIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 51.48 310 *e*P **P 09 45 30.3 -2.2**
comp=Z,8.9nm,0.8s,mb4.7
CABF La Chapelle 51.52 312 *e*P **P 09 45 31.7 -1.1**
comp=Z,85nm,0.9s,mb5.4
CABF La Chapelle 51.52 312 *e*P **P 09 45 31.7 -1.1**
CABF pmax pmax
comp=Z,43nm,0.9s,mb5.4
CABF La Chapelle 51.52 312 *e*P **P 09 45 31.7 -1.1**
comp=Z,42nm,0.9s,mb5.4
SET Setif 51.53 299 P **P 09 45 34.0 +1.1**
HAU Haudompre 51.54 314 *e*P **P 09 45 30.9 -2.0**
comp=Z,17nm,0.7s,mb4.8
HAU *e*R
comp=Z,466nm,20.8s
HAU Haudompre 51.54 314 *e*P **P 09 45 30.9 -2.0**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,470nm,20.8s,MS4.5
HAU Haudompre 51.54 314 *e*P **P 09 45 30.9 -2.0**
comp=Z,8.3nm,0.7s,mb4.8
HAU LR LR
comp=Z,470nm,20.8s,MS4.5
BUG Bochum--Univer 51.56 318 *e*P **P 09 45 33.3 +0.2**
comp=Z,66nm,1.4s,mb5.4
SMRF Simiane la Rot 51.61 309 *e*P **P 09 45 32.1 -1.4**
comp=Z,61nm,1.3s,mb5.1
SMRF Simiane la Rot 51.61 309 *e*P **P 09 45 32.1 -1.4**
comp=Z,31nm,1.3s,mb5.1
WLF Walferdange 51.93 316 *e*P **P 09 45 36.2 +0.4**
comp=Z,28nm,0.7s,mb5.3
WLF Walferdange 51.93 316 P **P 09 45 36.3 +0.5**
ARCES ARCESS Array B 52.02 344 P **P 09 45 35.9 -0.7**
comp=Z,29nm,0.7s,mb5.3,baz=144,slow=8.3,SNR=57
ARCES LR LR 10 11 35.9
comp=Z,2µm,19.0s,MS5.2,baz=125,slow=40
ARE0 ARCESS Array S 52.02 344 *e*P **P 09 45 36.7 +0.2**
ARE0 ARCESS Array S 52.02 344 *e*P **P 09 45 36.7 +0.1**
MEM Membach 52.18 317 P **P 09 45 38.2 +0.5**
comp=Z,14nm,0.9s,mb4.9
VIVF Saint-Julien-l 52.33 310 *e*P **P 09 45 37.1 -1.7**
comp=Z,18nm,0.8s,mb4.8
VIVF Saint-Julien-l 52.33 310 *e*P **P 09 45 37.1 -1.7**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 52.33 310 *e*P **P 09 45 37.1 -1.7**
comp=Z,8.9nm,0.8s,mb4.8

NB2 NORSAR Subarra 52.35 331 P **P** 09 45 38.1 -0.9
comp=Z,63nm,0.8s,mb5.6,baz=110,slow=7.9
NOA NORSAR Array B 52.35 331 P **P** 09 45 38.1 -0.8
comp=Z,49nm,0.8s,mb5.5,baz=111,slow=7.5,SNR=94
NOA LR LR 10 10 55.9
comp=Z,651nm,21.4s,MS4.6,baz=95,slow=40
NAO01 NORSAR Array S 52.42 331 *e*P **P** 09 45 39.4 -0.1
comp=Z,34nm,0.9s,mb5.3
NAO01 NORSAR Array S 52.42 331 *e*P **P** 09 45 39.4 -0.1
comp=Z,34nm,0.9s,mb5.3
MEZF Maizieres J'vi 52.47 314 *e*P **P** 09 45 38.6 -1.2
KONO Kongsberg 52.58 329 *e*P **P** 09 45 40.0 -0.7
KONO pmax pmax
comp=Z,41nm,1.0s,mb5.3
KONO Kongsberg 52.58 329 *e*P **P** 09 45 40.0 -0.7
comp=Z,40nm,1.0s,mb5.3
KONO Kongsberg 52.58 329 *e*P **P** 09 45 40.0 -0.7
comp=Z,40nm,1.0s,mb5.3
BCLA Clavier 52.59 317 P **P** 09 45 41.1 +0.4
comp=Z,12nm,0.9s,mb4.8
BCLA Clavier 52.59 317 P **P** 09 45 41.1 +0.3
comp=Z,12nm,0.9s,mb4.8
GIVF Givet 52.84 316 *e*P **P** 09 45 42.2 -0.5
comp=Z,85nm,1.0s,mb5.3
GIVF Givet 52.84 316 *e*P **P** 09 45 42.2 -0.5
GIVF pmax pmax
comp=Z,43nm,1.0s,mb5.3
GIVF Givet 52.84 316 *e*P **P** 09 45 42.2 -0.5
comp=Z,43nm,1.0s,mb5.3
LASF Ste Croix 52.85 309 *e*P **P** 09 45 41.4 -1.3
comp=Z,42nm,0.9s,mb5.1
LASF Ste Croix 52.85 309 *e*P **P** 09 45 41.4 -1.3
comp=Z,21nm,0.9s,mb5.1
DOU Dourbes 52.99 316 P **P** 09 45 43.3 -0.4
SMF Signal de Mont 53.06 312 *e*P **P** 09 45 42.7 -1.6
comp=Z,67nm,0.9s,mb5.2
SMF Signal de Mont 53.06 312 *e*P **P** 09 45 42.7 -1.6
SMF pmax pmax
comp=Z,34nm,0.9s,mb5.3
SMF Signal de Mont 53.06 312 *e*P **P** 09 45 42.7 -1.6
comp=Z,34nm,0.9s,mb5.2
LOR Lormes 53.11 313 *e*P **P** 09 45 42.8 -1.8
comp=Z,41nm,1.2s,mb4.9
LOR *e*R
comp=Z,484nm,21.2s
LOR Lormes 53.11 313 *e*P **P** 09 45 42.8 -1.8
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.9
LOR MLR MLR
comp=Z,480nm,21.3s,MS4.5
LOR Lormes 53.11 313 *e*P **P** 09 45 42.8 -1.8
comp=Z,21nm,1.2s,mb4.9
LOR LR LR
comp=Z,480nm,21.3s,MS4.5
BAIF Baives 53.23 316 *e*P **P** 09 45 43.4 -2.1
SSF Saint Saulge 53.33 313 *e*P **P** 09 45 44.7 -1.6
comp=Z,32nm,0.9s,mb4.9
SSF Saint Saulge 53.33 313 *e*P **P** 09 45 44.7 -1.6
SSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SSF Saint Saulge 53.33 313 *e*P **P** 09 45 44.7 -1.6
comp=Z,16nm,0.9s,mb4.9
LBL Lubilhac 53.36 310 *e*P **P** 09 45 47.0 +0.5
AVF Avril sur Loir 53.41 312 *e*P **P** 09 45 44.9 -1.9
comp=Z,16nm,0.7s,mb4.7
AVF Avril sur Loir 53.41 312 *e*P **P** 09 45 44.9 -1.9
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AVF Avril sur Loir 53.41 312 *e*P **P** 09 45 44.9 -1.9
comp=Z,8.1nm,0.7s,mb4.8
AGO Saint Agoulin 53.50 311 *e*P **P** 09 45 46.4 -1.1
PYM Petit Puy Mans 53.57 311 *e*P **P** 09 45 47.0 -1.0
BGF Bois d'Agland 53.74 312 *e*P **P** 09 45 47.7 -1.5
comp=Z,39nm,0.9s,mb5.0
BGF Bois d'Agland 53.74 312 *e*P **P** 09 45 47.7 -1.5
BGF pmax pmax
comp=Z,19nm,0.9s,mb5.0
BGF Bois d'Agland 53.74 312 *e*P **P** 09 45 47.7 -1.5
comp=Z,19nm,0.9s,mb5.0
HYF Humbligny 53.94 313 *e*P **P** 09 45 49.6 -1.1
MTLF Montolieu 54.01 308 *e*P **P** 09 45 50.2 -1.0
comp=Z,26nm,1.0s,mb4.8
MTLF Montolieu 54.01 308 *e*P **P** 09 45 50.2 -1.0
MTLF pmax pmax
comp=Z,13nm,1.0s,mb4.8
MTLF Montolieu 54.01 308 *e*P **P** 09 45 50.2 -1.0
comp=Z,13nm,1.0s,mb4.8
TCF Toulx Ste Croi 54.16 311 *e*P **P** 09 45 51.7 -0.6
comp=Z,35nm,0.9s,mb5.0
TCF Toulx Ste Croi 54.16 311 *e*P **P** 09 45 51.7 -0.6
TCF pmax pmax
comp=Z,17nm,0.9s,mb5.0
TCF Toulx Ste Croi 54.16 311 *e*P **P** 09 45 51.7 -0.6
comp=Z,17nm,0.9s,mb5.0
CAF Calviac 54.18 310 *e*P **P** 09 45 51.3 -1.2
RJF Les Rejaudoux 54.59 310 *e*P **P** 09 45 54.5 -0.9
comp=Z,90nm,1.0s,mb5.4
RJF *e*R
comp=Z,639nm,22.5s
RJF Les Rejaudoux 54.59 310 *e*P **P** 09 45 54.5 -0.9
RJF pmax pmax
comp=Z,45nm,1.0s,mb5.5
RJF MLR MLR
comp=Z,640nm,22.5s,MS4.6
RJF Les Rejaudoux 54.59 310 *e*P **P** 09 45 54.5 -0.9
comp=Z,45nm,1.0s,mb5.5
RJF LR LR
comp=Z,640nm,22.5s,MS4.6
CN2 Changchun 54.76 52 *e*P **P** 09 45 57.0 +0.3
CN2 *e*S **S** 09 53 35.3 -1.4
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,16.0s,MS5.0
CN2 LR LR
comp=E,600nm,16.0s,MS5.0
CN2 LR LR
comp=Z,1μm,16.0s,MS5.0
LFF La Frestale 55.12 310 *e*P **P** 09 45 58.3 -1.0
comp=Z,76nm,1.0s,mb5.4
LFF La Frestale 55.12 310 *e*P **P** 09 45 58.3 -1.0
LFF pmax pmax
comp=Z,38nm,1.0s,mb5.4
LFF La Frestale 55.12 310 *e*P **P** 09 45 58.3 -1.0
comp=Z,38nm,1.0s,mb5.4
MFF Saint Martin d 55.80 312 *e*P **P** 09 46 02.7 -1.5
CLNS Chul'man 55.82 36 *e*P **P** 09 46 02.6 -1.7
CLNS pmax pmax
comp=Z,20nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS MLR MLR
comp=Z,800nm,17.0s,MS4.9
CLNS MLR MLR
comp=N,200nm,13.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.2
LDF La Druitiere 55.89 314 *e*P **P** 09 46 03.0 -1.8
comp=E,38nm,0.9s,mb5.1
LDF La Druitiere 55.89 314 *e*P **P** 09 46 03.0 -1.8
LDF pmax pmax
comp=Z,19nm,0.9s,mb5.1
LDF La Druitiere 55.89 314 *e*P **P** 09 46 03.0 -1.8
comp=Z,19nm,0.9s,mb5.1
ETSF Etsaut 56.03 307 *e*P **P** 09 46 05.8 0.0
comp=Z,40nm,0.9s,mb5.2
ETSF Etsaut 56.03 307 *e*P **P** 09 46 05.8 0.0
ETSF pmax pmax
comp=Z,20nm,0.9s,mb5.2
ETSF Etsaut 56.03 307 *e*P **P** 09 46 05.8 0.0
comp=Z,20nm,0.9s,mb5.2
FLN La Foliniere 56.14 314 *e*P **P** 09 46 05.5 -1.1
comp=Z,40nm,0.8s,mb5.2
FLN *e*R
comp=Z,433nm,17.0s
FLN La Foliniere 56.14 314 *e*P **P** 09 46 05.5 -1.1
FLN pmax pmax
comp=Z,20nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,430nm,17.0s,MS4.6
FLN La Foliniere 56.14 314 *e*P **P** 09 46 05.5 -1.1
comp=Z,20nm,0.8s,mb5.2
FLN LR LR
comp=Z,430nm,17.0s,MS4.6
GRR Gorron 56.37 314 *e*P **P** 09 46 07.7 -0.5
SJPF Ste Jean 56.52 308 *e*P **P** 09 46 09.2 -0.1
comp=Z,59nm,1.2s,mb5.2
SJPF Ste Jean 56.52 308 *e*P **P** 09 46 09.2 -0.1
SJPF pmax pmax
comp=Z,29nm,1.2s,mb5.2
SJPF Ste Jean 56.52 308 *e*P **P** 09 46 09.2 -0.1
comp=Z,29nm,1.2s,mb5.2
KS15 Wonju Array Si 56.79 59 *e*P **P** 09 46 11.2 0.0
KS15 Wonju Array Si 56.79 59 *e*P **P** 09 46 11.2 0.0
KSRS Korea Array 56.82 59 P **P** 09 46 10.8 -0.7
comp=Z,16nm,0.8s,mb5.1,baz=267,slow=7.0,SNR=59
KSRS PcP PcP 09 47 06.4 -0.7
comp=Z,5.5nm,0.9s,baz=282,slow=3.5,SNR=5.8
KSRS LR LR 10 14 27.0
comp=Z,446nm,18.1s,MS4.6,baz=270,slow=40
SGMF Saint Gilles 57.50 314 *e*P **P** 09 46 15.5 -0.7
QUIF Quistinic 57.90 313 *e*P **P** 09 46 17.7 -1.4
ROSF Rostrenen 57.98 314 *e*P **P** 09 46 17.8 -1.8
ESDC Sonseca Array 58.74 304 P **P** 09 46 24.6 -0.3
comp=Z,6.5nm,0.7s,mb4.8,baz=68,slow=7.0,SNR=20
ESDC PcP PcP 09 47 15.6 +1.0
comp=Z,2.7nm,0.7s,baz=85,slow=4.9,SNR=5.3
TOA0 Torodi Ar. Sit 59.05 272 *e*P **P** 09 46 27.1 0.0
TOA0 Torodi Ar. Sit 59.05 272 *e*P **P** 09 46 27.1 0.0
TORD Torodi Ar. Bea 59.05 272 P **P** 09 46 27.1 0.0
comp=Z,48nm,0.9s,mb5.5,baz=63,slow=6.1,SNR=178
TORD LR LR 10 13 06.5
comp=Z,399nm,18.2s,MS4.6,baz=75,slow=37
YAK Yakutsk 59.17 30 *e*P **P** 09 46 27.2 -0.7
YAK pmax pmax
comp=Z,74nm,1.0s,mb5.7
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,19nm,1.1s
YAK Yakutsk 59.17 30 *e*P **P** 09 46 26.9 -1.0
YAK Yakutsk 59.17 30 *e*P **P** 09 46 26.9 -1.0
KLR Kul'dur 59.21 45 *e*P **P** 09 46 23.8 -4.4
SPB4 Spitsbergen Ar 59.68 350 *e*P **P** 09 46 32.2 +0.8
SPB4 Spitsbergen Ar 59.68 350 *e*P **P** 09 46 32.2 +0.8
JNU Nakatsue 59.72 64 LR LR 10 15 07.2
comp=E,1μm,18.6s,MS5.0,baz=322,slow=39
LBTB Lobatse 59.88 220 *e*P **P** 09 46 33.9 +1.1
LBTB pmax pmax
comp=Z,19nm,0.7s,mb5.2
LBTB Lobatse 59.88 220 *e*P **P** 09 46 33.9 +1.0
comp=Z,19nm,0.7s,mb5.2
LBTB Lobatse 59.88 220 *e*P **P** 09 46 33.9 +1.1
comp=Z,19nm,0.7s,mb5.2
DLF Lyons Farm 60.17 319 *e*P **P** 09 46 34.7 -0.1
DCN Croghan 60.62 320 *e*P **P** 09 46 37.0 -0.9
PBRG Braganca 60.66 306 *e*P **P** 09 46 37.8 -0.4
KBS Kingsbay 60.83 350 *e*P **P** 09 46 39.4 +0.1
TSUM Tsumeb 61.05 231 *e*P **P** 09 46 42.6 +1.8
TSUM Tsumeb 61.05 231 *e*P **P** 09 46 42.6 +1.8
PCBR Castelo Branco 61.42 304 *e*P **P** 09 46 43.3 0.0
comp=Z,44nm,1.3s,mb5.4
PVIS Viseu 61.64 305 *e*P **P** 09 46 45.7 +0.9
PBEJ Beja 61.95 302 *e*P **P** 09 46 46.8 -0.1
EVO Evora 61.99 303 *e*P **P** 09 46 47.4 +0.2
comp=Z,84nm,1.2s,mb5.5
BOSA Boshof 62.82 218 P **P** 09 46 53.1 +0.4
comp=Z,9.9nm,0.9s,mb5.0,baz=40,slow=7.7,SNR=16
MJAR Matsushiro Arr 65.10 59 P **P** 09 47 07.2 -0.5
comp=Z,1.5nm,0.7s,mb4.1,baz=266,slow=5.0,SNR=4.2
MJAR LR LR 10 19 57.2
comp=Z,158nm,18.7s,MS4.2,baz=85,slow=40
DAG Danmarks Havn 66.26 346 *i*P **P** 09 47 14.7 -0.5
comp=Z,34nm,0.8s,mb5.4
DAG Danmarks Havn 66.26 346 *i*P **P** 09 47 14.7 -0.5
DAG pmax pmax
comp=Z,34nm,0.8s,mb5.4
YSS Yuzh-Sakhalins 66.72 47 *e*P **P** 09 47 17.5 -0.7
YSS *e* 09 47 33.5
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 66.72 47 *e*P **P** 09 47 17.7 -0.5
LIC Lamto 67.66 267 *e*P **P** 09 47 23.8 -0.3
comp=Z,34nm,0.8s,mb5.1
LIC *e*R
comp=Z,2μm,17.2s
LIC Lamto 67.66 267 *e*P **P** 09 47 23.8 -0.3
comp=Z,17nm,0.8s,mb5.1
LIC LR LR
comp=Z,810nm,17.2s,MS5.0
LIC Lamto 67.66 267 *e*P **P** 09 47 23.8 -0.3
comp=Z,17nm,0.8s,mb5.1
SEY Seymchan 69.66 29 *e*P **P** 09 47 37.1 +0.5
SUMG Summit 72.03 342 *e*P **P** 09 47 51.1 +0.1
comp=Z,34nm,0.9s,mb5.3
SUMG Summit 72.03 342 *e*P **P** 09 47 51.1 +0.1
comp=Z,34nm,0.9s,mb5.3
FITZ Fitzroy Crossi 73.16 118 *e*P **P** 09 47 54.3 -3.4
comp=Z,13nm,1.0s,mb4.8
FITZ Fitzroy Crossi 73.16 118 P **P** 09 47 57.5 -0.2
comp=Z,6.8nm,0.9s,mb4.6,baz=265,slow=7.9,SNR=5.2
BILL Bilibino 73.91 22 *e*P **P** 09 48 01.4 -0.7
BILL Bilibino 73.91 22 *e*P **P** 09 48 01.5 -0.6
NWAO Narrogin (SRO) 75.51 135 P **P** 09 48 10.6 -0.8
comp=Z,6.8nm,0.8s,mb4.6,baz=306,slow=5.3,SNR=3.8
NWAO Narrogin (SRO) 75.51 135 P **P** 09 48 10.6 -0.8
KAKA Kakadu 76.26 110 *e*P **P** 09 48 15.2 -0.5
comp=Z,20nm,0.6s,mb5.2
WRA Warramunga Arr 81.22 116 P **P** 09 48 41.9 -1.0
comp=Z,6.7nm,0.8s,mb4.6,baz=309,slow=4.7,SNR=31
WRA PKKPbc PKKPbc 10 07 19.9 +1.7
comp=Z,0.2nm,0.6s,baz=116,slow=1.4,SNR=6.7
WRA LR LR 10 24 25.5
comp=Z,178nm,18.9s,MS4.5,baz=260,slow=36
WB2 Warramunga Arr 81.23 116 *e*P **P** 09 48 42.1 -0.9
RES Resolute Bay 81.87 354 *e*P **P** 09 48 45.8 -0.6
ASAR Alice Springs 82.61 119 P **P** 09 48 49.4 -0.9
comp=Z,2.9nm,0.8s,mb4.4,baz=298,slow=5.0,SNR=13
ASAR LR LR 10 30 55.3
comp=Z,286nm,18.2s,MS4.7,baz=314,slow=40
INK Inuvik 88.45 6 P **P** 09 49 18.9 -0.4
comp=Z,20nm,1.0s,mb5.3,baz=4.7,slow=6.9,SNR=32
MAW Mawson 90.00 180 LR LR 10 22 22.3
comp=Z,459nm,20.0s,MS4.9,baz=60,slow=31
MCK McKinley 90.25 14 *e*P **P** 09 49 26.8 -1.0
MCK pmax pmax
comp=Z,19nm,1.3s,mb5.3
MCK McKinley 90.25 14 *e*P **P** 09 49 26.8 -1.0
comp=Z,19nm,1.3s,mb5.3
MCK McKinley 90.25 14 *e*P **P** 09 49 26.8 -1.0
comp=Z,19nm,1.3s,mb5.3
CTA Charters Tower 91.38 111 LR LR 10 35 26.0
comp=Z,333nm,18.1s,MS4.8,baz=133,slow=39
DAWY Dawson 91.75 10 *e*P **P** 09 49 34.8 0.0
DAWY Dawson 91.75 10 *e*P **P** 09 49 34.8 +0.1
SCHQ Schefferville 91.84 334 P **P** 09 49 34.7 -0.4
comp=Z,5.9nm,1.0s,mb4.9,baz=62,slow=9.9,SNR=4.7
SCHQ LR LR 10 36 08.8
comp=Z,216nm,18.8s,MS4.6,baz=237,slow=39
SCHQ Schefferville 91.84 334 P **P** 09 49 34.7 -0.4
SCHQ LR LR 10 36 08.8
STKA Stephens Creek 92.39 124 LR LR 10 29 05.6
comp=Z,988nm,19.7s,MS5.3,baz=109,slow=34
SYO Syowa Base 93.02 188 *e*P **P** 09 49 41.0 +0.4
YKA Yellowknife Ar 95.12 359 P **P** 09 49 50.0 -0.2
comp=Z,9.6nm,0.8s,mb5.3,baz=352,slow=4.4,SNR=11
YKA LR LR 10 38 23.0
comp=Z,606nm,19.3s,MS5.1,baz=195,slow=39
YKA Yellowknife Ar 95.12 359 P **P** 09 49 50.0 -0.3
YKA LR LR 10 38 23.0
NEW Newport 109.40 0 PP PP 09 55 27.6 +0.5
comp=Z,10nm,0.9s,baz=352,slow=6.0,SNR=13
VNDA Vanda 113.82 166 PKKPbc PKKPbc 10 05 48.9 +1.0
comp=Z,1.5nm,0.9s,baz=60,slow=2.9,SNR=7.2
PDAR Pinedale Array 114.56 354 PKP PKiKP 09 55 07.4 +0.2
comp=Z,0.7nm,0.7s,baz=25,slow=1.0,SNR=4.5
PDAR PP PP 09 56 03.0 -1.1
comp=Z,1.3nm,1.0s,baz=25,slow=3.9,SNR=4.1
JCT Junction City 124.73 342 *e*PKiKP PKPdf 09 55 28.2 +1.5
MNTX Cornudas Mount 124.87 348 *e*PKPdf PKPdf 09 55 27.9 +0.9
TXAR Lajitas Array 126.80 346 PKP PKPdf 09 55 31.6 +0.9
comp=Z,6.2nm,1.0s,baz=155,slow=0.5,SNR=22
ROSC El Rosal 130.39 298 PKP PKPdf 09 55 40.1 +2.6
comp=Z,3.3nm,0.5s,baz=106,slow=23,SNR=4.1
TGUH Tegucigalpa,Un 133.50 319 *e*PKPdf PKPdf 09 55 45.3 +1.8
LPAZ La Paz 133.95 269 PKP PKPdf 09 55 46.5 +2.3
comp=Z,1.8nm,0.7s,baz=233,slow=6.9,SNR=4.9
CFAA Coronel Fontan 136.27 247 PKP PKPdf 09 55 49.9 +1.3
comp=Z,0.5nm,0.6s,baz=290,slow=2.1,SNR=7.6
OTAV Otavalo 136.39 296 *e*PKPdf PKPdf 09 55 51.6 +2.8
PPT Papeete 148.74 87 *e*LR LR 10 45 55.0
comp=Z,324nm,26.2s
TBI Tubuai 149.85 98 *e*LR LR 10 46 26.0
comp=Z,270nm,35.0s
RKT Rikitea 163.14 95 *e*LR LR 10 52 35.3
comp=Z,280nm,25.0s

IDC 16 09:39:22.5±4.3, 4728N×15498E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/36, Error ellipse: s-maj=112.0km s-min=45.2km az=17.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.52**	**33**	P	P	09 47 02.6	-0.5
	0.5nm,0.4s,baz=296,slow=5.5,SNR=6.2						
YBH	**Yreka Blue Hor**	**56.37**	**63**	LR	LR	10 10 27.9	
	comp=Z,90nm,18.5s,baz=357,slow=33						
PDAR	**Pinedale Array**	**63.40**	**55**	P	P	09 49 53.8	0.0
	0.3nm,0.8s,baz=296,slow=2.9,SNR=2.6						
FINES	**FINESS Array B**	**64.10**	**335**	P	P	09 49 57.8	-0.6
	1.1nm,0.4s,baz=42,slow=8.3,SNR=6.1						
TXAR	**Lajitas Array**	**76.12**	**62**	P	P	09 51 12.3	+0.2
	0.6nm,0.5s,baz=305,slow=5.0,SNR=10						

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*IDC **16** 09:42:10.4±0.8, 4632N×15437E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/24, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=25.3km s-min=22.7km az=126.0*
*ISCJB **16** 09:42:13.8±0.8, 463N±0.1×1542E±0.2, h35km, mb4.0/8, Error ellipse: s-maj=21.5km s-min=15.5km az=130.0*
*MOS **16** 09:42:13.7±1.3, 4633N×15407E, h33km, mb4.3/7, Error ellipse: s-maj=28.2km s-min=24.7km az=153.7*
ISC 16 09:42:15.8±0.8, 464N±0.1×1543E±0.2, h35km, n18, σ0s54/18, mb4.0/8, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.63**	**258**	*i* PN	Pn	09 43 18.9	-4.3
KUR				pmax	pmax		
	comp=N,50nm,0.6s						
KUR				pmax	pmax		
	comp=Z,180nm,0.6s						
ASAJ	**Asahikawa**	**8.55**	**259**	Pn	Pn	09 44 17.8	+0.7
	comp=Z,2.1nm,0.3s,baz=115,slow=15,SNR=12						
ASAJ	**Asahikawa**	**8.55**	**259**	PN	Pn	09 44 17.8	+0.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**47.84**	**298**	P	P	09 50 49.1	-0.9
	comp=Z,0.7nm,0.6s,mb3.9,baz=66,slow=6.2,SNR=5.9						
MKAR	**Makanchi Array**	**47.84**	**298**	P	P	09 50 49.1	-0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.48**	**341**	P	P	09 52 08.2	0.0
	comp=Z,4.5nm,0.9s,mb4.5,baz=23,slow=6.9,SNR=6.0						
ARCES	**ARCESS Array B**	**58.48**	**341**	P	P	09 52 08.3	0.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.59**	**313**	P	P	09 52 16.2	+0.2
	comp=Z,1.0nm,0.5s,mb4.1,baz=72,slow=12,SNR=3.9						
AKTO	**Aktyubinsk**	**59.59**	**313**	P	P	09 52 16.2	+0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**64.32**	**54**	P	P	09 52 48.0	+0.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=3.4,SNR=4.4						
FINES	**FINESS Array B**	**64.73**	**335**	P	P	09 52 50.5	0.0
	comp=Z,0.7nm,0.4s,mb4.0,baz=37,slow=7.6,SNR=6.6						
FINES	**FINESS Array B**	**64.73**	**335**	P	P	09 52 50.5	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.42**	**200**	P	P	09 53 13.5	-0.5
	comp=Z,1.0nm,0.7s,mb3.9,baz=19,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**68.42**	**200**	P	P	09 53 13.5	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.11**	**200**	P	P	09 53 36.6	+0.1
	comp=Z,1.2nm,0.8s,mb3.9,baz=14,slow=6.1,SNR=7.9						
ASAR	**Alice Springs**	**72.11**	**200**	P	P	09 53 36.7	+0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.97**	**61**	P	P	09 54 04.9	+0.1
	comp=Z,1.3nm,0.5s,mb4.1,baz=303,slow=4.7,SNR=28						
TXAR	**Lajitas Array**	**76.97**	**61**	P	P	09 54 04.9	+0.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*ISCJB **16** 09:43:56.5±0.6, 468N±0.1×1549E±0.1, h10km, mb4.1/20, Error ellipse: s-maj=16.1km s-min=10.4km az=123.0*
*IDC **16** 09:43:56.7±0.7, 4676N×15494E, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, ML3.9/2, Error ellipse: s-maj=20.6km s-min=15.8km az=163.0*
*MOS **16** 09:44:00.3±1.3, 4677N×15463E, h33km, mb4.4/13, Error ellipse: s-maj=17.0km s-min=15.4km az=113.3*
*NEIC **16** 09:44:03.1±1.8, 47.16N×15399E, h10km, mb4.8/2, Error ellipse: s-maj=40.5km s-min=13.3km az=122.0*
ISC 16 09:44:01.2±6.6, 468N±0.1×1549E±0.2, h29km±47km, n42, σ1s07/42, mb4.1/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.11**	**255**	*e* PN	Pn	09 45 12.0	-3.8
KUR				pmax	pmax		
	comp=N,40nm,0.5s						
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
ASAJ	**Asahikawa**	**9.02**	**257**	Pn	Pn	09 46 09.9	+0.5
	comp=Z,1.7nm,0.3s,baz=64,slow=13,SNR=5.5						
ASAJ	**Asahikawa**	**9.02**	**257**	PN	Pn	09 46 10.0	+0.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.09**	**236**	Pn	Pn	09 47 45.4	+0.2
	comp=Z,0.3nm,0.3s,baz=36,slow=10.0,SNR=6.0						
KSRS	**Korea Array**	**21.96**	**255**	P	P	09 48 54.4	+1.8
	comp=Z,2.2nm,0.7s,mb3.7,baz=53,slow=11,SNR=8.1						
SONM	**Songino Array**	**32.44**	**290**	P	P	09 50 27.4	-1.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=81,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**32.44**	**290**	P	P	09 50 27.4	-1.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**33.73**	**295**	*e*P	P	09 50 34.2	-5.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
ZAL	**Zalesovo**	**43.56**	**306**	P	P	09 52 01.2	-1.2
	comp=Z,2.0nm,0.4s,mb4.2,baz=59,slow=7.2,SNR=4.2						
ZAL	**Zalesovo**	**43.56**	**306**	P	P	09 52 01.2	-1.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**47.97**	**298**	P	P	09 52 36.4	-0.8
	comp=Z,1.1nm,0.5s,mb4.1,baz=67,slow=7.4,SNR=7.1						
MKAR	**Makanchi Array**	**47.97**	**298**	P	P	09 52 36.4	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P	P	09 53 01.7	-0.9
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P	P	09 53 01.7	-1.0
	comp=Z,3.9nm,0.4s,mb4.7						
BVAR	**Borovoye Array**	**51.74**	**310**	P	P	09 53 05.6	-0.3
	comp=Z,2.3nm,0.4s,mb4.5,baz=63,slow=6.8,SNR=7.8						
BVAR	**Borovoye Array**	**51.74**	**310**	P	P	09 53 05.6	-0.3
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARU	**Arti**	**55.77**	**318**	*e*P	P	09 53 34.8	-0.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
ARU	**Arti**	**55.77**	**318**	*e*P	P	09 53 34.8	-0.5
	comp=Z,7.2nm,0.5s,mb5.0						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	P	09 53 52.1	-0.4
	comp=Z,5.4nm,0.9s,mb4.6,baz=32,slow=6.8,SNR=7.3						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	P	09 53 52.1	-0.4
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.57**	**313**	P	P	09 54 01.8	-0.3
AKTO	**Aktyubinsk**	**59.57**	**313**	P	P	09 54 01.8	-0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=66,slow=11,SNR=5.5						
AKTO	**Aktyubinsk**	**59.57**	**313**	P	P	09 54 01.8	-0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**61.35**	**63**	P	P	09 54 14.5	+0.3
	comp=Z,0.6nm,0.7s,mb3.9,baz=296,slow=6.9,SNR=4.4						
PDAR	**Pinedale Array**	**63.74**	**55**	P	P	09 54 30.4	+0.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=280,slow=1.3,SNR=8.8						

FINES	**FINES Array B**	**64.49**	**335**	P	**P**	**09 54 35.2**	**+0.1**
	comp=Z,3.0nm,0.5s,mb4.6,baz=38,slow=8.3,SNR=14						
FINES	**FINES Array B**	**64.49**	**335**	P	**P**	**09 54 35.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULM	**Lac du Bonnet**	**65.69**	**42**	P	**P**	**09 54 41.7**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=327,slow=5.9,SNR=4.4						
ULM	**Lac du Bonnet**	**65.69**	**42**	P	**P**	**09 54 41.7**	**-1.2**
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**09 55 01.9**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=29,slow=6.6,SNR=2.9						
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**09 55 01.9**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.97**	**201**	P	**P**	**09 55 02.6**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=19,slow=6.9,SNR=3.8						
WRA	**Warramunga Arr**	**68.97**	**201**	P	**P**	**09 55 02.6**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.66**	**200**	P	**P**	**09 55 25.9**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=14,slow=5.2,SNR=11						
ASAR	**Alice Springs**	**72.66**	**200**	P	**P**	**09 55 26.0**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.42**	**62**	P	**P**	**09 55 47.9**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=302,slow=3.9,SNR=8.6						
TXAR	**Lajitas Array**	**76.42**	**62**	P	**P**	**09 55 47.9**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**76.90**	**337**	*e*P	**P**	**09 55 53.0**	**+2.4**
GERES	**GERESS Array B**	**78.92**	**335**	P	**P**	**09 56 04.0**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=23,slow=5.5,SNR=3.5						
GERES	**GERESS Array B**	**78.92**	**335**	P	**P**	**09 56 04.0**	**+2.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**79.16**	**318**	P	**P**	**09 56 05.4**	**+2.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=88,slow=4.2,SNR=4.3						
BRTR	**Keskin Array B**	**79.16**	**318**	P	**P**	**09 56 05.4**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC ***16*** *09:47:09.6±1.2, 4624N×1546 0E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/31, Error ellipse: s-maj=43.9km s-min=28.8km az=144.0*

ISCJB ***16*** *09:47:12.6±0.9, 462N±02×1544E±02, h33km, mb3.8/4, Error ellipse: s-maj=35.2km s-min=16.6km az=137.5*

MOS ***16*** *09:47:12.5±1.7, 4623N×1542 8E, h33km, mb4.4/2, Error ellipse: s-maj=70.7km s-min=38.5km az=158.0*

ISC 16 09:47:16.5±4.7, 463N±02×1544E±04, h51km±45km, n9, σ0§08/9, mb3.8/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.68**	**259**	*e*PN	**Pn**	**09 48 19.4**	**-5.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**8.61**	**260**	Pn	**Pn**	**09 49 18.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=89,slow=14,SNR=3.5						
ASAJ				LR	LR	09 52 19.5	
	comp=Z,97nm,18.8s,baz=277,slow=36						
ASAJ	**Asahikawa**	**8.61**	**260**	PN	**Pn**	**09 49 18.4**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,97nm,18.8s						
PDAR	**Pinedale Array**	**64.31**	**54**	P	**P**	**09 57 46.7**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=270,slow=4.5,SNR=3.2						
FINES	**FINESS Array B**	**64.83**	**335**	P	**P**	**09 57 50.1**	**0.0**
	comp=Z,2.1nm,1.0s,mb4.1,baz=57,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**64.83**	**335**	P	**P**	**09 57 50.1**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**68.37**	**200**	P	**P**	**09 58 12.6**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.3,baz=17,slow=6.7,SNR=4.6						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**09 59 03.5**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=300,slow=4.2,SNR=8.0						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**09 59 03.5**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***16*** *09:49:07.8±1.0, 4689N×155.18E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/25, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=30.7km s-min=21.4km az=144.0*

NEIC ***16*** *09:49:09.3±1.0, 4701N×155.07E, h10km, mb3.8/1, Error ellipse: s-maj=29.5km s-min=14.9km az=133.0*

ISCJB ***16*** *09:49:13.7±5.7, 469N±02×1550E±03, h57km±54km, mb3.9/7, Error ellipse: s-maj=34.7km s-min=28.0km az=87.6*

ISC 16 09:49:14.3±4.8, 469N±02×1551E±03, h48km±47km, n10, σ0§80/10, mb3.9/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.27**	**236**	Pn	**Pn**	**09 52 59.8**	**+0.3**
	0.1nm,0.3s,baz=38,slow=9.6,SNR=4.3						
MAJO	**Matsushiro**	**16.28**	**236**	*e*P	**Pn**	**09 52 58.5**	**-1.0**
	6.5nm,0.8s						
KSRS	**Korea Array**	**22.13**	**255**	P	**P**	**09 54 07.6**	**+1.9**
	1.5nm,0.8s,mb3.5,baz=57,slow=10,SNR=5.0						
INK	**Inuvik**	**40.78**	**33**	P	**P**	**09 56 50.7**	**-0.1**
	1.0nm,0.5s,mb3.7,baz=285,slow=5.8,SNR=8.2						
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**09 57 48.0**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=63,slow=6.1,SNR=3.9						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**09 58 16.5**	**-0.6**
	1.4nm,0.5s,mb4.1,baz=51,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**64.44**	**336**	P	**P**	**09 59 46.2**	**+0.6**
	0.9nm,0.4s,mb4.2,baz=38,slow=7.9,SNR=8.2						
ASAR	**Alice Springs**	**72.82**	**200**	P	**P**	**10 00 37.5**	**-0.4**
	1.0nm,0.8s,mb3.8,baz=11,slow=5.3,SNR=8.9						
TXAR	**Lajitas Array**	**76.23**	**62**	P	**P**	**10 00 58.0**	**+0.3**
	1.6nm,0.7s,mb4.1,baz=300,slow=4.1,SNR=13						
TXAR	**Lajitas Array**	**76.23**	**62**	P	**P**	**10 00 58.0**	**+0.3**

IDC ***16*** *09:54:19.5±1.0, 1979S×1746 0W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.2/17, mbtmp4.2/9, ML4.8/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/31, Error ellipse: s-maj=33.4km s-min=20.1km az=125.0*

ISCJB ***16*** *09:54:22.0±1.5, 1978S±008×174.1W±0.1, h56km±18km, mb4.2/10, MS3.2/1, Error ellipse: s-maj=16.8km s-min=12.9km az=18.3*

NEIC ***16*** *09:54:24.1±1.2, 1975S×1740 8W, h57km±16km, mb4.4/2, Error ellipse: s-maj=16.6km s-min=12.6km az=94.0*

ISC 16 09:54:23.8±1.0, 1974S±007×1740W±01, h55km±13km, n22, σ1§33/20, mb4.2/10, MS3.2/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.19**	**21**	Pn	**Pn**	**09 55 53.9**	**+1.4**
	11nm,0.3s,baz=165,slow=3.5,SNR=20						
AFI				Sn	**Sn**	**09 56 59.0**	**-2.8**
	15nm,0.3s,baz=73,slow=22,SNR=5.2						
RAO	**Raoul Island**	**10.11**	**200**	LR	LR	09 59 59.9	
	comp=Z,204nm,18.8s,baz=68,slow=34						
RAO	**Raoul Island**	**10.11**	**200**	*e*Pn	**Pn**	**09 56 46.6**	**+0.5**
FUNA	**Funafuti**	**12.94**	**329**	*e*Pn	**Pn**	**09 57 24.8**	**+0.1**
RAR	**Rarotonga**	**13.44**	**99**	Pn	**Pn**	**09 57 31.4**	**-0.3**
	2.9nm,0.3s,baz=270,slow=6.0,SNR=6.3						
DZM	**Mont Dzumac**	**18.39**	**259**	P	**Pn**	**09 58 36.1**	**+1.4**
	0.5nm,0.3s,baz=78,slow=16,SNR=11						
URZ	**Urewera**	**19.99**	**201**	P	**Pn**	**09 58 51.6**	**-2.2**
	2.7nm,0.3s,baz=343,slow=12,SNR=13						
PPT	**Papeete**	**23.27**	**89**	LR	LR	10 06 38.1	
	comp=Z,86nm,20.4s,MS3.2,baz=293,slow=31						
RPZ	**Rata Peaks**	**26.97**	**204**	P	**P**	**10 00 04.4**	**+4.2**
	22nm,0.6s,mb4.8,baz=355,slow=3.2,SNR=5.7						
PMG	**Port Moresby**	**38.85**	**280**	*e*P	**P**	**10 01 43.4**	**-0.1**
	2.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**41.47**	**244**	P	**P**	**10 02 04.1**	**-1.1**
	2.5nm,0.8s,mb3.9,baz=102,slow=16,SNR=3.5						
AS31	**Alice Springs**	**48.32**	**256**	*e*P	**P**	**10 02 59.6**	**0.0**
ASAR	**Alice Springs**	**48.32**	**256**	P	**P**	**10 02 58.2**	**-1.5**
	2.1nm,0.5s,mb4.4,baz=98,slow=7.9,SNR=47						
WB2	**Warramunga Arr**	**48.39**	**261**	*e*P	**P**	**10 03 00.1**	**-0.1**
WRA	**Warramunga Arr**	**48.40**	**261**	P	**P**	**10 02 58.6**	**-1.7**
	0.7nm,0.3s,mb4.2,baz=96,slow=7.5,SNR=41						
VNDA	**Vanda**	**59.02**	**186**	P	**P**	**10 04 20.2**	**+2.4**
	0.5nm,0.8s,mb3.6,baz=5.3,slow=7.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**71.89**	**321**	P	**P**	**10 05 42.9**	**+1.9**
	3.0nm,0.7s,mb4.3,baz=155,slow=6.6,SNR=7.4						
YSS	**Yuzh-Sakhalins**	**76.96**	**331**	*e*P	**P**	**10 06 10.0**	**-0.4**
	2.2nm,0.4s,mb4.4						
KSM	**Kuching**	**77.02**	**276**	*e*P	**P**	**10 06 11.5**	**+0.7**
NVAR	**Mina Array Bea**	**77.95**	**42**	P	**P**	**10 06 21.9**	**+5.9**
	2.0nm,0.7s,mb4.1,baz=225,slow=9.3,SNR=12						
KSRS	**Korea Array**	**78.85**	**317**	P	**P**	**10 06 24.8**	**+3.9**
	0.9nm,0.8s,mb3.8,baz=116,slow=5.5,SNR=5.0						
BRTR	**Keskin Array B**	**149.00**	**316**	PKPbc	PKPbc	10 14 12.9	+7.4
	0.9nm,0.7s,baz=57,slow=5.4,SNR=4.1						

MDD ***16*** *10:11:45.2±4.4, 3524N×1139W, h0km, mb3.7/4, Error ellipse: s-maj=54.0km s-min=33.5km az=124.0, PRXIMO SOLUCIN POBRE*

CSEM 16 10:11:48.2±1.2, 3532N×1117W, h40km, mb3.7/4, Error ellipse: s-maj=36.8km s-min=20.2km az=122.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**3.71**	**52**	P	Pn	10 12 45.5	+2.5
	1.3nm,0.1s,SNR=5.9						
EGRO				S	Sn	10 13 29.6	+4.2
	5.1nm,0.1s,SNR=7.5						
EGRO	**El Granado**	**3.71**	**52**	P	Pn	10 12 45.5	+2.6
	1.3nm,0.1s,SNR=5.9						
EGRO				S	Sn	10 13 29.6	+4.2
	5.1nm,0.1s,SNR=7.5						
PBEJ	**Beja**	**3.79**	**44**	*e*S	Sn	10 13 30.8	+3.4
PBEJ							
	3.5nm,0.1s						
PBEJ	**Beja**	**3.79**	**44**	*e*S	Sn	10 13 30.8	+3.4
	3.5nm,0.1s						
PLOU	**Loures**	**3.91**	**24**	*e*S	Sn	10 13 33.5	+3.1
EMIN	**Mina Concepcio**	**4.37**	**55**	P	Pn	10 12 54.6	+2.6
	0.6nm,0.2s,SNR=7.9						
EMIN				S	Sn	10 13 45.3	+3.6
	1.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.37**	**55**	P	Pn	10 12 54.6	+2.5
	0.6nm,0.2s,SNR=7.9						
EMIN				S	Sn	10 13 45.3	+3.6
	1.5nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.56**	**38**	*e*S	Sn	10 13 48.1	+1.8
EBAD	**Badajoz**	**4.78**	**43**	P	Pn	10 12 58.9	+1.2
	0.6nm,0.2s,SNR=7.9						
EBAD				S	Sn	10 13 53.6	+1.8
	4.9nm,0.2s,SNR=6.3						
EBAD	**Badajoz**	**4.78**	**43**	P	Pn	10 12 58.9	+1.2
	0.6nm,0.2s,SNR=7.9						
EBAD				S	Sn	10 13 53.6	+1.8
	4.9nm,0.2s,SNR=6.3						
EADA	**Adamuz**	**6.01**	**60**	P	Pn	10 13 16.6	+2.0
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	10 14 23.5	+1.4
	1.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.01**	**60**	P	Pn	10 13 16.6	+2.0
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	10 14 23.5	+1.4
	1.4nm,0.1s,SNR=7.9						

BJI ***16*** *10:16:03.0, 108N×12664E, h46km, mB5.2, mb4.7, Ms4.5, Msz4.2*

IDC ***16*** *10:16:07.5±3.5, 153N×12618E, h33km±26km, mb4.4/18, mb1 4.4/19, mb1mx4.3/22, mbtmp4.3/19, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/36, Error ellipse: s-maj=23.8km s-min=9.7km az=75.0*

NEIC ***16*** *10:16:11.6±1.8, 161N×12630E, h70km±17km, mb4.7/18, Error ellipse: s-maj=17.1km s-min=6.8km az=69.0*

ISCJB ***16*** *10:16:13.0±1.1, 157N±005×12624E±006, h101km±11km, mb4.6/43, Error ellipse: s-maj=11.0km s-min=6.4km az=124.4*

ISC 16 10:16:14.1±0.9, 159N±004×12625E±006, h93km±9km, h49km±3.6km: pP-P, n73, σ1§12/74, mb4.6/43, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.57**	**116**	P	**Pn**	**10 17 34.3**	**-0.1**
	70nm,0.4s						
AAI	**Ambon**	**5.59**	**160**	P	**Pn**	**10 17 38.7**	**+4.0**
	72nm,0.6s						
PCI	**Palu**	**6.88**	**249**	P	**Pn**	**10 17 53.9**	**+1.6**
	198nm,1.1s						
BAKI	**Biak**	**10.23**	**106**	P	**Pn**	**10 18 38.9**	**+1.0**
	105nm,1.2s						
KKM	**Kota Kinabalu**	**10.95**	**294**	*e*Pn	**Pn**	**10 18 46.2**	**-1.4**
KAKA	**Kakadu**	**15.48**	**157**	*e*P	**Pn**	**10 19 48.4**	**+1.3**
	42nm,0.6s						
KSM	**Kuching**	**15.94**	**270**	*e*P	**Pn**	**10 19 56.0**	**+3.2**
BJI	**Banjamegara**	**18.74**	**242**	P	**Pn**	**10 20 33.6**	**+6.7**
	40nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.58**	**182**	*e*P	**Pn**	**10 20 32.2**	**-4.6**
	8.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.58**	**182**	P	**Pn**	**10 20 32.5**	**-4.3**
	0.8nm,0.3s,baz=14,slow=8.2,SNR=20						
GUMO	**Guam**	**21.94**	**56**	LR	LR	10 28 30.3	
	comp=Z,143nm,18.1s,baz=268,slow=34						
WRA	**Warramunga Arr**	**22.82**	**160**	P	**P**	**10 21 06.3**	**-3.0**
	15nm,0.5s,mb4.5,baz=342,slow=11,SNR=96						
WRA				PcP	PcP	10 24 58.9	+1.8
	1.7nm,0.7s,baz=332,slow=2.3,SNR=5.4						
WRA				S	**S**	**10 25 12.7**	**+1.5**
	1.8nm,0.8s,baz=341,slow=16,SNR=4.4						
WB2	**Warramunga Arr**	**22.83**	**160**	*e*P	**P**	**10 21 07.6**	**-1.7**
YHNB	**Yeheng**	**23.42**	**349**	*e*P	**P**	**10 21 14.5**	**-0.2**
MBWA	**Marble Bar**	**23.50**	**195**	*e*P	**P**	**10 21 14.4**	**-1.1**
	16nm,0.8s,mb4.4						
PMG	**Port Moresby**	**23.52**	**118**	P	**P**	**10 21 14.8**	**-0.9**
	7.2nm,0.9s,mb4.0,baz=293,slow=7.0,SNR=4.4						
QIZ	**Qiongzhong**	**23.64**	**318**	P	**P**	**10 21 18.5**	**+1.7**
QIZ				S	**S**	**10 25 29.3**	**+4.8**
QIZ				LR	LR		
	comp=N,302nm,18.7s						
QIZ				LR	LR		
	comp=Z,284nm,17.1s						
JOW	**Kunigami**	**25.17**	**4**	P	**P**	**10 21 31.1**	**+0.4**
	comp=Z,40nm,0.7s,mb4.9,baz=192,slow=7.5,SNR=17						
AS31	**Alice Springs**	**26.19**	**164**	*e*P	**P**	**10 21 39.1**	**-0.8**
ASPA	**Alice Springs**	**26.19**	**164**	*e*P	**P**	**10 21 39.1**	**-0.8**
ASAR	**Alice Springs**	**26.19**	**164**	P	**P**	**10 21 38.9**	**-1.0**
	comp=Z,4.8nm,0.5s,mb4.2,baz=345,slow=8.2,SNR=98						
ASAR				PcP	PcP	10 25 05.8	+1.3
	comp=Z,2.3nm,0.5s,baz=347,slow=2.0,SNR=9.0						
ASAR				S	**S**	**10 26 08.3**	**+3.3**
	comp=Z,1.1nm,0.8s,baz=350,slow=22,SNR=4.0						
PSI	**Prapat**	**27.34**	**273**	P	**P**	**10 21 47.5**	**-2.7**
	comp=Z,2.4nm,0.5s,mb4.0,baz=335,slow=14,SNR=3.7						
CTA	**Charters Tower**	**29.14**	**139**	*e*P	**P**	**10 22 05.9**	**-0.3**
	comp=Z,5.6nm,0.9s,mb4.2						
CTA	**Charters Tower**	**29.14**	**139**	P	**P**	**10 22 05.8**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.1,baz=314,slow=12,SNR=3.9						
GYA	**Guiyang**	**31.08**	**324**	P	**P**	**10 22 26.8**	**+3.5**
GYA				AP	pP	10 22 38.8	-5.6
GYA				XP	sP	10 22 43.8	-11
GYA				PP	PP	10 23 31.6	-3.5
GYA				S	**S**	**10 27 30.0**	**+8.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,420nm,15.9s						
GYA				LR	LR		
	comp=E,410nm,15.8s						
GYA				LR	LR		
	comp=Z,390nm,16.2s						
FORT	**Forrest**	**32.24**	**177**	*e*P	**P**	**10 22 35.0**	**+1.5**
	comp=Z,17nm,0.6s,mb5.0						
KMI	**Kunming**	**32.59**	**318**	P	**P**	**10 22 37.8**	**+1.2**
KMI				AP	pP	10 22 51.6	-6.1
KMI				XP	sP	10 22 55.8	-13
KMI				S	**S**	**10 27 54.5**	**+9.1**
KMI				XS	sS	10 28 13.8	-8.2
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				LR	LR		
	comp=N,131nm,20.5s						
KMI				LR	LR		
	comp=E,165nm,20.9s						
KMI				LR	LR		
	comp=Z,200nm,21.7s						
KMI	**Kunming**	**32.59**	**318**	P	**P**	**10 22 37.8**	**+1.2**
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				pP	pP	10 22 51.6	-6.1
KMI				sP	sP	10 22 55.8	-13
KMI				S	**S**	**10 27 54.5**	**+9.1**
KMI				sS	sS	10 28 13.7	-8.3
KMI				LR	LR		
	comp=Z,200nm,21.7s						
KLBR	**Kellerberrin**	**33.97**	**193**	*e*P	**P**	**10 22 48.3**	**-0.3**
	comp=Z,26nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**35.38**	**193**	P	**P**	**10 23 00.8**	**+0.1**
	comp=Z,14nm,0.6s,mb5.0,baz=275,slow=10,SNR=14						
KSRS	**Korea Array**	**35.72**	**2**	P	**P**	**10 23 04.0**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.4,baz=182,slow=10,SNR=9.2						
CD2	**Chengdu**	**36.11**	**326**	⇑P	**P**	**10 23 11.0**	**+4.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
XAN	**Xi'an**	**36.12**	**335**	P	**P**	**10 23 05.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**36.33**	**158**	*e*P	**P**	**10 23 09.4**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.33**	**158**	P	**P**	**10 23 07.2**	**-1.6**
	comp=Z,9.0nm,0.8s,mb4.7,baz=341,slow=10,SNR=14						
MJAR	**Matsushiro Arr**	**36.49**	**16**	P	**P**	**10 23 09.4**	**-0.8**
	comp=Z,4.5nm,0.9s,mb4.4,baz=192,slow=8.6,SNR=6.5						
BJI	**Beijing**	**39.35**	**348**	P	**P**	**10 23 30.3**	**-4.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
BJI	**Beijing**	**39.35**	**348**	P	**P**	**10 23 30.2**	**-4.1**
	comp=Z,9.0nm,0.9s,mb4.6						
SNY	**Shenyang**	**40.13**	**357**	⇑P	**P**	**10 23 41.0**	**+0.3**
SNY				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.0						
SNY				AMB	AMB		
	comp=Z,255nm,3.5s						
SNY				LR	LR		
	comp=N,311nm,19.4s						
SNY				LR	LR		
	comp=E,476nm,19.2s						
SNY				LR	LR		
	comp=Z,328nm,23.1s						
HHC	**Hu-ho-hao-te**	**41.28**	**343**	*e*P	**P**	**10 23 53.1**	**+2.9**
HHC				AP	pP	10 24 05.3	-6.6
HHC				PP	PP	10 25 33.8	+6.7
HHC				PCP	PcP	10 25 50.3	+3.1
HHC				SCP	ScP	10 29 35.1	+6.5
HHC				PCS	PcS	10 29 40.3	+1.9
HHC				S	**S**	**10 30 05.6**	**+8.3**
HHC				XS	sS	10 30 26.6	-8.2
HHC				SS	SS	10 33 07.0	+2.9
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,185nm,4.8s						
HHC				LR	LR		
	comp=N,228nm,17.7s						
HHC				LR	LR		
	comp=E,164nm,15.9s						
HHC				LR	LR		
	comp=Z,178nm,15.1s						
GTA	**Gaotai**	**44.69**	**331**	*e*P	**P**	**10 24 17.6**	**-0.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
JIRN	**Jiri**	**46.26**	**308**	*e*P	**P**	**10 24 30.0**	**-0.1**
	comp=Z,14nm,0.7s,mb4.8						
GUN	**Gumba**	**46.62**	**308**	*e*P	**P**	**10 24 32.7**	**-0.2**
	comp=Z,24nm,0.6s,mb5.1						
KKN	**Kakani**	**47.04**	**307**	*e*P	**P**	**10 24 35.6**	**-0.6**
	comp=Z,14nm,0.6s,mb4.8						
DMN	**Daman**	**47.10**	**307**	*e*P	**P**	**10 24 36.5**	**-0.1**
GKN	**Gorkha**	**47.65**	**307**	*e*P	**P**	**10 24 39.8**	**-1.1**
	comp=Z,9.1nm,0.4s,mb4.9						
HIA	**Hailar**	**47.82**	**354**	*e*P	**P**	**10 24 43.0**	**+0.7**
	comp=Z,24nm,1.3s,mb4.9						
KOLN	**Koldanda**	**48.38**	**307**	*e*P	**P**	**10 24 46.0**	**-0.5**
	comp=Z,32nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**49.00**	**343**	*e*P	**P**	**10 24 50.6**	**-0.6**
	comp=Z,7.8nm,1.0s,mb4.6						
SONM	**Songino Array**	**49.17**	**342**	P	**P**	**10 24 52.6**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.5,baz=160,slow=8.2,SNR=25						
SONM				PcP	PcP	10 26 16.0	+1.5
	comp=Z,3.4nm,0.8s,baz=161,slow=2.8,SNR=7.4						
MK31	**Makanchi Array**	**59.04**	**326**	*e*P	**P**	**10 26 03.7**	**-0.6**
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**10 26 03.7**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.7,baz=120,slow=8.2,SNR=35						
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**10 26 03.7**	**-0.6**
YAK	**Yakutsk**	**60.34**	**2**	*e*P	**P**	**10 26 14.5**	**+1.3**
	comp=Z,25nm,0.6s,mb5.4						
AAK	**Ala-Archa**	**61.62**	**319**	*e*P	**P**	**10 26 20.6**	**-1.3**
	comp=Z,2.7nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**62.27**	**334**	P	**P**	**10 26 26.7**	**+0.5**
	comp=Z,2.3nm,0.3s,mb4.6,baz=14,slow=3.4,SNR=5.6						
CASY	**Casey**	**68.65**	**187**	*e*P	**P**	**10 27 09.1**	**+1.7**
	comp=Z,4.3nm,0.8s,mb4.3						
BRVK	**Borovoye**	**68.92**	**328**	*e*P	**P**	**10 27 08.7**	**-0.3**
	comp=Z,8.2nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**69.03**	**328**	*e*P	**P**	**10 27 10.0**	**+0.3**
	comp=Z,4.4nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**69.56**	**327**	*e*P	**P**	**10 27 13.4**	**+0.5**
	comp=Z,37nm,0.6s,mb5.4						
VNDA	**Vanda**	**81.38**	**173**	P	**P**	**10 28 20.4**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.1,baz=314,slow=7.0,SNR=22						
VNDA	**Vanda**	**81.38**	**173**	*e*P	**P**	**10 28 22.6**	**+2.0**
	comp=Z,1.5nm,0.5s,mb4.1						
**

comp=Z,1.8nm,0.7s,mb3.6,baz=70,slow=10,SNR=8.5
BILL Bilibino 22.78 11⇑ *e*P P 10 35 16.0 +1.2
BILL pmax pmax
comp=Z,27nm,1.3s,mb4.5
BILL Bilibino 22.78 11 *e*P P 10 35 15.2 +0.4
comp=Z,20nm,1.0s,mb4.5
BOD Bodaibo 27.20 310 *e*P P 10 35 53.7 -2.4
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb3.9
HHC Hu-ho-hao-te 31.40 276 *e*P P 10 36 33.8 +0.4
HHC AP pP 10 36 38.3 +3.0
HHC PP PP 10 37 35.8 -8.4
HHC PCP PcP 10 39 28.6 +1.7
HHC S **S** **10 41 39.3 -1.9**
HHC XS sS 10 41 45.0 +0.6
HHC AMB AMB
comp=Z,12nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,200nm,6.2s
HHC LR LR
comp=N,1μm,15.8s,MS4.7
HHC LR LR
comp=E,820nm,14.9s,MS4.7
HHC LR LR
comp=Z,628nm,14.5s,MS4.4
SONM Songino Array 32.54 291 P P 10 36 44.0 +0.6
comp=Z,0.3nm,0.6s,mb3.4,baz=81,slow=8.9,SNR=2.7
SONM PcP PcP 10 39 29.8 -0.2
comp=Z,0.3nm,0.7s,baz=59,slow=0.8,SNR=4.0
TLY Talaya 33.40 298 *e*P P 10 36 46.5 -4.5
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY Talaya 33.40 298 *e*P P 10 36 46.5 -4.5
comp=Z,3.9nm,0.8s,mb4.4
ZAK Zakamensk 33.90 296 *e*P P 10 36 53.9 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
COLA College 35.98 38 *e*P P 10 37 13.0 -0.2
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 35.98 38 *e*P P 10 37 13.0 -0.2
comp=Z,7.6nm,0.8s,mb4.7
LZH Lanzhou 38.97 274 *e*P P 10 37 40.6 +2.0
LZH AP pP 10 37 45.1 +4.6
LZH XP sP 10 37 47.6 +6.3
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.7
LZH Lanzhou 38.97 274 *e*P P 10 37 40.6 +2.0
comp=Z,19nm,1.2s,mb4.7
LZH pP pP 10 37 45.1 +4.6
LZH sP sP 10 37 47.6 +6.3
GTA Gaotai 40.12 281 *e*P P 10 37 49.8 +1.7
GTA AP pP 10 37 54.6 +4.5
GTA XP sP 10 37 57.3 +6.4
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.1
INK Inuvik 41.62 32 P P 10 38 01.1 +0.6
comp=Z,3.6nm,0.4s,mb4.3,baz=281,slow=7.7,SNR=30
INK Inuvik 41.62 32 P P 10 38 01.1 +0.6
INK pmax pmax
comp=Z,4.0nm,0.4s
INK Inuvik 41.62 32 *e*P P 10 38 01.1 +0.6
comp=Z,224nm,0.9s,mb5.8
GYA Guiyang 42.62 260 P P 10 38 08.9 +0.2
GYA AP pP 10 38 12.8 +2.1
GYA XP sP 10 38 16.3 +4.8
GYA PP PP 10 39 50.3 +2.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,70nm,4.2s
GYA LR LR
comp=N,340nm,15.8s,MS4.4
GYA LR LR
comp=E,280nm,16.4s,MS4.4
GYA LR LR
comp=Z,380nm,16.2s,MS4.4
ZAL Zalesovo 43.85 307 P P 10 38 17.4 -1.2
comp=Z,2.0nm,0.3s,mb4.3,baz=50,slow=5.1,SNR=3.4
ZAL PcP PcP 10 40 04.5 -0.4
comp=Z,1.4nm,0.3s,baz=79,slow=4.2,SNR=3.6
ZAL LR LR 10 57 24.6
comp=Z,170nm,18.1s,MS4.0,baz=359,slow=37
ZAL Zalesovo 43.85 307 P P 10 38 17.4 -1.2
ZAL 10 40 04.5
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL MLR MLR
comp=Z,170nm,18.1s
ZAL Zalesovo 43.85 307 P P 10 38 17.4 -1.2
ZAL PcP PcP 10 40 04.5 -0.4
ZAL LR LR 10 57 24.6
KMI Kunming 46.18 261 P P 10 38 37.1 -0.1
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
KMI Kunming 46.18 261 P P 10 38 37.1 -0.1
comp=Z,9.0nm,1.0s,mb4.7
MK31 Makanchi Array 48.17 299 *e*P P 10 38 52.7 0.0
MKAR Makanchi Array 48.17 299 P P 10 38 52.9 +0.2
comp=Z,2.5nm,0.8s,mb4.3,baz=67,slow=7.7,SNR=14
MKAR PcP PcP 10 40 19.2 -0.9
comp=Z,1.1nm,0.9s,baz=58,slow=3.6,SNR=3.5
MKAR Makanchi Array 48.17 299 P P 10 38 52.9 +0.2
MKAR 10 40 19.2
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 50.79 37 P P 10 39 12.7 0.0
comp=Z,3.9nm,0.9s,mb4.3,baz=296,slow=7.1,SNR=4.7
YKA Yellowknife Ar 50.79 37 P P 10 39 12.7 0.0
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 50.79 37 P P 10 39 12.7 0.0
CHKZ Chkalovo 51.64 311 *e*P P 10 39 18.3 -0.8
CHKZ pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
CHKZ Chkalovo 51.64 311 *e*P P 10 39 18.3 -0.8
comp=Z,4.9nm,0.5s,mb4.7
BVAR Borovoye Array 52.07 310 P P 10 39 21.9 -0.3
comp=Z,1.5nm,0.5s,mb4.2,baz=44,slow=7.6,SNR=7.7
BVAR PcP PcP 10 40 34.2 -0.2
comp=Z,0.6nm,0.5s,baz=318,slow=1.9,SNR=2.7
BVAR Borovoye Array 52.07 310 P P 10 39 21.9 -0.4
BVAR 10 40 34.2
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 52.07 310 P P 10 39 21.9 -0.3
BVAR PcP PcP 10 40 34.2 -0.2
ZRNK Zerenda 52.84 311 *e*P P 10 39 28.0 0.0
ZRNK pmax pmax
comp=Z,75nm,1.2s,mb5.5
ZRNK Zerenda 52.84 311 *e*P P 10 39 28.0 +0.1
comp=Z,75nm,1.2s,mb5.5
AAK Ala-Archa 55.06 298 *e*P P 10 39 43.9 -0.3
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AAK Ala-Archa 55.06 298 *e*P P 10 39 43.9 -0.3
comp=Z,1.7nm,0.7s,mb4.2
JIRN Jiri 56.05 276 *e*P P 10 39 52.9 +1.5
comp=Z,17nm,0.9s,mb5.1
GUN Gumba 56.11 276 *e*P P 10 39 53.9 +2.1
ARU Arti 56.18 318 *e*P P 10 39 51.0 -1.3
ARU Arti 56.18 318 *e*P P 10 39 52.3 0.0
comp=Z,8.9nm,0.4s,mb5.2
KKN Kakani 56.60 277 *e*P P 10 39 56.8 +1.5
comp=Z,23nm,0.8s,mb5.3
PKI Pulchoki 56.65 276 *e*P P 10 39 56.6 +1.0
DMN Daman 56.84 277 *e*P P 10 39 58.4 +1.4
comp=Z,22nm,0.8s,mb5.2
GKN Gorkha 56.91 277 *e*P P 10 39 58.7 +1.2
comp=Z,20nm,0.7s,mb5.2
KOLN Koldanda 57.77 278 *e*P P 10 40 05.0 +1.4
comp=Z,22nm,0.9s,mb5.2
ARCES ARCESS Array B 58.79 341 P P 10 40 09.8 -0.8
comp=Z,5.7nm,0.9s,mb4.6,baz=33,slow=7.9,SNR=9.2
ARCES ARCESS Array B 58.79 341 P P 10 40 09.9 -0.8
ARCES pmax pmax
comp=Z,6.0nm,1.0s
QLMT Earthquake Lak 61.91 54 *e*P P 10 40 31.0 -1.0
BW06 Boulder Array 64.26 54 *e*P P 10 40 47.5 -0.2
PDAR Pinedale Array 64.26 54 P P 10 40 47.9 +0.3
comp=Z,1.9nm,0.9s,mb4.1,baz=294,slow=2.2,SNR=12
FINES FINESS Array B 65.05 336 P P 10 40 51.8 -1.1
comp=Z,1.4nm,0.6s,mb4.2,baz=37,slow=8.5,SNR=6.0
FINES FINESS Array B 65.05 336 P P 10 40 51.8 -1.0
FINES pmax pmax
comp=Z,1.0nm,0.6s
CTA Charters Tower 66.33 189 P P 10 40 59.4 -1.7
comp=Z,1.4nm,0.5s,mb4.3,baz=0.0,slow=12,SNR=3.4
CTA Charters Tower 66.33 189 P P 10 40 59.4 -1.7
CTA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 68.28 201 P P 10 41 13.1 -0.4
comp=Z,1.7nm,0.8s,mb4.1,baz=19,slow=6.8,SNR=11
WRA Warramunga Arr 68.28 201 P P 10 41 13.1 -0.3
WRA pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 68.45 55 *e*P P 10 41 15.2 +0.7
ISCO pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
ISCO Idaho Springs 68.45 55 *e*P P 10 41 15.2 +0.7
comp=Z,3.9nm,1.2s,mb4.3
NB2 NORSAR Subarra 69.16 342 P P 10 41 18.0 -0.9
comp=Z,3.9nm,0.9s,mb4.3,baz=29,slow=6.5
NOA NORSAR Array B 69.16 342 P P 10 41 16.9 -2.0
comp=Z,1.9nm,0.8s,mb4.0,baz=26,slow=6.3,SNR=4.4
NOA NORSAR Array B 69.16 342 P P 10 41 16.9 -2.0
NOA pmax pmax
comp=Z,2.0nm,0.8s
SDCO Great Sand Dun 69.91 56 *e*P P 10 41 25.2 +1.7
ASAR Alice Springs 71.97 200 P P 10 41 36.1 +0.1
comp=Z,2.2nm,1.0s,mb4.0,baz=20,slow=5.5,SNR=11
ASAR Alice Springs 71.97 200 P P 10 41 36.1 +0.1
ASAR pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 72.65 327 P P 10 41 39.2 -0.9
comp=Z,0.4nm,0.3s,mb3.8,baz=34,slow=6.3,SNR=9.7
AKASG Malin Array Be 72.65 327 P P 10 41 39.2 -0.9
LTX Lajitas 76.87 61 *e*P P 10 42 04.7 +0.1
LTX pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LTX Lajitas 76.87 61 *e*P P 10 42 04.7 +0.1
comp=Z,3.7nm,0.7s,mb4.4
TXAR Lajitas Array 76.87 61 P P 10 42 04.5 -0.1
comp=Z,3.2nm,0.8s,mb4.3,baz=303,slow=4.0,SNR=30
TXAR Lajitas Array 76.87 61 P P 10 42 04.5 -0.1
TXAR pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 77.47 336 *i* P P 10 42 07.2 -0.7
comp=Z,14nm,1.5s,mb4.7
MORC Moravsky Berou 77.48 333 *e*P P 10 42 08.1 +0.1
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MORC Moravsky Berou 77.48 333 *e*P P 10 42 08.1 +0.1
comp=Z,3.5nm,1.0s,mb4.2
GERES GERESS Array B 79.47 335 P P 10 42 18.8 -0.3
comp=Z,0.5nm,0.4s,mb3.8,baz=25,slow=4.4,SNR=6.0
GERES GERESS Array B 79.47 335 P P 10 42 18.8 -0.2
GERES pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 79.56 318 P P 10 42 19.8 +0.2
comp=Z,1.6nm,0.8s,mb4.0,baz=104,slow=5.2,SNR=6.1
BRTR Keskin Array B 79.56 318 P P 10 42 19.8 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CDF Champ du Feu 81.63 339 *e*P P 10 42 30.2 -0.4
comp=Z,11nm,0.9s,mb4.5
GRR Gorron 83.47 344 *e*P P 10 42 40.0 -0.2
SMF Signal de Mont 84.12 340 *e*P P 10 42 43.3 -0.2
LPG La Plagne 84.47 338 *e*P P 10 42 46.0 +0.7
comp=Z,36nm,1.2s,mb5.1
LFF La Frestale 86.43 342 *e*P P 10 42 54.6 -0.5

BJI ***16*** *10:33:31.6, 46.70N×153.44E, h21km, mB4.8, mb4.2*
ISCJB ***16*** *10:33:33.5±3.7, 46.5N±0.1×153.1E±0.1, h24km±25km, mb4.4/29, Error ellipse: s-maj=22.9km s-min=10.3km az=125.4*
NEIC ***16*** *10:33:33.4±1.4, 46.70N×153.14E, h10km, mb4.4/7, Error ellipse: s-maj=36.8km s-min=11.4km az=164.0*
MOS ***16*** *10:33:36.3±1.4, 46.40N×153.03E, h51km, mb4.6/13, Error ellipse: s-maj=13.7km s-min=10.5km az=116.5*
IDC ***16*** *10:33:37.4±4.0, 46.50N×153.15E, h46km±39km, mb3.8/15, mb1 4.0/16, mb1mx3.9/24, mbtmp3.9/16, ML3.3/1, Error ellipse: s-maj=24.8km s-min=18.7km az=162.0*
ISC 16 10:33:36.7±3.8, 466N±01×1531E±01, h34km±26km, n64, σ1§13/65, mb4.4/29, 7C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.91**	**252**	*i*PN	**Pn**	**10 34 32.2**	**-2.1**
KUR				*i* S	**Sn**	**10 35 17.5**	**-1.5**
KUR				pmax	pmax		
	comp=Z,270nm,0.6s						
KUR				smax			
	comp=N,220nm,0.7s						
KUR				smax			
	comp=E,430nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.14**	**277**	*e*PN	**Pn**	**10 35 22.4**	**+3.7**
YSS	**Yuzh-Sakhalins**	**7.14**	**277**	Pn	**Pn**	**10 35 18.8**	**+0.1**
ASAJ	**Asahikawa**	**7.82**	**256**	P	**Pn**	**10 35 28.3**	**+0.3**
	comp=E,0.5nm,0.3s,baz=90,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**7.82**	**256**	PN	**Pn**	**10 35 28.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.58**	**288**	*e*P	**Pn**	**10 37 05.7**	**+5.2**
CN2	**Changchun**	**19.67**	**272**	*e*P	**Pn**	**10 38 04.8**	**+0.5**
KSRS	**Korea Array**	**20.75**	**253**	P	**P**	**10 38 15.2**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=57,slow=10,SNR=7.4						
BILL	**Bilibino**	**22.57**	**13**	*e*P	**P**	**10 38 36.8**	**+2.9**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**30.97**	**290**	P	**P**	**10 39 52.7**	**+2.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**30.97**	**290**	P	**P**	**10 39 52.6**	**+2.0**
	comp=Z,2.8nm,0.9s,mb4.1						
SONM	**Songino Array**	**31.41**	**290**	P	**P**	**10 39 53.9**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.5,baz=71,slow=10.0,SNR=3.9						
COLA	**College**	**36.27**	**38**	*e*P	**P**	**10 40 39.6**	**+2.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
COLA	**College**	**36.27**	**38**	*e*P	**P**	**10 40 39.6**	**+2.9**
	comp=Z,4.1nm,0.7s,mb4.5						
GTA	**Gaotai**	**39.01**	**279**	P	**P**	**10 41 01.4**	**+1.5**
GTA				AP	pP	10 41 06.1	-3.8
GTA				XP	sP	10 41 09.1	-4.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
INK	**Inuvik**	**41.80**	**32**	P	**P**	**10 41 22.6**	**-0.4**
	comp=Z,2.3nm,1.0s,mb3.8,baz=270,slow=5.5,SNR=5.2						
MK31	**Makanchi Array**	**47.04**	**298**	*e*P	**P**	**10 42 04.0**	**-0.8**
MKAR	**Makanchi Array**	**47.04**	**298**	P	**P**	**10 42 03.4**	**-1.4**
	comp=Z,3.8nm,0.8s,mb4.4,baz=65,slow=7.2,SNR=16						
MKAR				PcP	PcP	10 43 35.5	-1.1
	comp=Z,0.8nm,0.8s,baz=57,slow=5.3,SNR=3.4						
CHKZ	**Chkalovo**	**50.56**	**310**	*e*P	**P**	**10 42 29.9**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**50.56**	**310**	*e*P	**P**	**10 42 29.9**	**-2.0**
	comp=Z,6.8nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**50.99**	**310**	P	**P**	**10 42 34.2**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=60,slow=8.8,SNR=6.1						
BVAR				PcP	PcP	10 43 50.0	-0.9
	comp=Z,0.9nm,0.6s,baz=92,slow=4.3,SNR=2.3						
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**10 42 34.9**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=297,slow=7.2,SNR=5.4						
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**10 42 34.9**	**-0.7**
ZRNK	**Zerenda**	**51.76**	**310**	*e*P	**P**	**10 42 39.1**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.76**	**310**	*e*P	**P**	**10 42 39.1**	**-1.7**
	comp=Z,2.6nm,0.5s,mb4.4						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**10 42 43.7**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**10 42 43.7**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**53.93**	**296**	*e*P	**P**	**10 42 56.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**53.93**	**296**	*e*P	**P**	**10 42 56.2**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.3						
JIRN	**Jiri**	**54.98**	**275**	*e*P	**P**	**10 43 05.9**	**+1.4**
	comp=Z,13nm,0.6s,mb5.1						
GUN	**Gumba**	**55.03**	**275**	*e*P	**P**	**10 43 06.8**	**+1.9**
	comp=Z,14nm,0.7s,mb5.1						
KKN	**Kakani**	**55.52**	**275**	*e*P	**P**	**10 43 09.4**	**+1.0**
	comp=Z,15nm,0.6s,mb5.2						
DMN	**Daman**	**55.75**	**275**	*e*P	**P**	**10 43 11.7**	**+1.7**
GKN	**Gorkha**	**55.83**	**276**	*e*P	**P**	**10 43 11.5**	**+0.9**
	comp=Z,20nm,0.6s,mb5.3						
KOLN	**Koldanda**	**56.68**	**277**	*e*P	**P**	**10 43 17.7**	**+1.0**
	comp=Z,14nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**10 43 25.6**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.3,baz=21,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**10 44 07.2**	**-0.9**
	comp=Z,2.3nm,0.5s,mb4.5,baz=40,slow=9.0,SNR=14						
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**10 44 11.9**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=48,slow=2.2,SNR=4.1						
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**10 44 34.0**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**10 44 34.3**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=27,slow=6.3,SNR=11						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**10 44 54.2**	**-1.0**
	comp=Z,4.3nm,0.5s,mb4.6,baz=34,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**10 44 54.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KIEV	**Kiev**	**71.72**	**326**	*e*P	**P**	**10 44 54.2**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KIEV	**Kiev**	**71.72**	**326**	*e*P	**P**	**10 44 54.2**	**-1.1**
	comp=Z,6.6nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**72.03**	**199**	P	**P**	**10 44 56.0**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=9.8,slow=5.8,SNR=6.3						
ASAR	**Alice Springs**	**72.03**	**199**	P	**P**	**10 44 56.0**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BURAR	**Bucovina Array**	**75.75**	**327⇓**	*i*P	**P**	**10 45 19.1**	**+0.2**
CLL	**Collm**	**76.64**	**336**	*e*P	**P**	**10 45 22.0**	**-2.0**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CLL	**Collm**	**76.64**	**336**	*e*P	**P**	**10 45 24.0**	**0.0**
	comp=Z,8.0nm,0.7s,mb4.8						
MLR	**Muntele Rosu**	**77.23**	**325⇓**	*i*P	**P**	**10 45 27.6**	**+0.3**
MALT	**Malatya**	**77.29**	**313⇑**	*i*P	**P**	**10 45 29.7**	**+2.1**
VRAC	**Vranov**	**77.32**	**333⇓**	*i*P	**P**	**10 45 27.5**	**-0.3**
DRGR		**77.38**	**328⇑**	*i*P	**P**	**10 45 28.5**	**+0.4**
TXAR	**Lajitas Array**	**77.57**	**61**	P	**P**	**10 45 28.3**	**-0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=301,slow=4.6,SNR=12						
TXAR	**Lajitas Array**	**77.57**	**61**	P	**P**	**10 45 28.3**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VOIR		**77.62**	**325⇑**	*i*P	**P**	**10 45 30.5**	**+1.0**
GZR	**Gura Zlata**	**78.53**	**327⇑**	*i*P	**P**	**10 45 34.5**	**0.0**
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**10 45 35.4**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=64,slow=2.9,SNR=4.0						
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**10 45 35.4**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**10 45 35.1**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=19,slow=4.8,SNR=7.7						
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**10 45 35.1**	**0.0**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BZS	**Buzias**	**78.78**	**328⇑**	*i*P	**P**	**10 45 35.8**	**-0.1**
BZS	**Buzias**	**78.78**	**328⇑**	P	**P**	**10 45 35.9**	**0.0**
VTS	**Vitosha**	**80.73**	**325⇑**	*i*P	**P**	**10 45 46.4**	**-0.1**

NIED ***16*** *10:36:00, 47.80N×154.60E, h8km, Mw4.9 Best double couple: M0 2.65000×10^16 NP1:φs261.00000°, δ79.00000°, λ-35.00000°. NP2:φs359.00000°, δ56.00000°, λ-166.00000°.*
SKHL ***16*** *10:36:07.9±1.5, 46.92N×155.22E, h73km±17km, Ms4.9/6*
BJI ***16*** *10:36:07.8, 47.80N×154.80E, h10km, mB4.9, mb4.8, Ms4.8, Msz4.5*
GCMT ***16*** *10:36:11.8±0.4, 47.43N×154.65E, h16km±1km, MW4.9/63, Moment Tensor Solution. s12,c13; s63,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.44±.13; Mθθ-0.12±.12; Mφφ0.55±.10; Mrθ-0.28±.32; Mθφ2.63±.11; Mφr0.91±.37; Best double couple: M0 2.83600×10^16 NP1:φs85.00000°, δ70.00000°, λ-8.00000°. NP2: φs178.00000°, δ82.00000°, λ-160.00000°. Principal axes: T 2.9460, Plg9.0000°, Azm310.0000°; N -0.2190, Plg68.0000°, Azm198.0000°; P -2.7260, Plg20.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *10:36:11.8±0.2, 47.41N×154.43E, h10km, mb5.1/52 Error ellipse: s-maj=6.5km s-min=3.8km az=164.0*
MOS ***16*** *10:36:13.3±1.2, 47.36N×154.44E, h34km, mb5.1/31, MS4.5/11, Error ellipse: s-maj=7.6km s-min=5.4km az=98.2*
ISCJB ***16*** *10:36:13.1±0.1, 47.30N±003×154.45E±002, h34km, mb4.9/99, MS4.4/35, Error ellipse: s-maj=4.7km s-min=2.1km az=149.7*
IDC ***16*** *10:36:15.2±0.5, 47.43N×154.35E, h34km±3km, mb4.4/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.4/20, ML4.1/1, MS4.2/19, Ms1 4.1/19, ms1mx4.0/35, Error ellipse: s-maj=14.3km s-min=10.9km az=133.0*
SZGRF ***16*** *10:36:19.6, 47.92N×154.25E, h33km, mb5.1, Kuril Islands, Russia*
ISC 16 10:36:15.4±0.1, 4735N±003×15443E±002, h36km, h36km±1.2km: pP-P, n414, σ0§95/433, mb4.9/99, MS4.4/35, 81C-55D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.51**	**18**	*e*P	**Pn**	**10 37 06.0**	**-1.5**
SKR				AMB	AMB	10 37 10.0	
	150nm,0.5s						
SKR				AMB	AMB	10 37 10.0	
	140nm,0.5s						
SKR				AMB	AMB	10 37 10.0	
	310nm,0.5s						
SKR				A		10 37 47.5	
	200nm,0.7s						
SKR				A		10 37 47.5	
	620nm,0.6s						
SKR				A		10 37 47.5	
	320nm,0.6s						
SKR				A		10 37 48.0	
	3μm,2.0s						
SKR				AMS	AMS	10 38 42.0	
	8μm,14.0s						
SKR				AMS	AMS	10 38 42.0	
	9μm,14.0s						
SKR				AMS	AMS	10 38 42.0	
	8μm,14.0s						
SKR				AMS	AMS	10 38 42.0	
	22μm,16.0s						
SKR				AMS	AMS	10 38 42.0	
	23μm,16.0s						
SKR	**Severo-Kuril's**	**3.51**	**18**	*e*PN	**Pn**	**10 37 06.0**	**-1.5**
SKR				*e*S	**Sn**	**10 37 51.5**	**+3.7**
SKR				pmax	pmax		
	comp=Z,320nm,0.6s						
KUR	**Kuril'sk**	**5.02**	**247**	*e*P	**Pn**	**10 37 25.0**	**-3.1**
KUR				AMB	AMB	10 37 40.0	
	comp=Z,190nm,0.8s						
KUR				AMB	AMB	10 37 40.0	
	comp=Z,150nm,0.8s						
KUR				AMB	AMB	10 37 40.0	
	comp=Z,550nm,0.8s						
KUR				AMB	AMB	10 37 45.2	
	comp=Z,2μm,2.0s						
KUR				A		10 38 49.4	
	comp=Z,3μm,0.9s						
KUR				A		10 38 49.4	
	comp=Z,3μm,0.9s						
KUR				A		10 38 51.6	
	comp=Z,12μm,1.6s						
KUR				A		10 38 51.6	
	comp=Z,6μm,1.6s						
KUR				AMS	AMS	10 39 34.0	
	comp=Z,5μm,12.0s						
KUR				AMS	AMS	10 39 34.0	
	comp=Z,16μm,12.0s						
KUR				AMS	AMS	10 39 34.0	
	comp=Z,12μm,12.0s						
PET	**Petropavlovsk**	**6.29**	**24**	*e*Pn	**Pn**	**10 37 42.8**	**-2.9**
	comp=Z,114nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.86**	**244**	*e*P	**Pn**	**10 37 53.5**	**+0.1**
YUK				AMB	AMB	10 37 54.5	
	comp=Z,190nm,0.5s						
YUK				*e*S	Sn	10 39 35.4	+25

YUK A 10 39 42.8
comp=Z,3μm,0.8s
YUK A 10 39 42.8
comp=Z,1μm,0.8s
YUK A 10 39 43.9
comp=Z,12μm,2.0s
YUK A 10 39 43.9
comp=Z,8μm,2.0s
NEM2 Nemuro 2 7.30 240 P **Pn 10 37 57.1 -2.4**
NEM2 eS **Sn 10 39 17.0 -4.1**
JRA Rausu 7.36 246 P **Pn 10 38 00.3 0.0**
JRA eS **Sn 10 39 26.0 +3.4**
JNK Nakash 7.79 245 P **Pn 10 38 05.8 -0.5**
YSS Yuzh-Sakhalins 7.97 271 ⇓*i*P **Pn 10 38 11.4 +2.7**
YSS AMB AMB 10 38 12.3
comp=Z,50nm,0.7s
YSS AMB AMB 10 38 12.3
comp=Z,80nm,0.7s
YSS AMB AMB 10 38 12.3
comp=Z,90nm,0.7s
YSS eS **Sn 10 39 41.1 +3.5**
YSS A 10 39 45.0
comp=Z,120nm,1.0s
YSS eLQ 10 40 02.0
YSS AMS AMS 10 41 18.0
comp=Z,3μm,13.0s
YSS AMS AMS 10 41 18.0
comp=Z,2μm,16.0s
YSS AMS AMS 10 41 18.0
comp=Z,2μm,16.0s
YSS Yuzh-Sakhalins 7.97 271 ⇓*i*PN **Pn 10 38 11.4 +2.7**
YSS pmax pmax
comp=N,50nm,0.7s
YSS pmax pmax
comp=E,80nm,0.7s
YSS pmax pmax
comp=Z,90nm,0.7s
YSS MLR MLR
comp=E,2μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,3μm,13.0s
YSS Yuzh-Sakhalins 7.97 271 *e*Pn **Pn 10 38 11.0 +2.3**
YSS eSn **Sn 10 39 40.2 +2.7**
JTKR Abashiri--Toko 8.11 249 P **Pn 10 38 10.9 +0.3**
JAK Akkeshi 8.14 241 P **Pn 10 38 08.9 -2.1**
JAK eS **Sn 10 39 37.2 -4.5**
UGL Uglegorsk 8.44 286 *e*P **Pn 10 38 17.5 +2.4**
UGL AMB AMB 10 38 25.0
comp=N,134nm,1.0s
UGL AMS AMS 10 41 50.0
comp=N,7μm,12.0s
UGL AMS AMS 10 41 50.0
comp=N,5μm,14.0s
UGL AMS AMS 10 41 50.0
comp=N,3μm,14.0s
JMP Maruseppu 8.44 251 P **Pn 10 38 16.1 +1.0**
TYV Tymovskoe 8.48 299 *e*P **Pn 10 38 16.5 +0.8**
TYV AMB AMB 10 38 27.8
comp=N,20nm,0.8s
TYV AMB AMB 10 38 27.8
comp=N,86nm,0.8s
TYV eS **Sn 10 39 51.8 +1.6**
TYV A 10 39 55.0
comp=N,57nm,1.0s
TYV AMS AMS 10 42 14.0
comp=N,2μm,14.0s
TYV AMS AMS 10 42 14.0
comp=N,6μm,14.0s
TYV AMS AMS 10 42 14.0
comp=N,4μm,15.0s
TYV *e*rx rx 10 44 26.8
JAR Ashorobuto 8.53 246 P **Pn 10 38 16.1 -0.3**
JAR eS **Sn 10 39 50.9 -0.5**
JOB Onbets 8.71 243 *e*S **Sn 10 39 52.3 -3.4**
ASAJ Asahikawa 8.88 253 Pn **Pn 10 38 22.4 +1.2**
comp=N,2.4nm,0.3s,baz=84,slow=14,SNR=14
ASAJ LR LR 10 41 29.7
comp=N,2μm,18.5s,baz=66,slow=36
ASAJ Asahikawa 8.88 253 P **Pn 10 38 23.0 +1.8**
ASAJ Asahikawa 8.88 253 PN **Pn 10 38 22.4 +1.2**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,18.5s
JKK2 Kamakawa 2 8.89 251 P **Pn 10 38 22.4 +1.0**
JCH Churui 9.16 243 P **Pn 10 38 22.8 -2.2**
JCH eS **Sn 10 40 01.0 -5.8**
JAB Ashibetsu 9.40 250 P **Pn 10 38 29.7 +1.4**
OKH Okha 9.60 315 *e*S **Sn 10 40 19.0 +1.5**
OKH *e*L 10 42 04.2
OKH AMS AMS 10 44 31.4
comp=Z,5μm,11.0s
OKH AMS AMS 10 44 31.4
comp=Z,3μm,8.0s
OKH AMS AMS 10 44 31.4
comp=Z,4μm,12.0s
JEM Erimo 9.63 240 P **Pn 10 38 30.1 -1.4**
JNBK Urakawa-nobuka 9.72 243 *e*S **Sn 10 40 14.8 -5.8**
NKL Nikolayevsk 10.54 308 *e*P **Pn 10 38 42.0 -1.8**
NKL AMB AMB 10 38 49.7
comp=Z,490nm,1.8s
NKL AMB AMB 10 38 49.7
comp=Z,150nm,1.3s
NKL *e*L 10 41 18.0
NKL AMS AMS 10 43 54.0
comp=Z,2μm,15.0s
JSH Shimam 11.22 250 P **Pn 10 38 53.2 0.0**
JYM2 Yakumo 2 11.28 247 P **Pn 10 38 52.0 -2.0**
JTM Tenmabayashi 11.63 241 P **Pn 10 38 54.4 -4.4**
JTM eS **Sn 10 40 58.3 -9.0**
JANG Nango 11.63 238 P **Pn 10 38 53.7 -5.2**
JANG eS **Sn 10 40 55.1 -12**
JTH Tanohata 11.73 235 *e*S **Sn 10 40 57.3 -12**
JOM Ohasama 12.37 235 P **Pn 10 39 03.3 -5.6**
JOM eS **Sn 10 41 16.1 -9.3**
MA2 Magadan 12.44 351 *e*PN **Pn 10 39 09.3 -0.5**
TEY Ternei 12.57 266 *e*P **Pn 10 39 10.0 -1.6**
HABR Khabarovsk 13.05 282 ⇑*i*PN **Pn 10 39 21.9 +3.7**
HABR S **Sn 10 41 48.4 +6.4**
HABR pmax pmax
comp=Z,127nm,1.6s
JIO Ouri 13.06 232 P **Pn 10 39 13.5 -4.9**
JIO eS **Sn 10 41 29.3 -13**
SMY Shemya 13.72 60 *e*Pn **Pn 10 39 22.1 -5.3**
SMY eSn **Sn 10 41 42.5 -16**
KLR Kul'dur 15.20 285 *e*P **Pn 10 39 47.2 -0.1**
KLR pmax pmax
comp=E,72nm,1.4s
KLR pmax pmax
comp=Z,55nm,1.4s
KLR pmax pmax
comp=Z,700nm,10.0s
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,5μm,12.0s
MAJO Matsushiro 16.16 234 *e*P **Pn 10 39 55.4 -4.3**
MJAR Matsushiro Arr 16.16 234 Pn **Pn 10 39 55.5 -4.3**
comp=Z,0.5nm,0.3s,baz=29,slow=12,SNR=26
MJAR LR LR 10 47 01.9
comp=Z,1μm,18.1s,baz=25,slow=40
JRY Ryogami san 16.18 231 P **Pn 10 39 58.1 -1.8**
JHJ Hachijo jima 2 18.04 223 LR LR 10 47 07.2
comp=Z,234nm,19.4s,baz=259,slow=36
ZEA Zeya 18.34 300 *e*P **Pn 10 40 25.0 -1.9**
ZEA AMB AMB 10 40 27.8
comp=Z,58nm,1.2s
ZEA AMB AMB 10 40 27.8
comp=Z,78nm,1.2s
JWT Wachi 18.64 237 P **Pn 10 40 29.2 -1.3**
YAK Yakutsk 20.32 325 *e*P **P 10 40 51.5 +3.2**
YAK *e**PP 10 41 03.3
YAK *e* 10 41 11.1
YAK *e*SS 10 45 02.2
YAK pmax pmax
comp=E,66nm,1.1s
YAK pmax pmax
comp=Z,114nm,1.1s
YAK pmax pmax
comp=N,62nm,1.3s
YAK pmax pmax
comp=Z,46nm,1.0s
YAK pmax pmax
comp=N,59nm,1.4s
YAK pmax pmax
comp=E,57nm,1.6s
YAK MLR MLR
comp=Z,1μm,17.0s,MS4.4
YAK MLR MLR
comp=N,894nm,16.0s,MS4.4
YAK MLR MLR
comp=E,850nm,15.0s,MS4.4
YAK Yakutsk 20.32 325 *e*P **P 10 40 50.6 +2.3**
comp=E,158nm,1.1s
CLNS Chul'man 20.33 309 *e*P **P 10 40 50.2 +1.8**
CLNS pmax pmax
comp=E,63nm,1.1s
CLNS pmax pmax
comp=Z,93nm,1.1s
CLNS pmax pmax
comp=N,64nm,1.2s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS4.3
CLNS MLR MLR
comp=N,600nm,15.0s,MS4.5
CLNS MLR MLR
comp=E,2μm,12.0s,MS4.5
NRGR Nerungri 20.37 308 *e*P **P 10 40 54.5 +5.7**
NRGR S **S 10 44 29.7 -5.4**
NRGR smax
comp=N,4.0nm,0.2s
CN2 Changchun 20.54 271 *e*P **P 10 40 50.6 -0.1**
CN2 *e*XP sP 10 40 57.5 -7.1
CN2 *e*S **S 10 44 35.5 -2.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,14.0s,MS4.5
CN2 LR LR
comp=E,900nm,14.0s,MS4.5
CN2 LR LR
comp=Z,1μm,14.0s,MS4.5
BILL Bilibino 21.61 12⇑*e*P **P 10 41 02.2 0.0**
BILL pmax pmax
comp=Z,12nm,1.0s,mb4.3
BILL Bilibino 21.61 12 *e*P **P 10 41 01.4 -0.8**
comp=Z,22nm,0.9s,mb4.6
KSRS Korea Array 21.84 253 P **P 10 41 05.8 +1.2**
comp=Z,18nm,0.8s,mb4.6,baz=63,slow=9.9,SNR=42
KS15 Wonju Array Si 21.87 253 *e*P **P 10 41 05.3 +0.4**
CBIJ Chichi jima 22.39 210 LR LR 10 48 08.5
comp=Z,170nm,20.9s,MS3.5,baz=286,slow=32
SNY Shenyang 22.56 267 ⇑P **P 10 41 12.1 -0.3**
SNY AP 10 41 14.8
SNY XP sP 10 41 18.0 -8.4
SNY AMB AMB
comp=Z,14nm,0.7s,mb4.5
SNY AMB AMB
comp=Z,286nm,5.9s
SNY LR LR
comp=N,2μm,18.0s,MS4.7
SNY LR LR
comp=E,991nm,17.2s,MS4.7
SNY LR LR
comp=Z,1μm,15.5s,MS4.4
INCN Inchon 22.66 254 *e*P **P 10 41 12.8 -0.5**
comp=Z,54nm,1.0s,mb4.9
JNU Nakatsue 22.80 240 P **P 10 41 16.7 +1.8**
comp=Z,20nm,0.8s,mb4.6,baz=223,slow=19,SNR=3.7
JNU LR LR 10 50 28.0
comp=Z,1μm,19.0s,MS4.4,baz=75,slow=37
HIA Hailar 23.03 288 *e*P **P 10 41 15.9 -1.4**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 23.03 288 *e*P **P 10 41 15.9 -1.4**
comp=Z,12nm,1.0s,mb4.3
DL2 Dalian 25.23 263 *e*P **P 10 41 40.3 +2.4**
DL2 S **S 10 46 09.0 +8.1**
DL2 AMB AMB
comp=Z,30nm,1.2s,mb4.7
DL2 LR LR
comp=N,480nm,12.3s,MS4.3
DL2 LR LR
comp=E,230nm,11.1s,MS4.3
DL2 LR LR
comp=Z,430nm,13.1s,MS4.1
BOD Bodaibo 26.31 308 *e*P **P 10 41 47.2 -0.4**
BOD *e* 10 42 02.6
BJI Beijing 28.38 269 P **P 10 42 05.8 -0.4**
BJI S **S 10 46 52.8 +2.1**
BJI AMB AMB
comp=Z,4.0nm,0.8s,mb4.1
BJI LR LR
comp=N,791nm,15.6s,MS4.9
BJI LR LR
comp=E,2μm,15.6s,MS4.9
BJI LR LR
comp=Z,495nm,17.2s,MS4.2
BJI Beijing 28.38 269 P **P 10 42 05.7 -0.5**
BJI S **S 10 46 52.7 +2.0**
BJI pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
BJI MLR MLR
comp=Z,500nm,17.2s,MS4.2
BJI Beijing 28.38 269 P **P 10 42 05.7 -0.5**
comp=Z,4.0nm,0.8s,mb4.1
BJI S **S 10 46 52.7 +2.0**
BJI LR LR
comp=Z,500nm,17.2s,MS4.2
SSE Sheshan 30.15 249 P **P 10 42 23.9 +2.0**
SSE XP sP 10 42 28.9 -7.6
SSE S **S 10 47 21.1 +2.6**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,49nm,8.2s
SSE LR LR
comp=N,358nm,16.4s,MS4.2
SSE LR LR
comp=E,215nm,16.4s,MS4.2
SSE LR LR
comp=Z,309nm,16.2s,MS4.0
SSE Sheshan 30.15 249 P **P 10 42 23.9 +2.0**
comp=Z,22nm,0.7s,mb5.0
SSE sP sP 10 42 28.9 -7.6
SSE S **S 10 47 21.1 +2.6**
SSE sS sS 10 47 26.2 -9.2
SSE LR LR
comp=Z,310nm,16.2s,MS4.0
NJ2 Nanjing 31.03 253 *e*P **P 10 42 31.0 +1.3**
NJ2 AP pP 10 42 35.1 -4.8
NJ2 XP sP 10 42 38.3 -6.0
NJ2 PP PP 10 43 33.9 -6.1
NJ2 S **S 10 47 34.5 +2.3**
NJ2 AMB AMB
comp=Z,320nm,5.0s
NJ2 LR LR
comp=N,1μm,15.3s,MS4.9
NJ2 LR LR
comp=E,1μm,15.3s,MS4.9
NJ2 LR LR
comp=Z,750nm,14.4s,MS4.5
HHC Hu-ho-hao-te 31.15 274 *e*P **P 10 42 30.6 -0.1**
HHC AP pP 10 42 35.1 -5.8
HHC XP sP 10 42 37.8 -7.5
HHC PP PP 10 43 33.3 -8.0
HHC PCP PcP 10 45 26.1 +0.9
HHC S **S 10 47 34.6 +0.6**
HHC SCP ScP 10 49 07.9 +2.6
HHC SCS ScS 10 53 03.8 +1.3
HHC AMB AMB
comp=Z,14nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,194nm,5.2s
HHC LR LR
comp=N,1μm,16.2s,MS4.7
HHC LR LR
comp=E,866nm,16.1s,MS4.7
HHC LR LR
comp=Z,1μm,13.8s,MS4.6
ULN Ulaanbaatar 31.55 289 *e*P **P 10 42 32.5 -1.7**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
ULN Ulaanbaatar 31.55 289 *e*P **P 10 42 32.5 -1.8**
comp=Z,5.0nm,0.9s,mb4.3
SONM Songino Array 31.98 289 P **P 10 42 36.8 -1.2**
comp=Z,2.7nm,0.9s,mb4.1,baz=64,slow=8.7,SNR=14
SONM LR LR 10 55 58.5
comp=Z,522nm,18.6s,MS4.2,baz=257,slow=37
ZAK Zakamensk 33.24 295 *e*P **P 10 42 46.7 -2.3**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GUMO Guam 34.60 197 LR LR 10 56 55.8
comp=Z,173nm,18.1s,MS3.8,baz=39,slow=36
MCK McKinley 34.61 41 *e*P **P 10 42 59.3 -1.6**
SML Sawmill 34.91 44 *e*P **P 10 43 02.6 -0.9**
WHN Wuhan 34.95 256 *e*P **P 10 43 09.0 +5.1**
COLA College 35.10 39 *e*P **P 10 43 04.3 -0.9**
COLA pmax pmax
comp=Z,39nm,1.0s,mb5.3
COLA College 35.10 39 *e*P **P 10 43 04.3 -0.9**
comp=Z,39nm,1.0s,mb5.3
XAN Xi'an 36.46 265 P **P 10 43 16.0 -0.8**
XAN AP pP 10 43 26.9 -0.3
XAN AMB AMB
comp=Z,14nm,0.8s,mb4.9
XAN LR LR
comp=N,402nm,14.2s,MS4.5
XAN LR LR
comp=E,325nm,14.2s,MS4.5
XAN LR LR
comp=Z,545nm,15.0s,MS4.5
EGAK Eagle 37.97 39 *e*P **P 10 43 28.0 -1.6**
comp=Z,29nm,0.8s,mb5.1
LZH Lanzhou 38.77 272 *e*P **P 10 43 37.3 +1.0**
LZH AP pP 10 43 40.8 -5.9
LZH XP sP 10 43 42.1 -8.9
LZH PP PP 10 45 08.5 +3.1
LZH *e*S **S 10 49 32.5 +1.3**
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,225nm,4.9s
LZH LR LR
comp=N,1μm,17.7s
LZH LR LR
comp=Z,2μm,18.5s,MS5.0
LZH Lanzhou 38.77 272 *e*P **P 10 43 37.3 +1.0**
LZH 10 45 08.5
LZH *e*S **S 10 49 32.5 +1.3**
LZH SS SS 10 52 10.2 -13
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.1
LZH MLR MLR
comp=Z,2μm,18.5s,MS5.0
LZH Lanzhou 38.77 272 *e*P **P 10 43 37.3 +1.0**
comp=Z,40nm,1.0s,mb5.1
LZH pP pP 10 43 40.7 -6.0
LZH sP sP 10 43 42.1 -8.9
LZH PP PP 10 45 08.5 +3.1
LZH *e*S **S 10 49 32.5 +1.3**
LZH sS sS 10 49 38.0 -10
LZH SS SS 10 52 10.2 -13
LZH LR LR
comp=Z,2μm,18.5s,MS5.0
DAWY Dawson 38.80 40 *e*P **P 10 43 36.0 -0.7**
GTA Gaotai 39.76 279 *e*P **P 10 43 43.5 -1.1**
GTA AP pP 10 43 48.4 -6.7
GTA XP sP 10 43 50.8 -8.6
GTA PP PP 10 45 17.3 +1.0
GTA S **S 10 49 44.3 -1.9**
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,91nm,4.9s
GTA LR LR
comp=N,659nm,7.2s
GTA LR LR
comp=E,812nm,14.8s
GTA LR LR
comp=Z,880nm,15.2s,MS4.7
INK Inuvik 40.66 33 P **P 10 43 52.2 +0.1**
comp=Z,9.0nm,0.8s,mb4.5,baz=290,slow=7.5,SNR=22
INK pP pP 10 44 02.8 +0.3
comp=Z,22nm,0.8s,baz=304,slow=6.4,SNR=15
INK Inuvik 40.66 33 P **P 10 43 52.2 +0.1**
INK *PP pP 10 44 02.8 +0.3
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 40.66 33 *e*P **P 10 43 51.8 -0.2**
comp=Z,559nm,0.6s
CD2 Chengdu 41.83 266 ⇓*i*P **P 10 44 02.3 +0.7**
CD2 AP pP 10 44 06.8 -5.3
CD2 XP sP 10 44 09.5 -6.9
CD2 PP PP 10 45 42.3 +3.6
CD2 S **S 10 50 18.3 +1.5**
CD2 SS SS 10 53 18.8 -4.9
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,120nm,6.2s
CD2 LR LR
comp=N,580nm,19.0s,MS4.7
CD2 LR LR
comp=E,650nm,17.8s,MS4.7
CD2 LR LR
comp=Z,430nm,14.3s,MS4.5
GYA Guiyang 42.72 258 ⇑*i*P **P 10 44 09.8 +0.9**
GYA AP pP 10 44 13.8 -5.6
GYA XP sP 10 44 16.9 -6.8
GYA PP PP 10 45 51.8 +3.4
GYA PCP PcP 10 46 02.8 +2.7
GYA SCP ScP 10 49 52.5 +4.3
GYA S **S 10 50 33.1 +3.0**
GYA SCS ScS 10 54 09.6 +2.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,140nm,5.0s
GYA LR LR
comp=N,590nm,16.7s,MS4.8
GYA LR LR
comp=E,710nm,16.9s,MS4.8
GYA LR LR
comp=Z,790nm,17.0s,MS4.7
ZAL Zalesovo 43.01 306 P **P 10 44 08.9 -2.3**
comp=Z,2.5nm,0.4s,mb4.3,baz=52,slow=4.2,SNR=9.4
DLBC Dease Lake 44.53 47 *e*P **P 10 44 24.9 +1.5**
WMQ Urumqi 45.55 291 ⇓*i*P **P 10 44 33.3 +1.8**
WMQ AP pP 10 44 37.8 -4.3
WMQ XP sP 10 44 40.3 -6.1
WMQ PCP PcP 10 46 12.8 +3.0
WMQ PP PP 10 46 20.3 +1.8
WMQ PPP 10 47 02.3
WMQ S **S 10 51 13.8 +2.6**
WMQ XS sS 10 51 21.4 -7.2
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,44nm,3.9s
WMQ LR LR
comp=N,1μm,20.4s,MS4.9
WMQ LR LR
comp=E,325nm,20.4s,MS4.9
WMQ LR LR
comp=Z,335nm,14.0s
QIZ Qiongzhong 45.91 248 P **P 10 44 34.4 0.0**
QIZ S **S 10 51 19.3 +2.9**
QIZ SS SS 10 54 41.3 -0.1
QIZ LR LR
comp=N,302nm,15.6s,MS4.6
QIZ LR LR
comp=E,398nm,15.6s,MS4.6
QIZ LR LR
comp=Z,333nm,17.8s,MS4.3
KMI Kunming 46.23 260 P **P 10 44 38.5 +1.5**
KMI AP pP 10 44 41.3 -6.3
KMI PP PP 10 46 26.6 +0.8
KMI S **S 10 51 23.0 +1.9**
KMI SS SS 10 54 41.9 -4.7
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
KMI AMB AMB
comp=Z,64nm,3.1s
KMI LR LR
comp=N,509nm,18.3s,MS4.6
KMI LR LR
comp=E,394nm,17.6s,MS4.6
KMI LR LR
comp=Z,348nm,18.9s,MS4.3
KMI Kunming 46.23 260 P **P 10 44 38.5 +1.5**
KMI 10 46 26.6

KMI S **S** **10 51 23.0 +1.9**
KMI *SS sS 10 51 28.5 -10
KMI SS SS 10 54 41.9 -4.7
KMI pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
KMI MLR MLR
comp=Z,350nm,18.9s,MS4.3
KMI Kunming 46.23 260 P **P** **10 44 38.5 +1.5**
comp=Z,8.0nm,1.2s,mb4.5
KMI pP pP 10 44 41.3 -6.3
KMI sP sP 10 44 42.9 -8.9
KMI PP PP 10 46 26.6 +0.8
KMI S **S** **10 51 23.0 +1.9**
KMI sS sS 10 51 28.5 -10
KMI SS SS 10 54 41.9 -4.7
KMI LR LR
comp=Z,350nm,18.9s,MS4.3
MK31 Makanchi Array 47.46 297 *eP* **P** **10 44 44.7 -1.9**
MKAR Makanchi Array 47.46 297 P **P** **10 44 45.1 -1.5**
comp=Z,10nm,0.9s,mb4.8,baz=64,slow=8.4,SNR=35
MKAR pP pP 10 44 54.8 -2.4
comp=Z,10nm,0.9s,baz=67,slow=8.0,SNR=15
MKAR LR LR 11 05 50.2
comp=Z,301nm,21.4s,MS4.2,baz=315,slow=38
MKAR Makanchi Array 47.46 297 P **P** **10 44 45.1 -1.5**
MKAR *PP pP 10 44 54.8 -2.4
KURK Kurchatov 47.78 304 P **P** **10 44 47.9 -1.1**
comp=Z,168nm,0.8s,mb6.1,SNR=11
YKA Yellowknife Ar 49.90 37 P **P** **10 45 04.9 -0.4**
comp=Z,3.3nm,0.8s,mb4.4,baz=298,slow=7.1,SNR=3.8
YKA pP pP 10 45 14.9 -1.0
comp=Z,11nm,0.9s,baz=297,slow=7.0,SNR=10.0
YKA LR LR 11 08 56.9
comp=Z,143nm,20.1s,MS4.0,baz=225,slow=39
YKA Yellowknife Ar 49.90 37 P **P** **10 45 04.9 -0.4**
YKA *PP pP 10 45 14.9 -1.1
YKA Yellowknife Ar 49.90 37 P **P** **10 45 04.9 -0.4**
YKA pP pP 10 45 14.9 -1.0
YKA LR LR 11 08 56.9
RES Resolute Bay 49.98 19 *eP* **P** **10 45 04.6 -1.3**
comp=Z,258nm,0.8s
CHKZ Chkalovo 50.73 310 *eP* **P** **10 45 09.2 -2.4**
CHKZ pmax pmax
comp=Z,13nm,0.6s,mb5.0
CHKZ Chkalovo 50.73 310 *eP* **P** **10 45 09.2 -2.4**
comp=Z,13nm,0.6s,mb5.0
LSA Lhasa 51.14 274 P **P** **10 45 14.4 -0.2**
LSA Lhasa 51.14 274 *eP* **P** **10 45 16.8 +2.2**
LSA pmax pmax
comp=Z,28nm,0.6s,mb5.4
LSA Lhasa 51.14 274 *eP* **P** **10 45 16.8 +2.1**
comp=Z,28nm,0.6s,mb5.4
BVAR Borovoye Array 51.17 310 P **P** **10 45 13.5 -1.4**
comp=Z,5.0nm,0.6s,mb4.6,baz=59,slow=8.4,SNR=18
BVAR LR LR 11 08 15.6
comp=Z,251nm,19.1s,MS4.2,baz=320,slow=38
BRVK Borovoye 51.21 310 P **P** **10 45 13.5 -1.7**
comp=Z,108nm,0.8s,mb5.8,SNR=7.5
BRVK Borovoye 51.21 310 *eP* **P** **10 45 13.6 -1.6**
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.9
BRVK Borovoye 51.21 310 *eP* **P** **10 45 13.6 -1.6**
comp=Z,13nm,0.8s,mb4.9
ZRNK Zerenda 51.93 310 *eP* **P** **10 45 18.9 -1.7**
ZRNK pmax pmax
comp=Z,17nm,1.2s,mb4.8
ZRNK Zerenda 51.93 310 *eP* **P** **10 45 18.9 -1.7**
comp=Z,17nm,1.2s,mb4.8
CHTO Chiang Mai 53.13 257 *eP* **P** **10 45 30.2 +0.7**
CHTO pmax pmax
comp=Z,18nm,0.9s,mb5.0
CHTO Chiang Mai 53.13 257 *eP* **P** **10 45 30.2 +0.8**
comp=Z,18nm,0.9s,mb5.0
FRU Bishkek 54.18 297 *eP* **P** **10 45 36.0 -1.2**
FRU MLR MLR
comp=Z,700nm,16.0s,MS4.8
AAK Ala-Archa 54.37 297 P **P** **10 45 36.3 -2.2**
comp=Z,42nm,0.6s,mb5.5,SNR=5.1
AAK Ala-Archa 54.37 297 *eP* **P** **10 45 36.5 -2.0**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 54.37 297 *eP* **P** **10 45 36.5 -2.0**
comp=Z,6.0nm,0.8s,mb4.6
A08A Turner Farm, O 54.53 54 ⇑P **P** **10 45 39.1 -0.6**
baz=54
B08A Colville Reser 54.82 55 ⇑P **P** **10 45 41.1 -0.7**
baz=55
A09A Danville 54.89 54 P **P** **10 45 41.9 -0.4**
baz=55,SNR=10.0
ARU Arti 55.17 318 ⇓*iP* **P** **10 45 42.6 -1.7**
ARU *e*PPP 10 48 57.9
ARU *e*S **S** **10 53 24.3 -0.7**
ARU *e*SS SS 10 57 05.7 -3.6
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ARU Arti 55.17 318 *eP* **P** **10 45 41.8 -2.6**
comp=Z,6.5nm,0.6s,mb4.8
EDM Edmonton 55.25 47 *eP* **P** **10 45 44.2 -0.7**
KSH Kashi 55.25 293 *eP* **P** **10 45 45.3 +0.4**
KSH *e*AP pP 10 45 50.1 -5.6
KSH *e*XP sP 10 45 53.8 -6.1
KSH *e*PP PP 10 47 50.3 +1.7
KSH *e*PPP 10 49 44.5
KSH *e*S **S** **10 53 25.0 -1.1**
KSH *e*XS sS 10 53 35.6 -8.2
KSH *e*PS 10 53 45.3
KSH *e*SCS ScS 10 55 30.4 -0.9
KSH *e*SS SS 10 57 13.4 +2.9
KSH LR LR
comp=N,425nm,3.9s
KSH LR LR
comp=E,695nm,4.0s
B09A Rice 55.44 54 ⇓P **P** **10 45 45.8 -0.4**
baz=55
A10A Northport 55.45 53 ⇑P **P** **10 45 46.3 0.0**
baz=55
I04A Tendick Farm, 55.65 61 ⇓P **P** **10 45 48.0 +0.3**
baz=55
C09A Chrisman Ranch 55.73 55 ⇑P **P** **10 45 47.2 -1.2**
baz=56
JIRN Jiri 55.79 275 *eP* **P** **10 45 50.1 +1.3**
comp=E,105nm,0.9s,mb5.9
GUN Gumba 55.84 275 *eP* **P** **10 45 49.0 -0.1**
comp=E,42nm,0.6s,mb5.7
H05A Madras 55.85 59 ⇓P **P** **10 45 48.3 -0.9**
baz=56
NEW Newport 56.09 54 P **P** **10 45 50.4 -0.5**
comp=E,2.9nm,0.9s,mb4.3,baz=310,slow=6.6,SNR=4.9
NEW pP pP 10 46 00.7 -1.0
comp=E,8.7nm,1.0s,baz=307,slow=6.2,SNR=8.4
NEW Newport 56.09 54 P **P** **10 45 50.4 -0.6**
NEW *PP pP 10 46 00.7 -1.1
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 56.09 54 *eP* **P** **10 45 50.5 -0.5**
comp=Z,13nm,1.2s,mb4.8
I05A Bend 56.11 60 ⇑P **P** **10 45 51.1 +0.1**
baz=56
A11A Hall Mountain, 56.11 53 ⇑P **P** **10 45 50.9 -0.1**
baz=56
D09A Jones Farm, Ri 56.13 55 ⇑P **P** **10 45 50.6 -0.6**
baz=56
C10A Spilker Farm, 56.25 54 ⇓P **P** **10 45 51.7 -0.3**
baz=56
H06A Lindquist Farm 56.32 59 ⇓P **P** **10 45 52.1 -0.5**
baz=56
KKN Kakani 56.32 276 *eP* **P** **10 45 53.6 +1.0**
comp=Z,42nm,0.6s,mb5.6
PKI Pulchoki 56.38 276 *eP* **P** **10 45 53.9 +0.9**
comp=Z,27nm,0.7s,mb5.4
G07A Ruggs Ranch, H 56.40 58 ⇑P **P** **10 45 52.0 -1.0**
baz=56
B11A Sandpoint 56.41 53 ⇓P **P** **10 45 52.8 -0.3**
baz=56
A12A Yaak River Ran 56.51 52 ⇑P **P** **10 45 53.5 -0.4**
baz=56
E09A Wood Farm, Sta 56.54 56 ⇓P **P** **10 45 53.6 -0.5**
baz=56
DMN Daman 56.56 276 *eP* **P** **10 45 55.5 +1.2**
comp=Z,122nm,0.9s,mb5.9
GKN Gorkha 56.62 276 *eP* **P** **10 45 55.2 +0.5**
comp=Z,69nm,0.9s,mb5.7
J05A Fort Rock 56.64 60 ⇑P **P** **10 45 54.8 0.0**
baz=56
YBH Yreka Blue Hor 56.67 63 pP pP 10 46 06.9 +1.0
comp=Z,11nm,0.9s,baz=280,slow=5.7,SNR=6.4
YBH LR LR 11 09 09.7
comp=Z,257nm,18.2s,MS4.4,baz=45,slow=35
YBH Yreka Blue Hor 56.67 63 ⇑P **P** **10 45 55.3 +0.3**
baz=56
HNR Honiara 56.74 173 LR LR 11 12 02.8
comp=Z,229nm,18.1s,MS4.3,baz=359,slow=38
G08A Pilot Rock 56.79 57 ⇑P **P** **10 45 54.9 -0.9**
baz=57
PMG Port Moresby 56.87 189 LR LR 11 07 53.9
comp=Z,62nm,18.2s,MS3.8,baz=237,slow=33
L04A Klamath Falls 56.90 62 ⇑P **P** **10 45 56.3 -0.3**
baz=57
APA Apatity 57.14 337 ⇓*iP* **P** **10 45 57.0 -1.4**
APA pmax pmax
comp=Z,54nm,1.6s,mb5.3
F09A S2 Ranch, Elgi 57.14 56 ⇑P **P** **10 45 58.2 -0.2**
baz=57
M04C Macdoel 57.16 62 ⇑P **P** **10 45 58.8 +0.3**
baz=57
K05A Summer Lake 57.17 61 ⇑P **P** **10 45 59.0 +0.5**
baz=57
I07A Izee 57.18 59 ⇑P **P** **10 45 58.7 0.0**
baz=57
D11A Klaveano Farm, 57.23 54 P **P** **10 45 58.5 -0.6**
baz=57,SNR=5.3
WALA Waterton Lakes 57.36 51 *eP* **P** **10 45 59.1 -0.8**
WALA *e* pP 10 46 09.9 -0.9
H08A Prairie City 57.41 58 ⇑P **P** **10 46 00.3 0.0**
baz=57
B13A Whitefish 57.47 52 P **P** **10 46 01.1 +0.4**
baz=57,SNR=10
KOLN Koldanda 57.47 277 *eP* **P** **10 46 01.4 +0.7**
comp=Z,67nm,0.9s,mb5.7
K06A Valley Falls 57.51 60 ⇑P **P** **10 46 01.2 +0.2**
baz=57
ARCES ARCESS Array B 57.58 341 LR LR 11 16 37.8
comp=Z,273nm,19.7s,MS4.4,baz=33,slow=42
BSMT Bassoo Peak 57.61 53 *eP* **P** **10 46 02.2 +0.5**
C13A Hot Springs 57.83 53 ⇑P **P** **10 46 03.4 +0.2**
baz=58
I08A Drewsey 57.83 59 ⇓P **P** **10 46 03.8 +0.6**
baz=58
H09A Durkee 57.90 57 ⇑P **P** **10 46 04.3 +0.6**
baz=58
F11A Grangeville 58.02 55 ⇑P **P** **10 46 04.1 -0.5**
baz=58
J08A Circle Bar Ran 58.22 59 ⇑P **P** **10 46 05.6 -0.3**
baz=58
C14A Swan Lake 58.22 52 ⇓P **P** **10 46 06.0 0.0**
baz=58
D13A Huson 58.24 53 ⇑P **P** **10 46 05.7 -0.4**
baz=58
G11A Walters Elk Ra 58.25 56 ⇑P **P** **10 46 06.0 -0.2**
baz=58
I09A Lost Marbles R 58.27 58 ⇑P **P** **10 46 06.8 +0.5**
baz=58
ELFS Eagle Lake Fie 58.53 63 ⇓P **P** **10 46 08.4 +0.2**
baz=58
BOK Bokaro 58.53 272 *eP* **P** **10 46 05.4 -2.8**
BOK AMb AMB 10 46 23.7
comp=Z,25nm,1.7s,mb5.0
K08A Mann Creek Ran 58.59 60 ⇓P **P** **10 46 09.1 +0.5**
baz=58
J09A Fry Pan Ranch, 58.64 59 ⇑P **P** **10 46 09.3 +0.4**
baz=58
ORV Orrorville 58.71 64 ⇓P **P** **10 46 09.2 -0.1**
baz=58
D14A Greenough 58.77 53 P **P** **10 46 09.6 -0.1**
baz=58,SNR=17
E13A Victor 58.78 54 ⇑P **P** **10 46 09.6 -0.3**
baz=58
H11A Donnelly 58.82 56 P **P** **10 46 10.3 +0.2**
baz=59,SNR=9.1
O05C Quincy 58.82 63 ⇑P **P** **10 46 10.3 +0.2**
baz=59
N06A Buffalo Meadow 58.99 62 ⇓P **P** **10 46 10.8 -0.5**
baz=59,SNR=5.3
AKTO Aktyubinsk 58.99 312 LR LR 11 11 52.0
comp=Z,321nm,19.0s,MS4.5,baz=259,slow=36
M07A Soldier Meadow 59.00 61 ⇑P **P** **10 46 11.8 +0.4**
baz=59
K09A Rome 59.05 59 ⇑P **P** **10 46 12.1 +0.3**
baz=59
F13A Darby 59.10 55 P **P** **10 46 12.2 +0.1**
baz=59,SNR=6.5
E14A Clinton 59.18 54 P **P** **10 46 12.8 +0.2**
baz=59,SNR=9.2
BEKR Beckwourth 59.22 63 ⇑P **P** **10 46 12.9 +0.1**
baz=59
D15A Lincoln 59.32 53 ⇓P **P** **10 46 13.6 0.0**
baz=59
O06A Flanigan 59.35 63 ⇓P **P** **10 46 14.4 +0.6**
baz=59
L09A Wilkinson Ranc 59.50 60 ⇓P **P** **10 46 15.1 +0.3**
baz=59
F14A Wisdom 59.62 54 ⇑P **P** **10 46 15.8 +0.2**
baz=59
E15A Deer Lodge 59.64 53 P **P** **10 46 16.1 +0.2**
baz=59,SNR=8.3
HRY Holter Researc 59.90 53 *eP* **P** **10 46 17.5 -0.1**
O07A Toulon 59.93 62 ⇓P **P** **10 46 18.5 +0.7**
baz=60
N08A GE Springer Mi 59.99 61 ⇑P **P** **10 46 18.3 +0.1**
baz=60,SNR=5.5
M09A Marrel Ranch, 60.00 60 ⇑P **P** **10 46 18.3 +0.1**
baz=60
SUMG Summit 60.03 4 *eP* **P** **10 46 19.1 +0.6**
comp=Z,22nm,1.1s,mb5.1
F15A Butte 60.08 54 P **P** **10 46 19.2 +0.4**
baz=60,SNR=8.0
LRM Limekiln Ridge 60.12 54 *eP* **P** **10 46 19.5 +0.4**
EGMT Eagleton 60.18 50 ⇑P **P** **10 46 19.8 +0.3**
baz=60
FCC Fort Churchill 60.26 34 *eP* **P** **10 46 18.8 -1.3**
N09A Rock Creek Ran 60.31 61 ⇑P **P** **10 46 20.8 +0.4**
baz=60,SNR=5.2
CMB Columbia Colle 60.33 65 *eP* **P** **10 46 20.5 -0.1**
CMB pmax pmax
comp=Z,14nm,1.3s,mb4.8
CMB Columbia Colle 60.33 65 *eP* **P** **10 46 20.4 -0.1**
comp=Z,14nm,1.3s,mb4.8
CMB Columbia Colle 60.33 65 ⇓P **P** **10 46 21.2 +0.7**
baz=60
HLID Hailey 60.43 57 *eP* **P** **10 46 21.2 0.0**
comp=Z,15nm,1.0s,mb5.0
HLID *e* pP 10 46 33.1 +1.0
HLID Hailey 60.43 57 ⇑P **P** **10 46 21.3 +0.1**
baz=60
M10A I.L. Ranch, Tu 60.47 60 ⇓P **P** **10 46 22.1 +0.6**
baz=60,SNR=6.7
G15A Dillon 60.50 54 P **P** **10 46 21.9 +0.2**
baz=60,SNR=6.3
R06C Coleville 60.60 64 ⇓P **P** **10 46 22.9 +0.5**
baz=60
BOZ Bozeman (W) 60.67 53 *eP* **P** **10 46 23.1 +0.2**
BOZ pmax pmax
comp=Z,16nm,0.6s,mb5.3
BOZ Bozeman (W) 60.67 53 *eP* **P** **10 46 23.1 +0.2**
comp=Z,16nm,0.6s,mb5.3
BMN Battle Mountai 60.75 61 *eP* **P** **10 46 23.2 -0.2**
BMN pmax pmax
comp=Z,17nm,1.0s,mb5.1
BMN Battle Mountai 60.75 61 *eP* **P** **10 46 23.2 -0.2**
comp=Z,17nm,1.0s,mb5.1
S06C San Francisco 60.76 65 ⇑P **P** **10 46 23.7 +0.3**
baz=61
O09A Fish Creek Ran 60.93 61 ⇓P **P** **10 46 24.9 +0.2**
baz=61
M11A Holland Ranch, 60.97 59 ⇑P **P** **10 46 25.8 +0.9**
baz=61,SNR=6.3
Q08A Gabbs 61.31 63 ⇑P **P** **10 46 27.3 +0.1**
baz=61
N11A Elko Archery C 61.39 60 ⇓P **P** **10 46 28.6 +0.8**
baz=61,SNR=5.5
M12A Wells 61.49 59 ⇑P **P** **10 46 28.9 +0.5**
baz=61,SNR=5.4
R08A Mina 61.53 63 ⇓P **P** **10 46 29.0 +0.3**
baz=61
YMR Madison River 61.66 54 *eP* **P** **10 46 30.3 +0.7**
comp=Z,74nm,1.5s,mb5.6
N12A Clover Valley, 61.77 59 ⇓P **P** **10 46 30.1 -0.2**
baz=62,SNR=6.0
O11A Cowboy Ranch, 61.87 60 ⇓P **P** **10 46 31.5 +0.5**
baz=62
YFT Old Faithful 61.87 54 *eP* **P** **10 46 32.0 +1.0**
M13A Montello 61.96 59 ⇑P **P** **10 46 32.0 +0.4**
baz=62
HELL Mitchell Peak, 62.03 65 ⇑P **P** **10 46 32.1 0.0**
baz=62
S08C White Mtn Res 62.03 64 ⇑P **P** **10 46 32.4 +0.4**
baz=62
P11A Circle Ranch, 62.18 61 ⇑P **P** **10 46 33.6 +0.6**
baz=62
R09A Tonopah 62.23 63 ⇓P **P** **10 46 33.6 +0.2**
baz=62
N13A Wendover, West 62.26 59 ⇓P **P** **10 46 33.9 +0.3**
baz=62
RRI2 Red Ridge 62.31 55 *eP* **P** **10 46 34.8 +0.9**
comp=Z,40nm,0.8s,mb5.6
RRI2 *e* pP 10 46 45.9 +1.1
O12A Currie 62.32 60 P **P** **10 46 34.1 +0.1**
baz=62,SNR=6.2
S09A Goldfield 62.46 63 ⇓P **P** **10 46 35.0 0.0**
baz=62
HVU Hansel Valley 62.49 57 *eP* **P** **10 46 35.1 -0.1**
VES Vestal, Richgr 62.53 66 ⇑P **P** **10 46 35.4 0.0**
baz=62
LOHW Long Hollow 62.53 55 *eP* **P** **10 46 36.0 +0.6**
comp=Z,38nm,1.3s,mb5.4
LOHW *e* pP 10 46 46.8 +0.5
SNOW Snow King Moun 62.55 55 *eP* **P** **10 46 37.0 +1.5**
comp=Z,34nm,1.0s,mb5.4
SNOW *e* pP 10 46 47.7 +1.3
Q11A Duckwater 62.69 62 ⇑P **P** **10 46 37.0 +0.5**
baz=62
P12A McGill 62.73 61 ⇓P **P** **10 46 36.9 +0.1**
baz=62
DGMT Dagmar 62.74 47 *eP* **P** **10 46 36.1 -0.7**
CWC Cottonwood Cre 62.77 65 ⇑P **P** **10 46 37.3 +0.3**
baz=63
SPUT South Promonto 62.98 58 *eP* **P** **10 46 35.7 -2.7**
SPUT *e* pP 10 46 46.1 -3.2
DAC Darwin (Calif) 63.17 65 *eP* **P** **10 46 39.4 -0.3**
HWUT Hardware Ranch 63.29 57 *eP* **P** **10 46 40.9 +0.4**
comp=Z,28nm,1.2s,mb5.3
HWUT *e* pP 10 46 51.8 +0.4
MPMC Manual Prospec 63.37 65 ⇑P **P** **10 46 41.1 0.0**
baz=63
DUG Dugway 63.49 59 *eP* **P** **10 46 41.4 -0.4**
DUG *e* pP 10 46 53.5 +0.7
DUG Dugway 63.49 59 ⇑P **P** **10 46 41.7 -0.1**
baz=63
FURC Furnace Creek, 63.49 64 ⇓P **P** **10 46 41.9 +0.1**
baz=63
NOQ North Oquirrh 63.60 58 *eP* **P** **10 46 42.6 +0.1**
comp=Z,15nm,0.5s,mb5.3
NOQ *e* pP 10 46 54.6 +1.1
LRMC Laurel Mountai 63.63 66 ⇓P **P** **10 46 43.0 +0.3**
baz=63
BW06 Boulder Array 63.66 55 *eP* **P** **10 46 42.7 -0.3**
comp=Z,51nm,1.4s,mb5.4
BW06 *e* pP 10 46 53.5 -0.4
EDW2 Edwards Air Fo 63.83 66 ⇓P **P** **10 46 43.6 -0.5**
baz=64
FIA1 FINESS Array S 63.87 335 *eP* **P** **10 46 43.3 -1.0**
FINES FINESS Array B 63.88 335 P **P** **10 46 42.4 -2.0**
comp=Z,5.2nm,0.5s,mb4.8,baz=36,slow=9.1,SNR=28
FINES LR LR 11 21 15.0
comp=Z,206nm,18.2s,MS4.3,baz=31,slow=42
NLU North Lily Min 64.08 59 *eP* **P** **10 46 46.1 +0.4**
NLU *e* pP 10 46 57.7 +1.1
DAU Daniels Canyon 64.25 58 *eP* **P** **10 46 47.8 +1.0**
DAU *e* pP 10 46 58.5 +0.7
MPU Maple Canyon 64.29 58 *eP* **P** **10 46 47.0 -0.1**
comp=Z,11nm,0.7s,mb5.0
MPU *e* pP 10 46 58.3 +0.3
VIS Vishakhapatnam 64.42 269 *eP* **P** **10 46 48.6 +0.7**
VIS AMb AMB 10 46 55.7
comp=Z,24nm,1.5s,mb5.0
SHPR Sheep Range 64.51 63 *eP* **P** **10 46 48.9 +0.4**
BHPL Bhopal 64.64 277 *eP* **P** **10 46 48.1 -1.2**
BHPL AMb AMB 10 46 53.9
comp=Z,23nm,1.0s,mb5.2
ARUT Antelope Range 64.70 61 *eP* **P** **10 46 50.5 +0.8**
ARUT *e* pP 10 47 00.8 +0.1
TUQ Turquoise Mtn. 64.75 65 ⇑P **P** **10 46 50.1 0.0**
baz=64
V11A Goodsprings 64.78 64 ⇑P **P** **10 46 50.6 +0.3**
baz=65
HEC Hector,Ludlow 64.89 65 ⇑P **P** **10 46 51.2 +0.2**
baz=65
BBRC Big Bear Sol-O 64.90 66 ⇑P **P** **10 46 51.3 +0.2**
baz=65
U12A Valley of Fire 64.93 63 ⇑P **P** **10 46 51.4 +0.2**
baz=65
NGP Nagpur 64.96 275 *eP* **P** **10 46 51.8 +0.3**
NGP AMb AMB 10 47 03.5
comp=Z,36nm,1.1s,mb5.3
MSU Marysvale 64.97 60 *eP* **P** **10 46 51.6 +0.1**
MSU *e* pP 10 47 02.1 -0.4
PSI Prapat 65.15 245 LR LR 11 18 19.2
comp=Z,140nm,18.1s,MS4.2,baz=252,slow=39
V12A Nelson 65.21 64 ⇓P **P** **10 46 52.7 -0.3**
baz=65
ULM Lac du Bonnet 65.48 42 P **P** **10 46 53.3 -1.4**
comp=Z,2.7nm,0.7s,mb4.4,baz=308,slow=6.1,SNR=6.7
ULM pP pP 10 47 04.3 -1.4
comp=Z,3.6nm,0.6s,baz=324,slow=8.9,SNR=6.1
ULM Lac du Bonnet 65.48 42 P **P** **10 46 53.3 -1.4**
ULM pP pP 10 47 04.3 -1.4
IRM Iron Mountain 66.07 65 ⇑P **P** **10 46 58.6 0.0**
baz=66,SNR=5.0
W13A Hualapai Mount 66.22 64 ⇓P **P** **10 46 59.8 +0.3**
baz=66
BC3 Big Chuckw Mtn 66.22 66 ⇑P **P** **10 46 59.3 -0.2**
baz=66
X13A Yucca 66.59 64 ⇑P **P** **10 47 01.8 -0.2**
baz=66
PDMCI Parker Dam,Lak 66.59 64 ⇓P **P** **10 47 01.6 -0.4**
baz=66,SNR=5.0
W14A Seligman 66.63 63 ⇑P **P** **10 47 02.7 +0.6**
baz=66
Y12C Blythe 66.73 65 ⇓P **P** **10 47 02.9 +0.1**
baz=66
GLA Glamis 67.01 66 *eP* **P** **10 47 03.6 -1.0**
GLA Glamis 67.01 66 ⇓P **P** **10 47 04.8 +0.3**
baz=67
W15A Williams 67.14 63 ⇑P **P** **10 47 06.2 +0.8**
baz=67
X14A Yava 67.24 64 ⇓P **P** **10 47 06.0 -0.1**
baz=67,SNR=5.0
WUAZ Wupatki 67.45 62 ⇑P **P** **10 47 07.9 +0.5**
baz=67
SMCO Snowmass 67.52 56 *eP* **P** **10 46 58.9 -9.0**
comp=Z,27nm,1.4s,mb5.1
CTA Charters Tower 67.53 188 LR LR 11 14 53.7
comp=Z,75nm,18.4s,MS4.0,baz=232,slow=34
Y14A Wickenburg 67.53 64 ⇑P **P** **10 47 08.2 +0.3**
baz=67
X15A Humboldt 67.63 63 ⇓P **P** **10 47 08.5 -0.1**
baz=67,SNR=6.2
ISCO Idaho Springs 67.86 55 *eP* **P** **10 47 10.8 +0.8**
ISCO *e* pP 10 47 19.4 -1.6
ISCO pmax pmax
comp=Z,22nm,1.4s,mb5.0
ISCO Idaho Springs 67.86 55 *eP* **P** **10 47 10.8 +0.9**
comp=Z,22nm,1.4s,mb5.0
ISCO *e* pP 10 47 19.4 -1.6
HYB Hyderabad 67.88 272 *iP* **P** **10 47 10.0 -0.1**
HYB Hyderabad 67.88 272 *eP* **P** **10 47 10.0 -0.1**
NB2 NORSAR Subarra 67.94 342 P **P** **10 47 09.5 -1.0**
comp=Z,7.5nm,0.7s,mb4.8,baz=26,slow=6.5
NOA NORSAR Array B 67.94 342 P **P** **10 47 10.1 -0.4**
comp=Z,5.9nm,0.6s,mb4.8,baz=26,slow=6.4,SNR=14
NOA NORSAR Array B 67.94 342 P **P** **10 47 10.1 -0.4**
MVCO Mesa Verde 68.00 59 *eP* **P** **10 47 11.1 +0.2**
comp=Z,27nm,1.5s,mb5.1
MVCO Mesa Verde 68.00 59 ⇑P **P** **10 47 10.8 0.0**
baz=68
WRAB Tennant Creek 69.37 200 ⇑*eP* **P** **10 47 19.5 +0.1**
WB2 Warramunga Arr 69.38 200 *eP* **P** **10 47 19.0 -0.4**
WRA Warramunga Arr 69.38 200 P **P** **10 47 19.1 -0.4**
comp=Z,6.7nm,0.9s,mb4.5,baz=18,slow=6.5,SNR=22
WRA pP pP 10 47 29.9 -0.7
comp=Z,2.2nm,0.6s,baz=20,slow=6.8,SNR=4.7
MDRS Chennai 69.80 267 *eP* **P** **10 47 22.7 +0.7**
ECSD EROS,Sioux Fal 69.82 47 *eP* **P** **10 47 21.4 -0.8**
comp=Z,13nm,0.8s,mb4.9
ECSD *e* pP 10 47 31.1 -2.1
FITZ Fitzroy Crossi 70.10 209 *eP* **P** **10 47 24.4 +0.5**
comp=Z,9.6nm,0.8s,mb4.8
LAZ Ladron 70.73 60 *eP* **P** **10 47 28.4 +0.7**
LAZ *e* pP 10 47 38.6 -0.2
KAD Karad 70.92 275 *eP* **P** **10 47 29.5 +0.6**

KAD					AMb	AMB	10 47 30.8		
	comp=Z,15nm,0.6s,mb5.1								
AKASG	**Malin Array Be**	**71.54**	**327**		P	**P**	**10 47 31.3**	**-1.3**	
	comp=Z,7.4nm,0.6s,mb4.8,baz=33,slow=6.0,SNR=20								
KIEV	**Kiev**	**71.55**	**327**		*e*P	**P**	**10 47 30.8**	**-1.9**	
KIEV					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7								
KIEV	**Kiev**	**71.55**	**327**		*e*P	**P**	**10 47 30.8**	**-2.0**	
	comp=Z,5.6nm,0.6s,mb4.7								
SCHQ	**Schefferville**	**72.40**	**24**		LR	LR	11 22 03.3		
	comp=Z,125nm,18.7s,MS4.2,baz=332,slow=38								
SCIA	**State Center**	**72.85**	**46**		*e*P	**P**	**10 47 39.4**	**-1.0**	
	comp=Z,38nm,0.8s,mb5.4								
SCIA					*e*	pP	10 47 50.4	-1.2	
AS31	**Alice Springs**	**73.07**	**200**		*e*P	**P**	**10 47 42.4**	**+0.6**	
ASAR	**Alice Springs**	**73.07**	**200**		P	**P**	**10 47 42.4**	**+0.6**	
	comp=Z,12nm,0.8s,mb4.9,baz=12,slow=5.8,SNR=76								
ASAR					pP	pP	10 47 53.3	+0.4	
	comp=Z,7.3nm,0.8s,baz=13,slow=5.5,SNR=9.0								
KWP	**Kalwaria**	**74.76**	**330**		*e*P	**P**	**10 47 52.0**	**+0.3**	
OJC	**Ojcow**	**75.22**	**332**		*e*P	**P**	**10 47 54.1**	**-0.2**	
STHS	**Stebnicka Huta**	**75.44**	**331**		*e*P	**P**	**10 47 56.0**	**+0.4**	
STHS					pmax	pmax			
	comp=Z,13nm,0.7s,mb5.0								
STHS	**Stebnicka Huta**	**75.44**	**331**		*e*P	**P**	**10 47 56.0**	**+0.4**	
	comp=Z,13nm,0.7s,mb5.0								
KOLS	**Kolonicke sedl**	**75.51**	**330**		*e*P	**P**	**10 47 56.0**	**+0.1**	
BURAR	**Bucovina Array**	**75.58**	**327**	⇓	*i*P	**P**	**10 47 56.0**	**-0.3**	
BURAR	**Bucovina Array**	**75.58**	**327**	⇓	P	**P**	**10 47 56.0**	**-0.3**	
KSP	**Ksiaz**	**75.76**	**334**		*e*P	**P**	**10 47 57.7**	**+0.3**	
KSP	**Ksiaz**	**75.76**	**334**		*e*P	**P**	**10 47 57.3**	**-0.1**	
KSP					*e*pP	pP	10 48 00.8	-7.8	
OKC	**Ostrava-Krasne**	**76.08**	**333**		*e*P	**P**	**10 47 59.3**	**+0.1**	
UPC	**Upice**	**76.14**	**334**		*e*P	**P**	**10 47 59.3**	**-0.3**	
DPC	**Dobruska-Polom**	**76.19**	**334**		*e*P	**P**	**10 48 00.2**	**+0.4**	
DPC					*e*PCP	PcP	10 48 10.4	-1.4	
CLL	**Collm**	**76.28**	**336**		*e*P	**P**	**10 48 00.0**	**-0.4**	
CLL					*e**PP	pP	10 48 10.0	-1.5	
CLL					pmax	pmax			
	comp=Z,16nm,0.8s,mb5.0								
CLL	**Collm**	**76.28**	**336**		*e*P	**P**	**10 48 00.0**	**-0.4**	
	comp=Z,16nm,0.8s,mb5.0								
CLL					*e*pP	pP	10 48 10.0	-1.5	
CLL	**Collm**	**76.28**	**336**	⇓	*i*P	**P**	**10 48 00.1**	**-0.3**	
	comp=Z,16nm,0.8s,mb5.0								
CLL					*i* pP	pP	10 48 03.4	-8.1	
CLL					*i* (PcP)	PcP	10 48 10.3	-1.9	
CLL					LmV		11 27 00.0		
	comp=Z,300nm,18.4s								
MORC	**Moravsky Berou**	**76.32**	**333**	⇑	*i*P	**P**	**10 48 01.0**	**+0.4**	
MORC	**Moravsky Berou**	**76.32**	**333**		*e*P	**P**	**10 48 00.6**	**0.0**	
BRG	**Berggiesshubel**	**76.41**	**335**		*e*P	**P**	**10 48 00.4**	**-0.7**	
	comp=Z,3.8nm,1.0s,mb4.3								
BRG					*e*	pP	10 48 10.7	-1.5	
	comp=Z,3.5nm,0.7s								
BRG	**Berggiesshubel**	**76.41**	**335**		*e*P	**P**	**10 48 00.4**	**-0.7**	
BRG					*e*	pP	10 48 10.7	-1.6	
BRG					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
LTX	**Lajitas**	**76.41**	**62**		*e*P	**P**	**10 48 00.5**	**-0.6**	
LTX					*e*	pP	10 48 11.2	-1.1	
TXAR	**Lajitas Array**	**76.41**	**62**		P	**P**	**10 48 01.1**	**0.0**	
	comp=Z,1.3nm,0.6s,mb4.0,baz=302,slow=4.3,SNR=8.6								
TXAR					pP	pP	10 48 11.9	-0.4	
	comp=Z,6.6nm,0.9s,baz=297,slow=3.6,SNR=17								
KECS	**Kecovo**	**76.50**	**330**		*e*P	**P**	**10 48 00.9**	**-0.7**	
KECS					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
KECS	**Kecovo**	**76.50**	**330**		*e*P	**P**	**10 48 00.9**	**-0.7**	
	comp=Z,4.8nm,1.0s,mb4.4								
PVCC	**Panska Ves**	**76.54**	**335**		*e*P	**P**	**10 48 01.9**	**0.0**	
TIRR	**Tirgusor**	**76.97**	**324**	⇑	*i*P	**P**	**10 48 04.6**	**+0.3**	
TIRR	**Tirgusor**	**76.97**	**324**		*e*P	**P**	**10 48 04.1**	**-0.2**	
TIRR					pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8								
TIRR	**Tirgusor**	**76.97**	**324**		*e*P	**P**	**10 48 04.0**	**-0.2**	
	comp=Z,11nm,0.9s,mb4.8								
PRU	**Pruhonice**	**77.03**	**335**		*e*P	**P**	**10 48 04.7**	**+0.1**	
PRU					*e*PCP	PcP	10 48 14.7	-0.8	
VYHS	**Vyhne**	**77.03**	**331**		*e*P	**P**	**10 48 04.8**	**+0.2**	
VYHS					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
VYHS	**Vyhne**	**77.03**	**331**		*e*P	**P**	**10 48 04.8**	**+0.2**	
	comp=Z,3.6nm,0.9s,mb4.3								
MLR	**Muntele Rosu**	**77.08**	**326**	⇑	*i*P	**P**	**10 48 05.7**	**+0.8**	
MLR	**Muntele Rosu**	**77.08**	**326**	⇑	P	**P**	**10 48 05.7**	**+0.8**	
DRGR		**77.18**	**328**	⇓	*i*P	**P**	**10 48 05.6**	**+0.1**	
DRGR		**77.18**	**328**	⇓	P	**P**	**10 48 05.6**	**+0.1**	
MALT	**Malatya**	**77.40**	**314**	⇑	*i*P	**P**	**10 48 08.6**	**+1.9**	
MALT	**Malatya**	**77.40**	**314**		*e*P	**P**	**10 48 07.9**	**+1.2**	
MALT					pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8								
MALT	**Malatya**	**77.40**	**314**		*e*P	**P**	**10 48 07.9**	**+1.2**	
	comp=Z,12nm,0.9s,mb4.8								
NKC	**Novy Kostel**	**77.41**	**336**		*e*P	**P**	**10 48 06.4**	**-0.3**	
NKC					*e*PCP	PcP	10 48 16.9	-0.2	
VOIR		**77.47**	**326**	⇑	*i*P	**P**	**10 48 08.3**	**+1.2**	
VOIR		**77.47**	**326**	⇑	P	**P**	**10 48 08.3**	**+1.2**	
ZST	**Bratislava**	**77.85**	**332**		*e*P	**P**	**10 48 10.1**	**+0.9**	
ZST					MLR	MLR			
	comp=Z,300nm,19.0s,MS4.6								
KHC	**Kasperske Hory**	**78.08**	**335**		*e*P	**P**	**10 48 11.0**	**+0.5**	
KHC	**Kasperske Hory**	**78.08**	**335**	⇑	*e*P	**P**	**10 48 11.2**	**+0.7**	
GRA1	**Grafenberg Arr**	**78.23**	**337**		*e*P	**P**	**10 48 11.3**	**0.0**	
	comp=Z,20nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**78.23**	**337**		*e*P	**P**	**10 48 11.3**	**0.0**	
	comp=Z,20nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**78.23**	**337**		*e*P	**P**	**10 48 11.3**	**0.0**	
GRF					pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9								
GRF	**Grafenberg Arr**	**78.23**	**337**		*e*P	**P**	**10 48 11.3**	**0.0**	
GRF					pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9								
GEC2	**GERESS Array S**	**78.30**	**335**		*e*P	**P**	**10 48 11.8**	**+0.1**	
GERES	**GERESS Array B**	**78.30**	**335**		P	**P**	**10 48 11.6**	**-0.1**	
	comp=Z,2.6nm,0.7s,mb4.3,baz=35,slow=4.9,SNR=16								
GERES					pP	pP	10 48 21.7	-1.2	
	comp=Z,3.8nm,0.7s,baz=38,slow=5.7,SNR=7.2								
GZR	**Gura Zlata**	**78.35**	**327**	⇑	*i*P	**P**	**10 48 12.3**	**+0.3**	
GZR	**Gura Zlata**	**78.35**	**327**	⇑	P	**P**	**10 48 12.3**	**+0.3**	
BRTR	**Keskin Array B**	**78.56**	**317**		P	**P**	**10 48 14.0**	**+0.9**	
	comp=Z,6.0nm,0.9s,mb4.5,baz=72,slow=4.0,SNR=18								
BZS	**Buzias**	**78.58**	**328**	⇓	*i*P	**P**	**10 48 13.8**	**+0.6**	
WCI	**Wyandotte Cave**	**79.05**	**44**		*e*P	**P**	**10 48 15.6**	**-0.2**	
WCI					pmax	pmax			
	comp=Z,25nm,0.8s,mb5.2								
WCI	**Wyandotte Cave**	**79.05**	**44**		*e*P	**P**	**10 48 15.6**	**-0.2**	
	comp=Z,25nm,0.8s,mb5.2								
MIB	**Mutribah**	**79.11**	**302**		*e*P	**P**	**10 48 16.1**	**-0.1**	
MIB					AMb	AMB	10 48 17.4		
	comp=Z,51nm,0.6s,mb5.6								
RST	**Umm Al-Ruwaisa**	**79.53**	**302**		*e*P	**P**	**10 48 18.1**	**-0.3**	
RST					AMb	AMB	10 48 19.5		
	comp=Z,44nm,0.6s,mb5.6								
NAY	**Al-Naaiem**	**79.58**	**302**		*e*P	**P**	**10 48 18.7**	**0.0**	
NAY					AMb	AMB	10 48 24.2		
	comp=Z,22nm,1.1s,mb5.0								
RDF	**Al-Radifah**	**79.64**	**301**		*e*P	**P**	**10 48 19.2**	**+0.1**	
RDF					AMb	AMB	10 48 22.5		
	comp=Z,45nm,0.7s,mb5.5								
STKA	**Stephens Creek**	**79.71**	**191**		P	**P**	**10 48 19.3**	**-0.1**	
	comp=Z,2.8nm,0.8s,mb4.2,baz=51,slow=8.2,SNR=4.6								
STKA	**Stephens Creek**	**79.71**	**191**		*e*P	**P**	**10 48 18.8**	**-0.6**	
KBA	**Koelnbreinsper**	**80.00**	**334**	⇓	*i*P	**P**	**10 48 22.8**	**+1.9**	
	comp=Z,31nm,1.1s,mb5.1								
KBA	**Koelnbreinsper**	**80.00**	**334**		P	**P**	**10 48 22.8**	**+1.9**	
WTTA	**Wattenberg**	**80.33**	**335**	⇑	*i*P	**P**	**10 48 24.4**	**+1.7**	
	comp=Z,19nm,0.8s,mb5.1								
WTTA	**Wattenberg**	**80.33**	**335**		P	**P**	**10 48 24.4**	**+1.7**	
MOTA	**Moosalm**	**80.40**	**336**	⇓	*i*P	**P**	**10 48 24.6**	**+1.5**	
	comp=Z,31nm,1.2s,mb5.1								
CDF	**Champ du Feu**	**80.43**	**339**		*e*P	**P**	**10 48 23.6**	**+0.3**	
	comp=Z,16nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**80.43**	**339**		*e*P	**P**	**10 48 23.6**	**+0.3**	
CDF					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**80.43**	**339**		*e*P	**P**	**10 48 23.6**	**+0.3**	
	comp=Z,8.1nm,0.9s,mb4.7								
VTS	**Vitosha**	**80.59**	**326**	⇓	*i*P	**P**	**10 48 25.3**	**+1.2**	
VTS	**Vitosha**	**80.59**	**326**		P	**P**	**10 48 24.6**	**+0.5**	
VTS	**Vitosha**	**80.59**	**326**	⇓	P	**P**	**10 48 25.3**	**+1.2**	
DAVA	**Damuels**	**80.79**	**336**	⇑	*i*P	**P**	**10 48 25.9**	**+0.7**	
	comp=Z,16nm,1.0s,mb4.9								
GRR	**Gorron**	**82.25**	**344**		*e*P	**P**	**10 48 33.3**	**+0.4**	
SMF	**Signal de Mont**	**82.91**	**340**		*e*P	**P**	**10 48 36.7**	**+0.3**	
	comp=Z,34nm,1.0s,mb5.0								
SMF	**Signal de Mont**	**82.91**	**340**		*e*P	**P**	**10 48 36.7**	**+0.3**	
SMF					pmax	pmax			
	comp=Z,17nm,1.0s,mb5.0								
SMF	**Signal de Mont**	**82.91**	**340**		*e*P	**P**	**10 48 36.7**	**+0.3**	
	comp=Z,17nm,1.0s,mb5.0								
LPG	**La Plagne**	**83.28**	**338**		*e*P	**P**	**10 48 39.5**	**+1.2**	
	comp=Z,29nm,1.0s,mb5.0								
LPG	**La Plagne**	**83.28**	**338**		*e*P	**P**	**10 48 39.5**	**+1.2**	
LPG					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0								
LPG	**La Plagne**	**83.28**	**338**		*e*P	**P**	**10 48 39.5**	**+1.2**	
	comp=Z,14nm,1.0s,mb5.0								
RJF	**Les Rejaudoux**	**84.71**	**341**		*e*P	**P**	**10 48 45.6**	**+0.1**	
VNDA	**Vanda**	**124.68**	**178**		PKP	PKPdf	10 55 09.0	-2.1	
	comp=Z,0.8nm,0.8s,baz=315,slow=4.3,SNR=7.1								
VNDA					pPKP	pPKPdf	10 55 20.6	-2.2	
	comp=Z,0.7nm,0.8s,baz=288,slow=4.3,SNR=3.8								
CFAA	**Coronel Fontan**	**144.00**	**80**		pPKP	pPKPdf	10 55 55.4	-3.3	
	comp=Z,0.7nm,0.8s,baz=302,slow=2.6,SNR=5.7								
SNAA	**Sanae**	**153.38**	**196**		PKPbc	PKPbc	10 56 07.4	-2.3	
	comp=Z,0.6nm,0.7s,baz=291,slow=12,SNR=6.7								
SNAA	**Sanae**	**153.38**	**196**		*e*PKPdf	PKPbc	10 56 06.6	-3.1	
SNAA					*e*		10 56 18.0		
SNAA					*e*		10 56 21.8		
SNAA					*e*		10 56 34.0		
SNAA					*e*		10 56 44.1		
SNAA	**Sanae**	**153.38**	**196**		PKIKP	PKPbc	10 56 07.4	-2.3	
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
VNA2	**Neumayer--Watz**	**154.81**	**194**		*e*PKPdf	PKPbc	10 56 15.9	+3.1	
	baz=195,slow=0.5								
VNA2					*e*		10 56 27.4		
VNA2					*e*		10 56 38.7		
VNA2					*e*		10 56 53.5		
VNA3	**Neumayer Olymp**	**154.87**	**192**		*e*PKPdf	PKPbc	10 56 16.3	+3.4	
VNA3					*e*		10 56 27.4		
VNA3					*e*		10 56 38.3		
VNA1	**Neumayer--Stat**	**155.19**	**194**		*e*PKPdf	pPKPdf	10 56 19.0	+2.6	
VNA1					*e*		10 56 29.7		
VNA1					*e*		10 56 41.1		
VNA1					*e*		10 56 56.4		

*IDC **16** 10:42:09.8±1.7, 4662N×15300E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/24, mbtmp3.9/10, Error ellipse: s-maj=49.4km s-min=21.9km az=174.0*
*ISCJB **16** 10:42:13.1±1.1, 466N±02×1529E±02, h33km, mb3.9/9, Error ellipse: s-maj=33.1km s-min=8.5km az=121.9*
*MOS **16** 10:42:13.1±1.3, 4667N×15290E, h33km, mb4.2/8, Error ellipse: s-maj=25.2km s-min=22.0km az=56.1*

ISC 16 10:42:15.6±3.1, 467N±03×1529E±02, h38km±35km, n22, σ0°91/23, mb3.9/9, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**250**	⇓	*i*	P	**Pn**	**10 43 08.8**	**-2.8**
KUR					*i*	S	**Sn**	**10 43 54.5**	**-0.5**
KUR						pmax	pmax		
	comp=N,30nm,0.5s								
KUR						pmax	pmax		
	comp=Z,150nm,0.5s								
KUR						smax			
	comp=N,110nm,0.8s								
KUR						smax			
	comp=E,220nm,0.8s								
ASAJ	**Asahikawa**	**7.69**	**254**			Pn	**Pn**	**10 44 07.8**	**+2.7**
	comp=E,0.7nm,0.3s,baz=56,slow=11,SNR=4.4								
ASAJ	**Asahikawa**	**7.69**	**254**			PN	**Pn**	**10 44 07.8**	**+2.7**
ASAJ						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**20.64**	**252**			P	**P**	**10 46 52.6**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=53,slow=12,SNR=5.2								
INK	**Inuvik**	**41.79**	**32**			P	**P**	**10 50 01.5**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.5,baz=244,slow=10.0,SNR=3.7								
INK	**Inuvik**	**41.79**	**32**			P	**P**	**10 50 01.5**	**+0.2**
INK						pmax	pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**46.85**	**297**			P	**P**	**10 50 41.6**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=68,slow=7.8,SNR=6.0								
MKAR	**Makanchi Array**	**46.85**	**297**			P	**P**	**10 50 41.6**	**-0.2**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**50.80**	**309**			P	**P**	**10 51 12.0**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=76,slow=6.1,SNR=3.1								
BVAR	**Borovoye Array**	**50.80**	**309**			P	**P**	**10 51 12.0**	**0.0**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**57.88**	**341**			P	**P**	**10 52 03.6**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=30,slow=7.3,SNR=3.5								
ARCES	**ARCESS Array B**	**57.88**	**341**			P	**P**	**10 52 03.6**	**+0.1**
ARCES						pmax	pmax		
	comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	**64.05**	**335**			P	**P**	**10 52 45.1**	**-0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=59,slow=7.4,SNR=5.1								
FINES	**FINESS Array B**	**64.05**	**335**			P	**P**	**10 52 45.1**	**-0.3**
FINES						pmax	pmax		
	comp=Z,1.0nm,0.5s								
PDAR	**Pinedale Array**	**64.91**	**54**			P	**P**	**10 52 51.3**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=322,slow=2.8,SNR=3.6								
NB2	**NORSAR Subarra**	**68.25**	**341**			P	**P**	**10 53 12.4**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.25**	**341**			P	**P**	**10 53 12.5**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=4.0								
NOA	**NORSAR Array B**	**68.25**	**341**			P	**P**	**10 53 12.5**	**+0.1**
NOA						pmax	pmax		
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**71.53**	**326**			P	**P**	**10 53 32.5**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=34,slow=6.2,SNR=6.3								
AKASG	**Malin Array Be**	**71.53**	**326**			P	**P**	**10 53 32.5**	**0.0**
AKASG						pmax	pmax		
	comp=Z,2.0nm,0.4s								
TXAR	**Lajitas Array**	**77.66**	**60**			P	**P**	**10 54 07.5**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=306,slow=4.2,SNR=10								
TXAR	**Lajitas Array**	**77.66**	**60**			P	**P**	**10 54 07.5**	**-0.6**
TXAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								

*ISCJB **16** 10:48:07.8±0.5, 4704N±008×15549E±009, h10km, mb4.5/40, MS4.2/2, Error ellipse: s-maj=12.7km s-min=6.5km az=110.4*
*BJI **16** 10:48:08.5, 4753N×15534E, h5km, mB4.8, mb4.5, Ms4.6, Msz4.3*
*IDC **16** 10:48:08.2±0.7, 4708N×15545E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/26, mbtmp4.3/21, ML3.9/2, MS4.1/1, Ms1 4.1/1, ms1mx3.0/44, Error ellipse: s-maj=19.1km s-min=14.6km az=146.0*
*NEIC **16** 10:48:09.5±0.6, 4703N×15542E, h10km, mb4.7/12, Error ellipse: s-maj=14.1km s-min=7.9km az=141.0*
*MOS **16** 10:48:10.9±0.9, 4697N×15529E, h33km, mb4.9/12, Error ellipse: s-maj=11.6km s-min=9.0km az=99.0*

ISC 16 10:48:08.6±3.0, 4714N±009×15549E±010, h1km±18km, n81, σ1°06/81, mb4.5/40, MS4.2/2, 3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.57**	**6**	*e*		PN	**Pn**	**10 49 08.0**	**+3.0**
SKR						pmax	pmax		
	comp=Z,90nm,0.5s								
KUR	**Kuril'sk**	**5.62**	**253**	*e*		PN	**Pn**	**10 49 29.8**	**-3.4**
KUR						pmax	pmax		
	comp=Z,150nm,0.7s								
PET	**Petropavlovsk**	**6.23**	**18**	*e*		PN	**Pn**	**10 49 40.5**	**-1.1**
PET						pmax	pmax		
	comp=Z,42nm,0.8s								
PET	**Petropavlovsk**	**6.23**	**18**	*e*	Pn		**Pn**	**10 49 40.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**8.70**	**273**	⇓	*i*	PN	**Pn**	**10 50 19.0**	**+3.6**
YSS	**Yuzh-Sakhalins**	**8.70**	**273**		*e*	Pn	**Pn**	**10 50 18.9**	**+3.4**
ASAJ	**Asahikawa**	**9.52**	**256**		Pn		**Pn**	**10 50 27.1**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=93,slow=8.5,SNR=10								
ASAJ	**Asahikawa**	**9.52**	**256**		PN		**Pn**	**10 50 27.2**	**+0.5**
ASAJ					pmax		pmax		
	comp=Z,1.0nm,0.3s								
KLR	**Kul'dur**	**15.95**	**286**	*e*		P	**Pn**	**10 51 55.2**	**+1.1**
MAJO	**Matsushiro**	**16.63**	**237**	*e*		P	**Pn**	**10 51 58.9**	**-3.9**
MAJO						pmax	pmax		
	comp=Z,24nm,1.0s								
MAJO	**Matsushiro**	**16.63**	**237**	*e*		P	**Pn**	**10 51 58.9**	**-3.9**
	comp=Z,24nm,1.0s								
MAT	**Matsushiro**	**16.63**	**237**	P		P	**Pn**	**10 51 59.6**	**-3.2**
MJAR	**Matsushiro Arr**	**16.63**	**237**	P		Pn	**Pn**	**10 51 59.6**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=12								
CLNS	**Chul'man**	**21.02**	**309**	*e*		P	**P**	**10 52 52.2**	**-1.3**
CLNS						pmax	pmax		
	comp=N,10.0nm,0.8s								
CLNS						pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4								
CLNS						pmax	pmax		
	comp=E,5.0nm,1.1s								
CN2	**Changchun**	**21.26**	**272**	*e*		P	**P**	**10 52 55.1**	**-1.0**
BILL	**Bilibino**	**21.67**	**11**	*e*		P	**P**	**10 53 01.8**	**+1.3**
BILL						pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0								
BILL	**Bilibino**	**21.67**	**11**	*e*		P	**P**	**10 53 01.5**	**+0.9**
	comp=Z,17nm,0.8s,mb4.5								
KSRS	**Korea Array**	**22.46**	**254**			P	**P**	**10 53 09.8**	**+0.8**
	comp=Z,6.2nm,0.7s,mb4.2,baz=56,slow=10,SNR=22								
SNY	**Shenyang**	**23.27**	**269**	⇓		P	**P**	**10 53 16.9**	**-0.7**
SNY						AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3								
JNU	**Nakatsue**	**23.33**	**242**			LR	LR	11 00 53.5	
	comp=Z,456nm,21.5s,MS3.9,baz=192,slow=33								
HHC	**Hu-ho-hao-te**	**31.88**	**275**	*e*		P	**P**	**10 54 36.8**	**+1.6**
HHC						PP	PP	10 55 41.0	-6.1
HHC						AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8								
HHC						AMB	AMB		
	comp=Z,584nm,11.8s								
ULN	**Ulaanbaatar**	**32.30**	**289**	*e*		P	**P**	**10 54 37.8**	**-1.1**
ULN						pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0								
ULN	**Ulaanbaatar**	**32.30**	**289**	*e*		P	**P**	**10 54 37.8**	**-1.1**
	comp=Z,3.4nm,1.1s,mb4.1								
SONM	**Songino Array**	**32.73**	**290**			P	**P**	**10 54 42.1**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=59,slow=9.3,SNR=19								
SONM						PcP	PcP	10 57 27.9	-0.3
	comp=Z,0.7nm,0.9s,baz=163,slow=1.0,SNR=6.2								
ZAK	**Zakamensk**	**33.98**	**295**	*e*		P	**P**	**10 54 52.9**	**-0.7**
COLA	**College**	**34.82**	**39**	*e*		P	**P**	**10 55 01.3**	**+0.5**
COLA						pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6								
COLA	**College**	**34.82**	**39**	*e*		P	**P**	**10 55 01.3**	**+0.5**
	comp=Z,5.5nm,0.7s,mb4.6								
XAN	**Xi'an**	**37.16**	**267**			P	**P**	**10 55 22.3**	**+1.4**
XAN						AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4								
LZH	**Lanzhou**	**39.49**	**273**	*e*		P	**P**	**10 55 42.3**	**+1.8**
LZH						AP		10 55 46.5	
LZH						XP	sP	10 55 49.0	+7.8
LZH						AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8								
LZH						AMB	AMB		
	comp=Z,86nm,4.2s								
LZH	**Lanzhou**	**39.49**	**273**	*e*		P	**P**	**10 55 42.3**	**+1.8**
	comp=Z,20nm,1.0s,mb4.8								
LZH						pP		10 55 46.5	
LZH						sP	sP	10 55 49.0	+7.8
INK	**Inuvik**	**40.45**	**33**			P	**P**	**10 55 49.3**	**+0.9**
	comp=Z,7.3nm,0.8s,mb4.4,baz=288,slow=6.9,SNR=27								
INK	**Inuvik**	**40.45**	**33**			P	**P**	**10 55 49.3**	**+0.8**
INK						pmax	pmax		
	comp=Z

comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.37 342 P **P** **10 59 11.4 -0.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=26,slow=6.5,SNR=7.6
WRA Warramunga Arr 69.44 201 P **P** **10 59 17.2 -1.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=21,slow=6.9,SNR=10
AKASG Malin Array Be 72.11 327 P **P** **10 59 33.5 -1.0**
comp=Z,2.0nm,0.5s,mb4.3,baz=33,slow=6.2,SNR=6.6
ASAR Alice Springs 73.12 201 P **P** **10 59 40.3 -0.2**
comp=Z,1.0nm,0.8s,mb3.8,baz=14,slow=5.8,SNR=15
TXAR Lajitas Array 75.88 62 P **P** **10 59 56.9 +0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=298,slow=4.4,SNR=4.7
CLL Collm 76.77 337 *e*pP pP 11 00 05.0 +2.9
GERES GERESS Array B 78.80 335 P **P** **11 00 13.0 +0.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=57,slow=6.3,SNR=3.1
BRTR Keskin Array B 79.20 318 P **P** **11 00 15.8 +0.7**
comp=Z,1.3nm,0.8s,mb3.9,baz=96,slow=3.7,SNR=4.9
CDF Champ du Feu 80.89 339 *e*P **P** **11 00 28.8 +4.5**
GRR Gorron 82.65 344 *e*P **P** **11 00 38.6 +5.0**
SMF Signal de Mont 83.36 341 *e*P **P** **11 00 41.9 +4.7**
LPG La Plagne 83.74 338 *e*P **P** **11 00 44.6 +5.4**
comp=Z,10nm,0.6s,mb4.9
CAF Calviac 85.38 341 *e*P **P** **11 00 52.2 +4.7**
comp=Z,5.1nm,0.4s,mb4.7

CSEM ***16*** *10:50:48.8, 6863N×1627W, h10km, ML3.5, After REY*
REY 16 10:50:48.8, 6863N×1627W, h10km, ML3.2, ML3.5, Iceland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ILEI	**Leirhofn**	**2.23**	**182**	S		Sn	10 51 54.2	+0.7
IFLA	**Flatey**	**2.55**	**195**	P		Pn	10 51 29.7	-0.5
IGIL	**Gilhagi**	**2.56**	**181**	P		Pn	10 51 30.1	-0.3
IGIL				S		Sn	10 52 02.9	+1.3
IHED	**Heoinshofoi**	**2.59**	**189**	P		Pn	10 51 30.0	-0.8
IHED				S		Sn	10 52 00.6	-1.7
IBRE	**Brettingsstaoi**	**2.60**	**195**	P		Pn	10 51 30.0	-0.8
IBRE				S		Sn	10 52 00.5	-1.9
IGRA	**Granastaoir**	**2.77**	**191**	P		Pn	10 51 32.5	-0.7
IGRA				S		Sn	10 52 05.5	-1.2
IKVO	**Krokottuvotn**	**2.94**	**185**	P		Pn	10 51 35.4	-0.1
IGRS	**Grimsstaoir**	**3.01**	**179**	P		Pn	10 51 36.6	+0.1
IGRS				S		Sn	10 52 14.5	+2.0
IREN	**Reynihlio**	**3.01**	**185**	P		Pn	10 51 36.6	+0.1
IREN				S		Sn	10 52 13.6	+1.1
ISVA	**Svartarkot**	**3.33**	**187**	P		Pn	10 51 41.2	+0.3
ISVA				S		Sn	10 52 21.3	+0.8
IADA	**Aoalbol**	**3.64**	**175**	P		Pn	10 51 45.3	+0.2
IHVA	**Hvannstoosfjol**	**3.69**	**177**	P		Pn	10 51 46.0	+0.1
IGLU	**Glumsstadir**	**3.70**	**172**	P		Pn	10 51 46.1	+0.2
IBRU	**Bruarjokull**	**3.82**	**179**	P		Pn	10 51 48.1	+0.5
IVSH	**V-Sauoahnukur**	**3.84**	**177**	P		Pn	10 51 48.2	+0.2

BJI ***16*** *10:54:42.5, 4775N×15591E, h10km, mB4.7, mb4.4, Ms4.1, Msz4.1*
ISCJB ***16*** *10:54:45.5±4.2, 4667N±009×1549E±0.1, h9km±26km, mb4.4/25, Error ellipse: s-maj=18.1km s-min=10.6km az=85.5*
IDC ***16*** *10:54:45.8±0.7, 4674N×15498E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.1/17, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/47, Error ellipse: s-maj=20.2km s-min=16.4km az=138.0*
MOS ***16*** *10:54:47.9±1.0, 4670N×15482E, h26km, mb4.7/10, Error ellipse: s-maj=14.7km s-min=10.8km az=91.7*
NEIC ***16*** *10:54:48.4±0.9, 4693N×15502E, h10km, mb4.6/10, Error ellipse: s-maj=21.8km s-min=12.5km az=138.0*
ISC 16 10:54:48.6±4.7, 4684N±009×1550E±01, h15km±29km, n58, σ1§19/58, mb4.4/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.91**	**10**	*e*PN		**Pn**	**10 55 51.0**	**+2.9**
KUR	**Kuril'sk**	**5.23**	**255**	*e*PN		**Pn**	**10 56 02.5**	**-3.8**
KUR				pmax		pmax		
	comp=N,60nm,0.7s							
KUR				pmax		pmax		
	comp=E,60nm,0.7s							
KUR				pmax		pmax		
	comp=Z,110nm,0.7s							
PET	**Petropavlovsk**	**6.62**	**19**	*e*PN		**Pn**	**10 56 23.1**	**-2.2**
YSS	**Yuzh-Sakhalins**	**8.40**	**275**	*e*PN		**Pn**	**10 56 56.6**	**+6.8**
YSS				MLR		MLR		
	comp=E,500nm,14.0s							
YSS				MLR		MLR		
	comp=Z,800nm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.40**	**275**	Pn		**Pn**	**10 56 53.8**	**+4.0**
ASAJ	**Asahikawa**	**9.14**	**257**	Pn		**Pn**	**10 57 00.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=126,slow=8.7,SNR=5.7							
ASAJ				LR		LR	11 00 57.4	
	comp=Z,128nm,18.1s,baz=23,slow=41							
ASAJ	**Asahikawa**	**9.14**	**257**	PN		**Pn**	**10 57 00.1**	**+0.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,128nm,18.1s							
MJAR	**Matsushiro Arr**	**16.20**	**237**	Pn		**Pn**	**10 58 32.1**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=70,slow=7.1,SNR=3.1							
MAJO	**Matsushiro**	**16.20**	**237**	*e*P		**Pn**	**10 58 38.8**	**+3.1**
MAJO				pmax		pmax		
	comp=Z,13nm,0.8s							
MAJO	**Matsushiro**	**16.20**	**237**	*e*P		**Pn**	**10 58 38.8**	**+3.1**
	comp=Z,13nm,0.8s							
MAT	**Matsushiro**	**16.20**	**237**	P		**Pn**	**10 58 31.9**	**-3.8**
CN2	**Changchun**	**20.96**	**272**	*e*P		**P**	**10 59 37.3**	**+6.4**
BILL	**Bilibino**	**22.03**	**11**	*e*P		**P**	**10 59 41.8**	**-0.6**
BILL				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.2							
BILL	**Bilibino**	**22.03**	**11**	*e*P		**P**	**10 59 43.6**	**+1.2**
	comp=Z,9.5nm,0.9s,mb4.2							
KSRS	**Korea Array**	**22.08**	**255**	P		**P**	**10 59 42.9**	**-0.1**
	comp=Z,3.7nm,1.0s,mb3.8,baz=59,slow=9.9,SNR=8.0							
HHC	**Hu-ho-hao-te**	**31.59**	**275**	*e*P		**P**	**11 01 12.4**	**+1.8**
HHC				AP		pP	11 01 16.9	+1.6
HHC				XP		sP	11 01 19.5	+2.3
HHC				PP		PP	11 02 15.5	-6.5
HHC				AMB		AMB		
	comp=Z,17nm,1.1s,mb4.8							
HHC				AMB		AMB		
	comp=Z,196nm,9.6s							
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**11 01 17.8**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=61,slow=8.5,SNR=5.1							
SONM				PcP		PcP	11 04 04.7	-0.7
	comp=Z,0.6nm,0.8s,baz=107,slow=1.5,SNR=3.8							
SONM				LR		LR	11 16 10.8	
	comp=Z,93nm,19.8s,baz=1.2,slow=40							
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**11 01 17.8**	**-1.1**
SONM							11 04 04.7	
INK	**Inuvik**	**40.87**	**33**	P		**P**	**11 02 29.8**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.7,baz=327,slow=8.0,SNR=8.6							
INK	**Inuvik**	**40.87**	**33**	P		**P**	**11 02 29.8**	**-0.1**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**40.87**	**33**	*e*P		**P**	**11 02 31.9**	**+2.0**
	comp=Z,78nm,0.9s,mb5.3							
GYA	**Guiyang**	**43.02**	**259**	P		**P**	**11 02 50.3**	**+2.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7							
KMI	**Kunming**	**46.55**	**261**	P		**P**	**11 03 18.8**	**+3.2**
KMI				XP		sP	11 03 26.6	+4.3
KMI				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.6							
KMI	**Kunming**	**46.55**	**261**	P		**P**	**11 03 18.8**	**+3.2**
	comp=Z,8.0nm,1.0s,mb4.6							
KMI				sP		sP	11 03 26.6	+4.3
MKAR	**Makanchi Array**	**48.06**	**298**	P		**P**	**11 03 26.5**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=72,slow=8.3,SNR=7.0							
RES	**Resolute Bay**	**50.33**	**19**	*e*P		**P**	**11 03 50.3**	**+5.6**
RES				pmax		pmax		
	comp=Z,105nm,0.8s							
RES	**Resolute Bay**	**50.33**	**19**	*e*P		**P**	**11 03 50.3**	**+5.6**
	comp=Z,105nm,0.8s							
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P		**P**	**11 03 51.4**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P		**P**	**11 03 51.4**	**-1.2**
	comp=Z,9.1nm,0.6s,mb4.9							
BVAR	**Borovoye Array**	**51.81**	**310**	P		**P**	**11 03 55.0**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.5,baz=59,slow=7.0,SNR=16							
BRVK	**Borovoye**	**51.85**	**310**	*e*P		**P**	**11 03 56.3**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.85**	**310**	*e*P		**P**	**11 03 56.3**	**+0.2**
	comp=Z,3.4nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**52.57**	**311**	*e*P		**P**	**11 04 01.4**	**-0.1**
ZRNK				pmax		pmax		
	comp=Z,38nm,0.6s,mb5.5							
ZRNK	**Zerenda**	**52.57**	**311**	*e*P		**P**	**11 04 01.4**	**-0.1**
	comp=Z,38nm,0.6s,mb5.5							
AAK	**Ala-Archa**	**54.96**	**297**	*e*P		**P**	**11 04 19.2**	**+0.2**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.96**	**297**	*e*P		**P**	**11 04 19.2**	**+0.2**
	comp=Z,3.1nm,0.8s,mb4.4							
ARU	**Arti**	**55.82**	**318**	*e*P		**P**	**11 04 24.3**	**-0.9**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
ARU	**Arti**	**55.82**	**318**	*e*P		**P**	**11 04 24.3**	**-0.9**
	comp=Z,3.9nm,0.5s,mb4.7							
ARCES	**ARCESS Array B**	**58.19**	**341**	P		**P**	**11 04 41.3**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=36,slow=6.7,SNR=3.3							
AKTK	**Aktyubinsk**	**59.64**	**313**	P		**P**	**11 04 51.5**	**-0.4**
AKTO	**Aktyubinsk**	**59.64**	**313**	P		**P**	**11 04 51.5**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=48,slow=13,SNR=3.2							
AKTO	**Aktyubinsk**	**59.64**	**313**	P		**P**	**11 04 51.6**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**63.63**	**55**	P		**P**	**11 05 19.1**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=304,slow=2.7,SNR=7.1							
FINES	**FINESS Array B**	**64.51**	**336**	P		**P**	**11 05 24.4**	**-0.3**
	comp=Z,1.9nm,0.4s,mb4.5,baz=45,slow=7.7,SNR=9.6							
NB2	**NORSAR Subarra**	**68.56**	**342**	P		**P**	**11 05 50.3**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.4,baz=24,slow=6.2							
NOA	**NORSAR Array B**	**68.56**	**342**	P		**P**	**11 05 50.8**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=26,slow=6.5,SNR=6.3							
WRA	**Warramunga Arr**	**69.04**	**201**	P		**P**	**11 05 51.8**	**-1.8**
	comp=Z,2.2nm,0.8s,mb4.1,baz=20,slow=7.0,SNR=11							
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**11 06 13.2**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.3,SNR=5.9							
ASAR	**Alice Springs**	**72.73**	**200**	P		**P**	**11 06 15.5**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=15,slow=5.4,SNR=21							
ASAR	**Alice Springs**	**72.73**	**200**	P		**P**	**11 06 15.5**	**-0.5**
ASAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LTX	**Lajitas**	**76.30**	**62**	*e*P		**P**	**11 06 37.1**	**+0.3**
LTX				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
LTX	**Lajitas**	**76.30**	**62**	*e*P		**P**	**11 06 37.1**	**+0.4**
	comp=Z,5.6nm,1.0s,mb4.5							
TXAR	**Lajitas Array**	**76.30**	**62**	P		**P**	**11 06 37.2**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=304,slow=4.8,SNR=54							
TXAR	**Lajitas Array**	**76.30**	**62**	P		**P**	**11 06 37.2**	**+0.4**
TXAR				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CLL	**Collm**	**76.91**	**337**	*e*P		**P**	**11 06 42.0**	**+1.8**
MALT	**Malatya**	**78.04**	**314**	*e*P		**P**	**11 06 47.6**	**+1.0**
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**	**11 06 51.4**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=359,slow=8.3,SNR=4.0							
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**	**11 06 51.4**	**-0.1**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.4s							

IDC ***16*** *11:02:06.4±0.7, 4689N×15389E, h0km, mb3.9/12, mb1 4.1/13, mb1mx4.0/22, mbtmp3.9/13, Error ellipse: s-maj=22.5km s-min=17.6km az=140.0*
ISCJB ***16*** *11:02:11.5±1.7, 469N±0.1×1539E±0.1, h51km±14km, mb3.8/12, Error ellipse: s-maj=23.2km s-min=10.0km az=100.4*
MOS ***16*** *11:02:11.4±1.6, 4685N×15385E, h53km, mb4.2/9, Error ellipse: s-maj=19.0km s-min=13.8km az=55.9*
ISC 16 11:02:14.0±1.5, 469N±01×1539E±02, h58km±13km, n28, σ1§01/29, mb3.8/12, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**4.06**	**20**	*e*PN		**Pn**	**11 03 13.0**	**-0.6**
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
KUR	**Kuril'sk**	**4.53**	**251**	↓*i*PN		**Pn**	**11 03 16.0**	**-4.0**
KUR				*e*S		**Sn**	**11 04 12.0**	**+0.6**
KUR				pmax		pmax		
	comp=Z,70nm,0.4s							
KUR				smax				
	comp=N,240nm,0.8s							
KUR				smax				
	comp=E,390nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.65**	**275**	*e*PN		**Pn**	**11 04 05.0**	**+2.2**
ASAJ	**Asahikawa**	**8.43**	**255**	Pn		**Pn**	**11 04 12.9**	**-0.4**
	comp=E,0.8nm,0.3s,baz=98,slow=19,SNR=6.2							
ASAJ	**Asahikawa**	**8.43**	**255**	PN		**Pn**	**11 04 13.0**	**-0.4**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.61**	**234**	Pn		**Pn**	**11 05 48.7**	**-1.6**
	baz=42,slow=13,SNR=4.2							
KSRS	**Korea Array**	**21.38**	**253**	P		**P**	**11 06 57.3**	**+0.8**
	comp=Z,1.6nm,0.6s,mb3.5,baz=61,slow=9.5,SNR=9.3							
SONM	**Songino Array**	**31.82**	**289**	P		**P**	**11 08 32.3**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=66,slow=7.3,SNR=2.6							
INK	**Inuvik**	**41.23**	**33**	P		**P**	**11 09 53.1**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.6,baz=339,slow=9.2,SNR=7.3							
INK	**Inuvik**	**41.23**	**33**	P		**P**	**11 09 53.1**	**0.0**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.38**	**298**	P		**P**	**11 10 40.8**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=70,slow=8.0,SNR=7.6							
MKAR	**Makanchi Array**	**47.38**	**298**	P		**P**	**11 10 40.8**	**-1.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**11 12 41.8**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=38,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**11 12 41.8**	**-0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PDAR	**Pinedale Array**	**64.21**	**54**	P		**P**	**11 12 43.5**	**+0.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=288,slow=2.9,SNR=10							
NB2	**NORSAR Subarra**	**68.28**	**341**	P		**P**	**11 13 08.2**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.28**	**341**	P		**P**	**11 13 08.0**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=25,slow=6.3,SNR=4.9							
NOA	**NORSAR Array B**	**68.28**	**341**	P		**P**	**11 13 08.0**	**-0.7**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**68.83**	**200**	P		**P**	**11 13 11.4**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=16,slow=6.7,SNR=5.7							
WRA	**Warramunga Arr**	**68.83**	**200**	P		**P**	**11 13 11.4**	**-0.7**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**71.74**	**327**	P		**P**	**11 13 29.6**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=34,slow=6.2,SNR=7.2							
AKASG	**Malin Array Be**	**71.74**	**327**	P		**P**	**11 13 29.6**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.52**	**199**	P		**P**	**11 13 35.1**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=9.1,slow=5.7,SNR=21							
ASAR	**Alice Springs**	**72.52**	**199**	P		**P**	**11 13 35.1**	**+0.5**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**76.94**	**61**	P		**P**	**11 14 01.0**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.1,baz=299,slow=4.3,SNR=25							
TXAR	**Lajitas Array**	**76.94**	**61**	P		**P**	**11 14 01.0**	**+0.9**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**78.67**	**317**	P		**P**	**11 14 11.4**	**+1.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=45,slow=5.0,SNR=3.7							
BRTR	**Keskin Array B**	**78.67**	**317**	P		**P**	**11 14 11.5**	**+1.7**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							

IDC ***16*** *11:04:15.7±1.1, 4763N×15435E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/22, mbtmp3.6/8, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/49, Error ellipse: s-maj=33.0km s-min=24.3km az=151.0*
ISCJB ***16*** *11:04:19.8±2.2, 475N±0.1×1542E±02, h42km±20km, mb3.6/7, Error ellipse: s-maj=29.4km s-min=12.5km az=80.6*
MOS ***16*** *11:04:22.6±3.1, 4754N×15457E, h75km, mb3.9/5, Error ellipse: s-maj=31.1km s-min=21.7km az=71.3*
ISC 16 11:04:21.3±1.9, 475N±01×1542E±02, h39km±18km, n16, σ0§92/16, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.38**	**21**	*e*PN		**Pn**	**11 05 12.0**	**+0.4**
SKR				*e*S		**Sn**	**11 05 50.5**	**0.0**
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,80nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
SKR				smax				
	comp=Z,80nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.83**	**270**	*e*PN		**Pn**	**11 06 23.3**	**+11**
MJAR	**Matsushiro Arr**	**16.16**	**233**	Pn		**Pn**	**11 08 04.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=30,slow=9.9,SNR=3.6							
JHJ	**Hachijo jima 2**	**18.08**	**222**	LR		LR	11 15 34.4	
	comp=Z,139nm,19.2s,baz=301,slow=37							
KSRS	**Korea Array**	**21.76**	**252**	P		**P**	**11 09 09.7**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.5,baz=67,slow=9.4,SNR=4.6							
MKAR	**Makanchi Array**	**47.25**	**297**	P		**P**	**11 12 50.8**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=63,slow=5.6,SNR=3.9							
MKAR	**Makanchi Array**	**47.25**	**297**	P		**P**	**11 12 50.8**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**50.94**	**309**	P		**P**	**11 13 20.1**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=67,slow=11,SNR=2.7							
BVAR	**Borovoye Array**	**50.94**	**309**	P		**P**	**11 13 20.1**	**+1.3**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**63.65**	**335**	P		**P**	**11 14 46.4**	**-2.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=16,slow=5.9,SNR=2.7							
FINES	**FINESS Array B**	**63.65**	**335**	P		**P**	**11 14 46.4**	**-2.0**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**63.67**	**55**	P		**P**	**11 14 48.2**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=278,slow=4.3,SNR=3.7							
ASAR	**Alice Springs**	**73.20**	**199**	P		**P**	**11 15 49.2**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=12,slow=5.0,SNR=7.6							
ASAR	**Alice Springs**	**73.20**	**199**	P		**P**	**11 15 49.3**	**+1.2**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**76.45**	**61**	P		**P**	**11 16 06.6**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=289,slow=5.4,SNR=3.2							
TXAR	**Lajitas Array**	**76.45**	**61**	P		**P**	**11 16 06.6**	**-0.3**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							

MOS ***16*** *11:18:05.6±0.9, 4689N×15541E, h28km, mb4.8/8, Error ellipse: s-maj=14.0km s-min=10.9km az=85.0*
IDC ***16*** *11:18:05.1±1.4, 4722N×15539E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/41, Error ellipse: s-maj=40.7km s-min=16.8km az=167.0*
ISCJB ***16*** *11:18:06.0±2.9, 475N±0.1×1553E±0.1, h9km±18km, mb4.4/25, MS3.7/2, Error ellipse: s-maj=25.4km s-min=9.4km az=122.4*
NEIC ***16*** *11:18:08.1±1.2, 4740N×15541E, h10km, mb4.7/9, Error ellipse: s-maj=29.6km s-min=11.3km az=159.0*
BJI ***16*** *11:18:11.6, 4805N×15459E, h10km, mB5.0, mb4.4, Ms4.0, Msz3.9*
ISC 16 11:18:09.5±2.8, 475N±01×1554E±01, h20km±19km, h20km±4.6km:pP-P, n52, σ0§98/54, mb4.4/25, MS3.7/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.27**	**8**	*e*PN		**Pn**	**11 19 04.2**	**+4.6**
KUR	**Kuril'sk**	**5.65**	**250**	*e*PN		**Pn**	**11 19 26.0**	**-6.2**
KUR				pmax		pmax		
	comp=N,30nm,0.5s							
KUR				pmax		pmax		
	comp=Z,90nm,0.5s							
PET	**Petropavlovsk**	**5.96**	**19**	*e*PN		**Pn**	**11 19 37.0**	**+0.4**
PET				pmax		pmax		
	comp=Z,34nm,0.8s							
PET	**Petropavlovsk**	**5.96**	**19**	*e*Pn		**Pn**	**11 19 36.3**	**-0.3**
PET				*e*Sn		**Sn**	**11 20 43.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.61**	**271**	*e*PN		**Pn**	**11 20 14.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**8.61**	**271**	*e*Pn		**Pn**	**11 20 14.6**	**+1.7**
ASAJ	**Asahikawa**	**9.52**	**254**	Pn		**Pn**	**11 20 23.4**	**-2.1**
	comp=Z,1.6nm,0.3s,baz=110,slow=13,SNR=11							
ASAJ	**Asahikawa**	**9.52**	**254**	PN		**Pn**	**11 20 23.4**	**-2.0**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.74**	**236**	Pn		**Pn**	**11 21 55.9**	**-6.8**
	comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=4.4							
BILL	**Bilibino**	**21.38**	**11**	*e*P		**P**	**11 22 58.1**	**+2.4**
BILL				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.3							
BILL	**Bilibino**	**21.38**	**11**	*e*P		**P**	**11 22 58.3**	**+2.6**
	comp=Z,15nm,0.9s,mb4.3							
KSRS	**Korea Array**	**22.47**	**254**	P		**P**	**11 23 06.5**	**-0.8**
	comp=Z,

BRVK Borovoye 51.64 310 *e*P **P 11 27 14.2 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BRVK Borovoye 51.64 310 *e*P **P 11 27 14.2 -0.4**
comp=Z,6.3nm,0.7s,mb4.7
ZRNK Zerenda 52.36 310 *e*P **P 11 27 19.9 -0.1**
ZRNK pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
ZRNK Zerenda 52.36 310 *e*P **P 11 27 19.9 0.0**
comp=Z,4.2nm,0.4s,mb4.7
AAK Ala-Archa 54.90 297 *e*P **P 11 27 29.6 -9.0**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AAK Ala-Archa 54.90 297 *e*P **P 11 27 29.6 -9.0**
comp=Z,2.5nm,0.6s,mb4.4
ARU Arti 55.53 318 *e*P **P 11 27 42.8 -0.3**
ARU Arti 55.53 318 *e*P **P 11 27 43.4 +0.2**
comp=Z,5.4nm,0.4s,mb4.9
ARCES ARCESS Array B 57.69 341 P **P 11 27 58.9 +0.4**
comp=Z,4.2nm,0.7s,mb4.6,baz=32,slow=7.1,SNR=4.6
ARCES ARCESS Array B 57.69 341 P **P 11 27 58.9 +0.4**
PDAR Pinedale Array 63.09 55 P **P 11 28 35.1 -0.3**
comp=Z,1.4nm,1.0s,mb4.0,baz=318,slow=2.0,SNR=7.5
FINES FINESS Array B 64.05 336 P **P 11 28 41.5 -0.2**
comp=Z,1.0nm,0.3s,mb4.3,baz=31,slow=6.9,SNR=7.1
NB2 NORSAR Subarra 68.05 342 P **P 11 29 07.4 -0.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=25,slow=6.5
NOA NORSAR Array B 68.05 342 P **P 11 29 06.7 -0.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=26,slow=6.4,SNR=4.6
NOA NORSAR Array B 68.05 342 P **P 11 29 06.7 -0.7**
AKASG Malin Array Be 71.81 327 P **P 11 29 29.6 -0.9**
comp=Z,0.7nm,0.4s,mb4.0,baz=34,slow=6.2,SNR=5.0
TXAR Lajitas Array 75.81 62 P **P 11 29 53.3 -0.7**
comp=Z,1.4nm,0.8s,mb3.9,baz=299,slow=4.3,SNR=15
GERES GERESS Array B 78.48 335 P **P 11 30 12.3 +3.3**
comp=Z,0.8nm,0.9s,mb3.6,baz=38,slow=6.9,SNR=4.1

ISCJB ***16*** *11:20:41.8±0.3,5204S±004×1396E±0.1,h10km,mb5.1/34, MS5.2/165, Error ellipse: s-maj=9.8km s-min=6.5km az=7.1*

IDC ***16*** *11:20:41.8±0.5,5206S×13975E,h0km,mb4.7/10, mb1 4.7/10,mb1mx4.7/12,mbtmp4.7/10,MS5.0/19, Ms1 5.0/19,ms1mx4.9/27, Error ellipse: s-maj=21.3km s-min=16.7km az=95.0*

BJI ***16*** *11:20:42.7,5190S×13980E,h10km,mB5.5,mb5.2,Ms5.3, Msz5.0*

NEIC ***16*** *11:20:44.7±0.3,5187S×13976E,h10km,mb5.1/22, MS5.2/148, Error ellipse: s-maj=13.0km s-min=9.7km az=90.0*

GCMT ***16*** *11:20:44.7±0.1, 52.19S×139.57E, h14km, MW5.5/94, Moment Tensor Solution. s68,c102; s94,c172; Duration: 1st4 Moment tensor: Scale 10^17Nm; Mrr=0.47±.04; Mθθ=0.70±.04; Mϕϕ=-0.23±.04; Mrθ=0.38±.08; Mθϕ=-2.40±.04; Mϕr=-0.14±.08; Best double couple: M=2.47400×10^17 NP1=ϕs175.00000°,δ82.00000°, λ2.00000°. NP2=ϕs84.00000°,δ88.00000°,λ172.00000°. Principal axes: T 2.7260, Plg7.0000°, Azm39.0000°; N -0.5060, Plg82.0000°, Azm253.0000°; P -2.2210, Plg4.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***16*** *11:20:44.6, 56.08S×138.90E, h33km, mb5.4, West of Macquarie Island*

ISC 16 11:20:43.3±0.3,5207S±004×1396E±01,h10km, (h15km±2.7km:pP-P),n340,σ1s29/66,mb5.1/34,MS5.2/165, 8C-3D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**10.54**	**33**	*e*Pn	**Pn**	**11 23 16.2**	**+1.8**
DRV	**Dumont d'Urvil**	**14.64**	**179**	P	**Pn**	**11 24 13.0**	**+2.6**
DRV				S	**Sn**	**11 26 59.0**	**+6.3**
DRV				R		11 27 00.0	
TOO	**Toolangi**	**15.08**	**18**	*e*P	**Pn**	**11 24 22.8**	**+6.5**
	100nm,1.0s						
CNB	**Canberra Magne**	**18.15**	**26**	*e*P	**Pn**	**11 24 56.2**	**+0.9**
	82nm,1.2s						
STKA	**Stephens Creek**	**20.23**	**5**	*e*P	**P**	**11 25 19.3**	**+0.8**
	34nm,1.0s						
STKA	**Stephens Creek**	**20.23**	**5**	P	**P**	**11 25 19.3**	**+0.8**
	8.1nm,0.7s,baz=167,slow=12,SNR=21						
STKA				LR	LR	11 31 35.1	
	comp=Z,5μm,20.3s,MS4.9,baz=182,slow=32						
CASY	**Casey**	**20.32**	**214**	*e*P	**P**	**11 25 19.8**	**+0.3**
CASY				LR	LR		
	comp=Z,11μm,20.0s,MS5.2						
RPZ	**Rata Peaks**	**22.53**	**81**	P	**P**	**11 25 42.9**	**-0.3**
	comp=Z,43nm,0.9s,mb4.9,baz=188,slow=6.3,SNR=7.1						
RPZ				LR	LR	11 32 33.9	
	comp=Z,8μm,19.4s,MS5.1,baz=239,slow=32						
FORT	**Forrest**	**22.92**	**334**	*e*P	**P**	**11 25 45.4**	**-1.9**
	comp=Z,62nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**25.09**	**311**	P	**P**	**11 26 08.1**	**+0.1**
	comp=Z,35nm,1.1s,mb4.8,baz=178,slow=10,SNR=4.7						
NWAO				LR	LR	11 33 41.3	
	comp=Z,7μm,20.8s,MS5.2,baz=120,slow=31						
NWAO	**Narrogin (SRO)**	**25.09**	**311**	*e*P	**P**	**11 26 07.3**	**-0.7**
	comp=Z,126nm,1.7s,mb5.2						
NWAO				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
KLBR	**Kellerberrin**	**25.97**	**313**	*e*P	**P**	**11 26 13.9**	**-2.1**
	comp=Z,53nm,1.0s,mb5.0						
SNZO	**South Karori**	**26.12**	**80**	PFAKE		11 26 30.0	+13
SNZO				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
MUN	**Mundaring**	**26.36**	**310**	*e*P	**P**	**11 26 22.0**	**+2.5**
VNDA	**Vanda**	**26.84**	**169**	P	**P**	**11 26 21.8**	**-2.1**
	comp=Z,11nm,1.0s,mb4.3,baz=324,slow=8.9,SNR=30						
VNDA				LR	LR	11 35 22.5	
	comp=Z,3μm,18.6s,MS4.9,baz=330,slow=33						
VNDA	**Vanda**	**26.84**	**169**	*e*P	**P**	**11 26 21.3**	**-2.6**
	comp=Z,52nm,1.2s,mb4.9						
VNDA				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
SBA	**Scott Base**	**27.71**	**168**	*e*P	**P**	**11 26 32.7**	**+1.0**
	comp=Z,43nm,1.1s,mb5.0						
SBA				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
ASAR	**Alice Springs**	**28.70**	**349**	P	**P**	**11 26 39.6**	**-0.8**
	comp=Z,19nm,0.9s,mb4.8,baz=165,slow=9.9,SNR=88						
ASAR				PcP	PcP	11 29 50.3	-0.5
	comp=Z,2.0nm,0.7s,baz=156,slow=2.0,SNR=4.5						
ASAR				LR	LR	11 37 29.0	
	comp=Z,1μm,19.1s,MS4.6,baz=174,slow=35						
ASPA	**Alice Springs**	**28.70**	**349**	*e*P	**P**	**11 26 39.4**	**-1.1**
AS31	**Alice Springs**	**28.70**	**349**	*e*P	**P**	**11 26 39.4**	**-1.1**
URZ	**Urewera**	**29.46**	**77**	P	**P**	**11 26 46.3**	**-1.0**
	comp=Z,13nm,0.7s,mb4.8,baz=116,slow=4.5,SNR=3.6						
URZ				LR	LR	11 37 29.3	
	comp=Z,3μm,18.3s,MS5.0,baz=230,slow=34						
WB2	**Warramunga Arr**	**32.33**	**351**	*e*P	**P**	**11 27 11.6**	**-1.0**
WRA	**Warramunga Arr**	**32.33**	**351**	P	**P**	**11 27 11.6**	**-1.0**
	comp=Z,92nm,0.9s,mb5.6,baz=175,slow=7.3,SNR=180						
WRA				PcP	PcP	11 30 00.6	+0.2
	comp=Z,2.1nm,0.5s,baz=181,slow=2.1,SNR=6.8						
WRAB	**Tennant Creek**	**32.34**	**351**	P	**P**	**11 27 11.0**	**-1.6**
	comp=Z,772nm,0.9s,SNR=32						
WRAB	**Tennant Creek**	**32.34**	**351**	*e*P	**P**	**11 27 11.6**	**-1.1**
	comp=Z,133nm,0.9s,mb5.8						
WRAB				LR	LR		
	comp=Z,373nm,19.0s,MS4.1						
CTA	**Charters Tower**	**32.34**	**12**	*e*P	**P**	**11 27 13.0**	**+0.4**
	comp=Z,8.5nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**32.34**	**12**	*e*P	**P**	**11 27 12.3**	**-0.3**
	comp=Z,48nm,1.6s,mb5.1						
CTAO				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
MBWA	**Marble Bar**	**34.50**	**326**	*e*P	**P**	**11 27 30.5**	**-1.0**
	comp=Z,33nm,1.0s,mb5.2						
MBWA				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
FITZ	**Fitzroy Crossi**	**35.65**	**337**	*e*P	**P**	**11 27 40.2**	**-1.1**
	comp=Z,40nm,0.9s,mb5.3						
QSPA	**South Pole Qui**	**38.04**	**180**	*e*P	**P**	**11 27 59.8**	**-2.0**
	comp=Z,64nm,1.2s,mb5.2						
QSPA				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
MAW	**Mawson**	**38.65**	**217**	P	**P**	**11 28 07.0**	**+0.1**
	comp=Z,22nm,1.1s,mb4.8,baz=104,slow=12,SNR=10						
MAW				LR	LR	11 41 59.3	
	comp=Z,9μm,20.7s,MS5.6,baz=91,slow=33						
MAW	**Mawson**	**38.65**	**217**	*e*P	**P**	**11 28 08.0**	**+1.1**
	comp=Z,14nm,1.2s,mb4.6						
MAW				LR	LR		
	comp=Z,14μm,21.0s,MS5.8						
RAO	**Raoul Island**	**38.70**	**71**	PFAKE		11 28 20.0	+13
RAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
KAKA	**Kakadu**	**39.68**	**349**	*e*P	**P**	**11 28 14.9**	**-0.6**
	comp=Z,38nm,0.6s,mb5.3						
PMG	**Port Moresby**	**42.99**	**11**	LR	LR	11 45 41.6	
	comp=Z,3μm,19.0s,MS5.3,baz=182,slow=35						
PMG	**Port Moresby**	**42.99**	**11**	*e*P	**P**	**11 28 43.2**	**+0.5**
	comp=Z,29nm,1.0s,mb5.0						
PMG				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
HNR	**Honiara**	**45.64**	**29**	LR	LR	11 47 45.8	
	comp=Z,1μm,18.9s,MS4.8,baz=179,slow=36						
HNR	**Honiara**	**45.64**	**29**	*e*P	**P**	**11 29 05.6**	**+1.7**
	comp=Z,77nm,1.1s,mb5.5						
HNR				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
SYO	**Syowa Base**	**45.95**	**210‖**	*e*P	**P**	**11 29 03.3**	**-3.1**
SYO	**Syowa Base**	**45.95**	**210‖**	*e*pP	pP	11 29 06.2	-3.3
COCO	**West Island**	**52.56**	**303**	PFAKE		11 30 10.0	+13
COCO				LR	LR		
	comp=Z,320nm,19.0s,MS4.4						
SNAA	**Sanae**	**53.73**	**194**	*e*	**P**	**11 30 04.1**	**-1.4**
SNAA				*e*	pP	11 30 06.0	-2.7
SNAA				*e*		11 30 09.8	
SNAA				*e*		11 30 11.8	
SNAA				*e*		11 30 15.1	
SNAA				*e*		11 30 19.1	
SNAA				*e*		11 30 22.3	
SNAA	**Sanae**	**53.73**	**194**	*e*P	**P**	**11 30 03.6**	**-2.0**
	comp=Z,54nm,1.3s,mb5.3						
FUNA	**Funafuti**	**54.10**	**51**	PFAKE		11 30 20.0	+12
FUNA				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
AFI	**Afiamalu**	**54.25**	**64**	LR	LR	11 48 44.4	
	comp=Z,2μm,21.1s,MS5.0,baz=299,slow=31						
AFI	**Afiamalu**	**54.25**	**64**	PFAKE		11 30 20.0	+11
AFI				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
VNA2	**Neumayer--Watz**	**55.05**	**193**	*e*	**P**	**11 30 12.8**	**-2.3**
	baz=158,slow=5.8						
VNA2				*e*	pP	11 30 15.7	-2.6
VNA2				*e*		11 30 19.9	
VNA2				*e*		11 30 22.6	
VNA2				*e*		11 30 28.5	
VNA2				*e*		11 30 31.9	
VNA2				*e*		11 30 42.2	
VNA2				*e*		11 31 02.6	
VNA3	**Neumayer Olymp**	**55.05**	**192**	*e*	**P**	**11 30 12.2**	**-2.9**
VNA3				*e*	pP	11 30 15.3	-3.0
VNA3				*e*		11 30 19.1	
VNA3				*e*		11 30 21.8	
VNA3				*e*		11 30 28.5	
VNA3				*e*		11 30 32.5	
VNA3				*e*		11 30 41.4	
VNA3				*e*		11 30 56.1	
KSM	**Kuching**	**58.81**	**325**	*e*P	**P**	**11 30 41.4**	**-0.3**
DAV	**Davao City (W)**	**60.13**	**344**	PFAKE		11 31 00.0	+9.1
DAV				LR	LR		
	comp=Z,696nm,21.0s,MS4.8						
TBI	**Tubuai**	**60.30**	**90**	*e*S	**S**	**11 39 05.3**	**-1.0**
	comp=Z,552nm,31.0s						
TBI				*e*LQ		11 46 09.0	
	comp=Z,3μm,27.2s						
TBI				*e*LR	LR	11 48 29.1	
	comp=Z,1μm,34.2s						
PPT	**Papeete**	**64.56**	**86**	*e*S	**S**	**11 39 55.1**	**-4.8**
	comp=Z,914nm,27.8s						
PPT				*e*LQ		11 47 39.2	
	comp=Z,5μm,31.2s						
PPT				*e*LR	LR	11 50 54.3	
	comp=Z,1μm,25.2s,baz=228						
PPT	**Papeete**	**64.56**	**86**	LR	LR	11 51 34.2	
	comp=Z,569nm,20.1s,MS4.8,baz=269,slow=29						
GUMO	**Guam**	**65.55**	**6**	LR	LR	11 58 03.7	
	comp=Z,816nm,19.0s,MS5.0,baz=3.9,slow=34						
GUMO	**Guam**	**65.55**	**6**	PFAKE		11 31 40.0	+13
GUMO				LR	LR		
	comp=Z,980nm,19.0s,MS5.0						
KULM	**Kulim**	**66.06**	**317**	*e*P	**P**	**11 31 30.6**	**+0.3**
RKT	**Rikitea**	**69.35**	**101**	*e*S	S	11 40 53.0	-4.8
	comp=Z,319nm,30.5s						
RKT				*e*SS	SS	11 45 26.0	+1.4
	comp=Z,125nm,28.5s						
RKT				*e*LQ		11 49 40.0	
	comp=Z,3μm,30.0s						
RKT				*e*LR	LR	11 53 00.1	
	comp=Z,1μm,27.2s						
DGAR	**Diego Garcia**	**70.22**	**284**	PFAKE		11 32 10.0	+14
DGAR				LR	LR		
	comp=Z,202nm,20.0s,MS4.4						
HOPE	**Hope Point**	**73.96**	**182**	PFAKE		11 32 30.0	+11
HOPE				LR	LR		
	comp=Z,745nm,19.0s,MS5.0						
QIZ	**Qiongzhong**	**75.41**	**331**	P	**P**	**11 32 27.8**	**+0.6**
QIZ				AP	pP	11 32 33.5	+3.0
QIZ				S	S	11 42 10.3	+3.1
QIZ				XS	sS	11 42 16.3	+3.7
QIZ				PS		11 42 45.5	
QIZ				SS	SS	11 47 00.3	+2.9
QIZ				LR	LR		
	comp=N,422nm,20.8s						
QIZ				LR	LR		
	comp=Z,919nm,21.7s,MS5.0						
QIZ	**Qiongzhong**	**75.41**	**331**	PFAKE		11 32 40.0	+13
QIZ				LR	LR		
	comp=Z,975nm,22.0s,MS5.1						
TAOE	**Nuku Hiva Isla**	**77.07**	**88**	*e*LR	LR	11 56 42.3	
	comp=Z,3μm,24.8s,baz=230						
PALK	**Pallekele**	**77.45**	**299**	PFAKE		11 32 50.0	+11
PALK				LR	LR		
	comp=Z,382nm,19.0s,MS4.7						
TATO	**Taipei**	**78.35**	**343**	PFAKE		11 33 00.0	+16
TATO				LR	LR		
	comp=Z,471nm,21.0s,MS4.8						
CM31	**Chiang Mai Arr**	**78.65**	**321**	PFAKE		11 33 00.0	+15
CM31				LR	LR		
	comp=Z,951nm,20.0s,MS5.1						
CBIJ	**Chichi jima**	**78.86**	**2**	LR	LR	12 05 20.4	
	comp=Z,768nm,20.7s,MS5.0,baz=305,slow=34						
CHTO	**Chiang Mai**	**78.98**	**321**	*e*P	**P**	**11 32 47.6**	**+0.4**
	comp=Z,13nm,0.9s,mb4.8						
CHTO				LR	LR		
	comp=Z,921nm,20.0s,MS5.1						
SUR	**Sutherland**	**80.35**	**229**	PFAKE		11 33 10.0	+15
SUR				LR	LR		
	comp=Z,470nm,21.0s,MS4.8						
BOSA	**Boshof**	**81.32**	**234**	P	**P**	**11 33 02.4**	**+2.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=162,slow=2.8,SNR=5.0						
BOSA				LR	LR	12 01 56.3	
	comp=Z,2μm,19.4s,MS5.4,baz=137,slow=30						
MDRS	**Chennai**	**82.55**	**302**	*ex*	x	11 33 40.6	
MSEY	**Mahe Island**	**82.73**	**272**	PFAKE		11 33 20.0	+13
MSEY				LR	LR		
	comp=Z,169nm,21.0s,MS4.4						
GYA	**Guiyang**	**83.36**	**331⇑**	*i*P	**P**	**11 33 11.4**	**+0.9**
GYA				AP	pP	11 33 15.6	+1.7
GYA				XP	sP	11 33 18.8	+3.7
GYA				PP	PP	11 36 27.8	+5.5
GYA				SKS		11 43 32.1	
GYA				S	S	11 43 34.3	+2.8
GYA				PS		11 44 28.6	
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,160nm,5.7s						
GYA				LR	LR		
	comp=N,570nm,20.1s,MS5.2						
GYA				LR	LR		
	comp=E,740nm,20.7s,MS5.2						
GYA				LR	LR		
	comp=Z,680nm,21.0s,MS5.0						
KMI	**Kunming**	**83.38**	**327**	P	**P**	**11 33 11.3**	**+0.7**
KMI				AP	pP	11 33 20.5	+6.6
KMI				XP	sP	11 33 23.9	+8.8
KMI				PP	PP	11 36 21.9	-0.5
KMI				PPP		11 38 18.3	
KMI				S	S	11 43 33.3	+1.6
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,89nm,4.5s						
KMI				LR	LR		
	comp=N,519nm,20.8s,MS5.0						
KMI				LR	LR		
	comp=E,572nm,24.0s,MS5.0						
KMI				LR	LR		
	comp=Z,933nm,24.0s,MS5.1						
KMI	**Kunming**	**83.38**	**327**	P	**P**	**11 33 11.2**	**+0.6**
	comp=Z,10.0nm,1.3s,mb4.7						
KMI				pP	pP	11 33 20.5	+6.6
KMI				sP	sP	11 33 23.9	+8.8
KMI				PP	PP	11 36 21.9	-0.5
KMI				PPP		11 38 18.3	
KMI				S	S	11 43 33.2	+1.5
KMI				SS	SS	11 49 05.5	+8.7
KMI				SSS		11 52 32.3	
KMI				LR	LR		
	comp=Z,930nm,24.0s,MS5.1						
LBTB	**Lobatse**	**84.09**	**236**	PFAKE		11 33 30.0	+16
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
JHJ	**Hachijo jima 2**	**84.83**	**0**	LR	LR	12 08 57.4	
	comp=Z,580nm,20.7s,MS5.0,baz=167,slow=34						
JNU	**Nakatsue**	**85.18**	**353**	LR	LR	12 10 40.5	
	comp=Z,2μm,19.9s,MS5.4,baz=44,slow=35						
NJ2	**Nanjing**	**85.72**	**342**	*e*P	**P**	**11 33 22.0**	**-0.5**
NJ2				XP	sP	11 33 30.3	+3.3
NJ2				PP	PP	11 36 42.9	+1.4
NJ2				S	S	11 43 51.5	-3.6
NJ2				AMB	AMB		
	comp=Z,750nm,5.8s						
NJ2				LR	LR		
	comp=N,1μm,23.3s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,25.9s,MS5.5						
NJ2				LR	LR		
	comp=Z,830nm,24.8s,MS5.0						
TRIS	**Tristan da Cun**	**87.90**	**202**	PFAKE		11 33 50.0	+17
TRIS				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
MJAR	**Matsushiro Arr**	**88.25**	**359**	P	**P**	**11 33 34.7**	**-0.1**
	comp=Z,1.1nm,0.8s,mb4.2,baz=173,slow=11,SNR=3.7						
MJAR				LR	LR	12 09 58.2	
	comp=Z,302nm,20.5s,MS4.7,baz=200,slow=34						
MJAR	**Matsushiro Arr**	**88.25**	**359**	P	**P**	**11 33 34.7**	**-0.1**
MJAR				LR	LR	12 09 58.2	
MAJO	**Matsushiro**	**88.25**	**359**	PFAKE		11 33 50.0	+15
MAJO				LR	LR		
	comp=Z,518nm,19.0s,MS5.0						
TRQA	**Tornquist**	**88.28**	**163**	PFAKE		11 33 50.0	+15
TRQA				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
CD2	**Chengdu**	**88.41**	**330**	*e*P	**P**	**11 33 36.9**	**+1.4**
CD2				AP	pP	11 33 41.8	+2.9
CD2				XP	sP	11 33 43.9	+3.9
CD2				PP	PP	11 37 07.9	+4.7
CD2				SKS		11 44 03.4	
CD2				S	S	11 44 20.8	-0.2
CD2				XS	sS	11 44 28.8	+2.3
CD2				SS	SS	11 50 15.0	+4.2
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.3						
CD2				AMB	AMB		
	comp=Z,200nm,10.8s						
CD2				LR	LR		
	comp=N,620nm,21.6s,MS5.2						
CD2				LR	LR		
	comp=E,630nm,19.2s,MS5.2						
CD2				LR	LR		
	comp=Z,480nm,19.2s,MS4.9						
KSRS	**Korea Array**	**89.74**	**351**	P	**P**	**11 33 41.0**	**-0.7**
	comp=Z,2.6nm,1.0s,mb4.5,baz=186,slow=5.3,SNR=7.6						
KSRS				LR	LR	12 13 33.5	
	comp=Z,505nm,21.8s,MS4.9,baz=169,slow=35						
XAN	**Xi'an**	**89.86**	**335**	P	**P**	**11 33 41.9**	**-0.5**
XAN				AP	pP	11 33 53.6	+7.9
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.6						
INCN	**Inchon**	**89.90**	**350**	PFAKE		11 33 50.0	+7.5
INCN				LR	LR		
	comp=Z,402nm,20.0s,MS4.8						
LSZ	**Lusaka**	**90.67**	**244**	*e*P	**P**	**11 33 48.3**	**+2.2**
	comp=Z,12nm,1.4s,mb5.0						
LSZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
LSA	**Lhasa**	**91.82**	**319**	PFAKE		11 34 00.0	+8.5
LSA				LR	LR		
	comp=Z,366nm,20.0s,MS4.8						
PKI	**Pulchoki**	**92.39**	**314**	*e*P	**P**	**11 33 54.9**	**+0.8**
GUN	**Gumba**	**92.48**	**314**	*e*P	**P**	**11 33 55.6**	**+1.1**
DMN	**Daman**	**92.56**	**314**	*e*P	**P**	**11 33 56.0**	**+1.1**
	comp=Z,38nm,1.1s,mb5.7						
KKN	**Kakani**	**92.64**	**314**	*e*P	**P**	**11 33 55.6**	**+0.4**
	comp=Z,32nm,0.9s,mb5.8						
TSUM	**Tsumeb**	**92.99**	**233**	PFAKE		11 34 10.0	+13
TSUM				LR	LR		
	comp=Z,3μm,19.0s,MS5.7						
GKN	**Gorkha**	**93.11**	**314**	*e*P	**P**	**11 33 57.9**	**+0.5**
	comp=Z,17nm,0.7s,mb5.6						
CFAA	**Coronel Fontan**	**93.17**	**156**	LR	LR	12 13 32.7	
	comp=Z,29nm,18.3s,baz=160,slow=34						
LZH	**Lanzhou**	**93.20**	**332**	*e*P	**P**	**11 34 01.0**	**+3.2**
LZH				AP	pP	11 34 06.1	+5.0
LZH				XP	sP	11 34 08.8	+6.5
LZH				PP	PP	11 37 49.3	+8.1
LZH				SKS		11 44 32.0	
LZH				*e*S	S	11 45 07.0	+2.1
LZH				XS	sS	11 45 12.0	+1.6
LZH				*e*SS	SS	11 51 22.6	+2.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,120nm,5.0s						
LZH				LR	LR		
	comp=E,440nm,16.9s						
LZH				LR	LR		
	comp=Z,752nm,18.5s,MS5.2						
LZH	**Lanzhou**	**93.20**	**332**	*e*P	**P**	**11 34 01.0**	**+3.2**
	comp=Z,25nm,1.0s,mb5.6						
LZH				pP	pP	11 34 06.1	+5.0
LZH				sP	sP	11 34 08.7	+6.4
LZH				PP	PP	11 37 49.2	+8.0
LZH				SKS		11 44 32.0	
LZH				*e*S	S	11 45 07.0	+2.1
LZH				sS	sS	11 45 12.0	+1.6
LZH				*e*SS	SS	11 51 22.6	+2.7
LZH				LR	LR		
	comp=Z,750nm,18.5s,MS5.2						
KOLN	**Koldanda**	**93.38**	**313**	*e*P	**P**	**11 33 58.1**	**-0.5**
	comp=Z,21nm,0.8s,mb5.6						
ERM	**Erimo**	**93.76**	**3**	PFAKE		11 34 10.0	+10
ERM				LR	LR		
	comp=Z,196nm,20.0s,MS4.6						
BJT	**Baijiatuau**	**93.96**	**342**	PFAKE		11 34 10.0	+8.7
BJT				LR	LR		
	comp=Z,628nm,22.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**95.70**	**339**	*e*P	**P**	**11 34 11.3**	**+2.0**
HHC				XP	sP	11 34 20.4	+6.6
HHC				PP	PP	11 38 07.9	+7.2
HHC				SKS		11 44 46.8	
HHC				S	S	11 45 25.8	-1.0
HHC				XS	sS	11 45 36.6	+4.3
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.3						
HHC				AMB	AMB		
	comp=Z,92nm,5.9s						
HHC				LR	LR		
	comp=N,221nm,18.0s,MS4.8						
HHC				LR	LR		

ULN LR LR
comp=Z,697nm,19.0s,MS5.2
PET Petropavlovsk 105.94 12 PFAKE 11 39 20.0 +13
PET LR LR
comp=Z,1µm,20.0s,MS5.4
TLY Talaya 107.74 337 PFAKE 11 39 20.0 +9.3
TLY LR LR
comp=Z,119nm,20.0s,MS4.5
LPAZ La Paz 107.78 152 PFAKE 11 39 20.0 +9.2
LPAZ LR LR
comp=Z,401nm,21.0s,MS5.0
SMY Shemya 108.37 21 PFAKE 11 39 20.0 +8.1
SMY LR LR
comp=Z,1µm,22.0s,MS5.5
NNA Nana 108.87 142 PFAKE 11 39 30.0 +17
NNA LR LR
comp=Z,114nm,19.0s,MS4.5
AAK Ala-Archa 109.84 315 PFAKE 11 39 30.0 +15
AAK LR LR
comp=Z,111nm,22.0s,MS4.4
MKAR Makanchi Array 110.04 322 PP PP 11 39 44.8 -3.4
comp=Z,0.8nm,1.0s,baz=142,slow=7.2,SNR=3.6
PAYG Puerto Ayora 112.85 124 PFAKE 11 39 30.0 +10
PAYG LR LR
comp=Z,366nm,22.0s,MS4.9
YAK Yakutsk 114.03 355 PFAKE 11 39 30.0 +7.4
YAK LR LR
comp=Z,375nm,20.0s,MS5.0
SAML Samuel 116.14 155 PFAKE 11 39 40.0 +13
SAML LR LR
comp=Z,520nm,20.0s,MS5.1
OTAV Otavalo 119.28 135 PFAKE 11 39 50.0 +17
OTAV LR LR
comp=Z,417nm,21.0s,MS5.0
BRVK Borovoye 119.72 319 PFAKE 11 39 50.0 +16
BRVK LR LR
comp=Z,152nm,22.0s,MS4.6
CHKZ Chkalovo 120.05 320 *e*PKPdf PKPdf 11 39 33.2 -1.0
BILL Bilibino 121.43 11 PFAKE 11 39 50.0 +13
BILL LR LR
comp=Z,579nm,22.0s,MS5.2
RCBR Riachuelo 122.20 185 PFAKE 11 39 50.0 +12
RCBR LR LR
comp=Z,1µm,19.0s,MS5.5
GNI Garni 123.06 294 PFAKE 11 39 50.0 +10
GNI LR LR
comp=Z,329nm,20.0s,MS5.0
SAO San Andreas Ge 123.08 71 PFAKE 11 39 50.0 +10
SAO LR LR
comp=Z,819nm,20.0s,MS5.4
HOPS Hopland 123.66 68 PFAKE 11 39 50.0 +8.9
HOPS LR LR
comp=Z,810nm,21.0s,MS5.4
PFO Pinyon Flat Ob 123.88 77 PFAKE 11 39 50.0 +8.5
PFO LR LR
comp=Z,164nm,21.0s,MS4.7
TNA Tin City 123.99 23 PFAKE 11 39 50.0 +8.3
TNA LR LR
comp=Z,601nm,22.0s,MS5.2
ISA Isabella 124.08 74 PFAKE 11 39 50.0 +8.1
ISA LR LR
comp=Z,211nm,19.0s,MS4.8
CMB Columbia Colle 124.56 71 PFAKE 11 40 00.0 +17
CMB LR LR
comp=Z,550nm,20.0s,MS5.2
JTS JuntasAbangare 124.92 123 PFAKE 11 40 00.0 +16
JTS LR LR
comp=Z,137nm,21.0s,MS4.6
DAC Darwin (Calif) 125.02 74 PFAKE 11 40 00.0 +16
DAC LR LR
comp=Z,743nm,20.0s,MS5.3
WDC Whiskeytown Da 125.03 67 PFAKE 11 40 00.0 +16
WDC LR LR
comp=Z,726nm,19.0s,MS5.4
MTUM Tungsten Hills 125.17 73 *e*PKPdf PKPdf 11 39 44.9 +0.9
HUMO Hull Mountain 126.13 65 PFAKE 11 40 00.0 +14
HUMO LR LR
comp=Z,893nm,22.0s,MS5.4
TUC Tucson 126.43 83 PFAKE 11 40 00.0 +14
TUC LR LR
comp=Z,438nm,21.0s,MS5.1
TPH Tonopah 126.45 73 PFAKE 11 40 00.0 +14
TPH LR LR
comp=Z,548nm,19.0s,MS5.2
PMR Palmer 126.59 34 PFAKE 11 40 00.0 +13
PMR LR LR
comp=Z,1µm,19.0s,MS5.5
KIV Kislovodsk 126.73 297 PFAKE 11 40 00.0 +13
KIV LR LR
comp=Z,70nm,20.0s,MS4.3
TGUH Tegucigalpa,Un 126.81 118 PFAKE 11 40 00.0 +13
TGUH LR LR
comp=Z,260nm,22.0s,MS4.9
ARU Arti 126.93 317 PFAKE 11 40 00.0 +13
ARU LR LR
comp=Z,117nm,19.0s,MS4.6
MOD Modoc 127.17 67 PFAKE 11 40 00.0 +12
MOD LR LR
comp=Z,297nm,20.0s,MS5.0
DIV Divide 127.47 36 PFAKE 11 40 00.0 +12
DIV LR LR
comp=Z,3µm,22.0s,MS6.0
BMN Battle Mountai 127.99 71 PFAKE 11 40 00.0 +11
BMN LR LR
comp=Z,796nm,20.0s,MS5.4
MCK McKinley 128.11 32 PFAKE 11 40 00.0 +10
MCK LR LR
comp=Z,703nm,22.0s,MS5.3
WUAZ Wupatki 128.25 79 PFAKE 11 40 00.0 +10
WUAZ LR LR
comp=Z,473nm,21.0s,MS5.2
WVOR Wild Horse Val 128.46 68 PFAKE 11 40 00.0 +10
WVOR LR LR
comp=Z,857nm,22.0s,MS5.4
TOA0 Torodi Ar. Sit 128.62 237 *e*PKPdf PKPdf 11 39 50.6 0.0
TORD Torodi Ar. Bea 128.62 237 PKP PKPdf 11 39 50.3 -0.3
comp=Z,1.6nm,0.9s,baz=112,slow=1.4,SNR=7.9
LTX Lajitas 128.74 91 PFAKE 11 40 00.0 +9.2
LTX LR LR
comp=Z,304nm,21.0s,MS5.0
TXAR Lajitas Array 128.74 91 PKP PKPdf 11 39 50.1 -0.7
comp=Z,1.5nm,0.9s,baz=204,slow=2.7,SNR=11
TXAR SKPbc 11 43 11.4
comp=Z,0.6nm,1.0s,baz=216,slow=4.0,SNR=3.6
SIT Sitka 129.04 44 PFAKE 11 40 00.0 +8.6
SIT LR LR
comp=Z,1µm,19.0s,MS5.7
BR131 Keskin Array S 129.19 287 PFAKE 11 40 00.0 +8.3
BR131 LR LR
comp=Z,277nm,21.0s,MS4.9
BRTR Keskin Array B 129.19 287 PKP PKPdf 11 39 50.4 -1.3
comp=Z,0.6nm,0.5s,baz=194,slow=4.7,SNR=4.3
COLA College 129.22 32 PFAKE 11 40 00.0 +8.3
COLA LR LR
comp=Z,548nm,21.0s,MS5.2
MNTX Cornudas Mount 129.33 87 *e*PKPdf PKPdf 11 39 51.0 -0.9
MNTX LR LR
comp=Z,362nm,21.0s,MS5.0
ELK Elko 129.35 72 PFAKE 11 40 00.0 +8.0
ELK LR LR
comp=Z,853nm,21.0s,MS5.4
MVU Marysvale 129.70 76 PFAKE 11 40 10.0 +17
MVU LR LR
comp=Z,567nm,20.0s,MS5.3
MSU Marysvale 129.73 76 *e*PKPdf PKPdf 11 39 54.7 +2.0
ANTO Ankara 129.78 287 PFAKE 11 40 10.0 +17
ANTO LR LR
comp=Z,199nm,20.0s,MS4.8
LAZ Ladron 130.08 83 *e*PKPdf PKPdf 11 39 54.2 +0.9
SDV Santo Domingo 130.36 139 PFAKE 11 40 10.0 +16
SDV LR LR
comp=Z,335nm,20.0s,MS5.0
DUG Dugway 130.43 74 PFAKE 11 40 10.0 +16
DUG LR LR
comp=Z,572nm,19.0s,MS5.3
ANMO Albuquerque 130.87 83 PFAKE 11 40 10.0 +15
ANMO LR LR
comp=Z,421nm,20.0s,MS5.1
MPU Maple Canyon 131.02 75 PFAKE 11 40 10.0 +15
MPU LR LR
comp=Z,916nm,22.0s,MS5.4
KVTX Kingsville 131.02 97 PFAKE 11 40 10.0 +15
KVTX LR LR
comp=Z,485nm,19.0s,MS5.2
MVCO Mesa Verde 131.10 79 *e*PKPdf PKPdf 11 39 56.2 +0.9
MVCO LR LR
comp=Z,500nm,19.0s,MS5.2
TEIG Tepich 131.23 112 PFAKE 11 40 10.0 +14
TEIG LR LR
comp=Z,352nm,19.0s,MS5.1
EGAK Eagle 131.41 34 PFAKE 11 40 10.0 +14
EGAK LR LR
comp=Z,882nm,21.0s,MS5.4
HLID Hailey 131.59 69 PFAKE 11 40 10.0 +14
HLID LR LR
comp=Z,611nm,21.0s,MS5.3
JCT Junction City 131.93 93 PFAKE 11 40 10.0 +13
JCT LR LR
comp=Z,319nm,20.0s,MS5.0
HWUT Hardware Ranch 132.05 73 PFAKE 11 40 10.0 +13
HWUT LR LR
comp=Z,574nm,19.0s,MS5.3
NEW Newport 132.84 62 PFAKE 11 40 10.0 +11
NEW LR LR
comp=Z,430nm,21.0s,MS5.1
AHID Auburn Hatcher 133.03 72 PFAKE 11 40 10.0 +11
AHID LR LR
comp=Z,456nm,19.0s,MS5.2
SDCO Great Sand Dun 133.27 81 PFAKE 11 40 10.0 +11
SDCO LR LR
comp=Z,679nm,20.0s,MS5.4
AMTX Amarillo 133.76 87 PFAKE 11 40 10.0 +10
AMTX LR LR
comp=Z,507nm,19.0s,MS5.3
MSO Missoula 133.78 66 PFAKE 11 40 10.0 +10
MSO LR LR
comp=Z,473nm,19.0s,MS5.2
BW06 Boulder Array 133.94 73 PFAKE 11 40 10.0 +9.3
BW06 LR LR
comp=Z,559nm,21.0s,MS5.3
PDAR Pinedale Array 133.94 73 PKP PKPdf 11 40 00.7 0.0
comp=Z,0.5nm,0.9s,baz=174,slow=2.7,SNR=3.8
HKT Hockley 134.00 96 PFAKE 11 40 10.0 +9.2
HKT LR LR
comp=Z,300nm,20.0s,MS5.0
YMR Madison River 134.24 70 PFAKE 11 40 10.0 +8.8
YMR LR LR
comp=Z,1µm,20.0s,MS5.7
BOZ Bozeman (W) 134.42 68 PFAKE 11 40 10.0 +8.4
BOZ LR LR
comp=Z,773nm,21.0s,MS5.4
ISCO Idaho Springs 134.50 79 PFAKE 11 40 10.0 +8.3
ISCO LR LR
comp=Z,373nm,22.0s,MS5.1
LKWY Lake 134.51 70 PFAKE 11 40 10.0 +8.3
LKWY LR LR
comp=Z,544nm,20.0s,MS5.3
WMOK Wichita Mounta 135.45 89 *e*PKPdf PKPdf 11 40 03.0 -0.5
WMOK LR LR
comp=Z,400nm,20.0s,MS5.1
OBN Obninsk 136.39 306 PFAKE 11 40 20.0 +15
OBN LR LR
comp=Z,92nm,20.0s,MS4.5
EGMT Eagleton 136.81 67 PFAKE 11 40 20.0 +14
EGMT LR LR
comp=Z,509nm,19.0s,MS5.3
MLR Muntele Rosu 137.19 289 PKP PKPdf 11 40 07.4 +0.7
comp=Z,1.1nm,0.3s,baz=247,slow=7.7,SNR=2.8
CBKS Cedar Bluff 137.47 84 PFAKE 11 40 20.0 +13
CBKS LR LR
comp=Z,464nm,20.0s,MS5.2
RSSD Black Hills 138.00 75 PFAKE 11 40 20.0 +12
RSSD LR LR
comp=Z,3µm,19.0s,MS6.0
KIEV Kiev 138.08 297 PFAKE 11 40 20.0 +12
KIEV LR LR
comp=Z,441nm,20.0s,MS5.2
LAO LASA Array 138.12 70 PFAKE 11 40 20.0 +12
LAO LR LR
comp=Z,617nm,21.0s,MS5.3
BBGH Gun Hill 138.22 151 PFAKE 11 40 20.0 +11
BBGH LR LR
comp=Z,770nm,21.0s,MS5.4
KSU1 Kansas State U 139.57 86 PFAKE 11 40 20.0 +8.9
KSU1 LR LR
comp=Z,712nm,20.0s,MS5.4
DGMT Dagmar 140.22 69 PFAKE 11 40 20.0 +7.7
DGMT LR LR
comp=Z,755nm,19.0s,MS5.5
OXF Oxford 141.07 97 PFAKE 11 40 30.0 +16
OXF LR LR
comp=Z,550nm,20.0s,MS5.3
CCM Cathedral Cave 142.23 91 PFAKE 11 40 30.0 +14
CCM LR LR
comp=Z,414nm,20.0s,MS5.2
ECSD EROS,Sioux Fal 142.25 80 *e*PKPdf PKPdf 11 40 10.8 -5.1
ECSD LR LR
comp=Z,687nm,19.0s,MS5.4
VYHS Vyhne 142.90 289 *e*PKP PKPdf 11 40 16.4 -0.7
WVT Waverly 143.11 97 *e*PKPdf PKPdf 11 40 12.3 -5.2
WVT LR LR
comp=Z,423nm,20.0s,MS5.2
SCIA State Center 143.31 85 PFAKE 11 40 30.0 +12
SCIA LR LR
comp=Z,587nm,20.0s,MS5.3
FINES FINESS Array B 143.95 312 PKhKP 11 40 13.6
comp=Z,4.0nm,0.8s,baz=95,slow=4.0,SNR=8.7
MORC Moravsky Berou 144.25 290 *e*PKPdf PKPdf 11 40 17.6 -1.8
ARSA Arzberg 144.26 285 ⇑ *i*P PKPdf 11 40 18.3 -1.2
comp=Z,27nm,0.8s
USIN University of 144.38 94 *e*PKPdf PKPdf 11 40 17.5 -2.1
AGMN Agassiz Refuge 145.01 74 *e*PKPdf PKPdf 11 40 18.8 -1.9
AGMN LR LR
comp=Z,701nm,21.0s,MS5.4
KEV Kevo 145.10 326 PFAKE 11 40 30.0 +10
KEV LR LR
comp=Z,604nm,22.0s,MS5.3
DPC Dobruska-Polom 145.20 290 *e*PKP PKPdf 11 40 20.9 -0.2
MOA Molln 145.29 285 ⇑ *i*P PKPbc 11 40 20.5 -0.5
comp=Z,25nm,1.0s
WCI Wyandotte Cave 145.39 95 *e*PKPdf PKPdf 11 40 19.2 -2.2
WCI LR LR
comp=Z,444nm,19.0s,MS5.3
KSP Ksiaz 145.43 291 *e*PKP PKPdf 11 40 21.2 -0.3
UPC Upice 145.45 290 *e*PKP PKPdf 11 40 21.3 -0.2
UPC *ep*PKP pPKPdf 11 40 27.3 +2.4
KBA Koelnbreinsper 145.48 284 ⇑ *i*P PKPdf 11 40 21.4 -0.1
comp=Z,29nm,1.0s
CORF Corte 145.56 274 PKP PKPdf 11 40 21.4 -0.3
ARCES ARCESS Array B 145.61 325 PKPbc PKPbc 11 40 20.0 -2.0
comp=Z,14nm,0.9s,baz=84,slow=1.8,SNR=24
JFWS Jewell Farm 145.70 85 *e*PKPdf PKPdf 11 40 21.6 -0.4
JFWS LR LR
comp=Z,430nm,20.0s,MS5.2
PGF Pioggiola 145.79 274 *e*PKP1 PKPbc 11 40 21.2 -1.4
comp=Z,80nm,1.0s
ULM Lac du Bonnet 145.87 71 PKPbc PKPbc 11 40 21.6 -1.2
comp=Z,5.9nm,0.8s,baz=276,slow=2.6,SNR=13
ULM Lac du Bonnet 145.87 71 *e*PKPdf PKPdf 11 40 21.0 -1.2
GEC2 GERESS Array S 146.08 286 *e*PKPbc PKPbc 11 40 21.0 -2.5
GERES GERESS Array B 146.08 286 PKPbc PKPbc 11 40 21.7 -1.7
comp=Z,4.0nm,0.8s,baz=143,slow=2.9,SNR=20
PRU Pruhonice 146.09 289 *e*PKP PKPdf 11 40 23.1 +0.5
KHC Kasperske Hory 146.28 287 *e*PKP PKPdf 11 40 23.0 +0.1
KHC *ep*PKP pPKPdf 11 40 28.7 +2.3
PVCC Panska Ves 146.30 290 *e*PKP PKPdf 11 40 24.4 +1.4
PVCC *ep*PKP pPKPdf 11 40 29.6 +3.2
WTTA Wattenberg 146.59 283 ⇑ *i*P PKPdf 11 40 22.8 -0.7
comp=Z,51nm,1.4s
WET Wettzell 146.70 287 *e*PKPbc PKPbc 11 40 24.3 -1.0
BRG Berggiesshubel 146.80 290 *e*PKPbc PKPbc 11 40 24.7 -0.9
BRG Berggiesshubel 146.80 290 *e*P PKPdf 11 40 25.6 +1.8
comp=Z,7.9nm,1.2s
BRG *e* 11 40 30.8
comp=Z,11nm,1.1s
SQTA Sankt Quirin 146.83 282 ⇑ *i*P PKPdf 11 40 24.0 +0.2
comp=Z,19nm,0.6s
MOTA Moosalm 146.95 283 ⇑ *i*P PKPdf 11 40 25.3 +1.2
comp=Z,20nm,0.7s
FBE Freiberg 147.16 290 *e*PKPbc PKPbc 11 40 26.1 -0.5
ROTZ Rotzenmuhle 147.36 287 *e*PKPbc PKPbc 11 40 26.4 -0.8
NKC Novy Kostel 147.41 288 *e*PKP PKPdf 11 40 27.1 +2.3
DAVOX Davos 147.43 281 PKPbc PKPbc 11 40 26.8 -0.5
comp=Z,11nm,1.0s,baz=151,slow=4.8,SNR=10.0
EYMN Ely 147.45 77 *e*PKPbc PKPbc 11 40 26.4 -1.1
EYMN LR LR
comp=Z,455nm,20.0s,MS5.3
SBF Sospel 147.47 275 *e*PKP1 PKPbc 11 40 25.9 -1.5
comp=Z,70nm,0.9s
TANN Tannenbergstha 147.48 288 *e*PKPbc PKPbc 11 40 26.0 -1.5
RUE Ruedersdorf 147.51 293 *e*PKPbc PKPbc 11 40 26.8 -0.8
MANZ Manzenberg 147.51 288 *e*PKPbc PKPbc 11 40 27.0 -0.6
CLL Collm 147.52 290 *e*PKPdf PKPdf 11 40 27.0 +2.0
comp=Z,59nm,1.9s
CLL *ex* x 11 40 44.0
CLL LmV 11 52 00.0
comp=Z,500nm,18.4s
WERD Werda 147.58 288 *e*PKPbc PKPbc 11 40 27.1 -0.7
KBS Kingsbay 147.66 343 PFAKE 11 40 40.0 +15
KBS LR LR
comp=Z,468nm,20.0s,MS5.3
DAVA Damuels 147.66 282 ⇓ *i*P PKPdf 11 40 27.7 +2.5
comp=Z,35nm,1.3s
LMR La Mourre 147.75 273 *e*PKP1 PKPbc 11 40 26.3 -1.9
BSD Bornholm Skovb 147.76 298 ⇑ *i*P PKPdf 11 40 33.2 +7.8
comp=Z,29nm,0.8s
BSD
comp=Z,310nm,22.0s
FRF La Foret Royal 147.79 274 *e*PKP1 PKPbc 11 40 27.1 -1.2
comp=Z,44nm,0.9s
GRF Grafenberg Arr 147.91 287 *e*PKPbc PKPbc 11 40 28.2 -0.5
GRF *e*L 12 50 22.6
comp=Z,732nm,22.0s
GRFO Grafenberg 147.91 287 PFAKE 11 40 40.0 +14
GRFO LR LR
comp=Z,806nm,21.0s,MS5.5
MOX Moxa 148.07 288 *e*PKPbc PKPbc 11 40 27.9 -1.2
MOX Moxa 148.07 288 *e*PKP PKPdf 11 40 29.1 +3.2
comp=Z,24nm,1.6s
ELN Prospectdale 148.14 102 *e*PKPbc PKPbc 11 40 29.0 -0.2
SURF Saint Ours 148.17 275 PKP PKPdf 11 40 29.7 +3.6
SURF Saint Ours 148.17 275 *e*P PKPdf 11 40 29.7 +3.6
MBDF Montbardon 148.32 276 *e*PKP1 PKPbc 11 40 28.8 -0.9
comp=Z,26nm,0.7s
BLA Blacksburg 148.33 102 PFAKE 11 40 40.0 +14
BLA LR LR
comp=Z,506nm,20.0s,MS5.3
FWV Forest Hill 148.33 101 *e*PKPbc PKPbc 11 40 29.6 -0.1
CNNC Cliffs of the 148.51 107 PFAKE 11 40 40.0 +13
CNNC LR LR
comp=Z,2µm,20.0s,MS5.8
RES Resolute Bay 148.62 25 *e*PKPdf PKPdf 11 40 27.1 +0.3
SMRF Simiane la Rot 148.67 274 *e*PKP1 PKPbc 11 40 29.8 -0.8
comp=Z,47nm,1.0s
LPG La Plagne 148.72 277 *e*PKP1 PKPbc 11 40 29.4 -1.4
comp=Z,50nm,1.1s
LPL La Plagne 148.74 277 *e*PKP1 PKPbc 11 40 29.3 -1.5
comp=Z,48nm,1.0s
ORIF Oris-en-Rattie 148.97 275 *e*PKP1 PKPbc 11 40 29.9 -1.5
comp=Z,42nm,1.0s
ORIF *e*R
comp=Z,817nm,21.8s
BFO Black Forest 149.06 283 *e*PKPbc PKPbc 11 40 29.9 -1.7
UBBA Unterbreizbach 149.08 288 *e*PKPbc PKPbc 11 40 30.6 -1.1
GRN Grenoble 149.21 276 PKP PKPab 11 40 34.8 -1.6
EBEN Beniarda 149.21 260 PKP PKPbc 11 40 31.7 -0.3
CLZ Clausthal 149.24 290 *e*PKPbc PKPbc 11 40 31.2 -0.9
CFTV Fuerteventura 149.30 230 PKP PKPdf 11 40 30.4 +2.5
AAM Ann Arbor 149.43 91 PFAKE 11 40 40.0 +12
AAM LR LR
comp=Z,616nm,21.0s,MS5.4
HFS Hagfors 149.59 307 PKPbc PKPbc 11 40 32.5 -0.4
comp=Z,3.0nm,0.9s,baz=96,slow=5.8,SNR=3.4
EBER Berja 149.65 255 PKP PKPbc 11 40 32.3 -0.8
CABF La Chapelle 149.66 278 *e*PKP1 PKPbc 11 40 31.6 -1.5
comp=Z,33nm,0.8s
LANF Langenberg 149.66 284 PKP PKPbc 11 40 32.7 -0.4
LANF Langenberg 149.66 284 *e*P PKPbc 11 40 32.7 -0.4
VIVF Saint-Julien-l 149.68 274 *e*PKP1 PKPbc 11 40 31.7 -1.5
WLS Welschbruch 149.69 282 PKP PKPab 11 40 37.1 -1.3
ECH Echery 149.72 282 PKP PKPbc 11 40 32.7 -0.6
ECH Echery 149.72 282 *e*P PKPbc 11 40 32.7 -0.6
HINF Hinteralfeld 149.73 281 *e*PKP1 PKPbc 11 40 30.9 -2.4
comp=Z,26nm,0.8s
CDF Champ du Feu 149.74 282 *e*PKP1 PKPbc 11 40 31.5 -1.8
TNS Taunus Mts 149.77 286 *e*PKPbc PKPbc 11 40 31.2 -2.2
LASF Ste Croix 149.78 272 *e*PKP1 PKPbc 11 40 32.0 -1.4
comp=Z,45nm,0.9s
BSEG Bad Segeberg 149.96 294 *e*PKPbc PKPbc 11 40 34.4 +0.5
ETOB Tobarra 149.98 259 PKP PKPbc 11 40 33.7 -0.2
EHUE Huescar 150.07 257 PKP PKPbc 11 40 33.2 -0.9
HAU Haudompre 150.12 281 *e*PKP1 PKPbc 11 40 32.3 -1.9
HAU *e*R
comp=Z,566nm,22.5s
HAU Haudompre 150.12 281 *e*PKP PKPbc 11 40 32.3 -1.9
HAU LR LR
comp=Z,570nm,22.5s,MS5.3
ABH Alteburg 150.17 285 *e*P PKPbc 11 40 34.0 -0.4
MCWV Mont Chateau 150.22 99 PFAKE 11 40 40.0 +11
MCWV LR LR
comp=Z,811nm,21.0s,MS5.5
ERTA Horta de San J 150.24 264 PKP PKPbc 11 40 34.7 +0.2
ERON Agron 150.27 254 PKP PKPbc 11 40 34.7 +0.1
MTLF Montolieu 150.41 270 *e*PKP1 PKPbc 11 40 33.3 -1.6
comp=Z,31nm,0.9s
EMIJ Mijas 150.54 252 PKP PKPdf 11 40 32.7 +2.9
EVIA Vianos 150.55 258 PKP PKPbc 11 40 34.9 -0.3
LBL Lubilhac 150.74 274 PKP PKPbc 11 40 36.1 +0.4
CBN Corbin 150.81 104 PFAKE 11 40 40.0 +10
CBN LR LR
comp=Z,615nm,19.0s,MS5.4
EJIF Jimena Fronter 150.87 251 PKP PKPbc 11 40 36.4 +0.4
BUG Bochum-Univer 150.91 288 *e*PKPbc PKPbc 11 40 34.9 -1.2
NB2 NORSAR Subarra 150.92 308 PKP PKPdf 11 40 34.7 +4.2
comp=Z,16nm,0.8s,baz=92,slow=2.5
NOA NORSAR Array B 150.92 308 PKPbc PKPbc 11 40 35.1 -1.0
comp=Z,11nm,1.1s,baz=88,slow=4.0,SNR=7.8
WLF Walferdange 150.92 284 PKPab PKPab 11 40 41.3 -2.2
EBAN Banos Encina 151.02 256 PKP PKPbc 11 40 35.7 -0.7
SMF Signal de Mont 151.04 277 *e*PKP1 PKPbc 11 40 34.5 -1.9
comp=Z,32nm,0.9s
NAO01 NORSAR Array S 151.06 308 *e*PKPbc PKPbc 11 40 36.9 +0.5
NAO01 *e*PKPab PKPab 11 40 42.2 -1.9
MEZF Maizieres J'vi 151.12 281 *e*PKP1 PKPbc 11 40 35.6 -1.0
LOR Lormes 151.31 278 *e*PKP1 PKPbc 11 40 35.3 -1.8
comp=Z,27nm,0.8s
LOR *e*R
comp=Z,839nm,19.8s
LOR Lormes 151.31 278 *e*PKP PKPbc 11 40 35.3 -1.8
LOR LR LR
comp=Z,840nm,19.8s,MS5.5
CAF Calviac 151.32 273 *e*PKP1 PKPbc 11 40 35.8 -1.3
EBIE Bielsa 151.33 267 PKP PKPbc 11 40 34.5 -2.6
EPF Esparros 151.40 268 *e*PKP1 PKPbc 11 40 35.7 -1.6
comp=Z,22nm,0.8s
AVF Avril sur Loir 151.41 277 *e*PKP1 PKPbc 11 40 35.4 -1.9
SSF Saint Saulge 151.44 278 *e*PKP1 PKPbc 11 40 35.7 -1.7
comp=Z,34nm,0.8s
EADA Adamuz 151.49 255 PKP PKPbc 11 40 34.3 -3.2
KONO Kongsberg 151.56 305 PFAKE 11 40 40.0 +8.6
KONO LR LR
comp=Z,604nm,19.0s,MS5.4
BGF Bois d'Agland 151.62 276 *e*PKP1 PKPbc 11 40 36.4 -1.4
ETOR Torete 151.62 262 PKP PKPdf 11 40 31.8 +0.2
RJF Les Rejaudoux 151.84 273 *e*PKP1 PKPbc 11 40 36.9 -1.4
comp=Z,32nm,0.9s
RJF *e*R
comp=Z,953nm,21.5s
RJF Les Rejaudoux 151.84 273 *e*PKP PKPbc 11 40 36.9 -1.4
RJF LR LR
comp=Z,950nm,21.5s,MS5.6
ETSF Etsaut 151.88 267 *e*PKP1 PKPbc 11 40 37.3 -1.1
comp=Z,49nm,1.2s
GIVF Givet 151.88 284 *e*PKP1 PKPbc 11 40 36.5 -1.9
TCF Toulx Ste Croi 151.88 275 *e*PKP1 PKPbc 11 40 36.9 -1.5
SSPA Standing Stone 152.01 99 PFAKE 11 40 40.0 +7.9
SSPA LR LR
comp=Z,444nm,20.0s,MS5.3
DOU Dourbes 152.02 284 PKPbc PKPbc 11 40 37.9 -0.7
ESDC Sonseca Array 152.08 258 PKPbc PKPbc 11 40 37.9 -0.9
comp=Z,3.9nm,0.7s,baz=131,slow=2.3,SNR=11
ESLA Sonseca Array 152.08 258 *e*PKPbc PKPbc 11 40 40.2 +1.4
ESLA LR LR
comp=Z,5µm,19.0s
LFF La Frestale 152.14 272 *e*PKP1 PKPbc 11 40 37.6 -1.4
BAIF Baives 152.24 284 *e*PKP1 PKPbc 11 40 37.6 -1.6
comp=Z,41nm,0.8s
SJPF Ste Jean 152.41 267 *e*PKP1 PKPbc 11 40 38.6 -1.0
comp=Z,26nm,0.8s
GUD Guadarrama 152.79 260 PKP PKPdf 11 40 34.9 +1.6
MFF Saint Martin d 153.47 274 *e*PKP1 PKPbc 11 40 40.3 -1.6
BBSR BB Station 153.53 129 PFAKE 11 40 50.0 +16
BBSR LR LR
comp=Z,508nm,19.0s,MS5.4

BINY	**Binghamton**	**154.08**	**98**	PFAKE		11 40 50.0	+15
BINY				LR	LR		
	comp=Z,707nm,20.0s,MS5.5						
FLN	**La Foliniere**	**154.59**	**278**	*e*PKP1	PKPbc	11 40 42.3	-2.0
FLN				*e*R			
	comp=Z,660nm,20.5s						
NCB	**Newcomb**	**156.13**	**96**	PFAKE		11 40 50.0	+12
NCB				LR	LR		
	comp=Z,595nm,21.0s,MS5.4						
LONY	**Lake Ozonia**	**156.25**	**95**	PFAKE		11 40 50.0	+12
LONY				LR	LR		
	comp=Z,595nm,21.0s,MS5.4						
HRV	**Harvard--Oak R**	**156.95**	**102**	PFAKE		11 40 50.0	+11
HRV				LR	LR		
	comp=Z,519nm,19.0s,MS5.4						
WES	**Weston**	**157.02**	**103**	PFAKE		11 40 50.0	+11
WES				LR	LR		
	comp=Z,556nm,21.0s,MS5.4						
LBNH	**Lisbon**	**157.68**	**98**	PFAKE		11 40 50.0	+10
LBNH				LR	LR		
	comp=Z,728nm,19.0s,MS5.5						
PKME	**Peaks-Kenny Pk**	**159.82**	**98**	PFAKE		11 40 50.0	+7.6
PKME				LR	LR		
	comp=Z,784nm,20.0s,MS5.5						
SFJD	**Kangerlussuaq**	**164.20**	**15**	PFAKE		11 41 00.0	+13
SFJD				LR	LR		
	comp=Z,925nm,20.0s						

*THR **16** 11:22:43.6±0.4, 2635N×5785E, h14km±6km, ML3.9*
*ISCJB **16** 11:22:44.6±0.5, 2670N±002×5793E±004, h10km, Error ellipse: s-maj=5.8km s-min=3.1km az=158.8*
*TEH **16** 11:22:46.9, 2642N×5793E, h22km, Mn4.2*
*CSEM **16** 11:22:46.3±0.2, 2661N×5786E, h15km, ML3.9, Error ellipse: s-maj=5.5km s-min=3.5km az=80.0*
*NEIC **16** 11:22:46.9, 2641N×5793E, h22km, mb4.3/1, ML3.9(THR), MN4.2(TEH), After TEH.*

ISC 16 11:22:46.8±0.4, 2665N±002×5784E±005, h10km, n39, σ1§51/76, 3C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.56**	**243**	⇓P	**Pn**	**11 23 14.9**	**+0.3**
BANOM				⇓S	**Sg**	**11 23 40.6**	**+3.5**
BNDS	**Bandar-Abbas**	**1.67**	**297**	*e*Pg	**Pb**	**11 23 16.9**	**-0.7**
BNDS				*e*Sg	**Sg**	**11 23 41.6**	**+1.1**
BNDS				AML	AML	11 23 48.2	
	comp=E,2μm,0.3s						
BNDS				AML	AML	11 23 50.8	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**1.67**	**297**	*e*Pg	**Pb**	**11 23 16.9**	**-0.7**
BNDS				*e*Sg	**Sg**	**11 23 41.6**	**+1.1**
BNDS	**Bandar-Abbas**	**1.67**	**297**	*e*Pg	**Pb**	**11 23 16.9**	**-0.7**
	SNR=90						
BNDS				*e*Sg	**Sg**	**11 23 41.6**	**+1.2**
	SNR=90						
HATD	**Hatta, Dubai**	**2.38**	**221**	P	**Pn**	**11 23 25.3**	**-0.6**
	SNR=9.1						
ASHO	**Ashiyiah**	**2.53**	**220**	P	**Pn**	**11 23 28.0**	**0.0**
	SNR=15						
HOQ	**Hoqain**	**3.09**	**189**	⇓P	**Pn**	**11 23 33.3**	**-2.4**
	SNR=37						
BIDO	**Bidbid**	**3.12**	**175**	P	**Pn**	**11 23 33.5**	**-2.6**
	SNR=18						
KRBR	**Kerman**	**3.46**	**344**	*e*Pn	**Pn**	**11 23 43.2**	**+2.5**
KRBR				AML	AML	11 24 46.5	
	comp=N,243nm,0.7s						
KRBR				AML	AML	11 24 53.6	
	comp=E,285nm,0.5s						
ARQ	**Araqi**	**3.51**	**200**	⇑P	**Pn**	**11 23 42.2**	**+0.8**
	SNR=23						
ARQ				⇓S	**Sn**	**11 24 26.2**	**+3.2**
SMDO	**Samad**	**3.58**	**177**	P	**Pn**	**11 23 40.9**	**-1.5**
	SNR=54						
SMDO				⇓S	**Sn**	**11 24 23.1**	**-1.6**
ZHSF	**Zahedan**	**3.93**	**41**	*e*Pn	**Pn**	**11 23 48.8**	**+1.6**
BSY	**Bisya**	**3.93**	**189**	⇓P	**Pn**	**11 23 47.6**	**+0.4**
	SNR=30						
BSY				⇑S	**Sn**	**11 24 35.1**	**+1.8**
BSYO	**Bisya**	**3.94**	**188**	P	**Pn**	**11 23 47.6**	**+0.3**
	SNR=30						
BSYO				S	**Sn**	**11 24 35.1**	**+1.5**
WBK	**Wadi Bani Khal**	**4.15**	**165**	⇑P	**Pn**	**11 23 48.2**	**-2.1**
	SNR=15						
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**11 23 57.0**	**+0.4**
GHIR				AML	AML	11 25 53.8	
	comp=E,56nm,0.8s						
GHIR				AML	AML	11 25 55.8	
	comp=N,55nm,1.0s						
ISRV	**Sarvestan**	**4.99**	**304**	*e*Pn	**Pn**	**11 24 02.8**	**+1.1**
ISRV				*e*Pn	**Pn**	**11 24 02.8**	**+1.1**
ISRV				*e*Pn	**Pn**	**11 24 03.3**	**+1.6**
ISRV				*e*Sn	**Sn**	**11 24 59.3**	**-0.1**
ISRV				*e*Sn	**Sn**	**11 24 59.4**	**0.0**
ISRV	**Sarvestan**	**4.99**	**304**	Pn	**Pn**	**11 24 02.7**	**+1.0**
ISRV				*e*Sn	**Sn**	**11 24 59.3**	**-0.1**
IMOK	**Mook**	**5.13**	**299**	*e*Pn	**Pn**	**11 24 04.2**	**+0.5**
IMOK				*e*Pn	**Pn**	**11 24 04.7**	**+1.0**
IMOK				*e*Pn	**Pn**	**11 24 05.2**	**+1.5**
IMOK				*e*Sn	**Sg**	**11 25 41.6**	**+10**
IMOK				*e*Sn	**Sg**	**11 25 42.1**	**+11**
IMOK	**Mook**	**5.13**	**299**	Pn	**Pn**	**11 24 04.7**	**+1.0**
IMOK				Sn	**Sg**	**11 25 42.1**	**+11**
IPAR	**Pars**	**5.29**	**308**	*e*Pn	**Pn**	**11 24 05.2**	**-0.7**
IPAR				*e*Pn	**Pn**	**11 24 05.2**	**-0.7**
IPAR				*e*Pn	**Pn**	**11 24 05.2**	**-0.7**
IPAR				*e*Sn	**Sn**	**11 25 06.1**	**-0.8**
IPAR				*e*Sn	**Sn**	**11 25 06.4**	**-0.5**
IBAF	**Bafgh**	**5.31**	**339**	*e*Pn	**Pn**	**11 24 07.5**	**+1.3**
IBAF				*e*Pn	**Pn**	**11 24 08.2**	**+2.0**
IBAF				*e*Pn	**Pn**	**11 24 08.7**	**+2.5**
IBAF				*e*Sn	**Sn**	**11 25 07.7**	**+0.3**
IBAF				*e*Sn	**Sn**	**11 25 07.8**	**+0.4**
IBAF	**Bafgh**	**5.31**	**339**	Pn	**Pn**	**11 24 07.4**	**+1.2**
IBAF				Sn	**Sn**	**11 25 07.6**	**+0.2**
IKOO		**5.84**	**10**	*e*Pn	**Pn**	**11 24 12.9**	**-0.6**
ITEG		**6.28**	**7**	*e*Pn	**Pn**	**11 24 21.0**	**+1.6**
ITEG				*e*Sn	**Sn**	**11 25 28.3**	**-2.9**
IDAH		**6.32**	**16**	*e*Pn	**Pn**	**11 24 20.4**	**+0.4**
ISAD	**Sadrabad**	**6.38**	**326**	*e*Sn	**Sn**	**11 25 32.9**	**-0.8**
NASN	**Na'in**	**7.53**	**326**	*e*Pn	**Pn**	**11 24 38.9**	**+2.3**
IZEF	**Zefreh**	**7.85**	**324**	*e*Pn	**Pn**	**11 24 42.1**	**+1.0**
IZEF				*e*Pn	**Pn**	**11 24 42.1**	**+1.0**
IZEF				*e*Sn	**Sn**	**11 26 07.9**	**-2.1**
IPIR	**Pirpir**	**8.53**	**316**	*e*Pn	**Pn**	**11 24 51.5**	**+1.2**
IPIR				*e*Sn	**Sn**	**11 26 25.4**	**-1.1**
IPIR	**Pirpir**	**8.53**	**316**	Pn	**Pn**	**11 24 51.4**	**+1.1**
IPIR				Sn	**Sn**	**11 26 25.4**	**-1.1**
IKLH	**Kalahroud**	**8.58**	**322**	*e*Pn	**Pn**	**11 24 52.0**	**+0.9**
IKLH				*e*Pn	**Pn**	**11 24 52.4**	**+1.3**
IKLH				*e*Pn	**Pn**	**11 24 52.9**	**+1.8**
IKLH				*e*Sn	**Sn**	**11 26 19.4**	**-8.5**
IKLH				*e*Sn	**Sn**	**11 26 19.5**	**-8.4**
IKLH	**Kalahroud**	**8.58**	**322**	Pn	**Pn**	**11 24 52.9**	**+1.8**
IKLH				Sn	**Sn**	**11 26 19.4**	**-8.5**
IKLH	**Kalahroud**	**8.58**	**322**	*e*Pn	**Pn**	**11 24 52.4**	**+1.3**
QRN	**Al-Qurain**	**9.04**	**286**	*e*P	**Pn**	**11 24 53.6**	**-3.8**
QRN				AML	AML	11 26 37.1	
	comp=Z,21nm,0.3s						
RDF	**Al-Radifah**	**9.39**	**286**	*e*P	**Pn**	**11 24 59.7**	**-2.5**
RDF				AML	AML	11 26 45.8	
	comp=Z,27nm,0.4s						
NAY	**Al-Naaiem**	**9.72**	**288**	*e*P	**Pn**	**11 25 03.9**	**-2.8**
NAY				AML	AML	11 26 53.3	
	comp=Z,9.5nm,0.7s						
MIB	**Mutribah**	**9.78**	**291**	*e*P	**Pn**	**11 25 05.5**	**-2.0**
MIB				AML	AML	11 26 56.3	
	comp=Z,22nm,0.5s						
RST	**Umm Al-Ruwaisa**	**9.99**	**289**	*e*P	**Pn**	**11 25 07.8**	**-2.6**
RST				AML	AML	11 27 01.3	
	comp=Z,13nm,0.4s						

IDC 16 11:27:35.6±2.1, 148N×12646E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=176.2km s-min=25.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.64**	**160**	P	P	11 32 36.6	-1.6
	1.3nm,0.5s,baz=339,slow=11,SNR=32						
ASAR	**Alice Springs**	**26.02**	**164**	P	P	11 33 12.1	+1.8
	0.4nm,0.5s,baz=343,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**59.26**	**326**	P	P	11 37 38.8	0.0
	0.4nm,0.5s,baz=125,slow=7.2,SNR=4.7						

*IDC **16** 11:35:21.9±0.8, 4625N×1545.8E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=27.3km s-min=19.8km az=143.0*
*ISCJB **16** 11:35:22.9±4.5, 462N±0.1×1545E±02, h18km±32km, mb3.8/8, Error ellipse: s-maj=30.2km s-min=13.3km az=82.2*
*MOS **16** 11:35:25.2±1.1, 4625N×1545E±02, h33km, mb4.2/5, Error ellipse: s-maj=25.7km s-min=17.0km az=57.7*

ISC 16 11:35:25.9±4.8, 462N±01×1545E±02, h26km±34km, n18, σ0§92/18, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.58**	**13**	*e*PN	**Pn**	**11 36 33.8**	**+0.3**
KUR	**Kuril'sk**	**4.74**	**260**	*e*PN	**Pn**	**11 36 36.5**	**+0.8**
KUR				pmax	pmax		
	comp=N,50nm,0.6s						
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
ASAJ	**Asahikawa**	**8.66**	**260**	Pn	**Pn**	**11 37 29.0**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=108,slow=11,SNR=7.4						
ASAJ	**Asahikawa**	**8.66**	**260**	PN	**Pn**	**11 37 29.0**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.56**	**237**	Pn	**Pn**	**11 39 02.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=31,slow=18,SNR=4.1						
KSRS	**Korea Array**	**21.57**	**256**	P	**P**	**11 40 15.8**	**+2.3**
	comp=Z,2.1nm,0.9s,mb3.6,baz=52,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**11 44 01.4**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=65,slow=7.1,SNR=6.7						
PDAR	**Pinedale Array**	**64.28**	**54**	P	**P**	**11 45 58.6**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=321,slow=2.1,SNR=4.6						
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**11 46 02.5**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=36,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**11 46 02.5**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.35**	**200**	P	**P**	**11 46 25.1**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=20,slow=6.8,SNR=5.0						
WRA	**Warramunga Arr**	**68.35**	**200**	P	**P**	**11 46 25.1**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**69.27**	**340**	P	**P**	**11 46 31.4**	**+0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=72,slow=6.4,SNR=5.4						
HFS	**Hagfors**	**69.27**	**340**	P	**P**	**11 46 31.4**	**+0.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.03**	**200**	P	**P**	**11 46 48.0**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=18,slow=6.7,SNR=9.1						
ASAR	**Alice Springs**	**72.03**	**200**	P	**P**	**11 46 48.0**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.91**	**61**	P	**P**	**11 47 15.8**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=301,slow=4.2,SNR=22						
TXAR	**Lajitas Array**	**76.91**	**61**	P	**P**	**11 47 15.8**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **16** 11:48:34.0±0.5, 4683N×1548.5E, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.4/27, mbtmp4.4/20, ML3.8/1, MS4.8/2, Ms1 4.9/2, ms1mx3.5/39, Error ellipse: s-maj=17.9km s-min=13.6km az=98.0*
*SKHL **16** 11:48:35.3±2.6, 4670N×1551.5E, h57km±21km*
*ISCJB **16** 11:48:35.5±0.3, 4680N±005×1548.2E±006, h16km, mb4.6/60, MS4.4/6, Error ellipse: s-maj=7.9km s-min=5.7km az=120.4*
*NEIC **16** 11:48:36.4±0.5, 4671N×1547.3E, h10km, mb4.8/24, Error ellipse: s-maj=13.5km s-min=10.5km az=117.0*
*MOS **16** 11:48:38.5±2.1, 4681N×1546.6E, h33km, mb4.8/30, Error ellipse: s-maj=10.1km s-min=6.8km az=105.1*
*BJI **16** 11:48:39.3, 4704N×1540.3E, h10km, mB4.7, mb4.5, Ms4.2, Msz4.0*

ISC 16 11:48:37.4±0.4, 4680N±005×15479E±007, h16km, h16km±2.4km:pP-P, n144, σ1§60/142, mb4.6/60, MS4.4/6, 13C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.98**	**12**	*e*P	**Pn**	**11 49 34.5**	**-3.3**
SKR				AMB	AMB	11 49 35.5	
	30nm,0.5s						
SKR				*i* S	**Sn**	**11 50 17.0**	**-7.1**
SKR				A		11 50 20.0	
	230nm,0.5s						
SKR				A		11 50 20.0	
	320nm,0.5s						
SKR				A		11 50 20.0	
	150nm,0.5s						
KUR	**Kuril'sk**	**5.07**	**255**	*e*P	**Pn**	**11 49 50.0**	**-2.7**
KUR				AMB	AMB	11 49 54.0	
	80nm,0.5s						
KUR				AMB	AMB	11 49 54.0	
	160nm,0.5s						
KUR				*i* S	**Sn**	**11 50 48.0**	**-2.9**
KUR				A		11 50 51.2	
	340nm,0.6s						
KUR				A		11 50 51.2	
	150nm,0.6s						
KUR	**Kuril'sk**	**5.07**	**255**	*e*PN	**Pn**	**11 49 50.0**	**-2.7**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,160nm,0.5s						
PET	**Petropavlovsk**	**6.71**	**20**	*e*PN	**Pn**	**11 50 09.7**	**-5.5**
PET				pmax	pmax		
	comp=Z,63nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**6.87**	**249**	*e*S	**Sn**	**11 51 34.0**	**-1.1**
YUK				A		11 51 35.5	
	comp=Z,750nm,0.5s						
YUK				A		11 51 35.5	
	comp=Z,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.25**	**275**	*e*P	**Pn**	**11 50 40.0**	**+3.6**
YSS				*e*S	**Sn**	**11 52 12.5**	**+3.3**
YSS				*e*LQ		11 52 49.0	
YSS				AMS	AMS	11 54 44.0	
	comp=Z,500nm,14.0s						
YSS				AMS	AMS	11 54 44.0	
	comp=Z,400nm,14.0s						
YSS				AMS	AMS	11 54 44.0	
	comp=Z,500nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.25**	**275**	*e*PN	**Pn**	**11 50 40.0**	**+3.6**
YSS				*e*S	**Sn**	**11 52 12.5**	**+3.3**
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,12.0s						
YSS				MLR	MLR		
	comp=E,400nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.25**	**275**	*e*Pn	**Pn**	**11 50 40.2**	**+3.8**
TYV	**Tymovskoe**	**8.98**	**301**	*e*P	**Pn**	**11 50 47.0**	**+0.7**
TYV				AMB	AMB	11 50 49.0	
	comp=E,9.0nm,0.8s						
TYV				AMB	AMB	11 50 49.0	
	comp=E,22nm,0.8s						
ASAJ	**Asahikawa**	**8.98**	**257**	Pn	**Pn**	**11 50 48.6**	**+2.3**
	comp=E,2.3nm,0.3s,baz=108,slow=15,SNR=16						
ASAJ				LR	LR	11 54 36.0	
	comp=E,221nm,18.2s,baz=354,slow=40						
ASAJ	**Asahikawa**	**8.98**	**257**	PN	**Pn**	**11 50 48.7**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,221nm,18.2s						
MJAR	**Matsushiro Arr**	**16.05**	**236**	Pn	**Pn**	**11 52 20.1**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=10						
MAJO	**Matsushiro**	**16.05**	**236**	*e*P	**Pn**	**11 52 20.1**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,42nm,0.9s						
MAJO	**Matsushiro**	**16.05**	**236**	*e*P	**Pn**	**11 52 20.1**	**-2.3**
	comp=Z,42nm,0.9s						
MAT	**Matsushiro**	**16.05**	**236**	P	**Pn**	**11 52 19.8**	**-2.5**
SEY	**Seymchan**	**16.23**	**356**	⇑*e*P	**Pn**	**11 52 22.3**	**-2.3**
ZEA	**Zeya**	**18.84**	**302**	*e*P	**Pn**	**11 52 57.0**	**-0.1**
ZEA				AMB	AMB	11 52 57.8	
	comp=Z,13nm,0.8s						

CN2	**Changchun**	**20.80**	**272**	*e*P		**P**	**11 53 15.4**	**-2.5**
CLNS	**Chul'man**	**20.87**	**310**	*e*P		**P**	**11 53 12.9**	**-5.7**
CLNS				pmax	pmax			
	comp=N,4.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,15nm,0.9s							
CLNS				pmax	pmax			
	comp=E,13nm,1.0s							
YAK	**Yakutsk**	**20.92**	**326**	⇑*e*P		**P**	**11 53 15.5**	**-3.6**
YAK				pmax	pmax			
	comp=Z,14nm,0.6s							
YAK	**Yakutsk**	**20.92**	**326**	P	P	**P**	**11 53 18.3**	**-0.8**
KSRS	**Korea Array**	**21.92**	**254**	P	P	**P**	**11 53 30.9**	**+1.0**
	comp=Z,8.2nm,0.9s,mb4.2,baz=56,slow=11,SNR=20							
BILL	**Bilibino**	**22.10**	**11**	⇑*e*P		**P**	**11 53 27.4**	**-4.5**
BILL				pmax	pmax			
	comp=Z,20nm,1.3s,mb4.4							
BILL	**Bilibino**	**22.10**	**11**	*e*P		**P**	**11 53 27.9**	**-3.9**
	comp=Z,51nm,1.3s,mb4.8							
SNY	**Shenyang**	**22.79**	**269**	⇑P		**P**	**11 53 38.1**	**-1.1**
SNY				AP			11 53 41.1	
SNY				XP	sP		11 53 42.8	-3.3
SNY				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.3							
HHC	**Hu-ho-hao-te**	**31.44**	**275**	*e*P		**P**	**11 54 57.8**	**-0.1**
HHC				AP	pP		11 55 02.1	-0.8
HHC				XP	sP		11 55 04.8	-0.2
HHC				PP	PP		11 56 01.9	-7.0
HHC				PCP	PcP		11 57 51.3	+0.3
HHC				S	**S**		**12 00 02.0**	**-3.0**
HHC				XS	sS		12 00 09.3	-4.0
HHC				SCP	ScP		12 01 33.4	0.0
HHC				PCS	PcS		12 01 34.4	-0.9
HHC				SCS	ScS		12 05 29.1	-1.9
HHC				AMB	AMB			
	comp=Z,24nm,1.2s,mb4.9							
HHC				AMB	AMB			
	comp=Z,105nm,7.4s							
HHC				LR	LR			
	comp=N,310nm,20.2s,MS4.2							
HHC				LR	LR			
	comp=E,324nm,17.3s,MS4.2							
HHC				LR	LR			
	comp=Z,390nm,21.0s,MS4.0							
ULN	**Ulaanbaatar**	**31.97**	**290**	*e*P		**P**	**11 55 00.5**	**-2.1**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.0							
ULN	**Ulaanbaatar**	**31.97**	**290**	*e*P		**P**	**11 55 00.5**	**-2.0**
	comp=Z,2.1nm,0.8s,mb4.0							
SONM	**Songino Array**	**32.40**	**290**	P		**P**	**11 55 04.9**	**-1.5**
	comp=Z,1.3nm,0.8s,mb3.8,baz=65,slow=8.3,SNR=8.9							
TLY	**Talaya**	**33.18**	**298**	*e*P		**P**	**11 55 12.2**	**-1.0**
TLY				pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.3							
TLY				MLR	MLR			
	comp=Z,177nm,15.0s,MS3.9							
MCK	**McKinley**	**34.87**	**40**	*e*P		**P**	**11 55 27.1**	**-0.7**
MCK				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6							
MCK	**McKinley**	**34.87**	**40**	*e*P		**P**	**11 55 27.1**	**-0.8**
	comp=Z,8.6nm,1.2s,mb4.6							
WHN	**Wuhan**	**35.06**	**257**	P		**P**	**11 55 33.4**	**+3.9**
COLA	**College**	**35.38**	**38**	*e*P		**P**	**11 55 30.8**	**-1.5**
COLA				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.0							
COLA	**College**	**35.38**	**38**	*e*P		**P**	**11 55 30.8**	**-1.5**
	comp=Z,28nm,1.4s,mb5.0							
XAN	**Xi'an**	**36.67**	**266**	P		**P**	**11 55 44.6**	**+1.3**
XAN				AP	pP		11 55 54.8	+6.4
XAN				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.4							
LZH	**Lanzhou**	**39.04**	**273**	*e*P		**P**	**11 56 04.6**	**+1.3**
LZH				AP	pP		11 56 09.3	+0.9
LZH				XP	sP		11 56 11.5	+1.1
LZH				AMB	AMB			
	comp=Z,22nm,1.2s,mb4.8							
LZH	**Lanzhou**	**39.04**	**273**	*e*P		**P**	**11 56 04.6**	**+1.3**
	comp=Z,22nm,1.2s,mb4.8							
LZH				pP	pP		11 56 09.3	+0.9
LZH				sP	sP		11 56 11.5	+1.1
GTA	**Gaotai**	**40.10**	**280**	*e*P		**P**	**11 56 11.9**	**-0.2**
GTA				AP	pP		11 56 16.8	-0.5
GTA				XP	sP		11 56 20.1	+0.8
GTA				AMB	AMB			
	comp=Z,4.0nm,2.3s,mb3.7							
INK	**Inuvik**	**40.99**	**33**	P		**P**	**11 56 17.9**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.1,baz=285,slow=3.9,SNR=18							
INK	**Inuvik**	**40.99**	**33**	P		**P**	**11 56 17.9**	**-1.6**
INK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**40.99**	**33**	*e*P		**P**	**11 56 18.3**	**-1.2**
	comp=Z,432nm,1.3s,mb5.9							
CD2	**Chengdu**	**42.03**	**266**	⇑*i*P		**P**	**11 56 30.1**	**+2.1**
CD2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
GYA	**Guiyang**	**42.85**	**259**	⇑*i*P		**P**	**11 56 35.8**	**+1.1**
GYA				AP	pP		11 56 39.4	-0.5
GYA				XP	sP		11 56 42.3	+0.4
GYA				PP	PP		11 58 17.4	+3.2
GYA				PCP	PcP		11 58 27.3	+1.7
GYA				S	**S**		**12 02 59.0**	**+0.5**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
GYA				AMB	AMB			
	comp=Z,80nm,4.8s							
GYA				LR	LR			
	comp=N,340nm,16.7s,MS4.5							
GYA				LR	LR			
	comp=E,380nm,16.9s,MS4.5							
GYA				LR	LR			
	comp=Z,360nm,17.2s,MS4.3							
KMI	**Kunming**	**46.39**	**261**	P		**P**	**11 57 00.5**	**-2.4**
KMI				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.4							
KMI	**Kunming**	**46.39**	**261**	P		**P**	**11 57 00.5**	**-2.4**
	comp=Z,6.0nm,1.2s,mb4.4							
MK31	**Makanchi Array**	**47.94**	**298**	*e*P		**P**	**11 57 13.3**	**-1.7**
MKAR	**Makanchi Array**	**47.94**	**298**	P		**P**	**11 57 13.7**	**-1.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=70,slow=7.9,SNR=21							
MKAR	**Makanchi Array**	**47.94**	**298**	P		**P**	**11 57 13.3**	**-1.7**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**48.30**	**304**	P		**P**	**11 57 16.0**	**-1.8**
KURK				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.8							
CHKZ	**Chkalovo**	**51

GKN	**Gorkha**	**56.93**	**277**	*e*P	**P**	**11 58 23.4**	**+1.7**
	comp=Z,8.8nm,0.4s,mb5.2							
KOLN	**Koldanda**	**57.79**	**278**	*e*P	**P**	**11 58 29.1**	**+1.3**
	comp=Z,9.3nm,0.6s,mb5.0							
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**11 58 28.5**	**-2.1**
	comp=Z,6.4nm,0.9s,mb4.7,baz=42,slow=7.6,SNR=8.3							
AKTK	**Aktyubinsk**	**59.55**	**313**	P	**P**	**11 58 38.9**	**-1.1**
AKTO	**Aktyubinsk**	**59.55**	**313**	P	**P**	**11 58 38.9**	**-1.1**
	comp=Z,1.2nm,0.3s,mb4.4,baz=39,slow=5.5,SNR=6.5							
AKTO	**Aktyubinsk**	**59.55**	**313**	P	**P**	**11 58 38.3**	**-1.7**
AKTO				pmax	pmax			
	comp=Z,1.0nm,1.8s,mb3.5							
PDAR	**Pinedale Array**	**63.78**	**55**	P	**P**	**11 59 08.2**	**-0.4**
	comp=Z,1.3nm,1.0s,mb3.9,baz=298,slow=3.2,SNR=8.2							
FINES	**FINESS Array B**	**64.48**	**335**	P	**P**	**11 59 11.7**	**-1.5**
	comp=Z,16nm,0.7s,mb5.2,baz=35,slow=7.6,SNR=37							
SRU	**San Rafael**	**65.61**	**58**	*e*P	**P**	**11 59 19.6**	**-0.9**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
SRU	**San Rafael**	**65.61**	**58**	*e*P	**P**	**11 59 19.6**	**-0.9**
	comp=Z,2.0nm,0.9s,mb4.2							
OBN	**Obninsk**	**65.92**	**326**	*ce*P	**P**	**11 59 21.6**	**-0.9**
OBN				*i*		11 59 33.8		
OBN				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.0							
VSU	**Vasula**	**66.70**	**333**	⇓*i*P	**P**	**11 59 26.6**	**-0.9**
NB2	**NORSAR Subarra**	**68.55**	**342**	P	**P**	**11 59 39.1**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**11 59 39.2**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.5,baz=26,slow=6.4,SNR=12							
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**11 59 39.2**	**+0.1**
WRAB	**Tennant Creek**	**68.94**	**201**	*e*P	**P**	**11 59 41.0**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**68.94**	**201**	*e*P	**P**	**11 59 41.0**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**68.95**	**201**	P	**P**	**11 59 41.2**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.3,baz=18,slow=6.6,SNR=18							
DZM	**Mont Dzumac**	**69.35**	**168**	P	**P**	**11 59 44.3**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.5,baz=19,slow=7.0,SNR=4.1							
FITZ	**Fitzroy Crossi**	**69.74**	**210**	P	**P**	**11 59 46.7**	**+0.1**
	comp=Z,3.9nm,1.1s,mb4.2,baz=28,slow=13,SNR=5.5							
MDRS	**Chennai**	**70.02**	**268**	*ex*	x	11 58 40.6		
ANMO	**Albuquerque**	**70.82**	**59**	LR	LR	12 27 56.4		
	comp=Z,386nm,19.8s,MS4.7,baz=204,slow=33							
KIV	**Kislovodsk**	**71.59**	**315**	*e*P	**P**	**12 00 01.1**	**+3.3**
KIV				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8							
KIV				MLR	MLR			
	comp=Z,231nm,19.0s,MS4.5							
ZEI	**Tsey**	**71.87**	**314**	*e*P	**P**	**11 59 59.5**	**0.0**
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.5							
AKASG	**Malin Array Be**	**72.14**	**327**	P	**P**	**11 59 59.4**	**-1.8**
	comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.3,SNR=12							
AS31	**Alice Springs**	**72.63**	**200**	*e*P	**P**	**12 00 04.2**	**+0.2**
ASAR	**Alice Springs**	**72.63**	**200**	P	**P**	**12 00 03.9**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=14,slow=5.7,SNR=44							
OJC	**Ojcow**	**75.83**	**332**	*e*P	**P**	**12 00 23.9**	**+1.2**
STHS	**Stebnicka Huta**	**76.05**	**331**	*e*P	**P**	**12 00 25.8**	**+1.9**
STHS				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
STHS	**Stebnicka Huta**	**76.05**	**331**	*e*P	**P**	**12 00 25.8**	**+1.9**
	comp=Z,7.8nm,0.9s,mb4.6							
BURAR	**Bucovina Array**	**76.18**	**328**	⇓P	**P**	**12 00 26.3**	**+1.6**
TXAR	**Lajitas Array**	**76.46**	**62**	P	**P**	**12 00 25.4**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.3,baz=305,slow=4.8,SNR=61							
TXAR	**Lajitas Array**	**76.46**	**62**	P	**P**	**12 00 25.4**	**-0.9**
CLL	**Collm**	**76.89**	**337**	⇑*i*P	**P**	**12 00 29.6**	**+0.9**
	comp=Z,19nm,0.9s,mb5.0							
CLL				*i* PcP	PcP	12 00 41.7	+1.9	
MORC	**Moravsky Berou**	**76.93**	**333**	*e*P	**P**	**12 00 30.3**	**+1.4**
MORC				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
MORC	**Moravsky Berou**	**76.93**	**333**	*e*P	**P**	**12 00 30.3**	**+1.3**
	comp=Z,5.1nm,0.7s,mb4.6							
VRI	**Vrincioaia**	**77.06**	**326**	⇓P	**P**	**12 00 31.6**	**+1.9**
KECS	**Kecovo**	**77.10**	**331**	*e*P	**P**	**12 00 31.1**	**+1.2**
KECS				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
KECS	**Kecovo**	**77.10**	**331**	*e*P	**P**	**12 00 31.1**	**+1.2**
	comp=Z,3.7nm,0.9s,mb4.3							
TIRR	**Tirgusor**	**77.56**	**324**	⇑P	**P**	**12 00 34.5**	**+2.0**
VRAC	**Vranov**	**77.63**	**333**	⇑P	**P**	**12 00 34.6**	**+1.7**
VYHS	**Vyhne**	**77.64**	**332**	*e*P	**P**	**12 00 34.4**	**+1.5**
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.2							
VYHS	**Vyhne**	**77.64**	**332**	*e*P	**P**	**12 00 34.4**	**+1.5**
	comp=Z,4.1nm,1.2s,mb4.2							
MLR	**Muntele Rosu**	**77.68**	**326**	⇑P	**P**	**12 00 35.8**	**+2.6**
DRGR		**77.78**	**329**	⇓P	**P**	**12 00 34.7**	**+1.0**
MALT	**Malatya**	**77.96**	**314**	*e*P	**P**	**12 00 36.4**	**+1.7**
MALT				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
MALT	**Malatya**	**77.96**	**314**	*e*P	**P**	**12 00 36.4**	**+1.6**
	comp=Z,4.4nm,0.6s,mb4.6							
VOIR		**78.07**	**326**	⇑P	**P**	**12 00 37.1**	**+1.8**
ZST	**Bratislava**	**78.46**	**333**	*e*P	**P**	**12 00 38.2**	**+0.7**
ZST				pmax	pmax			
	comp=Z,7.0nm,0.5s,mb4.8							
ZST	**Bratislava**	**78.46**	**333**	*e*P	**P**	**12 00 38.2**	**+0.7**
	comp=Z,6.8nm,0.5s,mb4.8							
KHC	**Kasperske Hory**	**78.69**	**335**	⇓*i*P	**P**	**12 00 41.0**	**+2.3**
GERES	**GERESS Array B**	**78.91**	**335**	P	**P**	**12 00 38.8**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=38,slow=5.0,SNR=6.5							
GZR	**Gura Zlata**	**78.95**	**328**	⇓P	**P**	**12 00 41.3**	**+1.1**
BZS	**Buzias**	**79.18**	**329**	⇑P	**P**	**12 00 43.2**	**+1.7**
STKA	**Stephens Creek**	**79.21**	**191**	P	**P**	**12 00 39.3**	**-2.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=314,slow=9.6,SNR=3.4							
CDF	**Champ du Feu**	**81.04**	**339**	*e*P	**P**	**12 00 53.8**	**+2.3**
	comp=Z,6.0nm,0.5s,mb4.5							
CDF	**Champ du Feu**	**81.04**	**339**	*e*P	**P**	**12 00 53.8**	**+2.3**
CDF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
CDF	**Champ du Feu**	**81.04**	**339**	*e*P	**P**	**12 00 53.8**	**+2.3**
	comp=Z,3.0nm,0.5s,mb4.4							
VTS	**Vitosha**	**81.19**	**326**	⇓P	**P**	**12 00 54.8**	**+2.5**
GRR	**Gorron**	**82.85**	**344**	*e*P	**P**	**12 01 04.1**	**+3.1**
SMF	**Signal de Mont**	**83.52**	**340**	*e*P	**P**	**12 01 07.4**	**+3.0**
	comp=Z,24nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**83.52**	**340**	*e*P	**P**	**12 01 07.4**	**+3.0**
SMF				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**83.52**	**340**	*e*P	**P**	**12 01 07.4**	**+3.0**
	comp=Z,12nm,0.9s,mb5.0							
MMAI	**Mount Ida Ar**	**83.64**	**313**	P	**P**	**12 01 06.0**	**+0.9**
	comp=Z,5.1nm,0.6s,mb4.9,baz=34,slow=9.1,SNR=5.9							
LPG	**La Plagne**	**83.88**	**338**	*e*P	**P**	**12 01 10.2**	**+3.9**
	comp=Z,16nm,0.7s,mb5.0							
LPG	**La Plagne**	**83.88**	**338**	*e*P	**P**	**12 01 10.2**	**+3.9**
LPG				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb5.0							
LPG	**La Plagne**	**83.88**	**338**	*e*P	**P**	**12 01 10.2**	**+3.9**
	comp=Z,7.8nm,0.7s,mb5.0							
CAF	**Calviac**	**85.55**	**341**	*e*P	**P**	**12 01 17.5**	**+2.8**
	comp=Z,25nm,1.0s,mb5.1							
CAF	**Calviac**	**85.55**	**341**	*e*P	**P**	**12 01 17.5**	**+2.8**
CAF				pmax	pmax			
	comp=Z,13nm,1.0s,mb5.1							
CAF	**Calviac**	**85.55**	**341**	*e*P	**P**	**12 01 17.5**	**+2.8**
	comp=Z,13nm,1.0s,mb5.1							
NWAO	**Narrogin (SRO)**	**86.28**	**211**	P	**P**	**12 01 18.4**	**+0.1**
	comp=Z,17nm,1.1s,mb5.2,baz=11,slow=4.1,SNR=3.7							
ESDC	**Sonseca Array**	**91.84**	**344**	LR	LR	12 47 06.7		
	comp=Z,638nm,18.1s,MS5.1,baz=145,slow=38							
TORD	**Torodi Ar. Bea**	**115.63**	**331**	PKP	PKPdf	12 07 16.5	-2.3	
	comp=Z,0.6nm,0.9s,baz=7,0,slow=1.9,SNR=2.7							
VNDA	**Vanda**	**124.12**	**178**	PKP	PKPdf	12 07 31.1	-3.9	
	comp=Z,0.3nm,0.8s,baz=169,slow=1.7,SNR=3.7							
CFAA	**Coronel Fontan**	**143.85**	**81**	PKP	PKPdf	12 08 07.9	-3.9	
	comp=Z,0.5nm,0.6s,baz=20,slow=2.7,SNR=7.5							
SNAA	**Sanae**	**152.91**	**195**	PKPbc	PKPbc	12 08 30.6	-3.2	
	comp=Z,0.4nm,0.8s,baz=264,slow=7.4,SNR=6.8							
SNAA				PKPab	PKPab	12 08 42.4	-2.5	
	comp=Z,2.5nm,1.1s,baz=154,slow=3.9,SNR=5.9							
SNAA	**Sanae**	**152.91**	**195**	*e*PKPdf	PKPdf	12 08 30.1	+3.6	
SNAA				*e*		12 08 41.1		
VNA2	**Neumayer--Watz**	**154.33**	**193**	*e*PKPdf	PKPdf	12 08 31.8	+3.3	
VNA2				*e*		12 08 47.2		

IDC 16 11:49:00.2±8.5, 664S×15092E, h68km±60km, mb3.7/4, mb1 3.9/5, mb1mx3.5/13, mbtmp3.7/5, ML2.7/1, Error ellipse: s-maj=57.0km s-min=52.7km az=58.0, New Britain region

PMG	**Port Moresby**	**4.62**	**233**	P	Pn	11 50 07.6	+0.2	
	2.2nm,0.3s,baz=47,slow=8.4,SNR=9.2							
PMG				S	Sn	11 51 01.2	+1.4	
	2.2nm,0.3s,baz=14,slow=18,SNR=7.0							
KAKA	**Kakadu**	**19.18**	**250**	*e*P	Pn	11 53 18.4	-1.3	
	6.9nm,0.6s							
WB2	**Warramunga Arr**	**20.82**	**229**	*e*P	P	11 53 35.6	-0.3	
WRA	**Warramunga Arr**	**20.83**	**229**	P	P	11 53 35.2	-0.8	
	3.4nm,0.8s,baz=53,slow=10,SNR=22							
ASAR	**Alice Springs**	**23.53**	**222**	P	P	11 54 04.2	+0.1	
	1.6nm,0.5s,baz=57,slow=9.0,SNR=43							
STKA	**Stephens Creek**	**26.57**	**198**	*e*P	P	11 54 02.0	+0.3	
	1.4nm,0.4s							
STKA	**Stephens Creek**	**26.57**	**198**	P	P	11 54 31.7	0.0	
	1.7nm,0.4s,baz=21,slow=9.1,SNR=7.1							
FITZ	**Fitzroy Crossi**	**27.14**	**243**	*e*P	P	11 54 35.9	-1.0	
	3.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**27.14**	**243**	P	P	11 54 37.6	+0.7	
	1.7nm,0.5s,baz=71,slow=8.5,SNR=16							
TORD	**Torodi Ar. Bea**	**149.02**	**284**	PKPbc	PKPbc	12 08 41.6	+1.2	
	0.5nm,0.6s,baz=46,slow=3.9,SNR=2.7							

IDC ***16*** *11:53:51.2±1.4, 4745N×155.10E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.9/23, mbtmp3.8/12, ML3.2/2, MS4.4/4, Ms1 4.4/4, ms1mx3.6/41, Error ellipse: s-maj=41.9km s-min=17.0km az=161.0*

ISCJB ***16*** *11:53:55.3±2.1, 474N×02×155.0E±02, h41km±17km, mb3.8/11, MS4.5/4, Error ellipse: s-maj=31.9km s-min=12.0km az=99.7*

MOS ***16*** *11:53:56.2±1.4, 4748N×154.84E, h50km, mb4.3/6, Error ellipse: s-maj=25.6km s-min=14.5km az=72.3*

ISC 16 11:53:57.2±1.8, 474N±01×155.0E±02, h45km±15km, n20, σ1$05/19, mb3.8/11, MS4.5/4, East of Kuril Islands

SKR	**Severo-Kuril's**	**3.33**	**12**	*e*PN	**Pn**	**11 54 46.5**	**-0.3**	
SKR				*e*		11 55 24.5		
ASAJ	**Asahikawa**	**9.29**	**254**	Pn	**Pn**	**11 56 08.1**	**-0.5**	
	0.4nm,0.3s,baz=55,slow=12,SNR=4.0							
MJAR	**Matsushiro Arr**	**16.53**	**235**	Pn	**Pn**	**11 57 46.3**	**+0.5**	
	0.1nm,0.3s,baz=39,slow=8.5,SNR=3.9							
BILL	**Bilibino**	**21.45**	**12**	*e*P	**P**	**11 58 43.2**	**+1.6**	
BILL				pmax	pmax			
	comp=Z,12nm,1.3s,mb4.1							
KSRS	**Korea Array**	**22.24**	**253**	P	**P**	**11 58 51.3**	**+1.2**	
	comp=Z,0.5nm,0.5s,mb3.2,baz=48,slow=8.8,SNR=3.0							
SONM	**Songino Array**	**32.33**	**289**	P	**P**	**12 00 21.0**	**-1.1**	
	comp=Z,0.3nm,0.5s,mb3.4,baz=77,slow=9.0,SNR=3.8							
INK	**Inuvik**	**40.37**	**33**	P	**P**	**12 01 31.1**	**+0.5**	
	comp=Z,3.2nm,0.8s,mb4.1,baz=279,slow=8.4,SNR=9.3							
INK	**Inuvik**	**40.37**	**33**	P	**P**	**12 01 31.2**	**+0.5**	
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**12 02 28.5**	**-1.5**	
	comp=Z,0.4nm,0.5s,mb3.7,baz=64,slow=8.2,SNR=6.5							
MKAR				LR	LR	12 25 18.4		
	comp=Z,454nm,21.5s,MS4.4,baz=136,slow=40							
YKA	**Yellowknife Ar**	**49.59**	**38**	P	**P**	**12 02 41.6**	**-2.3**	
	comp=Z,2.1nm,0.5s,mb4.4,baz=293,slow=7.0,SNR=9.1							
YKA	**Yellowknife Ar**	**49.59**	**38**	P	**P**	**12 02 41.6**	**-2.3**	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
YBH	**Yreka Blue Hor**	**56.28**	**63**	LR	LR	12 22 20.9		
	comp=Z,522nm,21.2s,MS4.6,baz=255,slow=30							
PDAR	**Pinedale Array**	**63.29**	**55**	P	**P**	**12 04 20.9**	**-0.5**	
	comp=Z,0.3nm,0.5s,mb3.7,baz=319,slow=2.6,SNR=3.5							
PDAR				LR	LR	12 28 25.8		
	comp=Z,373nm,21.9s,MS4.5,baz=261,slow=33							
FINES	**FINESS Array B**	**63.96**	**335**	P	**P**	**12 04 26.3**	**+0.4**	
	comp=Z,2.4nm,0.5s,mb4.5,baz=36,slow=8.5,SNR=13							
FINES	**FINESS Array B**	**63.96**	**335**	P	**P**	**12 04 26.3**	**+0.5**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**67.99**	**342**	P	**P**	**12 04 53.3**	**+1.6**	
	comp=Z,0.6nm,0.6s,mb3.8,baz=26,slow=6.5,SNR=2.3							
NOA	**NORSAR Array B**	**67.99**	**342**	P	**P**	**12 04 53.3**	**+1.6**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.69**	**327**	P	**P**	**12 05 14.1**	**-0.3**	
	comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.1,SNR=4.6							
AKASG				LR	LR	12 39 13.5		
	comp=Z,198nm,20.4s,MS4.4,baz=110,slow=38							
AKASG	**Malin Array Be**	**71.69**	**327**	P	**P**	**12 05 14.1**	**-0.3**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG				MLR	MLR			
	comp=Z,198nm,20.4s							
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**12 05 40.1**	**+0.3**	
	comp=Z,0.3nm,0.5s,mb3.4,baz=312,slow=4.7,SNR=5.7							

IDC 16 12:00:06.4±1.0, 4666N×15493E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, MS4.3/1, Ms1 4.3/1, ms1mx3.2/44, Error ellipse: s-maj=36.8km s-min=25.9km az=95.0, East of Kuril Islands

MKAR	**Makanchi Array**	**48.09**	**298**	P	P	12 08 46.7	-1.0	
	0.5nm,0.7s,baz=64,slow=5.3,SNR=5.4							
YKA	**Yellowknife Ar**	**50.24**	**37**	LR	LR	12 33 57.4		
	comp=Z,311nm,18.5s,baz=215,slow=40							
FINES	**FINESS Array B**	**64.64**	**336**	P	P	12 10 45.9	0.0	
	0.7nm,0.4s,baz=33,slow=7.4,SNR=9.2							
WRA	**Warramunga Arr**	**68.86**	**201**	P	P	12 11 12.1	-0.6	
	0.5nm,0.8s,baz=19,slow=6.9,SNR=49							
ASAR	**Alice Springs**	**72.54**	**200**	P	P	12 11 36.0	+0.8	
	0.8nm,0.7s,baz=17,slow=5.4,SNR=8.8							
TXAR	**Lajitas Array**	**76.44**	**62**	P	P	12 11 57.8	-0.1	
	0.7nm,0.5s,baz=303,slow=5.0,SNR=10							

ISCJB ***16*** *12:11:33.1±6.0, 458N±0.1×1543E±02, h3km±37km, mb3.8/8, Error ellipse: s-maj=27.3km s-min=14.0km az=81.1*

IDC ***16*** *12:11:34.8±0.8, 4587N×154.13E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML2.4/1, Error ellipse: s-maj=26.2km s-min=21.5km az=112.0*

MOS ***16*** *12:11:37.6±1.4, 4586N×154.23E, h33km, mb4.1/7, Error ellipse: s-maj=20.5km s-min=16.1km az=72.4*

ISC 16 12:11:36.9±6.5, 459N±01×1543E±02, h16km±40km, n19, σ1$18/19, mb3.8/8, East of Kuril Islands

SKR	**Severo-Kuril's**	**4.98**	**13**	*e*P	**Pn**	**12 12 50.1**	**-0.9**	
SKR				*e*		12 13 42.5		
ASAJ	**Asahikawa**	**8.50**	**262**	Pn	**Pn**	**12 13 40.5**	**+1.2**	
	0.3nm,0.3s,baz=86,slow=16,SNR=2.8							
MJAR	**Matsushiro Arr**	**15.26**	**238**	Pn	**Pn**	**12 15 09.6**	**-2.1**	
	0.0nm,0.3s,baz=56,slow=19,SNR=3.4							
KLR	**Kul'dur**	**15.61**	**291**	*e*P	**Pn**	**12 15 18.2**	**+2.1**	
SONM	**Songino Array**	**32.44**	**291**	P	**P**	**12 18 05.1**	**-1.1**	
	0.6nm,1.0s,mb3.4,baz=79,slow=7.5,SNR=3.4							
SONM	**Songino Array**	**32.44**	**291**	P	**P**	**12 18 05.1**	**-1.1**	
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
INK	**Inuvik**	**41.96**	**32**	P	**P**	**12 19 27.5**	**+0.4**	
	comp=Z,1.1nm,0.8s,mb3.5,baz=288,slow=8.8,SNR=4.0							
INK	**Inuvik**	**41.96**	**32**	P	**P**	**12 19 27.5**	**+0.5**	
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**48.11**	**299**	P	**P**	**12 20 15.9**	**0.0**	
	comp=Z,0.4nm,0.7s,mb3.6,baz=67,slow=9.3,SNR=4.2							
FINES	**FINESS Array B**	**65.21**	**335**	P	**P**	**12 22 17.4**	**-0.1**	
	comp=Z,0.5nm,0.5s,mb3.8,baz=69,slow=7.9,SNR=3.3							
FINES	**FINESS Array B**	**65.21**	**335**	P	**P**	**12 22 17.4**	**-0.1**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**67.95**	**200**	P	**P**	**12 22 34.2**	**-0.8**	
	comp=Z,1.4nm,0.8s,mb4.0,baz=18,slow=6.7,SNR=6.4							
WRA	**Warramunga Arr**	**67.95**	**200**	P	**P**	**12 22 34.2**	**-0.8**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**71.63**	**200**	P	**P**	**12 22 58.9**	**+1.2**	
	comp=Z,1.2nm,0.7s,mb3.9,baz=14,slow=5.0,SNR=15							
ASAR	**Alice Springs**	**71.63**	**200**	P	**P**	**12 22 58.9**	**+1.3**	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**72.76**	**327**	P	**P**	**12 23 03.1**	**-1.3**	
	comp=Z,0.5nm,0.4s,mb3.8,baz=38,slow=6.2,SNR=2.6							
AKASG	**Malin Array Be**	**72.76**	**327**	P	**P**	**12 23 03.1**	**-1.3**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**12 23 31.3**	**+1.3**	
	comp=Z,1.6nm,0.6s,mb4.1,baz=306,slow=4.2,SNR=24							
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**12 23 31.3**	**+1.3**	
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							

IDC 16 12:16:06.1±3.7, 4674N×15472E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.8/4, Error ellipse: s-maj=164.4km s-min=30.1km az=80.0, East of Kuril Islands

BVAR	**Borovoye Array**	**51.72**	**310**	P	P	12 25 14.7	-0.3	
	0.5nm,0.4s,baz=52,slow=7.5,SNR=3.2							
FINES	**FINESS Array B**	**64.52**	**335**	P	P	12 26 44.0	-0.7	
	0.5nm,0.5s,baz=46,slow=11,SNR=1.6							
WRA	**Warramunga Arr**	**68.87**	**201**	P	P	12 27 11.7	-0.8	
	0.3nm,0.8s,baz=18,slow=6.5,SNR=4.6							
ASAR	**Alice Springs**	**72.56**	**200**	P	P	12 27 35.4	+0.4	
	0.4nm,0.5s,baz=18,slow=5.8,SNR=12							

ISCJB ***16*** *12:22:04.1±1.7, 466N±03×153.1E±03, h10km, mb3.7/5, Error ellipse: s-maj=50.4km s-min=11.0km az=123.7*

MOS ***16*** *12:22:06.9±1.6, 4638N×153.13E, h33km, mb4.3/3, Error ellipse: s-maj=42.8km s-min=41.4km az=23.5*

IDC ***16*** *12:22:08.3±4.4, 4744N×153.69E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=139.3km s-min=42.7km az=9.0*

ISC 16 12:22:05.5±1.7, 466N±03×1531E±03, h10km, n10, σ0$55/11, mb3.7/5, Kuril Islands

KUR	**Kuril'sk**	**3.88**	**252**	PN	**Pn**	**12 23 04.5**	**-0.8**	
KUR				*e*S	**Sn**	**12 23 51.5**	**+0.5**	
KUR				smax				
	comp=N,230nm,0.6s							
KUR				smax				
	comp=E,80nm,0.6s							
MKAR	**Makanchi Array**	**47.02**	**298**	P	**P**	**12 30 41.5**	**+4.4**	
	comp=E,0.3nm,0.6s,mb3.4,baz=55,slow=7.6,SNR=2.6							
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**12 32 40.3**	**-0.3**	
	comp=E,0.9nm,0.7s,mb3.9,baz=46,slow=6.0,SNR=3.0							
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**12 32 40.3**	**-0.3**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**12 33 08.0**	**+0.5**	
	comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=6.2							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**12 33 08.1**	**+0.6**	
	comp=Z,1.0nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=3.7							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**12 33 08.1**	**+0.6**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**12 33 27.3**	**-0.4**	
	comp=Z,0.9nm,0.4s,mb4.0,baz=36,slow=6.3,SNR=4.9							
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**12 33 27.3**	**-0.4**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**77.60**	**60**	P	**P**	**12 34 02.2**	**+0.3**	
	comp=Z,0.3nm,0.7s,mb3.3,baz=281,slow=5.2,SNR=2.5							

IDC ***16*** *12:22:21.0±14.0, 4631N×15466E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, Error ellipse: s-maj=363.1km s-min=43.6km az=164.0*

ISCJB ***16*** *12:22:29.2±3.7, 477N±05×154.1E±05, h10km, mb3.9/5, Error ellipse: s-maj=82.4km s-min=22.4km az=116.0*

MOS ***16*** *12:22:33.0±

*NEIC **16** 12:26:30.2±1.9,541S×14728E,h170km±15km,mb4.3/5, Error ellipse: s-maj=21.0km s-min=17.9km az=108.0*
*IDC **16** 12:26:31.0±1.8,558S×14724E,h171km±15km,mb3.6/4, mb1 3.9/6,mb1mx3.6/14,mbtmp3.7/6,Error ellipse: s-maj=27.1km s-min=13.5km az=111.0*

ISC 16 12:26:31.7±1.6,56S±01×1473E±02,h173km±13km,n16, σ0§86/17,mb4.1/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**182**	P		**Pn**	**12 27 30.5**	**+0.6**
	46nm,0.3s,baz=14,slow=5.5,SNR=233							
PMG				S		**Sn**	**12 28 14.4**	**-0.9**
	15nm,0.3s,baz=7.2,slow=15,SNR=4.5							
KAKA	**Kakadu**	**16.27**	**243**	*e*P		**Pn**	**12 30 10.6**	**+0.2**
	7.6nm,0.8s							
WRAB	**Tennant Creek**	**19.02**	**220**	*e*P		**P**	**12 30 40.4**	**+0.2**
	5.2nm,0.4s							
WB2	**Warramunga Arr**	**19.02**	**220**	*e*P		**P**	**12 30 40.8**	**+0.5**
WRA	**Warramunga Arr**	**19.03**	**220**	P		**P**	**12 30 41.0**	**+0.7**
	1.8nm,0.3s,baz=49,slow=12,SNR=120							
WRA				S		**S**	**12 34 05.2**	**-1.9**
	0.1nm,0.3s,baz=41,slow=20,SNR=6.6							
WRA				PcP		PcP	12 34 57.6	-0.1
	0.1nm,0.3s,baz=28,slow=2.0,SNR=4.9							
AS31	**Alice Springs**	**22.11**	**214**	*e*P		**P**	**12 31 13.7**	**+0.6**
ASAR	**Alice Springs**	**22.12**	**214**	P		**P**	**12 31 13.8**	**+0.6**
	3.7nm,0.4s,mb4.2,baz=49,slow=8.8,SNR=183							
ASAR				S		**S**	**12 35 05.8**	**+1.6**
	2.8nm,0.8s,baz=30,slow=22,SNR=13							
ASPA	**Alice Springs**	**22.12**	**214**	*e*P		**P**	**12 31 13.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.52**	**238**	*e*P		**P**	**12 31 34.4**	**-0.7**
	10.0nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**24.52**	**238**	P		**P**	**12 31 35.0**	**-0.1**
	4.5nm,0.5s,mb4.3,baz=50,slow=10,SNR=52							
SONM	**Songino Array**	**64.18**	**331**	P		**P**	**12 36 46.4**	**-1.3**
	0.2nm,0.4s,mb3.3,baz=142,slow=7.3,SNR=4.2							
CASY	**Casey**	**65.73**	**195**	*e*P		**P**	**12 36 58.3**	**+0.6**
	14nm,1.1s,mb4.7							
VNDA	**Vanda**	**72.31**	**177**	P		**P**	**12 37 37.2**	**-1.1**
	1.2nm,0.5s,mb3.9,baz=347,slow=6.7,SNR=22							
VNDA	**Vanda**	**72.31**	**177**	*e*P		**P**	**12 37 37.4**	**-0.9**
	1.1nm,0.5s,mb3.8							
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc		PKPbc	12 45 47.9	-0.8
	1.3nm,0.6s,baz=66,slow=3.3,SNR=12							
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc		PKPbc	12 45 47.9	-0.8

*BJI **16** 12:27:38.2,4630N×15343E,h10km,mB4.9,mb4.5,Ms4.2, Msz3.6*
*IDC **16** 12:27:40.1±0.8,4621N×153.17E,h0km,mb3.8/12, mb1 4.0/14,mb1mx3.9/24,mbtmp3.8/14,ML3.9/2,Error ellipse: s-maj=23.0km s-min=17.3km az=141.0*
*NEIC **16** 12:27:42.4±0.6,4622N×15297E,h10km,mb4.5/4,Error ellipse: s-maj=15.2km s-min=9.3km az=122.0*
*ISCJB **16** 12:27:45.6±1.3,4613N±009×1530E±01,h52km±11km, mb4.0/17,Error ellipse: s-maj=17.1km s-min=9.3km az=106.0*
*MOS **16** 12:27:46.3±1.3,4614N×15288E,h59km,mb4.6/4,Error ellipse: s-maj=13.5km s-min=11.1km az=53.8*

ISC 16 12:27:47.5±1.2,4615N±009×1530E±01,h53km±10km,n39, σ1§10/42,mb4.0/17,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.70**	**258**	*e*PN		**Pn**	**12 28 38.6**	**-3.5**
KUR				*e*S		**Sn**	**12 29 24.0**	**-0.4**
KUR				pmax		pmax		
	comp=Z,240nm,0.5s							
KUR				smax				
	comp=N,400nm,0.7s							
KUR				smax				
	comp=E,170nm,0.7s							
SKR	**Severo-Kuril's**	**5.00**	**24**	*e*PN		**Pn**	**12 29 01.8**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**5.47**	**250**	*e*PN		**Pn**	**12 29 06.0**	**-0.3**
YUK				S		**Sn**	**12 30 16.0**	**+8.1**
YUK				pmax		pmax		
	comp=Z,280nm,0.4s							
YUK				smax				
	comp=E,210nm,0.5s							
YUK				smax				
	comp=N,370nm,0.8s							
YUK				smax				
	comp=N,2μm,2.0s							
YSS	**Yuzh-Sakhalins**	**7.10**	**280**	⇑*e*PN		**Pn**	**12 29 32.0**	**+3.3**
YSS				pmax		pmax		
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.10**	**280**	Pn		**Pn**	**12 29 31.7**	**+3.0**
ASAJ	**Asahikawa**	**7.62**	**258**	Pn		**Pn**	**12 29 36.1**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=95,slow=24,SNR=10							
ASAJ	**Asahikawa**	**7.62**	**258**	PN		**Pn**	**12 29 36.2**	**+0.3**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KLR	**Kul'dur**	**14.62**	**290**	*e*P		**Pn**	**12 31 16.0**	**+4.8**
MAJO	**Matsushiro**	**14.65**	**234**	*e*P		**Pn**	**12 31 11.4**	**-0.1**
MJAR	**Matsushiro Arr**	**14.65**	**234**	Pn		**Pn**	**12 31 09.5**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=62,slow=15,SNR=3.9							
CN2	**Changchun**	**19.59**	**273**	*e*P		**Pn**	**12 32 08.5**	**-4.3**
KSRS	**Korea Array**	**20.54**	**254**	P		**P**	**12 32 22.4**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=59,slow=12,SNR=5.1							
YAK	**Yakutsk**	**20.78**	**328**	*e*P		**P**	**12 32 23.0**	**-1.1**
YAK				pmax		pmax		
	comp=Z,18nm,0.7s							
YAK	**Yakutsk**	**20.78**	**328**	*e*P		**P**	**12 32 23.0**	**-1.0**
	comp=Z,18nm,0.7s							
SNY	**Shenyang**	**21.53**	**269**	⇑P		**P**	**12 32 35.9**	**+3.8**
SNY				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.4							
HHC	**Hu-ho-hao-te**	**30.25**	**275**	*e*P		**P**	**12 33 53.8**	**+0.6**
HHC				AP		pP	12 33 58.3	-8.4
HHC				XP		sP	12 34 00.8	-12
HHC				PP		PP	12 34 51.6	-11
HHC				PCP		PcP	12 36 55.8	+3.0
HHC				S		**S**	**12 38 50.4**	**+1.3**
HHC				SCP		ScP	12 40 36.5	+5.9
HHC				PCS		PcS	12 40 38.8	+2.4
HHC				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
HHC				AMB		AMB		
	comp=Z,207nm,9.9s							
SONM	**Songino Array**	**31.45**	**290**	P		**P**	**12 34 03.2**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.3,baz=98,slow=7.4,SNR=2.4							
GYA	**Guiyang**	**41.50**	**258**	P		**P**	**12 35 30.0**	**+0.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
INK	**Inuvik**	**42.21**	**32**	P		**P**	**12 35 33.1**	**-2.0**
	comp=Z,0.8nm,0.8s,mb3.4,baz=278,slow=7.8,SNR=3.8							
INK	**Inuvik**	**42.21**	**32**	*e*P		**P**	**12 35 35.7**	**+0.6**
INK				pmax		pmax		
	comp=Z,100nm,0.9s							
INK	**Inuvik**	**42.21**	**32**	*e*P		**P**	**12 35 35.7**	**+0.5**
	comp=Z,100nm,0.9s,mb5.5							
KMI	**Kunming**	**45.05**	**260**	P		**P**	**12 36 00.0**	**+2.1**
KMI				AP		pP	12 36 06.0	-6.0
KMI				XP		sP	12 36 09.3	-8.8
KMI				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5							
KMI	**Kunming**	**45.05**	**260**	P		**P**	**12 36 00.0**	**+2.1**
	comp=Z,7.0nm,1.0s,mb4.5							
KMI				pP		pP	12 36 06.0	-6.0
KMI				sP		sP	12 36 09.3	-8.8
MKAR	**Makanchi Array**	**47.14**	**298**	P		**P**	**12 36 13.5**	**-0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=61,slow=8.5,SNR=7.3							
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P		**P**	**12 36 40.9**	**-1.2**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P		**P**	**12 36 40.9**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.4							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P		**P**	**12 36 50.4**	**-0.6**
AAK	**Ala-Archa**	**54.02**	**297**	*e*P		**P**	**12 37 06.8**	**+0.5**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**54.02**	**297**	*e*P		**P**	**12 37 06.8**	**+0.5**
	comp=Z,1.9nm,0.9s,mb4.0							
ARCES	**ARCESS Array B**	**58.39**	**341**	P		**P**	**12 37 37.0**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.4,baz=27,slow=8.2,SNR=4.2							
FINES	**FINESS Array B**	**64.55**	**335**	P		**P**	**12 38 18.8**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=38,slow=9.6,SNR=5.8							
PDAR	**Pinedale Array**	**65.18**	**54**	P		**P**	**12 38 23.1**	**+0.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=245,slow=7.9,SNR=3.5							
WRA	**Warramunga Arr**	**67.91**	**199**	P		**P**	**12 38 40.1**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=18,slow=6.6,SNR=4.6							
NB2	**NORSAR Subarra**	**68.77**	**341**	P		**P**	**12 38 46.1**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.77**	**341**	P		**P**	**12 38 45.5**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=26,slow=6.2,SNR=3.4							
ASAR	**Alice Springs**	**71.61**	**198**	P		**P**	**12 39 04.8**	**+1.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=13,slow=6.1,SNR=10.0							
AKASG	**Malin Array Be**	**72.00**	**326**	P		**P**	**12 39 05.8**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.2,baz=35,slow=6.1,SNR=7.3							
TXAR	**Lajitas Array**	**77.87**	**60**	P		**P**	**12 39 37.9**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=296,slow=4.8,SNR=10							
TXAR	**Lajitas Array**	**77.87**	**60**	P		**P**	**12 39 37.9**	**-1.5**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							

*CSEM **16** 12:30:50.3,3544N×2342E,h5km,MD3.8/7,After ATH*
*NEIC **16** 12:30:50.3,3544N×2342E,h5km,MD3.7(ATH),After ATH.*

ATH 16 12:30:50.3,3544N×2342E,h5km,MD3.7/7,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.64**	**93**	*e*PB		Pb	12 31 01.3	-2.6
VAM				*e*SB		Sg	12 31 11.8	+1.0
GVD	**Gavdhos**	**0.81**	**137**	*e*Pg		Pg	12 31 03.2	-2.7
KYTH	**Kithira**	**0.90**	**340**	*e*PG		Pg	12 31 07.0	-0.5
VLI	**Veliai**	**1.33**	**343**	*e*PB		Pb	12 31 16.1	+0.3
NPS	**Neapolis**	**1.80**	**95**	*e*PN		Pn	12 31 25.9	+3.9
NPS				*e*SN		Sn	12 31 51.4	+6.2
SANT	**Santorini**	**1.90**	**60**	*e*Pn		Pn	12 31 23.1	-0.2
SANT				*e*Sn		Sn	12 31 49.7	+2.1
XRY	**Khrisi**	**1.95**	**106**	*e*PG		Pg	12 31 25.5	-2.1
ITM	**Ithomi**	**2.11**	**326**	*e*PG		Pg	12 31 30.0	-0.8
APE	**Apeiranthos**	**2.36**	**46**	*e*PB		Pb	12 31 30.0	-3.2

*SKHL **16** 12:35:48.9±2.9,4628N×15404E,h54km±22km,Ms4.7/3, msh5.6/3*
*BJI **16** 12:35:49.8,4672N×15367E,h8km,mB4.9,mb4.6,Ms4.5, Msz4.2*
*IDC **16** 12:35:49.0±0.5,4658N×15367E,h0km,mb4.7/21, mb1 4.8/22,mb1mx4.7/27,mbtmp4.7/22,ML3.7/1,MS4.1/9, Ms1 4.1/9,ms1mx3.7/37,Error ellipse: s-maj=15.7km s-min=11.4km az=131.0*
*NEIC **16** 12:35:51.2±0.2,4663N×15370E,h10km,mb5.0/81,Error ellipse: s-maj=6.6km s-min=3.5km az=165.0*
*ISCJB **16** 12:35:52.7±0.1,4655N±004×15374E±003,h33km, mb4.9/129,MS4.3/24,Error ellipse: s-maj=6.0km s-min=2.2km az=154.7*
*MOS **16** 12:35:53.0±1.1,4659N×15368E,h36km,mb5.1/48,Error ellipse: s-maj=7.4km s-min=5.8km az=93.5*
*SZGRF **16** 12:35:57.7,4739N×15527E,h33km,mb5.0,East of Kuril Islands, Russia*

ISC 16 12:35:51.2±1.1,4668N±004×15370E±002,h8km±6km, h18km±2.6km:pP-P,n526,σ0§82/533,mb4.9/129,MS4.3/24, 80C-61D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.31**	**21**	*e*P		**Pn**	**12 36 57.2**	**+0.2**
SKR				*e*S		**Sn**	**12 37 46.0**	**-1.5**
SKR				A			12 38 07.2	
	410nm,0.5s							
SKR				A			12 38 07.2	
	310nm,0.8s							
SKR				A			12 38 07.2	
	240nm,0.8s							
SKR				AMS		AMS	12 38 46.0	
	3μm,14.0s							
SKR				AMS		AMS	12 38 46.0	
	6μm,14.0s							
SKR				AMS		AMS	12 38 46.0	
	2μm,14.0s							
SKR				AMS		AMS	12 38 46.0	
	2μm,14.0s							
SKR				AMS		AMS	12 38 46.0	
	6μm,14.0s							
SKR				AMS		AMS	12 38 46.0	
	3μm,14.0s							
SKR	**Severo-Kuril's**	**4.31**	**21**	*e*PN		**Pn**	**12 36 57.2**	**+0.2**
SKR				pmax		pmax		
	comp=N,80nm,0.5s							
SKR				pmax		pmax		
	comp=Z,160nm,0.5s							
SKR				MLR		MLR		
	comp=N,3μm,14.0s							
SKR				MLR		MLR		
	comp=E,6μm,14.0s							
SKR				MLR		MLR		
	comp=Z,3μm,14.0s							
KUR	**Kuril'sk**	**4.32**	**252**	⇑*i*P		**Pn**	**12 36 54.8**	**-2.3**
KUR				⇓*i*P			12 36 54.8	
KUR				AMB		AMB	12 37 05.6	
	comp=Z,2μm,1.0s							
KUR				AMB		AMB	12 37 05.8	
	comp=Z,370nm,0.7s							
KUR				AMB		AMB	12 37 05.8	
	comp=Z,260nm,0.7s							
KUR				AMB		AMB	12 37 05.8	
	comp=Z,880nm,0.7s							
KUR				*e*S		**Sn**	**12 37 46.0**	**-1.6**
KUR				A			12 38 02.0	
	comp=Z,5μm,2.0s							
KUR				A			12 38 02.0	
	comp=Z,2μm,2.0s							
KUR				A			12 38 04.2	
	comp=Z,530nm,0.7s							
KUR				A			12 38 04.2	
	comp=Z,1μm,0.7s							
KUR				AMS		AMS	12 39 07.0	
	comp=Z,5μm,14.0s							
KUR				AMS		AMS	12 39 07.0	
	comp=Z,4μm,14.0s							
KUR				AMS		AMS	12 39 07.0	
	comp=Z,3μm,14.0s							
KUR	**Kuril'sk**	**4.32**	**252**	*b i*PN		**Pn**	**12 36 54.8**	**-2.3**
KUR				*e*S		**Sn**	**12 37 46.0**	**-1.6**
KUR				pmax		pmax		
	comp=Z,2μm,1.0s							
KUR				pmax		pmax		
	comp=N,370nm,0.7s							
KUR				pmax		pmax		
	comp=E,260nm,0.7s							
KUR				pmax		pmax		
	comp=Z,880nm,0.7s							
KUR				smax				
	comp=N,5μm,2.0s							
KUR				smax				
	comp=E,2μm,2.0s							
KUR				smax				
	comp=N,530nm,0.7s							
KUR				smax				
	comp=E,1μm,0.7s							
KUR				MLR		MLR		
	comp=N,4μm,14.0s							
KUR				MLR		MLR		
	comp=E,3μm,14.0s							
KUR				MLR		MLR		
	comp=Z,5μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**6.12**	**247**	*e*P		**Pn**	**12 37 21.2**	**-0.7**
YUK				A			12 38 41.0	
	comp=Z,380nm,0.5s							
YUK				A			12 38 41.0	
	comp=Z,630nm,0.6s							
YUK				A			12 39 53.2	
	comp=Z,2μm,2.0s							
YUK				A			12 39 53.2	
	comp=Z,6μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**6.12**	**247**	*e*PN		**Pn**	**12 37 21.2**	**-0.7**
YUK				*e*S		**Sn**	**12 38 37.0**	**+4.8**
YUK				smax				
	comp=N,380nm,0.5s							
YUK				smax				
	comp=E,630nm,0.6s							
PET	**Petropavlovsk**	**7.11**	**25**	*e*PN		**Pn**	**12 37 34.2**	**-1.2**
PET				pmax		pmax		
	comp=Z,81nm,0.6s							
PET				MLR		MLR		
	comp=Z,900nm,20.0s							
PET	**Petropavlovsk**	**7.11**	**25**	*e*Pn		**Pn**	**12 37 34.3**	**-1.1**
PET				*e*S		**Sn**	**12 39 12.2**	**+16**
YSS	**Yuzh-Sakhalins**	**7.51**	**276**	⇓*i*P		**Pn**	**12 37 45.2**	**+4.2**
YSS				*e*S		**Sn**	**12 39 13.0**	**+6.6**
YSS				A			12 39 18.0	
	comp=Z,60nm,1.0s							
YSS				*e*LQ			12 39 28.0	
YSS				AMS		AMS	12 41 24.0	
	comp=Z,900nm,14.0s							
YSS				AMS		AMS	12 41 24.0	
	comp=Z,1μm,12.0s							
YSS				AMS		AMS	12 41 24.0	
	comp=Z,1μm,14.0s							
YSS				*e*rx		rx	12 43 28.7	
YSS	**Yuzh-Sakhalins**	**7.51**	**276**	⇓*i*PN		**Pn**	**12 37 45.2**	**+4.2**
YSS				*e*S		**Sn**	**12 39 13.0**	**+6.6**
YSS				smax				
	comp=E,60nm,1.0s							
YSS				MLR		MLR		
	comp=E,1μm,14.0s							
YSS				MLR		MLR		
	comp=Z,900nm,14.0s							
YSS				MLR		MLR		
	comp=N,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**7.51**	**276**	*e*Pn		**Pn**	**12 37 45.5**	**+4.5**
JMP	**Maruseppu**	**7.76**	**254**	P		**Pn**	**12 37 45.8**	**+1.4**
UGL	**Uglegorsk**	**8.18**	**291**	*e*P		**Pn**	**12 37 55.8**	**+5.7**
UGL				AMB		AMB	12 37 58.0	
	comp=N,55nm,0.7s							
UGL				AMS		AMS	12 42 00.0	
	comp=N,2μm,11.0s							
UGL				AMS		AMS	12 42 00.0	
	comp=N,2μm,12.0s							
UGL				AMS		AMS	12 42 00.0	
	comp=N,1μm,14.0s							
ASAJ	**Asahikawa**	**8.22**	**256**	Pn		**Pn**	**12 37 52.9**	**+2.2**
	comp=N,4.3nm,0.3s,baz=92,slow=15,SNR=20							
ASAJ				LR		LR	12 40 42.9	
	comp=N,897nm,20.3s,baz=41,slow=36							
ASAJ	**Asahikawa**	**8.22**	**256**	P		**Pn**	**12 37 53.2**	**+2.5**
ASAJ	**Asahikawa**	**8.22**	**256**	PN		**Pn**	**12 37 52.9**	**+2.2**
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,897nm,20.3s							
JEM	**Erimo**	**8.88**	**242**	P		**Pn**	**12 37 59.2**	**-0.5**
ERM	**Erimo**	**8.88**	**242**	Pn		**Pn**	**12 37 59.1**	**-0.6**
	comp=E,634nm,0.6s,SNR=8.6							
ERM	**Erimo**	**8.88**	**242**	*e*PN		**Pn**	**12 37 59.3**	**-0.4**
ERM				pmax		pmax		
	comp=E,101nm,0.8s							
ERM	**Erimo**	**8.88**	**242**	*e*Pn		**Pn**	**12 37 59.3**	**-0.4**
	comp=E,101nm,0.8s							
ERM				*e*Sn		**Sn**	**12 39 32.7**	**-7.2**
JEW	**Eniwo**	**9.52**	**251**	P		**Pn**	**12 38 09.8**	**+1.3**
OKH	**Okha**	**9.74**	**319**	*e*L			12 40 54.0	
JSH	**Shimam**	**10.53**	**252**	P		**Pn**	**12 38 25.7**	**+3.3**
JOT	**Ohata**	**10.53**	**244**	P		**Pn**	**12 38 19.9**	**-2.5**
NKL	**Nikolayevsk**	**10.59**	**312**	*e*P		**Pn**	**12 38 25.8**	**+2.6**
NKL				AMB		AMB	12 38 30.0	
	comp=Z,200nm,1.5s							
NKL				*e*L			12 41 18.0	
NKL				AMS		AMS	12 43 15.0	
	comp=Z,2μm,15.0s							
NKL				AMS		AMS	12 43 15.0	
	comp=Z,2μm,15.0s							
JTM	**Tenmabayashi**	**10.87**	**242**	P		**Pn**	**12 38 23.8**	**-3.2**
JOM	**Ohasama**	**11.58**	**236**	P		**Pn**	**12 38 32.3**	**-4.4**
TEY	**Ternei**	**12.04**	**268**	*e*P		**Pn**	**12 38 44.0**	**+1.0**
HABR	**Khabarovsk**	**12.72**	**285**	*e*PN		**Pn**	**12 39 00.5**	**+8.2**
SMY	**Shemya**	**14.50**	**58**	*e*P		**Pn**	**12 39 13.1**	**-3.4**
KLR	**Kul'dur**	**14.92**	**288**	*e*P		**Pn**	**12 39 24.0**	**+1.7**
MJAR	**Matsushiro Arr**	**15.36**	**234**	Pn		**Pn**	**12 39 24.4**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=9.2							
MJAR				LR		LR	12 46 08.1	
	comp=Z,504nm,18.2s,baz=45,slow=40							
MAJO	**Matsushiro**	**15.37**	**234**	*e*P		**Pn**	**12 39 33.3**	**+5.1**
MAJO				pmax		pmax		
	comp=Z,67nm,1.1s							
MAJO	**Matsushiro**	**15.37**	**234**	*e*P		**Pn**	**12 39 33.3**	**+5.1**
	comp=Z,67nm,1.1s							
MAT	**Matsushiro**	**15.37**	**234**	P		**Pn**	**12 39 26.8**	**-1.4**
JRY	**Ryogami san**	**15.37**	**231**	P		**Pn**	**12 39 30.4**	**+2.1**
SEY	**Seymchan**	**16.30**	**358**	⇑*e*P		**Pn**	**12 39 46.0**	**+5.6**
ZEA	**Zeya**	**18.27**	**302**	*e*P		**Pn**	**12 40 06.0**	**+1.0**
ZEA				AMB		AMB	12 40 07.4	
	comp=Z,28nm,1.2s							
ZEA				*e*S		**Sn**	**12 43 31.0**	**+1.9**
ZEA				A			12 43 38.0	
	comp=Z,500nm,10.0s							
CN2	**Changchun**	**20.06**	**272**	*e*P		**P**	**12 40 23.3**	**-1.4**
CN2				*e*XP		sP	12 40 30.0	+1.9
CN2				*e*S		**S**	**12 44 11.3**	**+1.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,800nm,14.0s,MS4.4							
CN2				LR		LR		
	comp=E,900nm,14.0s,MS4.4							
CN2				LR		LR		
	comp=Z,800nm,16.0s,MS4.2							
CLNS	**Chul'man**	**20.37**	**310**	*e*P		**P**	**12 40 32.8**	**+4.7**
CLNS				pmax		pmax		
	comp=E,38nm,1.1s							
CLNS				pmax		pmax		
	comp=Z,48nm,1.1s							
CLNS				pmax		pmax		
	comp=N,18nm,0.9s							
CLNS				MLR		MLR		
	comp=N,400nm,13.0s,MS4.5							
CLNS				MLR		MLR		
	comp=E,1μm,13.0s,MS4.5							
CLNS				MLR		MLR		
	comp=Z,1μm,13.0s,MS4.4							
YAK	**Yakutsk**	**20.60**	**327**	*e*P		**P**	**12 40 30.3**	**-0.3**
YAK				*e*			12 40 48.4	
YAK				*e*S		**S**	**12 44 22.2**	**+1.2**
YAK				*e*SS			12 44 44.4	
YAK				pmax		pmax		
	comp=E,4.0nm,0.8s							
YAK				pmax		pmax		
	comp=Z,13nm,0.8s							
YAK				pmax		pmax		
	comp=N,2.0nm,0.7s							
YAK				pmax		pmax		
	comp=Z,95nm,1.6s							
YAK				pmax		pmax		
	comp=N,122nm,2.7s							
YAK				pmax		pmax		
	comp=E,91nm,2.1s							
YAK				smax				
	comp=N,450nm,3.6s							
YAK				smax				
	comp=Z,229nm,3.4s							
YAK				smax				
	comp=E,224nm,3.5s							
YAK				MLR		MLR		
	comp=N,522nm,13.0s,MS4.1							
YAK				MLR		MLR		
	comp=Z,542nm,13.0s,MS4.1							
YAK				MLR		MLR		
	comp=E,208nm,14.0s,MS4.1							
YAK	**Yakutsk**	**20.60**	**327**	*e*P		**P**	**12 40 29.1**	**-1.5**
	comp=E,37nm,0.6s							
KSRS	**Korea Array**	**21.16**	**253**	P		**P**	**12 40 37.2**	**+0.5**
	comp=E,8.7nm,0.7s,mb4.2,baz=59,slow=10.0,SNR=30							
KS15	**Wonju Array Si**	**21.20**	**253**	*e*P		**P**	**12 40 39.2**	**+2.2**
**

comp=Z,25nm,0.6s,mb4.8
HIA Hailar 22.77 289 *e*P **P 12 40 55.8 +1.9**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 22.77 289 *e*P **P 12 40 55.8 +1.9**
comp=Z,8.2nm,0.8s,mb4.2
BOD Bodaibo 26.34 310 *e*P **P 12 41 24.5 -3.0**
BOD pmax pmax
comp=Z,8.0nm,1.9s,mb3.9
BJI Beijing 27.88 270 P **P 12 41 46.6 +5.2**
BJI AMB AMB
comp=Z,15nm,1.1s,mb4.5
BJI AMB AMB
comp=Z,114nm,9.5s
BJI LR LR
comp=N,473nm,17.1s,MS4.2
BJI LR LR
comp=E,283nm,18.0s,MS4.2
BJI LR LR
comp=Z,403nm,18.5s,MS4.0
BJT Baijiatuau 27.89 270 *e*P **P 12 41 42.0 +0.5**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 27.89 270 *e*P **P 12 41 42.0 +0.5**
comp=Z,18nm,0.8s,mb4.8
JOW Kunigami 28.21 234 P **P 12 41 43.3 -1.0**
comp=Z,12nm,0.8s,mb4.6,baz=349,slow=10,SNR=2.5
NJ2 Nanjing 30.36 254 *e*P **P 12 42 05.8 +2.4**
NJ2 AP pP 12 42 10.1 +4.2
NJ2 XP sP 12 42 13.3 +6.4
NJ2 PP PP 12 43 04.9 -7.0
NJ2 S **S** **12 47 04.5 +0.5**
NJ2 XS sS 12 47 12.5 +4.5
NJ2 AMB AMB
comp=Z,420nm,4.0s
NJ2 LR LR
comp=N,1μm,17.8s,MS4.8
NJ2 LR LR
comp=E,1μm,14.4s,MS4.8
NJ2 LR LR
comp=Z,1μm,16.6s,MS4.7
HHC Hu-ho-hao-te 30.70 275 *e*P **P 12 42 06.6 +0.2**
HHC AP pP 12 42 11.3 +2.4
HHC XP sP 12 42 13.8 +3.9
HHC PP PP 12 43 07.5 -8.1
HHC PCP PcP 12 45 04.0 -0.2
HHC S **S** **12 47 11.1 +1.8**
HHC XS sS 12 47 15.5 +2.2
HHC SCP ScP 12 48 46.3 -0.8
HHC SS SS 12 48 49.4 -31
HHC SCS ScS 12 52 41.3 -2.2
HHC AMB AMB
comp=Z,22nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,185nm,6.5s
HHC LR LR
comp=N,548nm,14.7s,MS4.5
HHC LR LR
comp=E,522nm,13.1s,MS4.5
HHC LR LR
comp=Z,325nm,12.8s,MS4.2
ULN Ulaanbaatar 31.30 290 *e*P **P 12 42 15.9 +4.2**
ULN pmax pmax
comp=Z,17nm,1.1s,mb4.8
ULN Ulaanbaatar 31.30 290 *e*P **P 12 42 15.9 +4.2**
comp=Z,17nm,1.1s,mb4.8
SONM Songino Array 31.74 290 P **P 12 42 14.6 -0.9**
comp=Z,0.8nm,0.6s,baz=46,slow=4.3,SNR=3.9
SONM PcP PcP 12 45 06.4 -0.6
comp=Z,1.4nm,0.8s,baz=106,slow=3.1,SNR=4.0
SONM LR LR 12 55 30.4
comp=Z,244nm,18.4s,MS3.9,baz=83,slow=37
SONM Songino Array 31.74 290 P **P 12 42 14.6 -0.9**
SONM 12 45 06.4
TLY Talaya 32.57 298 *e*P **P 12 42 21.7 -1.1**
TLY *e*S **S** **12 47 42.2 +3.8**
TLY *e*SS SS 12 49 30.3 -28
TLY *e*SSS 12 49 59.1
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,289nm,14.0s,MS4.1
KDAK Kodiak Island 33.83 51 P **P 12 42 32.2 -1.6**
comp=Z,38nm,0.7s,mb5.5,baz=274,slow=4.6,SNR=24
KDAK Kodiak Island 33.83 51 P **P 12 42 32.2 -1.6**
PMR Palmer 35.37 44 *e*P **P 12 42 46.2 -1.0**
PMR pmax pmax
comp=Z,12nm,0.8s,mb4.9
PMR Palmer 35.37 44 *e*P **P 12 42 46.2 -0.9**
comp=Z,12nm,0.8s,mb4.9
MCK McKinley 35.44 40 *e*P **P 12 42 47.9 +0.1**
SML Sawmill 35.74 44 *e*P **P 12 42 47.7 -2.7**
XAN Xi'an 35.91 266 P **P 12 42 52.5 +0.7**
XAN AP pP 12 43 00.8 +6.5
XAN AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
XAN LR LR
comp=N,130nm,13.4s,MS4.0
XAN LR LR
comp=E,149nm,14.4s,MS4.0
XAN LR LR
comp=Z,213nm,13.1s,MS4.1
COLA College 35.94 38 P **P 12 42 52.4 +0.3**
COLA pmax pmax
comp=Z,32nm,0.8s,mb5.3
COLA College 35.94 38 *e*P **P 12 42 52.3 +0.3**
comp=Z,32nm,0.8s,mb5.3
DIV Divide 37.01 45 *e*P **P 12 43 01.6 +0.4**
LZH Lanzhou 38.29 272 *e*P **P 12 43 14.0 +1.9**
LZH AP pP 12 43 19.9 +5.3
LZH XP sP 12 43 23.6 +8.1
LZH AMB AMB
comp=Z,80nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,320nm,4.5s
LZH LR LR
comp=E,465nm,13.5s
LZH LR LR
comp=Z,742nm,14.5s,MS4.6
LZH Lanzhou 38.29 272 *e*P **P 12 43 14.0 +1.9**
comp=Z,80nm,1.0s,mb5.4
LZH pP pP 12 43 19.9 +5.3
LZH sP sP 12 43 23.6 +8.1
LZH LR LR
comp=Z,740nm,14.5s,MS4.6
EGAK Eagle 38.80 38 *e*P **P 12 43 15.7 -0.7**
comp=Z,25nm,0.7s,mb5.0
GTA Gaotai 39.38 279 *e*P **P 12 43 21.5 +0.3**
GTA AP pP 12 43 25.9 +2.2
GTA XP sP 12 43 29.3 +4.6
GTA PP PP 12 44 56.3 +4.9
GTA PCP PcP 12 45 29.8 +0.4
GTA PCS PcS 12 49 17.8 -1.4
GTA S **S** **12 49 22.4 -0.3**
GTA XS sS 12 49 30.0 +3.2
GTA SS SS 12 52 09.4 -7.1
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,91nm,4.6s
GTA LR LR
comp=N,271nm,13.3s,MS4.3
GTA LR LR
comp=E,236nm,15.2s,MS4.3
GTA LR LR
comp=Z,421nm,14.5s,MS4.4
DAWY Dawson 39.64 39 *e*P **P 12 43 23.6 +0.3**
CD2 Chengdu 41.28 266 *e*P **P 12 43 37.0 +0.1**
CD2 AP pP 12 43 41.5 +2.1
CD2 XP sP 12 43 43.3 +2.9
CD2 PP PP 12 45 15.5 +3.4
CD2 S **S** **12 49 49.9 -1.2**
CD2 XS sS 12 49 57.3 +2.1
CD2 SS SS 12 52 48.1 -6.2
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,170nm,4.8s
CD2 LR LR
comp=N,420nm,14.4s,MS4.6
CD2 LR LR
comp=E,430nm,13.2s,MS4.6
CD2 LR LR
comp=Z,420nm,14.4s,MS4.5
INK Inuvik 41.49 32 P **P 12 43 39.1 +0.5**
comp=Z,5.9nm,0.6s,mb4.4,baz=286,slow=6.4,SNR=50
INK Inuvik 41.49 32 *e*P **P 12 43 39.2 +0.6**
comp=Z,316nm,0.7s,mb6.0
GYA Guiyang 42.09 258⇑ *i*P **P 12 43 44.1 +0.5**
GYA AP pP 12 43 48.6 +2.5
GYA XP sP 12 43 51.4 +4.3
GYA PP PP 12 45 25.6 +4.6
GYA PCP PcP 12 45 40.8 +2.6
GYA SCP ScP 12 49 30.0 +1.0
GYA S **S** **12 50 04.3 +1.1**
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,570nm,16.8s,MS4.7
GYA LR LR
comp=E,640nm,17.0s,MS4.7
GYA LR LR
comp=Z,610nm,17.2s,MS4.5
ZAL Zalesovo 42.99 306 P **P 12 43 49.0 -1.9**
comp=Z,1.2nm,0.4s,mb4.0,baz=50,slow=5.5,SNR=5.7
ZAL LR LR 13 03 40.5
comp=Z,355nm,19.7s,MS4.3,baz=42,slow=39
ZAL Zalesovo 42.99 306 P **P 12 43 49.0 -1.9**
ZAL LR LR 13 03 40.5
QIZ Qiongzhong 45.20 247 P **P 12 44 08.6 0.0**
QIZ S **S** **12 50 48.8 +0.3**
QIZ AMB AMB
comp=Z,130nm,5.0s
QIZ LR LR
comp=E,267nm,16.7s
QIZ LR LR
comp=Z,205nm,19.1s,MS4.1
WMQ Urumqi 45.33 292⇓ *i*P **P 12 44 10.1 +0.5**
WMQ AP pP 12 44 14.6 +2.5
WMQ XP sP 12 44 17.1 +4.0
WMQ PCP PcP 12 45 49.6 +0.4
WMQ PP PP 12 45 57.1 +1.5
WMQ PPP 12 46 38.5
WMQ S **S** **12 50 50.3 -0.1**
WMQ XS sS 12 50 57.9 +3.3
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,68nm,4.8s
WMQ LR LR
comp=N,471nm,18.9s,MS4.5
WMQ LR LR
comp=E,71nm,17.5s,MS4.5
WMQ LR LR
comp=Z,206nm,16.2s,MS4.2
DLBC Dease Lake 45.35 46 *e*P **P 12 44 10.9 +1.1**
KMI Kunming 45.63 260 P **P 12 44 12.8 +0.8**
KMI AP pP 12 44 23.0 +8.5
KMI PP PP 12 45 57.9 -0.8
KMI PPP 12 46 42.0
KMI S **S** **12 50 56.0 +1.2**
KMI AMB AMB
comp=Z,12nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,47nm,3.2s
KMI LR LR
comp=N,151nm,17.9s,MS4.1
KMI LR LR
comp=E,128nm,15.0s,MS4.1
KMI LR LR
comp=Z,176nm,18.8s,MS4.0
KMI Kunming 45.63 260 P **P 12 44 12.8 +0.8**
KMI *PP pP 12 44 23.0 +8.5
KMI 12 45 57.9
KMI PPP 12 46 42.0
KMI S **S** **12 50 56.0 +1.2**
KMI pmax pmax
comp=Z,12nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,180nm,18.8s,MS4.0
KMI Kunming 45.63 260 P **P 12 44 12.8 +0.8**
comp=Z,12nm,1.1s,mb4.7
KMI pP pP 12 44 23.0 +8.5
KMI PP PP 12 45 57.9 -0.8
KMI PPP 12 46 42.0
KMI S **S** **12 50 56.0 +1.2**
KMI LR LR
comp=Z,180nm,18.8s,MS4.0
MK31 Makanchi Array 47.33 298 P **P 12 44 24.3 -1.1**
MK31 Makanchi Array 47.33 298 *e*P **P 12 44 23.6 -1.7**
MKAR Makanchi Array 47.33 298 P **P 12 44 24.2 -1.2**
comp=Z,1.7nm,0.5s,mb4.2,baz=67,slow=9.3,SNR=15
MKAR Makanchi Array 47.33 298 *i* P **P 12 44 23.9 -1.5**
MKAR pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 47.74 304 P **P 12 44 25.9 -2.6**
KURK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ALE Alert 49.77 6 P **P 12 44 44.0 -0.1**
comp=Z,90nm,0.7s,mb5.9,SNR=6.6
LSA Lhasa 50.68 274 P **P 12 44 53.3 +2.3**
LSA Lhasa 50.68 274 *e*P **P 12 44 53.1 +2.1**
LSA *e* 12 45 03.6
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 50.68 274 *e*P **P 12 44 53.1 +2.1**
comp=Z,9.0nm,0.6s,mb4.9
LSA *e* 12 45 03.6
YKW3 Yellowknife Ar 50.70 37 *e*P **P 12 44 50.1 -1.1**
YKA Yellowknife Ar 50.74 37 P **P 12 44 51.4 0.0**
comp=Z,14nm,0.7s,mb5.0,baz=298,slow=7.4,SNR=16
YKA PcP PcP 12 46 07.5 -1.1
comp=Z,2.6nm,0.6s,baz=307,slow=3.8,SNR=6.7
YKA Yellowknife Ar 50.74 37 P **P 12 44 51.4 0.0**
YKA PcP PcP 12 46 07.5 -1.1
RES Resolute Bay 50.77 19 *e*P **P 12 44 51.7 -0.1**
comp=Z,657nm,0.9s
CHKZ Chkalovo 50.78 310 *e*P **P 12 44 50.2 -1.6**
CHKZ pmax pmax
comp=Z,14nm,0.6s,mb5.1
CHKZ Chkalovo 50.78 310 *e*P **P 12 44 50.2 -1.7**
comp=Z,14nm,0.6s,mb5.1
BVA0 Borovoye Array 51.21 310 *i* P **P 12 44 53.4 -1.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
BVAR Borovoye Array 51.21 310 P **P 12 44 53.8 -1.3**
comp=Z,2.0nm,0.3s,mb4.5,baz=62,slow=7.3,SNR=15
BRVK Borovoye 51.25 310 *e*P **P 12 44 54.1 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.25 310 *e*P **P 12 44 54.1 -1.3**
comp=Z,7.3nm,0.6s,mb4.8
ZRNK Zerenda 51.98 310 *e*P **P 12 44 59.5 -1.3**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 51.98 310 *e*P **P 12 44 59.2 -1.6**
comp=Z,5.5nm,0.6s,mb4.7
CHTO Chiang Mai 52.50 257 *e*P **P 12 45 05.2 +0.6**
CHTO *e* 12 45 16.2
CHTO pmax pmax
comp=Z,30nm,1.1s,mb5.1
CHTO Chiang Mai 52.50 257 *e*P **P 12 45 05.2 +0.5**
comp=Z,30nm,1.1s,mb5.1
CHTO *e* 12 45 16.2
CM31 Chiang Mai Arr 52.75 257 *e*P **P 12 45 07.3 +0.9**
comp=Z,4.6nm,0.6s,mb4.6
C04A Brinnon 53.92 56⇓ **P 12 45 15.2 +0.1**
baz=54
FRU Bishkek 54.04 297 *e*P **P 12 45 21.3 +5.3**
AAK Ala-Archa 54.23 297 *e*P **P 12 45 16.0 -1.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 54.23 297 *e*P **P 12 45 16.0 -1.4**
comp=Z,4.4nm,0.8s,mb4.4
F04A Amboy 55.21 58⇓ **P 12 45 24.3 -0.1**
baz=55
A08A Turner Farm, O 55.33 53⇓ **P 12 45 25.2 -0.1**
baz=55
ARU Arti 55.33 318⇑ *i*P **P 12 45 23.8 -1.6**
ARU *e* 12 47 26.4
ARU *e*S **S** **12 53 08.9 -0.8**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ARU Arti 55.33 318 *e*P **P 12 45 23.9 -1.4**
comp=Z,8.5nm,0.5s,mb5.0
GUN Gumba 55.41 275 *e*P **P 12 45 27.8 +1.9**
comp=Z,56nm,0.9s,mb5.6
D06A Cle Elum 55.41 56⇑ **P 12 45 25.4 -0.6**
baz=55
C07A Waterville 55.58 55⇑ **P 12 45 26.9 -0.3**
baz=55
B08A Colville Reser 55.62 54⇑ **P 12 45 27.1 -0.3**
baz=55
A09A Danville 55.69 53 P **P 12 45 28.0 +0.1**
baz=56,SNR=8.7
KKN Kakani 55.90 276 *e*P **P 12 45 30.6 +1.2**
comp=Z,100nm,0.9s,mb5.9
PKI Pulchoki 55.95 275 *e*P **P 12 45 31.1 +1.3**
comp=Z,51nm,0.8s,mb5.6
J02A Umpqua 55.96 61⇓ **P 12 45 30.5 +0.7**
baz=56
H04A Detroit Lake 56.04 59⇑ **P 12 45 30.7 +0.3**
baz=56
EDM Edmonton 56.07 46 *e*P **P 12 45 30.5 -0.2**
C08A Higginbotham F 56.10 54⇑ **P 12 45 30.4 -0.5**
baz=56
DMN Daman 56.13 276 *e*P **P 12 45 32.4 +1.3**
comp=Z,112nm,0.9s,mb5.9
HNR Honiara 56.14 173 LR LR 13 06 01.7
comp=Z,78nm,18.6s,MS3.8,baz=359,slow=32
GKN Gorkha 56.20 276 *e*P **P 12 45 32.3 +0.7**
comp=Z,183nm,1.2s,mb6.0
G05A Wamic 56.23 58⇑ **P 12 45 32.1 +0.2**
baz=56
B09A Rice 56.24 53⇓ **P 12 45 31.7 -0.2**
baz=56
A10A Northport 56.25 52⇑ **P 12 45 31.9 -0.1**
baz=56
J03A Ideyld Park 56.32 61⇑ **P 12 45 32.2 -0.2**
baz=56
E07A Sunnyside 56.33 56⇓ **P 12 45 32.1 -0.4**
baz=56
K02A Glendale 56.35 61⇑ **P 12 45 32.8 +0.2**
baz=56
I04A Tendick Farm, 56.41 60⇓ **P 12 45 33.0 -0.1**
baz=56
C09A Chrisman Ranch 56.52 54⇑ **P 12 45 33.4 -0.5**
baz=56
D08A Wollman Farm, 56.58 55⇑ **P 12 45 33.7 -0.6**
baz=56
H05A Madras 56.62 58 P **P 12 45 35.2 +0.6**
baz=56,SNR=5.8
L02A Cave Junction 56.63 62⇑ **P 12 45 35.1 +0.4**
baz=56
G06A Carlson Farm, 56.63 58⇓ **P 12 45 35.4 +0.8**
baz=56
F07A Phinny Hill Vi 56.67 57⇓ **P 12 45 35.4 +0.5**
baz=56
DAG Danmarks Havn 56.73 358⇓ *i*P **P 12 45 34.2 -1.2**
comp=Z,8.5nm,0.5s,mb5.0
DAG Danmarks Havn 56.73 358⇓ *i*P **P 12 45 34.2 -1.2**
DAG pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
HUMO Hull Mountain 56.76 61⇑ **P 12 45 36.4 +0.8**
baz=57
E08A Dider Farm, El 56.82 56⇑ **P 12 45 35.6 -0.4**
baz=57
I05A Bend 56.88 59⇓ **P 12 45 36.4 0.0**
baz=57
NEW Newport 56.89 53 *e*P **P 12 45 36.0 -0.5**
NEW pmax pmax
comp=Z,41nm,1.7s
NEW Newport 56.89 53 *e*P **P 12 45 35.8 -0.7**
comp=Z,9.1nm,1.0s,mb4.8
J04A Umpqua Nationa 56.91 60⇓ **P 12 45 37.2 +0.5**
baz=57
A11A Hall Mountain, 56.91 52 P **P 12 45 37.2 +0.5**
baz=57,SNR=6.3
D09A Jones Farm, Ri 56.92 55⇑ **P 12 45 36.3 -0.4**
baz=57
C10A Spilker Farm, 57.05 53⇓ **P 12 45 37.1 -0.5**
baz=57
KOLN Koldanda 57.06 277 *e*P **P 12 45 38.6 +0.9**
comp=Z,107nm,1.1s,mb5.8
H06A Lindquist Farm 57.10 58⇓ **P 12 45 38.1 +0.1**
baz=57
G07A Ruggs Ranch, H 57.18 57⇑ **P 12 45 38.5 0.0**
baz=57
B11A Sandpoint 57.21 52⇓ **P 12 45 38.8 0.0**
baz=57
A12A Yaak River Ran 57.31 52⇓ **P 12 45 39.8 +0.3**
baz=57
E09A Wood Farm, Sta 57.33 55⇑ **P 12 45 39.4 -0.2**
baz=57
F08A Pendleton 57.38 56⇓ **P 12 45 40.1 +0.1**
baz=57
J05A Fort Rock 57.40 60⇓ **P 12 45 40.3 +0.2**
baz=57
YBH Yreka Blue Hor 57.42 62⇑ **P 12 45 40.7 +0.5**
baz=57
K04A Chilquin 57.50 61⇑ **P 12 45 40.8 0.0**
baz=57
M02C Callahan 57.53 62⇓ **P 12 45 41.8 +0.7**
baz=57
APA Apatity 57.56 337⇑ *i*P **P 12 45 32.6 -8.6**
G08A Pilot Rock 57.57 57⇓ **P 12 45 41.2 -0.2**
baz=57
N02C Big Bar 57.59 63⇑ **P 12 45 41.5 +0.1**
baz=57
I06A Prineville 57.63 59⇑ **P 12 45 42.2 +0.5**
baz=57
L04A Klamath Falls 57.66 61⇓ **P 12 45 42.1 +0.2**
baz=57
M04C Macdoel 57.92 61⇓ **P 12 45 43.8 +0.1**
baz=58
F09A S2 Ranch, Elgi 57.93 56⇓ **P 12 45 43.7 -0.2**
baz=58
K05A Summer Lake 57.93 60⇑ **P 12 45 44.3 +0.4**
baz=58
I07A Izee 57.96 58⇑ **P 12 45 44.3 +0.3**
baz=58
D11A Klaveano Farm, 58.03 54 P **P 12 45 44.2 -0.3**
baz=58,SNR=6.1
ARCES ARCESS Array B 58.05 341 P **P 12 45 44.0 -0.7**
comp=Z,4.7nm,0.7s,mb4.7,baz=33,slow=6.2,SNR=9.8
BOK Bokaro 58.05 272 *e*P **P 12 45 45.1 +0.3**
BOK AMb AMB 12 45 57.1
comp=Z,23nm,0.8s,mb5.3
WALA Waterton Lakes 58.17 51 *e*P **P 12 45 45.5 0.0**
comp=Z,12nm,0.8s,mb5.0
WALA *e* 12 45 56.8
H08A Prairie City 58.19 57⇓ **P 12 45 45.8 +0.1**
baz=58
WDC Whiskeytown Da 58.20 63⇓ **P 12 45 45.4 -0.3**
baz=58
K06A Valley Falls 58.27 60 P **P 12 45 47.1 +0.8**
baz=58,SNR=6.4
B13A Whitefish 58.28 52 P **P 12 45 46.7 +0.4**
baz=58,SNR=12
L05A Lakeview 58.37 61⇓ **P 12 45 47.7 +0.8**
baz=58
P01C Double 8 Ranch 58.37 64⇓ **P 12 45 47.2 +0.2**
baz=58
BSMT Bassoo Peak 58.41 52 *e*P **P 12 45 47.9 +0.7**
J07A Hines 58.49 59⇓ **P 12 45 48.3 +0.5**
baz=58
M05C Lookout 58.59 62⇑ **P 12 45 48.9 +0.5**
baz=58
I08A Drewsey 58.61 58 P **P 12 45 49.1 +0.6**
baz=58,SNR=6.1
C13A Hot Springs 58.63 52⇑ **P 12 45 48.8 0.0**
baz=58
GASB Alder Springs 58.64 64⇑ **P 12 45 50.0 +1.1**
baz=58
H09A Durkee 58.68 57⇑ **P 12 45 49.7 +0.6**
baz=58
HATC Hat Creek Radi 58.72 62⇓ **P 12 45 49.6 +0.2**
baz=58
MOD Modoc 58.77 61 *e*P **P 12 45 50.0 +0.3**
MOD Modoc 58.77 61 P **P 12 45 50.1 +0.4**
baz=59,SNR=6.3
BMO Blue Mountains 58.78 56 *e*P **P 12 45 49.9 +0.1**
comp=Z,24nm,1.4s,mb5.0
AB31 Akbulak array 58.78 310 *i* P **P 12 45 48.5 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
F11A Grangeville 58.81 55 P **P 12 45 50.0 -0.1**
baz=59,SNR=6.0
K07A Rock Creek Ran 58.93 59 P **P 12 45 51.6 +0.8**
baz=59,SNR=5.9
J08A Circle Bar Ran 58.99 58⇓ **P 12 45 51.5 +0.3**
baz=59
C14A Swan Lake 59.02 52⇑ **P 12 45 51.5 0.0**
baz=59
D13A Huson 59.04 53 P **P 12 45 51.7 +0.1**
baz=59,SNR=5.1

G11A Walters Elk Ra 59.04 55 P P 12 45 52.4 +0.8
baz=59,SNR=6.1
I09A Lost Marbles R 59.05 57 P P 12 45 51.8 +0.2
baz=59,SNR=5.8
AKTO Aktyubinsk 59.07 312 LR LR 13 11 08.7
comp=Z,131nm,18.2s,MS4.1,baz=249,slow=36
O04C Chester 59.25 62 ⇑P P 12 45 53.6 +0.6
baz=59
L07A Adell 59.28 60 ⇓P P 12 45 53.4 +0.2
baz=59
MNRC McLaughlin Nat 59.28 65 ⇑P P 12 45 53.9 +0.7
baz=59
K08A Mann Creek Ran 59.36 59 P P 12 45 54.3 +0.5
baz=59,SNR=10
J09A Fry Pan Ranch, 59.42 58 P P 12 45 55.0 +0.8
baz=59,SNR=6.0
WVOR Wild Horse Val 59.45 59 eP P 12 45 54.4 0.0
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.8
WVOR Wild Horse Val 59.45 59 eP P 12 45 54.4 0.0
comp=Z,11nm,1.0s,mb4.9
THN Thein Dam 59.45 286 eP P 12 46 02.8 +8.4
ORV Oroville 59.45 63 P P 12 45 53.8 -0.6
baz=59,SNR=6.9
SUTB Sutter Butte 59.47 64 ⇓P P 12 45 53.8 -0.8
baz=59
MSO Missoula 59.48 53 eP P 12 45 54.5 -0.1
comp=Z,30nm,1.5s,mb5.1
MSO e 12 46 05.0
O05C Quincy 59.56 63 P P 12 45 55.3 +0.1
baz=59,SNR=5.6
D14A Greenough 59.57 52 P P 12 45 55.1 -0.1
baz=59,SNR=15
E13A Victor 59.58 53 P P 12 45 55.8 +0.4
baz=59,SNR=7.4
CVS Carmenet Viney 59.59 65 ⇑P P 12 45 55.2 -0.2
baz=59
OHCM Honcut 59.60 64 eP P 12 45 54.8 -0.6
H11A Donnelly 59.60 56 P P 12 45 55.5 0.0
baz=59,SNR=18
Q03C Winters 59.69 65 ⇓P P 12 45 56.8 +0.7
baz=60
N06A Buffalo Meadow 59.75 61 ⇓P P 12 45 56.8 +0.3
baz=60
M07A Soldier Meadow 59.76 60 P P 12 45 57.2 +0.6
baz=60,SNR=12
L08A Fields 59.77 59 ⇑P P 12 45 57.2 +0.6
baz=60
CHMT Chamberlain Mo 59.81 52 eP P 12 45 56.5 -0.4
K09A Rome 59.82 58 ⇑P P 12 45 57.0 0.0
baz=60
F13A Darby 59.90 54 P P 12 45 57.3 -0.2
baz=60,SNR=8.4
BEKR Beckwourth 59.96 62 ⇑P P 12 45 57.8 -0.2
baz=60
E14A Clinton 59.98 53 P P 12 45 58.2 +0.1
baz=60,SNR=7.8
O06A Flanigan 60.11 62 P P 12 45 59.4 +0.5
baz=60,SNR=5.5
D15A Lincoln 60.13 52 ⇓P P 12 45 58.7 -0.3
baz=60
P05C Yuba Gap, Truc 60.16 63 ⇑P P 12 45 58.9 -0.4
baz=60
L09A Wilkinson Ranc 60.27 59 P P 12 46 00.8 +0.7
baz=60,SNR=5.3
JRSC Jasper Ridge 60.30 66 ⇑P P 12 45 59.7 -0.6
baz=60
P06A Stead Airport, 60.36 62 ⇑P P 12 46 00.8 +0.1
baz=60
LAVA Lava Cap Winer 60.41 64 P P 12 46 00.8 -0.2
baz=60,SNR=7.8
F14A Wisdom 60.41 53 ⇑P P 12 46 00.9 -0.2
baz=60
E15A Deer Lodge 60.44 53 P P 12 46 01.2 0.0
baz=60,SNR=11
FFC Flin Flon 60.53 40 P P 12 46 02.6 +0.8
comp=Z,259nm,0.7s,SNR=8.9
FFC Flin Flon 60.53 40 P P 12 46 02.1 +0.2
O07A Toulon 60.68 61 P P 12 46 03.2 +0.4
baz=60,SNR=8.1
HRY Holter Researc 60.70 52 eP P 12 46 03.7 +0.7
SUMG Summit 60.74 4 eP P 12 46 03.3 +0.1
comp=Z,14nm,0.7s,mb5.2
N08A GE Springer Mi 60.75 60 ⇑P P 12 46 03.2 -0.2
baz=60
M09A Marrel Ranch, 60.76 60 ⇑P P 12 46 03.6 +0.2
baz=60
R05C Kirkwood Meado 60.85 63 ⇑P P 12 46 04.3 +0.3
baz=61
F15A Butte 60.88 53 P P 12 46 04.8 +0.5
baz=61,SNR=18
LRM Limekiln Ridge 60.91 53 eP P 12 46 05.0 +0.6
EGMT Eagleton 61.00 50 eP P 12 46 05.0 -0.1
EGMT Eagleton 61.00 50 P P 12 46 05.1 +0.1
baz=61,SNR=6.2
CMB Columbia Colle 61.07 64 eP P 12 46 05.4 -0.1
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CMB Columbia Colle 61.07 64 eP P 12 46 05.3 -0.2
comp=Z,4.0nm,0.6s,mb4.7
CMB Columbia Colle 61.07 64 P P 12 46 05.4 -0.1
baz=61,SNR=6.9
N09A Rock Creek Ran 61.07 60 P P 12 46 06.0 +0.5
baz=61,SNR=10
PACP Pacheco Peak 61.15 66 P P 12 46 06.1 0.0
baz=61,SNR=7.7
HLID Hailey 61.21 56 eP P 12 46 06.8 +0.3
comp=Z,6.9nm,0.9s,mb4.8
HLID Hailey 61.21 56 P P 12 46 06.9 +0.4
baz=61,SNR=10
M10A I.L. Ranch, Tu 61.24 59 P P 12 46 07.3 +0.6
baz=61,SNR=9.1
G15A Dillon 61.30 54 P P 12 46 07.0 0.0
baz=61,SNR=16
R06C Coleville 61.35 63 P P 12 46 07.8 +0.5
baz=61,SNR=9.1
HAST UC Hastings Re 61.37 66 ⇓P P 12 46 07.5 -0.1
baz=61
S06C San Francisco 61.50 64 P P 12 46 08.2 -0.2
baz=61,SNR=15
BMN Battle Mountai 61.51 60 eP P 12 46 09.2 +0.7
BMN pmax pmax
comp=Z,13nm,0.6s,mb5.2
BMN Battle Mountai 61.51 60 eP P 12 46 09.2 +0.7
comp=Z,13nm,0.6s,mb5.2
S05C Merced 61.53 65 P P 12 46 08.1 -0.6
baz=61,SNR=11
O09A Fish Creek Ran 61.69 60 P P 12 46 10.4 +0.7
baz=62,SNR=8.4
M11A Holland Ranch, 61.74 59 P P 12 46 10.8 +0.8
baz=62,SNR=10.0
N10A Dunphy 61.76 60 P P 12 46 10.9 +0.8
baz=62,SNR=6.1
O10A Cortez Mining, 62.03 60 ⇓P P 12 46 11.8 -0.2
baz=62
Q08A Gabbs 62.06 62 P P 12 46 12.3 +0.1
baz=62,SNR=15
QLMT Earthquake Lak 62.10 53 eP P 12 46 13.3 +0.8
P09A Austin 62.11 61 ⇓P P 12 46 12.8 +0.2
baz=62
KAKA Kakadu 62.13 204 eP P 12 46 10.7 -1.9
comp=Z,10nm,0.6s,mb5.1
T06C Millerton Lake 62.13 65 P P 12 46 12.1 -0.6
baz=62,SNR=7.7
N11A Elko Archery C 62.16 59 ⇓P P 12 46 13.2 +0.3
baz=62
KCC Kaiser Creek 62.18 64 P P 12 46 12.9 0.0
baz=62,SNR=8.0
M12A Wells 62.26 58 P P 12 46 14.4 +0.8
baz=62,SNR=6.7
R08A Mina 62.28 63 P P 12 46 14.0 +0.4
baz=62,SNR=5.2
PKD Parkfield 62.28 66 ⇑P P 12 46 13.6 0.0
baz=62
MLAC Mammoth Lakes 62.28 64 ⇓P P 12 46 14.8 +1.1
baz=62
P10A Eureka 62.47 61 ⇑P P 12 46 15.2 +0.2
baz=62
Q09A Carvers 62.54 62 ⇑P P 12 46 15.8 +0.4
baz=62
N12A Clover Valley, 62.54 59 ⇑P P 12 46 16.0 +0.6
baz=62
MTUM Tungsten Hills 62.62 64 eP P 12 46 16.3 +0.3
O11A Cowboy Ranch, 62.63 60 P P 12 46 16.4 +0.4
baz=62,SNR=11
YFT Old Faithful 62.66 53 eP P 12 46 18.0 +1.7
M13A Montello 62.73 58 P P 12 46 17.1 +0.4
baz=62,SNR=13

HELL Mitchell Peak, 62.77 65 P P 12 46 16.3 -0.6
baz=63,SNR=22
S08C White Mtn Res 62.77 63 P P 12 46 17.4 +0.4
baz=63,SNR=6.0
RCTC Rector, Farmer 62.86 65 ⇑P P 12 46 16.6 -1.0
baz=63
P11A Circle Ranch, 62.94 60 ⇑P P 12 46 18.5 +0.4
baz=63
IMW Indian Meadow 62.96 54 eP P 12 46 19.6 +1.4
comp=Z,14nm,1.0s,mb5.0
FLWY Flagg Ranch 62.98 54 eP P 12 46 19.8 +1.5
comp=Z,14nm,1.0s,mb5.0
R09A Tonopah 62.98 62 P P 12 46 18.0 -0.3
baz=63,SNR=25
TPH Tonopah 62.99 62 eP P 12 46 18.6 +0.2
TPH pmax pmax
comp=Z,14nm,0.7s,mb5.2
TPH Tonopah 62.99 62 eP P 12 46 18.6 +0.2
comp=Z,14nm,0.7s,mb5.2
DCID1 Drake Creek 63.02 54 eP P 12 46 20.0 +1.4
N13A Wendover, West 63.03 58 P P 12 46 19.4 +0.8
baz=63,SNR=5.5
O12A Currie 63.09 59 P P 12 46 19.2 +0.2
baz=63,SNR=19
RRI2 Red Ridge 63.10 55 eP P 12 46 20.1 +1.0
comp=Z,34nm,0.8s,mb5.5
MOOW Moose Ponds 63.16 54 eP P 12 46 20.4 +0.8
comp=Z,8.8nm,0.7s,mb5.0
S09A Goldfield 63.21 63 P P 12 46 20.0 +0.1
baz=63,SNR=6.5
TPAW Teton Pass 63.21 54 eP P 12 46 21.1 +1.2
comp=Z,23nm,0.6s,mb5.5
VES Vestal, Richgr 63.26 65 P P 12 46 19.3 -0.9
baz=63,SNR=5.1
LOHW Long Hollow 63.33 54 eP P 12 46 21.6 +1.0
comp=Z,9.2nm,0.7s,mb5.0
LOHW e 12 46 33.4
SNOW Snow King Moun 63.34 54 eP P 12 46 21.9 +1.2
comp=Z,28nm,0.9s,mb5.4
REDW Red Top Meadow 63.35 54 eP P 12 46 21.6 +0.8
comp=Z,17nm,0.6s,mb5.3
PKM Peak Mountain 63.40 67 ⇑P P 12 46 20.8 -0.3
baz=63
R10A Warm Springs 63.41 62 ⇓P P 12 46 21.1 -0.1
baz=63
Q11A Duckwater 63.45 61 P P 12 46 21.4 -0.1
baz=63,SNR=5.3
P12A McGill 63.50 60 ⇑P P 12 46 21.6 -0.2
baz=63
CWC Cottonwood Cre 63.50 64 P P 12 46 21.7 -0.1
baz=63,SNR=6.8
DGMT Dagmar 63.56 47 eP P 12 46 22.3 +0.1
GRAC Grapevine Rang 63.58 63 P P 12 46 22.7 +0.4
baz=63,SNR=8.8
AHID Auburn Hatcher 63.60 55 eP P 12 46 22.7 +0.3
comp=Z,9.8nm,0.9s,mb4.8
LAO LASA Array 63.70 49 eP P 12 46 23.5 +0.4
comp=Z,15nm,0.6s,mb5.2
ISA Isabella 63.76 65 eP P 12 46 22.1 -1.4
ISA Isabella 63.76 65 P P 12 46 22.4 -1.1
baz=64,SNR=5.8
SPUT South Promonto 63.76 57 eP P 12 46 21.2 -2.4
TRCR Troy Canyon 63.81 61 eP P 12 46 23.8 0.0
Q12A Willow Creek R 63.82 60 ⇑P P 12 46 23.8 -0.1
baz=64
ARVC Arvin 63.88 66 ⇑P P 12 46 23.9 -0.4
baz=64
VIS Vishakhapatnam 63.91 268 eP P 12 46 21.7 -2.7
VIS AMb AMB 12 46 32.4
comp=Z,18nm,0.6s,mb5.3
DAC Darwin (Calif) 63.91 64 eP P 12 46 20.0 -4.5
DAC pmax pmax
comp=Z,11nm,0.6s,mb5.1
AJM Ajmer 63.98 282 eP P 12 46 25.7 +0.8
AJM AMb AMB 12 46 36.9
comp=Z,30nm,1.1s,mb5.2
HWUT Hardware Ranch 64.08 56 eP P 12 46 25.9 +0.3
comp=Z,8.7nm,0.7s,mb4.9
BHPL Bhopal 64.23 277 eP P 12 46 26.3 -0.3
BHPL AMb AMB 12 46 38.3
comp=Z,31nm,0.9s,mb5.3
FURC Furnace Creek, 64.24 64 P P 12 46 26.6 0.0
baz=64,SNR=29
DUG Dugway 64.27 58 eP P 12 46 27.0 +0.1
DUG pmax pmax
comp=Z,18nm,1.1s,mb5.0
DUG Dugway 64.27 58 eP P 12 46 27.0 +0.1
comp=Z,18nm,1.1s,mb5.0
DUG Dugway 64.27 58 ⇑P P 12 46 26.9 +0.1
baz=64
FIA1 FINESS Array S 64.27 335 eP P 12 46 25.8 -1.0
FINES FINESS Array B 64.27 335 P P 12 46 26.0 -0.9
comp=Z,7.4nm,0.6s,mb4.9,baz=37,slow=8.7,SNR=42
LRMC Laurel Mountai 64.36 65 P P 12 46 27.0 -0.5
baz=64,SNR=9.3
NOQ North Oquirrh 64.38 57 eP P 12 46 27.9 +0.3
comp=Z,16nm,0.6s,mb5.2
BW06 Boulder Array 64.46 54 eP P 12 46 28.1 0.0
comp=Z,14nm,0.9s,mb5.0
PDAR Pinedale Array 64.46 54 P P 12 46 28.1 -0.1
comp=Z,10nm,0.8s,mb4.9,baz=292,slow=2.1,SNR=90
NGP Nagpur 64.52 274 eP P 12 46 27.4 -1.1
NGP AMb AMB 12 46 39.1
comp=Z,38nm,1.8s,mb5.1
EDW2 Edwards Air Fo 64.56 66 ⇑P P 12 46 28.6 -0.2
baz=64
CTU Camp Tracy 64.56 57 eP P 12 46 29.2 +0.4
U10A Ash Meadows, A 64.60 63 P P 12 46 29.5 +0.5
baz=64,SNR=9.5
DECC Green Verdugo 64.75 66 ⇑P P 12 46 29.6 -0.4
baz=65
JLU Jordanelle 64.80 57 eP P 12 46 30.8 +0.5
NLU North Lily Min 64.86 58 eP P 12 46 31.2 +0.5
MWC Mount Wilson 64.94 66 eP P 12 46 31.2 -0.1
SHOC Shoshone 64.96 64 P P 12 46 31.4 0.0
baz=65,SNR=6.4
GSC Goldstone 65.03 64 eP P 12 46 31.7 -0.1
GSC Goldstone 65.03 64 eP P 12 46 31.6 -0.3
GSC Goldstone 65.03 64 P P 12 46 31.5 -0.3
baz=65,SNR=8.1
DAU Daniels Canyon 65.03 57 eP P 12 46 32.9 +1.1
U11A Corn Creek 65.17 63 P P 12 46 33.2 +0.4
baz=65,SNR=6.5
BFSC Mount Baldy St 65.18 66 P P 12 46 32.7 -0.1
baz=65,SNR=6.0
CIS Catalina Islan 65.26 67 ⇑P P 12 46 33.1 -0.2
baz=65
ARUT Antelope Range 65.46 60 eP P 12 46 34.8 +0.2
TUQ Turquoise Mtn. 65.49 64 P P 12 46 34.7 -0.1
baz=65,SNR=21
V11A Goodsprings 65.53 63 P P 12 46 35.0 0.0
baz=65,SNR=10
HEC Hector,Ludlow 65.63 65 P P 12 46 35.6 -0.1
baz=65,SNR=5.1
BBRC Big Bear Sol-O 65.63 65 P P 12 46 35.6 -0.1
baz=65,SNR=7.2
U12A Valley of Fire 65.69 62 ⇑P P 12 46 35.9 -0.2
baz=66
MSU Marysvale 65.74 59 eP P 12 46 36.9 +0.5
MURC Murrieta 65.89 66 ⇑P P 12 46 36.8 -0.6
baz=66
V12A Nelson 65.96 63 P P 12 46 37.9 +0.1
baz=66,SNR=9.1
W12A Cal Nev Ari 66.22 63 ⇓P P 12 46 39.1 -0.4
baz=66
ULM Lac du Bonnet 66.31 41 P P 12 46 39.4 -0.7
comp=Z,11nm,0.7s,mb5.0,baz=310,slow=7.6,SNR=22
SRU San Rafael 66.31 58 eP P 12 46 40.2 +0.1
PFO Pinyon Flat Ob 66.35 66 ⇑P P 12 46 39.7 -0.7
baz=66
BELC Belle Mtn. 66.38 65 P P 12 46 40.0 -0.5
baz=66,SNR=6.5
109C Camp Elliot, M 66.42 67 ⇓P P 12 46 40.4 -0.3
baz=66
NEE2 Needles Airpor 66.73 64 ⇓P P 12 46 42.5 -0.3
baz=66
IRM Iron Mountain 66.80 64 P P 12 46 42.9 -0.4
baz=67,SNR=12
MONP Monument Peak 66.85 66 ⇑P P 12 46 42.8 -0.8
baz=67
BC3 Big Chuckw Mtn 66.95 65 P P 12 46 43.6 -0.6
baz=67,SNR=7.9
W13A Hualapai Mount 66.96 63 P P 12 46 44.2 -0.1
baz=67,SNR=9.4
DVTC Desert V Tower 67.20 66 ⇓P P 12 46 45.5 -0.3
baz=67
SWSC Sam W. Stewart 67.21 66 ⇓P P 12 46 45.3 -0.5
baz=67

X13A Yucca 67.33 63 P P 12 46 46.3 -0.3
baz=67,SNR=12
PDMCI Parker Dam,Lak 67.34 64 P P 12 46 46.3 -0.3
baz=67,SNR=7.7
W14A Seligman 67.38 62 P P 12 46 47.2 +0.3
baz=67,SNR=25
HYB Hyderabad 67.40 272 i P P 12 46 51.0 +3.9
HYB Hyderabad 67.40 272 eP P 12 46 51.0 +3.9
Y12C Blythe 67.46 64 P P 12 46 47.0 -0.4
baz=67,SNR=8.9
AGMN Agassiz Refuge 67.71 43 eP P 12 46 48.2 -0.8
comp=Z,32nm,1.2s,mb5.2
AGMN e 12 46 58.4
GLA Glamis 67.74 65 eP P 12 46 48.7 -0.5
GLA Glamis 67.74 65 eP P 12 46 48.6 -0.6
GLA Glamis 67.74 65 ⇑P P 12 46 48.7 -0.5
baz=68
W15A Williams 67.90 62 P P 12 46 51.0 +0.8
baz=68,SNR=5.4
X14A Yava 67.99 63 P P 12 46 51.2 +0.4
baz=68,SNR=12
WUAZ Wupatki 68.21 61 eP P 12 46 52.7 +0.6
comp=Z,10nm,1.0s,mb4.8
WUAZ Wupatki 68.21 61 ⇓P P 12 46 52.5 +0.3
baz=68
Y14A Wickenburg 68.28 63 P P 12 46 52.4 -0.2
baz=68,SNR=9.8
X15A Humboldt 68.38 62 P P 12 46 53.6 +0.4
baz=68,SNR=17
NB2 NORSAR Subarra 68.42 341 P P 12 46 52.6 -0.9
comp=Z,9.9nm,0.6s,mb5.0,baz=27,slow=6.5
NOA NORSAR Array B 68.42 341 P P 12 46 52.9 -0.5
comp=Z,9.6nm,0.6s,mb5.0,baz=26,slow=6.3,SNR=41
NOA NORSAR Array B 68.42 341 P P 12 46 52.9 -0.6
WRAB Tennant Creek 68.57 200 eP P 12 46 52.6 -1.8
WB2 Warramunga Arr 68.58 200 eP P 12 46 52.3 -2.2
WRA Warramunga Arr 68.58 200 P P 12 46 52.6 -1.9
comp=Z,5.5nm,0.9s,mb4.5,baz=16,slow=6.7,SNR=27
ISCO Idaho Springs 68.65 54 eP P 12 46 55.4 +0.5
ISCO e 12 47 06.2
ISCO pmax pmax
comp=Z,13nm,0.8s,mb4.9
ISCO Idaho Springs 68.65 54 eP P 12 46 55.4 +0.5
comp=Z,13nm,0.8s,mb4.9
ISCO e 12 47 06.2
HFS Hagfors 68.66 340 P P 12 46 54.2 -0.7
comp=Z,19nm,0.6s,mb5.2,baz=58,slow=5.6,SNR=3.4
Z14A Wintersburg 68.70 64 ⇓P P 12 46 55.1 -0.1
baz=68
MVCO Mesa Verde 68.77 58 eP P 12 46 55.6 0.0
comp=Z,13nm,0.9s,mb4.9
MVCO Mesa Verde 68.77 58 ⇑P P 12 46 55.5 -0.1
baz=68
FITZ Fitzroy Crossi 69.28 209 eP P 12 46 56.5 -2.3
comp=Z,18nm,0.6s,mb5.2
FITZ Fitzroy Crossi 69.28 209 P P 12 46 56.5 -2.3
comp=Z,5.4nm,1.0s,mb4.5,baz=5.7,slow=7.3,SNR=5.7
115A Sonoran Desert 69.59 64 ⇑P P 12 47 00.8 0.0
baz=69
EYMN Ely 69.96 41 eP P 12 47 02.0 -1.0
comp=Z,17nm,1.0s,mb4.9
116A Eloy 70.01 64 ⇓P P 12 47 03.1 -0.2
baz=70
SDCO Great Sand Dun 70.13 56 eP P 12 47 04.3 +0.2
comp=Z,6.4nm,0.8s,mb4.6
KAD Karad 70.48 275 eP P 12 47 06.9 +0.7
KAD AMb AMB 12 47 17.1
comp=Z,26nm,0.7s,mb5.2
ECSD EROS,Sioux Fal 70.64 46 eP P 12 47 06.1 -1.1
comp=Z,26nm,0.9s,mb5.2
KIV Kislovodsk 71.14 315 eP P 12 47 11.8 +1.6
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,463nm,18.0s,MS4.8
ZEI Tsey 71.40 313 eP P 12 47 11.5 -0.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LAZ Ladron 71.50 59 eP P 12 47 12.8 +0.4
ANMO Albuquerque 71.52 59 eP P 12 47 12.7 +0.2
ANMO pmax pmax
comp=Z,6.0nm,0.6s
ANMO Albuquerque 71.52 59 eP P 12 47 12.7 +0.2
comp=Z,6.4nm,0.6s,mb4.7
AKASG Malin Array Be 71.83 327 P P 12 47 13.1 -1.2
comp=Z,7.6nm,0.6s,mb4.8,baz=33,slow=6.2,SNR=44
AKASG PP PP 12 49 52.1 -1.7
comp=Z,0.2nm,0.3s,baz=32,slow=9.0,SNR=4.0
KIEV Kiev 71.84 327 P P 12 47 13.1 -1.3
KIEV pmax pmax
comp=Z,19nm,0.9s,mb5.0
KIEV Kiev 71.84 327 eP P 12 47 13.0 -1.4
comp=Z,19nm,0.9s,mb5.0
Y22C IRIS PASSCAL I 71.86 60 ⇑P P 12 47 15.2 +0.6
baz=72
BNM Barren Site 71.98 59 eP P 12 47 15.9 +0.6
ASAR Alice Springs 72.27 199 P P 12 47 15.8 -1.2
comp=Z,7.2nm,0.8s,mb4.6,baz=12,slow=5.9,SNR=59
GNI Garni 72.88 311 ⇓eP P 12 47 19.6 -1.1
GNI pmax pmax
comp=Z,24nm,1.3s
SCHQ Schefferville 73.21 23 P P 12 47 22.1 -0.5
comp=Z,5.2nm,0.7s,mb4.6,baz=359,slow=4.9,SNR=8.3
SCIA State Center 73.67 46 eP P 12 47 24.6 -0.7
comp=Z,38nm,0.6s,mb5.5
KSU1 Kansas State U 74.03 50 eP P 12 47 25.7 -1.8
comp=Z,12nm,0.7s,mb4.9
AMTX Amarillo 74.33 56 eP P 12 47 29.1 -0.1
comp=Z,16nm,0.8s,mb5.0
MNTX Cornudas Mount 74.45 60 eP P 12 47 28.8 -1.1
comp=Z,7.5nm,0.7s,mb4.7
KWP Kalwaria 75.09 329 eP P 12 47 33.7 +0.1
KWP Kalwaria 75.09 329 P P 12 47 33.2 -0.4
KWP pmax pmax
comp=Z,40nm,1.1s,mb5.3
OJC Ojcow 75.57 331 eP P 12 47 36.3 -0.1
STHS Stebnicka Huta 75.78 330 eP P 12 47 38.1 +0.6
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STHS Stebnicka Huta 75.78 330 eP P 12 47 38.1 +0.6
comp=Z,11nm,0.8s,mb4.8
KOLS Kolonicke sedl 75.83 329 eP P 12 47 37.7 -0.1
BURAR Bucovina Array 75.87 327 ⇑iP P 12 47 38.0 0.0
BURAR Bucovina Array 75.87 327 ⇑P P 12 47 38.0 -0.1
WMOK Wichita Mounta 76.07 54 eP P 12 47 38.6 -0.6
WMOK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WMOK Wichita Mounta 76.07 54 eP P 12 47 38.6 -0.6
comp=Z,9.0nm,0.8s,mb4.8
UZH Uzhgorod 76.08 329 eP P 12 47 39.8 +0.6
NIE Niedzica 76.09 331 eP P 12 47 39.7 +0.4
KSP Ksiaz 76.14 334 eP P 12 47 39.5 -0.1
UPC Upice 76.52 334 eP P 12 47 41.9 +0.1
UPC ePCP PcP 12 47 52.5 -0.9
DPC Dobruska-Polom 76.57 334 eP P 12 47 42.2 +0.2
DPC ePCP PcP 12 47 52.9 -0.7
MSL Mosul 76.61 309 ex x 12 47 43.0
MORC Moravsky Berou 76.69 333 ⇑iP P 12 47 42.8 +0.1
MORC Moravsky Berou 76.69 333 eP P 12 47 42.7 0.0
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MORC Moravsky Berou 76.69 333 eP P 12 47 42.6 0.0
comp=Z,8.0nm,0.8s,mb4.7
CLL Collm 76.69 336 i P P 12 47 41.8 -0.9
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL Collm 76.69 336 i P P 12 47 41.8 -0.9
comp=Z,13nm,0.8s,mb4.9
CLL epP pP 12 47 45.0 -0.4
CLL Collm 76.69 336 i P P 12 47 41.8 -0.9
comp=Z,13nm,0.8s,mb4.9
CLL epP pP 12 47 45.0 -0.4
CLL ePcP PcP 12 47 54.0 -0.1
BRG Berggiesshubel 76.81 335 eP P 12 47 45.1 +1.7
comp=Z,1.6nm,0.6s,mb4.1
BRG e 12 47 54.5
BRG Berggiesshubel 76.81 335 eP P 12 47 45.1 +1.7
BRG e 12 47 54.5
BRG pmax pmax
comp=Z,11nm,0.6s,mb5.0
KECS Kecovo 76.83 330 eP P 12 47 43.4 -0.1
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 76.83 330 eP P 12 47 43.4 -0.1
comp=Z,4.3nm,1.0s,mb4.3

LTX	**Lajitas**		**77.17**	**61**	*e*P		**P**	**12 47 45.3**	**-0.1**
LTX					pmax		pmax		
	comp=Z,36nm,0.6s,mb5.5								
LTX	**Lajitas**		**77.17**	**61**	*e*P		**P**	**12 47 45.3**	**-0.1**
	comp=Z,36nm,0.6s,mb5.5								
TXAR	**Lajitas Array**		**77.17**	**61**	P		**P**	**12 47 45.2**	**-0.3**
	comp=Z,28nm,0.6s,mb5.4,baz=301,slow=4.2,SNR=414								
TXAR	**Lajitas Array**		**77.17**	**61**	P		**P**	**12 47 45.2**	**-0.3**
TIRR	**Tirgusor**		**77.21**	**323**	*e*P		**P**	**12 47 45.3**	**-0.3**
TIRR					pmax		pmax		
	comp=Z,36nm,1.5s,mb5.1								
TIRR	**Tirgusor**		**77.21**	**323**	*e*P		**P**	**12 47 45.3**	**-0.4**
	comp=Z,36nm,1.5s,mb5.1								
MLR	**Muntele Rosu**		**77.35**	**325**	⇑*i*P		**P**	**12 47 47.2**	**+0.8**
MLR	**Muntele Rosu**		**77.35**	**325**	⇑P		**P**	**12 47 47.2**	**+0.8**
VYHS	**Vyhne**		**77.38**	**331**	*e*P		**P**	**12 47 46.4**	**-0.2**
VYHS					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3								
VYHS	**Vyhne**		**77.38**	**331**	*e*P		**P**	**12 47 46.4**	**-0.2**
	comp=Z,4.1nm,1.0s,mb4.3								
PRU	**Pruhonice**		**77.42**	**334**	*e*P		**P**	**12 47 47.0**	**+0.2**
PRU					*e*PCP		PcP	12 47 56.7	-0.6
DRGR			**77.49**	**328**	⇑*i*P		**P**	**12 47 47.1**	**-0.1**
DRGR			**77.49**	**328**	⇑P		**P**	**12 47 47.1**	**-0.1**
MALT	**Malatya**		**77.49**	**313**	⇑*i*P		**P**	**12 47 48.9**	**+1.7**
MALT	**Malatya**		**77.49**	**313**	*e*P		**P**	**12 47 48.8**	**+1.6**
MALT					pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8								
MALT	**Malatya**		**77.49**	**313**	*e*P		**P**	**12 47 48.8**	**+1.5**
	comp=Z,8.6nm,0.8s,mb4.7								
PSZ	**Piszkesteto**		**77.52**	**330**	⇓*i*P		**P**	**12 47 48.2**	**+0.8**
PSZ	**Piszkesteto**		**77.52**	**330**	*e*P		**P**	**12 47 47.8**	**+0.4**
VOIR			**77.75**	**326**	⇑*i*P		**P**	**12 47 49.2**	**+0.6**
VOIR			**77.75**	**326**	⇑P		**P**	**12 47 49.2**	**+0.5**
NKC	**Novy Kostel**		**77.81**	**336**	*e*P		**P**	**12 47 48.0**	**-1.0**
FVM	**French Village**		**78.05**	**47**	*e*P		**P**	**12 47 48.3**	**-2.0**
FVM					pmax		pmax		
	comp=Z,18nm,0.8s,mb5.0								
FVM	**French Village**		**78.05**	**47**	*e*P		**P**	**12 47 48.2**	**-2.1**
	comp=Z,18nm,0.8s,mb5.0								
KHC	**Kasperske Hory**		**78.47**	**335**	*e*P		**P**	**12 47 52.2**	**-0.5**
KHC	**Kasperske Hory**		**78.47**	**335**	*d i*P		**P**	**12 47 51.4**	**-1.3**
JCT	**Junction City**		**78.62**	**58**	*e*P		**P**	**12 47 52.9**	**-0.6**
JCT					pmax		pmax		
	comp=Z,11nm,0.7s,mb4.9								
JCT	**Junction City**		**78.62**	**58**	*e*P		**P**	**12 47 52.9**	**-0.6**
	comp=Z,10nm,0.7s,mb4.9								
GRA1	**Grafenberg Arr**		**78.65**	**336**	*e*P		**P**	**12 47 53.6**	**0.0**
	comp=Z,12nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**		**78.65**	**336**	*e*P		**P**	**12 47 53.6**	**0.0**
	comp=Z,12nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**		**78.65**	**336**	*e*P		**P**	**12 47 53.6**	**0.0**
GRF					pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**		**78.65**	**336**	*e*P		**P**	**12 47 53.6**	**0.0**
GRF					pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8								
GERES	**GERESS Array B**		**78.69**	**334**	P		**P**	**12 47 53.7**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=44,slow=4.1,SNR=8.6								
BR131	**Keskin Array S**		**78.72**	**317**	*e*P		**P**	**12 47 54.6**	**+0.6**
	comp=Z,2.6nm,0.3s,mb4.6								
STKA	**Stephens Creek**		**78.95**	**190**	LR		LR	13 22 01.4	
	comp=Z,90nm,19.1s,MS4.1,baz=26,slow=35								
WCI	**Wyandotte Cave**		**79.88**	**44**	*e*P		**P**	**12 47 59.5**	**-0.9**
WCI					pmax		pmax		
	comp=Z,33nm,1.0s,mb5.2								
WCI	**Wyandotte Cave**		**79.88**	**44**	*e*P		**P**	**12 47 59.5**	**-0.9**
	comp=Z,33nm,1.0s,mb5.2								
BFO	**Black Forest**		**80.67**	**337**	*e*P		**P**	**12 48 03.1**	**-1.5**
WVT	**Waverly**		**80.79**	**46**	*e*P		**P**	**12 48 03.9**	**-1.4**
WVT					pmax		pmax		
	comp=Z,12nm,0.8s,mb4.9								
WVT	**Waverly**		**80.79**	**46**	*e*P		**P**	**12 48 03.9**	**-1.4**
	comp=Z,12nm,0.8s,mb4.9								
VTS	**Vitosha**		**80.86**	**325**	⇓*i*P		**P**	**12 48 05.9**	**+0.3**
VTS	**Vitosha**		**80.86**	**325**	⇓P		**P**	**12 48 05.9**	**+0.3**
CDF	**Champ du Feu**		**80.87**	**338**	*e*P		**P**	**12 48 05.0**	**-0.7**
	comp=Z,31nm,1.0s,mb4.9								
CDF	**Champ du Feu**		**80.87**	**338**	*e*P		**P**	**12 48 05.0**	**-0.7**
CDF					pmax		pmax		
	comp=Z,15nm,1.0s,mb4.9								
CDF	**Champ du Feu**		**80.87**	**338**	*e*P		**P**	**12 48 05.0**	**-0.7**
	comp=Z,15nm,1.0s,mb4.9								
PPT	**Papeete**		**81.79**	**126**	LR		LR	13 20 43.3	
	comp=Z,156nm,18.3s,MS4.4,baz=307,slow=33								
GRR	**Gorron**		**82.75**	**343**	*e*P		**P**	**12 48 14.7**	**-0.9**
	comp=Z,106nm,1.3s,mb5.4								
GRR	**Gorron**		**82.75**	**343**	*e*P		**P**	**12 48 14.7**	**-0.9**
GRR					pmax		pmax		
	comp=Z,53nm,1.3s,mb5.4								
GRR	**Gorron**		**82.75**	**343**	*e*P		**P**	**12 48 14.7**	**-0.9**
	comp=Z,53nm,1.3s,mb5.4								
SMF	**Signal de Mont**		**83.37**	**340**	*e*P		**P**	**12 48 18.2**	**-0.6**
	comp=Z,105nm,1.2s,mb5.5								
SMF	**Signal de Mont**		**83.37**	**340**	*e*P		**P**	**12 48 18.2**	**-0.6**
SMF					pmax		pmax		
	comp=Z,53nm,1.2s,mb5.5								
SMF	**Signal de Mont**		**83.37**	**340**	*e*P		**P**	**12 48 18.2**	**-0.6**
	comp=Z,52nm,1.2s,mb5.4								
LPG	**La Plagne**		**83.70**	**337**	*e*P		**P**	**12 48 20.8**	**+0.3**
	comp=Z,15nm,0.8s,mb4.8								
LPG	**La Plagne**		**83.70**	**337**	*e*P		**P**	**12 48 20.8**	**+0.3**
LPG					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.8								
LPG	**La Plagne**		**83.70**	**337**	*e*P		**P**	**12 48 20.8**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.9								
CAF	**Calviac**		**85.41**	**340**	*e*P		**P**	**12 48 28.3**	**-0.8**
TORD	**Torodi Ar. Bea**		**115.36**	**330**	PKP		PKPdf	12 54 32.0	-1.4
	comp=Z,1.2nm,0.6s,baz=12,slow=1.9,SNR=7.4								
MAW	**Mawson**		**132.35**	**211**	PKP		PKPdf	12 55 03.8	-2.1
	comp=Z,2.7nm,0.8s,baz=299,slow=2.9,SNR=2.9								
LPAZ	**La Paz**		**134.01**	**63**	PKP		PKPdf	12 55 08.3	-0.7
	comp=Z,0.8nm,1.0s,baz=106,slow=1.5,SNR=4.0								
CFAA	**Coronel Fontan**		**144.61**	**80**	PKP		PKPdf	12 55 25.2	-3.1
	comp=Z,1.8nm,0.9s,baz=280,slow=3.5,SNR=14								
SNAA	**Sanae**		**152.60**	**196**	PKPbc		PKPbc	12 55 44.5	-3.7
	comp=Z,0.8nm,0.5s,baz=184,slow=5.0,SNR=8.4								
SNAA					PKPab		PKPab	12 55 56.0	-2.7
	comp=Z,2.6nm,0.6s,baz=145,slow=4.3,SNR=16								
SNAA	**Sanae**		**152.60**	**196**	*e*PKPdf		PKPbc	12 55 45.9	-2.3
SNAA					*e*			12 55 54.7	
SNAA					*e*			12 55 55.9	
SNAA	**Sanae**		**152.60**	**196**	PKIKP		PKPbc	12 55 44.5	-3.7
SNAA								12 55 56.0	
SNAA					pmax		pmax		
	comp=Z,1.0nm,0.5s								
SNAA					pmax		pmax		
	comp=Z,3.0nm,0.6s								
PMSA	**Palmer Station**		**152.69**	**145**	PKPbc		PKPbc	12 55 46.7	-1.8
	comp=Z,12nm,0.8s,baz=7.1,slow=8.1,SNR=3.7								
VNA2	**Neumayer--Watz**		**154.04**	**194**	*e*PKPdf		PKPbc	12 55 50.8	-0.6
	baz=64,slow=0.8								
VNA2					*e*			12 55 59.5	
VNA2					*e*			12 56 00.6	
VNA2					*e*			12 56 04.7	
VNA3	**Neumayer Olymp**		**154.11**	**192**	*e*PKPdf		PKPbc	12 55 50.7	-0.8
VNA3					*e*			12 55 59.9	

IDC ***16*** *12:40:36.9±1.0, 1515S×17471W, h202km±9km, mb4.3/20, mb1 4.5/21, mb1mx4.5/22, mbtmp4.3/21, MS3.8/1, Ms1 3.8/1, ms1mx3.1/27, Error ellipse: s-maj=13.6km s-min=8.0km az=137.0*

MOS ***16*** *12:40:36.5±1.1, 1508S×17486W, h204km, mb4.9/17, Error ellipse: s-maj=12.0km s-min=10.6km az=51.7*

ISCJB ***16*** *12:40:36.5±0.9, 1519S±006×17482W±005, h207km±7km, mb4.6/62, Error ellipse: s-maj=10.4km s-min=6.5km az=112.7*

NEIC ***16*** *12:40:38.1±0.8, 1515S×17481W, h212km±7km, mb4.7/39, Error ellipse: s-maj=8.3km s-min=4.7km az=144.0*

GCMT ***16*** *12:40:38.1±0.2, 1506S×17445W, h232km±1km, MW5.4/85, Moment Tensor Solution. s65,c102; s85,c142; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.07±.03; $M_{\theta\theta}$-0.21±.03; $M_{\phi\phi}$1.29±.03; $M_{r\theta}$0.76±.03; $M_{\theta\phi}$0.05±.03; $M_{r\phi}$-0.31±.03; Best double couple: $M_0$1.43500×10^{17} NP1:ϕ_s208.00000°, δ45.00000°, λ-46.00000°. NP2:ϕ_s334.00000°, δ59.00000°, λ-125.00000°. Principal axes: T 1.3310, Plg8.0000°, Azm88.0000°; N 0.2150, Plg29.0000°, Azm354.0000°; P -1.5400, Plg60.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***16*** *12:40:38.1, 1520S×17480W, h212km, mB4.9, mb4.7*
SZGRF ***16*** *12:40:39.8, 1599S×17429W, h240km, Tonga Islands*
ISC 16 12:40:37.7±0.8, 1518S±006×17478W±005, h204km±7km, h211km±2.2km:pP-P, n295, s0±94/128, mb4.6/62, 10C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.17**	**67**	P	**Pn**	**12 41 29.2**	**-0.2**
	259nm,0.3s,baz=95,slow=1.9,SNR=141						
AFI				S	**Sn**	**12 42 06.3**	**-3.7**
	201nm,0.3s,baz=196,slow=22,SNR=16						
AFI	**Afiamalu**	**3.17**	**67**	*e*Pn	**Pn**	**12 41 29.4**	**-0.1**
AFI				*e*Sn	**Sn**	**12 42 09.3**	**-0.7**
FUNA	**Funafuti**	**8.86**	**318**	*e*Pn	**Pn**	**12 42 42.6**	**+0.6**
	124nm,1.0s						
DZM	**Mont Dzumac**	**19.06**	**246**	P	**P**	**12 44 46.5**	**+1.9**
	0.2nm,0.3s,baz=61,slow=19,SNR=5.7						
URZ	**Urewera**	**24.09**	**196**	P	**P**	**12 45 32.4**	**-2.0**
	34nm,0.8s,mb5.0,baz=7.8,slow=7.4,SNR=12						
RPZ	**Rata Peaks**	**30.91**	**200**	P	**P**	**12 46 34.9**	**-0.3**
	16nm,0.7s,mb4.8,baz=32,slow=5.1,SNR=6.7						
RPZ				LR	LR	12 56 18.9	
	comp=Z,187nm,19.5s,baz=141,slow=30						
CTA	**Charters Tower**	**37.40**	**257**	*e*P	**P**	**12 47 31.8**	**+0.9**
	5.3nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**37.40**	**257**	*e*P	**P**	**12 47 30.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.5						
CTAO	**Charters Tower**	**37.40**	**257**	*e*P	**P**	**12 47 30.7**	**-0.3**
	comp=Z,8.2nm,0.5s,mb4.5						
PMG	**Port Moresby**	**37.59**	**274**	*e*P	**P**	**12 47 34.2**	**+1.7**
PMG				pmax	pmax		
	comp=Z,25nm,1.2s						
PMG	**Port Moresby**	**37.59**	**274**	*e*P	**P**	**12 47 34.1**	**+1.6**
	comp=Z,25nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**43.00**	**239**	*e*P	**P**	**12 48 17.3**	**+0.4**
	comp=Z,6.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**43.00**	**239**	P	**P**	**12 48 17.4**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4,baz=62,slow=6.6,SNR=17						
STKA				PcP	PcP	12 50 03.6	+0.4
	comp=Z,4.0nm,0.6s,baz=101,slow=3.4,SNR=4.4						
WB2	**Warramunga Arr**	**48.59**	**257**	*e*P	**P**	**12 49 00.3**	**-0.2**
WRAB	**Tennant Creek**	**48.59**	**257**	*e*P	**P**	**12 48 59.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,56nm,1.8s,mb4.6						
WRAB	**Tennant Creek**	**48.59**	**257**	*e*P	**P**	**12 48 59.8**	**-0.8**
	comp=Z,56nm,1.8s,mb4.6						
WRA	**Warramunga Arr**	**48.60**	**257**	P	**P**	**12 48 59.9**	**-0.7**
	comp=Z,7.4nm,0.5s,mb4.3,baz=95,slow=7.7,SNR=114						
WRA				PcP	PcP	12 50 23.3	+0.4
	comp=Z,5.8nm,0.8s,baz=90,slow=4.5,SNR=8.0						
WRA				PKiKP	PKiKP	12 57 10.7	-1.0
	comp=Z,0.3nm,0.5s,baz=84,slow=0.7,SNR=9.0						
WRA	**Warramunga Arr**	**48.60**	**257**	P	**P**	**12 48 59.9**	**-0.7**
WRA				PcP	PcP	12 50 23.3	+0.4
AS31	**Alice Springs**	**48.92**	**252**	*e*P	**P**	**12 49 02.4**	**-0.6**
ASAR	**Alice Springs**	**48.92**	**252**	P	**P**	**12 49 02.9**	**-0.2**
	comp=Z,49nm,0.6s,mb5.0,baz=89,slow=7.5,SNR=611						
ASAR				PcP	PcP	12 50 24.4	+0.4
	comp=Z,4.0nm,0.5s,baz=96,slow=3.6,SNR=4.4						
ASAR				S	**S**	**12 55 47.2**	**-3.8**
	comp=Z,1.5nm,1.1s,baz=81,slow=15,SNR=5.9						
ASAR				PKiKP	PKiKP	12 57 10.7	-1.3
	comp=Z,0.3nm,0.5s,baz=90,slow=1.4,SNR=5.5						
ASAR	**Alice Springs**	**48.92**	**252**	P	**P**	**12 49 02.9**	**-0.2**
ASAR				PcP	PcP	12 50 24.4	+0.4
ASAR				S	**S**	**12 55 47.2**	**-3.8**
KAKA	**Kakadu**	**51.19**	**266**	*e*P	**P**	**12 49 20.8**	**+0.7**
	comp=Z,18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.96**	**258**	*e*P	**P**	**12 50 01.9**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**56.96**	**258**	P	**P**	**12 50 02.1**	**+0.4**
	comp=Z,1.3nm,0.3s,mb4.0,baz=94,slow=10,SNR=21						
MBWA	**Marble Bar**	**62.15**	**254**	*e*P	**P**	**12 50 37.0**	**-0.2**
	comp=Z,11nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	**63.17**	**242**	*e*P	**P**	**12 50 43.3**	**-0.6**
	comp=Z,11nm,2.0s,mb5.2						
SBA	**Scott Base**	**63.37**	**184**	*e*P	**P**	**12 50 46.7**	**+1.5**
SBA				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.2						
SBA	**Scott Base**	**63.37**	**184**	*e*P	**P**	**12 50 46.6**	**+1.5**
	comp=Z,42nm,0.7s,mb5.2						
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**12 50 46.5**	**+0.7**
	comp=Z,35nm,0.9s,mb5.0,baz=5.4,slow=6.5,SNR=149						
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**12 50 46.5**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,35nm,1.0s						
VNDA	**Vanda**	**63.47**	**186**	*e*P	**P**	**12 50 46.3**	**+0.5**
	comp=Z,46nm,1.0s,mb5.1						
MUN	**Mundaring**	**64.47**	**242**	*e*P	**P**	**12 50 52.4**	**0.0**
MJAR	**Matsushiro Arr**	**67.92**	**321**	P	**P**	**12 51 13.4**	**-0.8**
	comp=Z,1.8nm,0.5s,mb3.9,baz=152,slow=4.9,SNR=5.1						
CASY	**Casey**	**70.06**	**205**	*e*P	**P**	**12 51 26.9**	**-0.5**
ASAJ	**Asahikawa**	**70.65**	**329**	P	**P**	**12 51 31.9**	**+0.8**
	comp=Z,11nm,0.6s,mb4.6,baz=173,slow=8.3,SNR=6.1						
ASAJ	**Asahikawa**	**70.65**	**329**	P	**P**	**12 51 31.9**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.6s						
YSS	**Yuzh-Sakhalins**	**72.64**	**331**	⇓*e*P	**P**	**12 51 42.7**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**72.64**	**331**	*e*P	**P**	**12 51 42.8**	**0.0**
	comp=Z,18nm,0.7s,mb4.8						
ISA	**Isabella**	**73.42**	**45**	*e*P	**P**	**12 51 47.8**	**+0.3**
QSPA	**South Pole Qui**	**74.87**	**180**	⇓*i*P	**P**	**12 51 56.2**	**+0.4**
	comp=Z,19nm,0.9s,mb4.7						
KDAK	**Kodiak Island**	**74.97**	**12**	P	**P**	**12 51 55.1**	**-1.3**
	comp=Z,51nm,0.7s,mb4.8,baz=192,slow=3.9,SNR=9.9						
KSRS	**Kona Array**	**75.07**	**316**	P	**P**	**12 51 57.5**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.0,baz=125,slow=5.7,SNR=15						
MIR	**Mirnyy**	**77.08**	**204**	*d i*P	**P**	**12 52 09.0**	**+0.7**
MIR				*i*		12 52 18.0	
MIR				pmax	pmax		
	comp=Z,500nm,1.5s,mb5.9						
TUC	**Tucson**	**77.28**	**51**	*e*P	**P**	**12 52 10.1**	**+0.7**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
TUC	**Tucson**	**77.28**	**51**	*e*P	**P**	**12 52 10.1**	**+0.7**
	comp=Z,5.2nm,0.9s,mb4.2						
HABR	**Khabarovsk**	**77.44**	**328**	⇓*i*P	**P**	**12 52 10.4**	**+0.1**
HABR				*e*S	S	13 01 49.8	+5.9
HABR				pmax	pmax		
	comp=Z,51nm,1.8s,mb4.8						
WUAZ	**Wupatki**	**78.33**	**48**	*e*P	**P**	**12 52 16.4**	**+1.2**
	comp=Z,8.4nm,1.0s,mb4.3						
CN2	**Changchun**	**80.07**	**321**	*e*P	**P**	**12 52 24.5**	**-0.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SNY	**Shenyang**	**80.22**	**318**	⇓P	**P**	**12 52 25.6**	**+0.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3						
TMUT	**Trail Mountain**	**80.25**	**45**	*e*P	**P**	**12 52 26.9**	**+1.4**
HLID	**Hailey**	**80.30**	**40**	*e*P	**P**	**12 52 26.0**	**+0.1**
SRU	**San Rafael**	**80.62**	**45**	*e*P	**P**	**12 52 28.3**	**+0.7**
JLU	**Jordanelle**	**80.71**	**44**	*e*P	**P**	**12 52 28.4**	**+0.4**
LAZ	**Ladron**	**80.94**	**51**	*e*P	**P**	**12 52 30.2**	**+0.9**
MCK	**McKinley**	**81.16**	**11**	*e*P	**P**	**12 52 29.2**	**-1.2**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
MCK	**McKinley**	**81.16**	**11**	*e*P	**P**	**12 52 29.2**	**-1.2**
	comp=Z,20nm,1.0s,mb4.7						
MNTX	**Cornudas Mount**	**81.26**	**54**	*e*P	**P**	**12 52 31.2**	**+0.8**
	comp=Z,9.7nm,1.2s,mb4.3						
BNM	**Barren Site**	**81.22**	**51**	*e*P	**P**	**12 52 31.9**	**+1.2**
LPM	**Los Pinos Moun**	**81.28**	**51**	*e*P	**P**	**12 52 31.8**	**+0.8**
LTX	**Lajitas**	**81.59**	**57**	*e*P	**P**	**12 52 33.8**	**+1.1**
LTX				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
LTX	**Lajitas**	**81.59**	**57**	*e*P	**P**	**12 52 33.8**	**+1.1**
	comp=Z,5.1nm,1.0s,mb4.1						
TXAR	**Lajitas Array**	**81.59**	**57**	P	**P**	**12 52 32.9**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.0,baz=217,slow=6.6,SNR=17						
TXAR	**Lajitas Array**	**81.59**	**57**	P	**P**	**12 52 32.9**	**+0.2**
ANMO	**Albuquerque**	**81.68**	**50**	*e*P	**P**	**12 52 34.1**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	**Albuquerque**	**81.68**	**50**	*e*P	**P**	**12 52 34.1**	**+1.0**
	comp=Z,15nm,1.2s,mb4.5						
SEY	**Seymchan**	**81.96**	**345**	⇑*i*P	**P**	**12 52 33.6**	**-1.0**
RRI2	**Red Ridge**	**82.13**	**41**	*e*P	**P**	**12 52 35.7**	**+0.2**
	comp=Z,14nm,0.9s,mb4.6						
GDL2	**Guadalupe Moun**	**82.16**	**54**	*e*P	**P**	**12 52 35.0**	**-0.6**
COLA	**College**	**82.39**	**11**	⇑*i*P	**P**	**12 52 35.5**	**-1.3**
COLA				*e*PP	pP	12 53 25.9	-0.5
COLA	**College**	**82.39**	**11**	*e*P	**P**	**12 52 35.0**	**-1.9**
	comp=Z,9.5nm,0.6s,mb4.6						
TPAW	**Teton Pass**	**82.44**	**41**	*e*P	**P**	**12 52 37.1**	**+0.1**
	comp=Z,10nm,0.8s,mb4.5						
REDW	**Red Top Meadow**	**82.44**	**41**	*e*P	**P**	**12 52 37.5**	**+0.4**
	comp=Z,16nm,1.1s,mb4.6						
SNOW	**Snow King Moun**	**82.55**	**41**	*e*P	**P**	**12 52 38.2**	**+0.5**
	comp=Z,6.0nm,0.6s,mb4.5						
IMW	**Indian Meadow**	**82.64**	**41**	*e*P	**P**	**12 52 38.9**	**+0.8**
	comp=Z,13nm,0.9s,mb4.7						
LRM	**Limekiln Ridge**	**82.67**	**39**	*e*P	**P**	**12 52 36.3**	**-2.0**
MOOW	**Moose Ponds**	**82.69**	**41**	*e*P	**P**	**12 52 38.8**	**+0.5**
LOHW	**Long Hollow**	**82.72**	**41**	*e*P	**P**	**12 52 38.9**	**+0.4**
CHMT	**Chamberlain Mo**	**82.75**	**37**	*e*P	**P**	**12 52 37.5**	**-1.2**
QLMT	**Earthquake Lak**	**82.79**	**40**	*e*P	**P**	**12 52 40.0**	**+1.1**
FLWY	**Flagg Ranch**	**82.88**	**41**	*e*P	**P**	**12 52 40.2**	**+0.9**
	comp=Z,17nm,0.9s,mb4.8						
BW06	**Boulder Array**	**82.99**	**42**	*e*P	**P**	**12 52 39.6**	**-0.3**
	comp=Z,7.9nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**12 52 39.5**	**-0.4**
	comp=Z,8.5nm,0.7s,mb4.6,baz=213,slow=3.0,SNR=85						
PDAR				PKKPbc	PKKPbc	13 11 00.8	+0.3
	comp=Z,0.6nm,0.7s,baz=91,slow=4.4,SNR=5.1						
SMCO	**Snowmass**	**83.11**	**46**	*e*P	**P**	**12 52 31.9**	**-8.7**
	comp=Z,9.3nm,0.6s,mb4.7						
DAWY	**Dawson**	**83.54**	**15**	*e*P	**P**	**12 52 42.1**	**-0.6**
SDCO	**Great Sand Dun**	**83.55**	**48**	*e*P	**P**	**12 52 43.0**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.0						
BILL	**Bilibino**	**84.12**	**353**	*d i*P	**P**	**12 52 44.2**	**-1.4**
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
BILL	**Bilibino**	**84.12**	**353**	*e*P	**P**	**12 52 44.7**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.2						
EDM	**Edmonton**	**85.99**	**32**	*e*P	**P**	**12 52 54.1**	**-0.9**
HIA	**Hailar**	**86.22**	**323**	*e*P	**P**	**12 52 56.1**	**0.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**86.22**	**323**	*e*P	**P**	**12 52 56.1**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.2						
GYA	**Guiyang**	**86.77**	**298**	P	**P**	**12 52 59.0**	**+0.3**
GYA				AP	pP	12 53 51.4	+2.7
GYA				XP	sP	12 54 13.6	+3.5
GYA				PP	PP	12 56 27.3	+3.2
GYA				SKS		13 03 03.8	
GYA				S	S	13 03 17.3	-1.5
GYA				XS	sS	13 04 48.3	+2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
LAO	**LASA Array**	**86.88**	**40**	*e*P	**P**	**12 52 59.9**	**+0.6**
	comp=Z,15nm,0.8s,mb4.8						
XAN	**Xi'an**	**87.42**	**306**	P	**P**	**12 53 02.3**	**+0.4**
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
MAW	**Mawson**	**87.58**	**199**	*e*P	**P**	**12 53 02.1**	**-0.5**
	comp=Z,39nm,0.8s,mb5.3						
MAW	**Mawson**	**87.58**	**199**	P	**P**	**12 53 02.4**	**-0.2**
	comp=Z,43nm,0.7s,mb5.

ARU *e* 13 00 45.9
ARU Arti 122.45 328 *e*PKPdf PKPdf 12 59 07.5 -1.1
LVZ Lovozero 123.99 347 ⇑*i*PKIKP PKPdf 12 59 11.4 -0.1
ARCES ARCESS Array B 124.20 352 PKP PKPdf 12 59 09.7 -2.2
comp=Z,11nm,0.7s,baz=85,slow=1.5,SNR=19
ARCES ARCESS Array B 124.20 352 PKIKP PKPdf 12 59 09.7 -2.2
ARCES pmax pmax
comp=Z,11nm,0.7s
AKTO Aktyubinsk 124.99 322 PKP PKPdf 12 59 12.2 -1.2
comp=Z,4.1nm,0.7s,baz=64,slow=1.0,SNR=14
AKTO Aktyubinsk 124.99 322 PKIKP PKPdf 12 59 12.3 -1.1
AKTO pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 131.43 347 PKP PKPdf 12 59 24.5 -1.2
comp=Z,2.6nm,0.7s,baz=90,slow=3.8,SNR=7.9
FINES FINESS Array B 131.43 347 PKIKP PKPdf 12 59 24.5 -1.2
FINES pmax pmax
comp=Z,3.0nm,0.7s
BOSA Boshof 132.35 204 PKP PKPdf 12 59 28.5 +1.1
comp=Z,5.7nm,0.9s,baz=270,slow=6.1,SNR=4.0
BOSA Boshof 132.35 204 PKIKP PKPdf 12 59 28.5 +1.1
BOSA pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 134.00 356 PKP PKPdf 12 59 28.6 -1.9
comp=Z,0.9nm,0.8s,baz=13,slow=4.1,SNR=3.9
NOA NORSAR Array B 134.00 356 PKIKP PKPdf 12 59 28.6 -1.9
NOA pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 134.69 354 PKP PKPdf 12 59 30.5 -1.3
comp=Z,2.6nm,0.7s,baz=317,slow=8.5,SNR=4.5
HFS Hagfors 134.69 354 PKIKP PKPdf 12 59 30.5 -1.3
HFS pmax pmax
comp=Z,3.0nm,0.7s
GNI Garni 137.56 314 PKP PKPdf 12 59 36.2 -1.0
comp=Z,4.1nm,0.3s,baz=158,slow=5.7,SNR=3.6
GNI Garni 137.56 314 PKIKP PKPdf 12 59 36.2 -0.9
GNI pmax pmax
comp=Z,4.0nm,0.3s
LSZ Lusaka 142.18 218 *e*PKHKP 12 59 41.4
MALT Malatya 142.76 315 *e*PKIKP PKPdf 12 59 44.7 -1.8
KSP Ksiaz 143.32 348 *e*PKIKP PKPdf 12 59 44.5 -3.0
CLL Collm 143.42 352 *e*PKIKP PKPdf 12 59 44.0 -3.7
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL Collm 143.42 352 *e*PKPdf PKPdf 12 59 44.0 -3.7
comp=Z,10.0nm,0.7s
STHS Stebnicka Huta 143.43 342 *e*PKIKP PKPdf 12 59 44.6 -3.1
STHS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 143.54 341 *e*P PKPdf 12 59 44.5 -3.4
BURAR Bucovina Array 143.66 337 ⇓*i*P PKPdf 12 59 45.9 -2.2
UPC Upice 143.69 348 *e*PKP PKPdf 12 59 45.4 -2.8
BRG Berggiesshubel 143.70 351 *e*P PKPdf 12 59 45.3 -2.9
comp=Z,5.2nm,1.3s
BRG Berggiesshubel 143.70 351 *e*PKIKP PKPdf 12 59 45.3 -2.9
BRG pmax pmax
comp=Z,2.0nm,1.3s
TSUM Tsumeb 143.74 200 *e*PKPdf PKPdf 12 59 47.6 -0.6
DPC Dobruska-Polom 143.78 348 *e*PKP PKPdf 12 59 46.1 -2.2
UZH Uzhgorod 143.80 341 ⇓*i*PKIKP PKPdf 12 59 46.0 -2.4
OKC Ostrava-Krasne 143.86 346 *e*PKP PKPdf 12 59 45.6 -2.9
PVCC Panska Ves 143.94 350 *e*PKP PKPdf 12 59 46.3 -2.3
MOX Moxa 144.25 353 *e*PKPbc PKPdf 12 59 47.1 -2.0
MOX Moxa 144.25 353 *e*PKP PKPdf 12 59 47.7 -1.4
comp=Z,32nm,1.6s
MOX Moxa 144.25 353 *e*PKIKP PKPdf 12 59 47.7 -1.4
MOX pmax pmax
comp=Z,32nm,1.6s
WERD Werda 144.35 352 *e*PKPbc PKPdf 12 59 46.8 -2.5
TANN Tannenbergstha 144.37 352 *e*PKPbc PKPdf 12 59 47.5 -1.8
CFR Carcaliu 144.38 332 ⇑*i*P PKPdf 12 59 48.3 -1.1
KMBO Kilima Mbogo 144.43 246 PKP PKPdf 12 59 50.4 +1.0
comp=Z,19nm,0.9s,baz=57,slow=6.1,SNR=50
KMBO Kilima Mbogo 144.43 246 PKIKP PKPdf 12 59 50.4 +0.9
KMBO pmax pmax
comp=Z,19nm,0.9s
KMBO Kilima Mbogo 144.43 246 *e*PKPdf PKPdf 12 59 50.0 +0.6
PRU Pruhonice 144.46 350 *e*PKP PKPdf 12 59 47.8 -1.7
KECS Kecovo 144.49 342 *e*PKIKP PKPdf 12 59 48.0 -1.6
KECS pmax pmax
comp=Z,20nm,0.7s
WERN Wernitzgruen 144.50 352 *e*PKPbc PKPdf 12 59 48.1 -1.5
NKC Novy Kostel 144.54 352 *e*PKP PKPdf 12 59 48.1 -1.6
MEM Membach 144.65 359 PKP PKPdf 12 59 48.5 -1.3
VRAC Vranov 144.71 347 PKP PKPdf 12 59 48.9 -1.1
comp=Z,23nm,0.8s,baz=20,slow=2.5,SNR=18
VRAC Vranov 144.71 347 ⇓*i*P PKPdf 12 59 49.6 -0.3
VRAC Vranov 144.71 347 PKIKP PKPdf 12 59 48.9 -1.0
VRAC pmax pmax
comp=Z,23nm,0.8s
SNF Seneffe 144.75 1 PKP PKPdf 12 59 48.7 -1.3
TIRR Tirgusor 144.80 331 ⇓*i*P PKPdf 12 59 49.2 -0.9
TIRR Tirgusor 144.80 331 PKIKP PKPdf 12 59 49.5 -0.6
TIRR Tirgusor 144.80 331 *e*PKPdf PKPdf 12 59 49.2 -0.9
MANZ Manzenberg 144.83 352 *e*PKPbc PKPdf 12 59 48.8 -1.4
BCLA Clavier 144.85 360 PKP PKPdf 12 59 49.1 -1.1
VYHS Vyhne 144.93 344 *e*PKIKP PKPdf 12 59 49.8 -0.5
VYHS pmax pmax
comp=Z,21nm,0.9s
TNS Taunus Mts 144.95 356 *e*PKPbc PKPdf 12 59 49.1 -1.3
ROTZ Rotzenmuhle 145.03 352 *e*PKPbc PKPbc 12 59 49.9 -0.5
ROTZ epPKPbc 13 00 50.1
MLR Muntele Rosu 145.10 334 PKPbc PKPbc 12 59 49.9 -0.7
comp=Z,44nm,0.6s,baz=204,slow=2.9,SNR=65
MLR Muntele Rosu 145.10 334 ⇓*i*P PKPbc 12 59 50.0 -0.6
MLR Muntele Rosu 145.10 334 PKIKP PKPbc 12 59 49.9 -0.7
MLR pmax pmax
comp=Z,44nm,0.6s
BR131 Keskin Array S 145.14 320 *e*PKPdf PKPdf 12 59 50.8 +0.1
GIVF Givet 145.16 0 *e*PKP1 PKPbc 12 59 49.9 -0.9
comp=Z,46nm,0.7s
PSZ Piszkesteto 145.17 343 ⇑*i*P PKPdf 12 59 50.7 0.0
DOU Dourbes 145.17 1 PKP PKPdf 12 59 50.1 -0.6
BAIF Baives 145.20 1 *e*PKP1 PKPbc 12 59 50.3 -0.6
comp=Z,59nm,0.7s
GRA1 epPKPbc 13 00 51.0
GRA1 Grafenberg Arr 145.23 353 *e*PKPbc PKPbc 12 59 50.4 -0.6
GRF Grafenberg Arr 145.23 353 *e*PKPbc PKPbc 12 59 50.4 -0.6
GRF epPKPbc 13 00 51.0
DRGR 145.26 339 ⇓*i*P PKPdf 12 59 50.4 -0.5
SMOL Smolenice 145.27 346 *e*P PKPdf 12 59 51.2 +0.3
KHC Kasperske Hory 145.45 350 *e*PKP PKPdf 12 59 51.3 +0.1
VOIR 145.51 335 ⇓*i*P PKPdf 12 59 52.4 +1.1
WET Wettzell 145.55 351 *e*PKPbc PKPbc 12 59 51.4 -0.6
ANTO Ankara 145.57 321 *e*PKPab PKPab 12 59 52.0 -0.6
WLF Walferdange 145.59 359 *e*PKPbc PKPbc 12 59 51.9 -0.2
WLF epPKPbc pPKPbc 13 00 52.4 +8.3
WLF Walferdange 145.59 359 PKP PKPdf 12 59 52.0 +0.6
ZST Bratislava 145.64 346 *e*PKP2 PKPab 12 59 52.4 -0.5
ZST pmax pmax
comp=Z,103nm,1.9s
GEC2 GERESS Array S 145.71 350 *e*PKPbc PKPbc 12 59 51.6 -0.8
GEC2 epPKPbc pPKPbc 13 00 51.7 +7.3
GERES GERESS Array B 145.71 350 PKPbc PKPbc 12 59 51.9 -0.6
comp=Z,5.6nm,0.5s,baz=31,slow=3.1,SNR=36
GERES GERESS Array B 145.71 350 PKP2 PKPab 12 59 51.9 -1.2
GERES pmax pmax
comp=Z,6.0nm,0.5s
CONA Conrad Observa 146.18 347 *i* PKPab PKPab 12 59 54.1 -0.8
SNR=17
FLN La Foliniere 146.18 7 *e*PKP1 PKPbc 12 59 52.6 -1.2
comp=Z,39nm,0.6s
ROSF Rostrenen 146.20 10 *e*PKP1 PKPbc 12 59 53.4 -0.5
comp=Z,34nm,0.8s
LANF Langenberg 146.22 357 PKP PKPbc 12 59 54.0 0.0
STU Stuttgart 146.34 355 *e*PKPbc PKPbc 12 59 53.9 -0.4
LDF La Druitiere 146.39 6 *e*PKP1 PKPbc 12 59 53.2 -1.2
comp=Z,50nm,0.7s
SGMF Saint Gilles 146.40 9 *e*PKP1 PKPbc 12 59 53.2 -1.3
comp=Z,52nm,0.7s
GZR Gura Zlata 146.44 337 ⇑*i*P PKPdf 12 59 54.4 +1.5
GRR Gorron 146.50 7 *e*PKP1 PKPbc 12 59 53.8 -1.0
comp=Z,55nm,0.7s
MOA Molln 146.57 349 *i* P PKPbc 12 59 54.9 0.0
comp=Z,60nm,1.8s,SNR=9.8
QUIF Quistinic 146.62 10 *e*PKP1 PKPbc 12 59 53.9 -1.2
comp=Z,73nm,1.1s
BZS Buzias 146.66 339 ⇓*i*P PKPdf 12 59 54.9 +1.6
FUR Furstenfeldbru 146.73 353 *e*PKPbc PKPbc 12 59 55.4 0.0
MEZF Maizieres J'vi 146.77 0 *e*PKP1 PKPbc 12 59 54.9 -0.6
WLS Welschbruch 146.81 357 PKP PKPbc 12 59 55.7 +0.1
CDF Champ du Feu 146.81 358 *e*PKP1 PKPbc 12 59 55.1 -0.6
comp=Z,56nm,0.8s
BFO Black Forest 146.84 356 *e*PKPbc PKPbc 12 59 55.0 -0.7

ECH Echery 147.01 358 PKP PKPdf 12 59 55.7 +1.8
THEF They Montfort 147.04 359 PKP PKPdf 12 59 55.7 +1.8
PKSM Moragy 147.08 343 ⇑*i*P PKPdf 12 59 55.5 +1.5
HAU Haudompre 147.25 359 *e*PKP1 PKPbc 12 59 56.3 -0.6
comp=Z,41nm,0.7s
HINF Hinteralfeld 147.43 358 *e*PKP1 PKPbc 12 59 56.3 -1.0
KBA Koelnbreinsper 147.48 350 *i* P PKPbc 12 59 56.3 -1.2
comp=Z,18nm,0.5s,SNR=10
WTTA Wattenberg 147.56 352 ⇓*i*P PKPbc 12 59 57.5 -0.2
comp=Z,42nm,0.6s
LOMF Lomont 147.89 358 PKP PKPbc 12 59 58.3 -0.3
HYF Humbligny 147.93 3 *e*PKP1 PKPbc 12 59 58.3 -0.4
LOR Lormes 147.98 2 *e*PKP1 PKPbc 12 59 58.2 -0.6
comp=Z,43nm,0.7s
SSF Saint Saulge 148.18 2 *e*PKP1 PKPbc 12 59 58.8 -0.5
comp=Z,53nm,0.9s
DAVOX Davos 148.25 354 PKP PKPdf 12 59 55.3 -0.6
comp=Z,35nm,0.7s,baz=10,slow=3.7,SNR=29
DAVOX PKPbc PKPbc 12 59 59.6 +0.1
comp=Z,5.7nm,0.5s,baz=132,slow=21,SNR=7.0
MFF Saint Martin d 148.35 7 *e*PKP1 PKPbc 12 59 58.9 -0.9
comp=Z,27nm,0.6s
AVF Avril sur Loir 148.44 2 *e*PKP1 PKPbc 12 59 59.2 -0.8
comp=Z,28nm,0.8s
JAVS Javornik 148.49 348 *e*P PKPbc 12 59 59.1 -1.1
DIVS Divcibare 148.55 339 *e*P PKPbc 12 59 59.0 -1.2
SMF Signal de Mont 148.60 2 *e*PKP1 PKPbc 12 59 59.5 -0.9
comp=Z,38nm,0.8s
VTS Vitosha 148.61 334 ⇑*i*P PKPbc 13 00 00.7 +0.3
VTS Vitosha 148.61 334 PKP2 PKPbc 13 00 00.0 -0.4
ALN Alexandroupoli 148.63 329 *e*P PKPdf 12 59 59.4 +2.9
BGF Bois d'Agland 148.65 3 *e*PKP1 PKPbc 13 00 00.0 -0.5
comp=Z,53nm,0.7s
CABF La Chapelle 148.65 359 *e*PKP1 PKPbc 13 00 00.7 +0.2
comp=Z,60nm,0.6s
TCF Toulx Ste Croi 148.88 4 *e*PKP1 PKPbc 13 00 00.3 -0.8
comp=Z,23nm,0.8s
EIL Elat 149.08 303 *e*PKPbc PKPbc 13 00 01.7 +0.1
AGO Saint Agoulin 149.17 3 PKP PKPbc 13 00 01.8 0.0
PLDF La Plantade 149.27 2 PKP PKPbc 13 00 01.8 -0.3
PYM Petit Puy Mans 149.46 3 PKP PKPbc 13 00 02.9 +0.4
LPL La Plagne 149.73 358 *e*PKP1 PKPbc 13 00 03.7 +0.5
comp=Z,40nm,0.7s
LPG La Plagne 149.75 358 *e*PKP1 PKPbc 13 00 03.9 +0.7
comp=Z,55nm,0.8s
RJF Les Rejaudoux 149.80 5 *e*PKP1 PKPbc 13 00 02.6 -0.8
LOS Limnos 149.84 329 *e*P PKPbc 13 00 02.6 -0.9
KNT Kendrikon 149.91 333 *e*P PKPbc 13 00 02.1 -1.5
LBL Lubilhac 149.99 3 PKP PKPbc 13 00 03.7 -0.1
LFF La Frestale 150.09 6 *e*PKP1 PKPbc 13 00 03.5 -0.6
comp=Z,73nm,0.9s
BNI Bardonecchia 150.19 358 *e*PKPbc PKPbc 13 00 04.8 +0.5
BNI *e*PKPab PKPab 13 00 11.7 +0.6
HORT Hortiatis 150.27 332 *e*P PKPbc 13 00 02.8 -1.7
GRG Grivia 150.29 333 *e*P PKPbc 13 00 02.0 -2.6
ORIF Oris-en-Rattie 150.35 359 *e*PKP1 PKPbc 13 00 04.7 0.0
comp=Z,22nm,0.7s
VIVF Saint-Julien-l 150.41 1 *e*PKP1 PKPbc 13 00 04.6 -0.2
comp=Z,42nm,0.9s
MBDF Montbardon 150.51 358 *e*PKP1 PKPbc 13 00 05.0 -0.1
comp=Z,26nm,0.7s
PAIG Paliouri 150.53 330 *e*P PKPbc 13 00 03.4 -1.7
FNA Florina 150.87 334 *e*P PKPbc 13 00 05.0 -0.9
LIT Litokhoron 150.95 332 *e*P PKPbc 13 00 04.3 -1.8
AOS Alonnisos 151.02 329 *e*P PKPbc 13 00 04.7 -1.6
LASF Ste Croix 151.17 2 *e*PKP1 PKPbc 13 00 06.6 0.0
comp=Z,28nm,0.9s
PCAB Cabril 151.18 21 *e*PKP PKPbc 13 00 06.5 -0.1
XOR Xorichti 151.20 330 *e*P PKPbc 13 00 05.3 -1.4
SMRF Simiane la Rot 151.29 359 *e*PKP1 PKPbc 13 00 07.1 +0.2
comp=Z,41nm,0.9s
SBF Sospel 151.34 357 *e*PKP1 PKPbc 13 00 07.4 +0.4
comp=Z,41nm,0.7s
PBRG Braganca 151.52 19 *e*PKP PKPbc 13 00 06.3 -1.1
SJPF Ste Jean 151.61 10 *e*PKP1 PKPbc 13 00 07.1 -0.5
comp=Z,14nm,0.6s
PVRL Vila Real 151.67 21 *e*PKP PKPbc 13 00 07.7 0.0
FRF La Foret Royal 151.68 358 *e*PKP1 PKPbc 13 00 07.1 -0.7
MEV Metsovon 151.76 333 *e*P PKPbc 13 00 07.9 0.0
MTLF Montolieu 151.81 5 *e*PKP1 PKPbc 13 00 07.6 -0.5
comp=Z,14nm,0.8s
AGG Agios Georgios 151.88 331 *e*P PKPbc 13 00 06.8 -1.4
LMR La Mourre 151.91 358 *e*PKP1 PKPbc 13 00 08.3 0.0
EPF Esparros 151.93 8 *e*PKP1 PKPbc 13 00 07.5 -0.8
comp=Z,12nm,0.7s
ETSF Etsaut 151.93 9 *e*PKP1 PKPbc 13 00 08.3 0.0
comp=Z,33nm,0.6s
PVIS Viseu 152.11 22 *e*PKP PKPbc 13 00 08.5 -0.2
SANT Santorini 152.23 323 *e*PKPbc PKPbc 13 00 07.5 -1.5
PGF Pioggiola 152.53 354 *e*PKP1 PKPbc 13 00 09.6 -0.1
comp=Z,12nm,0.6s
CORF Corte 152.76 354 PKP PKPbc 13 00 09.7 -0.5
LKD Levkas 152.91 333 *e*P PKPbc 13 00 09.9 -0.6
PCBR Castelo Branco 153.03 22 *e*PKP PKPbc 13 00 10.3 -0.5
ESDC Sonseca Array 154.30 17 PKPbc PKPbc 13 00 12.2 -1.3
comp=Z,1.9nm,0.5s,baz=331,slow=2.8,SNR=9.9
ESDC PKPab PKPab 13 00 28.4 0.0
comp=Z,2.4nm,0.6s,baz=330,slow=4.2,SNR=11
LIC Lamto 166.57 130 *e*PKIKP PKPdf 13 00 17.1 -1.3
comp=Z,33nm,1.2s
TORD Torodi Ar. Bea 176.03 120 PKP PKPdf 13 00 21.4 -1.8
comp=Z,2.8nm,1.1s,baz=303,slow=0.3,SNR=9.1
TORD PKPab PKPab 13 02 03.1 -0.7
comp=Z,4.0nm,0.8s,baz=249,slow=4.8,SNR=13
TORD PP PP 13 05 56.0 -0.7
comp=Z,0.7nm,1.0s,baz=224,slow=4.1,SNR=3.6

IDC 16 12:54:44.3±1.0, 4665N×15365E, *h*0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=32.9km s-min=23.7km az=160.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.18**	**256**	Pn	Pn	12 56 48.8	+4.5
	0.3nm,0.3s,baz=139,slow=20,SNR=2.5						
KSRS	**Korea Array**	**21.12**	**253**	P	P	12 59 32.8	+2.2
	0.6nm,0.6s,baz=64,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**47.31**	**298**	P	P	13 03 18.6	-1.0
	0.2nm,0.5s,baz=75,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**64.28**	**335**	P	P	13 05 21.5	0.0
	4.0nm,1.2s,baz=46,slow=8.2,SNR=5.5						
PDAR	**Pinedale Array**	**64.51**	**54**	P	P	13 05 23.3	+0.4
	0.6nm,0.7s,baz=292,slow=3.5,SNR=6.5						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	P	13 05 48.6	+0.6
	comp=Z,4.5nm,0.8s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.44**	**341**	P	P	13 05 46.8	-1.2
	comp=Z,1.4nm,0.6s,baz=26,slow=6.3,SNR=5.1						
ASAR	**Alice Springs**	**72.23**	**199**	P	P	13 06 10.4	-0.9
	comp=Z,0.4nm,0.9s,baz=13,slow=6.0,SNR=4.7						
TXAR	**Lajitas Array**	**77.22**	**61**	P	P	13 06 40.7	+0.5
	comp=Z,1.8nm,0.6s,baz=302,slow=4.3,SNR=29						

*IDC **16** 12:58:47.1±0.6, 4668N×15548E, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/28, mbtmp4.3/21, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/33, Error ellipse: s-maj=17.4km s-min=15.8km az=114.0*

*ISCJB **16** 12:58:48.0±0.4, 4667N×15533E±008, h14km, mb4.5/44, MS3.9/6, Error ellipse: s-maj=9.9km s-min=6.8km az=96.6*

*BJI **16** 12:58:49.3, 47.14N×155.11E, h10km, mB4.7, mb4.3, Ms4.1, Msz3.9*

*NEIC **16** 12:58:49.0±0.4, 4665N×15532E, h10km, mb4.7/18, Error ellipse: s-maj=11.6km s-min=9.0km az=126.0*

*MOS **16** 12:58:50.8±1.4, 4670N×155.16E, h33km, mb5.0/16, Error ellipse: s-maj=12.0km s-min=8.5km az=97.9*

ISC 16 12:58:49.8±0.4, 4672N±006×15540E±008, h15km, h15km±2.5km: pP-P, n98, σ1=29/95, mb4.5/44, MS3.9/6, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.99**	**7**	*e*PN	**Pn**	**12 59 48.0**	**-2.4**
KUR	**Kuril'sk**	**5.46**	**257**	⇓*i*PN	**Pn**	**13 00 07.8**	**-2.8**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
PET	**Petropavlovsk**	**6.65**	**17**	*e*PN	**Pn**	**13 00 23.1**	**-3.8**
PET				pmax	pmax		
	comp=Z,54nm,1.0s						
PET	**Petropavlovsk**	**6.65**	**17**	*e*Pn	**Pn**	**13 00 21.8**	**-5.1**
YSS	**Yuzh-Sakhalins**	**8.67**	**276**	PN	**Pn**	**13 00 55.4**	**+0.7**
ASAJ	**Asahikawa**	**9.37**	**258**	Pn	**Pn**	**13 01 04.5**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=103,slow=9.1,SNR=8.8						

ASAJ LR LR 13 04 27.0
comp=Z,163nm,18.1s,baz=10.0,slow=36
MAJO Matsushiro 16.36 238 *e*P **Pn** **13 02 43.6 +4.7**
MAJO pmax pmax
comp=Z,45nm,1.0s
MAJO Matsushiro 16.36 238 *e*P **Pn** **13 02 43.6 +4.7**
comp=Z,45nm,1.0s
MAT Matsushiro 16.36 238 P **Pn** **13 02 36.8 -2.1**
MJAR Matsushiro Arr 16.36 238 Pn **Pn** **13 02 35.6 -3.3**
comp=Z,0.3nm,0.3s,baz=22,slow=14,SNR=5.0
YAK Yakutsk 21.21 326 *e*P **P** **13 03 32.3 -2.6**
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,31nm,1.2s,mb4.5
YAK pmax pmax
comp=N,21nm,1.7s
YAK Yakutsk 21.21 326 *e*P **P** **13 03 30.9 -4.1**
comp=N,19nm,0.8s,mb4.5
CN2 Changchun 21.22 273 *e*P **P** **13 03 39.3 +4.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
CLNS Chul'man 21.24 310 *e*P **P** **13 03 31.0 -4.2**
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.4
CLNS pmax pmax
comp=E,15nm,0.9s
BILL Bilibino 22.09 11 *e*P **P** **13 03 42.8 -1.6**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
BILL Bilibino 22.09 11 *e*P **P** **13 03 42.5 -1.9**
comp=Z,12nm,0.9s,mb4.3
KSRS Korea Array 22.30 255 P **P** **13 03 48.4 +1.7**
comp=Z,3.8nm,0.8s,mb3.9,baz=56,slow=8.9,SNR=12
SNY Shenyang 23.21 269 ⇑P **P** **13 03 51.0 -5.2**
SNY AMB AMB
comp=Z,14nm,0.8s,mb4.4
HHC Hu-ho-hao-te 31.86 276 *e*P **P** **13 05 14.9 +0.7**
HHC AP pP 13 05 19.3 +0.5
HHC XP sP 13 05 21.9 +1.3
HHC PP PP 13 06 20.8 -5.4
HHC PCP PcP 13 08 06.6 +1.8
HHC S **S** **13 10 23.6 -0.8**
HHC XS sS 13 10 30.1 -1.8
HHC SCP ScP 13 11 47.3 -0.4
HHC PCS PcS 13 11 49.3 -0.1
HHC SCS ScS 13 15 44.0 -2.0
HHC AMB AMB
comp=Z,17nm,1.3s,mb4.7
HHC AMB AMB
comp=Z,111nm,5.0s
HHC LR LR
comp=N,186nm,14.6s,MS4.0
HHC LR LR
comp=E,156nm,14.2s,MS4.0
HHC LR LR
comp=Z,175nm,14.5s,MS3.9
SONM Songino Array 32.82 290 P **P** **13 05 21.3 -1.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=66,slow=9.0,SNR=15
SONM LR 13 20 02.4
comp=Z,120nm,20.6s,MS3.6,baz=26,slow=39
COLA College 35.18 38 *e*P **P** **13 05 43.6 +0.4**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
COLA College 35.18 38 *e*P **P** **13 05 43.5 +0.4**
comp=Z,6.8nm,0.9s,mb4.6
XAN Xi'an 37.08 267 P **P** **13 06 02.3 +2.9**
XAN AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
LZH Lanzhou 39.46 273 *e*P **P** **13 06 22.3 +2.9**
LZH AP pP 13 06 24.8 +0.8
LZH XP sP 13 06 26.8 +0.9
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH Lanzhou 39.46 273 *e*P **P** **13 06 22.3 +2.9**
comp=Z,20nm,1.0s,mb4.8
LZH pP pP 13 06 24.8 +0.8
LZH sP sP 13 06 26.7 +0.8
GTA Gaotai 40.52 280 *e*P **P** **13 06 30.1 +1.8**
GTA AP pP 13 06 34.8 +1.9
GTA XP sP 13 06 38.5 +3.8
GTA AMB AMB
comp=Z,3.0nm,1.4s,mb3.7
INK Inuvik 40.83 33 P **P** **13 06 29.4 -1.4**
comp=Z,3.4nm,0.9s,mb4.0,baz=248,slow=8.8,SNR=8.4
INK Inuvik 40.83 33 *e*P **P** **13 06 30.1 -0.7**
INK pmax pmax
comp=Z,83nm,0.7s
INK Inuvik 40.83 33 *e*P **P** **13 06 30.1 -0.7**
comp=Z,83nm,0.7s,mb5.5
CD2 Chengdu 42.45 267 *e*P **P** **13 06 43.9 -0.1**
GYA Guiyang 43.25 260 P **P** **13 06 51.8 +1.2**
GYA AP pP 13 06 54.8 -0.4
GYA XP sP 13 06 57.3 +0.3
GYA PP PP 13 08 34.4 +3.3
GYA PCP PcP 13 08 41.6 +2.0
GYA SCP ScP 13 12 31.8 +1.5
GYA S **S** **13 13 18.1 +1.0**
GYA SCS ScS 13 16 49.9 -0.4
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,80nm,4.6s
GYA LR LR
comp=N,380nm,16.9s,MS4.5
GYA LR LR
comp=E,410nm,16.5s,MS4.5
GYA LR LR
comp=Z,400nm,17.2s,MS4.4
ZAL Zalesovo 43.91 306 P **P** **13 06 53.8 -2.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=45,slow=6.7,SNR=9.7
ZAL LR LR 13 27 31.5
comp=Z,168nm,19.4s,MS4.0,baz=24,slow=39
KMI Kunming 46.79 261 P **P** **13 07 17.4 -1.3**
KMI AP pP 13 07 23.8 +0.4
KMI XP sP 13 07 26.1 +0.9
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMI Kunming 46.79 261 P **P** **13 07 17.4 -1.3**
comp=Z,9.0nm,0.9s,mb4.7
KMI pP pP 13 07 23.7 +0.3
KMI sP sP 13 07 26.1 +0.9
MK31 Makanchi Array 48.34 298 *e*P **P** **13 07 30.1 -0.7**
MKAR Makanchi Array 48.34 298 P **P** **13 07 29.3 -1.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=62,slow=8.4,SNR=15
RES Resolute Bay 50.36 19 *e*P **P** **13 07 47.4 +1.2**
comp=Z,140nm,0.8s
CHKZ Chkalovo 51.65 311 *e*P **P** **13 07 54.5 -1.4**
CHKZ pmax pmax
comp=Z,16nm,0.7s,mb5.1
CHKZ Chkalovo 51.65 311 *e*P **P** **13 07 54.5 -1.4**
comp=Z,16nm,0.7s,mb5.1
BVAR Borovoye Array 52.08 310 P **P** **13 07 58.4 -0.7**
comp=Z,5.7nm,0.6s,mb4.7,baz=57,slow=8.0,SNR=39
BVAR LR LR 13 28 57.5
comp=Z,130nm,20.7s,MS4.0,baz=319,slow=35
BRVK Borovoye 52.12 310 *e*P **P** **13 07 59.2 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BRVK Borovoye 52.12 310 *e*P **P** **13 07 59.2 -0.2**
comp=Z,6.7nm,0.7s,mb4.7
ZRNK Zerenda 52.84 311 *e*P **P** **13 08 04.2 -0.6**
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 52.84 311 *e*P **P** **13 08 04.2 -0.6**
comp=Z,11nm,0.9s,mb4.8
AAK Ala-Archa 55.25 298 *e*P **P** **13 08 21.6 -0.7**
AAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
AAK Ala-Archa 55.25 298 *e*P **P** **13 08 21.6 -0.7**
comp=Z,2.4nm,1.0s,mb4.2
HNR Honiara 56.05 175 LR LR 13 31 41.1
comp=Z,62nm,19.1s,MS3.7,baz=179,slow=35
ARCES ARCESS Array B 58.39 342 P **P** **13 08 44.5 -0.1**
comp=Z,2.8nm,0.8s,mb4.3,baz=34,slow=8.8,SNR=5.6
AKTK Aktyubinsk 59.91 313 P **P** **13 08 54.7 -0.5**
AKTO Aktyubinsk 59.91 313 P **P** **13 08 54.7 -0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=12,slow=6.3,SNR=4.3
AKTO Aktyubinsk 59.91 313 P **P** **13 08 54.7 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
PDAR Pinedale Array 63.48 55 P **P** **13 09 18.0 -1.2**
comp=Z,0.7nm,0.8s,mb3.9,baz=284,slow=2.0,SNR=6.2
FINES FINESS Array B 64.72 336 P **P** **13 09 26.2 -1.2**

comp=Z,3.4nm,0.7s,mb4.5,baz=35,slow=7.3,SNR=11
VRSR Storozhevoye 68.09 323 *e*P **P 13 09 49.5 +0.6**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.0s
NB2 NORSAR Subarra 68.75 342 P **P 13 09 54.1 +1.0**
comp=Z,4.5nm,1.0s,mb4.3,baz=28,slow=6.2
NOA NORSAR Array B 68.75 342 P **P 13 09 54.1 +1.1**
comp=Z,2.7nm,1.0s,mb4.2,baz=27,slow=6.3,SNR=3.8
WRAB Tennant Creek 69.02 201 *e*P **P 13 09 54.0 -0.7**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WRAB Tennant Creek 69.02 201 *e*P **P 13 09 54.0 -0.7**
comp=Z,8.3nm,0.9s,mb4.7
WB2 Warramunga Arr 69.02 201 *e*P **P 13 09 54.6 -0.2**
WRA Warramunga Arr 69.03 201 P **P 13 09 53.8 -1.0**
comp=Z,6.4nm,0.8s,mb4.6,baz=19,slow=6.5,SNR=31
AKASG Malin Array Be 72.43 327 P **P 13 10 15.5 0.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=32,slow=6.2,SNR=6.9
AS31 Alice Springs 72.71 201 *e*P **P 13 10 17.7 +0.5**
ASAR Alice Springs 72.71 201 P **P 13 10 17.6 +0.4**
comp=Z,4.3nm,0.8s,mb4.4,baz=16,slow=6.0,SNR=34
ASPA Alice Springs 72.71 201 *e*P **P 13 10 17.7 +0.5**
MBWA Marble Bar 74.86 214 P **P 13 10 28.5 -1.2**
LTX Lajitas 76.13 62 *e*P **P 13 10 36.5 -0.5**
LTX pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LTX Lajitas 76.13 62 *e*P **P 13 10 36.5 -0.6**
comp=Z,4.6nm,0.9s,mb4.4
TXAR Lajitas Array 76.13 62 P **P 13 10 36.8 -0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=296,slow=4.1,SNR=32
STHS Stebnicka Huta 76.31 331 *e*P **P 13 10 42.0 +3.9**
STHS Stebnicka Huta 76.31 331 *e*P **P 13 10 42.1 +4.0**
EKA Eskdalemuir Ar 76.72 348 P **P 13 10 40.4 0.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=24,slow=5.4,SNR=3.4
CLL Collm 77.12 337 *i* P **P 13 10 46.2 +3.5**
CLL pmax pmax
comp=Z,18nm,1.0s,mb5.0
CLL Collm 77.12 337 *i* Pmax 13 10 46.2
comp=Z,18nm,1.0s
MORC Moravsky Berou 77.18 334 *e*P **P 13 10 43.6 +0.6**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MORC Moravsky Berou 77.18 334 *e*P **P 13 10 43.6 +0.6**
comp=Z,3.2nm,0.6s,mb4.4
KECS Kecovo 77.37 331 *e*P **P 13 10 46.7 +2.6**
VYHS Vyhne 77.90 332 *e*P **P 13 10 50.7 +3.7**
MLR Muntele Rosu 77.98 326 P **P 13 10 48.8 +1.4**
comp=Z,4.8nm,1.0s,mb4.4,baz=56,slow=3.6,SNR=3.1
GERES GERESS Array B 79.15 335 P **P 13 10 55.0 +1.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=38,slow=5.2,SNR=7.6
STKA Stephens Creek 79.22 192 P **P 13 10 53.9 -0.4**
comp=Z,3.2nm,1.0s,mb4.2,baz=278,slow=18,SNR=3.1
STKA Stephens Creek 79.22 192 P **P 13 10 53.9 -0.4**
MEM Membach 79.51 341 E **P 13 11 00.7 +4.8**
DOU Dourbes 80.31 341 P **P 13 10 59.2 -1.0**
DOU AP pP 13 11 03.7 -1.4
DOU PCP PcP 13 11 07.3 0.0
CDF Champ du Feu 81.26 339 *e*P **P 13 11 06.4 +1.1**
comp=Z,10nm,0.9s,mb4.5
CDF Champ du Feu 81.26 339 *e*P **P 13 11 06.4 +1.1**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 81.26 339 *e*P **P 13 11 06.4 +1.1**
comp=Z,5.2nm,0.9s,mb4.5
DAVOX Davos 82.10 337 P **P 13 11 11.8 +2.0**
comp=Z,6.1nm,0.8s,mb4.6,baz=20,slow=6.7,SNR=7.2
GRR Gorron 83.04 344 *e*P **P 13 11 16.2 +1.6**
SMF Signal de Mont 83.73 341 *e*P **P 13 11 19.2 +1.0**
comp=Z,42nm,1.1s,mb5.2
SMF Signal de Mont 83.73 341 *e*P **P 13 11 19.2 +1.0**
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.2
SMF Signal de Mont 83.73 341 *e*P **P 13 11 19.2 +1.0**
comp=Z,21nm,1.1s,mb5.2
LPG La Plagne 84.11 338 *e*P **P 13 11 22.5 +2.4**
comp=Z,34nm,1.1s,mb5.1
LPG La Plagne 84.11 338 *e*P **P 13 11 22.5 +2.4**
LPG pmax pmax
comp=Z,17nm,1.1s,mb5.1
LPG La Plagne 84.11 338 *e*P **P 13 11 22.5 +2.4**
comp=Z,17nm,1.1s,mb5.1
RJF Les Rejaudoux 85.51 342 *e*P **P 13 11 28.7 +1.5**
VNDA Vanda 124.03 178 PKP PKPdf 13 17 43.6 -3.9
comp=Z,0.6nm,0.8s,baz=303,slow=1.1,SNR=4.6
VNDA Vanda 124.03 178 PKIKP PKPdf 13 17 43.7 -3.8
VNDA pmax pmax
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 143.45 81 PKP PKPdf 13 18 20.6 -3.1
comp=Z,0.3nm,0.7s,baz=239,slow=12,SNR=3.9

*IDC **16** 13:01:00.3±1.3, 46°65'N×153°49'E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/29, Error ellipse: s-maj=32.5km s-min=26.8km az=134.0*
*ISCJB **16** 13:01:05.6±1.8, 46°6'N±02°×153.1°E±02, h47km±14km, mb3.9/7, Error ellipse: s-maj=30.6km s-min=11.4km az=105.9*
*MOS **16** 13:01:06.1±0.9, 46°59'N×153°05'E, h56km, mb4.1/7, Error ellipse: s-maj=25.7km s-min=18.7km az=64.0*
ISC 16 13:01:07.9±1.7, 46°6N±02°×153°1E±02, h53km±13km, n19, σ1°9°0°/20, mb3.9/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**252**	⇓*i*PN		**Pn**	**13 02 03.2**	**-2.3**
KUR				*e*S		**Sn**	**13 02 49.8**	**-0.4**
KUR				pmax	pmax			
	comp=Z,230nm,0.5s							
KUR				smax				
	comp=N,200nm,0.7s							
KUR				smax				
	comp=E,110nm,0.7s							
SKR	**Severo-Kuril's**	**4.55**	**25**	*e*PN		**Pn**	**13 02 14.5**	**+0.4**
ASAJ	**Asahikawa**	**7.82**	**255**	Pn		**Pn**	**13 03 00.4**	**+1.4**
	comp=E,1.3nm,0.3s,baz=85,slow=12,SNR=5.6							
ASAJ	**Asahikawa**	**7.82**	**255**	PN		**Pn**	**13 03 00.4**	**+1.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.76**	**253**	P		**P**	**13 05 46.9**	**+2.6**
	comp=Z,1.5nm,0.6s,baz=59,slow=10,SNR=5.8							
MKAR	**Makanchi Array**	**47.02**	**297**	P		**P**	**13 09 33.6**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=50,slow=6.5,SNR=3.7							
MKAR	**Makanchi Array**	**47.02**	**297**	P		**P**	**13 09 33.6**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**50.97**	**310**	P		**P**	**13 10 03.8**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.0,baz=54,slow=7.7,SNR=5.1							
BVAR	**Borovoye Array**	**50.97**	**310**	P		**P**	**13 10 03.8**	**-0.2**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**64.19**	**335**	P		**P**	**13 11 36.5**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=34,slow=7.6,SNR=5.4							
FINES	**FINESS Array B**	**64.19**	**335**	P		**P**	**13 11 36.6**	**-0.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**68.38**	**341**	P		**P**	**13 12 04.2**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=28,slow=6.4,SNR=2.9							
NOA	**NORSAR Array B**	**68.38**	**341**	P		**P**	**13 12 04.2**	**+0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.69**	**326**	P		**P**	**13 12 23.8**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=6.7,SNR=4.2							
AKASG	**Malin Array Be**	**71.69**	**326**	P		**P**	**13 12 23.8**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.06**	**199**	P		**P**	**13 12 26.4**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.7,baz=11,slow=5.0,SNR=4.4							
ASAR	**Alice Springs**	**72.06**	**199**	P		**P**	**13 12 26.4**	**+0.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TXAR	**Lajitas Array**	**77.56**	**61**	P		**P**	**13 12 57.5**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=3.3,SNR=3.5							
TXAR	**Lajitas Array**	**77.56**	**61**	P		**P**	**13 12 57.5**	**-0.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

IDC 16 13:04:13.6±2.1, 61°0S×139°18E, h0km, mb4.0/1, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=78.5km s-min=28.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.72**	**200**	Pn		Pn	13 07 15.4	-0.3
	0.2nm,0.3s,baz=18,slow=12,SNR=3.6							
FITZ				Sn		Sn	13 09 22.0	-16
	0.1nm,0.3s,baz=162,slow=20,SNR=2.7							
WRA	**Warramunga Arr**	**14.34**	**164**	Pn		Pn	13 07 38.3	+0.5
	0.3nm,0.3s,baz=344,slow=10,SNR=11							
WRA				Sn		Sn	13 10 06.6	-11
	0.3nm,0.3s,baz=333,slow=25,SNR=5.1							
ASAR	**Alice Springs**	**17.82**	**169**	P		Pn	13 08 23.4	+0.4
	0.2nm,0.3s,baz=350,slow=11,SNR=18							
ASAR				S		Sn	13 11 32.8	-9.5
	0.1nm,0.3s,baz=348,slow=26,SNR=4.4							
MKAR	**Makanchi Array**	**67.58**	**327**	P		P	13 15 12.1	+0.2
	0.6nm,0.4s,baz=119,slow=6.9,SNR=5.6							

*BJI **16** 13:19:36.8, 47°04'N×153°68'E, h18km, mB4.6, mb4.4, Ms4.1, Msz4.0*
*NEIC **16** 13:19:38.6±0.8, 46°85'N×153°50'E, h10km, mb4.5/8, Error ellipse: s-maj=19.3km s-min=10.9km az=131.0*
*MOS **16** 13:19:40.8±2.1, 46°82'N×153°28'E, h33km, mb4.5/9, Error ellipse: s-maj=12.2km s-min=9.0km az=53.7*
*ISCJB **16** 13:19:43.5±1.1, 46°76'N±00°7'×153°27'E±0.10, h59km±9km, mb4.3/28, MS4.0/2, Error ellipse: s-maj=14.6km s-min=6.9km az=97.3*
*IDC **16** 13:19:46.7±3.8, 46°79'N×153°09'E, h70km±35km, mb3.7/14, mb1 3.9/16, mb1mx3.8/25, mbtmp3.8/16, ML3.9/2, Error ellipse: s-maj=20.3km s-min=16.9km az=143.0*
ISC 16 13:19:41.3±2.6, 46°81'N±00°8×153°56'E±010, h29km±18km, n59, σ1°3°2/62, mb4.3/29, MS4.0/2, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.23**	**23**	*e*PN		**Pn**	**13 20 49.5**	**+5.7**
SKR				*e*S		**Sn**	**13 21 38.3**	**+6.2**
SKR				pmax	pmax			
	comp=N,60nm,0.5s							
SKR				pmax	pmax			
	comp=E,60nm,0.5s							
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,150nm,0.5s							
SKR				smax				
	comp=E,220nm,1.0s							
SKR				smax				
	comp=Z,110nm,1.0s							
KUR	**Kuril'sk**	**4.27**	**250**	*e*PN		**Pn**	**13 20 39.2**	**-5.1**
KUR				pmax	pmax			
	comp=Z,190nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.09**	**246**	*e*PN		**Pn**	**13 21 09.9**	**+0.6**
YUK				*e*S		**Sn**	**13 22 22.4**	**+4.5**
YUK				smax				
	comp=N,2μm,0.8s							
YUK				smax				
	comp=E,2μm,0.8s							
PET	**Petropavlovsk**	**7.03**	**26**	PN		**Pn**	**13 21 21.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.40**	**275**	*e*Pn		**Pn**	**13 21 29.0**	**+1.6**
YSS				S		**Sn**	**13 22 52.0**	**+1.6**
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS	**Yuzh-Sakhalins**	**7.40**	**275**	*e*Pn		**Pn**	**13 21 28.6**	**+1.3**
	comp=Z,26nm,0.8s							
ASAJ	**Asahikawa**	**8.16**	**255**	P		**Pn**	**13 21 38.5**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=90,slow=20,SNR=14							
ASAJ	**Asahikawa**	**8.16**	**255**	PN		**Pn**	**13 21 38.5**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**8.85**	**241**	*e*PN		**Pn**	**13 21 45.8**	**-1.5**
ERM				pmax	pmax			
	comp=Z,73nm,0.5s							
ERM	**Erimo**	**8.85**	**241**	*e*Pn		**Pn**	**13 21 45.8**	**-1.4**
	comp=Z,73nm,0.5s							
MAJO	**Matsushiro**	**15.36**	**234**	*e*P		**Pn**	**13 23 15.6**	**-0.4**
MAJO				pmax	pmax			
	comp=Z,22nm,0.8s							
MAJO	**Matsushiro**	**15.36**	**234**	*e*P		**Pn**	**13 23 15.6**	**-0.3**
	comp=Z,22nm,0.8s							
MJAR	**Matsushiro Arr**	**15.36**	**234**	P		**Pn**	**13 23 15.6**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=156,slow=12,SNR=17							
CN2	**Changchun**	**19.95**	**272**	*e*P		**Pn**	**13 24 08.5**	**-4.3**
YAK	**Yakutsk**	**20.43**	**327**	*e*P		**P**	**13 24 17.9**	**+1.7**
YAK				pmax	pmax			
	comp=Z,16nm,0.6s							
YAK	**Yakutsk**	**20.43**	**327**	*e*P		**P**	**13 24 17.9**	**+1.7**
	comp=Z,16nm,0.6s							
KSRS	**Korea Array**	**21.11**	**253**	P		**P**	**13 24 22.3**	**-1.2**
	comp=Z,4.5nm,0.7s,mb3.9,baz=59,slow=9.7,SNR=10							
SNY	**Shenyang**	**21.94**	**268**	⇑P		**P**	**13 24 31.4**	**-1.1**
SNY				AP			13 24 34.5	
SNY				PP			13 24 57.8	
SNY				AMB	AMB			
	comp=Z,14nm,0.8s,mb4.4							
SNY				AMB	AMB			
	comp=Z,268nm,5.0s							
SNY				LR	LR			
	comp=E,320nm,12.5s							
SNY				LR	LR			
	comp=Z,391nm,14.8s,MS4.0							
HHC	**Hu-ho-hao-te**	**30.59**	**274**	*e*P		**P**	**13 25 53.9**	**+1.3**
HHC				AP	pP		13 25 59.5	-1.6
HHC				XP	sP		13 26 02.0	-2.6
HHC				PP	PP		13 26 55.3	-6.6
HHC				AMB	AMB			
	comp=Z,14nm,1.1s,mb4.7							
HHC				AMB	AMB			
	comp=Z,106nm,7.0s							
HHC				LR	LR			
	comp=N,251nm,15.7s,MS4.1							
HHC				LR	LR			
	comp=E,207nm,15.2s,MS4.1							
HHC				LR	LR			
	comp=Z,256nm,15.6s,MS4.0							
ULN	**Ulaanbaatar**	**31.16**	**289**	*e*P		**P**	**13 26 00.5**	**+2.9**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.2							
ULN	**Ulaanbaatar**	**31.16**	**289**	*e*P		**P**	**13 26 00.5**	**+2.8**
	comp=Z,4.4nm,1.0s,mb4.2							
SONM	**Songino Array**	**31.60**	**289**	P		**P**	**13 26 01.0**	**-0.5**
	comp=Z,1.8nm,0.9s,mb3.9,baz=75,slow=7.4,SNR=4.3							
GTA	**Gaotai**	**39.26**	**279**	*e*P		**P**	**13 27 09.4**	**+2.1**
GTA				AP	pP		13 27 13.5	-2.4
GTA				XP	sP		13 27 17.3	-2.1
GTA				AMB	AMB			
	comp=Z,5.0nm,1.4s,mb4.0							
INK	**Inuvik**	**41.44**	**32**	P		**P**	**13 27 28.6**	**+3.3**
	comp=Z,1.7nm,0.5s,mb3.9,baz=303,slow=7.2,SNR=17							
GYA	**Guiyang**	**42.02**	**258**	P		**P**	**13 27 31.4**	**+1.3**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5							
KMI	**Kunming**	**45.55**	**260**	P		**P**	**13 28 00.8**	**+2.3**
KMI				AMB	AMB			
	comp=Z,8.0nm,0.9s,mb4.7							
KMI	**Kunming**	**45.55**	**260**	P		**P**	**13 28 00.7**	**+2.2**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
KMI	**Kunming**	**45.55**	**260**	P		**P**	**13 28 00.7**	**+2.2**
	comp=Z,8.0nm,0.9s,mb4.7							
MK31	**Makanchi Array**	**47.18**	**297**	*e*P		**P**	**13 28 08.5**	**-2.8**
MKAR	**Makanchi Array**	**47.18**	**297**	P		**P**	**13 28 09.4**	**-1.9**
	comp=Z,1.2nm,0.6s,mb4.0,baz=70,slow=7.4,SNR=11							
MKAR				PcP	PcP		13 29 42.0	-0.5
	comp=Z,0.6nm,0.6s,baz=50,slow=1.2,SNR=4.8							
LSA	**Lhasa**	**50.57**	**273**	P		**P**	**13 28 37.5**	**+0.2**
LSA	**Lhasa**	**50.57**	**273**	*e*P		**P**	**13 28 37.3**	**0.0**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**50.57**	**273**	*e*P		**P**	**13 28 37.3**	**0.0**
	comp=Z,6.2nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P		**P**	**13 28 34.8**	**-2.8**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P		**P**	**13 28 34.8**	**-2.8**
	comp=Z,3.6nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**51.05**	**310**	P		**P**	**13 28 39.1**	**-1.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=52,slow=7.4,SNR=4.9							
BVAR				PcP	PcP		13 29 56.4	-0.1
	comp=Z,0.3nm,0.3s,baz=67,slow=4.8,SNR=4.1							
ZRNK	**Zerenda**	**51.82**	**310**	*e*P		**P**	**13 28 44.5**	**-2.1**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**51.82**	**310**	*e*P		**P**	**13 28 44.5**	**-2.2**
	comp=Z,0.8nm,0.6s,mb3.8							
CHTO	**Chiang Mai**	**52.43**	**257**	*e*P		**P**	**13 28 50.8**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
CHTO	**Chiang Mai**	**52.43**	**257**	*e*P		**P**	**13 28 50.8**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3							
GUN	**Gumba**	**55.30**	**275**	*e*P		**P**	**13 29 11.6**	**-0.5**
	comp=Z,8.4nm,0.4s,mb5.1							
KKN	**Kakani**	**55.78**	**276**	*e*P		**P**	**13 29 15.7**	**+0.1**
	comp=Z,14nm,0.6s,mb5.2							
PKI	**Pulchoki**	**55.84**	**275**	*e*P		**P**	**13 29 15.5**	**-0.5**
DMN	**Daman**	**56.02**	**276**	*e*P		**P**	**13 29 17.2**	**-0.1**
	comp=Z,9.9nm,0.5s,mb5.1							
GKN	**Gorkha**	**56.09**	**276**	*e*P		**P**	**13 29 17.1**	**-0.7**
	comp=Z,22nm,0.8s,mb5.2							
KOLN	**Koldanda**	**56.94**	**277**	*e*P		**P**	**13 29 23.7**	**-0.2**
	comp=Z,15nm,0.9s,mb5.0							
FINES	**FINESS Array B**	**64.11**	**335**	P		**P**	**13 30 11.8**	**-1.0**
	comp=Z,2.0nm,0.5s,mb4.4,baz=41,slow=7.7,SNR=12							
FINES	**FINESS Array B**	**64.11**	**335**	P		**P**	**13 30 11.8**	**-1.0**
PDAR	**Pinedale Array**	**64.46**	**54**	P		**P**	**13 30 16.6**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=270,slow=0.1,SNR=5.4							
ULM	**Lac du Bonnet**	**66.28**	**41**	P		**P**	**13 30 28.1**	**+1.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=311,slow=9.3,SNR=2.5							
NB2	**NORSAR Subarra**	**68.27**	**341**	P		**P**	**13 30 38.7**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.6,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.27**	**341**	P		**P**	**13 30 39.0**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.7,baz=28,slow=6.4,SNR=13							
WRA	**Warramunga Arr**	**68.67**	**199**	P		**P**	**13 30 41.4**	**-0.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=16,slow=6.8,SNR=4.9							
AKASG	**Malin Array Be**	**71.66**	**326**	P		**P**	**13 30 59.1**	**-1.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=33,slow=6.3,SNR=11							
ASAR	**Alice Springs**	**72.36**	**199**	P		**P**	**13 31 04.4**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=13,slow=5.3,SNR=6.7							
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**	**13 31 35.1**	**+2.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=300,slow=3.8,SNR=18							
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**	**13 31 35.1**	**+2.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**78.55**	**317**	P		**P**	**13 31 40.3**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**78.55**	**317**	P		**P**	**13 31 40.3**	**+0.3**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							

*ISCJB **16** 13:21:14.7±1.6, 46°61'N±00°5×154°60'E±00°3, h6km±10km, mb4.6/75, MS4.1/6, Error ellipse: s-maj=7.9km s-min=3.7km az=157.8*
*IDC **16** 13:21:15.1±0.6, 46°52'N×154°64'E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.5/25, mbtmp4.4/21, ML3.9/2, MS3.8/2, Ms1 3.8/2, ms1mx3.2/31, Error ellipse: s-maj=19.3km s-min=13.3km az=155.0*
*MOS **16** 13:21:16.7±1.0, 46°59'N×154°53'E, h21km, mb4.8/28, Error ellipse: s-maj=9.2km s-min=6.7km az=92.5*
*NEIC **16** 13:21:16.8±0.3, 46°61'N×154°52'E, h10km, mb4.8/45, Error ellipse: s-maj=7.7km s-min=4.8km az=163.0*
*BJI **16** 13:21:18.7, 46°55'N×153°91'E, h10km, mB4.8, mb4.5, Ms4.2, Msz4.0*
*SKHL **16** 13:21:21.7±1.0, 47°02'N×153°75'E, h44km±11km*
ISC 16 13:21:18.1±1.7, 46°68N±00°4×154°51E±003, h16km±10km, h18km±1.7km; pP-P, n321, σ0°8°2/323, mb4.6/74, MS4.1/6, 72C-68D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.15**	**14**	*e*P		**Pn**	**13 22 22.6**	**+1.8**
SKR				AMB	AMB		13 22 24.2	
	80nm,0.5s							
SKR				*e*S		**Sn**	**13 23 07.5**	**-1.4**
SKR				A			13 23 15.0	
	80nm,0.5s							
SKR				A			13 23 15.0	
	410nm,0.2s							
SKR				A			13 23 15.0	
	350nm,0.2s							
KUR	**Kuril'sk**	**4.86**	**255**	*e*P		**Pn**	**13 22 28.0**	**-2.5**
KUR				AMB	AMB		13 22 31.0	
	228nm,0.6s							
KUR				*i* S		**Sn**	**13 23 18.5**	**-7.9**
KUR				A			13 23 33.0	
	430nm,0.8s							
KUR				A			13 23 33.0	
	1μm,0.8s							
KUR				A			13 23 35.0	
	4μm,1.6s							
KUR				A			13 23 35.0	
	2μm,1.6s							
YUK	**Yuzh-Kuril'sk**	**6.64**	**250**	*e*P		**Pn**	**13 22 56.5**	**+1.4**
YUK				AMB	AMB		13 22 58.8	
	380nm,0.2s							
YUK				A			13 24 26.6	
	2μm,0.8s							
YUK				A			13 24 26.6	
	750nm,0.8s							
PET	**Petropavlovsk**	**6.89**	**21**	⇓*e*PN		**Pn**	**13 22 56.8**	**-1.7**
PET	**Petropavlovsk**	**6.89**	**21**	*e*Pn		**Pn**	**13 22 46.9**	**-12**
PET				*e*Sn		**Sn**	**13 24 15.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**8.07**	**276**	⇑*e*P		**Pn**	**13 23 13.0**	**-1.7**
YSS				AMB	AMB		13 23 13.9	
	40nm,0.6s							
YSS				AMB	AMB		13 23 13.9	
	30nm,0.6s							
YSS				*e*S		**Sn**	**13 24 33.0**	**-13**
YSS				*e*LQ			13 25 30.0	
YSS				AMS	AMS		13 27 46.0	
	600nm,14.0s							
YSS				AMS	AMS		13 27 46.0	
	500nm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.07**	**276**	⇑*e*PN		**Pn**	**13 23 13.0**	**-1.7**
YSS				pmax	pmax			
	comp=N,30nm,0.6s							
YSS				pmax	pmax			
	comp=Z,40nm,0.6s							
YSS				MLR	MLR			
	comp=N,600nm,14.0s							
YSS				MLR	MLR			
	comp=E,500nm,14.0s							
YSS				MLR	MLR			
	comp=Z,600nm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.07**	**276**	*e*Pn		**Pn**	**13 23 12.8**	**-1.9**
	comp=Z,46nm,0.6s							
UGL	**Uglegorsk**	**8.71**	**291**	*e*P		**Pn**	**13 23 20.0**	**-3.4**
UGL				AMB	AMB		13 23 22.0	
	comp=Z,96nm,0.8s							
UGL				AMS	AMS		13 28 21.0	
	comp=Z,1μm,15.0s							
UGL				AMS	AMS		13 28 21.0	
	comp=Z,1μm,15.0s							
UGL				AMS	AMS		13 28 21.0	
	comp=Z,1μm,12.0s							
**ASAJ

comp=Z,24nm,1.0s,mb4.6
BILL Bilibino 22.26 12 *e*P **P 13 26 14.0 -0.3**
comp=Z,26nm,1.0s,mb4.6
INCN Inchon 22.54 256 *e*P **P 13 26 17.4 +0.1**
comp=Z,42nm,1.1s,mb4.8
SNY Shenyang 22.60 269 ⇓P **P 13 26 18.5 +0.6**
SNY AP 13 26 21.9
SNY XP sP 13 26 24.3 -0.2
SNY PP 13 26 41.5
SNY AMB AMB
comp=Z,15nm,1.0s,mb4.4
BOD Bodaibo 26.78 309 *e*P **P 13 26 56.8 -0.4**
BOD pmax pmax
comp=Z,8.0nm,1.5s,mb4.0
BJI Beijing 28.44 271 P **P 13 27 16.6 +4.5**
BJI AMB AMB
comp=Z,12nm,0.8s,mb4.6
BJI LR LR
comp=N,394nm,17.7s,MS4.1
BJI LR LR
comp=E,205nm,17.7s,MS4.1
BJI LR LR
comp=Z,342nm,19.6s,MS4.0
BJI Beijing 28.44 271 P **P 13 27 16.6 +4.5**
comp=Z,12nm,0.8s,mb4.6
BJI LR LR
comp=Z,340nm,19.6s,MS4.0
HHC Hu-ho-hao-te 31.26 275 *e*P **P 13 27 37.9 +0.8**
HHC AP pP 13 27 42.3 +0.4
HHC XP sP 13 27 45.0 +1.1
HHC PP PP 13 28 40.8 -6.9
HHC PCP PCP 13 30 32.4 +1.1
HHC S **S 13 32 43.4 +0.4**
HHC XS sS 13 32 50.6 -0.3
HHC SCP ScP 13 34 14.3 +0.6
HHC SCS ScS 13 38 09.8 -1.2
HHC AMB AMB
comp=Z,31nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,121nm,6.1s
HHC LR LR
comp=N,251nm,14.5s,MS4.1
HHC LR LR
comp=E,226nm,15.3s,MS4.1
HHC LR LR
comp=Z,301nm,15.7s,MS4.1
ULN Ulaanbaatar 31.83 290 *e*P **P 13 27 42.3 +0.2**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ULN Ulaanbaatar 31.83 290 *e*P **P 13 27 42.3 +0.2**
comp=Z,1.5nm,0.6s,mb4.0
SONM Songino Array 32.26 290 P **P 13 27 46.3 +0.4**
comp=Z,0.9nm,0.6s,mb3.8,baz=70,slow=8.9,SNR=6.5
TLY Talaya 33.07 298 *e*P **P 13 27 53.4 +0.4**
TLY *e* 13 28 59.3
TLY *e*S **S 13 33 15.7 +4.5**
TLY *e*SS SS 13 35 36.3 +2.6
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TLY MLR MLR
comp=Z,211nm,17.0s,MS3.9
TLY Talaya 33.07 298 *e*P **P 13 27 50.8 -2.2**
comp=Z,3.4nm,0.6s,mb4.5
ZAK Zakamensk 33.58 296 *e*P **P 13 27 57.6 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
COLA College 35.60 38 *e*P **P 13 28 15.5 +0.6**
COLA *e* 13 28 21.9
COLA pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
COLA College 35.60 38 *e*P **P 13 28 15.5 +0.6**
comp=Z,9.1nm,1.3s,mb4.5
COLA *e* pP 13 28 21.9 +2.2
XAN Xi'an 36.47 266 P **P 13 28 19.8 -2.6**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
EGAK Eagle 38.46 38 *e*P **P 13 28 39.0 -0.2**
comp=Z,12nm,1.1s,mb4.5
EGAK *e* 13 28 45.7
LZH Lanzhou 38.85 273 *e*P **P 13 28 46.0 +3.5**
LZH AP pP 13 28 52.5 +5.1
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,220nm,4.8s
LZH Lanzhou 38.85 273 *e*P **P 13 28 46.0 +3.5**
comp=Z,50nm,1.2s,mb5.1
LZH pP pP 13 28 52.5 +5.1
LZH sP sP 13 28 56.3 +7.0
GTA Gaotai 39.93 280 *e*P **P 13 28 54.1 +2.6**
GTA AP pP 13 28 58.6 +2.2
GTA XP sP 13 29 01.9 +3.6
GTA PCP PcP 13 30 58.1 +1.3
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,85nm,5.3s
GTA LR LR
comp=N,137nm,12.5s,MS4.2
GTA LR LR
comp=E,189nm,14.1s,MS4.2
GTA LR LR
comp=Z,228nm,16.0s,MS4.1
INK Inuvik 41.20 32 P **P 13 29 02.9 +0.9**
comp=Z,7.9nm,0.8s,mb4.4,baz=290,slow=8.0,SNR=20
INK Inuvik 41.20 32 P **P 13 29 02.9 +0.9**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 41.20 32 *e*P **P 13 29 02.7 +0.7**
comp=Z,292nm,0.8s,mb6.0
CD2 Chengdu 41.83 266 *e*P **P 13 29 07.3 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
GYA Guiyang 42.64 259 ⇑ *i*P **P 13 29 13.6 -0.2**
GYA AP pP 13 29 17.6 -1.1
GYA XP sP 13 29 20.4 -0.2
GYA PP PP 13 30 56.3 +3.6
GYA PCP PcP 13 31 07.6 +1.9
GYA S **S 13 35 37.3 +1.1**
GYA SCS ScS 13 39 14.3 -0.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,80nm,4.7s
GYA LR LR
comp=N,380nm,16.8s,MS4.5
GYA LR LR
comp=E,410nm,17.0s,MS4.5
GYA LR LR
comp=Z,370nm,17.2s,MS4.3
ZAL Zalesovo 43.45 306 P **P 13 29 20.5 +0.2**
comp=Z,1.2nm,0.3s,mb4.1,baz=73,slow=6.4,SNR=3.2
ZAL PcP PcP 13 31 09.0 +0.6
comp=Z,1.4nm,0.8s,baz=81,slow=2.1,SNR=6.0
KMI Kunming 46.18 261 P **P 13 29 41.5 -0.6**
KMI AP pP 13 29 47.3 +0.3
KMI XP sP 13 29 50.8 +1.9
KMI AMB AMB
comp=Z,12nm,1.0s,mb4.8
KMI Kunming 46.18 261 P **P 13 29 41.5 -0.6**
KMI *PP pP 13 29 47.2 +0.2
KMI *SP sP 13 29 50.7 +1.8
KMI pmax pmax
comp=Z,12nm,1.0s,mb4.8
KMI Kunming 46.18 261 P **P 13 29 41.5 -0.6**
comp=Z,12nm,1.0s,mb4.8
KMI pP pP 13 29 47.2 +0.2
KMI sP sP 13 29 50.7 +1.8
MK31 Makanchi Array 47.83 298 *e*P **P 13 29 56.0 +1.1**
MK31 *e* 13 31 23.7
MKAR Makanchi Array 47.83 298 P **P 13 29 56.0 +1.1**
comp=Z,4.2nm,0.8s,mb4.5,baz=65,slow=8.0,SNR=14
MKAR PcP PcP 13 31 23.9 +0.3
comp=Z,2.7nm,0.7s,baz=67,slow=4.1,SNR=8.5
YKA Yellowknife Ar 50.40 37 P **P 13 30 14.7 +0.1**
comp=Z,4.2nm,0.6s,mb4.6,baz=295,slow=7.1,SNR=7.6
YKA Yellowknife Ar 50.40 37 P **P 13 30 14.7 +0.1**
RES Resolute Bay 50.60 19 *e*P **P 13 30 17.0 +0.9**
RES pmax pmax
comp=Z,135nm,0.9s,mb5.9
RES Resolute Bay 50.60 19 *e*P **P 13 30 17.0 +0.9**
comp=Z,135nm,0.9s,mb5.9
CHKZ Chkalovo 51.21 311 *e*P **P 13 30 21.6 +0.8**
CHKZ pmax pmax
comp=Z,14nm,0.8s,mb4.9
CHKZ Chkalovo 51.21 311 *e*P **P 13 30 21.6 +0.8**
comp=Z,14nm,0.8s,mb5.0
LSA Lhasa 51.24 274 P **P 13 30 20.4 -0.6**
BVAR Borovoye Array 51.65 310 P **P 13 30 25.4 +1.4**
comp=Z,3.9nm,0.6s,mb4.5,baz=53,slow=6.7,SNR=17
BVAR PcP PcP 13 31 37.1 -0.4
comp=Z,2.4nm,0.8s,baz=45,slow=2.3,SNR=5.9
BVAR LR LR 13 53 37.9
comp=Z,165nm,18.3s,MS4.1,baz=4.5,slow=38
BVAR Borovoye Array 51.65 310 P **P 13 30 25.4 +1.4**
BVAR 13 31 37.1
BRVK Borovoye 51.69 310 *e*P **P 13 30 25.7 +1.4**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRVK Borovoye 51.69 310 *e*P **P 13 30 25.7 +1.4**
comp=Z,6.8nm,0.9s,mb4.6
ZRNK Zerenda 52.41 310 *e*P **P 13 30 31.0 +1.3**
ZRNK *e* 13 30 41.7
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ZRNK Zerenda 52.41 310 *e*P **P 13 30 31.0 +1.3**
comp=Z,11nm,0.9s,mb4.8
ZRNK *e* 13 30 41.7
CHTO Chiang Mai 53.04 258 *e*P **P 13 30 34.0 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CHTO Chiang Mai 53.04 258 *e*P **P 13 30 34.0 -0.4**
comp=Z,8.1nm,0.8s,mb4.7
ULHL Ulahol 53.87 296 P **P 13 30 43.4 +3.0**
SNR=8.2
TKM2 Tokmak 2 53.89 297 P **P 13 30 43.1 +2.4**
SNR=5.3
USP Ospenovka 54.37 298 P **P 13 30 46.8 +2.7**
SNR=7.7
KBK Karagaybulak 54.44 297 P **P 13 30 47.4 +2.8**
SNR=6.0
KZA Kyzart 54.57 296 P **P 13 30 49.3 +3.7**
SNR=7.5
AAK Ala-Archa 54.73 297 P **P 13 30 49.4 +2.7**
SNR=7.5
AAK Ala-Archa 54.73 297 *e*P **P 13 30 48.1 +1.4**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AAK Ala-Archa 54.73 297 *e*P **P 13 30 48.1 +1.4**
comp=Z,8.3nm,0.9s,mb4.8
A08A Turner Farm, O 54.88 54 ⇑P **P 13 30 46.8 -1.0**
baz=55
EKS2 Erkin-Say 55.15 297 P **P 13 30 52.6 +2.8**
SNR=6.6
B08A Colville Reser 55.17 54 ⇓P **P 13 30 48.8 -1.1**
baz=55
A09A Danville 55.25 53 ⇑P **P 13 30 49.7 -0.8**
baz=55
J02A Umpqua 55.47 61 ⇑P **P 13 30 52.1 0.0**
baz=55
H04A Detroit Lake 55.56 59 ⇑P **P 13 30 53.2 +0.4**
baz=55
EDM Edmonton 55.67 47 *e*P **P 13 30 53.0 -0.5**
ARU Arti 55.71 318 *e*P **P 13 30 54.5 +0.7**
ARU *e* 13 32 57.2
ARU *e*S **S 13 38 40.5 +0.8**
ARU *e*SS SS 13 42 30.3 +5.3
ARU Arti 55.71 318 *e*P **P 13 30 55.7 +1.8**
comp=Z,16nm,0.9s,mb5.1
B09A Rice 55.79 54 ⇓P **P 13 30 53.8 -0.6**
baz=56
J03A Ideyld Park 55.84 61 ⇑P **P 13 30 55.1 +0.4**
baz=56
I04A Tendick Farm, 55.93 60 ⇓P **P 13 30 54.5 -0.9**
baz=56
C09A Chrisman Ranch 56.07 54 ⇑P **P 13 30 56.3 -0.1**
baz=56
H05A Madras 56.15 59 ⇑P **P 13 30 55.9 -1.1**
baz=56
J04A Umpqua Nationa 56.42 61 ⇓P **P 13 30 59.0 +0.1**
baz=56
NEW Newport 56.45 53 P **P 13 30 58.7 -0.4**
comp=Z,3.5nm,0.9s,mb4.4,baz=310,slow=4.9,SNR=3.7
A11A Hall Mountain, 56.47 52 ⇑P **P 13 30 59.3 +0.1**
baz=56
H06A Lindquist Farm 56.62 58 ⇓P **P 13 30 59.9 -0.4**
baz=56
G07A Ruggs Ranch, H 56.71 57 ⇑P **P 13 31 01.1 +0.2**
baz=56
B11A Sandpoint 56.77 53 ⇑P **P 13 31 01.3 0.0**
baz=57
E09A Wood Farm, Sta 56.87 55 ⇓P **P 13 31 01.9 -0.2**
baz=57
A12A Yaak River Ran 56.87 52 ⇓P **P 13 31 02.9 +0.8**
baz=57
F08A Pendleton 56.92 56 ⇑P **P 13 31 03.9 +1.5**
baz=57
J05A Fort Rock 56.92 60 ⇑P **P 13 31 03.0 +0.5**
baz=57
YBH Yreka Blue Hor 56.93 62 P **P 13 31 03.0 +0.6**
comp=Z,4.5nm,1.0s,mb4.5,baz=288,slow=3.2,SNR=4.6
YBH Yreka Blue Hor 56.93 62 ⇑P **P 13 31 01.6 -0.9**
baz=57
I06A Prineville 57.15 59 ⇑P **P 13 31 04.2 +0.1**
baz=57
L04A Klamath Falls 57.17 62 ⇓P **P 13 31 04.4 +0.2**
baz=57
M04C Macdoel 57.43 62 ⇑P **P 13 31 05.9 -0.1**
baz=57
K05A Summer Lake 57.45 60 ⇓P **P 13 31 06.8 +0.6**
baz=57
F09A S2 Ranch, Elgi 57.47 56 ⇓P **P 13 31 07.3 +1.0**
baz=57
I07A Izee 57.48 58 ⇑P **P 13 31 07.1 +0.7**
baz=57
M03C McCloud 57.55 63 ⇑P **P 13 31 06.9 0.0**
baz=57
D11A Klaveano Farm, 57.58 54 ⇑P **P 13 31 06.5 -0.6**
baz=57
H08A Prairie City 57.72 58 ⇓P **P 13 31 08.2 +0.1**
baz=58
K06A Valley Falls 57.79 60 ⇑P **P 13 31 08.7 +0.2**
baz=58
B13A Whitefish 57.84 52 P **P 13 31 09.5 +0.6**
baz=58,SNR=6.8
L05A Lakeview 57.88 61 ⇑P **P 13 31 09.0 -0.2**
baz=58
M05C Lookout 58.10 62 ⇑P **P 13 31 10.3 -0.5**
baz=58
I08A Drewsey 58.13 58 ⇓P **P 13 31 10.9 -0.1**
baz=58
C13A Hot Springs 58.19 53 ⇑P **P 13 31 11.1 -0.3**
baz=58
H09A Durkee 58.22 57 ⇑P **P 13 31 12.0 +0.5**
baz=58
ARCES ARCESS Array B 58.23 341 P **P 13 31 12.2 +0.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=35,slow=8.1,SNR=6.1
MOD Modoc 58.29 61 ⇑P **P 13 31 11.7 -0.3**
baz=58
F11A Grangeville 58.36 55 ⇓P **P 13 31 12.6 0.0**
baz=58
K07A Rock Creek Ran 58.45 60 ⇓P **P 13 31 13.5 +0.3**
baz=58
J08A Circle Bar Ran 58.52 59 ⇓P **P 13 31 14.1 +0.4**
baz=58
I09A Lost Marbles R 58.58 58 ⇑P **P 13 31 14.9 +0.8**
baz=58
G11A Walters Elk Ra 58.58 56 ⇓P **P 13 31 14.4 +0.3**
baz=58
C14A Swan Lake 58.59 52 ⇑P **P 13 31 14.4 +0.3**
baz=58
D13A Huson 58.59 53 ⇓P **P 13 31 14.7 +0.5**
baz=58
M06C Likely Place G 58.59 62 ⇓P **P 13 31 14.7 +0.5**
baz=58
O04C Chester 58.75 63 ⇓P **P 13 31 16.1 +0.9**
baz=59
L07A Adel 58.80 60 ⇓P **P 13 31 15.0 -0.6**
baz=59
K08A Mann Creek Ran 58.88 59 ⇑P **P 13 31 16.0 -0.2**
baz=59
J09A Fry Pan Ranch, 58.94 58 ⇓P **P 13 31 16.7 +0.1**
baz=59
F12A Elk City 58.95 55 ⇓P **P 13 31 17.0 +0.4**
baz=59
ORV Oroville 58.95 64 ⇓P **P 13 31 16.0 -0.7**
baz=59
SUTB Sutter Butte 58.97 64 ⇑P **P 13 31 15.6 -1.2**
baz=59
O05C Quincy 59.07 63 ⇓P **P 13 31 16.7 -0.7**
baz=59
OHCM Honcut 59.10 64 *e*P **P 13 31 16.6 -1.0**
D14A Greenough 59.13 53 P **P 13 31 17.8 -0.1**
baz=59,SNR=6.5
E13A Victor 59.13 54 ⇑P **P 13 31 18.2 +0.3**
baz=59
H11A Donnelly 59.14 56 P **P 13 31 18.2 +0.2**
baz=59,SNR=7.2
N06A Buffalo Meadow 59.26 62 ⇓P **P 13 31 18.5 -0.3**
baz=59
M07A Soldier Meadow 59.27 61 P **P 13 31 19.5 +0.6**
baz=59,SNR=5.3
L08A Fields 59.29 60 ⇓P **P 13 31 19.4 +0.4**
baz=59
F13A Darby 59.44 54 ⇑P **P 13 31 20.2 +0.1**
baz=59
BEKR Beckwourth 59.47 63 ⇑P **P 13 31 20.2 0.0**
baz=59
E14A Clinton 59.53 53 ⇓P **P 13 31 21.1 +0.4**
baz=59
O06A Flanigan 59.61 62 ⇓P **P 13 31 21.1 -0.1**
baz=59
L09A Wilkinson Ranc 59.79 59 ⇑P **P 13 31 22.6 +0.1**
baz=60
P06A Stead Airport, 59.87 63 ⇑P **P 13 31 23.8 +0.8**
baz=60
LAVA Lava Cap Winer 59.91 64 ⇓P **P 13 31 22.5 -0.8**
baz=60
F14A Wisdom 59.97 54 ⇓P **P 13 31 24.2 +0.6**
baz=60
E15A Deer Lodge 60.00 53 P **P 13 31 24.2 +0.3**
baz=60,SNR=5.7
O07A Toulon 60.19 62 ⇑P **P 13 31 25.8 +0.6**
baz=60
G14A Jackson 60.26 54 ⇑P **P 13 31 25.5 -0.2**
baz=60
N08A GE Springer Mi 60.27 61 ⇓P **P 13 31 25.8 +0.1**
baz=60
M09A Marrel Ranch, 60.28 60 ⇑P **P 13 31 25.9 +0.1**
baz=60
F15A Butte 60.44 53 P **P 13 31 27.4 +0.5**
baz=60,SNR=7.9
CMB Columbia Colle 60.57 65 *e*P **P 13 31 27.7 -0.1**
CMB pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
CMB Columbia Colle 60.57 65 *e*P **P 13 31 27.7 -0.1**
comp=Z,5.4nm,1.2s,mb4.5
CMB Columbia Colle 60.57 65 ⇓P **P 13 31 27.5 -0.3**
baz=60
EGMT Eagleton 60.57 50 ⇓P **P 13 31 27.5 -0.3**
baz=60
N09A Rock Creek Ran 60.59 60 ⇓P **P 13 31 28.4 +0.4**
baz=60
PACP Pacheco Peak 60.64 66 ⇓P **P 13 31 27.7 -0.6**
baz=60
HLID Hailey 60.75 56 *e*P **P 13 31 29.1 0.0**
comp=Z,3.2nm,0.8s,mb4.5
HLID Hailey 60.75 56 P **P 13 31 29.4 +0.4**
baz=61,SNR=6.0
M10A I.L. Ranch, Tu 60.76 59 P **P 13 31 30.0 +0.9**
baz=61,SNR=5.7
R06C Coleville 60.85 64 ⇑P **P 13 31 29.5 -0.2**
baz=61
G15A Dillon 60.85 54 ⇓P **P 13 31 29.8 +0.1**
baz=61
S06C San Francisco 61.00 64 ⇑P **P 13 31 30.0 -0.7**
baz=61
S05C Merced 61.03 65 ⇑P **P 13 31 30.6 -0.3**
baz=61
O09A Fish Creek Ran 61.21 61 ⇑P **P 13 31 32.7 +0.5**
baz=61
M11A Holland Ranch, 61.26 59 ⇑P **P 13 31 33.1 +0.6**
baz=61
O10A Cortez Mining, 61.55 60 ⇓P **P 13 31 35.0 +0.5**
baz=61
Q08A Gabbs 61.57 62 P **P 13 31 34.9 +0.2**
baz=61,SNR=6.0
P09A Austin 61.62 61 ⇓P **P 13 31 35.4 +0.5**
baz=61
QLMT Earthquake Lak 61.65 54 *e*P **P 13 31 35.6 +0.5**
KCC Kaiser Creek 61.67 65 ⇓P **P 13 31 35.2 -0.1**
baz=62
N11A Elko Archery C 61.68 60 ⇑P **P 13 31 35.9 +0.6**
baz=62
M12A Wells 61.79 59 ⇓P **P 13 31 36.8 +0.8**
baz=62
P10A Eureka 61.99 61 ⇓P **P 13 31 37.6 +0.2**
baz=62
N12A Clover Valley, 62.07 59 ⇓P **P 13 31 37.9 -0.1**
baz=62
O11A Cowboy Ranch, 62.15 60 ⇓P **P 13 31 38.5 0.0**
baz=62
HELL Mitchell Peak, 62.26 65 P **P 13 31 38.8 -0.4**
baz=62,SNR=7.3
M13A Montello 62.26 58 P **P 13 31 39.9 +0.6**
baz=62,SNR=5.9
S08C White Mtn Res 62.27 64 ⇑P **P 13 31 39.1 -0.3**
baz=62
KAKA Kakadu 62.35 204 *e*P **P 13 31 38.8 -1.0**
comp=Z,4.9nm,0.7s,mb4.8
RCTC Rector, Farmer 62.36 65 ⇓P **P 13 31 39.4 -0.5**
baz=62
R09A Tonopah 62.48 63 P **P 13 31 40.7 0.0**
baz=62,SNR=9.1
N13A Wendover, West 62.56 59 ⇑P **P 13 31 41.8 +0.6**
baz=62
O12A Currie 62.61 60 P **P 13 31 42.1 +0.6**
baz=62,SNR=5.8
RRI2 Red Ridge 62.64 55 *e*P **P 13 31 43.0 +1.2**
comp=Z,12nm,0.8s,mb5.1
S09A Goldfield 62.72 63 ⇑P **P 13 31 42.1 -0.2**
baz=62
VES Vestal, Richgr 62.76 66 ⇑P **P 13 31 41.7 -0.8**
baz=63
TPAW Teton Pass 62.76 55 *e*P **P 13 31 43.5 +0.9**
comp=Z,24nm,1.2s,mb5.2
TPAW *e* 13 32 08.5
REDW Red Top Meadow 62.90 55 *e*P **P 13 31 44.3 +0.8**
comp=Z,26nm,1.3s,mb5.2
REDW *e* 13 32 08.8
R10A Warm Springs 62.92 62 ⇑P **P 13 31 43.9 +0.2**
baz=63
Q11A Duckwater 62.96 61 ⇑P **P 13 31 43.7 -0.2**
baz=63
CWC Cottonwood Cre 63.00 65 ⇓P **P 13 31 43.6 -0.6**
baz=63
GRAC Grapevine Rang 63.09 64 ⇓P **P 13 31 44.6 -0.1**
baz=63
ISA Isabella 63.25 66 ⇓P **P 13 31 44.9 -0.9**
baz=63
Q12A Willow Creek R 63.34 61 ⇑P **P 13 31 46.6 +0.2**
baz=63
MPMC Manual Prospec 63.61 65 P **P 13 31 48.3 +0.1**
baz=63,SNR=5.5
HWUT Hardware Ranch 63.62 57 *e*P **P 13 31 48.6 +0.4**
comp=Z,0.9nm,0.5s,mb4.1
FURC Furnace Creek, 63.74 64 P **P 13 31 49.2 +0.1**
baz=64,SNR=8.8
DUG Dugway 63.80 59 *e*P **P 13 31 49.6 +0.2**
DUG pmax pmax
comp=Z,12nm,1.3s,mb4.8
DUG Dugway 63.80 59 *e*P **P 13 31 49.6 +0.1**
comp=Z,12nm,1.3s,mb4.8
DUG *e* 13 32 15.3
DUG Dugway 63.80 59 P **P 13 31 49.8 +0.4**
baz=64,SNR=7.6
LRMC Laurel Mountai 63.86 65 ⇑P **P 13 31 49.3 -0.6**
baz=64
BW06 Boulder Array 64.01 55 *e*P **P 13 31 50.5 -0.3**
comp=Z,13nm,1.4s,mb4.8
BW06 *e* 13 32 15.5
PDAR Pinedale Array 64.01 55 P **P 13 31 50.8 -0.1**
comp=Z,4.4nm,0.9s,mb4.5,baz=289,slow=2.3,SNR=25
EDW2 Edwards Air Fo 64.05 66 P **P 13 31 51.1 0.0**
baz=64,SNR=5.1
U10A Ash Meadows, A 64.10 64 ⇑P **P 13 31 51.5 +0.1**
baz=64
DECC Green Verdugo 64.24 67 ⇓P **P 13 31 51.7 -0.6**
baz=64
SHOC Shoshone 64.46 64 ⇑P **P 13 31 53.7 -0.2**
baz=64
FIA1 FINESS Array S 64.51 335 *e*P **P 13 31 51.5 -2.7**
FINES FINESS Array B 64.51 335 P **P 13 31 51.8 -2.4**
comp=Z,4.8nm,0.8s,mb4.6,baz=34,slow=8.5,SNR=12
GSC Goldstone 64.52 65 ⇓P **P 13 31 54.0 -0.3**
baz=64
BFSC Mount Baldy St 64.67 66 ⇓P **P 13 31 54.8 -0.4**
baz=64
TUQ Turquoise Mtn. 64.98 64 P **P 13 31 57.0 -0.2**
baz=65,SNR=5.0
BBRC Big Bear Sol-O 65.12 66 ⇓P **P 13 31 58.0 -0.1**

baz=65
HEC Hector,Ludlow 65.12 65 ⇓P **P 13 31 58.4 +0.2**
baz=65
MURC Murrieta 65.38 67 ⇓P **P 13 31 59.7 -0.1**
baz=65
V12A Nelson 65.46 63 ⇑P **P 13 32 00.6 +0.3**
baz=65
SRU San Rafael 65.84 58 *e*P **P 13 32 02.7 -0.1**
SRU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SRU San Rafael 65.84 58 *e*P **P 13 32 02.7 -0.1**
comp=Z,7.8nm,0.8s,mb4.8
PFO Pinyon Flat Ob 65.84 66 ⇓P **P 13 32 02.2 -0.6**
baz=66
BELC Belle Mtn. 65.87 66 ⇓P **P 13 32 02.5 -0.5**
baz=66
ULM Lac du Bonnet 65.94 41 P **P 13 32 01.2 -2.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=307,slow=7.2,SNR=6.8
ULM Lac du Bonnet 65.94 41 P **P 13 32 01.2 -2.3**
RSSD Black Hills 66.13 51 *e*P **P 13 32 04.2 -0.4**
RSSD *e* 13 32 28.8
RSSD pmax pmax
comp=Z,11nm,1.0s,mb4.8
RSSD Black Hills 66.13 51 *e*P **P 13 32 04.2 -0.5**
comp=Z,11nm,1.0s,mb4.8
RSSD *e* 13 32 28.8
IRM Iron Mountain 66.30 65 P **P 13 32 05.7 0.0**
baz=66,SNR=6.2
BC3 Big Chuckw Mtn 66.44 65 ⇑P **P 13 32 06.3 -0.3**
baz=66
W13A Hualapai Mount 66.47 63 ⇓P **P 13 32 07.0 +0.2**
baz=66
DVTC Desert V Tower 66.69 67 ⇑P **P 13 32 08.1 -0.1**
baz=66
X13A Yucca 66.83 64 P **P 13 32 08.9 -0.2**
baz=67,SNR=7.1
PDMCI Parker Dam,Lak 66.83 64 P **P 13 32 09.0 -0.1**
baz=67,SNR=5.5
W14A Seligman 66.88 63 P **P 13 32 09.8 +0.3**
baz=67,SNR=11
Y12C Blythe 66.96 65 ⇓P **P 13 32 10.1 +0.1**
baz=67
GLA Glamis 67.23 66 P **P 13 32 11.7 +0.1**
baz=67,SNR=5.2
AGMN Agassiz Refuge 67.33 43 *e*P **P 13 32 12.4 +0.1**
comp=Z,13nm,1.3s,mb4.8
Y13A Salome 67.35 64 P **P 13 32 12.8 +0.4**
baz=67
W15A Williams 67.40 62 ⇑P **P 13 32 13.7 +0.9**
baz=67
X14A Yava 67.49 63 ⇑P **P 13 32 13.6 +0.2**
baz=67
WUAZ Wupatki 67.72 62 ⇓P **P 13 32 15.5 +0.7**
baz=68
Y14A Wickenburg 67.78 64 ⇓P **P 13 32 15.3 +0.2**
baz=68
SMCO Snowmass 67.85 56 *e*P **P 13 32 06.3 -9.3**
comp=Z,9.2nm,1.1s,mb4.7
X15A Humboldt 67.88 63 P **P 13 32 16.2 +0.5**
baz=68,SNR=7.8
ISCO Idaho Springs 68.20 55 *e*P **P 13 32 18.0 +0.2**
ISCO pmax pmax
comp=Z,14nm,1.4s,mb4.8
ISCO Idaho Springs 68.20 55 *e*P **P 13 32 18.0 +0.3**
comp=Z,14nm,1.4s,mb4.8
MVCO Mesa Verde 68.30 59 *e*P **P 13 32 18.1 -0.2**
comp=Z,6.0nm,1.0s,mb4.6
MVCO Mesa Verde 68.30 59 ⇑P **P 13 32 18.7 +0.4**
baz=68
NB2 NORSAR Subarra 68.60 342 P **P 13 32 18.9 -1.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=28,slow=6.5
NOA NORSAR Array B 68.60 342 P **P 13 32 19.3 -1.0**
comp=Z,3.9nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=7.9
NOA NORSAR Array B 68.60 342 P **P 13 32 19.3 -1.0**
WB2 Warramunga Arr 68.77 200 *e*P **P 13 32 21.4 +0.1**
WRA Warramunga Arr 68.77 200 P **P 13 32 19.1 -2.2**
comp=Z,3.4nm,1.0s,mb4.2,baz=20,slow=6.7,SNR=8.1
115A Sonoran Desert 69.09 64 ⇑P **P 13 32 24.4 +1.0**
baz=69
116A Eloy 69.51 64 ⇑P **P 13 32 27.2 +1.3**
baz=69
SDCO Great Sand Dun 69.67 56 *e*P **P 13 32 27.4 +0.5**
comp=Z,15nm,1.5s,mb4.7
ECSD EROS,Sioux Fal 70.24 47 *e*P **P 13 32 29.7 -0.7**
comp=Z,37nm,1.7s,mb5.0
LAZ Ladron 71.02 60 *e*P **P 13 32 35.8 +0.7**
ANMO Albuquerque 71.05 59 *e*P **P 13 32 35.2 -0.1**
ANMO *e* 13 33 00.5
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 71.05 59 *e*P **P 13 32 35.2 -0.1**
comp=Z,3.9nm,1.0s,mb4.3
ANMO *e* 13 33 00.5
KIV Kislovodsk 71.53 315⇑ *e*P **P 13 32 39.8 +1.5**
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
AKASG Malin Array Be 72.14 327 P **P 13 32 39.4 -2.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=32,slow=6.0,SNR=6.3
AS31 Alice Springs 72.45 200 *e*P **P 13 32 43.5 -0.3**
ASAR Alice Springs 72.45 200 P **P 13 32 43.0 -0.8**
comp=Z,3.6nm,0.8s,mb4.3,baz=13,slow=5.1,SNR=21
ASPA Alice Springs 72.46 200 *e*P **P 13 32 43.5 -0.3**
WMOK Wichita Mounta 75.62 55 *e*P **P 13 33 01.5 -0.8**
WMOK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WMOK Wichita Mounta 75.62 55 *e*P **P 13 33 01.5 -0.8**
comp=Z,2.3nm,0.9s,mb4.1
KOLS Kolonicke sedl 76.12 330 *e*P **P 13 33 03.1 -2.0**
BURAR Bucovina Array 76.17 327⇑ *i*P **P 13 33 04.5 -1.0**
BURAR Bucovina Array 76.17 327 ⇑P **P 13 33 04.5 -0.9**
LTX Lajitas 76.69 61 *e*P **P 13 33 08.4 0.0**
LTX pmax pmax
comp=Z,14nm,1.0s,mb4.8
LTX Lajitas 76.69 61 *e*P **P 13 33 08.4 0.0**
comp=Z,14nm,1.0s,mb4.8
TXAR Lajitas Array 76.69 61 P **P 13 33 08.2 -0.1**
comp=Z,8.3nm,0.7s,mb4.8,baz=300,slow=4.1,SNR=46
DPC Dobruska-Polom 76.82 334 *e*P **P 13 33 08.4 -0.7**
CLL Collm 76.92 336 *i* P **P 13 33 08.5 -1.2**
CLL *e* pP 13 33 13.0 -1.9
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CLL Collm 76.92 336 *i* P **P 13 33 08.5 -1.2**
comp=Z,8.0nm,0.8s,mb4.7
CLL *e*pP pP 13 33 13.0 -1.9
MORC Moravsky Berou 76.95 333 *e*P **P 13 33 08.9 -0.9**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MORC Moravsky Berou 76.95 333 *e*P **P 13 33 08.9 -0.9**
comp=Z,4.7nm,0.8s,mb4.5
KECS Kecovo 77.11 331 *e*P **P 13 33 09.3 -1.5**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KECS Kecovo 77.11 331 *e*P **P 13 33 09.3 -1.5**
comp=Z,2.6nm,1.1s,mb4.1
VRAC Vranov 77.65 333 ⇓ *i*P **P 13 33 15.0 +1.2**
VRAC Vranov 77.65 333 ⇓P **P 13 33 15.0 +1.2**
VYHS Vyhne 77.65 332 *e*P **P 13 33 11.9 -1.9**
PRU Pruhonice 77.67 335 *e*P **P 13 33 14.5 +0.6**
comp=Z,9.3nm,0.8s,mb4.8
MLR Muntele Rosu 77.67 326⇑ *i*P **P 13 33 13.8 -0.1**
MLR Muntele Rosu 77.67 326 ⇑P **P 13 33 13.8 -0.1**
DRGR 77.79 328⇑ *i*P **P 13 33 13.3 -1.2**
DRGR 77.79 328 ⇑P **P 13 33 13.3 -1.3**
MALT Malatya 77.90 314 ⇓ *i*P **P 13 33 11.5 -3.7**
MALT Malatya 77.90 314 *e*P **P 13 33 15.3 +0.1**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
MALT Malatya 77.90 314 *e*P **P 13 33 15.3 +0.1**
comp=Z,8.2nm,1.2s,mb4.5
VOIR 78.06 326 ⇓ *i*P **P 13 33 15.5 -0.6**
KHC Kasperske Hory 78.72 335 *e*P **P 13 33 19.1 -0.6**
GERES GERESS Array B 78.94 335 P **P 13 33 20.0 -0.9**
comp=Z,1.5nm,0.6s,mb4.1,baz=38,slow=5.0,SNR=9.7
GZR Gura Zlata 78.95 328 ⇓ *i*P **P 13 33 19.9 -1.1**
GZR Gura Zlata 78.95 328 ⇓P **P 13 33 19.9 -1.1**
BRTR Keskin Array B 79.10 318 P **P 13 33 22.1 +0.3**
comp=Z,2.3nm,0.8s,mb4.2
CDF Champ du Feu 81.08 339 *e*P **P 13 33 31.8 -0.7**
comp=Z,27nm,1.2s,mb4.8
CDF Champ du Feu 81.08 339 *e*P **P 13 33 31.8 -0.7**
CDF pmax pmax
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 81.08 339 *e*P **P 13 33 31.8 -0.7**
comp=Z,13nm,1.2s,mb4.8
VTS Vitosha 81.18 326 ⇓ *i*P **P 13 33 32.1 -0.9**

GRR Gorron 82.91 344 *e*P **P 13 33 41.6 -0.5**
SMF Signal de Mont 83.57 340 *e*P **P 13 33 45.1 -0.4**
comp=Z,48nm,1.1s,mb5.2
SMF Signal de Mont 83.57 340 *e*P **P 13 33 45.1 -0.4**
SMF pmax pmax
comp=Z,24nm,1.1s,mb5.2
SMF Signal de Mont 83.57 340 *e*P **P 13 33 45.1 -0.4**
comp=Z,24nm,1.1s,mb5.2
LPG La Plagne 83.92 338 *e*P **P 13 33 47.8 +0.5**
comp=Z,35nm,1.1s,mb5.1
LPG La Plagne 83.92 338 *e*P **P 13 33 47.8 +0.5**
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.1
LPG La Plagne 83.92 338 *e*P **P 13 33 47.8 +0.5**
comp=Z,18nm,1.1s,mb5.1
ORIF Oris-en-Rattie 84.69 338 *e*P **P 13 33 51.4 +0.2**
ESDC Sonseca Array 91.90 344 P **P 13 34 24.7 -1.1**
comp=Z,2.0nm,0.9s,mb4.5,baz=353,slow=4.8,SNR=5.0
TORD Torodi Ar. Bea 115.64 330 PP PP 13 41 01.4 -0.6
comp=Z,0.9nm,1.1s,baz=12,slow=7.4,SNR=3.7
VNDA Vanda 124.01 178 PKP PKPdf 13 40 13.2 -2.4
comp=Z,0.6nm,0.8s,baz=331,slow=3.7,SNR=3.7
VNDA Vanda 124.01 178 PKIKP PKPdf 13 40 13.3 -2.3
VNDA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 152.75 195 *e*PKPdf PKPdf 13 41 10.0 +2.9
SNAA *e* 13 41 21.3
VNA2 Neumayer--Watz 154.17 194 *e*PKPdf PKPdf 13 41 13.7 +4.6
VNA2 *e* 13 41 29.0
VNA3 Neumayer Olymp 154.23 192 *e*PKPdf PKPdf 13 41 12.7 +3.5
VNA3 *e* 13 41 25.5

ISCJB ***16*** *13:34:25.8±3.1, 467N±0.1×1534E±02, h38km±27km, mb4.2/14, Error ellipse: s-maj=20.7km s-min=17.0km az=153.4*
IDC ***16*** *13:34:28.8±0.6, 4670N×15335E, h51km±6km, mb4.0/16, mb1 4.2/18, mb1mx4.1/26, mbtmp4.0/18, MS4.2/14, Ms1 4.2/14, ms1mx3.9/34, Error ellipse: s-maj=16.4km s-min=13.6km az=155.0*
ISC 16 13:34:27.8±2.5, 467N±01×1534E±01, h39km±22km, n31, σ0s83/30, mb4.2/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**8.00**	**291**	*e*PN	**Pn**	**13 36 27.5**	**+6.1**
UGL				MLR	MLR		
	comp=N,2μm,16.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
UGL	**Uglegorsk**	**8.00**	**291**	*e*P	**Pn**	**13 36 27.5**	**+6.1**
ASAJ	**Asahikawa**	**8.06**	**255**	P	**Pn**	**13 36 22.4**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=67,slow=12,SNR=8.7						
ASAJ				LR	LR	13 39 44.9	
	comp=Z,1μm,21.5s,baz=247,slow=40						
MJAR	**Matsushiro Arr**	**15.24**	**234**	P	**Pn**	**13 37 60.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=9.2,SNR=6.4						
KSRS	**Yrea Array**	**21.00**	**253**	P	**P**	**13 39 07.8**	**0.0**
	comp=Z,4.2nm,0.9s,mb3.8,baz=60,slow=11,SNR=11						
KSRS				LR	LR	13 47 45.2	
	comp=Z,274nm,18.0s,baz=237,slow=38						
JNU	**Nakatsue**	**21.90**	**240**	LR	LR	13 48 40.4	
	comp=Z,550nm,19.2s,baz=76,slow=39						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**13 40 46.1**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=95,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 42 55.3**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.1,baz=67,slow=8.2,SNR=14						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 42 55.3**	**-1.0**
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P	**P**	**13 43 21.7**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P	**P**	**13 43 21.7**	**-1.2**
	comp=Z,7.2nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**13 43 25.4**	**-0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=49,slow=10.0,SNR=7.4						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**13 43 25.8**	**-0.6**
ZRNK	**Zerenda**	**51.82**	**310**	P	**P**	**13 43 31.2**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
JIRN	**Jiri**	**55.17**	**275**	*e*P	**P**	**13 43 57.0**	**+0.6**
	comp=Z,43nm,0.9s						
GUN	**Gumba**	**55.23**	**275**	*e*P	**P**	**13 43 57.9**	**+1.1**
	comp=Z,26nm,0.8s						
KKN	**Kakani**	**55.71**	**276**	*e*P	**P**	**13 44 01.3**	**+1.0**
	comp=Z,18nm,0.5s						
PKI	**Pulchoki**	**55.76**	**275**	*e*P	**P**	**13 44 01.4**	**+0.7**
	comp=Z,27nm,1.0s						
DMN	**Daman**	**55.95**	**275**	*e*P	**P**	**13 44 03.2**	**+1.2**
	comp=Z,74nm,1.1s						
GKN	**Gorkha**	**56.02**	**276**	*e*P	**P**	**13 44 03.2**	**+0.7**
	comp=Z,97nm,1.1s						
KOLN	**Koldanda**	**56.87**	**277**	*e*P	**P**	**13 44 09.5**	**+0.9**
	comp=Z,40nm,0.8s						
HRY	**Holter Researc**	**60.82**	**52**	*e*P	**P**	**13 44 29.4**	**-6.6**
NVAR	**Mina Array Bea**	**62.25**	**63**	P	**P**	**13 44 46.8**	**+1.1**
	comp=Z,6.2nm,0.8s,mb4.8,baz=292,slow=10,SNR=34						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**13 44 58.1**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=36,slow=7.4,SNR=10						
PDAR	**Pinedale Array**	**64.58**	**54**	P	**P**	**13 45 01.7**	**+0.6**
	comp=Z,13nm,1.0s,mb4.9,baz=299,slow=1.9,SNR=58						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**13 45 24.4**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.3,baz=27,slow=6.4,SNR=7.3						
NOA				LR	LR	14 19 41.3	
	comp=Z,85nm,18.6s,baz=355,slow=40						
WRA	**Warramunga Arr**	**68.56**	**199**	P	**P**	**13 45 24.9**	**-1.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=21,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**13 45 47.8**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=14,slow=6.2,SNR=23						
SCHQ	**Schefferville**	**73.25**	**23**	P	**P**	**13 45 53.8**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=347,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**77.31**	**61**	P	**P**	**13 46 19.0**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.8,baz=299,slow=4.2,SNR=72						
GERES	**GERESS Array B**	**78.58**	**334**	P	**P**	**13 46 25.9**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=346,slow=2.8,SNR=3.5						

ISCJB ***16*** *13:34:29.7±1.2, 4770N±0.05×15457E±0.04, h7km±7km, mb4.9/66, MS4.3/23, Error ellipse: s-maj=7.8km s-min=3.8km az=158.7*
BJI ***16*** *13:34:30.4, 4784N×15467E, h17km, mB4.9, mb4.8, Ms4.4, Msz4.3*
NEIC ***16*** *13:34:32.1±0.3, 4775N×15454E, h10km, mb5.0/52, Error ellipse: s-maj=10.5km s-min=5.3km az=168.0*
SKHL ***16*** *13:34:32.9±1.7, 4751N×15468E, h50km±16km, Ms4.7/1, msh5.5/1*
MOS ***16*** *13:34:33.3±1.1, 4774N×15450E, h33km, mb5.0/29, Error ellipse: s-maj=10.8km s-min=6.8km az=63.7*
ISC 16 13:34:34.1±1.3, 4775N±004×15452E±003, h23km±8km, h16km±1.1km:pP-P, n380, σ0s80/389, mb4.9/66, MS4.3/23, 68C-51D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.12**	**19**	*e*P	**Pn**	**13 35 23.0**	**+1.1**
SKR				AMB	AMB	13 35 26.5	
	230nm,0.5s						
SKR				AMB	AMB	13 35 26.5	
	170nm,0.5s						
SKR				AMB	AMB	13 35 26.5	
	620nm,0.5s						
SKR				*e*S	**Sn**	**13 35 59.3**	**+0.9**
SKR				A		13 36 16.0	
	5μm,2.0s						
SKR				A		13 36 16.0	
	4μm,2.0s						
SKR				A		13 36 16.0	
	2μm,2.0s						
SKR				A		13 36 16.0	
	2μm,0.5s						
SKR				A		13 36 16.0	
	1μm,0.5s						
SKR				A		13 36 16.0	
	1μm,0.5s						
SKR				AMS	AMS	13 36 45.0	
	4μm,16.0s						
SKR				AMS	AMS	13 36 45.0	
	3μm,14.0s						
SKR				AMS	AMS	13 36 45.0	
	5μm,14.0s						
SKR	**Severo-Kuril's**	**3.12**	**19**	*e*PN	**Pn**	**13 35 23.0**	**+1.1**
SKR				*e*S	**Sn**	**13 35 59.3**	**+0.9**
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,620nm,0.5s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,1μm,0.5s						
SKR				smax			
	comp=N,5μm,2.0s						
SKR				smax			
	comp=E,4μm,2.0s						
SKR				MLR	MLR		
	comp=Z,4μm,16.0s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
PET	**Petropavlovsk**	**5.90**	**25**	*e*PN	**Pn**	**13 36 00.0**	**-0.2**
PET				pmax	pmax		
	comp=Z,132nm,0.6s						
PET				MLR	MLR		
	comp=Z,900nm,15.0s						
PET	**Petropavlovsk**	**5.90**	**25**	*e*Pn	**Pn**	**13 35 59.8**	**-0.4**
PET				*e*Sn	**Sn**	**13 37 05.1**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**7.09**	**242**	*e*P	**Pn**	**13 36 16.2**	**-0.3**
YUK				A		13 37 29.4	
	comp=Z,700nm,0.8s						
YUK				A		13 37 29.4	
	comp=Z,370nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.03**	**269**⇓	*e*P	**Pn**	**13 36 29.4**	**0.0**
YSS				*e*rx	rx	13 36 35.7	
YSS				*e*S	**Sn**	**13 37 58.0**	**-1.5**
YSS				*e*LQ		13 38 34.0	
YSS				AMS	AMS	13 39 31.0	
	comp=Z,900nm,14.0s						
YSS				AMS	AMS	13 39 31.0	
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.03**	**269**⇑	*e*PN	**Pn**	**13 36 29.4**	**0.0**
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,900nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.03**	**269**	*e*Pn	**Pn**	**13 36 30.1**	**+0.7**
YSS				*e*Sn	**Sn**	**13 37 56.8**	**-2.8**
UGL	**Uglegorsk**	**8.39**	**284**	*e*rx	**Pn**	**13 36 41.0**	**+6.6**
UGL				AMS	AMS	13 40 50.0	
	comp=E,2μm,16.0s						
UGL				AMS	AMS	13 40 50.0	
	comp=E,2μm,16.0s						
OKH	**Okha**	**9.37**	**313**	*e*rx	rx	13 37 09.0	
OKH				*e*S	**Sn**	**13 38 32.0**	**-0.4**
OKH				*e*L		13 39 57.4	
OKH				AMS	AMS	13 41 36.4	
	comp=E,3μm,12.0s						
NKL	**Nikolayevsk**	**10.34**	**307**	*e*P	**Pn**	**13 37 03.0**	**+1.9**
NKL				*e*L		13 40 09.0	
MA2	**Magadan**	**12.05**	**351**	*e*PN	**Pn**	**13 37 24.9**	**+0.4**
HABR	**Khabarovsk**	**13.03**	**280**⇑	*e*PN	**Pn**	**13 37 41.8**	**+3.9**
HABR				S	**Sn**	**13 40 12.1**	**+10**
HABR				pmax	pmax		
	comp=Z,53nm,1.7s						
SMY	**Shemya**	**13.47**	**61**	*e*Pn	**Pn**	**13 37 42.0**	**-1.9**
SMY				*e*Sn	**Sn**	**13 40 02.3**	**-11**
SEY	**Seymchan**	**15.26**	**356**⇑	*e*P	**Pn**	**13 38 10.8**	**+2.7**
ZEA	**Zeya**	**18.20**	**299**	*e*P	**Pn**	**13 38 43.2**	**-2.0**
ZEA				AMB	AMB	13 38 44.7	
	comp=Z,39nm,1.2s						
YAK	**Yakutsk**	**20.03**	**325**	*e*P	**P**	**13 39 07.7**	**+2.3**
YAK				*e**PP		13 39 18.1	
YAK				*e*		13 39 25.2	
YAK				*e*S	**S**	**13 42 53.5**	**+4.1**
YAK				*e*SS		13 43 14.1	
YAK				pmax	pmax		
	comp=N,43nm,1.1s						
YAK				pmax	pmax		
	comp=Z,87nm,1.1s						
YAK				pmax	pmax		
	comp=E,59nm,1.2s						
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,44nm,1.4s						
YAK				pmax	pmax		
	comp=E,60nm,1.7s						
YAK				smax			
	comp=N,199nm,2.7s						
YAK				smax			
	comp=Z,49nm,2.1s						
YAK				smax			
	comp=E,115nm,2.9s						
YAK				MLR	MLR		
	comp=Z,555nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,417nm,12.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,289nm,13.0s,MS4.1						
YAK	**Yakutsk**	**20.03**	**325**	*e*P	**P**	**13 39 06.8**	**+1.4**
	comp=E,71nm,0.6s						
CLNS	**Chul'man**	**20.13**	**308**	*e*P	**P**	**13 39 06.5**	**0.0**
CLNS				*e*		13 39 17.6	
CLNS				*e*PPP		13 39 22.6	
CLNS				*e*S	**S**	**13 42 38.2**	**-13**
CLNS				*e*		13 43 23.9	
CLNS				pmax	pmax		
	comp=N,13nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				smax			
	comp=N,18nm,1.2s						
CLNS				smax			
	comp=Z,5.0nm,0.9s						
CLNS				smax			
	comp=E,13nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,300nm,16.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,3μm,17.0s,MS4.7						
CN2	**Changchun**	**20.60**	**270**	*e*P	**P**	**13 39 10.3**	**-1.3**
CN2				*e*XP	sP	13 39 17.3	-3.5
CN2				*e*S	**S**	**13 42 58.3**	**-2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=E,500nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=Z,700nm,16.0s,MS4.1						
BILL	**Bilibino**	**21.20**	**12**⇑	*e*P	**P**	**13 39 15.6**	**-2.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
BILL	**Bilibino**	**21.20**	**12**	*e*P	**P**	**13 39 16.3**	**-1.9**
	comp=Z,15nm,0.8s,mb4.4						
KS15	**Wonju Array Si**	**22.05**	**252**	*e*P	**P**	**13 39 28.4**	**+1.2**
HIA	**Hailar**	**22.97**	**287**	*e*P	**P**	**13 39 36.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HIA	**Hailar**	**22.97**	**287**	*e*P	**P**	**13 39 36.7**	**-0.3**
	comp=Z,8.0nm,0.5s,mb4.4						
HHC	**Hu-ho-hao-te**	**31.19**	**273**	*e*P	**P**	**13 40 52.5**	**+1.0**
HHC				AP	pP	13 40 56.9	-1.4
HHC				XP	sP	13 40 59.5	-1.6
HHC				PP	PP	13 41 55.5	-6.5
HHC				PCP	PcP	13 43 46.3	+0.3
HHC				S	**S**	**13 45 57.3**	**+1.0**
HHC				XS	sS	13 46 04.3	-3.2
HHC				SCP	ScP	13 47 29.5	+1.9
HHC				SS	SS	13 47 42.9	-27
HHC				SCS	ScS	13 51 24.6	-0.2
HHC				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,89nm,6.2s						
HHC				LR	LR		
	comp=N,230nm,14.6s,MS4.2						

HHC LR LR
comp=E,257nm,13.9s,MS4.2
HHC LR LR
comp=Z,235nm,15.3s,MS4.0
NJ2 Nanjing 31.21 253 *eP* **P 13 40 53.8 +2.1**
NJ2 AP pP 13 40 57.1 -1.4
NJ2 XP sP 13 40 59.3 -2.0
NJ2 PP PP 13 41 56.9 -5.4
NJ2 S **S 13 45 58.5 +1.9**
NJ2 XS sS 13 46 06.5 -1.3
NJ2 AMB AMB
comp=Z,740nm,4.4s
NJ2 LR LR
comp=N,1μm,17.4s,MS4.8
NJ2 LR LR
comp=E,1μm,13.5s,MS4.8
NJ2 LR LR
comp=Z,1μm,16.5s,MS4.7
SONM LR LR 13 54 50.1
comp=Z,590nm,18.6s,MS4.3,baz=60,slow=39
SONM Songino Array 31.92 288 pP pP 13 40 59.3 -5.4
comp=Z,1.3nm,0.7s,baz=62,slow=8.4,SNR=8.5
TLY Talaya 32.58 296 *eP* **P 13 41 04.2 +0.4**
TLY *eS* **S 13 46 13.4 -4.7**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,675nm,16.0s,MS4.4
TLY Talaya 32.58 296 *eP* **P 13 41 04.6 +0.8**
KDAK Kodiak Island 32.73 52 *epP* pP 13 41 15.0 +3.2
ZAK Zakamensk 33.13 294 *eP* **P 13 41 09.0 +0.4**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MCK McKinley 34.27 41 *eP* **P 13 41 18.1 -0.3**
MCK pmax pmax
comp=Z,14nm,1.0s,mb4.8
MCK McKinley 34.27 41 *eP* **P 13 41 17.1 -1.4**
comp=Z,14nm,1.0s,mb4.9
SML Sawmill 34.58 45 *eP* **P 13 41 20.8 -0.4**
COLA College 34.76 39 *eP* **P 13 41 22.6 -0.1**
COLA pmax pmax
comp=Z,29nm,0.8s,mb5.3
COLA College 34.76 39 *eP* **P 13 41 22.6 -0.1**
comp=Z,29nm,0.8s,mb5.3
WHN Wuhan 35.11 255 P **P 13 41 25.5 -0.2**
EGAK Eagle 37.62 39 *eP* **P 13 41 46.0 -1.2**
comp=Z,37nm,1.0s,mb5.1
DAWY Dawson 38.46 40 *eP* **P 13 41 54.0 -0.2**
LZH Lanzhou 38.82 272 *eP* **P 13 41 59.3 +2.1**
LZH AP pP 13 42 02.5 -1.6
LZH XP sP 13 42 04.0 -2.9
LZH AMB AMB
comp=Z,40nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,222nm,4.8s
LZH LR LR
comp=E,465nm,13.5s
LZH LR LR
comp=Z,742nm,14.5s,MS4.7
LZH Lanzhou 38.82 272 *eP* **P 13 41 59.2 +2.0**
LZH pmax pmax
comp=Z,40nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,740nm,14.5s,MS4.7
LZH Lanzhou 38.82 272 *eP* **P 13 41 59.2 +2.0**
comp=Z,40nm,1.2s,mb5.0
LZH pP pP 13 42 02.5 -1.6
LZH sP sP 13 42 04.0 -2.9
LZH LR LR
comp=Z,740nm,14.5s,MS4.7
GTA Gaotai 39.76 279 *eP* **P 13 42 03.8 -1.3**
GTA AP pP 13 42 08.0 -4.0
GTA XP sP 13 42 11.0 -3.8
GTA PP PP 13 43 38.5 +1.9
GTA S **S 13 48 04.6 -3.2**
GTA SS SS 13 50 52.3 -12
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb3.9
GTA AMB AMB
comp=Z,32nm,5.3s
GTA LR LR
comp=N,285nm,14.5s,MS4.3
GTA LR LR
comp=E,209nm,17.5s,MS4.3
GTA LR LR
comp=Z,450nm,14.1s,MS4.5
INK Inuvik 40.29 33 P **P 13 42 09.7 +0.2**
comp=Z,9.4nm,0.9s,mb4.5,baz=277,slow=7.0,SNR=23
INK Inuvik 40.29 33 *eP* **P 13 42 09.7 +0.1**
comp=Z,326nm,0.8s,mb6.1
CD2 Chengdu 41.92 265 *eP* **P 13 42 22.8 -0.1**
CD2 AP pP 13 42 27.3 -2.5
CD2 XP sP 13 42 29.9 -2.7
CD2 PP PP 13 44 03.3 +3.3
CD2 S **S 13 48 40.6 +0.7**
CD2 SS SS 13 51 42.4 -4.4
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,200nm,15.6s,MS4.3
CD2 LR LR
comp=E,200nm,12.0s,MS4.3
CD2 LR LR
comp=Z,380nm,14.4s,MS4.4
ZAL Zalesovo 42.83 305 LR LR 14 01 56.4
comp=Z,649nm,18.2s,MS4.6,baz=35,slow=38
GYA Guiyang 42.87 258 ⇑ *iP* **P 13 42 30.4 -0.2**
GYA AP pP 13 42 34.8 -2.8
GYA XP sP 13 42 37.6 -2.7
GYA PP PP 13 44 15.4 +5.2
GYA PCP PcP 13 44 24.6 +3.3
GYA SCP ScP 13 48 14.5 +3.5
GYA S **S 13 48 57.8 +3.9**
GYA SCS ScS 13 52 32.1 +1.9
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,540nm,16.4s,MS4.7
GYA LR LR
comp=E,570nm,16.8s,MS4.7
GYA LR LR
comp=Z,490nm,17.2s,MS4.5
WMQ Urumqi 45.46 291 ⇑⇑P **P 13 42 52.4 +1.0**
WMQ AP pP 13 42 56.9 -1.5
WMQ XP sP 13 42 59.4 -1.7
WMQ PCP PcP 13 44 31.9 +1.7
WMQ PP PP 13 44 39.4 +1.5
WMQ PPP 13 45 20.8
WMQ S **S 13 49 32.5 +0.8**
WMQ XS sS 13 49 40.3 -2.8
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,26nm,4.7s
WMQ LR LR
comp=N,240nm,17.9s,MS4.3
WMQ LR LR
comp=E,185nm,16.0s,MS4.3
WMQ LR LR
comp=Z,373nm,16.0s,MS4.4
KMI Kunming 46.37 260 P **P 13 42 58.9 +0.4**
KMI AP pP 13 43 04.0 -1.5
KMI XP sP 13 43 06.3 -2.0
KMI PP PP 13 44 51.5 +4.0
KMI PPP 13 45 34.6
KMI S **S 13 49 46.4 +1.7**
KMI SS SS 13 53 00.9 -9.4
KMI AMB AMB
comp=Z,9.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,51nm,3.9s
KMI LR LR
comp=N,244nm,18.9s,MS4.2
KMI LR LR
comp=E,121nm,18.9s,MS4.2
KMI LR LR
comp=Z,139nm,22.2s,MS3.9
KMI Kunming 46.37 260 P **P 13 42 58.9 +0.4**
KMI *SP sP 13 43 06.3 -2.0
KMI 13 44 51.5
KMI PPP 13 45 34.6
KMI S **S 13 49 46.4 +1.7**
KMI SS SS 13 53 00.9 -9.4
KMI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
KMI MLR MLR
comp=Z,140nm,22.2s,MS3.9
KMI Kunming 46.37 260 P **P 13 42 58.9 +0.4**
comp=Z,9.0nm,1.3s,mb4.5
KMI pP pP 13 43 04.0 -1.5
KMI sP sP 13 43 06.3 -2.0
KMI PP PP 13 44 51.5 +4.0
KMI PPP 13 45 34.6
KMI S **S 13 49 46.4 +1.7**
KMI SS SS 13 53 00.9 -9.4
KMI LR LR
comp=Z,140nm,22.2s,MS3.9
MK31 Makanchi Array 47.34 297 *eP* **P 13 43 04.5 -1.6**
MKAR Makanchi Array 47.34 297 LR LR 14 04 28.1
comp=Z,294nm,19.3s,MS4.3,baz=27,slow=38
MKAR Makanchi Array 47.34 297 *PP pP 13 43 07.5 -5.6
MKAR MLR MLR
comp=Z,294nm,19.3s
MKAR Makanchi Array 47.34 297 pP **P 13 43 07.5 +1.4**
comp=Z,9.6nm,0.7s,mb4.8,baz=69,slow=7.3,SNR=35
YKA Yellowknife Ar 49.55 38 P **P 13 43 22.6 -0.5**
comp=Z,8.9nm,1.0s,mb4.8,baz=297,slow=7.7,SNR=5.7
YKA LR LR 14 06 17.4
comp=Z,91nm,19.0s,MS3.8,baz=195,slow=38
YKA Yellowknife Ar 49.55 38 P **P 13 43 22.6 -0.6**
YKA pmax pmax
comp=Z,9.0nm,1.0s
YKA MLR MLR
comp=Z,91nm,19.0s
RES Resolute Bay 49.58 19 *eP* **P 13 43 23.3 -0.1**
BRVK Borovoye 51.00 309 *eP* **P 13 43 30.2 -4.0**
LSA Lhasa 51.17 273 *eP* **P 13 43 37.0 +1.5**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.17 273 *eP* **P 13 43 37.0 +1.5**
comp=Z,8.2nm,0.6s,mb4.8
CHTO Chiang Mai 53.28 257 *eP* **P 13 43 51.3 +0.2**
CHTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CHTO Chiang Mai 53.28 257 *eP* **P 13 43 51.2 +0.1**
comp=Z,2.3nm,0.8s,mb4.2
B07A Winthrop 54.05 55 ⇓P **P 13 43 55.9 -0.9**
baz=54
A08A Turner Farm, O 54.24 54 P **P 13 43 58.0 -0.1**
baz=54,SNR=5.8
D06A Cle Elum 54.36 57 ⇓P **P 13 43 58.6 -0.4**
baz=54
C07A Waterville 54.52 56 ⇓P **P 13 43 59.5 -0.6**
baz=54
B08A Colville Reser 54.54 55 P **P 13 43 60.0 -0.4**
baz=54,SNR=5.2
A09A Danville 54.60 54 P **P 13 44 00.7 -0.1**
baz=54,SNR=9.7
E06A Yakima 54.65 57 ⇑P **P 13 44 00.7 -0.5**
baz=54
F05A White Salmon 54.75 58 ⇑P **P 13 44 01.2 -0.7**
baz=54
ARU Arti 54.92 318 *eP* **P 13 44 00.9 -2.2**
ARU *e* 13 46 02.0
ARU *eS* **S 13 51 42.3 -1.1**
ARU *eSS* SS 13 55 23.0 -3.9
EDM Edmonton 54.93 47 *eP* **P 13 44 03.0 -0.2**
C08A Higginbotham F 55.03 55 ⇑P **P 13 44 03.2 -0.6**
baz=55
B09A Rice 55.16 54 ⇑P **P 13 44 04.0 -0.8**
baz=55
KSH Kashi 55.16 293 *eP* **P 13 44 07.3 +2.5**
KSH *eAP* pP 13 44 13.3 +1.4
KSH *eXP* sP 13 44 16.0 +1.4
KSH *ePCP* PcP 13 45 06.9 +1.1
KSH *ePP* PP 13 46 12.3 +4.1
KSH *eSCP* ScP 13 49 05.3 +2.2
KSH *eS* **S 13 51 47.1 +0.5**
KSH *eXS* sS 13 51 57.9 -0.3
KSH *ePS* 13 52 06.3
KSH *eSCS* ScS 13 53 52.6 -0.1
KSH *eSS* SS 13 55 32.3 +1.7
KSH LR LR
comp=N,519nm,4.8s
KSH LR LR
comp=E,525nm,7.4s
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
A10A Northport 55.16 53 ⇑P **P 13 44 04.1 -0.7**
baz=55
G05A Wamic 55.20 59 ⇓P **P 13 44 04.6 -0.5**
baz=55
E07A Sunnyside 55.27 57 ⇓P **P 13 44 05.4 -0.2**
baz=55
J03A Ideyld Park 55.31 62 ⇑P **P 13 44 06.6 +0.7**
baz=55
I04A Tendick Farm, 55.40 61 ⇓P **P 13 44 06.3 -0.2**
baz=55
C09A Chrisman Ranch 55.44 55 ⇓P **P 13 44 06.5 -0.4**
baz=55
D08A Wollman Farm, 55.51 56 ⇓P **P 13 44 06.6 -0.7**
baz=55
F07A Phinny Hill Vi 55.62 58 ⇓P **P 13 44 07.8 -0.3**
baz=55
L02A Cave Junction 55.64 63 ⇑P **P 13 44 08.4 +0.1**
baz=55
E08A Dider Farm, El 55.76 57 ⇓P **P 13 44 08.6 -0.6**
baz=56
HUMO Hull Mountain 55.77 62 ⇑P **P 13 44 09.4 +0.2**
baz=56
NEW Newport 55.81 54 *eP* **P 13 44 08.8 -0.7**
NEW pmax pmax
comp=Z,21nm,1.5s
NEW Newport 55.81 54 *eP* **P 13 44 08.3 -1.2**
A11A Hall Mountain, 55.82 53 ⇓P **P 13 44 09.3 -0.3**
baz=56
D09A Jones Farm, Ri 55.85 56 ⇓P **P 13 44 09.1 -0.7**
baz=56
I05A Bend 55.85 60 ⇓P **P 13 44 09.9 +0.1**
baz=56
J04A Umpqua Nationa 55.90 61 ⇑P **P 13 44 10.3 +0.2**
baz=56
C10A Spilker Farm, 55.97 54 ⇓P **P 13 44 09.9 -0.8**
baz=56
H06A Lindquist Farm 56.06 59 ⇓P **P 13 44 11.0 -0.3**
baz=56
B11A Sandpoint 56.12 53 ⇓P **P 13 44 11.4 -0.3**
baz=56
A12A Yaak River Ran 56.21 53 ⇑P **P 13 44 12.2 -0.2**
baz=56
E09A Wood Farm, Sta 56.26 56 P **P 13 44 12.6 -0.1**
baz=56,SNR=5.8
F08A Pendleton 56.33 57 ⇓P **P 13 44 13.0 -0.2**
baz=56
J05A Fort Rock 56.39 61 ⇑P **P 13 44 13.9 +0.3**
baz=56
YBH Yreka Blue Hor 56.43 63 *eP* **P 13 44 14.9 +1.0**
YBH pmax pmax
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 56.43 63 *eP* **P 13 44 14.9 +1.0**
comp=Z,18nm,1.2s,mb5.0
YBH Yreka Blue Hor 56.43 63 ⇑P **P 13 44 14.3 +0.4**
baz=56
G08A Pilot Rock 56.52 58 ⇑P **P 13 44 14.0 -0.5**
baz=56
M02C Callahan 56.55 63 ⇓P **P 13 44 14.8 0.0**
baz=56
I06A Prineville 56.60 60 ⇑P **P 13 44 15.0 -0.1**
baz=56
N02C Big Bar 56.61 64 ⇓P **P 13 44 15.1 -0.1**
baz=56
L04A Klamath Falls 56.66 62 ⇑P **P 13 44 15.4 -0.2**
baz=56
O01C Eel River Cons 56.71 65 ⇓P **P 13 44 16.2 +0.3**
baz=56
F09A S2 Ranch, Elgi 56.87 57 ⇓P **P 13 44 17.0 -0.1**
baz=57
K05A Summer Lake 56.92 61 ⇓P **P 13 44 17.4 -0.1**
baz=57
M04C Macdoel 56.92 63 ⇓P **P 13 44 17.4 0.0**
baz=57
I07A Izee 56.92 59 ⇑P **P 13 44 17.3 -0.1**
baz=57,SNR=5.0
D11A Klaveano Farm, 56.95 55 P **P 13 44 16.9 -0.8**
baz=57,SNR=5.2
M03C McCloud 57.06 63 ⇑P **P 13 44 18.1 -0.2**
baz=57
H08A Prairie City 57.15 58 ⇑P **P 13 44 18.9 -0.1**
baz=57
B13A Whitefish 57.18 52 P **P 13 44 19.2 -0.1**
baz=57,SNR=12
ARCES ARCESS Array B 57.22 341 LR LR 14 14 00.0
comp=Z,228nm,18.8s,MS4.3,baz=54,slow=41
WDC Whiskeytown Da 57.22 64 ⇑P **P 13 44 19.7 +0.2**
baz=57
K06A Valley Falls 57.26 61 P **P 13 44 20.9 +1.1**
baz=57,SNR=8.3
O02C Red Bluff 57.32 65 ⇓P **P 13 44 21.1 +0.9**
baz=57
L05A Lakeview 57.36 62 ⇑P **P 13 44 21.1 +0.6**
baz=57
J07A Hines 57.46 60 ⇑P **P 13 44 21.5 +0.3**
baz=57
C13A Hot Springs 57.54 53 ⇑P **P 13 44 21.1 -0.6**
baz=57
I08A Drewsey 57.57 59 P **P 13 44 22.6 +0.6**
baz=57,SNR=10
M05C Lookout 57.59 63 ⇑P **P 13 44 22.3 +0.1**
baz=57
H09A Durkee 57.63 58 P **P 13 44 23.0 +0.6**
baz=57,SNR=7.5
GASB Alder Springs 57.68 65 ⇑P **P 13 44 23.2 +0.5**
baz=57
BMO Blue Mountains 57.72 57 *eP* **P 13 44 23.1 0.0**
comp=Z,11nm,0.9s,mb4.9
HATC Hat Creek Radi 57.73 63 ⇑P **P 13 44 23.2 0.0**
baz=58
F11A Grangeville 57.75 56 P **P 13 44 23.0 -0.3**
baz=58,SNR=7.7
MOD Modoc 57.77 62 *eP* **P 13 44 23.6 +0.2**
comp=Z,10.0nm,1.0s,mb4.8
MOD Modoc 57.77 62 P **P 13 44 23.8 +0.4**
baz=58,SNR=6.1
O03C Acorn Hollow, 57.89 64 ⇓P **P 13 44 24.0 -0.2**
baz=58
K07A Rock Creek Ran 57.91 60 ⇓P **P 13 44 24.6 +0.2**
baz=58
C14A Swan Lake 57.93 53 ⇓P **P 13 44 24.5 0.0**
baz=58
D13A Huson 57.95 54 ⇑P **P 13 44 24.2 -0.5**
baz=58
J08A Circle Bar Ran 57.96 59 ⇑P **P 13 44 24.9 +0.2**
baz=58
G11A Walters Elk Ra 57.98 56 P **P 13 44 24.9 0.0**
baz=58,SNR=7.3
I09A Lost Marbles R 58.01 58 P **P 13 44 25.5 +0.4**
baz=58,SNR=6.6
M06C Likely Place G 58.09 62 ⇑P **P 13 44 25.9 +0.3**
baz=58
O04C Chester 58.26 63 ⇑P **P 13 44 27.2 +0.3**
baz=58
L07A Adell 58.27 61 ⇓P **P 13 44 27.2 +0.3**
baz=58
MNRC McLaughlin Nat 58.32 66 ⇑P **P 13 44 27.9 +0.6**
baz=58
K08A Mann Creek Ran 58.33 60 P **P 13 44 28.1 +0.8**
baz=58,SNR=6.7
J09A Fry Pan Ranch, 58.38 59 P **P 13 44 28.2 +0.6**
baz=58,SNR=10
MSO Missoula 58.40 54 *eP* **P 13 44 27.9 +0.1**
comp=Z,11nm,1.1s,mb4.8
D14A Greenough 58.48 53 P **P 13 44 28.2 -0.1**
baz=58,SNR=14
ORV Oroville 58.48 64 P **P 13 44 27.5 -0.8**
baz=58,SNR=6.5
E13A Victor 58.50 54 ⇑P **P 13 44 27.9 -0.6**
baz=58
SUTB Sutter Butte 58.51 65 ⇓P **P 13 44 27.7 -0.9**
baz=58
H11A Donnelly 58.55 57 P **P 13 44 28.8 0.0**
baz=58,SNR=30
O05C Quincy 58.58 64 ⇑P **P 13 44 29.2 +0.1**
baz=58
OHCM Honcut 58.63 65 *eP* **P 13 44 29.1 -0.3**
Q03C Winters 58.73 66 ⇓P **P 13 44 30.3 +0.1**
baz=58
L08A Fields 58.74 60 ⇓P **P 13 44 30.1 -0.2**
baz=58
M07A Soldier Meadow 58.75 61 P **P 13 44 30.9 +0.6**
baz=58,SNR=12
N06A Buffalo Meadow 58.75 62 P **P 13 44 30.4 +0.2**
baz=58,SNR=9.0
K09A Rome 58.79 59 ⇓P **P 13 44 30.5 -0.1**
baz=58
F13A Darby 58.82 55 P **P 13 44 30.4 -0.3**
baz=59,SNR=8.6
E14A Clinton 58.89 54 P **P 13 44 31.2 0.0**
baz=59,SNR=5.9
BEKR Beckwourth 58.98 63 P **P 13 44 32.1 +0.2**
baz=59,SNR=12
D15A Lincoln 59.03 53 ⇑P **P 13 44 32.1 -0.1**
baz=59
O06A Flanigan 59.12 63 P **P 13 44 33.0 +0.2**
baz=59,SNR=7.0
N07B Gerlach 59.25 62 ⇑P **P 13 44 34.7 +1.0**
baz=59
L09A Wilkinson Ranc 59.25 60 P **P 13 44 34.1 +0.4**
baz=59,SNR=7.5
F14A Wisdom 59.33 54 ⇓P **P 13 44 34.5 +0.2**
baz=59
E15A Deer Lodge 59.35 53 P **P 13 44 34.4 0.0**
baz=59,SNR=7.2
FFC Flin Flon 59.35 41 P **P 13 44 34.7 +0.2**
comp=Z,84nm,1.0s,mb5.7,SNR=5.1
FFC Flin Flon 59.35 41 P **P 13 44 34.4 0.0**
LAVA Lava Cap Winer 59.44 65 ⇑P **P 13 44 34.5 -0.5**
baz=59
BNLO Ben Lomond (Sa 59.57 67 ⇑P **P 13 44 36.0 +0.1**
baz=59
SUMG Summit 59.63 4 *eP* **P 13 44 36.4 +0.1**
O07A Toulon 59.69 62 P **P 13 44 37.1 +0.4**
baz=59,SNR=9.0
N08A GE Springer Mi 59.74 61 P **P 13 44 37.3 +0.2**
baz=60,SNR=11
M09A Marrel Ranch, 59.75 60 P **P 13 44 38.0 +0.9**
baz=60,SNR=7.7
F15A Butte 59.79 54 P **P 13 44 37.6 +0.2**
baz=60,SNR=15
LRM Limekiln Ridge 59.83 54 *eP* **P 13 44 37.2 -0.5**
R05C Kirkwood Meado 59.88 64 ⇑P **P 13 44 37.5 -0.5**
baz=60
DLMT Dillon 60.04 54 *eP* **P 13 44 39.4 +0.2**
N09A Rock Creek Ran 60.06 61 P **P 13 44 39.8 +0.5**
baz=60,SNR=6.3
CMB Columbia Colle 60.11 65 *eP* **P 13 44 39.2 -0.4**
CMB pmax pmax
comp=Z,15nm,1.3s,mb4.9
CMB Columbia Colle 60.11 65 *eP* **P 13 44 39.2 -0.5**
comp=Z,14nm,1.3s,mb4.8
CMB Columbia Colle 60.11 65 P **P 13 44 39.6 -0.1**
baz=60,SNR=5.9
HLID Hailey 60.16 57 *eP* **P 13 44 40.2 +0.3**
comp=Z,16nm,1.3s,mb4.9
HLID Hailey 60.16 57 P **P 13 44 40.3 +0.3**
baz=60,SNR=12
PACP Pacheco Peak 60.20 67 P **P 13 44 40.5 +0.3**
baz=60,SNR=5.9
M10A I.L. Ranch, Tu 60.22 60 P **P 13 44 41.1 +0.7**
baz=60,SNR=14
G15A Dillon 60.22 54 P **P 13 44 40.2 -0.2**
baz=60,SNR=11
R06C Coleville 60.37 64 P **P 13 44 41.9 +0.4**
baz=60,SNR=8.2
BOZ Bozeman (W) 60.39 54 *eP* **P 13 44 41.0 -0.5**
HAST UC Hastings Re 60.43 67 ⇓P **P 13 44 41.1 -0.8**
baz=60
BMN Battle Mountai 60.50 61 *eP* **P 13 44 43.0 +0.7**
BMN pmax pmax
comp=Z,13nm,0.7s,mb5.2
BMN Battle Mountai 60.50 61 *eP* **P 13 44 43.0 +0.6**
comp=Z,13nm,0.7s,mb5.2
S06C San Francisco 60.53 65 P **P 13 44 42.2 -0.3**
baz=60,SNR=8.3
S05C Merced 60.58 66 P **P 13 44 42.6 -0.3**
baz=60,SNR=5.1
O09A Fish Creek Ran 60.69 61 P **P 13 44 44.2 +0.6**
baz=60,SNR=11
M11A Holland Ranch, 60.71 60 P **P 13 44 44.7 +0.9**
baz=60,SNR=12
N10A Dunphy 60.74 61 ⇓P **P 13 44 44.4 +0.4**
baz=60
U04C Hernandez Rese 60.92 67 ⇑P **P 13 44 45.8 +0.6**
baz=61
QLMT Earthquake Lak 61.01 54 *eP* **P 13 44 46.6 +0.8**
O10A Cortez Mining, 61.02 61 P **P 13 44 46.7 +0.8**

baz=61,SNR=7.4
Q08A Gabbs 61.08 63 P P 13 44 46.4 +0.1
baz=61,SNR=14
P09A Austin 61.11 62 ⇑P P 13 44 47.0 +0.6
baz=61
N11A Elko Archery C 61.13 60 ⇓P P 13 44 46.8 +0.1
baz=61
T06C Millerton Lake 61.18 66 ⇓P P 13 44 46.9 -0.1
baz=61
KCC Kaiser Creek 61.21 65 ⇑P P 13 44 47.0 -0.2
baz=61
M12A Wells 61.23 59 P P 13 44 48.1 +0.8
baz=61,SNR=6.1
R08A Mina 61.30 64 ⇑P P 13 44 48.0 +0.3
baz=61
V04C Ramage Ranch, 61.34 68 ⇓P P 13 44 48.3 +0.3
baz=61
PKD Parkfield 61.34 67 ⇑P P 13 44 47.8 -0.2
baz=61
GCMT Greycliff 61.35 52 eP P 13 44 46.9 -1.2
P10A Eureka 61.47 62 ⇑P P 13 44 49.5 +0.6
baz=61
ELK Elko 61.47 60 eP P 13 44 49.6 +0.7
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK Elko 61.47 60 eP P 13 44 47.7 -1.2
comp=Z,7.8nm,0.8s,mb4.9
YNR Norris Junctio 61.50 54 eP P 13 44 51.2 +2.1
N12A Clover Valley, 61.52 60 P P 13 44 49.8 +0.6
baz=61,SNR=8.2
Q09A Carvers 61.54 63 ⇑P P 13 44 49.6 +0.2
baz=61
YFT Old Faithful 61.58 54 eP P 13 44 51.8 +2.2
O11A Cowboy Ranch, 61.62 61 P P 13 44 50.3 +0.4
baz=61,SNR=9.6
M13A Montello 61.70 59 P P 13 44 50.9 +0.4
baz=61,SNR=12
S08C White Mtn Res 61.80 64 ⇓P P 13 44 51.4 +0.3
baz=62
HELL Mitchell Peak, 61.81 66 P P 13 44 50.9 -0.3
baz=62,SNR=10
IMW Indian Meadow 61.88 55 eP P 13 44 53.0 +1.3
comp=Z,19nm,1.1s,mb5.2
FLWY Flagg Ranch 61.90 55 eP P 13 44 53.3 +1.6
comp=Z,15nm,1.1s,mb5.0
RCTC Rector, Farmer 61.91 66 ⇑P P 13 44 51.9 0.0
baz=62
P11A Circle Ranch, 61.93 61 ⇓P P 13 44 52.0 -0.1
baz=62
DCID1 Drake Creek 61.94 55 eP P 13 44 54.0 +2.0
R09A Tonopah 61.99 63 P P 13 44 52.4 0.0
baz=62,SNR=19
N13A Wendover, West 62.00 59 P P 13 44 53.0 +0.6
baz=62,SNR=5.7
TPH Tonopah 62.01 63 eP P 13 44 52.8 +0.3
TPH pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
TPH Tonopah 62.01 63 eP P 13 44 52.8 +0.3
comp=Z,4.7nm,0.7s,mb4.7
RRI2 Red Ridge 62.03 55 eP P 13 44 53.8 +1.2
comp=Z,28nm,0.8s,mb5.4
O12A Currie 62.06 60 P P 13 44 53.1 +0.3
baz=62,SNR=25
MOOW Moose Ponds 62.09 55 eP P 13 44 54.2 +1.1
comp=Z,15nm,1.2s,mb5.0
SMMC Simmler 62.09 67 ⇑P P 13 44 53.0 -0.1
baz=62
TPAW Teton Pass 62.14 55 eP P 13 44 54.8 +1.4
comp=Z,53nm,1.3s,mb5.5
S09A Goldfield 62.23 64 P P 13 44 53.9 -0.1
baz=62,SNR=7.5
LOHW Long Hollow 62.25 55 eP P 13 44 55.2 +1.0
comp=Z,29nm,1.3s,mb5.2
SNOW Snow King Moun 62.27 55 eP P 13 44 55.7 +1.4
comp=Z,25nm,1.0s,mb5.3
REDW Red Top Meadow 62.28 55 eP P 13 44 55.3 +0.9
comp=Z,64nm,1.4s,mb5.6
VES Vestal, Richgr 62.31 66 ⇑P P 13 44 53.9 -0.6
baz=62
R10A Warm Springs 62.42 63 P P 13 44 55.6 +0.3
baz=62,SNR=8.0
DGMT Dagmar 62.42 47 eP P 13 44 55.4 +0.1
comp=Z,15nm,0.8s,mb5.2
Q11A Duckwater 62.45 62 P P 13 44 55.4 -0.1
baz=62,SNR=5.1
PKM Peak Mountain 62.47 68 ⇓P P 13 44 55.6 0.0
baz=62
P12A McGill 62.48 61 P P 13 44 56.2 +0.5
baz=62,SNR=8.3
CWC Cottonwood Cre 62.54 65 ⇑P P 13 44 56.3 +0.2
baz=62
LAO LASA Array 62.58 50 eP P 13 44 57.0 +0.7
GRAC Grapevine Rang 62.61 64 ⇑P P 13 44 56.3 -0.3
baz=62
SPUT South Promonto 62.72 58 eP P 13 44 54.6 -2.6
ISA Isabella 62.80 66 eP P 13 44 56.1 -1.8
ISA Isabella 62.80 66 P P 13 44 57.1 -0.7
baz=63,SNR=5.1
Q12A Willow Creek R 62.81 61 P P 13 44 58.2 +0.3
baz=63,SNR=9.3
TRCR Troy Canyon 62.81 62 eP P 13 44 57.8 -0.1
ARVC Arvin 62.93 67 ⇓P P 13 44 58.3 -0.5
baz=63
DAC Darwin (Calif) 62.95 65 eP P 13 44 58.5 -0.3
HWUT Hardware Ranch 63.02 57 eP P 13 44 59.7 +0.4
comp=Z,17nm,1.1s,mb5.1
MPMC Manual Prospec 63.15 65 P P 13 44 60.0 -0.2
baz=63,SNR=14
DUG Dugway 63.23 59 eP P 13 45 00.9 +0.2
DUG pmax pmax
comp=Z,37nm,1.3s,mb5.3
DUG Dugway 63.23 59 eP P 13 45 00.9 +0.2
comp=Z,37nm,1.3s,mb5.3
DUG Dugway 63.23 59 ⇓P P 13 45 01.0 +0.3
baz=63
FURC Furnace Creek, 63.27 64 P P 13 45 01.0 0.0
baz=63,SNR=14
NOQ North Oquirrh 63.33 58 eP P 13 45 01.9 +0.5
comp=Z,18nm,0.6s,mb5.4
BW06 Boulder Array 63.38 55 eP P 13 45 02.1 +0.4
comp=Z,21nm,1.2s,mb5.2
LRMC Laurel Mountai 63.41 66 P P 13 45 01.7 -0.1
baz=63,SNR=6.2
FINES FINESS Array B 63.54 335 LR LR 14 16 39.4
comp=Z,172nm,20.2s,MS4.2,baz=162,slow=39
EDW2 Edwards Air Fo 63.62 66 P P 13 45 03.3 +0.1
baz=63,SNR=13
U10A Ash Meadows, A 63.62 64 P P 13 45 03.8 +0.5
baz=63,SNR=6.7
JLU Jordanelle 63.75 58 eP P 13 45 04.8 +0.7
NLU North Lily Min 63.82 59 eP P 13 45 04.8 +0.2
DECC Green Verdugo 63.82 67 ⇑P P 13 45 04.0 -0.6
baz=64
DAU Daniels Canyon 63.99 58 eP P 13 45 06.3 +0.6
SHOC Shoshone 63.99 65 P P 13 45 05.8 +0.1
baz=64,SNR=5.2
MWC Mount Wilson 64.00 67 eP P 13 45 05.7 -0.1
MPU Maple Canyon 64.03 58 eP P 13 45 06.5 +0.5
comp=Z,14nm,0.8s,mb5.0
GSC Goldstone 64.07 65 eP P 13 45 06.1 -0.1
GSC Goldstone 64.07 65 eP P 13 45 05.9 -0.3
GSC Goldstone 64.07 65 P P 13 45 06.2 0.0
baz=64,SNR=5.5
U11A Corn Creek 64.19 64 ⇑P P 13 45 07.1 +0.1
baz=64
BFSC Mount Baldy St 64.24 67 P P 13 45 07.3 0.0
baz=64,SNR=5.5
SHPR Sheep Range 64.27 63 eP P 13 45 08.0 +0.4
ARUT Antelope Range 64.45 61 eP P 13 45 09.0 +0.3
TUQ Turquoise Mtn. 64.52 65 P P 13 45 09.0 -0.2
baz=64,SNR=13
V11A Goodsprings 64.55 64 ⇑P P 13 45 09.4 0.0
baz=64
CCUT Cedar City 64.66 62 eP P 13 45 11.0 +0.9
HEC Hector,Ludlow 64.67 66 ⇓P P 13 45 09.8 -0.3
baz=64
BBRC Big Bear Sol-O 64.68 66 ⇓P P 13 45 09.8 -0.4
baz=64
U12A Valley of Fire 64.70 63 ⇑P P 13 45 10.2 -0.2
baz=64
MSU Marysvale 64.72 60 eP P 13 45 10.9 +0.5
TMUT Trail Mountain 64.75 59 eP P 13 45 11.0 +0.3
MURC Murrieta 64.95 67 ⇑P P 13 45 11.1 -0.9
baz=65
V12A Nelson 64.98 64 P P 13 45 12.5 +0.4
baz=65,SNR=6.4
ULM Lac du Bonnet 65.14 42 P P 13 45 12.3 -0.9
comp=Z,3.0nm,0.8s,mb4.4,baz=305,slow=8.2,SNR=5.5
ULM Lac du Bonnet 65.14 42 P P 13 45 12.3 -0.9
W12A Cal Nev Ari 65.25 64 ⇑P P 13 45 14.0 0.0
baz=65
SRU San Rafael 65.27 59 eP P 13 45 14.2 +0.1
SRU pmax pmax
comp=Z,22nm,0.9s,mb5.2
SRU San Rafael 65.27 59 eP P 13 45 14.2 +0.1
comp=Z,22nm,0.9s,mb5.2
PFO Pinyon Flat Ob 65.41 67 eP P 13 45 14.5 -0.4
PFO Pinyon Flat Ob 65.41 67 ⇓P P 13 45 14.4 -0.5
baz=65
BELC Belle Mtn. 65.43 66 P P 13 45 14.6 -0.5
baz=65,SNR=5.9
RSSD Black Hills 65.45 51 P P 13 45 14.8 -0.4
RSSD pmax pmax
comp=Z,22nm,1.2s,mb5.1
RSSD Black Hills 65.45 51 eP P 13 45 14.7 -0.5
comp=Z,20nm,1.3s,mb5.0
109C Camp Elliot, M 65.48 68 ⇓P P 13 45 14.7 -0.7
baz=65
IRM Iron Mountain 65.84 65 P P 13 45 17.5 -0.3
baz=66,SNR=14
BAR Barrett 65.89 67 eP P 13 45 17.2 -0.9
MONP Monument Peak 65.91 67 ⇓P P 13 45 17.8 -0.4
baz=66
W13A Hualapai Mount 65.98 64 P P 13 45 18.9 +0.2
baz=66,SNR=5.4
BC3 Big Chucker Mtn 66.00 66 P P 13 45 18.5 -0.3
baz=66,SNR=6.9
DVTC Desert V Tower 66.27 67 ⇑P P 13 45 20.0 -0.5
baz=66
SWSC Sam W. Stewart 66.27 67 ⇓P P 13 45 19.7 -0.7
baz=66
X13A Yucca 66.36 64 P P 13 45 20.8 -0.2
baz=66,SNR=9.1
PDMCI Parker Dam,Lak 66.37 65 P P 13 45 20.8 -0.4
baz=66,SNR=11
W14A Seligman 66.39 63 P P 13 45 21.6 +0.4
baz=66,SNR=18
Y12C Blythe 66.50 65 P P 13 45 22.1 +0.1
baz=66,SNR=5.5
AGMN Agassiz Refuge 66.55 43 eP P 13 45 21.0 -1.3
comp=Z,9.4nm,1.1s,mb4.7
GLA Glamis 66.79 66 eP P 13 45 23.9 +0.1
GLA Glamis 66.79 66 P P 13 45 24.0 +0.1
baz=66,SNR=5.7
W15A Williams 66.91 63 P P 13 45 25.2 +0.7
baz=67,SNR=5.5
X14A Yava 67.01 64 P P 13 45 25.9 +0.7
baz=67,SNR=7.3
WUAZ Wupatki 67.21 62 eP P 13 45 27.0 +0.6
comp=Z,15nm,1.1s,mb4.9
WUAZ Wupatki 67.21 62 ⇑P P 13 45 26.7 +0.3
baz=67
Y14A Wickenburg 67.30 64 P P 13 45 27.0 -0.1
baz=67,SNR=5.5
X15A Humboldt 67.39 63 P P 13 45 28.2 +0.5
baz=67,SNR=11
ISCO Idaho Springs 67.58 55 eP P 13 45 29.5 +0.7
ISCO pmax pmax
comp=Z,12nm,1.1s,mb4.8
ISCO Idaho Springs 67.58 55 eP P 13 45 29.5 +0.7
comp=Z,12nm,1.1s,mb4.8
NB2 NORSAR Subarra 67.59 342 P P 13 45 24.8 -4.1
comp=Z,18nm,0.5s,mb4.4,baz=26,slow=6.5
Z14A Wintersburg 67.73 65 ⇑P P 13 45 29.7 -0.1
baz=68
MVCO Mesa Verde 67.73 59 eP P 13 45 29.4 -0.4
comp=Z,20nm,1.3s,mb5.0
MVCO Mesa Verde 67.73 59 ⇑P P 13 45 29.7 -0.1
baz=68
HYB Hyderabad 67.93 272 i P P 13 45 33.0 +2.0
HYB Hyderabad 67.93 272 eP P 13 45 33.0 +2.0
115A Sonoran Desert 68.62 65 ⇑P P 13 45 35.9 +0.5
baz=68
116A Eloy 69.04 64 ⇓P P 13 45 38.2 +0.3
baz=69
SDCO Great Sand Dun 69.08 57 eP P 13 45 38.1 -0.1
comp=Z,8.8nm,1.3s,mb4.5
ECSD EROS,Sioux Fal 69.50 47 eP P 13 45 39.5 -1.3
comp=Z,15nm,1.1s,mb4.8
WRAB Tennant Creek 69.77 200⇑ eP P 13 45 40.1 -2.4
WB2 Warramunga Arr 69.77 200 eP P 13 45 40.0 -2.5
WRA Warramunga Arr 69.78 200 pP P 13 45 40.2 -2.3
comp=Z,7.0nm,1.1s,mb4.5,baz=16,slow=6.5,SNR=18
FITZ Fitzroy Crossi 70.48 209 eP P 13 45 46.5 -0.4
comp=Z,4.5nm,0.8s,mb4.5
LAZ Ladron 70.48 60 eP P 13 45 46.8 -0.1
ANMO Albuquerque 70.49 59 eP P 13 45 46.5 -0.4
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 70.49 59 eP P 13 45 46.5 -0.4
comp=Z,7.8nm,1.2s,mb4.5
AKASG Malin Array Be 71.24 327 LR LR 14 19 22.9
comp=Z,120nm,21.2s,MS4.1,baz=5.0,slow=38
AMTX Amarillo 73.27 56 eP P 13 46 03.8 +0.2
MNTX Cornudas Mount 73.44 61 eP P 13 46 04.3 -0.3
ASAR Alice Springs 73.47 200 pP P 13 46 03.5 -1.3
comp=Z,6.8nm,1.2s,mb4.5,baz=15,slow=5.5,SNR=14
GDL2 Guadalupe Moun 73.68 60 eP P 13 46 06.1 +0.1
WMOK Wichita Mounta 75.00 55 eP P 13 46 12.9 -0.8
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WMOK Wichita Mounta 75.00 55 eP P 13 46 12.9 -0.7
comp=Z,5.5nm,0.9s,mb4.5
UPC Upice 75.81 334 eP P 13 46 17.8 -0.5
DPC Dobruska-Polom 75.86 334 eP P 13 46 14.3 -4.3
CLL Collm 75.94 336 eP P 13 46 18.0 -1.1
CLL 13 46 24.0 -2.4
CLL Collm 75.94 336 eP P 13 46 15.0 -4.1
comp=Z,5.0nm,0.6s,mb4.6
CLL eP(2) 13 46 18.0
comp=Z,12nm,1.3s
CLL epP(2) 13 46 24.0
LTX Lajitas 76.17 62 eP P 13 46 20.1 -0.3
LTX pmax pmax
comp=Z,15nm,1.0s,mb4.9
LTX Lajitas 76.17 62 eP P 13 46 20.1 -0.3
comp=Z,15nm,1.0s,mb4.9
JCT Junction City 77.58 58 eP P 13 46 27.9 -0.5
JCT pmax pmax
comp=Z,22nm,1.2s,mb5.0
JCT Junction City 77.58 58 eP P 13 46 27.9 -0.5
comp=Z,22nm,1.2s,mb5.0
KHC Kasperske Hory 77.75 335⇑ eP P 13 46 25.6 -3.7
KHC Kasperske Hory 77.75 335 eP P 13 46 25.5 -3.8
comp=Z,5.5nm,0.5s,mb4.7
GERES GERESS Array B 77.97 335 LR LR 14 23 11.0
comp=Z,187nm,18.0s,MS4.5,baz=68,slow=37
WCI Wyandotte Cave 78.72 45 P P 13 46 34.0 -0.7
WCI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
WCI Wyandotte Cave 78.72 45 eP P 13 46 33.6 -1.1
comp=Z,6.1nm,0.5s,mb4.8
CDF Champ du Feu 80.08 339 eP P 13 46 39.1 -3.0
GRR Gorron 81.88 344 eP P 13 46 49.0 -2.7
PPT Papeete 81.98 127 LR LR 14 14 10.0
comp=Z,149nm,20.7s,MS4.3,baz=72,slow=29
SMF Signal de Mont 82.56 340 eP P 13 46 52.1 -3.1
comp=Z,22nm,1.0s,mb4.9
SMF Signal de Mont 82.56 340 eP P 13 46 52.1 -3.1
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.9
SMF Signal de Mont 82.56 340 eP P 13 46 52.1 -3.1
comp=Z,13nm,1.0s,mb4.9
LPG La Plagne 82.93 338 eP P 13 46 55.1 -2.0
comp=Z,23nm,1.0s,mb4.9
LPG La Plagne 82.93 338 eP P 13 46 55.1 -2.0
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.9
LPG La Plagne 82.93 338 eP P 13 46 55.1 -2.0
comp=Z,12nm,1.0s,mb4.9
ORIF Oris-en-Rattie 83.69 338 eP P 13 46 58.6 -2.5
comp=Z,102nm,1.7s,mb5.4
ORIF Oris-en-Rattie 83.69 338 eP P 13 46 58.6 -2.5
ORIF pmax pmax
comp=Z,51nm,1.7s,mb5.4
ORIF Oris-en-Rattie 83.69 338 eP P 13 46 58.6 -2.5
comp=Z,51nm,1.7s,mb5.4
ESDC Sonseca Array 90.88 344 LR LR 14 36 11.2
comp=Z,104nm,20.7s,MS4.2,baz=180,slow=40
CFAA Coronel Fontan 143.86 79 PKP PKPdf 13 54 03.0 -4.5
comp=Z,0.9nm,0.9s,baz=262,slow=3.4,SNR=11
CFAA Coronel Fontan 143.86 79 PKP PKPdf 13 54 03.0 -4.6

*NEIC **16** 13:39:55.3, 8.40N×83.95W, h18km, MD4.1(CASC), After CASC.*
*UCR **16** 13:39:56.4, 8.61N×83.91W, h5km, MD4.2*
CASC 16 13:39:57.5±3.2, 8.72N×83.83W, h2km±12km, MD4.2, ML3.5, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.66**	**95**	*eP*		Pg	13 40 10.0	-0.2
ACR				⇑*eP*			13 40 10.1	
ACR				*eS*		Sg	13 40 20.2	+1.5
ACR	**Cerro Adams**	**0.66**	**95**	⇑*eP*		Pg	13 40 10.0	-0.1
ACR				*eS*		Sg	13 40 22.4	+3.7
QCR	**Quepos**	**0.78**	**335**	⇓*eP*		Pg	13 40 12.6	+0.1
CTCR	**Cotoan**	**1.08**	**80**	⇑*iP*		Pg	13 40 17.2	-0.9
CTCR				*eS*		Sg	13 40 32.4	+0.3
LAJ	**Bijagual**	**1.18**	**346**	*eP*		Pg	13 40 19.0	-1.1
LAJ	**Bijagual**	**1.18**	**346**	*eP*		Pg	13 40 21.1	+1.0
OCM	**Ochomogo**	**1.18**	**354**	⇓*eP*		Pg	13 40 18.8	-1.3
OCM				*eS*		Sg	13 40 34.9	-0.5
SJS	**Escuela Geolog**	**1.24**	**350**	*eP*		Pg	13 40 20.3	-0.9
SJS				*eS*		Sg	13 40 37.5	+0.3
SJS	**Escuela Geolog**	**1.24**	**350**	*eP*		Pg	13 40 20.4	-0.8
IRZ2	**Volcan Irazu 2**	**1.25**	**357**	*eP*		Pg	13 40 19.6	-1.8
BRU	**Baru**	**1.26**	**86**	*iP*		Pg	13 40 21.5	-0.2
VTU	**Volcan Turrial**	**1.30**	**3**	⇓*eP*		Pg	13 40 21.6	-0.8
VTU				*eS*		Sg	13 40 39.5	+0.3
PRS1	**Puriscal**	**1.35**	**340**	*eP*		Pn	13 40 20.7	-2.6
PRS1				⇓*eP*			13 40 20.8	
PRS1	**Puriscal**	**1.35**	**340**	⇓*eP*		Pn	13 40 20.8	-2.5
DVD	**David**	**1.40**	**101**	*eP*		Pn	13 40 22.2	-1.7
CGA2	**Cerro Gallo 2**	**1.44**	**334**	*eP*		Pn	13 40 23.9	-0.6
CGA2	**Cerro Gallo 2**	**1.44**	**334**	*eP*		Pn	13 40 23.7	-0.8
EPA	**Esparza**	**1.47**	**329**	*eP*		Pn	13 40 25.1	+0.2
EPA				*eS*		Sb	13 40 43.6	-1.0
CNI	**Changuinola**	**1.48**	**62**	*eP*		Pn	13 40 24.2	-0.8
LIO	**Limon**	**1.50**	**32**	*eP*		Pn	13 40 24.5	-1.0
LIO				*eS*		Sn	13 40 46.0	+0.4
LIO	**Limon**	**1.50**	**32**	*eP*		Pn	13 40 24.5	-0.9
POA2	**Poas 2**	**1.51**	**344**	*eP*		Pn	13 40 24.8	-0.7
CAO	**Cobano**	**1.59**	**308**	*eP*		Pn	13 40 24.0	-2.6
JCR	**Jicaral**	**1.69**	**312**	*eP*		Pn	13 40 27.9	-0.1
JCR	**Jicaral**	**1.69**	**312**	*eP*		Pn	13 40 28.7	+0.7
TRTC	**Tortuguero**	**1.85**	**4**	*eP*		Pn	13 40 30.6	+0.4
TRTC				*eS*		Sn	13 40 57.5	+3.3
JTS	**JuntasAbangare**	**1.92**	**325**	*eS*		Sn	13 40 57.4	+1.6
VACR	**Volcan Arenal**	**1.94**	**335**	*eP*		Pn	13 40 32.3	+0.9
VCR	**Vista de Mar**	**2.26**	**308**	*eP*		Pn	13 40 34.9	-0.9
VCR	**Vista de Mar**	**2.26**	**308**	*eP*		Pn	13 40 34.6	-1.3
LIM1	**Limonal**	**2.42**	**325**	*iP*		Pn	13 40 39.2	+1.2
AZU	**Azuero**	**3.64**	**104**	*eP*		Pn	13 40 55.4	+0.6
UPA	**Univ. de Panam**	**4.26**	**86**	*eP*		Pn	13 41 05.9	+2.6

*CSEM **16** 13:40:11.6±0.1, 38.33N×41.95E, h8km, MD3.7, Error ellipse: s-maj=3.9km s-min=2.5km az=36.0*
*ISK **16** 13:40:11.3, 38.31N×41.93E, h5km, MD3.7*
*ISCJB **16** 13:40:12.4±0.7, 38.30N±0.003×41.96E±0.003, h7km±6km, Error ellipse: s-maj=5.3km s-min=3.9km az=34.4*
ISC 16 13:40:13.3±0.6, 38.32N±0.003×41.97E±0.003, h12km±5km, n27, σ0=0.80/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTMT	**Batman**	**0.40**	**252**	*i*	P	G	**13 40 21.3**	**+0.1**
SIRT	**Sirnak**	**0.89**	**155**	*i*	P	G	**13 40 29.6**	**-0.9**
SIRT					S	G	**13 40 42.4**	**+0.3**
BNGL	**BINGOL**	**0.91**	**315**	*i*	P	G	**13 40 29.6**	**-1.1**
BNGL				*i*	S	G	**13 40 42.9**	**+0.4**
VANT	**Van**	**1.12**	**83**		PG	G	**13 40 31.0**	**-3.8**
TVAN	**Van**	**1.15**	**79**	*i*	P	B	**13 40 33.2**	**-1.9**
TVAN				*i*	S	B	**13 40 50.7**	**+0.8**
VANB	**Van**	**1.15**	**75**		PN	N	**13 40 33.4**	**-1.7**
BINT	**Bingol**	**1.29**	**296**		PN	N	**13 40 36.5**	**-0.6**
BINT					SN	N	**13 40 53.3**	**-1.0**
MARD	**Mardin**	**1.38**	**224**	*i*	P	N	**13 40 38.3**	**0.0**
MARD				*i*	S	N	**13 40 58.0**	**+1.6**
DIY	**Diyarbakir**	**1.44**	**254**		PN	N	**13 40 39.5**	**-0.2**
DIY					SN	N	**13 40 57.1**	**+0.9**
HAKT	**HAKKARI**	**1.57**	**118**	*i*	P	N	**13 40 41.6**	**+0.7**
HAKT				*i*	S	G	**13 41 04.3**	**+0.6**
HKR	**Hakkari**	**1.58**	**117**		PN	N	**13 40 41.7**	**+0.6**
ERZM	**Erzurum**	**1.66**	**344**	*i*	P	N	**13 40 42.3**	**+0.1**
ERZM				*i*	S	G	**13 41 08.1**	**+1.6**
EZM	**Erzurum**	**1.66**	**344**		PN	N	**13 40 42.2**	**0.0**
CUKT	**Cukurca**	**1.68**	**129**		PN	N	**13 40 42.1**	**-0.3**
CLDR	**Caldiran**	**1.73**	**61**		PN	N	**13 40 43.4**	**+0.2**
PTK	**Pertek**	**2.10**	**287**	*e*	PN	N	**13 40 48.4**	**+0.1**
EZC	**Erzincan**	**2.21**	**311**	*e*	PN	B	**13 40 53.7**	**+0.6**
MSL	**Mosul**	**2.21**	**156**	*ex*		x	13 40 54.0	
MSL				*ex*		x	13 41 18.0	
ELZG	**Elazig**	**2.35**	**275**	*i*	P	N	**13 40 51.8**	**+0.1**
ELZG				*i*	S	B	**13 41 24.9**	**+0.3**
URFA	**Urfa**	**2.64**	**252**	*e*	PN	N	**13 40 55.0**	**-0.7**
MYA	**Malataya**	**2.79**	**271**	*e*	PN	N	**13 40 57.4**	**-0.4**
GZT	**Gaziantep**	**3.62**	**256**	*i*	P	B	**13 41 17.0**	**-0.2**
GZT				*i*	S	G	**13 42 09.0**	**-0.5**
GAZ	**Gaziantep**	**3.94**	**255**	*e*	PN	N	**13 41 14.5**	**+0.9**
KMRS	**Kahramanmaras**	**4.09**	**260**	*e*	PN	N	**13 41 16.5**	**+0.8**
COBT	**Iskenderun**	**4.89**	**250**	*i*	P	N	**13 41 27.6**	**+0.9**
COBT				*i*	S	G	**13 42 43.8**	**-6.5**
COBT	**Iskenderun**	**4.89**	**250**	*i*	P	N	**13 41 27.5**	**+0.9**
KOZT	**Kozan**	**4.93**	**262**	*e*	PN	N	**13 41 27.1**	**-0.1**

*IDC **16** 13:49:06.2±0.8, 46.35N×154.63E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/21, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=29.0km s-min=22.8km az=133.0*
*ISCJB **16** 13:49:09.4±0.8, 46.46N±0.1×154.35E±0.1, h33km, mb3.8/8, Error ellipse: s-maj=18.6km s-min=9.0km az=119.3*
*MOS **16** 13:49:09.3±2.4, 46.43N×154.08E, h33km, mb4.1/6, Error ellipse: s-maj=29.2km s-min=18.1km az=65.4*
ISC 16 13:49:11.8±2.2, 46.46N±0.02×154.66E±0.02, h38km±20km, n17, σ0=0.90/18, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.38**	**13**	*eP*		Pn	**13 50 15.7**	**-0.2**
KUR	**Kuril'sk**	**4.83**	**258**	*eP*		Pn	**13 50 12.5**	**-9.4**
KUR				*eS*		Sn	**13 51 11.0**	**-5.5**
KUR				pmax	pmax			
comp=Z,150nm,0.6s								
KUR				smax				
comp=N,130nm,0.8s								
KUR				smax				
comp=E,190nm,0.8s								
ASAJ	**Asahikawa**	**8.75**	**259**	Pn		**Pn**	**13 51 15.9**	**+0.2**
comp=E,0.8nm,0.3s,baz=63,slow=16,SNR=6.9								
ASAJ	**Asahikawa**	**8.75**	**259**	PN		**Pn**	**13 51 15.9**	**+0.2**
ASAJ				pmax	pmax			
comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**21.66**	**255**	P		**P**	**13 54 02.1**	**+3.1**
comp=Z,1.7nm,0.7s,mb3.6,baz=59,slow=10,SNR=7.5								
BILL	**Bilibino**	**22.50**	**12**	*eP*		**P**	**13 54 07.7**	**-0.2**
BILL				pmax	pmax			
comp=Z,5.0nm,0.8s,mb4.0								
MKAR	**Makanchi Array**	**47.97**	**298**	P		**P**	**13 57 45.3**	**-1.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=67,slow=5.7,SNR=6.9								
MKAR	**Makanchi Array**	**47.97**	**298**	P		**P**	**13 57 45.3**	**-1.5**
MKAR				pmax	pmax			
comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**64.13**	**54**	P		**P**	**13 59 42.0**	**-0.2**
comp=Z,0.6nm,0.8s,mb3.7,baz=274,slow=2.2,SNR=5.7								
WRA	**Warramunga Arr**	**68.54**	**200**	P		**P**	**14 00 09.6**	**-0.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=19,slow=6.8,SNR=6.0								
WRA	**Warramunga Arr**	**68.54**	**200**	P		**P**	**14 00 09.6**	**-0.9**
WRA				pmax	pmax			
comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**68.85**	**342**	P		**P**	**14 00 13.8**	**+1.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=26,slow=6.6,SNR=3.0								
NOA	**NORSAR Array B**	**68.85**	**342**	P		**P**	**14 00 13.8**	**+1.4**
NOA				pmax	pmax			
comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**72.23**	**200**	P		**P**	**14 00 33.2**	**+0.2**
comp=Z,0.9nm,0.8s,mb3.7,baz=16,slow=6.5,SNR=12								
ASAR	**Alice Springs**	**72.23**	**200**	P		**P**	**14 00 33.2**	**+0.2**
ASAR				pmax	pmax			
comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**76.78**	**61**	P		**P**	**14 00 59.9**	**+0.5**
comp=Z,1.6nm,0.6s,mb4.1,baz=291,slow=3.6,SNR=8.7								

TXAR	**Lajitas Array**	**76.78**	**61**	P	**P**		**14 00 59.9**	**+0.5**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								

*ISK **16** 13:56:25.6, 36.41N×4126E, h5km, MD4.0*
*ISCJB **16** 13:56:26.7±0.6, 36.34N±004×4129E±004, h10km, Error ellipse: s-maj=6.5km s-min=3.8km az=131.3*
*CSEM **16** 13:56:29.2±0.1, 36.43N×4130E, h40km, MD4.0, Error ellipse: s-maj=4.0km s-min=1.9km az=166.0*

ISC 16 13:56:27.8±0.6, 3635N±004×4130E±004, h10km, n35, σ1§17/42, Iraq

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
MARD	**Mardin**	**1.04**	**337**	*i* P	**Pg**		**13 56 45.4**		**-2.5**
MARD				*i* S	**Sg**		**13 57 00.2**		**-1.3**
MSL	**Mosul**	**1.45**	**92**	*i* x	x		13 56 53.0		
MSL				*ex*	x		13 57 14.0		
SIRT	**Sirnak**	**1.47**	**38**	PN	**Pn**		**13 56 53.6**		**-0.7**
DIY	**Diyarbakir**	**1.76**	**331**	PN	**Pn**		**13 56 56.7**		**-1.7**
DIY				*i* S	**Sn**		**13 57 21.1**		**+0.3**
BTMT	**Batman**	**1.84**	**5**	PN	**Pn**		**13 56 58.2**		**-1.3**
CUKT	**Cukurca**	**2.06**	**64**	PN	**Pn**		**13 57 02.0**		**-0.5**
URFA	**Urfa**	**2.26**	**299**	PN	**Pn**		**13 57 04.4**		**-0.8**
HAKT	**HAKKARI**	**2.27**	**57**	*i* P	**Pn**		**13 57 05.1**		**-0.3**
HAKT				*i* S	**Sn**		**13 57 36.7**		**+3.2**
HKR	**Hakkari**	**2.31**	**57**	PN	**Pn**		**13 57 06.4**		**+0.5**
BNGL	**BINGOL**	**2.60**	**357**	*i* P	**Pn**		**13 57 09.7**		**-0.1**
BNGL				*i* S	**Sg**		**13 57 52.2**		**+1.0**
BINT	**Bingol**	**2.60**	**346**	PN	**Pn**		**13 57 09.6**		**-0.3**
ATAB	**Bozova**	**2.65**	**296**	*i* P	**Pn**		**13 57 06.6**		**-4.0**
ATAB				*i* S	**Sn**		**13 57 44.2**		**+1.5**
ATAB	**Bozova**	**2.65**	**296**	*i* P	**Pn**		**13 57 06.6**		**-4.0**
ATAB				*i* S	**Sn**		**13 57 44.2**		**+1.4**
VANT	**Van**	**2.67**	**38**	PN	**Pn**		**13 57 09.8**		**-1.1**
TVAN	**Van**	**2.75**	**37**	*i* P	**Pn**		**13 57 10.4**		**-1.5**
TVAN				*i* S	**Sg**		**13 57 59.5**		**+3.5**
VANB	**Van**	**2.79**	**36**	*e*PN	**Pn**		**13 57 12.2**		**-0.3**
ELZG	**Elazig**	**2.82**	**320**	*i* P	**Pn**		**13 57 16.1**		**+3.2**
ELZG				*i* S	**Sn**		**13 57 51.5**		**+4.5**
PTK	**Pertek**	**2.95**	**330**	*e*PN	**Pn**		**13 57 14.9**		**+0.2**
MYA	**Malataya**	**3.02**	**312**	*e*PN	**Pn**		**13 57 15.2**		**-0.5**
GZT	**Gaziantep**	**3.16**	**290**	*i* P	**Pn**		**13 57 13.6**		**-3.9**
GAZ	**Gaziantep**	**3.38**	**285**	*e*PN	**Pn**		**13 57 20.7**		**+0.1**
CLDR	**Caldiran**	**3.48**	**36**	*e*PN	**Pn**		**13 57 22.7**		**+0.8**
ERZM	**Erzurum**	**3.55**	**1**	*i* P	**Pn**		**13 57 23.8**		**+0.9**
EZM	**Erzurum**	**3.58**	**1**	*e*PN	**Pn**		**13 57 23.0**		**+0.1**
EZC	**Erzincan**	**3.58**	**341**	*e*PN	**Pn**		**13 57 25.1**		**+1.6**
KMRS	**Kahramanmaras**	**3.71**	**289**	*e*PN	**Pn**		**13 57 25.6**		**+0.5**
BHD	**Baghdad**	**3.99**	**140**	*ex*	x		13 57 26.0		
BHD				*i* x	x		13 58 15.0		
COBT	**Iskenderun**	**4.07**	**274**	*i* P	**Pb**		**13 57 37.5**		**-2.0**
COBT				*i* S	**Sb**		**13 58 27.7**		**-1.1**
HTY	**Hatay**	**4.18**	**268**	*e*PN	**Pn**		**13 57 33.2**		**+1.6**
CEYT	**Ceyhan**	**4.51**	**280**	*e*PN	**Pn**		**13 57 37.3**		**+1.2**
KOZT	**Kozan**	**4.53**	**286**	*e*PN	**Pn**		**13 57 37.8**		**+1.4**
HWQ	**Hawqa**	**4.84**	**246**	*e*Pn	**Pn**		**13 57 40.1**		**-0.5**
KARA	**Karaisali**	**5.09**	**282**	*e*PN	**Pn**		**13 57 45.3**		**+1.2**
BHL	**Bhannes**	**5.23**	**244**	*e*Pn	**Pn**		**13 57 45.7**		**-0.3**
YOZ	**Yozgat**	**5.75**	**307**	*e*PN	**Pn**		**13 57 53.8**		**+0.6**

*IDC **16** 13:56:26.2±1.0, 46.39N×1549.3E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=31.8km s-min=22.1km az=158.0*
*ISCJB **16** 13:56:29.8±0.9, 46.4N±02×154.8E±02, h35km, mb3.8/7, Error ellipse: s-maj=29.1km s-min=15.3km az=135.1*
*MOS **16** 13:56:29.2±2.0, 46.71N×154.68E, h33km, mb4.1/5, Error ellipse: s-maj=39.2km s-min=24.1km az=78.8*

ISC 16 13:56:31.6±0.9, 465N±02×1548E±02, h35km, n15, σ0§94/15, mb3.8/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
SKR	**Severo-Kuril's**	**4.32**	**11**	*e*PN	**Pn**		**13 57 28.2**		**-6.6**
ASAJ	**Asahikawa**	**8.93**	**259**	Pn	**Pn**		**13 58 37.6**		**-0.4**
	0.6nm,0.3s,baz=360,slow=20,SNR=5.4								
ASAJ	**Asahikawa**	**8.93**	**259**	PN	**Pn**		**13 58 37.7**		**-0.3**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**21.85**	**255**	P	**P**		**14 01 22.2**		**+1.3**
	comp=Z,1.6nm,0.7s,mb3.5,baz=50,slow=11,SNR=5.9								
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**		**14 05 06.4**		**-1.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=70,slow=8.0,SNR=5.6								
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**		**14 05 06.4**		**-1.6**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**63.97**	**55**	P	**P**		**14 07 01.1**		**-0.2**
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=3.2,SNR=3.8								
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**		**14 07 06.4**		**-0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=37,slow=8.3,SNR=12								
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**		**14 07 06.4**		**-0.3**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**68.89**	**342**	P	**P**		**14 07 34.4**		**+1.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=26,slow=6.5,SNR=2.6								
NOA	**NORSAR Array B**	**68.89**	**342**	P	**P**		**14 07 34.4**		**+1.7**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**		**14 07 53.3**		**-0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=10,slow=5.4,SNR=5.1								
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**		**14 07 53.3**		**-0.3**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**76.61**	**62**	P	**P**		**14 08 18.5**		**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=310,slow=3.4,SNR=13								
TXAR	**Lajitas Array**	**76.61**	**62**	P	**P**		**14 08 18.5**		**0.0**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								

IDC 16 14:12:35.7±1.2, 4704N×15387E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, Error ellipse: s-maj=31.7km s-min=30.9km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
INK	**Inuvik**	**41.13**	**33**	P	P		14 20 21.6		+0.1
	6.2nm,1.4s,baz=245,slow=7.7,SNR=3.5								
MKAR	**Makanchi Array**	**47.27**	**297**	P	P		14 21 11.0		+0.3
	0.3nm,0.4s,baz=45,slow=7.0,SNR=2.6								
BVAR	**Borovoye Array**	**51.07**	**310**	P	P		14 21 39.6		-0.2
	0.5nm,0.3s,baz=56,slow=7.6,SNR=4.7								
FINES	**FINESS Array B**	**64.00**	**335**	P	P		14 23 10.3		-0.6
	0.5nm,0.3s,baz=41,slow=8.0,SNR=7.3								
AKASG	**Malin Array Be**	**71.59**	**327**	P	P		14 23 57.9		-1.0
	0.9nm,0.4s,baz=7.2,slow=5.9,SNR=2.4								
ASAR	**Alice Springs**	**72.65**	**199**	P	P		14 24 05.2		0.0
	0.3nm,0.7s,baz=7.2,slow=6.2,SNR=5.2								
TXAR	**Lajitas Array**	**76.90**	**61**	P	P		14 24 29.7		-0.1
	0.5nm,0.6s,baz=300,slow=4.2,SNR=6.0								

*ISCJB **16** 14:13:46.4±0.8, 465N±0.1×1555E±0.2, h10km, mb3.9/9, Error ellipse: s-maj=21.3km s-min=13.0km az=107.4*
*IDC **16** 14:13:46.7±0.9, 46.46N×155.59E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=26.7km s-min=20.3km az=139.0*
*NEIC **16** 14:13:48.2±0.7, 46.50N×155.44E, h10km, mb4.6/1, Error ellipse: s-maj=21.0km s-min=18.5km az=101.0*
*MOS **16** 14:13:49.7±1.2, 46.53N×155.30E, h33km, mb4.4/2, Error ellipse: s-maj=23.5km s-min=19.5km az=63.4*

ISC 16 14:13:48.1±0.8, 466N±01×1555E±02, h10km, n14, σ1§04/14, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
KUR	**Kuril'sk**	**5.50**	**259**	*e*PN	**Pn**		**14 15 07.0**		**-3.1**
ASAJ	**Asahikawa**	**9.42**	**260**	Pn	**Pn**		**14 16 05.8**		**+1.9**
	0.4nm,0.3s,baz=61,slow=10,SNR=3.7								
BILL	**Bilibino**	**22.24**	**11**	*e*P	**P**		**14 18 44.6**		**-0.3**
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb3.8								
KSRS	**Korea Array**	**22.34**	**256**	P	**P**		**14 18 46.5**		**+0.5**
	comp=Z,0.6nm,0.5s,baz=56,slow=11,SNR=3.4								
INK	**Inuvik**	**40.93**	**32**	P	**P**		**14 21 30.8**		**+0.1**
	comp=Z,0.8nm,0.9s,mb3.4,baz=287,slow=5.9,SNR=2.7								
MKAR	**Makanchi Array**	**48.50**	**299**	P	**P**		**14 22 31.2**		**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=71,slow=7.8,SNR=4.0								
CHKZ	**Chkalovo**	**51.82**	**311**	P	**P**		**14 22 54.4**		**-1.8**
CHKZ				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.5								
CHKZ	**Chkalovo**	**51.82**	**311**	P	**P**		**14 22 54.4**		**-1.7**
	comp=Z,4.5nm,0.6s,mb4.6								
BVAR	**Borovoye Array**	**52.26**	**310**	P	**P**		**14 22 59.7**		**+0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=60,slow=8.8,SNR=8.9								
FINES	**FINESS Array B**	**64.91**	**336**	P	**P**		**14 24 28.2**		**+0.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=28,slow=8.6,SNR=5.0								
FINES	**FINESS Array B**	**64.91**	**336**	P	**P**		**14 24 28.2**		**+0.5**
WRA	**Warramunga Arr**	**68.90**	**201**	P	**P**		**14 24 52.2**		**-0.8**
	comp=Z,0.9nm,0.9s,mb3.7,baz=12,slow=6.0,SNR=5.0								
ASAR	**Alice Springs**	**72.58**	**201**	P	**P**		**14 25 15.5**		**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=11,slow=4.3,SNR=9.4								
TXAR	**Lajitas Array**	**76.13**	**62**	P	**P**		**14 25 36.8**		**+0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=306,slow=3.9,SNR=12								

*ISCJB **16** 14:16:30.2±0.9, 466N±0.1×1548E±02, h10km, mb4.1/12, Error ellipse: s-maj=21.0km s-min=11.1km az=104.4*
*IDC **16** 14:16:30.4±1.0, 46.56N×154.94E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/40, Error ellipse: s-maj=26.9km s-min=21.1km az=163.0*
*NEIC **16** 14:16:31.9±0.8, 46.55N×154.85E, h10km, mb4.7/1, Error ellipse: s-maj=22.7km s-min=17.7km az=198.0*
*MOS **16** 14:16:32.5±1.2, 46.65N×154.65E, h27km, mb4.6/3, Error ellipse: s-maj=21.5km s-min=15.1km az=85.9*

ISC 16 14:16:32.0±0.9, 467N±01×1548E±02, h10km, n19, σ0§95/19, mb4.1/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
SKR	**Severo-Kuril's**	**4.10**	**12**	*e*PN	**Pn**		**14 17 33.1**		**-1.6**
KUR	**Kuril'sk**	**5.06**	**256**	*e*PN	**Pn**		**14 17 45.0**		**-3.0**
ASAJ	**Asahikawa**	**8.98**	**258**	Pn	**Pn**		**14 18 41.7**		**0.0**
	0.5nm,0.3s,baz=80,slow=13,SNR=3.8								
ASAJ				LR	LR		14 21 38.6		
	comp=Z,38nm,21.4s,baz=168,slow=34								
ASAJ	**Asahikawa**	**8.98**	**258**	PN	**Pn**		**14 18 41.7**		**0.0**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,39nm,21.4s								
KSRS	**Korea Array**	**21.91**	**255**	P	**P**		**14 21 26.9**		**+1.5**
	comp=Z,2.0nm,0.8s,mb3.6,baz=56,slow=11,SNR=6.0								
BILL	**Bilibino**	**22.21**	**11**	*e*P	**P**		**14 21 29.1**		**+0.5**
BILL				pmax	pmax				
	comp=Z,13nm,1.3s,mb4.2								
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**		**14 25 11.7**		**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=72,slow=7.8,SNR=6.8								
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**		**14 25 36.4**		**-0.4**
CHKZ				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.7								
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**		**14 25 36.4**		**-0.5**
	comp=Z,5.1nm,0.5s,mb4.7								
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**		**14 25 40.3**		**+0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=56,slow=7.9,SNR=12								
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**		**14 26 27.5**		**+0.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=16,slow=6.9,SNR=7.4								
AKTK	**Aktyubinsk**	**59.65**	**313**	P	**P**		**14 26 36.5**		**+0.1**
AKTO	**Aktyubinsk**	**59.65**	**313**	P	**P**		**14 26 36.5**		**+0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=45,slow=8.6,SNR=3.7								
AKTO	**Aktyubinsk**	**59.65**	**313**	P	**P**		**14 26 36.5**		**+0.1**
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.1								
PDAR	**Pinedale Array**	**63.83**	**55**	P	**P**		**14 27 04.8**		**+0.3**
	comp=Z,0.4nm,0.5s,mb3.8,baz=340,slow=2.2,SNR=3.8								
FINES	**FINESS Array B**	**64.60**	**335**	P	**P**		**14 27 08.8**		**-0.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=56,slow=10,SNR=7.1								
NOA	**NORSAR Array B**	**68.67**	**342**	P	**P**		**14 27 37.3**		**+1.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=26,slow=6.4,SNR=3.1								
ASAR	**Alice Springs**	**72.53**	**200**	P	**P**		**14 27 58.3**		**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=15,slow=4.3,SNR=7.2								
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**		**14 28 22.1**		**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=302,slow=4.5,SNR=14								

IDC 16 14:18:32.7±1.1, 4666N×15354E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=40.7km s-min=29.3km az=79.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
BVAR	**Borovoye Array**	**51.14**	**310**	P	P		14 27 35.1		-2.3
	0.8nm,0.6s,baz=46,slow=6.2,SNR=3.6								
FINES	**FINESS Array B**	**64.25**	**335**	P	P		14 29 09.1		-0.5
	1.3nm,0.8s,baz=38,slow=9.6,SNR=4.6								
NOA	**NORSAR Array B**	**68.41**	**341**	P	P		14 29 36.4		+0.2
	0.8nm,0.6s,baz=28,slow=6.5,SNR=3.0								
HFS	**Hagfors**	**68.65**	**340**	P	P		14 29 37.9		+0.2
	1.1nm,0.4s,baz=37,slow=7.4,SNR=9.0								
ASAR	**Alice Springs**	**72.21**	**199**	P	P		14 29 59.7		+0.2
	0.3nm,0.6s,baz=11,slow=6.5,SNR=7.2								
TXAR	**Lajitas Array**	**77.28**	**61**	P	P		14 30 28.5		-0.4
	0.3nm,0.6s,baz=286,slow=4.6,SNR=3.8								

*IDC **16** 14:27:07.2±1.2, 46.62N×153.07E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/42, Error ellipse: s-maj=34.1km s-min=26.0km az=151.0*
*MOS **16** 14:27:11.9±1.3, 46.51N×152.62E, h44km, mb4.3/4, Error ellipse: s-maj=29.6km s-min=19.6km az=58.2*
*ISCJB **16** 14:27:13.4±2.0, 466N±02×1529E±02, h59km±16km, mb3.8/6, Error ellipse: s-maj=33.5km s-min=11.6km az=106.6*

ISC 16 14:27:15.5±1.8, 466N±02×1529E±02, h62km±14km, n15, σ0§79/16, mb3.8/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
KUR	**Kuril'sk**	**3.73**	**250**	*i*PN	**Pn**		**14 28 04.4**		**-6.2**
KUR				*e*S	**Sn**		**14 28 54.4**		**+1.1**
KUR				pmax	pmax				
	comp=Z,210nm,0.6s								
KUR				smax					
	comp=N,110nm,0.8s								
KUR				smax					
	comp=E,240nm,0.8s								
SKR	**Severo-Kuril's**	**4.63**	**27**	*e*PN	**Pn**		**14 28 23.5**		**+0.6**
SKR				*e*			14 29 17.5		
ASAJ	**Asahikawa**	**7.64**	**255**	Pn	**Pn**		**14 29 02.1**		**-1.9**
	comp=E,1.0nm,0.3s,baz=62,slow=24,SNR=8.1								
ASAJ				LR	LR		14 31 52.4		
	comp=E,80nm,19.2s,baz=351,slow=37								
ASAJ	**Asahikawa**	**7.64**	**255**	PN	**Pn**		**14 29 02.1**		**-1.9**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,80nm,19.2s								
KSRS	**Korea Array**	**20.58**	**253**	P	**P**		**14 31 49.3**		**+0.1**
	comp=Z,1.6nm,0.7s,baz=60,slow=12,SNR=5.4								
MKAR	**Makanchi Array**	**46.85**	**297**	P	**P**		**14 35 39.0**		**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=55,slow=6.5,SNR=6.3								
MKAR	**Makanchi Array**	**46.85**	**297**	P	**P**		**14 35 39.0**		**-0.3**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
FINES	**FINESS Array B**	**64.11**	**335**	P	**P**		**14 37 43.0**		**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=35,slow=7.0,SNR=5.7								
FINES	**FINESS Array B**	**64.11**	**335**	P	**P**		**14 37 43.1**		**0.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**68.54**	**339**	P	**P**		**14 38 11.9**		**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=48,slow=2.2,SNR=4.6								
HFS	**Hagfors**	**68.54**	**339**	P	**P**		**14 38 11.9**		**+0.4**
HFS				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**71.58**	**326**	P	**P**		**14 38 29.9**		**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=34,slow=6.1,SNR=4.1								
AKASG	**Malin Array Be**	**71.58**	**326**	P	**P**		**14 38 29.9**		**-0.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**72.00**	**198**	P	**P**		**14 38 33.3**		**+0.7**
	comp=Z,0.2nm,0.7s,mb3.2,baz=16,slow=6.3,SNR=2.0								
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**		**14 39 05.0**		**-0.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=309,slow=5.7,SNR=3.2								

*ISCJB **16** 14:32:55.7±0.6, 46.17N±008×154.48E±009, h10km, mb4.3/35, MS3.8/3, Error ellipse: s-maj=13.4km s-min=7.2km az=119.2*
*IDC **16** 14:32:56.0±0.8, 46.11N×154.50E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/26, mbtmp4.0/16, ML4.1/1, Error ellipse: s-maj=21.6km s-min=18.0km az=152.0*

*NEIC **16** 14:32:58.3±5.7, 46.22N×154.52E, h14km±34km, mb4.5/14, Error ellipse: s-maj=16.1km s-min=9.0km az=159.0*
*MOS **16** 14:32:59.2±1.2, 46.11N×154.33E, h33km, mb4.6/16, Error ellipse: s-maj=12.4km s-min=9.8km az=110.0*
*BJI **16** 14:32:59.3, 47.01N×153.98E, h10km, mB4.6, mb4.3, Ms4.2, Ms2.4.0*

ISC 16 14:32:58.3±3.0, 4620N±009×15450E±009, h14km±18km, h16km±.8km: pP-P, n68, σ1§11/70, mb4.3/35, MS3.8/3, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC		h	m s	ISC
SKR	**Severo-Kuril's**	**4.61**	**13**	*e*PN	**Pn**		**14 34 08.0**		**+0.5**
KUR	**Kuril'sk**	**4.75**	**261**	*e*PN	**Pn**		**14 34 06.5**		**-2.8**
KUR				pmax	pmax				
	comp=Z,120nm,0.7s								
PET	**Petropavlovsk**	**7.34**	**20**	*e*Pn	**Pn**		**14 34 43.5**		**-1.5**
PET				*e*Sn	**Sn**		**14 36 01.2**		**-6.9**
YSS	**Yuzh-Sakhalins**	**8.13**	**280**	*e*PN	**Pn**		**14 35 02.2**		**+6.4**
YSS	**Yuzh-Sakhalins**	**8.13**	**280**	P	**Pn**		**14 34 57.3**		**+1.5**
	comp=Z,15nm,0.9s								
ASAJ	**Asahikawa**	**8.67**	**260**	Pn	**Pn**		**14 35 03.5**		**+0.4**
	comp=Z,2.5nm,0.3s,baz=90,slow=11,SNR=12								
ASAJ	**Asahikawa**	**8.67**	**260**	PN	**Pn**		**14 35 03.5**		**+0.3**
ASAJ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
MAJO	**Matsushiro**	**15.55**	**237**	P	**Pn**		**14 36 32.9**		**-4.1**
MAJO				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MAJO	**Matsushiro**	**15.55**	**237**	P	**Pn**		**14 36 32.9**		**-4.1**
	comp=Z,6.7nm,0.8s								
KLR	**Kul'dur**	**15.60**	**289**	*e*P	**Pn**		**14 36 44.3**		**+6.7**
CN2	**Changchun**	**20.64**	**274**	*e*P	**P**		**14 37 37.8**		**+0.6**
YAK	**Yakutsk**	**21.30**	**327**	*e*P	**P**		**14 37 44.8**		**+0.4**
YAK				pmax	pmax				
	comp=Z,14nm,0.7s,mb4.4								
YAK	**Yakutsk**	**21.30**	**327**	*e*P	**P**		**14 37 44.8**		**+0.3**
	comp=Z,14nm,0.7s,mb4.4								
KSRS	**Korea Array**	**21.57**	**256**	P	**P**		**14 37 47.3**		**0.0**
	comp=Z,1.4nm,0.7s,mb3.5,baz=63,slow=9.9,SNR=6.4								
SNY	**Shenyang**	**22.59**	**270**	⇑P	**P**		**14 38 01.3**		**+3.1**
SNY				AMB	AMB				
	comp=Z,11nm,0.6s,mb4.5								
BILL	**Bilibino**	**22.73**	**11**	⇓*e*P	**P**		**14 38 01.3**		**+1.6**
BILL				*e*			14 38 06.9		
BILL				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.4								
BILL	**Bilibino**	**22.73**	**11**	*e*P	**P**		**14 37 58.1**		**-1.6**
	comp=Z,26nm,1.3s,mb4.5								
HIA	**Hailar**	**23.45**	**290**	*e*P	**P**		**14 38 05.5**		**-1.8**
HIA				pmax	pmax				
	comp=Z,14nm,1.8s								
HIA	**Hailar**	**23.45**	**290**	*e*P	**P**		**14 38 05.5**		**-1.8**
	comp=Z,14nm,1.8s,mb4.1								
BOD	**Bodaibo**	**27.08**	**310**	*e*P	**P**		**14 38 39.0**		**-1.3**
BOD				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.0								
FALS	**False Pass**	**27.75**	**56**	*e*P	**P**		**14 38 46.0**		**-0.4**
HHC	**Hu-ho-hao-te**	**31.30**	**276**	*e*P	**P**		**14 39 17.9**		**+0.1**
HHC				AP	pP		14 39 22.4		+0.2
HHC				XP	sP		14 39 24.9		+0.9
HHC				PP	PP		14 40 22.1		-6.4
HHC				PCP	PcP		14 42 13.4		+1.6
HHC				S	**S**		**14 44 23.4**		**-0.7**
HHC				XS	sS		14 44 31.1		-0.2
HHC				SCP	ScP		14 45 53.6		-0.7
HHC				AMB	AMB				
	comp=Z,20nm,1.2s,mb4.8								
HHC				AMB	AMB				
	comp=Z,99nm,8.3s								
HHC				LR	LR				
	comp=N,148nm,12.6s,MS3.9

ZRNK	**Zerenda**	**52.72**	**311**	*e*P	**P**	**14 42 12.1**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**52.72**	**311**	*e*P	**P**	**14 42 12.1**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**14 42 29.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**14 42 29.1**	**+0.5**
	comp=Z,2.5nm,0.9s,mb4.2						
ARU	**Arti**	**56.06**	**318**	*e*P	**P**	**14 42 36.7**	**0.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ARU	**Arti**	**56.06**	**318**	*e*P	**P**	**14 42 36.7**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.9						
ARCES	**ARCESS Array B**	**58.69**	**341**	P	**P**	**14 42 53.8**	**-1.5**
	comp=Z,7.9nm,0.9s,mb4.8,baz=27,slow=8.2,SNR=4.1						
AKTK	**Aktyubinsk**	**59.81**	**313**	P	**P**	**14 43 03.1**	**+0.1**
AKTO	**Aktyubinsk**	**59.81**	**313**	P	**P**	**14 43 03.1**	**+0.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=81,slow=8.6,SNR=3.3						
AKTO	**Aktyubinsk**	**59.81**	**313**	P	**P**	**14 43 03.1**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**64.29**	**54**	P	**P**	**14 43 33.3**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=308,slow=5.5,SNR=4.0						
FINES	**FINESS Array B**	**64.94**	**335**	P	**P**	**14 43 37.6**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=43,slow=8.6,SNR=9.8						
WRA	**Warramunga Arr**	**68.32**	**200**	P	**P**	**14 43 58.1**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.8,baz=17,slow=6.6,SNR=3.8						
KIV	**Kislovodsk**	**71.87**	**315**	P	**P**	**14 44 24.2**	**+3.5**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**71.87**	**315**	P	**P**	**14 44 24.2**	**+3.5**
	comp=Z,11nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**72.00**	**200**	P	**P**	**14 44 20.9**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=15,slow=6.4,SNR=12						
AKASG	**Malin Array Be**	**72.53**	**327**	P	**P**	**14 44 23.1**	**-1.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=32,slow=6.8,SNR=7.0						
TXAR	**Lajitas Array**	**76.92**	**61**	P	**P**	**14 44 50.7**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=302,slow=5.2,SNR=8.7						
MMAI	**Mount Meron Ar**	**83.90**	**312**	P	**P**	**14 45 28.9**	**+1.4**
	comp=Z,2.6nm,0.5s,mb4.6,baz=30,slow=6.8,SNR=6.1						

IDC 16 14:33:03.0±28.0, 4771N×15249E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=644.2km s-min=73.1km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.13**	**296**	P	P	14 41 28.8	-0.3
	0.3nm,0.7s,baz=71,slow=9.3,SNR=2.9						
BVAR	**Borovoye Array**	**49.92**	**309**	P	P	14 41 58.0	-0.5
	0.2nm,0.3s,baz=84,slow=6.7,SNR=3.3						
FINES	**FINESS Array B**	**62.99**	**334**	P	P	14 43 31.1	-0.5
	1.0nm,0.7s,baz=35,slow=10,SNR=2.7						
NOA	**NORSAR Array B**	**67.18**	**341**	P	P	14 43 58.1	-0.7
	1.0nm,0.6s,baz=27,slow=6.6,SNR=3.0						
HFS	**Hagfors**	**67.41**	**339**	P	P	14 43 59.9	-0.3
	1.3nm,0.4s,baz=15,slow=6.0,SNR=7.9						

*ISCJB **16** 14:39:26.3±0.5, 4671N×10057×15572E×009, h10km, mb4.2/26, MS3.6/2, Error ellipse: s-maj=10.8km s-min=7.7km az=97.6*
*BJI **16** 14:39:26.4, 4700N×15573E, h8km, mB4.7, mb4.5, Ms3.6, Msz3.6*
*IDC **16** 14:39:27.1±0.7, 4676N×15567E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/27, mbtmp4.0/14, ML3.8/1, Error ellipse: s-maj=21.8km s-min=16.7km az=146.0*
*NEIC **16** 14:39:28.1±0.6, 4682N×15571E, h10km, mb4.5/11, Error ellipse: s-maj=15.0km s-min=10.3km az=125.0*
*MOS **16** 14:39:29.2±1.8, 4684N×15561E, h29km, mb4.5/9, Error ellipse: s-maj=12.7km s-min=10.0km az=75.3*

ISC 16 14:39:28.2±0.5, 4674N±007×15571E±009, h10km, (h14km±2.0km:pP-P), n51, σ1§11/54, mb4.2/26, MS3.6/2, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.95**	**4**	*e*PN	**Pn**	**14 40 27.4**	**-1.5**
KUR	**Kuril'sk**	**5.67**	**257**	⇓*i*PN	**Pn**	**14 40 49.9**	**-2.6**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
PET	**Petropavlovsk**	**6.57**	**16**	*e*PN	**Pn**	**14 41 00.4**	**-4.4**
PET				pmax	pmax		
	comp=Z,48nm,1.3s						
PET	**Petropavlovsk**	**6.57**	**16**	*e*Pn	**Pn**	**14 41 00.4**	**-4.4**
	comp=Z,48nm,1.3s						
PET				*e*Sn	**Sn**	**14 42 07.9**	**-12**
YSS	**Yuzh-Sakhalins**	**8.88**	**276**	PN	**Pn**	**14 41 39.2**	**+2.6**
ASAJ	**Asahikawa**	**9.59**	**259**	Pn	**Pn**	**14 41 46.9**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=82,slow=15,SNR=7.1						
ASAJ	**Asahikawa**	**9.59**	**259**	PN	**Pn**	**14 41 46.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.55**	**238**	Pn	**Pn**	**14 43 19.0**	**-1.3**
	baz=29,slow=12,SNR=4.7						
MAJO	**Matsushiro**	**16.55**	**238**	P	**Pn**	**14 43 19.3**	**-1.0**
BILL	**Bilibino**	**22.03**	**11**	*e*P	**P**	**14 44 24.0**	**+1.2**
BILL				*e*		14 44 34.1	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
KSRS	**Korea Array**	**22.51**	**256**	P	**P**	**14 44 26.9**	**-1.0**
	comp=Z,1.6nm,0.8s,mb3.5,baz=61,slow=10,SNR=6.9						
HHC	**Hu-ho-hao-te**	**32.07**	**276**	*e*P	**P**	**14 45 56.3**	**+1.1**
HHC				AP	pP	14 46 00.8	+2.5
HHC				XP	sP	14 46 02.9	+3.4
HHC				PP	PP	14 47 04.1	-3.5
HHC				PCP	PcP	14 48 43.6	-1.0
HHC				S	**S**	**14 51 07.8**	**+0.5**
HHC				XS	sS	14 51 14.5	+2.2
HHC				SCP	ScP	14 52 26.9	-1.2
HHC				PCS	PcS	14 52 29.5	+0.2
HHC				SS	SS	14 53 02.3	-22
HHC				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,69nm,6.1s						
HHC				LR	LR		
	comp=N,117nm,14.2s,MS3.9						
HHC				LR	LR		
	comp=E,128nm,13.3s,MS3.9						
HHC				LR	LR		
	comp=Z,156nm,14.7s,MS3.8						
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**14 46 03.3**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=74,slow=8.3,SNR=2.9						
LZH	**Lanzhou**	**39.67**	**274**	*e*P	**P**	**14 47 00.8**	**+0.5**
LZH				AP	pP	14 47 03.8	+0.4
LZH				XP	sP	14 47 05.9	+1.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.67**	**274**	*e*P	**P**	**14 47 00.8**	**+0.5**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	14 47 03.8	+0.4
LZH				sP	sP	14 47 05.9	+1.2
INK	**Inuvik**	**40.70**	**33**	P	**P**	**14 47 07.8**	**-1.0**
	comp=Z,1.5nm,0.6s,mb3.8,baz=308,slow=5.5,SNR=13						
INK	**Inuvik**	**40.70**	**33**	P	**P**	**14 47 07.9**	**-1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**40.70**	**33**	*e*P	**P**	**14 47 07.6**	**-1.2**
	comp=Z,77nm,0.7s,mb5.4						
CD2	**Chengdu**	**42.66**	**267**	*e*P	**P**	**14 47 24.3**	**-0.6**
GYA	**Guiyang**	**43.46**	**260**	P	**P**	**14 47 33.1**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
WMQ	**Urumqi**	**46.59**	**292**	⇑P	**P**	**14 47 57.5**	**+1.2**
WMQ				AP	pP	14 48 02.0	+2.6
WMQ				XP	sP	14 48 04.5	+3.9
WMQ				PCP	PcP	14 49 31.9	+1.6
WMQ				PP	PP	14 49 47.0	+1.4
WMQ				S	**S**	**14 54 45.1**	**0.0**
WMQ				XS	sS	14 54 53.0	+2.8
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,69nm,3.9s						
WMQ				LR	LR		
	comp=N,22nm,18.3s,MS3.4						
WMQ				LR	LR		
	comp=E,29nm,18.3s,MS3.4						
WMQ				LR	LR		
	comp=Z,36nm,20.5s,MS3.3						
KMI	**Kunming**	**47.00**	**262**	P	**P**	**14 48 02.8**	**+3.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI	**Kunming**	**47.00**	**262**	P	**P**	**14 48 02.7**	**+3.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI	**Kunming**	**47.00**	**262**	P	**P**	**14 48 02.7**	**+3.2**
	comp=Z,10.0nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**48.52**	**298**	P	**P**	**14 48 10.2**	**-1.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=76,slow=6.4,SNR=4.1						
CHKZ	**Chkalovo**	**51.79**	**311**	*e*P	**P**	**14 48 35.1**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.79**	**311**	*e*P	**P**	**14 48 35.1**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**52.23**	**310**	*e*P	**P**	**14 48 39.4**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=62,slow=7.4,SNR=9.2						
BRVK	**Borovoye**	**52.27**	**310**	*e*P	**P**	**14 48 38.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.27**	**310**	*e*P	**P**	**14 48 38.8**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.99**	**311**	*e*P	**P**	**14 48 44.3**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.99**	**311**	*e*P	**P**	**14 48 44.3**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**55.43**	**298**	*e*P	**P**	**14 49 01.5**	**-1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**55.43**	**298**	*e*P	**P**	**14 49 01.5**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.2						
ARU	**Arti**	**56.21**	**318**	*e*P	**P**	**14 49 08.7**	**+0.3**
ARU	**Arti**	**56.21**	**318**	*e*P	**P**	**14 49 07.2**	**-1.2**
	comp=Z,4.7nm,0.8s,mb4.6						
AKTK	**Aktyubinsk**	**60.05**	**313**	P	**P**	**14 49 36.4**	**+1.1**
AKTO	**Aktyubinsk**	**60.05**	**313**	P	**P**	**14 49 36.4**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=43,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**60.05**	**313**	P	**P**	**14 49 36.4**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RLMT	**Red Lodge**	**61.96**	**53**	*e*P	**P**	**14 49 47.7**	**-0.5**
	comp=Z,59nm,0.8s						
KAKA	**Kakadu**	**62.76**	**206**	*e*P	**P**	**14 49 54.4**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**63.30**	**55**	P	**P**	**14 49 57.8**	**+0.6**
	comp=Z,1.3nm,1.0s,mb4.0,baz=336,slow=1.8,SNR=6.5						
FINES	**FINESS Array B**	**64.79**	**336**	P	**P**	**14 50 07.2**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=34,slow=10,SNR=2.8						
WRAB	**Tennant Creek**	**69.11**	**202**	*e*P	**P**	**14 50 34.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**69.11**	**202**	*e*P	**P**	**14 50 34.2**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**69.12**	**202**	*e*P	**P**	**14 50 34.4**	**-0.1**
WRA	**Warramunga Arr**	**69.12**	**202**	P	**P**	**14 50 34.9**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=20,slow=6.8,SNR=15						
FITZ	**Fitzroy Crossi**	**70.01**	**210**	*e*P	**P**	**14 50 38.3**	**-1.7**
	comp=Z,3.4nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**72.80**	**201**	P	**P**	**14 50 57.9**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.1,baz=16,slow=5.5,SNR=32						
TXAR	**Lajitas Array**	**75.93**	**62**	P	**P**	**14 51 15.9**	**+0.8**
	comp=Z,1.0nm,0.4s,mb4.1,baz=305,slow=4.4,SNR=12						
MMAI	**Mount Meron Ar**	**84.14**	**313**	P	**P**	**14 52 00.7**	**+1.2**
	comp=Z,2.6nm,0.5s,mb4.6,baz=34,slow=9.1,SNR=6.0						

IDC 16 14:41:42.8±48.0, 4531N×14881E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/41, Error ellipse: s-maj=1105.0km s-min=62.4km az=154.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**11.87**	**226**	LR	LR	14 49 16.1	
	comp=Z,54nm,20.1s,baz=65,slow=38						
SONM	**Songino Array**	**29.00**	**290**	P	P	14 47 44.3	0.0
	0.9nm,0.5s,baz=73,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**44.93**	**297**	P	P	14 49 59.0	-0.3
	1.1nm,0.7s,baz=73,slow=9.5,SNR=7.6						
FINES	**FINESS Array B**	**64.02**	**333**	P	P	14 52 17.8	-0.4
	1.3nm,0.8s,baz=45,slow=8.1,SNR=2.6						
NB2	**NORSAR Subarra**	**68.57**	**339**	P	P	14 52 46.9	-0.4
	comp=Z,0.8nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.57**	**339**	P	P	14 52 46.8	-0.5
	comp=Z,1.0nm,0.5s,baz=30,slow=6.5,SNR=3.4						

*IDC **16** 14:44:50.4±0.8, 4627N×15472E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/26, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=23.5km s-min=19.8km az=118.0*
*MOS **16** 14:44:53.8±1.4, 4618N×15430E, h33km, mb4.1/7, Error ellipse: s-maj=21.5km s-min=15.7km az=79.5*
*ISCJB **16** 14:44:54.7±2.2, 4629N±0.1×15441E±0.1, h43km±18km, mb3.9/11, Error ellipse: s-maj=24.5km s-min=11.5km az=109.4*

ISC 16 14:44:57.1±1.9, 4629N±01×15441E±02, h48km±15km, n23, σ1§02/24, mb3.9/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.59**	**14**	*e*PN	**Pn**	**14 46 05.0**	**+1.0**
KUR	**Kuril'sk**	**4.69**	**260**	*e*PN	**Pn**	**14 46 00.5**	**-4.7**
KUR				*e*S	**Sn**	**14 46 57.0**	**-1.3**
KUR				smax			
	comp=N,160nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
ASAJ	**Asahikawa**	**8.61**	**260**	Pn	**Pn**	**14 46 59.2**	**+0.3**
	comp=E,0.8nm,0.3s,baz=136,slow=16,SNR=5.4						
ASAJ	**Asahikawa**	**8.61**	**260**	PN	**Pn**	**14 46 59.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**41.61**	**32**	P	**P**	**14 52 39.1**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.4,baz=270,slow=4.0,SNR=5.0						
INK	**Inuvik**	**41.61**	**32**	P	**P**	**14 52 39.1**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.97**	**298**	P	**P**	**14 53 31.1**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=68,slow=6.9,SNR=4.2						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**14 54 02.1**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=6.7,SNR=3.4						
ARCES	**ARCESS Array B**	**58.63**	**341**	P	**P**	**14 54 49.5**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.4,baz=26,slow=11,SNR=4.3						
ARCES	**ARCESS Array B**	**58.63**	**341**	P	**P**	**14 54 49.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.73**	**313**	P	**P**	**14 54 56.6**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=51,slow=6.5,SNR=4.2						
AKTO	**Aktyubinsk**	**59.73**	**313**	P	**P**	**14 54 56.6**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**64.33**	**54**	P	**P**	**14 55 25.6**	**-2.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=259,slow=1.5,SNR=3.8						
FINES	**FINESS Array B**	**64.89**	**335**	P	**P**	**14 55 30.5**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=25,slow=6.3,SNR=4.3						
FINES	**FINESS Array B**	**64.89**	**335**	P	**P**	**14 55 30.5**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**14 55 53.7**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=19,slow=6.7,SNR=3.4						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**14 55 53.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**69.25**	**340**	P	**P**	**14 55 59.8**	**+0.8**
	comp=Z,7.4nm,1.2s,mb4.5,baz=62,slow=6.9,SNR=4.2						
HFS	**Hagfors**	**69.25**	**340**	P	**P**	**14 55 59.8**	**+0.8**
HFS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ASAR	**Alice Springs**	**72.01**	**200**	P	**P**	**14 56 17.2**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=18,slow=6.3,SNR=22						
ASAR	**Alice Springs**	**72.01**	**200**	P	**P**	**14 56 17.2**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.96**	**61**	P	**P**	**14 56 43.8**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.0,baz=303,slow=3.9,SNR=13						
TXAR	**Lajitas Array**	**76.96**	**61**	P	**P**	**14 56 43.8**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **16** 14:47:49.8±0.6, 4614N×15458E, h0km, mb4.4/21, mb1 4.5/23, mb1mx4.4/30, mbtmp4.4/23, ML4.2/2, Error ellipse: s-maj=17.9km s-min=14.2km az=152.0*
*ISCJB **16** 14:47:50.1±0.4, 4615N±006×15446E±007, h10km, mb4.7/72, MS4.3/7, Error ellipse: s-maj=8.9km s-min=5.6km az=119.6*
*NEIC **16** 14:47:51.1±0.4, 4612N×15453E, h10km, mb4.8/25, Error ellipse: s-maj=9.6km s-min=6.8km az=129.0*
*BJI **16** 14:47:52.9, 4644N×15399E, h10km, mB4.8, mb4.6, Ms4.5, Msz4.2*
*MOS **16** 14:47:53.3±1.1, 4610N×15437E, h33km, mb4.9/32, Error ellipse: s-maj=9.2km s-min=6.2km az=113.4*
*SKHL **16** 14:47:54.0±2.2, 4618N×15432E, h33km*

ISC 16 14:47:51.5±0.4, 4621N±005×15457E±006, h10km, (h16km±1.4km:pP-P), n143, σ1§04/146, mb4.7/72, MS4.3/7, 5C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.59**	**12**	*e*P	**Pn**	**14 49 02.5**	**+1.5**
SKR				AMB	AMB	14 49 08.9	
	80nm,0.5s						
SKR				AMB	AMB	14 49 08.9	
	150nm,0.5s						
SKR				*i* S	**Sn**	**14 49 52.2**	**-2.2**
SKR				A		14 49 54.6	
	390nm,0.5s						
SKR				A		14 49 54.6	
	150nm,0.5s						
KUR	**Kuril'sk**	**4.79**	**261**	*e*P	**Pn**	**14 49 00.5**	**-3.3**
KUR				AMB	AMB	14 49 05.0	
	228nm,0.6s						
KUR				*e*S	**Sn**	**14 49 52.0**	**-7.3**
KUR				A		14 49 55.0	
	344nm,0.7s						
KUR				A		14 49 55.0	
	430nm,0.7s						
PET	**Petropavlovsk**	**7.32**	**20**	*e*PN	**Pn**	**14 49 37.3**	**-1.1**
PET				pmax	pmax		
	comp=Z,26nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**7.32**	**20**	*e*Pn	**Pn**	**14 49 36.9**	**-1.5**
YSS	**Yuzh-Sakhalins**	**8.17**	**279**	⇑*e*P	**Pn**	**14 49 53.0**	**+2.8**
YSS				AMB	AMB	14 49 54.0	
	comp=Z,40nm,1.0s						
YSS				*e*S	**Sn**	**14 51 22.7**	**+0.1**
YSS				A		14 51 27.0	
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.17**	**279**	⇓*e*PN	**Pn**	**14 49 53.0**	**+2.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.17**	**279**	*e*Pn	**Pn**	**14 49 51.5**	**+1.3**
	comp=Z,25nm,0.6s						
ASAJ	**Asahikawa**	**8.71**	**260**	Pn	**Pn**	**14 49 58.0**	**+0.4**
	comp=Z,5.1nm,0.3s,baz=84,slow=12,SNR=15						
ASAJ	**Asahikawa**	**8.71**	**260**	PN	**Pn**	**14 49 58.0**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HABR	**Khabarovsk**	**13.43**	**287**	*e*PN	**Pn**	**14 51 07.6**	**+5.5**
MA2	**Magadan**	**13.58**	**352**	*e*P	**Pn**	**14 51 05.6**	**+1.5**
MAJO	**Matsushiro**	**15.60**	**238**	*e*P	**Pn**	**14 51 27.7**	**-3.7**
MJAR	**Matsushiro Arr**	**15.60**	**238**	Pn	**Pn**	**14 51 28.8**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=5.8						
KLR	**Kul'dur**	**15.64**	**289**	*e*P	**Pn**	**14 51 30.0**	**-1.9**
KLR				MLR	MLR		
	comp=Z,5μm,13.0s						
CN2	**Changchun**	**20.68**	**274**	*e*P	**P**	**14 52 28.6**	**-3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
YAK	**Yakutsk**	**21.32**	**327**	*e*P	**P**	**14 52 39.3**	**+0.8**
YAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.5						
YAK				pmax	pmax		
	comp=N,19nm,1.4s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK	**Yakutsk**	**21.32**	**327**	*e*P	**P**	**14 52 35.9**	**-2.5**
	comp=E,32nm,0.7s,mb4.8						
KSRS	**Korea Array**	**21.62**	**256**	P	**P**	**14 52 42.5**	**+0.9**
	comp=E,3.1nm,0.7s,baz=57,slow=11,SNR=15						
SNY	**Shenyang**	**22.63**	**270**	⇑P	**P**	**14 52 52.3**	**-0.2**
SNY				AP		14 52 54.8	
SNY				XP	sP	14 52 59.5	+2.8
SNY				PP		14 53 14.3	
SNY				AMB	AMB		
	comp=Z,31nm,0.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,228nm,5.3s						
SNY				LR	LR		
	comp=E,465nm,14.8s						
SNY				LR	LR		
	comp=Z,422nm,13.9s,MS4.0						
BILL	**Bilibino**	**22.71**	**11**	⇓*i*P	**P**	**14 52 53.1**	**-0.2**
BILL				pmax	pmax		
	comp=Z,50nm,1.3s,mb4.8						
BILL	**Bilibino**	**22.71**	**11**	*e*P	**P**	**14 52 53.5**	**+0.2**
	comp=Z,440nm,1.9s,mb5.6						
HIA	**Hailar**	**23.49**	**290**	*e*P	**P**	**14 52 58.7**	**-2.9**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	**Hailar**	**23.49**	**290**	*e*P	**P**	**14 52 58.6**	**-3.0**
	comp=Z,6.1nm,0.5s,mb4.3						
BOD	**Bodaibo**	**27.11**	**310**	*e*P	**P**	**14 53 31.9**	**-2.6**
BOD				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
BJI	**Beijing**	**28.49**	**271**	P	**P**	**14 53 47.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
BJI				LR	LR		
	comp=N,347nm,16.7s,MS4.2						
BJI				LR	LR		
	comp=E,401nm,16.8s,MS4

LZH AP pP 14 55 19.8 -0.6
LZH XP sP 14 55 21.4 -0.3
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,82nm,4.1s
LZH LR LR
comp=E,435nm,13.3s
LZH LR LR
comp=Z,752nm,14.4s,MS4.7
LZH Lanzhou 38.92 273 *e*P **P 14 55 16.8 -0.5**
comp=Z,20nm,1.0s,mb4.8
LZH pP pP 14 55 19.8 -0.6
LZH sP sP 14 55 21.4 -0.3
LZH LR LR
comp=Z,750nm,14.4s,MS4.7
GTA Gaotai 40.05 281 *e*P **P 14 55 28.5 +1.7**
GTA AP pP 14 55 32.9 +3.0
GTA XP sP 14 55 36.3 +5.1
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,61nm,4.9s
INK Inuvik 41.57 32 P **P 14 55 40.6 +1.3**
comp=Z,8.2nm,0.7s,mb4.5,baz=300,slow=6.7,SNR=42
INK Inuvik 41.57 32 P **P 14 55 40.6 +1.3**
INK pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 41.57 32 *e*P **P 14 55 40.3 +1.0**
comp=Z,214nm,0.7s,mb5.9
CD2 Chengdu 41.84 267 *e*P **P 14 55 41.3 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
GYA Guiyang 42.59 259⇑ *i*P **P 14 55 47.9 +0.2**
GYA AP pP 14 55 51.8 +1.0
GYA XP sP 14 55 54.8 +2.8
GYA PP PP 14 57 29.4 +3.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,420nm,16.4s,MS4.6
GYA LR LR
comp=E,470nm,16.9s,MS4.6
GYA LR LR
comp=Z,480nm,17.4s,MS4.5
ZAL Zalesovo 43.76 307 P **P 14 55 55.5 -1.6**
comp=Z,1.9nm,0.5s,mb4.0,baz=53,slow=7.6,SNR=6.9
WMQ Urumqi 46.06 292⇑ *i*P **P 14 56 14.5 -0.9**
WMQ AP pP 14 56 19.0 +0.4
WMQ XP sP 14 56 21.5 +1.7
WMQ PCP PcP 14 57 51.5 -0.2
WMQ AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
WMQ AMB AMB
comp=Z,82nm,4.6s
WMQ LR LR
comp=N,381nm,17.8s,MS4.4
WMQ LR LR
comp=E,113nm,19.2s,MS4.4
WMQ LR LR
comp=Z,213nm,14.8s,MS4.2
KMI Kunming 46.14 261 P **P 14 56 17.9 +1.8**
KMI AP pP 14 56 23.3 +4.1
KMI XP sP 14 56 25.6 +5.1
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
KMI Kunming 46.14 261 P **P 14 56 17.9 +1.8**
comp=Z,6.0nm,1.0s,mb4.5
KMI pP pP 14 56 23.2 +4.0
KMI sP sP 14 56 25.6 +5.1
MK31 Makanchi Array 48.08 298 *e*P **P 14 56 29.8 -1.4**
MKAR Makanchi Array 48.08 298 P **P 14 56 30.9 -0.3**
comp=Z,4.3nm,0.6s,mb4.6,baz=68,slow=6.9,SNR=17
MKAR PcP PcP 14 57 58.6 -0.3
comp=Z,1.9nm,0.9s,baz=64,slow=6.6,SNR=2.5
MKAR Makanchi Array 48.08 298 *e*P **P 14 56 30.8 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 48.50 305 P **P 14 56 33.9 -0.6**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
YKA Yellowknife Ar 50.76 37 P **P 14 56 52.0 +0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=291,slow=6.5,SNR=4.0
YKA Yellowknife Ar 50.76 37 P **P 14 56 52.0 +0.4**
RES Resolute Bay 51.03 19 *e*P **P 14 57 00.2 +6.5**
RES pmax pmax
comp=Z,274nm,0.9s
RES Resolute Bay 51.03 19 *e*P **P 14 57 00.2 +6.5**
comp=Z,274nm,0.9s
LSA Lhasa 51.31 275 P **P 14 56 58.1 +2.3**
LSA Lhasa 51.31 275 *e*P **P 14 56 57.1 +1.3**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.31 275 *e*P **P 14 56 57.1 +1.2**
comp=Z,8.4nm,0.6s,mb4.8
CHKZ Chkalovo 51.55 311 P **P 14 56 56.2 -1.4**
CHKZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CHKZ Chkalovo 51.55 311 *e*P **P 14 56 56.9 -0.7**
comp=Z,14nm,0.6s,mb5.1
VOSK Vostochnaya 51.81 310 P **P 14 56 59.0 -0.5**
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BVA0 Borovoye Array 51.98 310 *i*P **P 14 57 00.6 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BVAR Borovoye Array 51.98 310 P **P 14 57 00.8 0.0**
comp=Z,4.0nm,0.5s,mb4.6,baz=59,slow=8.6,SNR=25
BVAR PcP PcP 14 58 12.7 -0.4
comp=Z,1.8nm,0.8s,baz=116,slow=3.4,SNR=4.0
BRVK Borovoye 52.02 310 *e*P **P 14 57 00.4 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 52.02 310 *e*P **P 14 57 00.4 -0.7**
comp=Z,8.1nm,0.6s,mb4.8
ZRNK Zerenda 52.74 311 *e*P **P 14 57 06.2 -0.3**
ZRNK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ZRNK Zerenda 52.74 311 *e*P **P 14 57 06.2 -0.3**
comp=Z,5.7nm,0.5s,mb4.8
AAK Ala-Archa 54.98 297 *e*P **P 14 57 22.5 -0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 54.98 297 *e*P **P 14 57 22.4 -0.4**
comp=Z,6.0nm,0.8s,mb4.7
PMG Port Moresby 55.76 189 P **P 14 57 29.3 +0.8**
JIRN Jiri 56.00 276 *e*P **P 14 57 31.4 +1.2**
comp=Z,24nm,0.7s,mb5.4
GUN Gumba 56.05 276 *e*P **P 14 57 31.7 +1.1**
comp=Z,15nm,0.5s,mb5.2
ARU Arti 56.09 318⇓ *i*P **P 14 57 30.4 -0.4**
ARU *e* 14 59 31.8
ARU *e*S **S** **15 05 14.0 -5.6**
ARU *e*SS SS 15 08 58.0 -7.7
ARU pmax pmax
comp=Z,15nm,0.7s,mb5.1
ARU Arti 56.09 318 *e*P **P 14 57 30.5 -0.3**
comp=Z,14nm,0.6s,mb5.2
KKN Kakani 56.54 277 *e*P **P 14 57 35.5 +1.4**
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 56.59 276 *e*P **P 14 57 35.4 +1.0**
DMN Daman 56.78 277 *e*P **P 14 57 36.7 +1.0**
comp=Z,45nm,1.0s,mb5.5
GKN Gorkha 56.85 277 *e*P **P 14 57 37.3 +1.0**
comp=Z,41nm,1.0s,mb5.4
KKAR Karatay Array 57.14 300 *i*P **P 14 57 38.5 +0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
KOLN Koldanda 57.71 278 *e*P **P 14 57 43.3 +0.9**
comp=Z,25nm,0.9s,mb5.2
ARCES ARCESS Array B 58.69 341 P **P 14 57 49.3 +0.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=28,slow=7.1,SNR=9.7
AB31 Akbulak array 59.54 311 *i*P **P 14 57 55.3 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTK Aktyubinsk 59.83 313 P **P 14 57 57.4 +0.3**
AKTK PcP PcP 14 58 43.4 -0.3
AKTO Aktyubinsk 59.83 313 P **P 14 57 57.4 +0.3**
comp=Z,4.8nm,0.6s,mb4.7,baz=63,slow=9.0,SNR=13
AKTO PcP PcP 14 58 43.4 -0.3
comp=Z,4.9nm,0.9s,baz=14,slow=5.5,SNR=4.7
AKTO Aktyubinsk 59.83 313 P **P 14 57 57.4 +0.3**
AKTO 14 58 43.4
AKTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AKTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TPAW Teton Pass 63.00 55 *e*P **P 14 58 16.9 -1.6**
comp=Z,5.3nm,0.9s,mb4.7
PDAR Pinedale Array 64.25 54 P **P 14 58 27.3 +0.5**
comp=Z,1.7nm,0.9s,mb4.1,baz=248,slow=1.6,SNR=7.4
FINES FINESS Array B 64.95 335 P **P 14 58 30.8 -0.6**
comp=Z,2.9nm,0.4s,mb4.7,baz=31,slow=7.3,SNR=11
OBN Obninsk 66.32 326 *e*P **P 14 58 39.7 -0.5**
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CTAO Charters Tower 66.41 189 P **P 14 58 38.7 -2.1**
CTAO pmax pmax
comp=Z,48nm,1.7s,mb5.2
CTAO Charters Tower 66.41 189 P **P 14 58 38.7 -2.1**
comp=Z,48nm,1.7s,mb5.2
VRSR Storozhevoye 68.15 322 *e*P **P 14 58 51.9 +0.1**
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=E,8.0nm,0.9s
WRA Warramunga Arr 68.34 200 P **P 14 58 52.4 -0.6**
comp=E,2.0nm,0.7s,mb4.2,baz=21,slow=6.9,SNR=6.9
NB2 NORSAR Subarra 69.06 342 P **P 14 58 56.9 -0.6**
comp=Z,5.6nm,0.9s,mb4.5,baz=29,slow=6.5
NOA NORSAR Array B 69.06 342 P **P 14 58 57.2 -0.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=28,slow=6.3,SNR=6.6
HFS Hagfors 69.31 340 P **P 14 58 58.8 -0.3**
comp=Z,11nm,0.6s,mb5.0,baz=46,slow=4.3,SNR=9.3
KIV Kislovodsk 71.89 315 *e*P **P 14 59 16.5 +1.7**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 71.89 315 *e*P **P 14 59 13.8 -1.0**
comp=Z,16nm,0.8s,mb5.0
ASAR Alice Springs 72.03 200 P **P 14 59 16.1 +0.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=18,slow=5.6,SNR=17
ZEI Tsey 72.16 314 *e*P **P 14 59 16.2 -0.2**
ZEI pmax pmax
comp=Z,11nm,1.1s,mb4.7
AKASG Malin Array Be 72.55 327 P **P 14 59 18.2 -0.5**
comp=Z,3.1nm,0.5s,mb4.5,baz=35,slow=6.0,SNR=17
KWP Kalwaria 75.80 330 *e*P **P 14 59 38.1 +0.4**
STHS Stebnicka Huta 76.48 331 *e*P **P 14 59 42.1 +0.5**
KOLS Kolonicke sedl 76.54 330 *e*P **P 14 59 42.3 +0.4**
BURAR Bucovina Array 76.59 327⇓ *i*P **P 14 59 42.3 +0.1**
TXAR Lajitas Array 76.88 61 P **P 14 59 44.2 +0.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=303,slow=4.1,SNR=21
OKC Ostrava-Krasne 77.14 333 *e*P **P 14 59 45.4 +0.1**
DPC Dobruska-Polom 77.25 334 *e*P **P 14 59 46.4 +0.5**
CLL Collm 77.37 336 *i*P **P 14 59 45.7 -0.9**
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL Collm 77.37 336 *i*P **P 14 59 45.7 -0.9**
comp=Z,13nm,0.9s,mb4.9
MORC Moravsky Berou 77.38 333 *e*P **P 14 59 46.4 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MORC Moravsky Berou 77.38 333 *e*P **P 14 59 46.4 -0.2**
comp=Z,3.5nm,0.8s,mb4.3
KECS Kecovo 77.54 331 *e*P **P 14 59 47.9 +0.4**
MLR Muntele Rosu 78.08 326⇑ *i*P **P 14 59 51.5 +1.0**
VYHS Vyhne 78.08 332 *e*P **P 14 59 50.6 +0.1**
PSZ Piszkesteto 78.23 331 *e*P **P 14 59 51.8 +0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PSZ Piszkesteto 78.23 331 *e*P **P 14 59 51.8 +0.5**
comp=Z,5.8nm,0.8s,mb4.6
MALT Malatya 78.25 314 *e*P **P 14 59 52.7 +1.2**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 78.25 314 *e*P **P 14 59 52.7 +1.2**
comp=Z,13nm,1.1s,mb4.8
KHC Kasperske Hory 79.16 335 *e*P **P 14 59 56.7 +0.2**
GERES GERESS Array B 79.38 335 P **P 14 59 57.9 +0.2**
comp=Z,1.4nm,0.5s,mb4.2,baz=15,slow=6.9,SNR=5.8
MIB Mutribah 79.80 302 *e*P **P 15 00 00.4 +0.4**
MIB AMb AMB 15 00 01.9
comp=Z,52nm,0.7s,mb5.5
NAY Al-Naaiem 80.27 302 *e*P **P 15 00 02.6 +0.1**
NAY AMb AMB 15 00 04.3
comp=Z,26nm,0.8s,mb5.2
RDF Al-Radifah 80.32 302 *e*P **P 15 00 03.3 +0.5**
RDF AMb AMB 15 00 04.1
comp=Z,59nm,0.8s,mb5.6
CDF Champ du Feu 81.53 339 *e*P **P 15 00 08.7 -0.5**
comp=Z,8.3nm,0.6s,mb4.6
CDF Champ du Feu 81.53 339 *e*P **P 15 00 08.7 -0.5**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 81.53 339 *e*P **P 15 00 08.7 -0.5**
comp=Z,4.2nm,0.6s,mb4.5
GRR Gorron 83.37 344 *e*P **P 15 00 18.6 -0.2**
ASF Jabal al Asfar 83.81 311 P **P 15 00 22.1 +1.0**
comp=Z,6.5nm,0.6s,mb4.9,baz=29,slow=3.0,SNR=7.0
MMAI Mount Meron Ar 83.92 312 P **P 15 00 22.8 +1.2**
comp=Z,20nm,0.8s,mb5.3,baz=35,slow=6.1,SNR=18
AVF Avril sur Loir 84.00 341 *e*P **P 15 00 22.2 +0.2**
comp=Z,20nm,0.6s,mb5.1
AVF Avril sur Loir 84.00 341 *e*P **P 15 00 22.2 +0.2**
AVF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
AVF Avril sur Loir 84.00 341 *e*P **P 15 00 22.2 +0.2**
comp=Z,9.9nm,0.6s,mb5.1
LPG La Plagne 84.37 338 *e*P **P 15 00 24.8 +0.9**
comp=Z,13nm,0.6s,mb4.9
LPG La Plagne 84.37 338 *e*P **P 15 00 24.8 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
LPG La Plagne 84.37 338 *e*P **P 15 00 24.8 +0.9**
comp=Z,6.5nm,0.6s,mb4.9
LFF La Frestale 86.34 342 *e*P **P 15 00 33.2 -0.6**
TORD Torodi Ar. Bea 116.07 330 PP PP 15 07 37.7 -1.6
comp=Z,0.7nm,0.7s,baz=10.0,slow=6.1,SNR=5.0
SNAA Sanae 152.31 195 PKPbc PKPbc 15 07 43.6 -3.9
comp=Z,0.6nm,0.9s,baz=252,slow=14,SNR=3.9

IDC ***16*** *14:49:36.3±0.5, 4656N×15360E, h0km, mb4.7/23, mb1 4.8/24, mb1mx4.7/28, mbtmp4.7/24, ML3.7/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/47, Error ellipse: s-maj=15.9km s-min=12.4km az=147.0*

SKHL ***16*** *14:49:36.9±1.5, 46.18N×154.10E, h48km±16km, Ms4.5/3, msh5.2/2*

NEIC ***16*** *14:49:37.9±0.2, 4654N×15367E, h10km, mb5.0/56, Error ellipse: s-maj=6.2km s-min=3.7km az=161.0*

ISCJB ***16*** *14:49:38.6±1.1, 4654N±004×15369E±003, h25km±8km, mb4.9/100, MS4.2/18, Error ellipse: s-maj=7.2km s-min=2.8km az=149.6*

BJI ***16*** *14:49:40.3, 4656N×15302E, h10km, mB4.8, mb4.6, Ms4.4, Msz4.2*

MOS ***16*** *14:49:40.5±1.1, 4660N×15369E, h38km, mb5.1/41, Error ellipse: s-maj=7.8km s-min=6.0km az=96.9*

SZGRF ***16*** *14:49:48.8, 4772N×15407E, h33km, mb5.0, Kuril Islands, Russia*

ISC 16 14:49:41.5±1.2, 4659N±004×15365E±003, h32km±8km, h34km±1.9km:pP-P, n416, σ0s85/425, mb4.9/100, MS4.2/18, 72C-67D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.26**	**253**⇑	*i*P		**Pn**	**14 50 42.8**	**-1.4**
KUR					AMB	AMB	14 50 43.8	
	270nm,0.6s							
KUR					AMB	AMB	14 50 43.8	
	240nm,0.6s							
KUR					AMB	AMB	14 50 43.8	
	988nm,0.6s							
KUR				*e*S		**Sn**	**14 51 33.5**	**+0.7**
KUR					A		14 51 38.0	
	6μm,2.0s							
KUR					A		14 51 38.0	
	4μm,2.0s							
KUR					A		14 51 50.5	
	2μm,0.8s							
KUR					A		14 51 50.5	
	806nm,0.8s							
KUR					AMS	AMS	14 52 48.0	
	4μm,12.0s							
KUR					AMS	AMS	14 52 48.0	
	5μm,12.0s							
SKR	**Severo-Kuril's**	**4.41**	**21**	*e*P		**Pn**	**14 50 47.2**	**+1.0**
SKR					AMB	AMB	14 50 49.5	
	310nm,0.5s							
SKR					A		14 51 41.0	
	230nm,0.5s							
SKR					A		14 51 41.0	
	150nm,0.5s							
SKR					A		14 51 41.0	
	80nm,0.5s							
SKR					AMS	AMS	14 52 20.0	
	2μm,16.0s							
SKR					AMS	AMS	14 52 20.0	
	5μm,16.0s							
SKR					AMS	AMS	14 52 20.0	
	3μm,16.0s							
SKR					AMS	AMS	14 52 20.0	
	6μm,16.0s							
YUK	**Yuzh-Kuril'sk**	**6.06**	**248**	*e*P		**Pn**	**14 51 09.4**	**+0.5**
YUK					AMB	AMB	14 51 12.0	
	560nm,0.2s							
YUK				*e*S		**Sn**	**14 52 18.0**	**+0.9**
YUK					A		14 52 28.2	
	570nm,0.5s							
YUK					A		14 52 28.2	
	760nm,0.5s							
PET	**Petropavlovsk**	**7.20**	**25**	*e*PN		**Pn**	**14 51 32.6**	**+8.0**
PET					pmax	pmax		
	comp=Z,110nm,0.8s							
PET					MLR	MLR		
	comp=Z,600nm,12.0s							
PET	**Petropavlovsk**	**7.20**	**25**	Pn		**Pn**	**14 51 28.1**	**+3.5**
YSS	**Yuzh-Sakhalins**	**7.49**	**277**⇓	*e*P		**Pn**	**14 51 32.8**	**+4.2**
YSS					AMB	AMB	14 51 35.0	
	comp=Z,40nm,1.0s							
YSS					sP		14 51 52.3	
YSS					*e*S	**Sn**	**14 52 59.2**	**+6.8**
YSS					A		14 53 04.0	
	comp=Z,70nm,0.8s							
YSS					*e*LQ		14 53 13.0	
YSS					AMS	AMS	14 55 05.0	
	comp=Z,1μm,15.0s							
YSS					AMS	AMS	14 55 05.0	
	comp=Z,1μm,12.0s							
YSS					AMS	AMS	14 55 05.0	
	comp=Z,1μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.49**	**277**⇓	*e*PN		**Pn**	**14 51 32.8**	**+4.2**
YSS				*e*S		**Sn**	**14 52 59.2**	**+6.8**
YSS					pmax	pmax		
	comp=Z,40nm,1.0s							
YSS					smax			
	comp=E,70nm,0.8s							
YSS					MLR	MLR		
	comp=Z,1μm,15.0s							
YSS					MLR	MLR		
	comp=N,1μm,12.0s							
YSS					MLR	MLR		
	comp=E,1μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.49**	**277**	*e*Pn		**Pn**	**14 51 28.4**	**-0.2**
	comp=E,48nm,0.8s							
YSS				*e*Sn		**Sn**	**14 52 54.1**	**+1.7**
JMP	**Maruseppu**	**7.70**	**254**	P		**Pn**	**14 51 33.4**	**+1.9**
ASAJ	**Asahikawa**	**8.17**	**256**	Pn		**Pn**	**14 51 40.7**	**+2.8**
	comp=E,7.6nm,0.3s,baz=77,slow=15,SNR=13							
ASAJ					LR	LR	14 55 06.5	
	comp=E,489nm,18.3s,baz=67,slow=41							
ASAJ	**Asahikawa**	**8.17**	**256**	P		**Pn**	**14 51 40.6**	**+2.7**
UGL	**Uglegorsk**	**8.18**	**292**	*e*P		**Pn**	**14 51 44.0**	**+6.0**
UGL					AMB	AMB	14 51 45.5	
	comp=E,74nm,0.7s							
UGL				*e*rx		rx	14 52 19.5	
UGL					AMS	AMS	14 55 42.0	
	comp=E,2μm,12.0s							
UGL					AMS	AMS	14 55 42.0	
	comp=E,1μm,12.0s							
UGL					AMS	AMS	14 55 42.0	
	comp=E,1μm,12.0s							
UGL	**Uglegorsk**	**8.18**	**292**	*e*PN		**Pn**	**14 51 44.0**	**+6.0**
UGL					pmax	pmax		
	comp=Z,74nm,0.7s							
UGL					MLR	MLR		
	comp=N,2μm,12.0s							
UGL					MLR	MLR		
	comp=E,1μm,12.0s							
UGL					MLR	MLR		
	comp=Z,1μm,12.0s							
JWK2	**Keihoku**	**8.29**	**265**	P		**Pn**	**14 51 45.2**	**+5.7**
JEM	**Erimo**	**8.80**	**242**	P		**Pn**	**14 51 39.7**	**-6.9**
OKH	**Okha**	**9.79**	**319**	*e*L			14 54 34.4	
OKH					AMS	AMS	14 56 47.0	
	comp=Z,5μm,12.0s							
OKH					AMS	AMS	14 56 47.0	
	comp=Z,3μm,11.0s							
JOT	**Ohata**	**10.46**	**245**	P		**Pn**	**14 52 07.9**	**-1.4**
JSH	**Shimam**	**10.47**	**253**	P		**Pn**	**14 52 10.5**	**+1.1**
NKL	**Nikolayevsk**	**10.63**	**313**	*e*P		**Pn**	**14 52 12.0**	**+0.5**
NKL				*e*L			14 55 08.0	
NKL					AMS	AMS	14 57 23.0	
	comp=Z,800nm,14.0s							
NKL					AMS	AMS	14 57 23.0	
	comp=Z,2μm,14.0s							
JTM	**Tenmabayashi**	**10.80**	**242**	P		**Pn**	**14 52 11.0**	**-2.9**
JOM	**Ohasama**	**11.50**	**236**	P		**Pn**	**14 52 20.8**	**-2.7**
HABR	**Khabarovsk**	**12.71**	**285**⇑	*e*PN		**Pn**	**14 52 49.2**	**+9.2**
HABR					S	**Sn**	**14 55 14.0**	**+14**
HABR					pmax	pmax		
	comp=Z,73nm,2.2s							
KLR	**Kul'dur**	**14.91**	**288**	*e*P		**Pn**	**14 53 11.0**	**+1.0**
MAJO	**Matsushiro**	**15.29**	**234**	*e*P		**Pn**	**14 53 09.4**	**-5.5**
MAJO					pmax	pmax		
	comp=Z,11nm,0.8s							
MAJO	**Matsushiro**	**15.29**	**234**	*e*Pn		**Pn**	**14 53 09.4**	**-5.5**
	comp=Z,11nm,0.8s							
MAT	**Matsushiro**	**15.29**	**234**	P		**Pn**	**14 53 14.5**	**-0.4**
MAT	**Matsushiro**	**15.29**	**234**	P		**Pn**	**14 53 14.4**	**-0.5**
MJAR	**Matsushiro Arr**	**15.29**	**234**	Pn		**Pn**	**14 53 12.1**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=6.1							
MJAR					LR	LR	14 59 55.6	
	comp=Z,393nm,18.4s,baz=45,slow=41							
JRY	**Ryogami san**	**15.29**	**232**	P		**Pn**	**14 53 17.5**	**+2.6**
JHJ	**Hachijo jima 2**	**17.12**	**223**	LR		LR	15 01 28.0	
	comp=Z,64nm,18.1s,baz=117,slow=42							
ZEA	**Zeya**	**18.29**	**303**	*e*P		**Pn**	**14 53 54.1**	**+1.3**
ZEA					AMB	AMB	14 53 57.5	
	comp=Z,28nm,1.2s							
ZEA					AMB	AMB	14 53 57.5	
	comp=Z,24nm,1.0s							
ZEA				*e*S		**Sn**	**14 57 19.0**	**+3.0**
ZEA					A		14 57 25.0	
	comp=Z,300nm,10.0s							
CN2	**Changchun**	**20.03**	**272**	*e*P		**P**	**14 54 09.5**	**-2.2**
CN2				*e*XP		sP	14 54 16.3	-7.8
CN2					AMB	AMB		
	comp=Z,10.0nm,0.5s							
CN2					AMB	AMB		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,500nm,14.0s,MS4.2							
CN2					LR	LR		
	comp=E,500nm,14.0s,MS4.2							
CN2					LR	LR		
	comp=Z,500nm,16.0s,MS4.0							
CLNS	**Chul'man**	**20.40**	**311**	*e*P		**P**	**14 54 23.1**	**+7.3**
CLNS				*e*			14 54 32.7	
CLNS				*e*PPP			14 54 40.7	
CLNS				*e*S		**S**	**14 57 54.3**	**-8.3**
CLNS				*e*			14 58 42.4	
CLNS					pmax	pmax		
	comp=Z,32nm,1.0s							
CLNS					pmax	pmax		
	comp=N,18nm,1.2s							
CLNS					pmax	pmax		
	comp=E,12nm,0.8s							
CLNS					smax			
	comp=E,11nm,0.8s							
CLNS					smax			
	comp=Z,5.0nm,0.7s							
CLNS					smax			
	comp=N,12nm,0.9s							
CLNS					MLR	MLR		
	comp=Z,1μm,13.0s,MS4.5							
CLNS					MLR	MLR		
	comp=N,500nm,14.0s,MS4.9							
CLNS					MLR	MLR		

comp=E,4µm,18.0s,MS4.9
YAK Yakutsk 20.65 327 *e*P P **14 54 18.1 -0.4**
YAK *e* 14 54 38.3
YAK *e*S **S** **14 58 09.9 +2.3**
YAK *e*SS 14 58 24.2
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,14nm,1.0s
YAK smax
comp=N,160nm,3.6s
YAK smax
comp=Z,73nm,2.3s
YAK smax
comp=E,95nm,2.5s
YAK MLR MLR
comp=Z,589nm,15.0s,MS4.1
YAK MLR MLR
comp=N,540nm,14.0s,MS4.1
YAK MLR MLR
comp=E,146nm,13.0s,MS4.1
KSRS Korea Array 21.11 254 P P **14 54 24.7 +1.3**
comp=E,7.8nm,0.6s,mb4.2,baz=60,slow=9.8,SNR=17
KSRS LR LR 15 01 57.2
comp=E,168nm,20.0s,MS3.4,baz=60,slow=35
CBIJ Chichi jima 21.47 209 LR LR 15 02 03.8
comp=E,118nm,18.7s,MS3.3,baz=134,slow=35
INCN Inchon 21.95 255 *e*P **P** **14 54 31.9 -0.5**
comp=E,63nm,1.0s,mb5.0
JNU Nakatsue 21.96 240 P P **14 54 31.2 -1.4**
comp=E,12nm,0.9s,mb4.3,baz=272,slow=14,SNR=2.7
JNU LR LR 15 03 09.1
comp=E,812nm,19.6s,MS4.1,baz=109,slow=37
BILL Bilibino 22.46 12*c i*P **P** **14 54 36.7 -1.2**
BILL pmax pmax
comp=Z,45nm,1.3s,mb4.7
HIA Hailar 22.77 289⇑ *e*P **P** **14 54 41.7 +0.6**
BOD Bodaibo 26.37 310 *e*P **P** **14 55 13.0 -1.9**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.0
BJT Baijiatuau 27.86 270 P P **14 55 27.2 -1.0**
BJT pmax pmax
comp=Z,33nm,1.1s
BJT Baijiatuau 27.86 270 P **P** **14 55 27.2 -1.0**
comp=Z,33nm,1.1s,mb4.9
SSE Sheshan 29.39 250 P **P** **14 55 39.8 -2.0**
SSE S **S** **15 00 31.3 -2.2**
SSE AMB AMB
comp=Z,33nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,56nm,4.2s
SSE LR LR
comp=N,111nm,16.6s,MS3.6
SSE LR LR
comp=E,63nm,16.7s,MS3.6
SSE LR LR
comp=Z,123nm,16.1s,MS3.6
SSE Sheshan 29.39 250 P **P** **14 55 39.8 -2.0**
comp=Z,33nm,0.8s,mb5.1
SSE sP sP 14 55 44.2 -11
SSE S **S** **15 00 31.3 -2.2**
SSE sS sS 15 00 36.9 -12
SSE LR LR
comp=Z,120nm,16.1s,MS3.6
NJ2 Nanjing 30.31 254 *e*P **P** **14 55 49.8 -0.1**
NJ2 AP pP 14 55 53.1 -6.0
NJ2 XP sP 14 55 57.3 -5.6
NJ2 PP PP 14 56 48.9 -10
NJ2 S **S** **15 00 47.5 -0.4**
NJ2 XS sS 15 00 55.5 -7.5
NJ2 AMB AMB
comp=Z,350nm,4.8s
NJ2 LR LR
comp=N,2µm,15.2s,MS4.9
NJ2 LR LR
comp=E,1µm,16.5s,MS4.9
NJ2 LR LR
comp=Z,1µm,15.3s,MS4.7
HHC Hu-ho-hao-te 30.68 275 *e*P **P** **14 55 53.0 -0.2**
HHC AP pP 14 55 57.3 -5.0
HHC PP PP 14 56 53.3 -9.4
HHC PCP PcP 14 58 51.8 +1.1
HHC S **S** **15 00 53.5 -0.2**
HHC XS sS 15 01 00.8 -8.0
HHC SCP ScP 15 02 33.0 +2.1
HHC SS SS 15 02 35.4 -30
HHC SCS ScS 15 06 27.3 -0.1
HHC AMB AMB
comp=Z,20nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,104nm,9.2s
HHC LR LR
comp=N,555nm,14.7s,MS4.4
HHC LR LR
comp=E,359nm,14.8s,MS4.4
HHC LR LR
comp=Z,442nm,14.9s,MS4.2
ULN Ulaanbaatar 31.30 290 *e*P **P** **14 55 59.9 +1.2**
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.7
ULN Ulaanbaatar 31.30 290 *e*P **P** **14 55 59.9 +1.2**
comp=Z,11nm,0.9s,mb4.7
SONM Songino Array 31.73 290 P **P** **14 56 01.8 -0.7**
comp=Z,0.5nm,0.5s,baz=70,slow=7.9,SNR=3.0
SONM PcP PcP 14 58 53.7 +0.2
comp=Z,1.4nm,0.8s,baz=125,slow=1.5,SNR=4.8
TLY Talaya 32.58 298 *e*P **P** **14 56 09.3 -0.6**
TLY pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
TLY Talaya 32.58 298 *e*P **P** **14 56 08.7 -1.2**
comp=Z,3.3nm,0.7s,mb4.4
ZAK Zakamensk 33.08 295 *e*P **P** **14 56 13.7 -0.6**
ZAK *e* 14 58 55.9
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
KDAK Kodiak Island 33.91 51 P **P** **14 56 19.9 -1.6**
comp=Z,29nm,0.7s,mb5.3,baz=287,slow=5.9,SNR=14
WHN Wuhan 34.25 256⇑ P **P** **14 56 25.5 +1.0**
WHN XP sP 14 56 36.0 -1.5
PMR Palmer 35.46 44 *e*P **P** **14 56 34.5 -0.4**
PMR *e* pP 14 56 45.3 +1.2
MCK McKinley 35.53 40 *e*P **P** **14 56 34.2 -1.3**
MCK *e* pP 14 56 43.4 -1.4
MCK pmax pmax
comp=Z,17nm,1.2s,mb4.8
MCK McKinley 35.53 40 *e*P **P** **14 56 34.2 -1.3**
comp=Z,17nm,1.2s,mb4.8
MCK *e* pP 14 56 43.4 -1.4
SML Sawmill 35.83 43 *e*P **P** **14 56 37.6 -0.5**
SML *e* pP 14 56 48.1 +0.8
XAN Xi'an 35.87 266 P **P** **14 56 42.0 +3.5**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
XAN LR LR
comp=N,114nm,12.4s,MS4.0
XAN LR LR
comp=E,162nm,14.4s,MS4.0
XAN LR LR
comp=Z,191nm,13.4s,MS4.0
COLA College 36.03 38 *e*P **P** **14 56 39.4 -0.4**
COLA *e* pP 14 56 49.8 +0.7
COLA pmax pmax
comp=Z,24nm,0.8s,mb5.2
COLA College 36.03 38 *e*P **P** **14 56 39.4 -0.4**
comp=Z,24nm,0.8s,mb5.2
COLA *e* pP 14 56 49.8 +0.8
LZH Lanzhou 38.26 272 *e*P **P** **14 57 00.1 +1.3**
LZH AP pP 14 57 02.8 -5.3
LZH XP sP 14 57 04.4 -7.5
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,150nm,4.5s
LZH LR LR
comp=E,435nm,13.3s
LZH LR LR
comp=Z,752nm,14.4s,MS4.7
LZH Lanzhou 38.26 272 *e*P **P** **14 57 00.1 +1.3**
comp=Z,30nm,1.0s,mb5.0
LZH pP pP 14 57 02.8 -5.3
LZH sP sP 14 57 04.4 -7.5
LZH LR LR
comp=Z,750nm,14.4s,MS4.6
GTA Gaotai 39.36 280 *e*P **P** **14 57 09.3 +1.3**
GTA AP pP 14 57 13.4 -3.9
GTA XP sP 14 57 16.8 -4.3
GTA PP PP 14 58 44.5 +6.0
GTA PCP PcP 14 59 17.8 +1.8
GTA S **S** **15 03 11.0 +3.8**
GTA XS sS 15 03 19.0 -3.5
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
GTA AMB AMB
comp=Z,73nm,4.9s
GTA LR LR
comp=N,253nm,12.2s,MS4.3
GTA LR LR
comp=E,210nm,14.8s,MS4.3
GTA LR LR
comp=Z,366nm,12.6s,MS4.4
DAWY Dawson 39.73 39 *e*P **P** **14 57 10.8 -0.3**
CD2 Chengdu 41.24 266 *e*P **P** **14 57 21.4 -2.1**
CD2 AP pP 14 57 25.9 -6.9
CD2 XP sP 14 57 28.5 -8.1
CD2 PP PP 14 58 59.6 +0.7
CD2 S **S** **15 03 33.9 -1.3**
CD2 XS sS 15 03 40.9 -10
CD2 SS SS 15 06 32.4 -6.6
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=N,310nm,16.8s,MS4.4
CD2 LR LR
comp=E,160nm,12.0s,MS4.4
CD2 LR LR
comp=Z,200nm,15.5s,MS4.1
INK Inuvik 41.59 32 P **P** **14 57 26.8 +0.4**
comp=Z,7.0nm,0.9s,mb4.3,baz=290,slow=5.7,SNR=9.2
INK Inuvik 41.59 32 *e*P **P** **14 57 26.5 +0.2**
comp=Z,442nm,1.0s,mb6.0
INK *e* pP 14 57 36.7 +1.0
GYA Guiyang 42.04 258⇑ *i*P **P** **14 57 30.4 +0.3**
GYA AP pP 14 57 32.4 -7.1
GYA XP sP 14 57 34.8 -8.5
GYA PP PP 14 59 09.8 +2.1
GYA PCP PcP 14 59 25.5 +0.9
GYA SCP ScP 15 03 14.8 +2.1
GYA S **S** **15 03 52.0 +4.9**
GYA SS SS 15 06 47.8 -7.2
GYA SCS ScS 15 07 30.4 +0.2
GYA AMB AMB
comp=Z,30nm,1.3s,mb4.8
GYA AMB AMB
comp=Z,160nm,5.2s
GYA LR LR
comp=N,680nm,16.9s,MS4.7
GYA LR LR
comp=E,640nm,17.2s,MS4.7
GYA LR LR
comp=Z,540nm,17.4s,MS4.5
ZAL Zalesovo 43.02 306 P **P** **14 57 35.9 -2.2**
comp=Z,1.4nm,0.5s,mb4.0,baz=61,slow=5.8,SNR=3.3
ZAL PcP PcP 14 59 27.9 0.0
comp=Z,1.5nm,0.7s,baz=357,slow=2.0,SNR=3.8
QIZ Qiongzhong 45.13 248 P **P** **14 57 53.0 -1.9**
QIZ S **S** **15 04 31.6 -0.6**
QIZ AMB AMB
comp=Z,16nm,1.7s,mb4.6
QIZ LR LR
comp=Z,198nm,14.9s,MS4.2
WMQ Urumqi 45.33 292 *e*P **P** **14 57 56.5 0.0**
KMI Kunming 45.58 260 P **P** **14 58 00.4 +1.9**
KMI AP pP 14 58 10.8 +2.9
KMI PP PP 14 59 41.3 -4.2
KMI S **S** **15 04 37.9 -0.8**
KMI XS sS 15 04 51.9 -2.4
KMI SS SS 15 07 53.6 -9.4
KMI AMB AMB
comp=Z,8.0nm,1.8s,mb4.3
KMI AMB AMB
comp=Z,49nm,4.5s
KMI LR LR
comp=N,162nm,15.6s,MS4.2
KMI LR LR
comp=E,121nm,16.6s,MS4.2
KMI LR LR
comp=Z,174nm,15.3s,MS4.1
KMI Kunming 45.58 260 P **P** **14 58 00.4 +1.9**
KMI *PP pP 14 58 10.8 +2.9
KMI *SP sP 14 58 14.0 +2.3
KMI 14 59 41.3
KMI S **S** **15 04 37.9 -0.8**
KMI *SS sS 15 04 51.9 -2.4
KMI SS SS 15 07 53.6 -9.4
KMI pmax pmax
comp=Z,8.0nm,1.8s,mb4.3
KMI MLR MLR
comp=Z,170nm,15.3s,MS4.1
KMI Kunming 45.58 260 P **P** **14 58 00.4 +1.9**
comp=Z,8.0nm,1.8s,mb4.3
KMI pP pP 14 58 10.8 +2.9
KMI sP sP 14 58 14.0 +2.3
KMI PP PP 14 59 41.3 -4.2
KMI S **S** **15 04 37.9 -0.8**
KMI sS sS 15 04 51.9 -2.4
KMI SS SS 15 07 53.6 -9.4
KMI LR LR
comp=Z,170nm,15.3s,MS4.1
MK31 Makanchi Array 47.34 298 *e*P **P** **14 58 10.8 -1.5**
MKAR Makanchi Array 47.34 298 P **P** **14 58 11.3 -1.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=70,slow=8.5,SNR=10
MKAR PcP PcP 14 59 42.8 -0.1
comp=Z,2.2nm,0.7s,baz=64,slow=4.1,SNR=3.7
MKAR Makanchi Array 47.34 298 P **P** **14 58 11.3 -1.0**
MKAR PcP PcP 14 59 42.8 -0.1
KURK Kurchatov 47.76 304 P **P** **14 58 14.0 -1.6**
comp=Z,78nm,0.7s,mb5.8,SNR=5.8
ALE Alert 49.86 6 P **P** **14 58 31.0 -0.7**
comp=Z,91nm,0.7s,mb5.9,SNR=6.5
LSA Lhasa 50.65 274 P **P** **14 58 40.3 +2.6**
LSA Lhasa 50.65 274 *e*P **P** **14 58 39.8 +2.1**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.0
LSA Lhasa 50.65 274 *e*P **P** **14 58 39.8 +2.1**
comp=Z,17nm,0.8s,mb5.0
CHKZ Chkalovo 50.82 310 *e*P **P** **14 58 37.3 -1.6**
YKA Yellowknife Ar 50.83 37 P **P** **14 58 38.8 -0.2**
comp=Z,12nm,0.7s,mb4.9,baz=296,slow=7.0,SNR=13
YKA PcP PcP 14 59 55.0 -0.5
comp=Z,2.5nm,0.7s,baz=307,slow=3.6,SNR=7.2
YKA Yellowknife Ar 50.83 37 P **P** **14 58 38.8 -0.2**
YKA 14 59 55.0
YKA pmax pmax
comp=Z,12nm,0.7s
YKA Yellowknife Ar 50.83 37 P **P** **14 58 38.9 -0.2**
YKA PcP PcP 14 59 55.0 -0.5
RES Resolute Bay 50.87 19 *e*P **P** **14 58 38.9 -0.4**
comp=Z,668nm,1.0s
RES *e* pP 14 58 49.5 +0.6
BVAR Borovoye Array 51.24 310 P **P** **14 58 41.3 -0.9**
comp=Z,2.3nm,0.3s,mb4.6,baz=55,slow=7.9,SNR=12
BRVK Borovoye 51.28 310 *e*P **P** **14 58 41.0 -1.5**
ZRNK Zerenda 52.01 310 *e*P **P** **14 58 46.7 -1.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ZRNK Zerenda 52.01 310 *e*P **P** **14 58 46.7 -1.2**
comp=Z,5.6nm,0.4s,mb4.8
CHTO Chiang Mai 52.44 257 *e*P **P** **14 58 52.6 +1.5**
CHTO *e* 14 59 03.8
CHTO pmax pmax
comp=Z,17nm,1.0s,mb4.9
CHTO Chiang Mai 52.44 257 *e*P **P** **14 58 52.6 +1.5**
comp=Z,17nm,1.0s,mb4.9
CHTO *e* 14 59 03.8
CM31 Chiang Mai Arr 52.70 257 *e*P **P** **14 58 54.8 +1.8**
comp=Z,6.3nm,0.7s,mb4.7
KSH Kashi 55.06 293 *e*P **P** **14 59 13.3 +3.1**
KSH *e*AP pP 14 59 18.8 -1.0
KSH *e*XP sP 14 59 21.6 -2.0
KSH *e*PCP PcP 15 00 13.5 +2.0
KSH *e*PP PP 15 01 17.3 +3.8
KSH *e*PPP 15 02 31.3
KSH *e*SCP ScP 15 04 11.3 +3.6
KSH *e*S **S** **15 06 54.8 +4.3**
KSH *e*XS sS 15 07 04.8 -1.6
KSH *e*PS 15 07 15.4
KSH *e*SCS ScS 15 08 57.9 +0.9
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
B07A Winthrop 55.21 54⇓ P **P** **14 59 10.5 -0.8**
baz=55
JIRN Jiri 55.33 275 *e*P **P** **14 59 13.9 +1.7**
comp=Z,59nm,0.8s,mb5.7
ARU Arti 55.38 318⇑ *e*P **P** **14 59 11.3 -1.2**
ARU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ARU Arti 55.38 318 *e*P **P** **14 59 11.1 -1.4**
comp=Z,9.6nm,0.5s,mb5.1
GUN Gumba 55.38 275 *e*P **P** **14 59 14.1 +1.5**
comp=Z,29nm,0.5s,mb5.6
A08A Turner Farm, O 55.41 53⇑ P **P** **14 59 12.0 -0.8**
baz=55
C07A Waterville 55.66 55⇓ P **P** **14 59 14.5 -0.1**
baz=56
B08A Colville Reser 55.70 54⇑ P **P** **14 59 14.7 -0.1**
baz=56
A09A Danville 55.77 53 P **P** **14 59 15.3 0.0**
baz=56,SNR=6.2
K01A Sixes 55.80 62⇑ P **P** **14 59 15.9 +0.3**
baz=56
I03A Eugene 55.87 60⇓ P **P** **14 59 16.0 0.0**
baz=56
KKN Kakani 55.87 276 *e*P **P** **14 59 17.9 +1.8**
comp=Z,50nm,0.8s,mb5.6
PKI Pulchoki 55.92 275 *e*P **P** **14 59 17.8 +1.4**
comp=Z,25nm,0.6s,mb5.4
J02A Umpqua 56.03 61⇑ P **P** **14 59 17.8 +0.6**
baz=56
DMN Daman 56.10 276 *e*P **P** **14 59 19.5 +1.8**
comp=Z,54nm,0.8s,mb5.6
GKN Gorkha 56.18 276 *e*P **P** **14 59 19.8 +1.5**
comp=Z,60nm,0.8s,mb5.7
G05A Wamic 56.31 58⇑ P **P** **14 59 19.5 +0.3**
baz=56
B09A Rice 56.32 53⇓ P **P** **14 59 18.8 -0.4**
baz=56
A10A Northport 56.33 52⇓ P **P** **14 59 18.6 -0.8**
baz=56
J03A Ideyld Park 56.39 60⇑ P **P** **14 59 19.4 -0.4**
baz=56
I04A Tendick Farm, 56.48 60⇑ P **P** **14 59 20.4 0.0**
baz=56
C09A Chrisman Ranch 56.60 54⇑ P **P** **14 59 20.8 -0.4**
baz=56
H05A Madras 56.70 58⇑ P **P** **14 59 21.9 -0.1**
baz=57
L02A Cave Junction 56.70 62⇓ P **P** **14 59 20.7 -1.3**
baz=57
F07A Phinny Hill Vi 56.74 56⇑ P **P** **14 59 21.9 -0.4**
baz=57
E08A Dider Farm, El 56.90 55⇑ P **P** **14 59 21.7 -1.7**
baz=57
NEW Newport 56.98 53 P **P** **14 59 23.4 -0.6**
comp=Z,1.1nm,0.3s,mb4.3,baz=316,slow=8.8,SNR=3.5
J04A Umpqua Nationa 56.98 60⇑ P **P** **14 59 23.3 -0.7**
baz=57
A11A Hall Mountain, 56.99 52⇑ P **P** **14 59 23.9 -0.1**
baz=57
KOLN Koldanda 57.04 277 *e*P **P** **14 59 25.1 +0.7**
comp=Z,81nm,1.1s,mb5.7
C10A Spilker Farm, 57.13 53⇑ P **P** **14 59 24.6 -0.4**
baz=57
H06A Lindquist Farm 57.17 58⇓ P **P** **14 59 24.9 -0.4**
baz=57
B11A Sandpoint 57.29 52⇓ P **P** **14 59 25.7 -0.4**
baz=57
A12A Yaak River Ran 57.39 52⇓ P **P** **14 59 26.8 -0.1**
baz=57
E09A Wood Farm, Sta 57.41 55⇑ P **P** **14 59 27.2 +0.2**
baz=57
F08A Pendleton 57.46 56⇓ P **P** **14 59 26.9 -0.4**
baz=57
J05A Fort Rock 57.48 60⇑ P **P** **14 59 28.1 +0.6**
baz=57
YBH Yreka Blue Hor 57.49 62 P **P** **14 59 28.5 +0.9**
comp=Z,6.0nm,1.0s,mb4.6,baz=266,slow=3.9,SNR=6.3
YBH Yreka Blue Hor 57.49 62⇑ P **P** **14 59 26.9 -0.7**
baz=57
KEV Kevo 57.62 341 *e*p **P** **14 59 26.7 -1.7**
comp=Z,5.5nm,0.6s,mb4.8
KEV Kevo 57.62 341 *e*P **P** **14 59 26.7 -1.7**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
APA Apatity 57.63 337⇓ *i*P **P** **14 59 27.4 -1.1**
APA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
G08A Pilot Rock 57.65 57⇓ P **P** **14 59 27.9 -0.7**
baz=58
I06A Prineville 57.70 58⇑ P **P** **14 59 29.7 +0.6**
baz=58
E10A Myers Farm, Un 58.01 55⇑ P **P** **14 59 30.8 -0.4**
baz=58
K05A Summer Lake 58.01 60⇓ P **P** **14 59 31.5 +0.3**
baz=58
I07A Izee 58.03 58⇑ P **P** **14 59 30.7 -0.7**
baz=58
D11A Klaveano Farm, 58.11 54⇑ P **P** **14 59 31.8 -0.1**
baz=58
M03C McCloud 58.12 62⇑ P **P** **14 59 32.3 +0.3**
baz=58
ARCES ARCESS Array B 58.12 341 P **P** **14 59 31.3 -0.7**
comp=Z,4.4nm,0.6s,mb4.7,baz=34,slow=8.8,SNR=8.6
ARCES ARCESS Array B 58.12 341 P **P** **14 59 31.3 -0.7**
F10A Beach Ranch, E 58.24 55⇑ P **P** **14 59 33.4 +0.6**
baz=58
H08A Prairie City 58.27 57⇓ P **P** **14 59 32.9 -0.1**
baz=58
K06A Valley Falls 58.35 60 P **P** **14 59 34.4 +0.9**
baz=58,SNR=6.2
O02C Red Bluff 58.36 63⇓ P **P** **14 59 34.0 +0.4**
baz=58
B13A Whitefish 58.36 52 P **P** **14 59 34.1 +0.4**
baz=58,SNR=7.8
L05A Lakeview 58.44 61⇑ P **P** **14 59 34.2 0.0**
baz=58
J07A Hines 58.56 59⇑ P **P** **14 59 35.4 +0.3**
baz=58
M05C Lookout 58.66 61⇓ P **P** **14 59 36.1 +0.3**
baz=58
KSM Kuching 58.68 233 P **P** **14 59 36.7 +0.8**
I08A Drewsey 58.68 58⇑ P **P** **14 59 36.2 +0.3**
baz=58
C13A Hot Springs 58.71 52⇓ P **P** **14 59 36.3 +0.2**
baz=59
GASB Alder Springs 58.71 64⇑ P **P** **14 59 36.5 +0.4**
baz=59
H09A Durkee 58.76 57⇓ P **P** **14 59 36.7 +0.3**
baz=59
HATC Hat Creek Radi 58.79 62⇑ P **P** **14 59 36.3 -0.3**
baz=59
MOD Modoc 58.85 60⇑ P **P** **14 59 37.4 +0.3**
baz=59
F11A Grangeville 58.90 55⇓ P **P** **14 59 37.0 -0.4**
baz=59
K07A Rock Creek Ran 59.01 59⇑ P **P** **14 59 38.8 +0.6**
baz=59
J08A Circle Bar Ran 59.06 58⇓ P **P** **14 59 38.9 +0.3**
baz=59
C14A Swan Lake 59.11 52⇓ P **P** **14 59 39.1 +0.2**
baz=59
AKTK Aktyubinsk 59.11 312 P **P** **14 59 36.0 -2.9**
AKTO Aktyubinsk 59.11 312 P **P** **14 59 36.0 -2.9**
comp=Z,1.4nm,0.7s,mb4.1,baz=75,slow=12,SNR=2.6
AKTO Aktyubinsk 59.11 312 P **P** **14 59 36.0 -2.9**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
D13A Huson 59.12 53⇓ P **P** **14 59 39.2 +0.2**
baz=59
G11A Walters Elk Ra 59.12 55⇓ P **P** **14 59 39.5 +0.6**
baz=59
I09A Lost Marbles R 59.13 57⇓ P **P** **14 59 39.3 +0.3**
baz=59
M06C Likely Place G 59.16 61⇓ P **P** **14 59 39.5 +0.3**
baz=59
O04C Chester 59.32 62⇑ P **P** **14 59 40.3 0.0**
baz=59
MNRC McLaughlin Nat 59.35 64⇑ P **P** **14 59 41.2 +0.7**
baz=59

L07A	**Adell**	59.35	60	⇑P		P		14 59 41.2	+0.6	
	baz=59									
K08A	**Mann Creek Ran**	59.43	59	P		P		14 59 42.0	+0.9	
	baz=59,SNR=5.6									
J09A	**Fry Pan Ranch,**	59.49	58	⇑P		P		14 59 42.5	+1.0	
	baz=59									
WVOR	**Wild Horse Val**	59.52	59	*e*P		P		14 59 41.8	+0.1	
WVOR				pmax		pmax				
	comp=Z,7.0nm,0.9s,mb4.7									
WVOR	**Wild Horse Val**	59.52	59	*e*P		P		14 59 41.8	+0.1	
	comp=Z,7.1nm,0.9s,mb4.7									
ORV	**Oroville**	59.52	63	P		P		14 59 41.4	-0.3	
	baz=59,SNR=5.0									
O05C	**Quincy**	59.64	63	⇓P		P		14 59 42.5	0.0	
	baz=60									
D14A	**Greenough**	59.65	52	P		P		14 59 42.8	+0.2	
	baz=60,SNR=10									
E13A	**Victor**	59.66	53	⇓P		P		14 59 42.9	+0.2	
	baz=60									
H11A	**Donnelly**	59.68	56	⇑P		P		14 59 43.4	+0.6	
	baz=60									
N06A	**Buffalo Meadow**	59.82	61	P		P		14 59 44.1	+0.3	
	baz=60,SNR=5.9									
M07A	**Soldier Meadow**	59.83	60	P		P		14 59 44.9	+1.0	
	baz=60,SNR=7.7									
L08A	**Fields**	59.84	59	⇓P		P		14 59 44.4	+0.5	
	baz=60									
K09A	**Rome**	59.90	58	⇓P		P		14 59 44.4	+0.1	
	baz=60									
F13A	**Darby**	59.98	54	P		P		14 59 45.0	+0.1	
	baz=60,SNR=6.5									
BEKR	**Beckwourth**	60.03	62	P		P		14 59 45.5	+0.2	
	baz=60,SNR=5.5									
E14A	**Clinton**	60.06	53	⇓P		P		14 59 45.5	0.0	
	baz=60									
N07B	**Gerlach**	60.32	61	⇓P		P		14 59 47.7	+0.5	
	baz=60									
LAVA	**Lava Cap Winer**	60.48	64	P		P		14 59 48.1	-0.2	
	baz=60,SNR=5.5									
E15A	**Deer Lodge**	60.52	52	P		P		14 59 48.8	+0.2	
	baz=60,SNR=9.0									
BNLO	**Ben Lomond (Sa**	60.58	66	⇓P		P		14 59 48.8	-0.1	
	baz=60									
FFC	**Flin Flon**	60.62	40	P		P		14 59 49.8	+0.5	
	comp=Z,204nm,0.8s,SNR=7.5									
FFC	**Flin Flon**	60.62	40	P		P		14 59 49.5	+0.3	
WCN	**Washoe City**	60.75	63	⇑P		P		14 59 50.4	+0.3	
	baz=61									
O07A	**Toulon**	60.76	61	P		P		14 59 50.8	+0.6	
	baz=61,SNR=5.3									
N08A	**GE Springer Mi**	60.82	60	⇑P		P		14 59 50.9	+0.3	
	baz=61									
M09A	**Marrel Ranch,**	60.84	59	⇓P		P		14 59 51.1	+0.4	
	baz=61									
F15A	**Butte**	60.96	53	P		P		14 59 51.9	+0.3	
	baz=61,SNR=13									
EGMT	**Eagleton**	61.08	50	⇓P		P		14 59 52.0	-0.3	
	baz=61									
CMB	**Columbia Colle**	61.14	64	⇑P		P		14 59 52.8	0.0	
	baz=61									
N09A	**Rock Creek Ran**	61.15	60	⇓P		P		14 59 53.1	+0.3	
	baz=61									
FCC	**Fort Churchill**	61.19	33	*e*P		P		14 59 52.6	-0.5	
FCC				pmax		pmax				
	comp=Z,11nm,0.8s,mb5.0									
FCC	**Fort Churchill**	61.19	33	*e*P		P		14 59 52.6	-0.6	
	comp=Z,11nm,0.8s,mb5.0									
PACP	**Pacheco Peak**	61.21	66	P		P		14 59 53.5	+0.2	
	baz=61,SNR=6.8									
HLID	**Hailey**	61.29	56	P		P		14 59 54.3	+0.5	
	baz=61,SNR=6.8									
M10A	**I.L. Ranch, Tu**	61.32	59	⇓P		P		14 59 54.9	+0.9	
	baz=61,SNR=7.3									
G15A	**Dillon**	61.38	54	P		P		14 59 54.5	0.0	
	baz=61,SNR=11									
R06C	**Coleville**	61.42	63	⇑P		P		14 59 55.6	+0.9	
	baz=61,SNR=5.3									
HAST	**UC Hastings Re**	61.43	66	⇑P		P		14 59 54.4	-0.4	
	baz=61									
S06C	**San Francisco**	61.57	64	P		P		14 59 55.9	+0.2	
	baz=61,SNR=9.7									
S05C	**Merced**	61.60	65	⇑P		P		14 59 56.0	+0.1	
	baz=62									
O09A	**Fish Creek Ran**	61.77	60	P		P		14 59 58.0	+1.0	
	baz=62,SNR=6.4									
M11A	**Holland Ranch,**	61.81	59	P		P		14 59 58.6	+1.2	
	baz=62,SNR=7.1									
O10A	**Cortez Mining,**	62.10	60	⇓P		P		14 59 59.7	+0.4	
	baz=62									
Q08A	**Gabbs**	62.14	62	⇑P		P		15 00 00.1	+0.6	
	baz=62									
QLMT	**Earthquake Lak**	62.18	53	*e*P		P		15 00 00.2	+0.4	
P09A	**Austin**	62.18	61	⇓P		P		14 59 59.6	-0.2	
	baz=62									
T06C	**Millerton Lake**	62.20	65	⇓P		P		14 59 59.6	-0.4	
	baz=62									
N11A	**Elko Archery C**	62.23	59	⇓P		P		15 00 00.5	+0.4	
	baz=62									
KCC	**Kaiser Creek**	62.24	64	P		P		15 00 00.5	+0.3	
	baz=62,SNR=5.5									
M12A	**Wells**	62.34	58	P		P		15 00 01.7	+0.8	
	baz=62,SNR=7.2									
PKD	**Parkfield**	62.35	66	⇓P		P		15 00 00.7	-0.2	
	baz=62									
GCMT	**Greycliff**	62.53	52	*e*P		P		15 00 02.8	+0.6	
GCMT				*e*		pP		15 00 14.0	+2.1	
P10A	**Eureka**	62.55	61	⇓P		P		15 00 02.7	+0.4	
	baz=62									
Q09A	**Carvers**	62.61	62	⇑P		P		15 00 02.6	0.0	
	baz=62									
N12A	**Clover Valley,**	62.62	59	⇑P		P		15 00 02.9	+0.2	
	baz=62									
O11A	**Cowboy Ranch,**	62.71	60	P		P		15 00 04.2	+0.8	
	baz=63,SNR=7.0									
M13A	**Montello**	62.81	58	⇑P		P		15 00 04.3	+0.3	
	baz=63									
S08C	**White Mtn Res**	62.84	63	⇓P		P		15 00 04.6	+0.4	
	baz=63									
P11A	**Circle Ranch,**	63.02	60	⇓P		P		15 00 05.4	+0.1	
	baz=63									
R09A	**Tonopah**	63.05	62	P		P		15 00 05.7	+0.1	
	baz=63,SNR=18									
SMMC	**Simmler**	63.09	66	⇑P		P		15 00 06.3	+0.4	
	baz=63									
N13A	**Wendover, West**	63.11	58	⇑P		P		15 00 06.4	+0.4	
	baz=63									
O12A	**Currie**	63.16	59	P		P		15 00 06.8	+0.4	
	baz=63,SNR=11									
RRI2	**Red Ridge**	63.18	55	*e*P		P		15 00 07.4	+1.0	
	comp=Z,26nm,0.8s,mb5.4									
S09A	**Goldfield**	63.28	63	P		P		15 00 07.3	+0.2	
	baz=63,SNR=6.9									
TPAW	**Teton Pass**	63.29	54	*e*P		P		15 00 08.3	+1.1	
	comp=Z,20nm,0.8s,mb5.3									
VES	**Vestal, Richgr**	63.33	65	⇓P		P		15 00 06.7	-0.7	
	baz=63									
REDW	**Red Top Meadow**	63.43	54	*e*P		P		15 00 09.2	+1.0	
	comp=Z,12nm,0.8s,mb5.1									
PKM	**Peak Mountain**	63.47	67	⇓P		P		15 00 08.2	-0.1	
	baz=63									
R10A	**Warm Springs**	63.49	62	P		P		15 00 08.9	+0.5	
	baz=63,SNR=6.0									
Q11A	**Duckwater**	63.52	61	⇓P		P		15 00 08.6	-0.2	
	baz=63									
P12A	**McGill**	63.57	60	⇓P		P		15 00 09.1	+0.1	
	baz=63									
CWC	**Cottonwood Cre**	63.57	64	P		P		15 00 09.0	0.0	
	baz=63,SNR=6.8									
GRAC	**Grapevine Rang**	63.65	63	⇓P		P		15 00 10.0	+0.4	
	baz=64									
ISA	**Isabella**	63.82	65	*e*P		P		15 00 09.2	-1.5	
ISA	**Isabella**	63.82	65	P		P		15 00 09.8	-0.9	
	baz=64,SNR=5.1									
TRCR	**Troy Canyon**	63.88	61	*e*P		P		15 00 10.1	-1.0	
TRCR				*e*				15 00 24.5		
Q12A	**Willow Creek R**	63.89	60	⇓P		P		15 00 11.4	+0.2	
	baz=64									
MPMC	**Manual Prospec**	64.18	64	P		P		15 00 13.0	0.0	
	baz=64,SNR=14									
FURC	**Furnace Creek,**	64.31	63	P		P		15 00 14.1	+0.2	
	baz=64,SNR=12									
FINES	**FINESS Array B**	64.34	335	P		P		15 00 13.4	-0.7	
	comp=Z,9.6nm,0.6s,mb5.0,baz=37,slow=7.9,SNR=16									
DUG	**Dugway**	64.34	58	*e*P		P		15 00 12.3	-1.8	
DUG				pmax		pmax				
	comp=Z,14nm,1.0s,mb5.0									
DUG	**Dugway**	64.34	58	*e*Pn		P		15 00 12.3	-1.9	
	comp=Z,14nm,1.0s,mb5.0									
DUG	**Dugway**	64.34	58	P		P		15 00 14.5	+0.3	
	baz=64,SNR=11									
LRMC	**Laurel Mountai**	64.43	65	P		P		15 00 14.8	+0.1	
	baz=64,SNR=5.1									
PDAR	**Pinedale Array**	64.54	54	P		P		15 00 15.4	0.0	
	comp=Z,8.2nm,0.8s,mb4.8,baz=288,slow=1.9,SNR=40									
EDW2	**Edwards Air Fo**	64.63	65	P		P		15 00 16.0	0.0	
	baz=64,SNR=12									
U10A	**Ash Meadows, A**	64.67	63	⇓P		P		15 00 16.8	+0.5	
	baz=64									
DECC	**Green Verdugo**	64.82	66	⇓P		P		15 00 17.2	-0.1	
	baz=65									
NLU	**North Lily Min**	64.93	58	*e*P		P		15 00 17.4	-0.5	
GSC	**Goldstone**	65.09	64	P		P		15 00 18.8	-0.2	
	baz=65,SNR=6.5									
DAU	**Daniels Canyon**	65.11	57	*e*P		P		15 00 18.7	-0.4	
U11A	**Corn Creek**	65.25	63	⇓P		P		15 00 20.8	+0.8	
	baz=65									
BFSC	**Mount Baldy St**	65.25	66	⇓P		P		15 00 20.2	+0.2	
	baz=65									
CIS	**Catalina Islan**	65.32	67	⇑P		P		15 00 20.0	-0.5	
	baz=65									
SCI	**San Clemente I**	65.51	67	⇓P		P		15 00 21.7	0.0	
	baz=65									
ARUT	**Antelope Range**	65.53	60	*e*P		P		15 00 21.3	-0.6	
TUQ	**Turquoise Mtn.**	65.56	64	P		P		15 00 22.0	0.0	
	baz=65,SNR=13									
V11A	**Goodsprings**	65.60	63	⇓P		P		15 00 22.2	-0.1	
	baz=66									
OBN	**Obninsk**	65.65	326	⇑*e*P		P		15 00 21.0	-1.6	
OBN				*e*		pP		15 00 30.4	-2.0	
OBN				pmax		pmax				
	comp=Z,8.0nm,0.9s,mb4.8									
HEC	**Hector,Ludlow**	65.70	65	P		P		15 00 22.9	0.0	
	baz=66,SNR=7.7									
BBRC	**Big Bear Sol-O**	65.70	65	⇑P		P		15 00 23.0	+0.1	
	baz=66									
U12A	**Valley of Fire**	65.76	62	⇓P		P		15 00 23.3	0.0	
	baz=66									
MSU	**Marysvale**	65.81	59	*e*P		P		15 00 22.7	-1.0	
MURC	**Murrieta**	65.96	66	⇓P		P		15 00 24.6	0.0	
	baz=66									
V12A	**Nelson**	66.03	63	⇑P		P		15 00 25.3	+0.3	
	baz=66									
W12A	**Cal Nev Ari**	66.29	63	⇓P		P		15 00 26.9	+0.2	
	baz=66									
SRU	**San Rafael**	66.39	58	*e*P		P		15 00 27.6	+0.2	
SRU				pmax		pmax				
	comp=Z,19nm,0.8s,mb5.2									
SRU	**San Rafael**	66.39	58	*e*P		P		15 00 27.6	+0.2	
	comp=Z,19nm,0.8s,mb5.2									
ULM	**Lac du Bonnet**	66.40	41	P		P		15 00 27.1	-0.4	
	comp=Z,8.6nm,0.7s,mb4.9,baz=316,slow=6.1,SNR=16									
BELC	**Belle Mtn.**	66.45	65	⇑P		P		15 00 27.2	-0.5	
	baz=66									
RSSD	**Black Hills**	66.64	50	*e*P		P		15 00 28.6	-0.4	
RSSD				pmax		pmax				
	comp=Z,9.0nm,0.7s,mb4.9									
RSSD	**Black Hills**	66.64	50	*e*P		P		15 00 28.6	-0.4	
	comp=Z,8.6nm,0.7s,mb4.9									
IRM	**Iron Mountain**	66.87	64	P		P		15 00 30.4	0.0	
	baz=67,SNR=9.7									
BC3	**Big Chuckw Mtn**	67.02	65	⇑P		P		15 00 31.1	-0.3	
	baz=67									
W13A	**Hualapai Mount**	67.03	63	⇑P		P		15 00 31.4	-0.1	
	baz=67									
HYB	**Hyderabad**	67.37	272	*i* P		P		15 00 34.0	+0.4	
HYB	**Hyderabad**	67.37	272	*e*P		P		15 00 34.0	+0.4	
X13A	**Yucca**	67.40	63	P		P		15 00 33.8	0.0	
	baz=67,SNR=6.8									
PDMCI	**Parker Dam,Lak**	67.41	64	P		P		15 00 34.0	+0.2	
	baz=67,SNR=6.4									
W14A	**Seligman**	67.45	62	P		P		15 00 34.6	+0.5	
	baz=67,SNR=20									
VRSR	**Storozhevoye**	67.46	322	*e*P		P		15 00 34.0	-0.2	
VRSR				pmax		pmax				
	comp=Z,10.0nm,1.0s,mb4.8									
VRSR				pmax		pmax				
	comp=N,4.0nm,0.5s									
Y12C	**Blythe**	67.53	64	⇑P		P		15 00 34.5	-0.1	
	baz=67									
AGMN	**Agassiz Refuge**	67.80	43	*e*P		P		15 00 35.0	-1.3	
	comp=N,43nm,1.5s,mb5.3									
AGMN				*e*				15 00 46.5		
GLA	**Glamis**	67.81	65	*e*P		P		15 00 36.3	-0.1	
GLA				*e*		pP		15 00 46.5	+0.3	
GLA	**Glamis**	67.81	65	P		P		15 00 36.7	+0.3	
	baz=68,SNR=5.1									
W15A	**Williams**	67.97	62	⇑P		P		15 00 37.6	+0.2	
	baz=68									
X14A	**Yava**	68.06	63	P		P		15 00 38.9	+0.9	
	baz=68,SNR=7.4									
WUAZ	**Wupatki**	68.28	61	⇓P		P		15 00 39.9	+0.5	
	baz=68									
Y14A	**Wickenburg**	68.35	63	P		P		15 00 40.1	+0.4	
	baz=68,SNR=5.3									
SMCO	**Snowmass**	68.39	56	*e*P		P		15 00 31.4	-8.7	
	comp=N,12nm,0.8s,mb5.0									
X15A	**Humboldt**	68.45	62	P		P		15 00 41.1	+0.8	
	baz=68,SNR=7.6									
WB2	**Warramunga Arr**	68.48	200	*e*P		P		15 00 39.9	-0.7	
WB2				*e*				15 00 51.2		
WRA	**Warramunga Arr**	68.49	200	P		P		15 00 40.1	-0.6	
	comp=N,4.7nm,0.9s,mb4.5,baz=17,slow=6.8,SNR=14									
NB2	**NORSAR Subarra**	68.50	341	P		P		15 00 40.1	-0.6	
	comp=Z,15nm,0.6s,mb5.2,baz=27,slow=6.5									
NOA	**NORSAR Array B**	68.50	341	P		P		15 00 40.4	-0.3	
	comp=Z,13nm,0.6s,mb5.1,baz=26,slow=6.3,SNR=33									
ISCO	**Idaho Springs**	68.73	54	*e*P		P		15 00 42.6	+0.4	
ISCO				*e*				15 00 53.9		
ISCO				pmax		pmax				
	comp=Z,7.0nm,0.7s,mb4.7									
ISCO	**Idaho Springs**	68.73	54	*e*P		P		15 00 42.6	+0.4	
	comp=Z,7.4nm,0.7s,mb4.7									
ISCO				*e*		pP		15 00 53.9	+1.9	
HFS	**Hagfors**	68.73	340	P		P		15 00 41.6	-0.5	
	comp=Z,13nm,0.4s,mb5.2,baz=56,slow=5.6,SNR=16									
Z14A	**Wintersburg**	68.77	64	⇓P		P		15 00 42.5	+0.1	
	baz=69									
MVCO	**Mesa Verde**	68.85	58	*e*P		P		15 00 42.9	+0.1	
	comp=Z,9.2nm,0.8s,mb4.8									
MVCO	**Mesa Verde**	68.85	58	P		P		15 00 43.5	+0.6	
	baz=69,SNR=6.3									
FITZ	**Fitzroy Crossi**	69.18	209	*e*P		P		15 00 45.2	+0.3	
	comp=Z,7.3nm,0.9s,mb4.6									
FITZ				*e*		pP		15 00 56.4	+1.6	
115A	**Sonoran Desert**	69.66	64	⇓P		P		15 00 48.3	+0.4	
	baz=70									
POO	**Poona**	69.84	276	*ex*		x		15 00 47.5		
EYMN	**Ely**	70.05	40	*e*P		P		15 00 48.6	-1.7	
	comp=Z,7.9nm,0.8s,mb4.7									
EYMN				*e*		pP		15 00 58.3	-1.8	
116A	**Eloy**	70.08	64	⇑P		P		15 00 50.7	+0.3	
	baz=70									
SDCO	**Great Sand Dun**	70.21	56	*e*P		P		15 00 51.5	+0.3	
	comp=Z,4.3nm,0.8s,mb4.4									
SDCO				*e*		pP		15 01 02.6	+1.4	
ECSD	**EROS,Sioux Fal**	70.73	46	*e*P		P		15 00 53.4	-1.0	
	comp=Z,12nm,0.8s,mb4.9									
KIV	**Kislovodsk**	71.17	315	*e*P		P		15 00 58.9	+1.7	
KIV				pmax		pmax				
	comp=Z,15nm,1.0s,mb4.9									
KIV	**Kislovodsk**	71.17	315	P		P		15 00 57.7	+0.6	
	comp=Z,10.0nm,0.7s,mb4.8									
ANMO	**Albuquerque**	71.60	59	P		P		15 01 00.4	+0.7	
	comp=Z,5.9nm,0.8s,mb4.6,baz=314,slow=10.0,SNR=9.6									
ANMO	**Albuquerque**	71.60	59	*e*P		P		15 00 59.4	-0.3	
ANMO				pmax		pmax				
	comp=Z,5.0nm,0.9s									
ANMO	**Albuquerque**	71.60	59	*e*P		P		15 00 59.4	-0.4	
	comp=Z,5.4nm,0.9s,mb4.5									
AKASG	**Malin Array Be**	71.88	327	P		P		15 01 00.7	-0.8	
	comp=Z,4.9nm,0.4s,mb4.8,baz=34,slow=6.1,SNR=25									
KIEV	**Kiev**	71.89	327	*e*P		P		15 01 00.5	-1.0	
KIEV				pmax		pmax				
	comp=Z,20nm,0.9s,mb5.0									
KIEV	**Kiev**	71.89	327	*e*P		P		15 01 00.5	-1.0	
	comp=Z,20nm,0.9s,mb5.0									
BNM	**Barren Site**	72.06	59	*e*P		P		15 01 02.8	+0.4	
AS31	**Alice Springs**	72.18	199	*e*P		P		15 01 03.6	+0.4	
AS31				*e*				15 01 15.8		
ASAR	**Alice Springs**	72.18	199	P		P		15 01 02.4	-0.8	
	comp=Z,6.8nm,0.8s,mb4.6,baz=13,slow=5.8,SNR=30									
ASPA	**Alice Springs**	72.18	199	*e*P		P		15 01 03.6	+0.4	
ASPA				*e*				15 01 15.8		
SCHQ	**Schefferville**	73.31	23	P		P		15 01 09.4	-0.5	
	comp=Z,2.5nm,0.7s,mb4.2,baz=7.1,slow=10.0,SNR=5.1									
SCHQ				LR		LR		15 38 54.8		
	comp=Z,99nm,20.1s,MS4.1,baz=344,slow=40									
SCIA	**State Center**	73.76	46	*e*P		P		15 01 12.3	-0.3	
	comp=Z,21nm,0.3s,mb5.5									
MBWA	**Marble Bar**	74.08	213	*e*P		P		15 01 13.0	-1.4	
	comp=Z,6.8nm,1.0s,mb4.5									
AMTX	**Amarillo**	74.41	56	*e*P		P		15 01 16.5	+0.2	
	comp=Z,18nm,0.9s,mb5.0									
KWP	**Kalwaria**	75.15	329	*e*P		P		15 01 21.1	+0.5	
OJC	**Ojcow**	75.64	331	*e*P		P		15 01 23.2	-0.2	
STHS	**Stebnicka Huta**	75.84	330	*e*P		P		15 01 25.5	+0.9	
STHS				pmax		pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
STHS	**Stebnicka Huta**	75.84	330	*e*P		P		15 01 25.5	+0.9	
	comp=Z,8.9nm,0.8s,mb4.8									
KOLS	**Kolonicke sedl**	75.89	329	*e*P		P		15 01 25.1	+0.2	
BURAR	**Bucovina Array**	75.92	327	⇓*i*P		P		15 01 25.1	0.0	
BURAR	**Bucovina Array**	75.92	327	⇓P		P		15 01 25.1	+0.1	
WMOK	**Wichita Mounta**	76.15	54	*e*P		P		15 01 25.8	-0.6	
WMOK				pmax		pmax				
	comp=Z,9.0nm,1.0s,mb4.7									
WMOK	**Wichita Mounta**	76.15	54	*e*P		P		15 01 25.8	-0.6	
	comp=Z,9.1nm,1.0s,mb4.7									
UPC	**Upice**	76.59	334	*e*P		P		15 01 30.0	+1.2	
DPC	**Dobruska-Polom**	76.63	333	*e*P		P		15 01 29.6	+0.5	
MORC	**Moravsky Berou**	76.75	332	⇑*i*P		P		15 01 30.3	+0.5	
MORC	**Moravsky Berou**	76.75	332	*e*P		P		15 01 29.8	0.0	
MORC				pmax		pmax				
	comp=Z,8.0nm,0.8s,mb4.7									
MORC	**Moravsky Berou**	76.75	332	*e*P		P		15 01 29.8	0.0	
	comp=Z,7.7nm,0.8s,mb4.7									
CLL	**Collm**	76.76	336	*i* P		P		15 01 29.2	-0.6	
	comp=Z,16nm,0.9s,mb5.0									
CLL				*i* PcP		PcP		15 01 41.0	0.0	
CLL				*i* x		x		15 01 51.8		
CLL				LmV				15 43 00.0		
	comp=Z,100nm,20.0s									
KECS	**Kecovo**	76.89	330	*e*P		P		15 01 30.7	+0.1	
KECS				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb4.3									
KECS	**Kecovo**	76.89	330	*e*P		P		15 01 30.7	+0.1	
	comp=Z,3.8nm,0.9s,mb4.3									
PVCC	**Panska Ves**	77.00	335	*e*P		P		15 01 31.5	+0.3	
LTX	**Lajitas**	77.25	61	*e*P		P		15 01 32.4	-0.1	
LTX				*e*		pP		15 01 43.5	+1.0	
LTX				pmax		pmax				
	comp=Z,24nm,0.7s,mb5.2									
LTX	**Lajitas**	77.25	61	*e*P		P		15 01 32.4	-0.2	
	comp=Z,24nm,0.7s,mb5.2									
LTX				*e*		pP		15 01 43.5	+0.9	
TXAR	**Lajitas Array**	77.25	61	P		P		15 01 32.9	+0.3	
	comp=Z,23nm,0.6s,mb5.3,baz=301,slow=4.1,SNR=84									
MLR	**Muntele Rosu**	77.41	325	⇑*i*P		P		15 01 34.0	+0.6	
MLR	**Muntele Rosu**	77.41	325	⇑P		P		15 01 34.0	+0.5	
VYHS	**Vyhne**	77.44	331	*e*P		P		15 01 34.0	+0.3	
PRU	**Pruhonice**	77.49	334	*e*P		P		15 01 34.1	+0.2	
MALT	**Malatya**	77.53	313	⇓*i*P		P		15 01 36.0	+1.9	
MALT	**Malatya**	77.53	313	*e*P		P		15 01 35.7	+1.6	
MALT				pmax		pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
MALT	**Malatya**	77.53	313	*e*P		P		15 01 35.7	+1.6	
	comp=Z,8.6nm,0.8s,mb4.7									
PSZ	**Piszkesteto**	77.58	330	P		P		15 01 33.5	-0.9	
PSZ				pmax		pmax				
	comp=Z,8.0nm,0.8s,mb4.7									
PSZ	**Piszkesteto**	77.58	330	P		P		15 01 33.5	-0.9	
	comp=Z,8.9nm,0.8s,mb4.7									
NKC	**Novy Kostel**	77.88	336	*e*P		P		15 01 35.9	-0.2	
KHC	**Kasperske Hory**	78.54	335	*e*P		P		15 01 39.8	+0.1	
KHC	**Kasperske Hory**	78.54	335	⇑*e*P		P		15 01 40.4	+0.7	
JCT	**Junction City**	78.70	58

s-min=12.7km az=158.0
NEIC ***16*** *15:00:22.6±0.3, 47.57N×154.16E, h10km, mb4.8/26, Error ellipse: s-maj=8.9km s-min=5.3km az=156.0*
BJI ***16*** *15:00:23.8, 4730N×15363E, h10km, mB4.8, mb4.4, Ms4.3, Msz4.1*
MOS ***16*** *15:00:24.0±1.1, 4750N×154.11E, h33km, mb4.9/15, Error ellipse: s-maj=11.5km s-min=8.5km az=67.0*
SKHL ***16*** *15:00:31.6±5.4, 4801N×15338E, h58km±23km, Ms4.3/2, msh5.2/1*

ISC 16 15:00:24.0±0.2, 4767N±005×15409E±004, h14km, h14km±.8km:pP-P,n305,σ0974/298, mb4.6/58, MS4.1/10, 71C-70D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.29**	**23**	*e*P		**Pn**	**15 01 17.5**	**+2.5**
SKR					AMB	AMB	15 01 23.8	
	200nm,0.2s							
SKR					AMB	AMB	15 01 23.8	
	250nm,0.5s							
SKR					AMB	AMB	15 01 23.8	
	540nm,0.5s							
SKR				*e*S		**Sn**	**15 01 51.9**	**-2.0**
SKR					A		15 02 04.5	
	2μm,2.0s							
SKR					A		15 02 04.5	
	4μm,4.0s							
SKR					A		15 02 04.5	
	690nm,0.5s							
SKR					A		15 02 04.5	
	260nm,0.5s							
SKR					A		15 02 04.5	
	200nm,0.5s							
SKR					A		15 02 04.5	
	4μm,4.0s							
SKR					A		15 02 04.5	
	2μm,2.0s							
SKR					AMS	AMS	15 02 40.0	
	3μm,14.0s							
SKR					AMS	AMS	15 02 40.0	
	5μm,14.0s							
SKR					AMS	AMS	15 02 40.0	
	3μm,14.0s							
SKR					AMS	AMS	15 02 40.0	
	2μm,14.0s							
SKR					AMS	AMS	15 02 40.0	
	2μm,14.0s							
SKR					AMS	AMS	15 02 40.0	
	5μm,14.0s							
KUR	**Kuril'sk**	**4.95**	**243**	*e*P		**Pn**	**15 01 40.0**	**+2.2**
KUR					AMB	AMB	15 01 41.2	
	90nm,0.8s							
KUR					AMB	AMB	15 01 41.2	
	80nm,0.8s							
KUR					AMB	AMB	15 01 41.2	
	330nm,0.8s							
KUR	**Kuril'sk**	**4.95**	**243**	*e*PN		**Pn**	**15 01 28.0**	**-10**
KUR					pmax	pmax		
	comp=Z,80nm,0.6s							
PET	**Petropavlovsk**	**6.10**	**27**	*e*PN		**Pn**	**15 01 52.7**	**-0.9**
PET					pmax	pmax		
	comp=Z,138nm,2.0s							
PET					MLR	MLR		
	comp=Z,1μm,15.0s							
PET	**Petropavlovsk**	**6.10**	**27**	*e*Pn		**Pn**	**15 01 52.8**	**-0.8**
	comp=Z,156nm,1.1s							
YSS	**Yuzh-Sakhalins**	**7.74**	**269**	*e*P		**Pn**	**15 02 16.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.74**	**269**	*e*Pn		**Pn**	**15 02 15.9**	**-0.3**
	comp=Z,20nm,0.6s							
ASAJ	**Asahikawa**	**8.77**	**250**	Pn		**Pn**	**15 02 26.8**	**-3.6**
	comp=Z,2.1nm,0.3s,baz=77,slow=17,SNR=17							
ASAJ					LR	LR	15 05 37.4	
	comp=Z,605nm,21.7s,baz=80,slow=36							
ASAJ	**Asahikawa**	**8.77**	**250**	PN		**Pn**	**15 02 26.8**	**-3.5**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,605nm,21.7s							
KLR	**Kul'dur**	**14.90**	**284**	*e*P		**Pn**	**15 04 00.0**	**+5.9**
MJAR	**Matsushiro Arr**	**16.17**	**232**	Pn		**Pn**	**15 04 07.9**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=38,slow=9.3,SNR=8.5							
MAJO	**Matsushiro**	**16.17**	**232**	*e*P		**Pn**	**15 04 07.7**	**-3.0**
JHJ	**Hachijo jima 2**	**18.12**	**222**	LR		LR	15 11 27.7	
	comp=Z,82nm,18.6s,baz=78,slow=37							
YAK	**Yakutsk**	**19.93**	**325**	*e*P		**Pn**	**15 05 00.6**	**+3.7**
YAK					pmax	pmax		
	comp=Z,23nm,1.2s							
YAK					pmax	pmax		
	comp=N,10.0nm,1.4s							
YAK					pmax	pmax		
	comp=E,15nm,1.5s							
YAK	**Yakutsk**	**19.93**	**325**	*e*P		**Pn**	**15 04 57.2**	**+0.3**
	comp=E,24nm,0.6s							
CN2	**Changchun**	**20.31**	**270**	*e*P		**P**	**15 04 59.8**	**+0.4**
BILL	**Bilibino**	**21.34**	**13**	*e*P		**P**	**15 05 11.7**	**+1.1**
BILL					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0							
BILL					MLR	MLR		
	comp=Z,400nm,17.0s,MS3.9							
BILL	**Bilibino**	**21.34**	**13**	*e*P		**P**	**15 05 08.6**	**-2.0**
	comp=Z,3.5nm,0.4s,mb4.0							
KSRS	**Korea Array**	**21.72**	**252**	P		**P**	**15 05 12.3**	**-2.3**
	comp=Z,4.1nm,0.8s,mb3.9,baz=62,slow=8.6,SNR=10.0							
HIA	**Hailar**	**22.72**	**287**	P		**P**	**15 05 26.0**	**+0.7**
BOD	**Bodaibo**	**25.93**	**308**	*e*P		**P**	**15 06 01.9**	**+6.2**
HHC	**Hu-ho-hao-te**	**30.90**	**273**	*e*P		**P**	**15 06 40.5**	**+0.5**
HHC					AP	pP	15 06 45.1	+0.7
HHC					PP	PP	15 07 42.9	-6.9
HHC					S	**S**	**15 11 43.6**	**0.0**
HHC					XS	sS	15 11 51.6	+0.7
HHC					AMB	AMB		
	comp=Z,16nm,1.4s,mb4.7							
HHC					AMB	AMB		
	comp=Z,61nm,8.0s							
HHC					LR	LR		
	comp=N,184nm,13.5s,MS4.1							
HHC					LR	LR		
	comp=E,236nm,13.5s,MS4.1							
HHC					LR	LR		
	comp=Z,178nm,15.0s,MS3.9							
NJ2	**Nanjing**	**30.91**	**253**	*e*P		**P**	**15 06 39.8**	**-0.3**
NJ2					AP	pP	15 06 43.1	-1.4
NJ2					XP	sP	15 06 47.3	+1.0
NJ2					PP	PP	15 07 40.9	-9.0
NJ2					S	**S**	**15 11 41.5**	**-2.2**
NJ2					XS	sS	15 11 49.5	-1.5
NJ2					AMB	AMB		
	comp=Z,460nm,4.6s							
NJ2					LR	LR		
	comp=N,2μm,14.3s,MS5.0							
NJ2					LR	LR		
	comp=E,2μm,15.4s,MS5.0							
NJ2					LR	LR		
	comp=Z,2μm,13.4s,MS4.8							
ULN	**Ulaanbaatar**	**31.24**	**288**	P		**P**	**15 06 47.1**	**+4.1**
SONM	**Songino Array**	**31.67**	**288**	P		**P**	**15 06 47.7**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=90,slow=7.8,SNR=3.0							
SONM					LR	LR	15 20 00.1	
	comp=Z,162nm,20.5s,MS3.7,baz=246,slow=37							
GUMO	**Guam**	**34.84**	**196**	LR		LR	15 21 42.7	
	comp=Z,73nm,18.1s,MS3.5,baz=102,slow=37							
COLA	**College**	**35.00**	**39**	*e*P		**P**	**15 07 15.2**	**-0.6**
COLA					pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0							
COLA	**College**	**35.00**	**39**	*e*P		**P**	**15 07 15.2**	**-0.7**
	comp=Z,20nm,1.0s,mb5.0							
XAN	**Xi'an**	**36.26**	**265**	P		**P**	**15 07 24.8**	**-1.9**
XAN					AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4							
LZH	**Lanzhou**	**38.53**	**271**	*e*P		**P**	**15 07 47.5**	**+1.6**
LZH					AP	pP	15 07 51.1	+0.7
LZH					XP	sP	15 07 52.3	+0.1
LZH					AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8							
LZH	**Lanzhou**	**38.53**	**271**	*e*P		**P**	**15 07 47.5**	**+1.6**
	comp=Z,20nm,1.0s,mb4.8							
LZH					pP	pP	15 07 51.1	+0.7
LZH					sP	sP	15 07 52.3	+0.1
GTA	**Gaotai**	**39.49**	**278**	*e*P		**P**	**15 07 56.5**	**+2.6**
GTA					AP	pP	15 08 01.3	+2.9
GTA					XP	sP	15 08 04.1	+3.9
GTA					PP	PP	15 09 32.1	+7.5
GTA					AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.7							
GTA					AMB	AMB		
	comp=Z,77nm,4.9s							
GTA					LR	LR		
	comp=N,140nm,12.9s,MS4.1							
GTA					LR	LR		
	comp=E,164nm,15.6s,MS4.1							
GTA					LR	LR		
	comp=Z,195nm,14.5s,MS4.1							
INK	**Inuvik**	**40.51**	**33**	P		**P**	**15 08 02.5**	**+0.1**
	comp=Z,3.0nm,0.5s,mb4.2,baz=278,slow=7.7,SNR=18							
INK	**Inuvik**	**40.51**	**33**	*e*P		**P**	**15 08 02.3**	**-0.1**
INK					pmax	pmax		
	comp=Z,362nm,1.2s							
INK	**Inuvik**	**40.51**	**33**	*e*P		**P**	**15 08 02.3**	**-0.1**
	comp=Z,362nm,1.2s,mb5.9							
CD2	**Chengdu**	**41.62**	**265**	*e*P		**P**	**15 08 10.6**	**-1.0**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
CD2					AMB	AMB		
	comp=Z,30nm,5.8s							
GYA	**Guiyang**	**42.57**	**257**	*i*P		**P**	**15 08 20.8**	**+1.5**
GYA					AP	pP	15 08 24.8	+1.0
GYA					XP	sP	15 08 27.6	+2.0
GYA					PP	PP	15 10 00.6	+2.6
GYA					PCP	PcP	15 10 12.4	+0.9
GYA					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
GYA					AMB	AMB		
	comp=Z,110nm,4.6s							
GYA					LR	LR		
	comp=N,420nm,15.8s,MS4.6							
GYA					LR	LR		
	comp=E,430nm,16.4s,MS4.6							
GYA					LR	LR		
	comp=Z,380nm,16.9s,MS4.4							
ZAL	**Zalesovo**	**42.63**	**305**	P		**P**	**15 08 19.1**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.7,baz=23,slow=7.7,SNR=2.7							
ZAL					PcP	PcP	15 10 10.8	-0.9
	comp=Z,1.2nm,0.7s,baz=352,slow=3.5,SNR=5.2							
ZAL	**Zalesovo**	**42.63**	**305**	P		**P**	**15 08 19.1**	**-0.7**
ZAL					PcP	PcP	15 10 10.8	-0.9
WRAK	**Wrangell Islan**	**44.02**	**50**	*e*P		**P**	**15 08 29.8**	**-1.3**
	comp=Z,25nm,1.0s,mb4.9							
WMQ	**Urumqi**	**45.22**	**291**	*i*P		**P**	**15 08 40.5**	**-0.1**
WMQ					AP	pP	15 08 45.0	-0.1
WMQ					XP	sP	15 08 47.5	+0.6
WMQ					PCP	PcP	15 10 20.0	-0.5
WMQ					PP	PP	15 10 27.5	+1.2
WMQ					PPP		15 11 08.9	
WMQ					AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9							
WMQ					AMB	AMB		
	comp=Z,52nm,5.0s							
WMQ					LR	LR		
	comp=N,110nm,17.9s,MS4.0							
WMQ					LR	LR		
	comp=E,89nm,17.9s,MS4.0							
WMQ					LR	LR		
	comp=Z,180nm,16.6s,MS4.1							
KMI	**Kunming**	**46.07**	**259**	P		**P**	**15 08 48.3**	**+1.0**
KMI					AP	pP	15 08 51.6	-0.2
KMI					XP	sP	15 08 53.5	-0.1
KMI					AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5							
KMI	**Kunming**	**46.07**	**259**	P		**P**	**15 08 48.3**	**+1.0**
	comp=Z,6.0nm,1.0s,mb4.5							
KMI					pP	pP	15 08 51.6	-0.2
KMI					sP	sP	15 08 53.5	-0.1
MK31	**Makanchi Array**	**47.11**	**297**	*e*P		**P**	**15 08 55.4**	**-0.1**
MKAR	**Makanchi Array**	**47.11**	**297**	P		**P**	**15 08 55.2**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.2,baz=71,slow=6.6,SNR=11							
RES	**Resolute Bay**	**49.75**	**19**	*e*P		**P**	**15 09 15.3**	**-0.5**
YKA	**Yellowknife Ar**	**49.78**	**37**	P		**P**	**15 09 14.7**	**-1.3**
	comp=Z,4.1nm,0.9s,mb4.5,baz=296,slow=7.6,SNR=4.7							
YKA	**Yellowknife Ar**	**49.78**	**37**	P		**P**	**15 09 14.7**	**-1.3**
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P		**P**	**15 09 17.7**	**-2.7**
CHKZ					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P		**P**	**15 09 17.7**	**-2.7**
	comp=Z,4.0nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**50.79**	**309**	P		**P**	**15 09 23.2**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.3,baz=55,slow=9.0,SNR=12							
BVAR					PcP	PcP	15 10 40.2	-0.3
	comp=Z,0.7nm,0.4s,baz=60,slow=1.8,SNR=4.5							
BRVK	**Borovoye**	**50.83**	**309**	*e*P		**P**	**15 09 24.5**	**+0.5**
LSA	**Lhasa**	**50.89**	**273**	*e*P		**P**	**15 09 25.3**	**+0.9**
LSA					pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**50.89**	**273**	*e*P		**P**	**15 09 25.2**	**+0.8**
	comp=Z,5.4nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**51.55**	**310**	*e*P		**P**	**15 09 28.7**	**-0.7**
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**51.55**	**310**	*e*P		**P**	**15 09 28.7**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.3							
CHTO	**Chiang Mai**	**52.98**	**257**	*e*P		**P**	**15 09 37.6**	**-2.4**
CHTO					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
CHTO	**Chiang Mai**	**52.98**	**257**	*e*P		**P**	**15 09 37.6**	**-2.4**
	comp=Z,8.1nm,1.0s,mb4.6							
CM31	**Chiang Mai Arr**	**53.24**	**256**	*e*P		**P**	**15 09 40.1**	**-1.8**
	comp=Z,3.1nm,0.7s,mb4.3							
H02A	**Toledo**	**54.24**	**61**	⇓P		**P**	**15 09 47.8**	**-1.5**
	baz=54							
G03A	**Yamhill**	**54.30**	**60**	⇓P		**P**	**15 09 49.6**	**-0.1**
	baz=54							
B07A	**Winthrop**	**54.33**	**55**	⇓P		**P**	**15 09 49.5**	**-0.4**
	baz=54							
A08A	**Turner Farm, O**	**54.52**	**54**	⇓P		**P**	**15 09 51.0**	**-0.3**
	baz=54							
D06A	**Cle Elum**	**54.64**	**56**	⇑P		**P**	**15 09 51.6**	**-0.6**
	baz=54							
I02A	**Mapleton**	**54.73**	**61**	⇓P		**P**	**15 09 52.2**	**-0.6**
	baz=55							
ARU	**Arti**	**54.78**	**317**	P		**P**	**15 09 52.8**	**-0.4**
ARU	**Arti**	**54.78**	**317**	P		**P**	**15 09 52.8**	**-0.4**
C07A	**Waterville**	**54.80**	**56**	⇑P		**P**	**15 09 52.6**	**-0.7**
	baz=55							
B08A	**Colville Reser**	**54.82**	**55**	⇓P		**P**	**15 09 53.1**	**-0.4**
	baz=55							
A09A	**Danville**	**54.88**	**54**	P		**P**	**15 09 53.7**	**-0.2**
	baz=55,SNR=6.4							
KSH	**Kashi**	**54.92**	**292**	*e*P		**P**	**15 09 57.3**	**+3.1**
KSH				*e*AP		pP	15 10 02.1	+3.3
KSH				*e*XP		sP	15 10 05.5	+4.9
KSH				*e*PCP		PcP	15 10 57.5	+1.4
KSH				*e*PP		PP	15 12 03.3	+6.2
KSH				*e*PPP			15 13 15.1	
KSH				*e*SCP		ScP	15 14 55.5	+1.3
KSH				AMB		AMB		
	comp=Z,447nm,4.8s							
KSH				LR		LR		
	comp=Z,441nm,10.2s,MS4.8							
D07A	**Quincy**	**55.13**	**56**	⇑P		**P**	**15 09 55.1**	**-0.6**
	baz=55							
EDM	**Edmonton**	**55.19**	**47**	*e*P		**P**	**15 09 55.2**	**-1.0**
J02A	**Umpqua**	**55.24**	**62**	⇓P		**P**	**15 09 56.6**	**0.0**
	baz=55							
H04A	**Detroit Lake**	**55.30**	**60**	⇓P		**P**	**15 09 56.8**	**-0.1**
	baz=55							
B09A	**Rice**	**55.44**	**54**	⇑P		**P**	**15 09 57.5**	**-0.4**
	baz=55							
A10A	**Northport**	**55.44**	**53**	⇑P		**P**	**15 09 57.8**	**-0.1**
	baz=55							
F06A	**Goldendale**	**55.49**	**58**	⇓P		**P**	**15 09 57.9**	**-0.4**
	baz=55							
JIRN	**Jiri**	**55.54**	**275**	*e*P		**P**	**15 09 59.9**	**+1.2**
	comp=Z,14nm,0.6s,mb5.1							
E07A	**Sunnyside**	**55.56**	**57**	⇓P		**P**	**15 09 58.8**	**0.0**
	baz=55							
GUN	**Gumba**	**55.59**	**275**	*e*P		**P**	**15 10 01.0**	**+2.0**
	comp=Z,14nm,0.5s,mb5.2							
J03A	**Ideyld Park**	**55.60**	**61**	⇑P		**P**	**15 09 59.8**	**+0.6**
	baz=55							
K02A	**Glendale**	**55.64**	**62**	⇓P		**P**	**15 09 59.7**	**+0.3**
	baz=56							
I04A	**Tendick Farm,**	**55.69**	**61**	⇑P		**P**	**15 10 00.2**	**+0.5**
	baz=56							
C09A	**Chrisman Ranch**	**55.72**	**55**	⇓P		**P**	**15 09 59.4**	**-0.6**
	baz=56							
D08A	**Wollman Farm,**	**55.80**	**56**	⇓P		**P**	**15 10 00.2**	**-0.3**
	baz=56							
F07A	**Phinny Hill Vi**	**55.90**	**57**	⇓P		**P**	**15 10 01.0**	**-0.3**
	baz=56							
L02A	**Cave Junction**	**55.94**	**63**	⇑P		**P**	**15 10 01.2**	**-0.3**
	baz=56							
B10A	**Chitwood Farm,**	**56.01**	**54**	⇓P		**P**	**15 10 01.6**	**-0.4**
	baz=56							
E08A	**Dider Farm, El**	**56.05**	**56**	⇓P		**P**	**15 10 01.9**	**-0.4**
	baz=56							
HUMO	**Hull Mountain**	**56.06**	**62**	⇑P		**P**	**15 10 01.8**	**-0.6**
	baz=56							
KKN	**Kakani**	**56.07**	**275**	*e*P		**P**	**15 10 03.8**	**+1.4**
	comp=Z,12nm,0.6s,mb5.1							
A11A	**Hall Mountain,**	**56.09**	**53**	⇑P		**P**	**15 10 03.0**	**+0.3**
	baz=56							
PKI	**Pulchoki**	**56.12**	**275**	*e*P		**P**	**15 10 04.7**	**+1.9**
	comp=Z,9.8nm,0.6s,mb5.0							
D09A	**Jones Farm, Ri**	**56.13**	**55**	⇓P		**P**	**15 10 02.2**	**-0.7**
	baz=56							
J04A	**Umpqua Nationa**	**56.19**	**61**	⇑P		**P**	**15 10 03.8**	**+0.5**
	baz=56							
DMN	**Daman**	**56.30**	**275**	*e*P		**P**	**15 10 05.4**	**+1.3**
	comp=Z,18nm,0.7s,mb5.2							
H06A	**Lindquist Farm**	**56.35**	**59**	⇓P		**P**	**15 10 04.6**	**+0.2**
	baz=56							
GKN	**Gorkha**	**56.36**	**276**	*e*P		**P**	**15 10 05.5**	**+1.0**
	comp=Z,12nm,0.5s,mb5.2							
G07A	**Ruggs Ranch, H**	**56.42**	**58**	⇑P		**P**	**15 10 04.5**	**-0.4**
	baz=56							
A12A	**Yaak River Ran**	**56.49**	**52**	⇓P		**P**	**15 10 05.9**	**+0.5**
	baz=56							
E09A	**Wood Farm, Sta**	**56.55**	**56**	P		**P**	**15 10 05.8**	**-0.1**
	baz=56,SNR=6.6							
F08A	**Pendleton**	**56.61**	**57**	⇑P		**P**	**15 10 06.4**	**0.0**
	baz=56							
J05A	**Fort Rock**	**56.68**	**60**	⇓P		**P**	**15 10 07.0**	**+0.2**
	baz=56							
YBH	**Yreka Blue Hor**	**56.72**	**63**	P		**P**	**15 10 07.3**	**+0.2**
	comp=Z,10.0nm,1.0s,mb4.8,baz=338,slow=4.1,SNR=9.8							
YBH	**Yreka Blue Hor**	**56.72**	**63**	⇑P		**P**	**15 10 07.6**	**+0.5**
	baz=56							
G08A	**Pilot Rock**	**56.81**	**57**	⇑P		**P**	**15 10 07.7**	**0.0**
	baz=57							
M02C	**Callahan**	**56.84**	**63**	⇓P		**P**	**15 10 08.0**	**0.0**
	baz=57							
I06A	**Prineville**	**56.88**	**59**	⇑P		**P**	**15 10 08.8**	**+0.5**
	baz=57							
L04A	**Klamath Falls**	**56.95**	**62**	⇑P		**P**	**15 10 09.1**	**+0.3**
	baz=57							
E10A	**Myers Farm, Un**	**57.14**	**55**	⇑P		**P**	**15 10 09.3**	**-0.7**
	baz=57							
F09A	**S2 Ranch, Elgi**	**57.15**	**56**	⇑P		**P**	**15 10 10.3**	**+0.2**
	baz=57							
K05A	**Summer Lake**	**57.21**	**61**	⇓P		**P**	**15 10 11.2**	**+0.6**
	baz=57							
KOLN	**Koldanda**	**57.21**	**276**	*e*P		**P**	**15 10 12.0**	**+1.4**
	comp=Z,13nm,0.8s,mb5.0							
I07A	**Izee**	**57.21**	**59**	⇑P		**P**	**15 10 10.9**	**+0.3**
	baz=57							
M04C	**Macdoel**	**57.21**	**62**	⇑P		**P**	**15 10 10.5**	**-0.1**
	baz=57							
D11A	**Klaveano Farm,**	**57.23**	**54**	⇑P		**P**	**15 10 10.5**	**-0.3**
	baz=57							
M03C	**McCloud**	**57.35**	**63**	⇑P		**P**	**15 10 12.2**	**+0.7**
	baz=57							
F10A	**Beach Ranch, E**	**57.38**	**56**	⇓P		**P**	**15 10 11.8**	**0.0**
	baz=57							
H08A	**Prairie City**	**57.43**	**58**	⇑P		**P**	**15 10 12.0**	**-0.1**
	baz=57							
B13A	**Whitefish**	**57.45**	**52**	P		**P**	**15 10 12.5**	**+0.2**
	baz=57,SNR=5.8							
WDC	**Whiskeytown Da**	**57.52**	**64**	⇓P		**P**	**15 10 12.8**	**+0.1**
	baz=57							
K06A	**Valley Falls**	**57.55**	**60**	P		**P**	**15 10 13.6**	**+0.6**
	baz=57,SNR=6.0							
O02C	**Red Bluff**	**57.61**	**64**	⇑P		**P**	**15 10 14.2**	**+0.8**
	baz=57							
L05A	**Lakeview**	**57.65**	**61**	⇓P		**P**	**15 10 14.8**	**+1.1**
	baz=58							
J07A	**Hines**	**57.75**	**59**	⇑P		**P**	**15 10 14.9**	**+0.5**
	baz=58							
C13A	**Hot Springs**	**57.81**	**53**	⇓P		**P**	**15 10 14.7**	**-0.1**
	baz=58							
I08A	**Drewsey**	**57.85**	**59**	P		**P**	**15 10 16.0**	**+0.9**
	baz=58,SNR=5.0							
M05C	**Lookout**	**57.88**	**62**	⇑P		**P**	**15 10 15.8**	**+0.5**
	baz=58							
H09A	**Durkee**	**57.92**	**57**	P		**P**	**15 10 16.4**	**+0.9**
	baz=58,SNR=5.6							
GASB	**Alder Springs**	**57.97**	**65**	⇓P		**P**	**15 10 16.8**	**+0.8**
	baz=58							
HATC	**Hat Creek Radi**	**58.02**	**63**	⇑P		**P**	**15 10 16.1**	**-0.2**
	baz=58							
F11A	**Grangeville**	**58.03**	**55**	⇓P		**P**	**15 10 16.1**	**-0.3**
	baz=58							
MOD	**Modoc**	**58.06**	**61**	P		**P**	**15 10 16.9**	**+0.4**
	baz=58,SNR=5.1							
K07A	**Rock Creek Ran**	**58.20**	**60**	⇑P		**P**	**15 10 17.7**	**+0.2**
	baz=58							
C14A	**Swan Lake**	**58.20**	**52**	⇓P		**P**	**15 10 17.6**	**0.0**
	baz=58							
D13A	**Huson**	**58.23**	**53**	⇓P		**P**	**15 10 17.6**	**-0.1**
	baz=58							
J08A	**Circle Bar Ran**	**58.24**	**59**	⇓P		**P**	**15 10 18.5**	**+0.6**
	baz=58							
G11A	**Walters Elk Ra**	**58.26**	**56**	⇓P		**P**	**15 10 18.0**	**0.0**
	baz=58							
I09A	**Lost Marbles R**	**58.29**	**58**	⇓P		**P**	**15 10 18.2**	**0.0**
	baz=58							
M06C	**Likely Place G**	**58.38**	**62**	⇑P		**P**	**15 10 19.6**	**+0.8**
	baz=58							
O04C	**Chester**	**58.55**	**63**	⇑P		**P**	**15 10 20.2**	**+0.2**
	baz=58							
L07A	**Adell**	**58.55**	**61**	⇑P		**P**	**15 10 20.5**	**+0.5**
	baz=58							
K08A	**Mann Creek Ran**	**58.62**	**60**	⇑P		**P**	**15 10 20.8**	**+0.3**
	baz=58							
J09A	**Fry Pan Ranch,**	**58.67**	**59**	P		**P**	**15 10 21.3**	**+0.5**
	baz=58,SNR=5.8							
WVOR	**Wild Horse Val**	**58.71**	**60**	*e*P		**P**	**15 10 20.9**	**-0.2**
WVOR					pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9							
WVOR	**Wild Horse Val**	**58.71**	**60**	*e*P		**P**	**15 10 20.9**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9							
D14A	**Greenough**	**58.75**	**53**	P		**P**	**15 10 21.2**	**-0.1**
	baz=59,SNR=7.7							
ORV	**Oroville**	**58.77**	**64**	⇑P		**P**	**15 10 20.7**	**-0.8**
	baz=59							
E13A	**Victor**	**58.77**	**54**	⇑

S04C	**Ingram Canyon,** baz=60	**60.16**	**66**	⇑P		**P**	**15 10 31.2**	**+0.1**
R05C	**Kirkwood Meado** baz=60	**60.17**	**64**	⇑P		**P**	**15 10 31.1**	**-0.1**
N09A	**Rock Creek Ran** baz=60	**60.35**	**61**	⇓P		**P**	**15 10 32.8**	**+0.4**
CMB	**Columbia Colle** baz=60	**60.40**	**65**	⇑P		**P**	**15 10 32.7**	**0.0**
HLID	**Hailey** baz=60,SNR=8.0	**60.44**	**57**	P		**P**	**15 10 33.3**	**+0.3**
PACP	**Pacheco Peak** baz=60	**60.50**	**66**	⇓P		**P**	**15 10 32.8**	**-0.6**
G15A	**Dillon** baz=60	**60.50**	**54**	⇑P		**P**	**15 10 33.3**	**-0.1**
M10A	**I.L. Ranch, Tu** baz=60,SNR=8.4	**60.50**	**60**	P		**P**	**15 10 34.5**	**+1.0**
R06C	**Coleville** baz=60,SNR=6.4	**60.66**	**64**	P		**P**	**15 10 35.0**	**+0.4**
HAST	**UC Hastings Re** baz=61	**60.73**	**67**	⇑P		**P**	**15 10 34.5**	**-0.5**
BMN	**Battle Mountai**	**60.79**	**61**	*e*P		**P**	**15 10 35.1**	**-0.3**
BMN	comp=Z,19nm,1.2s,mb5.1				pmax	pmax		
BMN	**Battle Mountai** comp=Z,19nm,1.2s,mb5.1	**60.79**	**61**	*e*P		**P**	**15 10 35.0**	**-0.4**
S06C	**San Francisco** baz=61,SNR=7.2	**60.83**	**65**	P		**P**	**15 10 35.4**	**-0.2**
S05C	**Merced** baz=61	**60.87**	**65**	⇑P		**P**	**15 10 35.8**	**-0.2**
O09A	**Fish Creek Ran** baz=61,SNR=6.6	**60.98**	**61**	P		**P**	**15 10 37.3**	**+0.6**
M11A	**Holland Ranch,** baz=61,SNR=7.8	**61.00**	**59**	P		**P**	**15 10 38.0**	**+1.2**
U04C	**Hernandez Rese** baz=61	**61.22**	**67**	⇑P		**P**	**15 10 38.3**	**0.0**
QLMT	**Earthquake Lak**	**61.29**	**54**	*e*P		**P**	**15 10 39.2**	**+0.4**
O10A	**Cortez Mining,** baz=61	**61.31**	**61**	⇓P		**P**	**15 10 39.2**	**+0.2**
Q08A	**Gabbs** baz=61	**61.37**	**63**	⇓P		**P**	**15 10 39.7**	**+0.4**
P09A	**Austin** baz=61	**61.40**	**62**	⇑P		**P**	**15 10 40.2**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,4.2nm,0.8s,mb4.7,baz=294,slow=8.7,SNR=24	**61.42**	**63**	P		**P**	**15 10 39.7**	**0.0**
KCC	**Kaiser Creek** baz=61	**61.51**	**65**	⇑P		**P**	**15 10 40.5**	**+0.3**
M12A	**Wells** baz=61,SNR=9.7	**61.52**	**59**	P		**P**	**15 10 41.1**	**+0.8**
R08A	**Mina** baz=61	**61.59**	**63**	⇑P		**P**	**15 10 41.2**	**+0.4**
GCMT	**Greycliff**	**61.63**	**52**	*e*P		**P**	**15 10 41.5**	**+0.4**
GCMT				*e*			15 10 52.7	
P10A	**Eureka** baz=62	**61.76**	**61**	⇑P		**P**	**15 10 42.2**	**+0.3**
N12A	**Clover Valley,** baz=62,SNR=5.7	**61.80**	**59**	P		**P**	**15 10 42.8**	**+0.6**
Q09A	**Carvers** baz=62	**61.83**	**62**	⇑P		**P**	**15 10 42.7**	**+0.3**
O11A	**Cowboy Ranch,** baz=62,SNR=5.6	**61.91**	**60**	P		**P**	**15 10 43.5**	**+0.5**
M13A	**Montello** baz=62	**61.98**	**58**	⇓P		**P**	**15 10 44.0**	**+0.5**
V05C	**Boulder Hill,** baz=62	**62.08**	**66**	⇑P		**P**	**15 10 44.8**	**+0.6**
S08C	**White Mtn Res** baz=62	**62.09**	**64**	⇑P		**P**	**15 10 44.7**	**+0.4**
P11A	**Circle Ranch,** baz=62	**62.22**	**61**	⇑P		**P**	**15 10 45.3**	**+0.3**
R09A	**Tonopah** baz=62,SNR=15	**62.28**	**63**	P		**P**	**15 10 45.5**	**0.0**
N13A	**Wendover, West** baz=62	**62.29**	**59**	⇑P		**P**	**15 10 45.9**	**+0.4**
TIN	**Tinemaha** baz=62	**62.35**	**64**	⇑P		**P**	**15 10 45.8**	**-0.2**
O12A	**Currie** baz=62,SNR=12	**62.35**	**60**	P		**P**	**15 10 46.3**	**+0.4**
SMMC	**Simmler** baz=62	**62.38**	**67**	⇓P		**P**	**15 10 46.6**	**+0.5**
S09A	**Goldfield** baz=62	**62.52**	**63**	⇓P		**P**	**15 10 47.2**	**+0.1**
REDW	**Red Top Meadow** comp=Z,41nm,1.4s,mb5.4	**62.56**	**55**	*e*P		**P**	**15 10 47.8**	**+0.5**
VES	**Vestal, Richgr** baz=62	**62.61**	**66**	⇑P		**P**	**15 10 46.6**	**-1.1**
R10A	**Warm Springs** baz=62	**62.71**	**62**	⇓P		**P**	**15 10 48.5**	**+0.1**
Q11A	**Duckwater** baz=63	**62.74**	**61**	⇓P		**P**	**15 10 48.2**	**-0.3**
PKM	**Peak Mountain** baz=63	**62.76**	**67**	⇑P		**P**	**15 10 48.9**	**+0.2**
P12A	**McGill** baz=63	**62.77**	**60**	⇓P		**P**	**15 10 48.7**	**0.0**
CWC	**Cottonwood Cre** baz=63	**62.84**	**65**	⇓P		**P**	**15 10 49.2**	**0.0**
GRAC	**Grapevine Rang** baz=63	**62.90**	**64**	⇓P		**P**	**15 10 50.1**	**+0.5**
Q12A	**Willow Creek R** baz=63,SNR=5.4	**63.10**	**61**	P		**P**	**15 10 51.5**	**+0.6**
ISA	**Isabella**	**63.10**	**66**	*e*P		**P**	**15 10 48.3**	**-2.6**
ISA	**Isabella** baz=63	**63.10**	**66**	⇑P		**P**	**15 10 50.1**	**-0.9**
HWUT	**Hardware Ranch** comp=Z,7.6nm,1.1s,mb4.7	**63.31**	**57**	*e*P		**P**	**15 10 52.4**	**0.0**
MPMC	**Manual Prospec** baz=63,SNR=7.6	**63.44**	**65**	P		**P**	**15 10 53.4**	**+0.2**
BSC	**Santa Cruz Isl** baz=63	**63.47**	**68**	⇓P		**P**	**15 10 53.4**	**0.0**
FIA1	**FINESS Array S**	**63.49**	**335**	P		**P**	**15 10 52.2**	**-1.3**
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,mb4.0,baz=36,slow=7.5,SNR=6.1	**63.49**	**335**	P		**P**	**15 10 52.6**	**-0.9**
DUG	**Dugway** baz=63,SNR=8.3	**63.52**	**59**	P		**P**	**15 10 54.1**	**+0.4**
FURC	**Furnace Creek,** baz=63,SNR=5.5	**63.56**	**64**	P		**P**	**15 10 54.4**	**+0.4**
PDAR	**Pinedale Array** comp=Z,5.6nm,1.0s,mb4.5,baz=298,slow=2.5,SNR=27	**63.66**	**55**	P		**P**	**15 10 54.6**	**0.0**
LRMC	**Laurel Mountai** baz=64	**63.70**	**66**	⇓P		**P**	**15 10 54.5**	**-0.4**
EDW2	**Edwards Air Fo** baz=64,SNR=11	**63.91**	**66**	P		**P**	**15 10 56.0**	**-0.3**
U10A	**Ash Meadows, A** baz=64	**63.91**	**64**	⇓P		**P**	**15 10 56.3**	**0.0**
DECC	**Green Verdugo** baz=64	**64.11**	**67**	⇓P		**P**	**15 10 57.4**	**-0.3**
DAU	**Daniels Canyon**	**64.27**	**58**	*e*P		**P**	**15 10 58.9**	**+0.2**
GSC	**Goldstone** baz=64	**64.36**	**65**	⇓P		**P**	**15 10 58.8**	**-0.4**
BFSC	**Mount Baldy St** baz=64	**64.54**	**67**	⇓P		**P**	**15 10 59.7**	**-0.7**
CIS	**Catalina Islan** baz=64	**64.63**	**68**	⇓P		**P**	**15 10 60.0**	**-1.0**
ARUT	**Antelope Range**	**64.74**	**61**	*e*P		**P**	**15 11 00.9**	**-0.9**
TUQ	**Turquoise Mtn.** baz=65,SNR=8.2	**64.81**	**64**	P		**P**	**15 11 02.2**	**0.0**
HEC	**Hector,Ludlow** baz=65	**64.97**	**65**	⇓P		**P**	**15 11 03.4**	**+0.2**
BBRC	**Big Bear Sol-O** baz=65	**64.98**	**66**	⇓P		**P**	**15 11 03.2**	**-0.1**
MSU	**Marysvale**	**65.00**	**60**	*e*P		**P**	**15 11 03.6**	**+0.2**
V12A	**Nelson** baz=65	**65.27**	**64**	⇓P		**P**	**15 11 05.2**	**0.0**
ULM	**Lac du Bonnet** comp=Z,2.2nm,0.8s,mb4.2,baz=1.3,slow=8.8,SNR=3.7	**65.39**	**42**	P		**P**	**15 11 05.0**	**-1.0**
W12A	**Cal Nev Ari** baz=65	**65.54**	**64**	⇓P		**P**	**15 11 06.8**	**-0.1**
SRU	**San Rafael**	**65.56**	**58**	*e*P		**P**	**15 11 06.9**	**-0.2**
SRU	comp=Z,13nm,1.0s,mb4.9				pmax	pmax		
SRU	**San Rafael** comp=Z,13nm,1.0s,mb4.9	**65.56**	**58**	*e*P		**P**	**15 11 06.9**	**-0.2**
RSSD	**Black Hills**	**65.72**	**51**	*e*P		**P**	**15 11 07.5**	**-0.6**
RSSD	comp=Z,10.0nm,1.0s,mb4.8				pmax	pmax		
RSSD	**Black Hills** comp=Z,10nm,1.0s,mb4.8	**65.72**	**51**	*e*P		**P**	**15 11 07.5**	**-0.6**
BELC	**Belle Mtn.** baz=66	**65.72**	**66**	⇑P		**P**	**15 11 07.6**	**-0.5**
IRM	**Iron Mountain** baz=66,SNR=9.8	**66.14**	**65**	P		**P**	**15 11 10.5**	**-0.2**
W13A	**Hualapai Mount** baz=66	**66.28**	**64**	⇓P		**P**	**15 11 11.7**	**+0.1**
BC3	**Big Chuckw Mtn** baz=66,SNR=5.2	**66.29**	**66**	P		**P**	**15 11 11.5**	**-0.3**
SWSC	**Sam W. Stewart** baz=66	**66.56**	**66**	⇑P		**P**	**15 11 13.1**	**-0.3**
DVTC	**Desert V Tower** baz=66	**66.56**	**67**	⇓P		**P**	**15 11 13.4**	**0.0**
X13A	**Yucca** baz=66,SNR=6.4	**66.65**	**64**	P		**P**	**15 11 13.9**	**-0.2**
PDMCI	**Parker Dam,Lak** baz=66,SNR=5.2	**66.66**	**64**	P		**P**	**15 11 13.8**	**-0.3**
W14A	**Seligman** baz=66,SNR=10	**66.68**	**63**	P		**P**	**15 11 14.7**	**+0.4**
Y12C	**Blythe** baz=67	**66.80**	**65**	⇑P		**P**	**15 11 15.1**	**+0.1**
AGMN	**Agassiz Refuge** comp=Z,21nm,1.7s,mb4.9	**66.80**	**43**	*e*P		**P**	**15 11 13.7**	**-1.3**
GLA	**Glamis** baz=67	**67.08**	**66**	⇑P		**P**	**15 11 16.8**	**0.0**
W15A	**Williams** baz=67	**67.20**	**62**	⇓P		**P**	**15 11 18.1**	**+0.5**
X14A	**Yava** baz=67,SNR=5.6	**67.30**	**63**	P		**P**	**15 11 19.0**	**+0.8**
WUAZ	**Wupatki** baz=67	**67.50**	**62**	⇑P		**P**	**15 11 19.7**	**+0.2**
SMCO	**Snowmass** comp=Z,4.9nm,0.9s,mb4.5	**67.53**	**56**	*e*P		**P**	**15 11 10.7**	**-9.0**
NB2	**NORSAR Subarra** comp=Z,1.7nm,0.6s,mb4.2,baz=28,slow=6.2	**67.57**	**341**	P		**P**	**15 11 27.7**	**+7.8**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.8s,mb3.8,baz=29,slow=6.5,SNR=2.5	**67.57**	**341**	P		**P**	**15 11 20.4**	**+0.5**
Y14A	**Wickenburg** baz=67	**67.59**	**64**	⇑P		**P**	**15 11 20.3**	**+0.2**
X15A	**Humboldt** baz=68	**67.69**	**63**	⇑P		**P**	**15 11 21.0**	**+0.4**
HFS	**Hagfors** comp=Z,1.5nm,0.4s,mb4.4,baz=64,slow=6.8,SNR=11	**67.82**	**340**	P		**P**	**15 11 20.1**	**-1.4**
ISCO	**Idaho Springs**	**67.86**	**55**	*e*P		**P**	**15 11 21.9**	**+0.2**
ISCO	comp=Z,9.0nm,1.2s,mb4.7				pmax	pmax		
ISCO	**Idaho Springs** comp=Z,9.4nm,1.2s,mb4.7	**67.86**	**55**	*e*P		**P**	**15 11 21.9**	**+0.2**
MVCO	**Mesa Verde** comp=Z,8.7nm,0.8s,mb4.8	**68.02**	**59**	*e*P		**P**	**15 11 22.5**	**-0.2**
MVCO	**Mesa Verde** baz=68	**68.02**	**59**	⇓P		**P**	**15 11 23.1**	**+0.3**
Z14A	**Wintersburg** baz=68	**68.02**	**64**	⇓P		**P**	**15 11 22.9**	**+0.1**
115A	**Sonoran Desert** baz=69	**68.92**	**64**	⇑P		**P**	**15 11 28.8**	**+0.4**
116A	**Eloy** baz=69	**69.33**	**64**	⇓P		**P**	**15 11 31.3**	**+0.4**
SDCO	**Great Sand Dun** comp=Z,36nm,2.1s,mb4.9	**69.36**	**56**	*e*P		**P**	**15 11 30.7**	**-0.4**
WB2	**Warramunga Arr**	**69.60**	**200**	*e*P		**P**	**15 11 32.4**	**-0.2**
WRA	**Warramunga Arr** comp=Z,5.0nm,1.0s,mb4.4,baz=18,slow=6.4,SNR=17	**69.61**	**200**	P		**P**	**15 11 30.9**	**-1.7**
WRA	**Warramunga Arr**	**69.61**	**200**	P		**P**	**15 11 30.9**	**-1.8**
FITZ	**Fitzroy Crossi** comp=Z,9.0nm,1.0s,mb4.7	**70.27**	**209**	*e*P		**P**	**15 11 37.8**	**+1.1**
ANMO	**Albuquerque** comp=Z,1.7nm,0.9s,mb4.0,baz=334,slow=6.8,SNR=5.9	**70.78**	**59**	P		**P**	**15 11 39.6**	**-0.2**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.4s,mb4.0,baz=33,slow=6.4,SNR=3.2	**71.15**	**327**	P		**P**	**15 11 41.1**	**-0.9**
AS31	**Alice Springs**	**73.30**	**199**	*e*P		**P**	**15 11 53.9**	**-1.0**
ASAR	**Alice Springs** comp=Z,4.5nm,0.8s,mb4.4,baz=12,slow=4.8,SNR=34	**73.30**	**199**	P		**P**	**15 11 54.4**	**-0.5**
ASAR	comp=Z,75nm,19.0s,MS4.0,baz=356,slow=36				LR	LR	15 44 01.1	
ASPA	**Alice Springs**	**73.30**	**199**	*e*P		**P**	**15 11 53.9**	**-1.0**
CLL	**Collm**	**75.90**	**336**	*e*P		**P**	**15 12 10.0**	**0.0**
CLL	comp=Z,6.0nm,1.0s,mb4.5				pmax	pmax		
CLL	**Collm** comp=Z,6.0nm,1.0s,mb4.5	**75.90**	**336**	*e*P		**P**	**15 12 10.0**	**0.0**
CLL				*e*pP		pP	15 12 14.0	-0.7
LTX	**Lajitas**	**76.46**	**61**	*e*P		**P**	**15 12 12.7**	**-0.5**
LTX	comp=Z,19nm,1.1s,mb4.9				pmax	pmax		
LTX	**Lajitas** comp=Z,19nm,1.1s,mb4.9	**76.46**	**61**	*e*P		**P**	**15 12 12.7**	**-0.5**
TXAR	**Lajitas Array** comp=Z,7.4nm,0.8s,mb4.6,baz=296,slow=4.0,SNR=43	**76.46**	**61**	P		**P**	**15 12 13.1**	**-0.1**
GERES	**GERESS Array B** comp=Z,0.4nm,0.2s,mb3.9,baz=27,slow=3.6,SNR=5.0	**77.92**	**334**	P		**P**	**15 12 22.9**	**+1.5**
WCI	**Wyandotte Cave** comp=Z,7.5nm,0.7s,mb4.7	**78.98**	**44**	*e*P		**P**	**15 12 26.6**	**-0.6**
PMOR	**Pomariorio Ree** comp=Z,7.4nm,0.2s	**81.00**	**124**	*e*T			16 41 43.8	
PPT	**Papeete** comp=Z,133nm,21.8s	**82.17**	**127**	*e*LR		LR	15 38 28.3	
TBI	**Tubuai** comp=Z,6.2nm,0.2s	**86.97**	**130**	*e*T			16 49 02.0	
LPAZ	**La Paz** comp=Z,1.1nm,1.0s,baz=17,slow=5.2,SNR=3.5	**133.32**	**63**	PKP		PKPdf	15 19 39.0	-0.5
CFAA	**Coronel Fontan** comp=Z,1.2nm,0.7s,baz=302,slow=3.6,SNR=18	**144.16**	**79**	PKP		PKPdf	15 19 55.8	-3.5
SNAA	**Sanae** comp=Z,0.3nm,0.5s,baz=176,slow=13,SNR=10	**153.63**	**196**	PKPbc		PKPbc	15 20 19.7	-2.5
SNAA	**Sanae**	**153.63**	**196**	*e*PKPdf		PKPbc	15 20 19.0	-3.2
SNAA				*e*			15 20 38.6	
VNA2	**Neumayer--Watz**	**155.06**	**194**	*e*PKPdf		PKPdf	15 20 22.1	+5.6
VNA2				*e*			15 20 39.1	

*ISCJB **16** 15:05:35.6±1.5,4752N±005×15567E±006,h11km±9km, mb4.6/74,MS4.2/8,Error ellipse: s-maj=9.0km s-min=6.2km az=117.9*

*IDC **16** 15:05:35.3±0.6,4746N×15557E,h0km,mb4.4/23, mb1 4.6/25,mb1mx4.5/29,mbtmp4.4/25,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.5/52,Error ellipse: s-maj=17.7km s-min=12.9km az=157.0*

*NEIC **16** 15:05:36.9±0.3,4751N×15553E,h10km,mb4.8/32,Error ellipse: s-maj=9.4km s-min=6.2km az=140.0*

*MOS **16** 15:05:38.7±1.3,4746N×15549E,h33km,mb4.9/30,Error ellipse: s-maj=9.6km s-min=6.7km az=103.8*

*BJI **16** 15:05:39.1,4783N×154.95E,h10km,mB4.9,mb4.5,Ms4.3, Msz4.1*

*SZGRF **16** 15:05:43.7,4753N×15521E,h33km,mb5.0,East of Kuril Islands, Russia*

ISC 16 15:05:37.1±1.8,4756N±005×15565E±006,h10km±11km, h14km±1.7km:pP-P,n168,σ1§15/174,mb4.6/74,MS4.2/8, 8C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.14**	**5**	*e*PN			**Pn**	**15 06 27.5**	**+0.8**
SKR	comp=N,80nm,0.6s				pmax	pmax			
SKR	comp=E,60nm,0.6s				pmax	pmax			
SKR	comp=Z,160nm,0.6s				pmax	pmax			
SKR	comp=E,4μm,14.0s				MLR	MLR			
SKR	comp=Z,3μm,14.0s				MLR	MLR			
PET	**Petropavlovsk**	**5.80**	**18**	*e*PN			**Pn**	**15 07 01.8**	**-1.4**
PET	comp=Z,65nm,1.5s				pmax	pmax			
PET	comp=Z,300nm,17.0s				MLR	MLR			
PET	**Petropavlovsk**	**5.80**	**18**	*e*Pn			**Pn**	**15 07 01.9**	**-1.3**
PET				*e*Sn			**Sn**	**15 08 06.5**	**-3.3**
KUR	**Kuril'sk**	**5.86**	**249**	*e*PN			**Pn**	**15 06 57.0**	**-7.1**
KUR	comp=E,90nm,0.8s				pmax	pmax			
KUR	comp=Z,250nm,0.8s				pmax	pmax			
YSS	**Yuzh-Sakhalins**	**8.79**	**271**	*e*PN			**Pn**	**15 07 47.3**	**+3.0**
YSS	comp=Z,30nm,0.9s				pmax	pmax			
YSS	comp=E,30nm,1.0s				pmax	pmax			
YSS	**Yuzh-Sakhalins** comp=E,27nm,0.6s	**8.79**	**271**	*e*Pn			**Pn**	**15 07 46.4**	**+2.1**
ASAJ	**Asahikawa** comp=E,1.2nm,0.3s,baz=83,slow=14,SNR=9.8	**9.74**	**254**	Pn			**Pn**	**15 07 54.7**	**-2.5**
ASAJ	**Asahikawa**	**9.74**	**254**	PN			**Pn**	**15 07 54.7**	**-2.5**
ASAJ	comp=Z,1.0nm,0.3s				pmax	pmax			
KLR	**Kul'dur**	**15.95**	**285**	*e*P			**Pn**	**15 09 20.4**	**-1.2**
MAJO	**Matsushiro**	**16.96**	**236**	*e*P			**Pn**	**15 09 30.3**	**-4.1**
MAJO	comp=Z,12nm,0.9s				pmax	pmax			
MAJO	**Matsushiro** comp=Z,12nm,0.9s	**16.96**	**236**	*e*Pn			**Pn**	**15 09 30.3**	**-4.1**
MJAR	**Matsushiro Arr** comp=Z,0.2nm,0.3s,baz=28,slow=14,SNR=4.5	**16.96**	**236**	Pn			**Pn**	**15 09 30.4**	**-4.0**
YAK	**Yakutsk**	**20.63**	**324**	*e*P			**P**	**15 10 15.1**	**-1.5**
YAK				*e*				15 10 33.3	
YAK				*e*S			**S**	**15 14 02.2**	**-5.0**
YAK				*e*SS				15 14 26.2	
YAK	comp=Z,29nm,0.9s				pmax	pmax			
YAK	comp=N,7.0nm,1.1s				pmax	pmax			
YAK	comp=E,3.0nm,0.7s				pmax	pmax			
YAK	comp=Z,23nm,1.0s				pmax	pmax			
YAK	comp=N,20nm,1.3s				pmax	pmax			
YAK	comp=E,12nm,1.1s				smax				
YAK	comp=N,112nm,2.9s				smax				
YAK	comp=Z,227nm,3.9s				smax				
YAK	comp=E,87nm,2.5s				MLR	MLR			
YAK	comp=N,182nm,12.0s,MS3.8				MLR	MLR			
YAK	comp=Z,284nm,12.0s,MS3.9				MLR	MLR			
YAK	comp=E,216nm,13.0s,MS3.8								
YAK	**Yakutsk** comp=E,32nm,0.7s	**20.63**	**324**	*e*P			**P**	**15 10 13.1**	**-3.5**
CLNS	**Chul'man**	**20.85**	**308**	*e*P			**P**	**15 10 16.9**	**-2.1**
CLNS	comp=Z,33nm,1.0s				pmax	pmax			
CLNS	comp=N,13nm,0.9s				pmax	pmax			
CLNS	comp=E,27nm,0.9s				pmax	pmax			
BILL	**Bilibino**	**21.24**	**11**	⇑*e*P			**P**	**15 10 22.8**	**-0.5**
BILL	comp=Z,35nm,1.3s,mb4.5				pmax	pmax			
BILL	**Bilibino** comp=Z,36nm,1.1s,mb4.6	**21.24**	**11**	*e*P			**P**	**15 10 21.8**	**-1.5**
CN2	**Changchun**	**21.36**	**271**	*e*P			**P**	**15 10 21.4**	**-3.2**
CN2	comp=Z,20nm,1.3s,mb4.3				AMB	AMB			
KSRS	**Korea Array** comp=Z,6.7nm,0.9s,mb4.1,baz=59,slow=10.0,SNR=16	**22.69**	**254**	P			**P**	**15 10 38.5**	**-0.2**
CBIJ	**Chichi jima** comp=Z,64nm,21.7s,baz=319,slow=32	**23.00**	**212**	LR		LR	15 17 51.3		
SNY	**Shenyang**	**23.40**	**268**	⇑P			**P**	**15 10 44.9**	**-1.4**
SNY				AP				15 10 46.8	
SNY				XP		sP		15 10 49.6	-0.7
SNY				PP				15 11 09.8	
SNY	comp=Z,11nm,0.8s,mb4.3				AMB	AMB			
INCN	**Inchon** comp=Z,9.2nm,0.5s,mb4.5	**23.51**	**255**	*e*P			**P**	**15 10 46.5**	**-0.9**
HIA	**Hailar**	**23.76**	**288**	*e*P			**P**	**15 10 46.0**	**-3.7**
HIA	comp=Z,5.0nm,0.8s				pmax	pmax			
HIA	**Hailar** comp=Z,5.3nm,0.8s,mb4.0	**23.76**	**288**	*e*P			**P**	**15 10 46.0**	**-3.8**
BOD	**Bodaibo**	**26.83**	**308**	*e*P			**P**	**15 11 14.0**	**-3.6**
BOD	comp=Z,4.0nm,1.2s,mb3.8				pmax	pmax			
NJ2	**Nanjing**	**31.89**	**254**	*e*P			**P**	**15 12 03.8**	**+1.3**
NJ2				AP		pP		15 12 07.1	+1.6
NJ2				XP		sP		15 12 10.3	+3.7
NJ2				PP		PP		15 13 08.9	-5.6
NJ2				S		**S**		**15 17 11.5**	**-1.8**
NJ2				XS		sS		15 17 19.5	+1.3
NJ2	comp=Z,860nm,5.2s				AMB	AMB			
NJ2	comp=N,2μm,17.3s,MS4.9				LR	LR			
NJ2	comp=E,2μm,17.4s,MS4.9				LR	LR			
NJ2	comp=Z,2μm,16.5s,MS4.8				LR	LR			
HHC	**Hu-ho-hao-te**	**31.96**	**274**	*e*P			**P**	**15 12 01.9**	**-1.3**
HHC				AP		pP		15 12 06.5	+0.4
HHC				XP		sP		15 12 09.0	+1.7
HHC				S		**S**		**15 17 10.0**	**-4.5**
HHC				XS		sS		15 17 18.1	-1.2
HHC				SCP		ScP		15 18 34.0	-2.8
HHC				PCS		PcS		15 18 37.6	-0.3
HHC				SS		SS		15 19 02.6	-29
HHC				SCS		ScS		15 22 31.1	-4.1
HHC	comp=Z,20nm,1.1s,mb4.9				AMB	AMB			
HHC	comp=Z,118nm,7.1s				AMB	AMB			
HHC	comp=N,180nm,12.6s,MS4.1				LR	LR			
HHC	comp=E,213nm,14.1s,MS4.1				LR	LR			
HHC	comp=Z,157nm,13.6s,MS3.9				LR	LR			
ULN	**Ulaanbaatar**	**32.27**	**289**	*e*P			**P**	**15 12 04.7**	**-1.2**
ULN	comp=Z,8.0nm,1.3s,mb4.4				pmax	pmax			
ULN	**Ulaanbaatar** comp=Z,7.7nm,1.3s,mb4.4	**32.27**	**289**	*e*P			**P**	**15 12 04.7**	**-1.2**
SONM	**Songino Array** comp=Z,3.8nm,1.1s,mb4.2,baz=69,slow=8.3,SNR=12	**32.70**	**289**	P			**P**	**15 12 08.8**	**-0.9**
TLY	**Talaya**	**33.35**	**297**	*e*P			**P**	**15 12 15.0**	**-0.4**
TLY				*e*S			**S**	**15 17 29.4**	**-6.8**
TLY	comp=Z,14nm,1.1s,mb4.8				pmax	pmax			
TLY	comp=Z,162nm,13.0s,MS3.9				MLR	MLR			
TLY	**Talaya** comp=Z,18nm,1.2s,mb4.9	**33.35**	**297**	*e*P			**P**	**15 12 12.9**	**-2.5**
ZAK	**Zakamensk**	**33.91**	**295**	*e*P			**P**	**15 12 19.1**	**-1.1**
ZAK	comp=Z,4.0nm,1.3s,mb4.2				pmax	pmax			
MCK	**McKinley**	**33.91**	**41**	P			**P**	**15 12 19.4**	**-0.8**
MCK	comp=Z,15nm,1.6s,mb4.7				pmax	pmax			
MCK	**McKinley** comp=Z,15nm,1.6s,mb4.7	**33.91**	**41**	P			**P**	**15 12 19.4**	**-0.8**
COLA	**College**	**34.42**	**39**	*e*P			**P**	**15 12 23.3**	**-1.4**
COLA	comp=Z,4.0nm,0.6s,mb4.5				pmax	pmax			
COLA	**College** comp=Z,3.7nm,0.6s,mb4.5	**34.42**	**39**	P			**P**	**15 12 23.3**	**-1.4**
WHN	**Wuhan**	**35.80**	**257**	*e*P			**P**	**15 12 41.3**	**+4.7**
XAN	**Xi'an**	**37.30**	**266**	P			**P**	**15 12 49.3**	**-0.1**
XAN				AP		pP		15 13 00.0	+7.7
XAN	comp=Z,6.0nm,1.2s,mb4.3				AMB	AMB			
LZH	**Lanzhou**	**39.59**	**273**	*e*P			**P**	**15 13 10.4**	**+1.8**
LZH				AP		pP		15 13 13.0	+1.5
LZH				XP		sP		15 13 14.8	+2.1
LZH	comp=Z,20nm,1.0s,mb4.8				AMB	AMB			
LZH	**Lanzhou** comp=Z,20nm,1.0s,mb4.8	**39.59**	**273**	*e*P			**P**	**15 13 10.4**	**+1.8**
LZH				pP		pP		15 13 13.0	+1.5
LZH				sP		sP		15 13 14.7	+2.0
INK	**Inuvik** comp=Z,6.1nm,0.6s,mb4.5,baz=299,slow=7.0,SNR=34	**40.04**	**33**	P			**P**	**15 13 12.8**	**+0.5**
INK	**Inuvik** comp=Z,6.0nm,0.6s	**40.04**	**33**	P			**P**	**15 13 12.8**	**+0.5**
INK	comp=Z,139nm,0.6s				pmax	pmax			
INK	**Inuvik** comp=Z,7.0nm,1.2s,mb4.2	**40.04**	**33**	*e*P			**P**	**15 13 12.7**	**+0.4**
GTA	**Gaotai**	**40.55**	**280**	*e*P			**P**	**15 13 19.8**	**+3.2**
GTA				AP		pP		15 13 23.9	+4.4
GTA				XP		sP		15 13 27.3	+6.6
GTA				PP		PP		15 14 57.1	+7.2
GTA				S		**S**		**15 19 30.8**	**+5.1**
GTA	comp=Z,7.0nm,1.2s,mb4.2				AMB	AMB			
GTA	comp=Z,146nm,5.7s				AMB	AMB			
GTA	comp=N,96nm,11.4s,MS4.2				LR	LR			
GTA	comp=E,159nm,13.3s,MS4.2				LR	LR			
GTA	comp=Z,159nm,14.4s,MS4.0				LR	LR			
CD2	**Chengdu**	**42.66**	**266**	*e*P			**P**	**15 13

GYA AP pP 15 13 46.8 +2.5
GYA XP sP 15 13 49.8 +4.4
GYA PP PP 15 15 24.5 +1.9
GYA PCP PcP 15 15 30.3 +1.5
GYA S **S** **15 20 09.3 -1.2**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,380nm,15.8s,MS4.6
GYA LR LR
comp=E,410nm,16.4s,MS4.6
GYA LR LR
comp=Z,370nm,16.9s,MS4.4
WMQ Urumqi 46.24 292⇑ *iP* **P** **15 14 01.8 -0.7**
WMQ AP pP 15 14 06.3 +0.8
WMQ XP sP 15 14 08.8 +2.1
WMQ PCP PcP 15 15 38.8 +0.8
WMQ PP PP 15 15 49.9 -1.0
WMQ PPP 15 16 33.8
WMQ S **S** **15 20 45.8 -3.3**
WMQ XS sS 15 20 53.3 -0.7
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,126nm,4.5s
WMQ LR LR
comp=N,90nm,21.8s,MS3.9
WMQ LR LR
comp=E,94nm,20.5s,MS3.9
WMQ LR LR
comp=Z,101nm,17.0s,MS3.8
KMI Kunming 47.09 261 P **P** **15 14 09.8 +0.7**
KMI AP pP 15 14 14.0 +1.9
KMI XP sP 15 14 16.5 +3.2
KMI AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
KMI Kunming 47.09 261 P **P** **15 14 09.7 +0.6**
KMI *SP sP 15 14 16.5 +3.2
KMI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KMI Kunming 47.09 261 P **P** **15 14 09.7 +0.6**
comp=Z,4.0nm,1.0s,mb4.3
KMI pP pP 15 14 14.0 +1.9
KMI sP sP 15 14 16.5 +3.2
MK31 Makanchi Array 48.10 298 *eP* **P** **15 14 16.1 -0.9**
MKAR Makanchi Array 48.10 298 P **P** **15 14 16.2 -0.8**
comp=Z,9.1nm,0.8s,mb4.8,baz=62,slow=6.5,SNR=35
YKA Yellowknife Ar 49.23 38 P **P** **15 14 25.6 -0.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=295,slow=7.2,SNR=5.1
YKA Yellowknife Ar 49.23 38 P **P** **15 14 25.6 -0.1**
RES Resolute Bay 49.51 19 *eP* **P** **15 14 28.3 +0.4**
RES pmax pmax
comp=Z,147nm,0.8s
RES Resolute Bay 49.51 19 *eP* **P** **15 14 28.3 +0.4**
comp=Z,147nm,0.8s
CHKZ Chkalovo 51.23 311 *eP* **P** **15 14 39.9 -0.9**
CHKZ pmax pmax
comp=Z,15nm,0.9s,mb4.9
CHKZ Chkalovo 51.23 311 *eP* **P** **15 14 39.9 -1.0**
comp=Z,15nm,0.9s,mb4.9
BVAR Borovoye Array 51.67 310 P **P** **15 14 43.8 -0.4**
comp=Z,5.2nm,0.6s,mb4.7,baz=57,slow=7.5,SNR=28
BVAR PcP PcP 15 15 57.4 -0.3
comp=Z,2.3nm,0.7s,baz=64,slow=3.4,SNR=3.8
BRVK Borovoye 51.71 310 *eP* **P** **15 14 44.0 -0.5**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 51.71 310 *eP* **P** **15 14 44.0 -0.5**
comp=Z,11nm,0.9s,mb4.8
LSA Lhasa 51.95 274 P **P** **15 14 48.4 +2.2**
LSA Lhasa 51.95 274 *eP* **P** **15 14 48.6 +2.4**
LSA pmax pmax
comp=Z,12nm,0.8s,mb4.9
LSA Lhasa 51.95 274 *eP* **P** **15 14 48.5 +2.3**
comp=Z,12nm,0.8s,mb4.9
ZRNK Zerenda 52.43 310 *eP* **P** **15 14 49.4 -0.4**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 52.43 310 *eP* **P** **15 14 49.4 -0.4**
comp=Z,6.0nm,0.7s,mb4.6
CHTO Chiang Mai 53.98 258 *eP* **P** **15 15 01.3 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CHTO Chiang Mai 53.98 258 *eP* **P** **15 15 01.3 0.0**
comp=Z,4.8nm,0.9s,mb4.4
TKM2 Tokmak 2 54.19 297 P **P** **15 15 04.2 +1.5**
SNR=7.4
USP Ospenovka 54.65 298 P **P** **15 15 06.7 +0.6**
SNR=32
CHMS Chumysh 54.65 297 P **P** **15 15 07.4 +1.3**
SNR=7.5
KBK Karagaybulak 54.73 297 P **P** **15 15 08.0 +1.3**
SNR=9.8
FRU Bishkek 54.83 297 *i* P **P** **15 15 09.0 +1.6**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.1
KZA Kyzart 54.88 296 P **P** **15 15 10.7 +2.9**
SNR=16
AAK Ala-Archa 55.02 297 P **P** **15 15 10.7 +2.0**
SNR=12
EKS2 Erkin-Say 55.43 298 P **P** **15 15 13.9 +2.2**
SNR=7.0
ARU Arti 55.58 318⇓ *iP* **P** **15 15 12.0 -0.8**
ARU *e* 15 16 10.6
ARU *e*SS **S** **15 22 55.8 -2.7**
ARU *e*SS sS 15 26 42.3 -1.1
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
ARU Arti 55.58 318 *eP* **P** **15 15 12.2 -0.6**
comp=Z,25nm,0.8s,mb5.3
ARU *e* 15 15 25.8
AML Almayashu 55.79 297 P **P** **15 15 17.0 +2.6**
SNR=7.4
YBH Yreka Blue Hor 55.84 64 P **P** **15 15 15.5 +0.8**
comp=Z,2.6nm,0.7s,mb4.4,baz=305,slow=1.3,SNR=4.5
KSH Kashi 55.93 293 *eP* **P** **15 15 17.5 +2.1**
KSH *e*AP pP 15 15 23.8 +5.4
KSH *e*XP sP 15 15 26.3 +6.7
KSH *e*PCP PcP 15 16 17.6 +3.7
KSH *e*PP PP 15 17 24.6 +4.6
KSH *e*SCP ScP 15 20 13.4 +0.3
KSH *e*S **S** **15 23 03.8 +0.6**
KSH *e*XS sS 15 23 13.5 +5.2
KSH *e*PS 15 23 23.4
KSH *e*SCS ScS 15 25 02.9 -1.9
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
JIRN Jiri 56.60 276 *eP* **P** **15 15 21.4 +1.3**
comp=Z,13nm,0.5s,mb5.2
GUN Gumba 56.64 276 *eP* **P** **15 15 22.7 +2.3**
comp=Z,11nm,0.7s,mb5.0
KKN Kakani 57.12 277 *eP* **P** **15 15 25.4 +1.6**
comp=Z,14nm,0.7s,mb5.1
PKI Pulchoki 57.18 276 *eP* **P** **15 15 25.7 +1.5**
comp=Z,12nm,0.6s,mb5.1
DMN Daman 57.36 276 *eP* **P** **15 15 26.9 +1.4**
comp=Z,33nm,0.8s,mb5.4
GKN Gorkha 57.42 277 *eP* **P** **15 15 27.0 +1.1**
comp=Z,27nm,0.8s,mb5.3
ARCES ARCESS Array B 57.65 341 P **P** **15 15 28.0 +0.4**
comp=Z,3.3nm,0.9s,mb4.4,baz=46,slow=8.9,SNR=3.8
KOLN Koldanda 58.27 278 *eP* **P** **15 15 32.9 +1.0**
comp=Z,19nm,0.8s,mb5.2
AKTK Aktyubinsk 59.46 313 P **P** **15 15 40.4 +0.2**
AKTO Aktyubinsk 59.46 313 P **P** **15 15 40.4 +0.2**
comp=Z,4.7nm,0.6s,mb4.7,baz=76,slow=7.1,SNR=16
AKTO Aktyubinsk 59.46 313 P **P** **15 15 40.4 +0.2**
AKTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MCMT McKenzie Canyo 59.72 55 *eP* **P** **15 15 42.2 +0.2**
MCMT *e* 15 15 53.4
KSM Kuching 60.35 235 P **P** **15 15 45.1 -1.2**
RRI2 Red Ridge 61.51 56 *eP* **P** **15 15 53.8 -0.4**
comp=Z,6.8nm,0.8s,mb4.8
PDAR Pinedale Array 62.87 56 P **P** **15 16 03.6 +0.4**
comp=Z,2.5nm,0.8s,mb4.4,baz=293,slow=2.3,SNR=16
KULM Kulim 62.98 246 *eP* **P** **15 16 04.9 +0.8**
KULM *e* 15 16 18.5
FINES FINES Array B 64.03 336 P **P** **15 16 10.8 -0.1**
comp=Z,5.4nm,0.6s,mb4.7,baz=40,slow=10.0,SNR=23
SRU San Rafael 64.72 59 *eP* **P** **15 16 15.8 +0.3**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 64.72 59 *eP* **P** **15 16 15.8 +0.3**
comp=Z,6.3nm,0.8s,mb4.7
MOS Moscow 64.74 326 *eP* **P** **15 16 15.8 +0.2**
MOS pmax pmax
comp=Z,54nm,1.0s,mb5.5
ULM Lac du Bonnet 64.77 42 P **P** **15 16 14.2 -1.6**
comp=Z,2.8nm,0.7s,mb4.4,baz=317,slow=4.4,SNR=4.7
RSSD Black Hills 64.97 51 *eP* **P** **15 16 17.3 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
RSSD Black Hills 64.97 51 *eP* **P** **15 16 17.3 +0.1**
comp=Z,4.8nm,0.8s,mb4.6
OBN Obninsk 65.61 327⇓ *eP* **P** **15 16 20.4 -0.8**
OBN *e* 15 16 32.7
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.2
OBN Obninsk 65.61 327 P **P** **15 16 18.8 -2.4**
VSU Vasula 66.28 333⇑ *iP* **P** **15 16 25.3 -0.3**
VRSR Storozhevoye 67.53 322 *eP* **P** **15 16 34.8 +1.2**
VRSR pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,20nm,1.0s
NB2 NORSAR Subarra 68.00 342 P **P** **15 16 36.3 -0.2**
comp=Z,9.9nm,0.8s,mb4.9,baz=26,slow=6.5
NOA NORSAR Array B 68.00 342 P **P** **15 16 36.4 -0.2**
comp=Z,9.4nm,0.8s,mb4.9,baz=26,slow=6.4,SNR=15
HFS Hagfors 68.29 341 P **P** **15 16 38.2 -0.1**
comp=Z,15nm,0.8s,mb5.1,baz=46,slow=4.3,SNR=19
WRAB Tennant Creek 69.86 201⇑ *eP* **P** **15 16 46.9 -1.1**
WB2 Warramunga Arr 69.86 201 *eP* **P** **15 16 46.9 -1.2**
WRA Warramunga Arr 69.87 201 P **P** **15 16 46.8 -1.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=19,slow=6.4,SNR=16
ANMO Albuquerque 69.93 60 P **P** **15 16 49.1 +0.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=307,slow=9.6,SNR=3.4
ANMO Albuquerque 69.93 60⇓ *eP* **P** **15 16 49.7 +1.2**
FITZ Fitzroy Crossi 70.69 210 *eP* **P** **15 16 53.3 +0.1**
comp=Z,5.2nm,1.1s,mb4.4
KIV Kislovodsk 71.46 315 *eP* **P** **15 16 51.4 -6.4**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AKASG Malin Array Be 71.82 327 P **P** **15 16 59.2 -0.8**
comp=Z,4.5nm,0.7s,mb4.5,baz=33,slow=6.1,SNR=15
AKASG Malin Array Be 71.82 327 P **P** **15 16 59.2 -0.8**
KIEV Kiev 71.83 327 *eP* **P** **15 16 59.1 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 71.83 327 *eP* **P** **15 16 59.1 -0.9**
comp=Z,8.0nm,0.8s,mb4.7
SCHQ Schefferville 71.88 24 P **P** **15 17 00.2 -0.1**
comp=Z,5.7nm,0.7s,mb4.6,baz=326,slow=7.4,SNR=6.4
SCHQ Schefferville 71.88 24 P **P** **15 17 00.2 -0.1**
AS31 Alice Springs 73.55 201 *eP* **P** **15 17 09.8 -0.5**
ASAR Alice Springs 73.55 201 P **P** **15 17 09.9 -0.3**
comp=Z,3.3nm,0.9s,mb4.2,baz=15,slow=5.6,SNR=21
ASPA Alice Springs 73.55 201 *eP* **P** **15 17 09.8 -0.5**
TXAR Lajitas Array 75.59 62 P **P** **15 17 22.4 +0.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=298,slow=4.2,SNR=26
MBWA Marble Bar 75.64 214 *eP* **P** **15 17 21.5 -0.9**
STHS Stebnicka Huta 75.66 331 *eP* **P** **15 17 22.8 +0.3**
STHS pmax pmax
comp=Z,16nm,2.1s,mb4.6
STHS Stebnicka Huta 75.66 331 *eP* **P** **15 17 22.8 +0.3**
comp=Z,16nm,2.1s,mb4.6
DPC Dobruska-Polom 76.36 335 *eP* **P** **15 17 26.9 +0.4**
CLL Collm 76.42 337 *eP* **P** **15 17 27.0 +0.1**
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 76.42 337 *eP* **P** **15 17 27.0 +0.1**
comp=Z,4.0nm,0.9s,mb4.3
CLL *e*pP pP 15 17 29.0 -1.0
MORC Moravsky Berou 76.51 334 *eP* **P** **15 17 27.0 -0.4**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 76.51 334 *eP* **P** **15 17 26.9 -0.4**
comp=Z,7.9nm,1.1s,mb4.6
PRU Pruhonice 77.19 335 *eP* **P** **15 17 31.6 +0.4**
VYHS Vyhne 77.24 332 *eP* **P** **15 17 31.8 +0.3**
NKC Novy Kostel 77.55 337 *eP* **P** **15 17 34.0 +0.8**
MALT Malatya 77.85 314 *eP* **P** **15 17 30.2 -4.7**
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MALT Malatya 77.85 314 *eP* **P** **15 17 30.2 -4.6**
comp=Z,9.2nm,1.2s,mb4.6
KHC Kasperske Hory 78.24 336 *eP* **P** **15 17 37.8 +0.7**
KHC Kasperske Hory 78.24 336 *c iP* **P** **15 17 36.3 -0.8**
GRA1 Grafenberg Arr 78.36 337 *eP* **P** **15 17 38.8 +1.0**
comp=Z,23nm,1.9s,mb4.8
GRF Grafenberg Arr 78.36 337 *eP* **P** **15 17 38.8 +1.0**
comp=Z,23nm,1.9s,mb4.8
GRF Grafenberg Arr 78.36 337 *eP* **P** **15 17 38.8 +1.0**
GRF pmax pmax
comp=Z,23nm,1.9s,mb4.8
GRF Grafenberg Arr 78.36 337 *eP* **P** **15 17 38.8 +1.0**
GRF pmax pmax
comp=Z,23nm,1.9s,mb4.8
GERES GERESS Array B 78.46 335 P **P** **15 17 38.4 +0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=27,slow=3.3,SNR=7.9
CDF Champ du Feu 80.54 339 *eP* **P** **15 17 49.2 -0.4**
GRR Gorron 82.28 344 *eP* **P** **15 17 59.3 +0.5**
SMF Signal de Mont 83.00 341 *eP* **P** **15 18 02.6 +0.1**
comp=Z,74nm,1.3s,mb5.3
SMF Signal de Mont 83.00 341 *eP* **P** **15 18 02.6 +0.1**
SMF pmax pmax
comp=Z,37nm,1.3s,mb5.2
SMF Signal de Mont 83.00 341 *eP* **P** **15 18 02.6 +0.1**
comp=Z,37nm,1.3s,mb5.3
LPG La Plagne 83.39 339 *eP* **P** **15 18 05.7 +1.1**
comp=Z,21nm,0.9s,mb4.8
LPG La Plagne 83.39 339 *eP* **P** **15 18 05.7 +1.1**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.9
LPG La Plagne 83.39 339 *eP* **P** **15 18 05.7 +1.1**
comp=Z,10nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.15 339 *eP* **P** **15 18 08.8 +0.3**
comp=Z,16nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.15 339 *eP* **P** **15 18 08.8 +0.3**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.15 339 *eP* **P** **15 18 08.8 +0.3**
comp=Z,8.3nm,0.9s,mb4.9
NWAO Narrogin (SRO) 87.23 212 *eP* **P** **15 18 22.7 -1.1**
NWAO pmax pmax
comp=Z,9.0nm,0.8s
NWAO Narrogin (SRO) 87.23 212 *eP* **P** **15 18 22.7 -1.1**
comp=Z,8.8nm,0.8s,mb5.0
KEST Kesra 91.76 333 P **P** **15 18 45.7 +0.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=338,slow=7.9,SNR=3.7
TORD Torodi Ar. Bea 115.25 332 PP PP 15 25 15.4 -3.8
comp=Z,0.8nm,0.8s,baz=14,slow=7.4,SNR=4.9
SNAA Sanae 153.80 195 *e*PKPdf PKPdf 15 25 26.7 -1.9
SNAA *e* 15 25 47.3
VNA2 Neumayer--Watz 155.20 193 *e*PKPdf PKPdf 15 25 29.0 -1.6
VNA2 *e* 15 25 53.4

IDC **16** *15:13:46.6±1.0, 4683N×154.85E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=26.2km s-min=19.7km az=157.0*
NEIC **16** *15:13:47.4±0.9, 4697N×154.94E, h10km, mb4.5/7, Error ellipse: s-maj=22.3km s-min=12.5km az=135.0*
MOS **16** *15:13:49.3±0.8, 4681N×154.75E, h33km, mb4.8/5, Error ellipse: s-maj=18.0km s-min=12.6km az=93.7*
ISCJB **16** *15:13:50.7±1.9, 469N±0.1×154.7E±0.2, h44km±15km, mb4.1/16, Error ellipse: s-maj=24.6km s-min=12.4km az=88.9*

ISC 16 15:13:52.6±1.7, 469N±01×1548E±02, h46km±14km, n31, σ1§01/31, mb4.1/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.93**	**12**	*e*PN	**Pn**	**15 14 51.0**	**+0.6**
PET	**Petropavlovsk**	**6.66**	**21**	*e*PN	**Pn**	**15 15 21.9**	**-5.9**
ASAJ	**Asahikawa**	**8.99**	**257**	Pn	**Pn**	**15 16 00.1**	**+0.3**
	0.6nm,0.3s,baz=68,slow=9.8,SNR=5.9						
ASAJ	**Asahikawa**	**8.99**	**257**	PN	**Pn**	**15 16 00.1**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.07**	**236**	P	**Pn**	**15 17 33.5**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**16.07**	**236**	P	**Pn**	**15 17 33.5**	**-1.8**
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**21.93**	**254**	P	**P**	**15 18 43.5**	**+1.5**
	comp=Z,0.8nm,0.7s,mb3.3,baz=51,slow=11,SNR=4.4						
BILL	**Bilibino**	**22.05**	**12**	*e*P	**P**	**15 18 42.1**	**-1.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.0						
BILL	**Bilibino**	**22.05**	**12**	P	**P**	**15 18 37.9**	**-5.3**
	comp=Z,20nm,1.3s,mb4.4						
SONM	**Songino Array**	**32.38**	**290**	P	**P**	**15 20 16.7**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=80,slow=7.9,SNR=2.9						
INK	**Inuvik**	**40.95**	**33**	P	**P**	**15 21 30.7**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=310,slow=4.1,SNR=7.3						
INK	**Inuvik**	**40.95**	**33**	*e*P	**P**	**15 21 29.3**	**-1.3**
INK				pmax	pmax		
	comp=Z,189nm,1.3s						
INK	**Inuvik**	**40.95**	**33**	*e*P	**P**	**15 21 29.3**	**-1.2**
	comp=Z,188nm,1.3s,mb5.6						
ZAL	**Zalesovo**	**43.49**	**306**	P	**P**	**15 21 49.8**	**-1.5**
	comp=Z,1.1nm,0.6s,mb3.7,baz=42,slow=7.0,SNR=6.1						
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**15 22 27.0**	**+0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=66,slow=7.9,SNR=10						
CHKZ	**Chkalovo**	**51.24**	**311**	*e*P	**P**	**15 22 51.1**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**51.24**	**311**	*e*P	**P**	**15 22 51.1**	**-0.4**
	comp=Z,8.1nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**15 22 54.7**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.5,baz=54,slow=7.5,SNR=17						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**15 22 55.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**15 22 55.2**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.44**	**310**	*e*P	**P**	**15 23 00.4**	**0.0**
ZRNK				*e*	pP	15 23 10.9	-2.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**52.44**	**310**	*e*P	**P**	**15 23 00.4**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.5						
ZRNK				*e*	pP	15 23 10.9	-2.4
AAK	**Ala-Archa**	**54.81**	**297**	*e*P	**P**	**15 23 18.6**	**+0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.81**	**297**	*e*P	**P**	**15 23 18.6**	**+0.8**
	comp=Z,1.9nm,0.9s,mb4.1						
ARU	**Arti**	**55.71**	**318**	*e*P	**P**	**15 23 24.5**	**+0.3**
ARU				*e*	pP	15 23 34.7	-2.5
ARU				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ARU	**Arti**	**55.71**	**318**	*e*P	**P**	**15 23 24.5**	**+0.2**
	comp=Z,5.2nm,0.5s,mb4.8						
ARU				*e*	pP	15 23 34.7	-2.5
ARE0	**ARCESS Array S**	**58.13**	**341**	*e*P	**P**	**15 23 39.6**	**-1.8**
FINES	**FINESS Array B**	**64.43**	**335**	P	**P**	**15 24 24.6**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.4,baz=38,slow=8.2,SNR=12						
NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**	**15 24 52.1**	**+2.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=26,slow=6.3,SNR=2.8						
ASAR	**Alice Springs**	**72.68**	**200**	P	**P**	**15 25 15.9**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=16,slow=5.9,SNR=11						
TXAR	**Lajitas Array**	**76.44**	**62**	P	**P**	**15 25 37.4**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=302,slow=4.8,SNR=12						

IDC **16** *15:19:24.4±1.6, 4744N×154.25E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/24, mbtmp3.9/9, ML3.4/2, Error ellipse: s-maj=42.2km s-min=24.1km az=105.0*
MOS **16** *15:19:30.9±1.8, 4730N×153.87E, h64km, mb4.1/6, Error ellipse: s-maj=22.4km s-min=15.8km az=54.4*
ISCJB **16** *15:19:31.1±1.8, 473N±0.1×154.0E±0.2, h64km±14km, mb3.8/7, Error ellipse: s-maj=32.6km s-min=12.7km az=75.9*

ISC 16 15:19:32.1±1.9, 472N±02×1542E±03, h69km±13km, n20, σ1§04/21, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.71**	**19**	*e*PN	**Pn**	**15 20 27.0**	**+0.1**
KUR	**Kuril'sk**	**4.80**	**248**	*e*PN	**Pn**	**15 20 37.4**	**-4.4**
KUR				*e*S	**Sn**	**15 21 40.0**	**+3.9**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,260nm,0.9s						
KUR				smax			
	comp=E,330nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.80**	**272**	*e*PN	**Pn**	**15 21 23.8**	**+1.0**
ASAJ	**Asahikawa**	**8.68**	**253**	Pn	**Pn**	**15 21 34.7**	**-0.1**
	comp=E,6.0nm,0.3s,baz=90,slow=7.1,SNR=4.5						
ASAJ	**Asahikawa**	**8.68**	**253**	PN	**Pn**	**15 21 34.7**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.93**	**234**	Pn	**Pn**	**15 23 10.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=5.4						
MAT	**Matsushiro**	**15.93**	**234**	P	**Pn**	**15 23 10.6**	**-1.4**
KSRS	**Korea Array**	**21.62**	**253**	P	**P**	**15 24 17.9**	**+1.3**
	comp=Z,1.1nm,0.9s,mb3.2,baz=55,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**15 27 58.8**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=58,slow=4.6,SNR=5.5						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**15 27 58.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**15 28 27.0**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=75,slow=8.0,SNR=4.4						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**15 28 27.0**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**15 29 58.0**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=38,slow=8.2,SNR=9.7						
FINES	**FINESS Array B**	**63.94**	**335**	P	**P**	**15 29 58.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.03**	**342**	P	**P**	**15 30 23.7**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=23,slow=6.0,SNR=2.9						
NOA	**NORSAR Array B**	**68.03**	**342**	P	**P**	**15 30 23.7**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**15 30 46.3**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=33,slow=6.0,SNR=4.5						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**15 30 46.3**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.87**	**199**	P	**P**	**15 30 56.5**	**+2.8**
	comp=Z,0.8nm,0.8s,mb3.6,baz=8.0,slow=5.9,SNR=10						
ASAR	**Alice Springs**	**72.87**	**199**	P	**P**	**15 30 56.5**	**+2.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

CASC 16 15:21:31.6±2.0, 1076N×8670W, h26km±13km, MD4.0, ML3.5, 5C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**0.99**	**58**⇑	*e*P	Pn	15 21 49.4	-0.4
VCR	**Vista de Mar**	**1.22**	**121**	*e*P	Pn	15 21 53.2	+0.2
MADN	**Villa Maderas**	**1.32**	**60**⇑	*e*P	Pn	15 21 54.4	+0.1
CONN	**Concepcion**	**1.33**	**53**⇑	*e*P	Pn	15 21 54.1	-0.3
TICN	**Ticuantepe**	**1.35**	**20**	*e*P	Pn	15 21 54.8	0.0
COPN	**Copaltepe**	**1.42**	**4**⇓	*e*P	Pn	15 21 55.4	-0.3
LIM1	**Limonal**	**1.42**	**92**⇑	*e*P	Pn	15 21 55.9	+0.1
LIM1				*e*S	Sn	15 22 13.3	-0.4
XAVN	**Gruta Xavier**	**1.43**	**15**	*e*P	Pn	15 21 55.2	-0.7
XAVN				*e*S	Sn	15 22 14.4	+0.5
XAVN				*i*		15 22 17.1	
	comp=Z,464nm,0.3s						
TISN	**Laguna Tiscapa**	**1.44**	**17**	*e*P	Pn	15 21 55.7	-0.3
MGAN	**Managua**	**1.45**	**18**⇑	*e*P	Pn	15 21 55.9	-0.3
MGAN				*e*S	Sn	15 22 15.1	+0.7
MGAN				*i*		15 22 19.7	
	comp=E,1μm,0.4s						
MOMJ	**Momotombo**	**1.65**	**5**	*e*P	Pn	15 21 58.4	-0.5
MOMJ				*e*S	Sn	15 22 19.6	+0.4
LEON	**Leon**	**1.66**	**354**	*e*P	Pn	15 21 58.7	-0.3
MIRN	**Miramar**	**1.67**	**360**⇓	*e*P	Pn	15 21 59.0	-0.3
JCR	**Jicaral**	**1.81**	**120**	*e*P	Pn	15 22 01.2	+0.2
CRIN	**San Cristobal**	**1.96**	**350**	*e*P	Pn	15 22 03.0	-0.1
PRS1	**Puriscal**	**2.47**	**108**	*e*P	Pn	15 22 11.5	+1.3

ISCJB **16** *15:23:04.5±1.2, 4732N±004×1556E±003, h3km±7km, mb4.8/120, MS4.1/24, Error ellipse: s-maj=6.9km s-min=2.8km az=160.6*

*IDC **16** 15:23:05.8±0.5, 4734N×15563E, h0km, mb4.8/34, mb1 4.9/36, mb1mx4.9/39, mbtmp4.8/36, ML4.4/2, MS3.8/9, Ms1 3.8/9, ms1mx3.4/46, Error ellipse: s-maj=14.5km s-min=11.0km az=149.0*

*NEIC **16** 15:23:07.1±0.2, 4731N×15562E, h10km, mb5.0/56, Error ellipse: s-maj=6.8km s-min=4.4km az=154.0*

*BJI **16** 15:23:07.4, 4757N×15523E, h7km, mB5.0, mb4.7, Ms4.4, Msz4.2*

*SKHL **16** 15:23:08.8±2.6, 4739N×15548E, h54km±19km, Ms4.3/2, msh5.1/1*

*MOS **16** 15:23:08.9±1.1, 4728N×15556E, h34km, mb5.1/53, Error ellipse: s-maj=7.6km s-min=5.7km az=110.5*

*SZGRF **16** 15:23:14.9, 4739N×15443E, h33km, mb5.1, Kuril Islands, Russia*

ISC 16 15:23:06.8±1.4, 4743N±004×15558E±003, h4km±8km, h16km±1.9km:pP-P,n442,σ0s85/453,mb4.8/120,MS4.1/24, 84C-68D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.27**	**6**	*e*P	**Pn**	**15 23 59.0**	**+0.2**
SKR				AMB	AMB	15 24 04.5	
	110nm,0.5s						
SKR				AMB	AMB	15 24 04.5	
	180nm,0.5s						
SKR				*e*S	**Sn**	**15 24 36.0**	**-2.2**
SKR				A		15 24 40.5	
	770nm,0.5s						
SKR				A		15 24 40.5	
	390nm,0.5s						
SKR				A		15 24 40.5	
	230nm,0.5s						
SKR				A		15 24 48.0	
	2μm,4.0s						
SKR				A		15 24 48.0	
	4μm,4.0s						
SKR				A		15 24 48.0	
	2μm,4.0s						
SKR				A		15 24 48.0	
	4μm,4.0s						
SKR				AMS	AMS	15 25 40.0	
	5μm,16.0s						
SKR				AMS	AMS	15 25 40.0	
	2μm,16.0s						
SKR				AMS	AMS	15 25 40.0	
	6μm,16.0s						
SKR				AMS	AMS	15 25 40.0	
	3μm,16.0s						
SKR	**Severo-Kuril's**	**3.27**	**6**	*e*PN	**Pn**	**15 24 07.1**	**+8.3**
KUR	**Kuril'sk**	**5.78**	**250**	⇑*i*P	**Pn**	**15 24 30.8**	**-2.5**
KUR				AMB	AMB	15 24 31.6	
	90nm,0.7s						
KUR				AMB	AMB	15 24 31.6	
	340nm,0.7s						
KUR				*i* S	**Sn**	**15 25 35.0**	**-5.0**
KUR				A		15 25 36.6	
	580nm,0.7s						
KUR				A		15 25 36.6	
	680nm,0.7s						
PET	**Petropavlovsk**	**5.94**	**18**	*e*PN	**Pn**	**15 24 33.8**	**-1.6**
PET	**Petropavlovsk**	**5.94**	**18**	*e*Pn	**Pn**	**15 24 33.6**	**-1.8**
	63nm,0.4s						
PET				*e*Sn	**Sn**	**15 25 35.9**	**-7.9**
YUK	**Yuzh-Kuril'sk**	**7.60**	**247**	*e*P	**Pn**	**15 24 58.0**	**-0.3**
YUK				AMB	AMB	15 25 01.9	
	400nm,0.5s						
YUK				*e*S	**Sn**	**15 26 19.7**	**-5.2**
YUK				A		15 26 26.0	
	380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.75**	**272**	⇑*i*P	**Pn**	**15 25 18.0**	**+3.9**
YSS				AMB	AMB	15 25 18.8	
	130nm,0.5s						
YSS				*e*S	**Sn**	**15 26 53.0**	**-0.2**
YSS				A		15 26 57.0	
	120nm,1.0s						
YSS				*e*LQ		15 27 15.0	
YSS				AMS	AMS	15 30 04.0	
	1μm,15.0s						
YSS				AMS	AMS	15 30 04.0	
	1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.75**	**272**	⇓*i*Pn	**Pn**	**15 25 18.0**	**+3.9**
YSS				pmax	pmax		
	comp=Z,130nm,0.5s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.75**	**272**	*e*Pn	**Pn**	**15 25 17.5**	**+3.4**
	comp=Z,112nm,0.5s						
UGL	**Uglegorsk**	**9.17**	**285**	*e*P	**Pn**	**15 25 21.0**	**+1.2**
UGL				AMB	AMB	15 25 25.0	
	comp=Z,60nm,0.8s						
UGL				AMS	AMS	15 30 09.0	
	comp=Z,1μm,12.0s						
UGL				AMS	AMS	15 30 09.0	
	comp=Z,1μm,13.0s						
UGL				AMS	AMS	15 30 09.0	
	comp=Z,1μm,13.0s						
ASAJ	**Asahikawa**	**9.66**	**255**	Pn	**Pn**	**15 25 27.9**	**+1.3**
	comp=Z,4.7nm,0.3s,baz=84,slow=15,SNR=25						
ASAJ				LR	LR	15 29 00.6	
	comp=Z,178nm,19.9s,baz=69,slow=37						
ERM	**Erimo**	**10.37**	**243**	Pn	**Pn**	**15 25 36.1**	**-0.1**
	comp=Z,562nm,0.5s,SNR=5.4						
ERM	**Erimo**	**10.37**	**243**	*e*PN	**Pn**	**15 25 34.1**	**-2.1**
ERM				pmax	pmax		
	comp=Z,45nm,0.5s						
ERM	**Erimo**	**10.37**	**243**	*e*Pn	**Pn**	**15 25 34.1**	**-2.0**
	comp=Z,45nm,0.5s						
ERM				*e*Sn	**Sn**	**15 27 20.0**	**-13**
HABR	**Khabarovsk**	**13.80**	**282**	*e*P	**Pn**	**15 26 26.4**	**+3.2**
HABR				*e*S	**Sn**	**15 29 02.2**	**+5.4**
MJAR	**Matsushiro Arr**	**16.85**	**236**	Pn	**Pn**	**15 27 00.6**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=27,slow=14,SNR=12						
MAJO	**Matsushiro**	**16.85**	**236**	P	**Pn**	**15 27 00.7**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s						
MAJO	**Matsushiro**	**16.85**	**236**	*e*Pn	**Pn**	**15 27 00.1**	**-3.4**
	comp=Z,22nm,0.8s						
MAT	**Matsushiro**	**16.85**	**236**	P	**Pn**	**15 27 00.4**	**-3.1**
MAT				S	**Sn**	**15 30 07.0**	**-4.0**
ZEA	**Zeya**	**18.98**	**300**	*e*P	**Pn**	**15 27 25.3**	**-4.5**
ZEA				AMB	AMB	15 27 28.7	
	comp=Z,27nm,0.9s						
YAK	**Yakutsk**	**20.71**	**324**	*e*P	**P**	**15 27 46.4**	**-1.6**
YAK				*e*		15 28 01.1	
YAK				*e*S	**S**	**15 31 34.3**	**-5.3**
YAK				*e*SS		15 31 53.5	
YAK				pmax	pmax		
	comp=E,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,53nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				smax			
	comp=N,83nm,1.5s						
YAK				smax			
	comp=Z,37nm,1.7s						
YAK				smax			
	comp=E,122nm,2.6s						
YAK				MLR	MLR		
	comp=N,245nm,12.0s,MS3.9						
YAK				MLR	MLR		
	comp=Z,332nm,12.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,191nm,11.0s,MS3.9						
YAK	**Yakutsk**	**20.71**	**324**	*e*P	**P**	**15 27 46.2**	**-1.7**
	comp=E,68nm,0.8s						
CLNS	**Chul'man**	**20.89**	**308**	*e*P	**P**	**15 27 49.5**	**-0.5**
CLNS				*e*PPP		15 28 15.3	
CLNS				*e*S	**S**	**15 31 45.4**	**+2.0**
CLNS				*e*SS		15 32 22.5	
CLNS				pmax	pmax		
	comp=Z,36nm,0.9s						
CLNS				pmax	pmax		
	comp=N,17nm,1.2s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax			
	comp=N,22nm,1.1s						
CLNS				smax			
	comp=Z,8.0nm,1.0s						
CLNS				smax			
	comp=E,18nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.0						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s,MS4.4						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS4.4						
NRGR	**Nerungri**	**20.94**	**308**	*e*P	**P**	**15 27 50.1**	**-0.4**
CN2	**Changchun**	**21.32**	**271**	⇑P	**P**	**15 27 52.4**	**-2.2**
CN2				*e*XP	sP	15 27 59.3	+2.8
CN2				*e*S	**S**	**15 31 40.0**	**-12**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=Z,600nm,16.0s,MS4.1						
BILL	**Bilibino**	**21.37**	**11**	*c i*P	**P**	**15 27 54.7**	**-0.5**
BILL				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.5						
BILL	**Bilibino**	**21.37**	**11**	*e*P	**P**	**15 27 53.5**	**-1.7**
	comp=Z,69nm,1.2s,mb4.9						
KSRS	**Korea Array**	**22.61**	**254**	P	**P**	**15 28 08.8**	**+0.4**
	comp=Z,8.8nm,0.8s,mb4.2,baz=61,slow=9.5,SNR=22						
SNY	**Shenyang**	**23.35**	**268**	⇓P	**P**	**15 28 14.6**	**-1.6**
SNY				AP		15 28 17.6	
SNY				XP	sP	15 28 20.8	+2.7
SNY				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.7						
SNY				AMB	AMB		
	comp=Z,126nm,4.1s						
SNY				LR	LR		
	comp=E,550nm,14.7s						
SNY				LR	LR		
	comp=Z,491nm,15.7s,MS4.1						
INCN	**Inchon**	**23.44**	**255**	*e*P	**P**	**15 28 15.2**	**-2.0**
	comp=Z,42nm,0.9s,mb4.9						
JNU	**Nakatsue**	**23.52**	**241**	P	**P**	**15 28 17.8**	**-0.3**
	comp=Z,20nm,0.9s,mb4.6,baz=231,slow=12,SNR=3.9						
JNU				LR	LR	15 37 04.8	
	comp=Z,302nm,19.6s,MS3.8,baz=72,slow=36						
JNU	**Nakatsue**	**23.52**	**241**	P	**P**	**15 28 17.8**	**-0.3**
JNU				LR	LR	15 37 04.8	
HIA	**Hailar**	**23.76**	**288**	*e*P	**P**	**15 28 15.6**	**-4.6**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HIA	**Hailar**	**23.76**	**288**	*e*P	**P**	**15 28 15.6**	**-4.7**
	comp=Z,9.4nm,0.6s,mb4.4						
BOD	**Bodaibo**	**26.88**	**308**	*e*P	**P**	**15 28 46.2**	**-2.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.0						
BJI	**Beijing**	**29.17**	**270**	P	**P**	**15 29 13.0**	**+3.9**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
BJI				LR	LR		
	comp=N,359nm,14.0s,MS4.2						
BJI				LR	LR		
	comp=E,235nm,14.0s,MS4.2						
BJI				LR	LR		
	comp=Z,229nm,15.4s,MS3.9						
NJ2	**Nanjing**	**31.81**	**254**	*e*P	**P**	**15 29 32.8**	**+0.4**
NJ2				AP	pP	15 29 36.1	+2.4
NJ2				XP	sP	15 29 40.3	+6.0
NJ2				PP	PP	15 30 37.9	-6.2
NJ2				S	**S**	**15 34 40.5**	**-2.7**
NJ2				XS	sS	15 34 48.5	+3.1
NJ2				AMB	AMB		
	comp=Z,270nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,16.2s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,15.5s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,18.3s,MS4.6						
HHC	**Hu-ho-hao-te**	**31.93**	**275**	*e*P	**P**	**15 29 33.1**	**-0.3**
HHC				AP	pP	15 29 37.6	+2.8
HHC				XP	sP	15 29 40.6	+5.3
HHC				PP	PP	15 30 38.1	-7.3
HHC				PCP	PcP	15 32 25.0	+1.2
HHC				S	**S**	**15 34 42.0**	**-3.0**
HHC				XS	sS	15 34 48.9	+1.6
HHC				PCS	PcS	15 36 07.3	-1.1
HHC				SS	SS	15 36 33.0	-29
HHC				SCS	ScS	15 40 02.8	-3.5
HHC				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,128nm,5.2s						
HHC				LR	LR		
	comp=N,245nm,15.2s,MS4.2						
HHC				LR	LR		
	comp=E,261nm,14.7s,MS4.2						
HHC				LR	LR		
	comp=Z,254nm,14.6s,MS4.0						
ULN	**Ulaanbaatar**	**32.27**	**289**	*e*P	**P**	**15 29 34.7**	**-1.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**32.27**	**289**	*e*P	**P**	**15 29 34.6**	**-1.8**
	comp=Z,5.8nm,0.8s,mb4.5						
KDAK	**Kodiak Island**	**32.36**	**52**	P	**P**	**15 29 35.2**	**-2.0**
	comp=Z,29nm,1.2s,mb5.0,baz=313,slow=8.5,SNR=4.3						
KDAK	**Kodiak Island**	**32.36**	**52**	P	**P**	**15 29 35.2**	**-2.0**
SONM	**Songino Array**	**32.70**	**289**	P	**P**	**15 29 39.5**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=82,slow=7.4,SNR=21						
SONM				PcP	PcP	15 32 24.0	-1.9
	comp=Z,1.1nm,0.9s,baz=88,slow=3.2,SNR=3.6						
SONM				LR	LR	15 42 51.1	
	comp=Z,102nm,20.8s,MS3.5,baz=78,slow=36						
SONM	**Songino Array**	**32.70**	**289**	P	**P**	**15 29 39.5**	**-0.7**
SONM						15 32 24.0	
TLY	**Talaya**	**33.37**	**297**	*e*P	**P**	**15 29 43.7**	**-2.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,302nm,15.0s,MS4.1						
ZAK	**Zakamensk**	**33.92**	**295**	*e*P	**P**	**15 29 49.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
MCK	**McKinley**	**34.03**	**41**	*e*P	**P**	**15 29 49.4**	**-2.4**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
MCK	**McKinley**	**34.03**	**41**	*e*P	**P**	**15 29 49.4**	**-2.5**
	comp=Z,7.4nm,1.2s,mb4.5						
COLA	**College**	**34.55**	**39**	*e*P	**P**	**15 29 55.6**	**-0.7**
COLA				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
COLA	**College**	**34.55**	**39**	*e*P	**P**	**15 29 55.5**	**-0.8**
	comp=Z,24nm,1.1s,mb5.0						
WHN	**Wuhan**	**35.73**	**257**	P	**P**	**15 30 09.6**	**+3.1**
XAN	**Xi'an**	**37.25**	**266**	P	**P**	**15 30 19.6**	**+0.1**
XAN				AP	pP	15 30 29.6	+8.8
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=N,136nm,15.0s,MS4.1						
XAN				LR	LR		
	comp=E,181nm,15.0s,MS4.1						
XAN				LR	LR		
	comp=Z,271nm,15.0s,MS4.2						
LZH	**Lanzhou**	**39.55**	**273**	*e*P	**P**	**15 30 40.3**	**+1.5**
LZH				AP	pP	15 30 42.6	+2.4
LZH				XP	sP	15 30 44.0	+3.3
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,165nm,4.0s						
LZH				LR	LR		
	comp=E,416nm,13.3s						
LZH				LR	LR		
	comp=Z,730nm,14.2s,MS4.7						
LZH	**Lanzhou**	**39.55**	**273**	*e*P	**P**	**15 30 40.2**	**+1.4**
LZH				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1						
LZH				MLR	MLR		
	comp=Z,730nm,14.2s,MS4.7						
LZH	**Lanzhou**	**39.55**	**273**	*e*P	**P**	**15 30 40.2**	**+1.4**
	comp=Z,40nm,1.0s,mb5.1						
LZH				pP	pP	15 30 42.6	+2.4
LZH				sP	sP	15 30 44.0	+3.3
LZH				LR	LR		
	comp=Z,730nm,14.2s,MS4.7						
INK	**Inuvik**	**40.17**	**33**	P	**P**	**15 30 44.1**	**+0.2**
	comp=Z,15nm,0.5s,mb5.0,baz=297,slow=6.5,SNR=102						
INK	**Inuvik**	**40.17**	**33**	*e*P	**P**	**15 30 43.7**	**-0.3**
	comp=Z,530nm,0.6s						
GTA	**Gaotai**	**40.53**	**280**	*e*P	**P**	**15 30 47.8**	**+0.9**
GTA				AP	pP	15 30 52.6	+4.3
GTA				XP	sP	15 30 55.5	+6.6
GTA				PP	PP	15 32 25.6	+5.5
GTA				S	**S**	**15 36 56.3**	**-0.2**
GTA				XS	sS	15 37 03.9	+5.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.2						
GTA				AMB	AMB		
	comp=Z,164nm,6.1s						
GTA				LR	LR		
	comp=N,156nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=E,200nm,14.1s,MS4.2						
GTA				LR	LR		
	comp=Z,221nm,16.0s,MS4.1						
CD2	**Chengdu**	**42.61**	**266**	⇑*i*P	**P**	**15 31 05.0**	**+1.0**
CD2				AP	pP	15 31 09.5	+4.1
CD2				XP	sP	15 31 12.1	+6.1
CD2				PP	PP	15 32 46.6	+3.9
CD2				S	**S**	**15 37 26.5**	**-0.9**
CD2				XS	sS	15 37 34.0	+4.3
CD2				SS	SS	15 40 29.5	-7.7
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=N,260nm,15.6s,MS4.3						
CD2				LR	LR		
	comp=E,170nm,15.6s,MS4.3						
CD2				LR	LR		
	comp=Z,240nm,15.6s,MS4.2						
GYA	**Guiyang**	**43.51**	**259**	P	**P**	**15 31 12.4**	**+1.1**
GYA				AP	pP	15 31 16.8	+4.1
GYA				XP	sP	15 31 19.8	+6.6
GYA				PP	PP	15 32 54.4	+2.1
GYA				PCP	PcP	15 33 00.3	+1.1
GYA				SCP	ScP	15 36 50.5	-0.9
GYA				S	**S**	**15 37 39.0**	**-1.5**
GYA				SS	SS	15 40 45.8	-9.0
GYA				SCS	ScS	15 41 09.4	-2.5
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,420nm,16.4s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=E,510nm,16.8s,MS4.5						
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**15 31 11.5**	**-0.5**
	comp=Z,5.8nm,0.7s,mb4.4,baz=36,slow=7.4,SNR=21						
ZAL				LR	LR	15 49 08.8	
	comp=Z,155nm,19.5s,MS3.9,baz=42,slow=36						
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**15 31 11.5**	**-0.5**
ZAL				LR	LR	15 49 08.8	
WMQ	**Urumqi**	**46.25**	**292**	⇑*i*P	**P**	**15 31 34.3**	**+1.2**
WMQ				AP	pP	15 31 38.8	+4.3
WMQ				XP	sP	15 31 41.3	+6.2
WMQ				PCP	PcP	15 33 10.3	+1.6
WMQ				PP	PP	15 33 22.8	+1.3
WMQ				PPP		15 34 06.9	
WMQ				S	**S**	**15 38 19.4**	**-0.9**
WMQ				XS	sS	15 38 26.8	+4.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,113nm,5.5s						
WMQ				LR	LR		
	comp=N,140nm,17.1s,MS4.0						
WMQ				LR	LR		
	comp=E,98nm,18.6s,MS4.0						
WMQ				LR	LR		
	comp=Z,156nm,17.1s,MS4.0						
QIZ	**Qiongzhong**	**46.67**	**249**	*e*P	**P**	**15 31 38.5**	**+2.1**
	comp=Z,35nm,1.2s,mb5.2						
KMI	**Kunming**	**47.02**	**261**	P	**P**	**15 31 41.1**	**+1.9**
KMI				AP	pP	15 31 47.9	+7.3
KMI				XP	sP	15 31 52.3	+11
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,48nm,3.9s						
KMI				LR	LR		
	comp=N,133nm,17.1s,MS4.1						
KMI				LR	LR		
	comp=E,122nm,17.7s,MS4.1						
KMI				LR	LR		
	comp=Z,97nm,18.3s,MS3.8						
KMI	**Kunming**	**47.02**	**261**	P	**P**	**15 31 41.1**	**+1.9**
	comp=Z,8.0nm,1.2s,mb4.5						
KMI				pP	pP	15 31 47.9	+7.3
KMI				sP	sP	15 31 52.3	+11
KMI				LR	LR		
	comp=Z,100nm,18.3s,MS3.8						
MK31	**Makanchi Array**	**48.12**	**298**	P	**P**	**15 31 47.2**	**-0.5**
MK31	**Makanchi Array**	**48.12**	**298**	*e*P	**P**	**15 31 46.9**	**-0.8**
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**15 31 47.1**	**-0.7**
	comp=Z,4.5nm,0.5s,mb4.8,baz=68,slow=7.8,SNR=50						
MKAR				LR	LR	15 55 29.4	
	comp=Z,104nm,18.9s,MS3.8,baz=265,slow=40						
MKAR	**Makanchi Array**	**48.12**	**298**	*e*P	**P**	**15 31 47.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,13nm,0.9s						
KURK	**Kurchatov**	**48.39**	**304**	P	**P**	**15 31 49.5**	**-0.3**
	comp=Z,359nm,0.6s,SNR=38						
KURK	**Kurchatov**	**48.39**	**304**	P	**P**	**15 31 48.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**15 31 56.9**	**-0.4**
	comp=Z,6.2nm,0.6s,mb4.8,baz=294,slow=7.1,SNR=12						
RES	**Resolute Bay**	**49.65**	**19**	P	**P**	**15 31 59.8**	**+0.4**
RES				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
RES	**Resolute Bay**	**49.65**	**19**	*e*P	**P**	**15 31 59.7**	**+0.3**
	comp=Z,479nm,1.1s						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**15 32 10.6**	**-1.2**
CHKZ				*e*		15 32 22.4	
CHKZ				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**15 32 10.6**	**-1.2**
	comp=Z,30nm,0.8s,mb5.3						
CHKZ				*e*		15 32 22.4	
VOSK	**Vostochnaya**	**51.57**	**309**	P	**P**	**15 32 12.7**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
BVA0	**Borovoye Array**	**51.72**	**310**	*i* P	**P**	**15 32 14.9**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**15 32 15.0**	**-0.1**
	comp=Z,11nm,0.4s,mb5.1,baz=61,slow=7.9,SNR=57						
BVAR				LR	LR	15 57 12.8	
	comp=Z,124nm,18.6s,MS4.0,baz=318,slow=40						
BRVK	**Borovoye**	**51.76**	**310**	P	**P**	**15 32 15.2**	**-0.2**
	comp=Z,176nm,0.6s,SNR=14						
BRVK	**Borovoye**	**51.76**	**310**	P	**P**	**15 32 14.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**15 32 15.0**	**-0.4**
	comp=Z,20nm,0.7s,mb5.2						
LSA	**Lhasa**	**51.91**	**274**	P	**P**	**15 32 19.0**	**+2.5**
LSA	**Lhasa**	**51.91**	**274**	*e*P	**P**	**15 32 18.8**	**+2.3**
LSA				*e*		15 32 29.9	
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
LSA	**Lhasa**	**51.91**	**274**	*e*P	**P**	**15 32 18.8**	**+2.3**
	comp=Z,19nm,0.6s,mb5.2						
LSA				*e*		15 32 29.9	
A05A	**Maple Falls**	**52.26**	**56**	⇑P	**P**	**15 32 17.5**	**-1.6**
	baz=52						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**15 32 20.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**15 32 20.3**	**-0.4**
	comp=Z,16nm,0.8s,mb5.0						
C05A	**Tolt Reservoir**	**53.17**	**57**	⇑P	**P**	**15 32 25.5**	**-0.4**
	baz=53						
B07A	**Winthrop**	**53.64**	**55**	⇑P	**P**	**15 32 28.6**	**-0.7**
	baz=54						
E05A	**Randle**	**53.75**	**58**	⇑P	**P**	**15 32 29.9**	**-0.2**
	baz=54						
A08A	**Turner Farm, O**	**53.84**	**54**	⇑P	**P**	**15 32 30.5**	**-0.3**

baz=54
CHTO Chiang Mai 53.91 258 eP P 15 32 32.4 +1.1
CHTO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 53.91 258 eP P 15 32 32.4 +1.1
comp=Z,11nm,0.9s,mb4.8
C07A Waterville 54.10 56 ⇓P P 15 32 31.9 -0.7
baz=54
B08A Colville Reser 54.14 55 ⇑P P 15 32 32.2 -0.7
baz=54
TKM2 Tokmak 2 54.21 297 P P 15 32 34.4 +1.0
SNR=10
A09A Danville 54.21 54 P P 15 32 33.3 -0.2
baz=54,SNR=5.5
J02A Umpqua 54.47 62 ⇑P P 15 32 36.0 +0.7
baz=54
C08A Higginbotham F 54.62 56 ⇓P P 15 32 35.4 -1.0
baz=54
EDM Edmonton 54.62 48 eP P 15 32 35.5 -0.9
USP Ospenovka 54.67 298 P P 15 32 37.9 +1.1
SNR=13
CHMS Chumysh 54.67 297 P P 15 32 38.1 +1.2
SNR=5.3
KBK Karagaybulak 54.75 297 P P 15 32 38.9 +1.6
SNR=9.6
B09A Rice 54.76 54 ⇑P P 15 32 37.2 -0.3
baz=55
F06A Goldendale 54.76 58 ⇓P P 15 32 37.5 0.0
baz=55
J03A Ideyld Park 54.83 62 ⇑P P 15 32 38.7 +0.7
baz=55
E07A Sunnyside 54.85 57 ⇑P P 15 32 38.0 -0.1
baz=55
FRU Bishkek 54.85 297 eP P 15 32 39.5 +1.4
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.2
K02A Glendale 54.86 63 ⇑P P 15 32 37.9 -0.3
baz=55
KZA Kyzart 54.90 296 P P 15 32 40.9 +2.4
SNR=15
I04A Tendick Farm, 54.92 61 ⇓P P 15 32 38.4 -0.2
baz=55
AAK Ala-Archa 55.04 297 P P 15 32 39.1 -0.4
comp=Z,106nm,0.6s,SNR=11
AAK Ala-Archa 55.04 297 P P 15 32 40.9 +1.4
SNR=15
AAK Ala-Archa 55.04 297 P P 15 32 39.7 +0.2
C09A Chrisman Ranch 55.04 55 ⇓P P 15 32 38.9 -0.6
baz=55
D08A Wollman Farm, 55.09 56 ⇑P P 15 32 39.2 -0.7
baz=55
L02A Cave Junction 55.14 63 ⇑P P 15 32 40.8 +0.6
baz=55
F07A Phinny Hill Vi 55.18 58 ⇓P P 15 32 40.7 +0.2
baz=55
HUMO Hull Mountain 55.27 63 ⇑P P 15 32 41.4 +0.3
baz=55
E08A Dider Farm, El 55.34 57 ⇓P P 15 32 41.7 0.0
baz=55
I05A Bend 55.39 60 ⇓P P 15 32 42.4 +0.4
baz=55
J04A Umpqua Nationa 55.42 62 ⇑P P 15 32 42.2 -0.1
baz=55
A11A Hall Mountain, 55.44 53 ⇑P P 15 32 41.6 -0.8
baz=55
D09A Jones Farm, Ri 55.44 56 ⇑P P 15 32 41.9 -0.4
baz=55
EKS2 Erkin-Say 55.45 298 P P 15 32 44.0 +1.6
SNR=14
H06A Lindquist Farm 55.61 59 ⇑P P 15 32 43.0 -0.5
baz=56
ARU Arti 55.64 318 P P 15 32 43.0 -0.8
comp=Z,471nm,0.5s,SNR=24
ARU Arti 55.64 318 eP P 15 32 43.4 -0.4
ARU e 15 32 54.2
ARU pmax pmax
comp=Z,43nm,0.6s,mb5.7
ARU Arti 55.64 318 eP P 15 32 43.4 -0.4
comp=Z,43nm,0.6s,mb5.7
ARU e 15 32 54.2
B11A Sandpoint 55.73 54 ⇑P P 15 32 43.3 -1.2
baz=56
AML Almayashu 55.81 297 P P 15 32 46.7 +1.6
SNR=8.0
A12A Yaak River Ran 55.83 53 ⇓P P 15 32 44.7 -0.5
baz=56
E09A Wood Farm, Sta 55.84 56 P P 15 32 45.1 -0.1
baz=56,SNR=5.5
F08A Pendleton 55.90 57 ⇑P P 15 32 46.3 +0.6
baz=56
J05A Fort Rock 55.91 61 ⇑P P 15 32 46.0 +0.2
baz=56
YBH Yreka Blue Hor 55.93 63 P P 15 32 46.7 +0.8
comp=Z,8.9nm,0.9s,mb4.8,baz=250,slow=2.6,SNR=8.9
YBH Yreka Blue Hor 55.93 63 ⇑P P 15 32 46.3 +0.4
baz=56
KSH Kashi 55.95 293 eP P 15 32 47.9 +1.9
KSH eAP pP 15 32 53.5 +6.1
KSH eXP sP 15 32 56.6 +8.6
KSH ePCP PcP 15 33 43.6 -1.0
KSH ePP PP 15 34 54.6 +3.9
KSH ePPP 15 36 11.1
KSH eSCP ScP 15 37 42.0 -2.4
KSH eS S 15 40 35.1 +0.6
KSH eXS sS 15 40 45.4 +8.6
KSH ePS 15 40 54.4
KSH eSCS ScS 15 42 33.1 -2.9
KSH AMB AMB
comp=Z,447nm,4.8s
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
M02C Callahan 56.04 64 ⇓P P 15 32 47.4 +0.7
baz=56
G08A Pilot Rock 56.08 58 ⇓P P 15 32 47.2 +0.2
baz=56
N02C Big Bar 56.10 65 ⇓P P 15 32 47.9 +0.7
baz=56
I06A Prineville 56.14 60 ⇑P P 15 32 47.9 +0.5
baz=56
L04A Klamath Falls 56.17 63 ⇓P P 15 32 48.3 +0.7
baz=56
M04C Macdoel 56.43 63 ⇓P P 15 32 50.0 +0.6
baz=56
F09A S2 Ranch, Elgi 56.44 57 ⇓P P 15 32 49.7 +0.2
baz=56
E10A Myers Farm, Un 56.44 56 ⇓P P 15 32 49.6 0.0
baz=56
K05A Summer Lake 56.44 61 ⇓P P 15 32 50.6 +1.0
baz=56
D11A Klaveano Farm, 56.55 55 ⇓P P 15 32 49.4 -0.9
baz=56
M03C McCloud 56.56 64 ⇓P P 15 32 51.0 +0.6
baz=56
GUN Gumba 56.61 276 eP P 15 32 52.2 +1.4
comp=Z,16nm,0.4s,mb5.4
H08A Prairie City 56.70 59 ⇓P P 15 32 51.6 +0.2
baz=57
WDC Whiskeytown Da 56.71 64 ⇓P P 15 32 51.6 +0.1
baz=57
K06A Valley Falls 56.78 61 P P 15 32 52.8 +0.8
baz=57,SNR=8.1
B13A Whitefish 56.80 53 P P 15 32 51.8 -0.3
baz=57,SNR=7.0
L05A Lakeview 56.88 62 ⇑P P 15 32 53.5 +0.8
baz=57
J07A Hines 57.00 60 ⇓P P 15 32 54.2 +0.7
baz=57
KKN Kakani 57.10 277 eP P 15 32 55.9 +1.7
comp=Z,27nm,0.6s,mb5.4
M05C Lookout 57.10 63 ⇑P P 15 32 54.9 +0.7
baz=57
I08A Drewsey 57.12 59 ⇑P P 15 32 55.0 +0.7
baz=57
KKAR Karatay Array 57.14 300 i P P 15 32 54.6 +0.1
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
C13A Hot Springs 57.15 54 ⇑P P 15 32 54.6 0.0
baz=57
PKI Pulchoki 57.15 276 eP P 15 32 55.7 +1.1
comp=Z,23nm,0.6s,mb5.4
GASB Alder Springs 57.16 65 ⇓P P 15 32 55.2 +0.6
baz=57
H09A Durkee 57.19 58 ⇑P P 15 32 55.2 +0.3
baz=57
HATC Hat Creek Radi 57.23 64 ⇓P P 15 32 56.0 +0.9
baz=57
MOD Modoc 57.28 62 ⇓P P 15 32 55.6 +0.1
baz=57,SNR=5.1
F11A Grangeville 57.33 56 ⇑P P 15 32 55.9 0.0
baz=57
DMN Daman 57.33 276 eP P 15 32 57.4 +1.5
comp=Z,72nm,1.0s,mb5.7
APA Apatity 57.37 337⇑ eP P 15 32 56.2 +0.1
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0
GKN Gorkha 57.39 277 eP P 15 32 57.5 +1.2
comp=Z,34nm,0.5s,mb5.6
K07A Rock Creek Ran 57.44 61 ⇑P P 15 32 57.3 +0.7
baz=57
J08A Circle Bar Ran 57.50 60 ⇑P P 15 32 57.6 +0.5
baz=57
C14A Swan Lake 57.55 53 ⇑P P 15 32 57.4 0.0
baz=57
G11A Walters Elk Ra 57.56 57 ⇓P P 15 32 57.2 -0.3
baz=57
D13A Huson 57.56 54 ⇑P P 15 32 57.6 +0.1
baz=57
I09A Lost Marbles R 57.56 59 ⇓P P 15 32 57.8 +0.4
baz=57
M06C Likely Place G 57.60 63 ⇑P P 15 32 58.0 +0.3
baz=58
ARCES ARCESS Array B 57.76 341 P P 15 32 58.6 -0.2
comp=Z,8.5nm,0.8s,mb4.8,baz=34,slow=7.3,SNR=11
ARCES LR LR 16 00 51.8
comp=Z,167nm,18.2s,MS4.2,baz=47,slow=39
ARE0 ARCESS Array S 57.76 341 eP P 15 32 58.6 -0.3
O04C Chester 57.76 64 ⇓P P 15 32 59.6 +0.7
baz=58
MNRC McLaughlin Nat 57.80 66 ⇓P P 15 33 00.0 +0.9
baz=58
K08A Mann Creek Ran 57.87 60 ⇑P P 15 33 00.2 +0.5
baz=58
J09A Fry Pan Ranch, 57.93 59 ⇑P P 15 33 00.9 +0.8
baz=58
ORV Oroville 57.97 65 ⇓P P 15 32 59.9 -0.5
baz=58
O05C Quincy 58.08 64 ⇓P P 15 33 01.7 +0.6
baz=58
D14A Greenough 58.09 54 P P 15 33 01.0 -0.2
baz=58,SNR=6.5
E13A Victor 58.10 55 ⇑P P 15 33 01.1 -0.2
baz=58
OHCM Honcut 58.11 65 eP P 15 33 01.1 -0.3
H11A Donnelly 58.12 57 P P 15 33 01.7 +0.3
baz=58,SNR=7.9
KOLN Koldanda 58.24 278 eP P 15 33 03.4 +1.1
comp=Z,46nm,0.9s,mb5.5
N06A Buffalo Meadow 58.26 63 P P 15 33 02.8 +0.4
baz=58,SNR=6.3
M07A Soldier Meadow 58.27 62 P P 15 33 03.2 +0.7
baz=58,SNR=8.1
L08A Fields 58.28 61 ⇓P P 15 33 02.6 +0.1
baz=58
K09A Rome 58.33 60 ⇑P P 15 33 02.7 -0.2
baz=58
F13A Darby 58.41 55 P P 15 33 03.4 0.0
baz=58,SNR=5.6
BEKR Beckwourth 58.48 64 P P 15 33 04.3 +0.4
baz=58,SNR=5.3
E14A Clinton 58.50 54 ⇓P P 15 33 03.9 -0.2
baz=58
TMCR Tamitsa 58.51 333 eP P 15 33 04.5 +0.4
TMCR pmax pmax
comp=Z,23nm,0.6s,mb5.4
O06A Flanigan 58.62 63 ⇓P P 15 33 04.7 -0.2
baz=58
N07B Gerlach 58.76 62 ⇓P P 15 33 06.6 +0.7
baz=59
LAVA Lava Cap Winer 58.92 65 ⇓P P 15 33 07.0 0.0
baz=59
F14A Wisdom 58.93 55 ⇓P P 15 33 07.1 0.0
baz=59
E15A Deer Lodge 58.96 54 ⇓P P 15 33 07.6 +0.3
baz=59
WCN Washoe City 59.19 64 ⇓P P 15 33 09.5 +0.6
baz=59
O07A Toulon 59.20 63 P P 15 33 09.7 +0.8
baz=59,SNR=6.5
N08A GE Springer Mi 59.26 62 P P 15 33 09.8 +0.4
baz=59,SNR=5.7
M09A Marrel Ranch, 59.27 61 ⇑P P 15 33 10.0 +0.5
baz=59
AB31 Akbulak array 59.28 311 i P P 15 33 09.8 +0.3
AB31 pmax pmax
comp=Z,16nm,0.6s,mb5.2
R05C Kirkwood Meado 59.37 65 ⇑P P 15 33 10.2 +0.2
baz=59
F15A Butte 59.40 54 P P 15 33 10.7 +0.4
baz=59,SNR=12
AKTK Aktybinsk 59.52 313 P P 15 33 11.4 +0.3
AKTO Aktyubinsk 59.52 313 P P 15 33 11.4 +0.3
comp=Z,8.6nm,0.5s,mb5.0,baz=59,slow=7.0,SNR=18
AKTO Aktyubinsk 59.52 313 P P 15 33 11.0 -0.1
EGMT Eagleton 59.53 51 ⇑P P 15 33 11.8 +0.6
baz=59
P07A Fallon 59.57 63 ⇓P P 15 33 12.2 +0.7
baz=59
N09A Rock Creek Ran 59.58 61 ⇑P P 15 33 11.8 +0.3
baz=59
CMB Columbia Colle 59.59 66 ⇑P P 15 33 11.8 +0.2
baz=60
PACP Pacheco Peak 59.67 67 ⇓P P 15 33 12.4 +0.2
baz=60
HLID Hailey 59.73 57 P P 15 33 13.2 +0.6
baz=60,SNR=8.3
M10A I.L. Ranch, Tu 59.75 60 P P 15 33 13.6 +0.9
baz=60,SNR=6.4
FCC Fort Churchill 59.76 34 eP P 15 33 11.7 -1.1
FCC pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
FCC Fort Churchill 59.76 34 eP P 15 33 11.7 -1.1
comp=Z,9.9nm,0.6s,mb5.0
G15A Dillon 59.82 55 ⇓P P 15 33 12.9 -0.3
baz=60
MCMT McKenzie Canyo 59.83 55 eP P 15 33 12.8 -0.4
R06C Coleville 59.86 65 ⇑P P 15 33 13.6 +0.2
baz=60
HAST UC Hastings Re 59.89 68 ⇓P P 15 33 13.1 -0.5
baz=60
BOZ Bozeman (W) 59.99 54 eP P 15 33 13.2 -1.2
BOZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
BOZ Bozeman (W) 59.99 54 eP P 15 33 13.2 -1.2
comp=Z,15nm,1.1s,mb4.9
S06C San Francisco 60.01 65 P P 15 33 14.9 +0.3
baz=60,SNR=7.5
O09A Fish Creek Ran 60.20 62 P P 15 33 16.6 +0.8
baz=60,SNR=5.2
KSM Kuching 60.24 235 eP P 15 33 16.5 +0.4
M11A Holland Ranch, 60.25 60 ⇓P P 15 33 16.5 +0.4
baz=60,SNR=5.1
ORR Orenburg 60.37 315 eP P 15 33 17.2 +0.2
ORR e 15 33 26.7
ORR pmax pmax
comp=Z,40nm,1.0s,mb5.4
U04C Hernandez Rese 60.38 67 ⇓P P 15 33 17.3 +0.2
baz=60
O10A Cortez Mining, 60.54 61 ⇑P P 15 33 18.9 +0.7
baz=60
Q08A Gabbs 60.58 63 ⇑P P 15 33 18.7 +0.3
baz=60
QLMT Earthquake Lak 60.61 55 eP P 15 33 19.2 +0.5
NVAR Mina Array Bea 60.62 64 P P 15 33 19.0 +0.3
comp=Z,5.6nm,0.7s,mb4.8,baz=291,slow=8.4,SNR=37
T06C Millerton Lake 60.65 66 ⇓P P 15 33 18.3 -0.6
baz=60
KCC Kaiser Creek 60.69 66 ⇑P P 15 33 18.9 -0.3
baz=61
M12A Wells 60.77 60 ⇑P P 15 33 20.1 +0.4
baz=61,SNR=6.4
PKD Parkfield 60.80 68 ⇑P P 15 33 19.5 -0.4
baz=61
GCMT Greycliff 60.97 53 eP P 15 33 21.8 +0.7
P10A Eureka 60.98 62 ⇑P P 15 33 21.5 +0.3
baz=61
Q09A Carvers 61.05 63 ⇑P P 15 33 21.5 -0.2
baz=61
N12A Clover Valley, 61.05 60 ⇓P P 15 33 21.6 -0.1
baz=61
O11A Cowboy Ranch, 61.14 61 P P 15 33 22.8 +0.5
baz=61,SNR=5.7
M13A Montello 61.24 59 P P 15 33 23.4 +0.5
baz=61,SNR=5.4
S08C White Mtn Res 61.29 65 ⇓P P 15 33 23.3 0.0
baz=61
P11A Circle Ranch, 61.45 62 ⇑P P 15 33 24.9 +0.6
baz=61
R09A Tonopah 61.49 64 P P 15 33 24.8 +0.1
baz=61,SNR=15
N13A Wendover, West 61.54 60 ⇓P P 15 33 25.5 +0.5
baz=61
O12A Currie 61.60 60 P P 15 33 25.8 +0.4
baz=62,SNR=12
S09A Goldfield 61.73 64 P P 15 33 26.6 +0.4
baz=62,SNR=6.2
TPAW Teton Pass 61.73 56 eP P 15 33 27.4 +1.1
comp=Z,33nm,1.3s,mb5.3
VES Vestal, Richgr 61.78 67 ⇓P P 15 33 25.4 -1.1
baz=62
REDW Red Top Meadow 61.87 56 eP P 15 33 28.0 +0.9
comp=Z,31nm,1.3s,mb5.3
PKM Peak Mountain 61.92 68 ⇓P P 15 33 27.5 0.0
baz=62
R10A Warm Springs 61.93 63 ⇓P P 15 33 27.7 +0.2
baz=62
Q11A Duckwater 61.96 62 ⇑P P 15 33 27.5 -0.3
baz=62
P12A McGill 62.01 61 ⇓P P 15 33 27.9 -0.2
baz=62
CWC Cottonwood Cre 62.02 66 ⇑P P 15 33 27.9 -0.2
baz=62
GRAC Grapevine Rang 62.10 65 ⇓P P 15 33 29.2 +0.5
baz=62
ISA Isabella 62.27 67 ⇓P P 15 33 28.8 -1.1
baz=62
Q12A Willow Creek R 62.33 62 ⇓P P 15 33 30.7 +0.4
baz=62
ARVC Arvin 62.40 67 ⇑P P 15 33 30.5 -0.2
baz=62
HWUT Hardware Ranch 62.59 58 eP P 15 33 31.7 -0.3
comp=Z,5.3nm,1.0s,mb4.6
MPMC Manual Prospec 62.63 66 P P 15 33 32.2 0.0
baz=62,SNR=10.0
FURC Furnace Creek, 62.75 65 P P 15 33 33.1 0.0
baz=63,SNR=8.1
DUG Dugway 62.78 59 eP P 15 33 33.3 0.0
DUG pmax pmax
comp=Z,21nm,1.3s,mb5.1
DUG Dugway 62.78 59 eP P 15 33 33.3 0.0
comp=Z,21nm,1.3s,mb5.1
DUG Dugway 62.78 59 ⇑P P 15 33 33.8 +0.6
baz=63
LRMC Laurel Mountai 62.88 66 ⇑P P 15 33 33.9 -0.1
baz=63
KULM Kulim 62.89 246 P P 15 33 32.5 -1.5
PDAR Pinedale Array 62.98 55 P P 15 33 34.5 0.0
comp=Z,7.1nm,0.8s,mb4.8,baz=304,slow=2.7,SNR=39
EDW2 Edwards Air Fo 63.08 67 P P 15 33 35.2 0.0
baz=63,SNR=9.8
U10A Ash Meadows, A 63.11 65 ⇓P P 15 33 35.7 +0.2
baz=63
DAU Daniels Canyon 63.54 58 eP P 15 33 38.2 -0.1
GSC Goldstone 63.54 66 ⇑P P 15 33 38.3 -0.1
baz=63
BFSC Mount Baldy St 63.70 67 ⇓P P 15 33 38.8 -0.6
baz=64
SCI San Clemente I 63.97 69 ⇑P P 15 33 40.5 -0.6
baz=64
ARUT Antelope Range 63.97 62 eP P 15 33 40.0 -1.2
TUQ Turquoise Mtn. 64.00 65 P P 15 33 41.4 +0.1
baz=54,SNR=9.0
V11A Goodsprings 64.04 65 ⇑P P 15 33 40.8 -0.8
baz=64
FIA1 FINESS Array S 64.13 336 eP P 15 33 41.7 -0.5
FINES FINESS Array B 64.13 336 P P 15 33 42.1 -0.1
comp=Z,12nm,0.6s,mb5.1,baz=38,slow=8.3,SNR=70
FINES LR LR 16 07 54.9
comp=Z,69nm,19.2s,MS3.9,baz=160,slow=42
HEC Hector,Ludlow 64.15 66 P P 15 33 42.3 0.0
baz=54,SNR=8.5
BBRC Big Bear Sol-O 64.15 67 ⇑P P 15 33 42.3 0.0
baz=64
MSU Marysvale 64.25 60 eP P 15 33 43.4 +0.4
MURC Murrieta 64.41 68 ⇑P P 15 33 43.9 -0.2
baz=64
V12A Nelson 64.47 64 ⇑P P 15 33 44.6 +0.2
baz=64
SRU San Rafael 64.82 59 eP P 15 33 46.6 -0.1
SRU pmax pmax
comp=Z,15nm,0.9s,mb5.0
SRU San Rafael 64.82 59 eP P 15 33 46.6 -0.2
comp=Z,15nm,0.9s,mb5.0
ULM Lac du Bonnet 64.89 42 P P 15 33 46.4 -0.8
comp=Z,5.4nm,0.8s,mb4.6,baz=295,slow=7.3,SNR=6.8
BELC Belle Mtn. 64.90 67 ⇑P P 15 33 46.4 -0.8
baz=65
109C Camp Elliot, M 64.94 68 ⇑P P 15 33 47.0 -0.5
baz=65
RSSD Black Hills 65.09 51 P P 15 33 48.2 -0.3
RSSD pmax pmax
comp=Z,20nm,1.1s,mb5.1
RSSD Black Hills 65.09 51 eP P 15 33 47.8 -0.6
comp=Z,18nm,1.1s,mb5.0
IRM Iron Mountain 65.32 66 P P 15 33 49.9 -0.1
baz=65,SNR=9.1
BC3 Big Chuckw Mtn 65.47 66 P P 15 33 50.4 -0.5
baz=65,SNR=7.1
W13A Hualapai Mount 65.47 64 P P 15 33 51.0 +0.1
baz=65,SNR=5.4
OBN Obninsk 65.69 327⇑ eP P 15 33 52.5 +0.2
OBN e 15 34 04.3
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.1
X13A Yucca 65.84 65 P P 15 33 53.3 -0.1
baz=66,SNR=6.9
PDMCI Parker Dam,Lak 65.85 65 ⇓P P 15 33 52.6 -0.8
baz=66
W14A Seligman 65.89 64 P P 15 33 53.6 0.0
baz=66,SNR=11
Y12C Blythe 65.98 66 ⇓P P 15 33 53.9 -0.3
baz=66
GLA Glamis 66.26 67 P P 15 33 56.1 +0.1
baz=66,SNR=5.7
AGMN Agassiz Refuge 66.28 44 eP P 15 33 55.4 -0.8
comp=Z,24nm,1.3s,mb5.1
Y13A Salome 66.37 65 P P 15 33 56.5 -0.2
baz=66
VSU Vasula 66.38 333⇑ eP P 15 33 56.8 0.0
W15A Williams 66.41 63 ⇓P P 15 33 56.7 -0.2
baz=66
X14A Yava 66.50 64 ⇑P P 15 33 57.2 -0.4
baz=66
WUAZ Wupatki 66.72 62 ⇑P P 15 33 58.9 -0.1
baz=67
Y14A Wickenburg 66.79 65 P P 15 33 59.5 0.0
baz=67,SNR=5.5
X15A Humboldt 66.89 64 P P 15 34 00.8 +0.7
baz=67,SNR=6.2
ISCO Idaho Springs 67.17 56 eP P 15 34 02.1 +0.3
ISCO pmax pmax
comp=Z,20nm,1.4s,mb5.0
ISCO Idaho Springs 67.17 56 eP P 15 34 02.1 +0.3
comp=Z,20nm,1.4s,mb5.0
Z14A Wintersburg 67.22 65 ⇑P P 15 34 02.5 +0.4
baz=67
MVCO Mesa Verde 67.28 59 eP P 15 34 02.5 0.0
comp=Z,9.9nm,1.0s,mb4.8
MVCO Mesa Verde 67.28 59 ⇑P P 15 34 02.5 0.0
baz=67
ABKT Ailbek 67.69 302 P P 15 34 06.5 +1.4
comp=Z,140nm,0.6s,SNR=9.1
115A Sonoran Desert 68.11 65 ⇑P P 15 34 07.9 +0.1
baz=68
NB2 NORSAR Subarra 68.11 342 P P 15 34 07.2 -0.6
comp=Z,6.8nm,0.7s,mb4.8,baz=25,slow=6.5
NOA NORSAR Array B 68.11 342 P P 15 34 07.6 -0.2
comp=Z,9.0nm,0.7s,mb4.9,baz=26,slow=6.4,SNR=19
NOA LR LR 16 06 59.9
comp=Z,63nm,18.3s,MS3.9,baz=25,slow=39
HFS Hagfors 68.39 341 P P 15 34 09.4 -0.1
comp=Z,11nm,0.6s,mb5.1,baz=46,slow=4.3,SNR=41
116A Eloy 68.52 65 ⇓P P 15 34 10.3 0.0
baz=68
HYB Hyderabad 68.66 273 i P P 15 34 17.0 +5.8
HYB Hyderabad 68.66 273 eP P 15 34 17.0 +5.8
ECSD EROS,Sioux Fal 69.19 48 eP P 15 34 12.9 -1.6
comp=Z,33nm,1.5s,mb5.0
WRAB Tennant Creek 69.72 201⇑ eP P 15 34 16.8 -1.0
WB2 Warramunga Arr 69.73 201 eP P 15 34 15.8 -2.0
WRA Warramunga Arr 69.73 201 P P 15 34 16.4 -1.5
comp=Z,2.0nm,0.7s,mb4.1,baz=21,slow=6.6,SNR=9.3
ANMO Albuquerque 70.03 60 eP P 15 34 19.7 0.0

ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 70.03 60 *e*P **P** 15 34 19.7 0.0
comp=Z,4.9nm,0.9s,mb4.4
GOF Gofitskoye 70.53 316 *e*P **P** 15 34 21.4 -1.3
FITZ Fitzroy Crossi 70.56 210 *e*P **P** 15 34 23.7 +0.8
comp=Z,7.3nm,0.8s,mb4.7
FITZ Fitzroy Crossi 70.56 210 P **P** 15 34 23.3 +0.4
baz=329,slow=2.5
SUW Suwalki 71.19 333 *e*P **P** 15 34 25.8 -1.0
SUW Suwalki 71.19 333 *e*P **P** 15 34 26.0 -0.8
SUW pmax pmax
comp=Z,39nm,1.0s,mb5.3
KIV Kislovodsk 71.52 315 *ce*P **P** 15 34 28.8 +0.1
KIV pmax pmax
comp=Z,17nm,1.3s,mb4.8
KIV Kislovodsk 71.52 315 *e*P **P** 15 34 24.3 -4.4
comp=Z,13nm,0.8s,mb4.9
KAD Karad 71.70 276 *e*P **P** 15 34 30.2 +0.4
KAD *e*S PcP 15 34 45.6 -3.4
KAD AML AML 15 34 47.1
comp=N,3.3nm,0.3s
KAD AML AML 15 34 47.1
comp=E,3.6nm,0.4s
ZEI Tsey 71.82 314 *e*P **P** 15 34 30.8 +0.2
ZEI *e**PP pP 15 34 42.8 +11
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AKASG Malin Array Be 71.90 327 P **P** 15 34 29.6 -1.4
comp=Z,4.9nm,0.6s,mb4.6,baz=33,slow=6.2,SNR=19
KIEV Kiev 71.91 327 P **P** 15 34 29.8 -1.3
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 71.91 327 *e*P **P** 15 34 29.5 -1.6
comp=Z,7.9nm,0.8s,mb4.7
SCHQ Schefferville 72.01 24 P **P** 15 34 31.8 +0.1
comp=Z,11nm,0.7s,mb4.9,baz=353,slow=7.1,SNR=12
SCHQ Schefferville 72.01 24 P **P** 15 34 31.8 +0.1
MNTX Cornudas Mount 72.96 62 *e*P **P** 15 34 36.8 -0.6
comp=Z,8.1nm,1.3s,mb4.5
GNI Garni 73.36 312 P **P** 15 34 42.0 +2.2
comp=Z,13nm,0.8s,mb4.9,baz=167,slow=18,SNR=2.4
GNI Garni 73.36 312 ⇓*e*P **P** 15 34 41.2 +1.5
GNI pmax pmax
comp=Z,31nm,1.3s
AS31 Alice Springs 73.41 201 *e*P **P** 15 34 39.7 -0.4
ASAR Alice Springs 73.42 201 P **P** 15 34 39.6 -0.5
comp=Z,3.2nm,0.9s,mb4.2,baz=18,slow=5.4,SNR=16
WMOK Wichita Mounta 74.59 55 P **P** 15 34 46.2 -0.7
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WMOK Wichita Mounta 74.59 55 *e*P **P** 15 34 46.0 -0.9
comp=Z,10nm,1.0s,mb4.7
KWP Kalwaria 75.08 330 *e*P **P** 15 34 49.8 0.0
KWP Kalwaria 75.08 330 *e*P **P** 15 34 49.2 -0.6
KWP pmax pmax
comp=Z,19nm,0.9s,mb5.0
MBWA Marble Bar 75.51 214 P **P** 15 34 50.7 -1.5
LTX Lajitas 75.68 62 P **P** 15 34 53.2 0.0
LTX pmax pmax
comp=Z,32nm,1.2s,mb5.1
LTX Lajitas 75.68 62 *e*P **P** 15 34 53.0 -0.3
comp=Z,32nm,1.2s,mb5.1
TXAR Lajitas Array 75.69 62 P **P** 15 34 53.1 -0.1
comp=Z,18nm,0.7s,mb5.1,baz=302,slow=4.3,SNR=123
STHS Stebnicka Huta 75.75 331 *e*P **P** 15 34 54.4 +0.8
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
STHS Stebnicka Huta 75.75 331 *e*P **P** 15 34 54.4 +0.8
comp=Z,6.3nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.83 330 *e*P **P** 15 34 54.3 +0.2
BURAR Bucovina Array 75.93 328 ⇑*i*P **P** 15 34 54.7 0.0
KSP Ksiaz 76.03 335 *e*P **P** 15 34 56.0 +0.8
EKA Eskdalemuir Ar 76.06 348 P **P** 15 34 55.1 -0.2
comp=Z,8.4nm,0.7s,mb4.8,baz=16,slow=4.7,SNR=18
CCM Cathedral Cave 76.13 48 P **P** 15 34 49.6 -6.2
CCM pmax pmax
comp=Z,26nm,1.4s,mb5.0
CCM Cathedral Cave 76.13 48 *e*P **P** 15 34 49.2 -6.5
comp=Z,26nm,1.4s,mb5.0
UPC Upice 76.41 335 *e*P **P** 15 34 57.6 +0.2
UPC *e*PCP PcP 15 35 08.9 -0.2
DPC Dobruska-Polom 76.46 335 *e*P **P** 15 34 58.1 +0.4
DPC *e*PCP PcP 15 35 08.0 -1.4
CLL Collm 76.52 337 *i* P **P** 15 34 57.7 -0.3
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.9
CLL Collm 76.52 337 *i* P **P** 15 34 57.7 -0.3
comp=Z,18nm,1.1s,mb4.9
CLL *e*pP pP 15 35 01.0 +1.5
CLL *es*PcP 15 35 12.0
MORC Moravsky Berou 76.60 334 *e*P **P** 15 34 58.5 0.0
MORC pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MORC Moravsky Berou 76.60 334 *e*P **P** 15 34 58.5 0.0
comp=Z,4.4nm,0.7s,mb4.5
BRG Berggiesshubel 76.66 336 *e*P **P** 15 34 58.6 -0.2
BRG pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BRG Berggiesshubel 76.66 336 *e*P **P** 15 34 58.6 -0.2
comp=Z,1.1nm,0.3s,mb4.3
PVCC Panska Ves 76.80 336 *e*P **P** 15 34 59.7 +0.1
comp=Z,91nm,0.3s
KECS Kecovo 76.81 331 *e*P **P** 15 34 59.7 0.0
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.81 331 *e*P **P** 15 34 59.7 0.0
comp=Z,2.9nm,0.9s,mb4.2
JCT Junction City 77.14 59 *e*P **P** 15 35 00.2 -1.3
JCT pmax pmax
comp=Z,24nm,1.1s,mb5.0
JCT Junction City 77.14 59 *e*P **P** 15 35 00.2 -1.3
comp=Z,24nm,1.1s,mb5.0
PRU Pruhonice 77.29 335 *e*P **P** 15 35 02.7 +0.3
PRU *e*pP pP 15 35 08.7 +4.9
VRAC Vranov 77.31 334 P **P** 15 35 01.8 -0.7
comp=Z,5.7nm,0.6s,mb4.7,baz=28,slow=6.7,SNR=4.2
VYHS Vyhne 77.34 332 *e*P **P** 15 35 02.9 +0.3
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 77.34 332 *e*P **P** 15 35 02.9 +0.3
comp=Z,4.2nm,1.1s,mb4.3
TIRR Tirgusor 77.37 324 *e*P **P** 15 35 02.1 -0.7
TIRR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TIRR Tirgusor 77.37 324 *e*P **P** 15 35 02.1 -0.7
comp=Z,5.2nm,0.8s,mb4.5
MLR Muntele Rosu 77.46 326 P **P** 15 35 04.2 +0.9
comp=Z,9.4nm,0.7s,mb4.8,baz=208,slow=8.3,SNR=14
MLR Muntele Rosu 77.46 326 ⇓*i*P **P** 15 35 04.1 +0.8
PSZ Piszkesteto 77.50 331 P **P** 15 34 58.6 -4.9
PSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
PSZ Piszkesteto 77.50 331 P **P** 15 34 58.6 -5.0
comp=Z,13nm,1.1s,mb4.8
NKC Novy Kostel 77.65 337 *e*P **P** 15 35 04.7 +0.4
VOIR 77.84 327 ⇑*i*P **P** 15 35 06.1 +0.7
MALT Malatya 77.91 314 ⇓*i*P **P** 15 35 07.7 +1.9
MALT Malatya 77.91 314 *e*P **P** 15 35 06.7 +0.9
MALT pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MALT Malatya 77.91 314 *e*P **P** 15 35 06.7 +0.9
comp=Z,8.2nm,0.8s,mb4.7
KHC Kasperske Hory 78.34 336 *e*P **P** 15 35 08.6 +0.4
KHC *e*PCP PcP 15 35 16.0 -1.5
WCI Wyandotte Cave 78.44 45 *e*P **P** 15 35 08.3 -0.5
WCI pmax pmax
comp=Z,18nm,0.8s,mb5.0
WCI Wyandotte Cave 78.44 45 *e*P **P** 15 35 08.3 -0.5
comp=Z,18nm,0.8s,mb5.0
GRA1 Grafenberg Arr 78.47 337 *e*P **P** 15 35 09.6 +0.7
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.47 337 *e*P **P** 15 35 09.6 +0.7
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.47 337 *e*P **P** 15 35 09.6 +0.7
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.47 337 *e*P **P** 15 35 09.6 +0.7
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GERES GERESS Array B 78.56 335 P **P** 15 35 09.8 +0.3
comp=Z,2.4nm,0.4s,mb4.5,baz=32,slow=5.3,SNR=22
BZS Buzias 78.92 329 ⇑*i*P **P** 15 35 10.9 -0.5
MIB Mutribah 79.73 303 *e*P **P** 15 35 16.1 +0.3
MIB AMb AMB 15 35 17.5
comp=Z,49nm,0.7s,mb5.5

NAY Al-Naaiem 80.20 303 *e*P **P** 15 35 18.4 0.0
NAY AMb AMB 15 35 20.1
comp=Z,29nm,1.0s,mb5.2
RDF Al-Radifah 80.27 302 *e*P **P** 15 35 19.2 +0.4
CDF Champ du Feu 80.64 339 *e*P **P** 15 35 20.3 -0.4
comp=Z,41nm,1.3s,mb4.9
CDF Champ du Feu 80.64 339 *e*P **P** 15 35 20.3 -0.4
CDF pmax pmax
comp=Z,21nm,1.3s,mb4.9
CDF Champ du Feu 80.64 339 *e*P **P** 15 35 20.3 -0.4
comp=Z,20nm,1.3s,mb4.9
VTS Vitosha 80.96 326 ⇓*i*P **P** 15 35 22.6 +0.2
DAVOX Davos 81.50 337 P **P** 15 35 26.3 +1.0
comp=Z,5.9nm,0.6s,mb4.7,baz=1.8,slow=1.2,SNR=8.0
ELN Prospectdale 81.84 42 *e*P **P** 15 35 25.9 -1.3
GRR Gorron 82.39 344 *e*P **P** 15 35 30.5 +0.5
comp=Z,78nm,1.2s,mb5.2
GRR Gorron 82.39 344 *e*P **P** 15 35 30.5 +0.5
GRR pmax pmax
comp=Z,39nm,1.2s,mb5.2
GRR Gorron 82.39 344 *e*P **P** 15 35 30.5 +0.5
comp=Z,39nm,1.2s,mb5.2
SMF Signal de Mont 83.10 341 *e*P **P** 15 35 34.3 +0.6
comp=Z,77nm,1.1s,mb5.4
SMF Signal de Mont 83.10 341 *e*P **P** 15 35 34.3 +0.6
SMF pmax pmax
comp=Z,39nm,1.1s,mb5.3
SMF Signal de Mont 83.10 341 *e*P **P** 15 35 34.3 +0.6
comp=Z,38nm,1.1s,mb5.3
LPG La Plagne 83.50 339 *e*P **P** 15 35 36.3 +0.6
comp=Z,36nm,0.9s,mb5.1
LPG La Plagne 83.50 339 *e*P **P** 15 35 36.3 +0.6
LPG pmax pmax
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 83.50 339 *e*P **P** 15 35 36.3 +0.6
comp=Z,18nm,0.9s,mb5.1
ASF Jabal al Asfar 83.53 312 P **P** 15 35 36.4 +0.5
comp=Z,5.1nm,0.7s,mb4.8,baz=87,slow=19,SNR=7.6
MMAI Mount Meron Ar 83.61 313 P **P** 15 35 37.1 +0.8
comp=Z,10nm,0.6s,mb5.1,baz=40,slow=6.6,SNR=18
LFF La Frestale 85.39 342 *e*P **P** 15 35 45.2 -0.1
TIP Timpagrande 86.29 329 *e*P **P** 15 35 49.0 -0.8
IDI Anoyia 86.56 322 P **P** 15 35 52.4 +1.3
comp=Z,7.2nm,0.6s,mb5.1,baz=27,slow=9.6,SNR=17
NWAO Narrogin (SRO) 87.10 212 *e*P **P** 15 35 50.3 -3.4
TAU Tasmania Unive 90.25 186 P **P** 15 36 05.4 -3.3
comp=Z,13nm,1.0s,mb5.2
ESDC Sonseca Array 91.38 344 P **P** 15 36 12.4 -1.5
comp=Z,2.8nm,0.7s,mb4.7,baz=6.3,slow=4.6,SNR=9.6
KEST Kesra 91.86 333 P **P** 15 36 14.6 -1.5
comp=Z,2.8nm,0.7s,mb4.7,baz=259,slow=0.5,SNR=6.7
TORD Torodi Ar. Bea 115.34 332 PP PP 15 42 47.4 -2.9
comp=Z,0.8nm,0.7s,baz=12,slow=7.8,SNR=4.9
SNAA Sanae 153.67 195 PKPbc PKPbc 15 43 03.0 -3.8
comp=Z,0.6nm,0.8s,baz=146,slow=4.2,SNR=4.1
SNAA PKPab PKPab 15 43 17.3 -2.2
comp=Z,1.8nm,1.0s,baz=96,slow=5.7,SNR=6.8
SNAA Sanae 153.67 195 *e*PKPdf PKPbc 15 43 02.3 -4.5
SNAA *e* 15 43 16.7
SNAA Sanae 153.67 195 *e*PKIKP PKPdf 15 42 54.8 -4.3
SNAA 15 43 03.0
SNAA *e* 15 43 03.5
SNAA *e* 15 43 15.9
SNAA Sanae 153.67 195 *e*PKPdf PKPdf 15 42 54.8 -4.2
SNAA PKPbc PKPbc 15 43 03.0 -3.8
SNAA *e*PKPbc PKPbc 15 43 03.5 -3.3
SNAA *e*PKPab PKPab 15 43 15.9 -3.6
SNAA PKPab PKPab 15 43 17.3 -2.2
VNA2 Neumayer--Watz 155.07 193 *e*PKPdf PKPdf 15 43 06.8 +5.8
VNA2 *e* 15 43 22.6
VNA3 Neumayer Olymp 155.11 191 *e*PKPdf PKPdf 15 43 06.3 +5.2
VNA3 *e* 15 43 22.0

NEIC ***16*** *15:34:32.7±0.8, 655S×151.30E, h10km, mb4.3/6, Error ellipse: s-maj=18.8km s-min=15.4km az=133.0*
ISCJB ***16*** *15:34:35.9±3.5, 66S±0.1×151.2E±0.1, h41km±29km, mb4.0/9, MS3.1/2, Error ellipse: s-maj=23.5km s-min=20.4km az=19.8*
IDC ***16*** *15:34:37.7±6.4, 661S×151.17E, h40km±51km, mb3.9/7, mb1 4.1/8, mb1mx3.9/15, mbtmp3.9/8, ML2.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/33, Error ellipse: s-maj=39.2km s-min=27.9km az=32.0*
ISC 16 15:34:38.2±3.1, 66S±0.1×151.2E±0.1, h45km±26km, n20, σ0.6 s56/17, mb4.0/9, MS3.1/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**235**	Pn	**Pn**	**15 35 49.1**	**+0.7**
	0.6nm,0.3s,baz=62,slow=12,SNR=6.8						
PMG				Sn	**Sn**	**15 36 42.8**	**-0.3**
	2.0nm,0.3s,baz=26,slow=21,SNR=8.9						
PMG	**Port Moresby**	**4.83**	**235**	*e*Pn	**Pn**	**15 35 48.4**	**-0.1**
HNR	**Honiara**	**9.12**	**108**	LR	LR	15 39 17.7	
	comp=Z,103nm,19.3s,baz=359,slow=31						
CTA	**Charters Tower**	**14.20**	**199**	LR	LR	15 43 00.7	
	comp=Z,73nm,19.0s,baz=229,slow=35						
KAKA	**Kakadu**	**19.42**	**250**	*e*P	**Pn**	**15 39 01.9**	**-0.2**
	12nm,0.8s						
WB2	**Warramunga Arr**	**21.02**	**229**	*e*P	**P**	**15 39 18.0**	**0.0**
WRA	**Warramunga Arr**	**21.03**	**229**	P	**P**	**15 39 17.7**	**-0.4**
	5.6nm,0.8s,mb4.0,baz=52,slow=10,SNR=28						
GUMO	**Guam**	**21.04**	**343**	LR	LR	15 45 59.4	
	comp=Z,48nm,18.8s,MS2.9,baz=73,slow=32						
DZM	**Mont Dzumac**	**21.28**	**138**	P	**P**	**15 39 20.6**	**-0.2**
	5.3nm,1.1s,mb3.8,baz=306,slow=19,SNR=3.2						
DZM				LR	LR	15 46 22.5	
	comp=Z,130nm,18.7s,MS3.4,baz=279,slow=33						
AS31	**Alice Springs**	**23.71**	**223**	*e*P	**P**	**15 39 45.8**	**-0.2**
AS31				*e*		15 39 55.1	
ASAR	**Alice Springs**	**23.71**	**223**	P	**P**	**15 39 46.0**	**0.0**
	3.7nm,0.7s,mb3.9,baz=53,slow=8.2,SNR=57						
STKA	**Stephens Creek**	**26.66**	**198**	*e*P	**P**	**15 40 14.2**	**+1.4**
	4.8nm,0.8s,mb4.1						
STKA				*e*	pP	15 40 23.4	-1.2
STKA	**Stephens Creek**	**26.66**	**198**	P	**P**	**15 40 14.1**	**+1.3**
	7.8nm,0.8s,mb4.3,baz=16,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**27.38**	**243**	P	**P**	**15 40 19.5**	**+0.3**
	3.4nm,0.6s,mb4.1,baz=77,slow=6.5,SNR=21						
MAJO	**Matsushiro**	**44.64**	**345**	*e*P	**P**	**15 42 50.8**	**+4.6**
	9.3nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**66.71**	**329**	*e*P	**P**	**15 45 24.2**	**-0.3**
	1.8nm,1.0s,mb4.1						
VNDA	**Vanda**	**71.07**	**178**	P	**P**	**15 45 51.5**	**-0.2**
	1.8nm,1.1s,mb3.9,baz=350,slow=5.2,SNR=5.0						
VNDA	**Vanda**	**71.07**	**178**	*e*P	**P**	**15 45 50.2**	**-1.5**
	1.9nm,1.4s,mb3.8						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**15 46 46.6**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=95,slow=6.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	PKPbc	15 54 22.6	+0.7
	0.9nm,0.8s,baz=74,slow=3.2,SNR=4.8						

IDC 16 15:36:43.2±5.1, 5900S×14872E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.7/11, mbtmp3.5/3, ML2.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/23, Error ellipse: s-maj=611.8km s-min=31.2km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.13**	**171**	P	Pn	15 41 07.4	-1.2
	0.0nm,0.3s,baz=340,slow=11,SNR=3.4						
VNDA				LR	LR	15 47 50.1	
	comp=Z,171nm,19.1s,baz=322,slow=35						
MAW	**Mawson**	**36.42**	**220**	LR	LR	15 58 03.8	
	comp=Z,56nm,18.5s,baz=50,slow=35						
ASAR	**Alice Springs**	**36.84**	**337**	P	P	15 43 53.2	+0.3
	0.6nm,0.7s,baz=164,slow=9.4,SNR=8.1						
WRA	**Warramunga Arr**	**40.38**	**339**	P	P	15 44 22.0	-0.7
	0.8nm,1.0s,baz=166,slow=8.3,SNR=5.2						

ISCJB ***16*** *15:38:55.9±1.0, 461N±02×1543E±02, h10km, mb3.8/9, Error ellipse: s-maj=24.5km s-min=15.8km az=150.5*
IDC ***16*** *15:38:55.8±1.2, 4610N×1545.3E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=32.9km s-min=24.9km az=169.0*
MOS ***16*** *15:39:00.0±2.0, 4629N×1524.2E, h33km, mb4.2/6, Error ellipse: s-maj=23.8km s-min=19.5km az=9.2*
ISC 16 15:38:57.5±1.0, 461N±02×1544E±02, h10km, n19, σ0.8 s81/19, mb3.8/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.08**	**280**	*e*PN	**Pn**	**15 40 53.7**	**-1.1**
ASAJ	**Asahikawa**	**8.59**	**261**	Pn	**Pn**	**15 41 01.2**	**-0.6**
	0.7nm,0.3s,baz=84,slow=14,SNR=5.2						
ASAJ	**Asahikawa**	**8.59**	**261**	PN	**Pn**	**15 41 01.3**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.46**	**237**	Pn	**Pn**	**15 42 40.7**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=8.2,SNR=3.5						
KSRS	**Korea Array**	**21.49**	**256**	P	**P**	**15 43 47.5**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.1,baz=63,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**32.39**	**291**	P	**P**	**15 45 28.6**	**+1.3**
	comp=Z,1.0nm,0.8s,mb3.7,baz=76,slow=6.5,SNR=8.2						
SONM	**Songino Array**	**32.39**	**291**	P	**P**	**15 45 28.6**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**43.72**	**307**	P	**P**	**15 47 03.2**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.0,baz=20,slow=12,SNR=4.8						
ZAL	**Zalesovo**	**43.72**	**307**	P	**P**	**15 47 03.2**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**15 47 37.0**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=79,slow=7.5,SNR=3.6						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**15 48 06.9**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=64,slow=6.5,SNR=4.9						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**15 48 06.9**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.98**	**335**	P	**P**	**15 49 36.2**	**-1.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=46,slow=11,SNR=9.0						
FINES	**FINESS Array B**	**64.98**	**335**	P	**P**	**15 49 36.3**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**71.92**	**200**	P	**P**	**15 50 20.3**	**-0.6**
	comp=Z,0.2nm,0.8s,mb3.1,baz=40,slow=8.9,SNR=2.9						
TXAR	**Lajitas Array**	**77.01**	**61**	P	**P**	**15 50 50.8**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=305,slow=4.2,SNR=6.4						
TXAR	**Lajitas Array**	**77.01**	**61**	P	**P**	**15 50 50.8**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**77.15**	**347**	P	**P**	**15 50 51.0**	**-0.3**
	comp=Z,4.1nm,1.2s,mb4.2,baz=0.0,slow=4.5,SNR=3.8						
EKA	**Eskdalemuir Ar**	**77.15**	**347**	P	**P**	**15 50 51.1**	**-0.2**
EKA				pmax	pmax		
	comp=Z,4.0nm,1.2s						

IDC ***16*** *15:39:42.4±0.6, 4612N×1545.9E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/28, mbtmp4.2/22, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/37, Error ellipse: s-maj=17.3km s-min=13.7km az=137.0*
NEIC ***16*** *15:39:44.0±0.5, 4620N×1546.6E, h10km, mb4.5/14, Error ellipse: s-maj=11.6km s-min=8.2km az=145.0*
BJI ***16*** *15:39:43.9, 4670N×1543.8E, h6km, mB4.7, mb4.5, Ms4.1, Msz3.8*
ISCJB ***16*** *15:39:44.3±3.2, 4619N±008×1546.2E±009, h22km±22km, mb4.4/46, MS3.5/2, Error ellipse: s-maj=14.4km s-min=8.4km az=114.3*
MOS ***16*** *15:39:45.6±1.2, 4613N×1544.7E, h33km, mb4.7/16, Error ellipse: s-maj=11.1km s-min=8.9km az=111.0*
ISC 16 15:39:48.8±1.4, 4625N±008×15462E±009, h41km±11km, h10km±9.3km; pP-P, n83, σ1.9 s15/83, mb4.4/46, MS3.5/2, 3C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.54**	**12**	*e*PN	**Pn**	**15 40 57.0**	**+2.0**
KUR	**Kuril'sk**	**4.84**	**260**	⇑*i*PN	**Pn**	**15 40 53.8**	**-5.2**
KUR				pmax	pmax		
	comp=Z,210nm,0.6s						
PET	**Petropavlovsk**	**7.26**	**20**	*e*PN	**Pn**	**15 41 28.3**	**-4.0**
YSS	**Yuzh-Sakhalins**	**8.20**	**279**	*e*PN	**Pn**	**15 41 46.0**	**+0.8**
ASAJ	**Asahikawa**	**8.76**	**260**	Pn	**Pn**	**15 41 51.6**	**-1.2**
	comp=Z,3.0nm,0.3s,baz=77,slow=9.1,SNR=8.8						
ASAJ				LR	LR	15 44 39.7	
	comp=Z,218nm,19.0s,baz=284,slow=34						
ASAJ	**Asahikawa**	**8.76**	**260**	PN	**Pn**	**15 41 51.7**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,218nm,19.0s						
MJAR	**Matsushiro Arr**	**15.65**	**238**	Pn	**Pn**	**15 43 21.7**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=4.0						
KLR	**Kul'dur**	**15.66**	**289**	*e*P	**Pn**	**15 43 26.7**	**+0.3**
CN2	**Changchun**	**20.71**	**274**	*e*P	**P**	**15 44 22.6**	**-2.9**
YAK	**Yakutsk**	**21.30**	**327**	*e*P	**P**	**15 44 29.1**	**-2.8**
KSRS	**Korea Array**	**21.66**	**256**	P	**P**	**15 44 34.9**	**-0.8**
	comp=Z,2.2nm,0.6s,mb3.7,baz=61,slow=9.9,SNR=9.2						
KSRS				LR	LR	15 51 41.5	
	comp=Z,95nm,21.4s,MS3.2,baz=60,slow=33						
BILL	**Bilibino**	**22.66**	**11**	*e*P	**P**	**15 44 47.3**	**+1.0**
BILL				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
BILL	**Bilibino**	**22.66**	**11**	*e*P	**P**	**15 44 45.2**	**-1.1**
	comp=Z,14nm,0.8s,mb4.4						
SNY	**Shenyang**	**22.67**	**270**	⇓P	**P**	**15 44 45.8**	**-0.6**
SNY				AP		15 44 49.4	
SNY				XP	sP	15 44 52.4	-9.5
SNY				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.5						
HIA	**Hailar**	**23.51**	**290**	P	**P**	**15 44 51.3**	**-3.8**
BOD	**Bodaibo**	**27.11**	**310**	*e*P	**P**	**15 45 24.6**	**-3.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
HHC	**Hu-ho-hao-te**	**31.37**	**276**	*e*P	**P**	**15 46 06.0**	**+0.4**
HHC				XP	sP	15 46 13.1	-8.6
HHC				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,108nm,6.5s						
ULN	**Ulaanbaatar**	**32.05**	**291**	P	**P**	**15 46 11.1**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
ULN	**Ulaanbaatar**	**32.05**	**291**	P	**P**	**15 46 11.1**	**-0.3**
	comp=Z,3.8nm,1.2s,mb4.1						
SONM	**Songino Array**	**32.48**	**291**	P	**P**	**15 46 14.4**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.3,baz=80,slow=8.3,SNR=2.2						
KDAK	**Kodiak Island**	**33.61**	**50**	P	**P**	**15 46 24.0**	**-1.1**
	comp=Z,15nm,1.1s,mb4.8,baz=270,slow=9.1,SNR=4.1						
KDAK	**Kodiak Island**	**33.61**	**50**	P	**P**	**15 46 24.0**	**-1.1**
MCK	**McKinley**	**35.36**	**40**	*e*P	**P**	**15 46 40.4**	**+0.1**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MCK	**McKinley**	**35.36**	**40**	*e*P	**P**	**15 46 40.4**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.1						
COLA	**College**	**35.88**	**38**	*e*P	**P**	**15 46 45.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
COLA	**College**	**35.88**	**38**	*e*P	**P**	**15 46 45.0**	**+0.2**
	comp=Z,16nm,0.9s,mb5.0						
LZH	**Lanzhou**	**38.95**	**273**	*e*P	**P**	**15 47 12.9**	**+2.2**
LZH				AP	pP	15 47 16.1	-6.0
LZH				XP	sP	15 47 18.6	-8.4
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
LZH	**Lanzhou**	**38.95**	**273**	*e*P	**P**	**15 47 12.9**	**+2.2**
	comp=Z,16nm,1.0s,mb4.7						
LZH				pP	pP	15 47 16.1	-6.0
LZH				sP	sP	15 47 18.6	-8.4
GTA	**Gaotai**	**40.08**	**280**	*e*P	**P**	**15 47 21.4**	**+1.3**
GTA				AP	pP	15 47 25.5	-6.1
GTA				XP	sP	15 47 28.5	-7.9
GTA				PCP	PcP	15 49 25.0	+0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
INK	**Inuvik**	**41.52**	**32**	P	**P**	**15 47 33.0**	**+1.0**
	comp=

WMQ				LR	LR		
	comp=N,90nm,21.8s						
WMQ				LR	LR		
	comp=E,102nm,16.2s						
WMQ				LR	LR		
	comp=Z,91nm,17.5s,MS3.8						
KMI	**Kunming**	**46.19**	**261**	P	**P**	**15 48 10.8**	**+1.4**
KMI				AP	pP	15 48 17.8	-3.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.3						
KMI	**Kunming**	**46.19**	**261**	P	**P**	**15 48 10.7**	**+1.2**
KMI				*PP	pP	15 48 17.7	-3.4
KMI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
KMI	**Kunming**	**46.19**	**261**	P	**P**	**15 48 10.7**	**+1.2**
	comp=Z,6.0nm,1.4s,mb4.3						
KMI				pP	pP	15 48 17.7	-3.4
MK31	**Makanchi Array**	**48.09**	**298**	*eP*	**P**	**15 48 24.0**	**-0.3**
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**15 48 23.9**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.5,baz=70,slow=7.5,SNR=14						
YKA	**Yellowknife Ar**	**50.70**	**37**	P	**P**	**15 48 44.6**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=295,slow=7.1,SNR=7.0						
LSA	**Lhasa**	**51.35**	**275**	*eP*	**P**	**15 48 51.2**	**+2.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.35**	**275**	*eP*	**P**	**15 48 51.2**	**+2.1**
	comp=Z,4.8nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.55**	**311**	*eP*	**P**	**15 48 49.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**51.55**	**311**	*eP*	**P**	**15 48 49.7**	**-0.8**
	comp=Z,5.9nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**15 48 53.7**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.2,baz=46,slow=6.4,SNR=6.0						
BRVK	**Borovoye**	**52.02**	**310**	*eP*	**P**	**15 48 53.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.02**	**310**	*eP*	**P**	**15 48 53.7**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.74**	**311**	*eP*	**P**	**15 48 58.4**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.74**	**311**	*eP*	**P**	**15 48 58.4**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**54.99**	**297**	*eP*	**P**	**15 49 14.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.99**	**297**	*eP*	**P**	**15 49 14.9**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.4						
JIRN	**Jiri**	**56.03**	**276**	*eP*	**P**	**15 49 24.8**	**+1.5**
	comp=Z,21nm,0.8s,mb5.2						
ARU	**Arti**	**56.08**	**318**	⇓*iP*	**P**	**15 49 23.1**	**-0.6**
ARU				*eS*	**S**	**15 57 04.8**	**-4.7**
ARU				*eSS*	SS	16 00 49.2	-6.9
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ARU	**Arti**	**56.08**	**318**	*eP*	**P**	**15 49 23.4**	**-0.3**
	comp=Z,10nm,0.6s,mb5.0						
GUN	**Gumba**	**56.09**	**276**	*eP*	**P**	**15 49 25.0**	**+1.3**
KKN	**Kakani**	**56.58**	**277**	*eP*	**P**	**15 49 28.4**	**+1.2**
	comp=Z,17nm,0.6s,mb5.3						
PKI	**Pulchoki**	**56.62**	**276**	*eP*	**P**	**15 49 28.8**	**+1.2**
DMN	**Daman**	**56.81**	**277**	*eP*	**P**	**15 49 30.5**	**+1.6**
	comp=Z,15nm,0.7s,mb5.2						
GKN	**Gorkha**	**56.88**	**277**	*eP*	**P**	**15 49 30.7**	**+1.3**
	comp=Z,32nm,0.9s,mb5.4						
KOLN	**Koldanda**	**57.74**	**278**	*eP*	**P**	**15 49 36.6**	**+1.1**
	comp=Z,19nm,0.8s,mb5.2						
ARCES	**ARCESS Array B**	**58.66**	**341**	P	**P**	**15 49 41.6**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.5,baz=23,slow=7.6,SNR=8.0						
ARE0	**ARCESS Array S**	**58.66**	**341**	P	**P**	**15 49 40.4**	**-1.5**
KSM	**Kuching**	**59.02**	**235**	*eP*	**P**	**15 49 48.1**	**+3.7**
AKTK	**Aktyubinsk**	**59.83**	**313**	P	**P**	**15 49 50.4**	**+0.4**
AKTO	**Aktyubinsk**	**59.83**	**313**	P	**P**	**15 49 50.4**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=73,slow=4.8,SNR=7.5						
AKTO	**Aktyubinsk**	**59.83**	**313**	P	**P**	**15 49 50.4**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**64.19**	**54**	P	**P**	**15 50 19.9**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=113,slow=3.4,SNR=4.2						
FINES	**FINESS Array B**	**64.93**	**335**	P	**P**	**15 50 23.8**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=40,slow=7.4,SNR=8.5						
ULM	**Lac du Bonnet**	**66.21**	**41**	P	**P**	**15 50 31.9**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=323,slow=8.4,SNR=3.2						
CTAO	**Charters Tower**	**66.46**	**189**	P	**P**	**15 50 32.2**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**66.46**	**189**	P	**P**	**15 50 32.1**	**-1.8**
	comp=Z,7.1nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**68.40**	**201**	P	**P**	**15 50 44.6**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=19,slow=6.9,SNR=9.7						
NB2	**NORSAR Subarray**	**59.03**	**342**	P	**P**	**15 50 49.3**	**-0.8**
	comp=Z,5.0nm,1.0s,mb4.4,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.03**	**342**	P	**P**	**15 50 49.7**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=27,slow=6.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**69.21**	**210**	P	**P**	**15 50 49.9**	**-1.3**
	comp=Z,1.3nm,0.7s,mb3.9,baz=67,slow=7.7,SNR=4.6						
ASAR	**Alice Springs**	**72.08**	**200**	P	**P**	**15 51 08.8**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=17,slow=6.2,SNR=12						
AKASG	**Malin Array Be**	**72.53**	**327**	P	**P**	**15 51 10.9**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=29,slow=5.7,SNR=8.2						
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**	**15 51 36.7**	**+0.5**
	comp=Z,2.8nm,0.6s,mb4.4,baz=303,slow=4.0,SNR=18						
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**	**15 51 36.7**	**+0.5**
MALT	**Malatya**	**78.25**	**314**	P	**P**	**15 51 44.6**	**+0.4**
	comp=Z,6.7nm,1.2s,mb4.5						
MMAI	**Mount Meron Ar**	**83.92**	**312**	P	**P**	**15 52 15.7**	**+1.4**
	comp=Z,4.4nm,0.7s,mb4.7,baz=35,slow=7.7,SNR=7.6						
SNAA	**Sanae**	**152.36**	**195**	PKPbc	PKPbc	15 59 38.0	-2.2
SNAA				PKPab	PKPab	15 59 47.0	-3.3

IDC ***16*** *15:40:42.7±0.8, 46.17N×154.64E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.1/26, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=21.6km s-min=17.7km az=135.0*

ISCJB ***16*** *15:40:44.5±0.8, 4.66N±0.1×154.5E±0.1, h10km, mb4.3/32, MS3.7/3, Error ellipse: s-maj=17.9km s-min=6.7km az=112.0*

MOS ***16*** *15:40:44.1±1.1, 46.19N×154.56E, h22km, mb4.6/8, Error ellipse: s-maj=14.7km s-min=11.5km az=120.2*

NEIC ***16*** *15:40:44.3±0.6, 46.31N×154.64E, h10km, mb4.5/11, Error ellipse: s-maj=14.8km s-min=9.6km az=143.0*

BJI ***16*** *15:40:47.1, 47.25N×154.16E, h10km, mB4.9, mb4.4, Ms4.4, Msz4.0*

ISC 16 15:40:44.4±0.6, 46.38N±0.08×154.71E±0.10, h10km, n57, σ1$21/60, mb4.3/32, MS3.7/3, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.40**	**12**	*e*Pn	**Pn**	**15 41 42.5**	**-8.8**
PET	**Petropavlovsk**	**7.12**	**20**	Pn	**Pn**	**15 42 28.8**	**+0.1**
PET				*e*Sn	**Sn**	**15 43 47.6**	**-2.0**
YSS	**Yuzh-Sakhalins**	**8.24**	**278**	PN	**Pn**	**15 42 46.0**	**+2.0**
YSS	**Yuzh-Sakhalins**	**8.24**	**278**	*e*Pn	**Pn**	**15 42 45.2**	**+1.2**
ASAJ	**Asahikawa**	**8.84**	**259**	Pn	**Pn**	**15 42 51.1**	**-1.1**
	1.6nm,0.3s,baz=76,slow=8.3,SNR=3.3						
ASAJ	**Asahikawa**	**8.84**	**259**	PN	**Pn**	**15 42 51.2**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CN2	**Changchun**	**20.77**	**273**	*e*P	**P**	**15 45 27.0**	**+1.6**
YAK	**Yakutsk**	**21.23**	**327**	*e*P	**P**	**15 45 24.5**	**-5.9**
KSRS	**Korea Array**	**21.75**	**255**	P	**P**	**15 45 36.4**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.5,baz=60,slow=9.5,SNR=4.1						
BILL	**Bilibino**	**22.52**	**11**	*e*P	**P**	**15 45 47.6**	**+3.4**
BILL				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.4						
BILL	**Bilibino**	**22.52**	**11**	*e*P	**P**	**15 45 42.3**	**-1.9**
	comp=Z,25nm,1.0s,mb4.6						
SNY	**Shenyang**	**22.73**	**270**	⇓P	**P**	**15 45 45.3**	**-1.1**
SNY				AP		15 45 49.6	
SNY				XP	sP	15 45 52.0	+1.4
SNY				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.6						
UNV	**Unalaska Valle**	**25.71**	**59**	P	**P**	**15 46 20.8**	**+6.1**
	comp=Z,243nm,1.3s,mb5.6						
HHC	**Hu-ho-hao-te**	**31.42**	**276**	*e*P	**P**	**15 47 07.3**	**+1.6**
HHC				AP	pP	15 47 11.6	+2.8
HHC				XP	sP	15 47 14.4	+4.4
HHC				PP	PP	15 48 09.0	-7.6
HHC				PCP	PcP	15 50 04.9	+5.9
HHC				S	**S**	**15 52 09.4**	**-3.9**
HHC				XS	sS	15 52 17.4	-0.9
HHC				SCP	ScP	15 53 45.8	+3.6
HHC				SS	SS	15 53 51.8	-36
HHC				SCS	ScS	15 57 40.6	+0.8
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,114nm,10.7s						
HHC				LR	LR		
	comp=N,164nm,13.8s,MS4.0						
HHC				LR	LR		
	comp=E,159nm,14.0s,MS4.0						
HHC				LR	LR		
	comp=Z,192nm,15.1s,MS3.9						
ULN	**Ulaanbaatar**	**32.06**	**290**	P	**P**	**15 47 10.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**32.06**	**290**	P	**P**	**15 47 10.5**	**-0.8**
	comp=Z,3.1nm,1.0s,mb4.1						
SONM	**Songino Array**	**32.49**	**291**	P	**P**	**15 47 16.4**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=64,slow=8.4,SNR=2.3						
MCK	**McKinley**	**35.22**	**40**	P	**P**	**15 47 39.8**	**+0.9**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
MCK	**McKinley**	**35.22**	**40**	P	**P**	**15 47 39.8**	**+0.9**
	comp=Z,9.6nm,1.4s,mb4.5						
COLA	**College**	**35.74**	**38**	*e*P	**P**	**15 47 45.0**	**+1.6**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**35.74**	**38**	*e*P	**P**	**15 47 45.0**	**+1.6**
	comp=Z,12nm,0.8s,mb4.9						
EGAK	**Eagle**	**38.61**	**38**	*e*P	**P**	**15 48 06.7**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.2						
INK	**Inuvik**	**41.37**	**32**	P	**P**	**15 48 32.8**	**+2.2**
	comp=Z,4.1nm,0.5s,mb4.4,baz=277,slow=6.8,SNR=11						
INK	**Inuvik**	**41.37**	**32**	*e*P	**P**	**15 48 32.0**	**+1.4**
INK				pmax	pmax		
	comp=Z,187nm,0.6s						
INK	**Inuvik**	**41.37**	**32**	*e*P	**P**	**15 48 32.0**	**+1.4**
	comp=Z,187nm,0.6s						
CD2	**Chengdu**	**41.95**	**267**	*e*P	**P**	**15 48 37.8**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**43.73**	**307**	P	**P**	**15 48 48.6**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.0,baz=45,slow=7.4,SNR=3.1						
WMQ	**Urumqi**	**46.08**	**292**	⇑*iP*	**P**	**15 49 07.5**	**-1.0**
WMQ				AP	pP	15 49 12.0	+0.3
WMQ				XP	sP	15 49 14.5	+1.6
WMQ				PCP	PcP	15 50 47.0	+2.3
WMQ				PP	PP	15 50 54.5	-2.0
WMQ				PPP		15 51 36.0	
WMQ				S	**S**	**15 55 47.5**	**-6.6**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,112nm,4.2s						
WMQ				LR	LR		
	comp=N,101nm,15.6s,MS3.8						
WMQ				LR	LR		
	comp=E,15nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,91nm,15.5s,MS3.8						
KMI	**Kunming**	**46.26**	**261**	P	**P**	**15 49 17.6**	**+7.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
MK31	**Makanchi Array**	**48.08**	**298**	*e*P	**P**	**15 49 23.6**	**-0.6**
MKAR	**Makanchi Array**	**48.08**	**298**	P	**P**	**15 49 24.2**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.4,baz=67,slow=8.6,SNR=6.9						
YKA	**Yellowknife Ar**	**50.56**	**37**	P	**P**	**15 49 44.1**	**+1.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=295,slow=7.1,SNR=5.6						
RES	**Resolute Bay**	**50.83**	**19**	*e*P	**P**	**15 49 50.6**	**+5.5**
	comp=Z,104nm,0.7s						
LSA	**Lhasa**	**51.39**	**275**	*e*P	**P**	**15 49 51.2**	**+1.8**
CHKZ	**Chkalovo**	**51.51**	**311**	*e*P	**P**	**15 49 48.9**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.51**	**311**	*e*P	**P**	**15 49 48.9**	**-1.3**
	comp=Z,5.0nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**15 49 53.6**	**+0.2**
	comp=Z,1.5nm,0.4s,mb4.2,baz=57,slow=9.0,SNR=4.8						
BRVK	**Borovoye**	**51.98**	**310**	*e*P	**P**	**15 49 53.0**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.98**	**310**	*e*P	**P**	**15 49 53.0**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.70**	**311**	*e*P	**P**	**15 49 58.3**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.70**	**311**	*e*P	**P**	**15 49 58.3**	**-0.8**
	comp=Z,3.6nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**54.98**	**297**	*e*P	**P**	**15 50 15.2**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.98**	**297**	*e*P	**P**	**15 50 15.2**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.4						
ARU	**Arti**	**56.02**	**318**	*e*P	**P**	**15 50 22.8**	**-0.5**
ARU	**Arti**	**56.02**	**318**	*e*P	**P**	**15 50 22.5**	**-0.7**
	comp=Z,10.0nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	**59.79**	**313**	P	**P**	**15 50 50.0**	**+0.3**
AKTO	**Aktyubinsk**	**59.79**	**313**	P	**P**	**15 50 50.0**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=66,slow=9.5,SNR=4.7						
AKTO	**Aktyubinsk**	**59.79**	**313**	P	**P**	**15 50 50.0**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.83**	**335**	P	**P**	**15 51 22.7**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.2,baz=34,slow=8.9,SNR=5.8						
WRA	**Warramunga Arr**	**68.54**	**201**	P	**P**	**15 51 45.3**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=7.0,SNR=6.7						
NOA	**NORSAR Array B**	**68.92**	**342**	P	**P**	**15 51 51.5**	**+2.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**69.35**	**210**	P	**P**	**15 51 50.7**	**-1.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=22,slow=19,SNR=3.9						
ASAR	**Alice Springs**	**72.22**	**200**	P	**P**	**15 52 08.5**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=20,slow=6.5,SNR=4.8						
TXAR	**Lajitas Array**	**76.71**	**61**	P	**P**	**15 52 36.3**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=304,slow=4.4,SNR=7.4						
MALT	**Malatya**	**78.20**	**314**	P	**P**	**15 52 45.3**	**+1.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
MALT	**Malatya**	**78.20**	**314**	P	**P**	**15 52 45.3**	**+1.2**
	comp=Z,3.4nm,1.2s,mb4.2						
MMAI	**Mount Meron Ar**	**83.88**	**313**	P	**P**	**15 53 13.5**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.5,baz=53,slow=7.4,SNR=4.9						

ISCJB ***16*** *15:48:43.4±0.8, 7.96S±0.06×74.47W±0.06, h148km±11km, mb3.9/9, Error ellipse: s-maj=11.8km s-min=7.6km az=103.2*

IDC ***16*** *15:48:43.7±1.8, 8.02S×74.42W, h138km±19km, mb3.5/5, mb1 3.7/10, mb1mx3.6/20, mbtmp3.6/10, Error ellipse: s-maj=20.3km s-min=12.1km az=57.0*

NEIC ***16*** *15:48:44.3±0.7, 7.95S×74.37W, h143km±7km, mb4.3/7, Error ellipse: s-maj=10.4km s-min=6.8km az=73.0*

ISC 16 15:48:44.4±0.8, 7.99S±0.06×74.44W±0.07, h140km±10km, n25, σ0$88/26, mb3.9/9, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.04**	**284**	P	**Pn**	**15 49 45.8**	**+1.0**
	39nm,0.3s,baz=72,slow=5.3,SNR=76						
ATAH				S	**Sn**	**15 50 31.3**	**-0.5**
	90nm,0.3s,baz=159,slow=10,SNR=11						
NNA	**Nana**	**4.62**	**211**	P	**Pn**	**15 49 53.7**	**+1.2**
	8.4nm,0.3s,baz=30,slow=11,SNR=13						
NNA				S	**Sn**	**15 50 44.0**	**-1.7**
	70nm,0.3s,baz=134,slow=24,SNR=22						
NNA	**Nana**	**4.62**	**211**	*e*Pn	**Pn**	**15 49 53.2**	**+0.6**
NNA				S	**Sn**	**15 50 44.0**	**-1.7**
OTAV	**Otavalo**	**9.10**	**334**	*e*Pn	**Pn**	**15 50 52.6**	**+0.2**
LPAZ	**La Paz**	**10.30**	**144**	P	**Pn**	**15 51 08.7**	**+0.3**
	0.5nm,0.3s,baz=324,slow=12,SNR=19						
LPAZ	**La Paz**	**10.30**	**144**	*e*P	**Pn**	**15 51 08.2**	**-0.2**
LPAZ				*e*		15 51 25.8	
SAML	**Samuel**	**11.18**	**96**	*e*Pn	**Pn**	**15 51 18.5**	**-1.6**
	18nm,0.6s						
SAML				*e*Sn	**Sn**	**15 53 15.4**	**-8.0**
SIV	**San Ignacio**	**15.30**	**123**	P	**Pn**	**15 52 13.8**	**+0.9**
	0.6nm,0.3s,baz=295,slow=12,SNR=26						
SIV				S	**S**	**15 54 59.7**	**-8.9**
	0.2nm,0.3s,baz=51,slow=22,SNR=3.7						
LVC	**Limon Verde**	**15.48**	**161**	Pn	**Pn**	**15 52 17.0**	**+1.9**
	8.5nm,0.8s						
SDV	**Santo Domingo**	**17.19**	**13**	P	**Pn**	**15 52 37.0**	**+1.1**
	1.2nm,0.3s,baz=266,slow=3.8,SNR=9.9						
SDV	**Santo Domingo**	**17.19**	**13**	*e*P	**Pn**	**15 52 36.0**	**+0.1**
	4.7nm,0.6s						
CFAA	**Coronel Fontan**	**24.20**	**167**	P	**P**	**15 53 47.7**	**-0.1**
	0.1nm,0.5s,mb2.6,baz=348,slow=8.1,SNR=6.4						
MTP	**Monte Pirata**	**27.36**	**19**	P	**P**	**15 54 15.6**	**-0.7**
TXAR	**Lajitas Array**	**46.57**	**324**	P	**P**	**15 56 58.8**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=146,slow=9.2,SNR=6.6						
SRU	**San Rafael**	**57.59**	**327**	P	**P**	**15 58 25.3**	**+5.9**
	3.3nm,0.6s,mb4.3						
SCHQ	**Schefferville**	**62.91**	**5**	P	**P**	**15 58 54.6**	**-0.9**
	2.4nm,0.8s,mb4.1,baz=198,slow=6.4,SNR=3.4						
SNAA	**Sanae**	**76.71**	**162**	*e*P	**P**	**16 00 19.4**	**-0.5**
	3.4nm,0.7s,mb4.1						
TORD	**Torodi Ar. Bea**	**78.47**	**75**	P	**P**	**16 00 29.1**	**-0.5**
	5.3nm,0.7s,mb4.3,baz=288,slow=6.2,SNR=35						
ESDC	**Sonseca Array**	**80.35**	**48**	P	**P**	**16 00 39.8**	**-0.1**
	0.2nm,0.3s,mb3.2,baz=254,slow=6.1,SNR=4.2						
QSPA	**South Pole Qui**	**82.12**	**180**	*e*P	**P**	**16 00 49.7**	**+0.5**
	8.6nm,1.1s,mb4.3						
TSUM	**Tsumeb**	**89.31**	**109**	*e*P	**P**	**16 01 24.7**	**0.0**
	3.6nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**131.22**	**16**	PKP	PKPdf	16 07 39.0	-0.7
	0.6nm,0.4s,baz=270,slow=3.8,SNR=4.2						
MKAR	**Makanchi Array**	**136.51**	**23**	PKP	PKPdf	16 07 48.5	-1.0
	0.4nm,0.8s,baz=264,slow=2.3,SNR=3.7						
ASAR	**Alice Springs**	**138.08**	**221**	PKP	PKPdf	16 07 53.0	+0.5
	0.4nm,0.6s,baz=117,slow=1.8,SNR=8.3						
FITZ	**Fitzroy Crossi**	**147.36**	**217**	PKPbc	PKPbc	16 08 12.4	+1.0
	1.4nm,0.7s,baz=170,slow=4.6,SNR=5.2						

IDC 16 15:52:01.6±35.0, 1839S×17612W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx2.8/27, Error ellipse: s-maj=675.5km s-min=167.4km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.32**	**242**	P	P	15 59 41.0	+0.4
	0.7nm,0.5s,baz=111,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	**46.68**	**260**	P	P	16 00 32.3	+0.3
	0.5nm,0.4s,baz=96,slow=8.0,SNR=5.0						
WRA				LR	LR	16 18 11.2	
	comp=Z,274nm,18.9s,baz=50,slow=34						
ASAR	**Alice Springs**	**46.76**	**255**	P	P	16 00 32.8	+0.2
	1.1nm,0.6s,baz=88,slow=8.0,SNR=21						
FITZ	**Fitzroy Crossi**	**55.09**	**260**	P	P	16 01 36.0	+0.6
	0.6nm,0.5s,baz=105,slow=12,SNR=3.1						

IDC 16 16:01:09.2±63.0, 5339S×14128E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/10, mbtmp3.6/3, MS3.9/2, Ms1 3.8/2, ms1mx3.1/22, Error ellipse: s-maj=1244.0km s-min=182.6km az=134.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.50**	**1**	P	P	16 05 59.4	-0.1
	1.3nm,0.7s,baz=168,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**30.20**	**346**	P	P	16 07 21.1	-0.1
	0.3nm,0.5s,baz=165,slow=10.0,SNR=12						
WRA	**Warramunga Arr**	**33.81**	**348**	P	P	16 07 52.9	0.0
	4.4nm,0.9s,baz=174,slow=8.5,SNR=13						
MAW	**Mawson**	**38.21**	**217**	LR	LR	16 22 41.3	
	comp=Z,103nm,19.1s,baz=242,slow=34						
AFI	**Afiamalu**	**53.96**	**61**	LR	LR	16 29 15.0	
	comp=Z,155nm,18.3s,baz=72,slow=31						

ISCJB ***16*** *16:04:39.7±0.3, 6.65S±0.04×151.18E±0.06, h10km, mb4.8/45, MS4.3/10, Error ellipse: s-maj=8.3km s-min=5.3km az=45.2*

BJI ***16*** *16:04:40.5, 6.00S×151.35E, h7km, mB5.1, mb4.8, Ms4.5, Msz4.3*

NEIC ***16*** *16:04:42.8±2.3, 6.65S×151.22E, h23km±16km, mb5.0/22, Error ellipse: s-maj=7.1km s-min=6.5km az=109.0*

MOS ***16*** *16:04:42.3±1.3, 6.66S×151.27E, h31km, mb5.1/17, Error ellipse: s-maj=10.8km s-min=8.7km az=94.0*

IDC ***16*** *16:04:42.4±3.5, 6.66S×151.17E, h17km±22km, mb4.7/18, mb1 4.7/21, mb1mx4.7/22, mbtmp4.7/21, ML3.5/2, MS4.2/7, Ms1 4.2/7, ms1mx4.0/19, Error ellipse: s-maj=17.9km s-min=11.0km az=101.0*

GCMT ***16*** *16:04:42.8±0

comp=Z,719nm,18.4s,MS4.6,baz=342,slow=34
KSM Kuching 41.65 280 *e*P **P 16 12 30.0 +0.2**
JNU Nakatsue 44.05 335 P **P 16 12 49.9 +0.6**
comp=Z,22nm,0.9s,mb4.9,baz=193,slow=21,SNR=4.1
MJAR Matsushiro Arr 44.69 345 P **P 16 12 55.3 +0.9**
comp=Z,0.7nm,0.4s,mb3.9,baz=171,slow=5.7,SNR=3.9
MJAR PcP PcP 16 14 36.2 -0.6
comp=Z,1.6nm,0.6s,baz=178,slow=4.5,SNR=5.6
SSE Sheshan 47.30 324 P **P 16 13 13.3 -1.7**
SSE PP PP 16 15 04.9 -1.1
SSE S **S 16 20 00.3 -8.4**
SSE SCS ScS 16 23 01.0 -8.6
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,55nm,4.8s
SSE LR LR
comp=N,120nm,17.6s,MS4.2
SSE LR LR
comp=E,198nm,17.6s,MS4.2
SSE LR LR
comp=Z,310nm,15.9s,MS4.4
SSE Sheshan 47.30 324 P **P 16 13 13.3 -1.7**
comp=Z,18nm,0.7s,mb5.1
SSE sP sP 16 13 39.3 +21
SSE PP PP 16 15 04.9 -1.1
SSE S **S 16 20 00.3 -8.4**
SSE sS sS 16 20 30.6 +18
SSE ScS ScS 16 23 01.0 -8.6
SSE LR LR
comp=Z,310nm,15.9s,MS4.4
QIZ Qiongzhong 48.13 303 P **P 16 13 20.8 -0.6**
QIZ S **S 16 20 18.4 -2.1**
QIZ LR LR
comp=E,201nm,27.5s
QIZ LR LR
comp=Z,367nm,29.9s,MS4.2
KSRS Korea Array 49.00 335 P **P 16 13 27.4 -0.7**
comp=Z,3.4nm,0.8s,mb4.4,baz=156,slow=8.8,SNR=11
KSRS PcP PcP 16 14 53.3 +1.2
comp=Z,1.6nm,0.7s,baz=199,slow=3.2,SNR=5.6
KULM Kulim 51.88 282 *e*P **P 16 13 48.9 -1.0**
PSI Prapat 53.07 279 P **P 16 13 59.8 +1.0**
comp=Z,2.5nm,0.4s,mb4.5,baz=118,slow=9.0,SNR=5.6
BJI Beijing 56.62 328 P **P 16 14 23.4 -1.1**
BJI AMB AMB
comp=Z,8.0nm,1.7s,mb4.5
BJI LR LR
comp=N,251nm,16.5s,MS4.7
BJI LR LR
comp=E,475nm,16.5s,MS4.7
BJI LR LR
comp=Z,216nm,24.9s
BJI Beijing 56.62 328 P **P 16 14 23.4 -1.1**
comp=Z,8.0nm,1.7s,mb4.5
BJI S **S 16 22 30.1 +13**
BJI LR LR
comp=Z,220nm,24.9s,MS4.2
HABR Khabarovsk 56.73 347 *e*P **P 16 14 25.9 +0.7**
XAN Xi'an 56.94 318 P **P 16 14 26.0 -0.7**
XAN S **S 16 22 22.8 +1.8**
XAN AMB AMB
comp=Z,7.0nm,1.6s,mb4.4
XAN LR LR
comp=N,102nm,18.6s,MS4.2
XAN LR LR
comp=E,134nm,20.4s,MS4.2
XAN LR LR
comp=Z,334nm,19.5s,MS4.5
CM31 Chiang Mai Arr 57.30 297 *e*P **P 16 14 28.6 -0.7**
comp=Z,3.3nm,0.7s,mb4.5
PPT Papeete 58.66 106 *e*LR LR 16 31 52.8
comp=Z,161nm,25.5s
TBI Tubuai 59.23 113 *e*LR LR 16 32 29.4
comp=Z,498nm,34.8s
HHC Hu-ho-hao-te 59.69 326 *e*P **P 16 14 43.0 -3.0**
HHC AMB AMB
comp=Z,17nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,145nm,4.9s
LZH Lanzhou 61.52 317 *e*P **P 16 15 01.3 +2.9**
LZH AP pP 16 15 05.3 +4.5
LZH XP sP 16 15 07.9 +6.2
LZH AMB AMB
comp=Z,60nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,190nm,5.0s
LZH Lanzhou 61.52 317 *e*P **P 16 15 01.2 +2.8**
LZH *SP sP 16 15 07.9 +6.2
LZH pmax pmax
comp=Z,60nm,1.6s,mb5.5
LZH Lanzhou 61.52 317 *e*P **P 16 15 01.2 +2.8**
comp=Z,60nm,1.6s,mb5.5
LZH pP pP 16 15 05.3 +4.5
LZH sP sP 16 15 07.9 +6.2
HIA Hailar 62.12 337 ⇓*i*P **P 16 15 01.7 -0.8**
CASY Casey 65.78 197 *e*P **P 16 15 25.2 -1.4**
CASY *e* 16 15 36.6
GTA Gaotai 66.00 318 *e*P **P 16 15 28.0 0.0**
GTA AP pP 16 15 32.8 +2.4
GTA XP sP 16 15 35.4 +4.2
GTA AMB AMB
comp=Z,5.0nm,2.1s,mb4.2
GTA AMB AMB
comp=Z,122nm,5.0s
GTA LR LR
comp=N,179nm,16.0s,MS4.5
GTA LR LR
comp=E,128nm,12.2s,MS4.5
GTA LR LR
comp=Z,206nm,21.3s
ULN Ulaanbaatar 66.78 329 *e*P **P 16 15 32.4 -0.6**
ULN *e* 16 15 42.6
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ULN Ulaanbaatar 66.78 329 *e*P **P 16 15 32.4 -0.6**
comp=Z,5.7nm,0.8s,mb4.7
ULN *e* 16 15 42.6
SONM Songino Array 67.10 329 P **P 16 15 34.8 -0.3**
comp=Z,5.2nm,0.9s,mb4.6,baz=140,slow=5.0,SNR=28
LSA Lhasa 68.04 306 *e*P **P 16 15 40.2 -0.8**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LSA Lhasa 68.04 306 *e*P **P 16 15 40.2 -0.8**
comp=Z,3.5nm,0.7s,mb4.5
ZAK Zakamensk 70.30 330 ⇑*i*P **P 16 15 54.0 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
YAK Yakutsk 70.50 349 ⇓*e*P **P 16 15 55.8 -0.4**
YAK pmax pmax
comp=Z,37nm,1.7s,mb5.0
YAK Yakutsk 70.50 349 *e*P **P 16 15 51.3 -4.9**
TLY Talaya 70.93 331 *e*P **P 16 16 00.6 +1.7**
TLY *e* 16 18 42.9
TLY *e*S S 16 25 16.9 +2.2
TLY *e*SS SS 16 29 51.1 +3.7
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VNDA Vanda 71.03 178 P **P 16 15 59.1 -0.3**
comp=Z,8.7nm,1.0s,mb4.6,baz=333,slow=6.9,SNR=37
VNDA LR LR 16 44 26.8
comp=Z,100nm,18.7s,MS4.1,baz=340,slow=34
VNDA Vanda 71.03 178 P **P 16 15 59.1 -0.3**
VNDA *e* 16 16 09.5
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 71.03 178 P **P 16 15 59.1 -0.3**
comp=Z,10nm,1.3s,mb4.6
VNDA *e* 16 16 09.5
VNDA LR LR 16 44 26.8
JIRN Jiri 71.44 302 *e*P **P 16 16 03.9 +2.0**
SBA Scott Base 71.61 177 *e*P **P 16 16 03.8 +0.9**
SBA pmax pmax
comp=Z,25nm,1.4s,mb5.0
SBA Scott Base 71.61 177 *e*P **P 16 16 03.8 +0.9**
comp=Z,25nm,1.4s,mb4.9
MIR Mirnyy 71.63 201 *d i*P **P 16 16 04.0 +0.9**
MIR *i* 16 16 14.0
MIR pmax pmax
comp=Z,270nm,2.0s,mb5.8
GUN Gumba 71.78 302 *e*P **P 16 16 06.0 +2.0**
comp=Z,20nm,0.7s,mb5.2
PKI Pulchoki 72.07 302 *e*P **P 16 16 07.3 +1.6**
KKN Kakani 72.25 302 *e*P **P 16 16 08.4 +1.6**
DMN Daman 72.34 302 *e*P **P 16 16 09.2 +1.9**
comp=Z,18nm,0.8s,mb5.1
RKT Rikitea 72.51 112 *e*LR LR 16 38 33.2
comp=Z,302nm,33.2s
GKN Gorkha 72.86 302 *e*P **P 16 16 11.8 +1.4**
KOLN Koldanda 73.66 301 *e*P **P 16 16 16.4 +1.2**
comp=Z,16nm,0.8s,mb5.0
BILL Bilibino 75.29 6⇑ *e*P **P 16 16 24.0 -0.6**
BILL pmax pmax
comp=Z,21nm,0.8s,mb5.1
BILL Bilibino 75.29 6 *e*P **P 16 16 23.6 -1.0**
comp=Z,25nm,1.0s,mb5.1
BILL *e* 16 16 34.3
HYB Hyderabad 75.65 290 *i*P **P 16 16 26.5 -0.2**
HYB Hyderabad 75.65 290 *e*P **P 16 16 26.5 -0.2**
WMQ Urumqi 76.08 318 *e*P **P 16 16 28.0 -1.1**
MK31 Makanchi Array 80.72 319 *e*P **P 16 16 54.2 -0.6**
MKAR Makanchi Array 80.72 319 P **P 16 16 53.7 -1.1**
comp=Z,2.9nm,0.9s,mb4.2,baz=101,slow=6.3,SNR=14
MKAR Makanchi Array 80.72 319 P **P 16 16 53.7 -1.1**
ZAL Zalesovo 81.86 327 P **P 16 16 59.1 -1.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=351,slow=5.2,SNR=9.4
MCK McKinley 83.18 23 *e*P **P 16 17 06.3 -1.4**
MCK *e* 16 17 17.0
MCK pmax pmax
comp=Z,21nm,1.1s,mb5.1
MCK McKinley 83.18 23 *e*P **P 16 17 06.3 -1.4**
comp=Z,21nm,1.1s,mb5.1
MCK *e* 16 17 17.0
MAW Mawson 83.26 203 *e*P **P 16 17 07.6 -0.5**
comp=Z,11nm,1.2s,mb4.8
MAW Mawson 83.26 203 P **P 16 17 07.7 -0.4**
comp=Z,9.5nm,0.8s,mb4.9,baz=88,slow=6.3,SNR=22
MAW LR LR 16 51 36.7
comp=Z,174nm,20.4s,MS4.4,baz=71,slow=34
MAW Mawson 83.26 203 P **P 16 17 07.7 -0.4**
MAW pmax pmax
comp=Z,10.0nm,0.8s
MAW MLR MLR
comp=Z,174nm,20.4s
QSPA South Pole Qui 83.30 180 *e*P **P 16 17 07.6 -0.8**
comp=Z,27nm,0.8s,mb5.3
TKM2 Tokmak 2 84.11 314 P **P 16 17 14.2 +1.7**
SNR=6.5
KZA Kyzart 84.15 313 P **P 16 17 13.9 +1.2**
SNR=26
COLA College 84.16 22 *e*P **P 16 17 11.0 -1.7**
COLA pmax pmax
comp=Z,23nm,1.1s,mb5.2
COLA College 84.16 22 *e*P **P 16 17 10.9 -1.8**
comp=Z,23nm,1.1s,mb5.2
UCH Uchtor 84.72 313 P **P 16 17 17.4 +1.8**
SNR=17
FRU Bishkek 84.79 314 *e*P **P 16 17 17.0 +1.0**
AAK Ala-Archa 84.83 314 P **P 16 17 17.3 +1.1**
SNR=9.4
AAK Ala-Archa 84.83 314 *e*P **P 16 17 16.0 -0.2**
AAK pmax pmax
comp=Z,31nm,1.5s,mb5.2
AAK Ala-Archa 84.83 314 *e*P **P 16 17 16.0 -0.2**
comp=Z,31nm,1.5s,mb5.2
USP Ospenovka 84.98 314 P **P 16 17 17.6 +0.7**
SNR=21
AML Almayashu 85.29 313 P **P 16 17 20.1 +1.6**
SNR=16
EGAK Eagle 86.68 23 *e*P **P 16 17 25.1 -0.3**
comp=Z,32nm,1.1s,mb5.5
DAWY Dawson 87.12 24 *e*P **P 16 17 27.9 +0.5**
CHKZ Chkalovo 89.80 324 *e*P **P 16 17 31.3 -8.9**
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CHKZ Chkalovo 89.80 324 *e*P **P 16 17 31.3 -8.9**
comp=Z,3.9nm,0.9s,mb4.7
BVAR Borovoye Array 89.81 323 P **P 16 17 38.7 -1.5**
comp=Z,1.7nm,0.7s,mb4.5,baz=108,slow=4.8,SNR=7.6
ZRNK Zerenda 90.62 323 *e*P **P 16 17 40.6 -3.4**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
ZRNK Zerenda 90.62 323 *e*P **P 16 17 40.6 -3.4**
comp=Z,1.5nm,0.5s,mb4.6
INK Inuvik 90.75 21 *e*P **P 16 17 43.3 -1.3**
SYO Syowa Base 91.40 200⇓ *e*P **P 16 17 46.0 -1.6**
SYO Syowa Base 91.40 200⇓ *e*P **P 16 17 47.6 0.0**
MTUM Tungsten Hills 94.15 53 *e*P **P 16 18 01.6 +1.2**
YKA Yellowknife Ar 97.80 28 P **P 16 18 18.0 +1.1**
comp=Z,1.4nm,0.6s,mb4.7,baz=271,slow=4.8,SNR=4.7
YKA LR LR 16 58 16.2
comp=Z,64nm,19.1s,MS4.1,baz=350,slow=33
YKA Yellowknife Ar 97.80 28 P **P 16 18 18.0 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA MLR MLR
comp=Z,64nm,19.1s
PDAR Pinedale Array 101.25 48 P Pdif 16 18 32.2 0.0
comp=Z,0.7nm,0.8s,baz=282,slow=1.4,SNR=5.7
ANN Anapa 111.50 316 *i* PKIKP PKiKP 16 23 12.7 -3.2
ANN pmax pmax
comp=Z,101nm,1.1s
BRG Berggiesshubel 123.49 329 *e*P PKPdf 16 23 38.3 -0.6
comp=Z,5.0nm,1.4s
GERES GERESS Array B 124.81 327 PKP PKPdf 16 23 40.7 -0.8
comp=Z,1.1nm,0.8s,baz=52,slow=2.2,SNR=5.2
SDV Santo Domingo 138.47 84 *e*PKPdf PKPdf 16 24 07.4 +0.2
MDT Midelt 145.64 322 PKPbc PKPbc 16 24 20.8 +0.5
comp=Z,9.3nm,1.0s,baz=33,slow=7.7,SNR=7.7
TORD Torodi Ar. Bea 149.34 284 PKPbc PKPbc 16 24 30.5 0.0
comp=Z,7.6nm,0.7s,baz=71,slow=2.9,SNR=48

*ISCJB **16** 16:09:08.7±0.9, 47.1N±0.1×153.5E±0.2, h10km, mb3.8/6, Error ellipse: s-maj=24.4km s-min=10.8km az=92.1*
*IDC **16** 16:09:09.0±1.1, 47.09N×155.60E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, ML3.3/2, Error ellipse: s-maj=35.3km s-min=21.1km az=144.0*
*MOS **16** 16:09:10.7±0.9, 47.12N×155.26E, h24km, mb4.3/4, Error ellipse: s-maj=29.7km s-min=17.4km az=58.9*
ISC 16 16:09:10.3±0.9, 471N±01×1554E±02, h10km, n15, σ0=84/15, mb3.8/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.60**	**7**	*e*PN	**Pn**	**16 10 06.0**	**-0.1**
KUR	**Kuril'sk**	**5.56**	**253**	*e*PN	**Pn**	**16 10 32.0**	**-1.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
ASAJ	**Asahikawa**	**9.46**	**256**	Pn	**Pn**	**16 11 26.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=125,slow=18,SNR=2.1						
MJAR	**Matsushiro Arr**	**16.57**	**237**	Pn	**Pn**	**16 13 02.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=5.7						
MJAR	**Matsushiro Arr**	**16.57**	**237**	P	**Pn**	**16 13 02.4**	**-0.3**
KSRS	**Korea Array**	**22.41**	**254**	P	**P**	**16 14 12.0**	**+3.1**
	comp=Z,1.5nm,0.8s,mb3.5,baz=54,slow=11,SNR=5.3						
INK	**Inuvik**	**40.50**	**33**	P	**P**	**16 16 49.0**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=291,slow=7.6,SNR=7.9						
INK	**Inuvik**	**40.50**	**33**	P	**P**	**16 16 49.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**16 18 19.1**	**+0.6**
	comp=Z,2.3nm,0.5s,mb4.3,baz=69,slow=8.3,SNR=5.6						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**16 18 19.1**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**16 19 46.7**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=31,slow=7.3,SNR=6.5						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**16 19 46.7**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.08**	**201**	P	**P**	**16 20 41.4**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=11,slow=9.5,SNR=4.8						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**16 20 56.5**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=297,slow=4.5,SNR=5.6						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**16 20 56.6**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*BJI **16** 16:09:55.1, 47.67N×155.60E, h6km, mB4.9, mb4.3, Ms4.4, Msz4.2*
*IDC **16** 16:09:55.3±0.8, 47.38N×155.70E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/25, mbtmp4.3/16, ML3.2/1, Error ellipse: s-maj=24.5km s-min=16.4km az=166.0*
*ISCJB **16** 16:09:56.2±3.5, 47.47N±0.07×155.7E±0.1, h16km±24km, mb4.4/30, Error ellipse: s-maj=14.9km s-min=8.8km az=88.6*
*NEIC **16** 16:09:57.1±0.6, 47.55N×155.66E, h10km, mb4.7/15, Error ellipse: s-maj=15.6km s-min=9.6km az=147.0*
*MOS **16** 16:09:58.7±0.9, 47.50N×155.66E, h33km, mb4.8/16, Error ellipse: s-maj=16.3km s-min=9.4km az=98.7*
ISC 16 16:10:00.6±1.6, 4748N±008×1557E±01, h36km±12km, h38km±4.3km: pP-P, n73, σ0=87/75, mb4.4/30, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.22**	**5**	*e*PN	**Pn**	**16 10 57.2**	**+8.5**
SKR				*e*S	**Sn**	**16 11 26.3**	**+0.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,330nm,0.4s						
SKR				smax			
	comp=E,440nm,0.4s						
SKR				smax			
	comp=Z,150nm,0.5s						
PET	**Petropavlovsk**	**5.87**	**18**	*e*PN	**Pn**	**16 11 23.5**	**-1.6**
PET	**Petropavlovsk**	**5.87**	**18**	*e*Pn	**Pn**	**16 11 22.9**	**-2.2**
PET				*e*Sn	**Sn**	**16 12 23.5**	**-7.6**
YSS	**Yuzh-Sakhalins**	**8.81**	**271**	⇓*i*PN	**Pn**	**16 12 10.1**	**+4.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.81**	**271**	P	**Pn**	**16 12 07.0**	**+1.6**
	comp=Z,14nm,0.5s						
KLR	**Kul'dur**	**15.98**	**285**	*e*P	**Pn**	**16 13 38.8**	**-3.9**
MAJO	**Matsushiro**	**16.93**	**236**	*e*P	**Pn**	**16 13 48.4**	**-6.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**16.93**	**236**	*e*P	**Pn**	**16 13 48.4**	**-6.2**
	comp=Z,4.7nm,0.7s						
MJAR	**Matsushiro Arr**	**16.93**	**236**	Pn	**Pn**	**16 13 54.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=5.4						
YAK	**Yakutsk**	**20.70**	**324**	*e*P	**P**	**16 14 34.0**	**-3.6**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s						
YAK	**Yakutsk**	**20.70**	**324**	*e*P	**P**	**16 14 34.0**	**-3.6**
	comp=Z,19nm,0.7s						
BILL	**Bilibino**	**21.31**	**11**	P	**P**	**16 14 45.6**	**+1.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.0						
CN2	**Changchun**	**21.38**	**271**	*e*P	**P**	**16 14 45.5**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
KSRS	**Korea Array**	**22.68**	**254**	P	**P**	**16 14 58.7**	**-0.1**
	comp=Z,2.8nm,0.8s,mb3.8,baz=46,slow=11,SNR=6.0						
COLA	**College**	**34.48**	**39**	*e*P	**P**	**16 16 44.5**	**-0.5**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
COLA	**College**	**34.48**	**39**	*e*P	**P**	**16 16 44.5**	**-0.5**
	comp=Z,8.2nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.60**	**273**	*e*P	**P**	**16 17 27.5**	**-1.0**
LZH				AP	pP	16 17 32.1	-6.9
LZH				XP	sP	16 17 34.5	-8.8
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**39.60**	**273**	*e*P	**P**	**16 17 27.5**	**-1.0**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	16 17 32.1	-6.9
LZH				sP	sP	16 17 34.5	-8.8
INK	**Inuvik**	**40.09**	**33**	P	**P**	**16 17 33.1**	**+0.5**
	comp=Z,4.7nm,0.5s,mb4.5,baz=289,slow=6.4,SNR=17						
INK	**Inuvik**	**40.09**	**33**	*e*P	**P**	**16 17 32.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,833nm,1.2s						
INK	**Inuvik**	**40.09**	**33**	*e*P	**P**	**16 17 32.9**	**+0.3**
	comp=Z,833nm,1.2s						
INK				P		16 17 33.1	
ZAL	**Zalesovo**	**43.61**	**306**	P	**P**	**16 18 01.6**	**+0.3**
	comp=Z,1.2nm,0.3s,mb4.1,baz=41,slow=3.5,SNR=1.7						
MK31	**Makanchi Array**	**48.15**	**298**	P	**P**	**16 18 35.9**	**-1.2**
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**16 18 37.7**	**+0.6**
	comp=Z,3.3nm,0.3s,mb4.4,baz=67,slow=6.7,SNR=5.1						
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**16 18 37.7**	**+0.6**
RES	**Resolute Bay**	**49.58**	**19**	*e*P	**P**	**16 18 48.4**	**+0.3**
RES				pmax	pmax		
	comp=Z,210nm,1.1s						
RES	**Resolute Bay**	**49.58**	**19**	*e*P	**P**	**16 18 48.4**	**+0.3**
	comp=Z,210nm,1.1s						
CHKZ	**Chkalovo**	**51.29**	**311**	*e*P	**P**	**16 19 00.6**	**-0.4**
CHKZ				*e*	pP	16 19 11.6	-0.2
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**51.29**	**311**	*e*P	**P**	**16 19 00.6**	**-0.4**
	comp=Z,3.7nm,0.5s,mb4.6						
CHKZ				*e*	pP	16 19 11.6	-0.2
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**16 19 05.2**	**+0.8**
	comp=Z,3.6nm,0.5s,mb4.6,baz=61,slow=6.6,SNR=9.4						
BRVK	**Borovoye**	**51.77**	**310**	*e*P	**P**	**16 19 05.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**51.77**	**310**	*e*P	**P**	**16 19 05.1**	**+0.5**
	comp=Z,5.6nm,0.6s,mb4.7						
LSA	**Lhasa**	**51.97**	**274**	*e*P	**P**	**16 19 08.4**	**+2.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**51.97**	**274**	*e*P	**P**	**16 19 08.4**	**+2.4**
	comp=Z,3.4nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**52.49**	**310**	*e*P	**P**	**16 19 10.1**	**+0.1**
ZRNK				*e*	pP	16 19 21.1	+0.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.49**	**310**	*e*P	**P**	**16 19 10.1**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK				*e*	pP	16 19 21.1	+0.4
AAK	**Ala-Archa**	**55.06**	**297**	*e*P	**P**	**16 19 28.7**	**-0.1**
AAK				*e*	pP	16 19 38.9	-0.7
ARU	**Arti**	**55.64**	**318**	*e*P	**P**	**16 19 32.7**	**-0.2**
ARU	**Arti**	**55.64**	**318**	*e*P	**P**	**16 19 32.6**	**-0.4**
	comp=Z,12nm,0.7s,mb5.0						
ARU				*e*	pP	16 19 44.0	+0.2
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**16 20 00.4**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.4,baz=56,slow=6.4,SNR=5.3						
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**16 20 00.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**60.55**	**64**	P	**P**	**16 20 07.7**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.2,baz=292,slow=8.3,SNR=7.1						
PDAR	**Pinedale Array**	**62.90**	**56**	P	**P**	**16 20 23.9**	**+0.8**
	comp=Z,2.6nm,0.9s,mb4.4,baz=272,slow=2.5,SNR=13						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**16 20 31.4**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.4,baz=40,slow=8.3,SNR=8.0						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**16 20 31.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.08**	**342**	P	**P**	**16 20 56.9**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.3,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**16 20 56.9**	**+0.3**
	comp=Z,5.0nm,0.9s,mb4.6,baz=26,slow=6.4,SNR=7.8						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**16 20 56.9**	**+0.3**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**71.52**	**315**	P	**P**	**16 21 17.0**	**-0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KIV	**Kislovodsk**	**71.52**	**315**	P	**P**	**16 21 17.0**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.6						
AKASG	**Malin Array Be**	**71.89**	**327**	P	**P**	**16 21 19.7**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=35,slow=6.2,SNR=5.9						
SCHQ	**Schefferville**	**71.94**	**24**	P	**P**	**16 21 20.9**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=293,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**73.48**	**201**	P	**P**	**16 21 28.8**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=14,slow=5.2,SNR=8.5						
LTX	**Lajitas**	**75.61**	**62**	*e*P	**P**	**16 21 41.9**	**+0.1**
LTX				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
LTX	**Lajitas**	**75.61**	**62**	*e*P	**P**	**16 21 41.9**	**+0.2**
	comp=Z,18nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**16 21 42.3**	**+0.5**
	comp=Z,5.1nm,0.7s,mb4.6,baz=307,slow=4.6,SNR=34						
UPC	**Upice**	**76.39**	**335**	*e*P	**P**	**16 21 45.4**	**-0.8**
DPC	**Dobruska-Polom**	**76.44**	**335**	*e*P	**P**	**16 21 47.2**	**+0.7**
MALT	**Malatya**	**77.91**	**314**	*e*P	**P**	**16 21 56.2**	**+1.4**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	**Malatya**	**77.91**	**314**	*e*P	**P**	**16 21 56.2**	**+1.5**
	comp=Z,3.1nm,0.8s,mb4.3						
KHC	**Kasperske Hory**	**78.32**	**336**	*e*P	**P**	**16 21 57.7**	**+0.7**
GERES	**GERESS Array B**	**78.54**	**335**	P	**P**	**16 21 58.0**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=350,slow=7.3,SNR=5.6						
CDF	**Champ du Feu**	**80.62**	**339**	*e*P	**P**	**16 22 07.8**	**-1.7**
GRR	**Gorron**	**82.36**	**344**	*e*P	**P**	**16 22 17.6**	**-1.1**
SMF	**Signal de Mont**	**83.07**	**341**	*e*P	**P**	**16 22 20.9**	**-1.5**
	comp=Z,19nm,0.9s,mb4.8						

SMF	**Signal de Mont**	**83.07**	**341**	*e*P		**P**	**16 22 20.9**	**-1.5**
SMF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
SMF	**Signal de Mont**	**83.07**	**341**	*e*P		**P**	**16 22 20.9**	**-1.5**
	comp=Z,9.6nm,0.9s,mb4.8							
LPL	**La Plagne**	**83.46**	**339**	*e*P		**P**	**16 22 23.9**	**-0.5**
	comp=Z,40nm,1.4s,mb5.0							
LPL	**La Plagne**	**83.46**	**339**	*e*P		**P**	**16 22 23.9**	**-0.5**
LPL				pmax	pmax			
	comp=Z,20nm,1.4s,mb5.0							
LPL	**La Plagne**	**83.46**	**339**	*e*P		**P**	**16 22 23.9**	**-0.5**
	comp=Z,20nm,1.4s,mb5.0							
LPG	**La Plagne**	**83.47**	**339**	*e*P		**P**	**16 22 24.0**	**-0.5**
	comp=Z,18nm,1.0s,mb4.8							
LPG	**La Plagne**	**83.47**	**339**	*e*P		**P**	**16 22 24.0**	**-0.5**
LPG				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
LPG	**La Plagne**	**83.47**	**339**	*e*P		**P**	**16 22 24.0**	**-0.5**
	comp=Z,9.3nm,1.0s,mb4.8							

IDC 16 16:10:56.5±30.0, 4598N×15308E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.1/4, Error ellipse: s-maj=705.0km s-min=93.5km az=154.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.28**	**298**	P	P	16 19 31.5	-0.1
	1.5nm,0.8s,baz=70,slow=10,SNR=2.4						
FINES	**FINESS Array B**	**64.73**	**335**	P	P	16 21 35.8	-0.7
	1.2nm,0.5s,baz=46,slow=8.2,SNR=3.5						
NOA	**NORSAR Array B**	**68.95**	**341**	P	P	16 22 03.4	0.0
	0.6nm,0.5s,baz=28,slow=6.4,SNR=2.7						
AKASG	**Malin Array Be**	**72.18**	**326**	P	P	16 22 22.7	-0.5
	2.2nm,0.4s,baz=32,slow=6.1,SNR=7.1						

IDC ***16*** *16:16:51.7±1.0, 4605N×154.16E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/21, mbtmp3.9/6, ML3.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/37, Error ellipse: s-maj=31.2km s-min=26.7km az=106.0*

ISCJB ***16*** *16:16:55.4±2.7, 460N±02×1539E±02, h36km±24km, mb3.9/5, Error ellipse: s-maj=35.2km s-min=17.8km az=91.1*

MOS ***16*** *16:16:56.5±0.7, 4606N×15382E, h47km, mb4.1/4, Error ellipse: s-maj=39.6km s-min=24.3km az=73.0*

ISC 16 16:16:58.2±2.2, 461N±02×1539E±02, h44km±20km, n12, σ0§45/11, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.86**	**17**	*e*PN	**Pn**	**16 18 09.0**	**+0.2**
ASAJ	**Asahikawa**	**8.26**	**261**	Pn	**Pn**	**16 18 55.1**	**-0.3**
	0.2nm,0.3s,baz=96,slow=18,SNR=2.2						
JHJ	**Hachijo jima 2**	**16.87**	**225**	LR	LR	16 26 09.4	
	2.246nm,21.4s,baz=171,slow=33						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**16 25 31.2**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=72,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**16 25 31.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**16 27 32.9**	**-0.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=35,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**16 27 32.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**68.04**	**200**	P	**P**	**16 27 52.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=18,slow=7.0,SNR=8.0						
WRA	**Warramunga Arr**	**68.04**	**200**	P	**P**	**16 27 52.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**71.73**	**199**	P	**P**	**16 28 16.5**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=12,slow=5.0,SNR=19						
ASAR	**Alice Springs**	**71.73**	**199**	P	**P**	**16 28 16.5**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.34**	**61**	P	**P**	**16 28 47.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=301,slow=3.7,SNR=7.6						

IDC 16 16:17:42.8±5.0, 635S×15106E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, ML2.0/1, Error ellipse: s-maj=82.3km s-min=60.9km az=179.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**232**	Pn	Pn	16 18 58.5	+0.6
	0.4nm,0.3s,baz=29,slow=2.8,SNR=2.8						
PMG				Sn	Sn	16 19 57.3	+1.8
	1.2nm,0.3s,baz=350,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**21.13**	**229**	P	P	16 22 29.4	+0.2
	1.9nm,0.9s,baz=53,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.85**	**222**	P	P	16 22 57.7	-0.1
	0.9nm,0.6s,baz=47,slow=8.4,SNR=18						
ASPA	**Alice Springs**	**23.85**	**222**	*e*P	P	16 22 51.8	-6.0
STKA	**Stephens Creek**	**26.90**	**198**	P	P	16 23 25.3	-0.1
	0.6nm,0.4s,baz=23,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.41**	**242**	*e*P	P	16 23 30.8	+0.8
	3.6nm,0.8s						
FITZ				*e*		16 23 40.4	
FITZ	**Fitzroy Crossi**	**27.41**	**242**	P	P	16 23 30.9	+0.9
	0.7nm,0.4s,baz=44,slow=6.4,SNR=6.6						

IDC ***16*** *16:22:52.9±1.9, 4621N×154.69E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, ML4.1/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/43, Error ellipse: s-maj=57.5km s-min=20.9km az=165.0*

ISCJB ***16*** *16:22:53.3±3.6, 459N±02×1545E±02, h28km±26km, mb4.1/13, Error ellipse: s-maj=31.0km s-min=12.2km az=109.6*

MOS ***16*** *16:22:54.0±1.5, 4588N×154.55E, h33km, mb4.4/8, Error ellipse: s-maj=15.8km s-min=13.4km az=77.5*

NEIC ***16*** *16:22:55.4±1.3, 4652N×154.59E, h10km, mb4.2/8, Error ellipse: s-maj=30.6km s-min=12.1km az=155.0*

ISC 16 16:22:54.4±3.8, 459N±02×1544E±01, h25km±28km, n31, σ0§90/33, mb4.1/13, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.64**	**264**	∥*i*P	**Pn**	**16 24 02.6**	**-0.3**
KUR				*e*S	**Sn**	**16 24 55.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,140nm,0.4s						
KUR				smax			
	comp=N,180nm,0.5s						
KUR				smax			
	comp=E,90nm,0.5s						
SKR	**Severo-Kuril's**	**4.92**	**13**	*e*P	**Pn**	**16 24 07.3**	**+0.5**
PET	**Petropavlovsk**	**7.65**	**20**	*e*Pn	**Pn**	**16 24 38.0**	**-6.2**
PET				*e*Sn	**Sn**	**16 25 58.0**	**-12**
ASAJ	**Asahikawa**	**8.56**	**262**	Pn	**Pn**	**16 25 01.1**	**+4.4**
	comp=E,2.6nm,0.3s,baz=93,slow=12,SNR=18						
ASAJ	**Asahikawa**	**8.56**	**262**	P	**Pn**	**16 25 01.1**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**15.34**	**238**	P	**Pn**	**16 26 29.2**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**15.34**	**238**	P	**Pn**	**16 26 29.2**	**+0.1**
	comp=Z,5.8nm,0.7s						
KSRS	**Korea Array**	**21.43**	**256**	P	**Pn**	**16 27 45.8**	**+5.3**
	comp=Z,1.3nm,0.8s,mb3.3,baz=57,slow=9.6,SNR=5.5						
BILL	**Bilibino**	**23.04**	**11**	*e*P	**P**	**16 27 57.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BILL	**Bilibino**	**23.04**	**11**	*e*P	**P**	**16 27 54.0**	**-3.6**
	comp=Z,6.8nm,1.1s,mb4.0						
SONM	**Songino Array**	**32.47**	**291**	P	**P**	**16 29 27.4**	**+4.7**
	comp=Z,0.3nm,0.7s,baz=87,slow=10,SNR=3.0						
SONM				LR	LR	16 44 15.2	
	comp=Z,265nm,20.4s,baz=272,slow=39						
COLA	**College**	**36.26**	**38**	P	**P**	**16 29 53.7**	**-1.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA	**College**	**36.26**	**38**	P	**P**	**16 29 53.7**	**-1.8**
	comp=Z,3.9nm,0.8s,mb4.4						
INK	**Inuvik**	**41.90**	**32**	P	**P**	**16 30 42.5**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.0,baz=276,slow=7.0,SNR=9.0						
INK	**Inuvik**	**41.90**	**32**	P	**P**	**16 30 42.5**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						

INK	**Inuvik**	**41.90**	**32**	*e*P		**P**	**16 30 41.7**	**-0.9**
	comp=Z,63nm,0.6s,mb5.4							
MKAR	**Makanchi Array**	**48.13**	**299**	P		**P**	**16 31 34.0**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=68,slow=7.3,SNR=9.3							
LSA	**Lhasa**	**51.23**	**275**	P		**P**	**16 32 00.4**	**+4.6**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
LSA	**Lhasa**	**51.23**	**275**	P		**P**	**16 32 00.4**	**+4.7**
	comp=Z,2.8nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**51.67**	**311**	*e*P		**P**	**16 31 58.8**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
CHKZ	**Chkalovo**	**51.67**	**311**	*e*P		**P**	**16 31 58.8**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**52.09**	**310**	P		**P**	**16 32 02.8**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=69,slow=8.1,SNR=4.1							
ZRNK	**Zerenda**	**52.87**	**311**	*e*P		**P**	**16 32 08.0**	**0.0**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**52.87**	**311**	*e*P		**P**	**16 32 08.0**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1							
AAK	**Ala-Archa**	**55.02**	**298**	*e*P		**P**	**16 32 25.2**	**+1.5**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.9							
AAK	**Ala-Archa**	**55.02**	**298**	*e*P		**P**	**16 32 25.2**	**+1.5**
	comp=Z,1.5nm,0.9s,mb4.0							
ARU	**Arti**	**56.25**	**318**	*e*P		**P**	**16 32 31.8**	**-0.7**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
ARU	**Arti**	**56.25**	**318**	*e*P		**P**	**16 32 31.8**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**65.19**	**335**	P		**P**	**16 33 33.1**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.1,baz=54,slow=9.7,SNR=4.6							
TXAR	**Lajitas Array**	**77.12**	**61**	P		**P**	**16 34 46.2**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=311,slow=4.2,SNR=8.0							
TXAR	**Lajitas Array**	**77.12**	**61**	P		**P**	**16 34 46.2**	**+0.5**

NEIC ***16*** *16:25:40.6±0.7, 620S×150.88E, h10km, mb4.6/8, Error ellipse: s-maj=15.9km s-min=12.8km az=133.0*

IDC ***16*** *16:25:43.8±7.3, 648S×151.32E, h50km±58km, mb4.0/7, mb1 4.2/8, mb1mx4.0/14, mbtmp4.1/8, ML2.9/1, Error ellipse: s-maj=48.1km s-min=23.6km az=81.0*

ISCJB ***16*** *16:25:46.3±1.9, 65S±01×15107E±008, h81km±18km, mb4.2/12, Error ellipse: s-maj=19.3km s-min=12.4km az=134.8*

ISC 16 16:25:48.4±1.6, 65S±01×15107E±008, h84km±15km, n25, σ1§01/25, mb4.2/12, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**233**	P	**Pn**	**16 26 56.5**	**-2.1**
	3.3nm,0.3s,baz=70,slow=5.7,SNR=22						
PMG				S	**Sn**	**16 27 55.3**	**+2.0**
	7.1nm,0.3s,baz=0.4,slow=23,SNR=10						
PMG	**Port Moresby**	**4.83**	**233**	*e*Pn	**Pn**	**16 26 56.4**	**-2.2**
HNR	**Honiara**	**9.26**	**109**	Pn	**Pn**	**16 28 00.0**	**+1.1**
CTAO	**Charters Tower**	**14.29**	**199**	Pn	**Pn**	**16 29 03.0**	**-3.6**
	8.7nm,1.1s						
KAKA	**Kakadu**	**19.37**	**250**	*e*P	**Pn**	**16 30 07.6**	**-1.6**
	9.4nm,0.4s						
WB2	**Warramunga Arr**	**21.03**	**229**	*e*P	**P**	**16 30 25.4**	**+0.2**
WRA	**Warramunga Arr**	**21.04**	**229**	P	**P**	**16 30 25.5**	**+0.2**
	9.3nm,0.8s,mb4.2,baz=56,slow=11,SNR=37						
AS31	**Alice Springs**	**23.74**	**222**	*e*P	**P**	**16 30 52.7**	**-0.1**
ASAR	**Alice Springs**	**23.74**	**222**	P	**P**	**16 30 53.0**	**+0.2**
	6.6nm,0.7s,mb4.1,baz=55,slow=9.0,SNR=175						
ASPA	**Alice Springs**	**23.74**	**222**	∥*i*P	**P**	**16 30 52.9**	**+0.1**
STKA	**Stephens Creek**	**26.75**	**198**	*e*P	**P**	**16 31 20.9**	**+0.8**
	5.2nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.75**	**198**	P	**P**	**16 31 20.4**	**+0.4**
	7.4nm,1.0s,mb4.2,baz=17,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	*e*P	**P**	**16 31 26.1**	**+0.7**
	19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.35**	**243**	P	**P**	**16 31 26.1**	**+0.7**
	11nm,0.6s,mb4.6,baz=50,slow=9.2,SNR=36						
MBWA	**Marble Bar**	**33.64**	**241**	*e*P	**P**	**16 32 28.3**	**+7.5**
	10nm,0.7s,mb4.8						
KSM	**Kuching**	**41.45**	**280**	*e*P	**P**	**16 33 27.2**	**+0.4**
KULM	**Kulim**	**51.67**	**282**	*e*P	**P**	**16 34 46.6**	**0.0**
SONM	**Songino Array**	**66.86**	**329**	P	**P**	**16 36 31.8**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=139,slow=5.0,SNR=11						
LSA	**Lhasa**	**67.80**	**306**	*e*P	**P**	**16 36 38.6**	**+1.4**
	5.0nm,1.0s,mb4.3						
VNDA	**Vanda**	**71.21**	**178**	P	**P**	**16 36 56.8**	**-1.4**
	0.9nm,0.8s,mb3.6,baz=315,slow=6.0,SNR=6.4						
BILL	**Bilibino**	**75.14**	**6**	*e*P	**P**	**16 37 20.4**	**-1.0**
	7.1nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**80.48**	**320**	P	**P**	**16 37 50.8**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=93,slow=6.3,SNR=7.9						
AAK	**Ala-Archa**	**84.59**	**314**	*e*P	**P**	**16 38 12.7**	**+0.4**
	2.4nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**90.38**	**323**	*e*P	**P**	**16 38 39.7**	**-0.5**
	0.9nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**149.13**	**285**	PKPbc	PKPbc	16 45 28.1	+1.1
	4.0nm,0.6s,baz=69,slow=3.0,SNR=27						

NEIC ***16*** *16:27:12.9±0.4, 661S×151.19E, h10km, mb4.8/14, Error ellipse: s-maj=10.8km s-min=7.3km az=113.0*

ISCJB ***16*** *16:27:16.5±2.4, 674S±008×151.18E±009, h45km±20km, mb4.5/21, MS3.7/2, Error ellipse: s-maj=15.2km s-min=12.8km az=159.8*

IDC ***16*** *16:27:17.3±5.1, 671S×151.18E, h39km±43km, mb4.2/12, mb1 4.4/13, mb1mx4.4/16, mbtmp4.3/13, ML2.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/34, Error ellipse: s-maj=25.5km s-min=18.7km az=78.0*

ISC 16 16:27:19.1±2.1, 677S±008×15120E±009, h54km±18km, n45, σ1§09/41, mb4.5/21, MS3.7/2, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**237**	Pn	**Pn**	**16 28 27.3**	**-1.3**
	1.2nm,0.3s,baz=76,slow=12,SNR=3.4						
PMG				Sn	**Sn**	**16 29 23.9**	**+1.3**
	7.4nm,0.3s,baz=22,slow=16,SNR=6.7						
HNR	**Honiara**	**9.05**	**108**	LR	LR	16 31 57.9	
	comp=Z,320nm,21.3s,baz=0.2,slow=31						
CTA	**Charters Tower**	**14.08**	**199**	LR	LR	16 35 40.9	
	comp=Z,266nm,18.9s,baz=28,slow=36						
CTAO	**Charters Tower**	**14.08**	**199**	*e*P	**Pn**	**16 30 36.9**	**+1.3**
	7.7nm,0.9s						
KAKA	**Kakadu**	**19.40**	**251**	*e*P	**Pn**	**16 31 40.6**	**-1.6**
	26nm,0.6s						
WB2	**Warramunga Arr**	**20.95**	**230**	*e*P	**P**	**16 31 55.4**	**-2.0**
WRA	**Warramunga Arr**	**20.96**	**230**	P	**P**	**16 31 57.1**	**-0.4**
	23nm,0.8s,baz=54,slow=11,SNR=16						
DZM	**Mont Dzumac**	**21.16**	**138**	P	**P**	**16 31 60.0**	**+0.3**
	14nm,0.9s,mb4.3,baz=8.9,slow=11,SNR=6.3						
DZM				LR	LR	16 39 01.7	
	comp=Z,507nm,18.6s,MS3.9,baz=211,slow=33						
GUMO	**Guam**	**21.18**	**343**	LR	LR	16 38 24.9	
	comp=Z,171nm,20.4s,MS3.4,baz=287,slow=32						
AS31	**Alice Springs**	**23.63**	**223**	*e*P	**P**	**16 32 25.4**	**+0.1**
ASAR	**Alice Springs**	**23.63**	**223**	P	**P**	**16 32 25.2**	**0.0**
	10nm,0.7s,mb4.4,baz=53,slow=7.8,SNR=13						
ASPA	**Alice Springs**	**23.63**	**223**	*e*P	**P**	**16 32 25.4**	**+0.1**
STKA	**Stephens Creek**	**26.54**	**199**	*e*P	**P**	**16 32 51.2**	**-0.5**
	11nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**26.54**	**199**	P	**P**	**16 32 51.4**	**-0.3**
	15nm,0.7s,mb4.6,baz=12,slow=9.8,SNR=12						
FITZ	**Fitzroy Crossi**	**27.34**	**243**	*e*P	**P**	**16 32 58.6**	**-0.3**
	28nm,0.6s,mb5.0						
FITZ				*e*	pP	16 33 08.3	-4.2
FITZ	**Fitzroy Crossi**	**27.34**	**243**	P	**P**	**16 32 58.7**	**-0.2**
	14nm,0.6s,mb4.7,baz=98,slow=8.4,SNR=13						
MBWA	**Marble Bar**	**33.63**	**242**	*e*P	**P**	**16 33 53.9**	**-0.5**
	10nm,1.2s,mb4.9						
MAJO	**Matsushiro**	**44.77**	**345**	P	**P**	**16 35 29.9**	**+2.6**
	10nm,1.0s,mb4.6						
JOM	**Ohasama**	**46.91**	**349**	S	**S**	**16 42 29.9**	**-1.4**
KSRS	**Korea Array**	**49.07**	**335**	P	**P**	**16 36 01.1**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=166,slow=7.4,SNR=3.8						
KULM	**Kulim**	**51.85**	**282**	*e*P	**P**	**16 36 22.3**	**+0.5**
ULN	**Ulaanbaatar**	**66.84**	**329**	*e*P	**P**	**16 38 04.5**	**-0.7**
	2.7nm,0.7s,mb4.4						
SONM	**Songino Array**	**67.16**	**329**	P	**P**	**16 38 06.8**	**-0.5**
	1.6nm,1.0s,mb4.0,baz=138,slow=6.2,SNR=8.5						
LSA	**Lhasa**	**68.06**	**306**	P	**P**	**16 38 13.2**	**+0.3**
	3.7nm,0.8s,mb4.5						
VNDA	**Vanda**	**70.94**	**178**	P	**P**	**16 38 30.9**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=342,slow=7.4,SNR=7.7						
VNDA	**Vanda**	**70.94**	**178**	P	**P**	**16 38 30.9**	**+0.2**
	3.5nm,1.3s,mb4.1						
PALK	**Pallekele**	**71.69**	**280**	*e*P	**P**	**16 38 36.4**	**+1.2**
	18nm,1.2s,mb4.9						
BILL	**Bilibino**	**75.39**	**6**	*e*P	**P**	**16 38 55.6**	**-1.3**
	7.7nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**80.77**	**319**	P	**P**	**16 39 27.2**	**+0.5**
	4.8nm,1.2s,mb4.3,baz=106,slow=6.4,SNR=8.2						
ZAL	**Zalesovo**	**81.92**	**327**	P	**P**	**16 39 31.4**	**-1.5**
	0.9nm,0.6s,mb3.9,baz=24,slow=7.1,SNR=5.1						
MAW	**Mawson**	**83.15**	**203**	P	**P**	**16 39 39.4**	**+0.2**
	8.0nm,1.1s,mb4.7,baz=83,slow=11,SNR=7.2						
QSPA	**South Pole Qui**	**83.20**	**180**	∥*i*P	**P**	**16 39 39.7**	**+0.2**
	8.3nm,0.8s,mb4.8						
KZA	**Kyzart**	**84.19**	**313**	P	**P**	**16 39 46.7**	**+2.1**
	SNR=9.9						
UCH	**Uchtor**	**84.75**	**313**	P	**P**	**16 39 49.4**	**+2.0**
	SNR=8.9						
AAK	**Ala-Archa**	**84.86**	**314**	*e*P	**P**	**16 39 47.0**	**-1.0**
	9.4nm,1.2s,mb4.8						
USP	**Ospenovka**	**85.01**	**314**	P	**P**	**16 39 49.6**	**+0.9**
	SNR=8.7						
AML	**Almayashu**	**85.32**	**313**	P	**P**	**16 39 52.0**	**+1.7**
	SNR=13						
EKS2	**Erkin-Say**	**85.39**	**314**	P	**P**	**16 39 51.8**	**+1.2**
	SNR=9.0						
EGAK	**Eagle**	**86.79**	**23**	*e*P	**P**	**16 39 57.1**	**-0.4**
	9.6nm,1.0s,mb5.0						
ZRNK	**Zerenda**	**90.67**	**323**	P	**P**	**16 40 13.8**	**-2.0**
	1.3nm,0.7s,mb4.4						
INK	**Inuvik**	**90.85**	**21**	P	**P**	**16 40 15.2**	**-1.5**
	5.4nm,1.0s,mb4.8,baz=235,slow=5.2,SNR=3.3						
SYO	**Syowa Base**	**91.29**	**200**	∥*e*P	**P**	**16 40 18.2**	**-0.5**
NVAR	**Mina Array Bea**	**94.55**	**52**	P	**P**	**16 40 34.6**	**+0.9**
	baz=268,slow=8.6,SNR=6.6						
GERES	**GERESS Array B**	**124.86**	**327**	PKP	PKPdf	16 46 13.2	+0.3
	0.4nm,0.6s,baz=79,slow=2.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.32**	**284**	PKPbc	PKPbc	16 47 02.4	+0.5
	2.8nm,0.7s,baz=67,slow=2.4,SNR=7.7						

IDC 16 16:28:21.1±4.8, 4636N×15484E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.6/3, MS4.2/3, Ms1 4.2/3, ms1mx3.3/41, Error ellipse: s-maj=170.4km s-min=42.2km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.18**	**298**	P	P	16 37 02.9	-0.3
	0.2nm,0.5s,baz=69,slow=7.5,SNR=4.2						
FINES	**FINESS Array B**	**64.90**	**336**	P	P	16 39 01.7	-0.5
	1.2nm,0.8s,baz=52,slow=7.5,SNR=3.9						
AKASG	**Malin Array Be**	**72.53**	**327**	LR	LR	17 13 27.0	
	comp=Z,132nm,20.9s,baz=55,slow=37						
SCHQ	**Schefferville**	**73.20**	**24**	LR	LR	17 16 03.6	
	comp=Z,143nm,18.1s,baz=331,slow=39						
TXAR	**Lajitas Array**	**76.64**	**62**	P	P	16 40 13.9	+0.2
	0.2nm,0.3s,baz=306,slow=4.1,SNR=3.6						
GERES	**GERESS Array B**	**79.32**	**335**	LR	LR	17 19 33.1	
	comp=Z,138nm,19.2s,baz=219,slow=39						

IDC ***16*** *16:32:51.0±1.6, 653S×151.16E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.1/7, ML2.7/1, Error ellipse: s-maj=39.8km s-min=26.2km az=111.0*

NEIC ***16*** *16:32:52.6±0.8, 640S×150.97E, h10km, mb4.5/6, Error ellipse: s-maj=19.5km s-min=14.3km az=162.0*

ISCJB ***16*** *16:32:56.0±2.1, 655S±01×151.08E±009, h54km±18km, mb4.2/10, Error ellipse: s-maj=25.3km s-min=12.8km az=144.1*

ISC 16 16:32:58.7±1.8, 66S±01×15108E±009, h60km±15km, n18, σ0§81/17, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.81**	**234**	P	**Pn**	**16 34 07.4**	**-1.1**
	2.3nm,0.3s,baz=66,slow=14,SNR=7.8						
PMG				Sn	**Sn**	**16 35 03.8**	**+0.9**
	3.0nm,0.3s,baz=353,slow=19,SNR=6.1						
HNR	**Honiara**	**9.24**	**109**	*e*Pn	**Pn**	**16 35 09.3**	**+0.2**
WB2	**Warramunga Arr**	**21.00**	**229**	*e*P	**P**	**16 37 36.5**	**-0.5**
WRA	**Warramunga Arr**	**21.01**	**229**	P	**P**	**16 37 37.0**	**-0.2**
	8.2nm,0.8s,mb4.1,baz=53,slow=11,SNR=24						
AS31	**Alice Springs**	**23.71**	**222**	*e*P	**P**	**16 38 04.6**	**-0.4**
AS31				*e*		16 38 14.3	
ASAR	**Alice Springs**	**23.71**	**222**	P	**P**	**16 38 04.8**	**-0.1**
	4.3nm,0.6s,mb4.0,baz=57,slow=9.2,SNR=56						
STKA	**Stephens Creek**	**26.71**	**198**	*e*P	**P**	**16 38 32.9**	**+0.7**
	2.9nm,0.4s,mb4.2						
STKA				*e*		16 38 41.8	

*MOS **16** 16:37:46.0±1.3, 46.34N×154.09E, h33km, mb5.0/31, MS4.2/7, Error ellipse: s-maj=8.6km s-min=6.3km az=110.1*

*SZGRF **16** 16:37:56.3, 47.44N×153.62E, h33km, mb4.8, Kuril Islands, Russia*

ISC 16 16:37:44.1±0.3, 4633N±004×15428E±005, h10km, (h18km±4.0km:pP-P), n188, σ1f27/192, mb4.7/71, MS4.2/21, 7C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.53**	**15**	*e*	P		**Pn**	**16 38 52.5**	**-0.2**
SKR						AMB	AMB	16 38 57.5	
	80nm,0.5s								
SKR						AMB	AMB	16 38 57.5	
	90nm,0.5s								
SKR				*e*	S		**Sn**	**16 39 43.0**	**-2.3**
SKR						A		16 39 44.9	
	160nm,0.6s								
SKR						A		16 39 44.9	
	150nm,0.5s								
SKR						A		16 39 44.9	
	80nm,0.5s								
SKR						A		16 39 48.0	
	2μm,4.0s								
SKR						A		16 39 48.0	
	2μm,4.0s								
SKR						AMS	AMS	16 40 51.0	
	5μm,16.0s								
SKR						AMS	AMS	16 40 51.0	
	2μm,16.0s								
SKR						AMS	AMS	16 40 51.0	
	3μm,16.0s								
SKR						AMS	AMS	16 40 51.0	
	6μm,16.0s								
KUR	**Kuril'sk**	**4.62**	**259**⇑	*i*	P		**Pn**	**16 38 50.8**	**-3.1**
KUR						AMB	AMB	16 38 51.8	
	150nm,0.5s								
KUR						AMB	AMB	16 38 51.8	
	90nm,0.5s								
KUR						AMB	AMB	16 38 51.8	
	530nm,0.5s								
KUR				*i*	S		**Sn**	**16 39 42.0**	**-5.5**
KUR						A		16 39 44.5	
	550nm,0.6s								
KUR						A		16 39 44.5	
	430nm,0.6s								
KUR						A		16 39 47.6	
	2μm,2.5s								
KUR						A		16 39 47.6	
	4μm,2.5s								
KUR						AMS	AMS	16 41 56.0	
	4μm,14.0s								
KUR						AMS	AMS	16 41 56.0	
	4μm,14.0s								
KUR						AMS	AMS	16 41 56.0	
	3μm,14.0s								
YUK	**Yuzh-Kuril'sk**	**6.37**	**252**	*e*	P		**Pn**	**16 39 17.7**	**-0.3**
YUK						AMB	AMB	16 39 19.7	
	380nm,0.5s								
YUK				*e*	S		**Sn**	**16 40 27.0**	**-3.9**
YUK						A		16 40 37.0	
	570nm,0.5s								
YUK						A		16 40 37.0	
	380nm,0.5s								
PET	**Petropavlovsk**	**7.28**	**21**	*e*	Pn		**Pn**	**16 39 27.9**	**-2.6**
PET				*e*	Sn		**Sn**	**16 40 47.3**	**-5.8**
YSS	**Yuzh-Sakhalins**	**7.96**	**279**⇑	*e*	P		**Pn**	**16 39 43.5**	**+3.7**
YSS						AMB	AMB	16 39 46.0	
	50nm,0.7s								
YSS						AMB	AMB	16 39 46.0	
	30nm,0.7s								
YSS				*e*	LQ			16 41 32.0	
YSS						AMS	AMS	16 43 52.0	
	500nm,14.0s								
YSS						AMS	AMS	16 43 52.0	
	700nm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.96**	**279**⇑	*e*	PN		**Pn**	**16 39 43.5**	**+3.7**
YSS				*e*	S		**Sn**	**16 41 12.0**	**+2.2**
YSS						pmax	pmax		
	comp=E,30nm,0.7s								
YSS						pmax	pmax		
	comp=E,50nm,0.7s								
YSS						MLR	MLR		
	comp=E,500nm,14.0s								
YSS						MLR	MLR		
	comp=Z,700nm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.96**	**279**	*e*	Pn		**Pn**	**16 39 43.0**	**+3.2**
	comp=Z,36nm,0.6s								
JMP	**Maruseppu**	**8.06**	**257**		P		**Pn**	**16 39 41.5**	**+0.4**
ASAJ	**Asahikawa**	**8.54**	**259**		Pn		**Pn**	**16 39 48.3**	**+0.6**
	comp=Z,4.3nm,0.3s,baz=106,slow=23,SNR=25								
ASAJ						LR	LR	16 43 02.5	
	comp=Z,426nm,21.8s,baz=332,slow=38								
ASAJ	**Asahikawa**	**8.54**	**259**		P		**Pn**	**16 39 49.0**	**+1.3**
JWK2	**Keihoku**	**8.71**	**268**		P		**Pn**	**16 39 54.6**	**+4.5**
JEM	**Erimo**	**9.08**	**246**		P		**Pn**	**16 39 54.4**	**-0.7**
JEW	**Eniwo**	**9.79**	**254**		P		**Pn**	**16 40 05.3**	**+0.4**
JOT	**Ohata**	**10.75**	**247**		P		**Pn**	**16 40 17.1**	**-1.0**
JOT					S		**Sn**	**16 42 06.9**	**-12**
JSH	**Shimam**	**10.81**	**255**		P		**Pn**	**16 40 19.3**	**+0.4**
JTM	**Tenmabayashi**	**11.06**	**245**		P		**Pn**	**16 40 19.4**	**-3.0**
JTM					S		**Sn**	**16 42 15.0**	**-11**
NKL	**Nikolayevsk**	**11.13**	**313**	*e*	L			16 43 33.0	
NKL						AMS	AMS	16 46 32.0	
	comp=Z,1μm,15.0s								
NKL						AMS	AMS	16 46 32.0	
	comp=Z,900nm,15.0s								
NKL						AMS	AMS	16 46 32.0	
	comp=Z,2μm,15.0s								
JMM	**Marumori**	**13.09**	**235**		P		**Pn**	**16 40 45.4**	**-4.6**
JMM					S		**Sn**	**16 43 01.1**	**-15**
HABR	**Khabarovsk**	**13.20**	**286**	*e*	PN		**Pn**	**16 40 49.5**	**-2.1**
MA2	**Magadan**	**13.44**	**352**	*e*	PN		**Pn**	**16 40 54.9**	**+0.1**
JSD	**Sado**	**14.46**	**241**		P		**Pn**	**16 41 05.1**	**-3.6**
JYT	**Yasato**	**14.60**	**231**		S		**Sn**	**16 43 38.2**	**-14**
KLR	**Kul'dur**	**15.41**	**289**	*e*	P		**Pn**	**16 41 19.2**	**-2.3**
KLR						pmax	pmax		
	comp=Z,70nm,2.2s								
KLR						MLR	MLR		
	comp=N,600nm,13.0s								
KLR						MLR	MLR		
	comp=E,900nm,13.0s								
KLR						MLR	MLR		
	comp=Z,3μm,13.0s								
JRY	**Ryogami san**	**15.47**	**234**		P		**Pn**	**16 41 19.4**	**-2.9**
MAJO	**Matsushiro**	**15.49**	**237**	*e*	P		**Pn**	**16 41 15.8**	**-6.8**
MAJO						pmax	pmax		
	comp=Z,23nm,0.8s								
MAJO	**Matsushiro**	**15.49**	**237**	*e*	Pn		**Pn**	**16 41 15.8**	**-6.8**
	comp=Z,23nm,0.8s								
MAT	**Matsushiro**	**15.49**	**237**		P		**Pn**	**16 41 19.9**	**-2.7**
MAT	**Matsushiro**	**15.49**	**237**		P		**Pn**	**16 41 19.6**	**-3.0**
MJAR	**Matsushiro Arr**	**15.49**	**237**		Pn		**Pn**	**16 41 19.9**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=35,slow=12,SNR=8.7								
JWT	**Wachi**	**18.01**	**239**		P		**Pn**	**16 41 53.7**	**-0.7**
ZEA	**Zeya**	**18.80**	**303**	*e*	P		**Pn**	**16 42 03.6**	**-0.5**
ZEA						AMB	AMB	16 42 05.4	
	comp=Z,7.0nm,0.5s								
JHS	**Saijyo**	**19.58**	**242**		P		**Pn**	**16 42 12.4**	**-1.0**
CN2	**Changchun**	**20.47**	**273**	*e*	P		**P**	**16 42 19.6**	**-2.3**
CN2						AMB	AMB		
	comp=Z,20nm,0.5s								
CLNS	**Chul'man**	**20.91**	**311**	*e*	P		**P**	**16 42 26.1**	**-0.5**
CLNS						pmax	pmax		
	comp=Z,15nm,0.5s								
CLNS						pmax	pmax		
	comp=N,16nm,1.2s								
CLNS						pmax	pmax		
	comp=E,15nm,1.4s								
CLNS						MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5								
CLNS						MLR	MLR		
	comp=N,300nm,15.0s,MS4.7								
CLNS						MLR	MLR		
	comp=E,2μm,13.0s,MS4.7								
YAK	**Yakutsk**	**21.11**	**327**	*e*	P		**P**	**16 42 27.2**	**-1.6**
YAK				*e*				16 42 51.5	
YAK				*e*	S		**S**	**16 46 22.2**	**-1.5**
YAK				*e*	SS			16 46 42.4	
YAK						pmax	pmax		
	comp=Z,16nm,0.9s,mb4.3								
YAK						pmax	pmax		
	comp=N,6.0nm,1.2s								
YAK						pmax	pmax		
	comp=E,10.0nm,1.2s								
YAK						pmax	pmax		
	comp=Z,16nm,1.1s,mb4.3								
YAK						pmax	pmax		
	comp=N,17nm,1.6s								
YAK						pmax	pmax		
	comp=E,15nm,1.3s								
YAK						smax			
	comp=N,217nm,2.7s								
YAK						smax			
	comp=Z,60nm,2.8s								
YAK						smax			
	comp=E,143nm,2.6s								
YAK						MLR	MLR		
	comp=Z,519nm,15.0s,MS4.0								
YAK						MLR	MLR		
	comp=N,379nm,13.0s,MS4.0								
YAK						MLR	MLR		
	comp=E,267nm,18.0s,MS4.0								
YAK	**Yakutsk**	**21.11**	**327**	*e*	P		**P**	**16 42 26.1**	**-2.7**
	comp=E,19nm,0.7s,mb4.5								
KSRS	**Korea Array**	**21.45**	**255**		P		**P**	**16 42 33.5**	**+1.0**
	comp=E,8.0nm,0.6s,mb4.2,baz=58,slow=9.8,SNR=27								
KSRS						LR	LR	16 50 44.8	
	comp=E,193nm,18.4s,MS3.5,baz=67,slow=36								
INCN	**Inchon**	**22.30**	**257**	*e*	P		**P**	**16 42 42.3**	**+0.7**
SNY	**Shenyang**	**22.43**	**270**⇑		P		**P**	**16 42 43.3**	**+0.3**
SNY					AP			16 42 46.4	
SNY					XP		sP	16 42 47.9	+0.8
SNY					AMB		AMB		
	comp=Z,38nm,0.6s,mb5.0								
SNY					AMB		AMB		
	comp=Z,224nm,7.7s								
SNY					LR		LR		
	comp=E,360nm,15.1s								
SNY					LR		LR		
	comp=Z,387nm,15.0s,MS4.0								
BILL	**Bilibino**	**22.63**	**12**	*e*	P		**P**	**16 42 44.1**	**-1.0**
BILL					pmax		pmax		
	comp=Z,28nm,0.8s,mb4.7								
BILL	**Bilibino**	**22.63**	**12**	*e*	P		**P**	**16 42 44.1**	**-1.0**
	comp=Z,28nm,0.8s,mb4.8								
HIA	**Hailar**	**23.27**	**290**	*e*	P		**P**	**16 42 46.6**	**-5.2**
HIA					pmax		pmax		
	comp=E,5.0nm,0.6s								
HIA	**Hailar**	**23.27**	**290**	*e*	P		**P**	**16 42 46.6**	**-5.2**
	comp=Z,4.8nm,0.6s,mb4.1								
BOD	**Bodaibo**	**26.88**	**310**	*e*	P		**P**	**16 43 23.2**	**-1.8**
BOD					pmax		pmax		
	comp=Z,15nm,1.2s,mb4.4								
BJT	**Baijiatuau**	**28.30**	**271**	*e*	P		**P**	**16 43 35.0**	**-2.7**
BJT					pmax		pmax		
	comp=Z,13nm,0.6s								
BJT	**Baijiatuau**	**28.30**	**271**	*e*	P		**P**	**16 43 35.0**	**-2.7**
	comp=Z,12nm,0.6s,mb4.7								
HHC	**Hu-ho-hao-te**	**31.13**	**276**	*e*	P		**P**	**16 44 03.5**	**+0.7**
HHC					PP		PP	16 45 04.9	-8.1
HHC					PCP		PcP	16 46 58.4	+0.5
HHC					AMB		AMB		
	comp=Z,22nm,1.5s,mb4.8								
HHC					AMB		AMB		
	comp=Z,174nm,8.4s								
HHC					LR		LR		
	comp=N,294nm,13.5s,MS4.3								
HHC					LR		LR		
	comp=E,285nm,13.5s,MS4.3								
HHC					LR		LR		
	comp=Z,262nm,13.5s,MS4.1								
ULN	**Ulaanbaatar**	**31.80**	**290**	*e*	P		**P**	**16 44 05.8**	**-2.9**
ULN					pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.5								
ULN	**Ulaanbaatar**	**31.80**	**290**	*e*	P		**P**	**16 44 05.8**	**-2.9**
	comp=Z,7.9nm,1.1s,mb4.5								
SONM	**Songino Array**	**32.23**	**290**		P		**P**	**16 44 12.1**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.9,baz=67,slow=8.7,SNR=11								
SONM					PcP		PcP	16 47 00.7	-0.2
	comp=Z,1.1nm,0.7s,baz=122,slow=2.4,SNR=5.9								
SONM					LR		LR	16 58 02.4	
	comp=Z,252nm,18.3s,MS3.9,baz=265,slow=38								
SONM	**Songino Array**	**32.23**	**290**		P		**P**	**16 44 12.1**	**-0.4**
SONM								16 47 00.7	
TLY	**Talaya**	**33.09**	**298**	*e*	P		**P**	**16 44 19.2**	**-0.8**
TLY				*e*				16 44 29.8	
TLY					pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7								
TLY					MLR		MLR		
	comp=Z,460nm,14.0s,MS4.3								
TLY	**Talaya**	**33.09**	**298**	*e*	P		**P**	**16 44 19.1**	**-0.9**
	comp=Z,6.9nm,0.7s,mb4.7								
ZAK	**Zakamensk**	**33.59**	**296**	*e*	P		**P**	**16 44 24.0**	**-0.3**
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.4s,mb4.2								
KDAK	**Kodiak Island**	**33.75**	**50**		P		**P**	**16 44 24.6**	**-1.1**
	comp=Z,16nm,0.9s,mb5.0,baz=273,slow=5.0,SNR=6.4								
PMR	**Palmer**	**35.35**	**44**		P		**P**	**16 44 39.7**	**+0.1**
PMR					pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8								
PMR	**Palmer**	**35.35**	**44**		P		**P**	**16 44 39.7**	**+0.1**
	comp=Z,9.9nm,0.8s,mb4.8								
MCK	**McKinley**	**35.46**	**40**	*e*	P		**P**	**16 44 39.4**	**-1.1**
MCK					pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7								
MCK	**McKinley**	**35.46**	**40**	*e*	P		**P**	**16 44 39.4**	**-1.1**
	comp=Z,11nm,1.1s,mb4.7								
SML	**Sawmill**	**35.73**	**43**	*e*	P		**P**	**16 44 42.8**	**0.0**
COLA	**College**	**35.97**	**38**	*e*	P		**P**	**16 44 45.5**	**+0.5**
COLA					pmax		pmax		
	comp=Z,33nm,1.0s,mb5.2								
COLA	**College**	**35.97**	**38**	*e*	P		**P**	**16 44 45.5**	**+0.5**
	comp=Z,33nm,1.0s,mb5.2								
XAN	**Xi'an**	**36.29**	**267**		P		**P**	**16 44 47.3**	**-0.3**
XAN					AP		pP	16 44 57.8	+7.1
XAN					AMB		AMB		
	comp=Z,8.0nm,1.3s,mb4.5								
XAN					LR		LR		
	comp=N,101nm,12.6s,MS4.0								
XAN					LR		LR		
	comp=E,132nm,14.0s,MS4.0								
XAN					LR		LR		
	comp=Z,188nm,16.8s,MS3.9								
LZH	**Lanzhou**	**38.71**	**273**	*e*	P		**P**	**16 45 10.1**	**+1.9**
LZH					AP		pP	16 45 16.3	+5.0
LZH					XP		sP	16 45 18.4	+5.9
LZH					AMB		AMB		
	comp=Z,30nm,1.0s,mb5.0								
LZH					AMB		AMB		
	comp=Z,150nm,4.5s								
LZH					LR		LR		
	comp=E,379nm,12.5s								
LZH					LR		LR		
	comp=Z,652nm,13.5s,MS4.6								
LZH	**Lanzhou**	**38.71**	**273**	*e*	P		**P**	**16 45 10.1**	**+1.9**
	comp=Z,30nm,1.0s,mb5.0								
LZH					pP		pP	16 45 16.3	+5.0
LZH					sP		sP	16 45 18.4	+5.9
LZH					LR		LR		
	comp=Z,650nm,13.5s,MS4.6								
EGAK	**Eagle**	**38.84**	**38**	*e*	P		**P**	**16 45 08.2**	**-1.0**
	comp=Z,34nm,1.1s,mb5.0								
DAWY	**Dawson**	**39.66**	**39**	*e*	P		**P**	**16 45 16.4**	**+0.3**
GTA	**Gaotai**	**39.83**	**280**	*e*	P		**P**	**16 45 19.5**	**+1.9**
GTA					AP		pP	16 45 23.8	+3.1
GTA					XP		sP	16 45 26.6	+4.7
GTA					PCP		PcP	16 47 24.6	+1.1
GTA					AMB		AMB		
	comp=Z,15nm,1.4s,mb4.5								
GTA					AMB		AMB		
	comp=Z,135nm,6.5s								
GTA					LR		LR		
	comp=N,200nm,14.8s,MS4.2								
GTA					LR		LR		
	comp=E,210nm,16.0s,MS4.2								
GTA					LR		LR		
	comp=Z,291nm,14.4s,MS4.3								
INK	**Inuvik**	**41.58**	**32**		P		**P**	**16 45 32.7**	**+0.7**
	comp=Z,6.7nm,0.5s,mb4.5,baz=297,slow=6.3,SNR=57								
INK	**Inuvik**	**41.58**	**32**		P		**P**	**16 45 32.7**	**+0.7**
INK					pmax		pmax		
	comp=Z,7.0nm,0.5s								
INK	**Inuvik**	**41.58**	**32**	*e*	P		**P**	**16 45 32.3**	**+0.4**
	comp=Z,280nm,0.6s,mb6.1								
CD2	**Chengdu**	**41.65**	**267**	*e*	P		**P**	**16 45 32.8**	**+0.2**
CD2					AMB		AMB		
	comp=Z,20nm,1.4s,mb4.5								
CD2					AMB		AMB		
	comp=Z,40nm,5.2s								
GYA	**Guiyang**	**42.42**	**259**⇑	*i*	P		**P**	**16 45 39.8**	**+1.0**
GYA					AP		pP	16 45 42.9	+1.0
GYA					XP		sP	16 45 46.8	+3.6
GYA					PP		PP	16 47 20.3	+3.3
GYA					PCP		PcP	16 47 33.8	+1.9
GYA					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5								
GYA					AMB		AMB		
	comp=Z,120nm,4.9s								
GYA					LR		LR		
	comp=N,480nm,16.8s,MS4.5								
GYA					LR		LR		
	comp=E,340nm,17.0s,MS4.5								
GYA					LR		LR		
	comp=Z,410nm,17.2s,MS4.4								
ZAL	**Zalesovo**	**43.53**	**306**		P		**P**	**16 45 46.9**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.2,baz=42,slow=7.6,SNR=9.4								
ZAL					PcP		PcP	16 47 35.7	+0.1
	comp=Z,2.1nm,0.5s,baz=52,slow=6.1,SNR=5.0								
ZAL					LR		LR	17 05 12.4	
	comp=Z,297nm,19.3s,MS4.2,baz=33,slow=38								
ZAL	**Zalesovo**	**43.53**	**306**		P		**P**	**16 45 46.9**	**-0.9**
ZAL								16 47 35.7	
ZAL	**Zalesovo**	**43.53**	**306**		P		**P**	**16 45 46.9**	**-0.9**
ZAL					PcP		PcP	16 47 35.7	+0.1
ZAL					LR		LR	17 05 12.4	
WMQ	**Urumqi**	**45.83**	**292**⇑	*i*	P		**P**	**16 46 08.4**	**+2.2**
WMQ					AP		pP	16 46 12.9	+3.6
WMQ					XP		sP	16 46 15.4	+4.8
WMQ					PCP		PcP	16 47 46.4	+2.9
WMQ					PP		PP	16 47 55.9	+2.4
WMQ					PPP			16 48 39.4	
WMQ					AMB		AMB		
	comp=Z,9.0nm,0.5s,mb5.0								
WMQ					AMB		AMB		
	comp=Z,146nm,4.5s								
WMQ					LR		LR		
	comp=N,260nm,18.6s,MS4.3								
WMQ					LR		LR		
	comp=E,122nm,17.8s,MS4.3								
WMQ					LR		LR		
	comp=Z,146nm,17.8s,MS4.0								
KMI	**Kunming**	**45.96**	**261**		P		**P**	**16 46 08.4**	**+1.2**
KMI					AP		pP	16 46 18.0	+7.6
KMI					AMB		AMB		
	comp=Z,6.0nm,1.6s,mb4.3								
KMI					LR		LR		
	comp=N,117nm,14.7s								
KMI					LR		LR		
	comp=E,111nm,21.8s								
KMI					LR		LR		
	comp=Z,162nm,17.1s,MS4.0								
KMI	**Kunming**	**45.96**	**261**		P		**P**	**16 46 08.4**	**+1.2**
	comp=Z,6.0nm,1.6s,mb4.3								
KMI					pP		pP	16 46 18.0	+7.6
KMI					sP		sP	16 46 23.0	+11
KMI					S		**S**	**16 52 53.7**	**+1.7**
KMI					LR		LR		
	comp=Z,160nm,17.1s,MS4.0								
MK31	**Makanchi Array**	**47.85**	**298**	*e*	P		**P**	**16 46 20.7**	**-1.3**
MKAR	**Makanchi Array**	**47.85**	**298**		P		**P**	**16 46 21.4**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.6,baz=69,slow=7.4,SNR=46								
MKAR					PcP		PcP	16 47 50.5	-0.1
	comp=Z,1.3nm,0.6s,baz=176,slow=1.0,SNR=5.6								
MKAR					LR		LR	17 09 20.9	
	comp=Z,233nm,18.1s,MS4.2,baz=70,slow=40								
MKAR	**Makanchi Array**	**47.85**	**298**	*e*	P		**P**	**16 46 21.2**	**-0.8**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.5s								
YKA	**Yellowknife Ar**	**50.78**	**37**		P		**P**	**16 46 44.2**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=294,slow=6.8,SNR=4.0								
YKA	**Yellowknife Ar**	**50.78**	**37**		P		**P**	**16 46 44.2**	**-0.2**
RES	**Resolute Bay**	**50.98**	**19**	*e*	P		**P**	**16 46 46.1**	**+0.2**
	comp=Z,655nm,1.2s								
LSA	**Lhasa**	**51.10**	**274**		P		**P**	**16 46 49.3**	**+2.5**
LSA	**Lhasa**	**51.10**	**274**	*e*	P		**P**	**16 46 48.0**	**+1.2**
LSA					pmax		pmax		
	comp=Z,14nm,0.6s,mb5.1								
LSA	**Lhasa**	**51.10**	**274**	*e*	P		**P**	**16 46 48.0**	**+1.2**
	comp=Z,14nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**51.32**	**311**	*e*	P		**P**	**16 46 47.7**	**-0.7**
CHKZ					pmax		pmax		
	comp=Z,19nm,0.6s,mb5.2								
CHKZ	**Chkalovo**	**51.32**	**311**	*e*	P		**P**	**16 46 47.7**	**-0.7**
	comp=Z,19nm,0.6s,mb5.2								
VOSK	**Vostochnaya**	**51.58**	**310**		P		**P**	**16 46 50.0**	**-0.4**
VOSK					pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5								
BVA0	**Borovoye Array**	**51.75**	**310**		P		**P**	**16 46 51.4**	**-0.3**
BVA0					pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.8								
BVAR	**Borovoye Array**	**51.75**	**310**		P		**P**	**16 46 51.7**	**0.0**
	comp=Z,6.1nm,0.5s,mb4.8,baz=53,slow=7.7,SNR=40								
BVAR					LR		LR	17 08 04.8	
	comp=Z,192nm,19.9s,MS4.1,baz=320,slow=35								
BRVK	**Borovoye**	**51.79**	**310**	*e*	P		**P**	**16 46 51.6**	**-0.4**
BRVK					pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9								
BRVK	**Borovoye**	**51.79**	**310**	*e*	P		**P**	**16 46 51.6**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.9								
ZRNK	**Zerenda**	**52.52**	**311**	*e*	P		**P**	**16 46 56.8**	**-0.6**
ZRNK					pmax		pmax		
	comp=Z,9.0nm,0.5s,mb5.0								
ZRNK	**Zerenda**	**52.52**	**311**	*e*	P		**P**	**16 46 56.8**	**-0.5**
	comp=Z,9.4nm,0.5s,mb5.0								
USP	**Ospenovka**	**54.39**	**298**		P		**P**	**16 47 12.6**	**+1.4**
	SNR=13								
KBK	**Karagaybulak**	**54.45**	**297**		P		**P**	**16 47 13.5**	**+1.9**
	SNR=7.9								
FRU	**Bishkek**	**54.56**	**297**	*e*	P		**P**	**16 47 15.0**	**+2.6**
FRU				*e*				16 47 23.0	
KZA	**Kyzart**	**54.58**	**296**		P		**P**	**16 47 15.4**	**+2.8**
	SNR=9.4								
AAK	**Ala-Archa**	**54.74**	**297**		P		**P**	**16 47 14.9**	**+1.2**
	SNR=12								
EKS2	**Erkin-Say**	**55.17**	**298**		P		**P**	**16 47 18.8**	**+2.0**
	SNR=13								
AML	**Almayashu**	**55.52**	**297**		P		**P**	**16 47 21.8**	**+2.5**
	SNR=5.7								
KSH	**Kashi**	**55.56**	**293**	*e*	P		**P**	**16 47 22.0**	**+2.4**
KSH				*e*	AP		pP	16 47 25.4	+2.6
KSH				*e*	XP		sP	16 47 28.5	+4.5
KSH				*e*	PCP		PcP	16 48 20.8	+1.4
KSH				*e*	PP		PP	16 49 28.1	+4.5
KSH				*e*	SCP		ScP	16 52 17.8	-0.5
KSH				*e*	S		**S**	**16 55 07.1**	**+2.0**
KSH				*e*	XS		sS	16 55 16.3	+5.9
KSH				*e*	PS			16 55 27.8	
KSH				*e*	SCS		ScS	16 57 07.3	-1.6
KSH				*e*	SS		SS	16 58 50.3	+0.3
KSH					AMB		AMB		
	comp=Z,447nm,4.8s								
JIRN	**Jiri**	**55.78**	**276**	*e*	P		**P**	**16 47 23.1**	**+1.9**
	comp=Z,26nm,0.6s,mb5.4								
GUN	**Gumba**	**55.84**	**276**	*e*	P	

ORR					MLR	MLR		
	comp=Z,240nm,18.0s,MS4.4							
QLMT	**Earthquake Lak**	**61.99**	**53**	*e*P	**P**		**16 48 04.8**	**+0.4**
PDAR	**Pinedale Array**	**64.34**	**54**	P	**P**		**16 48 20.4**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.4,baz=298,slow=3.2,SNR=19							
FIA1	**FINESS Array S**	**64.76**	**335**	*e*P	**P**		**16 48 20.3**	**-2.4**
FINES	**FINESS Array B**	**64.76**	**335**	P	**P**		**16 48 21.9**	**-0.8**
	comp=Z,3.4nm,0.4s,mb4.7,baz=34,slow=7.7,SNR=18							
FINES				LR	LR		17 16 59.2	
	comp=Z,149nm,19.7s,MS4.2,baz=163,slow=36							
OBN	**Obninsk**	**66.11**	**326**‖	*e*P	**P**		**16 48 30.7**	**-0.7**
OBN				pmax	pmax			
	comp=Z,32nm,1.6s,mb5.1							
SRU	**San Rafael**	**66.17**	**58**	*e*P	**P**		**16 48 31.9**	**+0.1**
SRU				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
SRU	**San Rafael**	**66.17**	**58**	*e*P	**P**		**16 48 31.9**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**68.38**	**200**	P	**P**		**16 48 45.7**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=20,slow=6.7,SNR=7.4							
NB2	**NORSAR Subarra**	**68.89**	**342**	P	**P**		**16 48 48.5**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.89**	**342**	P	**P**		**16 48 48.8**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.3,baz=27,slow=6.3,SNR=13							
NOA				LR	LR		17 19 01.8	
	comp=Z,86nm,21.5s,MS4.0,baz=45,slow=36							
FITZ	**Fitzroy Crossi**	**69.16**	**209**	P	**P**		**16 48 49.0**	**-1.6**
	comp=Z,3.6nm,0.9s,mb4.3,baz=4.2,slow=9.0,SNR=3.6							
ANMO	**Albuquerque**	**71.37**	**59**‖	*e*P	**P**		**16 49 05.1**	**+0.9**
KIV	**Kislovodsk**	**71.67**	**315**	*e*P	**P**		**16 49 06.8**	**+0.8**
KIV				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0							
KIV				MLR	MLR			
	comp=Z,178nm,17.0s,MS4.4							
KIV	**Kislovodsk**	**71.67**	**315**	*e*P	**P**		**16 49 08.9**	**+2.9**
	comp=Z,13nm,0.6s,mb5.0							
ASAR	**Alice Springs**	**72.07**	**200**	P	**P**		**16 49 08.3**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=15,slow=6.1,SNR=15							
AKASG	**Malin Array Be**	**72.34**	**327**	P	**P**		**16 49 09.7**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.5,baz=34,slow=6.0,SNR=10							
KIEV	**Kiev**	**72.36**	**327**	*e*P	**P**		**16 49 09.2**	**-0.9**
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
KIEV	**Kiev**	**72.36**	**327**	*e*P	**P**		**16 49 09.2**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.6							
MNTX	**Cornudas Mount**	**74.28**	**61**	*e*P	**P**		**16 49 21.1**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0							
STHS	**Stebnicka Huta**	**76.28**	**331**	*e*P	**P**		**16 49 34.1**	**+1.1**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
STHS	**Stebnicka Huta**	**76.28**	**331**	*e*P	**P**		**16 49 34.1**	**+1.1**
	comp=Z,2.6nm,0.6s,mb4.3							
KOLS	**Kolonicke sedl**	**76.34**	**330**	*e*P	**P**		**16 49 33.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**76.65**	**330**	*e*PP	PP		16 52 35.0	+7.7
LTX	**Lajitas**	**77.00**	**61**	*e*P	**P**		**16 49 36.8**	**-0.2**
LTX				*e*			16 49 47.1	
LTX				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
LTX	**Lajitas**	**77.00**	**61**	*e*P	**P**		**16 49 36.8**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.7							
LTX				*e*			16 49 47.0	
TXAR	**Lajitas Array**	**77.00**	**61**	P	**P**		**16 49 37.2**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.6,baz=306,slow=4.0,SNR=33							
TXAR	**Lajitas Array**	**77.00**	**61**	P	**P**		**16 49 37.2**	**+0.1**
DPC	**Dobruska-Polom**	**77.06**	**334**	*e*P	**P**		**16 49 38.6**	**+1.2**
DPC				*ex*	x		16 49 58.4	
CLL	**Collm**	**77.18**	**336**	*e*P	**P**		**16 49 38.0**	**-0.1**
CLL				*e*PcP	PcP		16 49 49.0	+0.2
CLL				*ex*	x		16 50 00.0	
MORC	**Moravsky Berou**	**77.19**	**333**	*e*P	**P**		**16 49 37.4**	**-0.7**
MORC				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.4							
MORC	**Moravsky Berou**	**77.19**	**333**	*e*P	**P**		**16 49 37.4**	**-0.7**
	comp=Z,6.9nm,1.4s,mb4.4							
KECS	**Kecovo**	**77.34**	**331**	*e*P	**P**		**16 49 34.7**	**-4.3**
VYHS	**Vyhne**	**77.89**	**331**	*e*P	**P**		**16 49 39.8**	**-2.2**
VYHS				pmax	pmax			
	comp=Z,142nm,4.3s							
VYHS	**Vyhne**	**77.89**	**331**	*e*P	**P**		**16 49 39.8**	**-2.2**
	comp=Z,142nm,4.3s							
PRU	**Pruhonice**	**77.92**	**335**	*e*P	**P**		**16 49 46.9**	**+4.7**
MALT	**Malatya**	**78.03**	**314**	*e*P	**P**		**16 49 42.1**	**-0.7**
MALT				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
MALT	**Malatya**	**78.03**	**314**	*e*P	**P**		**16 49 42.1**	**-0.7**
	comp=Z,5.3nm,1.0s,mb4.4							
STKA	**Stephens Creek**	**78.68**	**191**	P	**P**		**16 49 45.7**	**-0.7**
	comp=Z,2.9nm,1.0s,mb4.2,baz=130,slow=22,SNR=4.1							
STKA	**Stephens Creek**	**78.68**	**191**	P	**P**		**16 49 45.7**	**-0.7**
KHC	**Kasperske Hory**	**78.97**	**335**	*e*P	**P**		**16 49 48.4**	**+0.4**
GRA1	**Grafenberg Arr**	**79.13**	**337**	*e*P	**P**		**16 49 49.5**	**+0.6**
	comp=Z,11nm,1.4s,mb4.6							
GRF	**Grafenberg Arr**	**79.13**	**337**	*e*P	**P**		**16 49 49.5**	**+0.6**
	comp=Z,11nm,1.4s,mb4.6							
GRF	**Grafenberg Arr**	**79.13**	**337**	*e*P	**P**		**16 49 49.5**	**+0.6**
GRF				pmax	pmax			
	comp=Z,11nm,1.4s,mb4.6							
GRF	**Grafenberg Arr**	**79.13**	**337**	*e*P	**P**		**16 49 49.5**	**+0.6**
GRF				pmax	pmax			
	comp=Z,11nm,1.4s,mb4.6							
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**		**16 49 49.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.0,SNR=7.9							
MIB	**Mutribah**	**79.57**	**302**	*e*P	**P**		**16 49 52.4**	**+1.2**
NAY	**Al-Naaiem**	**80.03**	**302**	*e*P	**P**		**16 49 54.7**	**+0.9**
NAY				AMb	AMB		16 49 56.1	
	comp=Z,19nm,1.2s,mb4.9							
RDF	**Al-Radifah**	**80.09**	**302**	*e*P	**P**		**16 49 55.4**	**+1.3**
RDF				AMb	AMB		16 49 56.9	
	comp=Z,88nm,1.6s,mb5.5							
PPT	**Papeete**	**81.26**	**127**	LR	LR		17 18 59.0	
	comp=Z,223nm,20.2s,MS4.5,baz=69,slow=30							
CDF	**Champ du Feu**	**81.35**	**338**	*e*P	**P**		**16 50 01.4**	**+0.6**
	comp=Z,32nm,1.3s,mb4.8							
CDF	**Champ du Feu**	**81.35**	**338**	*e*P	**P**		**16 50 01.4**	**+0.6**
CDF				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
CDF	**Champ du Feu**	**81.35**	**338**	*e*P	**P**		**16 50 01.4**	**+0.6**
	comp=Z,16nm,1.3s,mb4.8							
GRR	**Gorron**	**83.20**	**344**	*e*P	**P**		**16 50 10.9**	**+0.3**
SMF	**Signal de Mont**	**83.84**	**340**	*e*P	**P**		**16 50 14.5**	**+0.7**
	comp=Z,15nm,0.8s,mb4.9							
SMF	**Signal de Mont**	**83.84**	**340**	*e*P	**P**		**16 50 14.5**	**+0.7**
SMF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
SMF	**Signal de Mont**	**83.84**	**340**	*e*P	**P**		**16 50 14.5**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.9							
LPG	**La Plagne**	**84.19**	**338**	*e*P	**P**		**16 50 17.2**	**+1.6**
	comp=Z,19nm,0.9s,mb4.9							
LPG	**La Plagne**	**84.19**	**338**	*e*P	**P**		**16 50 17.2**	**+1.6**
LPG				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.9							
LPG	**La Plagne**	**84.19**	**338**	*e*P	**P**		**16 50 17.2**	**+1.6**
	comp=Z,9.4nm,0.9s,mb4.9							
CAF	**Calviac**	**85.88**	**341**	*e*P	**P**		**16 50 24.7**	**+0.6**
	comp=Z,11nm,0.6s,mb4.9							
CAF	**Calviac**	**85.88**	**341**	*e*P	**P**		**16 50 24.7**	**+0.6**
CAF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.9							
CAF	**Calviac**	**85.88**	**341**	*e*P	**P**		**16 50 24.7**	**+0.6**
	comp=Z,5.3nm,0.6s,mb5.0							
TORD	**Torodi Ar. Bea**	**115.87**	**330**	PP	PP		16 57 27.6	-2.9
	comp=Z,0.6nm,0.8s,baz=13,slow=7.3,SNR=4.3							
CFAA	**Coronel Fontan**	**144.27**	**81**	PKP	PKPdf		16 57 17.7	-2.6
	comp=Z,0.4nm,0.7s,baz=224,slow=4.1,SNR=5.4							
SNAA	**Sanae**	**152.37**	**195**	*e*PKPdf	PKPbc		16 57 37.1	-3.2
SNAA				*e*			16 57 47.7	
SNAA				*e*			16 57 58.0	
VNA2	**Neumayer--Watz**	**153.79**	**194**	*e*PKPdf	PKPbc		16 57 41.2	-2.2
VNA2				*e*			16 57 53.6	
VNA2				*e*			16 58 05.1	
VNA3	**Neumayer Olymp**	**153.85**	**192**	*e*PKPdf	PKPbc		16 57 42.3	-1.2
VNA3				*e*			16 57 54.2	
VNA3				*e*			16 58 06.2	

NEIC ***16*** *16:38:07.4₀ 0.3, 662S×151.19E, h10km, mb4.9/17, Error ellipse: s-maj=8.4km s-min=6.4km az=107.0*
BJI ***16*** *16:38:08.6, 591S×151.20E, h10km, mB5.2, mb4.7, Ms4.9, Msz4.6*
ISCJB ***16*** *16:38:09.9± 1.7, 675S±007×151.22E±006, h37km±15km, mb4.7/28, MS4.0/9, Error ellipse: s-maj=11.6km s-min=9.9km az=137.4*
IDC ***16*** *16:38:12.9±2.3, 675S×151.18E, h49km±21km, mb4.4/15, mb1 4.5/18, mb1mx4.5/21, mbtmp4.4/18, ML3.2/2, MS4.0/11,*

Ms1 4.0/11, ms1mx3.7/30, Error ellipse: s-maj=16.6km s-min=15.6km az=90.0

ISC 16 16:38:13.0±1.3, 678S±007×15123E±006, h50km±12km, h30km±7.5km:pP-P, n59, σ0s97/54, mb4.7/28, MS4.0/9, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PMG	**Port Moresby**	**4.80**	**237**	P			**Pn**	**16 39 22.4**	**-0.3**
	5.2nm,0.3s,baz=41,slow=6.3,SNR=21								
PMG				S			**Sn**	**16 40 18.2**	**+1.1**
	14nm,0.3s,baz=353,slow=19,SNR=9.5								
PMG	**Port Moresby**	**4.80**	**237**	*e*Pn			**Pn**	**16 39 22.2**	**-0.6**
PMG				*e*Sn			**Sn**	**16 40 17.8**	**+0.7**
HNR	**Honiara**	**9.02**	**108**	P			**Pn**	**16 40 21.2**	**+0.6**
	16nm,0.3s,baz=267,slow=14,SNR=6.1								
HNR				LR			LR	16 43 14.6	
	comp=Z,694nm,18.2s,baz=360,slow=33								
CTA	**Charters Tower**	**14.09**	**200**	P			**Pn**	**16 41 29.7**	**0.0**
	0.1nm,0.3s,baz=34,slow=10,SNR=4.7								
CTA				LR			LR	16 46 35.1	
	comp=Z,397nm,19.1s,baz=20,slow=36								
CTAO	**Charters Tower**	**14.09**	**200**	*e*Pn			**Pn**	**16 41 30.0**	**+0.3**
	9.2nm,0.9s								
KAKA	**Kakadu**	**19.43**	**251**	*e*P			**Pn**	**16 42 35.6**	**-1.1**
	31nm,0.6s								
KAKA				*e*				16 42 44.8	
WB2	**Warramunga Arr**	**20.97**	**230**↑	*i*P			**P**	**16 42 51.3**	**-0.5**
WRA	**Warramunga Arr**	**20.98**	**230**	P			**P**	**16 42 51.6**	**-0.4**
	28nm,0.9s,baz=54,slow=10,SNR=66								
DZM	**Mont Dzumac**	**21.14**	**138**	P			**P**	**16 42 54.1**	**+0.4**
	30nm,1.2s,mb4.5,baz=342,slow=12,SNR=11								
DZM				LR			LR	16 49 55.7	
	comp=Z,823nm,19.1s,MS4.1,baz=29,slow=33								
GUMO	**Guam**	**21.20**	**343**	LR			LR	16 49 51.6	
	comp=Z,176nm,19.3s,MS3.5,baz=248,slow=33								
AS31	**Alice Springs**	**23.65**	**223**	*e*P			**P**	**16 43 19.4**	**-0.3**
ASAR	**Alice Springs**	**23.65**	**223**	P			**P**	**16 43 19.5**	**-0.2**
	21nm,0.9s,mb4.6,baz=55,slow=9.5,SNR=73								
ASAR				LR			LR	16 52 53.9	
	comp=Z,130nm,21.1s,MS3.4,baz=162,slow=37								
STKA	**Stephens Creek**	**26.54**	**199**	*e*P			**P**	**16 43 45.6**	**-0.4**
	17nm,0.8s,mb4.6								
STKA				*e*			pP	16 43 56.7	-2.2
STKA	**Stephens Creek**	**26.54**	**199**	P			**P**	**16 43 46.0**	**-0.1**
	23nm,0.8s,mb4.8,baz=10,slow=10,SNR=24								
STKA				LR			LR	16 54 27.2	
	comp=Z,260nm,18.6s,MS3.8,baz=23,slow=37								
FITZ	**Fitzroy Crossi**	**27.37**	**243**	*e*P			**P**	**16 43 53.0**	**-0.4**
	27nm,0.6s,mb5.0								
FITZ				*e*			pP	16 44 02.3	-4.0
FITZ	**Fitzroy Crossi**	**27.37**	**243**	P			**P**	**16 43 53.0**	**-0.4**
	15nm,0.5s,mb4.7,baz=72,slow=7.9,SNR=42								
MBWA	**Marble Bar**	**33.65**	**242**	*e*P			**P**	**16 44 49.3**	**+0.4**
	14nm,0.8s,mb5.0								
MBWA				*e*				16 44 56.9	
URZ	**Urewera**	**39.13**	**147**	LR			LR	16 59 46.8	
	comp=Z,287nm,18.8s,MS4.1,baz=29,slow=33								
JOW	**Kugami**	**40.14**	**327**	P			**P**	**16 45 43.5**	**-0.4**
	16nm,0.8s,mb4.8,baz=179,slow=10,SNR=3.7								
JOW				LR			LR	16 58 31.1	
	comp=Z,258nm,20.9s,MS4.0,baz=309,slow=30								
RPZ	**Rata Peaks**	**40.70**	**158**	LR			LR	17 00 37.7	
	comp=Z,426nm,18.6s,MS4.3,baz=313,slow=33								
KSM	**Kuching**	**41.66**	**280**	*e*P			**P**	**16 45 57.3**	**+0.8**
JNU	**Nakatsue**	**44.14**	**335**	LR			LR	17 02 09.3	
	comp=Z,257nm,19.5s,MS4.2,baz=266,slow=33								
KSRS	**Korea Array**	**49.09**	**335**	P			**P**	**16 46 55.2**	**0.0**
	2.5nm,0.7s,mb4.3,baz=161,slow=8.9,SNR=9.2								
KSRS				PcP			PcP	16 48 20.2	+1.9
	1.9nm,0.7s,baz=177,slow=2.5,SNR=5.4								
LZH	**Lanzhou**	**61.58**	**317**	*e*P			**P**	**16 48 24.0**	**-1.1**
LZH				AP			pP	16 48 29.1	-10
LZH				XP			sP	16 48 31.3	-14
LZH				AMB			AMB		
	comp=Z,19nm,1.2s,mb5.1								
LZH	**Lanzhou**	**61.58**	**317**	*e*P			**P**	**16 48 24.0**	**-1.1**
	comp=Z,19nm,1.2s,mb5.1								
LZH				pP			pP	16 48 29.1	-10
LZH				sP			sP	16 48 31.3	-14
HIA	**Hailar**	**62.21**	**337**	*e*P			**P**	**16 48 26.7**	**-2.7**
	comp=Z,6.1nm,0.8s,mb4.8								
GTA	**Gaotai**	**66.06**	**319**	*e*P			**P**	**16 48 55.3**	**+0.7**
GTA				AP			pP	16 48 59.3	-9.4
GTA				XP			sP	16 49 02.5	-12
GTA				AMB			AMB		
	comp=Z,4.0nm,1.4s,mb4.3								
ULN	**Ulaanbaatar**	**66.86**	**329**	*e*P			**P**	**16 48 57.3**	**-2.4**
	comp=Z,3.6nm,0.7s,mb4.5								
SONM	**Songino Array**	**67.18**	**329**	P			**P**	**16 49 01.2**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=118,slow=3.9,SNR=7.9								
LSA	**Lhasa**	**68.09**	**306**	*e*P			**P**	**16 49 08.1**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.6								
YAK	**Yakutsk**	**70.60**	**349**	P			**P**	**16 49 22.9**	**-0.1**
	comp=Z,7.7nm,0.7s,mb4.7								
VNDA	**Vanda**	**70.93**	**178**	P			**P**	**16 49 25.2**	**+0.3**
	comp=Z,3.1nm,0.9s,mb4.2,baz=331,slow=7.2,SNR=13								
VNDA	**Vanda**	**70.93**	**178**	P			**P**	**16 49 25.2**	**+0.3**
	comp=Z,4.7nm,1.3s,mb4.3								
VNDA				*e*				16 49 34.0	
SBA	**Scott Base**	**71.50**	**177**	P			**P**	**16 49 28.4**	**-0.1**
	comp=Z,9.3nm,1.3s,mb4.5								
PALK	**Pallekele**	**71.72**	**280**	*e*P			**P**	**16 49 29.7**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8								
BILL	**Bilibino**	**75.39**	**6**	*e*P			**P**	**16 49 51.5**	**+0.2**
	comp=Z,23nm,1.2s,mb5.0								
BILL				*e*				16 49 60.0	
MK31	**Makanchi Array**	**80.79**	**319**	*e*P			**P**	**16 50 21.4**	**+0.2**
MK31				*e*				16 50 29.8	
MKAR	**Makanchi Array**	**80.79**	**319**	P			**P**	**16 50 20.8**	**-0.4**
	comp=Z,5.9nm,1.1s,mb4.5,baz=101,slow=6.3,SNR=14								
ZAL	**Zalesovo**	**81.94**	**327**	P			**P**	**16 50 27.1**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.6,baz=46,slow=6.1,SNR=8.4								
MAW	**Mawson**	**83.16**	**203**	P			**P**	**16 50 33.7**	**+0.1**
	comp=Z,5.0nm,0.7s,mb4.6,baz=91,slow=5.9,SNR=8.1								
MAW				LR			LR	17 24 42.7	
	comp=Z,110nm,18.8s,MS4.2,baz=67,slow=34								
QSPA	**South Pole Qui**	**83.20**	**180**	*e*P			**P**	**16 50 33.1**	**-0.8**
	comp=Z,48nm,1.3s,mb5.4								
MCK	**McKinley**	**83.28**	**23**	*e*P			**P**	**16 50 32.6**	**-1.7**
	comp=Z,20nm,1.4s,mb5.0								
KZA	**Kyzart**	**84.21**	**313**	P			**P**	**16 50 41.0**	**+2.0**
	SNR=16								
UCH	**Uchtor**	**84.78**	**313**	P			**P**	**16 50 43.6**	**+1.7**
	SNR=11								
CHMS	**Chumysh**	**84.80**	**314**	P			**P**	**16 50 43.8**	**+1.9**
	SNR=6.3								
AAK	**Ala-Archa**	**84.89**	**314**	P			**P**	**16 50 44.7**	**+2.3**
	SNR=6.6								
AAK	**Ala-Archa**	**84.89**	**314**	*e*P			**P**	**16 50 41.4**	**-1.1**
	comp=Z,4.7nm,0.8s,mb4.7								
AAK				*e*			pP	16 50 51.4	-5.6
USP	**Ospenovka**	**85.04**	**314**	P			**P**	**16 50 43.9**	**+0.7**
	SNR=8.5								
AML	**Almayashu**	**85.35**	**313**	P			**P**	**16 50 47.0**	**+2.3**
	SNR=21								
EKS2	**Erkin-Say**	**85.41**	**314**	P			**P**	**16 50 46.8**	**+1.7**
	SNR=13								
DAWY	**Dawson**	**87.22**	**24**	*e*P			**P**	**16 50 53.4**	**-0.5**
BVAR	**Borovoye Array**	**89.88**	**323**	P			**P**	**16 51 05.9**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.3,baz=106,slow=9.4,SNR=4.7								
ZRNK	**Zerenda**	**90.69**	**323**	*e*P			**P**	**16 51 09.5**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.7								
ZRNK				*e*				16 51 17.5	
INK	**Inuvik**	**90.85**	**21**	P			**P**	**16 51 10.6**	**-0.4**
	comp=Z,9.0nm,1.1s,mb5.0,baz=250,slow=3.6,SNR=3.7								
SYO	**Syowa Base**	**91.30**	**200**‖	*e*P			**P**	**16 51 12.2**	**-0.9**
NVAR	**Mina Array Bea**	**94.52**	**52**	P			**P**	**16 51 29.0**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.6,baz=247,slow=3.6,SNR=10								
GERES	**GERESS Array B**	**124.89**	**327**	PKP			PKPdf	16 57 07.1	-0.2
	comp=Z,0.8nm,0.6s,baz=31,slow=0.8,SNR=4.9								
SDV	**Santo Domingo**	**138.49**	**84**	*e*PKPdf			PKPdf	16 57 33.7	+0.7
TORD	**Torodi Ar. Bea**	**149.36**	**284**	PKPbc			PKPbc	16 57 56.5	+0.2
	comp=Z,5.5nm,0.8s,baz=42,slow=2.4,SNR=22								

IDC 16 16:40:04.5±1.9, 648S×15122E, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.2/15, mbtmp4.4/7, Error ellipse: s-maj=47.9km s-min=33.7km az=152.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PMG	**Port Moresby**	**4.97**	**234**	Pn		Pn	16 41 21.8	+1.5
	baz=68,slow=19,SNR=1.8							
PMG				Sn		Sn	16 42 18.9	+0.5
	3.2nm,0.3s,baz=348,slow=17,SNR=3.7							
WRA	**Warramunga Arr**	**21.16**	**229**	P		P	16 44 51.4	+0.2

8.0nm,0.7s,baz=53,slow=9.8,SNR=5.4

ASAR	**Alice Springs**	**23.86**	**222**	P		P	16 45 19.1	-0.4
	6.5nm,0.6s,baz=56,slow=9.2,SNR=8.6							
STKA	**Stephens Creek**	**26.82**	**198**	*e*P		P	16 45 47.2	+0.8
	5.0nm,0.4s							
STKA				*e*			16 45 56.0	
STKA	**Stephens Creek**	**26.82**	**198**	P		P	16 45 47.3	+0.9
	8.1nm,0.6s,baz=14,slow=9.2,SNR=8.6							
FITZ	**Fitzroy Crossi**	**27.49**	**243**	*e*P		P	16 45 52.7	+0.3
	12nm,0.4s							
FITZ				*e*			16 46 01.8	
FITZ	**Fitzroy Crossi**	**27.49**	**243**	P		P	16 45 52.7	+0.3
	6.4nm,0.5s,baz=75,slow=9.0,SNR=6.7							
VNDA	**Vanda**	**71.23**	**178**	P		P	16 51 24.8	-0.6
	0.5nm,0.5s,baz=336,slow=7.2,SNR=5.6							
MAW	**Mawson**	**83.43**	**203**	P		P	16 52 33.4	-0.3
	2.1nm,0.8s,baz=90,slow=4.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**149.27**	**285**	PKPbc		PKPbc	16 59 55.9	+0.9
	1.1nm,0.6s,baz=76,slow=2.6,SNR=3.7							

IDC ***16*** *16:42:12.3± 0.7, 4701N×155.34E, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.5/24, mbtmp4.4/18, ML3.8/1, Error ellipse: s-maj=19.4km s-min=14.9km az=146.0*
NEIC ***16*** *16:42:13.9± 0.5, 4706N×155.32E, h10km, mb4.8/29, Error ellipse: s-maj=11.9km s-min=7.2km az=145.0*
ISCJB ***16*** *16:42:13.0± 1.5, 4703N±006×155.37E±007, h14km±9km, mb4.7/58, MS4.2/7, Error ellipse: s-maj=11.8km s-min=6.7km az=117.8*
BJI ***16*** *16:42:13.7, 4735N×155.03E, h6km, mB5.0, mb4.5, Ms4.5, Msz4.3*
MOS ***16*** *16:42:16.3± 1.9, 4702N×155.27E, h33km, mb5.0/25, Error ellipse: s-maj=10.2km s-min=6.6km az=103.2*
SZGRF ***16*** *16:42:27.0, 4772N×154.54E, h33km, mb5.1, Kuril Islands, Russia*

ISC 16 16:42:15.9±1.8, 4711N±006×15537E±007, h19km±11km, h16km±2.5km:pP-P, n145, σ1s29/151, mb4.7/58, MS4.2/7, 12C-10D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SKR	**Severo-Kuril's**	**3.61**	**8**	*e*PN			**Pn**	**16 43 10.5**	**-0.3**
SKR				pmax	pmax				
	comp=N,80nm,0.5s								
SKR				pmax	pmax				
	comp=E,60nm,0.5s								
SKR				pmax	pmax				
	comp=Z,90nm,0.5s								
PET	**Petropavlovsk**	**6.29**	**18**	*e*PN			**Pn**	**16 43 45.2**	**-2.4**
PET	**Petropavlovsk**	**6.29**	**18**	*e*Pn			**Pn**	**16 43 44.0**	**-3.5**
	comp=Z,30nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.62**	**274**‖	*e*PN			**Pn**	**16 44 22.0**	**+2.4**
YSS				MLR	MLR				
	comp=E,600nm,14.0s								
YSS				MLR	MLR				
	comp=Z,800nm,14.0s								
YSS				MLR	MLR				
	comp=N,300nm,13.0s								
YSS	**Yuzh-Sakhalins**	**8.62**	**274**	*e*Pn			**Pn**	**16 44 21.0**	**+1.3**
ASAJ	**Asahikawa**	**9.44**	**256**	Pn			**Pn**	**16 44 31.8**	**+1.0**
	comp=N,1.2nm,0.3s,baz=84,slow=9.3,SNR=7.4								
ASAJ	**Asahikawa**	**9.44**	**256**	PN			**Pn**	**16 44 31.8**	**+1.0**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s	

comp=Z,17nm,0.8s,mb5.0
COLA College 34.89 39 *e*P **P** 16 49 05.6 -0.5
comp=Z,17nm,0.8s,mb5.0
EGAK Eagle 37.76 39 *e*P **P** 16 49 29.4 -1.2
comp=Z,21nm,0.8s,mb4.9
LZH Lanzhou 39.42 273 *e*P **P** 16 49 45.5 +1.0
LZH AP pP 16 49 48.6 -1.9
LZH XP sP 16 49 50.3 -2.6
LZH AMB AMB
comp=Z,23nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,90nm,4.2s
LZH Lanzhou 39.42 273 *e*P **P** 16 49 45.5 +1.0
comp=Z,23nm,1.0s,mb4.9
LZH pP pP 16 49 48.6 -1.9
LZH sP sP 16 49 50.2 -2.7
INK Inuvik 40.52 33 P **P** 16 49 54.0 +0.4
comp=Z,11nm,0.6s,mb4.7,baz=293,slow=6.7,SNR=30
INK Inuvik 40.52 33 *e*P **P** 16 49 53.2 -0.5
comp=Z,572nm,0.9s,mb6.2
CD2 Chengdu 42.45 267 P **P** 16 50 08.4 -1.1
CD2 AP pP 16 50 12.9 -2.6
CD2 XP sP 16 50 15.5 -2.3
CD2 PP PP 16 51 49.6 +1.7
CD2 S **S** **16 56 28.4 -1.9**
CD2 XS sS 16 56 35.3 -4.9
CD2 SS SS 16 59 30.1 -10
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,300nm,16.8s,MS4.3
CD2 LR LR
comp=E,160nm,14.4s,MS4.3
CD2 LR LR
comp=Z,290nm,13.2s,MS4.3
GYA Guiyang 43.30 259⇑ *i*P **P** **16 50 17.1 +0.7**
GYA AP pP 16 50 21.4 -1.0
GYA XP sP 16 50 24.5 -0.3
GYA PP PP 16 51 59.3 +2.2
GYA PCP PcP 16 52 06.5 +1.4
GYA SCP ScP 16 55 56.6 +1.2
GYA S **S** **16 56 42.8 -0.1**
GYA SCS ScS 17 00 14.8 -0.7
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,340nm,15.9s,MS4.5
GYA LR LR
comp=E,410nm,16.4s,MS4.5
GYA LR LR
comp=Z,420nm,16.7s,MS4.4
ZAL Zalesovo 43.67 306 P **P** **16 50 17.6 -1.8**
comp=Z,4.7nm,0.5s,mb4.5,baz=49,slow=8.4,SNR=17
ZAL PcP PcP 16 52 06.1 -0.2
comp=Z,1.9nm,0.6s,baz=29,slow=4.9,SNR=3.6
WMQ Urumqi 46.24 292⇑ *i*P **P** **16 50 38.4 -1.4**
WMQ AP pP 16 50 42.9 -2.9
WMQ XP sP 16 50 45.4 -2.8
WMQ PCP PcP 16 52 15.4 +0.2
WMQ PP PP 16 52 26.6 -1.7
WMQ PPP 16 53 10.5
WMQ S **S** **16 57 22.4 -3.0**
WMQ XS sS 16 57 30.0 -5.3
WMQ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,198nm,4.5s
WMQ LR LR
comp=N,74nm,16.7s,MS3.9
WMQ LR LR
comp=E,78nm,16.8s,MS3.9
WMQ LR LR
comp=Z,89nm,15.0s,MS3.8
KMI Kunming 46.83 261 P **P** **16 50 43.4 -1.0**
KMI AP pP 16 50 50.3 -0.2
KMI XP sP 16 50 52.9 +0.1
KMI PP PP 16 52 33.8 -0.8
KMI AMB AMB
comp=Z,7.0nm,1.7s,mb4.3
KMI LR LR
comp=N,148nm,14.6s,MS4.2
KMI LR LR
comp=E,130nm,15.4s,MS4.2
KMI LR LR
comp=Z,111nm,16.2s,MS3.9
KMI Kunming 46.83 261 P **P** **16 50 43.4 -1.0**
comp=Z,7.0nm,1.7s,mb4.3
KMI pP pP 16 50 50.3 -0.2
KMI sP sP 16 50 52.9 +0.1
KMI PP PP 16 52 33.7 -0.9
KMI LR LR
comp=Z,110nm,16.2s,MS3.9
MK31 Makanchi Array 48.15 298 *e*P **P** **16 50 53.5 -1.2**
MK31 *e* 16 51 04.3
MKAR Makanchi Array 48.15 298 P **P** **16 50 53.9 -0.8**
comp=Z,4.2nm,0.7s,mb4.6,baz=70,slow=7.9,SNR=8.6
MKAR PcP PcP 16 52 21.9 -0.1
comp=Z,1.5nm,0.6s,baz=61,slow=6.2,SNR=3.3
YKA Yellowknife Ar 49.71 37 P **P** **16 51 06.7 +0.1**
comp=Z,3.7nm,0.7s,mb4.5,baz=289,slow=7.1,SNR=5.6
YKA Yellowknife Ar 49.71 37 P **P** **16 51 06.7 +0.1**
RES Resolute Bay 50.00 19 *e*P **P** **16 51 09.1 +0.2**
comp=Z,574nm,1.4s
CHKZ Chkalovo 51.38 311 *e*P **P** **16 51 17.7 -1.6**
CHKZ *e* 16 51 28.7
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CHKZ Chkalovo 51.38 311 *e*P **P** **16 51 17.7 -1.6**
comp=Z,7.9nm,0.6s,mb4.8
CHKZ *e* 16 51 28.7
LSA Lhasa 51.80 274 P **P** **16 51 25.0 +2.6**
LSA Lhasa 51.80 274 *e*P **P** **16 51 24.0 +1.6**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSA Lhasa 51.80 274 *e*P **P** **16 51 24.0 +1.7**
comp=Z,2.6nm,0.6s,mb4.3
BVAR Borovoye Array 51.82 310 P **P** **16 51 22.3 -0.3**
comp=Z,7.4nm,0.5s,mb4.9,baz=58,slow=7.4,SNR=39
BRVK Borovoye 51.86 310 *e*P **P** **16 51 21.8 -1.1**
BRVK *e* 16 51 32.9
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.0
BRVK Borovoye 51.86 310 *e*P **P** **16 51 21.8 -1.1**
comp=Z,16nm,0.8s,mb5.0
BRVK *e* 16 51 32.9
ZRNK Zerenda 52.58 311 *e*P **P** **16 51 27.6 -0.6**
ZRNK *e* 16 51 38.0
ZRNK pmax pmax
comp=Z,79nm,1.1s,mb5.6
ZRNK Zerenda 52.58 311 *e*P **P** **16 51 27.6 -0.6**
comp=Z,79nm,1.1s,mb5.6
ZRNK *e* 16 51 38.0
TKM2 Tokmak 2 54.23 297 P **P** **16 51 41.4 +1.1**
SNR=5.8
USP Ospenovka 54.70 298 P **P** **16 51 44.7 +1.0**
SNR=10
KBK Karagaybulak 54.77 297 P **P** **16 51 45.0 +0.8**
SNR=7.4
FRU Bishkek 54.87 297 *i* P **P** **16 51 46.0 +1.0**
FRU pmax pmax
comp=Z,20nm,1.5s,mb4.9
AAK Ala-Archa 55.06 297 P **P** **16 51 47.3 +1.0**
SNR=6.5
AAK Ala-Archa 55.06 297 *e*P **P** **16 51 45.7 -0.6**
AAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
AAK Ala-Archa 55.06 297 *e*P **P** **16 51 45.7 -0.6**
comp=Z,14nm,1.1s,mb4.9
EKS2 Erkin-Say 55.48 298 P **P** **16 51 50.4 +1.0**
SNR=6.5
ARU Arti 55.79 318 *e*P **P** **16 51 51.3 -0.3**
ARU *e* 16 53 53.1
ARU *e*S **S** **16 59 37.3 -0.3**
ARU *e*SS SS 17 03 22.4 -0.7
ARU Arti 55.79 318 *e*P **P** **16 51 50.5 -1.1**
comp=Z,36nm,1.1s,mb5.3
ARU *e* 16 52 01.6
JIRN Jiri 56.46 276 *e*P **P** **16 51 57.4 +1.0**
comp=Z,15nm,0.8s,mb5.1
GUN Gumba 56.51 276 *e*P **P** **16 51 58.3 +1.6**
PMG Port Moresby 56.73 190 *e*P **P** **16 51 58.2 -0.1**
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 56.73 190 *e*P **P** **16 51 58.2 -0.1**
comp=Z,11nm,0.9s,mb4.9
KKN Kakani 56.99 277 *e*P **P** **16 52 01.1 +0.9**
PKI Pulchoki 57.05 276 *e*P **P** **16 52 01.6 +1.1**
DMN Daman 57.23 277 *e*P **P** **16 52 02.9 +1.1**
GKN Gorkha 57.29 277 *e*P **P** **16 52 02.9 +0.6**
comp=Z,11nm,0.5s,mb5.1
ARCES ARCESS Array B 58.02 341 P **P** **16 52 07.3 -0.1**
comp=Z,7.5nm,0.8s,mb4.8,baz=24,slow=12,SNR=5.7
KOLN Koldanda 58.14 278 *e*P **P** **16 52 09.0 +0.7**
TMCR Tamitsa 58.73 333 P **P** **16 52 12.2 -0.2**
KSM Kuching 59.94 235 P **P** **16 52 18.3 -2.4**
ORR Orenburg 60.49 315 *e*P **P** **16 52 24.7 +0.2**
ORR pmax pmax
comp=Z,30nm,1.3s,mb5.2
KULM Kulim 62.63 246 *e*P **P** **16 52 38.7 -0.2**
PDAR Pinedale Array 63.28 55 P **P** **16 52 43.6 +0.4**
comp=Z,0.8nm,0.8s,mb3.9,baz=273,slow=2.7,SNR=4.8
FINES FINESS Array B 64.37 336 P **P** **16 52 49.8 -0.7**
comp=Z,3.9nm,0.6s,mb4.6,baz=36,slow=10.0,SNR=13
OBN Obninsk 65.88 327⇑ *e*P **P** **16 53 00.6 +0.3**
OBN *e* 16 53 29.6
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.1
OBN Obninsk 65.88 327 P **P** **16 52 59.6 -0.7**
comp=Z,30nm,1.1s,mb5.2
NB2 NORSAR Subarra 68.38 342 P **P** **16 53 15.7 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.38 342 P **P** **16 53 15.8 -0.3**
comp=Z,4.1nm,0.9s,mb4.5,baz=26,slow=6.4,SNR=5.9
WRAB Tennant Creek 69.36 201⇓ *e*P **P** **16 53 22.6 +0.3**
WRA Warramunga Arr 69.38 201 P **P** **16 53 20.4 -1.9**
comp=Z,5.3nm,0.9s,mb4.5,baz=18,slow=6.4,SNR=14
KIV Kislovodsk 71.65 315 *e*P **P** **16 53 38.1 +1.9**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AKASG Malin Array Be 72.10 327 P **P** **16 53 37.6 -1.3**
comp=Z,2.4nm,0.5s,mb4.4,baz=34,slow=6.3,SNR=6.5
ASAR Alice Springs 73.06 201 P **P** **16 53 44.0 -0.6**
comp=Z,3.1nm,1.0s,mb4.2,baz=14,slow=5.9,SNR=14
KWP Kalwaria 75.30 330 *e*P **P** **16 53 58.0 +0.3**
TXAR Lajitas Array 75.96 62 P **P** **16 54 01.6 +0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=299,slow=4.2,SNR=9.6
STHS Stebnicka Huta 75.97 331 *e*P **P** **16 54 04.7 +3.2**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STHS Stebnicka Huta 75.97 331 *e*P **P** **16 54 04.7 +3.2**
comp=Z,5.3nm,1.0s,mb4.4
BURAR Bucovina Array 76.13 328⇑ *i*P **P** **16 54 03.0 +0.6**
BURAR Bucovina Array 76.13 328⇑ *i*P **P** **16 54 03.0 +0.6**
UPC Upice 76.64 335 *e*P **P** **16 54 08.7 +3.4**
DPC Dobruska-Polom 76.69 334 *e*P **P** **16 54 09.0 +3.4**
DPC *ex* x 16 54 23.7
CLL Collm 76.77 337⇓ *i*P **P** **16 54 09.2 +3.2**
CLL pmax pmax
comp=Z,28nm,1.3s,mb5.0
CLL Collm 76.77 337 *i*P(2) **P** **16 54 09.2 +3.2**
comp=Z,28nm,1.3s,mb5.0
CLL *i* PcP PcP 16 54 19.7 +2.4
MORC Moravsky Berou 76.83 333⇑ *i*P **P** **16 54 09.9 +3.5**
MORC Moravsky Berou 76.83 333 *e*P **P** **16 54 08.3 +1.9**
MORC *e* 16 54 19.7
MORC pmax pmax
comp=Z,14nm,1.2s,mb4.8
MORC Moravsky Berou 76.83 333 *e*P **P** **16 54 08.2 +1.8**
comp=Z,14nm,1.2s,mb4.8
MORC *e* 16 54 19.7
BRG Berggiesshubel 76.90 336 *e*P **P** **16 54 11.1 +4.3**
comp=Z,5.9nm,1.2s,mb4.4
BRG Berggiesshubel 76.90 336 *e*P **P** **16 54 11.1 +4.3**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
KECS Kecovo 77.03 331 *e*P **P** **16 54 07.9 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 77.03 331 *e*P **P** **16 54 07.9 +0.4**
comp=Z,2.0nm,1.0s,mb4.0
PVCC Panska Ves 77.04 336 *e*P **P** **16 54 10.7 +3.1**
PRU Pruhonice 77.53 335 *e*P **P** **16 54 13.9 +3.6**
PRU *ex* x 16 54 24.0
TIRR Tirgusor 77.55 324⇓ *i*P **P** **16 54 11.4 +1.0**
TIRR Tirgusor 77.55 324 ⇓P **P** **16 54 11.3 +0.9**
VYHS Vyhne 77.56 332 *e*P **P** **16 54 11.5 +1.0**
MLR Muntele Rosu 77.65 326⇑ *i*P **P** **16 54 12.3 +1.3**
MLR Muntele Rosu 77.65 326 ⇑P **P** **16 54 12.3 +1.3**
NKC Novy Kostel 77.89 337 *e*P **P** **16 54 16.2 +3.9**
NKC *ex* x 16 54 26.2
MALT Malatya 78.03 314⇑ *i*P **P** **16 54 12.6 -0.5**
MALT Malatya 78.03 314 *e*P **P** **16 54 14.1 +1.0**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MALT Malatya 78.03 314 *e*P **P** **16 54 14.1 +1.0**
comp=Z,9.7nm,1.1s,mb4.7
KHC Kasperske Hory 78.58 336 *e*P **P** **16 54 16.4 +0.3**
KHC Kasperske Hory 78.58 336⇓ *e*P **P** **16 54 16.7 +0.6**
GRA1 Grafenberg Arr 78.71 337 *e*P **P** **16 54 20.1 +3.2**
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 78.71 337 *e*P **P** **16 54 20.1 +3.2**
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 78.71 337 *e*P **P** **16 54 20.1 +3.2**
GRF pmax pmax
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 78.71 337 *e*P **P** **16 54 20.1 +3.2**
GRF pmax pmax
comp=Z,23nm,1.4s,mb4.9
GERES GERESS Array B 78.80 335 P **P** **16 54 17.0 -0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=0.0,slow=3.2,SNR=4.0
BZS Buzias 79.13 329⇓ *i*P **P** **16 54 22.0 +2.8**
BZS Buzias 79.13 329 ⇓P **P** **16 54 22.0 +2.9**
PERS Pernice 80.37 333 *e*P **P** **16 54 29.8 +3.9**
CDF Champ du Feu 80.90 339 *e*P **P** **16 54 33.1 +4.4**
comp=Z,25nm,1.1s,mb4.7
CDF Champ du Feu 80.90 339 *e*P **P** **16 54 33.1 +4.4**
CDF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CDF Champ du Feu 80.90 339 *e*P **P** **16 54 33.1 +4.4**
comp=Z,12nm,1.1s,mb4.8
VTS Vitosha 81.15 326⇓ *i*P **P** **16 54 33.8 +3.7**
BOJS Bojanci 81.34 333 *e*P **P** **16 54 35.3 +4.2**
JAVS Javornik 81.36 334 *e*P **P** **16 54 35.1 +3.9**
GRR Gorron 82.67 344 *e*P **P** **16 54 42.9 +4.8**
comp=Z,119nm,1.7s,mb5.4
SMF Signal de Mont 83.36 341 *e*P **P** **16 54 46.6 +4.9**
comp=Z,81nm,1.4s,mb5.2
LPG La Plagne 83.75 338 *e*P **P** **16 54 49.3 +5.7**
comp=Z,20nm,0.9s,mb4.9
CAF Calviac 85.39 341 *e*P **P** **16 54 56.4 +4.5**
comp=Z,23nm,1.1s,mb4.9
CAF Calviac 85.39 341 *e*P **P** **16 54 56.4 +4.5**
CAF pmax pmax
comp=Z,11nm,1.1s,mb4.9
CAF Calviac 85.39 341 *e*P **P** **16 54 56.4 +4.5**
comp=Z,11nm,1.1s,mb4.9

NEIC ***16*** *16:44:05.0, 1667N×9434W, h120km, MD3.7(MEX), After MEX.*

MEX 16 16:44:04.7±0.7, 1667N×9432W, h120km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMIG	**Matias Romero**	**0.69**	**308**	*i* P		Pn	16 44 23.1	-0.9
CMIG				*i* S		Sn	16 44 36.4	-2.1
HUIG	**Huatulco**	**1.94**	**243**	*i* P		Pn	16 44 35.7	-1.7
HUIG				*i* S		Sn	16 45 01.3	-1.1
OXX	**Oaxaca**	**2.34**	**281**	*i* P		Pn	16 44 41.0	-1.5
OXX				*i* S		Sn	16 45 10.5	-0.9
VHO	**Vista Hermosa**	**2.35**	**280**	*i* P		Pn	16 44 41.4	-1.1
VHO				*i* S		Sn	16 45 10.4	-1.2
UTMO	**Huajuapan**	**3.53**	**290**	*i* P		Pn	16 44 58.2	+0.3
UTMO				*i* S		Sn	16 45 36.2	-2.9

CSEM ***16*** *16:44:22.9±0.1, 3510N×2793E, h30km, MD3.6, Error ellipse: s-maj=2.4km s-min=1.8km az=54.0*
ISK ***16*** *16:44:22.3, 3508N×2784E, h33km, MD3.5*
HLW ***16*** *16:44:23.4, 3529N×2794E, h33km, Mb3.4*
ISCJB ***16*** *16:44:23.4±0.4, 3511N±004×2787E±006, h56km±21km, Error ellipse: s-maj=9.1km s-min=5.8km az=46.2*
ATH ***16*** *16:44:25.7, 3525N×2776E, h37km±12km, MD3.6/8*
NEIC ***16*** *16:44:25.7, 3525N×2776E, h37km, MD3.6(ATH), After ATH.*

ISC 16 16:44:24.3±1.1, 3515N±003×2786E±005, h28km±11km, n26, σ0°87/31, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KARP	**Karpathos**	**0.70**	**305**	*e*PN		**Pn**	**16 44 36.4**	**-1.9**
KARP				*e*SN		**Sn**	**16 44 48.2**	**0.0**
ARG	**Arkhangelos**	**1.09**	**11**	*e*PB		**Pb**	**16 44 43.8**	**-0.7**
ARG				*e*SN		**Sn**	**16 45 00.1**	**+2.3**
NISR	**Nisiros**	**1.58**	**338**	*e*PN		**Pn**	**16 44 50.0**	**-0.4**
DAT	**Datca**	**1.59**	**352**	PN		**Pn**	**16 44 49.7**	**-0.9**
DAT				SN		**Sn**	**16 45 09.8**	**-0.5**
DALT	**Dalyan (Mudla)**	**1.74**	**21**	PN		**Pn**	**16 44 52.2**	**-0.4**
FETY	**Fethiye**	**1.79**	**33**	PN		**Pn**	**16 44 52.7**	**-0.6**
NPS	**Neapolis**	**1.85**	**274**	*e*PB		**Pb**	**16 44 57.8**	**+0.4**
YER	**Yerkesik**	**2.01**	**10**	*e*PN		**Pn**	**16 44 56.6**	**+0.2**
MLSB	**Milas**	**2.15**	**358**	*e*PN		**Pn**	**16 44 58.7**	**+0.5**
ELL	**Elmali**	**2.30**	**46**	*e*PN		**Pn**	**16 44 59.7**	**-0.7**
SANT	**Santorini**	**2.30**	**303**	*e*Pn		**Pn**	**16 44 59.9**	**-0.5**
SANT	**Santorini**	**2.30**	**303**	*e*Pn		**Pn**	**16 44 59.9**	**-0.5**
SMG	**Samos**	**2.69**	**342**	*e*PN		**Pn**	**16 45 06.7**	**+1.1**
APE	**Apeiranthos**	**2.69**	**316**	*e*PN		**Pn**	**16 45 06.1**	**+0.4**
DENT	**Denizli**	**2.77**	**20**	*e*PN		**Pn**	**16 45 06.7**	**-0.1**
VAM	**Vamos**	**3.01**	**276**	*e*PN		**Pn**	**16 45 13.1**	**+3.0**
BLCB	**Balcova**	**3.30**	**349**	*e*PN		**Pn**	**16 45 13.6**	**-0.5**
HMAT	**Matruh**	**4.09**	**189**	P		**Pn**	**16 45 25.5**	**+0.5**
HMAT				S		**Sn**	**16 46 11.4**	**-0.5**
VLI	**Veliai**	**4.29**	**293**	*e*PN		**Pn**	**16 45 27.6**	**-0.1**
KONT	**Konya--Tatoy**	**4.57**	**51**	*e*PN		**Pn**	**16 45 31.9**	**+0.3**
IKL	**Isikli**	**4.86**	**75**	*e*PN		**Pn**	**16 45 35.6**	**0.0**
SWA1		**6.14**	**198**	P		**Pn**	**16 45 54.4**	**+1.3**
SWA1				S		**Sn**	**16 47 00.8**	**-1.6**
SWA2		**6.23**	**200**	P		**Pn**	**16 45 55.5**	**+1.2**
AMAG	**Maghara**	**6.36**	**133**	⇓P		**Pn**	**16 45 55.8**	**-0.3**
GLL	**Jalalah**	**6.44**	**149**	P		**Pn**	**16 45 57.2**	**0.0**
HNKL	**Nakhl**	**7.33**	**134**	P		**Pn**	**16 46 09.9**	**+0.4**

IDC 16 16:53:35.6±9.7, 639S×15107E, h55km±66km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=71.0km s-min=58.6km az=0.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**4.89**	**232**	P		Pn	16 54 47.0	+0.4
	1.4nm,0.3s,baz=44,slow=6.3,SNR=6.6							
PMG				S		Sn	16 55 42.9	+1.0
	2.7nm,0.3s,baz=334,slow=16,SNR=6.7							
WRA	**Warramunga Arr**	**21.11**	**229**	P		P	16 58 15.1	-0.4
	1.5nm,0.7s,baz=53,slow=9.7,SNR=8.3							
ASAR	**Alice Springs**	**23.82**	**222**	P		P	16 58 43.4	-0.1
	0.9nm,0.5s,baz=56,slow=9.2,SNR=18							
STKA	**Stephens Creek**	**26.86**	**198**	P		P	16 59 11.4	+0.5
	1.6nm,0.4s,baz=8.9,slow=11,SNR=7.6							
FITZ	**Fitzroy Crossi**	**27.39**	**243**	P		P	16 59 16.6	+0.8
	1.3nm,0.7s,baz=58,slow=13,SNR=4.0							

BJI ***16*** *16:56:05.9, 640S×15120E, h10km, mB4.5, mb4.7, Ms4.6, Msz4.3*
NEIC ***16*** *16:56:08.0±0.9, 645S×151.19E, h10km, mb4.5/7, Error ellipse: s-maj=24.1km s-min=9.1km az=113.0*
ISCJB ***16*** *16:56:09.7±6.2, 645S±0.1×151.1E±02, h31km±44km, mb4.2/10, Error ellipse: s-maj=30.4km s-min=15.0km az=67.1*
IDC ***16*** *16:56:14.5±7.8, 652S×151 06E, h55km±60km, mb3.9/6, mb1 4.1/7, mb1mx3.9/14, mbtmp3.9/7, ML2.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/34, Error ellipse: s-maj=58.7km s-min=29.0km az=91.0*

ISC 16 16:56:09.6±5.6, 655S±01×1512E±02, h19km±36km, n23, σ0°66/23, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**4.96**	**234**	P		**Pn**	**16 57 24.3**	**+1.3**
	3.0nm,0.3s,baz=46,slow=10,SNR=6.6							
PMG				S		**Sn**	**16 58 20.1**	**+0.2**
	15nm,0.3s,baz=129,slow=24,SNR=7.2							
PMG				LR	LR		16 58 56.0	
	comp=Z,94nm,18.8s,baz=44,slow=34							
PMG	**Port Moresby**	**4.96**	**234**	*e*Pn		**Pn**	**16 57 23.6**	**+0.6**
PMG				S		**Sn**	**16 58 20.1**	**+0.2**
CTA	**Charters Tower**	**14.37**	**199**	LR	LR		17 04 40.0	
	comp=Z,33nm,18.6s,baz=38,slow=35							
KAKA	**Kakadu**	**19.51**	**250**	*e*P		**Pn**	**17 00 35.8**	**-1.1**
	13nm,0.6s							
WB2	**Warramunga Arr**	**21.15**	**229**	*e*P		**P**	**17 00 53.8**	**+0.3**
WRA	**Warramunga Arr**	**21.16**	**229**	P		**P**	**17 00 53.5**	**0.0**
	6.1nm,0.8s,mb4.0,baz=53,slow=10,SNR=16							
AS31	**Alice Springs**	**23.86**	**222**	*e*P		**P**	**17 01 21.5**	**-0.2**
ASAR	**Alice Springs**	**23.86**	**222**	P		**P**	**17 01 21.5**	**-0.2**
	3.2nm,0.7s,mb3.8,baz=54,slow=7.8,SNR=22							
ASPA	**Alice Springs**	**23.86**	**222**	*e*P		**P**	**17 01 21.5**	**-0.3**
STKA	**Stephens Creek**	**26.83**	**198**	*e*P		**P**	**17 01 48.8**	**+0.1**
	6.5nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**26.83**	**198**	P		**P**	**17 01 49.0**	**+0.2**
	3.4nm,0.5s,mb4.1,baz=4.3,slow=7.5,SNR=8.3							
FITZ	**Fitzroy Crossi**	**27.48**	**243**	*e*P		**P**	**17 01 54.2**	**-0.4**
	14nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**27.48**	**243**	P		**P**	**17 01 54.3**	**-0.2**
	2.5nm,0.6s,mb4.0,baz=94,slow=9.6,SNR=8.5							
KULM	**Kulim**	**51.79**	**282**	*e*P		**P**	**17 05 16.4**	**+0.2**
KMI	**Kunming**	**56.62**	**306**	P		**P**	**17 05 50.9**	**-0.4**
KMI				AP	pP		17 06 00.4	+3.1
KMI				AMB	AMB			
	comp=Z,7.0nm,1.4s,mb4.5							
KMI	**Kunming**	**56.62**	**306**	P		**P**	**17 05 50.9**	**-0.4**
	comp=Z,7.0nm,1.4s,mb4.5							
KMI				pP	pP		17 06 00.4	+3.1
ULN	**Ulaanbaatar**	**66.58**	**329**	*e*P		**P**	**17 06 58.8**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.2							
SONM	**Songino Array**	**66.90**	**329**	P		**P**	**17 07 01.9**	**+1.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=156,slow=4.2,SNR=6.9							
BILL	**Bilibino**	**75.09**	**6**	*e*P		**P**	**17 07 50.2**	**0.0**
	comp=Z,6.8nm,0.9s,mb4.6							
BILL				*e*			17 08 01.8	
MKAR	**Makanchi Array**	**80.54**	**319**	P		**P**	**17 08 19.0**	**-1.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=104,slow=8.9,SNR=3.6							
MKAR	**Makanchi Array**	**80.54**	**319**	P		**P**	**17 08 19.0**	**-1.5**
AAK	**Ala-Archa**	**84.65**	**314**	*e*P		**P**	**17 08 42.6**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.4							
TORD	**Torodi Ar. Bea**	**149.25**	**285**	PKPbc		PKPbc	17 15 58.0	+1.1
	comp=Z,2.1nm,0.7s,baz=62,slow=2.7,SNR=13							

IDC 16 16:57:21.4±10.0, 123S×10065E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=578.8km s-min=28.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.83**	**122**	P		P	17 04 40.4	+0.9
	0.4nm,0.4s,baz=303,slow=8.9,SNR=3.3							
ASAR	**Alice Springs**	**39.19**	**127**	P		P	17 04 50.9	-0.1
	0.2nm,0.5s,baz=306,slow=7.7,SNR=4.7							
MKAR	**Makanchi Array**	**50.48**	**344**	P		P	17 06 21.0	0.0
	1.9nm,0.7s,baz=155,slow=9.1,SNR=9.5							

IDC ***16*** *16:57:19.4±0.6, 4684N×155.11E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.5/24, mbtmp4.4/19, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/39, Error ellipse: s-maj=18.0km s-min=14.9km az=134.0*
NEIC ***16*** *16:57:20.9±0.3, 4688N×155.17E, h10km, mb4.8/29, Error ellipse: s-maj=9.1km s-min=7.1km az=135.0*
BJI ***16*** *16:57:20.2, 47.15N×154.92E, h6km, mB4.9, mb4.6, Ms4.4, Msz4.0*
ISCJB ***16*** *16:57:20.4±0.3, 4688N±005×155.16E±007, h16km, mb4.7/66, MS4.1/8, Error ellipse: s-maj=8.6km s-min=5.9km az=111.5*
MOS ***16*** *16:57:21.9±1.4, 4682N×155.02E, h28km, mb4.8/19, Error ellipse: s-maj=9.7km s-min=6.8km az=114.7*
SZGRF ***16*** *16:57:36.6, 4822N×155.81E, h33km, mb4.7, Kuril Islands, Russia*

ISC 16 16:57:22.3±0.3, 4696N±005×15520E±007, h17km, h17km±2.0km: pP-P, n159, σ1°07/158, mb4.7/65, MS4.1/8, 11C-12D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.78**	**9**	*e*PN	**Pn**	**16 58 22.0**	**+2.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.38**	**254⇑**	*i*PN	**Pn**	**16 58 37.2**	**-4.6**
KUR				pmax	pmax		
	comp=Z,330nm,0.9s						
PET	**Petropavlovsk**	**6.47**	**19**	*e*PN	**Pn**	**16 58 55.0**	**-1.7**
PET				pmax	pmax		
	comp=Z,45nm,0.7s						
PET	**Petropavlovsk**	**6.47**	**19**	*e*Pn	**Pn**	**16 58 54.7**	**-2.0**
PET				*e*Sn	**Sn**	**17 00 03.4**	**-6.8**
YSS	**Yuzh-Sakhalins**	**8.52**	**275**	*e*PN	**Pn**	**16 59 27.0**	**+2.2**
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.52**	**275**	*e*Pn	**Pn**	**16 59 25.4**	**+0.6**
ASAJ	**Asahikawa**	**9.29**	**257**	Pn	**Pn**	**16 59 35.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=99,slow=12,SNR=14						
ASAJ				LR	LR	17 03 47.6	
	comp=Z,98nm,18.7s,baz=172,slow=42						
ASAJ	**Asahikawa**	**9.29**	**257**	PN	**Pn**	**16 59 35.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,98nm,18.7s						
KLR	**Kul'dur**	**15.82**	**287**	*e*P	**Pn**	**17 01 02.0**	**-2.2**
MAJO	**Matsushiro**	**16.37**	**237**	*e*P	**Pn**	**17 01 06.6**	**-4.6**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s						
MAJO	**Matsushiro**	**16.37**	**237**	*e*Pn	**Pn**	**17 01 06.6**	**-4.7**
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**16.37**	**237**	Pn	**Pn**	**17 01 07.0**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=12						
JHJ	**Hachijo jima 2**	**18.13**	**226**	LR	LR	17 07 48.5	
	comp=Z,141nm,18.1s,baz=111,slow=35						
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**17 02 02.2**	**-2.0**
YAK				*e*		17 02 16.1	
YAK				*e*SS		17 05 56.5	
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				MLR	MLR		
	comp=Z,214nm,10.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,117nm,14.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,170nm,12.0s,MS3.7						
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**17 02 01.1**	**-3.2**
	comp=E,22nm,0.6s						
CLNS	**Chul'man**	**20.99**	**309**	*e*P	**P**	**17 02 01.2**	**-3.5**
CLNS				pmax	pmax		
	comp=Z,24nm,1.1s						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
CN2	**Changchun**	**21.08**	**272**	*e*P	**P**	**17 02 06.4**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
BILL	**Bilibino**	**21.89**	**11⇑**	*e*P	**P**	**17 02 13.4**	**-1.0**
BILL				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
BILL	**Bilibino**	**21.89**	**11**	*e*P	**P**	**17 02 13.1**	**-1.4**
	comp=Z,16nm,0.6s,mb4.6						
KSRS	**Korea Array**	**22.23**	**255**	P	**P**	**17 02 17.9**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.2,baz=58,slow=10,SNR=29						
SNY	**Shenyang**	**23.08**	**269**	⇓P	**P**	**17 02 25.8**	**-1.2**
SNY				AP		17 02 29.0	
SNY				XP	sP	17 02 32.3	-1.7
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
SNY				AMB	AMB		
	comp=Z,185nm,6.5s						
SNY				LR	LR		
	comp=N,183nm,12.7s						
SNY				LR	LR		
	comp=Z,296nm,13.8s,MS3.9						
BOD	**Bodaibo**	**26.97**	**309**	*e*P	**P**	**17 03 00.2**	**-2.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
CIT	**Chita**	**27.24**	**296**	*e*P	**P**	**17 03 04.2**	**-1.2**
BJI	**Beijing**	**28.91**	**271**	P	**P**	**17 03 20.0**	**-0.3**
BJI				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.0						
BJI	**Beijing**	**28.91**	**271**	P	**P**	**17 03 20.0**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.0						
NJ2	**Nanjing**	**31.43**	**255**	*e*P	**P**	**17 03 43.8**	**+1.2**
NJ2				AP	pP	17 03 47.1	-0.7
NJ2				XP	sP	17 03 51.3	+1.4
NJ2				PP	PP	17 04 46.9	-6.7
NJ2				S	**S**	**17 08 49.5**	**-0.1**
NJ2				XS	sS	17 08 57.5	-0.6
NJ2				AMB	AMB		
	comp=Z,240nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,16.9s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,14.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,15.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**31.71**	**275**	*e*P	**P**	**17 03 45.6**	**+0.6**
HHC				AP	pP	17 03 50.1	-0.1
HHC				XP	sP	17 03 52.6	+0.3
HHC				PP	PP	17 04 51.1	-5.6
HHC				PCP	PcP	17 06 37.9	+1.4
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,224nm,10.2s						
HHC				LR	LR		
	comp=N,193nm,14.7s,MS4.0						
HHC				LR	LR		
	comp=E,159nm,13.9s,MS4.0						
HHC				LR	LR		
	comp=Z,228nm,13.4s,MS4.0						
ULN	**Ulaanbaatar**	**32.18**	**290**	*e*P	**P**	**17 03 47.3**	**-1.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**32.18**	**290**	*e*P	**P**	**17 03 47.3**	**-1.9**
	comp=Z,4.2nm,0.8s,mb4.3						
SONM	**Songino Array**	**32.61**	**290**	P	**P**	**17 03 52.3**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.4,baz=62,slow=8.5,SNR=35						
TLY	**Talaya**	**33.36**	**298**	*e*P	**P**	**17 03 58.8**	**-0.7**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,138nm,18.0s,MS3.7						
TLY	**Talaya**	**33.36**	**298**	*e*P	**P**	**17 03 58.2**	**-1.3**
	comp=Z,7.9nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**33.89**	**295⇑**	*i*P	**P**	**17 04 03.4**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MCK	**McKinley**	**34.57**	**40**	*e*P	**P**	**17 04 09.8**	**-0.2**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MCK	**McKinley**	**34.57**	**40**	*e*P	**P**	**17 04 09.8**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.2						
COLA	**College**	**35.09**	**39**	*e*P	**P**	**17 04 14.3**	**-0.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	**College**	**35.09**	**39**	*e*P	**P**	**17 04 14.3**	**-0.2**
	comp=Z,5.0nm,0.7s,mb4.5						
WHN	**Wuhan**	**35.37**	**257**	P	**P**	**17 04 16.9**	**-0.1**
XAN	**Xi'an**	**36.96**	**267**	P	**P**	**17 04 30.4**	**-0.1**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.1						
LZH	**Lanzhou**	**39.31**	**273**	*e*P	**P**	**17 04 51.8**	**+1.4**
LZH				AP	pP	17 04 56.4	+0.8
LZH				XP	sP	17 05 00.4	+2.7
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
LZH	**Lanzhou**	**39.31**	**273**	*e*P	**P**	**17 04 51.8**	**+1.4**
	comp=Z,50nm,1.2s,mb5.1						
LZH				pP	pP	17 04 56.4	+0.8
LZH				sP	sP	17 05 00.4	+2.7
GTA	**Gaotai**	**40.35**	**280**	*e*P	**P**	**17 05 00.1**	**+1.1**
GTA				AP	pP	17 05 07.8	+3.6
GTA				XP	sP	17 05 10.8	+4.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
INK	**Inuvik**	**40.71**	**33**	P	**P**	**17 05 02.8**	**+0.8**
	comp=Z,4.1nm,0.8s,mb4.1,baz=287,slow=6.2,SNR=16						
INK	**Inuvik**	**40.71**	**33**	*e*P	**P**	**17 05 02.0**	**0.0**
INK				pmax	pmax		
	comp=Z,132nm,0.9s						
INK	**Inuvik**	**40.71**	**33**	*e*P	**P**	**17 05 02.0**	**+0.1**
	comp=Z,132nm,0.9s,mb5.6						
CD2	**Chengdu**	**42.32**	**267**	P	**P**	**17 05 15.4**	**+0.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
GYA	**Guiyang**	**43.16**	**259⇑**	*i*P	**P**	**17 05 22.6**	**+0.6**
GYA				AP	pP	17 05 26.8	-0.4
GYA				XP	sP	17 05 29.4	+0.1
GYA				PP	PP	17 07 05.3	+3.0
GYA				PCP	PcP	17 07 13.3	+1.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,390nm,17.2s,MS4.5						
GYA				LR	LR		
	comp=E,420nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=Z,410nm,16.9s,MS4.4						
ZAL	**Zalesovo**	**43.67**	**306**	P	**P**	**17 05 24.9**	**-1.2**
	comp=Z,2.1nm,0.5s,mb4.1,baz=57,slow=7.6,SNR=10						
WMQ	**Urumqi**	**46.18**	**292⇓**	*i*P	**P**	**17 05 47.3**	**+1.2**
WMQ				AP	pP	17 05 51.8	+0.4
WMQ				XP	sP	17 05 54.3	+0.8
WMQ				PCP	PcP	17 07 23.9	+2.1
WMQ				PP	PP	17 07 35.4	+0.9
WMQ				PPP		17 08 19.3	
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,316nm,5.9s						
WMQ				LR	LR		
	comp=N,100nm,21.5s,MS3.8						
WMQ				LR	LR		
	comp=E,40nm,17.8s,MS3.8						
WMQ				LR	LR		
	comp=Z,70nm,14.3s,MS3.8						
MK31	**Makanchi Array**	**48.12**	**298**	*e*P	**P**	**17 06 00.5**	**-0.7**
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**17 06 01.0**	**-0.2**
	comp=Z,6.1nm,0.6s,mb4.8,baz=68,slow=8.2,SNR=59						
MKAR	**Makanchi Array**	**48.12**	**298**	*i*P	**P**	**17 06 00.6**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**17 06 01.0**	**-0.2**
POHA	**Pohakuloa**	**48.26**	**107**	*e*P	**P**	**17 06 00.2**	**-2.0**
	comp=Z,66nm,0.5s						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**17 06 15.0**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=299,slow=7.3,SNR=4.4						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**17 06 15.0**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**50.18**	**19**	*e*P	**P**	**17 06 22.4**	**+5.4**
RES				pmax	pmax		
	comp=Z,155nm,0.7s						
RES	**Resolute Bay**	**50.18**	**19**	*e*P	**P**	**17 06 22.4**	**+5.4**
	comp=Z,155nm,0.7s						
CHKZ	**Chkalovo**	**51.39**	**311**	P	**P**	**17 06 24.8**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P	**P**	**17 06 24.8**	**-1.3**
	comp=Z,46nm,0.9s,mb5.4						
VOSK	**Vostochnaya**	**51.67**	**310**	P	**P**	**17 06 27.3**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
LSA	**Lhasa**	**51.69**	**274**	P	**P**	**17 06 30.0**	**+1.6**
LSA	**Lhasa**	**51.69**	**274**	*e*P	**P**	**17 06 30.5**	**+2.1**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
LSA	**Lhasa**	**51.69**	**274**	*e*P	**P**	**17 06 30.5**	**+2.2**
	comp=Z,11nm,0.6s,mb5.0						
BVA0	**Borovoye Array**	**51.83**	**310**	*i*P	**P**	**17 06 29.0**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**17 06 29.1**	**-0.3**
	comp=Z,14nm,0.6s,mb5.1,baz=60,slow=8.8,SNR=69						
BVAR				LR	LR	17 29 53.6	
	comp=Z,131nm,18.3s,MS4.0,baz=322,slow=38						
BRVK	**Borovoye**	**51.87**	**310**	*e*P	**P**	**17 06 29.0**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
BRVK	**Borovoye**	**51.87**	**310**	*e*P	**P**	**17 06 29.0**	**-0.7**
	comp=Z,27nm,0.8s,mb5.2						
ZRNK	**Zerenda**	**52.59**	**311**	*e*P	**P**	**17 06 34.2**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.4						
ZRNK	**Zerenda**	**52.59**	**311**	*e*P	**P**	**17 06 34.2**	**-0.8**
	comp=Z,32nm,0.6s,mb5.4						
CM31	**Chiang Mai Arr**	**53.81**	**258**	*e*P	**P**	**17 06 44.4**	**+0.3**
FRU	**Bishkek**	**54.84**	**297**	*e*P	**P**	**17 06 52.0**	**+0.5**
AAK	**Ala-Archa**	**55.02**	**297**	*e*P	**P**	**17 06 52.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**55.02**	**297**	*e*P	**P**	**17 06 52.2**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.7						
ARU	**Arti**	**55.82**	**318**	*e*P	**P**	**17 06 58.2**	**-0.4**
ARU				*e*		17 08 59.2	
ARU				*e*PPP		17 10 14.4	
ARU				*e*S	**S**	**17 14 42.6**	**-2.4**
ARU				*e*SS	sS	17 18 31.0	+0.4
ARU	**Arti**	**55.82**	**318**	*e*P	**P**	**17 06 58.1**	**-0.5**
	comp=Z,24nm,0.6s,mb5.4						
JIRN	**Jiri**	**56.35**	**276**	*e*P	**P**	**17 07 03.3**	**+0.9**
	comp=Z,21nm,0.6s,mb5.3						
GUN	**Gumba**	**56.41**	**276**	*e*P	**P**	**17 07 04.5**	**+1.7**
	comp=Z,13nm,0.5s,mb5.2						
PMG	**Port Moresby**	**56.56**	**190**	P	**P**	**17 07 08.7**	**+4.8**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PMG	**Port Moresby**	**56.56**	**190**	P	**P**	**17 07 08.7**	**+4.8**
	comp=Z,4.0nm,0.8s,mb4.5						
KKN	**Kakani**	**56.89**	**277**	*e*P	**P**	**17 07 07.4**	**+1.2**
	comp=Z,18nm,0.7s,mb5.2						
PKI	**Pulchoki**	**56.94**	**276**	*e*P	**P**	**17 07 07.4**	**+0.8**
	comp=Z,14nm,0.6s,mb5.2						
DMN	**Daman**	**57.12**	**277**	*e*P	**P**	**17 07 08.9**	**+1.0**
	comp=Z,17nm,0.6s,mb5.2						
LVZ	**Lovozero**	**57.14**	**337⇓**	*e*P	**P**	**17 07 09.5**	**+1.5**
LVZ				pmax	pmax		
	comp=Z,66nm,2.5s,mb5.2						
GKN	**Gorkha**	**57.19**	**277**	*e*P	**P**	**17 07 09.2**	**+0.8**
	comp=Z,19nm,0.5s,mb5.4						
KOLN	**Koldanda**	**58.05**	**278**	*e*P	**P**	**17 07 15.3**	**+0.9**
	comp=Z,22nm,0.9s,mb5.2						
ARCES	**ARCESS Array B**	**58.12**	**341**	P	**P**	**17 07 14.6**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.4,baz=44,slow=7.1,SNR=4.2						
AB31	**Akbulak array**	**59.39**	**311**	*i*P	**P**	**17 07 23.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KSM	**Kuching**	**59.75**	**235**	P	**P**	**17 07 26.2**	**0.0**
ORR	**Orenburg**	**60.52**	**315**	*e*P	**P**	**17 07 31.3**	**-0.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
SPUT	**South Promonto**	**62.75**	**58**	*e*P	**P**	**17 07 48.0**	**+1.5**
PDAR	**Pinedale Array**	**63.46**	**55**	P	**P**	**17 07 52.4**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=222,slow=2.0,SNR=4.3						
FINES	**FINESS Array B**	**64.46**	**336**	P	**P**	**17 07 57.6**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.7,baz=36,slow=7.4,SNR=20						
SRU	**San Rafael**	**65.29**	**59**	P	**P**	**17 07 57.8**	**-5.4**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
SRU	**San Rafael**	**65.29**	**59**	P	**P**	**17 07 57.8**	**-5.4**
	comp=Z,1.9nm,0.7s,mb4.2						
NB2	**NORSAR Subarra**	**68.49**	**342**	P	**P**	**17 08 23.3**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**	**17 08 24.0**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=26,slow=6.3,SNR=6.9						
NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**	**17 08 24.0**	**+0.5**
WB2	**Warramunga Arr**	**69.19**	**201**	*e*P	**P**	**17 08 26.4**	**-1.6**
WRA	**Warramunga Arr**	**69.19**	**201**	P	**P**	**17 08 26.6**	**-1.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=20,slow=6.6,SNR=10						
FITZ	**Fitzroy Crossi**	**70.02**	**210**	*e*P	**P**	**17 08 33.3**	**+0.3**
	comp=Z,5.1nm,1.2s,mb4.3						
KIV	**Kislovodsk**	**71.67**	**315⇓**	*e*P	**P**	**17 08 44.1**	**+1.0**
KIV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**71.67**	**315**	P	**P**	**17 08 44.3**	**+1.2**
	comp=Z,16nm,0.9s,mb5.0						
ZEI	**Tsey**	**71.96**	**314**	*e*P	**P**	**17 08 46.5**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**	**17 08 45.2**	**-0.8**
	comp=Z,4.4nm,0.8s,mb4.4,baz=33,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**	**17 08 45.2**	**-0.8**
AS31	**Alice Springs**	**72.88**	**200**	*e*P	**P**	**17 08 49.6**	**-0.7**
ASAR	**Alice Springs**	**72.88**	**200**	P	**P**	**17 08 49.8**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=15,slow=5.7,SNR=32						
ASPA	**Alice Springs**	**72.88**	**200**	*e*P	**P**	**17 08 49.6**	**-0.7**
PALK	**Pallekele**	**74.14**	**264**	*e*P	**P**	**17 08 57.2**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**76.14**	**62**	P	**P**	**17 09 09.8**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.6,baz=300,slow=4.1,SNR=28						
TXAR	**Lajitas Array**	**76.14**	**62**	P	**P**	**17 09 09.8**	**+0.6**
BURAR	**Bucovina Array**	**76.19**	**328**	⇓*i*P	**P**	**17 09 09.7**	**+0.1**
BURAR	**Bucovina Array**	**76.19**	**328**	⇓P	**P**	**17 09 09.7**	**+0.1**
UPC	**Upice**	**76.73**	**335**	*e*P	**P**	**17 09 14.8**	**+2.2**
DPC	**Dobruska-Polom**	**76.78**	**334**	*e*P	**P**	**17 09 13.9**	**+1.0**
CLL	**Collm**	**76.86**	**337**	*e*P	**P**	**17 09 14.0**	**+0.7**
MORC	**Moravsky Berou**	**76.91**	**333⇑**	*i*P	**P**	**17 09 14.2**	**+0.6**
MORC	**Moravsky Berou**	**76.91**	**333**	*e*P	**P**	**17 09 13.9**	**+0.3**
MORC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MORC	**Moravsky Berou**	**76.91**	**333**	*e*P	**P**	**17 09 13.9**	**+0.3**
	comp=Z,6.6nm,0.9s,mb4.6						
VRI	**Vrincioaia**	**77.09**	**326⇑**	*i*P	**P**	**17 09 19.9**	**+5.2**
PVCC	**Panska Ves**	**77.12**	**335**	*e*P	**P**	**17 09 18.5**	**+3.7**
TIRR	**Tirgusor**	**77.60**	**324**	⇓*i*P	**P**	**17 09 17.4**	**-0.1**
TIRR	**Tirgusor**	**77.60**	**324**	⇓P	**P**	**17 09 17.4**	**-0.1**
MLR	**Muntele Rosu**	**77.71**	**326**	⇑*i*P	**P**	**17 09 19.3**	**+1.2**
MLR	**Muntele Rosu**	**77.71**	**326**	⇑P	**P**	**17 09 19.3**	**+1.2**
MALT	**Malatya**	**78.05**	**314**	⇑*i*P	**P**	**17 09 22.3**	**+2.3**
MALT	**Malatya**	**78.05**	**314**	*e*P	**P**	**17 09 21.5**	**+1.5**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MALT	**Malatya**	**78.05**	**314**	*e*P	**P**	**17 09 21.5**	**+1.5**
	comp=Z,6.1nm,1.0s,mb4.5						
VOIR		**78.09**	**327**	⇓*i*P	**P**	**17 09 21.7**	**+1.5**
VOIR		**78.09**	**327**	⇓P	**P**	**17 09 21.7**	**+1.4**
KHC	**Kasperske Hory**	**78.66**	**335**	*e*P	**P**	**17 09 23.7**	**+0.3**
GRA1	**Grafenberg Arr**	**78.81**	**337**	*e*P	**P**	**17 09 29.0**	**+4.8**
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**78.81**	**337**	*e*P	**P**	**17 09 29.0**	**+4.8**
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**78.81**	**337**	*e*P	**P**	**17 09 29.0**	**+4.8**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**78.81**	**337**	*e*P	**P**	**17 09 29.0**	**+4.8**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GERES	**GERESS Array B**	**78.89**	**335**	P	**P**	**17 09 25.0**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.0,baz=45,slow=5.8,SNR=9.9						
GZR	**Gura Zlata**	**78.97**	**328**	⇓*i*P	**P**	**17 09 26.0**	**+0.9**
GZR	**Gura Zlata**	**78.97**	**328**	⇓P	**P**	**17 09 26.0**	**+0.9**
STKA	**Stephens Creek**	**79.42**	**192**	P	**P**	**17 09 26.5**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.3,baz=334,slow=6.1,SNR=4.9						
STKA	**Stephens Creek**	**79.42**	**192**	P	**P**	**17 09 26.5**	**-1.0**
CDF	**Champ du Feu**	**81.00**	**339**	*e*P	**P**	**17 09 34.8**	**-1.2**
VTS	**Vitosha**	**81.21**	**326⇑**	*i*P	**P**	**17 09 37.8**	**+0.6**
VTS	**Vitosha**	**81.21**	**326**	⇑P	**P**	**17 09 37.8**	**+0.6**
GRR	**Gorron**	**82.78**	**344**	*e*P	**P**	**17 09 44.1**	**-1.3**
	comp=Z,80nm,1.4s,mb5.3						
GRR	**Gorron**	**82.78**	**344**	*e*P	**P**	**17 09 44.1**	**-1.3**
GRR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3						
GRR	**Gorron**	**82.78**	**344**	*e*P	**P**	**17 09 44.1**	**-1.3**
	comp=Z,40nm,1.4s,mb5.2						
SMF	**Signal de Mont**	**83.46**	**341**	*e*P	**P**	**17 09 47.8**	**-1.2**
	comp=Z,40nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.46**	**341**	*e*P	**P**	**17 09 47.8**	**-1.2**
SMF				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.46**	**341**	*e*P	**P**	**17 09 47.8**	**-1.2**
	comp=Z,20nm,1.1s,mb5.1						
LPG	**La Plagne**	**83.84**	**338**	*e*P	**P**	**17 09 50.8**	**-0.1**
	comp=Z,26nm,1.1s,mb5.0						
LPG	**La Plagne**	**83.84**	**338**	*e*P	**P**	**17 09 50.8**	**-0.1**
LPG				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
LPG	**La Plagne**	**83.84**	**338**	*e*P	**P**	**17 09 50.8**	**-0.1**
	comp=Z,13nm,1.1s,mb5.0						
CAF	**Calviac**	**85.49**	**341**	*e*P	**P**	**17 09 58.7**	**-0.5**
	comp=Z,46nm,1.3s,mb5.2						
CAF	**Calviac**	**85.49**	**341**	*e*P	**P**	**17 09 58.7**	**-0.5**
CAF				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
CAF	**Calviac**	**85.49**	**341**	*e*P	**P**	**17 09 58.7**	**-0.5**
	comp=Z,23nm,1.3s,mb5.1						
TORD	**Torodi Ar. Bea**	**115.63**	**331**	PP	PP	17 17 05.0	-0.9
	comp=Z,1.0nm,1.0s,baz=5.3,slow=5.8,SNR=3.7						
CFAA	**

TSZ	**Takapari Road**	**1.46**	**173**	⇑PN	Pn	16 59 52.6	-0.1
WPHZ	**Waipukurau**	**1.56**	**160**	⇑PN	Pn	16 59 53.7	+0.1
KNZ	**Kokohu**	**1.56**	**106**	⇓PN	Pn	16 59 53.8	+0.1
PXZ	**Pawanui**	**1.67**	**149**	⇑PN	Pn	16 59 54.9	+0.1
PXZ				SN	Sn	17 00 18.2	-1.2
PUZ	**Puketiti**	**2.05**	**76**	P	Pn	16 59 58.5	-0.5
PUZ	**Puketiti**	**2.05**	**76**	PN	Pn	16 59 58.4	-0.5
MRZ	**Mangatainoka R**	**2.06**	**183**	P	Pn	16 59 58.0	-1.1
MRZ				S	Sn	17 00 24.2	-2.9
MRZ	**Mangatainoka R**	**2.06**	**183**	⇑PN	Pn	16 59 58.0	-1.1
MRZ				SN	Sn	17 00 24.2	-2.9
BFZ	**Birch Farm**	**2.11**	**170**	P	Pn	16 59 58.9	-0.8
BFZ	**Birch Farm**	**2.11**	**170**	PN	Pn	16 59 58.9	-0.8
TIWZ	**Tintock**	**2.17**	**177**	PN	Pn	16 59 59.6	-0.8
MXZ	**Matakaoa Point**	**2.27**	**64**	P	Pn	17 00 01.2	-0.4
MXZ	**Matakaoa Point**	**2.27**	**64**	PN	Pn	17 00 01.2	-0.4
KIW	**Kapiti Island**	**2.34**	**196**	P	Pn	17 00 00.8	-1.6
KIW	**Kapiti Island**	**2.34**	**196**	⇑PN	Pn	17 00 00.8	-1.6
MTW	**Mount Morrison**	**2.56**	**184**	P	Pn	17 00 03.2	-1.8
MTW	**Mount Morrison**	**2.56**	**184**	⇑PN	Pn	17 00 03.1	-1.9
DUWZ	**D'Urville Isla**	**2.61**	**212**	PN	Pn	17 00 03.6	-2.0
MRW	**Makara Radio**	**2.74**	**197**	P	Pn	17 00 05.2	-2.0
MRW	**Makara Radio**	**2.74**	**197**	PN	Pn	17 00 05.2	-2.1
WEL	**Wellington**	**2.78**	**195**	P	Pn	17 00 05.7	-2.0
WEL	**Wellington**	**2.78**	**195**	PN	Pn	17 00 05.7	-2.0
PAWZ	**Paruwai Farm**	**2.78**	**185**	P	Pn	17 00 05.8	-2.0
PAWZ	**Paruwai Farm**	**2.78**	**185**	PN	Pn	17 00 05.8	-2.0
TRWZ	**Traveller**	**2.79**	**181**	PN	Pn	17 00 06.0	-1.9
SNZO	**South Karori**	**2.82**	**196**	P	Pn	17 00 05.9	-2.3
SNZO	**South Karori**	**2.82**	**196**	PN	Pn	17 00 05.9	-2.2
MSWZ	**Moikau Station**	**2.83**	**188**	P	Pn	17 00 06.2	-2.2
MSWZ	**Moikau Station**	**2.83**	**188**	PN	Pn	17 00 06.2	-2.1
TCW	**Tory Channel**	**2.84**	**203**	P	Pn	17 00 06.3	-2.1
TCW	**Tory Channel**	**2.84**	**203**	PN	Pn	17 00 06.3	-2.2
BHW	**Baring Head**	**2.88**	**193**	P	Pn	17 00 06.7	-2.2
BHW	**Baring Head**	**2.88**	**193**	PN	Pn	17 00 06.7	-2.3
NNZ	**Nelson**	**3.18**	**214**	P	Pn	17 00 09.9	-2.8
NNZ	**Nelson**	**3.18**	**214**	PN	Pn	17 00 09.9	-2.8
QRZ	**Quartz Range**	**3.33**	**227**	P	Pn	17 00 11.3	-3.3
QRZ	**Quartz Range**	**3.33**	**227**	PN	Pn	17 00 11.3	-3.2
BSWZ	**Blackbirch Sta**	**3.42**	**204**	P	Pn	17 00 13.2	-2.5
BSWZ	**Blackbirch Sta**	**3.42**	**204**	PN	Pn	17 00 13.2	-2.6
THZ	**Tophouse**	**3.83**	**214**	eP	Pn	17 00 18.2	-2.8
THZ	**Tophouse**	**3.83**	**214**	PN	Pn	17 00 18.2	-2.8
KHZ	**Kahutara**	**4.16**	**203**	P	Pn	17 00 22.4	-2.9
KHZ	**Kahutara**	**4.16**	**203**	PN	Pn	17 00 22.4	-2.9
LTZ	**Lake Taylor**	**4.94**	**211**	eP	Pn	17 00 31.5	-4.0
LTZ	**Lake Taylor**	**4.94**	**211**	PN	Pn	17 00 31.5	-4.0
CRLZ	**Canterbury Las**	**5.50**	**204**	eP	Pn	17 00 38.1	-4.7
CRLZ	**Canterbury Las**	**5.50**	**204**	PN	Pn	17 00 38.1	-4.7
MQZ	**McQueen's Vall**	**5.61**	**204**	PN	Pn	17 00 39.2	-5.0
RPZ	**Rata Peaks**	**6.21**	**213**	ePN	Pn	17 00 47.9	-4.4
LBZ	**Lake Benmore**	**7.12**	**214**	ePN	Pn	17 00 59.4	-5.0
ODZ	**Otahua Downs**	**7.47**	**209**	eP	Pn	17 01 04.5	-4.6
ODZ	**Otahua Downs**	**7.47**	**209**	PN	Pn	17 01 04.5	-4.5
WKZ	**Wanaka**	**8.00**	**217**	SN	Sn	17 02 33.6	-12
TUZ	**Tuapeka**	**8.63**	**210**	SN	Sn	17 02 48.9	-11
SYZ	**Scrubby Hill**	**9.30**	**209**	SN	Sn	17 03 07.7	-8.9
APZ	**The Paps**	**10.00**	**212**	SN	Sn	17 03 23.9	-10

*BJI **16** 17:01:20.5, 47.18N×155.00E, h8km, mB4.7, mb4.6, Ms4.1, Msz3.8*

*IDC **16** 17:01:20.1±1.4, 46.87N×155.10E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/24, mbtmp4.1/15, ML3.7/2, Error ellipse: s-maj=37.8km s-min=17.0km az=166.0*

*MOS **16** 17:01:21.2±0.8, 46.76N×155.06E, h25km, mb4.8/9, Error ellipse: s-maj=12.4km s-min=9.5km az=85.6*

*NEIC **16** 17:01:22.0±0.7, 47.00N×155.02E, h10km, mb4.5/13, Error ellipse: s-maj=17.9km s-min=8.0km az=149.0*

*ISCJB **16** 17:01:22.2±0.7, 47.1N±0.1×155.0E±0.1, h15km, mb4.5/36, MS3.7/2, Error ellipse: s-maj=17.8km s-min=7.0km az=121.3*

ISC 16 17:01:24.4±0.7, **4725N**±009×**1550E**±01, **h16**km, **h16**km±3.1km:**pP-P**, **n76**, σ0:**98**/80, **mb4.5**/36, **MS3.7**/2, **2C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.52**	**12**	*e*PN		**Pn**		**17 02 22.0**	**+3.5**
KUR	**Kuril'sk**	**5.32**	**250**	*e*PN		**Pn**		**17 02 37.0**	**-6.2**
KUR					pmax	pmax			
	comp=N,90nm,0.8s								
KUR					pmax	pmax			
	comp=Z,140nm,0.8s								
PET	**Petropavlovsk**	**6.25**	**21**	*e*Pn		**Pn**		**17 02 54.9**	**-1.1**
PET				*e*Sn		**Sn**		**17 04 07.0**	**0.0**
ASAJ	**Asahikawa**	**9.20**	**255**	Pn		**Pn**		**17 03 36.0**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=98,slow=17,SNR=5.4								
ASAJ	**Asahikawa**	**9.20**	**255**	PN		**Pn**		**17 03 36.1**	**-0.4**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**9.90**	**242**	*e*Pn		**Pn**		**17 03 42.9**	**-3.2**
ERM				*e*Sn		**Sn**		**17 05 23.2**	**-14**
MJAR	**Matsushiro Arr**	**16.39**	**235**	Pn		**Pn**		**17 05 07.9**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=4.3								
MAJO	**Matsushiro**	**16.40**	**235**	*e*P		**Pn**		**17 05 06.8**	**-7.1**
MAJO					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MAJO	**Matsushiro**	**16.40**	**235**	*e*Pn		**Pn**		**17 05 06.8**	**-7.1**
	comp=Z,9.6nm,0.8s								
YAK	**Yakutsk**	**20.61**	**325**	*e*P		**P**		**17 06 01.4**	**-1.5**
YAK					pmax	pmax			
	comp=Z,10.0nm,0.6s								
YAK	**Yakutsk**	**20.61**	**325**	*e*P		**P**		**17 06 01.4**	**-1.6**
	comp=Z,10nm,0.6s								
CN2	**Changchun**	**20.90**	**271**	*e*P		**P**		**17 06 06.3**	**+0.2**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.6s								
BILL	**Bilibino**	**21.64**	**12**	*e*P		**P**		**17 06 15.3**	**+1.3**
BILL					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.3								
BILL	**Bilibino**	**21.64**	**12**	*e*P		**P**		**17 06 11.4**	**-2.6**
	comp=Z,11nm,0.6s,mb4.5								
KSRS	**Korea Array**	**22.15**	**254**	P		**P**		**17 06 18.4**	**-1.1**
	comp=Z,2.7nm,0.7s,mb3.8,baz=57,slow=10,SNR=9.4								
BOD	**Bodaibo**	**26.66**	**309**	*e*P		**P**		**17 07 03.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**31.52**	**274**	*e*P		**P**		**17 07 45.5**	**-0.2**
HHC					AP	pP		17 07 50.0	-0.6
HHC					XP	sP		17 07 52.8	+0.2
HHC					PP	PP		17 08 49.3	-7.6
HHC					PCP	PcP		17 10 37.8	-0.5
HHC					S	**S**		**17 12 51.5**	**-1.8**
HHC					XS	sS		17 12 58.9	-2.5
HHC					SCP	ScP		17 14 18.8	-2.0
HHC					SS	SS		17 14 39.4	-29
HHC					AMB	AMB			
	comp=Z,14nm,1.2s,mb4.7								
HHC					AMB	AMB			
	comp=Z,270nm,10.7s								
HHC					LR	LR			
	comp=N,124nm,13.2s,MS4.0								
HHC					LR	LR			
	comp=E,162nm,14.8s,MS4.0								
HHC					LR	LR			
	comp=Z,150nm,13.5s,MS3.8								
ULN	**Ulaanbaatar**	**31.93**	**289**	*e*P		**P**		**17 07 47.6**	**-1.7**
ULN					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.1								
ULN	**Ulaanbaatar**	**31.93**	**289**	*e*P		**P**		**17 07 47.6**	**-1.7**
	comp=Z,2.6nm,1.0s,mb4.0								
SONM	**Songino Array**	**32.36**	**289**	P		**P**		**17 07 52.6**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.8,baz=61,slow=7.6,SNR=6.3								
MCK	**McKinley**	**34.45**	**41**	*e*P		**P**		**17 08 10.5**	**-0.8**
MCK					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
MCK	**McKinley**	**34.45**	**41**	*e*P		**P**		**17 08 10.4**	**-0.9**
	comp=Z,3.3nm,1.0s,mb4.2								
SML	**Sawmill**	**34.73**	**44**	P		**P**		**17 08 13.1**	**-0.7**
COLA	**College**	**34.96**	**39**	*e*P		**P**		**17 08 15.7**	**0.0**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
COLA	**College**	**34.96**	**39**	*e*P		**P**		**17 08 15.7**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.4								
LZH	**Lanzhou**	**39.13**	**272**	*e*P		**P**		**17 08 52.3**	**+1.1**
LZH					AP	pP		17 08 54.6	-1.5
LZH					XP	sP		17 08 56.5	-1.6
LZH					AMB	AMB			
	comp=Z,90nm,4.0s								

LZH	**Lanzhou**	**39.13**	**272**	*e*P		**P**		**17 08 52.3**	**+1.1**
	comp=Z,21nm,1.0s,mb4.8								
LZH					pP	pP		17 08 54.6	-1.5
LZH					sP	sP		17 08 56.5	-1.6
GTA	**Gaotai**	**40.14**	**280**	*e*P		**P**		**17 09 00.6**	**+1.1**
GTA					AP	pP		17 09 07.8	+3.3
GTA					XP	sP		17 09 11.0	+4.5
GTA					AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.3								
INK	**Inuvik**	**40.55**	**33**	P		**P**		**17 09 03.3**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.0,baz=292,slow=5.6,SNR=11								
INK	**Inuvik**	**40.55**	**33**	*e*P		**P**		**17 09 02.7**	**-0.3**
INK					pmax	pmax			
	comp=Z,86nm,0.6s								
INK	**Inuvik**	**40.55**	**33**	*e*P		**P**		**17 09 02.7**	**-0.2**
	comp=Z,86nm,0.6s,mb5.6								
CD2	**Chengdu**	**42.18**	**266**	*e*P		**P**		**17 09 16.0**	**-0.3**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
GYA	**Guiyang**	**43.05**	**259**	P		**P**		**17 09 22.6**	**-0.8**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
ZAL	**Zalesovo**	**43.36**	**306**	P		**P**		**17 09 25.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=40,slow=6.3,SNR=4.4								
WMQ	**Urumqi**	**45.92**	**292**	⇓*i*P		**P**		**17 09 45.8**	**-0.5**
WMQ					AP	pP		17 09 50.3	-1.1
WMQ					XP	sP		17 09 52.8	-0.5
WMQ					PCP	PcP		17 11 23.5	+0.3
WMQ					PP	PP		17 11 33.4	-0.6
WMQ					S	**S**		**17 16 28.5**	**-1.7**
WMQ					XS	sS		17 16 36.3	-2.2
WMQ					AMB	AMB			
	comp=Z,6.0nm,0.5s,mb4.8								
WMQ					AMB	AMB			
	comp=Z,36nm,4.3s								
WMQ					LR	LR			
	comp=N,40nm,13.2s,MS3.6								
WMQ					LR	LR			
	comp=E,28nm,16.3s,MS3.6								
WMQ					LR	LR			
	comp=Z,51nm,14.3s,MS3.6								
KMI	**Kunming**	**46.57**	**261**	P		**P**		**17 09 50.4**	**-1.1**
KMI					AP	pP		17 09 54.6	-1.9
KMI					XP	sP		17 09 56.0	-2.5
KMI					AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.5								
KMI	**Kunming**	**46.57**	**261**	P		**P**		**17 09 50.4**	**-1.1**
	comp=Z,6.0nm,1.0s,mb4.5								
KMI					pP	pP		17 09 54.6	-1.9
KMI					sP	sP		17 09 56.0	-2.5
MK31	**Makanchi Array**	**47.83**	**298**	*e*P		**P**		**17 10 00.9**	**-0.4**
MKAR	**Makanchi Array**	**47.83**	**298**	P		**P**		**17 10 01.2**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=66,slow=7.6,SNR=25								
RES	**Resolute Bay**	**49.96**	**19**	P		**P**		**17 10 22.1**	**+4.5**
RES					pmax	pmax			
	comp=Z,83nm,0.7s								
RES	**Resolute Bay**	**49.96**	**19**	P		**P**		**17 10 22.1**	**+4.5**
	comp=Z,83nm,0.7s								
CHKZ	**Chkalovo**	**51.08**	**310**	*e*P		**P**		**17 10 25.3**	**-0.7**
CHKZ					pmax	pmax			
	comp=Z,15nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**51.08**	**310**	*e*P		**P**		**17 10 25.3**	**-0.8**
	comp=Z,15nm,0.6s,mb5.1								
LSA	**Lhasa**	**51.51**	**274**	P		**P**		**17 10 30.3**	**+1.0**
LSA	**Lhasa**	**51.51**	**274**	*e*P		**P**		**17 10 30.3**	**+1.0**
LSA					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7								
LSA	**Lhasa**	**51.51**	**274**	*e*P		**P**		**17 10 30.3**	**+1.0**
	comp=Z,5.6nm,0.6s,mb4.7								
BVAR	**Borovoye Array**	**51.52**	**310**	P		**P**		**17 10 29.6**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.8,baz=55,slow=7.6,SNR=23								
BRVK	**Borovoye**	**51.56**	**310**	*e*P		**P**		**17 10 28.5**	**-1.1**
BRVK					pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9								
BRVK	**Borovoye**	**51.56**	**310**	*e*P		**P**		**17 10 28.5**	**-1.2**
	comp=Z,15nm,0.9s,mb4.9								
ZRNK	**Zerenda**	**52.28**	**310**	*e*P		**P**		**17 10 34.9**	**-0.1**
AAK	**Ala-Archa**	**54.74**	**297**	*e*P		**P**		**17 10 52.9**	**-0.2**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**54.74**	**297**	*e*P		**P**		**17 10 52.9**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.5								
ARU	**Arti**	**55.50**	**318**	*e*P		**P**		**17 10 58.6**	**0.0**
ARU	**Arti**	**55.50**	**318**	*e*P		**P**		**17 10 58.3**	**-0.2**
	comp=Z,12nm,0.6s,mb5.1								
JIRN	**Jiri**	**56.16**	**275**	*e*P		**P**		**17 11 04.7**	**+1.4**
	comp=Z,11nm,0.6s,mb5.1								
GUN	**Gumba**	**56.21**	**276**	*e*P		**P**		**17 11 05.3**	**+1.6**
	comp=Z,6.3nm,0.4s,mb5.0								
KKN	**Kakani**	**56.70**	**276**	*e*P		**P**		**17 11 08.8**	**+1.7**
	comp=Z,6.2nm,0.5s,mb4.9								
PKI	**Pulchoki**	**56.75**	**276**	*e*P		**P**		**17 11 08.6**	**+1.1**
	comp=Z,6.1nm,0.5s,mb4.9								
DMN	**Daman**	**56.93**	**276**	*e*P		**P**		**17 11 10.2**	**+1.4**
	comp=Z,7.1nm,0.4s,mb5.0								
GKN	**Gorkha**	**56.99**	**277**	*e*P		**P**		**17 11 10.5**	**+1.2**
	comp=Z,11nm,0.6s,mb5.1								
ARCES	**ARCESS Array B**	**57.80**	**341**	P		**P**		**17 11 15.8**	**+1.0**
	comp=Z,3.6nm,0.8s,mb4.4,baz=27,slow=7.2,SNR=7.1								
KOLN	**Koldanda**	**57.85**	**277**	*e*P		**P**		**17 11 15.7**	**+0.4**
	comp=Z,6.1nm,0.6s,mb4.8								
PDAR	**Pinedale Array**	**63.43**	**55**	P		**P**		**17 11 52.5**	**-0.8**
	comp=Z,1.1nm,0.9s,mb4.0,baz=217,slow=1.5,SNR=6.9								
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**		**17 11 57.9**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.5,baz=38,slow=7.7,SNR=16								
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**		**17 11 57.9**	**0.0**
NOA	**NORSAR Array B**	**68.16**	**342**	P		**P**		**17 12 24.1**	**+0.3**
	comp=Z,1.8nm,0.9s,mb4.1,baz=25,slow=6.4,SNR=3.6								
AKASG	**Malin Array Be**	**71.83**	**327**	P		**P**		**17 12 45.7**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=33,slow=6.1,SNR=7.3								
AKASG	**Malin Array Be**	**71.83**	**327**	P		**P**		**17 12 45.7**	**-0.6**
BURAR	**Bucovina Array**	**75.86**	**328**	⇑*i*P		**P**		**17 13 10.5**	**+0.5**
TXAR	**Lajitas Array**	**76.14**	**62**	P		**P**		**17 13 10.5**	**-1.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=298,slow=4.1,SNR=30								
DPC	**Dobruska-Polom**	**76.44**	**334**	*e*P		**P**		**17 13 13.7**	**+0.4**
CLL	**Collm**	**76.53**	**337**	*e*P		**P**		**17 13 15.0**	**+1.2**
MORC	**Moravsky Berou**	**76.58**	**333**	⇑*i*P		**P**		**17 13 15.2**	**+1.1**
MLR	**Muntele Rosu**	**77.38**	**326**	⇓*i*P		**P**		**17 13 19.2**	**+0.7**
KHC	**Kasperske Hory**	**78.33**	**335**	*e*P		**P**		**17 13 24.2**	**+0.3**
GERES	**GERESS Array B**	**78.55**	**335**	P		**P**		**17 13 25.3**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=19,slow=5.7,SNR=4.6								

*IDC **16** 17:06:39.1±0.6, 660S×151.12E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.6/18, mbtmp4.5/16, ML3.3/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/33, Error ellipse: s-maj=22.1km s-min=12.6km az=103.0*

*BJI **16** 17:06:40.7, 681S×151.39E, h39km, mB5.0, mb4.6, Ms4.5, Msz4.3*

*ISCJB **16** 17:06:42.5±0.4, 663S±005×151.11E±007, h33km, mb4.7/43, MS4.0/19, Error ellipse: s-maj=9.9km s-min=6.1km az=43.3*

*MOS **16** 17:06:42.3±1.1, 660S×151.00E, h31km, mb5.0/13, Error ellipse: s-maj=14.8km s-min=9.3km az=70.0*

*NEIC **16** 17:06:42.9±3.1, 663S×151.13E, h26km±21km, mb4.8/22, Error ellipse: s-maj=9.1km s-min=7.6km az=59.0*

ISC 16 17:06:39.6±1.8, **659S**±005×**15119E**±007, **h3**km±11km, **h33**km±2.2km:**pP-P**, **n103**, σ0:**97**/97, **mb4.7**/45, **MS4.0**/19, **6D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**235**	Pn		**Pn**		**17 07 55.6**	**+1.9**
	10nm,0.3s,baz=65,slow=8.1,SNR=38								
PMG				Sn		**Sn**		**17 08 52.4**	**+1.7**
	26nm,0.3s,baz=171,slow=20,SNR=11								
PMG				LR		LR		17 09 41.7	
	comp=Z,361nm,21.8s,baz=197,slow=38								
PMG	**Port Moresby**	**4.87**	**235**	*e*Pn		**Pn**		**17 07 54.7**	**+0.9**
PMG				*e*Sn		**Sn**		**17 08 50.2**	**-0.5**
HNR	**Honiara**	**9.12**	**109**	LR		LR		17 11 52.7	
	comp=Z,330nm,20.3s,baz=359,slow=34								
CTA	**Charters Tower**	**14.24**	**199**	Pn		**Pn**		**17 10 01.5**	**-0.7**
	0.1nm,0.3s,baz=18,slow=16,SNR=3.9								
CTA				LR		LR		17 14 38.2	
	comp=Z,326nm,21.6s,baz=24,slow=34								
CTAO	**Charters Tower**	**14.24**	**199**	*e*P		**Pn**		**17 10 00.9**	**-1.3**
CTAO					pmax	pmax			
	comp=Z,13nm,1.1s								
CTAO	**Charters Tower**	**14.24**	**199**	*e*Pn		**Pn**		**17 10 00.9**	**-1.3**
	comp=Z,13nm,1.1s								
KAKA	**Kakadu**	**19.45**	**250**	*e*P		**Pn**		**17 11 07.4**	**-1.0**
	comp=Z,45nm,0.8s								
GUMO	**Guam**	**21.01**	**343**	LR		LR		17 17 51.8	
	comp=Z,236nm,18.2s,MS3.6,baz=287,slow=32								
WRAB	**Tennant Creek**	**21.05**	**229**	*e*P		**P**		**17 11 24.4**	**-0.3**
WRAB					pmax	pmax			
	comp=Z,63nm,0.9s,mb5.0								
WRAB	**Tennant Creek**	**21.05**	**229**	*e*P		**P**		**17 11 24.4**	**-0.3**
	comp=Z,64nm,0.9s,mb5.0								
WB2	**Warramunga Arr**	**21.06**	**229**	*e*P		**P**		**17 11 24.8**	**+0.1**
WB2				*e*S		**S**		**17 15 17.4**	**-2.3**
WRA	**Warramunga Arr**	**21.07**	**229**	P		**P**		**17 11 25.1**	**+0.3**
	comp=Z,15nm,0.8s,mb4.4,baz=53,slow=11,SNR=30								
WRA					PcP	PcP		17 15 32.1	+0.6
	comp=Z,1.4nm,0.6s,baz=48,slow=1.8,SNR=5.9								
DZM	**Mont Dzumac**	**21.30**	**138**	P		**P**		**17 11 27.7**	**+0.3**
	comp=Z,10nm,0.9s,mb4.2,baz=5.7,slow=9.9,SNR=10								
DZM					LR	LR		17 18 21.6	
	comp=Z,542nm,19.8s,MS3.9,baz=218,slow=33								
AS31	**Alice Springs**	**23.75**	**223**	⇓*i*P		**P**		**17 11 53.1**	**-0.1**
AS31				*e*				17 12 03.2	
AS31				*e*S		**S**		**17 16 09.8**	**+0.8**
ASAR	**Alice Springs**	**23.75**	**223**	P		**P**		**17 11 53.1**	**-0.1**
	comp=Z,9.7nm,0.6s,mb4.4,baz=56,slow=9.0,SNR=191								
ASAR					S	**S**		**17 16 10.0**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=45,slow=18,SNR=9.6								
ASPA	**Alice Springs**	**23.75**	**223**	⇓*i*P		**P**		**17 11 53.1**	**-0.1**
ASPA				*e*				17 12 03.2	
ASPA				*e*S		**S**		**17 16 09.8**	**+0.7**
STKA	**Stephens Creek**	**26.70**	**198**	*e*P		**P**		**17 12 19.5**	**-0.5**
	comp=Z,11nm,0.9s,mb4.4								
STKA				*e*				17 12 30.0	
STKA	**Stephens Creek**	**26.70**	**198**	P		**P**		**17 12 20.1**	**+0.1**
	comp=Z,16nm,0.9s,mb4.5,baz=9.5,slow=8.7,SNR=18								
STKA					LR	LR		17 22 41.2	
	comp=Z,226nm,19.2s,MS3.7,baz=24,slow=36								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	⇓*i*P		**P**		**17 12 26.4**	**0.0**
	comp=Z,40nm,0.5s,mb5.2								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P		**P**		**17 12 26.5**	**+0.1**
	comp=Z,21nm,0.6s,mb4.9,baz=72,slow=8.0,SNR=156								
FORT	**Forrest**	**32.39**	**219**	*e*P		**P**		**17 13 10.1**	**-0.4**
	comp=Z,13nm,0.6s,mb4.9								
FORT				*e*				17 13 19.5	
MBWA	**Marble Bar**	**33.70**	**241**	*e*P		**P**		**17 13 22.1**	**+0.1**
	comp=Z,15nm,0.9s,mb4.9								
AFI	**Afiamalu**	**37.12**	**104**	LR		LR		17 25 57.3	
	comp=Z,105nm,19.1s,MS3.6,baz=86,slow=31								
URZ	**Urewera**	**39.31**	**147**	LR		LR		17 27 52.0	
	comp=Z,210nm,20.8s,MS4.0,baz=70,slow=32								
JOW	**Kunigami**	**39.96**	**327**	P		**P**		**17 14 16.1**	**+0.8**
	comp=Z,22nm,0.8s,mb4.9,baz=122,slow=15,SNR=4.6								
JOW					LR	LR		17 27 15.1	
	comp=Z,186nm,19.0s,MS4.0,baz=254,slow=31								
RPZ	**Rata Peaks**	**40.88**	**158**	LR		LR		17 28 42.8	
	comp=Z,364nm,19.4s,MS4.2,baz=6.6,slow=32								
JHJ	**Hachijo jima 2**	**40.95**	**345**	LR		LR		17 27 55.4	
	comp=Z,178nm,21.2s,MS3.9,baz=104,slow=31								
NWAO	**Narrogin (SRO)**	**40.99**	**226**	LR		LR		17 32 26.2	
	comp=Z,91nm,21.4s,MS3.6,baz=339,slow=38								
KSM	**Kuching**	**41.59**	**280**	P		**P**		**17 14 28.4**	**-0.3**
JNU	**Nakatsue**	**43.96**	**335**	LR		LR		17 31 45.4	
	comp=Z,177nm,18.3s,MS4.0,baz=218,slow=34								
MJAR	**Matsushiro Arr**	**44.60**	**

LSA	**Lhasa**	**67.95**	**306**	*e*P		**P**	**17 17 39.7**	**-0.1**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**67.95**	**306**	*e*P		**P**	**17 17 39.7**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.5								
ZAK	**Zakamensk**	**70.20**	**330**⇓	*i*P		**P**	**17 17 53.3**	**-0.5**
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
YAK	**Yakutsk**	**70.42**	**349**⇓	*e*P		**P**	**17 17 54.5**	**-0.6**
YAK				pmax	pmax				
	comp=Z,26nm,2.5s,mb4.7								
VNDA	**Vanda**	**71.11**	**178**	P		**P**	**17 17 59.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=323,slow=5.2,SNR=14								
VNDA				LR	LR		17 46 58.6		
	comp=Z,55nm,18.4s,MS3.9,baz=335,slow=34								
VNDA	**Vanda**	**71.11**	**178**	P		**P**	**17 17 59.5**	**+0.2**
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
VNDA				MLR	MLR				
	comp=Z,55nm,18.4s								
VNDA	**Vanda**	**71.11**	**178**	*e*P		**P**	**17 17 58.8**	**-0.6**
	comp=Z,4.6nm,1.0s,mb4.4								
JIRN	**Jiri**	**71.35**	**302**	*e*P		**P**	**17 18 00.7**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.7								
PALK	**Pallekele**	**71.65**	**280**	P		**P**	**17 17 57.0**	**-5.6**
	comp=Z,13nm,0.9s,mb4.9								
SBA	**Scott Base**	**71.69**	**177**	P		**P**	**17 18 04.6**	**+1.8**
SBA				pmax	pmax				
	comp=Z,18nm,1.7s,mb4.7								
SBA	**Scott Base**	**71.69**	**177**	P		**P**	**17 18 04.6**	**+1.8**
	comp=Z,18nm,1.7s,mb4.7								
GUN	**Gumba**	**71.69**	**302**	*e*P		**P**	**17 18 01.6**	**-1.2**
	comp=Z,18nm,0.7s,mb5.1								
PKI	**Pulchoki**	**71.98**	**302**	*e*P		**P**	**17 18 04.3**	**-0.3**
KKN	**Kakani**	**72.16**	**302**	*e*P		**P**	**17 18 05.2**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.7								
DMN	**Daman**	**72.25**	**302**	*e*P		**P**	**17 18 06.4**	**+0.2**
	comp=Z,16nm,0.8s,mb5.0								
GKN	**Gorkha**	**72.77**	**302**	*e*P		**P**	**17 18 08.8**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9								
KOLN	**Koldanda**	**73.58**	**301**	*e*P		**P**	**17 18 13.5**	**-0.5**
	comp=Z,22nm,1.2s,mb5.0								
BILL	**Bilibino**	**75.22**	**6**	*de*P		**P**	**17 18 22.6**	**-1.0**
BILL				pmax	pmax				
	comp=Z,24nm,1.3s,mb5.0								
BILL	**Bilibino**	**75.22**	**6**	*e*P		**P**	**17 18 24.0**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0								
MKAR	**Makanchi Array**	**80.63**	**319**	P		**P**	**17 18 53.0**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=7.3,SNR=6.9								
ZAL	**Zalesovo**	**81.76**	**327**	P		**P**	**17 18 58.5**	**-1.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=2.4,slow=5.4,SNR=6.0								
ZAL	**Zalesovo**	**81.76**	**327**	P		**P**	**17 18 58.5**	**-1.3**
MCK	**McKinley**	**83.12**	**23**	*e*P		**P**	**17 19 06.2**	**-0.6**
MCK				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.8								
MCK	**McKinley**	**83.12**	**23**	*e*P		**P**	**17 19 06.2**	**-0.7**
	comp=Z,11nm,1.0s,mb4.9								
MAW	**Mawson**	**83.31**	**203**	P		**P**	**17 19 07.2**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.3,baz=111,slow=8.5,SNR=7.8								
MAW				LR	LR		17 52 33.4		
	comp=Z,76nm,20.8s,MS4.0,baz=244,slow=33								
QSPA	**South Pole Qui**	**83.38**	**180**	*e*P		**P**	**17 19 07.6**	**-0.6**
	comp=Z,15nm,1.2s,mb4.9								
KZA	**Kyzart**	**84.06**	**313**	P		**P**	**17 19 13.4**	**+1.8**
	SNR=10								
COLA	**College**	**84.10**	**22**	*e*P		**P**	**17 19 10.8**	**-1.1**
COLA				pmax	pmax				
	comp=Z,14nm,1.0s,mb5.0								
COLA	**College**	**84.10**	**22**	*e*P		**P**	**17 19 10.8**	**-1.1**
	comp=Z,14nm,1.0s,mb5.0								
KBK	**Karagaybulak**	**84.42**	**314**	P		**P**	**17 19 15.2**	**+1.7**
	SNR=5.7								
UCH	**Uchtor**	**84.62**	**313**	P		**P**	**17 19 16.1**	**+1.5**
	SNR=14								
CHMS	**Chumysh**	**84.64**	**314**	P		**P**	**17 19 15.7**	**+1.1**
	SNR=6.0								
FRU	**Bishkek**	**84.70**	**314**	*e*P		**P**	**17 19 16.0**	**+1.1**
AAK	**Ala-Archa**	**84.74**	**314**	P		**P**	**17 19 16.5**	**+1.4**
	SNR=6.9								
AAK	**Ala-Archa**	**84.74**	**314**	*e*P		**P**	**17 19 14.4**	**-0.7**
AAK				pmax	pmax				
	comp=Z,21nm,1.4s,mb5.1								
AAK	**Ala-Archa**	**84.74**	**314**	*e*P		**P**	**17 19 14.4**	**-0.7**
	comp=Z,21nm,1.4s,mb5.1								
USP	**Ospenovka**	**84.88**	**314**	P		**P**	**17 19 14.6**	**-1.2**
	SNR=8.6								
AML	**Almayashu**	**85.19**	**313**	P		**P**	**17 19 18.5**	**+1.1**
	SNR=17								
EKS2	**Erkin-Say**	**85.26**	**314**	P		**P**	**17 19 18.7**	**+1.0**
	SNR=11								
BVAR	**Borovoye Array**	**89.71**	**323**	P		**P**	**17 19 37.8**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.5,baz=115,slow=4.9,SNR=7.1								
BRVK	**Borovoye**	**89.78**	**323**	*e*P		**P**	**17 19 37.8**	**-1.7**
	comp=Z,2.3nm,0.8s,mb4.6								
ZRNK	**Zerenda**	**90.52**	**323**	*e*P		**P**	**17 19 41.1**	**-1.8**
ZRNK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.6								
ZRNK	**Zerenda**	**90.52**	**323**	*e*P		**P**	**17 19 41.1**	**-1.8**
	comp=Z,1.8nm,0.6s,mb4.6								
INK	**Inuvik**	**90.69**	**21**	P		**P**	**17 19 43.3**	**-0.5**
	comp=Z,7.6nm,1.0s,mb5.0,baz=225,slow=8.6,SNR=9.6								
INK	**Inuvik**	**90.69**	**21**	*e*P		**P**	**17 19 43.3**	**-0.5**
INK				pmax	pmax				
	comp=Z,241nm,0.9s								
INK	**Inuvik**	**90.69**	**21**	*e*P		**P**	**17 19 43.3**	**-0.5**
	comp=Z,241nm,0.9s,mb6.5								
DAC	**Darwin (Calif)**	**94.83**	**54**	*e*P		**P**	**17 20 04.4**	**+1.5**
DAC				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.8								
DAC	**Darwin (Calif)**	**94.83**	**54**	*e*P		**P**	**17 20 04.4**	**+1.6**
	comp=Z,2.1nm,0.5s,mb4.8								
YKA	**Yellowknife Ar**	**97.75**	**28**	P		**P**	**17 20 16.7**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.7,baz=272,slow=4.9,SNR=6.5								
YKA	**Yellowknife Ar**	**97.75**	**28**	P		**P**	**17 20 16.7**	**+0.6**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
RES	**Resolute Bay**	**102.53**	**14**	*e*P		Pdif	17 20 38.4	+1.0	
RES				pmax	pmax				
	comp=Z,137nm,1.0s								
RES	**Resolute Bay**	**102.53**	**14**	*e*P		Pdif	17 20 38.4	+1.0	
	comp=Z,137nm,1.0s								
GERES	**GERESS Array B**	**124.71**	**327**	PKP		PKPdf	17 25 40.7	0.0	
	comp=Z,0.8nm,0.6s,baz=38,slow=2.4,SNR=5.4								
CFAA	**Coronel Fontan**	**126.53**	**138**	PKP		PKPdf	17 25 44.5	+0.3	
	comp=Z,0.2nm,0.6s,baz=217,slow=5.1,SNR=4.5								
SDV	**Santo Domingo**	**138.51**	**84**	*e*PKPdf		PKPdf	17 26 07.2	+0.5	
TORD	**Torodi Ar. Bea**	**149.27**	**285**	PKPbc		PKPbc	17 26 30.1	+0.4	
	comp=Z,5.6nm,0.7s,baz=74,slow=2.9,SNR=39								

IDC ***16*** *17:09:02.5±0.9, 46.08N×154.10E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/25, mbtmp4.1/16, ML3.5/1, Error ellipse: s-maj=26.1km s-min=16.9km az=166.0*

ISCJB ***16*** *17:09:03.6±0.6, 46.11N±0.09×154.07E±0.09, h15km, mb4.3/34, MS3.6/2, Error ellipse: s-maj=13.8km s-min=6.4km az=119.1*

BJI ***16*** *17:09:05.2, 46.62N×154.02E, h16km, mB4.6, mb4.3, Ms4.0, Msz3.6*

MOS ***16*** *17:09:06.8±1.3, 46.14N×153.91E, h37km, mb4.6/12, Error ellipse: s-maj=11.9km s-min=8.5km az=97.5*

NEIC ***16*** *17:09:08.1±6.1, 46.66N×153.96E, h14km±39km, mb4.3/14, Error ellipse: s-maj=22.8km s-min=9.6km az=152.0*

ISC 16 17:09:05.5±0.6, 46.16N±0.09×154.08E±0.09, h16km, h16km±.1km:pP-P, n74, σ1§31/76, mb4.3/34, MS3.6/2, 3C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.45**	**260**⇑	*i*PN			**Pn**	**17 10 10.2**	**-2.1**
KUR					pmax	pmax			
	comp=Z,100nm,0.5s								
SKR	**Severo-Kuril's**	**4.73**	**16**	*e*PN			**Pn**	**17 10 18.0**	**+1.8**
PET	**Petropavlovsk**	**7.49**	**22**	*d*iPN			**Pn**	**17 10 50.2**	**-3.9**
PET	**Petropavlovsk**	**7.49**	**22**	*e*Pn			**Pn**	**17 10 49.6**	**-4.4**
PET				*e*Sn			**Sn**	**17 12 12.3**	**-6.3**
YSS	**Yuzh-Sakhalins**	**7.85**	**280**	*e*PN			**Pn**	**17 11 03.8**	**+4.8**
YSS	**Yuzh-Sakhalins**	**7.85**	**280**	*e*P			**Pn**	**17 11 02.5**	**+3.5**
	comp=Z,23nm,1.0s								
ASAJ	**Asahikawa**	**8.37**	**260**	Pn			**Pn**	**17 11 08.1**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=222,slow=28,SNR=8.3								
ASAJ	**Asahikawa**	**8.37**	**260**	PN			**Pn**	**17 11 08.1**	**+2.0**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MA2	**Magadan**	**13.59**	**353**	P			**Pn**	**17 12 19.5**	**+1.9**
MA2					pmax	pmax			
	comp=Z,77nm,1.3s								
MA2	**Magadan**	**13.59**	**353**	P			**Pn**	**17 12 19.4**	**+1.9**
	comp=Z,78nm,1.3s								
MAJO	**Matsushiro**	**15.28**	**237**	*e*P			**Pn**	**17 12 47.0**	**+6.5**
MAJO					pmax	pmax			
	comp=Z,15nm,0.9s								
MAJO	**Matsushiro**	**15.28**	**237**	*e*P			**Pn**	**17 12 47.0**	**+6.5**
	comp=Z,15nm,0.9s								
MJAR	**Matsushiro Arr**	**15.28**	**237**	Pn			**Pn**	**17 12 39.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.3								
YAK	**Yakutsk**	**21.18**	**327**	P			**P**	**17 13 48.4**	**-1.7**
YAK					pmax	pmax			
	comp=Z,11nm,0.7s,mb4.3								
YAK	**Yakutsk**	**21.18**	**327**	P			**P**	**17 13 48.4**	**-1.7**
	comp=Z,11nm,0.7s,mb4.3								
KSRS	**Korea Array**	**21.27**	**255**	P			**P**	**17 13 50.5**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.3,baz=58,slow=11,SNR=3.7								
SNY	**Shenyang**	**22.29**	**270**	⇑P			**P**	**17 14 02.1**	**+0.1**
SNY					AP			17 14 05.8	
SNY					AMB	AMB			
	comp=Z,11nm,1.0s,mb4.2								
BILL	**Bilibino**	**22.83**	**12**⇑	*e*P			**P**	**17 14 08.2**	**+0.4**
BILL					pmax	pmax			
	comp=Z,22nm,1.3s,mb4.4								
BILL	**Bilibino**	**22.83**	**12**	*e*P			**P**	**17 14 06.8**	**-0.9**
	comp=Z,11nm,0.8s,mb4.3								
HIA	**Hailar**	**23.19**	**290**⇓	*e*P			**P**	**17 14 09.3**	**-2.3**
BOD	**Bodaibo**	**26.88**	**310**	*e*P			**P**	**17 14 43.0**	**-2.5**
HHC	**Hu-ho-hao-te**	**31.01**	**276**	*e*P			**P**	**17 15 24.4**	**+2.2**
HHC					AP	pP		17 15 28.9	+1.7
HHC					XP	sP		17 15 31.4	+2.2
HHC					PP	PP		17 16 24.6	-7.7
HHC					AMB	AMB			
	comp=Z,16nm,1.1s,mb4.8								
HHC					AMB	AMB			
	comp=Z,88nm,10.7s								
HHC					LR	LR			
	comp=N,84nm,12.8s,MS3.9								
HHC					LR	LR			
	comp=E,148nm,13.8s,MS3.9								
HHC					LR	LR			
	comp=Z,118nm,12.1s,MS3.8								
ULN	**Ulaanbaatar**	**31.73**	**290**	*e*P			**P**	**17 15 32.0**	**+3.4**
ULN					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.1								
ULN	**Ulaanbaatar**	**31.73**	**290**	*e*P			**P**	**17 15 32.0**	**+3.4**
	comp=Z,3.2nm,1.0s,mb4.1								
SONM	**Songino Array**	**32.16**	**291**	P			**P**	**17 15 32.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=352,slow=5.1,SNR=3.7								
KDAK	**Kodiak Island**	**33.97**	**50**	P			**P**	**17 15 45.6**	**-2.5**
	comp=Z,7.6nm,0.6s,mb4.8,baz=308,slow=23,SNR=4.0								
MCK	**McKinley**	**35.68**	**40**	P			**P**	**17 16 04.4**	**+1.5**
MCK					pmax	pmax			
	comp=Z,195nm,3.0s								
MCK	**McKinley**	**35.68**	**40**	P			**P**	**17 16 04.4**	**+1.4**
	comp=Z,195nm,3.0s								
SML	**Sawmill**	**35.95**	**43**	*e*P			**P**	**17 16 04.8**	**-0.4**
XAN	**Xi'an**	**36.14**	**267**	P			**P**	**17 16 07.5**	**+0.6**
XAN					AMB	AMB			
	comp=Z,1.0nm,0.4s,mb4.1								
COLA	**College**	**36.19**	**38**	*e*P			**P**	**17 16 07.7**	**+0.3**
COLA					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
COLA	**College**	**36.19**	**38**	*e*P			**P**	**17 16 07.7**	**+0.4**
	comp=Z,6.0nm,0.9s,mb4.5								
LZH	**Lanzhou**	**38.58**	**273**	*e*P			**P**	**17 16 29.5**	**+1.9**
LZH					AP	pP		17 16 34.1	+1.5
LZH					XP	sP		17 16 36.0	+1.4
LZH					AMB	AMB			
	comp=Z,19nm,1.2s,mb4.7								
LZH	**Lanzhou**	**38.58**	**273**	*e*P			**P**	**17 16 29.5**	**+1.9**
	comp=Z,19nm,1.2s,mb4.7								
LZH					pP	pP		17 16 34.1	+1.5
LZH					sP	sP		17 16 36.0	+1.4
EGAK	**Eagle**	**39.06**	**38**	*e*P			**P**	**17 16 30.8**	**-0.8**
	comp=Z,7.9nm,1.0s,mb4.4								
GTA	**Gaotai**	**39.73**	**280**	*e*P			**P**	**17 16 39.0**	**+1.8**
GTA					AP	pP		17 16 43.6	+1.4
GTA					XP	sP		17 16 46.5	+2.3
GTA					AMB	AMB			
	comp=Z,3.0nm,1.4s,mb3.8								
INK	**Inuvik**	**41.80**	**32**	P			**P**	**17 16 55.1**	**+0.9**
	comp=Z,1.7nm,0.6s,mb3.8,baz=291,slow=8.5,SNR=5.8								
INK	**Inuvik**	**41.80**	**32**	*e*P			**P**	**17 16 54.1**	**-0.2**
INK					pmax	pmax			
	comp=Z,73nm,0.7s								
INK	**Inuvik**	**41.80**	**32**	*e*P			**P**	**17 16 54.1**	**-0.2**
	comp=Z,73nm,0.7s,mb5.4								
GYA	**Guiyang**	**42.25**	**259**	P			**P**	**17 16 59.0**	**+1.1**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5								
ZAL	**Zalesovo**	**43.52**	**307**	P			**P**	**17 17 06.2**	**-2.0**
	comp=Z,9.0nm,0.3s,mb4.0,baz=307,slow=3.6,SNR=2.2								
ZAL	**Zalesovo**	**43.52**	**307**	P			**P**	**17 17 06.2**	**-2.0**
WMQ	**Urumqi**	**45.76**	**292**⇓	*i*P			**P**	**17 17 27.0**	**+0.8**
WMQ					AP	pP		17 17 31.5	+0.3
WMQ					XP	sP		17 17 34.0	+0.8
WMQ					PCP	PcP		17 19 06.5	+2.8
WMQ					PP	PP		17 19 14.0	+0.6
WMQ					PPP			17 19 55.5	
WMQ					S	**S**		**17 24 07.0**	**-2.0**
WMQ					AMB	AMB			
	comp=Z,7.0nm,0.5s,mb4.8								
WMQ					AMB	AMB			
	comp=Z,212nm,4.1s								
WMQ					LR	LR			
	comp=N,41nm,17.0s,MS3.5								
WMQ					LR	LR			
	comp=E,25nm,18.0s,MS3.5								
WMQ					LR	LR			
	comp=Z,27nm,15.8s,MS3.3								
KMI	**Kunming**	**45.80**	**261**	P			**P**	**17 17 32.1**	**+5.7**
KMI					AMB	AMB			
	comp=Z,3.0nm,1.1s,mb4.1								
KMI	**Kunming**	**45.80**	**261**	P			**P**	**17 17 32.1**	**+5.7**
	comp=Z,3.0nm,1.1s,mb4.1								
MK31	**Makanchi Array**	**47.81**	**298**	*e*P			**P**	**17 17 41.9**	**-0.3**
MKAR	**Makanchi Array**	**47.81**	**298**	P			**P**	**17 17 42.1**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=66,slow=7.1,SNR=21								
LSA	**Lhasa**	**50.98**	**274**	P			**P**	**17 18 06.9**	**+0.5**
RES	**Resolute Bay**	**51.19**	**19**	*e*P			**P**	**17 18 08.4**	**+0.4**
RES					pmax	pmax			
	comp=Z,112nm,0.8s								
RES	**Resolute Bay**	**51.19**	**19**	*e*P			**P**	**17 18 08.3**	**+0.4**
	comp=Z,112nm,0.8s								
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P			**P**	**17 18 07.7**	**-1.3**
CHKZ					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P			**P**	**17 18 07.7**	**-1.3**
	comp=Z,3.9nm,0.8s,mb4.4								
BVAR	**Borovoye Array**	**51.75**	**310**	P			**P**	**17 18 12.6**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=52,slow=6.8,SNR=9.8								
BRVK	**Borovoye**	**51.79**	**310**	P			**P**	**17 18 10.1**	**-2.4**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
BRVK	**Borovoye**	**51.79**	**310**	P			**P**	**17 18 10.1**	**-2.4**
	comp=Z,2.3nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**52.52**	**311**	*e*P			**P**	**17 18 18.0**	**+0.1**
ZRNK					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9								
ZRNK	**Zerenda**	**52.52**	**311**	*e*P			**P**	**17 18 18.0**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.1								
AAK	**Ala-Archa**	**54.70**	**297**	*e*P			**P**	**17 18 33.9**	**0.0**
AAK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
AAK	**Ala-Archa**	**54.70**	**297**	*e*P			**P**	**17 18 33.9**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2								
ARU	**Arti**	**55.90**	**318**	*d*iP			**P**	**17 18 42.4**	**-0.1**
ARU					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
ARU	**Arti**	**55.90**	**318**	*e*P			**P**	**17 18 42.2**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.7								
ARCES	**ARCESS Array B**	**58.63**	**341**	P			**P**	**17 19 02.3**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.3,baz=0.0,slow=7.4,SNR=5.4								
PDAR	**Pinedale Array**	**64.56**	**54**	P			**P**	**17 19 41.9**	**+0.1**
	comp=Z,1.6nm,0.9s,mb4.1,baz=300,slow=2.9,SNR=9.4								
FINES	**FINESS Array B**	**64.86**	**335**	P			**P**	**17 19 43.0**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.3,baz=26,slow=6.7,SNR=8.4								
OBN	**Obninsk**	**66.17**	**326**	*e*P			**P**	**17 19 53.6**	**+1.3**
OBN					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
WRA	**Warramunga Arr**	**68.17**	**200**	P			**P**	**17 20 04.4**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.4,baz=22,slow=7.1,SNR=5.0								
NB2	**NORSAR Subarra**	**69.00**	**342**	P			**P**	**17 20 08.9**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.00**	**342**	P			**P**	**17 20 09.3**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=27,slow=6.4,SNR=4.2								
NOA	**NORSAR Array B**	**69.00**	**342**	P			**P**	**17 20 09.3**	**-0.8**
AKASG	**Malin Array Be**	**72.41**	**327**	P			**P**	**17 20 30.6**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=33,slow=6.0,SNR=6.3								
TXAR	**Lajitas Array**	**77.20**	**61**	P			**P**	**17 20 58.5**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=302,slow=4.2,SNR=20								
MALT	**Malatya**	**78.05**	**314**	*e*P			**P**	**17 21 05.4**	**+2.1**
MALT					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.4								
MALT	**Malatya**	**78.05**	**314**	*e*P			**P**	**17 21 05.4**	**+2.0**
	comp=Z,4.9nm,1.1s,mb4.3								
GERES	**GERESS Array B**	**79.28**	**335**	P			**P**	**17 21 10.9**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=26,slow=6.4,SNR=4.0								

NEIC ***16*** *17:11:53.7±1.6, 655S×151.51E, h10km, mb4.1/2, Error ellipse: s-maj=42.5km s-min=19.8km az=116.0*

ISCJB ***16*** *17:12:01.8±4.8, 66S±0.2×151.0E±0.03, h75km±36km, mb3.5/4, Error ellipse: s-maj=50.7km s-min=29.9km az=43.3*

IDC ***16*** *17:12:04.6±7.2, 660S×150.95E, h79km±53km, mb3.4/5, mb1 3.5/6, mb1mx3.3/14, mbtmp3.4/6, ML2.4/1, Error ellipse: s-maj=58.2km s-min=31.4km az=94.0*

ISC 16 17:12:03.1±4.8, 66S±0.2×151.1E±0.03, h69km±35km, n9, σ0§34/9, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**234**	P			**Pn**	**17 13 12.7**	**0.0**
	1.1nm,0.3s,baz=48,slow=12,SNR=4.0								
PMG					S		**Sn**	**17 14 07.0**	**+0.1**
	3.4nm,0.3s,baz=128,slow=19,SNR=3.6								
WRAB	**Tennant Creek**	**20.98**	**229**	P			**P**	**17 16 41.0**	**+0.5**
	5.1nm,0.9s								
WRA	**Warramunga Arr**	**20.99**	**229**	P			**P**	**17 16 39.9**	**-0.8**
	1.1nm,0.8s,baz=53,slow=10,SNR=3.8								
ASAR	**Alice Springs**	**23.69**	**222**	P			**P**	**17 17 08.6**	**+0.3**
	0.5nm,0.5s,mb3.1,baz=56,slow=8.9,SNR=7.9								
STKA	**Stephens Creek**	**26.66**	**198**	P			**P**	**17 17 35.4**	**0.0**
	0.9nm,0.4s,mb3.7,baz=20,slow=13,SNR=5.0								
FITZ	**Fitzroy Crossi**	**27.33**	**243**	*e*P			**P**	**17 17 41.4**	**+0.1**
	3.4nm,0.5s,mb4.1								
FITZ	**Fitzroy Crossi**	**27.33**	**243**	P			**P**	**17 17 41.0**	**-0.3**
	1.7nm,0.5s,mb3.9,baz=54,slow=11,SNR=7.5								
SONM	**Songino Array**	**66.97**	**329**	P			**P**	**17 22 48.4**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=144,slow=5.8,SNR=4.7								
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc		PKPbc		17 31 44.7	+1.1
	0.3nm,0.4s,baz=47,slow=2.4,SNR=4.8								

ISCJB ***16*** *17:12:42.5±0.7, 3853N±004×2146E±004, h5km, Error ellipse: s-maj=6.9km s-min=4.1km az=130.4*

CSEM ***16*** *17:12:43.6±0.3, 3850N×2142E, h5km, ML2.6, Error ellipse: s-maj=8.0km s-min=5.5km az=154.0*

ATH ***16*** *17:12:43.1, 3855N×2141E, h5km, MD3.0/4*

THE ***16*** *17:12:44.4, 3862N×2143E, h10km, ML2.6*

ISC 16 17:12:43.2±0.7, 3853N±005×2146E±004, h11km±8km, n10, σ0§88/16, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.47**	**179**	*e*PB			**Pg**	**17 12 53.2**	**+0.9**
EVR	**Evrytania**	**0.48**	**35**	*e*PB			**Pg**	**17 12 52.1**	**-0.4**
LKD	**Levkas**	**0.66**	**286**	*e*Pg			**Pg**	**17 12 55.0**	**-0.9**
LKD				*e*Sg			**Sg**	**17 13 06.1**	**+1.6**
VLS	**Valsamata**	**0.76**	**243**	*e*PB			**Pb**	**17 12 56.8**	**-1.6**
VLS				*e*SB			**Sb**	**17 13 09.3**	**+0.5**
AGG	**Agios Georgios**	**0.84**	**54**	*e*Pg			**Pg**	**17 13 00.1**	**+0

CHKZ	**Chkalovo**	**51.63**	**311**	*e*P		**P**	**17 25 39.3**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.5								
BVAR	**Borovoye Array**	**52.07**	**310**	P		**P**	**17 25 44.7**	**+1.4**
	comp=Z,0.8nm,0.3s,mb4.1,baz=59,slow=9.1,SNR=6.5								
ZRNK	**Zerenda**	**52.83**	**311**	*e*P		**P**	**17 25 49.0**	**0.0**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**52.83**	**311**	*e*P		**P**	**17 25 49.0**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**64.75**	**336**	P		**P**	**17 27 13.0**	**+1.1**
	comp=Z,1.3nm,0.3s,mb4.4,baz=38,slow=7.9,SNR=23								
FINES	**FINESS Array B**	**64.75**	**336**	P		**P**	**17 27 13.0**	**+1.1**
ASAR	**Alice Springs**	**72.62**	**201**	P		**P**	**17 28 00.7**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=18,slow=5.3,SNR=9.8								
TXAR	**Lajitas Array**	**76.22**	**62**	P		**P**	**17 28 22.5**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=299,slow=3.9,SNR=10								

IDC 16 17:21:53.1±9.4, 644S×15096E, h69km±63km, mb3.5/4, mb1 3.7/5, mb1mx3.4/14, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=70.5km s-min=58.4km az=8.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**232**	P		Pn	17 23 02.9	+0.4
	1.3nm,0.3s,baz=47,slow=9.2,SNR=7.8							
PMG				S		Sn	17 23 57.4	+0.9
	1.9nm,0.3s,baz=0.5,slow=22,SNR=6.1							
WRA	**Warramunga Arr**	**20.99**	**229**	P		P	17 26 30.1	-0.6
	1.4nm,0.8s,baz=53,slow=11,SNR=6.9							
ASAR	**Alice Springs**	**23.71**	**222**	P		P	17 26 58.4	-0.2
	1.0nm,0.6s,baz=55,slow=9.2,SNR=24							
ASPA	**Alice Springs**	**23.71**	**222**	*e*P		P	17 26 58.2	-0.4
STKA	**Stephens Creek**	**26.77**	**198**	P		P	17 27 26.5	+0.1
	5.1nm,1.1s,baz=22,slow=12,SNR=6.2							
FITZ	**Fitzroy Crossi**	**27.27**	**243**	*e*P		P	17 27 31.9	+1.0
	2.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.27**	**243**	P		P	17 27 32.0	+1.2
	1.3nm,0.5s,baz=61,slow=11,SNR=11							

NEIC ***16*** *17:25:29.6±2.0, 6.25S×150.77E, h10km, mb3.9/2, Error ellipse: s-maj=48.9km s-min=31.0km az=147.0*
ISCJB ***16*** *17:25:31.8±5.3, 6.4S±0.4×151.0E±0.3, h53km±36km, mb3.6/5, Error ellipse: s-maj=69.7km s-min=39.0km az=117.0*
IDC ***16*** *17:25:37.0±8.8, 6.59S×150.90E, h70km±63km, mb3.5/4, mb1 3.6/5, mb1mx3.3/14, mbtmp3.5/5, ML2.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=60.6km s-min=52.6km az=76.0*

ISC 16 17:25:33.1±5.2, 65S±0.4×151.1E±0.3, h48km±35km, n11, σ0§39/13, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**232**	P		**Pn**	**17 26 44.0**	**+0.5**
	0.7nm,0.3s,baz=45,slow=2.9,SNR=4.0							
PMG				S		**Sn**	**17 27 39.0**	**+0.5**
	1.4nm,0.3s,baz=354,slow=21,SNR=3.8							
PMG	**Port Moresby**	**4.86**	**232**	*e*Pn		**Pn**	**17 26 43.1**	**-0.5**
PMG				*e*Sn		**Sn**	**17 27 37.6**	**-0.9**
PMG				S		**Sn**	**17 27 39.0**	**+0.5**
WRAB	**Tennant Creek**	**21.05**	**229**	*e*P		**P**	**17 30 12.9**	**0.0**
	3.2nm,0.8s,mb3.7							
WB2	**Warramunga Arr**	**21.05**	**229**	*e*P		**P**	**17 30 13.0**	**0.0**
WRA	**Warramunga Arr**	**21.06**	**229**	P		**P**	**17 30 12.8**	**-0.3**
	1.2nm,0.7s,mb3.3,baz=53,slow=11,SNR=8.4							
ASAR	**Alice Springs**	**23.77**	**222**	P		**P**	**17 30 40.8**	**-0.3**
	1.0nm,0.6s,mb3.4,baz=55,slow=8.4,SNR=20							
STKA	**Stephens Creek**	**26.80**	**198**	P		P	**17 31 08.8**	**+0.2**
	1.1nm,0.4s,mb3.7,baz=25,slow=10,SNR=6.5							
FITZ	**Fitzroy Crossi**	**27.36**	**243**	*e*P		**P**	**17 31 14.3**	**+0.7**
	2.7nm,0.6s,mb4.0							
FITZ	**Fitzroy Crossi**	**27.36**	**243**	P		**P**	**17 31 13.7**	**0.0**
	2.3nm,0.8s,mb3.8,baz=52,slow=9.1,SNR=6.2							
VNDA	**Vanda**	**71.26**	**178**	*e*P		**P**	**17 36 52.4**	**+5.0**
TORD	**Torodi Ar. Bea**	**149.11**	**285**	PKPbc		PKPbc	17 45 18.3	+2.3
	0.3nm,0.5s,baz=102,slow=3.4,SNR=2.7							

NEIC ***16*** *17:28:29.8, 1829N×6787W, h121km, MD3.5(RSPR), After RSPR.*

RSPR 16 17:28:29.8, 1829N×6787W, h121km±1km, MD3.5/11, MD3.5/11, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.75**	**76↑**	*e*P		Pn	17 28 49.3	-0.3
AGPR				*e*S		Sn	17 29 05.0	+0.4
LSP	**Las Mesas**	**0.76**	**98↑**	*e*P		Pn	17 28 49.1	-0.6
LSP				*e*S		Sn	17 29 04.6	-0.1
CRPR	**Cabo Rojo, PR**	**0.78**	**111↑**	*e*P		Pn	17 28 48.7	-1.1
CRPR				*e*S		Sn	17 29 04.8	-0.3
LRS	**Lares**	**0.98**	**90↑**	*i*P		Pn	17 28 51.2	-0.5
LRS				*e*S		Sn	17 29 08.2	0.0
GBPR	**Guanica, Bosqu**	**0.99**	**108↑**	*e*P		Pn	17 28 51.7	-0.1
GBPR	**Guanica, Bosqu**	**0.99**	**108**	*e*S		Sn	17 29 08.5	0.0
AOPR	**Arecibo Observ**	**1.06**	**87↑**	*e*P		Pn	17 28 52.1	-0.5
AOPR				*e*S		Sn	17 29 09.4	-0.4
CELP	**Cerrillos**	**1.25**	**99↑**	*e*P		Pn	17 28 54.6	+0.2
CELP				*e*S		Sn	17 29 12.9	-0.2
ICM	**Isla Caja Muer**	**1.34**	**107↑**	*e*P		Pn	17 28 55.0	-0.5
ICM				*e*S		Sn	17 29 15.4	+0.4
CPD	**Cerro la Pandu**	**1.88**	**97**	*e*Pn		Pn	17 29 01.7	-0.1
CPD				*e*Sn		Sn	17 29 25.5	-0.7
CBYP	**Canovanas**	**1.92**	**90↑**	*e*P		Pn	17 29 01.8	-0.5
CBYP				*e*S		Sn	17 29 27.4	+0.3
HUMP	**Col San Antoni**	**1.93**	**94↑**	*e*P		Pn	17 29 02.4	0.0
HUMP				*e*S		Sn	17 29 27.0	-0.3
MTP	**Monte Pirata**	**2.21**	**95↑**	*e*P		Pn	17 29 06.4	+0.5
MTP				*e*S		Sn	17 29 33.9	+0.2

IDC 16 17:29:45.3±4.7, 613S×15106E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/14, mbtmp3.8/5, ML2.5/1, Error ellipse: s-maj=76.6km s-min=60.6km az=174.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.05**	**230**	Pn		Pn	17 31 02.3	+0.1
	1.3nm,0.3s,baz=282,slow=9.2,SNR=6.2							
PMG				Sn		Sn	17 32 02.0	+0.7
	1.4nm,0.3s,baz=42,slow=19,SNR=3.1							
WRA	**Warramunga Arr**	**21.27**	**228**	P		P	17 34 33.1	0.0
	1.5nm,0.8s,baz=52,slow=10,SNR=8.4							
ASAR	**Alice Springs**	**24.01**	**222**	P		P	17 35 01.6	0.0
	1.0nm,0.6s,baz=54,slow=8.5,SNR=24							
STKA	**Stephens Creek**	**27.10**	**198**	P		P	17 35 29.5	-0.2
	1.8nm,0.9s,baz=360,slow=12,SNR=4.1							
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P		P	17 35 34.7	+1.3
	2.3nm,1.0s,baz=62,slow=11,SNR=9.5							

ISCJB ***16*** *17:30:20.9±3.1, 4.68N±0.1×153.5E±0.2, h15km±21km, mb4.1/19, Error ellipse: s-maj=25.1km s-min=7.6km az=90.4*
NEIC ***16*** *17:30:23.3±5.5, 4.671N×153.22E, h12km±35km, mb4.2/5, Error ellipse: s-maj=23.1km s-min=11.7km az=130.0*
MOS ***16*** *17:30:28.0±1.4, 4.667N×152.93E, h60km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=11.9km az=78.8*
IDC ***16*** *17:30:31.1±5.0, 4.659N×153.10E, h78km±43km, mb3.5/10, mb1 3.7/12, mb1mx3.6/24, mbtmp3.6/12, ML3.5/2, Error ellipse: s-maj=34.0km s-min=23.0km az=100.0*

ISC 16 17:30:26.7±1.5, 4.67N±0.1×153.4E±0.2, h40km±10km, n40, σ1§19/42, mb4.2/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.16**	**251**	*e*PN		**Pn**	**17 31 23.0**	**-4.6**
KUR				*e*S		**Sn**	**17 32 16.0**	**+1.0**
KUR				pmax	pmax			
	comp=Z,100nm,0.7s							
KUR				smax				
	comp=N,280nm,0.7s							
KUR				smax				
	comp=E,90nm,0.7s							
SKR	**Severo-Kuril's**	**4.33**	**23**	*e*PN		**Pn**	**17 31 36.2**	**+6.1**
PET	**Petropavlovsk**	**7.14**	**26**	Pn		**Pn**	**17 32 07.8**	**-0.8**
PET				*e*Sn		**Sn**	**17 33 28.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**7.32**	**276**	*e*PN		**Pn**	**17 32 18.0**	**+6.9**
YSS	**Yuzh-Sakhalins**	**7.32**	**276**	Pn		**Pn**	**17 32 10.6**	**-0.6**
ASAJ	**Asahikawa**	**8.06**	**255**	P		**Pn**	**17 32 22.3**	**+1.1**
	comp=E,0.8nm,0.3s,baz=106,slow=14,SNR=6.5							
ASAJ	**Asahikawa**	**8.06**	**255**	PN		**Pn**	**17 32 22.3**	**+1.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.24**	**234**	P		**Pn**	**17 33 57.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=353,slow=19,SNR=4.3							
YAK	**Yakutsk**	**20.45**	**327**	P		**P**	**17 34 59.9**	**-0.9**
KSRS	**Korea Array**	**21.00**	**253**	P		**P**	**17 35 06.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=64,slow=9.5,SNR=6.3							
BILL	**Bilibino**	**22.36**	**13**	P		**P**	**17 35 23.8**	**+2.6**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.8							
BILL	**Bilibino**	**22.36**	**13**	P		**P**	**17 35 23.8**	**+2.5**
	comp=Z,1.9nm,0.5s,mb3.8							
SONM	**Songino Array**	**31.54**	**290**	P		**P**	**17 36 44.6**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.3,baz=87,slow=7.8,SNR=4.0							
LZH	**Lanzhou**	**38.11**	**272**	*e*P		**P**	**17 37 38.9**	**-2.8**
LZH				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.5							
LZH	**Lanzhou**	**38.11**	**272**	*e*P		**P**	**17 37 38.9**	**-2.8**
	comp=Z,11nm,1.0s,mb4.5							
LZH				pP	pP		17 37 43.0	-10
LZH				sP	sP		17 37 44.9	-13
INK	**Inuvik**	**41.55**	**32**	P		**P**	**17 38 12.1**	**+1.7**
	comp=Z,0.9nm,0.9s,mb3.4,baz=314,slow=5.2,SNR=3.0							
MKAR	**Makanchi Array**	**47.14**	**298**	P		**P**	**17 38 54.0**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=67,slow=8.4,SNR=11							
LSA	**Lhasa**	**50.49**	**273**	*e*P		**P**	**17 39 22.3**	**+1.6**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.49**	**273**	*e*P		**P**	**17 39 22.3**	**+1.5**
	comp=Z,2.6nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**51.04**	**310**	P		**P**	**17 39 23.7**	**-1.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=49,slow=7.3,SNR=4.3							
ZRNK	**Zerenda**	**51.80**	**310**	*e*P		**P**	**17 39 29.2**	**-1.4**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**51.80**	**310**	*e*P		**P**	**17 39 29.2**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**54.04**	**297**	*e*P		**P**	**17 39 46.1**	**-0.9**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**54.04**	**297**	*e*P		**P**	**17 39 46.1**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.0							
JIRN	**Jiri**	**55.16**	**275**	*e*P		**P**	**17 39 56.2**	**+1.0**
	comp=Z,7.6nm,0.6s,mb4.9							
GUN	**Gumba**	**55.22**	**275**	*e*P		**P**	**17 39 56.7**	**+1.1**
KKN	**Kakani**	**55.70**	**276**	*e*P		**P**	**17 40 00.5**	**+1.4**
	comp=Z,8.2nm,0.6s,mb5.0							
PKI	**Pulchoki**	**55.76**	**275**	*e*P		**P**	**17 39 59.6**	**+0.1**
DMN	**Daman**	**55.94**	**275**	*e*P		**P**	**17 40 01.8**	**+1.0**
	comp=Z,6.7nm,0.5s,mb4.9							
GKN	**Gorkha**	**56.01**	**276**	*e*P		**P**	**17 40 02.3**	**+1.0**
	comp=Z,8.2nm,0.5s,mb5.0							
KOLN	**Koldanda**	**56.87**	**277**	*e*P		**P**	**17 40 07.3**	**-0.1**
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**17 40 56.5**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.3,baz=38,slow=9.6,SNR=7.5							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**17 40 56.5**	**-0.6**
NB2	**NORSAR Subarra**	**68.31**	**341**	P		**P**	**17 41 23.7**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.31**	**341**	P		**P**	**17 41 24.4**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=5.8							
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**17 41 43.9**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=34,slow=6.1,SNR=10.0							
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**17 41 43.9**	**-0.5**
ASAR	**Alice Springs**	**72.26**	**199**	P		**P**	**17 41 46.6**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=12,slow=5.6,SNR=9.8							
LVV	**L'vov**	**74.32**	**329**	*e*P		**P**	**17 41 58.7**	**-1.3**
GERES	**GERESS Array B**	**78.56**	**334**	P		**P**	**17 42 25.5**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=22,slow=5.0,SNR=3.8							

IDC ***16*** *17:45:58.7±0.7, 4673N×155.34E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.4/24, mbtmp4.3/17, ML4.0/2, MS3.6/10, Ms1 3.6/10, ms1mx3.2/49, Error ellipse: s-maj=19.5km s-min=14.7km az=154.0*
ISCJB ***16*** *17:45:59.9±0.4, 4685N±0.005×155.29E±0.008, h16km, mb4.5/61, MS3.9/14, Error ellipse: s-maj=9.5km s-min=5.4km az=93.7*
NEIC ***16*** *17:46:00.3±0.4, 4680N×155.32E, h10km, mb4.7/28, Error ellipse: s-maj=10.7km s-min=6.6km az=142.0*
MOS ***16*** *17:46:01.6±1.0, 4675N×155.20E, h30km, mb4.9/28, Error ellipse: s-maj=10.2km s-min=7.6km az=110.1*
BJI ***16*** *17:46:02.4, 4705N×154.71E, h10km, mB4.7, mb4.5, Ms4.2, Msz4.0*
SKHL ***16*** *17:46:02.9±3.0, 4688N×154.89E, h38km±8km*
SZGRF ***16*** *17:46:16.2, 4744N×155.49E, h33km, mb4.7, East of Kuril Islands, Russia*

ISC 16 17:46:01.7±0.4, 4687N±0.005×15533E±0.008, h17km, h17km±1.0km: pP-P, n137, σ1§10/135, mb4.5/61, MS3.9/14, 9C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.85**	**7**	*e*P		**Pn**	**17 47 02.0**	**+1.8**
SKR				AMB	AMB		17 47 07.5	
	80nm,0.5s							
SKR				*e*S		**Sn**	**17 47 44.0**	**-1.0**
SKR				A			17 47 53.5	
	90nm,0.5s							
SKR				A			17 47 53.5	
	150nm,0.5s							
SKR				A			17 47 53.5	
	160nm,0.6s							
KUR	**Kuril'sk**	**5.45**	**255**	*e*P		**Pn**	**17 47 18.0**	**-4.0**
KUR				AMB	AMB		17 47 19.0	
	110nm,0.8s							
KUR				AMB	AMB		17 47 19.0	
	320nm,0.8s							
KUR				*i* S		**Sn**	**17 48 16.5**	**-7.8**
KUR				A			17 48 19.0	
	320nm,0.7s							
KUR				A			17 48 19.0	
	220nm,0.7s							
KUR	**Kuril'sk**	**5.45**	**255**	*e*PN		**Pn**	**17 47 18.0**	**-4.0**
KUR				pmax	pmax			
	comp=N,110nm,0.8s							
KUR				pmax	pmax			
	comp=E,110nm,0.8s							
KUR				pmax	pmax			
	comp=Z,320nm,0.8s							
PET	**Petropavlovsk**	**6.52**	**18**	*e*PN		**Pn**	**17 47 35.1**	**-1.8**
PET				pmax	pmax			
	comp=Z,40nm,0.8s							
PET	**Petropavlovsk**	**6.52**	**18**	*e*Pn		**Pn**	**17 47 34.7**	**-2.1**
	comp=Z,22nm,0.6s							
PET				*e*Sn		**Sn**	**17 48 44.2**	**-6.7**
YSS	**Yuzh-Sakhalins**	**8.61**	**275**	*e*P		**Pn**	**17 48 08.0**	**+2.5**
YSS				AMB	AMB		17 48 08.9	
	comp=Z,30nm,1.0s							
YSS				*e*LQ			17 50 22.0	
YSS	**Yuzh-Sakhalins**	**8.61**	**275**	*e*PN		**Pn**	**17 48 08.0**	**+2.5**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**8.61**	**275**	*e*Pn		**Pn**	**17 48 08.0**	**+2.5**
ASAJ	**Asahikawa**	**9.36**	**258**	Pn		**Pn**	**17 48 15.8**	**0.0**
	comp=Z,1.9nm,0.3s,baz=239,slow=29,SNR=16							
ASAJ	**Asahikawa**	**9.36**	**258**	PN		**Pn**	**17 48 15.8**	**+0.1**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KLR	**Kul'dur**	**15.93**	**287**	*e*P		**Pn**	**17 49 40.1**	**-4.9**
MAJO	**Matsushiro**	**16.39**	**237**	*e*P		**Pn**	**17 49 48.6**	**-2.4**
MAJO				pmax	pmax			
	comp=Z,21nm,0.8s							
MAJO	**Matsushiro**	**16.39**	**237**	*e*Pn		**Pn**	**17 49 48.6**	**-2.4**
	comp=Z,21nm,0.8s							
MAT	**Matsushiro**	**16.39**	**237**	P		**Pn**	**17 49 49.5**	**-1.5**
MJAR	**Matsushiro Arr**	**16.39**	**237**	Pn		**Pn**	**17 49 50.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=36,slow=9.4,SNR=11							
JHJ	**Hachijo jima 2**	**18.13**	**226**	LR		LR	17 57 20.2	
	comp=Z,60nm,18.5s,baz=70,slow=38							
ZEA	**Zeya**	**19.12**	**301**	*e*P		**Pn**	**17 50 23.1**	**-1.6**
ZEA				AMB	AMB		17 50 25.6	
	comp=Z,15nm,0.7s							
YAK	**Yakutsk**	**21.07**	**325↑**	*e*P		**P**	**17 50 43.3**	**-1.6**
YAK				pmax	pmax			
	comp=Z,28nm,1.3s,mb4.4							
YAK	**Yakutsk**	**21.07**	**325**	*e*P		**P**	**17 50 43.5**	**-1.5**
	comp=Z,12nm,0.6s,mb4.4							
CLNS	**Chul'man**	**21.11**	**309**	*e*P		**P**	**17 50 45.7**	**+0.3**
CLNS				*e*			17 50 56.3	
CLNS				*e*PPP			17 51 03.2	
CLNS				*e*S		**S**	**17 54 24.8**	**-15**
CLNS				*e*SS			17 54 52.5	
CLNS				pmax	pmax			
	comp=Z,28nm,1.3s,mb4.4							
CLNS				pmax	pmax			
	comp=N,20nm,0.9s							
CLNS				pmax	pmax			
	comp=E,12nm,0.8s							
CLNS				pmax	pmax			
	comp=N,14nm,0.9s							
CLNS				pmax	pmax			
	comp=E,12nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,17nm,0.9s,mb4.4							
CLNS				smax				
	comp=E,577nm,12.3s							
CLNS				smax				
	comp=Z,48nm,11.6s							
CLNS				smax				
	comp=N,63nm,12.6s							
CLNS				MLR	MLR			
	comp=N,100nm,13.0s,MS4.6							
CLNS				MLR	MLR			
	comp=Z,100nm,13.0s,MS3.4							
CLNS				MLR	MLR			
	comp=E,2μm,15.0s,MS4.6							
CN2	**Changchun**	**21.17**	**273**	*e*P		**P**	**17 50 42.3**	**-3.7**
BILL	**Bilibino**	**21.96**	**11**	*d*P		**P**	**17 50 54.3**	**-0.2**
BILL				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.4							
BILL	**Bilibino**	**21.96**	**11**	*e*P		**P**	**17 50 54.6**	**+0.1**
	comp=Z,16nm,1.0s,mb4.4							
KSRS	**Korea Array**	**22.29**	**255**	P		**P**	**17 50 58.0**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=56,slow=10,SNR=16							
KSRS				LR		LR	17 58 20.9	
	comp=Z,32nm,19.0s,baz=35,slow=33							
INCN	**Inchon**	**23.13**	**256**	P		**P**	**17 51 09.3**	**+2.3**
SNY	**Shenyang**	**23.16**	**269**	*i*P		**P**	**17 51 06.3**	**-1.0**
SNY				AP			17 51 08.8	
SNY				XP		sP	17 51 11.5	-2.9
SNY				AMB	AMB			
	comp=Z,13nm,0.7s,mb4.5							
HIA	**Hailar**	**23.77**	**289**	P		**P**	**17 51 11.4**	**-1.9**
BOD	**Bodaibo**	**27.09**	**309**	*e*P		**P**	**17 51 40.6**	**-2.8**
BOD				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.0							
NJ2	**Nanjing**	**31.49**	**255**	*e*P		**P**	**17 52 22.4**	**-0.1**
NJ2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.2							
HHC	**Hu-ho-hao-te**	**31.80**	**275**	*e*P		**P**	**17 52 25.4**	**+0.2**
HHC				AP		pP	17 52 29.9	-0.6
HHC				XP		sP	17 52 32.4	-0.2
HHC				PP		PP	17 53 31.4	-5.7
HHC				PCP		PcP	17 55 17.3	+1.2
HHC				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.5							
HHC				AMB	AMB			
	comp=Z,114nm,5.5s							
HHC				LR	LR			
	comp=N,156nm,14.0s,MS4.0							
HHC				LR	LR			
	comp=E,144nm,12.5s,MS4.0							
HHC				LR	LR			
	comp=Z,111nm,14.5s,MS3.7							
ULN	**Ulaanbaatar**	**32.29**	**290**	*e*P		**P**	**17 52 27.7**	**-1.9**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2							
ULN	**Ulaanbaatar**	**32.29**	**290**	*e*P		**P**	**17 52 27.7**	**-1.9**
	comp=Z,3.1nm,0.7s,mb4.2							
SONM	**Songino Array**	**32.73**	**290**	P		**P**	**17 52 33.1**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=61,slow=8.4,SNR=20							
SONM				LR		LR	18 06 13.5	
	comp=Z,93nm,18.8s,MS3.5,baz=342,slow=37							
ZAK	**Zakamensk**	**34.00**	**295**	*e*P		**P**	**17 52 44.1**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
COLA	**College**	**35.10**	**38**	*e*P		**P**	**17 52 53.9**	**-0.1**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
COLA	**College**	**35.10**	**38**	*e*P		**P**	**17 52 53.9**	**-0.1**
	comp=Z,6.1nm,0.7s,mb4.6							
XAN	**Xi'an**	**37.04**	**267**	P		**P**	**17 53 15.5**	**+4.9**
XAN				AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.3							
EGAK	**Eagle**	**37.96**	**39**	*e*P		**P**	**17 53 17.4**	**-1.0**
	comp=Z,4.6nm,0.4s,mb4.6							
LZH	**Lanzhou**	**39.40**	**273**	*e*P		**P**	**17 53 32.5**	**+2.0**
LZH				AP		pP	17 53 37.1	+1.3
LZH				XP		sP	17 53 40.1	+2.2
LZH				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.7							
LZH	**Lanzhou**	**39.40**	**273**	*e*P		**P**	**17 53 32.5**	**+2.0**
	comp=Z,20nm,1.2s,mb4.7							
LZH				pP		pP	17 53 37.1	+1.3
LZH				sP		sP	17 53 40.1	+2.2
GTA	**Gaotai**	**40.45**	**280**	*e*P		**P**	**17 53 40.3**	**+1.1**
GTA				AP		pP	17 53 44.9	+0.4
GTA				XP		sP	17 53 47.9	+1.3
GTA				PP		PP	17 55 17.3	+4.9
GTA				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb4.0							
GTA				AMB	AMB		

KMI LR LR
comp=Z,116nm,20.1s,MS3.8
KMI Kunming 46.76 261 P **P** **17 54 30.4 +0.4**
comp=Z,7.0nm,1.3s,mb4.4
KMI pP pP 17 54 36.2 +0.8
KMI sP sP 17 54 38.9 +1.4
KMI LR LR
comp=Z,120nm,20.1s,MS3.9
MK31 Makanchi Array 48.23 298 *e*P **P** **17 54 41.5 0.0**
MKAR Makanchi Array 48.23 298 P **P** **17 54 41.6 +0.2**
comp=Z,2.7nm,0.6s,mb4.5,baz=70,slow=7.8,SNR=26
MKAR Makanchi Array 48.23 298 *e*P **P** **17 54 41.5 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 51.51 311 *e*P **P** **17 55 06.2 -0.2**
CHKZ pmax pmax
comp=Z,17nm,0.6s,mb5.2
CHKZ Chkalovo 51.51 311 *e*P **P** **17 55 06.2 -0.2**
comp=Z,17nm,0.6s,mb5.2
LSA Lhasa 51.78 275 P **P** **17 55 11.0 +2.6**
LSA Lhasa 51.78 275 *e*P **P** **17 55 08.4 0.0**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSA Lhasa 51.78 275 *e*P **P** **17 55 08.4 0.0**
comp=Z,3.3nm,0.6s,mb4.4
VOSK Vostochnaya 51.79 310 P **P** **17 55 08.5 0.0**
VOSK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BVA0 Borovoye Array 51.95 310 *i* P **P** **17 55 10.1 +0.4**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BVAR Borovoye Array 51.95 310 LR LR 18 18 05.7
comp=Z,55nm,19.0s,MS3.6,baz=319,slow=37
BRVK Borovoye 51.99 310 *e*P **P** **17 55 10.3 +0.3**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BRVK Borovoye 51.99 310 *e*P **P** **17 55 10.2 +0.3**
comp=Z,15nm,0.8s,mb5.0
ZRNK Zerenda 52.71 311 *e*P **P** **17 55 15.2 -0.1**
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZRNK Zerenda 52.71 311 *e*P **P** **17 55 15.2 -0.1**
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 53.63 258 *e*P **P** **17 55 22.7 +0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CHTO Chiang Mai 53.63 258 *e*P **P** **17 55 22.7 +0.7**
comp=Z,3.5nm,0.8s,mb4.3
ARU Arti 55.95 318 *ce*P **P** **17 55 39.3 +0.4**
ARU pmax pmax
comp=Z,16nm,0.6s,mb5.2
ARU Arti 55.95 318 *e*P **P** **17 55 39.1 +0.3**
comp=Z,15nm,0.6s,mb5.2
KSH Kashi 56.01 294 *e*P **P** **17 55 37.3 -2.0**
KSH *e*AP pP 17 55 42.9 -1.8
KSH *e*XP sP 17 55 45.8 -1.0
KSH *e*PCP PcP 17 56 37.4 -0.1
KSH *e*PP PP 17 57 42.4 -1.8
KSH *e*SCP ScP 18 00 33.9 -2.0
KSH *e*S **S** **18 03 19.8 -7.1**
KSH *e*PS 18 03 38.5
KSH *e*SCS ScS 18 05 22.3 -5.5
KSH *e*SS SS 18 07 05.5 -7.4
KSH AMB AMB
comp=Z,447nm,4.8s
HNR Honiara 56.20 175 LR LR 18 20 50.3
comp=Z,43nm,18.2s,MS3.6,baz=360,slow=37
JIRN Jiri 56.45 276 *e*P **P** **17 55 44.0 +1.5**
GUN Gumba 56.50 276 *e*P **P** **17 55 44.9 +2.1**
KKN Kakani 56.99 277 *e*P **P** **17 55 47.8 +1.5**
comp=Z,9.0nm,0.5s,mb5.0
PKI Pulchoki 57.04 276 *e*P **P** **17 55 47.5 +0.8**
DMN Daman 57.22 277 *e*P **P** **17 55 49.5 +1.6**
GKN Gorkha 57.29 277 *e*P **P** **17 55 49.6 +1.2**
comp=Z,14nm,0.6s,mb5.2
KOLN Koldanda 59.14 278 *e*P **P** **17 55 55.7 +1.3**
comp=Z,9.2nm,0.7s,mb4.9
ARCES ARCESS Array B 58.23 341 P **P** **17 55 55.5 +0.4**
comp=Z,4.3nm,0.7s,mb4.6,baz=33,slow=6.8,SNR=13
ARCES LR LR 18 23 35.1
comp=Z,79nm,18.4s,MS3.9,baz=292,slow=39
AB31 Akbulak array 59.51 311 *i* P **P** **17 56 04.3 +0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTO Aktyubinsk 59.77 313 P **P** **17 56 05.3 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,1.3s,mb3.7
ORR Orenburg 60.64 315 *e*P **P** **17 56 12.3 +0.6**
ORR pmax pmax
comp=Z,20nm,1.4s,mb5.0
NVAR Mina Array Bea 61.02 64 P **P** **17 56 15.1 +0.8**
comp=Z,1.6nm,0.6s,mb4.3,baz=299,slow=9.3,SNR=11
NVAR Mina Array Bea 61.02 64 P **P** **17 56 15.1 +0.8**
PDAR Pinedale Array 63.44 55 P **P** **17 56 30.9 +0.4**
comp=Z,1.8nm,0.8s,mb4.2,baz=280,slow=2.3,SNR=13
FINES FINESS Array B 64.57 336 P **P** **17 56 37.9 0.0**
comp=Z,5.7nm,0.6s,mb4.8,baz=38,slow=6.6,SNR=32
ULM Lac du Bonnet 65.43 42 LR LR 18 27 15.9
comp=Z,66nm,19.2s,MS3.9,baz=342,slow=38
OBN Obninsk 66.06 327⇑ *e*P **P** **17 56 45.8 -1.8**
OBN *e* 17 56 57.5
OBN *e* 17 57 17.1
OBN pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 68.59 342 P **P** **17 57 03.5 -0.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=26,slow=6.2
NOA NORSAR Array B 68.59 342 P **P** **17 57 03.8 +0.2**
comp=Z,2.3nm,0.7s,mb4.2,baz=26,slow=6.2,SNR=5.7
WRA Warramunga Arr 69.14 201 P **P** **17 57 05.2 -1.9**
comp=Z,2.2nm,0.8s,mb4.2,baz=20,slow=6.5,SNR=7.2
ANMO Albuquerque 70.47 60⇑ *e*P **P** **17 56 12.6 +1.0**
KIV Kislovodsk 71.80 315 P **P** **17 57 21.8 -1.4**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIV Kislovodsk 71.80 315 P **P** **17 57 21.8 -1.5**
comp=Z,12nm,0.8s,mb4.9
ZEI Tsey 72.08 314 *e*P **P** **17 57 24.0 -1.0**
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AKASG Malin Array Be 72.28 327 P **P** **17 57 25.5 -0.7**
comp=Z,1.0nm,0.5s,mb4.0,baz=33,slow=6.3,SNR=7.1
ASAR Alice Springs 72.83 201 P **P** **17 57 28.4 -1.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=5.1,SNR=18
GNI Garni 73.60 312 LR LR 18 30 33.8
comp=Z,54nm,20.2s,MS3.8,baz=235,slow=36
LTX Lajitas 76.10 62 *e*P **P** **17 57 48.4 0.0**
LTX pmax pmax
comp=Z,15nm,1.1s,mb4.8
LTX Lajitas 76.10 62 *e*P **P** **17 57 48.4 0.0**
comp=Z,15nm,1.1s,mb4.8
TXAR Lajitas Array 76.10 62 P **P** **17 57 48.6 +0.2**
comp=Z,6.7nm,0.6s,mb4.7,baz=303,slow=4.3,SNR=93
STHS Stebnicka Huta 76.16 331 *e*P **P** **17 57 49.8 +1.0**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 76.16 331 *e*P **P** **17 57 49.8 +1.0**
comp=Z,3.8nm,0.8s,mb4.4
BURAR Bucovina Array 76.31 328⇑ *i*P **P** **17 57 50.2 +0.6**
CLL Collm 76.97 337 *e*P **P** **17 57 54.0 +0.6**
MLR Muntele Rosu 77.83 326⇑ *i*P **P** **17 57 58.7 +0.6**
MALT Malatya 78.17 314⇑ *i*P **P** **17 58 02.3 +2.2**
MALT Malatya 78.17 314 *e*P **P** **17 58 01.8 +1.7**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MALT Malatya 78.17 314 *e*P **P** **17 58 01.8 +1.8**
comp=Z,2.9nm,0.7s,mb4.3
KHC Kasperske Hory 78.78 336⇓ *e*P **P** **17 58 04.0 +0.6**
GRA1 Grafenberg Arr 78.92 337 *e*P **P** **17 58 12.1 +7.9**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.92 337 *e*P **P** **17 58 12.1 +7.9**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.92 337 *e*P **P** **17 58 12.1 +7.9**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.92 337 *e*P **P** **17 58 12.1 +7.9**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 79.00 335 P **P** **17 58 05.2 +0.6**
comp=Z,0.9nm,0.5s,mb4.0,baz=36,slow=6.0,SNR=9.4
BR131 Keskin Array S 79.33 318 *e*P **P** **17 58 05.1 -1.3**
comp=Z,0.5nm,0.5s,mb3.7
BR131 *e* 17 58 15.6
BFO Black Forest 80.92 338 P **P** **17 58 15.4 +0.4**
BFO pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BFO Black Forest 80.92 338 P **P** **17 58 15.4 +0.3**
comp=Z,7.3nm,1.3s,mb4.5
PPT Papeete 81.01 128 LR LR 18 32 45.3
comp=Z,114nm,18.5s,MS4.3,baz=265,slow=35
CDF Champ du Feu 81.11 339 *e*P **P** **17 58 15.9 -0.1**
comp=Z,31nm,1.2s,mb4.8
CDF Champ du Feu 81.11 339 *e*P **P** **17 58 15.9 -0.1**
CDF pmax pmax
comp=Z,16nm,1.2s,mb4.8
CDF Champ du Feu 81.11 339 *e*P **P** **17 58 15.9 -0.1**
comp=Z,16nm,1.2s,mb4.8
GRR Gorron 82.88 344 *e*P **P** **17 58 25.2 -0.1**
comp=Z,18nm,0.8s,mb4.8
GRR Gorron 82.88 344 *e*P **P** **17 58 25.2 -0.1**
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRR Gorron 82.88 344 *e*P **P** **17 58 25.2 -0.1**
comp=Z,8.9nm,0.8s,mb4.8
SMF Signal de Mont 83.58 341 *e*P **P** **17 58 28.9 0.0**
comp=Z,57nm,1.2s,mb5.3
SMF Signal de Mont 83.58 341 *e*P **P** **17 58 28.9 0.0**
SMF pmax pmax
comp=Z,28nm,1.2s,mb5.3
SMF Signal de Mont 83.58 341 *e*P **P** **17 58 28.9 0.0**
comp=Z,28nm,1.2s,mb5.3
LPG La Plagne 83.95 338 *e*P **P** **17 58 31.9 +1.1**
comp=Z,54nm,1.3s,mb5.2
LPG La Plagne 83.95 338 *e*P **P** **17 58 31.9 +1.1**
LPG pmax pmax
comp=Z,27nm,1.3s,mb5.2
LPG La Plagne 83.95 338 *e*P **P** **17 58 31.9 +1.1**
comp=Z,27nm,1.3s,mb5.2
CAF Calviac 85.60 341 *e*P **P** **17 58 38.9 -0.2**
comp=Z,33nm,1.4s,mb5.1
CAF Calviac 85.60 341 *e*P **P** **17 58 38.9 -0.2**
CAF pmax pmax
comp=Z,16nm,1.4s,mb5.1
CAF Calviac 85.60 341 *e*P **P** **17 58 38.9 -0.2**
comp=Z,16nm,1.4s,mb5.1
NWAO Narrogin (SRO) 86.53 211 P **P** **17 58 41.8 -1.9**
NWAO pmax pmax
comp=Z,55nm,1.5s
NWAO Narrogin (SRO) 86.53 211 P **P** **17 58 41.8 -1.9**
comp=Z,55nm,1.5s,mb5.6
TORD Torodi Ar. Bea 115.75 331 PP PP 18 05 44.9 -1.2
comp=Z,0.8nm,0.9s,baz=6.5,slow=9.3,SNR=4.1

BJI ***16*** *17:47:13.8, 646S×151 50E, h15km, mB4.8, mb4.4, Ms4.4, Msz4.1*
NEIC ***16*** *17:47:15.8±0.4, 652S×151.19E, h10km, mb4.5/11, Error ellipse: s-maj=10.5km s-min=6.7km az=107.0*
ISCJB ***16*** *17:47:17.8±0.5, 662S±005×151 20E±007, h33km, mb4.4/25, MS3.8/10, Error ellipse: s-maj=11.3km s-min=6.7km az=54.6*
IDC ***16*** *17:47:21.5±4.0, 665S×151.15E, h52km±35km, mb4.1/13, mb1 4.2/15, mb1mx4.2/19, mbtmp4.1/15, ML3.5/2, MS3.4/9, Ms1 3.4/9, ms1mx3.2/29, Error ellipse: s-maj=23.0km s-min=18.4km az=68.0*
ISC 16 17:47:20.4±2.0, 666S±008×151 22E±009, h40km±18km, h17km±6.0km:pP-P, n53, σ1s02/52, mb4.4/25, MS3.8/10, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**4.86**	**235**	P		**Pn**	**17 48 31.6**	**+0.7**
	6.5nm,0.3s,baz=59,slow=16,SNR=26							
PMG				S		**Sn**	**17 49 27.2**	**+1.2**
	16nm,0.3s,baz=358,slow=23,SNR=8.1							
PMG				LR		LR	17 49 41.2	
	comp=Z,78nm,20.9s,baz=248,slow=29							
PMG	**Port Moresby**	**4.86**	**235**	*e*Pn		**Pn**	**17 48 31.3**	**+0.3**
PMG				*e*Sn		**Sn**	**17 49 22.1**	**-3.9**
HNR	**Honiara**	**9.07**	**108**	LR		LR	17 52 20.1	
	comp=Z,159nm,19.3s,baz=359,slow=33							
CTA	**Charters Tower**	**14.20**	**199**	P		**Pn**	**17 50 40.0**	**+1.2**
	0.3nm,0.3s,baz=34,slow=15,SNR=3.3							
CTA				LR		LR	17 55 05.6	
	comp=Z,83nm,21.7s,baz=224,slow=33							
CTA	**Charters Tower**	**14.20**	**199**	P		**Pn**	**17 50 40.0**	**+1.2**
CTA				LR		LR	17 55 05.6	
CTAO	**Charters Tower**	**14.20**	**199**	*e*P		**Pn**	**17 50 39.0**	**+0.2**
	10nm,1.0s							
KAKA	**Kakadu**	**19.45**	**251**	*e*P		**Pn**	**17 51 44.1**	**-0.9**
	11nm,0.6s							
WRAB	**Tennant Creek**	**21.03**	**230**	*e*P		**P**	**17 52 00.3**	**-0.5**
WB2	**Warramunga Arr**	**21.04**	**229**	*e*P		**P**	**17 52 00.4**	**-0.4**
WRA	**Warramunga Arr**	**21.05**	**230**	P		**P**	**17 52 00.8**	**-0.1**
	8.6nm,0.8s,mb4.1,baz=54,slow=11,SNR=36							
GUMO	**Guam**	**21.08**	**343**	LR		LR	17 59 06.0	
	comp=Z,66nm,18.7s,MS3.0,baz=127,slow=34							
DZM	**Mont Dzumac**	**21.24**	**138**	P		**P**	**17 52 02.9**	**-0.1**
	9.0nm,1.0s,mb4.1,baz=6.6,slow=17,SNR=8.9							
DZM				LR		LR	17 59 30.5	
	comp=Z,112nm,18.3s,MS3.3,baz=158,slow=34							
AS31	**Alice Springs**	**23.72**	**223**	*e*P		**P**	**17 52 28.1**	**-0.7**
ASAR	**Alice Springs**	**23.73**	**223**	P		**P**	**17 52 28.5**	**-0.3**
	8.4nm,0.9s,mb4.2,baz=54,slow=8.5,SNR=56							
STKA	**Stephens Creek**	**26.65**	**198**	*e*P		**P**	**17 52 54.8**	**-0.6**
	4.4nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**26.65**	**198**	P		**P**	**17 52 54.6**	**-0.8**
	17nm,0.9s,mb4.6,baz=10,slow=10.0,SNR=31							
STKA				LR		LR	18 01 53.4	
	comp=Z,91nm,19.1s,MS3.3,baz=23,slow=33							
FITZ	**Fitzroy Crossi**	**27.41**	**243**	*e*P		**P**	**17 53 01.5**	**-0.7**
	13nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P		**P**	**17 53 01.7**	**-0.5**
	3.8nm,0.5s,mb4.2,baz=75,slow=5.6,SNR=20							
MBWA	**Marble Bar**	**33.70**	**241**	*e*P		**P**	**17 54 05.5**	**+7.8**
	5.3nm,0.7s,mb4.6							
JHJ	**Hachijo jima 2**	**41.02**	**345**	LR		LR	18 11 14.1	
	comp=Z,114nm,18.1s,MS3.8,baz=114,slow=35							
KSM	**Kuching**	**41.62**	**280**	*e*P		**P**	**17 55 04.8**	**+0.2**
MJAR	**Matsushiro Arr**	**44.67**	**345**	PcP		PcP	17 57 11.0	-0.3
	1.9nm,0.7s,baz=174,slow=4.0,SNR=4.6							
MJAR				LR		LR	18 13 40.0	
	comp=Z,130nm,18.1s,MS3.9,baz=50,slow=35							
QIZ	**Qiongzhong**	**48.09**	**303**	P		**P**	**17 55 55.4**	**-0.7**
QIZ				S		**S**	**18 02 54.8**	**+2.9**
QIZ				LR		LR		
	comp=Z,210nm,20.5s,MS4.1							
KSRS	**Korea Array**	**48.98**	**335**	P		**P**	**17 56 03.0**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=153,slow=8.6,SNR=7.3							
KSRS				PcP		PcP	17 57 26.6	+0.1
	comp=Z,1.5nm,0.7s,baz=171,slow=2.5,SNR=6.3							
GYA	**Guiyang**	**54.30**	**309**	P		**P**	**17 56 44.3**	**+1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
KMI	**Kunming**	**56.75**	**306**	P		**P**	**17 57 00.3**	**+0.1**
KMI				AP		pP	17 57 05.8	-6.0
KMI				XP		sP	17 57 07.8	-8.6
KMI				PP		PP	17 59 10.8	+4.2
KMI				S		**S**	**18 04 56.1**	**+5.9**
KMI				AMB		AMB		
	comp=Z,3.0nm,1.1s,mb4.2							
KMI				AMB		AMB		
	comp=Z,65nm,3.4s							
KMI				LR		LR		
	comp=N,108nm,18.1s,MS4.2							
KMI				LR		LR		
	comp=E,109nm,15.4s,MS4.2							
KMI				LR		LR		
	comp=Z,116nm,18.1s,MS4.0							
KMI	**Kunming**	**56.75**	**306**	P		**P**	**17 57 00.3**	**+0.1**
	comp=Z,3.0nm,1.1s,mb4.2							
KMI				pP		pP	17 57 05.7	-6.1
KMI				sP		sP	17 57 07.7	-8.7
KMI				PP		PP	17 59 10.8	+4.2
KMI				S		**S**	**18 04 56.1**	**+5.9**
KMI				SS		SS	18 08 42.0	+3.5
KMI				LR		LR		
	comp=Z,120nm,18.1s,MS4.0							
CD2	**Chengdu**	**58.77**	**312**	*e*P		**P**	**17 57 14.8**	**+0.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.7s,mb4.6							
HHC	**Hu-ho-hao-te**	**59.66**	**326**	*e*P		**P**	**17 57 22.3**	**+1.7**
HHC				AP		pP	17 57 27.6	-4.6
HHC				XP		sP	17 57 29.3	-7.5
HHC				PCP		PcP	17 58 08.8	+1.5
HHC				PP		PP	17 59 36.1	+3.7
HHC				SCP		ScP	18 02 08.1	+3.1
HHC				AMB		AMB		
	comp=Z,14nm,1.0s,mb5.0							
HHC				AMB		AMB		
	comp=Z,60nm,7.3s							
HHC				LR		LR		
	comp=N,143nm,17.3s,MS4.3							
HHC				LR		LR		
	comp=E,140nm,17.7s,MS4.3							
HHC				LR		LR		
	comp=Z,151nm,15.0s,MS4.2							
GTA	**Gaotai**	**65.96**	**318**	*e*P		**P**	**17 58 01.6**	**-0.9**
GTA				AP		pP	17 58 05.8	-8.5
GTA				XP		sP	17 58 08.8	-10
GTA				AMB		AMB		
	comp=Z,3.0nm,1.4s,mb4.1							
ULN	**Ulaanbaatar**	**66.75**	**329**	*e*P		**P**	**17 58 06.2**	**-1.3**
	comp=Z,3.1nm,0.9s,mb4.3							
SONM	**Songino Array**	**67.07**	**329**	P		**P**	**17 58 09.3**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=146,slow=4.9,SNR=15							
LSA	**Lhasa**	**68.00**	**306**	*e*P		**P**	**17 58 15.5**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.3							
VNDA	**Vanda**	**71.05**	**178**	P		**P**	**17 58 34.3**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=326,slow=7.7,SNR=5.5							
VNDA				LR		LR	18 26 57.8	
	comp=Z,38nm,18.2s,MS3.7,baz=48,slow=33							
VNDA	**Vanda**	**71.05**	**178**	*e*P		**P**	**17 58 34.7**	**+0.4**
	comp=Z,4.4nm,1.2s,mb4.3							
BILL	**Bilibino**	**75.28**	**6**	*e*P		**P**	**17 58 58.4**	**-0.8**
	comp=Z,11nm,0.9s,mb4.8							
WMQ	**Urumqi**	**76.05**	**318**	⇓P		**P**	**17 59 01.8**	**-1.8**
WMQ				AP		pP	17 59 12.3	-3.3
WMQ				PCP		PcP	17 59 14.4	-1.4
WMQ				XP		sP	17 59 16.3	-3.9
WMQ				PP		PP	18 01 54.3	-0.3
WMQ				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.3							
WMQ				AMB		AMB		
	comp=Z,174nm,4.0s							
WMQ				LR		LR		
	comp=N,60nm,22.3s,MS4.2							
WMQ				LR		LR		
	comp=E,90nm,18.6s,MS4.2							
WMQ				LR		LR		
	comp=Z,62nm,24.0s							
MKAR	**Makanchi Array**	**80.69**	**319**	P		**P**	**17 59 28.6**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=99,slow=7.3,SNR=7.2							
ZAL	**Zalesovo**	**81.83**	**327**	P		**P**	**17 59 32.8**	**-2.5**
	comp=Z,1.6nm,0.3s,mb4.5,baz=6.8,slow=12,SNR=5.6							
QSPA	**South Pole Qui**	**83.32**	**180**	*e*P		**P**	**17 59 44.0**	**+1.0**
	comp=Z,18nm,1.9s,mb4.8							
KZA	**Kyzart**	**84.12**	**313**	P		**P**	**17 59 49.0**	**+1.8**
	SNR=8.8							
UCH	**Uchtor**	**84.69**	**313**	P		**P**	**17 59 50.9**	**+0.8**
	SNR=6.6							
AAK	**Ala-Archa**	**84.80**	**314**	P		**P**	**17 59 51.7**	**+1.1**
	SNR=5.0							
AAK	**Ala-Archa**	**84.80**	**314**	*e*P		**P**	**17 59 49.9**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.5							
USP	**Ospenovka**	**84.94**	**314**	P		**P**	**17 59 51.3**	**0.0**
	SNR=6.3							
AML	**Almayashu**	**85.25**	**313**	P		**P**	**17 59 54.0**	**+1.1**
	SNR=9.6							
EKS2	**Erkin-Say**	**85.32**	**314**	P		**P**	**17 59 54.4**	**+1.2**
	SNR=7.4							
BVAR	**Borovoye Array**	**89.78**	**323**	P		**P**	**18 00 13.0**	**-1.7**
	comp=Z,1.2nm,0.7s,mb4.3,baz=112,slow=4.0,SNR=5.2							
INK	**Inuvik**	**90.74**	**21**	P		**P**	**18 00 18.5**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.8,baz=277,slow=3.2,SNR=11							
INK	**Inuvik**	**90.74**	**21**	P		**P**	**18 00 18.5**	**-0.6**
NVAR	**Mina Array Bea**	**94.46**	**52**	P		**P**	**18 00 38.2**	**+1.8**
	comp=Z,1.4nm,0.8s,mb4.5,baz=270,slow=8.1,SNR=6.9							
GERES	**GERESS Array B**	**124.77**	**327**	PKP		PKPdf	18 06 16.0	+0.2
	comp=Z,0.2nm,0.3s,baz=48,slow=2.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKPbc		PKPbc	18 07 05.4	+0.6
	comp=Z,3.4nm,0.6s,baz=68,slow=2.8,SNR=20							
TORD				PP		PP	18 10 42.6	+5.7
	comp=Z,0.5nm,0.5s,baz=56,slow=7.0,SNR=4.2							

ISCJB ***16*** *17:52:51.4±0.8, 4455N±003×674E±007, h14km±8km, Error ellipse: s-maj=9.2km s-min=4.0km az=145.7*
LDG ***16*** *17:52:52.7±0.1, 4456N×677E, h2km, Md2.1/1, Ml1.7/3, Error ellipse: s-maj=3.0km s-min=1.3km az=69.0*
STR ***16*** *17:52:53.4±0.5, 4453N×676E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 16 17:52:52.4±0.8, 4455N±003×675E±007, h10km±9km, n8, σ0s49/16, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SURF	**Saint Ours**	**0.09**	**148**	Pg		**Pg**	**17 52 54.6**	**-0.1**
SURF				Sg		**Sg**	**17 52 56.0**	**-0.4**
MBDF	**Montbardon**	**0.17**	**5**	*e*Pg		**Pg**	**17 52 56.4**	**+0.3**
MBDF				*e*Sg		**Sg**	**17 52 59.1**	**+0.4**
	5.6nm,0.2s							
TOUF	**Mont Tournerai**	**0.65**	**146**	Pg		**Pg**	**17 53 05.2**	**+0.3**
TOUF				Sg		**Sg**	**17 53 13.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.72**	**301**	*e*Pg		**Pg**	**17 53 06.5**	**+0.2**
ORIF				*e*Sg		**Sg**	**17 53 16.4**	**+0.7**
	3.3nm,0.3s							
LUCF	**Luceram**	**0.79**	**147**	Pg		**Pg**	**17 53 08.1**	**+0.5**
LUCF				Sg		**Sg**	**17 53 18.5**	**+0.7**
LPG	**La Plagne**	**0.94**	**0**	*e*Pg		**Pg**	**17 53 09.9**	**-0.7**
LPG				*e*Sg		**Sg**	**17 53 22.2**	**-0.7**
	0.8nm,0.2s							
FRF	**La Foret Royal**	**0.99**	**184**	*e*Pg		**Pg**	**17 53 11.6**	**+0.1**
FRF				*e*Sg		**Sg**	**17 53 24.3**	**-0.2**
	1.1nm,0.2s							
LMR	**La Mourre**	**1.23**	**188**	*e*Pg		**Pg**	**17 53 15.0**	**-1.0**
LMR				*e*Sg		**Sg**	**17 53 31.8**	**-0.2**
	2.5nm,0.2s							

ISCJB ***16*** *17:57:05.5±2.3, 4652N±008×154 27E±0.10, h1km±15km, mb4.4/37, MS3.7/3, Error ellipse: s-maj=16.4km s-min=7.6km az=111.5*
IDC ***16*** *17:57:06.3±0.7, 4629N×154 29E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/51, Error ellipse: s-maj=20.3km s-min=16.6km az=139.0*
BJI ***16*** *17:57:07.8, 4682N×154.14E, h8km, mB4.6, mb4.5, Ms4.2, Msz3.9*
NEIC ***16*** *17:57:08.2±0.6, 4640N×154 26E, h10km, mb4.5/13, Error ellipse: s-maj=15.6km s-min=8.4km az=141.0*
MOS ***16*** *17:57:09.6±0.8, 4634N×154.11E, h33km, mb4.6/12, Error ellipse: s-maj=13.4km s-min=9.7km az=91.8*
ISC 16 17:57:07.6±2.5, 4649N±008×154 29E±010, h6km±16km, h15km±2.2km:pP-P, n71, σ1s18/74, mb4.3/37, MS3.7/3, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SKR	**Severo-Kuril's**	**4.37**	**15**	*e*PN		**Pn**	**17 58 19.0**	**+4.4**
KUR	**Kuril'sk**	**4.66**	**257**	*e*PN		**Pn**	**17 58 14.4**	**-4.1**
KUR				pmax		pmax		
	comp=N,70nm,0.7s							
KUR				pmax		pmax		
	comp=E,50nm,0.7s							
KUR				pmax		pmax		
	comp=Z,260nm,0.7s							
PET	**Petropavlovsk**	**7.13**	**22**	*e*Pn		**Pn**	**17 58 50.7**	**-1.8**
PET				*e*Sn		**Sn**	**18 00 13.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.94**	**278**⇑	*e*PN		**Pn**	**17 59 07.8**	**+4.2**
YSS	**Yuzh-Sakhalins**	**7.94**	**278**	*e*Pn		**Pn**	**17 59 06.8**	**+3.2**
ASAJ	**Asahikawa**	**8.57**	**258**	Pn		**Pn**	**17 59 12.8**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=94,slow=9.0,SNR=7.4							
ASAJ				LR		LR	18 02 13.6	
	comp=Z,124nm,21.2s,baz=334,slow=36							
ASAJ	**Asahikawa**	**8.57**	**258**	PN		**Pn**	**17 59 12.8**	**+0.5**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,125nm,21.3s							
MJAR	**Matsushiro Arr**	**15.58**	**236**	Pn		**Pn**	**18 00 46.9**	**-1.0**
	comp=Z,0.1nm

BILL pmax pmax
comp=Z,11nm,0.8s,mb4.3
BILL Bilibino 22.48 12 *e*P **P 18 02 07.4 -0.2**
comp=Z,12nm,0.8s,mb4.4
HIA Hailar 23.22 290 P **P 18 02 12.0 -3.5**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 23.22 290 P **P 18 02 12.0 -3.5**
comp=Z,5.0nm,0.8s,mb4.0
BOD Bodaibo 26.78 310 *e*P **P 18 02 46.6 -1.7**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb3.9
HHC Hu-ho-hao-te 31.12 275 *e*P **P 18 03 31.1 +4.2**
HHC AP pP 18 03 36.4 +7.7
HHC PP PP 18 04 33.4 -3.7
HHC PCP PcP 18 06 27.0 +4.8
HHC S **S 18 08 34.8 +1.9**
HHC XS sS 18 08 41.9 +6.1
HHC SCP ScP 18 10 08.3 +2.7
HHC SS SS 18 10 18.8 -27
HHC SCS ScS 18 14 03.8 +1.1
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,103nm,7.1s
HHC LR LR
comp=N,207nm,16.3s,MS4.0
HHC LR LR
comp=E,140nm,11.3s,MS4.0
HHC LR LR
comp=Z,151nm,14.5s,MS3.8
ULN Ulaanbaatar 31.75 290 *e*P **P 18 03 35.7 +3.2**
ULN pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
ULN Ulaanbaatar 31.75 290 *e*P **P 18 03 35.7 +3.2**
comp=Z,4.5nm,1.2s,mb4.2
SONM Songino Array 32.19 290 P **P 18 03 35.9 -0.4**
comp=Z,0.6nm,0.5s,mb3.7,baz=80,slow=6.7,SNR=4.6
ZAK Zakamensk 33.52 296 *e*P **P 18 03 46.8 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MCK McKinley 35.33 40 P **P 18 04 03.2 -0.5**
MCK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MCK McKinley 35.33 40 P **P 18 04 03.2 -0.5**
comp=Z,4.1nm,1.1s,mb4.3
SML Sawmill 35.60 43 P **P 18 04 06.8 +0.8**
COLA College 35.84 38 P **P 18 04 09.3 +1.2**
COLA pmax pmax
comp=Z,17nm,1.3s,mb4.8
COLA College 35.84 38 P **P 18 04 09.3 +1.2**
comp=Z,17nm,1.3s,mb4.8
LZH Lanzhou 38.71 273 *e*P **P 18 04 34.1 +1.7**
LZH AP pP 18 04 36.9 +2.8
LZH XP sP 18 04 38.1 +3.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH Lanzhou 38.71 273 *e*P **P 18 04 34.1 +1.7**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 18 04 36.9 +2.8
LZH sP sP 18 04 38.1 +3.3
GTA Gaotai 39.81 280 *e*P **P 18 04 42.8 +1.2**
GTA AP pP 18 04 47.0 +3.6
GTA XP sP 18 04 50.3 +6.2
GTA AMB AMB
comp=Z,5.0nm,1.6s,mb4.0
INK Inuvik 41.44 32 P **P 18 04 56.7 +1.6**
comp=Z,3.1nm,0.6s,mb4.1,baz=293,slow=6.3,SNR=20
INK Inuvik 41.44 32 *e*P **P 18 04 56.3 +1.2**
INK pmax pmax
comp=Z,88nm,0.7s
INK Inuvik 41.44 32 *e*P **P 18 04 56.3 +1.2**
comp=Z,88nm,0.7s,mb5.5
CD2 Chengdu 41.67 266 *e*P **P 18 04 58.6 +1.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA Guiyang 42.45 259 P **P 18 05 07.4 +4.1**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
ZAL Zalesovo 43.44 306 P **P 18 05 10.6 -0.7**
comp=Z,0.8nm,0.4s,mb3.8,baz=3.9,slow=7.4,SNR=3.5
ZAL LR LR 18 26 22.5
comp=Z,62nm,18.1s,MS3.6,baz=113,slow=40
WMQ Urumqi 45.78 292 ⇑*i*P **P 18 05 30.8 +0.8**
WMQ AP pP 18 05 35.3 +3.5
WMQ XP sP 18 05 37.8 +5.3
WMQ PCP PcP 18 07 08.8 +1.2
WMQ PP PP 18 07 18.3 +1.2
WMQ PPP 18 08 01.8
WMQ SCP ScP 18 11 00.4 -0.7
WMQ S **S 18 12 12.8 -1.2**
WMQ XS sS 18 12 19.9 +3.0
WMQ AMB AMB
comp=Z,4.0nm,0.4s,mb4.7
WMQ AMB AMB
comp=Z,53nm,5.5s
WMQ LR LR
comp=N,77nm,17.2s,MS3.7
WMQ LR LR
comp=E,10.0nm,21.5s,MS3.7
WMQ LR LR
comp=Z,63nm,23.5s,MS3.5
KMI Kunming 45.99 261 P **P 18 05 32.3 +0.6**
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
KMI Kunming 45.99 261 P **P 18 05 32.2 +0.5**
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KMI Kunming 45.99 261 P **P 18 05 32.2 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
MK31 Makanchi Array 47.78 298 *e*P **P 18 05 44.8 -0.9**
MKAR Makanchi Array 47.78 298 P **P 18 05 45.0 -0.7**
comp=Z,2.7nm,0.8s,mb4.3,baz=68,slow=7.2,SNR=18
RES Resolute Bay 50.83 19 *e*P **P 18 06 10.3 +1.3**
RES pmax pmax
comp=Z,211nm,1.0s
RES Resolute Bay 50.83 19 *e*P **P 18 06 10.3 +1.3**
comp=Z,211nm,1.0s
LSA Lhasa 51.10 274 *e*P **P 18 06 14.2 +3.2**
LSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSA Lhasa 51.10 274 *e*P **P 18 06 14.2 +3.2**
comp=Z,5.1nm,0.7s,mb4.6
BVAR Borovoye Array 51.65 310 P **P 18 06 15.5 +0.3**
comp=Z,2.1nm,0.4s,mb4.4,baz=59,slow=7.1,SNR=13
BRVK Borovoye 51.69 310 *e*P **P 18 06 15.3 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.69 310 *e*P **P 18 06 15.2 -0.2**
comp=Z,3.8nm,0.6s,mb4.5
ZRNK Zerenda 52.42 310 *e*P **P 18 06 20.2 -0.7**
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZRNK Zerenda 52.42 310 *e*P **P 18 06 20.2 -0.7**
comp=Z,2.9nm,0.5s,mb4.5
AAK Ala-Archa 54.68 297 *e*P **P 18 06 36.6 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK Ala-Archa 54.68 297 *e*P **P 18 06 36.6 -0.9**
comp=Z,3.9nm,0.9s,mb4.4
ARU Arti 55.75 318 *e*P **P 18 06 45.2 0.0**
ARU Arti 55.75 318 *e*P **P 18 06 44.8 -0.4**
comp=Z,7.4nm,0.6s,mb4.9
ARCES ARCESS Array B 58.37 341 P **P 18 07 04.7 +0.9**
comp=Z,4.6nm,0.8s,mb4.5,baz=27,slow=6.8,SNR=10
PDAR Pinedale Array 64.25 54 P **P 18 07 43.9 +0.3**
comp=Z,0.9nm,0.8s,mb3.9,baz=304,slow=3.3,SNR=7.6
FINES FINESS Array B 64.62 335 P **P 18 07 46.0 0.0**
comp=Z,1.7nm,0.4s,mb4.4,baz=40,slow=7.0,SNR=22
WRA Warramunga Arr 68.53 200 P **P 18 08 08.9 -2.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=20,slow=6.8,SNR=6.7
NB2 NORSAR Subarra 68.74 342 P **P 18 08 13.3 +1.0**
comp=Z,0.9nm,0.5s,mb4.0,baz=28,slow=6.2
NOA NORSAR Array B 68.74 342 P **P 18 08 13.5 +1.2**
comp=Z,0.8nm,0.5s,mb3.9,baz=27,slow=6.4,SNR=4.7
NOA NORSAR Array B 68.74 342 P **P 18 08 13.5 +1.2**
AKASG Malin Array Be 72.22 327 P **P 18 08 33.3 -0.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=33,slow=6.1,SNR=6.2
ASAR Alice Springs 72.22 200 P **P 18 08 32.1 -1.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=16,slow=6.5,SNR=16
TXAR Lajitas Array 76.92 61 P **P 18 09 00.8 0.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=294,slow=3.7,SNR=7.7
TXAR Lajitas Array 76.92 61 P **P 18 09 00.8 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 79.05 335 P **P 18 09 12.0 -0.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=33,slow=5.1,SNR=4.1
GRR Gorron 83.06 344 *e*P **P 18 09 33.0 -1.1**
SMF Signal de Mont 83.69 340 *e*P **P 18 09 36.5 -0.8**
comp=Z,15nm,1.1s,mb4.8
LPG La Plagne 84.04 338 *e*P **P 18 09 39.2 +0.1**
comp=Z,5.5nm,0.8s,mb4.5

IDC 16 17:57:53.8±8.9, 662S×15088E, h88km±57km, mb3.4/4, mb1 3.5/5, mb1mx3.3/14, mbtmp3.4/5, ML2.1/1, Error ellipse: s-maj=73.3km s-min=60.1km az=176.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**233**	P	Pn	17 59 01.1	0.0
	0.6nm,0.3s,baz=48,slow=12,SNR=2.6						
PMG				S	Sn	17 59 54.3	+1.1
	0.8nm,0.3s,baz=342,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**20.81**	**229**	P	P	18 02 27.5	-0.5
	1.0nm,0.6s,baz=52,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**23.52**	**222**	P	P	18 02 56.0	+0.1
	0.8nm,0.6s,baz=56,slow=9.2,SNR=13						
STKA	**Stephens Creek**	**26.58**	**198**	P	P	18 03 23.9	+0.3
	4.6nm,1.2s,baz=27,slow=14,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.12**	**243**	P	P	18 03 29.5	+1.0
	1.3nm,0.6s,baz=39,slow=8.8,SNR=4.6						

TEH ***16*** *18:01:10.2, 2595N×5757E, h21km, Mn3.6*
CSEM ***16*** *18:01:13.6±0.3, 2653N×5734E, h2km, ML3.4, Error ellipse: s-maj=14.8km s-min=7.3km az=89.0*
ISCJB ***16*** *18:01:15.7±1.5, 2657N±003×5753E±009, h17km±14km, Error ellipse: s-maj=13.1km s-min=4.8km az=2.3*
THR ***16*** *18:01:19.5±0.4, 2689N×5774E, h14km±8km, ML3.4*
ISC 16 18:01:17.1±1.5, 2654N±003×5749E±007, h14km±10km, n17, σ1°17/26, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.23**	**240**	⇑P	**Pg**	**18 01 46.1**	**+5.3**
	SNR=14						
BANOM				⇓S	**Sg**	**18 02 10.6**	**+14**
BNDS	**Bandar-Abbas**	**1.45**	**306**	*e*Pg	**Pg**	**18 01 46.9**	**+1.8**
BNDS				AML	AML	18 02 22.3	
	comp=N,591nm,0.7s						
HOQ	**Hoqain**	**2.95**	**183**	P	**Pn**	**18 02 03.4**	**-0.1**
	SNR=10						
HOQ				⇓S	**Sn**	**18 02 39.3**	**+0.7**
BIDO	**Bidbid**	**3.06**	**169**	P	**Pn**	**18 02 03.7**	**-1.3**
	SNR=11						
KRBR	**Kerman**	**3.49**	**350**	*e*Pn	**Pn**	**18 02 11.8**	**+0.9**
KRBR				*e*Sg	**Sb**	**18 02 59.4**	**-1.5**
KRBR				AML	AML	18 03 13.2	
	comp=E,100nm,0.8s						
KRBR				AML	AML	18 03 23.8	
	comp=N,111nm,0.6s						
KRBR	**Kerman**	**3.49**	**350**	*e*Pn	**Pn**	**18 02 11.8**	**+0.9**
	SNR=52						
KRBR				*e*Sg	**Sb**	**18 02 59.4**	**-1.5**
	SNR=90						
SMDO	**Samad**	**3.50**	**172**	⇑P	**Pn**	**18 02 11.1**	**0.0**
	SNR=6.4						
BSY	**Bisya**	**3.79**	**184**	P	**Pn**	**18 02 17.9**	**+2.9**
	SNR=9.9						
ZHSF	**Zahedan**	**4.22**	**43**	*e*Pn	**Pn**	**18 02 19.9**	**-1.0**
IMOK	**Mook**	**4.91**	**302**	*e*Pn	**Pn**	**18 02 27.8**	**-2.6**
IMOK				*e*Sn	**Sn**	**18 03 25.6**	**-1.4**
IBAF	**Bafgh**	**5.31**	**342**	*e*Pn	**Pn**	**18 02 35.8**	**-0.1**
IBAF				*e*Sn	**Sn**	**18 03 39.1**	**+2.3**
IMEH	**Mehriz**	**5.45**	**333**	*e*Pn	**Pn**	**18 02 37.4**	**-0.5**
IKOO		**6.01**	**12**	*e*Sn	**Sn**	**18 03 55.2**	**+1.0**
ICHK	**Chekchek**	**6.29**	**335**	*e*Pn	**Pn**	**18 02 48.8**	**-0.6**
ITEG		**6.43**	**10**	*e*Pn	**Pn**	**18 02 50.7**	**-0.6**
ITEG				*e*Sn	**Sn**	**18 04 05.4**	**+0.9**
IDAH		**6.52**	**18**	*e*Pn	**Pn**	**18 02 51.7**	**-0.8**
IDAH				*e*Sn	**Sn**	**18 04 07.0**	**+0.4**
IMON		**6.89**	**15**	*e*Pn	**Pn**	**18 02 56.9**	**-0.8**
IMON				*e*Sn	**Sn**	**18 04 16.1**	**+0.2**

ISCJB ***16*** *18:10:54.0±0.7, 3331N±005×1400E±0.1, h154km±5km, mb3.4/2, Error ellipse: s-maj=14.0km s-min=8.7km az=168.1*
JMA ***16*** *18:10:55.6±0.2, 3339N×13999E, h145km±2km, M3.2*
IDC ***16*** *18:10:55.2±2.2, 3301N×13888E, h118km±43km, mb3.0/2, mb1 3.2/3, mb1mx3.0/20, mbtmp2.9/3, Error ellipse: s-maj=105.8km s-min=23.0km az=69.0*
ISC 16 18:10:55.3±0.8, 3333N±005×1400E±01, h150km±5km, n16, σ0°59/22, mb3.4/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.26**	**212**	P	**Pn**	**18 11 15.6**	**0.0**
JHJ2				*e*S	**Sn**	**18 11 31.1**	**0.0**
JHJ	**Hachijo jima 2**	**0.27**	**218**	P	**Pn**	**18 11 15.2**	**-0.5**
	35nm,0.3s,baz=260,slow=22,SNR=14						
JHJ				S	**Sn**	**18 11 31.1**	**-0.1**
	96nm,0.3s,baz=42,slow=24,SNR=16						
JKO	**Kozu shima**	**1.10**	**321**	P	**Pn**	**18 11 20.7**	**-0.2**
NJJJ	**Nii jima 2**	**1.21**	**332**	P	**Pn**	**18 11 22.1**	**+0.2**
JIM2	**Oshima 3**	**1.45**	**342**	P	**Pn**	**18 11 24.4**	**+0.1**
BSO3	**Boso 3**	**1.53**	**17**	P	**Pn**	**18 11 24.8**	**-0.3**
BSO3				S	**Sn**	**18 11 48.6**	**+0.7**
BSO1	**Boso 1**	**1.56**	**32**	P	**Pn**	**18 11 25.1**	**-0.3**
BSO1				*e*S	**Sn**	**18 11 48.7**	**+0.2**
JIZS	**Izushimoda**	**1.66**	**327**	P	**Pn**	**18 11 26.5**	**0.0**
JOD2	**Odawara 2**	**2.06**	**339**	P	**Pn**	**18 11 31.1**	**0.0**
SHZ3	**Shizuoka 3**	**2.27**	**320**	P	**Pn**	**18 11 34.0**	**+0.5**
SHZ3				S	**Sn**	**18 12 03.9**	**+1.0**
JYN	**Shimob**	**2.46**	**332**	P	**Pn**	**18 11 36.2**	**+0.3**
JRY	**Ryogami san**	**2.82**	**342**	P	**Pn**	**18 11 40.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.52**	**336**	P	**Pn**	**18 11 48.5**	**-0.7**
	1.3nm,0.3s,baz=164,slow=13,SNR=13						
MAT	**Matsushiro**	**3.52**	**336**	P	**Pn**	**18 11 48.8**	**-0.4**
MAT				S	**Sn**	**18 12 30.1**	**-0.9**
WRA	**Warramunga Arr**	**53.25**	**187**	P	**P**	**18 19 57.2**	**-1.1**
	0.4nm,0.4s,mb3.5,baz=3.6,slow=7.7,SNR=3.7						
ASAR	**Alice Springs**	**56.98**	**187**	P	**P**	**18 20 26.8**	**+1.7**
	0.2nm,0.4s,mb3.3,baz=9.1,slow=5.4,SNR=7.9						

ISCJB ***16*** *18:11:16.4±0.7, 2403N±007×9402E±006, h84km±6km, mb3.8/14, Error ellipse: s-maj=12.6km s-min=6.4km az=62.4*
NEIC ***16*** *18:11:18.8±0.9, 2422N×9445E, h84km±9km, mb3.7/2, Error ellipse: s-maj=26.9km s-min=6.9km az=58.0*
IDC ***16*** *18:11:24.3±15.0, 2422N×9450E, h138km±140km, mb3.5/12, mb1 3.7/12, mb1mx3.5/24, mbtmp3.5/12, Error ellipse: s-maj=55.8km s-min=14.7km az=49.0*
BJI ***16*** *18:11:27.4, 25.12N×9435E, h83km, mb3.8*
ISC 16 18:11:18.1±0.6, 2408N±007×9406E±005, h79km±5km, n28, σ1°18/38, mb3.8/14, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.71**	**351**	*i* P	**Pn**	**18 11 33.0**	**-0.8**
IMP				*i* S	**Sn**	**18 11 45.0**	**-0.4**
SHL	**Shillong**	**2.47**	**307**	*e*PN	**Pn**	**18 11 58.0**	**+1.8**
SHL				*e*SN	**Sn**	**18 12 27.0**	**+1.5**
LSA	**Lhasa**	**6.17**	**336**	P	**Pn**	**18 12 47.3**	**+0.7**
LSA				S	**Sn**	**18 13 55.6**	**-0.1**
LSA				Smax			
	comp=E,30nm,0.7s						
LSA	**Lhasa**	**6.17**	**336**	*e*Pn	**Pn**	**18 12 47.2**	**+0.7**
	comp=E,6.1nm,0.5s						
LSA				*e*Sn	**Sn**	**18 13 52.4**	**-3.2**
CHTO	**Chiang Mai**	**6.94**	**138**	*e*Pn	**Pn**	**18 12 56.5**	**-0.5**
	comp=E,3.0nm,0.6s						
CM31	**Chiang Mai Arr**	**7.21**	**140**	*e*Pn	**Pn**	**18 13 00.3**	**-0.5**
JIRN	**Jiri**	**7.93**	**298**	*e*Pn	**Pn**	**18 13 12.3**	**+1.7**
JIRN				*e*Sn	**Sn**	**18 14 37.3**	**-1.5**
	comp=E,88nm,0.3s						
GUN	**Gumba**	**8.29**	**299**	*e*Pn	**Pn**	**18 13 16.9**	**+1.4**
GUN				*e*Sn	**Sn**	**18 14 46.5**	**-1.0**
	comp=E,62nm,0.5s						
PKI	**Pulchoki**	**8.53**	**296**	*e*Pn	**Pn**	**18 13 20.1**	**+1.3**
PKI				*e*Sn	**Sn**	**18 14 52.4**	**-1.1**
	comp=E,20nm,0.4s						
KKN	**Kakani**	**8.72**	**297**	*e*Pn	**Pn**	**18 13 22.1**	**+0.7**
KKN				*e*Sn	**Sn**	**18 14 56.3**	**-1.8**
	comp=E,17nm,0.2s						

DMN Daman 8.80 295 *e*Pn **Pn 18 13 23.4 +1.0**
GKN Gorkha 9.33 297 *e*Pn **Pn 18 13 30.4 +0.7**
GKN *e*Sn **Sn 18 15 10.4 -2.5**
comp=E,45nm,0.3s
KOLN Koldanda 10.11 294 *e*Pn **Pn 18 13 40.3 0.0**
KOLN *e*Sn **Sn 18 15 29.1 -2.8**
comp=E,25nm,0.4s
MK31 Makanchi Array 24.55 340 *e*P **P 18 16 31.4 +1.0**
MKAR Makanchi Array 24.55 340 P **P 18 16 31.6 +1.3**
comp=E,1.4nm,0.5s,mb3.6,baz=146,slow=10.0,SNR=33
SONM Songino Array 25.66 19 P **P 18 16 39.1 -1.2**
comp=E,1.9nm,0.7s,mb3.6,baz=197,slow=9.9,SNR=15
ULN Ulaanbaatar 25.89 20 *e*P **P 18 16 40.5 -1.9**
comp=E,1.7nm,0.6s,mb3.6
ZAL Zalesovo 30.62 349 P **P 18 17 23.4 -1.2**
comp=E,0.9nm,0.4s,mb3.9,baz=227,slow=2.2,SNR=3.6
BVAR Borovoye Array 34.00 334 P **P 18 17 54.9 +0.7**
comp=E,0.4nm,0.5s,mb3.5,baz=139,slow=9.9,SNR=3.6
ZRNK Zerenda 34.51 333 *e*P **P 18 17 59.0 +0.4**
comp=E,0.6nm,0.5s,mb3.7
MLR Muntele Rosu 58.13 310 P **P 18 21 05.6 +2.1**
comp=E,1.5nm,0.5s,mb4.3,baz=180,slow=11,SNR=3.1
FINES FINESS Array B 58.64 329 P **P 18 21 07.3 +0.3**
comp=E,0.8nm,0.5s,mb4.0,baz=104,slow=6.1,SNR=4.4
WRA Warramunga Arr 58.77 135 P **P 18 21 06.9 -1.1**
comp=E,0.3nm,0.4s,mb3.6,baz=320,slow=7.6,SNR=5.1
ARCES ARCESS Array B 60.17 338 P **P 18 21 17.8 +0.2**
comp=E,3.3nm,0.9s,mb4.3,baz=92,slow=8.1,SNR=3.9
ASAR Alice Springs 61.22 138 P **P 18 21 23.6 -1.1**
comp=E,0.5nm,0.5s,mb3.8,baz=316,slow=6.6,SNR=14
HFS Hagfors 64.67 327 P **P 18 21 47.8 +0.2**
comp=E,5.1nm,1.1s,mb4.3,baz=60,slow=5.7,SNR=2.8
NOA NORSAR Array B 65.81 328 P **P 18 21 54.8 -0.1**
comp=E,1.8nm,1.0s,mb3.9,baz=95,slow=14,SNR=3.2
GERES GERESS Array B 66.06 315 P **P 18 21 57.3 +0.8**
comp=E,0.2nm,0.6s,mb3.1,baz=258,slow=4.8,SNR=2.4

IDC ***16*** *18:11:05.0±25.0, 4933N×15385E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.9/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/45, Error ellipse: s-maj=541.5km s-min=84.7km az=151.0*
MOS 16 18:11:20.7±1.2, 5019N×15247E, h67km, mb4.1/5, Error ellipse: s-maj=49.1km s-min=30.4km az=128.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.38**	**77**	*e*PN	Pn	18 11 58.0	+0.5
SKR				*e*		18 12 25.1	
ZAL	**Zalesovo**	**40.34**	**302**	P	P	18 18 53.3	+1.6
	0.8nm,0.4s,baz=44,slow=7.6,SNR=3.4						
ZAL	**Zalesovo**	**40.34**	**302**	P	P	18 18 53.3	+1.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**45.06**	**294**	P	P	18 19 31.1	+1.2
	comp=Z,1.1nm,0.8s,baz=60,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**45.06**	**294**	P	P	18 19 31.1	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**48.39**	**307**	P	P	18 19 58.4	+2.5
	comp=Z,0.8nm,0.4s,baz=60,slow=7.0,SNR=5.2						
BVAR	**Borovoye Array**	**48.39**	**307**	P	P	18 19 58.4	+2.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**54.47**	**340**	LR	LR	18 48 15.4	
	comp=Z,69nm,19.9s,baz=277,slow=40						
AKTO	**Aktyubinsk**	**56.15**	**310**	P	P	18 20 55.8	+2.4
	comp=Z,0.5nm,0.5s,baz=42,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	**56.15**	**310**	P	P	18 20 55.8	+2.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**60.75**	**334**	P	P	18 21 25.4	+0.1
	comp=Z,1.7nm,0.8s,baz=45,slow=7.8,SNR=8.2						
FINES	**FINESS Array B**	**60.75**	**334**	P	P	18 21 25.5	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						

IDC ***16*** *18:15:36.6±1.5, 4815N×15444E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=54.7km s-min=22.1km az=164.0*
ISCJB ***16*** *18:15:42.1±2.4, 4794N±002×1543E±0.2, h62km±19km, mb3.7/5, Error ellipse: s-maj=46.1km s-min=14.0km az=114.0*
MOS ***16*** *18:15:42.7±0.5, 4790N×15421E, h71km, mb4.1/3, Error ellipse: s-maj=39.7km s-min=27.7km az=51.2*
ISC 16 18:15:44.2±2.0, 4794N±002×1543E±002, h64km±16km, n11, σ0°54/11, mb3.7/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.00**	**22**	*e*PN	**Pn**	**18 16 29.5**	**+0.2**
SKR				*e*		18 17 05.5	
YSS	**Yuzh-Sakhalins**	**7.90**	**267**	⇑*i*PN	**Pn**	**18 17 36.7**	**+0.4**
YSS				*e*		18 19 05.0	
ASAJ	**Asahikawa**	**9.00**	**249**	Pn	**Pn**	**18 17 50.5**	**-0.8**
	0.2nm,0.3s,baz=84,slow=14,SNR=3.0						
KSRS	**Korea Array**	**21.94**	**251**	P	**P**	**18 20 33.0**	**+0.7**
	1.1nm,0.8s,mb3.4,baz=45,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**47.13**	**297**	P	**P**	**18 24 10.3**	**+0.4**
	0.7nm,0.8s,mb3.7,baz=50,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**47.13**	**297**	P	**P**	**18 24 10.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**18 26 05.5**	**-0.9**
	comp=Z,1.3nm,0.9s,mb4.0,baz=51,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**18 26 05.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**63.40**	**55**	P	**P**	**18 26 06.9**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.8,baz=328,slow=4.5,SNR=3.4						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**18 27 25.7**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=298,slow=4.2,SNR=9.5						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**18 27 25.7**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***16*** *18:17:12.4±1.8, 4678N±003×1549E±003, h10km, mb3.9/3, Error ellipse: s-maj=51.9km s-min=17.1km az=131.0*
IDC ***16*** *18:17:13.9±1.8, 4698N×15508E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=59.7km s-min=26.7km az=165.0*
MOS ***16*** *18:17:15.5±1.2, 4655N×15481E, h33km, mb4.2/3, Error ellipse: s-maj=66.9km s-min=39.1km az=165.6*
ISC 16 18:17:15.7±1.6, 470N±003×1550E±003, h10km, n9, σ0°78/9, mb3.9/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.25**	**252**	*e*PN	**Pn**	**18 18 29.0**	**-5.2**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
ASAJ	**Asahikawa**	**9.15**	**256**	Pn	**Pn**	**18 19 26.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=3.3						
KSRS	**Korea Array**	**22.09**	**254**	P	**P**	**18 22 12.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=52,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**18 26 22.5**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=59,slow=7.8,SNR=5.4						
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**18 26 22.5**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.31**	**335**	P	**P**	**18 27 51.5**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=37,slow=9.8,SNR=4.7						
FINES	**FINESS Array B**	**64.31**	**335**	P	**P**	**18 27 51.6**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.25**	**62**	P	**P**	**18 29 04.2**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=302,slow=4.4,SNR=9.2						
TXAR	**Lajitas Array**	**76.25**	**62**	P	**P**	**18 29 04.2**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC ***16*** *18:18:39.5±1.0, 4654N×15536E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=33.3km s-min=20.8km az=166.0*
NEIC ***16*** *18:18:40.8±0.8, 4649N×15524E, h10km, mb4.0/1, Error ellipse: s-maj=25.4km

ISC 16 18:18:46.1±3.7, 466N±02×1552E±02, h47km±33km, n10, σ0§66/10, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.23**	**259**	Pn	**Pn**	**18 20 56.3**	**-0.3**
	0.3nm,0.3s,baz=29,slow=19,SNR=2.3						
KSRS	**Korea Array**	**22.15**	**256**	P	**P**	**18 23 39.0**	**+1.2**
	0.5nm,0.6s,mb3.1,baz=60,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**18 27 21.6**	**-1.1**
	0.3nm,0.6s,mb3.5,baz=65,slow=8.0,SNR=3.1						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**18 27 21.6**	**-1.1**
CHKZ	**Chkalovo**	**51.65**	**311**	*e*P	**P**	**18 27 47.6**	**-0.3**
	1.3nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**18 27 51.7**	**+0.5**
	2.3nm,0.6s,mb4.3,baz=242,slow=40,SNR=4.3						
PDAR	**Pinedale Array**	**63.66**	**55**	P	**P**	**18 29 12.1**	**-0.3**
	1.4nm,1.0s,mb3.9,baz=262,slow=3.0,SNR=5.2						
FINES	**FINESS Array B**	**64.80**	**336**	P	**P**	**18 29 20.1**	**+0.3**
	0.6nm,0.8s,mb3.7,baz=144,slow=33,SNR=3.0						
ASAR	**Alice Springs**	**72.54**	**200**	P	**P**	**18 30 07.5**	**-0.6**
	0.4nm,0.9s,mb3.4,baz=21,slow=5.6,SNR=4.2						
TXAR	**Lajitas Array**	**76.29**	**62**	P	**P**	**18 30 30.4**	**+0.6**
	1.8nm,0.6s,mb4.2,baz=303,slow=4.3,SNR=18						

IDC ***16*** *18:21:52.3±0.8, 4588N×154.16E, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.3/27, mbtmp4.2/21, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx2.9/38, Error ellipse: s-maj=21.2km s-min=16.3km az=111.0*

NEIC ***16*** *18:21:53.7±0.5, 4580N×154.10E, h10km, mb4.6/13, Error ellipse: s-maj=12.4km s-min=7.6km az=132.0*

ISCJB ***16*** *18:21:55.1±2.5, 4583N±007×1537E±01, h19km±17km, mb4.4/35, MS3.6/4, Error ellipse: s-maj=14.6km s-min=8.8km az=83.6*

BJI ***16*** *18:21:56.9, 4614N×15337E, h10km, mB4.7, mb4.5*

MOS ***16*** *18:21:57.0±0.8, 4583N×15354E, h32km, mb4.7/15, Error ellipse: s-maj=11.4km s-min=8.5km az=105.4*

ISC 16 18:21:56.4±3.0, 4586N±007×1538E±01, h19km±18km, n88, σ1§18/89, mb4.4/35, MS3.6/4, 5C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.20**	**264**	*e*PN	**Pn**	**18 22 56.8**	**-2.5**
KUR				*i* S	**Sn**	**18 23 45.5**	**-2.3**
KUR				pmax	pmax		
	comp=N,120nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,400nm,0.6s						
KUR				smax			
	comp=N,470nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
SKR	**Severo-Kuril's**	**5.08**	**17**	*e*PN	**Pn**	**18 23 13.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**7.70**	**282**	‖*e*PN	**Pn**	**18 23 51.0**	**+3.6**
YSS				*e*		18 25 20.0	
YSS	**Yuzh-Sakhalins**	**7.70**	**282**	*e*Pn	**Pn**	**18 23 51.1**	**+3.7**
	comp=E,15nm,0.8s						
PET	**Petropavlovsk**	**7.84**	**22**	*e*Pn	**Pn**	**18 23 46.2**	**-3.2**
PET				Sn	**Sn**	**18 25 09.5**	**-8.1**
ASAJ	**Asahikawa**	**8.11**	**262**	Pn	**Pn**	**18 23 54.7**	**+1.6**
	comp=E,2.0nm,0.3s,baz=88,slow=13,SNR=14						
ASAJ				LR	LR	18 26 38.3	
	comp=E,123nm,21.6s,baz=352,slow=34						
ASAJ	**Asahikawa**	**8.11**	**262**	PN	**Pn**	**18 23 54.7**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,123nm,21.6s						
ERM	**Erimo**	**8.57**	**247**	*e*Pn	**Pn**	**18 23 59.5**	**+0.1**
ERM				*e*Sn	**Sn**	**18 25 27.8**	**-7.6**
MAJO	**Matsushiro**	**14.94**	**237**	P	**Pn**	**18 25 24.9**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,17nm,0.6s						
MAJO	**Matsushiro**	**14.94**	**237**	P	**Pn**	**18 25 24.9**	**-1.6**
	comp=Z,17nm,0.6s						
MAJO				*e*		18 25 34.1	
MAT	**Matsushiro**	**14.94**	**237**	P	**Pn**	**18 25 34.1**	**+7.6**
MJAR	**Matsushiro Arr**	**14.94**	**237**	Pn	**Pn**	**18 25 26.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=4.5						
KLR	**Kul'dur**	**15.24**	**291**	*e*P	**Pn**	**18 25 29.0**	**-1.4**
JHJ	**Hachijo jima 2**	**16.66**	**225**	Pn	**Pn**	**18 25 48.0**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=225,slow=11,SNR=2.9						
CN2	**Changchun**	**20.15**	**274**	*e*P	**P**	**18 26 27.1**	**-2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**20.99**	**256**	P	**P**	**18 26 40.8**	**+2.3**
	comp=Z,2.7nm,0.7s,baz=61,slow=8.9,SNR=12						
YAK	**Yakutsk**	**21.32**	**328**	*e*P	**P**	**18 26 42.4**	**+0.3**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
JNU	**Nakatsue**	**21.68**	**242**	LR	LR	18 36 34.8	
	comp=N,435nm,18.6s,MS3.9,baz=184,slow=40						
BILL	**Bilibino**	**23.16**	**12**	*e*P	**P**	**18 27 02.3**	**+0.6**
BILL				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.1						
BOD	**Bodaibo**	**26.91**	**311**	*e*P	**P**	**18 27 31.0**	**-5.2**
BJI	**Beijing**	**27.94**	**272**	P	**P**	**18 27 49.8**	**+4.3**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
BJI	**Beijing**	**27.94**	**272**	P	**P**	**18 27 49.8**	**+4.3**
	comp=Z,12nm,0.7s,mb4.6						
SONM	**Songino Array**	**32.07**	**291**	P	**P**	**18 28 22.6**	**+0.7**
	comp=Z,1.7nm,0.8s,mb3.9,baz=72,slow=5.5,SNR=10.0						
LZH	**Lanzhou**	**38.39**	**273**	*e*P	**P**	**18 29 18.3**	**+2.0**
LZH				AP	pP	18 29 23.0	+0.7
LZH				XP	sP	18 29 25.1	+0.4
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.39**	**273**	*e*P	**P**	**18 29 18.2**	**+1.9**
LZH				*SP	sP	18 29 25.1	+0.4
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.39**	**273**	*e*P	**P**	**18 29 18.2**	**+1.9**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	18 29 23.0	+0.7
LZH				sP	sP	18 29 25.1	+0.4
GTA	**Gaotai**	**39.57**	**280**	*e*P	**P**	**18 29 28.5**	**+2.2**
GTA				AP	pP	18 29 33.1	+0.8
GTA				XP	sP	18 29 36.3	+1.6
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**43.52**	**307**	P	**P**	**18 29 57.3**	**-1.4**
	comp=Z,1.2nm,0.3s,mb4.1,baz=240,slow=2.9,SNR=3.3						
ZAL				LR	LR	18 48 09.0	
	comp=Z,54nm,18.8s,MS3.5,baz=231,slow=36						
MK31	**Makanchi Array**	**47.76**	**298**	*e*P	**P**	**18 30 32.0**	**-0.2**
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**18 30 32.2**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=70,slow=7.2,SNR=19						
MKAR				LR	LR	18 51 34.2	
	comp=Z,33nm,18.4s,MS3.3,baz=156,slow=37						
CHKZ	**Chkalovo**	**51.36**	**311**	*e*P	**P**	**18 30 58.5**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.36**	**311**	*e*P	**P**	**18 30 58.5**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**18 31 03.0**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=39,slow=6.6,SNR=7.2						
BVAR				LR	LR	18 54 39.5	
	comp=Z,55nm,19.2s,MS3.6,baz=316,slow=38						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**18 31 02.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**18 31 02.9**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**18 31 08.2**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.55**	**311**	*e*P	**P**	**18 31 08.2**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.65**	**297**	*e*P	**P**	**18 31 24.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**54.65**	**297**	*e*P	**P**	**18 31 24.0**	**+0.2**
	comp=Z,6.0nm,1.3s,mb4.5						
JIRN	**Jiri**	**55.48**	**276**	*e*P	**P**	**18 31 31.9**	**+2.0**
	comp=Z,11nm,0.6s,mb5.0						
ARU	**Arti**	**55.98**	**318**	*e*P	**P**	**18 31 33.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**55.98**	**318**	*e*P	**P**	**18 31 33.1**	**-0.4**
	comp=Z,7.9nm,0.8s,mb4.8						
KKN	**Kakani**	**56.03**	**276**	*e*P	**P**	**18 31 35.8**	**+2.0**
PKI	**Pulchoki**	**56.08**	**276**	*e*P	**P**	**18 31 35.3**	**+1.1**
DMN	**Daman**	**56.27**	**276**	*e*P	**P**	**18 31 37.1**	**+1.6**
GKN	**Gorkha**	**56.35**	**277**	*e*P	**P**	**18 31 37.7**	**+1.6**
KOLN	**Koldanda**	**57.21**	**277**	*e*P	**P**	**18 31 43.4**	**+1.2**
	comp=Z,10nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**58.84**	**341**	P	**P**	**18 31 53.7**	**+0.1**
	comp=Z,3.6nm,0.9s,mb4.4,baz=26,slow=9.4,SNR=4.0						
ARCES	**ARCESS Array B**	**58.84**	**341**	P	**P**	**18 31 53.7**	**0.0**
AKTK	**Aktyubinsk**	**59.66**	**313**	P	**P**	**18 31 59.6**	**+0.3**
AKTO	**Aktyubinsk**	**59.66**	**313**	P	**P**	**18 31 59.6**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.3,baz=59,slow=8.4,SNR=5.4						
AKTO	**Aktyubinsk**	**59.66**	**313**	P	**P**	**18 31 59.6**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**64.90**	**54**	P	**P**	**18 32 31.8**	**-2.7**
	comp=Z,0.8nm,1.0s,mb3.7,baz=300,slow=2.9,SNR=5.4						
FINES	**FINESS Array B**	**65.04**	**335**	P	**P**	**18 32 34.5**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.3,baz=35,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**67.82**	**200**	P	**P**	**18 32 52.7**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.6,baz=16,slow=6.7,SNR=19						
NB2	**NORSAR Subarra**	**69.22**	**342**	P	**P**	**18 33 01.1**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.22**	**342**	P	**P**	**18 33 01.1**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=263,slow=18,SNR=2.7						
AS31	**Alice Springs**	**71.51**	**199**	*e*P	**P**	**18 33 15.8**	**-0.1**
ASAR	**Alice Springs**	**71.51**	**199**	P	**P**	**18 33 16.1**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.5,baz=16,slow=5.5,SNR=41						
AKASG	**Malin Array Be**	**72.54**	**327**	P	**P**	**18 33 21.9**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=10						
SCHQ	**Schefferville**	**73.95**	**23**	P	**P**	**18 33 27.7**	**-2.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=253,slow=14,SNR=3.0						
STHS	**Stebnicka Huta**	**76.52**	**330**	*e*P	**P**	**18 33 46.0**	**+0.9**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
STHS	**Stebnicka Huta**	**76.52**	**330**	*e*P	**P**	**18 33 46.0**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.4						
BURAR	**Bucovina Array**	**76.59**	**327**	‖*i*P	**P**	**18 33 45.8**	**+0.3**
EKA	**Eskdalemuir Ar**	**77.31**	**347**	P	**P**	**18 33 48.2**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=15,slow=5.9,SNR=2.5						
MORC	**Moravsky Berou**	**77.44**	**333**	‖*i*P	**P**	**18 33 51.2**	**+0.9**
CLL	**Collm**	**77.47**	**336**	‖*i*P	**P**	**18 33 50.2**	**-0.3**
	comp=Z,8.0nm,0.9s,mb4.7						
KECS	**Kecovo**	**77.58**	**330**	*e*P	**P**	**18 33 48.5**	**-2.6**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KECS	**Kecovo**	**77.58**	**330**	*e*P	**P**	**18 33 48.5**	**-2.6**
	comp=Z,1.9nm,0.8s,mb4.1						
MLR	**Muntele Rosu**	**78.06**	**325**	‖*i*P	**P**	**18 33 53.2**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.4,baz=140,slow=3.8,SNR=4.6						
MLR	**Muntele Rosu**	**78.06**	**325**	‖*i*P	**P**	**18 33 52.2**	**-1.6**
VYHS	**Vyhne**	**78.13**	**331**	*e*P	**P**	**18 33 54.4**	**+0.2**
VRAC	**Vranov**	**78.15**	**333**	P	**P**	**18 33 54.0**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=42,slow=15,SNR=3.4						
KHC	**Kasperske Hory**	**79.24**	**335**	*e*P	**P**	**18 34 00.8**	**+0.5**
GERES	**GERESS Array B**	**79.46**	**334**	P	**P**	**18 34 01.6**	**+0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=42,slow=6.1,SNR=9.5						
BZS	**Buzias**	**79.61**	**328**	‖*i*P	**P**	**18 34 02.6**	**+0.3**
CDF	**Champ du Feu**	**81.66**	**338**	*e*P	**P**	**18 34 13.0**	**-0.2**
	comp=Z,16nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**81.66**	**338**	*e*P	**P**	**18 34 13.0**	**-0.2**
CDF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**81.66**	**338**	*e*P	**P**	**18 34 13.0**	**-0.2**
	comp=Z,7.8nm,1.0s,mb4.6						
GRR	**Gorron**	**83.55**	**343**	*e*P	**P**	**18 34 22.9**	**-0.2**
SMF	**Signal de Mont**	**84.16**	**340**	*e*P	**P**	**18 34 26.0**	**-0.2**
	comp=Z,17nm,1.1s,mb4.8						
SMF	**Signal de Mont**	**84.16**	**340**	*e*P	**P**	**18 34 26.0**	**-0.2**
SMF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
SMF	**Signal de Mont**	**84.16**	**340**	*e*P	**P**	**18 34 26.0**	**-0.2**
	comp=Z,8.6nm,1.1s,mb4.8						
LPG	**La Plagne**	**84.48**	**337**	*e*P	**P**	**18 34 28.6**	**+0.7**
	comp=Z,11nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.48**	**337**	*e*P	**P**	**18 34 28.6**	**+0.7**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.48**	**337**	*e*P	**P**	**18 34 28.6**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.7						
CAF	**Caffa**	**85.20**	**340**	*e*P	**P**	**18 34 36.1**	**-0.4**
CFAA	**Coronel Fontan**	**144.69**	**81**	PKP	PKPdf	18 41 28.9	-2.9
	comp=Z,0.4nm,0.7s,baz=293,slow=5.8,SNR=4.7						

NEIC ***16*** *18:22:14.0±5.0, 5635N×14938E, h63km±35km, mb4.5/1, Error ellipse: s-maj=60.4km s-min=40.6km az=139.0*

IDC 16 18:22:17.2±6.0, 609S×14970E, h75km±47km, mb3.7/5, mb1 3.8/6, mb1mx3.6/15, mbtmp3.7/6, ML2.4/1, Error ellipse: s-maj=59.1km s-min=29.8km az=94.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.15**	**217**	P	Pn	18 23 17.8	-0.3
	1.7nm,0.3s,baz=48,slow=5.0,SNR=12						
PMG				S	Sn	18 24 15.2	+10
	3.5nm,0.3s,baz=173,slow=22,SNR=7.0						
PMG	**Port Moresby**	**4.15**	**217**	*e*Pn	Pn	18 23 17.3	-0.8
PMG				S	Sn	18 24 15.2	+10
WB2	**Warramunga Arr**	**20.30**	**226**	*e*P	P	18 26 47.5	+0.6
WRA	**Warramunga Arr**	**20.31**	**226**	P	P	18 26 47.1	+0.1
	3.3nm,0.7s,baz=51,slow=10,SNR=12						
AS31	**Alice Springs**	**23.16**	**219**	*e*P	P	18 27 15.2	-2.0
ASAR	**Alice Springs**	**23.16**	**219**	P	P	18 27 15.7	-1.5
	2.1nm,0.6s,baz=54,slow=8.3,SNR=18						
ASPA	**Alice Springs**	**23.16**	**219**	*e*P	P	18 27 15.2	-2.0
FITZ	**Fitzroy Crossi**	**26.34**	**241**	*e*P	P	18 27 48.4	+2.4
	5.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.34**	**241**	P	P	18 27 47.6	+1.6
	3.0nm,0.5s,baz=58,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**26.75**	**195**	P	P	18 27 51.6	+1.9
	2.9nm,0.5s,baz=351,slow=9.8,SNR=5.2						
SONM	**Songino Array**	**65.81**	**330**	P	P	18 32 55.4	+1.0
	0.3nm,0.6s,baz=146,slow=3.7,SNR=4.0						
LPAZ	**La Paz**	**136.47**	**121**	PKP	PKPdf	18 41 32.0	+1.7
	1.4nm,0.7s,baz=187,slow=8.0,SNR=7.0						
ESDC	**Sonseca Array**	**139.01**	**329**	PKP	PKPdf	18 41 36.9	+1.9
	0.5nm,0.4s,baz=279,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.71**	**285**	PKPbc	PKPbc	18 41 51.5	-1.6
	0.8nm,0.7s,baz=92,slow=2.9,SNR=9.1						

IDC ***16*** *18:27:25.9±1.5, 5.16N×9405E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=53.0km s-min=20.8km az=55.0*

ISCJB ***16*** *18:27:29.4±1.0, 52N±01×941E±01, h35km, mb4.0/9, Error ellipse: s-maj=24.6km s-min=13.3km az=90.3*

NEIC ***16*** *18:27:30.4±0.8, 5.17N×9406E, h30km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=11.1km az=46.0*

ISC 16 18:27:31.5±1.0, 52N±01×941E±01, h35km, n12, σ0§76/12, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.54**	**89**	*e*Pn	**Pn**	**18 29 04.8**	**-0.4**
CHTO	**Chiang Mai**	**14.33**	**19**	*e*P	**Pn**	**18 30 52.0**	**+0.2**
	3.7nm,0.6s						
MK31	**Makanchi Array**	**42.67**	**348**	*e*P	**P**	**18 35 24.4**	**-0.2**
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**18 35 24.6**	**0.0**
	2.1nm,0.5s,mb4.1,baz=164,slow=8.3,SNR=20						
SONM	**Songino Array**	**43.77**	**12**	P	**P**	**18 35 32.4**	**-1.1**
	0.8nm,0.7s,mb3.8,baz=195,slow=7.4,SNR=9.5						
WRA	**Warramunga Arr**	**46.80**	**124**	P	**P**	**18 35 57.1**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=302,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**48.29**	**128**	P	**P**	**18 36 09.4**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=302,slow=7.7,SNR=6.9						
ZAL	**Zalesovo**	**49.17**	**353**	P	**P**	**18 36 15.4**	**-0.5**
	1.6nm,0.3s,mb4.5,baz=275,slow=4.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**51.01**	**46**	P	**P**	**18 36 32.1**	**+2.2**
	2.3nm,1.1s,mb4.0,baz=260,slow=15,SNR=4.0						
BVAR	**Borovoye Array**	**51.49**	**342**	P	**P**	**18 36 33.4**	**0.0**
	1.4nm,0.5s,mb4.2,baz=260,slow=41,SNR=4.6						
CHKZ	**Chkalovo**	**51.98**	**342**	*e*P	**P**	**18 36 36.8**	**-0.3**
	1.9nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**79.77**	**319**	P	**P**	**18 39 36.7**	**+0.8**
	0.3nm,0.7s,mb3.4,baz=87,slow=6.8,SNR=5.6						

IDC 16 18:27:40.3±3.2, 660S×15162E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=122.3km s-min=44.3km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**237**	Pn	Pn	18 29 01.6	+1.9
	0.9nm,0.3s,baz=213,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**21.39**	**230**	P	P	18 32 30.6	+1.2
	0.5nm,0.7s,baz=55,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**24.04**	**223**	P	P	18 32 56.5	-0.4
	0.4nm,0.6s,baz=55,slow=8.6,SNR=5.9						
FITZ	**Fitzroy Crossi**	**27.79**	**243**	P	P	18 33 30.1	-0.8
	2.2nm,1.0s,baz=82,slow=7.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.69**	**285**	PKPbc	PKPbc	18 47 33.2	+1.3
	0.3nm,0.6s,baz=96,slow=3.1,SNR=6.0						

MAN 16 18:34:22.4, 1343N×12082E, h13km, mb2.0, ML3.7, MS1.0, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.15**	**59**	‖*i*P	Pg	18 34 27.0	+1.0
PGP				*i* S	Sg	18 34 31.2	+2.6
TGY	**Tagaytay City**	**0.68**	**9**	‖*i*P	Pg	18 34 35.8	+0.1
TGY				*i* S	Sg	18 34 44.6	0.0

ISCJB ***16*** *18:41:54.7±0.6, 47.17N±007×1554E±0.1, h10km, mb4.2/24, Error ellipse: s-maj=12.7km s-min=6.8km az=74.3*

IDC ***16*** *18:41:54.8±0.8, 4708N×15551E, h0km, mb4.1/20, mb1 4.3/21, mb1mx4.2/28, mbtmp4.1/21, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/41, Error ellipse: s-maj=20.6km s-min=15.4km az=154.0*

NEIC ***16*** *18:41:56.4±0.5, 47.12N×15545E, h10km, mb4.5/3, Error ellipse: s-maj=11.2km s-min=6.9km az=139.0*

MOS ***16*** *18:41:57.4±1.1, 47.15N×15535E, h29km, mb4.7/4, Error ellipse: s-maj=14.4km s-min=9.0km az=90.3*

ISC 16 18:41:56.9±3.7, 4718N±007×1555E±01, h13km±23km, n44, σ0§87/44, mb4.2/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.53**	**7**	*e*PN	**Pn**	**18 42 51.9**	**+0.5**
SKR				*e*	**Sn**	**18 43 32.4**	**-0.6**
KUR	**Kuril'sk**	**5.63**	**253**	*e*PN	**Pn**	**18 43 16.0**	**-4.2**
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
PET	**Petropavlovsk**	**6.20**	**18**	*e*PN	**Pn**	**18 43 27.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,33nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**6.20**	**18**	*e*Pn	**Pn**	**18 43 27.2**	**-0.8**
ASAJ	**Asahikawa**	**9.52**	**256**	Pn	**Pn**	**18 44 15.6**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=90,slow=10,SNR=5.5						
ASAJ	**Asahikawa**	**9.52**	**256**	PN	**Pn**	**18 44 15.6**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.19**	**244**	*e*PN	**Pn**	**18 44 22.4**	**-0.4**
MJAR	**Matsushiro Arr**	**16.65**	**237**	Pn	**Pn**	**18 45 48.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=3.9						
YAK	**Yakutsk**	**20.87**	**325**	P	**P**	**18 46 37.5**	**-1.1**
BILL	**Bilibino**	**21.64**	**11**	*e*P	**P**	**18 46 48.6**	**+1.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
BILL	**Bilibino**	**21.64**	**11**	*e*P	**P**	**18 46 47.3**	**+0.4**
	comp=Z,9.9nm,0.6s,mb4.4						
KSRS	**Korea Array**	**22.47**	**254**	P	**P**	**18 46 57.6**	**+1.9**
	comp=Z,2.3nm,0.8s,mb3.7,baz=58,slow=10,SNR=7.5						
JNU	**Nakatsue**	**23.34**	**242**	LR	LR	18 55 06.8	
	comp=Z,133nm,19.1s,baz=110,slow=34						
KDAK	**Kodiak Island**	**32.57**	**52**	P	**P**	**18 48 26.6**	**-1.2**
	comp=Z,20nm,1.1s,mb5.0,baz=315,slow=4.3,SNR=2.5						
SONM	**Songino Array**	**32.71**	**290**	P	**P**	**18 48 28.4**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=66,slow=9.0,SNR=7.0						
INK	**Inuvik**	**40.42**	**33**	P	**P**	**18

MJAR	**Matsushiro Arr**	**16.45**	**238**	Pn	**Pn**	**18 50 39.1**	**+0.1**
	0.2nm,0.3s,baz=41,slow=11,SNR=5.4						
KSRS	**Korea Array**	**22.39**	**255**	P	**P**	**18 51 48.0**	**+1.4**
	1.9nm,1.0s,mb3.5,baz=51,slow=10,SNR=4.5						
SONM	**Songino Array**	**32.88**	**290**	P	**P**	**18 53 22.8**	**+0.6**
	0.5nm,0.9s,mb3.4,baz=77,slow=8.8,SNR=3.4						
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**18 55 54.4**	**-0.8**
CHKZ				*e*		18 56 03.0	
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**18 55 54.4**	**-0.8**
	comp=Z,2.5nm,0.5s,mb4.4						
CHKZ				*e*		18 56 03.0	
BVAR	**Borovoye Array**	**52.12**	**310**	P	**P**	**18 55 58.3**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=7.8,SNR=8.3						
BRVK	**Borovoye**	**52.16**	**310**	*e*P	**P**	**18 55 58.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.16**	**310**	*e*P	**P**	**18 55 58.5**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.88**	**311**	*e*P	**P**	**18 56 03.4**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**52.88**	**311**	*e*P	**P**	**18 56 03.4**	**-0.7**
	comp=Z,2.2nm,1.0s,mb4.0						
ARCES	**ARCESS Array B**	**58.37**	**342**	P	**P**	**18 56 44.5**	**+0.9**
	comp=Z,2.1nm,0.9s,mb4.2,baz=124,slow=20,SNR=2.6						
NVAR	**Mina Array Bea**	**60.95**	**64**	P	**P**	**18 57 03.0**	**+1.7**
	comp=Z,0.4nm,0.5s,mb3.8,baz=282,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**18 57 26.1**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=29,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**72.78**	**201**	P	**P**	**18 58 14.1**	**-2.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=3.9,SNR=8.7						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**18 58 35.2**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=261,slow=4.9,SNR=8.1						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**18 58 35.2**	**-0.3**

*ISCJB **16** 18:48:06.0±5.6, 460N±02×154.1E±02, h3km±30km, mb4.2/21, Error ellipse: s-maj=44.5km s-min=14.0km az=115.3*
*IDC **16** 18:48:06.1±1.0, 4579N×15426E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/26, mbtmp4.1/15, ML3.4/1, Error ellipse: s-maj=27.4km s-min=21.6km az=4.0*
*NEIC **16** 18:48:07.8±0.8, 4582N×154.19E, h10km, mb4.4/3, Error ellipse: s-maj=20.6km s-min=15.9km az=172.0*
*MOS **16** 18:48:08.0±1.3, 4584N×154.08E, h23km, mb4.4/5, Error ellipse: s-maj=15.8km s-min=11.5km az=120.7*
*BJI **16** 18:48:10.6, 4665N×153.73E, h10km, mB4.7, mb4.3*
ISC 16 18:48:09.3±5.5, 459N±01×1543E±01, h19km±32km, n41, σ1§04/42, mb4.2/21, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.54**	**264**	⇑*i*P	**Pn**	**18 49 13.0**	**-3.9**
KUR				*i* S	**Sn**	**18 50 02.5**	**-6.6**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax			
	comp=N,120nm,0.8s						
KUR				smax			
	comp=E,240nm,0.8s						
SKR	**Severo-Kuril's**	**4.96**	**14**	*e*P	**Pn**	**18 49 22.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.03**	**282**	⇑*e*P	**Pn**	**18 50 06.8**	**+2.0**
ASAJ	**Asahikawa**	**8.46**	**262**	Pn	**Pn**	**18 50 10.7**	**0.0**
	comp=E,0.6nm,0.3s,baz=73,slow=14,SNR=3.6						
ASAJ	**Asahikawa**	**8.46**	**262**	P	**Pn**	**18 50 10.7**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**23.07**	**12**	*e*P	**P**	**18 53 13.0**	**-0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.0						
BILL	**Bilibino**	**23.07**	**12**	*e*P	**P**	**18 53 12.9**	**-0.6**
	comp=Z,2.1nm,0.3s,mb4.0						
SONM	**Songino Array**	**32.38**	**291**	P	**P**	**18 54 36.5**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=66,slow=7.9,SNR=3.4						
ZAK	**Zakamensk**	**33.77**	**297**	*e*P	**P**	**18 54 48.1**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
GTA	**Gaotai**	**39.90**	**281**	*e*P	**P**	**18 55 43.4**	**+1.5**
GTA				AP	pP	18 55 48.1	+0.3
GTA				XP	sP	18 55 51.3	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s,mb3.9						
ZAL	**Zalesovo**	**43.78**	**307**	P	**P**	**18 56 11.8**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.0,baz=46,slow=7.8,SNR=5.8						
MK31	**Makanchi Array**	**48.05**	**299**	*e*P	**P**	**18 56 46.5**	**-0.8**
MKAR	**Makanchi Array**	**48.05**	**299**	P	**P**	**18 56 46.4**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=70,slow=6.8,SNR=18						
MKAR	**Makanchi Array**	**48.05**	**299**	P	**P**	**18 56 46.4**	**-0.9**
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**18 57 12.8**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**18 57 12.8**	**-1.5**
	comp=Z,4.2nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**18 57 17.5**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=56,slow=7.3,SNR=15						
BRVK	**Borovoye**	**52.06**	**310**	*e*P	**P**	**18 57 17.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**52.06**	**310**	*e*P	**P**	**18 57 17.5**	**-0.3**
	comp=Z,2.8nm,0.5s,mb4.5						
JIRN	**Jiri**	**55.82**	**276**	*e*P	**P**	**18 57 50.8**	**+5.6**
	comp=Z,7.5nm,0.5s,mb5.0						
GUN	**Gumba**	**55.88**	**276**	*e*P	**P**	**18 57 52.4**	**+6.8**
KKN	**Kakani**	**56.37**	**277**	*e*P	**P**	**18 57 55.5**	**+6.4**
PKI	**Pulchoki**	**56.42**	**276**	*e*P	**P**	**18 57 55.3**	**+5.9**
DMN	**Daman**	**56.60**	**277**	*e*P	**P**	**18 57 56.5**	**+5.7**
GKN	**Gorkha**	**56.69**	**277**	*e*P	**P**	**18 57 56.5**	**+5.1**
	comp=Z,10nm,0.6s,mb5.0						
KOLN	**Koldanda**	**57.55**	**278**	*e*P	**P**	**18 58 02.4**	**+4.9**
AKTK	**Aktyubinsk**	**59.90**	**313**	P	**P**	**18 58 14.8**	**+1.0**
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**18 58 14.8**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=54,slow=8.7,SNR=3.9						
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**18 58 14.9**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**64.61**	**54**	P	**P**	**18 58 44.8**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=186,slow=1.5,SNR=3.6						
FINES	**FINESS Array B**	**65.16**	**335**	P	**P**	**18 58 49.0**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.2,baz=43,slow=7.0,SNR=10						
FINES	**FINESS Array B**	**65.16**	**335**	P	**P**	**18 58 49.0**	**0.0**
WRA	**Warramunga Arr**	**67.97**	**200**	P	**P**	**18 59 06.6**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=19,slow=6.7,SNR=7.1						
NB2	**NORSAR Subarra**	**69.30**	**342**	P	**P**	**18 59 16.3**	**+1.1**
	comp=Z,4.8nm,1.0s,mb4.4,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.30**	**342**	P	**P**	**18 59 15.8**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=26,slow=6.4,SNR=3.2						
NOA	**NORSAR Array B**	**69.30**	**342**	P	**P**	**18 59 15.8**	**+0.6**
HFS	**Hagfors**	**69.54**	**340**	P	**P**	**18 59 16.9**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=76,slow=7.8,SNR=8.5						
AKASG	**Malin Array Be**	**72.71**	**327**	P	**P**	**18 59 36.5**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.3,baz=35,slow=6.2,SNR=9.7						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**19 00 02.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=304,slow=3.7,SNR=9.8						
EKA	**Eskdalemuir Ar**	**77.36**	**347**	P	**P**	**19 00 04.9**	**+2.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=22,slow=4.3,SNR=3.7						
MLR	**Muntele Rosu**	**78.23**	**326**	P	**P**	**19 00 08.3**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.2,baz=214,slow=3.6,SNR=3.3						

*IDC **16** 18:49:59.7±0.8, 3698N×2335E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.8/24, mbtmp3.8/14, ML3.6/4, Error ellipse: s-maj=17.5km s-min=11.3km az=52.0*
*ISCJB **16** 18:50:02.5±0.5, 3695N±002×23.19E±003, h24km±5km, mb3.8/10, Error ellipse: s-maj=4.8km s-min=3.4km az=127.2*
*ATH **16** 18:50:02.5, 3697N×23.11E, h25km±2km, MD3.9/19, ML3.7*
*CSEM **16** 18:50:02.6±0.1, 3701N×2319E, h5km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.4km az=68.0*
*NEIC **16** 18:50:02.5, 3697N×2311E, h25km, ML3.7(ATH), After ATH.*
*THE **16** 18:50:05.4, 3708N×2329E, h16km, ML3.6*
*HLW **16** 18:50:09.0, 3665N×2356E, h33km, Mb3.8*
ISC 16 18:50:02.4±0.8, 3696N±002×2323E±003, h11km±6km, n19, σ1§25/94, mb3.8/10, 3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.34**	**224**	*e*PB	**Pg**	**18 50 09.3**	**+0.2**
VLI				*e*SB	**Sg**	**18 50 13.5**	**-0.1**
KYTH	**Kithira**	**0.69**	**193**	*e*PN	**Pn**	**18 50 17.5**	**-0.7**
NAIG	**Nisos Aigina**	**0.82**	**14**	*e*PN	**Pn**	**18 50 19.0**	**-1.0**
KVR	**Kavouri**	**0.97**	**26**	*e*PN	**Pn**	**18 50 21.7**	**-0.2**
ITM	**Ithomi**	**1.07**	**282**	*e*PN	**Pn**	**18 50 21.4**	**-1.9**
ATH	**Athens Observa**	**1.08**	**21**	*e*PN	**Pn**	**18 50 23.8**	**+0.3**
ATH				*e*SN	**Sn**	**18 50 40.8**	**+2.3**
KARN	**Karanos**	**1.65**	**160**	*e*Pb	**Pb**	**18 50 32.8**	**-0.1**
KARN				*e*Sb	**Sb**	**18 50 56.8**	**+3.2**
LKR	**Lokris**	**1.70**	**354**	*e*PB	**Pb**	**18 50 31.8**	**-1.8**
VAM	**Vamos**	**1.74**	**153**	*e*PB	**Pb**	**18 50 33.5**	**-0.8**
RLS	**Riolos of Patr**	**1.78**	**309**	*e*PN	**Pn**	**18 50 33.4**	**+0.3**
APE	**Apeiranthos**	**1.84**	**86**	*e*Pb	**Pb**	**18 50 35.1**	**-1.1**
APE				*e*Sb	**Sb**	**18 50 57.8**	**-1.4**
APE	**Apeiranthos**	**1.84**	**86**	*e*PB	**Pb**	**18 50 35.1**	**-1.0**
APE				*e*SB	**Sb**	**18 50 58.0**	**-1.2**
SANT	**Santorini**	**1.89**	**107**	*e*Pb	**Pb**	**18 50 36.6**	**-0.3**
SANT				*e*Sb	**Sb**	**18 51 00.3**	**-0.1**
SANT	**Santorini**	**1.89**	**107**	*e*Pn	**Pn**	**18 50 36.5**	**+1.9**
SANT	**Santorini**	**1.89**	**107**	*e*Pn	**Pn**	**18 50 36.5**	**+1.9**
SANT				*e*Sb	**Sb**	**18 51 00.3**	**-0.1**
IDI	**Anoyia**	**2.14**	**141**	Pg	**Pg**	**18 50 38.8**	**-4.7**
	6.8nm,0.3s,baz=334,slow=13,SNR=96						
IDI				Lg		18 51 05.9	
	36nm,0.3s,baz=337,slow=18,SNR=8.5						
AGG	**Agios Georgios**	**2.18**	**341**	*e*Pn	**Pn**	**18 50 39.1**	**+0.5**
AGG				*e*Sn	**Sn**	**18 51 05.8**	**+0.2**
GVD	**Gavdhos**	**2.23**	**162**	*e*Pn	**Pn**	**18 50 39.7**	**+0.4**
GVD				*e*Pg	**Pg**	**18 50 44.2**	**-0.8**
GVD	**Gavdhos**	**2.23**	**162**	*e*Pn	**Pn**	**18 50 39.7**	**+0.4**
GVD	**Gavdhos**	**2.23**	**162**	*e*Pg	**Pg**	**18 50 44.2**	**-0.9**
EVR	**Evrytania**	**2.25**	**331**	*e*PN	**Pn**	**18 50 39.6**	**0.0**
AOS	**Alonnisos**	**2.27**	**13**	*e*Pn	**Pn**	**18 50 40.0**	**+0.2**
AOS				*e*Sn	**Sn**	**18 51 06.5**	**-1.2**
AOS	**Alonnisos**	**2.27**	**13**	*e*Pn	**Pn**	**18 50 40.0**	**+0.2**
AOS				*e*Sn	**Sn**	**18 51 06.6**	**-1.2**
SIVA	**Sivas**	**2.32**	**146**	*e*Pn	**Pn**	**18 50 43.2**	**+2.6**
SIVA				*e*Sn	**Sn**	**18 51 13.5**	**+4.3**
NEO	**Neokhori**	**2.34**	**360**	*e*PN	**Pn**	**18 50 40.9**	**0.0**
XOR	**Xorichti**	**2.40**	**359**	*e*Pn	**Pn**	**18 50 42.3**	**+0.6**
NPS	**Neapolis**	**2.57**	**131**	*e*PN	**Pn**	**18 50 46.0**	**+2.1**
NPS				*e*SN	**Sn**	**18 51 17.3**	**+2.1**
LKD	**Levkas**	**2.69**	**311**	*e*Pn	**Pn**	**18 50 46.8**	**+1.2**
THL	**Klokotos Trika**	**2.77**	**340**	*e*PN	**Pn**	**18 50 46.8**	**0.0**
XRY	**Khrisi**	**2.88**	**135**	*e*PB	**Pb**	**18 50 52.0**	**-1.9**
SMG	**Samos**	**2.97**	**74**	*e*PN	**Pn**	**18 50 50.7**	**+1.2**
ZKR	**Zakros**	**3.04**	**126**	*e*Pn	**Pn**	**18 50 53.2**	**+2.7**
ZKR				*e*Sn	**Sn**	**18 51 29.9**	**+3.0**
LIT	**Litokhoron**	**3.19**	**350**	*e*Pn	**Pn**	**18 50 52.8**	**+0.3**
LOS	**Limnos**	**3.31**	**26**	*e*Pn	**Pn**	**18 50 54.4**	**+0.2**
LOS	**Limnos**	**3.31**	**26**	*e*Pn	**Pn**	**18 50 54.3**	**+0.2**
PRK	**Paraskevi**	**3.31**	**45**	*e*PN	**Pn**	**18 50 55.2**	**+1.0**
PLG	**Polygyros**	**3.41**	**3**	*e*Pn	**Pn**	**18 50 56.0**	**+0.4**
PLG				*e*Sn	**Sn**	**18 51 34.4**	**-1.6**
OUR	**Ouranopolis**	**3.42**	**10**	*e*Pn	**Pn**	**18 50 55.5**	**-0.2**
KARP	**Karpathos**	**3.48**	**113**	*e*PN	**Pn**	**18 51 00.2**	**+3.8**
HORT	**Hortiatis**	**3.63**	**358**	*e*Pn	**Pn**	**18 50 58.9**	**+0.3**
HORT				*e*Sn	**Sn**	**18 51 40.7**	**-0.8**
KEK	**Kerkira**	**3.85**	**317**	*e*PN	**Pn**	**18 51 01.6**	**0.0**
GRG	**Griva**	**4.04**	**351**	*e*Pn	**Pn**	**18 51 05.4**	**+1.2**
FNA	**Florina**	**4.08**	**340**	*e*Pn	**Pn**	**18 51 06.4**	**+1.6**
KNT	**Kendrikon**	**4.20**	**357**	*e*Pn	**Pn**	**18 51 07.5**	**+1.1**
VAY	**Valandovo**	**4.39**	**353**	*i* Pn	**Pn**	**18 51 09.9**	**+1.0**
ALN	**Alexandroupoli**	**4.50**	**28**	*e*Pn	**Pn**	**18 51 10.6**	**0.0**
MMB	**Musomiste**	**4.64**	**5**	*i* P	**Pn**	**18 51 14.0**	**+1.6**
KRUS	**Krusevo**	**4.67**	**341**	*i* Pn	**Pn**	**18 51 14.9**	**+2.1**
KRUS	**Krusevo**	**4.67**	**341**	*i* Pn	**Pn**	**18 51 14.8**	**+2.0**
RZN	**Rozhen**	**4.86**	**13**	*i* P	**Pn**	**18 51 16.0**	**+0.5**
KKB	**Krupnik**	**4.90**	**359**	*i* P	**Pn**	**18 51 17.0**	**+1.0**
KDZ	**Kurdzhali**	**4.98**	**19**	*i* P	**Pn**	**18 51 17.0**	**-0.1**
TIP	**Timpagrande**	**5.57**	**295**	*e*Pn	**Pn**	**18 51 22.5**	**-2.7**
VTS	**Vitosha**	**5.62**	**360**	*i* P	**Pn**	**18 51 27.0**	**+1.0**
HMAT	**Matruh**	**6.67**	**150**	P	**Pn**	**18 51 40.0**	**-0.3**
VAE	**Valguarnera**	**7.06**	**277**	Pn	**Pn**	**18 51 47.7**	**+2.0**
	1.9nm,0.3s,baz=289,slow=6.4,SNR=4.5						
SWA2		**7.92**	**166**	⇓P	**Pn**	**18 51 57.4**	**-0.1**
SWA1		**7.95**	**164**	⇓P	**Pn**	**18 51 57.9**	**0.0**
SWA1				S	**Sn**	**18 53 17.4**	**-10**
MLR	**Muntele Rosu**	**8.77**	**13**	Pn	**Pn**	**18 52 10.2**	**+1.1**
	0.2nm,0.3s,baz=279,slow=13,SNR=2.9						
AWBH		**9.85**	**149**	P	**Pn**	**18 52 23.7**	**-0.2**
GLL	**Jalalah**	**10.22**	**134**	P	**Pn**	**18 52 28.9**	**-0.1**
AMAG	**Maghara**	**10.42**	**124**	P	**Pn**	**18 52 31.7**	**0.0**
HFRF	**Wahat Farafira**	**10.69**	**155**	P	**Pn**	**18 52 34.9**	**-0.5**
MMAI	**Mount Meron Ar**	**10.73**	**108**	Pn	**Pn**	**18 52 33.4**	**-2.6**
	0.6nm,0.3s,baz=300,slow=12,SNR=4.5						
ASF	**Jabal al Asfar**	**12.23**	**109**	Pn	**Pn**	**18 52 54.4**	**-2.2**
	0.2nm,0.3s,baz=174,slow=16,SNR=2.1						
GERES	**GERESS Array B**	**13.77**	**333**	Pn	**Pn**	**18 53 25.7**	**+8.2**
	0.2nm,0.3s,baz=139,slow=12,SNR=10						
CLL	**Collm**	**16.09**	**336**	⇓*i*pP	pP	18 53 51.9	-3.0
ESDC	**Sonseca Array**	**21.48**	**286**	P	**P**	**18 54 52.3**	**+1.3**
	0.4nm,0.5s,mb3.0,baz=80,slow=8.7,SNR=3.1						
HFS	**Hagfors**	**23.98**	**348**	P	**P**	**18 55 14.7**	**-2.3**
	3.0nm,0.6s,mb3.9,baz=156,slow=11,SNR=8.3						
FINES	**FINESS Array B**	**24.57**	**3**	P	**P**	**18 55 20.1**	**-2.2**
	3.5nm,1.1s,mb3.8,baz=188,slow=36,SNR=3.4						
NOA	**NORSAR Array B**	**25.27**	**346**	P	**P**	**18 55 26.6**	**-2.1**
	3.5nm,1.1s,mb3.8,baz=307,slow=14,SNR=3.2						
NOA	**NORSAR Array B**	**25.27**	**346**	P	**P**	**18 55 26.6**	**-2.1**
EKA	**Eskdalemuir Ar**	**25.67**	**324**	P	**P**	**18 55 31.4**	**-0.9**
	3.7nm,0.7s,mb4.0,baz=123,slow=8.9,SNR=14						
TORD	**Torodi Ar. Bea**	**30.56**	**225**	P	**P**	**18 56 15.4**	**-0.5**
	0.5nm,0.4s,mb3.7,baz=32,slow=9.4,SNR=9.0						
MKAR	**Makanchi Array**	**44.12**	**58**	P	**P**	**18 58 09.6**	**-1.1**
	0.8nm,0.5s,mb3.8,baz=270,slow=7.4,SNR=12						
ZAL	**Zalesovo**	**44.90**	**47**	P	**P**	**18 58 14.6**	**-2.5**
	1.8nm,0.3s,mb4.3,baz=203,slow=7.0,SNR=5.7						
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**19 00 04.2**	**-1.8**
	0.2nm,0.5s,mb3.4,baz=296,slow=7.3,SNR=3.1						
SCHQ	**Schefferville**	**60.81**	**315**	P	**P**	**19 00 12.9**	**-1.7**
	1.9nm,0.6s,mb4.4,baz=38,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**119.88**	**98**	PKP	PKPdf	19 08 52.3	-0.6
	0.3nm,0.3s,baz=341,slow=2.0,SNR=6.9						

*IDC **16** 18:53:42.9±1.8, 4726N×15294E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=47.9km s-min=24.2km az=154.0*
*MOS **16** 18:53:47.4±2.0, 4673N×15281E, h70km, mb4.3/6, Error ellipse: s-maj=25.4km s-min=16.7km az=66.2*
*ISCJB **16** 18:53:50.3±2.1, 470N±02×1527E±03, h81km±15km, mb3.9/7, Error ellipse: s-maj=49.8km s-min=15.0km az=107.9*
ISC 16 18:53:52.2±1.9, 471N±02×1527E±03, h84km±14km, n18, σ0§99/18, mb3.9/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**243**	*e*PN	**Pn**	**18 54 42.0**	**-6.7**
SKR	**Severo-Kuril's**	**4.28**	**31**	*e*PN	**Pn**	**18 54 55.5**	**+0.6**
SKR				*e*		18 55 49.8	
ASAJ	**Asahikawa**	**7.67**	**251**	Pn	**Pn**	**18 55 40.1**	**-1.1**
	0.7nm,0.3s,baz=24,slow=26,SNR=6.4						
ASAJ	**Asahikawa**	**7.67**	**251**	PN	**Pn**	**18 55 40.1**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.62**	**251**	P	**P**	**18 58 26.5**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=57,slow=8.1,SNR=3.2						
INK	**Inuvik**	**41.55**	**33**	P	**P**	**19 01 31.0**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=282,slow=4.9,SNR=3.2						
INK	**Inuvik**	**41.55**	**33**	P	**P**	**19 01 31.0**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**57.48**	**341**	P	**P**	**19 03 30.4**	**-2.0**
	comp=Z,5.3nm,0.9s,mb4.5,baz=44,slow=27,SNR=2.2						
ARCES	**ARCESS Array B**	**57.48**	**341**	P	**P**	**19 03 30.4**	**-2.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**19 04 14.9**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=46,slow=8.2,SNR=5.5						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**19 04 15.0**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.85**	**341**	P	**P**	**19 04 41.1**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=27,slow=6.3,SNR=3.4						
NOA	**NORSAR Array B**	**67.85**	**341**	P	**P**	**19 04 41.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.08**	**339**	P	**P**	**19 04 43.6**	**+0.8**
	comp=Z,2.3nm,0.5s,mb4.3,baz=58,slow=5.6,SNR=10						
HFS	**Hagfors**	**68.08**	**339**	P	**P**	**19 04 43.6**	**+0.8**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**19 05 02.1**	**+0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=36,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**19 05 02.1**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**19 05 38.8**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=297,slow=4.6,SNR=6.5						

*IDC **16** 18:54:03.5±1.6, 4721N×15388E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/24, mbtmp4.1/10, ML3.7/2, Error ellipse: s-maj=48.0km s-min=22.6km az=108.0*
*ISCJB **16** 18:54:06.7±1.2, 471N±02×1538E±02, h35km, mb4.1/8, Error ellipse: s-maj=30.1km s-min=12.9km az=81.5*
*MOS **16** 18:54:06.0±1.6, 4705N×15394E, h33km, mb4.5/6, Error ellipse: s-maj=23.7km s-min=18.2km az=139.0*
ISC 16 18:54:08.4±1.3, 471N±02×1538E±03, h35km, n20, σ1§24/20, mb4.1/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.54**	**248**	PN	**Pn**	**18 55 12.5**	**-2.1**
YSS	**Yuzh-Sakhalins**	**7.56**	**273**	PN	**Pn**	**18 56 00.0**	**+4.0**
ASAJ	**Asahikawa**	**8.41**	**253**	Pn	**Pn**	**18 56 09.8**	**+2.0**
	0.8nm,0.3s,baz=90,slow=15,SNR=3.7						
ASAJ	**Asahikawa**	**8.41**	**253**	PN	**Pn**	**18 56 09.8**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.68**	**233**	Pn	**Pn**	**18 57 45.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=34,slow=11,SNR=6.4						
KSRS	**Korea Array**	**21.36**	**253**	P	**P**	**18 58 52.7**	**+0.1**
	comp=Z,1.9nm,0.7s,mb3.5,baz=57,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**63.91**	**335**	P	**P**	**19 04 37.0**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.2,baz=38,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**63.91**	**335**	P	**P**	**19 04 37.0**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**68.03**	**341**	P	**P**	**19 05 03.9**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3,baz=26,slow=6.2						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**19 05 04.0**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=27,slow=6.3,SNR=6.7						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**19 05 04.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**68.28**	**340**	P	**P**	**19 05 05.5**	**-0.2**
	comp=Z,5.1nm,0.5s,mb4.8,baz=53,slow=5.7,SNR=28						
HFS	**Hagfors**	**68.28**	**340**	P	**P**	**19 05 05.5**	**-0.2**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.5s				

SSE				S	**S**	**19 30 24.0**	**+1.3**		
SSE				AMB	AMB				
	comp=Z,18nm,0.8s,mb5.0								
SSE				AMB	AMB				
	comp=Z,67nm,5.6s								
SSE				LR	LR				
	comp=N,75nm,17.1s,MS3.9								
SSE				LR	LR				
	comp=E,83nm,17.1s,MS3.9								
SSE				LR	LR				
	comp=Z,141nm,16.3s,MS4.0								
SSE	**Sheshan**	**47.31**	**324**	P	**P**	**19 23 31.0**	**+1.2**		
	comp=Z,18nm,0.8s,mb5.0								
SSE				sP	sP	19 23 43.9	+7.3		
SSE				S	**S**	**19 30 24.0**	**+1.3**		
SSE				sS	sS	19 30 39.1	+8.3		
SSE				SS	SS	19 33 54.0	+3.9		
SSE				LR	LR				
	comp=Z,140nm,16.3s,MS4.0								
QIZ	**Qiongzhong**	**48.16**	**303**	*e*P	**P**	**19 23 33.9**	**-2.5**		
QIZ				S	**S**	**19 30 29.3**	**-5.4**		
QIZ				LR	LR				
	comp=Z,188nm,28.2s,MS3.9								
KSRS	**Korea Array**	**49.01**	**335**	P	**P**	**19 23 42.6**	**-0.3**		
	comp=Z,2.6nm,0.8s,mb4.3,baz=153,slow=8.6,SNR=9.2								
KSRS				PcP	PcP	19 25 05.4	-1.3		
	comp=Z,2.4nm,0.8s,baz=158,slow=3.0,SNR=7.6								
WHN	**Wuhan**	**51.19**	**318**	*e*P	**P**	**19 24 00.6**	**+1.2**		
XAN	**Xi'an**	**56.96**	**318**	P	**P**	**19 24 39.4**	**-2.1**		
XAN				AP	pP	19 24 50.0	+3.5		
XAN				AMB	AMB				
	comp=Z,3.0nm,1.4s,mb4.1								
PPT	**Papeete**	**58.62**	**106**	*e*S	**S**	**19 32 55.5**	**-1.3**		
	comp=Z,72nm,25.5s								
PPT				*e*LR	LR	19 42 07.8			
	comp=Z,96nm,26.8s								
PET	**Petropavlovsk**	**59.77**	**5**⇑	*e*P	**P**	**19 24 59.3**	**-1.9**		
PET				pmax	pmax				
	comp=Z,61nm,1.3s,mb5.5								
LZH	**Lanzhou**	**61.53**	**317**	*e*P	**P**	**19 25 14.1**	**+0.9**		
LZH				AP	pP	19 25 19.3	+1.0		
LZH				XP	sP	19 25 21.3	+1.1		
LZH				AMB	AMB				
	comp=Z,19nm,1.1s,mb5.1								
LZH	**Lanzhou**	**61.53**	**317**	*e*P	**P**	**19 25 14.1**	**+0.9**		
	comp=Z,19nm,1.1s,mb5.1								
LZH				pP	pP	19 25 19.2	+0.9		
LZH				sP	sP	19 25 21.3	+1.1		
GTA	**Gaotai**	**66.01**	**318**	*e*P	**P**	**19 25 43.4**	**+0.7**		
GTA				AP	pP	19 25 47.4	-0.4		
GTA				XP	sP	19 25 50.6	+0.9		
GTA				AMB	AMB				
	comp=Z,5.0nm,1.8s,mb4.2								
ULN	**Ulaanbaatar**	**66.79**	**329**⇑	*e*P	**P**	**19 25 48.6**	**+0.9**		
SONM	**Songino Array**	**67.11**	**329**	P	**P**	**19 25 49.0**	**-0.7**		
	comp=Z,4.0nm,0.9s,mb4.5,baz=147,slow=5.1,SNR=22								
LSA	**Lhasa**	**68.07**	**306**	P	**P**	**19 25 57.0**	**+1.2**		
LSA	**Lhasa**	**68.07**	**306**	*e*P	**P**	**19 25 56.6**	**+0.8**		
LSA				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.6								
LSA	**Lhasa**	**68.07**	**306**	*e*P	**P**	**19 25 56.6**	**+0.9**		
	comp=Z,5.3nm,0.8s,mb4.6								
ZAK	**Zakamensk**	**70.30**	**330**	*e*P	**P**	**19 26 07.0**	**-2.6**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
YAK	**Yakutsk**	**70.49**	**349**⇓	*e*P	**P**	**19 26 09.8**	**-1.0**		
YAK				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.7								
VNDA	**Vanda**	**71.05**	**178**	P	**P**	**19 26 14.0**	**-0.2**		
	comp=Z,2.9nm,1.0s,mb4.2,baz=330,slow=7.9,SNR=8.1								
VNDA				LR	LR	19 54 52.4			
	comp=Z,44nm,19.0s,MS3.7,baz=220,slow=34								
JIRN	**Jiri**	**71.47**	**302**	*e*P	**P**	**19 26 16.0**	**-0.7**		
	comp=Z,15nm,1.0s,mb4.9								
GUN	**Gumba**	**71.81**	**302**	*e*P	**P**	**19 26 19.8**	**+1.0**		
	comp=Z,21nm,0.7s,mb5.2								
PKI	**Pulchoki**	**72.10**	**302**	*e*P	**P**	**19 26 21.4**	**+0.9**		
	comp=Z,6.2nm,0.6s,mb4.7								
KKN	**Kakani**	**72.28**	**302**	*e*P	**P**	**19 26 22.0**	**+0.4**		
	comp=Z,13nm,0.8s,mb4.9								
DMN	**Daman**	**72.37**	**302**	*e*P	**P**	**19 26 23.3**	**+1.2**		
	comp=Z,28nm,1.0s,mb5.1								
RKT	**Rikitea**	**72.48**	**112**	*e*LR	LR	19 48 42.9			
	comp=Z,193nm,35.2s								
GKN	**Gorkha**	**72.89**	**302**	*e*P	**P**	**19 26 25.9**	**+0.7**		
	comp=Z,47nm,1.4s,mb5.2								
KOLN	**Koldanda**	**73.69**	**301**	*e*P	**P**	**19 26 29.9**	**-0.1**		
	comp=Z,9.3nm,0.8s,mb4.8								
BILL	**Bilibino**	**75.27**	**6**⇑	*e*P	**P**	**19 26 38.7**	**-0.4**		
BILL				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.0								
HYB	**Hyderabad**	**75.69**	**290**	*i* P	**P**	**19 26 43.0**	**+1.5**		
HYB	**Hyderabad**	**75.69**	**290**	*e*P	**P**	**19 26 43.0**	**+1.5**		
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**19 27 09.2**	**-0.3**		
	comp=Z,2.0nm,0.8s,mb4.1,baz=98,slow=7.5,SNR=9.4								
ZAL	**Zalesovo**	**81.87**	**327**	P	**P**	**19 27 14.8**	**-0.7**		
	comp=Z,1.4nm,0.6s,mb4.1,baz=7.5,slow=5.5,SNR=6.8								
ZAL	**Zalesovo**	**81.87**	**327**	*e*P	**P**	**19 27 14.8**	**-0.7**		
MCK	**McKinley**	**83.14**	**23**	*e*P	**P**	**19 27 21.0**	**-1.1**		
MCK				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
MCK	**McKinley**	**83.14**	**23**	*e*P	**P**	**19 27 21.0**	**-1.1**		
	comp=Z,7.7nm,0.9s,mb4.7								
MAW	**Mawson**	**83.29**	**203**	*e*P	**P**	**19 27 21.7**	**-1.2**		
	comp=Z,5.1nm,1.3s,mb4.4								
MAW	**Mawson**	**83.29**	**203**	P	**P**	**19 27 21.8**	**-1.1**		
	comp=Z,7.6nm,1.0s,mb4.7,baz=86,slow=5.6,SNR=5.3								
MAW				LR	LR	20 01 42.1			
	comp=Z,108nm,19.2s,MS4.2,baz=67,slow=34								
MAW	**Mawson**	**83.29**	**203**	P	**P**	**19 27 21.8**	**-1.1**		
MAW				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MAW				MLR	MLR				
	comp=Z,108nm,19.2s								
QSPA	**South Pole Qui**	**83.32**	**180**	*e*P	**P**	**19 27 22.9**	**-0.1**		
	comp=Z,14nm,0.9s,mb5.0								
COLA	**College**	**84.12**	**22**⇑	*i*P	**P**	**19 27 25.7**	**-1.4**		
FRU	**Bishkek**	**84.81**	**314**	*e*P	**P**	**19 27 31.5**	**+0.8**		
AAK	**Ala-Archa**	**84.85**	**314**	*e*P	**P**	**19 27 23.7**	**-7.2**		
AAK				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.9								
AAK	**Ala-Archa**	**84.85**	**314**	*e*P	**P**	**19 27 23.7**	**-7.1**		
	comp=Z,7.8nm,0.8s,mb4.9								
DAWY	**Dawson**	**87.08**	**24**	*e*P	**P**	**19 27 42.5**	**+0.6**		
INK	**Inuvik**	**90.71**	**21**	*e*P	**P**	**19 27 58.3**	**-0.7**		
INK				pmax	pmax				
	comp=Z,340nm,1.1s								
INK	**Inuvik**	**90.71**	**21**	*e*P	**P**	**19 27 58.3**	**-0.7**		
	comp=Z,340nm,1.1s								
YBH	**Yreka Blue Hor**	**91.40**	**48**	LR	LR	20 09 13.2			
	comp=Z,115nm,18.1s,MS4.4,baz=102,slow=36								
SYO	**Syowa Base**	**91.43**	**200**⇓	*e*P	**P**	**19 28 10.7**	**+8.3**		
MTUM	**Tungsten Hills**	**94.10**	**53**	*e*P	**P**	**19 28 16.7**	**+2.0**		
DAC	**Darwin (Calif)**	**94.78**	**54**	*e*P	**P**	**19 28 19.8**	**+2.0**		
DAC				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.9								
DAC	**Darwin (Calif)**	**94.78**	**54**	*e*P	**P**	**19 28 19.8**	**+2.0**		
	comp=Z,4.8nm,1.1s,mb4.8								
GERES	**GERESS Array B**	**124.81**	**327**	PKP	PKPdf	19 33 55.4	-0.6		
	comp=Z,1.0nm,0.8s,baz=166,slow=0.6,SNR=7.4								
LPAZ	**La Paz**	**134.82**	**121**	PKP	PKPdf	19 34 16.9	+1.9		
	comp=Z,0.7nm,0.5s,baz=9.0,slow=12,SNR=4.2								
LPAZ	**La Paz**	**134.82**	**121**	PKP	PKPdf	19 34 16.9	+1.9		
LPAZ				*e*PKPdf	PKPdf	19 34 17.2	+2.2		
SDV	**Santo Domingo**	**138.41**	**84**	*e*P	PKPdf	19 34 23.3	+1.7		
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	PKPbc	19 34 44.6	-0.5		
	comp=Z,7.4nm,0.8s,baz=91,slow=1.6,SNR=28								

IDC ***16*** *19:17:10.4±1.5, 46.26N×154.44E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/22, mbtmp3.9/9, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/51, Error ellipse: s-maj=51.1km s-min=19.6km az=168.0*

ISCJB ***16*** *19:17:13.8±3.0, 46.1N±02.0×154.2E±02.0, h36km±28km, mb4.0/8, Error ellipse: s-maj=32.3km s-min=19.2km az=145.0*

MOS ***16*** *19:17:15.6±1.0, 46.02N×154.13E, h53km, mb4.3/5, Error ellipse: s-maj=23.7km s-min=20.1km az=153.7*

ISC 16 19:17:15.5±2.5, 46.1N±02.0×154.3E±02.0, h38km±24km, n17, σ0§99/18, mb4.0/8, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.56**	**262**	⇑*i*PN	**Pn**	**19 18 20.8**	**-1.2**
KUR				*i* S	**Sn**	**19 19 12.8**	**-1.0**
KUR				pmax	pmax		
	comp=Z,120nm,0.5s						
KUR				smax			
	comp=N,170nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
ASAJ	**Asahikawa**	**8.48**	**261**	Pn	**Pn**	**19 19 18.6**	**+2.8**
	comp=E,1.1nm,0.3s,baz=81,slow=13,SNR=7.4						
ASAJ				LR	LR	19 22 18.6	
	comp=E,80nm,21.2s,baz=174,slow=36						
ASAJ	**Asahikawa**	**8.48**	**261**	PN	**Pn**	**19 19 18.6**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,80nm,21.2s						
MJAR	**Matsushiro Arr**	**15.35**	**237**	Pn	**Pn**	**19 20 49.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=4.7						
KSRS	**Korea Array**	**21.38**	**256**	P	**P**	**19 22 01.2**	**+1.5**
	comp=Z,3.3nm,0.9s,mb3.6,baz=56,slow=11,SNR=7.0						
BILL	**Bilibino**	**22.88**	**12**⇑	*i*P	**P**	**19 22 16.4**	**+0.7**
BILL				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.4						
SONM	**Songino Array**	**32.31**	**291**	P	**P**	**19 23 41.1**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.3,baz=46,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**19 25 50.5**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=66,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**19 25 50.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**56.05**	**318**	*e*P	**P**	**19 26 50.9**	**+0.3**
PDAR	**Pinedale Array**	**64.50**	**54**	P	**P**	**19 27 47.1**	**-1.3**
	comp=Z,1.5nm,1.0s,mb4.0,baz=318,slow=2.0,SNR=7.1						
FINES	**FINESS Array B**	**64.99**	**335**	P	**P**	**19 27 51.2**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=54,slow=7.1,SNR=3.5						
FINES	**FINESS Array B**	**64.99**	**335**	P	**P**	**19 27 51.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array B**	**72.55**	**327**	P	**P**	**19 28 38.0**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=34,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**72.55**	**327**	P	**P**	**19 28 38.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.13**	**61**	P	**P**	**19 29 05.3**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=298,slow=3.7,SNR=17						
TXAR	**Lajitas Array**	**77.13**	**61**	P	**P**	**19 29 05.3**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC ***16*** *19:19:00.4±15.0, 17.85S×178.24W, h401km±157km, mb3.3/6, mb1 3.6/6, mb1mx3.4/14, mbtmp3.3/6, Error ellipse: s-maj=51.5km s-min=47.6km az=109.0*

NEIC 16 19:19:00.1±1.2, 17.84S×178.29W, h400km, Error ellipse: s-maj=53.1km s-min=19.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.77**	**241**	P	P	19 25 47.5	-0.5
	1.0nm,0.5s,baz=118,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**38.77**	**241**	P	P	19 25 47.5	-0.5
WB2	**Warramunga Arr**	**44.75**	**259**	*e*P	P	19 26 34.6	-1.2
WRA	**Warramunga Arr**	**44.76**	**259**	P	P	19 26 36.7	+0.9
	0.6nm,0.4s,baz=96,slow=7.2,SNR=4.9						
AS31	**Alice Springs**	**44.92**	**254**	*e*P	P	19 26 38.2	+1.1
ASAR	**Alice Springs**	**44.92**	**254**	P	P	19 26 38.0	+0.9
	4.0nm,0.4s,baz=90,slow=8.3,SNR=100						
FITZ	**Fitzroy Crossi**	**53.15**	**260**	P	P	19 27 40.3	+1.6
	1.0nm,0.5s,baz=124,slow=12,SNR=6.1						
MJAR	**Matsushiro Arr**	**67.92**	**323**	P	P	19 29 17.3	+0.2
	2.5nm,0.5s,baz=154,slow=5.9,SNR=9.8						
TXAR	**Lajitas Array**	**85.86**	**58**	P	P	19 30 56.9	+0.9
	0.5nm,0.7s,baz=219,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	PKPbc	19 37 57.4	-0.6
	0.4nm,0.4s,baz=20,slow=2.7,SNR=7.9						

ISCJB ***16*** *19:21:59.9±4.9, 65S±0.1×151.1E±0.1, h7km±31km, mb4.3/13, Error ellipse: s-maj=24.7km s-min=10.8km az=76.4*

IDC ***16*** *19:22:00.6±1.1, 64.6S×150.95E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.4/15, mbtmp4.3/11, Error ellipse: s-maj=39.0km s-min=17.7km az=99.0*

NEIC ***16*** *19:22:01.4±0.7, 64.1S×151.12E, h10km, mb4.7/5, Error ellipse: s-maj=23.7km s-min=11.7km az=122.0*

ISC 16 19:22:02.3±5.6, 65S±01×151.2E±01, h13km±34km, n24, σ0§92/24, mb4.3/13, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**233**	Pn	**Pn**	**19 23 17.9**	**+2.1**
	3.8nm,0.3s,baz=72,slow=6.2,SNR=10						
PMG				Sn	**Sn**	**19 24 13.5**	**+0.9**
	13nm,0.3s,baz=162,slow=20,SNR=7.3						
KAKA	**Kakadu**	**19.46**	**250**	*e*P	**Pn**	**19 26 29.7**	**-0.2**
	14nm,0.6s						
WB2	**Warramunga Arr**	**21.11**	**229**	*e*P	P	19 26 45.9	-0.7
WRA	**Warramunga Arr**	**21.12**	**229**	P	P	19 26 45.7	-1.0
	16nm,1.0s,mb4.3,baz=51,slow=10,SNR=15						
WRA	**Warramunga Arr**	**21.12**	**229**	P	P	19 26 45.7	-1.0
AS31	**Alice Springs**	**23.82**	**222**	*e*P	P	19 27 14.4	-0.6
ASAR	**Alice Springs**	**23.82**	**222**	P	P	19 27 14.2	-0.8
	4.3nm,0.6s,mb4.0,baz=56,slow=8.8,SNR=18						
STKA	**Stephens Creek**	**26.80**	**198**	*e*P	P	19 27 42.2	+0.1
	7.1nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**26.80**	**198**	P	P	19 27 42.3	+0.2
	8.0nm,0.8s,mb4.3,baz=12,slow=9.4,SNR=10						
FITZ	**Fitzroy Crossi**	**27.44**	**243**⇓	*i*P	P	19 27 47.2	-0.6
	18nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.44**	**243**	P	P	19 27 47.0	-0.8
	10.0nm,0.8s,mb4.4,baz=88,slow=11,SNR=36						
FITZ	**Fitzroy Crossi**	**27.44**	**243**⇓	*i*P	P	19 27 47.2	-0.6
	18nm,0.9s,mb4.6						
KSRS	**Korea Array**	**48.79**	**335**	P	P	19 30 48.5	+1.4
	1.6nm,0.9s,mb4.0,baz=146,slow=12,SNR=5.0						
SONM	**Songino Array**	**66.89**	**329**	P	P	19 32 54.2	+0.1
	1.9nm,1.0s,mb4.1,baz=147,slow=4.8,SNR=10						
VNDA	**Vanda**	**71.23**	**178**	P	P	19 33 22.7	+1.6
	1.6nm,1.0s,mb3.9,baz=331,slow=6.4,SNR=5.4						
VNDA	**Vanda**	**71.23**	**178**	P	P	19 33 22.7	+1.6
MKAR	**Makanchi Array**	**80.52**	**319**	P	P	19 34 14.0	-0.2
	1.6nm,0.9s,mb4.0,baz=89,slow=6.2,SNR=5.6						
ZAL	**Zalesovo**	**81.65**	**327**	P	P	19 34 19.2	-1.0
	0.8nm,0.6s,mb3.9,baz=352,slow=10,SNR=3.8						
ZAL	**Zalesovo**	**81.65**	**327**	P	P	19 34 19.2	-1.0
MAW	**Mawson**	**83.40**	**203**	P	P	19 34 28.2	-1.1
	1.5nm,0.7s,mb4.1,baz=94,slow=5.1,SNR=4.2						
AAK	**Ala-Archa**	**84.63**	**314**	*e*P	P	19 34 35.3	-0.3
	7.2nm,1.3s,mb4.6						
INK	**Inuvik**	**90.60**	**21**	P	P	19 35 04.2	-0.2
	1.2nm,0.2s,mb4.8,baz=254,slow=5.7,SNR=4.2						
HVU	**Hansel Valley**	**98.80**	**49**	*e*P	P	19 35 42.9	+1.1
	3.9nm,0.8s,mb5.0						
TORD	**Torodi Ar. Bea**	**149.21**	**285**	PKPbc	PKPbc	19 41 50.4	-0.2
	1.3nm,0.6s,baz=18,slow=3.3,SNR=19						

MAN 16 19:24:39.4, 904N×123.19E, h29km, mb3.4, ML4.6, MS2.5, 1C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.30**	**10**⇓	*i*P	Pb	19 24 47.8	+1.0
SNPH						19 24 55.5	
TBP	**Tagbilaran**	**0.93**	**46**	*e*P	Pn	19 24 55.6	-0.8
TBP				*e*S	Sn	19 25 06.0	-2.8
LLP	**Lapu-Lapu**	**1.48**	**31**⇑	*e*P	Pn	19 25 04.9	+0.8
LLP				*i* S	Sn	19 25 22.7	+0.2
CGP	**Cagayan de Oro**	**1.60**	**111**⇓	*e*P	Pn	19 25 06.7	+0.9
CGP				*e*S	Sn	19 25 26.0	+0.6

NEIC ***16*** *19:25:19.7±1.4, 5.95S×151.41E, h10km, mb4.6/3, Error ellipse: s-maj=28.4km s-min=15.8km az=182.0*

IDC ***16*** *19:25:24.3±3.6, 6.09S×151.36E, h35km±28km, mb4.1/5, mb1 4.3/6, mb1mx3.9/16, mbtmp4.1/6, ML2.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/32, Error ellipse: s-maj=35.2km s-min=27.2km az=156.0*

ISCJB ***16*** *19:25:26.5±4.4, 6.5S±03×151.3E±01, h49km±31km, mb4.1/5, Error ellipse: s-maj=48.3km s-min=21.7km az=175.7*

ISC 16 19:25:24.2±3.8, 63S±03×151.3E±01, h19km±30km, n12, σ0§70/13, mb4.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**233**	Pn	**Pn**	**19 26 41.7**	**+1.7**
	1.8nm,0.3s,baz=64,slow=10.0,SNR=6.8						
PMG				Sn	**Sn**	**19 27 38.0**	**-0.8**
	4.2nm,0.3s,baz=1.9,slow=21,SNR=4.2						
PMG				LR	LR	19 28 48.8	
	comp=Z,83nm,20.6s,baz=154,slow=38						
KAKA	**Kakadu**	**19.65**	**250**	*e*P	**Pn**	**19 29 53.1**	**-0.2**
	13nm,0.6s						
WB2	**Warramunga Arr**	**21.33**	**229**	*e*P	P	19 30 09.8	-0.2
WRA	**Warramunga Arr**	**21.34**	**229**	P	P	19 30 09.9	-0.3
	4.9nm,0.9s,mb3.8,baz=55,slow=11,SNR=7.0						
DZM	**Mont Dzumac**	**21.45**	**138**	P	P	19 30 11.1	-0.2
	4.9nm,0.8s,mb3.9,baz=30,slow=4.5,SNR=7.5						
AS31	**Alice Springs**	**24.05**	**222**	*e*P	P	19 30 37.5	-0.6
ASAR	**Alice Springs**	**24.05**	**222**	P	P	19 30 37.5	-0.5
	3.2nm,0.6s,mb4.0,baz=54,slow=8.8,SNR=20						
ASAR				S	**S**	**19 34 55.7**	**+1.4**
	0.8nm,1.0s,baz=51,slow=18,SNR=4.4						
STKA	**Stephens Creek**	**27.02**	**198**	*e*P	P	19 31 05.4	+0.4
	5.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**27.02**	**198**	P	P	19 31 05.5	+0.5
	8.5nm,0.6s,mb4.5,baz=14,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**27.64**	**243**	*e*P	P	19 31 10.5	-0.1
	9.9nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.64**	**243**	P	P	19 31 10.9	+0.3
	3.5nm,0.7s,mb4.1,baz=74,slow=7.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.30**	**285**	PKPbc	PKPbc	19 45 09.9	-1.7
	1.3nm,0.7s,baz=56,slow=7.4,SNR=12						

IDC ***16*** *19:29:43.1±0.5, 47.07N×155.57E, h0km, mb4.6/19, mb1 4.8/21, mb1mx4.7/26, mbtmp4.6/21, ML3.9/2, MS4.0/18, Ms1 4.0/18, ms1mx3.7/48, Error ellipse: s-maj=16.1km s-min=12.3km az=145.0*

ISCJB ***16*** *19:29:44.4±0.3, 47.06N±0.05×155.67E±0.05, h18km, mb4.9/95, MS4.1/26, Error ellipse: s-maj=7.6km s-min=4.2km az=149.8*

NEIC ***16*** *19:29:44.9±0.2, 47.06N×155.58E, h10km, mb5.0/41, Error ellipse: s-maj=6.8km s-min=4.8km az=164.0*

SKHL ***16*** *19:29:46.2±2.7, 46.99N×155.47E, h61km±27km, mb5.3/2, Ms4.5/3, msh5.2/2*

MOS ***16*** *19:29:46.4±1.1, 47.12N×155.60E, h30km, mb5.1/43, Error ellipse: s-maj=9.4km s-min=5.7km az=113.1*

BJI ***16*** *19:29:46.6, 47.38N×155.00E, h10km, mB4.9, mb4.6, Ms4.5, Msz4.3*

SZGRF ***16*** *19:29:57.9, 48.70N×155.99E, h21km, mb5.3, Kuril Islands, Russia*

ISC 16 19:29:46.8±0.3, 47.18N±0.05×155.62E±0.05, h19km, h19km±1.0km: pP-P, n283, σ1§05/269, mb4.9/94, MS4.1/26, 31C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.52**	**5**	*e*P	**Pn**	**19 30 40.0**	**-0.4**
SKR				AMB	AMB	19 30 43.0	
	80nm,0.5s						
SKR				sP		19 31 01.9	
SKR				*e*S	**Sn**	**19 31 20.0**	**-1.5**
SKR				A		19 31 25.0	
	350nm,0.5s						
SKR				A		19 31 25.0	
	230nm,0.5s						
SKR				A		19 31 25.0	
	150nm,0.5s						
SKR				A		19 31 28.0	
	4μm,6.0s						
SKR				AMS	AMS	19 32 16.0	
	5μm,16.0s						
SKR				AMS	AMS	19 32 16.0	
	2μm,16.0s						
SKR				AMS	AMS	19 32 16.0	
	6μm,16.0s						
SKR				AMS	AMS	19 32 16.0	
	3μm,16.0s						
KUR	**Kuril'sk**	**5.72**	**253**⇑	*i*P	**Pn**	**19 31 06.6**	**-4.1**
KUR				AMB	AMB	19 31 09.2	
	100nm,0.8s						
KUR				AMB	AMB	19 31 09.2	
	140nm,0.8s						
KUR				AMB	AMB	19 31 09.2	
	320nm,0.8s						
KUR				*e*S	**Sn**	**19 32 09.0**	**-6.9**
KUR				A		19 32 18.0	
	830nm,1.0s						
KUR				A		19 32 18.0	
	850nm,1.0s						
KUR				A		19 32 21.0	
	3μm,3.0s						
KUR				A		19 32 21.0	
	3μm,3.0s						
KUR				AMS	AMS	19 34 35.0	
	4μm,12.0s						
KUR				AMS	AMS	19 34 35.0	
	3μm,12.0s						
PET	**Petropavlovsk**	**6.16**	**17**	*e*PN	**Pn**	**19 31 13.1**	**-3.6**
PET				pmax	pmax		
	comp=Z,38nm,1.1s						
PET	**Petropavlovsk**	**6.16**	**17**	*e*P	**Pn**	**19 31 13.4**	**-3

KLR MLR MLR
comp=Z,4μm,12.0s
MAJO Matsushiro 16.73 237 *e*P **Pn 19 33 33.8 -6.3**
MAJO pmax pmax
comp=Z,36nm,0.9s
MAJO Matsushiro 16.73 237 *e*P **Pn 19 33 33.8 -6.3**
comp=Z,36nm,0.9s
MAT Matsushiro 16.73 237 P **Pn 19 33 38.1 -2.0**
MJAR Matsushiro Arr 16.73 237 Pn **Pn 19 33 35.8 -4.2**
comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=15
ZEA Zeya 19.13 301 *e*P **Pn 19 34 03.9 -5.7**
ZEA AMB AMB 19 34 08.6
comp=Z,46nm,1.0s
ZEA AMB AMB 19 34 14.0
comp=Z,400nm,8.0s
YAK Yakutsk 20.92 325 *e*P **P 19 34 26.2 -2.0**
YAK *e**PP 19 34 34.3
YAK *e* 19 34 45.4
YAK *e*SS 19 38 16.1
YAK pmax pmax
comp=Z,92nm,0.9s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,46nm,1.3s
YAK pmax pmax
comp=Z,86nm,1.1s
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,50nm,1.3s
YAK MLR MLR
comp=Z,353nm,12.0s,MS4.0
YAK MLR MLR
comp=N,315nm,14.0s
YAK MLR MLR
comp=E,181nm,9.0s
YAK Yakutsk 20.92 325 *e*P **P 19 34 25.8 -2.4**
comp=E,67nm,0.7s
CLNS Chul'man 21.07 309 *e*P **P 19 34 28.8 -0.9**
CLNS pmax pmax
comp=Z,60nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,17nm,0.7s
CLNS pmax pmax
comp=E,25nm,0.9s
NRGR Nerungri 21.12 308 *e*P **P 19 34 34.7 +4.4**
NRGR S **S 19 38 10.5 -14**
NRGR smax
comp=N,10.0nm,0.4s
CN2 Changchun 21.36 272 *e*P **P 19 34 28.3 -4.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
BILL Bilibino 21.61 11⇓ *e*P **P 19 34 35.1 -0.5**
BILL pmax pmax
comp=Z,25nm,1.3s,mb4.5
BILL Bilibino 21.61 11 *e*P **P 19 34 35.4 -0.2**
comp=Z,43nm,0.9s,mb4.9
KSRS Korea Array 22.57 255 P **P 19 34 46.1 +0.4**
comp=Z,17nm,1.0s,mb4.4,baz=62,slow=9.0,SNR=28
KSRS PcP PcP 19 38 37.7 -1.2
comp=Z,4.0nm,1.1s,baz=336,slow=1.1,SNR=7.4
CBIJ Chichi jima 22.67 213 LR LR 19 43 30.6
comp=Z,103nm,18.0s,MS3.3,baz=116,slow=37
SNY Shenyang 23.37 269⇑ P **P 19 34 52.9 -1.4**
SNY AP 19 34 56.3
SNY XP sP 19 34 58.8 -3.4
SNY AMB AMB
comp=Z,15nm,1.1s,mb4.3
SNY AMB AMB
comp=Z,168nm,6.3s
SNY LR LR
comp=E,347nm,11.4s
SNY LR LR
comp=Z,493nm,14.3s,MS4.1
JNU Nakatsue 23.43 242 LR LR 19 44 18.5
comp=Z,441nm,19.2s,MS3.9,baz=82,slow=38
BOD Bodaibo 27.05 309 *e*P **P 19 35 24.8 -3.1**
BOD pmax pmax
comp=Z,12nm,1.2s,mb4.3
BJI Beijing 29.20 270 P **P 19 35 42.5 -4.5**
BJI S **S 19 40 28.9 -10**
BJI AMB AMB
comp=Z,12nm,0.7s,mb4.7
BJI LR LR
comp=N,214nm,14.2s,MS4.1
BJI LR LR
comp=E,259nm,14.2s,MS4.1
BJI LR LR
comp=Z,107nm,17.7s,MS3.5
BJI Beijing 29.20 270 P **P 19 35 42.5 -4.5**
comp=Z,12nm,0.7s,mb4.7
BJI S **S 19 40 28.9 -10**
BJI LR LR
comp=Z,110nm,17.7s,MS3.5
HHC Hu-ho-hao-te 31.97 275⇑ *i*P **P 19 36 12.3 +0.8**
HHC XP sP 19 36 19.5 -0.2
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.8
HHC LR LR
comp=N,260nm,12.4s,MS4.3
HHC LR LR
comp=E,272nm,13.7s,MS4.3
HHC LR LR
comp=Z,238nm,14.4s,MS4.0
ULN Ulaanbaatar 32.38 289 *e*P **P 19 36 14.3 -0.8**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ULN Ulaanbaatar 32.38 289 *e*P **P 19 36 14.3 -0.8**
comp=Z,7.2nm,0.9s,mb4.5
SONM Songino Array 32.81 290 P **P 19 36 18.4 -0.5**
comp=Z,7.9nm,0.8s,mb4.7,baz=67,slow=7.7,SNR=34
SONM PcP PcP 19 39 02.5 -1.1
comp=Z,2.9nm,0.8s,baz=118,slow=1.7,SNR=8.2
SONM LR LR 19 50 11.5
comp=Z,320nm,19.3s,MS4.0,baz=262,slow=37
SONM Songino Array 32.81 290 P **P 19 36 18.4 -0.5**
SONM 19 39 02.5
TLY Talaya 33.51 297 *e*P **P 19 36 26.3 +1.3**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,177nm,14.0s,MS3.9
TLY Talaya 33.51 297 *e*P **P 19 36 24.0 -1.0**
comp=Z,8.8nm,0.8s,mb4.7
ZAK Zakamensk 34.05 295 *e*P **P 19 36 29.0 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GUMO Guam 34.68 199 LR LR 19 51 56.0
comp=Z,51nm,18.1s,MS3.3,baz=44,slow=39
COLA College 34.73 39 *i*P **P 19 36 35.5 0.0**
WHN Wuhan 35.70 257 P **P 19 36 44.1 +0.2**
XAN Xi'an 37.26 267 P **P 19 36 58.0 +0.8**
XAN AP pP 19 37 08.0 +4.9
XAN S **S 19 42 36.5 -7.0**
XAN AMB AMB
comp=Z,8.0nm,1.3s,mb4.4
XAN LR LR
comp=N,145nm,12.7s,MS4.1
XAN LR LR
comp=E,99nm,10.7s,MS4.1
XAN LR LR
comp=Z,210nm,13.0s,MS4.1
EGAK Eagle 37.59 39 *e*P **P 19 36 59.2 -0.9**
comp=Z,8.2nm,0.9s,mb4.5
DAWY Dawson 38.41 40 *e*P **P 19 37 06.8 -0.2**
LZH Lanzhou 39.59 273 *e*P **P 19 37 18.3 +1.5**
LZH AP pP 19 37 24.4 +1.7
LZH XP sP 19 37 27.1 +2.1
LZH AMB AMB
comp=Z,55nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,250nm,4.8s
LZH LR LR
comp=E,453nm,12.5s
LZH LR LR
comp=Z,765nm,13.6s,MS4.7
LZH Lanzhou 39.59 273 *e*P **P 19 37 18.3 +1.5**
comp=Z,55nm,1.2s,mb5.2
LZH pP pP 19 37 24.4 +1.7
LZH sP sP 19 37 27.1 +2.1
LZH LR LR
comp=Z,770nm,13.6s,MS4.7
INK Inuvik 40.36 33 P **P 19 37 23.0 -0.2**
comp=Z,12nm,1.0s,mb4.6,baz=293,slow=6.2,SNR=20
INK Inuvik 40.36 33 P **P 19 37 23.9 +0.7**

INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 40.36 33 P **P 19 37 23.0 -0.2**
GTA Gaotai 40.59 280 *e*P **P 19 37 26.3 +1.2**
GTA AP pP 19 37 30.3 -0.7
GTA XP sP 19 37 33.5 +0.1
GTA PP PP 19 39 05.4 +6.7
GTA PCP PcP 19 39 27.5 +0.4
GTA XS sS 19 43 45.3 +1.9
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,155nm,5.0s
GTA LR LR
comp=N,234nm,12.2s,MS4.3
GTA LR LR
comp=E,154nm,12.2s,MS4.3
GTA LR LR
comp=Z,232nm,11.4s,MS4.3
GYA Guiyang 43.48 259⇑ *i*P **P 19 37 49.4 +0.6**
GYA AP pP 19 37 53.4 -1.3
GYA XP sP 19 37 56.3 -0.7
GYA PP PP 19 39 29.8 -0.1
GYA PCP PcP 19 39 41.3 +4.7
GYA S **S 19 44 06.5 -10**
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,170nm,4.5s
GYA LR LR
comp=N,790nm,16.8s,MS4.9
GYA LR LR
comp=E,840nm,16.4s,MS4.9
GYA LR LR
comp=Z,830nm,17.4s,MS4.7
ZAL Zalesovo 43.76 306 P **P 19 37 49.9 -1.1**
comp=Z,11nm,0.7s,mb4.7,baz=43,slow=8.9,SNR=38
ZAL PcP PcP 19 39 36.8 -0.8
comp=Z,3.5nm,0.9s,baz=60,slow=2.7,SNR=4.3
ZAL LR LR 19 57 51.5
comp=Z,429nm,18.3s,MS4.4,baz=30,slow=39
ZAL Zalesovo 43.76 306 P **P 19 37 49.9 -1.1**
ZAL 19 39 36.8
ZAL Zalesovo 43.76 306 P **P 19 37 49.9 -1.1**
ZAL PcP PcP 19 39 36.8 -0.8
ZAL LR LR 19 57 51.5
WMQ Urumqi 46.36 292 *e*P **P 19 38 12.5 +0.8**
KMI Kunming 47.01 261 P **P 19 38 17.5 +0.8**
KMI *PP pP 19 38 29.3 +6.6
KMI pmax pmax
comp=Z,12nm,1.8s,mb4.5
KMI Kunming 47.01 261 P **P 19 38 17.5 +0.8**
comp=Z,12nm,1.8s,mb4.5
KMI pP pP 19 38 29.3 +6.6
MK31 Makanchi Array 48.26 298 *e*P **P 19 38 25.8 -0.6**
MKAR Makanchi Array 48.26 298 P **P 19 38 26.0 -0.4**
comp=Z,16nm,0.7s,mb5.1,baz=61,slow=8.5,SNR=37
MKAR PcP PcP 19 39 52.8 -0.5
comp=Z,4.4nm,1.0s,baz=27,slow=3.3,SNR=3.6
MKAR Makanchi Array 48.26 298 P **P 19 38 26.0 -0.4**
MKAR PcP PcP 19 39 52.8 -0.5
YKA Yellowknife Ar 49.54 38 P **P 19 38 36.0 -0.3**
comp=Z,11nm,0.9s,mb4.9,baz=294,slow=7.1,SNR=9.3
YKA Yellowknife Ar 49.54 38 P **P 19 38 36.0 -0.3**
RES Resolute Bay 49.87 19 *e*P **P 19 38 38.3 -0.5**
comp=Z,572nm,1.1s
CHKZ Chkalovo 51.46 311 *e*P **P 19 38 49.4 -1.4**
CHKZ pmax pmax
comp=Z,42nm,0.7s,mb5.5
CHKZ Chkalovo 51.46 311 *e*P **P 19 38 49.4 -1.3**
comp=Z,42nm,0.7s,mb5.5
BVA0 Borovoye Array 51.90 310 *i* P **P 19 38 53.6 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 51.90 310 LR LR 20 02 38.1
comp=Z,236nm,18.6s,MS4.2,baz=324,slow=38
BRVK Borovoye 51.94 310 *e*P **P 19 38 53.7 -0.7**
BRVK pmax pmax
comp=Z,26nm,0.6s,mb5.3
BRVK Borovoye 51.94 310 *e*P **P 19 38 53.7 -0.7**
comp=Z,26nm,0.6s,mb5.3
LSA Lhasa 51.96 275 P **P 19 38 52.6 -1.9**
LSA Lhasa 51.96 275 *e*P **P 19 38 56.3 +1.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSA Lhasa 51.96 275 *e*P **P 19 38 56.3 +1.8**
comp=Z,8.9nm,0.8s,mb4.8
SPB4 Spitsbergen Ar 52.49 350 *e*P **P 19 38 57.0 -1.4**
ZRNK Zerenda 52.66 311 *e*P **P 19 38 59.2 -0.5**
ZRNK pmax pmax
comp=Z,16nm,0.7s,mb5.1
ZRNK Zerenda 52.66 311 *e*P **P 19 38 59.2 -0.5**
comp=Z,16nm,0.7s,mb5.1
CHTO Chiang Mai 53.89 258 *e*P **P 19 39 09.4 +0.7**
CHTO pmax pmax
comp=Z,18nm,1.1s,mb4.9
CHTO Chiang Mai 53.89 258 *e*P **P 19 39 09.3 +0.6**
comp=Z,18nm,1.1s,mb4.9
TKM2 Tokmak 2 54.34 297 P **P 19 39 13.3 +1.3**
SNR=9.0
EDM Edmonton 54.77 47 P **P 19 39 15.0 -0.1**
EDM Edmonton 54.77 47 *e*P **P 19 39 14.8 -0.4**
USP Ospenovka 54.81 298 P **P 19 39 16.4 +1.0**
SNR=18
SOKR Solikamsk 54.82 322 *e*P **P 19 39 15.9 +0.4**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
KBK Karagaybulak 54.88 297 P **P 19 39 17.2 +1.2**
SNR=11
FRU Bishkek 54.98 297 *e*P **P 19 39 17.5 +0.8**
FRU pmax pmax
comp=Z,30nm,1.9s,mb5.0
KZA Kyzart 55.03 296 P **P 19 39 18.9 +1.8**
SNR=13
AAK Ala-Archa 55.17 297 P **P 19 39 18.8 +0.7**
SNR=16
AAK Ala-Archa 55.17 297 *e*P **P 19 39 16.9 -1.2**
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
AAK Ala-Archa 55.17 297 *e*P **P 19 39 16.9 -1.1**
comp=Z,11nm,0.8s,mb4.9
EKS2 Erkin-Say 55.59 298 P **P 19 39 21.7 +0.6**
SNR=19
ARU Arti 55.84 318 *e*P **P 19 39 22.1 -0.8**
ARU *e*S **S 19 47 08.7 -0.5**
ARU *e*SS SS 19 50 55.5 +0.6
ARU Arti 55.84 318 *e*P **P 19 39 22.4 -0.5**
comp=Z,76nm,1.1s,mb5.6
AML Almayashu 55.95 297 P **P 19 39 25.4 +1.8**
SNR=15.5
YBH Yreka Blue Hor 56.02 63 P **P 19 39 24.8 +0.6**
comp=Z,11nm,1.0s,mb4.8,baz=267,slow=3.8,SNR=9.8
HNR Honiara 56.49 175 LR LR 20 01 13.2
comp=Z,102nm,18.6s,MS4.0,baz=180,slow=34
JIRN Jiri 56.62 276 *e*P **P 19 39 29.4 +1.0**
comp=Z,57nm,0.9s,mb5.6
GUN Gumba 56.67 276 *e*P **P 19 39 29.6 +0.8**
comp=Z,22nm,0.8s,mb5.3
KKN Kakani 57.15 277 *e*P **P 19 39 33.5 +1.3**
comp=Z,55nm,1.2s,mb5.5
PKI Pulchoki 57.20 276 *e*P **P 19 39 33.8 +1.2**
comp=Z,22nm,0.9s,mb5.2
KKAR Karatay Array 57.29 300 *i* P **P 19 39 32.7 -0.4**
KKAR pmax pmax
comp=Z,11nm,0.9s,mb4.9
DMN Daman 57.38 277 *e*P **P 19 39 35.2 +1.4**
comp=Z,60nm,0.8s,mb5.7
GKN Gorkha 57.45 277 *e*P **P 19 39 35.3 +1.0**
comp=Z,61nm,0.9s,mb5.6
APA Apatity 57.61 337⇑ *i*P **P 19 39 34.0 -1.4**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.3
ARCES ARCESS Array B 58.00 342 P **P 19 39 37.1 -1.1**
comp=Z,15nm,0.8s,mb5.0,baz=31,slow=7.2,SNR=14
ARCES LR LR 20 07 23.9
comp=Z,222nm,21.1s,MS4.2,baz=42,slow=39
ARCES ARCESS Array B 58.00 342 P **P 19 39 37.1 -1.1**
ARCES pmax pmax
comp=Z,15nm,0.9s
ARCES MLR MLR
comp=Z,223nm,21.1s
OHCM Honcut 58.19 65 *e*P **P 19 39 39.6 +0.1**
KOLN Koldanda 58.30 278 *e*P **P 19 39 41.2 +0.9**
comp=Z,51nm,0.8s,mb5.6
TMCR Tamitsa 58.74 333 *e*P **P 19 39 44.2 +0.8**
AB31 Akbulak array 59.46 311 *i* P **P 19 39 48.3 0.0**

AB31 pmax pmax
comp=Z,18nm,0.8s,mb5.2
CMB Columbia Colle 59.67 65 P **P 19 39 50.3 +0.5**
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CMB Columbia Colle 59.67 65 *e*P **P 19 39 49.8 0.0**
comp=Z,4.2nm,0.9s,mb4.5
AKTO Aktyubinsk 59.71 313 LR LR 20 06 33.9
comp=Z,95nm,20.4s,MS3.9,baz=58,slow=37
AKTO Aktyubinsk 59.71 313 P **P 19 39 48.2 -1.8**
ORR Orenburg 60.56 315 *e*P **P 19 39 55.8 -0.1**
ORR pmax pmax
comp=Z,30nm,0.7s,mb5.5
NVAR Mina Array Bea 60.71 64 P **P 19 39 57.7 +0.8**
comp=Z,4.3nm,0.9s,mb4.6,baz=291,slow=9.3,SNR=15
NVAR Mina Array Bea 60.71 64 P **P 19 39 57.7 +0.8**
QLMT Earthquake Lak 60.74 55 *e*P **P 19 39 57.9 +0.8**
IMW Indian Meadow 61.60 55 *e*P **P 19 40 04.3 +1.4**
RRI2 Red Ridge 61.73 56 *e*P **P 19 40 04.6 +0.8**
comp=Z,12nm,1.0s,mb5.0
TPAW Teton Pass 61.85 55 *e*P **P 19 40 06.0 +1.4**
LOHW Long Hollow 61.97 55 *e*P **P 19 40 06.5 +1.1**
REDW Red Top Meadow 61.99 56 *e*P **P 19 40 06.6 +1.0**
DUG Dugway 62.88 59 *e*P **P 19 40 11.8 +0.3**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
DUG Dugway 62.88 59 *e*P **P 19 40 11.8 +0.3**
comp=Z,4.8nm,0.9s,mb4.6
PDAR Pinedale Array 63.09 55 P **P 19 40 13.3 +0.4**
comp=Z,5.7nm,0.9s,mb4.7,baz=299,slow=3.1,SNR=12
KAKA Kakadu 63.13 206 *e*P **P 19 40 11.5 -1.7**
comp=Z,11nm,0.7s,mb5.1
FINES FINESS Array B 64.37 336 P **P 19 40 20.9 -0.4**
comp=Z,6.7nm,0.8s,mb4.8,baz=28,slow=8.6,SNR=22
FINES LR LR 20 10 59.1
comp=Z,106nm,20.2s,MS4.0,baz=159,slow=38
SFJD Kangerlussuaq 64.41 11 *e*P **P 19 40 21.2 -0.4**
SFJD pmax pmax
comp=Z,16nm,0.8s,mb5.1
SFJD Kangerlussuaq 64.41 11 *e*P **P 19 40 21.1 -0.5**
comp=Z,16nm,0.8s,mb5.1
ULM Lac du Bonnet 65.06 42 P **P 19 40 24.9 -1.0**
comp=Z,8.3nm,1.1s,mb4.7,baz=312,slow=6.8,SNR=4.1
RSSD Black Hills 65.22 51 *e*P **P 19 40 27.2 +0.3**
RSSD pmax pmax
comp=Z,13nm,1.0s,mb4.9
RSSD Black Hills 65.22 51 *e*P **P 19 40 27.1 +0.2**
comp=Z,12nm,0.9s,mb4.9
OBN Obninsk 65.91 327⇓ *e*P **P 19 40 30.2 -1.1**
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.1
GLA Glamis 66.33 66 *e*P **P 19 40 33.1 -1.0**
AGMN Agassiz Refuge 66.44 44 *e*P **P 19 40 33.8 -1.0**
comp=Z,15nm,1.0s,mb5.0
VSU Vasula 66.61 334⇑ *e*P **P 19 40 34.0 -1.8**
ISCO Idaho Springs 67.29 56 *e*P **P 19 40 41.0 +0.9**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ISCO Idaho Springs 67.29 56 *e*P **P 19 40 41.0 +0.9**
comp=Z,6.4nm,1.0s,mb4.6
VRSR Storozhevoye 67.82 323 *e*P **P 19 40 43.7 +0.2**
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
NB2 NORSAR Subarra 68.36 342 P **P 19 40 46.3 -0.6**
comp=Z,5.8nm,0.6s,mb4.8,baz=26,slow=6.5
NOA NORSAR Array B 68.36 342 P **P 19 40 46.1 -0.8**
comp=Z,11nm,0.9s,mb4.9,baz=26,slow=6.5,SNR=11
NOA LR LR 20 13 29.7
comp=Z,68nm,20.6s,MS3.9,baz=25,slow=38
NOA NORSAR Array B 68.36 342 P **P 19 40 46.1 -0.8**
NOA pmax pmax
comp=Z,11nm,0.9s
NOA MLR MLR
comp=Z,68nm,20.6s
HYB Hyderabad 68.70 273 *i* P **P 19 40 49.0 0.0**
HYB Hyderabad 68.70 273 *e*P **P 19 40 49.0 0.0**
ECSD EROS,Sioux Fal 69.34 48 *e*P **P 19 40 51.9 -1.1**
comp=Z,7.0nm,1.1s,mb4.5
WRAB Tennant Creek 69.50 201⇑ *e*P **P 19 40 52.5 -1.5**
WB2 Warramunga Arr 69.51 201 *e*P **P 19 40 52.1 -1.9**
WRA Warramunga Arr 69.51 201 P **P 19 40 52.0 -2.1**
comp=Z,6.4nm,0.9s,mb4.6,baz=18,slow=6.4,SNR=19
ANMO Albuquerque 70.13 60⇑ *e*P **P 19 40 57.1 -0.8**
FITZ Fitzroy Crossi 70.36 210 P **P 19 40 57.8 -1.5**
comp=Z,3.2nm,0.9s,mb4.3,baz=34,slow=8.2,SNR=4.3
GOF Gofitskoye 70.72 316 *e*P **P 19 40 58.5 -3.0**
KIV Kislovodsk 71.71 316 *e*P **P 19 41 07.8 +0.3**
KIV pmax pmax
comp=Z,34nm,1.1s,mb5.2
KIV Kislovodsk 71.71 316 *e*P **P 19 41 09.2 +1.7**
comp=Z,30nm,0.9s,mb5.2
ZEI Tsey 72.01 314 *e*P **P 19 41 09.0 -0.3**
ZEI *e* 19 41 24.7
ZEI pmax pmax
comp=Z,15nm,0.9s,mb4.9
AKASG Malin Array Be 72.12 327 P **P 19 41 09.1 -0.9**
comp=Z,4.6nm,0.6s,mb4.6,baz=33,slow=5.9,SNR=18
AKASG LR LR 20 14 11.8
comp=Z,85nm,19.1s,MS4.0,baz=270,slow=37
KIEV Kiev 72.14 327 P **P 19 41 08.8 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIEV Kiev 72.14 327 *e*P **P 19 41 08.7 -1.3**
comp=Z,9.4nm,0.8s,mb4.8
ASAR Alice Springs 73.19 201 P **P 19 41 15.2 -1.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=19,slow=5.3,SNR=18
KWP Kalwaria 75.31 331 *e*P **P 19 41 29.2 +0.5**
OJC Ojcow 75.75 332 *e*P **P 19 41 36.3 +5.1**
TXAR Lajitas Array 75.78 62 P **P 19 41 31.1 -0.2**
comp=Z,4.5nm,0.8s,mb4.5,baz=301,slow=4.0,SNR=32
STHS Stebnicka Huta 75.98 331 *e*P **P 19 41 33.2 +0.7**
STHS *e* pP 19 41 38.9 +0.2
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STHS Stebnicka Huta 75.98 331 *e*P **P 19 41 33.2 +0.7**
comp=Z,11nm,0.8s,mb4.8
STHS *e* pP 19 41 38.9 +0.2
KOLS Kolonicke sedl 76.06 330 *e*P **P 19 41 32.3 -0.6**
BURAR Bucovina Array 76.16 328⇓ *i*P **P 19 41 33.5 0.0**
BURAR Bucovina Array 76.16 328⇓ P **P 19 41 33.5 0.0**
KSP Ksiaz 76.26 335 *e*P **P 19 41 40.0 +5.9**
KSP Ksiaz 76.26 335 *e*P **P 19 41 34.4 +0.3**
KSP *e*pP pP 19 41 39.0 -1.3
NIE Niedzica 76.28 332 *e*P **P 19 41 39.9 +5.7**
UPC Upice 76.64 335 *e*P **P 19 41 36.1 -0.1**
UPC *e*pP pP 19 41 41.4 -1.1
UPC Upice 76.64 335 *e*P **P 19 41 36.1 -0.1**
UPC *e* pP 19 41 41.4 -1.1
DPC Dobruska-Polom 76.69 335 *e*P **P 19 41 37.1 +0.6**
DPC *e*pP pP 19 41 41.7 -1.1
CLL Collm 76.76 337 *e*P **P 19 41 36.0 -0.9**
comp=Z,28nm,1.4s,mb5.0
CLL *i* pP 19 41 42.2 -1.0
CLL Collm 76.76 337 *e*P **P 19 41 36.0 -0.9**
comp=Z,28nm,1.4s,mb5.0
CLL *i* pP pP 19 41 42.2 -1.0
comp=Z,27nm,0.8s
CLL LmV 20 19 00.0
comp=Z,200nm,20.0s
MORC Moravsky Berou 76.84 334⇓ *i*P **P 19 41 38.2 +0.9**
MORC Moravsky Berou 76.84 334 P **P 19 41 37.9 +0.6**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 76.84 334 ⇓P **P 19 41 38.2 +0.9**
BRG Berggiesshubel 76.90 336 *e*P **P 19 41 38.7 +1.0**
comp=Z,3.9nm,1.0s,mb4.3
BRG Berggiesshubel 76.90 336 *e*P **P 19 41 38.7 +1.0**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PVCC Panska Ves 77.04 336 *e*P **P 19 41 38.2 -0.3**
PVCC *e*pP pP 19 41 44.3 -0.4
KECS Kecovo 77.04 331 *e*P **P 19 41 38.3 -0.2**
KECS *e*pP pP 19 41 43.6 -1.2
KECS Kecovo 77.04 331 *e*P **P 19 41 38.4 -0.1**
KECS *e* pP 19 41 43.6 -1.2
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 77.04 331 *e*P **P 19 41 38.4 -0.1**
comp=Z,5.5nm,0.9s,mb4.5
KECS *e* pP 19 41 43.6 -1.2
PLOR Plostina 77.11 326⇑ *i*P **P 19 41 40.3 +1.4**

BOYT	**Boyabat**	**77.30 318**	*i* P	**P**	**19 41 41.6 +1.7**	
PRU	**Pruhonice**	**77.53 335**	*e*P	**P**	**19 41 40.8 -0.4**	
PRU			*e*pP	pP	19 41 46.8 -0.7	
PRU	**Pruhonice**	**77.53 335**	*e*P	**P**	**19 41 40.8 -0.4**	
PRU			*e*	pP	19 41 46.8 -0.7	
VRAC	**Vranov**	**77.54 334** ⇑	*i*P	**P**	**19 41 42.2 +0.9**	
VRAC	**Vranov**	**77.54 334** ⇑	P	**P**	**19 41 42.2 +0.9**	
VYHS	**Vyhne**	**77.57 332**	*e*P	**P**	**19 41 41.3 -0.1**	
VYHS			*e*pP	pP	19 41 47.4 -0.3	
VYHS	**Vyhne**	**77.57 332**	*e*P	**P**	**19 41 41.4 0.0**	
VYHS			*e*	pP	19 41 47.4 -0.3	
VYHS			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5					
TIRR	**Tirgusor**	**77.58 324** ⇓	*i*P	**P**	**19 41 42.1 +0.6**	
TIRR	**Tirgusor**	**77.58 324**	P	**P**	**19 41 41.4 -0.1**	
TIRR	**Tirgusor**	**77.58 324** ⇓	P	**P**	**19 41 42.1 +0.6**	
MLR	**Muntele Rosu**	**77.68 326** ⇓	*i*P	**P**	**19 41 43.1 +1.0**	
MLR	**Muntele Rosu**	**77.68 326** ⇓	P	**P**	**19 41 43.1 +1.0**	
MOX	**Moxa**	**77.73 337**	*e*(P)	**P**	**19 41 48.2 +5.8**	
BALT	**Daday**	**77.89 319**	*i* P	**P**	**19 41 44.6 +1.4**	
NKC	**Novy Kostel**	**77.89 337**	*e*P	**P**	**19 41 43.0 -0.2**	
NKC			*e*pP	pP	19 41 48.9 -0.6	
CTKT	**Corum**	**77.99 318**	*i* P	**P**	**19 41 44.7 +0.9**	
MALT	**Malatya**	**78.10 314** ⇑	*i*P	**P**	**19 41 45.1 +0.7**	
MALT	**Malatya**	**78.10 314**	P	**P**	**19 41 45.9 +1.5**	
MALT			pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9					
MALT	**Malatya**	**78.10 314** ⇑	P	**P**	**19 41 45.1 +0.7**	
ZST	**Bratislava**	**78.37 333**	*e*P	**P**	**19 41 46.9 +1.0**	
ZST			*e*	pP	19 41 52.5 +0.3	
ZST			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8					
ZST	**Bratislava**	**78.37 333**	*e*P	**P**	**19 41 46.9 +1.0**	
	comp=Z,8.9nm,0.7s,mb4.8					
ZST			*e*	pP	19 41 52.5 +0.3	
KHC	**Kasperske Hory**	**78.58 336**	*e*P	**P**	**19 41 46.9 -0.1**	
KHC			*e*pP	pP	19 41 52.4 -0.9	
KHC	**Kasperske Hory**	**78.58 336**	*e*P	**P**	**19 41 46.9 -0.1**	
KHC			*e*	pP	19 41 52.4 -0.9	
GRA1	**Grafenberg Arr**	**78.71 337**	*e*P	**P**	**19 41 48.1 +0.4**	
	comp=Z,23nm,0.8s,mb5.2					
GRA1			*e*pP	pP	19 41 54.1 +0.1	
GRF	**Grafenberg Arr**	**78.71 337**	*e*P	**P**	**19 41 48.1 +0.4**	
	comp=Z,23nm,0.8s,mb5.2					
GRF			*e*pP	pP	19 41 54.1 +0.1	
GRF	**Grafenberg Arr**	**78.71 337**	*e*P	**P**	**19 41 48.1 +0.4**	
GRF			*e**PP	pP	19 41 54.1 +0.1	
GRF			pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2					
GRF	**Grafenberg Arr**	**78.71 337**	*e*P	**P**	**19 41 48.1 +0.4**	
GRF			*e**PP	pP	19 41 54.1 +0.1	
GRF			pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2					
GRFO	**Grafenberg**	**78.71 337**	P	**P**	**19 41 54.3 +6.5**	
GRFO			pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2					
ELDT	**Eldivan**	**78.71 319**	*i* P	**P**	**19 41 53.4 +5.6**	
DLF	**Lyons Farm**	**78.75 349**	*e*P	**P**	**19 41 54.0 +6.0**	
DCN	**Croghan**	**78.80 350**	*e*P	**P**	**19 41 55.1 +6.9**	
GERES	**GERESS Array B**	**78.80 335**	P	**P**	**19 41 47.7 -0.6**	
	comp=Z,1.1nm,0.6s,mb3.9,baz=42,slow=4.2,SNR=8.4					
GERES			LR	LR	20 19 27.9	
	comp=Z,168nm,19.8s,MS4.4,baz=76,slow=38					
GERES	**GERESS Array B**	**78.80 335**	P	**P**	**19 41 47.7 -0.6**	
GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
GERES			MLR	MLR		
	comp=Z,168nm,19.8s					
GZR	**Gura Zlata**	**78.93 328** ⇑	*i*P	**P**	**19 41 48.0 -1.0**	
GZR	**Gura Zlata**	**78.93 328** ⇑	P	**P**	**19 41 48.0 -1.0**	
CONA	**Conrad Observa**	**78.99 334** ⇑	*i*pP	pP	19 41 51.3 -4.3	
	comp=Z,4.9nm,0.6s					
BZS	**Buzias**	**79.15 329** ⇓	*i*P	**P**	**19 41 49.9 -0.3**	
BZS	**Buzias**	**79.15 329** ⇓	P	**P**	**19 41 49.9 -0.3**	
SGKT	**Sivrigoynuk**	**79.25 320**	*i* P	**P**	**19 41 56.5 +5.7**	
AVNT	**Avonos**	**79.43 317**	*i* P	**P**	**19 41 57.9 +6.2**	
ANTO	**Ankara**	**79.50 319**	P	**P**	**19 41 58.9 +6.8**	
ANTO			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
MOA	**Molln**	**79.54 335** ⇑	*i*P	**P**	**19 41 58.9 +6.6**	
	comp=Z,9.9nm,0.8s,mb4.8					
MOA	**Molln**	**79.54 335** ⇑	*i*PcP	PcP	19 41 58.9 -1.3	
	comp=Z,9.9nm,0.8s					
SZH	**Strazhica**	**79.56 325**	*e*P	**P**	**19 42 00.0 +7.6**	
JMB	**Yambol**	**79.98 324**	*e*P	**P**	**19 42 00.0 +5.3**	
KBA	**Koelnbreinsper**	**80.50 335** ⇑	*i*P	**P**	**19 41 58.6 +1.1**	
	comp=Z,41nm,0.8s,mb5.4					
KBA	**Koelnbreinsper**	**80.50 335** ⇑	*i*pP	pP	19 41 58.6 -5.2	
	comp=Z,41nm,0.8s					
ESKT	**Eskisehir**	**80.65 320**	*i* P	**P**	**19 41 59.0 +0.7**	
BFO	**Black Forest**	**80.70 339**	*e*P	**P**	**19 41 58.7 +0.1**	
BFO			pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5					
BFO	**Black Forest**	**80.70 339**	*e*P	**P**	**19 41 58.7 +0.1**	
	comp=Z,10nm,1.4s,mb4.6					
WTTA	**Wattenberg**	**80.81 336** ⇑	*i*P	**P**	**19 42 00.4 +1.2**	
	comp=Z,33nm,0.7s,mb5.4					
WTTA	**Wattenberg**	**80.81 336** ⇑	*i*pP	pP	19 42 00.4 -5.1	
	comp=Z,33nm,0.7s					
ULDT	**Uludag**	**80.87 321**	*i* P	**P**	**19 42 05.2 +5.7**	
CDF	**Champ du Feu**	**80.88 339**	*e*P	**P**	**19 41 59.1 -0.5**	
	comp=Z,30nm,0.9s,mb4.9					
CDF	**Champ du Feu**	**80.88 339**	*e*P	**P**	**19 41 59.1 -0.5**	
CDF			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9					
CDF	**Champ du Feu**	**80.88 339**	*e*P	**P**	**19 41 59.1 -0.5**	
	comp=Z,15nm,0.9s,mb4.9					
MOTA	**Moosalm**	**80.89 336** ⇑	*i*P	**P**	**19 42 00.1 +0.6**	
	comp=Z,26nm,0.9s,mb5.2					
MOTA	**Moosalm**	**80.89 336** ⇑	*i*pP	pP	19 42 00.1 -5.7	
	comp=Z,26nm,0.9s					
GRUS	**Gruza**	**80.97 329**	*i* P	**P**	**19 42 03.4 +3.4**	
SQTA	**Sankt Quirin**	**80.97 336** ⇑	*i*P	**P**	**19 42 01.0 +1.0**	
	comp=Z,23nm,0.9s,mb5.1					
SQTA	**Sankt Quirin**	**80.97 336** ⇑	*i*pP	pP	19 42 01.0 -5.3	
	comp=Z,23nm,0.9s					
DIVS	**Divcibare**	**81.04 329**	*i* P	**P**	**19 42 05.7 +5.3**	
PPT	**Papeete**	**81.04 128**	LR	LR	20 15 33.9	
	comp=Z,142nm,18.7s,MS4.3,baz=56,slow=34					
VTS	**Vitosha**	**81.18 327** ⇑	*i*P	**P**	**19 41 58.5 -2.6**	
VTS	**Vitosha**	**81.18 327**	*e*P	**P**	**19 42 07.0 +5.9**	
DAVA	**Damuels**	**81.27 337** ⇓	*i*P	**P**	**19 42 08.4 +6.8**	
	comp=Z,23nm,0.9s,mb5.1					
DAVA	**Damuels**	**81.27 337** ⇑	*i*P	**P**	**19 42 01.5 -0.1**	
	comp=Z,23nm,0.9s,mb5.1					
MMB	**Musomiste**	**81.84 326**	*e*P	**P**	**19 42 10.0 +5.4**	
TKTP	**Tekketepe**	**82.10 319**	*i* P	**P**	**19 42 10.5 +4.5**	
GRR	**Gorron**	**82.64 344**	*e*P	**P**	**19 42 09.4 +0.6**	
	comp=Z,240nm,1.6s,mb5.7					
GRR	**Gorron**	**82.64 344**	*e*P	**P**	**19 42 09.4 +0.6**	
GRR			pmax	pmax		
	comp=Z,120nm,1.6s,mb5.7					
GRR	**Gorron**	**82.64 344**	*e*P	**P**	**19 42 09.4 +0.6**	
	comp=Z,120nm,1.6s,mb5.7					
CSS	**Prodhromos**	**83.23 316**	P	**P**	**19 42 11.6 -0.3**	
	comp=Z,13nm,0.7s,mb5.1					
SMF	**Signal de Mont**	**83.34 341**	*e*P	**P**	**19 42 12.1 -0.4**	
	comp=Z,81nm,1.4s,mb5.3					
SMF	**Signal de Mont**	**83.34 341**	*e*P	**P**	**19 42 12.1 -0.4**	
SMF			pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3					
SMF	**Signal de Mont**	**83.34 341**	*e*P	**P**	**19 42 12.1 -0.4**	
	comp=Z,40nm,1.4s,mb5.3					
URLA	**Izmir**	**83.44 322**	*i* P	**P**	**19 42 17.0 +4.1**	
LPG	**La Plagne**	**83.73 339**	*e*P	**P**	**19 42 15.1 +0.6**	
	comp=Z,74nm,1.0s,mb5.5					
LPG	**La Plagne**	**83.73 339**	*e*P	**P**	**19 42 15.1 +0.6**	
LPG			pmax	pmax		
	comp=Z,37nm,1.0s,mb5.5					
LPG	**La Plagne**	**83.73 339**	*e*P	**P**	**19 42 15.1 +0.6**	
	comp=Z,37nm,1.0s,mb5.5					
MMAI	**Mount Meron Ar**	**83.80 313**	LR	LR	20 24 52.1	
	comp=Z,73nm,19.4s,MS4.1,baz=350,slow=40					
BDRM	**Kayabasi**	**84.17 321**	*i* P	**P**	**19 42 22.0 +5.3**	
CAF	**Calviac**	**85.37 341**	*e*P	**P**	**19 42 22.5 -0.2**	
	comp=Z,28nm,1.0s,mb5.0					
CAF	**Calviac**	**85.37 341**	*e*P	**P**	**19 42 22.5 -0.2**	
CAF			pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0					
CAF	**Calviac**	**85.37 341**	*e*P	**P**	**19 42 22.5 -0.2**	
	comp=Z,14nm,1.0s,mb5.0					
TIP	**Timpagrande**	**86.52 329**	*e*P	**P**	**19 42 27.9 -0.6**	
ESDC	**Sonseca Array**	**91.63 344**	LR	LR	20 27 44.0	

comp=Z,118nm,20.4s,MS4.3,baz=285,slow=38

ATD	**Arta Tunnel**	**96.52 295**	LR	LR	20 29 25.3	
	comp=Z,49nm,19.0s,MS4.0,baz=32,slow=37					
VNDA	**Vanda**	**124.49 178**	PKP	PKPdf	19 48 41.8	-2.8
	comp=Z,0.9nm,0.8s,baz=300,slow=4.8,SNR=5.0					
MAW	**Mawson**	**133.47 212**	PKP	PKPdf	19 49 00.2	-1.6
	comp=Z,2.8nm,0.9s,baz=56,slow=7.3,SNR=4.4					
QSPA	**South Pole Qui**	**136.92 180**	*e*PKPdf	PKPdf	19 49 05.9	-2.3
PMSA	**Palmer Station**	**152.34 144**	PKPbc	PKPbc	19 49 39.6	-1.7
	comp=Z,17nm,0.8s,baz=156,slow=3.1,SNR=4.0					
SNAA	**Sanae**	**153.43 195**	PKPbc	PKPbc	19 49 40.9	-2.8
	comp=Z,2.3nm,0.9s,baz=305,slow=0.4,SNR=11					
SNAA	**Sanae**	**153.43 195**	*e*PKPdf	PKPbc	19 49 40.6	-3.2
SNAA			*e*		19 49 45.5	
SNAA			*e*		19 49 54.4	
SNAA			*e*		19 50 00.7	
VNA2	**Neumayer--Watz**	**154.83 193**	*e*PKPdf	PKPbc	19 49 44.8	-2.0
VNA2			*e*		19 49 50.4	
VNA2			*e*		19 49 57.6	
VNA3	**Neumayer Olymp**	**154.87 191**	*e*PKPdf	PKPbc	19 49 43.9	-3.0
VNA3			*e*		19 49 46.6	
VNA3			*e*		19 49 51.5	

TEH **16** *19:36:22.9,2997N×5139E,h7km,Mn3.6*
CSEM **16** *19:36:22.4±0.1,2998N×5143E,h18km,ML3.6,Error ellipse: s-maj=3.0km s-min=1.5km az=58.0*
THR **16** *19:36:22.1±0.5,3002N×5153E,h18km±4km,ML3.6*
ISCJB **16** *19:36:24.4±1.2,3011N±003×5155E±003,h9km±7km, Error ellipse: s-maj=5.0km s-min=4.4km az=140.6*
KISR **16** *19:36:25.7±0.5,3013N×5150E,h29km±599km,ML3.6*

ISC 16 19:36:25.8±1.3,3009N±003×5157E±003,h10km±8km,n19, σ1°11/33,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**1.31**	**101**	*e*Sn		**Sg**		**19 37 09.6**	**+1.6**
IMOK	**Mook**	**1.44**	**136**	*e*Pg		**Pn**		**19 36 49.6**	**-2.3**
IMOK				*e*Sg		**Sn**		**19 37 09.2**	**-1.7**
GHIR	**Ghir-Karzin**	**2.19**	**145**	*e*Pg		**Pn**		**19 37 01.1**	**-1.0**
GHIR				*e*Sg		**Sn**		**19 37 29.8**	**+0.5**
GHIR				AML		AML		19 37 40.9	
	comp=E,457nm,0.5s								
GHIR				AML		AML		19 37 47.6	
	comp=N,428nm,0.4s								
GHIR	**Ghir-Karzin**	**2.19**	**145**	*e*Pg		**Pn**		**19 37 01.1**	**-1.0**
	SNR=91								
GHIR				*e*Sg		**Sn**		**19 37 29.8**	**+0.6**
	SNR=91								
IGAR	**Garneh**	**2.21**	**14**	*e*Pn		**Pn**		**19 37 03.9**	**+1.4**
ISAD	**Sadrabad**	**2.57**	**45**	*e*Pn		**Pn**		**19 37 07.5**	**+0.1**
ISAD				*e*Sn		**Sn**		**19 37 40.5**	**+1.8**
IPIP	**Pirpir**	**2.65**	**348**	*e*Pn		**Pn**		**19 37 07.3**	**-1.2**
IPIP				*e*Sn		**Sn**		**19 37 40.0**	**-0.6**
IZEF	**Zefreh**	**2.87**	**13**	*e*Pn		**Pn**		**19 37 10.9**	**-0.6**
IZEF				*e*Sn		**Sn**		**19 37 46.5**	**+0.4**
NASN	**Na'in**	**2.90**	**21**	*e*Pn		**Pn**		**19 37 10.8**	**-1.2**
NASN				*e*Sg		**Sb**		**19 37 55.3**	**+2.2**
IMEH	**Mehriz**	**2.92**	**63**	*e*Pn		**Pn**		**19 37 12.5**	**+0.2**
IKLH	**Kalahroud**	**3.22**	**0**	*e*Pn		**Pn**		**19 37 15.4**	**-0.9**
IKLH				*e*Sn		**Sn**		**19 37 53.9**	**-0.8**
ICHK	**Chekchek**	**3.25**	**48**	*e*Pn		**Pn**		**19 37 17.2**	**+0.5**
ICHK				*e*Sn		**Sn**		**19 37 56.2**	**+0.8**
KBD	**Kabd**	**3.49**	**256**	*e*P		**Pn**		**19 37 21.1**	**+1.0**
KBD				*e*S		**Sn**		**19 38 02.3**	**+0.9**
KBD				AML		AML		19 38 05.8	
	comp=Z,288nm,0.3s								
MIB	**Mutribah**	**3.68**	**267**	*e*P		**Pn**		**19 37 23.3**	**+0.6**
MIB				*e*S		**Sn**		**19 38 06.8**	**+0.7**
MIB				AML		AML		19 38 24.6	
	comp=Z,55nm,0.4s								
RDF	**Al-Radifah**	**3.69**	**253**	*e*P		**Pn**		**19 37 23.7**	**+0.9**
RDF				AML		AML		19 38 04.9	
	comp=Z,64nm,0.4s								
RDF				*e*S		**Sn**		**19 38 07.2**	**+0.9**
IBAF	**Bafgh**	**3.75**	**66**	*e*Pn		**Pn**		**19 37 23.3**	**-0.4**
IBAF				*e*Sn		**Sn**		**19 38 08.1**	**+0.2**
ASAO	**Ashtian**	**4.63**	**344**	*e*Pn		**Pn**		**19 37 34.4**	**-1.3**
ASAO				*e*Sg		**Sb**		**19 38 47.6**	**+4.7**
DAMV	**Damavand**	**5.53**	**3**	*e*Pn		**Pn**		**19 37 46.6**	**-1.5**
DAMV				AML		AML		19 38 51.9	
	comp=N,24nm,0.7s								
DAMV				AML		AML		19 38 52.1	
	comp=E,29nm,0.5s								
SNGE	**Sanandaj**	**6.13**	**326**	*e*Pn		**Pn**		**19 37 54.9**	**-1.4**
SNGE				AML		AML		19 39 09.6	
	comp=N,17nm,0.4s								

IDC 16 19:38:03.5±9.5,637S×15105E,h70km±67km,mb3.4/3, mb1 3.5/4,mb1mx3.5/14,mbtmp3.4/4,ML2.2/1,Error ellipse: s-maj=106.9km s-min=64.6km az=151.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**232**	P		P	Pn	19 39 14.9	+0.4
	0.7nm,0.3s,baz=59,slow=18,SNR=3.8								
PMG				S			Sn	19 40 10.7	+0.9
	1.1nm,0.3s,baz=349,slow=21,SNR=5.6								
WRA	**Warramunga Arr**	**21.11**	**229**	P		P		19 42 42.0	-0.3
	0.7nm,0.4s,baz=54,slow=9.6,SNR=6.9								
ASAR	**Alice Springs**	**23.82**	**222**	P		P		19 43 10.8	+0.7
	1.0nm,0.6s,baz=55,slow=8.8,SNR=16								
STKA	**Stephens Creek**	**26.87**	**198**	P		P		19 43 37.9	+0.2
	2.1nm,0.6s,baz=0.2,slow=12,SNR=8.3								

ISCJB **16** *19:41:45.6±1.0,3431N±004×2390E±008,h3km±9km, Error ellipse: s-maj=11.8km s-min=6.8km az=19.8*
HLW **16** *19:41:46.9,3467N×2389E,h33km,Mb2.9*
THE **16** *19:41:47.9,3443N×2385E,h9km*
CSEM **16** *19:41:47.3±0.4,3433N×2395E,h12km,MD3.3,Error ellipse: s-maj=12.6km s-min=4.6km az=89.0*
ATH **16** *19:41:49.4,3438N×2405E,h5km,MD3.3/3*
NEIC **16** *19:41:49.4,3438N×2405E,h5km,MD3.3(ATH),After ATH.*

ISC 16 19:41:47.5±1.1,3435N±004×2393E±008,h6km±8km,n12, σ1°14/19,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.51**	**15**	*e*P		**Pg**		**19 41 56.5**	**-0.7**
GVD	**Gavdhos**	**0.51**	**15**	*e*P		**Pg**		**19 41 56.5**	**-0.8**
SIVA	**Sivas**	**0.99**	**47**	*e*Pg		**Pg**		**19 42 05.5**	**-1.0**
SIVA				*e*Sg		**Sg**		**19 42 20.1**	**+0.8**
KARN	**Karanos**	**1.05**	**360**	*e*Pg		**Pg**		**19 42 06.6**	**-1.0**
KARN				*e*Sg		**Sg**		**19 42 21.3**	**+0.1**
VAM	**Vamos**	**1.08**	**12**	*e*PG		**Pg**		**19 42 08.4**	**+0.2**
VAM				*e*SB		**Sb**		**19 42 24.1**	**+1.3**
NPS	**Neapolis**	**1.66**	**56**	*e*PB		**Pb**		**19 42 18.6**	**+0.1**
ZKR	**Zakros**	**2.04**	**67**	*e*Pn		**Pn**		**19 42 22.0**	**-0.3**
ZKR				*e*Sn		**Sn**		**19 42 49.9**	**+1.9**
KYTH	**Kithira**	**2.06**	**340**	*e*PG		**Pg**		**19 42 28.0**	**+1.0**
SANT	**Santorini**	**2.37**	**31**	*e*Pn		**Pn**		**19 42 24.4**	**-2.6**
SANT				*e*Sn		**Sn**		**19 42 53.2**	**-3.1**
HMAT	**Matruh**	**4.21**	**140**	P		**Pn**		**19 42 52.4**	**+0.3**
HMAT				S		**Sn**		**19 43 40.5**	**-1.0**
SWA2		**5.26**	**165**	P		**Pn**		**19 43 07.7**	**+1.1**
SWA1		**5.29**	**163**	P		**Pn**		**19 43 08.3**	**+1.3**
SWA1				S		**Sn**		**19 44 07.7**	**-0.7**

IDC **16** *19:44:41.5±9.4,627S×15090E,h60km±64km,mb3.6/4, mb1 3.7/5,mb1mx3.4/14,mbtmp3.6/5,ML2.4/1,Error ellipse: s-maj=67.5km s-min=58.1km az=5.0*

NEIC 16 19:44:32.2±1.6,609S×15132E,h10km,mb4.1/1,Error ellipse: s-maj=50.5km s-min=24.5km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**231**	P		P	Pn	19 45 52.6	+1.5
	1.2nm,0.3s,baz=34,slow=11,SNR=4.9								
PMG				S			Sn	19 46 47.6	-4.3
	1.5nm,0.3s,baz=9.6,slow=21,SNR=6.8								
WB2	**Warramunga Arr**	**21.48**	**229**	*e*P		P		19 49 20.5	-0.4
WRA	**Warramunga Arr**	**21.49**	**229**	P		P		19 49 20.1	-0.9
	2.1nm,0.7s,baz=52,slow=10,SNR=14								
ASAR	**Alice Springs**	**24.21**	**222**	P		P		19 49 48.9	-0.1
	1.3nm,0.6s,baz=55,slow=9.2,SNR=27								
STKA	**Stephens Creek**	**27.22**	**198**	P		P		19 50 16.9	+0.7
	1.8nm,0.5s,baz=4.0,slow=13,SNR=6.4								
FITZ	**Fitzroy Crossi**	**27.75**	**242**	*e*P		P		19 50 21.6	+0.6
	3.0nm,0.9s								
FITZ				*e*				19 50 31.1	
FITZ	**Fitzroy Crossi**	**27.75**	**242**	P		P		19 50 21.7	+0.7
	1.5nm,0.7s,baz=50,slow=9.2,SNR=12								

ISCJB **16** *19:47:33.0±1.3,655S×02×1514E±02,h10km,mb3.9/5, Error ellipse: s-maj=33.5km s-min=14.9km az=92.0*
IDC **16** *19:47:34.1±2.0,651S×15131E,h0km,mb4.0/5,mb1 4.1/6, mb1mx3.9/14,mbtmp4.0/6,ML2.8/1,MS2.9/2,Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=54.9km s-min=26.1km az=112.0*
NEIC **16** *19:47:35.9±1.2,650S×15125E,h10km,mb4.2/2, Error ellipse: s-maj=33.3km s-min=14.8km az=115.0*

ISC 16 19:47:34.9±1.3,66S±02×1515E±02,h10km,n14,σ0°77/12, mb3.9/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**236**	Pn		**Pn**		**19 48 51.3**	**-0.7**
	2.7nm,0.3s,baz=21,slow=8.2,SNR=6.2								
PMG				Sn		**Sn**		**19 49 52.5**	**+1.1**
	3.4nm,0.3s,baz=166,slow=22,SNR=4.6								
HNR	**Honiara**	**8.84**	**109**	LR		LR		19 52 44.8	
	comp=Z,65nm,20.1s,baz=0.0,slow=34								
CTA	**Charters Tower**	**14.38**	**200**	LR		LR		19 54 52.0	
	comp=Z,55nm,19.1s,baz=222,slow=30								
WRAB	**Tennant Creek**	**21.31**	**230**	*e*P		**P**		**19 52 21.1**	**-0.6**
WB2	**Warramunga Arr**	**21.32**	**230**	*e*P		**P**		**19 52 21.1**	**-0.7**
WRA	**Warramunga Arr**	**21.32**	**230**	P		P		**19 52 21.4**	**-0.5**
	3.2nm,0.7s,mb3.7,baz=54,slow=11,SNR=9.9								
AS31	**Alice Springs**	**23.99**	**223**	*e*P		**P**		**19 52 49.5**	**0.0**
ASAR	**Alice Springs**	**23.99**	**223**	P		**P**		**19 52 49.6**	**0.0**
	2.6nm,0.7s,mb3.8,baz=54,slow=8.1,SNR=25								
STKA	**Stephens Creek**	**26.84**	**199**	*e*P		**P**		**19 53 17.1**	**+1.6**
	2.8nm,1.0s,mb3.8								
STKA				*e*				19 53 26.6	
STKA	**Stephens Creek**	**26.84**	**199**	P		**P**		**19 53 16.5**	**+1.0**
	2.5nm,0.7s,mb3.9,baz=23,slow=10,SNR=5.8								
FITZ	**Fitzroy Crossi**	**27.70**	**243**	*e*P		**P**		**19 53 22.6**	**-0.6**
	7.2nm,0.6s,mb4.5								
FITZ	**Fitzroy Crossi**	**27.70**	**243**	P		**P**		**19 53 22.5**	**-0.7**
	3.8nm,0.7s,mb4.2,baz=70,slow=9.0,SNR=10								
SONM	**Songino Array**	**67.12**	**329**	P		**P**		**19 58 29.6**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=152,slow=1.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**149.56**	**285**	PKPbc		PKPbc		20 07 25.5	+1.0
	0.8nm,0.7s,baz=44,slow=2.7,SNR=5.8								

IDC **16** *19:52:33.7±1.2,4725N×15437E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.6/22,mbtmp3.8/6,ML3.5/1,Error ellipse: s-maj=33.3km s-min=31.2km az=124.0*
ISCJB **16** *19:52:41.1±2.2,4728N±02×1540E±03,h70km±18km, mb3.6/5, Error ellipse: s-maj=37.5km s-min=17.7km az=92.5*
MOS **16** *19:52:41.6±1.5,4719N×15391E,h76km,mb4.2/2,Error ellipse: s-maj=42.2km s-min=24.1km az=74.0*

ISC 16 19:52:43.0±2.0,4728N±02×1540E±03,h72km±16km,n11, σ0°86/11,mb3.6/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.77**	**21**	*e*PN		**Pn**		**19 53 39.0**	**+0.3**
SKR				*e*				19 54 18.1	
ASAJ	**Asahikawa**	**8.54**	**253**	Pn		**Pn**		**19 54 43.5**	**-0.4**
	0.6nm,0.3s,baz=56,slow=13,SNR=5.4								
ASAJ	**Asahikawa**	**8.54**	**253**	PN		**Pn**		**19 54 43.5**	**-0.4**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**51.03**	**309**	P		**P**		**20 01 39.6**	**+1.8**
	comp=Z,0.3nm,0.4s,mb3.7,baz=40,slow=9.4,SNR=3.4								
FINES	**FINESS Array B**	**63.89**	**335**	P		**P**		**20 03 07.0**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.7,baz=33,slow=6.2,SNR=8.8								
FINES	**FINESS Array B**	**63.89**	**335**	P		**P**		**20 03 07.0**	**-1.1**
NOA	**NORSAR Array B**	**68.00**	**341**	P		**P**		**20 03 33.9**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=24,slow=6.2,SNR=3.3								
NOA	**NORSAR Array B**	**68.00**	**341**	P		**P**		**20 03 33.9**	**-0.6**
NOA				pmax		pmax			
	comp=Z

YAK	**Yakutsk**	**20.98**	**325**	*e*P	**P**	**20 07 14.9**	**-2.4**
	comp=Z,24nm,1.0s							
KSRS	**Korea Array**	**22.50**	**255**	P	**P**	**20 07 34.5**	**+0.8**
	comp=Z,3.2nm,0.8s,mb3.8,baz=60,slow=9.0,SNR=11							
SONM	**Songino Array**	**32.80**	**290**	P	**P**	**20 09 07.0**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=58,slow=8.3,SNR=9.4							
ZAK	**Zakamensk**	**34.05**	**295**	*e*P	**P**	**20 09 18.3**	**-0.1**
ZAK				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.8							
INK	**Inuvik**	**40.46**	**33**	P	**P**	**20 10 12.6**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=270,slow=6.1,SNR=4.4							
INK	**Inuvik**	**40.46**	**33**	P	**P**	**20 10 12.6**	**-0.2**
GYA	**Guiyang**	**43.43**	**259**⇑	*i*P	**P**	**20 10 39.1**	**+2.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**43.79**	**306**	P	**P**	**20 10 38.8**	**-1.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=38,slow=8.2,SNR=6.8							
MK31	**Makanchi Array**	**48.27**	**298**	*e*P	**P**	**20 11 15.3**	**+0.1**
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**20 11 15.6**	**+0.3**
	comp=Z,4.5nm,1.1s,mb4.4,baz=67,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**20 11 15.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**48.27**	**298**	P	**P**	**20 11 15.6**	**+0.3**
CHKZ	**Chkalovo**	**51.49**	**311**	*e*P	**P**	**20 11 39.1**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**51.49**	**311**	*e*P	**P**	**20 11 39.1**	**-0.6**
	comp=Z,5.6nm,0.6s,mb4.7							
BVA0	**Borovoye Array**	**51.93**	**310**	*i* P	**P**	**20 11 42.1**	**-0.9**
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**20 11 43.5**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.4,baz=56,slow=8.2,SNR=17							
BRVK	**Borovoye**	**51.97**	**310**	*e*P	**P**	**20 11 42.9**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
BRVK	**Borovoye**	**51.97**	**310**	*e*P	**P**	**20 11 42.9**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**52.69**	**311**	*e*P	**P**	**20 11 48.4**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**52.69**	**311**	*e*P	**P**	**20 11 48.4**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**55.18**	**297**	*e*P	**P**	**20 12 06.9**	**0.0**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**55.18**	**297**	*e*P	**P**	**20 12 06.9**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.2							
ARU	**Arti**	**55.89**	**318**	*e*P	**P**	**20 12 11.8**	**-0.2**
ARU	**Arti**	**55.89**	**318**	*e*P	**P**	**20 12 11.7**	**-0.3**
	comp=Z,8.2nm,0.8s,mb4.8							
KKAR	**Karatay Array**	**57.30**	**300**	*i* P	**P**	**20 12 22.5**	**+0.5**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
ARCES	**ARCESS Array B**	**58.08**	**342**	P	**P**	**20 12 27.1**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=35,slow=6.7,SNR=8.9							
AB31	**Akbulak array**	**59.49**	**311**	*i* P	**P**	**20 12 37.6**	**+0.3**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
AKTK	**Aktyubinsk**	**59.74**	**313**	P	**P**	**20 12 40.2**	**+1.2**
AKTO	**Aktyubinsk**	**59.74**	**313**	P	**P**	**20 12 40.2**	**+1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=40,slow=7.0,SNR=7.8							
AKTO	**Aktyubinsk**	**59.74**	**313**	P	**P**	**20 12 40.1**	**+1.1**
AKTO				pmax	pmax			
	comp=Z,6.0nm,2.8s,mb4.1							
PDAR	**Pinedale Array**	**63.18**	**55**	P	**P**	**20 13 01.6**	**-0.8**
	comp=Z,0.8nm,0.9s,mb3.8,baz=318,slow=2.0,SNR=5.6							
FINES	**FINESS Array B**	**64.44**	**336**	P	**P**	**20 13 09.9**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=37,slow=8.3,SNR=11							
AKASG	**Malin Array Be**	**72.18**	**327**	P	**P**	**20 13 58.3**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=33,slow=6.6,SNR=3.8							
ASAR	**Alice Springs**	**73.09**	**201**	P	**P**	**20 14 05.0**	**+0.5**
	comp=Z,1.0nm,1.0s,mb3.7,baz=12,slow=5.4,SNR=6.4							
TXAR	**Lajitas Array**	**75.86**	**62**	P	**P**	**20 14 20.6**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=303,slow=4.0,SNR=9.8							
UPC	**Upice**	**76.71**	**335**	*e*P	pP	20 14 32.0	+5.1	
CLL	**Collm**	**76.83**	**337**	*e*pP	pP	20 14 32.0	+4.4	
KHC	**Kasperske Hory**	**78.64**	**336**	*e*P	pP	20 14 42.6	+4.9	
GERES	**GERESS Array B**	**78.87**	**335**	P	**P**	**20 14 37.6**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=30,slow=8.0,SNR=3.6							
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	pP	20 14 55.8	+5.6	
	comp=Z,19nm,1.3s							
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	pP	20 14 55.8	+5.6	
CDF				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.6							
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	pP	20 14 55.8	+5.6	
	comp=Z,9.6nm,1.3s							
GRR	**Gorron**	**82.72**	**344**	*e*P	pP	20 15 05.7	+6.2	
SMF	**Signal de Mont**	**83.42**	**341**	*e*P	pP	20 15 09.3	+6.2	
LPG	**La Plagne**	**83.81**	**339**	*e*P	pP	20 15 11.8	+6.7	
	comp=Z,13nm,1.0s							
LPG	**La Plagne**	**83.81**	**339**	*e*P	pP	20 15 11.8	+6.7	
LPG				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.7							
LPG	**La Plagne**	**83.81**	**339**	*e*P	pP	20 15 11.8	+6.7	
	comp=Z,6.4nm,1.0s							
MMAI	**Mount Meron Ar**	**83.83**	**313**	P	**P**	**20 15 05.1**	**+1.3**
	comp=Z,1.6nm,0.7s,mb4.3,baz=28,slow=6.7,SNR=3.6							
CAF	**Calviac**	**85.44**	**341**	*e*P	pP	20 15 19.3	+5.9	
	comp=Z,20nm,1.3s							
CAF	**Calviac**	**85.44**	**341**	*e*P	pP	20 15 19.3	+5.9	
CAF				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.8							
CAF	**Calviac**	**85.44**	**341**	*e*P	pP	20 15 19.3	+5.9	
	comp=Z,10nm,1.3s							

IDC 16 20:03:50.8±1.3, 4651N×15346E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/21, mbtmp3.8/3, Error ellipse: s-maj=55.0km s-min=38.2km az=102.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**64.36**	**335**	P	P	20 14 27.8	-0.5
	1.4nm,0.8s,baz=32,slow=8.2,SNR=5.1						
ASAR	**Alice Springs**	**72.06**	**199**	P	P	20 15 16.6	-0.1
	0.5nm,0.7s,baz=18,slow=4.9,SNR=4.5						
TXAR	**Lajitas Array**	**77.40**	**61**	P	P	20 15 47.9	+0.2
	0.7nm,0.6s,baz=300,slow=4.0,SNR=5.6						

IDC 16 20:04:07.6±1.3, 4536N×15483E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, Error ellipse: s-maj=39.0km s-min=33.4km az=43.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.65**	**299**	P	P	20 12 54.8	+1.5
	0.5nm,0.6s,baz=74,slow=8.0,SNR=4.0						
BVAR	**Borovoye Array**	**52.67**	**311**	P	P	20 13 23.1	-0.5
	0.9nm,0.5s,baz=57,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**65.81**	**336**	P	P	20 14 52.4	-2.2
	1.3nm,0.5s,baz=45,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**71.29**	**200**	P	P	20 15 28.1	-0.7
	0.4nm,0.7s,baz=11,slow=4.8,SNR=4.2						
TXAR	**Lajitas Array**	**77.13**	**61**	P	P	20 16 04.0	+1.1
	0.6nm,0.6s,baz=307,slow=5.4,SNR=5.7						

*BJI **16** 20:11:01.7, 4657N×15329E, h7km, mB4.8, mb4.3*
*NEIC **16** 20:11:02.4±0.6, 4668N×15348E, h10km, mb4.5/10, Error ellipse: s-maj=15.9km s-min=11.6km az=151.0*
*SKHL **16** 20:11:04.6±0.5, 46.18N×153.80E, h81km±9km*
*MOS **16** 20:11:08.5±1.3, 4661N×15323E, h70km, mb4.6/10, Error ellipse: s-maj=10.7km s-min=8.5km az=101.6*
*ISCJB **16** 20:11:08.5±1.1, 4671N±008×15328E±009, h64km±9km, mb4.4/34, Error ellipse: s-maj=15.1km s-min=7.8km az=109.5*
*IDC **16** 20:11:12.0±3.4, 4661N×153.17E, h89km±31km, mb3.9/18, mb1 4.1/20, mb1mx4.0/27, mbtmp3.9/20, Error ellipse: s-maj=18.2km s-min=14.3km az=159.0*

ISC 16 20:11:10.9±1.0, 4677N±008×15327E±010, h71km±8km, n92, σ1s11/96, mb4.3/34, 14C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.07**	**250**⇑	*i*P	**Pn**	**20 12 06.0**	**-4.7**
KUR				AMB	AMB	20 12 07.5	
	110nm,0.6s						
KUR				*i* S	**Sn**	**20 12 52.4**	**-4.6**
KUR				A		20 12 59.4	
	380nm,0.6s						
KUR				A		20 12 59.4	
	230nm,0.6s						
KUR				A		20 13 11.6	
	3μm,2.5s						
KUR				A		20 13 11.6	
	3μm,2.5s						
KUR	**Kuril'sk**	**4.07**	**250**⇑	*i*PN	**Pn**	**20 12 06.0**	**-4.7**
KUR				*i* S	**Sn**	**20 12 52.4**	**-4.6**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
KUR				smax			
	comp=N,3μm,2.5s						
KUR				smax			
	comp=E,3μm,2.5s						
SKR	**Severo-Kuril's**	**4.34**	**25**	*e*PN	**Pn**	**20 12 15.2**	**+0.8**
SKR				*e*		20 13 01.2	
YUK	**Yuzh-Kuril'sk**	**5.89**	**245**	*e*P	**Pn**	**20 12 34.6**	**-1.0**
YUK				AMB	AMB	20 12 35.6	
	comp=E,350nm,0.3s						
YUK				*e*S	**Sn**	**20 13 41.7**	**0.0**
YUK				A		20 13 57.5	
	comp=E,570nm,0.5s						
YUK				A		20 13 57.5	
	comp=E,380nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.89**	**245**	*e*PN	**Pn**	**20 12 34.6**	**-1.0**
YUK				*e*S	**Sn**	**20 13 41.7**	**0.0**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.21**	**275**	*e*P	**Pn**	**20 12 53.6**	**0.0**
YSS				AMB	AMB	20 12 55.0	
	comp=E,30nm,1.0s						
YSS				*e*S	**Sn**	**20 14 21.2**	**+7.1**
YSS	**Yuzh-Sakhalins**	**7.21**	**275**	*e*PN	**Pn**	**20 12 53.6**	**0.0**
YSS				*e*S	**Sn**	**20 14 21.2**	**+7.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**275**	*e*P	**Pn**	**20 12 53.4**	**-0.3**
	comp=Z,56nm,1.1s						
ASAJ	**Asahikawa**	**7.96**	**254**	P	**Pn**	**20 13 04.7**	**+0.8**
	comp=Z,3.7nm,0.3s,baz=63,slow=13,SNR=20						
ASAJ	**Asahikawa**	**7.96**	**254**	PN	**Pn**	**20 13 04.7**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KLR	**Kul'dur**	**14.61**	**288**	*e*P	**Pn**	**20 14 35.0**	**+1.2**
MJAR	**Matsushiro Arr**	**15.18**	**233**	P	**Pn**	**20 14 38.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=13,slow=14,SNR=4.2						
MAT	**Matsushiro**	**15.18**	**233**	P	**Pn**	**20 14 42.1**	**+1.0**
ZEA	**Zeya**	**17.97**	**302**	*e*P	**Pn**	**20 15 13.6**	**-2.3**
ZEA				AMB	AMB	20 15 14.3	
	comp=Z,9.0nm,1.0s						
CN2	**Changchun**	**19.76**	**272**	*e*P	**Pn**	**20 15 31.9**	**-5.3**
YAK	**Yakutsk**	**20.36**	**327**	*e*P	**P**	**20 15 41.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**20.36**	**327**	*e*P	**P**	**20 15 40.1**	**-1.5**
	comp=E,20nm,0.8s						
KSRS	**Korea Array**	**20.91**	**253**	P	**P**	**20 15 47.9**	**+0.4**
	comp=E,2.6nm,0.5s,baz=52,slow=11,SNR=12						
SNY	**Shenyang**	**21.75**	**268**⇑	P	**P**	**20 15 56.4**	**-0.1**
SNY				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.3						
JNU	**Nakatsue**	**21.82**	**239**	P	**P**	**20 15 59.2**	**+2.0**
	comp=Z,11nm,0.8s,mb4.2,baz=256,slow=12,SNR=2.6						
ULN	**Ulaanbaatar**	**31.00**	**289**	*e*P	**P**	**20 17 21.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
ULN	**Ulaanbaatar**	**31.00**	**289**	*e*P	**P**	**20 17 21.6**	**+0.1**
	comp=Z,4.7nm,1.3s,mb4.1						
SONM	**Songino Array**	**31.43**	**289**	P	**P**	**20 17 23.1**	**-2.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=74,slow=8.6,SNR=4.5						
COLA	**College**	**36.05**	**38**⇑	*e*P	**P**	**20 18 06.9**	**+1.4**
LZH	**Lanzhou**	**38.00**	**272**	*e*P	**P**	**20 18 23.5**	**+1.6**
LZH				AP	pP	20 18 28.1	-11
LZH				XP	sP	20 18 30.3	-17
LZH				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
LZH	**Lanzhou**	**38.00**	**272**	*e*P	**P**	**20 18 23.5**	**+1.6**
	comp=Z,16nm,1.1s,mb4.8						
LZH				pP	pP	20 18 28.1	-11
LZH				sP	sP	20 18 30.2	-17
GTA	**Gaotai**	**39.08**	**279**	*e*P	**P**	**20 18 32.0**	**+1.0**
GTA				AP	pP	20 18 36.3	-12
GTA				XP	sP	20 18 39.3	-17
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.0						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**20 18 52.7**	**+1.0**
	comp=Z,4.2nm,0.7s,mb4.3,baz=280,slow=6.0,SNR=13						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**20 18 52.7**	**+1.0**
KMI	**Kunming**	**45.35**	**260**	P	**P**	**20 19 14.6**	**-7.4**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.0						
KMI	**Kunming**	**45.35**	**260**	P	**P**	**20 19 14.6**	**-7.4**
	comp=Z,5.0nm,1.5s,mb4.0						
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**20 19 33.7**	**-1.4**
	comp=Z,1.0nm,0.6s,mb3.7,baz=66,slow=7.4,SNR=11						
MKAR				PcP	PcP	20 21 06.7	+0.4
	comp=Z,0.6nm,0.6s,baz=73,slow=1.5,SNR=5.2						
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**20 19 33.7**	**-1.4**
MKAR				PcP	PcP	20 21 06.7	+0.4
LSA	**Lhasa**	**50.38**	**273**	P	**P**	**20 20 03.0**	**+2.1**
LSA	**Lhasa**	**50.38**	**273**	*e*P	**P**	**20 20 02.8**	**+1.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**50.38**	**273**	*e*P	**P**	**20 20 02.8**	**+1.9**
	comp=Z,3.4nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**50.50**	**310**	*e*P	**P**	**20 19 59.6**	**-2.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**50.50**	**310**	*e*P	**P**	**20 19 59.6**	**-2.2**
	comp=Z,2.1nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**20 20 05.8**	**+1.5**
	comp=Z,2.5nm,0.6s,mb4.4,baz=296,slow=7.2,SNR=7.3						
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**20 20 05.8**	**+1.5**
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**20 20 03.8**	**-1.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=48,slow=8.7,SNR=7.9						
BVAR				PcP	PcP	20 21 20.7	+0.3
	comp=Z,1.2nm,0.5s,baz=99,slow=1.8,SNR=8.2						
ARU	**Arti**	**55.07**	**318**	*e*P	**P**	**20 20 35.6**	**+0.2**
ARU				*e*		20 20 35.3	
ARU				*e*S	**S**	**20 28 14.1**	**+1.5**
ARU				*e*SS	SS	20 31 54.9	-2.3
GUN	**Gumba**	**55.11**	**275**	*e*P	**P**	**20 20 36.4**	**+0.7**
KKN	**Kakani**	**55.59**	**275**	*e*P	**P**	**20 20 40.4**	**+1.2**
	comp=Z,16nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.65**	**275**	*e*P	**P**	**20 20 40.1**	**+0.5**
	comp=Z,5.7nm,0.5s,mb4.9						
DMN	**Daman**	**55.83**	**275**	*e*P	**P**	**20 20 41.8**	**+0.9**
	comp=Z,22nm,0.8s,mb5.2						
GKN	**Gorkha**	**55.90**	**276**	*e*P	**P**	**20 20 41.5**	**+0.1**
	comp=Z,19nm,0.8s,mb5.2						
KOLN	**Koldanda**	**56.76**	**277**	*e*P	**P**	**20 20 48.2**	**+0.7**
	comp=Z,15nm,0.7s,mb5.1						
ARCES	**ARCESS Array B**	**57.87**	**341**	P	**P**	**20 20 53.9**	**-1.4**
	comp=Z,4.1nm,0.9s,mb4.5,baz=341,slow=11,SNR=4.9						
NVAR	**Mina Array Bea**	**62.33**	**62**	P	**P**	**20 21 25.0**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=312,slow=5.4,SNR=3.4						
FINES	**FINESS Array B**	**64.07**	**335**	P	**P**	**20 21 36.1**	**-1.2**
	comp=Z,3.9nm,0.4s,mb4.5,baz=41,slow=7.9,SNR=28						
PDAR	**Pinedale Array**	**64.65**	**54**	P	**P**	**20 21 41.3**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.1,baz=338,slow=1.0,SNR=6.9						
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**	**20 22 02.9**	**-1.1**
	comp=Z,4.2nm,0.6s,mb4.5,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**20 22 03.0**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.5,baz=27,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**20 22 03.0**	**-1.1**
WRA	**Warramunga Arr**	**68.57**	**199**	P	**P**	**20 22 02.9**	**-3.2**
	comp=Z,0.6nm,0.8s,mb3.5,baz=18,slow=6.8,SNR=4.9						
AKASG	**Malin Array Be**	**71.59**	**326**	P	**P**	**20 22 23.5**	**-1.1**
	comp=Z,6.6nm,0.4s,mb4.8,baz=33,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**	**20 22 26.6**	**-2.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=5.5,slow=6.9,SNR=6.9						
STHS	**Stebnicka Huta**	**75.55**	**330**	*i* P	**P**	**20 22 48.7**	**+0.9**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
STHS	**Stebnicka Huta**	**75.55**	**330**	*i* P	**P**	**20 22 48.7**	**+0.9**
	comp=Z,4.5nm,0.8s,mb4.2						
KOLS	**Kolonicke sedl**	**75.60**	**329**	*e*P	**P**	**20 22 47.6**	**-0.5**
BURAR	**Bucovina Array**	**75.63**	**327**⇑	*i*P	**P**	**20 22 48.1**	**-0.1**
BURAR	**Bucovina Array**	**75.63**	**327**	⇑P	**P**	**20 22 48.1**	**-0.1**
UPC	**Upice**	**76.31**	**334**	*e*P	**P**	**20 22 51.3**	**-0.8**
DPC	**Dobruska-Polom**	**76.36**	**333**	*e*P	**P**	**20 22 53.1**	**+0.7**
CLL	**Collm**	**76.49**	**336**	*e*P	**P**	**20 22 52.0**	**-1.1**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
CLL	**Collm**	**76.49**	**336**	*e*P	**P**	**20 22 52.0**	**-1.1**
	comp=Z,6.0nm,0.7s,mb4.4						
KECS	**Kecovo**	**76.61**	**330**	*e*P	**P**	**20 22 53.8**	**0.0**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KECS	**Kecovo**	**76.61**	**330**	*e*P	**P**	**20 22 53.8**	**0.0**
	comp=Z,1.7nm,0.9s,mb3.8						
MLR	**Muntele Rosu**	**77.11**	**325**⇑	*i*P	**P**	**20 22 57.2**	**+0.6**
MLR	**Muntele Rosu**	**77.11**	**325**	⇑P	**P**	**20 22 57.2**	**+0.6**
VYHS	**Vyhne**	**77.16**	**331**	*e*P	**P**	**20 22 56.6**	**-0.3**
VYHS				pmax	pmax		
	comp=Z,17nm,2.3s,mb4.4						
VYHS	**Vyhne**	**77.16**	**331**	*e*P	**P**	**20 22 56.6**	**-0.3**
	comp=Z,16nm,2.3s,mb4.4						
VRAC	**Vranov**	**77.18**	**333**	⇓*i*P	**P**	**20 22 57.5**	**+0.5**
VRAC	**Vranov**	**77.18**	**333**	⇓P	**P**	**20 22 57.5**	**+0.5**
PRU	**Pruhonice**	**77.22**	**334**	*e*P	**P**	**20 22 57.4**	**+0.2**
MALT	**Malatya**	**77.22**	**313**⇑	*i*P	**P**	**20 22 58.6**	**+1.4**
MALT	**Malatya**	**77.22**	**313**	⇑P	**P**	**20 22 58.6**	**+1.3**
DRGR		**77.26**	**328**	⇓*i*P	**P**	**20 22 57.2**	**-0.2**
DRGR		**77.26**	**328**	⇓P	**P**	**20 22 57.2**	**-0.3**
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**20 22 57.8**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.1,baz=267,slow=3.3,SNR=20						
VOIR		**77.51**	**325**⇑	*i*P	**P**	**20 22 59.8**	**+1.0**
VOIR		**77.51**	**325**	⇑P	**P**	**20 22 59.8**	**+0.9**
KHC	**Kasperske Hory**	**78.27**	**334**	*e*P	**P**	**20 23 03.0**	**-0.1**
BRTR	**Keskin Array B**	**78.45**	**317**	P	**P**	**20 23 03.1**	**-0.9**
	comp=Z,4.5nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**78.49**	**334**	P	**P**	**20 23 03.6**	**-0.7**
	comp=Z,1.1nm,0.6s,mb3.8,baz=39,slow=5.8,SNR=10						
BZS	**Buzias**	**78.66**	**328**⇑	*i*P	**P**	**20 23 05.2**	**0.0**
BZS	**Buzias**	**78.66**	**328**	⇑P	**P**	**20 23 05.2**	**0.0**
MMAI	**Mount Meron Ar**	**82.88**	**312**	P	**P**	**20 23 28.8**	**+1.0**
	comp=Z,5.1nm,0.6s,mb4.5,baz=45,slow=7.2,SNR=21						
SNAA	**Sanae**	**152.60**	**196**	*e*PKPdf	PKPbc	20 30 59.1	-0.1
SNAA				*e*		20 31 09.8	
VNA2	**Neumayer--Watz**	**154.05**	**194**	*e*PKPdf	PKPbc	20 31 02.1	-0.3
VNA2				*e*		20 31 16.4	
VNA3	**Neumayer Olymp**	**154.14**	**193**	*e*PKPdf	PKPbc	20 31 02.6	0.0
VNA3				*e*		20 31 17.3	

*NEIC **16** 20:15:45.6±0.5, 4709N×15559E, h10km, mb4.8/24, Error ellipse: s-maj=12.2km s-min=7.1km az=147.0*
*SKHL **16** 20:15:45.5±1.8, 4704N×15558E, h55km±14km, msh5.9/1*
*MOS **16** 20:15:45.7±1.0, 4705N×15543E, h23km, mb5.0/22, Error ellipse: s-maj=9.0km s-min=7.2km az=113.5*
*ISCJB **16** 20:15:46.3±0.4, 4726N±006×15546E±007, h20km, mb4.6/55, MS3.9/6, Error ellipse: s-maj=9.0km s-min=5.2km az=113.3*
*BJI **16** 20:15:46.3, 4735N×155.13E, h8km, mB4.8, mb4.6, Ms4.4, Msz4.2*
*IDC **16** 20:15:50.2±3.8, 4707N×15554E, h43km±35km, mb4.2/20, mb1 4.3/21, mb1mx4.2/26, mbtmp4.2/21, ML4.2/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/43, Error ellipse: s-maj=18.0km s-min=14.4km az=145.0*
*SZGRF **16** 20:16:01.3, 4745N×15465E, h33km, mb5.0, Kuril Islands, Russia*

ISC 16 20:15:48.0±0.4, 4725N±005×15553E±007, h21km, h21km±2.8km: pP-P, n142, σ1s09/121, mb4.6/55, MS3.9/6, 14C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.46**	**6**	*e*P	**Pn**	**20 16 40.5**	**-0.1**
SKR				AMB	AMB	20 16 44.0	
	80nm,0.5s						
SKR				*e*S	**Sn**	**20 17 20.5**	**-0.5**
SKR				A		20 17 25.8	
	610nm,0.2s						
SKR				A

CN2 Changchun 21.29 272 *e*P **P** **20 20 30.4 -2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
BILL Bilibino 21.56 11⇑*e*P **P** **20 20 37.1 +1.1**
BILL pmax pmax
comp=Z,20nm,1.3s,mb4.4
BILL Bilibino 21.56 11 *e*P **P** **20 20 37.0 +0.9**
comp=Z,15nm,0.9s,mb4.4
KSRS Korea Array 22.53 254 P **P** **20 20 47.0 +0.6**
comp=Z,14nm,0.8s,mb4.5,baz=62,slow=8.9,SNR=30
KSRS LR LR 20 28 19.9
comp=Z,90nm,20.0s,MS3.2,baz=249,slow=33
SNY Shenyang 23.31 268⇑P **P** **20 20 56.4 +1.8**
SNY AP 20 20 58.6
SNY XP sP 20 21 02.3 -1.0
SNY AMB AMB
comp=Z,13nm,0.7s,mb4.5
SNY AMB AMB
comp=Z,128nm,4.8s
SNY LR LR
comp=N,189nm,12.1s,MS4.0
SNY LR LR
comp=E,278nm,12.3s,MS4.0
SNY LR LR
comp=Z,348nm,15.2s,MS3.9
INCN Inchon 23.36 256 *e*P **P** **20 20 56.4 +1.3**
comp=Z,19nm,0.8s,mb4.6
JNU Nakatsue 23.41 242 P **P** **20 20 54.9 -0.8**
comp=Z,23nm,0.7s,mb4.7,baz=274,slow=25,SNR=4.3
JNU LR LR 20 31 05.7
comp=Z,288nm,18.7s,MS3.8,baz=99,slow=39
BOD Bodaibo 26.96 309 *e*P **P** **20 21 25.6 -2.4**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
ULN Ulaanbaatar 32.30 289 *e*P **P** **20 22 14.5 -0.9**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ULN Ulaanbaatar 32.30 289 *e*P **P** **20 22 14.5 -0.8**
comp=Z,5.0nm,0.8s,mb4.4
SONM Songino Array 32.73 290 P **P** **20 22 18.6 -0.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=64,slow=8.8,SNR=28
SONM PcP PcP 20 25 03.3 -1.1
comp=Z,1.3nm,0.8s,baz=129,slow=1.7,SNR=4.9
TLY Talaya 33.42 297⇑*e*P **P** **20 22 24.4 -0.8**
ZAK Zakamensk 33.97 295 *e*P **P** **20 22 29.5 -0.5**
ZAK *e* 20 25 06.1
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
COLA College 34.72 39⇑*e*P **P** **20 22 36.5 +0.1**
WHN Wuhan 35.66 257⇑P **P** **20 22 45.0 +0.5**
XAN Xi'an 37.20 266 P **P** **20 22 57.4 -0.3**
XAN AP pP 20 23 07.6 +3.5
XAN AMB AMB
comp=Z,2.0nm,0.5s,mb4.2
EGAK Eagle 37.58 39 *e*P **P** **20 23 00.8 -0.1**
comp=Z,16nm,1.4s,mb4.6
LZH Lanzhou 39.52 273 *e*P **P** **20 23 18.6 +1.4**
LZH AP pP 20 23 24.3 +0.7
LZH XP sP 20 23 27.8 +1.6
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,135nm,4.0s
LZH Lanzhou 39.52 273 *e*P **P** **20 23 18.6 +1.4**
LZH *PP pP 20 23 24.2 +0.6
LZH *SP sP 20 23 27.7 +1.5
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.0
LZH Lanzhou 39.52 273 *e*P **P** **20 23 18.6 +1.4**
comp=Z,30nm,1.0s,mb5.0
LZH pP pP 20 23 24.2 +0.6
LZH sP sP 20 23 27.7 +1.5
INK Inuvik 40.34 33 P **P** **20 23 24.6 +0.6**
comp=Z,2.7nm,0.8s,mb4.0,baz=256,slow=8.0,SNR=9.4
GTA Gaotai 40.52 280 *e*P **P** **20 23 27.0 +1.5**
GTA AP pP 20 23 31.3 -0.7
GTA XP sP 20 23 34.5 0.0
GTA PCP PcP 20 25 31.0 +3.2
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,72nm,4.6s
GTA LR LR
comp=N,134nm,11.4s,MS4.2
GTA LR LR
comp=E,206nm,14.8s,MS4.2
GTA LR LR
comp=Z,232nm,9.9s
CD2 Chengdu 42.57 267⇑*i*P **P** **20 23 42.8 +0.5**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA Guiyang 43.44 259⇓*i*P **P** **20 23 49.8 +0.5**
GYA AP pP 20 23 53.8 -2.0
GYA XP sP 20 23 56.8 -1.6
GYA PP PP 20 25 30.3 -0.1
GYA PCP PcP 20 25 41.3 +3.9
GYA SCP ScP 20 29 34.0 +6.4
GYA S **S** **20 30 07.6 -8.9**
GYA SCS ScS 20 33 49.6 +1.6
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,160nm,5.4s
GYA LR LR
comp=N,740nm,16.7s,MS4.8
GYA LR LR
comp=E,830nm,17.4s,MS4.8
GYA LR LR
comp=Z,810nm,17.0s,MS4.7
ZAL Zalesovo 43.68 306 P **P** **20 23 50.3 -1.0**
comp=Z,4.3nm,0.5s,mb4.4,baz=44,slow=7.2,SNR=20
ZAL PcP PcP 20 25 38.0 -0.2
comp=Z,1.3nm,0.4s,baz=295,slow=1.0,SNR=3.4
KMI Kunming 46.96 261 P **P** **20 24 18.3 +1.0**
KMI AP pP 20 24 28.1 +4.3
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
KMI Kunming 46.96 261 P **P** **20 24 18.2 +0.9**
KMI *PP pP 20 24 28.1 +4.3
KMI pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
KMI Kunming 46.96 261 P **P** **20 24 18.2 +0.9**
comp=Z,7.0nm,1.4s,mb4.4
KMI pP pP 20 24 28.1 +4.3
MKAR Makanchi Array 48.18 298 P **P** **20 24 25.9 -0.9**
comp=Z,12nm,1.0s,mb4.9,baz=70,slow=6.2,SNR=36
MKAR PcP PcP 20 25 53.5 -0.4
comp=Z,1.6nm,0.6s,baz=75,slow=2.6,SNR=5.5
MKAR Makanchi Array 48.18 298 *i*P **P** **20 24 26.8 0.0**
MKAR pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 48.46 304 P **P** **20 24 28.6 -0.4**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YKA Yellowknife Ar 49.53 38 P **P** **20 24 36.9 -0.2**
comp=Z,3.0nm,0.8s,mb4.4,baz=296,slow=7.2,SNR=4.6
YKA Yellowknife Ar 49.53 38 P **P** **20 24 36.9 -0.2**
CHKZ Chkalovo 51.37 311 P **P** **20 24 50.7 -0.4**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CHKZ Chkalovo 51.37 311 *e*P **P** **20 24 50.4 -0.6**
comp=Z,20nm,0.6s,mb5.2
BVA0 Borovoye Array 51.82 310 *i*P **P** **20 24 54.2 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
BVAR Borovoye Array 51.82 310 P **P** **20 24 54.7 +0.4**
comp=Z,7.8nm,0.5s,mb4.9,baz=54,slow=8.1,SNR=62
BRVK Borovoye 51.85 310 P **P** **20 24 54.5 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 51.85 310 *e*P **P** **20 24 54.8 +0.1**
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 51.90 274 P **P** **20 24 57.3 +2.3**
LSA Lhasa 51.90 274 *e*P **P** **20 24 57.3 +2.3**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 51.90 274 *e*P **P** **20 24 57.2 +2.3**
comp=Z,6.1nm,0.6s,mb4.7
ZRNK Zerenda 52.57 310 *e*P **P** **20 25 00.1 +0.1**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
ZRNK Zerenda 52.57 310 *e*P **P** **20 25 00.1 0.0**
comp=Z,7.0nm,0.5s,mb4.8
CHTO Chiang Mai 53.84 258 *e*P **P** **20 25 09.4 0.0**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 53.84 258 *e*P **P** **20 25 09.4 0.0**
comp=Z,9.4nm,1.0s,mb4.7
FRU Bishkek 54.90 297 *e*P **P** **20 25 18.0 +0.9**
AAK Ala-Archa 55.09 297 *e*P **P** **20 25 17.8 -0.6**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
AAK Ala-Archa 55.09 297 *e*P **P** **20 25 17.8 -0.6**
comp=Z,6.6nm,0.6s,mb4.8
ARU Arti 55.76 318*d i*P **P** **20 25 23.0 -0.2**
ARU pmax pmax
comp=Z,44nm,1.0s,mb5.4
ARU Arti 55.76 318 *e*P **P** **20 25 23.1 -0.2**
comp=Z,50nm,1.1s,mb5.5
KKAR Karatay Array 57.20 300 *i*P **P** **20 25 33.7 +0.2**
KKAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARCES ARCESS Array B 57.92 341 P **P** **20 25 38.7 +0.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=34,slow=7.6,SNR=22
TMCR Tamitsa 58.66 333 *e*P **P** **20 25 44.5 +0.8**
AB31 Akbulak array 59.37 311 *i*P **P** **20 25 49.0 +0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
AKTK Aktyubinsk 59.62 313 P **P** **20 25 50.4 0.0**
AKTO Aktyubinsk 59.62 313 P **P** **20 25 50.4 0.0**
comp=Z,5.1nm,0.8s,mb4.6,baz=74,slow=5.5,SNR=11
AKTO Aktyubinsk 59.62 313 P **P** **20 25 49.1 -1.3**
ORR Orenburg 60.47 315 *e*P **P** **20 25 56.6 +0.4**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
QLMT Earthquake Lak 60.75 55 *e*P **P** **20 25 58.7 +0.6**
PDAR Pinedale Array 63.11 55 P **P** **20 26 14.3 +0.3**
comp=Z,3.0nm,0.9s,mb4.4,baz=290,slow=3.0,SNR=16
FINES FINESS Array B 64.28 336 P **P** **20 26 21.5 -0.2**
comp=Z,2.8nm,0.4s,mb4.7,baz=36,slow=8.4,SNR=32
ULM Lac du Bonnet 65.05 42 P **P** **20 26 26.1 -0.7**
comp=Z,2.3nm,0.7s,mb4.3,baz=324,slow=8.3,SNR=4.0
OBN Obninsk 65.82 327⇓*i*P **P** **20 26 31.5 -0.2**
OBN *e* pP 20 26 38.1 -0.4
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
NB2 NORSAR Subarra 68.28 342 P **P** **20 26 46.8 -0.5**
comp=Z,4.8nm,0.9s,mb4.5,baz=27,slow=6.9
NOA NORSAR Array B 68.28 342 P **P** **20 26 47.2 -0.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=26,slow=6.4,SNR=5.9
WRAB Tennant Creek 69.54 201 *i*P **P** **20 26 58.0 +2.8**
WRA Warramunga Arr 69.55 201 P **P** **20 26 52.9 -2.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=20,slow=6.8,SNR=6.1
ANMO Albuquerque 70.15 60⇑*e*P **P** **20 27 00.3 +1.3**
GOF Gofitskoye 70.64 316 *e*P **P** **20 27 01.5 -0.4**
KIV Kislovodsk 71.62 315 *e*P **P** **20 27 10.0 +2.1**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 71.62 315 *e*P **P** **20 27 06.6 -1.3**
comp=Z,13nm,0.8s,mb4.9
AKASG Malin Array Be 72.04 327 P **P** **20 27 09.3 -1.0**
comp=Z,0.8nm,0.3s,mb4.1,baz=32,slow=5.7,SNR=6.3
ASAR Alice Springs 73.23 201 P **P** **20 27 15.7 -1.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=12,slow=4.9,SNR=7.5
GNI Garni 73.46 312⇓*i*P **P** **20 27 20.7 +1.9**
GNI pmax pmax
comp=Z,22nm,1.3s
TXAR Lajitas Array 75.80 62 P **P** **20 27 32.2 -0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=302,slow=4.4,SNR=17
TXAR Lajitas Array 75.80 62 P **P** **20 27 32.2 -0.2**
STHS Stebnicka Huta 75.90 331 *e*P **P** **20 27 36.2 +3.2**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 75.90 331 *e*P **P** **20 27 36.2 +3.2**
comp=Z,3.9nm,0.8s,mb4.4
BURAR Bucovina Array 76.07 328⇑*i*P **P** **20 27 33.6 -0.3**
UPC Upice 76.56 335 *e*pP pP 20 27 41.2 -2.3
DPC Dobruska-Polom 76.61 335 *e*P **P** **20 27 37.3 +0.3**
DPC *e*pP pP 20 27 43.8 0.0
CLL Collm 76.68 337 *e*P **P** **20 27 37.0 -0.4**
CLL *e*pP pP 20 27 43.0 -1.2
comp=Z,17nm,1.3s
BRG Berggiesshubel 76.82 336 *e*P pP 20 27 45.2 +0.3
comp=Z,2.7nm,1.1s
BRG Berggiesshubel 76.82 336 *e*P pP 20 27 45.2 +0.2
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 76.96 331 *e*P **P** **20 27 39.3 +0.3**
KECS Kecovo 76.96 331 *e*P **P** **20 27 39.4 +0.4**
PRU Pruhonice 77.45 335 *e*P **P** **20 27 41.7 0.0**
PRU *e*pP pP 20 27 47.4 -1.1
VYHS Vyhne 77.48 332 *e*P pP 20 27 46.7 -2.0
MLR Muntele Rosu 77.59 326⇓*i*P **P** **20 27 43.8 +1.3**
MOX Moxa 77.65 337 *e*(P) pP 20 27 48.1 -1.6
DRGR 77.66 329⇑*i*P **P** **20 27 44.0 +1.1**
SMOL Smolenice 77.91 333 *e*P **P** **20 27 41.0 -3.3**
KHC Kasperske Hory 78.49 336 *e*P **P** **20 27 48.1 +0.6**
KHC *e*pP pP 20 27 52.9 -1.4
GRA1 Grafenberg Arr 78.62 337 *e*P pP 20 27 56.0 +0.9
comp=Z,11nm,0.9s
GRF Grafenberg Arr 78.62 337 *e*P pP 20 27 56.0 +0.9
comp=Z,11nm,0.9s
GRF Grafenberg Arr 78.62 337 *e*P pP 20 27 56.0 +0.9
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 78.62 337 *e*P pP 20 27 56.0 +0.9
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GERES GERESS Array B 78.72 335 P **P** **20 27 49.0 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=38,slow=6.8,SNR=6.9
GERES GERESS Array B 78.72 335 P **P** **20 27 49.0 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BZS Buzias 79.06 329⇑*i*P **P** **20 27 50.2 -0.5**
CDF Champ du Feu 80.80 339 *e*P pP 20 28 06.4 -0.5
comp=Z,29nm,1.2s
CDF Champ du Feu 80.80 339 *e*P pP 20 28 06.4 -0.5
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CDF Champ du Feu 80.80 339 *e*P pP 20 28 06.4 -0.5
comp=Z,14nm,1.2s
VTS Vitosha 81.09 326⇑*i*P **P** **20 27 58.6 -3.0**
GRR Gorron 82.56 344 *e*P pP 20 28 16.3 +0.1
comp=Z,50nm,1.2s
GRR Gorron 82.56 344 *e*P pP 20 28 16.3 +0.1
GRR pmax pmax
comp=Z,25nm,1.2s,mb5.1
GRR Gorron 82.56 344 *e*P pP 20 28 16.3 +0.1
comp=Z,25nm,1.2s
SMF Signal de Mont 83.26 341 *e*P pP 20 28 20.0 +0.1
comp=Z,42nm,1.1s
SMF Signal de Mont 83.26 341 *e*P pP 20 28 20.0 +0.1
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.1
SMF Signal de Mont 83.26 341 *e*P pP 20 28 20.0 +0.1
comp=Z,21nm,1.1s
LPG La Plagne 83.65 338 *e*P pP 20 28 22.0 +0.1
comp=Z,47nm,1.1s
LPG La Plagne 83.65 338 *e*P pP 20 28 22.0 +0.1
LPG pmax pmax
comp=Z,23nm,1.1s,mb5.2
LPG La Plagne 83.65 338 *e*P pP 20 28 22.0 +0.1
comp=Z,23nm,1.1s
MMAI Mount Meron Ar 83.71 313 P **P** **20 28 16.4 +1.1**
comp=Z,6.4nm,0.8s,mb4.8,baz=36,slow=7.2,SNR=9.0
CAF Calviac 85.29 341 *e*P pP 20 28 29.9 -0.3
SNAA Sanae 153.48 195 PKPbc PKPbc 20 35 41.7 -3.1
comp=Z,0.6nm,0.9s,baz=261,slow=11,SNR=5.1
SNAA Sanae 153.48 195 *e*PKPdf PKPdf 20 35 39.8 +2.6
SNAA *e* 20 35 49.2
SNAA *e* 20 36 00.1
VNA2 Neumayer--Watz 154.88 193 *e*PKPdf PKPdf 20 35 38.3 -0.8
VNA2 *e* 20 35 47.7
VNA2 *e* 20 36 03.9
VNA3 Neumayer Olymp 154.92 191 *e*PKPdf PKPdf 20 35 35.7 -3.5
VNA3 *e* 20 35 44.3
VNA3 *e* 20 35 59.2

NEIC ***16*** *20:18:14.1, 1609N×9692W, h23km, MD3.9(MEX), After MEX.*

MEX 16 20:18:14.0±0.7, 1612N×9692W, h14km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.85**	**114**	*i* P	Pg	20 18 28.2	-2.4
HUIG				*i* S	Sg	20 18 37.7	-4.1
HUIG	**Huatulco**	**0.85**	**114**	*i* P	Pg	20 18 28.2	-2.4
HUIG				*i* S	Sg	20 18 37.1	-4.6
VHO	**Vista Hermosa**	**0.96**	**11**	*i* P	Pb	20 18 29.4	-3.1
VHO				*i* S	Sb	20 18 41.6	-3.3
OXX	**Oaxaca**	**0.97**	**11**	*i* P	Pb	20 18 29.0	-3.6
OXX				*i* S	Sb	20 18 41.5	-3.8
PNIG	**Pinotepa**	**1.19**	**283**	*i* P	Pn	20 18 32.5	-3.7
PNIG				*i* S	Sb	20 18 47.6	-4.0
PNIG	**Pinotepa**	**1.19**	**283**	*i* P	Pn	20 18 31.1	-5.1
PNIG				*i* S	Sb	20 18 47.6	-4.0
UTMO	**Huajuapan**	**1.90**	**334**	*i* P	Pn	20 18 43.2	-2.7
UTMO				*i* S	Sn	20 19 05.8	-3.8
CMIG	**Matias Romero**	**2.18**	**63**	*i* P	Pn	20 18 46.7	-3.1
CMIG				*i* S	Sn	20 19 13.0	-3.5
TPIG	**Tehuac#an**	**2.33**	**350**	*e*P	Pn	20 18 49.7	-2.1
TPIG				*i* S	Sn	20 19 15.7	-4.4
ACX	**Acapulco**	**2.97**	**285**	*i* P	Pn	20 19 23.0	+22
ACX				*i* S	Sn	20 19 41.0	+4.9
ACX	**Acapulco**	**2.97**	**285**	*i* P	Pn	20 18 23.0	-38
ACX				*i* S	Sn	20 18 41.0	-55
MEIG	**Mezcala**	**3.15**	**305**	*e*P	Pn	20 19 01.4	-1.7
MEIG				*i* S	Sn	20 19 37.6	-2.8
PLIG	**Platanillo**	**3.35**	**313**	*e*P	Pn	20 19 03.8	-2.0
PLIG				*i* S	Sn	20 19 42.0	-3.4
PPM	**Popocatepetl**	**3.35**	**331**	*i* P	Pn	20 19 03.0	-2.9
IIO	**Organos**	**3.86**	**334**	*i* P	Pn	20 19 11.9	-0.9
IIO				*i* S	Sn	20 19 57.9	0.0

IDC 16 20:19:06.1±11.0, 650S×15183E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=183.3km s-min=67.5km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**230**	P	P	20 23 57.6	0.0
	0.5nm,0.8s,baz=54,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**24.25**	**223**	P	P	20 24 26.3	+1.6
	0.4nm,0.6s,baz=54,slow=9.6,SNR=4.4						
STKA	**Stephens Creek**	**27.00**	**199**	P	P	20 24 48.8	-0.8
	1.8nm,0.9s,baz=5.7,slow=10,SNR=2.3						
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	P	20 24 59.5	+0.7
	1.9nm,0.8s,baz=69,slow=13,SNR=3.2						

NEIC ***16*** *20:19:03.9±0.6, 4725N×15277E, h10km, mb4.3/4, Error ellipse: s-maj=17.1km s-min=8.8km az=151.0*
ISCJB ***16*** *20:19:10.0±1.1, 4704N±009×1530E±0.1, h81km±8km, mb4.1/17, Error ellipse: s-maj=17.6km s-min=6.6km az=108.0*
MOS ***16*** *20:19:09.1±1.2, 4698N×15291E, h79km, mb4.4/6, Error ellipse: s-maj=14.4km s-min=11.3km az=48.7*
IDC ***16*** *20:19:12.8±3.8, 4708N×15275E, h90km±39km, mb3.8/14, mb1 4.0/16, mb1mx3.9/24, mbtmp3.8/16, Error ellipse: s-maj=33.8km s-min=15.3km az=176.0*

ISC 16 20:19:12.3±1.0, 4710N±009×1529E±01, h87km±7km, n43, σ1§00/45, mb4.1/17, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.98**	**244**	⇓*i* PN	**Pn**	**20 20 05.2**	**-5.9**
KUR				*i* S	**Sn**	**20 20 57.0**	**+0.4**
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				smax			
	comp=N,400nm,0.6s						
KUR				smax			
	comp=E,270nm,0.6s						
SKR	**Severo-Kuril's**	**4.16**	**29**	*e*PN	**Pn**	**20 20 12.5**	**-0.9**
SKR				*e*S	**Sn**	**20 21 01.2**	**+0.4**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,610nm,0.3s						
SKR				smax			
	comp=E,310nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**241**	*e*PN	**Pn**	**20 20 34.0**	**-2.2**
YSS	**Yuzh-Sakhalins**	**6.96**	**273**	*e*PN	**Pn**	**20 20 52.2**	**+0.6**
YSS				S	**Sn**	**20 22 11.0**	**+1.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
PET	**Petropavlovsk**	**6.98**	**30**	*e*PN	**Pn**	**20 20 56.6**	**+4.8**
PET				pmax	pmax		
	comp=Z,32nm,1.2s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
ASAJ	**Asahikawa**	**7.83**	**251**	P	**Pn**	**20 21 02.8**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=30,slow=12,SNR=3.5						
ASAJ	**Asahikawa**	**7.83**	**251**	PN	**Pn**	**20 21 02.8**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**14.29**	**286**	*e*P	**Pn**	**20 22 31.0**	**+0.6**
MAT	**Matsushiro**	**15.20**	**231**	P	**Pn**	**20 22 44.4**	**+2.4**
MJAR	**Matsushiro Arr**	**15.20**	**231**	P	**Pn**	**20 22 39.2**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=3.8						
KSRS	**Korea Array**	**20.79**	**251**	P	**P**	**20 23 46.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=56,slow=12,SNR=4.2						
SONM	**Songino Array**	**31.10**	**289**	P	**P**	**20 25 20.6**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.5,baz=76,slow=6.1,SNR=3.2						
INK	**Inuvik**	**41.42**	**33**	P	**P**	**20 26 51.0**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.4,baz=287,slow=8.1,SNR=10						
ZAL	**Zalesovo**	**42.32**	**305**	PcP	PcP	20 28 49.1	-0.4
	comp=Z,2.0nm,0.7s,baz=42,slow=3.0,SNR=8.6						
KMI	**Kunming**	**45.18**	**259**	P	**P**	**20 27 20.9**	**+0.5**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
KMI	**Kunming**	**45.18**	**259**	P	**P**	**20 27 20.9**	**+0.5**
	comp=Z,6.0nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**20 27 31.4**	**-0.7**
	comp=Z,1.3nm,0.9s,mb3.7,baz=86,slow=7.7,SNR=4.0						
MKAR				PcP	PcP	20 29 04.3	-0.2
	comp=Z,1.7nm,0.8s,baz=62,slow=4.7,SNR=6.5						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**20 27 31.4**	**-0.7**
MKAR						20 29 04.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**20 27 31.4**	**-0.7**
MKAR				PcP	PcP	20 29 04.3	-0.2
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**20 28 01.2**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=87,slow=6.1,SNR=4.0						
BVAR				PcP	PcP	20 29 18.2	-0.3
	comp=Z,1.9nm,0.5s,baz=79,slow=3.2,SNR=8.4						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**20 28 03.5**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.3,baz=299,slow=6.9,SNR=4.9						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**20 28 03.5**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**52.08**	**256**	*e*P	**P**	**20 28 13.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CHTO	**Chiang Mai**	**52.08**	**256**	*e*P	**P**	**20 28 13.5**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**57.48**	**341**	P	**P**	**20 28 51.7**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.4,baz=35,slow=8.1,SNR=3.6						
NVAR	**Mina Array Bea**	**62.38**	**62**	P	**P**	**20 29 26.8**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=289,slow=8.2,SNR=5.0						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**20 29 33.5**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.3,baz=33,slow=7.8,SNR=13						
PDAR	**Pinedale Array**	**64.64**	**54**	P	**P**	**20 29 41.6**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=289,slow=1.4,SNR=11						
NB2	**NORSAR Subarra**	**67.86**	**341**	P	**P**	**20 30 00.4**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**67.86**	**341**	P	**P**	**20 30 00.7**	**-0.5**
	comp=Z,4.1nm,0.8s,mb4.3,baz=27,slow=6.3,SNR=7.9						
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**20 30 20.9**	**-0.9**
	comp=Z,2.2nm,0.4s,mb4.4,baz=32,slow=6.1,SNR=14						
STHS	**Stebnicka Huta**	**75.15**	**330**	*i* P	**P**	**20 30 45.8**	**+0.7**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
STHS	**Stebnicka Huta**	**75.15**	**330**	*i* P	**P**	**20 30 45.8**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.2						
BURAR	**Bucovina Array**	**75.23**	**326**⇑	*i* P	**P**	**20 30 45.4**	**-0.1**
MORC	**Moravsky Berou**	**76.07**	**332**⇓	*i* P	**P**	**20 30 50.4**	**+0.1**
CLL	**Collm**	**76.09**	**335**	*i* P	**P**	**20 30 49.9**	**-0.6**
KECS	**Kecovo**	**76.21**	**330**	*e*P	**P**	**20 30 49.8**	**-1.3**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
KECS	**Kecovo**	**76.21**	**330**	*e*P	**P**	**20 30 49.8**	**-1.3**
	comp=Z,2.0nm,1.0s,mb3.8						
MLR	**Muntele Rosu**	**76.71**	**325**⇓	*i* P	**P**	**20 30 55.0**	**+1.1**
VRAC	**Vranov**	**76.78**	**332**⇑	*i* P	**P**	**20 30 54.5**	**+0.1**
MALT	**Malatya**	**76.82**	**313**⇑	*i* P	**P**	**20 30 56.0**	**+1.4**
TXAR	**Lajitas Array**	**77.43**	**60**	P	**P**	**20 30 58.6**	**+0.7**
	comp=Z,1.5nm,0.4s,mb4.0,baz=296,slow=4.9,SNR=23						

GERES	**GERESS Array B**	**78.09**	**334**	P		**P**		**20 31 01.3**	**-0.3**
	comp=Z,1.0nm,0.5s,mb3.8,baz=33,slow=6.0,SNR=10.0								

NEIC ***16*** *20:20:03.8±1.8, 641S×151.51E, h10km, mb4.2/3, Error ellipse: s-maj=38.7km s-min=27.8km az=140.0*
ISCJB ***16*** *20:20:09.2±5.3, 65S±03×1512E±03, h57km±37km, mb3.9/4, Error ellipse: s-maj=55.1km s-min=39.4km az=125.1*
IDC ***16*** *20:20:12.2±8.9, 648S×151.17E, h59km±65km, mb3.8/4, mb1 4.0/5, mb1mx3.6/15, mbtmp3.8/5, ML2.8/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=58.2km s-min=51.9km az=72.0*

ISC 16 20:20:10.2±5.2, 64S±03×1513E±03, h53km±36km, n12, σ0§64/10, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**5.06**	**233**	P		**Pn**	**20**	**21**	**23.6 +0.2**
	2.6nm,0.3s,baz=66,slow=10.0,SNR=6.5								
PMG				S		**Sn**	**20**	**22**	**20.7 +0.2**
	3.3nm,0.3s,baz=320,slow=21,SNR=5.4								
HNR	**Honiara**	**9.13**	**110**	LR		LR	20	25	00.1
	comp=Z,78nm,21.0s,baz=359,slow=31								
CTA	**Charters Tower**	**14.48**	**199**	LR		LR	20	28	07.0
	comp=Z,60nm,20.8s,baz=236,slow=33								
KAKA	**Kakadu**	**19.59**	**250**	*e*P		**Pn**	**20**	**24**	**35.1 -0.5**
	7.6nm,0.6s								
WB2	**Warramunga Arr**	**21.25**	**229**	*e*P		**P**	**20**	**24**	**51.4 -0.4**
WRA	**Warramunga Arr**	**21.26**	**229**	P		**P**	**20**	**24**	**50.8 -1.1**
	2.9nm,0.8s,mb3.7,baz=53,slow=11,SNR=7.1								
ASAR	**Alice Springs**	**23.96**	**222**	P		**P**	**20**	**25**	**19.8 +0.3**
	2.6nm,0.6s,mb3.9,baz=56,slow=8.7,SNR=28								
STKA	**Stephens Creek**	**26.94**	**198**	*e*P		**P**	**20**	**25**	**46.4 -0.1**
	3.1nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**26.94**	**198**	P		**P**	**20**	**25**	**46.9 +0.4**
	3.4nm,0.7s,mb4.0,baz=20,slow=9.7,SNR=8.6								
FITZ	**Fitzroy Crossi**	**27.57**	**243**	*e*P		**P**	**20**	**25**	**53.3 +1.1**
	4.6nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**27.57**	**243**	P		**P**	**20**	**25**	**53.3 +1.2**
	3.1nm,0.7s,mb4.1,baz=79,slow=10,SNR=9.5								
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc		PKPbc	20	39	55.1 +2.2
	0.9nm,0.7s,baz=76,slow=3.7,SNR=5.5								

IDC ***16*** *20:20:30.0±1.0, 4668N×15487E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/23, mbtmp4.0/11, Error ellipse: s-maj=27.5km s-min=20.8km az=177.0*
ISCJB ***16*** *20:20:33.0±0.9, 465N±0.1×1545E±0.1, h35km, mb4.0/12, Error ellipse: s-maj=23.0km s-min=9.5km az=132.6*
MOS ***16*** *20:20:33.3±1.0, 4656N×15442E, h33km, mb4.4/9, Error ellipse: s-maj=26.1km s-min=19.9km az=112.2*

ISC 16 20:20:34.9±0.9, 466N±01×1546E±01, h35km, n21, σ1§05/22, mb4.0/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
KUR	**Kuril'sk**	**4.86**	**256**	PN		**Pn**	**20**	**21**	**43.0 -2.4**
KUR				*i* S		**Sn**	**20**	**22**	**40.0 -0.4**
KUR					pmax	pmax			
	comp=Z,110nm,0.5s								
KUR					smax				
	comp=N,340nm,0.7s								
KUR					smax				
	comp=E,150nm,0.7s								
KSRS	**Korea Array**	**21.70**	**255**	P		**P**		**20 25 27.1 +4.5**	
	comp=E,3.2nm,0.9s,mb3.8,baz=56,slow=12,SNR=6.2								
BILL	**Bilibino**	**22.35**	**12**	*e*P		**P**		**20 25 28.9 -0.8**	
BILL					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.2								
SONM	**Songino Array**	**32.33**	**290**	P		**P**		**20 27 01.2 +0.6**	
	comp=Z,0.3nm,0.7s,mb3.2,baz=81,slow=9.2,SNR=2.8								
ZAL	**Zalesovo**	**43.53**	**306**	P		**P**		**20 28 34.5 -0.6**	
	comp=Z,0.9nm,0.5s,mb3.8,baz=42,slow=10,SNR=4.0								
ZAL	**Zalesovo**	**43.53**	**306**	P		**P**		**20 28 34.5 -0.5**	
ZAL					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**47.90**	**298**	P		**P**		**20 29 10.6 +1.0**	
	comp=Z,1.0nm,0.7s,mb4.0,baz=63,slow=8.1,SNR=4.3								
MKAR	**Makanchi Array**	**47.90**	**298**	P		**P**		**20 29 10.6 +1.0**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**51.73**	**310**	P		**P**		**20 29 40.3 +1.6**	
	comp=Z,3.2nm,0.5s,mb4.5,baz=56,slow=7.4,SNR=14								
BVAR	**Borovoye Array**	**51.73**	**310**	P		**P**		**20 29 40.3 +1.6**	
BVAR					pmax	pmax			
	comp=Z,3.0nm,0.5s								
ARCES	**ARCESS Array B**	**58.34**	**341**	P		**P**		**20 30 26.5 +0.1**	
	comp=Z,3.4nm,0.9s,mb4.4,baz=28,slow=7.5,SNR=9.9								
ARCES	**ARCESS Array B**	**58.34**	**341**	P		**P**		**20 30 26.5 +0.1**	
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
AKTO	**Aktyubinsk**	**59.58**	**313**	P		**P**		**20 30 34.6 -0.4**	
	comp=Z,0.9nm,0.6s,mb4.0,baz=78,slow=9.3,SNR=4.2								
AKTO	**Aktyubinsk**	**59.58**	**313**	P		**P**		**20 30 34.6 -0.4**	
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
PDAR	**Pinedale Array**	**64.05**	**55**	P		**P**		**20 31 03.5 -1.5**	
	comp=Z,1.2nm,0.9s,mb3.9,baz=289,slow=3.3,SNR=5.0								
FINES	**FINESS Array B**	**64.62**	**335**	P		**P**		**20 31 09.6 +0.8**	
	comp=Z,2.0nm,0.7s,mb4.3,baz=30,slow=8.3,SNR=6.0								
FINES	**FINESS Array B**	**64.62**	**335**	P		**P**		**20 31 09.6 +0.8**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**72.37**	**200**	P		**P**		**20 31 58.5 +1.3**	
	comp=Z,1.5nm,0.8s,mb4.0,baz=10,slow=4.8,SNR=7.3								
ASAR	**Alice Springs**	**72.37**	**200**	P		**P**		**20 31 58.5 +1.3**	
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**76.71**	**61**	P		**P**		**20 32 22.1 -0.2**	
	comp=Z,2.9nm,0.6s,mb4.4,baz=302,slow=4.7,SNR=13								
TXAR	**Lajitas Array**	**76.71**	**61**	P		**P**		**20 32 22.2 -0.2**	
TXAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								

IDC ***16*** *20:23:02.9±3.3, 4792N×15372E, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.7/24, mbtmp4.1/6, ML3.4/2, Error ellipse: s-maj=89.5km s-min=29.7km az=139.0*
MOS ***16*** *20:23:08.0±1.9, 4776N×15330E, h57km, mb4.2/4, Error ellipse: s-maj=32.2km s-min=16.0km az=53.2*
ISCJB ***16*** *20:23:09.8±1.8, 480N±02×1532E±03, h62km±16km, mb4.0/4, Error ellipse: s-maj=50.0km s-min=11.2km az=95.8*

ISC 16 20:23:10.7±1.8, 479N±02×1534E±03, h64km±14km, n14, σ1§12/15, mb4.0/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
SKR	**Severo-Kuril's**	**3.35**	**31**	*e*PN		**Pn**	**20**	**24**	**01.5 +0.8**
SKR				*e*			20	24	40.0
KUR	**Kuril'sk**	**4.62**	**237**	*e*PN		**Pn**	**20**	**24**	**13.0 -5.0**
KUR				*e*S		**Sn**	**20**	**25**	**13.0 +2.7**
KUR					pmax	pmax			
	comp=Z,380nm,1.2s								
KUR					smax				
	comp=N,250nm,0.8s								
KUR					smax				
	comp=E,130nm,0.8s								
YSS	**Yuzh-Sakhalins**	**7.27**	**267**	*e*PN		**Pn**	**20**	**24**	**52.7 -1.5**
YSS				*e*			20	26	24.5
ASAJ	**Asahikawa**	**8.39**	**248**	Pn		**Pn**	**20**	**25**	**09.6 +0.1**
	comp=E,0.3nm,0.3s,baz=83,slow=16,SNR=2.7								
MJAR	**Matsushiro Arr**	**15.91**	**230**	Pn		**Pn**	**20**	**26**	**50.2 -0.3**
	comp=E,0.2nm,0.3s,baz=33,slow=8.8,SNR=6.5								
INK	**Inuvik**	**40.63**	**33**	P		**P**	**20**	**30**	**42.5 -1.9**
	comp=E,0.5nm,0.3s,mb3.7,baz=298,slow=7.0,SNR=5.2								
INK	**Inuvik**	**40.63**	**33**	P		**P**	**20**	**30**	**42.5 -1.8**
INK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
FINES	**FINESS Array B**	**63.12**	**335**	P		**P**		**20 33 31.7 +0.1**	
	comp=Z,0.9nm,0.5s,mb4.2,baz=38,slow=8.9,SNR=6.9								
FINES	**FINESS Array B**	**63.12**	**335**	P		**P**		**20 33 31.7 +0.1**	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NB2	**NORSAR Subarra**	**67.24**	**341**	P		**P**		**20 33 58.6 +0.3**	
	comp=Z,2.3nm,0.6s,mb4.4,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.24**	**341**	P		**P**		**20 33 59.0 +0.6**	
	comp=Z,2.5nm,0.6s,mb4.4,baz=28,slow=6.1,SNR=7.4								
NOA	**NORSAR Array B**	**67.24**	**341**	P		**P**		**20 33 59.0 +0.7**	
NOA					pmax	pmax			
	comp=Z,3.0nm,0.6s								
GERES	**GERESS Array B**	**77.54**	**334**	P		**P**		**20 35 00.7 +1.1**	
	comp=Z,0.5nm,0.7s,mb3.6,baz=35,slow=5.1,SNR=4.2								
GERES	**GERESS Array B**	**77.54**	**334**	P		**P**		**20 35 00.7 +1.1**	
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								

IDC 16 20:25:10.8±2.5, 626S×15114E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp3.8/5, ML2.4/1, Error ellipse: s-maj=67.5km s-min=37.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**5.03**	**231**	Pn		Pn	20	26	29.7 +2.3
	0.9nm,0.3s,baz=40,slow=7.9,SNR=2.9								
PMG				Sn		Sn	20	27	27.4 +1.1
	2.6nm,0.3s,baz=93,slow=18,SNR=4.4								
KAKA	**Kakadu**	**19.52**	**249**	*e*P		Pn	20	29	41.5 +0.7
	4.3nm,0.6s								
WRA	**Warramunga Arr**	**21.24**	**229**	P		P	20	29	58.0 -0.4
	2.8nm,0.8s,baz=52,slow=10,SNR=14								
ASAR	**Alice Springs**	**23.96**	**222**	P		P	20	30	26.5 -0.2
	1.3nm,0.6s,baz=55,slow=8.8,SNR=22								
STKA	**Stephens Creek**	**27.00**	**198**	P		P	20	30	54.0 -0.4
	1.2nm,0.8s,baz=5.7,slow=10,SNR=2.9								
FITZ	**Fitzroy Crossi**	**27.52**	**242**	*e*P		P	20	30	59.4 +0.4
	3.9nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.52**	**242**	P		P	20	30	59.6 +0.6
	1.7nm,0.5s,baz=62,slow=11,SNR=8.2								
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc		PKPbc	20	45	02.2 +1.2
	0.5nm,0.6s,baz=86,slow=3.6,SNR=5.5								

IDC 16 20:25:28.1±4.5, 4651N×15488E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=165.6km s-min=36.0km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
MKAR	**Makanchi Array**	**48.13**	**298**	P		P	20	34	09.4 -0.3
	0.3nm,0.6s,baz=66,slow=7.7,SNR=4.3								
FINES	**FINESS Array B**	**64.77**	**336**	P		P	20	36	07.9 -0.5
	1.3nm,0.8s,baz=32,slow=7.6,SNR=3.4								
TXAR	**Lajitas Array**	**76.55**	**62**	P		P	20	37	20.4 +0.2
	0.7nm,0.5s,baz=299,slow=5.1,SNR=9.0								

IDC 16 20:26:20.2±24.0, 4767N×15512E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=513.6km s-min=75.8km az=150.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
SONM	**Songino Array**	**32.33**	**289**	P		P	20	32	50.0 -1.0
	0.4nm,0.6s,baz=60,slow=8.8,SNR=3.6								
ZAL	**Zalesovo**	**43.20**	**306**	P		P	20	34	21.8 -1.1
	0.7nm,0.3s,baz=353,slow=9.9,SNR=3.1								
MKAR	**Makanchi Array**	**47.73**	**297**	P		P	20	34	59.5 +0.7
	0.6nm,0.7s,baz=67,slow=9.3,SNR=4.7								
BVAR	**Borovoye Array**	**51.33**	**310**	P		P	20	35	26.9 +0.6
	0.9nm,0.5s,baz=59,slow=8.5,SNR=5.9								
FINES	**FINESS Array B**	**63.78**	**335**	P		P	20	36	52.9 -1.1
	1.2nm,0.7s,baz=35,slow=7.0,SNR=3.4								

IDC 16 20:29:13.5±4.4, 5124S×13844E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.8/11, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=138.7km s-min=47.8km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
STKA	**Stephens Creek**	**19.49**	**8**	P		Pn	20	33	43.4 +0.3
	0.1nm,0.3s,baz=196,slow=15,SNR=2.6								
ASAR	**Alice Springs**	**27.75**	**351**	P		P	20	35	02.8 -1.0
	2.0nm,0.8s,baz=165,slow=9.8,SNR=12								
WRA	**Warramunga Arr**	**31.40**	**353**	P		P	20	35	36.0 -0.1
	4.2nm,0.9s,baz=174,slow=8.0,SNR=18								
FITZ	**Fitzroy Crossi**	**34.59**	**338**	P		P	20	36	04.3 +0.2
	1.2nm,0.9s,baz=129,slow=6.5,SNR=1.8								
GERES	**GERESS Array B**	**145.13**	**288**	PKPbc		PKPbc	20	48	50.9 -1.5
	0.4nm,0.6s,baz=104,slow=4.1,SNR=3.4								

IDC ***16*** *20:29:53.3±0.4, 5205S×13960E, h0km, mb5.2/15, mb1 5.2/15, mb1mx5.2/17, mbtmp5.2/15, MS5.9/24, Ms1 5.9/24, ms1mx5.8/25, Error ellipse: s-maj=17.7km s-min=12.6km az=97.0*
ISCJB ***16*** *20:29:54.1±0.2, 5210S±003×13966E±009, h19km, mb5.5/59, MS5.8/218, Error ellipse: s-maj=7.6km s-min=4.5km az=6.3*
NEIC ***16*** *20:29:55.0±0.2, 5200S×13947E, h10km, mb5.7/28, MS5.9/175, MW6.1, Error ellipse: s-maj=7.9km s-min=5.7km az=96.0, Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁸Nm; Mrr0.03; Mθθ0.14; Mφφ-0.17; Mrθ-0.02; Mrφ-2.01; Mθφ-0.32; Best double couple: Mo2.00000×10¹⁸ NP1:φs358.00000°, δ89.00000°, λ-9.00000°. NP2:φs88.00000°, δ81.00000°, λ-179.00000°. Principal axes: T 2.0200, Plg6.0000°, Azm43.0000°; N 0.0400, Plg81.0000°, Azm173.0000°; P -2.0600, Plg7.0000°, Azm313.0000°;*
BJI ***16*** *20:29:54.4, 5174S×13887E, h5km, mB5.9, mb5.3, Ms5.9, Mss5.7*
GCMT ***16*** *20:29:55.0±0.1, 5204S×13963E, h12km, MW6.1/103, Moment Tensor Solution. s98,c203; s103,c291; Duration: 2e6 Moment tensor: Scale 10¹⁸Nm; Mrr-0.15±.01; Mθθ0.16±.01; Mφφ-0.01±.01; Mrθ0.13±.03; Mθφ-1.54±.01; Mrφ0.08±.03; Best double couple: Mo1.55100×10¹⁸ NP1:φs178.00000°, δ85.00000°, λ-3.00000°. NP2:φs269.00000°, δ87.00000°, λ-175.00000°. Principal axes: T 1.6170, Plg1.0000°, Azm43.0000°; N -0.1330, Plg84.0000°, Azm301.0000°; P -1.4840, Plg6.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***16*** *20:29:56.1, 5405S×13933E, h33km, mb6.2, West of Macquarie Island*
MOS ***16*** *20:29:58.2±2.5, 5126S×13940E, h10km, mb5.8/15, MS5.8/33, Error ellipse: s-maj=18.5km s-min=8.4km az=89.3*

ISC 16 20:29:55.5±1.6, 5211S±003×13961E±009, h18km±10km, h19km±1.9km:pP-P, n531, σ1§09/139, mb5.5/59, MS5.8/218, 15C-9D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
TAU	**Tasmania Unive**	**10.57**	**32**	*e*P		**Pn**	**20**	**32**	**27.6 +1.6**
TAU					pmax	pmax			
	comp=Z,740nm,1.5s								
TAU	**Tasmania Unive**	**10.57**	**32**	*e*P		**Pn**	**20**	**32**	**27.6 +1.5**
	comp=Z,744nm,1.5s								
DRV	**Dumont d'Urvil**	**14.60**	**179**	P		**Pn**	**20**	**33**	**20.0 -1.1**
DRV				S		**Sn**	**20**	**36**	**03.0 +0.5**
DRV				R			20	37	00.0
TOO	**Toolangi**	**15.11**	**18**	*e*P		**Pn**	**20**	**33**	**26.5 -1.5**
	comp=Z,305nm,1.1s								
TOO				*i* S		**Sn**	**20**	**36**	**19.8 +4.9**
TOO	**Toolangi**	**15.11**	**18**	*e*P		**Pn**	**20**	**33**	**26.5 -1.5**
TOO					pmax	pmax			
	comp=Z,305nm,1.1s								
CNB	**Canberra Magne**	**18.18**	**26**	*e*P		**Pn**	**20**	**34**	**06.5 -0.4**
	comp=Z,290nm,1.4s								
RIV	**Riverview**	**20.08**	**29**	*e*P		**P**	**20**	**34**	**28.5 +0.6**
STKA	**Stephens Creek**	**20.27**	**5**	*e*P		**P**	**20**	**34**	**29.9 0.0**
	comp=Z,78nm,0.9s								
STKA				*i* S		**S**	**20**	**38**	**14.8 -1.7**
STKA	**Stephens Creek**	**20.27**	**5**	P		**P**	**20**	**34**	**30.1 +0.2**
	comp=Z,31nm,0.8s,baz=168,slow=11,SNR=48								
STKA					LR	LR	20	40	42.4
	comp=Z,29μm,18.4s,MS5.7,baz=181,slow=32								
CASY	**Casey**	**20.29**	**215**	*e*P		**P**	**20**	**34**	**30.6 +0.4**
CASY				*e*S		**S**	**20**	**38**	**15.9 -1.1**
CASY	**Casey**	**20.29**	**215**	*e*P		**P**	**20**	**34**	**30.6 +0.4**
CASY				*e*S		**S**	**20**	**38**	**15.9 -1.1**
CASY					LR	LR			
	comp=Z,55μm,20.0s,MS5.9								
RPZ	**Rata Peaks**	**22.54**	**81**	P		**P**		**20 34 54.8 +0.4**	
	comp=Z,150nm,1.0s,mb5.4,baz=191,slow=4.5,SNR=19								
RPZ					LR	LR	20	41	45.2
	comp=Z,53μm,19.4s,MS6.0,baz=240,slow=32								

RPZ	**Rata Peaks**	**22.54**	**81**	P		**P**		**20 34 54.8 +0.4**	
RPZ					LR	LR	20	41	45.2
FORT	**Forrest**	**22.95**	**334**	*e*P		**P**		**20 34 59.6 +0.9**	
	comp=Z,362nm,0.9s,mb5.8								
FORT				*e*S		**S**	**20**	**39**	**08.2 +0.2**
FORT				*e*T			20	57	07.0
NWAO	**Narrogin (SRO)**	**25.11**	**311**	P		**P**	**20**	**35**	**18.7 -0.5**
	comp=Z,206nm,1.2s,mb5.5,baz=143,slow=7.7,SNR=17								
NWAO					LR	LR	20	42	51.7
	comp=Z,56μm,20.5s,MS6.1,baz=124,slow=31								
NWAO	**Narrogin (SRO)**	**25.11**	**311**	*e*P		**P**	**20**	**35**	**18.1 -1.0**
	comp=Z,416nm,1.5s,mb5.7								
NWAO					LR	LR			
	comp=Z,47μm,22.0s,MS6.0								
KLBR	**Kellerberrin**	**26.00**	**314**	*e*P		**P**	**20**	**35**	**26.6 -0.6**
	comp=Z,334nm,1.3s,mb5.7								
KLBR				*e*T			20	59	36.1
SNZO	**South Karori**	**26.13**	**80**	PFAKE			20	35	40.0 +12
SNZO					LR	LR			
	comp=Z,22μm,19.0s,MS5.7								
MUN	**Mundaring**	**26.38**	**311**	*e*P		**P**	**20**	**35**	**30.1 -0.6**
MUN				*e*S		**S**	**20**	**40**	**03.7 +0.7**
MUN				*e*T			21	00	07.5
MUN	**Mundaring**	**26.38**	**311**	*e*P		**P**	**20**	**35**	**30.1 -0.6**
MUN				*e*S		**S**	**20**	**40**	**03.7 +0.7**
VNDA	**Vanda**	**26.81**	**169**	P		**P**	**20**	**35**	**33.9 -0.6**
	comp=Z,25nm,1.0s,mb4.7,baz=325,slow=9.7,SNR=19								
VNDA					LR	LR	20	44	05.5
	comp=Z,15μm,19.1s,MS5.6,baz=332,slow=32								
VNDA	**Vanda**	**26.81**	**169**	P		**P**	**20**	**35**	**33.9 -0.6**
VNDA					LR	LR	20	44	05.5
MIR	**Mirnyy**	**27.00**	**220**	*d* i P		**P**	**20**	**35**	**34.0 -2.3**
MIR				*i*			20	36	41.0
MIR					pmax	pmax			
	comp=Z,1μm,2.0s,mb6.1								
SBA	**Scott Base**	**27.68**	**168**	*e*P		**P**	**20**	**35**	**44.4 +2.0**
	comp=Z,141nm,1.4s,mb5.4								
SBA					LR	LR			
	comp=Z,25μm,19.0s,MS5.8								
ASAR	**Alice Springs**	**28.73**	**349**	P		**P**	**20**	**35**	**50.7 -1.0**
	comp=Z,71nm,0.9s,mb5.4,baz=164,slow=9.5,SNR=69								
ASAR					PcP	PcP	20	39	02.4 +0.7
	comp=Z,10nm,1.0s,baz=161,slow=3.1,SNR=5.3								
ASAR					LR	LR	20	46	31.1
	comp=Z,17μm,19.4s,MS5.7,baz=174,slow=35								
ASAR	**Alice Springs**	**28.73**	**349**	P		**P**	**20**	**35**	**50.7 -1.0**
ASAR							20	39	02.4
URZ	**Urewera**	**29.47**	**77**	P		**P**	**20**	**35**	**57.4 -0.9**
	comp=Z,39nm,0.9s,mb5.2,baz=219,slow=6.2,SNR=4.4								
URZ					LR	LR	20	46	59.5
	comp=Z,25μm,18.0s,MS5.9,baz=232,slow=35								
WB2	**Warramunga Arr**	**32.37**	**351**	*i* P		**P**	**20**	**36**	**22.4 -1.4**
WB2				*i* S		**S**	**20**	**41**	**35.8 -1.2**
WRA	**Warramunga Arr**	**32.37**	**351**	P		**P**	**20**	**36**	**22.5 -1.3**
	comp=Z,262nm,1.0s,mb6.0,baz=180,slow=7.8,SNR=111								
WRA					LR	LR	20	48	43.3
	comp=Z,11μm,18.4s,MS5.6,baz=190,slow=35								
WRAB	**Tennant Creek**	**32.37**	**351**	*e*P		**P**	**20**	**36**	**22.4 -1.5**
	comp=Z,435nm,1.0s,mb6.2								
WRAB					LR	LR			
	comp=Z,5μm,22.0s,MS5.2								
CTA	**Charters Tower**	**32.38**	**12**	*e*P		**P**	**20**	**36**	**23.6 -0.3**
	comp=Z,33nm,1.5s,mb4.9								
CTA				*i* S		**S**	**20**	**41**	**40.3 +3.1**
CTA	**Charters Tower**	**32.38**	**12**	P		**P**	**20**	**36**	**23.7 -0.3**
	comp=Z,37nm,1.0s,mb5.2,baz=189,slow=8.6,SNR=11								
CTA					LR	LR	20	49	15.7
	comp=Z,24μm,18.1s,MS5.9,baz=187,slow=36								
CTA	**Charters Tower**	**32.38**	**12**	*e*P		**P**	**20**	**36**	**23.6 -0.3**
CTA				*i* S		**S**	**20**	**41**	**40.3 +3.1**
CTA					pmax	pmax			
	comp=Z,33nm,1.5s								
CTAO	**Charters Tower**	**32.38**	**12**	*e*P		**P**	**20**	**36**	**23.4 -0.5**
	comp=Z,266nm,1.8s,mb5.8								
CTAO					LR	LR			
	comp=Z,25μm,20.0s,MS5.9								
MBWA	**Marble Bar**	**34.53**	**326**	*e*P		**P**	**20**	**36**	**41.7 -1.0**
	comp=Z,141nm,1.3s,mb5.7								
MBWA					LR	LR			
	comp=Z,39μm,19.0s,MS6.2								
FITZ	**Fitzroy Crossi**	**35.68**	**337**	*e*P		**P**	**20**	**36**	**51.5 -1.1**
	comp=Z,100nm,1.1s,mb5.7								
FITZ				*e*PP		PP	20	38	04.4 -9.3
FITZ				*e*S		**S**	**20**	**42**	**32.0 +3.8**
FITZ	**Fitzroy Crossi**	**35.68**	**337**	P		**P**	**20**	**36**	**51.9 -0.6**
	comp=Z,61nm,1.1s,mb5.5,baz=177,slow=11,SNR=29								
FITZ					PcP	PcP	20	39	21.0 +0.3
	comp=Z,10nm,0.8s,baz=190,slow=4.7,SNR=5.3								
FITZ					LR	LR	20	50	13.6
	comp=Z,30μm,18.6s,MS6.1,baz=169,slow=34								
DZM	**Mont Dzumac**	**36.43**	**45**	P		**P**	**20**	**36**	**59.9 +0.9**
	comp=Z,14nm,1.0s,mb4.8,baz=196,slow=16,SNR=7.9								
DZM					LR	LR	20	49	20.4
	comp=Z,39μm,18.8s,MS6.2,baz=184,slow=32

VNA3 Neumayer Olymp 55.02 192 eP P 20 39 25.9 +0.1
VNA3 e pP 20 39 30.2 -1.4
VNA3 e 20 39 34.9
VNA3 e 20 39 39.2
VNA1 Neumayer--Stat 55.38 192 eP P 20 39 28.3 -0.2
VNA1 e pP 20 39 31.6 -2.6
VNA1 e 20 39 38.2
VNA1 e 20 39 42.6
KSM Kuching 58.83 325 eP P 20 39 53.2 +0.3
TSM Tawau 59.15 335 P P 20 39 54.6 -0.4
DAV Davao City (W) 60.16 344 PFAKE 20 40 10.0 +8.0
DAV LR LR
comp=Z,5μm,22.0s,MS5.6
TBI Tubuai 60.30 90 eS S 20 48 14.5 -2.0
comp=Z,3μm,27.2s
TBI eSS SS 20 52 13.1 -0.8
comp=Z,2μm,31.0s
TBI eLQ 20 55 11.7
comp=Z,16μm,27.0s
TBI eLR LR 20 57 38.3
comp=Z,7μm,34.8s,baz=213
KKM Kota Kinabalu 61.28 333 P P 20 40 09.2 -0.4
KGM Kluang 62.01 318 P P 20 40 16.2 +1.7
PMSA Palmer Station 62.02 169 eP P 20 40 18.1 +3.4
PMSA LR LR
comp=Z,10μm,22.0s,MS5.9
PPT Papeete 64.56 86 eS S 20 49 07.8 -2.3
comp=Z,7μm,28.8s
PPT eSS SS 20 53 17.1 -3.5
comp=Z,2μm,28.0s
PPT eLQ 20 56 49.7
comp=Z,33μm,29.5s
PPT eLR LR 20 59 49.7
comp=Z,9μm,25.2s,baz=224
PPT Papeete 64.56 86 LR LR 21 05 35.9
comp=Z,2μm,18.5s,MS5.3,baz=231,slow=33
IPM Ipoh 65.19 317 P P 20 40 37.4 +1.8
GUMO Guam 65.58 6 LR LR 21 06 51.7
comp=Z,6μm,20.6s,MS5.8,baz=7.1,slow=34
GUMO Guam 65.58 6 PFAKE 20 40 50.0 +12
GUMO LR LR
comp=Z,5μm,21.0s,MS5.7
KULM Kulim 66.08 317 eP P 20 40 40.7 -0.6
SNG Songkhla 67.79 318 P P 20 40 53.0 +0.8
TGY Tagaytay City 67.89 340 LR LR 21 10 22.9
comp=Z,21nm,18.1s,baz=184,slow=36
RKT Rikitea 69.35 101 eS S 20 50 08.7 +0.9
comp=Z,1μm,29.8s
RKT eSS SS 20 54 39.0 +4.2
comp=Z,780nm,27.5s
RKT eLQ 20 58 54.0
comp=Z,16μm,31.2s
RKT eLR LR 21 01 57.0
comp=Z,7μm,29.8s,baz=219
DGAR Diego Garcia 70.23 284 PFAKE 20 41 20.0 +13
DGAR LR LR
comp=Z,2μm,22.0s,MS5.3
PTCN Pitcairn Islan 70.80 106 PFAKE 20 41 20.0 +9.2
PTCN LR LR
comp=Z,5μm,19.0s,MS5.8
NNT Nongplab 73.05 319 P P 20 41 27.1 +2.8
HOPE Hope Point 73.93 182 PFAKE 20 41 40.0 +11
HOPE LR LR
comp=Z,3μm,19.0s,MS5.6
KKTK Khon Kaen 75.28 324 P P 20 41 40.0 +2.7
comp=Z,247nm,0.5s,mb6.4
QIZ Qiongzhong 75.44 331 P P 20 41 39.3 +1.0
QIZ AP pP 20 41 45.1 +0.9
QIZ PCP PcP 20 41 55.9 +4.6
QIZ S S 20 51 20.3 +2.7
QIZ SS SS 20 56 05.4 -2.6
QIZ AMB AMB
comp=Z,24nm,1.4s,mb4.9
QIZ AMB AMB
comp=Z,787nm,6.7s
QIZ LR LR
comp=N,3μm,20.3s
QIZ LR LR
comp=Z,7μm,22.0s,MS5.9
QIZ Qiongzhong 75.44 331 eP P 20 41 39.2 +1.0
comp=Z,70nm,1.4s,mb5.4
QIZ LR LR
comp=Z,7μm,22.0s,MS6.0
EFI East Falkland 75.52 169 PFAKE 20 41 50.0 +11
EFI LR LR
comp=Z,2μm,21.0s,MS5.3
NST Nakhon Sawan 75.69 321 P P 20 41 41.0 +1.3
TAOE Nuku Hiva Isla 77.08 88 eS S 20 51 30.5 -5.0
comp=Z,6μm,29.3s
TAOE eSS SS 20 56 27.5 -5.2
comp=Z,8μm,26.9s
TAOE eLQ 21 02 03.0
comp=Z,18μm,32.7s
TAOE eLR LR 21 05 42.3
comp=Z,17μm,25.2s,baz=227
HKC Hong Kong 77.36 336 P P 20 41 48.0 -1.2
HKC S S 20 51 46.0 +7.4
PALK Pallekele 77.47 300 eP P 20 41 49.2 -0.5
comp=Z,46nm,1.3s,mb5.2
PALK LR LR
comp=Z,2μm,20.0s,MS5.5
BDT Bhumibol Dam 77.55 320 P P 20 41 52.0 +1.8
NANT Nan 78.32 323 ⇓P P 20 41 53.0 -1.5
comp=Z,188nm,1.0s,mb6.0
GZH Guangzhou 78.32 335 P P 20 41 59.1 +4.6
GZH S S 20 51 52.9 +3.9
GZH LR LR
comp=N,4μm,26.1s,MS5.6
GZH LR LR
comp=E,2μm,25.5s,MS5.6
GZH LR LR
comp=Z,8μm,29.5s,MS5.9
TATO Taipei 78.38 343 PFAKE 20 42 10.0 +15
TATO LR LR
comp=Z,2μm,21.0s,MS5.5
CBIJ Chichi jima 78.89 2 LR LR 21 14 28.8
comp=Z,5μm,21.7s,MS5.8,baz=169,slow=34
QZH Quanzhou 78.90 341 ⇑*i*P **P 20 41 57.4 -0.3**
QZH S S 20 51 56.0 +0.8
QZH PS 20 52 31.3
QZH AMB AMB
comp=Z,2μm,7.8s
QZH LR LR
comp=N,4μm,18.0s,MS5.9
QZH LR LR
comp=E,2μm,17.1s,MS5.9
QZH LR LR
comp=Z,7μm,21.2s,MS6.0
CHG Chiang Mai 79.00 321 ⇓P **P 20 41 58.9 +0.7**
comp=Z,60nm,1.2s,mb5.4
CHTO Chiang Mai 79.00 321 eP P 20 41 58.6 +0.4
comp=Z,73nm,1.3s,mb5.5
CHTO LR LR
comp=Z,7μm,20.0s,MS6.0
SUR Sutherland 80.32 229 PFAKE 20 42 20.0 +15
SUR LR LR
comp=Z,1μm,21.0s,MS5.3
TRD Trivandrum 80.53 297 eP P 20 42 05.5 -1.0
TRD AMb AMB 20 42 11.9
comp=Z,76nm,1.7s,mb5.3
RPN Rapa Nui 80.82 123 PFAKE 20 42 20.0 +12
RPN LR LR
comp=Z,1μm,20.0s,MS5.2
BOSA Boshof 81.29 234 P P 20 42 14.1 +3.5
comp=Z,4.3nm,0.7s,mb4.5,baz=195,slow=6.9,SNR=5.6
BOSA LR LR 21 10 29.8
comp=Z,11μm,21.9s,MS6.2,baz=136,slow=30
MDRS Chennai 82.56 302 eP P 20 42 17.9 +0.6
MDRS AMb AMB 20 42 20.8
comp=Z,80nm,1.5s,mb5.5
MSEY Mahe Island 82.73 272 PFAKE 20 42 30.0 +12
MSEY LR LR
comp=Z,628nm,20.0s,MS5.0
GYA Guiyang 83.39 331 ⇓*i*P **P 20 42 22.1 +0.5**
GYA AP pP 20 42 26.4 -1.2
GYA XP sP 20 42 29.8 +0.1
GYA PP PP 20 45 38.3 +4.8
GYA SKS 20 52 42.8
GYA S S 20 52 44.3 +2.5
GYA PS 20 53 38.1
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,310nm,5.1s
GYA LR LR
comp=N,2μm,25.4s,MS5.7
GYA LR LR
comp=E,3μm,26.0s,MS5.7
GYA LR LR
comp=Z,2μm,24.2s,MS5.5
KMI Kunming 83.40 327 P **P 20 42 22.9 +1.3**
KMI AP pP 20 42 30.4 +2.8
KMI XP sP 20 42 35.8 +6.0
KMI PP PP 20 45 37.4 +3.8
KMI PPP 20 47 37.4
KMI S S 20 52 45.3 +3.3
KMI AMB AMB
comp=Z,45nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,402nm,3.8s
KMI LR LR
comp=N,5μm,23.7s,MS6.0
KMI LR LR
comp=E,4μm,20.0s,MS6.0
KMI LR LR
comp=Z,7μm,24.2s,MS6.0
KMI Kunming 83.40 327 P **P 20 42 22.9 +1.3**
comp=Z,45nm,1.1s,mb5.4
KMI pP pP 20 42 30.4 +2.8
KMI sP sP 20 42 35.8 +6.0
KMI PP PP 20 45 37.4 +3.8
KMI PPP 20 47 37.4
KMI S S 20 52 45.2 +3.2
KMI SS SS 20 58 17.4 +10
KMI SSS 21 01 45.7
KMI LR LR
comp=Z,7μm,24.2s,MS6.0
SSE Sheshan 84.41 344 P **P 20 42 26.1 -0.7**
SSE AP pP 20 42 35.8 +3.0
SSE XP sP 20 42 39.8 +4.8
SSE PP PP 20 45 40.3 -1.5
SSE S S 20 52 49.1 -3.0
SSE AMB AMB
comp=Z,57nm,0.8s,mb5.8
SSE AMB AMB
comp=Z,270nm,8.0s
SSE LR LR
comp=N,2μm,22.6s,MS5.5
SSE LR LR
comp=E,2μm,22.5s,MS5.5
SSE LR LR
comp=Z,2μm,18.5s,MS5.6
SSE Sheshan 84.41 344 P **P 20 42 26.1 -0.7**
comp=Z,57nm,0.8s,mb5.8
SSE pP pP 20 42 35.8 +3.0
SSE sP sP 20 42 39.8 +4.8
SSE PP PP 20 45 40.3 -1.5
SSE S S 20 52 49.1 -3.0
SSE sS sS 20 53 03.9 +1.9
SSE SS SS 20 58 19.3 -3.0
SSE LR LR
comp=Z,2μm,18.5s,MS5.6
JHJ Hachijo jima 2 84.86 0 LR LR 21 17 21.4
comp=Z,5μm,21.7s,MS5.8,baz=276,slow=34
VIS Vishakhapatnam 84.94 307 eP P 20 42 28.8 -0.7
VIS AMb AMB 20 42 34.2
comp=Z,63nm,1.1s,mb5.7
JNU Nakatsue 85.21 353 LR LR 21 19 50.5
comp=Z,9μm,20.6s,MS6.2,baz=51,slow=35
WHN Wuhan 85.23 338 ⇑P **P 20 42 30.5 -0.4**
WHN S S 20 52 59.0 -1.2
WHN AMB AMB
comp=Z,1μm,5.7s
WHN LR LR
comp=Z,5μm,20.7s,MS5.9
MNGI Mangalore 85.36 298 eP P 20 42 31.3 -0.2
MNGI AMb AMB 20 42 34.1
comp=Z,44nm,2.5s,mb5.2
MNGI *i*S S 20 52 56.1 -5.4
MNGI *ex* x 21 15 20.9
comp=Z,8μm,19.8s
NJ2 Nanjing 85.76 342 eP P 20 42 33.8 +0.3
NJ2 AP pP 20 42 37.1 -2.5
NJ2 XP sP 20 42 41.3 -0.4
NJ2 PP PP 20 45 53.9 +1.2
NJ2 S S 20 53 04.5 -0.9
NJ2 XS sS 20 53 12.5 -2.9
NJ2 AMB AMB
comp=Z,390nm,7.4s
NJ2 LR LR
comp=N,2μm,25.9s,MS5.4
NJ2 LR LR
comp=E,1μm,27.2s,MS5.4
NJ2 LR LR
comp=Z,2μm,25.4s,MS5.3
AGT Agartala 86.66 317 eP P 20 42 42.0 +4.0
CAL Calcutta 86.75 314 eP P 20 42 45.7 +7.3
CAL *ex* x 20 42 45.7
baz=193,slow=22
CAL eS S 20 53 11.4 -3.7
CAL AMP 20 56 16.8
comp=Z,664nm,20.2s
HYB Hyderabad 87.09 303 *i*P **P 20 42 41.5 +1.4**
HYB eSKS 20 53 08.0
HYB eSP 20 54 16.0
HYB eSS SS 20 59 08.0 +6.4
HYB Hyderabad 87.09 303 eP P 20 42 41.5 +1.4
TRIS Tristan da Cun 87.87 202 PFAKE 20 43 00.0 +16
TRIS LR LR
comp=Z,6μm,22.0s,MS6.0
SHL Shillong 87.89 318 eP P 20 42 42.8 -1.1
SHL AMb AMB 20 42 46.2
comp=Z,2μm,1.2s
SHL *ex* x 20 53 33.0
TRQA Tornquist 88.25 163 PFAKE 20 43 00.0 +14
TRQA LR LR
comp=Z,6μm,22.0s,MS6.0
MJAR Matsushiro Arr 88.29 359 P **P 20 42 46.3 +0.5**
comp=Z,9.2nm,1.0s,mb5.0,baz=191,slow=5.5,SNR=12
MJAR PP PP 20 46 15.3 +2.2
comp=Z,4.2nm,1.0s,baz=188,slow=7.5,SNR=4.4
MJAR LR LR 21 21 42.7
comp=Z,2μm,20.6s,MS5.6,baz=205,slow=35
MJAR Matsushiro Arr 88.29 359 P **P 20 42 46.3 +0.5**
MJAR 20 46 15.3
MJAR Matsushiro Arr 88.29 359 P **P 20 42 46.3 +0.5**
MJAR PP PP 20 46 15.3 +2.2
MJAR LR LR 21 21 42.7
MAJO Matsushiro 88.29 359 eP P 20 42 45.8 0.0
comp=Z,143nm,1.6s,mb6.0
MAJO LR LR
comp=Z,3μm,20.0s,MS5.7
MAT Matsushiro 88.29 359 P **P 20 42 45.5 -0.3**
MAT S S 20 53 25.0 -4.9
MIDW Midway 88.41 37 PFAKE 20 43 00.0 +14
MIDW LR LR
comp=Z,5μm,21.0s,MS5.9
CD2 Chengdu 88.44 330 ⇑*i*P **P 20 42 47.1 +0.6**
CD2 AP pP 20 42 51.9 -0.7
CD2 XP sP 20 42 54.3 -0.4
CD2 PP PP 20 46 18.0 +3.6
CD2 SKS 20 53 13.5
CD2 S S 20 53 31.0 -0.3
CD2 XS sS 20 53 39.0 -2.3
CD2 PS 20 54 38.8
CD2 AMB AMB
comp=Z,60nm,1.2s,mb5.7
CD2 AMB AMB
comp=Z,850nm,5.9s
CD2 LR LR
comp=N,4μm,22.8s,MS6.0
CD2 LR LR
comp=E,4μm,20.4s,MS6.0
CD2 LR LR
comp=Z,4μm,20.4s,MS5.8
BOK Bokaro 88.94 312 eP P 20 42 50.0 +1.1
BOK AMb AMB 20 42 56.9
comp=Z,39nm,1.8s,mb5.4
KAD Karad 89.30 300 eP P 20 42 50.9 +0.3
KAD AMb AMB 20 42 58.2
comp=Z,47nm,1.2s,mb5.7
KSRS Korea Array 89.77 351 P **P 20 42 52.1 -0.7**
comp=Z,6.8nm,0.9s,mb5.0,baz=180,slow=4.5,SNR=15
KSRS LR LR 21 22 52.6
comp=Z,4μm,21.9s,MS5.8,baz=171,slow=35
XAN Xi'an 89.89 335 P **P 20 42 53.5 +0.1**
XAN SKS 20 53 22.4
XAN S S 20 53 37.4 -7.5
XAN AMB AMB
comp=Z,12nm,1.2s,mb5.1
XAN AMB AMB
comp=Z,425nm,10.0s
XAN LR LR
comp=N,1μm,31.6s,MS5.3
XAN LR LR
comp=E,1μm,29.4s,MS5.3
XAN LR LR
comp=Z,5μm,35.0s
INCN Inchon 89.94 350 PFAKE 20 43 00.0 +6.4
INCN LR LR
comp=Z,2μm,19.0s,MS5.6
NGP Nagpur 89.97 306 eP P 20 42 54.2 +0.5
NGP AMb AMB 20 42 55.3
comp=Z,25nm,2.3s,mb5.1
NGP *eS* S 20 53 24.0 -22
NGP AMP 21 15 49.0
comp=Z,6μm,23.8s
TIA Tai'an 90.12 342 eP P 20 42 54.1 -0.3
TIA SKS 20 53 23.0
TIA S S 20 53 50.3 +3.3
TIA LR LR
comp=N,2μm,19.0s,MS5.6
TIA LR LR
comp=E,929nm,18.0s,MS5.6
POO Poona 90.48 300 eP P 20 42 53.5 -2.6
LSZ Lusaka 90.65 244 PFAKE 20 43 10.0 +13
LSZ LR LR
comp=Z,14μm,20.0s,MS6.4
POHA Pohakuloa 91.02 59 PFAKE 20 43 10.0 +11
POHA LR LR
comp=Z,6μm,21.0s,MS6.0
LSA Lhasa 91.84 319 P **P 20 43 03.0 +0.6**
LSA AP pP 20 43 09.1 +0.6
LSA PP PP 20 46 39.3 -2.2
LSA SS SS 21 00 05.8 -4.8
LSA AMB AMB
comp=Z,20nm,1.2s,mb5.3
LSA LR LR
comp=N,4μm,38.1s,MS5.7
LSA LR LR
comp=E,3μm,38.1s,MS5.7
LSA LR LR
comp=Z,9μm,37.5s,MS5.9
LSA Lhasa 91.84 319 eP P 20 43 02.8 +0.4
comp=Z,49nm,1.3s,mb5.7
LSA LR LR
comp=Z,2μm,20.0s,MS5.6
DL2 Dalian 91.99 346 P **P 20 43 08.3 +5.2**
DL2 PP PP 20 46 45.4 +2.8
DL2 SKS 20 53 38.1
DL2 S S 20 54 09.6 +5.6
DL2 PS PS 20 55 18.1 +2.1
DL2 SS SS 21 00 11.8 -0.9
DL2 AMB AMB
comp=Z,150nm,4.6s
DL2 LR LR
comp=N,1μm,20.9s,MS5.4
DL2 LR LR
comp=E,720nm,20.3s,MS5.4
DL2 LR LR
comp=Z,2μm,23.1s,MS5.4
PKI Pulchoki 92.42 314 eP P 20 43 05.3 +0.2
comp=Z,132nm,1.3s,mb6.1
GUN Gumba 92.50 314 eP P 20 43 06.1 +0.6
comp=Z,146nm,1.2s,mb6.3
BHPL Bhopal 92.53 305 eP P 20 43 03.1 -2.4
BHPL AMb AMB 20 43 09.3
comp=Z,48nm,1.0s,mb5.9
DMN Daman 92.58 314 eP P 20 43 06.1 +0.3
comp=Z,162nm,1.3s,mb6.3
KKN Kakani 92.66 314 eP P 20 43 06.3 +0.1
comp=Z,118nm,1.1s,mb6.2
TSUM Tsumeb 92.97 233 PFAKE 20 43 20.0 +12
TSUM LR LR
comp=Z,11μm,22.0s,MS6.3
GKN Gorkha 93.13 314 eP P 20 43 08.6 +0.2
comp=Z,98nm,1.2s,mb6.1
CFAA Coronel Fontan 93.14 156 P **P 20 43 09.2 +0.8**
comp=Z,1.0nm,0.7s,mb4.4,baz=196,slow=4.0,SNR=7.2
CFAA LR LR 21 22 57.9
comp=Z,258nm,18.2s,MS4.7,baz=166,slow=34
LZH Lanzhou 93.22 332 eP P 20 43 10.1 +1.3
LZH AP pP 20 43 16.1 +1.2
LZH XP sP 20 43 20.5 +3.5
LZH AMB AMB
comp=Z,70nm,1.1s,mb6.0
LZH AMB AMB
comp=Z,352nm,5.0s
LZH LR LR
comp=N,2μm,14.1s
LZH LR LR
comp=Z,2μm,15.4s,MS5.7
KOLN Koldanda 93.40 313 eP P 20 43 09.3 -0.3
comp=Z,82nm,1.1s,mb6.1
ERM Erimo 93.80 3 PFAKE 20 43 20.0 +8.6
ERM LR LR
comp=Z,598nm,20.0s,MS5.0
BJT Baijiatuau 93.99 342 eP P 20 43 11.1 -1.3
comp=Z,17nm,0.9s,mb5.5
BJT LR LR
comp=Z,3μm,22.0s,MS5.8
BJI Beijing 94.01 342 P **P 20 43 11.1 -1.3**
BJI AMB AMB
comp=Z,14nm,1.3s,mb5.2
BJI AMB AMB
comp=Z,187nm,3.9s
BJI LR LR
comp=N,2μm,20.2s,MS5.7
BJI LR LR
comp=E,2μm,20.2s,MS5.7
BJI LR LR
comp=Z,3μm,23.5s,MS5.7
BJI Beijing 94.01 342 P **P 20 43 11.1 -1.3**
comp=Z,14nm,1.3s,mb5.2
BJI S SKSac 20 53 40.4 -6.0
BJI SS SS 21 00 26.5 -15
BJI LR LR
comp=Z,3μm,23.5s,MS5.7
SNY Shenyang 94.59 348 ⇑P **P 20 43 16.8 +1.7**
SNY SKS 20 53 52.0
SNY S S 20 54 22.5 -4.5
SNY PS PS 20 55 48.4 +3.7
SNY SS SS 21 00 48.6 -1.3
SNY AMB AMB
comp=Z,13nm,1.2s,mb5.2
SNY AMB AMB
comp=Z,268nm,5.9s
SNY LR LR
comp=N,2μm,23.9s,MS5.6
SNY LR LR
comp=E,2μm,23.5s,MS5.6
SNY LR LR
comp=Z,3μm,25.1s,MS5.7
ASAJ Asahikawa 95.88 2 LR LR 21 24 38.6
comp=Z,2μm,21.0s,MS5.6,baz=184,slow=34
CN2 Changchun 96.31 350 eP P 20 43 24.8 +1.9
CN2 *eXP* sP 20 43 31.8 +0.7
CN2 PP PP 20 47 21.1 +4.7
CN2 *eS* S 20 54 41.1 -0.9
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.5
CN2 LR LR
comp=E,600nm,18.0s,MS5.5
CN2 LR LR
comp=Z,2μm,19.0s,MS5.7
AJM Ajmer 96.61 305 eP P 20 43 25.2 +0.9
AJM AMb AMB 20 43 27.9
comp=Z,12nm,1.3s,mb5.2
KMBO Kilima Mbogo 96.70 260 LR LR 21 18 01.0
comp=Z,6μm,21.8s,MS6.0,baz=110,slow=30
KMBO Kilima Mbogo 96.70 260 PFAKE 20 43 40.0 +15
KMBO LR LR
comp=Z,5μm,21.0s,MS6.0
GTA Gaotai 97.51 330 eP P 20 43 32.3 +4.0
GTA AP pP 20 43 39.9 +5.5
GTA PP PP 20 47 29.5 +3.9
GTA AMB AMB
comp=Z,6.0nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,190nm,5.3s
GTA LR LR
comp=N,2μm,21.3s,MS5.7

GTA LR LR
comp=E,2µm,21.7s,MS5.7
GTA LR LR
comp=Z,3µm,20.2s,MS5.8
YSS Yuzh-Sakhalins 98.72 2 *e* PP 20 47 32.0 -2.9
YSS *e* 20 55 05.0
YSS *e* 21 01 41.0
YSS MLR MLR
comp=Z,1µm,17.0s,MS5.4
YSS MLR MLR
comp=N,2µm,19.0s
YSS Yuzh-Sakhalins 98.72 2 PFAKE 20 43 40.0 +6.2
YSS LR LR
comp=Z,3µm,22.0s,MS5.8
LVC Limon Verde 101.53 153 PFAKE 20 44 00.0 +14
LVC LR LR
comp=Z,3µm,22.0s,MS5.8
HIA Hailar 102.40 347 PFAKE 20 44 00.0 +10
HIA LR LR
comp=Z,2µm,20.0s,MS5.6
ULN Ulaanbaatar 103.41 338 *e*P Pdif 20 43 55.9 +1.2
comp=Z,6.1nm,1.4s
ULN LR LR
comp=Z,4µm,20.0s,MS6.0
SONM Songino Array 103.53 338 Pdiff Pdif 20 43 53.9 -1.3
comp=Z,1.1nm,1.0s,baz=158,slow=4.8,SNR=6.1
SONM PP PP 20 48 08.6 -2.7
comp=Z,1.2nm,1.0s,baz=181,slow=9.8,SNR=3.7
WMQ Urumqi 105.53 324 PDIF Pdif 20 44 04.3 +0.2
WMQ PP PP 20 48 28.3 +2.2
WMQ PS PS 20 57 39.8 -2.2
WMQ PP PP
comp=Z,738nm,7.2s
WMQ LR LR
comp=N,2µm,25.0s,MS5.7
WMQ LR LR
comp=E,972nm,22.8s,MS5.7
WMQ LR LR
comp=Z,3µm,21.0s,MS5.7
SHEL Horse Pasture 105.84 215 PFAKE 20 48 30.0 +12
SHEL LR LR
comp=Z,2µm,20.0s,MS5.5
PET Petropavlovsk 105.97 12 PFAKE 20 48 30.0 +12
PET LR LR
comp=Z,2µm,21.0s,MS5.6
TLY Talaya 107.77 337 PFAKE 20 48 30.0 +8.4
TLY LR LR
comp=Z,630nm,20.0s,MS5.2
SMY Shemya 108.40 21 PFAKE 20 48 30.0 +7.2
SMY LR LR
comp=Z,8µm,22.0s,MS6.2
NNA Nana 108.84 142 PFAKE 20 48 40.0 +16
NNA LR LR
comp=Z,680nm,22.0s,MS5.2
AAK Ala-Archa 109.86 315 PFAKE 20 48 40.0 +14
AAK LR LR
comp=Z,762nm,20.0s,MS5.3
MKAR Makanchi Array 110.07 322 PKiKP PKiKP 20 48 24.5 -1.4
comp=Z,0.8nm,0.9s,baz=178,slow=4.2,SNR=3.0
MKAR PP PP 20 48 57.2 -2.0
comp=Z,3.4nm,1.1s,baz=139,slow=5.8,SNR=4.8
MKAR Makanchi Array 110.07 322 PKPdf PKiKP 20 48 24.5 -1.4
MKAR PP PP 20 48 57.2 -2.0
MA2 Magadan 111.69 6 PFAKE 20 48 40.0 +11
MA2 LR LR
comp=Z,2µm,20.0s,MS5.6
PAYG Puerto Ayora 112.83 124 PFAKE 20 48 40.0 +8.9
PAYG LR LR
comp=Z,2µm,20.0s,MS5.7
YAK Yakutsk 114.06 355 PFAKE 20 48 40.0 +6.5
YAK LR LR
comp=Z,2µm,22.0s,MS5.7
UNV Unalaska Valle 114.75 32 PFAKE 20 48 50.0 +15
UNV LR LR
comp=Z,15µm,20.0s,MS6.6
ZAL Zalesovo 115.13 328 PP PP 20 49 35.4 0.0
comp=Z,1.4nm,0.9s,baz=335,slow=8.1,SNR=6.3
ZAL PKKPbc PKKPbc 20 59 09.9 -0.8
comp=Z,0.8nm,0.3s,baz=222,slow=2.6,SNR=4.1
SAML Samuel 116.11 155 PFAKE 20 48 50.0 +13
SAML LR LR
comp=Z,3µm,19.0s,MS5.9
ASCN Ascension 116.17 209 PFAKE 20 48 50.0 +12
ASCN LR LR
comp=Z,818nm,21.0s,MS5.3
BVAR Borovoye Array 119.68 319 PKP PKPdf 20 48 42.6 -1.7
comp=Z,3.3nm,0.9s,baz=141,slow=5.7,SNR=12
BVAR PKKPbc PKKPbc 20 58 59.3 +4.8
comp=Z,0.5nm,0.7s,baz=300,slow=3.3,SNR=3.6
BRVK Borovoye 119.75 319 *e*P PKPdf 20 48 42.9 -1.6
BRVK LR LR
comp=Z,1µm,22.0s,MS5.5
CHKZ Chkalovo 120.08 320 *e*PKIKP PKPdf 20 48 43.0 -2.1
ZRNK Zerenda 120.19 319 *e*PKIKP PKPdf 20 48 43.7 -1.6
BILL Bilibino 121.47 11⇑ *e*PKIKP PKPdf 20 48 44.1 -3.6
BILL MLR MLR
comp=Z,2µm,19.0s,MS5.9
SNCC San Nicolas Is 121.80 76 PFAKE 20 49 00.0 +12
SNCC LR LR
comp=Z,2µm,19.0s,MS5.9
RCBR Riachuelo 122.16 185 PFAKE 20 49 00.0 +11
RCBR LR LR
comp=Z,2µm,19.0s,MS5.8
KDAK Kodiak Island 122.68 36 PFAKE 20 49 00.0 +10
KDAK LR LR
comp=Z,1µm,21.0s,MS5.5
GNI Garni 123.07 294 PFAKE 20 49 00.0 +9.2
GNI LR LR
comp=Z,3µm,21.0s,MS5.9
SAO San Andreas Ge 123.10 71 PFAKE 20 49 00.0 +9.1
SAO LR LR
comp=Z,3µm,21.0s,MS6.0
HOPS Hopland 123.68 68 PFAKE 20 49 00.0 +8.0
HOPS LR LR
comp=Z,4µm,20.0s,MS6.0
PFO Pinyon Flat Ob 123.89 77 PFAKE 20 49 00.0 +7.6
PFO LR LR
comp=Z,960nm,20.0s,MS5.5
TNA Tin City 124.02 23 PFAKE 20 49 00.0 +7.4
TNA LR LR
comp=Z,3µm,22.0s,MS5.8
ISA Isabella 124.10 74 *e*P PKPdf 20 48 55.6 +2.8
ISA LR LR
comp=Z,892nm,20.0s,MS5.4
CMB Columbia Colle 124.58 71 PFAKE 20 49 10.0 +16
CMB LR LR
comp=Z,3µm,20.0s,MS6.0
JTS JuntasAbangare 124.90 123 PFAKE 20 49 10.0 +16
JTS LR LR
comp=Z,965nm,22.0s,MS5.4
DAC Darwin (Calif) 125.04 74 *e*P PKPdf 20 48 55.6 +1.1
DAC LR LR
comp=Z,4µm,20.0s,MS6.0
WDC Whiskeytown Da 125.04 67 PFAKE 20 49 10.0 +15
WDC LR LR
comp=Z,3µm,20.0s,MS5.9
ROSC El Rosal 125.17 137 PKP PKPdf 20 48 56.8 +1.9
comp=Z,3.2nm,0.5s,baz=105,slow=22,SNR=2.4
MTUM Tungsten Hills 125.19 73 *e*P PKPdf 20 48 56.1 +1.3
MALT Malatya 125.46 289 *e*PKIKP PKPdf 20 48 56.1 +0.7
YBH Yreka Blue Hor 125.71 66 PFAKE 20 49 10.0 +14
YBH LR LR
comp=Z,3µm,22.0s,MS6.0
HUMO Hull Mountain 126.15 65 PFAKE 20 49 10.0 +13
HUMO LR LR
comp=Z,3µm,20.0s,MS6.0
TUC Tucson 126.44 83 PFAKE 20 49 10.0 +13
TUC LR LR
comp=Z,2µm,19.0s,MS5.8
TPH Tonopah 126.46 73 PFAKE 20 49 10.0 +13
TPH LR LR
comp=Z,3µm,22.0s,MS5.9
PMR Palmer 126.62 34 PFAKE 20 49 10.0 +12
PMR LR LR
comp=Z,4µm,20.0s,MS6.1
KIV Kislovodsk 126.74 297 *i* PKIKP PKPdf 20 48 52.9 -4.9
KIV *e*SS SS 21 07 53.6 -6.2
KIV pmax pmax
comp=Z,20nm,1.2s
KIV Kislovodsk 126.74 297 PKPdf PKPdf 20 48 51.3 -6.5
KIV ⇑*e*PKP PKPdf 20 48 52.9 -4.9
KIV LR LR
comp=Z,366nm,20.0s,MS5.0
TGUH Tegucigalpa,Un 126.80 118 PFAKE 20 49 10.0 +12
TGUH LR LR
comp=Z,1µm,19.0s,MS5.5
ARU Arti 126.96 317 *i* PKIKP PKPdf 20 48 56.8 -1.4
ARU *e* 20 50 57.4
ARU *e* 20 56 01.6
ARU *e*SS SS 21 08 21.3 +19
ARU MLR MLR
comp=Z,3µm,21.0s,MS5.9
ARU MLR MLR
comp=N,2µm,20.0s,MS5.9
ARU MLR MLR
comp=E,2µm,20.0s,MS5.9
ARU Arti 126.96 317 *e*P PKPdf 20 48 56.5 -1.7
ARU LR LR
comp=Z,764nm,22.0s,MS5.3
MOD Modoc 127.19 67 PFAKE 20 49 10.0 +11
MOD LR LR
comp=Z,2µm,19.0s,MS5.7
COR Corvallis 127.23 63 PFAKE 20 49 10.0 +11
COR LR LR
comp=Z,4µm,19.0s,MS6.1
DIV Divide 127.51 36 PFAKE 20 49 10.0 +11
DIV LR LR
comp=Z,11µm,22.0s,MS6.5
TRCR Troy Canyon 127.61 74 *e*P PKPdf 20 49 00.3 +0.8
BMN Battle Mountai 128.01 71 PFAKE 20 49 10.0 +10
BMN LR LR
comp=Z,3µm,20.0s,MS6.0
MCK McKinley 128.15 32 PFAKE 20 49 10.0 +9.5
MCK LR LR
comp=Z,2µm,22.0s,MS5.7
WUAZ Wupatki 128.26 79 PFAKE 20 49 10.0 +9.3
WUAZ LR LR
comp=Z,2µm,20.0s,MS5.9
CCUT Cedar City 128.41 76 *e*PKPdf PKPdf 20 49 01.5 +0.5
WVOR Wild Horse Val 128.47 68 PFAKE 20 49 10.0 +8.9
WVOR LR LR
comp=Z,3µm,21.0s,MS5.9
TORD Torodi Ar. Bea 128.59 237 PKP PKPdf 20 49 02.6 +1.2
comp=Z,4.1nm,1.1s,baz=137,slow=1.0,SNR=13
LTX Lajitas 128.74 91 PFAKE 20 49 10.0 +8.4
LTX LR LR
comp=Z,2µm,19.0s,MS5.8
TXAR Lajitas Array 128.74 91 PKP PKPdf 20 49 02.3 +0.7
comp=Z,3.3nm,1.0s,baz=172,slow=2.5,SNR=13
SIT Sitka 129.07 45 PFAKE 20 49 10.0 +7.7
SIT LR LR
comp=Z,9µm,20.0s,MS6.4
BR131 Keskin Array S 129.19 287 *e*P PKPdf 20 49 04.0 +1.5
BR131 LR LR
comp=Z,2µm,20.0s,MS5.7
COLA College 129.26 32⇑ *e*PKP PKPdf 20 49 01.2 -1.4
COLA LR LR
comp=Z,3µm,19.0s,MS6.0
MNTX Cornudas Mount 129.33 87 PFAKE 20 49 20.0 +17
MNTX LR LR
comp=Z,2µm,21.0s,MS5.8
ELK Elko 129.37 72 PFAKE 20 49 20.0 +17
ELK LR LR
comp=Z,4µm,20.0s,MS6.1
MVU Marysvale 129.72 76 PFAKE 20 49 20.0 +16
MVU LR LR
comp=Z,3µm,22.0s,MS5.9
MSU Marysvale 129.74 76 *e*PKIKP PKPdf 20 49 05.5 +1.9
ANTO Ankara 129.79 287 PFAKE 20 49 20.0 +16
ANTO LR LR
comp=Z,2µm,22.0s,MS5.6
ISP Isparta 129.84 283 PKIKP PKPdf 20 49 04.9 +1.2
WRAK Wrangell Islan 130.00 46 PFAKE 20 49 20.0 +16
WRAK LR LR
comp=Z,6µm,20.0s,MS6.3
ANN Anapa 130.20 294 *i* PKHKP 20 48 48.2
ANN *e*SS SS 21 08 42.7 0.0
ANN pmax pmax
comp=Z,184nm,1.3s
ANN MLR MLR
comp=N,1µm,21.0s,MS5.7
ANN MLR MLR
comp=E,720nm,21.0s,MS5.7
ANN MLR MLR
comp=Z,2µm,21.0s,MS5.7
SDV Santo Domingo 130.34 139 *e*P PKPdf 20 49 05.4 +0.7
SDV LR LR
comp=Z,2µm,19.0s,MS5.8
HAWA Hanford 130.43 63 PFAKE 20 49 20.0 +15
HAWA LR LR
comp=Z,4µm,19.0s,MS6.1
DUG Dugway 130.44 74 PFAKE 20 49 20.0 +15
DUG LR LR
comp=Z,2µm,22.0s,MS5.8
NLU North Lily Min 130.73 74 *e*P PKPdf 20 49 07.0 +1.6
BMO Blue Mountains 130.74 66 PFAKE 20 49 20.0 +15
BMO LR LR
comp=Z,3µm,20.0s,MS6.0
BGU Big Grassy Mou 130.78 73 *e*P PKPdf 20 49 06.8 +1.3
ANMO Albuquerque 130.87 83 *i* PKIKP PKPdf 20 49 06.3 +0.6
ANMO Albuquerque 130.87 83 PFAKE 20 49 20.0 +14
ANMO LR LR
comp=Z,3µm,20.0s,MS6.0
KVTX Kingsville 131.02 97 PFAKE 20 49 20.0 +14
KVTX LR LR
comp=Z,3µm,20.0s,MS5.9
MPU Maple Canyon 131.03 75 PFAKE 20 49 20.0 +14
MPU LR LR
comp=Z,4µm,20.0s,MS6.1
MVCO Mesa Verde 131.12 80 PFAKE 20 49 20.0 +14
MVCO LR LR
comp=Z,2µm,22.0s,MS5.9
SRU San Rafael 131.12 76 *e*PKIKP PKPdf 20 49 08.7 +2.5
TEIG Tepich 131.22 112 PFAKE 20 49 20.0 +14
TEIG LR LR
comp=Z,1µm,19.0s,MS5.7
EGAK Eagle 131.44 34 PFAKE 20 49 20.0 +13
EGAK LR LR
comp=Z,3µm,20.0s,MS6.0
HLID Hailey 131.60 69 PFAKE 20 49 20.0 +13
HLID LR LR
comp=Z,3µm,22.0s,MS5.9
DAWY Dawson 131.65 36 *e*P PKPdf 20 49 07.0 -0.1
JCT Junction City 131.93 93 PKIKP PKPdf 20 49 14.6 +6.9
JCT Junction City 131.93 93 PFAKE 20 49 20.0 +12
JCT LR LR
comp=Z,2µm,20.0s,MS5.8
HWUT Hardware Ranch 132.06 73 PFAKE 20 49 20.0 +12
HWUT LR LR
comp=Z,3µm,22.0s,MS6.0
NEW Newport 132.86 63 PFAKE 20 49 20.0 +11
NEW LR LR
comp=Z,3µm,20.0s,MS6.0
AHID Auburn Hatcher 133.04 72 PFAKE 20 49 20.0 +10
AHID LR LR
comp=Z,3µm,22.0s,MS5.9
SDCO Great Sand Dun 133.28 81 PFAKE 20 49 20.0 +10
SDCO LR LR
comp=Z,4µm,19.0s,MS6.1
AMTX Amarillo 133.76 87 PFAKE 20 49 20.0 +8.8
AMTX LR LR
comp=Z,2µm,21.0s,MS5.8
MSO Missoula 133.80 66 PFAKE 20 49 20.0 +8.8
MSO LR LR
comp=Z,2µm,21.0s,MS5.8
BW06 Boulder Array 133.95 73 PFAKE 20 49 20.0 +8.5
BW06 LR LR
comp=Z,3µm,21.0s,MS6.0
PDAR Pinedale Array 133.95 73 PKP PKPdf 20 49 13.3 +1.8
comp=Z,1.6nm,1.0s,baz=124,slow=0.5,SNR=8.0
HKT Hockley 134.00 96 PFAKE 20 49 20.0 +8.4
HKT LR LR
comp=Z,1µm,19.0s,MS5.7
CHMT Chamberlain Mo 134.24 66 *e*PKPdf PKPdf 20 49 14.7 +2.7
YMR Madison River 134.25 70 PFAKE 20 49 20.0 +7.9
YMR LR LR
comp=Z,2µm,21.0s,MS5.8
BOZ Bozeman (W) 134.44 68 PFAKE 20 49 20.0 +7.6
BOZ LR LR
comp=Z,2µm,19.0s,MS6.0
ISCO Idaho Springs 134.51 79 PFAKE 20 49 20.0 +7.5
ISCO LR LR
comp=Z,2µm,19.0s,MS5.8
LKWY Lake 134.52 70 PFAKE 20 49 20.0 +7.4
LKWY LR LR
comp=Z,3µm,21.0s,MS6.0
WMOK Wichita Mounta 135.46 89 PFAKE 20 49 30.0 +16
WMOK LR LR
comp=Z,2µm,21.0s,MS5.9
RLMT Red Lodge 135.50 70 PFAKE 20 49 30.0 +16
RLMT LR LR
comp=Z,2µm,21.0s,MS5.8
INK Inuvik 135.91 32 PKP PKPdf 20 49 14.7 -0.5
comp=Z,6.1nm,0.8s,baz=242,slow=1.8,SNR=12
INK Inuvik 135.91 32 PKIKP PKPdf 20 49 15.5 +0.3
KIS Kishinev 136.36 292 *e*PKIKP PKPdf 20 49 16.0 0.0
KIS MLR MLR
comp=Z,2µm,20.0s,MS5.8
KIS MLR MLR
comp=Z,1µm,20.0s
KIS Kishinev 136.36 292 *e*PP PP 20 52 20.0 +23
KIS *e*SKP 20 53 04.0
KIS LRM 21 46 28.0
comp=Z,2µm,20.0s
OBN Obninsk 136.41 306⇓ *i* PKIKP PKPdf 20 49 15.1 -1.0
OBN *e* 20 52 00.2
OBN *e*PPP 20 54 57.1
OBN *e*PS PS 21 02 23.9 +2.1
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,2µm,20.0s,MS5.9
OBN Obninsk 136.41 306 PFAKE 20 49 30.0 +14
OBN LR LR
comp=Z,768nm,22.0s,MS5.4
EGMT Eagleton 136.83 67 PFAKE 20 49 30.0 +13
EGMT LR LR
comp=Z,2µm,19.0s,MS5.9
CBKS Cedar Bluff 137.48 84 PFAKE 20 49 30.0 +12
CBKS LR LR
comp=Z,2µm,20.0s,MS5.9
RSSD Black Hills 138.01 75 PFAKE 20 49 30.0 +11
RSSD LR LR
comp=Z,2µm,19.0s,MS5.9
AKASG Malin Array Be 138.08 297 PKhKP 20 49 13.7
comp=Z,0.3nm,0.2s,baz=68,slow=18,SNR=2.9
AKASG PKP PKPdf 20 49 19.6 +0.4
comp=Z,0.3nm,0.3s,baz=81,slow=2.8,SNR=6.4
AKASG PP PP 20 52 12.6 +5.1
comp=Z,0.2nm,0.3s,baz=124,slow=4.3,SNR=5.8
KIEV Kiev 138.09 297 PFAKE 20 49 30.0 +11
KIEV LR LR
comp=Z,2µm,22.0s,MS5.8
LAO LASA Array 138.14 70 PFAKE 20 49 30.0 +11
LAO LR LR
comp=Z,2µm,21.0s,MS5.9
BBGH Gun Hill 138.19 151 PFAKE 20 49 30.0 +11
BBGH LR LR
comp=Z,3µm,21.0s,MS6.1
KSU1 Kansas State U 139.58 86 PFAKE 20 49 30.0 +8.1
KSU1 LR LR
comp=Z,3µm,22.0s,MS6.0
BRAL Brewton 140.08 103 PFAKE 20 49 40.0 +17
BRAL LR LR
comp=Z,2µm,20.0s,MS5.9
DGMT Dagmar 140.24 69 PFAKE 20 49 30.0 +6.9
DGMT LR LR
comp=Z,3µm,21.0s,MS6.1
YKA Yellowknife Ar 140.81 45 PKhKP 20 49 18.2
comp=Z,1.6nm,0.8s,baz=240,slow=3.0,SNR=4.8
YKA PKP PKPdf 20 49 23.3 -0.8
comp=Z,1.2nm,0.7s,baz=258,slow=3.1,SNR=4.7
YKA Yellowknife Ar 140.81 45 PKP PKPdf 20 49 18.2 -6.0
YKA PKP PKPdf 20 49 23.3 -0.8
UZH Uzhgorod 140.97 291 *e*P Pdif 20 46 53.4 +12
UZH *e* 20 52 38.0
UZH *i* PPP 20 55 38.0
UZH *e* 20 56 35.0
UZH *i* SS SS 21 10 56.0 +4.3
UZH MLR MLR
comp=Z,1µm,18.0s,MS5.6
OXF Oxford 141.07 97 PFAKE 20 49 40.0 +15
OXF LR LR
comp=Z,2µm,20.0s,MS5.9
KOLS Kolonicke sedl 141.13 291 *e*PKP PKPdf 20 49 24.7 0.0
KOLS *e* 20 52 26.4
DWPF Disney 141.25 112 PFAKE 20 49 40.0 +15
DWPF LR LR
comp=Z,2µm,21.0s,MS5.9
KEST Kesra 141.44 265 PKP PKPdf 20 49 25.3 0.0
comp=Z,2.1nm,0.8s,baz=169,slow=4.9,SNR=4.0
KECS Kecovo 141.94 289 *e*PKP PKPdf 20 49 20.8 -5.4
STHS Stebnicka Huta 141.95 291 *e*PKP PKPdf 20 49 30.7 +4.5
PSZ Piszkesteto 142.01 288 *e*PKIKP PKPdf 20 49 26.7 +0.4
PLAL Pickwick Lake 142.20 98 PFAKE 20 49 40.0 +13
PLAL LR LR
comp=Z,2µm,20.0s,MS5.8
CCM Cathedral Cave 142.24 91 PFAKE 20 49 40.0 +13
CCM LR LR
comp=Z,2µm,21.0s,MS6.0
ECSD EROS,Sioux Fal 142.26 80 *e*PKPpre 20 49 20.6
ECSD LR LR
comp=Z,3µm,22.0s,MS6.1
SUW Suwalki 142.89 299 *e*PKP PKPdf 20 49 23.9 -4.0
VYHS Vyhne 142.91 289 *e*PKP PKPdf 20 49 23.8 -4.1
VYHS *e* 20 52 37.0
WVT Waverly 143.11 97 PFAKE 20 49 40.0 +12
WVT LR LR
comp=Z,2µm,20.0s,MS5.8
SIUC Southern Illin 143.27 93 *e*PKPpre 20 49 26.9
SCIA State Center 143.32 85 *e*PKPdf PKPdf 20 49 25.7 -2.9
SCIA LR LR
comp=Z,3µm,20.0s,MS6.1
GOGA Godfrey 143.92 104 *e*PKHKP 20 49 27.8
GOGA MLR MLR
comp=Z,2µm,19.0s,MS5.8
OKC Ostrava-Krasne 143.93 290 *e*PKP PKPdf 20 49 28.5 -1.2
OKC AMS AMS 21 57 40.0
comp=Z,1µm,14.9s
FINES FINESS Array B 143.97 312 PKP PKPdf 20 49 27.3 -2.4
comp=Z,20nm,1.1s,baz=79,slow=4.1,SNR=16
MORC Moravsky Berou 144.25 290 *e*PKHKP 20 49 28.9
ARSA Arzberg 144.26 285 *i* P PKPdf 20 49 28.9 -1.4
comp=Z,37nm,1.2s,SNR=20
USIN University of 144.38 94 *e*PKPpre 20 49 28.6
CONA Conrad Observa 144.39 286⇑ *i* PKPdf PKPdf 20 49 28.5 -2.0
comp=Z,16nm,1.2s,SNR=6.6
VOY Vojsko 144.64 282 *e*PKPdf PKPdf 20 49 32.8 +1.9
VOY *e* 20 49 56.3
HDIL Hopedale 144.96 89 PFAKE 20 49 40.0 +8.5
HDIL LR LR
comp=Z,2µm,21.0s,MS6.0
AGMN Agassiz Refuge 145.02 74 *e*PKPdf PKPdf 20 49 29.8 -1.8
AGMN LR LR
comp=Z,3µm,19.0s,MS6.1
KEV Kevo 145.13 326 *ep* PKPbc 20 49 28.4 -2.9
comp=Z,14nm,0.7s
KEV Kevo 145.13 326 *e*P PKPbc 20 49 28.4 -2.9
KEV LR LR
comp=Z,2µm,22.0s,MS5.9
DPC Dobruska-Polom 145.21 290 *e*PKP PKPdf 20 49 31.2 -0.7
DPC *ex* x 20 49 43.2
DPC *e*SS SS 21 11 37.2 -3.5
DPC AMS AMS 21 57 40.0
comp=Z,2µm,24.5s
TKL Tuckaleechee C 145.27 101 PKPbc PKPbc 20 49 31.8 0.0
comp=Z,44nm,1.1s,baz=206,slow=5.3,SNR=10
MOA Molln 145.30 285⇑ *i* P PKPbc 20 49 31.5 -0.4
comp=Z,52nm,1.4s,SNR=14
WCI Wyandotte Cave 145.39 95 *e*PKHKP 20 49 31.2
WCI MLR MLR
comp=Z,2µm,20.0s,MS5.9
KSP Ksiaz 145.44 291 *e*PKP PKPdf 20 49 33.5 +1.2
KSP Ksiaz 145.44 291 *e*PKP PKPdf 20 49 32.8 +0.5
KSP *ep*PKP pPKPdf 20 49 37.9 -0.6
KSP *e*SS SS 21 11 42.0 -1.3
KSP LR LR
comp=Z,4µm,22.9s,MS6.1
UPC Upice 145.46 290 *e*PKP PKPdf 20 49 30.9 -1.4
KBA Koelnbreinsper 145.48 283⇑ *i* P PKPdf 20 49 32.2 -0.2
comp=Z,50nm,1.1s,SNR=16
CORF Corte 145.56 274 PKP PKPdf 20 49 33.0 +0.5
ARCES ARCESS Array B 145.64 325 PKPbc PKPbc 20 49 30.9 -2.0
comp=Z,132nm,1.1s,baz=88,slow=3.2,SNR=45
EMHD Djebel Mahouad 145.66 260 P PKPdf 20 49 36.0 +3.3
NHSC New Hope 145.66 108 PFAKE 20 49 40.0 +7.3
NHSC LR LR
comp=Z,2µm,20.0s,MS5.8
JFWS Jewell Farm 145.70 85 *e*PKHKP 20 49 33.6
JFWS MLR MLR
comp=Z,3µm,19.0s,MS6.0
PGF Pioggiola 145.79 274 *e*PKP1 PKPbc 20 49 32.8 -0.6
comp=Z,174nm,1.2s
BLO Bloomington 145.84 94 PKHKP 20 49 24.6
BLO Bloomington 145.84 94 *e*PKPdf PKPdf 20 49 34.0 +1.1

JSC	**Jenkinsville**	**145.84 105**	*e*PKHKP		20 49 34.1	
GKP	**Gorka Klasztor**	**145.86 295**	*e*PKP	PKPdf	20 49 33.9	+0.9
ULM	**Lac du Bonnet**	**145.88 71**	PKPbc	PKPbc	20 49 32.3	-1.4
	comp=Z,5.6nm,0.7s,baz=252,slow=4.0,SNR=10					
TZTN	**Tazewell**	**145.99 100**	*e*PKPdf	PKPdf	20 49 34.6	+1.4
TZTN			LR	LR		
	comp=Z,2µm,20.0s,MS5.8					
GEC2	**GERESS Array S**	**146.09 286**	*e*PKPbc	PKPbc	20 49 33.4	-0.9
GEC2			*e*SS	SS	21 11 51.9	+1.2
GERES	**GERESS Array B**	**146.09 286**	PKPbc	PKPbc	20 49 33.7	-0.7
	comp=Z,41nm,1.2s,baz=140,slow=2.9,SNR=45					
PRU	**Pruhonice**	**146.09 289**	*e*PKP	PKPdf	20 49 33.7	+0.3
PRU			*e*SS	SS	21 11 49.6	-1.1
PRU			AMS	AMS	21 58 00.0	
	comp=Z,2µm,22.6s					
ETRT	**Tiaret**	**146.11 257**	P	pPKPdf	20 49 42.2	+2.5
PRA	**Prague**	**146.19 289**	PKP	PKPdf	20 49 36.0	+2.4
PRA			*ex*	x	20 50 08.0	
KHC	**Kasperske Hory**	**146.29 287**	*e*PKP	PKPdf	20 49 33.5	-0.3
KHC			AMS	AMS	21 58 30.0	
	comp=Z,2µm,25.6s					
PVCC	**Panska Ves**	**146.30 290**	*e*PKP	PKPdf	20 49 34.5	+0.7
EBNR	**Beni Rached**	**146.58 259**	P	PKPdf	20 49 37.0	+2.8
ECHA	**Ech Chlef**	**146.58 258**	P	PKPdf	20 49 37.2	+2.9
WTTA	**Wattenberg**	**146.60 283** ⇑	*i*P	PKPdf	20 49 36.8	+2.5
	comp=Z,43nm,1.0s,SNR=14					
EANR	**'Ain N'Sour**	**146.61 258**	P	PKPbc	20 49 38.2	+2.3
WATA	**Walderalm**	**146.67 283** ⇓	*i*P	PKPdf	20 49 37.0	+2.6
	comp=Z,74nm,1.2s					
WET	**Wettzell**	**146.71 287**	*e*PKPbc	PKPbc	20 49 35.2	-0.9
WET			*e*SS	SS	21 11 59.4	+1.7
BRG	**Berggiesshubel**	**146.81 290**	*e*PKPbc	PKPbc	20 49 35.8	-0.6
BRG			*e*SS	SS	21 12 03.4	+4.5
BRG	**Berggiesshubel**	**146.81 290**	*e*PKP	PKPdf	20 49 35.3	+0.7
	comp=Z,29nm,1.4s					
BRG			*i*		21 12 03.0	
BRG						
	comp=N,724nm,15.0s					
BRG						
	comp=E,1µm,19.2s					
BRG						
	comp=Z,2µm,18.4s					
BRG	**Berggiesshubel**	**146.81 290**	*e*PKHKP	PKPdf	20 49 35.3	+0.7
BRG			*i*		21 12 03.0	
BRG			pmax	pmax		
	comp=Z,3.0nm,1.4s					
BRG			MLR	MLR		
	comp=N,29µm,15.0s,MS7.1					
BRG			MLR	MLR		
	comp=E,724nm,19.2s,MS7.1					
BRG			MLR	MLR		
	comp=Z,1µm,18.4s,MS5.7					
BRG	**Berggiesshubel**	**146.81 290**	*e*PKP	PKPdf	20 49 35.3	+0.7
BRG			*i*		21 12 03.0	
BRG			LR	LR		
	comp=Z,2µm,18.4s,MS5.8					
SQTA	**Sankt Quirin**	**146.84 282**	*i* P	PKPdf	20 49 36.5	+1.8
	comp=Z,22nm,0.5s,SNR=25					
MOTA	**Moosalm**	**146.96 283** ⇓	*i*P	PKPdf	20 49 36.1	+1.2
	comp=Z,60nm,1.1s,SNR=22					
FBE	**Freiberg**	**147.17 290**	*e*PKPbc	PKPbc	20 49 37.5	0.0
FUR	**Furstenfeldbru**	**147.23 284**	*e*PKPbc	PKPbc	20 49 36.8	-0.8
FUR			*e*SS	SS	21 12 02.6	-1.0
BJO	**Bjornoya**	**147.37 335**	*e*P	PKPab	20 49 42.4	+2.5
BJO			AMS	AMS	21 58 11.8	
	comp=Z,2µm,23.1s,MS5.8					
ROTZ	**Rotzenmuhle**	**147.37 287**	*e*PKPbc	PKPbc	20 49 37.3	-0.7
ROTZ			*e*SS	SS	21 12 08.9	+3.7
BJO1	**Bjornoya**	**147.42 335**	*e*P	PKPab	20 49 42.4	+2.3
BJO1			LR	LR		
	comp=Z,2µm,23.1s,MS5.8					
NKC	**Novy Kostel**	**147.42 288**	*e*PKP	PKPdf	20 49 37.8	+2.1
NKC			*ex*	x	20 49 52.6	
NKC			*e*SS	SS	21 12 03.3	-2.5
DAVOX	**Davos**	**147.43 281**	PKPbc	PKPbc	20 49 38.9	+0.7
	comp=Z,18nm,0.9s,baz=163,slow=4.9,SNR=12					
SAOF	**Saorge**	**147.46 275**	PKP	PKPbc	20 49 39.0	+0.8
SBF	**Sospel**	**147.46 275**	*e*PKP1	PKPbc	20 49 37.6	-0.7
	comp=Z,146nm,1.1s					
EYMN	**Ely**	**147.47 77**	*e*PKPdf	PKPdf	20 49 35.8	0.0
EYMN			LR	LR		
	comp=Z,3µm,19.0s,MS6.1					
WERN	**Wernitzgruen**	**147.49 288**	*e*PKPbc	PKPbc	20 49 38.0	-0.3
TANN	**Tannenbergstha**	**147.49 288**	*e*PKPbc	PKPbc	20 49 37.6	-0.7
TANN			*e*SS	SS	21 12 12.1	+5.6
MANZ	**Manzenberg**	**147.52 288**	*e*PKPbc	PKPbc	20 49 37.9	-0.5
RUE	**Ruedersdorf**	**147.52 293**	*e*PKPbc	PKPbc	20 49 37.4	-1.0
RUE			*e*SS	SS	21 12 10.5	+3.6
CLL	**Collm**	**147.53 290**	*e*PKPbc	PKPbc	20 49 37.4	-1.0
CLL			*e*SS	SS	21 12 08.9	+1.9
CLL	**Collm**	**147.53 290**	*e*PKIKP	PKPbc	20 49 39.0	+0.6
CLL			pmax	pmax		
	comp=Z,117nm,2.0s					
CLL			MLR	MLR		
	comp=Z,3µm,20.2s,MS6.0					
CLL	**Collm**	**147.53 290**	*e*P	PKPbc	20 49 39.0	+0.6
CLL			*e*		20 49 50.0	
CLL			LR	LR		
	comp=Z,3µm,20.2s,MS6.0					
CLL	**Collm**	**147.53 290**	*e*PKPbc	PKPbc	20 49 39.0	+0.6
	comp=Z,117nm,2.0s					
CLL			*ex*	x	20 49 50.0	
CLL			*e*SS	SS	21 12 12.0	+5.0
CLL			*e*PSPS		21 13 20.0	
CLL			LmV		22 02 00.0	
	comp=Z,3µm,20.2s					
LUCF	**Luceram**	**147.53 275**	PKP	PKPbc	20 49 39.5	+1.0
AUTN	**L'Aution**	**147.54 275**	PKP	PKPbc	20 49 39.7	+1.2
GUNZ	**Gunzen**	**147.54 288**	*e*PKPbc	PKPbc	20 49 38.0	-0.5
WERD	**Werda**	**147.59 288**	*e*PKPbc	PKPbc	20 49 37.8	-0.8
MVIF	**Mont Vial**	**147.66 274**	PKP	PKPbc	20 49 39.5	+0.7
TOUF	**Mont Tournerai**	**147.66 275**	PKP	PKPdf	20 49 37.7	+1.6
DAVA	**Damuels**	**147.67 282**	*i* P	PKPdf	20 49 39.0	+2.9
	comp=Z,41nm,0.8s,SNR=8.3					
KBS	**Kingsbay**	**147.69 343**	*e*P	PKPbc	20 49 40.6	+1.8
KBS			*e*SS	SS	21 12 09.8	+0.9
KBS			AMS	AMS	21 58 37.0	
	comp=Z,1µm,21.8s,MS5.6					
KBS	**Kingsbay**	**147.69 343** ⇑	*i*PKHKP		20 49 33.7	
KBS			MLR	MLR		
	comp=Z,2µm,21.0s,MS5.9					
LMR	**La Mourre**	**147.75 273**	*e*PKP1	PKPbc	20 49 37.6	-1.5
	comp=Z,64nm,1.1s					
MDT	**Midelt**	**147.77 247**	PKPbc	PKPbc	20 49 40.9	+1.8
	comp=Z,16nm,1.0s,baz=132,slow=3.2,SNR=16					
FRF	**La Foret Royal**	**147.79 274**	*e*PKP1	PKPbc	20 49 38.6	-0.6
	comp=Z,86nm,1.1s					
GRA1	**Grafenberg Arr**	**147.92 287**	*e*PKPbc	PKPbc	20 49 38.9	-0.6
GRF	**Grafenberg Arr**	**147.92 287**	*e*PKPbc	PKPbc	20 49 38.9	-0.6
GRF			*e*SS	SS	21 12 12.1	+0.7
GRF			*e*L		21 59 48.1	
	comp=Z,4µm,22.0s					
GRF	**Grafenberg Arr**	**147.92 287**	*e*PKIKP	PKPdf	20 49 38.9	+2.4
GRF			*e*SS	SS	21 12 12.1	+0.7
GRFO	**Grafenberg**	**147.92 287**	*e*SS	SS	21 12 15.2	+3.8
GRFO	**Grafenberg**	**147.92 287**	*e*PKIKP	PKPdf	20 49 38.4	+1.9
GRFO			MLR	MLR		
	comp=Z,4µm,22.0s,MS6.2					
TRO	**Tromso**	**147.94 325**	*e*P	PKPbc	20 49 41.8	+2.2
TRO			AMS	AMS	21 53 50.4	
	comp=Z,1µm,25.7s,MS5.5					
ETOS	**Mallorca**	**148.00 265**	PKP	pPKPbc	20 49 47.7	+1.8
MOX	**Moxa**	**148.07 288**	*e*PKPbc	PKPbc	20 49 39.3	-0.6
MOX			*e*SS	SS	21 12 17.6	+4.5
MOX	**Moxa**	**148.07 288**	*e*PKP	PKPdf	20 49 39.3	+2.6
	comp=Z,72nm,1.9s					
MOX						
	comp=Z,2µm,21.0s					
MOX	**Moxa**	**148.07 288**	*e*PKIKP	PKPdf	20 49 39.3	+2.6
MOX			pmax	pmax		
	comp=Z,72nm,1.9s					
MOX			MLR	MLR		
	comp=Z,2µm,21.0s,MS5.9					
SURF	**Saint Ours**	**148.17 275**	PKP	PKPbc	20 49 41.7	+1.5
MBDF	**Montbardon**	**148.32 276**	*e*PKP1	PKPbc	20 49 39.9	-0.7
	comp=Z,54nm,0.8s					
BLA	**Blacksburg**	**148.32 102**	*e*PKIKP	PKPbc	20 49 41.5	+0.9
BLA			MLR	MLR		
	comp=Z,2µm,19.0s,MS6.0					
EIBI	**Ibiza**	**148.45 262**	PKP	PKPab	20 49 46.7	+2.5
RGN	**Rugen**	**148.48 296**	*e*SS	SS	21 12 23.9	+6.2
CNNC	**Cliffs of the**	**148.50 107**	PFAKE		20 49 50.0	+13
CNNC			LR	LR		
	comp=Z,2µm,20.0s,MS6.0					
BNI	**Bardonecchia**	**148.54 276**	*e*PKIKP	PKPbc	20 49 41.3	+0.2
RES	**Resolute Bay**	**148.65 25**	PKHKP	PKPdf	20 49 37.6	-0.1
RES	**Resolute Bay**	**148.65 25**	*e*PKPdf	PKPdf	20 49 36.9	-0.8
SMRF	**Simiane la Rot**	**148.67 273**	*e*PKP1	PKPbc	20 49 41.3	-0.2
	comp=Z,221nm,1.5s					
SPAK	**Spaichingen-Ko**	**148.69 283**	PKP	PKPbc	20 49 41.9	+0.4
LPG	**La Plagne**	**148.72 277**	*e*PKP1	PKPbc	20 49 41.1	-0.5
	comp=Z,44nm,0.9s					
LPL	**La Plagne**	**148.74 277**	*e*PKP1	PKPbc	20 49 41.1	-0.5
	comp=Z,158nm,1.4s					
STU	**Stuttgart**	**148.74 284**	*e*PKPbc	PKPbc	20 49 40.4	-1.2
STU			*e*SS	SS	21 12 24.7	+4.1
GDM	**Grand'Maison**	**148.96 276**	PKP	PKPbc	20 49 43.2	+1.0
ORIF	**Oris-en-Rattie**	**148.96 275**	*e*PKP1	PKPbc	20 49 41.5	-0.7
	comp=Z,72nm,1.2s					
ORIF			*e*R			
	comp=Z,5µm,22.0s					
FELD	**Feldberg im Sc**	**149.07 282** ⇓	*e*P	PKPbc	20 49 43.0	+0.5
BFO	**Black Forest**	**149.07 283**	*e*PKPbc	PKPbc	20 49 41.3	-1.2
BFO			*e*SS	SS	21 12 24.7	+0.4
BFO	**Black Forest**	**149.07 283**	PKIKP	PKPdf	20 49 41.5	+3.1
BFO	**Black Forest**	**149.07 283**	*e*PKPbc	PKPbc	20 49 41.3	-1.2
BFO			*e*SS	SS	21 12 24.7	+0.4
BFO			LR	LR		
	comp=Z,527nm,20.0s,MS5.3					
UBBA	**Unterbreizbach**	**149.09 288**	*e*PKPbc	PKPbc	20 49 41.5	-1.0
UBBA			*e*SS	SS	21 12 29.4	+4.9
BBS	**Basel-Blauen**	**149.18 281**	PKIKP	PKPdf	20 49 41.2	+2.7
EBEN	**Beniarda**	**149.20 260**	PKP	PKPbc	20 49 44.4	+1.5
GRN	**Grenoble**	**149.21 276**	PKP	PKPbc	20 49 43.8	+1.0
CLZ	**Clausthal**	**149.25 290**	*e*PKPbc	PKPbc	20 49 42.2	-0.7
CLZ			*e*SS	SS	21 12 31.8	+5.5
CFTV	**Fuerteventura**	**149.27 230**	PKP	PKPdf	20 49 30.7	-8.0
ENIJ	**Nijar**	**149.28 256**	PKIKP	PKPbc	20 49 44.1	+1.1
TOD	**Tromm**	**149.32 285**	PKIKP	PKPbc	20 49 43.2	+0.1
AAM	**Ann Arbor**	**149.43 91**	*e*PKP2	PKPab	20 49 49.0	+0.8
AAM			MLR	MLR		
	comp=Z,3µm,22.0s,MS6.0					
LIBD	**Limburg**	**149.43 282**	PKIKP	PKPbc	20 49 43.8	+0.4
EJON	**La Jonquera**	**149.50 269**	PKP	pPKPab	20 49 58.6	+4.0
STR	**Strasbourg**	**149.52 283**	PKP	PKPbc	20 49 44.3	+0.7
LOMF	**Lomont**	**149.54 280**	PKP	PKPbc	20 49 44.3	+0.6
FCC	**Fort Churchill**	**149.56 56**	*e*PKHKP		20 49 40.8	
MOF	**Molkenrain**	**149.58 281**	PKP	PKPbc	20 49 43.6	-0.2
HFS	**Hagfors**	**149.60 307**	PKPbc	PKPbc	20 49 44.8	+1.0
	comp=Z,14nm,0.8s,baz=288,slow=1.4,SNR=6.1					
NRDL	**Niedersach Rie**	**149.63 291**	*e*PKPbc	PKPbc	20 49 42.6	-1.3
NRDL			*e*SS	SS	21 12 35.7	+5.1
EBER	**Berja**	**149.63 255**	PKP	PKPbc	20 49 46.8	+2.9
CABF	**La Chapelle**	**149.66 278**	*e*PKP1	PKPbc	20 49 43.3	-0.6
	comp=Z,47nm,0.7s					
LANF	**Langenberg**	**149.66 284**	PKP	PKPbc	20 49 44.7	+0.7
VIVF	**Saint-Julien-l**	**149.67 274**	*e*PKP1	PKPbc	20 49 43.3	-0.7
	comp=Z,105nm,1.4s					
WLS	**Welschbruch**	**149.69 282**	PKP	PKPbc	20 49 43.6	-0.4
MOR8	**Moi Rana**	**149.72 319**	*e*P	PKPbc	20 49 44.0	-0.1
ECH	**Echery**	**149.72 282**	PKP	PKPbc	20 49 44.0	-0.1
HINF	**Hinteralfeld**	**149.74 281**	*e*PKP1	PKPbc	20 49 42.5	-1.6
	comp=Z,43nm,0.9s					
CDF	**Champ du Feu**	**149.74 282**	*e*PKP1	PKPbc	20 49 42.6	-1.5
	comp=Z,152nm,1.6s					
TNS	**Taunus Mts**	**149.77 286**	*e*PKPbc	PKPbc	20 49 43.2	-1.0
TNS			*e*SS	SS	21 12 35.7	+3.5
LASF	**Ste Croix**	**149.78 272**	*e*PKP1	PKPbc	20 49 43.8	-0.4
	comp=Z,93nm,1.0s					
ETOB	**Tobarra**	**149.97 259**	PKP	PKPbc	20 49 45.9	+1.2
BSEG	**Bad Segeberg**	**149.97 294**	*e*PKPbc	PKPbc	20 49 44.0	-0.7
BSEG			*e*SS	SS	21 12 37.3	+2.9
EGUA	**Guajares**	**149.99 254**	PKIKP	PKPbc	20 49 46.1	+1.3
VALF	**Valcebollere**	**150.01 268**	PKP	PKPbc	20 49 45.1	+0.3
EHUE	**Huescar**	**150.06 257**	PKIKP	PKPbc	20 49 45.3	+0.4
HAU	**Haudompre**	**150.12 281**	*e*PKP1	PKPbc	20 49 43.9	-1.2
	comp=Z,144nm,1.3s					
HAU			*e*R			
	comp=Z,2µm,20.2s					
HAU	**Haudompre**	**150.12 281**	*e*PKP	PKPdf	20 49 43.9	+3.9
HAU			LR	LR		
	comp=Z,2µm,20.3s,MS5.8					
ABH	**Alteburg**	**150.18 285**	PKP	PKPbc	20 49 45.6	+0.4
MCWV	**Mont Chateau**	**150.22 99**	PFAKE		20 49 50.0	+10
MCWV			LR	LR		
	comp=Z,2µm,19.0s,MS6.0					
ERTA	**Horta de San J**	**150.23 264**	PKP	PKPbc	20 49 46.4	+1.1
ERON	**Agron**	**150.26 254**	PKP	PKPbc	20 49 47.2	+1.8
ECOG	**Cogollos-Vega**	**150.29 255**	PKIKP	PKPbc	20 49 45.1	-0.4
EQES	**Quesada**	**150.34 256**	PKP	PKPbc	20 49 48.4	+2.8
EMOS	**Mosqueruela**	**150.37 263**	PKP	PKPbc	20 49 47.0	+1.3
RUP	**Ruppelstein**	**150.40 284**	PKIKP	PKPbc	20 49 46.0	+0.3
MTLF	**Montolieu**	**150.40 270**	*e*PKP1	PKPbc	20 49 44.9	-0.8
	comp=Z,47nm,0.9s					
THEF	**They Montfort**	**150.44 281**	PKP	PKPbc	20 49 46.6	+0.8
EMIJ	**Mijas**	**150.52 252**	PKP	PKPbc	20 49 46.4	+0.4
EVIA	**Vianos**	**150.54 258**	PKIKP	PKPbc	20 49 47.0	+0.9
ELOJ	**Sierra Loja**	**150.55 254**	PKIKP	PKPbc	20 49 46.0	-0.1
LBL	**Lubilhac**	**150.74 274**	PKP	PKPbc	20 49 48.1	+1.6
NSS	**Namsos**	**150.77 315**	AMS	AMS	21 56 45.3	
	comp=Z,3µm,20.1s,MS6.0					
CBN	**Corbin**	**150.80 104**	PFAKE		20 49 50.0	+8.9
CBN			LR	LR		
	comp=Z,2µm,21.0s,MS6.0					
EJIF	**Jimena Fronter**	**150.85 251**	PKIKP	PKPdf	20 49 40.6	-0.6
PLDF	**La Plantade**	**150.87 276**	PKP	PKPbc	20 49 47.9	+1.1
ELUQ	**Luque**	**150.89 254**	PKIKP	PKPbc	20 49 48.1	+1.2
BUG	**Bochum--Univer**	**150.92 288**	*e*PKPbc	PKPbc	20 49 46.0	-1.0
BUG			*e*SS	SS	21 12 50.7	+5.8
IBBN	**Ibbenburen**	**150.93 290**	*e*PKPbc	PKPbc	20 49 46.2	-0.8
IBBN			*e*SS	SS	21 12 50.7	+5.7
WLF	**Walferdange**	**150.93 284**	*e*PKPbc	PKPbc	20 49 46.3	-0.7
WLF			*e*SS	SS	21 12 47.5	+2.5
WLF	**Walferdange**	**150.93 284**	PKPbc	PKPbc	20 49 47.4	+0.4
WLF			APKPbc		20 49 50.8	
WLF			PKPab	PKPab	20 49 53.1	-1.2
WLF			E		20 49 59.6	
NB2	**NORSAR Subarra**	**150.94 308**	PKP	PKPdf	20 49 45.3	+4.0
	baz=79,slow=3.8					
NB2	**NORSAR Subarra**	**150.94 308**	PKP	PKPdf	20 49 45.3	+4.0
	comp=Z,52nm,1.1s,baz=79,slow=3.8					
NOA	**NORSAR Array B**	**150.94 308**	PKPbc	PKPbc	20 49 46.2	-0.8
	comp=Z,20nm,0.9s,baz=248,slow=3.1,SNR=22					
EBAN	**Banos Encina**	**151.00 256**	PKIKP	PKPbc	20 49 48.5	+1.3
SMF	**Signal de Mont**	**151.04 277**	*e*PKP1	PKPbc	20 49 46.1	-1.2
	comp=Z,75nm,1.1s					
MEZF	**Maizieres J'vi**	**151.12 281**	*e*PKP1	PKPbc	20 49 46.6	-0.8
	comp=Z,60nm,0.9s					
PYM	**Petit Puy Mans**	**151.14 275**	PKP	PKPbc	20 49 48.8	+1.3
MUD	**Monsted U'grnd**	**151.26 299**	*i* P	PKPab	20 49 59.4	+3.7
	comp=Z,33nm,1.2s					
MUD						
	comp=Z,2µm,21.0s					
MUD	**Monsted U'grnd**	**151.26 299**	*e*P	PKPab	20 49 59.4	+3.7
CAF	**Calviac**	**151.31 273**	*e*PKP1	PKPbc	20 49 47.4	-0.5
	comp=Z,50nm,1.0s					
LOR	**Lormes**	**151.31 278**	*e*PKP1	PKPbc	20 49 46.9	-1.0
	comp=Z,28nm,0.8s					
LOR			*e*R			
	comp=Z,5µm,20.8s					
LOR	**Lormes**	**151.31 278**	*e*PKP	PKPbc	20 49 46.9	-1.0
LOR			LR	LR		
	comp=Z,5µm,20.8s,MS6.3					
EBIE	**Bielsa**	**151.33 267**	PKP	PKPab	20 49 56.2	+0.2
ESPR	**Espera**	**151.37 252**	PKP	PKPdf	20 49 45.1	+3.1
MEM	**Membach**	**151.37 286**	PKPbc	PKPbc	20 49 48.8	+0.8
MEM			APKPab		20 49 58.8	
MEM			E		20 50 16.5	
WTSB	**Winterswijk**	**151.37 289**	*e*P	PKPdf	20 49 40.2	-1.8
	comp=Z,44nm,1.0s					
EPF	**Esparros**	**151.39 268**	*e*PKP1	PKPbc	20 49 47.3	-0.8
	comp=Z,100nm,1.2s					
AVF	**Avril sur Loir**	**151.41 277**	*e*PKP1	PKPbc	20 49 46.4	-1.7
	comp=Z,42nm,1.1s					
HLG	**Helgoland**	**151.42 294**	*e*SS	SS	21 12 52.3	+1.9
SSF	**Saint Saulge**	**151.44 277**	*e*PKP1	PKPbc	20 49 47.3	-0.9
	comp=Z,82nm,1.0s					
HGN	**Heimansgroeve**	**151.47 286**	*e*P	PKPbc	20 49 48.9	+0.7
	comp=Z,33nm,1.2s					
EADA	**Adamuz**	**151.48 255**	PKP	PKPbc	20 49 49.2	+0.9
KONO	**Kongsberg**	**151.58 305**	PFAKE		20 49 50.0	+7.7
KONO			LR	LR		
	comp=Z,4µm,21.0s,MS6.2					
ETOR	**Torete**	**151.61 262**	PKIKP	PKPbc	20 49 49.6	+1.0
BGF	**Bois d'Agland**	**151.62 276**	*e*PKP1	PKPbc	20 49 48.0	-0.6
	comp=Z,192nm,1.3s					
BCLA	**Clavier**	**151.72 285**	PKPbc	PKPbc	20 49 49.5	+0.7
BCLA			APKPbc		20 49 52.5	
BCLA			E		20 49 54.6	
BCLA			E		20 50 06.3	
RJF	**Les Rejaudoux**	**151.84 273**	*e*PKP1	PKPbc	20 49 48.5	-0.6
	comp=Z,78nm,1.2s					
RJF			*e*R			
	comp=Z,5µm,20.8s					
RJF	**Les Rejaudoux**	**151.84 273**	*e*PKP	PKPbc	20 49 48.5	-0.6
RJF			LR	LR		
	comp=Z,5µm,20.8s,MS6.3					
ETSF	**Etsaut**	**151.88 267**	*e*PKP1	PKPbc	20 49 48.9	-0.3
	comp=Z,52nm,1.1s					
TCF	**Toulx Ste Croi**	**151.88 275**	*e*PKP1	PKPbc	20 49 48.5	-0.7
	comp=Z,74nm,1.4s					
GIVF	**Givet**	**151.89 284**	*e*PKP1	PKPbc	20 49 48.3	-0.9
	comp=Z,102nm,1.2s					
SSPA	**Standing Stone**	**152.01 99**	PFAKE		20 49 50.0	+7.1
SSPA			LR	LR		
	comp=Z,2µm,20.0s,MS6.0					
DOU	**Dourbes**	**152.02 284**	PKPbc	PKPbc	20 49 49.6	0.0
DOU			APKPbc		20 49 54.8	
DOU			APKPab		20 50 00.9	
HYF	**Humbligny**	**152.06 277**	*e*PKP1	PKPbc	20 49 49.0	-0.6
ESDC	**Sonseca Array**	**152.07 258**	PKPbc	PKPbc	20 49 49.7	0.0
	comp=Z,11nm,1.0s,baz=89,slow=1.6,SNR=21					
ESDC	**Sonseca Array**	**152.07 258**	PKP	PKPbc	20 49 49.3	-0.3
LFF	**La Frestale**	**152.14 272**	*e*PKP1	PKPbc	20 49 49.5	-0.3
PAB	**San Pablo**	**152.22 257**	*e*PKIKP	PKPbc	20 49 50.9	+0.9
PAB			MLR	MLR		
	comp=Z,4µm,20.0s,MS6.2					
BAIF	**Baives**	**152.24 284**	*e*PKP1	PKPbc	20 49 49.1	-0.9
	comp=Z,92nm,1.0s					
SJPF	**Ste Jean**	**152.40 267**	*e*PKP1	PKPbc	20 49 50.2	-0.2
	comp=Z,88nm,1.1s					
GUD	**Guadarrama**	**152.78 260**	PKIKP	PKPbc	20 49 52.1	+0.9
MFF	**Saint Martin d**	**153.47 274**	*e*PKP1	PKPbc	20 49 51.9	-0.8
	comp=Z,74nm,1.2s					
BBSR	**BB Station**	**153.52 129**	PFAKE		20 50 00.0	+15
BBSR			LR	LR		
	comp=Z,2µm,20.0s,MS5.9					
EVO	**Evora**	**153.75 252**	*e*PKP1	PKPbc	20 49 53.3	0.0
	comp=Z,87nm,1.3s					
EVO			*e*R			
	comp=Z,3µm,18.2s					
DAG	**Danmarks Havn**	**153.89 349** ⇑	*i*P	PKPdf	20 49 50.4	+4.7
	comp=Z,14nm,1.2s					
DAG	**Danmarks Havn**	**153.89 349** ⇑	*i*PKIKP	PKPdf	20 49 50.4	+4.7
DAG			pmax	pmax		
	comp=Z,14nm,1.2s					
BINY	**Binghamton**	**154.08 98**	PFAKE		20 50 00.0	+14
BINY			LR	LR		
	comp=Z,4µm,22.0s,MS6.2					
FLN	**La Foliniere**	**154.59 278**	*e*PKP1	PKPbc	20 49 53.5	-1.6
	comp=Z,61nm,1.2s					
FLN			*e*R			
	comp=Z,4µm,20.8s					
FLN	**La Foliniere**	**154.59 278**	*e*PKP	PKPbc	20 49 53.5	-1.6
FLN			LR	LR		
	comp=Z,4µm,20.8s,MS6.2					
NCB	**Newcomb**	**156.13 96**	PFAKE		20 50 00.0	+11
NCB			LR	LR		
	comp=Z,3µm,21.0s,MS6.1					
LONY	**Lake Ozonia**	**156.25 95**	PFAKE		20 50 00.0	+11
LONY			LR	LR		
	comp=Z,3µm,21.0s,MS6.0					
HRV	**Harvard--Oak R**	**156.95 102**	PFAKE		20 50 00.0	+10
HRV			LR	LR		
	comp=Z,3µm,20.0s,MS6.1					
WES	**Weston**	**157.02 103**	PFAKE		20 50 00.0	+10
WES			LR	LR		
	comp=Z,2µm,19.0s,MS5.9					
LBNH	**Lisbon**	**157.68 98**	PFAKE		20 50 00.0	+9.3
LBNH			LR	LR		
	comp=Z,3µm,20.0s,MS6.2					
ESK	**Eskdalemuir**	**157.93 293**	PFAKE		20 50 00.0	+9.0
ESK			LR	LR		
	comp=Z,995nm,19.0s,MS5.7					
PKME	**Peaks-Kenny Pk**	**159.82 98**	PFAKE		20 50 00.0	+6.7
PKME			LR	LR		
	comp=Z,3µm,20.0s,MS6.2					
BORG	**Borgarnes**	**163.97 330**	PFAKE		20 50 10.0	+12
BORG			LR	LR		
	comp=Z,844nm,22.0s					

BJI **16** *20:31:26.

comp=Z,3.3nm,0.6s,mb4.5
BVAR Borovoye Array 50.87 309 P **P 20 40 33.2 -0.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=59,slow=6.1,SNR=6.4
YKA Yellowknife Ar 50.96 37 P **P 20 40 32.8 -1.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=293,slow=6.7,SNR=4.1
YKA Yellowknife Ar 50.96 37 P **P 20 40 32.8 -1.6**
YKA pmax pmax
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 52.10 257 *eP* **P 20 40 43.4 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CHTO Chiang Mai 52.10 257 *eP* **P 20 40 43.4 +0.5**
comp=Z,4.1nm,0.8s,mb4.4
AAK Ala-Archa 53.84 296 *eP* **P 20 40 55.1 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.84 296 *eP* **P 20 40 55.0 -0.7**
comp=Z,2.7nm,0.8s,mb4.2
FINES FINESS Array B 64.07 335 P **P 20 42 06.6 0.0**
comp=Z,2.9nm,0.7s,mb4.4,baz=34,slow=8.2,SNR=13
PDAR Pinedale Array 64.78 54 P **P 20 42 11.2 +0.1**
comp=Z,0.8nm,0.9s,mb3.8,baz=270,slow=3.0,SNR=4.9
NB2 NORSAR Subarra 68.26 341 P **P 20 42 33.7 +0.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=28,slow=6.5
NOA NORSAR Array B 68.26 341 P **P 20 42 31.8 -1.6**
comp=Z,2.9nm,0.7s,mb4.4,baz=27,slow=6.3,SNR=7.2
AKASG Malin Array Be 71.57 326 P **P 20 42 53.8 +0.1**
comp=Z,3.6nm,0.5s,mb4.5,baz=33,slow=6.2,SNR=15
KIEV Kiev 71.58 326 *eP* **P 20 42 53.1 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIEV Kiev 71.58 326 *eP* **P 20 42 53.1 -0.7**
comp=Z,6.6nm,0.9s,mb4.6
BURAR Bucovina Array 75.61 327⇑ *iP* **P 20 43 18.0 +0.6**
CLL Collm 76.49 336 *eP* **P 20 43 23.0 +0.6**
MLR Muntele Rosu 77.09 325⇑ *iP* **P 20 43 27.4 +1.6**
TXAR Lajitas Array 77.52 61 P **P 20 43 27.7 -0.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=299,slow=4.2,SNR=10
GERES GERESS Array B 78.43 338 P **P 20 43 33.7 +0.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=28,slow=6.0,SNR=6.5
VTS Vitosha 80.59 325⇓ *iP* **P 20 43 46.2 +1.2**

IDC 16 20:35:35.7±9.4, 652S×15094E, h58km±65km, mb3.7/4, mb1 3.9/5, mb1mx3.5/14, mbtmp3.7/5, ML2.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/26, Error ellipse: s-maj=70.9km s-min=58.6km az=176.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.71**	**232**	P		Pn	20 36 45.2	+0.9
	1.0nm,0.3s,baz=63,slow=16,SNR=3.7						
PMG				S		Sn	20 37 38.4	+0.8
	1.1nm,0.3s,baz=73,slow=6.2,SNR=3.4						
HNR	**Honiara**	**9.38**	**109**	LR		LR	20 40 44.2	
	comp=Z,469nm,18.3s,baz=177,slow=33						
WRA	**Warramunga Arr**	**20.93**	**229**	P		P	20 40 14.0	+0.6
	2.9nm,0.9s,baz=54,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**23.64**	**222**	P		P	20 40 41.7	+0.1
	1.2nm,0.6s,baz=55,slow=9.5,SNR=5.8						
STKA	**Stephens Creek**	**26.70**	**198**	P		P	20 41 09.1	-0.2
	7.1nm,1.1s,baz=5.2,slow=11,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.22**	**243**	P		P	20 41 14.6	+0.5
	4.4nm,1.0s,baz=56,slow=8.6,SNR=5.8						

IDC 16 20:40:42.6±6.3, 610S×14993E, h78km±47km, mb3.7/5, mb1 3.8/6, mb1mx3.5/15, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=68.4km s-min=29.0km az=94.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.28**	**220**	P		Pn	20 41 45.2	-0.2
	1.4nm,0.3s,baz=59,slow=12,SNR=4.7						
PMG				S		Sn	20 42 41.3	+7.2
	3.0nm,0.3s,baz=131,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**20.47**	**226**	P		P	20 45 14.1	+0.2
	3.5nm,0.8s,baz=53,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**23.30**	**220**	P		P	20 45 42.1	-1.4
	1.9nm,0.6s,baz=55,slow=8.5,SNR=19						
FITZ	**Fitzroy Crossi**	**26.53**	**241**	P		P	20 46 14.1	+1.2
	3.5nm,0.7s,baz=74,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**26.81**	**196**	P		P	20 46 17.1	+1.7
	3.7nm,0.8s,baz=25,slow=10.0,SNR=5.9						
SONM	**Songino Array**	**65.94**	**329**	P		P	20 51 20.9	+0.6
	0.6nm,0.8s,baz=132,slow=6.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**147.43**	**285**	PKPbc		PKPbc	21 00 18.5	-0.3
	0.9nm,0.6s,baz=67,slow=2.8,SNR=10						

*MOS **16** 20:47:47.3±0.5, 4093N×4341E, h14km, mb3.6/1, Error ellipse: s-maj=58.5km s-min=11.8km az=76.0*
*CSEM **16** 20:47:47.0, 4093N×4341E, h14km, mb3.6, After OBN*
*ISCJB **16** 20:47:49.7±0.8, 4102N±005×4368E±008, h10km, Error ellipse: s-maj=9.3km s-min=6.0km az=75.2*
ISC 16 20:47:50.1±0.8, 4101N±005×4370E±007, h10km, n12, σ0§86/18, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.61**	**230**	*e*PG	**Pg**	**20 48 03.1**	**+1.3**
KZR	**Kazreti**	**0.66**	**55**	P	**Pg**	**20 48 02.1**	**-0.7**
KZR				S	**Sg**	**20 48 10.9**	**-0.5**
TBLG	**Delisi**	**1.06**	**47**	Pg	**Pg**	**20 48 09.5**	**-1.0**
GNI	**Garni**	**1.17**	**137**	*e*PN	**Pn**	**20 48 13.4**	**+0.9**
DUS	**Dusheti**	**1.32**	**34**	P	**Pn**	**20 48 14.5**	**0.0**
DUS				S	**Sb**	**20 48 32.3**	**+0.5**
BCA	**Borcka**	**1.63**	**286**	*e*PN	**Pn**	**20 48 17.0**	**-1.8**
BCA				*e*SN	**Sn**	**20 48 34.2**	**-5.6**
ZEI	**Tsey**	**1.77**	**5**	*i* Pn	**Pn**	**20 48 20.4**	**-0.3**
LACR	**Lac**	**1.87**	**14**	*e*Pn	**Pn**	**20 48 22.0**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.89**	**357**	*i* Pn	**Pn**	**20 48 21.5**	**-0.9**
KORR	**Kora**	**2.10**	**7**	*i* Pn	**Pn**	**20 48 24.8**	**-0.4**
KORR				*i* Sn	**Sn**	**20 48 52.1**	**+0.8**
VLKR	**Vladikavkaz**	**2.16**	**19**	*i* Pn	**Pn**	**20 48 26.2**	**0.0**
VLKR				*e*Sn	**Sn**	**20 48 54.6**	**+1.6**
ARNR	**Ardon**	**2.22**	**11**	*i* Pn	**Pn**	**20 48 26.7**	**-0.3**
ARNR				*i* Sn	**Sn**	**20 48 55.4**	**+0.9**

IDC 16 20:49:01.4±1.9, 656S×15124E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, ML2.1/1, Error ellipse: s-maj=60.6km s-min=24.8km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.93**	**235**	Pn	Pn	20 50 17.1	+0.3
	0.6nm,0.3s,baz=98,slow=7.1,SNR=2.8						
PMG				Sn	Sn	20 51 17.3	+2.8
	1.4nm,0.3s,baz=139,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**21.12**	**229**	P	P	20 53 48.3	+0.6
	1.6nm,0.8s,baz=54,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.81**	**223**	P	P	20 54 16.3	+0.3
	1.3nm,0.6s,baz=55,slow=8.7,SNR=17						
FITZ	**Fitzroy Crossi**	**27.47**	**243**	P	P	20 54 48.7	-0.4
	1.6nm,0.6s,baz=73,slow=8.2,SNR=6.1						
SONM	**Songino Array**	**67.00**	**329**	P	P	20 59 56.7	+0.7
	0.7nm,1.0s,baz=158,slow=4.9,SNR=3.4						
LPAZ	**La Paz**	**134.91**	**121**	PKP	PKPdf	21 08 24.1	+1.8
	1.0nm,0.5s,baz=252,slow=3.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKPbc	PKPbc	21 08 52.5	+0.4
	0.4nm,0.6s,baz=73,slow=2.2,SNR=6.1						

*NIED **16** 20:49:00, 28.10N×140.10E, h540km, Mw5.2 Best double couple: M0 6.40000×10^16 NP1:ϕs 151.00000°, δ88.00000°, λ7.00000°. NP2:ϕs 60.00000°, δ83.00000°, λ178.00000°.*
*ISCJB **16** 20:49:24.4±0.4, 2792N±005×1399E±01, h514km±5km, mb3.8/8, Error ellipse: s-maj=14.3km s-min=6.3km az=153.2*
*IDC **16** 20:49:24.5±0.5, 2790N×1398.2E, h503km±7km, mb3.3/11, mb1 3.5/17, mb1mx3.4/27, mbtmp3.5/17, Error ellipse: s-maj=19.5km s-min=9.3km az=78.0*
*NEIC **16** 20:49:25.7±0.8, 2792N×1398.4E, h520km±9km, mb4.7/1, MW5.1(NIED), Error ellipse: s-maj=17.6km s-min=9.8km az=83.0*
*JMA **16** 20:49:25.7±0.3, 2806N×1400.7E, h509km±4km, M4.4*
ISC 16 20:49:25.3±0.4, 2798N±005×1400E±01, h511km±5km, n37, σ1§11/45, mb3.8/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**		**2.15**	**114**	P	P	**20 50 32.5**	**+0.4**
	306nm,0.3s,baz=353,slow=1.3,SNR=147							
CBIJ					S	S	20 51 25.1	-1.3
	306nm,0.3s,baz=310,slow=22,SNR=18							
CBIJ	**Chichi jima**		**2.15**	**114**	P	P	**20 50 32.4**	**+0.3**
CBIJ					*e*S	S	20 51 24.9	-1.6
JHHJ	**Haha-jima-NKT**		**2.37**	**124**	P	P	**20 50 34.1**	**+0.8**
JHHJ					S	S	20 51 28.2	-0.5
JHJ2	**Mitsune**		**5.12**	**358**	P	P	**20 50 54.5**	**+0.6**
JHJ2					*e*S	S	20 52 04.7	-1.6
JHJ	**Hachijo jima 2**		**5.12**	**358**	P	P	**20 50 54.3**	**+0.3**
	40nm,0.3s,baz=244,slow=16,SNR=12							
JHJ					S	S	20 52 06.2	-0.2
	20nm,0.3s,baz=73,slow=18,SNR=3.1							
JWZ	**Kozaga**		**6.64**	**327**	P	P	**20 51 09.8**	**+1.6**
BSO1	**Boso 1**		**6.71**	**7**	P	P	**20 51 09.9**	**+1.0**
BSO1					*e*S	S	20 52 33.3	-0.4
JIE	**Ise**		**6.98**	**337**	P	P	**20 51 13.6**	**+2.0**
JOD2	**Odawara 2**		**7.30**	**354**	P	P	**20 51 15.3**	**+0.5**
JOD2					*e*S	S	20 52 42.7	-1.9
JTO	**Tosashimizu**		**7.88**	**310**	P	P	**20 51 21.8**	**+1.1**
JRY	**Ryogami san**		**8.06**	**354**	P	P	**20 51 22.8**	**+0.2**
JRY					*e*S	S	20 52 56.5	-2.3
MJAR	**Matsushiro Arr**		**8.67**	**350**	P	P	**20 51 28.8**	**0.0**
	4.8nm,0.3s,baz=115,slow=24,SNR=29							
MJAR					S	S	20 53 08.9	-1.3
	0.5nm,0.3s,baz=326,slow=38,SNR=4.6							
MAJO	**Matsushiro**		**8.67**	**350**	*e*P	P	**20 51 28.7**	**-0.1**
	21nm,0.5s							
MAT	**Matsushiro**		**8.67**	**350**	P	P	**20 51 28.8**	**0.0**
MAT					S	S	20 53 10.9	+0.7
JHS	**Saijyo**		**9.12**	**322**	P	P	**20 51 35.0**	**+1.5**
JNU	**Nakatsue**		**9.37**	**305**	P	P	**20 51 37.5**	**+1.4**
	1.9nm,0.3s,baz=249,slow=20,SNR=6.5							
JOW	**Kunigami**		**10.47**	**266**	P	P	**20 51 47.0**	**-0.7**
	0.8nm,0.3s,baz=127,slow=15,SNR=3.5							
JMK	**Ichinoseki**		**10.99**	**5**	P	P	**20 51 54.9**	**+1.8**
JOT	**Ohata**		**13.40**	**3**	P	P	**20 52 19.9**	**+1.4**
KSRS	**Korea Array**		**13.85**	**316**	P	P	**20 52 20.7**	**-2.6**
	baz=133,slow=11,SNR=7.3							
JOSM	**Okushiri--Mats**		**14.07**	**358**	P	P	**20 52 25.7**	**+0.1**
GUMO	**Guam**		**15.03**	**161**	P	P	**20 52 36.2**	**+0.6**
	12nm,0.3s,baz=0.0,slow=7.1,SNR=6.0							
SONM	**Songino Array**		**32.73**	**316**	PcP	PcP	20 57 45.1	-0.6
	0.2nm,0.4s,baz=142,slow=3.7,SNR=5.1							
FITZ	**Fitzroy Crossi**		**47.87**	**199**	P	P	**20 57 15.7**	**-0.7**
	2.1nm,0.6s,mb3.9,baz=28,slow=9.1,SNR=4.1							
WRA	**Warramunga Arr**		**47.95**	**187**	P	P	**20 57 16.0**	**-1.0**
	1.8nm,0.3s,mb4.1,baz=1.9,slow=7.6,SNR=37							
MKAR	**Makanchi Array**		**48.40**	**309**	P	P	**20 57 20.0**	**-0.4**
	0.4nm,0.3s,baz=89,slow=9.4,SNR=13							
ASAR	**Alice Springs**		**51.68**	**187**	P	P	**20 57 43.4**	**-1.1**
	0.6nm,0.3s,baz=1.5,slow=4.8,SNR=19							
BVAR	**Borovoye Array**		**56.07**	**317**	P	P	**20 58 15.2**	**-0.2**
	3.9nm,0.4s,mb4.0,baz=91,slow=7.1,SNR=39							
INK	**Inuvik**		**63.04**	**25**	P	P	**20 59 02.9**	**+0.9**
	2.1nm,1.0s,mb3.5,baz=153,slow=6.1,SNR=3.1							
ARCES	**ARCESS Array B**		**72.06**	**340**	P	P	**20 59 57.0**	**-0.3**
	2.3nm,0.9s,mb3.6,baz=77,slow=7.6,SNR=5.5							
FINES	**FINESS Array B**		**76.28**	**333**	P	P	**21 00 20.5**	**-0.7**
	2.0nm,0.3s,mb4.0,baz=66,slow=5.1,SNR=26							
NVAR	**Mina Array Bea**		**81.50**	**51**	P	P	**21 00 51.5**	**+2.6**
	0.5nm,0.5s,baz=296,slow=6.9,SNR=3.8							
HFS	**Hagfors**		**81.83**	**336**	P	P	**21 00 49.3**	**-1.3**
	1.3nm,0.5s,mb3.6,baz=126,slow=3.4,SNR=12							
NB2	**NORSAR Subarra**		**82.06**	**337**	P	P	**21 00 50.6**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=45,slow=4.8							
NOA	**NORSAR Array B**		**82.06**	**337**	P	P	**21 00 50.7**	**-1.1**
	comp=Z,1.1nm,0.5s,mb3.5,baz=46,slow=5.0,SNR=3.6							
NOA	**NORSAR Array B**		**82.06**	**337**	P	P	**21 00 50.7**	**-1.1**
TORD	**Torodi Ar. Bea**		**122.52**	**310**	PKP	PKPdf	21 07 21.8	-0.6
	comp=Z,0.4nm,0.5s,baz=19,slow=1.7,SNR=9.3							

*BJI **16** 20:59:34.0, 4703N×15457E, h26km, mB5.0, mb4.4, Ms5.1, Msz5.1*
*NEIC **16** 20:59:35.8±0.9, 4672N×15421E, h10km, mb4.5/7, Error ellipse: s-maj=22.7km s-min=13.9km az=152.0*
*ISCJB **16** 20:59:39.8±1.6, 4668N±0.1×15411E±0.1, h58km±13km, mb4.1/25, MS5.1/1, Error ellipse: s-maj=22.0km s-min=10.1km az=109.4*
*MOS **16** 20:59:40.8±1.4, 4667N×15395E, h64km, mb4.5/6, Error ellipse: s-maj=13.9km s-min=11.7km az=95.8*
*IDC **16** 20:59:42.2±4.7, 4647N×15408E, h71km±43km, mb3.6/12, mb1 3.8/13, mb1mx3.7/24, mbtmp3.6/13, ML3.5/1, Error ellipse: s-maj=25.3km s-min=19.6km az=169.0*
ISC 16 20:59:41.9±1.4, 4667N±01×15411E±01, h61km±11km, n36, σ1§09/36, mb4.1/25, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.25**	**18**	*e*PN	**Pn**	**21 00 45.0**	**+0.9**
SKR				*e*		21 01 30.0	
KUR	**Kuril'sk**	**4.55**	**254**	*e*PN	**Pn**	**21 00 47.0**	**-1.2**
KUR				pmax	pmax		
	comp=Z,240nm,0.7s						
ASAJ	**Asahikawa**	**8.46**	**257**	P	**Pn**	**21 01 40.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=106,slow=15,SNR=3.6						
ASAJ	**Asahikawa**	**8.46**	**257**	PN	**Pn**	**21 01 40.8**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.56**	**235**	P	**Pn**	**21 03 19.5**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=36,slow=11,SNR=5.0						
KSRS	**Korea Array**	**21.40**	**254**	P	**P**	**21 04 25.6**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.5,baz=54,slow=11,SNR=6.3						
SNY	**Shenyang**	**22.29**	**269**	⇑P	**P**	**21 04 33.5**	**-0.5**
SNY				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.5						
BILL	**Bilibino**	**22.34**	**12**	*e*P	**P**	**21 04 34.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
BOD	**Bodaibo**	**26.55**	**310**	*e*P	**P**	**21 05 11.8**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**31.98**	**290**	P	**P**	**21 06 01.6**	**-0.6**
	comp=Z,0.6nm,0.9s,mb3.4,baz=73,slow=6.1,SNR=5.4						
ZAK	**Zakamensk**	**33.31**	**295**	*e*P	**P**	**21 06 12.6**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
LZH	**Lanzhou**	**38.55**	**273**	*e*P	**P**	**21 07 01.0**	**+2.5**
LZH				AP	pP	21 07 04.4	-9.4
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.2s						
LZH				LR	LR		
	comp=Z,2μm,16.2s						
LZH	**Lanzhou**	**38.55**	**273**	*e*P	**P**	**21 07 01.0**	**+2.5**
	comp=Z,22nm,1.0s,mb4.8						
LZH				pP	pP	21 07 04.4	-9.4
LZH				sP	sP	21 07 06.2	-15
LZH				LR	LR		
	comp=Z,2μm,16.2s						
EGAK	**Eagle**	**38.66**	**38**	*e*P	**P**	**21 06 59.0**	**-0.5**
	comp=Z,10nm,1.0s,mb4.5						
GTA	**Gaotai**	**39.63**	**280**	*e*P	**P**	**21 07 10.0**	**+2.4**
GTA				AP	pP	21 07 14.3	-8.6
GTA				XP	sP	21 07 17.3	-13
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
INK	**Inuvik**	**41.38**	**32**	P	**P**	**21 07 22.6**	**+0.7**
	comp=Z,2.3nm,0.9s,mb3.8,baz=270,slow=7.7,SNR=6.1						
GYA	**Guiyang**	**42.34**	**258**	P	**P**	**21 07 29.8**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**43.21**	**306**	P	**P**	**21 07 35.1**	**-1.7**
	comp=Z,1.1nm,0.3s,mb4.1,baz=53,slow=2.8,SNR=3.4						
MKAR	**Makanchi Array**	**47.57**	**298**	P	**P**	**21 08 10.8**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=68,slow=6.4,SNR=11						
LSA	**Lhasa**	**50.94**	**274**	*e*P	**P**	**21 08 38.3**	**+1.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**50.94**	**274**	*e*P	**P**	**21 08 38.3**	**+1.3**
	comp=Z,3.7nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**50.99**	**310**	*e*P	**P**	**21 08 37.3**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**50.99**	**310**	*e*P	**P**	**21 08 37.3**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**51.42**	**310**	P	**P**	**21 08 41.4**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=53,slow=10,SNR=5.0						
ZRNK	**Zerenda**	**52.19**	**310**	*e*P	**P**	**21 08 46.3**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**52.19**	**310**	*e*P	**P**	**21 08 46.3**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.46**	**297**	*e*P	**P**	**21 09 04.1**	**+1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**54.46**	**297**	*e*P	**P**	**21 09 04.0**	**+1.0**
	comp=Z,2.4nm,0.8s,mb4.2						
ARU	**Arti**	**55.52**	**318**	*e*P	**P**	**21 09 11.2**	**+0.5**
ARU	**Arti**	**55.52**	**318**	*e*P	**P**	**21 09 10.8**	**+0.1**
	comp=Z,9.3nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**58.16**	**341**	P	**P**	**21 09 29.5**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=27,slow=8.1,SNR=3.4						
PDAR	**Pinedale Array**	**64.27**	**54**	P	**P**	**21 10 10.4**	**-0.3**
	comp=Z,0.7nm,0.9s,mb3.7,baz=23,slow=5.9,SNR=3.6						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**21 10 11.5**	**-0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=28,slow=8.6,SNR=4.7						
AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**21 10 59.0**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=32,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**72.33**	**199**	P	**P**	**21 10 59.2**	**-1.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=27,slow=3.1,SNR=5.9						
TXAR	**Lajitas Array**	**76.96**	**61**	P	**P**	**21 11 27.5**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=305,slow=4.1,SNR=20						

ISC 16 21:02:27.6±0.8, 3907N±004×3465E±008, h10km, n7, σ1§22/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVNT	**Avonos**	**0.33**	**151**	*i* P	**Pg**	**21 02 33.4**	**-0.7**
AVNT				*i* S	**Sg**	**21 02 38.6**	**0.0**
CDAG	**Cicekdag**	**0.60**	**339**	*i* P	**Pg**	**21 02 37.5**	**-1.8**
CDAG				*i* S	**Sg**	**21 02 45.9**	**-1.2**
YOZ	**Yozgat**	**0.77**	**42**	PG	**Pg**	**21 02 43.2**	**+0.7**
YOZ				SG	**Sg**	**21 02 51.5**	**-1.1**
CORM	**Corum**	**1.11**	**359**	PG	**Pg**	**21 02 45.7**	**-3.3**
CTKT	**Corum**	**1.56**	**4**	*i* P	**Pn**	**21 02 55.7**	**+0.3**
CTKT				*i* S	**Sn**	**21 03 17.8**	**+2.1**
ELDT	**Eldivan**	**1.71**	**327**	*i* P	**Pn**	**21 02 57.7**	**+0.3**
ELDT				*i* S	**Sn**	**21 03 20.6**	**+1.4**
SVSK	**Karacayir**	**2.00**	**64**	PN	**Pn**	**21 03 02.7**	**+1.2**

*ISCJB **16** 21:07:35.0±0.8, 5211S±0.10×1396E±0.3, h10km, mb4.3/6, Error ellipse: s-maj=23.0km s-min=13.9km az=174.4*
*IDC **16** 21:07:35.2±0.6, 5214S×13967E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.3/12, mbtmp4.3/7, MS4.4/1, Ms1 4.4/1, ms1mx3.5/26, Error ellipse: s-maj=29.2km s-min=17.9km az=85.0*
*SZGRF **16** 21:07:35.4, 5441S×141.10E, h33km, West of Macquarie Island*
*NEIC **16** 21:07:36.5±0.3, 5218S×13973E, h10km, mb4.9/1, Error ellipse: s-maj=14.2km s-min=11.6km az=105.0*
ISC 16 21:07:36.6±0.8, 5217S±010×1397E±02, h10km, n58, σ0§57/8, mb4.3/6, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**20.33**	**5**	P	**P**	**21 12 12.1**	**-0.7**
	4.5nm,1.1s,baz=153,slow=15,SNR=3.9						
RPZ	**Rata Peaks**	**22.52**	**80**	P	**P**	**21 12 36.7**	**+0.3**
	5.6nm,0.4s,mb4.3,baz=203,slow=6.4,SNR=3.7						
VNDA	**Vanda**	**26.75**	**169**	P	**P**	**21 13 16.0**	**-0.4**
	2.0nm,0.9s,mb3.6,baz=318,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**28.80**	**349**	P	**P**	**21 13 35.2**	**+0.5**
	4.6nm,0.9s,mb4.2,baz=168,slow=10,SNR=28						
ASAR				PcP	PcP	21 16 44.1	-0.3
	1.4nm,0.8s,baz=152,slow=2.3,SNR=6.4						
WRA	**Warramunga Arr**	**32.43**	**351**	P	**P**	**21 14 07.1**	**+0.4**
	18nm,0.9s,mb4.9,baz=174,slow=8.0,SNR=32						
WRA				PcP	PcP	21 16 53.3	-0.6
	0.8nm,0.4s,baz=178,slow=2.5,SNR=5.4						
FITZ	**Fitzroy Crossi**	**35.74**	**337**	*e*P	**P**	**21 14 36.1**	**+0.6**
	7.9nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.74**	**337**	P	**P**	**21 14 34.2**	**-1.3**
	3.9nm,0.8s,mb4.4,baz=172,slow=12,SNR=6.0						
FITZ				LR	LR	21 29 40.5	
	comp=Z,529nm,18.7s,baz=124,slow=37						
MAW	**Mawson**	**38.59**	**217**	P	**P**	**21 14 59.9**	**+0.2**
	3.0nm,1.0s,mb4.0,baz=135,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**128.58**	**237**	PKP	PKPdf	21 26 43.3	-0.6
	0.4nm,0.8s,baz=123,slow=0.8,SNR=3.6						
TXAR	**Lajitas Array**	**128.72**	**91**	PKP	PKPdf	21 26 43.8	-0.3
	2.8nm,0.9s,baz=272,slow=10,SNR=3.8						
INK	**Inuvik**	**135.94**	**32**	PKP	PKPdf	21 26 54.7	-3.1
	2.2nm,0.8s,baz=169,slow=3.5,SNR=6.5						
INK	**Inuvik**	**135.94**	**32**	PKP	PKPdf	21 26 54.7	-3.1
OKC	**Ostrava-Krasne**	**143.98**	**290**	*e*PKP	PKPdf	21 27 09

NEIC ***16*** *21:08:56.0±1.4, 6.38S×151.32E, h10km, mb4.2/2, Error ellipse: s-maj=35.2km s-min=18.0km az=116.0*
ISCJB ***16*** *21:09:02.7±4.6, 6.4S±02×151.0E±0.3, h68km±34km, mb3.8/5, Error ellipse: s-maj=45.7km s-min=28.7km az=40.6*
IDC ***16*** *21:09:05.0±7.2, 6.44S×150.93E, h67km±54km, mb3.8/5, mb1 4.0/6, mb1mx3.7/15, mbtmp3.8/6, ML2.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/30, Error ellipse: s-maj=56.7km s-min=31.7km az=92.0*

ISC 16 21:09:04.2±4.6, 64S±02×151.0E±03, h65km±33km, n12, σ0§47/11, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.82**	**232**	P		**Pn**	**21 10 14.3**	**0.0**
	2.8nm,0.3s,baz=55,slow=9.0,SNR=12							
PMG				S		**Sn**	**21 11 09.2**	**+0.5**
	2.8nm,0.3s,baz=49,slow=18,SNR=4.8							
PMG				LR		LR	21 12 05.4	
	comp=Z,3μm,18.5s,baz=297,slow=38							
KAKA	**Kakadu**	**19.33**	**250**	*e*P		**Pn**	**21 13 24.8**	**-1.0**
	9.7nm,0.6s							
WB2	**Warramunga Arr**	**21.02**	**229**	*e*P		**P**	**21 13 42.5**	**0.0**
WRA	**Warramunga Arr**	**21.03**	**229**	P		**P**	**21 13 42.1**	**-0.5**
	4.1nm,0.7s,mb3.9,baz=53,slow=10,SNR=14							
ASAR	**Alice Springs**	**23.75**	**222**	P		**P**	**21 14 10.7**	**+0.1**
	1.8nm,0.5s,mb3.7,baz=54,slow=8.2,SNR=29							
STKA	**Stephens Creek**	**26.80**	**198**	*e*P		**P**	**21 14 38.2**	**0.0**
	3.3nm,0.9s,mb3.9							
STKA	**Stephens Creek**	**26.80**	**198**	P		**P**	**21 14 38.2**	**0.0**
	3.6nm,0.5s,mb4.1,baz=24,slow=10,SNR=7.3							
FITZ	**Fitzroy Crossi**	**27.32**	**243**	P		**P**	**21 14 43.3**	**+0.5**
	2.1nm,0.3s,mb4.2,baz=74,slow=8.6,SNR=16							
FITZ	**Fitzroy Crossi**	**27.32**	**243**	P		**P**	**21 14 43.3**	**+0.5**
SONM	**Songino Array**	**66.76**	**329**	P		**P**	**21 19 49.1**	**+0.4**
	0.4nm,0.6s,mb3.4,baz=139,slow=5.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc		PKPbc	21 28 46.4	+1.5
	1.1nm,0.7s,baz=88,slow=1.9,SNR=12							
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc		PKPbc	21 28 46.4	+1.5

ISCJB ***16*** *21:10:29.4±2.2, 4.76N±02×155.2E±0.2, h61km±18km, mb3.7/10, Error ellipse: s-maj=30.6km s-min=15.4km az=105.5*
MOS ***16*** *21:10:30.5±1.1, 4.765N×155.08E, h70km, mb4.2/5, Error ellipse: s-maj=29.8km s-min=18.5km az=80.6*
IDC ***16*** *21:10:30.9±5.0, 4.757N×155.23E, h59km±47km, mb3.4/9, mb1 3.7/10, mb1mx3.6/22, mbtmp3.5/10, ML3.1/1, Error ellipse: s-maj=28.5km s-min=22.3km az=163.0*

ISC 16 21:10:31.6±1.9, 4.76N±02×155.2E±02, h65km±15km, n18, σ0§77/18, mb3.5/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.11**	**10**	*e*PN		**Pn**	**21 11 18.2**	**0.0**
SKR				*e*			21 11 48.5	
ASAJ	**Asahikawa**	**9.48**	**253**	P		**Pn**	**21 12 45.6**	**+0.3**
	0.2nm,0.3s,baz=109,slow=23,SNR=2.7							
KSRS	**Korea Array**	**22.44**	**253**	P		**P**	**21 15 28.8**	**+3.9**
	1.9nm,0.8s,mb3.5,baz=56,slow=9.5,SNR=5.5							
SONM	**Songino Array**	**32.41**	**289**	P		**P**	**21 16 54.5**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=96,slow=24,SNR=2.6							
INK	**Inuvik**	**40.13**	**33**	P		**P**	**21 18 00.1**	**-0.9**
	1.4nm,0.6s,mb4.0,baz=272,slow=9.4,SNR=6.2							
INK	**Inuvik**	**40.13**	**33**	P		**P**	**21 18 00.1**	**-0.9**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.82**	**298**	P		**P**	**21 19 01.2**	**-1.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=77,slow=6.4,SNR=3.9							
PDAR	**Pinedale Array**	**63.06**	**55**	P		**P**	**21 20 51.6**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=202,slow=1.6,SNR=3.5							
FINES	**FINESS Array B**	**63.85**	**335**	P		**P**	**21 20 57.7**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=46,slow=11,SNR=6.4							
FINES	**FINESS Array B**	**63.85**	**335**	P		**P**	**21 20 57.7**	**+0.5**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NB2	**NORSAR Subarra**	**67.85**	**342**	P		**P**	**21 21 23.9**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**67.85**	**342**	P		**P**	**21 21 23.9**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.8,baz=26,slow=6.4,SNR=4.0							
NOA	**NORSAR Array B**	**67.85**	**342**	P		**P**	**21 21 23.9**	**+1.0**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**73.52**	**200**	P		**P**	**21 21 57.0**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=12,slow=6.9,SNR=5.7							
ASAR	**Alice Springs**	**73.52**	**200**	P		**P**	**21 21 57.1**	**-0.2**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**75.81**	**62**	P		**P**	**21 22 11.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.7,baz=300,slow=3.9,SNR=12							
TXAR	**Lajitas Array**	**75.81**	**62**	P		**P**	**21 22 11.1**	**+0.5**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.28**	**335**	P		**P**	**21 22 25.3**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.2,baz=46,slow=3.9,SNR=3.8							

ATH ***16*** *21:16:34.7, 39.57N×18.97E, h12km±3km, MD3.4/5*
ISCJB ***16*** *21:16:38.8±1.2, 39.60N±004×19.39E±006, h4km±6km, Error ellipse: s-maj=8.5km s-min=6.1km az=154.3*
CSEM ***16*** *21:16:38.9±0.1, 39.67N×19.25E, h5km, ML3.3, Error ellipse: s-maj=2.9km s-min=1.5km az=27.0*
THE ***16*** *21:16:41.1, 39.61N×19.47E, h7km, ML3.3*

ISC 16 21:16:38.2±1.1, 39.61N±004×191.0E±006, h1km±6km, n26, σ1§19/37, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEK	**Kerkira**	**0.39**	**75**	*e*PB		**Pg**	**21 16 47.3**	**+1.6**
SRN	**Sarande**	**0.60**	**63**	*i* Pg		**Pg**	**21 16 50.6**	**+0.9**
SRN				*i* Sg		**Sg**	**21 16 57.6**	**+0.2**
IGT	**Igoumenitsa**	**0.79**	**95**	*e*Pg		**Pg**	**21 16 53.2**	**-0.2**
IGT				*e*Sg		**Sg**	**21 17 03.8**	**+0.1**
TPE	**Tepelena**	**0.87**	**38**	*i* Pg		**Pg**	**21 17 01.0**	**+6.1**
TPE				*i* Sg		**Sg**	**21 17 08.5**	**+2.3**
TPE	**Tepelena**	**0.87**	**38**	*i* Sg		**Sg**	**21 17 08.5**	**+2.3**
JAN	**Janina**	**1.19**	**87**	*e*PB		**Pb**	**21 17 02.1**	**+0.5**
LKD	**Levkas**	**1.38**	**130**	*e*Pg		**Pg**	**21 17 03.9**	**-0.8**
MEV	**Metsovon**	**1.49**	**83**	*e*Pg		**Pg**	**21 17 04.7**	**-2.1**
MEV				*e*Sg		**Sg**	**21 17 25.0**	**-1.2**
VLS	**Valsamata**	**1.74**	**145**	*e*PN		**Pn**	**21 17 09.1**	**-0.6**
TIR	**Tirane**	**1.79**	**14**	*e*Pb		**Pb**	**21 17 10.8**	**-1.0**
OHR	**Ohrid**	**1.88**	**37**	*e*Pb		**Pb**	**21 17 13.1**	**-0.3**
OHR				*e*Sb		**Sb**	**21 17 35.2**	**-2.3**
FNA	**Florina**	**1.97**	**53**	*e*Pb		**Pb**	**21 17 13.9**	**-1.0**
FNA				*e*Sb		**Sb**	**21 17 37.6**	**-2.4**
EVR	**Evrytania**	**2.06**	**109**	*e*PN		**Pn**	**21 17 15.0**	**+1.0**
THL	**Klokotos Trika**	**2.09**	**90**	*e*PN		**Pn**	**21 17 15.2**	**+0.8**
PHP	**Peshkopia**	**2.24**	**22**	*i* Pn		**Pn**	**21 17 17.9**	**+1.4**
PHP				*i* Sn		**Sn**	**21 17 45.8**	**+0.9**
KRUS	**Krusevo**	**2.30**	**39**	*i* Pn		**Pn**	**21 17 18.7**	**+1.5**
SG1	**Sgolgore (BA)**	**2.36**	**302**	*e*Pg		**Pg**	**21 17 20.9**	**-2.6**
AGG	**Agios Georgios**	**2.42**	**103**	*e*Pn		**Pn**	**21 17 19.8**	**+0.9**
AGG				*e*Sn		**Sn**	**21 17 48.4**	**-0.8**
AGG	**Agios Georgios**	**2.42**	**103**	*e*Pn		**Pn**	**21 17 19.8**	**+0.9**
AGG				*e*Sn		**Sn**	**21 17 48.3**	**-0.8**
PUK	**Puka**	**2.47**	**10**	*i* Pn		**Pn**	**21 17 21.0**	**+1.4**
LIT	**Litokhoron**	**2.50**	**78**	*e*Pn		**Pn**	**21 17 20.3**	**+0.3**
GRG	**Griva**	**2.72**	**59**	*e*Pn		**Pn**	**21 17 23.1**	**0.0**
XOR	**Xorichti**	**3.01**	**93**	*e*Pn		**Pn**	**21 17 27.4**	**+0.2**
KNT	**Kendrikon**	**3.15**	**59**	*e*Pn		**Pn**	**21 17 28.9**	**-0.1**
STON	**Ston**	**3.48**	**340**	*i* Pn		**Pn**	**21 17 34.4**	**+0.9**
STON				*i* Sn		**Sn**	**21 18 13.2**	**-2.2**
STON	**Ston**	**3.48**	**340**	*i* Pn		**Pn**	**21 17 34.4**	**+0.9**
STON				*i* Sn		**Sn**	**21 18 13.1**	**-2.2**

IDC 16 21:21:26.8±10.0, 4801N×15403E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=213.5km s-min=47.2km az=127.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSRS	**Korea Array**	**21.79**	**251**	P		P	21 26 20.6	+0.4
	0.7nm,0.4s,baz=57,slow=11,SNR=4.4							
MKAR	**Makanchi Array**	**46.93**	**297**	P		P	21 29 58.3	-0.9
	0.3nm,0.7s,baz=67,slow=8.6,SNR=3.5							
BVAR	**Borovoye Array**	**50.55**	**309**	P		P	21 30 27.0	0.0
	0.9nm,0.4s,baz=57,slow=9.1,SNR=8.7							
FINES	**FINESS Array B**	**63.17**	**335**	P		P	21 31 55.9	-0.6
	1.1nm,0.8s,baz=46,slow=8.0,SNR=4.6							

IDC ***16*** *21:24:48.7±0.5, 4.680N×154.87E, h0km, mb4.2/22, mb1 4.4/23, mb1mx4.4/26, mbtmp4.2/23, ML3.6/1, Error ellipse: s-maj=16.8km s-min=13.5km az=139.0*
ISCJB ***16*** *21:24:49.3±0.4, 4.673N±006×154.99E±007, h14km, mb4.5/56, MS4.8/1, Error ellipse: s-maj=9.6km s-min=5.5km az=108.0*
NEIC ***16*** *21:24:50.4±0.4, 4.675N×154.97E, h10km, mb4.7/19, Error ellipse: s-maj=12.0km s-min=7.5km az=138.0*
MOS ***16*** *21:24:51.3±1.3, 4.673N×154.90E, h27km, mb5.0/16, Error ellipse: s-maj=9.1km s-min=7.0km az=105.5*
BJI ***16*** *21:24:55.3, 47.10N×154.05E, h10km, mB4.9, mb4.5, Ms5.0, Msz4.8*
SZGRF ***16*** *21:24:59.1, 4.642N×154.58E, h33km, mb4.8, East of Kuril Islands, Russia*

ISC 16 21:24:51.1±0.4, 4678N±006×15500E±007, h15km, h15km±2.4km: pP-P, n125, σ1§25/126, mb4.5/56, MS4.8/1, 20C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.98**	**10**	*e*PN		**Pn**	**21 25 50.0**	**-1.5**
KUR	**Kuril'sk**	**5.20**	**255**	⇑*i*PN		**Pn**	**21 26 06.2**	**-2.2**
KUR				pmax		pmax		
	comp=Z,320nm,0.8s							
PET	**Petropavlovsk**	**6.68**	**19**	⇑*e*PN		**Pn**	**21 26 24.2**	**-4.5**
YUK	**Yuzh-Kuril'sk**	**6.99**	**250**	*e*PN		**Pn**	**21 26 32.8**	**-0.1**
YUK				pmax		pmax		
	comp=Z,160nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.39**	**276**	*e*PN		**Pn**	**21 26 55.3**	**+3.1**
ASAJ	**Asahikawa**	**9.12**	**258**	Pn		**Pn**	**21 27 03.3**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=114,slow=16,SNR=11							
ASAJ	**Asahikawa**	**9.12**	**258**	PN		**Pn**	**21 27 03.3**	**+1.2**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ERM	**Erimo**	**9.72**	**245**	*e*PN		**Pn**	**21 27 09.2**	**-1.1**
KLR	**Kul'dur**	**15.74**	**287**	*e*P		**Pn**	**21 28 33.7**	**+1.5**
MJAR	**Matsushiro Arr**	**16.15**	**237**	Pn		**Pn**	**21 28 35.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=7.9							
MAJO	**Matsushiro**	**16.16**	**237**	*e*P		**Pn**	**21 28 35.4**	**-2.1**
MAJO				pmax		pmax		
	comp=Z,27nm,0.8s							
MAJO	**Matsushiro**	**16.16**	**237**	*e*P		**Pn**	**21 28 35.4**	**-2.2**
	comp=Z,26nm,0.8s							
MAT	**Matsushiro**	**16.16**	**237**	P		**Pn**	**21 28 35.4**	**-2.1**
CN2	**Changchun**	**20.95**	**273**	*e*P		**P**	**21 29 30.3**	**-3.0**
YAK	**Yakutsk**	**21.01**	**326**	*e*P		**P**	**21 29 35.3**	**+1.3**
YAK				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.2							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.1s							
KSRS	**Korea Array**	**22.05**	**255**	P		**P**	**21 29 43.3**	**-1.9**
	comp=E,0.7nm,0.3s,mb3.5,baz=80,slow=20,SNR=4.5							
BILL	**Bilibino**	**22.09**	**11**	⇑*e*P		**P**	**21 29 44.2**	**-1.4**
BILL				pmax		pmax		
	comp=Z,16nm,1.3s,mb4.3							
BILL	**Bilibino**	**22.09**	**11**	*e*P		**P**	**21 29 43.8**	**-1.8**
	comp=Z,12nm,0.8s,mb4.4							
SNY	**Shenyang**	**22.93**	**269**	⇑P		**P**	**21 29 54.1**	**-0.5**
SNY				AMB		AMB		
	comp=Z,17nm,0.9s,mb4.5							
BOD	**Bodaibo**	**26.97**	**309**	*e*P		**P**	**21 30 28.8**	**-3.3**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.0							
BJI	**Beijing**	**28.77**	**271**	P		**P**	**21 30 44.0**	**-4.2**
ULN	**Ulaanbaatar**	**32.11**	**290**	⇑*e*P		**P**	**21 31 16.5**	**-1.2**
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**21 31 20.7**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=69,slow=7.8,SNR=11							
SONM				PcP		PcP	21 34 07.5	-0.4
	comp=Z,0.6nm,0.9s,baz=85,slow=2.5,SNR=3.6							
KDAK	**Kodiak Island**	**33.08**	**51**	P		**P**	**21 31 25.1**	**-1.1**
	comp=Z,22nm,1.1s,mb5.0,baz=274,slow=13,SNR=2.6							
ZAK	**Zakamensk**	**33.84**	**296**	*e*P		**P**	**21 31 31.8**	**-1.0**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
COLA	**College**	**35.31**	**38**	⇑*e*P		**P**	**21 31 45.8**	**+0.3**
XAN	**Xi'an**	**36.81**	**267**	P		**P**	**21 32 00.8**	**+2.4**
XAN				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.4							
EGAK	**Eagle**	**38.17**	**38**	*e*P		**P**	**21 32 09.1**	**-0.8**
	comp=Z,5.9nm,0.8s,mb4.4							
LZH	**Lanzhou**	**39.18**	**273**	*e*P		**P**	**21 32 20.6**	**+2.2**
LZH				AP		pP	21 32 23.3	+0.3
LZH				XP		sP	21 32 25.0	+0.1
LZH				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.8							
LZH				AMB		AMB		
	comp=Z,86nm,4.5s							
LZH				LR		LR		
	comp=E,725nm,15.2s							
LZH	**Lanzhou**	**39.18**	**273**	*e*P		**P**	**21 32 20.6**	**+2.2**
	comp=E,20nm,1.1s,mb4.8							
LZH				pP		pP	21 32 23.3	+0.3
LZH				sP		sP	21 32 25.0	+0.1
LZH				LR		LR		
	comp=Z,1μm,16.2s,MS4.8							
GTA	**Gaotai**	**40.24**	**280**	*e*P		**P**	**21 32 29.3**	**+2.1**
GTA				AP		pP	21 32 33.8	+2.0
GTA				XP		sP	21 32 36.8	+3.1
GTA				AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.2							
INK	**Inuvik**	**40.93**	**33**	P		**P**	**21 32 32.9**	**0.0**
	comp=Z,2.4nm,0.5s,mb4.1,baz=287,slow=6.0,SNR=16							
GYA	**Guiyang**	**42.99**	**259**	⇑*i*P		**P**	**21 32 51.5**	**+1.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**	**21 32 53.3**	**-1.8**
	comp=Z,2.2nm,0.5s,mb4.1,baz=48,slow=8.4,SNR=10							
ZAL				PcP		PcP	21 34 42.0	-0.2
	comp=Z,1.8nm,0.8s,baz=54,slow=4.7,SNR=5.7							
MKAR	**Makanchi Array**	**48.08**	**298**	P		**P**	**21 33 28.8**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=73,slow=7.5,SNR=33							
MKAR				PcP		PcP	21 34 57.2	-0.4
	comp=Z,1.1nm,0.7s,baz=85,slow=4.8,SNR=3.2							
MKAR	**Makanchi Array**	**48.08**	**298**	*i* P		**P**	**21 33 29.3**	**-0.7**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**50.12**	**37**	P		**P**	**21 33 44.9**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=294,slow=7.3,SNR=4.3							
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P		**P**	**21 33 54.0**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,9.0nm,0.4s,mb5.0							
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P		**P**	**21 33 54.0**	**-1.3**
	comp=Z,8.8nm,0.4s,mb5.0							
LSA	**Lhasa**	**51.56**	**274**	P		**P**	**21 34 01.0**	**+4.5**
LSA	**Lhasa**	**51.56**	**274**	*e*P		**P**	**21 33 59.4**	**+2.9**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**51.56**	**274**	*e*P		**P**	**21 33 59.4**	**+2.9**
	comp=Z,5.7nm,0.6s,mb4.7							
BVA0	**Borovoye Array**	**51.84**	**310**	*e*P		**P**	**21 33 57.6**	**-1.0**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**	**21 33 58.4**	**-0.2**
	comp=Z,3.2nm,0.4s,mb4.7,baz=54,slow=7.9,SNR=33							
BVAR				PcP		PcP	21 35 10.9	-0.5
	comp=Z,2.0nm,0.6s,baz=68,slow=5.3,SNR=4.8							
BRVK	**Borovoye**	**51.88**	**310**	*e*P		**P**	**21 33 58.2**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
BRVK	**Borovoye**	**51.88**	**310**	*e*P		**P**	**21 33 58.2**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.7							
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**	**21 34 03.6**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.7							
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**	**21 34 03.5**	**-0.7**
	comp=Z,4.9nm,0.5s,mb4.7							
AAK	**Ala-Archa**	**54.98**	**297**	*e*P		**P**	**21 34 21.3**	**-0.3**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.98**	**297**	*e*P		**P**	**21 34 21.3**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.4							
ARU	**Arti**	**55.86**	**318**	⇑*i*P		**P**	**21 34 28.0**	**0.0**
ARU				*e*			21 36 31.9	
ARU				*e*S		**S**	**21 42 12.8**	**-2.1**
ARU				*e*SS		SS	21 46 01.2	+0.7
ARU				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
ARU	**Arti**	**55.86**	**318**	*e*P		**P**	**21 34 27.5**	**-0.5**
	comp=Z,11nm,0.6s,mb5.0							
GUN	**Gumba**	**56.29**	**276**	*e*P		**P**	**21 34 34.5**	**+3.5**
	comp=Z,10nm,0.5s,mb5.2							
KKN	**Kakani**	**56.77**	**277**	*e*P		**P**	**21 34 37.6**	**+3.1**
	comp=Z,12nm,0.5s,mb5.1							
PKI	**Pulchoki**	**56.82**	**276**	*e*P		**P**	**21 34 39.0**	**+4.1**
	comp=Z,10.0nm,0.6s,mb5.0							
DMN	**Daman**	**57.01**	**277**	*e*P		**P**	**21 34 39.2**	**+3.0**
	comp=Z,15nm,0.6s,mb5.2							
GKN	**Gorkha**	**57.08**	**277**	*e*P		**P**	**21 34 38.1**	**+1.5**
	comp=Z,10nm,0.4s,mb5.2							
KKAR	**Karatay Array**	**57.12**	**300**	P		**P**	**21 34 36.9**	**0.0**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
KOLN	**Koldanda**	**57.93**	**278**	*e*P		**P**	**21 34 45.0**	**+2.3**
	comp=Z,18nm,0.9s,mb5.1							
ARCES	**ARCESS Array B**	**58.25**	**341**	P		**P**	**21 34 44.5**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.8,baz=28,slow=5.9,SNR=7.9							
AB31	**Akbulak array**	**59.40**	**311**	P		**P**	**21 34 53.0**	**+0.1**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
AKTO	**Aktyubinsk**	**59.67**	**313**	P		**P**	**21 34 54.2**	**-0.5**
ORR	**Orenburg**	**60.55**	**315**	⇓*e*P		**P**	**21 35 01.4**	**+0.6**
ORR				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.9							
NVAR	**Mina Array Bea**	**61.27**	**63**	P		**P**	**21 35 06.7**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.7,baz=297,slow=8.0,SNR=4.0							
PDAR	**Pinedale Array**	**63.68**	**55**	P		**P**	**21 35 21.9**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=306,slow=2.2,SNR=8.2							
FINES	**FINESS Array B**	**64.56**	**336**	P		**P**	**21 35 27.3**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.7,baz=38,slow=7.4,SNR=19							
NB2	**NORSAR Subarra**	**68.61**	**342**	P		**P**	**21 35 52.6**	**-0.9**
	comp=Z,20nm,1.4s,mb4.9,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.61**	**342**	P		**P**	**21 35 53.3**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=28,slow=6.0,SNR=5.2							
WRAB	**Tennant Creek**	**68.97**	**201**	*i* P		**P**	**21 35 56.3**	**+0.6**
WRA	**Warramunga Arr**	**68.98**	**201**	P		**P**	**21 35 55.4**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=18,slow=6.9,SNR=6.2							
FITZ	**Fitzroy Crossi**	**69.79**	**210**	P		**P**	**21 35 59.6**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=7.1,slow=8.1,SNR=4.2							
ANMO	**Albuquerque**	**70.71**	**59**	⇑*e*P		**P**	**21 36 05.6**	**-0.8**
AKASG	**Malin Array Be**	**72.24**	**327**	P		**P**	**21 36 13.2**	**-2.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=34,slow=6.4,SNR=5.4							
ASAR	**Alice Springs**	**72.66**	**200**	P		**P**	**21 36 19.3**	**+1.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=17,slow=5.8,SNR=18							
STHS	**Stebnicka Huta**	**76.13**	**331**	*e*P		**P**	**21 36 39.2**	**+0.9**
STHS	**Stebnicka Huta**	**76.13**	**331**	*e*P		**P**	**21 36 39.3**	**+1.0**
STHS				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
STHS	**Stebnicka Huta**	**76.13**	**331**	*e*P		**P**	**21 36 39.3**	**+1.0**
	comp=Z,5.1nm,0.8s,mb4.5							
KOLS	**Kolonicke sedl**	**76.20**	**330**	*e*P		**P**	**21 36 38.5**	**-0.2**
BURAR	**Bucovina Array**	**76.27**	**328**	⇑*i*P		**P**	**21 36 39.5**	**+0.4**
BURAR	**Bucovina Array**	**76.27**	**328**	⇑P		**P**	**21 36 39.5**	**+0.4**
TXAR	**Lajitas Array**	**76.34**	**62**	P		**P**	**21 36 40.4**	**+0.8**
	comp=Z,4.2nm,0.5s,mb4.6,baz=302,slow=4.5,SNR=55							
UPC	**Upice**	**76.83**	**335**	*e*P		**P**	**21 36 43.7**	**+1.4**
DPC	**Dobruska-Polom**	**76.87**	**334**	*e*P		**P**	**21 36 46.1**	**+3.6**
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**21 36 45.0**	**+1.9**
CLL				pmax		pmax		
	comp=Z,19nm,1.6s,mb4.8							
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**21 36 45.0**	**+1.9**
	comp=Z,19nm,1.6s,mb4.8							
CLL	**Collm**	**76.97**	**337**	*e*P		**P**	**21 36 42.0**	**-1.1**
	comp=Z,19n

*ISCJB **16** 21:33:15.5±1.5, 46.57N×007.1552E±0.1, h39km±12km, mb4.4/34, Error ellipse: s-maj=13.5km s-min=10.4km az=78.5*

*BJI **16** 21:33:15.5, 47.32N×154.92E, h10km, mB4.9, mb4.2*

ISC 16 21:33:14.6±2.1, 4663N±007×15548E±009, h25km±15km, n105, σ1§35/113, mb4.4/34, 3C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.08**	**6**	*e*PN	**Pn**	**21 34 08.3**	**-7.1**
KUR	**Kuril'sk**	**5.49**	**258**	*e*PN	**Pn**	**21 34 32.5**	**-2.2**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,3μm,0.7s						
PET	**Petropavlovsk**	**6.72**	**17**	*e*PN	**Pn**	**21 34 43.0**	**-8.7**
YUK	**Yuzh-Kuril'sk**	**7.25**	**253**	*e*PN	**Pn**	**21 34 59.4**	**+0.4**
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
NEM2	**Nemuro 2**	**7.63**	**248**	P	**Pn**	**21 35 03.2**	**-0.9**
NEM2				eS	**Sn**	**21 36 25.3**	**-4.4**
JRA	**Rausu**	**7.78**	**254**	P	**Pn**	**21 35 07.6**	**+1.4**
JNK	**Nakash**	**8.19**	**252**	P	**Pn**	**21 35 12.7**	**+0.8**
JNK				eS	**Sn**	**21 36 41.8**	**-1.8**
JAK	**Akkeshi**	**8.48**	**249**	P	**Pn**	**21 35 14.8**	**-1.0**
JAK				eS	**Sn**	**21 36 46.2**	**-4.4**
JTKR	**Abashiri--Toko**	**8.58**	**256**	P	**Pn**	**21 35 18.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**8.74**	**277**	*e*PN	**Pn**	**21 35 23.0**	**+3.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
JMP	**Maruseppu**	**8.93**	**257**	P	**Pn**	**21 35 23.6**	**+1.6**
JAR	**Ashorobuto**	**8.94**	**252**	P	**Pn**	**21 35 22.8**	**+0.7**
JAR				eS	**Sn**	**21 37 00.2**	**-1.8**
JOB	**Onbets**	**9.08**	**250**	P	**Pn**	**21 35 24.1**	**+0.1**
JOB				eS	**Sn**	**21 37 01.5**	**-3.8**
JKK2	**Kamakawa 2**	**9.39**	**258**	P	**Pn**	**21 35 29.7**	**+1.4**
ASAJ	**Asahikawa**	**9.41**	**259**	Pn	**Pn**	**21 35 30.6**	**+2.1**
	comp=Z,2.5nm,0.3s,baz=80,slow=17,SNR=13						
ASAJ	**Asahikawa**	**9.41**	**259**	P	**Pn**	**21 35 30.5**	**+2.0**
ASAJ	**Asahikawa**	**9.41**	**259**	PN	**Pn**	**21 35 30.6**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JCH	**Churui**	**9.52**	**249**	P	**Pn**	**21 35 29.8**	**-0.3**
JCH				eS	**Sn**	**21 37 10.6**	**-5.6**
JFR	**Furan**	**9.78**	**254**	P	**Pn**	**21 35 36.1**	**+2.6**
JAB	**Ashibetsu**	**9.88**	**256**	P	**Pn**	**21 35 37.4**	**+2.4**
JEM	**Erimo**	**9.96**	**247**	P	**Pn**	**21 35 37.2**	**+1.2**
JEM				eS	**Sn**	**21 37 18.8**	**-8.1**
JNBK	**Urakawa-nobuka**	**10.08**	**249**	P	**Pn**	**21 35 36.9**	**-0.8**
JNBK				eS	**Sn**	**21 37 23.9**	**-6.0**
JBT2	**Biratori 2**	**10.10**	**252**	P	**Pn**	**21 35 37.4**	**-0.5**
JKB	**Kayabe**	**11.39**	**251**	P	**Pn**	**21 35 54.2**	**-1.4**
JKB				eS	**Sn**	**21 37 54.0**	**-7.9**
JSH	**Shimam**	**11.69**	**256**	P	**Pn**	**21 36 00.1**	**+0.3**
JYM2	**Yakumo 2**	**11.71**	**253**	P	**Pn**	**21 35 58.8**	**-1.2**
JANG	**Nango**	**11.90**	**243**	P	**Pn**	**21 35 59.7**	**-2.9**
JANG				eS	**Sn**	**21 38 04.0**	**-11**
JTM	**Tenmabayashi**	**11.94**	**246**	P	**Pn**	**21 36 01.7**	**-1.5**
JTM				eS	**Sn**	**21 38 06.4**	**-9.2**
JTH	**Tanohata**	**11.95**	**241**	eS	**Sn**	**21 38 05.9**	**-10**
JSR	**Shiriuchi**	**11.96**	**250**	P	**Pn**	**21 36 02.1**	**-1.4**
JOSM	**Okushiri--Mats**	**12.32**	**254**	P	**Pn**	**21 36 06.8**	**-1.5**
OFUJ	**Ofunato**	**12.62**	**238**	eS	**Sn**	**21 38 23.0**	**-9.1**
JRG	**Rokugo**	**13.03**	**242**	P	**Pn**	**21 36 16.7**	**-1.4**
JRG				eS	**Sn**	**21 38 32.6**	**-10**
JIO	**Ouri**	**13.22**	**237**	eS	**Sn**	**21 38 36.4**	**-10**
JFY	**Yanaizu**	**14.89**	**237**	P	**Pn**	**21 36 43.0**	**-0.4**
KLR	**Kul'dur**	**16.10**	**286**	*e*P	**Pn**	**21 37 00.0**	**+0.8**
MJAR	**Matsushiro Arr**	**16.35**	**238**	Pn	**Pn**	**21 37 01.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=6.5						
MAJO	**Matsushiro**	**16.35**	**238**	*e*P	**Pn**	**21 37 01.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**16.35**	**238**	*e*P	**Pn**	**21 37 01.6**	**-0.8**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**16.35**	**238**	P	**Pn**	**21 37 02.7**	**+0.3**
CN2	**Changchun**	**21.28**	**273**	*e*P	**P**	**21 38 01.3**	**+2.2**
YAK	**Yakutsk**	**21.32**	**326**	*e*P	**P**	**21 38 03.3**	**+3.8**
YAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.2						
YAK				pmax	pmax		
	comp=N,6.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
BILL	**Bilibino**	**22.18**	**11**	*e*P	**P**	**21 38 09.1**	**+0.4**
BILL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
BILL	**Bilibino**	**22.18**	**11**	P	**P**	**21 38 06.3**	**-2.4**
	comp=Z,14nm,0.9s,mb4.4						
KSRS	**Korea Array**	**26.33**	**256**	P	**P**	**21 38 12.9**	**+2.6**
	comp=Z,4.7nm,0.9s,mb3.9,baz=60,slow=9.4,SNR=12						
SNY	**Shenyang**	**23.26**	**270**	‖P	**P**	**21 38 20.6**	**+0.4**
SNY				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
SONM	**Songino Array**	**32.90**	**290**	P	**P**	**21 39 46.6**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=69,slow=9.0,SNR=7.1						
KDAK	**Kodiak Island**	**32.92**	**51**	P	**P**	**21 39 42.9**	**-3.9**
	comp=Z,19nm,1.0s,mb5.0,baz=274,slow=10,SNR=5.6						
XAN	**Xi'an**	**37.13**	**267**	P	**P**	**21 40 24.8**	**+1.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,2.0s,mb3.8						
EGAK	**Eagle**	**38.09**	**38**	*e*P	**P**	**21 40 27.0**	**-4.2**
	comp=Z,7.6nm,0.7s,mb4.5						
GTA	**Gaotai**	**40.59**	**281**	*e*P	**P**	**21 40 54.0**	**+1.9**
GTA				AP	pP	21 40 58.6	-1.2
GTA				XP	sP	21 41 02.0	-0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s,mb3.6						
INK	**Inuvik**	**40.88**	**32**	P	**P**	**21 40 51.8**	**-2.7**
	comp=Z,4.5nm,0.8s,mb4.2,baz=303,slow=6.9,SNR=16						
GYA	**Guiyang**	**43.28**	**260**	‖P	**P**	**21 41 16.0**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**44.01**	**307**	P	**P**	**21 41 19.5**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.8,baz=95,slow=7.3,SNR=3.6						
KMI	**Kunming**	**46.83**	**262**	P	**P**	**21 41 49.4**	**+7.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
KMI	**Kunming**	**46.83**	**262**	P	**P**	**21 41 49.4**	**+7.2**
	comp=Z,9.0nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**48.44**	**298**	P	**P**	**21 41 54.6**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=68,slow=7.1,SNR=12						
BVAR	**Borovoye Array**	**52.18**	**310**	P	**P**	**21 42 22.8**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.4,baz=59,slow=8.3,SNR=13						
BRVK	**Borovoye**	**52.22**	**310**	*e*P	**P**	**21 42 23.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**52.22**	**310**	*e*P	**P**	**21 42 23.0**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**52.95**	**311**	*e*P	**P**	**21 42 28.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**52.95**	**311**	*e*P	**P**	**21 42 28.3**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.5						
ARU	**Arti**	**56.19**	**318**	*e*P	**P**	**21 42 51.3**	**-1.0**
ARU	**Arti**	**56.19**	**318**	*e*P	**P**	**21 42 51.4**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.9						
ARCES	**ARCESS Array B**	**58.49**	**342**	P	**P**	**21 43 06.5**	**-2.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=27,slow=8.1,SNR=9.2						
AKTK	**Aktyubinsk**	**60.01**	**313**	P	**P**	**21 43 18.5**	**-0.5**
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**21 43 18.5**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.3,baz=70,slow=9.8,SNR=7.3						
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**21 43 18.5**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**61.04**	**64**	P	**P**	**21 43 25.0**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.4,baz=297,slow=8.0						
NVAR	**Mina Array Bea**	**61.04**	**64**	P	**P**	**21 43 25.0**	**-1.1**
PDAR	**Pinedale Array**	**63.49**	**55**	P	**P**	**21 43 41.5**	**-1.1**
	comp=Z,1.6nm,1.0s,mb4.2,baz=255,slow=2.9,SNR=11						
FINES	**FINESS Array B**	**64.83**	**336**	P	**P**	**21 43 50.9**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.4,baz=31,slow=7.9,SNR=9.0						
CTA	**Charters Tower**	**66.92**	**189**	P	**P**	**21 44 05.1**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=342,slow=3.2,SNR=4.1						
CTA	**Charters Tower**	**66.92**	**189**	P	**P**	**21 44 05.1**	**+0.3**
NB2	**NORSAR Subarra**	**68.86**	**342**	P	**P**	**21 44 15.1**	**-1.8**
	comp=Z,3.9nm,1.0s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**	**21 44 16.3**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=27,slow=6.4,SNR=3.0						
WRA	**Warramunga Arr**	**68.96**	**201**	P	**P**	**21 44 18.1**	**+0.5**
	comp=Z,7.1nm,0.6s,mb4.8,baz=20,slow=6.7,SNR=32						
FITZ	**Fitzroy Crossi**	**69.83**	**210**	P	**P**	**21 44 24.3**	**+1.4**
	comp=Z,5.4nm,0.7s,mb4.6,baz=10,slow=11,SNR=8.4						
AKASG	**Malin Array Be**	**72.54**	**327**	P	**P**	**21 44 37.5**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=32,slow=6.2,SNR=5.4						
ASAR	**Alice Springs**	**72.64**	**201**	P	**P**	**21 44 41.5**	**+1.6**
	comp=Z,5.7nm,0.6s,mb4.7,baz=17,slow=5.6,SNR=80						
TXAR	**Lajitas Array**	**76.12**	**62**	P	**P**	**21 44 59.4**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.6,baz=305,slow=4.7,SNR=42						
BURAR	**Bucovina Array**	**76.57**	**328**	‖*i*P	**P**	**21 45 02.3**	**-0.4**
DPC	**Dobruska-Polom**	**77.15**	**335**	*e*pP	pP	21 45 12.3	-1.9
CLL	**Collm**	**77.23**	**337**	*e*P	**P**	**21 45 08.0**	**+1.5**
CLL	**Collm**	**77.23**	**337**	*e*P	**P**	**21 45 05.0**	**-1.5**
MORC	**Moravsky Berou**	**77.29**	**334**	‖*i*P	**P**	**21 45 08.3**	**+1.5**
MLR	**Muntele Rosu**	**78.08**	**326**	⇑*i*P	**P**	**21 45 11.6**	**+0.4**
DRGR		**78.17**	**329**	⇑*i*P	**P**	**21 45 11.4**	**-0.3**
MALT	**Malatya**	**78.41**	**314**	⇑*i*P	**P**	**21 45 14.6**	**+1.6**
KHC	**Kasperske Hory**	**79.04**	**336**	*e*P	**P**	**21 45 15.6**	**-0.9**
STKA	**Stephens Creek**	**79.14**	**192**	P	**P**	**21 45 16.6**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=297,slow=9.0,SNR=3.3						
GERES	**GERESS Array B**	**79.26**	**335**	P	**P**	**21 45 16.4**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=36,slow=5.0,SNR=6.5						
BRTR	**Keskin Array B**	**79.58**	**318**	P	**P**	**21 45 18.7**	**-0.7**
CDF	**Champ du Feu**	**81.37**	**339**	*e*P	**P**	**21 45 31.4**	**+2.4**
GRR	**Gorron**	**83.14**	**344**	*e*P	**P**	**21 45 41.3**	**+3.0**
SMF	**Signal de Mont**	**83.83**	**341**	*e*P	**P**	**21 45 44.0**	**+2.1**
SMF				pmax	pmax		
	comp=Z,99nm,1.9s,mb5.3						
SMF	**Signal de Mont**	**83.83**	**341**	*e*P	**P**	**21 45 44.0**	**+2.1**
	comp=Z,49nm,1.9s,mb5.3						
SMF	**Signal de Mont**	**83.83**	**341**	*e*P	**P**	**21 45 44.0**	**+2.1**
	comp=Z,50nm,1.9s,mb5.3						
LPG	**La Plagne**	**84.21**	**338**	*e*P	**P**	**21 45 47.3**	**+3.5**
	comp=Z,24nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.21**	**338**	*e*P	**P**	**21 45 47.3**	**+3.5**
LPG				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.21**	**338**	*e*P	**P**	**21 45 47.3**	**+3.5**
	comp=Z,12nm,1.1s,mb4.9						
CAF	**Calviac**	**85.86**	**341**	*e*P	**P**	**21 45 54.9**	**+2.8**
VNDA	**Vanda**	**123.94**	**178**	PKP	PKPdf	21 52 08.7	-1.8
	comp=Z,0.6nm,0.6s,baz=44,slow=0.5,SNR=6.4						
MAW	**Mawson**	**132.94**	**212**	PKP	PKPdf	21 52 26.8	-0.8
	comp=Z,0.6nm,0.6s,baz=329,slow=21,SNR=2.9						
CFAA	**Coronel Fontan**	**143.41**	**82**	PKhKP		21 52 42.4	
	comp=Z,0.1nm,0.4s,baz=281,slow=5.2,SNR=4.0						

*ISCJB **16** 21:35:48.0±1.6, 47.1N±02×154.4E±03, h80km±14km, mb3.7/6, Error ellipse: s-maj=38.9km s-min=15.3km az=88.0*

*MOS **16** 21:35:48.4±0.9, 47.12N×152.27E, h86km, mb3.9/5, Error ellipse: s-maj=49.4km s-min=20.2km az=66.7*

*IDC **16** 21:35:55.3±9.6, 47.16N×152.65E, h130km±89km, mb3.4/7, mb1 3.7/7, mb1mx3.5/19, mbtmp3.4/7, Error ellipse: s-maj=32.9km s-min=24.8km az=119.0*

ISC 16 21:35:49.5±1.5, 471N±02×1523E±03, h81km±13km, n17, σ0§71/14, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.63**	**241**	PN	**Pn**	**21 36 42.8**	**-0.6**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
SKR	**Severo-Kuril's**	**4.36**	**33**	*e*PN	**Pn**	**21 36 54.0**	**+0.7**
KSRS	**Korea Array**	**20.41**	**251**	P	**P**	**21 40 24.5**	**+4.6**
	comp=Z,0.7nm,0.4s,baz=80,slow=11,SNR=3.5						
INK	**Inuvik**	**41.64**	**33**	P	**P**	**21 43 28.6**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.7,baz=287,slow=5.0,SNR=3.6						
INK	**Inuvik**	**41.64**	**33**	P	**P**	**21 43 28.7**	**-1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**41.99**	**305**	PcP	PcP	21 45 27.3	+0.9
	comp=Z,1.0nm,0.3s,baz=21,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**46.31**	**297**	PcP	PcP	21 45 41.9	+0.8
	comp=Z,0.4nm,0.3s,baz=62,slow=4.1,SNR=6.6						
BVAR	**Borovoye Array**	**50.23**	**309**	PcP	PcP	21 45 56.1	+0.9
	comp=Z,0.7nm,0.4s,baz=88,slow=2.7,SNR=4.2						
FINES	**FINESS Array B**	**63.49**	**334**	P	**P**	**21 46 11.6**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=45,slow=8.4,SNR=4.2						
FINES	**FINESS Array B**	**63.49**	**334**	P	**P**	**21 46 11.6**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**21 46 38.4**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=28,slow=6.6,SNR=3.2						
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**21 46 38.4**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**21 47 07.8**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.6,baz=17,slow=6.5,SNR=4.3						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**21 47 07.8**	**+1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.78**	**60**	P	**P**	**21 47 37.0**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.9,baz=304,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**77.78**	**60**	P	**P**	**21 47 37.0**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**77.91**	**333**	P	**P**	**21 47 38.3**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.4,baz=39,slow=6.8,SNR=4.2						

*IDC **16** 21:38:59.9±4.1, 47.02N×153.59E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, MS4.0/1, Ms1 4.0/1, ms1mx3.5/37, Error ellipse: s-maj=113.9km s-min=32.4km az=3.0*

*ISCJB **16** 21:39:13.9±2.8, 47.9N±02×153.8E±02, h94km±15km, mb3.7/7, Error ellipse: s-maj=44.4km s-min=9.6km az=123.4*

*MOS **16** 21:39:21.6±1.9, 49.87N×152.14E, h33km, mb4.1/3, Error ellipse: s-maj=29.4km s-min=27.0km az=71.8*

ISC 16 21:39:15.7±2.6, 479N±02×1538E±02, h95km±13km, n14, σ0§98/15, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.19**	**28**	*e*PN	**Pn**	**21 40 02.6**	**-1.2**
SKR				*e*	**Sn**	**21 40 41.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.55**	**267**	*e*PN	**Pn**	**21 41 03.8**	**+0.8**
YSS				S	**Sn**	**21 42 27.0**	**0.0**
ASAJ	**Asahikawa**	**8.66**	**248**	LR	LR	21 44 40.4	
	comp=Z,881nm,18.0s,baz=173,slow=41						
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**21 47 33.1**	**-2.9**
	0.5nm,0.9s,mb3.3,baz=68,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**21 47 33.1**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**50.51**	**309**	P	**P**	**21 48 02.6**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=54,slow=7.6,SNR=4.3						
ARCES	**ARCESS Array B**	**56.94**	**341**	P	**P**	**21 48 51.5**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.5,baz=36,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	**63.22**	**335**	P	**P**	**21 49 34.0**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=35,slow=7.3,SNR=9.5						
FINES	**FINESS Array B**	**63.22**	**335**	P	**P**	**21 49 34.0**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**63.71**	**55**	P	**P**	**21 49 37.2**	**+0.2**
	comp=Z,0.4nm,1.0s,mb3.2,baz=277,slow=1.5,SNR=3.0						
NB2	**NORSAR Subarra**	**67.31**	**341**	P	**P**	**21 50 01.0**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.8,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.31**	**341**	P	**P**	**21 50 01.0**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=3.9						
NOA	**NORSAR Array B**	**67.31**	**341**	P	**P**	**21 50 01.0**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**77.64**	**334**	P	**P**	**21 51 02.5**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=29,slow=6.1,SNR=5.4						

IDC 16 21:40:09.0±1.7, 4753N×15496E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, Error ellipse: s-maj=48.8km s-min=20.3km az=170.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.23**	**253**	P	P	21 45 07.9	+0.7
	3.3nm,0.9s,baz=51,slow=11,SNR=8.9						
SONM	**Songino Array**	**32.27**	**289**	P	P	21 46 38.1	-1.1
	0.6nm,0.7s,baz=73,slow=8.0,SNR=6.8						
INK	**Inuvik**	**40.31**	**33**	P	P	21 47 46.1	-1.8
	1.1nm,0.6s,baz=293,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.70**	**298**	P	P	21 48 46.4	-0.9
	0.7nm,0.7s,baz=70,slow=7.5,SNR=5.4						
BVAR	**Borovoye Array**	**51.33**	**310**	P	P	21 49 14.5	-0.5
	2.3nm,0.6s,baz=57,slow=8.0,SNR=19						
PDAR	**Pinedale Array**	**63.27**	**55**	P	P	21 50 39.5	+0.2
	0.7nm,0.8s,baz=104,slow=0.6,SNR=4.8						
FINES	**FINESS Array B**	**63.86**	**335**	P	P	21 50 43.1	-0.2
	2.2nm,0.6s,baz=41,slow=8.8,SNR=10						
NOA	**NORSAR Array B**	**67.89**	**342**	P	P	21 51 09.3	+0.1
	1.7nm,0.9s,baz=26,slow=6.1,SNR=3.1						
AKASG	**Malin Array Be**	**71.59**	**327**	P	P	21 51 31.6	-0.4
	0.9nm,0.6s,baz=33,slow=6.5,SNR=6.2						
TXAR	**Lajitas Array**	**76.01**	**62**	P	P	21 51 58.1	+0.1
	0.6nm,0.7s,baz=306,slow=4.1,SNR=6.1						
GERES	**GERESS Array B**	**78.29**	**335**	P	P	21 52 11.9	+1.1
	0.3nm,0.6s,baz=46,slow=7.6,SNR=3.4						

IDC 16 21:44:16.3±8.5, 737S×15042E, h192km±44km, mb3.2/2, mb1 3.1/4, mb1mx2.9/13, mbtmp3.0/4, Error ellipse: s-maj=101.1km s-min=72.3km az=172.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**238**	P	Pn	21 45 15.3	0.0
	1.5nm,0.3s,baz=16,slow=4.1,SNR=3.8						
PMG				S	Sn	21 46 02.4	+0.8
	1.3nm,0.3s,baz=169,slow=23,SNR=3.9						
WRA	**Warramunga Arr**	**19.98**	**230**	P	P	21 48 33.6	-0.4
	baz=57,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**22.67**	**223**	P	P	21 49 01.9	+0.6
	0.5nm,0.4s,baz=53,slow=8.7,SNR=7.5						
STKA	**Stephens Creek**	**25.74**	**197**	P	P	21 49 29.3	+0.3
	1.1nm,0.4s,baz=26,slow=11,SNR=4.5						

IDC 16 21:49:52.1±6.7, 5190S×14046E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/10, mbtmp3.9/2, Error ellipse: s-maj=453.1km s-min=74.1km az=90.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.64**	**347**	P	P	21 55 50.2	0.0
	0.6nm,0.8s,baz=169,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**32.25**	**349**	P	P	21 56 22.1	-0.1
	2.7nm,0.8s,baz=173,slow=6.7,SNR=9.7						
ARCES	**ARCESS Array B**	**145.76**	**325**	PKPbc	PKPbc	22 09 30.8	-2.2
	2.3nm,0.8s,baz=95,slow=6.8,SNR=6.3						

*HLW **16** 21:52:58.6, 34.71N×2356E, h15km, Mb3.6*

*ATH **16** 21:53:12.5, 35.72N×2433E, h10km, MD3.4/3*

CSEM 16 21:53:01.3±0.2, 3449N×2374E, h30km, ML3.6, Error ellipse: s-maj=9.7km s-min=3.0km az=78.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**1.00**	**22**	*e*PB	Pb	21 53 19.3	-0.7
NPS	**Neapolis**	**1.73**	**63**	*e*PB	Pb	21 53 33.6	+1.2
VLI	**Veliai**	**2.32**	**344**	*e*PB	Pb	21 53 40.6	-1.9
SWA2		**5.43**	**164**	P	Pn	21 54 22.5	+2.3
SWA1		**5.47**	**162**	P	Pn	21 54 23.2	+2.4
SWA1				S	Sn	21 55 24.9	+2.3
HFRF	**Wahat Farafira**	**8.30**	**151**	P	Pn	21 55 02.5	+2.9
AMAG	**Maghara**	**8.86**	**113**	P	Pn	21 55 09.7	+2.4
SUZ		**8.99**	**118**	P	Pn	21 55 12.0	+2.9

*NEIC **16** 22:04:35.7±0.7, 4723N×15288E, h10km, mb4.2/6, Error ellipse: s-maj=17.6km s-min=10.0km az=144.0*

*ISCJB **16** 22:04:37.8±0.8, 4748N±010×1530E±0.1, h33km, mb4.1/13, Error ellipse: s-maj=18.7km s-min=6.3km az=93.5*

*MOS **16** 22:04:43.0±0.9, 4742N×15269E, h76km, mb4.2/4, Error ellipse: s-maj=15.4km s-min=12.4km az=68.5*

*IDC **16** 22:04:44.6±4.4, 4729N

ellipse: s-maj=28.0km s-min=18.1km az=161.0
*NEIC **16** 22:11:57.8±0.7, 4657N×15484E, h10km, mb4.3/4, Error ellipse: s-maj=16.5km s-min=8.9km az=156.0*
*MOS **16** 22:12:00.1±1.1, 4652N×15463E, h41km, mb4.5/5, Error ellipse: s-maj=16.8km s-min=12.5km az=98.8*

ISC 16 22:11:58.5±4.9, 466N±01×1548E±01, h15km±29km, n34, σ0§91/34, mb4.1/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.22**	**11**	*e*PN	**Pn**	**22 13 03.9**	**+1.6**
KUR	**Kuril'sk**	**5.03**	**257**	*e*PN	**Pn**	**22 13 05.0**	**-8.4**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
PET	**Petropavlovsk**	**6.94**	**20**	PN	**Pn**	**22 13 38.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**8.29**	**277**	PN	**Pn**	**22 13 57.7**	**-0.5**
ASAJ	**Asahikawa**	**8.95**	**259**	Pn	**Pn**	**22 14 06.3**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=83,slow=23,SNR=5.4						
ASAJ	**Asahikawa**	**8.95**	**259**	PN	**Pn**	**22 14 06.3**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.87**	**255**	P	**P**	**22 16 52.5**	**+1.8**
	comp=Z,2.0nm,0.6s,mb3.8,baz=53,slow=11,SNR=6.8						
BILL	**Bilibino**	**22.34**	**11**	*e*P	**P**	**22 16 56.4**	**+0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
INCN	**Inchon**	**22.72**	**257**	P	**P**	**22 16 59.8**	**0.0**
ULN	**Ulaanbaatar**	**32.07**	**290**	P	**P**	**22 18 26.5**	**+1.8**
INK	**Inuvik**	**41.19**	**32**	P	**P**	**22 19 42.5**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.7,baz=267,slow=6.3,SNR=5.6						
INK	**Inuvik**	**41.19**	**32**	*e*P	**P**	**22 19 42.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,30nm,0.5s						
INK	**Inuvik**	**41.19**	**32**	*e*P	**P**	**22 19 42.3**	**-0.1**
	comp=Z,30nm,0.5s,mb5.2						
MKAR	**Makanchi Array**	**48.07**	**298**	P	**P**	**22 20 36.1**	**-1.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=65,slow=7.8,SNR=9.8						
YKA	**Yellowknife Ar**	**50.38**	**37**	P	**P**	**22 20 54.9**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=293,slow=7.1,SNR=4.2						
YKA	**Yellowknife Ar**	**50.38**	**37**	P	**P**	**22 20 54.9**	**-0.1**
CHKZ	**Chkalovo**	**51.45**	**311**	*e*P	**P**	**22 21 02.1**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**51.45**	**311**	*e*P	**P**	**22 21 02.1**	**-1.0**
	comp=Z,5.8nm,0.6s,mb4.7						
LSA	**Lhasa**	**51.46**	**274**	*e*P	**P**	**22 21 04.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**51.46**	**274**	*e*P	**P**	**22 21 04.5**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**51.89**	**310**	P	**P**	**22 21 06.1**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=51,slow=7.6,SNR=16						
BRVK	**Borovoye**	**51.93**	**310**	*e*P	**P**	**22 21 06.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.93**	**310**	*e*P	**P**	**22 21 06.1**	**-0.5**
	comp=Z,2.2nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.65**	**311**	*e*P	**P**	**22 21 11.3**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.65**	**311**	*e*P	**P**	**22 21 11.2**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**58.42**	**341**	P	**P**	**22 21 53.1**	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.3,baz=27,slow=8.2,SNR=3.7						
AKTK	**Aktyubinsk**	**59.73**	**313**	P	**P**	**22 22 02.3**	**-0.3**
AKTO	**Aktyubinsk**	**59.73**	**313**	P	**P**	**22 22 02.3**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=74,slow=9.9,SNR=4.2						
AKTO	**Aktyubinsk**	**59.73**	**313**	P	**P**	**22 22 02.3**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**63.91**	**55**	P	**P**	**22 22 30.8**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=302,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**64.71**	**336**	P	**P**	**22 22 35.8**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=31,slow=8.8,SNR=13						
NOA	**NORSAR Array B**	**68.79**	**342**	P	**P**	**22 23 03.5**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=28,slow=6.4,SNR=3.2						
ASAR	**Alice Springs**	**72.41**	**200**	P	**P**	**22 23 23.7**	**-0.4**
	comp=Z,0.7nm,0.9s,mb3.6,baz=7,6,slow=4.4,SNR=4.9						
TXAR	**Lajitas Array**	**76.56**	**62**	P	**P**	**22 23 47.8**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=320,slow=3.7,SNR=8.9						

*ISCJB **16** 22:14:20.5±1.0, 4700N±010×155.1E±02, h10km, mb4.0/9, Error ellipse: s-maj=21.9km s-min=10.7km az=55.1*
*IDC **16** 22:14:20.3±1.2, 4679N×15506E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=36.2km s-min=28.9km az=22.0*
*NEIC **16** 22:14:21.8±0.8, 4680N×15508E, h10km, mb4.3/2, Error ellipse: s-maj=16.5km s-min=11.7km az=133.0*
*MOS **16** 22:14:23.7±2.1, 4711N×15518E, h33km, mb4.6/2, Error ellipse: s-maj=30.9km s-min=14.6km az=96.6*

ISC 16 22:14:21.8±1.0, 468N±01×1551E±02, h10km, n14, σ0§51/15, mb4.0/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.93**	**10**	*e*PN	**Pn**	**22 15 14.2**	**-8.0**
SKR				*e*	**Sn**	**22 16 02.5**	**-5.9**
PET	**Petropavlovsk**	**6.63**	**19**	*e*PN	**Pn**	**22 15 58.8**	**-0.5**
YAK	**Yakutsk**	**21.00**	**326**	P	**P**	**22 19 05.9**	**+0.6**
INCN	**Inchon**	**22.93**	**256**	*e*P	**P**	**22 19 25.7**	**-0.3**
	12nm,0.2s,mb5.0						
SONM	**Songino Array**	**32.56**	**290**	P	**P**	**22 20 53.4**	**+0.3**
	2.5nm,1.4s,mb3.9,baz=35,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**22 23 01.1**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=72,slow=7.8,SNR=4.5						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**22 23 26.0**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**22 23 25.9**	**-0.8**
	comp=Z,2.2nm,0.4s,mb4.4						
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**22 23 29.9**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=52,slow=7.4,SNR=9.4						
ZRNK	**Zerenda**	**52.60**	**311**	*e*P	**P**	**22 23 36.5**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**52.60**	**311**	*e*P	**P**	**22 23 36.5**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**64.54**	**336**	P	**P**	**22 24 59.0**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=35,slow=6.9,SNR=6.1						
ASAR	**Alice Springs**	**72.71**	**200**	P	**P**	**22 25 50.0**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=21,slow=7.2,SNR=5.2						
TXAR	**Lajitas Array**	**76.30**	**62**	P	**P**	**22 26 11.2**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=308,slow=5.3,SNR=9.3						

*ISCJB **16** 22:15:56.2±0.6, 4633N±008×1543E±01, h10km, mb4.0/19, Error ellipse: s-maj=12.5km s-min=11.1km az=91.4*
*IDC **16** 22:15:56.5±1.0, 4636N×15437E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=28.8km s-min=20.0km az=171.0*
*BJI **16** 22:15:57.9, 4673N×15424E, h8km, mB4.9, mb4.3*
*NEIC **16** 22:15:58.0±0.6, 4632N×15436E, h10km, mb4.3/9, Error ellipse: s-maj=11.9km s-min=10.7km az=90.0*
*MOS **16** 22:15:59.5±0.8, 4630N×15416E, h33km, mb4.5/7, Error ellipse: s-maj=15.4km s-min=12.5km az=39.0*

ISC 16 22:15:56.9±7.8, 4637N±009×1544E±02, h4km±47km, n38, σ1§08/38, mb4.0/19, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.70**	**258**	⇓*i*PN	**Pn**	**22 17 05.5**	**-3.1**
KUR				pmax	pmax		
	comp=Z,190nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.02**	**278**	PN	**Pn**	**22 17 54.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.02**	**278**	Pn	**Pn**	**22 17 54.9**	**+0.6**
ASAJ	**Asahikawa**	**8.62**	**259**	Pn	**Pn**	**22 18 04.0**	**+1.7**
	comp=Z,2.7nm,0.3s,baz=197,slow=6.7,SNR=6.7						
ASAJ	**Asahikawa**	**8.62**	**259**	PN	**Pn**	**22 18 04.1**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**15.57**	**237**	*e*P	**Pn**	**22 19 36.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**15.57**	**237**	*e*Pn	**Pn**	**22 19 36.3**	**-1.0**
	comp=Z,4.4nm,0.6s						
YAK	**Yakutsk**	**21.12**	**327**	P	**P**	**22 20 42.6**	**0.0**
KSRS	**Korea Array**	**21.53**	**255**	P	**P**	**22 20 48.5**	**+1.4**
	comp=Z,2.4nm,0.7s,mb3.7,baz=63,slow=10,SNR=6.0						
ULN	**Ulaanbaatar**	**31.85**	**290**	*e*P	**P**	**22 22 23.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.3						
ULN	**Ulaanbaatar**	**31.85**	**290**	*e*P	**P**	**22 22 23.3**	**+0.3**
	comp=Z,6.8nm,1.5s,mb4.3						
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**22 22 26.3**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.3,baz=70,slow=26,SNR=4.3						
ZAK	**Zakamensk**	**33.63**	**296**	*e*P	**P**	**22 22 36.6**	**-2.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
GUMO	**Guam**	**33.64**	**197**	P	**P**	**22 22 37.6**	**-1.1**
NACB	**Ninganchiao**	**34.36**	**241**	P	**P**	**22 22 44.8**	**-0.1**
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**22 23 25.4**	**+2.8**
LZH				AP	pP	22 23 29.0	+5.3
LZH				XP	sP	22 23 31.5	+7.4
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,90nm,4.4s						
LZH	**Lanzhou**	**38.78**	**273**	*e*P	**P**	**22 23 25.4**	**+2.8**
	comp=Z,20nm,1.0s,mb4.8						
LZH				pP	pP	22 23 29.0	+5.3
LZH				sP	sP	22 23 31.5	+7.4
GTA	**Gaotai**	**39.90**	**280**	*e*P	**P**	**22 23 33.3**	**+1.4**
GTA				AP	pP	22 23 37.4	+4.4
GTA				XP	sP	22 23 40.6	+7.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
ZAL	**Zalesovo**	**43.56**	**306**	P	**P**	**22 24 00.2**	**-1.7**
	comp=Z,1.0nm,0.4s,mb3.9,baz=45,slow=8.0,SNR=3.0						
ZAL	**Zalesovo**	**43.56**	**306**	P	**P**	**22 24 00.2**	**-1.7**
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**22 24 35.4**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=64,slow=6.2,SNR=10						
LSA	**Lhasa**	**51.17**	**274**	P	**P**	**22 25 03.1**	**+1.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**51.17**	**274**	P	**P**	**22 25 03.1**	**+1.9**
	comp=Z,1.6nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**22 25 01.9**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P	**P**	**22 25 01.9**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**22 25 05.5**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=58,slow=8.5,SNR=5.0						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**22 25 05.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**22 25 05.8**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**22 25 11.0**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**52.54**	**311**	*e*P	**P**	**22 25 10.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0						
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**22 25 35.5**	**-0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**22 25 35.5**	**-0.3**
	comp=Z,4.2nm,0.5s,mb4.7						
PMG	**Port Moresby**	**55.89**	**189**	*e*P	**P**	**22 25 35.7**	**-0.2**
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG	**Port Moresby**	**55.89**	**189**	*e*P	**P**	**22 25 35.7**	**-0.1**
	comp=Z,2.2nm,0.3s,mb4.7						
PDAR	**Pinedale Array**	**64.26**	**54**	P	**P**	**22 26 34.2**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=298,slow=3.2,SNR=4.0						
FINES	**FINESS Array B**	**64.76**	**335**	P	**P**	**22 26 37.3**	**+0.8**
	comp=Z,0.7nm,0.3s,mb4.1,baz=34,slow=7.0,SNR=9.7						
ASAR	**Alice Springs**	**72.13**	**200**	P	**P**	**22 27 22.4**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=15,slow=6.5,SNR=8.8						
TXAR	**Lajitas Array**	**76.92**	**61**	P	**P**	**22 27 50.7**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=306,slow=4.0,SNR=19						

*ISCJB **16** 22:16:47.7±0.4, 4686N±007×15561E±007, h10km, mb4.3/28, MS4.2/1, Error ellipse: s-maj=10.2km s-min=6.2km az=122.4*
*IDC **16** 22:16:47.8±0.7, 4679N×15570E, h0km, mb4.0/15, mb1 4.3/17, mb1mx4.2/26, mbtmp4.1/17, ML4.0/2, Error ellipse: s-maj=20.8km s-min=15.8km az=157.0*
*BJI **16** 22:16:49.5, 4680N×15560E, h24km, mB4.9, mb4.5, Ms4.2, Msz4.1*
*MOS **16** 22:16:50.2±1.1, 4691N×15552E, h28km, mb4.9/9, Error ellipse: s-maj=11.4km s-min=8.5km az=83.3*
*NEIC **16** 22:16:51.6±2.5, 4684N×15561E, h24km±18km, mb4.6/13, Error ellipse: s-maj=9.2km s-min=5.9km az=135.0*

ISC 16 22:16:48.6±3.4, 4685N±007×15567E±008, h5km±21km, n65, σ0§92/66, mb4.3/28, MS4.2/1, 1C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.84**	**4**	*e*PN	**Pn**	**22 17 44.5**	**-3.9**
KUR	**Kuril'sk**	**5.67**	**256**	⇓*i*PN	**Pn**	**22 18 10.0**	**-3.4**
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
PET	**Petropavlovsk**	**6.47**	**16**	PN	**Pn**	**22 18 24.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**8.85**	**275**	Pn	**Pn**	**22 18 57.1**	**+0.1**
YSS				Sn	**Sn**	**22 20 38.2**	**+1.1**
ASAJ	**Asahikawa**	**9.58**	**258**	Pn	**Pn**	**22 19 07.7**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=129,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**9.58**	**258**	PN	**Pn**	**22 19 07.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**16.58**	**238**	*e*P	**Pn**	**22 20 42.6**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAJO	**Matsushiro**	**16.58**	**238**	*e*Pn	**Pn**	**22 20 42.6**	**+0.9**
	comp=Z,2.4nm,0.4s						
MAT	**Matsushiro**	**16.58**	**238**	P	**Pn**	**22 20 46.2**	**+4.4**
MJAR	**Matsushiro Arr**	**16.58**	**238**	Pn	**Pn**	**22 20 43.3**	**+1.5**
	comp=Z,2.0nm,0.3s,baz=40,slow=9.3,SNR=6.4						
YAK	**Yakutsk**	**21.21**	**325**	*e*P	**P**	**22 21 35.3**	**+0.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.4s,mb4.7						
YAK	**Yakutsk**	**21.21**	**325**	*e*P	**P**	**22 21 35.2**	**+0.2**
	comp=Z,16nm,0.4s,mb4.7						
CN2	**Changchun**	**21.40**	**273**	*e*P	**P**	**22 21 35.0**	**-2.1**
BILL	**Bilibino**	**21.93**	**11**	P	**P**	**22 21 42.9**	**+0.1**
BILL	**Bilibino**	**21.93**	**11**	P	**P**	**22 21 42.9**	**+0.1**
KSRS	**Korea Array**	**22.52**	**255**	P	**P**	**22 21 50.3**	**+1.3**
	comp=Z,2.3nm,0.9s,mb3.6,baz=56,slow=11,SNR=4.5						
INCN	**Inchon**	**23.36**	**257**	P	**P**	**22 21 57.5**	**-0.5**
HIA	**Hailar**	**24.00**	**289**	P	**P**	**22 22 03.8**	**-0.3**
ULN	**Ulaanbaatar**	**32.52**	**290**	*e*P	**P**	**22 23 19.4**	**-0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**32.52**	**290**	*e*P	**P**	**22 23 19.4**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9						
SONM	**Songino Array**	**32.95**	**290**	P	**P**	**22 23 23.1**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=60,slow=9.6,SNR=5.1						
GUMO	**Guam**	**34.38**	**199**	P	**P**	**22 23 35.7**	**-0.7**
MCK	**McKinley**	**34.44**	**40**	*e*P	**P**	**22 23 37.5**	**+0.6**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
MCK	**McKinley**	**34.44**	**40**	*e*P	**P**	**22 23 37.5**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.8						
COLA	**College**	**34.97**	**38**	*e*P	**P**	**22 23 40.8**	**-0.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	**College**	**34.97**	**38**	*e*P	**P**	**22 23 40.8**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.5						
LZH	**Lanzhou**	**39.64**	**273**	*e*P	**P**	**22 24 25.1**	**+3.9**
LZH				AP	pP	22 24 29.8	+7.0
LZH				XP	sP	22 24 32.8	+9.3
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
LZH	**Lanzhou**	**39.64**	**273**	*e*P	**P**	**22 24 25.1**	**+3.9**
	comp=Z,20nm,1.4s,mb4.7						
LZH				pP	pP	22 24 29.7	+6.9
LZH				sP	sP	22 24 32.8	+9.3
INK	**Inuvik**	**40.62**	**33**	P	**P**	**22 24 29.0**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.2,baz=302,slow=7.7,SNR=14						
INK	**Inuvik**	**40.62**	**33**	*e*P	**P**	**22 24 29.2**	**-0.1**
INK				pmax	pmax		
	comp=Z,138nm,0.8s						
INK	**Inuvik**	**40.62**	**33**	*e*P	**P**	**22 24 29.2**	**-0.1**
	comp=Z,138nm,0.8s,mb5.6						
GYA	**Guiyang**	**43.46**	**260**	P	**P**	**22 24 53.3**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**43.99**	**306**	P	**P**	**22 24 55.1**	**-1.6**
	comp=Z,1.1nm,0.4s,mb3.9,baz=71,slow=8.7,SNR=4.1						
KMI	**Kunming**	**46.99**	**262**	P	**P**	**22 25 19.6**	**-1.0**
KMI				AP	pP	22 25 30.5	+8.3
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
KMI				LR	LR		
	comp=N,259nm,33.5s						
KMI				LR	LR		
	comp=E,202nm,27.7s						
KMI				LR	LR		
	comp=Z,358nm,30.0s						
KMI	**Kunming**	**46.99**	**262**	P	**P**	**22 25 19.6**	**-1.0**
	comp=Z,6.0nm,0.8s,mb4.6						
KMI				pP	pP	22 25 30.5	+8.3
KMI				LR	LR		
	comp=Z,360nm,30.0s,MS4.2						
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**22 25 32.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=77,slow=7.3,SNR=6.6						
RES	**Resolute Bay**	**50.17**	**19**	*e*P	**P**	**22 25 46.2**	**+1.1**
RES				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
RES	**Resolute Bay**	**50.17**	**19**	*e*P	**P**	**22 25 46.2**	**+1.2**
	comp=Z,32nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**51.70**	**311**	*e*P	**P**	**22 25 55.4**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
CHKZ	**Chkalovo**	**51.70**	**311**	*e*P	**P**	**22 25 55.4**	**-1.2**
	comp=Z,10nm,0.5s,mb5.0						
BVAR	**Borovoye Array**	**52.14**	**310**	P	**P**	**22 25 59.6**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.6,baz=59,slow=7.7,SNR=24						
BRVK	**Borovoye**	**52.18**	**310**	*e*P	**P**	**22 25 59.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**52.18**	**310**	*e*P	**P**	**22 25 59.6**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**52.90**	**311**	*e*P	**P**	**22 26 05.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.90**	**311**	*e*P	**P**	**22 26 05.1**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**55.36**	**298**	*e*P	**P**	**22 26 22.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**55.36**	**298**	*e*P	**P**	**22 26 22.6**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2						
ARU	**Arti**	**56.11**	**318**	*e*P	**P**	**22 26 28.0**	**-0.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
ARU	**Arti**	**56.11**	**318**	*e*P	**P**	**22 26 28.0**	**-0.9**
	comp=Z,7.4nm,0.5s,mb5.0						
AKTK	**Aktyubinsk**	**59.96**	**313**	P	**P**	**22 26 56.7**	**+0.9**
AKTO	**Aktyubinsk**	**59.96**	**313**	P	**P**	**22 26 56.7**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=80,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**59.96**	**313**	P	**P**	**22 26 56.7**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**60.82**	**64**	P	**P**	**22 27 02.0**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.2,baz=283,slow=8.8,SNR=4.6						
PDAR	**Pinedale Array**	**63.26**	**55**	P	**P**	**22 27 18.3**	**+0.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=281,slow=2.4,SNR=5.1						
FINES	**FINESS Array B**	**64.68**	**336**	P	**P**	**22 27 28.4**	**+1.0**
	comp=Z,2.5nm,0.8s,mb4.3,baz=38,slow=7.2,SNR=7.8						
OBN	**Obninsk**	**66.20**	**327**	P	**P**	**22 27 37.0**	**-0.3**
NOA	**NORSAR Array B**	**68.68**	**342**	P	**P**	**22 27 54.1**	**+1.2**
	comp=Z,3.2nm,1.1s,mb4.2,baz=25,slow=6.3,SNR=2.6						
WB2	**Warramunga Arr**	**69.21**	**201**	*e*P	**P**	**22 27 56.3**	**0.0**
WRA	**Warramunga Arr**	**69.22**	**201**	P	**P**	**22 27 55.2**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=19,slow=7.0,SNR=5.3						
ASAR	**Alice Springs**	**72.89**	**201**	P	**P**	**22 28 18.6**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=17,slow=5.8,SNR=12						
TXAR	**Lajitas Array**	**75.90**	**62**	P	**P**	**22 28 36.5**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=305,slow=4.7,SNR=14						
BURAR	**Bucovina Array**	**76.45**	**328**	⇓*i*P	**P**	**22 28 38.8**	**-0.4**
MLR	**Muntele Rosu**	**77.97**	**326**	⇓*i*P	**P**	**22 28 47.9**	**+0.1**
GERES	**GERESS Array B**	**79.11**	**336**	P	**P**	**22 28 53.4**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=27,slow=4.9,SNR=7.8						
VTS	**Vitosha**	**81.48**	**327**	⇑*i*P

ROCH				*e*S		Sn	22 27 27.2	+1.7
JACH	**Jahuel**	**1.06**	**116**	*e*P		Pn	22 27 15.2	+0.6
JACH				*i* S		Sn	22 27 29.4	+1.3
CMCH	**Combarbala**	**1.22**	**31**⇑	*i*P		Pn	22 27 17.6	+0.9
CMCH				*i* S		Sn	22 27 34.0	+2.0
CMCH					AML	AML	22 27 37.6	
	comp=E,609nm,0.6s							
CMCH	**Combarbala**	**1.22**	**31**⇑	*i*P		Pn	22 27 17.6	+0.9
CMCH				*i* S		Sn	22 27 34.0	+2.0
PEL	**Peldehue**	**1.27**	**136**	*e*P		Pn	22 27 18.4	+1.0
PEL				*i* S		Sn	22 27 35.3	+2.1
PEL					AML	AML	22 27 37.6	
	comp=E,314nm,0.3s							
PEL	**Peldehue**	**1.27**	**136**	*e*P		Pn	22 27 18.4	+1.0
PEL				*i* S		Sn	22 27 35.3	+2.1
RCDM	**Rinconada Maip**	**1.48**	**149**	*e*P		Pn	22 27 21.6	+1.4
RCDM				*i* S		Sn	22 27 40.9	+2.5
RCDM					AML	AML	22 27 42.7	
	comp=E,181nm,0.2s							
RCDM	**Rinconada Maip**	**1.48**	**149**	*e*P		Pn	22 27 21.6	+1.4
RCDM				*i* S		Sn	22 27 40.9	+2.5
CLCH	**Cerro Calan**	**1.54**	**140**⇑	*i*P		Pn	22 27 22.6	+1.5
CLCH				*i* S		Sn	22 27 43.3	+3.4
CLCH					AML	AML	22 27 46.3	
	comp=E,114nm,0.4s							
TACH	**Talagante**	**1.57**	**155**⇑	*i*P		Pn	22 27 23.2	+1.7
TACH				*i* S		Sn	22 27 44.0	+3.3
FCH	**Farellones**	**1.64**	**133**⇑	*i*P		Pn	22 27 24.5	+2.1
FCH				*i* S		Sn	22 27 45.9	+3.6
FCH					AML	AML	22 27 48.2	
	comp=N,95nm,0.2s							
PCH	**Pirque**	**1.73**	**144**	*e*P		Pn	22 27 25.4	+1.7
PCH				*i* S		Sn	22 27 48.1	+3.6

*ISCJB **16** 22:34:47.8±0.5, 656S±007×15135E±007, h10km, mb4.3/16, MS3.7/2, Error ellipse: s-maj=10.9km s-min=8.2km az=96.8*

*IDC **16** 22:34:48.5±1.1, 655S×15127E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/15, mbtmp4.3/10, ML3.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/32, Error ellipse: s-maj=26.8km s-min=21.0km az=95.0*

*NEIC **16** 22:34:49.6±4.1, 655S×15135E, h10km±26km, mb4.5/11, Error ellipse: s-maj=10.3km s-min=8.5km az=167.0*

ISC 16 22:34:49.8±4.4, 655S±008×15135E±007, h11km±28km, n31, σ0°81/28, mb4.3/16, MS3.7/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.02**	**235**	Pn	**Pn**	**22 36 06.4**	**+1.3**
	6.8nm,0.3s,baz=56,slow=5.0,SNR=16						
PMG				Sn	**Sn**	**22 37 03.2**	**0.0**
	14nm,0.3s,baz=333,slow=23,SNR=10						
HNR	**Honiara**	**8.98**	**109**	LR	LR	22 39 55.6	
	comp=Z,282nm,18.4s,baz=360,slow=34						
HNR	**Honiara**	**8.98**	**109**	*e*Pn	**Pn**	**22 36 59.1**	**-0.4**
CTA	**Charters Tower**	**14.34**	**200**	LR	LR	22 43 00.2	
	comp=Z,283nm,18.8s,baz=50,slow=34						
CTAO	**Charters Tower**	**14.34**	**200**	Pn	**Pn**	**22 38 12.1**	**-0.6**
KAKA	**Kakadu**	**19.61**	**250**	*e*P	**Pn**	**22 39 18.7**	**-0.8**
	16nm,0.6s						
GUMO	**Guam**	**21.02**	**342**	LR	LR	22 46 43.7	
	comp=Z,185nm,19.3s,MS3.5,baz=119,slow=34						
WB2	**Warramunga Arr**	**21.20**	**229**	*e*P	**P**	**22 39 34.7**	**-0.7**
WRA	**Warramunga Arr**	**21.21**	**230**	P	**P**	**22 39 35.5**	**-0.1**
	12nm,1.0s,mb4.2,baz=54,slow=11,SNR=18						
DZM	**Mont Dzumac**	**21.23**	**138**	P	**P**	**22 39 36.5**	**+0.8**
	7.9nm,0.7s,mb4.1,baz=348,slow=12,SNR=6.2						
DZM				LR	LR	22 46 16.7	
	comp=Z,432nm,18.8s,MS3.9,baz=266,slow=32						
AS31	**Alice Springs**	**23.89**	**223**	*e*P	**P**	**22 40 03.3**	**-0.2**
ASAR	**Alice Springs**	**23.89**	**223**	P	**P**	**22 40 03.4**	**-0.2**
	8.1nm,0.6s,mb4.3,baz=55,slow=8.6,SNR=116						
STKA	**Stephens Creek**	**26.79**	**199**	*e*P	**P**	**22 40 29.7**	**-0.2**
	8.2nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**26.79**	**199**	P	**P**	**22 40 30.5**	**+0.6**
	17nm,0.7s,mb4.7,baz=10.0,slow=10,SNR=35						
FITZ	**Fitzroy Crossi**	**27.57**	**243**	*e*P	**P**	**22 40 37.0**	**+0.1**
	12nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.57**	**243**	P	**P**	**22 40 36.1**	**-0.7**
	6.4nm,0.6s,mb4.5,baz=53,slow=8.2,SNR=24						
MBWA	**Marble Bar**	**33.86**	**241**	*e*P	**P**	**22 41 34.4**	**+2.1**
	6.5nm,0.6s,mb4.7						
BJT	**Baijiatuau**	**56.56**	**328**	P	**P**	**22 44 32.1**	**-0.3**
CASY	**Casey**	**65.93**	**197**	*e*P	**P**	**22 45 34.5**	**-1.4**
	1.4nm,0.4s,mb4.3						
ULN	**Ulaanbaatar**	**66.73**	**329**	*e*P	**P**	**22 45 40.1**	**-0.9**
	0.7nm,0.4s,mb4.0						
SONM	**Songino Array**	**67.05**	**329**	P	**P**	**22 45 44.1**	**+1.1**
	1.1nm,0.7s,mb4.0,baz=145,slow=3.0,SNR=7.8						
LSA	**Lhasa**	**68.05**	**306**	*e*P	**P**	**22 45 50.7**	**+1.3**
	1.0nm,0.4s,mb4.2						
TLY	**Talaya**	**70.88**	**331**	*e*P	**P**	**22 46 06.2**	**-0.7**
	2.2nm,0.6s,mb4.3						
VNDA	**Vanda**	**71.15**	**178**	P	**P**	**22 46 09.0**	**+0.5**
	1.3nm,0.9s,mb3.9,baz=325,slow=6.8,SNR=6.2						
VNDA	**Vanda**	**71.15**	**178**	*e*P	**P**	**22 46 09.0**	**+0.5**
	1.7nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**22 47 02.8**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=92,slow=6.1,SNR=4.3						
MCK	**McKinley**	**83.03**	**23**	P	**P**	**22 47 16.0**	**+0.8**
MAW	**Mawson**	**83.41**	**203**	P	**P**	**22 47 17.1**	**-0.1**
	2.5nm,0.7s,mb4.3,baz=115,slow=5.1,SNR=6.8						
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**22 47 17.6**	**+0.3**
	3.6nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**90.58**	**323**	*e*P	**P**	**22 47 51.2**	**-1.0**
	2.9nm,1.5s,mb4.4						
TORD	**Torodi Ar. Bea**	**149.41**	**285**	PKPbc	PKPbc	22 54 40.0	+1.1
	1.6nm,0.8s,baz=40,slow=2.7,SNR=15						

*ISCJB **16** 22:42:06.7±0.2, 41.12S±003×174.16E±004, h67km±3km, mb4.2/4, Error ellipse: s-maj=6.0km s-min=3.9km az=76.6*

*NEIC **16** 22:42:08.1, 4.104S×174.17E, h58km, mb4.3/2, ML4.7(WEL), After WEL.*

NEIC Felt in much of lower North Island and upper South Island.

*WEL **16** 22:42:08.1±0.1, 4.104S×174.17E, h58km±1km, ML4.6/23, Error ellipse: s-maj=1.0km s-min=0.8km az=0.0, reported intensity MM 5.*

WEL Felt from Taranaki to Marlborough, and from West Coast to Manawatu, maximum.

*IDC **16** 22:42:11.6±1.2, 4.103S×174.07E, h91km±12km, mb3.8/2, mb1 4.1/4, mb1mx3.8/11, mbtmp4.0/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=29.2km s-min=9.2km az=131.0*

ISC 16 22:42:07.8±0.2, 4113S±003×17418E±004, h60km±3km, n98, σ0°93/112, mb4.2/4, 29C-9D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCW	**Tory Channel**	**0.11**	**140**	⇑P	**Pn**	**22 42 16.8**	**0.0**
TCW				*e*S	**Sn**	**22 42 22.9**	**-0.5**
TCW	**Tory Channel**	**0.11**	**140**	⇑PN	**Pn**	**22 42 16.8**	**0.0**
TCW				*e*SN	**Sn**	**22 42 23.0**	**-0.4**
TCW				*e*SN	**Sn**	**22 42 23.0**	**-0.4**
DUWZ	**D'Urville Isla**	**0.38**	**328**	⇓PN	**Pn**	**22 42 17.6**	**-0.9**
DUWZ				*e*SN	**Sn**	**22 42 25.3**	**-1.0**
MRW	**Makara Radio**	**0.40**	**105**	⇑P	**Pn**	**22 42 19.0**	**+0.2**
MRW				*e*S	**Sn**	**22 42 27.0**	**+0.3**
MRW	**Makara Radio**	**0.40**	**105**	⇑PN	**Pn**	**22 42 19.0**	**+0.3**
MRW				*e*SN	**Sn**	**22 42 27.0**	**+0.3**
SNZO	**South Karori**	**0.43**	**115**	⇑P	**Pn**	**22 42 19.4**	**+0.4**
SNZO				*e*S	**Sn**	**22 42 27.9**	**+0.7**
SNZO	**South Karori**	**0.43**	**115**	⇑PN	**Pn**	**22 42 19.4**	**+0.4**
SNZO				*e*SN	**Sn**	**22 42 28.0**	**+0.7**
SNZO				*e*SN	**Sn**	**22 42 28.2**	**+1.0**
WEL	**Wellington**	**0.47**	**110**	⇑P	**Pn**	**22 42 19.8**	**+0.4**
WEL				*e*S	**Sn**	**22 42 29.3**	**+1.5**
WEL	**Wellington**	**0.47**	**110**	⇑PN	**Pn**	**22 42 19.8**	**+0.4**
WEL				*e*SN	**Sn**	**22 42 29.3**	**+1.5**
BHW	**Baring Head**	**0.59**	**119**	⇑P	**Pn**	**22 42 21.0**	**+0.3**
BHW	**Baring Head**	**0.59**	**119**	⇑PN	**Pn**	**22 42 21.0**	**+0.3**
KIW	**Kapiti Island**	**0.61**	**64**	⇓P	**Pn**	**22 42 20.9**	**0.0**
KIW				*e*S	**Sn**	**22 42 30.4**	**-0.2**
KIW	**Kapiti Island**	**0.61**	**64**	⇓PN	**Pn**	**22 42 20.9**	**0.0**
KIW				*e*SN	**Sn**	**22 42 30.4**	**-0.1**
NNZ	**Nelson**	**0.61**	**261**	⇑P	**Pn**	**22 42 21.0**	**0.0**
NNZ	**Nelson**	**0.61**	**261**	⇑PN	**Pn**	**22 42 21.0**	**+0.1**
CMWZ	**Cape Campbell**	**0.62**	**178**	*e*P	**Pn**	**22 42 22.7**	**+1.6**
CMWZ	**Cape Campbell**	**0.62**	**178**	*e*PN	**Pn**	**22 42 22.7**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.63**	**201**	⇑P	**Pn**	**22 42 22.2**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.63**	**201**	PN	**Pn**	**22 42 22.2**	**+1.0**
CAW	**Cannon Point**	**0.67**	**89**	⇑P	**Pn**	**22 42 31.1**	**+9.5**
CAW				*e*S	**Sn**	**22 42 42.1**	**+10**
CAW	**Cannon Point**	**0.67**	**89**	⇑PN	**Pn**	**22 42 31.1**	**+9.5**
CAW				*e*SN	**Sn**	**22 42 42.1**	**+10**
MSWZ	**Moikau Station**	**0.85**	**110**	⇑P	**Pn**	**22 42 23.9**	**0.0**
MSWZ	**Moikau Station**	**0.85**	**110**	⇑PN	**Pn**	**22 42 23.9**	**0.0**
PAWZ	**Paruwai Farm**	**0.97**	**106**	⇑P	**Pn**	**22 42 25.2**	**-0.2**
PAWZ	**Paruwai Farm**	**0.97**	**106**	⇑PN	**Pn**	**22 42 25.2**	**-0.2**
MTW	**Mount Morrison**	**1.00**	**92**	⇑P	**Pn**	**22 42 25.3**	**-0.4**
MTW	**Mount Morrison**	**1.00**	**92**	⇑PN	**Pn**	**22 42 25.3**	**-0.4**
THZ	**Tophouse**	**1.15**	**236**	PN	**Pn**	**22 42 28.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.16**	**67**	⇑P	**Pn**	**22 42 27.4**	**-0.4**
MRZ	**Mangatainoka R**	**1.16**	**67**	⇑PN	**Pn**	**22 42 27.4**	**-0.4**
TRWZ	**Traveller**	**1.17**	**104**	*e*PN	**Pn**	**22 42 27.6**	**-0.4**
QRZ	**Quartz Range**	**1.29**	**283**	⇓P	**Pn**	**22 42 29.9**	**+0.3**
QRZ	**Quartz Range**	**1.29**	**283**	⇑PN	**Pn**	**22 42 29.9**	**+0.3**
TIWZ	**Tintock**	**1.34**	**75**	⇑PN	**Pn**	**22 42 29.6**	**-0.6**
KHZ	**Kahutara**	**1.38**	**200**	⇑P	**Pn**	**22 42 31.7**	**+0.9**
KHZ	**Kahutara**	**1.38**	**200**	⇓PN	**Pn**	**22 42 31.7**	**+1.0**
WAZ	**Wanganui**	**1.50**	**24**	⇓PN	**Pn**	**22 42 33.0**	**+0.6**
BFZ	**Birch Farm**	**1.63**	**75**	⇓P	**Pn**	**22 42 33.0**	**-1.1**
BFZ	**Birch Farm**	**1.63**	**75**	⇑PN	**Pn**	**22 42 33.0**	**-1.2**
TSZ	**Takapari Road**	**1.72**	**52**	⇑P	**Pn**	**22 42 34.6**	**-0.8**
TSZ	**Takapari Road**	**1.72**	**52**	⇑PN	**Pn**	**22 42 34.6**	**-0.8**
NRZ	**Ngariki Road**	**1.80**	**354**	PN	**Pn**	**22 42 36.6**	**+0.1**
RAEZ	**Rainy Point**	**1.84**	**5**	PN	**Pn**	**22 42 38.2**	**+1.1**
DSZ	**Denniston Nort**	**1.89**	**250**	⇓P	**Pn**	**22 42 38.6**	**+0.9**
DSZ	**Denniston Nort**	**1.89**	**250**	⇓PN	**Pn**	**22 42 38.6**	**+0.9**
WPHZ	**Waipukurau**	**2.02**	**59**	*e*PN	**Pn**	**22 42 38.2**	**-1.2**
VRZ	**Vera Road**	**2.05**	**13**	PN	**Pn**	**22 42 40.2**	**+0.4**
LTZ	**Lake Taylor**	**2.18**	**220**	PN	**Pn**	**22 42 42.1**	**+0.4**
KATZ	**Kakaramea**	**2.44**	**29**	P	**Pn**	**22 42 46.5**	**+1.3**
RATZ	**Rangitukua**	**2.56**	**29**	P	**Pn**	**22 42 49.4**	**+2.5**
BKZ	**Black Stump Fm**	**2.64**	**43**	P	**Pn**	**22 42 46.5**	**-1.4**
WATZ	**Wairara**	**2.69**	**27**	P	**Pn**	**22 42 50.6**	**+2.0**
CRLZ	**Canterbury Las**	**2.71**	**205**	P	**Pn**	**22 42 48.5**	**-0.3**
MQZ	**McQueen's Vall**	**2.82**	**203**	*e*P	**Pn**	**22 42 49.2**	**-1.1**
MQZ	**McQueen's Vall**	**2.82**	**203**	PN	**Pn**	**22 42 48.9**	**-1.4**
WVZ	**Waitaha Valley**	**3.22**	**232**	PN	**Pn**	**22 42 56.0**	**+0.2**
KNZ	**Kokohu**	**3.41**	**53**	*e*P	**Pn**	**22 42 55.5**	**-2.9**
RPZ	**Rata Peaks**	**3.47**	**221**	P	**Pn**	**22 43 03.0**	**+3.7**
	23nm,0.3s,baz=45,slow=6.3,SNR=11						
RPZ				S	**Sn**	**22 43 45.1**	**+5.9**
	62nm,0.3s,baz=214,slow=19,SNR=8.2						
RPZ	**Rata Peaks**	**3.47**	**221**	*e*P	**Pn**	**22 43 00.0**	**+0.7**
TOZ	**Tahuroa Road**	**3.54**	**17**	*e*P	**Pn**	**22 43 00.9**	**+0.6**
URZ	**Urewera**	**3.65**	**39**	P	**Pn**	**22 43 04.0**	**+2.3**
	21nm,0.3s,baz=254,slow=8.7,SNR=16						
URZ				S	**Sn**	**22 43 48.4**	**+5.0**
	47nm,0.3s,baz=120,slow=21,SNR=6.2						
URZ				LR	LR	22 44 46.6	
	comp=Z,139nm,20.5s,baz=217,slow=43						
URZ	**Urewera**	**3.65**	**39**	*e*P	**Pn**	**22 42 58.6**	**-3.1**
URZ				P		22 43 04.0	
URZ				S	**Sn**	**22 43 48.4**	**+5.0**
URZ				LR	LR	22 44 46.6	
URZ	**Urewera**	**3.65**	**39**	*e*PN	**Pn**	**22 42 58.3**	**-3.4**
MWZ	**Matawai**	**3.80**	**44**	P	**Pn**	**22 43 01.2**	**-2.5**
MKAZ	**Moumakai**	**4.08**	**11**	P	**Pn**	**22 43 07.8**	**+0.1**
MKAZ	**Moumakai**	**4.08**	**11**	*e*PN	**Pn**	**22 43 07.5**	**-0.1**
FOZ	**Fox Glacier**	**4.13**	**232**	*e*P	**Pn**	**22 43 06.6**	**-1.6**
FOZ	**Fox Glacier**	**4.13**	**232**	PN	**Pn**	**22 43 06.2**	**-2.0**
WTAZ	**Waiatarua**	**4.20**	**4**	P	**Pn**	**22 43 09.8**	**+0.6**
WTAZ	**Waiatarua**	**4.20**	**4**	PN	**Pn**	**22 43 09.6**	**+0.3**
LBZ	**Lake Benmore**	**4.39**	**221**	*e*P	**Pn**	**22 43 11.1**	**-0.8**
LBZ	**Lake Benmore**	**4.39**	**221**	*e*PN	**Pn**	**22 43 10.6**	**-1.3**
KUZ	**Kuaotunu**	**4.54**	**16**	*e*P	**Pn**	**22 43 12.4**	**-1.4**
ODZ	**Otahua Downs**	**4.70**	**212**	P	**Pn**	**22 43 15.1**	**-0.9**
MXZ	**Matakaoa Point**	**4.78**	**43**	P	**Pn**	**22 43 27.0**	**+10**
JCZ	**Jackson Bay**	**4.97**	**232**	P	**Pn**	**22 43 19.2**	**-0.6**
WCZ	**Waipu Caves**	**5.18**	**1**	*e*P	**Pn**	**22 43 22.7**	**0.0**
WCZ	**Waipu Caves**	**5.18**	**1**	PN	**Pn**	**22 43 22.5**	**-0.2**
WKZ	**Wanaka**	**5.29**	**224**	*e*P	**Pn**	**22 43 23.0**	**-1.2**
EAZ	**Earnscleugh**	**5.43**	**219**	*e*P	**Pn**	**22 43 25.3**	**-0.8**
TUZ	**Tuapeka**	**5.85**	**213**	*e*P	**Pn**	**22 43 31.4**	**-0.4**
OUZ	**Omahuta**	**5.92**	**355**	*e*P	**Pn**	**22 43 33.2**	**+0.5**
RAO	**Raoul Island**	**13.49**	**31**	*e*Pn	**Pn**	**22 45 16.4**	**+0.2**
TAU	**Tasmania Unive**	**20.01**	**256**	Pn	**P**	**22 46 37.5**	**+2.1**
AFI	**Afiamalu**	**29.75**	**28**	P	**P**	**22 48 08.5**	**+0.1**
HNR	**Honiara**	**33.99**	**334**	P	**P**	**22 48 45.4**	**-0.2**
VNDA	**Vanda**	**36.86**	**184**	P	**P**	**22 49 09.9**	**-0.4**
AS31	**Alice Springs**	**37.82**	**285**	*e*P	**P**	**22 49 18.9**	**+0.5**
ASAR	**Alice Springs**	**37.82**	**285**	P	**P**	**22 49 18.5**	**+0.2**
	1.7nm,0.4s,mb4.2,baz=126,slow=6.7,SNR=26						
WB2	**Warramunga Arr**	**39.83**	**290**	*e*P	**P**	**22 49 34.9**	**-0.2**
WRA	**Warramunga Arr**	**39.84**	**290**	P	**P**	**22 49 34.8**	**-0.4**
	1.1nm,0.3s,mb4.0,baz=127,slow=8.2,SNR=4.2						
CASY	**Casey**	**42.70**	**212**	*e*P	**P**	**22 49 59.5**	**+0.8**
	4.6nm,0.5s,mb4.5						
SNAA	**Sanae**	**67.49**	**181**	*e*P	**P**	**22 52 57.5**	**+0.2**
	2.4nm,1.0s,mb4.2						
JOW	**Kunigami**	**79.89**	**319**	LR	LR	23 26 11.4	
	comp=Z,290nm,20.3s,baz=134,slow=33						
LVC	**Limon Verde**	**93.75**	**124**	P	**P**	**22 55 18.8**	**+0.8**
ARCES	**ARCESS Array B**	**147.18**	**340**	PKPbc	PKPbc	23 01 43.3	-0.8
	4.4nm,1.0s,baz=35,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**150.10**	**280**	PKPbc	PKPbc	23 01 50.9	-0.8
TORD	**Torodi Ar. Bea**	**151.36**	**195**	PKPbc	PKPbc	23 01 54.5	0.0
	1.6nm,0.6s,baz=150,slow=2.5,SNR=27						
TORD				PKPab	PKPab	23 02 03.6	+0.7
	3.6nm,1.0s,baz=162,slow=3.2,SNR=11						

*NEIC **16** 22:43:49.0±1.5, 551S×15098E, h10km, mb4.3/5, Error ellipse: s-maj=25.7km s-min=19.3km az=213.0*

*ISCJB **16** 22:43:55.8±4.8, 58S±02×1507E±02, h66km±35km, mb3.7/6, Error ellipse: s-maj=35.8km s-min=27.3km az=114.9*

*IDC **16** 22:43:58.1±9.5, 581S×15074E, h72km±62km, mb3.6/4, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=69.1km s-min=62.5km az=17.0*

ISC 16 22:43:56.7±4.8, 57S±02×1508E±02, h60km±34km, n13, σ0°93/14, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**224**	P	**Pn**	**22 45 10.7**	**-0.2**
	1.2nm,0.3s,baz=0.8,slow=22,SNR=3.2						
PMG				S	**Sn**	**22 46 08.9**	**+0.3**
	4.0nm,0.3s,baz=347,slow=19,SNR=3.0						
KAKA	**Kakadu**	**19.37**	**248**	*e*P	**Pn**	**22 48 17.7**	**-1.4**
	7.1nm,0.6s						
WB2	**Warramunga Arr**	**21.33**	**227**	*e*P	**P**	**22 48 39.4**	**+0.8**
WRA	**Warramunga Arr**	**21.34**	**227**	P	**P**	**22 48 39.8**	**+1.1**
	0.9nm,0.4s,mb3.4,baz=55,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**24.13**	**221**	P	**P**	**22 49 04.7**	**-2.2**
	0.9nm,0.5s,mb3.5,baz=57,slow=8.5,SNR=8.7						
STKA	**Stephens Creek**	**27.41**	**197**	*e*P	**P**	**22 49 37.8**	**+1.3**
	1.9nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.41**	**197**	P	**P**	**22 49 37.3**	**+0.8**
	2.6nm,0.5s,mb4.0,baz=21,slow=10,SNR=6.4						
FITZ	**Fitzroy Crossi**	**27.45**	**241**	*e*P	**P**	**22 49 36.7**	**-0.2**
	4.9nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.45**	**241**	P	**P**	**22 49 36.8**	**-0.1**
	1.8nm,0.6s,mb3.8,baz=76,slow=9.4,SNR=6.4						
KKM	**Kota Kinabalu**	**36.42**	**288**	*e*P	**P**	**22 50 56.2**	**+0.8**
TAU	**Tasmania Unive**	**37.17**	**184**	P	**P**	**22 51 01.3**	**-0.4**
CASY	**Casey**	**66.56**	**197**	*e*P	**P**	**22 54 39.8**	**-0.6**
	2.5nm,0.8s,mb4.3						
VNDA	**Vanda**	**72.00**	**177**	*e*P	**P**	**22 55 14.4**	**+0.4**
	0.2nm,0.4s,mb3.4						

IDC 16 22:48:12.1±15.0, 5269N×17453W, h421km±170km, mb3.0/4, mb1 3.2/4, mb1mx2.7/25, mbtmp3.0/4, Error ellipse: s-maj=57.8km s-min=29.9km az=38.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**24.86**	**35**	P	P	22 52 58.5	-0.5
	0.9nm,0.5s,baz=281,slow=6.5,SNR=8.6						
TXAR	**Lajitas Array**	**55.88**	**85**	P	P	22 57 08.2	0.0
	0.7nm,0.5s,baz=298,slow=5.3,SNR=12						
FINES	**FINESS Array B**	**65.03**	**349**	P	P	22 58 08.5	-0.6
	0.4nm,0.4s,baz=33,slow=7.3,SNR=6.4						
ASAR	**Alice Springs**	**88.27**	**226**	P	P	23 00 17.0	-0.2
	0.7nm,0.7s,baz=57,slow=8.1,SNR=7.0						

*IDC **16** 23:00:02.6±1.1, 4.648N×155.28E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, Error ellipse: s-maj=32.6km s-min=25.7km az=173.0*

*NEIC **16** 23:00:04.4±0.6, 4.653N×155.21E, h10km, mb4.2/4, Error ellipse: s-maj=16.5km s-min=10.1km az=122.0*

*MOS **16** 23:00:05.8±1.2, 4.654N×155.16E, h33km, mb4.4/3, Error ellipse: s-maj=25.4km s-min=13.1km az=91.4*

*ISCJB **16** 23:00:06.0±2.3, 4.65N±0.1×152.1E±0.2, h35km±22km, mb3.9/11, Error ellipse: s-maj=22.9km s-min=16.3km az=63.9*

ISC 16 23:00:08.8±2.0, 466N±01×1552E±02, h45km±19km, n20, σ0°86/20, mb3.9/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.16**	**8**	*e*PN	**Pn**	**23 01 10.1**	**+0.4**
PET	**Petropavlovsk**	**6.83**	**18**	PN	**Pn**	**23 01 45.8**	**-0.6**
SONM	**Songino Array**	**32.76**	**290**	P	**P**	**23 06 39.3**	**+1.9**
	0.2nm,0.6s,mb3.3,baz=67,slow=11,SNR=2.2						
GUMO	**Guam**	**34.02**	**198**	*e*P	**P**	**23 06 48.0**	**-0.4**
	240nm,1.1s						
TATO	**Taipei**	**34.45**	**243**	*e*P	**P**	**23 06 51.6**	**-0.4**
	14nm,0.4s,mb5.2						
YHNB	**Yeheng**	**34.74**	**243**	P	**P**	**23 06 55.0**	**+0.4**
NACB	**Ninganchiao**	**34.97**	**242**	P	**P**	**23 06 56.4**	**-0.2**
INK	**Inuvik**	**41.02**	**32**	P	**P**	**23 07 48.3**	**+0.7**
	1.9nm,1.1s,mb3.6,baz=282,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**23 08 45.4**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=69,slow=7.9,SNR=2.6						
CHKZ	**Chkalovo**	**51.65**	**311**	*e*P	**P**	**23 09 09.9**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**51.65**	**311**	*e*P	**P**	**23 09 09.9**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.2						
LSA	**Lhasa**	**51.73**	**275**	P	**P**	**23 09 13.8**	**+2.2**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**51.73**	**275**	P	**P**	**23 09 13.8**	**+2.1**
	comp=Z,1.5nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**23 09 13.3**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=55,slow=7.6,SNR=2.7						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**23 09 14.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**23 09 14.6**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**52.85**	**311**	P	**P**	**23 09 18.7**	**-1.2**
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**23 10 42.8**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=45,slow=8.4,SNR=9.0						
ASAR	**Alice Springs**	**72.53**	**200**	P	**P**	**23 11 30.7**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=16,slow=6.0,SNR=5.1						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**23 11 53.4**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=302,slow=4.2,SNR=29						

**IDC 16 23

PET	**Petropavlovsk**	**6.98**	**20**	PN	**Pn**	**23 11 54.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.19**	**277**	*e*PN	**Pn**	**23 12 11.9**	**+0.2**
JHJ	**Hachijo jima 2**	**17.58**	**226**	LR	LR	23 19 04.7	
	comp=Z,208nm,20.9s,baz=236,slow=30						
BILL	**Bilibino**	**22.36**	**11**	*e*P	**P**	**23 15 11.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
BILL	**Bilibino**	**22.36**	**11**	*e*P	**P**	**23 15 11.1**	**-0.1**
	comp=Z,11nm,1.1s,mb4.2						
NACB	**Ninganchiao**	**34.62**	**241**	P	**P**	**23 17 02.1**	**-0.3**
ENH	**Enshi**	**38.38**	**261**	P	**P**	**23 17 35.1**	**+0.6**
INK	**Inuvik**	**41.25**	**32**	P	**P**	**23 17 59.0**	**+0.6**
	comp=Z,1.0nm,0.3s,mb4.0,baz=322,slow=8.3,SNR=4.6						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**23 18 51.7**	**-0.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=67,slow=8.3,SNR=8.2						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**23 18 51.7**	**-0.4**
LSA	**Lhasa**	**51.35**	**274**	P	**P**	**23 19 17.6**	**-0.2**
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P	**P**	**23 19 18.2**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**51.37**	**311**	*e*P	**P**	**23 19 18.2**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**51.80**	**310**	P	**P**	**23 19 20.6**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=45,slow=8.6,SNR=6.9						
BRVK	**Borovoye**	**51.84**	**310**	*e*P	**P**	**23 19 22.2**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.84**	**310**	*e*P	**P**	**23 19 22.2**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**52.57**	**311**	*e*P	**P**	**23 19 27.0**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.57**	**311**	*e*P	**P**	**23 19 26.9**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0						
PDAR	**Pinedale Array**	**64.00**	**55**	P	**P**	**23 20 47.4**	**+0.5**
	comp=Z,0.8nm,0.9s,mb3.9,baz=270,slow=3.0,SNR=5.4						
FINES	**FINESS Array B**	**64.67**	**335**	P	**P**	**23 20 51.0**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.4,baz=73,slow=6.6,SNR=3.9						
AFI	**Afiamalu**	**67.32**	**144**	LR	LR	23 42 55.4	
	comp=Z,166nm,21.1s,MS4.2,baz=61,slow=29						
ASAR	**Alice Springs**	**72.37**	**200**	P	**P**	**23 21 39.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=3.8,slow=7.1,SNR=6.0						
TXAR	**Lajitas Array**	**76.66**	**62**	P	**P**	**23 22 04.0**	**-0.4**
	comp=Z,1.0nm,0.7s,mb4.1,baz=296,slow=3.3,SNR=15						
TXAR	**Lajitas Array**	**76.66**	**62**	P	**P**	**23 22 04.0**	**-0.4**

NEIC ***16*** *23:13:53.8, 3072S×7175W, h13km, ML3.2(GUC), After GUC.*

GUC 16 23:13:53.8±0.8, 3072S×7175W, h13km±5km, MD3.9, ML3.2, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.49**	**77**	↓*i*P		Pg	23 14 03.8	+0.4
OVCH				*i* S		Sg	23 14 11.2	+1.3
OVCH				AML	AML	23 14 12.0	
	comp=E,2μm,0.3s						
CMCH	**Combarbala**	**0.79**	**125**	↑*i*P		Pg	23 14 08.6	-0.5
CMCH				*i* S		Sg	23 14 19.8	+0.3
CMCH				AML	AML	23 14 24.8	
	comp=E,2μm,0.3s						
CMCH	**Combarbala**	**0.79**	**125**	↑*i*P		Pg	23 14 08.6	-0.5
CMCH				*i* S		Sg	23 14 19.8	+0.3
LSCH	**La Serena**	**0.92**	**29**	↑*i*P		Pg	23 14 10.4	-1.2
LSCH				*i* S		Sg	23 14 22.8	-0.8
TLL	**Tololo Astrono**	**0.99**	**56**	↓*i*P		Pb	23 14 12.0	-0.7
TLL				*i* S		Sb	23 14 25.9	+0.2
CHNG	**Los Chungos**	**1.18**	**169**	↑*i*P		Pn	23 14 14.4	-1.7
CHNG				*i* S		Sb	23 14 30.2	-1.1
CHNG				AML	AML	23 14 33.7	
	comp=E,394nm,0.3s						
PTCH	**Petorca**	**1.69**	**156**	*e*P		Pn	23 14 22.3	-0.8
PTCH				*i* S		Sn	23 14 44.1	-0.6
PTCH				AML	AML	23 14 50.5	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**1.69**	**156**	*e*P		Pn	23 14 22.3	-0.8
PTCH				*i* S		Sn	23 14 44.1	-0.6
PEL	**Peldehue**	**2.58**	**160**	*e*P		Pn	23 14 37.0	+1.6
PEL				*i* S		Sn	23 15 09.3	+2.7
PEL				AML	AML	23 15 19.9	
	comp=E,259nm,0.4s						
PEL	**Peldehue**	**2.58**	**160**	*e*P		Pn	23 14 37.0	+1.6
PEL				*i* S		Sn	23 15 09.3	+2.7

MOS 16 23:14:41.5±0.7, 4330N×4592E, h17km, mb3.9/1, 7C-1D, Error ellipse: s-maj=19.5km s-min=10.4km az=170.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRNR	**Karanay**	**0.86**	**123**	*e*PG		Pg	23 14 58.0	-0.3
VLKR	**Vladikavkaz**	**0.94**	**255**	↑*i*PG		Pg	23 14 59.8	0.0
VLKR				*i* S		Sb	23 15 14.6	+3.0
BTKR	**Batakoyurt**	**1.01**	**275**	↑*i*PG		Pg	23 15 01.0	0.0
BTKR				*i* S		Sb	23 15 16.6	+3.2
KMSR	**Komsomolskaya**	**1.19**	**274**	↑*i*PG		Pg	23 15 03.5	-1.0
KMSR				*i* S		Sb	23 15 20.9	+2.3
ARNR	**Ardon**	**1.20**	**265**	↓*i*PG		Pg	23 15 03.6	-1.1
ARNR				*i* S		Sb	23 15 21.0	+1.9
PRTR	**Priterechnaya**	**1.27**	**291**	↑*i*PG		Pg	23 15 04.8	-1.3
PRTR				*i* S		Sb	23 15 23.1	+2.0
LACR	**Lac**	**1.28**	**249**	↑*i*PG		Pg	23 15 04.3	-1.9
LACR				*i* S		Sb	23 15 22.2	+0.9
KORR	**Kora**	**1.37**	**262**	↑*i*PG		Pg	23 15 05.8	-2.1
KORR				*i* S		Sn	23 15 24.8	+1.2
DUS	**Dusheti**	**1.50**	**217**	P		Pn	23 15 08.5	+0.9
DUS				S		Sn	23 15 28.8	+1.9
ZEI	**Tsey**	**1.57**	**251**	*e*PG		Pn	23 15 08.1	-0.5
ZEI				*e*		Sn	23 15 29.5	+0.9
ZEI				pmax	pmax		
	comp=Z,23nm,0.2s						
ZEI				smax			
	comp=N,82nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.76**	**258**	↑*i*PN		Pn	23 15 11.0	-0.2
TBLG	**Delisi**	**1.79**	**209**	PN		Pn	23 15 13.5	+1.8
TBLG				S		Sn	23 15 37.4	+3.4

SZGRF ***16*** *23:16:50.5, 3007N×13881E, h33km, mb4.9, Southeast of Honshu, Japan*

NIED ***16*** *23:17:00, 3020N×13990E, h460km, Mw5.1 Best double couple: M0 4.92000×10^16 NP1:φs321.00000°, δ78.00000°, λ-52.00000°. NP2:φs65.00000°, δ40.00000°, λ-162.00000°.*

JMA ***16*** *23:17:32.5±0.2, 3018N×13901E, h448km±4km, M5.4 Broadband fault plane solution: P waves. NP1: φs31.00000°, δ48.00000°, λ158.00000°. NP2: φs136.00000°, δ74.00000°, λ44.00000°. Principal axes: T Plg42.0000°, Azm3.0000°; N Plg44.0000°, Azm152.0000°; P Plg16.0000°, Azm258.0000°;*

MOS ***16*** *23:17:32.9±0.8, 3023N×13850E, h420km, mb4.9/48 Error ellipse: s-maj=7.3km s-min=4.3km az=106.7*

BJI ***16*** *23:17:33.4, 3016N×13862E, h439km, mB5.0, mb5.4*

ISCJB ***16*** *23:17:34.7±0.1, 3025N±002×13853E±002, h435km, mb5.0/141, Error ellipse: s-maj=2.7km s-min=2.0km az=154.7*

IDC ***16*** *23:17:35.2±0.6, 3021N×13860E, h436km±6km, mb4.3/24, mb1 4.5/31, mb1mx4.4/34, mbtmp4.4/31, Error ellipse: s-maj=9.3km s-min=6.4km az=88.0*

NEIC ***16*** *23:17:35.7±0.1, 3022N×13850E, mb4.9/70, MW5.1(NIED), Error ellipse: s-maj=3.8km s-min=2.9km az=154.0*

ISC 16 23:17:36.1±0.1, 3030N±002×13856E±002, h437km±3.6km: pP-P, n875, o089/918, mb5.0/141, 111C-130D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.00**	**20**	P	**P**	**23 18 40.0**	**-2.0**
	137nm,0.3s,baz=189,slow=9.7,SNR=32						
JHJ				S	**S**	**23 19 30.6**	**-4.9**
	264nm,0.3s,baz=283,slow=21,SNR=10						
JHJ2	**Mitsune**	**3.00**	**21**	P	**P**	**23 18 40.2**	**-1.9**
TK01	**Tokai 1**	**3.55**	**347**	S	**S**	**23 19 44.7**	**+1.1**
JWZ	**Kozaga**	**4.03**	**324**	↓P	**P**	**23 18 51.5**	**+0.9**
TK04	**Tokai 4**	**4.11**	**352**	P	**P**	**23 18 52.3**	**+0.9**
JIE	**Ise**	**4.37**	**339**	P	**P**	**23 18 55.1**	**+1.4**
JIE				S	**S**	**23 19 58.5**	**+1.6**
JKN2	**Miekihoku**	**4.38**	**334**	↓P	**P**	**23 18 54.9**	**+1.1**
JIZS	**Izushimoda**	**4.41**	**3**	P	**P**	**23 18 53.2**	**-0.9**
JWM	**Minabe**	**4.46**	**323**	↓P	**P**	**23 18 55.8**	**+1.2**
JAA	**Atsumi**	**4.48**	**345**	↑P	**P**	**23 18 55.6**	**+0.8**
CBIJ	**Chichi jima**	**4.51**	**134**	P	**P**	**23 18 49.3**	**-5.8**
	239nm,0.3s,baz=330,slow=3.8,SNR=96						
CBIJ				S	**S**	**23 19 48.4**	**-11**
	1μm,0.3s,baz=286,slow=22,SNR=35						
CBIJ	**Chichi jima**	**4.51**	**134**	↓P	**P**	**23 18 49.3**	**-5.8**
CBIJ				S	**S**	**23 19 48.8**	**-11**
HMMJ	**Hamamatsu 2**	**4.60**	**351**	P	**P**	**23 18 56.0**	**+0.1**
HMMJ				S	**S**	**23 19 59.9**	**-0.9**
JYZW	**Yoshizawa**	**4.73**	**352**	P	**P**	**23 18 57.5**	**+0.3**
TSUJ	**Tsu 2**	**4.75**	**338**	↑P	**P**	**23 18 58.8**	**+1.4**
SHZ3	**Shizuoka 3**	**4.76**	**357**	P	**P**	**23 18 57.2**	**-0.2**
BSO3	**Boso 3**	**4.78**	**20**	P	**P**	**23 18 54.6**	**-3.0**
BSO1	**Boso 1**	**4.80**	**25**	P	**P**	**23 18 54.9**	**-2.9**
BSO1				S	**S**	**23 19 59.2**	**-5.2**
JHHJ	**Haha-jima-NKT**	**4.85**	**138**	P	**P**	**23 18 52.6**	**-5.7**
JHHJ				S	**S**	**23 19 55.3**	**-10**
BSO4	**Boso 4**	**4.91**	**17**	P	**P**	**23 18 56.2**	**-2.7**
JOD2	**Odawara 2**	**4.97**	**5**	P	**P**	**23 18 57.8**	**-1.7**
JOD2				S	**S**	**23 20 05.0**	**-2.4**
JAO	**Obara**	**5.07**	**348**	↑P	**P**	**23 19 00.9**	**+0.4**
JNY	**Yasuok**	**5.08**	**354**	↑P	**P**	**23 19 00.4**	**-0.1**
JYN	**Shimob**	**5.18**	**360**	P	**P**	**23 19 00.7**	**-0.9**
JGF	**Kuroka**	**5.38**	**350**	P	**P**	**23 19 03.4**	**-0.1**
JTO	**Tosashimizu**	**5.53**	**299**	P	**P**	**23 19 06.5**	**+1.4**
JTO				S	**S**	**23 20 19.8**	**+2.1**
JNT	**Takato**	**5.57**	**356**	↑P	**P**	**23 19 04.9**	**-0.6**
JGM	**Miyama**	**5.60**	**344**	↑P	**P**	**23 19 06.2**	**+0.4**
JFM	**Mihama**	**5.64**	**338**	↑P	**P**	**23 19 07.4**	**+1.2**
JRY	**Ryogami san**	**5.71**	**3**	↑P	**P**	**23 19 05.5**	**-1.4**
JRY				S	**S**	**23 20 16.0**	**-5.0**
JET	**Tanbara**	**5.82**	**308**	↓P	**P**	**23 19 09.8**	**+1.8**
UWA2	**Uwa jima 2**	**5.83**	**301**	↓P	**P**	**23 19 09.9**	**+1.8**
JGN	**Niukaw**	**6.00**	**350**	↑P	**P**	**23 19 09.4**	**-0.5**
JNG	**Nsakai**	**6.10**	**357**	↑P	**P**	**23 19 09.8**	**-1.1**
JAG	**Ashikaga**	**6.15**	**7**	↑P	**P**	**23 19 08.5**	**-3.0**
MJAR	**Matsushiro Arr**	**6.23**	**357**	P	**P**	**23 19 10.4**	**-1.9**
	26nm,0.3s,baz=207,slow=7.0,SNR=384						
MJAR				S	**S**	**23 20 27.5**	**-3.4**
	5.4nm,0.3s,baz=173,slow=15,SNR=9.1						
MAJO	**Matsushiro**	**6.23**	**357**	*e*Pn	**P**	**23 19 10.9**	**-1.4**
MAJO				*e*Sn	**S**	**23 20 28.8**	**-2.1**
MAT	**Matsushiro**	**6.23**	**357**	P	**P**	**23 19 10.8**	**-1.5**
MAT				S	**S**	**23 20 28.6**	**-2.3**
JTT	**Ttatey**	**6.37**	**351**	P	**P**	**23 19 13.9**	**+0.1**
JUS	**Usuki**	**6.42**	**297**	↓P	**P**	**23 19 16.6**	**+2.3**
JKT	**Katashina**	**6.47**	**5**	↑P	**P**	**23 19 12.1**	**-2.8**
JKIT	**Kitakata**	**6.50**	**293**	↓P	**P**	**23 19 17.5**	**+2.4**
JHO	**Hitachi**	**6.51**	**14**	P	**P**	**23 19 12.1**	**-3.2**
JHS	**Saijyo**	**6.55**	**317**	↓P	**P**	**23 19 17.3**	**+1.6**
JHS				S	**S**	**23 20 39.3**	**+2.1**
JTZ	**Takazaki**	**6.60**	**286**	↓P	**P**	**23 19 18.4**	**+2.2**
JTSR	**Tashiro 2**	**6.63**	**279**	↓P	**P**	**23 19 18.6**	**+2.1**
JHK	**Hiroka**	**6.94**	**3**	P	**P**	**23 19 17.2**	**-2.6**
JZO	**Okuchi**	**7.06**	**287**	↓P	**P**	**23 19 22.9**	**+1.8**
JNU	**Nakatsue**	**7.12**	**295**	P	**P**	**23 19 22.7**	**+1.0**
	6.8nm,0.3s,baz=223,slow=19,SNR=32						
JNU				S	**S**	**23 20 50.5**	**+2.3**
	baz=186,slow=23,SNR=6.6						
JSZ	**Suzu**	**7.20**	**352**	↑P	**P**	**23 19 20.9**	**-1.7**
JFA	**Akaike**	**7.42**	**299**	↓P	**P**	**23 19 26.7**	**+1.8**
JTY	**Toyota**	**7.47**	**304**	↓P	**P**	**23 19 27.3**	**+1.8**
JTY				S	**S**	**23 20 57.4**	**+2.2**
JHD	**Hondo**	**7.51**	**289**	↓P	**P**	**23 19 28.1**	**+2.1**
JHD				S	**S**	**23 20 59.5**	**+3.4**
JNS	**Sasagawa**	**7.53**	**5**	P	**P**	**23 19 23.9**	**-2.2**
JFI	**Itaya**	**7.61**	**296**	↓P	**P**	**23 19 28.8**	**+1.7**
JSJ	**Shimokoshiki**	**7.71**	**282**	↓P	**P**	**23 19 29.9**	**+1.7**
JSD	**Sado**	**7.72**	**358**	P	**P**	**23 19 26.1**	**-2.1**
NGSJ	**Nagasakinomoza**	**7.83**	**290**	↓P	**P**	**23 19 31.1**	**+1.6**
JMZ	**Minamidaito 2**	**7.87**	**237**	P	**P**	**23 19 30.0**	**+0.1**
JYS	**Shirataka**	**8.00**	**9**	↑P	**P**	**23 19 30.0**	**-1.3**
JAM	**Amami Oshima**	**8.04**	**259**	P	**P**	**23 19 32.8**	**+1.1**
JAW	**Awa shima**	**8.15**	**4**	↓P	**P**	**23 19 31.4**	**-1.6**
JFU	**Fukue jima 2**	**8.70**	**288**	P	**P**	**23 19 40.7**	**+1.8**
JTK	**Tokunoshima**	**8.77**	**256**	S	**S**	**23 21 23.5**	**+2.2**
JTU	**Tsushima**	**8.81**	**301**	P	**P**	**23 19 41.8**	**+1.7**
JMK	**Ichinoseki**	**8.90**	**14**	P	**P**	**23 19 40.1**	**-1.1**
JMK				S	**S**	**23 21 18.3**	**-5.6**
JOW	**Kunigami**	**9.68**	**252**	P	**P**	**23 19 49.9**	**+0.2**
	5.6nm,0.3s,baz=79,slow=8.3,SNR=40						
JOW				S	**S**	**23 21 41.8**	**+2.3**
	baz=232,slow=27,SNR=17						
JOW	**Kunigami**	**9.68**	**252**	P	**P**	**23 19 51.4**	**+1.8**
JTM	**Tenmabayashi**	**10.66**	**10**	P	**P**	**23 20 00.2**	**-0.2**
JKE	**Kume jima 2**	**11.10**	**252**	P	**P**	**23 20 05.9**	**+0.7**
JOT	**Ohata**	**11.24**	**10**	P	**P**	**23 20 05.9**	**+0.1**
JOT				S	**S**	**23 22 09.5**	**-1.5**
KSRS	**Korea Array**	**11.35**	**312**	P	**P**	**23 20 08.6**	**+0.6**
	baz=126,slow=11,SNR=249						
KSRS				S	**S**	**23 22 14.3**	**+1.0**
	baz=117,slow=22,SNR=7.7						
KSRS				ScP	ScP	23 28 12.3	+0.7
	baz=165,slow=1.3,SNR=23						
KS15	**Wonju Array Si**	**11.37**	**312**	*e*Pn	**P**	**23 20 09.2**	**+1.1**
KS15				*e*S	**S**	**23 22 17.1**	**+3.5**
JKB	**Kayabe**	**11.73**	**9**	P	**P**	**23 20 12.0**	**-0.1**
JKB				S	**S**	**23 22 19.1**	**-1.8**
JOSM	**Okushiri--Mats**	**11.78**	**3**	P	**P**	**23 20 12.6**	**0.0**
JOSM				S	**S**	**23 22 18.0**	**-3.8**
ERM	**Erimo**	**12.26**	**16**	P	**P**	**23 20 18.0**	**+0.1**
	3μm,0.7s,SNR=35						
ERM	**Erimo**	**12.26**	**16**	*e*P	**P**	**23 20 18.3**	**+0.4**
ERM				pmax	pmax		
	comp=Z,487nm,0.9s						
ERM	**Erimo**	**12.26**	**16**	*e*P	**P**	**23 20 18.3**	**+0.4**
	comp=Z,487nm,0.9s						
JNB	**Noboribetsu**	**12.31**	**9**	P	**P**	**23 20 17.9**	**-0.5**
JAR	**Ashorobuto**	**13.62**	**16**	P	**P**	**23 20 32.8**	**+0.2**
JKK2	**Kamakawa 2**	**13.95**	**13**	P	**P**	**23 20 36.6**	**+0.4**
JIJ	**Ishigaki jima**	**14.11**	**249**	P	**P**	**23 20 37.5**	**-0.4**
ASAJ	**Asahikawa**	**14.16**	**12**	P	**P**	**23 20 38.0**	**-0.4**
	comp=Z,12nm,0.3s,baz=225,slow=13,SNR=76						
ASAJ				S	**S**	**23 23 09.2**	**+0.1**
	baz=245,slow=32,SNR=3.1						
ASAJ	**Asahikawa**	**14.16**	**12**	P	**P**	**23 20 38.1**	**-0.3**
ASAJ				S	**S**	**23 23 09.2**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
JMP	**Maruseppu**	**14.20**	**14**	P	**P**	**23 20 39.8**	**+0.9**
NEM2	**Nemuro 2**	**14.24**	**22**	P	**P**	**23 20 39.0**	**-0.3**
JTKR	**Abashiri--Toko**	**14.29**	**16**	P	**P**	**23 20 40.3**	**+0.4**
IRIF	**Iriomote-Funau**	**14.45**	**249**	P	**P**	**23 20 40.8**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**14.88**	**21**	↑*i*P	**P**	**23 20 46.5**	**+0.3**
YUK				pmax	pmax		
	comp=N,770nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=E,700nm,0.7s						
YUK				pmax	pmax		
	comp=Z,6μm,1.0s						
YOJ	**Yonaguni jima**	**14.98**	**251**	P	**P**	**23 20 46.2**	**-1.1**
JWK2	**Keihoku**	**15.22**	**9**	P	**P**	**23 20 51.0**	**+1.2**
TATO	**Taipei**	**16.02**	**255**	*e*P	**P**	**23 20 57.4**	**-1.0**
YHNB	**Yeheng**	**16.24**	**254**	*e*P	**P**	**23 20 58.4**	**-2.3**
NACB	**Ninganchiao**	**16.27**	**252**	*e*P	**P**	**23 20 59.1**	**-1.8**
DL2	**Dalian**	**16.35**	**306**	P	**P**	**23 21 01.1**	**-0.8**
DL2				AMB	AMB		
	comp=Z,70nm,0.7s						
SNY	**Shenyang**	**16.67**	**318**	↓P	**P**	**23 21 05.3**	**0.0**
SNY				AMB	AMB		
	comp=Z,176nm,0.9s						
SNY				AMB	AMB		
	comp=Z,479nm,3.5s						
YSS	**Yuzh-Sakhalins**	**16.94**	**10**	↑*i*P	**P**	**23 21 07.4**	**-0.7**
YSS				*i* S	**S**	**23 24 04.7**	**+1.4**
YSS				pmax	pmax		
	comp=Z,230nm,1.1s						
YSS	**Yuzh-Sakhalins**	**16.94**	**10**	*e*P	**P**	**23 21 07.2**	**-0.9**
NJ2	**Nanjing**	**16.95**	**281**	*e*P	**P**	**23 21 07.8**	**-0.4**
NJ2				XP	sP	23 22 50.3	-11
NJ2				S	**S**	**23 24 01.5**	**-2.0**
NJ2				PCP	PcP	23 25 30.9	+2.4
NJ2				AMB	AMB		
	comp=Z,340nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,390nm,4.4s						
CN2	**Changchun**	**17.03**	**326**	↓P	**P**	**23 21 08.8**	**-0.2**
CN2				*e*S	**S**	**23 24 03.8**	**-1.2**
CN2				AMB	AMB		
	comp=Z,40nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
GUMO	**Guam**	**17.62**	**159**	P	**P**	**23 21 13.5**	**-1.8**
	comp=Z,5.6nm,0.3s,baz=164,slow=6.0,SNR=4.0						
GUMO	**Guam**	**17.62**	**159**	P	**P**	**23 21 13.5**	**-1.8**
GUMO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GUMO	**Guam**	**17.62**	**159**	*e*P	**P**	**23 21 12.2**	**-3.1**
HABR	**Khabarovsk**	**18.34**	**353**	↑*i*P	**P**	**23 21 22.8**	**0.0**
HABR				S	**S**	**23 24 32.9**	**+4.3**
HABR				pmax	pmax		
	comp=Z,295nm,1.1s						
QZH	**Quanzhou**	**18.47**	**258**	↓*i*P	**P**	**23 21 22.5**	**-1.6**
QZH				S	**S**	**23 24 29.1**	**-1.6**
QZH				AMB	AMB		
	comp=Z,180nm,0.8s						
QZH				AMB	AMB		
	comp=Z,770nm,3.8s						
TIA	**Tai'an**	**18.85**	**294**	↓P	**P**	**23 21 26.3**	**-1.4**
TIA				AMB	AMB		
	comp=Z,346nm,1.0s						
KLR	**Kul'dur**	**19.60**	**347**	*e*P	**P**	**23 21 31.2**	**-3.3**
KLR				*e*S	**S**	**23 24 47.5**	**-1.6**
KLR				pmax	pmax		
	comp=E,60nm,0.8s						
KLR				pmax	pmax		
	comp=Z,300nm,0.8s						
KLR				smax			
	comp=N,500nm,13.5s						
KLR				smax			
	comp=E,1μm,13.5s						
BJT	**Baijiatuan**	**20.67**	**304**	*e*P	**P**	**23 21 43.1**	**-1.2**
BJT				pmax	pmax		
	comp=Z,243nm,1.1s						
BJT	**Baijiatuan**	**20.67**	**304**	*e*P	**P**	**23 21 43.1**	**-1.1**
	comp=Z,243nm,1.1s						
BJI	**Beijing**	**20.67**	**304**	P	**P**	**23 21 43.1**	**-1.2**
BJI				AMB	AMB		
	comp=Z,195nm,1.1s						
BJI	**Beijing**	**20.67**	**304**	P	**P**	**23 21 43.1**	**-1.2**
	comp=Z,195nm,1.1s						
WHN	**Wuhan**	**20.87**	**277**	↓P	**P**	**23 21 46.1**	**0.0**
WHN				XP	sP	23 23 46.8	+1.7
WHN				SCP	ScP	23 28 31.3	+1.1
WHN				AMB	AMB		
	comp=Z,3μm,2.7s						
TGY	**Tagaytay City**	**22.88**	**229**	P	**P**	**23 22 04.6**	**+0.3**
	comp=Z,164nm,0.3s,baz=118,slow=8.2,SNR=9.2						
GZH	**Guangzhou**	**23.61**	**258**	P	**P**	**23 22 06.4**	**-4.5**
HIA	**Hailar**	**23.71**	**328**	*e*P	**P**	**23 22 12.1**	**+0.3**
HIA				pmax	pmax		
	comp=Z,49nm,1.0s						
HIA	**Hailar**	**23.71**	**328**	*e*P	**P**	**23 22 12.1**	**+0.3**
	comp=Z,49nm,1.0s,mb4.9						
HHC	**Hu-ho-hao-te**	**24.26**	**303**	↓*i*P	**P**	**23 22 16.5**	**-0.2**
HHC				PCP	PcP	23 25 44.6	+2.0
HHC				S	**S**	**23 26 04.9**	**+1.6**
HHC				SCP	ScP	23 28 43.1	+4.0
HHC				PCS	PcS	23 29 23.3	+0.5
HHC				AMB	AMB		
	comp=Z,109nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,211nm,6.0s						
BTO	**Baotou**	**25.32**	**302**	*e*P	**P**	**23 22 26.3**	**+0.2**
XAN	**Xi'an**	**25.32**	**286**	P	**P**	**23 22 25.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,259nm,0.9s,mb5.7						
PET	**Petropavlovsk**	**27.04**	**27**	↑*i*P	**P**	**23 22 40.8**	**-0.5**
PET				*e*		23 26 49.4	
PET				pmax	pmax		
	comp=Z,113nm,0.9s,mb5.3						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET	**Petropavlovsk**	**27.04**	**27**	*e*P	**P**	**23 22 40.8**	**-0.5**
GYA	**Guiyang**	**28.27**	**270**	↓*i*P	**P**	**23 22 51.8**	**-0.3**
GYA				AP		23 24 07.8	
GYA				XP	sP	23 24 56.6	-3.5
GYA				PCP	PcP	23 25 53.5	+1.4
GYA				S	**S**	**23 27 06.9**	**+0.7**
GYA				SCP	ScP	23 28 53.3	+2.3
GYA				PCS	PcS	23 29 34.8	-0.1
GYA				SCS	ScS	23 32 45.8	+1.0
GYA				AMB	AMB		
	comp=Z,150nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,160nm,5.7s						
QIZ	**Qiongzhong**	**28.32**	**253**	P	**P**	**23 22 50.8**	**-1.8**
QIZ				S	**S**	**23 27 06.4**	**-0.7**
QIZ	**Qiongzhong**	**28.32**	**253**	*e*P	**P**	**23 22 53.2**	**+0.5**
CIT	**Chita**	**28.47**	**327**	*e*P	**P**	**23 22 54.6**	**+0.7**
CIT				*e*		23 27 10.8	
CIT				pmax	pmax		

KMI pmax pmax
comp=Z,38nm,0.9s,mb4.7
KMI Kunming 32.04 270 P **P** **23 23 25.0 +0.1**
comp=Z,38nm,0.9s,mb4.7
KMI S **S** **23 28 05.8 +1.2**
KMI ScP ScP 23 29 05.2 +1.7
KMI sS sS 23 30 24.7 -4.3
KMI SS SS 23 30 45.9 -0.9
YAK Yakutsk 32.27 352 *e*P **P** **23 23 26.2 -0.6**
YAK *e* pP 23 24 46.4 +1.2
YAK *e* 23 26 05.6
YAK *e*S **S** **23 28 06.6 -1.5**
YAK *e**SS sS 23 30 46.4 +14
YAK *e* 23 33 00.0
YAK pmax pmax
comp=Z,40nm,1.1s,mb4.7
YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,12nm,0.6s,mb4.4
YAK smax
comp=E,100nm,1.3s
YAK smax
comp=Z,107nm,3.3s
YAK smax
comp=N,393nm,4.2s
YAK Yakutsk 32.27 352 *e*P **P** **23 23 26.3 -0.6**
BOD Bodaibo 32.32 335 *e*P **P** **23 23 26.7 -0.6**
BOD pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 32.86 297⇓ *i*P **P** **23 23 32.0 +0.1**
GTA AP pP 23 24 50.6 +0.1
GTA XP sP 23 25 36.8 -4.2
GTA PCP PcP 23 26 05.0 +0.6
GTA S **S** **23 28 14.8 -2.3**
GTA SCP ScP 23 29 07.1 +0.8
GTA PCS PcS 23 29 49.0 -1.3
GTA AMB AMB
comp=Z,205nm,1.1s,mb5.4
GTA AMB AMB
comp=Z,271nm,6.5s
ZAK Zakamensk 33.10 317 *e*P **P** **23 23 33.6 -0.4**
ZAK pmax pmax
comp=Z,30nm,1.2s,mb4.5
TLY Talaya 33.45 320 P **P** **23 23 37.7 +0.8**
comp=Z,212nm,0.9s,mb5.5,SNR=7.5
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 P **P** **23 23 37.9 +0.9**
SNR=7.6
TLY Talaya 33.45 320 *e*P **P** **23 23 37.2 +0.3**
TLY *e*S **S** **23 28 28.4 +2.3**
TLY *e*SS SS 23 31 13.1 -1.8
TLY *e* 23 33 15.6
TLY pmax pmax
comp=Z,24nm,0.7s,mb4.6
TLY Talaya 33.45 320 *e*P **P** **23 23 37.8 +0.9**
SEY Seymchan 33.84 11*c* *i*P **P** **23 23 40.2 -0.1**
SMY Shemya 34.26 39 *e*P **P** **23 23 44.3 +0.5**
MOY Mondy 34.94 318 *e*P **P** **23 23 49.3 -0.3**
MOY pmax pmax
comp=Z,33nm,2.3s,mb4.3
KKTK Khon Kaen 35.47 255 P **P** **23 23 54.0 0.0**
CHG Chiang Mai 37.62 262⇓ P **P** **23 24 11.9 0.0**
comp=Z,150nm,0.9s,mb5.3
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 P **P** **23 24 12.1 +0.2**
SNR=63
CHTO Chiang Mai 37.62 262 *e*P **P** **23 24 11.9 0.0**
CHTO *e* 23 25 51.2
CHTO *e* 23 26 18.8
CHTO pmax pmax
comp=Z,135nm,0.8s,mb5.3
CHTO Chiang Mai 37.62 262 *e*P **P** **23 24 11.9 0.0**
comp=Z,134nm,0.8s,mb5.3
CHTO *e*PP PP 23 25 51.2 +1.3
CHTO *e*PcP PcP 23 26 18.8 +0.3
NST Nakhon Sawan 38.05 256⇑ P **P** **23 24 16.0 +0.6**
comp=Z,146nm,0.8s,mb5.4
KSM Kuching 39.25 228 *e*P **P** **23 24 25.4 +0.2**
KAPI Kappang 39.46 210 P **P** **23 24 25.8 -1.1**
comp=Z,194nm,1.3s,mb5.3,SNR=7.5
NNT Nongplab 39.96 252⇑ P **P** **23 24 31.9 +1.0**
PMG Port Moresby 40.34 167⇑ *e*P **P** **23 24 29.9 -4.1**
LSA Lhasa 40.82 282 P **P** **23 24 39.3 +1.4**
LSA Lhasa 40.82 282 *e*P **P** **23 24 39.1 +1.2**
LSA *e* 23 26 23.7
LSA *e* 23 26 30.2
LSA pmax pmax
comp=Z,21nm,0.8s,mb4.5
LSA Lhasa 40.82 282 *e*P **P** **23 24 39.1 +1.2**
comp=Z,21nm,0.8s,mb4.5
LSA *e*PP PP 23 26 23.7 0.0
LSA *e*PcP PcP 23 26 30.2 +1.4
BILL Bilibino 41.14 15*c* *i*P **P** **23 24 40.0 -0.4**
BILL pmax pmax
comp=Z,175nm,1.3s,mb5.2
BILL Bilibino 41.14 15 *e*P **P** **23 24 39.9 -0.6**
comp=Z,127nm,1.0s,mb5.2
BILL *e*PP PP 23 26 27.9 +0.8
SHL Shillong 41.28 275 *e*P **P** **23 24 39.5 -2.1**
WMQ Urumqi 42.14 303⇓ *i*P **P** **23 24 49.0 +0.6**
WMQ AP pP 23 26 10.6 -0.5
WMQ PCP PcP 23 26 35.4 +2.2
WMQ PP PP 23 26 37.6 +0.1
WMQ XP sP 23 26 56.4 -4.1
WMQ SCP ScP 23 29 43.3 +1.9
WMQ PCS PcS 23 30 25.8 0.0
WMQ XS sS 23 33 03.3 -2.0
WMQ SS SS 23 33 55.3 -4.2
WMQ SCS ScS 23 34 01.1 +0.1
WMQ AMB AMB
comp=Z,176nm,1.0s,mb5.3
SNG Songkhla 42.34 245 P **P** **23 24 50.0 0.0**
comp=Z,360nm,1.0s,mb5.7
KAKA Kakadu 43.17 189 *e*P **P** **23 24 54.1 -2.4**
comp=Z,31nm,0.6s,mb4.8
KULM Kulim 43.49 243 *e*P **P** **23 24 58.9 -0.2**
KULM *e*pP pP 23 26 20.7 -1.7
ZAL Zalesovo 44.99 318 P **P** **23 25 10.1 -0.7**
comp=Z,13nm,0.8s,mb4.3,baz=15,slow=8.0,SNR=79
ZAL PcP PcP 23 26 41.5 -1.5
comp=Z,4.1nm,0.8s,baz=359,slow=3.2,SNR=5.4
ZAL ScP ScP 23 29 52.0 -1.1
comp=Z,3.9nm,0.8s,baz=344,slow=4.5,SNR=8.6
ZAL Zalesovo 44.99 318 P **P** **23 25 10.1 -0.7**
ZAL 23 26 41.5
JIRN Jiri 45.55 280 *e*P **P** **23 25 16.1 +1.0**
comp=Z,571nm,0.6s,mb6.0
UNV Unalaska Valle 45.67 43 *e*P **P** **23 25 14.7 -1.3**
comp=Z,86nm,0.7s,mb5.2
GUN Gumba 45.75 281 *e*P **P** **23 25 17.6 +1.0**
comp=Z,545nm,0.7s,mb6.0
MK31 Makanchi Array 45.99 307 *e*P **P** **23 25 18.2 -0.3**
MK31 *e* pP 23 26 46.1 +3.2
MKAR Makanchi Array 45.99 307 P **P** **23 25 18.3 -0.2**
comp=Z,40nm,0.8s,mb4.8,baz=93,slow=9.3,SNR=177
MKAR PcP PcP 23 26 45.6 -0.9
comp=Z,11nm,0.8s,baz=79,slow=6.3,SNR=7.3
MKAR ScP ScP 23 29 56.5 -0.8
comp=Z,6.7nm,0.9s,baz=85,slow=5.2,SNR=12
MKAR Makanchi Array 45.99 307 P **P** **23 25 18.3 -0.2**
MKAR pP 23 26 45.6 +2.7
PKI Pulchoki 46.24 280 *e*P **P** **23 25 20.7 +0.3**
comp=Z,218nm,1.1s,mb5.4
KKN Kakani 46.29 281 *e*P **P** **23 25 21.1 +0.3**
comp=Z,340nm,0.9s,mb5.7
PSI Prapat 46.40 242 P **P** **23 25 21.3 -0.3**
comp=Z,44nm,0.9s,mb4.8,baz=20,slow=4.6,SNR=42
PSI PcP PcP 23 26 48.2 +0.2
comp=Z,25nm,0.9s,baz=31,slow=1.6,SNR=7.7
PSI ScP ScP 23 30 00.2 +1.3
comp=Z,6.7nm,0.6s,baz=56,slow=2.1,SNR=6.0
PSI Prapat 46.40 242 P **P** **23 25 21.3 -0.3**
PSI pP 23 26 48.2 +2.0
PSI Prapat 46.40 242 P **P** **23 25 21.3 -0.3**
PSI PcP PcP 23 26 48.2 +0.2
PSI ScP ScP 23 30 00.2 +1.3
DMN Daman 46.49 281 *e*P **P** **23 25 22.8 +0.5**
GKN Gorkha 46.78 281 *e*P **P** **23 25 24.8 +0.3**
comp=Z,374nm,1.0s,mb5.7
BOK Bokaro 47.02 275 *e*P **P** **23 25 26.4 +0.1**
BOK AMb AMB 23 25 27.7
comp=Z,132nm,0.8s,mb5.3
KOLN Koldanda 47.72 281 *e*P **P** **23 25 32.3 +0.7**
comp=Z,584nm,0.9s,mb5.9
KURK Kurchatov 48.48 313 P **P** **23 25 36.1 -1.2**
comp=Z,463nm,0.9s,mb5.8,SNR=57
KURK Kurchatov 48.48 313 P **P** **23 25 35.8 -1.5**
KURK pmax pmax
comp=Z,94nm,1.5s,mb4.9
FITZ Fitzroy Crossi 49.70 196 *e*P **P** **23 25 45.3 -1.2**
comp=Z,32nm,0.7s,mb4.8
FITZ Fitzroy Crossi 49.70 196 P **P** **23 25 45.3 -1.2**
comp=Z,20nm,0.8s,mb4.5,baz=18,slow=7.9,SNR=40
PTH Pithoragarh 50.07 285 *e*P **P** **23 25 51.2 +2.0**
LGTI Lohaghat 50.07 285 *i* P **P** **23 25 50.0 +0.8**
WRAB Tennant Creek 50.11 185 P **P** **23 25 47.0 -2.4**
comp=Z,233nm,0.7s,mb5.6,SNR=10
WRAB Tennant Creek 50.11 185 *e*P **P** **23 25 47.6 -1.8**
WRAB pmax pmax
comp=Z,43nm,0.8s,mb4.8
WRAB Tennant Creek 50.11 185 *e*P **P** **23 25 47.6 -1.8**
comp=Z,43nm,0.8s,mb4.8
WB2 Warramunga Arr 50.12 185 *e*P **P** **23 25 47.6 -1.9**
WRA Warramunga Arr 50.12 185 P **P** **23 25 47.7 -1.9**
comp=Z,28nm,0.7s,mb4.7,baz=1.8,slow=7.7,SNR=91
WRA ScP ScP 23 30 13.8 -1.0
comp=Z,2.0nm,0.7s,baz=0.2,slow=4.9,SNR=3.1
WRA S **S** **23 32 23.5 -3.8**
comp=Z,4.5nm,1.0s,baz=359,slow=13,SNR=6.6
CHGN Chignik 50.55 40 *e*P **P** **23 25 51.1 -1.6**
ULHL Ulahol 50.61 302 P **P** **23 25 54.0 +0.8**
SNR=2
TKM2 Tokmak 2 50.99 303 P **P** **23 25 56.7 +0.8**
SNR=46
KSH Kashi 51.23 298 *e*P **P** **23 25 58.6 +0.9**
KSH *e*PCP PcP 23 27 07.5 +1.8
KSH *e*AP pP 23 27 22.4 -2.1
KSH *e*PP PP 23 28 04.1 +4.1
KSH *e*S **S** **23 32 42.6 +0.1**
KSH *e*SCS ScS 23 35 03.4 +2.2
KSH *e*SS SS 23 36 26.0 +1.2
KZA Kyzart 51.36 302 P **P** **23 26 00.5 +1.8**
SNR=28
KBK Karagaybulak 51.50 302 P **P** **23 26 00.1 +0.5**
SNR=75
VIS Vishakhapatnam 51.54 269 *e*P **P** **23 25 59.8 -0.2**
VIS AMb AMB 23 26 02.4
comp=Z,120nm,0.8s,mb5.2
CHMS Chumysh 51.59 303 P **P** **23 26 00.6 +0.2**
SNR=27
FRU Bishkek 51.72 303⇓ *i*P **P** **23 26 02.0 +0.8**
FRU pmax pmax
comp=Z,140nm,1.5s,mb5.0
USP Ospenovka 51.74 303 P **P** **23 26 01.5 +0.1**
SNR=33
AAK Ala-Archa 51.83 302 P **P** **23 26 01.0 -1.1**
comp=Z,324nm,0.7s,mb5.7,SNR=31
AAK Ala-Archa 51.83 302 P **P** **23 26 02.4 +0.3**
SNR=40
AAK Ala-Archa 51.83 302 *e*P **P** **23 26 01.5 -0.6**
AAK *e* 23 27 06.5
AAK pmax pmax
comp=Z,41nm,0.8s,mb4.7
AAK Ala-Archa 51.83 302 *e*P **P** **23 26 01.5 -0.6**
comp=Z,40nm,0.8s,mb4.7
AAK *e*PcP PcP 23 27 06.5 -1.4
UCH Uchtor 51.88 302 P **P** **23 26 03.9 +1.5**
SNR=50
SDNR Sundarnagar 52.23 288 *e*P **P** **23 26 05.5 +0.6**
EKS2 Erkin-Say 52.35 303 P **P** **23 26 06.2 +0.4**
SNR=35
AML Almayashu 52.50 302 P **P** **23 26 08.3 +1.4**
SNR=74
DLH Dalhousie 52.77 290 *e*P **P** **23 26 11.0 +2.2**
NDI New Delhi 52.83 285 *e*P **P** **23 26 09.0 -0.3**
THN Thein Dam 53.00 290 *e*P **P** **23 26 08.9 -1.6**
CHKZ Chkalovo 53.36 317 *e*P **P** **23 26 12.1 -1.0**
CHKZ pmax pmax
comp=Z,60nm,0.9s,mb4.8
CHKZ Chkalovo 53.36 317 *e*P **P** **23 26 12.1 -1.1**
comp=Z,60nm,0.9s,mb4.8
BVA0 Borovoye Array 53.53 316 *i* P **P** **23 26 13.3 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s,mb3.9
BVAR Borovoye Array 53.53 316 P **P** **23 26 14.0 -0.3**
comp=Z,36nm,0.5s,mb4.8,baz=95,slow=7.6,SNR=199
BVAR PcP PcP 23 27 14.1 -0.3
comp=Z,11nm,0.7s,baz=111,slow=3.3,SNR=8.1
BVAR ScP ScP 23 30 29.2 -0.4
comp=Z,2.8nm,0.6s,baz=108,slow=4.8,SNR=4.2
BVAR S **S** **23 33 12.6 -0.7**
comp=Z,3.2nm,0.8s,baz=91,slow=15,SNR=7.9
BVAR Borovoye Array 53.53 316 P **P** **23 26 14.0 -0.3**
BVAR 23 27 14.1
BVAR S **S** **23 33 12.6 -0.7**
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
comp=Z,418nm,0.7s,mb5.8,SNR=18
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 14.8 0.0**
SNR=22
BRVK Borovoye 53.59 316 P **P** **23 26 13.9 -0.9**
BRVK pmax pmax
comp=Z,31nm,1.2s,mb4.4
BRVK Borovoye 53.59 316 *e*P **P** **23 26 14.5 -0.3**
comp=Z,65nm,0.9s,mb4.9
IMA2 Indian Mountai 53.71 28 *e*P **P** **23 26 15.3 -0.3**
KDAK Kodiak Island 53.77 38 P **P** **23 26 15.0 -1.0**
comp=Z,754nm,1.1s,mb5.8,SNR=17
KDAK Kodiak Island 53.77 38 P **P** **23 26 15.4 -0.6**
comp=Z,82nm,0.9s,mb5.0,baz=308,slow=3.7,SNR=30
KDAK Kodiak Island 53.77 38 *e*P **P** **23 26 15.5 -0.5**
AS31 Alice Springs 53.84 185 *e*P **P** **23 26 14.8 -1.8**
ASAR Alice Springs 53.84 185 P **P** **23 26 14.9 -1.6**
comp=Z,12nm,0.6s,mb4.3,baz=16,slow=12,SNR=132
ASAR S **S** **23 33 16.1 -1.3**
comp=Z,1.9nm,0.9s,baz=17,slow=21,SNR=8.2
ASPA Alice Springs 53.84 185 *e*P **P** **23 26 14.9 -1.6**
NGP Nagpur 53.86 275 *e*P **P** **23 26 15.9 -0.8**
NGP AMb AMB 23 26 16.9
comp=Z,172nm,0.8s,mb5.3
MBWA Marble Bar 54.27 202 *e*P **P** **23 26 18.3 -1.2**
comp=Z,41nm,0.7s,mb4.8
ZRNK Zerenda 54.37 316 *e*P **P** **23 26 19.9 -0.4**
ZRNK *e* 23 27 16.9
ZRNK *e* 23 28 27.3
ZRNK pmax pmax
comp=Z,36nm,0.7s,mb4.7
ZRNK Zerenda 54.37 316 *e*P **P** **23 26 19.9 -0.5**
comp=Z,36nm,0.7s,mb4.7
ZRNK *e*PcP PcP 23 27 16.9 -0.8
ZRNK *e*PP PP 23 28 27.3 -0.7
BHPL Bhopal 54.48 278 *e*P **P** **23 26 20.1 -0.9**
BHPL AMb AMB 23 26 22.1
comp=Z,114nm,1.0s,mb5.1
KKAR Karatay Array 54.65 304 *i* P **P** **23 26 22.1 -0.1**
KKAR pmax pmax
comp=Z,70nm,0.8s,mb4.9
NIL Nilore 54.67 292 P **P** **23 26 23.2 +0.8**
comp=Z,264nm,0.6s,mb5.6,SNR=13
SLKM Skilak Lake 54.97 35 *e*P **P** **23 26 23.6 -0.9**
SLKM *e* 23 27 16.7
SLKM *e* 23 28 33.9
PMR Palmer 55.49 34 *e*P **P** **23 26 27.2 -1.0**
PMR pmax pmax
comp=Z,174nm,1.1s,mb5.2
PMR Palmer 55.49 34 *e*P **P** **23 26 27.2 -1.0**
comp=Z,174nm,1.1s,mb5.2
MCK McKinley 55.58 31 *e*P **P** **23 26 28.1 -0.7**
MCK pmax pmax
comp=Z,75nm,1.0s,mb5.0
MCK McKinley 55.58 31 *e*P **P** **23 26 28.1 -0.7**
comp=Z,75nm,1.0s,mb5.0
AJM Ajmer 55.70 283 *i* P **P** **23 26 29.0 -0.7**
AJM *e*P 23 26 29.2
AJM AMb AMB 23 26 30.1
comp=Z,103nm,0.7s,mb5.3
HYB Hyderabad 55.80 271 *i* P **P** **23 26 30.0 -0.3**
HYB *e*PP PP 23 28 42.0 +1.4
SML Sawmill 55.87 33 *e*P **P** **23 26 30.3 -0.5**
COLA College 56.06 30 *e*P **P** **23 26 31.9 -0.3**
COLA *e* 23 27 20.4
COLA *e**PP pP 23 28 01.7 +0.7
COLA pmax pmax
comp=Z,32nm,0.8s,mb4.7
COLA College 56.06 30 *e*P **P** **23 26 31.9 -0.3**
comp=Z,32nm,0.8s,mb4.7
COLA *e*PcP PcP 23 27 20.4 -3.9
COLA *e*pP pP 23 28 01.7 +0.7
MDRS Chennai 56.26 266 *ex* x 23 25 24.3
LATR Latur 57.10 273 *ex* x 23 26 29.1
DIV Divide 57.13 34 *e*P **P** **23 26 39.8 +0.2**
MENT Mentasta 57.96 32 *e*P **P** **23 26 45.3 +0.1**
DZM Mont Dzumac 58.56 149 P **P** **23 26 49.0 -0.4**
comp=Z,7.0nm,0.8s,mb4.0,baz=78,slow=3.5,SNR=4.8
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
comp=Z,318nm,0.8s,mb5.7,SNR=5.0
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 P **P** **23 26 50.7 +0.5**
SNR=8.1
PALK Pallekele 58.69 259 *e*P **P** **23 26 50.5 +0.3**
comp=Z,42nm,0.8s,mb4.8
EGAK Eagle 58.93 30 *e*P **P** **23 26 50.9 -1.0**
comp=Z,28nm,0.6s,mb4.8
POO Poona 59.39 275 *e*P **P** **23 26 53.5 -1.5**
POO *ex* x 23 27 27.3
KAD Karad 59.62 273 *e*P **P** **23 26 55.6 -0.9**
KAD AMb AMB 23 26 57.9
comp=Z,179nm,0.9s,mb5.5
DAWY Dawson 59.77 30 *e*P **P** **23 26 57.2 -0.4**
ARU Arti 59.94 321⇓ *i*P **P** **23 26 57.7 -0.9**
ARU *e* 23 27 37.6
ARU *e* 23 29 14.1
ARU *e*S **S** **23 34 39.1 +3.0**
ARU *e*SS SS 23 38 48.5 +7.0
ARU pmax pmax
comp=Z,64nm,0.8s,mb5.1
ARU Arti 59.94 321 *e*P **P** **23 26 57.8 -0.9**
comp=Z,60nm,0.8s,mb5.1
SOKR Solikamsk 60.32 325 *e*P **P** **23 27 01.1 -0.1**
SOKR pmax pmax
comp=Z,50nm,1.5s,mb4.7
AB31 Akbulak array 60.59 312 *i* P **P** **23 27 01.9 -1.1**
AB31 pmax pmax
comp=Z,42nm,0.7s,mb5.0
MNGI Mangalore 61.00 268 *e*P **P** **23 27 05.3 -0.3**
MNGI AMb AMB 23 27 07.2
comp=Z,104nm,1.2s,mb5.2
TRD Trivandrum 61.27 263 *e*P **P** **23 27 06.9 -0.6**
TRD AMb AMB 23 27 08.4
comp=Z,107nm,0.8s,mb5.3
INK Inuvik 61.47 25 P **P** **23 27 08.0 -0.8**
comp=Z,20nm,0.7s,mb4.7,baz=294,slow=6.3,SNR=55
INK Inuvik 61.47 25 P **P** **23 27 08.0 -0.8**
INK pmax pmax
comp=Z,20nm,0.7s
INK Inuvik 61.47 25 *e*P **P** **23 27 07.7 -1.1**
comp=Z,1µm,0.9s
AKTK Aktyubinsk 61.52 314 P **P** **23 27 08.4 -0.7**
AKTO Aktyubinsk 61.52 314 P **P** **23 27 08.4 -0.7**
comp=Z,43nm,0.7s,mb5.1,baz=86,slow=7.3,SNR=107
AKTO Aktyubinsk 61.52 314 P **P** **23 27 08.4 -0.7**
AKTO pmax pmax
comp=Z,43nm,0.7s,mb5.1
FORT Forrest 61.56 190 *e*P **P** **23 27 07.9 -1.5**
comp=Z,93nm,0.6s,mb5.5
STKA Stephens Creek 61.90 177 *e*P **P** **23 27 10.1 -1.6**
comp=Z,9.6nm,0.6s,mb4.5
STKA Stephens Creek 61.90 177 P **P** **23 27 10.2 -1.5**
comp=Z,17nm,0.8s,mb4.6,baz=339,slow=7.0,SNR=25
SKAG Skagway 62.51 35 *e*P **P** **23 27 16.2 +0.5**
ORR Orenburg 63.21 316 *e*P **P** **23 27 19.9 -0.3**
ORR pmax pmax
comp=Z,60nm,0.9s,mb5.1
KLBR Kellerberrin 64.64 200 *e*P **P** **23 27 27.2 -2.2**
comp=Z,30nm,0.9s,mb4.9
ABKT Ailbek 65.11 301 P **P** **23 27 32.3 0.0**
comp=Z,229nm,0.8s,mb5.9,SNR=12
DLBC Dease Lake 65.44 35 *e*P **P** **23 27 34.8 +0.4**
NWAO Narrogin (SRO) 66.05 200 *e*P **P** **23 27 36.8 -1.4**
CNB Canberra Magne 66.06 170 *e*P **P** **23 27 37.5 -0.8**
comp=Z,44nm,1.6s,mb4.8
TOO Toolangi 67.83 174 *e*P **P** **23 27 48.9 -0.4**
comp=Z,6.6nm,1.1s,mb4.2
TOO Toolangi 67.83 174 *e*P **P** **23 27 48.9 -0.4**
TOO pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
KEV Kevo 68.90 340 *ep* P **P** **23 27 52.4 -3.4**
comp=Z,7.5nm,0.6s,mb4.5
KEV Kevo 68.90 340 *e*P **P** **23 27 52.4 -3.4**
KEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
ARCES ARCESS Array B 69.46 340 P **P** **23 27 59.1 -0.1**
comp=Z,5.8nm,0.4s,mb4.5,baz=74,slow=8.6,SNR=68
RES Resolute Bay 69.69 13 *e*P **P** **23 28 00.0 -0.6**
RES pmax pmax
comp=Z,565nm,0.8s
RES Resolute Bay 69.69 13 *e*P **P** **23 27 60.0 -0.6**
comp=Z,565nm,0.8s
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.2 +0.7**
SNR=11
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.2 +0.7**
SNR=11
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.2 +0.7**
SNR=11
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.2 +0.7**
SNR=11
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.2 +0.7**
SNR=11
WBK Wadi Bani Khal 70.34 285 P **P** **23 28 05.1 +0.6**
SNR=16
BIDO Bidbid 70.66 286 P **P** **23 28 07.1 +0.7**
SNR=16
BIDO Bidbid 70.66 286 P **P** **23 28 07.3 +1.0**
SNR=13
BIDO Bidbid 70.66 286 P **P** **23 28 07.3 +1.0**
SNR=13
BIDO Bidbid 70.66 286 P **P** **23 28 07.3 +1.0**
SNR=13
BIDO Bidbid 70.66 286 P **P** **23 28 07.3 +1.0**
SNR=13
BIDO Bidbid 70.66 286 P **P** **23 28 07.1 +0.7**
SNR=16
YKW3 Yellowknife Ar 70.80 28 *e*P **P** **23 28 06.5 -0.7**
YKA Yellowknife Ar 70.83 28 P **P** **23 28 06.3 -1.1**
comp=Z,18nm,0.7s,mb4.7,baz=295,slow=6.3,SNR=46
SMDO Samad 70.92 286 P **P** **23 28 08.4 +0.5**
SNR=6.5
SMDO Samad 70.92 286 P **P** **23 28 08.4 +0.5**
SNR=6.5
SMDO Samad 70.92 286 P **P** **23 28 08.4 +0.5**
SNR=6.5
SMDO Samad 70.92 286 P **P** **23 28 08.6 +0.7**

SNR=5.3
SMDO Samad 70.92 286 P P 23 28 08.6 +0.7
SNR=5.3
SMDO Samad 70.92 286 P P 23 28 08.4 +0.5
SNR=6.5
BANOM Banah 71.14 289 P P 23 28 10.2 +1.0
SNR=6.8
BANOM Banah 71.14 289 P P 23 28 10.2 +1.0
SNR=6.8
BANOM Banah 71.14 289 P P 23 28 10.2 +1.0
SNR=6.8
JMDO Jabal Madar 71.17 285 P P 23 28 09.6 +0.2
SNR=12
JMDO Jabal Madar 71.17 285 P P 23 28 09.6 +0.2
SNR=12
JMDO Jabal Madar 71.17 285 P P 23 28 09.5 +0.1
SNR=7.4
JMDO Jabal Madar 71.17 285 P P 23 28 09.5 +0.1
SNR=7.4
JMDO Jabal Madar 71.17 285 P P 23 28 09.5 +0.1
SNR=7.4
JMDO P 23 28 09.6
SNR=12
MOS Moscow 71.26 324 *e*P P 23 28 08.2 -1.7
MOS *e* 23 30 25.9
MOS *e*S S 23 36 48.7 -2.8
MOS pmax pmax
comp=Z,79nm,1.4s,mb5.0
HOQ Hoqain 71.31 287 P P 23 28 10.7 +0.5
SNR=25
HOQ Hoqain 71.31 287 P P 23 28 10.7 +0.5
SNR=25
HOQ Hoqain 71.31 287 P P 23 28 10.8 +0.6
SNR=18
HOQ Hoqain 71.31 287 P P 23 28 10.8 +0.6
SNR=18
HOQ Hoqain 71.31 287 P P 23 28 10.8 +0.6
SNR=18
HOQ Hoqain 71.31 287 P P 23 28 10.7 +0.5
SNR=25
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
HATD Hatta, Dubai 71.75 288 P P 23 28 13.5 +0.8
SNR=27
BSY Bisya 71.76 286 P P 23 28 13.2 +0.3
SNR=43
BSY Bisya 71.76 286 P P 23 28 13.3 +0.5
SNR=16
BSY Bisya 71.76 286 P P 23 28 13.3 +0.5
SNR=16
BSY Bisya 71.76 286 P P 23 28 13.3 +0.5
SNR=16
BSY Bisya 71.76 286 P P 23 28 13.2 +0.3
SNR=43
ASHO Ashiyiah 71.87 288 P P 23 28 13.8 +0.2
SNR=20
ASHO Ashiyiah 71.87 288 P P 23 28 14.1 +0.6
SNR=5.9
ASHO Ashiyiah 71.87 288 P P 23 28 14.1 +0.6
SNR=5.9
ASHO Ashiyiah 71.87 288 P P 23 28 14.1 +0.6
SNR=5.9
ASHO Ashiyiah 71.87 288 P P 23 28 13.8 +0.2
SNR=20
ARQ Araqi 72.07 287 P P 23 28 15.2 +0.6
SNR=22
ARQ Araqi 72.07 287 P P 23 28 15.2 +0.6
SNR=22
ARQ Araqi 72.07 287 P P 23 28 15.4 +0.7
SNR=18
ARQ Araqi 72.07 287 P P 23 28 15.4 +0.7
SNR=18
ARQ Araqi 72.07 287 P P 23 28 15.2 +0.6
SNR=22
OBN Obninsk 72.08 324 *d* iP P 23 28 13.6 -1.1
OBN *e* 23 28 29.7
OBN *e**PP pP 23 29 45.0 -4.2
OBN *i* S S 23 36 59.9 -0.8
OBN pmax pmax
comp=Z,42nm,0.9s,mb5.0
OBN Obninsk 72.08 324 *e*P P 23 28 14.4 -0.3
comp=Z,53nm,1.2s,mb5.0
OBN *e*PcP PcP 23 28 29.5 -0.8
VOR Voronezh 72.20 320 *e*P P 23 28 14.0 -1.5
VOR pmax pmax
comp=Z,70nm,1.0s,mb5.2
VRSR Storozhevoye 72.44 319 *d* iP P 23 28 16.2 -0.6
VRSR *e*S S 23 37 02.4 -2.3
VRSR pmax pmax
comp=N,60nm,0.9s
VRSR pmax pmax
comp=Z,80nm,0.9s,mb5.2
VRSR pmax pmax
comp=E,110nm,1.0s
VRSR smax
comp=N,90nm,1.0s
VRSR smax
comp=Z,5.0nm,0.6s
VRSR smax
comp=E,90nm,0.9s
B04A Port Angeles 73.01 44 ⇓P P 23 28 20.7 +0.5
baz=73
ZEI Tsey 73.27 310 *e*P P 23 28 20.5 -1.1
ZEI pmax pmax
comp=Z,51nm,1.0s,mb5.0
D03A Wishkah Elem. 73.27 45 ⇑P P 23 28 21.9 +0.3
baz=73
A05A Maple Falls 73.43 43 ⇑P P 23 28 22.9 +0.3
baz=73
C04A Brinnon 73.49 44 ⇓P P 23 28 23.4 +0.5
baz=73
KIV Kislovodsk 73.54 311 P P 23 28 23.8 +0.6
comp=Z,483nm,0.8s,SNR=12
KIV Kislovodsk 73.54 311 P P 23 28 23.9 +0.8
SNR=16
KIV Kislovodsk 73.54 311 P P 23 28 23.6 +0.5
SNR=9.8
KIV P 23 28 23.9
SNR=16
KIV Kislovodsk 73.54 311 P P 23 28 23.6 +0.5
SNR=9.8
KIV Kislovodsk 73.54 311 *e*P P 23 28 23.2 0.0
KIV pmax pmax
comp=Z,103nm,1.1s,mb5.4
KIV Kislovodsk 73.54 311 *e*P P 23 28 23.8 +0.6
GNW Green Mountain 73.64 44 *e*P P 23 28 24.6 +0.9
E03A Lebam 73.66 45 ⇓P P 23 28 24.5 +0.6
baz=74
FINES FINESS Array B 73.66 332 P P 23 28 23.2 -0.6
comp=Z,11nm,0.6s,mb4.7,baz=66,slow=6.0,SNR=74
B05A Bryant 73.76 43 ⇓P P 23 28 24.6 +0.2
baz=74
GNI Garni 73.84 307 P P 23 28 26.4 +1.4
SNR=7.8
GNI Garni 73.84 307 P P 23 28 26.4 +1.4
SNR=7.8
GNI Garni 73.84 307 *d* iP P 23 28 25.5 +0.6
GNI pmax pmax
comp=Z,60nm,1.3s
GNI Garni 73.84 307 *e*P P 23 28 25.8 +0.9
comp=Z,50nm,1.1s,mb5.0
JCW Jim Creek 73.89 43 P P 23 28 25.8 +0.6
F03A Seaside 73.94 46 ⇑P P 23 28 26.1 +0.7
baz=74
E04A Onalaska 74.15 45 ⇓P P 23 28 27.5 +0.8
baz=74
C05A Tolt Reservoir 74.27 44 P P 23 28 27.9 +0.6
baz=74,SNR=6.3
D05A Enumclaw 74.32 44 ⇓P P 23 28 28.4 +0.7
baz=74
G03A Yamhill 74.39 46 ⇓P P 23 28 28.2 +0.2
baz=74
A07A Ashnola River, 74.40 42 ⇓P P 23 28 28.5 +0.4
baz=74
FMW Mount Fremont 74.63 44 P P 23 28 29.7 +0.3
WRW Wenatchee Ridg 74.67 43 P P 23 28 30.1 +0.4
H03A Soap Creek Ran 74.68 47 ⇓P P 23 28 30.1 +0.4
baz=75
E05A Randle 74.75 45 ⇓P P 23 28 29.7 -0.4
baz=75
B07A Winthrop 74.83 43 P P 23 28 30.8 +0.3
baz=75,SNR=13
NLW Nelson Butte 74.89 43 P P 23 28 30.9 0.0
D06A Cle Elum 75.01 44 P P 23 28 31.6 0.0
baz=75,SNR=5.8
I03A Eugene 75.01 48 ⇓P P 23 28 31.9 +0.3
baz=75
VSU Vasula 75.04 330 ⇑ *e*P P 23 28 30.8 -0.9
A08A Turner Farm, O 75.09 42 P P 23 28 32.0 +0.1
baz=75,SNR=11
J02A Umpqua 75.10 48 ⇓P P 23 28 32.6 +0.5
baz=75
TBM Table Mountain 75.17 44 P P 23 28 32.4 0.0
E06A Yakima 75.24 45 P P 23 28 33.3 +0.4
baz=75,SNR=8.1
C07A Waterville 75.24 43 P P 23 28 32.5 -0.3
baz=75,SNR=14
F05A White Salmon 75.26 45 ⇓P P 23 28 33.2 +0.3
baz=75
EBG Ellensburg 75.31 44 P P 23 28 33.8 +0.6
B08A Colville Reser 75.34 42 P P 23 28 33.4 0.0
baz=75,SNR=24
H04A Detroit Lake 75.37 47 ⇓P P 23 28 33.6 0.0
baz=75,SNR=5.3
HOOD Mount Hood Mea 75.40 46 *e*P P 23 28 34.5 +0.7
K02A Glendale 75.43 49 ⇓P P 23 28 34.5 +0.5
baz=75
A09A Danville 75.47 42 P P 23 28 34.4 +0.2
baz=75,SNR=11
J03A Ideyld Park 75.49 48 ⇓P P 23 28 34.8 +0.5
baz=75
D07A Quincy 75.53 44 P P 23 28 34.8 +0.3
baz=75,SNR=5.5
MXC Moxie City 75.64 44 P P 23 28 35.5 +0.5
L02A Cave Junction 75.64 49 ⇑P P 23 28 35.4 +0.3
baz=76
I04A Tendick Farm, 75.65 48 P P 23 28 35.4 +0.3
baz=76,SNR=7.9
G05A Wamic 75.65 46 ⇑P P 23 28 35.4 +0.2
baz=76
HBO Huckleberry Mo 75.68 48 P P 23 28 36.0 +0.7
F06A Goldendale 75.73 45 ⇓P P 23 28 35.9 +0.3
baz=76
C08A Higginbotham F 75.79 43 ⇓P P 23 28 35.7 -0.2
baz=76,SNR=17
HUMO Hull Mountain 75.86 49 ⇑P P 23 28 36.6 +0.3
baz=76
E07A Sunnyside 75.91 44 P P 23 28 37.0 +0.4
baz=76,SNR=6.7
H05A Madras 75.99 46 ⇓P P 23 28 37.4 +0.4
baz=76
B09A Rice 76.00 42 P P 23 28 37.3 +0.2
baz=76,SNR=14
A10A Northport 76.06 41 ⇓P P 23 28 37.6 +0.1
baz=76,SNR=8.1
G06A Carlson Farm, 76.08 46 P P 23 28 38.2 +0.7
baz=76,SNR=9.3
J04A Umpqua Nationa 76.10 48 ⇑P P 23 28 38.3 +0.6
baz=76,SNR=14
GBL Gable Mountain 76.13 44 P P 23 28 38.2 +0.4
EDM Edmonton 76.14 36 *e*P P 23 28 37.6 -0.2
F07A Phinny Hill Vi 76.19 45 ⇑P P 23 28 38.3 +0.1
baz=76
I05A Bend 76.20 47 ⇓P P 23 28 38.6 +0.4
baz=76
D08A Wollman Farm, 76.22 43 P P 23 28 38.3 0.0
baz=76,SNR=19
C09A Chrisman Ranch 76.24 43 P P 23 28 38.5 +0.1
baz=76,SNR=8.4
UMR Umm Al-Rimmam 76.39 296 *e*P P 23 28 38.7 -0.5
UMR AMb AMB 23 28 39.5
comp=Z,143nm,0.6s,mb5.8
E08A Dider Farm, El 76.42 44 ⇓P P 23 28 39.4 0.0
baz=76,SNR=12
YBH Yreka Blue Hor 76.43 50 *e*P P 23 28 40.4 +0.9
YBH pmax pmax
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 76.43 50 *e*P P 23 28 40.4 +0.9
comp=Z,18nm,1.0s,mb4.7
YBH Yreka Blue Hor 76.43 50 ⇑P P 23 28 39.8 +0.3
baz=76,SNR=5.7
VIPM Ingram Point 76.44 46 P P 23 28 39.9 +0.4
O01C Eel River Cons 76.44 51 ⇑P P 23 28 40.3 +0.8
baz=76
N02C Big Bar 76.47 51 ⇓P P 23 28 40.0 +0.3
baz=76
BUOR Burton Butte 76.47 49 P P 23 28 40.5 +0.7
ANN Anapa 76.48 314 *e*P P 23 28 38.6 -1.2
ANN *e*S S 23 37 49.7 +0.7
ANN pmax pmax
comp=Z,157nm,1.2s,mb5.5
M02C Callahan 76.50 50 ⇓P P 23 28 40.5 +0.7
baz=76,SNR=5.7
H06A Lindquist Farm 76.51 46 P P 23 28 40.4 +0.5
baz=76,SNR=6.6
MIB Mutribah 76.57 297 *e*P P 23 28 39.7 -0.6
MIB AMb AMB 23 28 41.1
comp=Z,272nm,0.6s,mb6.0
KBD Kabd 76.58 296 *e*P P 23 28 39.8 -0.5
KBD AMb AMB 23 28 40.6
comp=Z,412nm,0.7s
D09A Jones Farm, Ri 76.58 43 P P 23 28 40.4 0.0
baz=76,SNR=8.7
B10A Chitwood Farm, 76.59 42 ⇑P P 23 28 40.8 +0.4
baz=76
QRN Al-Qurain 76.60 295 *e*P P 23 28 39.8 -0.6
QRN AMb AMB 23 28 40.6
comp=Z,147nm,0.7s,mb5.8
RBK Rabkut 76.63 283 P P 23 28 40.3 -0.3
SNR=10
RBK Rabkut 76.63 283 P P 23 28 40.5 -0.1
SNR=6.0
RBK Rabkut 76.63 283 P P 23 28 40.5 -0.1
SNR=6.0
J05A Fort Rock 76.64 48 ⇓P P 23 28 41.1 +0.5
baz=76,SNR=20
K04A Chilquin 76.65 48 ⇑P P 23 28 41.2 +0.5
baz=76
G07A Ruggs Ranch, H 76.66 45 P P 23 28 41.3 +0.6
baz=76,SNR=7.5
NEW Newport 76.67 42 P P 23 28 40.8 -0.1
comp=Z,30nm,0.8s,mb5.0,baz=308,slow=4.3,SNR=33
NEW Newport 76.67 42 P P 23 28 40.8 0.0
NEW pmax pmax
comp=Z,30nm,0.8s
NEW Newport 76.67 42 *e*P P 23 28 40.6 -0.2
comp=Z,30nm,0.8s,mb5.0
MSL Mosul 76.75 304 *i* x x 23 28 41.0
A11A Hall Mountain, 76.75 41 P P 23 28 42.1 +0.9
baz=77,SNR=20
L04A Klamath Falls 76.75 49 P P 23 28 41.9 +0.6
baz=77,SNR=7.4
C10A Spilker Farm, 76.79 42 ⇓P P 23 28 41.8 +0.4
baz=77
IZAR Zarasai 76.80 328 *e*P P 23 28 41.0 -0.4
IZAR AMb AMB 23 28 42.1
comp=Z,776nm,0.7s
WHFO Wadi Hawf 76.80 283 P P 23 28 40.9 -0.6
SNR=28
WHFO Wadi Hawf 76.80 283 P P 23 28 40.9 -0.6
SNR=28
WHFO Wadi Hawf 76.80 283 P P 23 28 40.9 -0.6
SNR=28
RDF Al-Radifah 76.81 296 *e*P P 23 28 41.1 -0.5
RDF AMb AMB 23 28 42.5
comp=Z,177nm,0.6s,mb5.9
IDID Didziasalis 76.81 327 *e*P P 23 28 41.2 -0.3
IDID AMb AMB 23 28 42.1
comp=Z,726nm,0.6s
NAY Al-Naaiem 76.90 296 *e*P P 23 28 41.3 -0.8
NAY AMb AMB 23 28 43.0
comp=Z,133nm,0.7s,mb5.7
F08A Pendleton 76.94 44 P P 23 28 42.8 +0.5
baz=77,SNR=18
E09A Wood Farm, Sta 76.96 44 P P 23 28 42.5 +0.1
baz=77,SNR=19
I06A Prineville 76.97 47 P P 23 28 42.9 +0.4
baz=77,SNR=11
M04C Macdoel 76.98 49 ⇓P P 23 28 43.0 +0.5
baz=77,SNR=11
B11A Sandpoint 77.02 41 P P 23 28 43.1 +0.4
baz=77,SNR=11
IIGN Ignalina 77.03 327 *e*P P 23 28 42.5 -0.3
IIGN AMb AMB 23 28 43.3
comp=Z,712nm,0.5s
M03C McCloud 77.04 50 ⇓P P 23 28 43.0 +0.2
baz=77,SNR=10
G08A Pilot Rock 77.08 45 P P 23 28 43.0 -0.1
baz=77,SNR=11
P01C Double 8 Ranch 77.09 52 ⇓P P 23 28 43.3 +0.2
baz=77
WDC Whiskeytown Da 77.09 51 *e*P P 23 28 43.6 +0.5
WDC Whiskeytown Da 77.09 51 P P 23 28 43.4 +0.2
baz=77,SNR=5.3
O02C Red Bluff 77.12 51 ⇑P P 23 28 43.9 +0.6
baz=77,SNR=6.0
K05A Summer Lake 77.13 48 P P 23 28 44.1 +0.8
baz=77,SNR=14
A12A Yaak River Ran 77.16 41 ⇓P P 23 28 44.0 +0.5
baz=77,SNR=13
I07A Izee 77.34 46 P P 23 28 45.1 +0.6
baz=77,SNR=6.8
GASB Alder Springs 77.42 51 P P 23 28 46.0 +1.1
baz=77,SNR=8.1
B12A Libby 77.44 41 ⇓P P 23 28 45.6 +0.6
baz=77
ABTO Aybut 77.46 283 P P 23 28 45.3 +0.1
SNR=6.7
ABTO Aybut 77.46 283 P P 23 28 45.3 +0.1
SNR=6.7
HOPS Hopland 77.50 52 ⇓P P 23 28 45.7 +0.3
baz=77
L05A Lakeview 77.50 49 ⇑P P 23 28 45.9 +0.6
baz=77,SNR=6.5
F09A S2 Ranch, Elgi 77.51 44 ⇑P P 23 28 45.8 +0.4
baz=77
K06A Valley Falls 77.51 48 P P 23 28 46.0 +0.6
baz=77,SNR=17
E10A Myers Farm, Un 77.59 43 ⇑P P 23 28 45.8 -0.1
baz=78,SNR=6.9
M05C Lookout 77.64 49 ⇓P P 23 28 46.4 +0.3
baz=78
H08A Prairie City 77.64 46 ⇑P P 23 28 46.4 +0.3
baz=78,SNR=16
HATC Hat Creek Radi 77.70 50 ⇑P P 23 28 46.8 +0.4
baz=78,SNR=5.6
O03C Acorn Hollow, 77.72 51 ⇓P P 23 28 46.5 0.0
baz=78
D11A Klaveano Farm, 77.75 42 P P 23 28 46.8 +0.1
baz=78,SNR=5.8
F10A Beach Ranch, E 77.78 44 ⇓P P 23 28 47.0 +0.2
baz=78
J07A Hines 77.82 47 P P 23 28 47.9 +0.8
baz=78,SNR=23
C12A Trout Creek 77.91 42 ⇑P P 23 28 47.9 +0.4
baz=78
MOD Modoc 77.92 49 *e*P P 23 28 48.2 +0.5
MOD Modoc 77.92 49 P P 23 28 48.1 +0.4
baz=78,SNR=9.6
MNRC McLaughlin Nat 77.98 52 ⇑P P 23 28 48.6 +0.6
baz=78,SNR=12
I08A Drewsey 78.02 46 ⇓P P 23 28 48.6 +0.4
baz=78,SNR=6.6
WALA Waterton Lakes 78.07 40 *e*P P 23 28 48.7 +0.2
comp=Z,36nm,0.7s,mb5.1
B13A Whitefish 78.13 41 P P 23 28 49.3 +0.5
baz=78,SNR=15
AKASG Malin Array Be 78.15 322 P P 23 28 48.0 -0.9
comp=Z,22nm,0.8s,mb4.8,baz=50,slow=5.6,SNR=60
AKASG Malin Array Be 78.15 322 P P 23 28 48.0 -0.9
AKBB Malin Array Si 78.15 322 *e*P P 23 28 47.9 -1.0
M06C Likely Place G 78.15 49 ⇓P P 23 28 49.3 +0.4
baz=78
KIEV Kiev 78.16 322 *e*P P 23 28 48.0 -0.9
KIEV pmax pmax
comp=Z,18nm,0.8s,mb4.8
KIEV Kiev 78.16 322 *e*P P 23 28 48.0 -1.0
comp=Z,18nm,0.8s,mb4.8
H09A Durkee 78.19 45 ⇑P P 23 28 49.5 +0.4
baz=78
O04C Chester 78.19 50 P P 23 28 49.6 +0.6
baz=78,SNR=11
K07A Rock Creek Ran 78.20 47 P P 23 28 49.7 +0.5
baz=78,SNR=28
BSMT Bassoo Peak 78.22 41 *e*P P 23 28 50.1 +0.8
CVS Carmenet Viney 78.23 52 ⇓P P 23 28 49.2 -0.1
baz=78
SUTB Sutter Butte 78.26 51 ⇑P P 23 28 49.4 -0.1
baz=78
ORV Oroville 78.29 51 P P 23 28 49.3 -0.3
baz=78,SNR=14
BMO Blue Mountains 78.31 45 *e*P P 23 28 49.8 +0.1
comp=Z,22nm,0.9s,mb4.8
J08A Circle Bar Ran 78.36 47 P P 23 28 50.5 +0.6
baz=78,SNR=22
Q03C Winters 78.39 52 ⇓P P 23 28 50.6 +0.4
baz=78
OHCM Honcut 78.41 51 *e*P P 23 28 50.0 -0.3
C13A Hot Springs 78.44 41 ⇑P P 23 28 50.5 +0.1
baz=78,SNR=14
SIM Simferopol' 78.44 315 *de*P P 23 28 50.5 0.0
SIM pmax pmax
comp=Z,35nm,0.6s,mb5.2
F11A Grangeville 78.47 43 ⇓P P 23 28 50.3 -0.3
baz=78,SNR=10
O05C Quincy 78.48 50 ⇑P P 23 28 50.6 -0.1
baz=78,SNR=5.3
L07A Adell 78.48 48 P P 23 28 51.6 +0.9
baz=78,SNR=31
I09A Lost Marbles R 78.50 46 ⇑P P 23 28 50.9 +0.1
baz=78,SNR=8.0
G11A Walters Elk Ra 78.65 44 ⇑P P 23 28 51.8 +0.2
baz=78
K08A Mann Creek Ran 78.67 47 ⇑P P 23 28 51.9 +0.2
baz=78,SNR=6.1
WVOR Wild Horse Val 78.72 47 *e*P P 23 28 52.4 +0.4
WVOR *e* 23 28 59.8
WVOR pmax pmax
comp=Z,15nm,1.0s,mb4.6
WVOR Wild Horse Val 78.72 47 *e*P P 23 28 52.4 +0.4
comp=Z,15nm,1.0s,mb4.6
WVOR *e*PcP PcP 23 28 59.8 +0.7
Q04C Lincoln 78.73 52 ⇓P P 23 28 51.7 -0.3
baz=79
N06A Buffalo Meadow 78.80 49 ⇑P P 23 28 52.5 +0.1
baz=79,SNR=12
J09A Fry Pan Ranch, 78.81 46 P P 23 28 52.9 +0.5
baz=79,SNR=19
D13A Huson 78.82 42 ⇓P P 23 28 52.2 -0.3
baz=79
BDM Black Diamond 78.83 53 ⇑P P 23 28 52.6 0.0
baz=79
JRSC Jasper Ridge 78.84 53 ⇑P P 23 28 52.4 -0.2
baz=79
C14A Swan Lake 78.86 41 ⇑P P 23 28 53.0 +0.3
baz=79
BEKR Beckwourth 78.90 50 ⇑P P 23 28 52.9 0.0
baz=79,SNR=15
M07A Soldier Meadow 78.91 49 ⇑P P 23 28 53.4 +0.4
baz=79,SNR=12
P05C Yuba Gap, Truc 79.02 51 P P 23 28 53.6 0.0
baz=79,SNR=8.4
BNLO Ben Lomond (Sa 79.03 53 ⇑P P 23 28 53.4 -0.2
baz=79,SNR=5.9
MALT Malatya 79.03 308 ⇑ *i*P P 23 28 54.4 +0.8
MALT Malatya 79.03 308 P P 23 28 54.6 +1.0
MALT Malatya 79.03 308 *e*P P 23 28 57.9 +4.3
L08A Fields 79.03 48 P P 23 28 54.3 +0.7
baz=79,SNR=36
WENL Wente Brothers 79.07 53 ⇓P P 23 28 54.0 +0.1
baz=79
O06A Flanigan 79.10 50 P P 23 28 54.2 +0.2
baz=79,SNR=20
K09A Rome 79.16 47 ⇑P P 23 28 54.4 +0.1
baz=79,SNR=15
H11A Donnelly 79.17 44 P P 23 28 54.1 -0.3
baz=79,SNR=6.5
LAVA Lava Cap Winer 79.20 51 ⇑P P 23 28 54.0 -0.5
baz=79,SNR=21
SUW Suwalki 79.25 327 *e*P P 23 28 54.1 -0.7
MSO Missoula 79.26 42 *e*P P 23 28 54.3 -0.5
P06A Stead Airport, 79.30 50 ⇓P P 23 28 55.1 +0.1
baz=79
R04C Big Horse Ranc 79.32 52 ⇓P P 23 28 55.1 0.0
baz=79
E13A Victor 79.33 42 ⇓P P 23 28 54.5 -0.7
baz=79
N07B Gerlach 79.35 49 ⇑P P 23 28 55.8 +0.4
baz=79
D14A Greenough 79.37 41 P P 23 28 55.3 -0.1
baz=79,SNR=8.4
S04C Ingram Canyon, 79.42 53 ⇑P P 23 28 55.8 +0.1

baz=79
NB2 NORSAR Subarra 79.44 337 P P 23 28 54.8 -1.0
comp=Z,9.0nm,0.7s,mb4.5,baz=45,slow=5.3
NOA NORSAR Array B 79.44 337 P P 23 28 54.9 -1.0
comp=Z,8.3nm,0.7s,mb4.5,baz=45,slow=5.3,SNR=22
NOA pP pP 23 30 33.0 +0.5
comp=Z,4.4nm,1.0s,baz=42,slow=5.3,SNR=3.8
L09A Wilkinson Ranc 79.55 47 ⇓P P 23 28 56.9 +0.5
baz=79,SNR=5.8
WCN Washoe City 79.59 51 ⇓P P 23 28 56.7 +0.1
baz=80
F13A Darby 79.60 43 P P 23 28 56.1 -0.5
baz=80,SNR=17
CHMT Chamberlain Mo 79.61 41 eP P 23 28 56.5 -0.2
R05C Kirkwood Meado 79.68 51 P P 23 28 57.2 +0.2
baz=80,SNR=9.9
PACP Pacheco Peak 79.70 53 P P 23 28 57.6 +0.4
baz=80,SNR=21
SAO San Andreas Ge 79.71 53 eP P 23 28 57.3 +0.1
SAO pmax pmax
comp=Z,31nm,1.3s,mb4.8
SAO San Andreas Ge 79.71 53 eP P 23 28 57.3 +0.1
comp=Z,31nm,1.3s,mb4.8
O07A Toulon 79.73 49 ⇓P P 23 28 57.5 +0.2
baz=80,SNR=9.5
E14A Clinton 79.74 42 ⇓P P 23 28 56.9 -0.5
baz=80,SNR=6.3
CMB Columbia Colle 79.80 52 eP P 23 28 57.7 0.0
CMB pmax pmax
comp=Z,39nm,1.0s,mb5.0
CMB Columbia Colle 79.80 52 eP P 23 28 57.7 -0.1
comp=Z,39nm,1.0s,mb5.0
CMB Columbia Colle 79.80 52 P P 23 28 57.8 +0.1
baz=80,SNR=18
HAST UC Hastings Re 79.83 54 ⇓P P 23 28 58.0 +0.2
baz=80,SNR=16
N08A GE Springer Mi 79.90 49 ⇑P P 23 28 58.4 +0.2
baz=80,SNR=12
D15A Lincoln 79.95 41 ⇓P P 23 28 58.2 -0.3
baz=80,SNR=6.7
M09A Marrel Ranch, 80.00 48 ⇑P P 23 28 59.2 +0.4
baz=80
P07A Fallon 80.04 50 ⇓P P 23 28 59.6 +0.7
baz=80
O08A Rochester Mine 80.14 49 ⇑P P 23 28 59.8 +0.3
baz=80
F14A Wisdom 80.15 42 ⇓P P 23 28 59.9 +0.4
baz=80
R06C Coleville 80.19 51 ⇑P P 23 29 00.1 +0.3
baz=80,SNR=13
S05C Merced 80.19 53 ⇓P P 23 28 59.7 0.0
baz=80,SNR=11
WAKR Walker 80.21 51 eP P 23 29 00.3 +0.5
E15A Deer Lodge 80.23 42 P P 23 28 59.9 0.0
baz=80,SNR=17
V03C Hunter Liggett 80.23 54 ⇓P P 23 29 00.3 +0.3
baz=80
S06C San Francisco 80.25 52 ⇓P P 23 28 59.8 -0.2
baz=80,SNR=16
N09A Rock Creek Ran 80.25 48 ⇑P P 23 29 00.5 +0.4
baz=80,SNR=9.8
U04C Hernandez Rese 80.38 54 ⇑P P 23 29 01.3 +0.5
baz=80,SNR=8.1
HRY Holter Researc 80.53 41 eP P 23 28 58.3 -3.3
M10A I.L. Ranch, Tu 80.53 47 P P 23 29 02.3 +0.7
baz=80,SNR=13
F15A Butte 80.64 42 P P 23 29 02.3 +0.2
baz=80,SNR=47
FFC Flin Flon 80.67 31 P P 23 29 01.1 -1.2
comp=Z,204nm,0.7s,mb6.0,SNR=8.1
FFC Flin Flon 80.67 31 P P 23 29 01.5 -0.8
BMN Battle Mountai 80.67 49 eP P 23 29 02.5 +0.2
LRM Limekiln Ridge 80.68 42 eP P 23 29 02.6 +0.3
V04C Ramage Ranch, 80.68 54 ⇓P P 23 29 02.8 +0.5
baz=81
R07C Lee Vining 80.68 51 ⇓P P 23 29 03.0 +0.6
baz=81
PKD Parkfield 80.75 54 ⇑P P 23 29 02.7 0.0
baz=81,SNR=12
T06C Millerton Lake 80.79 53 ⇑P P 23 29 02.5 -0.4
baz=81,SNR=12
O09A Fish Creek Ran 80.83 49 ⇓P P 23 29 03.4 +0.3
baz=81,SNR=8.9
DLMT Dillon 80.85 43 eP P 23 29 03.7 +0.5
comp=Z,44nm,0.8s,mb5.2
U05C Westside ANR, 80.85 53 ⇑P P 23 29 03.8 +0.6
baz=81
KCC Kaiser Creek 80.89 52 P P 23 29 03.5 0.0
baz=81,SNR=16
EGMT Eagleton 80.94 39 eP P 23 29 03.9 +0.3
EGMT Eagleton 80.94 39 P P 23 29 03.5 -0.2
baz=81,SNR=23
N10A Dunphy 80.98 48 ⇓P P 23 29 04.2 +0.3
baz=81
MCMT McKenzie Canyo 81.00 43 eP P 23 29 03.8 -0.2
G15A Dillon 81.02 43 P P 23 29 04.1 0.0
baz=81,SNR=46
Q08A Gabbs 81.03 50 ⇑P P 23 29 04.3 +0.1
baz=81
IAS Iasi 81.03 320 P P 23 29 03.7 -0.5
M11A Holland Ranch, 81.06 47 P P 23 29 05.2 +0.9
baz=81,SNR=10.0
MLAC Mammoth Lakes 81.06 52 ⇓P P 23 29 04.9 +0.6
baz=81
R08A Mina 81.18 51 ⇑P P 23 29 05.6 +0.7
baz=81
P09A Austin 81.19 49 ⇑P P 23 29 05.5 +0.5
baz=81
O10A Cortez Mining, 81.21 48 ⇓P P 23 29 05.8 +0.7
baz=81
V05C Boulder Hill, 81.24 54 ⇓P P 23 29 06.0 +0.8
baz=81
MTUM Tungsten Hills 81.39 52 eP P 23 29 06.6 +0.5
N11A Elko Archery C 81.42 48 ⇑P P 23 29 06.8 +0.6
baz=81
HELL Mitchell Peak, 81.43 53 ⇑P P 23 29 06.2 0.0
baz=81
SMMC Simmler 81.46 54 ⇓P P 23 29 06.5 +0.2
baz=81
BR131 Keskin Array S 81.50 311 eP P 23 29 06.4 -0.1
BR131 e 23 29 31.3
comp=Z,41nm,0.8s,mb5.2
Q09A Carvers 81.54 50 ⇓P P 23 29 07.3 +0.5
baz=81
S08C White Mtn Res 81.58 51 P P 23 29 07.6 +0.6
baz=82,SNR=13
M12A Wells 81.62 47 ⇑P P 23 29 07.9 +0.8
baz=82,SNR=29
TIN Tinemaha 81.78 52 ⇓P P 23 29 08.5 +0.4
baz=82
ELK Elko 81.78 47 eP P 23 29 09.0 +1.0
ELK pmax pmax
comp=Z,27nm,1.1s
ELK Elko 81.78 47 eP P 23 29 09.0 +1.0
comp=Z,27nm,1.1s,mb4.9
PKM Peak Mountain 81.80 54 ⇑P P 23 29 08.7 +0.6
baz=82,SNR=6.5
VES Vestal, Richgr 81.83 53 ⇑P P 23 29 08.4 +0.2
baz=82
QLMT Earthquake Lak 81.83 42 eP P 23 29 08.9 +0.6
O11A Cowboy Ranch, 81.84 48 ⇑P P 23 29 08.8 +0.4
baz=82,SNR=6.6
N12A Clover Valley, 81.85 47 ⇑P P 23 29 09.0 +0.6
baz=82,SNR=12
CFR Carcaliu 81.87 318 P P 23 29 11.1 +2.6
TPH Tonopah 81.92 51 eP P 23 29 08.6 -0.1
TPH pmax pmax
comp=Z,46nm,1.2s,mb5.1
TPH Tonopah 81.92 51 eP P 23 29 08.6 -0.1
comp=Z,46nm,1.2s,mb5.1
R09A Tonopah 81.93 50 P P 23 29 09.3 +0.5
baz=82,SNR=7.8
ANTO Ankara 81.97 312 P P 23 29 09.6 +0.6
baz=82,SNR=12
ANTO Ankara 81.97 312 ⇓iP P 23 29 09.2 +0.2
BURAR Bucovina Array 82.08 321 ⇑iP P 23 29 09.9 +0.3
BURAR Bucovina Array 82.08 321 ⇑P P 23 29 09.9 +0.3
S09A Goldfield 82.10 51 P P 23 29 09.9 +0.3
baz=82,SNR=30
SBC Santa Barbara 82.11 55 ⇑P P 23 29 09.5 -0.2
baz=82
M13A Montello 82.12 47 P P 23 29 10.5 +0.7
baz=82,SNR=7.9
TIRR Tirgusor 82.12 317 ⇓iP P 23 29 09.3 -0.5
TIRR Tirgusor 82.12 317 P P 23 29 09.5 -0.3
TIRR Tirgusor 82.12 317 ⇓P P 23 29 09.3 -0.5
KWP Kalwaria 82.17 324 eP P 23 29 10.1 +0.1

YMR Madison River 82.19 42 eP P 23 29 10.9 +0.7
comp=Z,46nm,1.0s,mb5.2
CWC Cottonwood Cre 82.20 52 P P 23 29 10.2 0.0
baz=82,SNR=9.2
VRI Vrincioaia 82.28 319 ⇓iP P 23 29 10.9 +0.3
VRI Vrincioaia 82.28 319 P P 23 29 11.5 +0.9
VRI Vrincioaia 82.28 319 ⇓P P 23 29 10.8 +0.3
YNR Norris Junctio 82.33 42 eP P 23 29 12.8 +1.9
ISA Isabella 82.34 53 eP P 23 29 10.5 -0.4
ISA Isabella 82.34 53 ⇑P P 23 29 09.9 -0.9
baz=82,SNR=5.1
O12A Currie 82.35 48 P P 23 29 11.5 +0.5
baz=82,SNR=44
ARVC Arvin 82.37 54 ⇑P P 23 29 10.9 -0.2
baz=82
N13A Wendover, West 82.37 47 ⇓P P 23 29 11.5 +0.4
baz=82,SNR=8.6
GRAC Grapevine Rang 82.39 52 ⇓P P 23 29 11.5 +0.3
baz=82,SNR=12
YFT Old Faithful 82.40 43 eP P 23 29 13.8 +2.7
BSC Santa Cruz Isl 82.40 55 ⇑P P 23 29 10.8 -0.4
baz=82
R10A Warm Springs 82.42 50 ⇑P P 23 29 11.6 +0.4
baz=82,SNR=8.1
GKP Gorka Klasztor 82.45 329 eP P 23 29 10.6 -0.9
Q11A Duckwater 82.54 49 ⇓P P 23 29 12.1 +0.2
baz=82,SNR=9.3
LKWY Lake 82.58 42 eP P 23 29 13.7 +1.6
DAC Darwin (Calif) 82.62 52 eP P 23 29 11.9 -0.4
DAC pmax pmax
comp=Z,18nm,0.9s,mb4.8
DAC Darwin (Calif) 82.62 52 eP P 23 29 11.9 -0.5
comp=Z,18nm,0.9s,mb4.8
P12A McGill 82.69 48 ⇓P P 23 29 13.2 +0.6
baz=83,SNR=8.4
OSI Osito Adit 82.72 54 ⇑P P 23 29 13.0 +0.2
baz=83
BLG Laguna Peak 82.74 55 ⇑P P 23 29 13.3 +0.4
baz=83
RRI2 Red Ridge 82.75 44 eP P 23 29 13.8 +0.8
HVU Hansel Valley 82.75 46 eP P 23 29 13.6 +0.6
MPMC Manual Prospec 82.81 52 P P 23 29 13.4 +0.1
baz=83,SNR=27
KOLS Kolonicke sedl 82.83 323 eP P 23 29 13.0 -0.4
MOOW Moose Ponds 82.86 43 eP P 23 29 14.2 +0.7
comp=Z,25nm,1.2s,mb4.8
TRCR Troy Canyon 82.86 50 eP P 23 29 14.2 +0.7
RLMT Red Lodge 82.91 41 eP P 23 29 14.3 +0.5
comp=Z,13nm,0.5s,mb4.9
MLR Muntele Rosu 82.94 319 ⇑iP P 23 29 14.4 +0.5
MLR Muntele Rosu 82.94 319 ⇑P P 23 29 14.4 +0.4
Q12A Willow Creek R 82.97 49 P P 23 29 14.5 +0.4
baz=83,SNR=12
LRMC Laurel Mountai 82.98 53 P P 23 29 14.1 0.0
baz=83,SNR=26
UZH Uzhgorod 83.01 323 eP P 23 29 13.8 -0.5
REDW Red Top Meadow 83.02 43 eP P 23 29 14.8 +0.5
SNOW Snow King Moun 83.02 43 eP P 23 29 15.5 +1.2
comp=Z,26nm,1.0s,mb4.9
LOHW Long Hollow 83.02 43 eP P 23 29 15.3 +1.0
FURC Furnace Creek, 83.02 52 P P 23 29 14.6 +0.2
baz=83,SNR=19
STHS Stebnicka Huta 83.05 324 eP P 23 29 14.4 -0.1
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
STHS Stebnicka Huta 83.05 324 eP P 23 29 14.4 -0.1
comp=Z,5.1nm,0.8s,mb4.3
BGU Big Grassy Mou 83.07 46 eP P 23 29 15.1 +0.5
BGU epP pP 23 30 54.6 +2.3
EDW2 Edwards Air Fo 83.09 54 P P 23 29 14.9 +0.3
baz=83,SNR=26
DECC Green Verdugo 83.18 54 ⇑P P 23 29 15.1 -0.1
baz=83
AHID Auburn Hatcher 83.21 44 eP P 23 29 15.6 +0.3
BHL Bhannes 83.22 305 eP P 23 29 15.1 -0.3
SPUT South Promonto 83.22 46 eP P 23 29 13.3 -2.1
OJC Ojcow 83.26 325 eP P 23 29 15.3 -0.2
MWC Mount Wilson 83.39 54 eP P 23 29 16.6 +0.4
U10A Ash Meadows, A 83.41 52 P P 23 29 16.8 +0.5
baz=83,SNR=24
PRD Provadia 83.44 317 eP P 23 29 16.0 -0.5
VOIR 83.48 319 ⇑iP P 23 29 17.5 +0.9
VOIR 83.48 319 ⇑P P 23 29 17.4 +0.8
NIE Niedzica 83.52 325 eP P 23 29 17.1 +0.3
CIS Catalina Islan 83.58 55 ⇓P P 23 29 16.8 -0.3
baz=84
HWUT Hardware Ranch 83.60 45 eP P 23 29 17.3 0.0
DGMT Dagmar 83.62 37 eP P 23 29 17.0 -0.3
comp=Z,20nm,0.9s,mb4.8
DUG Dugway 83.62 47 eP P 23 29 17.7 +0.3
DUG pmax pmax
comp=Z,45nm,1.0s,mb5.2
DUG Dugway 83.62 47 eP P 23 29 17.7 +0.3
comp=Z,45nm,1.0s,mb5.2
DUG Dugway 83.62 47 P P 23 29 17.7 +0.4
baz=84,SNR=26
BFSC Mount Baldy St 83.66 54 ⇓P P 23 29 17.3 -0.2
baz=84,SNR=9.8
GSC Goldstone 83.68 53 eP P 23 29 17.8 +0.1
GSC Goldstone 83.68 53 ⇓P P 23 29 17.5 -0.1
baz=84,SNR=19
SCI San Clemente I 83.70 56 ⇑P P 23 29 17.4 -0.4
baz=84
SHOC Shoshone 83.72 52 ⇓P P 23 29 17.8 -0.1
baz=84
NOQ North Oquirrh 83.80 46 eP P 23 29 19.2 +0.9
DRGR 83.93 322 ⇑iP P 23 29 18.7 -0.2
DRGR 83.93 322 ⇑P P 23 29 18.7 -0.2
CTU Camp Tracy 84.01 46 eP P 23 29 20.0 +0.8
KECS Kecovo 84.03 324 eP P 23 29 19.2 -0.2
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
KECS Kecovo 84.03 324 eP P 23 29 19.2 -0.2
comp=Z,2.7nm,1.0s,mb3.9
U11A Corn Creek 84.04 51 ⇑P P 23 29 19.5 +0.1
baz=84
BW06 Boulder Array 84.13 43 eP P 23 29 19.6 -0.3
comp=Z,20nm,1.0s,mb4.8
PDAR Pinedale Array 84.13 43 P P 23 29 19.6 -0.3
comp=Z,10nm,0.8s,mb4.6,baz=290,slow=2.5,SNR=74
SHPR Sheep Range 84.15 51 eP P 23 29 20.3 +0.4
TUQ Turquoise Mtn. 84.22 52 ⇓P P 23 29 20.5 +0.2
baz=84,SNR=35
NLU North Lily Min 84.22 47 eP P 23 29 20.0 -0.4
JLU Jordanelle 84.25 46 eP P 23 29 21.8 +1.4
HEC Hector,Ludlow 84.27 53 P P 23 29 20.7 +0.2
baz=84,SNR=27
SZH Strazhica 84.27 317 eP P 23 29 21.0 +0.4
CSS Prodhromos 84.27 307 eP P 23 29 20.2 -0.4
comp=Z,13nm,0.6s,mb4.8
OKC Ostrava-Krasne 84.31 326 eP P 23 29 20.1 -0.7
MURC Murrieta 84.32 54 ⇓P P 23 29 20.9 +0.1
baz=84
V11A Goodsprings 84.33 52 ⇑P P 23 29 20.9 0.0
baz=84,SNR=13
JMB Yambol 84.36 316 eP P 23 29 21.0 0.0
ZIMR 84.37 318 P P 23 29 22.0 +0.9
MPU Maple Canyon 84.47 47 eP P 23 29 21.8 +0.2
DAU Daniels Canyon 84.47 46 eP P 23 29 22.4 +0.8
KSP Ksiaz 84.52 327 eP P 23 29 21.7 -0.1
KSP Ksiaz 84.52 327 eP P 23 29 21.1 -0.7
U12A Valley of Fire 84.61 51 ⇑P P 23 29 22.4 +0.2
baz=84,SNR=5.1
MORC Moravsky Berou 84.64 326 ⇓iP P 23 29 21.5 -0.9
MORC Moravsky Berou 84.64 326 ⇓P P 23 29 21.5 -1.0
GZR Gura Zlata 84.77 320 ⇓iP P 23 29 22.4 -0.6
GZR Gura Zlata 84.77 320 ⇓P P 23 29 22.4 -0.7
109C Camp Elliot, M 84.77 55 ⇑P P 23 29 22.8 -0.3
baz=85
V12A Nelson 84.79 52 P P 23 29 23.4 +0.2
baz=85,SNR=16
DPC Dobruska-Polom 84.84 327 eP P 23 29 23.3 -0.1
DPC epP pP 23 31 04.6 +3.1
PFO Pinyon Flat Ob 84.84 54 P P 23 29 23.2 -0.2
comp=Z,269nm,0.8s,mb6.0,SNR=12
PFO Pinyon Flat Ob 84.84 54 eP P 23 29 23.4 0.0
PFO Pinyon Flat Ob 84.84 54 P P 23 29 23.4 0.0
baz=85,SNR=21
VYHS Vyhne 84.86 325 eP P 23 29 23.4 -0.1
VYHS pmax pmax
comp=Z,16nm,1.8s,mb4.5
VYHS Vyhne 84.86 325 eP P 23 29 23.4 -0.1
comp=Z,16nm,1.8s,mb4.5
UPC Upice 84.88 327 eP P 23 29 22.8 -0.8
BELC Belle Mtn. 84.95 54 P P 23 29 23.6 -0.3

baz=85,SNR=19
MSU Marysvale 84.98 48 eP P 23 29 24.8 +0.7
W12A Cal Nev Ari 85.01 52 ⇓P P 23 29 24.4 +0.2
baz=85
TMUT Trail Mountain 85.15 47 eP P 23 29 25.6 +0.7
TMUT ePcP PcP 23 29 27.8 +0.5
BAR Barrett 85.19 55 eP P 23 29 25.3 +0.2
MONP Monument Peak 85.26 55 P P 23 29 26.0 +0.6
baz=85,SNR=8.7
BZS Buzias 85.26 321 ⇑iP P 23 29 24.0 -1.5
BZS Buzias 85.26 321 P P 23 29 24.4 -1.1
BZS Buzias 85.26 321 ⇑P P 23 29 24.0 -1.4
VRAC Vranov 85.42 326 ⇓iP P 23 29 25.6 -0.6
VRAC Vranov 85.42 326 ⇓P P 23 29 25.6 -0.7
IRM Iron Mountain 85.45 53 P P 23 29 26.5 +0.1
baz=85,SNR=12
BC3 Big Chuckw Mtn 85.52 54 P P 23 29 27.0 +0.3
baz=85,SNR=18
PVCC Panska Ves 85.53 328 eP P 23 29 25.2 -1.6
BRG Berggiesshubel 85.58 328 eP P 23 29 26.1 -0.9
comp=Z,5.8nm,1.3s,mb4.2
BRG Berggiesshubel 85.58 328 eP P 23 29 26.1 -0.9
BRG pmax pmax
comp=Z,2.0nm,1.3s
SWSC Sam W. Stewart 85.67 54 ⇑P P 23 29 27.5 0.0
baz=86
SRU San Rafael 85.69 47 eP P 23 29 27.9 +0.4
CLL Collm 85.69 329 eP P 23 29 27.0 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
CLL Collm 85.69 329 eP P 23 29 27.0 -0.5
comp=Z,6.0nm,0.7s,mb4.4
CLL ePcP PcP 23 29 30.0 +0.4
CLL epPcP 23 31 12.0
W13A Hualapai Mount 85.79 52 ⇓P P 23 29 28.1 +0.1
baz=86,SNR=6.2
PRU Pruhonice 85.92 328 eP P 23 29 27.6 -1.1
RZN Rozhen 85.94 317 eP P 23 29 28.0 -0.7
EIL Elat 85.98 302 eP P 23 29 28.2 -0.7
PDMCI Parker Dam,Lak 86.06 52 P P 23 29 29.5 +0.2
baz=86,SNR=5.1
Y12C Blythe 86.11 53 ⇓P P 23 29 29.8 +0.2
baz=86
X13A Yucca 86.11 52 P P 23 29 29.9 +0.3
baz=86,SNR=10.0
RWWY Rawlins 86.17 43 eP P 23 29 29.7 -0.1
comp=Z,38nm,0.9s,mb5.1
W14A Seligman 86.27 51 P P 23 29 30.9 +0.5
baz=86,SNR=7.4
VTS Vitosha 86.27 318 ⇓iP P 23 29 29.2 -1.1
VTS Vitosha 86.27 318 ⇓P P 23 29 29.2 -1.1
GLA Glamis 86.28 54 eP P 23 29 30.5 +0.1
GLA Glamis 86.28 54 ⇑P P 23 29 30.5 +0.1
baz=86,SNR=11
ULM Lac du Bonnet 86.45 32 P P 23 29 29.2 -2.0
comp=Z,8.6nm,0.9s,mb4.5,baz=300,slow=3.6,SNR=8.2
PKSM Moragy 86.46 323 P P 23 29 30.1 -1.1
MMB Musomiste 86.59 317 eP P 23 29 30.0 -1.8
KKB Krupnik 86.79 318 eP P 23 29 31.0 -1.8
X14A Yava 86.82 52 ⇑P P 23 29 33.4 +0.4
baz=87
W15A Williams 86.84 51 ⇓P P 23 29 33.8 +0.8
baz=87
KHC Kasperske Hory 86.97 327 eP P 23 29 32.5 -1.1
KHC epP pP 23 31 11.5 -0.9
Y14A Wickenburg 87.05 52 P P 23 29 34.2 +0.2
baz=87,SNR=6.0
GERES GERESS Array B 87.11 327 P P 23 29 32.6 -1.7
comp=Z,2.5nm,0.7s,mb4.0,baz=44,slow=5.1,SNR=20
GERES pP pP 23 31 12.3 -0.8
comp=Z,0.2nm,0.5s,baz=354,slow=26,SNR=1.9
WUAZ Wupatki 87.24 50 eP P 23 29 35.6 +0.7
WUAZ Wupatki 87.24 50 P P 23 29 35.3 +0.4
baz=87,SNR=7.6
X15A Humboldt 87.25 51 ⇑P P 23 29 35.5 +0.5
baz=87
PHWY Pilot Hill 87.45 43 eP P 23 29 35.8 -0.1
GRA1 Grafenberg Arr 87.64 329 eP P 23 29 36.1 -0.7
comp=Z,7.0nm,1.1s,mb4.3
GRF Grafenberg Arr 87.64 329 eP P 23 29 36.1 -0.7
comp=Z,7.0nm,1.1s,mb4.3
GRF Grafenberg Arr 87.64 329 eP P 23 29 36.1 -0.7
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GRF Grafenberg Arr 87.64 329 eP P 23 29 36.1 -0.7
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
AGMN Agassiz Refuge 87.84 33 eP P 23 29 36.9 -0.9
comp=Z,11nm,1.0s,mb4.6
SMCO Snowmass 87.86 45 eP P 23 29 29.8 -8.1
comp=Z,15nm,1.0s,mb4.7
PERS Pernice 87.97 325 iP P 23 29 37.4 -0.9
MVCO Mesa Verde 88.10 47 P P 23 29 39.4 +0.4
baz=88
115A Sonoran Desert 88.29 53 ⇑P P 23 29 40.2 +0.3
baz=88
ISCO Idaho Springs 88.30 44 eP P 23 29 40.5 +0.6
BOJS Bojanci 88.69 324 eP P 23 29 41.0 -0.7
VISS Visnje 88.69 324 eP P 23 29 40.6 -1.1
116A Eloy 88.73 53 ⇓P P 23 29 42.3 +0.4
baz=89
JAVS Javornik 89.01 325 iP P 23 29 41.6 -1.6
SDCO Great Sand Dun 89.65 45 eP P 23 29 46.8 +0.6
comp=Z,13nm,0.8s,mb4.8
EYMN Ely 90.10 31 eP P 23 29 48.0 -0.2
CDF Champ du Feu 90.33 330 eP P 23 29 47.9 -1.4
LAZ Ladron 90.69 49 eP P 23 29 51.2 +0.2
ANMO Albuquerque 90.79 48 eP P 23 29 52.6 +1.2
ANMO pmax pmax
comp=Z,17nm,0.8s
ANMO Albuquerque 90.79 48 eP P 23 29 52.6 +1.1
comp=Z,16nm,0.8s,mb4.9
LPM Los Pinos Moun 91.07 49 eP P 23 29 53.5 +0.7
BNM Barren Site 91.18 49 eP P 23 29 53.8 +0.6
CABF La Chapelle 92.23 329 eP P 23 29 56.6 -1.5
CBKS Cedar Bluff 92.39 42 eP P 23 29 58.4 -0.4
CBKS pmax pmax
comp=Z,8.0nm,0.3s,mb5.1
CBKS Cedar Bluff 92.39 42 eP P 23 29 58.4 -0.4
comp=Z,8.4nm,0.3s,mb5.2
SCHQ Schefferville 92.44 14 P P 23 29 58.1 -0.9
comp=Z,3.6nm,1.0s,mb4.3,baz=248,slow=5.4,SNR=3.8
LOR Lormes 92.68 331 eP P 23 29 58.6 -1.5
LPL La Plagne 92.78 328 eP P 23 29 59.3 -1.3
comp=Z,7.7nm,0.7s,mb4.5
LPL La Plagne 92.78 328 eP P 23 29 59.3 -1.3
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LPL La Plagne 92.78 328 eP P 23 29 59.3 -1.3
comp=Z,3.8nm,0.7s,mb4.4
LPG La Plagne 92.79 328 eP P 23 29 59.5 -1.1
comp=Z,10nm,0.7s,mb4.6
LPG La Plagne 92.79 328 eP P 23 29 59.5 -1.1
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 92.79 328 eP P 23 29 59.5 -1.1
comp=Z,5.2nm,0.7s,mb4.6
SSF Saint Saulge 92.99 331 eP P 23 30 00.0 -1.6
comp=Z,6.1nm,0.7s,mb4.4
SSF Saint Saulge 92.99 331 eP P 23 30 00.0 -1.6
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 92.99 331 eP P 23 30 00.0 -1.6
comp=Z,3.0nm,0.7s,mb4.3
SMF Signal de Mont 93.17 331 eP P 23 30 00.8 -1.6
FLN La Foliniere 93.20 334 eP P 23 30 01.3 -1.2
LDF La Druitiere 93.20 334 eP P 23 30 00.8 -1.7
AVF Avril sur Loir 93.27 331 eP P 23 30 01.2 -1.6
comp=Z,12nm,0.8s,mb4.6
AVF Avril sur Loir 93.27 331 eP P 23 30 01.2 -1.6
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 93.27 331 eP P 23 30 01.2 -1.6
comp=Z,6.1nm,0.8s,mb4.6
MBDF Montbardon 93.37 328 eP P 23 30 01.1 -2.2
MNTX Cornudas Mount 93.52 50 eP P 23 30 04.4 +0.4
ORIF Oris-en-Rattie 93.63 328 eP P 23 30 02.8 -1.7
AMTX Amarillo 93.85 46 eP P 23 30 06.0 +0.4
GDL2 Guadalupe Moun 93.87 49 eP P 23 30 06.4 +0.8
KSU1 Kansas State U 93.96 40 eP P 23 30 05.6 -0.4
comp=Z,23nm,0.7s,mb5.3
ROSF Rostrenen 94.58 336 eP P 23 30 06.4 -2.4
TXAR Lajitas Array 96.16 51 P P 23 30 16.4 +0.5
comp=Z,2.9nm,0.6s,mb4.6,baz=292,slow=3.8,SNR=33
TXAR pP pP 23 31 52.4 -3.3

comp=Z,5.0nm,0.8s,baz=296,slow=3.1,SNR=14
TXAR Lajitas Array 96.16 51 P **P** 23 30 16.4 +0.5
TXAR pP pP 23 31 52.4 -3.3
QSPA South Pole Qui 120.06 180 *eP* PKPdf 23 35 33.9 -2.2
TORD Torodi Ar. Bea 120.09 310 PKP PKPdf 23 35 35.2 -0.9
comp=Z,3.0nm,0.7s,baz=53,slow=0.9,SNR=50
TORD pPKP pPKPdf 23 37 20.7 -0.7
comp=Z,2.8nm,0.9s,baz=58,slow=5.3,SNR=5.5
SYO Syowa Base 121.12 205 *e*PKPdf PKPdf 23 35 35.8 -2.3
BOSA Boshof 122.68 254 PKP PKPdf 23 35 41.0 -0.1
comp=Z,4.1nm,0.7s,baz=157,slow=1.5,SNR=9.0
LPAZ La Paz 151.89 66 PKPbc PKPbc 23 36 42.0 +1.6
comp=Z,1.7nm,0.5s,baz=353,slow=2.2,SNR=11

ISCJB ***16*** *23:22:07.7±3.8, 57S±0.1×1508E±0.2, h76km±29km, mb3.9/10, Error ellipse: s-maj=35.3km s-min=16.8km az=8.2*
NEIC ***16*** *23:22:08.7±2.7, 569S×15081E, h76km±20km, mb4.3/6, Error ellipse: s-maj=24.5km s-min=12.4km az=88.0*
IDC ***16*** *23:22:09.4±6.3, 579S×15079E, h79km±48km, mb3.7/7, mb1 3.9/8, mb1mx3.8/14, mbtmp3.8/8, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/29, Error ellipse: s-maj=55.0km s-min=22.8km az=92.0*

ISC 16 23:22:09.0±3.7, 57S±01×1508E±02, h75km±27km, n27, σ0≧93/23, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.14**	**225**	P	**Pn**	**23 23 23.6**	**+0.3**
	7.5nm,0.3s,baz=44,slow=12,SNR=21						
PMG				S	**Sn**	**23 24 20.9**	**-0.4**
	14nm,0.3s,baz=119,slow=21,SNR=9.4						
HNR	**Honiara**	**9.78**	**113**	LR	LR	23 27 49.2	
	comp=Z,220nm,18.5s,baz=358,slow=35						
KAKA	**Kakadu**	**19.40**	**248**	*e*P	**Pn**	**23 26 29.2**	**-1.6**
	7.6nm,0.4s						
GUMO	**Guam**	**20.08**	**343**	LR	LR	23 33 14.0	
	comp=Z,130nm,18.9s,baz=120,slow=33						
WB2	**Warramunga Arr**	**21.34**	**227**	*e*P	**P**	**23 26 49.9**	**0.0**
WRA	**Warramunga Arr**	**21.35**	**227**	P	**P**	**23 26 49.2**	**-0.8**
	4.0nm,0.6s,mb4.0,baz=51,slow=9.9,SNR=3.5						
AS31	**Alice Springs**	**24.14**	**221**	*e*P	**P**	**23 27 19.9**	**+2.0**
ASAR	**Alice Springs**	**24.14**	**221**	P	**P**	**23 27 18.9**	**+1.0**
	2.0nm,0.4s,mb3.8,baz=50,slow=9.2,SNR=10						
ASPA	**Alice Springs**	**24.14**	**221**	*e*P	**P**	**23 27 19.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**27.48**	**241**	*e*P	**P**	**23 27 48.6**	**+0.6**
	14nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.48**	**241**	P	**P**	**23 27 48.4**	**+0.4**
	5.1nm,0.6s,mb4.2,baz=13,slow=10,SNR=3.6						
NWAO	**Narrogin (SRO)**	**41.33**	**225**	P	**P**	**23 29 46.7**	**-0.6**
KSRS	**Korea Array**	**47.97**	**335**	P	**P**	**23 30 41.5**	**+1.4**
	1.4nm,0.7s,mb3.9,baz=154,slow=8.5,SNR=4.8						
SONM	**Songino Array**	**66.07**	**329**	P	**P**	**23 32 48.1**	**+0.2**
	0.9nm,0.6s,mb3.8,baz=148,slow=4.9,SNR=7.7						
CASY	**Casey**	**66.56**	**197**	*e*P	**P**	**23 32 50.8**	**-0.1**
VNDA	**Vanda**	**71.98**	**177**	P	**P**	**23 33 23.6**	**-0.9**
	0.3nm,0.6s,mb3.3,baz=333,slow=4.6,SNR=3.6						
VNDA	**Vanda**	**71.98**	**177**	*e*P	**P**	**23 33 24.4**	**-0.1**
	0.3nm,0.5s,mb3.4						
MKAR	**Makanchi Array**	**79.73**	**319**	P	**P**	**23 34 08.6**	**0.0**
	0.7nm,0.6s,mb3.6,baz=104,slow=7.3,SNR=8.1						
MKAR	**Makanchi Array**	**79.73**	**319**	P	**P**	**23 34 08.6**	**-0.1**
MAW	**Mawson**	**83.95**	**203**	*e*P	**P**	**23 34 30.5**	**-0.3**
	1.3nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**84.23**	**180**	*e*P	**P**	**23 34 31.4**	**-0.8**
	5.2nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**88.79**	**324**	*e*P	**P**	**23 34 53.0**	**-1.4**
	0.8nm,0.6s,mb3.9						
BRVK	**Borovoye**	**88.87**	**323**	P	**P**	**23 34 54.8**	**0.0**
ZRNK	**Zerenda**	**89.61**	**323**	P	**P**	**23 34 57.9**	**-0.4**
GERES	**GERESS Array B**	**123.78**	**327**	PKP	PKPdf	23 40 58.0	-0.1
	0.4nm,0.4s,baz=71,slow=1.6,SNR=8.9						
TOA0	**Torodi Ar. Sit**	**148.68**	**286**	*e*PKP	PKPbc	23 41 48.2	+0.7
TORD	**Torodi Ar. Bea**	**148.68**	**286**	PKPbc	PKPbc	23 41 48.2	+0.7
	4.3nm,0.5s,baz=82,slow=2.1,SNR=109						

ISCJB ***16*** *23:30:13.2±1.1, 64S±02×151.1E±0.1, h10km, mb3.7/6, Error ellipse: s-maj=31.1km s-min=13.8km az=107.7*
IDC ***16*** *23:30:13.1±9.9, 632S×151.13E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=157.2km s-min=70.5km az=38.0*
NEIC ***16*** *23:30:14.7±1.0, 634S×151.13E, h10km, mb4.2/2, Error ellipse: s-maj=24.0km s-min=17.8km az=142.0*

ISC 16 23:30:13.6±6.2, 64S±02×1512E±02, h3km±39km, n10, σ0≧64/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**232**	*e*Pn	**Pn**	**23 31 28.5**	**-1.0**
PMG				*e*Sn	**Sn**	**23 32 27.4**	**-0.3**
WRAB	**Tennant Creek**	**21.19**	**229**	*e*P	**P**	**23 35 00.8**	**+0.6**
	4.5nm,1.1s,mb3.7						
WRA	**Warramunga Arr**	**21.20**	**229**	P	**P**	**23 35 00.4**	**+0.1**
	1.1nm,0.8s,mb3.3,baz=52,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**23.91**	**222**	P	**P**	**23 35 28.3**	**-0.4**
	0.4nm,0.4s,mb3.2,baz=56,slow=9.1,SNR=7.7						
STKA	**Stephens Creek**	**26.93**	**198**	P	**P**	**23 35 56.4**	**+0.3**
	0.9nm,0.3s,mb3.7,baz=355,slow=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.50**	**243**	P	**P**	**23 36 01.9**	**+0.8**
	1.7nm,0.8s,mb3.6,baz=45,slow=10,SNR=5.5						
MBWA	**Marble Bar**	**33.79**	**241**	*e*P	**P**	**23 36 57.7**	**+1.0**
VNDA	**Vanda**	**71.36**	**178**	P	**P**	**23 41 34.0**	**-0.8**
QSPA	**South Pole Qui**	**83.62**	**180**	*e*P	**P**	**23 42 43.7**	**+0.3**
BRVK	**Borovoye**	**89.57**	**323**	*e*P	**P**	**23 43 11.7**	**-0.7**
	2.8nm,0.7s,mb4.7						

ECX 16 23:30:32.4±0.3, 3052N×11429W, h5km, ML3.5, 3C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.14**	**298**	*e*P	Pg	23 30 52.3	-2.0
SPX				*e*S	Sg	23 31 08.0	-1.1
RDX	**Rancho Dowling**	**2.00**	**315**	*e*S	Sn	23 31 33.0	+0.7
RDX				⇑*e*		23 31 50.5	
	comp=N,384nm,0.9s						
ECNX	**Esteban Cantu**	**2.28**	**300**	*e*S	Sn	23 31 40.2	+1.0
ENX	**Ensenada**	**2.45**	**304**	*e*S	Sn	23 31 44.1	+0.8
ENX				⇑*e*		23 31 55.0	
	comp=N,242nm,0.7s						
RMX	**La Rumorosa**	**2.58**	**324**	*e*S	Sn	23 31 47.9	+1.3
RMX				⇑*e*		23 31 54.4	
	comp=N,153nm,0.3s						
CBX	**Cerro Bola**	**2.71**	**312**	*e*P	Pn	23 31 20.2	+3.6
CBX				*e*S	Sn	23 31 55.0	+5.3

LDG ***16*** *23:31:39.8±0.1, 4233N×186E, h7km, Md1.9/1, Ml1.6/7, Error ellipse: s-maj=1.0km s-min=0.9km az=7.0*

MDD 16 23:31:39.8±0.2, 4233N×189E, h10km±1km, mbLg1.2/21, Error ellipse: s-maj=1.9km s-min=1.5km az=149.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VALF	**Valcebollere**	**0.12**	**54**	Pg	Pg	23 31 42.6	-0.2
VALF				Lg		23 31 44.9	
CLLI	**Llivia**	**0.16**	**24**	Pg	Pg	23 31 43.3	-0.1
CLLI				Lg		23 31 46.0	
	9.4nm,0.1s						
CBRU	**Bruguera**	**0.22**	**101**	Pg	Pg	23 31 44.1	-0.4
CBRU				Lg		23 31 48.0	
	8.9nm,0.1s						
CORG	**Organya**	**0.43**	**257**	Pg	Pg	23 31 47.8	-0.5
CORG				Lg		23 31 54.2	
	2.2nm,0.1s						
EMIR	**Miracle**	**0.49**	**213**	Pg	Pg	23 31 49.3	-0.1
	0.7nm,0.1s,SNR=7.3						
EMIR				Lg		23 31 55.7	
	34nm,0.1s,SNR=36						
CSOR	**Sort**	**0.56**	**275**	Pg	Pg	23 31 50.3	-0.4
CSOR				Lg		23 31 58.6	
	3.1nm,0.4s						
CFON	**Fontmartina**	**0.70**	**144**	Pg	Pg	23 31 53.4	0.0
CFON				Lg		23 32 02.8	
	1.4nm,0.2s						
EJON	**La Jonquera**	**0.75**	**81**	Pg	Pg	23 31 52.5	-1.8
	0.4nm,0.1s,SNR=7.9						
EJON				Lg		23 32 04.1	
	1.8nm,0.1s,SNR=7.9						
CAVN	**Les Avellanes**	**0.95**	**242**	Pg	Pg	23 31 57.5	-0.7
CAVN				Lg		23 32 09.8	
	3.5nm,0.2s						
MTLF	**Montolieu**	**1.04**	**14**	*e*Pg	Pg	23 31 59.8	0.0
MTLF				*e*Sg	Sg	23 32 13.3	0.0
	1.0nm,0.2s						
MTLF	**Montolieu**	**1.04**	**14**	Pg	Pg	23 31 59.8	0.0
MTLF				Lg		23 32 13.3	
	0.5nm,0.2s						
EPOB	**Poblet**	**1.15**	**212**	Pg	Pg	23 32 01.1	-0.7
	1.0nm,0.1s,SNR=8.5						
EPOB				Lg		23 32 16.0	
	2.7nm,0.1s,SNR=14						
EBIE	**Bielsa**	**1.34**	**286**	Lg		23 32 23.5	
	0.2nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.34**	**302**	*e*Pn	Pn	23 32 03.3	-1.2
EPF	**Esparros**	**1.34**	**302**	*e*Pg	Pg	23 32 04.6	-0.9
EPF				*e*Sg	Sg	23 32 21.7	-1.2
	1.7nm,0.2s						
EPF	**Esparros**	**1.34**	**302**	Pn	Pn	23 32 03.3	-1.2
EPF				Pg	Pg	23 32 04.6	-0.9
EPF				Lg		23 32 21.7	
	0.9nm,0.2s						
ERTA	**Horta de San J**	**1.80**	**221**	Pg	Pg	23 32 12.5	-1.9
	0.2nm,0.1s,SNR=4.0						
ERTA				Lg		23 32 36.5	
	3.4nm,0.2s,SNR=8.0						
ESAC	**San Caprasio**	**1.86**	**252**	Lg		23 32 39.1	
	12nm,0.3s,SNR=6.3						
LASF	**Ste Croix**	**2.26**	**39**	*e*Pg	Pg	23 32 22.0	-1.2
LASF				*e*Sg	Sg	23 32 51.8	-0.8
	0.1nm,0.2s						
LASF	**Ste Croix**	**2.26**	**39**	Pg	Pg	23 32 22.0	-1.2
LASF				Lg		23 32 51.8	
	0.1nm,0.2s						
CAF	**Calviac**	**2.60**	**3**	*e*Sg	Sg	23 33 01.0	-2.3
	0.6nm,0.2s						
CAF	**Calviac**	**2.60**	**3**	Lg		23 33 01.0	
	0.3nm,0.2s						
LFF	**La Frestale**	**2.74**	**343**	*e*Sg	Sg	23 33 05.9	-1.9
	0.7nm,0.3s						
LFF	**La Frestale**	**2.74**	**343**	Lg		23 33 05.9	
	0.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.98**	**355**	*e*Sg	Sg	23 33 14.1	-1.6
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.98**	**355**	Lg		23 33 14.1	
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**3.24**	**38**	*e*Pn	Pn	23 32 29.4	-1.2
VIVF				*e*Sg	Sg	23 33 21.4	-2.4
	1.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.24**	**38**	Pn	Pn	23 32 29.4	-1.2
VIVF				Lg		23 33 21.4	
	0.5nm,0.3s						

IDC 16 23:38:57.7±4.8, 4564N×15432E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=169.1km s-min=38.1km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.20**	**299**	P	P	23 47 39.6	-0.3
	0.7nm,0.6s,baz=64,slow=8.7,SNR=6.6						
BVAR	**Borovoye Array**	**52.21**	**311**	P	P	23 48 09.9	-0.4
	0.4nm,0.4s,baz=60,slow=6.3,SNR=4.2						
FINES	**FINESS Array B**	**65.40**	**335**	P	P	23 49 41.5	-0.5
	3.8nm,1.0s,baz=24,slow=6.5,SNR=4.0						
TXAR	**Lajitas Array**	**77.31**	**61**	P	P	23 50 54.2	+0.2
	0.3nm,0.8s,baz=301,slow=3.2,SNR=3.6						

ISCJB ***16*** *23:39:50.8±0.7, 4696N±0.10×1549E±0.1, h10km, mb4.1/16, Error ellipse: s-maj=16.4km s-min=11.0km az=84.4*
IDC ***16*** *23:39:50.9±1.1, 4699N×15495E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML3.5/1, Error ellipse: s-maj=27.4km s-min=24.4km az=152.0*
NEIC ***16*** *23:39:51.8±0.6, 4694N×15503E, h10km, mb4.4/6, Error ellipse: s-maj=13.8km s-min=9.5km az=141.0*
MOS ***16*** *23:39:53.9±1.0, 4700N×15492E, h33km, mb4.6/6, Error ellipse: s-maj=17.9km s-min=12.4km az=107.3*

ISC 16 23:39:52.7±0.7, 4695N±009×1549E±01, h10km, n39, σ1≧14/39, mb4.1/16, 3C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.82**	**12**	*e*PN	**Pn**	**23 40 55.1**	**+3.6**
PET	**Petropavlovsk**	**6.55**	**20**	*e*PN	**Pn**	**23 41 27.9**	**-1.1**
ASAR	**Matsushiro Arr**	**16.18**	**236**	Pn	**Pn**	**23 43 39.3**	**-0.8**
	0.2nm,0.3s,baz=29,slow=14,SNR=3.4						
INCN	**Inchon**	**22.85**	**256**	*e*P	**P**	**23 44 55.9**	**-0.1**
HIA	**Hailar**	**23.45**	**289**	*e*P	**P**	**23 45 01.5**	**-0.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HIA	**Hailar**	**23.45**	**289**	*e*P	**P**	**23 45 01.5**	**-0.7**
	comp=Z,4.2nm,0.3s,mb4.3						
SONM	**Songino Array**	**32.40**	**290**	P	**P**	**23 46 21.7**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=69,slow=7.9,SNR=4.0						
TLY	**Talaya**	**33.16**	**297**	P	**P**	**23 46 28.4**	**-0.8**
INK	**Inuvik**	**40.83**	**33**	P	**P**	**23 47 33.1**	**-1.3**
	comp=Z,2.1nm,0.8s,mb3.8,baz=292,slow=7.1,SNR=6.4						
ZAL	**Zalesovo**	**43.48**	**306**	P	**P**	**23 47 55.5**	**-0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=42,slow=6.8,SNR=7.5						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**23 48 30.9**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.1,baz=68,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**23 48 30.9**	**-0.2**
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**	**23 48 55.6**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**51.22**	**311**	*e*P	**P**	**23 48 55.6**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.7						
LSA	**Lhasa**	**51.47**	**274**	*e*P	**P**	**23 48 59.7**	**+1.6**
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**23 48 59.3**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.3,baz=56,slow=7.8,SNR=13						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**23 48 59.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**23 48 59.7**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.42**	**310**	*e*P	**P**	**23 49 04.7**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**52.42**	**310**	*e*P	**P**	**23 49 04.7**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**23 49 22.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**23 49 22.7**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.1						
ARU	**Arti**	**55.67**	**318**	*e*P	**P**	**23 49 28.6**	**-0.4**
ARU	**Arti**	**55.67**	**318**	*e*P	**P**	**23 49 28.6**	**-0.4**
WVOR	**Wild Horse Val**	**58.62**	**60**	P	**P**	**23 49 45.4**	**-4.4**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WVOR	**Wild Horse Val**	**58.62**	**60**	P	**P**	**23 49 45.4**	**-4.4**
	comp=Z,2.9nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**64.36**	**335**	P	**P**	**23 50 27.5**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=35,slow=8.7,SNR=5.9						
CTAO	**Charters Tower**	**67.18**	**189**	*e*P	**P**	**23 50 46.5**	**-0.3**
AKASG	**Malin Array Be**	**72.04**	**327**	P	**P**	**23 51 16.6**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=35,slow=6.0,SNR=7.9						
ASAR	**Alice Springs**	**72.80**	**200**	P	**P**	**23 51 21.9**	**+0.5**
	comp=Z,2.5nm,1.1s,mb4.1,baz=13,slow=5.1,SNR=8.4						
BURAR	**Bucovina Array**	**76.08**	**328**	⇑*i*P	**P**	**23 51 42.9**	**+2.5**
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**23 51 40.7**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=279,slow=2.4,SNR=3.7						
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**23 51 40.7**	**-1.2**
CLL	**Collm**	**76.77**	**337**	*e*P	**P**	**23 51 45.0**	**+0.7**
MORC	**Moravsky Berou**	**76.81**	**333**	⇓*i*P	**P**	**23 51 46.7**	**+2.1**
VRAC	**Vranov**	**77.52**	**334**	⇑*i*P	**P**	**23 51 50.6**	**+2.1**
MLR	**Muntele Rosu**	**77.58**	**326**	⇓*i*P	**P**	**23 51 52.2**	**+3.3**
GERES	**GERESS Array B**	**78.79**	**335**	P	**P**	**23 51 56.7**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=44,slow=5.9,SNR=5.8						
BZS	**Buzias**	**79.08**	**329**	⇑*i*P	**P**	**23 52 00.0**	**+2.8**

NEIC ***16*** *23:41:49.6±0.5, 4649N×15362E, h10km, mb4.2/8, Error ellipse: s-maj=12.3km s-min=8.1km az=133.0*
ISCJB ***16*** *23:41:51.9±1.2, 4656N±007×15353E±0.10, h41km±10km, mb4.1/20, MS3.7/2, Error ellipse: s-maj=14.2km s-min=7.1km az=94.7*
MOS ***16*** *23:41:52.3±0.9, 4656N×15351E, h46km, mb4.3/8, Error ellipse: s-maj=12.7km s-min=8.6km az=79.3*
IDC ***16*** *23:41:56.7±4.1, 4658N×15349E, h67km±38km, mb3.7/13, mb1 3.9/15, mb1mx3.8/27, mbtmp3.8/15, ML4.1/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/37, Error ellipse: s-maj=21.5km s-min=15.8km az=142.0*

ISC 16 23:41:54.4±1.0, 4657N±007×15353E±010, h48km±9km, n48, σ0≧96/47, mb4.1/20, MS3.7/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.17**	**253**	*e*PN	**Pn**	**23 42 53.5**	**-2.0**
KUR				*e*S	**Sn**	**23 43 42.0**	**-1.0**
KUR				pmax	pmax		
	comp=Z,160nm,0.5s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
SKR	**Severo-Kuril's**	**4.46**	**22**	*e*PN	**Pn**	**23 42 57.8**	**-1.7**
PET	**Petropavlovsk**	**7.26**	**25**	*e*PN	**Pn**	**23 43 38.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.41**	**277**	*e*PN	**Pn**	**23 43 41.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.41**	**277**	*e*Pn	**Pn**	**23 43 41.4**	**+1.5**
	comp=E,11nm,0.4s						
ASAJ	**Asahikawa**	**8.08**	**256**	P	**Pn**	**23 43 50.9**	**+1.8**
	comp=E,4.0nm,0.3s,baz=120,slow=8.4,SNR=6.7						
ASAJ				LR	LR	23 46 48.7	
	comp=E,142nm,19.2s,baz=43,slow=36						
ASAJ	**Asahikawa**	**8.08**	**256**	PN	**Pn**	**23 43 50.9**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,142nm,19.2s						
MA2	**Magadan**	**13.13**	**354**	PN	**Pn**	**23 44 59.7**	**+1.5**
MJAR	**Matsushiro Arr**	**15.20**	**234**	P	**Pn**	**23 45 25.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=10,SNR=3.9						
MAJO	**Matsushiro**	**15.20**	**234**	*e*P	**Pn**	**23 45 25.2**	**-0.7**
YAK	**Yakutsk**	**20.63**	**327**	*e*P	**P**	**23 46 30.4**	**+0.7**
YAK				pmax	pmax		
	comp=Z,16nm,0.3s						
YAK	**Yakutsk**	**20.63**	**327**	*e*P	**P**	**23 46 30.4**	**+0.6**
	comp=Z,16nm,0.3s						
KSRS	**Korea Array**	**21.02**	**254**	P	**P**	**23 46 36.1**	**+2.1**
	comp=Z,2.6nm,0.5s,mb3.8,baz=61,slow=9.6,SNR=7.9						
INCN	**Inchon**	**21.86**	**255**	P	**P**	**23 46 43.3**	**+0.3**
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**23 46 49.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.0						
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**23 46 49.7**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.0						
SONM	**Songino Array**	**31.66**	**290**	P	**P**	**23 48 14.0**	**+0.9**
	comp=Z,0.6nm,1.0s,mb3.4,baz=40,slow=11,SNR=3.4						
SONM				LR	LR	00 01 50.0	
	comp=Z,136nm,18.3s,MS3.7,baz=151,slow=38						
KDAK	**Kodiak Island**	**34.00**	**51**	P	**P**	**23 48 32.7**	**-0.8**
	comp=Z,10nm,0.8s,mb4.8,baz=194,slow=4.2,SNR=3.5						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**23 49 38.8**	**+0.7**
	comp=Z,1.2nm,0.7s,mb3.6,baz=82,slow=6.9,SNR=4.6						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**23 49 38.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**41.65**	**32**	*e*P	**P**	**23 49 39.1**	**+1.0**
	comp=Z,67nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**42.96**	**306**	LR	LR	00 09 58.7	
	comp=Z,91nm,18.8s,MS3.7,baz=129,slow=39						
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**23 50 22.8**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=55,slow=6.6,SNR=4.8						
LSA	**Lhasa**	**50.57**	**274**	*e*P	**P**	**23 50 48.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**50.57**	**274**	*e*P	**P**	**23 50 48.5**	**+0.3**
	comp=Z,1.9nm,0.4s,mb4.4						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**23 50 48.6**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**23 50 48.6**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.0						
RES	**Resolute Bay**	**50.92**	**19**	P	**P**	**23 50 49.7**	**-1.1**
BVAR	**Borovoye Array**	**51.19**	**310**	P	**P**	**23 50 51.4**	**-1.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=58,slow=8.7,SNR=4.3						
BRVK	**Borovoye**	**51.23**	**310**	*e*P	**P**	**23 50 52.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.23**	**310**	*e*P	**P**	**23 50 52.5**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**51.96**	**310**	*e*P	**P**	**23 50 58.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**51.96**	**310**	*e*P	**P**	**23 50 58.6**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7						
AAK	**Ala-Archa**	**54.17**	**297**	P	**P**	**23 51 15.3**	**+0.4**
ARU	**Arti**	**55.34**	**318**	*e*P	**P**	**23 51 23.0**	**-0.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,

SDV	Santo Domingo	19.54	29	*e*Pn	Pn	00 11 53.3	0.0		
SIV	San Ignacio	19.89	114	P	Pn	00 11 54.8	-2.8		
	4.9nm,1.0s,baz=290,slow=9.3,SNR=10								
TGUH	Tegucigalpa,Un	23.50	342	*e*P	P	00 12 34.1	+0.1		
PCRV	Puerto La Cruz	23.95	40	P	P	00 12 38.1	+0.1		
	9.9nm,0.6s,mb4.4,baz=199,slow=4.9,SNR=5.4								
PCRV				LR	LR	00 23 32.7			
	comp=Z,648nm,19.4s,MS4.1,baz=217,slow=41								
CFAA	Coronel Fontan	25.50	156	P	P	00 12 53.4	+1.2		
	0.3nm,0.5s,baz=338,slow=8.8,SNR=5.1								
CFAA				LR	LR	00 20 38.2			
	comp=Z,23nm,21.0s,baz=41,slow=31								
CMIG	Matias Romero	29.36	330	LR	LR	00 22 52.6			
	comp=Z,214nm,18.5s,MS3.8,baz=156,slow=32								
RPN	Rapa Nui	33.47	233	LR	LR	00 22 33.5			
	comp=Z,82nm,20.6s,MS3.4,baz=327,slow=27								
HKT	Hockley	41.11	339	*e*P	P	00 15 07.5	-0.2		
	15nm,1.1s,mb4.5								
HKT				*e*pP	pP	00 15 17.2	-2.3		
JCT	Junction City	43.14	335	*e*P	P	00 15 24.7	+0.6		
LTX	Lajitas	43.96	330	*e*P	P	00 15 33.0	+2.2		
TXAR	Lajitas Array	43.96	330	P	P	00 15 29.4	-1.4		
	1.1nm,0.8s,mb3.6,baz=150,slow=9.0,SNR=8.6								
TXAR				LR	LR	00 32 17.3			
	comp=Z,113nm,19.2s,MS3.8,baz=0.0,slow=34								
UALR	University of	44.55	345	*e*P	P	00 15 35.0	-0.5		
	28nm,0.9s,mb5.1								
WMOK	Wichita Mounta	46.49	338	*e*P	P	00 15 50.6	-0.3		
	9.8nm,1.1s,mb4.7								
SIUC	Southern Illin	46.72	350	*e*P	P	00 15 51.7	-0.9		
MNTX	Cornudas Mount	46.74	330	*e*P	P	00 15 52.6	-0.2		
	11nm,1.3s,mb4.6								
MNTX				*e*pP	pP	00 16 06.2	+1.4		
CCM	Cathedral Cave	47.44	348	*e*P	P	00 15 53.0	-5.2		
	20nm,0.8s,mb5.1								
CCM				*e*pP	pP	00 16 04.5	-5.7		
CCM				*e*PcP	PcP	00 17 21.8	-6.3		
ANMO	Albuquerque	49.91	331	*e*P	P	00 16 17.6	+0.4		
	7.3nm,0.9s,mb4.7								
SDCO	Great Sand Dun	51.78	334	*e*P	P	00 16 31.2	-0.1		
	11nm,1.0s,mb4.7								
WUAZ	Wupatki	52.82	328	*e*P	P	00 16 40.2	+1.2		
	18nm,1.1s,mb4.9								
WUAZ				*e*pP	pP	00 16 51.5	+0.3		
SMCO	Snowmass	53.61	334	*e*pP	pP	00 16 55.1	-1.9		
ECSD	EROS,Sioux Fal	54.08	345	*e*P	P	00 16 46.4	-1.9		
	5.1nm,0.8s,mb4.5								
ECSD				*e*pP	pP	00 16 58.7	-1.8		
ECSD				*e*PcP	PcP	00 17 51.7	-1.0		
RKT	Rikitea	54.64	248	*e*LR	LR	00 32 41.7			
	134nm,25.5s								
RKT	Rikitea	54.64	248	*e*T		01 15 21.3			
	9.6nm,0.2s								
SRU	San Rafael	55.18	331	*e*P	P	00 16 56.7	+0.5		
CCUT	Cedar City	55.40	328	*e*P	P	00 16 58.8	+0.9		
CCUT				*e*pP	pP	00 17 08.4	-1.7		
MSU	Marysvale	55.52	329	*e*P	P	00 16 59.1	+0.4		
SHPR	Sheep Range	55.61	326	*e*P	P	00 17 00.1	+0.8		
SHPR				*e*pP	pP	00 17 11.0	-0.6		
GSC	Goldstone	55.70	324	*e*P	P	00 17 01.1	+1.1		
RWWY	Rawlins	55.80	335	*e*P	P	00 17 01.4	+0.7		
DAU	Daniels Canyon	56.55	332	*e*P	P	00 17 07.0	+1.0		
RSSD	Black Hills	56.68	339	*e*P	P	00 17 07.3	+0.3		
	11nm,1.2s,mb4.8								
RSSD				*e*PcP	PcP	00 18 00.6	-2.1		
JLU	Jordanelle	56.79	332	*e*P	P	00 17 08.7	+1.0		
DAC	Darwin (Calif)	56.84	324	*e*P	P	00 17 08.6	+0.6		
HWUT	Hardware Ranch	57.63	332	*e*P	P	00 17 13.7	0.0		
	22nm,1.1s,mb5.1								
HWUT				*e*pP	pP	00 17 25.3	-0.7		
PDAR	Pinedale Array	57.67	334	P	P	00 17 12.3	-1.6		
	2.4nm,0.8s,mb4.3,baz=128,slow=7.9,SNR=18								
PDAR				LR	LR	00 41 33.4			
	comp=Z,65nm,21.2s,MS3.7,baz=13,slow=36								
MTUM	Tungsten Hills	58.14	324	*e*P	P	00 17 18.2	+1.0		
AGMN	Agassiz Refuge	58.21	348	*e*P	P	00 17 17.0	-0.7		
	16nm,0.6s,mb5.2								
AGMN				*e*pP	pP	00 17 28.4	-1.6		
HVU	Hansel Valley	58.33	332	*e*P	P	00 17 18.7	+0.1		
REDW	Red Top Meadow	58.71	334	*e*P	P	00 17 21.4	+0.2		
NVAR	Mina Array Bea	58.73	325	P	P	00 17 21.1	-0.3		
	3.0nm,0.7s,mb4.4,baz=138,slow=6.1,SNR=19								
TPAW	Teton Pass	58.86	334	*e*P	P	00 17 21.9	-0.3		
	6.8nm,1.0s,mb4.6								
RRI2	Red Ridge	58.90	334	*e*P	P	00 17 19.5	-3.1		
IMW	Indian Meadow	59.18	334	*e*P	P	00 17 24.7	+0.2		
	7.4nm,1.0s,mb4.7								
FLWY	Flagg Ranch	59.23	335	*e*P	P	00 17 25.3	+0.5		
ULM	Lac du Bonnet	60.06	348	P	P	00 17 28.9	-1.7		
	10nm,0.9s,mb4.8,baz=163,slow=5.7,SNR=10								
QLMT	Earthquake Lak	60.14	335	*e*P	P	00 17 32.3	+1.2		
HLID	Hailey	60.48	332	*e*P	P	00 17 33.8	+0.4		
	6.6nm,1.0s,mb4.6								
MCMT	McKenzie Canyo	60.75	334	*e*P	P	00 17 35.5	+0.3		
BOZ	Bozeman (W)	60.88	335	*e*P	P	00 17 35.8	-0.3		
	8.3nm,1.2s,mb4.7								
BOZ				*e*pP	pP	00 17 47.3	-1.2		
DLMT	Dillon	61.06	334	*e*P	P	00 17 37.7	+0.3		
	14nm,1.1s,mb5.0								
OHCM	Honcut	61.17	324	P	P	00 17 38.2	+0.1		
HRY	Holter Researc	61.82	336	*e*P	P	00 17 38.0	-4.5		
EGMT	Eagleton	62.08	338	*e*P	P	00 17 44.1	-0.1		
	5.7nm,0.3s,mb5.2								
EGMT				*e*pP	pP	00 18 00.7	+4.1		
BSMT	Bassoo Peak	63.95	335	*e*P	P	00 17 57.5	+0.8		
SCHQ	Schefferville	63.98	8	P	P	00 17 54.9	-1.9		
	2.7nm,0.8s,mb4.3,baz=218,slow=6.6,SNR=8.0								
WALA	Waterton Lakes	64.54	336	*e*P	P	00 18 00.4	-0.1		
	22nm,1.1s,mb5.1								
NEW	Newport	65.28	334	P	P	00 18 04.5	-0.8		
	4.9nm,0.5s,mb4.8,baz=144,slow=5.4,SNR=9.5								
NEW				LR	LR	00 46 12.7			
	comp=Z,190nm,18.1s,MS4.3,baz=356,slow=36								
EDM	Edmonton	67.66	339	*e*P	P	00 18 19.3	-1.2		
TBI	Tubuai	67.95	248	*e*T		01 31 58.5			
	13nm,0.3s								
PPT	Papeete	68.17	254	*e*LR	LR	00 38 57.5			
	114nm,24.2s								
PPT	Papeete	68.17	254	LR	LR	00 41 58.6			
	comp=Z,66nm,20.4s,MS3.9,baz=129,slow=30								
YKA	Yellowknife Ar	75.59	344	P	P	00 19 06.8	-1.5		
	4.3nm,0.8s,mb4.4,baz=143,slow=6.2,SNR=12								
VNA3	Neumayer Olymp	75.76	162	*e*	P	00 19 09.9	+0.7		
VNA3				*e*		00 19 15.5			
VNA3				*e*		00 19 29.3			
VNA1	Neumayer--Stat	76.05	161	*e*	P	00 19 07.4	-3.5		
VNA1				*e*		00 19 12.4			
VNA2	Neumayer--Watz	76.40	161	*e*	P	00 19 13.1	+0.3		
	baz=289,slow=5.9								
VNA2				*e*		00 19 19.7			
VNA2				*e*	pP	00 19 27.5	+1.9		
VNA2				*e*		00 19 40.4			
VNA2				*e*		00 19 52.2			
SNAA	Sanae	77.99	162	*e*	P	00 19 21.7	0.0		
SNAA				*e*		00 19 27.8			
SNAA				*e*	pP	00 19 34.9	+0.4		
SNAA				*e*		00 19 50.6			
SNAA				*e*		00 20 00.4			
SNAA	Sanae	77.99	162	*e*P	P	00 19 21.9	+0.1		
	5.4nm,0.8s,mb4.5								
QSPA	South Pole Qui	81.68	180	*e*P	P	00 19 42.6	+0.9		
QSPA				*e*pP	pP	00 19 53.4	-1.2		
TOA0	Torodi Ar. Sit	83.83	76	*e*P	P	00 19 53.7	+0.8		
TORD	Torodi Ar. Bea	83.83	76	P	P	00 19 53.4	+0.5		
	5.0nm,0.8s,mb4.7,baz=273,slow=5.3,SNR=30								
TORD				LR	LR	00 57 21.6			
	comp=Z,86nm,20.0s,MS4.1,baz=285,slow=36								
ESDC	Sonseca Array	84.69	49	P	P	00 19 56.6	-0.6		
	2.2nm,0.8s,mb4.3,baz=255,slow=5.8,SNR=8.2								
DAWY	Dawson	84.82	338	*e*P	P	00 19 57.1	-0.8		
INK	Inuvik	85.23	343	P	P	00 19 58.6	-1.4		
	9.7nm,0.7s,mb5.0,baz=129,slow=4.9,SNR=21								
INK	Inuvik	85.23	343	*e*P	P	00 19 58.6	-1.4		
	292nm,0.7s								
EGAK	Eagle	85.85	338	*e*P	P	00 20 02.4	-0.6		
	39nm,0.9s,mb5.6								
VNDA	Vanda	87.69	191	P	P	00 20 12.0	0.0		
	1.1nm,0.9s,mb4.1,baz=157,slow=3.2,SNR=5.6								
VNDA				LR	LR	00 51 57.2			
	comp=Z,58nm,18.2s,MS4.0,baz=29,slow=30								
VNDA	Vanda	87.69	191	P	P	00 20 12.0	0.0		
VNDA				LR	LR	00 51 57.2			
COLA	College	88.45	337	*e*P	P	00 20 14.7	-0.9		
	10nm,1.1s,mb5.0								
SYO	Syowa Base	92.28	162⇑	*e*P	P	00 20 33.4	-0.1		
NOA	NORSAR Array B	97.86	29	LR	LR	01 03 23.1			
	comp=Z,41nm,18.1s,MS4.0,baz=20,slow=34								
BVAR	Borovoye Array	129.44	23	PKP	PKPdf	00 26 32.0	+0.1		
	1.2nm,0.8s,baz=252,slow=2.3,SNR=6.5								
ZAL	Zalesovo	132.98	12	PKP	PKPdf	00 26 37.9	-0.7		
	4.7nm,1.1s,baz=187,slow=2.7,SNR=16								
ASAR	Alice Springs	134.06	225	PKP	PKPdf	00 26 41.2	+0.6		
	2.2nm,0.7s,baz=114,slow=2.0,SNR=22								
MJAR	Matsushiro Arr	135.48	315	PKP	PKPdf	00 26 42.0	-1.2		
	0.6nm,0.3s,baz=9.9,slow=15,SNR=4.3								
WB2	Warramunga Arr	136.03	230	*e*P	PKPdf	00 26 42.6	-1.7		
WRA	Warramunga Arr	136.04	230	PKP	PKPdf	00 26 44.4	+0.1		
	5.8nm,0.8s,baz=130,slow=1.6,SNR=28								
MKAR	Makanchi Array	138.86	19	PKhKP		00 26 41.2			
	1.1nm,1.1s,baz=225,slow=1.5,SNR=3.9								
MKAR				PKP	PKPdf	00 26 49.1	-0.4		
	0.7nm,0.8s,baz=31,slow=2.8,SNR=4.9								
SONM	Songino Array	140.37	353	PKhKP		00 26 43.9			
	0.7nm,0.8s,baz=332,slow=1.0,SNR=5.9								
SONM				PKP	PKPdf	00 26 51.2	-1.1		
	1.0nm,0.8s,baz=108,slow=0.3,SNR=5.5								
KAKA	Kakadu	141.59	237	*e*P	PKPdf	00 26 49.3	-5.1		
	4.8nm,0.8s								
KSRS	Korea Array	141.66	323	PKP	PKPdf	00 26 52.0	-2.6		
	1.6nm,0.8s,baz=38,slow=2.8,SNR=5.8								
FITZ	Fitzroy Crossi	143.50	224	*e*P	PKPdf	00 26 50.5	-7.3		
	12nm,0.9s								
FITZ	Fitzroy Crossi	143.50	224	PKP	PKPdf	00 26 56.5	-1.3		
	7.7nm,0.9s,baz=111,slow=0.4,SNR=9.6								
FITZ	Fitzroy Crossi	143.50	224	*e*P	PKPdf	00 26 50.5	-7.3		
FITZ				PKP	PKPdf	00 26 56.5	-1.3		
BJI	Beijing	145.39	338	PKP	PKPdf	00 26 58.3	-2.8		
GTA	Gaotai	149.15	0	*e*PKP	PKPbc	00 27 11.3	-0.3		
GTA				APKP		00 27 16.0			
XAN	Xi'an	153.24	344	PKP	PKPbc	00 27 20.0	-1.1		

IDC ***17*** *00:09:04.9±1.8, 4761N×154.30E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=59.5km s-min=25.3km az=163.0*
ISCJB ***17*** *00:09:10.9±3.8, 477N±0.3×154.2E±0.3, h56km±28km, mb3.8/5, Error ellipse: s-maj=59.1km s-min=22.0km az=122.6*
MOS ***17*** *00:09:12.7±1.0, 4780N×154.08E, h69km, mb4.1/4, Error ellipse: s-maj=82.7km s-min=34.6km az=77.0*

ISC 17 00:09:12.4±3.4, 477N±0.3×154.2E±0.3, h56km±26km, n10, σ0§84/10, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	Severo-Kuril's	3.27	22	*e*PN	Pn		00 10 01.2	0.0
SKR				*e*			00 10 41.0	
KSRS	Korea Array	21.78	252	P	P		00 13 59.1	-0.4
	2.1nm,0.8s,mb3.6,baz=59,slow=10,SNR=6.6							
INK	Inuvik	40.48	33	P	P		00 16 45.9	+0.2
	1.1nm,0.6s,mb3.7,baz=283,slow=9.6,SNR=6.6							
INK	Inuvik	40.48	33	P	P		00 16 45.9	+0.3
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	Makanchi Array	47.18	297	P	P		00 17 40.8	+1.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=56,slow=7.7,SNR=4.6							
MKAR	Makanchi Array	47.18	297	P	P		00 17 40.8	+1.5
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
FINES	FINESS Array B	63.53	335	P	P		00 19 35.4	-1.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=28,slow=6.3,SNR=4.1							
FINES	FINESS Array B	63.53	335	P	P		00 19 35.4	-1.5
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	76.40	61	P	P		00 20 55.9	+0.1
	comp=Z,1.3nm,0.6s,mb4.0,baz=300,slow=4.5,SNR=16							
TXAR	Lajitas Array	76.40	61	P	P		00 20 55.9	+0.1
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

ISCJB ***17*** *00:15:28.3±2.6, 67S±0.1×1285E±0.2, h278km±31km, mb3.5/3, Error ellipse: s-maj=28.9km s-min=15.3km az=123.1*
IDC ***17*** *00:15:28.2±4.9, 658S×128.55E, h258km±47km, mb3.1/1, mb1 3.6/4, mb1mx3.2/15, mbtmp3.4/4, Error ellipse: s-maj=91.0km s-min=17.3km az=68.0*
NEIC ***17*** *00:15:30.1±2.6, 669S×128.48E, h279km±28km, mb3.9/3, Error ellipse: s-maj=41.7km s-min=10.9km az=55.0*

ISC 17 00:15:28.6±2.1, 66S±0.1×1285E±0.3, h256km±22km, n10, σ1§09/12, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	Fitzroy Crossi	11.75	194	P	Pn		00 18 09.0	+0.2
	0.5nm,0.3s,baz=36,slow=15,SNR=16							
FITZ				S	S		00 20 14.2	-5.8
	0.1nm,0.3s,baz=143,slow=20,SNR=2.1							
WRAB	Tennant Creek	14.39	157	*e*Pn	Pn		00 18 41.8	+0.6
	3.5nm,0.3s							
WRA	Warramunga Arr	14.39	157	P	Pn		00 18 39.8	-1.4
	1.1nm,0.3s,baz=331,slow=13,SNR=8.6							
KKM	Kota Kinabalu	17.58	315	P	P		00 19 16.5	+0.3
AS31	Alice Springs	17.72	164	*e*P	P		00 19 18.1	+0.5
ASAR	Alice Springs	17.72	164	P	P		00 19 18.1	+0.5
	1.5nm,0.3s,baz=343,slow=11,SNR=139							
ASAR				S	S		00 22 29.0	+0.9
	0.1nm,0.3s,baz=332,slow=16,SNR=5.6							
KULM	Kulim	30.23	292	P	P		00 21 15.2	-0.3
LSA	Lhasa	50.92	317	*e*P	P		00 24 05.3	+1.5
	2.0nm,0.3s,mb3.9							
MKAR	Makanchi Array	67.11	327	P	P		00 25 54.0	-0.7
	0.4nm,0.4s,mb3.5,baz=121,slow=8.1,SNR=7.5							
VNDA	Vanda	73.00	173	*e*P	P		00 26 28.2	-2.2
	0.3nm,0.8s,mb3.0							

CSEM ***17*** *00:20:34.7, 6783N×2020E, h0km, ML3.3, Mining explosion. After UPP*
UPP ***17*** *00:20:34.7, 6783N×2020E, h0km, ML3.3, Mining explosion.*

HEL 17 00:20:35.2±0.1, 6784N×2019E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUA	Kurravaara	0.12	26	*i* P	Pg		00 20 37.3	-0.3
KUA				*i* S	Sg		00 20 39.0	-0.2
NIKU	Nikkaluokta	0.44	274	*i* P	Pg		00 20 43.0	-0.6
LANU	Lannavaara	0.71	72	*i* P	Pg		00 20 47.8	-1.0
DUNU	Dundret	0.74	169	*i* P	Pg		00 20 48.1	-1.2
DUNU	Dundret	0.74	169	P	Pg		00 20 48.1	-1.3
	baz=86							
MASU	Masugnsbyn	0.79	118	*i* P	Pg		00 20 49.5	-0.9
SALU	Saltoluokta	0.80	235	*i* P	Pg		00 20 49.5	-0.9
KIF	Kilpisjarvi	1.19	11	*e*P	Pg		00 20 57.4	-0.6
KIF				*e*S	Sg		00 21 13.4	0.0
HARU	Harads	1.71	169	*e*P	Pn		00 21 05.5	-0.7
SJUU	Sjulsmark	2.41	166	*e*P	Pn		00 21 16.1	+0.2
SJUU	Sjulsmark	2.41	166	P	Pn		00 21 16.0	+0.1
SGF	Sodankyl	2.46	96	*e*P	Pn		00 21 16.4	-0.1
SGF				*e*S	Sn		00 21 47.1	0.0

ISCJB ***17*** *00:20:57.7±4.4, 4763N±0.09×154.4E±0.1, h12km±27km, mb4.0/19, Error ellipse: s-maj=18.0km s-min=10.6km az=83.6*
IDC ***17*** *00:20:57.3±0.7, 4772N×154.42E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/23, mbtmp4.0/12, Error ellipse: s-maj=22.4km s-min=19.7km az=154.0*
NEIC ***17*** *00:20:59.1±0.5, 4764N×154.36E, h10km, mb4.3/7, Error ellipse: s-maj=13.0km s-min=10.2km az=132.0*
MOS ***17*** *00:21:01.1±1.0, 4763N×154.36E, h33km, mb4.5/5, Error ellipse: s-maj=18.1km s-min=10.7km az=88.2*

ISC 17 00:21:00.6±4.8, 4770N±0.09×154.4E±0.1, h20km±29km, n49, σ1§02/49, mb4.0/19, 4C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	Severo-Kuril's	3.19	20	*e*PN	Pn		00 21 48.7	-1.0
ASAJ	Asahikawa	8.99	251	Pn	Pn		00 23 11.1	+1.7
	1.3nm,0.3s,baz=128,slow=19,SNR=4.4							
ASAJ	Asahikawa	8.99	251	PN	Pn		00 23 11.1	+1.8
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	Matsushiro	16.36	233	P	Pn		00 24 48.8	-0.4
YAK	Yakutsk	20.03	325	P	P		00 25 28.4	-4.0
YAK				pmax	pmax			
	comp=Z,19nm,0.4s							
YAK	Yakutsk	20.03	325	P	P		00 25 28.4	-4.0
	comp=Z,19nm,0.4s							
BILL	Bilibino	21.27	12	*e*P	P		00 25 48.9	+3.1
BILL				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb3.6							
KSRS	Korea Array	21.94	252	P	P		00 25 54.0	+1.1
	comp=Z,3.0nm,0.8s,mb3.8,baz=58,slow=10,SNR=7.2							
ENH	Enshi	38.41	260	P	P		00 28 19.2	-1.6
INK	Inuvik	40.37	33	*e*P	P		00 28 37.9	+0.8
INK				pmax	pmax			
	comp=Z,38nm,0.6s							
INK	Inuvik	40.37	33	*e*P	P		00 28 37.9	+0.8
	comp=Z,38nm,0.6s,mb5.3							
MKAR	Makanchi Array	47.30	297	P	P		00 29 30.4	-2.4
	comp=Z,0.6nm,0.7s,mb3.6,baz=55,slow=10,SNR=4.7							
CHKZ	Chkalovo	50.51	310	*e*P	P		00 29 56.4	-1.0
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
CHKZ	Chkalovo	50.51	310	*e*P	P		00 29 56.4	-1.0
	comp=Z,2.6nm,0.8s,mb4.2							
BVAR	Borovoye Array	50.95	309	P	P		00 30 00.3	-0.4
	comp=Z,1.0nm,0.6s,mb3.9,baz=55,slow=9.2,SNR=7.5							
BRVK	Borovoye	50.99	309	*e*P	P		00 30 00.0	-1.0
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
BRVK	Borovoye	50.99	309	*e*P	P		00 29 60.0	-1.1
	comp=Z,1.3nm,0.6s,mb4.0							
LSA	Lhasa	51.11	273	P	P		00 30 02.0	0.0
LSA				pmax	pmax			
	comp=Z,3.0nm,0.3s,mb4.7							
LSA	Lhasa	51.11	273	P	P		00 30 02.0	0.0
	comp=Z,2.6nm,0.3s,mb4.6							
ZRNK	Zerenda	51.71	310	*e*P	P		00 30 05.4	-1.0
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	Zerenda	51.71	310	*e*P	P		00 30 05.3	-1.1
	comp=Z,0.6nm,0.4s,mb4.3							
NVAR	Mina Array Bea	61.21	64	P	P		00 31 14.2	+0.1
	comp=Z,0.8nm,0.7s,mb4.0,baz=292,slow=9.4,SNR=5.5							
PDAR	Pinedale Array	63.47	55	P	P		00 31 28.7	-0.5
	comp=Z,0.7nm,0.7s,mb3.9,baz=312,slow=2.4,SNR=6.4							
FINES	FINESS Array B	63.56	335	P	P		00 31 29.4	-0.4
	comp=Z,1.2nm,0.5s,mb4.2,baz=37,slow=7.2,SNR=9.2							
NB2	NORSAR Subarra	67.62	342	P	P		00 31 54.9	-1.1
	comp=Z,3.2nm,0.8s,mb4.4,baz=29,slow=6.5							
NOA	NORSAR Array B	67.62	342	P	P		00 31 54.6	-1.4
	comp=Z,2.1nm,0.8s,mb4.2,baz=28,slow=6.1,SNR=5.7							
WRAB	Tennant Creek	69.69	200	P	P		00 32 08.4	-0.6
WRA	Warramunga Arr	69.70	200	P	P		00 32 08.4	-0.7
	comp=Z,0.7nm,0.6s,mb3.7,baz=28,slow=7.4,SNR=4.6							
AKASG	Malin Array Be	71.25	327	P	P		00 32 17.6	-0.9
	comp=Z,1.1nm,0.5s,mb4.0,baz=33,slow=6.2,SNR=5.1							
ASAR	Alice Springs	73.39	200	P	P		00 32 31.2	0.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=7.4,slow=5.6,SNR=9.5							
STHS	Stebnicka Huta	75.14	330	*e*P	P		00 32 42.6	+1.1
BURAR	Bucovina Array	75.28	327	⇑P	P		00 32 42.6	+0.3
BURAR	Bucovina Array	75.28	327	⇑P	P		00 32 42.6	+0.3
CLL	Collm	75.97	336	*e*P	P		00 32 46.0	-0.2
MORC	Moravsky Berou	76.01	333	⇓*i*P	P		00 32 47.3	+0.8
MORC	Moravsky Berou	76.01	333	⇓P	P		00 32 47.3	+0.8
TXAR	Lajitas Array	76.25	62	P	P		00 32 47.9	+0.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=300,slow=4.5,SNR=18							
TXAR	Lajitas Array	76.25	62	P	P		00 32 47.9	+0.1
MLR	Muntele Rosu	76.80	326⇑	*i*P	P		00 32 52.3	+1.4
MLR	Muntele Rosu	76.80	326	⇑P	P		00 32 52.3	+1.4
MALT	Malatya	77.16	314	⇓*i*P	P		00 32 55.0	+2.1
VOIR		77.18	326	⇓*i*P	P		00 32 54.1	+1.0
VOIR		77.18	326	⇓P	P		00 32 54.1	+1.0
GERES	GERESS Array B	77.99	335	P	P		00 32 57.7	+0.1
	comp=Z,1.0nm,0.6s,mb3.9,baz=35,slow=4.9,SNR=14							
BZS	Buzias	78.29	328	⇓*i*P	P		00 32 59.5	+0.3
BZS	Buzias	78.29	328	⇓P	P		00 32 59.5

comp=Z,1.0nm,0.3s,mb4.3
ZRNK Zerenda 51.77 310 *e*P **P 00 34 00.6 +0.4**
comp=Z,1.1nm,0.3s,mb4.4
ARCES ARCESS Array B 57.97 341 P **P 00 34 45.1 +0.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=19,slow=8.7,SNR=3.3
FINES FINESS Array B 64.17 335 P **P 00 35 27.2 +0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=37,slow=5.9,SNR=10
PDAR Pinedale Array 64.69 54 P **P 00 35 29.6 -0.7**
comp=Z,0.2nm,0.6s,mb3.1,baz=328,slow=9.6,SNR=2.5
NB2 NORSAR Subarra 68.34 341 P **P 00 35 54.1 +0.5**
comp=Z,0.8nm,0.5s,mb3.8,baz=27,slow=6.5
NOA NORSAR Array B 68.34 341 P **P 00 35 54.0 +0.4**
comp=Z,1.4nm,0.6s,mb4.0,baz=28,slow=6.5,SNR=3.8
NOA NORSAR Array B 68.34 341 P **P 00 35 54.0 +0.4**
WRAB Tennant Creek 68.47 199 *e*P **P 00 35 54.2 -0.1**
WRAB pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
WRAB Tennant Creek 68.47 199 *e*P **P 00 35 54.2 -0.1**
comp=Z,0.7nm,0.4s,mb3.8
AKASG Malin Array Be 71.68 326 P **P 00 36 13.5 -0.6**
comp=Z,1.3nm,0.5s,mb4.0,baz=35,slow=6.0,SNR=5.2
ASAR Alice Springs 72.17 199 P **P 00 36 17.9 +0.9**
comp=Z,0.3nm,0.5s,mb3.4,baz=15,slow=6.1,SNR=4.4
TXAR Lajitas Array 77.42 61 P **P 00 36 47.9 +0.6**
comp=Z,0.5nm,0.7s,mb3.4,baz=291,slow=5.2,SNR=7.0
GERES GERESS Array B 78.58 334 P **P 00 36 53.1 -0.6**
comp=Z,0.4nm,0.5s,mb3.5,baz=36,slow=5.1,SNR=5.0

ISCJB ***17*** *00:38:56.5±0.7, 4666N×1556E±02, h10km, mb4.2/13, Error ellipse: s-maj=16.0km s-min=12.0km az=151.7*
IDC ***17*** *00:38:57.0±3.7, 4663N×15561E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=126.0km s-min=31.6km az=5.0*
NEIC ***17*** *00:38:58.4±0.5, 4666N×15558E, h10km, mb4.5/7, Error ellipse: s-maj=10.3km s-min=7.8km az=77.0*
MOS ***17*** *00:39:00.0±0.7, 4664N×15544E, h33km, mb4.7/7, Error ellipse: s-maj=18.4km s-min=13.0km az=121.5*

ISC 17 00:38:58.3±0.7, 4669N±008×1556E±02, h10km, n29, σ0§51/29, mb4.2/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.80**	**276**	PN	**Pn**	**00 41 05.5**	**-0.1**
MAJO	**Matsushiro**	**16.44**	**238**	P	**Pn**	**00 42 48.8**	**-0.3**
YAK	**Yakutsk**	**21.31**	**325**	P	**P**	**00 43 44.0**	**-1.2**
YAK				pmax	pmax		
comp=Z,11nm,0.3s,mb4.7							
YAK	**Yakutsk**	**21.31**	**325**	P	**P**	**00 43 44.0**	**-1.3**
comp=Z,11nm,0.3s,mb4.7							
INCN	**Inchon**	**23.26**	**257**	P	**P**	**00 44 06.6**	**+0.6**
BJT	**Baijiatuan**	**29.19**	**271**	*e*P	**P**	**00 44 59.8**	**-0.1**
BJT				pmax	pmax		
comp=Z,5.0nm,0.4s							
BJT	**Baijiatuan**	**29.19**	**271**	*e*P	**P**	**00 44 59.8**	**-0.1**
comp=Z,4.8nm,0.4s,mb4.6							
SONM	**Songino Array**	**32.95**	**290**	P	**P**	**00 45 33.2**	**+0.2**
comp=Z,0.5nm,0.7s,mb3.5,baz=57,slow=11,SNR=4.1							
TLY	**Talaya**	**33.71**	**298**	*e*P	**P**	**00 45 40.6**	**+0.9**
TLY				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8							
TLY	**Talaya**	**33.71**	**298**	*e*P	**P**	**00 45 40.6**	**+0.9**
comp=Z,8.3nm,0.6s,mb4.8							
GUMO	**Guam**	**34.20**	**199**	P	**P**	**00 45 43.3**	**-0.6**
ZAL	**Zalesovo**	**44.03**	**307**	P	**P**	**00 47 05.9**	**-0.2**
comp=Z,0.9nm,0.6s,mb3.7,baz=28,slow=7.6,SNR=5.4							
MKAR	**Makanchi Array**	**48.47**	**298**	P	**P**	**00 47 41.9**	**+0.9**
comp=Z,0.4nm,0.6s,mb3.6,baz=67,slow=9.3,SNR=4.2							
MKAR	**Makanchi Array**	**48.47**	**298**	P	**P**	**00 47 41.9**	**+0.9**
CHKZ	**Chkalovo**	**51.76**	**311**	*e*P	**P**	**00 48 05.3**	**-0.7**
CHKZ				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.76**	**311**	*e*P	**P**	**00 48 05.3**	**-0.7**
comp=Z,4.0nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**00 48 09.5**	**+0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=55,slow=7.3,SNR=18							
BRVK	**Borovoye**	**52.24**	**310**	*e*P	**P**	**00 48 09.5**	**-0.1**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.4							
BRVK	**Borovoye**	**52.24**	**310**	*e*P	**P**	**00 48 09.5**	**-0.1**
comp=Z,1.8nm,0.4s,mb4.3							
ZRNK	**Zerenda**	**52.96**	**311**	*e*P	**P**	**00 48 14.8**	**-0.1**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**52.96**	**311**	*e*P	**P**	**00 48 14.8**	**-0.1**
comp=Z,1.3nm,0.4s,mb4.2							
ARU	**Arti**	**56.20**	**318**	*e*P	**P**	**00 48 38.2**	**-0.2**
ARU				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
ARU	**Arti**	**56.20**	**318**	*e*P	**P**	**00 48 38.2**	**-0.2**
comp=Z,2.8nm,0.6s,mb4.5							
PMG	**Port Moresby**	**56.34**	**190**	P	**P**	**00 48 39.3**	**-0.1**
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**00 49 37.5**	**+0.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=36,slow=10.0,SNR=6.2							
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**00 49 37.5**	**+0.2**
CTAO	**Charters Tower**	**66.99**	**190**	P	**P**	**00 49 51.1**	**-0.2**
WRAB	**Tennant Creek**	**69.02**	**201**	P	**P**	**00 50 04.3**	**+0.2**
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**00 50 46.3**	**+0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=317,slow=5.1,SNR=4.4							

SKHL ***17*** *00:39:48.3±9.7, 4682N×15570E, h33km*
IDC ***17*** *00:39:48.3±0.6, 4715N×15556E, h0km, mb4.2/17, mb1 4.5/18, mb1mx4.3/25, mbtmp4.3/18, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/38, Error ellipse: s-maj=18.9km s-min=14.5km az=155.0*
MOS ***17*** *00:39:49.8±1.0, 4711N×15547E, h23km, mb4.8/30, Error ellipse: s-maj=8.9km s-min=6.8km az=96.6*
NEIC ***17*** *00:39:49.8±0.3, 4710N×15549E, h10km, mb4.7/27, Error ellipse: s-maj=8.2km s-min=4.9km az=155.0*
BJI ***17*** *00:39:49.8, 4787N×15585E, h23km, mB5.0, mb4.6*
ISCJB ***17*** *00:39:50.6±0.3, 4716N±005×15548E±006, h26km, mb4.5/58, MS4.1/3, Error ellipse: s-maj=8.3km s-min=5.4km az=121.3*
SZGRF ***17*** *00:40:32.7, 5155N×15067E, h33km, mb5.0, Sea of Okhotsk*

ISC 17 00:39:52.9±0.3, 4727N±005×15550E±007, h28km, h28km±3.4km:pP-P, n169, σ1§00/142, mb4.5/57, MS4.1/3, 18C-21D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**7**	*e*rx	**Sn**	**00 41 24.0**	**-0.5**
SKR	**Severo-Kuril's**	**3.44**	**7**	*e*PN	**Pn**	**00 40 43.2**	**-1.5**
KUR	**Kuril'sk**	**5.67**	**252**	*e*P	**Pn**	**00 41 11.0**	**-4.3**
KUR				AMB	AMB	00 41 15.0	
163nm,0.4s							
KUR				*e*S	**Sn**	**00 42 13.0**	**-6.5**
KUR				A		00 42 15.2	
204nm,0.4s							
KUR				A		00 42 15.2	
244nm,0.4s							
PET	**Petropavlovsk**	**6.11**	**18**	*e*PN	**Pn**	**00 41 20.2**	**-1.1**
PET	**Petropavlovsk**	**6.11**	**18**	*e*Pn	**Pn**	**00 41 19.9**	**-1.5**
58nm,0.8s							
PET				*e*Sn	**Sn**	**00 42 28.5**	**-1.8**
YSS	**Yuzh-Sakhalins**	**8.70**	**273**	*e*P	**Pn**	**00 41 58.0**	**+1.1**
YSS				*e*LQ		00 44 14.0	
YSS	**Yuzh-Sakhalins**	**8.70**	**273**	Pn	**Pn**	**00 41 55.5**	**-1.4**
ASAJ	**Asahikawa**	**9.56**	**255**	Pn	**Pn**	**00 42 08.1**	**-0.7**
2.1nm,0.3s,baz=120,slow=15,SNR=7.3							
ASAJ				LR	LR	00 46 54.2	
comp=Z,100nm,18.2s,baz=204,slow=44							
ASAJ	**Asahikawa**	**9.56**	**255**	PN	**Pn**	**00 42 08.1**	**-0.6**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,100nm,18.2s							
ERM	**Erimo**	**10.24**	**244**	*e*PN	**Pn**	**00 42 17.0**	**-1.0**
ERM				pmax	pmax		
comp=Z,37nm,0.8s							
ERM	**Erimo**	**10.24**	**244**	*e*P	**Pn**	**00 42 17.0**	**-1.0**
comp=Z,37nm,0.8s							
KLR	**Kul'dur**	**15.93**	**286**	*e*P	**Pn**	**00 43 34.0**	**-1.0**
KLR				MLR	MLR		
comp=E,500nm,13.0s							
KLR				MLR	MLR		
comp=Z,2μm,13.0s							
MJAR	**Matsushiro Arr**	**16.71**	**236**	Pn	**Pn**	**00 43 40.6**	**-4.5**
comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=8.7							
MJAR				LR	LR	00 50 38.4	
comp=Z,100nm,18.1s,baz=180,slow=39							
MAJO	**Matsushiro**	**16.71**	**236**	*e*P	**Pn**	**00 43 40.8**	**-4.2**
MAJO				pmax	pmax		
comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**16.71**	**236**	*e*P	**Pn**	**00 43 40.8**	**-4.2**
comp=Z,14nm,0.8s							
MAT	**Matsushiro**	**16.71**	**236**	P	**Pn**	**00 43 41.3**	**-3.7**
YAK	**Yakutsk**	**20.80**	**325**	*e*P	**P**	**00 44 30.0**	**-2.0**
YAK				*e*S	**S**	**00 48 18.6**	**-4.1**
YAK				*e*		00 48 40.6	
YAK				*e*SS		00 48 47.7	
YAK				pmax	pmax		
comp=Z,12nm,0.8s							
YAK				pmax	pmax		
comp=N,9.0nm,1.4s							
YAK				pmax	pmax		
comp=E,6.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,16nm,0.6s							
YAK				pmax	pmax		
comp=N,5.0nm,0.5s							
YAK				pmax	pmax		
comp=E,43nm,1.4s							
YAK				smax			
comp=E,142nm,3.3s							
YAK				smax			
comp=Z,14nm,0.5s							
YAK				smax			
comp=N,250nm,4.6s							
YAK				MLR	MLR		
comp=Z,215nm,14.0s,MS3.7							
YAK				MLR	MLR		
comp=N,94nm,11.0s,MS3.6							
YAK				MLR	MLR		
comp=E,131nm,11.0s,MS3.6							
YAK	**Yakutsk**	**20.80**	**325**	P	**P**	**00 44 31.2**	**-0.8**
CLNS	**Chul'man**	**20.95**	**308**	*e*P	**P**	**00 44 37.7**	**+4.1**
CLNS				*e**PP		00 44 45.6	
CLNS				*e*		00 44 51.0	
CLNS				*e*PPP		00 45 04.4	
CLNS				*e*S	**S**	**00 48 30.1**	**+4.5**
CLNS				*e*		00 48 39.7	
CLNS				pmax	pmax		
comp=Z,8.0nm,0.9s							
CLNS				pmax	pmax		
comp=N,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,8.0nm,0.7s							
CLNS				pmax	pmax		
comp=Z,14nm,0.8s							
CLNS				pmax	pmax		
comp=N,12nm,0.9s							
CLNS				pmax	pmax		
comp=E,9.0nm,0.8s							
CLNS				smax			
comp=E,11nm,0.9s							
CLNS				smax			
comp=Z,5.0nm,0.9s							
CLNS				smax			
comp=N,10.0nm,1.0s							
BILL	**Bilibino**	**21.54**	**11**	⇑*e*P	**P**	**00 44 41.5**	**+1.5**
BILL				*e**SP	sP	00 44 54.6	+3.6
BILL				pmax	pmax		
comp=Z,17nm,1.1s,mb4.4							
BILL	**Bilibino**	**21.54**	**11**	*e*P	**P**	**00 44 40.3**	**+0.3**
comp=Z,11nm,0.6s,mb4.5							
KSRS	**Korea Array**	**22.51**	**254**	P	**P**	**00 44 50.8**	**+0.5**
comp=Z,3.7nm,0.7s,mb3.9,baz=60,slow=9.1,SNR=10							
HIA	**Hailar**	**23.75**	**288**	P	**P**	**00 45 02.9**	**0.0**
TIXI	**Tiksi**	**27.45**	**342**	*e*P	**P**	**00 45 36.2**	**-0.3**
TIXI				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.3							
TIXI	**Tiksi**	**27.45**	**342**	*e*P	**P**	**00 45 36.2**	**-0.3**
comp=Z,8.3nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**32.27**	**289**	P	**P**	**00 46 19.3**	**+0.2**
SONM	**Songino Array**	**32.70**	**289**	P	**P**	**00 46 22.1**	**-0.8**
comp=Z,1.8nm,0.8s,mb4.0,baz=66,slow=9.4,SNR=11							
SONM				PcP	PcP	00 49 07.7	-0.4
comp=Z,0.9nm,0.9s,baz=89,slow=2.1,SNR=4.2							
TLY	**Talaya**	**33.39**	**297**	*e*P	**P**	**00 46 29.1**	**+0.1**
MCK	**McKinley**	**34.20**	**41**	*e*P	**P**	**00 46 35.7**	**-0.3**
MCK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
MCK	**McKinley**	**34.20**	**41**	*e*P	**P**	**00 46 35.7**	**-0.3**
comp=Z,3.2nm,0.9s,mb4.2							
COLA	**College**	**34.71**	**39**	*e*P	**P**	**00 46 40.6**	**+0.2**
COLA				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
COLA	**College**	**34.71**	**39**	*e*P	**P**	**00 46 40.6**	**+0.2**
comp=Z,4.9nm,0.6s,mb4.6							
EGAK	**Eagle**	**37.58**	**39**	*e*P	**P**	**00 47 04.3**	**-0.6**
comp=Z,9.1nm,0.9s,mb4.5							
LZH	**Lanzhou**	**39.50**	**273**	*e*P	**P**	**00 47 22.5**	**+1.4**
LZH				AMB	AMB		
comp=Z,30nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,128nm,4.1s							
LZH	**Lanzhou**	**39.50**	**273**	*e*P	**P**	**00 47 22.5**	**+1.4**
comp=Z,30nm,1.0s,mb5.0							
LZH				pP	pP	00 47 36.0	+6.7
LZH				sP	sP	00 47 40.0	+7.4
INK	**Inuvik**	**40.33**	**33**	P	**P**	**00 47 28.5**	**+0.5**
comp=Z,6.7nm,0.7s,mb4.5,baz=298,slow=6.8,SNR=24							
INK	**Inuvik**	**40.33**	**33**	*e*P	**P**	**00 47 28.7**	**+0.7**
INK				pmax	pmax		
comp=Z,275nm,0.9s							
INK	**Inuvik**	**40.33**	**33**	*e*P	**P**	**00 47 28.6**	**+0.6**
comp=Z,275nm,0.9s							
GTA	**Gaotai**	**40.49**	**280**	*e*P	**P**	**00 47 31.1**	**+1.8**
GTA				AP	pP	00 47 41.3	+3.7
GTA				AMB	AMB		
comp=Z,6.0nm,1.2s,mb4.2							
GYA	**Guiyang**	**43.42**	**259**	⇑*i*P	**P**	**00 47 54.0**	**+0.8**
GYA				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.5							
ZAL	**Zalesovo**	**43.64**	**306**	P	**P**	**00 47 54.0**	**-1.0**
comp=Z,4.0nm,0.7s,mb4.2,baz=41,slow=7.7,SNR=17							
ZAL				PcP	PcP	00 49 41.3	-0.7
comp=Z,0.8nm,0.4s,baz=65,slow=9.6,SNR=3.2							
ZAL				LR	LR	01 07 00.0	
comp=Z,95nm,19.9s,MS3.7,baz=25,slow=37							
ZAL	**Zalesovo**	**43.64**	**306**	P	**P**	**00 47 54.0**	**-1.0**
ZAL						00 49 41.3	
DLBC	**Dease Lake**	**44.06**	**47**	P	**P**	**00 48 00.1**	**+1.7**
NVS	**Novosibirsk**	**44.16**	**308**	*e*P	**P**	**00 47 58.9**	**-0.3**
NVS				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
NVS				pmax	pmax		
comp=E,19nm,1.6s							
MK31	**Makanchi Array**	**48.14**	**298**	*e*P	**P**	**00 48 31.1**	**+0.6**
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**00 48 30.3**	**-0.2**
comp=E,2.4nm,0.8s,mb4.3,baz=73,slow=7.1,SNR=12							
MKAR				PcP	PcP	00 49 57.7	-0.1
comp=E,2.2nm,0.9s,baz=5.4,slow=2.6,SNR=4.3							
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**00 48 30.3**	**-0.2**
MKAR				PcP	PcP	00 49 57.7	-0.1
KURK	**Kurchatov**	**48.43**	**304**	P	**P**	**00 48 33.0**	**+0.3**
KURK				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
YKA	**Yellowknife Ar**	**49.52**	**38**	P	**P**	**00 48 41.2**	**+0.1**
comp=Z,5.1nm,0.9s,mb4.6,baz=296,slow=7.2,SNR=7.7							
YKA	**Yellowknife Ar**	**49.52**	**38**	P	**P**	**00 48 41.2**	**+0.1**
RES	**Resolute Bay**	**49.82**	**19**	*e*P	**P**	**00 48 44.7**	**+1.3**
RES				pmax	pmax		
comp=Z,87nm,0.5s							
RES	**Resolute Bay**	**49.82**	**19**	*e*P	**P**	**00 48 44.7**	**+1.3**
comp=Z,87nm,0.5s							
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**00 48 54.7**	**-0.1**
CHKZ				pmax	pmax		
comp=Z,12nm,0.6s,mb5.0							
CHKZ	**Chkalovo**	**51.34**	**311**	*e*P	**P**	**00 48 54.7**	**-0.1**
comp=Z,12nm,0.6s,mb5.0							
BVA0	**Borovoye Array**	**51.78**	**310**	*i* P	**P**	**00 48 58.7**	**+0.6**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**00 48 58.9**	**+0.8**
comp=Z,5.7nm,0.6s,mb4.7,baz=55,slow=6.7,SNR=29							
BVAR				PcP	PcP	00 50 10.8	-0.2
comp=Z,1.5nm,0.7s,baz=33,slow=5.0,SNR=2.3							
BRVK	**Borovoye**	**51.82**	**310**	P	**P**	**00 48 58.8**	**+0.4**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
BRVK	**Borovoye**	**51.82**	**310**	*e*P	**P**	**00 48 58.8**	**+0.4**
comp=Z,7.2nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**52.54**	**310**	*e*P	**P**	**00 49 04.4**	**+0.6**
ZRNK				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.54**	**310**	*e*P	**P**	**00 49 04.3**	**+0.6**
comp=Z,6.4nm,0.6s,mb4.7							
AAK	**Ala-Archa**	**55.06**	**297**	*e*P	**P**	**00 49 22.4**	**+0.2**
AAK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**55.06**	**297**	*e*P	**P**	**00 49 22.4**	**+0.2**
comp=Z,4.5nm,0.8s,mb4.5							
ARU	**Arti**	**55.72**	**318**	⇓*i*P	**P**	**00 49 27.4**	**+0.4**
ARU				*e*		00 51 31.4	
ARU				*e*S	**S**	**00 57 05.2**	**-6.6**
ARU				*e*SS	SS	01 01 00.6	+3.3
ARU				pmax	pmax		
comp=Z,17nm,0.7s,mb5.2							
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**00 49 26.8**	**-0.1**
comp=Z,15nm,0.7s,mb5.1							
KK31	**Karatay Array**	**57.17**	**300**	*i* P	**P**	**00 49 37.3**	**0.0**
KK31				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
KKAR	**Karatay Array**	**57.17**	**300**	*i* P	**P**	**00 49 37.3**	**0.0**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
ARCES	**ARCESS Array B**	**57.89**	**341**	P	**P**	**00 49 42.4**	**0.0**
comp=Z,4.2nm,0.8s,mb4.5,baz=25,slow=7.1,SNR=6.4							
AB31	**Akbulak array**	**59.34**	**311**	*i* P	**P**	**00 49 52.5**	**+0.1**
AB31				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
HLID	**Hailey**	**59.86**	**57**	*e*P	**P**	**00 49 56.4**	**+0.3**
ORR	**Orenburg**	**60.44**	**315**	*e*P	**P**	**00 50 00.9**	**+0.9**
ORR				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
NVAR	**Mina Array Bea**	**60.74**	**64**	P	**P**	**00 50 01.1**	**-1.0**
comp=Z,0.8nm,0.8s,mb3.9,baz=292,slow=9.9,SNR=5.3							
ISA	**Isabella**	**62.39**	**66**	P	**P**	**00 50 13.7**	**+0.5**
BW06	**Boulder Array**	**63.12**	**55**	P	**P**	**00 50 18.8**	**+0.8**
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**00 50 18.1**	**0.0**
comp=Z,1.7nm,1.0s,mb4.1,baz=318,slow=2.0,SNR=8.3							
FINES	**FINESS Array B**	**64.25**	**336**	P	**P**	**00 50 25.8**	**+0.2**
comp=Z,1.2nm,0.4s,mb4.3,baz=39,slow=8.6,SNR=13							
RSSD	**Black Hills**	**65.23**	**51**	*e*P	**P**	**00 50 32.0**	**+0.1**
RSSD				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6							
RSSD	**Black Hills**	**65.23**	**51**	*e*P	**P**	**00 50 32.0**	**+0.1**
comp=Z,6.6nm,1.1s,mb4.6							
OBN	**Obninsk**	**65.79**	**327**	*e*P	**P**	**00 50 37.3**	**+1.8**
OBN				*e*S	S	00 59 12.9	-7.4
OBN				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.5							
ISCO	**Idaho Springs**	**67.31**	**56**	P	**P**	**00 50 45.4**	**+0.2**
NB2	**NORSAR Subarra**	**68.25**	**342**	P	**P**	**00 50 51.3**	**+0.2**
comp=Z,6.3nm,0.9s,mb4.7,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**68.25**	**342**	P	**P**	**00 50 51.4**	**+0.3**
comp=Z,4.0nm,0.9s,mb4.5,baz=26,slow=6.5,SNR=7.9							
NOA	**NORSAR Array B**	**68.25**	**342**	P	**P**	**00 50 51.4**	**+0.3**
WRAB	**Tennant Creek**	**69.55**	**201**	*e*P	**P**	**00 50 58.5**	**-0.7**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
WRAB	**Tennant Creek**	**69.55**	**201**	*e*P	**P**	**00 50 58.5**	**-0.7**
comp=Z,3.8nm,0.8s,mb4.4							
WB2	**Warramunga Arr**	**69.56**	**201**	*e*P	**P**	**00 50 57.7**	**-1.6**
WRA	**Warramunga Arr**	**69.56**	**201**	P	**P**	**00 50 58.5**	**-0.8**
comp=Z,4.4nm,0.9s,mb4.4,baz=19,slow=6.6,SNR=14							
KIV	**Kislovodsk**	**71.59**	**315**	⇓*e*P	**P**	**00 51 13.3**	**+1.6**
KIV				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
KIV	**Kislovodsk**	**71.59**	**315**	P	**P**	**00 51 10.9**	**-0.7**
AKASG	**Malin Array Be**	**72.00**	**327**	P	**P**	**00 51 13.6**	**-0.6**
comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=5.7,SNR=22							
ASAR	**Alice Springs**	**73.24**	**201**	P	**P**	**00 51 20.6**	**-0.9**
comp=Z,2.0nm,0.9s,mb4.1,baz=15,slow=6.5,SNR=13							
LTX	**Lajitas**	**75.81**	**62**	*e*P	**P**	**00 51 36.5**	**+0.1**
LTX				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
LTX	**Lajitas**	**75.81**	**62**	*e*P	**P**	**00 51 36.5**	**+0.1**
comp=Z,1.8nm,0.6s,mb4.2							
TXAR	**Lajitas Array**	**75.81**	**62**	P	**P**	**00 51 35.9**	**-0.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=294,slow=4.1,SNR=17							
STHS	**Stebnicka Huta**	**75.87**	**331**	*e*P	**P**	**00 51 40.7**	**+4.0**
STHS				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
STHS	**Stebnicka Huta**	**75.87**	**331**	*e*P	**P**	**00 51 40.7**	**+4.0**
comp=Z,2.9nm,1.0s,mb4.2							
BURAR	**Bucovina Array**	**76.03**	**328**	⇓*i*P	**P**	**00 51 38.7**	**+1.0**
BURAR	**Bucovina Array**	**76.03**	**328**	⇓P	**P**	**00 51 38.7**	**+1.0**
UPC	**Upice**	**76.53**	**335**	*e*P	pP	00 51 46.8	-2.5
DPC	**Dobruska-Polom**	**76.58**	**334**	*e*P	pP	00 51 47.9	-1.7
CLL	**Collm**	**76.65**	**337**	*e*P	pP	00 51 47.7	-2.3
CLL	**Collm**	**76.65**	**337**	⇓*i*P	pP	00 51 47.8	-2.2
CLL				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
CLL	**Collm**	**76.65**	**337**	⇓*i*P	pP	00 51 47.8	-2.2
comp=Z,13nm,0.9s							
CLL				*i* PcP	PcP	00 51 58.5	+5.9
MORC	**Moravsky Berou**	**76.72**	**334**	⇑*i*P	**P**	**00 51 43.6**	**+2.0**
MORC	**Moravsky Berou**	**76.72**	**334**	*e*P	**P**	**00 51 41.4**	**-0.2**
CLZ	**Clausthal**	**76.84**	**339**	*e*P	pP	00 51 49.8	-1.2
PVCC	**Panska Ves**	**76.92**	**336**	*e*P	pP	00 51 49.3	-2.2
PRU	**Pruhonice**	**77.42**	**335**	*e*P	pP	00 51 52.1	-2.2
VYHS	**Vyhne**	**77.45**	**332**	*e*P	pP	00 51 52.4	-2.1
VYHS				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
VYHS	**Vyhne**	**

	comp=Z,12nm,0.9s,mb4.8							
MOTA				⇑*i*PcP		pP	00 52 12.3	-0.4
SQTA	**Sankt Quirin**	**80.86**	**336**	⇓*i*P		**P**	**00 52 04.8**	**+0.5**
	comp=Z,9.9nm,0.9s,mb4.8							
SQTA	**Sankt Quirin**	**80.86**	**336**	⇓*i*		pP	00 52 12.8	-0.3
SQTA	**Sankt Quirin**	**80.86**	**336**	⇓*i*pP		**P**	**00 52 04.8**	**+0.5**
	comp=Z,9.9nm,0.9s,mb4.8							
SQTA				⇓*i*PcP		pP	00 52 12.8	-0.3
VTS	**Vitosha**	**81.06**	**326**	⇑*i*P		pP	00 52 11.4	-2.8
VTS	**Vitosha**	**81.06**	**326**	⇑P		pP	00 52 11.4	-2.8
GRR	**Gorron**	**82.53**	**344**	*e*P		**P**	**00 52 12.1**	**-1.0**
	comp=Z,106nm,1.5s,mb5.4							
GRR	**Gorron**	**82.53**	**344**	*e*P		**P**	**00 52 12.1**	**-1.0**
GRR				pmax		pmax		
	comp=Z,53nm,1.5s,mb5.3							
GRR	**Gorron**	**82.53**	**344**	*e*P		**P**	**00 52 12.1**	**-1.0**
	comp=Z,53nm,1.5s,mb5.3							
SMF	**Signal de Mont**	**83.23**	**341**	*e*P		**P**	**00 52 15.3**	**-1.5**
	comp=Z,27nm,1.1s,mb4.9							
SMF	**Signal de Mont**	**83.23**	**341**	*e*P		**P**	**00 52 15.3**	**-1.5**
SMF				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.9							
SMF	**Signal de Mont**	**83.23**	**341**	*e*P		**P**	**00 52 15.3**	**-1.5**
	comp=Z,13nm,1.1s,mb4.9							
LPG	**La Plagne**	**83.62**	**338**	*e*P		**P**	**00 52 18.1**	**-0.7**
	comp=Z,21nm,1.1s,mb4.9							
LPG	**La Plagne**	**83.62**	**338**	*e*P		**P**	**00 52 18.1**	**-0.7**
LPG				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.9							
LPG	**La Plagne**	**83.62**	**338**	*e*P		**P**	**00 52 18.1**	**-0.7**
	comp=Z,10nm,1.1s,mb4.9							
CAF	**Calviac**	**85.26**	**341**	*e*P		**P**	**00 52 25.7**	**-1.4**
	comp=Z,12nm,1.0s,mb4.7							
CAF	**Calviac**	**85.26**	**341**	*e*P		**P**	**00 52 25.7**	**-1.4**
CAF				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
CAF	**Calviac**	**85.26**	**341**	*e*P		**P**	**00 52 25.7**	**-1.4**
	comp=Z,6.1nm,1.0s,mb4.7							
LVC	**Limon Verde**	**136.84**	**71**	PKPdf		PKPdf	00 59 14.3	+1.4

NEIC ***17*** *00:40:03.0±1.2, 658S×15136E, h10km, mb4.0/6, Error ellipse: s-maj=30.5km s-min=14.7km az=114.0*
ISCJB ***17*** *00:40:10.5±4.7, 67S±02×151E±02, h70km±33km, mb3.9/5, Error ellipse: s-maj=41.3km s-min=27.0km az=19.5*
IDC ***17*** *00:40:12.7±8.5, 669S×15097E, h74km±60km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.6/5, ML2.4/1, Error ellipse: s-maj=58.5km s-min=54.4km az=76.0*

ISC 17 00:40:11.4±4.6, 67S±02×1511E±03, h63km±32km, n16, σ0s37/15, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73**	**235**	P	P	**Pn**	**00 41 20.2**	**0.0**
	1.1nm,0.3s,baz=27,slow=7.1,SNR=6.0							
PMG				S		**Sn**	**00 42 14.2**	**+0.4**
	2.1nm,0.3s,baz=5.1,slow=20,SNR=6.0							
KAKA	**Kakadu**	**19.33**	**251**	*e*P		**Pn**	**00 44 32.6**	**-0.5**
	2.0nm,0.4s							
WRAB	**Tennant Creek**	**20.91**	**229**	*e*P		**P**	**00 44 48.4**	**-0.2**
	2.5nm,0.7s							
WB2	**Warramunga Arr**	**20.91**	**229**	*e*P		**P**	**00 44 48.6**	**0.0**
WRA	**Warramunga Arr**	**20.92**	**229**	P		**P**	**00 44 48.0**	**-0.8**
	2.3nm,0.8s,baz=54,slow=10,SNR=10							
ASAR	**Alice Springs**	**23.61**	**223**	P		**P**	**00 45 16.8**	**+0.3**
	1.1nm,0.5s,mb3.5,baz=56,slow=8.3,SNR=21							
STKA	**Stephens Creek**	**26.57**	**198**	*e*P		**P**	**00 45 44.2**	**+0.8**
	1.6nm,0.4s,mb3.9							
STKA	**Stephens Creek**	**26.57**	**198**	P		**P**	**00 45 43.1**	**-0.3**
	1.4nm,0.4s,mb3.8,baz=8.5,slow=11,SNR=4.3							
FITZ	**Fitzroy Crossi**	**27.28**	**243**	*e*P		**P**	**00 45 50.2**	**+0.4**
	4.6nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**27.28**	**243**	P		**P**	**00 45 49.5**	**-0.3**
	2.8nm,0.6s,mb4.0,baz=58,slow=7.1,SNR=9.8							
NWAO	**Narrogin (SRO)**	**40.85**	**226**	P		**P**	**00 47 47.0**	**+0.1**
LSA	**Lhasa**	**67.94**	**306**	*e*P		**P**	**00 51 03.9**	**+0.4**
PALK	**Pallekele**	**71.58**	**280**	*e*P		**P**	**00 51 25.8**	**-0.1**
	1.6nm,0.4s,mb4.3							
CHKZ	**Chkalovo**	**89.75**	**324**	*e*P		**P**	**00 53 02.8**	**+0.1**
	0.3nm,0.5s,mb3.9							
TORD	**Torodi Ar. Bea**	**149.22**	**284**	PKPbc		PKPbc	00 59 53.7	+1.0
	0.8nm,1.0s,baz=75,slow=3.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**149.22**	**284**	PKPbc		PKPbc	00 59 53.7	+1.0

ISCJB ***17*** *00:47:41.3±0.9, 465N±0.1×1530E±0.1, h10km, mb4.0/16, Error ellipse: s-maj=22.6km s-min=6.9km az=117.2*
IDC ***17*** *00:47:41.6±1.7, 4646N×15301E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/24, mbtmp3.9/12, Error ellipse: s-maj=47.8km s-min=19.9km az=173.0*
NEIC ***17*** *00:47:42.7±0.7, 4638N×15296E, h10km, mb4.3/5, Error ellipse: s-maj=18.2km s-min=8.1km az=147.0*
MOS ***17*** *00:47:44.3±1.2, 4644N×15298E, h33km, mb4.4/4, Error ellipse: s-maj=14.8km s-min=13.3km az=75.6*

ISC 17 00:47:43.0±0.9, 464N±01×1529E±01, h10km, n31, σ0s78/32, mb4.0/16, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.74**	**253**	*i* PN	P	**Pn**	**00 48 41.0**	**+0.3**
KUR				*i* S		**Sb**	**00 49 34.0**	**-0.5**
KUR				pmax		pmax		
	comp=Z,150nm,0.5s							
KUR				smax				
	comp=N,210nm,0.9s							
KUR				smax				
	comp=E,280nm,0.9s							
PET	**Petropavlovsk**	**7.56**	**27**	PN		**Pn**	**00 49 32.0**	**-1.2**
ASAJ	**Asahikawa**	**7.65**	**256**	Pn		**Pn**	**00 49 38.5**	**+4.0**
	comp=E,1.9nm,0.3s,baz=131,slow=19,SNR=2.2							
ASAJ	**Asahikawa**	**7.65**	**256**	PN		**Pn**	**00 49 38.5**	**+4.0**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MAJO	**Matsushiro**	**14.79**	**233**	P		**Pn**	**00 51 11.0**	**-1.2**
KSRS	**Korea Array**	**20.59**	**253**	P		**P**	**00 52 23.9**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=54,slow=10,SNR=6.0							
INCN	**Inchon**	**21.43**	**255**	*e*P		**P**	**00 52 31.0**	**-0.1**
	comp=Z,13nm,0.3s,mb4.8							
HIA	**Hailar**	**22.35**	**289**	P		**P**	**00 52 41.3**	**+0.3**
BJT	**Baijiatuan**	**27.36**	**270**	*e*P		**P**	**00 53 27.6**	**-0.7**
BJT				pmax		pmax		
	comp=Z,5.0nm,0.4s							
BJT	**Baijiatuan**	**27.36**	**270**	*e*P		**P**	**00 53 27.6**	**-0.6**
	comp=Z,4.7nm,0.4s,mb4.4							
SONM	**Songino Array**	**31.32**	**290**	P		**P**	**00 54 03.4**	**+0.1**
	comp=Z,0.3nm,0.8s,mb3.2,baz=73,slow=4.8,SNR=2.2							
INK	**Inuvik**	**41.98**	**32**	P		**P**	**00 55 34.2**	**0.0**
	comp=Z,2.3nm,1.1s,mb3.7,baz=228,slow=2.2,SNR=4.1							
INK	**Inuvik**	**41.98**	**32**	*e*P		**P**	**00 55 35.3**	**+1.1**
INK				pmax		pmax		
	comp=Z,117nm,1.0s							
INK	**Inuvik**	**41.98**	**32**	*e*P		**P**	**00 55 35.3**	**+1.1**
	comp=Z,117nm,1.0s,mb5.5							
MKAR	**Makanchi Array**	**46.97**	**298**	P		**P**	**00 56 14.9**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=67,slow=7.0,SNR=11							
CHKZ	**Chkalovo**	**50.53**	**310**	*e*P		**P**	**00 56 41.5**	**0.0**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**50.53**	**310**	*e*P		**P**	**00 56 41.5**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.2							
BVAR	**Borovoye Array**	**50.96**	**310**	P		**P**	**00 56 44.1**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=45,slow=8.0,SNR=6.1							
BRVK	**Borovoye**	**51.00**	**310**	*e*P		**P**	**00 56 44.2**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
BRVK	**Borovoye**	**51.00**	**310**	*e*P		**P**	**00 56 44.1**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.0							
ZRNK	**Zerenda**	**51.73**	**310**	*e*P		**P**	**00 56 50.5**	**+0.1**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**51.73**	**310**	*e*P		**P**	**00 56 50.5**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0							
ARCES	**ARCESS Array B**	**58.10**	**341**	P		**P**	**00 57 36.8**	**+0.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=21,slow=7.0,SNR=5.5							
FINES	**FINESS Array B**	**64.27**	**335**	P		**P**	**00 58 18.1**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=45,slow=6.4,SNR=7.6							
PDAR	**Pinedale Array**	**65.03**	**54**	P		**P**	**00 58 23.2**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=270,slow=3.0,SNR=5.4							
NOA	**NORSAR Array B**	**68.48**	**341**	P		**P**	**00 58 45.7**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=28,slow=6.4,SNR=2.8							
NOA	**NORSAR Array B**	**68.48**	**341**	P		**P**	**00 58 45.7**	**+0.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.5s							

AKASG	**Malin Array Be**	**71.73**	**326**	P		**P**	**00 59 05.4**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=35,slow=6.2,SNR=10							
BURAR	**Bucovina Array**	**75.78**	**326**	⇓*i*P		**P**	**00 59 30.7**	**+1.7**
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**00 59 40.3**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=302,slow=4.5,SNR=22							
GERES	**GERESS Array B**	**78.68**	**334**	P		**P**	**00 59 44.1**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=30,slow=6.1,SNR=3.5							

IDC ***17*** *00:53:34.6±1.2, 4647N×15296E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.9/26, mbtmp3.8/14, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/55, Error ellipse: s-maj=37.0km s-min=16.8km az=175.0*
NEIC ***17*** *00:53:35.9±0.7, 4630N×15285E, h10km, mb4.1/4, Error ellipse: s-maj=19.6km s-min=10.0km az=167.0*
MOS ***17*** *00:53:40.6±1.2, 4619N×15289E, h69km, mb4.4/4, Error ellipse: s-maj=18.8km s-min=15.2km az=131.8*
ISCJB ***17*** *00:53:42.2±2.5, 463N±02×1529E±02, h79km±26km, mb3.9/16, Error ellipse: s-maj=36.6km s-min=17.1km az=170.2*

ISC 17 00:53:43.4±2.5, 465N±02×1529E±02, h67km±28km, n32, σ0s75/30, mb3.9/16, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.70**	**252**	⇓*i*PN	P	**Pn**	**00 54 38.0**	**-0.1**
KUR				pmax		pmax		
	comp=Z,80nm,0.5s							
YSS	**Yuzh-Sakhalins**	**6.96**	**278**	PN		**Pn**	**00 55 16.6**	**-6.1**
MJAR	**Matsushiro Arr**	**14.77**	**233**	Pn		**Pn**	**00 57 03.4**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=37,slow=9.1,SNR=3.1							
MJAR	**Matsushiro Arr**	**14.77**	**233**	Pn		**Pn**	**00 57 03.4**	**-5.1**
KSRS	**Korea Array**	**20.55**	**253**	P		**P**	**00 58 16.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=49,slow=11,SNR=3.3							
JNU	**Nakatsue**	**21.43**	**239**	LR		LR	01 07 05.7	
	comp=Z,138nm,19.0s,baz=240,slow=38							
HIA	**Hailar**	**22.29**	**289**	*e*P		**P**	**00 58 35.6**	**+0.6**
HIA				pmax		pmax		
	comp=Z,3.0nm,0.4s							
HIA	**Hailar**	**22.29**	**289**	*e*P		**P**	**00 58 35.6**	**+0.6**
	comp=Z,3.0nm,0.4s,mb4.0							
SONM	**Songino Array**	**31.26**	**290**	P		**P**	**00 59 55.5**	**-1.2**
	comp=Z,0.4nm,0.9s,mb3.1,baz=69,slow=7.9,SNR=2.7							
INK	**Inuvik**	**41.98**	**32**	P		**P**	**01 01 25.9**	**-1.8**
	comp=Z,2.2nm,0.8s,mb3.9,baz=314,slow=5.5,SNR=3.0							
INK	**Inuvik**	**41.98**	**32**	*e*P		**P**	**01 01 29.7**	**+1.9**
INK				pmax		pmax		
	comp=Z,65nm,0.7s							
INK	**Inuvik**	**41.98**	**32**	*e*P		**P**	**01 01 29.7**	**+1.9**
	comp=Z,65nm,0.7s,mb5.5							
ZAL	**Zalesovo**	**42.65**	**306**	P		**P**	**01 01 32.5**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.6,baz=207,slow=2.3,SNR=2.3							
MKAR	**Makanchi Array**	**46.91**	**297**	P		**P**	**01 02 07.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=63,slow=6.9,SNR=7.0							
MKAR	**Makanchi Array**	**46.91**	**297**	P		**P**	**01 02 07.6**	**+0.5**
LSA	**Lhasa**	**50.11**	**273**	P		**P**	**01 02 33.0**	**+1.3**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.3s,mb4.7							
LSA	**Lhasa**	**50.11**	**273**	P		**P**	**01 02 33.0**	**+1.3**
	comp=Z,2.7nm,0.3s,mb4.7							
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P		**P**	**01 02 34.1**	**-0.3**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P		**P**	**01 02 34.1**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1							
BVAR	**Borovoye Array**	**50.90**	**309**	P		**P**	**01 02 38.3**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=49,slow=8.1,SNR=6.5							
BRVK	**Borovoye**	**50.94**	**310**	P		**P**	**01 02 37.6**	**-0.3**
ZRNK	**Zerenda**	**51.67**	**310**	*e*P		**P**	**01 02 43.4**	**0.0**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**51.67**	**310**	*e*P		**P**	**01 02 43.4**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.1							
NVAR	**Mina Array Bea**	**62.72**	**62**	P		**P**	**01 04 02.0**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=284,slow=8.2,SNR=2.9							
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**01 04 11.2**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.1,baz=48,slow=5.7,SNR=5.1							
PDAR	**Pinedale Array**	**65.05**	**54**	P		**P**	**01 04 16.3**	**-0.3**
	comp=Z,1.0nm,0.9s,mb3.6,baz=281,slow=2.3,SNR=5.7							
NOA	**NORSAR Array B**	**68.43**	**341**	P		**P**	**01 04 38.4**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.9,baz=27,slow=5.9,SNR=2.8							
HFS	**Hagfors**	**68.66**	**339**	P		**P**	**01 04 39.6**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.2,baz=28,slow=6.5,SNR=2.8							
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**01 04 57.4**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.7,baz=35,slow=6.8,SNR=4.8							
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**01 04 57.4**	**-0.6**
TXAR	**Lajitas Array**	**77.78**	**60**	P		**P**	**01 05 32.4**	**-0.9**
	comp=Z,1.4nm,0.9s,mb3.7,baz=305,slow=4.4,SNR=10							
CFAA	**Coronel Fontan**	**145.22**	**79**	PKPbc		PKPbc	01 13 14.0	+0.9
	comp=Z,0.1nm,0.3s,baz=294,slow=1.1,SNR=3.7							

IDC 17 00:56:10.0±3.9, 4656N×15319E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/23, mbtmp3.9/7, Error ellipse: s-maj=124.4km s-min=33.5km az=10.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.08**	**298**	P		P	01 04 43.1	-0.3
	0.6nm,0.8s,baz=64,slow=8.2,SNR=3.7							
BVAR	**Borovoye Array**	**51.02**	**310**	P		P	01 05 13.2	-0.5
	0.4nm,0.4s,baz=50,slow=7.2,SNR=4.3							
FINES	**FINESS Array B**	**64.23**	**335**	P		P	01 06 46.0	-0.8
	4.5nm,1.0s,baz=28,slow=7.8,SNR=7.5							
HFS	**Hagfors**	**68.65**	**340**	P		P	01 07 14.6	-0.5
	2.3nm,0.5s,baz=55,slow=5.5,SNR=13							
AKASG	**Malin Array Be**	**71.73**	**326**	P		P	01 07 33.0	-0.9
	1.2nm,0.5s,baz=34,slow=6.1,SNR=5.9							
TXAR	**Lajitas Array**	**77.54**	**61**	P		P	01 08 07.7	+0.1
	0.4nm,0.7s,baz=290,slow=5.3,SNR=4.5							
GERES	**GERESS Array B**	**78.65**	**334**	P		P	01 08 14.7	+0.9
	0.3nm,0.6s,baz=30,slow=2.6,SNR=2.9							

IDC ***17*** *00:57:56.9±0.5, 9785×10881E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.5/19, ML3.6/1, MS4.3/20, Ms1 4.3/20, ms1mx4.0/42, Error ellipse: s-maj=18.1km s-min=12.9km az=59.0*
BJI ***17*** *00:57:57.5, 9805×10890E, h10km, mB5.2, mb5.1, Ms5.0, Ms2.4.8*
NEIC ***17*** *00:57:59.0±0.3, 9785×10891E, h10km, mb5.0/21, MS4.4/1, Error ellipse: s-maj=8.8km s-min=6.1km az=63.0*
ISCJB ***17*** *00:58:00.2±0.3, 9765±004×10889E±004, h30km, mb5.0/67, MS4.6/39, Error ellipse: s-maj=6.0km s-min=4.9km az=115.7*
MOS ***17*** *00:58:00.7±1.2, 9675×10899E, h33km, mb5.1/28, MS4.5/4, Error ellipse: s-maj=13.0km s-min=6.9km az=103.9*

ISC 17 00:58:02.5±0.3, 978S±004×10889E±004, h31km, h31km±.7km: pP-P, n190, σ1s20/184, mb5.0/67, MS4.6/39, 5C-6D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.57**	**19**	P	P	**Pn**	**00 58 42.2**	**+0.3**
	2µm,1.1s							
LEM	**Lembang**	**3.19**	**337**	P	P	**Pn**	**00 58 50.5**	**0.0**
	2µm,1.0s							
KRKI	**Karangkates**	**3.88**	**66**	P	P	**Pn**	**00 59 00.8**	**+1.0**
	3µm,1.0s							
SBJI	**Serang**	**4.55**	**323**	P	P	**Pn**	**00 59 15.2**	**+6.1**
	290nm,1.1s							
NBBI	**Negara**	**5.83**	**77**	P	P	**Pn**	**00 59 28.4**	**+1.6**
	1µm,0.9s							
DNP	**Denpasar**	**6.34**	**81**	P	P	**Pn**	**00 59 42.7**	**+9.0**
	569nm,1.1s							
KSM	**Kuching**	**11.27**	**7**	Pn	P	**Pn**	**01 00 41.3**	**0.0**
KSM				*e*Sn	P	**Sn**	**01 02 42.1**	**-4.1**
KAPI	**Kappang**	**11.77**	**67**	Pn	P	**Pn**	**01 00 49.5**	**+1.4**
	455nm,1.0s,SNR=21							
PCI	**Palu**	**14.02**	**52**	P	P	**Pn**	**01 01 21.3**	**+2.5**
	157nm,1.7s							
MBWA	**Marble Bar**	**15.39**	**139**	*e*Pn	P	**Pn**	**01 01 29.8**	**-7.5**
PSI	**Prapat**	**15.96**	**321**	Pn	P	**Pn**	**01 01 36.2**	**-8.5**
	0.1nm,0.3s,baz=155,slow=14,SNR=4.6							
PSI	**Prapat**	**15.96**	**321**	Pn	P	**Pn**	**01 01 36.2**	**-8.5**
IPM	**Ipoh**	**16.19**	**331**	P	P	**Pn**	**01 01 54.7**	**+7.1**
TSM	**Tawau**	**16.61**	**33**	P	P	**Pn**	**01 01 57.5**	**+4.7**
KULM	**Kulim**	**17.07**	**331**	*e*Pn	P	**Pn**	**01 01 59.0**	**+0.3**
KKM	**Kota Kinabalu**	**17.34**	**25**	P	P	**Pn**	**01 01 59.9**	**-2.1**
KKM	**Kota Kinabalu**	**17.34**	**25**	*e*Pn	P	**Pn**	**01 02 01.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.23**	**119**	*e*P	P	**Pn**	**01 02 13.6**	**+0.6**
	30nm,0.9s							
FITZ				*e*S		**Sn**	**01 05 16.2**	**-19**
FITZ	**Fitzroy Crossi**	**18.23**	**119**	P	P	**Pn**	**01 02 11.2**	**-1.8**
	0.1nm,0.3s,baz=286,slow=9.6,SNR=7.4							
AAI	**Ambon**	**20.10**	**74**	P	P	**P**	**01 02 33.3**	**-0.2**
	308nm,1.3s							
BSI	**Banda Aceh**	**20.34**	**318**	P	P	**P**	**01 02 35.5**	**-0.6**
	71nm,1.2s							
KAKA	**Kakadu**	**23.28**	**99**	*e*P	P	**P**	**01 03 07.8**	**+0.3**
	25nm,1.0s,mb4.6							
KAKA				*e*pP			01 03 16.4	
KAKA				*e*S		sS	01 07 31.8	-0.5
NWAO	**Narrogin (SRO)**	**24.29**	**163**	LR		LR	01 11 27.7	
	comp=Z,921nm,19.3s,MS4.3,baz=325,slow=33							
NWAO	**Narrogin (SRO)**	**24.29**	**163**	P		**P**	**01 03 18.5**	**+1.6**
WRA	**Warramunga Arr**	**26.56**	**115**	P		**P**	**01 03 36.5**	**-1.0**
	7.7nm,0.9s,mb4.2,baz=287,slow=11,SNR=17							
WRAB	**Tennant Creek**	**26.56**	**115**	*e*P		**P**	**01 03 38.1**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,13nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**26.56**	**115**	*e*P		**P**	**01 03 38.0**	**+0.5**
	comp=Z,13nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**26.57**	**115**	*e*P		**P**	**01 03 37.3**	**-0.3**
WB2				*e*pP		pP	01 03 47.8	+1.2
WB2				*e*sP		sP	01 04 02.0	+12
WB2				*e*S		sS	01 08 34.2	+9.2
ASPA	**Alice Springs**	**27.58**	**123**	*e*P		**P**	**01 03 50.3**	**+3.6**
ASPA				*e*S		sS	01 08 59.5	+18
ASAR	**Alice Springs**	**27.59**	**123**	P		**P**	**01 03 47.1**	**+0.4**
	comp=Z,6.5nm,0.9s,mb4.3,baz=298,slow=8.8,SNR=28							
ASAR				PcP		PcP	01 07 05.8	+2.0
	comp=Z,1.0nm,0.7s,baz=314,slow=3.0,SNR=4.3							
ASAR				LR		LR	01 14 24.0	
	comp=Z,369nm,18.3s,MS4.0,baz=307,slow=36							
ASAR	**Alice Springs**	**27.59**	**123**	P		**P**	**01 03 47.1**	**+0.4**
ASAR							01 07 05.8	
AS31	**Alice Springs**	**27.59**	**123**	*e*P		**P**	**01 03 50.3**	**+3.6**
AS31				*e*S		sS	01 08 59.5	+18
QIZ	**Qiongzhong**	**28.64**	**2**	P		**P**	**01 03 57.3**	**+1.1**
QIZ				XP		sP	01 04 10.8	+1.7
QIZ				S		**S**	**01 08 45.8**	**+3.0**
QIZ				XS		sS	01 08 50.3	-7.5
QIZ				SS		SS	01 10 05.4	-39
QIZ				AMB		AMB		
	comp=Z,157nm,9.0s							
QIZ				LR		LR		
	comp=E,1µm,16.6s							
QIZ				LR		LR		
	comp=Z,978nm,13.6s,MS4.6							
QIZ	**Qiongzhong**	**28.64**	**2**	P		**P**	**01 03 56.4**	**+0.2**
CM31	**Chiang Mai Arr**	**29.73**	**341**	*e*pP		pP	01 04 24.2	+9.3
CHTO	**Chiang Mai**	**30.06**	**341**	P		**P**	**01 04 09.5**	**+0.8**
	SNR=8.3							
CHTO	**Chiang Mai**	**30.06**	**341**	*e*P		**P**	**01 04 08.8**	**+0.1**
CHTO				*e*		pP	01 04 17.0	-0.8
CHTO				pmax		pmax		
	comp=Z,25nm,1.1s,mb4.9							
CHTO	**Chiang Mai**	**30.06**	**341**	*e*P		**P**	**01 04 08.8**	**+0.1**
	comp=Z,25nm,1.1s,mb4.8							
CHTO				*e*		pP	01 04 17.0	-0.8
PALK	**Pallekele**	**32.79**	**300**	*e*P		**P**	**01 04 34.8**	**+2.1**
GZH	**Guangzhou**	**32.96**	**8**	P		**P**	**01 04 39.4**	**+5.2**
GZH				S		**S**	**01 10 00.5**	**+10**
GZH				LR		LR		
	comp=N,603nm,11.8s,MS4.7							
GZH				LR		LR		
	comp=E,803nm,13.7s,MS4.7							
GZH				LR		LR		
	comp=Z,1µm,12.4s,MS4.9							
KMI	**Kunming**	**35.21**	**350**	P		**P**	**01 04 55.6**	**+1.9**
KMI				AP		pP	01 05 04.8	+1.9
KMI				XP		sP	01 05 08.1	+1.4
KMI				PP		PP	01 06

CD2 S **S** **01 11 50.1 +1.0**
CD2 XS sS 01 12 06.3 +2.0
CD2 SS SS 01 14 48.4 -2.0
CD2 AMB AMB
comp=Z,70nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,190nm,4.8s
CD2 LR LR
comp=N,2µm,12.0s,MS5.3
CD2 LR LR
comp=E,2µm,13.2s,MS5.3
CD2 LR LR
comp=Z,2µm,14.4s,MS5.1
JOW Kunigami 40.98 27 P **P** **01 05 41.9 -0.4**
comp=Z,31nm,0.9s,mb4.9,baz=132,slow=2.2,SNR=5.8
JOW LR LR 01 23 39.9
comp=Z,215nm,20.3s,MS4.0,baz=105,slow=38
SSE Sheshan 42.32 16 P **P** **01 05 54.3 +1.0**
SSE AP pP 01 06 02.8 +0.2
SSE S **S** **01 12 13.3 +1.1**
SSE XS sS 01 12 28.8 +1.2
SSE AMB AMB
comp=Z,32nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,158nm,7.5s
SSE LR LR
comp=N,108nm,16.0s,MS4.0
SSE LR LR
comp=E,107nm,16.0s,MS4.0
SSE LR LR
comp=Z,153nm,15.9s,MS4.0
SSE Sheshan 42.32 16 P **P** **01 05 54.2 +0.9**
comp=Z,32nm,0.9s,mb5.0
SSE pP pP 01 06 02.8 +0.2
SSE S **S** **01 12 13.3 +1.1**
SSE sS sS 01 12 28.8 +1.2
SSE SS SS 01 15 23.1 +1.7
SSE LR LR
comp=Z,150nm,15.9s,MS4.0
NJ2 Nanjing 42.68 13 *e*P **P** **01 05 58.8 +2.6**
NJ2 XP sP 01 06 08.3 -1.0
NJ2 PP PP 01 07 40.9 +5.5
NJ2 S **S** **01 12 18.5 +1.1**
NJ2 XS sS 01 12 34.5 +1.7
NJ2 AMB AMB
comp=Z,380nm,6.4s
NJ2 LR LR
comp=N,1µm,17.2s,MS5.0
NJ2 LR LR
comp=E,1µm,18.2s,MS5.0
NJ2 LR LR
comp=Z,1µm,19.1s,MS4.8
LSA Lhasa 42.81 337 P **P** **01 05 58.0 +0.7**
LSA Lhasa 42.81 337 *e*P **P** **01 05 58.4 +1.1**
LSA pmax pmax
comp=Z,61nm,1.2s,mb5.2
LSA Lhasa 42.81 337 *e*P **P** **01 05 58.4 +1.1**
comp=Z,61nm,1.2s,mb5.2
PKI Pulchoki 43.55 329 *e*P **P** **01 06 03.4 +0.2**
XAN Xi'an 43.58 0 P **P** **01 06 03.4 -0.1**
XAN AP pP 01 06 11.1 -1.7
XAN S **S** **01 12 29.6 -1.1**
XAN AMB AMB
comp=Z,55nm,1.2s,mb5.2
XAN AMB AMB
comp=Z,123nm,4.4s
XAN LR LR
comp=N,541nm,11.7s,MS4.8
XAN LR LR
comp=E,324nm,11.3s,MS4.8
XAN LR LR
comp=Z,1µm,12.0s,MS5.1
GUN Gumba 43.59 330 *e*P **P** **01 06 04.0 +0.4**
comp=Z,312nm,1.5s,mb5.8
DMN Daman 43.73 329 *e*P **P** **01 06 04.8 +0.1**
comp=Z,112nm,1.1s,mb5.5
KKN Kakani 43.79 329 *e*P **P** **01 06 05.2 0.0**
comp=Z,136nm,1.2s,mb5.5
GKN Gorkha 44.29 329 *e*P **P** **01 06 09.3 +0.1**
comp=Z,117nm,1.2s,mb5.5
POO Poona 44.57 309 *ex* **P** **01 06 09.0 -2.4**
KOLN Koldanda 44.65 327 *e*P **P** **01 06 12.2 +0.2**
comp=Z,80nm,1.0s,mb5.5
LZH Lanzhou 45.87 354 P **P** **01 06 23.3 +1.5**
LZH AP pP 01 06 31.1 0.0
LZH XP sP 01 06 35.8 +0.9
LZH PP PP 01 08 12.0 +2.5
LZH S **S** **01 13 07.0 +3.1**
LZH SS SS 01 16 26.0 -2.7
LZH AMB AMB
comp=Z,150nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,400nm,4.4s
LZH LR LR
comp=N,2µm,13.5s
LZH LR LR
comp=Z,3µm,14.4s,MS5.4
LZH Lanzhou 45.87 354 P **P** **01 06 23.3 +1.5**
LZH *PP pP 01 06 31.1 0.0
LZH *SP sP 01 06 35.7 +0.8
LZH 01 08 12.0
LZH S **S** **01 13 07.0 +3.1**
LZH *SS sS 01 13 22.6 +3.3
LZH pmax pmax
comp=Z,150nm,1.4s,mb5.7
LZH MLR MLR
comp=Z,3µm,14.4s,MS5.4
LZH Lanzhou 45.87 354 P **P** **01 06 23.3 +1.5**
comp=Z,150nm,1.4s,mb5.7
LZH pP pP 01 06 31.1 0.0
LZH sP sP 01 06 35.7 +0.8
LZH PP PP 01 08 12.0 +2.5
LZH S **S** **01 13 07.0 +3.1**
LZH sS sS 01 13 22.6 +3.3
LZH SS SS 01 16 26.0 -2.7
LZH LR LR
comp=Z,3µm,14.4s,MS5.4
CBIJ Chichi jima 48.86 41 LR LR 01 26 54.4
comp=Z,141nm,18.3s,MS4.0,baz=336,slow=36
GTA Gaotai 49.66 351 *e*P **P** **01 06 52.1 +0.9**
GTA AP pP 01 07 00.9 +0.3
GTA XP sP 01 07 05.5 +1.2
GTA PCP PcP 01 08 12.9 +0.7
GTA PP PP 01 08 47.8 +2.1
GTA S **S** **01 13 58.8 +1.1**
GTA XS sS 01 14 15.5 +2.3
GTA SS SS 01 17 27.1 -3.0
GTA AMB AMB
comp=Z,21nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,236nm,4.0s
GTA LR LR
comp=N,475nm,14.1s
GTA LR LR
comp=E,710nm,20.2s
GTA LR LR
comp=Z,566nm,14.5s,MS4.7
BJT Baijiatuau 50.01 7 *e*P **P** **01 06 54.0 +0.2**
BJI Beijing 50.03 7 P **P** **01 06 53.8 -0.1**
BJI S **S** **01 14 00.8 -2.0**
BJI AMB AMB
comp=Z,33nm,1.1s,mb5.3
BJI AMB AMB
comp=Z,292nm,4.2s
BJI LR LR
comp=N,535nm,12.2s,MS4.9
BJI LR LR
comp=E,503nm,12.2s,MS4.9
BJI LR LR
comp=Z,360nm,18.9s
BJI Beijing 50.03 7 P **P** **01 06 53.7 -0.2**
BJI S **S** **01 14 00.8 -2.0**
BJI pmax pmax
comp=Z,33nm,1.1s,mb5.3
BJI MLR MLR
comp=Z,360nm,18.9s,MS4.4
BJI Beijing 50.03 7 P **P** **01 06 53.7 -0.2**
comp=Z,33nm,1.1s,mb5.3
BJI S **S** **01 14 00.8 -2.0**
BJI LR LR
comp=Z,360nm,18.9s,MS4.4
BTO Baotou 50.15 1 *e*P **P** **01 06 54.4 -0.4**
KSRS Korea Array 50.26 20 P **P** **01 06 55.6 -0.1**
comp=Z,5.2nm,1.0s,mb4.5,baz=200,slow=7.7,SNR=11
HHC Hu-ho-hao-te 50.44 3 *e*P **P** **01 06 57.3 +0.3**

HHC AP pP 01 07 07.4 +0.9
HHC XP sP 01 07 11.0 +0.8
HHC PCP PcP 01 08 14.5 -0.5
HHC PP PP 01 08 54.6 +1.8
HHC SCP ScP 01 12 06.5 -2.1
HHC PCS PcS 01 12 10.4 -1.8
HHC S **S** **01 14 08.1 -0.4**
HHC XS sS 01 14 24.8 +0.7
HHC SCS ScS 01 16 43.1 -2.6
HHC SS SS 01 17 39.8 -2.7
HHC AMB AMB
comp=Z,16nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,218nm,4.6s
HHC LR LR
comp=N,978nm,12.7s,MS5.0
HHC LR LR
comp=E,521nm,13.7s,MS5.0
HHC LR LR
comp=Z,852nm,13.6s,MS4.9
SDNR Sundarnagar 51.18 325 *e*P **P** **01 07 04.5 +1.9**
JHJ Hachijo jima 2 51.83 33 LR LR 01 29 26.2
comp=Z,199nm,18.5s,MS4.2,baz=100,slow=36
THN Thein Dam 52.58 324 *ex* x 01 07 10.7
MAJO Matsushiro 53.70 29 *e*P **P** **01 07 19.7 -1.6**
MAJO *e**PP pP 01 07 28.5 -2.3
MAT Matsushiro 53.70 29 P **P** **01 07 19.2 -2.1**
MAT *e*S **S** **01 14 55.0 +1.7**
MJAR Matsushiro Arr 53.70 29 P **P** **01 07 19.4 -1.9**
comp=Z,5.2nm,0.9s,mb4.5,baz=204,slow=7.5,SNR=9.9
MJAR LR LR 01 28 31.9
comp=Z,290nm,20.7s,MS4.3,baz=50,slow=34
CN2 Changchun 55.41 15 *e*P **P** **01 07 32.0 -1.8**
CN2 *e*XP sP 01 07 46.0 -1.0
CN2 *e*S **S** **01 15 13.8 -2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.7
CN2 LR LR
comp=E,300nm,15.0s,MS4.7
CN2 LR LR
comp=Z,400nm,14.0s,MS4.7
WMQ Urumqi 56.72 342 *e*P **P** **01 07 43.9 +0.8**
SONM Songino Array 57.40 358 P **P** **01 07 47.9 0.0**
comp=Z,19nm,1.1s,mb5.0,baz=176,slow=7.3,SNR=61
SONM LR LR 01 35 53.8
comp=Z,352nm,18.1s,MS4.5,baz=276,slow=40
ULN Ulaanbaatar 57.41 359 P **P** **01 07 48.5 +0.5**
SNR=10
ULN Ulaanbaatar 57.41 359 *e*P **P** **01 07 48.0 0.0**
ULN pmax pmax
comp=Z,22nm,1.0s,mb5.1
ULN Ulaanbaatar 57.41 359 *e*P **P** **01 07 48.0 0.0**
comp=Z,22nm,1.0s,mb5.1
KSH Kashi 57.79 330 *e*P **P** **01 07 51.3 +0.7**
KSH *e*AP pP 01 08 01.4 +1.2
KSH *e*XP sP 01 08 05.8 +1.9
KSH *e*PCP PcP 01 08 44.8 +1.7
KSH *e*PP PP 01 10 00.5 +1.7
KSH *e*SCP ScP 01 12 40.9 +0.2
KSH *e*S **S** **01 15 43.4 -4.3**
KSH *e*SCS ScS 01 17 34.5 -3.3
KSH AMB AMB
comp=Z,3µm,2.7s
KSH LR LR
comp=N,832nm,4.8s
KSH LR LR
comp=E,632nm,4.8s
KSH LR LR
comp=Z,1µm,7.8s
ZAK Zakamensk 60.11 356 *e*P **P** **01 08 06.2 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK Ala-Archa 60.90 332 *e*P **P** **01 08 10.7 -1.4**
AAK pmax pmax
comp=Z,11nm,1.1s,mb4.9
AAK Ala-Archa 60.90 332 *e*P **P** **01 08 10.7 -1.4**
comp=Z,11nm,1.1s,mb4.9
FRU Bishkek 61.00 332 *e*P **P** **01 08 13.0 +0.2**
MK31 Makanchi Array 61.12 339 *e*P **P** **01 08 13.3 -0.3**
MKAR Makanchi Array 61.12 339 P **P** **01 08 13.3 -0.3**
comp=Z,8.8nm,0.9s,mb4.9,baz=152,slow=8.1,SNR=30
MKAR LR LR 01 37 51.3
comp=Z,221nm,20.4s,MS4.3,baz=280,slow=39
TLY Talaya 61.38 356 *e*P **P** **01 08 15.7 +0.3**
TLY *e*S **S** **01 16 24.0 -10**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,241nm,12.0s,MS4.6
TLY Talaya 61.38 356 ⇑*i*P **P** **01 08 15.6 +0.2**
MOY Mondy 61.58 354 *e*P **P** **01 08 16.8 +0.1**
MOY pmax pmax
comp=Z,14nm,1.3s,mb4.9
CIT Chita 61.68 3 *e*P **P** **01 08 15.3 -2.1**
CIT *e* pP 01 08 26.2 -0.9
CIT *e* 01 09 03.4
CIT pmax pmax
comp=Z,41nm,1.7s,mb5.3
KLR Kul'dur 62.10 17 *e*P **P** **01 08 15.2 -5.0**
KLR *e* pP 01 08 23.9 -6.0
KLR pmax pmax
comp=Z,30nm,1.4s,mb5.2
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.4
HABR Khabarovsk 62.44 19 *e*P **P** **01 08 20.7 -1.8**
HABR *e*S **S** **01 16 45.3 -2.1**
RPZ Rata Peaks 63.26 134 LR LR 01 37 05.6
comp=Z,433nm,19.0s,MS4.7,baz=194,slow=37
YSS Yuzh-Sakhalins 64.05 25 *i* P **P** **01 08 32.0 -1.1**
YSS pmax pmax
comp=Z,430nm,1.7s,mb6.2
YSS Yuzh-Sakhalins 64.05 25 ⇓*i*P **P** **01 08 32.1 -1.0**
MAW Mawson 65.28 198 P **P** **01 08 39.5 -1.7**
comp=Z,5.0nm,0.9s,mb4.5,baz=62,slow=8.3,SNR=5.4
MAW LR LR 01 30 56.2
comp=Z,138nm,19.4s,MS4.2,baz=64,slow=30
KURK Kurchatov 65.74 339 P **P** **01 08 44.6 +0.4**
comp=Z,144nm,1.1s,mb5.9,SNR=12
ZAL Zalesovo 66.68 345 P **P** **01 08 47.8 -2.4**
comp=Z,7.5nm,1.0s,mb4.7,baz=339,slow=3.2,SNR=18
ZAL LR LR 01 41 30.0
comp=Z,343nm,18.6s,MS4.6,baz=315,slow=39
ABKT Ailbek 67.07 318 P **P** **01 08 53.3 +0.6**
comp=Z,100nm,1.0s,mb5.8,SNR=5.7
BOD Bodaibo 67.49 3 *e*P **P** **01 08 53.2 -2.2**
BOD *e* pP 01 09 02.5 -2.6
BOD pmax pmax
comp=Z,16nm,1.6s,mb4.8
BOD pmax pmax
comp=Z,16nm,1.4s,mb4.9
CLNS Chul'man 67.69 9 *e*P **P** **01 08 54.4 -2.2**
CLNS pmax pmax
comp=Z,14nm,1.4s,mb4.8
CLNS pmax pmax
comp=N,15nm,1.5s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.5
CLNS MLR MLR
comp=N,100nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,700nm,13.0s,MS5.0
NVS Novosibirsk 67.90 344 *e*P **P** **01 08 56.3 -1.6**
NVS pmax pmax
comp=Z,19nm,1.4s,mb4.9
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,13nm,1.4s
BVAR Borovoye Array 70.64 337 P **P** **01 09 13.9 -1.0**
comp=E,8.7nm,1.0s,mb4.6,baz=142,slow=7.5,SNR=13
BVAR LR LR 01 43 52.2
comp=E,310nm,19.3s,MS4.6,baz=139,slow=39
BRVK Borovoye 70.71 336 P **P** **01 09 15.9 +0.6**
comp=E,83nm,0.9s,mb5.7,SNR=7.4
BRVK Borovoye 70.71 336 *e*P **P** **01 09 15.5 +0.2**
SNR=7.6
BRVK Borovoye 70.71 336 ⇓*e*P **P** **01 09 15.2 -0.1**
CHKZ Chkalovo 71.05 337 *e*P **P** **01 09 17.0 -0.4**
CHKZ pmax pmax
comp=Z,25nm,1.1s,mb5.1
CHKZ Chkalovo 71.05 337 *e*P **P** **01 09 17.0 -0.4**
comp=Z,25nm,1.1s,mb5.0
ZRNK Zerenda 71.14 336 *e*P **P** **01 09 17.5 -0.4**
ZRNK *e* pP 01 09 26.7 -1.0
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.8
ZRNK Zerenda 71.14 336 *e*P **P** **01 09 17.5 -0.4**
comp=Z,11nm,0.8s,mb4.8
ZRNK *e* pP 01 09 26.6 -1.1
KMBO Kilima Mbogo 71.71 272 P **P** **01 09 23.9 +2.5**
comp=Z,2.1nm,0.9s,mb4.1,baz=35,slow=23,SNR=6.1
KMBO Kilima Mbogo 71.71 272 P **P** **01 09 23.9 +2.5**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 71.71 272 *e*P **P** **01 09 25.3 +4.0**
VNDA Vanda 72.91 170 P **P** **01 09 27.2 -1.3**
comp=Z,1.4nm,0.9s,baz=320,slow=5.0,SNR=7.3
VNDA LR LR 01 36 41.4
comp=Z,115nm,19.3s,MS4.2,baz=330,slow=32
YAK Yakutsk 73.41 10 ⇑*i*P **P** **01 09 30.0 -1.5**
AKTK Aktyubinsk 74.45 329 P **P** **01 09 37.1 -0.5**
AKTO Aktyubinsk 74.45 329 P **P** **01 09 37.1 -0.5**
comp=Z,4.5nm,0.9s,mb4.4,baz=130,slow=4.8,SNR=9.5
AKTO Aktyubinsk 74.45 329 P **P** **01 09 37.1 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORR Orenburg 76.82 329 *e*P **P** **01 09 51.3 +0.2**
ORR pmax pmax
comp=Z,30nm,1.6s,mb5.0
MATP Matopo 77.70 251 P **P** **01 09 56.2 +0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=93,slow=4.0,SNR=8.7
MATP Matopo 77.70 251 P **P** **01 09 56.2 +0.1**
ARU Arti 77.92 334 ⇓*i*P **P** **01 09 56.8 -0.5**
ARU *e* pP 01 10 05.0 -2.2
ARU *e* 01 12 52.5
ARU *e*S S 01 19 48.0 -0.4
ARU pmax pmax
comp=Z,19nm,1.2s,mb4.9
ARU Arti 77.92 334 *e*P **P** **01 09 56.9 -0.4**
comp=Z,46nm,1.4s,mb5.2
LSZ Lusaka 78.58 256 *e*P **P** **01 10 01.5 +0.6**
LSZ *e**PP pP 01 10 10.7 -0.1
LSZ pmax pmax
comp=Z,16nm,1.3s,mb4.8
LSZ Lusaka 78.58 256 *e*P **P** **01 10 01.5 +0.6**
comp=Z,16nm,1.3s,mb4.8
LSZ *e*pP pP 01 10 10.7 -0.2
ZEI Tsey 78.89 317 *e*P **P** **01 10 02.9 +0.3**
ZEI *e**PP pP 01 10 12.3 -0.3
ZEI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SEY Seymchan 79.81 19 ⇑*e*P **P** **01 10 05.5 -2.1**
BOSA Boshof 79.83 243 P **P** **01 10 07.2 -0.6**
comp=Z,3.2nm,0.9s,mb4.2,baz=94,slow=13,SNR=3.1
BOSA LR LR 01 38 56.4
comp=Z,188nm,18.1s,MS4.5,baz=105,slow=31
LBTB Lobatse 79.89 246 *e*P **P** **01 10 09.1 +1.0**
LBTB pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LBTB Lobatse 79.89 246 *e*P **P** **01 10 09.1 +1.0**
comp=Z,6.7nm,1.0s,mb4.5
QSPA South Pole Qui 80.22 180 *e*P **P** **01 10 09.5 -0.4**
comp=Z,12nm,0.8s,mb4.9
QSPA *e*PcP PcP 01 10 17.6 +0.6
ASF Jabal al Asfar 80.27 305 LR LR 01 49 38.2
comp=Z,179nm,18.0s,MS4.5,baz=288,slow=39
MALT Malatya 81.08 311 *e*P **P** **01 10 16.6 +2.2**
TIXI Tiksi 82.34 6 *e*P **P** **01 10 19.9 -1.2**
TIXI *e* pP 01 10 28.5 -2.6
BRTR Keskin Array B 85.06 312 P **P** **01 10 35.5 +0.4**
comp=Z,4.4nm,0.9s,mb4.6,baz=134,slow=5.3,SNR=20
BRTR LR LR 01 55 22.6
comp=Z,134nm,18.6s,MS4.4,baz=112,slow=40
BR131 Keskin Array S 85.06 312 *e*P **P** **01 10 35.4 +0.3**
comp=Z,9.6nm,1.0s,mb4.9
VRSR Storozhevoye 85.19 324 *e*P **P** **01 10 36.3 +0.6**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SIM Simferopol' **86.27 317** P **P** **01 10 49.8 +8.7**
SIM S S 01 21 21.0 +6.9
SIM pmax pmax
comp=Z,16nm,1.0s,mb5.2
SIM MLR MLR
comp=Z,50nm,15.0s,MS4.0
SNAA Sanae 87.44 197 *e*P **P** **01 10 46.6 -0.1**
SNAA *e* 01 10 48.9
SNAA *e* 01 10 51.4
SNAA *e* pP 01 10 56.2 -0.6
SNAA Sanae 87.44 197 *e*P **P** **01 10 46.9 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.3s
SNAA Sanae 87.44 197 *e*P **P** **01 10 46.9 +0.2**
comp=Z,8.3nm,1.3s,mb4.8
BILL Bilibino 87.51 18 *e*P **P** **01 10 44.8 -2.3**
BILL *e* 01 14 09.6
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
MOS Moscow 87.72 328 *e*P **P** **01 10 47.2 -0.9**
MOS *e* pP 01 10 56.0 -2.1
MOS pmax pmax
comp=Z,44nm,1.1s,mb5.6
OBN Obninsk 88.06 327 ⇓*i*P **P** **01 10 49.5 -0.2**
OBN *e**PP pP 01 10 57.2 -2.5
OBN *e* 01 14 13.8
OBN *e*S S 01 21 13.6 -18
OBN *e*SS SS 01 27 16.8 -3.0
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.3
OBN Obninsk 88.06 327 ⇓*i*P **P** **01 10 49.6 -0.1**
VNA2 Neumayer--Watz 89.08 197 *e*P **P** **01 10 54.9 +0.4**
VNA2 *e* 01 10 57.4
VNA2 *e* 01 11 00.3
VNA2 *e* pP 01 11 03.9 -0.7
VNA2 *e* 01 11 09.2
VNA2 *e* 01 11 19.2
VNA3 Neumayer Olymp 89.58 197 *e*P **P** **01 10 58.9 +2.0**
VNA3 *e* pP 01 11 09.9 +3.0
SANT Santorini 90.49 307 *e*PP PP 01 14 30.7 -5.2
AKASG Malin Array Be 91.02 321 P **P** **01 11 02.3 -1.3**
comp=Z,0.3nm,0.3s,mb4.1,baz=89,slow=4.3,SNR=5.6
AKASG PP PP 01 14 40.1 +0.1
comp=Z,0.9nm,0.7s,baz=90,slow=5.6,SNR=4.2
AKASG LR LR 02 02 05.4
comp=Z,98nm,18.5s,MS4.3,baz=230,slow=42
AKASG Malin Array Be 91.02 321 P **P** **01 11 02.3 -1.3**
AKASG 01 14 40.1
ARCES ARCESS Array B 96.78 339 LR LR 02 03 07.1
comp=Z,253nm,18.9s,MS4.7,baz=274,slow=40
VRAC Vranov 98.83 319 LR LR 01 58 55.7
comp=Z,99nm,20.2s,MS4.3,baz=172,slow=37
KDAK Kodiak Island 102.76 33 *e*PP PP 01 16 13.9 +3.3
MSO Missoula 128.25 36 *e*PKPdf PKPdf 01 17 06.3 +0.7
MSO *e* 01 17 15.3
JLU Jordanelle 132.96 42 *e*PKPdf PKPdf 01 17 07.8 -6.7
MSU Marysvale 133.45 45 *e*PKIKP PKPdf 01 17 20.4 +4.9
MNTX Cornudas Mount 141.50 50 *e*PKPdf PKPdf 01 17 34.8 +4.5
TXAR Lajitas Array 143.87 53 PKP PKPdf 01 17 33.5 -1.0
comp=Z,2.7nm,1.1s,baz=262,slow=2.5,SNR=11
WMOK Wichita Mounta 144.56 41 *e*PKIKP PKPdf 01 17 35.9 +0.2
PKME Peaks-Kenny Pk 144.61 358 *e*PKPdf PKPdf 01 17 34.8 -1.0
PKME *e* 01 17 44.1
MSNY Massena 144.76 5 *e*PKPdf PKPdf 01 17 35.8 -0.3
MSNY *e* 01 17 44.3
LONY Lake Ozonia 145.16 4 *e*PKPdf PKPdf 01 17 37.0 +0.3
NCB Newcomb 145.84 4 *e*PKPab PKPab 01 17 39.4 +0.5
JCT Junction City 146.27 48 *e*PKP2 PKPab 01 17 41.8 +1.2
CCM Cathedral Cave 146.53 30 *e*PKIKP PKPdf 01 17 36.0 -3.1
BINY Binghamton 147.43 7 *e*PKPab PKPab 01 17 52.5 +7.4
LVC Limon Verde 147.73 184 *e*PKPdf PKPdf 01 17 42.6 +1.5
SIUC Southern Illin 147.76 28 *e*PKPab PKPab 01 17 45.1 -1.3
UALR University of 148.45 35 *e*PKPab PKPab 01 17 46.8 -2.3
SSPA Standing Stone 148.69 10 *e*PKPdf PKPdf 01 17 45.0 +2.4
HKT Hockley 149.42 46 *e*PKP2 PKPab 01 17 48.6 -4.5
WVT Waverly 149.69 27 *e*PKP2 PKPab 01 17 49.6 -4.6
FWV Forest Hill 150.97 16 *e*PKPdf PKPdf 01 17 46.9 +0.6
LPAZ La Paz 153.93 187 PKPbc PKPbc 01 18 01.1 +2.4
comp=Z,0.7nm,0.6s,baz=191,slow=5.2,SNR=3.1

*ISCJB **17** 00:58:54.3±4.0, 469N±0.1×1552E±0.1, h12km±25km, mb4.1/15, MS4.2/2, Error ellipse: s-maj=24.2km s-min=12.0km az=126.5*
*IDC **17** 00:58:54.4±2.1, 4693N×15539E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, MS4.2/2, Ms1 4.2/2, ms1mx3.0/52, Error ellipse: s-maj=55.8km s-min=22.9km az=166.0*
*NEIC **17** 00:58:55.6±0.7, 4686N×15530E, h10km, mb4.4/7, Error ellipse: s-maj=15.5km s-min=9.0km az=157.0*
*MOS **17** 00:58:57.2±1.0, 4674N×155.17E, h38km, mb4.8/4, Error ellipse: s-maj=17.1km s-min=12.9km az=34.7*

ISC 17 00:58:55.6±4.7, 469N±0.1×1552E±0.1, h10km±29km, n35, σ0§80/34, mb4.1/15, MS4.2/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.38**	**255**	*e*PN	**Pn**	**01 00 14.5**	**-1.3**
KUR				*e*S	**Sn**	**01 01 17.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
KUR				smax			
	comp=N,220nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.54**	**275**	*e*PN	**Pn**	**01 01 00.0**	**+0.7**
MJAR	**Matsushiro Arr**	**16.33**	**237**	Pn	**Pn**	**01 02 51.0**	**+6.1**
	comp=N,0.4nm,0.3s,baz=38,slow=9.5,SNR=4.6						
MAJO	**Matsushiro**	**16.33**	**237**	*e*P	**Pn**	**01 02 44.8**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	**Matsushiro**	**16.33**	**237**	*e*P	**Pn**	**01 02 44.8**	**-0.2**
	comp=Z,5.0nm,0.6s						
YAK	**Yakutsk**	**21.03**	**325**	*e*P	**P**	**01 03 38.9**	**-0.5**
YAK				pmax	pmax		
	comp=Z,25nm,0.3s,mb5.0						
YAK	**Yakutsk**	**21.03**	**325**	*e*P	**P**	**01 03 38.9**	**-0.5**
	comp=Z,25nm,0.3s,mb5.0						
KSRS	**Korea Array**	**22.22**	**255**	P	**P**	**01 03 55.7**	**+3.5**
	comp=Z,2.5nm,0.7s,mb3.7,baz=55,slow=12,SNR=5.4						
HIA	**Hailar**	**23.70**	**289**	*e*P	**P**	**01 04 08.1**	**+0.4**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**23.70**	**289**	*e*P	**P**	**01 04 08.1**	**+0.4**
	comp=Z,4.5nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**32.23**	**290**	P	**P**	**01 05 25.2**	**+1.2**
SONM	**Songino Array**	**32.66**	**290**	P	**P**	**01 05 27.7**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=68,slow=8.0,SNR=4.4						
NACB	**Ninganchiao**	**35.11**	**242**	P	**P**	**01 05 50.3**	**+1.2**
INK	**Inuvik**	**40.78**	**33**	P	**P**	**01 06 35.9**	**-1.0**
	comp=Z,1.6nm,0.8s,mb3.7,baz=294,slow=14,SNR=6.7						
INK	**Inuvik**	**40.78**	**33**	*e*P	**P**	**01 06 35.6**	**-1.3**
INK				pmax	pmax		
	comp=Z,35nm,0.6s						
INK	**Inuvik**	**40.78**	**33**	*e*P	**P**	**01 06 35.6**	**-1.3**
	comp=Z,35nm,0.6s,mb5.2						
ZAL	**Zalesovo**	**43.73**	**306**	P	**P**	**01 07 00.4**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.8,baz=112,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**01 07 36.0**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=63,slow=7.3,SNR=6.1						
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P	**P**	**01 08 00.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.46**	**311**	*e*P	**P**	**01 08 00.3**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**01 08 04.5**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=57,slow=8.0,SNR=20						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**01 08 04.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**01 08 04.9**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.66**	**311**	*e*P	**P**	**01 08 10.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**52.66**	**311**	*e*P	**P**	**01 08 10.0**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.3						
HNR	**Honiara**	**56.20**	**174**	LR	LR	01 30 15.9	
	comp=Z,232nm,18.6s,MS4.3,baz=357,slow=33						
AKTK	**Aktyubinsk**	**59.72**	**313**	P	**P**	**01 09 00.0**	**-0.4**
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**01 09 00.0**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=58,slow=7.8,SNR=4.3						
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**01 09 00.0**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FRB	**Frobisher Bay**	**64.46**	**20**	LR	LR	01 38 03.6	
	comp=Z,128nm,18.2s,MS4.2,baz=272,slow=36						
FINES	**FINESS Array B**	**64.55**	**336**	P	**P**	**01 09 33.7**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.1,baz=38,slow=9.6,SNR=4.7						
FINES	**FINESS Array B**	**64.55**	**336**	P	**P**	**01 09 33.7**	**+0.9**
MSU	**Marysvale**	**64.74**	**60**	P	**P**	**01 09 34.4**	**+0.3**
HFS	**Hagfors**	**68.85**	**340**	P	**P**	**01 10 01.5**	**+1.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=60,slow=9.0,SNR=5.4						
TXAR	**Lajitas Array**	**76.17**	**62**	P	**P**	**01 10 43.0**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=299,slow=3.7,SNR=4.5						

*ISCJB **17** 01:04:21.5±0.8, 469N±0.1×1555E±0.2, h10km, mb4.0/15, MS4.2/3, Error ellipse: s-maj=18.9km s-min=11.9km az=72.2*
*IDC **17** 01:04:21.9±0.9, 4681N×15559E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, MS4.1/3, Ms1 4.1/3, ms1mx3.2/50, Error ellipse: s-maj=26.8km s-min=21.4km az=94.0*
*NEIC **17** 01:04:23.5±0.8, 4684N×15546E, h10km, mb4.0/5, Error ellipse: s-maj=19.4km s-min=11.7km az=126.0*
*MOS **17** 01:04:24.1±1.1, 4684N×15528E, h24km, mb4.4/4, Error ellipse: s-maj=24.2km s-min=15.1km az=100.7*

ISC 17 01:04:23.2±0.8, 469N±0.1×1555E±0.2, h10km, n28, σ1§03/25, mb4.0/15, MS4.2/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.50**	**17**	PN	**Pn**	**01 05 57.4**	**-1.4**
MAJO	**Matsushiro**	**16.48**	**237**	*e*P	**Pn**	**01 08 13.4**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**16.48**	**237**	*e*Pn	**Pn**	**01 08 13.4**	**-1.0**
	comp=Z,5.3nm,0.7s						
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**01 09 17.7**	**+0.8**
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**01 09 17.7**	**+0.8**
KSRS	**Korea Array**	**22.39**	**255**	P	**P**	**01 09 25.9**	**+4.4**
	comp=Z,1.1nm,0.5s,mb3.6,baz=50,slow=11,SNR=4.2						
ULN	**Ulaanbaatar**	**32.39**	**290**	*e*P	**P**	**01 10 54.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**32.39**	**290**	*e*P	**P**	**01 10 54.0**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.8						
INK	**Inuvik**	**40.69**	**33**	P	**P**	**01 12 01.5**	**-2.2**
	comp=Z,2.3nm,0.8s,mb3.9,baz=281,slow=4.6,SNR=7.4						
INK	**Inuvik**	**40.69**	**33**	*e*P	**P**	**01 12 03.4**	**-0.4**
	comp=Z,76nm,0.7s,mb5.4						
ZAL	**Zalesovo**	**43.87**	**306**	P	**P**	**01 12 29.6**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.9,baz=46,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**01 13 03.8**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=72,slow=7.6,SNR=4.7						
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**01 13 28.7**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**01 13 28.7**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**52.03**	**310**	P	**P**	**01 13 32.5**	**-0.3**
	comp=Z,1.0nm,0.3s,mb4.2,baz=55,slow=8.1,SNR=12						
BRVK	**Borovoye**	**52.07**	**310**	*e*P	**P**	**01 13 32.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**52.07**	**310**	*e*P	**P**	**01 13 32.8**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.79**	**311**	*e*P	**P**	**01 13 38.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**52.79**	**311**	*e*P	**P**	**01 13 38.1**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.62**	**336**	P	**P**	**01 15 01.4**	**+0.5**
	comp=Z,4.2nm,1.1s,mb4.4,baz=36,slow=7.1,SNR=4.5						
NOA	**NORSAR Array B**	**68.63**	**342**	P	**P**	**01 15 28.8**	**+2.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=23,slow=6.9,SNR=2.8						
HFS	**Hagfors**	**68.90**	**341**	P	**P**	**01 15 30.3**	**+2.1**
	comp=Z,4.7nm,0.9s,mb4.4,baz=66,slow=5.0,SNR=8.3						
WRA	**Warramunga Arr**	**69.18**	**201**	P	**P**	**01 15 30.0**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=22,slow=7.2,SNR=3.8						
ASAR	**Alice Springs**	**72.86**	**201**	P	**P**	**01 15 52.6**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=19,slow=5.8,SNR=6.9						
GNI	**Garni**	**73.68**	**312**	LR	LR	01 48 32.3	
	comp=Z,75nm,19.0s,MS4.0,baz=347,slow=36						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**01 16 10.4**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=303,slow=4.2,SNR=6.0						
MLR	**Muntele Rosu**	**77.89**	**326**	LR	LR	01 55 31.2	
	comp=Z,108nm,19.5s,MS4.2,baz=294,slow=39						
MDT	**Midelt**	**98.68**	**343**	LR	LR	02 12 07.1	
	comp=Z,105nm,18.0s,MS4.4,baz=276,slow=41						

IGQ 17 01:09:45.0, 266S×7781W, h14km±6km, Mb4.3, Ms4.1, 9C-2D, Error ellipse: s-maj=10.1km s-min=3.3km az=139.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	**Arrayan**	**1.31**	**331**	↑P	Pn	01 10 09.7	+0.7
ARRY				S	Sb	01 10 29.5	+3.3
ULBA	**Ulba**	**1.34**	**334**	↑P	Pn	01 10 10.4	+1.1
ULBA				S	Sn	01 10 27.4	+0.4
RETU	**Refugio**	**1.36**	**332**	P	Pn	01 10 10.5	+1.0
RETU				S	Sn	01 10 28.8	+1.4
RUN5	**Runtun**	**1.38**	**334**	↑P	Pn	01 10 11.0	+1.1
RUN5				S	Sn	01 10 28.1	+0.2
JUIV	**Juive**	**1.39**	**332**	↑P	Pn	01 10 11.4	+1.4
JUIV				S	Sn	01 10 29.5	+1.4
IGUA	**Igualata**	**1.43**	**325**	↑P	Pn	01 10 13.2	+2.7
IGUA				S	Sn	01 10 34.2	+5.2
PISA	**Pisayambo**	**1.69**	**340**	↓P	Pn	01 10 15.9	+1.8
PISA				S	Sn	01 10 37.2	+1.6
TAMB	**Tambo**	**2.03**	**344**	P	Pn	01 10 21.3	+2.5
TAMB				S	Sn	01 10 46.7	+2.7
CAMI	**Rancho Maria**	**2.09**	**341**	↑P	Pn	01 10 23.0	+3.4
CAMI				S	Sn	01 10 51.9	+6.6
VC1	**Cotopaxi 1**	**2.09**	**344**	P	Pn	01 10 22.3	+2.7
VC1				S	Sn	01 10 50.5	+5.1
NAS1	**Nasa**	**2.12**	**342**	P	Pn	01 10 23.6	+3.6
NAS1				S	Sn	01 10 52.1	+5.9
ANTI	**Antisana**	**2.22**	**351**	↑P	Pn	01 10 23.7	+2.3
LAV3	**Lava3-Reventad**	**2.55**	**4**	P	Pn	01 10 28.9	+2.9
LAV3				S	Sn	01 11 01.2	+4.4
JUA2	**San Juan 2**	**2.56**	**342**	P	Pn	01 10 31.4	+5.3
JUA2				S	Sn	01 11 05.9	+9.0
CONE	**Cono NE Rev Vo**	**2.58**	**4**	P	Pn	01 10 28.0	+1.7
CONE				S	Sn	01 11 00.2	+2.8
GGP	**Refugio Guagua**	**2.59**	**342**	P	Pn	01 10 31.5	+5.0
GGP				S	Sn	01 11 04.7	+6.9
PINO	**Pino**	**2.61**	**342**	↓P	Pn	01 10 32.2	+5.5
YANA	**Yana**	**2.64**	**343**	↑P	Pn	01 10 32.6	+5.4
YANA				S	Sn	01 11 06.5	+7.6
CAYR	**Refugio Cayamb**	**2.67**	**356**	↑P	Pn	01 10 31.0	+3.5
CAYR				S	Sn	01 11 05.4	+5.8
CAYA	**Cayambe**	**2.72**	**356**	P	Pn	01 10 31.7	+3.5
CAYA				S	Sn	01 11 06.0	+5.0
COTA	**Cotacachi**	**3.02**	**350**	P	Pn	01 10 40.6	+8.1
COTA				S	Sn	01 11 22.7	+14

*IDC **17** 01:11:23.4±1.1, 4692N×15493E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/25, mbtmp3.9/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/45, Error ellipse: s-maj=30.1km s-min=25.0km az=8.0*
*NEIC **17** 01:11:25.4±0.8, 4691N×15475E, h10km, mb4.2/6, Error ellipse: s-maj=17.6km s-min=12.6km az=130.0*
*MOS **17** 01:11:27.2±1.2, 4686N×15457E, h33km, mb4.5/4, Error ellipse: s-maj=21.7km s-min=13.2km az=99.2*
*ISCJB **17** 01:11:28.7±2.1, 469N±0.1×1546E±0.2, h47km±18km, mb4.0/15, Error ellipse: s-maj=24.3km s-min=15.3km az=77.5*

ISC 17 01:11:30.0±2.0, 469N±0.1×1547E±0.2, h44km±17km, n28, σ1§06/27, mb4.0/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.92**	**14**	*e*PN	**Pn**	**01 12 28.7**	**+1.1**
ASAJ	**Asahikawa**	**8.91**	**256**	LR	LR	01 17 41.7	
	comp=Z,75nm,18.8s,baz=329,slow=42						
MAJO	**Matsushiro**	**16.02**	**236**	*e*P	**Pn**	**01 15 10.8**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**16.02**	**236**	*e*Pn	**Pn**	**01 15 10.8**	**-1.3**
	comp=Z,3.0nm,0.3s						
YAK	**Yakutsk**	**20.79**	**326**	P	**P**	**01 16 06.4**	**-0.9**
ENH	**Enshi**	**38.43**	**261**	*e*P	**P**	**01 18 49.1**	**+1.8**
	comp=Z,0.4nm,0.2s,mb3.8						
INK	**Inuvik**	**40.97**	**33**	P	**P**	**01 19 04.8**	**-3.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=264,slow=5.1,SNR=5.8						
INK	**Inuvik**	**40.97**	**33**	*e*P	**P**	**01 19 07.5**	**-0.9**
INK				pmax	pmax		
	comp=Z,73nm,0.9s						
INK	**Inuvik**	**40.97**	**33**	*e*P	**P**	**01 19 07.5**	**-0.9**
	comp=Z,73nm,0.9s,mb5.3						
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**01 19 26.8**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=54,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**47.81**	**298**	P	**P**	**01 20 02.8**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=65,slow=8.8,SNR=4.3						
CHKZ	**Chkalovo**	**51.15**	**311**	*e*P	**P**	**01 20 27.7**	**-0.8**
CHKZ				*e*	pP	01 20 39.3	-1.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**51.15**	**311**	*e*P	**P**	**01 20 27.6**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.4						
CHKZ				*e*	pP	01 20 39.2	-1.5
LSA	**Lhasa**	**51.32**	**274**	*e*P	**P**	**01 20 31.9**	**+2.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
LSA	**Lhasa**	**51.32**	**274**	*e*P	**P**	**01 20 31.9**	**+2.1**
	comp=Z,2.7nm,0.4s,mb4.5						
BVAR	**Borovoye Array**	**51.58**	**310**	P	**P**	**01 20 31.3**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=52,slow=8.0,SNR=15						
BRVK	**Borovoye**	**51.62**	**310**	*e*P	**P**	**01 20 32.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.62**	**310**	*e*P	**P**	**01 20 32.1**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.35**	**310**	*e*P	**P**	**01 20 36.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.35**	**310**	*e*P	**P**	**01 20 36.8**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**58.06**	**341**	P	**P**	**01 21 19.3**	**+0.6**
	comp=Z,4.4nm,1.0s,mb4.4,baz=12,slow=11,SNR=3.7						
AKTK	**Aktyubinsk**	**59.42**	**312**	P	**P**	**01 21 28.5**	**+0.4**
AKTO	**Aktyubinsk**	**59.42**	**312**	P	**P**	**01 21 28.5**	**+0.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=82,slow=9.0,SNR=3.9						
AKTO	**Aktyubinsk**	**59.42**	**312**	P	**P**	**01 21 28.5**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.36**	**335**	P	**P**	**01 22 00.6**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.4,baz=33,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**72.69**	**200**	P	**P**	**01 22 53.7**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=15,slow=5.2,SNR=5.0						
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**	**01 23 14.3**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=305,slow=5.1,SNR=16						
GERES	**GERESS Array B**	**78.79**	**335**	P	**P**	**01 23 30.1**	**+2.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=28,slow=6.0,SNR=4.6						

*ISCJB **17** 01:14:11.4±0.8, 473N±0.1×1549E±0.2, h10km, mb4.0/16, Error ellipse: s-maj=18.2km s-min=12.7km az=64.8*
*IDC **17** 01:14:11.2±1.1, 4728N×15505E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/24, mbtmp3.9/11, Error ellipse: s-maj=29.4km s-min=22.6km az=102.0*
*NEIC **17** 01:14:13.2±0.7, 4731N×15492E, h10km, mb4.5/5, Error ellipse: s-maj=15.6km s-min=11.2km az=119.0*
*MOS **17** 01:14:14.9±0.8, 4727N×15473E, h33km, mb4.7/6, Error ellipse: s-maj=23.3km s-min=13.5km az=119.3*

ISC 17 01:14:14.4±8.3, 473N±0.1×1550E±0.2, h19km±50km, n28, σ0§83/28, mb4.0/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.32**	**272**	PN	**Pn**	**01 16 13.7**	**-0.3**
YAK	**Yakutsk**	**20.53**	**325**	*e*P	**P**	**01 18 51.6**	**0.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.4s						
YAK	**Yakutsk**	**20.53**	**325**	*e*P	**P**	**01 18 51.6**	**0.0**
	comp=Z,11nm,0.4s						
BILL	**Bilibino**	**21.55**	**12**	*e*P	**P**	**01 19 03.7**	**+1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.7						
BILL	**Bilibino**	**21.55**	**12**	P	**P**	**01 19 02.2**	**-0.4**
KSRS	**Korea Array**	**22.17**	**253**	P	**P**	**01 19 10.2**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.4,baz=55,slow=11,SNR=3.1						
SONM	**Songino Array**	**32.32**	**289**	P	**P**	**01 20 41.9**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.4,baz=52,slow=8.7,SNR=3.9						
TLY	**Talaya**	**33.03**	**297**	*e*P	**P**	**01 20 45.9**	**-2.5**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
TLY	**Talaya**	**33.03**	**297**	*e*P	**P**	**01 20 45.9**	**-2.5**
	comp=Z,5.5nm,0.7s,mb4.6						
YHNB	**Yeheng**	**34.93**	**241**	*e*P	**P**	**01 21 06.8**	**+1.8**
NACB	**Ninganchiao**	**35.17**	**241**	*e*P	**P**	**01 21 06.2**	**-0.9**
INK	**Inuvik**	**40.48**	**33**	P	**P**	**01 21 51.2**	**-0.7**
	comp=Z,1.6nm,0.6s,mb3.9,baz=286,slow=10,SNR=7.1						
INK	**Inuvik**	**40.48**	**33**	*e*P	**P**	**01 21 52.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,36nm,0.5s						
INK	**Inuvik**	**40.48**	**33**	*e*P	**P**	**01 21 52.1**	**+0.2**
	comp=Z,36nm,0.5s,mb5.4						
ZAL	**Zalesovo**	**43.30**	**306**	P	**P**	**01 22 14.2**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.0,baz=58,slow=8.9,SNR=5.6						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**01 22 50.8**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=69,slow=6.4,SNR=9.4						
CHKZ	**Chkalovo**	**51.01**	**310**	*e*P	**P**	**01 23 15.1**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
CHKZ	**Chkalovo**	**51.01**	**310**	*e*P	**P**	**01 23 15.1**	**0.0**
	comp=Z,5.4nm,0.4s,mb4.8						
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**01 23 19.0**	**+0.7**
	comp=Z,2.0nm,0.4s,mb4.4,baz=56,slow=6.9,SNR=16						
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**01 23 19.2**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**01 23 19.2**	**+0.6**
	comp=Z,2.1nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.21**	**310**	*e*P	**P**	**01 23 24.4**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.21**	**310**	*e*P	**P**	**01 23 24.4**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**64.04**	**335**	P	**P**	**01 24 47.0**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=38,slow=9.0,SNR=8.7						
WRA	**Warramunga Arr**	**69.49**	**201**	P	**P**	**01 25 21.7**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=23,slow=7.1,SNR=5.0						
AKASG	**Malin Array Be**	**71.75**	**327**	P	**P**	**01 25 34.8**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=33,slow=6.2,SNR=4.4						
ASAR	**Alice Springs**	**73.17**	**200**	P	**P**	**01 25 42.8**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=20,slow=5.6,SNR=4.7						
BRTR	**Keskin Array B**	**78.81**	**318**	P	**P**	**01 26 16.6**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=68,slow=4.1,SNR=2.8						

*STR **17** 01:16:57.2±0.0, 4316N×114W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 01:16:57.0±0.0, 4315N×115W, h3km, Md1.3/2, Ml1.0/1, Error ellipse: s-maj=0.8km s-min=0.3km az=33.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.06**	**237**	*e*Pg	Pg	01 16 58.8	+0.5
SJPF				*e*Sg	Sg	01 16 59.8	+0.6
	25nm,0.2s						
OSSF	**Osses**	**0.13**	**323**	Pg	Pg	01 16 59.8	+0.2
OSSF				Sg	Sg	01 17 01.8	+0.4
LARF	**Larrau**	**0.16**	**132**	Pg	Pg	01 17 00.5	+0.3
LARF				Sg	Sg	01 17 02.9	+0.6
ETSF	**Etsaut**	**0.50**	**120**	*e*Pg	Pg	01 17 06.7	+0.1
ETSF				*e*Sg	Sg	01 17 13.2	+0.1
	1.4nm,0.2s						
EPF	**Esparros**	**1.10**	**96**	*e*Sg	Sg	01 17 32.0	-0.3
	0.3nm,0.2s						

*ISCJB **17** 01:19:31.0±0.9, 462N±0.1×1533E±0.1, h10km, mb4.0/13, Error ellipse: s-maj=20.8km s-min=14.0km az=153.2*
*IDC **17** 01:19:31.7±1.8, 4632N×15341E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, Error ellipse: s-maj=51.7km s-min=22.6km az=168.0*
*NEIC **17** 01:19:32.7±0.6, 4618N×15331E, h10km, mb4.3/5, Error ellipse: s-maj=14.4km s-min=9.5km az=175.0*
*MOS **17** 01:19:34.1±0.7, 4616N×15322E, h33km, mb4.6/4, Error ellipse: s-maj=25.6km s-min=15.5km az=43.1*

**ISC 17 01:19:32.8±0.9, 463N±0

DZM	**Mont Dzumac**	**21.13 138**	P		**P**	**01 25 48.0**	**-1.2**
	3.5nm,0.9s,mb3.7,baz=210,slow=20,SNR=2.1						
WRAB	**Tennant Creek**	**21.14 230**	*e*P		**P**	**01 25 51.7**	**+2.5**
	2.8nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**21.14 230**	*e*P		**P**	**01 25 49.6**	**+0.3**
WRA	**Warramunga Arr**	**21.15 230**	P		**P**	**01 25 49.1**	**-0.3**
	4.0nm,0.9s,mb3.8,baz=56,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.82 223**	P		**P**	**01 26 17.4**	**+0.3**
	2.9nm,0.7s,mb3.8,baz=56,slow=8.6,SNR=38						
STKA	**Stephens Creek**	**26.69 199**	P		**P**	**01 26 43.9**	**+0.7**
	6.8nm,0.9s,mb4.2,baz=18,slow=9.9,SNR=8.3						
FITZ	**Fitzroy Crossi**	**27.53 243**	*e*P		**P**	**01 26 50.6**	**-0.1**
	2.7nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.53 243**	P		**P**	**01 26 50.2**	**-0.5**
	1.9nm,0.6s,mb3.9,baz=48,slow=9.8,SNR=9.6						
MBWA	**Marble Bar**	**33.82 242**	P		**P**	**01 27 46.2**	**0.0**
LSA	**Lhasa**	**68.13 306**	P		**P**	**01 32 03.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**149.46 285**	PKPbc	PKPbc		01 40 52.1	-0.5
	0.9nm,0.7s,baz=89,slow=2.0,SNR=5.9						

IDC ***17*** *01:24:44.8±1.7, 4821N×1555.6E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, Error ellipse: s-maj=46.5km s-min=23.9km az=168.0*
ISCJB ***17*** *01:24:45.1±0.8, 4809N±009×1550E±02, h10km, mb4.1/18, Error ellipse: s-maj=19.3km s-min=6.8km az=77.5*
BJI ***17*** *01:24:45.7, 4808N×155.10E, h19km, mB4.9, mb4.5*
NEIC ***17*** *01:24:46.5±0.8, 4805N×1549.7E, h10km, mb4.2/5, Error ellipse: s-maj=21.2km s-min=10.0km az=137.0*
MOS ***17*** *01:24:47.8±1.5, 4802N×155.16E, h33km, mb4.5/7, Error ellipse: s-maj=13.6km s-min=8.9km az=95.6*

ISC 17 01:24:44.9±3.9, 4810N±010×1550E±02, h0km±24km, n57, σ1§11/58, mb4.2/18, 7C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.68**	**15**	*e*PN		**Pn**		**01 25 31.3**	**+2.0**
SKR				*e*S		**Sn**		**01 26 01.9**	**-0.6**
SKR				pmax	pmax				
	comp=N,80nm,0.5s								
SKR				pmax	pmax				
	comp=Z,120nm,0.5s								
SKR				smax					
	comp=N,150nm,0.5s								
SKR				smax					
	comp=E,220nm,0.5s								
SKR				smax					
	comp=Z,80nm,0.5s								
PET	**Petropavlovsk**	**5.45**	**24**	*e*PN		**Pn**		**01 26 06.3**	**-1.0**
PET				MLR	MLR				
	comp=Z,400nm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	*i*PN		**Pn**		**01 26 54.0**	**+6.6**
YSS				MLR	MLR				
	comp=Z,600nm,16.0s								
YSS	**Yuzh-Sakhalins**	**8.37**	**267**	*e*P		**Pn**		**01 26 48.1**	**+0.6**
	comp=Z,22nm,0.5s								
ASAJ	**Asahikawa**	**9.49**	**250**	Pn		**Pn**		**01 27 07.3**	**+4.5**
	comp=Z,1.3nm,0.3s,baz=83,slow=15,SNR=12								
ASAJ	**Asahikawa**	**9.49**	**250**	PN		**Pn**		**01 27 07.3**	**+4.5**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**16.92**	**233**	*e*P		**Pn**		**01 28 43.9**	**+0.9**
MAJO				pmax	pmax				
	comp=Z,6.0nm,0.8s								
MAJO	**Matsushiro**	**16.92**	**233**	*e*P		**Pn**		**01 28 43.9**	**+0.9**
	comp=Z,5.6nm,0.8s								
MJAR	**Matsushiro Arr**	**16.92**	**233**	P		**Pn**		**01 28 41.0**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=30,slow=12,SNR=2.7								
CLNS	**Chul'man**	**20.17**	**307**	*e*P		**P**		**01 29 24.2**	**+3.4**
CLNS				pmax	pmax				
	comp=N,17nm,1.0s								
CLNS				pmax	pmax				
	comp=E,8.0nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,14nm,1.0s								
BILL	**Bilibino**	**20.79**	**12**	*e*P		**P**		**01 29 21.0**	**-6.6**
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
CN2	**Changchun**	**20.93**	**269**	*e*P		**P**		**01 29 28.0**	**-1.0**
CN2				AMB	AMB				
	comp=Z,10.0nm,0.8s								
KSRS	**Korea Array**	**22.43**	**252**	P		**P**		**01 29 46.3**	**+1.1**
	comp=Z,4.8nm,0.7s,mb4.0,baz=51,slow=10,SNR=14								
SONM	**Songino Array**	**32.11**	**288**	P		**P**		**01 31 13.2**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=60,slow=8.3,SNR=3.8								
TLY	**Talaya**	**32.72**	**296**	*e*P		**P**		**01 31 17.6**	**-1.5**
TLY				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
TLY	**Talaya**	**32.72**	**296**	*e*P		**P**		**01 31 17.6**	**-1.5**
	comp=Z,3.1nm,0.7s,mb4.3								
TATO	**Taipei**	**35.03**	**241**	*e*P		**P**		**01 31 39.1**	**-0.1**
	comp=Z,20nm,0.4s,mb5.4								
INK	**Inuvik**	**39.82**	**33**	P		**P**		**01 32 18.7**	**-1.1**
MKAR	**Makanchi Array**	**47.46**	**297**	P		**P**		**01 33 20.8**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.5,baz=66,slow=7.6,SNR=20								
MKAR	**Makanchi Array**	**47.46**	**297**	P		**P**		**01 33 20.8**	**-0.6**
CHKZ	**Chkalovo**	**50.54**	**310**	*e*P		**P**		**01 33 43.2**	**-1.8**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
CHKZ	**Chkalovo**	**50.54**	**310**	*e*P		**P**		**01 33 43.2**	**-1.8**
	comp=Z,2.8nm,0.8s,mb4.2								
BVAR	**Borovoye Array**	**50.99**	**309**	P		**P**		**01 33 47.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=73,slow=7.3,SNR=4.1								
ZRNK	**Zerenda**	**51.75**	**310**	*e*P		**P**		**01 33 53.3**	**-0.7**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**51.75**	**310**	*e*P		**P**		**01 33 53.2**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**63.36**	**335**	P		**P**		**01 35 14.4**	**-1.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=36,slow=12,SNR=3.8								
FINES	**FINESS Array B**	**63.36**	**335**	P		**P**		**01 35 14.4**	**-1.4**
HFS	**Hagfors**	**67.63**	**340**	P		**P**		**01 35 43.0**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.6,baz=58,slow=3.7,SNR=12								
AKASG	**Malin Array Be**	**71.12**	**327**	P		**P**		**01 36 03.9**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.7,baz=32,slow=6.2,SNR=4.3								
AKASG	**Malin Array Be**	**71.12**	**327**	P		**P**		**01 36 03.9**	**-1.2**
STHS	**Stebnicka Huta**	**74.98**	**331**	*e*P		**P**		**01 36 28.8**	**+0.9**
STHS				pmax	pmax				
	comp=Z,3.0nm,1.2s,mb4.2								
STHS	**Stebnicka Huta**	**74.98**	**331**	*e*P		**P**		**01 36 28.8**	**+0.9**
	comp=Z,3.0nm,1.2s,mb4.2								
BURAR	**Bucovina Array**	**75.15**	**327**	*i*P		**P**		**01 36 29.3**	**+0.3**
BURAR	**Bucovina Array**	**75.15**	**327**	⇓P		**P**		**01 36 29.2**	**+0.3**
EKA	**Eskdalemuir Ar**	**75.31**	**347**	P		**P**		**01 36 27.2**	**-2.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=10,slow=5.2,SNR=4.3								
UPC	**Upice**	**75.63**	**334**	*e*P		**P**		**01 36 32.1**	**+0.4**
DPC	**Dobruska-Polom**	**75.68**	**334**	*e*P		**P**		**01 36 33.1**	**+1.1**
TXAR	**Lajitas Array**	**75.72**	**62**	P		**P**		**01 36 31.8**	**-0.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=300,slow=4.7,SNR=19								
CLL	**Collm**	**75.75**	**337**	*i*P		**P**		**01 36 32.7**	**+0.3**
CLL				*i*				01 36 38.2	
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.6								
CLL	**Collm**	**75.75**	**337**	*i*P		**P**		**01 36 32.7**	**+0.3**
	comp=Z,5.0nm,0.9s,mb4.6								
CLL				*i*	pP			01 36 38.2	
MORC	**Moravsky Berou**	**75.83**	**333**	*i*P		**P**		**01 36 34.0**	**+1.2**
MORC	**Moravsky Berou**	**75.83**	**333**	⇑P		**P**		**01 36 34.0**	**+1.1**
KECS	**Kecovo**	**76.03**	**331**	*e*P		**P**		**01 36 34.8**	**+0.8**
PRU	**Pruhonice**	**76.52**	**335**	*e*P		**P**		**01 36 36.7**	**-0.1**
VRAC	**Vranov**	**76.53**	**333**	P		**P**		**01 36 37.2**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.6,baz=8.4,slow=6.3,SNR=4.4								
VRAC	**Vranov**	**76.53**	**333**	P		**P**		**01 36 37.2**	**+0.4**
VRAC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MLR	**Muntele Rosu**	**76.68**	**326**	*i*P		**P**		**01 36 39.3**	**+1.6**
MLR	**Muntele Rosu**	**76.68**	**326**	⇓P		**P**		**01 36 39.3**	**+1.6**
VOIR		**77.06**	**326**	*i*P		**P**		**01 36 41.2**	**+1.4**
VOIR		**77.06**	**326**	⇓P		**P**		**01 36 41.2**	**+1.4**
MALT	**Malatya**	**77.16**	**314**	*i*P		**P**		**01 36 42.3**	**+1.9**
MALT	**Malatya**	**77.16**	**314**	⇑P		**P**		**01 36 42.3**	**+2.0**
KHC	**Kasperske Hory**	**77.56**	**335**	*e*P		**P**		**01 36 43.1**	**+0.5**
GERES	**GERESS Array B**	**77.79**	**335**	P		**P**		**01 36 43.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.1,baz=31,slow=6.2,SNR=11								
BZS	**Buzias**	**78.14**	**329**	*i*P		**P**		**01 36 46.6**	**+0.7**
BZS	**Buzias**	**78.14**	**329**	⇓P		**P**		**01 36 46.6**	**+0.7**
BRTR	**Keskin Array B**	**78.27**	**318**	P		**P**		**01 36 46.3**	**-0.3**
	comp=Z,1.3nm,0.9s,mb4.1,baz=64,slow=3.2,SNR=7.3								

NEIC ***17*** *01:30:36.6±1.7, 638S×15126E, h10km, mb4.0/3, Error ellipse: s-maj=33.0km s-min=22.7km az=90.0*
ISCJB ***17*** *01:30:51.3±5.2, 665S±02×1507E±03, h126km±33km, mb3.6/3, Error ellipse: s-maj=50.5km s-min=35.9km az=160.6*
IDC ***17*** *01:30:52.7±7.8, 6635×15071E, h122km±52km, mb3.4/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.3/5, Error ellipse: s-maj=64.9km s-min=52.8km az=96.0*

ISC 17 01:30:52.1±5.0, 665S±02×1508E±03, h118km±31km, n10, σ0§38/10, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.53**	**232**	P		**Pn**		**01 31 58.5**	**-0.1**
	1.0nm,0.3s,baz=49,slow=9.3,SNR=3.0								
PMG				S		**Sn**		**01 32 50.5**	**+0.2**
	1.2nm,0.3s,baz=200,slow=11,SNR=3.0								
WB2	**Warramunga Arr**	**20.73**	**229**	*e*P		**P**		**01 35 22.3**	**-0.9**
WRA	**Warramunga Arr**	**20.73**	**229**	P		**P**		**01 35 23.2**	**0.0**
	0.6nm,0.4s,baz=56,slow=11,SNR=5.8								
ASAR	**Alice Springs**	**23.45**	**222**	P		**P**		**01 35 51.0**	**+0.1**
	0.9nm,0.7s,mb3.2,baz=55,slow=8.8,SNR=4.3								
STKA	**Stephens Creek**	**26.54**	**198**	*e*P		**P**		**01 36 19.2**	**+0.4**
	2.8nm,0.9s,mb3.8								
STKA	**Stephens Creek**	**26.54**	**198**	P		**P**		**01 36 19.1**	**+0.4**
	2.0nm,0.9s,mb3.6,baz=27,slow=9.0,SNR=2.8								
FITZ	**Fitzroy Crossi**	**27.03**	**243**	*e*P		**P**		**01 36 23.6**	**+0.4**
	3.6nm,0.7s,mb4.0								
FITZ	**Fitzroy Crossi**	**27.03**	**243**	P		**P**		**01 36 22.9**	**-0.3**
	1.8nm,0.7s,mb3.7,baz=76,slow=7.8,SNR=5.3								
KKM	**Kota Kinabalu**	**36.73**	**289**	P		**P**		**01 37 48.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**148.89**	**284**	PKPbc		PKPbc		01 50 26.6	+0.6
	0.8nm,0.7s,baz=70,slow=2.8,SNR=6.9								

IDC ***17*** *01:39:50.1±1.0, 025S×12506E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=99.9km s-min=16.1km az=67.0*
ISCJB ***17*** *01:39:53.3±0.5, 03S±01×1249E±02, h35km, mb3.9/9, Error ellipse: s-maj=28.7km s-min=8.6km az=120.4*
NEIC ***17*** *01:39:55.3±0.5, 033S×12496E, h35km, mb4.1/2, Error ellipse: s-maj=29.0km s-min=8.5km az=60.0*

ISC 17 01:39:55.3±0.5, 03S±01×1250E±02, h35km, n17, σ1§00/17, mb3.9/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.80**	**306**	Pn		**Pn**		**01 42 25.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**17.70**	**178**	P		**Pn**		**01 43 59.2**	**+0.2**
	0.2nm,0.3s,baz=6.0,slow=8.7,SNR=7.1								
WRAB	**Tennant Creek**	**21.56**	**155**	*e*P		**P**		**01 44 41.7**	**+0.2**
	2.0nm,0.7s,mb3.7								
WRA	**Warramunga Arr**	**21.56**	**155**	P		**P**		**01 44 39.8**	**-1.8**
	1.1nm,0.5s,mb3.5,baz=332,slow=11,SNR=10								
WB2	**Warramunga Arr**	**21.57**	**155**	*e*P		**P**		**01 44 42.0**	**+0.3**
PMG	**Port Moresby**	**23.84**	**113**	*e*P		**P**		**01 45 04.8**	**-0.3**
ASAR	**Alice Springs**	**24.79**	**160**	P		**P**		**01 45 14.0**	**+0.2**
	0.7nm,0.5s,mb3.4,baz=335,slow=7.4,SNR=14								
CTAO	**Charters Tower**	**28.63**	**135**	P		**P**		**01 45 45.1**	**-3.2**
STKA	**Stephens Creek**	**35.11**	**155**	P		**P**		**01 46 46.8**	**+1.6**
	1.4nm,0.7s,mb4.0,baz=316,slow=8.6,SNR=3.9								
SONM	**Songino Array**	**50.60**	**344**	P		**P**		**01 48 50.1**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=154,slow=9.3,SNR=6.4								
MK31	**Makanchi Array**	**59.93**	**327**	*e*P		**P**		**01 49 58.9**	**+1.1**
MKAR	**Makanchi Array**	**59.93**	**327**	P		**P**		**01 49 57.3**	**-0.5**
	1.6nm,0.4s,mb4.4,baz=121,slow=8.6,SNR=24								
BVAR	**Borovoye Array**	**69.78**	**328**	P		**P**		**01 51 02.9**	**+1.0**
	0.6nm,0.4s,mb3.9,baz=143,slow=8.0,SNR=5.0								
BRVK	**Borovoye**	**69.85**	**328**	*e*P		**P**		**01 51 01.9**	**-0.4**
ZRNK	**Zerenda**	**70.47**	**328**	*e*P		**P**		**01 51 05.7**	**-0.4**
	2.3nm,0.5s,mb4.4								
AKTK	**Aktyubinsk**	**75.75**	**323**	P		**P**		**01 51 38.3**	**+0.9**
AKTO	**Aktyubinsk**	**75.75**	**323**	P		**P**		**01 51 38.3**	**+0.9**
	2.4nm,0.5s,mb4.4,baz=108,slow=7.2,SNR=12								

ISCJB ***17*** *01:42:36.1±0.7, 468N×0.1×1554E±0.1, h10km, mb4.0/15, Error ellipse: s-maj=16.3km s-min=12.7km az=102.8*
IDC ***17*** *01:42:36.6±1.0, 4685N×1554.7E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/26, mbtmp3.9/11, MS3.5/1, Ms1 3.5/1, ms1mx2.5/54, Error ellipse: s-maj=27.4km s-min=22.4km az=173.0*
NEIC ***17*** *01:42:37.9±0.5, 4684N×1554.4E, h10km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=9.6km az=143.0*
MOS ***17*** *01:42:39.5±0.9, 4684N×1553.6E, h33km, mb4.6/9, Error ellipse: s-maj=25.7km s-min=13.9km az=107.1*

ISC 17 01:42:37.8±0.7, 469N±01×1554E±01, h10km, n34, σ0§87/33, mb4.0/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.86**	**7**	*e*PN		**Pn**		**01 43 32.5**	**-4.7**
YAK	**Yakutsk**	**21.12**	**325**	*e*P		**P**		**01 47 24.0**	**+1.4**
YAK				pmax	pmax				
	comp=Z,13nm,0.3s,mb4.7								
YAK	**Yakutsk**	**21.12**	**325**	*e*P		**P**		**01 47 24.0**	**+1.3**
	comp=Z,13nm,0.3s,mb4.7								
BILL	**Bilibino**	**21.96**	**11**	P		**P**		**01 47 31.1**	**-0.6**
BILL	**Bilibino**	**21.96**	**11**	P		**P**		**01 47 31.1**	**-0.5**
BJT	**Baijiatuau**	**29.08**	**271**	*e*P		**P**		**01 48 38.7**	**+0.3**
BJT				pmax	pmax				
	comp=Z,5.0nm,0.3s								
BJT	**Baijiatuau**	**29.08**	**271**	*e*P		**P**		**01 48 38.7**	**+0.3**
	comp=Z,4.9nm,0.3s,mb4.7								
SONM	**Songino Array**	**32.80**	**290**	P		**P**		**01 49 11.7**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.1,baz=60,slow=7.3,SNR=3.6								
TATO	**Taipei**	**34.70**	**243**	*e*P		**P**		**01 49 28.0**	**+0.2**
	comp=Z,25nm,0.4s								
ENH	**Enshi**	**38.95**	**261**	P		**P**		**01 50 03.6**	**-0.4**
INK	**Inuvik**	**40.71**	**33**	P		**P**		**01 50 17.9**	**-0.7**
	comp=Z,1.9nm,0.5s,mb4.0,baz=289,slow=6.5,SNR=12								
INK	**Inuvik**	**40.71**	**33**	*e*P		**P**		**01 50 18.6**	**0.0**
INK				pmax	pmax				
	comp=Z,57nm,0.4s								
INK	**Inuvik**	**40.71**	**33**	*e*P		**P**		**01 50 18.6**	**+0.1**
	comp=Z,57nm,0.4s								
MKAR	**Makanchi Array**	**48.30**	**298**	P		**P**		**01 51 19.3**	**+0.1**
	comp=Z,1.6nm,1.0s,mb4.0,baz=51,slow=8.3,SNR=5.5								
CHKZ	**Chkalovo**	**51.58**	**311**	*e*P		**P**		**01 51 43.2**	**-0.9**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
CHKZ	**Chkalovo**	**51.58**	**311**	*e*P		**P**		**01 51 43.2**	**-0.9**
	comp=Z,2.7nm,0.5s,mb4.4								
BVAR	**Borovoye Array**	**52.02**	**310**	P		**P**		**01 51 46.4**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=52,slow=7.4,SNR=7.3								
BRVK	**Borovoye**	**52.05**	**310**	*e*P		**P**		**01 51 47.6**	**-0.1**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
BRVK	**Borovoye**	**52.05**	**310**	*e*P		**P**		**01 51 47.6**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.0								
ZRNK	**Zerenda**	**52.78**	**311**	*e*P		**P**		**01 51 52.3**	**-0.7**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.1								
ZRNK	**Zerenda**	**52.78**	**311**	*e*P		**P**		**01 51 52.2**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0								
NVAR	**Mina Array Bea**	**60.97**	**64**	P		**P**		**01 52 51.8**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.8,baz=312,slow=5.6,SNR=5.5								
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**		**01 53 14.2**	**-1.2**
	comp=Z,3.6nm,1.1s,mb4.3,baz=30,slow=11,SNR=6.0								
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**		**01 53 14.2**	**-1.3**
FINES				pmax	pmax				
	comp=Z,4.0nm,1.1s								
NOA	**NORSAR Array B**	**68.63**	**342**	P		**P**		**01 53 43.1**	**+2.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=26,slow=6.3,SNR=3.0								
NOA	**NORSAR Array B**	**68.63**	**342**	P		**P**		**01 53 43.2**	**+2.1**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**68.90**	**341**	P		**P**		**01 53 44.5**	**+1.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=38,slow=7.5,SNR=7.3								
HFS	**Hagfors**	**68.90**	**341**	P		**P**		**01 53 44.5**	**+1.7**
HFS				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WRAB	**Tennant Creek**	**69.14**	**201**	P		**P**		**01 53 43.8**	**-0.5**
ASAR	**Alice Springs**	**72.84**	**201**	P		**P**		**01 54 07.2**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=26,slow=6.3,SNR=2.5								
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**		**01 54 25.1**	**-0.3**
	comp=Z,0.1nm,0.6s,mb2.9,baz=297,slow=3.8,SNR=3.7								
EKA	**Eskdalemuir Ar**	**76.60**	**348**	P		**P**		**01 54 27.6**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=22,slow=7.8,SNR=3.0								
EKA	**Eskdalemuir Ar**	**76.60**	**348**	P		**P**		**01 54 27.6**	**-0.9**
EKA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
CLL	**Collm**	**77.01**	**337**	*e*pP		pP		01 54 37.0	+2.8

HLW ***17*** *01:44:01.5, 3435N×2631E, h15km, Mb3.7*

ISCJB ***17*** *01:44:03.0±0.4, 3421N±003×2635E±004, h45km±9km, mb3.7/7, Error ellipse: s-maj=7.0km s-min=4.3km az=104.6*
CSEM ***17*** *01:44:03.1±0.1, 3416N×2642E, h30km, MD3.7, Error ellipse: s-maj=3.2km s-min=1.8km az=42.0*
NEIC ***17*** *01:44:04.0, 3425N×2612E, h27km, MD3.7(ATH), After ATH.*
ATH ***17*** *01:44:04.0, 3425N×26.12E, h27km±7km, MD3.7/7*
IDC ***17*** *01:44:05.8±2.0, 3435N×2627E, h40km±19km, mb3.6/7, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, ML3.7/4, Error ellipse: s-maj=19.2km s-min=9.7km az=13.0*

ISC 17 01:44:04.9±0.4, 3422N±003×2625E±004, h42km±8km, n39, σ1§09/45, mb3.7/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.80**	**325**	*e*PN		**Pn**		**01 44 18.0**	**-1.7**
NPS	**Neapolis**	**1.16**	**333**	*e*PN		**Pn**		**01 44 24.8**	**+0.1**
KARP	**Karpathos**	**1.52**	**29**	*e*PN		**Pn**		**01 44 32.1**	**+2.6**
IDI	**Anoyia**	**1.55**	**314**	P		**Pn**		**01 44 30.9**	**+1.0**
	7.5nm,0.3s,baz=143,slow=14,SNR=137								
IDI				S		**Sn**		**01 44 47.9**	**-0.8**
	5.1nm,0.3s,baz=240,slow=20,SNR=8.1								
GVD	**Gavdhos**	**1.89**	**290**	Pn		**Pn**		**01 44 35.6**	**+0.9**
GVD	**Gavdhos**	**1.89**	**290**	Pn		**Pn**		**01 44 35.6**	**+1.0**
VAM	**Vamos**	**2.06**	**306**	*e*PN		**Pn**		**01 44 38.5**	**+1.5**
ARG	**Arkhangelos**	**2.51**	**37**	*e*PN		**Pn**		**01 44 45.9**	**+2.7**
APE	**Apeiranthos**	**2.90**	**349**	*e*PN		**Pn**		**01 44 50.1**	**+1.6**
KYTH	**Kithira**	**3.34**	**309**	*e*PN		**Pn**		**01 44 51.5**	**-3.0**
VLI	**Veliai**	**3.68**	**314**	*e*PN		**Pn**		**01 44 58.9**	**-0.3**
SWA1		**4.96**	**185**	P		**Pn**		**01 45 17.0**	**+0.1**
SWA1				S		**Sn**		**01 46 12.3**	**-0.7**
SWA2		**5.01**	**188**	P		**Pn**		**01 45 17.8**	**+0.3**
KOT	**Kottamia**	**6.38**	**131**	P		**Pn**		**01 45 35.7**	**-0.6**
HSAF	**As Saff**	**6.43**	**134**	P		**Pn**		**01 45 36.6**	**-0.4**
GLL	**Jalalah**	**6.55**	**133**	P		**Pn**		**01 45 38.1**	**-0.6**
AMAG	**Maghara**	**6.88**	**119**	P		**Pn**		**01 45 42.2**	**-0.9**
SUZ		**7.09**	**126**	P		**Pn**		**01 45 45.5**	**-0.6**
HFRF	**Wahat Farafira**	**7.27**	**165**	P		**Pn**		**01 45 48.8**	**+0.3**
MMAI	**Mount Meron Ar**	**7.73**	**96**	P		**Pn**		**01 45 55.1**	**+0.4**
	1.2nm,0.3s,baz=291,slow=12,SNR=11								
MMAI				S		**Sn**		**01 47 20.8**	**-0.2**
	2.1nm,0.3s,baz=268,slow=24,SNR=6.8								
BRTR	**Keskin Array B**	**8.07**	**45**	P		**Pn**		**01 46 00.8**	**+1.3**
	0.1nm,0.3s,baz=212,slow=13,SNR=5.8								
BRTR				S		**Sn**		**01 47 28.3**	**-1.0**
	0.1nm,0.3s,baz=309,slow=9.1,SNR=2.5								
BRTR	**Keskin Array B**	**8.07**	**45**	P		**Pn**		**01 46 00.8**	**+1.3**
BRTR				S		**Sn**		**01 47 28.3**	**-1.0**
GRB	**Gharib**	**8.15**	**135**	P		**Pn**		**01 46 00.4**	**-0.2**
ASUT		**8.19**	**145**	P		**Pn**		**01 46 01.4**	**+0.3**
TR2		**8.64**	**130**	P		**Pn**		**01 46 06.7**	**-0.6**
TR1		**9.05**	**131**	P		**Pn**		**01 46 12.4**	**-0.5**
SHRM		**9.24**	**131**	P		**Pn**		**01 46 15.5**	**0.0**

mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/44, Error ellipse: s-maj=37.3km s-min=24.5km az=145.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.15**	**257**	Pn	Pn	01 59 09.0	+0.4
	0.5nm,0.3s,baz=74,slow=19,SNR=2.2						
ASAJ				LR	LR	02 02 32.4	
	comp=Z,31nm,21.0s,baz=304,slow=37						
MJAR	**Matsushiro Arr**	**16.21**	**237**	Pn	Pn	02 00 43.4	-0.9
	0.3nm,0.3s,baz=25,slow=13,SNR=1.3						
SONM	**Songino Array**	**32.54**	**290**	LR	LR	02 16 19.0	
	comp=Z,57nm,18.9s,baz=90,slow=36						
INK	**Inuvik**	**40.87**	**33**	P	P	02 04 37.9	-1.0
	1.1nm,0.8s,baz=261,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**48.06**	**298**	P	P	02 05 35.4	-1.1
	0.4nm,0.7s,baz=72,slow=6.1,SNR=2.8						
FINES	**FINESS Array B**	**64.51**	**336**	P	P	02 07 34.0	+0.1
	0.8nm,0.7s,baz=49,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**72.73**	**200**	P	P	02 08 25.3	+0.1
	0.2nm,0.5s,baz=14,slow=4.9,SNR=4.1						
TXAR	**Lajitas Array**	**76.30**	**62**	P	P	02 08 46.1	+0.2
	0.7nm,0.7s,baz=298,slow=4.3,SNR=9.6						

CASC 17 02:00:17.3±1.7, 839N×8287W, h15km±8km, MD3.6, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.42**	**84**	*eP*	Pg	02 00 25.6	-0.2
DVD				*eS*	Sg	02 00 32.3	+0.8
CTCR	**Cotoan**	**0.51**	**13**	*eP*	Pg	02 00 27.7	+0.2
CNI	**Changuinola**	**1.08**	**19**	*eP*	Pb	02 00 36.8	-0.8
OCM	**Ochomogo**	**1.84**	**324**	*eP*	Pn	02 00 48.1	-0.2
PRS1	**Puriscal**	**2.13**	**318↑**	*eP*	Pn	02 00 52.1	-0.1
PRS1				*eS*	Sn	02 01 18.8	+0.4
PTP	**Ponta Puerca**	**19.42**	**58↓**	*iP*		02 00 21.6	
PTP				*eS*		02 00 25.6	

SZGRF ***17*** *02:02:01.7, 22.09S×177.26W, h33km, South of Fiji Islands*
MOS ***17*** *02:03:07.8±1.5, 2056S×178.82W, h587km, mb4.7/15, Error ellipse: s-maj=10.9km s-min=9.5km az=45.4*
ISCJB ***17*** *02:03:08.2±0.8, 2067S±0.06×178.88W±0.04, h595km±10km, mb4.7/67, Error ellipse: s-maj=9.3km s-min=4.8km az=136.6*
NEIC ***17*** *02:03:09.1±0.2, 2064S×178.80W, mb4.8/45, Error ellipse: s-maj=8.2km s-min=4.7km az=149.0*
IDC ***17*** *02:03:09.2±0.6, 2059S×178.75W, h598km±6km, mb4.1/17, mb1 4.3/20, mb1mx4.3/21, mbtmp4.2/20, Error ellipse: s-maj=12.7km s-min=9.6km az=130.0*
BJI ***17*** *02:03:09.0, 2060S×179.00W, h599km, mB4.8, mb4.8*
GCMT ***17*** *02:03:09.1±0.7, 2052S×178.55W, h616km±4km, MW5.4/39, Moment Tension Solution. s39,c44; Duration: 1s2*
Moment tensor: Scale 10^{17}Nm; M_{rr}-0.50±.05; $M_{\theta\theta}$0.64±.10; $M_{\phi\phi}$-0.14±.10; $M_{r\theta}$-0.88±.10; $M_{r\phi}$-0.43±.08; $M_{\theta\phi}$-0.88±.09; Best double couple: M_o1.37300×10^{17} NP1:ϕ_s316.00000°, δ29.00000°, λ-20.00000°. NP2: ϕ_s64.00000°, δ80.00000°, λ-118.00000°. Principal axes: T 1.1240, Plg30.0000°, Azm176.0000°; N 0.4980, Plg27.0000°, Azm69.0000°; P -1.6210, Plg47.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s.

ISC 17 02:03:09.2±0.7, 2070S±0.06×17881W±0.04, h593km±9km, h602km±4.0km: pP-P, n575, σ0▽71/354, mb4.7/67, 106C-96D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.55**	**175**	P	**P**	**02 05 13.4**	**-0.1**
	78nm,0.3s,baz=78,slow=20,SNR=5.0						
RAO				S	**S**	**02 06 55.5**	**+0.1**
	160nm,0.3s,baz=59,slow=23,SNR=4.8						
RAO	**Raoul Island**	**8.55**	**175**	*e*Pn	**P**	**02 05 13.4**	**-0.1**
RAO				*e*S	**S**	**02 06 55.2**	**-0.2**
AFI	**Afiamalu**	**9.52**	**46**	P	**P**	**02 05 20.8**	**-2.2**
	44nm,0.3s,baz=48,slow=3.6,SNR=18						
AFI				S	**S**	**02 07 04.4**	**-8.4**
	22nm,0.3s,baz=51,slow=22,SNR=8.3						
AFI	**Afiamalu**	**9.52**	**46**	P	**P**	**02 05 20.8**	**-2.2**
AFI				S	**S**	**02 07 04.4**	**-8.5**
AFI				pmax	pmax		
	comp=Z,44nm,0.3s						
AFI				smax			
	comp=N,22nm,0.3s						
AFI	**Afiamalu**	**9.52**	**46**	*e*P	**P**	**02 05 20.7**	**-2.3**
	comp=N,111nm,0.4s						
DZM	**Mont Dzumac**	**13.81**	**262**	P	**P**	**02 06 07.3**	**+1.2**
	comp=N,3.3nm,0.3s,baz=87,slow=16,SNR=32						
URZ	**Urewera**	**17.85**	**191**	P	**P**	**02 06 41.7**	**-2.0**
	comp=N,11nm,0.3s,baz=330,slow=4.7,SNR=31						
SNZO	**South Karori**	**21.27**	**194**	*e*P	**P**	**02 07 13.1**	**-1.5**
	comp=N,32nm,0.6s,mb5.1						
RPZ	**Rata Peaks**	**24.46**	**198**	P	**P**	**02 07 44.1**	**+1.2**
	comp=N,9.2nm,0.3s,mb4.8,baz=51,slow=13,SNR=2.7						
TVO	**Taravao**	**28.04**	**89**	*e*P	**P**	**02 08 13.2**	**-1.1**
	comp=N,95nm,0.9s,mb5.4						
TVO	**Taravao**	**28.04**	**89**	*e*P	**P**	**02 08 13.2**	**-1.1**
TVO				pmax	pmax		
	comp=Z,95nm,0.9s,mb5.4						
ARMA	**Armidale**	**28.30**	**244**	*e*P	**P**	**02 08 17.9**	**+1.4**
PMOR	**Pomariorio Ree**	**29.93**	**84**	*e*P	**P**	**02 08 29.6**	**-1.0**
	comp=Z,60nm,1.0s,mb5.2						
VAH	**Vaihoa**	**30.12**	**85**	*e*P	**P**	**02 08 30.8**	**-1.4**
	comp=Z,59nm,0.9s,mb5.2						
CTA	**Charters Tower**	**32.72**	**265↓**	*i*P	**P**	**02 08 55.1**	**+0.8**
	comp=Z,32nm,0.3s,mb5.4						
CTA	**Charters Tower**	**32.72**	**265**	P	**P**	**02 08 55.6**	**+1.3**
	comp=Z,51nm,0.5s,mb5.5,baz=89,slow=10,SNR=96						
CTA	**Charters Tower**	**32.72**	**265**	P	**P**	**02 08 55.6**	**+1.3**
CTA				pmax	pmax		
	comp=Z,51nm,0.5s						
CTAO	**Charters Tower**	**32.72**	**265↓**	*i*P	**P**	**02 08 55.5**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,43nm,0.5s,mb5.3						
CTAO	**Charters Tower**	**32.72**	**265↓**	*i*P	**P**	**02 08 55.5**	**+1.2**
	comp=Z,43nm,0.5s,mb5.3						
PMG	**Port Moresby**	**34.66**	**284↓**	*i*P	**P**	**02 09 11.3**	**+0.8**
PMG				pmax	pmax		
	comp=Z,90nm,0.9s						
PMG	**Port Moresby**	**34.66**	**284↓**	*i*P	**P**	**02 09 11.3**	**+0.8**
	comp=Z,90nm,0.9s,mb5.4						
TOO	**Toolangi**	**35.17**	**234**	*e*P	**P**	**02 09 15.9**	**+1.1**
	comp=Z,10nm,0.6s,mb4.6						
TOO	**Toolangi**	**35.17**	**234**	*e*P	**P**	**02 09 15.9**	**+1.1**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.02**	**244↓**	*i*P	**P**	**02 09 30.7**	**+0.7**
	comp=Z,10nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**37.02**	**244**	P	**P**	**02 09 31.0**	**+1.0**
	comp=Z,14nm,0.6s,mb4.7,baz=86,slow=8.9,SNR=60						
AS31	**Alice Springs**	**43.74**	**257**	*e*P	**P**	**02 10 23.9**	**+0.6**
ASAR	**Alice Springs**	**43.74**	**257**	P	**P**	**02 10 23.6**	**+0.4**
	comp=Z,66nm,0.5s,mb5.4,baz=96,slow=7.5,SNR=862						
ASAR				PcP	PcP	02 11 56.0	-0.6
	comp=Z,8.3nm,0.5s,baz=100,slow=3.7,SNR=8.5						
ASAR				S	**S**	**02 16 09.8**	**-1.6**
	comp=Z,12nm,0.7s,baz=94,slow=16,SNR=34						
ASPA	**Alice Springs**	**43.74**	**257**	*e*P	**P**	**02 10 23.9**	**+0.6**
WB2	**Warramunga Arr**	**43.81**	**262↓**	*i*P	**P**	**02 10 23.4**	**-0.5**
WRAB	**Tennant Creek**	**43.82**	**262**	*e*P	**P**	**02 10 23.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**43.82**	**262**	*e*P	**P**	**02 10 23.6**	**-0.3**
	comp=Z,41nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**43.83**	**262**	P	**P**	**02 10 23.7**	**-0.3**
	comp=Z,35nm,0.3s,mb5.3,baz=97,slow=7.4,SNR=362						
WRA				PcP	PcP	02 11 57.3	+0.4
	comp=Z,4.7nm,0.8s,baz=100,slow=4.2,SNR=6.2						
WRA				ScP	ScP	02 14 52.7	+0.1
	comp=Z,1.1nm,0.8s,baz=100,slow=3.4,SNR=5.1						
WRA				S	**S**	**02 16 10.9**	**-1.8**
	comp=Z,3.4nm,0.6s,baz=96,slow=13,SNR=10						
WRA	**Warramunga Arr**	**43.83**	**262**	P	**P**	**02 10 23.7**	**-0.2**
WRA						02 11 57.3	
WRA				S	**S**	**02 16 10.9**	**-1.8**
KAKA	**Kakadu**	**47.23**	**272**	*e*P	**P**	**02 10 49.5**	**-0.2**
	comp=Z,42nm,0.6s,mb5.1						
FORT	**Forrest**	**48.52**	**247**	*e*P	**P**	**02 10 58.8**	**-0.6**
	comp=Z,41nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.25**	**263↓**	*i*P	**P**	**02 11 26.7**	**+0.2**
	comp=Z,36nm,0.4s,mb5.1						
MBWA	**Marble Bar**	**57.07**	**258**	*e*P	**P**	**02 11 59.5**	**-0.5**
	comp=Z,42nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**57.29**	**245**	*e*P	**P**	**02 12 01.4**	**-0.1**
	comp=Z,18nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**57.60**	**244**	*e*P	**P**	**02 12 03.8**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**57.60**	**244**	*e*P	**P**	**02 12 03.8**	**+0.1**
	comp=Z,10nm,0.6s,mb4.1						
SBA	**Scott Base**	**57.62**	**184**	*e*P	**P**	**02 12 04.7**	**+0.9**
SBA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.2						
SBA	**Scott Base**	**57.62**	**184**	*e*P	**P**	**02 12 04.7**	**+1.0**
	comp=Z,19nm,0.9s,mb4.2						
VNDA	**Vanda**	**57.64**	**185**	P	**P**	**02 12 04.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb3.5,baz=0.7,slow=7.7,SNR=38						
VNDA	**Vanda**	**57.64**	**185**	*e*P	**P**	**02 12 04.3**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
VNDA	**Vanda**	**57.64**	**185**	*e*P	**P**	**02 12 04.2**	**+0.3**
	comp=Z,8.2nm,1.3s,mb3.7						
VNDA				*e*ScP	ScP	02 15 51.0	-1.1
MUN	**Mundaring**	**58.56**	**245**	*e*P	**P**	**02 12 10.4**	**+0.3**
CBIJ	**Chichi jima**	**60.71**	**320**	P	**P**	**02 12 23.9**	**-0.5**
	comp=Z,69nm,0.7s,mb5.0,baz=320,slow=19,SNR=6.5						
CASY	**Casey**	**63.46**	**205**	*e*P	**P**	**02 12 41.8**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.0						
JHJ	**Hachijo jima 2**	**66.54**	**323**	P	**P**	**02 13 01.1**	**-0.2**
	comp=Z,136nm,0.5s,mb5.7,baz=58,slow=22,SNR=10						
TSM	**Tawau**	**66.86**	**284**	P	**P**	**02 13 05.0**	**+1.7**
KKM	**Kota Kinabalu**	**69.08**	**285**	P	**P**	**02 13 17.9**	**+1.1**
MJAR	**Matsushiro Arr**	**69.93**	**324**	P	**P**	**02 13 20.9**	**-0.9**
	comp=Z,18nm,0.5s,mb4.7,baz=155,slow=5.6,SNR=38						
MAJO	**Matsushiro**	**69.93**	**324**	*e*P	**P**	**02 13 21.0**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**69.93**	**324**	*e*P	**P**	**02 13 21.0**	**-0.8**
	comp=Z,16nm,0.6s,mb4.6						
JNU	**Nakatsue**	**71.91**	**317**	P	**P**	**02 13 32.6**	**-0.8**
	comp=Z,32nm,0.9s,mb4.8,baz=199,slow=20,SNR=5.0						
KSM	**Kuching**	**72.69**	**278**	*e*P	**P**	**02 13 38.2**	**+0.3**
YHNB	**Yeheng**	**73.60**	**305**	*e*P	**P**	**02 13 42.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**75.74**	**334↑**	*e*P	**P**	**02 13 55.3**	**+0.2**
YSS				pmax	pmax		
	comp=Z,87nm,1.7s,mb4.9						
KSRS	**Korea Array**	**76.54**	**319**	P	**P**	**02 14 00.1**	**+0.6**
	comp=Z,9.3nm,0.7s,mb4.3,baz=131,slow=6.1,SNR=33						
HAST	**UC Hastings Re**	**78.40**	**44**	P	**P**	**02 14 10.6**	**+1.1**
	baz=79,SNR=5.0						
V04C	**Ramage Ranch,**	**78.41**	**45**	↑P	**P**	**02 14 10.7**	**+1.1**
	baz=79						
BNLO	**Ben Lomond (Sa**	**78.45**	**43**	↓P	**P**	**02 14 10.3**	**+0.5**
	baz=79						
SAO	**San Andreas Ge**	**78.69**	**44**	*e*P	**P**	**02 14 11.0**	**0.0**
SAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
SAO	**San Andreas Ge**	**78.69**	**44**	*e*P	**P**	**02 14 10.9**	**-0.1**
	comp=Z,5.3nm,0.8s,mb3.9						
PKD	**Parkfield**	**78.80**	**45**	↓P	**P**	**02 14 11.8**	**+0.2**
	baz=79						
U04C	**Hernandez Rese**	**78.89**	**44**	↑P	**P**	**02 14 12.6**	**+0.5**
	baz=79						
PACP	**Pacheco Peak**	**78.94**	**43**	↓P	**P**	**02 14 13.0**	**+0.7**
	baz=79						
CVS	**Carmenet Viney**	**79.00**	**42**	↑P	**P**	**02 14 13.1**	**+0.4**
	baz=79						
HOPS	**Hopland**	**79.02**	**41**	*e*P	**P**	**02 14 13.2**	**+0.4**
HOPS	**Hopland**	**79.02**	**41**	↓P	**P**	**02 14 13.0**	**+0.2**
	baz=79						
P01C	**Double 8 Ranch**	**79.15**	**40**	↑P	**P**	**02 14 14.4**	**+1.0**
	baz=79						
S04C	**Ingram Canyon,**	**79.21**	**43**	↑P	**P**	**02 14 14.1**	**+0.4**
	baz=79						
O01C	**Eel River Cons**	**79.27**	**40**	↓P	**P**	**02 14 14.8**	**+0.7**
	baz=80						
MNRC	**McLaughlin Nat**	**79.33**	**41**	P	**P**	**02 14 14.5**	**0.0**
	baz=80,SNR=5.8						
KGM	**Kluang**	**79.38**	**276**	P	**P**	**02 14 16.0**	**+1.4**
109C	**Camp Elliot, M**	**79.43**	**49**	↑P	**P**	**02 14 15.4**	**+0.5**
	baz=80						
Q03C	**Winters**	**79.45**	**42**	↓P	**P**	**02 14 15.1**	**+0.1**
	baz=80						
GASB	**Alder Springs**	**79.63**	**41**	↓P	**P**	**02 14 16.9**	**+0.9**
	baz=80						
VES	**Vestal, Richgr**	**79.71**	**45**	↑P	**P**	**02 14 16.6**	**+0.2**
	baz=80						
MURC	**Murrieta**	**79.75**	**48**	↑P	**P**	**02 14 16.8**	**+0.2**
	baz=80						
S05C	**Merced**	**79.76**	**44**	↑P	**P**	**02 14 16.8**	**+0.2**
	baz=80						
EDW2	**Edwards Air Fo**	**79.91**	**47**	P	**P**	**02 14 17.6**	**+0.2**
	baz=80,SNR=6.7						
MONP	**Monument Peak**	**79.91**	**49**	P	**P**	**02 14 18.5**	**+1.0**
	baz=80,SNR=8.0						
O02C	**Red Bluff**	**79.92**	**40**	↑P	**P**	**02 14 18.5**	**+1.0**
	baz=80						
SUTB	**Sutter Butte**	**79.95**	**41**	↓P	**P**	**02 14 17.7**	**+0.1**
	baz=80						
T06C	**Millerton Lake**	**79.96**	**44**	↑P	**P**	**02 14 17.8**	**0.0**
	baz=80						
N02C	**Big Bar**	**80.00**	**39**	↑P	**P**	**02 14 18.3**	**+0.4**
	baz=80						
ISA	**Isabella**	**80.02**	**46**	*e*P	**P**	**02 14 18.3**	**+0.3**
ISA	**Isabella**	**80.02**	**46**	P	**P**	**02 14 18.8**	**+0.8**
	baz=80,SNR=5.5						
CMB	**Columbia Colle**	**80.12**	**43**	*e*P	**P**	**02 14 18.4**	**-0.1**
CMB				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.1						
CMB	**Columbia Colle**	**80.12**	**43**	*e*P	**P**	**02 14 18.4**	**-0.2**
	comp=Z,13nm,1.2s,mb4.1						
CMB	**Columbia Colle**	**80.12**	**43**	↓P	**P**	**02 14 18.8**	**+0.2**
	baz=80,SNR=9.5						
OHCM	**Honcut**	**80.20**	**41**	*e*P	**P**	**02 14 18.0**	**-1.0**
HELL	**Mitchell Peak,**	**80.23**	**45**	P	**P**	**02 14 18.7**	**-0.4**
	baz=80,SNR=8.2						
HABR	**Khabarovsk**	**80.25**	**331**	*e*P	**P**	**02 14 19.2**	**0.0**
HABR				*e*S	S	02 23 39.5	+2.9
O03C	**Acorn Hollow,**	**80.27**	**41**	↓P	**P**	**02 14 19.4**	**+0.1**
	baz=80						
PFO	**Pinyon Flat Ob**	**80.27**	**49**	↓P	**P**	**02 14 19.6**	**+0.3**
	baz=80						
WDC	**Whiskeytown Da**	**80.31**	**40**	↑P	**P**	**02 14 19.6**	**+0.1**
	baz=80						
LAVA	**Lava Cap Winer**	**80.32**	**42**	↑P	**P**	**02 14 19.5**	**-0.1**
	baz=80						
ORV	**Oroville**	**80.33**	**41**	P	**P**	**02 14 19.4**	**-0.2**
	baz=80,SNR=7.4						
S06C	**San Francisco**	**80.38**	**43**	↓P	**P**	**02 14 19.8**	**-0.1**
	baz=81						
SWSC	**Sam W. Stewart**	**80.38**	**49**	↑P	**P**	**02 14 20.2**	**+0.3**
	baz=81						
KCC	**Kaiser Creek**	**80.40**	**44**	P	**P**	**02 14 20.1**	**+0.1**
	baz=81,SNR=6.6						
LRMC	**Laurel Mountai**	**80.44**	**46**	↓P	**P**	**02 14 19.6**	**-0.6**
	baz=81						
M02C	**Callahan**	**80.62**	**39**	↑P	**P**	**02 14 21.7**	**+0.5**
	baz=81,SNR=5.1						
R05C	**Kirkwood Meado**	**80.71**	**43**	↑P	**P**	**02 14 21.8**	**+0.2**
	baz=81						
CWC	**Cottonwood Cre**	**80.72**	**45**	↑P	**P**	**02 14 21.8**	**+0.2**
	baz=81						
P05C	**Yuba Gap, Truc**	**80.73**	**42**	↓P	**P**	**02 14 22.2**	**+0.5**
	baz=81						
BELC	**Belle Mtn.**	**80.80**	**48**	↑P	**P**	**02 14 22.1**	**0.0**
	baz=81,SNR=8.2						
MPMC	**Manual Prospec**	**80.90**	**46**	P	**P**	**02 14 22.5**	**0.0**
	baz=81,SNR=9.1						
MTUM	**Tungsten Hills**	**80.91**	**44**	*e*P	**P**	**02 14 22.5**	**-0.1**
YBH	**Yreka Blue Hor**	**80.92**	**39**	↓P	**P**	**02 14 23.0**	**+0.4**
	baz=81						
O05C	**Quincy**	**80.93**	**41**	↓P	**P**	**02 14 22.8**	**+0.1**
	baz=81						
GSC	**Goldstone**	**80.95**	**47**	↓P	**P**	**02 14 22.7**	**-0.1**
	baz=81						
DAC	**Darwin (Calif)**	**80.95**	**46**	*e*P	**P**	**02 14 22.3**	**-0.5**
TIN	**Tinemaha**	**80.96**	**45**	↑P	**P**	**02 14 23.2**	**+0.3**
	baz=81						
M03C	**McCloud**	**80.99**	**40**	P	**P**	**02 14 23.9**	**+0.9**
	baz=81,SNR=6.5						
BC3	**Big Chuckw Mtn**	**81.00**	**49**	↑P	**P**	**02 14 23.7**	**+0.6**
	baz=81						
WAKR	**Walker**	**81.00**	**43**	*e*P	**P**	**02 14 23.5**	**+0.4**
R06C	**Coleville**	**81.01**	**43**	↓P	**P**	**02 14 23.4**	**+0.3**
	baz=81						
R07C	**Lee Vining**	**81.02**	**44**	↓P	**P**	**02 14 23.6**	**+0.5**
	baz=81						
HEC	**Hector,Ludlow**	**81.02**	**48**	P	**P**	**02 14 23.2**	**0.0**
	baz=81,SNR=6.8						
O04C	**Chester**	**81.04**	**41**	↑P	**P**	**02 14 24.1**	**+0.8**
	baz=81						
HATC	**Hat Creek Radi**	**81.11**	**40**	↓P	**P**	**02 14 24.1**	**+0.5**
	baz=81						
K02A	**Glendale**	**81.11**	**38**	↑P	**P**	**02 14 24.2**	**+0.5**
	baz=81						
MAW	**Mawson**	**81.12**	**200**	P	**P**	**02 14 23.6**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.4,baz=126,slow=5.7,SNR=6.3						
MAW	**Mawson**	**81.12**	**200**	*e*P	**P**	**02 14 23.9**	**+0.2**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MAW	**Mawson**	**81.12**	**200**	*e*P	**P**	**02 14 23.9**	**+0.2**
	comp=Z,1.2nm,0.4s,mb3.7						
GLA	**Glamis**	**81.13**	**50**	*e*P	**P**	**02 14 24.2**	**+0.5**
GLA	**Glamis**	**81.13**	**50**	P	**P**	**02 14 24.5**	**+0.8**
	baz=81,SNR=12						
BEKR	**Beckwourth**	**81.22**	**42**	P	**P**	**02 14 24.1**	**-0.1**
	baz=81,SNR=9.9						
S08C	**White Mtn Res**	**81.25**	**45**	↑P	**P**	**02 14 24.8**	**+0.5**
	baz=82						
WCN	**Washoe City**	**81.26**	**42**	↓P	**P**	**02 14 25.4**	**+1.0**
	baz=82						
HUMO	**Hull Mountain**	**81.32**	**38**	↓P	**P**	**02 14 25.1**	**+0.4**
	baz=82						
P06A	**Stead Airport,**	**81.39**	**42**	↑P	**P**	**02 14 25.9**	**+0.8**
	baz=82						
M04C	**Macdoel**	**81.47**	**39**	↑P	**P**	**02 14 26.4**	**+1.0**
	baz=82						
IRM	**Iron Mountain**	**81.48**	**49**	P	**P**	**02 14 26.0**	**+0.4**
	baz=82,SNR=8.2						
GRAC	**Grapevine Rang**	**81.50**	**45**	↓P	**P**	**02 14 26.1**	**+0.5**
	baz=82						
FURC	**Furnace Creek,**	**81.55**	**46**	↓P	**P**	**02 14 26.3**	**+0.4**
	baz=82						
M05C	**Lookout**	**81.62**	**40**	P	**P**	**02 14 26.2**	**-0.1**
	baz=82,SNR=6.5						
TUQ	**Turquoise Mtn.**	**81.63**	**47**	P	**P**	**02 14 26.9**	**+0.7**
	baz=82,SNR=8.0						
L04A	**Klamath Falls**	**81.67**	**39**	↓P	**P**	**02 14 26.7**	**+0.2**
	baz=82						
NVAR	**Mina Array Bea**	**81.69**	**44**	P	**P**	**02 14 26.5**	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.2,baz=236,slow=9.1,SNR=34						
NVAR				pP	pP	02 16 33.4	+1.7
	comp=Z,0.8nm,0.8s,baz=248,slow=9.6,SNR=3.8						
Y12C	**Blythe**	**81.71**	**49**	P	**P**	**02 14 27.1**	**+0.4**
	baz=82,SNR=5.2						
O06A	**Flanigan**	**81.72**	**42**	↓P	**P**	**02 14 26.9**	**+0.2**
	baz=82						
J03A	**Ideyld Park**	**81.79**	**38**	↑P	**P**	**02 14 27.5**	**+0.4**
	baz=82						
U10A	**Ash Meadows, A**	**81.88**	**46**	↑P	**P**	**02 14 28.0**	**+0.4**
	baz=82						
M06C	**Likely Place G**	**81.94**	**40**	P	**P**	**02 14 28.8**	**+0.9**
	baz=82,SNR=6.0						
WHN	**Wuhan**	**81.96**	**307**	P	**P**	**02 14 28.0**	**0.0**
S09A	**Goldfield**	**82.00**	**45**	↑P	**P**	**02 14 28.5**	**+0.3**
	baz=82						
CN2	**Changchun**	**82.00**	**323**	*e*P	**P**	**02 14 27.6**	**-0.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
N06A	**Buffalo Meadow**	**82.06**	**41**	P	**P**	**02 14 28.5**	**0.0**
	baz=82,SNR=9.8						
Q08A	**Gabbs**	**82.17**	**44**	↓P	**P**	**02 14 29.4**	**+0.3**
	baz=82						
V11A	**Goodsprings**	**82.18**	**47**	↓P	**P**	**02 14 29.2**	**+0.1**
	baz=82						
J04A	**Umpqua Nationa**	**82.20**	**38**	↓P	**P**	**02 14 29.7**	**+0.5**
	baz=82						
L05A	**Lakeview**	**82.22**	**40**	↓P	**P**	**02 14 29.9**	**+0.6**
	baz=82						
Y13A	**Salome**	**82.24**	**50**	P	**P**	**02 14 30.0**	**+0.6**
	baz=82						
PDMCI	**Parker Dam,Lak**	**82.27**	**49**	P	**P**	**02 14 29.5**	**0.0**
	baz=82,SNR=8.2						
W12A	**Cal Nev Ari**	**82.28**	**48**	↑P	**P**	**02 14 30.0**	**+0.4**
	baz=82						
O07A	**Toulon**	**82.31**	**42**	↑P	**P**	**02 14 30.1**	**+0.3**
	baz=82						
KLR	**Kul'dur**	**82.32**	**330**	*e*P	**P**	**02 14 26.0**	**-3.8**
I04A	**Tendick Farm,**	**82.36**	**37**	↓P	**P**	**02 14 29.9**	**-0.1**
	baz=83						
R09A	**Tonopah**	**82.39**	**44**	↑P	**P**	**02 14 30.1**	**0.0**
	baz=83						
IPM	**Ipoh**	**82.41**	**278**	P	**P**	**02 14 31.5**	**+1.3**
H03A	**Soap Creek Ran**	**82.42**	**36**	↓P	**P**	**02 14 30.9**	**+0.7**
	baz=83						
MOD	**Modoc**	**82.45**	**40**	*e*P	**P**	**02 14 29.8

baz=84,SNR=7.8
O10A **Cortez Mining,** 83.89 43 ⇑P P 02 14 37.6 0.0
baz=84
J07A **Hines** 83.91 39 ⇑P P 02 14 37.5 -0.2
baz=84
M09A **Marrel Ranch,** 83.92 42 ⇑P P 02 14 38.2 +0.4
baz=84
E04A **Onalaska** 83.93 35 ⇑P P 02 14 38.0 +0.2
baz=84
P11A **Circle Ranch,** 83.97 44 ⇓P P 02 14 37.9 0.0
baz=84
K08A **Mann Creek Ran** 84.03 40 P P 02 14 38.1 -0.1
baz=84,SNR=6.0
H06A **Lindquist Farm** 84.12 38 P P 02 14 38.5 -0.2
baz=84,SNR=8.9
L09A **Wilkinson Ranc** 84.12 41 ⇑P P 02 14 38.4 -0.3
baz=84
F05A **White Salmon** 84.18 36 ⇓P P 02 14 38.7 -0.3
baz=84
I07A **Izee** 84.22 39 ⇓P P 02 14 39.6 +0.5
baz=84
G06A **Carlson Farm,** 84.25 37 ⇑P P 02 14 39.5 +0.1
baz=84
Q12A **Willow Creek R** 84.29 45 ⇓P P 02 14 39.5 0.0
baz=84
O11A **Cowboy Ranch,** 84.34 43 ⇓P P 02 14 39.6 -0.2
baz=85
J08A **Circle Bar Ran** 84.40 40 P P 02 14 40.7 +0.6
baz=85,SNR=7.5
E05A **Randle** 84.43 36 ⇓P P 02 14 40.2 0.0
baz=85
P12A **McGill** 84.47 44 ⇑P P 02 14 40.6 +0.1
baz=85
K09A **Rome** 84.47 40 P P 02 14 40.5 0.0
baz=85,SNR=9.5
F06A **Goldendale** 84.49 37 ⇑P P 02 14 40.7 +0.1
baz=85
M10A **I.L. Ranch, Tu** 84.55 42 ⇓P P 02 14 41.2 +0.4
baz=85
I08A **Drewsey** 84.66 39 P P 02 14 41.0 -0.4
baz=85,SNR=6.2
N11A **Elko Archery C** 84.67 43 ⇑P P 02 14 41.3 0.0
baz=85
D05A **Enumclaw** 84.69 35 ⇓P P 02 14 42.0 +0.4
baz=85
G07A **Ruggs Ranch, H** 84.82 37 ⇓P P 02 14 41.9 -0.2
baz=85
J09A **Fry Pan Ranch,** 84.83 40 P P 02 14 41.9 -0.3
baz=85,SNR=7.3
WUAZ **Wupatki** 84.84 49 *e*P P 02 14 43.0 +0.8
comp=Z,7.9nm,1.1s,mb4.3
WUAZ **Wupatki** 84.84 49 ⇑P P 02 14 42.3 +0.1
baz=85
E06A **Yakima** 84.85 36 ⇓P P 02 14 42.4 +0.1
baz=85
H08A **Prairie City** 84.96 39 ⇑P P 02 14 42.5 -0.3
baz=85
M11A **Holland Ranch,** 84.97 42 ⇓P P 02 14 43.1 +0.3
baz=85
O12A **Currie** 85.00 44 ⇑P P 02 14 43.1 +0.1
baz=85
F07A **Phinny Hill Vi** 85.04 37 ⇓P P 02 14 43.3 +0.1
baz=85
N12A **Clover Valley,** 85.13 43 ⇓P P 02 14 43.7 +0.1
baz=85
C05A **Tolt Reservoir** 85.17 35 ⇑P P 02 14 43.5 -0.3
baz=85
I09A **Lost Marbles R** 85.19 39 ⇓P P 02 14 43.7 -0.2
baz=85
G08A **Pilot Rock** 85.24 38 P P 02 14 44.1 -0.1
baz=86,SNR=11
B05A **Bryant** 85.30 34 ⇑P P 02 14 44.6 +0.1
baz=86
D06A **Cle Elum** 85.32 35 ⇑P P 02 14 44.3 -0.2
baz=86
E07A **Sunnyside** 85.48 36 ⇑P P 02 14 45.6 +0.3
baz=86
BJI **Beijing** 85.51 316 P P 02 14 44.4 -1.0
BJI S S 02 24 14.3 -14
BJI pmax pmax
comp=Z,30nm,1.4s,mb4.7
BJI MLR MLR
comp=Z,200nm,19.0s
BJI **Beijing** 85.51 316 P P 02 14 44.4 -1.0
comp=Z,30nm,1.4s,mb4.7
BJI S S 02 24 14.3 -14
BJI LR LR
comp=Z,200nm,19.0s
M12A **Wells** 85.51 43 ⇓P P 02 14 45.4 -0.1
baz=86
H09A **Durkee** 85.63 39 ⇓P P 02 14 46.3 +0.2
baz=86
F08A **Pendleton** 85.64 37 ⇓P P 02 14 46.0 -0.1
baz=86
A05A **Maple Falls** 85.76 34 ⇓P P 02 14 46.0 -0.7
baz=86
DIV **Divide** 85.78 15 *e*P P 02 14 45.0 -1.7
comp=Z,37nm,0.8s,mb5.1
MSU **Marysvale** 85.79 46 *e*P P 02 14 47.9 +1.1
D07A **Quincy** 85.79 36 ⇑P P 02 14 46.6 -0.2
baz=86
E08A **Dider Farm, El** 85.88 37 ⇓P P 02 14 46.5 -0.7
baz=86
BMO **Blue Mountains** 85.94 39 *e*P P 02 14 46.3 -1.2
BMO pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
BMO **Blue Mountains** 85.94 39 *e*P P 02 14 46.3 -1.3
comp=Z,5.6nm,0.9s,mb4.2
M13A **Montello** 85.96 43 ⇓P P 02 14 48.0 +0.4
baz=86
C07A **Waterville** 86.04 35 P P 02 14 46.9 -1.1
baz=86,SNR=5.7
F09A **S2 Ranch, Elgi** 86.08 38 P P 02 14 47.9 -0.2
baz=86,SNR=5.3
GYA **Guiyang** 86.09 300 ⇑*i*P P 02 14 49.3 +1.1
GYA AP pP 02 16 59.8 +4.6
GYA XP sP 02 18 00.0 +5.3
GYA PP PP 02 18 22.9 +3.1
GYA SKS 02 24 15.3
GYA S S 02 24 31.9 -2.0
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,80nm,4.8s
D08A **Wollman Farm,** 86.29 36 P P 02 14 48.6 -0.5
baz=86,SNR=6.6
SYO **Syowa Base** 86.36 193 ⇑*e*P P 02 14 47.5 -2.0
SEY **Seymchan** 86.40 347 ⇑*i*P P 02 14 48.3 -1.4
E09A **Wood Farm, Sta** 86.41 37 P P 02 14 48.7 -1.0
baz=87,SNR=7.0
B07A **Winthrop** 86.47 35 ⇑P P 02 14 49.1 -0.8
baz=87
F10A **Beach Ranch, E** 86.62 38 P P 02 14 49.6 -1.1
baz=87,SNR=20
H11A **Donnelly** 86.62 39 P P 02 14 50.2 -0.5
baz=87,SNR=12
D09A **Jones Farm, Ri** 86.63 37 P P 02 14 50.4 -0.4
baz=87,SNR=9.6
C08A **Higginbotham F** 86.65 36 ⇑P P 02 14 50.4 -0.4
baz=87
B08A **Colville Reser** 86.83 35 P P 02 14 50.7 -1.0
baz=87,SNR=6.8
TMUT **Trail Mountain** 86.84 46 *e*P P 02 14 52.9 +1.2
G11A **Walters Elk Ra** 86.86 39 ⇓P P 02 14 51.6 -0.2
baz=87
HLID **Hailey** 86.97 41 *e*P P 02 14 52.1 -0.2
comp=Z,9.3nm,1.0s,mb4.5
HLID **Hailey** 86.97 41 P P 02 14 52.6 +0.3
baz=87,SNR=14
E10A **Myers Farm, Un** 86.98 38 ⇑P P 02 14 52.1 -0.2
baz=87
SPUT **South Promonto** 87.03 44 *e*P P 02 14 50.0 -2.6
C09A **Chrisman Ranch** 87.08 36 ⇑P P 02 14 52.5 -0.4
baz=87
F11A **Grangeville** 87.20 38 ⇓P P 02 14 52.2 -1.2
baz=87
SRU **San Rafael** 87.21 46 *e*P P 02 14 53.3 -0.2
A08A **Turner Farm, O** 87.21 35 P P 02 14 53.0 -0.4
baz=87,SNR=8.6
MCK **McKinley** 87.33 13 *e*P P 02 14 52.1 -2.0
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MCK **McKinley** 87.33 13 *e*P P 02 14 52.0 -2.0
comp=Z,8.1nm,0.9s,mb4.5
MNTX **Cornudas Mount** 87.48 55 *e*P P 02 14 54.9 +0.2
comp=Z,9.2nm,1.1s,mb4.4
B09A **Rice** 87.51 36 P P 02 14 54.8 -0.1
baz=88,SNR=6.2
A09A **Danville** 87.59 35 P P 02 14 55.5 +0.2
baz=88,SNR=6.2
XAN **Xi'an** 87.66 308 P P 02 14 55.8 +0.2
XAN AMB AMB
comp=Z,37nm,1.1s,mb5.0
LPM **Los Pinos Moun** 87.70 52 *e*P P 02 14 55.7 -0.1
D11A **Klaveano Farm,** 87.74 37 P P 02 14 55.5 -0.4
baz=88,SNR=5.8
LTX **Lajitas** 87.80 58 *e*P P 02 14 56.5 +0.3
LTX pmax pmax
comp=Z,13nm,1.1s,mb4.6
LTX **Lajitas** 87.80 58 *e*P P 02 14 56.5 +0.3
comp=Z,14nm,1.1s,mb4.6
TXAR **Lajitas Array** 87.80 58 P P 02 14 56.7 +0.4
comp=Z,7.3nm,0.9s,mb4.4,baz=221,slow=5.1,SNR=65
TXAR pP pP 02 17 04.9 +1.1
comp=Z,1.2nm,1.1s,baz=216,slow=4.5,SNR=5.1
TXAR **Lajitas Array** 87.80 58 P P 02 14 56.7 +0.4
TXAR pP pP 02 17 04.9 +1.1
SNAA **Sanae** 87.83 179 *e*P P 02 14 54.9 -1.4
SNAA *e* 02 15 07.4
SNAA *e* 02 17 09.7
SNAA *e* 02 17 16.0
SNAA **Sanae** 87.83 179 ⇑*e*P P 02 14 54.3 -2.0
VNA3 **Neumayer Olymp** 87.99 177 *e*P P 02 14 55.5 -1.6
VNA3 *e* 02 15 07.1
VNA3 *e* 02 17 10.4
VNA3 *e* 02 17 17.1
ANMO **Albuquerque** 88.12 52 P P 02 14 57.3 -0.4
comp=Z,5.6nm,1.1s,mb4.2,baz=221,slow=4.7,SNR=9.3
ANMO **Albuquerque** 88.12 52 *e*P P 02 14 57.5 -0.2
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO **Albuquerque** 88.12 52 *e*P P 02 14 57.5 -0.2
comp=Z,7.3nm,1.1s,mb4.3
F13A **Darby** 88.21 39 P P 02 14 57.5 -0.7
baz=88,SNR=8.9
VNA2 **Neumayer--Watz** 88.42 177 *e*P P 02 14 58.2 -0.9
baz=206,slow=3.8
VNA2 *e* 02 15 09.7
VNA2 *e* 02 15 21.5
VNA2 *e* 02 15 35.7
VNA2 *e* 02 17 12.2
VNA2 *e* 02 17 21.6
HIA **Hailar** 88.42 325 *e*P P 02 14 57.8 -1.3
HIA pmax pmax
comp=Z,14nm,0.9s
HIA **Hailar** 88.42 325 *e*P P 02 14 57.8 -1.3
comp=Z,14nm,0.9s,mb4.7
GDL2 **Guadalupe Moun** 88.48 55 *e*P P 02 15 00.3 +0.9
B11A **Sandpoint** 88.49 36 ⇑P P 02 14 59.0 -0.4
baz=89
COLA **College** 88.57 13 *e*P P 02 14 57.0 -2.8
COLA pmax pmax
comp=Z,20nm,0.8s,mb5.0
COLA **College** 88.57 13 *e*P P 02 14 57.0 -2.8
comp=Z,20nm,0.8s,mb5.0
C12A **Trout Creek** 88.58 37 ⇑P P 02 14 59.1 -0.7
baz=89,SNR=7.5
MCMT **McKenzie Canyo** 88.60 41 *e*P P 02 14 59.6 -0.3
VNA1 **Neumayer--Stat** 88.65 177 *e*P P 02 15 00.5 +0.3
VNA1 *e* 02 15 12.2
VNA1 *e* 02 15 24.5
KMI **Kunming** 88.77 297 P P 02 15 02.6 +1.9
KMI AMB AMB
comp=Z,28nm,1.2s,mb5.0
KMI **Kunming** 88.77 297 P P 02 15 02.6 +1.9
comp=Z,28nm,1.2s,mb5.0
A11A **Hall Mountain,** 88.79 36 P P 02 15 00.7 -0.1
baz=89,SNR=5.3
F14A **Wisdom** 88.80 40 ⇓P P 02 15 00.6 -0.3
baz=89
D13A **Huson** 88.84 38 ⇑P P 02 15 01.1 0.0
baz=89
B12A **Libby** 88.94 36 ⇑P P 02 15 01.3 -0.3
baz=89
HHC **Hu-ho-hao-te** 88.96 315 *e*P P 02 15 00.4 -1.2
HHC AP pP 02 17 10.9 +1.3
HHC XP sP 02 18 10.5 +1.7
HHC PP PP 02 18 44.3 +2.0
HHC SKS 02 24 32.9
HHC S S 02 24 57.1 -3.3
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,124nm,10.7s
G15A **Dillon** 88.99 40 P P 02 15 01.6 -0.1
baz=89,SNR=8.2
E14A **Clinton** 89.04 39 ⇓P P 02 15 01.5 -0.4
baz=89
REDW **Red Top Meadow** 89.09 43 *e*P P 02 15 01.9 -0.3
comp=Z,19nm,1.1s,mb4.8
TPAW **Teton Pass** 89.09 42 *e*P P 02 15 02.3 0.0
comp=Z,9.2nm,0.9s,mb4.6
BILL **Bilibino** 89.16 354 ⇑*i*P P 02 15 01.1 -1.5
BILL *i* *PP pP 02 17 06.0 -4.6
BILL *e*SP sP 02 18 04.6 -5.1
BILL *e* 02 18 38.4
BILL *e*S SKSac 02 24 33.0 -3.3
BILL *e*SS SS 02 31 13.4 -1.1
BILL pmax pmax
comp=Z,31nm,2.5s,mb4.7
BILL **Bilibino** 89.16 354 *e*P P 02 15 00.7 -1.8
A12A **Yaak River Ran** 89.16 36 ⇑P P 02 15 02.3 -0.3
baz=89
IMW **Indian Meadow** 89.30 42 *e*P P 02 15 03.5 +0.2
comp=Z,16nm,1.0s,mb4.8
F15A **Butte** 89.33 40 ⇓P P 02 15 02.7 -0.6
baz=90
MOOW **Moose Ponds** 89.35 42 *e*P P 02 15 03.7 +0.3
LOHW **Long Hollow** 89.37 42 *e*P P 02 15 03.4 -0.1
comp=Z,5.8nm,0.7s,mb4.5
D14A **Greenough** 89.38 38 ⇓P P 02 15 01.9 -1.7
baz=90
CHMT **Chamberlain Mo** 89.44 39 *e*P P 02 15 02.7 -1.2
QLMT **Earthquake Lak** 89.47 41 *e*P P 02 15 04.2 +0.2
B13A **Whitefish** 89.52 37 ⇓P P 02 15 02.8 -1.4
baz=90
FLWY **Flagg Ranch** 89.55 42 *e*P P 02 15 05.2 +0.9
CHTO **Chiang Mai** 89.60 290 *e*P P 02 15 05.6 +1.0
CHTO pmax pmax
comp=Z,22nm,0.7s,mb5.1
CHTO **Chiang Mai** 89.60 290 *e*P P 02 15 05.6 +1.0
comp=Z,22nm,0.7s,mb5.1
BW06 **Boulder Array** 89.63 44 *e*P P 02 15 04.1 -0.6
comp=Z,12nm,1.0s,mb4.7
PDAR **Pinedale Array** 89.63 44 P P 02 15 03.9 -0.8
comp=Z,5.2nm,0.6s,mb4.5,baz=216,slow=3.8,SNR=37
PDAR pP pP 02 17 14.5 +1.7
comp=Z,0.5nm,0.6s,baz=226,slow=3.5,SNR=3.2
DAWY **Dawson** 89.86 16 *e*P P 02 15 04.0 -1.8
SDCO **Great Sand Dun** 90.06 49 *e*P P 02 15 07.0 +0.3
CD2 **Chengdu** 90.27 303 *e*P P 02 15 05.8 -1.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,8.2s
YAK **Yakutsk** 92.02 338 *e*P P 02 15 13.1 -2.6
YAK pmax pmax
comp=Z,22nm,1.3s,mb5.0
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,30nm,0.8s,mb5.4
YAK pmax pmax
comp=N,5.0nm,0.7s
YAK pmax pmax
comp=E,4.0nm,0.7s
LZH **Lanzhou** 92.30 308 *e*P P 02 15 17.5 +0.5
LZH AP pP 02 17 28.4 +2.9
LZH XP sP 02 18 22.5 -1.9
LZH PP PP 02 19 11.5 +3.3
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,129nm,4.3s
LZH **Lanzhou** 92.30 308 *e*P P 02 15 17.5 +0.5
LZH *PP pP 02 17 28.4 +2.9
LZH *SP sP 02 18 22.5 -1.9
LZH 02 19 11.5
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.3
LZH **Lanzhou** 92.30 308 *e*P P 02 15 17.5 +0.5
comp=Z,30nm,1.0s,mb5.3
LZH pP pP 02 17 28.4 +2.9
LZH sP sP 02 18 22.5 -1.9
LZH PP PP 02 19 11.5 +3.3
INK **Inuvik** 94.67 15 P P 02 15 24.9 -2.9
comp=Z,5.4nm,1.1s,mb4.6,baz=230,slow=6.3,SNR=8.0
ULN **Ulaanbaatar** 95.02 319 ⇑*e*P P 02 15 28.4 -1.0
SONM **Songino Array** 95.41 319 P P 02 15 30.2 -1.0
comp=Z,0.7nm,0.7s,mb3.9,baz=148,slow=1.9,SNR=6.7
SONM PP PP 02 19 22.0 -10
comp=Z,0.6nm,0.9s,baz=112,slow=6.5,SNR=2.8
GTA **Gaotai** 96.52 310 *e*P P 02 15 36.3 +0.2
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.6
YKA **Yellowknife Ar** 97.01 25 P P 02 15 37.8 -0.6
comp=Z,0.2nm,0.4s,mb3.7,baz=236,slow=4.7,SNR=4.5
WMQ **Urumqi** 106.49 311 PDIF Pdif 02 16 20.9 +0.4
WMQ PP PP 02 20 57.8 +3.7
WMQ PP PP
comp=Z,104nm,5.2s
ZAL **Zalesovo** 110.19 321 PKiKP PKiKP 02 20 31.9 -2.6
comp=Z,1.9nm,0.5s,baz=1,3,slow=1.8,SNR=8.2
MK31 **Makanchi Array** 110.79 313 *i* PKiKP PKiKP 02 20 33.4 -2.2
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 **Makanchi Array** 110.79 313 *e*PKP PKiKP 02 20 33.2 -2.4
MKAR **Makanchi Array** 110.79 313 Pdiff Pdif 02 16 41.2 +1.6
comp=Z,0.6nm,0.6s,baz=96,slow=5.4,SNR=5.7
MKAR PKiKP PKiKP 02 20 33.4 -2.2
comp=Z,2.2nm,0.4s,baz=117,slow=1.0,SNR=18
MKAR **Makanchi Array** 110.79 313 *i* PKiKP PKiKP 02 20 33.4 -2.2
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR **Makanchi Array** 110.79 313 Pdif Pdif 02 16 41.2 +1.6
MKAR PKPdf PKiKP 02 20 33.4 -2.2
KURK **Kurchatov** 113.63 317 PKiKP PKiKP 02 20 37.6 -3.4
KURK pmax pmax
comp=Z,2.0nm,0.8s
CHKZ **Chkalovo** 118.57 321 *e*PKiKP PKPdf 02 20 47.4 -3.1
BVA0 **Borovoye Array** 118.75 320 *i* PKiKP PKPdf 02 20 48.4 -2.5
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
KK31 **Karatay Array** 118.78 309 *i* PKiKP PKPdf 02 20 48.8 -2.1
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR **Karatay Array** 118.78 309 *i* PKiKP PKPdf 02 20 48.8 -2.1
KKAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK **Borovoye** 118.81 320 *e*PKiKP PKPdf 02 20 48.2 -2.8
ZRNK **Zerenda** 119.59 320 *e*PKiKP PKPdf 02 20 49.5 -3.0
SOKR **Solikamsk** 124.88 329 *e*PKiKP PKPdf 02 21 00.8 -1.8
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU **Arti** 124.94 325 *i* PKiKP PKPdf 02 21 01.1 -1.6
ARU *e* 02 22 59.4
ARU **Arti** 124.94 325 *e*PKPdf PKPdf 02 21 00.6 -2.1
AB31 **Akbulak array** 125.72 316 *i* PKiKP PKPdf 02 21 02.3 -1.9
AB31 pmax pmax
comp=Z,1.0nm,0.6s
BOSA **Boshof** 125.74 206 PKP PKPdf 02 21 04.6 +0.3
comp=Z,1.6nm,0.7s,baz=1.2,slow=12,SNR=4.2
AKTO **Aktyubinsk** 126.72 318 PKiKP PKPdf 02 21 03.7 -2.4
KEV **Kevo** 128.53 349 *e*p PKPdf 02 21 06.3 -3.3
ARCES **ARCESS Array B** 128.98 349 PKhKP 02 20 55.9
comp=Z,2.3nm,0.8s,baz=5.8,slow=1.5,SNR=8.2
ARCES PKP PKPdf 02 21 07.9 -2.5
comp=Z,7.7nm,0.5s,baz=21,slow=1.1,SNR=41
LSZ **Lusaka** 135.49 219 *e*PKiKP PKPdf 02 21 23.6 +0.9
FIA1 **FINESS Array S** 135.75 343 *e*PKPdf PKPdf 02 21 21.3 -1.8
FINES **FINESS Array B** 135.75 343 PKhKP 02 21 08.2
comp=Z,0.8nm,0.4s,baz=3.5,slow=3.6,SNR=7.7
FINES PKP PKPdf 02 21 21.5 -1.7
comp=Z,4.2nm,0.5s,baz=40,slow=4.5,SNR=16
FINES SKPbc SKPbc 02 23 57.6 -2.1
comp=Z,4.1nm,0.9s,baz=60,slow=3.9,SNR=6.8
FINES **FINESS Array B** 135.75 343 PKHKP 02 21 08.2
FINES 02 21 21.5
OBN **Obninsk** 136.57 331 ⇑*i* PKiKP PKPdf 02 21 23.2 -1.5
OBN *e* 02 24 10.7
OBN pmax pmax
comp=Z,11nm,1.2s
KMBO **Kilima Mbogo** 138.58 243 PKP PKPdf 02 21 29.4 +1.1
comp=Z,1.0nm,0.4s,baz=190,slow=14,SNR=4.6
KMBO SKPbc SKPbc 02 24 08.7 +0.8
comp=Z,1.0nm,0.6s,baz=42,slow=19,SNR=3.2
KMBO **Kilima Mbogo** 138.58 243 PKiKP PKPdf 02 21 29.4 +1.0
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO pmax pmax
comp=N,1.0nm,0.6s
KMBO **Kilima Mbogo** 138.58 243 *e*PKPdf PKPdf 02 21 29.9 +1.5
NOA **NORSAR Array B** 139.09 353 PKhKP 02 21 18.9
comp=N,2.8nm,0.6s,baz=11,slow=2.3,SNR=8.2
NOA PKP PKPdf 02 21 28.0 -1.3
comp=N,2.6nm,0.6s,baz=14,slow=4.0,SNR=7.2
NOA SKPbc SKPbc 02 24 07.3 -1.9
comp=N,4.5nm,1.1s,baz=16,slow=4.2,SNR=3.2
NOA **NORSAR Array B** 139.09 353 PKHKP 02 21 19.0
NOA 02 21 28.0
NOA **NORSAR Array B** 139.09 353 PKP 02 21 18.9
NOA PKP PKPdf 02 21 28.0 -1.3
NOA SKPbc SKPbc 02 24 07.3 -1.9
ANN **Anapa** 141.67 317 *i* PKiKP PKPdf 02 21 37.6 +3.7
ANN pmax pmax
comp=Z,73nm,0.9s
SUW **Suwalki** 142.76 339 *e*PKP PKPdf 02 21 32.3 -3.6
AKASG **Malin Array Be** 142.82 330 PKhKP 02 21 31.2
comp=Z,48nm,0.4s,baz=40,slow=4.1,SNR=250
AKASG SKPbc SKPbc 02 24 16.6 -2.2
comp=Z,1.6nm,0.7s,baz=27,slow=2.0,SNR=9.9
AKBB **Malin Array Si** 142.82 330 *e*PKHKP 02 21 31.2
KIEV **Kiev** 142.83 330 *e*PKHKP 02 21 31.0
MALT **Malatya** 143.45 307 ⇑*i*P PKPdf 02 21 36.0 -1.1
MALT **Malatya** 143.45 307 *e*PKPdf PKPdf 02 21 35.8 -1.3
SIM **Simferopol'** 143.66 319 *e*PKiKP PKPdf 02 21 35.7 -1.7
SIM pmax pmax
comp=Z,104nm,0.8s
ATAB **Bozova** 143.81 306 *i* P PKPdf 02 21 36.8 -0.9
MUD **Monsted U'grnd** 143.81 353 *i* P PKPdf 02 21 35.1 -2.6
comp=Z,31nm,0.5s
BSD **Bornholm Skovb** 144.12 347 *i* P PKPdf 02 21 36.3 -1.9
comp=Z,102nm,1.0s
GZT **Gaziantep** 144.40 306 *i* P PKPdf 02 21 38.3 -0.4
BOYT **Boyabat** 144.82 314 *i* P PKPdf 02 21 39.8 +0.4
WAR **Warsaw** 144.96 339 *e*PKP PKPdf 02 21 40.2 +0.5
GKP **Gorka Klasztor** 145.23 343 *e*PKP PKPdf 02 21 40.1 0.0
CTKT **Corum** 145.24 312 *i* P PKPdf 02 21 40.8 +0.7
ESK **Eskdalemuir** 145.28 4 *e*PKiKP PKPdf 02 21 39.2 -1.0
COBT **Iskenderun** 145.65 305 *i* P PKPdf 02 21 42.1 +1.3
LVV **L'vov** 145.76 333 *e*PKiKP PKPdf 02 21 39.9 -1.1
BALT **Daday** 145.79 315 *i* P PKPdf 02 21 42.2 +1.1
AVNT **Avonos** 145.92 309 *i* P PKPdf 02 21 40.4 -0.9
CDAG **Cicekdag** 145.94 311 *i* P PKPdf 02 21 40.2 -1.1
IAS **Iasi** 146.01 327 PKP2 PKPab 02 21 42.8 -2.9
ELDT **Eldivan** 146.23 313 *i* P PKPdf 02 21 43.5 +1.6
BR131 **Keskin Array S** 146.41 312 *e*PKPdf PKPdf 02 21 41.6 -0.5
BR131 *e*PKPbc PKPbc 02 21 43.3 -1.3
BRTR **Keskin Array B** 146.41 312 PKPbc PKPbc 02 21 42.0 -2.6
comp=Z,15nm,0.6s,baz=138,slow=3.5,SNR=73
KWP **Kalwaria** 146.45 334 *e*PKP PKPdf 02 21 43.7 +1.5
KWP *e* 02 21 47.2
DCN **Croghan** 146.77 9 ⇓*i*P PKPdf 02 21 43.0 +0.3
BHL **Bhannes** 146.84 301 *e*P PKPdf 02 21 45.1 +2.3
BURAR **Bucovina Array** 146.86 330 ⇑*i*P PKPdf 02 21 45.6 +2.7
DLF **Lyons Farm** 146.93 9 *e*P PKPdf 02 21 43.5 +0.5
ANTO **Ankara** 146.94 312 *e*PKiKP PKPdf 02 21 45.2 +2.2
ANTO *e* 02 21 48.9
CFR **Carcaliu** 147.01 324 PKP2 PKPab 02 21 46.1 -3.6
OJC **Ojcow** 147.07 338 *e*PKP PKPdf 02 21 44.8 +1.6
SGKT **Sivrigoynuk** 147.13 314 *i* P PKPdf 02 21 45.6 +2.3
KOLS **Kolonicke sedl** 147.17 334 *e*PKP PKPdf 02 21 46.3 +2.9
KOLS *e* 02 21 49.9
STHS **Stebnicka Huta** 147.19 336 *e*PKP PKPdf 02 21 46.1 +2.7
STHS *e* 02 21 50.8
TIRR **Tirgusor** 147.30 323 ⇓*i*P PKPdf 02 21 45.7 +2.1
TIRR **Tirgusor** 147.30 323 *e*PKPbc PKPbc 02 21 45.2 -1.8
TIRR *e*PKPab PKPab 02 21 50.6 -0.3
VRI **Vrincioaia** 147.32 326 ⇓*i*P PKPdf 02 21 46.0 +2.4
VRI **Vrincioaia** 147.32 326 P PKPdf 02 21 46.4 +2.7
PLOR **Plostina** 147.37 326 ⇑*i*P PKPdf 02 21 46.0 +2.3
UZH **Uzhgorod** 147.40 334 *e*PKiKP PKPdf 02 21 44.8 +1.0
UZH *i* 02 21 46.6
NRDL **Niedersach Rie** 147.52 350 *e*PKPbc PKPbc 02 21 45.6 -1.9

NIE	**Niedzica**	**147.55**	**337**	*e*PKP	PKPdf	02 21 46.7	+2.7
KSP	**Ksiaz**	**147.66**	**342**	*e*PKP	PKPdf	02 21 47.2	+3.0
KSP				*e*		02 21 52.1	
KSP	**Ksiaz**	**147.66**	**342**	*e*PKPdf	PKPdf	02 21 46.7	+2.5
KSP				*e*PKPab	PKPab	02 21 51.8	-0.6
WIT	**Witteveen**	**147.67**	**354**	*e*PKP	PKPdf	02 21 47.3	+3.1
HENT	**Hendek**	**147.78**	**315**	*i* P	PKPdf	02 21 47.2	+2.8
OKC	**Ostrava-Krasne**	**147.96**	**339**⇑	*e*PKP	PKPdf	02 21 48.0	+3.3
OKC				*e*PKPAB	PKPab	02 21 52.6	-1.0
MLR	**Muntele Rosu**	**147.98**	**326**⇓	*i*P	PKPdf	02 21 47.0	+2.3
MLR	**Muntele Rosu**	**147.98**	**326**	P	PKPdf	02 21 47.7	+3.0
KDHN	**Kadinhani**	**147.99**	**310**	*i* P	PKPdf	02 21 47.2	+2.5
UPC	**Upice**	**148.04**	**342**⇑	*e*PKP	PKPdf	02 21 47.9	+3.1
UPC				*e*PKPAB	PKPab	02 21 53.5	-0.4
UPC	**Upice**	**148.04**	**342**	*e*PKP	PKPdf	02 21 47.9	+3.1
UPC				*e*		02 21 53.5	
IBBN	**Ibbenburen**	**148.05**	**352**	*e*PKPbc	PKPbc	02 21 47.4	-1.5
CLL	**Collm**	**148.08**	**346**	*e*PKPdf	PKPdf	02 21 43.9	-1.0
CLL				*i* PKPbc	PKPbc	02 21 47.6	-1.4
	comp=Z,57nm,0.8s						
CLL				*i* PKPab	PKPab	02 21 52.9	-1.2
CLL				*ep*PKPbc	pPKPbc	02 24 06.7	+2.3
CLL	**Collm**	**148.08**	**346**⇑	*i*PKP	PKPdf	02 21 47.9	+3.0
CLL				*ep*PKP	pPKPdf	02 24 06.0	+3.7
CLL	**Collm**	**148.08**	**346**	*e*PKPdf	PKPdf	02 21 41.0	-3.9
	comp=Z,6.0nm,1.0s						
CLL				⇑*i*PKPbc	PKPbc	02 21 47.9	-1.1
	comp=Z,56nm,0.8s						
CLL				*i* PKPab	PKPab	02 21 52.8	-1.3
	comp=Z,31nm,0.7s						
CLL				*ep*PKPbc	pPKPbc	02 24 06.0	+1.6
DPC	**Dobruska-Polom**	**148.09**	**342**⇑	*e*PKP	PKPbc	02 21 48.2	-0.8
DPC				*e*PKPAB	PKPab	02 21 53.4	-0.7
CLZ	**Clausthal**	**148.11**	**349**	*e*PKPbc	PKPbc	02 21 48.0	-1.0
MORC	**Moravsky Berou**	**148.21**	**340**	*e*PKHKP	PKPbc	02 21 48.4	-0.9
MORC				*e*		02 21 54.0	
KECS	**Kecovo**	**148.25**	**335**	*i* PKP	PKPbc	02 21 49.2	-0.2
KECS				*e*		02 21 53.9	
KECS	**Kecovo**	**148.25**	**335**	*i* PKP	PKPbc	02 21 49.2	-0.2
KECS				*e*		02 21 54.0	
BRG	**Berggiesshubel**	**148.26**	**345**	*e*PKPab	PKPab	02 21 53.4	-1.4
BRG	**Berggiesshubel**	**148.26**	**345**	*e*PKP	PKPdf	02 21 44.0	-1.1
	comp=Z,4.2nm,0.6s						
BRG				*i*		02 21 48.7	
	comp=Z,24nm,1.1s						
BRG				*i*		02 21 54.0	
	comp=Z,8.7nm,0.8s						
BRG				*ep*PKP	pPKPdf	02 24 02.3	-0.3
	comp=Z,0.9nm,0.9s						
BRG				*e*		02 36 49.5	
	comp=Z,4.1nm,1.1s						
EIL	**Elat**	**148.27**	**293**	*e*PKPbc	PKPbc	02 21 48.5	-0.9
EIL				*e*PKPab	PKPab	02 21 56.0	+1.2
CSS	**Prodhromos**	**148.39**	**304**	P	PKPbc	02 21 48.8	-0.9
	comp=Z,0.6nm,0.3s						
CSS	**Prodhromos**	**148.39**	**304**	*e*P	PKPbc	02 21 48.2	-1.6
PVCC	**Panska Ves**	**148.42**	**344**⇑	*e*PKP	PKPbc	02 21 48.6	-1.2
PVCC				*e*PKPAB	PKPab	02 21 53.7	-1.8
ESKT	**Eskisehir**	**148.44**	**313**	*i* P	PKPbc	02 21 48.6	-1.2
VOIR		**148.48**	**327**⇓	*i*P	PKPbc	02 21 49.3	-0.6
VOIR		**148.48**	**327**	⇓P	PKPbc	02 21 49.2	-0.7
WTSB	**Winterswijk**	**148.49**	**353**	*e*PKP	PKPbc	02 21 48.8	-1.2
	comp=Z,70nm,1.0s						
BORA	**Eskisehir**	**148.54**	**314**	*i* P	PKPbc	02 21 48.8	-1.2
DRGR		**148.63**	**331**⇓	*i*P	PKPbc	02 21 48.8	-1.5
DRGR		**148.63**	**331**	⇓P	PKPbc	02 21 48.8	-1.5
PRD	**Provadia**	**148.65**	**322**	*e*P	PKPbc	02 21 49.3	-1.1
SZAC	**Souni-Zanaja**	**148.80**	**303**	P	PKPbc	02 21 49.8	-0.9
VYHS	**Vyhne**	**148.86**	**337**	*e*PKP	PKPbc	02 21 50.0	-0.9
VYHS				*e*		02 21 56.7	
ALFC	**Alevga**	**148.89**	**304**	P	PKPbc	02 21 49.6	-1.4
	comp=Z,0.9nm,0.5s						
PRU	**Pruhonice**	**148.92**	**343**	*e*PKPDF	PKPdf	02 21 45.0	-1.2
PRU				⇑*e*PKP	PKPdf	02 21 49.4	+3.2
PRU				*e*PKPAB	PKPab	02 21 55.9	-1.6
PRU				*ep*PKP	pPKPdf	02 24 11.5	+7.8
PRU	**Pruhonice**	**148.92**	**343**	*e*PKIKP	PKPdf	02 21 45.0	-1.2
PRU				*e*		02 21 55.9	
PRU	**Pruhonice**	**148.92**	**343**	*e*PKP	PKPdf	02 21 45.0	-1.2
PRU				*e*	PKPbc	02 21 49.4	-1.6
PRU				*e*	PKPab	02 21 55.9	-1.6
PRU				*e*		02 24 11.5	
VRAC	**Vranov**	**148.92**	**340**	PKHKP	PKPbc	02 21 50.8	-0.2
PSZ	**Piszkesteto**	**148.93**	**335**	*e*PKHKP	PKPbc	02 21 49.9	-1.1
PSZ				*e*		02 21 56.8	
PSZ	**Piszkesteto**	**148.93**	**335**⇑	*e*PKP	PKPbc	02 21 50.4	-0.7
BUG	**Bochum--Univer**	**148.96**	**353**	*e*PKPbc	PKPbc	02 21 49.6	-1.5
MOX	**Moxa**	**149.01**	**347**	*e*PKPbc	PKPbc	02 21 49.9	-1.3
MOX	**Moxa**	**149.01**	**347**	*e*PKP	PKPdf	02 21 50.0	+3.6
	comp=Z,47nm,1.4s						
MOX				*e*		02 21 56.6	
TANN	**Tannenbergstha**	**149.04**	**346**	*e*PKPbc	PKPbc	02 21 50.3	-1.0
TANN				*e*PKPab	PKPab	02 21 56.8	-1.3
AKMC	**Akamas**	**149.15**	**304**	P	PKPdf	02 21 49.6	+3.0
UBBA	**Unterbreizbach**	**149.16**	**349**	*e*PKPbc	PKPbc	02 21 50.1	-1.5
PPCY	**Paphos**	**149.18**	**304**	P	PKPbc	02 21 50.3	-1.1
NKC	**Novy Kostel**	**149.21**	**346**⇑	*e*PKP	PKPbc	02 21 50.2	-1.5
NKC				*e*PKPAB	PKPab	02 21 57.4	-1.4
ULDT	**Uludag**	**149.28**	**315**	*i* P	PKPbc	02 21 50.9	-0.9
SMOL	**Smolenice**	**149.34**	**339**	*e*PKP	PKPbc	02 21 51.6	-0.4
SMOL				*e*		02 21 59.5	
TKTP	**Tekketepe**	**149.48**	**311**	*i* P	PKPbc	02 21 50.5	-1.9
ZIMR		**149.51**	**324**	PKHKP	PKPbc	02 21 52.0	-0.4
MANZ	**Manzenberg**	**149.52**	**346**	*e*PKPbc	PKPbc	02 21 51.5	-1.0
GDZ	**Gediz**	**149.58**	**313**	*i* P	PKPbc	02 21 51.1	-1.5
BUD	**Budapest**	**149.63**	**336**⇑	*e*PKP	PKPbc	02 21 52.1	-0.6
GZR	**Gura Zlata**	**149.63**	**329**⇓	*i*P	PKPbc	02 21 51.5	-1.2
GZR	**Gura Zlata**	**149.63**	**329**	⇓P	PKPbc	02 21 51.5	-1.3
ROTZ	**Rotzenmuhle**	**149.71**	**346**	*e*PKPbc	PKPbc	02 21 51.9	-1.0
HGN	**Heimansgroeve**	**149.77**	**354**	*e*PKP	PKPbc	02 21 52.0	-1.0
	comp=Z,36nm,0.9s						
UCC	**Uccle**	**149.86**	**356**	PKPbc	PKPbc	02 21 51.8	-1.5
UCC				PKPab	PKPab	02 21 59.6	-1.9
MEM	**Membach**	**149.92**	**354**	PKPbc	PKPbc	02 21 51.7	-1.7
MEM				PKPab	PKPab	02 22 00.6	-1.1
KHC	**Kasperske Hory**	**149.96**	**344**	*e*PKPDF	PKPdf	02 21 46.9	-0.9
KHC				⇑*e*PKP	PKPdf	02 21 52.1	+4.3
KHC				*e*PKPAB	PKPab	02 22 00.2	-1.7
KHC				*ep*PKP	pPKPdf	02 24 15.8	+10
KHC	**Kasperske Hory**	**149.96**	**344**	*e*PKIKP	PKPdf	02 21 46.9	-0.9
KHC				*e*		02 22 00.2	
KHC	**Kasperske Hory**	**149.96**	**344**	*e*PKP	PKPdf	02 21 46.9	-0.9
KHC				*e*		02 21 52.1	
KHC				*e*		02 22 00.2	
KHC				*e*		02 24 15.8	
TNS	**Taunus Mts**	**149.99**	**351**	*e*PKPbc	PKPbc	02 21 52.5	-1.1
TNS				*e*PKPab	PKPab	02 22 00.8	-1.2
GRA1	**Grafenberg Arr**	**149.99**	**347**	*e*PKPbc	PKPbc	02 21 52.6	-1.0
GRA1				*e*PKPab	PKPab	02 22 01.4	-0.6
GRF	**Grafenberg Arr**	**149.99**	**347**	*e*PKPbc	PKPbc	02 21 52.6	-1.0
GRF				*e*PKPab	PKPab	02 22 01.4	-0.6
GRFO	**Grafenberg**	**150.00**	**347**	*e*PKHKP	PKPbc	02 21 52.5	-1.1
GRFO				*e*		02 22 01.6	
BZS	**Buzias**	**150.01**	**331**⇓	*i*P	PKPbc	02 21 52.0	-1.6
BZS	**Buzias**	**150.01**	**331**	⇓PKHKP	PKPbc	02 21 52.1	-1.5
BZS	**Buzias**	**150.01**	**331**	P	PKPbc	02 21 51.9	-1.7
SNF	**Seneffe**	**150.16**	**356**	PKPab	PKPab	02 22 01.2	-1.5
BCLA	**Clavier**	**150.17**	**355**	PKPab	PKPab	02 21 59.9	-2.8
GEC2	**GERESS Array S**	**150.19**	**343**	*e*PKPbc	PKPbc	02 21 52.8	-1.2
GERES	**GERESS Array B**	**150.19**	**343**	PKP	PKPdf	02 21 47.6	-0.6
	comp=Z,7.4nm,0.6s,baz=349,slow=0.7,SNR=4.9						
GERES				PKPbc	PKPbc	02 21 52.7	-1.3
	comp=Z,7.4nm,0.6s,baz=26,slow=2.4,SNR=66						
GERES				PKPab	PKPab	02 22 00.8	-2.0
	comp=Z,2.0nm,0.6s,baz=29,slow=3.0,SNR=5.0						
GERES				*ep*PKPbc	pPKPbc	02 24 09.2	-0.8
	comp=Z,1.9nm,1.0s,baz=15,slow=4.1,SNR=4.0						
GERES	**GERESS Array B**	**150.19**	**343**	PKIKP	PKPdf	02 21 47.6	-0.6
GERES						02 21 52.7	
GERES						02 22 00.8	
SOP	**Sopron**	**150.35**	**339**⇓	*e*PKP	PKPbc	02 21 53.6	-0.8
CONA	**Conrad Observa**	**150.37**	**340**⇑	*i*PKPbc	PKPbc	02 21 53.5	-0.9
	comp=Z,13nm,0.6s						
GIVF	**Givet**	**150.52**	**355**	*e*PKIKP	PKPdf	02 21 50.6	+1.9
	comp=Z,52nm,0.7s						
DOU	**Dourbes**	**150.55**	**356**	PKPbc	PKPbc	02 21 53.4	-1.4
DOU				PKPab	PKPab	02 22 02.8	-1.5
BAIF	**Baives**	**150.61**	**356**	*e*PKIKP	PKPdf	02 21 50.8	+2.0
KDZ	**Kurdzhali**	**150.76**	**321**	*e*P	PKPbc	02 21 54.0	-1.3
PKSM	**Moragy**	**150.82**	**335**⇓	*i*P	PKPbc	02 21 54.2	-1.3
PKSM	**Moragy**	**150.82**	**335**	P	PKPbc	02 21 53.7	-1.8
ALN	**Alexandroupoli**	**150.83**	**319**	*e*P	PKPbc	02 21 53.4	-2.1
WLF	**Walferdange**	**150.83**	**353**	*e*PKPbc	PKPbc	02 21 54.8	-0.7
WLF	**Walferdange**	**150.83**	**353**	PKPbc	PKPbc	02 21 55.2	-0.3
WLF				PKPab	PKPab	02 22 04.2	-1.4
WLF	**Walferdange**	**150.83**	**353**	*e*PKPbc	PKPbc	02 21 54.9	-0.6
WLF				*e*PKPab	PKPab	02 22 04.0	-1.6
MOA	**Molln**	**150.93**	**342**⇓	*i*	PKPab	02 22 06.0	0.0
	comp=Z,25nm,1.7s						
MOA	**Molln**	**150.93**	**342**⇑	*i*PKPbc	PKPbc	02 21 53.6	-2.1
	comp=Z,7.0nm,0.5s						
MOA				⇓*i*PKPab	PKPab	02 22 06.0	0.0
	comp=Z,25nm,1.7s						
MOA	**Molln**	**150.93**	**342**	P	PKPbc	02 21 53.6	-2.1
MOA				*e*		02 22 06.0	
ARSA	**Arzberg**	**151.07**	**340**⇑	*i*P	PKPbc	02 21 52.8	-3.3
	comp=Z,6.3nm,0.7s						
STU	**Stuttgart**	**151.27**	**349**	*e*PKPbc	PKPbc	02 21 55.2	-1.3
STU	**Stuttgart**	**151.27**	**349**	*e*PKPbc	PKPbc	02 21 54.7	-1.8
STU				*e*PKPab	PKPab	02 22 06.3	-1.1
VTS	**Vitosha**	**151.40**	**325**	*e*P	PKPbc	02 21 55.4	-1.3
VTS	**Vitosha**	**151.40**	**325**⇑	*i*P	PKPbc	02 21 55.7	-1.1
VTS	**Vitosha**	**151.40**	**325**	*e*P	PKPbc	02 21 55.0	-1.8
FUR	**Furstenfeldbru**	**151.42**	**346**	*e*PKPbc	PKPbc	02 21 55.3	-1.5
FUR				*e*PKPab	PKPab	02 22 07.2	-0.8
PERS	**Pernice**	**151.75**	**339**	*i* PKPbc	PKPbc	02 21 55.8	-1.8
MMB	**Musomiste**	**151.77**	**323**	*e*P	PKPbc	02 21 56.0	-1.6
BFO	**Black Forest**	**151.84**	**350**	*e*PKPbc	PKPbc	02 21 56.3	-1.5
URLA	**Izmir**	**151.89**	**314**	*i* P	PKPbc	02 21 55.7	-2.2
KBA	**Koelnbreinsper**	**151.90**	**342**⇑	*i*P	PKPbc	02 21 56.3	-1.5
	comp=Z,7.2nm,0.5s						
DIVS	**Divcibare**	**151.92**	**330**	*e*P	PKPbc	02 21 56.4	-1.6
CDF	**Champ du Feu**	**151.93**	**351**	*e*PKIKP	PKPdf	02 21 50.8	0.0
KKB	**Krupnik**	**151.95**	**324**	*e*P	PKPbc	02 21 56.0	-2.0
FLN	**La Foliniere**	**151.97**	**2**	*e*PKIKP	PKPdf	02 21 51.6	+0.7
	comp=Z,21nm,0.6s						
MEZF	**Maizieres J'vi**	**152.09**	**355**	*e*PKIKP	PKPdf	02 21 52.5	+1.4
	comp=Z,34nm,0.9s						
LDF	**La Druitiere**	**152.16**	**2**	*e*PKIKP	PKPdf	02 21 52.3	+1.1
	comp=Z,8.1nm,0.5s						
WTTA	**Wattenberg**	**152.18**	**345**⇑	*i*	PKPbc	02 21 57.2	-1.3
	comp=Z,12nm,0.4s						
WTTA	**Wattenberg**	**152.18**	**345**⇑	*i*	PKPab	02 22 10.5	-0.8
	comp=Z,29nm,0.9s						
WTTA	**Wattenberg**	**152.18**	**345**⇑	*i*PKPdf	PKPdf	02 21 51.3	+0.1
	comp=Z,4.4nm,1.1s						
WTTA				⇑*i*PKPbc	PKPbc	02 21 57.2	-1.3
	comp=Z,12nm,0.4s						
WTTA				⇑*i*PKPab	PKPab	02 22 10.5	-0.8
	comp=Z,29nm,0.9s						
WTTA	**Wattenberg**	**152.18**	**345**	P	PKPdf	02 21 51.2	+0.1
WTTA				*e*		02 21 57.2	
WTTA				*e*		02 22 10.5	
MOTA	**Moosalm**	**152.23**	**345**⇑	*i*	PKPbc	02 21 56.8	-1.9
	comp=Z,14nm,1.0s						
MOTA	**Moosalm**	**152.23**	**345**⇓	*i*	PKPab	02 22 10.7	-0.8
	comp=Z,27nm,1.2s						
MOTA	**Moosalm**	**152.23**	**345**⇓	*i*PKPdf	PKPdf	02 21 50.1	-1.2
	comp=Z,2.1nm,0.9s						
MOTA				⇑*i*PKPbc	PKPbc	02 21 56.8	-1.9
	comp=Z,14nm,1.0s						
MOTA				⇓*i*PKPab	PKPab	02 22 10.7	-0.8
	comp=Z,27nm,1.2s						
MOTA	**Moosalm**	**152.23**	**345**	P	PKPdf	02 21 50.1	-1.2
MOTA				*e*		02 21 56.8	
MOTA				*e*		02 22 10.7	
SQTA	**Sankt Quirin**	**152.32**	**345**⇑	*i*	PKPbc	02 21 57.4	-1.4
	comp=Z,16nm,1.0s						
SQTA	**Sankt Quirin**	**152.32**	**345**⇑	*i*	PKPab	02 22 11.3	-0.5
	comp=Z,6.6nm,0.7s						
SQTA	**Sankt Quirin**	**152.32**	**345**⇓	*i*PKPdf	PKPdf	02 21 49.6	-1.8
	comp=Z,3.2nm,0.8s						
SQTA				⇑*i*PKPbc	PKPbc	02 21 57.4	-1.4
	comp=Z,16nm,1.0s						
SQTA				⇑*i*PKPab	PKPab	02 22 11.3	-0.5
	comp=Z,6.6nm,0.7s						
SQTA	**Sankt Quirin**	**152.32**	**345**	P	PKPdf	02 21 49.6	-1.8
SQTA				*e*		02 21 57.4	
SQTA				*e*		02 22 11.3	
GRR	**Gorron**	**152.33**	**3**	*e*PKIKP	PKPdf	02 21 53.1	+1.7
	comp=Z,30nm,0.9s						
CRES	**Cresnjev**	**152.34**	**338**	*e*PKPbc	PKPbc	02 21 57.3	-1.5
HAU	**Haudompre**	**152.45**	**353**	*e*PKIKP	PKPdf	02 21 51.4	-0.2
LJU	**Ljubljana**	**152.46**	**340**	*e*PKPbc	PKPbc	02 21 57.6	-1.5
KNT	**Kendrikon**	**152.53**	**323**	*e*P	PKPab	02 22 12.0	-0.7
DAVA	**Damuels**	**152.56**	**347**⇓	*i*P	PKPdf	02 21 47.2	-4.5
	comp=Z,4.1nm,0.6s						
BOJS	**Bojanci**	**152.69**	**338**	*i* PKPbc	PKPbc	02 21 58.5	-1.1
PLG	**Polygyros**	**152.72**	**321**	*e*P	PKPbc	02 21 57.5	-2.2
LOR	**Lormes**	**153.41**	**356**	*e*PKIKP	PKPdf	02 21 52.5	-0.5
	comp=Z,6.7nm,0.8s						
FNA	**Florina**	**153.63**	**324**	*e*P	PKPbc	02 21 59.7	-1.9
SSF	**Saint Saulge**	**153.64**	**356**	*e*PKIKP	PKPdf	02 21 52.3	-1.0
	comp=Z,11nm,0.9s						
SANT	**Santorini**	**153.68**	**312**	*e*PKPbc	PKPbc	02 21 59.6	-2.2
LPL	**La Plagne**	**154.84**	**351**	*e*PKIKP	PKPdf	02 21 56.8	+1.9
LPG	**La Plagne**	**154.85**	**351**	*e*PKIKP	PKPdf	02 21 56.5	+1.5
IGT	**Igoumenitsa**	**155.07**	**323**	*e*P	PKPab	02 22 24.1	-1.2
BNI	**Bardonecchia**	**155.30**	**351**	*e*PKPab	PKPab	02 22 23.6	-1.0
LKD	**Levkas**	**155.44**	**321**	*e*P	PKPdf	02 22 04.3	+8.6
ORIF	**Oris-en-Rattie**	**155.54**	**352**	*e*PKIKP	PKPdf	02 21 56.5	+0.6
MBDF	**Montbardon**	**155.60**	**350**	*e*PKIKP	PKPdf	02 21 56.7	+0.8
SBF	**Sospel**	**156.33**	**349**	*e*PKIKP	PKPdf	02 21 57.3	+0.4
TIP	**Timpagrande**	**157.24**	**327**	*e*PKPdf	PKPdf	02 21 56.9	-1.2
TIP				*e*PKPab	PKPab	02 22 32.5	-0.5
ESDC	**Sonseca Array**	**160.58**	**12**	PKPab	PKPab	02 22 46.1	-1.5
	comp=Z,2.3nm,0.8s,baz=343,slow=4.0,SNR=11						
CART	**Cartagena**	**163.07**	**6**	*e*PKPdf	PKPdf	02 22 02.5	-1.9
KEST	**Kesra**	**163.41**	**336**	PKPab	PKPab	02 22 58.9	-1.1
	comp=Z,2.2nm,0.8s,baz=0.6,slow=5.9,SNR=8.4						
LIC	**Lamto**	**164.39**	**156**	*e*PKIKP	PKPdf	02 22 03.6	-2.0
	comp=Z,27nm,1.1s						
TOA0	**Torodi Ar. Sit**	**172.47**	**184**	*e*PKPdf	PKPdf	02 22 09.4	-1.4
TORD	**Torodi Ar. Bea**	**172.47**	**184**	PKP	PKPdf	02 22 09.2	-1.6
	comp=Z,2.0nm,0.8s,baz=359,slow=0.4,SNR=13						

NEIC ***17*** *02:18:55.0±2.7, 43.23N×129.06W, h10km, ML3.1, Error ellipse: s-maj=30.3km s-min=8.6km az=79.0*
ISCJB ***17*** *02:19:04.2±0.8, 43.60N±004.0×128.04W±006.0, h10km, Error ellipse: s-maj=7.4km s-min=4.2km az=105.2*

ISC 17 02:19:05.8±0.8, 43.57N±004×128.06W±006, h10km, n80, σ0.973/96, 24C-27D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
K01A	**Sixes**	**2.73**	**105**	P		**Pn**	**02 19 48.3**	**-1.3**
	baz=2.7,SNR=9.2							
K01A				⇓S		**Sn**	**02 20 21.6**	**-1.2**
	baz=2.7							
KEBM	**Edson Butte**	**2.81**	**103**	*e*Pn		**Pn**	**02 19 49.5**	**-1.2**
KEBM				*e*Sn		**Sn**	**02 20 22.5**	**-2.1**
I02A	**Mapleton**	**3.09**	**80**	⇓P		**Pn**	**02 19 53.6**	**-0.9**
	baz=3.0,SNR=23							
I02A				⇓S		**Sn**	**02 20 31.5**	**-0.1**
	baz=3.0							
H02A	**Toledo**	**3.12**	**68**	P		**Pn**	**02 19 53.9**	**-1.2**
	baz=3.1,SNR=56							
H02A				⇓S		**Sn**	**02 20 31.9**	**-0.5**
	baz=3.1							
RNO	**Roman Nose**	**3.15**	**82**	P		**Pn**	**02 19 55.1**	**-0.2**
J02A	**Umpqua**	**3.27**	**92**	⇑P		**Pn**	**02 19 56.2**	**-0.8**
	baz=3.2,SNR=55							
J02A				⇓S		**Sn**	**02 20 35.6**	**-0.4**
	baz=3.2							
MPOR	**Mary's Peak**	**3.38**	**72**	P		**Pn**	**02 19 57.3**	**-1.2**
K02A	**Glendale**	**3.44**	**102**	⇑P		**Pn**	**02 19 58.6**	**-0.7**
	baz=3.4,SNR=41							
K02A				⇓S		**Sn**	**02 20 38.9**	**-1.2**
	baz=3.4							
I03A	**Eugene**	**3.48**	**82**	P		**Pn**	**02 19 59.5**	**-0.6**
	baz=3.4,SNR=142							
I03A				⇑S		**Sn**	**02 20 40.6**	**-0.7**
	baz=3.4							
HEBO	**Mount Hebo**	**3.50**	**60**	P		**Pn**	**02 19 59.2**	**-0.9**
L02A	**Cave Junction**	**3.57**	**112**	⇓S		**Sn**	**02 20 43.4**	**+0.1**
	baz=3.5							
COR	**Corvallis**	**3.57**	**72**	*e*Pn		**Pn**	**02 20 01.1**	**-0.1**
H03A	**Soap Creek Ran**	**3.60**	**70**	⇓P		**Pn**	**02 20 00.7**	**-0.9**
	baz=3.5,SNR=107							
H03A				⇑S		**Sn**	**02 20 43.7**	**-0.5**
	baz=3.5							
HSO	**Harness Mounta**	**3.61**	**89**	P		**Pn**	**02 20 01.5**	**-0.2**
J03A	**Ideyld Park**	**3.71**	**91**	⇑P		**Pn**	**02 20 02.7**	**-0.4**
	baz=3.6,SNR=76							
J03A				⇓S		**Sn**	**02 20 46.7**	**-0.2**
	baz=3.6							
G03A	**Yamhill**	**3.84**	**61**	P		**Pn**	**02 20 04.4**	**-0.5**
	baz=3.8,SNR=90							
G03A				⇓S		**Sn**	**02 20 49.7**	**-0.4**
	baz=3.8							
HUMO	**Hull Mountain**	**3.86**	**103**	⇓P		**Pn**	**02 20 04.7**	**-0.4**
	baz=3.8,SNR=66							
HUMO				⇑S		**Sn**	**02 20 49.7**	**-0.7**
	baz=3.8							
KMOR	**Kings Mountain**	**3.86**	**56**	P		**Pn**	**02 20 04.1**	**-1.1**
F03A	**Seaside**	**3.98**	**52**	⇓P		**Pn**	**02 20 06.1**	**-0.7**
	baz=3.9							
F03A				⇑S		**Sn**	**02 20 52.4**	**-1.1**
	baz=3.9							
BBOR	**Butler Butte**	**3.99**	**98**	P		**Pn**	**02 20 07.8**	**+0.9**
I04A	**Tendick Farm,**	**4.10**	**85**	⇑P		**Pn**	**02 20 08.7**	**+0.2**
	baz=4.0,SNR=34							
I04A				⇑S		**Sn**	**02 20 56.9**	**+0.4**
	baz=4.0							
BROR	**Big Rock Looko**	**4.11**	**78**	P		**Pn**	**02 20 08.9**	**+0.3**
NLO	**Nicolai Mounta**	**4.13**	**51**	P		**Pn**	**02 20 08.3**	**-0.6**
HBO	**Huckleberry Mo**	**4.17**	**84**	P		**Pn**	**02 20 10.1**	**+0.7**
IRO	**Indian Ridge**	**4.22**	**82**	P		**Pn**	**02 20 10.3**	**+0.2**
SSOR	**Sweet Springs**	**4.22**	**70**	P		**Pn**	**02 20 10.6**	**+0.5**
J04A	**Umpqua Nationa**	**4.35**	**92**	⇓P		**Pn**	**02 20 12.0**	**+0.2**
	baz=4.3							
YBH	**Yreka Blue Hor**	**4.35**	**113**		Pn	**Pn**	**02 20 07.2**	**-4.7**
YBH	**Yreka Blue Hor**	**4.35**	**113**	⇓S		**Sn**	**02 21 04.1**	**+1.5**
	baz=4.3							
FRIS	**Frissel Point**	**4.35**	**79**	P		**Pn**	**02 20 12.6**	**+0.6**
E03A	**Lebam**	**4.36**	**45**	⇑P		**Pn**	**02 20 10.8**	**-1.2**
	baz=4.3,SNR=8.9							
H04A	**Detroit Lake**	**4.37**	**73**	P		**Pn**	**02 20 12.4**	**+0.2**
	baz=4.3,SNR=72							
PGO	**Gresham**	**4.43**	**63**	P		**Pn**	**02 20 13.9**	**+0.8**
GT2	**Goat Mountain**	**4.44**	**67**	P		**Pn**	**02 20 13.7**	**+0.6**
HUOR	**Husband**	**4.53**	**81**	P		**Pn**	**02 20 15.1**	**+0.8**
D03A	**Wishkah Elem.**	**4.66**	**39**	⇓P		**Pn**	**02 20 15.7**	**-0.4**
	baz=4.6,SNR=24							
VLMM	**Larch Mountain**	**4.73**	**63**	P		**Pn**	**02 20 17.7**	**+0.6**
TDH	**Tom, Dick, Har**	**4.81**	**67**	P		**Pn**	**02 20 18.9**	**+0.

ASAJ	**Asahikawa**	**8.43**	**261**	P	**Pn**	**02 21 10.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.27**	**237**	Pn	Px	02 22 48.7	
	comp=Z,0.4nm,0.3s,baz=36,slow=9.0,SNR=12						
MJAR	**Matsushiro Arr**	**15.27**	**237**	Pn	Px	02 22 48.7	
MAJO	**Matsushiro**	**15.27**	**237**	*e*P	Px	02 22 48.9	
MAJO				pmax	pmax		
	comp=Z,21nm,0.9s						
MAJO	**Matsushiro**	**15.27**	**237**	*e*P	Px	02 22 48.9	
	comp=Z,21nm,0.9s						
MAT	**Matsushiro**	**15.27**	**237**	P	Px	02 22 48.9	
MAT				*e*S	**Sn**	**02 25 35.4**	**+2.5**
KLR	**Kul'dur**	**15.47**	**290**	*e*P	**Pn**	**02 22 46.2**	**-0.2**
CN2	**Changchun**	**20.45**	**274**	*e*P	**P**	**02 23 51.0**	**+5.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**21.32**	**256**	P	**P**	**02 23 55.3**	**+0.2**
	comp=Z,2.7nm,0.8s,mb3.7,baz=63,slow=9.0,SNR=7.0						
YAK	**Yakutsk**	**21.36**	**328**	*e*P	**P**	**02 23 53.6**	**-2.0**
YAK				*e**PP		02 24 02.8	
YAK				*e*		02 24 14.9	
YAK				*e*S	**S**	**02 27 52.9**	**+0.5**
YAK				*e*SS		02 28 26.6	
YAK				*e*		02 35 10.9	
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.6s						
YAK				smax			
	comp=N,157nm,3.7s						
YAK				smax			
	comp=E,176nm,4.2s						
BILL	**Bilibino**	**22.96**	**12**⇑	*e*P	**P**	**02 24 12.9**	**+0.2**
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
BILL	**Bilibino**	**22.96**	**12**	*e*P	**P**	**02 24 13.2**	**+0.5**
	comp=Z,18nm,1.2s,mb4.4						
ULN	**Ulaanbaatar**	**31.87**	**291**⇑	*e*P	**P**	**02 25 35.5**	**+2.2**
SONM	**Songino Array**	**32.30**	**291**	P	**P**	**02 25 36.4**	**-0.8**
SONM				PcP	PcP	02 28 24.3	-0.8
	comp=Z,0.6nm,0.8s,baz=77,slow=2.0,SNR=3.6						
GTA	**Gaotai**	**39.84**	**281**	P	**P**	**02 26 42.5**	**+0.8**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
INK	**Inuvik**	**41.88**	**32**	P	**P**	**02 26 59.6**	**+1.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=328,slow=6.3,SNR=8.0						
ZAL	**Zalesovo**	**43.68**	**307**	P	**P**	**02 27 11.3**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.0,baz=24,slow=3.8,SNR=4.6						
MK31	**Makanchi Array**	**47.96**	**298**	*e*P	**P**	**02 27 45.8**	**-1.1**
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**02 27 46.1**	**-0.8**
	comp=Z,2.3nm,0.7s,mb4.3,baz=72,slow=7.1,SNR=18						
MKAR				pP	pP	02 27 56.6	+5.7
	comp=Z,1.1nm,0.7s,baz=69,slow=6.7,SNR=5.6						
MKAR				PcP	PcP	02 29 13.6	-1.4
	comp=Z,0.6nm,0.6s,baz=66,slow=3.6,SNR=2.5						
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**02 28 11.0**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=301,slow=8.0,SNR=4.7						
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**02 28 11.0**	**+0.4**
RES	**Resolute Bay**	**51.31**	**19**	*e*P	**P**	**02 28 12.9**	**+0.5**
RES				pmax	pmax		
	comp=Z,134nm,1.0s						
RES	**Resolute Bay**	**51.31**	**19**	*e*P	**P**	**02 28 12.9**	**+0.5**
	comp=Z,134nm,1.0s						
CHKZ	**Chkalovo**	**51.50**	**311**	*e*P	**P**	**02 28 12.1**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.50**	**311**	*e*P	**P**	**02 28 12.1**	**-1.7**
	comp=Z,3.0nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**02 28 16.6**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=58,slow=6.6,SNR=6.4						
BVAR				pP	pP	02 28 27.8	+6.8
	comp=Z,1.2nm,0.7s,baz=38,slow=7.5,SNR=4.4						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**02 28 17.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**02 28 17.0**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**52.69**	**311**	*e*P	**P**	**02 28 21.8**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.69**	**311**	*e*P	**P**	**02 28 21.8**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.3						
AAK	**Ala-Archa**	**54.85**	**297**	*e*P	**P**	**02 28 38.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.85**	**297**	*e*P	**P**	**02 28 38.1**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.2						
JIRN	**Jiri**	**55.77**	**276**	*e*P	**P**	**02 28 45.7**	**+0.6**
	comp=Z,7.7nm,0.6s,mb4.9						
GUN	**Gumba**	**55.83**	**276**	*e*P	**P**	**02 28 46.2**	**+0.6**
ARU	**Arti**	**56.08**	**318**⇓	*i*P	**P**	**02 28 46.5**	**-0.8**
ARU				*e*		02 30 49.3	
ARU				*e*S	**S**	**02 36 34.8**	**-1.0**
ARU				*e*SS	SS	02 40 19.7	-2.3
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
DMN	**Daman**	**56.55**	**276**	*e*P	**P**	**02 28 51.3**	**+0.6**
GKN	**Gorkha**	**56.63**	**277**	*e*P	**P**	**02 28 51.7**	**+0.4**
KOLN	**Koldanda**	**57.49**	**278**	*e*P	**P**	**02 28 58.0**	**+0.6**
	comp=Z,8.8nm,0.9s,mb4.8						
ARCES	**ARCESS Array B**	**58.81**	**341**	P	**P**	**02 29 06.2**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=31,slow=7.5,SNR=7.5						
ARCES	**ARCESS Array B**	**58.81**	**341**	P	**P**	**02 29 06.2**	**-0.4**
HLID	**Hailey**	**61.30**	**56**	*e*P	**P**	**02 29 23.9**	**+0.2**
	comp=Z,1.3nm,1.0s,mb4.0						
NVAR	**Mina Array Bea**	**62.11**	**63**	P	**P**	**02 29 29.9**	**+0.8**
	comp=Z,1.0nm,0.9s,mb3.9,baz=288,slow=11,SNR=4.7						
TPAW	**Teton Pass**	**63.33**	**54**	*e*P	**P**	**02 29 39.0**	**+1.7**
	comp=Z,7.4nm,1.3s,mb4.7						
DUG	**Dugway**	**64.33**	**58**	*e*P	**P**	**02 29 43.7**	**-0.2**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
DUG	**Dugway**	**64.33**	**58**	*e*P	**P**	**02 29 43.7**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**64.58**	**54**	P	**P**	**02 29 46.0**	**+0.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=292,slow=3.4,SNR=8.5						
FINES	**FINESS Array B**	**65.04**	**335**	P	**P**	**02 29 48.1**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=36,slow=7.5,SNR=17						
FINES				pP	pP	02 29 59.4	+6.8
	comp=Z,1.2nm,0.4s,baz=35,slow=7.7,SNR=2.5						
OBN	**Obninsk**	**66.36**	**326**⇓	*e*P	**P**	**02 29 56.8**	**-0.2**
OBN				*e*		02 30 03.3	
OBN				*e*S	S	02 38 44.2	-2.3
OBN				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.9						
WRAB	**Tennant Creek**	**68.05**	**200**	*e*P	**P**	**02 30 06.4**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**68.05**	**200**	*e*P	**P**	**02 30 06.4**	**-1.3**
	comp=Z,6.8nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**68.06**	**200**	*e*P	**P**	**02 30 06.5**	**-1.3**
WRA	**Warramunga Ar**	**68.06**	**200**	P	**P**	**02 30 06.5**	**-1.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=18,slow=6.6,SNR=20						
WRA				pP	pP	02 30 17.3	+5.4
	comp=Z,3.3nm,0.8s,baz=17,slow=6.8,SNR=9.8						
NB2	**NORSAR Subarra**	**69.18**	**342**	P	**P**	**02 30 13.9**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**69.18**	**342**	P	**P**	**02 30 14.1**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=28,slow=6.3,SNR=5.0						
ANMO	**Albuquerque**	**71.58**	**59**⇓	*e*P	**P**	**02 30 29.6**	**+0.1**
AS31	**Alice Springs**	**71.74**	**200**	*e*P	**P**	**02 30 29.1**	**-1.3**
ASAR	**Alice Springs**	**71.75**	**200**	P	**P**	**02 30 30.2**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=13,slow=5.3,SNR=28						
ASAR				pP	pP	02 30 40.9	+6.3
	comp=Z,2.6nm,0.8s,baz=13,slow=5.9,SNR=9.2						
KIV	**Kislovodsk**	**71.87**	**315**⇑	*e*P	**P**	**02 30 32.5**	**+1.3**
KIV				pmax	pmax		
	comp=Z,26nm,1.7s,mb4.9						
AKASG	**Malin Array Be**	**72.59**	**327**	P	**P**	**02 30 34.9**	**-0.6**
	comp=Z,1.5nm,0.4s,mb4.2,baz=31,slow=5.6,SNR=9.9						
AKASG	**Malin Array Be**	**72.59**	**327**	P	**P**	**02 30 34.9**	**-0.6**
AKBB	**Malin Array Si**	**72.59**	**327**	*e*P	**P**	**02 30 35.2**	**-0.3**
SCHQ	**Schefferville**	**73.70**	**23**	P	**P**	**02 30 41.5**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.3,baz=289,slow=6.0,SNR=4.6						
KWP	**Kalwaria**	**75.86**	**330**	*e*P	**P**	**02 30 54.9**	**+0.3**
STHS	**Stebnicka Huta**	**76.55**	**331**	*e*P	**P**	**02 30 59.0**	**+0.5**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
STHS	**Stebnicka Huta**	**76.55**	**331**	*e*P	**P**	**02 30 59.0**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.3						
KOLS	**Kolonicke sedl**	**76.60**	**330**	*e*P	**P**	**02 30 58.9**	**+0.1**
BURAR	**Bucovina Array**	**76.63**	**327**⇓	*i*P	**P**	**02 30 59.0**	**0.0**
BURAR	**Bucovina Array**	**76.63**	**327**	⇓P	**P**	**02 30 59.0**	**0.0**
TXAR	**Lajitas Array**	**77.20**	**61**	P	**P**	**02 31 02.4**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.4,baz=307,slow=4.1,SNR=48						
DPC	**Dobruska-Polom**	**77.33**	**334**	*e*P	**P**	**02 31 03.2**	**+0.3**
MORC	**Moravsky Berou**	**77.46**	**333**⇑	*i*P	**P**	**02 31 03.7**	**+0.1**
MORC	**Moravsky Berou**	**77.46**	**333**	⇑P	**P**	**02 31 03.6**	**0.0**
CLL	**Collm**	**77.46**	**336**	*i* P	**P**	**02 31 03.4**	**-0.2**
CLL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
CLL	**Collm**	**77.46**	**336**	*i* P	**P**	**02 31 03.4**	**-0.2**
	comp=Z,14nm,1.3s,mb4.7						
KECS	**Kecovo**	**77.60**	**331**	*e*P	**P**	**02 31 02.7**	**-1.7**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KECS	**Kecovo**	**77.60**	**331**	*e*P	**P**	**02 31 02.7**	**-1.7**
	comp=Z,3.1nm,0.8s,mb4.3						
MLR	**Muntele Rosu**	**78.11**	**326**	P	**P**	**02 31 07.5**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.6,baz=319,slow=9.3,SNR=5.0						
MLR	**Muntele Rosu**	**78.11**	**326**⇓	*i*P	**P**	**02 31 08.0**	**+0.7**
MLR	**Muntele Rosu**	**78.11**	**326**	P	**P**	**02 31 07.5**	**+0.2**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MLR	**Muntele Rosu**	**78.11**	**326**	⇓P	**P**	**02 31 08.0**	**+0.7**
VYHS	**Vyhne**	**78.15**	**331**	*e*P	**P**	**02 31 07.3**	**-0.2**
PRU	**Pruhonice**	**78.19**	**335**	*e*P	**P**	**02 31 10.4**	**+2.7**
MALT	**Malatya**	**78.22**	**314**⇓	*i*P	**P**	**02 31 09.4**	**+1.5**
DRGR		**78.25**	**328**⇑	*i*P	**P**	**02 31 07.9**	**-0.2**
DRGR		**78.25**	**328**	⇑P	**P**	**02 31 07.9**	**-0.1**
KHC	**Kasperske Hory**	**79.24**	**335**	*e*P	**P**	**02 31 13.7**	**+0.2**
KHC	**Kasperske Hory**	**79.24**	**335**⇑	*e*P	**P**	**02 31 13.8**	**+0.3**
BR131	**Keskin Array S**	**79.46**	**318**	*e*P	**P**	**02 31 15.4**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**79.46**	**318**	P	**P**	**02 31 15.4**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=87,slow=4.2,SNR=15						
GERES	**GERESS Array B**	**79.46**	**335**	P	**P**	**02 31 14.6**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=28,slow=6.0,SNR=11						
VTS	**Vitosha**	**81.62**	**326**⇓	*i*P	**P**	**02 31 26.3**	**0.0**
VTS	**Vitosha**	**81.62**	**326**	⇓P	**P**	**02 31 26.3**	**0.0**
CDF	**Champ du Feu**	**81.64**	**338**	*e*P	**P**	**02 31 26.1**	**-0.3**
	comp=Z,12nm,1.0s,mb4.5						
GRR	**Gorron**	**83.50**	**344**	*e*P	**P**	**02 31 36.0**	**-0.1**
	comp=Z,167nm,1.8s,mb5.6						
MMAI	**Mount Meron Ar**	**83.88**	**312**	P	**P**	**02 31 39.0**	**+1.0**
	comp=Z,7.9nm,0.9s,mb4.9,baz=40,slow=9.2,SNR=7.6						
MMAI				pP	pP	02 31 49.6	+7.4
	comp=Z,2.7nm,0.8s,baz=37,slow=8.5,SNR=3.5						
SMF	**Signal de Mont**	**84.13**	**340**	*e*P	**P**	**02 31 39.3**	**0.0**
	comp=Z,24nm,1.2s,mb4.9						
LPG	**La Plagne**	**84.47**	**338**	*e*P	**P**	**02 31 42.0**	**+1.0**
	comp=Z,43nm,1.4s,mb5.1						
CAF	**Calviac**	**86.17**	**341**	*e*P	**P**	**02 31 49.6**	**+0.1**
	comp=Z,32nm,1.3s,mb5.1						
SNAA	**Sanae**	**152.04**	**195**	PKPbc	PKPbc	02 39 00.2	-3.3
	baz=239,slow=6.0						
SNAA	**Sanae**	**152.04**	**195**	*e*PKPdf	PKPbc	02 38 59.5	-4.0
SNAA				*e*		02 39 04.3	
SNAA				*e*		02 39 08.9	
SNAA				*e*		02 39 17.6	
SNAA	**Sanae**	**152.04**	**195**	*e*PKPbc	PKPbc	02 38 59.8	-3.7
VNA2	**Neumayer--Watz**	**153.46**	**193**	*e*PKPdf	PKPbc	02 39 03.8	-2.9
VNA2				*e*		02 39 09.5	
VNA2				*e*		02 39 21.3	
VNA3	**Neumayer Olymp**	**153.52**	**192**	*e*PKPdf	PKPbc	02 39 03.3	-3.5

BJI **17** *02:24:53.3,4797N×15545E,h6km,mB4.9,mb4.6,Ms4.2, Msz3.9*
NEIC **17** *02:24:56.1±2.5,4757N×15544E,h9km±15km,mb4.7/54, Error ellipse: s-maj=4.7km s-min=3.2km az=163.0*
SKHL **17** *02:24:56.5±4.1,4746N×15545E,h45km±13km,Ms4.2/1*
MOS **17** *02:24:56.8±1.0,4754N×15540E,h26km,mb5.0/36,Error ellipse: s-maj=7.9km s-min=5.7km az=102.3*
ISCJB **17** *02:24:59.3±0.2,4756N±004×15543E±004,h45km, mb4.7/103,MS3.9/19, Error ellipse: s-maj=6.6km s-min=3.8km az=145.0*
IDC **17** *02:25:01.3±0.5,4757N×15537E,h45km±3km,mb4.3/31, mb1 4.4/32,mb1mx4.4/35,mbtmp4.3/32,MS3.7/12, Ms1 3.7/12,ms1mx3.4/39,Error ellipse: s-maj=12.3km s-min=10.5km az=157.0*
SZGRF **17** *02:25:07.5,4924N×15693E,h33km,mb5.0,Kuril Islands, Russia*
ISC 17 02:25:01.3±0.2,4761N±004×15540E±004,h47km, h47km±9km:pP-P,n242,σ0s91/250,mb4.7/103,MS3.9/19, 9C-15D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.12**	**8**	*e*P	**Pn**		**02 25 46.5**	**-1.4**
SKR					AMB	AMB	02 25 49.5	
	80nm,0.5s							
SKR					AMB	AMB	02 25 49.5	
	150nm,0.5s							
SKR				*e*S	**Sn**		**02 26 17.5**	**-6.4**
SKR					A		02 26 25.0	
	310nm,0.5s							
SKR					A		02 26 25.0	
	390nm,0.5s							
SKR					A		02 26 25.0	
	180nm,0.5s							
SKR					AMS	AMS	02 27 28.0	
	5μm,14.0s							
SKR					AMS	AMS	02 27 28.0	
	3μm,14.0s							
SKR					AMS	AMS	02 27 28.0	
	5μm,14.0s							
SKR					AMS	AMS	02 27 28.0	
	3μm,14.0s							
KUR	**Kuril'sk**	**5.72**	**248**	*e*P	**Pn**		**02 26 19.0**	**-4.7**
KUR					AMB	AMB	02 26 20.0	
	228nm,0.5s							
KUR				*e*S	**Sn**		**02 27 24.0**	**-4.0**
KUR					A		02 27 31.0	
	172nm,0.7s							
KUR					A		02 27 31.0	
	344nm,0.7s							
PET	**Petropavlovsk**	**5.81**	**20**	*e*PN	**Pn**		**02 26 19.1**	**-5.8**
YUK	**Yuzh-Kuril'sk**	**7.56**	**245**	*e*P	**Pn**		**02 26 47.7**	**-1.1**
YUK					AMB	AMB	02 26 48.5	
	280nm,0.4s							
YUK				*e*S	**Sn**		**02 28 08.0**	**-5.1**
YUK					A		02 28 13.6	
	180nm,0.5s							
YUK					A		02 28 13.6	
	450nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*P	**Pn**		**02 27 05.0**	**+1.6**
YSS					AMB	AMB	02 27 07.8	
	60nm,1.0s							
YSS				*e*LQ			02 29 17.0	
YSS					AMS	AMS	02 30 18.0	
	600nm,14.0s							
YSS					AMS	AMS	02 30 18.0	
	500nm,16.0s							
YSS					AMS	AMS	02 30 18.0	
	600nm,18.0s							
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*PN	**Pn**		**02 27 05.0**	**+1.6**
YSS					pmax	pmax		
	comp=Z,60nm,1.0s							
YSS					MLR	MLR		
	comp=Z,600nm,18.0s							
YSS					MLR	MLR		
	comp=N,600nm,14.0s							
YSS					MLR	MLR		
	comp=E,500nm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*Pn	**Pn**		**02 27 02.7**	**-0.7**
ASAJ	**Asahikawa**	**9.59**	**253**	P	**Pn**		**02 27 16.4**	**-0.3**
	comp=E,2.8nm,0.3s,baz=96,slow=16,SNR=16							
ASAJ					LR	LR	02 31 12.3	
	comp=E,199nm,19.0s,baz=205,slow=39							
ERM	**Erimo**	**10.33**	**242**	*e*PN	**Pn**		**02 27 24.9**	**-1.9**
SEY	**Seymchan**	**15.46**	**355**⇑	*e*P	**Pn**		**02 28 34.9**	**-1.2**
KLR	**Kul'dur**	**15.77**	**285**	*e*P	**Pn**		**02 28 39.8**	**-0.4**
MAJO	**Matsushiro**	**16.84**	**235**	*e*P	**Pn**		**02 28 51.9**	**-1.8**
MAJO					pmax	pmax		
	comp=Z,23nm,1.1s							
MAJO	**Matsushiro**	**16.84**	**235**	*e*P	**Pn**		**02 28 51.9**	**-1.8**
	comp=Z,23nm,1.1s							
MAT	**Matsushiro**	**16.84**	**235**	P	**Pn**		**02 28 47.5**	**-6.2**
MAT				*e*S	**S**		**02 32 08.0**	**-0.5**
MJAR	**Matsushiro Arr**	**16.84**	**235**	P	**Pn**		**02 28 48.4**	**-5.3**
	comp=Z,0.8nm,0.3s,baz=30,slow=13,SNR=5.4							
MJAR				LR	LR		02 36 09.2	
	comp=Z,188nm,18.3s,baz=60,slow=40							
ZEA	**Zeya**	**18.79**	**300**	*e*P	**Pn**		**02 29 13.7**	**-3.8**
ZEA				AMB	AMB		02 29 15.8	
	comp=Z,29nm,1.0s							
YAK	**Yakutsk**	**20.49**	**324**	*e*P	**P**		**02 29 33.3**	**-1.9**
YAK				*e**PP			02 29 40.5	
YAK				*e*			02 29 56.9	
YAK				*e*S	**S**		**02 33 22.1**	**+0.2**
YAK				*e*SS			02 34 09.0	
YAK				pmax	pmax			
	comp=Z,17nm,0.8s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,50nm,1.2s							
YAK				pmax	pmax			
	comp=N,28nm,1.1s							
YAK				pmax	pmax			
	comp=E,21nm,1.0s							
YAK				smax				
	comp=E,129nm,2.5s							
YAK				smax				
	comp=N,147nm,3.1s							
YAK				MLR	MLR			
	comp=N,100nm,14.0s							
YAK				MLR	MLR			
	comp=Z,200nm,14.0s,MS3.6							
YAK				MLR	MLR			
	comp=E,200nm,21.0s							
YAK	**Yakutsk**	**20.49**	**324**	*e*P	**P**		**02 29 33.8**	**-1.4**
	comp=E,26nm,0.8s							
CLNS	**Chul'man**	**20.69**	**308**	*e*P	**P**		**02 29 36.9**	**-0.4**
CLNS				*e*			02 29 51.4	
CLNS				*e*PPP			02 29 59.3	
CLNS				*e*S	**S**		**02 33 29.9**	**+4.1**
CLNS				*e*			02 33 39.5	
CLNS				pmax	pmax			
	comp=Z,57nm,0.9s							
CLNS				pmax	pmax			
	comp=N,13nm,1.0s							
CLNS				pmax	pmax			
	comp=E,30nm,0.8s							
CLNS				smax				
	comp=N,9.0nm,1.0s							
CLNS				smax				
	comp=E,10.0nm,1.0s							
CLNS				smax				
	comp=Z,4.0nm,1.0s							
CLNS				MLR	MLR			
	comp=N,200nm,13.0s,MS4.3							
CLNS				MLR	MLR			
	comp=Z,300nm,13.0s,MS3.9							
CLNS				MLR	MLR			
	comp=E,900nm,12.0s,MS4.3							
CN2	**Changchun**	**21.19**	**271**	*e*P	**P**		**02 29 40.1**	**-2.7**
CN2				*e*XP	sP		02 29 47.1	-13
CN2				*e*S	**S**		**02 33 28.8**	**-7.0**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.2							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,200nm,12.0s,MS3.9							
CN2				LR	LR			
	comp=E,200nm,12.0s,MS3.9							
CN2				LR	LR			
	comp=Z,400nm,16.0s,MS3.9							
BILL	**Bilibino**	**21.23**	**11**⇓	*e*P	**P**		**02 29 42.7**	**-0.5**
BILL				*e*			02 33 44.8	
BILL				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.1							
BILL	**Bilibino**	**21.23**	**11**	*e*P	**P**		**02 29 41.1**	**-2.0**
	comp=Z,6.4nm,0.6s,mb4.1							
KSRS	**Korea Array**	**22.54**	**253**	P	**P**		**02 29 57.5**	**+0.4**
	comp=Z,15nm,0.9s,mb4.4,baz=53,slow=9.5,SNR=30							
KSRS				LR	LR		02 37 31.3	
	comp=Z,51nm,20.5s,MS2.9,baz=261,slow=33							
KS15	**Wonju Array Si**	**22.57**	**253**	*e*P	**P**		**02 29 58.0**	**+0.5**
HIA	**Hailar**	**23.58**	**287**	*e*P	**P**		**02 30 06.4**	**-1.3**
HIA				pmax	pmax			
	comp=Z,4.0nm,0.4s							
HIA	**Hailar**	**23.58**	**287**	*e*P	**P**		**02 30 06.4**	**-1.3**
	comp=Z,4.5nm,0.4s,mb4.2							
BOD	**Bodaibo**	**26.67**	**308**	*e*P	**P**		**02 30 35.6**	**-0.1**
BOD				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.0							
CIT	**Chita**	**27.08**	**295**	*e*P	**P**		**02 30 38.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**31.79**	**274**	*e*P	**P**		**02 31 21.3**	**+0.1**
HHC				AP	pP		02 31 26.1	-7.4
HHC				XP	sP		02 31 29.0	-10
HHC				PP	PP		02 32 25.8	-7.7
HHC				PCP	PcP		02 34 13.0	+1.5
HHC				S	**S**		**02 36 30.0**	**+1.9**
HHC				SCP	ScP		02 37 53.5	+2.5
HHC				SS	SS		02 38 20.8	-25
HHC				SCS	ScS		02 41 51.1	+1.9
HHC				AMB	AMB			
	comp=Z,13nm,1.5s,mb4.5							
HHC				AMB	AMB			
	comp=Z,151nm,9.9s							
HHC				LR	LR			
	comp=N,161nm,15.9s,MS4.1							
HHC				LR

INK Inuvik 40.09 33 P **P** **02 32 32.4 +0.2**
comp=Z,6.5nm,0.7s,mb4.5,baz=293,slow=6.8,SNR=27
INK Inuvik 40.09 33 *eP* **P** **02 32 32.1 -0.1**
comp=Z,159nm,0.7s,mb5.9
GTA Gaotai 40.37 279 *eP* **P** **02 32 37.3 +2.8**
GTA AP pP 02 32 41.0 -6.1
GTA XP sP 02 32 44.0 -8.5
GTA PP PP 02 34 14.0 +6.0
GTA S **S** **02 38 45.8 +6.5**
GTA XS sS 02 38 55.0 -5.3
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,50nm,6.1s
GTA LR LR
comp=N,143nm,13.3s,MS4.2
GTA LR LR
comp=E,182nm,15.2s,MS4.2
GTA LR LR
comp=Z,201nm,13.7s,MS4.1
CD2 Chengdu 42.50 266 ⇓*iP* **P** **02 32 52.0 +0.1**
CD2 AP pP 02 32 56.5 -8.1
CD2 XP sP 02 32 59.3 -11
CD2 PP PP 02 34 33.4 +2.4
CD2 S **S** **02 39 12.8 +2.0**
CD2 XS sS 02 39 20.3 -12
CD2 SS SS 02 42 15.8 -5.7
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,40nm,6.8s
CD2 LR LR
comp=N,120nm,14.4s,MS4.3
CD2 LR LR
comp=E,240nm,13.2s,MS4.3
CD2 LR LR
comp=Z,130nm,13.2s,MS4.0
ZAL Zalesovo 43.39 306 P **P** **02 32 57.6 -1.5**
comp=Z,2.9nm,0.4s,mb4.4,baz=42,slow=6.7,SNR=8.8
ZAL LR LR 02 52 22.2
comp=Z,145nm,20.6s,MS3.9,baz=49,slow=38
GYA Guiyang 43.42 259 ⇓*iP* **P** **02 32 59.8 +0.4**
GYA AP pP 02 33 04.4 -7.6
GYA XP sP 02 33 06.4 -11
GYA PP PP 02 34 44.1 +3.2
GYA PCP PcP 02 34 50.3 +3.2
GYA SCP ScP 02 38 40.0 +5.4
GYA S **S** **02 39 28.6 +4.4**
GYA SCS ScS 02 42 58.8 +3.7
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,380nm,16.8s,MS4.5
GYA LR LR
comp=E,410nm,17.2s,MS4.5
GYA LR LR
comp=Z,400nm,16.6s,MS4.4
NVS Novosibirsk 43.91 307 *eP* **P** **02 33 02.0 -1.3**
WMQ Urumqi 46.06 292 ⇓*iP* **P** **02 33 20.5 0.0**
WMQ AP pP 02 33 25.0 -8.2
WMQ XP sP 02 33 27.5 -11
WMQ PCP PcP 02 34 57.3 +1.1
WMQ PP PP 02 35 08.8 -0.2
WMQ PPP 02 35 52.6
WMQ S **S** **02 40 05.0 +2.4**
WMQ XS sS 02 40 12.6 -11
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,50nm,4.4s
WMQ LR LR
comp=N,137nm,17.3s,MS4.0
WMQ LR LR
comp=E,82nm,18.0s,MS4.0
WMQ LR LR
comp=Z,122nm,18.8s,MS3.9
KMI Kunming 46.92 261 P **P** **02 33 27.9 +0.7**
KMI AP pP 02 33 31.0 -9.0
KMI AMB AMB
comp=Z,13nm,0.5s,mb5.1
KMI Kunming 46.92 261 P **P** **02 33 27.9 +0.7**
KMI *SP sP 02 33 33.0 -12
KMI pmax pmax
comp=Z,13nm,0.5s,mb5.1
KMI Kunming 46.92 261 P **P** **02 33 27.9 +0.7**
comp=Z,13nm,0.5s,mb5.1
KMI pP pP 02 33 31.0 -9.0
KMI sP sP 02 33 33.0 -12
MK31 Makanchi Array 47.93 298 *eP* **P** **02 33 34.1 -0.9**
MKAR Makanchi Array 47.93 298 P **P** **02 33 34.2 -0.8**
comp=Z,3.9nm,0.8s,mb4.5,baz=73,slow=8.8,SNR=23
MKAR pP pP 02 33 46.4 -1.4
comp=Z,3.0nm,0.7s,baz=60,slow=7.8,SNR=7.5
MKAR LR LR 02 57 06.2
comp=Z,113nm,18.3s,MS3.9,baz=33,slow=40
MKAR Makanchi Array 47.93 298 P **P** **02 33 34.2 -0.8**
MKAR *PP pP 02 33 46.4 -1.4
MKAR Makanchi Array 47.93 298 P **P** **02 33 34.2 -0.8**
MKAR pP pP 02 33 46.4 -1.4
MKAR LR LR 02 57 06.2
comp=Z,3.2nm,0.7s,baz=48,slow=2.2,SNR=4.2
YKA Yellowknife Ar 49.30 38 P **P** **02 33 44.6 -0.9**
comp=Z,2.1nm,0.6s,mb4.3,baz=294,slow=7.1,SNR=6.6
RES Resolute Bay 49.52 19 *eP* **P** **02 33 47.0 -0.2**
comp=Z,652nm,1.4s
CHKZ Chkalovo 51.07 310 *eP* **P** **02 33 57.9 -1.0**
CHKZ *e*PP pP 02 34 10.5 -1.3
BVAR Borovoye Array 51.52 310 P **P** **02 34 01.7 -0.6**
comp=Z,8.0nm,0.5s,mb4.9,baz=55,slow=7.6,SNR=49
BVAR pP pP 02 34 14.2 -1.0
comp=Z,14nm,0.5s,baz=61,slow=7.2,SNR=18
BVAR PcP PcP 02 35 16.0 +0.1
comp=Z,3.2nm,0.7s,baz=48,slow=2.2,SNR=4.2
BVAR LR LR 02 55 47.8
comp=Z,71nm,21.8s,MS3.6,baz=312,slow=36
BVAR Borovoye Array 51.52 310 P **P** **02 34 01.7 -0.6**
BVAR *PP pP 02 34 14.2 -1.0
BVAR 02 35 16.0
BRVK Borovoye 51.55 310 *eP* **P** **02 34 02.1 -0.4**
BRVK *e*PP pP 02 34 14.2 -1.3
LSA Lhasa 51.78 274 P **P** **02 34 05.9 +1.7**
LSA Lhasa 51.78 274 *eP* **P** **02 34 06.4 +2.2**
LSA pmax pmax
comp=Z,18nm,0.6s,mb5.2
LSA Lhasa 51.78 274 *eP* **P** **02 34 06.4 +2.2**
comp=Z,18nm,0.6s,mb5.2
ZRNK Zerenda 52.27 310 *eP* **P** **02 34 07.1 -0.8**
ZRNK pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
ZRNK Zerenda 52.27 310 *eP* **P** **02 34 07.1 -0.8**
comp=Z,9.3nm,0.5s,mb5.0
CHTO Chiang Mai 53.83 258 *eP* **P** **02 34 20.7 +1.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CHTO Chiang Mai 53.83 258 *eP* **P** **02 34 20.7 +1.4**
comp=Z,4.6nm,0.9s,mb4.4
EDM Edmonton 54.59 48 *eP* **P** **02 34 24.0 -0.9**
AAK Ala-Archa 54.84 297 *eP* **P** **02 34 26.0 -0.7**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 54.84 297 *eP* **P** **02 34 26.0 -0.8**
comp=Z,6.3nm,0.8s,mb4.7
NEW Newport 55.41 54 *eP* **P** **02 34 29.6 -1.2**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 55.41 54 *eP* **P** **02 34 29.6 -1.3**
comp=Z,1.7nm,0.7s,mb4.2
ARU Arti 55.43 318 *ceP* **P** **02 34 30.1 -0.8**
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.0
ARU Arti 55.43 318 *eP* **P** **02 34 30.2 -0.8**
KSH Kashi 55.76 293 *eP* **P** **02 34 29.8 -3.5**
KSH *e*AP pP 02 34 35.0 -11
KSH *e*XP sP 02 34 38.8 -13
KSH *e*PCP PcP 02 35 30.1 -1.9
KSH *e*PP PP 02 36 35.8 -2.2
KSH eS **S** **02 42 10.0 -6.7**
KSH *e*SCS ScS 02 44 15.0 -3.5
KSH AMB AMB
comp=Z,447nm,4.8s
JIRN Jiri 56.42 276 *eP* **P** **02 34 39.6 +1.5**
comp=Z,24nm,0.5s,mb5.5
GUN Gumba 56.47 276 *eP* **P** **02 34 39.7 +1.3**
comp=Z,34nm,0.8s,mb5.4

WALA Waterton Lakes 56.69 52 *eP* **P** **02 34 40.1 +0.1**
comp=Z,7.7nm,0.7s,mb4.8
KKN Kakani 56.95 276 *eP* **P** **02 34 43.2 +1.4**
comp=Z,40nm,0.9s,mb5.5
PKI Pulchoki 57.01 276 *eP* **P** **02 34 43.4 +1.2**
comp=Z,15nm,0.5s,mb5.2
KEV Kevo 57.05 341 *ep* pP 02 34 53.1 -2.5
comp=Z,3.7nm,0.7s
DMN Daman 57.19 276 *eP* **P** **02 34 45.2 +1.7**
comp=Z,62nm,0.9s,mb5.6
GKN Gorkha 57.25 277 *eP* **P** **02 34 45.2 +1.3**
comp=Z,34nm,0.6s,mb5.6
BMO Blue Mountains 57.30 58 *eP* **P** **02 34 44.1 -0.2**
comp=Z,1.6nm,0.6s,mb4.2
MOD Modoc 57.31 62 *eP* **P** **02 34 44.3 -0.1**
comp=Z,1.9nm,0.7s,mb4.2
ARCES ARCESS Array B 57.55 341 P **P** **02 34 46.8 +0.7**
comp=Z,4.4nm,0.9s,mb4.5,baz=34,slow=7.4,SNR=10
WVOR Wild Horse Val 57.98 61 *eP* **P** **02 34 48.8 -0.3**
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WVOR Wild Horse Val 57.98 61 *eP* **P** **02 34 48.8 -0.2**
comp=Z,3.6nm,0.9s,mb4.4
KOLN Koldanda 58.09 277 *eP* **P** **02 34 51.1 +1.3**
comp=Z,36nm,0.9s,mb5.4
CHMT Chamberlain Mo 58.33 54 *eP* **P** **02 34 50.7 -0.7**
AKTK Aktyubinsk 59.31 312 P **P** **02 34 58.1 -0.2**
AKTO Aktyubinsk 59.31 312 P **P** **02 34 58.1 -0.2**
comp=Z,3.8nm,0.7s,mb4.5,baz=70,slow=7.1,SNR=16
AKTO Aktyubinsk 59.31 312 P **P** **02 34 58.1 -0.2**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LRM Limekiln Ridge 59.43 54 *eP* **P** **02 35 00.1 +0.9**
CMB Columbia Colle 59.63 66 *eP* **P** **02 35 00.1 -0.4**
CMB pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CMB Columbia Colle 59.63 66 *eP* **P** **02 35 00.1 -0.4**
comp=Z,2.2nm,1.0s,mb4.1
HLID Hailey 59.74 57 *eP* **P** **02 35 01.4 +0.1**
comp=Z,5.9nm,1.3s,mb4.5
MCMT McKenzie Canyo 59.83 55 *eP* **P** **02 35 01.2 -0.7**
ORR Orenburg 60.15 315 *eP* **P** **02 35 04.1 0.0**
ORR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
QLMT Earthquake Lak 60.62 55 *eP* **P** **02 35 08.1 +0.8**
NVAR Mina Array Bea 60.66 64 P **P** **02 35 07.8 +0.3**
comp=Z,2.1nm,0.8s,mb4.3,baz=291,slow=8.0,SNR=10.0
NVAR pP pP 02 35 20.7 0.0
comp=Z,1.2nm,0.8s,baz=296,slow=8.0,SNR=4.5
NVAR PcP PcP 02 35 52.0 +0.6
comp=Z,1.7nm,0.8s,baz=296,slow=5.1,SNR=4.9
NVAR Mina Array Bea 60.66 64 P **P** **02 35 07.8 +0.3**
NVAR pP pP 02 35 20.7 0.0
NVAR PcP PcP 02 35 52.0 +0.6
GCMT Greycliff 60.97 53 *eP* **P** **02 35 08.1 -1.5**
IMW Indian Meadow 61.48 55 *eP* **P** **02 35 13.1 0.0**
comp=Z,1.7nm,0.5s,mb4.4
MOOW Moose Ponds 61.68 55 *eP* **P** **02 35 15.7 +1.2**
TPAW Teton Pass 61.73 56 *eP* **P** **02 35 16.3 +1.5**
comp=Z,5.0nm,0.9s,mb4.6
HVU Hansel Valley 61.80 58 *eP* **P** **02 35 14.8 -0.5**
LOHW Long Hollow 61.85 55 *eP* **P** **02 35 16.1 +0.5**
comp=Z,1.8nm,0.6s,mb4.4
REDW Red Top Meadow 61.87 56 *eP* **P** **02 35 17.1 +1.3**
DUG Dugway 62.80 59 *eP* **P** **02 35 21.9 0.0**
DUG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
DUG Dugway 62.80 59 *eP* **P** **02 35 21.9 0.0**
comp=Z,5.3nm,1.3s,mb4.5
BW06 Boulder Array 62.98 55 *eP* **P** **02 35 23.6 +0.5**
PDAR Pinedale Array 62.98 55 P **P** **02 35 23.2 +0.1**
comp=Z,2.4nm,0.8s,mb4.4,baz=288,slow=2.3,SNR=25
PDAR pP pP 02 35 36.1 -0.3
comp=Z,1.2nm,0.8s,baz=270,slow=2.5,SNR=5.2
NLU North Lily Min 63.38 59 *eP* **P** **02 35 26.4 +0.5**
KAKA Kakadu 63.45 205 *eP* **P** **02 35 25.5 -0.7**
comp=Z,9.4nm,0.6s,mb5.1
FIA1 FINESS Array S 63.92 336 *eP* **P** **02 35 29.0 -0.3**
FINES FINESS Array B 63.92 336 P **P** **02 35 29.4 0.0**
comp=Z,18nm,0.9s,mb5.1,baz=42,slow=8.0,SNR=27
FINES pP pP 02 35 41.8 -0.9
comp=Z,7.4nm,0.6s,baz=54,slow=9.7,SNR=6.9
FINES LR LR 03 08 38.3
comp=Z,74nm,18.9s,MS3.9,baz=357,slow=41
FINES FINESS Array B 63.92 336 P **P** **02 35 29.4 0.0**
FINES *PP pP 02 35 41.8 -0.8
SRU San Rafael 64.84 59 *eP* **P** **02 35 36.2 +0.8**
ULM Lac du Bonnet 64.85 42 P **P** **02 35 35.0 -0.4**
comp=Z,2.9nm,0.7s,mb4.4,baz=304,slow=8.4,SNR=5.8
RSSD Black Hills 65.08 51 *eP* **P** **02 35 36.8 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
RSSD Black Hills 65.08 51 *eP* **P** **02 35 36.8 -0.1**
comp=Z,4.6nm,0.6s,mb4.7
OBN Obninsk 65.47 326 *diP* **P** **02 35 38.3 -1.2**
OBN *e* 02 36 12.3
OBN *e* 02 38 03.7
OBN pmax pmax
comp=Z,21nm,1.0s,mb5.1
OBN Obninsk 65.47 326 *eP* **P** **02 35 38.5 -1.0**
comp=Z,18nm,0.8s,mb5.2
GLA Glamis 66.30 67 *eP* **P** **02 35 45.2 +0.4**
ISCO Idaho Springs 67.17 56 *eP* **P** **02 35 51.5 +1.1**
ISCO pmax pmax
comp=Z,13nm,1.4s,mb4.8
ISCO Idaho Springs 67.17 56 *eP* **P** **02 35 51.5 +1.1**
comp=Z,13nm,1.4s,mb4.8
MVCO Mesa Verde 67.30 59 *eP* **P** **02 35 51.2 0.0**
comp=Z,1.8nm,0.5s,mb4.4
VRSR Storozhevoye 67.39 322 *eP* **P** **02 35 51.5 -0.2**
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
NB2 NORSAR Subarra 67.91 342 P **P** **02 35 54.6 -0.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=25,slow=6.5
NOA NORSAR Array B 67.91 342 P **P** **02 35 54.9 -0.1**
comp=Z,5.2nm,0.8s,mb4.6,baz=25,slow=6.4,SNR=16
NOA pP pP 02 36 07.5 -0.9
comp=Z,4.8nm,0.7s,baz=26,slow=6.4,SNR=8.0
NOA LR LR 03 11 36.9
comp=Z,49nm,19.2s,MS3.8,baz=40,slow=41
NOA NORSAR Array B 67.91 342 P **P** **02 35 54.9 -0.1**
NOA *PP pP 02 36 07.5 -0.9
HFS Hagfors 68.19 340 P **P** **02 35 57.0 +0.2**
comp=Z,7.1nm,0.6s,mb4.9,baz=66,slow=5.0,SNR=38
HFS pP pP 02 36 10.1 0.0
comp=Z,6.4nm,0.6s,baz=46,slow=4.3,SNR=5.1
SDCO Great Sand Dun 68.66 57 *eP* **P** **02 36 00.5 +0.8**
comp=Z,30nm,2.0s,mb4.9
ECSD EROS,Sioux Fal 69.16 48 *eP* **P** **02 36 01.8 -1.1**
comp=Z,4.6nm,0.7s,mb4.5
WRAB Tennant Creek 69.84 201 *eP* **P** **02 36 06.1 -0.9**
WRAB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WRAB Tennant Creek 69.84 201 *eP* **P** **02 36 06.1 -0.9**
comp=Z,10.0nm,1.0s,mb4.7
WB2 Warramunga Arr 69.85 201 *eP* **P** **02 36 05.7 -1.3**
WB2 *es*P sP 02 36 18.4 -7.3
WB2 *e*PCP PcP 02 36 29.5 +0.2
WRA Warramunga Arr 69.85 201 P **P** **02 36 06.5 -0.5**
comp=Z,6.0nm,0.8s,mb4.6,baz=19,slow=6.5,SNR=25
ANMO Albuquerque 70.05 60 *eP* **P** **02 36 07.9 -0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 70.05 60 *eP* **P** **02 36 07.9 -0.5**
comp=Z,1.3nm,0.8s,mb3.9
FITZ Fitzroy Crossi 70.65 210 *eP* **P** **02 36 12.1 +0.2**
comp=Z,9.8nm,0.7s,mb4.8
FITZ *es*P sP 02 36 24.9 -5.7
FITZ Fitzroy Crossi 70.65 210 P **P** **02 36 12.3 +0.4**
comp=Z,5.1nm,0.7s,mb4.6,baz=9,8,slow=4.0,SNR=15
KIV Kislovodsk 71.30 315 *eP* **P** **02 36 17.6 +1.7**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.2
KIV Kislovodsk 71.30 315 *eP* **P** **02 36 17.9 +1.9**
comp=Z,29nm,0.9s,mb5.2
AKASG Malin Array Be 71.69 327 P **P** **02 36 17.8 -0.4**
comp=Z,4.3nm,0.5s,mb4.6,baz=33,slow=6.2,SNR=16
AKASG pP pP 02 36 29.9 -1.7
comp=Z,3.7nm,0.5s,baz=33,slow=6.2,SNR=5.8
AKASG LR LR 03 10 21.6
comp=Z,58nm,18.5s,MS3.9,baz=5.0,slow=38
AKASG Malin Array Be 71.69 327 P **P** **02 36 17.8 -0.4**

AKASG *PP pP 02 36 30.0 -1.7
SCHQ Schefferville 71.90 24 P **P** **02 36 19.1 -0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=316,slow=6.2,SNR=4.7
SCIA State Center 72.20 47 *eP* **P** **02 36 20.7 -0.6**
comp=Z,17nm,0.6s,mb5.1
MNTX Cornudas Mount 72.99 62 *eP* **P** **02 36 26.4 +0.4**
AS31 Alice Springs 73.53 201 *eP* **P** **02 36 29.1 -0.1**
ASAR Alice Springs 73.53 201 P **P** **02 36 29.4 +0.1**
comp=Z,4.0nm,0.6s,mb4.5,baz=10,slow=5.1,SNR=34
QLP Quilpie 74.52 190 *eP* **P** **02 36 34.3 -0.7**
WMOK Wichita Mounta 74.59 55 *eP* **P** **02 36 35.4 0.0**
KWP Kalwaria 74.87 330 *eP* **P** **02 36 37.6 +0.6**
STHS Stebnicka Huta 75.54 331 *eP* **P** **02 36 41.7 +0.9**
STHS *e* pP 02 36 54.9 +0.5
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STHS Stebnicka Huta 75.54 331 *eP* **P** **02 36 41.7 +0.9**
comp=Z,4.7nm,1.0s,mb4.4
STHS *e* pP 02 36 54.9 +0.5
MBWA Marble Bar 75.58 214 *eP* **P** **02 36 41.1 0.0**
comp=Z,7.6nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.62 330 *eP* **P** **02 36 41.7 +0.4**
BURAR Bucovina Array 75.72 328 ⇓*iP* **P** **02 36 41.8 0.0**
BURAR Bucovina Array 75.72 328 ⇓P **P** **02 36 41.8 0.0**
LTX Lajitas 75.72 62 *eP* **P** **02 36 42.0 +0.2**
LTX pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LTX Lajitas 75.72 62 *eP* **P** **02 36 42.0 +0.2**
comp=Z,6.9nm,0.9s,mb4.6
TXAR Lajitas Array 75.72 62 P **P** **02 36 42.1 +0.2**
comp=Z,4.1nm,0.7s,mb4.4,baz=301,slow=4.2,SNR=52
TXAR pP pP 02 36 56.5 +1.1
comp=Z,0.9nm,0.6s,baz=302,slow=4.1,SNR=7.0
UPC Upice 76.20 335 *eP* **P** **02 36 44.5 -0.1**
UPC *e*PCP PcP 02 36 57.5 +1.0
DPC Dobruska-Polom 76.25 334 *eP* **P** **02 36 45.3 +0.4**
DPC *e*PCP PcP 02 36 59.7 +3.0
CLL Collm 76.31 337 *eP* **P** **02 36 45.0 -0.2**
CLL pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLL Collm 76.31 337 *eP* **P** **02 36 45.0 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
CLL *i* pP pP 02 36 48.2 -11
comp=Z,16nm,0.9s
CLL *e*PcP PcP 02 36 56.0 -1.0
MORC Moravsky Berou 76.39 333 ⇑*iP* **P** **02 36 46.5 +0.8**
MORC Moravsky Berou 76.39 333 *eP* **P** **02 36 45.9 +0.2**
MORC *e**PP pP 02 36 58.5 -0.8
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 76.39 333 *eP* **P** **02 36 45.9 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
MORC *e*pP pP 02 36 58.5 -0.8
KECS Kecovo 76.60 331 *eP* **P** **02 36 46.6 -0.3**
KECS *e* pP 02 36 58.0 -2.4
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 76.60 331 *eP* **P** **02 36 46.6 -0.3**
comp=Z,2.2nm,0.9s,mb4.1
KECS *e* pP 02 36 58.0 -2.4
PRU Pruhonice 77.08 335 *eP* **P** **02 36 50.3 +0.7**
PRU *e*PCP PcP 02 37 03.0 +2.7
VRAC Vranov 77.09 334 P **P** **02 36 49.6 0.0**
comp=Z,4.1nm,0.8s,mb4.4,baz=26,slow=13,SNR=3.0
VYHS Vyhne 77.12 332 *eP* **P** **02 36 50.6 +0.8**
JCT Junction City 77.15 59 *eP* **P** **02 36 49.8 -0.2**
JCT pmax pmax
comp=Z,11nm,1.1s,mb4.7
JCT Junction City 77.15 59 *eP* **P** **02 36 49.8 -0.2**
comp=Z,11nm,1.1s,mb4.7
MLR Muntele Rosu 77.24 326 P **P** **02 36 50.9 +0.4**
comp=Z,4.3nm,0.8s,mb4.5,baz=187,slow=8.1,SNR=7.7
MLR Muntele Rosu 77.24 326 ⇑*iP* **P** **02 36 51.0 +0.5**
MLR Muntele Rosu 77.24 326 P **P** **02 36 50.9 +0.4**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 77.24 326 ⇑P **P** **02 36 51.0 +0.5**
DRGR 77.31 329 ⇑*iP* **P** **02 36 51.0 +0.1**
NKC Novy Kostel 77.44 337 *eP* **P** **02 36 51.5 -0.1**
VOIR 77.62 327 ⇓*iP* **P** **02 36 53.2 +0.6**
MALT Malatya 77.69 314 ⇓*iP* **P** **02 36 54.9 +1.9**
MALT Malatya 77.69 314 ⇓P **P** **02 36 54.9 +1.9**
MALT *e*pP pP 02 37 09.5 +2.9
KHC Kasperske Hory 78.13 335 *eP* **P** **02 36 56.3 +0.9**
KHC *e*PCP PcP 02 37 08.1 +3.3
GRA1 Grafenberg Arr 78.26 337 *eP* **P** **02 36 56.2 +0.1**
comp=Z,18nm,1.4s,mb4.8
GRF Grafenberg Arr 78.26 337 *eP* **P** **02 36 56.2 +0.1**
comp=Z,18nm,1.4s,mb4.8
GRF Grafenberg Arr 78.26 337 *eP* **P** **02 36 56.2 +0.1**
GRF pmax pmax
comp=Z,18nm,1.4s,mb4.8
GRF Grafenberg Arr 78.26 337 *eP* **P** **02 36 56.2 +0.1**
GRF pmax pmax
comp=Z,18nm,1.4s,mb4.8
GERES GERESS Array B 78.35 335 P **P** **02 36 57.1 +0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=36,slow=5.0,SNR=13
GERES pP pP 02 37 10.5 +0.2
comp=Z,2.4nm,0.6s,baz=32,slow=5.4,SNR=9.2
GERES LR LR 03 17 24.2
comp=Z,59nm,18.2s,MS4.0,baz=87,slow=40
GERES GERESS Array B 78.35 335 P **P** **02 36 57.1 +0.5**
GERES *PP pP 02 37 10.5 +0.2
BR131 Keskin Array S 78.81 318 *eP* **P** **02 36 59.6 +0.4**
comp=Z,3.2nm,0.6s,mb4.4
BRTR Keskin Array B 78.82 318 P **P** **02 36 59.2 0.0**
comp=Z,1.4nm,0.5s,mb4.2,baz=18,slow=3.6,SNR=19
BRTR pP pP 02 37 14.0 +1.2
comp=Z,3.6nm,0.6s,baz=46,slow=4.0,SNR=11
ANTO Ankara 79.08 319 *eP* **P** **02 37 02.7 +2.1**
ANTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ANTO Ankara 79.08 319 *eP* **P** **02 37 02.7 +2.1**
comp=Z,7.7nm,0.6s,mb4.8
KBA Koelnbreinsper 80.05 335 ⇑*iP* **P** **02 37 06.4 +0.5**
comp=Z,14nm,0.8s,mb5.0
STKA Stephens Creek 80.09 192 P **P** **02 37 05.8 -0.3**
comp=Z,2.0nm,0.7s,mb4.1,baz=338,slow=5.4,SNR=3.2
STKA Stephens Creek 80.09 192 *eP* **P** **02 37 05.6 -0.6**
WATA Walderalm 80.32 336 ⇓*iP* **P** **02 37 08.0 +0.6**
comp=Z,1.8nm,0.4s,mb4.4
WTTA Wattenberg 80.37 336 ⇓*iP* **P** **02 37 08.7 +1.0**
comp=Z,11nm,0.7s,mb4.9
CDF Champ du Feu 80.44 339 *eP* **P** **02 37 07.4 -0.6**
comp=Z,11nm,1.0s,mb4.5
CDF Champ du Feu 80.44 339 *eP* **P** **02 37 07.4 -0.6**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CDF Champ du Feu 80.44 339 *eP* **P** **02 37 07.4 -0.6**
comp=Z,5.7nm,1.0s,mb4.5
MOTA Moosalm 80.44 336 ⇓*iP* **P** **02 37 06.6 -1.4**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 80.52 336 ⇑*iP* **P** **02 37 10.2 +1.7**
comp=Z,5.6nm,0.8s,mb4.6
VTS Vitosha 80.74 326 ⇓*iP* **P** **02 37 09.7 +0.1**
VTS Vitosha 80.74 326 ⇓P **P** **02 37 09.7 0.0**
DAVOX Davos 81.29 337 P **P** **02 37 13.4 +0.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=39,slow=3.6,SNR=4.7
GRR Gorron 82.19 344 *eP* **P** **02 37 17.2 -0.1**
comp=Z,47nm,1.3s,mb5.0
GRR Gorron 82.19 344 *eP* **P** **02 37 17.2 -0.1**
GRR pmax pmax
comp=Z,24nm,1.3s,mb5.0
GRR Gorron 82.19 344 *eP* **P** **02 37 17.2 -0.1**
comp=Z,24nm,1.3s,mb5.0
CSS Prodhromos 82.83 315 *eP* **P** **02 37 24.9 +4.3**
comp=Z,7.9nm,0.6s,mb4.9
SMF Signal de Mont 82.89 341 *eP* **P** **02 37 20.5 -0.5**
comp=Z,46nm,1.2s,mb5.1
SMF Signal de Mont 82.89 341 *eP* **P** **02 37 20.5 -0.5**
SMF pmax pmax
comp=Z,23nm,1.2s,mb5.1
SMF Signal de Mont 82.89 341 *eP* **P** **02 37 20.5 -0.5**
comp=Z,23nm,1.2s,mb5.1
LPG La Plagne 83.29 338 *eP* **P** **02 37 23.3 +0.3**
comp=Z,17nm,0.9s,mb4.8
LPG La Plagne 83.29 338 *eP* **P** **02 37 23.3 +0.3**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LPG La Plagne 83.29 338 *eP* **P** **02 37 23.3 +0.3**
comp=Z,8.6nm,0.9s,mb4.8
ASF Jabal al Asfar 83.32 311 P **P** **02 37 24.7 +1.5**
comp=Z,5.2nm,0.9s,mb4.5,baz=307,slow=8.1,SNR=4.8
ASF pP pP 02 37 37.7 +0.8
comp=Z,5.2nm,0.9s,baz=165,slow=0.5,SNR=6.3

MMAI	**Mount Meron Ar**	**83.39**	**313**	P		**P**	**02 37 25.0**	**+1.4**
	comp=Z,5.7nm,0.6s,mb4.8,baz=35,slow=6.2,SNR=12							
MMAI				pP		pP	02 37 37.6	+0.3
	comp=Z,14nm,0.8s,baz=37,slow=7.3,SNR=9.6							
CAF	**Calviac**	**84.92**	**341**	*eP*		**P**	**02 37 30.9**	**-0.4**
	comp=Z,18nm,1.2s,mb4.8							
CAF	**Calviac**	**84.92**	**341**	*eP*		**P**	**02 37 30.9**	**-0.4**
CAF				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.8							
CAF	**Calviac**	**84.92**	**341**	*eP*		**P**	**02 37 30.9**	**-0.4**
	comp=Z,8.8nm,1.2s,mb4.8							
TIP	**Timpagrande**	**86.08**	**329**	*eP*		**P**	**02 37 37.6**	**+0.5**
EIL	**Elat**	**86.32**	**311**	*eP*		**P**	**02 37 42.5**	**+4.2**
IDI	**Anoyia**	**86.34**	**321**	P		**P**	**02 37 38.9**	**+0.5**
	comp=Z,1.7nm,0.4s,mb4.7,baz=22,slow=16,SNR=6.7							
IDI				pP		pP	02 37 52.3	+0.1
	comp=Z,7.9nm,0.6s,baz=24,slow=7.9,SNR=6.4							
IDI	**Anoyia**	**86.34**	**321**	P		**P**	**02 37 38.9**	**+0.5**
IDI				pP		pP	02 37 52.3	+0.1
NWAO	**Narrogin (SRO)**	**87.18**	**211**	P		**P**	**02 37 41.6**	**-0.8**
	comp=Z,14nm,0.8s,mb5.3,baz=19,slow=3.3,SNR=6.6							
NWAO				pP		pP	02 37 54.8	-1.4
	comp=Z,9.2nm,1.0s,baz=55,slow=2.4,SNR=2.9							
NWAO	**Narrogin (SRO)**	**87.18**	**211**	P		**P**	**02 37 41.7**	**-0.7**
NWAO				*PP		pP	02 37 54.8	-1.4
NWAO				pmax		pmax		
	comp=Z,14nm,0.8s							
NWAO	**Narrogin (SRO)**	**87.18**	**211**	*eP*		**P**	**02 37 41.9**	**-0.5**
	comp=Z,14nm,0.8s,mb5.3							
KEST	**Kesra**	**91.64**	**333**	LR		LR	03 22 17.0	
	comp=Z,27nm,18.4s,MS3.7,baz=190,slow=38							
SNAA	**Sanae**	**153.80**	**195**	*e*PKPdf		PKPbc	02 44 54.2	-1.0
SNAA				*e*			02 45 06.3	
SNAA				*e*			02 45 19.3	
SNAA	**Sanae**	**153.80**	**195**	*e*PKP2		PKPab	02 45 06.3	-2.0
VNA2	**Neumayer--Watz**	**155.21**	**193**	*e*PKPdf		PKPdf	02 44 57.9	+8.6
VNA2				*e*			02 45 13.2	
VNA2				*e*			02 45 26.1	
VNA3	**Neumayer Olymp**	**155.26**	**191**	*e*PKPdf		PKPdf	02 44 58.0	+8.7
VNA3				*e*			02 45 12.8	
VNA3				*e*			02 45 25.8	

IDC ***17*** *02:25:04.0±0.8, 465N×12739E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.2/21, mbtmp4.4/10, MS3.4/5, Ms1 3.4/5, ms1mx3.0/32, Error ellipse: s-maj=66.1km s-min=14.2km az=74.0*

MOS ***17*** *02:25:06.8±0.9, 472N×12756E, h33km, mb5.0/12, Error ellipse: s-maj=30.8km s-min=9.8km az=111.0*

BJI ***17*** *02:25:09.0, 430N×12775E, h85km, mB4.8, mb4.9, Ms4.4, Msz4.2*

ISCJB ***17*** *02:25:11.2±1.4, 464N±006×12750E±010, h75km±12km, mb4.6/25, Error ellipse: s-maj=17.4km s-min=7.4km az=137.8*

NEIC ***17*** *02:25:12.0±1.4, 464N×12747E, h63km±13km, mb4.6/14, Error ellipse: s-maj=15.0km s-min=6.0km az=72.0*

ISC 17 02:25:12.6±1.3, 463N±006×1275E±01, h70km±12km, n57, σ0§81/53, mb4.6/25, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.09**	**322**	*e*Pn	**Pn**	**02 25 57.0**	**-2.1**
DAV				*e*Sn	**Sn**	**02 26 35.4**	**+0.6**
KSM	**Kuching**	**17.46**	**260**	*e*P	**Pn**	**02 29 12.0**	**+0.6**
KAKA	**Kakadu**	**17.91**	**164**	*e*P	**Pn**	**02 29 16.5**	**-0.4**
	4.4nm,0.6s						
GUMO	**Guam**	**19.29**	**61**	LR	LR	02 35 28.3	
	comp=Z,87nm,19.7s,baz=111,slow=32						
YHNB	**Yeheng**	**20.78**	**344**	*e*P	**P**	**02 29 50.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**22.67**	**185**	*e*P	**P**	**02 30 07.0**	**-1.0**
	5.0nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	**22.67**	**185**	P	**P**	**02 30 07.4**	**-0.6**
	2.5nm,0.8s,mb3.6,baz=13,slow=13,SNR=4.0						
WRAB	**Tennant Creek**	**25.32**	**165**	*e*P	**P**	**02 30 33.1**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
WRAB	**Tennant Creek**	**25.32**	**165**	*e*P	**P**	**02 30 33.1**	**+0.3**
	comp=Z,7.1nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**25.33**	**165**	P	**P**	**02 30 33.0**	**+0.1**
	comp=Z,3.0nm,0.5s,mb4.0,baz=343,slow=10,SNR=13						
CBIJ	**Chichi jima**	**26.36**	**31**	LR	LR	02 40 50.7	
	comp=Z,38nm,18.6s,baz=36,slow=36						
PSI	**Prapat**	**28.59**	**267**	LR	LR	02 41 55.4	
	comp=Z,86nm,19.6s,baz=322,slow=36						
WHN	**Wuhan**	**28.61**	**336**	*e*P	**P**	**02 31 03.5**	**+1.3**
AS31	**Alice Springs**	**28.81**	**168**	*e*P	**P**	**02 31 04.8**	**+0.8**
ASAR	**Alice Springs**	**28.81**	**168**	P	**P**	**02 31 05.5**	**+1.5**
	comp=Z,1.1nm,0.5s,mb3.7,baz=358,slow=8.5,SNR=8.9						
CHTO	**Chiang Mai**	**31.25**	**299**	*e*P	**P**	**02 31 25.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**31.25**	**299**	*e*P	**P**	**02 31 25.7**	**+0.1**
	comp=Z,5.6nm,0.9s,mb4.3						
KSRS	**Korea Array**	**32.67**	**1**	P	**P**	**02 31 38.2**	**+0.2**
	comp=Z,7.5nm,0.8s,mb4.6,baz=177,slow=10,SNR=15						
MAJO	**Matsushiro**	**33.24**	**16**	*e*P	**P**	**02 31 43.4**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.6						
MAJO	**Matsushiro**	**33.24**	**16**	*e*P	**P**	**02 31 43.4**	**+0.3**
	comp=Z,3.6nm,0.4s,mb4.5						
XAN	**Xi'an**	**33.98**	**332**	P	**P**	**02 31 49.8**	**+0.3**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.9						
BJT	**Baijiatuau**	**36.69**	**345**	*e*P	**P**	**02 32 12.7**	**0.0**
BJT				pmax	pmax		
	comp=Z,14nm,0.7s						
BJT	**Baijiatuau**	**36.69**	**345**	*e*P	**P**	**02 32 12.7**	**0.0**
	comp=Z,14nm,0.7s,mb5.0						
BJI	**Beijing**	**36.70**	**345**	P	**P**	**02 32 12.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
BJI	**Beijing**	**36.70**	**345**	P	**P**	**02 32 12.8**	**0.0**
	comp=Z,18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**38.70**	**161**	P	**P**	**02 32 29.4**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.1,baz=334,slow=8.8,SNR=5.4						
STKA				LR	LR	02 47 08.9	
	comp=Z,36nm,20.7s,baz=207,slow=34						
STKA	**Stephens Creek**	**38.70**	**161**	*e*P	**P**	**02 32 29.9**	**+0.2**
KLR	**Kul'dur**	**44.58**	**4**	*e*P	**P**	**02 33 14.4**	**-3.3**
JIRN	**Jiri**	**45.49**	**305**	*e*P	**P**	**02 33 25.2**	**+0.3**
	comp=Z,43nm,0.8s,mb5.2						
GUN	**Gumba**	**45.84**	**305**	*e*P	**P**	**02 33 28.0**	**+0.3**
	comp=Z,44nm,0.7s,mb5.2						
PKI	**Pulchoki**	**46.10**	**304**	*e*P	**P**	**02 33 29.9**	**+0.2**
KKN	**Kakani**	**46.29**	**305**	*e*P	**P**	**02 33 31.1**	**-0.1**
DMN	**Daman**	**46.36**	**304**	*e*P	**P**	**02 33 31.7**	**-0.1**
ULN	**Ulaanbaatar**	**46.52**	**341**	*e*P	**P**	**02 33 33.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**46.52**	**341**	*e*P	**P**	**02 33 33.0**	**0.0**
	comp=Z,12nm,1.0s,mb4.6						
PALK	**Pallekele**	**46.62**	**276**	*e*P	**P**	**02 33 32.7**	**-1.1**
	comp=Z,4.0nm,0.4s,mb4.5						
SONM	**Songino Array**	**46.70**	**341**	P	**P**	**02 33 34.8**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.1,baz=155,slow=7.7,SNR=12						
GKN	**Gorkha**	**46.89**	**305**	*e*P	**P**	**02 33 35.7**	**-0.2**
KOLN	**Koldanda**	**47.66**	**304**	*e*P	**P**	**02 33 41.8**	**-0.1**
	comp=Z,43nm,0.6s,mb5.4						
MK31	**Makanchi Array**	**57.27**	**325**	*e*P	**P**	**02 34 53.7**	**+0.7**
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**02 34 54.0**	**+1.0**
	comp=Z,2.5nm,0.3s,mb4.7,baz=114,slow=7.4,SNR=26						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**02 34 54.0**	**+1.0**
BVAR	**Borovoye Array**	**67.00**	**327**	P	**P**	**02 35 57.9**	**-0.1**
	comp=Z,20nm,1.0s,mb4.9,baz=121,slow=7.1,SNR=14						
BRVK	**Borovoye**	**67.07**	**327**	*e*P	**P**	**02 35 58.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
BRVK	**Borovoye**	**67.07**	**327**	*e*P	**P**	**02 35 58.6**	**+0.1**
	comp=Z,22nm,1.0s,mb4.9						
CHKZ	**Chkalovo**	**67.15**	**327**	*e*P	**P**	**02 35 58.6**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**67.15**	**327**	*e*P	**P**	**02 35 58.6**	**-0.4**
	comp=Z,6.5nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**67.73**	**326**	*e*P	**P**	**02 36 02.5**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**67.73**	**326**	*e*P	**P**	**02 36 02.5**	**-0.2**
	comp=Z,15nm,0.8s,mb4.9						
AKTK	**Aktyubinsk**	**73.44**	**321**	P	**P**	**02 36 36.3**	**-1.1**
AKTO	**Aktyubinsk**	**73.44**	**321**	P	**P**	**02 36 36.3**	**-1.1**
	comp=Z,9.0nm,1.0s,mb4.5,baz=99,slow=4.9,SNR=4.2						
AKTO	**Aktyubinsk**	**73.44**	**321**	P	**P**	**02 36 36.3**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MCK	**McKinley**	**83.01**	**26**	*e*P	**P**	**02 37 29.2**	**-1.1**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
MCK	**McKinley**	**83.01**	**26**	*e*P	**P**	**02 37 29.2**	**-1.0**
	comp=Z,6.5nm,1.1s,mb4.4						
INK	**Inuvik**	**89.04**	**22**	LR	LR	03 20 44.2	
	comp=Z,78nm,18.3s,baz=8.8,slow=38						
ARCES	**ARCESS Array B**	**89.88**	**340**	P	**P**	**02 38 02.4**	**-1.4**
	comp=Z,4.2nm,0.8s,mb4.6,baz=72,slow=7.8,SNR=4.1						
TRQA	**Tornquist**	**145.62**	**167**	*e*PKPbc	PKPbc	02 44 45.1	+1.9

CSEM ***17*** *02:32:38.8±0.2, 4040N×4870E, h5km, mb4.3, Error ellipse: s-maj=5.5km s-min=3.6km az=149.0*

IDC ***17*** *02:32:41.6±1.9, 4059N×4845E, h0km, mb4.0/5, mb1 3.9/8, mb1mx3.6/23, mbtmp3.9/8, ML3.4/2, Error ellipse: s-maj=40.0km s-min=11.9km az=158.0*

ISCJB ***17*** *02:32:42.1±0.6, 4060N±005×4866E±004, h10km, mb3.9/5, Error ellipse: s-maj=7.0km s-min=4.7km az=2.1*

MOS ***17*** *02:32:43.5±1.6, 4069N×4867E, h14km, mb4.3/1, Error ellipse: s-maj=11.2km s-min=8.3km az=100.3*

NEIC ***17*** *02:32:47.9±1.6, 4073N×4849E, h41km±23km, mb3.5/4, Error ellipse: s-maj=23.7km s-min=8.7km az=172.0*

ISC 17 02:32:43.3±0.6, 4059N±005×4865E±004, h10km, n35, σ1§39/44, mb3.9/5, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**1.08**	**339**	*i* PG	**Pg**	**02 33 03.5**	**-0.6**
KSMR				*i* S	**Sg**	**02 33 23.5**	**+5.3**
KSMR				pmax	pmax		
	comp=Z,976nm,0.3s						
KSMR	**Kasumkent**	**1.08**	**339**	*i* Pg	**Pg**	**02 33 03.5**	**-0.6**
	comp=Z,976nm,0.3s						
KSMR				*i* Sg	**Sg**	**02 33 23.5**	**+5.3**
DRN	**Derbent**	**1.46**	**351**	*i* PG	**Pn**	**02 33 09.0**	**-0.6**
DRN				*i* S	**Sg**	**02 33 31.5**	**+1.3**
DRN				pmax	pmax		
	comp=Z,433nm,0.2s						
DRN	**Derbent**	**1.46**	**351**	*i* Pg	**Pn**	**02 33 09.0**	**-0.6**
	comp=Z,433nm,0.2s						
DRN				*i* Sg	**Sg**	**02 33 31.5**	**+1.3**
URKR	**Urkarakh**	**1.75**	**334**	*e*PN	**Pn**	**02 33 13.0**	**-0.6**
URKR				*e*S	**Sg**	**02 33 39.0**	**-0.5**
URKR				pmax	pmax		
	comp=Z,212nm,0.4s						
URKR	**Urkarakh**	**1.75**	**334**	*e*Pn	**Pn**	**02 33 13.0**	**-0.6**
	comp=Z,212nm,0.4s						
URKR				*e*Sg	**Sg**	**02 33 39.0**	**-0.5**
GNI	**Garni**	**3.02**	**263**	Pn	**Pn**	**02 33 32.3**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=74,slow=1.4,SNR=18						
GNI				Sn	**Sn**	**02 34 07.3**	**0.0**
	comp=Z,8.1nm,0.3s,baz=153,slow=5.7,SNR=5.9						
GNI				Lg		02 34 13.2	
	comp=Z,10nm,0.3s,baz=153,slow=5.7,SNR=4.5						
TBLG	**Delisi**	**3.17**	**292**	Pn	**Pn**	**02 33 35.0**	**+1.9**
TBLG				Sn	**Sb**	**02 34 16.0**	**-2.2**
KZR	**Kazreti**	**3.30**	**285**	S	**Sb**	**02 34 20.4**	**-1.7**
DUS	**Dusheti**	**3.33**	**298**	P	**Pn**	**02 33 37.6**	**+2.2**
DUS				S	**Sb**	**02 34 24.7**	**+1.8**
ZEI	**Tsey**	**4.17**	**303**	*e*PN	**Pn**	**02 33 50.0**	**+3.0**
ZEI				*i*		02 34 05.7	
ZEI	**Tsey**	**4.17**	**303**	*i* Pg	**Pg**	**02 34 05.7**	**+2.5**
ARU	**Arti**	**17.13**	**19**	*e*P	**Pn**	**02 36 43.2**	**+0.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARU	**Arti**	**17.13**	**19**	*e*P	**Pn**	**02 36 43.2**	**+0.5**
	comp=Z,8.0nm,0.6s						
ZRNK	**Zerenda**	**18.55**	**41**	*e*P	**Pn**	**02 37 00.4**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**18.55**	**41**	*e*P	**Pn**	**02 37 00.4**	**+0.1**
	comp=Z,3.3nm,0.8s						
ZRNK	**Zerenda**	**18.55**	**41**	*e*P	**Pn**	**02 37 00.4**	**+0.1**
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**19.26**	**42**	*e*P	**Pn**	**02 37 07.7**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**19.26**	**42**	*e*P	**Pn**	**02 37 07.7**	**-1.2**
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**19.26**	**42**	*e*P	**Pn**	**02 37 07.7**	**-1.2**
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**19.30**	**43**	P	**Pn**	**02 37 08.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=238,slow=8.3,SNR=2.2						
AAK	**Ala-Archa**	**19.41**	**75**	*e*P	**Pn**	**02 37 12.9**	**+2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**19.41**	**75**	*e*P	**Pn**	**02 37 12.9**	**+2.2**
	comp=Z,2.0nm,0.8s						
IDI	**Anoyia**	**19.45**	**262**	P	**Pn**	**02 37 09.0**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=3.1						
CHKZ	**Chkalovo**	**19.76**	**41**	*e*P	**Pn**	**02 37 13.5**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**19.76**	**41**	*e*P	**Pn**	**02 37 13.5**	**-1.4**
	comp=Z,1.5nm,0.7s						
CHKZ	**Chkalovo**	**19.76**	**41**	*e*P	**Pn**	**02 37 13.5**	**-1.3**
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**24.97**	**64**	*e*P	**P**	**02 38 07.5**	**+0.6**
MKAR	**Makanchi Array**	**24.97**	**64**	P	**P**	**02 38 07.8**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.3,baz=257,slow=9.8,SNR=8.3						
MKAR	**Makanchi Array**	**24.97**	**64**	P	**P**	**02 38 07.8**	**+0.9**
FINES	**FINESS Array B**	**25.00**	**334**	P	**P**	**02 38 06.0**	**-1.2**
	comp=Z,3.6nm,0.5s,mb4.2,baz=144,slow=11,SNR=21						
HFS	**Hagfors**	**29.13**	**324**	P	**P**	**02 38 43.0**	**-1.3**
	comp=Z,2.2nm,0.5s,mb4.1,baz=116,slow=9.6,SNR=8.6						
NB2	**NORSAR Subarra**	**30.63**	**325**	P	**P**	**02 38 55.8**	**-1.8**
	comp=Z,1.0nm,0.5s,mb3.9,baz=109,slow=10						
NOA	**NORSAR Array B**	**30.63**	**325**	P	**P**	**02 38 56.1**	**-1.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	**31.46**	**345**	P	**P**	**02 39 05.1**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.1,baz=144,slow=7.6,SNR=8.3						

IDC ***17*** *02:35:22.8±1.0, 4775N×15601E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.8/8, Error ellipse: s-maj=32.2km s-min=21.5km az=157.0*

MOS ***17*** *02:35:30.8±0.8, 4777N×15577E, h76km, mb4.1/5, Error ellipse: s-maj=62.2km s-min=23.3km az=87.8*

ISCJB ***17*** *02:35:31.3±3.0, 478N±02×1560E±02, h78km±24km, mb3.6/8, Error ellipse: s-maj=34.7km s-min=20.1km az=118.4*

ISC 17 02:35:32.4±2.7, 478N±02×1559E±02, h75km±23km, n14, σ0§20/14, mb3.6/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.89**	**3**	*e*PN	**Pn**	**02 36 16.2**	**+0.1**
SKR				*e*		02 36 43.1	
KSRS	**Korea Array**	**22.92**	**253**	P	**P**	**02 40 30.0**	**0.0**
	1.8nm,0.7s,mb3.5,baz=50,slow=11,SNR=6.5						
INK	**Inuvik**	**39.74**	**33**	P	**P**	**02 42 57.2**	**-0.4**
	0.6nm,0.7s,mb3.5,baz=270,slow=1.0,SNR=3.6						
INK	**Inuvik**	**39.74**	**33**	P	**P**	**02 42 57.2**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**02 44 04.6**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=68,slow=8.2,SNR=7.2						
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**02 44 04.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**60.27**	**64**	P	**P**	**02 45 33.0**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=296,slow=9.5,SNR=4.7						
FINES	**FINESS Array B**	**63.88**	**336**	P	**P**	**02 45 57.2**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.9,baz=40,slow=10,SNR=6.6						
FINES	**FINESS Array B**	**63.88**	**336**	P	**P**	**02 45 57.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.83**	**201**	P	**P**	**02 46 58.9**	**0.0**
	comp=Z,0.5nm,0.9s,mb3.2,baz=9.0,slow=5.7,SNR=6.0						
ASAR	**Alice Springs**	**73.83**	**201**	P	**P**	**02 46 58.9**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.32**	**63**	P	**P**	**02 47 07.6**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=301,slow=4.2,SNR=19						
TXAR	**Lajitas Array**	**75.32**	**63**	P	**P**	**02 47 07.6**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**78.32**	**336**	P	**P**	**02 47 24.7**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.2,baz=22,slow=6.3,SNR=3.5						

ISCJB ***17*** *02:36:06.6±7.1, 478N±01×1560E±01, h14km±43km, mb4.1/15, Error ellipse: s-maj=22.8km s-min=13.5km az=145.5*

IDC ***17*** *02:36:06.2±0.7, 4775N×15598E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/24, mbtmp4.0/12, Error ellipse: s-maj=23.8km s-min=17.6km az=154.0*

NEIC ***17*** *02:36:07.7±0.4, 4775N×15595E, h10km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=8.0km az=171.0*

MOS ***17*** *02:36:14.3±1.6, 4806N×15594E, h76km, mb4.4/3, Error ellipse: s-maj=24.0km s-min=12.0km az=91.2*

ISC 17 02:36:10.9±4.5, 4795N±009×1559E±01, h29km±31km, n30, σ0§83/31, mb4.1/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.74**	**2**	*e*PN	**Pn**	**02 36 52.5**	**-0.5**
SKR				*e*		02 37 22.5	
PET	**Petropavlovsk**	**5.37**	**18**	*e*PN	**Pn**	**02 37 30.0**	**+0.8**
PET				*e*S	**Sn**	**02 38 28.4**	**-1.6**
PET				smax			
	comp=E,160nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.99**	**269**	PN	**Pn**	**02 38 15.0**	**-3.7**
KSRS	**Korea Array**	**22.98**	**253**	P	**P**	**02 41 14.0**	**+0.9**
	comp=Z,2.5nm,0.8s,mb3.7,baz=51,slow=12,SNR=4.0						
SONM	**Songino Array**	**32.76**	**289**	P	**P**	**02 42 41.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=69,slow=8.1,SNR=3.5						
MCK	**McKinley**	**33.49**	**41**	*e*P	**P**	**02 42 46.5**	**-1.2**
INK	**Inuvik**	**39.61**	**33**	P	**P**	**02 43 40.4**	**+0.6**
	comp=Z,2.5nm,0.9s,mb4.0,baz=255,slow=8.0,SNR=6.4						
INK	**Inuvik**	**39.61**	**33**	*e*P	**P**	**02 43 40.2**	**+0.4**
	comp=Z,116nm,0.9s,mb5.6						
MK31	**Makanchi Array**	**48.09**	**298**	*e*P	**P**	**02 44 47.9**	**0.0**
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**02 44 48.3**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=64,slow=8.9,SNR=7.2						
RES	**Resolute Bay**	**49.08**	**19**	*e*P	**P**	**02 44 56.7**	**+1.2**
	comp=Z,98nm,0.8s						
CHKZ	**Chkalovo**	**51.12**	**310**	*e*P	**P**	**02 45 11.2**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**51.12**	**310**	*e*P	**P**	**02 45 11.2**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**51.57**	**310**	P	**P**	**02 45 14.3**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=51,slow=8.2,SNR=4.2						
ZRNK	**Zerenda**	**52.33**	**310**	*e*P	**P**	**02 45 20.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**52.33**	**310**	*e*P	**P**	**02 45 20.3**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**55.01**	**297**	*e*P	**P**	**02 45 39.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**55.01**	**297**	*e*P	**P**	**02 45 39.6**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**60.19**	**65**	P	**P**	**02 46 16.6**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=297,slow=7.4,SNR=7.9						
TPAW	**Teton Pass**	**61.25**	**56**	*e*P	**P**	**02 46 24.1**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**62.49**	**56**	P	**P**	**02 46 31.8**	**+0.1**
	comp=Z,0.9nm,1.0s,mb3.9,baz=299,slow=6.1,SNR=4.6						
FIA1	**FINESS Array S**	**63.76**	**336**	*e*P	**P**	**02 46 40.5**	**+0.4**
FINES	**FINESS Array B**	**63.76**	**336**	P	**P**	**02 46 40.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=35,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**63.76**	**336**	P	**P**	**02 46 40.2**	**+0.1**
NB2	**NORSAR Subarra**	**67.69**	**342**	P	**P**	**02 47 05.5**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=25,slow=6.2						
NOA	**NORSAR Array B**	**67.69**	**342**	P	**P**	**02 47 05.7**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=25,slow=6.3,SNR=3.7						
WRA	**Warramunga Arr**	**70.30**	**202**	P	**P**	**02 47 19.6**	**-2.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=17,slow=6.4,SNR=3.7						
ASAR

KIW				S	Sn	02 58 12.7	-2.9		
KIW	**Kapiti Island**	**2.81**	**234**	*e*PN	Pn	02 57 41.0	-2.0		
KIW				SN	Sn	02 58 12.7	-2.9		
MSWZ	**Moikau Station**	**2.97**	**222**	PN	Pn	02 57 41.7	-3.5		
MRW	**Makara Radio**	**3.15**	**230**	*e*P	Pn	02 57 45.0	-2.7		
MRW				S	Sn	02 58 20.6	-3.5		
MRW	**Makara Radio**	**3.15**	**230**	*e*PN	Pn	02 57 45.0	-2.7		
MRW				SN	Sn	02 58 20.6	-3.5		
TCW	**Tory Channel**	**3.40**	**233**	*e*P	Pn	02 57 48.2	-2.9		
TCW				S	Sn	02 58 26.1	-4.1		
TCW	**Tory Channel**	**3.40**	**233**	*e*PN	Pn	02 57 48.2	-2.9		
TCW				SN	Sn	02 58 26.1	-4.1		
DUWZ	**D'Urville Isla**	**3.43**	**241**	*e*PN	Pn	02 57 49.2	-2.2		
DUWZ				SN	Sn	02 58 26.4	-4.4		
BSWZ	**Blackbirch Sta**	**3.94**	**230**	P	Pn	02 57 55.1	-3.4		
BSWZ	**Blackbirch Sta**	**3.94**	**230**	PN	Pn	02 57 55.1	-3.4		
NNZ	**Nelson**	**3.98**	**239**	P	Pn	02 57 56.5	-2.6		
NNZ				S	Sn	02 58 39.7	-4.8		
NNZ	**Nelson**	**3.98**	**239**	PN	Pn	02 57 56.5	-2.6		
NNZ				SN	Sn	02 58 39.7	-4.8		
QRZ	**Quartz Range**	**4.41**	**247**	P	Pn	02 58 02.0	-3.0		
QRZ				S	Sn	02 58 48.8	-6.3		
QRZ	**Quartz Range**	**4.41**	**247**	PN	Pn	02 58 02.0	-3.0		
QRZ				SN	Sn	02 58 48.8	-6.2		
THZ	**Tophouse**	**4.57**	**235**	*e*P	Pn	02 58 03.6	-3.5		
THZ	**Tophouse**	**4.57**	**235**	*e*PN	Pn	02 58 03.6	-3.4		
KHZ	**Kahutara**	**4.58**	**225**	P	Pn	02 58 02.9	-4.4		
KHZ	**Kahutara**	**4.58**	**225**	PN	Pn	02 58 02.9	-4.4		
LTZ	**Lake Taylor**	**5.54**	**228**	*e*PN	Pn	02 58 17.3	-3.1		
MQZ	**McQueen's Vall**	**5.96**	**220**	*e*PN	Pn	02 58 22.0	-4.1		
MQZ				SN	Sn	02 59 23.4	-10		
LBZ	**Lake Benmore**	**7.72**	**226**	*e*PN	Pn	02 58 46.7	-3.7		

ISCJB ***17*** *03:00:22.7±3.1, 42S±0.1×1273E±04, h347km±33km, mb3.6/2, Error ellipse: s-maj=61.5km s-min=23.4km az=177.6*

IDC ***17*** *03:00:23.2±35.0, 427S×12778E, h302km±205km, mb3.3/2, mb1 3.4/4, mb1mx3.1/18, mbtmp3.3/4, Error ellipse: s-maj=336.6km s-min=104.2km az=169.0*

NEIC ***17*** *03:00:25.5±2.6, 422S×12748E, h360km±27km, mb4.1/2, Error ellipse: s-maj=46.3km s-min=17.3km az=91.0*

ISC 17 03:00:25.2±3.3, 42S±01×1275E±04, h354km±34km, n10, σ0$40/10, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.77**	**150**	*e*P		**Pn**	**03 02 40.7**	**+0.3**
	6.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**13.93**	**187**	P		**P**	**03 03 28.0**	**+0.1**
	0.1nm,0.3s,baz=0.5,slow=12,SNR=4.9							
WRA	**Warramunga Arr**	**17.01**	**157**	P		**P**	**03 04 01.0**	**-0.4**
	1.5nm,0.3s,baz=337,slow=11,SNR=65							
WB2	**Warramunga Arr**	**17.02**	**157**	*e*P		**P**	**03 04 01.0**	**-0.4**
WB2	**Warramunga Arr**	**17.02**	**157**	*e*P		**P**	**03 04 00.5**	**-0.9**
AS31	**Alice Springs**	**20.32**	**163**	*e*P		**P**	**03 04 35.4**	**-0.4**
ASAR	**Alice Springs**	**20.32**	**163**	P		**P**	**03 04 35.9**	**+0.1**
	3.2nm,0.4s,baz=343,slow=12,SNR=43							
ASPA	**Alice Springs**	**20.32**	**163**	*e*P		**P**	**03 04 35.9**	**+0.2**
STKA	**Stephens Creek**	**30.55**	**156**	P		**P**	**03 06 07.9**	**+0.7**
	0.6nm,0.4s,mb3.2,baz=340,slow=12,SNR=3.3							
MAJO	**Matsushiro**	**41.75**	**13**	*e*P		**P**	**03 07 40.9**	**-0.1**
	8.5nm,0.7s,mb4.0							

BJI ***17*** *03:04:07.2, 4686N×153.45E, h10km, mB4.9, mb4.4, Ms4.1, Msz3.9*

IDC ***17*** *03:04:08.1±0.6, 4648N×15321E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/39, Error ellipse: s-maj=18.6km s-min=15.8km az=153.0*

NEIC ***17*** *03:04:09.8±0.4, 4643N×153.19E, h10km, mb4.6/18, Error ellipse: s-maj=11.1km s-min=8.0km az=150.0*

MOS ***17*** *03:04:11.8±1.3, 4649N×15324E, h33km, mb4.7/24, Error ellipse: s-maj=9.1km s-min=6.5km az=101.7*

SKHL ***17*** *03:04:11.5±3.3, 4639N×15339E, h60km±29km, msh5.4/1*

ISCJB ***17*** *03:04:12.6±1.0, 4653N±007×15323E±007, h37km±7km, mb4.5/49, MS3.5/4, Error ellipse: s-maj=12.7km s-min=6.1km az=120.3*

SZGRF ***17*** *03:04:22.8, 4824N×154.36E, h33km, mb4.8, Kuril Islands, Russia*

ISC 17 03:04:15.5±0.9, 4658N±007×15324E±007, h48km±7km, n133, σ1$05/136, mb4.5/49, MS3.5/4, 11C-18D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**252**	*e*P		**Pn**	**03 05 11.0**	**-3.0**
KUR				AMB	AMB	AMB	03 05 11.5	
	344nm,0.7s							
KUR				AMB	AMB	AMB	03 05 11.5	
	172nm,0.7s							
KUR				AMB	AMB	AMB	03 05 11.5	
	1μm,0.7s							
KUR				*e*S		**Sn**	**03 05 58.5**	**-0.9**
KUR				A			03 06 09.0	
	774nm,0.7s							
KUR				A			03 06 09.0	
	688nm,0.7s							
KUR				A			03 06 14.0	
	3μm,2.0s							
KUR				A			03 06 14.0	
	2μm,2.0s							
KUR	**Kuril'sk**	**3.98**	**252**	*e*PN		**Pn**	**03 05 11.0**	**-3.0**
KUR				*e*S		**Sn**	**03 05 58.5**	**-0.9**
KUR				pmax	pmax			
	comp=N,170nm,0.7s							
KUR				pmax	pmax			
	comp=E,1μm,0.7s							
KUR				pmax	pmax			
	comp=Z,340nm,0.7s							
KUR				smax				
	comp=N,770nm,0.7s							
KUR				smax				
	comp=E,690nm,0.7s							
SKR	**Severo-Kuril's**	**4.53**	**24**	*e*P		**Pn**	**03 05 21.5**	**-0.1**
SKR				*e*S		**Sn**	**03 06 08.1**	**-4.8**
YUK	**Yuzh-Kuril'sk**	**5.79**	**247**	*e*P		**Pn**	**03 05 38.6**	**-0.2**
YUK				AMB	AMB	AMB	03 05 41.2	
	comp=E,230nm,0.5s							
YUK				*e*S		**Sn**	**03 06 42.4**	**-1.5**
YUK				A			03 06 48.4	
	comp=E,580nm,0.5s							
YUK				A			03 06 48.4	
	comp=E,230nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*P		**Pn**	**03 06 00.0**	**+1.7**
YSS				*e*S		**Sn**	**03 07 20.0**	**+1.2**
YSS				AMS	AMS	AMS	03 08 40.0	
	comp=E,600nm,17.0s							
YSS				AMS	AMS	AMS	03 08 40.0	
	comp=E,500nm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*Pn		**Pn**	**03 06 01.0**	**+2.7**
	comp=E,46nm,0.9s							
PET	**Petropavlovsk**	**7.34**	**27**	*e*PN		**Pn**	**03 06 00.9**	**+0.8**
ASAJ	**Asahikawa**	**7.89**	**256**	Pn		**Pn**	**03 06 08.1**	**+0.4**
	comp=E,4.3nm,0.3s,baz=79,slow=15,SNR=13							
ASAJ				LR		LR	03 08 59.9	
	comp=E,225nm,18.6s,baz=5.6,slow=37							
ASAJ	**Asahikawa**	**7.89**	**256**	PN		**Pn**	**03 06 08.1**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,225nm,18.6s							
ERM	**Erimo**	**8.54**	**241**	*e*PN		**Pn**	**03 06 16.4**	**-0.2**
ERM				pmax	pmax			
	comp=Z,62nm,0.6s							
ERM	**Erimo**	**8.54**	**241**	*e*Pn		**Pn**	**03 06 16.4**	**-0.2**
	comp=Z,62nm,0.6s							
KLR	**Kul'dur**	**14.65**	**288**	*e*P		**Pn**	**03 07 41.0**	**+1.3**
MJAR	**Matsushiro Arr**	**15.04**	**234**	Pn		**Pn**	**03 07 39.9**	**-5.0**
	comp=Z,0.7nm,0.3s,baz=52,slow=14,SNR=3.1							
CN2	**Changchun**	**19.74**	**272**	*e*P		**Pn**	**03 08 37.8**	**-5.2**
YAK	**Yakutsk**	**20.51**	**327**	*e*P		**P**	**03 08 49.1**	**-0.5**
YAK				pmax	pmax			
	comp=Z,15nm,0.8s							
KSRS	**Korea Array**	**20.83**	**253**	P		**P**	**03 08 52.7**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=57,slow=10,SNR=21							
KSRS				LR		LR	03 15 40.0	
	comp=Z,74nm,21.4s,MS3.0,baz=50,slow=33							
JNU	**Nakatsue**	**21.70**	**240**	LR		LR	03 17 08.2	
	comp=Z,249nm,18.7s,MS3.6,baz=76,slow=36							

BILL	**Bilibino**	**22.54**	**13**	*e*P		**P**	**03 09 10.5**	**-0.8**	
BILL				pmax	pmax				
	comp=Z,27nm,2.5s,mb4.2								
BILL	**Bilibino**	**22.54**	**13**	*e*P		**P**	**03 09 12.1**	**+0.9**	
	comp=Z,4.8nm,0.6s,mb4.1								
BJI	**Beijing**	**27.56**	**270**	P		**P**	**03 09 50.0**	**-7.8**	
BJI				pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.2								
BJI				MLR	MLR				
	comp=Z,90nm,16.7s,MS3.4								
BJI	**Beijing**	**27.56**	**270**	P		**P**	**03 09 50.0**	**-7.8**	
	comp=Z,10.0nm,1.4s,mb4.2								
BJI				LR	LR				
	comp=Z,90nm,16.7s,MS3.4								
ULN	**Ulaanbaatar**	**31.04**	**290**	*i*P		**P**	**03 10 28.0**	**-0.6**	
SONM	**Songino Array**	**31.47**	**290**	P		**P**	**03 10 31.9**	**-0.6**	
	comp=Z,0.8nm,0.7s,mb3.7,baz=67,slow=7.7,SNR=6.2								
SONM				PcP	PcP				
	comp=Z,0.2nm,0.4s,baz=107,slow=2.7,SNR=3.5								
ZAK	**Zakamensk**	**32.83**	**295**	*e*P		**P**	**03 10 38.9**	**-5.5**	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.0s,mb4.0								
COLA	**College**	**36.22**	**38**	*e*P		**P**	**03 11 10.2**	**-3.5**	
LZH	**Lanzhou**	**37.98**	**272**	*e*P		**P**	**03 11 29.5**	**+0.9**	
LZH				AMB	AMB				
	comp=Z,30nm,1.2s,mb4.9								
LZH				AMB	AMB				
	comp=Z,125nm,4.1s								
GTA	**Gaotai**	**39.08**	**279**	*e*P		**P**	**03 11 39.3**	**+1.4**	
GTA				AP	pP		03 11 46.0	-4.7	
GTA				XP	sP		03 11 48.8	-7.6	
GTA				AMB	AMB				
	comp=Z,7.0nm,0.8s,mb4.4								
INK	**Inuvik**	**41.75**	**32**	P		**P**	**03 12 00.1**	**+0.1**	
	comp=Z,1.0nm,0.5s,mb3.7,baz=274,slow=9.3,SNR=4.4								
GYA	**Guiyang**	**41.76**	**258**	*i*P		**P**	**03 12 00.1**	**+0.1**	
GYA				AMB	AMB				
	comp=Z,10.0nm,1.0s,mb4.4								
ZAL	**Zalesovo**	**42.80**	**306**	P		**P**	**03 12 05.7**	**-2.7**	
	comp=Z,0.9nm,0.3s,mb3.9,baz=44,slow=8.2,SNR=4.3								
ZAL				PcP	PcP		03 13 59.1	0.0	
	comp=Z,0.9nm,0.7s,baz=92,slow=1.2,SNR=4.0								
MK31	**Makanchi Array**	**47.10**	**298**	*i*P		**P**	**03 12 41.0**	**-1.6**	
MK31				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
MK31	**Makanchi Array**	**47.10**	**298**	*e*P		**P**	**03 12 41.7**	**-0.9**	
MKAR	**Makanchi Array**	**47.10**	**298**	P		**P**	**03 12 41.8**	**-0.8**	
	comp=Z,4.8nm,0.8s,mb4.5,baz=63,slow=6.9,SNR=33								
MKAR	**Makanchi Array**	**47.10**	**298**	*i*P		**P**	**03 12 41.0**	**-1.6**	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
LSA	**Lhasa**	**50.37**	**273**	*e*P		**P**	**03 13 10.0**	**+2.3**	
LSA				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**50.37**	**273**	*e*P		**P**	**03 13 09.9**	**+2.2**	
	comp=Z,8.2nm,0.6s,mb4.9								
CHKZ	**Chkalovo**	**50.61**	**310**	P		**P**	**03 13 07.6**	**-1.9**	
CHKZ				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.5								
CHKZ	**Chkalovo**	**50.61**	**310**	*e*P		**P**	**03 13 07.8**	**-1.7**	
	comp=Z,8.8nm,0.8s,mb4.7								
RES	**Resolute Bay**	**50.97**	**19**	*e*P		**P**	**03 13 12.3**	**0.0**	
RES				pmax	pmax				
	comp=Z,112nm,0.9s,mb5.8								
RES	**Resolute Bay**	**50.97**	**19**	*e*P		**P**	**03 13 12.3**	**0.0**	
	comp=Z,112nm,0.9s,mb5.8								
YKA	**Yellowknife Ar**	**51.01**	**37**	P		**P**	**03 13 12.3**	**-0.2**	
	comp=Z,3.3nm,0.8s,mb4.3,baz=296,slow=7.1,SNR=4.5								
YKA	**Yellowknife Ar**	**51.01**	**37**	P		**P**	**03 13 12.3**	**-0.3**	
YKA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BVA0	**Borovoye Array**	**51.03**	**310**	*i*P		**P**	**03 13 11.6**	**-1.1**	
BVAR	**Borovoye Array**	**51.03**	**310**	P		**P**	**03 13 11.9**	**-0.8**	
	comp=Z,2.4nm,0.4s,mb4.5,baz=58,slow=9.5,SNR=16								
BVAR				PcP	PcP		03 14 28.1	-0.1	
	comp=Z,0.6nm,0.5s,baz=20,slow=1.7,SNR=3.6								
BRVK	**Borovoye**	**51.07**	**310**	P		**P**	**03 13 11.8**	**-1.2**	
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.8								
BRVK	**Borovoye**	**51.07**	**310**	*e*P		**P**	**03 13 12.0**	**-1.0**	
	comp=Z,2.6nm,0.5s,mb4.4								
ZRNK	**Zerenda**	**51.80**	**310**	*e*P		**P**	**03 13 17.3**	**-1.2**	
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.5								
ZRNK	**Zerenda**	**51.80**	**310**	*e*P		**P**	**03 13 17.3**	**-1.1**	
	comp=Z,4.6nm,0.8s,mb4.5								
CHTO	**Chiang Mai**	**52.16**	**257**	*e*P		**P**	**03 13 21.6**	**+0.5**	
CHTO				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
CHTO	**Chiang Mai**	**52.16**	**257**	*e*P		**P**	**03 13 21.6**	**+0.4**	
	comp=Z,5.5nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**53.99**	**297**	*e*P		**P**	**03 13 33.5**	**-1.1**	
AAK				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
AAK	**Ala-Archa**	**53.99**	**297**	*e*P		**P**	**03 13 33.5**	**-1.1**	
	comp=Z,5.4nm,0.9s,mb4.5								
JIRN	**Jiri**	**55.04**	**275**	*e*P		**P**	**03 13 43.7**	**+1.5**	
	comp=Z,31nm,0.7s,mb5.5								
GUN	**Gumba**	**55.10**	**275**	*e*P		**P**	**03 13 43.9**	**+1.3**	
ARU	**Arti**	**55.20**	**318**	*i*P		**P**	**03 13 41.6**	**-1.7**	
ARU				*e*S		**S**	**03 21 21.6**	**-1.5**	
ARU				*e*SS		SS	03 25 03.2	-4.5	
ARU				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
KKN	**Kakani**	**55.59**	**276**	*e*P		**P**	**03 13 47.9**	**+1.7**	
	comp=Z,31nm,0.6s,mb5.5								
PKI	**Pulchoki**	**55.64**	**275**	*e*P		**P**	**03 13 47.7**	**+1.2**	
	comp=Z,15nm,0.6s,mb5.2								
DMN	**Daman**	**55.82**	**275**	*e*P		**P**	**03 13 49.4**	**+1.6**	
	comp=Z,26nm,0.6s,mb5.5								
GKN	**Gorkha**	**55.90**	**276**	*e*P		**P**	**03 13 49.5**	**+1.1**	
	comp=Z,27nm,0.5s,mb5.5								
KOLN	**Koldanda**	**56.75**	**277**	*e*P		**P**	**03 13 55.8**	**+1.3**	
	comp=Z,30nm,0.9s,mb5.3								
KEV	**Kevo**	**57.53**	**341**	*e*p		**P**	**03 13 57.8**	**-2.2**	
ARCES	**ARCESS Array B**	**58.04**	**341**	P		**P**	**03 14 02.1**	**-1.5**	
	comp=Z,7.8nm,1.0s,mb4.7,baz=359,slow=4.7,SNR=7.4								
AB31	**Akbulak array**	**58.60**	**310**	*i*P		**P**	**03 14 06.5**	**-1.0**	
AB31				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.2								
NVAR	**Mina Array Bea**	**62.44**	**62**	P		**P**	**03 14 33.9**	**+0.3**	
	comp=Z,0.7nm,0.8s,mb3.8,baz=300,slow=7.9,SNR=3.6								
FIA1	**FINESS Array S**	**64.23**	**335**	*e*P		**P**	**03 14 44.7**	**-0.8**	
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**	**03 14 44.9**	**-0.6**	
	comp=Z,3.7nm,0.5s,mb4.7,baz=38,slow=8.0,SNR=35								
FINES				LR	LR		03 45 37.5		
	comp=Z,54nm,20.1s,MS3.7,baz=337,slow=39								
DUG	**Dugway**	**64.60**	**58**	*e*P		**P**	**03 14 48.3**	**+0.5**	
DUG				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.2								
DUG	**Dugway**	**64.60**	**58**	*e*P		**P**	**03 14 48.3**	**+0.5**	
	comp=Z,1.7nm,0.8s,mb4.1								
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**03 14 49.4**	**+0.3**	
	comp=Z,0.9nm,0.9s,mb3.8,baz=306,slow=2.8,SNR=6.5								
OBN	**Obninsk**	**65.50**	**326**	*e*P		**P**	**03 14 52.8**	**-0.9**	
OBN				*e**PP	pP		03 15 07.4	0.0	
OBN				*e*			03 15 21.8		
OBN				*e*			03 17 16.7		
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4								
WRA	**Warramunga Arr**	**68.38**	**199**	P		**P**	**03 15 10.2**	**-1.8**	
	comp=Z,1.5nm,0.8s,mb4.0,baz=9.8,slow=6.4,SNR=9.0								
NB2	**NORSAR Subarra**	**68.42**	**341**	P		**P**	**03 15 11.7**	**-0.6**	
	comp=Z,3.5nm,0.6s,mb4.6,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.42**	**341**	P		**P**	**03 15 12.1**	**-0.2**	
	comp=Z,3.8nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=20								
AKASG	**Malin Array Be**	**71.74**	**326**	P		**P**	**03 15 31.9**	**-0.7**	
	comp=Z,13nm,0.7s,mb5.0,baz=35,slow=6.3,SNR=37								
AKBB	**Malin Array Si**	**71.74**	**326**	*e*P		**P**	**03 15 31.6**	**-1.0**	
KIEV	**Kiev**	**71.75**	**326**	*e*P		**P**	**03 15 31.8**	**-0.9**	
KIEV				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9								
KIEV	**Kiev**	**71.75**	**326**	*e*P		**P**	**03 15 31.8**	**-0.9**	
	comp=Z,12nm,0.8s,mb4.9								
ANMO	**Albuquerque**	**71.85**	**58**	*i*P		**P**	**03 15 33.0**	**-0.3**	
ASAR	**Alice Springs**	**72.07**	**199**	P		**P**	**03 15 33.7**	**-0.9**	
	comp=Z,1.0nm,0.7s,mb3.8,baz=11,slow=5.3,SNR=11								
STHS	**Stebnicka Huta**	**75.71**	**330**	*e*P		**P**	**03 15 57.1**	**+1.3**	
STHS				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
STHS	**Stebnicka Huta**	**75.71**	**330**	*e*P		**P**	**03 15 57.1**	**+1.3**	
	comp=Z,3.5nm,0.9s,mb4.3								
KOLS	**Kolonicke sedl**	**75.76**	**329**	*e*P		**P**	**03 15 56.2**	**+0.1**	
BURAR	**Bucovina Array**	**75.78**	**327**	*i*P		**P**	**03 15 56.5**	**+0.2**	
BURAR	**Bucovina Array**	**75.78**	**327**	P		**P**	**03 15 56.5**	**+0.3**	
UPC	**Upice**	**76.47**	**334**	*e*P		**P**	**03 15 58.8**	**-1.4**	

DPC	**Dobruska-Polom**	**76.52**	**333**	*e*P		**P**	**03 16 01.8**	**+1.4**	
MORC	**Moravsky Berou**	**76.63**	**332**	*i*P		**P**	**03 16 01.6**	**+0.5**	
MORC	**Moravsky Berou**	**76.63**	**332**	P		**P**	**03 16 01.6**	**+0.5**	
CLL	**Collm**	**76.66**	**336**	*i* P		**P**	**03 16 00.8**	**-0.4**	
CLL				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.8								
CLL	**Collm**	**76.66**	**336**	*i* P		**P**	**03 16 00.8**	**-0.4**	
	comp=Z,9.0nm,0.7s,mb4.8								
MLR	**Muntele Rosu**	**77.25**	**325**	*i*P		**P**	**03 16 05.8**	**+1.2**	
MLR	**Muntele Rosu**	**77.25**	**325**	P		**P**	**03 16 05.8**	**+1.2**	
VYHS	**Vyhne**	**77.32**	**331**	*e*P		**P**	**03 16 05.2**	**+0.2**	
MALT	**Malatya**	**77.33**	**313**	*i*P		**P**	**03 16 06.8**	**+1.8**	
VRAC	**Vranov**	**77.34**	**333**	*i*P		**P**	**03 16 05.8**	**+0.7**	
VRAC	**Vranov**	**77.34**	**333**	P		**P**	**03 16 05.8**	**+0.7**	
DRGR		**77.41**	**328**	*i*P		**P**	**03 16 05.8**	**+0.4**	
DRGR		**77.41**	**328**	P		**P**	**03 16 05.8**	**+0.3**	
PSZ	**Piszkesteto**	**77.45**	**330**	*i*P		**P**	**03 16 06.5**	**+0.8**	
TXAR	**Lajitas Array**	**77.50**	**61**	P		**P**	**03 16 05.7**	**-0.3**	
	comp=Z,1.7nm,0.8s,mb4.0,baz=302,slow=4.1,SNR=23								
TXAR	**Lajitas Array**	**77.50**	**61**	P		**P**	**03 16 05.7**	**-0.3**	
VOIR		**77.65**	**325**	*i*P		**P**	**03 16 07.3**	**+0.5**	
VOIR		**77.65**	**325**	P		**P**	**03 16 07.3**	**+0.4**	
KHC	**Kasperske Hory**	**78.43**	**334**	*e*P		**P**	**03 16 11.2**	**+0.1**	
GZR	**Gura Zlata**	**78.56**	**327**	*i*P		**P**	**03 16 13.0**	**+1.1**	
GZR	**Gura Zlata**	**78.56**	**327**	P		**P**	**03 16 13.0**	**+1.1**	
BRTR	**Keskin Array B**	**78.57**	**317**	P		**P**	**03 16 12.1**	**+0.2**	
	comp=Z,1.3nm,0.7s,mb4.0								
GRA1	**Grafenberg Arr**	**78.61**	**336**	*e*P		**P**	**03 16 13.0**	**+0.9**	
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.61**	**336**	*e*P		**P**	**03 16 13.0**	**+0.9**	
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.61**	**336**	*e*P		**P**	**03 16 13.0**	**+0.9**	
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.61**	**336**	*e*P		**P**	**03 16 13.0**	**+0.9**	
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
GERES	**GERESS Array B**	**78.65**	**334**	P		**P**	**03 16 12.5**	**+0.1**	
	comp=Z,1.7nm,0.7s,mb4.1,baz=38,slow=6.8,SNR=16								
BZS	**Buzias**	**78.81**	**328**	*i*P		**P**	**03 16 13.2**	**0.0**	
BZS	**Buzias**	**78.81**	**328**	P		**P**	**03 16 13.2**	**0.0**	
ANTO	**Ankara**	**78.86**	**317**	*e*P		**P**	**03 16 14.8**	**+1.3**	
ANTO				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.5								
ANTO	**Ankara**	**78.86**	**317**	*e*P		**P**	**03 16 14.8**	**+1.3**	
	comp=Z,5.1nm,0.7s,mb4.6								
PKSM	**Moragy**	**79.36**	**330**	*i*P		**P**	**03 16 16.6**	**+0.4**	
PKSM	**Moragy**	**79.36**	**330**	P		**P**	**03 16 16.6**	**+0.4**	
VTS	**Vitosha**	**80.76**	**325**	*i*P		**P**	**03 16 25.3**	**+1.5**	
VTS	**Vitosha**	**80.76**	**325**	P		**P**	**03 16 25.3**	**+1.6**	
CDF	**Champ du Feu**	**80.85**	**338**	*e*P		**P**	**03 16 24.0**	**-0.3**	
	comp=Z,5.9nm,0.8s,mb4.3								
CDF	**Champ du Feu**	**80.85**	**338**	*e*P		**P**	**03 16 24.0**	**-0.3**	
CDF				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
CDF	**Champ du Feu**	**80.85**	**338**	*e*P		**P**	**03 16 24.0**	**-0.3**	
	comp=Z,3.0nm,0.8s,mb4.3								
GRR	**Gorron**	**82.76**	**343**	*e*P		**P**	**03 16 33.9**	**-0.4**	
SMF	**Signal de Mont**	**83.36**	**339**	*e*P		**P**	**03 16 37.2**	**-0.2**	
	comp=Z,16nm,0.9s,mb4.7								
SMF	**Signal de Mont**	**83.36**	**339**	*e*P		**P**	**03 16 37.2**	**-0.2**	
SMF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
SMF	**Signal de Mont**	**83

PET					pmax	pmax		
	comp=Z,165nm,1.1s							
PET	**Petropavlovsk**	**1.60**	**303**	*e*P	**Pn**		**03 23 28.8**	**+0.2**
PET				*i* S	**Sn**		**03 23 48.7**	**+0.2**
PET	**Petropavlovsk**	**1.60**	**303**	*e*P	**Pn**		**03 23 28.8**	**+0.2**
PET				*i* S	**Sn**		**03 23 48.7**	**+0.2**
AVH	**Avacha**	**1.70**	**311**	*e*P	**Pn**		**03 23 29.9**	**0.0**
AVH				*i* S	**Sn**		**03 23 51.0**	**+0.1**
AVH	**Avacha**	**1.70**	**311**	*e*P	**Pn**		**03 23 29.9**	**0.0**
AVH				*i* S	**Sn**		**03 23 51.0**	**+0.1**
GRL	**Gorelyy**	**1.76**	**284**	*e*P	**Pn**		**03 23 31.2**	**+0.5**
GRL				*i* S	**Sn**		**03 23 52.8**	**+0.4**
GRL	**Gorelyy**	**1.76**	**284**	*e*P	**Pn**		**03 23 31.2**	**+0.5**
GRL				*i* S	**Sn**		**03 23 52.8**	**+0.4**
GNL	**Ganaly**	**2.34**	**312**	*e*P	**Pn**		**03 23 39.9**	**+1.2**
GNL				*i* S	**Sn**		**03 24 07.4**	**+0.6**
GNL	**Ganaly**	**2.34**	**312**	*e*P	**Pn**		**03 23 39.9**	**+1.2**
GNL				*i* S	**Sn**		**03 24 07.4**	**+0.6**
MKZ	**Mys Kozlova**	**2.44**	**12**	*e*P	**Pn**		**03 23 40.1**	**-0.1**
MKZ				*i* S	**Sn**		**03 24 07.6**	**-1.8**
MKZ	**Mys Kozlova**	**2.44**	**12**	*e*P	**Pn**		**03 23 40.1**	**-0.1**
MKZ				*i* S	**Sn**		**03 24 07.6**	**-1.8**
TUMR	**Tumrok**	**3.15**	**352**	*e*P	**Pn**		**03 23 51.3**	**+1.4**
TUMR				*i* S	**Sn**		**03 24 29.2**	**+2.5**
TUMR	**Tumrok**	**3.15**	**352**	*e*P	**Pn**		**03 23 51.3**	**+1.4**
TUMR				*i* S	**Sn**		**03 24 29.2**	**+2.5**
KMNR	**Kamenistaya**	**3.61**	**354**	*e*P	**Pn**		**03 23 56.6**	**+0.4**
KMNR				*i* S	**Sn**		**03 24 38.7**	**+0.5**
KMNR	**Kamenistaya**	**3.61**	**354**	*e*P	**Pn**		**03 23 56.6**	**+0.4**
KMNR				*i* S	**Sn**		**03 24 38.7**	**+0.5**
ZLN	**Zelenaya**	**3.85**	**359**	*e*P	**Pn**		**03 24 00.5**	**+0.9**
ZLN	**Zelenaya**	**3.85**	**359**	*e*P	**Pn**		**03 24 00.5**	**+0.9**
KRSR	**Krestovskiy**	**4.06**	**358**	*e*P	**Pn**		**03 24 03.0**	**+0.6**
KRSR	**Krestovskiy**	**4.06**	**358**	*e*P	**Pn**		**03 24 03.0**	**+0.6**
KBTR	**Krutoberegovo**	**4.21**	**15**	*e*P	**Pn**		**03 24 04.2**	**-0.2**
KBTR				*i* S	**Sn**		**03 24 51.6**	**-1.2**
KBTR	**Krutoberegovo**	**4.21**	**15**	*e*P	**Pn**		**03 24 04.2**	**-0.2**
KBTR				*i* S	**Sn**		**03 24 51.6**	**-1.2**
SRDR	**Sredinnyy**	**4.21**	**351**	*e*P	**Pn**		**03 24 05.3**	**+0.8**
SRDR				*i* S	**Sn**		**03 24 52.3**	**-0.6**
SRDR	**Sredinnyy**	**4.21**	**351**	*e*P	**Pn**		**03 24 05.3**	**+0.8**
SRDR				*i* S	**Sn**		**03 24 52.3**	**-0.6**
SRKR	**Sorokina**	**4.50**	**2**	*e*P	**Pn**		**03 24 10.1**	**+1.7**
SRKR				*i* S	**Sn**		**03 24 59.4**	**-0.6**
SRKR	**Sorokina**	**4.50**	**2**	*e*P	**Pn**		**03 24 10.1**	**+1.7**
SRKR				*i* S	**Sn**		**03 24 59.4**	**-0.6**
MKAR	**Makanchi Array**	**48.99**	**297**	P	**P**		**03 31 45.5**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=59,slow=7.3,SNR=6.7							
BVAR	**Borovoye Array**	**51.34**	**309**	P	**P**		**03 32 02.7**	**-1.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=69,slow=8.1,SNR=5.6							
BVAR	**Borovoye Array**	**51.34**	**309**	P	**P**		**03 32 02.7**	**-1.5**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**61.16**	**337**	P	**P**		**03 33 14.8**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.2,baz=32,slow=11,SNR=4.5							
FINES	**FINESS Array B**	**61.16**	**337**	P	**P**		**03 33 14.8**	**+0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**		**03 33 36.7**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=20,slow=6.6,SNR=2.6							
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**		**03 33 36.7**	**-0.3**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*ISCJB **17** 03:24:27.0±0.4, 4671N±006×15538E±008, h10km, mb4.4/40, MS3.6/2, Error ellipse: s-maj=9.7km s-min=6.6km az=95.9*

*IDC **17** 03:24:27.2±0.8, 4675N×15534E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/27, mbtmp4.1/17, ML3.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/48, Error ellipse: s-maj=21.5km s-min=16.1km az=151.0*

*BJI **17** 03:24:28.1, 47.13N×155.17E, h8km, mB4.8, mb4.4*

*NEIC **17** 03:24:28.8±0.3, 4674N×155.35E, h10km, mb4.6/18, Error ellipse: s-maj=8.3km s-min=5.8km az=145.0*

*MOS **17** 03:24:29.0±0.9, 4673N×15527E, h23km, mb4.8/21, Error ellipse: s-maj=12.5km s-min=7.9km az=103.9*

ISC 17 03:24:29.4±2.8, 4674N±006×15538E±009, h15km±17km, h26km±2.6km:pP-P, n94, σ0°76/93, mb4.4/40, MS3.6/2, 4C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**3.97**	**7**	*e*PN		**Pn**	**03 25 31.0**	**+1.2**
PET	**Petropavlovsk**	**6.63**	**17**	*e*PN		**Pn**	**03 26 02.0**	**-4.4**
PET				MLR		MLR		
	comp=Z,100nm,13.0s							
ASAJ	**Asahikawa**	**9.36**	**258**	Pn		**Pn**	**03 26 44.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=108,slow=5.8,SNR=7.6							
ASAJ				LR		LR	03 30 08.5	
	comp=Z,49nm,19.7s,baz=154,slow=37							
ASAJ	**Asahikawa**	**9.36**	**258**	P		**Pn**	**03 26 44.2**	**+0.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,49nm,19.7s							
ASAJ	**Asahikawa**	**9.36**	**258**	PN		**Pn**	**03 26 44.2**	**+0.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,49nm,19.7s							
KLR	**Kul'dur**	**16.00**	**288**	*e*P		**Pn**	**03 28 07.2**	**-6.7**
MAJO	**Matsushiro**	**16.35**	**238**	*e*P		**Pn**	**03 28 18.3**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,11nm,0.8s							
MAJO	**Matsushiro**	**16.35**	**238**	*e*P		**Pn**	**03 28 18.3**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,11nm,0.8s							
MAJO	**Matsushiro**	**16.35**	**238**	*e*P		**Pn**	**03 28 18.3**	**-0.1**
	comp=Z,12nm,0.8s							
MAT	**Matsushiro**	**16.35**	**238**	P		**Pn**	**03 28 18.3**	**-0.2**
MJAR	**Matsushiro Arr**	**16.35**	**238**	Pn		**Pn**	**03 28 16.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=8.5,SNR=3.1							
YAK	**Yakutsk**	**21.19**	**326**	⇓*e*P		**P**	**03 29 15.1**	**+0.8**
YAK				pmax	pmax			
	comp=Z,12nm,0.6s,mb4.4							
CN2	**Changchun**	**21.21**	**273**	*e*P		**P**	**03 29 15.3**	**+0.8**
BILL	**Bilibino**	**22.08**	**11**	⇑*e*P		**P**	**03 29 23.1**	**-0.7**
BILL				*e**PP			03 29 33.4	
BILL				*e*			03 33 17.0	
BILL				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.3							
BILL	**Bilibino**	**22.08**	**11**	*e*P		**P**	**03 29 22.8**	**-1.1**
	comp=Z,20nm,1.1s,mb4.5							
KSRS	**Korea Array**	**22.29**	**255**	P		**P**	**03 29 26.7**	**+0.6**
	comp=Z,4.3nm,0.8s,mb3.9,baz=58,slow=9.7,SNR=11							
SNY	**Shenyang**	**23.19**	**269**	⇑P		**P**	**03 29 35.8**	**+0.1**
SNY				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.4							
CIT	**Chita**	**27.44**	**297**	*e*P		**P**	**03 30 13.5**	**-1.2**
TIXI	**Tiksi**	**27.93**	**342**	*e*P		**P**	**03 30 18.0**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.2							
TIXI	**Tiksi**	**27.93**	**342**	*e*P		**P**	**03 30 18.0**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.2							
SONM	**Songino Array**	**32.80**	**290**	P		**P**	**03 31 02.0**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=74,slow=8.5,SNR=10							
ZAK	**Zakamensk**	**34.09**	**296**	*e*P		**P**	**03 31 13.1**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s,mb3.9							
LZH	**Lanzhou**	**39.44**	**273**	*e*P		**P**	**03 32 01.3**	**+2.4**
LZH				AP		pP	03 32 07.3	+3.8
LZH				XP		sP	03 32 10.4	+5.1
LZH				AMB		AMB		
	comp=Z,21nm,1.3s,mb4.7							
LZH	**Lanzhou**	**39.44**	**273**	*e*P		**P**	**03 32 01.2**	**+2.3**
LZH				*PP		pP	03 32 07.3	+3.8
LZH				*SP		sP	03 32 10.4	+5.1
LZH				pmax	pmax			
	comp=Z,21nm,1.3s,mb4.7							
LZH	**Lanzhou**	**39.44**	**273**	*e*P		**P**	**03 32 01.2**	**+2.3**
	comp=Z,21nm,1.3s,mb4.7							
LZH				pP		pP	03 32 07.3	+3.8
LZH				sP		sP	03 32 10.4	+5.1
GTA	**Gaotai**	**40.51**	**280**	*e*P		**P**	**03 32 09.5**	**+1.8**
GTA				AP		pP	03 32 17.3	+5.0
GTA				XP		sP	03 32 20.1	+6.0
GTA				AMB		AMB		
	comp=Z,3.0nm,1.1s,mb3.8							
INK	**Inuvik**	**40.82**	**33**	P		**P**	**03 32 10.4**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.0,baz=291,slow=5.2,SNR=13							
GYA	**Guiyang**	**43.24**	**260**	P		**P**	**03 32 31.4**	**+1.3**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**43.89**	**306**	P		**P**	**03 32 34.2**	**-1.1**
	comp=Z,1.2nm,0.4s,mb4.0,baz=37,slow=10,SNR=4.1							
ZAL	**Zalesovo**	**43.89**	**306**	P		**P**	**03 32 34.2**	**-1.2**
NVS	**Novosibirsk**	**44.42**	**308**	*e*P		**P**	**03 32 40.8**	**+1.2**
MK31	**Makanchi Array**	**48.32**	**298**	*e*P		**P**	**03 33 10.1**	**-0.1**
MKAR	**Makanchi Array**	**48.32**	**298**	P		**P**	**03 33 09.2**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=73,slow=9.0,SNR=7.7							
RES	**Resolute Bay**	**50.34**	**19**	*e*P		**P**	**03 33 24.1**	**-1.6**
RES				pmax	pmax			
	comp=Z,66nm,0.6s							
RES	**Resolute Bay**	**50.34**	**19**	*e*P		**P**	**03 33 24.1**	**-1.6**
	comp=Z,66nm,0.6s							
CHKZ	**Chkalovo**	**51.62**	**311**	P		**P**	**03 33 34.6**	**-0.7**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.62**	**311**	*e*P		**P**	**03 33 34.9**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.8							
BVA0	**Borovoye Array**	**52.06**	**310**	*i* P		**P**	**03 33 39.2**	**+0.6**
BVA0				pmax	pmax			
	comp=Z,14nm,1.8s,mb4.6							
BVAR	**Borovoye Array**	**52.06**	**310**	P		**P**	**03 33 38.4**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=58,slow=7.6,SNR=18							
BRVK	**Borovoye**	**52.10**	**310**	*e*P		**P**	**03 33 39.2**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**52.10**	**310**	*e*P		**P**	**03 33 39.1**	**+0.3**
	comp=Z,5.3nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.82**	**311**	*e*P		**P**	**03 33 43.8**	**-0.4**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**52.82**	**311**	*e*P		**P**	**03 33 43.8**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**55.23**	**297**	*e*P		**P**	**03 34 01.6**	**-0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**55.23**	**297**	*e*P		**P**	**03 34 01.6**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.4							
ARU	**Arti**	**56.06**	**318**	⇓*i* P		**P**	**03 34 07.5**	**-0.3**
ARU				*e*			03 36 10.6	
ARU				*e*PPP			03 37 25.7	
ARU				*e*S		**S**	**03 41 56.2**	**+0.3**
ARU				*e*SS		SS	03 45 42.3	+0.3
ARU				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
ARU	**Arti**	**56.06**	**318**	*e*P		**P**	**03 34 07.5**	**-0.2**
	comp=Z,8.1nm,0.7s,mb4.9							
HNR	**Honiara**	**56.07**	**175**	LR		LR	03 56 45.5	
	comp=Z,47nm,18.6s,MS3.6,baz=358,slow=35							
ARCES	**ARCESS Array B**	**59.36**	**342**	P		**P**	**03 34 23.2**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.4,baz=18,slow=8.9,SNR=4.2							
AB31	**Akbulak array**	**59.62**	**311**	*i* P		**P**	**03 34 33.1**	**+0.3**
AB31				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7							
AKTO	**Aktyubinsk**	**59.88**	**313**	P		**P**	**03 34 33.3**	**-1.3**
TPAW	**Teton Pass**	**62.24**	**55**	*e*P		**P**	**03 34 51.0**	**+0.4**
	comp=Z,5.3nm,1.0s,mb4.6							
DUG	**Dugway**	**63.25**	**59**	*e*P		**P**	**03 34 57.7**	**+0.4**
DUG				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5							
DUG	**Dugway**	**63.25**	**59**	*e*P		**P**	**03 34 57.7**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	**63.48**	**55**	P		**P**	**03 34 59.4**	**+0.5**
	comp=Z,1.2nm,0.9s,mb4.0,baz=280,slow=2.3,SNR=10							
FIA1	**FINESS Array S**	**64.70**	**336**	*e*P		**P**	**03 35 06.9**	**0.0**
FINES	**FINESS Array B**	**64.70**	**336**	P		**P**	**03 35 06.4**	**-0.4**
	comp=Z,2.6nm,0.5s,mb4.5,baz=45,slow=11,SNR=18							
SRU	**San Rafael**	**65.30**	**59**	*e*P		**P**	**03 35 11.4**	**+0.6**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
SRU	**San Rafael**	**65.30**	**59**	*e*P		**P**	**03 35 11.4**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.3							
OBN	**Obninsk**	**66.18**	**327**	⇑*e*P		**P**	**03 35 16.4**	**-0.1**
OBN				*e**PP		pP	03 35 24.4	+3.2
OBN				*e**SP		sP	03 35 30.9	+7.9
OBN				*e*			03 35 44.4	
OBN				*e*			03 37 40.3	
OBN				*e*SS		SS	03 48 17.0	-3.6
OBN				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
CTA	**Charters Tower**	**67.02**	**189**	LR		LR	04 04 07.5	
	comp=Z,32nm,18.1s,MS3.6,baz=230,slow=36							
NB2	**NORSAR Subarra**	**68.72**	**342**	P		**P**	**03 35 32.1**	**-0.4**
	comp=Z,1.3nm,1.4s,mb4.7,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.72**	**342**	P		**P**	**03 35 31.3**	**-1.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=25,slow=6.3,SNR=3.6							
WRAB	**Tennant Creek**	**69.03**	**201**	⇑*e*P		**P**	**03 35 34.3**	**-0.1**
WB2	**Warramunga Arr**	**69.04**	**201**	*e*P		**P**	**03 35 33.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**69.89**	**210**	P		**P**	**03 35 39.4**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=326,slow=3.6,SNR=3.6							
AS31	**Alice Springs**	**72.72**	**201**	*e*P		**P**	**03 35 56.5**	**-0.4**
ASAR	**Alice Springs**	**72.72**	**201**	P		**P**	**03 35 57.0**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=15,slow=5.7,SNR=14							
LTX	**Lajitas**	**76.13**	**62**	*e*P		**P**	**03 36 17.1**	**+0.4**
LTX				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
LTX	**Lajitas**	**76.13**	**62**	*e*P		**P**	**03 36 17.1**	**+0.4**
	comp=Z,6.5nm,1.0s,mb4.5							
TXAR	**Lajitas Array**	**76.13**	**62**	P		**P**	**03 36 17.1**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.5,baz=299,slow=4.1,SNR=57							
DPC	**Dobruska-Polom**	**77.02**	**334**	*e*P		**P**	**03 36 27.8**	**+6.1**
CLL	**Collm**	**77.10**	**337**	*e*P		**P**	**03 36 22.0**	**-0.2**
PVCC	**Panska Ves**	**77.37**	**336**	*e*P		**P**	**03 36 28.7**	**+5.0**
KHC	**Kasperske Hory**	**78.91**	**336**	*e*P		**P**	**03 36 32.5**	**+0.3**
GERES	**GERESS Array B**	**79.13**	**335**	P		**P**	**03 36 32.9**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=47,slow=6.0,SNR=4.6							
BRTR	**Keskin Array B**	**79.45**	**318**	P		**P**	**03 36 36.0**	**+0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=128,slow=4.0,SNR=3.7							
BRTR	**Keskin Array B**	**79.45**	**318**	P		**P**	**03 36 36.0**	**+0.8**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**79.45**	**318**	P		**P**	**03 36 36.1**	**+0.9**
CDF	**Champ du Feu**	**81.23**	**339**	*e*P		**P**	**03 36 44.2**	**-0.6**
	comp=Z,14nm,1.0s,mb4.5							
CDF	**Champ du Feu**	**81.23**	**339**	*e*P		**P**	**03 36 44.2**	**-0.6**
CDF				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
CDF	**Champ du Feu**	**81.23**	**339**	*e*P		**P**	**03 36 44.2**	**-0.6**
	comp=Z,6.8nm,1.0s,mb4.5							
GRR	**Gorron**	**83.01**	**344**	*e*P		**P**	**03 36 54.5**	**+0.4**
	comp=Z,21nm,1.1s,mb4.8							
GRR	**Gorron**	**83.01**	**344**	*e*P		**P**	**03 36 54.5**	**+0.4**
GRR				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.8							
GRR	**Gorron**	**83.01**	**344**	*e*P		**P**	**03 36 54.5**	**+0.4**
	comp=Z,11nm,1.0s,mb4.8							
SMF	**Signal de Mont**	**83.70**	**341**	*e*P		**P**	**03 36 57.7**	**0.0**
	comp=Z,19nm,0.9s,mb4.9							
SMF	**Signal de Mont**	**83.70**	**341**	*e*P		**P**	**03 36 57.7**	**0.0**
SMF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**83.70**	**341**	*e*P		**P**	**03 36 57.7**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.9							
LPG	**La Plagne**	**84.08**	**338**	*e*P		**P**	**03 37 00.5**	**+0.9**
	comp=Z,22nm,1.0s,mb4.9							
LPG	**La Plagne**	**84.08**	**338**	*e*P		**P**	**03 37 00.5**	**+0.9**
LPG				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.9							
LPG	**La Plagne**	**84.08**	**338**	*e*P		**P**	**03 37 00.5**	**+0.9**
	comp=Z,11nm,1.0s,mb4.9							
CAF	**Calviac**	**85.73**	**341**	*e*P		**P**	**03 37 08.0**	**+0.1**
	comp=Z,46nm,1.4s,mb5.2							
CAF	**Calviac**	**85.73**	**341**	*e*P		**P**	**03 37 08.0**	**+0.1**
CAF				pmax	pmax			
	comp=Z,23nm,1.4s,mb5.2							
CAF	**Calviac**	**85.73**	**341**	*e*P		**P**	**03 37 08.0**	**+0.1**
	comp=Z,23nm,1.4s,mb5.2							

*IDC **17** 03:30:45.1±2.5, 669S×15173E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML2.7/1, MS4.1/1, Ms1 4.1/1, ms1mx2.5/32, Error ellipse: s-maj=97.5km s-min=36.2km az=135.0*

NEIC 17 03:30:45.7±1.8, 653S×15171E, h10km, mb4.0/1, Error ellipse: s-maj=71.2km s-min=24.3km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**5.34**	**237**	Pn		Pn	03 32 07.3	+1.9
	1.9nm,0.3s,baz=38,slow=5.2,SNR=6.2							
PMG				Sn		Sn	03 33 07.3	+0.4
	1.5nm,0.3s,baz=188,slow=21,SNR=4.3							
KAKA	**Kakadu**	**19.96**	**251**	*e*P		Pn	03 35 18.0	-1.7
RRA	**Warramunga Arr**	**21.50**	**230**	P		P	03 35 33.6	-1.1
	2.0nm,0.5s,baz=57,slow=12,SNR=24							
AS31	**Alice Springs**	**24.15**	**223**	*e*P		P	03 35 57.4	-4.5
ASAR	**Alice Springs**	**24.15**	**223**	P		P	03 36 03.2	+1.3
	1.9nm,0.5s,baz=57,slow=9.2,SNR=40							
ASAR	**Alice Springs**	**24.15**	**223**	P		P	03 36 03.2	+1.3
FITZ	**Fitzroy Crossi**	**27.90**	**243**	*e*P		P	03 36 36.0	+0.2
	4.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**27.90**	**243**	P		P	03 36 35.9	0.0
	2.4nm,0.6s,baz=78,slow=9.3,SNR=12							
AFI	**Afiamalu**	**36.63**	**104**	LR		LR	03 49 06.7	
	comp=Z,267nm,19.0s,baz=38,slow=30							
TOA0	**Torodi Ar. Sit**	**149.76**	**285**	*e*PKPbc		PKPbc	03 50 37.4	+1.5
TORD	**Torodi Ar. Bea**	**149.76**	**285**	PKPbc		PKPbc	03 50 37.9	+2.1
	0.9nm,0.6s,baz=79,slow=2.3,SNR=13							

IDC 17 03:33:24.2±1.1, 4656N×15497E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/23, mbtmp3.9/5, MS3.6/2, Ms1 3.6/2, ms1mx2.6/49, Error ellipse: s-maj=38.9km s-min=31.3km az=82.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ASAJ	**Asahikawa**	**9.05**	**259**	LR		LR	03 38 41.1	
	comp=Z,45nm,18.7s,baz=23,slow=35							
BVAR	**Borovoye Array**	**51.96**	**310**	P		P	03 42 33.5	-1.5
	0.6nm,0.4s,baz=60,slow=8.5,SNR=3.8							
FINES	**FINESS Array B**	**64.75**	**336**	P		P	03 44 03.5	-0.9
	2.2nm,0.9s,baz=32,slow=8.2,SNR=3.7							
PFO	**Pinyon Flat Ob**	**65.60**	**66**	LR		LR	04 05 21.1	
	comp=Z,423nm,21.6s,baz=156,slow=29							
NOA	**NORSAR Array B**	**68.81**	**342**	P		P	03 44 31.0	+0.7
	0.5nm,0.5s,baz=25,slow=6.4,SNR=2.6							
ASAR	**Alice Springs**	**72.45**	**200**	P		P	03 44 52.5	+0.1
	0.6nm,0.7s,baz=21,slow=5.4,SNR=7.3							
TXAR	**Lajitas Array**	**76.46**	**62**	P		P	03 45 15.7	-0.1
	0.6nm,0.5s,baz=308,slow=4.4,SNR=11							

*IDC **17** 03:34:49.2±3.0, 4855N×153.35E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=84.6km s-min=30.5km az=175.0*

*MOS **17** 03:34:50.1±2.0, 4808N×153.13E, h33km, mb4.2/3, Error ellipse: s-maj=57.2km s-min=28.5km az=73.3*

*ISCJB **17** 03:34:58.6±5.0, 487N±05×1532E±03, h84km±28km, mb3.6/5, Error ellipse: s-maj=88.2km s-min=28.6km az=163.8*

ISC 17 03:35:00.6±4.7, 488N±05×1533E±03, h86km±26km, n10, σ0°09/10, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**2.67**	**43**	*e*PN		**Pn**	**03 35 41.5**	**0.0**
SONM	**Songino Array**	**30.80**	**286**	P		**P**	**03 41 08.1**	**0.0**
	0.2nm,0.5s,mb3.1,baz=71,slow=6.2,SNR=3.7							
INK	**Inuvik**	**39.91**	**34**	P		**P**	**03 42 26.1**	**0.0**
	0.6nm,0.5s,mb3.7,baz=225,slow=4.3,SNR=6.8							
INK	**Inuvik**	**39.91**	**34**	P		**P**	**03 42 26.1**	**0.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**62.26**	**334**	P		**P**	**03 45 13.2**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=36,slow=7.1,SNR=4.2							
FINES	**FINESS Array B**	**62.26**	**334**	P		**P**	**03 45 13.3**	**-0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**66.35**	**341**	P		**P**	**03 45 40.0**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.0,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**66.35**	**341**	P		**P**	**03

MK31	**Makanchi Array**	**47.28 297**	*e*P		**P**	**03 49 46.0**	**+0.1**
MKAR	**Makanchi Array**	**47.28 297**	P		**P**	**03 49 46.1**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=69,slow=8.0,SNR=4.3						
CHKZ	**Chkalovo**	**50.52 310**	*e*P		**P**	**03 50 10.2**	**-0.6**
	0.8nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**63.61 55**	P		**P**	**03 51 43.3**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=350,slow=1.8,SNR=6.0						
FINES	**FINESS Array B**	**63.64 335**	P		**P**	**03 51 43.7**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=344,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**63.64 335**	P		**P**	**03 51 43.7**	**+0.1**
NB2	**NORSAR Subarra**	**67.71 342**	P		**P**	**03 52 10.0**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.71 342**	P		**P**	**03 52 09.9**	**0.0**
	comp=Z,0.7nm,0.5s,mb4.0,baz=25,slow=6.3,SNR=2.9						
TXAR	**Lajitas Array**	**76.38 61**	P		**P**	**03 53 02.0**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=300,slow=4.7,SNR=11						
GERES	**GERESS Array B**	**78.06 335**	P		**P**	**03 53 11.9**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=36,slow=5.0,SNR=6.7						

IDC 17 03:42:20.7±2.2, 4620N×15436E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/23, mbtmp3.8/4, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/48, Error ellipse: s-maj=68.5km s-min=35.5km az=174.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.47 237**		Pn	Pn	03 46 00.2	0.0
	0.2nm,0.3s,baz=17,slow=13,SNR=2.7						
KSRS	**Korea Array**	**21.48 255**		LR		03 56 18.1	
	comp=Z,23nm,18.6s,baz=355,slow=39						
MKAR	**Makanchi Array**	**47.96 298**		P		03 51 00.7	-0.3
	0.7nm,0.6s,baz=69,slow=8.8,SNR=6.2						
FINES	**FINESS Array B**	**64.90 335**		P		03 53 01.3	-0.5
	2.4nm,0.9s,baz=22,slow=6.2,SNR=3.9						
TXAR	**Lajitas Array**	**77.01 61**		P		03 54 15.5	+0.2
	0.6nm,0.8s,baz=284,slow=2.8,SNR=5.5						

*NEIC **17** 03:45:38.8±3.3, 622S×130.16E, h105km±32km, mb3.9/5, Error ellipse: s-maj=38.7km s-min=13.3km az=60.0*
*ISCJB **17** 03:45:40.3±2.7, 636S±008×1299E±01, h137km±27km, mb3.9/8, Error ellipse: s-maj=25.0km s-min=12.3km az=149.6*
*IDC **17** 03:45:40.2±6.7, 630S×130.14E, h119km±61km, mb3.7/4, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, Error ellipse: s-maj=86.4km s-min=20.1km az=67.0*

ISC 17 03:45:45.0±2.2, 655S±008×1298E±02, h166km±21km, n17, σ0§96/21, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.19 199**		P	**Pn**	**03 48 34.2**	**+1.0**
	1.0nm,0.3s,baz=39,slow=9.5,SNR=24						
FITZ				S	**Sn**	**03 50 47.4**	**-0.8**
	1.5nm,0.3s,baz=247,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**14.01 162**		P	**Pn**	**03 48 54.3**	**-2.0**
	1.5nm,0.3s,baz=347,slow=13,SNR=38						
WRA				S	**Sn**	**03 51 23.8**	**-8.2**
	1.6nm,0.3s,baz=351,slow=23,SNR=8.8						
WB2	**Warramunga Arr**	**14.02 162**		*e*Pn	**Pn**	**03 48 55.7**	**-0.7**
AS31	**Alice Springs**	**17.46 167**		*e*P	**Pn**	**03 49 39.8**	**+1.4**
ASAR	**Alice Springs**	**17.46 167**		P	**Pn**	**03 49 40.0**	**+1.5**
	0.9nm,0.3s,baz=344,slow=9.1,SNR=58						
ASAR				S	**S**	**03 52 49.3**	**-0.8**
	0.4nm,0.3s,baz=358,slow=28,SNR=7.3						
ASAR	**Alice Springs**	**17.46 167**		P	**Pn**	**03 49 40.0**	**+1.5**
ASAR				S	**S**	**03 52 49.3**	**-0.8**
STKA	**Stephens Creek**	**27.49 158**		P	**P**	**03 51 16.2**	**+0.6**
	0.7nm,0.3s,mb3.8,baz=347,slow=14,SNR=2.7						
CHTO	**Chiang Mai**	**39.53 310**		*e*P	**P**	**03 53 00.1**	**+0.5**
	2.2nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**57.79 342**		*e*P	**P**	**03 55 18.1**	**-0.7**
	1.9nm,0.6s,mb4.1						
SONM	**Songino Array**	**57.97 342**		P	**P**	**03 55 19.5**	**-0.5**
	0.5nm,0.5s,mb3.6,baz=161,slow=7.1,SNR=7.6						
MK31	**Makanchi Array**	**67.76 327**		*e*P	**P**	**03 56 24.7**	**0.0**
MKAR	**Makanchi Array**	**67.76 327**		P	**P**	**03 56 24.8**	**+0.1**
	2.8nm,0.4s,mb4.4,baz=114,slow=8.1,SNR=51						
MKAR	**Makanchi Array**	**67.76 327**		P	**P**	**03 56 24.8**	**+0.1**
AAK	**Ala-Archa**	**70.09 320**		*e*P	**P**	**03 56 39.5**	**+0.4**
	0.9nm,0.4s,mb3.9						
VNDA	**Vanda**	**72.91 173**		P	**P**	**03 56 57.1**	**+1.2**
	0.3nm,0.4s,mb3.4,baz=318,slow=8.4,SNR=5.7						
VNDA	**Vanda**	**72.91 173**		*e*P	**P**	**03 56 57.0**	**+1.0**
	0.4nm,0.5s,mb3.4						
ZRNK	**Zerenda**	**78.30 327**		*e*P	**P**	**03 57 25.4**	**-1.2**
	0.8nm,0.5s,mb3.6						

*ISCJB **17** 04:01:26.0±1.1, 468N±02×1555E±02, h10km, mb4.0/10, Error ellipse: s-maj=28.0km s-min=21.1km az=5.9*
*IDC **17** 04:01:26.2±1.1, 4681N×15569E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/24, mbtmp3.8/6, Error ellipse: s-maj=31.6km s-min=28.6km az=144.0*
*NEIC **17** 04:01:27.8±0.8, 4684N×15558E, h10km, mb4.2/4, Error ellipse: s-maj=20.7km s-min=15.7km az=182.0*

ISC 17 04:01:27.7±1.0, 469N±02×1556E±02, h10km, n12, σ0§47/12, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.64 33**		P	**P**	**04 09 07.7**	**-0.1**
	1.4nm,0.7s,mb3.7,baz=268,slow=6.4,SNR=4.9						
MK31	**Makanchi Array**	**48.38 298**		*e*P	**P**	**04 10 09.2**	**-0.5**
MKAR	**Makanchi Array**	**48.38 298**		P	**P**	**04 10 10.7**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=69,slow=6.9,SNR=3.9						
CHKZ	**Chkalovo**	**51.64 311**		*e*P	**P**	**04 10 34.2**	**-0.2**
	3.1nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**52.08 310**		P	**P**	**04 10 37.2**	**-0.5**
	1.3nm,0.6s,mb4.0,baz=65,slow=8.4,SNR=5.8						
BRVK	**Borovoye**	**52.12 310**		*e*P	**P**	**04 10 37.8**	**-0.2**
	2.2nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**52.84 311**		*e*P	**P**	**04 10 43.2**	**-0.1**
	0.8nm,0.4s,mb4.0						
AAK	**Ala-Archa**	**55.29 298**		*e*P	**P**	**04 11 01.0**	**-0.2**
	2.1nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**64.64 336**		P	**P**	**04 12 06.4**	**+0.9**
	2.0nm,0.9s,mb4.2,baz=55,slow=7.2,SNR=5.5						
ASAR	**Alice Springs**	**72.89 201**		P	**P**	**04 12 57.0**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=9.3,slow=4.4,SNR=8.0						
TXAR	**Lajitas Array**	**75.95 62**		P	**P**	**04 13 14.6**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=304,slow=4.3,SNR=10						
TXAR	**Lajitas Array**	**75.95 62**		P	**P**	**04 13 14.6**	**-0.1**

*NIED **17** 04:09:00, 4730N×15540E, h17km, Mw5.1 Best double couple: M0 5.65000×10^16 NP1:φs 146.00000°, δ74.00000°, λ-133.00000°. NP2:φs 39.00000°, δ45.00000°, λ-23.00000°.*
*IDC **17** 04:09:52.2±0.3, 4700N×15553E, h0km, mb5.0/38, mb1 5.1/39, mb1mx5.0/41, mbtmp5.0/39, ML5.1/1, MS4.9/23, Ms1 4.9/23, ms1mx4.7/35, Error ellipse: s-maj=11.7km s-min=8.6km az=137.0*
*ISCJB **17** 04:09:53.1±0.1, 4686N±003×15550E±002, h18km, mb5.3/225, MS5.1/66, Error ellipse: s-maj=4.2km s-min=1.7km az=159.7*
*JMA **17** 04:09:53.6±0.9, 4732N×15535E, h30km, M5.9*
*SKHL **17** 04:09:53.2±1.0, 4690N×15563E, h60km±25km, mb6.2/4, mbh6.0/4, Ms5.4/4, msh5.7/3*
*GCMT **17** 04:09:54.5±0.1, 4706N×15567E, h12km, MW5.4/103, Moment Tensor Solution. s65,c115; s103,c214; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.72±.02; Mθθ 1.17±.02; Mφφ 0.55±.02; Mrθ 0.08±.05; Mθφ 0.66±.02; Mrφ 0.00±.06; Best double couple: M0 1.65500×10^17 NP1:φs 56.00000°, δ44.00000°, λ-92.00000°. NP2:φs 239.00000°, δ46.00000°, λ-88.00000°. Principal axes: T 1.5870, Plg1.0000°, Azm328.0000°; N 0.1380, Plg1.0000°, Azm58.0000°; P -1.7220, Plg88.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 04:09:54.5±2.4, 4703N×15548E, h11km±14km, mb5.4/122 Error ellipse: s-maj=4.2km s-min=2.7km az=168.0*
*BJI **17** 04:09:55.5, 4730N×15486E, h11km, mB5.7, mb5.3, Ms5.4, Msz5.2*
*MOS **17** 04:09:56.2±1.0, 4708N×15544E, h33km, mb5.5/101, MS5.2/34, Error ellipse: s-maj=7.0km s-min=3.8km az=106.2*

*BGS **17** 04:09:58.8, 4703N×15548E, h10km, mb5.5*
*SZGRF **17** 04:10:05.3, 4860N×15634E, h33km, mb5.8, MS5.3, East of Kuril Islands, Russia*

ISC 17 04:09:55.5±0.1, 4702N±003×15541E±002, h20km, h20km±1.1km:pP-P, n1044, σ1§01/1053, mb5.3/224, MS5.1/66, 111C-102D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.70**	**7**	*e*P	**Pn**	**04 10 49.0**	**-2.6**
SKR				AMB	AMB	04 10 53.1	
	150nm,0.5s						
SKR				AMB	AMB	04 10 53.1	
	90nm,0.5s						
SKR				AMB	AMB	04 10 53.1	
	230nm,0.5s						
SKR				*e*S	**Sn**	**04 11 30.0**	**-4.6**
SKR				A		04 11 37.4	
	1μm,0.6s						
SKR				A		04 11 37.4	
	410nm,0.6s						
SKR				A		04 11 37.4	
	1μm,0.5s						
SKR				A		04 11 38.0	
	18μm,10.0s						
SKR				A		04 11 38.0	
	17μm,10.0s						
SKR				A		04 11 38.0	
	18μm,10.0s						
SKR				A		04 11 38.0	
	17μm,10.0s						
SKR				A		04 11 38.0	
	12μm,8.0s						
SKR				A		04 11 38.0	
	13μm,8.0s						
SKR				AMS	AMS	04 12 06.0	
	47μm,18.0s						
SKR				AMS	AMS	04 12 06.0	
	19μm,14.0s						
SKR				AMS	AMS	04 12 06.0	
	26μm,16.0s						
SKR	**Severo-Kuril's**	**3.70**	**7**	*e*P	**Pn**	**04 10 49.4**	**-2.2**
KUR	**Kuril'sk**	**5.54**	**254**	⇑*i*P	**Pn**	**04 11 14.5**	**-2.4**
KUR				⇑*i*P		04 11 14.5	
KUR				AMB	AMB	04 11 15.0	
	228nm,0.5s						
KUR				AMB	AMB	04 11 15.0	
	2μm,0.5s						
KUR				AMB	AMB	04 11 15.0	
	12μm,1.0s						
KUR				*e*S	**Sn**	**04 12 16.0**	**-3.9**
KUR				A		04 12 18.0	
	3μm,0.9s						
KUR				A		04 12 18.0	
	6μm,0.9s						
KUR				A		04 12 29.0	
	38μm,4.0s						
KUR				A		04 12 29.0	
	12μm,4.0s						
KUR				AMS	AMS	04 13 48.0	
	16μm,13.0s						
KUR				AMS	AMS	04 13 48.0	
	8μm,13.0s						
KUR				AMS	AMS	04 13 48.0	
	13μm,13.0s						
KUR	**Kuril'sk**	**5.54**	**254**	⇑*i*P	**Pn**	**04 11 14.5**	**-2.4**
PET	**Petropavlovsk**	**6.37**	**18**	⇑*i*PN	**Pn**	**04 11 25.1**	**-3.1**
PET				pmax	pmax		
	comp=Z,205nm,0.4s						
PET				MLR	MLR		
	comp=Z,10μm,16.0s						
PET				MLR	MLR		
	comp=Z,10μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**7.34**	**249**	*e*P	**Pn**	**04 11 40.0**	**-1.6**
YUK				AMB	AMB	04 11 46.5	
	comp=Z,500nm,0.4s						
YUK				AMB	AMB	04 11 46.5	
	comp=Z,1μm,0.4s						
YUK				AMB	AMB	04 11 46.5	
	comp=Z,640nm,0.5s						
YUK				AMB	AMB	04 11 51.2	
	comp=Z,3μm,1.2s						
YUK				*e*S	**Sn**	**04 13 00.5**	**-3.8**
YUK				A		04 13 12.5	
	comp=Z,1μm,0.4s						
YUK				A		04 13 12.5	
	comp=Z,3μm,0.6s						
YUK				A		04 13 24.0	
	comp=Z,8μm,1.5s						
YUK				A		04 13 24.0	
	comp=Z,10μm,2.0s						
YUK				AMS	AMS	04 15 41.0	
	comp=Z,14μm,14.0s						
YUK				AMS	AMS	04 15 41.0	
	comp=Z,8μm,14.0s						
YUK				AMS	AMS	04 15 41.0	
	comp=Z,7μm,15.0s						
NEM2	**Nemuro 2**	**7.74**	**245**	P	**Pn**	**04 11 44.0**	**-3.1**
NEM2				*e*S	**Sn**	**04 13 06.6**	**-7.6**
JRA	**Rausu**	**7.86**	**251**	P	**Pn**	**04 11 48.3**	**-0.4**
JRA				*e*S	**Sn**	**04 13 13.7**	**-3.4**
JNK	**Nakash**	**8.28**	**249**	P	**Pn**	**04 11 54.1**	**-0.4**
JNK				*e*S	**Sn**	**04 13 23.2**	**-4.2**
JAK	**Akkeshi**	**8.59**	**246**	P	**Pn**	**04 11 55.7**	**-3.0**
JAK				*e*S	**Sn**	**04 13 27.7**	**-7.3**
JTKR	**Abashiri--Toko**	**8.63**	**254**	P	**Pn**	**04 11 59.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.65**	**274**	⇑*i*P	**Pn**	**04 12 02.8**	**+3.2**
YSS				AMB	AMB	04 12 04.0	
	comp=Z,190nm,0.8s						
YSS				*e*S	**Sn**	**04 13 37.3**	**+0.7**
YSS				*e*LQ		04 13 58.0	
YSS				AMS	AMS	04 16 52.0	
	comp=Z,16μm,14.0s						
YSS				AMS	AMS	04 16 52.0	
	comp=Z,18μm,14.0s						
YSS				AMS	AMS	04 16 52.0	
	comp=Z,9μm,12.0s						
YSS				AMS	AMS	04 16 52.0	
	comp=Z,22μm,14.0s						
YSS				AMS	AMS	04 16 52.0	
	comp=Z,10μm,12.0s						
YSS				AMS	AMS	04 16 52.0	
	comp=Z,16μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.65**	**274**	*e*Pn	**Pn**	**04 12 03.0**	**+3.4**
JMP	**Maruseppu**	**8.98**	**255**	P	**Pn**	**04 12 04.3**	**+0.2**
JAR	**Ashorobuto**	**9.03**	**250**	P	**Pn**	**04 12 04.2**	**-0.5**
JAR				*e*S	**Sn**	**04 13 41.2**	**-4.6**
JSE	**Soyaes**	**9.16**	**262**	P	**Pn**	**04 12 09.1**	**+2.5**
UGL	**Uglegorsk**	**9.17**	**288**	*e*P	**Pn**	**04 12 10.0**	**+3.2**
UGL				AMB	AMB	04 12 12.0	
	comp=Z,314nm,1.0s						
UGL				AMB	AMB	04 12 18.0	
	comp=Z,3μm,6.0s						
UGL				AMB	AMB	04 12 18.0	
	comp=Z,4μm,6.0s						
UGL				AMB	AMB	04 12 18.0	
	comp=Z,4μm,6.0s						
UGL				AMS	AMS	04 17 29.0	
	comp=Z,33μm,14.0s						
UGL				AMS	AMS	04 17 29.0	
	comp=Z,27μm,14.0s						
UGL				AMS	AMS	04 17 29.0	
	comp=Z,25μm,16.0s						
JOB	**Onbets**	**9.18**	**248**	P	**Pn**	**04 12 04.9**	**-1.9**
JOB				*e*S	**Sn**	**04 13 42.7**	**-6.8**
JKK2	**Kamakawa 2**	**9.44**	**255**	P	**Pn**	**04 12 10.2**	**-0.2**
ASAJ	**Asahikawa**	**9.44**	**257**	Pn	**Pn**	**04 12 11.2**	**+0.7**
	comp=Z,20nm,0.3s,baz=90,slow=17,SNR=85						
ASAJ				Sn	**Sn**	**04 13 59.9**	**+3.8**
	baz=208,slow=27,SNR=1.9						
ASAJ				LR	LR	04 15 37.7	
	comp=Z,3μm,20.0s,baz=167,slow=36						
ASAJ	**Asahikawa**	**9.44**	**257**	P	**Pn**	**04 12 11.4**	**+1.0**
ASAJ	**Asahikawa**	**9.44**	**257**	PN	**Pn**	**04 12 11.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,20.0s						
JWK2	**Keihoku**	**9.53**	**265**	P	**Pn**	**04 12 15.3**	**+3.7**
JCH	**Churui**	**9.62**	**247**	P	**Pn**	**04 12 10.2**	**-2.7**
JCH				*e*S	**Sn**	**04 13 52.0**	**-8.5**
JFR	**Furan**	**9.85**	**252**	P	**Pn**	**04 12 17.1**	**+1.1**
JAB	**Ashibetsu**	**9.94**	**254**	P	**Pn**	**04 12 17.9**	**+0.7**
ERM	**Erimo**	**10.07**	**245**	Pn	**Pn**	**04 12 17.0**	**-2.1**
	comp=Z,4μm,0.5s,SNR=78						
ERM	**Erimo**	**10.07**	**245**	*e*PN	**Pn**	**04 12 17.3**	**-1.8**
ERM				pmax	pmax		
	comp=Z,312nm,0.6s						
ERM	**Erimo**	**10.07**	**245**	*e*Pn	**Pn**	**04 12 17.3**	**-1.8**
	comp=Z,312nm,0.6s						
ERM				*e*Sn	**Sn**	**04 14 02.7**	**-8.8**
JEM	**Erimo**	**10.07**	**245**	P	**Pn**	**04 12 17.7**	**-1.4**
JEM				*e*S	**Sn**	**04 14 03.2**	**-8.3**
JHR	**Hokuryu**	**10.17**	**256**	P	**Pn**	**04 12 22.1**	**+1.7**
JBT2	**Biratori 2**	**10.18**	**250**	P	**Pn**	**04 12 18.9**	**-1.6**
JBT2				*e*S	**Sn**	**04 14 08.8**	**-5.3**
JNBK	**Urakawa-nobuka**	**10.18**	**247**	P	**Pn**	**04 12 17.4**	**-3.2**
JNBK				*e*S	**Sn**	**04 14 04.9**	**-9.3**
OKH	**Okha**	**10.31**	**314**	*e*P	**Pn**	**04 12 26.0**	**+3.7**
OKH				AMB	AMB	04 12 28.0	
	comp=Z,10μm,6.0s						
OKH				AMB	AMB	04 12 28.0	
	comp=Z,6μm,6.0s						
OKH				*e*S	**Sn**	**04 14 12.0**	**-5.3**
OKH				*e*S	**Sn**	**04 14 14.0**	**-3.3**
OKH				*e*LQ		04 15 05.8	
OKH				AMS	AMS	04 18 44.8	
	comp=Z,37μm,12.0s						
OKH				AMS	AMS	04 18 44.8	
	comp=Z,28μm,13.0s						
OKH				AMS	AMS	04 18 44.8	
	comp=Z,31μm,13.0s						
JEW	**Eniwo**	**10.74**	**252**	P	**Pn**	**04 12 27.6**	**-0.6**
JNB	**Noboribetsu**	**11.18**	**251**	P	**Pn**	**04 12 32.0**	**-2.3**
NKL	**Nikolayevsk**	**11.27**	**308**	*i* P	**Pn**	**04 12 34.0**	**-1.4**
NKL				AMB	AMB	04 12 38.0	
	comp=Z,2μm,7.0s						
NKL				AMB	AMB	04 12 38.0	
	comp=Z,3μm,7.0s						
NKL				AMB	AMB	04 12 38.0	
	comp=Z,5μm,7.0s						
NKL				*e*L		04 15 45.0	
JKB	**Kayabe**	**11.48**	**249**	P	**Pn**	**04 12 34.8**	**-3.5**
JSH	**Shimam**	**11.75**	**254**	P	**Pn**	**04 12 40.9**	**-1.1**
JYM2	**Yakumo 2**	**11.79**	**251**	P	**Pn**	**04 12 39.8**	**-2.7**
JANG	**Nango**	**12.04**	**242**	P	**Pn**	**04 12 41.0**	**-5.0**
JANG				*e*S	**Sn**	**04 14 45.6**	**-14**
JSR	**Shiriuchi**	**12.06**	**248**	P	**Pn**	**04 12 42.6**	**-3.7**
JSR				*e*S	**Sn**	**04 14 47.9**	**-12**
JTM	**Tenmabayashi**	**12.07**	**244**	P	**Pn**	**04 12 42.7**	**-3.6**
JTM				*e*S	**Sn**	**04 14 47.4**	**-13**
JTH	**Tanohata**	**12.11**	**239**	P	**Pn**	**04 12 42.1**	**-4.8**
JTH				*e*S	**Sn**	**04 14 46.2**	**-15**
JOSM	**Okushiri--Mats**	**12.39**	**252**	P	**Pn**	**04 12 48.3**	**-2.4**
OFUJ	**Ofunato**	**12.79**	**237**	P	**Pn**	**04 12 51.2**	**-5.0**
OFUJ				*e*S	**Sn**	**04 15 05.2**	**-13**
MA2	**Magadan**	**12.88**	**349**	*e*PN	**Pn**	**04 12 57.4**	**0.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JRG	**Rokugo**	**13.18**	**240**	P	**Pn**	**04 12 57.2**	**-4.4**
JRG				*e*S	**Sn**	**04 15 15.4**	**-12**
TEY	**Ternei**	**13.22**	**268**	*i* P	**Pn**	**04 13 03.0**	**+0.9**
TEY				AMB	AMB	04 13 11.0	
	comp=Z,2μm,6.0s						
TEY				*e*L		04 16 35.0	
SMY	**Shemya**	**13.32**	**58**	*e*PN	**Pn**	**04 12 59.5**	**-4.0**
SMY	**Shemya**	**13.32**	**58**	*e*P	**Pn**	**04 12 59.8**	**-3.7**
	comp=Z,51nm,0.4s						
JOG2	**Oga 2**	**13.37**	**244**	P	**Pn**	**04 13 00.3**	**-3.8**
JIO	**Ouri**	**13.40**	**235**	P	**Pn**	**04 12 59.8**	**-4.8**
JIO				*e*S	**Sn**	**04 15 18.8**	**-14**
HABR	**Khabarovsk**	**13.78**	**284**	⇑*i*P	**Pn**	**04 13 12.7**	**+3.0**
HABR				*e*S	**Sn**	**04 15 47.2**	**+5.1**
HABR				pmax	pmax		
	comp=Z,62nm,0.7s						
JYA	**Atsumi**	**14.25**	**239**	P	**Pn**	**04 13 12.0**	**-4.2**
JYA				*e*S	**Sn**	**04 15 43.8**	**-10**
JFK	**Kawauchi**	**14.44**	**233**	P	**Pn**	**04 13 14.1**	**-4.6**
JFK				*e*S	**Sn**	**04 15 43.4**	**-15**
JFY	**Yanaizu**	**15.06**	**236**	P	**Pn**	**04 13 23.3**	**-3.9**
KLR	**Kul'dur**	**15.94**	**287**	*e*P	**Pn**	**04 13 36.2**	**-2.4**
KLR				*e*S	**Sn**	**04 16 37.5**	**+2.7**
KLR				pmax	pmax		
	comp=E,750nm,3.0s						
KLR				pmax	pmax		
	comp=Z,980nm,3.0s						
KLR				pmax	pmax		
	comp=E,2μm,11.0s						
KLR				pmax	pmax		
	comp=Z,4μm,11.0s						
KLR				smax			
	comp=N,4μm,11.0s						
KLR				smax			
	comp=E,1μm,11.0s						
KLR				MLR	MLR		
	comp=Z,82μm,13.0s						
SEY	**Seymchan**	**16.04**	**355**	⇓*i*P	**Pn**	**04 13 37.9**	**-2.0**
SEY	**Seymchan**	**16.04**	**355**	⇓*i*P	**Pn**	**04 13 37.0**	**-3.0**
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn	**Pn**	**04 13 43.5**	**-2.6**
	comp=Z,5.0nm,0.3s,baz=30,slow=14,SNR=109						
MJAR				Sn	**Sn**	**04 16 41.6**	**-7.3**
	comp=Z,0.4nm,0.3s,baz=56,slow=9.3,SNR=2.9						
MJAR				LR	LR	04 20 32.2	
	comp=Z,2μm,18.8s,baz=45,slow=39						
MJAR	**Matsushiro Arr**	**16.52**	**237**	P	**Pn**	**04 13 43.5**	**-2.6**
MJAR						04 16 41.6	
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn	**Pn**	**04 13 43.5**	**-2.6**
MJAR				Sn	**Sn**	**04 16 41.6**	**-7.3**
MJAR				LR	LR	04 20 32.2	
MAJO	**Matsushiro**	**16.52**	**237**	*e*P	**Pn**	**04 13 43.4**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,293nm,0.8s						
MAJO	**Matsushiro**	**16.52**	**237**	*e*Pn	**Pn**	**04 13 43.4**	**-2.7**
	comp=Z,293nm,0.8s						
MAT	**Matsushiro**	**16.52**	**237**	P	**Pn**	**04 13 43.2**	**-2.9**
MAT				S	**Sn**	**04 16 51.4**	**+2.5**
ZEA	**Zeya**	**19.09**	**301**	*e*P	**Pn**	**04 14 12.3**	**-5.5**
ZEA				AMB	AMB	04 14 15.1	
	comp=Z,78nm,1.2s						
ZEA				AMB	AMB	04 14 18.0	
	comp=Z,2μm,8.0s						
ZEA				AMB	AMB	04 14 18.0	
	comp=Z,700nm,5.0s						
ZEA				AMB	AMB	04 14 18.0	
	comp=Z,2μm,8.0s						
ZEA				*e*S	**Sn**	**04 17 52.0**	**+0.9**
ZEA				A		04 18 20.0	
	comp=Z,1μm,10.0s						
ZEA				A		04 18 20.0	
	comp=Z,2μm,11.0s						
ZEA				A		04 18 20.0	
	comp=Z,2μm,10.0s						
YAK	**Yakutsk**	**20.97**	**325**	*e*P	**P**	**04 14 35.2**	**-2.2**
YAK				*e*		04 14 56.2	
YAK				*e*S	**S**	**04 18 21.6**	**-8.6**
YAK				*e*		04 18 43.0	
YAK				pmax	pmax		
	comp=Z,218nm,1.2s						
YAK				pmax	pmax		
	comp=N,92nm,1.4s						
YAK				pmax	pmax		
	comp=E,159nm,1.4s						
YAK				pmax	pmax		
	comp=Z,112nm,1.2s						
YAK				pmax	pmax		
	comp=N,73nm,1.4s						
YAK				pmax

CLNS pmax pmax
comp=Z,71nm,0.8s,mb5.0
CLNS pmax pmax
comp=E,43nm,0.9s
CLNS smax
comp=E,27nm,1.3s
CLNS smax
comp=N,16nm,1.1s
CLNS smax
comp=Z,7.0nm,1.1s
CLNS MLR MLR
comp=Z,6µm,12.0s,MS5.2
CLNS MLR MLR
comp=N,4µm,13.0s,MS5.1
CLNS MLR MLR
comp=E,4µm,15.0s,MS5.1
NRGR Nerungri 21.10 308 *e*P **P** **04 14 38.4 -0.4**
CN2 Changchun 21.22 272 ⇑P **P** **04 14 37.3 -2.7**
CN2 *e*XP sP 04 14 44.3 -3.8
CN2 *e*S **S** **04 18 32.3 -2.7**
CN2 AMB AMB
comp=Z,60nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4µm,14.0s,MS5.2
CN2 LR LR
comp=E,6µm,14.0s,MS5.2
CN2 LR LR
comp=Z,6µm,14.0s,MS5.2
BILL Bilibino 21.80 11 *d i*P **P** **04 14 45.3 -1.0**
BILL *e* 04 15 06.5
BILL *e* 04 18 44.7
BILL pmax pmax
comp=Z,135nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,3µm,18.0s,MS4.8
BILL Bilibino 21.80 11 *e*P **P** **04 14 45.1 -1.2**
comp=Z,131nm,1.0s,mb5.3
KSRS Korea Array 22.38 255 P **P** **04 14 53.2 +0.7**
comp=Z,34nm,0.6s,mb5.0,baz=58,slow=10,SNR=72
KSRS PcP PcP 04 18 47.9 +0.7
comp=Z,3.0nm,0.8s,baz=66,slow=1.3,SNR=5.4
KSRS S **S** **04 19 06.4 +8.6**
comp=Z,2.2nm,1.0s,baz=57,slow=21,SNR=3.1
KSRS LR LR 04 23 01.8
comp=Z,2µm,19.3s,MS4.5,baz=72,slow=35
KS15 Wonju Array Si 22.41 255 *e*P **P** **04 14 54.9 +2.0**
SNY Shenyang 23.22 269 ⇑P **P** **04 15 00.8 -0.6**
SNY AMB AMB
comp=Z,68nm,1.2s,mb5.0
SNY AMB AMB
comp=Z,2µm,7.1s
SNY LR LR
comp=E,6µm,14.1s
SNY LR LR
comp=Z,8µm,13.7s,MS5.3
INCN Inchon 23.22 256 P **P** **04 15 03.3 +1.9**
SNR=12
INCN Inchon 23.22 256 P **P** **04 15 03.3 +1.9**
SNR=12
INCN Inchon 23.22 256 P **P** **04 15 03.3 +1.9**
SNR=12
INCN Inchon 23.22 256 P **P** **04 15 03.3 +1.9**
SNR=12
INCN Inchon 23.22 256 *e*P **P** **04 15 03.0 +1.6**
JNU Nakatsue 23.22 242 P **P** **04 15 01.6 +0.2**
comp=Z,26nm,0.7s,mb4.8,baz=273,slow=25,SNR=6.0
JNU S **S** **04 19 16.2 +4.0**
comp=Z,13nm,0.8s,baz=248,slow=20,SNR=2.2
JNU LR LR 04 24 15.9
comp=Z,5µm,18.3s,MS5.0,baz=84,slow=37
HIA Hailar 23.77 289 *e*P **P** **04 15 03.9 -2.9**
HIA pmax pmax
comp=Z,25nm,0.7s
HIA Hailar 23.77 289 *e*P **P** **04 15 03.9 -2.9**
comp=Z,25nm,0.7s,mb4.8
DL2 Dalian 25.86 264 P **P** **04 15 26.8 +1.0**
DL2 S **S** **04 19 57.4 +2.9**
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.1
DL2 AMB AMB
comp=Z,590nm,4.2s
DL2 LR LR
comp=N,1µm,11.8s,MS4.7
DL2 LR LR
comp=E,1µm,12.9s,MS4.7
DL2 LR LR
comp=Z,1µm,13.5s,MS4.5
BOD Bodaibo 27.04 309 ⇓*i*P **P** **04 15 34.2 -2.2**
BOD pmax pmax
comp=Z,28nm,0.8s,mb4.8
CIT Chita 27.34 296 *e*P **P** **04 15 37.0 -2.2**
CIT *e* 04 15 48.2
CIT *e* 04 18 58.0
CIT pmax pmax
comp=Z,73nm,1.1s,mb5.1
BJI Beijing 29.05 271 P **P** **04 15 55.6 +1.2**
BJI S **S** **04 20 45.8 +0.9**
BJI AMB AMB
comp=Z,60nm,0.6s,mb5.5
BJI AMB AMB
comp=Z,1µm,7.9s
BJI LR LR
comp=N,5µm,12.9s,MS5.4
BJI LR LR
comp=E,2µm,12.9s,MS5.4
BJI LR LR
comp=Z,3µm,14.2s,MS5.0
BJI Beijing 29.05 271 P **P** **04 15 55.6 +1.2**
comp=Z,60nm,0.6s,mb5.5
BJI S **S** **04 20 45.7 +0.8**
BJI LR LR
comp=Z,3µm,14.2s,MS5.0
BJT Baijiatuau 29.07 271 *e*P **P** **04 15 56.8 +2.3**
BJT pmax pmax
comp=Z,48nm,0.7s
BJT Baijiatuau 29.07 271 *e*P **P** **04 15 56.8 +2.2**
comp=Z,48nm,0.7s,mb5.3
JOW Kunigami 29.36 236 P **P** **04 15 58.1 +1.0**
comp=Z,25nm,1.1s,mb4.9,baz=64,slow=14,SNR=4.0
TIA Tai'an 30.31 263 P **P** **04 16 07.0 +1.4**
TIA AP pP 04 16 14.1 +2.6
TIA XP sP 04 16 17.3 +3.3
TIA S **S** **04 21 06.0 +1.4**
TIA LR LR
comp=N,2µm,12.0s,MS5.0
TIA LR LR
comp=E,841nm,11.0s,MS5.0
SSE Sheshan 30.67 251 P **P** **04 16 09.0 +0.3**
SSE S **S** **04 21 11.8 +1.5**
SSE XS sS 04 21 17.3 -2.8
SSE AMB AMB
comp=Z,55nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,439nm,3.8s
SSE LR LR
comp=N,1µm,14.3s,MS4.8
SSE LR LR
comp=E,1µm,14.3s,MS4.8
SSE LR LR
comp=Z,1µm,12.8s,MS4.8
SSE Sheshan 30.67 251 P **P** **04 16 09.0 +0.3**
comp=Z,55nm,1.0s,mb5.3
SSE sP sP 04 16 13.5 -3.6
SSE PP PP 04 17 17.2 -0.8
SSE S **S** **04 21 11.8 +1.5**
SSE sS sS 04 21 17.2 -2.9
SSE LR LR
comp=Z,1µm,12.8s,MS4.8
NJ2 Nanjing 31.58 255 *e*P **P** **04 16 19.8 +3.0**
NJ2 AP pP 04 16 26.1 +3.3
NJ2 XP sP 04 16 29.3 +4.1
NJ2 PP PP 04 17 24.9 -3.3
NJ2 S **S** **04 21 25.5 +0.9**
NJ2 XS sS 04 21 37.5 +3.1
NJ2 AMB AMB
comp=Z,270nm,4.3s
NJ2 LR LR
comp=N,1µm,15.4s,MS4.9
NJ2 LR LR
comp=E,1µm,15.2s,MS4.9
NJ2 LR LR
comp=Z,1µm,16.6s,MS4.6
HHC Hu-ho-hao-te 31.84 275 ⇓P **P** **04 16 19.1 0.0**
HHC AP pP 04 16 23.3 -1.7
HHC XP sP 04 16 26.3 -1.2
HHC PP PP 04 17 24.4 -6.7
HHC PCP PcP 04 19 10.6 +0.9
HHC S **S** **04 21 27.4 -1.2**
HHC XS sS 04 21 34.6 -3.8
HHC SCP ScP 04 22 51.3 -0.7
HHC SCS ScS 04 26 46.3 -3.9
HHC AMB AMB
comp=Z,57nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,654nm,6.9s
HHC LR LR
comp=N,4µm,14.5s,MS5.5
HHC LR LR
comp=E,5µm,12.5s,MS5.5
HHC LR LR
comp=Z,5µm,14.8s,MS5.3
ULN Ulaanbaatar 32.29 290 P **P** **04 16 22.8 -0.2**
SNR=11
ULN Ulaanbaatar 32.29 290 P **P** **04 16 22.3 -0.7**
ULN pmax pmax
comp=Z,16nm,0.9s,mb4.8
ULN Ulaanbaatar 32.29 290 *e*P **P** **04 16 22.2 -0.9**
comp=Z,16nm,0.8s,mb4.9
IMA2 Indian Mountai 32.66 36 *e*P **P** **04 16 24.6 -1.7**
KDAK Kodiak Island 32.71 51 P **P** **04 16 24.8 -1.9**
comp=Z,49nm,0.9s,mb5.4,baz=279,slow=3.5,SNR=16
KDAK Kodiak Island 32.71 51 *e*P **P** **04 16 25.3 -1.4**
SONM Songino Array 32.73 290 P **P** **04 16 26.1 -0.8**
comp=Z,10nm,0.7s,mb4.9,baz=62,slow=9.1,SNR=96
SONM PcP PcP 04 19 10.7 -1.4
comp=Z,5.9nm,1.0s,baz=145,slow=3.6,SNR=5.1
SONM LR LR 04 30 19.0
comp=Z,3µm,19.2s,MS5.0,baz=76,slow=37
SONM Songino Array 32.73 290 P **P** **04 16 26.1 -0.7**
SONM 04 19 10.7
IRK Irkutsk 32.95 298 *e*P **P** **04 16 27.5 -1.3**
IRK *e* 04 19 12.4
IRK pmax pmax
comp=Z,29nm,0.9s,mb5.2
BTO Baotou 33.00 276 *e*P **P** **04 16 29.4 +0.2**
TLY Talaya 33.45 297 *e*P **P** **04 16 32.7 -0.5**
TLY *e* 04 17 39.5
TLY *e*S **S** **04 21 45.3 -8.4**
TLY pmax pmax
comp=Z,17nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,2µm,13.0s,MS5.1
TLY Talaya 33.45 297 *e*P **P** **04 16 32.9 -0.3**
comp=Z,13nm,0.8s,mb4.9
SLKM Skilak Lake 33.80 46 P **P** **04 16 35.1 -1.1**
SLKM Skilak Lake 33.80 46 *e*P **P** **04 16 34.0 -2.2**
ZAK Zakamensk 33.99 295 *e*P **P** **04 16 36.7 -1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
PMR Palmer 34.31 44 *e*P **P** **04 16 39.5 -1.1**
PMR pmax pmax
comp=Z,38nm,1.0s,mb5.3
PMR Palmer 34.31 44 *e*P **P** **04 16 39.5 -1.1**
comp=Z,38nm,1.0s,mb5.3
MCK McKinley 34.43 41 *e*P **P** **04 16 40.9 -0.7**
GUMO Guam 34.48 198 LR LR 04 27 51.9
comp=Z,654nm,21.3s,MS4.3,baz=31,slow=31
SML Sawmill 34.69 44 *e*P **P** **04 16 42.6 -1.3**
COLA College 34.95 39 P **P** **04 16 45.4 -0.7**
COLA pmax pmax
comp=Z,49nm,0.8s,mb5.5
COLA College 34.95 39 *e*P **P** **04 16 45.2 -0.9**
comp=Z,49nm,0.8s,mb5.5
WHN Wuhan 35.52 257 ⇑P **P** **04 16 52.5 +1.4**
WHN S **S** **04 22 29.4 +3.8**
WHN AMB AMB
comp=Z,2µm,3.4s
WHN LR LR
comp=Z,4µm,13.4s,MS5.3
DIV Divide 35.95 45 *e*P **P** **04 16 54.2 -0.5**
QZH Quanzhou 36.57 246 *i*P **P** **04 17 01.1 +1.0**
QZH S **S** **04 22 46.0 +4.4**
QZH AMB AMB
comp=Z,210nm,1.4s,mb5.8
QZH AMB AMB
comp=Z,2µm,4.6s
QZH LR LR
comp=N,960nm,10.8s,MS5.1
QZH LR LR
comp=E,2µm,14.5s,MS5.1
QZH LR LR
comp=Z,2µm,12.4s,MS5.0
MENT Mentasta 36.79 42 *e*P **P** **04 17 02.7 +0.8**
XAN Xi'an 37.10 267 P **P** **04 17 04.4 -0.2**
XAN PP PP 04 18 33.1 +3.8
XAN S **S** **04 22 44.8 -5.0**
XAN AMB AMB
comp=Z,54nm,2.0s,mb5.0
XAN AMB AMB
comp=Z,506nm,5.7s
XAN LR LR
comp=N,1µm,14.5s,MS5.1
XAN LR LR
comp=E,2µm,14.9s,MS5.1
XAN LR LR
comp=Z,3µm,14.9s,MS5.2
EGAK Eagle 37.81 39 *e*P **P** **04 17 09.5 -1.1**
comp=Z,82nm,0.9s,mb5.5
DAWY Dawson 38.63 40 *e*P **P** **04 17 16.9 -0.6**
LZH Lanzhou 39.45 273 ⇓P **P** **04 17 26.3 +2.0**
LZH AP pP 04 17 35.8 +5.4
LZH S **S** **04 23 22.3 -2.9**
LZH XS sS 04 23 32.0 -3.2
LZH *e*SS SS 04 26 06.0 -14
LZH AMB AMB
comp=Z,160nm,1.1s,mb5.7
LZH AMB AMB
comp=Z,580nm,4.1s
LZH LR LR
comp=E,5µm,14.1s
LZH LR LR
comp=Z,6µm,15.5s,MS5.5
LZH Lanzhou 39.45 273 ⇓P **P** **04 17 26.3 +2.0**
LZH *PP pP 04 17 35.8 +5.4
LZH *SP sP 04 17 40.1 +7.3
LZH S **S** **04 23 22.2 -3.0**
LZH *e*SS SS 04 26 06.0 -14
LZH pmax pmax
comp=Z,160nm,1.1s,mb5.7
LZH MLR MLR
comp=Z,6µm,15.5s,MS5.5
GTA Gaotai 40.48 280 *e*P **P** **04 17 34.0 +1.1**
GTA AP pP 04 17 37.8 -1.1
GTA XP sP 04 17 40.4 -1.0
GTA PP PP 04 19 11.6 +5.4
GTA PCP PcP 04 19 38.6 +3.2
GTA PCS PcS 04 23 27.3 +1.4
GTA S **S** **04 23 42.8 +2.2**
GTA XS sS 04 23 51.1 +0.5
GTA AMB AMB
comp=Z,50nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,793nm,6.1s
GTA LR LR
comp=N,3µm,13.7s,MS5.4
GTA LR LR
comp=E,3µm,13.7s,MS5.4
GTA LR LR
comp=Z,3µm,13.7s,MS5.3
INK Inuvik 40.58 33 P **P** **04 17 33.5 -0.3**
comp=Z,45nm,0.9s,mb5.1,baz=281,slow=7.2,SNR=64
INK Inuvik 40.58 33 *e*P **P** **04 17 33.5 -0.2**
comp=Z,2µm,1.0s
SKAG Skagway 41.35 46 *e*P **P** **04 17 40.3 +0.3**
comp=Z,20nm,0.8s,mb4.8
CD2 Chengdu 42.47 267 ⇓*i*P **P** **04 17 49.3 +0.1**
CD2 XP sP 04 17 56.3 -1.4
CD2 PP PP 04 19 30.6 +2.9
CD2 PCP PcP 04 19 42.9 +1.0
CD2 PCS PcS 04 23 33.6 -0.3
CD2 S **S** **04 24 10.0 -0.1**
CD2 XS sS 04 24 17.4 -2.7
CD2 SS SS 04 27 13.0 -6.7
CD2 SCS ScS 04 27 48.4 -1.5
CD2 AMB AMB
comp=Z,80nm,1.2s,mb5.2
CD2 AMB AMB
comp=Z,1µm,7.8s
CD2 LR LR
comp=N,2µm,15.6s,MS5.3
CD2 LR LR
comp=E,2µm,13.2s,MS5.3
CD2 LR LR
comp=Z,2µm,14.4s,MS5.2
GYA Guiyang 43.31 259 ⇓*i*P **P** **04 17 57.3 +1.3**
GYA AP pP 04 18 04.4 +2.3
GYA XP sP 04 18 07.5 +3.0
GYA PP PP 04 19 40.8 +4.0
GYA PCP PcP 04 19 46.9 +2.2
GYA SCP ScP 04 23 35.6 +0.7
GYA S **S** **04 24 20.5 -2.0**
GYA XS sS 04 24 34.8 +2.3
GYA SS SS 04 27 30.3 -5.9
GYA SCS ScS 04 27 54.0 -1.1
GYA AMB AMB
comp=Z,130nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,550nm,6.0s
GYA LR LR
comp=N,1µm,14.6s,MS5.1
GYA LR LR
comp=E,1µm,15.8s,MS5.1
GYA LR LR
comp=Z,2µm,15.2s,MS5.0
ZAL Zalesovo 43.74 306 P **P** **04 17 58.6 -0.9**
comp=Z,28nm,0.7s,mb5.1,baz=45,slow=6.5,SNR=40
ZAL PcP PcP 04 19 46.2 0.0
comp=Z,15nm,1.0s,baz=40,slow=4.5,SNR=4.6
ZAL LR LR 04 37 50.7
comp=Z,4µm,19.1s,MS5.4,baz=42,slow=38
ZAL Zalesovo 43.74 306 P **P** **04 17 58.6 -0.9**
ZAL 04 19 46.2
NVS Novosibirsk 44.27 308 *e*P **P** **04 18 02.9 -0.9**
NVS *e* 04 19 47.4
NVS *i*S **S** **04 24 31.2 -5.3**
NVS pmax pmax
comp=E,137nm,1.3s
NVS pmax pmax
comp=Z,164nm,1.3s,mb5.6
NVS pmax pmax
comp=Z,111nm,2.0s,mb5.2
NVS pmax pmax
comp=E,132nm,2.5s
NVS smax
comp=E,119nm,2.1s
DLBC Dease Lake 44.27 47 *e*P **P** **04 18 05.2 +1.4**
WMQ Urumqi 46.29 292 ⇑*i*P **P** **04 18 21.6 +1.8**
WMQ AP pP 04 18 26.1 +0.2
WMQ XP sP 04 18 28.6 +0.3
WMQ PCP PcP 04 19 57.3 +2.3
WMQ PP PP 04 20 10.4 +1.9
WMQ PPP 04 20 54.8
WMQ SCP ScP 04 23 48.8 +1.6
WMQ PCS PcS 04 23 50.4 +0.9
WMQ S **S** **04 25 07.3 +1.6**
WMQ XS sS 04 25 14.9 -0.9
WMQ AMB AMB
comp=Z,46nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,1µm,4.0s
WMQ LR LR
comp=N,5µm,20.8s,MS5.4
WMQ LR LR
comp=E,1µm,20.3s,MS5.4
WMQ LR LR
comp=Z,2µm,13.8s
QIZ Qiongzhong 46.41 249 P **P** **04 18 21.3 +0.6**
QIZ AP pP 04 18 28.9 +2.1
QIZ S **S** **04 25 09.5 +2.1**
QIZ XS sS 04 25 14.4 -3.1
QIZ SS SS 04 28 26.6 -6.5
QIZ AMB AMB
comp=Z,37nm,2.2s,mb4.9
QIZ AMB AMB
comp=Z,319nm,5.4s
QIZ LR LR
comp=N,1µm,15.2s
QIZ LR LR
comp=Z,986nm,15.4s,MS4.9
QIZ Qiongzhong 46.41 249 *e*P **P** **04 18 22.9 +2.2**
KMI Kunming 46.84 261 P **P** **04 18 25.4 +1.3**
KMI AP pP 04 18 31.6 +1.4
KMI XP sP 04 18 34.1 +1.5
KMI PP PP 04 20 17.3 +3.1
KMI PPP 04 21 02.3
KMI S **S** **04 25 16.8 +3.2**
KMI XS sS 04 25 24.4 +0.8
KMI AMB AMB
comp=Z,59nm,1.8s,mb5.2
KMI AMB AMB
comp=Z,679nm,3.9s
KMI LR LR
comp=N,2µm,12.2s,MS5.3
KMI LR LR
comp=E,1µm,13.4s,MS5.3
KMI LR LR
comp=Z,1µm,12.2s,MS5.1
KMI Kunming 46.84 261 P **P** **04 18 25.4 +1.3**
KMI *SP sP 04 18 34.1 +1.5
KMI 04 20 17.2
KMI PPP 04 21 02.3
KMI S **S** **04 25 16.7 +3.1**
KMI *SS sS 04 25 24.4 +0.8
KMI SS SS 04 28 39.0 -1.1
KMI pmax pmax
comp=Z,59nm,1.8s,mb5.2
KMI MLR MLR
comp=Z,1µm,12.2s,MS5.1
KMI Kunming 46.84 261 P **P** **04 18 25.4 +1.3**
comp=Z,59nm,1.8s,mb5.2
KMI pP pP 04 18 31.6 +1.4
KMI sP sP 04 18 34.1 +1.5
KMI PP PP 04 20 17.2 +3.0
KMI PPP 04 21 02.3
KMI S **S** **04 25 16.7 +3.1**
KMI sS sS 04 25 24.4 +0.8
KMI SS SS 04 28 39.0 -1.1
KMI SSS 04 29 51.3
KMI LR LR
comp=Z,1µm,12.2s,MS5.1
MK31 Makanchi Array 48.21 298 *i*P **P** **04 18 34.7 0.0**
MK31 pmax pmax
comp=Z,31nm,0.6s,mb5.5
MK31 Makanchi Array 48.21 298 *e*P **P** **04 18 34.2 -0.6**
MKAR Makanchi Array 48.21 298 P **P** **04 18 34.4 -0.4**
comp=Z,22nm,0.7s,mb5.3,baz=69,slow=7.7,SNR=94
MKAR PcP PcP 04 20 02.3 +0.6
comp=Z,7.1nm,0.9s,baz=55,slow=6.0,SNR=2.1
MKAR LR LR 04 40 01.2
comp=Z,1µm,20.9s,MS4.9,baz=54,slow=38
MKAR Makanchi Array 48.21 298 P **P** **04 18 34.4 -0.3**
MKAR 04 20 02.3
KURK Kurchatov 48.52 304 P **P** **04 18 36.6 -0.5**
comp=Z,1µm,0.8s,SNR=45
KURK Kurchatov 48.52 304 P **P** **04 18 37.1 0.0**
KURK pmax pmax
comp=Z,135nm,0.9s,mb6.0
KURK Kurchatov 48.52 304 ⇑*e*P **P** **04 18 37.1 0.0**
ALE Alert 49.31 6 P **P** **04 18 43.0 -0.2**
comp=Z,233nm,1.1s,mb6.1,SNR=13
YKW3 Yellowknife Ar 49.73 37 *e*P **P** **04 18 46.2 -0.1**
YKA Yellowknife Ar 49.76 37 P **P** **04 18 46.0 -0.6**
comp=Z,20nm,0.9s,mb5.1,baz=295,slow=7.3,SNR=14
YKA Yellowknife Ar 49.76 37 P **P** **04 18 46.0 -0.6**
RES Resolute Bay 50.08 19 *e*P **P** **04 18 49.4 +0.4**
comp=Z,870nm,1.0s
CHKZ Chkalovo 51.46 311 P **P** **04 18 58.4 -1.0**
CHKZ pmax pmax
comp=Z,29nm,0.5s,mb5.5
CHKZ Chkalovo 51.46 311 *e*P **P** **04 18 58.5 -0.9**
VOSK Vostochnaya 51.74 310 P **P** **04 19 00.6 -0.9**
VOSK pmax pmax
comp=Z,45nm,0.8s,mb5.5
LSA Lhasa 51.83 275 P **P** **04 19 04.4 +2.2**
LSA PP PP 04 21 04.5 +4.5
LSA PCS PcS 04 24 14.5 +1.4
LSA S **S** **04 26 26.5 +3.0**
LSA SCS ScS 04 28 55.1 +3.8
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.3
LSA AMB AMB
comp=Z,630nm,8.1s
LSA LR LR

comp=N,600nm,14.4s,MS5.1
LSA LR LR
comp=E,1µm,14.4s,MS5.1
LSA LR LR
comp=Z,2µm,13.2s,MS5.2
LSA Lhasa 51.83 275 *e*P **P 04 19 04.9 +2.7**
LSA pmax pmax
comp=Z,25nm,0.7s,mb5.2
LSA Lhasa 51.83 275 *e*P **P 04 19 04.9 +2.7**
comp=Z,25nm,0.7s,mb5.3
BVA0 Borovoye Array 51.90 310 *i* P **P 04 19 02.6 -0.1**
BVA0 pmax pmax
comp=Z,27nm,1.1s,mb5.1
BVAR Borovoye Array 51.90 310 P **P 04 19 02.5 -0.3**
comp=Z,59nm,0.7s,mb5.6,baz=57,slow=8.0,SNR=162
BVAR PcP PcP 04 20 14.4 -0.9
comp=Z,12nm,0.8s,baz=25,slow=3.8,SNR=1.9
BRVK Borovoye 51.94 310 P **P 04 19 02.7 -0.3**
comp=Z,703nm,0.8s,SNR=28
BRVK Borovoye 51.94 310 P **P 04 19 03.4 +0.4**
SNR=30
BRVK Borovoye 51.94 310 P **P 04 19 03.4 +0.4**
SNR=30
BRVK Borovoye 51.94 310 P **P 04 19 03.4 +0.4**
SNR=30
BRVK Borovoye 51.94 310 P **P 04 19 03.4 +0.4**
SNR=30
BRVK Borovoye 51.94 310 *e*P **P 04 19 02.6 -0.4**
KBS Kingsbay 52.47 352 *e*P **P 04 19 09.0 +2.1**
KBS AMS AMS 04 48 11.1
comp=Z,258nm,16.2s
KBS Kingsbay 52.47 352 *e*P **P 04 19 07.1 +0.2**
KBS pmax pmax
comp=Z,75nm,1.1s,mb5.5
KBS Kingsbay 52.47 352 *e*P **P 04 19 06.8 -0.1**
comp=Z,75nm,1.1s,mb5.5
SPB4 Spitsbergen Ar 52.62 350 *e*P **P 04 19 04.2 -3.9**
ZRNK Zerenda 52.66 311 *e*P **P 04 19 08.1 -0.3**
ZRNK pmax pmax
comp=Z,69nm,0.8s,mb5.6
ZRNK Zerenda 52.66 311 *e*P **P 04 19 08.1 -0.3**
comp=Z,69nm,0.8s,mb5.6
E04A Onalaska 53.50 58 ⇓P **P 04 19 16.0 +1.5**
baz=53
C05A Tolt Reservoir 53.50 57 ⇓P **P 04 19 15.1 +0.6**
baz=53
D05A Enumclaw 53.60 57 ⇑P **P 04 19 16.0 +0.7**
baz=53
CHG Chiang Mai 53.71 258 ⇓P **P 04 19 17.9 +1.8**
comp=Z,71nm,1.2s,mb5.5
CHTO Chiang Mai 53.71 258 P **P 04 19 17.8 +1.6**
SNR=37
CHTO Chiang Mai 53.71 258 P **P 04 19 17.8 +1.6**
SNR=37
CHTO Chiang Mai 53.71 258 P **P 04 19 17.8 +1.6**
SNR=37
CHTO Chiang Mai 53.71 258 P **P 04 19 17.8 +1.6**
SNR=37
CHTO Chiang Mai 53.71 258 P **P 04 19 18.2 +2.1**
CHTO pmax pmax
comp=Z,57nm,1.0s,mb5.5
CHTO Chiang Mai 53.71 258 *e*P **P 04 19 18.0 +1.9**
comp=Z,58nm,0.9s,mb5.5
SHL Shillong 53.95 270 *e*P **P 04 19 18.4 +0.5**
B07A Winthrop 53.98 55 ⇑P **P 04 19 17.4 -0.7**
baz=54
E05A Randle 54.07 58 ⇑P **P 04 19 18.5 -0.3**
baz=54
A08A Turner Farm, O 54.18 54 P **P 04 19 18.7 -0.9**
baz=54,SNR=5.4
D06A Cle Elum 54.26 57 ⇓P **P 04 19 19.8 -0.3**
baz=54
ULHL Ulahol 54.27 296 P **P 04 19 21.4 +1.2**
SNR=27
TKM2 Tokmak 2 54.29 297 P **P 04 19 21.9 +1.6**
SNR=38
C07A Waterville 54.43 56 ⇓P **P 04 19 20.6 -0.8**
baz=54
B08A Colville Reser 54.47 55 ⇑P **P 04 19 20.9 -0.8**
baz=54
A09A Danville 54.55 54 P **P 04 19 22.2 0.0**
baz=54,SNR=8.8
D07A Quincy 54.75 56 ⇑P **P 04 19 22.0 -1.7**
baz=54
CHMS Chumysh 54.76 298 P **P 04 19 25.7 +2.0**
SNR=14
USP Ospenovka 54.76 298 P **P 04 19 25.4 +1.6**
SNR=98
J02A Umpqua 54.77 62 ⇑P **P 04 19 23.6 -0.2**
baz=54
BDT Bhumibol Dam 54.78 257 P **P 04 19 25.5 +1.6**
KBK Karagaybulak 54.83 297 P **P 04 19 25.7 +1.5**
SNR=27
H04A Detroit Lake 54.86 60 ⇓P **P 04 19 23.8 -0.7**
baz=55
SOKR Solikamsk 54.86 322 *i* P **P 04 19 24.7 +0.2**
SOKR S **S 04 27 00.3 -4.4**
SOKR pmax pmax
comp=Z,90nm,1.1s,mb5.7
FRU Bishkek 54.93 297 *i* P **P 04 19 26.0 +1.0**
FRU pmax pmax
comp=Z,240nm,2.0s,mb5.9
C08A Higginbotham F 54.95 55 ⇓P **P 04 19 24.9 -0.2**
baz=55
KZA Kyzart 54.97 296 P **P 04 19 27.8 +2.5**
SNR=25
EDM Edmonton 54.99 47 *e*P **P 04 19 25.0 -0.4**
EDM Edmonton 54.99 47 *e*P **P 04 19 24.5 -0.9**
F06A Goldendale 55.08 58 ⇑P **P 04 19 25.6 -0.4**
baz=55
B09A Rice 55.10 54 ⇓P **P 04 19 25.8 -0.4**
baz=55
AAK Ala-Archa 55.12 297 P **P 04 19 26.2 -0.2**
comp=Z,265nm,1.0s,mb6.2,SNR=38
AAK Ala-Archa 55.12 297 P **P 04 19 27.8 +1.4**
SNR=40
AAK Ala-Archa 55.12 297 *e*P **P 04 19 26.1 -0.3**
AAK pmax pmax
comp=Z,45nm,0.9s,mb5.5
AAK Ala-Archa 55.12 297 *e*P **P 04 19 26.1 -0.3**
comp=Z,45nm,0.9s,mb5.5
J03A Ideyld Park 55.13 62 ⇓P **P 04 19 26.7 +0.2**
baz=55
K02A Glendale 55.16 62 ⇑P **P 04 19 27.2 +0.5**
baz=55
NST Nakhon Sawan 55.16 255 P **P 04 19 28.5 +1.8**
comp=Z,43nm,0.4s,mb5.8
E07A Sunnyside 55.17 57 ⇓P **P 04 19 26.7 0.0**
baz=55
I04A Tendick Farm, 55.23 61 P **P 04 19 27.9 +0.7**
baz=55,SNR=5.2
UCH Uchtor 55.34 297 P **P 04 19 29.7 +1.7**
SNR=13
C09A Chrisman Ranch 55.37 55 ⇓P **P 04 19 27.1 -1.1**
baz=55
D08A Wollman Farm, 55.42 56 ⇑P **P 04 19 27.5 -1.1**
baz=55
L02A Cave Junction 55.44 63 ⇓P **P 04 19 28.8 +0.1**
baz=55
H05A Madras 55.45 59 ⇓P **P 04 19 28.6 -0.1**
baz=55
G06A Carlson Farm, 55.46 59 ⇑P **P 04 19 28.8 0.0**
baz=55
F07A Phinny Hill Vi 55.50 58 ⇑P **P 04 19 28.5 -0.6**
baz=55
EKS2 Erkin-Say 55.54 298 P **P 04 19 30.9 +1.5**
SNR=42
E08A Dider Farm, El 55.66 57 ⇑P **P 04 19 29.1 -1.2**
baz=55
B10A Chitwood Farm, 55.68 54 ⇑P **P 04 19 29.7 -0.7**
baz=55
I05A Bend 55.70 60 ⇑P **P 04 19 30.4 -0.1**
baz=55
J04A Umpqua Nationa 55.72 61 ⇑P **P 04 19 30.6 -0.1**
baz=56,SNR=6.4
NEW Newport 55.75 54 P **P 04 19 29.3 -1.6**
comp=Z,3.9nm,0.8s,mb4.5,baz=248,slow=7.4,SNR=5.3
NEW Newport 55.75 54 *e*P **P 04 19 30.4 -0.5**
NEW pmax pmax
comp=Z,40nm,1.7s
D09A Jones Farm, Ri 55.77 56 ⇓P **P 04 19 30.0 -1.1**
baz=56
A11A Hall Mountain, 55.78 53 ⇑P **P 04 19 30.9 -0.2**
baz=56
ARU Arti 55.87 318 P **P 04 19 31.2 -0.6**
comp=Z,739nm,0.6s,SNR=16
ARU Arti 55.87 318 ⇓*i*P **P 04 19 31.1 -0.7**
ARU *e* 04 20 28.6
ARU *e* 04 21 33.4
ARU *e*S **S 04 27 17.5 -0.7**
ARU *e*SS SS 04 30 59.7 -4.3
ARU pmax pmax
comp=Z,92nm,0.8s,mb5.9
ARU MLR MLR
comp=Z,1µm,20.0s,MS5.0
ARU MLR MLR
comp=N,400nm,15.0s,MS5.0
ARU MLR MLR
comp=E,1µm,18.0s,MS5.0
ARU Arti 55.87 318 *e*P **P 04 19 31.2 -0.5**
comp=E,88nm,0.7s,mb5.9
AML Almayashu 55.89 297 P **P 04 19 33.7 +1.8**
SNR=21
C10A Spilker Farm, 55.90 54 ⇑P **P 04 19 31.5 -0.5**
baz=56
H06A Lindquist Farm 55.92 59 ⇑P **P 04 19 31.6 -0.6**
baz=56
KSH Kashi 56.00 293 P **P 04 19 34.8 +2.1**
KSH *e*AP pP 04 19 39.3 +0.4
KSH *e*XP sP 04 19 42.9 +1.6
KSH *e*PCP PcP 04 20 33.6 +2.7
KSH *e*PP PP 04 21 40.3 +2.8
KSH *e*PPP 04 22 55.0
KSH *e*SCP ScP 04 24 34.0 +5.0
KSH *e*S **S 04 27 19.8 -0.1**
KSH *e*XS sS 04 27 28.5 -1.7
KSH *e*PS 04 27 40.8
KSH *e*SCS ScS 04 29 20.1 -0.8
KSH *e*SS SS 04 31 03.8 -2.2
KSH LR LR
comp=N,3µm,10.6s,MS6.2
KSH LR LR
comp=E,11µm,12.4s,MS6.2
KSH LR LR
comp=Z,8µm,14.8s,MS5.9
G07A Ruggs Ranch, H 56.01 58 ⇓P **P 04 19 31.6 -1.2**
baz=56
B11A Sandpoint 56.07 53 ⇑P **P 04 19 31.6 -1.6**
baz=56
KHMM Horse Mountain 56.09 64 *e*P **P 04 19 33.6 +0.2**
E09A Wood Farm, Sta 56.17 56 P **P 04 19 33.5 -0.4**
baz=56,SNR=7.4
A12A Yaak River Ran 56.18 53 ⇑P **P 04 19 33.4 -0.5**
baz=56
F08A Pendleton 56.22 57 ⇑P **P 04 19 33.4 -0.9**
baz=56
J05A Fort Rock 56.22 61 P **P 04 19 34.9 +0.6**
baz=56,SNR=9.5
YBH Yreka Blue Hor 56.23 63 *e*P **P 04 19 35.5 +1.2**
YBH pmax pmax
comp=Z,66nm,1.7s
YBH Yreka Blue Hor 56.23 63 *e*P **P 04 19 35.5 +1.2**
comp=Z,66nm,1.7s,mb5.4
YBH Yreka Blue Hor 56.23 63 ⇓P **P 04 19 35.0 +0.7**
baz=56,SNR=5.1
M02C Callahan 56.33 63 ⇑P **P 04 19 35.4 +0.3**
baz=56
HNR Honiara 56.34 175 LR LR 04 41 30.1
comp=Z,1µm,19.2s,MS5.0,baz=2.8,slow=34
N02C Big Bar 56.39 64 ⇑P **P 04 19 35.6 +0.2**
baz=56
G08A Pilot Rock 56.40 58 ⇓P **P 04 19 35.3 -0.3**
baz=56
DAG Danmarks Havn 56.43 358 ⇑*i*P **P 04 19 35.0 -0.8**
comp=Z,33nm,1.2s,mb5.2
DAG Danmarks Havn 56.43 358 ⇑*i*P **P 04 19 35.0 -0.8**
DAG pmax pmax
comp=Z,33nm,1.2s,mb5.2
I06A Prineville 56.45 60 ⇓P **P 04 19 35.9 +0.1**
baz=56,SNR=5.5
L04A Klamath Falls 56.47 62 ⇑P **P 04 19 36.4 +0.4**
baz=56
B12A Libby 56.48 53 ⇓P **P 04 19 36.3 +0.2**
baz=56
JIRN Jiri 56.49 276 *e*P **P 04 19 37.4 +1.2**
comp=Z,65nm,0.7s,mb5.8
GUN Gumba 56.54 276 *e*P **P 04 19 37.6 +1.1**
comp=Z,39nm,0.6s,mb5.6
PMG Port Moresby 56.65 190 P **P 04 19 38.9 +1.6**
comp=Z,25nm,0.9s,mb5.3,baz=11,slow=5.8,SNR=9.9
PMG Port Moresby 56.65 190 P **P 04 19 38.9 +1.6**
PMG pmax pmax
comp=Z,25nm,0.9s
PMG Port Moresby 56.65 190 *e*P **P 04 19 37.2 -0.1**
comp=Z,28nm,0.9s,mb5.3
M04C Macdoel 56.73 63 ⇑P **P 04 19 37.7 -0.2**
baz=56
K05A Summer Lake 56.75 61 ⇑P **P 04 19 38.8 +0.8**
baz=56,SNR=6.9
F09A S2 Ranch, Elgi 56.77 57 ⇓P **P 04 19 38.0 -0.1**
baz=56
E10A Myers Farm, Un 56.77 56 ⇓P **P 04 19 38.0 -0.2**
baz=56
I07A Izee 56.78 59 P **P 04 19 38.6 +0.3**
baz=56,SNR=7.6
M03C McCloud 56.85 63 ⇓P **P 04 19 39.3 +0.6**
baz=57
D11A Klaveano Farm, 56.88 55 ⇑P **P 04 19 38.1 -0.9**
baz=57
C12A Trout Creek 56.98 54 P **P 04 19 39.7 0.0**
baz=57,SNR=6.0
WDC Whiskeytown Da 57.00 64 *e*P **P 04 19 40.5 +0.7**
WDC Whiskeytown Da 57.00 64 ⇑P **P 04 19 39.7 -0.1**
baz=57
F10A Beach Ranch, E 57.00 56 ⇓P **P 04 19 39.4 -0.5**
baz=57
H08A Prairie City 57.02 58 P **P 04 19 40.1 +0.2**
baz=57,SNR=9.1
KKN Kakani 57.02 277 *e*P **P 04 19 41.2 +1.2**
comp=Z,119nm,1.0s,mb5.9
WALA Waterton Lakes 57.05 52 *e*P **P 04 19 40.1 0.0**
comp=Z,26nm,1.2s,mb5.1
PKI Pulchoki 57.08 276 *e*P **P 04 19 41.3 +0.9**
comp=Z,70nm,0.8s,mb5.7
O02C Red Bluff 57.09 65 ⇑P **P 04 19 40.7 +0.3**
baz=57
K06A Valley Falls 57.09 61 P **P 04 19 41.0 +0.5**
baz=57,SNR=10.0
LVZ Lovozero 57.14 337 *e*P **P 04 19 39.8 -1.0**
LVZ *e*S **S 04 27 32.2 -2.8**
LVZ pmax pmax
comp=Z,84nm,1.5s,mb5.5
LVZ pmax pmax
comp=N,13nm,1.1s
LVZ pmax pmax
comp=E,7.0nm,1.0s
LVZ smax
comp=N,147nm,10.9s
LVZ smax
comp=Z,71nm,7.3s
LVZ smax
comp=E,378nm,17.5s
LVZ MLR MLR
comp=Z,3µm,23.0s,MS5.3
LVZ MLR MLR
comp=N,2µm,19.0s,MS5.3
LVZ MLR MLR
comp=E,725nm,17.0s,MS5.3
LVZ Lovozero 57.14 337 *i* P **P 04 19 39.9 -0.9**
B13A Whitefish 57.15 53 P **P 04 19 40.9 +0.1**
baz=57,SNR=9.0
L05A Lakeview 57.18 62 P **P 04 19 42.4 +1.3**
baz=57,SNR=8.2
KK31 Karatay Array 57.24 300 *i* P **P 04 19 41.0 -0.5**
KKAR Karatay Array 57.24 300 *i* P **P 04 19 41.0 -0.5**
KKAR pmax pmax
comp=Z,22nm,0.7s,mb5.3
DMN Daman 57.26 277 *e*P **P 04 19 42.6 +1.0**
comp=Z,185nm,1.0s,mb6.1
BSMT Bassoo Peak 57.27 53 *e*P **P 04 19 42.3 +0.5**
J07A Hines 57.31 60 ⇑P **P 04 19 42.5 +0.5**
baz=57
GKN Gorkha 57.33 277 *e*P **P 04 19 43.2 +1.1**
comp=Z,185nm,1.0s,mb6.0
M05C Lookout 57.40 63 P **P 04 19 43.9 +1.2**
baz=57,SNR=6.0
I08A Drewsey 57.43 59 P **P 04 19 43.7 +0.9**
baz=57,SNR=7.0
GASB Alder Springs 57.44 65 ⇓P **P 04 19 43.9 +0.9**
baz=57
C13A Hot Springs 57.49 53 ⇓P **P 04 19 43.7 +0.4**
baz=57
H09A Durkee 57.52 58 ⇑P **P 04 19 44.1 +0.6**
baz=57
MOD Modoc 57.58 62 *e*P **P 04 19 44.3 +0.4**
comp=Z,5.9nm,0.8s,mb4.7
MOD Modoc 57.58 62 P **P 04 19 44.4 +0.4**
baz=57,SNR=6.9
KEV Kevo 57.61 341 *e*p **P 04 19 42.6 -1.5**
BMO Blue Mountains 57.61 57 *e*P **P 04 19 44.2 +0.1**
comp=Z,5.8nm,0.7s,mb4.7
O03C Acorn Hollow, 57.66 64 ⇓P **P 04 19 44.4 -0.1**
baz=57
F11A Grangeville 57.66 56 P **P 04 19 44.4 0.0**
baz=57,SNR=5.7
APA Apatity 57.71 337 ⇓*i*P **P 04 19 44.0 -0.8**
APA *i* 04 19 53.8
APA *e* 04 27 44.0
APA pmax pmax
comp=Z,110nm,1.5s,mb5.7
APA MLR MLR
comp=Z,3µm,18.0s,MS5.5
K07A Rock Creek Ran 57.75 60 P **P 04 19 45.5 +0.4**
baz=58,SNR=6.6
J08A Circle Bar Ran 57.81 59 P **P 04 19 45.9 +0.3**
baz=58,SNR=5.4
I09A Lost Marbles R 57.88 58 P **P 04 19 46.7 +0.7**
baz=58,SNR=5.8
G11A Walters Elk Ra 57.88 56 ⇑P **P 04 19 45.5 -0.6**
baz=58
C14A Swan Lake 57.89 53 ⇓P **P 04 19 45.7 -0.4**
baz=58
M06C Likely Place G 57.89 62 ⇑P **P 04 19 46.1 0.0**
baz=58
D13A Huson 57.90 54 ⇓P **P 04 19 45.7 -0.5**
baz=58
O04C Chester 58.05 64 P **P 04 19 48.1 +0.9**
baz=58,SNR=6.0
MNRC McLaughlin Nat 58.07 66 ⇑P **P 04 19 46.9 -0.5**
baz=58
L07A Adell 58.09 61 ⇑P **P 04 19 47.8 +0.3**
baz=58
ARCES ARCESS Array B 58.11 341 P **P 04 19 47.5 -0.2**
comp=Z,12nm,0.7s,mb5.0,baz=40,slow=7.9,SNR=36
ARCES LR LR 04 48 18.8
comp=Z,3µm,21.1s,MS5.4,baz=36,slow=40
K08A Mann Creek Ran 58.18 60 P **P 04 19 48.2 +0.2**
baz=58,SNR=9.1
KOLN Koldanda 58.18 278 *e*P **P 04 19 49.3 +1.2**
comp=Z,140nm,1.0s,mb6.0
J09A Fry Pan Ranch, 58.24 59 ⇓P **P 04 19 48.6 +0.1**
baz=58,SNR=9.4
ORV Oroville 58.25 64 P **P 04 19 48.2 -0.5**
baz=58,SNR=5.2
WVOR Wild Horse Val 58.27 60 P **P 04 19 49.3 +0.6**
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.8
WVOR Wild Horse Val 58.27 60 *e*P **P 04 19 48.7 0.0**
comp=Z,9.8nm,1.0s,mb4.8
MSO Missoula 58.34 54 *e*P **P 04 19 49.2 0.0**
comp=Z,3.8nm,0.6s,mb4.6
O05C Quincy 58.37 64 ⇓P **P 04 19 49.0 -0.4**
baz=58
CAL Calcutta 58.38 270 *e*P **P 04 19 52.1 +2.6**
CAL *e*S **S 04 27 55.9 +4.6**
OHCM Honcut 58.39 65 *e*P **P 04 19 49.3 -0.3**
D14A Greenough 58.43 53 P **P 04 19 49.9 0.0**
baz=58,SNR=18
E13A Victor 58.44 54 ⇑P **P 04 19 49.1 -0.8**
baz=58
H11A Donnelly 58.44 57 P **P 04 19 49.6 -0.4**
baz=58,SNR=23
N06A Buffalo Meadow 58.55 62 ⇓P **P 04 19 50.9 +0.2**
baz=58,SNR=6.5
M07A Soldier Meadow 58.57 62 P **P 04 19 51.8 +1.0**
baz=58,SNR=11
L08A Fields 58.59 60 P **P 04 19 51.2 +0.3**
baz=58,SNR=5.3
K09A Rome 58.65 60 ⇓P **P 04 19 51.3 -0.1**
baz=58
CHMT Chamberlain Mo 58.67 53 *e*P **P 04 19 51.3 -0.2**
F13A Darby 58.75 55 P **P 04 19 51.2 -0.9**
baz=58,SNR=8.7
BEKR Beckwourth 58.77 64 P **P 04 19 52.6 +0.4**
baz=58,SNR=6.5
TMCR Tamitsa 58.82 333 *i* P **P 04 19 53.0 +0.4**
E14A Clinton 58.84 54 P **P 04 19 52.6 -0.1**
baz=59,SNR=8.9
P05C Yuba Gap, Truc 58.95 64 ⇑P **P 04 19 53.0 -0.5**
baz=59
D15A Lincoln 58.99 53 ⇓P **P 04 19 53.6 -0.2**
baz=59
KTK1 Kautokeino 59.02 342 *e*P **P 04 19 55.7 +1.8**
KTK1 AMb AMB 04 19 57.8
comp=Z,94nm,1.8s,mb5.5
KTK1 Kautokeino 59.02 342 *e*P **P 04 19 55.7 +1.8**
comp=Z,94nm,1.8s,mb5.5
N07B Gerlach 59.06 62 ⇑P **P 04 19 54.2 0.0**
baz=59
L09A Wilkinson Ranc 59.09 60 P **P 04 19 54.9 +0.5**
baz=59,SNR=6.6
LAVA Lava Cap Winer 59.21 65 ⇑P **P 04 19 55.0 -0.2**
baz=59
BOK Bokaro 59.21 273 *e*P **P 04 19 56.5 +1.2**
BOK AML AML 04 20 00.9
comp=Z,52nm,1.9s
WENL Wente Brothers 59.27 66 ⇓P **P 04 19 56.1 +0.4**
baz=59
F14A Wisdom 59.27 54 ⇓P **P 04 19 55.2 -0.5**
baz=59
E15A Deer Lodge 59.30 54 P **P 04 19 56.0 +0.1**
baz=59,SNR=10
BNLO Ben Lomond (Sa 59.30 67 ⇓P **P 04 19 55.0 -0.9**
baz=59
LGTI Lohaghat 59.37 282 *e*P **P 04 20 00.0 +3.6**
TRO Tromso 59.38 344 *e*P **P 04 19 58.9 +2.4**
TRO AMS AMS 04 45 00.3
comp=Z,281nm,22.0s,MS4.3
R04C Big Horse Ranc 59.39 65 ⇑P **P 04 19 56.0 -0.5**
baz=59
WCN Washoe City 59.48 64 ⇓P **P 04 19 57.1 -0.1**
baz=59
O07A Toulon 59.49 63 ⇑P **P 04 19 57.7 +0.5**
baz=59,SNR=8.2
FFC Flin Flon 59.51 41 P **P 04 19 56.4 -1.0**
comp=Z,119nm,1.0s,mb5.9,SNR=9.9
FFC Flin Flon 59.51 41 P **P 04 19 56.9 -0.5**
N08A GE Springer Mi 59.56 62 P **P 04 19 58.0 +0.2**
baz=59,SNR=5.9
M09A Marrel Ranch, 59.58 61 ⇓P **P 04 19 58.1 +0.3**
baz=59
S04C Ingram Canyon, 59.61 66 ⇑P **P 04 19 58.1 +0.1**
baz=59
R05C Kirkwood Meado 59.65 64 ⇓P **P 04 19 58.7 +0.4**
baz=59
AKTK Aktyubinsk 59.71 313 P **P 04 19 58.6 -0.2**
AKTO Aktyubinsk 59.71 313 P **P 04 19 58.6 -0.2**
comp=Z,17nm,0.7s,mb5.2,baz=58,slow=7.8,SNR=33
AKTO Aktyubinsk 59.71 313 P **P 04 19 58.6 -0.1**
AKTO pmax pmax
comp=Z,17nm,0.7s,mb5.2
F15A Butte 59.74 54 P **P 04 19 58.9 -0.1**
baz=60,SNR=11
LRM Limekiln Ridge 59.77 54 *e*P **P 04 19 59.5 +0.3**
CMB Columbia Colle 59.87 65 *e*P **P 04 20 00.1 +0.3**
CMB pmax pmax
comp=Z,28nm,1.5s,mb5.1
CMB Columbia Colle 59.87 65 *e*P **P 04 20 00.1 +0.3**
comp=Z,28nm,1.5s,mb5.1
CMB Columbia Colle 59.87 65 P **P 04 20 00.2 +0.4**
baz=60,SNR=9.0
EGMT Eagleton 59.88 51 *e*P **P 04 19 59.2 -0.7**
comp=Z,26nm,1.1s,mb5.2
EGMT Eagleton 59.88 51 ⇑P **P 04 19 59.3 -0.7**
baz=60
N09A Rock Creek Ran 59.88 61 P **P 04 20 00.3 +0.4**
baz=60,SNR=8.6
KSM Kuching 59.91 235 *e*P **P 04 20 01.6 +1.6**
PACP Pacheco Peak 59.94 67 P **P 04 20 00.9 +0.6**
baz=60,SNR=6.7
HLID Hailey 60.05 57 *e*P **P 04 20 01.5 +0.5**
HLID Hailey 60.05 57 P **P 04 20 01.7 +0.6**
baz=60,SNR=8.2
M10A I.L. Ranch, Tu 60.06 60 P **P 04 20 02.1 +1.0**
baz=60,SNR=7.7
R06C Coleville 60.15 64 ⇓P **P 04 20 02.0 +0.2**
baz=60,SNR=6.3
G15A Dillon 60.15 55 P **P 04 20 01.6 -0.2**
baz=60,SNR=6.7
HAST UC Hastings Re 60.16 67 ⇓P **P 04 20 01.7 -0.1**
baz=60

MCMT McKenzie Canyo 60.16 55 *e*P P 04 20 01.5 -0.3
WAKR Walker 60.16 64 *e*P P 04 20 02.2 +0.3
S06C San Francisco 60.30 65 P P 04 20 02.7 -0.1
baz=60,SNR=13
BMN Battle Mountai 60.33 61 *e*P P 04 20 03.4 +0.4
BMN pmax pmax
comp=Z,30nm,1.4s,mb5.1
BMN Battle Mountai 60.33 61 *e*P P 04 20 03.4 +0.4
comp=Z,30nm,1.4s,mb5.1
O09A Fish Creek Ran 60.51 62 P P 04 20 04.9 +0.7
baz=60,SNR=5.8
M11A Holland Ranch, 60.56 60 ⇓P P 04 20 04.8 +0.3
baz=60,SNR=7.3
ORR Orenburg 60.57 315 *e*P P 04 20 03.7 -1.0
ORR pmax pmax
comp=Z,110nm,1.1s,mb5.9
ORR MLR MLR
comp=Z,2μm,14.0s,MS5.4
V03C Hunter Liggett 60.58 68 ⇓P P 04 20 04.9 +0.2
baz=60
U04C Hernandez Rese 60.66 67 ⇓P P 04 20 05.1 -0.1
baz=60
R07C Lee Vining 60.66 64 ⇓P P 04 20 05.4 +0.1
baz=60
O10A Cortez Mining, 60.84 61 ⇓P P 04 20 06.7 +0.2
baz=61
Q08A Gabbs 60.87 63 ⇓P P 04 20 06.6 -0.1
baz=61,SNR=8.0
NVAR Mina Array Bea 60.91 64 P P 04 20 07.0 0.0
comp=Z,2.9nm,0.7s,mb4.5,baz=294,slow=7.4,SNR=18
P09A Austin 60.92 62 ⇑P P 04 20 06.5 -0.5
baz=61
T06C Millerton Lake 60.93 66 P P 04 20 07.1 0.0
baz=61,SNR=5.9
QLMT Earthquake Lak 60.95 54 *e*P P 04 20 07.6 +0.3
KCC Kaiser Creek 60.97 65 ⇑P P 04 20 07.4 0.0
baz=61
N11A Elko Archery C 60.97 60 ⇑P P 04 20 07.1 -0.3
baz=61
V04C Ramage Ranch, 61.06 68 ⇑P P 04 20 08.7 +0.8
baz=61
PKD Parkfield 61.07 67 ⇑P P 04 20 08.2 +0.2
baz=61
R08A Mina 61.08 64 ⇓P P 04 20 08.1 -0.1
baz=61
M12A Wells 61.09 59 P P 04 20 09.2 +1.1
baz=61,SNR=11
P10A Eureka 61.28 62 ⇓P P 04 20 09.8 +0.3
baz=61
NIL Nilore 61.31 290 P P 04 20 11.8 +2.2
comp=Z,206nm,0.8s,mb6.3,SNR=8.8
YMR Madison River 61.31 54 *e*P P 04 20 10.0 +0.3
comp=Z,33nm,1.4s,mb5.3
GCMT Greycliff 61.32 53 *e*P P 04 20 10.0 +0.3
Q09A Carvers 61.34 63 ⇑P P 04 20 10.1 +0.2
baz=61
N12A Clover Valley, 61.37 60 P P 04 20 10.6 +0.5
baz=61,SNR=5.2
MTUM Tungsten Hills 61.42 65 *e*P P 04 20 11.2 +0.8
YNR Norris Junctio 61.44 54 *e*P P 04 20 12.6 +2.0
O11A Cowboy Ranch, 61.45 61 P P 04 20 11.0 +0.4
baz=61,SNR=5.2
PTRM Twissleman Ran 61.46 67 *e*P P 04 20 10.5 -0.1
YFT Old Faithful 61.52 54 *e*P P 04 20 12.5 +1.4
HELL Mitchell Peak, 61.56 66 P P 04 20 10.7 -0.6
baz=61,SNR=13
M13A Montello 61.56 59 P P 04 20 12.1 +0.7
baz=61,SNR=7.0
S08C White Mtn Res 61.57 65 P P 04 20 12.6 +1.1
baz=61,SNR=5.9
P11A Circle Ranch, 61.75 61 ⇑P P 04 20 13.9 +1.2
baz=62
R09A Tonopah 61.78 63 P P 04 20 12.8 0.0
baz=62,SNR=16
IMW Indian Meadow 61.81 55 *e*P P 04 20 13.7 +0.7
comp=Z,24nm,1.2s,mb5.2
SMMC Simmler 61.81 67 ⇓P P 04 20 13.7 +0.7
baz=62
FLWY Flagg Ranch 61.83 55 *e*P P 04 20 14.1 +0.9
comp=Z,24nm,1.3s,mb5.2
N13A Wendover, West 61.85 59 ⇓P P 04 20 13.6 +0.3
baz=62
DCID1 Drake Creek 61.87 55 *e*P P 04 20 13.9 +0.5
NDI New Delhi 61.88 283 *e*P P 04 20 10.0 -3.5
NDI *e*P 04 20 12.5
NDI AMb AMB 04 20 15.6
comp=Z,322nm,4.3s
NDI *e*S S 04 28 36.0 -0.3
O12A Currie 61.91 60 ⇑P P 04 20 13.6 -0.1
baz=62,SNR=10
RLMT Red Lodge 61.96 53 *e*P P 04 20 14.1 +0.1
comp=Z,21nm,1.2s,mb5.1
S09A Goldfield 62.01 64 ⇓P P 04 20 14.1 -0.3
baz=62,SNR=8.5
MOOW Moose Ponds 62.02 55 *e*P P 04 20 14.8 +0.4
comp=Z,23nm,1.5s,mb5.1
VES Vestal, Richgr 62.05 66 ⇑P P 04 20 14.4 -0.3
baz=62,SNR=5.8
TPAW Teton Pass 62.06 55 *e*P P 04 20 16.1 +1.3
LOHW Long Hollow 62.18 55 *e*P P 04 20 16.5 +1.0
comp=Z,34nm,1.5s,mb5.3
SNOW Snow King Moun 62.19 55 *e*P P 04 20 16.9 +1.4
comp=Z,21nm,1.0s,mb5.2
REDW Red Top Meadow 62.20 55 *e*P P 04 20 16.8 +1.1
comp=Z,24nm,1.1s,mb5.2
R10A Warm Springs 62.22 63 ⇑P P 04 20 15.7 0.0
baz=62
Q11A Duckwater 62.26 62 ⇓P P 04 20 15.8 -0.2
baz=62
CWC Cottonwood Cre 62.30 65 ⇑P P 04 20 16.6 +0.3
baz=62
P12A McGill 62.31 61 ⇓P P 04 20 16.2 -0.2
baz=62
GRAC Grapevine Rang 62.38 64 ⇓P P 04 20 16.5 -0.4
baz=62
DGMT Dagmar 62.47 48 *e*P P 04 20 17.6 +0.2
ISA Isabella 62.55 66 *e*P P 04 20 17.4 -0.6
ISA Isabella 62.55 66 ⇑P P 04 20 17.3 -0.7
baz=62
LAO LASA Array 62.59 50 *e*P P 04 20 18.6 +0.4
comp=Z,31nm,1.0s,mb5.4
SPUT South Promonto 62.59 58 *e*P P 04 20 16.0 -2.3
KULM Kulim 62.62 246 *e*P P 04 20 19.9 +1.4
Q12A Willow Creek R 62.63 61 ⇑P P 04 20 18.6 +0.1
baz=62
ARVC Arvin 62.67 67 ⇑P P 04 20 18.6 -0.2
baz=62
MPMC Manual Prospec 62.91 65 P P 04 20 20.2 -0.1
baz=63,SNR=10
HWUT Hardware Ranch 62.91 57 *e*P P 04 20 21.0 +0.6
KAKA Kakadu 62.92 205 *e*P P 04 20 20.1 -0.3
comp=Z,44nm,0.8s,mb5.6
KAKA *e*pP pP 04 20 29.7 +3.0
FURC Furnace Creek, 63.04 65 P P 04 20 21.7 +0.5
baz=63,SNR=7.5
OSI Osito Adit 63.06 67 ⇓P P 04 20 20.8 -0.6
baz=63
DUG Dugway 63.09 59 P P 04 20 22.1 +0.5
DUG pmax pmax
comp=Z,19nm,1.2s,mb5.1
DUG Dugway 63.09 59 *e*P P 04 20 21.6 0.0
comp=Z,19nm,1.3s,mb5.1
DUG Dugway 63.09 59 P P 04 20 21.9 +0.3
baz=63,SNR=9.2
LRMC Laurel Mountai 63.16 66 P P 04 20 21.7 -0.3
baz=63,SNR=9.3
MOR8 Moi Rana 63.23 343 *e*P P 04 20 21.0 -1.6
MOR8 AMb AMB 04 20 25.0
comp=Z,57nm,0.9s,mb5.7
MOR8 Moi Rana 63.23 343 *e*P P 04 20 23.5 +1.0
comp=Z,57nm,0.9s,mb5.7
PDAR Pinedale Array 63.31 55 P P 04 20 22.4 -0.6
comp=Z,9.7nm,1.0s,mb4.9,baz=283,slow=2.5,SNR=39
EDW2 Edwards Air Fo 63.35 67 P P 04 20 23.4 +0.1
baz=63,SNR=12
U10A Ash Meadows, A 63.40 64 ⇓P P 04 20 23.8 +0.2
baz=63
DECC Green Verdugo 63.55 67 ⇓P P 04 20 25.0 +0.4
baz=63
JLU Jordanelle 63.63 58 *e*P P 04 20 25.8 +0.6
MWC Mount Wilson 63.73 67 *e*P P 04 20 26.0 +0.2
SHOC Shoshone 63.76 65 ⇓P P 04 20 25.7 -0.4
baz=64
GSC Goldstone 63.82 66 *e*P P 04 20 27.6 +1.2
GSC Goldstone 63.82 66 ⇑P P 04 20 26.2 -0.2
baz=64
DAU Daniels Canyon 63.86 58 *e*P P 04 20 27.7 +1.0

MPU Maple Canyon 63.90 59 *e*P P 04 20 27.2 +0.2
BFSC Mount Baldy St 63.98 67 ⇓P P 04 20 27.3 -0.2
baz=64
SHPR Sheep Range 64.06 64 *e*P P 04 20 28.2 +0.2
ARUT Antelope Range 64.27 62 P P 04 20 29.9 +0.5
ARUT Antelope Range 64.27 62 *e*P P 04 20 29.1 -0.3
TUQ Turquoise Mtn. 64.28 65 P P 04 20 29.8 +0.3
baz=64,SNR=5.8
V11A Goodsprings 64.33 64 ⇑P P 04 20 29.7 -0.1
baz=64
BBRC Big Bear Sol-O 64.42 67 ⇓P P 04 20 30.7 +0.3
baz=64
HEC Hector,Ludlow 64.42 66 ⇓P P 04 20 30.2 -0.2
baz=64
FIA1 FINESS Array S 64.46 336 *e*P P 04 20 30.9 +0.3
FINES FINESS Array B 64.46 336 P P 04 20 30.4 -0.2
comp=Z,12nm,0.5s,mb5.2,baz=36,slow=7.1,SNR=52
FINES LR LR 04 50 48.5
comp=Z,2μm,21.4s,MS5.2,baz=1.5,slow=38
CCUT Cedar City 64.47 62 *e*P P 04 20 31.1 +0.4
U12A Valley of Fire 64.49 63 ⇑P P 04 20 30.7 -0.1
baz=64
MSU Marysvale 64.56 60 *e*P P 04 20 31.7 +0.4
SFJD Kangerlussuaq 64.60 11 *i* P P 04 20 31.4 -0.1
MURC Murrieta 64.68 67 ⇑P P 04 20 31.5 -0.6
baz=64
V12A Nelson 64.76 64 ⇓P P 04 20 32.3 -0.2
baz=64,SNR=6.5
W12A Cal Nev Ari 65.02 64 ⇑P P 04 20 34.2 -0.1
baz=65
AJM Ajmer 65.05 283 *e*P P 04 20 35.3 +0.8
AJM AMb AMB 04 20 47.2
comp=Z,52nm,1.6s,mb5.3
VIS Vishakhapatnam 65.08 270 *e*P P 04 20 35.4 +0.7
VIS AMb AMB 04 20 38.5
comp=Z,41nm,1.6s,mb5.2
MOS Moscow 65.10 327 *e*P P 04 20 32.6 -2.2
MOS *e* 04 21 02.8
MOS *e*S S 04 29 16.0 -0.3
MOS pmax pmax
comp=Z,100nm,1.8s,mb5.5
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.1
SRU San Rafael 65.14 59 *e*P P 04 20 35.4 +0.4
PFO Pinyon Flat Ob 65.14 67 P P 04 20 35.0 -0.1
comp=Z,4.0nm,1.0s,baz=314,slow=11,SNR=5.9
PFO Pinyon Flat Ob 65.14 67 ⇓P P 04 20 35.2 +0.1
baz=65
BELC Belle Mtn. 65.17 66 P P 04 20 35.1 -0.2
baz=65,SNR=5.2
109C Camp Elliot, M 65.20 68 ⇓P P 04 20 35.4 -0.1
baz=64
ULM Lac du Bonnet 65.28 42 P P 04 20 34.7 -1.3
comp=Z,3.1nm,0.7s,mb4.4,baz=308,slow=7.8,SNR=5.4
ULM LR LR 04 48 45.8
comp=Z,547nm,18.6s,MS4.8,baz=313,slow=36
ULM Lac du Bonnet 65.28 42 P P 04 20 34.7 -1.3
ULM LR LR 04 48 45.8
RWWY Rawlins 65.33 55 *e*P P 04 20 35.9 -0.4
comp=Z,20nm,0.7s,mb5.2
BHPL Bhopal 65.34 278 *e*P P 04 20 37.0 +0.6
BHPL AMb AMB 04 20 39.2
comp=Z,74nm,1.6s,mb5.5
RSSD Black Hills 65.44 51 *e*P P 04 20 36.4 -0.6
RSSD pmax pmax
comp=Z,17nm,1.0s,mb5.0
RSSD Black Hills 65.44 51 *e*P P 04 20 36.4 -0.6
comp=Z,17nm,1.0s,mb5.0
IRM Iron Mountain 65.60 66 P P 04 20 38.2 +0.2
baz=65,SNR=12
BAR Barrett 65.62 68 *e*P P 04 20 38.2 +0.1
PSI Prapat 65.62 246 P P 04 20 39.7 +1.6
comp=Z,22nm,1.1s,mb5.1,baz=2.8,slow=4.7,SNR=13
PSI Prapat 65.62 246 P P 04 20 39.7 +1.6
MONP Monument Peak 65.64 67 ⇑P P 04 20 37.2 -1.0
baz=65
NGP Nagpur 65.66 275 *e*P P 04 20 38.8 +0.4
NGP AMb AMB 04 20 40.4
comp=Z,50nm,1.9s,mb5.2
BC3 Big Chuckw Mtn 65.74 66 P P 04 20 38.4 -0.5
baz=66,SNR=6.7
W13A Hualapai Mount 65.76 64 ⇓P P 04 20 37.8 -1.3
baz=66
OBN Obninsk 65.97 327 ⇑*i*P P 04 20 39.0 -1.4
OBN *e* 04 21 09.2
OBN *e* 04 23 02.0
OBN *e*S S 04 29 28.6 +1.6
OBN *e*SS SS 04 33 42.8 +0.7
OBN pmax pmax
comp=Z,138nm,2.5s,mb5.5
OBN MLR MLR
comp=Z,900nm,17.0s,MS5.0
OBN Obninsk 65.97 327 *e*P P 04 20 39.9 -0.5
comp=Z,16nm,0.6s,mb5.2
DVTC Desert V Tower 65.99 67 ⇑P P 04 20 39.9 -0.7
baz=66
SWSC Sam W. Stewart 66.00 67 ⇓P P 04 20 39.4 -1.2
baz=66
X13A Yucca 66.13 64 P P 04 20 41.2 -0.2
baz=66,SNR=8.8
PDMCI Parker Dam,Lak 66.13 65 P P 04 20 41.7 +0.2
baz=66,SNR=8.7
W14A Seligman 66.18 63 ⇑P P 04 20 41.7 -0.1
baz=66,SNR=13
Y12C Blythe 66.26 66 ⇑P P 04 20 42.1 -0.2
baz=66
GLA Glamis 66.53 66 *e*P P 04 20 44.0 0.0
GLA Glamis 66.53 66 P P 04 20 44.1 +0.1
baz=66,SNR=6.0
AGMN Agassiz Refuge 66.66 44 *e*P P 04 20 43.9 -1.0
comp=Z,23nm,1.1s,mb5.1
VSU Vasula 66.69 333 ⇑*e*P P 04 20 44.9 -0.1
W15A Williams 66.70 63 ⇑P P 04 20 45.5 +0.4
baz=66
X14A Yava 66.79 64 ⇑P P 04 20 45.8 +0.1
baz=66,SNR=7.9
WUAZ Wupatki 67.02 62 ⇓P P 04 20 46.7 -0.4
baz=67
Y14A Wickenburg 67.08 64 P P 04 20 47.9 +0.4
baz=67,SNR=7.9
SMCO Snowmass 67.15 57 *e*P P 04 20 39.3 -8.7
X15A Humboldt 67.18 64 P P 04 20 48.6 +0.4
baz=67,SNR=13
CTA Charters Tower 67.30 189 *e*P P 04 20 47.6 -1.3
comp=Z,8.5nm,0.8s,mb4.8
CTA Charters Tower 67.30 189 P P 04 20 48.1 -0.8
comp=Z,11nm,0.8s,mb4.9,baz=31,slow=11,SNR=5.2
CTA LR LR 04 46 18.3
comp=Z,530nm,20.0s,MS4.8,baz=19,slow=32
AFI Afiamalu 67.41 145 LR LR 04 44 06.6
comp=Z,1μm,20.3s,MS5.0,baz=9.5,slow=30
ISCO Idaho Springs 67.50 55 *e*P P 04 20 50.3 +0.1
ISCO pmax pmax
comp=Z,13nm,1.1s,mb4.9
ISCO Idaho Springs 67.50 55 *e*P P 04 20 50.3 +0.2
comp=Z,13nm,1.1s,mb4.9
ABKT Ailbek 67.81 302 P P 04 20 53.2 +1.1
comp=Z,145nm,0.8s,mb6.1,SNR=7.0
VRSR Storozhevoye 67.86 322 *d*iP P 04 20 51.8 -0.7
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRSR pmax pmax
comp=N,50nm,0.9s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR MLR MLR
comp=Z,1μm,20.0s,MS5.0
VRSR MLR MLR
comp=N,580nm,19.0s,MS5.3
VRSR MLR MLR
comp=E,1μm,19.0s,MS5.3
115A Sonoran Desert 68.39 65 P P 04 20 56.1 +0.4
baz=68,SNR=7.4
NB2 NORSAR Subarra 68.47 342 P P 04 20 55.6 -0.7
comp=Z,30nm,0.9s,mb5.3,baz=26,slow=6.5
NOA NORSAR Array B 68.47 342 P P 04 20 55.6 -0.6
comp=Z,18nm,0.9s,mb5.1,baz=26,slow=6.3,SNR=31
NOA LR LR 04 55 06.9
comp=Z,983nm,19.3s,MS5.0,baz=25,slow=40
HYB Hyderabad 68.56 273 *i* P P 04 20 58.0 +1.2
HYB Hyderabad 68.56 273 *e*P P 04 20 58.0 +1.2
NAO01 NORSAR Array S 68.72 342 *e*P P 04 20 57.9 +0.1
comp=Z,30nm,1.0s,mb5.2
HFS Hagfors 68.74 341 P P 04 20 58.2 +0.2
comp=Z,11nm,0.4s,mb5.1,baz=35,slow=3.6,SNR=41
116A Eloy 68.81 65 ⇑P P 04 20 58.1 -0.3
baz=69

WRAB Tennant Creek 69.29 201 P P 04 21 00.3 -1.1
comp=Z,412nm,1.0s,mb6.3,SNR=23
WRAB Tennant Creek 69.29 201 *c*iP P 04 21 01.1 -0.3
WRAB Tennant Creek 69.29 201 P P 04 21 00.9 -0.5
WB2 Warramunga Arr 69.30 201 *e*P P 04 21 00.2 -1.2
WB2 *i* pP pP 04 21 10.4 +2.6
WRA Warramunga Arr 69.30 201 P P 04 21 00.5 -0.9
comp=Z,47nm,0.9s,mb5.4,baz=19,slow=6.5,SNR=78
HYA Hoyanger 69.34 345 *e*P P 04 21 06.2 +4.6
HYA AMb AMB 04 21 10.1
comp=Z,89nm,1.4s,mb5.5
HYA Hoyanger 69.34 345 *e*P P 04 21 06.2 +4.6
comp=Z,89nm,1.4s,mb5.5
ECSD EROS,Sioux Fal 69.56 47 *e*P P 04 21 01.9 -1.1
comp=Z,30nm,1.4s,mb5.0
MNK Minsk 69.58 330 *e*P P 04 21 03.0 -0.1
KONO Kongsberg 70.07 342 *e*P P 04 21 11.7 +5.5
MAK Makhachkala 70.08 312 *c*iP P 04 21 05.5 -0.7
MAK *i* 04 21 27.2
MAK *e* 04 23 40.6
MAK *e*PPP 04 25 22.2
MAK pmax pmax
comp=Z,309nm,1.9s,mb5.9
FITZ Fitzroy Crossi 70.14 210 *e*P P 04 21 06.9 +0.3
comp=Z,19nm,0.8s,mb5.1
FITZ *e*pP pP 04 21 16.7 +3.7
FITZ Fitzroy Crossi 70.14 210 P P 04 21 04.9 -1.7
comp=Z,12nm,0.9s,mb4.8,baz=25,slow=8.5,SNR=17
ASK Askoy 70.15 345 *e*P P 04 21 11.8 +5.1
BER Bergen 70.22 345 *e*P P 04 21 10.2 +3.1
BER *e*P 04 21 12.0
BER Bergen 70.22 345 *e*P P 04 21 12.0 +4.9
LAZ Ladron 70.32 61 *e*P P 04 21 07.7 0.0
ANMO Albuquerque 70.34 60 P P 04 21 07.2 -0.7
comp=Z,2.5nm,0.8s,baz=308,slow=6.4,SNR=12
ANMO Albuquerque 70.34 60 *e*P P 04 21 07.5 -0.4
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 70.34 60 *e*P P 04 21 07.5 -0.3
comp=Z,7.8nm,1.1s,mb4.5
EGD Espegrend 70.35 345 *e*P P 04 21 12.9 +5.1
MDRS Chennai 70.45 268 *ex* x 04 20 57.1
BNM Barren Site 70.80 60 *e*P P 04 21 11.2 +0.5
BLS5 Blasjo 70.91 344 *e*P P 04 21 17.6 +6.3
POO Poona 71.00 277 *e*P P 04 21 10.0 -1.8
POO *ex* x 04 21 43.0
POO AMb AMB 04 21 55.2
comp=Z,67nm,0.2s,mb6.2
SUW Suwalki 71.50 333 *e*P P 04 21 13.2 -1.7
SUW *e*pP pP 04 21 19.7 -1.6
SUW *e*PcP PcP 04 21 31.9 -2.4
SUW L 04 50 49.4
comp=Z,1.8nm,28.2s
SUW Suwalki 71.50 333 *e*P P 04 21 13.2 -1.7
SUW *e*pP pP 04 21 19.7 -1.6
SUW *e*PcP PcP 04 21 31.9 -2.4
KAD Karad 71.62 276 *e*P P 04 21 16.3 +0.7
KAD AMb AMB 04 21 24.0
comp=Z,64nm,0.9s,mb5.6
KIV Kislovodsk 71.73 315 P P 04 21 17.2 +1.0
comp=Z,267nm,0.8s,mb6.2,SNR=10
KIV Kislovodsk 71.73 315 P P 04 21 17.6 +1.4
SNR=8.1
KIV Kislovodsk 71.73 315 P P 04 21 17.6 +1.4
SNR=8.1
KIV Kislovodsk 71.73 315 P P 04 21 17.6 +1.4
SNR=8.1
KIV Kislovodsk 71.73 315 P P 04 21 17.6 +1.4
SNR=8.1
KIV Kislovodsk 71.73 315 *d*iP P 04 21 17.0 +0.8
KIV *e* 04 21 35.5
KIV *e*S S 04 30 25.4 -10
KIV pmax pmax
comp=Z,141nm,2.5s,mb5.5
KIV Kislovodsk 71.73 315 *e*P P 04 21 18.5 +2.2
comp=Z,46nm,0.9s,mb5.4
ZEI Tsey 72.02 314 *e*P P 04 21 18.0 0.0
ZEI *i* 04 21 35.4
ZEI pmax pmax
comp=Z,17nm,0.9s,mb5.0
AKASG Malin Array Be 72.19 327 P P 04 21 18.5 -0.5
comp=Z,8.5nm,0.5s,mb4.9,baz=33,slow=6.3,SNR=41
AKASG LR LR 04 57 17.4
comp=Z,1μm,19.1s,MS5.2,baz=30,slow=39
AKBB Malin Array Si 72.19 327 *e*P P 04 21 18.3 -0.7
KIEV Kiev 72.20 327 *e*P P 04 21 18.3 -0.8
KIEV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIEV Kiev 72.20 327 *e*P P 04 21 18.3 -0.7
comp=Z,18nm,0.8s,mb5.0
TBLG Delisi 72.37 313 P P 04 21 22.8 +2.7
SCHQ Schefferville 72.44 24 LR LR 04 56 06.9
comp=Z,530nm,19.2s,MS4.8,baz=352,slow=38
SCIA State Center 72.60 47 *e*P P 04 21 20.5 -0.9
comp=Z,44nm,1.1s,mb5.3
BSD Bornholm Skovb 72.93 338 *i* P P 04 21 28.6 +5.2
comp=Z,37nm,0.8s,mb5.4
BSD *e*P P 04 21 28.6 +5.2
comp=Z,2μm,21.0s
BSD Bornholm Skovb 72.93 338 *e*P P 04 21 28.6 +5.2
BSD pmax pmax
comp=Z,37nm,0.8s,mb5.4
BSD MLR MLR
comp=Z,2μm,21.0s,MS5.2
BSD Bornholm Skovb 72.93 338 *e*P P 04 21 28.6 +5.2
comp=Z,37nm,0.8s,mb5.4
AS31 Alice Springs 72.98 201 *e*P P 04 21 24.0 +0.2
AS31 *e*pP pP 04 21 33.7 +3.6
ASAR Alice Springs 72.99 201 P P 04 21 23.9 +0.1
comp=Z,24nm,0.8s,mb5.2,baz=14,slow=5.0,SNR=85
ASPA Alice Springs 72.99 201 *e*P P 04 21 24.0 +0.2
ASPA *e*pP pP 04 21 33.7 +3.5
MUD Monsted U'grnd 73.10 341 *i* P P 04 21 29.7 +5.3
comp=Z,21nm,0.8s,mb5.1
MUD Monsted U'grnd 73.10 341 *i* P P 04 21 29.7 +5.3
comp=Z,21nm,0.8s,mb5.1
MUD pmax pmax
comp=Z,126nm,2.1s,mb5.5
AMTX Amarillo 73.17 57 *e*P P 04 21 24.0 -0.9
MNTX Cornudas Mount 73.26 61 *e*P P 04 21 25.1 -0.2
comp=Z,13nm,1.3s,mb4.7
SOC Sochi 73.42 317 *d*iP P 04 21 25.8 -0.5
SOC *e* 04 21 43.5
SOC *e* 04 24 07.1
SOC *e*S S 04 30 53.5 -1.0
SOC *e* 04 31 38.6
SOC pmax pmax
comp=Z,944nm,3.5s
SOC pmax pmax
comp=Z,96nm,1.5s,mb5.5
ANN Anapa 73.52 319 *e*P P 04 21 24.8 -2.1
ANN *e*S S 04 30 55.9 +0.1
ANN pmax pmax
comp=Z,74nm,1.1s,mb5.5
GNI Garni 73.55 312 P P 04 21 28.6 +1.6
comp=Z,26nm,0.9s,mb5.2,baz=357,slow=7.8,SNR=8.8
GNI Garni 73.55 312 *de*P P 04 21 28.9 +1.8
GNI pmax pmax
comp=Z,104nm,2.5s
GNI Garni 73.55 312 *e*P P 04 21 29.1 +2.1
comp=Z,57nm,1.0s,mb5.5
GKP Gorka Klasztor 73.93 335 *e*P P 04 21 29.6 +0.3
GKP *e*pP pP 04 21 34.7 -1.0
GKP *e*PcP PcP 04 21 41.0 -3.6
GKP L 04 53 57.4
comp=Z,1.9nm,25.1s
MDO Dochfour 74.56 349 *e*P P 04 21 37.2 +4.2
LVV L'vov 74.77 330 *e*P P 04 21 33.5 -0.7
LVV *e* 04 24 23.5
LVV *e*S S 04 31 04.1 -5.7
KPL Plockton 74.82 349 *e*P P 04 21 38.8 +4.3
KPL AMb AMB 04 21 41.5
comp=Z,104nm,2.9s,mb5.3
SIM Simferopol' 74.86 321 *de*P P 04 21 33.6 -1.2
SIM pmax pmax
comp=Z,31nm,1.1s,mb5.2
SIM pmax pmax
comp=Z,130nm,7.0s
KSB Sheil Bridge 74.92 349 *e*P P 04 21 38.9 +3.8
WMOK Wichita Mounta 74.92 55 *e*P P 04 21 34.2 -0.9
WMOK pmax pmax
comp=Z,11nm,1.3s,mb4.6
WMOK Wichita Mounta 74.92 55 *e*P P 04 21 34.2 -0.9
comp=Z,10nm,1.3s,mb4.6
MBWA Marble Bar 75.10 214 *e*P P 04 21 36.1 0.0

comp=Z,35nm,1.0s,mb5.2
KIS Kishinev 75.38 325 *e*P **P** **04 21 35.0 -2.7**
KIS *e* 04 21 45.0
KIS *e*S S 04 31 06.0 -10
KIS pmax pmax
comp=Z,200nm,2.0s,mb5.7
KIS pmax pmax
comp=Z,1μm,7.0s
KIS pmax pmax
comp=Z,600nm,7.0s
KIS Kishinev 75.38 325 *e*P **P** **04 21 35.0 -2.7**
comp=Z,200nm,2.0s,mb5.7
KIS *e*S S 04 31 09.0 -7.5
KWP Kalwaria 75.39 330 *e*P **P** **04 21 37.9 +0.1**
KWP *e*PP PP 04 21 43.1 -1.1
KWP *e*PcP PcP 04 21 48.7 -2.2
KWP *e*S S 04 31 01.7 -15
KWP *e*sS sS 04 31 26.7 -0.5
KWP L 04 52 05.2
comp=Z,1.4nm,30.2s
KWP Kalwaria 75.39 330 *e*P **P** **04 21 37.9 +0.1**
KWP *e**PP pP 04 21 43.1 -1.1
KWP *e* 04 21 48.7
MACK Trabzon 75.42 315 *i* P **P** **04 21 38.0 0.0**
ERZM Erzurum 75.43 313 *i* P **P** **04 21 40.1 +2.1**
RUE Ruedersdorf 75.59 337 *e*P **P** **04 21 37.6 -1.3**
EAB Aberfoyle 75.77 348 *e*P **P** **04 21 44.1 +4.1**
ESY Stoneypath 75.79 347 *e*P **P** **04 21 44.5 +4.4**
OJC Ojcow 75.83 332 *e*P **P** **04 21 43.9 +3.6**
EDI Edinburgh 75.87 348 *e*P **P** **04 21 43.9 +3.4**
EDI AMb AMB 04 21 45.2
comp=Z,227nm,1.6s,mb5.8
TRD Trivandrum 75.95 267 *e*P **P** **04 21 42.3 +1.3**
TRD AMb AMB 04 21 44.2
comp=Z,68nm,1.7s,mb5.3
EAU Auchinoon 75.98 348 *e*P **P** **04 21 45.3 +4.2**
LTX Lajitas 75.98 62 *e*P **P** **04 21 41.0 -0.2**
LTX pmax pmax
comp=Z,16nm,1.0s,mb4.9
LTX Lajitas 75.98 62 *e*P **P** **04 21 41.0 -0.2**
comp=Z,16nm,1.0s,mb4.9
TXAR Lajitas Array 75.98 62 P **P** **04 21 40.6 -0.5**
comp=Z,12nm,0.9s,mb4.8,baz=299,slow=4.1,SNR=77
EBL Broad Law 75.99 348 *e*P **P** **04 21 45.1 +3.9**
HAKT HAKKARI 76.02 310 *i* P **P** **04 21 42.8 +1.4**
STHS Stebnicka Huta 76.06 331 *e*P **P** **04 21 42.5 +0.9**
STHS pmax pmax
comp=Z,26nm,0.8s,mb5.2
STHS Stebnicka Huta 76.06 331 *e*P **P** **04 21 42.5 +0.9**
comp=Z,26nm,0.8s,mb5.2
STHS *e* 04 21 45.2
KOLS Kolonicke sedl 76.13 330 *e*P **P** **04 21 42.4 +0.4**
KOLS *e*pP pP 04 21 48.8 +0.4
KOLS *e*PP PP 04 24 26.7 -6.2
KOLS Kolonicke sedl 76.13 330 *e*P **P** **04 21 42.4 +0.4**
KOLS *e* pP 04 21 48.8 +0.4
PGBU Glenifferbraes 76.16 348 *e*P **P** **04 21 45.8 +3.6**
PGBU AMb AMB 04 21 46.9
comp=Z,103nm,1.6s,mb5.5
BURAR Bucovina Array 76.22 328⇓*i*P **P** **04 21 42.3 -0.2**
BURAR Bucovina Array 76.22 328 P **P** **04 21 42.8 +0.3**
BNGL BINGOL 76.27 313 *i* P **P** **04 21 44.5 +1.7**
KELT Kelkit 76.28 315 *i* P **P** **04 21 44.2 +1.3**
KSP Ksiaz 76.35 335 *e*P **P** **04 21 46.3 +3.0**
KSP *e*pP pP 04 21 49.9 +0.2
KSP *e*sP sP 04 21 53.4 +1.4
KSP L 04 53 45.0
comp=Z,2.5nm,27.5s
KSP Ksiaz 76.35 335 *e*P **P** **04 21 46.4 +3.1**
KSP *e*pP pP 04 21 48.9 -0.8
KSP *e*PcP PcP 04 21 57.7 +2.6
KSP *e*S S 04 31 33.0 +5.8
KSP LR LR
comp=Z,3μm,20.4s,MS5.6
NIE Niedzica 76.36 332 *e*P **P** **04 21 48.3 +5.0**
UZH Uzhgorod 76.38 330 *e*P **P** **04 21 42.0 -1.4**
UZH *i* pP 04 21 48.6 -1.3
UZH *e*S S 04 31 27.0 -0.6
UZH *e* 04 31 48.0
UZH *e*PS 04 32 22.0
EKA Eskdalemuir Ar 76.43 348 P **P** **04 21 45.5 +1.7**
comp=Z,13nm,0.5s,mb5.1,baz=18,slow=5.2,SNR=52
ESK Eskdalemuir 76.46 348 *e*P **P** **04 21 47.9 +4.0**
ESK AMb AMB 04 21 48.5
comp=Z,96nm,1.4s,mb5.5
NRDL Niedersach Rie 76.52 339 *e*P **P** **04 21 42.4 -1.8**
ECK Cauldkaine Hil 76.58 348 *e*P **P** **04 21 48.8 +4.2**
OKC Ostrava-Krasne 76.68 333 *e*P **P** **04 21 45.4 +0.3**
OKC *e*pP pP 04 21 49.0 -2.6
OKC AMS AMS 04 59 50.0
comp=Z,2μm,14.9s
OKC Ostrava-Krasne 76.68 333 *e*P **P** **04 21 45.4 +0.3**
OKC *e* 04 21 49.0
UPC Upice 76.73 335 *e*P **P** **04 21 45.0 -0.4**
UPC *e*pP pP 04 21 49.4 -2.4
XAL Allendale 76.75 347 *e*P **P** **04 21 49.2 +3.7**
DPC Dobruska-Polom 76.78 334 *e*P **P** **04 21 46.1 +0.4**
DPC *e*pP pP 04 21 50.0 -2.1
DPC AMS AMS 05 00 40.0
comp=Z,2μm,18.1s
CLL Collm 76.86 337 *e*P **P** **04 21 46.0 -0.1**
comp=Z,96nm,1.0s,mb5.7
CLL *e*PP PP 04 24 39.7 +0.6
CLL *e*S S 04 31 38.6 +5.8
CLL *e*LR LR 04 47 00.3
CLL *e*L 04 58 23.3
comp=Z,2μm,20.0s
CLL Collm 76.86 337 *e*P **P** **04 21 45.0 -1.1**
CLL pmax pmax
comp=Z,49nm,1.7s,mb5.2
CLL MLR MLR
comp=Z,2μm,21.4s,MS5.3
CLL Collm 76.86 337 *e*P **P** **04 21 45.0 -1.1**
comp=Z,49nm,1.7s,mb5.2
CLL LR LR
comp=Z,2μm,21.4s,MS5.3
CLL Collm 76.86 337 *e*P **P** **04 21 46.0 -0.1**
comp=Z,49nm,1.7s,mb5.2
CLL *i* pP pP 04 21 50.0 -2.6
comp=Z,95nm,1.0s
CLL *i* pPcP 04 22 00.8
CLL *e*PP PP 04 24 39.0 -0.1
CLL *e*S S 04 31 30.0 -2.8
CLL *e*SS SS 04 37 12.0 +43
CLL Lm 04 58 00.0
comp=Z,2μm,21.4s
MORC Moravsky Berou 76.92 333⇑*i*P **P** **04 21 46.5 0.0**
MORC Moravsky Berou 76.92 333 *e*P **P** **04 21 46.3 -0.2**
MORC pmax pmax
comp=Z,52nm,1.0s,mb5.4
MORC Moravsky Berou 76.92 333 *e*P **P** **04 21 46.3 -0.1**
comp=Z,52nm,1.0s,mb5.4
BRG Berggiesshubel 76.99 336 *e*P **P** **04 21 47.0 +0.1**
comp=Z,8.3nm,1.3s,mb4.5
BRG *e* 04 21 49.9
comp=Z,21nm,1.1s
BRG *e* 04 22 01.2
comp=Z,8.0nm,0.8s
BRG
comp=N,1μm,25.1s
BRG
comp=E,618nm,20.0s
BRG
comp=Z,1μm,16.1s
BRG Berggiesshubel 76.99 336 *e*P **P** **04 21 47.0 +0.1**
BRG *e* 04 22 01.2
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BRG MLR MLR
comp=N,1μm,25.1s
BRG MLR MLR
comp=E,618nm,20.0s
BRG MLR MLR
comp=Z,1μm,16.1s
BRG Berggiesshubel 76.99 336 *e*P **P** **04 21 47.0 +0.1**
comp=Z,8.3nm,1.3s,mb4.5
BRG *e* 04 21 49.9
BRG *e* 04 22 01.2
BRG LR LR
comp=Z,1μm,16.1s,MS5.2
WIT Witteveen 77.03 341 *e*P **P** **04 21 52.3 +5.2**
CLZ Clausthal 77.05 339 *e*P **P** **04 21 46.6 -0.6**
LIKS Likavka 77.07 332 *e*pP pP 04 21 53.9 +0.1
GAL1 Galloway 77.11 348 *e*P **P** **04 21 52.4 +4.9**
GAL1 AMb AMB 04 21 55.5
comp=Z,42nm,1.2s,mb5.3
FBE Freiberg 77.11 336 *e*P **P** **04 21 46.2 -1.4**
KECS Kecovo 77.12 331 *e*P **P** **04 21 47.7 +0.1**
KECS *e* pP 04 21 52.5 -1.5
KECS *e* 04 24 46.2
KECS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 77.12 331 *e*P **P** **04 21 47.7 +0.1**
comp=Z,13nm,1.0s,mb4.8
KECS *e* pP 04 21 52.5 -1.5
KECS *e*PP PP 04 24 46.2 +4.9
PVCC Panska Ves 77.13 336 *e*P **P** **04 21 47.7 +0.1**
PVCC *e*pP pP 04 21 51.8 -2.3
PVCC AMS AMS 04 58 10.0
comp=Z,2μm,26.8s
CFR Carcaliu 77.15 325 P **P** **04 21 48.6 +0.8**
IBBN Ibbenburen 77.25 340 *e*P **P** **04 21 47.3 -1.0**
MSL Mosul 77.30 310 *ex* x 04 21 49.0
MSL *ex* x 04 31 43.0
BOYT Boyabat 77.33 318 *i* P **P** **04 21 50.3 +1.6**
GTTG Gyttingen 77.43 339 *e*P **P** **04 21 48.6 -0.7**
JCT Junction City 77.45 59 *e*P **P** **04 21 48.7 -0.8**
JCT pmax pmax
comp=Z,16nm,1.0s,mb4.9
JCT Junction City 77.45 59 *e*P **P** **04 21 48.7 -0.8**
comp=Z,16nm,1.0s,mb4.9
VRAC Vranov 77.62 334 P **P** **04 21 50.7 +0.3**
comp=Z,36nm,1.0s,mb5.3,baz=32,slow=6.3,SNR=14
VRAC Vranov 77.62 334⇓*i*P **P** **04 21 50.5 +0.1**
VRAC Vranov 77.62 334 P **P** **04 21 50.7 +0.3**
VRAC pmax pmax
comp=Z,36nm,1.0s
VRAC Vranov 77.62 334 P **P** **04 21 51.4 +0.9**
TIRR Tirgusor 77.63 324⇓*i*P **P** **04 21 50.7 +0.2**
TIRR Tirgusor 77.63 324 *e*P **P** **04 21 50.6 +0.1**
TIRR pmax pmax
comp=Z,44nm,1.0s,mb5.3
TIRR Tirgusor 77.63 324 *e*P **P** **04 21 50.6 +0.2**
comp=Z,44nm,1.0s,mb5.3
VYHS Vyhne 77.64 332 *e*P **P** **04 21 50.9 +0.3**
VYHS *e* pP 04 21 55.2 -1.8
VYHS pmax pmax
comp=Z,16nm,1.1s,mb4.9
VYHS Vyhne 77.64 332 *e*P **P** **04 21 50.9 +0.3**
comp=Z,16nm,1.1s,mb4.9
VYHS *e* pP 04 21 55.2 -1.8
VYHS *e*PP PP 04 24 36.0 -10
ELZG Elazig 77.69 314 *i* P **P** **04 21 52.5 +1.7**
MARD Mardin 77.71 312 *i* P **P** **04 21 52.4 +1.5**
MLR Muntele Rosu 77.73 326 P **P** **04 21 51.2 +0.2**
comp=Z,6.6nm,0.4s,mb4.9,baz=357,slow=5.6,SNR=13
MLR Muntele Rosu 77.73 326⇓*i*P **P** **04 21 51.7 +0.6**
MLR Muntele Rosu 77.73 326 P **P** **04 21 51.2 +0.1**
MLR pmax pmax
comp=Z,7.0nm,0.4s
MLR Muntele Rosu 77.73 326 P **P** **04 21 52.1 +1.1**
WTSB Winterswijk 77.79 341 *e*P **P** **04 21 55.6 +4.3**
comp=Z,51nm,0.8s,mb5.5
PSZ Piszkesteto 77.80 331 *e*P **P** **04 21 51.7 +0.3**
PSZ pmax pmax
comp=Z,34nm,1.1s,mb5.2
PSZ Piszkesteto 77.80 331 *e*P **P** **04 21 51.7 +0.2**
comp=Z,34nm,1.1s,mb5.2
PSZ Piszkesteto 77.80 331⇑*e*P **P** **04 21 52.4 +1.0**
TANN Tannenbergstha 77.81 337 *e*P **P** **04 21 50.6 -0.9**
DRGR 77.82 329⇓*i*P **P** **04 21 52.1 +0.6**
DRGR 77.82 329 P **P** **04 21 51.6 +0.1**
WERD Werda 77.82 337 *e*P **P** **04 21 50.6 -0.9**
MOX Moxa 77.83 337 *e*P **P** **04 21 50.5 -1.1**
MOX Moxa 77.83 337 *e*P **P** **04 21 52.0 +0.4**
comp=Z,54nm,1.3s,mb5.3
MOX
comp=Z,1μm,21.0s
MOX Moxa 77.83 337 *e*P **P** **04 21 52.0 +0.4**
MOX pmax pmax
comp=Z,54nm,1.3s,mb5.3
MOX MLR MLR
comp=Z,1μm,21.0s,MS5.2
GUNZ Gunzen 77.89 337 *e*P **P** **04 21 51.1 -0.8**
BALT Daday 77.92 319 *i* P **P** **04 21 53.0 +1.0**
WERN Wernitzgruen 77.95 337 *e*P **P** **04 21 51.5 -0.8**
NKC Novy Kostel 77.98 337 *e*P **P** **04 21 52.2 -0.2**
NKC *e*pP pP 04 21 56.3 -2.6
NKC AMS AMS 04 59 10.0
comp=Z,2μm,22.9s
NKC Novy Kostel 77.98 337 *e*P **P** **04 21 52.2 -0.2**
NKC *e* pP 04 21 56.3 -2.6
CTKT Corum 78.01 318 *i* P **P** **04 21 54.0 +1.4**
SMOL Smolenice 78.07 333 *e*P **P** **04 21 53.8 +0.9**
SMOL *e*pP pP 04 21 58.2 -1.2
SMOL Smolenice 78.07 333 *e*P **P** **04 21 53.8 +0.9**
SMOL *e* pP 04 21 58.2 -1.2
UBBA Unterbreizbach 78.08 338 *e*P **P** **04 21 52.0 -1.0**
MALT Malatya 78.11 314⇓*i*P **P** **04 21 54.9 +1.8**
MALT Malatya 78.11 314 *e*P **P** **04 21 54.1 +1.0**
MALT pmax pmax
comp=Z,48nm,1.1s,mb5.3
MALT Malatya 78.11 314 *e*P **P** **04 21 54.1 +1.0**
comp=Z,48nm,1.1s,mb5.3
VOIR 78.12 327⇓*i*P **P** **04 21 54.5 +1.3**
VOIR 78.12 327⇓P **P** **04 21 54.5 +1.4**
BUG Bochum--Univer 78.17 340 *e*P **P** **04 21 52.5 -1.0**
KBI1 Birley Grange 78.19 346 *e*P **P** **04 21 57.4 +3.8**
MANZ Manzenberg 78.30 337 *e*P **P** **04 21 53.3 -0.9**
PSN Preselentsi 78.37 324 *e*P **P** **04 21 56.0 +1.4**
ZST Bratislava 78.45 333 *e*P **P** **04 21 56.0 +1.0**
ZST pmax pmax
comp=Z,30nm,1.2s,mb5.1
ZST MLR MLR
comp=Z,2μm,18.8s,MS5.5
ZST Bratislava 78.45 333 *e*P **P** **04 21 56.0 +1.0**
comp=Z,30nm,1.2s,mb5.1
ZST LR LR
comp=Z,2μm,18.8s,MS5.5
ROTZ Rotzenmuhle 78.47 337 *e*P **P** **04 21 54.6 -0.5**
BUD Budapest 78.47 331⇑*e*P **P** **04 21 56.1 +1.0**
KWE Weaver Farm 78.47 346 *e*P **P** **04 21 59.2 +4.1**
KHC Kasperske Hory 78.67 336 *e*P **P** **04 21 56.8 +0.6**
KHC *e*pP pP 04 22 01.5 -1.1
KHC AMS AMS 04 59 10.0
comp=Z,2μm,22.4s
KHC Kasperske Hory 78.67 336 *e*P **P** **04 21 56.8 +0.6**
KHC *e* pP 04 22 01.5 -1.1
KHC LR LR
comp=Z,2μm,22.4s,MS5.5
JMDO Jabal Madar 78.73 291 P **P** **04 21 58.0 +1.4**
SNR=10.0
JMDO Jabal Madar 78.73 291 P **P** **04 21 58.0 +1.4**
SNR=10.0
JMDO Jabal Madar 78.73 291 P **P** **04 21 58.0 +1.4**
SNR=10.0
JMDO Jabal Madar 78.73 291 P **P** **04 21 58.0 +1.4**
SNR=10.0
ELDT Eldivan 78.74 319 *i* P **P** **04 21 57.9 +1.3**
GRA1 Grafenberg Arr 78.80 337 *e*P **P** **04 21 56.5 -0.5**
comp=Z,67nm,0.9s,mb5.6
GRA1 LR LR
comp=Z,1μm,21.8s,MS5.3
GRF Grafenberg Arr 78.80 337 *e*P **P** **04 21 56.5 -0.5**
comp=Z,67nm,0.9s,mb5.6
GRF *e*L 05 00 02.6
comp=Z,1μm,21.8s
GRF Grafenberg Arr 78.80 337 *e*P **P** **04 21 56.5 -0.5**
GRF pmax pmax
comp=Z,67nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,1μm,21.8s,MS5.3
GRF Grafenberg Arr 78.80 337 *e*P **P** **04 21 56.5 -0.5**
GRF pmax pmax
comp=Z,67nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,1μm,21.8s,MS5.3
GRFO Grafenberg 78.80 337 *e*P **P** **04 21 56.5 -0.5**
ATAB Bozova 78.83 314 *i* P **P** **04 21 56.9 -0.2**
WET Wettzell 78.85 336 *e*P **P** **04 21 56.8 -0.4**
DLF Lyons Farm 78.89 349 *e*P **P** **04 21 59.0 +1.6**
GEC2 GERESS Array S 78.89 335 *e*P **P** **04 21 56.5 -0.9**
GERES GERESS Array B 78.89 335 P **P** **04 21 57.2 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=34,slow=4.9,SNR=34
GERES LR LR 04 59 50.2
comp=Z,2μm,21.0s,MS5.4,baz=21,slow=38
BHD Baghdad 78.90 307 *ex* x 04 21 54.0
BHD Baghdad 78.90 307 *ex* x 04 31 55.0
YRE Yr Eifl 78.90 348 *e*P **P** **04 22 02.3 +4.8**
DCN Croghan 78.93 350 *e*P **P** **04 21 59.6 +1.9**
GZR Gura Zlata 78.99 328⇓*i*P **P** **04 21 58.5 +0.5**
GZR Gura Zlata 78.99 328 P **P** **04 21 58.6 +0.6**
CDAG Cicekdag 79.00 318 *i* P **P** **04 21 58.7 +0.7**
TNS Taunus Mts 79.02 339 *e*P **P** **04 21 57.5 -0.7**
BSY Bisya 79.04 291 P **P** **04 21 59.9 +1.6**
SNR=20
BSY Bisya 79.04 291 P **P** **04 21 59.7 +1.4**
SNR=13
BSY Bisya 79.04 291 P **P** **04 21 59.7 +1.4**
SNR=13
BSY Bisya 79.04 291 P **P** **04 21 59.7 +1.4**
SNR=13
CONA Conrad Observa 79.07 334⇑*i*P **P** **04 21 59.4 +0.9**
comp=Z,16nm,2.0s,mb4.6,SNR=16
SOP Sopron 79.08 333⇑*e*P **P** **04 21 59.8 +1.3**
HGN Heimansgroeve 79.11 341 *e*P **P** **04 22 02.6 +3.9**
comp=Z,58nm,1.0s,mb5.5
HGN Heimansgroeve 79.11 341 *e*S S 04 32 17.7 +21
BEBN Eben Emael 79.13 341 P **P** **04 21 58.5 -0.3**
BEBN AP pP 04 22 04.1 -1.1
BZS Buzias 79.22 329⇓*i*P **P** **04 21 58.6 -0.6**
BZS Buzias 79.22 329 P **P** **04 21 58.5 -0.7**
MEM Membach 79.23 341 P **P** **04 21 59.6 +0.3**
MEM AP pP 04 22 04.1 -1.7
MEM XP sP 04 22 06.8 -1.3
BR131 Keskin Array S 79.26 318 *e*P **P** **04 22 00.1 +0.7**
comp=Z,26nm,1.0s,mb5.1
BRTR Keskin Array B 79.26 318 LR LR 05 03 46.1
comp=Z,592nm,18.1s,MS5.0,baz=215,slow=41
GZT Gaziantep 79.28 314 *i* P **P** **04 22 00.9 +1.3**
SGKT Sivrigoynuk 79.28 320 *i* P **P** **04 22 01.1 +1.5**
UCC Uccle 79.42 342 P **P** **04 21 59.6 -0.7**
UCC AP pP 04 22 05.2 -1.6
AVNT Avonos 79.45 317 *i* P **P** **04 22 01.0 +0.5**
TOD Tromm 79.50 339 *e*P **P** **04 22 01.1 +0.3**
ZIMR 79.50 326 P **P** **04 22 06.4 +5.6**
STKA Stephens Creek 79.51 192 *e*P **P** **04 22 01.5 +0.7**
comp=Z,7.3nm,0.9s,mb4.6
STKA *e*pP pP 04 22 10.3 +3.0
STKA Stephens Creek 79.51 192 P **P** **04 22 01.2 +0.4**
comp=Z,9.6nm,1.0s,mb4.7,baz=328,slow=7.1,SNR=11
STKA LR LR 04 57 53.4
comp=Z,795nm,19.6s,MS5.1,baz=24,slow=36
ANTO Ankara 79.53 319 P **P** **04 22 01.9 +0.9**
SNR=13
ANTO Ankara 79.53 319 P **P** **04 22 01.9 +0.9**
SNR=13
ANTO Ankara 79.53 319 P **P** **04 22 01.9 +0.9**
SNR=13
ANTO Ankara 79.53 319⇓*i*P **P** **04 22 02.0 +1.1**
ANTO Ankara 79.53 319 *e*P **P** **04 22 02.0 +1.1**
comp=Z,38nm,1.0s,mb5.3
ABH Alteburg 79.55 340 *e*P **P** **04 22 00.1 -1.0**
BCLA Clavier 79.57 341 AP pP 04 22 05.8 -1.8
BCLA XP sP 04 22 08.5 -1.4
TAOE Nuku Hiva Isla 79.62 115 *e*PP PP 04 25 01.7 -0.5
comp=Z,760nm,38.5s
TAOE Nuku Hiva Isla 79.62 115 *e*LR LR 04 46 40.5
comp=Z,4μm,22.9s
MOA Molln 79.62 335⇑*i* pP 04 22 08.7 +0.8
comp=Z,20nm,1.1s
MOA Molln 79.62 335⇑*i*P **P** **04 22 02.2 +0.7**
comp=Z,8.2nm,1.4s,mb4.5
MOA ⇑*i*P pP 04 22 08.7 +0.8
comp=Z,20nm,1.1s
MOA Molln 79.62 335 P **P** **04 22 02.2 +0.7**
MOA *e* pP 04 22 08.7 +0.8
SNF Seneffe 79.71 342 AP pP 04 22 07.5 -0.9
SNF XP sP 04 22 09.8 -0.9
PKSM Moragy 79.71 331⇑*i*P **P** **04 22 01.2 -0.7**
PKSM Moragy 79.71 331 P **P** **04 22 02.0 +0.1**
ARSA Arzberg 79.78 334⇓*i* pP 04 22 09.1 +0.4
comp=Z,27nm,1.0s
ARSA Arzberg 79.78 334⇑*i*P **P** **04 22 03.2 +0.9**
comp=Z,11nm,1.7s,mb4.5
ARSA ⇓*i*P pP 04 22 09.1 +0.4
comp=Z,27nm,1.0s
ARSA Arzberg 79.78 334 P **P** **04 22 03.2 +0.9**
ARSA *e* pP 04 22 09.1 +0.4
PVL Pavlikeni 79.89 325 *e*P **P** **04 22 08.0 +5.1**
HGH Gray Hill 79.96 346 *e*P **P** **04 22 07.3 +4.0**
GIVF Givet 79.97 341 *e*P **P** **04 22 03.0 -0.3**
comp=Z,102nm,1.3s,mb5.3
GIVF Givet 79.97 341 *e*P **P** **04 22 03.0 -0.3**
GIVF pmax pmax
comp=Z,51nm,1.3s,mb5.3
GIVF Givet 79.97 341 *e*P **P** **04 22 03.0 -0.3**
comp=Z,51nm,1.3s,mb5.3
DOU Dourbes 80.03 341 P **P** **04 22 02.7 -0.9**
DOU AP pP 04 22 08.7 -1.4
WLF Walferdange 80.08 340 *e*P **P** **04 22 04.4 +0.5**
WLF Walferdange 80.08 340 P **P** **04 22 03.0 -0.9**
MENF Mencas 80.10 343 *e*P **P** **04 22 09.8 +5.8**
BAIF Baives 80.15 342 *e*P **P** **04 22 04.2 -0.1**
STU Stuttgart 80.17 338 *e*P **P** **04 22 03.8 -0.6**
FUR Furstenfeldbru 80.18 337 *e*P **P** **04 22 04.0 -0.5**
LANF Langenberg 80.33 339 *e*P **P** **04 22 05.7 +0.4**
PERS Pernice 80.46 333 *e*P **P** **04 22 10.8 +4.8**
BORA Eskisehir 80.56 320 *i* P **P** **04 22 06.4 -0.1**
COBT Iskenderun 80.58 315 *i* P **P** **04 22 07.9 +1.3**
KBA Koelnbreinsper 80.59 335⇑*i* pP 04 22 13.3 +0.2
comp=Z,116nm,1.1s
KBA Koelnbreinsper 80.59 335⇑*i*P **P** **04 22 06.1 -0.5**
comp=Z,18nm,1.2s,mb4.9,SNR=24
KBA ⇑*i*P pP 04 22 13.3 +0.2
comp=Z,116nm,1.1s
KBA Koelnbreinsper 80.59 335 P **P** **04 22 06.1 -0.5**
KBA *e* pP 04 22 13.3 +0.2
HEX Exmoor 80.67 347 *e*P **P** **04 22 11.5 +4.5**
ESKT Eskisehir 80.68 320 *i* P **P** **04 22 07.4 +0.3**
OBKA Obir 80.74 334⇑*i*P **P** **04 22 10.4 +2.9**
comp=Z,9.8nm,1.7s,mb4.5
OBKA ⇑*i* 04 22 13.3
comp=Z,30nm,1.3s
OBKA Obir 80.74 334⇑*i*P **P** **04 22 12.7 +5.2**
comp=Z,30nm,1.3s,mb5.1
OBKA Obir 80.74 334 P **P** **04 22 10.4 +2.9**
OBKA *e* 04 22 13.3
BFO Black Forest 80.80 338 *e*P **P** **04 22 07.6 -0.2**
BFO pmax pmax
comp=Z,35nm,1.0s,mb5.2
BFO Black Forest 80.80 338 *e*P **P** **04 22 07.5 -0.3**
comp=Z,35nm,1.0s,mb5.2
WATA Walderalm 80.86 336 *i* pP 04 22 13.7 -0.9
comp=Z,31nm,0.7s,SNR=7.7
WATA Walderalm 80.86 336 *i* P **P** **04 22 09.5 +1.4**
comp=Z,8.9nm,1.0s,mb4.7
WATA *i* P pP 04 22 13.7 -0.9
comp=Z,31nm,0.7s,SNR=7.7
WATA Walderalm 80.86 336 P **P** **04 22 09.5 +1.4**
WATA *e* pP 04 22 13.7 -0.9
WTTA Wattenberg 80.91 336⇑*i* pP 04 22 14.5 -0.3
comp=Z,88nm,0.9s
WTTA Wattenberg 80.91 336⇑*i*P **P** **04 22 09.6 +1.2**
comp=Z,41nm,1.8s,mb5.1,SNR=21
WTTA ⇑*i*P pP 04 22 14.5 -0.3
comp=Z,88nm,0.9s
WTTA Wattenberg 80.91 336 P **P** **04 22 09.6 +1.2**
WTTA *e* pP 04 22 14.5 -0.3
KDHN Kadinhani 80.93 318 *i* P **P** **04 22 08.1 -0.4**
WLS Welschbruch 80.97 339 *e*P **P** **04 22 07.4 -1.3**
MOTA Moosalm 80.98 336⇑*i* pP 04 22 15.1 -0.1
comp=Z,116nm,1.2s
MOTA Moosalm 80.98 336 *i* P **P** **04 22 10.2 +1.4**
comp=Z,14nm,1.1s,mb4.8,SNR=28
MOTA ⇑*i*P pP 04 22 15.1 -0.1
comp=Z,116nm,1.2s
MOTA Moosalm 80.98 336 P **P** **04 22 10.2 +1.4**
MOTA *e* pP 04 22 15.1 -0.1
CDF Champ du Feu 80.99 339 *e*P **P** **04 22 08.4 -0.4**
comp=Z,79nm,1.1s,mb5.2
CDF Champ du Feu 80.99 339 *e*P **P** **04 22 08.4 -0.4**
CDF pmax pmax
comp=Z,39nm,1.1s,mb5.2
CDF Champ du Feu 80.99 339 *e*P **P** **04 22 08.4 -0.4**
comp=Z,39nm,1.1s,mb5.2
GCIS Gornji Cirnik 80.99 333 *e*P **P** **04 22 13.5 +4.7**
GRUS Gruza 81.03 329 *i* P **P** **04 22 10.7 +1.6**
PPT Papeete 81.06 128 *e*S S 04 32 18.5 +0.9
comp=Z,1μm,32.0s
PPT *e*LR LR 04 46 51.0
comp=Z,2μm,22.8s,baz=325

PPT Papeete 81.06 128 LR LR 04 50 36.4
comp=Z,910nm,20.4s,MS5.1,baz=276,slow=30
SQTA Sankt Quirin 81.06 336 *i* pP 04 22 15.8 +0.1
comp=Z,47nm,0.8s,SNR=10
SQTA Sankt Quirin 81.06 336⇑ *i*P **P 04 22 10.3 +1.1**
comp=Z,17nm,1.2s,mb4.8
SQTA *i* P pP 04 22 15.8 +0.1
comp=Z,47nm,0.8s,SNR=10
SQTA Sankt Quirin 81.06 336 P **P 04 22 10.3 +1.1**
SQTA *e* pP 04 22 15.8 +0.1
PLD Plovdiv 81.08 325 *e*P **P 04 22 08.5 -0.8**
DIVS Divcibare 81.11 329 *i* P **P 04 22 13.0 +3.6**
DIVS Divcibare 81.11 329 *e*P **P 04 22 08.7 -0.8**
LJU Ljubljana 81.17 334 *i* P **P 04 22 14.1 +4.4**
ECH Echery 81.20 339 *e*P **P 04 22 08.5 -1.4**
VTS Vitosha 81.24 326 *e*P **P 04 22 09.7 -0.4**
VTS Vitosha 81.24 326‖ *i*P **P 04 22 10.1 0.0**
VTS Vitosha 81.24 326 *e*P **P 04 22 10.0 -0.1**
FORT Forrest 81.27 204 *e*P **P 04 22 10.2 -0.1**
comp=Z,34nm,0.8s,mb5.3
FELD Feldberg im Sc 81.31 338 *e*P **P 04 22 10.7 +0.2**
DAVA Damuels 81.36 337⇑ *i* pP 04 22 17.1 -0.1
comp=Z,32nm,0.9s
DAVA Damuels 81.36 337⇑ *i*P **P 04 22 09.5 -1.3**
comp=Z,15nm,1.2s,mb4.8
DAVA ⇑ *i*P pP 04 22 17.1 -0.1
comp=Z,32nm,0.9s
DAVA Damuels 81.36 337 P **P 04 22 09.5 -1.3**
DAVA *e* pP 04 22 17.1 -0.1
MEZF Maizieres J'vi 81.43 341 *e*P **P 04 22 10.8 -0.3**
BOJS Bojanci 81.43 333 *e*P **P 04 22 15.9 +4.8**
THEF They Montfort 81.47 340 *e*P **P 04 22 09.3 -2.0**
ALN Alexandroupoli 81.57 324 *e*P **P 04 22 11.6 -0.3**
HAU Haudompre 81.59 340 *e*P **P 04 22 11.5 -0.5**
comp=Z,24nm,0.7s,mb4.9
HAU *e*R
comp=Z,2µm,22.2s
HAU Haudompre 81.59 340 *e*P **P 04 22 11.5 -0.5**
HAU pmax pmax
comp=Z,12nm,0.7s,mb4.9
HAU MLR MLR
comp=Z,2µm,22.3s,MS5.4
HAU Haudompre 81.59 340 *e*P **P 04 22 11.5 -0.5**
comp=Z,12nm,0.7s,mb4.9
HAU LR LR
comp=Z,2µm,22.3s,MS5.4
GDZ Gediz 81.63 320 *i* P **P 04 22 12.1 -0.1**
HINF Hinteralfeld 81.64 339 *e*P **P 04 22 11.9 -0.4**
comp=Z,44nm,1.1s,mb5.0
HINF Hinteralfeld 81.64 339 *e*P **P 04 22 11.9 -0.4**
HINF pmax pmax
comp=Z,22nm,1.1s,mb5.0
HINF Hinteralfeld 81.64 339 *e*P **P 04 22 11.9 -0.4**
comp=Z,22nm,1.1s,mb5.0
CANB Canakkale 81.89 323 *i* P **P 04 22 13.3 -0.3**
MMB Musomiste 81.90 326 *e*P **P 04 22 14.0 +0.4**
LOMF Lomont 82.09 339 *e*P **P 04 22 10.4 -4.2**
ISP Isparta 82.21 319 *e*P **P 04 22 14.5 -0.7**
ISP Isparta 82.21 319 *e*P **P 04 22 16.2 +1.0**
ISP pmax pmax
comp=Z,277nm,1.2s,mb6.1
ISP Isparta 82.21 319 *e*P **P 04 22 16.2 +1.0**
comp=Z,277nm,1.2s,mb6.1
FLN La Foliniere 82.33 344 *e*P **P 04 22 15.5 -0.4**
comp=Z,56nm,1.0s,mb5.1
FLN *e*R
comp=Z,1µm,21.0s
FLN La Foliniere 82.33 344 *e*P **P 04 22 15.5 -0.4**
FLN pmax pmax
comp=Z,28nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,1µm,21.0s,MS5.3
FLN La Foliniere 82.33 344 *e*P **P 04 22 15.5 -0.4**
comp=Z,28nm,1.0s,mb5.2
FLN LR LR
comp=Z,1µm,21.0s,MS5.3
SRS Serrai 82.36 325 *e*P **P 04 22 15.7 -0.3**
STIP Stip 82.40 327 *e*P **P 04 22 19.9 +3.7**
LDF La Druitiere 82.42 344 *e*P **P 04 22 16.3 -0.1**
SKO Skopje 82.44 327 *e*P **P 04 22 15.6 -0.8**
BOZC Bozcaada 82.46 323 *i* P **P 04 22 15.4 -1.1**
VAY Valandovo 82.57 326 *e*P **P 04 22 16.2 -1.0**
VAY Valandovo 82.57 326 *e*P **P 04 22 16.2 -1.0**
KNT Kendrikon 82.58 326 *e*P **P 04 22 17.2 0.0**
SOH Sokhos 82.70 325 *e*P **P 04 22 17.5 -0.3**
GRR Gorron 82.76 344 *e*P **P 04 22 18.1 0.0**
comp=Z,128nm,1.1s,mb5.5
GRR Gorron 82.76 344 *e*P **P 04 22 18.1 0.0**
GRR pmax pmax
comp=Z,64nm,1.1s,mb5.6
GRR Gorron 82.76 344 *e*P **P 04 22 18.1 0.0**
comp=Z,64nm,1.1s,mb5.6
LOS Limnos 82.77 324 *e*P **P 04 22 17.5 -0.7**
LOR Lormes 82.86 341 *e*P **P 04 22 18.4 -0.2**
comp=Z,72nm,0.9s,mb5.4
LOR *e*R
comp=Z,2µm,21.8s
LOR Lormes 82.86 341 *e*P **P 04 22 18.4 -0.2**
LOR pmax pmax
comp=Z,36nm,0.9s,mb5.4
LOR MLR MLR
comp=Z,2µm,21.8s,MS5.5
LOR Lormes 82.86 341 *e*P **P 04 22 18.4 -0.2**
comp=Z,36nm,0.9s,mb5.4
LOR LR LR
comp=Z,2µm,21.8s,MS5.5
OUR Ouranopolis 82.87 325 *e*P **P 04 22 17.9 -0.8**
GRG Griva 82.95 326 *e*P **P 04 22 18.0 -1.2**
CABF La Chapelle 82.96 339 *e*P **P 04 22 19.4 +0.3**
comp=Z,86nm,1.1s,mb5.4
CABF La Chapelle 82.96 339 *e*P **P 04 22 19.4 +0.3**
CABF pmax pmax
comp=Z,43nm,1.1s,mb5.4
CABF La Chapelle 82.96 339 *e*P **P 04 22 19.4 +0.3**
comp=Z,43nm,1.1s,mb5.4
BHL Bhannes 82.97 313 *e*P **P 04 22 19.2 0.0**
HORT Hortiatis 82.99 325 *e*P **P 04 22 19.4 +0.1**
THE Thessaloniki 83.01 326 *e*P **P 04 22 18.8 -0.7**
KRUS Krusevo 83.03 327 *e*P **P 04 22 19.0 -0.5**
PLG Polygyros 83.05 325 *e*P **P 04 22 18.9 -0.7**
PHP Peshkopia 83.05 328 *i* Pn **P 04 22 18.9 -0.7**
HYF Humbligny 83.13 342 *e*P **P 04 22 20.2 +0.2**
GOLH Golhisar 83.13 319 *i* P **P 04 22 20.0 -0.1**
SSF Saint Saulge 83.13 341 *e*P **P 04 22 19.9 -0.2**
comp=Z,37nm,0.9s,mb5.1
SSF Saint Saulge 83.13 341 *e*P **P 04 22 19.9 -0.2**
SSF pmax pmax
comp=Z,18nm,0.9s,mb5.1
SSF Saint Saulge 83.13 341 *e*P **P 04 22 19.9 -0.2**
comp=Z,18nm,0.9s,mb5.1
SGMF Saint Gilles 83.19 345 *e*P **P 04 22 20.4 +0.1**
comp=Z,91nm,0.9s,mb5.5
SGMF Saint Gilles 83.19 345 *e*P **P 04 22 20.4 +0.1**
SGMF pmax pmax
comp=Z,45nm,0.9s,mb5.5
SGMF Saint Gilles 83.19 345 *e*P **P 04 22 20.4 +0.1**
comp=Z,45nm,0.9s,mb5.5
ROSF Rostrenen 83.23 346 *e*P **P 04 22 20.6 0.0**
comp=Z,274nm,1.4s,mb5.8
ROSF Rostrenen 83.23 346 *e*P **P 04 22 20.6 0.0**
ROSF pmax pmax
comp=Z,137nm,1.4s,mb5.8
ROSF Rostrenen 83.23 346 *e*P **P 04 22 20.6 0.0**
comp=Z,137nm,1.4s,mb5.8
CSS Prodhromos 83.25 316 *e*P **P 04 22 20.6 0.0**
comp=Z,18nm,0.6s,mb5.3
BLCB Balcova 83.27 322 *e*P **P 04 22 19.6 -1.2**
BIA Bitola 83.31 327 *e*P **P 04 22 19.4 -1.6**
OHR Ohrid 83.42 327 *e*P **P 04 22 19.9 -1.6**
AVF Avril sur Loir 83.42 341 *e*P **P 04 22 21.4 -0.2**
comp=Z,47nm,0.8s,mb5.3
AVF Avril sur Loir 83.42 341 *e*P **P 04 22 21.4 -0.2**
AVF pmax pmax
comp=Z,24nm,0.8s,mb5.3
AVF Avril sur Loir 83.42 341 *e*P **P 04 22 21.4 -0.2**
comp=Z,24nm,0.8s,mb5.3
SMF Signal de Mont 83.45 341 *e*P **P 04 22 21.6 -0.1**
comp=Z,171nm,1.2s,mb5.6
SMF Signal de Mont 83.45 341 *e*P **P 04 22 21.6 -0.1**
SMF pmax pmax
comp=Z,85nm,1.2s,mb5.7
SMF Signal de Mont 83.45 341 *e*P **P 04 22 21.6 -0.1**
comp=Z,85nm,1.2s,mb5.7
URLA Izmir 83.48 322 *i* P **P 04 22 20.9 -0.9**
FNA Florina 83.49 327 *e*P **P 04 22 21.1 -0.8**

TIR Tirane 83.56 328 *e*P **P 04 22 23.3 +1.1**
QUIF Quistinic 83.62 346 *e*P **P 04 22 22.6 0.0**
LIT Litokhoron 83.66 326 *e*P **P 04 22 20.7 -2.0**
BGF Bois d'Agland 83.76 341 *e*P **P 04 22 22.9 -0.4**
comp=Z,25nm,0.6s,mb5.2
BGF Bois d'Agland 83.76 341 *e*P **P 04 22 22.9 -0.4**
BGF pmax pmax
comp=Z,13nm,0.6s,mb5.2
BGF Bois d'Agland 83.76 341 *e*P **P 04 22 22.9 -0.4**
comp=Z,12nm,0.6s,mb5.2
LPL La Plagne 83.82 338 *e*P **P 04 22 24.5 +0.9**
comp=Z,51nm,0.6s,mb5.5
LPL La Plagne 83.82 338 *e*P **P 04 22 24.5 +0.9**
LPL pmax pmax
comp=Z,25nm,0.6s,mb5.5
LPL La Plagne 83.82 338 *e*P **P 04 22 24.5 +0.9**
comp=Z,26nm,0.6s,mb5.5
LPG La Plagne 83.83 338 *e*P **P 04 22 24.6 +0.9**
comp=Z,151nm,1.0s,mb5.8
LPG La Plagne 83.83 338 *e*P **P 04 22 24.6 +0.9**
LPG pmax pmax
comp=Z,76nm,1.0s,mb5.8
LPG La Plagne 83.83 338 *e*P **P 04 22 24.6 +0.9**
comp=Z,76nm,1.0s,mb5.8
KBN Korca 83.85 327 *i* Pn **P 04 22 28.0 +4.3**
AOS Alonnisos 83.91 324 *e*P **P 04 22 22.8 -1.2**
XOR Xorichti 84.01 325 *e*P **P 04 22 22.2 -2.4**
PLDF La Plantade 84.14 341 *e*P **P 04 22 25.7 +0.5**
TCF Toulx Ste Croi 84.15 342 *e*P **P 04 22 25.5 +0.2**
comp=Z,39nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.15 342 *e*P **P 04 22 25.5 +0.2**
TCF pmax pmax
comp=Z,19nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.15 342 *e*P **P 04 22 25.5 +0.2**
comp=Z,19nm,0.9s,mb5.2
AGO Saint Agoulin 84.17 341 *e*P **P 04 22 26.2 +0.8**
BDRM Kayabasi 84.20 321 *i* P **P 04 22 24.7 -0.8**
GDM Grand'Maison 84.27 339 *e*P **P 04 22 27.0 +1.1**
BNI Bardonecchia 84.27 338 *e*P **P 04 22 26.4 +0.5**
BNI pmax pmax
comp=Z,25nm,0.8s,mb5.4
BNI Bardonecchia 84.27 338 *e*P **P 04 22 26.4 +0.5**
comp=Z,25nm,0.8s,mb5.4
GRN Grenoble 84.32 339 *e*P **P 04 22 26.9 +0.7**
MFF Saint Martin d 84.33 343 *e*P **P 04 22 26.3 +0.1**
PYM Petit Puy Mans 84.49 341 *e*P **P 04 22 27.8 +0.8**
MBDF Montbardon 84.55 338 *e*P **P 04 22 27.6 +0.3**
comp=Z,35nm,0.7s,mb5.3
MBDF Montbardon 84.55 338 *e*P **P 04 22 27.6 +0.3**
MBDF pmax pmax
comp=Z,18nm,0.7s,mb5.3
MBDF Montbardon 84.55 338 *e*P **P 04 22 27.6 +0.3**
comp=Z,18nm,0.7s,mb5.3
ORIF Oris-en-Rattie 84.59 339 *e*P **P 04 22 28.0 +0.5**
comp=Z,47nm,0.8s,mb5.4
ORIF *e*R
comp=Z,1µm,22.2s
ORIF Oris-en-Rattie 84.59 339 *e*P **P 04 22 28.0 +0.5**
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.4
ORIF Oris-en-Rattie 84.59 339 *e*P **P 04 22 28.0 +0.5**
comp=Z,23nm,0.8s,mb5.4
AGG Agios Georgios 84.65 325 *e*P **P 04 22 26.1 -1.7**
WHFO Wadi Hawf 84.75 291 P **P 04 22 28.2 -0.1**
SNR=13
WHFO P 04 22 28.6
SNR=12
WHFO Wadi Hawf 84.75 291 P **P 04 22 28.2 -0.1**
SNR=13
WHFO P 04 22 28.6
SNR=12
WHFO Wadi Hawf 84.75 291 P **P 04 22 28.6 +0.3**
SNR=12
AQU L'Aquila 84.85 333‖ *i*P **P 04 22 27.9 -0.9**
AQU L'Aquila 84.85 333 *e*P **P 04 22 30.3 +1.5**
AQU pmax pmax
comp=Z,27nm,0.8s,mb5.4
AQU L'Aquila 84.85 333 *e*P **P 04 22 30.3 +1.5**
comp=Z,27nm,0.8s,mb5.4
VIVF Saint-Julien-l 84.95 340 *e*P **P 04 22 29.6 +0.3**
comp=Z,57nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.95 340 *e*P **P 04 22 29.6 +0.3**
VIVF pmax pmax
comp=Z,29nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.95 340 *e*P **P 04 22 29.6 +0.3**
comp=Z,29nm,1.1s,mb5.3
APE Apeiranthos 85.02 322 *e*P **P 04 22 25.3 -4.4**
APE Apeiranthos 85.02 322‖ *i*P **P 04 22 28.3 -1.4**
SAOF Saorge 85.04 337 *e*P **P 04 22 29.8 +0.1**
AUTN L'Aution 85.06 337 *e*P **P 04 22 30.3 +0.4**
TOUF Mont Tournerai 85.09 338 *e*P **P 04 22 30.8 +0.8**
SBF Sospel 85.18 337 *e*P **P 04 22 29.9 -0.6**
comp=Z,82nm,0.8s,mb5.6
SBF Sospel 85.18 337 *e*P **P 04 22 29.9 -0.6**
SBF pmax pmax
comp=Z,41nm,0.8s,mb5.6
SBF Sospel 85.18 337 *e*P **P 04 22 29.9 -0.6**
comp=Z,41nm,0.8s,mb5.6
RJF Les Rejaudoux 85.24 342 *e*P **P 04 22 30.5 -0.2**
comp=Z,169nm,1.4s,mb5.7
RJF *e*R
comp=Z,2µm,20.5s
RJF Les Rejaudoux 85.24 342 *e*P **P 04 22 30.5 -0.2**
RJF pmax pmax
comp=Z,85nm,1.4s,mb5.7
RJF MLR MLR
comp=Z,2µm,20.5s,MS5.5
RJF Les Rejaudoux 85.24 342 *e*P **P 04 22 30.5 -0.2**
comp=Z,85nm,1.4s,mb5.7
RJF LR LR
comp=Z,2µm,20.5s,MS5.5
CAF Calviac 85.48 341 *e*P **P 04 22 32.1 +0.1**
comp=Z,51nm,1.0s,mb5.3
CAF Calviac 85.48 341 *e*P **P 04 22 32.1 +0.1**
CAF pmax pmax
comp=Z,26nm,1.0s,mb5.3
CAF Calviac 85.48 341 *e*P **P 04 22 32.1 +0.1**
comp=Z,26nm,1.0s,mb5.3
SMRF Simiane la Rot 85.55 339 *e*P **P 04 22 32.7 +0.4**
comp=Z,89nm,1.3s,mb5.5
SMRF Simiane la Rot 85.55 339 *e*P **P 04 22 32.7 +0.4**
comp=Z,89nm,1.3s,mb5.8
LKD Levkas 85.57 326 *e*P **P 04 22 30.3 -2.1**
FRF La Foret Royal 85.67 338 *e*P **P 04 22 32.8 -0.1**
comp=Z,139nm,1.4s,mb5.7
FRF La Foret Royal 85.67 338 *e*P **P 04 22 32.8 -0.1**
FRF pmax pmax
comp=Z,69nm,1.4s,mb5.7
FRF La Foret Royal 85.67 338 *e*P **P 04 22 32.8 -0.1**
comp=Z,69nm,1.4s,mb5.7
LFF La Frestale 85.75 342 *e*P **P 04 22 33.7 +0.4**
comp=Z,87nm,1.1s,mb5.6
LFF La Frestale 85.75 342 *e*P **P 04 22 33.7 +0.4**
LFF pmax pmax
comp=Z,43nm,1.0s,mb5.6
LFF La Frestale 85.75 342 *e*P **P 04 22 33.7 +0.4**
comp=Z,43nm,1.0s,mb5.6
TBI Tubuai 85.86 131 *e*S S 04 33 04.0 -2.1
comp=Z,634nm,31.0s
TBI *e*LR LR 04 48 49.7
comp=Z,3µm,31.8s,baz=328
LASF Ste Croix 85.88 340 *e*P **P 04 22 34.0 +0.1**
comp=Z,135nm,1.4s,mb5.7
LMR La Mourre 85.92 338 *e*P **P 04 22 34.1 0.0**
comp=Z,38nm,0.8s,mb5.4
LMR La Mourre 85.92 338 *e*P **P 04 22 34.1 0.0**
LMR pmax pmax
comp=Z,19nm,0.8s,mb5.4
LMR La Mourre 85.92 338 *e*P **P 04 22 34.1 0.0**
comp=Z,19nm,0.8s,mb5.4
PGF Pioggiola 85.98 336 *e*P **P 04 22 34.3 -0.1**
comp=Z,48nm,1.0s,mb5.4
PGF Pioggiola 85.98 336 *e*P **P 04 22 34.3 -0.1**
PGF pmax pmax
comp=Z,24nm,1.0s,mb5.4
PGF Pioggiola 85.98 336 *e*P **P 04 22 34.3 -0.1**
comp=Z,24nm,1.0s,mb5.4
CORF Corte 86.17 336 *e*P **P 04 22 38.7 +3.3**
ZKR Zakros 86.38 320 *e*P **P 04 22 35.0 -1.4**
TIP Timpagrande 86.58 329 *e*P **P 04 22 36.9 -0.5**
NWAO Narrogin (SRO) 86.68 211 P **P 04 22 38.7 +0.8**
comp=Z,27nm,0.9s,mb5.5,baz=48,slow=4.8,SNR=8.5
NWAO Narrogin (SRO) 86.68 211 P **P 04 22 38.7 +0.8**
EIL Elat 86.72 311 *e*P **P 04 22 38.5 +0.4**
comp=Z,416nm,0.9s
MTLF Montolieu 86.95 341 *e*P **P 04 22 39.2 0.0**
comp=Z,102nm,1.5s,mb5.5
MTLF Montolieu 86.95 341 *e*P **P 04 22 39.2 0.0**
MTLF pmax pmax
comp=Z,51nm,1.5s,mb5.5
MTLF Montolieu 86.95 341 *e*P **P 04 22 39.2 0.0**
comp=Z,51nm,1.5s,mb5.5
GVD Gavdhos 87.53 322 *e*P **P 04 22 41.8 -0.2**
comp=Z,29nm,0.8s,mb5.6
EPF Esparros 87.66 342 *e*P **P 04 22 41.9 -0.7**
comp=Z,18nm,0.7s,mb5.1
EPF Esparros 87.66 342 *e*P **P 04 22 41.9 -0.7**
EPF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
EPF Esparros 87.66 342 *e*P **P 04 22 41.9 -0.7**
comp=Z,9.0nm,0.7s,mb5.1
ETSF Etsaut 87.97 343 *e*P **P 04 22 43.7 -0.4**
comp=Z,13nm,0.6s,mb5.1
ETSF Etsaut 87.97 343 *e*P **P 04 22 43.7 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
ETSF Etsaut 87.97 343 *e*P **P 04 22 43.7 -0.4**
comp=Z,6.5nm,0.6s,mb5.0
ESDC Sonseca Array 91.75 344 P **P 04 23 00.6 -1.1**
comp=Z,2.2nm,0.8s,mb4.6,baz=3.1,slow=4.2,SNR=6.7
ESDC PP PP 04 26 38.8 -1.7
comp=Z,0.1nm,0.3s,baz=57,slow=39,SNR=4.9
ESDC LR LR 05 09 01.2
comp=Z,877nm,20.6s,MS5.2,baz=30,slow=39
KEST Kesra 92.17 333 P **P 04 23 03.2 -0.5**
comp=Z,2.3nm,1.0s,mb4.5,baz=61,slow=8.9,SNR=4.4
KEST LR LR 05 08 58.2
comp=Z,469nm,21.1s,MS4.9,baz=354,slow=38
RKT Rikitea 93.75 120 *e*PS PS 04 35 29.4 -5.9
comp=Z,289nm,27.0s
RKT Rikitea 93.75 120 *e*SS SS 04 40 38.8 +1.2
comp=Z,243nm,26.2s
RKT *e*LR LR 04 52 39.4
comp=Z,1µm,33.5s,baz=317
DRV Dumont d'Urvil 113.96 187 SP SP 04 39 01.0 -0.6
DRV SS SS 04 45 20.0 +4.5
TOA0 Torodi Ar. Sit 115.64 331 *e*PKPdf PKPdf 04 28 36.1 -0.3
TORD Torodi Ar. Bea 115.64 331 PKP PKPdf 04 28 35.6 -0.7
comp=Z,3.5nm,1.0s,baz=21,slow=1.5,SNR=19
TORD PP PP 04 29 35.5 -3.4
comp=Z,3.8nm,1.0s,baz=19,slow=5.8,SNR=8.5
TORD PKKPbc PKKPbc 04 39 08.3 -0.3
comp=Z,0.8nm,1.0s,baz=318,slow=0.3,SNR=4.1
MIR Mirnyy 122.78 205 *e* PKPdf 04 28 44.0 -6.1
LIC Lamto 124.22 336 *e*PKIKP PKPdf 04 28 52.0 -0.8
comp=Z,24nm,1.0s
LIC *e*R
comp=Z,864nm,21.5s
LIC Lamto 124.22 336 *e*PKPdf PKPdf 04 28 52.0 -0.8
LIC LR LR
comp=Z,430nm,21.5s,MS5.1
VNDA Vanda 124.33 178 PKP PKPdf 04 28 50.7 -2.3
comp=Z,3.2nm,0.9s,baz=325,slow=3.4,SNR=17
VNDA Vanda 124.33 178 PKIKP PKPdf 04 28 50.7 -2.3
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 124.33 178 *e*PKPdf PKPdf 04 28 50.6 -2.5
LSZ Lusaka 126.18 288 *e*PKIKP PKPdf 04 28 56.4 -0.2
SAML Samuel 129.87 53 *e*PKPdf PKPdf 04 29 03.2 -0.4
LPAZ La Paz 132.81 64 PKP PKPdf 04 29 10.0 +0.8
comp=Z,3.0nm,0.9s,baz=1.2,slow=6.4,SNR=8.6
LPAZ La Paz 132.81 64 PKIKP PKPdf 04 29 10.0 +0.8
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 132.81 64 *e*PKPdf PKPdf 04 29 10.5 +1.3
MAW Mawson 133.25 212 *e*P PKPdf 04 29 10.1 +0.1
comp=Z,4.8nm,0.7s
MAW Mawson 133.25 212 PKP PKPdf 04 29 08.6 -1.4
comp=Z,6.0nm,0.7s,baz=78,slow=2.7,SNR=14
MAW Mawson 133.25 212 PKIKP PKPdf 04 29 08.6 -1.4
MAW pmax pmax
comp=Z,6.0nm,0.7s
QSPA South Pole Qui 136.75 180 *e*PKPdf PKPdf 04 29 13.0 -3.5
PLCA Paso Flores 146.67 96 PKPdf PKPdf 04 29 35.4 +1.2
NVL N'lazarevskaya 150.52 204 *d i*PKIKP PKPdf 04 29 42.9 +2.4
NVL pmax pmax
comp=Z,41nm,1.1s
MAIT Maitri 150.54 204 *e*PKPdf PKPdf 04 29 44.2 +3.7
CAM4 Nova Friburgo 151.44 37⇑ *i*P PKPbc 04 29 47.1 -0.9
CAM4 *i* 04 29 48.9
CAM4 *i* 04 29 51.0
CAM4 *i* 04 29 55.3
CAM4 *i* 04 30 10.1
PMSA Palmer Station 152.29 144 PKPbc PKPbc 04 29 48.6 -1.3
comp=Z,41nm,1.0s,baz=184,slow=2.0,SNR=6.2
PMSA Palmer Station 152.29 144 *e*PKPbc PKPbc 04 29 49.0 -0.9
SNAA Sanae 153.24 195 PKP PKPdf 04 29 42.2 -2.3
comp=Z,1.0nm,1.0s,baz=169,slow=5.4,SNR=3.9
SNAA PKPbc PKPbc 04 29 49.9 -2.1
comp=Z,3.7nm,0.8s,baz=8.9,slow=1.3,SNR=17
SNAA Sanae 153.24 195 *e*PKPdf PKPdf 04 29 43.2 -1.3
SNAA *e* 04 29 59.5
SNAA *e* 04 30 04.7
SNAA *e* 04 30 16.5
SNAA *e* 04 30 28.5
SNAA *e* 04 30 37.7
SNAA *e* 04 30 44.7
SNAA *e* 04 33 40.8
SNAA *e* 04 33 46.7
SNAA Sanae 153.24 195 PKIKP PKPdf 04 29 42.2 -2.3
SNAA 04 29 49.9
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 153.24 195 *e*PKPdf PKPdf 04 29 43.9 -0.7
SNAA *e*PKPbc PKPbc 04 29 50.4 -1.7
VNA2 Neumayer--Watz 154.64 193 *e*PKPdf PKPdf 04 29 45.7 -0.8
VNA2 *e* 04 29 54.9
VNA2 *e* 04 29 58.5
VNA2 *e* 04 30 08.1
VNA2 *e* 04 30 18.3
VNA2 *e* 04 30 21.4
VNA2 *e* 04 30 29.3
VNA2 *e* 04 30 51.3
VNA2 *e* 04 33 46.4
VNA2 *e* 04 33 54.4
VNA3 Neumayer Olymp 154.68 191 *e*PKPdf PKPdf 04 29 45.5 -1.1
VNA3 *e* 04 29 54.9
VNA3 *e* 04 30 01.2
VNA3 *e* 04 30 08.1
VNA3 *e* 04 30 18.1
VNA3 *e* 04 30 21.6
VNA3 *e* 04 30 27.2
VNA3 *e* 04 30 51.3
VNA3 *e* 04 33 46.0
VNA3 *e* 04 33 53.2
VNA1 Neumayer--Stat 155.02 193 *e*PKPdf PKPdf 04 29 47.3 +0.2
VNA1 *e* 04 29 56.4
VNA1 *e* 04 30 03.4
VNA1 *e* 04 30 12.5

IDC ***17*** *04:16:51.5±0.8, 4655N×15387E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/23, mbtmp4.0/9, ML3.4/1, Error ellipse: s-maj=29.0km s-min=19.7km az=143.0*
NEIC ***17*** *04:16:53.4±0.5, 4659N×15379E, h10km, mb4.4/7, Error ellipse: s-maj=14.4km s-min=9.2km az=157.0*
ISCJB ***17*** *04:16:54.1±3.8, 465N±0.1×1537E±0.1, h30km±27km, mb4.2/15, Error ellipse: s-maj=20.2km s-min=11.5km az=109.8*
MOS ***17*** *04:16:54.8±1.1, 4652N×15366E, h33km, mb4.6/4, Error ellipse: s-maj=20.7km s-min=15.0km az=71.4*

ISC 17 04:16:57.1±1.5, 465N±01×1536E±01, h38km±14km, n27, σ0s88/27, mb4.2/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.48**	**21**	*e*PN	**Pn**	**04 18 03.0**	**+0.6**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.49**	**277**	*e*PN	**Pn**	**04 18 37.0**	**-6.8**
ASAJ	**Asahikawa**	**8.14**	**257**	Pn	**Pn**	**04 18 52.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=87,slow=18,SNR=2.6						
ASAJ	**Asahikawa**	**8.14**	**257**	PN	**Pn**	**04 18 52.2**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.23**	**235**	Pn	**Pn**	**04 20 30.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=32,slow=10.0,SNR=5.0						
KSRS	**Korea Array**	**21.07**	**254**	P	**P**	**04 21 36.0**	**-2.0**
	comp=Z,1.9nm,0.7s,mb3.5,baz=58,slow=11,SNR=5.0						

INK	**Inuvik**	**41.65**	**32**	P		**P**	**04 24 38.8**	**-2.9**
	comp=Z,3.7nm,0.8s,mb4.0,baz=304,slow=6.1,SNR=6.8							
MK31	**Makanchi Array**	**47.37**	**298**	*e*P		**P**	**04 25 28.6**	**+1.2**
MKAR	**Makanchi Array**	**47.37**	**298**	P		**P**	**04 25 29.2**	**+1.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=68,slow=7.1,SNR=2.9							
CHKZ	**Chkalovo**	**50.85**	**310**	*e*P		**P**	**04 25 53.7**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.85**	**310**	*e*P		**P**	**04 25 53.7**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**51.28**	**310**	P		**P**	**04 25 56.9**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=56,slow=8.7,SNR=6.4							
BRVK	**Borovoye**	**51.32**	**310**	*e*P		**P**	**04 25 57.4**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.32**	**310**	*e*P		**P**	**04 25 57.4**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.4							
ZRNK	**Zerenda**	**52.05**	**310**	*e*P		**P**	**04 26 02.7**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**52.05**	**310**	*e*P		**P**	**04 26 02.6**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.3							
HLID	**Hailey**	**61.34**	**56**	*e*P		**P**	**04 27 08.4**	**-0.5**
	comp=Z,2.0nm,1.1s,mb4.2							
TPAW	**Teton Pass**	**63.34**	**54**	*e*P		**P**	**04 27 23.0**	**+0.6**
	comp=Z,5.6nm,1.0s,mb4.7							
DUG	**Dugway**	**64.39**	**58**	*e*P		**P**	**04 27 29.6**	**+0.3**
DUG				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
DUG	**Dugway**	**64.39**	**58**	*e*P		**P**	**04 27 29.6**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2							
PDAR	**Pinedale Array**	**64.59**	**54**	P		**P**	**04 27 30.4**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=308,slow=3.1,SNR=7.2							
WRA	**Warramunga Arr**	**68.42**	**200**	P		**P**	**04 27 55.0**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=18,slow=6.9,SNR=4.9							
MVCO	**Mesa Verde**	**68.89**	**58**	*e*P		**P**	**04 27 57.8**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**72.11**	**199**	P		**P**	**04 28 18.3**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=13,slow=5.1,SNR=7.3							
CLL	**Collm**	**76.82**	**336**	*e*P		**P**	**04 28 45.0**	**+0.1**
TXAR	**Lajitas Array**	**77.29**	**61**	P		**P**	**04 28 47.4**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.4,baz=308,slow=4.4,SNR=19							
TXAR	**Lajitas Array**	**77.29**	**61**	P		**P**	**04 28 47.4**	**-0.2**

IDC ***17*** *04:20:20.8±0.6, 4684N×15295E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.4/26, mbtmp4.3/19, ML4.0/1, Error ellipse: s-maj=18.8km s-min=13.4km az=134.0*
SKHL ***17*** *04:20:24.7±2.2, 4674N×153.18E, h47km±2km*
NEIC ***17*** *04:20:24.0±4.7, 4680N×15292E, h19km±29km, mb4.7/13, Error ellipse: s-maj=9.4km s-min=6.8km az=158.0*
BJI ***17*** *04:20:24.0, 4680N×15290E, h19km, mB5.2, mb4.6*
JMA ***17*** *04:20:24.1±0.9, 4679N×15337E, h30km, M5.2*
ISCJB ***17*** *04:20:25.2±0.9, 4661N±006×15303E±006, h46km±8km, mb4.5/39, Error ellipse: s-maj=10.4km s-min=5.6km az=115.4*
MOS ***17*** *04:20:25.2±1.2, 4678N×15302E, h43km, mb4.6/8, Error ellipse: s-maj=10.5km s-min=7.5km az=71.3*

ISC 17 04:20:26.3±0.6, 4676N±005×15304E±007, h36km±5km, n132, σ1°28/147, mb4.5/39, 9C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR	**Kuril'sk**	**3.92**	**249**	⇓*i*P		**Pn**	**04 21 23.5**	**-0.4**
KUR				AMB	AMB	AMB	04 21 26.0	
	342nm,0.6s							
KUR				*e*S		**Sn**	**04 22 09.5**	**+0.9**
KUR				A			04 22 25.5	
	258nm,0.7s							
KUR				A			04 22 25.5	
	1μm,0.7s							
KUR	**Kuril'sk**	**3.92**	**249**	⇓*i*PN		**Pn**	**04 21 23.2**	**-0.7**
KUR				*i* S		**Sn**	**04 22 08.0**	**-0.6**
KUR				pmax	pmax			
	comp=Z,510nm,0.4s							
SKR	**Severo-Kuril's**	**4.42**	**26**	*e*P		**Pn**	**04 21 30.6**	**-0.3**
SKR				AMB	AMB	AMB	04 21 33.4	
	comp=Z,330nm,0.4s							
SKR				AMB	AMB	AMB	04 21 33.4	
	comp=Z,80nm,0.4s							
SKR				AMB	AMB	AMB	04 21 33.4	
	comp=Z,540nm,0.5s							
SKR				*i* S		**Sn**	**04 22 19.1**	**-2.1**
SKR				A			04 22 41.6	
	comp=Z,540nm,0.5s							
SKR				A			04 22 41.6	
	comp=Z,550nm,0.5s							
SKR				A			04 22 41.6	
	comp=Z,230nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.74**	**244**	*e*P		**Pn**	**04 21 51.8**	**+2.8**
YUK				AMB	AMB	AMB	04 21 52.6	
	comp=Z,190nm,0.5s							
YUK				AMB	AMB	AMB	04 21 52.6	
	comp=Z,580nm,0.5s							
YUK				*e*S		**Sn**	**04 22 52.4**	**-1.2**
YUK				A			04 23 11.5	
	comp=Z,950nm,0.6s							
YUK				A			04 23 11.5	
	comp=Z,760nm,0.6s							
YUK				A			04 23 15.8	
	comp=Z,4μm,1.0s							
YUK				A			04 23 15.8	
	comp=Z,4μm,1.2s							
NEM2	**Nemuro 2**	**6.18**	**239**	P		**Pn**	**04 21 55.2**	**+0.2**
NEM2				*e*S		**Sn**	**04 23 03.3**	**-1.2**
JRA	**Rausu**	**6.25**	**246**	P		**Pn**	**04 21 59.2**	**+3.2**
JRA				*e*S		**Sn**	**04 23 12.2**	**+6.0**
JNK	**Nakash**	**6.68**	**245**	P		**Pn**	**04 22 04.4**	**+2.5**
JTKR	**Abashiri--Toko**	**7.01**	**250**	P		**Pn**	**04 22 09.0**	**+2.6**
JAK	**Akkeshi**	**7.02**	**241**	P		**Pn**	**04 22 06.9**	**+0.4**
JAK				*e*S		**Sn**	**04 23 23.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	⇑*e*P		**Pn**	**04 22 11.2**	**+4.1**
YSS				AMB	AMB	AMB	04 22 12.8	
	comp=Z,50nm,0.8s							
YSS				sP			04 22 29.7	
YSS				*i* S		**Sn**	**04 23 30.0**	**+4.0**
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	⇑*e*PN		**Pn**	**04 22 11.2**	**+4.1**
YSS				*i* S		**Sn**	**04 23 30.0**	**+4.0**
YSS				pmax	pmax			
	comp=Z,50nm,0.8s							
PET	**Petropavlovsk**	**7.24**	**28**	*e*PN		**Pn**	**04 22 08.9**	**-0.7**
PET				MLR	MLR			
	comp=Z,2μm,13.0s							
JMP	**Maruseppu**	**7.35**	**252**	P		**Pn**	**04 22 14.7**	**+3.6**
JAR	**Ashorobuto**	**7.42**	**246**	P		**Pn**	**04 22 14.5**	**+2.4**
JAR				*e*S		**Sn**	**04 23 36.6**	**+1.6**
JOB	**Onbets**	**7.59**	**243**	P		**Pn**	**04 22 16.0**	**+1.6**
JOB				*e*S		**Sn**	**04 23 38.8**	**-0.4**
ASAJ	**Asahikawa**	**7.81**	**254**	Pn		**Pn**	**04 22 20.7**	**+3.3**
	comp=Z,9.6nm,0.3s,baz=94,slow=14,SNR=20							
ASAJ	**Asahikawa**	**7.81**	**254**	P		**Pn**	**04 22 20.0**	**+4.7**
ASAJ	**Asahikawa**	**7.81**	**254**	PN		**Pn**	**04 22 20.7**	**+3.4**
ASAJ				pmax	pmax			
	comp=Z,10.0nm,0.3s							
JKK2	**Kamakawa 2**	**7.81**	**252**	P		**Pn**	**04 22 20.9**	**+3.5**
JWK2	**Keihoku**	**7.89**	**264**	P		**Pn**	**04 22 24.7**	**+6.2**
JCH	**Churui**	**8.04**	**242**	P		**Pn**	**04 22 21.4**	**+0.8**
JCH				*e*S		**Sn**	**04 23 48.7**	**-1.6**
JFR	**Furan**	**8.23**	**248**	P		**Pn**	**04 22 26.1**	**+2.9**
JEM	**Erimo**	**8.52**	**240**	P		**Pn**	**04 22 28.5**	**+1.4**
ERM	**Erimo**	**8.52**	**240**	*e*PN		**Pn**	**04 22 28.6**	**+1.5**
ERM				pmax	pmax			
	comp=Z,89nm,0.4s							
ERM	**Erimo**	**8.52**	**240**	*e*Pn		**Pn**	**04 22 28.6**	**+1.5**
	comp=Z,89nm,0.4s							
ERM				*e*Sn		**Sn**	**04 24 00.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**8.60**	**242**	P		**Pn**	**04 22 28.3**	**0.0**
JNBK				*e*S		**Sn**	**04 24 04.3**	**+0.2**
JEW	**Eniwo**	**9.12**	**249**	P		**Pn**	**04 22 38.5**	**+3.1**
JKB	**Kayabe**	**9.88**	**245**	P		**Pn**	**04 22 45.8**	**0.0**
JKB				*e*S		**Sn**	**04 24 30.4**	**-5.1**
JSH	**Shimam**	**10.12**	**251**	P		**Pn**	**04 22 50.6**	**+1.5**
JOT	**Ohata**	**10.16**	**242**	P		**Pn**	**04 22 47.9**	**-1.7**
JOT				*e*S		**Sn**	**04 24 35.8**	**-6.5**
JYM2	**Yakumo 2**	**10.18**	**247**	P		**Pn**	**04 22 50.6**	**+0.8**
JTM	**Tenmabayashi**	**10.51**	**240**	P		**Pn**	**04 22 53.0**	**-1.4**
JTM				*e*S		**Sn**	**04 24 43.4**	**-7.4**
JANG	**Nango**	**10.51**	**237**	P		**Pn**	**04 22 52.1**	**-2.3**
JANG				*e*S		**Sn**	**04 24 42.3**	**-8.6**
JOSM	**Okushiri--Mats**	**10.77**	**249**	P		**Pn**	**04 22 58.7**	**+0.8**
JOM	**Ohasama**	**11.25**	**234**	P		**Pn**	**04 23 00.6**	**-3.9**
JOM				*e*S		**Sn**	**04 25 02.2**	**-6.8**
OFUJ	**Ofunato**	**11.32**	**231**	P		**Pn**	**04 23 03.1**	**-2.4**
OFUJ				*e*S		**Sn**	**04 24 59.6**	**-11**
JRG	**Rokugo**	**11.67**	**235**	P		**Pn**	**04 23 09.2**	**-1.1**
JIO	**Ouri**	**11.95**	**230**	P		**Pn**	**04 23 12.1**	**-2.0**
JIO				*e*S		**Sn**	**04 25 16.2**	**-10**
JYA	**Atsumi**	**12.74**	**235**	P		**Pn**	**04 23 22.8**	**-2.1**
JFY	**Yanaizu**	**13.60**	**231**	P		**Pn**	**04 23 36.6**	**0.0**
MAJO	**Matsushiro**	**15.04**	**233**	*e*P		**Pn**	**04 23 54.2**	**-2.0**
MAJO				pmax	pmax			
	comp=Z,33nm,0.8s							
MAJO	**Matsushiro**	**15.04**	**233**	*e*P		**Pn**	**04 23 54.2**	**-2.0**
	comp=Z,33nm,0.8s							
MAT	**Matsushiro**	**15.04**	**233**	P		**Pn**	**04 23 54.2**	**-2.0**
MAT	**Matsushiro**	**15.04**	**233**	P		**Pn**	**04 23 53.7**	**-2.5**
MJAR	**Matsushiro Arr**	**15.04**	**233**	Pn		**Pn**	**04 23 54.5**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=28,slow=14,SNR=9.9							
ZEA	**Zeya**	**17.85**	**302**	*e*P		**Pn**	**04 24 32.7**	**+1.0**
ZEA				sP		sP	04 24 47.5	+1.5
CN2	**Changchun**	**19.60**	**271**	*e*P		**Pn**	**04 24 57.3**	**+4.4**
YAK	**Yakutsk**	**20.29**	**327**	⇓*e*P		**P**	**04 24 59.9**	**+1.1**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KSRS	**Korea Array**	**20.75**	**252**	P		**P**	**04 25 04.5**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=58,slow=11,SNR=14							
JNU	**Nakatsue**	**21.68**	**239**	P		**P**	**04 25 14.4**	**+0.6**
	comp=Z,18nm,0.7s,mb4.6,baz=282,slow=16,SNR=6.1							
HIA	**Hailar**	**22.32**	**289**	⇓*e*P		**P**	**04 25 20.2**	**-0.5**
BILL	**Bilibino**	**22.40**	**13**	*e*P		**P**	**04 25 22.0**	**+0.5**
BILL				*e*			04 25 33.4	
BILL				*e*S		**S**	**04 29 25.5**	**-0.2**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb3.7							
ULN	**Ulaanbaatar**	**30.85**	**289**	⇓*e*P		**P**	**04 26 44.6**	**+5.6**
SONM	**Songino Array**	**31.28**	**289**	P		**P**	**04 26 41.1**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=81,slow=9.2,SNR=4.0							
XAN	**Xi'an**	**35.47**	**265**	P		**P**	**04 27 19.4**	**+0.2**
XAN				AMB	AMB			
	comp=Z,11nm,0.8s,mb4.8							
COLA	**College**	**36.16**	**38**	⇑*e*P		**P**	**04 27 25.7**	**+0.5**
EGAK	**Eagle**	**39.02**	**38**	*e*P		**P**	**04 27 48.9**	**-0.5**
	comp=Z,26nm,1.2s,mb4.8							
GYA	**Guiyang**	**41.67**	**257**	P		**P**	**04 28 11.9**	**+0.6**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.4							
INK	**Inuvik**	**41.67**	**32**	P		**P**	**04 28 11.2**	**0.0**
	comp=Z,7.1nm,0.7s,mb4.4,baz=288,slow=7.5,SNR=24							
INK	**Inuvik**	**41.67**	**32**	*e*P		**P**	**04 28 11.7**	**+0.4**
INK				pmax	pmax			
	comp=Z,239nm,0.8s							
INK	**Inuvik**	**41.67**	**32**	*e*P		**P**	**04 28 11.7**	**+0.4**
	comp=Z,239nm,0.8s,mb5.9							
MK31	**Makanchi Array**	**46.89**	**297**	*e*P		**P**	**04 28 52.3**	**-0.8**
MKAR	**Makanchi Array**	**46.89**	**297**	P		**P**	**04 28 52.2**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=70,slow=8.3,SNR=8.5							
CHKZ	**Chkalovo**	**50.39**	**310**	*e*P		**P**	**04 29 18.4**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.39**	**310**	*e*P		**P**	**04 29 18.4**	**-1.5**
	comp=Z,2.7nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**50.82**	**309**	P		**P**	**04 29 23.0**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=46,slow=11,SNR=4.6							
RES	**Resolute Bay**	**50.84**	**19**	*e*P		**P**	**04 29 23.4**	**0.0**
RES				pmax	pmax			
	comp=Z,112nm,1.0s,mb5.8							
RES	**Resolute Bay**	**50.84**	**19**	*e*P		**P**	**04 29 23.4**	**0.0**
	comp=Z,112nm,1.0s,mb5.8							
YKA	**Yellowknife A**	**50.95**	**37**	P		**P**	**04 29 23.5**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.4,baz=303,slow=7.8,SNR=6.0							
YKA	**Yellowknife Ar**	**50.95**	**37**	P		**P**	**04 29 23.5**	**-0.6**
YKA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ZRNK	**Zerenda**	**51.59**	**310**	*e*P		**P**	**04 29 27.3**	**-1.6**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**51.59**	**310**	*e*P		**P**	**04 29 27.3**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.1							
CHTO	**Chiang Mai**	**52.07**	**257**	*e*P		**P**	**04 29 33.7**	**+1.2**
CHTO				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**52.07**	**257**	*e*P		**P**	**04 29 33.7**	**+1.2**
	comp=Z,6.7nm,0.8s,mb4.6							
JIRN	**Jiri**	**54.90**	**275**	*e*P		**P**	**04 29 54.5**	**+1.2**
	comp=Z,32nm,0.8s,mb5.4							
GUN	**Gumba**	**54.95**	**275**	*e*P		**P**	**04 29 54.8**	**+1.2**
KKN	**Kakani**	**55.44**	**275**	*e*P		**P**	**04 29 58.7**	**+1.5**
	comp=Z,19nm,0.6s,mb5.3							
PKI	**Pulchoki**	**55.49**	**275**	*e*P		**P**	**04 29 58.4**	**+0.9**
	comp=Z,7.0nm,0.6s,mb4.9							
DMN	**Daman**	**55.67**	**275**	*e*P		**P**	**04 30 00.1**	**+1.3**
GKN	**Gorkha**	**55.74**	**276**	*e*P		**P**	**04 30 00.2**	**+0.9**
	comp=Z,36nm,0.9s,mb5.4							
KOLN	**Koldanda**	**56.60**	**276**	*e*P		**P**	**04 30 06.6**	**+1.1**
NEW	**Newport**	**57.21**	**53**	P		**P**	**04 30 09.8**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=25,slow=11,SNR=3.4							
CHMT	**Chamberlain Mo**	**60.12**	**52**	*e*P		**P**	**04 30 30.0**	**0.0**
HLID	**Hailey**	**61.55**	**56**	*e*P		**P**	**04 30 40.5**	**+0.8**
	comp=Z,2.0nm,1.0s,mb4.2							
RRI2	**Red Ridge**	**63.42**	**54**	*e*P		**P**	**04 30 53.7**	**+1.4**
	comp=Z,10nm,0.8s,mb5.0							
TPAW	**Teton Pass**	**63.54**	**54**	*e*P		**P**	**04 30 54.6**	**+1.6**
	comp=Z,8.7nm,0.9s,mb4.8							
FIA1	**FINESS Array S**	**64.01**	**335**	*e*P		**P**	**04 30 54.9**	**-1.2**
FINES	**FINESS Array B**	**64.01**	**335**	P		**P**	**04 30 54.0**	**-2.1**
	comp=Z,1.9nm,0.5s,mb4.4,baz=38,slow=7.2,SNR=15							
DUG	**Dugway**	**64.61**	**58**	*e*P		**P**	**04 31 01.2**	**+1.1**
DUG				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.4							
DUG	**Dugway**	**64.61**	**58**	*e*P		**P**	**04 31 01.2**	**+1.1**
	comp=Z,5.4nm,1.3s,mb4.4							
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**04 31 01.8**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.4,baz=305,slow=1.9,SNR=27							
OBN	**Obninsk**	**65.28**	**326**	*e*P		**P**	**04 31 03.2**	**-1.2**
OBN				*e*			04 31 35.1	
OBN				*e*S		S	04 39 42.0	-3.4
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
ULM	**Lac du Bonnet**	**66.55**	**41**	P		**P**	**04 31 10.9**	**-1.7**
	comp=Z,2.3nm,0.7s,mb4.3,baz=328,slow=5.7,SNR=3.3							
SRU	**San Rafael**	**66.66**	**57**	*e*P		**P**	**04 31 13.9**	**+0.6**
SRU				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
SRU	**San Rafael**	**66.66**	**57**	*e*P		**P**	**04 31 13.9**	**+0.6**
	comp=Z,5.2nm,0.8s,mb4.6							
NB2	**NORSAR Subarra**	**68.20**	**341**	P		**P**	**04 31 21.8**	**-1.3**
	comp=Z,4.4nm,0.6s,mb4.7,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.20**	**341**	P		**P**	**04 31 22.0**	**-1.0**
	comp=Z,3.7nm,0.7s,mb4.5,baz=28,slow=6.4,SNR=11							
NOA	**NORSAR Array B**	**68.20**	**341**	P		**P**	**04 31 22.0**	**-1.0**
WRA	**Warramunga Arr**	**68.50**	**199**	P		**P**	**04 31 24.4**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=13,slow=6.7,SNR=12							
FITZ	**Fitzroy Crossi**	**69.13**	**208**	*e*P		**P**	**04 31 28.0**	**-0.8**
	comp=Z,6.1nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**69.13**	**208**	P		**P**	**04 31 28.2**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.4,baz=28,slow=5.1,SNR=5.9							
KIV	**Kislovodsk**	**70.76**	**314**	*e*P		**P**	**04 31 41.3**	**+2.5**
KIV				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
AKASG	**Main Array Be**	**71.51**	**326**	P		**P**	**04 31 41.9**	**-1.5**
	comp=Z,2.2nm,0.4s,mb4.4,baz=35,slow=6.3,SNR=11							
AKBB	**Malin Array Si**	**71.51**	**326**	*e*P		**P**	**04 31 41.8**	**-1.6**
ASAR	**Alice Springs**	**72.20**	**198**	P		**P**	**04 31 48.5**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=16,slow=6.1,SNR=16							
SCIA	**State Center**	**73.95**	**45**	*e*P		**P**	**04 31 57.6**	**-0.3**
	comp=Z,12nm,0.6s,mb5.0							
KIS	**Kishinev**	**74.65**	**324**	*e*PS			04 31 30.0	
KIS				*e*L			04 46 32.0	
KIS				LRM			05 01 52.0	
	comp=Z,1μm,14.0s							
BURAR	**Bucovina Array**	**75.56**	**327**	⇓*i*P		**P**	**04 32 06.8**	**-0.3**
BURAR	**Bucovina Array**	**75.56**	**327**	⇓P		**P**	**04 32 06.8**	**-0.3**
MORC	**Moravsky Berou**	**76.41**	**332**	⇓*i*P		**P**	**04 32 11.5**	**-0.5**
MORC	**Moravsky Berou**	**76.41**	**332**	⇓P		**P**	**04 32 11.5**	**-0.5**
CLL	**Collm**	**76.44**	**335**	⇓*i*P		**P**	**04 32 11.3**	**-0.9**
	comp=Z,8.0nm,0.9s,mb4.7							
MLR	**Muntele Rosu**	**77.03**	**325**	⇑*i*P		**P**	**04 32 16.2**	**+0.7**
MLR	**Muntele Rosu**	**77.03**	**325**	⇑P		**P**	**04 32 16.2**	**+0.7**
MALT	**Malatya**	**77.11**	**313**	⇓*i*P		**P**	**04 32 17.4**	**+1.4**
MALT	**Malatya**	**77.11**	**313**	⇓P		**P**	**04 32 17.4**	**+1.4**
VOIR		**77.43**	**325**	⇑*i*P		**P**	**04 32 18.1**	**+0.4**
VOIR		**77.43**	**325**	⇑P		**P**	**04 32 18.1**	**+0.3**
TXAR	**Lajitas Array**	**77.53**	**60**	P		**P**	**04 32 18.7**	**+0.4**
	comp=Z,2.1nm,0.4s,mb4.4,baz=317,slow=5.4,SNR=27							
KHC	**Kasperske Hory**	**78.21**	**334**	⇓*e*P		**P**	**04 32 22.2**	**+0.1**
BR131	**Keskin Array S**	**78.35**	**317**	*e*P		**P**	**04 32 23.0**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.0							
GERES	**GERESS Array B**	**78.43**	**334**	P		**P**	**04 32 21.9**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=38,slow=6.8,SNR=6.9							
BZS	**Buzias**	**78.58**	**328**	⇓*i*P		**P**	**04 32 23.7**	**-0.4**
BZS	**Buzias**	**78.58**	**328**	⇓P		**P**	**04 32 23.7**	**-0.5**
VTS	**Vitosha**	**80.54**	**325**	⇓*i*P		**P**	**04 32 34.8**	**0.0**
VTS	**Vitosha**	**80.54**	**325**	⇓P		**P**	**04 32 34.8**	**0.0**
CFAA	**Coronel Fontan**	**145.04**	**79**	PKPbc	PKPbc		04 39 58.5	-0.7
	comp=Z,0.2nm,0.4s,baz=293,slow=4.5,SNR=4.5							
CFAA	**Coronel Fontan**	**145.04**	**79**	PKPbc	PKPbc		04 39 58.5	-0.7
SNAA	**Sanae**	**152.55**	**196**	PKPbc	PKPbc		04 40 16.8	-2.0
	comp=Z,0.7nm,0.7s,baz=158,slow=1.8,SNR=7.6							
SNAA	**Sanae**	**152.55**	**196**	*e*PKPdf	PKPbc		04 40 17.3	-1.5
SNAA				*e*			04 40 28.0	
SNAA				*e*			04 40 31.3	
SNAA				*e*			04 40 42.7	
VNA2	**Neumayer--Watz**	**154.00**	**195**	*e*PKPdf	PKPbc		04 40 20.6	-1.4
	baz=131,slow=1.0							
VNA2				*e*			04 40 35.1	
VNA2				*e*			04 40 38.6	
VNA2				*e*			04 40 49.1	
VNA3	**Neumayer Olymp**	**154.09**	**193**	*e*PKPdf	PKPbc		04 40 20.4	-1.8
VNA3				*e*			04 40 34.7	
VNA3				*e*			04 40 37.3	
VNA3				*e*			04 40 47.8	

ISCJB ***17*** *04:25:39.0±1.6, 152N±0.1×1458E±0.1, h128km±14km, mb4.2/18, Error ellipse: s-maj=24.6km s-min=17.8km az=134.0*
NEIC ***17*** *04:25:39.9±1.4, 1523N×14584E, h124km±12km, mb4.2/6, Error ellipse: s-maj=18.8km s-min=10.7km az=66.0*
IDC ***17*** *04:25:39.7±2.3, 1520N×14583E, h120km±23km, mb3.7/7, mb1 3.9/7, mb1mx3.6/20, mbtmp3.7/7, Error ellipse: s-maj=31.2km s-min=20.6km az=68.0*

ISC 17 04:25:38.9±1.8, 153N±01×1459E±01, h112km±16km, n26, σ0°77/26, mb4.4/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**1.95**	**212**	P		**Pn**	**04 26 12.0**	**+0.6**
	118nm,0.3s,baz=52,slow=4.5,SNR=25							
GUMO					S			
	180nm,0.3s,baz=166,slow=23,SNR=22							
KSRS	**Korea Array**	**27.29**	**328**	P		**P**	**04 31 14.6**	**+1.7**
	1nm,0.3s,mb3.5,baz=139,slow=11,SNR=4.2							
CTAO	**Charters Tower**	**35.12**	**179**	*e*P		**P**	**04 32 21.1**	**-0.4**
	6.0nm,0.5s,mb4.7							
BJT	**Baijiatuan**	**35.83**	**319**	*e*P		**P**	**04 32 26.9**	**-0.7**
	7.2nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**36.78**	**198**	P		**P**	**04 32 35.9**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=17,slow=6.2,SNR=2.9							
ULN	**Ulaanbaatar**	**45.64**	**324**	*e*P		**P**	**04 33 47.8**	**-0.4**
	2.5nm,0.7s,mb4.0							
SONM	**Songino Array**	**46.01**	**323**	P		**P**	**04 33 50.8**	**-0.3**
	1.7nm,0.7s,mb3.9,baz=132,slow=7.5,SNR=6.9							
JIRN	**Jiri**	**56.50**

BRVK Borovoye 52.02 310 *e*P **P** **04 45 36.8 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 52.02 310 *e*P **P** **04 45 36.8 -0.5**
comp=Z,3.9nm,0.6s,mb4.5
ZRNK Zerenda 52.74 311 *e*P **P** **04 45 42.4 -0.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 52.74 311 *e*P **P** **04 45 42.4 -0.2**
comp=Z,3.4nm,0.6s,mb4.5
AAK Ala-Archa 55.20 297 *e*P **P** **04 46 00.4 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AAK Ala-Archa 55.20 297 *e*P **P** **04 46 00.4 -0.1**
comp=Z,1.6nm,0.7s,mb4.2
ARU Arti 55.96 318 *e*P **P** **04 46 05.7 -0.4**
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU Arti 55.96 318 *e*P **P** **04 46 05.7 -0.3**
comp=Z,6.1nm,0.6s,mb4.8
FINES FINESS Array B 64.55 336 P **P** **04 47 05.8 +0.9**
comp=Z,1.1nm,0.7s,mb4.0,baz=42,slow=8.8,SNR=5.3
FINES FINESS Array B 64.55 336 P **P** **04 47 05.8 +0.9**
WRA Warramunga Arr 69.25 201 P **P** **04 47 34.2 -0.5**
comp=Z,1.1nm,0.8s,mb3.8,baz=19,slow=6.8,SNR=6.0
ASAR Alice Springs 72.93 201 P **P** **04 47 58.1 +1.0**
comp=Z,0.4nm,0.6s,mb3.5,baz=14,slow=6.0,SNR=5.7
TXAR Lajitas Array 75.98 62 P **P** **04 48 14.5 -0.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=293,slow=3.6,SNR=8.3
TXAR Lajitas Array 75.98 62 P **P** **04 48 14.5 -0.4**
GERES GERESS Array B 78.98 335 P **P** **04 48 33.8 +2.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=30,slow=6.2,SNR=4.5
BR131 Keskin Array S 79.35 318 *e*P **P** **04 48 32.7 -1.0**
comp=Z,0.7nm,0.6s,mb3.8

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*ISCJB **17** 04:51:20.5±0.8, 463N±0.1×1536E±02, h10km, mb3.8/11, Error ellipse: s-maj=20.6km s-min=16.6km az=119.8*
*IDC **17** 04:51:20.7±0.8, 4630N×15363E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=27.0km s-min=20.8km az=130.0*
*NEIC **17** 04:51:22.3±0.7, 4631N×15355E, h10km, mb4.0/2, Error ellipse: s-maj=18.5km s-min=17.0km az=162.0*

ISC 17 04:51:22.3±0.8, 464N±01×1536E±02, h10km, n13, σ0§94/13, mb3.8/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.01**	**254**	P		**P**		**04 56 07.5**	**+1.5**
	0.7nm,0.4s,mb3.4,baz=58,slow=11,SNR=4.7								
INK	**Inuvik**	**41.79**	**32**	P		**P**		**04 59 13.3**	**+1.3**
	1.4nm,0.8s,mb3.6,baz=246,slow=6.7,SNR=4.4								
MK31	**Makanchi Array**	**47.42**	**298**	*e*P		**P**		**04 59 56.1**	**-0.8**
MKAR	**Makanchi Array**	**47.42**	**298**	P		**P**		**04 59 55.8**	**-1.1**
	0.7nm,0.9s,mb3.6,baz=52,slow=8.6,SNR=3.9								
CHKZ	**Chkalovo**	**50.93**	**310**	*e*P		**P**		**05 00 22.8**	**-0.9**
	1.9nm,0.9s,mb4.0								
AAK	**Ala-Archa**	**54.31**	**297**	*e*P		**P**		**05 00 50.1**	**+1.3**
	1.1nm,0.7s,mb3.9								
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**		**05 01 58.5**	**-0.8**
	1.9nm,0.9s,mb4.1,baz=29,slow=16,SNR=4.2								
PDAR	**Pinedale Array**	**64.70**	**54**	P		**P**		**05 01 59.4**	**-1.1**
	0.4nm,0.7s,mb3.6,baz=318,slow=2.0,SNR=4.4								
WRA	**Warramunga Arr**	**68.27**	**200**	P		**P**		**05 02 22.8**	**-0.5**
	0.9nm,0.8s,mb3.8,baz=20,slow=6.8,SNR=5.2								
NOA	**NORSAR Array B**	**68.69**	**341**	P		**P**		**05 02 26.9**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=26,slow=6.3,SNR=2.9								
ASAR	**Alice Springs**	**71.96**	**199**	P		**P**		**05 02 45.7**	**-0.3**
	1.1nm,1.1s,mb3.7,baz=29,slow=4.8,SNR=5.4								
AKASG	**Malin Array Be**	**72.05**	**327**	P		**P**		**05 02 46.5**	**-0.1**
	0.5nm,0.3s,mb3.9,baz=31,slow=6.2,SNR=5.6								
TXAR	**Lajitas Array**	**77.38**	**61**	P		**P**		**05 03 18.0**	**+0.6**
	0.9nm,0.7s,mb3.8,baz=300,slow=4.9,SNR=14								

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*IDC **17** 04:55:12.2±1.1, 4765N×15637E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=33.5km s-min=26.9km az=151.0*
*MOS **17** 04:55:20.4±0.8, 4768N×15601E, h77km, mb4.2/4, Error ellipse: s-maj=93.7km s-min=34.4km az=92.0*
*ISCJB **17** 04:55:21.1±3.3, 477N±02×1563E±03, h80km±28km, mb3.8/5, Error ellipse: s-maj=40.3km s-min=27.0km az=106.1*

ISC 17 04:55:21.8±3.2, 477N±02×1562E±03, h73km±28km, n10, σ0§18/10, mb3.8/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.99**	**359**	*e*PN		**Pn**		**04 56 06.9**	**0.0**
SKR				*e*				04 56 33.9	
SKR					pmax	pmax			
	comp=N,360nm,0.2s								
SKR					pmax	pmax			
	comp=E,360nm,0.2s								
SKR					pmax	pmax			
	comp=Z,70nm,0.4s								
KSRS	**Korea Array**	**23.08**	**254**	P		**P**		**05 00 21.4**	**+0.2**
	comp=Z,1.6nm,0.5s,mb3.6,baz=47,slow=12,SNR=6.0								
MKAR	**Makanchi Array**	**48.37**	**298**	P		**P**		**05 03 55.8**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=54,slow=7.6,SNR=5.5								
MKAR	**Makanchi Array**	**48.37**	**298**	P		**P**		**05 03 55.8**	**-0.3**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**64.06**	**336**	P		**P**		**05 05 48.1**	**+0.2**
	comp=Z,1.1nm,0.6s,mb3.9,baz=34,slow=10,SNR=5.1								
FINES	**FINESS Array B**	**64.06**	**336**	P		**P**		**05 05 48.1**	**+0.2**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**73.81**	**201**	P		**P**		**05 06 48.2**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=13,slow=5.6,SNR=11								
ASAR	**Alice Springs**	**73.81**	**201**	P		**P**		**05 06 48.2**	**-0.1**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
TXAR	**Lajitas Array**	**75.20**	**63**	P		**P**		**05 06 56.4**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.1,baz=296,slow=4.9,SNR=31								
TXAR	**Lajitas Array**	**75.20**	**63**	P		**P**		**05 06 56.4**	**0.0**
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								

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*IDC **17** 05:02:51.4±1.0, 4663N×153.14E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=25.6km az=157.0*
*NEIC **17** 05:02:53.1±0.6, 4667N×153.12E, h10km, mb4.1/2, Error ellipse: s-maj=16.7km s-min=11.6km az=148.0*
*ISCJB **17** 05:02:57.0±1.6, 466N±0.1×1530E±02, h55km±13km, mb3.9/9, Error ellipse: s-maj=26.8km s-min=12.4km az=99.7*
*MOS **17** 05:02:57.5±1.0, 4659N×15295E, h60km, mb4.4/2, Error ellipse: s-maj=21.0km s-min=15.5km az=56.7*

ISC 17 05:02:59.2±1.4, 466N±01×1530E±02, h59km±12km, n21, σ0§74/21, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.58**	**26**	*e*PN		**Pn**		**05 04 06.0**	**+0.2**
SKR				*e*				05 04 54.8	
YUK	**Yuzh-Kuril'sk**	**5.66**	**246**	*e*PN		**Pn**		**05 04 20.0**	**-0.6**
ASAJ	**Asahikawa**	**7.75**	**255**	Pn		**Pn**		**05 04 51.1**	**+1.9**
	1.2nm,0.3s,baz=92,slow=14,SNR=5.2								
ASAJ	**Asahikawa**	**7.75**	**255**	PN		**Pn**		**05 04 51.2**	**+2.0**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**8.42**	**241**	*e*PN		**Pn**		**05 04 57.0**	**-1.5**
ERM					pmax	pmax			
	comp=Z,58nm,0.8s								
ERM	**Erimo**	**8.42**	**241**	*e*Pn		**Pn**		**05 04 57.0**	**-1.5**
	comp=Z,58nm,0.8s								
KSRS	**Korea Array**	**20.69**	**253**	P		**P**		**05 07 35.0**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=65,slow=7.0,SNR=3.6								
MK31	**Makanchi Array**	**46.95**	**297**	*e*P		**P**		**05 11 23.9**	**-0.1**
MKAR	**Makanchi Array**	**46.95**	**297**	P		**P**		**05 11 24.3**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=57,slow=7.4,SNR=4.9								
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P		**P**		**05 11 50.6**	**-0.5**
CHKZ					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P		**P**		**05 11 50.6**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.2								
AAK	**Ala-Archa**	**53.84**	**296**	*e*P		**P**		**05 12 16.1**	**+0.1**
AAK					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1								
AAK	**Ala-Archa**	**53.84**	**296**	*e*P		**P**		**05 12 16.1**	**0.0**
	comp=Z,1.1nm,0.4s,mb4.1								

FINES FINESS Array B 64.15 335 P **P** **05 13 26.3 -1.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=52,slow=7.5,SNR=5.8
PDAR Pinedale Array 64.89 54 P **P** **05 13 32.1 -0.1**
comp=Z,0.3nm,0.6s,mb3.5,baz=297,slow=0.3,SNR=4.2
NB2 NORSAR Subarra 68.35 341 P **P** **05 13 54.3 0.0**
comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.5
NOA NORSAR Array B 68.35 341 P **P** **05 13 54.6 +0.3**
comp=Z,1.3nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=4.8
AKASG Malin Array Be 71.64 326 P **P** **05 14 14.6 +0.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=34,slow=6.2,SNR=6.0
AKASG Malin Array Be 71.64 326 P **P** **05 14 14.6 +0.1**
ASAR Alice Springs 72.04 198 P **P** **05 14 17.1 +0.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=14,slow=5.1,SNR=5.9
TXAR Lajitas Array 77.63 60 P **P** **05 14 49.5 +0.4**
comp=Z,0.7nm,0.8s,mb3.7,baz=304,slow=4.6,SNR=8.0

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*ISCJB **17** 05:03:59.6±0.9, 565N±0.1×1566W±0.1, h61km±10km, mb3.6/4, Error ellipse: s-maj=25.7km s-min=8.9km az=136.8*
*NEIC **17** 05:04:00.0, 5619N×15646W, h46km, ML3.0(AEIC), After AEIC.*
*IDC **17** 05:04:01.6±5.7, 5658N×15649W, h60km±47km, mb3.6/6, mb1 3.8/8, mb1mx3.5/24, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=45.1km s-min=19.9km az=27.0*

ISC 17 05:04:00.5±0.9, 565N±01×1566W±01, h55km±11km, n10, σ0§32/12, mb3.6/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.03**	**257**	P		**Pn**		**05 04 18.6**	**-0.1**
CHGN						S	**Sn**	**05 04 32.2**	**0.0**
KDAK	**Kodiak Island**	**2.52**	**59**	P		**Pn**		**05 04 39.1**	**+0.2**
	7.1nm,0.3s,baz=234,slow=4.4,SNR=37								
KDAK						S	**Sn**	**05 05 08.3**	**-0.1**
	12nm,0.3s,baz=241,slow=23,SNR=14								
KDAK	**Kodiak Island**	**2.52**	**59**	*e*Pn		**Pn**		**05 04 39.1**	**+0.1**
INK	**Inuvik**	**15.78**	**32**	P		**Pn**		**05 07 39.4**	**+0.4**
	0.1nm,0.3s,baz=210,slow=7.4,SNR=1.9								
YKA	**Yellowknife Ar**	**21.80**	**57**	P		**P**		**05 08 47.5**	**-0.3**
	0.5nm,0.7s,mb3.1,baz=167,slow=36,SNR=3.0								
PDAR	**Pinedale Array**	**32.73**	**95**	P		**P**		**05 10 27.8**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=330,slow=3.4,SNR=6.5								
ANMO	**Albuquerque**	**39.97**	**101**	P		**P**		**05 11 29.9**	**+0.4**
	0.5nm,0.4s,mb3.6,baz=330,slow=8.1,SNR=3.3								
TXAR	**Lajitas Array**	**45.79**	**104**	P		**P**		**05 12 16.4**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=309,slow=5.6,SNR=13								
ARCES	**ARCESS Array B**	**54.22**	**359**	P		**P**		**05 13 19.9**	**-0.6**
	5.6nm,1.0s,baz=356,slow=8.5,SNR=3.8								
SONM	**Songino Array**	**55.27**	**306**	P		**P**		**05 13 28.6**	**+0.5**
	3.3nm,0.6s,baz=43,slow=6.8,SNR=27								

WEL 17 05:10:06.5±0.5, 4585S×16644E, h5km, ML3.5/10, Error ellipse: s-maj=4.4km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.62**	**54**	P*		Pb		05 10 19.0	-0.9
DCZ						SG	Sg	05 10 27.4	+0.9
DCZ						SG	Sg	05 10 27.5	+0.9
WHZ	**Wether Hill Ro**	**1.05**	**93**	P*		Pb		05 10 26.6	-0.6
WHZ				S*		Sb		05 10 41.0	-0.3
MLZ	**Mavora Lakes**	**1.32**	**68**	P*		Pb		05 10 30.2	-1.4
APZ	**The Paps**	**1.46**	**133**	*e*PN		Pn		05 10 32.4	-1.0
APZ						SN	Sn	05 10 51.8	-1.1
SYZ	**Scrubby Hill**	**2.00**	**111**	PN		Pn		05 10 40.8	-0.1
WKZ	**Wanaka**	**2.08**	**62**	PN		Pn		05 10 43.4	+1.3
EAZ	**Earnscleugh**	**2.11**	**74**	PN		Pn		05 10 43.3	+0.9
EAZ						SN	Sn	05 11 09.9	+0.9
TUZ	**Tuapeka**	**2.23**	**94**	PN		Pn		05 10 44.7	+0.6
TUZ						SN	Sn	05 11 11.1	-0.9
JCZ	**Jackson Bay**	**2.42**	**44**	*e*PN		Pn		05 10 47.8	+1.1
LBZ	**Lake Benmore**	**3.03**	**62**	*e*PN		Pn		05 10 54.2	-0.8
ODZ	**Otahua Downs**	**3.07**	**76**	PN		Pn		05 10 54.9	-0.7

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*ISCJB **17** 05:13:00.4±1.2, 137N±02×1206E±03, h230km±9km, mb3.4/6, Error ellipse: s-maj=49.7km s-min=21.3km az=102.2*
*NEIC **17** 05:13:01.6±0.9, 1384N×12094E, h229km±9km, mb3.5/1, Error ellipse: s-maj=109.1km s-min=17.7km az=66.0*
*IDC **17** 05:13:01.6±0.9, 1392N×121.16E, h227km±6km, mb3.3/5, mb1 3.5/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=118.5km s-min=18.2km az=68.0*

ISC 17 05:13:01.7±1.2, 137N±02×1206E±03, h227km±8km, n8, σ0§57/9, mb3.4/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.50**	**40**	P		**Pn**		**05 13 31.5**	**-0.3**
	182nm,0.3s,baz=169,slow=8.7,SNR=8.1								
TGY						S		**05 13 55.4**	**+0.1**
	221nm,0.3s,baz=128,slow=21,SNR=7.4								
PVCP	**Virac**	**3.45**	**92**	*e*P		**Pn**		**05 13 58.1**	**+0.2**
SONM	**Songino Array**	**36.01**	**344**	P		**P**		**05 19 41.4**	**+0.2**
	1.0nm,0.5s,mb3.6,baz=163,slow=9.8,SNR=11								
WRA	**Warramunga Arr**	**36.08**	**158**	P		**P**		**05 19 41.9**	**+0.2**
	0.1nm,0.3s,mb2.8,baz=340,slow=8.6,SNR=6.7								
MKAR	**Makanchi Array**	**45.96**	**324**	P		**P**		**05 21 03.3**	**+1.2**
	0.6nm,0.6s,mb3.1,baz=132,slow=8.7,SNR=4.2								
ZRNK	**Zerenda**	**56.44**	**325**	*e*P		**P**		**05 22 19.9**	**+0.1**
	0.9nm,0.8s,mb3.4								
ARCES	**ARCESS Array B**	**79.03**	**339**	P		**P**		**05 24 40.1**	**-0.5**
	2.5nm,0.8s,mb3.9,baz=71,slow=8.1,SNR=7.6								
NOA	**NORSAR Array B**	**87.20**	**333**	P		**P**		**05 25 21.2**	**-1.1**
	1.1nm,0.8s,mb3.6,baz=66,slow=4.8,SNR=2.9								

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*IDC **17** 05:16:34.8±0.6, 4598N×15443E, h0km, mb4.5/22, mb1 4.6/24, mb1mx4.5/29, mbtmp4.5/24, ML4.1/2, Error ellipse: s-maj=18.3km s-min=14.1km az=152.0*
*ISCJB **17** 05:16:35.1±0.2, 4604N±005×15428E±005, h10km, mb4.6/97, MS4.2/4, Error ellipse: s-maj=7.7km s-min=3.9km az=139.5*
*NEIC **17** 05:16:36.7±0.2, 4604N×15424E, h10km, mb4.7/56, Error ellipse: s-maj=6.6km s-min=4.0km az=160.0*
*BJI **17** 05:16:36.4, 4631N×15396E, h6km, mB5.0, mb4.6, Ms4.4, Msz4.2*
*SKHL **17** 05:16:36.5±1.0, 4617N×15406E, h43km±12km*
*MOS **17** 05:16:37.4±1.1, 4602N×154.15E, h26km, mb4.8/48, Error ellipse: s-maj=7.8km s-min=6.4km az=107.2*
*SZGRF **17** 05:16:39.6, 4540N×15353E, h33km, mb4.7, East of Kuril Islands, Russia*

ISC 17 05:16:35.6±1.8, 4613N±005×15424E±005, h1km±11km, n206, σ1§02/207, mb4.7/97, MS4.2/4, 14C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.56**	**261**	*e*P		**Pn**		**05 17 43.5**	**-2.2**
KUR						AMB	AMB	05 17 44.5	
	228nm,0.6s								
KUR				*e*S		**Sn**		**05 18 34.5**	**-4.8**
KUR				A				05 18 37.0	
	304nm,0.6s								
KUR				A				05 18 37.0	
	380nm,0.6s								
SKR	**Severo-Kuril's**	**4.72**	**15**	*e*P		**Pn**		**05 17 48.5**	**+0.5**
SKR						AMB	AMB	05 17 53.0	
	80nm,0.5s								
SKR						AMB	AMB	05 17 53.0	
	150nm,0.5s								
SKR				*e*S		**Sn**		**05 18 37.5**	**-5.9**
SKR				A				05 18 41.2	
	310nm,0.5s								
SKR				A				05 18 41.2	
	200nm,0.5s								
SKR				A				05 18 41.2	
	170nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**6.29**	**254**	*e*P		**Pn**		**05 18 10.0**	**+0.5**
YUK						AMB	AMB	05 18 12.8	
	180nm,0.3s								
YUK				*e*S		**Sn**		**05 19 19.4**	**-2.7**
YUK				A				05 19 28.2	
	300nm,0.4s								
YUK				A				05 19 28.2	
	230nm,0.5s								
PET	**Petropavlovsk**	**7.47**	**21**	*e*PN		**Pn**		**05 18 17.2**	**-8.5**
PET						MLR	MLR		
	comp=Z,500nm,11.0s								

YSS Yuzh-Sakhalins 7.96 280 *e*P **Pn** **05 18 31.3 -1.2**
YSS Yuzh-Sakhalins 7.96 280 *e*Pn **Pn** **05 18 36.7 +4.2**
comp=Z,47nm,1.0s
ASAJ Asahikawa 8.48 260 Pn **Pn** **05 18 41.4 +1.8**
comp=Z,4.1nm,0.3s,baz=114,slow=14,SNR=5.4
ASAJ Asahikawa 8.48 260 PN **Pn** **05 18 41.4 +1.9**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ERM Erimo 8.98 247 *e*PN **Pn** **05 18 47.4 +1.0**
MJAR Matsushiro Arr 15.36 237 Pn **Pn** **05 20 12.7 -0.9**
comp=Z,0.2nm,0.3s,baz=31,slow=13,SNR=7.3
MAJO Matsushiro 15.36 237 *e*P **Pn** **05 20 10.6 -3.0**
MAJO pmax pmax
comp=Z,19nm,0.9s
MAJO Matsushiro 15.36 237 *e*Pn **Pn** **05 20 10.6 -2.9**
comp=Z,19nm,0.9s
KLR Kul'dur 15.45 290 *e*P **Pn** **05 20 13.0 -1.7**
CN2 Changchun 20.46 274 *e*P **P** **05 21 14.9 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CLNS Chul'man 21.02 311 *e*P **P** **05 21 17.6 -3.0**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,14nm,0.8s,mb4.3
CLNS pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 21.27 327 *e*P **P** **05 21 21.9 -1.4**
YAK pmax pmax
comp=Z,18nm,0.8s,mb4.5
KSRS Korea Array 21.38 255 P **P** **05 21 26.0 +1.5**
comp=Z,5.4nm,1.0s,mb3.8,baz=59,slow=9.4,SNR=12
BILL Bilibino 22.83 12 *ce*P **P** **05 21 42.5 +2.5**
BILL *e* 05 21 54.0
BILL *e* 05 25 28.5
BILL pmax pmax
comp=Z,47nm,1.2s,mb4.9
BILL Bilibino 22.83 12 *e*P **P** **05 21 38.6 -1.5**
comp=Z,44nm,1.1s,mb4.9
HIA Hailar 23.31 290 *e*P **P** **05 21 43.1 -2.0**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 23.31 290 *e*P **P** **05 21 43.1 -2.0**
comp=Z,7.8nm,0.8s,mb4.3
BOD Bodaibo 26.99 310 *e*P **P** **05 22 16.5 -2.4**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
BJI Beijing 28.26 271 P **P** **05 22 29.5 -0.8**
BJI AMB AMB
comp=Z,6.0nm,0.7s,mb4.5
BJI Beijing 28.26 271 P **P** **05 22 29.5 -0.8**
comp=Z,6.0nm,0.7s,mb4.5
TIXI Tiksi 28.29 343 *e*P **P** **05 22 28.1 -2.4**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
TIXI Tiksi 28.29 343 *e*P **P** **05 22 28.1 -2.4**
comp=Z,3.0nm,0.6s,mb4.3
NJ2 Nanjing 30.58 255 *e*P **P** **05 22 51.4 +0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
HHC Hu-ho-hao-te 31.12 276 *e*P **P** **05 22 57.5 +1.8**
HHC AP 05 23 02.0
HHC XP sP 05 23 05.1 +9.1
HHC PP PP 05 24 00.3 -5.5
HHC PCP PcP 05 25 52.1 +1.1
HHC S **S** **05 28 01.9 -0.3**
HHC XS sS 05 28 07.8 +5.3
HHC SCP ScP 05 29 34.6 -0.4
HHC SS SS 05 29 46.0 -29
HHC SCS ScS 05 33 29.9 -2.2
HHC AMB AMB
comp=Z,27nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,199nm,9.7s
HHC LR LR
comp=N,232nm,13.0s,MS4.2
HHC LR LR
comp=E,271nm,12.1s,MS4.2
HHC LR LR
comp=Z,204nm,12.5s,MS4.0
ULN Ulaanbaatar 31.84 291 *e*P **P** **05 23 02.2 +0.2**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ULN Ulaanbaatar 31.84 291 *e*P **P** **05 23 02.2 +0.2**
comp=Z,7.7nm,0.8s,mb4.7
SONM Songino Array 32.28 291 P **P** **05 23 06.0 +0.1**
comp=Z,0.4nm,0.7s,baz=51,slow=7.1,SNR=4.7
SONM PcP PcP 05 25 53.1 -1.0
comp=Z,1.2nm,0.8s,baz=116,slow=3.6,SNR=4.6
TLY Talaya 33.16 298 *e*P **P** **05 23 11.5 -2.1**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY Talaya 33.16 298 *e*P **P** **05 23 11.5 -2.1**
comp=Z,5.0nm,0.8s,mb4.5
ZAK Zakamensk 33.65 296 *e*P **P** **05 23 17.1 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KDAK Kodiak Island 33.89 50 P **P** **05 23 19.1 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=270,slow=8.1,SNR=6.2
KDAK Kodiak Island 33.89 50 *e*P **P** **05 23 18.9 -1.0**
MCK McKinley 35.62 40 *e*P **P** **05 23 35.2 +0.3**
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
MCK McKinley 35.62 40 *e*P **P** **05 23 35.2 +0.3**
comp=Z,8.5nm,1.2s,mb4.5
SML Sawmill 35.89 43 *e*P **P** **05 23 37.0 -0.2**
COLA College 36.14 38 *e*P **P** **05 23 39.6 +0.2**
COLA pmax pmax
comp=Z,13nm,1.0s,mb4.7
COLA College 36.14 38 *e*P **P** **05 23 39.6 +0.2**
comp=Z,13nm,1.0s,mb4.7
XAN Xi'an 36.25 267 P **P** **05 23 40.8 +0.5**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.4
LZH Lanzhou 38.70 273 *e*P **P** **05 24 02.0 +1.0**
LZH PP PP 05 25 36.1 +6.7
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,128nm,4.2s
LZH Lanzhou 38.70 273 *e*P **P** **05 24 02.0 +1.0**
comp=Z,30nm,1.2s,mb4.8
LZH pP 05 24 19.5
LZH sP sP 05 24 24.5 +23
LZH PP PP 05 25 36.1 +6.7
EGAK Eagle 39.01 38 *e*P **P** **05 24 02.7 -0.9**
comp=Z,17nm,1.1s,mb4.6
DAWY Dawson 39.83 39 *e*P **P** **05 24 11.0 +0.5**
GTA Gaotai 39.84 280 P **P** **05 24 12.3 +1.7**
GTA AP 05 24 16.8
GTA XP sP 05 24 19.3 +8.4
GTA PP PP 05 25 49.4 +7.4
GTA PCP PcP 05 26 17.5 +0.9
GTA S **S** **05 30 20.9 +4.9**
GTA XS sS 05 30 28.9 +13
GTA AMB AMB
comp=Z,14nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,332nm,4.2s
GTA LR LR
comp=N,219nm,12.2s,MS4.4
GTA LR LR
comp=E,237nm,13.3s,MS4.4
GTA LR LR
comp=Z,250nm,11.4s,MS4.3
CD2 Chengdu 41.62 267 *e*P **P** **05 24 24.5 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
INK Inuvik 41.76 32 P **P** **05 24 26.8 +0.3**
comp=Z,3.3nm,0.6s,mb4.2,baz=278,slow=7.6,SNR=10
INK Inuvik 41.76 32 *e*P **P** **05 24 26.8 +0.4**
INK pmax pmax
comp=Z,151nm,0.7s
INK Inuvik 41.76 32 *e*P **P** **05 24 26.8 +0.4**
comp=Z,151nm,0.7s,mb5.8
GYA Guiyang 42.35 259 *i*P **P** **05 24 31.8 +0.5**
GYA AP 05 24 34.8
GYA XP sP 05 24 38.6 +7.1
GYA PP PP 05 26 12.8 +3.6
GYA PCP PcP 05 26 26.4 +1.6
GYA SCP ScP 05 30 16.3 -0.2
GYA S **S** **05 30 53.0 -0.3**
GYA SCS ScS 05 34 32.8 -1.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8

GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,420nm,16.4s,MS4.6
GYA LR LR
comp=E,480nm,16.8s,MS4.6
GYA LR LR
comp=Z,410nm,17.0s,MS4.4
NVS Novosibirsk 44.19 308 *e*P P 05 24 45.4 -0.7
NVS pmax pmax
comp=Z,54nm,2.3s,mb4.9
KMI Kunming 45.91 261 P P 05 24 58.6 -1.2
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI Kunming 45.91 261 P P 05 24 58.6 -1.2
comp=Z,9.0nm,0.8s,mb4.8
MK31 Makanchi Array 47.92 298 *i* P P 05 25 15.6 +0.1
MK31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MK31 Makanchi Array 47.92 298 *e*P P 05 25 15.2 -0.4
MKAR Makanchi Array 47.92 298 P P 05 25 15.4 -0.2
comp=Z,8.1nm,0.9s,mb4.9,baz=68,slow=8.2,SNR=34
MKAR Makanchi Array 47.92 298 *i* P P 05 25 15.6 +0.1
MKAR pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 51.09 274 *e*P P 05 25 41.5 +1.8
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.09 274 *e*P P 05 25 41.5 +1.8
comp=Z,8.0nm,0.6s,mb4.8
RES Resolute Bay 51.18 19 *e*P P 05 25 40.7 +0.3
RES pmax pmax
comp=Z,206nm,1.0s
RES Resolute Bay 51.18 19 *e*P P 05 25 40.7 +0.3
comp=Z,206nm,1.0s
CHKZ Chkalovo 51.43 311 *e*P P 05 25 41.2 -1.1
CHKZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CHKZ Chkalovo 51.43 311 *e*P P 05 25 41.2 -1.0
comp=Z,8.4nm,0.7s,mb4.8
VOSK Vostochnaya 51.69 310 P P 05 25 43.2 -1.0
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVA0 Borovoye Array 51.86 310 P P 05 25 45.3 -0.2
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 51.86 310 P P 05 25 45.3 -0.1
comp=Z,1.5nm,0.4s,mb4.3,baz=60,slow=8.8,SNR=13
BVAR PcP PcP 05 26 57.9 -0.5
comp=Z,2.7nm,0.8s,baz=72,slow=4.8,SNR=5.5
BRVK Borovoye 51.90 310 *e*P P 05 25 45.7 -0.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 51.90 310 *e*P P 05 25 45.7 -0.1
comp=Z,5.6nm,0.8s,mb4.5
ZRNK Zerenda 52.62 311 *e*P P 05 25 50.6 -0.6
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZRNK Zerenda 52.62 311 *e*P P 05 25 50.6 -0.5
comp=Z,8.3nm,1.0s,mb4.6
CHTO Chiang Mai 52.74 258 *e*P P 05 25 52.7 +0.6
AAK Ala-Archa 54.81 297 *e*P P 05 26 07.5 +0.3
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 54.81 297 *e*P P 05 26 07.5 +0.3
comp=Z,6.0nm,0.8s,mb4.7
JIRN Jiri 55.78 276 *e*P P 05 26 15.7 +1.5
comp=Z,33nm,0.8s,mb5.4
GUN Gumba 55.84 276 *e*P P 05 26 15.9 +1.3
ARU Arti 56.00 318 ⇓*i*P P 05 26 15.2 -0.5
ARU *e* 05 28 19.6
ARU *e*S S 05 34 03.2 -1.7
ARU pmax pmax
comp=Z,20nm,0.8s,mb5.2
ARU Arti 56.00 318 *e*P P 05 26 15.1 -0.6
comp=Z,18nm,0.7s,mb5.2
EDM Edmonton 56.18 46 *e*P P 05 26 16.5 -0.5
KKN Kakani 56.33 276 *e*P P 05 26 20.0 +1.9
PKI Pulchoki 56.38 276 *e*P P 05 26 19.8 +1.4
DMN Daman 56.56 276 *e*P P 05 26 21.5 +1.7
GKN Gorkha 56.64 277 *e*P P 05 26 21.8 +1.5
comp=Z,31nm,0.7s,mb5.4
KOLN Koldanda 57.50 278 *e*P P 05 26 28.0 +1.6
comp=Z,40nm,0.9s,mb5.4
ARCES ARCESS Array B 58.70 341 P P 05 26 35.8 +1.0
comp=Z,8.3nm,0.9s,mb4.8,baz=44,slow=8.9,SNR=5.9
MOD Modoc 58.72 61 *e*P P 05 26 34.9 -0.1
comp=Z,1.7nm,0.8s,mb4.1
BMO Blue Mountains 58.77 56 *e*P P 05 26 35.3 0.0
comp=Z,13nm,1.7s,mb4.7
WVOR Wild Horse Val 59.41 59 *e*P P 05 26 39.4 -0.3
WVOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
WVOR Wild Horse Val 59.41 59 *e*P P 05 26 39.4 -0.3
comp=Z,2.9nm,0.9s,mb4.3
AB31 Akbulak array 59.42 311 P P 05 26 39.9 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AKTK Aktyubinsk 59.72 313 P P 05 26 42.2 +0.3
AKTO Aktyubinsk 59.72 313 P P 05 26 42.2 +0.3
comp=Z,5.2nm,0.7s,mb4.7,baz=53,slow=9.2,SNR=17
AKTO Aktyubinsk 59.72 313 P P 05 26 42.2 +0.3
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHMT Chamberlain Mo 59.85 52 *e*P P 05 26 42.3 -0.4
ORR Orenburg 60.64 315 *e*P P 05 26 48.6 +0.4
ORR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
HLID Hailey 61.21 56 *e*P P 05 26 51.9 -0.2
comp=Z,1.3nm,0.7s,mb4.2
KAKA Kakadu 61.77 204 *e*P P 05 26 55.1 -0.8
comp=Z,5.6nm,0.6s,mb5.0
QLMT Earthquake Lak 62.13 53 *e*P P 05 26 58.4 +0.2
IMW Indian Meadow 62.98 54 *e*P P 05 27 04.8 +0.8
comp=Z,4.0nm,1.0s,mb4.5
RRI2 Red Ridge 63.11 55 *e*P P 05 27 05.4 +0.6
comp=Z,7.6nm,0.8s,mb4.9
MOOW Moose Ponds 63.19 54 *e*P P 05 27 05.9 +0.6
comp=Z,7.2nm,1.3s,mb4.6
TPAW Teton Pass 63.23 54 *e*P P 05 27 06.6 +1.0
comp=Z,14nm,1.2s,mb5.0
LOHW Long Hollow 63.35 54 *e*P P 05 27 06.8 +0.4
comp=Z,14nm,1.4s,mb4.9
SNOW Snow King Moun 63.36 54 *e*P P 05 27 07.4 +1.0
comp=Z,3.4nm,0.8s,mb4.5
REDW Red Top Meadow 63.37 54 *e*P P 05 27 07.1 +0.5
comp=Z,16nm,1.3s,mb5.0
DUG Dugway 64.24 58 *e*P P 05 27 12.2 -0.1
DUG pmax pmax
comp=Z,7.0nm,1.3s,mb4.7
DUG Dugway 64.24 58 *e*P P 05 27 12.2 -0.1
comp=Z,6.6nm,1.3s,mb4.7
BW06 Boulder Array 64.48 54 *e*P P 05 27 13.6 -0.3
comp=Z,8.6nm,1.5s,mb4.8
PDAR Pinedale Array 64.48 54 P P 05 27 13.8 -0.1
comp=Z,2.8nm,0.9s,mb4.5,baz=295,slow=1.9,SNR=20
NLU North Lily Min 64.83 58 *e*P P 05 27 16.1 -0.1
FINES FINESS Array B 64.93 335 P P 05 27 16.2 -0.6
comp=Z,4.1nm,0.8s,mb4.7,baz=38,slow=7.7,SNR=7.7
OBN Obninsk 66.26 326⇓*e*P P 05 27 26.4 +1.0
OBN *e* 05 29 49.4
OBN pmax pmax
comp=Z,65nm,2.5s,mb5.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
SRU San Rafael 66.29 58 *e*P P 05 27 25.5 -0.1
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
SRU San Rafael 66.29 58 *e*P P 05 27 25.5 -0.1
comp=Z,4.6nm,0.8s,mb4.8
ULM Lac du Bonnet 66.48 41 P P 05 27 25.9 -0.9
comp=Z,1.9nm,0.7s,mb4.5,baz=342,slow=10.0,SNR=4.1
RSSD Black Hills 66.62 50 *e*P P 05 27 27.5 -0.2
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
RSSD Black Hills 66.62 50 *e*P P 05 27 27.5 -0.2
comp=Z,2.1nm,0.6s,mb4.5
WRAB Tennant Creek 68.18 200 *e*P P 05 27 36.8 -0.8
WRAB pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
WRAB Tennant Creek 68.18 200 *e*P P 05 27 36.8 -0.8
comp=Z,5.9nm,0.9s,mb4.8
WB2 Warramunga Arr 68.19 200 *e*P P 05 27 36.8 -0.8
WRA Warramunga Arr 68.19 200 P P 05 27 35.9 -1.7
comp=Z,3.1nm,0.8s,mb4.6,baz=21,slow=6.8,SNR=20
ISCO Idaho Springs 68.67 55 *e*P P 05 27 41.1 +0.5
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
ISCO Idaho Springs 68.67 55 *e*P P 05 27 41.0 +0.4
comp=Z,2.1nm,0.8s,mb4.4
MVCO Mesa Verde 68.74 58 *e*P P 05 27 41.0 -0.1
comp=Z,3.4nm,0.8s,mb4.6
FITZ Fitzroy Crossi 68.97 209 *e*P P 05 27 42.3 -0.2
comp=Z,4.4nm,0.8s,mb4.7
NB2 NORSAR Subarra 69.07 342 P P 05 27 42.1 -1.0
comp=Z,1.6nm,0.6s,mb4.4,baz=26,slow=6.5
NOA NORSAR Array B 69.07 342 P P 05 27 42.8 -0.3
comp=Z,2.0nm,0.6s,mb4.5,baz=30,slow=6.2,SNR=7.0
ANMO Albuquerque 71.49 59 *e*P P 05 27 58.2 +0.2
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 71.49 59 *e*P P 05 27 58.2 +0.2
comp=Z,2.7nm,0.9s,mb4.4
KIV Kislovodsk 71.79 315 *e*P P 05 28 02.3 +2.5
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.9
AS31 Alice Springs 71.87 200 *e*P P 05 27 59.9 -0.4
ASAR Alice Springs 71.88 200 P P 05 27 59.5 -0.8
comp=Z,2.0nm,0.9s,mb4.2,baz=11,slow=5.2,SNR=16
AKASG Malin Array Be 72.50 327 P P 05 28 02.8 -1.2
comp=Z,1.9nm,0.5s,mb4.5,baz=34,slow=6.3,SNR=6.7
SCHQ Schefferville 73.58 23 P P 05 28 09.7 -0.7
comp=Z,2.8nm,0.7s,mb4.4,baz=7,4,slow=4.5,SNR=4.6
SCIA State Center 73.79 46 *e*P P 05 28 11.0 -0.7
MNTX Cornudas Mount 74.40 61 *e*P P 05 28 14.8 -0.4
KWP Kalwaria 75.75 330 *e*P P 05 28 23.5 +0.5
STHS Stebnicka Huta 76.44 331 *e*P P 05 28 27.5 +0.6
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.44 331 *e*P P 05 28 27.5 +0.6
comp=Z,4.2nm,0.8s,mb4.6
KOLS Kolonicke sedl 76.50 330 *e*P P 05 28 27.5 +0.2
BURAR Bucovina Array 76.54 327⇑*i*P P 05 28 27.9 +0.4
BURAR Bucovina Array 76.54 327⇑P P 05 28 27.9 +0.4
UZH Uzhgorod 76.75 330 *e*P P 05 28 31.0 +2.3
LTX Lajitas 77.11 61 *e*P P 05 28 30.2 -0.5
LTX pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
LTX Lajitas 77.11 61 *e*P P 05 28 30.2 -0.6
comp=Z,9.1nm,1.2s,mb4.8
TXAR Lajitas Array 77.11 61 P P 05 28 28.8 -2.0
comp=Z,4.0nm,0.7s,mb4.7,baz=301,slow=3.7,SNR=43
TXAR Lajitas Array 77.11 61 P P 05 28 28.8 -2.0
DPC Dobruska-Polom 77.23 334 *e*pP pP 05 28 35.7 +4.1
MORC Moravsky Berou 77.35 333 *e*P P 05 28 32.4 +0.3
MORC pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
MORC Moravsky Berou 77.35 333 *e*P P 05 28 32.4 +0.3
comp=Z,8.1nm,1.2s,mb4.7
CLL Collm 77.35 336 *e*P P 05 28 32.0 -0.1
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
CLL Collm 77.35 336 *e*P P 05 28 32.0 -0.1
comp=Z,9.0nm,0.7s,mb5.0
CLL Collm 77.35 336 *i* P P 05 28 31.8 -0.3
comp=Z,9.0nm,0.7s,mb5.0
KECS Kecovo 77.50 331 *e*P P 05 28 33.1 +0.2
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KECS Kecovo 77.50 331 *e*P P 05 28 33.1 +0.2
comp=Z,2.1nm,0.9s,mb4.3
MLR Muntele Rosu 78.02 326 P P 05 28 36.4 +0.6
comp=Z,6.3nm,0.6s,mb4.9,baz=200,slow=3.3,SNR=14
MLR Muntele Rosu 78.02 326⇑*i*P P 05 28 36.8 +1.0
MLR Muntele Rosu 78.02 326 P P 05 28 36.4 +0.6
MLR pmax pmax
comp=Z,6.0nm,0.6s
MLR Muntele Rosu 78.02 326⇑P P 05 28 36.9 +1.0
VRAC Vranov 78.06 333 P P 05 28 37.3 +1.3
comp=Z,1.7nm,0.5s,mb4.4,baz=26,slow=8.3,SNR=3.8
MALT Malatya 78.15 314⇓*i*P P 05 28 38.7 +2.2
MALT Malatya 78.15 314 *e*P P 05 28 38.2 +1.7
MALT pmax pmax
comp=Z,16nm,1.4s,mb5.0
MALT Malatya 78.15 314 *e*P P 05 28 38.2 +1.7
comp=Z,16nm,1.4s,mb5.0
DRGR 78.16 328⇑*i*P P 05 28 36.7 +0.1
DRGR 78.16 328⇑P P 05 28 36.7 +0.2
VOIR 78.42 326⇑*i*P P 05 28 38.8 +0.8
VOIR 78.42 326⇑P P 05 28 38.8 +0.8
JCT Junction City 78.60 58 *e*P P 05 28 38.7 -0.3
ZST Bratislava 78.88 332 *e*P P 05 28 42.0 +1.5
ZST pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZST Bratislava 78.88 332 *e*P P 05 28 42.0 +1.5
comp=Z,3.6nm,0.8s,mb4.5
KHC Kasperske Hory 79.14 335 *e*P P 05 28 41.5 -0.5
GRA1 Grafenberg Arr 79.30 337 *e*P P 05 28 43.0 +0.1
comp=Z,14nm,1.3s,mb4.8
GRF Grafenberg Arr 79.30 337 *e*P P 05 28 43.0 +0.1
comp=Z,14nm,1.3s,mb4.8
GRF Grafenberg Arr 79.30 337 *e*P P 05 28 43.0 +0.1
GRF pmax pmax
comp=Z,14nm,1.3s,mb4.8
GRF Grafenberg Arr 79.30 337 *e*P P 05 28 43.0 +0.1
GRF pmax pmax
comp=Z,14nm,1.3s,mb4.8
GERES GERESS Array B 79.36 335 P P 05 28 42.9 -0.3
comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.0,SNR=12
BR131 Keskin Array S 79.38 318 *e*P P 05 28 43.9 +0.7
comp=Z,4.0nm,0.9s,mb4.5
BFO Black Forest 81.33 338 *e*P P 05 28 53.8 0.0
BFO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BFO Black Forest 81.33 338 *e*P P 05 28 53.8 0.0
comp=Z,4.2nm,1.0s,mb4.4
CDF Champ du Feu 81.53 338 *e*P P 05 28 53.2 -1.6
comp=Z,20nm,1.0s,mb4.9
CDF Champ du Feu 81.53 338 *e*P P 05 28 53.2 -1.6
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CDF Champ du Feu 81.53 338 *e*P P 05 28 53.2 -1.6
comp=Z,9.9nm,1.0s,mb4.9
VTS Vitosha 81.53 326⇑*i*P P 05 28 55.3 +0.5
VTS Vitosha 81.53 326⇑P P 05 28 55.2 +0.4
FFD Franklin Falls 81.94 32 *e*P P 05 28 57.0 -0.1
comp=Z,32nm,0.8s,mb5.5
GRR Gorron 83.39 344 *e*P P 05 29 03.0 -1.5
comp=Z,30nm,1.1s,mb5.2
GRR Gorron 83.39 344 *e*P P 05 29 03.0 -1.5
GRR pmax pmax
comp=Z,15nm,1.1s,mb5.1
GRR Gorron 83.39 344 *e*P P 05 29 03.0 -1.5
comp=Z,15nm,1.1s,mb5.1
ASF Jabal al Asfar 83.69 311 P P 05 29 07.1 +1.0
comp=Z,7.6nm,0.9s,mb4.9,baz=160,slow=0.4,SNR=9.0
MMAI Mount Meron Ar 83.81 312 P P 05 29 07.7 +1.0
comp=Z,18nm,0.9s,mb5.3,baz=17,slow=6.1,SNR=12
SMF Signal de Mont 84.02 340 *e*P P 05 29 06.3 -1.5
comp=Z,47nm,1.2s,mb5.3
SMF Signal de Mont 84.02 340 *e*P P 05 29 06.3 -1.5
SMF pmax pmax
comp=Z,23nm,1.2s,mb5.3
SMF Signal de Mont 84.02 340 *e*P P 05 29 06.3 -1.5
comp=Z,23nm,1.2s,mb5.3
LPG La Plagne 84.36 338 *e*P P 05 29 09.0 -0.5
comp=Z,19nm,0.8s,mb5.1
LPG La Plagne 84.36 338 *e*P P 05 29 09.0 -0.5
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LPG La Plagne 84.36 338 *e*P P 05 29 09.0 -0.5
comp=Z,9.4nm,0.8s,mb5.1
CAF Calviac 86.06 341 *e*P P 05 29 16.7 -1.3
comp=Z,13nm,0.8s,mb4.8
CAF Calviac 86.06 341 *e*P P 05 29 16.7 -1.3
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CAF Calviac 86.06 341 *e*P P 05 29 16.7 -1.3
comp=Z,6.6nm,0.8s,mb4.8
IDI Anoyia 86.99 321 P P 05 29 23.8 +1.2
comp=Z,3.0nm,0.6s,mb4.7,baz=13,slow=13,SNR=6.3
CFAA Coronel Fontan 144.33 81 PKP PKPdf 05 36 09.8 -3.7
comp=Z,0.2nm,0.6s,baz=280,slow=1.7,SNR=3.1
SNAA Sanae 152.17 195 *e*PKPdf PKPbc 05 36 30.4 -2.5
SNAA *e* 05 36 32.7
SNAA *e* 05 36 39.1
SNAA *e* 05 36 43.5
SNAA *e* 05 37 00.2
SNAA Sanae 152.17 195 *e*PKPbc PKPbc 05 36 29.9 -3.1
SNAA *e*PKPab PKPab 05 36 39.0 -3.6
VNA2 Neumayer--Watz 153.59 193 *e*PKPdf PKPbc 05 36 33.8 -2.3
baz=120,slow=2.7
VNA2 *e* 05 36 37.0
VNA2 *e* 05 36 44.8
VNA2 *e* 05 36 50.5
VNA2 *e* 05 36 57.9
VNA3 Neumayer Olymp 153.65 192 *e*PKPdf PKPbc 05 36 34.2 -2.0
VNA3 *e* 05 36 37.5
VNA3 *e* 05 36 45.0
VNA3 *e* 05 36 54.8

ISCJB ***17*** *05:22:32.7±0.9, 470N±0.1×1547E±0.2, h10km, mb3.9/10, Error ellipse: s-maj=22.8km s-min=12.4km az=80.1*
IDC ***17*** *05:22:32.9±1.1, 4695N×15480E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=32.1km s-min=22.6km az=149.0*
NEIC ***17*** *05:22:34.4±0.7, 4694N×15473E, h10km, mb4.2/3, Error ellipse: s-maj=17.0km s-min=12.0km az=136.0*
MOS ***17*** *05:22:36.0±0.7, 4702N×15466E, h33km, mb4.5/3, Error ellipse: s-maj=28.3km s-min=16.7km az=86.9*

ISC 17 05:22:34.3±0.9, 470N±01×1548E±02, h10km, n16, σ0844/16, mb3.9/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.78**	**13**	*e*PN		**Pn**		**05 23 32.0**	**-0.7**
MJAR	**Matsushiro Arr**	**16.14**	**236**	Pn		**Pn**		**05 26 20.3**	**-1.0**
	0.2nm,0.3s,baz=54,slow=12,SNR=2.9								
MJAR	**Matsushiro Arr**	**16.14**	**236**	Pn		**Pn**		**05 26 20.3**	**-1.0**
KSRS	**Korea Array**	**21.95**	**254**	P		**P**		**05 27 28.5**	**+0.5**
	0.3nm,0.3s,mb3.2,baz=65,slow=12,SNR=2.9								
INK	**Inuvik**	**40.83**	**33**	P		**P**		**05 30 16.1**	**+0.1**
	1.0nm,0.6s,mb3.6,baz=306,slow=4.3,SNR=6.3								
MKAR	**Makanchi Array**	**47.81**	**298**	P		**P**		**05 31 12.2**	**+0.2**
	0.5nm,0.8s,mb3.6,baz=63,slow=7.4,SNR=2.9								
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P		**P**		**05 31 36.9**	**-0.3**
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P		**P**		**05 31 36.9**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3								
BVAR	**Borovoye Array**	**51.55**	**310**	P		**P**		**05 31 40.3**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=61,slow=8.2,SNR=7.4								
BRVK	**Borovoye**	**51.59**	**310**	*e*P		**P**		**05 31 40.7**	**0.0**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
BRVK	**Borovoye**	**51.59**	**310**	*e*P		**P**		**05 31 40.7**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.2								
ZRNK	**Zerenda**	**52.32**	**310**	*e*P		**P**		**05 31 46.6**	**+0.5**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**52.32**	**310**	*e*P		**P**		**05 31 46.6**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.1								
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**		**05 33 10.2**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.3,baz=34,slow=7.6,SNR=7.9								
ASAR	**Alice Springs**	**72.82**	**200**	P		**P**		**05 34 03.4**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=19,slow=5.4,SNR=4.8								
TXAR	**Lajitas Array**	**76.39**	**62**	P		**P**		**05 34 23.9**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=307,slow=4.7,SNR=14								

CSEM ***17*** *05:28:11.7±0.2, 4048N×4856E, h12km, mb4.3, Error ellipse: s-maj=5.4km s-min=4.1km az=15.0*
IDC ***17*** *05:28:12.2±1.7, 4072N×4846E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=39.6km s-min=14.4km az=154.0*
MOS ***17*** *05:28:13.8±1.5, 4064N×4864E, h16km, mb4.3/1, Error ellipse: s-maj=12.4km s-min=8.8km az=102.3*
ISCJB ***17*** *05:28:18.0±1.3, 4076N±0.10×4860E±0.09, h58km±11km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=17.8km s-min=8.9km az=132.4*
NEIC ***17*** *05:28:19.0±1.6, 4071N×4843E, h55km±20km, mb3.4/5, Error ellipse: s-maj=21.7km s-min=9.9km az=169.0*

ISC 17 05:28:19.0±1.2, 4080N±010×4864E±008, h51km±12km, n37, σ1911/47, mb3.7/5, MS3.0/1, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.89**	**335**	*i* PG		**Pn**		**05 28 34.0**	**-1.2**
KSMR				*i* S		**Sn**		**05 28 54.0**	**+6.9**
KSMR				pmax	pmax				
	comp=Z,781nm,0.3s								
KSMR	**Kasumkent**	**0.89**	**335**	*i* Pg		**Pn**		**05 28 34.0**	**-1.2**
	comp=Z,781nm,0.3s								
KSMR				*i* Sg		**Sn**		**05 28 54.0**	**+6.9**
AKT	**Akhty**	**0.96**	**315**⇓	*i*PG		**Pn**		**05 28 32.0**	**-4.2**
AKT				*e*S		**Sn**		**05 28 49.5**	**+0.6**
AKT				pmax	pmax				
	comp=Z,253nm,0.2s								
AKT	**Akhty**	**0.96**	**315**	*i* Pg		**Pn**		**05 28 32.0**	**-4.2**
	comp=Z,253nm,0.2s								
AKT				*e*Sg		**Sn**		**05 28 49.5**	**+0.6**
DRN	**Derbent**	**1.25**	**349**⇓	*i*PG		**Pn**		**05 28 40.3**	**+0.2**
DRN				*i* S		**Sn**		**05 29 02.8**	**+7.0**
DRN				pmax	pmax				
	comp=Z,305nm,0.3s								
DRN	**Derbent**	**1.25**	**349**	*i* Pg		**Pn**		**05 28 40.3**	**+0.2**
	comp=Z,305nm,0.3s								
DRN				*i* Sg		**Sn**		**05 29 02.8**	**+7.0**
URKR	**Urkarakh**	**1.56**	**331**	*e*PN		**Pn**		**05 28 44.0**	**-0.3**
URKR				*e*S		**Sn**		**05 29 10.0**	**+6.7**
URKR				pmax	pmax				
	comp=Z,152nm,0.4s								
URKR	**Urkarakh**	**1.56**	**331**	*e*Pn		**Pn**		**05 28 44.0**	**-0.3**
	comp=Z,152nm,0.4s								
URKR				*e*Sg		**Sn**		**05 29 10.0**	**+6.7**
GNI	**Garni**	**3.04**	**259**	Pn		**Pn**		**05 29 02.3**	**-2.3**
	comp=Z,4.1nm,0.3s,baz=172,slow=7.1,SNR=6.3								
GNI				Sn		**Sn**		**05 29 40.9**	**+1.2**
	comp=Z,7.2nm,0.3s,baz=205,slow=22,SNR=3.1								
TBLG	**Delisi**	**3.08**	**289**	Pn		**Pn**		**05 29 05.6**	**+0.5**
TBLG				Sn		**Sn**		**05 29 47.7**	**+7.0**
ZEI	**Tsey**	**4.05**	**301**	*e*PN		**Pn**		**05 29 19.7**	**+1.3**
ZEI				*e*				05 29 38.1	
ZEI	**Tsey**	**4.05**	**301**	*e*Pg		**Pn**		**05 29 38.1**	**+20**
ZRNK	**Zerenda**	**18.40**	**42**	*e*P		**Pn**		**05 32 33.5**	**+3.2**
ZRNK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ZRNK	**Zerenda**	**18.40**	**42**	*e*P		**Pn**		**05 32 33.5**	**+3.2**
	comp=Z,1.9nm,0.7s								
ZRNK	**Zerenda**	**18.40**	**42**	*e*P		**Pn**		**05 32 33.5**	**+3.2**
	comp=Z,2.0nm,0.7s								
BRVK	**Borovoye**	**19.11**	**43**	*e*P		**Pn**		**05 32 37.7**	**-1.1**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BRVK	**Borovoye**	**19.11**	**43**	*e*P		**Pn**		**05 32 37.7**	**-1.2**
	comp=Z,1.5nm,0.6s								
BRVK	**Borovoye**	**19.11**	**43**	*e*P		**Pn**		**05 32 37.7**	**-1.1**
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**19.15**	**43**	P		**Pn**		**05 32 40.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=245,slow=16,SNR=3.9								
AAK	**Ala-Archa**	**19.37**	**76**	*e*P		**Pn**		**05 32 41.8**	**-0.1**
AAK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AAK	**Ala-Archa**	**19.37**	**76**	*e*P		**Pn**		**05 32 41.8**	**-0.1**
	comp=Z,1.7nm,0.6s								
AAK	**Ala-Archa**	**19.37**	**76**	*e*P		**Pn**		**05 32 41.8**	**-0.1**
	comp=Z,2.0nm,0.6s								
CHKZ	**Chkalovo**	**19.61**	**42**	*e*P		**Pn**		**05 32 44.3**	**-0.4**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.5s								
CHKZ	**Chkalovo**	**19.61**	**42**	*e*P		**Pn**		**05 32 44.3**	**-0.4**
	comp=Z,1.0nm,0.5s								
CHKZ	**Chkalovo**	**19.61**	**42**	*e*P		**Pn**		**05 32 44.3**	**-0.4**
	comp=Z,1.0nm,0.5s								
KWP	**Kalwaria**	**20.21**	**305**	*e*P		**P**		**05 32 52.2**	**+2.7**
KWP				pmax	pmax				
	comp=Z,14nm,1.3s								
KWP	**Kalwaria**	**20.21**	**305**	*e*P		**P**		**05 32 52.2**	**+2.7**
	comp=Z,14nm,1.3s								
KWP	**Kalwaria**	**20.21**	**305**	*e*P		**P**		**05 32 52.2**	**+2.7**
	comp=Z,14nm,1.3s								
FIA1	**FINESS Array S**	**24.81**	**334**	*e*P		**P**		**05 33 35.2**	**-1.0**
FIA1	**FINESS Array S**	**24.81**	**334**	*e*P		**P**		**05 33 35.2**	**-1.0**
FINES	**FINESS Array B**	**24.81**	**334**	P		**P**		**05 33 36.5**	**+0.3**
	comp=Z,2.1nm,0.5s,mb3.9,baz=132,slow=10,SNR=7.9								
MK31	**Makanchi Array**	**24.89**	**65**	*e*P		**P**		**05 33 38.0**	**+1.1**
MKAR	**Makanchi Array**	**24.89**	**65**	P		**P**		**05 33 37.8**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.2,baz=268,slow=7.9,SNR=3.7								
MKAR				LR	LR			05 44 11.6	
	comp=Z,49nm,20.1s,MS3.0,baz=253,slow=38								
NOA	**NORSAR Array B**	**30.45**	**324**	P		**P**		**05 34 25.5**	**-1.2**
	comp=Z,1.7nm,0.8s,mb3.8,baz=118,slow=8.4,SNR=3.9								
NOA	**NORSAR Array B**	**30.45**	**324**	P		**P**		**05 34 25.5**	**-1.2**

ARCES	**ARCESS Array B**	**31.26**	**345**	P	**P**	**05 34 33.0**	**-0.8**
	comp=Z,3.9nm,1.0s,mb4.2,baz=154,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**49.31**	**250**	P	**P**	**05 37 02.2**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=31,slow=8.6,SNR=2.2						

ISCJB ***17*** *05:31:02.2±0.7, 188N±0.1×6679W±0.04, h91km±11km, Error ellipse: s-maj=20.3km s-min=6.1km az=19.7*
RSPR ***17*** *05:31:06.6, 1873N×6670W, h71km±1km, MD3.7/13, MD3.7/13*
NEIC ***17*** *05:31:06.6, 1873N×6670W, h70km, MD3.7(RSPR), After RSPR.*
NEIC Felt at Mayaguez.
ISC 17 05:31:03.6±0.7, 188N±01×6677W±004, h82km±13km, n18, σ0§79/30, 8C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.49**	**178**	*i*P		**Pn**	**05 31 17.8**	**+0.5**
AOPR				*e*S		**Sn**	**05 31 26.8**	**-0.8**
AGPR	**Aguadilla, PR**	**0.49**	**222**	*i*P		**Pn**	**05 31 18.9**	**+1.5**
AGPR				*e*S		**Sn**	**05 31 28.4**	**+0.8**
MPR	**Mayaguez**	**0.71**	**210**	*i*P		**Pn**	**05 31 20.3**	**+0.8**
MPR				*e*S		**Sn**	**05 31 31.2**	**-0.1**
LSP	**Las Mesas**	**0.72**	**205**	*i*P		**Pn**	**05 31 20.6**	**+1.0**
CELP	**Cerrillos**	**0.78**	**167**	*e*P		**Pn**	**05 31 20.5**	**+0.3**
GBPR	**Guanica, Bosqu**	**0.86**	**187**	*i*P		**Pn**	**05 31 21.7**	**+0.6**
GBPR	**Guanica, Bosqu**	**0.86**	**187**	*e*S		**Sn**	**05 31 33.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.89**	**202**	*e*P		**Pn**	**05 31 21.9**	**+0.6**
CRPR				*e*S		**Sn**	**05 31 34.3**	**-0.3**
SJG	**San Juan**	**0.93**	**141**	*i*P		**Pn**	**05 31 22.1**	**+0.3**
ICM	**Isla Caja Muer**	**0.97**	**166**	*e*P		**Pn**	**05 31 23.0**	**+0.7**
ICM				*e*S		**Sn**	**05 31 39.1**	**-0.7**
MTP	**Monte Pirata**	**1.37**	**122**	*i*P		**Pn**	**05 31 27.7**	**+0.5**
MTP				*e*S		**Sn**	**05 31 44.3**	**-0.8**
LZG	**Guadaloupe-1**	**5.47**	**119**	*e*P		**Pn**	**05 32 23.5**	**+1.1**
MASC	**Masc**	**7.16**	**282**	*e*PG		**Pn**	**05 32 45.7**	**+0.1**
MASC				*e*SG		**Sn**	**05 34 04.1**	**-1.3**
	comp=N,1.6nm,0.1s							
MASC				*e*				
	comp=E,1.8nm,0.1s							
MOAC	**Moa**	**7.93**	**285**	*e*P		**Pn**	**05 32 55.1**	**-0.9**
MOAC				*e*S		**Sn**	**05 34 17.4**	**-6.6**
	comp=N,1.8nm,0.2s							
MOAC				*e*				
	comp=E,1.7nm,0.2s							
RCC	**Rio Carpintero**	**8.50**	**279**	*e*P		**Pn**	**05 33 02.6**	**-1.3**
RCC				*e*S		**Sn**	**05 34 33.0**	**-5.2**
	comp=N,0.2nm,0.1s							
RCC				*e*				
	comp=E,0.2nm,0.2s							

IDC ***17*** *05:42:22.6±1.1, 4761N×15553E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=32.3km s-min=27.6km az=10.0*
NEIC ***17*** *05:42:24.1±0.8, 4761N×15547E, h10km, mb3.9/3, Error ellipse: s-maj=23.3km s-min=16.5km az=192.0*
ISCJB ***17*** *05:42:29.2±3.5, 476N±02×1554E±02, h63km±28km, mb3.8/10, Error ellipse: s-maj=36.1km s-min=24.1km az=11.7*
MOS ***17*** *05:42:29.4±0.8, 4765N×15522E, h63km, mb4.2/3, Error ellipse: s-maj=38.8km s-min=18.5km az=102.7*
ISC 17 05:42:30.7±3.4, 476N±02×1554E±02, h61km±27km, n15, σ0§52/15, mb3.8/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.08**	**9**	*e*PN		**Pn**	**05 43 16.9**	**+0.1**
SKR				*e*			05 43 48.0	
MKAR	**Makanchi Array**	**47.91**	**298**	P		**P**	**05 51 02.4**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=53,slow=7.4,SNR=4.5							
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P		**P**	**05 51 26.3**	**-0.3**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P		**P**	**05 51 26.3**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.2							
BVAR	**Borovoye Array**	**51.49**	**310**	P		**P**	**05 51 30.1**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=56,slow=5.9,SNR=3.3							
ZRNK	**Zerenda**	**52.24**	**310**	*e*P		**P**	**05 51 35.6**	**0.0**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.24**	**310**	*e*P		**P**	**05 51 35.6**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9							
AAK	**Ala-Archa**	**54.82**	**297**	*e*P		**P**	**05 51 53.9**	**-0.6**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**54.82**	**297**	*e*P		**P**	**05 51 53.9**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.7							
PDAR	**Pinedale Array**	**62.96**	**55**	P		**P**	**05 52 49.8**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=207,slow=0.7,SNR=3.5							
FINES	**FINESS Array B**	**63.88**	**336**	P		**P**	**05 52 57.8**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=51,slow=10.0,SNR=3.7							
NOA	**NORSAR Array B**	**67.87**	**342**	P		**P**	**05 53 23.0**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=25,slow=6.3,SNR=3.5							
ASAR	**Alice Springs**	**73.57**	**200**	P		**P**	**05 53 57.5**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=13,slow=5.6,SNR=6.8							
TXAR	**Lajitas Array**	**75.70**	**62**	P		**P**	**05 54 10.0**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=4.0,SNR=7.5							
TXAR	**Lajitas Array**	**75.70**	**62**	P		**P**	**05 54 10.0**	**+0.5**

IDC 17 06:07:18.5±1.3, 4695N×15500E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=54.1km s-min=37.8km az=108.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**64.41**	**336**	P		P	06 17 55.9	-0.5
	4.8nm,1.1s,baz=53,slow=7.6,SNR=4.3							
ASAR	**Alice Springs**	**72.82**	**200**	P		P	06 18 48.9	-0.1
	0.4nm,0.6s,baz=16,slow=5.4,SNR=5.2							
TXAR	**Lajitas Array**	**76.27**	**62**	P		P	06 19 09.2	+0.2
	0.6nm,0.8s,baz=299,slow=5.6,SNR=6.6							

IDC ***17*** *06:09:06.6±1.3, 4768N×15541E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=39.0km s-min=31.6km az=151.0*
ISCJB ***17*** *06:09:16.9±3.1, 477N±02×1552E±03, h94km±28km, mb3.4/5, Error ellipse: s-maj=41.8km s-min=27.4km az=109.2*
MOS ***17*** *06:09:17.3±0.9, 4775N×15508E, h98km, mb4.2/1, Error ellipse: s-maj=89.6km s-min=35.2km az=86.2*
ISC 17 06:09:17.6±2.9, 477N±02×1552E±03, h86km±26km, n7, σ0§53/7, mb3.4/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.06**	**11**	*e*PN		**Pn**	**06 10 04.0**	**+0.1**
SKR				*e*			06 10 31.5	
KSRS	**Korea Array**	**22.41**	**253**	P		**P**	**06 14 08.6**	**-0.4**
	2.4nm,1.0s,mb3.5,baz=44,slow=10,SNR=4.3							
MKAR	**Makanchi Array**	**47.75**	**297**	P		**P**	**06 17 45.9**	**0.0**
	0.3nm,0.5s,mb3.4,baz=66,slow=8.7,SNR=4.3							
FINES	**FINESS Array B**	**63.78**	**335**	P		**P**	**06 19 40.7**	**+0.3**
	1.7nm,0.7s,mb4.0,baz=23,slow=7.5,SNR=4.1							
FINES	**FINESS Array B**	**63.78**	**335**	P		**P**	**06 19 40.7**	**+0.3**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**73.56**	**200**	P		**P**	**06 20 41.8**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=18,slow=5.6,SNR=4.1							
TXAR	**Lajitas Array**	**75.82**	**62**	P		**P**	**06 20 53.8**	**-0.5**
	comp=Z,0.1nm,0.4s,mb2.9,baz=296,slow=3.8,SNR=4.0							

NEIC ***17*** *06:13:39.3, 1559N×9833W, h15km, MD3.7(MEX), After MEX.*
MEX 17 06:13:39.4±0.4, 1559N×9833W, h15km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.82**	**14**	*i*P		Pg	06 13 52.4	-2.9
PNIG				*i*S		Sg	06 14 02.9	-3.2
PNIG	**Pinotepa**	**0.82**	**14**	*i*P		Pg	06 13 52.3	-3.0
PNIG				*i*S		Sg	06 14 02.9	-3.2
ACX	**Acapulco**	**1.98**	**310**	*e*P		Pn	06 14 10.0	-2.3
OXX	**Oaxaca**	**2.14**	**46**	*e*P		Pn	06 14 13.0	-1.6
UTMO	**Huajuapan**	**2.28**	**13**	*i*P		Pn	06 14 13.5	-3.0
UTMO				*i*S		Sn	06 14 40.6	-3.7
TEIG	**Tepich**	**10.62**	**63**	*e*Pn		Pn	06 16 07.7	-3.4

CNRM ***17*** *06:16:06.2, 3171N×908W, h10km, MD2.9*
CSEM ***17*** *06:16:06.8±0.2, 3670N×865W, h10km, ML3.6/4, Error ellipse: s-maj=5.1km s-min=3.4km az=66.0*
IGIL ***17*** *06:16:09.3, 3681N×890W, h10km, ML2.8*
NEIC ***17*** *06:16:10.0, 3649N×853W, h19km, ML2.4(LIS), MN2.8(MDD), After LIS.*
INMG ***17*** *06:16:10.0±1.1, 3679N×891W, h20km±4km, MD2.4, ML2.5, Error ellipse: s-maj=5.3km s-min=2.7km az=58.0*
MDD 17 06:16:09.1±1.3, 3678N×901W, h26km±15km, mbLg2.7/21, Error ellipse: s-maj=11.9km s-min=5.0km az=59.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.80**	**16**	*i*P		Pb	06 16 23.9	-0.4
PTEO				*e*S		Sb	06 16 34.4	-0.4
PTEO								
	131nm,0.3s							
PTEO	**Sao Teotonio**	**0.80**	**16**	*i*P		Pb	06 16 23.9	-0.5
PTEO				*e*S		Sb	06 16 34.1	-0.7
EGRO	**El Granado**	**1.43**	**58**	P		Pn	06 16 32.2	-1.1
	5.3nm,0.1s,SNR=59							
EGRO				S		Sn	06 16 48.7	-2.5
	14nm,0.1s,SNR=15							
EGRO	**El Granado**	**1.43**	**58**	P		Pn	06 16 32.2	-1.1
	5.3nm,0.1s,SNR=59							
EGRO				S		Sn	06 16 48.8	-2.5
PBEJ	**Beja**	**1.54**	**36**	*e*P		Pn	06 16 33.7	-1.1
PBEJ				*e*S		Sn	06 16 52.2	-1.8
PBEJ								
	5.3nm,0.1s							
PBEJ	**Beja**	**1.54**	**36**	*e*P		Pn	06 16 33.7	-1.1
PBEJ	**Beja**	**1.54**	**36**	*e*P		Pn	06 16 33.7	-1.1
PBEJ				*e*S		Sn	06 16 52.2	-1.8
	5.3nm,0.1s							
MOE	**Montemor**	**1.82**	**16**	*e*Pn		Pn	06 16 38.0	-0.6
MOE				*e*Sn		Sn	06 16 59.2	-1.6
PLOU	**Loures**	**2.11**	**357**	*e*Pn		Pn	06 16 42.3	-0.3
PLOU				*e*Sn		Sn	06 17 06.5	-1.4
PLOU								
	24nm,0.2s							
PLOU	**Loures**	**2.11**	**357**	*e*Pn		Pn	06 16 42.3	-0.3
PLOU				*e*Sn		Sn	06 17 06.5	-1.4
	24nm,0.2s							
EMIN	**Mina Concepcio**	**2.11**	**61**	P		Pn	06 16 41.0	-1.6
	SNR=7.9							
EMIN				S		Sn	06 17 05.2	-2.7
	4.6nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.11**	**61**	P		Pn	06 16 41.0	-1.6
	SNR=7.9							
EMIN				S		Sn	06 17 05.2	-2.7
	4.6nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.18**	**354**	*e*Pn		Pn	06 16 43.2	-0.5
PMAFR				*e*Sn		Sn	06 17 08.9	-0.9
PMAFR								
	114nm,0.2s							
PMAFR	**Mafra**	**2.18**	**354**	*e*Pn		Pn	06 16 43.2	-0.5
PMAFR				*e*Sn		Sn	06 17 08.9	-0.9
	114nm,0.2s							
PESTR	**Estremoz**	**2.37**	**28**	*e*Pn		Pn	06 16 44.9	-1.3
PESTR				*e*Sn		Sn	06 17 12.2	-2.2
PESTR								
	9.4nm,0.3s							
PESTR	**Estremoz**	**2.37**	**28**	*e*Pn		Pn	06 16 44.9	-1.3
PESTR				*e*Sn		Sn	06 17 12.2	-2.2
	9.4nm,0.3s							
ALMR	**Almeirim**	**2.40**	**8**	*e*P		Pn	06 16 46.1	-0.5
ALMR				*e*S		Sn	06 17 13.4	-1.7
ALMR				*e*S		Sn	06 17 13.4	-1.7
ALMR					AML	AML	06 17 23.4	
	comp=E,55nm,0.7s							
ALMR	**Almeirim**	**2.40**	**8**	*e*P		Pn	06 16 46.1	-0.5
ALMR				*e*S		Sn	06 17 13.4	-1.7
EBAD	**Badajoz**	**2.53**	**38**	P		Pn	06 16 46.9	-1.5
	comp=E,5.3nm,0.1s,SNR=26							
EBAD				S		Sn	06 17 14.3	-4.0
	comp=E,2.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.53**	**38**	P		Pn	06 16 46.9	-1.5
	comp=E,5.3nm,0.1s,SNR=26							
EBAD				S		Sn	06 17 14.3	-4.0
	comp=E,2.1nm,0.1s,SNR=7.9							
ESPR	**Espera**	**2.53**	**87**	P		Pn	06 16 47.5	-0.9
	comp=E,6.1nm,0.3s,SNR=19							
ESPR				S		Sn	06 17 16.0	-2.3
	comp=E,11nm,0.1s,SNR=7.9							
ESPR	**Espera**	**2.53**	**87**	P		Pn	06 16 47.5	-0.9
	comp=E,6.1nm,0.3s,SNR=19							
ESPR				S		Sn	06 17 16.0	-2.3
	comp=E,11nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**3.29**	**21**	*e*Pn		Pn	06 16 58.1	-0.7
PCBR				*e*Sn		Sn	06 17 33.7	-3.3
PCBR								
	comp=E,9.4nm,0.2s							
PCBR	**Castelo Branco**	**3.29**	**21**	*e*Pn		Pn	06 16 58.1	-0.7
PCBR				*e*Sn		Sn	06 17 33.7	-3.3
	comp=E,9.4nm,0.2s							
EMIJ	**Mijas**	**3.41**	**92**	P		Pn	06 17 00.5	0.0
	comp=E,0.7nm,0.2s,SNR=7.9							
EMIJ				S		Sn	06 17 38.0	-2.1
	comp=E,1.8nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.79**	**67**	P		Pn	06 17 04.7	-1.0
	SNR=7.9							
EADA				S		Sn	06 17 44.9	-4.4
	comp=E,3.9nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.79**	**67**	P		Pn	06 17 04.7	-1.0
	SNR=7.9							
EADA				S		Sn	06 17 44.9	-4.5
	comp=E,3.9nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**3.87**	**77**	S		Sn	06 17 48.9	-2.4
	comp=E,3.4nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**4.03**	**12**	*e*Pn		Pn	06 17 08.2	-0.8
PVIS				*e*Sn		Sn	06 17 51.6	-3.7
PVIS								
	comp=E,10nm,0.1s							
EGUA	**Guajares**	**4.37**	**88**	S		Sn	06 17 58.1	-5.6
	comp=E,9.4nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**4.38**	**70**	P		Pn	06 17 12.5	-1.3
	SNR=7.9							
EBAN				S		Sn	06 17 57.7	-6.2
	comp=E,6.1nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**4.48**	**83**	P		Pn	06 17 15.6	+0.4
	comp=E,0.2nm,0.1s,SNR=7.9							
EQUE				S		Sn	06 18 03.1	-3.3
	comp=E,0.4nm,0.1s,SNR=7.9							
MIF	**Mishlifen**	**4.57**	**136**	*i*P		Pn	06 17 15.0	-1.5
MIF				*e*S		Sn	06 18 07.0	-1.7
PVRL	**Vila Real**	**4.60**	**12**	*e*Sn		Sn	06 18 06.0	-3.5
PVRL								
	comp=E,13nm,0.1s							
PVRL	**Vila Real**	**4.60**	**12**	S		Sn	06 18 06.0	-3.5
	comp=E,6.3nm,0.1s							
EQES	**Quesada**	**4.84**	**76**	P		Pn	06 17 18.7	-1.5
	SNR=7.9							
EQES				S		Sn	06 18 11.9	-3.5
	comp=E,2.4nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.84**	**76**	P		Pn	06 17 18.7	-1.5
	SNR=7.9							
EQES				S		Sn	06 18 11.9	-3.5
	comp=E,2.4nm,0.1s,SNR=7.9							
KIB	**El Ksiba**	**4.85**	**149**	*i*P		Pn	06 17 18.5	-1.9
KIB				*i*S		Sn	06 18 11.0	-4.7
EBER	**Berja**	**4.91**	**87**	Pn		Pn	06 17 21.0	-0.1
EBER				Sn		Sn	06 18 13.9	-3.1
EBER	**Berja**	**4.91**	**87**	Pn		Pn	06 17 21.0	-0.1
EBER				S		Sn	06 18 13.9	-3.1
	comp=E,0.9nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.91**	**52**	P		Pn	06 17 19.9	-1.3
	comp=E,1.4nm,0.2s,baz=238,slow=13,SNR=24							
ESDC				S		Sn	06 18 13.4	-3.7
	comp=E,1.1nm,0.3s,baz=237,slow=24,SNR=7.4							
ESDC	**Sonseca Array**	**4.91**	**52**	P		Pn	06 17 19.9	-1.3
	comp=E,1.4nm,0.2s,SNR=24							
ESDC				S		Sn	06 18 13.4	-3.7
	comp=E,1.1nm,0.3s,SNR=7.4							
PCAB	**Cabril**	**4.98**	**8**	*e*Pn		Pn	06 17 21.5	-0.6
PCAB				*e*Sn		Sn	06 18 14.4	-4.5
PCAB								
	comp=E,7.4nm,0.1s							
TZC	**Tazercounte**	**5.07**	**155**	*i*P		Pn	06 17 20.0	-3.3
TZC				*i*S		Sn	06 18 15.0	-5.9
EHUE	**Huescar**	**5.22**	**77**	S		Sn	06 18 20.5	-4.1
	comp=E,2.7nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**5.32**	**19**	*e*Pn		Pn	06 17 26.0	-0.7
PBRG				*e*Sn		Sn	06 18 22.4	-4.7
PBRG								
	comp=E,4.8nm,0.2s							
GUD	**Guadarrama**	**5.41**	**43**	P		Pn	06 17 26.9	-1.2
	comp=E,1.9nm,0.2s,SNR=7.9							
GUD				S		Sn	06 18 24.7	-4.7
	comp=E,0.1nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.45**	**18**	P		Pn	06 17 27.8	-0.7
	comp=E,1.2nm,0.2s,SNR=7.9							
ECAL				S		Sn	06 18 24.3	-6.1
	comp=E,0.7nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.45**	**18**	P		Pn	06 17 27.8	-0.7
	comp=E,1.2nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**5.48**	**68**	P		Pn	06 17 27.6	-1.4
	SNR=7.9							
EVIA				S		Sn	06 18 26.3	-4.8
	comp=E,2.8nm,0.1s,SNR=7.9							
ZFT	**Errachidia**	**6.10**	**140**	*i*P		Pn	06 17 36.0	-1.5
ZFT				*e*S		Sn	06 18 42.0	-4.3
ETOB	**Tobarra**	**6.20**	**70**	P		Pn	06 17 37.0	-1.8
	SNR=7.9							
ETOB				S		Sn	06 18 42.1	-6.8
	comp=E,0.9nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.20**	**70**	P		Pn	06 17 37.0	-1.9
	SNR=7.9							
ETOR	**Torete**	**6.76**	**51**	P		Pn	06 17 45.8	-0.8
	comp=E,5.2nm,0.1s,SNR=7.9							
ETOR				S		Sn	06 18 57.6	-5.1
	comp=E,1.2nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**7.22**	**72**	Pn		Pn	06 17 51.0	-1.8
EBEN				Sn		Sn	06 19 08.8	-5.2
EBEN	**Beniarda**	**7.22**	**72**	Pn		Pn	06 17 51.0	-1.8
EMOS	**Mosqueruela**	**7.58**	**59**	P		Pn	06 17 57.7	-0.1
	comp=E,0.5nm,0.1s,SNR=7.9							
EMOS				S		Sn	06 19 15.6	-7.3
	comp=E,0.1nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**7.58**	**59**	P		Pn	06 17 57.7	-0.1
	comp=E,0.5nm,0.1s,SNR=7.9							

BJI ***17*** *06:18:33.3, 4670N×15408E, h10km, mB4.8, mb4.3, Ms4.1, Msz3.7*
IDC ***17*** *06:18:36.2±0.9, 4723N×15376E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/24, mbtmp4.0/15, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/45, Error ellipse: s-maj=25.1km s-min=18.3km az=154.0*
NEIC ***17*** *06:18:37.7±0.5, 4712N×15371E, h10km, mb4.5/13, Error ellipse: s-maj=14.2km s-min=7.3km az=144.0*
ISCJB ***17*** *06:18:41.2±1.2, 4725N±009×1538E±01, h46km±10km, mb4.3/31, MS3.7/3, Error ellipse: s-maj=17.2km s-min=7.3km az=105.7*
MOS ***17*** *06:18:42.5±1.2, 4729N×15374E, h57km, mb4.8/10, Error ellipse: s-maj=13.3km s-min=8.2km az=75.7*
ISC 17 06:18:43.9±1.0, 4728N±009×1538E±01, h56km±8km, h8km±7.9km: pP-P, n70, σ1§13/70, mb4.3/31, MS3.7/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**24**	*e*PN		**Pn**	**06 19 37.1**	**-2.0**
SKR				*e*			06 20 20.5	
SKR				pmax		pmax		
	comp=N,250nm,0.5s							
SKR				pmax		pmax		
	comp=E,80nm,0.5s							
SKR				pmax		pmax		
	comp=Z,340nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**6.42**	**243**	*e*PN		**Pn**	**06 20 17.5**	**+1.7**
PET	**Petropavlovsk**	**6.55**	**27**	*e*PN		**Pn**	**06 20 18.7**	**+1.1**
PET				pmax		pmax		
	comp=Z,35nm,0.5s							
PET				MLR		MLR		
	comp=Z,200nm,16.0s							
PET	**Petropavlovsk**	**6.55**	**27**	Pn		**Pn**	**06 20 16.1**	**-1.5**
PET				Sn		**Sn**	**06 21 24.7**	**-6.2**
YSS	**Yuzh-Sakhalins**	**7.52**	**272**	*e*PN		**Pn**	**06 20 34.0**	**+3.1**
YSS				MLR		MLR		
	comp=Z,700nm,14.0s							
YSS				MLR		MLR		
	comp=E,400nm,13.0s							
YSS	**Yuzh-Sakhalins**	**7.52**	**272**	*e*Pn		**Pn**	**06 20 26.2**	**-4.6**
ASAJ	**Asahikawa**	**8.43**	**252**	Pn		**Pn**	**06 20 45.0**	**+1.7**
	comp=E,0.9nm,0.3s,baz=54,slow=14,SNR=4.6							
ASAJ				LR		LR	06 23 46.1	
	comp=E,290nm,20.9s,baz=98,slow=37							
ASAJ	**Asahikawa**	**8.43**	**252**	PN		**Pn**	**06 20 45.1**	**+1.7**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,290nm,20.9s							
MA2	**Magadan**	**12.45**	**353**	*e*PN		**Pn**	**06 21 38.6**	**+0.4**
KLR	**Kul'dur**	**14.79**	**286**	*e*P		**Pn**	**06 22 15.3**	**+5.6**
MAJO	**Matsushiro**	**15.76**	**233**	*e*P		**Pn**	**06 22 27.8**	**+5.6**
MAJO				pmax		pmax		
	comp=Z,6.0nm,0.4s							
MAJO	**Matsushiro**	**15.76**	**233**	*e*Pn		**Pn**	**06 22 27.8**	**+5.6**
	comp=Z,5.7nm,0.4s							
MAT	**Matsushiro**	**15.76**	**233**	P		**Pn**	**06 22 15.6**	**-6.6**
MJAR	**Matsushiro Arr**	**15.76**	**233**	Pn		**Pn**	**06 22 19.5**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=37,slow=8.3,SNR=3.3							
MJAR				LR		LR	06 28 22.8	
	comp=Z,189nm,20.4s,baz=55,slow=37							
KSRS	**Korea Array**	**21.38**	**252**	P		**P**	**06 23 26.8**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.4,baz=63,slow=10,SNR=4.9							
KSRS				LR		LR	06 30 45.1	
	comp=Z,75nm,19.1s,MS3.1,baz=343,slow=34							
BILL	**Bilibino**	**21.78**	**13**	*e*P		**P**	**06 23 30.5**	**-0.4**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.7							
BILL	**Bilibino**	**21.78**	**13**	*e*P		**P**	**06 23 31.0**	**+0.1

LZH					sP	sP	06 26 07.5	-12	
LZH					PP	PP	06 27 36.0	+8.4	
INK	**Inuvik**	**40.97**	**33**	P	**P**		**06 26 21.9**	**+0.8**	
	comp=Z,4.8nm,0.8s,mb4.2,baz=284,slow=7.5,SNR=17								
INK	**Inuvik**	**40.97**	**33**	*e*P	**P**		**06 26 21.1**	**0.0**	
INK				pmax	pmax				
	comp=Z,77nm,0.6s								
INK	**Inuvik**	**40.97**	**33**	*e*P	**P**		**06 26 21.1**	**0.0**	
	comp=Z,77nm,0.6s,mb5.5								
CD2	**Chengdu**	**41.37**	**265**	*e*P	**P**		**06 26 22.8**	**-1.6**	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.5								
DLBC	**Dease Lake**	**44.91**	**46**	*e*P	**P**		**06 26 55.9**	**+2.9**	
QIZ	**Qiongzhong**	**45.47**	**247**	*e*P	**P**		**06 26 56.5**	**-0.9**	
	comp=Z,28nm,1.3s,mb4.9								
KMI	**Kunming**	**45.78**	**260**	P	**P**		**06 26 57.8**	**-2.1**	
KMI				AP	pP		06 27 01.9	-13	
KMI				XP	sP		06 27 03.8	-17	
KMI				AMB	AMB				
	comp=Z,11nm,0.7s,mb4.9								
KMI	**Kunming**	**45.78**	**260**	P	**P**		**06 26 57.8**	**-2.1**	
	comp=Z,11nm,0.7s,mb4.9								
KMI				pP	pP		06 27 01.9	-13	
KMI				sP	sP		06 27 03.8	-17	
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**		**06 27 09.4**	**-0.8**	
	comp=Z,0.2nm,0.4s,mb3.4,baz=69,slow=6.9,SNR=3.7								
RES	**Resolute Bay**	**50.19**	**19**	*e*P	**P**		**06 27 34.6**	**+0.6**	
RES				pmax	pmax				
	comp=Z,48nm,0.6s								
RES	**Resolute Bay**	**50.19**	**19**	*e*P	**P**		**06 27 34.6**	**+0.6**	
	comp=Z,48nm,0.6s								
YKA	**Yellowknife Ar**	**50.23**	**37**	P	**P**		**06 27 35.0**	**+0.8**	
	comp=Z,3.3nm,0.7s,mb4.5,baz=296,slow=7.1,SNR=8.1								
YKA	**Yellowknife Ar**	**50.23**	**37**	P	**P**		**06 27 35.0**	**+0.8**	
CHKZ	**Chkalovo**	**50.43**	**310**	P	**P**		**06 27 35.0**	**-0.8**	
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.4								
CHKZ	**Chkalovo**	**50.43**	**310**	P	**P**		**06 27 35.0**	**-0.8**	
	comp=Z,2.4nm,0.5s,mb4.5								
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**		**06 27 39.5**	**+0.5**	
	comp=Z,1.0nm,0.5s,mb4.0,baz=66,slow=8.5,SNR=4.5								
ZRNK	**Zerenda**	**51.63**	**310**	P	**P**		**06 27 45.0**	**+0.2**	
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**51.63**	**310**	P	**P**		**06 27 45.0**	**+0.2**	
	comp=Z,1.0nm,0.5s,mb4.0								
CHTO	**Chiang Mai**	**52.67**	**257**	P	**P**		**06 27 52.1**	**-0.4**	
CHTO				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4								
CHTO	**Chiang Mai**	**52.67**	**257**	P	**P**		**06 27 52.1**	**-0.4**	
	comp=Z,3.9nm,0.8s,mb4.4								
ARU	**Arti**	**54.92**	**317**	*e*P	**P**		**06 28 08.0**	**-0.9**	
ARU				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.8								
ARU	**Arti**	**54.92**	**317**	*e*P	**P**		**06 28 08.0**	**-0.9**	
	comp=Z,4.5nm,0.5s,mb4.8								
ARCES	**ARCESS Array B**	**57.50**	**341**	P	**P**		**06 28 25.4**	**-1.9**	
	comp=Z,4.5nm,1.0s,mb4.5,baz=17,slow=8.9,SNR=3.8								
NVAR	**Mina Array Bea**	**61.79**	**63**	P	**P**		**06 28 55.9**	**-0.9**	
	comp=Z,0.2nm,0.5s,mb3.5,baz=309,slow=9.2,SNR=2.5								
FINES	**FINESS Array B**	**63.75**	**335**	P	**P**		**06 29 09.2**	**-0.7**	
	comp=Z,1.5nm,0.4s,mb4.4,baz=38,slow=8.0,SNR=20								
NB2	**NORSAR Subarra**	**67.87**	**341**	P	**P**		**06 29 36.3**	**0.0**	
	comp=Z,4.9nm,0.7s,mb4.7,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**		**06 29 36.4**	**0.0**	
	comp=Z,3.7nm,0.7s,mb4.5,baz=26,slow=6.3,SNR=11								
ANMO	**Albuquerque**	**71.17**	**59**	LR	LR		06 58 52.1		
	comp=Z,120nm,18.7s,MS4.2,baz=112,slow=34								
AKASG	**Malin Array Be**	**71.35**	**326**	P	**P**		**06 29 57.0**	**-0.8**	
	comp=Z,0.8nm,0.4s,mb4.0,baz=33,slow=6.2,SNR=6.7								
SCHQ	**Schefferville**	**72.65**	**23**	P	**P**		**06 30 05.2**	**-0.4**	
	comp=Z,2.6nm,0.8s,mb4.2,baz=243,slow=13,SNR=4.0								
ASAR	**Alice Springs**	**72.85**	**199**	P	**P**		**06 30 06.5**	**-0.2**	
	comp=Z,0.5nm,0.5s,mb3.7,baz=7.1,slow=6.8,SNR=6.8								
STHS	**Stebnicka Huta**	**75.28**	**330**	*e*P	**P**		**06 30 22.9**	**+2.0**	
CLL	**Collm**	**76.17**	**336**	*i* P	**P**		**06 30 27.1**	**+1.1**	
	comp=Z,12nm,0.9s,mb4.8								
MORC	**Moravsky Berou**	**76.18**	**332**	*e*P	**P**		**06 30 26.3**	**+0.3**	
MORC				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
MORC	**Moravsky Berou**	**76.18**	**332**	*e*P	**P**		**06 30 26.3**	**+0.2**	
	comp=Z,3.2nm,0.8s,mb4.3								
LTX	**Lajitas**	**76.84**	**61**	*e*P	**P**		**06 30 30.7**	**+0.9**	
LTX				pmax	pmax				
	comp=Z,40nm,2.1s,mb5.0								
LTX	**Lajitas**	**76.84**	**61**	*e*P	**P**		**06 30 30.6**	**+0.8**	
	comp=Z,40nm,2.1s,mb5.0								
TXAR	**Lajitas Array**	**76.84**	**61**	P	**P**		**06 30 30.6**	**+0.8**	
	comp=Z,0.4nm,0.5s,mb3.6,baz=297,slow=4.0,SNR=7.8								
MALT	**Malatya**	**77.12**	**313**	*e*P	**P**		**06 30 33.0**	**+1.7**	
MALT				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
MALT	**Malatya**	**77.12**	**313**	*e*P	**P**		**06 30 33.0**	**+1.7**	
	comp=Z,2.2nm,0.8s,mb4.1								
GERES	**GERESS Array B**	**78.17**	**334**	P	**P**		**06 30 37.8**	**+0.6**	
	comp=Z,0.3nm,0.2s,mb3.8,baz=28,slow=6.0,SNR=4.9								
CFAA	**Coronel Fontan**	**144.45**	**79**	PKP	PKPdf		06 38 11.4	-2.4	
	comp=Z,0.3nm,0.5s,baz=243,slow=1.5,SNR=5.3								

ISCJB ***17*** *06:21:45.3±1.2, 47.1N±02×1535E±04, h10km, mb4.0/5, Error ellipse: s-maj=43.5km s-min=19.6km az=51.8*
IDC ***17*** *06:21:45.6±1.6, 47.06N×153.47E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/22, mbtmp4.0/5, Error ellipse: s-maj=63.0km s-min=32.1km az=97.0*
MOS ***17*** *06:21:48.6±0.7, 47.15N×153.46E, h33km, mb4.3/4, Error ellipse: s-maj=92.0km s-min=25.2km az=81.1*

ISC 17 06:21:46.9±1.2, 47.1N±02×1535E±04, h10km, n10, σ0§13/10, mb4.0/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.96**	**25**	*e*PN	**Pn**	**06 22 47.5**	**-0.2**
INK	**Inuvik**	**41.19**	**33**	P	**P**	**06 29 31.9**	**+0.2**
	0.8nm,0.5s,mb3.6,baz=278,slow=6.3,SNR=3.7						
INK	**Inuvik**	**41.19**	**33**	P	**P**	**06 29 31.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	**P**	**06 31 37.0**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.3,baz=35,slow=8.0,SNR=3.3						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	**P**	**06 31 37.0**	**0.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**06 32 19.4**	**0.0**
	comp=Z,4.8nm,1.1s,mb4.5,baz=34,slow=7.4,SNR=6.4						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**06 32 19.4**	**0.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NOA	**NORSAR Array B**	**67.98**	**341**	P	**P**	**06 32 46.2**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=6.3,SNR=3.5						
NOA	**NORSAR Array B**	**67.98**	**341**	P	**P**	**06 32 46.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.64**	**199**	P	**P**	**06 33 14.6**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=10,slow=5.8,SNR=3.6						

IDC 17 06:23:24.1±16.0, 2311S×17368W, h0km, mb4.6/5, mb1 4.7/5, mb1mx4.1/15, mbtmp4.6/5, 1D, Error ellipse: s-maj=305.0km s-min=132.9km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.30**	**267**	*i* P	P	06 30 38.6	+0.8
	6.5nm,0.3s						
CTA	**Charters Tower**	**37.30**	**267**	P	P	06 30 38.7	+0.9
	8.7nm,0.4s,baz=96,slow=11,SNR=19						
STKA	**Stephens Creek**	**40.39**	**248**	*e*P	P	06 31 02.8	-1.0
	2.2nm,0.4s						
STKA	**Stephens Creek**	**40.39**	**248**	P	P	06 31 03.0	-0.7
	2.4nm,0.4s,baz=94,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**47.88**	**258**	P	P	06 32 03.7	-0.2
	1.3nm,0.3s,baz=92,slow=6.9,SNR=38						
ASPA	**Alice Springs**	**47.89**	**258**	*e*P	P	06 32 03.6	-0.3
WB2	**Warramunga Arr**	**48.25**	**263**	*e*P	P	06 32 06.3	-0.4
WRA	**Warramunga Arr**	**48.26**	**263**	P	P	06 32 06.9	+0.2
	3.7nm,0.3s,baz=100,slow=6.8,SNR=222						
KAKA	**Kakadu**	**52.06**	**272**	*e*P	P	06 32 37.9	+2.3
	5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.68**	**263**	*e*P	P	06 33 10.8	+1.6
	6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.68**	**263**	P	P	06 33 10.6	+1.4
	3.8nm,0.6s,baz=110,slow=6.9,SNR=9.3						

NIED ***17*** *06:33:00, 47.30N×155.50E, h17km, Mw5.2 Best double couple: M0 6.77000×1016 NP1:φs145.00000°, δ71.00000°, λ-132.00000°. NP2:φs36.00000°, δ46.00000°, λ-27.00000°.*
IDC ***17*** *06:33:47.6±0.4, 47.05N×155.52E, h0km, mb5.0/31, mb1 5.1/33, mb1mx5.1/34, mbtmp5.0/33, ML4.8/1, MS5.0/36, Ms1 5.0/36, ms1mx4.9/44, Error ellipse: s-maj=13.4km s-min=9.9km az=141.0*
ISCJB ***17*** *06:33:48.1±0.1, 4686N±003×15555E±002, h16km, mb5.3/199, MS5.0/206, Error ellipse: s-maj=4.4km s-min=1.7km az=161.5*
GCMT ***17*** *06:33:49.5±0.1, 47.09N×155.78E, h12km, MW5.5/106, Moment Tensor Solution. s55,c89; s106,c235; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-2.27±.03; Mθθ 1.51±.03; Mφφ 0.76±.03; Mrθ-0.00±.08; Mθφ 0.76±.02; Mφr-0.02±.09; Best double couple: M0 2.12400×1017 NP1:φs239.00000°, δ45.00000°, λ-90.00000°. NP2:φs58.00000°, δ45.00000°, λ-90.00000°. Principal axes: T 1.9780, Plg0.0000°, Azm148.0000°; N 0.2930, Plg0.0000°, Azm58.0000°; P -2.2700, Plg90.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***17*** *06:33:49.5±0.1, 4702N×15553E, h10km, mb5.4/97, MS5.0/152, MW5.6 Error ellipse: s-maj=4.4km s-min=2.8km az=158.0, Moment Tensor Solution. s18 Moment tensor: Scale 1017Nm; Mrr=2.85; Mθθ 2.09; Mφφ 0.76; Mrθ-1.18; Mθφ 1.33; Mφr-0.35; Best double couple: M0 3.10000×1017 NP1:φs64.00000°, δ56.00000°, λ-83.00000°. NP2:φs232.00000°, δ34.00000°, λ-100.00000°. Principal axes: T 3.1400, Plg11.0000°, Azm149.0000°; N -0.0300, Plg6.0000°, Azm241.0000°; P -3.1200, Plg77.0000°, Azm356.0000°;*
SKHL ***17*** *06:33:50.0±2.4, 47.13N×155.78E, h57km±25km, mb6.3/5, mbh6.1/3, Ms5.5/5, msh5.5/3*
BJI ***17*** *06:33:52.3, 4728N×15466E, h10km, mB5.7, mb5.2, Ms5.3, Msz5.0*
MOS ***17*** *06:33:52.2±1.0, 4704N×15551E, h38km, mb5.6/96, MS5.2/47, Error ellipse: s-maj=7.0km s-min=4.1km az=103.7*
BGS ***17*** *06:33:54.7, 4702N×15553E, h10km, mb5.4*
SZGRF ***17*** *06:33:57.9, 47.74N×155.64E, h33km, mb5.9, MS5.4, East of Kuril Islands, Russia*

ISC 17 06:33:50.5±0.1, 4703N±003×15548E±002, h17km, h17km±.9km:pP-P, n1090, σ0§91/1012, mb5.3/198, MS5.0/206, 107C-102D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**6**	*e*P	**Pn**	**06 34 43.4**	**-3.3**
SKR				AMB	AMB	06 34 50.0	
	12μm,8.0s						
SKR				AMB	AMB	06 34 50.0	
	8μm,8.0s						
SKR				AMB	AMB	06 34 50.0	
	8μm,8.0s						
SKR				AMB	AMB	06 34 50.0	
	13μm,8.0s						
SKR				AMB	AMB	06 34 50.0	
	8μm,8.0s						
SKR				AMB	AMB	06 34 50.0	
	8μm,8.0s						
SKR				AMB	AMB	06 34 53.4	
	720nm,0.8s						
SKR				AMB	AMB	06 34 53.4	
	240nm,0.8s						
SKR				AMB	AMB	06 34 53.4	
	800nm,0.8s						
SKR				*e*S	**Sn**	**06 35 19.9**	**-10**
SKR				A		06 35 33.0	
	18μm,12.0s						
SKR				A		06 35 33.0	
	21μm,10.0s						
SKR				A		06 35 33.0	
	19μm,12.0s						
SKR				A		06 35 33.0	
	15μm,12.0s						
SKR				A		06 35 33.0	
	2μm,0.2s						
SKR				A		06 35 33.0	
	2μm,0.7s						
SKR				A		06 35 33.0	
	1μm,0.7s						
SKR				A		06 35 33.0	
	20μm,10.0s						
SKR				AMS	AMS	06 36 12.0	
	31μm,16.0s						
SKR				AMS	AMS	06 36 12.0	
	82μm,16.0s						
SKR				AMS	AMS	06 36 12.0	
	31μm,16.0s						
SKR				AMS	AMS	06 36 12.0	
	82μm,16.0s						
SKR				AMS	AMS	06 36 12.0	
	39μm,16.0s						
SKR				AMS	AMS	06 36 12.0	
	40μm,16.0s						
KUR	**Kuril'sk**	**5.59**	**254**	*i*P	**Pn**	**06 35 10.0**	**-2.9**
KUR				AMB	AMB	06 35 12.5	
	344nm,0.7s						
KUR				AMB	AMB	06 35 12.5	
	2μm,0.7s						
KUR				AMB	AMB	06 35 19.0	
	8μm,5.0s						
KUR				AMB	AMB	06 35 19.0	
	5μm,5.0s						
KUR				AMB	AMB	06 35 19.0	
	8μm,5.0s						
KUR				*e*S	**Sn**	**06 36 12.0**	**-4.7**
KUR				A		06 36 15.0	
	2μm,0.7s						
KUR				A		06 36 15.0	
	1μm,0.7s						
KUR				A		06 36 28.0	
	26μm,8.0s						
KUR				A		06 36 28.0	
	10μm,8.0s						
KUR				AMS	AMS	06 38 32.0	
	24μm,14.0s						
KUR				AMS	AMS	06 38 32.0	
	11μm,14.0s						
KUR				AMS	AMS	06 38 32.0	
	18μm,14.0s						
KUR	**Kuril'sk**	**5.59**	**254**	*i*PN	**Pn**	**06 35 10.0**	**-2.9**
KUR				pmax	pmax		
	comp=N,340nm,0.7s						
KUR				pmax	pmax		
	comp=Z,2μm,0.7s						
KUR				pmax	pmax		
	comp=N,8μm,5.0s						
KUR				pmax	pmax		
	comp=E,5μm,5.0s						
KUR				pmax	pmax		
	comp=Z,8μm,5.0s						
KUR				MLR	MLR		
	comp=Z,24μm,14.0s						
KUR				MLR	MLR		
	comp=N,11μm,8.0s						
KUR				MLR	MLR		
	comp=E,18μm,8.0s						
PET	**Petropavlovsk**	**6.34**	**18**	*d i*PN	**Pn**	**06 35 20.0**	**-3.2**
PET				pmax	pmax		
	comp=Z,2μm,4.2s						
PET				pmax	pmax		
	comp=Z,311nm,0.7s						
PET				MLR	MLR		
	comp=Z,11μm,14.0s						
PET				MLR	MLR		
	comp=Z,14μm,14.0s						
PET	**Petropavlovsk**	**6.34**	**18**	*e*Pn	**Pn**	**06 35 20.0**	**-3.3**
	comp=Z,338nm,0.8s						
PET				*e*Sn	**Sn**	**06 36 26.8**	**-8.5**
YUK	**Yuzh-Kuril'sk**	**7.39**	**250**	*e*P	**Pn**	**06 35 37.0**	**-0.6**
YUK				AMB	AMB	06 35 41.8	
	comp=Z,390nm,0.4s						
YUK				AMB	AMB	06 35 41.8	
	comp=Z,550nm,0.4s						
YUK				AMB	AMB	06 35 41.8	
	comp=Z,850nm,0.5s						
YUK				AMB	AMB	06 35 47.0	
	comp=Z,3μm,1.0s						
YUK				*e*S	**Sn**	**06 36 55.7**	**-5.4**
YUK				A		06 37 03.0	
	comp=Z,8μm,2.6s						
YUK				A		06 37 03.0	
	comp=Z,4μm,1.2s						
YUK				A		06 37 07.0	
	comp=Z,2μm,0.5s						
YUK				A		06 37 07.0	
	comp=Z,890nm,0.5s						
YUK				AMS	AMS	06 38 56.0	
	comp=Z,6μm,13.0s						
YUK				AMS	AMS	06 38 56.0	
	comp=Z,14μm,13.0s						
YUK				AMS	AMS	06 38 56.0	
	comp=Z,16μm,14.0s						
NEM2	**Nemuro 2**	**7.79**	**246**	P	**Pn**	**06 35 40.2**	**-2.9**
NEM2				*e*S	**Sn**	**06 37 03.5**	**-7.5**
JRA	**Rausu**	**7.91**	**251**	P	**Pn**	**06 35 44.2**	**-0.5**
JRA				*e*S	**Sn**	**06 37 11.0**	**-2.8**
JNK	**Nakash**	**8.33**	**250**	P	**Pn**	**06 35 49.7**	**-0.8**
JNK				*e*S	**Sn**	**06 37 19.6**	**-4.6**
JAK	**Akkeshi**	**8.64**	**246**	P	**Pn**	**06 35 51.7**	**-3.0**
JAK				*e*S	**Sn**	**06 37 22.0**	**-10**
JTKR	**Abashiri--Toko**	**8.68**	**254**	P	**Pn**	**06 35 55.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.70**	**274**	*i*P	**Pn**	**06 35 58.7**	**+3.0**
YSS				*e*S	**Sn**	**06 37 34.8**	**+1.4**
YSS				*e*LQ		06 38 05.0	
YSS				*e*LR	LR	06 39 11.0	
YSS				AMS	AMS	06 40 50.0	
	comp=Z,8μm,13.0s						
YSS				AMS	AMS	06 40 50.0	
	comp=Z,11μm,15.0s						
YSS				AMS	AMS	06 40 50.0	
	comp=Z,10μm,14.0s						
YSS				AMS	AMS	06 40 50.0	
	comp=Z,11μm,13.0s						
YSS				AMS	AMS	06 40 50.0	
	comp=Z,8μm,12.0s						
YSS				AMS	AMS	06 40 50.0	
	comp=Z,15μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.70**	**274**	*e*Pn	**Pn**	**06 35 58.8**	**+3.1**
	comp=Z,180nm,0.9s						
JMP	**Maruseppu**	**9.03**	**255**	P	**Pn**	**06 36 00.1**	**0.0**
JAR	**Ashorobuto**	**9.07**	**250**	P	**Pn**	**06 35 59.6**	**-1.2**
JAR				*e*S	**Sn**	**06 37 37.0**	**-5.5**
JSE	**Soyaes**	**9.21**	**262**	P	**Pn**	**06 36 05.4**	**+2.7**
UGL	**Uglegorsk**	**9.22**	**288**	*e*P	**Pn**	**06 36 05.5**	**+2.8**
UGL				AMB	AMB	06 36 09.0	
	comp=Z,230nm,0.9s						
UGL				AMB	AMB	06 36 11.0	
	comp=Z,2μm,6.0s						
UGL				AMB	AMB	06 36 11.0	
	comp=Z,4μm,6.0s						
UGL				AMB	AMB	06 36 11.0	
	comp=Z,5μm,6.0s						
UGL				*e*LQ		06 38 08.0	
UGL				AMS	AMS	06 41 26.0	
	comp=Z,20μm,13.0s						
UGL				AMS	AMS	06 41 26.0	
	comp=Z,16μm,13.0s						
UGL				AMS	AMS	06 41 26.0	
	comp=Z,25μm,13.0s						
UGL	**Uglegorsk**	**9.22**	**288**	*e*PN	**Pn**	**06 36 05.5**	**+2.8**
UGL				pmax	pmax		
	comp=Z,230nm,0.9s						
UGL				pmax	pmax		
	comp=N,2μm,6.0s						
UGL				pmax	pmax		
	comp=E,4μm,6.0s						
UGL				pmax	pmax		
	comp=Z,5μm,6.0s						
UGL				MLR	MLR		
	comp=N,16μm,13.0s						
UGL				MLR	MLR		
	comp=E,25μm,13.0s						
UGL				MLR	MLR		
	comp=Z,20μm,13.0s						
JOB	**Onbets**	**9.23**	**248**	P	**Pn**	**06 36 00.9**	**-1.9**
JOB				*e*S	**Sn**	**06 37 38.2**	**-8.1**
JKK2	**Kamakawa 2**	**9.49**	**255**	P	**Pn**	**06 36 06.6**	**+0.2**
ASAJ	**Asahikawa**	**9.49**	**257**	Pn	**Pn**	**06 36 07.3**	**+0.9**
	comp=Z,10nm,0.3s,baz=88,slow=13,SNR=61						
ASAJ				LR	LR	06 39 34.8	
	comp=Z,3μm,20.0s,baz=68,slow=36						
ASAJ	**Asahikawa**	**9.49**	**257**	P	**Pn**	**06 36 07.3**	**+0.8**
JWK2	**Keihoku**	**9.58**	**265**	P	**Pn**	**06 36 11.1**	**+3.4**
JCH	**Churui**	**9.67**	**247**	P	**Pn**	**06 36 06.8**	**-2.2**
JCH				*e*S	**Sn**	**06 37 48.2**	**-9.0**
JFR	**Furan**	**9.90**	**252**	P	**Pn**	**06 36 11.8**	**-0.2**
JAB	**Ashibetsu**	**9.99**	**254**	P	**Pn**	**06 36 13.9**	**+0.6**
JEM	**Erimo**	**10.12**	**245**	P	**Pn**	**06 36 13.5**	**-1.6**
ERM	**Erimo**	**10.12**	**245**	*e*PN	**Pn**	**06 36 13.8**	**-1.3**
ERM				pmax	pmax		
	comp=Z,179nm,0.5s						
ERM	**Erimo**	**10.12**	**245**	*e*Pn	**Pn**	**06 36 13.8**	**-1.4**
	comp=Z,179nm,0.5s						
ERM				*e*Sn	**Sn**	**06 37 58.7**	**-10**
JHR	**Hokuryu**	**10.22**	**256**	P	**Pn**	**06 36 17.3**	**+0.9**
JBT2	**Biratori 2**	**10.23**	**250**	P	**Pn**	**06 36 14.5**	**-2.1**
JNBK	**Urakawa-nobuka**	**10.23**	**247**	P	**Pn**	**06 36 14.1**	**-2.5**
JNBK				*e*S	**Sn**	**06 38 00.9**	**-10**
OKH	**Okha**	**10.34**	**314**	*i*P	**Pn**	**06 36 22.0**	**+3.9**
OKH				AMB	AMB	06 36 23.2	
	comp=Z,12μm,7.0s						
OKH				*e*S	**Sn**	**06 38 07.0**	**-6.6**
OKH				*e*LQ		06 39 00.0	
OKH				AMS	AMS	06 42 42.0	
	comp=Z,32μm,12.0s						
OKH				AMS	AMS	06 42 42.0	
	comp=Z,29μm,10.0s						
OKH				AMS	AMS	06 42 42.0	
	comp=Z,19μm,13.0s						
OKH	**Okha**	**10.34**	**314**	*e*PN	**Pn**	**06 36 22.0**	**+3.9**
OKH				pmax	pmax		
	comp=Z,12μm,7.0s						
JEW	**Eniwo**	**10.79**	**252**	P	**Pn**	**06 36 23.4**	**-0.9**
JNB	**Noboribetsu**	**11.23**	**251**	P	**Pn**	**06 36 28.0**	**-2.3**
NKL	**Nikolayevsk**	**11.30**	**308**	*i* P	**Pn**	**06 36 31.0**	**-0.3**
NKL				AMB	AMB	06 36 33.7	
	comp=Z,430nm,1.8s						
NKL				AMB	AMB	06 36 33.7	
	comp=Z,540nm,1.8s						
NKL				AMB	AMB	06 36 35.0	
	comp=Z,2μm,6.5s						
NKL				AMB	AMB	06 36 35.0	
	comp=Z,4μm,6.5s						
NKL				AMB	AMB	06 36 35.0	
	comp=Z,5μm,6.5s						
NKL				*e*L		06 39 12.0	
JKB	**Kayabe**	**11.53**	**249**	P	**Pn**	**06 36 31.0**	**-3.4**
JKB				*e*S	**Sn**	**06 38 30.5**	**-12**
JSH	**Shimam**	**11.80**	**254**	P	**Pn**	**06 36 36.8**	**-1.3**
JYM2	**Yakumo 2**	**11.84**	**251**	P	**Pn**	**06 36 36.0**	**-2.6**
JSR	**Shiriuchi**	**12.11**	**248**	P	**Pn**	**06 36 38.9**	**-3.4**
JSR				*e*S	**Sn**	**06 38 44.1**	**-13**
JTH	**Tanohata**	**12.16**	**239**	P	**Pn**	**06 36 37.4**	**-5.5**
JTH				*e*S	**Sn**	**06 38 42.7**	**-15**
JOSM	**Okushiri--Mats**	**12.44**	**252**	P	**Pn**	**06 36 43.9**	**-2.9**
JOSM				*e*S	**Sn**	**06 38 57.7**	**-7.2**
OFUJ	**Ofunato**	**12.84**	**237**	P	**Pn**	**06 36 47.1**	**-5.1**
OFUJ				*e*S	**Sn**	**06 39 00.5**	**-14**
MA2	**Magadan**	**12.88**	**349**	*e*PN	**Pn**	**06 36 51.3**	**-1.5**
MA2				*e*		06 39 21.5	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s					

KLR Kul'dur 15.98 287 eP Pn 06 37 33.0 -1.6
KLR eS Sn 06 40 29.5 -1.9
KLR pmax pmax
comp=E,250nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
KLR pmax pmax
comp=N,2μm,11.0s
KLR pmax pmax
comp=Z,4μm,11.0s
KLR MLR MLR
comp=Z,71μm,12.0s
SEY Seymchan 16.04 355 eP Pn 06 37 32.4 -2.9
AMKA Amchitka 16.14 66 Pn Pn 06 37 36.6 0.0
MAJO Matsushiro 16.57 237 eP Pn 06 37 39.3 -2.8
MAJO pmax pmax
comp=Z,231nm,0.8s
MAJO Matsushiro 16.57 237 ePn Pn 06 37 39.3 -2.7
comp=Z,231nm,0.8s
MAT Matsushiro 16.57 237 P Pn 06 37 39.0 -3.1
MAT S Sn 06 40 59.0 +13
MJAR Matsushiro Arr 16.57 237 Pn Pn 06 37 39.6 -2.4
comp=Z,2.1nm,0.3s,baz=27,slow=14,SNR=60
JHJ Hachijo jima 2 18.32 226 LR LR 06 44 57.0
comp=Z,80nm,20.3s,baz=86,slow=36
ZEA Zeya 19.13 301 eP Pn 06 38 08.2 -5.4
ZEA AMB AMB 06 38 10.9
comp=Z,71nm,1.0s
ZEA AMB AMB 06 38 10.9
comp=Z,86nm,1.2s
ZEA AMB AMB 06 38 10.9
comp=Z,92nm,1.2s
ZEA eS Sn 06 41 43.0 -4.6
ZEA A 06 42 08.0
comp=Z,1μm,11.0s
YAK Yakutsk 21.00 325 eP P 06 38 30.7 -2.4
YAK e 06 38 46.7
YAK eS S 06 42 19.5 -6.8
YAK eSS 06 42 48.1
YAK pmax pmax
comp=Z,186nm,1.3s
YAK pmax pmax
comp=N,65nm,1.2s
YAK pmax pmax
comp=E,126nm,1.1s
YAK smax
comp=N,792nm,2.8s
YAK smax
comp=Z,129nm,2.0s
YAK smax
comp=E,691nm,2.3s
YAK MLR MLR
comp=N,4μm,13.0s,MS5.2
YAK MLR MLR
comp=Z,6μm,13.0s,MS5.2
YAK MLR MLR
comp=E,4μm,11.0s,MS5.2
YAK Yakutsk 21.00 325 eP P 06 38 31.4 -1.7
comp=E,111nm,0.6s
YAK LR LR
comp=Z,5μm,21.0s,MS4.8
CLNS Chul'man 21.09 309 eP P 06 38 32.5 -1.6
CLNS e 06 38 48.2
CLNS ePPP 06 38 57.4
CLNS eS S 06 42 28.1 -0.1
CLNS eSS 06 43 08.9
CLNS e 06 49 53.0
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,88nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,14nm,0.7s
CLNS smax
comp=E,21nm,1.0s
CLNS smax
comp=Z,25nm,1.0s
CLNS smax
comp=N,36nm,1.1s
CLNS MLR MLR
comp=N,3μm,13.0s,MS5.0
CLNS MLR MLR
comp=E,3μm,13.0s,MS5.0
CLNS MLR MLR
comp=Z,6μm,13.0s,MS5.2
NRGR Nerungri 21.14 308 eP P 06 38 35.2 +0.6
CN2 Changchun 21.27 272 eP P 06 38 32.5 -3.5
CN2 eXP sP 06 38 39.4 -3.5
CN2 eS S 06 42 24.1 -7.6
CN2 AMB AMB
comp=Z,30nm,0.6s,mb4.8
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,3μm,14.0s,MS5.1
CN2 LR LR
comp=E,5μm,14.0s,MS5.1
CN2 LR LR
comp=Z,5μm,14.0s,MS5.1
BILL Bilibino 21.78 11 eP P 06 38 40.4 -1.2
BILL pmax pmax
comp=Z,280nm,1.0s,mb5.7
BILL Bilibino 21.78 11 eP P 06 38 40.4 -1.1
comp=Z,284nm,1.0s,mb5.7
BILL LR LR
comp=Z,4μm,20.0s,MS4.8
KSRS Korea Array 22.43 255 P P 06 38 48.8 +0.3
comp=Z,28nm,0.7s,mb4.8,baz=62,slow=9.2,SNR=54
KSRS LR LR 06 47 43.4
comp=Z,2μm,18.2s,MS4.6,baz=64,slow=37
KS15 Wonju Array Si 22.46 255 eP P 06 38 50.1 +1.3
SNY Shenyang 23.27 269 P P 06 38 55.8 -1.5
SNY PP 06 39 19.8
SNY LR LR
comp=N,4μm,12.4s
SNY LR LR
comp=Z,6μm,14.1s,MS5.2
JNU Nakatsue 23.27 242 P P 06 38 58.8 +1.4
comp=Z,50nm,0.8s,mb5.0,baz=267,slow=23,SNR=9.5
JNU LR LR 06 48 13.2
comp=Z,6μm,18.4s,MS5.1,baz=89,slow=37
INCN Inchon 23.27 256 P P 06 38 59.2 +1.8
SNR=11
INCN Inchon 23.27 256 P P 06 38 59.2 +1.8
SNR=11
INCN Inchon 23.27 256 P P 06 38 59.2 +1.8
SNR=11
INCN Inchon 23.27 256 P P 06 38 59.2 +1.8
SNR=11
INCN Inchon 23.27 256 P P 06 38 59.2 +1.8
SNR=11
INCN Inchon 23.27 256 eP P 06 38 54.7 -2.6
comp=Z,282nm,1.3s,mb5.5
INCN LR LR
comp=Z,1μm,19.0s,MS4.4
HIA Hailar 23.82 289 eP P 06 38 59.2 -3.5
HIA pmax pmax
comp=Z,15nm,0.6s
HIA MLR MLR
comp=Z,5μm,21.0s
HIA Hailar 23.82 289 eP P 06 38 59.1 -3.5
comp=Z,15nm,0.6s,mb4.6
HIA LR LR
comp=Z,5μm,21.0s,MS5.0
UNV Unalaska Valle 24.92 60 PFAKE 06 39 20.0 +7.3
UNV LR LR
comp=Z,8μm,19.0s,MS5.2
DL2 Dalian 25.91 264 P P 06 39 21.8 +0.1
DL2 S S 06 43 52.6 +1.5
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,700nm,6.7s
DL2 LR LR
comp=N,860nm,12.6s,MS4.8
DL2 LR LR
comp=E,1μm,12.9s,MS4.8
DL2 LR LR
comp=Z,1μm,13.5s,MS4.5
TNA Tin City 26.90 33 eP P 06 39 29.7 -1.0
comp=Z,26nm,0.8s,mb4.8
TNA LR LR
comp=Z,1μm,19.0s,MS4.4
BOD Bodaibo 27.07 309 eP P 06 39 29.3 -2.9
BOD pmax pmax
comp=Z,42nm,1.4s,mb4.8
CIT Chita 27.38 296 eP P 06 39 33.1 -1.9
CIT e 06 39 42.3
CIT pmax pmax
comp=Z,137nm,2.9s,mb5.0
MIDW Midway 28.33 122 PFAKE 06 40 00.0 +17
MIDW LR LR
comp=Z,6μm,21.0s,MS5.2
BJI Beijing 29.10 271 P P 06 39 52.0 +1.7
BJI S S 06 44 38.6 -2.8
BJI AMB AMB
comp=Z,62nm,1.6s,mb5.1
BJI AMB AMB
comp=Z,1μm,6.5s
BJI LR LR
comp=N,4μm,14.1s,MS5.2
BJI LR LR
comp=E,1μm,14.1s,MS5.2
BJI LR LR
comp=Z,2μm,15.5s,MS4.9
BJI Beijing 29.10 271 P P 06 39 52.0 +1.7
comp=Z,62nm,1.6s,mb5.1
BJI S S 06 44 38.6 -2.8
BJI LR LR
comp=Z,2μm,15.5s,MS4.9
BJT Baijiatuau 29.12 271 PFAKE 06 40 00.0 +10
BJT LR LR
comp=Z,3μm,20.0s,MS4.8
JOW Kunigami 29.41 236 P P 06 39 53.5 +0.4
comp=Z,17nm,0.9s,mb4.8,baz=96,slow=7.7,SNR=4.1
TIA Tai'an 30.36 263 eP P 06 40 02.3 +0.8
TIA S S 06 45 06.0 +4.8
TIA AMB AMB
comp=Z,470nm,5.0s
TIA LR LR
comp=N,2μm,12.0s,MS5.0
TIA LR LR
comp=E,540nm,11.0s,MS5.0
SSE Sheshan 30.72 251 P P 06 40 04.3 -0.3
SSE S S 06 45 06.8 0.0
SSE XS sS 06 45 12.3 -2.8
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,430nm,4.7s
SSE LR LR
comp=N,1μm,12.8s,MS4.9
SSE LR LR
comp=E,1μm,12.8s,MS4.9
SSE LR LR
comp=Z,1μm,22.5s
SSE Sheshan 30.72 251 P P 06 40 04.3 -0.3
comp=Z,38nm,0.8s,mb5.3
SSE sP sP 06 40 08.5 -3.3
SSE S S 06 45 06.8 0.0
SSE sS sS 06 45 12.2 -2.9
SSE LR LR
comp=Z,1μm,22.5s,MS4.5
SVW2 Sparrevohn 31.15 45 eP P 06 40 08.4 0.0
NJ2 Nanjing 31.63 255 eP P 06 40 15.8 +3.1
NJ2 AP pP 06 40 19.1 +1.3
NJ2 XP sP 06 40 23.3 +3.5
NJ2 PP PP 06 41 19.9 -4.3
NJ2 S S 06 45 22.5 +1.4
NJ2 XS sS 06 45 31.5 +2.0
NJ2 AMB AMB
comp=Z,750nm,4.8s
NJ2 LR LR
comp=N,1μm,14.4s,MS4.9
NJ2 LR LR
comp=E,1μm,14.6s,MS4.9
NJ2 LR LR
comp=Z,1μm,17.3s,MS4.7
HHC Hu-ho-hao-te 31.89 275 ⇓P P 06 40 14.9 0.0
HHC AP pP 06 40 19.3 -0.7
HHC XP sP 06 40 22.0 -0.1
HHC PP PP 06 41 20.6 -6.4
HHC PCP PcP 06 43 06.8 +1.5
HHC S S 06 45 23.9 -1.2
HHC XS sS 06 45 31.3 -2.1
HHC SCP ScP 06 46 47.3 -0.7
HHC PCS PcS 06 46 49.8 -0.1
HHC SCS ScS 06 50 43.3 -3.0
HHC AMB AMB
comp=Z,64nm,1.5s,mb5.2
HHC AMB AMB
comp=Z,926nm,6.9s
HHC LR LR
comp=N,4μm,14.3s,MS5.4
HHC LR LR
comp=E,4μm,13.3s,MS5.4
HHC LR LR
comp=Z,4μm,13.0s,MS5.3
ULN Ulaanbaatar 32.34 290 P P 06 40 18.7 -0.1
SNR=12
ULN Ulaanbaatar 32.34 290 P P 06 40 18.7 -0.1
SNR=12
ULN Ulaanbaatar 32.34 290 P P 06 40 18.7 -0.1
SNR=12
ULN Ulaanbaatar 32.34 290 P P 06 40 18.7 -0.1
SNR=12
ULN Ulaanbaatar 32.34 290 P P 06 40 18.7 -0.1
SNR=12
ULN Ulaanbaatar 32.34 290 eP P 06 40 18.2 -0.7
ULN LR LR
comp=Z,4μm,20.0s,MS5.1
IMA2 Indian Mountai 32.63 36 eP P 06 40 21.2 -0.2
KDAK Kodiak Island 32.66 51 P P 06 40 20.1 -1.7
comp=Z,68nm,0.9s,mb5.6,baz=316,slow=3.0,SNR=14
KDAK Kodiak Island 32.66 51 eP P 06 40 20.1 -1.7
KDAK LR LR
comp=Z,734nm,22.0s,MS4.3
SONM Songino Array 32.77 290 P P 06 40 22.1 -0.6
comp=Z,10nm,0.8s,mb4.8,baz=64,slow=8.7,SNR=80
SONM PcP PcP 06 43 07.5 -0.2
comp=Z,7.5nm,0.9s,baz=95,slow=1.5,SNR=8.4
SONM LR LR 06 54 16.4
comp=Z,3μm,19.5s,MS5.1,baz=76,slow=38
SONM Songino Array 32.77 290 P P 06 40 22.1 -0.6
SONM 06 43 07.5
IRK Irkutsk 32.99 298 eP P 06 40 21.0 -3.6
IRK e 06 43 08.1
IRK e 06 45 31.5
IRK pmax pmax
comp=Z,60nm,2.0s,mb5.2
BTO Baotou 33.05 276 eP P 06 40 24.5 -0.6
BTO S S 06 45 32.0 -11
BTO LR LR
comp=N,742nm,12.9s,MS4.8
BTO LR LR
comp=E,976nm,11.6s,MS4.8
TLY Talaya 33.49 297 P P 06 40 29.0 0.0
SNR=9.8
TLY Talaya 33.49 297 P P 06 40 29.0 0.0
SNR=9.8
TLY Talaya 33.49 297 P P 06 40 29.0 0.0
SNR=9.8
TLY Talaya 33.49 297 P P 06 40 29.0 0.0
SNR=9.8
TLY Talaya 33.49 297 P P 06 40 29.0 0.0
SNR=9.8
TLY Talaya 33.49 297 eP P 06 40 25.5 -3.5
TLY eS S 06 45 42.2 -7.8
TLY pmax pmax
comp=Z,46nm,1.6s,mb5.2
TLY MLR MLR
comp=Z,2μm,13.0s,MS4.9
TLY Talaya 33.49 297 eP P 06 40 30.1 +1.1
TLY LR LR
comp=Z,762nm,22.0s,MS4.4
SLKM Skilak Lake 33.76 46 eP P 06 40 29.8 -1.5
ZAK Zakamensk 34.03 295 eP P 06 40 32.8 -0.8
PMR Palmer 34.27 44 eP P 06 40 34.4 -1.3
PMR pmax pmax
comp=Z,43nm,1.0s,mb5.3
PMR Palmer 34.27 44 eP P 06 40 34.4 -1.3
comp=Z,42nm,1.0s,mb5.3
MCK McKinley 34.39 41 eP P 06 40 36.1 -0.6
comp=Z,40nm,1.0s,mb5.3
MCK LR LR
comp=Z,750nm,19.0s,MS4.5
GUMO Guam 34.50 198 LR LR 06 54 54.8
comp=Z,677nm,18.5s,MS4.4,baz=32,slow=37
GUMO Guam 34.50 198 PFAKE 06 40 50.0 +12
GUMO LR LR
comp=Z,1μm,22.0s,MS4.5
SML Sawmill 34.65 44 eP P 06 40 38.4 -0.6
TATO Taipei 34.81 243 PFAKE 06 40 50.0 +10
TATO LR LR
comp=Z,1μm,20.0s,MS4.7
COLA College 34.91 39 P P 06 40 40.8 -0.5
COLA pmax pmax
comp=Z,100nm,0.9s,mb5.8
COLA College 34.91 39 eP P 06 40 39.6 -1.7
COLA LR LR
comp=Z,1μm,21.0s,MS4.6
DIV Divide 35.91 45 eP P 06 40 49.4 -0.4
DIV LR LR
comp=Z,5μm,19.0s,MS5.3
QZH Quanzhou 36.62 246 iP P 06 40 57.6 +1.7
QZH S S 06 46 43.0 +4.9
QZH AMB AMB
comp=Z,550nm,2.0s,mb6.0
QZH AMB AMB
comp=Z,1μm,5.5s
QZH LR LR
comp=N,980nm,12.0s,MS5.1
QZH LR LR
comp=E,2μm,16.0s,MS5.1
QZH LR LR
comp=Z,1μm,17.2s,MS4.7
MENT Mentasta 36.75 42 eP P 06 40 56.9 -0.1
EGAK Eagle 37.77 39 PFAKE 06 41 20.0 +14
EGAK LR LR
comp=Z,1μm,22.0s,MS4.7
DAWY Dawson 38.59 40 eP P 06 41 12.2 -0.5
ENH Enshi 39.01 261 PFAKE 06 41 30.0 +14
ENH LR LR
comp=Z,2.0nm,20.0s
LZH Lanzhou 39.50 273 ⇓P P 06 41 21.5 +1.3
LZH AP pP 06 41 27.1 +1.7
LZH XP sP 06 41 31.4 +4.0
LZH PP PP 06 42 55.0 +4.1
LZH S S 06 47 19.0 -2.7
LZH XS sS 06 47 28.0 -2.2
LZH eSS SS 06 50 02.0 -14
LZH AMB AMB
comp=Z,90nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,450nm,4.7s
LZH LR LR
comp=N,5μm,14.0s
LZH LR LR
comp=Z,6μm,15.7s,MS5.5
LZH Lanzhou 39.50 273 ⇓P P 06 41 21.5 +1.3
LZH *SP sP 06 41 31.4 +4.0
LZH 06 42 55.0
LZH S S 06 47 19.0 -2.7
LZH eSS SS 06 50 02.0 -14
LZH pmax pmax
comp=Z,90nm,1.1s,mb5.4
LZH MLR MLR
comp=Z,6μm,15.7s,MS5.5
LZH Lanzhou 39.50 273 ⇓P P 06 41 21.5 +1.3
comp=Z,90nm,1.1s,mb5.4
LZH pP pP 06 41 27.1 +1.7
LZH sP sP 06 41 31.4 +4.0
LZH PP PP 06 42 55.0 +4.1
LZH S S 06 47 19.0 -2.7
LZH sS sS 06 47 28.0 -2.2
LZH eSS SS 06 50 02.0 -14
LZH LR LR
comp=Z,6μm,15.7s,MS5.5
GTA Gaotai 40.53 280 P P 06 41 30.0 +1.3
GTA AP pP 06 41 34.3 +0.4
GTA XP sP 06 41 36.8 +0.9
GTA PP PP 06 43 07.8 +5.7
GTA PCP PcP 06 43 35.0 +4.0
GTA PCS PcS 06 47 22.9 +1.3
GTA S S 06 47 38.9 +1.8
GTA XS sS 06 47 46.9 +1.3
GTA AMB AMB
comp=Z,41nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,862nm,6.1s
GTA LR LR
comp=N,2μm,14.8s,MS5.2
GTA LR LR
comp=E,2μm,15.6s,MS5.2
GTA LR LR
comp=Z,2μm,15.2s,MS5.0
INK Inuvik 40.54 33 P P 06 41 28.9 0.0
comp=Z,91nm,0.9s,mb5.4,baz=275,slow=6.8,SNR=93
INK Inuvik 40.54 33 eP P 06 41 28.9 0.0
INK pmax pmax
comp=Z,95nm,0.9s
INK Inuvik 40.54 33 eP P 06 41 28.9 0.0
comp=Z,3μm,0.9s
SKAG Skagway 41.30 46 eP P 06 41 35.9 +0.7
comp=Z,58nm,0.8s,mb5.3
SKAG LR LR
comp=Z,1μm,17.0s,MS4.8
SIT Sitka 41.96 50 PFAKE 06 41 50.0 +10
SIT LR LR
comp=Z,2μm,19.0s,MS5.0
CD2 Chengdu 42.52 267 ⇓iP P 06 41 45.3 +0.2
CD2 AP pP 06 41 49.8 -0.5
CD2 XP sP 06 41 52.3 0.0
CD2 PP PP 06 43 26.6 +2.9
CD2 PCP PcP 06 43 38.9 +1.3
CD2 PCS PcS 06 47 29.6 0.0
CD2 S S 06 48 06.0 -0.6
CD2 XS sS 06 48 13.4 -1.7
CD2 SS SS 06 51 09.0 -7.3
CD2 SCS ScS 06 51 44.0 -2.0
CD2 AMB AMB
comp=Z,60nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,1μm,5.9s
CD2 LR LR
comp=N,1μm,19.2s,MS5.0
CD2 LR LR
comp=E,1μm,16.8s,MS5.0
CD2 LR LR
comp=Z,1μm,19.2s,MS4.8
GYA Guiyang 43.36 259 ⇓iP P 06 41 52.9 +1.0
GYA AP pP 06 41 56.8 -0.3
GYA XP sP 06 41 59.9 +0.8
GYA PP PP 06 43 36.8 +4.1
GYA PCP PcP 06 43 43.3 +2.9
GYA SCP ScP 06 47 33.3 +2.3
GYA S S 06 48 21.3 +2.3
GYA SCS ScS 06 51 51.8 +0.5
GYA AMB AMB
comp=Z,110nm,1.1s,mb5.5
GYA AMB AMB
comp=Z,860nm,5.7s
GYA LR LR
comp=N,1μm,14.4s,MS5.0
GYA LR LR
comp=E,1μm,14.9s,MS5.0
GYA LR LR
comp=Z,1μm,14.6s,MS4.9
ZAL Zalesovo 43.78 306 P P 06 41 53.7 -1.6
comp=Z,18nm,0.5s,mb5.0,baz=46,slow=8.9,SNR=15
ZAL PcP PcP 06 43 40.9 -0.9
comp=Z,14nm,0.9s,baz=26,slow=4.8,SNR=8.3
ZAL LR LR 07 01 47.5
comp=Z,5μm,19.7s,MS5.5,baz=42,slow=38
ZAL Zalesovo 43.78 306 P P 06 41 53.7 -1.6
ZAL 06 43 40.9
ZAL Zalesovo 43.78 306 P P 06 41 53.7 -1.6
ZAL PcP PcP 06 43 40.9 -0.9
ZAL LR LR 07 01 47.5
DLBC Dease Lake 44.23 47 eP P 06 42 00.0 +1.1
NVS Novosibirsk 44.30 308 eP P 06 41 58.7 -0.8
NVS e 06 43 42.7
NVS iS S 06 48 26.5 -6.3
NVS pmax pmax
comp=N,139nm,1.9s
NVS pmax pmax
comp=Z,247nm,1.9s,mb5.6
NVS pmax pmax
comp=E,273nm,1.8s
NVS smax
comp=E,59nm,1.8s
WMQ Urumqi 46.33 292 ⇑iP P 06 42 16.8 +1.2
WMQ AP pP 06 42 21.3 +0.5
WMQ XP sP 06 42 23.8 +1.0
WMQ PCP PcP 06 43 52.4 +1.8
WMQ PP PP 06 44 05.5 +1.2
WMQ PPP 06 44 49.8

WMQ SCP ScP 06 47 43.8 +0.6
WMQ PCS PcS 06 47 45.5 +0.3
WMQ S **S** **06 49 02.4 +0.3**
WMQ XS sS 06 49 10.0 -0.6
WMQ AMB AMB
comp=Z,53nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,966nm,4.4s
WMQ LR LR
comp=N,5μm,21.4s,MS5.5
WMQ LR LR
comp=E,1μm,21.4s,MS5.5
WMQ LR LR
comp=Z,2μm,18.0s,MS5.2
QIZ Qiongzhong 46.46 249 P **P** **06 42 17.3 +0.7**
QIZ PP PP 06 44 05.8 +0.1
QIZ S **S** **06 49 05.8 +1.9**
QIZ XS sS 06 49 10.9 -1.5
QIZ SS SS 06 52 18.1 -12
QIZ AMB AMB
comp=Z,29nm,1.7s,mb4.9
QIZ AMB AMB
comp=Z,398nm,5.9s
QIZ LR LR
comp=N,1μm,14.4s
QIZ LR LR
comp=Z,923nm,15.6s,MS4.8
QIZ Qiongzhong 46.46 249 PFAKE 06 42 30.0 +13
QIZ LR LR
comp=Z,970nm,22.0s,MS4.7
KMI Kunming 46.89 261 P **P** **06 42 21.1 +1.2**
KMI AP pP 06 42 26.5 +1.3
KMI XP sP 06 42 29.8 +2.6
KMI PP PP 06 44 13.3 +3.1
KMI PPP 06 44 57.8
KMI S **S** **06 49 12.8 +2.8**
KMI AMB AMB
comp=Z,54nm,1.7s,mb5.2
KMI AMB AMB
comp=Z,679nm,4.1s
KMI LR LR
comp=N,2μm,15.0s,MS5.2
KMI LR LR
comp=E,1μm,15.0s,MS5.2
KMI LR LR
comp=Z,1μm,13.7s,MS5.0
KMI Kunming 46.89 261 P **P** **06 42 21.1 +1.2**
KMI *SP sP 06 42 29.8 +2.6
KMI 06 44 13.3
KMI PPP 06 44 57.8
KMI S **S** **06 49 12.7 +2.7**
KMI SSS 06 53 47.1
KMI pmax pmax
comp=Z,54nm,1.7s,mb5.2
KMI MLR MLR
comp=Z,1μm,13.7s,MS5.0
KMI Kunming 46.89 261 P **P** **06 42 21.1 +1.2**
comp=Z,54nm,1.7s,mb5.2
KMI pP pP 06 42 26.5 +1.3
KMI sP sP 06 42 29.8 +2.6
KMI PP PP 06 44 13.3 +3.1
KMI PPP 06 44 57.8
KMI S **S** **06 49 12.7 +2.7**
KMI SS SS 06 52 43.8 +7.1
KMI SSS 06 53 47.1
KMI LR LR
comp=Z,1μm,13.7s,MS5.0
DAV Davao City (W) 47.33 222 PFAKE 06 42 40.0 +17
DAV LR LR
comp=Z,657nm,22.0s,MS4.6
POHA Pohakuloa 48.09 107 PFAKE 06 42 40.0 +11
POHA LR LR
comp=Z,3μm,19.0s,MS5.2
MKAR Makanchi Array 48.25 298 P **P** **06 42 29.1 -1.4**
comp=Z,27nm,0.7s,mb5.4,baz=69,slow=8.4,SNR=59
MKAR PcP PcP 06 43 56.9 -0.5
comp=Z,9.7nm,0.8s,baz=227,slow=1.9,SNR=5.6
MKAR Makanchi Array 48.25 298 P **P** **06 42 29.1 -1.4**
MKAR PcP PcP 06 43 56.9 -0.5
KURK Kurchatov 48.56 304 P **P** **06 42 32.6 -0.3**
comp=Z,1μm,0.8s,SNR=32
ALE Alert 49.30 6 P **P** **06 42 38.0 -0.6**
comp=Z,448nm,0.8s,SNR=28
YKW3 Yellowknife Ar 49.69 37 *eP* **P** **06 42 41.1 -0.4**
YKA Yellowknife Ar 49.72 37 P **P** **06 42 41.3 -0.5**
comp=Z,54nm,0.9s,mb5.6,baz=296,slow=7.5,SNR=49
YKA LR LR 07 05 47.5
comp=Z,629nm,20.0s,MS4.6,baz=320,slow=39
YKA Yellowknife Ar 49.72 37 P **P** **06 42 41.3 -0.5**
YKA LR LR 07 05 47.5
RES Resolute Bay 50.05 19 *eP* **P** **06 42 44.4 +0.1**
RES pmax pmax
comp=Z,47nm,0.9s,mb5.5
RES Resolute Bay 50.05 19 *eP* **P** **06 42 44.4 +0.1**
comp=Z,1μm,0.9s
CHKZ Chkalovo 51.49 311 P **P** **06 42 53.7 -1.4**
CHKZ pmax pmax
comp=Z,79nm,0.7s,mb5.8
CHKZ Chkalovo 51.49 311 *eP* **P** **06 42 54.4 -0.8**
LSA Lhasa 51.88 275 P **P** **06 43 00.8 +2.8**
LSA PP PP 06 44 58.3 +2.4
LSA S **S** **06 50 25.4 +5.5**
LSA SCS ScS 06 52 47.1 -0.4
LSA AMB AMB
comp=Z,30nm,0.7s,mb5.3
LSA AMB AMB
comp=Z,660nm,7.3s
LSA LR LR
comp=N,590nm,14.0s,MS5.1
LSA LR LR
comp=E,1μm,14.2s,MS5.1
LSA LR LR
comp=Z,1μm,14.0s,MS5.0
LSA Lhasa 51.88 275 *eP* **P** **06 43 00.4 +2.4**
LSA pmax pmax
comp=Z,24nm,0.7s,mb5.2
LSA MLR MLR
comp=Z,755nm,19.0s,MS4.8
LSA Lhasa 51.88 275 *eP* **P** **06 43 00.4 +2.4**
comp=Z,24nm,0.7s,mb5.2
LSA LR LR
comp=Z,755nm,19.0s,MS4.8
BVA0 Borovoye Array 51.93 310 P **P** **06 42 57.4 -1.0**
BVA0 pmax pmax
comp=Z,198nm,2.2s,mb5.7
BVAR Borovoye Array 51.93 310 P **P** **06 42 58.1 -0.3**
comp=Z,70nm,0.6s,mb5.8,baz=58,slow=7.6,SNR=133
BVAR PcP PcP 06 44 10.4 -0.5
comp=Z,17nm,0.7s,baz=46,slow=4.5,SNR=5.5
BVAR LR LR 07 06 44.2
comp=Z,3μm,19.3s,MS5.4,baz=319,slow=38
BVAR Borovoye Array 51.93 310 P **P** **06 42 58.1 -0.3**
BVAR 06 44 10.4
BRVK Borovoye 51.97 310 P **P** **06 42 58.6 -0.2**
SNR=47
BRVK Borovoye 51.97 310 P **P** **06 42 58.6 -0.2**
SNR=47
BRVK Borovoye 51.97 310 P **P** **06 42 58.6 -0.2**
SNR=47
BRVK Borovoye 51.97 310 P **P** **06 42 58.6 -0.2**
SNR=47
BRVK Borovoye 51.97 310 *eP* **P** **06 42 58.1 -0.6**
BRVK LR LR
comp=Z,923nm,20.0s,MS4.8
KBS Kingsbay 52.47 352 *eP* **P** **06 43 03.1 +0.7**
KBS *ePP* PP 06 45 00.4 -0.8
KBS AMS AMS 07 04 13.7
comp=Z,579nm,23.7s,MS4.5
KBS Kingsbay 52.47 352 *eP* **P** **06 43 02.3 -0.1**
comp=Z,67nm,0.8s,mb5.6
KBS LR LR
comp=Z,1μm,22.0s,MS5.0
A05A Maple Falls 52.54 55 ⇑P **P** **06 43 02.0 -1.0**
baz=52
SPB4 Spitsbergen Ar 52.62 350 *eP* **P** **06 43 03.6 +0.1**
ZRNK Zerenda 52.69 311 P **P** **06 43 03.4 -0.7**
ZRNK pmax pmax
comp=Z,60nm,0.6s,mb5.7
ZRNK Zerenda 52.69 311 *eP* **P** **06 43 03.4 -0.7**
comp=Z,60nm,0.6s,mb5.7
B05A Bryant 52.92 56 ⇓P **P** **06 43 05.3 -0.5**
baz=53
KKTK Khon Kaen 52.96 253 ⇑P **P** **06 43 08.0 +1.9**
comp=Z,309nm,0.8s,mb6.3
E04A Onalaska 53.45 58 ⇓P **P** **06 43 09.4 -0.3**
baz=53
C05A Tolt Reservoir 53.45 57 ⇑P **P** **06 43 09.3 -0.4**
baz=53
D05A Enumclaw 53.55 57 ⇑P **P** **06 43 10.2 -0.2**
baz=53,SNR=5.7
CHG Chiang Mai 53.76 258 ⇓P **P** **06 43 13.6 +1.6**
comp=Z,60nm,1.0s,mb5.5
CHTO Chiang Mai 53.76 258 P **P** **06 43 14.0 +2.0**
SNR=23
CHTO Chiang Mai 53.76 258 P **P** **06 43 14.0 +2.0**
SNR=23
CHTO Chiang Mai 53.76 258 P **P** **06 43 14.0 +2.0**
SNR=23
CHTO Chiang Mai 53.76 258 P **P** **06 43 14.0 +2.0**
SNR=23
CHTO Chiang Mai 53.76 258 *eP* **P** **06 43 13.6 +1.6**
CHTO pmax pmax
comp=Z,134nm,1.5s,mb5.7
CHTO MLR MLR
comp=Z,765nm,22.0s,MS4.7
CHTO Chiang Mai 53.76 258 *eP* **P** **06 43 13.6 +1.6**
comp=Z,134nm,1.5s,mb5.7
CHTO LR LR
comp=Z,765nm,22.0s,MS4.7
B07A Winthrop 53.93 55 P **P** **06 43 12.8 -0.4**
baz=54,SNR=5.8
SHL Shillong 54.00 270 *eP* **P** **06 43 14.5 +0.8**
CM31 Chiang Mai Arr 54.02 258 PFAKE 06 43 30.0 +16
CM31 LR LR
comp=Z,677nm,20.0s,MS4.7
E05A Randle 54.03 58 ⇑P **P** **06 43 13.1 -0.8**
baz=54
A08A Turner Farm, O 54.14 54 P **P** **06 43 14.2 -0.5**
baz=54,SNR=14
H03A Soap Creek Ran 54.16 60 ⇓P **P** **06 43 14.1 -0.8**
baz=54
COR Corvallis 54.20 61 PFAKE 06 43 30.0 +15
COR LR LR
comp=Z,1μm,20.0s,MS4.9
D06A Cle Elum 54.21 57 ⇑P **P** **06 43 14.4 -0.8**
baz=54
ULHL Ulahol 54.31 296 P **P** **06 43 17.2 +1.3**
SNR=17
TKM2 Tokmak 2 54.33 297 P **P** **06 43 17.2 +1.2**
SNR=31
TBM Table Mountain 54.36 57 P **P** **06 43 15.7 -0.7**
C07A Waterville 54.38 56 P **P** **06 43 15.8 -0.7**
baz=54,SNR=7.8
B08A Colville Reser 54.43 55 P **P** **06 43 16.2 -0.6**
baz=54,SNR=13
E06A Yakima 54.49 57 ⇑P **P** **06 43 16.9 -0.3**
baz=54
K01A Sixes 54.49 63 ⇑P **P** **06 43 16.7 -0.5**
baz=54
A09A Danville 54.51 54 P **P** **06 43 17.1 -0.2**
baz=54,SNR=14
EBG Ellensburg 54.52 57 P **P** **06 43 17.6 +0.1**
I03A Eugene 54.56 61 ⇑P **P** **06 43 17.4 -0.4**
baz=54
F05A White Salmon 54.57 58 ⇑P **P** **06 43 17.0 -0.9**
baz=54
D07A Quincy 54.70 56 ⇑P **P** **06 43 18.0 -0.8**
baz=54
J02A Umpqua 54.72 62 ⇑P **P** **06 43 19.1 +0.2**
baz=54,SNR=11
CHMS Chmysh 54.80 298 P **P** **06 43 20.4 +0.9**
SNR=12
USP Ospenovka 54.80 298 P **P** **06 43 20.2 +0.7**
SNR=54
H04A Detroit Lake 54.81 60 ⇑P **P** **06 43 19.3 -0.3**
baz=54,SNR=6.1
KBK Karagaybulak 54.87 297 P **P** **06 43 20.9 +0.8**
SNR=27
SOKR Solikamsk 54.89 322 *i* P **P** **06 43 19.8 -0.3**
SOKR S **S** **06 50 54.2 -6.6**
SOKR pmax pmax
comp=Z,120nm,1.3s,mb5.8
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.0
C08A Higginbotham F 54.90 55 P **P** **06 43 19.9 -0.4**
baz=55,SNR=8.9
EDM Edmonton 54.94 47 *eP* **P** **06 43 20.0 -0.6**
FRU Bishkek 54.97 298 *i* P **P** **06 43 21.8 +1.0**
FRU *i* 06 43 31.0
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.8
G05A Wamic 55.01 59 ⇑P **P** **06 43 21.1 0.0**
baz=55
KZA Kyzart 55.01 296 P **P** **06 43 23.2 +2.1**
SNR=24
F06A Goldendale 55.03 58 ⇓P **P** **06 43 21.3 +0.1**
baz=55
B09A Rice 55.05 54 P **P** **06 43 20.8 -0.5**
baz=55,SNR=10.0
A10A Northport 55.07 53 P **P** **06 43 21.0 -0.4**
baz=55,SNR=5.8
J03A Ideyld Park 55.09 62 ⇓P **P** **06 43 21.3 -0.3**
baz=55,SNR=11
K02A Glendale 55.11 62 ⇓P **P** **06 43 21.5 -0.2**
baz=55
E07A Sunnyside 55.12 57 ⇓P **P** **06 43 21.5 -0.4**
baz=55,SNR=7.7
AAK Ala-Archa 55.16 297 P **P** **06 43 22.8 +0.7**
SNR=48
AAK Ala-Archa 55.16 297 *eP* **P** **06 43 22.0 -0.1**
AAK *e* 06 44 23.3
AAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
AAK MLR MLR
comp=Z,641nm,19.0s,MS4.7
AAK Ala-Archa 55.16 297 *eP* **P** **06 43 22.0 -0.1**
comp=Z,48nm,0.9s,mb5.5
AAK *ePcP* PcP 06 44 23.3 +0.1
AAK LR LR
comp=Z,641nm,19.0s,MS4.7
I04A Tendick Farm, 55.18 61 ⇑P **P** **06 43 22.3 0.0**
baz=55,SNR=16
NST Nakhon Sawan 55.21 255 P **P** **06 43 23.4 +0.9**
BJO Bjornoya 55.28 347 AMS AMS 07 09 12.3
comp=Z,1μm,25.7s,MS4.8
OD2 Odessa Site #2 55.31 56 P **P** **06 43 22.4 -0.8**
C09A Chrisman Ranch 55.33 55 P **P** **06 43 22.7 -0.6**
baz=55,SNR=7.9
D08A Wollman Farm, 55.38 56 ⇓P **P** **06 43 22.9 -0.8**
baz=55
UCH Uchtor 55.38 297 P **P** **06 43 25.5 +1.8**
SNR=11
L02A Cave Junction 55.39 63 ⇑P **P** **06 43 23.5 -0.2**
baz=55,SNR=6.8
H05A Madras 55.40 59 P **P** **06 43 24.4 +0.6**
baz=55,SNR=6.5
HAWA Hanford 55.40 57 *eP* **P** **06 43 23.6 -0.3**
G06A Carlson Farm, 55.41 59 ⇓P **P** **06 43 23.9 -0.1**
baz=55
F07A Phinny Hill Vi 55.45 58 ⇑P **P** **06 43 24.2 0.0**
baz=55
HUMO Hull Mountain 55.52 62 PFAKE 06 43 40.0 +15
HUMO LR LR
comp=Z,1μm,20.0s,MS5.0
EKS2 Erkin-Say 55.58 298 P **P** **06 43 26.3 +1.2**
SNR=30
E08A Dider Farm, El 55.62 57 ⇓P **P** **06 43 25.0 -0.5**
baz=55
B10A Chitwood Farm, 55.63 54 ⇑P **P** **06 43 25.2 -0.3**
baz=55
J04A Umpqua Nationa 55.67 61 ⇓P **P** **06 43 26.1 +0.3**
baz=55,SNR=19
NEW Newport 55.71 54 LR LR 07 05 23.1
comp=Z,549nm,19.4s,MS4.7,baz=228,slow=34
NEW Newport 55.71 54 *eP* **P** **06 43 25.4 -0.7**
comp=Z,124nm,2.0s,mb5.6
NEW LR LR
comp=Z,582nm,20.0s,MS4.7
D09A Jones Farm, Ri 55.72 56 ⇓P **P** **06 43 25.3 -0.9**
baz=55
A11A Hall Mountain, 55.73 53 P **P** **06 43 26.4 +0.2**
baz=55,SNR=7.9
VIPM Ingram Point 55.84 59 P **P** **06 43 27.3 +0.3**
C10A Spilker Farm, 55.86 54 ⇓P **P** **06 43 26.4 -0.7**
baz=56
H06A Lindquist Farm 55.88 59 P **P** **06 43 27.4 +0.2**
baz=56,SNR=14
JCC Jacoby Creek 55.90 65 ⇓P **P** **06 43 27.8 +0.3**
baz=56
ARU Arti 55.90 318 P **P** **06 43 27.2 -0.2**
comp=Z,1μm,0.8s,SNR=36
ARU Arti 55.90 318 ⇓*i* P **P** **06 43 27.3 -0.1**
ARU *e* 06 44 26.3
ARU *e* 06 45 31.0
ARU *ePPP* 06 46 44.7
ARU *eS* **S** **06 51 16.2 +1.9**
ARU *e* 06 53 14.4
ARU *eSS* SS 06 55 04.6 +4.5
ARU pmax pmax
comp=Z,187nm,0.9s,mb6.1
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.2
ARU MLR MLR
comp=N,700nm,17.0s,MS5.1
ARU MLR MLR
comp=E,1μm,19.0s,MS5.1
ARU Arti 55.90 318 PFAKE 06 43 40.0 +13
ARU LR LR
comp=Z,507nm,21.0s,MS4.6
AML Almayashu 55.93 297 P **P** **06 43 29.5 +1.8**
SNR=9.5
G07A Ruggs Ranch, H 55.96 58 ⇓P **P** **06 43 27.9 0.0**
baz=56
B11A Sandpoint 56.03 53 ⇑P **P** **06 43 27.8 -0.5**
baz=56
KSH Kashi 56.04 294 P **P** **06 43 30.8 +2.3**
KSH *eAP* pP 06 43 35.8 +2.0
KSH *eXP* sP 06 43 38.5 +2.7
KSH *ePCP* PcP 06 44 27.8 +1.2
KSH *ePP* PP 06 45 36.8 +3.4
KSH *eSCP* ScP 06 48 27.8 +2.8
KSH *eS* **S** **06 51 17.1 +0.8**
KSH *eXS* sS 06 51 26.8 +1.8
KSH *ePS* 06 51 37.0
KSH *eSCS* ScS 06 53 14.8 -2.2
KSH LR LR
comp=N,2μm,11.4s
KSH LR LR
comp=E,2μm,5.7s
KSH LR LR
comp=Z,8μm,14.8s,MS5.9
E09A Wood Farm, Sta 56.12 56 P **P** **06 43 28.6 -0.5**
baz=56,SNR=15
A12A Yaak River Ran 56.13 53 ⇓P **P** **06 43 29.0 -0.1**
baz=56
J05A Fort Rock 56.17 61 ⇑P **P** **06 43 30.2 +0.8**
baz=56,SNR=31
F08A Pendleton 56.17 57 ⇑P **P** **06 43 29.1 -0.3**
baz=56
YBH Yreka Blue Hor 56.18 63 *eP* **P** **06 43 30.4 +1.0**
YBH pmax pmax
comp=Z,28nm,0.9s
YBH Yreka Blue Hor 56.18 63 ⇓P **P** **06 43 30.5 +1.1**
baz=56,SNR=14
K04A Chiluin 56.26 62 ⇑P **P** **06 43 30.7 +0.7**
baz=56
M02C Callahan 56.29 64 ⇓P **P** **06 43 31.0 +0.8**
baz=56,SNR=9.2
N02C Big Bar 56.34 64 ⇓P **P** **06 43 30.9 +0.3**
baz=56
HNR Honiara 56.34 175 LR LR 07 07 28.7
comp=Z,2μm,18.1s,MS5.2,baz=0.0,slow=36
HNR Honiara 56.34 175 PFAKE 06 43 40.0 +9.4
HNR LR LR
comp=Z,2μm,19.0s,MS5.2
G08A Pilot Rock 56.36 58 P **P** **06 43 30.6 -0.1**
baz=56,SNR=10
I06A Prineville 56.40 60 ⇑P **P** **06 43 31.5 +0.5**
baz=56
L04A Klamath Falls 56.42 62 ⇑P **P** **06 43 31.6 +0.4**
baz=56,SNR=11
DAG Danmarks Havn 56.42 358 ⇑*i* P **P** **06 43 30.1 -1.1**
comp=Z,75nm,1.5s,mb5.5
DAG Danmarks Havn 56.42 358 ⇑*i* P **P** **06 43 30.1 -1.1**
DAG pmax pmax
comp=Z,75nm,1.5s,mb5.5
B12A Libby 56.44 53 ⇑P **P** **06 43 31.2 -0.1**
baz=56
LHEM Herd Peak 56.54 63 P **P** **06 43 33.0 +1.0**
JIRN Jiri 56.54 276 *eP* **P** **06 43 33.5 +1.5**
comp=Z,98nm,0.9s,mb5.8
GUN Gumba 56.59 276 *eP* **P** **06 43 33.9 +1.5**
PMG Port Moresby 56.67 190 P **P** **06 43 34.4 +1.5**
comp=Z,9.7nm,0.7s,mb4.9,baz=24,slow=4.7,SNR=3.7
PMG LR LR 07 03 14.8
comp=Z,1μm,20.3s,MS5.0,baz=36,slow=31
M04C Macdoel 56.68 63 ⇑P **P** **06 43 33.7 +0.7**
baz=56,SNR=15
K05A Summer Lake 56.70 61 ⇓P **P** **06 43 33.7 +0.6**
baz=56,SNR=19
F09A S2 Ranch, Elgi 56.72 57 ⇓P **P** **06 43 33.1 -0.2**
baz=56,SNR=8.1
E10A Myers Farm, Un 56.73 56 P **P** **06 43 33.0 -0.4**
baz=56,SNR=9.5
I07A Izee 56.74 59 P **P** **06 43 33.9 +0.4**
baz=56,SNR=15
M03C McCloud 56.80 63 ⇑P **P** **06 43 34.0 +0.1**
baz=56,SNR=9.1
D11A Klaveano Farm, 56.84 55 ⇑P **P** **06 43 33.5 -0.6**
baz=56,SNR=20
C12A Trout Creek 56.93 54 P **P** **06 43 34.3 -0.5**
baz=57,SNR=15
WDC Whiskeytown Da 56.95 64 *eP* **P** **06 43 34.6 -0.3**
WDC Whiskeytown Da 56.95 64 ⇓P **P** **06 43 35.3 +0.3**
baz=57,SNR=8.1
F10A Beach Ranch, E 56.96 56 ⇑P **P** **06 43 34.6 -0.4**
baz=57
H08A Prairie City 56.97 58 P **P** **06 43 35.3 +0.3**
baz=57,SNR=14
O02C Red Bluff 57.04 65 ⇑P **P** **06 43 36.3 +0.8**
baz=57,SNR=7.2
KKN Kakani 57.07 277 *eP* **P** **06 43 37.4 +1.6**
comp=Z,28nm,0.4s,mb5.6
B13A Whitefish 57.10 53 P **P** **06 43 35.8 -0.2**
baz=57,SNR=32
P01C Double 8 Ranch 57.12 66 ⇑P **P** **06 43 36.3 +0.2**
baz=57
PKI Pulchoki 57.13 276 *eP* **P** **06 43 37.2 +1.0**
L05A Lakeview 57.13 62 ⇓P **P** **06 43 36.5 +0.3**
baz=57,SNR=28
LVZ Lovozero 57.15 337 *eP* **P** **06 43 34.3 -2.0**
LVZ *eS* **S** **06 51 28.0 -2.9**
LVZ pmax pmax
comp=E,27nm,1.4s
LVZ pmax pmax
comp=Z,101nm,1.4s,mb5.7
LVZ pmax pmax
comp=N,67nm,1.5s
LVZ pmax pmax
comp=Z,857nm,3.0s
LVZ pmax pmax
comp=N,517nm,4.4s
LVZ pmax pmax
comp=E,809nm,4.4s
LVZ smax
comp=N,49nm,6.3s
LVZ smax
comp=Z,171nm,11.1s
LVZ smax
comp=E,563nm,17.7s
LVZ MLR MLR
comp=Z,4μm,23.0s,MS5.5
LVZ MLR MLR
comp=N,3μm,22.0s,MS5.4
LVZ MLR MLR
comp=E,2μm,22.0s,MS5.4
LVZ Lovozero 57.15 337 *eP* **P** **06 43 35.0 -1.3**
J07A Hines 57.26 60 ⇑P **P** **06 43 37.3 +0.1**
baz=57,SNR=14
DMN Daman 57.31 277 *eP* **P** **06 43 39.0 +1.5**
comp=E,62nm,0.6s,mb5.8
M05C Lookout 57.35 63 P **P** **06 43 38.2 +0.4**
baz=57,SNR=12
GKN Gorkha 57.37 277 *eP* **P** **06 43 39.1 +1.2**
comp=E,58nm,0.6s,mb5.8
I08A Drewsey 57.38 59 ⇓P **P** **06 43 38.0 0.0**
baz=57,SNR=17
GASB Alder Springs 57.39 65 ⇑P **P** **06 43 37.7 -0.4**
baz=57,SNR=8.0
C13A Hot Springs 57.45 53 P **P** **06 43 38.3 -0.1**
baz=57,SNR=8.9
H09A Durkee 57.47 58 P **P** **06 43 39.2 +0.6**
baz=57,SNR=10
HATC Hat Creek Radi 57.48 63 ⇓P **P** **06 43 39.2 +0.6**
baz=57,SNR=7.5
MOD Modoc 57.54 62 PFAKE 06 43 50.0 +11
MOD LR LR
comp=Z,537nm,20.0s,MS4.7
MOD Modoc 57.54 62 ⇓P **P** **06 43 39.0 0.0**

baz=57,SNR=24
BMO Blue Mountains 57.57 57 PFAKE 06 43 50.0 +11
BMO LR LR
comp=Z,727nm,20.0s,MS4.8
O03C Acorn Hollow, 57.61 64 ⇑P **P 06 43 39.6 0.0**
baz=57
F11A Grangeville 57.62 56 P **P 06 43 39.2 -0.4**
baz=57,SNR=13
KEV Kevo 57.62 341 *e*P **P 06 43 37.8 -1.8**
comp=Z,8.9nm,0.6s,mb5.0
KEV LR LR
comp=Z,4μm,21.0s,MS5.5
K07A Rock Creek Ran 57.70 60 P **P 06 43 40.9 +0.6**
baz=57,SNR=12
APA Apatity 57.72 337 ⇑*i*P **P 06 43 38.3 -2.0**
APA *i* 06 43 48.3
APA *i* 06 43 54.2
APA *i* 06 44 31.4
APA *e*S **S 06 51 44.0 +5.6**
APA pmax pmax
comp=Z,100nm,1.3s,mb5.7
APA MLR MLR
comp=Z,3μm,20.0s,MS5.4
J08A Circle Bar Ran 57.77 59 ⇓P **P 06 43 40.8 +0.1**
baz=58,SNR=20
I09A Lost Marbles R 57.83 58 P **P 06 43 40.9 -0.2**
baz=58,SNR=14
G11A Walters Elk Ra 57.84 56 ⇑P **P 06 43 40.6 -0.6**
baz=58
M06C Likely Place G 57.84 62 P **P 06 43 42.3 +1.1**
baz=58,SNR=7.0
C14A Swan Lake 57.85 53 ⇑P **P 06 43 40.9 -0.4**
baz=58,SNR=11
D13A Huson 57.85 54 P **P 06 43 40.9 -0.5**
baz=58,SNR=12
O04C Chester 58.00 64 P **P 06 43 43.0 +0.6**
baz=58,SNR=20
MNRC McLaughlin Nat 58.02 66 ⇑P **P 06 43 43.4 +0.9**
baz=58,SNR=6.6
L07A Adell 58.05 61 P **P 06 43 43.4 +0.8**
baz=58,SNR=16
ARCES ARCESS Array B 58.12 341 P **P 06 43 42.5 -0.7**
comp=Z,25nm,0.8s,mb5.3,baz=45,slow=3.6,SNR=21
ARCES PcP PcP 06 44 34.9 +0.2
comp=Z,6.8nm,0.8s,baz=52,slow=2.0,SNR=4.2
ARCES LR LR 07 12 14.7
comp=Z,4μm,21.3s,MS5.5,baz=37,slow=40
ARCES ARCESS Array B 58.12 341 P **P 06 43 42.5 -0.6**
ARCES 06 44 34.9
ARCES ARCESS Array B 58.12 341 P **P 06 43 42.5 -0.7**
ARCES PcP PcP 06 44 34.9 +0.2
ARCES LR LR 07 12 14.7
ARE0 ARCESS Array S 58.12 341 *e*P **P 06 43 42.6 -0.5**
K08A Mann Creek Ran 58.13 60 ⇑P **P 06 43 43.5 +0.3**
baz=58,SNR=18
J09A Fry Pan Ranch, 58.20 59 P **P 06 43 44.3 +0.6**
baz=58,SNR=20
ORV Oroville 58.20 65 P **P 06 43 43.4 -0.4**
baz=58,SNR=24
WVOR Wild Horse Val 58.22 60 *e*P **P 06 43 43.8 0.0**
comp=Z,14nm,0.8s,mb5.0
WVOR LR LR
comp=Z,913nm,19.0s,MS4.9
SUTB Sutter Butte 58.22 65 ⇓P **P 06 43 43.6 -0.3**
baz=58
KOLN Koldanda 58.23 278 *e*P **P 06 43 45.2 +1.3**
comp=Z,66nm,0.8s,mb5.7
MSO Missoula 58.30 54 PFAKE 06 44 00.0 +16
MSO LR LR
comp=Z,395nm,19.0s,MS4.5
O05C Quincy 58.32 64 ⇓P **P 06 43 44.7 +0.1**
baz=58,SNR=10
CVS Carmenet Viney 58.34 66 ⇑P **P 06 43 44.7 0.0**
baz=58
D14A Greenough 58.39 53 P **P 06 43 44.8 -0.3**
baz=58,SNR=34
FARB Farallon Islan 58.39 67 ⇑P **P 06 43 45.1 0.0**
baz=58
E13A Victor 58.39 54 ⇓P **P 06 43 44.7 -0.4**
baz=58
H11A Donnelly 58.40 57 P **P 06 43 45.0 -0.1**
baz=58,SNR=60
CAL Calcutta 58.43 270 ⇑*i*P **P 06 43 47.5 +2.2**
CAL *e*S **S 06 51 50.3 +2.6**
Q03C Winters 58.44 66 ⇑P **P 06 43 46.2 +0.8**
baz=58
N06A Buffalo Meadow 58.51 63 P **P 06 43 46.3 +0.5**
baz=58,SNR=22
M07A Soldier Meadow 58.52 62 P **P 06 43 46.8 +0.8**
baz=58,SNR=42
L08A Fields 58.54 60 P **P 06 43 46.5 +0.5**
baz=58,SNR=22
K09A Rome 58.60 60 P **P 06 43 46.7 +0.2**
baz=58,SNR=9.7
F13A Darby 58.70 55 P **P 06 43 46.9 -0.3**
baz=58,SNR=24
BEKR Beckwourth 58.72 64 ⇑P **P 06 43 47.1 -0.3**
baz=58,SNR=17
E14A Clinton 58.79 54 ⇓P **P 06 43 47.3 -0.6**
baz=58,SNR=22
TMCR Tamitsa 58.84 333 *i*P **P 06 43 48.7 +0.5**
P05C Yuba Gap, Truc 58.91 64 ⇓P **P 06 43 48.3 -0.4**
baz=59
D15A Lincoln 58.95 53 ⇓P **P 06 43 48.6 -0.4**
baz=59,SNR=9.9
N07B Gerlach 59.01 62 ⇑P **P 06 43 49.3 -0.1**
baz=59,SNR=7.7
L09A Wilkinson Ranc 59.04 60 ⇑P **P 06 43 49.6 0.0**
baz=59,SNR=9.3
JRSC Jasper Ridge 59.05 67 ⇓P **P 06 43 49.8 +0.1**
baz=59
P06A Stead Airport, 59.12 64 ⇑P **P 06 43 49.9 -0.2**
baz=59
LAVA Lava Cap Winer 59.16 65 P **P 06 43 50.4 0.0**
baz=59,SNR=18
WENL Wente Brothers 59.22 66 ⇓P **P 06 43 50.9 +0.1**
baz=59
F14A Wisdom 59.22 54 ⇑P **P 06 43 50.6 -0.3**
baz=59
BNLO Ben Lomond (Sa 59.26 67 ⇑P **P 06 43 51.1 0.0**
baz=59
E15A Deer Lodge 59.26 54 P **P 06 43 50.9 -0.2**
baz=59,SNR=30
BOK Bokaro 59.26 273 *e*P **P 06 43 52.6 +1.5**
BOK AMb AMB 06 44 04.8
comp=Z,40nm,2.1s,mb5.1
R04C Big Horse Ranc 59.34 65 ⇑P **P 06 43 51.4 -0.2**
baz=59
TRO Tromso 59.38 344 *e*P **P 06 43 50.6 -1.3**
TRO AMS AMS 07 08 54.1
comp=Z,366nm,24.1s,MS4.4
TRO Tromso 59.38 344 *e*P **P 06 43 54.4 +2.4**
TRO LR LR
comp=Z,370nm,24.1s,MS4.4
WCN Washoe City 59.43 64 ⇓P **P 06 43 52.5 +0.2**
baz=59,SNR=15
O07A Toulon 59.44 63 ⇓P **P 06 43 52.4 0.0**
baz=59,SNR=29
FFC Flin Flon 59.47 41 P **P 06 43 52.1 -0.5**
comp=Z,266nm,0.8s,mb6.3,SNR=24
FFC Flin Flon 59.47 41 P **P 06 43 52.3 -0.3**
AB31 Akbulak array 59.49 311 P **P 06 43 52.1 -0.6**
AB31 pmax pmax
comp=Z,30nm,0.6s,mb5.5
AB31 Akbulak array 59.49 311 *i*P **P 06 43 52.2 -0.5**
N08A GE Springer Mi 59.52 62 P **P 06 43 53.2 +0.3**
baz=59,SNR=19
M09A Marrel Ranch, 59.53 61 ⇑P **P 06 43 53.3 +0.3**
baz=59,SNR=7.9
S04C Ingram Canyon, 59.56 66 ⇓P **P 06 43 52.7 -0.4**
baz=59
R05C Kirkwood Meado 59.60 65 ⇑P **P 06 43 53.5 +0.1**
baz=59,SNR=12
F15A Butte 59.69 54 P **P 06 43 54.0 -0.1**
baz=59,SNR=32
AKTK Aktyubinsk 59.74 313 P **P 06 43 54.2 -0.2**
AKTK LR LR 07 14 21.8
AKTO Aktyubinsk 59.74 313 P **P 06 43 54.2 -0.2**
comp=Z,21nm,0.6s,mb5.4,baz=64,slow=7.0,SNR=63
AKTO LR LR 07 14 21.8
comp=Z,1μm,18.4s,MS5.1,baz=234,slow=41
AKTO Aktyubinsk 59.74 313 P **P 06 43 54.2 -0.2**
AKTO pmax pmax
comp=Z,21nm,0.6s,mb5.3
AKTO MLR MLR
comp=Z,1μm,18.4s,MS5.1
P07A Fallon 59.82 63 ⇓P **P 06 43 55.3 +0.4**
baz=60
CMB Columbia Colle 59.82 65 *e*P **P 06 43 55.1 +0.1**
CMB pmax pmax
comp=Z,25nm,1.1s,mb5.2
CMB Columbia Colle 59.82 65 PFAKE 06 44 10.0 +15
CMB LR LR
comp=Z,276nm,21.0s,MS4.4
CMB Columbia Colle 59.82 65 P **P 06 43 55.1 +0.1**
baz=60,SNR=19
N09A Rock Creek Ran 59.84 61 ⇑P **P 06 43 55.1 0.0**
baz=60,SNR=22
EGMT Eagleton 59.84 51 PFAKE 06 44 10.0 +15
EGMT LR LR
comp=Z,1μm,21.0s,MS5.0
EGMT Eagleton 59.84 51 ⇑P **P 06 43 54.7 -0.4**
baz=60,SNR=19
PACP Pacheco Peak 59.89 67 P **P 06 43 55.8 +0.4**
baz=60,SNR=12
DLMT Dillon 59.93 55 *e*P **P 06 43 55.9 +0.2**
comp=Z,30nm,1.0s,mb5.3
SAO San Andreas Ge 59.94 67 *e*P **P 06 43 57.4 +1.6**
HLID Hailey 60.00 57 *e*P **P 06 43 56.4 +0.1**
comp=Z,32nm,1.4s,mb5.2
HLID LR LR
comp=Z,966nm,19.0s,MS5.0
HLID Hailey 60.00 57 P **P 06 43 56.5 +0.3**
baz=60,SNR=25
M10A I.L. Ranch, Tu 60.01 60 ⇑P **P 06 43 56.8 +0.5**
baz=60,SNR=20
R06C Coleville 60.10 64 ⇑P **P 06 43 57.1 +0.3**
baz=60,SNR=31
HAST UC Hastings Re 60.11 67 ⇓P **P 06 43 57.1 +0.1**
baz=60,SNR=6.4
G15A Dillon 60.11 55 P **P 06 43 56.8 -0.1**
baz=60,SNR=17
MCMT McKenzie Canyo 60.12 55 *e*P **P 06 43 56.5 -0.5**
FCC Fort Churchill 60.13 34 *e*P **P 06 43 56.6 -0.5**
FCC pmax pmax
comp=Z,52nm,1.0s,mb5.5
P08A Dixie Valley 60.21 63 ⇑P **P 06 43 58.1 +0.5**
baz=60
S06C San Francisco 60.25 65 ⇓P **P 06 43 58.0 +0.1**
baz=60,SNR=20
BMN Battle Mountai 60.28 61 *e*P **P 06 43 58.9 +0.8**
BMN pmax pmax
comp=Z,20nm,0.9s,mb5.2
BMN Battle Mountai 60.28 61 PFAKE 06 44 10.0 +12
BMN LR LR
comp=Z,914nm,20.0s,MS4.9
S05C Merced 60.28 66 ⇑P **P 06 43 57.9 -0.3**
baz=60,SNR=13
SUMG Summit 60.30 5 *e*P **P 06 43 58.2 0.0**
O09A Fish Creek Ran 60.46 62 ⇓P **P 06 43 59.7 +0.3**
baz=60,SNR=14
M11A Holland Ranch, 60.51 60 P **P 06 44 00.6 +0.9**
baz=60,SNR=17
THN Thein Dam 60.52 287 *e*P **P 06 44 01.0 +1.2**
N10A Dunphy 60.53 61 ⇓P **P 06 44 00.4 +0.5**
baz=60
V03C Hunter Liggett 60.53 68 ⇑P **P 06 44 00.4 +0.5**
baz=60
ORR Orenburg 60.60 315 *e*P **P 06 44 00.1 -0.2**
ORR MLR MLR
comp=Z,3μm,22.0s,MS5.3
U04C Hernandez Rese 60.61 67 ⇑P **P 06 44 00.8 +0.4**
baz=60,SNR=5.9
R07C Lee Vining 60.62 65 ⇑P **P 06 44 00.9 +0.5**
baz=60,SNR=14
O10A Cortez Mining, 60.80 61 ⇓P **P 06 44 02.0 +0.4**
baz=60,SNR=8.2
Q08A Gabbs 60.82 63 P **P 06 44 02.2 +0.4**
baz=60,SNR=22
NVAR Mina Array Bea 60.86 64 P **P 06 44 02.2 +0.1**
comp=Z,14nm,0.8s,mb5.1,baz=300,slow=7.1,SNR=7.0
NVAR Mina Array Bea 60.86 64 P **P 06 44 02.2 +0.1**
P09A Austin 60.87 62 ⇑P **P 06 44 02.6 +0.5**
baz=61
T06C Millerton Lake 60.88 66 P **P 06 44 01.9 -0.3**
baz=61,SNR=11
KCC Kaiser Creek 60.92 65 P **P 06 44 02.7 +0.2**
baz=61,SNR=13
N11A Elko Archery C 60.93 60 ⇑P **P 06 44 02.6 0.0**
baz=61,SNR=5.0
V04C Ramage Ranch, 61.01 68 ⇑P **P 06 44 03.3 +0.2**
baz=61
PKD Parkfield 61.02 67 ⇓P **P 06 44 03.6 +0.4**
baz=61
MLAC Mammoth Lakes 61.03 65 ⇑P **P 06 44 04.4 +1.2**
baz=61
M12A Wells 61.04 59 ⇑P **P 06 44 03.9 +0.6**
baz=61,SNR=24
P10A Eureka 61.24 62 P **P 06 44 05.2 +0.6**
baz=61,SNR=7.7
ELK Elko 61.27 60 *e*P **P 06 44 08.0 +3.2**
ELK LR LR
comp=Z,1μm,20.0s,MS5.0
YMR Madison River 61.27 54 *e*P **P 06 44 05.2 +0.4**
comp=Z,52nm,1.3s,mb5.5
YMR LR LR
comp=Z,730nm,19.0s,MS4.8
GCMT Greycliff 61.27 53 *e*P **P 06 44 05.2 +0.3**
Q09A Carvers 61.29 63 ⇓P **P 06 44 05.5 +0.4**
baz=61
N12A Clover Valley, 61.32 60 P **P 06 44 05.8 +0.6**
baz=61,SNR=11
NIL Nilore 61.35 290 P **P 06 44 07.3 +1.9**
comp=Z,220nm,1.0s,mb6.2,SNR=8.5
O11A Cowboy Ranch, 61.40 61 P **P 06 44 06.2 +0.4**
baz=61,SNR=13
PTRM Twissleman Ran 61.41 67 *e*P **P 06 44 05.8 0.0**
V05C Boulder Hill, 61.47 67 ⇑P **P 06 44 06.8 +0.6**
baz=61
HELL Mitchell Peak, 61.51 66 P **P 06 44 06.2 -0.3**
baz=61,SNR=32
M13A Montello 61.51 59 P **P 06 44 07.0 +0.4**
baz=61,SNR=20
S08C White Mtn Res 61.52 65 ⇓P **P 06 44 07.1 +0.5**
baz=61,SNR=11
RCTC Rector, Farmer 61.61 66 ⇑P **P 06 44 06.7 -0.4**
baz=61,SNR=6.1
LKWY Lake 61.65 54 *e*P **P 06 44 11.8 +4.4**
LKWY pmax pmax
comp=Z,27nm,0.8s,mb5.4
LKWY Lake 61.65 54 PFAKE 06 44 20.0 +13
LKWY LR LR
comp=Z,977nm,20.0s,MS5.0
P11A Circle Ranch, 61.71 61 ⇓P **P 06 44 08.3 +0.5**
baz=61
R09A Tonopah 61.73 63 P **P 06 44 08.2 +0.1**
baz=61,SNR=36
TPH Tonopah 61.75 64 *e*P **P 06 44 08.8 +0.7**
TPH *e* 06 44 18.6
TPH Tonopah 61.75 64 PFAKE 06 44 20.0 +12
TPH LR LR
comp=Z,475nm,20.0s,MS4.7
SMMC Simmler 61.76 68 ⇑P **P 06 44 08.5 +0.3**
baz=62
TIN Tinemaha 61.77 65 ⇑P **P 06 44 08.7 +0.4**
baz=62
FLWY Flagg Ranch 61.78 55 *e*P **P 06 44 09.4 +1.1**
comp=Z,31nm,1.0s,mb5.4
FLWY *e*PP PP 06 46 24.1 -0.2
N13A Wendover, West 61.81 59 ⇓P **P 06 44 08.7 +0.2**
baz=62,SNR=13
O12A Currie 61.86 60 P **P 06 44 09.2 +0.4**
baz=62,SNR=23
RRI2 Red Ridge 61.90 56 *e*P **P 06 44 09.8 +0.6**
comp=Z,32nm,0.8s,mb5.5
RLMT Red Lodge 61.92 53 *e*P **P 06 44 09.8 +0.6**
comp=Z,26nm,0.9s,mb5.4
NDI New Delhi 61.93 283 *e*P **P 06 44 07.5 -1.8**
NDI AMb AMB 06 44 13.1
NDI *e*S **S 06 52 32.0 -0.7**
S09A Goldfield 61.97 64 P **P 06 44 09.6 0.0**
baz=62,SNR=17
VES Vestal, Richgr 62.01 67 ⇑P **P 06 44 09.1 -0.7**
baz=62,SNR=8.2
HVU Hansel Valley 62.06 58 *e*P **P 06 44 10.0 -0.2**
PKM Peak Mountain 62.14 68 ⇓P **P 06 44 11.2 +0.4**
baz=62
R10A Warm Springs 62.17 63 P **P 06 44 11.2 +0.3**
baz=62,SNR=6.7
Q11A Duckwater 62.21 62 ⇑P **P 06 44 11.0 -0.2**
baz=62,SNR=7.0
CWC Cottonwood Cre 62.25 65 ⇓P **P 06 44 11.4 0.0**
baz=62,SNR=5.9
P12A McGill 62.26 61 ⇑P **P 06 44 11.8 +0.2**
baz=62,SNR=6.4
GRAC Grapevine Rang 62.34 65 ⇓P **P 06 44 12.3 +0.2**
baz=62,SNR=9.8
AHID Auburn Hatcher 62.39 56 PFAKE 06 44 20.0 +7.6
AHID LR LR
comp=Z,651nm,20.0s,MS4.8
DGMT Dagmar 62.43 48 PFAKE 06 44 20.0 +7.3
DGMT LR LR
comp=Z,1μm,22.0s,MS5.0
ISA Isabella 62.50 66 *e*P **P 06 44 12.7 -0.4**
ISA Isabella 62.50 66 PFAKE 06 44 30.0 +17
ISA LR LR
comp=Z,172nm,19.0s,MS4.2
ISA Isabella 62.50 66 ⇓P **P 06 44 12.4 -0.7**
baz=62,SNR=9.4
LAO LASA Array 62.54 50 PFAKE 06 44 30.0 +17
LAO LR LR
comp=Z,1μm,20.0s,MS5.0
TRCR Troy Canyon 62.57 62 *e*P **P 06 44 13.2 -0.4**
Q12A Willow Creek R 62.59 61 ⇓P **P 06 44 13.9 +0.2**
baz=62,SNR=9.5
ARVC Arvin 62.62 67 ⇑P **P 06 44 13.4 -0.5**
baz=62
DAC Darwin (Calif) 62.66 65 *e*P **P 06 44 14.2 0.0**
DAC Darwin (Calif) 62.66 65 PFAKE 06 44 30.0 +16
DAC LR LR
comp=Z,770nm,22.0s,MS4.8
KULM Kulim 62.66 246 *e*P **P 06 44 15.9 +1.7**
BSC Santa Cruz Isl 62.83 68 ⇓P **P 06 44 15.1 -0.2**
baz=63
MPMC Manual Prospec 62.86 65 P **P 06 44 15.7 +0.2**
baz=63,SNR=21
HWUT Hardware Ranch 62.87 57 PFAKE 06 44 30.0 +14
HWUT LR LR
comp=Z,623nm,21.0s,MS4.8
KAKA Kakadu 62.95 205 ⇓*i*P **P 06 44 15.2 -0.9**
comp=Z,25nm,0.6s,mb5.5
FURC Furnace Creek, 62.99 65 P **P 06 44 16.5 +0.1**
baz=63,SNR=24
OSI Osito Adit 63.01 67 ⇓P **P 06 44 16.7 +0.1**
baz=63
DUG Dugway 63.05 59 *e*P **P 06 44 16.9 +0.1**
DUG pmax pmax
comp=Z,21nm,1.0s,mb5.2
DUG Dugway 63.05 59 PFAKE 06 44 30.0 +13
DUG LR LR
comp=Z,734nm,20.0s,MS4.8
DUG Dugway 63.05 59 P **P 06 44 17.0 +0.2**
baz=63,SNR=31
IPM Ipoh 63.06 246 P **P 06 44 22.1 +5.2**
LRMC Laurel Mountai 63.11 66 P **P 06 44 17.0 -0.2**
baz=63,SNR=15
BW06 Boulder Array 63.26 55 PFAKE 06 44 30.0 +12
BW06 LR LR
comp=Z,544nm,19.0s,MS4.8
PDAR Pinedale Array 63.26 55 P **P 06 44 18.1 -0.1**
comp=Z,20nm,0.9s,mb5.2,baz=318,slow=2.0,SNR=68
PDAR LR LR 07 10 29.9
comp=Z,358nm,19.2s,MS4.6,baz=339,slow=35
EDW2 Edwards Air Fo 63.30 67 P **P 06 44 18.6 +0.2**
baz=63,SNR=23
U10A Ash Meadows, A 63.35 64 ⇓P **P 06 44 19.1 +0.3**
baz=63,SNR=12
DECC Green Verdugo 63.49 67 ⇑P **P 06 44 19.2 -0.6**
baz=63
KGM Kluang 63.58 242 P **P 06 44 23.9 +3.5**
MWC Mount Wilson 63.68 67 *e*P **P 06 44 21.4 +0.4**
SHOC Shoshone 63.71 65 P **P 06 44 21.0 -0.2**
baz=63,SNR=8.8
GSC Goldstone 63.77 66 *e*P **P 06 44 21.8 +0.2**
GSC Goldstone 63.77 66 P **P 06 44 21.4 -0.2**
baz=64,SNR=9.8
DAU Daniels Canyon 63.82 58 *e*P **P 06 44 22.7 +0.8**
MPU Maple Canyon 63.85 59 PFAKE 06 44 30.0 +7.9
MPU LR LR
comp=Z,1μm,20.0s,MS5.0
FMP Fort Macarthur 63.87 68 ⇓P **P 06 44 21.8 -0.4**
baz=64
BFSC Mount Baldy St 63.93 67 ⇑P **P 06 44 22.4 -0.2**
baz=64,SNR=8.9
U11A Corn Creek 63.93 64 ⇓P **P 06 44 23.0 +0.4**
baz=64
CIS Catalina Islan 63.99 68 ⇓P **P 06 44 22.7 -0.4**
baz=64
ARUT Antelope Range 64.23 62 P **P 06 44 24.7 +0.1**
ARUT Antelope Range 64.23 62 *e*P **P 06 44 24.4 -0.1**
TUQ Turquoise Mtn. 64.23 65 P **P 06 44 24.8 +0.2**
baz=64,SNR=16
V11A Goodsprings 64.28 64 ⇑P **P 06 44 24.9 0.0**
baz=64,SNR=9.1
BBRC Big Bear Sol-O 64.38 67 ⇑P **P 06 44 25.4 -0.2**
baz=64,SNR=7.5
HEC Hector,Ludlow 64.38 66 P **P 06 44 25.5 0.0**
baz=64,SNR=18
CCUT Cedar City 64.43 62 *e*P **P 06 44 26.3 +0.4**
U12A Valley of Fire 64.44 63 ⇑P **P 06 44 26.1 +0.1**
baz=64
FIA1 FINESS Array S 64.47 336 *e*P **P 06 44 24.8 -1.4**
FINES FINESS Array B 64.47 336 P **P 06 44 25.4 -0.7**
comp=Z,16nm,0.6s,mb5.3,baz=41,slow=7.3,SNR=59
FINES LR LR 07 14 44.3
comp=Z,3μm,21.1s,MS5.4,baz=5.2,slow=38
FINES FINESS Array B 64.47 336 P **P 06 44 25.4 -0.7**
FINES LR LR 07 14 44.3
MVU Marysvale 64.49 60 PFAKE 06 44 40.0 +14
MVU LR LR
comp=Z,769nm,20.0s,MS4.9
MSU Marysvale 64.51 60 *e*P **P 06 44 26.9 +0.5**
SFJD Kangerlussuaq 64.58 11 *i*P **P 06 44 26.7 -0.2**
MURC Murrieta 64.63 67 ⇑P **P 06 44 26.7 -0.5**
baz=64,SNR=9.4
V12A Nelson 64.71 64 ⇑P **P 06 44 27.9 +0.2**
baz=64,SNR=9.4
W12A Dal Nev Ari 64.97 65 ⇑P **P 06 44 29.5 0.0**
baz=65
SRU San Rafael 65.09 59 *e*P **P 06 44 30.4 +0.2**
PFO Pinyon Flat Ob 65.09 67 P **P 06 44 30.1 -0.1**
comp=Z,3.1nm,1.0s,mb4.3,baz=288,slow=4.6,SNR=6.1
PFO Pinyon Flat Ob 65.09 67 PFAKE 06 44 40.0 +10
PFO LR LR
comp=Z,183nm,21.0s,MS4.2
PFO Pinyon Flat Ob 65.09 67 ⇑P **P 06 44 29.5 -0.7**
baz=65
AJM Ajmer 65.10 283 *e*P **P 06 44 29.5 -0.7**
AJM *e*P 06 44 30.0
AJM AMb AMB 06 44 42.8
comp=Z,48nm,1.7s,mb5.3
MOS Moscow 65.12 327 *e*P **P 06 44 29.0 -1.4**
MOS *e* 06 44 38.0
MOS *e* 06 44 49.1
MOS *e*S S 06 53 14.9 +2.5
MOS pmax pmax
comp=Z,1μm,4.2s
MOS pmax pmax
comp=Z,146nm,1.7s,mb5.7
MOS MLR MLR
comp=Z,2μm,22.6s,MS5.2
BELC Belle Mtn. 65.12 66 ⇓P **P 06 44 29.9 -0.5**
baz=65,SNR=6.5
VIS Vishakhapatnam 65.13 270 *e*P **P 06 44 30.8 +0.3**
VIS AMb AMB 06 44 39.0
comp=Z,49nm,1.1s,mb5.4
109C Camp Elliot, M 65.16 68 ⇑P **P 06 44 30.1 -0.5**
baz=65
ULM Lac du Bonnet 65.24 42 P **P 06 44 30.2 -0.9**
comp=Z,13nm,0.8s,mb5.0,baz=308,slow=7.7,SNR=20
ULM LR LR 07 12 40.8
comp=Z,765nm,19.4s,MS4.9,baz=304,slow=36
ULM Lac du Bonnet 65.24 42 *e*P **P 06 44 30.0 -1.1**
comp=Z,23nm,0.9s,mb5.2
ULM LR LR
comp=Z,1μm,19.0s,MS5.2
BHPL Bhopal 65.39 278 *e*P **P 06 44 32.5 +0.4**
BHPL AMb AMB 06 44 39.7
comp=Z,62nm,1.8s,mb5.3
RSSD Black Hills 65.39 51 *e*P **P 06 44 32.0 -0.2**
RSSD pmax pmax
comp=Z,45nm,0.9s,mb5.5
RSSD Black Hills 65.39 51 *e*P **P 06 44 32.0 -0.2**
comp=Z,45nm,0.9s,mb5.5
IRM Iron Mountain 65.55 66 ⇓P **P 06 44 32.9 -0.2**
baz=65,SNR=23
MONP Monument Peak 65.59 67 ⇑P **P 06 44 33.2 -0.2**
baz=65
PSI Prapat 65.67 246 P **P 06 44 35.0 +1.0**
comp=Z,11nm,0.6s,mb5.0,baz=15,slow=3.2,SNR=17

BC3	**Big Chuckw Mtn**	**65.69**	**66**	P		**P**	**06 44 33.7**	**-0.4**
	baz=65,SNR=9.3								
NGP	**Nagpur**	**65.70**	**275**	*e*P		**P**	**06 44 33.6**	**-0.5**
NGP					AMb	AMB	06 44 36.0		
	comp=Z,34nm,1.0s,mb5.3								
W13A	**Hualapai Mount**	**65.71**	**64**	⇓P		**P**	**06 44 34.1**	**-0.2**
	baz=65,SNR=9.0								
DVTC	**Desert V Tower**	**65.94**	**67**	⇓P		**P**	**06 44 35.1**	**-0.7**
	baz=66								
SWSC	**Sam W. Stewart**	**65.95**	**67**	⇓P		**P**	**06 44 35.3**	**-0.4**
	baz=66								
OBN	**Obninsk**	**65.99**	**327**	⇑*i*P		**P**	**06 44 35.5**	**-0.5**
OBN				*i*			06 44 46.2		
OBN				*e*			06 45 03.9		
OBN				*e*			06 46 57.4		
OBN				*e*S		S	06 53 22.9	-0.1	
OBN				*e*SS		SS	06 57 38.4	+0.2	
OBN				pmax		pmax			
	comp=Z,44nm,1.2s,mb5.4								
OBN				MLR		MLR			
	comp=Z,2µm,23.0s,MS5.2								
X13A	**Yucca**	**66.08**	**64**	P		**P**	**06 44 36.6**	**0.0**
	baz=66,SNR=16								
PDMCI	**Parker Dam,Lak**	**66.08**	**65**	⇑P		**P**	**06 44 36.3**	**-0.3**
	baz=66,SNR=19								
W14A	**Seligman**	**66.13**	**64**	P		**P**	**06 44 37.4**	**+0.5**
	baz=66,SNR=19								
Y12C	**Blythe**	**66.21**	**66**	⇓P		**P**	**06 44 37.2**	**-0.2**
	baz=66								
GLA	**Glamis**	**66.48**	**66**	*e*P		**P**	**06 44 39.3**	**+0.1**
GLA	**Glamis**	**66.48**	**66**	P		**P**	**06 44 39.4**	**+0.2**
	baz=66,SNR=11								
AGMN	**Agassiz Refuge**	**66.62**	**44**	*e*P		**P**	**06 44 39.1**	**-1.0**
	comp=Z,48nm,1.0s,mb5.5								
AGMN				*e*PcP		PcP	06 45 08.5	-0.8	
AGMN				LR		LR			
	comp=Z,1µm,20.0s,MS5.1								
W15A	**Williams**	**66.65**	**63**	⇑P		**P**	**06 44 41.0**	**+0.7**
	baz=66,SNR=6.0								
VSU	**Vasula**	**66.71**	**333**	*e*P		**P**	**06 44 39.6**	**-1.0**
X14A	**Yava**	**66.74**	**64**	P		**P**	**06 44 41.2**	**+0.4**
	baz=66,SNR=14								
VRHR	**Novokhopersk**	**66.95**	**321**	*e*P		**P**	**06 44 42.2**	**+0.1**
VRHR				pmax		pmax			
	comp=Z,50nm,0.6s,mb5.7								
VRHR				pmax		pmax			
	comp=N,5.0nm,1.3s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.4s								
WUAZ	**Wupatki**	**66.97**	**62**	*e*P		**P**	**06 44 42.6**	**+0.3**
	comp=E,55nm,1.7s,mb5.3								
WUAZ				LR		LR			
	comp=Z,630nm,19.0s,MS4.8								
WUAZ	**Wupatki**	**66.97**	**62**	⇑P		**P**	**06 44 42.5**	**+0.2**
	baz=67								
Y14A	**Wickenburg**	**67.03**	**65**	P		**P**	**06 44 42.7**	**0.0**
	baz=67,SNR=13								
X15A	**Humboldt**	**67.13**	**64**	P		**P**	**06 44 43.9**	**+0.6**
	baz=67,SNR=21								
CTA	**Charters Tower**	**67.32**	**189**	LR		LR	07 10 26.1		
	comp=Z,745nm,21.5s,MS4.9,baz=10,slow=33								
CTAO	**Charters Tower**	**67.32**	**189**	PFAKE			06 45 00.0	+16	
CTAO				LR		LR			
	comp=Z,699nm,21.0s,MS4.9								
AFI	**Afiamalu**	**67.39**	**145**	LR		LR	07 08 02.0		
	comp=Z,1µm,20.6s,MS5.2,baz=7.2,slow=30								
AFI	**Afiamalu**	**67.39**	**145**	PFAKE			06 45 00.0	+15	
AFI				LR		LR			
	comp=Z,2µm,21.0s,MS5.3								
Z14A	**Wintersburg**	**67.45**	**65**	⇓P		**P**	**06 44 45.1**	**-0.2**
	baz=67								
ISCO	**Idaho Springs**	**67.45**	**55**	*e*P		**P**	**06 44 46.0**	**+0.6**
	comp=Z,17nm,0.9s,mb5.1								
ISCO				LR		LR			
	comp=Z,726nm,19.0s,MS4.9								
MVCO	**Mesa Verde**	**67.55**	**59**	*e*P		**P**	**06 44 45.9**	**-0.1**
	comp=Z,18nm,1.0s,mb5.0								
MVCO				LR		LR			
	comp=Z,627nm,20.0s,MS4.8								
MVCO	**Mesa Verde**	**67.55**	**59**	⇑P		**P**	**06 44 45.8**	**-0.1**
	baz=67,SNR=15								
ABKT	**Ailbek**	**67.84**	**302**	P		**P**	**06 44 48.6**	**+0.8**
	comp=Z,211nm,0.8s,mb6.2,SNR=5.5								
VRSR	**Storozhevoye**	**67.89**	**323**	*e*P		**P**	**06 44 47.8**	**-0.3**
VRSR				pmax		pmax			
	comp=Z,40nm,0.9s,mb5.5								
VRSR				pmax		pmax			
	comp=N,50nm,1.0s								
VRSR				pmax		pmax			
	comp=E,40nm,1.0s								
VRSR				MLR		MLR			
	comp=Z,2µm,23.0s,MS5.2								
VRSR				MLR		MLR			
	comp=N,730nm,19.0s,MS5.2								
VRSR				MLR		MLR			
	comp=E,920nm,17.0s,MS5.2								
115A	**Sonoran Desert**	**68.34**	**65**	⇓P		**P**	**06 44 51.0**	**+0.1**
	baz=68,SNR=11								
NB2	**NORSAR Subarra**	**68.48**	**342**	P		**P**	**06 44 50.7**	**-1.1**
	comp=Z,30nm,0.9s,mb5.3,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.48**	**342**	P		**P**	**06 44 51.2**	**-0.6**
	comp=Z,23nm,0.9s,mb5.2,baz=26,slow=6.3,SNR=28								
NOA				LR		LR	07 19 02.6		
	comp=Z,1µm,19.8s,MS5.2,baz=20,slow=40								
NOA	**NORSAR Array B**	**68.48**	**342**	P		**P**	**06 44 51.2**	**-0.6**
NOA				LR		LR	07 19 02.6		
HYB	**Hyderabad**	**68.61**	**273**	*i* P		**P**	**06 44 53.0**	**+0.4**
HYB	**Hyderabad**	**68.61**	**273**	*e*P		**P**	**06 44 53.0**	**+0.4**
NAO01	**NORSAR Array S**	**68.72**	**342**	*e*P		**P**	**06 44 52.6**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0								
116A	**Eloy**	**68.76**	**65**	⇑P		**P**	**06 44 53.3**	**-0.2**
	baz=68								
EYMN	**Ely**	**68.90**	**42**	*e*P		**P**	**06 44 52.8**	**-1.7**
	comp=Z,18nm,0.9s,mb5.0								
EYMN				LR		LR			
	comp=Z,982nm,20.0s,MS5.0								
SDCO	**Great Sand Dun**	**68.92**	**57**	PFAKE			06 45 10.0	+15	
SDCO				LR		LR			
	comp=Z,742nm,22.0s,MS4.9								
WRAB	**Tennant Creek**	**69.32**	**201**	P		**P**	**06 44 56.3**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,33nm,1.0s,mb5.2								
WRAB	**Tennant Creek**	**69.32**	**201**	*e*P		**P**	**06 44 56.2**	**-0.9**
	comp=Z,23nm,0.9s,mb5.1								
WRAB				LR		LR			
	comp=Z,279nm,22.0s,MS4.5								
WB2	**Warramunga Arr**	**69.33**	**201**	*e*P		**P**	**06 44 55.7**	**-1.4**
WRA	**Warramunga Arr**	**69.33**	**201**	P		**P**	**06 44 56.2**	**-0.9**
	comp=Z,14nm,0.8s,mb4.9,baz=21,slow=7.1,SNR=63								
WRA				LR		LR	07 14 26.5		
	comp=Z,654nm,19.5s,MS4.9,baz=30,slow=35								
DZM	**Mont Dzumac**	**69.48**	**169**	LR		LR	07 11 35.8		
	comp=Z,2µm,19.1s,MS5.3,baz=21,slow=33								
TUC	**Tucson**	**69.50**	**64**	*e*P		**P**	**06 44 58.2**	**+0.1**
TUC				pmax		pmax			
	comp=Z,15nm,1.3s,mb4.8								
TUC				MLR		MLR			
	comp=Z,378nm,20.0s,MS4.6								
TUC	**Tucson**	**69.50**	**64**	*e*P		**P**	**06 44 58.2**	**+0.1**
	comp=Z,14nm,1.3s,mb4.8								
TUC				LR		LR			
	comp=Z,378nm,20.0s,MS4.6								
ECSD	**EROS,Sioux Fal**	**69.51**	**47**	*e*P		**P**	**06 44 57.0**	**-1.3**
	comp=Z,30nm,1.0s,mb5.2								
ECSD				LR		LR			
	comp=Z,928nm,20.0s,MS5.0								
MNK	**Minsk**	**69.59**	**330**	*e*P		**P**	**06 44 54.0**	**-4.7**
KONO	**Kongsberg**	**70.08**	**342**	*e*P		**P**	**06 45 00.1**	**-1.7**
KONO	**Kongsberg**	**70.08**	**342**	P		**P**	**06 45 02.3**	**+0.6**
KONO				pmax		pmax			
	comp=Z,28nm,1.1s,mb5.1								
KONO	**Kongsberg**	**70.08**	**342**	*e*P		**P**	**06 45 00.9**	**-0.8**
	comp=Z,57nm,1.3s,mb5.3								
KONO				LR		LR			
	comp=Z,2µm,21.0s,MS5.3								
MAK	**Makhachkala**	**70.11**	**312**	*e*P		**P**	**06 44 59.2**	**-2.7**
MAK				*e*			06 45 17.5		
MAK				*e*S		S	06 54 05.7	-6.5	
MAK				pmax		pmax			
	comp=Z,216nm,1.6s,mb5.8								
FITZ	**Fitzroy Crossi**	**70.17**	**210**	⇓*i*P		**P**	**06 45 02.1**	**-0.2**
	comp=Z,19nm,1.5s,mb4.8								
FITZ				*i* S		S	06 54 14.3	+1.3	
FITZ	**Fitzroy Crossi**	**70.17**	**210**	P		**P**	**06 45 02.5**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.6,baz=358,slow=6.1,SNR=14								
FITZ				LR		LR	07 10 53.3		
	comp=Z,324nm,21.8s,MS4.5,baz=27,slow=32								
LAZ	**Ladron**	**70.27**	**61**	*e*P		**P**	**06 45 03.3**	**+0.4**
ANMO	**Albuquerque**	**70.30**	**60**	*e*P		**P**	**06 45 03.3**	**+0.2**
	comp=Z,5.9nm,1.0s,mb4.5								
ANMO				LR		LR			
	comp=Z,731nm,19.0s,MS5.0								
POO	**Poona**	**71.04**	**277**	*e*P		**P**	**06 45 07.0**	**-0.6**
POO				AMb		AMB	06 45 44.7		
	comp=Z,44nm,1.3s,mb5.2								
CBKS	**Cedar Bluff**	**71.40**	**53**	PFAKE			06 45 20.0	+10	
CBKS				LR		LR			
	comp=Z,485nm,19.0s,MS4.8								
SUW	**Suwalki**	**71.52**	**333**	*e*P		**P**	**06 45 09.4**	**-1.1**
KAD	**Karad**	**71.67**	**276**	*e*P		**P**	**06 45 11.4**	**+0.1**
KAD				AMb		AMB	06 45 15.8		
	comp=Z,42nm,0.7s,mb5.5								
KIV	**Kislovodsk**	**71.76**	**315**	P		**P**	**06 45 13.1**	**+1.2**
	SNR=9.2								
KIV	**Kislovodsk**	**71.76**	**315**	P		**P**	**06 45 13.1**	**+1.2**
	SNR=9.2								
KIV	**Kislovodsk**	**71.76**	**315**	P		**P**	**06 45 13.1**	**+1.2**
	SNR=9.2								
KIV	**Kislovodsk**	**71.76**	**315**	*e*P		**P**	**06 45 11.5**	**-0.4**
KIV				pmax		pmax			
	comp=Z,72nm,1.0s,mb5.6								
KIV				MLR		MLR			
	comp=Z,2µm,19.0s,MS5.4								
KIV	**Kislovodsk**	**71.76**	**315**	*e*P		**P**	**06 45 12.8**	**+0.8**
	comp=Z,40nm,0.7s,mb5.5								
KIV				LR		LR			
	comp=Z,522nm,21.0s,MS4.8								
ZEI	**Tsey**	**72.05**	**314**	*e*P		**P**	**06 45 13.5**	**-0.2**
ZEI				pmax		pmax			
	comp=Z,19nm,0.9s,mb5.0								
AKASG	**Malin Array Be**	**72.20**	**327**	P		**P**	**06 45 13.3**	**-1.3**
	comp=Z,9.7nm,0.8s,mb4.8,baz=33,slow=6.0,SNR=5.3								
AKASG				LR		LR	07 20 06.2		
	comp=Z,2µm,18.9s,MS5.3,baz=25,slow=38								
AKASG	**Malin Array Be**	**72.20**	**327**	P		**P**	**06 45 13.3**	**-1.3**
AKASG				LR		LR	07 20 06.2		
AKBB	**Malin Array Si**	**72.20**	**327**	P		**P**	**06 45 13.5**	**-1.1**
AKBB	**Malin Array Si**	**72.20**	**327**	*e*P		**P**	**06 45 13.3**	**-1.3**
KIEV	**Kiev**	**72.22**	**327**	*e*P		**P**	**06 45 13.3**	**-1.4**
KIEV				pmax		pmax			
	comp=Z,16nm,0.6s,mb5.1								
KIEV				MLR		MLR			
	comp=Z,2µm,20.0s,MS5.4								
KIEV	**Kiev**	**72.22**	**327**	*e*P		**P**	**06 45 13.3**	**-1.4**
	comp=Z,16nm,0.6s,mb5.1								
KIEV				LR		LR			
	comp=Z,2µm,20.0s,MS5.4								
TBLG	**Delisi**	**72.40**	**313**	P		**P**	**06 45 17.8**	**+2.0**
SCHQ	**Schefferville**	**72.41**	**24**	P		**P**	**06 45 14.7**	**-1.1**
	comp=Z,7.6nm,0.9s,mb4.6,baz=9.6,slow=4.4,SNR=7.6								
SCHQ				LR		LR	07 20 01.9		
	comp=Z,567nm,19.5s,MS4.8,baz=347,slow=38								
SCHQ	**Schefferville**	**72.41**	**24**	*e*P		**P**	**06 45 15.5**	**-0.3**
	comp=Z,19nm,1.0s,mb5.0								
SCHQ				LR		LR			
	comp=Z,1µm,20.0s,MS5.1								
SCIA	**State Center**	**72.55**	**47**	*e*P		**P**	**06 45 16.2**	**-0.4**
	comp=Z,60nm,1.1s,mb5.4								
SCIA				LR		LR			
	comp=Z,1µm,20.0s,MS5.1								
KSU1	**Kansas State U**	**72.88**	**51**	*e*P		**P**	**06 45 16.8**	**-1.8**
	comp=Z,12nm,0.8s,mb4.9								
KSU1				LR		LR			
	comp=Z,956nm,21.0s,MS5.0								
AS31	**Alice Springs**	**73.01**	**201**	*e*P		**P**	**06 45 19.6**	**+0.2**
ASAR	**Alice Springs**	**73.01**	**201**	P		**P**	**06 45 19.4**	**0.0**
	comp=Z,6.0nm,0.6s,mb4.7,baz=18,slow=5.1,SNR=70								
ASAR				LR		LR	07 14 05.3		
	comp=Z,846nm,21.7s,MS5.0,baz=26,slow=33								
AMTX	**Amarillo**	**73.13**	**57**	*e*P		**P**	**06 45 20.0**	**-0.1**
AMTX				LR		LR			
	comp=Z,588nm,20.0s,MS4.9								
MNTX	**Cornudas Mount**	**73.22**	**62**	*e*P		**P**	**06 45 20.5**	**-0.1**
	comp=Z,17nm,1.1s,mb4.9								
MNTX				LR		LR			
	comp=Z,414nm,20.0s,MS4.7								
JFWS	**Jewell Farm**	**73.25**	**44**	PFAKE			06 45 30.0	+9.2	
JFWS				LR		LR			
	comp=Z,1µm,20.0s,MS5.1								
SOC	**Sochi**	**73.44**	**317**	*e*P		**P**	**06 45 22.8**	**+0.9**
SOC				*e*			06 45 34.9		
SOC				*e*			06 48 09.1		
SOC				*e*PPP			06 49 47.7		
SOC				*e*S		S	06 54 50.9	+0.3	
SOC				*e*			06 55 28.1		
SOC				*e*SS		SS	06 59 33.4	+0.4	
SOC				pmax		pmax			
	comp=Z,82nm,1.1s,mb5.6								
SOC				pmax		pmax			
	comp=Z,927nm,4.8s								
SOC				MLR		MLR			
	comp=Z,2µm,17.0s,MS5.5								
ANN	**Anapa**	**73.55**	**319**	*e*P		**P**	**06 45 20.9**	**-1.7**
ANN				*e*S		S	06 54 53.3	+1.5	
ANN				pmax		pmax			
	comp=Z,71nm,1.2s,mb5.5								
GNI	**Garni**	**73.58**	**312**	*e*P		**P**	**06 45 24.1**	**+1.4**
GNI	**Garni**	**73.58**	**312**	LR		LR	07 21 25.0		
	comp=Z,2µm,19.5s,MS5.5,baz=128,slow=39								
GNI	**Garni**	**73.58**	**312**	*e*P		**P**	**06 45 22.4**	**-0.3**
GNI				pmax		pmax			
	comp=Z,66nm,1.5s								
GNI				MLR		MLR			
	comp=Z,2µm,21.0s								
GNI	**Garni**	**73.58**	**312**	*e*P		**P**	**06 45 24.5**	**+1.8**
	comp=Z,31nm,0.8s,mb5.3								
GNI				LR		LR			
	comp=Z,2µm,20.0s,MS5.4								
BCA	**Borcka**	**74.16**	**314**	*e*P		**P**	**06 45 28.5**	**+2.3**
PALK	**Pallekele**	**74.34**	**264**	PFAKE			06 45 40.0	+13	
PALK				LR		LR			
	comp=Z,89nm,19.0s,MS4.1								
MDO	**Dochfour**	**74.56**	**349**	*e*P		**P**	**06 45 32.8**	**+4.3**
CLDR	**Caldiran**	**74.75**	**311**	*e*P		**P**	**06 45 31.5**	**+1.9**
LVV	**L'vov**	**74.79**	**330**	*e*P		**P**	**06 45 29.3**	**-0.5**
LVV				*e*S		S	06 54 54.5	-11	
LVV				MLR		MLR			
	comp=Z,800nm,16.8s,MS5.1								
WMOK	**Wichita Mounta**	**74.88**	**55**	P		**P**	**06 45 29.6**	**-0.7**
WMOK				pmax		pmax			
	comp=Z,21nm,1.3s,mb4.9								
WMOK	**Wichita Mounta**	**74.88**	**55**	*e*P		**P**	**06 45 29.5**	**-0.8**
	comp=Z,21nm,1.3s,mb4.9								
WMOK				LR		LR			
	comp=Z,509nm,19.0s,MS4.8								
SIM	**Simferopol'**	**74.89**	**321**	*e*P		**P**	**06 45 32.1**	**+1.7**
SIM				*e*S		S	06 55 13.0	+6.1	
SIM				pmax		pmax			
	comp=Z,29nm,1.0s,mb5.2								
KSB	**Sheil Bridge**	**74.92**	**349**	*e*P		**P**	**06 45 35.3**	**+4.8**
MBWA	**Marble Bar**	**75.14**	**214**	PFAKE			06 45 40.0	+8.2	
MBWA				LR		LR			
	comp=Z,491nm,22.0s,MS4.8								
KAR1	**Arisaig**	**75.25**	**350**	*e*P		**P**	**06 45 37.4**	**+4.9**
KIS	**Kishinev**	**75.40**	**325**	*e*P		**P**	**06 45 32.0**	**-1.3**
KIS				*e*S		S	06 55 09.0	-3.5	
KIS				*e*PS			06 55 41.0		
KIS				pmax		pmax			
	comp=Z,600nm,3.5s								
KIS				pmax		pmax			
	comp=Z,1µm,6.0s								
KIS				pmax		pmax			
	comp=Z,700nm,6.5s								
KIS	**Kishinev**	**75.40**	**325**	*e*P		**P**	**06 45 32.0**	**-1.3**
	comp=Z,600nm,3.5s								
KIS				*e*S		S	06 55 09.0	-3.5	
KIS				*e*ScS		ScS	06 55 22.0	-24	
KWP	**Kalwaria**	**75.40**	**330**	*e*P		**P**	**06 45 33.6**	**+0.3**
KTUT	**Trabzon**	**75.41**	**315**	*e*P		**P**	**06 45 33.6**	**+0.2**
VANB	**Van**	**75.43**	**311**	*e*P		**P**	**06 45 35.8**	**+2.3**
EZM	**Erzurum**	**75.46**	**314**	*e*P		**P**	**06 45 35.9**	**+2.2**
LPIG	**La Paz**	**75.51**	**70**	P		**P**	**06 45 33.0**	**-0.9**
	comp=Z,9.3nm,0.3s,mb5.2,baz=105,slow=4.9,SNR=3.9								
EAB	**Aberfoyle**	**75.77**	**349**	*e*P		**P**	**06 45 40.2**	**+4.7**
ESY	**Stoneypath**	**75.79**	**347**	*e*P		**P**	**06 45 40.1**	**+4.5**
OJC	**Ojcow**	**75.84**	**332**	*e*P		**P**	**06 45 35.7**	**-0.2**
LTX	**Lajitas**	**75.94**	**62**	*e*P		**P**	**06 45 36.3**	**-0.1**
	comp=Z,33nm,0.8s,mb5.3								
LTX				LR		LR			
	comp=Z,571nm,20.0s,MS4.9								
TXAR	**Lajitas Array**	**75.94**	**62**	P		**P**	**06 45 36.3**	**-0.1**
	comp=Z,32nm,0.8s,mb5.3,baz=302,slow=4.5,SNR=97								
EAU	**Auchinoon**	**75.98**	**348**	*e*P		**P**	**06 45 40.9**	**+4.2**
EBL	**Broad Law**	**75.99**	**348**	*e*P		**P**	**06 45 42.3**	**+5.6**
TRD	**Trivandrum**	**76.00**	**267**	*e*P		**P**	**06 45 37.7**	**+1.0**
TRD					AMb	AMB	06 45 43.4		
	comp=Z,69nm,1.8s,mb5.3								
HAKT	**HAKKARI**	**76.05**	**310**	*i* P		**P**	**06 45 38.0**	**+1.0**
STHS	**Stebnicka Huta**	**76.08**	**331**	*e*P		**P**	**06 45 37.6**	**+0.4**
STHS				*e*pP		pP	06 45 43.4	+0.8	
STHS	**Stebnicka Huta**	**76.08**	**331**	*e*P		**P**	**06 45 37.7**	**+0.5**
STHS				*e*		pP	06 45 43.4	+0.8	
STHS				pmax		pmax			
	comp=Z,20nm,0.6s,mb5.2								
STHS	**Stebnicka Huta**	**76.08**	**331**	*e*P		**P**	**06 45 37.7**	**+0.5**
	comp=Z,20nm,0.6s,mb5.2								
STHS				*e*		pP	06 45 43.4	+0.8	
KOLS	**Kolonicke sedl**	**76.15**	**330**	*e*P		**P**	**06 45 37.2**	**-0.4**
KOLS				*e*PP		PP	06 48 26.8	-1.7	
PGBU	**Glenifferbraes**	**76.16**	**349**	*e*P		**P**	**06 45 42.6**	**+5.0**
PGBU					AMb	AMB	06 45 48.2		
	comp=Z,57nm,2.3s,mb5.1								
BURAR	**Bucovina Array**	**76.24**	**328**	⇓*i*P		**P**	**06 45 37.8**	**-0.3**
BURAR	**Bucovina Array**	**76.24**	**328**	P		**P**	**06 45 38.0**	**-0.1**
BNGL	**BINGOL**	**76.30**	**313**	*i* P		**P**	**06 45 40.3**	**+1.8**
KELT	**Kelkit**	**76.31**	**315**	*i* P		**P**	**06 45 39.5**	**+0.9**
CUKT	**Cukurca**	**76.34**	**310**	*e*P		**P**	**06 45 39.7**	**+1.0**
EZC	**Erzincan**	**76.34**	**314**	*e*P		**P**	**06 45 41.5**	**+2.8**
KSP	**Ksiaz**	**76.36**	**335**	*e*P		**P**	**06 45 39.3**	**+0.5**
KSP	**Ksiaz**	**76.36**	**335**	*e*P		**P**	**06 45 38.4**	**-0.4**
KSP				*e*pP		pP	06 45 43.0	-1.3	
KSP				*e*S		S	06 55 25.5	+2.3	
KSP				LR		LR			
	comp=Z,4µm,26.0s,MS5.6								
NIE	**Niedzica**	**76.38**	**332**	*e*P		**P**	**06 45 39.3**	**+0.4**
UZH	**Uzhgorod**	**76.40**	**330**	*e*P		**P**	**06 45 35.8**	**-3.2**
UZH				*i*			06 45 44.2		
UZH				MLR		MLR			
	comp=Z,2µm,20.0s,MS5.3								
CCM	**Cathedral Cave**	**76.45**	**48**	P		**P**	**06 45 33.2**	**-6.1**
CCM				pmax		pmax			
	comp=Z,68nm,1.8s,mb5.3								
CCM	**Cathedral Cave**	**76.45**	**48**	*e*P		**P**	**06 45 33.0**	**-6.4**
	comp=Z,68nm,1.8s,mb5.3								
CCM				LR		LR			
	comp=Z,719nm,20.0s,MS5.0								
ESK	**Eskdalemuir**	**76.46**	**348**	*e*P		**P**	**06 45 44.1**	**+4.7**
ESK					AMb	AMB	06 45 48.2		
	comp=Z,116nm,1.6s,mb5.5								
ESK	**Eskdalemuir**	**76.46**	**348**	*e*P		**P**	**06 45 42.8**	**+3.4**
ESK				pmax		pmax			
	comp=Z,20nm,0.6s,mb5.2								
ESK	**Eskdalemuir**	**76.46**	**348**	*e*P		**P**	**06 45 42.8**	**+3.4**
	comp=Z,20nm,0.6s,mb5.2								
NRDL	**Niedersach Rie**	**76.53**	**339**	*e*P		**P**	**06 45 38.7**	**-1.1**
ECK	**Cauldkaine Hil**	**76.58**	**348**	*e*P		**P**	**06 45 44.7**	**+4.7**
OKC	**Ostrava-Krasne**	**76.70**	**333**	*e*P		**P**	**06 45 41.0**	**+0.3**
OKC				*e*pP		pP	06 45 46.3	+0.1	
OKC				AMS		AMS	07 24 30.0		
	comp=Z,2µm,16.9s								
OKC	**Ostrava-Krasne**	**76.70**	**333**	*e*P		**P**	**06 45 41.0**	**+0.3**
OKC				*e*		pP	06 45 46.3	+0.1	
BTMT	**Batman**	**76.71**	**312**	*e*P		**P**	**06 45 42.7**	**+1.9**
UPC	**Upice**	**76.74**	**335**	*e*P		**P**	**06 45 41.2**	**+0.2**
XAL	**Allendale**	**76.75**	**347**	*e*P		**P**	**06 45 45.1**	**+4.0**
AAM	**Ann Arbor**	**76.78**	**41**	PFAKE			06 45 50.0	+8.8	
AAM				LR		LR			
	comp=Z,693nm,20.0s,MS5.0								
DPC	**Dobruska-Polom**	**76.79**	**335**	*e*P		**P**	**06 45 41.2**	**-0.1**
DPC				*e*pP		pP	06 45 47.0	+0.3	
DPC				AMS		AMS	07 25 30.0		
	comp=Z,2µm,15.9s								
CLL	**Collm**	**76.87**	**337**	*e*P		**P**	**06 45 40.9**	**-0.8**
CLL	**Collm**	**76.87**	**337**	*e*P		**P**	**06 45 42.0**	**+0.3**
CLL				pmax		pmax			
	comp=Z,33nm,0.9s,mb5.3								
CLL				MLR		MLR			
	comp=Z,2µm,20.8s,MS5.5								
CLL	**Collm**	**76.87**	**337**	*e*P		**P**	**06 45 42.0**	**+0.3**
	comp=Z,33nm,0.9s,mb5.3								
CLL				LR		LR			
	comp=Z,2µm,20.8s,MS5.5								
CLL	**Collm**	**76.87**	**337**	⇓*e*P		**P**	**06 45 41.1**	**-0.6**
	comp=Z,33nm,0.9s,mb5.3								
CLL				*i* pP		pP	06 45 47.0	-0.1	
	comp=Z,132nm,1.5s								
CLL				*e*S		S	06 55 30.0	+1.3	
CLL				*e*SS		SS	07 00 42.0	+17	
FVM	**French Village**	**76.92**	**48

PSZ Piszkesteto 77.82 331⇑ eP P 06 45 47.9 +0.9
DRGR 77.83 329⇑ iP P 06 45 46.5 -0.6
DRGR 77.83 329 P P 06 45 47.2 +0.1
MOX Moxa 77.84 337 eP P 06 45 46.9 -0.2
MOX Moxa 77.84 337 eP P 06 45 46.5 -0.6
comp=Z,32nm,1.3s,mb5.1
MOX e pP 06 45 53.0 +0.4
MOX
comp=Z,1μm,22.0s
MOX Moxa 77.84 337 eP P 06 45 46.5 -0.6
MOX e pP 06 45 53.0 +0.4
MOX pmax pmax
comp=Z,32nm,1.3s,mb5.1
MOX MLR MLR
comp=Z,1μm,22.0s,MS5.2
BALT Daday 77.94 319 i P P 06 45 48.8 +1.1
NKC Novy Kostel 77.99 337 eP P 06 45 47.9 -0.1
NKC epP pP 06 45 52.7 -0.7
NKC AMS AMS 07 22 50.0
comp=Z,2μm,25.6s
NKC Novy Kostel 77.99 337 eP P 06 45 47.9 -0.1
NKC e pP 06 45 52.7 -0.7
SMOL Smolenice 78.09 333 eP P 06 45 48.8 +0.3
UBBA Unterbreizbach 78.09 338 eP P 06 45 48.3 -0.2
MYA Malataya 78.13 314 eP P 06 45 50.4 +1.7
VOIR 78.14 327⇑ iP P 06 45 49.3 +0.5
VOIR 78.14 327 ⇑P P 06 45 49.3 +0.5
MALT Malatya 78.14 314⇓ iP P 06 45 50.6 +1.8
MALT Malatya 78.14 314 P P 06 45 50.4 +1.6
MALT pmax pmax
comp=Z,78nm,1.3s,mb5.5
MALT Malatya 78.14 314 P P 06 45 50.5 +1.7
BUG Bochum--Univer 78.18 340 eP P 06 45 48.8 -0.2
KBI1 Birley Grange 78.19 346 eP P 06 45 53.1 +4.1
MANZ Manzenberg 78.31 337 eP P 06 45 49.7 0.0
CORM Corum 78.47 318 eP P 06 45 51.2 +0.6
ZST Bratislava 78.47 333 eP P 06 45 51.2 +0.6
ZST pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZST MLR MLR
comp=Z,3μm,19.9s,MS5.6
ZST Bratislava 78.47 333 eP P 06 45 51.2 +0.6
comp=Z,14nm,0.9s,mb4.9
ZST LR LR
comp=Z,3μm,19.9s,MS5.6
KWE Weaver Farm 78.47 346 eP P 06 45 54.6 +3.9
ROTZ Rotzenmuhle 78.48 337 eP P 06 45 51.0 +0.3
BUD Budapest 78.49 332⇑ eP P 06 45 51.7 +1.0
SAFT Safranbolu 78.49 320 eP P 06 45 51.5 +0.7
URFA Urfa 78.63 313 eP P 06 45 53.1 +1.6
LONY Lake Ozonia 78.64 34 PFAKE 06 46 00.0 +8.4
LONY LR LR
comp=Z,476nm,19.0s,MS4.8
KHC Kasperske Hory 78.68 336 eP P 06 45 52.1 +0.3
KHC epP pP 06 45 57.8 +0.6
KHC AMS AMS 07 23 00.0
comp=Z,4μm,21.2s
ELDT Eldivan 78.77 319 i P P 06 45 53.1 +0.8
WCI Wyandotte Cave 78.78 45 eP P 06 45 51.3 -1.0
WCI pmax pmax
comp=Z,17nm,0.8s,mb5.0
WCI MLR MLR
comp=Z,611nm,19.0s,MS5.0
WCI Wyandotte Cave 78.78 45 eP P 06 45 51.3 -1.0
comp=Z,17nm,0.8s,mb5.0
WCI LR LR
comp=Z,611nm,19.0s,MS5.0
SBD1 Bryn Du 78.80 347 eP P 06 45 58.2 +5.7
GRA1 Grafenberg Arr 78.81 337 eP P 06 45 52.6 +0.1
comp=Z,64nm,0.7s,mb5.7
GRA1 eS S 06 55 52.6 +2.9
GRA1 LR LR
comp=Z,2μm,21.6s,MS5.4
GRF Grafenberg Arr 78.81 337 eP P 06 45 52.9 +0.4
comp=Z,64nm,0.7s,mb5.7
GRF Grafenberg Arr 78.81 337 eP P 06 45 52.6 +0.1
comp=Z,64nm,0.7s,mb5.7
GRF eS S 06 55 52.6 +2.9
GRF eL 07 23 58.7
comp=Z,2μm,21.6s
GRF Grafenberg Arr 78.81 337 eP P 06 45 52.6 +0.1
GRF eS S 06 55 52.6 +2.9
GRF pmax pmax
comp=Z,64nm,0.7s,mb5.7
GRF MLR MLR
comp=Z,2μm,21.6s,MS5.4
GRF Grafenberg Arr 78.81 337 eP P 06 45 52.6 +0.1
GRF eS S 06 55 52.6 +2.9
GRF pmax pmax
comp=Z,64nm,0.7s,mb5.7
GRF MLR MLR
comp=Z,2μm,21.6s,MS5.4
GRF Grafenberg Arr 78.81 337 eP P 06 45 52.6 +0.1
comp=Z,64nm,0.7s,mb5.7
GRF eS S 06 55 52.6 +2.9
GRF LR LR
comp=Z,2μm,21.6s,MS5.4
GRFO Grafenberg 78.81 337 eP P 06 45 53.1 +0.6
comp=Z,36nm,0.6s,mb5.5
GRFO LR LR
comp=Z,2μm,21.0s,MS5.4
WET Wettzell 78.86 336 eP P 06 45 53.1 +0.3
DLF Lyons Farm 78.89 349 eP P 06 45 56.0 +3.1
GEC2 GERESS Array S 78.90 335 eP P 06 45 52.9 -0.1
GERES GERESS Array B 78.90 335 P P 06 45 52.9 -0.1
comp=Z,3.3nm,0.7s,mb4.4,baz=34,slow=5.0,SNR=21
GERES LR LR 07 23 45.9
comp=Z,3μm,20.7s,MS5.6,baz=19,slow=38
DCN Croghan 78.93 350 eP P 06 45 57.0 +3.8
BHD Baghdad 78.94 307 ex x 06 45 49.0
BHD Baghdad 78.94 307 ex x 06 55 50.0
RAR Rarotonga 78.99 138 LR LR 07 12 12.0
comp=Z,849nm,20.7s,MS5.1,baz=90,slow=29
GZR Gura Zlata 79.01 328⇓ iP P 06 45 54.2 +0.6
GZR Gura Zlata 79.01 328 P P 06 45 53.7 +0.1
TNS Taunus Mts 79.03 339 eP P 06 45 53.9 +0.2
CDAG Cicekdag 79.03 318 i P P 06 45 54.1 +0.4
BSY Bisya 79.08 292 P P 06 45 55.3 +1.3
SNR=6.6
BSY Bisya 79.08 292 P P 06 45 55.3 +1.3
SNR=6.6
ARQ Araqi 79.08 292 P P 06 45 54.9 +0.9
SNR=8.8
ARQ Araqi 79.08 292 P P 06 45 54.9 +0.9
SNR=8.8
CONA Conrad Observa 79.09 334⇓ iP P 06 45 54.7 +0.7
comp=Z,20nm,0.8s,mb5.1,SNR=12
SOP Sopron 79.09 333⇓ eP P 06 45 54.8 +0.8
HGN Heimansgroeve 79.11 341 eP P 06 45 54.4 +0.3
comp=Z,55nm,1.3s,mb5.3
BEBN Eben Emael 79.14 341 XP sP 06 45 59.6 -2.1
BZS Buzias 79.23 329⇑ iP P 06 45 54.7 -0.1
BZS Buzias 79.23 329 P P 06 45 54.6 -0.2
MEM Membach 79.24 341 P P 06 45 54.9 0.0
MEM XP sP 06 45 59.8 -2.5
MEM E 06 46 08.3
BR131 Keskin Array S 79.28 318 eP P 06 45 55.4 +0.3
comp=Z,6.1nm,0.6s,mb4.7
BRTR Keskin Array B 79.28 318 LR LR 07 29 12.3
comp=Z,710nm,19.6s,MS5.0,baz=212,slow=42
NCB Newcomb 79.33 34 PFAKE 06 46 10.0 +15
NCB LR LR
comp=Z,620nm,19.0s,MS5.0
AVNT Avonos 79.48 317 i P P 06 45 56.5 +0.3
TOD Tromm 79.51 339 eP P 06 45 56.4 +0.1
KMRS Kahramanmaras 79.52 315 eP P 06 45 57.7 +1.4
ZIMR 79.53 326 P P 06 46 02.1 +5.7
STKA Stephens Creek 79.53 192 P P 06 45 55.6 -0.8
comp=Z,2.7nm,0.8s,baz=344,slow=10,SNR=4.5
STKA LR LR 07 21 39.4
comp=Z,1μm,19.7s,baz=26,slow=36
ANTO Ankara 79.55 319 eP P 06 45 57.4 +0.8
ANTO Ankara 79.55 319 P P 06 45 57.7 +1.1
SNR=15
ANTO Ankara 79.55 319 eP P 06 45 56.9 +0.4
ANTO pmax pmax
comp=Z,45nm,1.0s,mb5.3
ANTO MLR MLR
comp=Z,948nm,21.0s,MS5.1
ANTO Ankara 79.55 319 eP P 06 45 56.9 +0.4
comp=Z,45nm,1.0s,mb5.3
ANTO LR LR
comp=Z,948nm,21.0s,MS5.1
ABH Alteburg 79.56 340 eP P 06 45 55.3 -1.3

BCLA Clavier 79.58 341 P P 06 45 56.4 -0.2
BCLA XP sP 06 46 02.9 -1.2
TAOE Nuku Hiva Isla 79.58 115 eLR LR 07 10 17.7
comp=Z,6μm,22.7s,baz=326
GAZ Gaziantep 79.63 314 eP P 06 45 58.3 +1.3
RAO Raoul Island 79.63 157 LR LR 07 18 46.7
comp=Z,850nm,18.6s,MS5.1,baz=4.2,slow=34
RAO Raoul Island 79.63 157 PFAKE 06 46 10.0 +13
RAO LR LR
comp=Z,2μm,21.0s,MS5.4
MOA Molln 79.64 335⇓ iP P 06 45 57.2 +0.2
comp=Z,24nm,1.1s,mb5.0
WVT Waverly 79.67 47 PFAKE 06 46 10.0 +13
WVT LR LR
comp=Z,812nm,20.0s,MS5.1
SNF Seneffe 79.71 342 P P 06 45 55.9 -1.5
SNF AP pP 06 45 57.7 -5.2
SNF XP sP 06 46 00.2 -4.6
SNF PCP PcP 06 46 03.8 -1.4
PKSM Moragy 79.73 331⇓ iP P 06 45 56.6 -0.9
PKSM Moragy 79.73 331 P P 06 45 57.3 -0.2
ARSA Arzberg 79.80 334⇓ iP P 06 45 58.2 +0.3
comp=Z,14nm,0.8s,mb5.0
UMR Umm Al-Rimmam 79.86 303 eP P 06 45 58.3 +0.1
UMR AMb AMB 06 46 02.6
comp=Z,136nm,1.2s,mb5.8
MIB Mutribah 79.89 303 eP P 06 45 58.6 +0.2
MIB AMb AMB 06 46 06.2
comp=Z,198nm,0.7s,mb6.2
PVL Pavlikeni 79.91 325 P P 06 46 04.0 +5.5
LBNH Lisbon 79.96 33 PFAKE 06 46 10.0 +11
LBNH LR LR
comp=Z,751nm,20.0s,MS5.0
GIVF Givet 79.98 341 eP P 06 45 58.8 -0.1
PKME Peaks-Kenny Pk 80.01 30 PFAKE 06 46 10.0 +11
PKME LR LR
comp=Z,855nm,20.0s,MS5.1
DOU Dourbes 80.04 341 P P 06 45 59.6 +0.4
DOU AP pP 06 46 02.3 -2.4
DOU XP sP 06 46 05.6 -1.1
KLYT Kilyos 80.05 322 eP P 06 45 59.3 0.0
KOZT Kozan 80.06 315 eP P 06 46 00.3 +1.0
HKT Hockley 80.09 57 PFAKE 06 46 10.0 +11
HKT LR LR
comp=Z,646nm,19.0s,MS5.0
WLF Walferdange 80.09 340 eP P 06 46 07.1 +7.6
WLF Walferdange 80.09 340 E P 06 46 02.6 +3.2
OXF Oxford 80.12 49 PFAKE 06 46 10.0 +10
OXF LR LR
comp=Z,605nm,22.0s,MS4.9
BINY Binghamton 80.13 36 PFAKE 06 46 10.0 +10
BINY LR LR
comp=Z,595nm,19.0s,MS5.0
BAIF Baives 80.16 342 eP P 06 46 00.0 +0.2
KBD Kabd 80.16 302 eP P 06 46 00.5 +0.6
KBD AMb AMB 06 46 07.9
comp=Z,245nm,0.6s,mb6.3
FUR Furstenfeldbru 80.19 337 eP P 06 46 00.4 +0.4
ISK Istanbul-Kandi 80.20 322 eP P 06 45 59.8 -0.3
LANF Langenberg 80.34 339 eP P 06 46 01.2 +0.4
QRN Al-Qurain 80.35 302 eP P 06 46 01.3 +0.5
NAY Al-Naaiem 80.36 303 eP P 06 46 01.1 +0.2
NAY AMb AMB 06 46 06.6
comp=Z,60nm,1.5s,mb5.3
RDF Al-Radifah 80.43 302 eP P 06 46 01.6 +0.4
RDF AMb AMB 06 46 05.7
comp=Z,181nm,1.4s,mb5.8
ADVT Abdulvahap 80.44 321 eP P 06 46 01.1 -0.2
PLAL Pickwick Lake 80.44 48 PFAKE 06 46 10.0 +8.7
PLAL LR LR
comp=Z,824nm,22.0s,MS5.0
PERS Pernice 80.47 334 eP P 06 46 01.5 0.0
YLV Yalova 80.48 321 eP P 06 46 01.2 -0.4
KBA Koelnbreinsper 80.60 335⇓ iP P 06 46 03.1 +0.9
comp=Z,82nm,0.7s,mb5.8,SNR=25
KBA Koelnbreinsper 80.60 335 P P 06 46 03.1 +0.9
KARA Karaisali 80.60 316 eP P 06 46 03.2 +1.0
MCWV Mont Chateau 80.61 40 PFAKE 06 46 10.0 +7.7
MCWV LR LR
comp=Z,1μm,20.0s,MS5.3
SSPA Standing Stone 80.65 38 PFAKE 06 46 10.0 +7.5
SSPA LR LR
comp=Z,663nm,19.0s,MS5.0
GEMT Gemlik 80.67 321 eP P 06 46 02.5 -0.1
KVTX Kingsville 80.69 60 PFAKE 06 46 10.0 +7.3
KVTX LR LR
comp=Z,632nm,20.0s,MS5.0
ESKT Eskisehir 80.70 320 eP P 06 46 03.2 +0.4
ESKT Eskisehir 80.70 320 i P P 06 46 02.8 0.0
OBKA Obir 80.76 334⇑ eP P 06 46 00.0 -3.0
comp=Z,18nm,0.7s,mb5.1
DOBS Dobrina 80.80 333 eP P 06 46 06.2 +2.9
BFO Black Forest 80.81 338 PFAKE 06 46 10.0 +6.7
BFO LR LR
comp=Z,657nm,22.0s,MS4.9
WATA Walderalm 80.87 336⇑ iP P 06 46 04.6 +0.9
comp=Z,23nm,0.6s,mb5.3
WTTA Wattenberg 80.92 336⇓ iP P 06 46 04.7 +0.8
comp=Z,53nm,0.7s,mb5.6,SNR=12
KDHN Kadinhani 80.95 318 i P P 06 46 03.9 -0.2
WLS Welschbruch 80.98 339 eP P 06 46 04.6 +0.4
MOTA Moosalm 80.99 336⇓ iP P 06 46 05.1 +0.8
comp=Z,122nm,1.2s,mb5.7,SNR=19
CDF Champ du Feu 81.00 339 eP P 06 46 04.4 +0.1
comp=Z,65nm,1.0s,mb5.2
CDF Champ du Feu 81.00 339 eP P 06 46 04.4 +0.1
CDF pmax pmax
comp=Z,33nm,1.0s,mb5.2
CDF Champ du Feu 81.00 339 eP P 06 46 04.4 +0.1
comp=Z,32nm,1.0s,mb5.2
PPT Papeete 81.02 128 eS S 06 56 08.9 -4.1
comp=Z,2μm,31.5s
PPT eLR LR 07 11 01.1
comp=Z,3μm,22.5s,baz=324
PPT Papeete 81.02 128 LR LR 07 14 20.9
comp=Z,1μm,20.1s,MS5.3,baz=288,slow=30
SQTA Sankt Quirin 81.08 336⇓ iP P 06 46 05.5 +0.7
comp=Z,58nm,1.1s,mb5.4
DIVS Divcibare 81.12 329 i P P 06 46 04.6 -0.4
DIVS Divcibare 81.12 329 eP P 06 46 04.0 -1.1
MERS Mersin 81.17 316 eP P 06 46 05.4 +0.2
MFT Murefte 81.18 323 eP P 06 46 05.2 -0.1
KDZ Kurdzhali 81.20 325 eP P 06 46 11.0 +5.6
ECH Echery 81.21 339 eP P 06 46 04.6 -0.9
VTS Vitosha 81.26 326 eP P 06 46 05.8 +0.1
VTS Vitosha 81.26 326⇑ iP P 06 46 04.8 -0.9
VTS Vitosha 81.26 326 P P 06 46 06.0 +0.3
SART Tekirdag 81.30 323 i P P 06 46 05.7 -0.2
RKY Sarkoy-Tekirda 81.30 323 eP P 06 46 06.2 +0.2
KONT Konya--Tatoy 81.31 318 eP P 06 46 06.3 +0.3
FELD Feldberg im Sc 81.31 339 eP P 06 46 04.0 -2.0
DAVA Damuels 81.38 337⇓ iP P 06 46 06.8 +0.5
comp=Z,69nm,1.1s,mb5.5,SNR=8.7
MEZF Maizieres J'vi 81.44 341 eP P 06 46 07.1 +0.4
THEF They Montfort 81.48 340 eP P 06 46 07.0 +0.1
MOF Molkenrain 81.55 339 eP P 06 46 07.2 -0.1
ALN Alexandroupoli 81.59 324 eP P 06 46 06.7 -0.8
HRV Harvard--Oak R 81.59 33 PFAKE 06 46 20.0 +13
HRV LR LR
comp=Z,427nm,22.0s,MS4.8
HAU Haudompre 81.60 340 eP P 06 46 07.4 -0.1
HAU eR
comp=Z,591nm,18.8s
HAU Haudompre 81.60 340 eP P 06 46 07.4 -0.1
HAU LR LR
comp=Z,590nm,18.8s,MS5.0
SHUT Suhut-Afyon 81.63 319 eP P 06 46 08.2 +0.5
HINF Hinteralfeld 81.65 339 eP P 06 46 07.5 -0.3
comp=Z,42nm,1.0s,mb5.0
HINF Hinteralfeld 81.65 339 eP P 06 46 07.5 -0.3
HINF pmax pmax
comp=Z,21nm,1.0s,mb5.0
HINF Hinteralfeld 81.65 339 eP P 06 46 07.5 -0.3
comp=Z,21nm,1.0s,mb5.0
GDZ Gediz 81.66 320 i P P 06 46 07.8 -0.1
WES Weston 81.78 33 PFAKE 06 46 20.0 +12
WES LR LR
comp=Z,766nm,20.0s,MS5.1
CANB Canakkale 81.91 323 eP P 06 46 08.6 -0.5
MMB Musomiste 81.92 326 P P 06 46 10.0 +0.8
IKL Isikli 82.08 316 eP P 06 46 09.7 -0.3
FLN La Foliniere 82.33 344 eP P 06 46 11.7 +0.3
comp=Z,123nm,1.1s,mb5.4
FLN eR
comp=Z,2μm,21.0s
FLN La Foliniere 82.33 344 eP P 06 46 11.7 +0.3
FLN pmax pmax
comp=Z,62nm,1.1s,mb5.5
FLN MLR MLR
comp=Z,2μm,21.0s,MS5.4
FLN La Foliniere 82.33 344 eP P 06 46 11.7 +0.3
comp=Z,62nm,1.1s,mb5.5
FLN LR LR
comp=Z,2μm,21.0s,MS5.4
BLA Blacksburg 82.36 42 PFAKE 06 46 20.0 +8.5
BLA LR LR
comp=Z,516nm,20.0s,MS4.9
EZN Ezine 82.38 323 eP P 06 46 11.2 -0.5
STIP Stip 82.42 327 eP P 06 46 08.0 -3.8
LDF La Druitiere 82.43 344 eP P 06 46 12.1 +0.2
SKO Skopje 82.45 327 eP P 06 46 09.5 -2.5
BOZC Bozcaada 82.48 323 i P P 06 46 10.9 -1.2
VAY Valandovo 82.59 326 eP P 06 46 11.1 -1.7
KNT Kendrikon 82.61 326 eP P 06 46 12.1 -0.7
GRR Gorron 82.76 344 eP P 06 46 14.3 +0.7
comp=Z,210nm,1.3s,mb5.7
GRR Gorron 82.76 344 eP P 06 46 14.3 +0.7
GRR pmax pmax
comp=Z,105nm,1.3s,mb5.7
GRR Gorron 82.76 344 eP P 06 46 14.3 +0.7
comp=Z,105nm,1.3s,mb5.7
LOS Limnos 82.80 324 eP P 06 46 12.8 -1.0
LOR Lormes 82.87 341 eP P 06 46 14.3 +0.1
comp=Z,211nm,1.4s,mb5.7
LOR eR
comp=Z,3μm,21.8s
LOR Lormes 82.87 341 eP P 06 46 14.3 +0.1
LOR pmax pmax
comp=Z,105nm,1.4s,mb5.7
LOR MLR MLR
comp=Z,3μm,21.8s,MS5.7
LOR Lormes 82.87 341 eP P 06 46 14.3 +0.1
comp=Z,105nm,1.4s,mb5.7
LOR LR LR
comp=Z,3μm,21.8s,MS5.7
CBN Corbin 82.89 39 PFAKE 06 46 30.0 +16
CBN LR LR
comp=Z,690nm,21.0s,MS5.0
CABF La Chapelle 82.97 339 eP P 06 46 15.0 +0.3
comp=Z,72nm,1.1s,mb5.3
CABF La Chapelle 82.97 339 eP P 06 46 15.0 +0.3
CABF pmax pmax
comp=Z,36nm,1.0s,mb5.4
CABF La Chapelle 82.97 339 eP P 06 46 15.0 +0.3
comp=Z,36nm,1.0s,mb5.4
GRG Griva 82.97 326 eP P 06 46 14.6 -0.1
HORT Hortiatis 83.01 325 eP P 06 46 13.1 -1.9
THE Thessaloniki 83.03 326 eP P 06 46 14.8 -0.3
KRUS Krusevo 83.05 327 eP P 06 46 11.6 -3.5
SSF Saint Saulge 83.14 341 eP P 06 46 15.8 +0.2
comp=Z,39nm,0.9s,mb5.1
SSF Saint Saulge 83.14 341 eP P 06 46 15.8 +0.2
SSF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SSF Saint Saulge 83.14 341 eP P 06 46 15.8 +0.2
comp=Z,20nm,0.9s,mb5.1
SGMF Saint Gilles 83.19 345 eP P 06 46 16.6 +0.7
comp=Z,79nm,0.9s,mb5.5
SGMF Saint Gilles 83.19 345 eP P 06 46 16.6 +0.7
SGMF pmax pmax
comp=Z,40nm,0.9s,mb5.5
SGMF Saint Gilles 83.19 345 eP P 06 46 16.6 +0.7
comp=Z,40nm,0.9s,mb5.4
ROSF Rostrenen 83.23 346 eP P 06 46 16.9 +0.8
comp=Z,255nm,1.4s,mb5.8
ROSF Rostrenen 83.23 346 eP P 06 46 16.9 +0.8
ROSF pmax pmax
comp=Z,127nm,1.4s,mb5.8
ROSF Rostrenen 83.23 346 eP P 06 46 16.9 +0.8
comp=Z,127nm,1.4s,mb5.8
BLCB Balcova 83.29 322 eP P 06 46 15.6 -0.8
BLCB Balcova 83.29 322 eP P 06 46 14.9 -1.5
BIA Bitola 83.32 327 eP P 06 46 14.6 -1.9
PAIG Paliouri 83.36 325 eP P 06 46 15.4 -1.3
ELL Elmali 83.41 319 eP P 06 46 17.2 +0.2
AVF Avril sur Loir 83.43 341 eP P 06 46 17.0 -0.1
comp=Z,138nm,1.2s,mb5.6
AVF Avril sur Loir 83.43 341 eP P 06 46 17.0 -0.1
AVF pmax pmax
comp=Z,69nm,1.2s,mb5.6
AVF Avril sur Loir 83.43 341 eP P 06 46 17.0 -0.1
comp=Z,69nm,1.2s,mb5.6
OHR Ohrid 83.44 327 eP P 06 46 15.3 -1.9
SMF Signal de Mont 83.46 341 eP P 06 46 17.0 -0.2
comp=Z,320nm,1.5s,mb5.8
SMF Signal de Mont 83.46 341 eP P 06 46 17.0 -0.2
SMF pmax pmax
comp=Z,160nm,1.5s,mb5.8
SMF Signal de Mont 83.46 341 eP P 06 46 17.0 -0.2
comp=Z,160nm,1.5s,mb5.8
URLA Izmir 83.50 322 i P P 06 46 15.2 -2.3
QUIF Quistinic 83.62 346 eP P 06 46 18.7 +0.6
LIT Litokhoron 83.68 326 eP P 06 46 18.0 -0.3
BGF Bois d'Agland 83.76 341 eP P 06 46 18.8 0.0
comp=Z,34nm,0.8s,mb5.2
BGF Bois d'Agland 83.76 341 eP P 06 46 18.8 0.0
BGF pmax pmax
comp=Z,17nm,0.8s,mb5.2
BGF Bois d'Agland 83.76 341 eP P 06 46 18.8 0.0
comp=Z,17nm,0.8s,mb5.2
YER Yerkesik 83.81 320 eP P 06 46 19.5 +0.5
LPL La Plagne 83.83 338 eP P 06 46 19.9 +0.8
comp=Z,47nm,0.7s,mb5.4
LPL La Plagne 83.83 338 eP P 06 46 19.9 +0.8
LPL pmax pmax
comp=Z,23nm,0.7s,mb5.4
LPL La Plagne 83.83 338 eP P 06 46 19.9 +0.8
comp=Z,23nm,0.7s,mb5.4
LPG La Plagne 83.84 338 eP P 06 46 20.2 +1.0
comp=Z,133nm,1.0s,mb5.7
LPG La Plagne 83.84 338 eP P 06 46 20.2 +1.0
LPG pmax pmax
comp=Z,67nm,1.0s,mb5.7
LPG La Plagne 83.84 338 eP P 06 46 20.2 +1.0
comp=Z,67nm,1.0s,mb5.7
FETY Fethiye 83.87 319 eP P 06 46 19.0 -0.3
MLSB Milas 83.89 321 eP P 06 46 19.7 +0.2
DALT Dalyan (Mudla) 83.95 320 eP P 06 46 19.8 0.0
GOGA Godfrey 84.00 46 PFAKE 06 46 30.0 +10
GOGA LR LR
comp=Z,640nm,20.0s,MS5.0
BRAL Brewton 84.09 50 PFAKE 06 46 30.0 +10
BRAL LR LR
comp=Z,870nm,19.0s,MS5.2
PLDF La Plantade 84.15 341 eP P 06 46 21.5 +0.7
TCF Toulx Ste Croi 84.16 342 eP P 06 46 21.4 +0.6
comp=Z,32nm,0.8s,mb5.2
TCF Toulx Ste Croi 84.16 342 eP P 06 46 21.4 +0.6
TCF pmax pmax
comp=Z,16nm,0.8s,mb5.2
TCF Toulx Ste Croi 84.16 342 eP P 06 46 21.4 +0.6
comp=Z,16nm,0.8s,mb5.2
AGO Saint Agoulin 84.18 341 eP P 06 46 21.1 +0.2
GDM Grand'Maison 84.28 339 eP P 06 46 22.6 +1.2
GDM Grand'Maison 84.28 339 eP P 06 46 22.1 +0.7
BNI Bardonecchia 84.28 338 eP P 06 46 21.8 +0.4
BNI pmax pmax
comp=Z,114nm,1.5s,mb5.8
BNI Bardonecchia 84.28 338 eP P 06 46 21.8 +0.4
comp=Z,114nm,1.5s,mb5.8
GRN Grenoble 84.33 339 eP P 06 46 23.1 +1.4
GRN Grenoble 84.33 339 eP P 06 46 22.6 +0.9
MFF Saint Martin d 84.34 343 eP P 06 46 21.9 +0.2
DAT Datca 84.45 320 eP P 06 46 21.5 -0.8
MBDF Montbardon 84.56 338 eP P 06 46 23.0 +0.2
comp=Z,21nm,0.5s,mb5.2
MBDF Montbardon 84.56 338 eP P 06 46 23.0 +0.2
MBDF pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
MBDF Montbardon 84.56 338 eP P 06 46 23.0 +0.2
comp=Z,10nm,0.5s,mb5.2
ORIF Oris-en-Rattie 84.60 339 eP P 06 46 23.8 +0.7
comp=Z,58nm,0.8s,mb5.4
ORIF eR
comp=Z,809nm,19.5s
ORIF Oris-en-Rattie 84.60 339 eP P 06 46 23.8 +0.7
ORIF pmax pmax
comp=Z,29nm,0.8s,mb5.5
ORIF Oris-en-Rattie 84.60 339 eP P 06 46 23.8 +0.7

comp=Z,29nm,0.8s,mb5.5
SURF Saint Ours 84.78 338 *e*P **P 06 46 24.4 +0.5**
SURF Saint Ours 84.78 338 *e*P **P 06 46 24.6 +0.7**
WHFO Wadi Hawf 84.79 291 P **P 06 46 23.9 -0.1**
SNR=18
WHFO Wadi Hawf 84.79 291 P **P 06 46 23.9 -0.1**
SNR=18
WHFO P 06 46 24.1
SNR=7.4
RBK Rabkut 84.81 290 P **P 06 46 24.0 -0.2**
SNR=5.8
RBK Rabkut 84.81 290 P **P 06 46 24.0 -0.2**
SNR=5.8
VIVF Saint-Julien-l 84.96 340 *e*P **P 06 46 25.4 +0.6**
APE Apeiranthos 85.04 322 *e*P **P 06 46 21.4 -3.8**
APE Apeiranthos 85.04 322 *e*P **P 06 46 28.9 +3.6**
APE Apeiranthos 85.04 322 *e*P **P 06 46 24.2 -1.1**
SAOF Saorge 85.05 337 *e*P **P 06 46 25.0 -0.3**
AUTN L'Aution 85.07 337 *e*P **P 06 46 26.0 +0.6**
TOUF Mont Tournerai 85.10 338 *e*P **P 06 46 26.0 +0.4**
CNNC Cliffs of the 85.13 41 PFAKE 06 46 40.0 +14
CNNC LR LR
comp=Z,440nm,20.0s,MS4.8
SBF Sospel 85.19 337 *e*P **P 06 46 25.5 -0.5**
comp=Z,80nm,0.9s,mb5.5
SBF Sospel 85.19 337 *e*P **P 06 46 25.5 -0.5**
SBF pmax pmax
comp=Z,40nm,0.9s,mb5.5
SBF Sospel 85.19 337 *e*P **P 06 46 25.5 -0.5**
comp=Z,40nm,0.9s,mb5.5
RJF Les Rejaudoux 85.24 342 *e*P **P 06 46 26.4 +0.1**
comp=Z,200nm,1.5s,mb5.7
RJF *e*R
comp=Z,2µm,22.0s
RJF Les Rejaudoux 85.24 342 *e*P **P 06 46 26.4 +0.1**
RJF pmax pmax
comp=Z,100nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,2µm,22.0s,MS5.6
RJF Les Rejaudoux 85.24 342 *e*P **P 06 46 26.4 +0.1**
comp=Z,100nm,1.5s,mb5.7
RJF LR LR
comp=Z,2µm,22.0s,MS5.6
REVF Revere 85.33 337 *e*P **P 06 46 26.9 +0.2**
CAF Calviac 85.48 341 *e*P **P 06 46 27.9 +0.4**
comp=Z,284nm,1.7s,mb5.8
CAF Calviac 85.48 341 *e*P **P 06 46 27.9 +0.4**
CAF pmax pmax
comp=Z,142nm,1.7s,mb5.8
CAF Calviac 85.48 341 *e*P **P 06 46 27.9 +0.4**
comp=Z,142nm,1.7s,mb5.8
ABTO Aybut 85.51 291 P **P 06 46 28.4 +0.8**
SNR=5.9
SMRF Simiane la Rot 85.56 339 *e*P **P 06 46 28.5 +0.6**
FRF La Foret Royal 85.68 338 *e*P **P 06 46 28.2 -0.3**
LFF La Frestale 85.75 342 *e*P **P 06 46 28.8 0.0**
comp=Z,132nm,1.2s,mb5.7
LFF La Frestale 85.75 342 *e*P **P 06 46 28.8 0.0**
LFF pmax pmax
comp=Z,66nm,1.2s,mb5.7
LFF La Frestale 85.75 342 *e*P **P 06 46 28.8 0.0**
comp=Z,66nm,1.2s,mb5.7
TBI Tubuai 85.83 131 *e*S S 06 56 56.7 -4.9
comp=Z,672nm,35.0s
TBI *e*LR LR 07 13 03.0
comp=Z,3µm,31.5s,baz=324
LASF Ste Croix 85.89 340 *e*P **P 06 46 29.6 +0.1**
comp=Z,185nm,1.6s,mb5.8
LMR La Mourre 85.93 338 *e*P **P 06 46 29.6 -0.1**
comp=Z,105nm,1.1s,mb5.7
LMR La Mourre 85.93 338 *e*P **P 06 46 29.6 -0.1**
LMR pmax pmax
comp=Z,53nm,1.1s,mb5.7
LMR La Mourre 85.93 338 *e*P **P 06 46 29.6 -0.1**
comp=Z,52nm,1.1s,mb5.7
PGF Pioggiola 85.99 336 *e*P **P 06 46 29.5 -0.5**
comp=Z,63nm,1.0s,mb5.5
PGF Pioggiola 85.99 336 *e*P **P 06 46 29.5 -0.5**
PGF pmax pmax
comp=Z,32nm,1.0s,mb5.5
PGF Pioggiola 85.99 336 *e*P **P 06 46 29.5 -0.5**
comp=Z,32nm,1.0s,mb5.5
CORF Corte 86.18 336 *e*P **P 06 46 29.7 -1.2**
ZKR Zakros 86.41 321 *e*P **P 06 46 31.4 -0.7**
TIP Timpagrande 86.60 329 *e*P **P 06 46 32.6 -0.4**
NWAO Narrogin (SRO) 86.72 211 PFAKE 06 46 40.0 +6.4
NWAO LR LR
comp=Z,575nm,19.0s,MS5.0
MTLF Montolieu 86.96 341 *e*P **P 06 46 34.5 -0.2**
comp=Z,91nm,1.5s,mb5.5
MTLF Montolieu 86.96 341 *e*P **P 06 46 34.5 -0.2**
MTLF pmax pmax
comp=Z,46nm,1.5s,mb5.5
MTLF Montolieu 86.96 341 *e*P **P 06 46 34.5 -0.2**
comp=Z,46nm,1.5s,mb5.5
URZ Urewera 87.08 163 LR LR 07 23 31.1
comp=Z,674nm,18.6s,MS5.1,baz=191,slow=34
EPF Esparros 87.66 342 *e*P **P 06 46 37.4 -0.8**
comp=Z,99nm,1.5s,mb5.5
EPF Esparros 87.66 342 *e*P **P 06 46 37.4 -0.8**
EPF pmax pmax
comp=Z,49nm,1.5s,mb5.5
EPF Esparros 87.66 342 *e*P **P 06 46 37.4 -0.8**
comp=Z,49nm,1.5s,mb5.5
SJPF Ste Jean 87.91 343 *e*P **P 06 46 38.8 -0.5**
ETSF Etsaut 87.98 343 *e*P **P 06 46 39.6 -0.1**
comp=Z,24nm,0.8s,mb5.2
ETSF Etsaut 87.98 343 *e*P **P 06 46 39.6 -0.1**
ETSF pmax pmax
comp=Z,12nm,0.8s,mb5.2
ETSF Etsaut 87.98 343 *e*P **P 06 46 39.6 -0.1**
comp=Z,12nm,0.8s,mb5.2
SNZO South Karori 89.60 166 PFAKE 06 47 00.0 +13
SNZO LR LR
comp=Z,2µm,21.0s,MS5.5
TAU Tasmania Unive 89.84 186 PFAKE 06 47 00.0 +12
TAU LR LR
comp=Z,261nm,21.0s,MS4.6
RPZ Rata Peaks 91.40 169 LR LR 07 22 58.5
comp=Z,1µm,21.4s,MS5.4,baz=19,slow=32
ESDC Sonseca Array 91.75 344 P **P 06 46 55.9 -1.4**
comp=Z,3.1nm,0.7s,mb4.8,baz=9.6,slow=4.2,SNR=10
ESDC PP PP 06 50 35.2 -0.8
comp=Z,0.2nm,0.3s,baz=16,slow=8.6,SNR=5.0
ESDC LR LR 07 32 46.6
comp=Z,1µm,20.2s,MS5.4,baz=15,slow=39
ESLA Sonseca Array 91.75 344 PFAKE 06 47 10.0 +13
ESLA LR LR
comp=Z,10µm,20.0s
TEIG Tepich 91.91 57 PFAKE 06 47 10.0 +12
TEIG LR LR
comp=Z,472nm,21.0s,MS4.9
PAB San Pablo 91.95 345 PFAKE 06 47 10.0 +12
PAB LR LR
comp=Z,2µm,21.0s,MS5.6
KEST Kesra 92.19 333 P **P 06 46 58.2 -1.1**
comp=Z,2.9nm,0.9s,mb4.6,baz=285,slow=4.8,SNR=6.2
KEST LR LR 07 33 05.0
comp=Z,603nm,21.3s,MS5.0,baz=188,slow=39
BBSR BB Station 93.08 33 PFAKE 06 47 10.0 +6.6
BBSR LR LR
comp=Z,590nm,19.0s,MS5.1
RKT Rikitea 93.71 120 *e*SP SP 06 59 26.8 -1.3
comp=Z,341nm,28.5s
RKT *e*SS SS 07 04 30.2 -2.6
comp=Z,266nm,27.2s
RKT *e*LR LR 07 16 31.3
comp=Z,2µm,33.5s,baz=318
TGUH Tegucigalpa,Un 97.35 60 PFAKE 06 47 30.0 +7.1
TGUH LR LR
comp=Z,390nm,20.0s,MS4.9
MSEY Mahe Island 100.22 274 PFAKE 06 47 50.0 +14
MSEY LR LR
comp=Z,138nm,21.0s,MS4.4
JTS JuntasAbangare 101.70 61 PFAKE 06 47 50.0 +7.7
JTS LR LR
comp=Z,100nm,22.0s,MS4.3
KMBO Kilima Mbogo 109.74 291 PFAKE 06 52 30.0 +9.4
KMBO LR LR
comp=Z,707nm,20.0s,MS5.2
SDV Santo Domingo 110.90 50 PFAKE 06 52 30.0 +7.2
SDV LR LR
comp=Z,241nm,22.0s,MS4.7
BBGH Gun Hill 112.39 37 PFAKE 06 52 40.0 +14
BBGH LR LR
comp=Z,669nm,21.0s,MS5.2

OTAV Otavalo 113.56 62 PFAKE 06 52 40.0 +12
OTAV LR LR
comp=Z,253nm,22.0s,MS4.8
DRV Dumont d'Urvil 113.98 187 PP PP 06 53 34.0 +11
DRV SP SP 07 02 54.0 -3.5
DRV SS SS 07 09 12.0 +0.6
TORD Torodi Ar. Bea 115.66 331 PKP PKPdf 06 52 31.3 -0.6
comp=Z,2.6nm,0.8s,baz=357,slow=1.4,SNR=12
TORD PP PP 06 53 32.5 -1.9
comp=Z,5.3nm,1.1s,baz=14,slow=5.8,SNR=10
TORD PKKPbc PKKPbc 07 03 02.9 -1.3
comp=Z,0.3nm,0.7s,baz=195,slow=3.1,SNR=2.4
TORD Torodi Ar. Bea 115.66 331 PKP PKPdf 06 52 31.3 -0.6
TORD PP PP 06 53 32.5 -1.9
TORD PKKPbc PKKPbc 07 03 02.9 -1.3
CASY Casey 118.11 199 PFAKE 06 52 50.0 +13
CASY LR LR
comp=Z,387nm,20.0s,MS5.0
MSKU Masuku 123.97 312 PFAKE 06 53 00.0 +12
MSKU LR LR
comp=Z,8.0nm,22.0s
NNA Nana 124.03 69 PFAKE 06 53 00.0 +12
NNA LR LR
comp=Z,56nm,20.0s,MS4.2
LIC Lamto 124.24 336 *e*PKIKP PKPdf 06 52 47.3 -1.1
comp=Z,37nm,1.1s
LIC *e*R
comp=Z,1µm,21.5s
LIC Lamto 124.24 336 *e*PKPdf PKPdf 06 52 47.3 -1.1
LIC LR LR
comp=Z,540nm,21.5s,MS5.2
VNDA Vanda 124.33 178 PKP PKPdf 06 52 46.3 -2.2
comp=Z,1.3nm,0.7s,baz=332,slow=3.7,SNR=3.7
VNDA Vanda 124.33 178 PKP PKPdf 06 52 46.3 -2.2
VNDA LR LR
comp=Z,412nm,19.0s,MS5.1
SBA Scott Base 124.80 177 PFAKE 06 53 00.0 +11
SBA LR LR
comp=Z,614nm,21.0s,MS5.2
LSZ Lusaka 126.23 288 PFAKE 06 53 00.0 +7.8
LSZ LR LR
comp=Z,1µm,19.0s,MS5.5
LPAZ La Paz 132.76 64 PKP PKPdf 06 53 05.4 +0.8
comp=Z,4.7nm,1.0s,baz=355,slow=10,SNR=13
LPAZ La Paz 132.76 64 PKP PKPdf 06 53 05.4 +0.8
LPAZ LR LR
comp=Z,243nm,21.0s,MS4.9
MAW Mawson 133.29 212 PKP PKPdf 06 53 04.5 -1.1
comp=Z,4.0nm,0.6s,baz=66,slow=10.0,SNR=13
MAW Mawson 133.29 212 PKP PKPdf 06 53 04.5 -1.1
MAW LR LR
comp=Z,873nm,22.0s,MS5.4
TSUM Tsumeb 135.90 294 PFAKE 06 53 20.0 +10
TSUM LR LR
comp=Z,465nm,22.0s,MS5.2
QSPA South Pole Qui 136.76 180 PFAKE 06 53 20.0 +7.9
QSPA LR LR
comp=Z,492nm,20.0s,MS5.2
LVC Limon Verde 136.93 71 PFAKE 06 53 20.0 +7.6
LVC LR LR
comp=Z,266nm,19.0s,MS5.0
BOSA Boshof 137.38 277 PKP PKPdf 06 53 13.8 +0.6
comp=Z,5.4nm,1.0s,baz=124,slow=4.0,SNR=3.3
RCBR Riachuelo 137.80 17 PFAKE 06 53 30.0 +16
RCBR LR LR
comp=Z,646nm,22.0s,MS5.3
SYO Syowa Base 142.00 212 *i*eX 06 53 15.3
SUR Sutherland 142.72 277 PFAKE 06 53 30.0 +7.1
SUR LR LR
comp=Z,222nm,19.0s,MS4.9
NVL N'lazarevskaya 150.55 204 *d i*PKIKP PKPdf 06 53 38.5 +2.5
NVL pmax pmax
comp=Z,51nm,1.8s
MAIT Maitri 150.57 203 *e*PKPdf PKPdf 06 53 39.2 +3.1
TRQA Tornquist 151.21 86 PFAKE 06 53 50.0 +13
TRQA LR LR
comp=Z,692nm,19.0s,MS5.5
CAM4 Nova Friburgo 151.40 37 *i*P PKPdf 06 53 43.0 +5.7
CAM4 *i* 06 53 45.8
CAM4 *i* 06 53 50.0
CAM4 *i* 06 54 08.1
USHA Ushuaia 151.65 122 PKPbc PKPbc 06 53 42.0 -2.0
comp=Z,25nm,0.9s,baz=252,slow=1.5,SNR=5.6
PMSA Palmer Station 152.27 144 PKPbc PKPbc 06 53 43.6 -1.8
comp=Z,25nm,1.1s,baz=149,slow=4.1,SNR=3.3
PMSA Palmer Station 152.27 144 PFAKE 06 53 50.0 +11
PMSA LR LR
comp=Z,366nm,19.0s,MS5.2
SNAA Sanae 153.26 195 PKPbc PKPbc 06 53 45.0 -2.6
comp=Z,2.0nm,0.6s,baz=168,slow=4.2,SNR=20
SNAA Sanae 153.26 195 *e*PKPdf PKPdf 06 53 40.8 +0.7
SNAA *e* 06 53 45.0
SNAA *e* 06 53 49.0
SNAA *e* 06 53 52.8
SNAA *e* 06 53 57.3
SNAA *e* 06 54 02.4
SNAA *e* 06 54 08.2
SNAA *e* 06 54 20.4
SNAA *e* 06 54 29.7
SNAA Sanae 153.26 195 PKIKP PKPdf 06 53 45.0 +4.9
SNAA pmax pmax
comp=Z,2.0nm,0.6s
VNA2 Neumayer--Watz 154.66 193 *e*PKPdf PKPdf 06 53 39.4 -2.7
VNA2 *e* 06 53 44.0
VNA2 *e* 06 53 48.9
VNA2 *e* 06 53 51.6
VNA2 *e* 06 53 59.3
VNA2 *e* 06 54 03.7
VNA2 *e* 06 54 17.2
VNA2 *e* 06 54 22.0
VNA2 *e* 06 54 28.2
VNA2 *e* 06 54 36.1
VNA3 Neumayer Olymp 154.70 191 *e*PKPdf PKPdf 06 53 39.4 -2.7
VNA3 *e* 06 53 48.5
VNA3 *e* 06 53 51.8
VNA3 *e* 06 53 59.3
VNA3 *e* 06 54 03.1
VNA3 *e* 06 54 21.8
VNA3 *e* 06 54 28.0
VNA3 *e* 06 54 35.9
VNA1 Neumayer--Stat 155.04 193 *e*PKPdf PKPdf 06 53 41.2 -1.4
VNA1 *e* 06 53 45.7
VNA1 *e* 06 53 50.7
VNA1 *e* 06 53 53.8
VNA1 *e* 06 54 01.8
VNA1 *e* 06 54 06.8
VNA1 *e* 06 54 20.0
EFI East Falkland 157.78 114 PFAKE 06 54 00.0 +14
EFI LR LR
comp=Z,203nm,19.0s,MS5.0

*IDC **17** 06:46:53.2±0.9, 4765N×1544O E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/23, mbtmp3.8/10, Error ellipse: s-maj=29.8km s-min=17.6km az=166.0*
*ISCJB **17** 06:46:58.7±1.6, 478N±0.1×1544E±0.2, h52km±14km, mb3.8/10, Error ellipse: s-maj=25.1km s-min=7.7km az=93.1*
*MOS **17** 06:46:58.8±0.9, 4770N×1542 1E, h55km, mb4.1/6, Error ellipse: s-maj=27.1km s-min=17.4km az=61.0*
ISC 17 06:47:01.4±1.4, 479N±01×1543E±02, h60km±12km, n21, σ0s90/23, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.07**	**22**	*e*PN	**Pn**	**06 47 47.9**	**+0.4**
SKR				*e*S	**Sn**	**06 48 22.3**	**-0.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,220nm,0.6s						
SKR				smax			
	comp=E,100nm,0.3s						
SKR				smax			
	comp=Z,100nm,0.6s						
KUR	**Kuril'sk**	**5.17**	**242**	*e*PN	**Pn**	**06 48 12.5**	**-3.6**
KUR				*i* S	**Sn**	**06 49 15.0**	**+0.6**
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
ASAJ	**Asahikawa**	**8.98**	**250**	Pn	**Pn**	**06 49 08.2**	**-0.1**
	comp=E,0.7nm,0.3s,baz=100,slow=28,SNR=2.8						
ASAJ	**Asahikawa**	**8.98**	**250**	PN	**Pn**	**06 49 08.3**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.01**	**284**	*e*P	**Pn**	**06 50 35.0**	**+5.1**
KSRS	**Korea Array**	**21.92**	**251**	P	**P**	**06 51 50.1**	**+0.4**
	comp=Z,3.1nm,0.7s,mb3.9,baz=49,slow=10,SNR=11						
SONM	**Songino Array**	**31.76**	**288**	P	**P**	**06 53 18.8**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.2,baz=62,slow=6.7,SNR=3.0						
INK	**Inuvik**	**40.28**	**33**	P	**P**	**06 54 34.1**	**+1.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=282,slow=5.8,SNR=2.9						
INK	**Inuvik**	**40.28**	**33**	P	**P**	**06 54 34.1**	**+1.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	**06 55 29.4**	**+1.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	**06 55 29.4**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**50.80**	**309**	P	**P**	**06 55 55.3**	**-0.4**
	comp=Z,6.6nm,0.5s,mb3.8,baz=54,slow=7.9,SNR=3.9						
BVAR	**Borovoye Array**	**50.80**	**309**	P	**P**	**06 55 55.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**61.20**	**64**	P	**P**	**06 57 10.1**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.0,baz=309,slow=7.5,SNR=6.4						
FINES	**FINESS Array B**	**63.40**	**335**	P	**P**	**06 57 24.0**	**-0.7**
	comp=Z,3.7nm,1.0s,mb4.5,baz=30,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**63.40**	**335**	P	**P**	**06 57 24.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**63.44**	**55**	P	**P**	**06 57 24.9**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.8,baz=316,slow=4.1,SNR=5.1						
ASAR	**Alice Springs**	**73.51**	**199**	P	**P**	**06 58 26.1**	**-1.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=2.3,slow=6.7,SNR=6.2						
ASAR	**Alice Springs**	**73.51**	**199**	P	**P**	**06 58 26.1**	**-1.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.24**	**62**	P	**P**	**06 58 43.9**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=294,slow=4.2,SNR=11						
TXAR	**Lajitas Array**	**76.24**	**62**	P	**P**	**06 58 43.9**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **17** 06:48:24.9±0.5, 4696N±007×15567E±0.10, h10km, mb4.2/23, Error ellipse: s-maj=11.9km s-min=7.4km az=97.9*
*IDC **17** 06:48:25.8±0.7, 4693N×15565E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/25, mbtmp4.1/17, ML3.9/1, Error ellipse: s-maj=19.5km s-min=15.8km az=157.0*
*NEIC **17** 06:48:26.8±0.5, 4690N×15561E, h10km, mb4.7/6, Error ellipse: s-maj=14.2km s-min=8.7km az=138.0*
*MOS **17** 06:48:28.2±1.4, 4705N×15570E, h30km, mb4.8/6, Error ellipse: s-maj=12.4km s-min=9.5km az=78.9*
ISC 17 06:48:27.0±0.5, 4701N±007×15567E±010, h10km, n42, σ0s84/42, mb4.2/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.69**	**4**	*e*PN	**Pn**	**06 49 24.0**	**0.0**
KUR	**Kuril'sk**	**5.71**	**255**	*e*PN	**Pn**	**06 49 57.0**	**+5.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
PET	**Petropavlovsk**	**6.32**	**17**	*e*PN	**Pn**	**06 50 00.0**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**7.50**	**250**	PN	**Pn**	**06 50 20.4**	**+3.9**
ASAJ	**Asahikawa**	**9.62**	**257**	Pn	**Pn**	**06 50 46.5**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=84,slow=16,SNR=3.4						
ASAJ	**Asahikawa**	**9.62**	**257**	PN	**Pn**	**06 50 46.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.23**	**245**	*e*PN	**Pn**	**06 50 53.4**	**-0.5**
SMY	**Shemya**	**13.18**	**58**	*e*PN	**Pn**	**06 51 32.9**	**-1.3**
KLR	**Kul'dur**	**16.11**	**287**	*e*P	**Pn**	**06 52 13.2**	**-0.4**
MAJO	**Matsushiro**	**16.67**	**237**	*e*P	**Pn**	**06 52 17.0**	**-3.7**
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s						
MAJO	**Matsushiro**	**16.67**	**237**	*e*Pn	**Pn**	**06 52 17.0**	**-3.7**
	comp=Z,16nm,0.9s						
MJAR	**Matsushiro Arr**	**16.67**	**237**	Pn	**Pn**	**06 52 16.5**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=33,slow=13,SNR=4.3						
BILL	**Bilibino**	**21.77**	**11**	*e*P	**P**	**06 53 18.4**	**-0.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
KSRS	**Korea Array**	**22.55**	**255**	P	**P**	**06 53 28.4**	**+1.2**
	comp=Z,1.7nm,0.4s,mb3.9,baz=64,slow=10,SNR=8.3						
SONM	**Songino Array**	**32.90**	**290**	P	**P**	**06 55 00.3**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=59,slow=10,SNR=6.7						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**06 56 06.2**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=268,slow=7.3,SNR=11						
ZAL	**Zalesovo**	**43.89**	**306**	P	**P**	**06 56 32.3**	**-1.4**
	comp=Z,1.6nm,0.4s,mb4.1,baz=99,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**06 57 08.1**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=71,slow=6.9,SNR=7.8						
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**06 57 32.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**06 57 32.7**	**-0.8**
	comp=Z,6.4nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**52.04**	**310**	P	**P**	**06 57 37.2**	**+0.4**
	comp=Z,3.1nm,0.5s,mb4.5,baz=60,slow=8.1,SNR=15						
BRVK	**Borovoye**	**52.08**	**310**	*e*P	**P**	**06 57 36.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**52.08**	**310**	*e*P	**P**	**06 57 36.8**	**-0.2**
	comp=Z,5.2nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**06 57 42.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**06 57 42.5**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.4						
ARU	**Arti**	**55.99**	**318**	*e*P	**P**	**06 58 05.7**	**0.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	**Arti**	**55.99**	**318**	*e*P	**P**	**06 58 05.7**	**0.0**
	comp=Z,6.0nm,0.6s,mb4.8						
AKTK	**Aktyubinsk**	**59.85**	**313**	P	**P**	**06 58 32.6**	**-0.1**
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**06 58 32.6**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=105,slow=2.5,SNR=3.6						
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**06 58 32.7**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**06 58 38.6**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.6,baz=297,slow=9.0,SNR=2.9						
KAKA	**Kakadu**	**62.99**	**206**	*e*P	**P**	**06 58 53.7**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.8						
PDAR	**Pinedale Array**	**63.17**	**55**	P	**P**	**06 58 55.6**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=306,slow=1.3,SNR=5.0						
FINES	**FINESS Array B**	**64.54**	**336**	P	**P**	**06 59 04.4**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=33,slow=8.5,SNR=7.2						
NOA	**NORSAR Array B**	**68.53**	**342**	P	**P**	**06 59 32.0**	**+2.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=28,slow=6.6,SNR=3.0						
WB2	**Warramunga Arr**	**69.36**	**201**	*e*P	**P**	**06 59 34.4**	**-0.5**
WRA	**Warramunga Arr**	**69.36**	**201**	P	**P**	**06 59 34.5**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=19,slow=6.7,SNR=15						
KIV	**Kislovodsk**	**71.86**	**316**	*e*P	**P**	**06 59 43.1**	**-7.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
AKASG	**Malin Array Be**	**72.29**	**328**	P	**P**	**06 59 53.7**	**+1.0**
	comp=Z,2.0nm,0.6s,mb4.2,baz=32,slow=6.3,SNR=5.0						
ASAR	**Alice Springs**	**73.04**	**201**	P	**P**	**06 59 57.1**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=11,slow=5.5,SNR=15						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**07 00 14.9**	**+1.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=300,slow=4.5,SNR=11						
GERES	**GERESS Array B**	**78.97**	**336**	P	**P**	**07 00 31.9**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=0.0,slow=5.0,SNR=2.0						

IDC 17 06:52:16.6±10.0, 611S×15133E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=173.7km s-min=70.3km az=39.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.48**	**229**	P	P	06 57 06.5	-0.2
	1.7nm,0.8s,baz=54,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**24.20**	**222**	P	P	06 57 35.1	+0.4
	1.0nm,0.6s,baz=54,slow=8.6,SNR=19						
STKA	**Stephens Creek**	**27.20**	**198**	P	P	06 58 02.2	+0.3
	1.0nm,0.5s,baz=32,slow=10.0,SNR=3.9						
FITZ	**Fitzroy Crossi**	**27.75**	**242**	P	P	06 58 07.4	+0.6
	0.7nm,0.4s,baz=62,slow=13,SNR=5.2						

*IDC **17** 06:59:21.8±0.7, 4640N×15292E, h0km, mb3.9/14,*

mb1 4.1/15,mb1mx4.0/24,mbtmp3.9/15,ML3.8/1,Error ellipse: s-maj=21.4km s-min=16.8km az=159.0
BJI 17 06:59:22.8, 4593N× 153.22E, h27km, mB5.4, mb4.6
NEIC 17 06:59:23.4±0.6, 4637N× 152.89E, h10km, mb4.9/2, Error ellipse: s-maj=17.2km s-min=11.8km az=149.0
ISCJB 17 06:59:24.2±3.1, 463N±0.1× 1530E±0.1, h26km±22km, mb4.2/21, Error ellipse: s-maj=19.6km s-min=8.8km az=120.3
MOS 17 06:59:25.8±1.6, 4628N× 15290E, h43km, mb4.9/2, Error ellipse: s-maj=15.6km s-min=13.4km az=53.4

ISC 17 06:59:28.8±1.5, 464N±01×1530E±01, h46km±12km, n35, σ1°09/36, mb4.2/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.76**	**253**	*e*PN	**Pn**	**07 00 19.0**	**-5.2**
KUR				*i* S	**Sn**	**07 01 06.0**	**-1.2**
KUR	comp=N,240nm,8.0s			smax			
KUR	comp=E,220nm,0.8s			smax			
SKR	**Severo-Kuril's**	**4.75**	**25**	*e*PN	**Pn**	**07 00 38.4**	**+0.5**
SKR				*e*		07 01 39.5	
YSS	**Yuzh-Sakhalins**	**7.04**	**278**	*e*PN	**Pn**	**07 01 12.2**	**+2.9**
ASAJ	**Asahikawa**	**7.67**	**256**	Pn	**Pn**	**07 01 17.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=293,slow=33,SNR=4.6						
MJAR	**Matsushiro Arr**	**14.80**	**233**	Pn	**Pn**	**07 02 50.8**	**-4.3**
	comp=E,0.4nm,0.3s,baz=31,slow=13,SNR=4.9						
CN2	**Changchun**	**19.56**	**272**	*e*P	**Pn**	**07 03 50.0**	**-4.3**
KSRS	**Korea Array**	**20.60**	**253**	P	**P**	**07 04 03.6**	**-0.4**
	comp=E,2.6nm,0.7s,baz=57,slow=11,SNR=9.3						
SONM	**Songino Array**	**31.35**	**290**	P	**P**	**07 05 43.7**	**-1.2**
	comp=E,0.6nm,0.8s,mb3.5,baz=74,slow=11,SNR=3.6						
LZH	**Lanzhou**	**37.80**	**272**	*e*P	**P**	**07 06 41.0**	**+0.4**
LZH				AP	pP	07 06 46.5	-6.4
LZH				XP	sP	07 06 51.5	-6.8
LZH	comp=Z,30nm,1.0s,mb5.0			AMB	AMB		
LZH	comp=Z,128nm,4.0s			AMB	AMB		
LZH	**Lanzhou**	**37.80**	**272**	*e*P	**P**	**07 06 41.0**	**+0.4**
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	07 06 46.5	-6.4
LZH				sP	sP	07 06 51.5	-6.8
GTA	**Gaotai**	**38.92**	**279**	*e*P	**P**	**07 06 50.9**	**+0.8**
GTA				AP	pP	07 06 54.8	-7.6
GTA	comp=Z,6.0nm,1.0s,mb4.3			AMB	AMB		
GYA	**Guiyang**	**41.55**	**258**	P	**P**	**07 07 11.4**	**-0.4**
GYA	comp=Z,10.0nm,0.9s,mb4.5			AMB	AMB		
INK	**Inuvik**	**41.99**	**32**	P	**P**	**07 07 16.1**	**+0.7**
	comp=Z,1.9nm,0.8s,mb3.8,baz=251,slow=7.4,SNR=6.8						
ZAL	**Zalesovo**	**42.74**	**306**	P	**P**	**07 07 20.0**	**-1.5**
	comp=Z,0.8nm,0.4s,mb3.8,baz=60,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**47.00**	**298**	P	**P**	**07 07 54.5**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.3,baz=65,slow=6.4,SNR=18						
BVAR	**Borovoye Array**	**50.99**	**310**	P	**P**	**07 08 25.0**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=52,slow=7.7,SNR=7.8						
JIRN	**Jiri**	**54.87**	**275**	*e*P	**P**	**07 08 56.0**	**+1.4**
	comp=Z,10nm,0.7s,mb5.0						
GUN	**Gumba**	**54.93**	**275**	*e*P	**P**	**07 08 56.4**	**+1.4**
KKN	**Kakani**	**55.42**	**275**	*e*P	**P**	**07 08 59.9**	**+1.4**
PKI	**Pulchoki**	**55.47**	**275**	*e*P	**P**	**07 08 59.9**	**+1.1**
DMN	**Daman**	**55.65**	**275**	*e*P	**P**	**07 09 01.5**	**+1.3**
	comp=Z,22nm,0.8s,mb5.2						
GKN	**Gorkha**	**55.73**	**276**	*e*P	**P**	**07 09 01.8**	**+1.1**
	comp=Z,22nm,0.9s,mb5.2						
KOLN	**Koldanda**	**56.59**	**277**	*e*P	**P**	**07 09 08.2**	**+1.4**
	comp=Z,21nm,0.8s,mb5.2						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	**P**	**07 09 49.0**	**+0.2**
	comp=Z,1.1nm,0.9s,mb4.0,baz=294,slow=9.3,SNR=6.4						
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**07 09 57.0**	**-2.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=19,slow=14,SNR=4.7						
PDAR	**Pinedale Array**	**65.02**	**54**	P	**P**	**07 10 04.0**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=300,slow=2.9,SNR=7.8						
WRA	**Warramunga Arr**	**68.17**	**199**	P	**P**	**07 10 22.3**	**-2.0**
	comp=Z,0.2nm,0.4s,mb3.5,baz=18,slow=6.4,SNR=5.8						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**07 10 45.8**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.5,baz=34,slow=6.2,SNR=18						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**07 10 45.8**	**-0.5**
AKASG	comp=Z,3.0nm,0.6s			pmax	pmax		
KIEV	**Kiev**	**71.78**	**326**	*e*P	**P**	**07 10 45.7**	**-0.7**
KIEV	comp=Z,7.0nm,0.8s,mb4.6			pmax	pmax		
KIEV	**Kiev**	**71.78**	**326**	*e*P	**P**	**07 10 45.6**	**-0.8**
	comp=Z,6.8nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**71.86**	**198**	P	**P**	**07 10 47.6**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=16,slow=4.8,SNR=3.4						
CLL	**Collm**	**76.72**	**335**	*e*P	**P**	**07 11 15.0**	**-0.2**
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**07 11 20.1**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=294,slow=4.0,SNR=9.5						
GERES	**GERESS Array B**	**78.71**	**334**	P	**P**	**07 11 26.0**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=29,slow=3.0,SNR=4.7						

ISCJB 17 07:03:27.6±0.6, 3631N±0.07× 137.18E±0.08, h270km±5km, mb3.7/2, Error ellipse: s-maj=12.8km s-min=8.8km az=89.6
JMA 17 07:03:28.5±0.2, 36.30N× 137.16E, h264km±2km, M2.8
IDC 17 07:03:28.1±0.8, 3643N× 137.26E, h268km±8km, mb3.6/2, mb1 3.6/4, mb1mx3.1/23, mbtmp3.4/4, Error ellipse: s-maj=32.0km s-min=21.7km az=81.0

ISC 17 07:03:28.6±0.6, 3631N±0.07×13717E±0.08, h263km±4km, n23, σ0°57/30, mb3.7/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.15**	**126**	P	**Pn**	**07 04 02.4**	**+0.1**
JKG	**Kaga**	**0.68**	**267**	P	**Pn**	**07 04 03.9**	**+0.3**
JGM	**Miyama**	**0.71**	**211**	P	**Pn**	**07 04 03.6**	**-0.1**
JGM				S	**S**	**07 04 30.6**	**-0.7**
MAT	**Matsushiro**	**0.87**	**74**	P	**Pn**	**07 04 04.6**	**+0.2**
MAT				S	**S**	**07 04 32.6**	**+0.1**
MAT	**Matsushiro**	**0.87**	**74**	P	**Pn**	**07 04 04.6**	**+0.2**
MAT				S	**S**	**07 04 32.2**	**-0.3**
MJAR	**Matsushiro Arr**	**0.87**	**74**	P	**Pn**	**07 04 04.9**	**+0.6**
	6.3nm,0.3s,baz=253,slow=6.9,SNR=31						
MJAR				S	**S**	**07 04 32.9**	**+0.3**
	0.8nm,0.3s,baz=264,slow=9.7,SNR=8.7						
JSZ	**Suzu**	**1.15**	**8**	P	**Pn**	**07 04 05.9**	**+0.1**
JYN	**Shimob**	**1.38**	**126**	P	**Pn**	**07 04 07.5**	**+0.2**
JRY	**Ryogami san**	**1.43**	**101**	P	**Pn**	**07 04 08.7**	**+1.0**
JRY				S	**S**	**07 04 37.7**	**-0.8**
JWT	**Wachi**	**1.77**	**235**	P	**Pn**	**07 04 10.0**	**-0.2**
JAG	**Ashikaga**	**1.85**	**86**	P	**Pn**	**07 04 10.7**	**-0.2**
JAG				S	**S**	**07 04 43.9**	**-0.3**
JOD2	**Odawara 2**	**1.88**	**123**	P	**Pn**	**07 04 11.5**	**+0.4**
JOD2				S	**S**	**07 04 45.1**	**+0.4**
JSD	**Sado**	**1.93**	**27**	P	**Pn**	**07 04 11.8**	**+0.2**
JIE	**Ise**	**1.95**	**191**	P	**Pn**	**07 04 12.1**	**+0.4**
JNS	**Sasagawa**	**2.28**	**48**	P	**Pn**	**07 04 15.0**	**+0.3**
JWY	**Kouya**	**2.45**	**212**	P	**Pn**	**07 04 16.8**	**+0.5**
JWZ	**Kozaga**	**3.02**	**204**	P	**Pn**	**07 04 21.8**	**-0.3**
JWZ				S	**S**	**07 05 03.6**	**-0.9**
KSRS	**Korea Array**	**7.50**	**281**	P	**Pn**	**07 05 16.1**	**+0.5**
	baz=103,slow=12,SNR=5.8						
ASAJ	**Asahikawa**	**8.83**	**26**	P	**Pn**	**07 05 30.1**	**-2.2**
	3.3nm,0.3s,baz=214,slow=8.5,SNR=11						
WB2	**Warramunga Arr**	**56.01**	**183**	*e*P	**P**	**07 12 39.8**	**-0.3**
WRA	**Warramunga Arr**	**56.01**	**183**	P	**P**	**07 12 40.1**	**0.0**
	3.1nm,0.4s,mb4.1,baz=360,slow=7.6,SNR=83						
ASAR	**Alice Springs**	**59.73**	**183**	P	**P**	**07 13 06.2**	**+0.3**
	0.4nm,0.3s,mb3.4,baz=359,slow=5.5,SNR=14						
TORD	**Torodi Ar. Bea**	**115.32**	**311**	PKP	PKPdf	07 21 37.1	-1.7
	1.1nm,1.1s,baz=47,slow=2.8,SNR=3.7						

IDC 17 07:09:29.4±4.2, 4831N×15371E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=147.5km s-min=36.7km az=7.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.59**	**296**	P	P	07 17 58.6	-0.4
	0.2nm,0.5s,baz=59,slow=9.8,SNR=2.4						
BVAR	**Borovoye Array**	**50.19**	**309**	P	P	07 18 26.6	-0.2
	0.5nm,0.4s,baz=48,slow=6.2,SNR=3.8						
FINES	**FINESS Array B**	**62.80**	**335**	P	P	07 19 56.0	-0.6
	3.4nm,0.9s,baz=48,slow=5.7,SNR=5.0						
TXAR	**Lajitas Array**	**76.38**	**61**	P	P	07 21 20.7	+0.2
	0.1nm,0.4s,baz=304,slow=6.4,SNR=3.8						

IDC 17 07:12:21.0±1.8, 4579N×15480E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=136.7km s-min=23.0km az=123.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.84**	**32**	P	P	07 20 12.0	-0.6
	0.9nm,0.4s,baz=262,slow=7.1,SNR=15						
PDAR	**Pinedale Array**	**64.36**	**54**	P	P	07 22 58.6	+0.1
	0.2nm,0.7s,baz=327,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**68.01**	**201**	P	P	07 23 21.2	-0.9
	0.6nm,0.7s,baz=20,slow=6.8,SNR=5.3						
ASAR	**Alice Springs**	**71.69**	**200**	P	P	07 23 45.5	+0.8
	0.5nm,0.8s,baz=9.4,slow=5.3,SNR=5.3						
TXAR	**Lajitas Array**	**76.93**	**61**	P	P	07 24 15.5	+0.2
	0.4nm,0.8s,baz=284,slow=4.2,SNR=6.3						

ISCJB 17 07:21:24.6±0.6, 4709N±0.09× 1556E±0.1, h10km, mb4.2/22, Error ellipse: s-maj=14.5km s-min=9.1km az=109.6
IDC 17 07:21:24.7±0.7, 4696N× 15550E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/25, mbtmp4.0/17, ML3.5/1, Error ellipse: s-maj=21.5km s-min=15.4km az=160.0
NEIC 17 07:21:26.1±0.6, 4698N× 15550E, h10km, mb4.6/6, Error ellipse: s-maj=14.6km s-min=9.9km az=141.0
MOS 17 07:21:27.9±0.9, 4711N× 15554E, h33km, mb4.6/5, Error ellipse: s-maj=18.3km s-min=10.4km az=94.5

ISC 17 07:21:26.4±0.6, 4711N±009×1556E±01, h10km, n39, σ1°06/40, mb4.2/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.59**	**6**	*e*PN	**Pn**	**07 22 20.6**	**-1.6**
PET	**Petropavlovsk**	**6.24**	**17**	*e*Pn	**Pn**	**07 22 57.4**	**-1.2**
PET				*e*Sn	**Sn**	**07 24 03.4**	**-6.6**
ASAJ	**Asahikawa**	**9.56**	**256**	Pn	**Pn**	**07 23 46.2**	**+2.1**
	0.7nm,0.3s,baz=100,slow=18,SNR=4.5						
ASAJ	**Asahikawa**	**9.56**	**256**	PN	**Pn**	**07 23 46.3**	**+2.1**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr**	**16.66**	**237**	Pn	**Pn**	**07 25 16.0**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=3.6						
BILL	**Bilibino**	**21.69**	**11**	*e*P	**P**	**07 26 18.5**	**+1.1**
BILL	comp=Z,9.0nm,1.0s,mb4.2			pmax	pmax		
BILL	**Bilibino**	**21.69**	**11**	*e*P	**P**	**07 26 18.6**	**+1.2**
	comp=Z,7.6nm,0.7s,mb4.2						
KSRS	**Korea Array**	**22.51**	**255**	P	**P**	**07 26 24.9**	**-1.2**
	comp=Z,1.8nm,0.8s,mb3.6,baz=66,slow=8.8,SNR=2.7						
SONM	**Songino Array**	**32.79**	**290**	P	**P**	**07 27 59.4**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=59,slow=9.9,SNR=5.3						
EGAK	**Eagle**	**37.67**	**39**	*e*P	**P**	**07 28 38.7**	**-3.1**
	comp=Z,6.1nm,0.4s,mb4.7						
INK	**Inuvik**	**40.44**	**33**	P	**P**	**07 29 05.8**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.3,baz=278,slow=6.9,SNR=18						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**07 29 31.4**	**-0.7**
	comp=Z,1.3nm,0.3s,mb4.1,baz=104,slow=5.8,SNR=5.1						
ZAL				PcP	PcP	07 31 18.7	-0.1
	comp=Z,1.2nm,0.4s,baz=324,slow=5.7,SNR=3.3						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**07 29 31.4**	**-0.7**
ZAL				PcP	PcP	07 31 18.7	-0.1
NVS	**Novosibirsk**	**44.29**	**308**	*e*P	**P**	**07 29 35.5**	**-0.8**
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**07 30 08.4**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.3,baz=61,slow=8.6,SNR=14						
MKAR				PcP	PcP	07 31 34.5	+0.1
	comp=Z,1.5nm,0.9s,baz=77,slow=1.6,SNR=5.0						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**07 30 17.8**	**-0.2**
	comp=Z,1.1nm,0.9s,mb3.9,baz=293,slow=6.6,SNR=3.7						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**07 30 31.4**	**-0.6**
CHKZ	comp=Z,6.0nm,0.5s,mb4.8			pmax	pmax		
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**07 30 31.4**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**07 30 35.7**	**+0.4**
	comp=Z,2.9nm,0.5s,mb4.5,baz=53,slow=8.1,SNR=19						
BVAR				PcP	PcP	07 31 47.9	0.0
	comp=Z,1.2nm,0.7s,baz=28,slow=3.5,SNR=3.6						
BRVK	**Borovoye**	**51.95**	**310**	*e*P	**P**	**07 30 36.1**	**+0.5**
BRVK	comp=Z,4.0nm,0.6s,mb4.5			pmax	pmax		
BRVK	**Borovoye**	**51.95**	**310**	*e*P	**P**	**07 30 36.1**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**52.67**	**311**	*e*P	**P**	**07 30 41.5**	**+0.6**
ZRNK	comp=Z,3.0nm,0.5s,mb4.5			pmax	pmax		
ZRNK	**Zerenda**	**52.67**	**311**	*e*P	**P**	**07 30 41.5**	**+0.6**
	comp=Z,2.8nm,0.5s,mb4.5						
ARU	**Arti**	**55.87**	**318**	*e*P	**P**	**07 31 03.8**	**-0.4**
ARU	**Arti**	**55.87**	**318**	*e*P	**P**	**07 31 04.5**	**+0.4**
	comp=Z,6.6nm,0.4s,mb5.0						
AKTK	**Aktyubinsk**	**59.72**	**313**	P	**P**	**07 31 31.9**	**+0.6**
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**07 31 31.9**	**+0.6**
	comp=Z,2.2nm,0.9s,mb4.2,baz=87,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	**59.72**	**313**	P	**P**	**07 31 31.9**	**+0.6**
AKTO	comp=Z,2.0nm,0.9s,mb4.2			pmax	pmax		
NVAR	**Mina Array Bea**	**60.78**	**64**	P	**P**	**07 31 39.6**	**+1.1**
	comp=Z,0.8nm,0.9s,mb3.9,baz=300,slow=11,SNR=4.1						
PDAR	**Pinedale Array**	**63.17**	**55**	P	**P**	**07 31 55.4**	**+0.8**
	comp=Z,1.1nm,0.9s,mb4.0,baz=321,slow=1.9,SNR=8.5						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**07 32 03.4**	**+0.6**
	comp=Z,5.7nm,1.0s,mb4.5,baz=37,slow=8.0,SNR=7.2						
NB2	**NORSAR Subarra**	**68.41**	**342**	P	**P**	**07 32 26.0**	**-2.4**
	comp=Z,3.1nm,1.0s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**07 32 27.9**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.2,baz=25,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**07 32 27.9**	**-0.4**
WRA	**Warramunga Arr**	**69.43**	**201**	P	**P**	**07 32 33.7**	**-1.0**
	comp=Z,1.1nm,1.0s,mb3.7,baz=21,slow=6.7,SNR=5.5						
ASAR	**Alice Springs**	**73.11**	**201**	P	**P**	**07 32 56.0**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=10.0,slow=4.0,SNR=5.6						
TXAR	**Lajitas Array**	**75.85**	**62**	P	**P**	**07 33 13.5**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=294,slow=4.3,SNR=12						
CLL	**Collm**	**76.81**	**337**	*e*P	**P**	**07 33 20.0**	**+1.7**
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**	**07 33 28.3**	**-1.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=56,slow=7.2,SNR=2.9						

CSEM 17 07:24:58.6±0.1, 4081N×3359E, h8km, MD3.5, Error ellipse: s-maj=2.4km s-min=1.6km az=169.0
ISK 17 07:24:58.6, 4083N× 3356E, h5km, MD3.5, ML3.7
ISCJB 17 07:24:59.4±0.3, 4083N±003×3356E±003, h10km, Error ellipse: s-maj=4.1km s-min=3.0km az=150.5

ISC 17 07:25:00.1±0.3, 4083N±003×3360E±003, h10km, n32, σ0°97/40, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CANT	**Cankiri**	**0.23**	**176**	*i* PG	**Pg**	**07 25 04.3**	**-0.5**
ELDT	**Eldivan**	**0.37**	**201**	*i* P	**Pg**	**07 25 06.5**	**-0.8**
ELDT				*i* S	**Sg**	**07 25 11.1**	**-1.1**
TOS	**Tosya**	**0.38**	**58**	*i* PG	**Pg**	**07 25 06.7**	**-0.8**
CTKT	**Corum**	**0.93**	**103**	*i* P	**Pg**	**07 25 17.5**	**-0.5**
CTKT				*i* S	**Sg**	**07 25 30.7**	**+0.7**
CORM	**Corum**	**1.02**	**129**	PG	**Pg**	**07 25 18.4**	**-1.3**
CORM				SG	**Sg**	**07 25 34.0**	**+0.9**
BYBT	**Boyabat**	**1.09**	**54**	PN	**Pg**	**07 25 19.6**	**-1.3**
ANTO	**Ankara**	**1.14**	**213**	PN	**Pg**	**07 25 20.1**	**-1.9**
ANTO				SN	**Sg**	**07 25 36.2**	**-0.7**
BOYT	**Boyabat**	**1.15**	**59**	*i* P	**Pb**	**07 25 20.5**	**-1.5**
BOYT				*i* S	**Sb**	**07 25 36.4**	**-0.5**
BZK	**Bozkurt**	**1.17**	**15**	PN	**Pn**	**07 25 22.0**	**-0.4**
SGKT	**Sivrigoynuk**	**1.20**	**258**	*i* P	**Pb**	**07 25 21.4**	**-1.4**
SGKT				*i* S	**Sb**	**07 25 41.2**	**+2.8**
CDAG	**Cicekdag**	**1.35**	**154**	*i* P	**Pn**	**07 25 23.9**	**-1.0**
CDAG				*i* S	**Sb**	**07 25 43.1**	**+0.5**
DIKM	**Dikmen**	**1.49**	**56**	PN	**Pn**	**07 25 27.0**	**+0.1**
YOZ	**Yozgat**	**1.78**	**132**	*e*PN	**Pn**	**07 25 31.7**	**+0.9**
KVT	**Kavak**	**1.87**	**82**	*e*PN	**Pn**	**07 25 32.4**	**+0.3**
TOKT	**Tokat**	**2.30**	**102**	*e*PN	**Pn**	**07 25 38.7**	**+0.7**
ESKT	**Eskisehir**	**2.48**	**239**	*e*PN	**Pn**	**07 25 40.3**	**-0.2**
BORA	**Eskisehir**	**2.58**	**249**	*i* P	**Pb**	**07 25 45.7**	**-0.8**
BORA				*i* S	**Sg**	**07 26 23.7**	**+0.6**
BNN	**Bunyan**	**2.63**	**138**	*e*PN	**Pn**	**07 25 43.4**	**+0.9**
SVSK	**Karacayir**	**2.75**	**108**	*e*PN	**Pn**	**07 25 45.6**	**+1.3**
ADVT	**Abdulvahap**	**2.96**	**263**	*e*PN	**Pn**	**07 25 47.5**	**+0.3**
HRT	**Hereke**	**2.98**	**271**	*e*PN	**Pn**	**07 25 47.5**	**+0.1**
KONT	**Konya--Tatoy**	**3.04**	**199**	*e*PN	**Pn**	**07 25 48.4**	**+0.2**
IZI	**Iznik**	**3.18**	**262**	*e*PN	**Pn**	**07 25 50.3**	**+0.2**
YLV	**Yalova**	**3.22**	**267**	*e*PN	**Pn**	**07 25 51.2**	**+0.5**
SHUT	**Suhut-Afyon**	**3.27**	**227**	*e*PN	**Pn**	**07 25 51.9**	**+0.5**
GEMT	**Gemlik**	**3.38**	**265**	*e*PN	**Pn**	**07 25 53.4**	**+0.6**
KOZT	**Kozan**	**3.77**	**152**	*e*PN	**Pn**	**07 25 59.1**	**+0.9**
MALT	**Malatya**	**4.50**	**122**	⇓ *i* P	**Pn**	**07 26 09.9**	**+1.6**
TIRR	**Tirgusor**	**5.27**	**315**	⇑ *i* P	**Pn**	**07 26 20.5**	**+1.7**
MLR	**Muntele Rosu**	**7.28**	**312**	⇑ *i* P	**Pn**	**07 26 50.2**	**+3.8**
VOIR		**7.76**	**309**	⇑ *i* P	**Pn**	**07 26 58.8**	**+5.8**
BURAR	**Bucovina Array**	**9.06**	**321**	⇓ *i* P	**Pn**	**07 27 10.3**	**-0.6**

ISCJB 17 07:25:13.4±0.7, 469N±0.1× 1556E±0.1, h10km, mb3.9/14, Error ellipse: s-maj=18.1km s-min=12.7km az=128.7
IDC 17 07:25:13.8±0.8, 4686N× 15572E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/24, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=23.5km s-min=17.4km az=154.0
NEIC 17 07:25:15.5±0.6, 4692N× 15571E, h10km, mb4.5/3, Error ellipse: s-maj=15.7km s-min=12.9km az=1.0
MOS 17 07:25:17.0±0.8, 4690N× 15546E, h30km, mb4.7/3, Error ellipse: s-maj=26.2km s-min=19.2km az=122.4

ISC 17 07:25:15.3±0.7, 469N±01×1557E±01, h10km, n23, σ0°80/23, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**4**	*e*PN	**Pn**	**07 26 09.9**	**-3.6**
ASAJ	**Asahikawa**	**9.59**	**258**	Pn	**Pn**	**07 27 33.1**	**-0.2**
	0.9nm,0.3s,baz=127,slow=9.0,SNR=4.7						
ASAJ	**Asahikawa**	**9.59**	**258**	PN	**Pn**	**07 27 33.2**	**-0.2**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
KSRS	**Korea Array**	**22.52**	**255**	P	**P**	**07 30 13.8**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.4,baz=55,slow=10,SNR=4.9						
SONM	**Songino Array**	**32.92**	**290**	P	**P**	**07 31 50.0**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=65,slow=9.5,SNR=2.5						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**07 32 54.7**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.1,baz=299,slow=6.9,SNR=17						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**07 32 54.7**	**-0.1**
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**07 33 58.1**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=61,slow=7.5,SNR=3.8						
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P	**P**	**07 34 21.7**	**-0.4**
CHKZ	comp=Z,6.0nm,0.6s,mb4.7			pmax	pmax		
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P	**P**	**07 34 21.7**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**07 34 25.8**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.4,baz=52,slow=8.3,SNR=10						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**07 34 24.2**	**-1.5**
BRVK	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**07 34 24.1**	**-1.5**
	comp=Z,3.2nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.84**	**311**	*e*P	**P**	**07 34 31.3**	**+0.3**
ZRNK	comp=Z,2.0nm,0.5s,mb4.3			pmax	pmax		
ZRNK	**Zerenda**	**52.84**	**311**	*e*P	**P**	**07 34 31.2**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3						
AKTK	**Aktyubinsk**	**59.90**	**313**	P	**P**	**07 35 22.4**	**+1.1**
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**07 35 22.4**	**+1.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=50,slow=18,SNR=2.4						
NVAR	**Mina Array Bea**	**60.80**	**64**	P	**P**	**07 35 27.1**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.8,baz=302,slow=7.4,SNR=4.9						
PDAR	**Pinedale Array**	**63.22**	**55**	P	**P**	**07 35 43.8**	**0.0**
	comp=Z,0.3nm,0.7

PSI	**Prapat**	**2.74**	**26**	P		**Pn**	**07 33 31.4**	**-0.5**
	1.2nm,0.3s,baz=177,slow=8.4,SNR=8.8							
KULM	**Kulim**	**5.73**	**30**	*e*Pn		**Pn**	**07 34 13.5**	**+0.5**
WRA	**Warramunga Arr**	**41.11**	**121**	P		**P**	**07 40 30.8**	**0.0**
	0.8nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=12							
WRAB	**Tennant Creek**	**41.12**	**121**	*e*P		**P**	**07 40 30.3**	**-0.5**
	2.8nm,0.9s,mb3.9							
ASAR	**Alice Springs**	**42.43**	**127**	P		**P**	**07 40 42.2**	**+0.6**
	0.8nm,0.6s,mb3.5,baz=297,slow=8.1,SNR=10							
KSRS	**Korea Array**	**46.27**	**34**	P		**P**	**07 41 11.8**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=225,slow=8.0,SNR=4.8							
SONM	**Songino Array**	**47.92**	**8**	P		**P**	**07 41 25.9**	**+0.7**
	0.9nm,0.7s,mb3.9,baz=189,slow=9.6,SNR=7.6							
MKAR	**Makanchi Array**	**48.23**	**346**	P		**P**	**07 41 28.0**	**+0.5**
	0.9nm,0.6s,mb4.0,baz=158,slow=7.3,SNR=10							
ZAL	**Zalesovo**	**54.51**	**351**	P		**P**	**07 42 14.4**	**-0.1**
	2.8nm,1.1s,mb4.2,baz=281,slow=5.5,SNR=4.7							
BVAR	**Borovoye Array**	**57.26**	**341**	P		**P**	**07 42 33.6**	**-0.7**
	0.6nm,0.7s,mb3.8,baz=126,slow=7.5,SNR=3.9							

ISCJB **17** *07:40:28.4±0.6, 47.25N±0.09°×155.5E±0.1, h10 km, mb4.2/20, Error ellipse: s-maj=15.2km s-min=8.4km az=104.3*
IDC **17** *07:40:28.0±0.7, 47.01N×155.47E, h0 km, mb4.0/12, mb1 4.2/12, mb1mx4.1/24, mbtmp4.0/12, Error ellipse: s-maj=22.6km s-min=17.0km az=160.0*
NEIC **17** *07:40:29.9±0.5, 47.18N×155.51E, h10 km, mb4.6/6, Error ellipse: s-maj=14.5km s-min=9.0km az=139.0*
BJI **17** *07:40:29.8, 47.20N×155.50E, h10 km, mB4.9, mb4.5*
MOS **17** *07:40:30.6±1.2, 47.23N×155.40E, h27 km, mb4.8/6, Error ellipse: s-maj=17.8km s-min=11.0km az=83.8*

ISC 17 07:40:30.0±0.6, 4723N±0.09°×1555E±0.1, h10 km, n36, σ0 s89/36, mb4.2/20, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.48**	**7**	*e*PN		**Pn**	**07 41 22.5**	**-1.8**
SKR				*e*			07 42 05.5	
PET	**Petropavlovsk**	**6.15**	**18**	*e*PN		**Pn**	**07 42 00.9**	**0.0**
PET				pmax		pmax		
	comp=Z,48nm,0.5s							
PET	**Petropavlovsk**	**6.15**	**18**	*e*Pn		**Pn**	**07 41 59.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**8.69**	**273**	||*e*PN	**Pn**	**07 42 35.2**	**-0.6**
MAJO	**Matsushiro**	**16.68**	**236**	*e*P		**Pn**	**07 44 24.3**	**+0.5**
MAJO				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MAJO	**Matsushiro**	**16.68**	**236**	*e*P		**Pn**	**07 44 24.3**	**+0.5**
	comp=Z,9.1nm,0.7s							
CN2	**Changchun**	**21.26**	**272**	*e*P		**P**	**07 45 19.9**	**+3.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.1							
BILL	**Bilibino**	**21.59**	**11**	*e*P		**P**	**07 45 20.0**	**+0.1**
BILL				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.2							
BILL	**Bilibino**	**21.59**	**11**	*e*P		**P**	**07 45 18.7**	**-1.2**
	comp=Z,15nm,0.8s,mb4.5							
KSRS	**Korea Array**	**22.49**	**254**	P		**P**	**07 45 29.1**	**-0.4**
	comp=Z,4.1nm,0.8s,mb3.9,baz=61,slow=11,SNR=11							
SONM	**Songino Array**	**32.70**	**290**	P		**P**	**07 47 02.0**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=54,slow=9.1,SNR=6.0							
LZH	**Lanzhou**	**39.49**	**273**	*e*P		**P**	**07 47 56.0**	**-4.6**
LZH				*SP		sP	07 48 04.0	-1.0
LZH				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.6							
LZH	**Lanzhou**	**39.49**	**273**	*e*P		**P**	**07 47 56.0**	**-4.6**
	comp=Z,15nm,1.2s,mb4.6							
LZH				pP		pP	07 48 00.5	-3.2
LZH				sP		sP	07 48 04.0	-1.0
INK	**Inuvik**	**40.38**	**33**	P		**P**	**07 48 09.3**	**+1.3**
	comp=Z,3.8nm,0.6s,mb4.3,baz=290,slow=6.0,SNR=29							
INK	**Inuvik**	**40.38**	**33**	P		**P**	**07 48 09.3**	**+1.3**
GYA	**Guiyang**	**43.40**	**259**	||*i*P	**P**	**07 48 33.3**	**+0.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
KMI	**Kunming**	**46.92**	**261**	P		**P**	**07 49 01.3**	**+0.6**
KMI				AMB		AMB		
	comp=Z,18nm,1.1s,mb4.9							
KMI	**Kunming**	**46.92**	**261**	P		**P**	**07 49 01.2**	**+0.5**
KMI				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.9							
KMI	**Kunming**	**46.92**	**261**	P		**P**	**07 49 01.2**	**+0.5**
	comp=Z,18nm,1.1s,mb4.9							
MKAR	**Makanchi Array**	**48.15**	**298**	P		**P**	**07 49 10.4**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=66,slow=7.7,SNR=12							
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**07 49 38.5**	**+0.5**
	comp=Z,4.1nm,0.5s,mb4.6,baz=53,slow=7.1,SNR=25							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**07 49 38.1**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**	**07 49 38.1**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.7							
EDM	**Edmonton**	**54.81**	**47**	*e*P		**P**	**07 50 00.4**	**+0.3**
ARU	**Arti**	**55.75**	**318**	*e*P		**P**	**07 50 06.4**	**-0.5**
ARU	**Arti**	**55.75**	**318**	*e*P		**P**	**07 50 07.3**	**-0.4**
	comp=Z,5.6nm,0.4s,mb5.0							
AKTK	**Aktyubinsk**	**59.60**	**313**	P		**P**	**07 50 34.4**	**+0.4**
AKTO	**Aktyubinsk**	**59.60**	**313**	P		**P**	**07 50 34.4**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=58,slow=6.7,SNR=11							
AKTO	**Aktyubinsk**	**59.60**	**313**	P		**P**	**07 50 34.4**	**+0.4**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
NVAR	**Mina Array Bea**	**60.77**	**64**	P		**P**	**07 50 42.5**	**+0.5**
	comp=Z,0.2nm,0.4s,mb3.6,baz=305,slow=9.5,SNR=3.6							
PDAR	**Pinedale Array**	**63.15**	**55**	P		**P**	**07 50 58.2**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.8,baz=302,slow=2.8,SNR=5.4							
FINES	**FINESS Array B**	**64.29**	**336**	P		**P**	**07 51 05.1**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=36,slow=10,SNR=7.0							
OBN	**Obninsk**	**65.82**	**327**	*e*P		**P**	**07 51 17.2**	**+1.7**
OBN				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**69.52**	**201**	P		**P**	**07 51 36.4**	**-2.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=19,slow=6.8,SNR=4.1							
ASAR	**Alice Springs**	**73.20**	**201**	P		**P**	**07 52 00.1**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=15,slow=5.5,SNR=6.9							
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**07 52 16.9**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=300,slow=4.3,SNR=15							

NIED **17** *07:40:00, 26.40N×141.80E, h101 km, Mw4.1 Best double couple: M0 1.68000×10 15 NP1:φ 1 =240.00000°, δ71.00000°, λ73.00000°. NP2:φ 1 =103.00000°, δ26.00000°, λ130.00000°.*
ISCJB **17** *07:40:52.3±0.9, 26.35N±0.06×141.3E±0.1, h104 km±9 km, mb4.3/11, Error ellipse: s-maj=20.3km s-min=9.1km az=147.3*
IDC **17** *07:40:52.1±1.9, 26.39N×141.09E, h85 km±16 km, mb4.0/9, mb1 4.1/10, mb1mx3.8/22, mbtmp4.0/10, Error ellipse: s-maj=30.9km s-min=13.6km az=98.0*
JMA **17** *07:40:55.1, 26.39N×141.77E, h115 km, M4.5*
JMA Felt I J1.
NEIC **17** *07:40:56.0±1.9, 26.38N×141.05E, h122 km±18 km, mb4.4/3, Error ellipse: s-maj=27.1km s-min=7.6km az=97.0*
NEIC Recorded [1 JMA] in Chichijima-retto.

ISC 17 07:40:53.7±0.8, 2637N±0.07°×1413E±0.1, h99 km±9 km, n28, σ0 s78/30, mb4.3/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.81**	**71**	P		**Pn**	**07 41 12.2**	**+0.2**
JHHJ				S		**Sn**	**07 41 25.1**	**-0.7**
CBIJ	**Chichi jima**	**1.05**	**47**	P		**Pn**	**07 41 15.0**	**+0.4**
	917nm,0.3s,baz=152,slow=2.6,SNR=360							
CBIJ				S		**Sn**	**07 41 30.2**	**-0.1**
	1µm,0.3s,baz=304,slow=22,SNR=20							
CBIJ	**Chichi jima**	**1.05**	**47**	P		**Pn**	**07 41 14.9**	**+0.3**
CBIJ				*e*S		**Sn**	**07 41 30.1**	**-0.3**
BSO3	**Boso 3**	**8.43**	**355**	P		**Pn**	**07 42 52.8**	**-0.2**
JOD2	**Odawara 2**	**9.07**	**348**	P		**Pn**	**07 43 03.5**	**+1.9**
JRY	**Ryogami san**	**9.84**	**348**	P		**Pn**	**07 43 13.1**	**+1.0**
JAG	**Ashikaga**	**10.15**	**351**	P		**Pn**	**07 43 15.2**	**-1.1**
JAG				*e*S		**Sn**	**07 45 00.9**	**-7.3**
MJAR	**Matsushiro Arr**	**10.48**	**346**	P		**Pn**	**07 43 22.0**	**+1.2**
	0.7nm,0.3s,baz=165,slow=11,SNR=3.4							
JFK	**Kawauchi**	**10.97**	**358**	P		**Pn**	**07 43 26.3**	**-1.2**
KSRS	**Korea Array**	**15.84**	**317**	P		**Pn**	**07 44 30.1**	**-0.8**
	baz=131,slow=15,SNR=2.5							
CTA	**Charters Tower**	**46.43**	**174**	P		**P**	**07 49 10.8**	**+0.5**
	4.6nm,0.8s,mb4.3,baz=78,slow=19,SNR=6.4							
CTA	**Charters Tower**	**46.43**	**174**	P		**P**	**07 49 10.8**	**+0.5**
WRAB	**Tennant Creek**	**46.52**	**189**	*e*P		**P**	**07 49 11.4**	**+0.3**
	5.2nm,0.4s,mb4.6							
WB2	**Warramunga Arr**	**46.53**	**189**	*e*P		**P**	**07 49 11.2**	**+0.1**
WRA	**Warramunga Arr**	**46.53**	**189**	P		**P**	**07 49 11.2**	**+0.1**
	6.8nm,0.4s,mb4.8,baz=11,slow=8.7,SNR=160							

FITZ	**Fitzroy Crossi**	**46.76**	**201**	*e*P		**P**	**07 49 13.1**	**+0.2**
	6.1nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**50.26**	**189**	P		**P**	**07 49 39.5**	**-0.2**
	0.6nm,0.3s,mb4.0,baz=7.9,slow=6.2,SNR=24							
ASAR				PcP		PcP	07 50 57.8	+0.4
	0.5nm,0.7s,baz=12,slow=4.1,SNR=4.8							
KDAK	**Kodiak Island**	**55.40**	**37**	P		**P**	**07 50 18.1**	**+0.6**
	43nm,1.2s,mb5.3,baz=160,slow=7.2,SNR=4.5							
STKA	**Stephens Creek**	**57.92**	**180**	*e*P		**P**	**07 50 35.1**	**-0.3**
	1.8nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**57.92**	**180**	P		**P**	**07 50 34.8**	**-0.6**
	2.1nm,0.5s,mb4.4,baz=345,slow=7.2,SNR=13							
INK	**Inuvik**	**64.00**	**24**	P		**P**	**07 51 16.9**	**+0.4**
	2.0nm,1.0s,mb3.9,baz=296,slow=3.5,SNR=3.1							
INK	**Inuvik**	**64.00**	**24**	P		**P**	**07 51 16.9**	**+0.4**
YKA	**Yellowknife Ar**	**73.14**	**28**	P		**P**	**07 52 14.0**	**+0.7**
	1.0nm,0.6s,mb3.8,baz=296,slow=6.1,SNR=4.8							
YKA	**Yellowknife Ar**	**73.14**	**28**	P		**P**	**07 52 14.0**	**+0.6**
ARCES	**ARCESS Array B**	**73.97**	**341**	P		**P**	**07 52 17.1**	**-1.1**
	2.6nm,0.9s,mb4.0,baz=67,slow=6.7,SNR=5.7							
FINES	**FINESS Array B**	**78.25**	**334**	P		**P**	**07 52 41.1**	**-1.3**
	0.8nm,0.3s,mb3.9,baz=79,slow=5.5,SNR=12							
TORD	**Torodi Ar. Bea**	**124.47**	**310**	PKP		PKPdf	07 59 40.7	-0.4
	0.3nm,0.4s,baz=45,slow=0.8,SNR=5.7							
LPAZ	**La Paz**	**150.85**	**76**	PKPbc		PKPbc	08 00 37.4	+2.9
	1.3nm,0.5s,baz=325,slow=1.7,SNR=8.7							

NIED **17** *07:40:00, 4620N×152.50E, h38 km, Mw4.4 Best double couple: M0 4.96000×10 15 NP1:φ 1 =86.00000°, δ83.00000°, λ-102.00000°. NP2:φ 1 =328.00000°, δ14.00000°, λ-29.00000°.*
IDC **17** *07:40:51.2±14.0, 45.88N×152.07E, h0 km, mb4.0/4, mb1 4.4/4, mb1mx3.9/21, mbtmp4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/40, Error ellipse: s-maj=352.7km s-min=96.5km az=77.0*
JMA **17** *07:40:54.8±0.7, 46.18N×152.50E, h30 km, M4.9*
MOS **17** *07:40:56.5±0.8, 46.14N×152.25E, h33 km, mb4.4/2, Error ellipse: s-maj=29.0km s-min=15.5km az=148.8*
ISCJB **17** *07:40:59.9±1.8, 45.8N±0.1°×152.1E±0.2, h87 km±21 km, mb3.9/4, Error ellipse: s-maj=21.5km s-min=15.2km az=89.8*

ISC 17 07:41:00.5±1.7, 459N±0.1°×1522E±0.2, h70 km±22 km, n38, σ1 s35/36, mb3.9/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.09**	**260**	*e*PN		**Pn**	**07 41 44.0**	**-2.8**
KUR				*i* S		**Sn**	**07 42 22.0**	**-0.6**
KUR				pmax		pmax		
	comp=Z,300nm,0.5s							
KUR				smax				
	comp=N,1µm,0.6s							
KUR				smax				
	comp=E,300nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.83**	**250**	*e*PN		**Pn**	**07 42 10.5**	**-0.1**
YUK				pmax		pmax		
	comp=Z,320nm,0.4s							
NEM2	**Nemuro 2**	**5.22**	**244**	P		**Pn**	**07 42 14.9**	**-1.0**
NEM2				*e*S		**Sn**	**07 43 14.3**	**-0.4**
JRA	**Rausu**	**5.36**	**252**	P		**Pn**	**07 42 19.1**	**+1.3**
JNK	**Nakash**	**5.77**	**250**	P		**Pn**	**07 42 24.4**	**+0.9**
JAK	**Akkeshi**	**6.06**	**245**	P		**Pn**	**07 42 26.2**	**-1.3**
JAK				*e*S		Sx	07 43 34.0	
JTKR	**Abashiri--Toko**	**6.16**	**255**	P		**Pn**	**07 42 30.2**	**+1.4**
JAR	**Ashorobuto**	**6.52**	**250**	P		**Pn**	**07 42 34.5**	**+0.8**
JAR				*e*S		Sx	07 43 49.0	
JMP	**Maruseppu**	**6.52**	**257**	P		**Pn**	**07 42 35.5**	**+1.8**
YSS	**Yuzh-Sakhalins**	**6.61**	**283**	*e*PN		**Pn**	**07 42 34.0**	**-0.9**
YSS				pmax		pmax		
	comp=Z,30nm,0.7s							
JOB	**Onbets**	**6.66**	**247**	P		**Pn**	**07 42 35.8**	**+0.2**
JOB				*e*S		Sx	07 43 50.3	
JKK2	**Kamakawa 2**	**6.98**	**257**	P		**Pn**	**07 42 41.4**	**+1.4**
ASAJ	**Asahikawa**	**7.01**	**259**	Pn		**Pn**	**07 42 42.1**	**+1.8**
	comp=Z,4.7nm,0.3s,baz=80,slow=18,SNR=11							
ASAJ	**Asahikawa**	**7.01**	**259**	P		**Pn**	**07 42 42.8**	**+2.4**
ASAJ	**Asahikawa**	**7.01**	**259**	PN		**Pn**	**07 42 42.2**	**+1.8**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
JCH	**Churui**	**7.10**	**246**	P		**Pn**	**07 42 41.4**	**-0.3**
JCH				*e*S		Sx	07 44 00.5	
JAB	**Ashibetsu**	**7.47**	**255**	P		**Pn**	**07 42 49.1**	**+2.4**
ERM	**Erimo**	**7.55**	**243**	*e*PN		**Pn**	**07 42 49.4**	**+1.6**
ERM				pmax		pmax		
	comp=Z,58nm,0.5s							
ERM	**Erimo**	**7.55**	**243**	*e*Pn		**Pn**	**07 42 49.4**	**+1.6**
	comp=Z,58nm,0.5s							
JNBK	**Urakawa-nobuka**	**7.66**	**246**	P		**Pn**	**07 42 48.2**	**-1.1**
JNBK				*e*S		Sx	07 44 12.9	
JNB	**Noboribetsu**	**8.69**	**251**	*e*S		**Sn**	**07 44 39.5**	**-0.1**
JKB	**Kayabe**	**8.96**	**248**	*e*S		Sx	07 44 39.3	
JANG	**Nango**	**9.52**	**239**	P		**Pn**	**07 43 11.4**	**-3.3**
JANG				*e*S		Sx	07 44 53.8	
JTM	**Tenmabayashi**	**9.54**	**242**	*e*S		Sx	07 44 54.2	
JTH	**Tanohata**	**9.59**	**236**	*e*S		Sx	07 44 55.1	
OFUJ	**Ofunato**	**10.29**	**233**	P		**Pn**	**07 43 22.8**	**-2.4**
OFUJ				*e*S		Sx	07 45 12.8	
JRG	**Rokugo**	**10.66**	**237**	P		**Pn**	**07 43 28.5**	**-1.8**
JIO	**Ouri**	**10.91**	**231**	P		**Pn**	**07 43 30.9**	**-2.7**
JIO				*e*S		Sx	07 45 26.5	
MAT	**Matsushiro**	**14.02**	**233**	P		**Pn**	**07 44 15.4**	**-0.2**
MJAR	**Matsushiro Arr**	**14.02**	**233**	Pn		**Pn**	**07 44 18.0**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=31,slow=17,SNR=5.5							
YAK	**Yakutsk**	**20.75**	**329**	*e*P		**P**	**07 45 33.9**	**-1.4**
JOW	**Kunigami**	**26.86**	**233**	LR		LR	07 59 03.0	
	comp=Z,111nm,18.3s,baz=79,slow=41							
INK	**Inuvik**	**42.76**	**32**	P		**P**	**07 48 49.9**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.7,baz=288,slow=4.4,SNR=3.9							
INK	**Inuvik**	**42.76**	**32**	P		**P**	**07 48 49.9**	**-1.0**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**63.44**	**61**	P		**P**	**07 51 23.2**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=290,slow=8.2,SNR=7.7							
PDAR	**Pinedale Array**	**65.81**	**53**	P		**P**	**07 51 38.4**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=280,slow=2.7,SNR=5.8							
TXAR	**Lajitas Array**	**78.51**	**60**	P		**P**	**07 52 54.7**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.2,baz=302,slow=4.2,SNR=12							
TXAR	**Lajitas Array**	**78.51**	**60**	P		**P**	**07 52 54.7**	**+0.7**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							

IDC **17** *07:44:53.4±1.2, 47.13N×155.04E, h0 km, mb3.9/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=29.0km s-min=21.0km az=153.0*
NEIC **17** *07:44:55.4±0.8, 47.25N×155.07E, h10 km, mb4.6/1, Error ellipse: s-maj=21.5km s-min=14.4km az=140.0*
ISCJB **17** *07:44:56.3±3.9, 47.3N±0.1°×155.0E±0.2, h28 km±27 km, mb3.9/13, Error ellipse: s-maj=26.7km s-min=13.1km az=87.0*
MOS **17** *07:44:57.1±1.0, 47.28N×154.96E, h33 km, mb4.2/1, Error ellipse: s-maj=19.8km s-min=14.8km az=83.0*

ISC 17 07:44:58.8±4.1, 473N±0.1°×1550E±0.2, h34 km±29 km, n22, σ0 s73/21, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.48**	**11**	*e*PN		**Pn**	**07 45 50.0**	**-0.5**
SKR				*e*			07 46 30.4	
ASAJ	**Asahikawa**	**9.26**	**255**	Pn		**Pn**	**07 47 09.7**	**-0.2**
	0.7nm,0.3s,baz=87,slow=18,SNR=3.4							
ASAJ	**Asahikawa**	**9.26**	**255**	PN		**Pn**	**07 47 09.7**	**-0.2**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.46**	**235**	Pn		**Pn**	**07 48 48.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=25,slow=10,SNR=5.2							
JHJ	**Hachijo jima 2**	**18.28**	**225**	LR		LR	07 55 08.5	
	comp=Z,124nm,21.4s,baz=101,slow=34							
KSRS	**Korea Array**	**22.21**	**254**	P		**P**	**07 49 52.4**	**+0.1**
	comp=Z,1.6nm,0.7s,mb3.6,baz=52,slow=11,SNR=6.4							
SONM	**Songino Array**	**32.40**	**289**	P		**P**	**07 51 24.5**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=75,slow=7.5,SNR=6.2							
LZH	**Lanzhou**	**39.19**	**272**	*e*P		**P**	**07 52 24.5**	**+1.0**
	comp=Z,15nm,1.0s,mb4.7							
LZH				pP		pP	07 52 29.0	-4.4
LZH				sP		sP	07 52 32.0	-5.5
INK	**Inuvik**	**40.50**	**33**	P		**P**	**07 52 35.0**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.1,baz=284,slow=6.6,SNR=7.2							
ZAL	**Zalesovo**	**43.39**	**306**	P		**P**	**07 52 57.5**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=28,slow=9.9,SNR=6.0							

MKAR	**Makanchi Array**	**47.87**	**298**	P		**P**	**07 53 32.6**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=64,slow=7.9,SNR=13							
BVAR	**Borovoye Array**	**51.54**	**310**	P		**P**	**07 54 00.8**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=48,slow=8.9,SNR=7.9							
AKTK	**Aktyubinsk**	**59.35**	**312**	P		**P**	**07 54 58.0**	**+0.4**
AKTO	**Aktyubinsk**	**59.35**	**312**	P		**P**	**07 54 58.0**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=76,slow=8.3,SNR=3.7							
AKTO	**Aktyubinsk**	**59.35**	**312**	P		**P**	**07 54 58.0**	**+0.5**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**64.12**	**335**	P		**P**	**07 55 30.0**	**+0.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=35,slow=7.4,SNR=8.7							
NOA	**NORSAR Array B**	**68.14**	**342**	P		**P**	**07 55 56.7**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=25,slow=6.3,SNR=2.7							
AKASG	**Malin Array Be**	**71.83**	**327**	P		**P**	**07 56 17.5**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=34,slow=6.1,SNR=8.1							
AKASG	**Malin Array Be**	**71.83**	**327**	P		**P**	**07 56 17.5**	**-0.6**
ASAR	**Alice Springs**	**73.14**	**200**	P		**P**	**07 56 24.4**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=15,slow=5.1,SNR=4.8							
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**07 56 43.0**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=305,slow=4.5,SNR=3.4							
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**07 56 43.0**	**0.0**

IDC **17** *07:47:02.1±0.9, 46.55N×155.02E, h0 km, mb4.0/11, mb1 4.2/12, mb1mx4.0/24, mbtmp4.0/12, ML3.4/1, Error ellipse: s-maj=27.6km s-min=17.7km az=163.0*
NEIC **17** *07:47:03.6±0.8, 46.53N×154.86E, h10 km, mb4.4/3, Error ellipse: s-maj=22.0km s-min=15.7km az=170.0*
MOS **17** *07:47:04.8±0.9, 46.46N×154.85E, h33 km, mb4.5/2, Error ellipse: s-maj=25.4km s-min=14.6km az=85.5*
ISCJB **17** *07:47:06.2±2.3, 46.5N±0.1°×154.9E±0.2, h42 km±19 km, mb4.1/14, Error ellipse: s-maj=25.6km s-min=13.2km az=113.5*

ISC 17 07:47:08.9±1.9, 466N±0.1°×1549E±0.2, h49 km±16 km, n23, σ0 s85/23, mb4.1/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.18**	**11**	*e*PN		**Pn**	**07 48 10.5**	**+0.4**
ASAJ	**Asahikawa**	**8.98**	**258**	Pn		**Pn**	**07 49 15.1**	**-0.8**
	0.5nm,0.3s,baz=78,slow=19,SNR=2.8							
ASAJ	**Asahikawa**	**8.98**	**258**	PN		**Pn**	**07 49 15.1**	**-0.8**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.91**	**255**	P		**P**	**07 51 59.1**	**+1.4**
	comp=Z,1.9nm,0.8s,mb3.6,baz=54,slow=11,SNR=6.1							
BILL	**Bilibino**	**22.30**	**11**	*e*P		**P**	**07 52 02.4**	**+0.4**
BILL				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.2							
BILL	**Bilibino**	**22.30**	**11**	*e*P		**P**	**07 52 00.3**	**-1.7**
	comp=Z,12nm,0.8s,mb4.4							
EGAK	**Eagle**	**38.38**	**38**	*e*P		**P**	**07 54 27.9**	**+2.6**
	comp=Z,11nm,0.4s,mb4.9							
INK	**Inuvik**	**41.15**	**32**	P		**P**	**07 54 47.8**	**-0.4**
	comp=Z,2.1nm,0.9s,mb3.8,baz=294,slow=5.1,SNR=4.6							
MKAR	**Makanchi Array**	**48.08**	**298**	P		**P**	**07 55 43.4**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=61,slow=8.5,SNR=3.7

Error ellipse: s-maj=23.3km s-min=6.5km az=52.0

IDC ***17*** *08:24:08.8±2.2,308N×12547E,h220km±20km, mb3.9/14, mb1 4.0/14,mb1mx3.9/20,mbtmp3.9/14,MS4.5/1, Ms1 4.5/1,ms1mx2.7/31,Error ellipse: s-maj=38.5km s-min=7.6km az=70.0*

ISC 17 08:24:07.6±2.0,317N±008×1257E±01,h208km±19km,n40, σ0s59/40,mb4.3/24,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSM	**Kuching**	**15.47**	**264**	*e*Pn		**Pn**	**08 27 35.5**	**+0.4**
KAKA	**Kakadu**	**17.14**	**157**	*e*P		**P**	**08 27 51.7**	**-1.7**
	35nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.13**	**180**	*e*P		**P**	**08 28 35.3**	**-1.0**
	11nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**21.13**	**180**	P		**P**	**08 28 36.0**	**-0.3**
	6.3nm,0.5s,mb4.4,baz=14,slow=8.6,SNR=25							
WRAB	**Tennant Creek**	**24.48**	**160**	*e*P		**P**	**08 29 07.6**	**+0.1**
	23nm,0.6s,mb5.0							
WRA	**Warramunga Arr**	**24.48**	**160**	P		**P**	**08 29 07.5**	**-0.1**
	28nm,0.7s,mb5.0,baz=343,slow=10.0,SNR=130							
WRA				S		**S**	**08 33 12.5**	**+0.2**
	5.7nm,1.4s,baz=325,slow=17,SNR=5.1							
WB2	**Warramunga Arr**	**24.49**	**160**	*e*P		**P**	**08 29 07.5**	**-0.1**
AS31	**Alice Springs**	**27.84**	**164**	*e*P		**P**	**08 29 37.8**	**+0.1**
ASAR	**Alice Springs**	**27.84**	**164**	P		**P**	**08 29 38.0**	**+0.4**
	1.1nm,0.6s,mb3.6,baz=353,slow=7.5,SNR=22							
ASAR				S		**S**	**08 34 05.5**	**+0.2**
	0.9nm,0.9s,baz=346,slow=17,SNR=5.5							
CTA	**Charters Tower**	**30.68**	**140**	P		**P**	**08 30 03.9**	**+1.1**
	4.4nm,0.7s,mb4.2,baz=322,slow=11,SNR=5.2							
KSRS	**Korea Array**	**34.18**	**3**	P		**P**	**08 30 33.9**	**+0.7**
	1.2nm,0.8s,mb3.5,baz=174,slow=11,SNR=4.8							
MJAR	**Matsushiro Arr**	**35.16**	**18**	LR		LR	08 44 52.6	
	comp=Z,662nm,18.4s,baz=50,slow=35							
STKA	**Stephens Creek**	**37.99**	**158**	⇓*i*P		**P**	**08 31 06.4**	**+1.0**
	8.2nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**37.99**	**158**	P		**P**	**08 31 06.4**	**+1.1**
	5.2nm,0.6s,mb4.2,baz=337,slow=7.4,SNR=12							
LSA	**Lhasa**	**42.05**	**313**	*e*P		**P**	**08 31 39.2**	**+0.5**
	6.9nm,0.6s,mb4.3							
JIRN	**Jiri**	**44.87**	**307**	*e*P		**P**	**08 32 01.9**	**+0.6**
	26nm,0.6s,mb4.7							
GUN	**Gumba**	**45.23**	**307**	*e*P		**P**	**08 32 04.1**	**0.0**
	60nm,0.7s,mb5.0							
PKI	**Pulchoki**	**45.46**	**306**	*e*P		**P**	**08 32 05.8**	**-0.1**
	13nm,0.7s,mb4.4							
KKN	**Kakani**	**45.66**	**307**	*e*P		**P**	**08 32 07.5**	**+0.1**
	15nm,0.4s,mb4.6							
DMN	**Daman**	**45.72**	**306**	*e*P		**P**	**08 32 08.4**	**+0.5**
	27nm,0.8s,mb4.6							
GKN	**Gorkha**	**46.26**	**306**	*e*P		**P**	**08 32 12.0**	**-0.1**
	19nm,0.6s,mb4.6							
KOLN	**Koldanda**	**47.00**	**306**	*e*P		**P**	**08 32 18.1**	**+0.2**
	46nm,0.6s,mb5.0							
SONM	**Songino Array**	**47.51**	**342**	P		**P**	**08 32 21.8**	**+0.1**
	1.8nm,0.7s,mb3.5,baz=153,slow=8.9,SNR=14							
SONM				PcP		PcP	08 33 48.4	0.0
	0.7nm,0.7s,baz=161,slow=4.3,SNR=4.2							
HYB	**Hyderabad**	**48.34**	**290**	*i* P		**P**	**08 32 28.0**	**-0.1**
HYB	**Hyderabad**	**48.34**	**290**	*e*P		**P**	**08 32 28.0**	**-0.1**
MKAR	**Makanchi Array**	**57.43**	**326**	P		**P**	**08 33 34.3**	**-0.2**
	5.2nm,0.6s,mb4.3,baz=123,slow=8.6,SNR=43							
MKAR				pP		pP	08 34 19.8	-1.7
	1.8nm,0.8s,baz=116,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**57.43**	**326**	P		**P**	**08 33 34.3**	**-0.2**
MKAR				pP		pP	08 34 19.8	-1.7
BVAR	**Borovoye Array**	**67.23**	**327**	P		**P**	**08 34 38.9**	**-0.6**
	1.5nm,0.5s,mb3.9,baz=137,slow=9.5,SNR=8.1							
BRVK	**Borovoye**	**67.30**	**327**	*e*P		**P**	**08 34 39.6**	**-0.3**
	3.9nm,0.8s,mb4.1							
TIXI	**Tiksi**	**68.42**	**1**	*e*P		**P**	**08 34 46.6**	**-0.2**
	391nm,1.1s							
AKTK	**Aktyubinsk**	**73.46**	**322**	P		**P**	**08 35 16.9**	**-0.3**
AKTO	**Aktyubinsk**	**73.46**	**322**	P		**P**	**08 35 16.9**	**-0.3**
	2.2nm,0.6s,mb4.0,baz=112,slow=9.5,SNR=8.9							
ARU	**Arti**	**74.86**	**328**	*e*P		**P**	**08 35 24.3**	**-0.9**
ARCES	**ARCESS Array B**	**90.62**	**340**	P		**P**	**08 36 47.4**	**+1.2**
	2.7nm,0.8s,mb4.2,baz=81,slow=7.5,SNR=4.9							
ARCES	**ARCESS Array B**	**90.62**	**340**	P		**P**	**08 36 47.4**	**+1.2**
AKASG	**Malin Array Be**	**91.67**	**321**	P		**P**	**08 36 50.5**	**-0.6**
	2.0nm,0.6s,mb4.2,baz=71,slow=4.4,SNR=7.8							
FINES	**FINESS Array B**	**91.84**	**332**	P		**P**	**08 36 51.9**	**-0.1**
	3.0nm,0.7s,mb4.3,baz=116,slow=6.6,SNR=7.2							
NOA	**NORSAR Array B**	**98.83**	**333**	P		**P**	**08 37 22.8**	**-0.9**
	1.7nm,0.8s,mb4.5,baz=69,slow=4.4,SNR=3.6							
NOA	**NORSAR Array B**	**98.83**	**333**	P		**P**	**08 37 22.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.11**	**288**	PKP		PKPdf	08 42 38.0	+0.7
	0.9nm,0.7s,baz=46,slow=1.9,SNR=6.2							

ISCJB ***17*** *08:32:44.5±1.1,4844N±004×15552E±004,h0km±6km, mb5.0/103,MS4.6/18,Error ellipse: s-maj=6.3km s-min=3.8km az=126.8*

BJI ***17*** *08:32:45.2,4878N×15567E,h16km,mB4.9,mb4.8,Ms4.7, Msz4.5*

IDC ***17*** *08:32:46.2±0.6,4852N×15550E,h0km,mb4.5/24, mb1 4.6/24,mb1mx4.6/29,mbtmp4.5/24,MS4.1/3, Ms1 4.1/3,ms1mx3.4/27,Error ellipse: s-maj=16.8km s-min=13.4km az=137.0*

NEIC ***17*** *08:32:48.0±0.2,4848N×15546E,h10km,mb5.1/51,Error ellipse: s-maj=6.1km s-min=4.1km az=140.0*

GCMT ***17*** *08:32:48.0±0.6,4833N×15592E,h31km±1km,MW5.0/51, Moment Tensor Solution. s20,c25; s51,c71; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.00±.24; Mθθ-0.62±.19; Mφφ-2.38±.16; Mrθ0.89±.22; Mrφ-1.49±.12; Mθφ1.16±.16; Best double couple: M0:3.44100×10^16^ NP1:ϕ206.00000°,δ33.00000°,λ84.00000°. NP2: ϕ33.00000°,δ58.00000°,λ94.00000°. Principal axes: T 3.3310, Plg77.0000°, Azm316.0000°; N 0.2190, Plg3.0000°, Azm211.0000°; P -3.5510, Plg12.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SKHL ***17*** *08:32:48.6±4.3,4830N×15563E,h53km±18km,mb6.5/1, mbh6.2/1,Ms4.7/4,msh5.6/1*

MOS ***17*** *08:32:50.4±1.1,4852N×15540E,h35km,mb5.3/38, MS4.8/7,Error ellipse: s-maj=9.5km s-min=5.3km az=105.2*

SZGRF ***17*** *08:32:57.1,4942N×15602E,h33km,mb5.6,Kuril Islands, Russia*

ISC 17 08:32:46.5±1.2,4849N±004×15548E±004,h2km±7km, n331,σ0s87/341,mb4.9/103,MS4.6/18,30C-40D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.23**	**11**	*e*P		**Pn**	**08 33 25.0**	**+0.4**
SKR				AMB		AMB	08 33 31.4	
	340nm,0.4s							
SKR				AMB		AMB	08 33 31.4	
	330nm,0.4s							
SKR				AMB		AMB	08 33 31.4	
	1μm,0.5s							
SKR				*e*S		**Sn**	**08 33 52.3**	**-0.4**
SKR				A			08 34 14.0	
	8μm,2.0s							
SKR				A			08 34 14.0	
	10μm,2.0s							
SKR				A			08 34 14.0	
	5μm,2.0s							
SKR				AMS		AMS	08 34 30.0	
	11μm,14.0s							
SKR				AMS		AMS	08 34 30.0	
	11μm,14.0s							
SKR				AMS		AMS	08 34 30.0	
	12μm,14.0s							
SKR				AMS		AMS	08 34 30.0	
	11μm,14.0s							
SKR				AMS		AMS	08 34 30.0	
	12μm,14.0s							
SKR				AMS		AMS	08 34 30.0	
	10μm,14.0s							
SKR				*e*rx		rx	08 38 32.7	
SKR	**Severo-Kuril's**	**2.23**	**11**	*e*PN		**Pn**	**08 33 25.0**	**+0.4**
SKR				*e*S		**Sn**	**08 33 52.3**	**-0.4**
SKR				pmax		pmax		
	comp=Z,1μm,0.5s							
SKR				pmax		pmax		
	comp=N,340nm,0.4s							
SKR				pmax		pmax		
	comp=E,330nm,0.4s							
SKR				smax				
	comp=N,3μm,0.5s							
SKR				smax				
	comp=E,1μm,0.8s							
SKR				smax				
	comp=N,8μm,2.0s							
SKR				smax				
	comp=E,10μm,2.0s							
PET	**Petropavlovsk**	**4.97**	**23**	⇓*i*PN		**Pn**	**08 34 02.9**	**+0.8**
PET				pmax		pmax		
	comp=Z,131nm,0.5s							
PET	**Petropavlovsk**	**4.97**	**23**	*e*Pn		**Pn**	**08 34 02.8**	**+0.6**
PET				*e*Sn		**Sn**	**08 35 01.1**	**+0.9**
KUR	**Kuril'sk**	**6.15**	**241**	⇓*i*P		**Pn**	**08 34 16.5**	**-1.9**
KUR				AMB		AMB	08 34 19.5	
	comp=Z,2μm,5.0s							
KUR				AMB		AMB	08 34 19.5	
	comp=Z,5μm,5.0s							
KUR				AMB		AMB	08 34 19.5	
	comp=Z,8μm,5.0s							
KUR				AMB		AMB	08 34 19.5	
	comp=Z,456nm,0.6s							
KUR				AMB		AMB	08 34 19.5	
	comp=Z,380nm,0.6s							
KUR				AMB		AMB	08 34 19.5	
	comp=Z,836nm,0.6s							
KUR				AMS		AMS	08 36 45.0	
	comp=Z,8μm,13.0s							
KUR				AMS		AMS	08 36 45.0	
	comp=Z,8μm,13.0s							
KUR				pmax		pmax		
	comp=N,460nm,0.6s							
KUR				pmax		pmax		
	comp=E,380nm,0.6s							
KUR				pmax		pmax		
	comp=Z,840nm,0.6s							
KUR	**Kuril'sk**	**6.15**	**241**	*e*PN		**Pn**	**08 34 16.5**	**-1.9**
YUK				pmax		pmax		
	comp=Z,1μm,0.3s							
YUK				pmax		pmax		
	comp=N,420nm,0.3s							
YUK				pmax		pmax		
	comp=E,350nm,0.4s							
YUK				pmax		pmax		
	comp=Z,2μm,1.2s							
YUK				pmax		pmax		
	comp=E,2μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**8.01**	**240**	*e*PN		**Pn**	**08 34 43.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.71**	**265**	⇑*e*PN		**Pn**	**08 34 58.6**	**+5.0**
YSS				pmax		pmax		
	comp=Z,80nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.71**	**265**	*e*Pn		**Pn**	**08 34 55.0**	**+1.4**
	comp=Z,105nm,0.8s							
UGL	**Uglegorsk**	**8.88**	**279**	*e*PN		**Pn**	**08 35 02.0**	**+6.2**
UGL				pmax		pmax		
	comp=Z,123nm,1.0s							
UGL				MLR		MLR		
	comp=N,4μm,14.0s							
UGL				MLR		MLR		
	comp=E,3μm,14.0s							
UGL				MLR		MLR		
	comp=Z,3μm,14.0s							
NKL	**Nikolayevsk**	**10.45**	**302**	*e*L			08 38 38.0	
NKL				AMS		AMS	08 40 27.0	
	comp=Z,2μm,15.0s							
NKL				AMS		AMS	08 40 27.0	
	comp=Z,2μm,15.0s							
NKL				AMS		AMS	08 40 27.0	
	comp=Z,3μm,15.0s							
ERM	**Erimo**	**10.82**	**238**	Pn		**Pn**	**08 35 20.7**	**-1.8**
	comp=Z,1μm,0.4s,SNR=18							
ERM	**Erimo**	**10.82**	**238**	*i* PN		**Pn**	**08 35 21.2**	**-1.3**
ERM	**Erimo**	**10.82**	**238**	*e*Pn		**Pn**	**08 35 20.6**	**-1.9**
	comp=Z,144nm,0.6s							
MA2	**Magadan**	**11.44**	**348**	*e*PN		**Pn**	**08 35 34.6**	**+3.6**
MA2				pmax		pmax		
	comp=Z,12nm,0.5s							
MA2	**Magadan**	**11.44**	**348**	*e*Pn		**Pn**	**08 35 34.6**	**+3.6**
	comp=Z,12nm,0.5s							
SMY	**Shemya**	**12.56**	**63**	*e*PN		**Pn**	**08 35 44.7**	**-1.5**
SMY				pmax		pmax		
	comp=Z,113nm,0.5s							
SMY	**Shemya**	**12.56**	**63**	*e*Pn		**Pn**	**08 35 44.7**	**-1.5**
	comp=Z,113nm,0.5s							
SMY				*e*Sn		**Sn**	**08 37 51.6**	**-15**
HABR	**Khabarovsk**	**13.55**	**278**	⇓*e*P		**Pn**	**08 36 06.8**	**+7.0**
SEY	**Seymchan**	**14.58**	**354**	⇑*e*P		**Pn**	**08 36 14.7**	**+0.9**
KLR	**Kul'dur**	**15.62**	**282**	*e*P		**Pn**	**08 36 28.6**	**+0.8**
KLR				pmax		pmax		
	comp=E,85nm,1.6s							
KLR				pmax		pmax		
	comp=Z,50nm,1.6s							
KLR				MLR		MLR		
	comp=N,1μm,13.0s							
KLR				MLR		MLR		
	comp=Z,8μm,13.0s							
MAJO	**Matsushiro**	**17.41**	**233**	*e*P		**Pn**	**08 36 49.9**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,36nm,0.6s							
MAJO	**Matsushiro**	**17.41**	**233**	*e*P		**Pn**	**08 36 49.9**	**-0.6**
	comp=Z,36nm,0.6s							
ZEA	**Zeya**	**18.41**	**297**	*e*P		**Pn**	**08 37 02.2**	**-0.7**
ZEA				AMB		AMB	08 37 04.0	
	comp=Z,43nm,1.2s							
ZEA				AMB		AMB	08 37 04.0	
	comp=Z,50nm,1.2s							
ZEA				AMB		AMB	08 37 04.0	
	comp=Z,21nm,0.8s							
JHJ	**Hachijo jima 2**	**19.35**	**223**	LR		LR	08 43 58.1	
	comp=Z,170nm,20.2s,baz=96,slow=35							
YAK	**Yakutsk**	**19.81**	**323**	*e*P		**Pn**	**08 37 17.6**	**-2.2**
YAK				pmax		pmax		
	comp=Z,56nm,1.1s							
YAK				pmax		pmax		
	comp=N,27nm,1.4s							
YAK				pmax		pmax		
	comp=E,66nm,1.6s							
YAK				MLR		MLR		
	comp=Z,1μm,16.0s							
YAK				MLR		MLR		
	comp=N,664nm,13.0s							
YAK				MLR		MLR		
	comp=E,831nm,14.0s							
YAK	**Yakutsk**	**19.81**	**323**	*e*P		**Pn**	**08 37 18.4**	**-1.4**
	comp=E,80nm,0.8s							
CLNS	**Chul'man**	**20.20**	**306**	*e*P		**P**	**08 37 25.2**	**+2.7**
CLNS				*e*			08 37 36.0	
CLNS				*e*PPP			08 37 41.1	
CLNS				*e*S		**S**	**08 41 11.4**	**+1.6**
CLNS				*e*			08 41 27.6	
CLNS				pmax		pmax		
	comp=E,7.0nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,17nm,0.9s							
CLNS				pmax		pmax		
	comp=N,5.0nm,1.0s							
CLNS				smax				
	comp=E,14nm,1.1s							
CLNS				smax				
	comp=N,8.0nm,0.9s							
CLNS				smax				
	comp=Z,7.0nm,0.9s							
CLNS				MLR		MLR		
	comp=Z,2μm,13.0s,MS4.7							
CLNS				MLR		MLR		
	comp=N,300nm,15.0s,MS4.7							
CLNS				MLR		MLR		
	comp=E,2μm,10.0s,MS4.7							
NRGR	**Nerungri**	**20.25**	**305**	*e*P		**P**	**08 37 31.2**	**+8.1**
NRGR				S		**S**	**08 41 06.9**	**-4.1**
NRGR				smax				
	comp=N,7.0nm,0.2s							
BILL	**Bilibino**	**20.35**	**12**	⇑*e*P		**P**	**08 37 22.9**	**-1.3**
BILL				*e*			08 37 39.8	
BILL				pmax		pmax		
	comp=Z,24nm,0.9s							
BILL	**Bilibino**	**20.35**	**12**	*e*P		**P**	**08 37 23.3**	**-0.9**
	comp=Z,26nm,0.8s							
CN2	**Changchun**	**21.25**	**269**	⇓P		**P**	**08 37 32.1**	**-1.8**
CN2				*e*S		**S**	**08 41 18.3**	**-12**
CN2				AMB		AMB		
	comp=Z,70nm,1.0s,mb5.0							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,700nm,13.0s,MS4.5							
CN2				LR		LR		
	comp=E,900nm,13.0s,MS4.5							
CN2				LR		LR		
	comp=Z,1μm,13.0s,MS4.4							
KSRS	**Korea Array**	**22.86**	**251**	P		**P**	**08 37 51.9**	**+0.7**
	comp=Z,11nm,0.7s,mb4.4,baz=48,slow=10,SNR=47							
HIA	**Hailar**	**23.38**	**285**	*e*P		**P**	**08 37 55.4**	**-1.3**
HIA	**Hailar**	**23.38**	**285**	*e*P		**P**	**08 37 56.0**	**-0.7**
INCN	**Inchon**	**23.66**	**253**	*e*P		**P**	**08 38 00.1**	**+0.7**
	comp=Z,46nm,1.3s,mb4.8							
JNU	**Nakatsue**	**23.98**	**239**	P		**P**	**08 38 03.3**	**+0.9**
	comp=Z,17nm,0.8s,mb4.5,baz=235,slow=19,SNR=4.0							
JNU				LR		LR	08 47 03.6	
	comp=Z,2μm,21.1s,MS4.5,baz=74,slow=36							
BOD	**Bodaibo**	**26.17**	**307**	*e*P		**P**	**08 38 26.2**	**+3.9**
CIT	**Chita**	**26.76**	**294**	*e*P		**P**	**08 38 26.7**	**-1.0**
BJI	**Beijing**	**29.11**	**268**	P		**P**	**08 38 49.6**	**+0.9**
BJI				AMB		AMB		
	comp=Z,13nm,1.4s,mb4.5							
BJI				LR		LR		
	comp=N,730nm,15.7s,MS4.4							
BJI				LR		LR		
	comp=E,165nm,15.3s,MS4.4							
BJI				LR		LR		
	comp=Z,464nm,16.2s,MS4.2							
BJI	**Beijing**	**29.11**	**268**	P		**P**	**08 38 49.6**	**+0.9**
	comp=Z,13nm,1.4s,mb4.5							
BJI				S		**S**	**08 43 58.1**	**+17**
BJI				LR		LR		
	comp=Z,460nm,16.2s,MS4.2							
BJT	**Baijiatuan**	**29.13**	**268**	*e*P		**P**	**08 38 48.3**	**-0.5**
BJT				pmax		pmax		
	comp=Z,40nm,1.8s							
BJT	**Baijiatuan**	**29.13**	**268**	*e*P		**P**	**08 38 49.1**	**+0.3**
	comp=Z,40nm,1.8s,mb4.8							
HHC	**Hu-ho-hao-te**	**31.79**	**273**	*e*P		**P**	**08 39 12.1**	**-0.2**
HHC				AP			08 39 17.0	
HHC				XP		sP	08 39 19.4	+6.4
HHC				PP		PP	08 40 17.6	-6.3
HHC				PCP		PcP	08 42 04.5	+1.0
HHC				S		**S**	**08 44 20.1**	**-3.1**
HHC				SCP		ScP	08 45 44.5	-3.4
HHC				SS		SS	08 46 11.8	-27
HHC				SCS		ScS	08 49 41.3	-4.8
HHC				AMB		AMB		
	comp=Z,31nm,1.3s,mb5.0							
HHC				AMB		AMB		
	comp=Z,117nm,8.7s							
HHC				LR		LR		
	comp=N,579nm,11.8s,MS4.6							
HHC				LR		LR		
	comp=E,561nm,15.1s,MS4.6							
HHC				LR		LR		
	comp=Z,739nm,13.9s,MS4.5							
ULN	**Ulaanbaatar**	**31.87**	**287**	*e*P		**P**	**08 39 12.4**	**-0.6**
ULN				pmax		pmax		
	comp=Z,11nm,1.4s,mb4.5							
ULN	**Ulaanbaatar**	**31.87**	**287**	*e*P		**P**	**08 39 12.4**	**-0.6**
	comp=Z,11nm,1.4s,mb4.5							
NJ2	**Nanjing**	**32.04**	**253**	*e*P		**P**	**08 39 16.8**	**+2.3**
NJ2				AP			08 39 20.1	
NJ2				XP		sP	08 39 24.3	+9.1
NJ2				PP		PP	08 40 22.9	-3.8
NJ2				S		**S**	**08 44 26.5**	**-0.6**
NJ2				XS		sS	08 44 34.5	+6.5
NJ2				AMB		AMB		
	comp=Z,350nm,4.3s							
NJ2				LR		LR		
	comp=N,1μm,15.4s,MS4.9							
NJ2				LR		LR		
	comp=E,1μm,17.4s,MS4.9							
NJ2				LR		LR		
	comp=Z,2μm,16.3s,MS4.8							
SONM	**Songino Array**	**32.30**	**288**	P		**P**	**08 39 16.4**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.2,baz=71,slow=8.5,SNR=19							
TLY	**Talaya**	**32.84**	**295**	P		**P**	**08 39 22.8**	**+1.3**
	SNR=6.1							
TLY	**Talaya**	**32.84**	**295**	*e*P		**P**	**08 39 20.8**	**-0.7**
TLY				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.0							
TLY				MLR		MLR		
	comp=Z,1μm,14.0s,MS4.8							
TLY	**Talaya**	**32.84**	**295**	*e*P		**P**	**08 39 20.7**	**-0.8**
	comp=Z,18nm,1.0s,mb5.0							
ZAK	**Zakamensk**	**33.42**	**293**	*e*P		**P**	**08 39 25.7**	**-0.9**
ZAK				*e*			08 42 07.3	
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.3							
SML	**Sawmill**	**33.61**	**45**	*e*P		**P**	**08 39 35.4**	**+7.1**
COLA	**College**	**33.78**	**40**	*i* P		**P**	**08 39 29.1**	**-0.6**
WHN	**Wuhan**	**35.92**	**255**	P		**P**	**08 39 50.0**	**+1.8**
XAN	**Xi'an**	**37.26**	**265**	P		**P**	**08 39 58.0**	**-1.7**
XAN				AP			08 40 09.6	
XAN				S		**S**	**08 45 50.0**	**+2.3**
XAN				AMB		AMB		
	comp=Z,4.0nm,0.6s,mb4.4							
XAN				LR		LR		
	comp=N,307nm,14.7s,MS4.3							
XAN				LR		LR		
	comp=E,242nm,14.7s,MS4.3							
XAN				LR		LR		
	comp=Z,430nm,16.3s,MS4.3							
INK	**Inuvik**	**39.32**	**34**	P		**P**	**08 40 16.8**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.2,baz=272,slow=6.5,SNR=20							
LZH	**Lanzhou**	**39.44**	**271**	*e*P		**P**	**08 40 18.9**	**+0.9**
LZH				AP			08 40 24.5	
LZH				XP		sP	08 40 27.3	+8.6
LZH				PP		PP	08 41 49.1	+0.8
LZH				AMB		AMB		
	comp=Z,80nm,1.2s,mb5.3							
LZH				AMB		AMB		
	comp=Z,200nm,4.9s							
LZH				LR		LR		
	comp=N,1μm,14.8s							
LZH				LR		LR		
	comp=Z,2μm,15.1s,MS5.0							
LZH	**Lanzhou**	**39.44**	**271**	*e*P		**P**	**08 40 18.9**	**+0.9**
LZH				*SP		sP	08 40 27.3	+8.6
LZH							08 41 49.1	
LZH				*e*SS		SS	08 49 32.0	+18
LZH				pmax		pmax		
	comp=Z,80nm,1.2s,mb5.3							
LZH				MLR		MLR		
	comp=Z,2μm,15.1s,MS5.0							
LZH	**Lanzhou**	**39.44**	**271**	*e*P		**P**	**08 40 18.9**	**+0.9**
	comp=Z,80nm,1.2s,mb5.3							
LZH				pP			08 40 24.5	
LZH				sP		sP	08 40 27.3	+8.6
LZH				PP		PP	08 41 49.1	+0.8
LZH				S		**S**	**08 46 33.0**	**+12**
LZH				sS		sS	08 46 42.0	+21
LZH				*e*SS		SS	08 49 32.0	+18
LZH				LR		LR		
	comp=Z,2μm,15.1s,MS5.0							
GTA	**Gaotai**	**40.29**	**278**	P		**P**	**08 40 24.9**	**-0.2**
GTA				AP			08 40 29.1	
GTA				XP		sP	08 40 32.1	+6.3
GTA				PP		PP	08 42 02.4	+4.8
GTA				PCP		PcP	08 42 29.4	+0.6
GTA				S		**S**	**08 46 33.9**	**+0.6**
GTA				XS		sS	08 46 41.9	+7.7
GTA				SS		SS	08 49 28.4	-3.0
GTA				AMB		AMB		
	comp=Z,14nm,1.1s,mb4.6							
GTA				AMB		AMB		
	comp=Z,99nm,4.9s							
GTA				LR		LR		
	comp=N,513nm,16.0s,MS4.7							
GTA				LR		LR		
	comp=E,738nm,15.2s,MS4.7							
GTA				LR		LR		
	comp=Z,1μm,16.0s,MS4.8							
CD2	**Chengdu**	**42.62**	**265**	P		**P**	**

comp=Z,560nm,18.0s,MS4.5
ZAL Zalesovo 42.92 305 P **P** **08 40 48.0 +1.4**
comp=Z,7.9nm,0.5s,mb4.7,baz=179,slow=4.3,SNR=17
ZAL Zalesovo 42.92 305 *i* P **P** **08 40 51.0 +4.3**
ZAL pmax pmax
comp=Z,8.0nm,0.5s
GYA Guiyang 43.65 258⇑ *i* P **P** **08 40 53.9 +1.4**
GYA AP 08 40 57.8
GYA XP sP 08 40 59.9 +6.6
GYA PP PP 08 42 37.4 +3.5
GYA PCP PcP 08 42 42.0 +2.1
GYA SCP ScP 08 46 33.5 +1.1
GYA S **S** **08 47 22.9 -0.1**
GYA SCS ScS 08 50 51.3 -2.0
GYA AMB AMB
comp=Z,30nm,1.4s,mb4.8
GYA AMB AMB
comp=Z,130nm,5.0s
GYA LR LR
comp=N,490nm,16.8s,MS4.6
GYA LR LR
comp=E,510nm,17.0s,MS4.6
GYA LR LR
comp=Z,530nm,17.2s,MS4.5
WMQ Urumqi 45.79 291⇑ *i* P **P** **08 41 09.5 -0.2**
WMQ AP 08 41 14.0
WMQ XP sP 08 41 16.5 +6.1
WMQ PCP PcP 08 42 47.3 +0.1
WMQ PP PP 08 42 57.3 +0.5
WMQ S **S** **08 47 52.3 -1.9**
WMQ XS sS 08 48 00.0 +5.0
WMQ AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,91nm,5.6s
WMQ LR LR
comp=N,483nm,20.5s,MS4.5
WMQ LR LR
comp=E,122nm,19.5s,MS4.5
WMQ LR LR
comp=Z,473nm,19.5s,MS4.4
QIZ Qiongzhong 47.00 248 P **P** **08 41 19.4 +0.3**
QIZ S **S** **08 48 11.3 -0.1**
QIZ SS SS 08 51 26.8 -11
QIZ AMB AMB
comp=Z,137nm,4.6s
QIZ LR LR
comp=E,429nm,15.4s
QIZ LR LR
comp=Z,585nm,15.4s,MS4.7
KMI Kunming 47.13 260 P **P** **08 41 21.3 +1.2**
KMI AP 08 41 26.0
KMI XP sP 08 41 28.0 +7.1
KMI PP PP 08 43 11.5 +0.7
KMI S **S** **08 48 13.1 -0.2**
KMI AMB AMB
comp=Z,23nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,117nm,4.5s
KMI LR LR
comp=N,346nm,18.9s,MS4.4
KMI LR LR
comp=E,220nm,17.6s,MS4.4
KMI LR LR
comp=Z,221nm,21.5s,MS4.1
KMI Kunming 47.13 260 P **P** **08 41 21.2 +1.1**
KMI *SP sP 08 41 28.0 +7.1
KMI 08 43 11.5
KMI S **S** **08 48 13.1 -0.2**
KMI *SS sS 08 48 19.1 +5.0
KMI pmax pmax
comp=Z,23nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,220nm,21.5s,MS4.1
KMI Kunming 47.13 260 P **P** **08 41 21.2 +1.1**
comp=Z,23nm,1.2s,mb5.0
KMI pP 08 41 26.0
KMI sP sP 08 41 28.0 +7.1
KMI PP PP 08 43 11.5 +0.7
KMI S **S** **08 48 13.1 -0.2**
KMI sS sS 08 48 19.1 +5.0
KMI LR LR
comp=Z,220nm,21.5s,MS4.1
MKAR Makanchi Array 47.57 297 P **P** **08 41 22.9 -0.6**
comp=Z,13nm,0.7s,mb5.1,baz=79,slow=14,SNR=89
KURK Kurchatov 47.74 303 P **P** **08 41 24.7 -0.2**
comp=Z,78nm,1.0s,mb5.7,SNR=6.4
RES Resolute Bay 48.67 19 *eP* **P** **08 41 32.2 +0.1**
comp=Z,305nm,0.9s
CHKZ Chkalovo 50.54 310 *eP* **P** **08 41 44.3 -2.0**
CHKZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
CHKZ Chkalovo 50.54 310 *eP* **P** **08 41 44.3 -2.0**
comp=Z,12nm,0.8s,mb4.9
BVAR Borovoye Array 50.99 309 P **P** **08 41 48.3 -1.4**
comp=Z,3.4nm,0.4s,mb4.6,baz=58,slow=7.2,SNR=20
BRVK Borovoye 51.03 309 *eP* **P** **08 41 48.8 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BRVK Borovoye 51.03 309 *eP* **P** **08 41 48.8 -1.3**
comp=Z,1.6nm,0.4s,mb4.3
ZRNK Zerenda 51.74 310 *eP* **P** **08 41 53.8 -1.6**
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ZRNK Zerenda 51.74 310 *eP* **P** **08 41 53.8 -1.6**
comp=Z,4.9nm,0.6s,mb4.6
LSA Lhasa 51.77 273 P **P** **08 41 57.3 +1.7**
LSA Lhasa 51.77 273 *eP* **P** **08 41 57.8 +2.2**
LSA pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
LSA Lhasa 51.77 273 *eP* **P** **08 41 57.8 +2.2**
comp=Z,4.7nm,0.4s,mb4.8
NANT Nan 52.94 256⇑ P **P** **08 42 03.0 -1.3**
comp=Z,100nm,1.0s,mb5.7
TKM2 Tokmak 2 53.67 296 P **P** **08 42 09.8 +0.2**
SNR=9.4
ULHL Ulahol 53.67 295 P **P** **08 42 10.4 +0.7**
SNR=8.6
CHG Chiang Mai 54.07 257⇑ P **P** **08 42 13.6 +1.0**
comp=Z,27nm,0.9s,mb5.2
CHTO Chiang Mai 54.07 257⇓ P **P** **08 42 13.9 +1.4**
SNR=11
CHTO Chiang Mai 54.07 257 *eP* **P** **08 42 13.6 +1.0**
CHTO pmax pmax
comp=Z,28nm,1.0s,mb5.2
CHTO Chiang Mai 54.07 257 *eP* **P** **08 42 13.5 +1.0**
comp=Z,28nm,0.9s,mb5.2
USP Ospenovka 54.12 297 P **P** **08 42 13.0 +0.1**
SNR=17
KBK Karagaybulak 54.21 296 P **P** **08 42 13.7 +0.1**
SNR=7.1
CM31 Chiang Mai Arr 54.33 257 *eP* **P** **08 42 14.4 0.0**
comp=Z,26nm,1.2s,mb5.0
KZA Kyzart 54.37 295 P **P** **08 42 15.8 +1.0**
SNR=10
AAK Ala-Archa 54.49 296 P **P** **08 42 14.2 -1.5**
comp=Z,73nm,0.9s,mb5.6,SNR=5.9
AAK Ala-Archa 54.49 296 P **P** **08 42 15.4 -0.2**
SNR=8.0
AAK Ala-Archa 54.49 296 *eP* **P** **08 42 14.6 -1.1**
AAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
AAK Ala-Archa 54.49 296 *eP* **P** **08 42 14.6 -1.1**
comp=Z,16nm,1.0s,mb4.9
ARU Arti 54.81 318 *eP* **P** **08 42 17.0 -0.9**
ARU pmax pmax
comp=Z,13nm,0.3s,mb5.4
ARU Arti 54.81 318 *eP* **P** **08 42 17.0 -1.0**
comp=Z,13nm,0.3s,mb5.4
EKS2 Erkin-Say 54.90 297 P **P** **08 42 18.8 +0.2**
SNR=8.7
KRMB Red Mountain 54.93 65 *eP* **P** **08 42 19.5 +0.6**
AML Almayashu 55.27 296 P **P** **08 42 22.4 +1.2**
SNR=5.3
KSH Kashi 55.46 293 *eP* **P** **08 42 23.3 +0.6**
KSH *eAP* 08 42 28.3
KSH *eXP* sP 08 42 31.0 +7.6
KSH *ePCP* PcP 08 43 23.6 +0.7
KSH *ePP* PP 08 44 28.6 +2.1
KSH *eSCP* ScP 08 47 21.4 -1.3
KSH *eS* **S** **08 50 05.0 -3.5**
KSH *eXS* sS 08 50 14.8 +5.5
KSH *ePS* 08 50 25.3
KSH *eSCS* ScS 08 52 07.8 -5.2
KSH *eSS* SS 08 53 48.0 -5.0
KSH LR LR
comp=N,993nm,4.8s
KSH LR LR
comp=E,600nm,5.0s
KSH LR LR
comp=Z,1μm,7.8s
B13A Whitefish 56.22 53⇑ P **P** **08 42 28.2 +0.1**
baz=56
KEV Kevo 56.23 341 *ep* **P** **08 42 25.0 -3.2**
JIRN Jiri 56.39 275 *eP* **P** **08 42 30.1 +0.8**
GUN Gumba 56.43 275 *eP* **P** **08 42 30.2 +0.6**
comp=Z,18nm,0.4s,mb5.5
I08A Drewsey 56.64 60⇓ P **P** **08 42 31.2 +0.1**
baz=56
ARCES ARCESS Array B 56.73 341 P **P** **08 42 29.6 -2.2**
comp=Z,2.2nm,0.3s,mb4.6,baz=36,slow=7.8,SNR=45
MOD Modoc 56.85 63⇓ P **P** **08 42 33.7 +1.1**
baz=57
KKN Kakani 56.91 276 *eP* **P** **08 42 34.2 +1.2**
PKI Pulchoki 56.97 275 *eP* **P** **08 42 34.2 +0.8**
comp=Z,28nm,0.7s,mb5.4
K07A Rock Creek Ran 56.99 61⇓ P **P** **08 42 33.7 +0.1**
baz=57
D13A Huson 57.00 55⇑ P **P** **08 42 34.0 +0.4**
baz=57
J08A Circle Bar Ran 57.03 60⇑ P **P** **08 42 34.3 +0.4**
baz=57
G11A Walters Elk Ra 57.04 57⇓ P **P** **08 42 34.0 +0.1**
baz=57
I09A Lost Marbles R 57.08 59⇑ P **P** **08 42 34.6 +0.4**
baz=57
DMN Daman 57.15 276 *eP* **P** **08 42 35.5 +0.8**
comp=Z,165nm,1.2s,mb6.0
GKN Gorkha 57.19 276 *eP* **P** **08 42 35.6 +0.6**
comp=Z,49nm,0.6s,mb5.7
L07A Adell 57.35 62⇑ P **P** **08 42 35.9 -0.2**
baz=57
J09A Fry Pan Ranch, 57.45 60⇑ P **P** **08 42 36.3 -0.5**
baz=57
WVOR Wild Horse Val 57.50 61 *eP* **P** **08 42 39.0 +1.8**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WVOR Wild Horse Val 57.50 61 *eP* **P** **08 42 39.0 +1.8**
comp=Z,9.0nm,1.0s,mb4.8
D14A Greenough 57.52 54⇑ P **P** **08 42 36.8 -0.6**
baz=57
E13A Victor 57.55 55⇑ P **P** **08 42 37.6 +0.1**
baz=57
H11A Donnelly 57.61 58⇓ P **P** **08 42 38.4 +0.4**
baz=57
L08A Fields 57.83 61⇓ P **P** **08 42 40.2 +0.7**
baz=58
K09A Rome 57.87 60⇓ P **P** **08 42 39.3 -0.5**
baz=58
KOLN Koldanda 58.03 277 *eP* **P** **08 42 41.5 +0.5**
comp=Z,62nm,0.9s,mb5.6
BEKR Bewourth 58.08 64⇓ P **P** **08 42 40.5 -0.8**
baz=58
E15A Deer Lodge 58.40 54⇓ P **P** **08 42 42.0 -1.5**
baz=58
AKTK Aktyubinsk 58.75 312 P **P** **08 42 45.0 -1.0**
AKTO Aktyubinsk 58.75 312 P **P** **08 42 45.0 -1.0**
comp=Z,1.1nm,0.3s,mb4.4,baz=6.7,slow=4.4,SNR=5.0
AKTO Aktyubinsk 58.75 312 P **P** **08 42 45.0 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
EGMT Eagleton 58.92 51⇑ P **P** **08 42 44.1 -3.1**
baz=59
KLP Kalpa 59.06 284 *eP* **P** **08 42 48.2 +0.1**
KLP AMb AMB 08 42 59.8
comp=Z,9.0nm,1.1s,mb4.7
N09A Rock Creek Ran 59.14 62⇓ P **P** **08 42 47.9 -0.8**
baz=59
BOK Bokaro 59.20 272 *eP* **P** **08 42 48.6 -0.5**
BOK AMb AMB 08 42 52.8
comp=Z,22nm,1.3s,mb5.0
HLID Hailey 59.22 58 *eP* **P** **08 42 49.4 +0.2**
comp=Z,5.0nm,0.8s,mb4.6
HLID Hailey 59.22 58⇓ P **P** **08 42 49.9 +0.7**
baz=59,SNR=6.0
CMB Columbia Colle 59.22 66⇓ P **P** **08 42 48.2 -1.1**
baz=59
M10A I.L. Ranch, Tu 59.29 61⇓ P **P** **08 42 50.2 +0.4**
baz=59
R06C Coleville 59.48 65⇑ P **P** **08 42 51.8 +0.8**
baz=59
O09A Fish Creek Ran 59.77 62⇑ P **P** **08 42 54.1 +1.1**
baz=60
M11A Holland Ranch, 59.79 60⇑ P **P** **08 42 53.9 +0.8**
baz=60
Q08A Gabbs 60.17 64⇓ P **P** **08 42 56.3 +0.5**
baz=60
NVAR Mina Array Bea 60.23 65 P **P** **08 42 55.9 -0.3**
comp=Z,0.8nm,0.7s,mb3.9,baz=293,slow=11,SNR=6.5
S08C White Mtn Res 60.91 65⇓ P **P** **08 43 00.7 -0.1**
baz=61
HELL Mitchell Peak, 60.92 66⇑ P **P** **08 43 00.5 -0.4**
baz=61
KKR Kurukshetra 61.02 283 *eP* **P** **08 43 01.9 +0.4**
VES Vestal, Richgr 61.44 67⇓ P **P** **08 43 04.0 -0.4**
baz=61
NDI New Delhi 61.61 282 *ex* **P** **08 42 59.6 -6.0**
NDI AMb AMB 08 43 36.0
comp=Z,112nm,0.3s
AYAN Aya Nagar 61.80 282 *eP* **P** **08 43 06.7 -0.2**
AYAN AMb AMB 08 43 08.2
comp=Z,13nm,0.5s,mb5.3
NOQ North Oquirrh 62.40 59 *eP* **P** **08 43 12.5 +1.6**
comp=Z,10nm,0.7s,mb5.1
PDAR Pinedale Array 62.44 56 P **P** **08 43 11.4 +0.3**
comp=Z,1.4nm,0.8s,mb4.1,baz=135,slow=0.4,SNR=6.2
KUDL Kundal 62.45 282 *eP* **P** **08 43 10.7 -0.5**
KUDL AMb AMB 08 43 13.7
comp=Z,18nm,2.2s,mb4.8
KHET Khetri 62.94 283 *eP* **P** **08 43 13.7 -0.8**
KHET AMb AMB 08 43 16.4
comp=Z,8.9nm,1.0s,mb4.8
FIA1 FINESS Array S 63.13 335 *eP* **P** **08 43 14.7 -1.0**
FINES FINESS Array B 63.13 335 P **P** **08 43 14.1 -1.7**
comp=Z,1.7nm,0.3s,mb4.6,baz=30,slow=6.7,SNR=21
FINES FINESS Array B 63.13 335 *i* P **P** **08 43 14.5 -1.3**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 63.13 335 P **P** **08 43 14.1 -1.7**
V12A Nelson 64.08 65⇑ P **P** **08 43 18.2 -3.8**
baz=64
ULM Lac du Bonnet 64.16 43 LR LR 09 12 51.2
comp=Z,169nm,20.9s,MS4.2,baz=353,slow=38
KAKA Kakadu 64.27 205 *eP* **P** **08 43 22.5 -0.8**
comp=Z,6.3nm,0.5s,mb4.9
RSSD Black Hills 64.48 52 *eP* **P** **08 43 23.5 -1.2**
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
RSSD Black Hills 64.48 52 *eP* **P** **08 43 24.2 -0.5**
comp=Z,4.0nm,0.6s,mb4.6
OBN Obninsk 64.77 326 *eP* **P** **08 43 25.6 -0.9**
OBN *e* 08 43 57.9
OBN pmax pmax
comp=Z,14nm,1.2s,mb4.9
VIS Vishakhapatnam 65.15 269 *eP* **P** **08 43 29.9 +0.9**
VIS AMb AMB 08 43 47.3
comp=Z,24nm,1.5s,mb5.0
BHPL Bhopal 65.19 278 *eP* **P** **08 43 28.6 -0.7**
BHPL AMb AMB 08 43 30.9
comp=Z,52nm,0.9s,mb5.6
W14A Seligman 65.49 64⇓ P **P** **08 43 30.9 -0.3**
baz=65
NGP Nagpur 65.57 275 *eP* **P** **08 43 30.7 -1.1**
NGP AMb AMB 08 43 32.5
comp=Z,57nm,1.0s,mb5.5
PSI Prapat 66.27 246 P **P** **08 43 37.2 +1.0**
comp=Z,3.1nm,0.6s,mb4.5,baz=5.9,slow=8.2,SNR=4.4
PSI Prapat 66.27 246 P **P** **08 43 37.2 +1.0**
X15A Humboldt 66.49 64⇑ P **P** **08 43 37.7 0.0**
baz=66
MVCO Mesa Verde 66.81 60⇓ P **P** **08 43 39.3 -0.4**
baz=67
BORG Borgarnes 67.08 359 *eP* **P** **08 43 42.6 +1.2**
comp=Z,5μm,4.1s
NB2 NORSAR Subarra 67.08 342 P **P** **08 43 40.3 -1.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=29,slow=6.5
NOA NORSAR Array B 67.08 342 P **P** **08 43 40.2 -1.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=25,slow=6.4,SNR=9.2
NOA NORSAR Array B 67.08 342 P **P** **08 43 40.2 -1.2**
NAO01 NORSAR Array S 67.33 342 *eP* **P** **08 43 42.5 -0.5**
comp=Z,0.5nm,0.3s,mb4.0
SUW Suwalki 70.21 332 *eP* **P** **08 44 00.3 -0.7**
SUW pmax pmax
comp=Z,22nm,0.4s,mb5.4
SUW Suwalki 70.21 332 *eP* **P** **08 44 00.3 -0.7**
comp=Z,22nm,0.4s,mb5.4
WRAB Tennant Creek 70.68 201 *eP* **P** **08 44 03.5 -0.3**
WRAB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WRAB Tennant Creek 70.68 201 *eP* **P** **08 44 03.5 -0.3**
comp=Z,4.9nm,0.9s,mb4.4
WB2 Warramunga Arr 70.69 201 *eP* **P** **08 44 02.2 -1.7**
WRA Warramunga Arr 70.69 201 P **P** **08 44 03.0 -0.9**
comp=Z,3.3nm,0.9s,mb4.2,baz=18,slow=6.2,SNR=13
KIV Kislovodsk 70.71 315 *eP* **P** **08 44 13.1 +9.1**
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AKASG Malin Array Be 70.97 327 P **P** **08 44 04.3 -1.2**
comp=Z,3.4nm,0.3s,mb4.7,baz=33,slow=6.2,SNR=36
AKBB Malin Array Si 70.97 327 *eP* **P** **08 44 04.6 -1.0**
KIEV Kiev 70.98 327 *eP* **P** **08 44 04.3 -1.4**
KIEV pmax pmax
comp=Z,22nm,1.0s,mb5.0
KIEV Kiev 70.98 327 *eP* **P** **08 44 04.6 -1.1**
comp=Z,22nm,1.0s,mb5.0
SCHQ Schefferville 71.08 24 P **P** **08 44 05.5 -0.7**
comp=Z,2.8nm,0.8s,mb4.2,baz=256,slow=8.3,SNR=4.8
SCHQ Schefferville 71.08 24 *eP* **P** **08 44 06.1 -0.2**
comp=Z,1.5nm,0.4s,mb4.3
FITZ Fitzroy Crossi 71.44 210 *eP* **P** **08 44 08.5 +0.1**
comp=Z,9.8nm,1.1s,mb4.7
FITZ Fitzroy Crossi 71.44 210 P **P** **08 44 08.6 +0.2**
comp=Z,7.0nm,1.1s,mb4.5,baz=27,slow=8.1,SNR=6.1
KAD Karad 71.52 275 *eP* **P** **08 44 08.9 0.0**
KAD AMb AMB 08 44 12.2
comp=Z,25nm,1.0s,mb5.1
ANN Anapa 72.44 319 *eP* **P** **08 44 08.3 -6.2**
ANN pmax pmax
comp=Z,99nm,1.5s,mb5.5
KWP Kalwaria 74.13 330 *eP* **P** **08 44 24.6 +0.2**
KWP Kalwaria 74.13 330 *eP* **P** **08 44 24.7 +0.3**
KWP pmax pmax
comp=Z,98nm,1.0s,mb5.7
KIS Kishinev 74.19 325 *eP* **P** **08 44 23.0 -1.8**
KIS *e* 08 44 37.0
KIS Kishinev 74.19 325 *i* UNK **P** **08 44 23.0 -1.8**
AS31 Alice Springs 74.38 200 *eP* **P** **08 44 25.8 -0.1**
ASAR Alice Springs 74.38 200 P **P** **08 44 25.8 -0.1**
comp=Z,5.0nm,1.1s,mb4.4,baz=11,slow=5.4,SNR=23
OJC Ojcow 74.55 332 *eP* **P** **08 44 26.8 0.0**
STHS Stebnicka Huta 74.79 331 *i* P **P** **08 44 28.5 +0.2**
STHS pmax pmax
comp=Z,16nm,1.1s,mb4.9
STHS Stebnicka Huta 74.79 331 *i* P **P** **08 44 28.5 +0.2**
comp=Z,16nm,1.1s,mb4.9
KOLS Kolonicke sedl 74.87 330 *eP* **P** **08 44 28.6 -0.1**
BURAR Bucovina Array 74.99 328⇓ *i* P **P** **08 44 29.6 +0.2**
BURAR Bucovina Array 74.99 328⇓ P **P** **08 44 29.6 +0.1**
KSP Ksiaz 75.04 335 *eP* **P** **08 44 29.6 -0.1**
KSP Ksiaz 75.04 335 *eP* **P** **08 44 29.3 -0.4**
NIE Niedzica 75.09 332 *eP* **P** **08 44 30.7 +0.7**
UZH Uzhgorod 75.13 330 *eP* **P** **08 44 29.0 -1.2**
LTX Lajitas 75.26 62 *eP* **P** **08 44 30.3 -0.7**
LTX pmax pmax
comp=Z,10.0nm,0.2s,mb5.4
LTX Lajitas 75.26 62 *eP* **P** **08 44 30.9 -0.1**
comp=Z,10nm,0.2s,mb5.4
TXAR Lajitas Array 75.26 62 P **P** **08 44 30.9 -0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=299,slow=4.7,SNR=21
OKC Ostrava-Krasne 75.39 333 *eP* **P** **08 44 31.6 -0.1**
UPC Upice 75.42 335 *eP* **P** **08 44 31.7 -0.2**
DPC Dobruska-Polom 75.47 334 *eP* **P** **08 44 32.5 +0.3**
DPC AMS AMS 09 23 20.0
comp=Z,700nm,18.6s
CLL Collm 75.52 337⇑ *i* P **P** **08 44 31.8 -0.7**
CLL pmax pmax
comp=Z,45nm,1.1s,mb5.3
CLL Collm 75.52 337⇑ *i* P **P** **08 44 31.8 -0.7**
comp=Z,45nm,1.1s,mb5.3
CLL LmV 09 21 00.0
comp=Z,300nm,20.3s
MORC Moravsky Berou 75.62 333⇓ *i* P **P** **08 44 33.1 0.0**
MORC Moravsky Berou 75.62 333 *eP* **P** **08 44 33.2 +0.1**
MORC pmax pmax
comp=Z,43nm,1.1s,mb5.3
MORC Moravsky Berou 75.62 333 *eP* **P** **08 44 33.2 +0.2**
comp=Z,43nm,1.1s,mb5.3
BRG Berggiesshubel 75.66 336 *eP* **P** **08 44 32.7 -0.6**
comp=Z,15nm,1.2s,mb4.8
BRG Berggiesshubel 75.66 336 *eP* **P** **08 44 32.7 -0.6**
BRG pmax pmax
comp=Z,15nm,1.2s,mb4.8
PVCC Panska Ves 75.80 335 *eP* **P** **08 44 34.3 +0.2**
KECS Kecovo 75.85 331 *i* P **P** **08 44 34.0 -0.3**
KECS Kecovo 75.85 331 *i* P **P** **08 44 34.1 -0.2**
KECS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KECS Kecovo 75.85 331 *i* P **P** **08 44 34.1 -0.2**
comp=Z,8.5nm,1.0s,mb4.6
VRAC Vranov 76.32 334⇑ *i* P **P** **08 44 37.6 +0.6**
VRAC Vranov 76.32 334⇑ P **P** **08 44 37.6 +0.6**
VYHS Vyhne 76.36 332 *i* P **P** **08 44 37.5 +0.2**
VYHS pmax pmax
comp=Z,12nm,1.1s,mb4.7
VYHS Vyhne 76.36 332 *i* P **P** **08 44 37.5 +0.2**
comp=Z,12nm,1.1s,mb4.7
WTSB Winterswijk 76.41 341 *eP* **P** **08 44 37.2 -0.3**
comp=Z,36nm,1.4s,mb5.1
TIRR Tirgusor 76.47 324⇓ *i* P **P** **08 44 38.0 +0.1**
TIRR Tirgusor 76.47 324 *eP* **P** **08 44 38.1 +0.3**
comp=Z,36nm,1.1s,mb5.2
MOX Moxa 76.48 337 *eP* **P** **08 44 38.0 0.0**
comp=Z,33nm,1.2s,mb5.1
MOX Moxa 76.48 337 *eP* **P** **08 44 38.0 0.0**
MOX pmax pmax
comp=Z,33nm,1.2s,mb5.1
MLR Muntele Rosu 76.54 326⇓ *i* P **P** **08 44 38.8 +0.5**
MLR Muntele Rosu 76.54 326⇓ P **P** **08 44 38.8 +0.6**
PSZ Piszkesteto 76.54 331⇓ *i* P **P** **08 44 39.0 +0.7**
PSZ Piszkesteto 76.54 331 *eP* **P** **08 44 38.3 0.0**
PSZ pmax pmax
comp=Z,24nm,1.1s,mb5.0
PSZ Piszkesteto 76.54 331 *eP* **P** **08 44 38.3 +0.1**
comp=Z,24nm,1.1s,mb5.0
DRGR 76.58 329⇑ *i* P **P** **08 44 38.5 0.0**
DRGR 76.58 329 P **P** **08 44 38.6 +0.1**
DRGR 76.58 329⇑ P **P** **08 44 38.5 0.0**
NKC Novy Kostel 76.64 337 *eP* **P** **08 44 39.2 +0.3**
VOIR 76.91 327⇓ *i* P **P** **08 44 41.1 +0.7**
VOIR 76.91 327⇓ P **P** **08 44 41.1 +0.7**
MALT Malatya 77.12 314⇓ *i* P **P** **08 44 43.2 +1.7**
MALT Malatya 77.12 314 *eP* **P** **08 44 42.2 +0.7**
MALT pmax pmax
comp=Z,47nm,1.1s,mb5.3
MALT Malatya 77.12 314 *eP* **P** **08 44 42.2 +0.7**
comp=Z,47nm,1.1s,mb5.3
ZST Bratislava 77.16 333 *eP* **P** **08 44 43.1 +1.3**
ZST pmax pmax
comp=Z,19nm,0.8s,mb5.1
ZST MLR MLR
comp=Z,500nm,18.2s,MS4.9
ZST Bratislava 77.16 333 *eP* **P** **08 44 43.1 +1.3**
comp=Z,18nm,0.8s,mb5.1
ZST LR LR
comp=Z,500nm,18.2s,MS4.9
KHC Kasperske Hory 77.34 335 *eP* **P** **08 44 43.3 +0.5**
KHC LR LR
comp=Z,700nm,18.0s,MS5.0
GRA1 Grafenberg Arr 77.46 337 *eP* **P** **08 44 43.6 +0.1**
comp=Z,56nm,1.1s,mb5.4
GRF Grafenberg Arr 77.46 337 *eP* **P** **08 44 43.6 +0.1**
comp=Z,56nm,1.1s,mb5.4
GRF Grafenberg Arr 77.46 337 *eP* **P** **08 44 43.6 +0.1**
GRF pmax pmax
comp=Z,56nm,1.1s,mb5.4
GRF Grafenberg Arr 77.46 337 *eP* **P** **08 44 43.6 +0.1**
GRF pmax pmax
comp=Z,56nm,1.1s,mb5.4
GRFO Grafenberg 77.46 337 *eP* **P** **08 44 43.2 -0.3**
GRFO pmax pmax
comp=Z,24nm,0.8s,mb5.2
GRFO Grafenberg 77.46 337 *eP* **P** **08 44 43.2 -0.2**
comp=Z,24nm,0.8s,mb5.2
WBK Wadi Bani Khal 77.54 290⇓ P **P** **08 44 45.9 +2.0**
SNR=6.5
GEC2 GERESS Array S 77.57 335 *eP* **P** **08 44 44.2 +0.1**
GERES GERESS Array B 77.57 335 P **P** **08 44 44.4 +0.4**

comp=Z,2.7nm,0.4s,mb4.5,baz=36,slow=5.0,SNR=33
HATD Hatta, Dubai 77.67 293 P **P** **08 44 45.3 +0.7**
SNR=9.5
HGN Heimansgroeve 77.73 341 *e*P **P** **08 44 44.7 -0.3**
comp=Z,33nm,1.0s,mb5.2
GZR Gura Zlata 77.77 328⇑*i*P **P** **08 44 45.4 +0.2**
GZR Gura Zlata 77.77 328⇑P **P** **08 44 45.4 +0.3**
ASHO Ashiyiah 77.82 293 P **P** **08 44 45.6 +0.2**
SNR=7.8
MEM Membach 77.86 341 E 08 44 46.1
HOQ Hoqain 77.86 292 P **P** **08 44 46.5 +0.8**
SNR=7.3
BZS Buzias 77.98 329⇓*i*P **P** **08 44 46.1 -0.2**
BZS Buzias 77.98 329 P **P** **08 44 46.2 -0.1**
BZS Buzias 77.98 329 ⇓P **P** **08 44 46.1 -0.3**
TOD Tromm 78.15 339 *e*P **P** **08 44 47.7 +0.4**
ABH Alteburg 78.19 339 *e*P **P** **08 44 47.7 +0.2**
BCLA Clavier 78.19 341 E 08 44 47.9
BR131 Keskin Array S 78.19 318 *e*P **P** **08 44 47.9 +0.3**
comp=Z,27nm,1.0s,mb5.1
JMDO Jabal Madar 78.26 290 P **P** **08 44 48.3 +0.4**
SNR=10
PKSM Moragy 78.44 331⇓*i*P **P** **08 44 48.6 -0.3**
PKSM Moragy 78.44 331 ⇓P **P** **08 44 48.6 -0.3**
ANTO Ankara 78.45 319 P **P** **08 44 50.1 +1.1**
SNR=7.8
ANTO Ankara 78.45 319 *e*P **P** **08 44 49.7 +0.7**
ANTO pmax pmax
comp=Z,55nm,1.4s,mb5.3
ANTO Ankara 78.45 319 *e*P **P** **08 44 49.7 +0.8**
comp=Z,55nm,1.4s,mb5.3
ARQ Aragi 78.53 292 P **P** **08 44 50.4 +1.0**
SNR=5.5
BSY Bisya 78.54 291 P **P** **08 44 50.3 +0.8**
SNR=11
STU Stuttgart 78.82 338 *e*P **P** **08 44 51.1 +0.1**
STU pmax pmax
comp=Z,41nm,1.4s,mb5.2
STU Stuttgart 78.82 338 *e*P **P** **08 44 51.1 +0.1**
comp=Z,41nm,1.4s,mb5.2
MIB Mutribah 79.09 303 *e*P **P** **08 44 52.6 +0.1**
MIB AMb AMB 08 44 53.9
comp=Z,120nm,0.6s,mb6.0
PERS Pernice 79.16 333 *e*P **P** **08 44 53.1 +0.3**
BFO Black Forest 79.45 338 *e*P **P** **08 44 54.8 +0.4**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BFO Black Forest 79.45 338 *e*P **P** **08 44 54.8 +0.4**
comp=Z,9.9nm,1.1s,mb4.7
NAY Al-Naaiem 79.57 302 *e*P **P** **08 44 55.1 0.0**
NAY AMb AMB 08 44 56.4
comp=Z,79nm,1.0s,mb5.6
QRN Al-Qurain 79.57 302 *e*P **P** **08 44 55.4 +0.2**
WLS Welschbruch 79.61 339 *e*P **P** **08 44 56.0 +0.7**
CDF Champ du Feu 79.63 339 *e*P **P** **08 44 55.1 -0.3**
comp=Z,51nm,1.2s,mb5.0
CDF Champ du Feu 79.63 339 *e*P **P** **08 44 55.1 -0.3**
CDF pmax pmax
comp=Z,25nm,1.2s,mb5.0
CDF Champ du Feu 79.63 339 *e*P **P** **08 44 55.1 -0.3**
comp=Z,26nm,1.2s,mb5.0
RDF Al-Radifah 79.64 302 *e*P **P** **08 44 55.8 +0.3**
RDF AMb AMB 08 44 58.2
comp=Z,155nm,0.9s,mb5.9
GCIS Gornji Cirnik 79.70 333 *i*P **P** **08 44 55.9 +0.1**
CRES Cresnjev 79.79 333 *i*P **P** **08 44 56.1 -0.2**
LIBD Limburg 79.79 339 *e*P **P** **08 44 56.2 -0.1**
ECH Echery 79.84 339 *e*P **P** **08 44 57.3 +0.7**
FELD Feldberg im Sc 79.95 338 *e*P **P** **08 44 57.5 +0.3**
VTS Vitosha 80.04 326⇓*i*P **P** **08 44 58.0 +0.4**
VTS Vitosha 80.04 326 ⇓P **P** **08 44 58.0 +0.4**
THEF They Montfort 80.10 340 *e*P **P** **08 44 58.6 +0.6**
MOF Molkenrain 80.18 339 *e*P **P** **08 44 59.0 +0.6**
TAOE Nuku Hiva Isla 80.20 115 *e*LR LR 09 10 00.9
comp=Z,835nm,23.4s
STKA Stephens Creek 80.96 192 P **P** **08 45 02.5 -0.1**
GRR Gorron 81.35 344 *e*P **P** **08 45 05.2 +0.5**
comp=Z,78nm,1.0s,mb5.3
GRR Gorron 81.35 344 *e*P **P** **08 45 05.2 +0.5**
GRR pmax pmax
comp=Z,39nm,1.0s,mb5.3
GRR Gorron 81.35 344 *e*P **P** **08 45 05.2 +0.5**
comp=Z,39nm,1.0s,mb5.3
PPT Papeete 81.92 128 *e*LR LR 09 10 46.9
comp=Z,164nm,23.2s
SMF Signal de Mont 82.08 341 *e*P **P** **08 45 08.7 +0.2**
comp=Z,40nm,1.0s,mb5.0
SMF Signal de Mont 82.08 341 *e*P **P** **08 45 08.7 +0.2**
SMF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SMF Signal de Mont 82.08 341 *e*P **P** **08 45 08.7 +0.2**
comp=Z,20nm,1.0s,mb5.0
LPG La Plagne 82.48 338 *e*P **P** **08 45 11.3 +0.7**
comp=Z,34nm,0.8s,mb5.0
LPG La Plagne 82.48 338 *e*P **P** **08 45 11.3 +0.7**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.0
LPG La Plagne 82.48 338 *e*P **P** **08 45 11.3 +0.7**
comp=Z,17nm,0.8s,mb5.0
ASF Jabal al Asfar 82.78 311 P **P** **08 45 13.4 +1.2**
comp=Z,13nm,1.0s,mb4.9,baz=265,slow=1.3,SNR=13
MMAI Mount Meron Ar 82.83 313 P **P** **08 45 13.4 +0.9**
comp=Z,6.1nm,0.4s,mb5.0,baz=36,slow=7.2,SNR=22
CAF Calviac 84.10 341 *e*P **P** **08 45 18.8 -0.2**
WHFO Wadi Hawf 84.27 290 P **P** **08 45 19.7 -0.1**
SNR=12
TBI Tubuai 86.80 131 *e*LR LR 09 13 01.8
comp=Z,291nm,23.8s,baz=318
ESDC Sonseca Array 90.34 344 P **P** **08 45 48.7 -0.6**
comp=Z,0.3nm,0.3s,mb4.1,baz=16,slow=3.7,SNR=5.4
CPD Cerro la Pandu 104.19 40 *e*P Pdif 08 46 53.5 +1.6
VNA2 Neumayer--Watz 156.08 194 *e*PKPdf PKPdf 08 52 39.4 -3.2
VNA2 *e* 08 53 01.0
VNA3 Neumayer Olymp 156.13 192 *e*PKPdf PKPdf 08 52 39.3 -3.3
VNA3 *e* 08 53 00.4

MAN 17 08:33:09.7, 1430N×12407E, h34km, mb3.1, ML4.4, MS4.9, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.71**	**173**	⇓*i*P	Pn	08 33 24.1	+0.8
PVCP				*i* S	Sn	08 33 33.8	+0.9
GQP	**Guinayangan**	**1.62**	**256**	⇓*e*P	Pn	08 33 36.5	+0.7
GQP				*e*S	Sn	08 33 59.6	+4.1

NIED **17** *08:33:00, 4660N×153.40E, h23km, Mw4.7 Best double couple: M₀1.47000×10¹⁶ NP1:φs64.00000°, δ84.00000°, λ-78.00000°. NP2:φs180.00000°, δ14.00000°, λ-153.00000°.*
IDC **17** *08:33:13.2±0.6, 4658N×153.14E, h0km, mb4.7/18, mb1 4.9/19, mb1mx4.7/27, mbtmp4.7/19, ML4.1/1, MS4.2/2, Ms1 4.1/2, ms1mx3.2/26, Error ellipse: s-maj=19.2km s-min=15.8km az=153.0*
NEIC **17** *08:33:14.7±0.3, 4657N×153.09E, h10km, mb4.7/9, Error ellipse: s-maj=10.6km s-min=7.7km az=162.0*
MOS **17** *08:33:17.6±0.8, 4665N×153.01E, h44km, mb4.9/5, Error ellipse: s-maj=16.9km s-min=10.0km az=50.7*
JMA **17** *08:33:17.3±0.7, 4657N×153.38E, h30km, M5.3*
ISCJB **17** *08:33:23.4±0.9, 4595N±007×15304E±007, h121km±10km, mb4.5/30, Error ellipse: s-maj=12.3km s-min=7.2km az=131.5*

ISC 17 08:33:22.8±0.9, 4606N±007×15316E±007, h94km±10km, n107, σ1§37/119, mb4.5/30, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**259**	*e*S	**Sn**	**08 35 04.5**	**+1.6**
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,2μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**251**	*e*S	**Sn**	**08 35 48.2**	**+2.7**
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,2μm,1.2s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				MLR	MLR		
	comp=Z,4μm,14.0s						
YUK				MLR	MLR		
	comp=N,3μm,15.0s						
YUK				MLR	MLR		
	comp=E,4μm,14.0s						
NEM2	**Nemuro 2**	**5.94**	**246**	P	**Pn**	**08 34 47.2**	**-0.9**
NEM2				*e*S	**Sn**	**08 35 54.3**	**-0.4**
JRA	**Rausu**	**6.08**	**252**	P	**Pn**	**08 34 51.1**	**+1.0**
JRA				*e*S	**Sn**	**08 36 02.4**	**+4.1**
JNK	**Nakash**	**6.50**	**251**	P	**Pn**	**08 34 56.4**	**+0.7**
JNK				*e*S	**Sn**	**08 36 11.3**	**+3.0**
JAK	**Akkeshi**	**6.78**	**246**	P	**Pn**	**08 34 58.8**	**-0.8**
JAK				*e*S	**Sn**	**08 36 13.2**	**-2.1**
JTKR	**Abashiri--Toko**	**6.88**	**256**	P	**Pn**	**08 35 02.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.24**	**281**	⇓*i*P	**Pn**	**08 34 58.8**	**-7.0**
YSS				*e*S	**Sn**	**08 36 27.0**	**+0.5**
YSS				*e*LQ		08 37 09.0	
YSS				AMS	AMS	08 38 33.0	
	comp=E,1μm,14.0s						
YSS				AMS	AMS	08 38 33.0	
	comp=E,1μm,14.0s						
JMP	**Maruseppu**	**7.24**	**257**	P	**Pn**	**08 35 07.1**	**+1.2**
JAR	**Ashorobuto**	**7.24**	**251**	P	**Pn**	**08 35 06.6**	**+0.7**
JAR				*e*S	**Sn**	**08 36 29.6**	**+3.0**
JOB	**Onbets**	**7.38**	**248**	P	**Pn**	**08 35 07.9**	**+0.1**
JOB				*e*S	**Sn**	**08 36 30.1**	**+0.2**
JSE	**Soyaes**	**7.51**	**265**	P	**Pn**	**08 35 11.0**	**+1.4**
JKK2	**Kamakawa 2**	**7.71**	**257**	P	**Pn**	**08 35 13.6**	**+1.4**
ASAJ	**Asahikawa**	**7.73**	**259**	Pn	**Pn**	**08 35 14.4**	**+2.0**
	comp=E,30nm,0.3s,baz=76,slow=21,SNR=59						
ASAJ	**Asahikawa**	**7.73**	**259**	P	**Pn**	**08 35 14.3**	**+1.8**
ASAJ	**Asahikawa**	**7.73**	**259**	PN	**Pn**	**08 35 14.5**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
JCH	**Churui**	**7.83**	**247**	P	**Pn**	**08 35 13.5**	**-0.3**
JCH				*e*S	**Sn**	**08 36 39.3**	**-1.4**
JWK2	**Keihoku**	**7.92**	**269**	P	**Pn**	**08 35 16.4**	**+1.2**
JAB	**Ashibetsu**	**8.19**	**256**	P	**Pn**	**08 35 20.7**	**+1.9**
JEM	**Erimo**	**8.26**	**244**	*e*S	**Sn**	**08 36 49.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**8.38**	**247**	P	**Pn**	**08 35 20.8**	**-0.6**
JNBK				*e*S	**Sn**	**08 36 52.1**	**-2.2**
JBT2	**Biratori 2**	**8.40**	**251**	P	**Pn**	**08 35 21.5**	**-0.1**
JEW	**Eniwo**	**8.98**	**253**	P	**Pn**	**08 35 30.6**	**+1.1**
JEW				*e*S	**Sn**	**08 37 10.2**	**+1.4**
JNB	**Noboribetsu**	**9.41**	**252**	P	**Pn**	**08 35 35.0**	**-0.4**
JNB				*e*S	**Sn**	**08 37 18.4**	**-1.0**
JKB	**Kayabe**	**9.69**	**249**	P	**Pn**	**08 35 38.2**	**-1.0**
JKB				*e*S	**Sn**	**08 37 22.7**	**-3.4**
JOT	**Ohata**	**9.94**	**246**	P	**Pn**	**08 35 39.7**	**-2.9**
JOT				*e*S	**Sn**	**08 37 28.5**	**-3.7**
JSH	**Shimam**	**10.00**	**255**	P	**Pn**	**08 35 44.1**	**+0.7**
JYM2	**Yakumo 2**	**10.01**	**251**	P	**Pn**	**08 35 43.0**	**-0.6**
JANG	**Nango**	**10.22**	**240**	P	**Pn**	**08 35 43.6**	**-2.9**
JANG				*e*S	**Sn**	**08 37 34.1**	**-5.1**
JTM	**Tenmabayashi**	**10.25**	**243**	P	**Pn**	**08 35 45.5**	**-1.4**
JTM				*e*S	**Sn**	**08 37 35.1**	**-4.8**
JTH	**Tanohata**	**10.29**	**238**	*e*S	**Sn**	**08 37 34.1**	**-6.6**
JOSM	**Okushiri--Mats**	**10.62**	**253**	P	**Pn**	**08 35 51.1**	**-0.8**
JOM	**Ohasama**	**10.93**	**237**	P	**Pn**	**08 35 53.7**	**-2.3**
JOM				*e*S	**Sn**	**08 37 51.7**	**-4.5**
OFUJ	**Ofunato**	**10.97**	**235**	P	**Pn**	**08 35 54.8**	**-1.8**
OFUJ				*e*S	**Sn**	**08 37 51.0**	**-6.4**
JRG	**Rokugo**	**11.36**	**239**	P	**Pn**	**08 36 00.1**	**-1.9**
JIO	**Ouri**	**11.59**	**233**	P	**Pn**	**08 36 03.4**	**-1.6**
JIO				*e*S	**Sn**	**08 38 08.1**	**-4.2**
JMM	**Marumori**	**12.31**	**233**	P	**Pn**	**08 36 12.8**	**-1.9**
JYA	**Atsumi**	**12.43**	**238**	P	**Pn**	**08 36 17.4**	**+1.2**
JFY	**Yanaizu**	**13.24**	**234**	P	**Pn**	**08 36 27.1**	**+0.1**
JRY	**Ryogami san**	**14.69**	**232**	P	**Pn**	**08 36 47.3**	**+1.6**
MAJO	**Matsushiro**	**14.70**	**235**	*e*P	**Pn**	**08 36 46.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,35nm,0.6s						
MAT	**Matsushiro**	**14.70**	**235**	P	**Pn**	**08 36 48.5**	**+2.6**
MAT				S	Sn	08 40 03.1	+35
MAT	**Matsushiro**	**14.70**	**235**	P	**Pn**	**08 36 48.3**	**+2.4**
MJAR	**Matsushiro Arr**	**14.70**	**235**	Pn	**Pn**	**08 36 46.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=20						
MJAR	**Matsushiro Arr**	**14.70**	**235**	Pn	**Pn**	**08 36 46.7**	**+0.9**
JOD2	**Odawara 2**	**15.15**	**230**	P	**Pn**	**08 36 58.4**	**+6.8**
JWT	**Wachi**	**17.21**	**238**	P	**Pn**	**08 37 18.6**	**+1.5**
JAD	**Aida**	**18.18**	**239**	P	**Pn**	**08 37 30.1**	**+1.3**
JWZ	**Kozaga**	**18.29**	**233**	P	**Pn**	**08 37 32.6**	**+2.4**
KDAK	**Kodiak Island**	**34.51**	**50**	P	**P**	**08 39 59.0**	**-2.8**
	comp=Z,9.8nm,0.8s,mb4.7,baz=277,slow=8.1,SNR=4.3						
MCK	**McKinley**	**36.16**	**40**	P	**P**	**08 40 14.2**	**-1.7**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
MCK	**McKinley**	**36.16**	**40**	P	**P**	**08 40 14.2**	**-1.8**
	comp=Z,0.7nm,0.6s,mb3.8						
COLA	**College**	**36.66**	**38**	*e*P	**P**	**08 40 17.2**	**-3.0**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
COLA	**College**	**36.66**	**38**	*e*P	**P**	**08 40 17.2**	**-3.0**
	comp=Z,7.8nm,0.7s,mb4.8						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**08 41 04.8**	**-1.6**
	comp=Z,4.8nm,0.4s,mb4.5,baz=313,slow=4.6,SNR=8.0						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**08 41 04.8**	**-1.6**
INK				pmax	pmax		
	comp=Z,92nm,0.4s						
NVS	**Novosibirsk**	**43.64**	**308**	*e*P	**P**	**08 41 21.5**	**+3.7**
NVS				pmax	pmax		
	comp=Z,27nm,2.2s,mb4.6						
DLBC	**Dease Lake**	**46.05**	**45**	*e*P	**P**	**08 41 37.4**	**+0.5**
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**08 41 46.6**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.4,baz=72,slow=13,SNR=6.3						
BVAR	**Borovoye Array**	**51.33**	**310**	P	**P**	**08 42 16.1**	**-1.3**
	comp=Z,3.0nm,0.4s,mb4.7,baz=52,slow=9.6,SNR=7.1						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	**P**	**08 42 16.7**	**-1.6**
	comp=Z,8.2nm,0.6s,mb5.0,baz=297,slow=7.0,SNR=17						
YKA				LR	LR	09 05 32.0	
	comp=Z,256nm,18.3s,baz=260,slow=38						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	**P**	**08 42 16.7**	**-1.6**
YKA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,256nm,18.3s						
NEW	**Newport**	**57.57**	**52**	P	**P**	**08 43 02.9**	**+0.4**
	comp=Z,5.7nm,1.0s,mb4.6,baz=313,slow=9.2,SNR=7.0						
LGTI	**Lohaghat**	**58.03**	**281**	*ex*	**P**	**08 43 09.3**	**+3.5**
ARCES	**ARCESS Array B**	**58.52**	**341**	P	**P**	**08 43 07.3**	**-1.8**
	comp=Z,3.7nm,0.7s,mb4.5,baz=20,slow=7.2,SNR=5.4						
ARCES	**ARCESS Array B**	**58.52**	**341**	P	**P**	**08 43 07.3**	**-1.8**
MSO	**Missoula**	**60.16**	**52**	*e*P	**P**	**08 43 20.6**	**+0.2**
	comp=Z,8.5nm,1.1s,mb4.7						
CMB	**Columbia Colle**	**61.68**	**64**	*e*P	**P**	**08 43 31.5**	**+0.7**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CMB	**Columbia Colle**	**61.68**	**64**	*e*P	**P**	**08 43 31.5**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**62.72**	**62**	P	**P**	**08 43 39.0**	**+1.2**
	comp=Z,5.1nm,0.8s,mb4.5,baz=289,slow=8.7,SNR=14						
QLMT	**Earthquake Lak**	**62.77**	**53**	P	**P**	**08 43 39.1**	**+1.0**
RRI2	**Red Ridge**	**63.76**	**54**	*e*P	**P**	**08 43 46.0**	**+1.4**
	comp=Z,18nm,0.9s,mb4.9						
FINES	**FINESS Array B**	**64.68**	**335**	P	**P**	**08 43 49.1**	**-1.5**
	comp=Z,7.3nm,0.6s,mb4.7,baz=46,slow=11,SNR=11						
PDAR	**Pinedale Array**	**65.13**	**54**	P	**P**	**08 43 53.8**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.4,baz=279,slow=2.5,SNR=6.6						
SRU	**San Rafael**	**66.96**	**57**	*e*P	**P**	**08 44 06.0**	**+0.8**
SRU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
SRU	**San Rafael**	**66.96**	**57**	*e*P	**P**	**08 44 06.0**	**+0.8**
	comp=Z,9.3nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**67.02**	**41**	P	**P**	**08 44 04.7**	**-0.9**
	comp=Z,6.6nm,0.6s,mb4.6,baz=326,slow=6.1,SNR=7.6						
ULM	**Lac du Bonnet**	**67.02**	**41**	P	**P**	**08 44 04.7**	**-0.9**
GLA	**Glamis**	**68.34**	**65**	*e*P	**P**	**08 44 14.7**	**+0.8**
AGMN	**Agassiz Refuge**	**68.42**	**42**	*e*P	**P**	**08 44 13.5**	**-0.9**
	comp=Z,16nm,1.4s,mb4.7						
NB2	**NORSAR Subarra**	**68.89**	**341**	P	**P**	**08 44 16.0**	**-1.3**
	comp=Z,13nm,0.5s,mb5.0,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.89**	**341**	P	**P**	**08 44 16.2**	**-1.1**
	comp=Z,13nm,0.5s,mb5.0,baz=28,slow=6.4,SNR=27						
SDCO	**Great Sand Dun**	**70.79**	**55**	*e*P	**P**	**08 44 29.9**	**+0.9**
	comp=Z,1.9nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**71.57**	**199**	P	**P**	**08 44 39.3**	**+5.6**
	comp=Z,3.7nm,0.6s,mb4.4,baz=13,slow=5.6,SNR=23						
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**08 44 35.5**	**-1.6**
	comp=Z,14nm,0.7s,mb4.9,baz=34,slow=6.2,SNR=11						
SCHQ	**Schefferville**	**73.93**	**23**	LR	LR	09 16 15.7	
	comp=Z,122nm,20.9s,baz=169,slow=35						
AMTX	**Amarillo**	**74.99**	**55**	P	**P**	**08 44 54.2**	**+0.5**
	comp=Z,7.7nm,0.7s,mb4.5						
MNTX	**Cornudas Mount**	**75.08**	**60**	*e*P	**P**	**08 44 55.6**	**+1.2**
	comp=Z,3.8nm,1.2s,mb4.0						
STHS	**Stebnicka Huta**	**76.13**	**330**	*e*P	**P**	**08 45 01.1**	**+0.8**
STHS	**Stebnicka Huta**	**76.13**	**330**	*e*	**P**	**08 45 01.1**	**+0.8**
KOLS	**Kolonicke sedl**	**76.17**	**329**	*e*P	**P**	**08 45 00.6**	**+0.1**
KOLS	**Kolonicke sedl**	**76.17**	**329**	*e*	**P**	**08 45 00.6**	**+0.1**
CLL	**Collm**	**77.11**	**336**	*i* P	**P**	**08 45 05.6**	**-0.2**
	comp=Z,19nm,0.6s,mb5.0						
KECS	**Kecovo**	**77.19**	**330**	*e*P	**P**	**08 45 05.9**	**-0.3**
KECS	**Kecovo**	**77.19**	**330**	*e*	**P**	**08 45 05.9**	**-0.3**
VYHS	**Vyhne**	**77.75**	**331**	*e*P	**P**	**08 45 06.4**	**-2.9**
VYHS	**Vyhne**	**77.75**	**331**	*e*	**P**	**08 45 06.4**	**-2.9**
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**08 45 10.8**	**+1.2**
	comp=Z,10nm,0.6s,mb4.8,baz=299,slow=4.6,SNR=26						
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**08 45 10.8**	**+1.2**
STKA	**Stephens Creek**	**78.28**	**190**	P	**P**	**08 45 17.9**	**+5.6**
	comp=Z,1.2nm,0.6s,mb3.8,baz=354,slow=10,SNR=4.0						
GERES	**GERESS Array B**	**79.09**	**334**	P	**P**	**08 45 16.9**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.4,baz=33,slow=5.4,SNR=6.9						
MMAI	**Mount Meron Ar**	**83.30**	**312**	P	**P**	**08 45 41.3**	**+2.3**
	comp=Z,7.7nm,0.5s,mb4.8,baz=41,slow=6.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**115.70**	**329**	PKP	PKPdf	08 51 55.6	+1.6
	comp=Z,0.5nm,0.5s,baz=24,slow=1.9,SNR=5.0						
VNDA	**Vanda**	**123.42**	**178**	PKP	PKPdf	08 52 10.7	+1.9
	comp=Z,1.0nm,0.7s,baz=313,slow=2.3,SNR=5.4						
SNAA	**Sanae**	**151.90**	**196**	PKPbc	PKPbc	08 53 09.2	+2.5
	comp=Z,1.1nm,0.5s,baz=182,slow=4.0,SNR=13						
VNA2				*e*		08 53 13.1	
VNA2	**Neumayer--Watz**	**153.34**	**194**	*e*	PKPbc	08 53 07.7	-2.1
VNA3				*e*		08 53 12.7	
VNA3	**Neumayer Olymp**	**153.43**	**192**	*e*	PKPbc	08 53 07.9	-2.1

BJI **17** *08:33:31.3, 1150N×62.10W, h117km, mB5.0*
ISCJB **17** *08:33:34.1±0.2, 1139N±002×6224W±002, h144km±1km, mb4.6/43, Error ellipse: s-maj=4.6km s-min=3.0km az=95.3*
TRN **17** *08:33:36.5, 1138N×62.19W, h129km, MD4.5*
TRN Felt (II) in some parts of north-west Trinidad.
NEIC **17** *08:33:36.3, 1149N×62.12W, h118km, mb4.8/33, MD4.5(TRN), MW4.5(CAR), After CAR.*
NEIC Felt on Trinidad.
IDC **17** *08:33:36.6±0.8, 1153N×6239W, h147km±6km, mb4.2/16, mb1 4.3/18, mb1mx4.2/26, mbtmp4.2/18, MS3.5/1, Ms1 3.6/1, ms1mx2.8/30, Error ellipse: s-maj=12.3km s-min=6.4km az=122.0*
FUNV **17** *08:33:36.6, 1146N×62.11W, h117km, MW4.4*

ISC 17 08:33:35.4±0.2, 1139N±002×6224W±002, h136km±1km, h157km±1.6km; pP-P, n208, σ0§89/221, mb4.6/43, 39C-46D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.73**	**179**⇑	*e*P	**Pn**	**08 33 56.5**	**-0.1**
GUIV				*e*S	**Sn**	**08 34 11.1**	**-1.6**
GUIV	**Guiria**	**0.73**	**179**	*e*P	**Pn**	**08 33 56.5**	**-0.2**
GUIV				*e*S	**Sn**	**08 34 11.1**	**-1.6**
TCE	**Chacachacare**	**0.83**	**145**⇓	*e*P	**Pn**	**08 33 58.1**	**+0.7**
TCE				*e*S	**Sn**	**08 34 12.5**	**-1.6**
ITEV	**Isla Los Testi**	**0.88**	**268**⇓	*e*P	**Pn**	**08 33 57.4**	**-0.4**
ITEV				*e*S	**Sn**	**08 34 13.8**	**-0.9**
ITEV	**Isla Los Testi**	**0.88**	**268**	*e*P	**Pn**	**08 33 57.2**	**-0.5**
ITEV				*e*S	**Sn**	**08 34 13.8**	**-0.9**
GRW	**Mount Saint Ca**	**0.95**	**36**⇑	*i*P	**Pn**	**08 33 59.5**	**+1.1**
GRW				*e*S	**Sn**	**08 34 20.1**	**+4.2**
GRHS	**Sauteurs**	**1.02**	**35**⇑	*i*P	**Pn**	**08 33 59.1**	**+0.1**
GRHS				*e*S	**Sn**	**08 34 15.6**	**-1.3**
GRSS	**Sisters**	**1.09**	**34**⇑	*i*P	**Pn**	**08 33 59.9**	**+0.2**
GRSS				*e*S	**Sn**	**08 34 18.4**	**+0.2**
GRIC	**Isle de Caille**	**1.10**	**35**	*e*P	**Pn**	**08 34 00.1**	**+0.3**
GRIC				*e*S	**Sn**	**08 34 17.4**	**-0.8**
TRN	**Trinidad (W)**	**1.10**	**132**⇑	*e*P	**Pn**	**08 34 00.5**	**+0.7**
TRN				*e*S	**Sn**	**08 34 17.0**	**-1.3**
CRUV	**Carupano**	**1.21**	**234**⇓	*e*P	**Pn**	**08 34 01.6**	**+0.8**
CRUV				*e*S	**Sn**	**08 34 19.9**	**-0.2**
CRUV	**Carupano**	**1.21**	**234**	*e*P	**Pn**	**08 34 01.6**	**+0.7**
CRUV				*e*S	**Sn**	**08 34 19.9**	**-0.2**
TPP	**Pointe-a-Pierr**	**1.31**	**144**⇑	*i*P	**Pn**	**08 34 03.3**	**+1.4**
TPP				*e*S	**Sn**	**08 34 20.7**	**-1.4**
GUNV	**Guanoco**	**1.40**	**210**⇑	*e*P	**Pn**	**08 34 03.8**	**+0.9**
GUNV				*e*S	**Sn**	**08 34 23.2**	**-0.5**
GUNV	**Guanoco**	**1.40**	**210**	*e*P	**Pn**	**08 34 03.7**	**+0.9**
GUNV				*e*S	**Sn**	**08 34 23.2**	**-0.5**
TPR	**Prospect**	**1.45**	**98**⇑	*i*P	**Pn**	**08 34 03.3**	**0.0**
TPR				*e*S	**Sn**	**08 34 23.7**	**-0.9**
TBH	**Brigand Hill**	**1.46**	**128**⇑	*i*P	**Pn**	**08 34 04.3**	**+0.8**
TBH				*e*S	**Sn**	**08 34 23.0**	**-1.8**
FCV	**Fort Charlotte**	**2.01**	**29**⇓	*i*P	**Pn**	**08 34 10.4**	**+0.6**
FCV				*e*S	**Sn**	**08 34 35.4**	**-0.7**
SVB	**Belmont**	**2.11**	**27**⇑	*i*P	**Pn**	**08 34 11.6**	**+0.6**
SVB				*e*S	**Sn**	**08 34 36.4**	**-1.8**
SSV	**Crater Summit**	**2.18**	**28**⇓	*i*P	**Pn**	**08 34 12.8**	**+0.9**
SSV				*e*S	**Sn**	**08 34 39.9**	**0.0**
IBAV	**Isla La Blanqu**	**2.33**	**281**⇓	*e*P	**Pn**	**08 34 14.7**	**+0.9**

TGUH	**Tegucigalpa,Un**	**24.56**	**279**	*e*P	**P**	**08 38 44.5**	**+1.9**
	34nm,1.2s,mb4.8						
TGUH				*e*PcP	PcP	08 42 17.2	+0.2
SIV	**San Ignacio**	**27.23**	**178**	P	**P**	**08 39 08.7**	**+2.2**
	19nm,0.6s,mb4.9,baz=6.8,slow=8.7,SNR=174						
NNA	**Nana**	**27.38**	**212**	P	**P**	**08 39 09.7**	**+1.8**
	10nm,0.6s,mb4.6,baz=349,slow=7.7,SNR=6.2						
LPAZ	**La Paz**	**28.11**	**192**	P	**P**	**08 39 17.4**	**+3.0**
	3.1nm,0.8s,mb4.1,baz=353,slow=10,SNR=17						
LPAZ				LR	LR	08 51 51.3	
	comp=Z,88nm,18.8s,baz=259,slow=39						
LPAZ	**La Paz**	**28.11**	**192**	*e*P	**P**	**08 39 17.1**	**+2.7**
	3.3nm,0.7s,mb4.2						
LPAZ				*e*pP	pP	08 39 49.3	+6.0
TZTN	**Tazewell**	**31.58**	**326**	*e*P	**P**	**08 39 45.8**	**+0.8**
WCI	**Wyandotte Cave**	**34.30**	**325**	*e*P	**P**	**08 40 08.8**	**+0.1**
	14nm,0.7s,mb4.8						
LVC	**Limon Verde**	**34.41**	**191**	P	**P**	**08 40 09.8**	**+0.1**
	3.1nm,0.5s,mb4.3,baz=90,slow=7.3,SNR=4.0						
BLO	**Bloomington**	**35.10**	**326**	*e*P	**P**	**08 40 16.5**	**+0.9**
	31nm,0.5s,mb5.2						
SIUC	**Southern Illin**	**35.66**	**322**	*e*P	**P**	**08 40 20.8**	**+0.4**
	56nm,0.4s,mb5.5						
HKT	**Hockley**	**36.26**	**306**	*e*P	**P**	**08 40 25.2**	**-0.2**
	4.7nm,0.6s,mb4.3						
FVM	**French Village**	**36.57**	**321**	*e*P	**P**	**08 40 27.9**	**-0.2**
	22nm,0.4s,mb5.1						
CCM	**Cathedral Cave**	**37.12**	**321**	*e*P	**P**	**08 40 26.9**	**-5.8**
	13nm,0.5s,mb4.8						
CCM				*e*PcP	PcP	08 42 44.2	-6.0
JCT	**Junction City**	**39.65**	**304**	*e*P	**P**	**08 40 53.4**	**-0.5**
	16nm,0.5s,mb4.9						
WMOK	**Wichita Mounta**	**40.53**	**311**	*e*P	**P**	**08 40 59.9**	**-1.3**
SCIA	**State Center**	**40.70**	**324**	*e*P	**P**	**08 41 02.4**	**-0.2**
	42nm,0.6s,mb5.2						
KSU1	**Kansas State U**	**41.15**	**318**	*e*P	**P**	**08 41 04.6**	**-1.7**
	16nm,0.6s,mb4.8						
TXAR	**Lajitas Array**	**42.48**	**301**	P	**P**	**08 41 17.1**	**+0.1**
	3.7nm,0.4s,mb4.3,baz=116,slow=11,SNR=102						
TXAR				PcP	PcP	08 43 07.3	0.0
	1.1nm,0.5s,baz=121,slow=5.8,SNR=10						
CFAA	**Coronel Fontan**	**43.13**	**187**	P	**P**	**08 41 23.0**	**+0.8**
	1.1nm,0.8s,mb3.5,baz=1.4,slow=7.5,SNR=15						
CFAA	**Coronel Fontan**	**43.13**	**187**	P	**P**	**08 41 23.0**	**+0.8**
SCHQ	**Schefferville**	**43.49**	**356**	P	**P**	**08 41 25.3**	**+0.1**
	3.7nm,0.5s,mb4.3,baz=184,slow=6.4,SNR=30						
ECSD	**EROS,Sioux Fal**	**43.80**	**324**	*e*P	**P**	**08 41 26.9**	**-0.8**
	15nm,0.6s,mb4.8						
ECSD				*e*PcP	PcP	08 43 10.5	-1.3
GDL2	**Guadalupe Moun**	**43.90**	**305**	*e*P	**P**	**08 41 28.6**	**+0.2**
BNM	**Barren Site**	**46.31**	**307**	*e*P	**P**	**08 41 48.1**	**+0.6**
BNM				*e*pP	pP	08 42 21.9	+3.5
BNM				*e*sP	sP	08 42 36.5	+3.0
LPM	**Los Pinos Moun**	**46.37**	**307**	*e*P	**P**	**08 41 48.4**	**+0.5**
LPM				*e*pP	pP	08 42 22.4	+3.6
LPM				*e*sP	sP	08 42 36.9	+2.9
ANMO	**Albuquerque**	**46.44**	**308**	*e*P	**P**	**08 41 48.7**	**+0.2**
	3.7nm,0.6s,mb4.2						
Y22C	**IRIS PASSCAL I**	**46.52**	**306**	⇑P	**P**	**08 41 49.3**	**+0.2**
	baz=46						
LENM	**Lemitar**	**46.59**	**307**	*e*P	**P**	**08 41 50.0**	**+0.3**
LENM				*e*pP	pP	08 42 24.5	+4.0
SDCO	**Great Sand Dun**	**46.72**	**312**	*e*P	**P**	**08 41 50.1**	**-0.5**
	6.8nm,0.5s,mb4.5						
SDCO				*e*pP	pP	08 42 26.4	+4.9
LAZ	**Ladron**	**46.80**	**307**	*e*P	**P**	**08 41 51.6**	**+0.4**
LAZ				*e*pP	pP	08 42 26.0	+3.9
LAZ				*e*sP	sP	08 42 40.8	+3.5
ULM	**Lac du Bonnet**	**47.59**	**331**	P	**P**	**08 41 55.1**	**-2.2**
	4.6nm,0.5s,mb4.4,baz=125,slow=7.7,SNR=21						
ULM	**Lac du Bonnet**	**47.59**	**331**	*e*P	**P**	**08 41 54.8**	**-2.6**
	3.9nm,0.7s,mb4.2						
MVCO	**Mesa Verde**	**48.75**	**310**	*e*P	**P**	**08 42 05.9**	**-0.4**
	2.2nm,0.6s,mb4.0						
MVCO	**Mesa Verde**	**48.75**	**310**	⇓P	**P**	**08 42 06.4**	**+0.1**
	baz=49						
116A	**Eloy**	**49.97**	**303**	⇑P	**P**	**08 42 15.7**	**+0.2**
	baz=50						
115A	**Sonoran Desert**	**50.43**	**303**	⇑P	**P**	**08 42 19.3**	**+0.2**
	baz=50						
WUAZ	**Wupatki**	**50.45**	**307**	*e*P	**P**	**08 42 19.7**	**+0.6**
	9.3nm,0.8s,mb4.5						
WUAZ				*e*pP	pP	08 42 57.5	+7.1
WUAZ				*e*PP	PP	08 44 18.3	+2.3
WUAZ	**Wupatki**	**50.45**	**307**	⇓P	**P**	**08 42 19.6**	**+0.4**
	baz=50						
DGMT	**Dagmar**	**50.83**	**325**	*e*P	**P**	**08 42 21.9**	**-0.1**
	17nm,0.8s,mb4.7						
X15A	**Humboldt**	**50.86**	**305**	⇓P	**P**	**08 42 22.5**	**+0.2**
	baz=51						
W15A	**Williams**	**51.06**	**306**	⇓P	**P**	**08 42 24.1**	**+0.3**
	baz=51						
LAO	**LASA Array**	**51.10**	**322**	*e*P	**P**	**08 42 23.5**	**-0.5**
	8.8nm,0.6s,mb4.6						
Z14A	**Wintersburg**	**51.17**	**304**	⇑P	**P**	**08 42 24.9**	**+0.3**
	baz=51						
Y14A	**Wickenburg**	**51.35**	**304**	⇑P	**P**	**08 42 26.2**	**+0.3**
	baz=51						
X14A	**Yava**	**51.38**	**305**	⇑P	**P**	**08 42 26.1**	**0.0**
	baz=51						
TMUT	**Trail Mountain**	**51.45**	**312**	*e*P	**P**	**08 42 26.6**	**0.0**
TMUT				*e*pP	pP	08 43 01.8	+3.7
BW06	**Boulder Array**	**51.52**	**316**	*e*P	**P**	**08 42 26.1**	**-1.1**
	6.1nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**51.52**	**316**	P	**P**	**08 42 26.1**	**-1.1**
	6.3nm,0.5s,mb4.5,baz=115,slow=9.9,SNR=97						
PDAR				ScP	ScP	08 47 20.1	-3.2
	0.7nm,0.6s,baz=126,slow=5.2,SNR=4.0						
W14A	**Seligman**	**51.72**	**306**	⇓P	**P**	**08 42 28.5**	**-0.1**
	baz=52						
DAU	**Daniels Canyon**	**51.85**	**313**	*e*P	**P**	**08 42 29.4**	**-0.3**
DAU				*e*pP	pP	08 43 05.0	+3.9
MSU	**Marysvale**	**51.92**	**310**	*e*P	**P**	**08 42 30.1**	**0.0**
JLU	**Jordanelle**	**52.06**	**313**	*e*P	**P**	**08 42 31.5**	**+0.4**
X13A	**Yucca**	**52.16**	**305**	⇑P	**P**	**08 42 32.4**	**+0.5**
	baz=52						
CTU	**Camp Tracy**	**52.30**	**313**	*e*P	**P**	**08 42 32.5**	**-0.4**
	7.9nm,1.0s,mb4.3						
W13A	**Hualapai Mount**	**52.33**	**306**	⇑P	**P**	**08 42 33.5**	**+0.4**
	baz=52						
PDMCI	**Parker Dam,Lak**	**52.35**	**305**	⇓P	**P**	**08 42 33.4**	**+0.1**
	baz=52						
HWUT	**Hardware Ranch**	**52.48**	**314**	*e*P	**P**	**08 42 33.2**	**-1.1**
	2.7nm,0.5s,mb4.1						
HWUT				*e*pP	pP	08 43 09.3	+3.5
Y12C	**Blythe**	**52.54**	**304**	⇑P	**P**	**08 42 34.8**	**+0.1**
	baz=52						
LOHW	**Long Hollow**	**52.56**	**317**	*e*PcP	PcP	08 43 47.6	+4.3
REDW	**Red Top Meadow**	**52.63**	**316**	*e*P	**P**	**08 42 34.6**	**-0.7**
	3.8nm,0.5s,mb4.4						
GLA	**Glamis**	**52.64**	**303**	⇓P	**P**	**08 42 35.1**	**-0.4**
	baz=53						
ARUT	**Antelope Range**	**52.67**	**309**	*e*P	**P**	**08 42 35.6**	**0.0**
DUG	**Dugway**	**52.91**	**312**	*e*P	**P**	**08 42 36.9**	**-0.5**
	6.0nm,0.7s,mb4.4						
DUG				*e*pP	pP	08 43 11.2	+2.2
DUG	**Dugway**	**52.91**	**312**	P	**P**	**08 42 37.0**	**-0.4**
	baz=53,SNR=12						
SPUT	**South Promonto**	**53.01**	**314**	*e*PcP	PcP	08 43 47.1	+2.1
IRM	**Iron Mountain**	**53.13**	**304**	⇑P	**P**	**08 42 39.1**	**0.0**
	baz=53,SNR=6.7						
W12A	**Cal Nev Ari**	**53.16**	**306**	⇓P	**P**	**08 42 39.5**	**+0.2**
	baz=53						
U12A	**Valley of Fire**	**53.16**	**307**	⇑P	**P**	**08 42 39.4**	**+0.1**
	baz=53						
V12A	**Nelson**	**53.24**	**306**	⇓P	**P**	**08 42 40.0**	**+0.1**
	baz=53						
BC3	**Big Chuckw Mtn**	**53.28**	**304**	⇓P	**P**	**08 42 40.2**	**0.0**
	baz=53						
BGU	**Big Grassy Mou**	**53.30**	**313**	*e*P	**P**	**08 42 39.4**	**-0.8**
V11A	**Goodsprings**	**53.72**	**306**	⇑P	**P**	**08 42 43.6**	**+0.2**
	baz=54						
EGMT	**Eagleton**	**53.85**	**322**	*e*P	**P**	**08 42 43.8**	**-0.4**
	18nm,1.0s,mb4.8						
MONP	**Monument Peak**	**53.93**	**302**	⇓P	**P**	**08 42 45.2**	**+0.4**
	baz=54						
TUQ	**Turquoise Mtn.**	**54.03**	**306**	⇓P	**P**	**08 42 45.6**	**0.0**
	baz=54						
M13A	**Montello**	**54.25**	**313**	P	**P**	**08 42 46.7**	**-0.4**
	baz=54,SNR=6.3						
O12A	**Currie**	**54.34**	**312**	⇓P	**P**	**08 42 47.6**	**-0.3**
	baz=54						
G15A	**Dillon**	**54.40**	**318**	⇓P	**P**	**08 42 48.0**	**-0.3**
	baz=54						
SHOC	**Shoshone**	**54.41**	**306**	⇓P	**P**	**08 42 48.2**	**-0.2**
	baz=54						
109C	**Camp Elliot, M**	**54.49**	**302**	⇑P	**P**	**08 42 49.1**	**+0.1**
	baz=54						
MCMT	**McKenzie Canyo**	**54.51**	**318**	*e*P	**P**	**08 42 48.7**	**-0.4**
HRY	**Holter Researc**	**54.57**	**320**	*e*P	**P**	**08 42 57.5**	**+8.0**
HRY				*e*PcP	PcP	08 43 55.8	+4.8
BBRC	**Big Bear Sol-O**	**54.59**	**304**	⇓P	**P**	**08 42 49.7**	**0.0**
	baz=54						
Q11A	**Duckwater**	**54.63**	**310**	⇑P	**P**	**08 42 49.4**	**-0.5**
	baz=55						
GSC	**Goldstone**	**54.70**	**305**	*e*PcP	PcP	08 43 57.7	+6.2
N12A	**Clover Valley,**	**54.73**	**312**	⇓P	**P**	**08 42 50.6**	**0.0**
	baz=55						
M12A	**Wells**	**54.80**	**313**	⇑P	**P**	**08 42 51.1**	**-0.1**
	baz=55						
O11A	**Cowboy Ranch,**	**54.97**	**311**	P	**P**	**08 42 52.4**	**0.0**
	baz=55,SNR=5.6						
R10A	**Warm Springs**	**54.98**	**309**	⇑P	**P**	**08 42 52.4**	**0.0**
	baz=55						
FURC	**Furnace Creek,**	**54.99**	**307**	⇓P	**P**	**08 42 52.8**	**+0.2**
	baz=55						
D15A	**Lincoln**	**55.14**	**320**	⇓P	**P**	**08 42 53.0**	**-0.6**
	baz=55						
N11A	**Elko Archery C**	**55.22**	**312**	⇓P	**P**	**08 42 53.9**	**-0.3**
	baz=55						
MPMC	**Manual Prospec**	**55.40**	**306**	⇓P	**P**	**08 42 55.3**	**-0.2**
	baz=55						
LRMC	**Laurel Mountai**	**55.45**	**305**	⇑P	**P**	**08 42 55.4**	**-0.3**
	baz=55						
GRAC	**Grapevine Rang**	**55.51**	**307**	⇓P	**P**	**08 42 55.8**	**-0.4**
	baz=55						
MWC	**Mount Wilson**	**55.51**	**304**	*e*PcP	PcP	08 43 57.3	+2.7
DAC	**Darwin (Calif)**	**55.53**	**306**	*e*P	**P**	**08 42 56.7**	**+0.3**
S09A	**Goldfield**	**55.55**	**308**	⇓P	**P**	**08 42 56.2**	**-0.4**
	baz=56						
R09A	**Tonopah**	**55.56**	**309**	⇑P	**P**	**08 42 56.5**	**-0.1**
	baz=56						
E13A	**Victor**	**55.97**	**319**	⇓P	**P**	**08 42 59.0**	**-0.6**
	baz=56						
C14A	**Swan Lake**	**56.19**	**321**	⇑P	**P**	**08 43 00.3**	**-0.8**
	baz=56						
D13A	**Huson**	**56.38**	**320**	P	**P**	**08 43 01.8**	**-0.7**
	baz=56,SNR=5.3						
N08A	**GE Springer Mi**	**56.97**	**311**	⇓P	**P**	**08 43 06.6**	**+0.1**
	baz=57						
K09A	**Rome**	**57.17**	**314**	⇓P	**P**	**08 43 07.4**	**-0.7**
	baz=57						
C12A	**Trout Creek**	**57.25**	**320**	⇓P	**P**	**08 43 07.8**	**-0.8**
	baz=57						
L08A	**Fields**	**57.48**	**313**	⇑P	**P**	**08 43 10.1**	**-0.1**
	baz=57						
D11A	**Klaveano Farm,**	**57.57**	**319**	P	**P**	**08 43 10.2**	**-0.6**
	baz=58,SNR=5.5						
N07B	**Gerlach**	**57.58**	**311**	⇓P	**P**	**08 43 10.1**	**-0.9**
	baz=58						
B12A	**Libby**	**57.59**	**321**	⇓P	**P**	**08 43 10.4**	**-0.6**
	baz=58						
H09A	**Quincy**	**57.69**	**316**	⇓P	**P**	**08 43 10.7**	**-1.0**
	baz=58						
F10A	**Beach Ranch, E**	**57.80**	**318**	⇓P	**P**	**08 43 12.0**	**-0.5**
	baz=58						
A12A	**Yaak River Ran**	**57.80**	**321**	⇓P	**P**	**08 43 11.8**	**-0.6**
	baz=58						
B11A	**Sandpoint**	**58.07**	**321**	P	**P**	**08 43 13.5**	**-0.8**
	baz=58,SNR=6.2						
NEW	**Newport**	**58.48**	**320**	P	**P**	**08 43 15.7**	**-1.5**
	12nm,0.6s,mb4.9,baz=120,slow=5.3,SNR=23						
NEW	**Newport**	**58.48**	**320**	*e*P	**P**	**08 43 15.7**	**-1.4**
	13nm,0.9s,mb4.8						
D07A	**Quincy**	**59.97**	**318**	⇑P	**P**	**08 43 26.6**	**-0.8**
	baz=60						
L04A	**Klamath Falls**	**60.04**	**312**	⇓P	**P**	**08 43 27.3**	**-0.5**
	baz=60						
J04A	**Umpqua Nationa**	**60.42**	**313**	⇓P	**P**	**08 43 28.7**	**-1.8**
	baz=60						
B07A	**Winthrop**	**60.44**	**320**	⇓P	**P**	**08 43 29.2**	**-1.4**
	baz=60						
B05A	**Bryant**	**61.65**	**319**	⇑P	**P**	**08 43 36.4**	**-2.3**
	baz=62						
TORD	**Torodi Ar. Bea**	**62.35**	**81**	P	**P**	**08 43 44.8**	**+1.4**
	3.0nm,0.4s,mb4.5,baz=287,slow=6.7,SNR=42						
YKA	**Yellowknife Ar**	**63.15**	**336**	P	**P**	**08 43 46.1**	**-2.6**
	2.0nm,0.5s,mb4.2,baz=110,slow=7.3,SNR=7.6						
CLL	**Collm**	**71.97**	**40**	*e*P	**P**	**08 44 45.0**	**+0.9**
	comp=Z,12nm,0.9s,mb4.6						
NOA	**NORSAR Array B**	**72.11**	**29**	P	**P**	**08 44 46.5**	**+1.5**
	comp=Z,3.2nm,0.7s,mb4.2,baz=262,slow=6.2,SNR=6.2						
ARCES	**ARCESS Array B**	**78.63**	**21**	P	**P**	**08 45 22.4**	**+0.2**
	comp=Z,7.3nm,0.6s,mb4.5,baz=273,slow=7.0,SNR=21						
KEV	**Kevo**	**79.14**	**21**	*e*p	**P**	**08 45 24.4**	**-0.6**
	comp=Z,6.6nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**79.29**	**29**	P	**P**	**08 45 26.1**	**+0.4**
	comp=Z,6.5nm,0.5s,mb4.5,baz=273,slow=3.2,SNR=21						
BOSA	**Boshof**	**93.19**	**118**	P	**P**	**08 46 37.4**	**+3.1**
	comp=Z,23nm,1.0s,mb5.3						
MKAR	**Makanchi Array**	**113.97**	**26**	PKiKP	PKiKP	08 51 57.0	-1.3
	comp=Z,0.2nm,0.4s,baz=316,slow=2.8,SNR=4.4						
WMQ	**Urumqi**	**118.62**	**24**	⇓PKP	PKPdf	08 52 03.3	-3.9
WMQ				PP	PP	08 53 27.8	+1.4
WMQ				PPP		08 56 00.3	
WMQ				PP	PP		
	comp=Z,83nm,4.7s						
WMQ				LR	LR		
	comp=N,240nm,19.7s						
WMQ				LR	LR		
	comp=E,127nm,19.7s						
WMQ				LR	LR		
	comp=Z,221nm,16.4s						
SONM	**Songino Array**	**120.18**	**9**	PKP	PKPdf	08 52 09.5	-0.7
	comp=Z,0.7nm,0.3s,baz=295,slow=0.8,SNR=16						
HHC	**Hu-ho-hao-te**	**127.72**	**6**	*e*PKP	PKPdf	08 52 23.1	-1.5
HHC				PP	PP	08 54 29.1	+1.4
HHC				PKS		08 55 58.6	
HHC				SKS	SKSdf	08 59 17.9	-5.8
HHC				SS	SS	09 11 24.9	-3.7
HHC				PP	PP		
	comp=Z,560nm,10.4s						
HHC				LR	LR		
	comp=N,288nm,23.9s						
HHC				LR	LR		
	comp=E,208nm,21.6s						
HHC				LR	LR		
	comp=Z,283nm,21.5s						
KSRS	**Korea Array**	**130.49**	**349**	PKP	PKPdf	08 52 28.5	-1.4
	comp=Z,1.0nm,0.6s,baz=352,slow=2.5,SNR=5.2						
LZH	**Lanzhou**	**130.99**	**15**	*e*PKP	PKPdf	08 52 30.1	-0.7
CD2	**Chengdu**	**135.85**	**17**	*e*PKP	PKPdf	08 52 41.4	+1.4
KMI	**Kunming**	**140.87**	**22**	PKP	PKPdf	08 52 48.8	-0.4
CHTO	**Chiang Mai**	**144.72**	**32**	*e*PKPab	PKPdf	08 52 55.9	0.0
STKA	**Stephens Creek**	**150.02**	**223**	*e*P	PKPdf	08 53 09.7	+4.9
	comp=Z,6.7nm,0.7s						
STKA	**Stephens Creek**	**150.02**	**223**	PKP	PKPdf	08 53 05.1	+0.3
	comp=Z,7.5nm,0.6s,baz=115,slow=2.7,SNR=9.6						
STKA				PKPbc	PKPbc	08 53 09.9	+0.1
	comp=Z,7.5nm,0.6s,baz=123,slow=7.2,SNR=26						
STKA	**Stephens Creek**	**150.02**	**223**	*e*PKPdf	PKPdf	08 53 05.0	+0.2
STKA				*e*PKPbc	PKPbc	08 53 09.7	-0.2
STKA				*e*PKPab	PKPab	08 53 16.1	+0.1
CTA	**Charters Tower**	**151.28**	**249**	*e*P	PKPdf	08 53 12.9	+6.2
	comp=Z,9.2nm,0.6s						
CTA	**Charters Tower**	**151.28**	**249**	PKPbc	PKPbc	08 53 12.7	-0.1
	comp=Z,11nm,0.5s,baz=151,slow=1.9,SNR=19						
ASAR	**Alice Springs**	**160.38**	**229**	PKP	PKPdf	08 53 18.6	-0.1
	comp=Z,0.7nm,0.9s,baz=139,slow=2.7,SNR=6.1						
ASAR				PKPab	PKPab	08 53 58.5	-1.7
	comp=Z,0.2nm,0.4s,baz=142,slow=3.6,SNR=5.7						
WRA	**Warramunga Arr**	**161.93**	**240**	PKP	PKPdf	08 53 20.1	-0.2
	comp=Z,2.0nm,0.9s,baz=114,slow=0.3,SNR=19						
WRA				PKPab	PKPab	08 54 05.6	-1.5
	comp=Z,0.9nm,0.6s,baz=108,slow=4.3,SNR=8.0						

IDC 17 08:51:40.1±1.3, 4681N×15501E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmpg3.7/4, Error ellipse: s-maj=53.7km s-min=32.1km az=117.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.90**	**33**	P	P	08 59 23.9	-0.1
	0.6nm,0.5s,baz=262,slow=4.0,SNR=7.2						
FINES	**FINESS Array B**	**64.53**	**336**	P	P	09 02 18.1	-0.7
	1.9nm,0.9s,baz=23,slow=7.5,SNR=3.6						
ASAR	**Alice Springs**	**72.69**	**200**	P	P	09 03 09.9	+0.1
	0.3nm,0.8s,baz=13,slow=4.7,SNR=4.2						
TXAR	**Lajitas Array**	**76.32**	**62**	P	P	09 03 30.8	-0.1
	0.6nm,0.7s,baz=301,slow=4.1,SNR=8.9						

ISCJB 17 08:58:36.9±0.4, 4682N×005×155.17E×006, h10km, mb4.5/47, MS4.2/5, Error ellipse: s-maj=8.6km s-min=5.3km az=115.8
IDC 17 08:58:36.8±0.7, 4689N×15525E, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.3/24, mbtmp4.3/16, ML4.3/1, MS4.6/3, Ms1 4.6/3, ms1mx3.4/42, Error ellipse: s-maj=20.0km s-min=15.5km az=130.0
NEIC 17 08:58:38.4±0.5, 4674N×15530E, h10km, mb4.8/20, Error ellipse: s-maj=15.5km s-min=9.3km az=137.0
SKHL 17 08:58:38.1±1.1, 4674N×155.16E, h53km±7km, Ms3.9/1
BJI 17 08:58:40.6, 4727N×15454E, h10km, mB4.8, mb4.4, Ms3.9, Msz3.8
MOS 17 08:58:43.0±2.2, 4681N×15484E, h51km, mb4.9/20, Error ellipse: s-maj=9.8km s-min=7.2km az=95.8
ISC 17 08:58:38.5±0.4, 4685N±006×15522E±007, h10km, n121, σ1°§54/126, mb4.5/47, MS4.2/5, 4C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**8**	*e*P	**Pn**	**08 59 38.9**	**+0.6**
SKR				*e*S	**Sn**	**09 00 16.1**	**-7.8**
SKR				A		09 00 23.9	
	350nm,0.2s						
SKR				A		09 00 23.9	
	170nm,0.5s						
KUR	**Kuril'sk**	**5.37**	**255**	*e*P	**Pn**	**08 59 56.0**	**-2.7**
KUR				AMB	AMB	08 59 58.5	
	228nm,0.6s						
KUR				*e*S	**Sn**	**09 00 55.2**	**-5.3**
KUR				A		09 00 57.0	
	304nm,0.6s						
KUR	**Kuril'sk**	**5.37**	**255**	*e*PN	**Pn**	**08 59 56.0**	**-2.7**
KUR				*e*S	**Sn**	**09 00 55.2**	**-5.3**
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,300nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
PET	**Petropavlovsk**	**6.57**	**18**	*e*PN	**Pn**	**09 00 10.9**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**7.16**	**250**	*e*P	**Pn**	**09 00 22.5**	**-0.8**
YUK				*e*S	**Sn**	**09 01 40.0**	**-4.6**
YUK				A		09 01 45.1	
	comp=E,380nm,0.5s						
YUK				A		09 01 45.1	
	comp=E,220nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.54**	**275**	*e*P	**Pn**	**09 00 43.3**	**+1.1**
YSS				*e*S	**Sn**	**09 02 19.0**	**+0.4**
YSS				eLQ		09 02 54.0	
YSS				AMS	AMS	09 04 44.0	
	comp=E,400nm,15.0s						
YSS				AMS	AMS	09 04 44.0	
	comp=E,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.54**	**275**	*e*PN	**Pn**	**09 00 43.0**	**+0.8**
YSS				*e*S	**Sn**	**09 02 19.0**	**+0.4**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.54**	**275**	*e*Pn	**Pn**	**09 00 43.2**	**+1.0**
	comp=E,20nm,0.5s						
ASAJ	**Asahikawa**	**9.28**	**257**	Pn	**Pn**	**09 00 53.4**	**+1.0**
	comp=E,3.5nm,0.3s,baz=87,slow=13,SNR=20						
ASAJ				LR	LR	09 04 35.1	
	comp=E,84nm,21.2s,baz=330,slow=38						
ASAJ	**Asahikawa**	**9.28**	**257**	PN	**Pn**	**09 00 53.4**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,84nm,21.2s						
ERM	**Erimo**	**9.88**	**245**	*e*PN	**Pn**	**09 00 59.7**	**-1.0**
ERM				pmax	pmax		
	comp=Z,19nm,0.4s						
ERM	**Erimo**	**9.88**	**245**	*e*Pn	**Pn**	**09 00 59.7**	**-0.9**
	comp=Z,19nm,0.4s						
ERM				*e*Sn	**Sn**	**09 02 42.0**	**-10**
SMY	**Shemya**	**13.53**	**57**	*e*Pn	**Pn**	**09 01 49.2**	**-1.3**
SMY				*e*Sn	**Sn**	**09 04 08.9**	**-12**
KLR	**Kul'dur**	**15.86**	**287**	*e*P	**Pn**	**09 02 21.2**	**-0.7**
MAJO	**Matsushiro**	**16.32**	**237**	*e*P	**Pn**	**09 02 25.1**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**16.32**	**237**	*e*Pn	**Pn**	**09 02 25.1**	**-2.7**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**16.32**	**237**	P	**Pn**	**09 02 19.5**	**-8.3**
MJAR	**Matsushiro Arr**	**16.32**	**237**	Pn	**Pn**	**09 02 25.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=9.1						
YAK	**Yakutsk**	**21.04**	**326**	*e*P	**P**	**09 03 21.4**	**-1.1**
YAK				*e*		09 03 39.7	
YAK				*e*S	**S**	**09 07 13.1**	**-3.6**
YAK

LZH					*SP	sP	09 06 24.0	+12	
LZH					pmax	pmax			
	comp=Z,26nm,1.0s,mb4.9								
LZH	**Lanzhou**	**39.33**	**273**	*eP*	**P**		**09 06 08.0**	**+0.2**	
	comp=Z,26nm,1.0s,mb4.9								
LZH					pP	pP	09 06 18.0	+7.1	
LZH					sP	sP	09 06 24.0	+12	
INK	**Inuvik**	**40.79**	**33**	P	**P**		**09 06 19.1**	**-0.9**	
	comp=Z,7.7nm,0.8s,mb4.4,baz=288,slow=6.8,SNR=32								
INK	**Inuvik**	**40.79**	**33**	*eP*	**P**		**09 06 18.5**	**-1.5**	
INK					pmax	pmax			
	comp=Z,239nm,0.9s								
INK	**Inuvik**	**40.79**	**33**	*eP*	**P**		**09 06 18.5**	**-1.5**	
	comp=Z,239nm,0.9s								
CD2	**Chengdu**	**42.33**	**267**	*i*P	**P**		**09 06 35.3**	**+2.7**	
CD2					AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7								
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**		**09 07 17.3**	**-1.7**	
	comp=Z,3.2nm,0.8s,mb4.4,baz=71,slow=7.8,SNR=23								
MKAR	**Makanchi Array**	**48.17**	**298**	*i* P	**P**		**09 07 17.2**	**-1.8**	
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
YKA	**Yellowknife Ar**	**49.98**	**37**	P	**P**		**09 07 31.4**	**-1.4**	
	comp=Z,1.1nm,0.5s,mb4.1,baz=296,slow=7.2,SNR=4.1								
RES	**Resolute Bay**	**50.28**	**19**	*eP*	**P**		**09 07 33.8**	**-1.3**	
RES				*e*			09 08 53.4		
RES					pmax	pmax			
	comp=Z,200nm,1.1s								
RES	**Resolute Bay**	**50.28**	**19**	*eP*	**P**		**09 07 33.8**	**-1.2**	
	comp=Z,200nm,1.1s								
RES				*e*	PcP	PcP	09 08 53.4	-0.6	
CHKZ	**Chkalovo**	**51.47**	**311**	*eP*	**P**		**09 07 41.8**	**-2.2**	
CHKZ					pmax	pmax			
	comp=Z,17nm,0.6s,mb5.2								
CHKZ	**Chkalovo**	**51.47**	**311**	*eP*	**P**		**09 07 41.8**	**-2.2**	
	comp=Z,17nm,0.6s,mb5.2								
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**		**09 07 45.8**	**-1.5**	
	comp=Z,7.3nm,0.5s,mb4.9,baz=60,slow=7.8,SNR=33								
ZRNK	**Zerenda**	**52.67**	**311**	*eP*	**P**		**09 07 51.2**	**-1.8**	
ZRNK					pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.9								
ZRNK	**Zerenda**	**52.67**	**311**	*eP*	**P**		**09 07 51.2**	**-1.8**	
	comp=Z,7.5nm,0.5s,mb4.9								
ARU	**Arti**	**55.91**	**318**	*eP*	**P**		**09 08 14.8**	**-1.8**	
ARU					pmax	pmax			
	comp=Z,16nm,0.8s,mb5.1								
ARU	**Arti**	**55.91**	**318**	*eP*	**P**		**09 08 14.8**	**-1.8**	
	comp=Z,16nm,0.8s,mb5.1								
JIRN	**Jiri**	**56.38**	**276**	*eP*	**P**		**09 08 22.3**	**+2.4**	
	comp=Z,7.5nm,0.3s,mb5.2								
GUN	**Gumba**	**56.43**	**276**	*eP*	**P**		**09 08 22.7**	**+2.4**	
KKN	**Kakani**	**56.92**	**277**	*eP*	**P**		**09 08 27.1**	**+3.3**	
PKI	**Pulchoki**	**56.97**	**276**	*eP*	**P**		**09 08 27.0**	**+2.9**	
	comp=Z,8.7nm,0.5s,mb5.0								
DMN	**Daman**	**57.15**	**277**	*eP*	**P**		**09 08 29.2**	**+3.8**	
	comp=Z,18nm,0.7s,mb5.2								
GKN	**Gorkha**	**57.22**	**277**	*eP*	**P**		**09 08 29.3**	**+3.4**	
	comp=Z,17nm,0.5s,mb5.3								
KEV	**Kevo**	**57.73**	**341**	*ep*	**P**		**09 08 27.3**	**-2.2**	
KOLN	**Koldanda**	**58.07**	**278**	*eP*	**P**		**09 08 35.9**	**+4.0**	
	comp=Z,26nm,1.0s,mb5.2								
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**		**09 08 31.8**	**-1.2**	
	comp=Z,3.3nm,0.8s,mb4.4,baz=32,slow=8.1,SNR=13								
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**		**09 08 31.8**	**-1.2**	
KAKA	**Kakadu**	**62.71**	**205**	*eP*	**P**		**09 09 02.7**	**-0.9**	
	comp=Z,6.8nm,0.8s,mb4.8								
PDAR	**Pinedale Array**	**63.51**	**55**	P	**P**		**09 09 08.6**	**-0.4**	
	comp=Z,0.4nm,0.8s,mb3.5,baz=253,slow=1.5,SNR=4.5								
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**		**09 09 14.2**	**-1.6**	
	comp=Z,3.7nm,0.5s,mb4.7,baz=37,slow=7.9,SNR=15								
FINES	**FINESS Array B**	**64.56**	**336**	*i* P	**P**		**09 09 14.6**	**-1.2**	
FINES					pmax	pmax			
	comp=Z,4.0nm,0.5s								
OBN	**Obninsk**	**66.04**	**327**	*eP*	**P**		**09 09 24.3**	**-1.1**	
OBN				*e*			09 09 52.5		
OBN					pmax	pmax			
	comp=Z,8.0nm,1.6s,mb4.5								
NB2	**NORSAR Subarra**	**68.59**	**342**	P	**P**		**09 09 41.8**	**+0.2**	
	comp=Z,1.7nm,0.7s,mb4.1,baz=26,slow=6.9								
NOA	**NORSAR Array B**	**68.59**	**342**	P	**P**		**09 09 42.1**	**+0.5**	
	comp=Z,2.2nm,0.7s,mb4.2,baz=26,slow=6.4,SNR=6.3								
HFS	**Hagfors**	**68.86**	**340**	LR	LR		09 42 06.5		
	comp=Z,85nm,19.3s,MS4.0,baz=248,slow=38								
WB2	**Warramunga Arr**	**69.10**	**201**	*eP*	**P**		**09 09 44.3**	**-0.4**	
WRA	**Warramunga Arr**	**69.10**	**201**	P	**P**		**09 09 44.5**	**-0.2**	
	comp=Z,4.2nm,0.8s,mb4.4,baz=21,slow=6.8,SNR=32								
FITZ	**Fitzroy Crossi**	**69.93**	**210**	LR	LR		09 38 09.4		
	comp=Z,597nm,20.5s,MS4.8,baz=39,slow=34								
KIV	**Kislovodsk**	**71.76**	**315**	*eP*	**P**		**09 09 53.4**	**-7.6**	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**		**09 10 04.2**	**+0.2**	
	comp=Z,5.1nm,0.6s,mb4.7,baz=33,slow=6.2,SNR=13								
AKBB	**Malin Array Si**	**72.26**	**327**	P	**P**		**09 10 03.5**	**-0.5**	
AS31	**Alice Springs**	**72.78**	**200**	*eP*	**P**		**09 10 07.7**	**+0.6**	
ASAR	**Alice Springs**	**72.78**	**200**	P	**P**		**09 10 07.8**	**+0.7**	
	comp=Z,3.0nm,0.6s,mb4.4,baz=16,slow=5.5,SNR=57								
ASAR					LR	LR	09 40 23.1		
	comp=Z,998nm,18.6s,MS5.1,baz=14,slow=34								
ASPA	**Alice Springs**	**72.78**	**200**	*eP*	**P**		**09 10 07.7**	**+0.6**	
OJC	**Ojcow**	**75.92**	**332**	*eP*	**P**		**09 10 27.0**	**+1.6**	
STHS	**Stebnicka Huta**	**76.14**	**331**	*eP*	**P**		**09 10 29.0**	**+2.3**	
STHS					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
STHS	**Stebnicka Huta**	**76.14**	**331**	*eP*	**P**		**09 10 29.0**	**+2.3**	
	comp=Z,5.4nm,0.6s,mb4.7								
TXAR	**Lajitas Array**	**76.18**	**62**	P	**P**		**09 10 26.4**	**-0.4**	
	comp=Z,0.9nm,0.5s,mb4.0,baz=304,slow=4.7,SNR=20								
KOLS	**Kolonicke sedl**	**76.21**	**330**	*eP*	**P**		**09 10 28.8**	**+1.7**	
BURAR	**Bucovina Array**	**76.29**	**328**	⇑*i*P	**P**		**09 10 28.9**	**+1.4**	
NIE	**Niedzica**	**76.45**	**332**	*eP*	**P**		**09 10 30.9**	**+2.5**	
OKC	**Ostrava-Krasne**	**76.77**	**333**	*eP*	**P**		**09 10 31.1**	**+0.9**	
UPC	**Upice**	**76.83**	**335**	*eP*	**P**		**09 10 32.3**	**+1.8**	
DPC	**Dobruska-Polom**	**76.88**	**334**	*eP*	**P**		**09 10 32.9**	**+2.1**	
CLL	**Collm**	**76.96**	**337**	*eP*	**P**		**09 10 33.0**	**+1.7**	
CLL					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
CLL	**Collm**	**76.96**	**337**	*eP*	**P**		**09 10 33.0**	**+1.7**	
	comp=Z,7.0nm,0.7s,mb4.7								
CLL	**Collm**	**76.96**	**337**	*eP*	**P**		**09 10 32.0**	**+0.7**	
	comp=Z,7.0nm,0.7s,mb4.7								
MORC	**Moravsky Berou**	**77.01**	**333**	⇓*i*P	**P**		**09 10 33.6**	**+2.0**	
MORC	**Moravsky Berou**	**77.01**	**333**	*eP*	**P**		**09 10 31.5**	**-0.1**	
MORC					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
MORC	**Moravsky Berou**	**77.01**	**333**	*eP*	**P**		**09 10 31.5**	**-0.1**	
	comp=Z,5.0nm,0.9s,mb4.4								
BRG	**Berggiesshubel**	**77.09**	**336**	*eP*	**P**		**09 10 33.9**	**+1.8**	
	comp=Z,1.5nm,0.7s,mb4.0								
BRG	**Berggiesshubel**	**77.09**	**336**	*eP*	**P**		**09 10 33.9**	**+1.9**	
BRG					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
KECS	**Kecovo**	**77.20**	**331**	*eP*	**P**		**09 10 36.4**	**+3.7**	
KECS					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
KECS	**Kecovo**	**77.20**	**331**	*eP*	**P**		**09 10 36.4**	**+3.7**	
	comp=Z,2.8nm,1.0s,mb4.2								
VYHS	**Vyhne**	**77.73**	**332**	*eP*	**P**		**09 10 37.3**	**+1.7**	
VYHS					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
VYHS	**Vyhne**	**77.73**	**332**	*eP*	**P**		**09 10 37.3**	**+1.7**	
	comp=Z,2.1nm,0.8s,mb4.1								
MLR	**Muntele Rosu**	**77.80**	**326**	⇓*i*P	**P**		**09 10 37.3**	**+1.3**	
MALT	**Malatya**	**78.13**	**314**	⇓*i*P	**P**		**09 10 38.3**	**+0.4**	
MALT	**Malatya**	**78.13**	**314**	*eP*	**P**		**09 10 38.5**	**+0.6**	
MALT					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
MALT	**Malatya**	**78.13**	**314**	*eP*	**P**		**09 10 38.5**	**+0.7**	
	comp=Z,6.6nm,1.0s,mb4.5								
VOIR		**78.19**	**327**	⇑*i*P	**P**		**09 10 37.5**	**-0.7**	
KHC	**Kasperske Hory**	**78.77**	**335**	*eP*	**P**		**09 10 43.4**	**+2.1**	
GERES	**GERESS Array B**	**78.99**	**335**	P	**P**		**09 10 43.0**	**+0.5**	
	comp=Z,0.4nm,0.3s,mb3.8,baz=39,slow=4.9,SNR=6.5								
CDF	**Champ du Feu**	**81.10**	**339**	*eP*	**P**		**09 10 56.2**	**+2.2**	
	comp=Z,20nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**81.10**	**339**	*eP*	**P**		**09 10 56.2**	**+2.2**	
CDF					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
CDF	**Champ du Feu**	**81.10**	**339**	*eP*	**P**		**09 10 56.2**	**+2.2**	
	comp=Z,9.9nm,0.9s,mb4.7								
GRR	**Gorron**	**82.88**	**344**	*eP*	**P**		**09 11 06.1**	**+2.7**	
SMF	**Signal de Mont**	**83.57**	**341**	*eP*	**P**		**09 11 09.5**	**+2.6**	
	comp=Z,17nm,0.8s,mb4.9								
SMF	**Signal de Mont**	**83.57**	**341**	*eP*	**P**		**09 11 09.5**	**+2.6**	
SMF					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
SMF	**Signal de Mont**	**83.57**	**341**	*eP*	**P**		**09 11 09.5**	**+2.6**	
	comp=Z,8.6nm,0.8s,mb4.9								
LPG	**La Plagne**	**83.94**	**338**	*eP*	**P**		**09 11 12.1**	**+3.3**	
	comp=Z,16nm,0.5s,mb5.1								
LPG	**La Plagne**	**83.94**	**338**	*eP*	**P**		**09 11 12.1**	**+3.3**	
LPG					pmax	pmax			
	comp=Z,8.0nm,0.5s,mb5.1								
LPG	**La Plagne**	**83.94**	**338**	*eP*	**P**		**09 11 12.1**	**+3.3**	
	comp=Z,7.9nm,0.5s,mb5.1								
CAF	**Calviac**	**85.60**	**341**	*eP*	**P**		**09 11 19.7**	**+2.6**	
VNDA	**Vanda**	**124.16**	**178**	PKP	PKPdf		09 17 35.1	-2.3	
	comp=Z,0.5nm,0.8s,baz=41,slow=1.6,SNR=3.5								
CFAA	**Coronel Fontan**	**143.55**	**81**	PKP	PKPdf		09 18 10.2	-3.3	
	comp=Z,0.3nm,0.5s,baz=298,slow=4.1,SNR=6.3								
SNAA	**Sanae**	**153.04**	**195**	*e*PKIKP	PKPdf		09 18 33.3	+4.4	
SNAA				*e*			09 18 45.5		

IDC ***17*** *09:01:16.9±4.7, 4665N×153.17E, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.7/21, mbtmp4.2/5, Error ellipse: s-maj=117.6km s-min=41.8km az=12.0*

ISCJB ***17*** *09:01:26.6±2.0, 472N±02×1532E±03, h65km±15km, mb4.1/5, Error ellipse: s-maj=50.0km s-min=11.9km az=104.4*

MOS ***17*** *09:01:27.2±0.8, 4722N×15320E, h71km, mb4.5/4, Error ellipse: s-maj=49.5km s-min=22.0km az=69.1*

ISC 17 09:01:28.1±1.9, 472N±02×1532E±03, h65km±15km, n12, σ0§40/13, mb4.0/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.99**	**27**	*e*PN	**Pn**		**09 02 26.5**	**-0.2**
SKR				*e*			09 03 07.7	
KUR	**Kuril'sk**	**4.21**	**244**	*e*PN	**Pn**		**09 02 30.5**	**+0.8**
KUR				*i* S	**Sn**		**09 03 17.0**	**-0.6**
KUR				smax				
	comp=N,280nm,0.9s							
KUR				smax				
	comp=E,140nm,0.9s							
INK	**Inuvik**	**41.25**	**33**	P	**P**		**09 09 06.9**	**+0.2**
	comp=E,1.7nm,0.6s,mb4.1,baz=311,slow=4.7,SNR=7.8							
INK	**Inuvik**	**41.25**	**33**	P	**P**		**09 09 06.9**	**+0.2**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**57.48**	**341**	P	**P**		**09 11 10.7**	**+0.2**
	comp=Z,7.6nm,1.0s,mb4.7,baz=23,slow=7.2,SNR=4.9							
ARCES	**ARCESS Array B**	**57.48**	**341**	P	**P**		**09 11 10.7**	**+0.3**
ARCES				pmax	pmax			
	comp=Z,8.0nm,1.0s							
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**		**09 11 52.6**	**-0.1**
	comp=Z,1.3nm,0.3s,mb4.2,baz=40,slow=7.0,SNR=12							
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**		**09 11 52.6**	**-0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NB2	**NORSAR Subarra**	**67.86**	**341**	P	**P**		**09 12 19.6**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.86**	**341**	P	**P**		**09 12 19.4**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=4.3							
NOA	**NORSAR Array B**	**67.86**	**341**	P	**P**		**09 12 19.4**	**-0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**77.21**	**61**	P	**P**		**09 13 14.7**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=297,slow=4.2,SNR=3.8							

NEIC ***17*** *09:01:56.6, 3484N×26.11E, h10km, MD3.5(ATH), After ATH.*

CSEM ***17*** *09:01:56.6, 3484N×26.11E, h10km, MD3.5/3, After ATH*

ATH 17 09:01:56.6, 3484N×2611E, h10km, MD3.5/3, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
XRY	**Khrisi**	**0.34**	**276**	⇑*i*PG	Pg		09 02 03.1	-0.3
NPS	**Neapolis**	**0.59**	**316**	*e*PB	Pb		09 02 07.5	-1.5
GVD	**Gavdhos**	**1.66**	**271**	*e*Pn	Pn		09 02 24.2	-1.6
GVD				*e*Sn	Sn		09 02 41.3	-5.9
VAM	**Vamos**	**1.67**	**290**	*e*PB	Pb		09 02 29.0	+1.7

PRE 17 09:02:13.9±1.2, 2943S×3296E, h5km, ML3.9, Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSD	**Kokstad**	**3.26**	**249**	*e*P	Pn		09 03 06.5	+0.8
KSD				*e*S	Sn		09 03 44.4	-0.5
KSD				AML	AML		09 03 59.2	
	comp=Z,104nm,0.6s							
SEK	**Senekal**	**4.80**	**282**	*e*P	Pn		09 03 28.6	+1.7
SEK				*e*S	Sn		09 04 21.3	-1.6
SEK				AML	AML		09 04 37.8	
	comp=Z,61nm,0.6s							
SLR	**Silverton**	**5.55**	**311**	*e*P	Pn		09 03 37.8	+0.7
SLR				*e*S	Sn		09 04 40.0	-1.3
SLR				AML	AML		09 04 57.8	
	comp=Z,134nm,0.5s							
BOSA	**Boshof**	**6.79**	**275**	*e*P	Pn		09 03 55.2	+1.0
BOSA				*e*S	Sn		09 05 09.5	-2.4
BOSA				AML	AML		09 05 46.5	
	comp=Z,21nm,0.6s							
LBTB	**Lobatse**	**7.89**	**302**	*e*P	Pn		09 04 09.8	+0.5
LBTB				*e*S	Sn		09 05 35.1	-3.8
LBTB				AML	AML		09 06 09.7	
	comp=Z,34nm,0.5s							

ISCJB ***17*** *09:07:16.3±0.4, 4621N±007×153.17E±007, h10km, mb4.6/46, MS4.3/3, Error ellipse: s-maj=11.5km s-min=4.5km az=112.5*

BJI ***17*** *09:07:16.9, 4667N×153.15E, h13km, mB4.6, mb4.6, Ms4.4, Msz4.3*

IDC ***17*** *09:07:16.1±0.7, 4622N×15298E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/24, mbtmp4.2/16, ML3.0/1, Error ellipse: s-maj=19.4km s-min=15.9km az=157.0*

NEIC ***17*** *09:07:18.2±0.5, 4626N×15299E, h10km, mb4.8/16, Error ellipse: s-maj=13.2km s-min=7.5km az=145.0*

MOS ***17*** *09:07:19.2±1.5, 46.16N×153.12E, h33km, mb4.9/15, Error ellipse: s-maj=9.6km s-min=8.3km az=73.7*

ISC 17 09:07:18.2±0.5, 4626N±007×15314E±008, h10km, (h14km±9km:pP-P), n95, σ1§32/96, mb4.6/46, MS4.3/3, 5C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.83**	**256**	*e*PN	**Pn**		**09 08 16.0**	**-1.2**
KUR				*e*S	**Sn**		**09 09 04.5**	**+2.1**
KUR				pmax	pmax			
	comp=N,80nm,0.6s							
KUR				pmax	pmax			
	comp=E,80nm,0.6s							
KUR				pmax	pmax			
	comp=Z,460nm,0.6s							
KUR				smax				
	comp=N,600nm,0.7s							
SKR	**Severo-Kuril's**	**4.84**	**23**	*e*PN	**Pn**		**09 08 32.5**	**+1.4**
SKR				pmax	pmax			
	comp=E,80nm,0.5s							
SKR				pmax	pmax			
	comp=Z,150nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.61**	**249**	*e*PN	**Pn**		**09 08 42.0**	**+0.3**
YUK				*e*S	**Sn**		**09 09 47.4**	**+1.2**
YUK				pmax	pmax			
	comp=Z,210nm,0.5s							
YUK				smax				
	comp=E,190nm,0.4s							
YUK				smax				
	comp=N,540nm,0.7s							
YSS	**Yuzh-Sakhalins**	**7.19**	**279**	*e*PN	**Pn**		**09 09 08.0**	**+4.7**
YSS				MLR	MLR			
	comp=Z,900nm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.19**	**279**	*e*Pn	**Pn**		**09 09 02.6**	**-0.8**
PET	**Petropavlovsk**	**7.65**	**26**	*e*PN	**Pn**		**09 09 10.4**	**+0.7**
ASAJ	**Asahikawa**	**7.75**	**258**	Pn	**Pn**		**09 09 13.8**	**+2.7**
	comp=Z,1.5nm,0.3s,baz=91,slow=16,SNR=11							
ASAJ	**Asahikawa**	**7.75**	**258**	PN	**Pn**		**09 09 13.8**	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
UGL	**Uglegorsk**	**7.99**	**295**	PN	**Pn**		**09 09 18.0**	**+3.7**
UGL				pmax	pmax			
	comp=Z,120nm,0.8s							
UGL				MLR	MLR			
	comp=N,2μm,15.0s							
UGL				MLR	MLR			
	comp=E,2μm,15.0s							
UGL				MLR	MLR			
	comp=Z,2μm,15.0s							
ERM	**Erimo**	**8.34**	**243**	*e*PN	**Pn**		**09 09 16.7**	**-2.4**
ERM				pmax	pmax			
	comp=Z,63nm,0.6s							
ERM	**Erimo**	**8.34**	**243**	*e*Pn	**Pn**		**09 09 16.7**	**-2.5**
	comp=Z,63nm,0.6s							
MAJO	**Matsushiro**	**14.81**	**234**	*e*P	**Pn**		**09 10 47.1**	**-0.5**
MAJO				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MAJO	**Matsushiro**	**14.81**	**234**	*e*Pn	**Pn**		**09 10 47.1**	**-0.4**
	comp=Z,8.2nm,0.8s							
MAT	**Matsushiro**	**14.81**	**234**	P	**Pn**		**09 10 46.8**	**-0.8**
MAT				*e*S	**Sn**		**09 13 32.0**	**+0.3**
MJAR	**Matsushiro Arr**	**14.81**	**234**	Pn	**Pn**		**09 10 45.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=3.8							
CN2	**Changchun**	**19.69**	**273**	*e*P	**Pn**		**09 11 46.3**	**-2.6**
KSRS	**Korea Array**	**20.68**	**254**	P	**P**		**09 11 58.0**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=59,slow=10,SNR=17							
YAK	**Yakutsk**	**20.74**	**328**	*e*P	**P**		**09 12 06.4**	**+7.4**
YAK				pmax	pmax			
	comp=Z,17nm,0.8s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.6s							
BILL	**Bilibino**	**22.86**	**13**	*e*P	**P**		**09 12 26.8**	**+5.2**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb3.9							
HHC	**Hu-ho-hao-te**	**30.35**	**275**	*e*P	**P**		**09 13 31.0**	**+0.9**
HHC				AP	pP		09 13 35.5	+2.4
HHC				XP	sP		09 13 38.1	+3.7
HHC				PP	PP		09 14 29.0	-10
HHC				AMB	AMB			
	comp=Z,16nm,1.3s,mb4.6							
HHC				AMB	AMB			
	comp=Z,115nm,9.7s							
HHC				LR	LR			
	comp=N,315nm,14.6s,MS4.3							
HHC				LR	LR			
	comp=E,398nm,15.9s,MS4.3							
HHC				LR	LR			
	comp=Z,493nm,15.3s,MS4.3							
SONM	**Songino Array**	**31.52**	**290**	P	**P**		**09 13 39.4**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=78,slow=7.5,SNR=4.5							
ZAK	**Zakamensk**	**32.91**	**296**	*eP*	**P**		**09 13 50.8**	**-1.7**
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
LZH	**Lanzhou**	**37.93**	**272**	P	**P**		**09 14 36.5**	**+0.8**
LZH				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.0							
LZH				AMB	AMB			
	comp=Z,126nm,4.1s							
LZH				LR	LR			
	comp=E,630nm,12.8s							
LZH				LR	LR			
	comp=Z,810nm,18.0s							
LZH	**Lanzhou**	**37.93**	**272**	P	**P**		**09 14 36.5**	**+0.8**
	comp=Z,30nm,1.0s,mb5.0							
LZH				pP	pP		09 14 52.0	+13
LZH				sP	sP		09 14 57.0	+17
LZH				LR	LR			
	comp=Z,810nm,18.0s,MS4.6							
GTA	**Gaotai**	**39.07**	**280**	P	**P**		**09 14 46.5**	**+1.2**
GTA				AP	pP		09 14 50.3	+1.9
GTA				XP	sP		09 14 52.8	+3.2
GTA				AMB	AMB			
	comp=Z,8.0nm,0.8s,mb4.5							
CD2	**Chengdu**	**40.86**	**266**	⇑*i*P	**P**		**09 15 00.0**	**-0.2**
CD2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
GYA	**Guiyang**	**41.63**	**258**	⇑*i*P	**P**		**09 15 06.9**	**+0.4**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
INK	**Inuvik**	**42.05**	**32**	P	**P**		**09 15 10.4**	**+0.4**
	comp=Z,1.5nm,0.7s,mb3.7,baz=304,slow=8.7,SNR=14							
INK	**Inuvik**	**42.05**	**32**	*eP*	**P**		**09 15 10.3**	**+0.3**
INK				pmax	pmax			
	comp=Z,113nm,0.6s							
INK	**Inuvik**	**42.05**	**32**	*eP*	**P**		**09 15 10.3**	**+0.3**
	comp=Z,113nm,0.6s,mb5.7							
KMI	**Kunming**	**45.18**	**260**	P	**P**		**09 15 36.0**	**+0.9**
KMI				AP	pP		09 15 39.8	+1.5
KMI				XP	sP		09 15 41.3	+1.8
KMI				AMB	AMB			
	comp=Z,15nm,0.8s,mb4.9							
KMI				LR	LR			
	comp=N,257nm,17.9s,MS4.3							
KMI				LR	LR			
	comp=E,195nm,19.5s,MS4.3							
KMI				LR	LR			
	comp=Z,168nm,21.1s,MS4.0

KIV	**Kislovodsk**	**71.16**	**314**	*e*P		**P**		**09 18 39.0**	**+2.0**
KIV				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
ASAR	**Alice Springs**	**71.75**	**199**	P		**P**		**09 18 39.4**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=11,slow=4.5,SNR=8.6								
AKASG	**Malin Array Be**	**71.96**	**326**	P		**P**		**09 18 40.6**	**-1.3**
	comp=Z,5.4nm,0.4s,mb4.8,baz=34,slow=6.0,SNR=16								
AKBB	**Malin Array Si**	**71.96**	**326**	*e*P		**P**		**09 18 40.7**	**-1.2**
KIEV	**Kiev**	**71.98**	**326**	*e*P		**P**		**09 18 40.8**	**-1.2**
KIEV				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
KIEV	**Kiev**	**71.98**	**326**	*e*P		**P**		**09 18 40.8**	**-1.1**
	comp=Z,9.3nm,0.8s,mb4.8								
STHS	**Stebnicka Huta**	**75.95**	**330**	*e*P		**P**		**09 19 08.4**	**+3.2**
STHS	**Stebnicka Huta**	**75.95**	**330**	*e*		**P**		**09 19 08.4**	**+3.2**
KOLS	**Kolonicke sedl**	**75.99**	**329**	*e*P		**P**		**09 19 09.5**	**+4.0**
KOLS	**Kolonicke sedl**	**75.99**	**329**	*e*		**P**		**09 19 09.5**	**+4.0**
CLL	**Collm**	**76.92**	**336**	*e*P		**P**		**09 19 10.0**	**-0.7**
TXAR	**Lajitas Array**	**77.72**	**60**	P		**P**		**09 19 15.4**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=308,slow=4.4,SNR=30								
GERES	**GERESS Array B**	**78.90**	**334**	P		**P**		**09 19 21.2**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=25,slow=4.4,SNR=8.4								
KBA	**Koelnbreinsper**	**80.59**	**333**	⇑*i*P		**P**		**09 19 33.0**	**+2.1**
	comp=Z,10.0nm,0.7s,mb4.8								
WATA	**Walderalm**	**80.89**	**335**	⇑*i*P		**P**		**09 19 35.1**	**+2.6**
	comp=Z,6.5nm,0.4s,mb4.9								
WTTA	**Wattenberg**	**80.94**	**335**	⇓*i*P		**P**		**09 19 34.5**	**+1.8**
	comp=Z,17nm,1.0s,mb4.9								
SQTA	**Sankt Quirin**	**81.11**	**335**	⇑*e*P		**P**		**09 19 34.4**	**+0.7**
	comp=Z,2.9nm,0.5s,mb4.5								
CDF	**Champ du Feu**	**81.12**	**338**	*e*P		**P**		**09 19 32.9**	**-0.8**
	comp=Z,18nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**81.12**	**338**	*e*P		**P**		**09 19 32.9**	**-0.8**
CDF				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**81.12**	**338**	*e*P		**P**		**09 19 32.9**	**-0.8**
	comp=Z,9.3nm,0.9s,mb4.7								
GRR	**Gorron**	**83.04**	**343**	*e*P		**P**		**09 19 42.7**	**-1.1**
	comp=Z,41nm,0.9s,mb5.2								
GRR	**Gorron**	**83.04**	**343**	*e*P		**P**		**09 19 42.7**	**-1.1**
GRR				pmax		pmax			
	comp=Z,20nm,0.9s,mb5.2								
GRR	**Gorron**	**83.04**	**343**	*e*P		**P**		**09 19 42.7**	**-1.1**
	comp=Z,20nm,0.9s,mb5.2								
SMF	**Signal de Mont**	**83.63**	**339**	*e*P		**P**		**09 19 46.0**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8								
SMF	**Signal de Mont**	**83.63**	**339**	*e*P		**P**		**09 19 46.0**	**-0.8**
SMF				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.7								
SMF	**Signal de Mont**	**83.63**	**339**	*e*P		**P**		**09 19 46.0**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.8								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**		**09 19 48.6**	**+0.2**
	comp=Z,5.3nm,0.6s,mb4.5								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**		**09 19 48.6**	**+0.2**
LPG				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
LPG	**La Plagne**	**83.94**	**337**	*e*P		**P**		**09 19 48.6**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.5								
CAF	**Calviac**	**85.67**	**340**	*e*P		**P**		**09 19 56.3**	**-0.9**
MAW	**Mawson**	**131.79**	**211**	*e*PKPdf		PKPdf		09 26 32.8	+1.3
CFAA	**Coronel Fontan**	**145.06**	**80**	PKPbc		PKPbc		09 26 54.6	-0.5
	comp=Z,0.2nm,0.5s,baz=330,slow=2.3,SNR=5.1								

IDC 17 09:08:35.1±1.8, 4755N×15519E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/23, mbtmp4.1/6, Error ellipse: s-maj=56.5km s-min=24.5km az=166.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**16.70**	**235**	P	Pn	09 12 34.0	+3.5
KSRS	**Korea Array**	**22.39**	**253**	P	P	09 13 35.8	+0.7
	1.7nm,0.6s,baz=49,slow=11,SNR=4.1						
INK	**Inuvik**	**40.21**	**33**	P	P	09 16 13.7	+0.4
	0.8nm,0.5s,baz=250,slow=6.4,SNR=3.1						
BVAR	**Borovoye Array**	**51.44**	**310**	P	P	09 17 41.2	-0.8
	2.4nm,0.5s,baz=58,slow=7.3,SNR=8.5						
PDAR	**Pinedale Array**	**63.12**	**55**	P	P	09 19 04.7	+0.1
	2.2nm,1.0s,baz=298,slow=3.2,SNR=5.8						
FINES	**FINESS Array B**	**63.91**	**335**	P	P	09 19 09.2	-0.6
	2.6nm,0.7s,baz=31,slow=7.8,SNR=5.7						
TXAR	**Lajitas Array**	**75.86**	**62**	P	P	09 20 22.9	-0.4
	1.7nm,0.7s,baz=306,slow=4.6,SNR=3.7						

ISCJB 17 09:09:34.9±0.2, 4624N±005×15311E±003, h10km, mb4.6/79, MS4.2/18, Error ellipse: s-maj=6.6km s-min=2.5km az=155.1

IDC 17 09:09:34.7±0.6, 4618N×15296E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/27, mbtmp4.3/20, ML3.4/1, MS4.1/3, Ms1 4.1/3, ms1mx3.5/34, Error ellipse: s-maj=18.6km s-min=13.9km az=146.0

BJI 17 09:09:35.2, 4638N×15327E, h22km, mB5.0, mb4.7, Ms4.5, Msz4.2

NEIC 17 09:09:36.6±0.3, 4625N×15299E, h10km, mb4.8/39, Error ellipse: s-maj=8.2km s-min=4.4km az=161.0

MOS 17 09:09:37.9±1.2, 4621N×15301E, h32km, mb4.9/31, Error ellipse: s-maj=8.8km s-min=6.5km az=92.0

SKHL 17 09:09:37.8±6.8, 4585N×15343E, h84km±6km, mb5.5/1, Ms4.5/3

SZGRF 17 09:09:39.5, 4579N×15297E, h33km, mb5.0, East of Kuril Islands, Russia

ISC 17 09:09:36.2±1.2, 4633N±004×15305E±003, h5km±7km, h15km±1.3km:pP-P, n344, σ0s83/358, mb4.6/79, MS4.2/18, 72C-79D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.79**	**255**	⇓*i*P	**Pn**	**09 10 35.0**	**-0.2**
KUR				AMB	AMB	09 10 36.2	
	456nm,0.6s						
KUR				AMB	AMB	09 10 44.0	
	3μm,8.0s						
KUR				AMB	AMB	09 10 44.0	
	3μm,8.0s						
KUR				*e*S	**Sn**	**09 11 23.0**	**+2.9**
KUR				A		09 11 32.5	
	645nm,0.8s						
KUR				A		09 11 44.0	
	5μm,2.0s						
KUR				A		09 11 44.0	
	2μm,2.0s						
KUR				AMS	AMS	09 12 59.0	
	3μm,14.0s						
KUR				AMS	AMS	09 12 59.0	
	3μm,14.0s						
KUR				AMS	AMS	09 12 59.0	
	5μm,14.0s						
KUR	**Kuril'sk**	**3.79**	**255**	⇓*i*PN	**Pn**	**09 10 35.0**	**-0.2**
KUR				*i* S	**Sn**	**09 11 23.0**	**+2.9**
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				smax			
	comp=N,650nm,0.8s						
KUR				smax			
	comp=E,650nm,0.8s						
SKR	**Severo-Kuril's**	**4.81**	**24**	*e*P	**Pn**	**09 10 52.5**	**+3.2**
SKR				AMB	AMB	09 10 54.3	
	comp=E,660nm,0.9s						
SKR				*e*S	**Sn**	**09 11 43.4**	**-2.1**
SKR				A		09 12 07.5	
	comp=E,1μm,0.9s						
SKR				A		09 12 07.5	
	comp=E,120nm,0.9s						
SKR				A		09 12 07.5	
	comp=E,220nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**248**	*e*P	**Pn**	**09 11 00.5**	**+0.8**
YUK				AMB	AMB	09 11 06.2	
	comp=E,190nm,0.5s						
YUK				*e*S	**Sn**	**09 12 10.8**	**+6.6**
YUK				A		09 12 21.1	
	comp=E,460nm,0.6s						
YUK				A		09 12 21.1	
	comp=E,250nm,0.6s						
YUK				A		09 12 36.0	
	comp=E,3μm,1.3s						
YUK				A		09 12 36.0	
	comp=E,3μm,1.3s						
YUK				AMS	AMS	09 13 34.0	
	comp=E,2μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**248**	PN	**Pn**	**09 11 00.5**	**+0.8**
YUK				*e*S	**Sn**	**09 12 10.8**	**+6.6**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,460nm,0.7s						
YUK				smax			
	comp=E,250nm,0.6s						
YUK				smax			
	comp=N,3μm,1.4s						
YUK				smax			
	comp=E,3μm,1.2s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	*e*P	**Pn**	**09 11 26.2**	**+5.3**
YSS				AMB	AMB	09 11 28.0	
	comp=Z,70nm,1.0s						
YSS				AMS	AMS	09 12 00.0	
	comp=Z,900nm,15.0s						
YSS				AMS	AMS	09 14 04.0	
	comp=Z,600nm,16.0s						
YSS				AMS	AMS	09 14 04.0	
	comp=Z,1μm,16.0s						
YSS				AMS	AMS	09 14 04.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	*e*Pn	**Pn**	**09 11 18.3**	**-2.6**
PET	**Petropavlovsk**	**7.62**	**26**	*e*PN	**Pn**	**09 11 26.8**	**-1.1**
PET				MLR	MLR		
	comp=Z,600nm,15.0s						
PET	**Petropavlovsk**	**7.62**	**26**	*e*Pn	**Pn**	**09 11 26.4**	**-1.5**
ASAJ	**Asahikawa**	**7.70**	**257**	Pn	**Pn**	**09 11 32.3**	**+3.3**
	comp=Z,1.8nm,0.3s,baz=101,slow=17,SNR=7.3						
ASAJ	**Asahikawa**	**7.70**	**257**	PN	**Pn**	**09 11 32.3**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UGL	**Uglegorsk**	**7.90**	**294**	*e*P	**Pn**	**09 11 37.0**	**+5.2**
UGL				AMS	AMS	09 14 50.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	09 14 50.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	09 14 50.0	
	comp=Z,2μm,15.0s						
NKL	**Nikolayevsk**	**10.51**	**315**	*e*L		09 14 02.0	
NKL				AMS	AMS	09 17 06.0	
	comp=Z,3μm,14.0s						
MA2	**Magadan**	**13.34**	**355**	*e*PN	**Pn**	**09 12 46.6**	**+0.4**
KLR	**Kul'dur**	**14.61**	**289**	*e*P	**Pn**	**09 13 04.2**	**+0.8**
MAJO	**Matsushiro**	**14.79**	**234**	*e*P	**Pn**	**09 13 05.7**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s						
MAJO	**Matsushiro**	**14.79**	**234**	*e*Pn	**Pn**	**09 13 05.7**	**-0.3**
	comp=Z,15nm,0.9s						
MAT	**Matsushiro**	**14.79**	**234**	P	**Pn**	**09 13 05.6**	**-0.4**
MAT				*e*S	**Sn**	**09 15 55.5**	**+5.2**
MJAR	**Matsushiro Arr**	**14.79**	**234**	Pn	**Pn**	**09 13 03.0**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=8.0						
SMY	**Shemya**	**15.07**	**57**	*e*P	**Pn**	**09 13 06.6**	**-3.1**
ZEA	**Zeya**	**18.09**	**304**	*e*P	**Pn**	**09 13 47.2**	**-1.0**
ZEA				AMB	AMB	09 13 51.0	
	comp=Z,63nm,2.0s						
CN2	**Changchun**	**19.62**	**273**	*e*P	**Pn**	**09 14 06.6**	**-0.2**
CN2				*e*XP	sP	09 14 13.6	+6.2
CN2				*e*S	**Sn**	**09 17 41.4**	**-6.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s						
CN2				LR	LR		
	comp=E,500nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CLNS	**Chul'man**	**20.27**	**312**	*e*P	**P**	**09 14 13.4**	**+0.9**
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
CLNS				MLR	MLR		
	comp=N,300nm,15.0s,MS4.5						
CLNS				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS4.5						
KSRS	**Korea Array**	**20.63**	**254**	P	**P**	**09 14 15.1**	**-1.4**
	comp=E,6.5nm,0.8s,baz=61,slow=10,SNR=9.3						
YAK	**Yakutsk**	**20.66**	**328**	*e*P	**P**	**09 14 17.7**	**+1.0**
YAK				*e*		09 14 31.9	
YAK				*e*S	**S**	**09 18 09.0**	**+1.1**
YAK				*e*SS		09 18 33.7	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,191nm,4.9s						
YAK				pmax	pmax		
	comp=Z,24nm,1.2s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,23nm,1.8s						
YAK				smax			
	comp=N,103nm,3.1s						
YAK				smax			
	comp=Z,101nm,3.2s						
YAK				smax			
	comp=E,132nm,3.0s						
YAK				MLR	MLR		
	comp=Z,256nm,18.0s,MS3.6						
YAK				MLR	MLR		
	comp=N,239nm,19.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,207nm,14.0s,MS3.8						
YAK	**Yakutsk**	**20.66**	**328**	*e*P	**P**	**09 14 17.9**	**+1.2**
	comp=E,37nm,1.0s						
KS15	**Wonju Array Si**	**20.66**	**254**	*e*P	**P**	**09 14 18.0**	**+1.2**
JNU	**Nakatsue**	**21.47**	**240**	P	**P**	**09 14 22.8**	**-2.7**
	comp=E,11nm,0.9s,mb4.2,baz=256,slow=21,SNR=2.2						
INCN	**Inchon**	**21.48**	**255**	P	**P**	**09 14 24.9**	**-0.6**
	comp=E,11nm,0.3s,mb4.7						
SNY	**Shenyang**	**21.58**	**269**	⇑P	**P**	**09 14 27.1**	**+0.4**
SNY				AP		09 14 38.1	
SNY				S	**S**	**09 18 18.9**	**-7.3**
SNY				XS	sS	09 18 38.8	+10
SNY				SS		09 18 53.9	
SNY				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.4						
SNY				AMB	AMB		
	comp=Z,350nm,5.6s						
SNY				LR	LR		
	comp=E,481nm,19.6s						
SNY				LR	LR		
	comp=Z,675nm,17.5s,MS4.1						
BILL	**Bilibino**	**22.82**	**13**	*e*P	**P**	**09 14 40.4**	**+0.5**
BILL				*e*S	**S**	**09 18 46.5**	**-3.4**
BILL				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.3						
BJI	**Beijing**	**27.43**	**270**	P	**P**	**09 15 20.1**	**-2.8**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.0						
BJI				LR	LR		
	comp=N,467nm,18.7s,MS4.2						
BJI				LR	LR		
	comp=E,339nm,18.6s,MS4.2						
BJI				LR	LR		
	comp=Z,508nm,18.2s,MS4.1						
BJI	**Beijing**	**27.43**	**270**	P	**P**	**09 15 20.1**	**-2.8**
	comp=Z,9.0nm,1.8s,mb4.0						
BJI				S	**S**	**09 20 22.0**	**+18**
BJI				LR	LR		
	comp=Z,510nm,18.2s,MS4.1						
SSE	**Sheshan**	**28.91**	**250**	P	**P**	**09 15 35.6**	**-0.4**
SSE				S	**S**	**09 20 26.3**	**-0.6**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,148nm,3.8s						
SSE				LR	LR		
	comp=N,105nm,20.0s,MS3.7						
SSE				LR	LR		
	comp=E,172nm,20.0s,MS3.7						
SSE				LR	LR		
	comp=Z,271nm,20.0s,MS3.9						
SSE	**Sheshan**	**28.91**	**250**	P	**P**	**09 15 35.6**	**-0.4**
	comp=Z,32nm,0.7s,mb5.2						
SSE				pP	pP	09 15 38.6	+1.1
SSE				sP	sP	09 15 40.1	+2.0
SSE				S	**S**	**09 20 26.2**	**-0.7**
SSE				sS	sS	09 20 31.1	+1.8
SSE				LR	LR		
	comp=Z,270nm,20.0s,MS3.9						
NJ2	**Nanjing**	**29.83**	**254**	*e*P	**P**	**09 15 45.8**	**+1.6**
NJ2				AP	pP	09 15 49.1	+3.4
NJ2				XP	sP	09 15 53.3	+7.0
NJ2				PP	PP	09 16 42.9	-8.6
NJ2				S	**S**	**09 20 40.5**	**-1.0**
NJ2				XS	sS	09 20 48.5	+4.6
NJ2				AMB	AMB		
	comp=Z,450nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,15.2s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,14.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,14.4s,MS4.7						
HHC	**Hu-ho-hao-te**	**30.28**	**275**	*e*P	**P**	**09 15 49.3**	**+1.1**
HHC				AP	pP	09 15 53.8	+4.1
HHC				XP	sP	09 15 56.3	+6.0
HHC				PP	PP	09 16 48.8	-7.6
HHC				PCP	PcP	09 18 49.9	+1.2
HHC				S	**S**	**09 20 47.0**	**-1.5**
HHC				SCP	ScP	09 22 29.8	-1.9
HHC				SCS	ScS	09 26 24.4	-3.0
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,175nm,8.9s						
HHC				LR	LR		
	comp=N,417nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=E,408nm,15.7s,MS4.3						
HHC				LR	LR		
	comp=Z,493nm,13.9s,MS4.3						
SONM	**Songino Array**	**31.43**	**290**	P	**P**	**09 15 57.3**	**-1.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=73,slow=6.0,SNR=4.0						
TLY	**Talaya**	**32.34**	**298**	*e*P	**P**	**09 16 05.7**	**-0.6**
TLY	**Talaya**	**32.34**	**298**	*e*P	**P**	**09 16 05.5**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**32.82**	**296**	*e*P	**P**	**09 16 09.8**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SVW2	**Sparrevohn**	**32.83**	**44**	*e*P	**P**	**09 16 09.6**	**-1.0**
WHN	**Wuhan**	**33.78**	**256**	P	**P**	**09 16 18.0**	**-1.0**
KDAK	**Kodiak Island**	**34.41**	**50**	LR	LR	09 30 34.6	
	comp=Z,377nm,20.8s,MS4.1,baz=268,slow=36						
XAN	**Xi'an**	**35.44**	**266**	P	**P**	**09 16 33.0**	**-0.3**
XAN				AP	pP	09 16 42.9	+8.2
XAN				S	**S**	**09 22 10.8**	**+2.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
XAN				LR	LR		
	comp=N,100nm,15.0s,MS4.1						
XAN				LR	LR		
	comp=E,228nm,15.4s,MS4.1						
XAN				LR	LR		
	comp=Z,1μm,16.4s,MS4.8						
SML	**Sawmill**	**36.31**	**43**	*e*P	**P**	**09 16 40.9**	**+0.2**
COLA	**College**	**36.50**	**38**	*e*P	**P**	**09 16 40.7**	**-1.7**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
COLA	**College**	**36.50**	**38**	*e*P	**P**	**09 16 40.6**	**-1.7**
	comp=Z,13nm,0.9s,mb4.8						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**09 16 55.0**	**+1.1**
LZH				AP	pP	09 16 59.5	+4.1
LZH				XP	sP	09 17 04.0	+8.0
LZH				AMB	AMB		
	comp=Z,43nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,169nm,4.2s						
LZH				LR	LR		
	comp=E,630nm,12.8s						
LZH				LR	LR		
	comp=Z,910nm,18.0s						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**09 16 55.0**	**+1.1**
	comp=Z,43nm,1.2s,mb5.0						
LZH				pP	pP	09 16 59.5	+4.1
LZH				sP	sP	09 17 04.0	+8.0
LZH				LR	LR		
	comp=Z,910nm,18.0s,MS4.6						
GTA	**Gaotai**	**38.99**	**280**	*e*P	**P**	**09 17 04.9**	**+1.4**
GTA				AP	pP	09 17 08.8	+3.9
GTA				XP	sP	09 17 11.6	+6.1
GTA				PP	PP	09 18 37.9	+5.2
GTA				PCP	PcP	09 19 15.9	+2.1
GTA				S	**S**	**09 23 03.8**	**+1.0**
GTA				XS	sS	09 23 10.3	+5.1
GTA				SS	SS	09 25 46.5	-8.0
GTA				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,82nm,5.3s						
GTA				LR	LR		
	comp=N,349nm,15.2s,MS4.4						
GTA				LR	LR		
	comp=E,281nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=Z,314nm,15.6s,MS4.2						
CD2	**Chengdu**	**40.80**	**266**	*e*P	**P**	**09 17 18.3**	**-0.2**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
GYA	**Guiyang**	**41.58**	**258**	⇑*i*P	**P**	**09 17 25.3**	**+0.4**
GYA				AP	pP	09 17 29.4	+3.0
GYA				XP	sP	09 17 32.3	+5.3
GYA				PP	PP	09 19 05.3	+4.4
GYA				PCP	PcP	09 19 24.3	+2.2
GYA				SCP	ScP	09 23 13.1	+0.2
GYA				S	**S**	**09 23 41.6**	**+0.2**
GYA				SCS	ScS	09 27 27.9	-1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,390nm,16.4s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=Z,450nm,17.2s,MS4.4						
INK	**Inuvik**	**42.03**	**32**	P	**P**	**09 17 29.1**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.0,baz=270,slow=8.5,SNR=7.7						
INK	**Inuvik**	**42.03**	**32**	*e*P	**P**	**09 17 29.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,160nm,0.7s						
INK	**Inuvik**	**42.03**	**32**	*e*P	**P**	**09 17 29.4**	**+0.8**
	comp=Z,160nm,0.7s,mb5.8						
ZAL	**Zalesovo**	**42.84**	**306**	LR	LR	09 37 34.1	
	comp=Z,656nm,18.8s,MS4.5,baz=42,slow=39						
NVS	**Novosibirsk**	**43.41**	**308**	*e*P	**P**	**09 17 37.4**	**-2.4**
QIZ	**Qiongzhong**	**44.64**	**247**	*e*P	**P**	**09 17 49.1**	**-0.6**
QIZ				S	**S**	**09 24 26.6**	**+0.2**
QIZ				LR	LR		
	comp=N,366nm,9.5s						
QIZ				LR	LR		
	comp=Z,302nm,18.7s,MS4.2						
WMQ	**Urumqi**	**45.04**	**292**	⇑*i*P	**P**	**09 17 52.9**	**+0.1**
WMQ				AP	pP	09 17 57.4	+3.1
WMQ				XP	sP	09 17 59.9	+5.0
WMQ				PCP	PcP	09 19 34.3	+0.6
WMQ				PPP	PP	09 19 39.0	+1.0
WMQ				PPP		09 20 19.3	
WMQ				SCP	ScP	09 23 25.0	-1.9
WMQ				S	**S**	**09 24 31.0**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,131nm,4.2s						
WMQ				LR	LR		
	comp=N,122nm,16.5s,MS4.1						
WMQ				LR	LR		
	comp=E,180nm,19.1s,MS4.1						
WMQ				LR	LR		
	comp=Z,238nm,18.4s,MS4.2						
KMI	**Kunming**	**45.12**	**260**	P	**P**	**09 17 54.3**	**+0.8**
KMI				AP	pP	09 17 57.4	+2.4
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=N,257nm,18.7s						
KMI				LR	LR		

comp=E,195nm,13.5s
KMI LR LR

comp=Z,168nm,24.9s
KMI Kunming 45.12 260 P **P** 09 17 54.3 +0.8
comp=Z,18nm,1.1s,mb4.8
KMI pP pP 09 17 57.4 +2.4
KMI sP sP 09 17 59.0 +3.4
KMI LR LR

comp=Z,170nm,24.9s,MS3.9
MKAR Makanchi Array 47.10 298 P **P** 09 18 08.5 -0.6
comp=Z,6.4nm,0.8s,mb4.6,baz=67,slow=9.3,SNR=13
LSA Lhasa 50.25 273 P **P** 09 18 32.0 -1.3
CHKZ Chkalovo 50.67 310 *e*P **P** 09 18 34.8 -1.7
CHKZ pmax pmax

comp=Z,14nm,0.9s,mb4.9
CHKZ Chkalovo 50.67 310 *e*P **P** 09 18 34.8 -1.7
comp=Z,14nm,0.9s,mb4.9
BVAR Borovoye Array 51.09 310 P **P** 09 18 38.9 -0.8
comp=Z,1.1nm,0.3s,mb4.3,baz=72,slow=4.8,SNR=5.6
BRVK Borovoye 51.13 310 *e*P **P** 09 18 38.4 -1.6
BRVK pmax pmax

comp=Z,7.0nm,0.8s,mb4.6
BRVK Borovoye 51.13 310 *e*P **P** 09 18 38.4 -1.6
comp=Z,6.8nm,0.8s,mb4.6
RES Resolute Bay 51.25 18 *e*P **P** 09 18 41.3 +0.4
RES pmax pmax

comp=Z,170nm,1.0s,mb5.9
RES Resolute Bay 51.25 18 *e*P **P** 09 18 41.3 +0.4
comp=Z,170nm,1.0s,mb5.9
YKA Yellowknife Ar 51.29 36 LR LR 09 39 48.6
comp=Z,75nm,20.4s,MS3.7,baz=200,slow=35
ZRNK Zerenda 51.87 310 *e*P **P** 09 18 44.5 -1.0
ZRNK pmax pmax

comp=Z,2.0nm,0.5s,mb4.3
ZRNK Zerenda 51.87 310 *e*P **P** 09 18 44.5 -1.0
comp=Z,2.4nm,0.5s,mb4.4
AAK Ala-Archa 53.98 297 *e*P **P** 09 19 00.3 -0.8
AAK pmax pmax

comp=Z,5.0nm,0.8s,mb4.5
AAK Ala-Archa 53.98 297 *e*P **P** 09 19 00.2 -0.9
comp=Z,5.1nm,0.8s,mb4.5
JIRN Jiri 54.94 275 *e*P **P** 09 19 09.4 +1.4
comp=Z,21nm,0.6s,mb5.3
GUN Gumba 54.99 275 *e*P **P** 09 19 09.8 +1.3
ARU Arti 55.30 318 ⇑*i*P **P** 09 19 09.3 -1.3
ARU *e* 09 21 18.2
ARU *e*S **S** 09 26 54.0 -1.1
ARU *e*SS SS 09 30 40.1 +0.8
ARU pmax pmax

comp=Z,6.0nm,1.0s,mb4.6
KKN Kakani 55.48 276 *e*P **P** 09 19 13.6 +1.6
comp=Z,32nm,0.8s,mb5.4
PKI Pulchoki 55.53 275 *e*P **P** 09 19 13.6 +1.3
DMN Daman 55.72 276 *e*P **P** 09 19 15.3 +1.6
comp=Z,70nm,1.1s,mb5.6
GKN Gorkha 55.79 276 *e*P **P** 09 19 15.4 +1.2
comp=Z,34nm,0.8s,mb5.4
E05A Randle 55.81 56 ⇓P **P** 09 19 13.8 -0.5
baz=56
A08A Turner Farm, O 55.90 53 ⇓P **P** 09 19 14.5 -0.4
baz=56
C07A Waterville 56.16 54 ⇓P **P** 09 19 15.9 -0.9
baz=56
B08A Colville Reser 56.19 53 ⇑P **P** 09 19 16.3 -0.8
baz=56
A09A Danville 56.27 52 ⇓P **P** 09 19 17.2 -0.4
baz=56
I03A Eugene 56.36 60 ⇑P **P** 09 19 18.8 +0.5
baz=56
J02A Umpqua 56.53 60 ⇑P **P** 09 19 19.5 0.0
baz=56
EDM Edmonton 56.64 46 *e*P **P** 09 19 19.5 -0.8
KOLN Koldanda 56.65 277 *e*P **P** 09 19 21.8 +1.4
comp=Z,30nm,0.8s,mb5.4
C08A Higginbotham F 56.67 54 ⇑P **P** 09 19 19.9 -0.6
baz=56
B09A Rice 56.81 53 ⇓P **P** 09 19 21.2 -0.3
baz=57
E07A Sunnyside 56.91 55 ⇓P **P** 09 19 22.7 +0.6
baz=57
I04A Tendick Farm, 56.98 59 ⇓P **P** 09 19 23.3 +0.7
baz=57
C09A Chrisman Ranch 57.09 53 ⇓P **P** 09 19 22.9 -0.6
baz=57
D08A Wollman Farm, 57.15 54 ⇑P **P** 09 19 22.8 -1.1
baz=57
H05A Madras 57.20 58 ⇑P **P** 09 19 24.0 -0.2
baz=57
L02A Cave Junction 57.20 61 ⇑P **P** 09 19 24.4 +0.2
baz=57
F07A Phinny Hill Vi 57.24 56 ⇓P **P** 09 19 24.5 0.0
baz=57
E08A Dider Farm, El 57.40 55 ⇓P **P** 09 19 25.1 -0.6
baz=57
NEW Newport 57.47 52 P **P** 09 19 26.3 +0.1
comp=Z,24nm,0.8s,mb4.3,baz=320,slow=8.0,SNR=3.7
NEW Newport 57.47 52 P **P** 09 19 26.3 +0.1
J04A Umpqua Nationa 57.48 60 ⇓P **P** 09 19 26.4 +0.2
baz=57
A11A Hall Mountain, 57.49 51 ⇑P **P** 09 19 26.5 +0.2
baz=57
D09A Jones Farm, Ri 57.49 54 ⇑P **P** 09 19 25.4 -0.9
baz=57
C10A Spilker Farm, 57.62 53 ⇑P **P** 09 19 26.6 -0.6
baz=57
H06A Lindquist Farm 57.67 57 ⇑P **P** 09 19 27.5 0.0
baz=58
G07A Ruggs Ranch, H 57.75 57 ⇓P **P** 09 19 27.9 -0.2
baz=58
B11A Sandpoint 57.78 52 ⇑P **P** 09 19 28.4 0.0
baz=58
A12A Yaak River Ran 57.88 51 ⇑P **P** 09 19 29.6 +0.5
baz=58
E09A Wood Farm, Sta 57.90 55 ⇑P **P** 09 19 28.9 -0.2
baz=58
F08A Pendleton 57.96 56 ⇓P **P** 09 19 29.8 +0.3
baz=58
J05A Fort Rock 57.97 59 ⇑P **P** 09 19 30.2 +0.5
baz=58
YBH Yreka Blue Hor 57.98 61 ⇑P **P** 09 19 30.6 +0.9
baz=58
G08A Pilot Rock 58.14 56 ⇓P **P** 09 19 31.0 +0.1
baz=58
I06A Prineville 58.20 58 ⇓P **P** 09 19 31.4 +0.2
baz=58
ARCES ARCESS Array B 58.24 341 P **P** 09 19 30.9 -0.7
comp=Z,3.4nm,0.9s,mb4.4,baz=18,slow=7.0,SNR=6.1
M04C Macdoel 58.48 61 ⇓P **P** 09 19 33.8 +0.6
baz=58
E10A Myers Farm, Un 58.50 54 ⇓P **P** 09 19 33.5 +0.1
baz=58
K05A Summer Lake 58.50 60 ⇓P **P** 09 19 33.7 +0.4
baz=58
F09A S2 Ranch, Elgi 58.50 55 ⇓P **P** 09 19 33.8 +0.4
baz=58
D11A Klaveano Farm, 58.61 53 ⇓P **P** 09 19 33.8 -0.3
baz=58
M03C McCloud 58.61 62 ⇓P **P** 09 19 33.6 -0.6
baz=58
C12A Trout Creek 58.69 52 ⇑P **P** 09 19 34.4 -0.3
baz=58
F10A Beach Ranch, E 58.73 55 ⇓P **P** 09 19 35.1 +0.1
baz=58
H08A Prairie City 58.76 57 ⇑P **P** 09 19 35.2 0.0
baz=58
WDC Whiskeytown Da 58.76 62 ⇓P **P** 09 19 35.5 +0.3
baz=59
B13A Whitefish 58.85 51 P **P** 09 19 36.5 +0.7
baz=59,SNR=6.0
O02C Red Bluff 58.85 63 ⇓P **P** 09 19 36.4 +0.6
baz=59
L05A Lakeview 58.94 60 ⇓P **P** 09 19 36.8 +0.4
baz=59
J07A Hines 59.06 58 ⇓P **P** 09 19 37.4 +0.2
baz=59
M05C Lookout 59.15 61 ⇑P **P** 09 19 38.6 +0.7
baz=59
I08A Drewsey 59.18 57 ⇑P **P** 09 19 38.2 +0.2
baz=59
C13A Hot Springs 59.20 52 ⇓P **P** 09 19 38.5 +0.2
baz=59
H09A Durkee 59.26 56 ⇓P **P** 09 19 39.1 +0.5
baz=59
MOD Modoc 59.34 60 *e*P **P** 09 19 39.8 +0.6
MOD Modoc 59.34 60 ⇑P **P** 09 19 39.3 +0.1
baz=59
BMO Blue Mountains 59.35 56 *e*P **P** 09 19 39.2 -0.1

F11A Grangeville 59.39 54 ⇓P **P** 09 19 39.1 -0.4
baz=59
K07A Rock Creek Ran 59.50 59 ⇓P **P** 09 19 40.2 -0.1
baz=59
J08A Circle Bar Ran 59.56 58 ⇓P **P** 09 19 40.6 -0.2
baz=59
C14A Swan Lake 59.60 51 ⇑P **P** 09 19 41.0 0.0
baz=59
D13A Huson 59.61 52 ⇓P **P** 09 19 40.7 -0.4
baz=59
G11A Walters Elk Ra 59.62 55 ⇓P **P** 09 19 41.2 +0.1
baz=59
I09A Lost Marbles R 59.62 57 ⇓P **P** 09 19 40.8 -0.3
baz=59
L07A Adell 59.85 59 ⇑P **P** 09 19 43.1 +0.4
baz=60
K08A Mann Creek Ran 59.93 58 P **P** 09 19 43.8 +0.5
baz=60,SNR=6.0
J09A Fry Pan Ranch, 59.99 57 ⇑P **P** 09 19 43.5 -0.2
baz=60
ORV Oroville 60.02 63 ⇑P **P** 09 19 43.7 -0.2
baz=60
MSO Missoula 60.06 52 *e*P **P** 09 19 44.5 +0.3
comp=Z,8.4nm,1.1s,mb4.7
O05C Quincy 60.13 62 ⇑P **P** 09 19 44.7 +0.1
baz=60
D14A Greenough 60.14 52 P **P** 09 19 44.8 0.0
baz=60,SNR=8.4
E13A Victor 60.15 53 ⇓P **P** 09 19 45.2 +0.4
baz=60
OHCM Honcut 60.16 63 *e*P **P** 09 19 44.5 -0.4
H11A Donnelly 60.18 55 P **P** 09 19 44.9 -0.1
baz=60,SNR=10.0
N06A Buffalo Meadow 60.31 61 ⇑P **P** 09 19 46.3 +0.4
baz=60
L08A Fields 60.34 59 P **P** 09 19 46.8 +0.7
baz=60,SNR=5.8
CHMT Chamberlain Mo 60.38 52 *e*P **P** 09 19 46.4 +0.1
K09A Rome 60.39 58 ⇑P **P** 09 19 46.3 -0.1
baz=60
F13A Darby 60.47 53 ⇑P **P** 09 19 46.9 -0.1
baz=60
BEKR Beckwourth 60.53 62 ⇓P **P** 09 19 47.2 -0.2
baz=60
E14A Clinton 60.55 52 ⇑P **P** 09 19 47.3 -0.3
baz=60
D15A Lincoln 60.70 51 ⇓P **P** 09 19 48.4 -0.1
baz=60
P05C Yuba Gap, Truc 60.72 63 ⇓P **P** 09 19 48.5 -0.2
baz=60
N07B Gerlach 60.82 60 ⇑P **P** 09 19 49.7 +0.4
baz=61
L09A Wilkinson Ranc 60.84 59 ⇓P **P** 09 19 50.2 +0.7
baz=61
LAVA Lava Cap Winer 60.97 63 ⇓P **P** 09 19 50.5 +0.1
baz=61
E15A Deer Lodge 61.01 52 ⇓P **P** 09 19 50.6 -0.1
baz=61
O07A Toulon 61.25 61 ⇑P **P** 09 19 52.7 +0.4
baz=61
N08A GE Springer Mi 61.32 60 ⇓P **P** 09 19 53.1 +0.4
baz=61
M09A Marrel Ranch, 61.33 59 ⇓P **P** 09 19 53.4 +0.5
baz=61
R05C Kirkwood Meado 61.41 63 ⇑P **P** 09 19 54.0 +0.6
baz=61
F15A Butte 61.45 53 P **P** 09 19 53.8 +0.1
baz=61,SNR=7.9
LRM Limekiln Ridge 61.49 53 *e*P **P** 09 19 54.4 +0.5
EGMT Eagleton 61.57 49 ⇑P **P** 09 19 54.5 0.0
baz=61
CMB Columbia Colle 61.63 64 *e*P **P** 09 19 54.5 -0.4
CMB Columbia Colle 61.63 64 ⇓P **P** 09 19 54.7 -0.2
baz=61
N09A Rock Creek Ran 61.64 60 ⇑P **P** 09 19 55.5 +0.6
baz=61
PACP Pacheco Peak 61.70 65 ⇓P **P** 09 19 55.1 -0.3
baz=62
HLID Hailey 61.79 56 *e*P **P** 09 19 55.7 -0.2
comp=Z,3.7nm,0.9s,mb4.5
HLID Hailey 61.79 56 ⇓P **P** 09 19 55.6 -0.3
baz=62
M10A I.L. Ranch, Tu 61.81 58 P **P** 09 19 57.1 +1.0
baz=62,SNR=5.1
G15A Dillon 61.88 53 P **P** 09 19 56.8 +0.3
baz=62,SNR=8.2
R06C Coleville 61.91 63 P **P** 09 19 57.1 +0.4
baz=62,SNR=6.2
WAKR Walker 61.93 63 *e*P **P** 09 19 57.6 +0.8
S06C San Francisco 62.06 63 ⇑P **P** 09 19 58.1 +0.3
baz=62
S05C Merced 62.09 64 ⇓P **P** 09 19 57.5 -0.5
baz=62
O09A Fish Creek Ran 62.26 60 ⇓P **P** 09 19 59.5 +0.4
baz=62
M11A Holland Ranch, 62.31 58 ⇓P **P** 09 19 59.6 +0.2
baz=62
N10A Dunphy 62.33 59 ⇓P **P** 09 19 59.8 +0.2
baz=62
O10A Cortez Mining, 62.60 59 ⇓P **P** 09 20 02.1 +0.7
baz=62
Q08A Gabbs 62.63 62 P **P** 09 20 01.8 +0.2
baz=62,SNR=7.5
NVAR Mina Array Bea 62.67 62 P **P** 09 20 02.1 +0.3
comp=Z,3.7nm,0.8s,mb4.6,baz=288,slow=9.3,SNR=18
QLMT Earthquake Lak 62.67 53 *e*P **P** 09 20 02.7 +0.9
P09A Austin 62.68 60 ⇓P **P** 09 20 02.1 +0.3
baz=62
T06C Millerton Lake 62.69 64 ⇑P **P** 09 20 01.0 -0.9
baz=62
KCC Kaiser Creek 62.74 64 ⇑P **P** 09 20 02.0 -0.3
baz=62
M12A Wells 62.83 58 P **P** 09 20 04.0 +1.1
baz=63,SNR=5.1
N12A Clover Valley, 63.11 58 ⇑P **P** 09 20 04.7 -0.1
baz=63
O11A Cowboy Ranch, 63.20 59 ⇑P **P** 09 20 05.1 -0.2
baz=63
M13A Montello 63.31 57 ⇓P **P** 09 20 06.3 +0.2
baz=63,SNR=6.1
HELL Mitchell Peak, 63.33 64 P **P** 09 20 05.7 -0.4
baz=63,SNR=8.0
S08C White Mtn Res 63.34 63 ⇑P **P** 09 20 06.1 -0.1
baz=63
R09A Tonopah 63.54 62 P **P** 09 20 07.7 +0.1
baz=63,SNR=9.5
FLWY Flagg Ranch 63.55 53 *e*P **P** 09 20 09.1 +1.5
comp=Z,5.2nm,0.8s,mb4.6
N13A Wendover, West 63.60 58 ⇑P **P** 09 20 08.2 +0.2
baz=63
O12A Currie 63.66 59 P **P** 09 20 08.6 +0.3
baz=63,SNR=8.5
RRI2 Red Ridge 63.67 54 *e*P **P** 09 20 09.6 +1.1
comp=Z,11nm,0.7s,mb5.0
MOOW Moose Ponds 63.74 53 *e*P **P** 09 20 08.8 -0.1
comp=Z,5.6nm,1.1s,mb4.5
S09A Goldfield 63.78 62 ⇑P **P** 09 20 09.3 +0.2
baz=64
VES Vestal, Richgr 63.82 65 ⇑P **P** 09 20 08.5 -0.9
baz=64
LOHW Long Hollow 63.90 53 *e*P **P** 09 20 11.2 +1.2
REDW Red Top Meadow 63.92 54 *e*P **P** 09 20 11.4 +1.3
comp=Z,7.0nm,0.8s,mb4.7
R10A Warm Springs 63.98 61 ⇑P **P** 09 20 09.8 -0.7
baz=64
Q11A Duckwater 64.02 60 ⇑P **P** 09 20 10.7 0.0
baz=64
CWC Cottonwood Cre 64.06 64 ⇓P **P** 09 20 10.6 -0.4
baz=64
P12A McGill 64.06 59 ⇓P **P** 09 20 10.8 -0.2
baz=64
GRAC Grapevine Rang 64.15 63 ⇑P **P** 09 20 11.5 -0.1
baz=64
LAO LASA Array 64.27 49 *e*P **P** 09 20 12.5 +0.1
ISA Isabella 64.31 65 ⇓P **P** 09 20 11.8 -0.9
baz=64
Q12A Willow Creek R 64.39 60 ⇓P **P** 09 20 13.0 -0.2
baz=64
FINES FINESS Array B 64.41 335 P **P** 09 20 12.4 -0.8
comp=Z,1.8nm,0.4s,mb4.5,baz=45,slow=6.7,SNR=6.6
FINES FINESS Array B 64.41 335 *i* P **P** 09 20 13.1 -0.2
FINES pmax pmax

comp=Z,2.0nm,0.4s
ARVC Arvin 64.43 65 ⇓P **P** 09 20 13.9 +0.4
baz=64
DAC Darwin (Calif) 64.47 64 *e*P **P** 09 20 12.6 -1.1
DAC pmax pmax

comp=Z,5.0nm,1.1s,mb4.5
DAC Darwin (Calif) 64.47 64 *e*P **P** 09 20 12.6 -1.1
comp=Z,4.5nm,1.1s,mb4.4
HWUT Hardware Ranch 64.65 56 *e*P **P** 09 20 15.4 +0.5
comp=Z,6.4nm,1.0s,mb4.6
MPMC Manual Prospec 64.67 64 P **P** 09 20 15.3 +0.3
baz=64,SNR=5.7
FURC Furnace Creek, 64.80 63 P **P** 09 20 15.9 +0.1
baz=65,SNR=11
OSI Osito Adit 64.83 66 ⇑P **P** 09 20 16.8 +0.8
baz=65
DUG Dugway 64.84 58 *e*P **P** 09 20 16.3 +0.2
DUG pmax pmax

comp=Z,5.0nm,0.9s,mb4.5
DUG Dugway 64.84 58 *e*P **P** 09 20 16.3 +0.2
comp=Z,5.4nm,0.9s,mb4.6
DUG Dugway 64.84 58 P **P** 09 20 16.5 +0.3
baz=65,SNR=8.2
LRMC Laurel Mountai 64.92 64 ⇑P **P** 09 20 16.3 -0.4
baz=65
BW06 Boulder Array 65.03 54 *e*P **P** 09 20 17.7 +0.3
comp=Z,4.6nm,0.8s,mb4.6
PDAR Pinedale Array 65.03 54 P **P** 09 20 17.6 +0.2
comp=Z,3.3nm,0.8s,mb4.4,baz=280,slow=1.8,SNR=18
EDW2 Edwards Air Fo 65.12 65 ⇓P **P** 09 20 18.0 +0.1
baz=65
U10A Ash Meadows, A 65.16 63 ⇑P **P** 09 20 18.1 -0.1
baz=65
NLU North Lily Min 65.43 57 *e*P **P** 09 20 20.6 +0.7
SHOC Shoshone 65.53 63 ⇑P **P** 09 20 20.3 -0.2
baz=65
GSC Goldstone 65.59 64 *e*P **P** 09 20 20.9 -0.1
GSC Goldstone 65.59 64 ⇑P **P** 09 20 20.9 -0.1
baz=65
OBN Obninsk 65.64 326 *e*P **P** 09 20 20.6 -0.7
OBN *e* 09 20 52.0
OBN *e* 09 22 44.6
OBN *e*SS SS 09 33 20.3 -1.0
OBN pmax pmax

comp=Z,4.0nm,1.1s,mb4.4
OBN MLR MLR

comp=Z,100nm,16.0s,MS4.1
MPU Maple Canyon 65.64 57 *e*P **P** 09 20 22.0 +0.6
U11A Corn Creek 65.74 62 ⇑P **P** 09 20 22.2 +0.2
baz=66
SHPR Sheep Range 65.82 62 *e*P **P** 09 20 23.1 +0.6
TUQ Turquoise Mtn. 66.05 63 P **P** 09 20 24.0 0.0
baz=66,SNR=5.1
V11A Goodsprings 66.09 63 ⇓P **P** 09 20 24.0 -0.3
baz=66
HEC Hector,Ludlow 66.19 64 ⇑P **P** 09 20 25.3 +0.4
baz=66
U12A Valley of Fire 66.25 62 ⇓P **P** 09 20 25.3 0.0
baz=66
MURC Murrieta 66.45 66 ⇑P **P** 09 20 26.7 +0.2
baz=66
V12A Nelson 66.52 62 ⇓P **P** 09 20 26.6 -0.4
baz=66
W12A Cal Nev Ari 66.79 63 ⇓P **P** 09 20 28.8 +0.1
baz=67
ULM Lac du Bonnet 66.87 41 P **P** 09 20 29.4 +0.2
comp=Z,2.2nm,0.8s,mb4.2,baz=314,slow=4.0,SNR=2.6
SRU San Rafael 66.88 57 *e*P **P** 09 20 29.4 +0.1
IRM Iron Mountain 67.36 64 ⇓P **P** 09 20 31.8 -0.5
baz=67
BC3 Big Chuckw Mtn 67.51 64 ⇑P **P** 09 20 32.4 -0.8
baz=67
W13A Hualapai Mount 67.53 62 ⇑P **P** 09 20 32.6 -0.7
baz=67
X13A Yucca 67.89 63 ⇓P **P** 09 20 34.7 -1.0
baz=68
PDMCI Parker Dam,Lak 67.90 63 ⇑P **P** 09 20 35.0 -0.7
baz=68
W14A Seligman 67.94 62 P **P** 09 20 36.5 +0.4
baz=68,SNR=8.4
Y12C Blythe 68.02 64 ⇓P **P** 09 20 36.5 0.0
baz=68
WRAB Tennant Creek 68.08 199 *e*P **P** 09 20 33.8 -3.1
WRA Warramunga Arr 68.10 199 P **P** 09 20 35.2 -1.8
comp=Z,2.6nm,0.9s,mb4.3,baz=14,slow=6.6,SNR=8.8
GLA Glamis 68.30 65 *e*P **P** 09 20 38.5 +0.3
GLA Glamis 68.30 65 ⇑P **P** 09 20 37.4 -0.8
baz=68
X14A Yava 68.56 62 ⇓P **P** 09 20 40.1 +0.3
baz=68
NB2 NORSAR Subarra 68.62 341 P **P** 09 20 39.8 -0.4
comp=Z,12nm,1.0s,mb4.8,baz=30,slow=6.5
NOA NORSAR Array B 68.62 341 P **P** 09 20 39.9 -0.4
comp=Z,2.2nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=4.9
FITZ Fitzroy Crossi 68.75 208 P **P** 09 20 38.6 -2.5
comp=Z,3.8nm,1.1s,mb4.2,baz=24,slow=13,SNR=3.9
WUAZ Wupatki 68.78 61 *e*P **P** 09 20 41.0 -0.2
comp=Z,2.7nm,0.9s,mb4.2
WUAZ Wupatki 68.78 61 ⇓P **P** 09 20 40.1 -1.1
baz=69
Y14A Wickenburg 68.84 63 ⇓P **P** 09 20 40.8 -0.9
baz=69
X15A Humboldt 68.94 62 P **P** 09 20 43.2 +0.9
baz=69,SNR=6.1
ISCO Idaho Springs 69.23 54 *e*P **P** 09 20 44.8 +0.8
ISCO pmax pmax

comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 69.23 54 *e*P **P** 09 20 44.8 +0.7
comp=Z,4.1nm,0.8s,mb4.4
MVCO Mesa Verde 69.34 58 ⇑P **P** 09 20 44.4 -0.3
baz=69
115A Sonoran Desert 70.15 63 ⇓P **P** 09 20 49.4 -0.3
baz=70
116A Eloy 70.57 63 ⇓P **P** 09 20 51.6 -0.7
baz=70
KIV Kislovodsk 71.06 314 *e*P **P** 09 20 58.1 +2.8
KIV pmax pmax

comp=Z,4.0nm,0.9s,mb4.3
ASAR Alice Springs 71.79 198 P **P** 09 20 59.0 -0.7
comp=Z,1.9nm,0.8s,mb4.1,baz=12,slow=5.0,SNR=7.5
AKASG Malin Array Be 71.88 326 P **P** 09 20 59.4 -0.8
comp=Z,8.9nm,0.6s,mb4.9,baz=34,slow=6.2,SNR=20
AKBB Malin Array Si 71.88 326 *e*P **P** 09 20 59.6 -0.6
KIEV Kiev 71.89 326 *e*P **P** 09 20 59.4 -0.9
KIEV pmax pmax

comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 71.89 326 *e*P **P** 09 20 59.4 -0.8
comp=Z,13nm,0.8s,mb4.9
ANMO Albuquerque 72.09 58 *e*P **P** 09 20 59.1 -2.4
ANMO Albuquerque 72.09 58 *e*P **P** 09 21 02.0 +0.5
GNI Garni 72.77 310 *e*P **P** 09 21 04.5 -1.1
GNI pmax pmax

comp=Z,35nm,1.6s
MNTX Cornudas Mount 75.02 60 *e*P **P** 09 21 18.6 -0.1
STHS Stebnicka Huta 75.86 330 *e*P **P** 09 21 23.9 +0.3
STHS pmax pmax

comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 75.86 330 *e*P **P** 09 21 23.9 +0.3
comp=Z,6.4nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.91 329 *e*P **P** 09 21 24.4 +0.6
BURAR Bucovina Array 75.92 327 ⇓*i*P **P** 09 21 23.7 -0.2
MORC Moravsky Berou 76.79 332 ⇓*i*P **P** 09 21 29.5 +0.6
MORC Moravsky Berou 76.79 332 *e*P **P** 09 21 29.1 +0.2
MORC pmax pmax

comp=Z,9.0nm,1.0s,mb4.7
MORC Moravsky Berou 76.79 332 *e*P **P** 09 21 29.1 +0.2
comp=Z,8.6nm,1.0s,mb4.6
CLL Collm 76.83 336 *e*P **P** 09 21 29.0 -0.1
comp=Z,7.0nm,1.0s,mb4.5
CLL *e*pP pP 09 21 34.0 +3.4
CLL *e*(PcP) PcP 09 21 42.0 +1.7
CLL LmV 10 01 00.0

comp=Z,100nm,20.6s
KECS Kecovo 76.92 330 *e*P **P** 09 21 29.6 +0.1
KECS pmax pmax

comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 76.92 330 *e*P **P** 09 21 29.6 +0.1
comp=Z,3.4nm,1.0s,mb4.2
MLR Muntele Rosu 77.39 325 ⇓*i*P **P** 09 21 33.6 +1.4
MALT Malatya 77.41 313 ⇓*i*P **P** 09 21 34.0 +1.7
MALT Malatya 77.41 313 *e*P **P** 09 21 34.5 +2.2
MALT pmax pmax

comp=Z,8.0nm,1.0s,mb4.6
MALT Malatya 77.41 313 *e*P **P** 09 21 34.5 +2.2
comp=Z,8.3nm,1.0s,mb4.6
VYHS Vyhne 77.47 331 *e*P **P** 09 21 33.3 +0.6
VYHS *e* 09 21 44.1
VYHS pmax pmax

comp=Z,31nm,2.5s,mb4.8
VYHS Vyhne 77.47 331 *e*P **P** 09 21 33.3 +0.6
comp=Z,31nm,2.5s,mb4.8
VYHS *e* 09 21 44.1

VRAC	**Vranov**	**77.51**	**332**⇑	*iP*	**P**	**09 21 33.9**	**+1.0**
DRGR		**77.55**	**328**⇑	*iP*	**P**	**09 21 33.2**	**+0.1**
LTX	**Lajitas**	**77.74**	**60**	*eP*	**P**	**09 21 34.4**	**+0.2**
LTX				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LTX	**Lajitas**	**77.74**	**60**	*eP*	**P**	**09 21 34.4**	**+0.2**
	comp=Z,7.8nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**09 21 33.9**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.5,baz=300,slow=4.1,SNR=14						
VOIR		**77.79**	**325**⇓	*iP*	**P**	**09 21 35.4**	**+1.0**
ZST	**Bratislava**	**78.31**	**332**	*eP*	**P**	**09 21 34.2**	**-3.1**
ZST				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
ZST	**Bratislava**	**78.31**	**332**	*eP*	**P**	**09 21 34.2**	**-3.1**
	comp=Z,15nm,0.6s,mb5.1						
KHC	**Kasperske Hory**	**78.60**	**334**	*eP*	**P**	**09 21 37.9**	**-1.0**
GRA1	**Grafenberg Arr**	**78.79**	**336**	*eP*	**P**	**09 21 40.1**	**+0.1**
	comp=Z,21nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**78.79**	**336**	*eP*	**P**	**09 21 40.1**	**+0.1**
	comp=Z,21nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**78.79**	**336**	*eP*	**P**	**09 21 40.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
GRF	**Grafenberg Arr**	**78.79**	**336**	*eP*	**P**	**09 21 40.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**09 21 40.8**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=7.0						
CONA	**Conrad Observa**	**78.95**	**332**⇑	*iP*	**P**	**09 21 42.2**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.5						
ARSA	**Arzberg**	**79.66**	**332**⇑	*iP*	**P**	**09 21 46.1**	**+1.4**
	comp=Z,7.1nm,1.1s,mb4.5						
KBA	**Koelnbreinsper**	**80.50**	**333**⇑	*iP*	**P**	**09 21 50.6**	**+1.4**
	comp=Z,9.3nm,0.6s,mb4.9						
BFO	**Black Forest**	**80.83**	**337**	*eP*	**P**	**09 21 51.4**	**+0.4**
BFO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BFO	**Black Forest**	**80.83**	**337**	*eP*	**P**	**09 21 51.4**	**+0.4**
	comp=Z,8.8nm,1.0s,mb4.6						
WTTA	**Wattenberg**	**80.85**	**335**⇑	*iP*	**P**	**09 21 48.7**	**-2.5**
	comp=Z,14nm,0.6s,mb5.1						
VTS	**Vitosha**	**80.89**	**325**⇓	*iP*	**P**	**09 21 52.1**	**+0.7**
MOTA	**Moosalm**	**80.94**	**335**⇑	*iP*	**P**	**09 21 53.7**	**+2.1**
	comp=Z,16nm,1.0s,mb4.9						
SQTA	**Sankt Quirin**	**81.02**	**335**⇑	*iP*	**P**	**09 21 53.3**	**+1.2**
	comp=Z,6.2nm,0.7s,mb4.7						
CDF	**Champ du Feu**	**81.03**	**338**	*eP*	**P**	**09 21 50.9**	**-1.2**
	comp=Z,17nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**81.03**	**338**	*eP*	**P**	**09 21 50.9**	**-1.2**
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**81.03**	**338**	*eP*	**P**	**09 21 50.9**	**-1.2**
	comp=Z,8.4nm,0.9s,mb4.7						
PPT	**Papeete**	**81.94**	**126**	eLR	LR	09 47 29.7	
	comp=Z,126nm,21.5s						
GRR	**Gorron**	**82.96**	**343**	*eP*	**P**	**09 22 00.8**	**-1.4**
SMF	**Signal de Mont**	**83.55**	**339**	*eP*	**P**	**09 22 04.0**	**-1.3**
	comp=Z,30nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.55**	**339**	*eP*	**P**	**09 22 04.0**	**-1.3**
SMF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.55**	**339**	*eP*	**P**	**09 22 04.0**	**-1.3**
	comp=Z,15nm,1.1s,mb5.0						
LPG	**La Plagne**	**83.86**	**337**	*eP*	**P**	**09 22 06.8**	**-0.1**
	comp=Z,13nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.86**	**337**	*eP*	**P**	**09 22 06.8**	**-0.1**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.86**	**337**	*eP*	**P**	**09 22 06.8**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.8						
RJF	**Les Rejaudoux**	**85.36**	**340**	*eP*	**P**	**09 22 13.1**	**-1.4**
RKT	**Rikitea**	**94.82**	**119**	eLR	LR	09 53 29.3	
	comp=Z,102nm,31.2s						
CFAA	**Coronel Fontan**	**145.11**	**80**	PKPbc	PKPbc	09 29 12.8	-1.4
	comp=Z,0.5nm,0.6s,baz=272,slow=4.2,SNR=7.8						

CASC 17 09:09:53.8±2.5, 1077N×8673W, h35km±32km, MD4.0, ML3.3, 5C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.00**	**59**⇑	*iP*		Pn	09 10 11.5	+0.1
SSNN				*eS*		Sn	09 10 26.4	+2.1
VCR	**Vista de Mar**	**1.25**	**121**	*eP*		Pn	09 10 14.0	-0.8
MADN	**Villa Maderas**	**1.33**	**61**⇑	*eP*		Pn	09 10 16.5	+0.6
CONN	**Concepcion**	**1.34**	**54**⇑	*eP*		Pn	09 10 16.1	+0.2
CONN				*eS*		Sn	09 10 35.2	+2.7
TICN	**Ticuantepe**	**1.35**	**21**	*eP*		Pn	09 10 16.3	+0.2
COPN	**Copaltepe**	**1.41**	**5**⇓	*eP*		Pn	09 10 17.0	+0.1
XAVN	**Gruta Xavier**	**1.43**	**16**⇓	*eP*		Pn	09 10 17.7	+0.5
LIM1	**Limonal**	**1.45**	**93**⇑	*eP*		Pn	09 10 17.0	-0.4
LIM1				*eS*		Sn	09 10 35.5	+0.3
MGAN	**Managua**	**1.45**	**19**	*eP*		Pn	09 10 17.6	+0.1
MGAN				⇑*eP*			09 10 17.7	
MGAN				*i*			09 10 41.9	
	comp=N,399nm,0.4s							
MOMJ	**Momotombo**	**1.64**	**6**	*eP*		Pn	09 10 20.9	+0.8
MIRN	**Miramar**	**1.66**	**0**⇓	*eP*		Pn	09 10 20.6	+0.2
CNGN	**Cerro Negro**	**1.72**	**1**	*eP*		Pn	09 10 19.9	-1.4
CRIN	**San Cristobal**	**1.95**	**351**	*eP*		Pn	09 10 24.7	+0.4
PRS1	**Puriscal**	**2.50**	**108**	*eP*		Pn	09 10 34.8	+2.9
PRS1				*eS*		Sn	09 11 03.1	+1.9

BJI 17 09:13:34.6, 2495N×12225E, h54km, mb4.3, ML3.7
IDC 17 09:13:34.8±3.7, 2405N×12244E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/22, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=102.4km s-min=30.6km az=112.0
ISCJB 17 09:13:36.2±0.7, 247N±02×12200E±006, h68km±12km, mb3.5/2, Error ellipse: s-maj=28.9km s-min=6.9km az=19.6
JMA 17 09:13:37.9±0.2, 2471N×122.12E, h69km, M3.4
ISC 17 09:13:37.5±0.7, 246N±02×12200E±006, h55km±15km, n11, σ0§49/17, mb3.6/2, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.93**	**97**	P		**Pn**	**09 13 54.6**	**+0.2**
YOJ				S		**Sn**	**09 14 06.9**	**+0.1**
IRIF	**Iriomote-Funau**	**1.60**	**99**	P		**Pn**	**09 14 03.2**	**-0.2**
IRIF				*eS*		**Sn**	**09 14 22.3**	**-0.6**
HATJ	**Hateruma jima**	**1.73**	**107**	P		**Pn**	**09 14 05.6**	**+0.4**
HATJ				*eS*		**Sn**	**09 14 26.4**	**+0.3**
JKRS	**Kuro-shima**	**1.86**	**100**	P		**Pn**	**09 14 07.3**	**+0.3**
JKRS				*eS*		**Sn**	**09 14 29.3**	**-0.1**
JJJ	**Ishigaki jima**	**1.96**	**96**	P		**Pn**	**09 14 08.0**	**-0.4**
JJJ				*eS*		**Sn**	**09 14 31.1**	**-0.8**
JTJ	**Tarama**	**2.46**	**88**	P		**Pn**	**09 14 16.0**	**+0.9**
QZH	**Quanzhou**	**3.12**	**277**⇓	*iP*		**Pn**	**09 14 24.9**	**+0.8**
QZH				S		**Sn**	**09 14 59.3**	**-0.8**
QZH				Smax				
	comp=N,290nm,0.6s							
QZH				Smax				
	comp=E,170nm,0.6s							
JOW	**Kunigami**	**6.09**	**67**	Pn		**Pn**	**09 15 04.8**	**0.0**
	comp=E,3.2nm,0.3s,baz=121,slow=22,SNR=8.6							
KSRS	**Korea Array**	**13.79**	**20**	Pn		**Pn**	**09 16 56.1**	**+6.0**
	baz=201,slow=12,SNR=16							
WRA	**Warramunga Arr**	**45.86**	**164**	P		**P**	**09 21 53.8**	**-0.4**
	comp=E,0.5nm,0.4s,mb3.8,baz=347,slow=8.6,SNR=12							
ASAR	**Alice Springs**	**49.34**	**166**	P		**P**	**09 22 21.4**	**+0.3**
	comp=E,0.2nm,0.4s,mb3.5,baz=354,slow=7.4,SNR=2.7							

IDC 17 09:17:11.9±0.9, 4674N×15539E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/24, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=27.0km s-min=20.8km az=134.0
NEIC 17 09:17:13.5±0.6, 4676N×15536E, h10km, mb4.6/1, Error ellipse: s-maj=17.0km s-min=12.0km az=133.0
ISCJB 17 09:17:15.0±6.9, 468N±0.1×1553E±02, h32km±48km, mb3.7/9, Error ellipse: s-maj=29.1km s-min=22.3km az=50.6
MOS 17 09:17:15.1±0.9, 4678N×15528E, h33km, mb4.8/1, Error ellipse: s-maj=25.7km s-min=18.4km az=143.4
ISC 17 09:17:17.3±2.9, 468N±01×1553E±02, h37km±25km, n14, σ0§79/14, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.43**	**256**	*ePN*		**Pn**	**09 18 34.0**	**-1.7**
ASAJ	**Asahikawa**	**9.35**	**258**	Pn		**Pn**	**09 19 31.5**	**+2.1**
	0.4nm,0.3s,baz=230,slow=14,SNR=3.2							

MJAR	**Matsushiro Arr**	**16.35**	**237**	Pn		**Pn**	**09 21 03.7**	**-0.3**
	0.1nm,0.3s,baz=41,slow=7.6,SNR=5.1							
MJAR	**Matsushiro Arr**	**16.35**	**237**	Pn		**Pn**	**09 21 03.7**	**-0.3**
KSRS	**Korea Array**	**22.27**	**255**	P		**P**	**09 22 11.7**	**+0.6**
	0.3nm,0.3s,mb3.2,baz=49,slow=10.0,SNR=2.4							
SONM	**Songino Array**	**32.77**	**290**	P		**P**	**09 23 46.2**	**-0.5**
	0.4nm,0.7s,mb3.5,baz=70,slow=9.7,SNR=3.0							
INK	**Inuvik**	**40.81**	**33**	P		**P**	**09 24 55.1**	**0.0**
	0.5nm,0.7s,mb3.3,baz=242,slow=8.8,SNR=4.8							
MKAR	**Makanchi Array**	**48.28**	**298**	P		**P**	**09 25 54.8**	**0.0**
	0.7nm,0.7s,mb3.8,baz=64,slow=8.4,SNR=6.0							
CHKZ	**Chkalovo**	**51.58**	**311**	*eP*		**P**	**09 26 19.7**	**-0.1**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**51.58**	**311**	*eP*		**P**	**09 26 19.7**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**64.66**	**336**	P		**P**	**09 27 51.2**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.3,baz=0.0,slow=7.6,SNR=3.4							
WRA	**Warramunga Arr**	**69.06**	**201**	P		**P**	**09 28 18.8**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=23,slow=6.9,SNR=9.4							
ASAR	**Alice Springs**	**72.74**	**201**	P		**P**	**09 28 42.0**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=18,slow=4.8,SNR=15							
TXAR	**Lajitas Array**	**76.14**	**62**	P		**P**	**09 29 01.4**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=299,slow=4.5,SNR=6.5							

IDC 17 09:19:57.1±1.9, 4701N×15286E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, Error ellipse: s-maj=53.2km s-min=25.4km az=174.0
MOS 17 09:20:01.9±1.4, 4687N×15271E, h53km, mb4.3/7, Error ellipse: s-maj=26.1km s-min=18.5km az=64.5
ISCJB 17 09:20:03.6±1.8, 470N±02×1528E±02, h63km±14km, mb4.1/7, Error ellipse: s-maj=38.3km s-min=10.9km az=110.8
ISC 17 09:20:05.7±1.6, 470N±02×1527E±02, h66km±13km, n23, σ0§35/22, mb3.9/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**244**	*ePN*		**Pn**	**09 20 56.5**	**-5.8**
KUR				*i* S		**Sn**	**09 21 46.0**	**-0.1**
KUR				pmax	pmax			
	comp=Z,80nm,0.5s							
KUR				smax				
	comp=N,170nm,0.7s							
SKR	**Severo-Kuril's**	**4.28**	**30**	*ePN*		**Pn**	**09 21 08.1**	**-0.2**
ASAJ	**Asahikawa**	**7.69**	**251**	Pn		**Pn**	**09 21 55.5**	**+0.5**
	comp=N,0.5nm,0.3s,baz=82,slow=18,SNR=3.4							
ASAJ	**Asahikawa**	**7.69**	**251**	PN		**Pn**	**09 21 55.5**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.64**	**251**	P		**P**	**09 24 39.3**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=58,slow=10,SNR=5.1							
MKAR	**Makanchi Array**	**46.58**	**297**	P		**P**	**09 28 27.4**	**+0.4**
	comp=Z,1.3nm,0.9s,mb3.6,baz=72,slow=7.8,SNR=6.1							
MKAR	**Makanchi Array**	**46.58**	**297**	P		**P**	**09 28 27.4**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**50.48**	**309**	P		**P**	**09 28 56.9**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.9,baz=64,slow=13,SNR=3.7							
BVAR	**Borovoye Array**	**50.48**	**309**	P		**P**	**09 28 56.9**	**0.0**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**63.67**	**335**	P		**P**	**09 30 29.6**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=44,slow=11,SNR=4.8							
FINES	**FINESS Array B**	**63.67**	**335**	P		**P**	**09 30 29.7**	**-0.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**09 30 37.5**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=318,slow=2.0,SNR=4.0							
NB2	**NORSAR Subarra**	**67.87**	**341**	P		**P**	**09 30 56.7**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.9,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**09 30 57.9**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.0,baz=27,slow=6.4,SNR=4.3							
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**09 30 57.9**	**+0.8**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
HFS	**Hagfors**	**68.10**	**339**	P		**P**	**09 30 58.7**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.3,baz=57,slow=6.0,SNR=11							
HFS	**Hagfors**	**68.10**	**339**	P		**P**	**09 30 58.7**	**+0.2**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**71.17**	**326**	P		**P**	**09 31 17.1**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=37,slow=6.7,SNR=6.6							
AKASG	**Malin Array Be**	**71.17**	**326**	P		**P**	**09 31 17.1**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**77.58**	**60**	P		**P**	**09 31 54.6**	**0.0**
	comp=Z,1.6nm,0.6s,mb3.9,baz=295,slow=4.5,SNR=4.7							
TXAR	**Lajitas Array**	**77.58**	**60**	P		**P**	**09 31 54.7**	**+0.1**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VNA2	**Neumayer--Watz**	**154.22**	**195**	*ePdiff*		PKPab	09 40 11.7	-0.6
VNA2				*e*			09 40 16.2	
VNA3	**Neumayer Olymp**	**154.31**	**193**	*ePdiff*		PKPab	09 40 12.4	-0.3
VNA3				*e*			09 40 17.0	

ISCJB 17 09:22:19.6±1.0, 468N±02×1557E±02, h10km, mb4.2/10, Error ellipse: s-maj=30.8km s-min=12.6km az=125.1
NEIC 17 09:22:20.8±0.8, 4674N×15566E, h10km, mb4.9/2, Error ellipse: s-maj=26.4km s-min=11.5km az=155.0
IDC 17 09:22:20.0±1.5, 4684N×15567E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/25, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=49.8km s-min=20.2km az=163.0
MOS 17 09:22:31.6±2.0, 4852N×15559E, h33km, mb4.6/1, Error ellipse: s-maj=29.3km s-min=16.3km az=71.5
ISC 17 09:22:21.1±1.0, 468N±02×1557E±02, h10km, n16, σ0§92/16, mb4.2/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.56**	**238**	Pn		**Pn**	**09 26 12.0**	**-1.4**
	0.2nm,0.3s,baz=30,slow=14,SNR=4.0							
KSRS	**Korea Array**	**22.50**	**255**	P		**P**	**09 27 21.8**	**+1.0**
	1.3nm,0.7s,mb3.5,baz=68,slow=9.2,SNR=4.8							
EGAK	**Eagle**	**37.86**	**39**	*eP*		**P**	**09 29 37.2**	**-0.9**
	20nm,0.4s,mb5.2							
INK	**Inuvik**	**40.66**	**33**	P		**P**	**09 30 01.4**	**0.0**
	1.7m,0.5s,mb3.9,baz=291,slow=8.0,SNR=13							
INK	**Inuvik**	**40.66**	**33**	*eP*		**P**	**09 30 00.9**	**-0.5**
	58nm,0.5s,mb5.5							
MKAR	**Makanchi Array**	**48.47**	**298**	P		**P**	**09 31 04.6**	**+0.8**
	0.9nm,0.7s,mb3.9,baz=71,slow=6.6,SNR=5.1							
YKA	**Yellowknife Ar**	**49.82**	**37**	P		**P**	**09 31 13.4**	**-0.7**
	1.0nm,0.6s,mb4.1,baz=294,slow=7.3,SNR=4.3							
YKA	**Yellowknife Ar**	**49.82**	**37**	P		**P**	**09 31 13.4**	**-0.7**
CHKZ	**Chkalovo**	**51.73**	**311**	*eP*		**P**	**09 31 28.0**	**-0.5**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**51.73**	**311**	*eP*		**P**	**09 31 28.0**	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**52.17**	**310**	P		**P**	**09 31 32.2**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=59,slow=9.3,SNR=3.9							
PDAR	**Pinedale Array**	**63.28**	**55**	P		**P**	**09 32 50.8**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.7,baz=298,slow=3.2,SNR=4.7							
FINES	**FINESS Array B**	**64.72**	**336**	P		**P**	**09 32 58.0**	**-1.4**
	comp=Z,3.8nm,1.0s,mb4.4,baz=28,slow=4.5,SNR=3.4							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**09 34 08.8**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=306,slow=5.1,SNR=7.6							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**09 34 08.8**	**+0.8**
CLL	**Collm**	**77.12**	**337**	*eP*		**P**	**09 34 16.0**	**+1.3**

ISCJB 17 09:22:46.7±1.0, 468N±02×1550E±02, h10km, mb4.2/11, Error ellipse: s-maj=27.9km s-min=12.7km az=115.4
IDC 17 09:22:46.9±1.5, 4682N×15514E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/27, mbtmp4.2/12, ML3.6/1, Error ellipse: s-maj=41.4km s-min=20.6km az=167.0
MOS 17 09:22:49.7±1.3, 4678N×15480E, h30km, mb4.6/9, Error ellipse: s-maj=23.8km s-min=19.1km az=83.3
ISC 17 09:22:48.2±1.0, 468N±02×1550E±02, h10km, n24, σ1§02/24, mb4.2/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.21**	**255**	*ePN*		**Pn**	**09 24 04.0**	**-2.2**
KUR	**Kuril'sk**	**5.21**	**255**	*ePN*		**Pn**	**09 24 04.0**	**-2.2**
MJAR	**Matsushiro Arr**	**16.18**	**237**	Pn		**Pn**	**09 26 36.0**	**+0.3**
	0.2nm,0.3s,baz=20,slow=12,SNR=3.3							
KSRS	**Korea Array**	**22.06**	**255**	P		**P**	**09 27 46.0**	**+2.9**
	2.4nm,1.0s,mb3.6,baz=51,slow=11,SNR=5.1							
INK	**Inuvik**	**40.89**	**33**	P		**P**	**09 30 30.4**	**-0.1**
	1.9nm,0.6s,mb3.9,baz=311,slow=5.6,SNR=7.8							
INK	**Inuvik**	**40.89**	**33**	P		**P**	**09 30 30.4**	**-0.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**48.05**	**298**	P		**P**	**09 31 27.1**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=66,slow=6.9,SNR=5.7							
MKAR	**Makanchi Array**	**48.05**	**298**	P		**P**	**09 31 27.1**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**09 31 56.6**	**+0.4**
	comp=Z,3.2nm,0.5s,mb4.5,baz=54,slow=7.5,SNR=8.2							
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**09 31 56.6**	**+0.4**
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ARU	**Arti**	**55.82**	**318**	*eP*		**P**	**09 32 24.9**	**-0.7**
ARCES	**ARCESS Array B**	**58.20**	**341**	P		**P**	**09 32 42.2**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8,baz=35,slow=6.9,SNR=4.0							
ARCES	**ARCESS Array B**	**58.20**	**341**	P		**P**	**09 32 42.2**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,12nm,1.0s							
PDAR	**Pinedale Array**	**63.65**	**55**	P		**P**	**09 33 18.9**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.5,baz=318,slow=2.0,SNR=3.7							
FINES	**FINESS Array B**	**64.51**	**336**	P		**P**	**09 33 24.7**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=39,slow=8.3,SNR=6.6							
FINES	**FINESS Array B**	**64.51**	**336**	P		**P**	**09 33 24.7**	**-0.5**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**68.83**	**340**	P		**P**	**09 33 54.6**	**+1.8**
	comp=Z,1.5nm,0.4s,mb4.2,baz=60,slow=6.0,SNR=7.9							
HFS	**Hagfors**	**68.83**	**340**	P		**P**	**09 33 54.6**	**+1.9**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.4s							
TXAR	**Lajitas Array**	**76.33**	**62**	P		**P**	**09 34 37.3**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=302,slow=4.4,SNR=20							
TXAR	**Lajitas Array**	**76.33**	**62**	P		**P**	**09 34 37.3**	**-0.1**
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MLR	**Muntele Rosu**	**77.73**	**326**	P		**P**	**09 34 46.1**	**+0.8**
	comp=Z,2.7nm,0.6s,mb4.3,baz=177,slow=2.4,SNR=4.0							
MLR	**Muntele Rosu**	**77.73**	**326**	P		**P**	**09 34 46.1**	**+0.8**
MLR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**	**09 34 51.8**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=32,slow=7.5,SNR=2.9							
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**	**09 34 51.8**	**-0.2**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							

BJI 17 09:25:13.6, 5.17S×13870E, h15km, mB5.3, mb4.7, Ms4.8, Msz4.4
ISCJB 17 09:25:18.0±1.7, 462S±004×13822E±005, h6km±10km, mb5.0/48, MS4.5/13, Error ellipse: s-maj=8.5km s-min=6.1km az=168.9
IDC 17 09:25:19.1±0.5, 4595S×13817E, h0km, mb4.8/14, mb1 4.9/18, mb1mx4.8/20, mbtmp4.9/18, ML4.6/4, MS4.5/11, Ms1 4.5/11, ms1mx4.1/25, Error ellipse: s-maj=18.2km s-min=9.8km az=87.0
GCMT 17 09:25:21.4±0.3, 4705S×13827E, h13km±1km, MW5.1/67, Moment Tensor Solution. s33,c39; s67,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.68±.21; Mθθ-3.00±.13; Mφφ0.31±.15; Mrθ3.73±.50; Mrφ1.29±.10; Mθφ-1.49±.44; Best double couple: M≈5.05100×10^16 NP1:φs285.00000°, δ19.00000°, λ84.00000°. NP2: φs111.00000°, δ71.00000°, λ92.00000°. Principal axes: T 4.6730, Plg64.0000°, Azm25.0000°; N 0.7530, Plg2.0000°, Azm291.0000°; P -5.4290, Plg26.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 17 09:25:21.4±0.2, 4575S×13817E, h15km, mb5.0/22 Error ellipse: s-maj=7.1km s-min=5.1km az=83.0
NEIC Felt [III] at Wamena.
MOS 17 09:25:22.7±1.6, 4655S×13802E, h33km, mb5.1/19, Error ellipse: s-maj=14.1km s-min=7.2km az=100.5
ISC 17 09:25:21.1±1.7, 459S±003×13828E±005, h13km±11km, n145, σ1§06/120, mb5.0/48, MS4.5/13, 3C-4D, Irian Jaya

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

NWAO	Narrogin (SRO)	34.37	212	*e*P		P	09 32 07.8	+0.1	
	comp=Z,22nm,0.8s,mb5.1								
QIZ	Qiongzhong	36.54	311	P		P	09 32 26.3	-0.1	
QIZ				S		S	09 38 08.0	-0.4	
QIZ				AMB		AMB			
	comp=Z,13nm,1.6s,mb4.5								
JHJ	Hachijo jima 2	37.53	2	LR		LR	09 47 01.3		
	comp=Z,404nm,20.8s,MS4.2,baz=157,slow=35								
JNU	Nakatsue	38.16	350	P		P	09 32 40.2	+0.1	
	comp=Z,40nm,0.8s,mb5.2,baz=236,slow=19,SNR=9.9								
JNU				LR		LR	09 46 08.9		
	comp=Z,927nm,19.9s,MS4.6,baz=125,slow=33								
PSI	Prapat	40.01	280	P		P	09 32 53.6	-2.0	
	comp=Z,8.9nm,0.9s,mb4.5,baz=105,slow=5.5,SNR=9.1								
NJ2	Nanjing	40.86	334	*e*P		P	09 33 02.8	+0.1	
NJ2				AP		pP	09 33 12.1	+5.4	
NJ2				XP		sP	09 33 16.3	+8.0	
NJ2				PP		PP	09 34 40.9	+4.0	
NJ2				S		S	09 39 13.5	-0.1	
NJ2				AMB		AMB			
	comp=Z,440nm,4.3s								
NJ2				LR		LR			
	comp=N,1μm,19.5s,MS4.9								
NJ2				LR		LR			
	comp=E,1μm,19.6s,MS4.9								
NJ2				LR		LR			
	comp=Z,1μm,18.4s,MS4.8								
MJAR	Matsushiro Arr	40.92	360	P		P	09 33 02.1	-1.0	
	comp=Z,5.1nm,0.6s,mb4.3,baz=182,slow=6.3,SNR=7.5								
MJAR				LR		LR	09 50 01.5		
	comp=Z,203nm,18.0s,MS4.0,baz=160,slow=36								
MAJO	Matsushiro	40.92	360	*e*P		P	09 33 01.8	-1.3	
MAJO				pmax		pmax			
	comp=Z,13nm,0.6s,mb4.7								
MAJO	Matsushiro	40.92	360	*e*P		P	09 33 01.8	-1.3	
	comp=Z,13nm,0.6s,mb4.7								
MAT	Matsushiro	40.92	360	P		P	09 33 01.8	-1.3	
MAT				*e*S		S	09 39 14.0	-0.5	
KSRS	Korea Array	42.93	348	P		P	09 33 19.4	-0.2	
	comp=Z,5.7nm,0.8s,mb4.4,baz=159,slow=8.8,SNR=17								
KSRS				LR		LR	09 48 41.3		
	comp=Z,385nm,21.2s,MS4.3,baz=156,slow=33								
GYA	Guiyang	43.47	317	⇓*i*P		P	09 33 23.1	-0.8	
GYA				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
NANT	Nan	43.71	303	⇑P		P	09 33 25.0	-0.8	
	comp=Z,125nm,1.0s,mb5.6								
CHG	Chiang Mai	45.19	302	⇓P		P	09 33 43.5	+5.8	
	comp=Z,18nm,0.8s,mb4.9								
CHTO	Chiang Mai	45.19	302	*e*P		P	09 33 37.2	-0.5	
CHTO				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.8								
CHTO	Chiang Mai	45.19	302	*e*P		P	09 33 37.2	-0.5	
	comp=Z,14nm,0.8s,mb4.8								
KMI	Kunming	45.44	312	P		P	09 33 38.0	-1.7	
KMI				AMB		AMB			
	comp=Z,12nm,1.1s,mb4.6								
KMI	Kunming	45.44	312	P		P	09 33 38.0	-1.7	
	comp=Z,12nm,1.1s,mb4.6								
XAN	Xi'an	47.38	326	P		P	09 33 54.3	-0.6	
XAN				AP		pP	09 34 05.8	+6.8	
XAN				AMB		AMB			
	comp=Z,4.0nm,1.1s,mb4.3								
XAN				LR		LR			
	comp=N,129nm,14.8s,MS4.1								
XAN				LR		LR			
	comp=E,113nm,16.2s,MS4.1								
XAN				LR		LR			
	comp=Z,276nm,17.9s,MS4.3								
RPZ	Rata Peaks	48.51	148	P		P	09 34 04.9	+1.3	
	comp=Z,61nm,0.8s,mb5.7,baz=310,slow=5.7,SNR=14								
RPZ	Rata Peaks	48.51	148	P		P	09 34 04.9	+1.3	
ASAJ	Asahikawa	48.64	4	P		P	09 34 05.7	+1.0	
	comp=Z,10nm,0.7s,mb5.0,baz=53,slow=21,SNR=6.6								
ASAJ	Asahikawa	48.64	4	P		P	09 34 05.7	+1.0	
ASAJ				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BJI	Beijing	48.85	337	P		P	09 34 03.8	-2.5	
BJI				AMB		AMB			
	comp=Z,15nm,1.3s,mb4.9								
BJI				LR		LR			
	comp=N,256nm,21.8s,MS4.5								
BJI				LR		LR			
	comp=E,484nm,21.8s,MS4.5								
BJI				LR		LR			
	comp=Z,553nm,25.4s,MS4.4								
BJI	Beijing	48.85	337	P		P	09 34 03.7	-2.6	
BJI				pmax		pmax			
	comp=Z,15nm,1.3s,mb4.9								
BJI				MLR		MLR			
	comp=Z,550nm,25.4s,MS4.4								
BJI	Beijing	48.85	337	P		P	09 34 03.7	-2.6	
	comp=Z,15nm,1.3s,mb4.9								
BJI				LR		LR			
	comp=Z,550nm,25.4s,MS4.4								
CN2	Changchun	49.54	348	*e*P		P	09 34 16.3	+4.7	
HHC	Hu-ho-hao-te	51.42	334	*e*P		P	09 34 24.9	-0.8	
HHC				PCP		PcP	09 35 37.1	-3.1	
HHC				PP		PP	09 36 22.3	-0.6	
HHC				SCP		ScP	09 39 34.9	-1.6	
HHC				S		S	09 41 44.3	-0.9	
HHC				SCS		ScS	09 44 10.3	-5.7	
HHC				SS		SS	09 45 17.6	-3.3	
HHC				AMB		AMB			
	comp=Z,13nm,1.1s,mb4.8								
HHC				LR		LR			
	comp=N,317nm,18.0s,MS4.5								
HHC				LR		LR			
	comp=E,208nm,18.6s,MS4.5								
HHC				LR		LR			
	comp=Z,395nm,19.8s,MS4.4								
KLR	Kul'dur	53.90	355	*e*P		P	09 34 40.8	-3.3	
KLR				pmax		pmax			
	comp=Z,34nm,1.6s,mb5.0								
ULN	Ulaanbaatar	58.99	336	*e*P		P	09 35 20.6	+0.2	
ULN	Ulaanbaatar	58.99	336	*e*P		P	09 35 21.5	+1.1	
	comp=Z,4.7nm,0.7s,mb4.6								
SONM	Songino Array	59.24	336	P		P	09 35 22.9	+0.8	
	comp=Z,1.8nm,0.7s,mb4.2,baz=148,slow=7.1,SNR=5.5								
JIRN	Jiri	59.57	306	*e*P		P	09 35 25.4	+1.0	
	comp=Z,23nm,0.4s,mb5.5								
GUN	Gumba	59.92	306	*e*P		P	09 35 27.8	+1.0	
	comp=Z,44nm,0.6s,mb5.7								
PKI	Pulchoki	60.17	305	*e*P		P	09 35 30.7	+2.2	
	comp=Z,28nm,0.8s,mb5.4								
CIT	Chita	60.20	343	*e*P		P	09 35 29.6	+0.9	
CIT				*e*			09 35 38.1		
CIT				pmax		pmax			
	comp=Z,65nm,1.8s,mb5.4								
KKN	Kakani	60.36	305	*e*P		P	09 35 30.7	+0.9	
	comp=Z,41nm,0.7s,mb5.6								
DMN	Daman	60.43	305	*e*P		P	09 35 31.1	+0.8	
GKN	Gorkha	60.97	305	*e*P		P	09 35 34.5	+0.5	
	comp=Z,48nm,0.6s,mb5.8								
KOLN	Koldanda	61.72	305	*e*P		P	09 35 39.9	+0.8	
	comp=Z,51nm,0.8s,mb5.7								
ZAK	Zakamensk	62.51	336	*e*P		P	09 35 44.4	+0.1	
ZAK				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.8								
TLY	Talaya	63.36	337	*e*P		P	09 35 50.6	+0.6	
CASY	Casey	64.56	192	*e*P		P	09 35 56.9	-0.9	
	comp=Z,10nm,1.0s,mb4.8								
BOD	Bodaibo	65.22	346	*e*P		P	09 36 01.4	-0.8	
BOD				pmax		pmax			
	comp=Z,11nm,1.6s,mb4.6								
YAK	Yakutsk	66.76	356	*e*P		P	09 36 11.7	-0.4	
YAK				*e**PP		pP	09 36 35.6	+19	
YAK				*e*			09 38 42.1		
YAK				*e*PPP			09 40 18.4		
YAK				*e*S		S	09 45 03.6	-0.4	
YAK				*e**SS		sS	09 45 30.1	+19	
YAK				*e*			09 46 03.4		
YAK				pmax		pmax			
	comp=Z,17nm,1.2s,mb5.0								
YAK				pmax		pmax			
	comp=N,8.0nm,1.4s								
YAK				pmax		pmax			
	comp=E,5.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,56nm,2.1s,mb5.2								
YAK				pmax		pmax			
	comp=N,92nm,2.3s								
YAK				pmax		pmax			
	comp=E,27nm,1.4s								
YAK				smax					
	comp=E,197nm,11.5s								
YAK				smax					
	comp=Z,67nm,8.9s								
YAK				smax					
	comp=N,258nm,17.1s								
POO	Poona	67.48	292	*ex*		P	09 36 17.0	+0.3	
MKAR	Makanchi Array	71.02	323	P		P	09 36 38.5	-0.1	
	comp=N,2.5nm,0.6s,mb4.3,baz=115,slow=6.4,SNR=16								
MKAR	Makanchi Array	71.02	323	*i* P		P	09 36 38.5	-0.1	
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KZA	Kyzart	73.54	316	P		P	09 36 55.2	+1.5	
	SNR=9.7								
TKM2	Tokmak 2	73.62	317	P		P	09 36 54.7	+0.5	
	SNR=6.4								
VNDA	Vanda	73.95	175	P		P	09 36 55.8	-0.4	
	comp=Z,5.4nm,0.9s,mb4.5,baz=326,slow=7.0,SNR=22								
VNDA				LR		LR	10 09 00.9		
	comp=Z,1μm,18.7s,MS5.2,baz=351,slow=35								
VNDA	Vanda	73.95	175	*e*P		P	09 36 56.0	-0.1	
VNDA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VNDA	Vanda	73.95	175	*e*P		P	09 36 56.0	-0.1	
	comp=Z,5.4nm,0.8s,mb4.5								
UCH	Uchtor	74.10	316	P		P	09 36 58.3	+1.4	
	SNR=7.5								
USP	Ospenovka	74.49	317	P		P	09 36 59.4	+0.2	
	SNR=6.6								
NVS	Novosibirsk	74.61	331	*e*P		P	09 36 58.7	-1.2	
NVS				pmax		pmax			
	comp=Z,36nm,1.8s,mb5.0								
NVS				pmax		pmax			
	comp=E,21nm,1.7s								
AML	Almayashu	74.63	316	P		P	09 37 01.2	+1.2	
	SNR=6.6								
SBA	Scott Base	74.73	174	*e*P		P	09 37 01.6	+1.0	
SBA				pmax		pmax			
	comp=Z,16nm,1.3s,mb4.8								
SBA	Scott Base	74.73	174	*e*P		P	09 37 01.6	+1.0	
	comp=Z,16nm,1.3s,mb4.8								
BILL	Bilibino	75.08	11	*e*P		P	09 37 04.0	+1.3	
BILL				*e*			09 39 51.6		
BILL				*e*SS		SS	09 51 25.9	-3.6	
BILL				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
MAW	Mawson	80.23	202	P		P	09 37 31.6	+0.2	
	comp=Z,15nm,0.8s,mb4.9,baz=78,slow=5.6,SNR=25								
MAW				LR		LR	10 10 40.2		
	comp=Z,559nm,19.6s,MS4.9,baz=67,slow=34								
MAW	Mawson	80.23	202	*e*P		P	09 37 31.5	+0.1	
MAW				pmax		pmax			
	comp=Z,36nm,1.2s								
MAW	Mawson	80.23	202	*e*P		P	09 37 31.5	+0.1	
	comp=Z,36nm,1.2s,mb5.2								
BRVK	Borovoye	80.68	325	P		P	09 37 24.6	-9.2	
	comp=Z,617nm,0.4s,SNR=7.1								
ZRNK	Zerenda	81.37	325	*e*P		P	09 37 37.2	-0.3	
ZRNK				pmax		pmax			
	comp=Z,4.0nm,0.3s,mb4.8								
ZRNK	Zerenda	81.37	325	*e*P		P	09 37 37.1	-0.3	
	comp=Z,4.4nm,0.3s,mb4.9								
QSPA	South Pole Qui	85.37	180	*e*P		P	09 37 58.5	+0.4	
	comp=Z,18nm,0.9s,mb5.2								
MCK	McKinley	86.56	25	*e*P		P	09 38 02.3	-1.6	
MCK				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb5.0								
MCK	McKinley	86.56	25	*e*P		P	09 38 02.3	-1.6	
	comp=Z,7.0nm,0.7s,mb5.0								
DIV	Divide	87.25	28	*e*P		P	09 38 07.0	-0.4	
	comp=Z,38nm,0.6s,mb5.8								
COLA	College	87.34	24	*e*P		P	09 38 06.4	-1.4	
COLA				pmax		pmax			
	comp=Z,27nm,1.5s,mb5.3								
COLA	College	87.34	24	*e*P		P	09 38 06.4	-1.3	
	comp=Z,26nm,1.5s,mb5.2								
ARU	Arti	88.13	327	⇓*i*P		P	09 38 09.6	-1.9	
ARU				*e*			09 41 39.3		
ARU				*e*S		S	09 48 28.1	-27	
ARU				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.8								
SYO	Syowa Base	88.86	201	⇑*e*P		P	09 38 14.4	-0.6	
SYO	Syowa Base	88.86	201	⇑*e*pP		pP	09 38 18.4	-0.9	
EGAK	Eagle	90.10	25	*e*P		P	09 38 21.2	+0.4	
	comp=Z,9.5nm,0.7s,mb5.2								
DAWY	Dawson	90.74	26	*e*P		P	09 38 24.6	+0.9	
TRBA	At Turbah	95.09	283	*e*		P	09 38 37.4	-6.4	
	baz=157,slow=8.6								
TRBA				*i* P			09 38 37.5		
TRBA				*i* S		sP	09 38 52.7	+3.1	
TRBA				AML		AML	09 38 55.5		
	comp=E,62nm,0.3s								
SNAA	Sanae	99.79	192	LR		LR	10 23 40.6		
	comp=E,286nm,19.2s,MS4.8,baz=202,slow=35								
OBN	Obninsk	100.45	325	*e*P		Pdif	09 39 08.4	+0.4	
OBN				*e*SS		SS	09 57 33.6	-5.9	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ARCES	ARCESS Array B	102.13	341	P		Pdif	09 39 14.2	-1.3	
	comp=Z,3.9nm,0.9s,baz=80,slow=8.7,SNR=6.2								
MNTX	Cornudas Mount	114.74	57	*e*PKPdf		PKiKP	09 44 02.3	+1.0	
TXAR	Lajitas Array	116.62	60	PKP		PKPdf	09 44 05.6	+0.7	
	comp=Z,0.5nm,0.7s,baz=192,slow=0.8,SNR=5.7								
JCT	Junction City	119.67	58	*e*PKIKP		PKPdf	09 44 11.4	+0.6	
CABF	La Chapelle	121.28	323	*e*PKIKP		PKPdf	09 44 15.0	+1.1	
	comp=Z,18nm,0.9s								
PGF	Pioggiola	121.33	318	*e*PKIKP		PKPdf	09 44 14.8	+0.8	
LPG	La Plagne	121.43	322	*e*PKIKP		PKPdf	09 44 15.3	+1.1	
	comp=Z,12nm,0.8s								
LPL	La Plagne	121.43	322	*e*PKIKP		PKPdf	09 44 15.2	+1.0	
	comp=Z,9.3nm,0.9s								
MBDF	Montbardon	121.79	321	*e*PKIKP		PKPdf	09 44 15.3	+0.5	
	comp=Z,8.6nm,0.8s								
ORIF	Oris-en-Rattie	122.25	322	*e*PKIKP		PKPdf	09 44 16.5	+0.8	
	comp=Z,18nm,1.0s								
SSF	Saint Saulge	122.55	325	*e*PKIKP		PKPdf	09 44 16.8	+0.5	
	comp=Z,7.5nm,0.7s								
VIVF	Saint-Julien-l	123.02	322	*e*PKIKP		PKPdf	09 44 17.9	+0.7	
TCF	Toulx Ste Croi	123.72	325	*e*PKIKP		PKPdf	09 44 19.6	+1.0	
	comp=Z,14nm,0.9s								
LASF	Ste Croix	123.92	322	*e*PKIKP		PKPdf	09 44 19.6	+0.7	
CCM	Cathedral Cave	124.03	46	*e*PKIKP		PKPdf	09 44 13.7	-5.4	
MTLF	Montolieu	125.32	322	*e*PKIKP		PKPdf	09 44 22.4	+0.8	
	comp=Z,22nm,1.1s								
SJPF	Ste Jean	127.54	323	*e*PKIKP		PKPdf	09 44 26.6	+0.7	
	comp=Z,45nm,1.2s								
EVO	Evora	134.41	322	*e*PKIKP		PKPdf	09 44 39.3	+0.4	
	comp=Z,70nm,1.4s								
TOA0	Torodi Ar. Sit	136.34	284	*e*PKPdf		PKPdf	09 44 44.5	+2.1	
TORD	Torodi Ar. Bea	136.34	284	PKhKP			09 44 39.0		
	comp=Z,1.2nm,0.8s,baz=62,slow=3.6,SNR=4.9								
TORD				PKP		PKPdf	09 44 43.8	+1.3	
	comp=Z,3.1nm,0.7s,baz=64,slow=1.9,SNR=11								
OTAV	Otavalo	143.05	96	*e*PKPdf		PKPdf	09 44 53.0	-1.6	
LIC	Lamto	143.44	274	*e*PKIKP		PKPdf	09 44 55.5	+0.1	
	comp=Z,7.8nm,0.5s								
LPAZ	La Paz	146.64	129	PKPbc		PKPbc	09 45 05.6	+3.2	
	comp=Z,5.7nm,0.6s,baz=276,slow=1.8,SNR=22								
LPAZ	La Paz	146.64	129	*e*PKPdf		PKPbc	09 45 04.1	+1.7	
ROSC	El Rosal	147.50	88	PKPbc		PKPbc	09 45 06.6	+1.8	
	comp=Z,5.8nm,0.4s,baz=83,slow=22,SNR=4.2								
ROSC	El Rosal	147.50	88	*e*PKPbc		PKPbc	09 45 06.9	+2.0	
SDV	Santo Domingo	150.98	80	*e*PKPdf		PKPdf	09 45 09.5	+1.7	
SDV				*e*PKPbc		PKPbc	09 45 15.0	+1.4	
CPD	Cerro la Pandu	152.82	59	*e*PKIKP		PKPbc	09 45 18.5	+0.7	
PET	Petropavlovsk	6.82	19	*e*PN		Pn	09 27 04.0	+1.8	
YUK	Yuzh-Kuril'sk	6.96	251	PN		Pn	09 27 04.7	+0.6	
ASAJ	Asahikawa	9.10	258	Pn		Pn	09 27 36.9	+3.4	
	comp=Z,1.0nm,0.3s,baz=43,slow=9.1,SNR=4.2								
ASAJ				LR		LR	09 31 50.5		
	comp=Z,74nm,18.1s,baz=95,slow=43								
ASAJ	Asahikawa	9.10	258	PN		Pn	09 27 36.9	+3.4	
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,74nm,18.1s								
ERM	Erimo	9.67	246	*e*PN		Pn	09 27 40.5	-0.8	
ERM				pmax		pmax			
	comp=Z,35nm,0.9s								
ERM	Erimo	9.67	246	*e*Pn		Pn	09 27 40.5	-0.8	
	comp=Z,35nm,0.9s								
ERM				*e*Sn		Sn	09 29 31.2	+1.2	
MJAR	Matsushiro Arr	16.08	237	Pn		Pn	09 29 07.5	-0.9	
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=6.5								
MAJO	Matsushiro	16.09	237	*e*P		Pn	09 29 07.3	-1.1	
MAJO				pmax		pmax			
	comp=Z,13nm,0.8s								
MAJO	Matsushiro	16.09	237	*e*Pn		Pn	09 29 07.3	-1.1	
	comp=Z,13nm,0.8s								
MAT	Matsushiro	16.09	237	P		Pn	09 29 07.4	-1.0	
MAT				*e*S		Sn	09 31 58.3	-8.5	
KSRS	Korea Array	22.02	255	P		P	09 30 18.9	+2.2	
	comp=Z,1.9nm,0.8s,mb3.6,baz=61,slow=8.5,SNR=5.5								
BILL	Bilibino	22.23	11	*e*P		P	09 30 17.4	-1.6	
BILL				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb3.8								
SONM	Songino Array	32.61	290	P		P	09 31 53.4	-0.5	
	comp=Z,0.4nm,0.5s,mb3.6,baz=50,slow=8.7,SNR=3.7								
ZAK	Zakamensk	33.91	296	*e*P		P	09 32 05.2	-0.1	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb4.0								
INK	Inuvik	41.05	32	P		P	09 33 04.2	-1.6	
	comp=Z,1.9nm,0.8s,mb3.8,baz=308,slow=4.3,SNR=4.9								
CD2	Chengdu	42.18	267	⇑*i*P		P	09 33 18.3	+3.3	
CD2				AMB		AMB			
	comp=Z,20nm,0.7s,mb4.9								
ZAL	Zalesovo	43.76	306	P		P	09 33 26.8	-0.9	
	comp=Z,2.2nm,0.5s,mb4.1,baz=36,slow=7.9,SNR=4.4								
MKAR	Makanchi Array	48.16	298	P		P	09 34 02.8	+0.3	
	comp=Z,1.1nm,0.6s,mb4.1,baz=73,slow=7.6,SNR=7.7								
CHKZ	Chkalovo	51.51	311	*e*P		P	09 34 26.9	-1.1	
CHKZ				pmax		pmax			
	comp=Z,9.0nm,0.5s,mb5.0								
CHKZ	Chkalovo	51.51	311	*e*P		P	09 34 26.9	-1.1	
	comp=Z,9.0nm,0.5s,mb5.0								
BVAR	Borovoye Array	51.94	310	P		P	09 34 31.0	-0.2	
	comp=Z,3.1nm,0.5s,mb4.5,baz=56,slow=7.3,SNR=11								
BRVK	Borovoye	51.98	310	*e*P		P	09 34 31.6	+0.1	
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
BRVK	Borovoye	51.98	310	*e*P		P	09 34 31.6	+0.1	
	comp=Z,5.0nm,0.6s,mb4.6								
ZRNK	Zerenda	52.71	311	*e*P		P	09 34 36.6	-0.3	
ZRNK				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.6								
ZRNK	Zerenda	52.71	311	*e*P		P	09 34 36.6	-0.3	
	comp=Z,3.8nm,0.5s,mb4.6								
ARU	Arti	55.98	318	*e*P		P	09 35 00.8	+0.1	
ARU				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb4.9								
ARU	Arti	55.98	318	*e*P		P	09 35 00.8	+0.1	
	comp=Z,7.5nm,0.6s,mb4.9								
ARCES	ARCESS Array B	58.39	341	P		P	09 35 17.2	-0.5	
	comp=Z,15nm,1.2s,mb4.9,baz=14,slow=9.3,SNR=3.0								
AKTK	Aktyubinsk	59.78	313	P		P	09 35 26.5	-0.9	
AKTO	Aktyubinsk	59.78	313	P		P	09 35 26.5	-0.9	
	comp=Z,1.0nm,0.6s,mb4.0,baz=72,slow=9.6,SNR=2.8								
AKTO	Aktyubinsk	59.78	313	P		P	09 35 26.5	-0.9	
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
PDAR	Pinedale Array	63.75	55	P		P	09 35 54.7	+0.5	
	comp=Z,0.9nm,0.9s,mb3.8,baz=272,slow=3.9,SNR=5.3								
FINES	FINESS Array B	64.70	336	P		P	09 36 00.3	0.0	
	comp=Z,2.7nm,0.5s,mb4.5,baz=37,slow=7.3,SNR=13								
NB2	NORSAR Subarra	68.76	342	P		P	09 36 25.5	-0.8	
	comp=Z,12nm,1.4s,mb4.7,baz=29,slow=6.5								
NOA	NORSAR Array B	68.76	342	P		P	09 36 25.9	-0.4	
	comp=Z,2.2nm,0.8s,mb4.2,baz=27,slow=6.5,SNR=3.8								
HFS	Hagfors	69.02	340	P		P	09 36 29.9	+2.0	
	comp=Z,2.0nm,0.4s,mb4.4,baz=57,slow=5.5,SNR=11								
KIV	Kislovodsk	71.81	315	*e*P		P	09 36 46.6	+1.6	
KIV				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
AKASG	Malin Array Be	72.37	327	P		P	09 36 50.5	+2.2	
	comp=Z,0.7nm,0.3s,mb4.0,baz=34,slow=6.3,SNR=4.6								
TXAR	Lajitas Array	76.40	62	P		P	09 37 12.3	+0.5	
	comp=Z,3.1nm,0.7s,mb4.3,baz=302,slow=4.3,SNR=24								
TXAR	Lajitas Array	76.40	62	P		P	09 37 12.3	+0.5	
EKA	Eskdalemuir Ar	76.75	347	P		P	09 37 13.8	+0.1	
	comp=Z,1.4nm,0.7s,mb4.0,baz=24,slow=5.6,SNR=2.5								
CLL	Collm	77.11	337	*e*(pP)		P	09 37 19.0	+3.2	
MLR	Muntele Rosu	77.91	326	P		P	09 37 20.5	+0.3	
	comp=Z,2.7nm,0.7s,mb4.4,baz=180,slow=4.4,SNR=6.2								
GERES	GERESS Array B	79.13	335	P		P	09 37 27.3	+0.3	
	comp=Z,0.2nm,0.3s,mb3.5,baz=64,slow=3.1,SNR=3.4								
CFAA	Coronel Fontan	143.72	81	PKhKP			09 44 51.0		
	comp=Z,0.3nm,0.7s,baz=250,slow=4.6,SNR=5.5								
CFAA				PKP		PKPdf	09 44 57.8	+0.4	
	comp=Z,0.4nm,0.7s,baz=122,slow=0.5,SNR=5.0								

MAN 17 09:39:12.9,1481N×12161E,h11km,mb2.7,ML4.2,MS1.8, 3C-2D,Luzon

| Code | Station Name | Δ° | AZ° | Ph

nsta2 refers to surface waves, cutoff=50s.
*NEIC **17** 09:58:11.2±0.1, 4681N×15500E, h10km, mb5.4/155 Error ellipse: s-maj=3.5km s-min=2.3km az=167.0*
*BJI **17** 09:58:12.6, 4700N×15441E, h10km, mB5.2, mb5.1, Ms4.8, Ms2.4.6*
*MOS **17** 09:58:13.5±1.0, 4677N×15497E, h38km, mb5.6/95, MS4.7/23, Error ellipse: s-maj=6.8km s-min=4.1km az=104.6*
*SZGRF **17** 09:58:23.2, 4823N×15533E, h33km, mb5.9, Kuril Islands, Russia*
ISC 17 09:58:12.0±0.1, 4678N±002×15495E±002, h16km, h16km±.8km:pP-P,n998,σ0≤89/1002,mb5.3/250,MS4.6/62, 117C-144D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.99**	**11**	*e*P	**Pn**	**09 59 09.1**	**-3.3**
SKR					AMB AMB	09 59 16.5	
	150nm,0.5s						
SKR					AMB AMB	09 59 16.5	
	230nm,0.5s						
SKR					AMB AMB	09 59 16.5	
	380nm,0.5s						
SKR				*i* S	**Sn**	**09 59 52.9**	**-5.9**
SKR				A		09 59 54.7	
	770nm,0.5s						
SKR				A		09 59 54.7	
	1μm,0.5s						
SKR				A		09 59 54.7	
	390nm,0.5s						
SKR					AMS AMS	10 01 18.0	
	6μm,16.0s						
SKR					AMS AMS	10 01 18.0	
	16μm,14.0s						
SKR					AMS AMS	10 01 18.0	
	8μm,10.0s						
SKR					AMS AMS	10 01 18.0	
	6μm,16.0s						
SKR					AMS AMS	10 01 18.0	
	17μm,14.0s						
SKR					AMS AMS	10 01 18.0	
	8μm,10.0s						
SKR	**Severo-Kuril's**	**3.99**	**11**	*e*P	**Pn**	**09 59 09.5**	**-2.9**
KUR	**Kuril'sk**	**5.17**	**255**	*e*P	**Pn**	**09 59 26.5**	**-2.2**
KUR					AMB AMB	09 59 37.0	
	2μm,5.0s						
KUR					AMB AMB	09 59 37.0	
	5μm,5.0s						
KUR					AMB AMB	09 59 37.0	
	516nm,0.7s						
KUR					AMB AMB	09 59 37.0	
	430nm,0.7s						
KUR					AMB AMB	09 59 37.0	
	1μm,0.7s						
KUR				*e*S	**Sn**	**10 00 24.5**	**-3.4**
KUR				A		10 00 29.5	
	1μm,0.7s						
KUR				A		10 00 29.5	
	344nm,0.7s						
KUR				A		10 00 33.0	
	10μm,4.0s						
KUR				A		10 00 33.0	
	5μm,4.0s						
KUR					AMS AMS	10 02 30.0	
	8μm,12.0s						
KUR					AMS AMS	10 02 30.0	
	8μm,12.0s						
KUR	**Kuril'sk**	**5.17**	**255**	⇑*i*P	**Pn**	**09 59 26.8**	**-1.9**
PET	**Petropavlovsk**	**6.70**	**20**	*i* PN	**Pn**	**09 59 46.4**	**-3.2**
PET				pmax	pmax		
	comp=Z,61nm,0.7s						
PET	**Petropavlovsk**	**6.70**	**20**	*e*Pn	**Pn**	**09 59 46.0**	**-3.6**
PET				*e*Sn	**Sn**	**10 00 51.5**	**-14**
YUK	**Yuzh-Kuril'sk**	**6.96**	**250**	*e*P	**Pn**	**09 59 53.5**	**+0.3**
YUK				AMB	AMB	09 59 57.5	
	comp=Z,420nm,0.5s						
YUK				AMB	AMB	10 00 13.2	
	comp=Z,2μm,1.6s						
YUK				*e*S	**Sn**	**10 01 08.9**	**-3.1**
YUK				A		10 01 23.3	
	comp=Z,3μm,1.2s						
YUK				A		10 01 23.3	
	comp=Z,3μm,1.0s						
YUK				A		10 01 24.0	
	comp=Z,420nm,0.5s						
YUK				A		10 01 24.0	
	comp=Z,810nm,0.5s						
YUK					AMS AMS	10 03 34.0	
	comp=Z,2μm,14.0s						
NEM2	**Nemuro 2**	**7.35**	**246**	P	**Pn**	**09 59 56.5**	**-2.2**
NEM2				*e*S	**Sn**	**10 01 14.3**	**-7.5**
JRA	**Rausu**	**7.48**	**251**	P	**Pn**	**10 00 00.7**	**+0.3**
JNK	**Nakash**	**7.90**	**250**	P	**Pn**	**10 00 05.8**	**-0.4**
JNK				*e*S	**Sn**	**10 01 31.3**	**-3.9**
JAK	**Akkeshi**	**8.20**	**246**	P	**Pn**	**10 00 08.2**	**-2.1**
JAK				*e*S	**Sn**	**10 01 35.5**	**-7.1**
JTKR	**Abashiri--Toko**	**8.26**	**254**	P	**Pn**	**10 00 10.5**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.36**	**276**	⇑*e*P	**Pn**	**10 00 16.0**	**+3.5**
YSS				AMB	AMB	10 00 19.0	
	comp=Z,60nm,1.0s						
YSS				*e*S	**Sn**	**10 01 47.0**	**+0.5**
YSS				AMS	AMS	10 05 29.0	
	comp=Z,4μm,15.0s						
YSS				AMS	AMS	10 05 29.0	
	comp=Z,3μm,14.0s						
YSS				*e*rx	rx	10 06 39.7	
YSS	**Yuzh-Sakhalins**	**8.36**	**276**	⇑*e*PN	**Pn**	**10 00 16.0**	**+3.5**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=E,4μm,15.0s						
YSS				MLR	MLR		
	comp=Z,4μm,15.0s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.36**	**276**	*e*Pn	**Pn**	**10 00 16.6**	**+4.2**
YSS				*e*Sn	**Sn**	**10 01 44.3**	**-2.2**
JMP	**Maruseppu**	**8.61**	**255**	P	**Pn**	**10 00 16.7**	**+0.8**
JAR	**Ashorobuto**	**8.64**	**250**	P	**Pn**	**10 00 16.2**	**-0.2**
JAR				*e*S	**Sn**	**10 01 50.1**	**-3.4**
JOB	**Onbets**	**8.79**	**248**	P	**Pn**	**10 00 17.2**	**-1.2**
JOB				*e*S	**Sn**	**10 01 51.3**	**-5.9**
UGL	**Uglegorsk**	**8.95**	**290**	*e*P	**Pn**	**10 00 24.0**	**+3.4**
UGL				AMB	AMB	10 00 27.0	
	comp=N,164nm,0.9s						
UGL				*e*S	**Sn**	**10 01 58.5**	**-2.6**
UGL				A		10 02 05.0	
	comp=N,96nm,0.8s						
UGL				*e*L		10 02 18.0	
UGL				AMS	AMS	10 04 53.0	
	comp=N,5μm,11.0s						
UGL				AMS	AMS	10 04 53.0	
	comp=N,8μm,14.0s						
UGL				AMS	AMS	10 04 53.0	
	comp=N,10μm,13.0s						
UGL	**Uglegorsk**	**8.95**	**290**	*e*PN	**Pn**	**10 00 24.0**	**+3.4**
UGL				pmax	pmax		
	comp=Z,164nm,0.9s						
UGL				MLR	MLR		
	comp=Z,8μm,14.0s						
UGL				MLR	MLR		
	comp=N,5μm,11.0s						
UGL				MLR	MLR		
	comp=E,10μm,13.0s						
JKK2	**Kamakawa 2**	**9.07**	**256**	P	**Pn**	**10 00 23.2**	**+1.0**
ASAJ	**Asahikawa**	**9.08**	**257**	Pn	**Pn**	**10 00 23.9**	**+1.5**
	comp=E,4.9nm,0.3s,baz=95,slow=12,SNR=32						
ASAJ				LR	LR	10 04 10.4	
	comp=E,437nm,18.9s,baz=88,slow=39						
ASAJ	**Asahikawa**	**9.08**	**257**	P	**Pn**	**10 00 23.7**	**+1.3**
JWK2	**Keihoku**	**9.19**	**266**	P	**Pn**	**10 00 27.5**	**+3.6**
JCH	**Churui**	**9.24**	**247**	P	**Pn**	**10 00 22.8**	**-1.7**
JCH				*e*S	**Sn**	**10 02 00.2**	**-7.9**
JFR	**Furan**	**9.47**	**252**	P	**Pn**	**10 00 27.6**	**-0.1**
JAB	**Ashibetsu**	**9.57**	**255**	P	**Pn**	**10 00 30.4**	**+1.4**
ERM	**Erimo**	**9.69**	**245**	Pn	**Pn**	**10 00 30.6**	**-0.1**
	comp=E,1μm,0.5s,SNR=30						
ERM	**Erimo**	**9.69**	**245**	*e*Pn	**Pn**	**10 00 29.9**	**-0.8**
	comp=E,118nm,0.7s						
ERM				*e*Sn	**Sn**	**10 02 10.7**	**-8.4**
JEM	**Erimo**	**9.69**	**245**	P	**Pn**	**10 00 29.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**9.80**	**247**	P	**Pn**	**10 00 30.2**	**-2.0**
JBT2	**Biratori 2**	**9.80**	**250**	P	**Pn**	**10 00 31.3**	**-0.9**
OKH	**Okha**	**10.26**	**316**	*e*L		10 03 45.2	
OKH				AMS	AMS	10 06 14.4	
	comp=E,11μm,15.0s						
JEW	**Eniwo**	**10.37**	**253**	P	**Pn**	**10 00 40.4**	**+0.4**
JNB	**Noboribetsu**	**10.81**	**252**	P	**Pn**	**10 00 44.5**	**-1.5**
JNB				*e*S	**Sn**	**10 02 39.5**	**-7.1**
JKB	**Kayabe**	**11.10**	**249**	P	**Pn**	**10 00 46.3**	**-3.7**
JKB				*e*S	**Sn**	**10 02 42.9**	**-11**
NKL	**Nikolayevsk**	**11.18**	**310**	*e*P	**Pn**	**10 00 51.2**	**+0.1**
NKL				AMB	AMB	10 00 53.2	
	comp=E,140nm,1.1s						
NKL				AMB	AMB	10 00 53.2	
	comp=E,180nm,1.2s						
NKL				AMB	AMB	10 00 53.2	
	comp=E,330nm,1.5s						
NKL				*e*L		10 04 02.0	
NKL				AMS	AMS	10 05 50.6	
	comp=E,4μm,15.0s						
NKL				AMS	AMS	10 05 50.6	
	comp=E,4μm,15.0s						
JOT	**Ohata**	**11.35**	**247**	P	**Pn**	**10 00 49.5**	**-4.0**
JOT				*e*S	**Sn**	**10 02 48.8**	**-11**
JSH	**Shimam**	**11.38**	**254**	P	**Pn**	**10 00 53.5**	**-0.3**
JYM2	**Yakumo 2**	**11.41**	**251**	P	**Pn**	**10 00 52.7**	**-1.6**
JANG	**Nango**	**11.65**	**242**	P	**Pn**	**10 00 53.0**	**-4.5**
JANG				*e*S	**Sn**	**10 02 54.3**	**-13**
JTM	**Tenmabayashi**	**11.68**	**244**	P	**Pn**	**10 00 54.3**	**-3.6**
JTM				*e*S	**Sn**	**10 02 55.7**	**-12**
JTH	**Tanohata**	**11.71**	**239**	P	**Pn**	**10 00 54.1**	**-4.3**
JTH				*e*S	**Sn**	**10 02 55.3**	**-13**
JOSM	**Okushiri--Mats**	**12.01**	**253**	P	**Pn**	**10 01 00.4**	**-2.1**
JOM	**Ohasama**	**12.35**	**239**	P	**Pn**	**10 01 02.2**	**-4.9**
JOM				*e*S	**Sn**	**10 03 11.4**	**-13**
OFUJ	**Ofunato**	**12.39**	**236**	P	**Pn**	**10 01 02.9**	**-4.8**
JRG	**Rokugo**	**12.79**	**240**	P	**Pn**	**10 01 09.6**	**-3.5**
JIO	**Ouri**	**13.00**	**235**	P	**Pn**	**10 01 11.3**	**-4.8**
JIO				*e*S	**Sn**	**10 03 27.8**	**-13**
MA2	**Magadan**	**13.06**	**351**	*e*PN	**Pn**	**10 01 15.6**	**-1.2**
MA2				*e*		10 03 48.4	
MA2				pmax	pmax		
	comp=Z,20nm,0.5s						
MA2	**Magadan**	**13.06**	**351**	*e*Pn	**Pn**	**10 01 15.9**	**-0.9**
	comp=Z,59nm,0.8s						
SMY	**Shemya**	**13.72**	**57**	*e*P	**Pn**	**10 01 21.6**	**-4.3**
	comp=Z,68nm,0.9s						
JMM	**Marumori**	**13.73**	**235**	P	**Pn**	**10 01 18.6**	**-7.3**
JMM				*e*S	**Sn**	**10 03 42.8**	**-15**
JYA	**Atsumi**	**13.86**	**239**	P	**Pn**	**10 01 23.9**	**-3.8**
JYA				*e*S	**Sn**	**10 03 55.6**	**-5.5**
JFK	**Kawauchi**	**14.04**	**233**	P	**Pn**	**10 01 26.0**	**-4.2**
JFK				*e*S	**Sn**	**10 03 53.1**	**-13**
JFY	**Yanaizu**	**14.66**	**236**	P	**Pn**	**10 01 35.7**	**-3.0**
JSD	**Sado**	**15.08**	**241**	P	**Pn**	**10 01 40.1**	**-4.3**
JYT	**Yasato**	**15.24**	**232**	P	**Pn**	**10 01 40.6**	**-5.9**
JYT				*e*S	**Sn**	**10 04 17.5**	**-18**
KLR	**Kul'dur**	**15.71**	**287**	*e*P	**Pn**	**10 01 51.5**	**-1.0**
KLR				MLR	MLR		
	comp=E,2μm,14.0s						
KLR				MLR	MLR		
	comp=E,8μm,14.0s						
JRY	**Ryogami san**	**16.11**	**234**	P	**Pn**	**10 01 55.8**	**-1.9**
JRY				*e*S	**Sn**	**10 04 39.7**	**-16**
MAJO	**Matsushiro**	**16.12**	**237**	*e*P	**Pn**	**10 01 55.4**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,160nm,0.9s						
MAJO	**Matsushiro**	**16.12**	**237**	*e*Pn	**Pn**	**10 01 55.4**	**-2.6**
	comp=Z,164nm,0.8s						
MAT	**Matsushiro**	**16.12**	**237**	P	**Pn**	**10 01 54.8**	**-3.1**
MAT				S	**Sn**	**10 04 57.5**	**+1.1**
MAT	**Matsushiro**	**16.12**	**237**	P	**Pn**	**10 01 55.4**	**-2.5**
MJAR	**Matsushiro Arr**	**16.12**	**237**	Pn	**Pn**	**10 01 55.4**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=31,slow=13,SNR=45						
SEY	**Seymchan**	**16.26**	**356**	⇓*i*P	**Pn**	**10 01 57.5**	**-2.1**
SEY	**Seymchan**	**16.26**	**356**	⇓*i*P	**Pn**	**10 01 57.6**	**-2.0**
JOD2	**Odawara 2**	**16.56**	**232**	P	**Pn**	**10 02 01.2**	**-2.3**
AMKA	**Amchitka**	**16.58**	**65**	*e*Pn	**Pn**	**10 02 02.8**	**-0.9**
JGF	**Kuroka**	**17.28**	**236**	P	**Pn**	**10 02 10.7**	**-1.8**
JSG	**Sagara**	**17.49**	**232**	P	**Pn**	**10 02 12.0**	**-3.2**
JHJ	**Hachijo jima 2**	**17.88**	**226**	LR	LR	10 07 21.7	
	comp=Z,375nm,21.9s,baz=41,slow=31						
JIE	**Ise**	**18.52**	**235**	P	**Pn**	**10 02 26.7**	**-1.1**
JWT	**Wachi**	**18.63**	**239**	P	**Pn**	**10 02 28.3**	**-0.9**
ZEA	**Zeya**	**18.95**	**302**	*e*P	**Pn**	**10 02 28.5**	**-4.5**
ZEA				AMB	AMB	10 02 33.3	
	comp=Z,60nm,0.7s						
ZEA				AMB	AMB	10 02 33.3	
	comp=Z,62nm,0.8s						
ZEA				AMB	AMB	10 02 33.3	
	comp=Z,72nm,0.8s						
ZEA				AMB	AMB	10 02 36.0	
	comp=Z,600nm,7.0s						
ZEA				AMB	AMB	10 02 36.0	
	comp=Z,700nm,7.0s						
JWZ	**Kozaga**	**19.71**	**235**	P	**Pn**	**10 02 36.5**	**-5.6**
JHS	**Saijyo**	**20.20**	**242**	P	**P**	**10 02 46.5**	**+0.6**
JMN	**Monobe**	**20.62**	**238**	P	**P**	**10 02 47.2**	**-3.3**
CN2	**Changchun**	**20.91**	**273**	*e*P	**P**	**10 02 51.3**	**-2.4**
CN2				*e*XP	sP	10 02 58.1	-2.3
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,2μm,15.0s,MS4.6						
CLNS	**Chul'man**	**20.97**	**310**	*e*P	**P**	**10 02 53.1**	**-1.2**
CLNS				*e*		10 03 04.1	
CLNS				*e*PPP		10 03 16.4	
CLNS				*e*S	**S**	**10 06 46.3**	**-1.0**
CLNS				*e*		10 06 56.9	
CLNS				*e*SS		10 07 26.1	
CLNS				pmax	pmax		
	comp=Z,82nm,0.8s						
CLNS				pmax	pmax		
	comp=N,36nm,0.9s						
CLNS				pmax	pmax		
	comp=E,39nm,0.9s						
CLNS				smax			
	comp=N,109nm,1.3s						
CLNS				smax			
	comp=Z,20nm,1.3s						
CLNS				smax			
	comp=E,65nm,1.1s						
CLNS				MLR	MLR		
	comp=N,600nm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.7						
CLNS	**Chul'man**	**20.97**	**310**	*e*P	**P**	**10 02 53.0**	**-1.3**
YAK	**Yakutsk**	**20.99**	**326**	*e*P	**P**	**10 02 51.8**	**-2.8**
YAK				*e*		10 03 09.0	
YAK				*e*S	**S**	**10 06 41.1**	**-6.8**
YAK				*e*		10 07 02.2	
YAK				*e*		10 14 09.8	
YAK				pmax	pmax		
	comp=Z,66nm,1.2s						
YAK				pmax	pmax		
	comp=N,39nm,1.5s						
YAK				pmax	pmax		
	comp=E,50nm,1.4s						
YAK				smax			
	comp=N,206nm,1.1s						
YAK				smax			
	comp=Z,105nm,2.3s						
YAK				smax			
	comp=E,286nm,1.8s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s,MS4.6						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,2μm,15.0s,MS4.6						
YAK	**Yakutsk**	**20.99**	**326**	*e*P	**P**	**10 02 52.1**	**-2.5**
	comp=E,107nm,0.8s						
NRGR	**Nerungri**	**21.01**	**309**	*e*P	**P**	**10 02 56.7**	**+1.9**
KSRS	**Korea Array**	**22.01**	**255**	P	**P**	**10 03 07.0**	**+1.4**
	comp=E,16nm,0.7s,mb4.6,baz=56,slow=9.7,SNR=31						
KSRS				PcP	PcP	10 07 04.3	+0.8
	comp=E,5.0nm,0.8s,baz=19,slow=0.9,SNR=8.6						
KSRS				LR	LR	10 11 07.4	
	comp=E,427nm,18.9s,MS3.9,baz=60,slow=35						
KS15	**Wonju Array Si**	**22.05**	**255**	*e*P	**P**	**10 03 07.3**	**+1.4**
BILL	**Bilibino**	**22.10**	**11**	⇓*i*P	**P**	**10 03 04.5**	**-2.0**
BILL				*e*S	**S**	**10 07 09.1**	**-0.5**
BILL				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.0						
BILL	**Bilibino**	**22.10**	**11**	*e*P	**P**	**10 03 04.2**	**-2.3**
	comp=Z,157nm,1.0s,mb5.4						
JNU	**Nakatsue**	**22.83**	**242**	P	**P**	**10 03 16.1**	**+1.8**
	comp=Z,30nm,0.8s,mb4.8,baz=246,slow=20,SNR=7.8						
JNU				LR	LR	10 12 33.6	
	comp=Z,1μm,19.4s,MS4.4,baz=70,slow=38						
JNU	**Nakatsue**	**22.83**	**242**	P	**P**	**10 03 15.0**	**+0.8**
INCN	**Inchon**	**22.86**	**256**	P	**P**	**10 03 16.6**	**+2.0**
	SNR=7.8						
INCN	**Inchon**	**22.86**	**256**	*e*P	**P**	**10 03 15.1**	**+0.5**
	comp=Z,97nm,1.0s,mb5.2						
SNY	**Shenyang**	**22.90**	**269**	⇑P	**P**	**10 03 14.3**	**-0.7**
SNY				AMB	AMB		
	comp=Z,33nm,1.0s,mb4.7						
SNY				AMB	AMB		
	comp=Z,530nm,6.4s						
SNY				LR	LR		
	comp=E,1μm,15.1s						
SNY				LR	LR		
	comp=Z,2μm,15.3s,MS4.6						
HIA	**Hailar**	**23.55**	**289**	*e*P	**P**	**10 03 19.3**	**-2.5**
HIA				pmax	pmax		
	comp=Z,18nm,0.8s						
HIA	**Hailar**	**23.55**	**289**	*e*P	**P**	**10 03 19.3**	**-2.5**
	comp=Z,18nm,0.8s,mb4.6						
DL2	**Dalian**	**25.52**	**264**	⇑*i*P	**P**	**10 03 41.5**	**+1.8**
DL2				S	**S**	**10 08 08.8**	**+2.3**
DL2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
DL2				AMB	AMB		
	comp=Z,260nm,5.8s						
DL2				LR	LR		
	comp=N,180nm,11.5s,MS4.1						
DL2				LR	LR		
	comp=E,330nm,12.7s,MS4.1						
DL2				LR	LR		
	comp=Z,450nm,12.8s,MS4.2						
BOD	**Bodaibo**	**26.95**	**309**	*e*P	**P**	**10 03 49.5**	**-3.1**
BOD				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.8						
CIT	**Chita**	**27.16**	**296**	*e*P	**P**	**10 03 53.2**	**-1.4**
CIT				*e*		10 04 05.1	
CIT				*e*		10 08 33.9	
CIT				pmax	pmax		
	comp=Z,99nm,1.5s,mb5.1						
TNA	**Tin City**	**27.31**	**33**	*e*P	**P**	**10 03 56.4**	**+0.4**
TIXI	**Tiksi**	**27.81**	**343**	*e*P	**P**	**10 03 58.4**	**-1.9**
TIXI				*e*		10 07 15.7	
TIXI				pmax	pmax		
	comp=Z,101nm,1.0s,mb5.4						
TIXI	**Tiksi**	**27.81**	**343**	*e*P	**P**	**10 03 58.4**	**-2.0**
	comp=Z,101nm,1.0s,mb5.4						
TIXI				*e*PcP	PcP	10 07 15.7	-0.7
BJI	**Beijing**	**28.74**	**271**	P	**P**	**10 04 09.4**	**+0.8**
BJI				S	**S**	**10 08 59.9**	**+2.7**
BJI				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,374nm,8.4s						
BJI				LR	LR		
	comp=N,1μm,16.0s,MS4.7						
BJI				LR	LR		
	comp=E,1μm,16.0s,MS4.7						
BJI				LR	LR		
	comp=Z,731nm,16.0s,MS4.4						
BJI	**Beijing**	**28.74**	**271**	P	**P**	**10 04 09.4**	**+0.8**
	comp=Z,26nm,0.8s,mb5.0						
BJI				S	**S**	**10 08 59.9**	**+2.7**
BJI				LR	LR		
	comp=Z,730nm,16.0s,MS4.4						
BJT	**Baijiatuan**	**28.75**	**271**	*e*P	**P**	**10 04 11.2**	**+2.4**
BJT				pmax	pmax		
	comp=Z,59nm,1.0s						
BJT	**Baijiatuan**	**28.75**	**271**	*e*P	**P**	**10 04 11.2**	**+2.4**
	comp=Z,59nm,1.0s,mb5.3						
JOW	**Kunigami**	**28.97**	**236**	P	**P**	**10 04 11.4**	**+0.8**
	comp=Z,32nm,0.9s,mb5.0,baz=72,slow=8.2,SNR=4.7						
TIA	**Tai'an**	**29.97**	**263**	*e*P	**P**	**10 04 23.3**	**+3.8**
SSE	**Sheshan**	**30.29**	**251**	P	**P**	**10 04 22.3**	**-0.1**
SSE				S	**S**	**10 09 22.3**	**+0.6**
SSE				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,216nm,3.8s						
SSE				LR	LR		
	comp=N,168nm,23.5s,MS3.9						
SSE				LR	LR		
	comp=E,314nm,23.5s,MS3.9						
SSE				LR	LR		
	comp=Z,467nm,8.8s						
SSE	**Sheshan**	**30.29**	**251**	P	**P**	**10 04 22.3**	**-0.1**
	comp=Z,33nm,0.8s,mb5.1						
SSE				sP	sP	10 04 26.7	-2.7
SSE				PP	PP	10 05 28.4	-2.4
SSE				S	**S**	**10 09 22.3**	**+0.6**
SSE				SS	SS	10 11 30.8	0.0
NJ2	**Nanjing**	**31.21**	**255**	*e*P	**P**	**10 04 32.8**	**+2.2**
NJ2				AP	pP	10 04 36.1	+0.6
NJ2				XP	sP	10 04 39.3	+1.8
NJ2				PP	PP	10 05 35.9	-5.2
NJ2				S	**S**	**10 09 36.5**	**+0.4**
NJ2				XS	sS	10 09 44.5	+0.2
NJ2				AMB	AMB		
	comp=Z,360nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,17.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,15.5s,MS4.7						
HHC	**Hu-ho-hao-te**	**31.55**	**275**	⇑P	**P**	**10 04 34.8**	**+1.3**
HHC				AP	pP	10 04 39.3	+0.9
HHC				XP	sP	10 04 41.9	+1.5
HHC				PP	PP	10 05 38.8	-6.0
HHC				PCP	PcP	10 07 27.9	+2.0
HHC				S	**S**	**10 09 41.5**	**+0.2**
HHC				XS	sS	10 09 50.8	+1.3
HHC				SCP	ScP	10 11 12.3	+3.9
HHC				SCS	ScS	10 15 04.3	-1.9
HHC				AMB	AMB		
	comp=Z,64nm,1.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,264nm,8.4s						
HHC				LR	LR		
	comp=N,862nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,779nm,14.6s,MS4.7						
HHC				LR	LR		
	comp=Z,853nm,15.0s,MS4.5						
SVW2	**Sparrevohn**	**31.58**	**45**	*e*P	**P**	**10 04 33.4**	**-0.4**
ULN	**Ulaanbaatar**	**32.08**	**290**	P	**P**	**10 04 37.9**	**-0.2**
	SNR=8.1						
ULN	**Ulaanbaatar**	**32.08**	**290**	⇑*i*P	**P**	**10 04 37.3**	**-0.8**
ULN	**Ulaanbaatar**	**32.08**	**290**	*e*P	**P**	**10 04 37.0**	**-1.1**
	comp=Z,16nm,0.9s,mb4.8						
ULN				*e*PcP	PcP	10 07 27.6	+0.2
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**10 04 41.1**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8,baz=66,slow=8.4,SNR=46						
SONM				PcP	PcP	10 07 28.6	+0.1
	comp=Z,5.7nm,0.8s,baz=82,slow=2.6,SNR=6.2						
SONM				LR	LR	10 19 35.5	
	comp=Z,1μm,18.0s,MS4.7,baz=74,slow=40						
SONM	**Songino Array**	**32.51**	**290**	P	**P**	**10 04 41.1**	**-0.8**
SONM						10 07 28.6	
BTO	**Baotou**	**32.71**	**276**	*e*P	**P**	**10 04 43.9**	**+0.2**
IRK	**Irkutsk**	**32.79**	**299**	*e*P	**P**	**10 04 40.2**	**-4.2**
IRK				*e*		10 07 28.2	
IRK				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
IMA2	**Indian Mountai**	**33.05**	**36**	*e*P	**P**	**10 04 46.5**	**-0.1**
KDAK	**Kodiak Island**	**33.11**	**51**	P	**P**	**10 04 45.6**	**-1.5**
	comp

TLY **Talaya** 33.28 298 *e*P P 10 04 48.2 -0.5
comp=Z,30nm,0.7s,mb5.3
TLY *e*PcP PcP 10 07 30.9 +0.2
ZAK Zakamensk 33.81 296⇑ *i*P **P** **10 04 52.9 -0.4**
ZAK *e* 10 07 32.1
ZAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
GUMO Guam 34.15 198 LR LR 10 18 35.0
comp=Z,180nm,18.0s,MS3.9,baz=262,slow=36
MCK McKinley 34.82 40 *e*P **P** **10 05 00.9 -1.1**
comp=Z,14nm,0.9s,mb4.9
MCK *e*PcP PcP 10 07 34.3 -0.8
SML Sawmill 35.08 44 *e*P **P** **10 05 02.8 -1.5**
WHN Wuhan 35.16 257⇑ P **P** **10 05 06.0 +1.0**
WHN AMB AMB
comp=Z,70nm,0.9s,mb5.6
COLA College 35.33 38⇓ *i*P **P** **10 05 05.0 -1.5**
DIV Divide 36.34 45 *e*P **P** **10 05 14.6 -0.5**
comp=Z,51nm,0.7s,mb5.6
XAN Xi'an 36.77 267 P **P** **10 05 20.8 +2.0**
XAN S **S** **10 10 55.0 -7.1**
XAN AMB AMB
comp=Z,15nm,0.9s,mb4.8
XAN AMB AMB
comp=Z,163nm,7.6s
XAN LR LR
comp=N,354nm,15.9s,MS4.5
XAN LR LR
comp=E,469nm,13.7s,MS4.5
XAN LR LR
comp=Z,759nm,15.3s,MS4.6
MENT Mentasta 37.18 42 *e*P **P** **10 05 23.8 +1.6**
EGAK Eagle 38.20 38 *e*P **P** **10 05 29.7 -1.2**
comp=Z,65nm,0.8s,mb5.4
EGAK *e*PcP PcP 10 07 38.2 -7.0
DAWY Dawson 39.02 40 *e*P **P** **10 05 37.2 -0.6**
LZH Lanzhou 39.15 273 ⇓P **P** **10 05 40.6 +1.8**
LZH AP pP 10 05 46.1 +2.3
LZH XP sP 10 05 50.4 +4.6
LZH PP PP 10 07 15.0 +6.4
LZH *e*S **S** **10 11 38.0 0.0**
LZH XS sS 10 11 48.0 +1.8
LZH *e*SS SS 10 14 22.0 -8.8
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,250nm,4.1s
LZH LR LR
comp=E,2μm,14.0s
LZH LR LR
comp=Z,2μm,16.0s,MS5.0
LZH Lanzhou 39.15 273 ⇓P **P** **10 05 40.6 +1.8**
LZH *SP sP 10 05 50.4 +4.6
LZH 10 07 15.0
LZH *e*S **S** **10 11 38.0 0.0**
LZH *e*SS SS 10 14 22.0 -8.8
LZH pmax pmax
comp=Z,80nm,1.2s,mb5.3
LZH MLR MLR
comp=Z,2μm,16.0s,MS5.0
LZH Lanzhou 39.15 273 ⇓P **P** **10 05 40.6 +1.8**
comp=Z,80nm,1.2s,mb5.3
LZH pP pP 10 05 46.1 +2.3
LZH sP sP 10 05 50.4 +4.6
LZH PP PP 10 07 15.0 +6.4
LZH *e*S **S** **10 11 38.0 0.0**
LZH sS sS 10 11 48.0 +1.8
LZH *e*SS SS 10 14 22.0 -8.8
LZH LR LR
comp=Z,2μm,16.0s,MS5.0
GTA Gaotai 40.21 280 P **P** **10 05 49.4 +1.7**
GTA AP pP 10 05 53.3 +0.6
GTA XP sP 10 05 56.3 +1.6
GTA PP PP 10 07 26.5 +6.3
GTA PCP PcP 10 07 52.5 +0.9
GTA PCS PcS 10 11 43.1 +1.1
GTA S **S** **10 11 58.0 +4.1**
GTA XS sS 10 12 06.4 +4.2
GTA AMB AMB
comp=Z,15nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,279nm,7.6s
GTA LR LR
comp=N,830nm,14.5s,MS4.9
GTA LR LR
comp=E,778nm,14.4s,MS4.9
GTA LR LR
comp=Z,782nm,15.2s,MS4.7
INK Inuvik 40.95 33 P **P** **10 05 53.5 -0.3**
comp=Z,18nm,0.6s,mb4.9,baz=295,slow=6.3,SNR=137
INK LR LR 10 25 35.4
comp=Z,249nm,18.9s,MS4.1,baz=258,slow=40
INK Inuvik 40.95 33 P **P** **10 05 53.5 -0.3**
INK pmax pmax
comp=Z,18nm,0.6s
INK MLR MLR
comp=Z,249nm,18.9s
INK Inuvik 40.95 33 *e*P **P** **10 05 53.6 -0.2**
comp=Z,597nm,0.6s,mb6.4
CD2 Chengdu 42.14 267⇓ *i*P **P** **10 06 04.1 +0.6**
CD2 AP pP 10 06 08.6 0.0
CD2 XP sP 10 06 11.3 +0.7
CD2 PP PP 10 07 44.9 +3.8
CD2 PCP PcP 10 07 59.1 +1.3
CD2 PCS PcS 10 11 49.9 +0.3
CD2 S **S** **10 12 23.1 +0.5**
CD2 XS sS 10 12 30.1 -0.8
CD2 SS SS 10 15 24.8 -5.6
CD2 SCS ScS 10 16 05.0 -0.3
CD2 AMB AMB
comp=Z,130nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,360nm,5.3s
CD2 LR LR
comp=N,540nm,18.0s,MS4.7
CD2 LR LR
comp=E,640nm,14.4s,MS4.7
CD2 LR LR
comp=Z,810nm,14.4s,MS4.8
GYA Guiyang 42.95 259⇓ *i*P **P** **10 06 11.3 +1.1**
GYA AP pP 10 06 15.4 +0.2
GYA XP sP 10 06 18.3 +1.1
GYA PP PP 10 07 53.6 +3.7
GYA PCP PcP 10 08 02.8 +2.2
GYA SCP ScP 10 11 52.6 +1.6
GYA S **S** **10 12 36.8 +2.2**
GYA SS SS 10 15 40.8 -5.7
GYA SCS ScS 10 16 10.3 0.0
GYA AMB AMB
comp=Z,100nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,340nm,6.6s
GYA LR LR
comp=N,520nm,19.0s,MS4.9
GYA LR LR
comp=E,1μm,15.0s,MS4.9
GYA LR LR
comp=Z,1μm,15.5s,MS4.9
ZAL Zalesovo 43.63 306 P **P** **10 06 14.5 -1.2**
comp=Z,9.9nm,0.7s,mb4.6,baz=51,slow=6.2,SNR=26
ZAL PcP PcP 10 08 02.5 -0.3
comp=Z,12nm,0.9s,baz=48,slow=6.3,SNR=6.5
ZAL LR LR 10 26 03.1
comp=Z,1μm,19.6s,MS4.9,baz=40,slow=38
ZAL Zalesovo 43.63 306 P **P** **10 06 14.5 -1.1**
ZAL 10 08 02.6
NVS Novosibirsk 44.17 308 *e*P **P** **10 06 18.5 -1.5**
NVS *e* 10 08 04.1
NVS *e*S **S** **10 12 46.7 -5.7**
NVS *e*SS SS 10 16 16.5 +6.3
NVS pmax pmax
comp=Z,98nm,1.8s,mb5.2
NVS pmax pmax
comp=N,51nm,1.7s
NVS pmax pmax
comp=Z,58nm,1.8s,mb5.0
NVS pmax pmax
comp=E,140nm,2.7s
NVS smax
comp=E,49nm,2.3s
DLBC Dease Lake 44.67 46 *e*P **P** **10 06 26.3 +2.4**
QIZ Qiongzhong 46.02 249 P **P** **10 06 35.6 +0.9**
QIZ S **S** **10 13 21.8 +2.6**
QIZ XS sS 10 13 29.5 +1.9
QIZ AMB AMB
comp=Z,180nm,4.5s
QIZ LR LR
comp=E,310nm,14.4s
QIZ LR LR
comp=Z,317nm,15.1s,MS4.4
WMQ Urumqi 46.09 292⇑ *i*P **P** **10 06 37.1 +1.9**
WMQ AP pP 10 06 41.6 +1.3
WMQ XP sP 10 06 44.1 +1.8
WMQ PCP PcP 10 08 13.9 +2.6
WMQ PP PP 10 08 25.3 +2.0
WMQ PPP 10 09 09.3
WMQ S **S** **10 13 21.6 +1.5**
WMQ XS sS 10 13 29.3 +0.8
WMQ AMB AMB
comp=Z,35nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,185nm,4.2s
WMQ LR LR
comp=N,1μm,21.1s,MS4.8
WMQ LR LR
comp=E,296nm,22.6s,MS4.8
WMQ LR LR
comp=Z,641nm,18.4s,MS4.6
KMI Kunming 46.49 261 P **P** **10 06 39.8 +1.4**
KMI AP pP 10 06 47.9 +4.5
KMI XP sP 10 06 49.9 +4.5
KMI PP PP 10 08 28.6 +1.1
KMI PPP 10 09 13.8
KMI S **S** **10 13 28.8 +2.9**
KMI XS sS 10 13 34.3 +0.1
KMI SS SS 10 16 42.3 -9.4
KMI AMB AMB
comp=Z,40nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,313nm,5.0s
KMI LR LR
comp=N,391nm,12.2s,MS4.7
KMI LR LR
comp=E,380nm,15.1s,MS4.7
KMI LR LR
comp=Z,296nm,14.1s,MS4.4
KMI Kunming 46.49 261 P **P** **10 06 39.7 +1.3**
KMI *SP sP 10 06 49.9 +4.5
KMI 10 08 28.6
KMI PPP 10 09 13.7
KMI S **S** **10 13 28.8 +2.9**
KMI *SS sS 10 13 34.3 +0.1
KMI SS SS 10 16 42.2 -10
KMI pmax pmax
comp=Z,40nm,1.4s,mb5.2
KMI MLR MLR
comp=Z,300nm,14.1s,MS4.4
KMI Kunming 46.49 261 P **P** **10 06 39.7 +1.3**
comp=Z,40nm,1.4s,mb5.2
KMI pP pP 10 06 47.9 +4.5
KMI sP sP 10 06 49.9 +4.5
KMI PP PP 10 08 28.6 +1.1
KMI PPP 10 09 13.7
KMI S **S** **10 13 28.8 +2.9**
KMI sS sS 10 13 34.3 +0.1
KMI SS SS 10 16 42.2 -10
KMI LR LR
comp=Z,300nm,14.1s,MS4.4
MKAR Makanchi Array 48.05 298 P **P** **10 06 50.5 +0.1**
comp=Z,19nm,0.8s,mb5.2,baz=71,slow=8.0,SNR=87
MKAR PcP PcP 10 08 17.7 -0.5
comp=Z,9.8nm,0.8s,baz=46,slow=5.2,SNR=4.1
MKAR Makanchi Array 48.05 298⇑ *e*P **P** **10 06 50.5 0.0**
POHA Pohakuloa 48.37 107 *e*P **P** **10 06 54.1 +1.1**
comp=Z,41nm,0.6s,mb5.6
KURK Kurchatov 48.40 304 P **P** **10 06 52.1 -1.1**
comp=Z,750nm,0.8s,SNR=67
KURK Kurchatov 48.40 304 P **P** **10 06 53.1 -0.1**
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ALE Alert 49.59 6 P **P** **10 07 01.9 -0.4**
comp=Z,170nm,0.9s,mb6.1,SNR=9.6
YKW3 Yellowknife Ar 50.11 37 *e*P **P** **10 07 06.0 -0.3**
YKA Yellowknife Ar 50.15 37 P **P** **10 07 05.7 -0.8**
comp=Z,12nm,0.8s,mb5.0,baz=294,slow=7.4,SNR=17
YKA PcP PcP 10 08 25.4 -0.5
comp=Z,7.7nm,0.8s,baz=301,slow=4.0,SNR=7.6
YKA Yellowknife Ar 50.15 37 P **P** **10 07 05.7 -0.8**
YKA PcP PcP 10 08 25.4 -0.5
RES Resolute Bay 50.41 19 *e*P **P** **10 07 08.2 -0.4**
comp=Z,1μm,0.9s
RES *e*PcP PcP 10 08 26.5 -0.3
CHKZ Chkalovo 51.37 311 P **P** **10 07 15.4 -0.4**
CHKZ pmax pmax
comp=Z,83nm,0.9s,mb5.7
CHKZ Chkalovo 51.37 311 *e*P **P** **10 07 14.7 -1.1**
comp=Z,123nm,0.8s,mb5.9
LSA Lhasa 51.53 274 P **P** **10 07 19.0 +2.0**
VOSK Vostochnaya 51.65 310 P **P** **10 07 17.6 -0.3**
VOSK pmax pmax
comp=Z,78nm,1.2s,mb5.5
BVA0 Borovoye Array 51.81 310 P **P** **10 07 19.4 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BVAR Borovoye Array 51.81 310 P **P** **10 07 18.8 -0.3**
comp=Z,22nm,0.4s,mb5.5,baz=55,slow=7.3,SNR=113
BVAR PcP PcP 10 08 31.9 -0.1
comp=Z,13nm,0.7s,baz=106,slow=3.2,SNR=4.6
BVAR LR LR 10 30 42.3
comp=Z,897nm,20.2s,MS4.8,baz=319,slow=38
BVAR Borovoye Array 51.81 310 P **P** **10 07 18.8 -0.3**
BVAR 10 08 31.9
BRVK Borovoye 51.85 310 P **P** **10 07 18.5 -0.9**
comp=Z,505nm,0.8s,SNR=24
BRVK Borovoye 51.85 310 *e*P **P** **10 07 18.8 -0.6**
BRVK *e* 10 08 32.4
BRVK pmax pmax
comp=Z,65nm,0.8s,mb5.6
BRVK Borovoye 51.85 310 *e*P **P** **10 07 18.8 -0.6**
comp=Z,65nm,0.8s,mb5.6
BRVK *e*PcP PcP 10 08 32.4 +0.3
NANT Nan 52.19 257 ⇓P **P** **10 07 21.5 -0.4**
comp=Z,256nm,1.0s,mb6.1
ZRNK Zerenda 52.57 311 P **P** **10 07 23.7 -1.1**
ZRNK pmax pmax
comp=Z,45nm,0.8s,mb5.5
ZRNK Zerenda 52.57 311 *e*P **P** **10 07 24.1 -0.7**
comp=Z,45nm,0.8s,mb5.5
KBS Kingsbay 52.66 352⇑ *e*P **P** **10 07 24.0 -1.4**
KBS Kingsbay 52.66 352 *e*P **P** **10 07 24.3 -1.1**
comp=Z,58nm,0.8s,mb5.6
SPB4 Spitsbergen Ar 52.81 350 *e*P **P** **10 07 26.5 0.0**
CHG Chiang Mai 53.35 258 ⇓P **P** **10 07 32.3 +1.8**
comp=Z,48nm,0.9s,mb5.4
CHTO Chiang Mai 53.35 258 P **P** **10 07 32.7 +2.2**
SNR=27
CHTO Chiang Mai 53.35 258 P **P** **10 07 29.3 -1.2**
CHTO pmax pmax
comp=Z,42nm,1.0s,mb5.3
CHTO Chiang Mai 53.35 258 *e*P **P** **10 07 32.2 +1.6**
comp=Z,42nm,1.0s,mb5.3
SHL Shillong 53.63 270 *e*P **P** **10 07 32.6 0.0**
C05A Tolt Reservoir 53.90 56 ⇓P **P** **10 07 33.4 -1.2**
baz=54
D05A Enumclaw 54.00 57 ⇑P **P** **10 07 34.9 -0.4**
ULHL Ulahol 54.09 296 P **P** **10 07 37.3 +1.4**
SNR=19
TKM2 Tokmak 2 54.11 297 P **P** **10 07 37.2 +1.1**
SNR=15
A08A Turner Farm, O 54.58 54 ⇓P **P** **10 07 38.8 -0.6**
baz=54
USP Ospenovka 54.59 298 P **P** **10 07 40.5 +1.0**
SNR=19
FRU Bishkek 54.76 297 *e*P **P** **10 07 42.0 +1.2**
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.3
FRU MLR MLR
comp=Z,1μm,14.0s,MS5.0
NST Nakhon Sawan 54.79 254 P **P** **10 07 43.1 +2.1**
KZA Kyzart 54.80 296 P **P** **10 07 43.1 +2.1**
SNR=23
SOKR Solikamsk 54.86 322 *e*P **P** **10 07 41.7 +0.2**
SOKR pmax pmax
comp=Z,50nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,450nm,22.0s,MS4.5
B08A Colville Reser 54.87 54 ⇓P **P** **10 07 40.7 -0.9**
baz=55
AAK Ala-Archa 54.95 297 P **P** **10 07 42.4 +0.2**
comp=Z,194nm,0.8s,mb6.2,SNR=12
AAK Ala-Archa 54.95 297 P **P** **10 07 43.3 +1.2**
SNR=14
AAK Ala-Archa 54.95 297 *e*P **P** **10 07 42.1 -0.1**
AAK pmax pmax
comp=Z,25nm,0.8s,mb5.3
AAK Ala-Archa 54.95 297 *e*P **P** **10 07 42.1 0.0**
comp=Z,25nm,0.8s,mb5.3
A09A Danville 54.95 53 P **P** **10 07 41.7 -0.5**
baz=55,SNR=5.7
J02A Umpqua 55.16 61 ⇑P **P** **10 07 44.6 +0.9**
baz=55
EKS2 Erkin-Say 55.37 298 P **P** **10 07 46.4 +1.2**
SNR=9.8
EDM Edmonton 55.38 47 *e*P **P** **10 07 44.4 -0.9**
EDM *e* 10 08 45.7
B09A Rice 55.49 54 ⇓P **P** **10 07 45.4 -0.7**
baz=55
A10A Northport 55.51 53 ⇓P **P** **10 07 45.4 -0.8**
baz=55
J03A Ideyld Park 55.53 61 ⇑P **P** **10 07 46.8 +0.5**
baz=55
K02A Glendale 55.55 62 ⇑P **P** **10 07 46.8 +0.3**
baz=55
E07A Sunnyside 55.57 56 ⇓P **P** **10 07 46.5 -0.1**
baz=55
I04A Tendick Farm, 55.62 60 ⇓P **P** **10 07 47.2 +0.2**
baz=55
AML Almayashu 55.72 297 P **P** **10 07 49.5 +1.8**
SNR=8.2
C09A Chrisman Ranch 55.77 55 ⇓P **P** **10 07 47.5 -0.6**
baz=56
KSH Kashi 55.80 293 *e*P **P** **10 07 50.9 +2.6**
KSH *e*AP pP 10 07 56.3 +2.8
KSH *e*XP sP 10 07 59.6 +4.2
KSH *e*PCP PcP 10 08 50.6 +3.4
KSH *e*PP PP 10 09 56.0 +3.2
KSH *e*PPP 10 11 11.3
KSH *e*SCP ScP 10 12 47.3 +1.7
KSH *e*S **S** **10 15 36.3 +1.6**
KSH *e*XS sS 10 15 46.3 +3.1
KSH *e*PS 10 15 56.8
KSH *e*SCS ScS 10 17 36.4 -0.5
D08A Wollman Farm, 55.82 56 ⇓P **P** **10 07 47.6 -0.9**
baz=56
L02A Cave Junction 55.83 63 ⇑P **P** **10 07 48.1 -0.4**
baz=56
ARU Arti 55.84 318 P **P** **10 07 48.4 -0.2**
comp=Z,638nm,0.6s,SNR=15
ARU Arti 55.84 318 *e*P **P** **10 07 48.5 -0.1**
ARU Arti 55.84 318 *e*P **P** **10 07 48.0 -0.6**
comp=Z,52nm,0.5s,mb5.8
H05A Madras 55.84 59 ⇓P **P** **10 07 48.4 -0.2**
baz=56
G06A Carlson Farm, 55.86 58 ⇑P **P** **10 07 48.7 0.0**
baz=56
F07A Phinny Hill Vi 55.90 57 ⇓P **P** **10 07 48.6 -0.4**
baz=56
E08A Dider Farm, El 56.06 56 ⇑P **P** **10 07 49.5 -0.6**
baz=56
B10A Chitwood Farm, 56.08 54 ⇓P **P** **10 07 49.5 -0.7**
baz=56
I05A Bend 56.09 60 ⇑P **P** **10 07 50.0 -0.4**
baz=56
J04A Umpqua Nationa 56.12 61 P **P** **10 07 51.4 +0.9**
baz=56,SNR=7.7
NEW Newport 56.15 54 P **P** **10 07 49.9 -0.9**
comp=Z,3.1nm,0.9s,mb4.3,baz=307,slow=9.0,SNR=5.2
NEW PcP PcP 10 08 49.0 +0.4
comp=Z,10nm,0.9s,baz=274,slow=3.4,SNR=8.9
NEW LR LR 10 30 27.0
comp=Z,230nm,18.3s,MS4.3,baz=346,slow=34
NEW Newport 56.15 54 P **P** **10 07 49.9 -0.9**
NEW 10 08 49.0
A11A Hall Mountain, 56.18 52 P **P** **10 07 51.0 0.0**
baz=56,SNR=5.8
JIRN Jiri 56.20 276 *e*P **P** **10 07 52.9 +1.8**
comp=Z,109nm,0.8s,mb5.9
GUN Gumba 56.25 276 *e*P **P** **10 07 52.8 +1.3**
comp=Z,145nm,0.9s,mb6.0
H06A Lindquist Farm 56.32 59 ⇑P **P** **10 07 52.0 0.0**
baz=56
PMG Port Moresby 56.36 189 P **P** **10 07 52.1 -0.2**
comp=Z,11nm,0.7s,mb5.0,baz=37,slow=12,SNR=4.1
PMG PcP PcP 10 08 49.8 +0.4
comp=Z,15nm,0.9s,baz=70,slow=4.4,SNR=3.5
PMG LR LR 10 26 16.5
comp=Z,182nm,21.4s,MS4.1,baz=43,slow=30
PMG Port Moresby 56.36 189 P **P** **10 07 52.1 -0.2**
PMG 10 08 49.8
B11A Sandpoint 56.47 53 ⇑P **P** **10 07 52.8 -0.3**
baz=56
E09A Wood Farm, Sta 56.57 56 P **P** **10 07 53.5 -0.3**
baz=56,SNR=5.6
A12A Yaak River Ran 56.58 52 ⇑P **P** **10 07 53.8 0.0**
baz=56
J05A Fort Rock 56.61 60 ⇑P **P** **10 07 54.9 +0.8**
baz=56
F08A Pendleton 56.62 57 ⇓P **P** **10 07 53.8 -0.3**
baz=56
YBH Yreka Blue Hor 56.62 63 *e*P **P** **10 07 55.4 +1.3**
YBH Yreka Blue Hor 56.62 63 ⇑P **P** **10 07 54.9 +0.8**
baz=56,SNR=5.2
DAG Danmarks Havn 56.66 358⇑ *i*P **P** **10 07 53.8 -0.7**
comp=Z,36nm,1.2s,mb5.3
DAG Danmarks Havn 56.66 358⇑ *i*P **P** **10 07 53.8 -0.7**
DAG pmax pmax
comp=Z,36nm,1.2s,mb5.3
K04A Chilquin 56.70 61 ⇓P **P** **10 07 55.3 +0.6**
baz=56
M02C Callahan 56.73 63 P **P** **10 07 55.9 +1.0**
baz=56,SNR=6.2
KKN Kakani 56.74 277 *e*P **P** **10 07 56.9 +1.9**
comp=Z,66nm,0.6s,mb5.8
N02C Big Bar 56.78 64 ⇑P **P** **10 07 55.6 +0.4**
baz=56
PKI Pulchoki 56.79 276 *e*P **P** **10 07 56.4 +1.1**
comp=Z,93nm,0.8s,mb5.6
G08A Pilot Rock 56.80 57 P **P** **10 07 54.9 -0.6**
baz=56,SNR=5.7
I06A Prineville 56.84 59 P **P** **10 07 56.0 +0.3**
baz=57,SNR=5.5
L04A Klamath Falls 56.86 62 P **P** **10 07 56.5 +0.6**
baz=57,SNR=6.3
B12A Libby 56.88 53 ⇑P **P** **10 07 56.2 +0.3**
baz=57
DMN Daman 56.97 276 *e*P **P** **10 07 58.3 +1.7**
comp=Z,232nm,0.9s,mb6.2
GKN Gorkha 57.04 277 *e*P **P** **10 07 58.5 +1.4**
comp=Z,229nm,1.1s,mb6.1
K05A Summer Lake 57.14 61 ⇓P **P** **10 07 58.7 +0.9**
baz=57,SNR=10
F09A S2 Ranch, Elgi 57.16 56 ⇓P **P** **10 07 58.1 +0.1**
baz=57
E10A Myers Farm, Un 57.17 55 ⇑P **P** **10 07 58.1 0.0**
baz=57
LVZ Lovozero 57.24 337 P **P** **10 07 58.2 -0.3**
comp=Z,774nm,0.9s,SNR=8.3
LVZ Lovozero 57.24 337 *e*P **P** **10 07 57.4 -1.1**
LVZ pmax pmax
comp=Z,127nm,1.0s,mb5.9
LVZ pmax pmax
comp=N,44nm,1.1s
LVZ pmax pmax
comp=E,28nm,1.1s
LVZ MLR MLR
comp=Z,1μm,22.0s,MS4.9
LVZ MLR MLR
comp=N,559nm,17.0s,MS4.8
LVZ MLR MLR
comp=E,535nm,20.0s,MS4.8
LVZ Lovozero 57.24 337⇑ *e*P **P** **10 07 58.2 -0.3**
M03C McCloud 57.24 63 ⇓P **P** **10 07 59.1 +0.5**
baz=57
D11A Klaveano Farm, 57.28 54 P **P** **10 07 58.2 -0.6**
baz=57,SNR=5.5
C12A Trout Creek 57.38 53 ⇓P **P** **10 07 59.0 -0.5**
baz=57,SNR=5.8
WDC Whiskeytown Da 57.39 64 *e*P **P** **10 08 00.3 +0.7**
WDC Whiskeytown Da 57.39 64 ⇑P **P** **10 08 00.1 +0.5**
baz=57
F10A Beach Ranch, E 57.40 56 ⇑P **P** **10 07 59.2 -0.4**
baz=57
H08A Prairie City 57.41 58 ⇑P **P** **10 07 59.8 0.0**
baz=57,SNR=6.1
DANN Dangsing 57.42 278 *e*P **P** **10 08 01.2 +1.4**

WALA	**Waterton Lakes**	57.45	51	*e*P		P	10 07 58.7	-1.3	
	comp=E,7.8nm,0.9s,mb4.7								
O02C	**Red Bluff**	57.48	64	⇓P		P	10 08 00.5	+0.3	
	baz=57								
B13A	**Whitefish**	57.54	52	P		P	10 08 00.6	-0.1	
	baz=57,SNR=15								
P01C	**Double 8 Ranch**	57.55	65	⇑P		P	10 08 00.8	0.0	
	baz=57								
L05A	**Lakeview**	57.57	61	⇑P		P	10 08 01.3	+0.4	
	baz=57,SNR=6.4								
J07A	**Hines**	57.71	59	P		P	10 08 02.5	+0.7	
	baz=58,SNR=5.0								
KEV	**Kevo**	57.73	341	*e*p		P	10 07 59.8	-2.2	
	comp=E,43nm,0.8s,mb5.5								
KEV	**Kevo**	57.73	341	*e*P		P	10 07 59.8	-2.2	
KEV				pmax	pmax				
	comp=Z,43nm,0.8s,mb5.5								
M05C	**Lookout**	57.79	62	⇑P		P	10 08 02.7	+0.3	
	baz=58,SNR=5.0								
APA	**Apatity**	57.81	337	*e*P		P	10 08 00.0	-2.5	
APA				*i*			10 08 12.4		
APA				pmax	pmax				
	comp=Z,110nm,1.0s,mb5.8								
APA				MLR	MLR				
	comp=Z,1μm,20.0s,MS5.0								
I08A	**Drewsey**	57.83	58	⇓P		P	10 08 02.9	+0.2	
	baz=58,SNR=6.7								
GASB	**Alder Springs**	57.83	65	⇑P		P	10 08 03.2	+0.5	
	baz=58								
C13A	**Hot Springs**	57.89	53	⇑P		P	10 08 03.3	+0.2	
	baz=58								
KOLN	**Koldanda**	57.90	278	*e*P		P	10 08 04.7	+1.5	
	comp=Z,133nm,1.0s,mb5.9								
H09A	**Durkee**	57.91	57	⇓P		P	10 08 03.5	+0.2	
	baz=58								
HATC	**Hat Creek Radi**	57.92	63	⇓P		P	10 08 03.5	+0.2	
	baz=58								
MOD	**Modoc**	57.98	61	*e*P		P	10 08 02.0	-1.7	
	comp=Z,11nm,1.1s,mb4.8								
MOD				*e*PcP		PcP	10 08 56.4	+0.6	
MOD	**Modoc**	57.98	61	P		P	10 08 04.2	+0.4	
	baz=58,SNR=10								
BMO	**Blue Mountains**	58.01	57	*e*P		P	10 08 03.9	-0.1	
	comp=Z,46nm,1.6s,mb5.2								
F11A	**Grangeville**	58.06	55	P		P	10 08 04.2	-0.1	
	baz=58,SNR=7.0								
K07A	**Rock Creek Ran**	58.15	60	P		P	10 08 05.4	+0.5	
	baz=58,SNR=9.2								
J08A	**Circle Bar Ran**	58.21	59	⇓P		P	10 08 05.5	+0.1	
	baz=58,SNR=8.1								
ARCES	**ARCESS Array B**	58.24	341	P		P	10 08 05.3	-0.2	
	comp=Z,55nm,0.9s,mb5.6,baz=33,slow=7.3,SNR=39								
ARCES				PcP		PcP	10 08 56.2	-0.5	
	comp=Z,25nm,0.8s,baz=39,slow=7.9,SNR=6.4								
ARCES				LR		LR	10 36 26.5		
	comp=Z,931nm,21.4s,MS4.9,baz=34,slow=39								
ARCES	**ARCESS Array B**	58.24	341	P		P	10 08 05.3	-0.2	
ARCES							10 08 56.3		
ARE0	**ARCESS Array S**	58.24	341	*e*P		P	10 08 05.0	-0.5	
ARE0				*e*PcP		PcP	10 08 56.8	0.0	
I09A	**Lost Marbles R**	58.27	58	P		P	10 08 06.1	+0.3	
	baz=58,SNR=8.7								
G11A	**Walters Elk Ra**	58.28	56	⇑P		P	10 08 05.3	-0.5	
	baz=58								
M06C	**Likely Place G**	58.28	62	⇑P		P	10 08 06.0	+0.1	
	baz=58								
C14A	**Swan Lake**	58.29	52	P		P	10 08 05.7	-0.2	
	baz=58,SNR=6.9								
D13A	**Huson**	58.30	53	P		P	10 08 05.8	-0.2	
	baz=58,SNR=5.7								
O04C	**Chester**	58.44	63	P		P	10 08 07.9	+0.9	
	baz=58,SNR=7.0								
MNRC	**McLaughlin Nat**	58.46	65	⇓P		P	10 08 07.4	+0.2	
	baz=58								
L07A	**Adell**	58.49	61	P		P	10 08 07.9	+0.6	
	baz=58,SNR=9.3								
K08A	**Mann Creek Ran**	58.57	60	P		P	10 08 08.3	+0.5	
	baz=58,SNR=12								
J09A	**Fry Pan Ranch,**	58.64	59	P		P	10 08 08.8	+0.4	
	baz=58,SNR=11								
ORV	**Oroville**	58.64	64	⇑P		P	10 08 07.9	-0.5	
	baz=58								
WVOR	**Wild Horse Val**	58.66	60	*e*P		P	10 08 08.2	-0.3	
WVOR				pmax	pmax				
	comp=Z,14nm,1.0s,mb5.0								
WVOR	**Wild Horse Val**	58.66	60	*e*P		P	10 08 08.2	-0.3	
	comp=Z,14nm,1.0s,mb4.9								
SUTB	**Sutter Butte**	58.66	65	⇑P		P	10 08 08.2	-0.3	
	baz=58								
MSO	**Missoula**	58.74	53	*e*P		P	10 08 09.1	0.0	
O05C	**Quincy**	58.76	63	⇓P		P	10 08 08.8	-0.4	
	baz=58								
CVS	**Carmenet Viney**	58.77	66	⇓P		P	10 08 09.0	-0.3	
	baz=58								
OHCM	**Honcut**	58.78	64	*e*P		P	10 08 09.0	-0.4	
D14A	**Greenough**	58.83	53	P		P	10 08 09.3	-0.4	
	baz=58,SNR=12								
E13A	**Victor**	58.83	54	P		P	10 08 09.8	+0.1	
	baz=59,SNR=8.7								
H11A	**Donnelly**	58.84	56	P		P	10 08 09.5	-0.2	
	baz=59,SNR=27								
Q03C	**Winters**	58.88	65	⇑P		P	10 08 10.2	+0.1	
	baz=59								
TMCR	**Tamitsa**	58.89	333	*i* P		P	10 08 10.3	+0.2	
BOK	**Bokaro**	58.91	273	*e*P		P	10 08 12.2	+2.0	
BOK				AMb		AMB	10 08 14.9		
	comp=Z,38nm,1.4s,mb5.2								
N06A	**Buffalo Meadow**	58.95	62	P		P	10 08 10.8	+0.4	
	baz=59,SNR=11								
L08A	**Fields**	58.98	60	P		P	10 08 11.1	+0.4	
	baz=59,SNR=12								
K09A	**Rome**	59.04	59	P		P	10 08 11.7	+0.6	
	baz=59,SNR=5.4								
CHMT	**Chamberlain Mo**	59.07	53	*e*P		P	10 08 10.7	-0.6	
LGTI	**Lohaghat**	59.10	281	*e*P		P	10 08 13.5	+1.9	
F13A	**Darby**	59.14	55	P		P	10 08 11.4	-0.4	
	baz=59,SNR=12								
KTK1	**Kautokeino**	59.15	342	⇓*i*P		P	10 08 12.3	+0.4	
KTK1				AMb		AMB	10 08 15.5		
	comp=Z,119nm,1.6s,mb5.7								
KTK1	**Kautokeino**	59.15	342	⇓*i*P		P	10 08 12.3	+0.4	
	comp=Z,119nm,1.5s,mb5.7								
BEKR	**Beckwourth**	59.16	63	P		P	10 08 12.4	+0.4	
	baz=59,SNR=5.0								
E14A	**Clinton**	59.23	54	P		P	10 08 12.2	-0.3	
	baz=59,SNR=13								
P05C	**Yuba Gap, Truc**	59.35	64	⇑P		P	10 08 12.8	-0.5	
	baz=59								
D15A	**Lincoln**	59.39	53	P		P	10 08 13.3	-0.3	
	baz=59,SNR=6.9								
N07B	**Gerlach**	59.45	62	⇑P		P	10 08 13.9	-0.1	
	baz=59								
L09A	**Wilkinson Ranc**	59.48	60	⇑P		P	10 08 13.8	-0.4	
	baz=59								
KSM	**Kuching**	59.51	235	*e*P		P	10 08 16.2	+1.8	
TRO	**Tromso**	59.52	344	*e*P		P	10 08 12.9	-1.5	
TRO				AMb		AMB	10 08 14.3		
	comp=Z,132nm,1.1s,mb5.9								
TRO				*e*pP		pP	10 08 16.1	-3.5	
TRO	**Tromso**	59.52	344	*e*P		P	10 08 12.9	-1.5	
TRO				pmax	pmax				
	comp=Z,132nm,1.1s,mb5.9								
TRO	**Tromso**	59.52	344	*e*P		P	10 08 12.9	-1.5	
	comp=Z,132nm,1.1s,mb5.9								
P06A	**Stead Airport,**	59.55	63	⇑P		P	10 08 14.8	+0.1	
	baz=59								
LAVA	**Lava Cap Winer**	59.60	64	P		P	10 08 14.9	-0.1	
	baz=59,SNR=9.6								
AKTK	**Aktyubinsk**	59.64	313	P		P	10 08 15.4	+0.1	
AKTO	**Aktyubinsk**	59.64	313	P		P	10 08 15.4	+0.1	
	comp=Z,7.8nm,0.4s,mb5.1,baz=54,slow=7.8,SNR=16								
AKTO	**Aktyubinsk**	59.64	313	P		P	10 08 15.1	-0.2	
F14A	**Wisdom**	59.67	54	⇑P		P	10 08 15.0	-0.5	
	baz=59								
BNLO	**Ben Lomond (Sa**	59.69	67	⇑P		P	10 08 15.3	-0.4	
	baz=60								
E15A	**Deer Lodge**	59.70	53	P		P	10 08 15.4	-0.3	
	baz=59,SNR=11								
R04C	**Big Horse Ranc**	59.78	65	⇓P		P	10 08 15.9	-0.3	
	baz=60								
WCN	**Washoe City**	59.87	63	⇓P		P	10 08 17.1	+0.2	
	baz=60,SNR=5.7								
O07A	**Toulon**	59.88	62	⇓P		P	10 08 17.1	+0.2	
	baz=60,SNR=13								
FFC	**Flin Flon**	59.90	41	P		P	10 08 16.7	-0.4	
	comp=Z,149nm,0.9s,mb6.0,SNR=7.3								
FFC	**Flin Flon**	59.90	41	P		P	10 08 16.9	-0.2	
N08A	**GE Springer Mi**	59.96	61	P		P	10 08 17.6	+0.1	
	baz=60,SNR=12								
HRY	**Holter Researc**	59.97	53	*e*P		P	10 08 17.9	+0.3	
M09A	**Marrel Ranch,**	59.98	60	⇑P		P	10 08 17.6	0.0	
	baz=60								
R05C	**Kirkwood Meado**	60.04	64	P		P	10 08 18.2	+0.1	
	baz=60,SNR=6.4								
F15A	**Butte**	60.14	54	P		P	10 08 18.6	-0.1	
	baz=60,SNR=19								
LRM	**Limekiln Ridge**	60.17	54	*e*P		P	10 08 19.1	+0.2	
THN	**Thein Dam**	60.24	287	*e*P		P	10 08 21.1	+1.7	
CMB	**Columbia Colle**	60.26	65	*e*P		P	10 08 19.5	0.0	
CMB				*e*			10 09 04.9		
CMB				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
CMB	**Columbia Colle**	60.26	65	*e*P		P	10 08 19.5	-0.1	
	comp=Z,7.6nm,0.9s,mb4.7								
CMB				*e*PcP		PcP	10 09 04.9	+0.2	
CMB	**Columbia Colle**	60.26	65	⇑P		P	10 08 19.4	-0.1	
	baz=60,SNR=11								
P07A	**Fallon**	60.26	63	⇓P		P	10 08 19.7	+0.2	
	baz=60								
EGMT	**Eagleton**	60.28	50	*e*P		P	10 08 19.6	-0.1	
	comp=Z,42nm,1.1s,mb5.4								
EGMT	**Eagleton**	60.28	50	⇑P		P	10 08 19.1	-0.5	
	baz=60,SNR=13								
N09A	**Rock Creek Ran**	60.28	61	P		P	10 08 20.1	+0.4	
	baz=60,SNR=12								
PACP	**Pacheco Peak**	60.33	66	P		P	10 08 20.2	+0.3	
	baz=60,SNR=6.7								
DLMT	**Dillon**	60.37	54	*e*P		P	10 08 20.5	+0.2	
	comp=Z,32nm,1.2s,mb5.2								
HLID	**Hailey**	60.45	57	*e*P		P	10 08 20.9	+0.1	
	comp=Z,19nm,0.8s,mb5.2								
HLID				*e*PcP		PcP	10 09 06.8	+1.2	
HLID	**Hailey**	60.45	57	⇓P		P	10 08 20.9	+0.1	
	baz=60,SNR=11								
M10A	**I.L. Ranch, Tu**	60.46	60	⇓P		P	10 08 21.3	+0.4	
	baz=60,SNR=9.9								
ORR	**Orenburg**	60.52	315	*e*P		P	10 08 20.0	-1.3	
ORR				pmax	pmax				
	comp=Z,40nm,0.8s,mb5.6								
ORR				MLR	MLR				
	comp=Z,840nm,15.0s,MS5.0								
R06C	**Coleville**	60.54	64	P		P	10 08 22.1	+0.6	
	baz=60,SNR=13								
HAST	**UC Hastings Re**	60.54	67	⇑P		P	10 08 21.2	-0.3	
	baz=60								
G15A	**Dillon**	60.55	54	P		P	10 08 21.3	-0.2	
	baz=60,SNR=10								
WAKR	**Walker**	60.56	64	*e*P		P	10 08 22.1	+0.5	
MCMT	**McKenzie Canyo**	60.56	55	*e*P		P	10 08 21.2	-0.4	
P08A	**Dixie Valley**	60.65	62	⇑P		P	10 08 22.5	+0.3	
	baz=60								
Q07A	**Schurz**	60.68	63	⇑P		P	10 08 22.4	0.0	
	baz=60								
S06C	**San Francisco**	60.69	65	⇓P		P	10 08 22.2	-0.2	
	baz=60,SNR=12								
S05C	**Merced**	60.72	65	⇓P		P	10 08 22.1	-0.6	
	baz=60								
BMN	**Battle Mountai**	60.72	61	*e*P		P	10 08 23.3	+0.6	
BMN				pmax	pmax				
	comp=Z,32nm,1.2s,mb5.3								
BMN	**Battle Mountai**	60.72	61	*e*P		P	10 08 22.8	+0.1	
	comp=Z,32nm,1.3s,mb5.3								
O09A	**Fish Creek Ran**	60.90	61	⇑P		P	10 08 24.2	+0.3	
	baz=61,SNR=14								
M11A	**Holland Ranch,**	60.96	59	⇓P		P	10 08 24.8	+0.5	
	baz=61,SNR=7.9								
V03C	**Hunter Liggett**	60.97	67	⇑P		P	10 08 24.6	+0.3	
	baz=61								
N10A	**Dunphy**	60.97	60	⇑P		P	10 08 24.9	+0.5	
	baz=61								
R07C	**Lee Vining**	61.05	64	P		P	10 08 25.6	+0.7	
	baz=61,SNR=11								
O10A	**Cortez Mining,**	61.24	61	⇓P		P	10 08 26.5	+0.3	
	baz=61,SNR=5.5								
Q08A	**Gabbs**	61.26	63	P		P	10 08 26.6	+0.2	
	baz=61,SNR=17								
NVAR	**Mina Array Bea**	61.30	63	P		P	10 08 27.0	+0.3	
	comp=Z,6.7nm,0.8s,mb4.8,baz=295,slow=8.5,SNR=34								
NVAR				PcP		PcP	10 09 09.6	+0.6	
	comp=Z,8.8nm,0.9s,baz=296,slow=3.5,SNR=7.4								
P09A	**Austin**	61.31	62	⇑P		P	10 08 27.2	+0.5	
	baz=61								
T06C	**Millerton Lake**	61.32	65	P		P	10 08 26.4	-0.3	
	baz=61,SNR=8.3								
QLMT	**Earthquake Lak**	61.35	54	*e*P		P	10 08 27.2	+0.3	
KCC	**Kaiser Creek**	61.36	65	P		P	10 08 27.2	+0.1	
	baz=61,SNR=9.1								
N11A	**Elko Archery C**	61.37	60	⇓P		P	10 08 27.2	+0.1	
	baz=61								
V04C	**Ramage Ranch,**	61.44	67	⇑P		P	10 08 27.8	+0.3	
	baz=61								
PKD	**Parkfield**	61.45	67	⇑P		P	10 08 27.4	-0.2	
	baz=61								
MLAC	**Mammoth Lakes**	61.47	64	⇑P		P	10 08 28.5	+0.8	
	baz=61								
R08A	**Mina**	61.47	63	⇑P		P	10 08 28.1	+0.3	
	baz=61								
U05C	**Westside ANR,**	61.48	66	⇑P		P	10 08 28.2	+0.3	
	baz=61								
M12A	**Wells**	61.48	59	P		P	10 08 28.7	+0.8	
	baz=61,SNR=11								
NDI	**New Delhi**	61.63	283	*e*P		P	10 08 28.0	-0.9	
NDI				*e*P			10 08 28.0		
NDI				*e*P			10 08 28.0		
NDI				AMb		AMB	10 08 30.8		
	comp=Z,226nm,2.1s,mb5.9								
P10A	**Eureka**	61.68	61	P		P	10 08 29.6	+0.4	
	baz=61,SNR=6.0								
YMR	**Madison River**	61.71	54	*e*P		P	10 08 29.8	+0.4	
	comp=Z,60nm,1.5s,mb5.5								
YMR				*e*PcP		PcP	10 09 12.3	+1.7	
Q09A	**Carvers**	61.73	62	⇑P		P	10 08 29.9	+0.3	
	baz=62								
N12A	**Clover Valley,**	61.76	59	⇓P		P	10 08 30.1	+0.3	
	baz=62,SNR=6.7								
MTUM	**Tungsten Hills**	61.81	64	*e*P		P	10 08 30.3	+0.2	
LOF	**Lofoten**	61.82	345	*e*P		P	10 08 29.8	-0.3	
YNR	**Norris Junctio**	61.84	54	*e*P		P	10 08 31.9	+1.6	
O11A	**Cowboy Ranch,**	61.84	60	⇓P		P	10 08 30.4	+0.2	
	baz=62,SNR=5.7								
PTRM	**Twissleman Ran**	61.85	67	*e*P		P	10 08 30.4	+0.1	
V05C	**Boulder Hill,**	61.91	67	⇓P		P	10 08 31.0	+0.3	
	baz=62								
YFT	**Old Faithful**	61.92	54	*e*P		P	10 08 32.3	+1.5	
YFT				*e*PcP		PcP	10 09 13.9	+2.4	
HELL	**Mitchell Peak,**	61.95	65	⇑P		P	10 08 30.2	-0.8	
	baz=62,SNR=18								
M13A	**Montello**	61.96	59	⇓P		P	10 08 31.0	-0.1	
	baz=62,SNR=5.8								
S08C	**White Mtn Res**	61.96	64	P		P	10 08 31.8	+0.7	
	baz=62,SNR=9.9								
RCTC	**Rector, Farmer**	62.05	66	⇑P		P	10 08 31.1	-0.6	
	baz=62								
R09A	**Tonopah**	62.17	63	P		P	10 08 32.6	+0.1	
	baz=62,SNR=27								
TPH	**Tonopah**	62.19	63	*e*P		P	10 08 33.3	+0.7	
TPH				pmax	pmax				
	comp=Z,36nm,1.3s,mb5.3								
TPH	**Tonopah**	62.19	63	*e*P		P	10 08 33.3	+0.7	
	comp=Z,36nm,1.3s,mb5.3								
TPH				*e*PcP		PcP	10 09 13.2	+0.6	
SMMC	**Simmler**	62.20	67	⇓P		P	10 08 33.0	+0.4	
	baz=62								
FLWY	**Flagg Ranch**	62.23	54	*e*P		P	10 08 33.7	+0.8	
	comp=Z,14nm,0.8s,mb5.2								
KULM	**Kulim**	62.23	246	*e*P		P	10 08 33.9	+1.0	
N13A	**Wendover, West**	62.25	59	⇓P		P	10 08 33.3	+0.2	
	baz=62,SNR=6.3								
DCID1	**Drake Creek**	62.26	55	*e*P		P	10 08 34.5	+1.4	
O12A	**Currie**	62.30	60	P		P	10 08 33.7	+0.4	
	baz=62,SNR=16								
RRI2	**Red Ridge**	62.34	55	*e*P		P	10 08 34.4	+0.8	
	comp=Z,26nm,0.8s,mb5.4								
RLMT	**Red Lodge**	62.36	53	*e*P		P	10 08 34.0	+0.2	
	comp=Z,68nm,1.6s,mb5.5								
S09A	**Goldfield**	62.41	63	⇑P		P	10 08 33.9	-0.1	
	baz=62,SNR=8.9								
MOOW	**Moose Ponds**	62.41	55	*e*P		P	10 08 34.7	+0.6	
	comp=Z,29nm,1.4s,mb5.2								
VES	**Vestal, Richgr**	62.44	66	P		P	10 08 33.6	-0.7	
	baz=62,SNR=8.0								
KAKA	**Kakadu**	62.56	205	⇓*i*P		P	10 08 35.0	-0.1	
	comp=Z,49nm,0.8s,mb5.7								
PKM	**Peak Mountain**	62.57	67	⇓P		P	10 08 35.5	+0.4	
	baz=62								
SNOW	**Snow King Moun**	62.59	55	*e*P		P	10 08 35.4	+0.1	
	comp=Z,42nm,1.1s,mb5.5								
REDW	**Red Top Meadow**	62.60	55	*e*P		P	10 08 36.1	+0.7	
	comp=Z,90nm,1.4s,mb5.7								
R10A	**Warm Springs**	62.61	62	⇓P		P	10 08 35.4	-0.1	
	baz=62								
Q11A	**Duckwater**	62.65	62	P		P	10 08 35.5	-0.2	
	baz=62,SNR=6.0								
CWC	**Cottonwood Cre**	62.69	65	⇓P		P	10 08 36.2	+0.2	
	baz=62								
P12A	**McGill**	62.71	61	⇓P		P	10 08 36.0	-0.1	
	baz=62,SNR=6.3								
GRAC	**Grapevine Rang**	62.77	64	⇓P		P	10 08 36.8	+0.2	
	baz=62,SNR=7.1								
DGMT	**Dagmar**	62.87	47	*e*P		P	10 08 36.3	-0.9	
	comp=Z,18nm,0.8s,mb5.2								
BGU	**Big Grassy Mou**	62.90	58	*e*P		P	10 08 37.0	-0.4	
BGU				*e*PcP		PcP	10 09 15.1	-0.4	
SBC	**Santa Barbara**	62.93	68	⇑P		P	10 08 37.5	-0.1	
	baz=63								
ISA	**Isabella**	62.94	66	*e*P		P	10 08 36.7	-0.9	
ISA	**Isabella**	62.94	66	P		P	10 08 36.7	-0.9	
	baz=63,SNR=8.7								
LAO	**LASA Array**	62.98	50	*e*P		P	10 08 38.2	+0.3	
	comp=Z,22nm,0.9s,mb5.3								
SPUT	**South Promonto**	62.99	58	*e*P		P	10 08 34.8	-3.1	
TRCR	**Troy Canyon**	63.01	62	*e*P		P	10 08 38.1	0.0	
Q12A	**Willow Creek R**	63.03	61	P		P	10 08 38.2	0.0	
	baz=63,SNR=7.5								
ARVC	**Arvin**	63.05	67	⇑P		P	10 08 37.7	-0.7	
	baz=63,SNR=5.0								
DAC	**Darwin (Calif)**	63.09	65	*e*P		P	10 08 37.7	-1.0	
DAC				*e*			10 09 16.7		
DAC				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.8								
DAC	**Darwin (Calif)**	63.09	65	*e*P		P	10 08 37.6	-1.0	
	comp=Z,7.3nm,1.0s,mb4.8								
DAC				*e*PcP		PcP	10 09 16.7	+0.5	
MPMC	**Manual Prospec**	63.30	65	⇓P		P	10 08 39.9	-0.1	
	baz=63,SNR=18								
HWUT	**Hardware Ranch**	63.31	57	*e*P		P	10 08 40.3	+0.2	
	comp=Z,22nm,1.2s,mb5.2								
HWUT				*e*PcP		PcP	10 09 17.2	+0.1	
MOR8	**Moi Rana**	63.37	343	*e*P		P	10 08 38.5	-1.9	
MOR8				AMb		AMB	10 08 43.2		
	comp=Z,102nm,1.2s,mb5.8								
MOR8	**Moi Rana**	63.37	343	*e*P		P	10 08 38.5	-1.9	
	comp=Z,102nm,1.2s,mb5.8								
FURC	**Furnace Creek,**	63.43	64	⇓P		P	10 08 40.6	-0.3	
	baz=63,SNR=28								
OSI	**Osito Adit**	63.45	67	⇑P		P	10 08 40.9	-0.1	
	baz=63								
DUG	**Dugway**	63.49	59	*e*P		P	10 08 41.5	+0.2	
DUG				pmax	pmax				
	comp=Z,27nm,1.1s,mb5.3								
DUG	**Dugway**	63.49	59	*e*P		P	10 08 41.5	+0.2	
	comp=Z,27nm,1.1s,mb5.3								
DUG				*e*PcP		PcP	10 09 15.5	-2.4	
DUG	**Dugway**	63.49	59	P		P	10 08 41.5	+0.3	
	baz=63,SNR=22								
LRMC	**Laurel Mountai**	63.55	66	⇑P		P	10 08 41.1	-0.5	
	baz=63,SNR=9.2								
BLG	**Laguna Peak**	63.55	68	⇑P		P	10 08 41.4	-0.3	
	baz=63								
NOQ	**North Oquirrh**	63.60	58	*e*P		P	10 08 42.4	+0.4	
	comp=Z,23nm,1.2s,mb5.1								
BW06	**Boulder Array**	63.71	55	*e*P		P	10 08 42.6	-0.1	
	comp=Z,24nm,1.1s,mb5.1								
PDAR	**Pinedale Array**	63.71	55	P		P	10 08 42.6	-0.1	
	comp=Z,12nm,0.9s,mb4.9,baz=286,slow=2.4,SNR=87								
EDW2	**Edwards Air Fo**	63.74	66	P		P	10 08 43.0	+0.1	
	baz=64,SNR=21								
U10A	**Ash Meadows, A**	63.79	64	⇑P		P	10 08 43.4	+0.1	
	baz=64,SNR=11								
CTU	**Camp Tracy**	63.79	58	*e*P		P	10 08 43.4	+0.2	
DECC	**Green Verdugo**	63.93	67	⇓P		P	10 08 43.8	-0.4	
	baz=64								
JLU	**Jordanelle**	64.02	58	*e*P		P	10 08 45.0	+0.2	
NLU	**North Lily Min**	64.08	59	*e*P		P	10 08 45.3	+0.2	
MWC	**Mount Wilson**	64.12	67	*e*P		P	10 08 45.1	-0.3	
SHOC	**Shoshone**	64.15	64	P		P	10 08 45.6	-0.1	
	baz=64,SNR=8.0								
GSC	**Goldstone**	64.21	65	*e*P		P	10 08 46.0	0.0	
GSC				*e*PcP		PcP	10 09 21.5	+0.7	

PFO **Pinyon Flat Ob** 65.53 66 *e*P P 10 08 54.2 -0.4
PFO **Pinyon Flat Ob** 65.53 66 ⇑P P 10 08 54.0 -0.6
baz=65
SRU **San Rafael** 65.54 58 P P 10 08 54.5 -0.2
SRU pmax pmax
comp=Z,28nm,0.9s,mb5.3
SRU **San Rafael** 65.54 58 *e*P P 10 08 54.8 +0.1
comp=Z,25nm,0.9s,mb5.2
BELC **Belle Mtn** 65.56 66 ⇑P P 10 08 54.1 -0.7
baz=65,SNR=8.8
109C **Camp Elliot, M** 65.59 67 ⇑P P 10 08 54.2 -0.8
baz=65,SNR=5.7
ULM **Lac du Bonnet** 65.67 42 P P 10 08 54.6 -1.0
comp=Z,7.5nm,0.8s,mb4.8,baz=311,slow=5.7,SNR=18
RWWY **Rawlins** 65.73 54 *e*P P 10 08 56.0 +0.1
comp=Z,29nm,1.1s,mb5.2
RSSD **Black Hills** 65.84 51 P P 10 08 56.4 -0.2
RSSD pmax pmax
comp=Z,34nm,1.0s,mb5.3
RSSD **Black Hills** 65.84 51 *e*P P 10 08 56.2 -0.4
comp=Z,31nm,1.0s,mb5.3
NEE2 **Needles Airpor** 65.92 64 ⇑P P 10 08 56.4 -0.7
baz=66
IRM **Iron Mountain** 65.99 65 ⇓P P 10 08 57.3 -0.3
baz=66,SNR=26
OBN **Obninsk** 65.99 326⇑ *i*P P 10 08 57.1 -0.5
OBN *e* 10 09 28.0
OBN *e* 10 11 20.8
OBN *e*S S 10 17 44.7 0.0
OBN *e*SS SS 10 22 00.6 +0.7
OBN pmax pmax
comp=Z,121nm,1.8s,mb5.6
OBN **Obninsk** 65.99 326 *e*P P 10 08 57.2 -0.4
comp=Z,26nm,0.7s,mb5.4
BAR **Barrett** 66.00 67 *e*P P 10 08 57.4 -0.3
MONP **Monument Peak** 66.02 67 P P 10 08 57.7 -0.1
baz=66,SNR=6.5
BC3 **Big Chuckw Mtn** 66.13 66 P P 10 08 58.3 -0.2
baz=66,SNR=14
W13A **Hualapai Mount** 66.15 64 ⇑P P 10 08 58.6 0.0
baz=66,SNR=19
DVTC **Desert V Tower** 66.38 67 P P 10 09 00.1 0.0
baz=66,SNR=6.7
SWSC **Sam W. Stewart** 66.39 67 ⇓P P 10 08 59.6 -0.5
baz=66
X13A **Yucca** 66.52 64 P P 10 09 01.1 +0.1
baz=66,SNR=27
PDMCI **Parker Dam,Lak** 66.52 64 P P 10 09 00.9 -0.1
baz=66,SNR=19
W14A **Seligman** 66.57 63 P P 10 09 01.9 +0.6
baz=66,SNR=41
Y12C **Blythe** 66.65 65 P P 10 09 01.9 +0.1
baz=66,SNR=15
GLA **Glamis** 66.92 66 *e*P P 10 09 03.5 0.0
GLA **Glamis** 66.92 66 P P 10 09 03.6 +0.1
baz=67,SNR=16
CTA **Charters Tower** 67.01 189 *e*P P 10 09 03.7 -0.4
comp=Z,9.2nm,0.8s,mb4.9
CTA *e* 10 09 13.6
CTA **Charters Tower** 67.01 189 P P 10 09 03.8 -0.3
comp=Z,9.6nm,0.7s,mb4.9,baz=16,slow=8.1,SNR=8.1
CTA LR LR 10 36 45.9
comp=Z,150nm,18.7s,MS4.2,baz=43,slow=35
AGMN **Agassiz Refuge** 67.06 43 *e*P P 10 09 03.3 -1.1
comp=Z,57nm,1.4s,mb5.4
W15A **Williams** 67.09 63 P P 10 09 05.6 +1.0
baz=67,SNR=9.2
X14A **Yava** 67.18 64 ⇓P P 10 09 05.5 +0.3
baz=67,SNR=22
WUAZ **Wupatki** 67.41 62 *e*P P 10 09 07.5 +0.9
comp=Z,28nm,1.2s,mb5.2
WUAZ **Wupatki** 67.41 62 ⇓P P 10 09 06.8 +0.1
baz=67
Y14A **Wickenburg** 67.47 64 P P 10 09 07.2 +0.2
baz=67,SNR=25
X15A **Humboldt** 67.57 63 P P 10 09 08.4 +0.7
baz=67,SNR=32
VRSR **Storozhevoye** 67.86 322*d* *i*P P 10 09 09.1 -0.4
VRSR *e*S S 10 18 02.6 -4.6
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.3
VRSR pmax pmax
comp=E,40nm,1.0s
VRSR smax
comp=N,140nm,3.3s
VRSR smax
comp=Z,440nm,5.3s
VRSR smax
comp=E,430nm,3.9s
VRSR MLR MLR
comp=Z,460nm,22.0s,MS4.7
VRSR MLR MLR
comp=N,480nm,21.0s,MS5.0
VRSR MLR MLR
comp=E,720nm,20.0s,MS5.0
Z14A **Wintersburg** 67.89 65 ⇓P P 10 09 09.5 -0.2
baz=68
ISCO **Idaho Springs** 67.90 55 *e*P P 10 09 10.3 +0.6
ISCO pmax pmax
comp=Z,30nm,1.0s,mb5.3
ISCO **Idaho Springs** 67.90 55 *e*P P 10 09 10.3 +0.6
comp=Z,28nm,1.1s,mb5.2
MVCO **Mesa Verde** 67.99 59 *e*P P 10 09 10.0 -0.3
comp=Z,21nm,1.0s,mb5.1
MVCO **Mesa Verde** 67.99 59 P P 10 09 10.2 -0.1
baz=68,SNR=15
VORD **Divnogorie** 68.00 322 *e*P P 10 09 06.1 -4.3
VORD pmax pmax
comp=Z,30nm,1.0s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
HYB **Hyderabad** 68.26 273 *i* P P 10 09 13.0 +1.0
HYB *e*sP sP 10 09 19.0 -0.2
HYB **Hyderabad** 68.26 273 *e*P P 10 09 13.0 +1.0
NB2 **NORSAR Subarra** 68.60 342 P P 10 09 13.6 -0.5
comp=Z,9.7nm,0.7s,mb4.8,baz=26,slow=6.5
NOA **NORSAR Array B** 68.60 342 P P 10 09 13.6 -0.5
comp=Z,21nm,0.8s,mb5.1,baz=28,slow=6.1,SNR=37
NOA LR LR 10 38 55.6
comp=Z,361nm,21.6s,MS4.6,baz=0,0,slow=36
115A **Sonoran Desert** 68.78 65 ⇑P P 10 09 15.5 +0.3
baz=68,SNR=15
BORG **Borgarnes** 68.78 358 *e*P P 10 09 21.8 +6.5
comp=Z,119nm,1.5s,mb5.6
NAO01 **NORSAR Array S** 68.85 342 *e*P P 10 09 15.3 -0.3
comp=Z,22nm,0.8s,mb5.1
WRAB **Tennant Creek** 68.95 201 P P 10 09 16.0 -0.3
comp=Z,211nm,0.9s,mb6.1,SNR=13
WRAB **Tennant Creek** 68.95 201 P P 10 09 16.1 -0.3
WB2 **Warramunga Arr** 68.96 201 ⇓*i*P P 10 09 15.9 -0.5
WB2 **Warramunga Arr** 68.96 201 *e*P P 10 09 15.9 -0.5
WRA **Warramunga Arr** 68.97 201 P P 10 09 15.9 -0.5
comp=Z,18nm,0.8s,mb5.1,baz=18,slow=6.8,SNR=111
WRA LR LR 10 35 47.9
comp=Z,135nm,22.0s,MS4.1,baz=35,slow=33
116A **Eloy** 69.20 64 P P 10 09 18.1 +0.3
baz=69,SNR=14
DZM **Mont Dzumac** 69.31 169 P P 10 09 19.1 +0.6
comp=Z,15nm,0.9s,mb4.9,baz=43,slow=11,SNR=7.3
EYMN **Ely** 69.33 41 *e*P P 10 09 17.6 -1.0
comp=Z,27nm,1.1s,mb5.1
SDCO **Great Sand Dun** 69.37 57 *e*P P 10 09 19.1 +0.2
comp=Z,52nm,1.6s,mb5.2
HYA **Hoyanger** 69.48 344 *e*P P 10 09 20.0 +0.4
HYA AMb AMB 10 09 26.3
comp=Z,94nm,1.2s,mb5.6
HYA **Hoyanger** 69.48 344 *e*P P 10 09 20.6 +1.0
comp=Z,94nm,1.2s,mb5.6
MNK **Minsk** 69.63 330 *e*P P 10 09 17.0 -3.5
FITZ **Fitzroy Crossi** 69.78 210 *e*P P 10 09 21.8 +0.4
comp=Z,22nm,0.7s,mb5.2
FITZ *e* 10 09 32.2
FITZ **Fitzroy Crossi** 69.78 210 P P 10 09 21.8 +0.4
comp=Z,14nm,0.8s,mb4.9,baz=27,slow=6.4,SNR=28
TUC **Tucson** 69.94 64 P P 10 09 22.4 0.0
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TUC **Tucson** 69.94 64 *e*P P 10 09 22.4 -0.1
comp=Z,7.9nm,0.9s,mb4.6
ECSD **EROS,Sioux Fal** 69.95 47 *e*P P 10 09 21.3 -1.2
comp=Z,14nm,0.9s,mb4.9
KONO **Kongsberg** 70.21 342⇑ *e*P P 10 09 24.0 -0.1
KONO **Kongsberg** 70.21 342 *e*P P 10 09 24.2 +0.2
comp=Z,58nm,1.0s,mb5.5
ASK **Askoy** 70.30 345 *e*P P 10 09 25.1 +0.4
BER **Bergen** 70.37 345 *e*P P 10 09 25.4 +0.4
BER AMb AMB 10 09 33.5
comp=Z,179nm,1.3s,mb5.8
BER **Bergen** 70.37 345 *e*P P 10 09 25.4 +0.4
comp=Z,179nm,1.3s,mb5.8
EGD **Espegrend** 70.49 345 *e*P P 10 09 26.4 +0.5
ODD1 **Odda** 70.56 344 *e*P P 10 09 25.4 -0.8
ODD1 AMb AMB 10 09 31.3
comp=Z,120nm,1.2s,mb5.7
ODD1 **Odda** 70.56 344 *e*P P 10 09 25.4 -0.8
comp=Z,120nm,1.2s,mb5.7
POO **Poona** 70.71 277 *ex* P 10 09 25.0 -2.1
LAZ **Ladron** 70.72 60 *e*P P 10 09 27.0 -0.2
ANMO **Albuquerque** 70.74 59⇑ *i*P P 10 09 26.2 -1.1
ANMO **Albuquerque** 70.74 59 *e*P P 10 09 27.7 +0.4
comp=Z,7.6nm,0.8s,mb4.7
LENM **Lemitar** 70.98 60 *e*P P 10 09 29.0 +0.2
BLS5 **Blasjo** 71.05 344 *e*P P 10 09 31.0 +1.8
BLS5 AMb AMB 10 09 49.4
comp=Z,53nm,1.2s,mb5.3
BLS5 **Blasjo** 71.05 344 *e*P P 10 09 31.0 +1.8
comp=Z,53nm,1.2s,mb5.3
LPM **Los Pinos Moun** 71.08 60 *e*P P 10 09 29.5 +0.1
LPM *e*PcP PcP 10 09 49.7 +0.1
BNM **Barren Site** 71.19 60 *e*P P 10 09 30.5 +0.4
KAD **Karad** 71.33 276 *e*P P 10 09 31.9 +1.0
KAD AMb AMB 10 09 33.8
comp=Z,56nm,1.1s,mb5.4
SUW **Suwalki** 71.57 332 *e*P P 10 09 31.5 -0.8
SUW *e* 10 09 51.3
SUW pmax pmax
comp=Z,86nm,1.0s,mb5.6
SUW **Suwalki** 71.57 332 *e*P P 10 09 31.5 -0.8
comp=Z,86nm,1.0s,mb5.6
SUW *e*PcP PcP 10 09 51.3 -0.4
KIV **Kislovodsk** 71.68 315 P P 10 09 34.9 +1.9
SNR=7.3
KIV **Kislovodsk** 71.68 315⇑ *i*P P 10 09 34.5 +1.5
KIV *e* 10 09 51.0
KIV *e* 10 12 10.0
KIV *e*S S 10 18 53.8 +1.8
KIV *e*SS SS 10 23 29.8 +2.2
KIV pmax pmax
comp=Z,78nm,1.6s,mb5.4
KIV **Kislovodsk** 71.68 315 *e*P P 10 09 35.3 +2.3
comp=Z,58nm,0.8s,mb5.6
CBKS **Cedar Bluff** 71.84 52 *e*P P 10 09 33.1 -0.9
CBKS pmax pmax
comp=Z,38nm,1.1s,mb5.2
CBKS **Cedar Bluff** 71.84 52 *e*P P 10 09 33.1 -0.9
comp=Z,38nm,1.1s,mb5.2
ZEI **Tsey** 71.96 314 *e*P P 10 09 35.2 +0.5
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.0
AKASG **Malin Array Be** 72.22 327 P P 10 09 35.1 -1.1
comp=Z,8.9nm,0.5s,mb5.0,baz=34,slow=6.1,SNR=57
AKASG LR LR 10 45 13.7
comp=Z,392nm,19.1s,MS4.7,baz=40,slow=39
AKBB **Malin Array Si** 72.22 327 P P 10 09 35.7 -0.5
AKBB **Malin Array St** 72.22 327 *e*P P 10 09 35.5 -0.7
KIEV **Kiev** 72.23 327 *e*P P 10 09 35.2 -1.1
KIEV pmax pmax
comp=Z,31nm,0.7s,mb5.3
KIEV **Kiev** 72.23 327 *e*P P 10 09 35.1 -1.1
comp=Z,31nm,0.7s,mb5.3
ONI **Oni** 72.32 314 P P 10 09 37.8 +0.9
ONI **Oni** 72.32 314 P P 10 09 37.2 +0.3
AS31 **Alice Springs** 72.65 200 *e*P P 10 09 39.2 +0.4
AS31 *e* 10 09 49.6
ASAR **Alice Springs** 72.65 200 P P 10 09 39.3 +0.5
comp=Z,28nm,0.8s,mb5.2,baz=14,slow=6.1,SNR=264
ASAR LR LR 10 41 03.5
comp=Z,131nm,20.4s,MS4.2,baz=14,slow=35
ASPA **Alice Springs** 72.65 200 *e*P P 10 09 39.3 +0.5
ASPA *e* 10 09 49.6
SCHQ **Schefferville** 72.79 24 P P 10 09 39.0 -0.6
comp=Z,9.3nm,0.8s,mb4.8,baz=332,slow=5.0,SNR=13
SCHQ **Schefferville** 72.79 24 P P 10 09 39.0 -0.7
SCIA **State Center** 72.99 46 *e*P P 10 09 40.0 -0.8
comp=Z,43nm,0.9s,mb5.4
BSD **Bornholm Skovb** 73.03 337 *i* P P 10 09 44.8 +3.7
comp=Z,118nm,1.2s,mb5.7
BSD **Bornholm Skovb** 73.03 337 *e*P P 10 09 44.8 +3.7
BSD pmax pmax
comp=Z,120nm,1.2s,mb5.7
BSD **Bornholm Skovb** 73.03 337 *e*P P 10 09 44.8 +3.7
comp=Z,119nm,1.2s,mb5.7
COP **Copenhagen** 73.15 339 *i* P P 10 09 42.8 +1.0
comp=Z,81nm,1.2s,mb5.5
COP *i* 10 10 26.7
COP **Copenhagen** 73.15 339 *i* P P 10 09 42.8 +1.0
COP pmax pmax
comp=Z,81nm,1.2s,mb5.5
MUD **Monsted U'grnd** 73.22 341 *i* P P 10 09 42.2 0.0
comp=Z,28nm,0.8s,mb5.2
MUD **Monsted U'grnd** 73.22 341 *i* P P 10 09 42.2 0.0
MUD pmax pmax
comp=Z,28nm,0.8s,mb5.2
SOC **Sochi** 73.38 317 *e*P P 10 09 41.4 -1.7
SOC *e* 10 09 58.2
SOC *e*S S 10 19 16.3 +4.8
SOC *e* 10 19 53.3
SOC *e*SS SS 10 24 00.5 +6.9
SOC pmax pmax
comp=Z,43nm,0.8s,mb5.4
GNI **Garni** 73.47 311 P P 10 09 45.6 +1.9
comp=Z,4.0nm,0.3s,mb4.8,baz=42,slow=2.3,SNR=4.8
GNI LR LR 10 46 19.9
comp=Z,599nm,18.6s,MS4.9,baz=55,slow=39
GNI **Garni** 73.47 311⇑ *e*P P 10 09 45.3 +1.7
GNI pmax pmax
comp=Z,39nm,1.4s
ANN **Anapa** 73.50 319 *e*P P 10 09 47.3 +3.5
ANN pmax pmax
comp=Z,44nm,1.1s,mb5.3
AMTX **Amarillo** 73.57 56 *e*P P 10 09 44.0 -0.2
AMTX *e*PcP PcP 10 10 00.2 +0.1
MNTX **Cornudas Mount** 73.66 61 *e*P P 10 09 44.6 -0.2
comp=Z,27nm,1.2s,mb5.0
JFWS **Jewell Farm** 73.68 44 *e*P P 10 09 43.5 -1.4
GDL2 **Guadalupe Moun** 73.91 60 *e*P P 10 09 46.2 0.0
PALK **Pallekele** 73.95 263 P P 10 09 47.0 +0.5
comp=Z,255nm,0.9s,mb6.2,SNR=5.2
PALK **Pallekele** 73.95 263 P P 10 09 47.9 +1.4
SNR=7.3
PALK **Pallekele** 73.95 263 *e*P P 10 09 47.8 +1.3
comp=Z,44nm,1.0s,mb5.3
MBWA **Marble Bar** 74.72 214 *e*P P 10 09 50.9 -0.1
comp=Z,17nm,0.9s,mb5.0
SIM **Simferopol'** 74.85 321 P P 10 09 52.5 +0.8
SIM *e*S S 10 19 21.0 -7.1
SIM MLR MLR
comp=Z,500nm,18.0s,MS4.8
WMOK **Wichita Mounta** 75.32 55 *e*P P 10 09 53.8 -0.6
comp=Z,18nm,0.9s,mb5.0
KIS **Kishinev** 75.39 325 *e*P P 10 09 53.0 -1.8
KIS *i* 10 10 14.0
KIS **Kishinev** 75.39 325 *i* P P 10 09 53.0 -1.8
KIS LRM 10 48 50.0
comp=Z,500nm,15.0s
KWP **Kalwaria** 75.44 330 *e*P P 10 09 55.6 +0.5
KWP L 10 40 05.8
comp=Z,0.6nm,37.9s
KWP **Kalwaria** 75.44 330 P P 10 09 55.5 +0.4
KWP pmax pmax
comp=Z,160nm,1.0s,mb5.9
TRD **Trivandrum** 75.63 267 *e*P P 10 09 57.7 +1.5
TRD AMb AMB 10 09 58.6
comp=Z,28nm,0.5s,mb5.5
OJC **Ojcow** 75.90 332 *e*P P 10 09 57.1 -0.6
HAKT **HAKKARI** 75.94 310 *i* P P 10 09 58.8 +0.8
LPIG **La Paz** 75.94 70 LR LR 10 36 23.4
comp=Z,134nm,20.6s,MS4.2,baz=324,slow=30
STHS **Stebnicka Huta** 76.12 331 *i* P P 10 09 59.6 +0.6
STHS pmax pmax
comp=Z,36nm,0.9s,mb5.3
STHS **Stebnicka Huta** 76.12 331 *i* P P 10 09 59.6 +0.6
comp=Z,36nm,0.9s,mb5.3
KOLS **Kolonicke sedl** 76.18 330 *e*P P 10 09 59.6 +0.2
KOLS *e*PP PP 10 12 47.3 -3.1
BNGL **BINGOL** 76.20 313 *i* P P 10 10 01.0 +1.6
KELT **Kelkit** 76.22 315 *i* P P 10 10 00.9 +1.3
BURAR **Bucovina Array** 76.25 328⇓ *i*P P 10 09 59.6 -0.1
LTX **Lajitas** 76.38 62 *e*P P 10 10 00.7 +0.2
comp=Z,31nm,0.6s,mb5.4
TXAR **Lajitas Array** 76.38 62 P P 10 10 00.6 +0.1
comp=Z,46nm,0.7s,mb5.5,baz=300,slow=4.2,SNR=586
TXAR **Lajitas Array** 76.38 62 P P 10 10 00.6 +0.1
NIE **Niedzica** 76.42 331 *e*P P 10 10 01.1 +0.4
KSP **Ksiaz** 76.43 334 *e*P P 10 10 00.8 0.0
KSP L 10 48 37.8
comp=Z,1.1nm,19.5s
KSP **Ksiaz** 76.43 334 *e*P P 10 10 00.7 -0.1
KSP *e*pP pP 10 10 04.8 -1.3
KSP LR LR
comp=Z,1μm,19.5s,MS5.2
UZH **Uzhgorod** 76.43 330⇑ *i*P P 10 10 00.0 -0.8
UZH *i* 10 10 09.0
OKC **Ostrava-Krasne** 76.75 333 *e*P P 10 10 02.8 +0.2
OKC *e*pP pP 10 10 07.3 -0.6
UPC **Upice** 76.81 334 *e*P P 10 10 03.0 +0.1
UPC *e*pP pP 10 10 07.1 -1.1
DPC **Dobruska-Polom** 76.86 334 *e*P P 10 10 03.6 +0.4
DPC *e*pP pP 10 10 07.7 -0.8
DPC AMS AMS 10 48 40.0
comp=Z,900nm,20.6s
CCM **Cathedral Cave** 76.89 48 *e*P P 10 09 56.5 -6.8
CCM pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CCM **Cathedral Cave** 76.89 48 *e*P P 10 09 56.5 -6.8
comp=Z,9.4nm,0.8s,mb4.8
CLL **Collm** 76.95 337 *e*P P 10 10 03.0 -0.7
CLL *e* pP 10 10 08.0 -1.0
CLL pmax pmax
comp=Z,55nm,1.2s,mb5.4
CLL **Collm** 76.95 337 *e*P P 10 10 03.0 -0.7
comp=Z,55nm,1.2s,mb5.4
CLL *e* pP 10 10 08.0 -1.0
CLL **Collm** 76.95 337⇓ *i*P P 10 10 03.2 -0.5
comp=Z,55nm,1.2s,mb5.4
CLL *i* pP pP 10 10 07.5 -1.5
CLL *i* sP sP 10 10 08.6 -2.4
comp=Z,106nm,1.0s
CLL *i* sPcP 10 10 19.7
CLL LmV 10 45 00.0
comp=Z,400nm,21.1s
MORC **Moravsky Berou** 76.99 333⇓ *i*P P 10 10 04.0 +0.1
MORC **Moravsky Berou** 76.99 333 *e*P P 10 10 04.0 +0.1
comp=Z,31nm,0.8s,mb5.3
BRG **Berggiesshubel** 77.08 336 *i* P P 10 10 04.1 -0.4
comp=Z,14nm,1.3s,mb4.7
BRG *i* pP 10 10 09.2 -0.6
comp=Z,28nm,1.2s
BRG *i* 10 10 20.3
comp=Z,14nm,1.1s
BRG *e* 10 13 00.2
comp=Z,8.5nm,1.3s
BRG
comp=N,311nm,22.6s
BRG
comp=E,345nm,26.7s
BRG
comp=Z,448nm,21.8s
BRG **Berggiesshubel** 77.08 336 *i* P P 10 10 04.1 -0.3
BRG *i* 10 10 20.3
BRG *e* 10 13 00.2
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BRG MLR MLR
comp=N,311nm,22.6s,MS4.7
BRG MLR MLR
comp=E,345nm,26.7s,MS4.7
BRG MLR MLR
comp=Z,448nm,21.8s,MS4.8
BRG **Berggiesshubel** 77.08 336 *i* P P 10 10 04.1 -0.4
comp=Z,14nm,1.3s,mb4.7
BRG *i* pP 10 10 09.2 -0.6
BRG *i* 10 10 20.3
BRG *e* 10 13 00.2
BRG LR LR
comp=Z,450nm,21.8s,MS4.8
LIKS **Likavka** 77.14 332 *e*P P 10 10 02.3 -2.4
LIKS pmax pmax
comp=Z,28nm,0.6s,mb5.4
LIKS **Likavka** 77.14 332 *e*P P 10 10 02.3 -2.4
comp=Z,28nm,0.6s,mb5.4
VRI **Vrincioaia** 77.14 326 P P 10 10 05.6 +0.8
CFR **Carcaliu** 77.16 324 P P 10 10 06.0 +1.1
KECS **Kecovo** 77.17 331 *i* P P 10 10 04.7 -0.3
KECS pmax pmax
comp=Z,13nm,0.9s,mb4.9
KECS **Kecovo** 77.17 331 *i* P P 10 10 04.7 -0.3
comp=Z,13nm,0.9s,mb4.9
PLOR **Plostina** 77.19 326⇑ *i*P P 10 10 06.3 +1.3
MSL **Mosul** 77.21 310 *i* x x 10 10 07.0
MSL *ex* x 10 19 54.0
PVCC **Panska Ves** 77.22 335 *e*P P 10 10 05.4 +0.2
PVCC *e*pP pP 10 10 09.3 -1.2
BOYT **Boyabat** 77.29 318 *i* P P 10 10 06.8 +1.2
FVM **French Village** 77.36 47 *e*P P 10 10 05.0 -1.0
FVM pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
FVM **French Village** 77.36 47 *e*P P 10 10 05.0 -1.0
comp=Z,10nm,0.6s,mb4.9
WSAR **Wadi Sarin** 77.56 291 P P 10 10 09.1 +2.0
comp=Z,3.8nm,1.1s,baz=35,slow=12,SNR=2.5
WSAR LR LR 10 49 40.9
comp=Z,155nm,18.3s,MS4.4,baz=56,slow=40
WSAR **Wadi Sarin** 77.56 291 P P 10 10 09.1 +2.0
WSAR LR LR 10 49 41.0
ELZG **Elazig** 77.63 314 *i* P P 10 10 09.2 +1.6
MARD **Mardin** 77.64 312 *i* P P 10 10 07.3 -0.3
TIRR **Tirgusor** 77.64 324⇓ *i*P P 10 10 07.8 +0.2
TIRR **Tirgusor** 77.64 324 P P 10 10 08.0 +0.4
comp=Z,0.6nm,1.0s
VRAC **Vranov** 77.70 334⇓ *i*P P 10 10 08.3 +0.4
VRAC **Vranov** 77.70 334 P P 10 10 08.7 +0.8
VYHS **Vyhne** 77.71 332 *i* P P 10 10 08.0 0.0
VYHS *e*pP pP 10 10 12.9 -0.4
VYHS *e*PP PP 10 12 57.8 -5.4
VYHS **Vyhne** 77.71 332 *i* P P 10 10 08.0 0.0
VYHS *e* pP 10 10 12.9 -0.4
VYHS pmax pmax
comp=Z,19nm,1.0s,mb5.0
VYHS **Vyhne** 77.71 332 *i* P P 10 10 08.0 0.0
comp=Z,19nm,1.0s,mb5.0
VYHS *e* pP 10 10 12.9 -0.4
VYHS *e*PP PP 10 12 57.9 -5.3
MLR **Muntele Rosu** 77.76 326⇓ *i*P P 10 10 08.5 +0.3
JCT **Junction City** 77.85 58 *e*P P 10 10 08.3 -0.5
comp=Z,45nm,1.0s,mb5.3
DRGR 77.86 329⇑ *i*P P 10 10 08.5 -0.3
DRGR 77.86 329 P P 10 10 09.0 +0.2
PSZ **Piszkesteto** 77.86 331⇑ *i*P P 10 10 09.3 +0.5
PSZ **Piszkesteto** 77.86 331 *e*P P 10 10 09.1 +0.3
PSZ pmax pmax
comp=Z,37nm,1.0s,mb5.3
PSZ **Piszkesteto** 77.86 331 *e*P P 10 10 09.1 +0.3
comp=Z,37nm,1.0s,mb5.3
PSZ **Piszkesteto** 77.86 331⇓ *e*P P 10 10 09.3 +0.5
BALT **Daday** 77.89 319 *i* P P 10 10 09.9 +0.9
WTSB **Winterswijk** 77.91 340 *e*P P 10 10 08.9 -0.2
comp=Z,49nm,0.9s,mb5.5
MOX **Moxa** 77.93 337 *e*P P 10 10 08.2 -1.0
MOX *e* pP 10 10 14.4 -0.1
comp=Z,101nm,1.6s
MOX **Moxa** 77.93 337 *e*P P 10 10 08.2 -1.0
comp=Z,101nm,1.6s,mb5.5
MOX *e* pP 10 10 14.4 -0.1
CTKT **Corum** 77.98 318 *i* P P 10 10 10.1 +0.6
MALT **Malatya** 78.05 314⇓ *i*P P 10 10 11.4 +1.5
MALT **Malatya** 78.05 314 *e*P P 10 10 11.5 +1.6
MALT pmax pmax
comp=Z,44nm,1.1s,mb5.3
MALT **Malatya** 78.05 314 *e*P P 10 10 11.5 +1.7
comp=Z,44nm,1.1s,mb5.3
NKC **Novy Kostel** 78.08 336 *e*P P 10 10 10.2 +0.2
NKC *e*pP pP 10 10 14.6 -0.7
SMOL **Smolenice** 78.14 333 *e*P P 10 10 11.3 +0.9
SMOL *e*pP pP 10 10 14.9 -0.8
VOIR 78.15 326⇑ *i*P P 10 10 11.0 +0.6
SIUC **Southern Illin** 78.17 47 *e*P P 10 10 09.8 -0.8
comp=Z,36nm,1.0s,mb5.3
BLO **Bloomington** 78.36 44 *e*P P 10 10 10.3 -1.3
BLO pmax pmax

comp=Z,25nm,0.8s,mb5.2
BLO Bloomington 78.36 44 *e*P **P 10 10 10.3 -1.2**
comp=Z,25nm,0.8s,mb5.2
JMDO Jabal Madar 78.52 290 ⇑P **P 10 10 13.2 +0.8**
SNR=9.7
ZST Bratislava 78.53 333 *e*P **P 10 10 13.0 +0.5**
ZST pmax pmax
comp=Z,32nm,1.1s,mb5.2
ZST MLR MLR
comp=Z,700nm,18.3s,MS5.0
ZST Bratislava 78.53 333 *e*P **P 10 10 13.0 +0.5**
comp=Z,32nm,1.1s,mb5.2
ZST LR LR
comp=Z,700nm,18.3s,MS5.0
BUD Budapest 78.53 331⇑*e*P **P 10 10 13.5 +1.0**
USIN University of 78.75 46 *e*P **P 10 10 13.1 -0.7**
comp=Z,56nm,1.1s,mb5.4
KHC Kasperske Hory 78.75 335 *e*P **P 10 10 14.0 +0.3**
KHC *e*pP pP 10 10 19.4 +0.3
KHC AMS AMS 10 45 00.0
comp=Z,800nm,27.3s
KHC Kasperske Hory 78.75 335⇑*e*P **P 10 10 13.9 +0.2**
BSY Bisya 78.83 291 ⇑P **P 10 10 15.6 +1.4**
SNR=7.5
GRA1 Grafenberg Arr 78.90 337 *e*P **P 10 10 14.9 +0.4**
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 78.90 337 *e*P **P 10 10 14.9 +0.4**
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 78.90 337 *e*P **P 10 10 14.9 +0.4**
GRF pmax pmax
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 78.90 337 *e*P **P 10 10 14.9 +0.4**
GRF pmax pmax
comp=Z,117nm,1.1s,mb5.7
GRFO Grafenberg 78.90 337 *e*P **P 10 10 15.3 +0.7**
GRFO pmax pmax
comp=Z,65nm,0.8s,mb5.6
GRFO Grafenberg 78.90 337 *e*P **P 10 10 15.3 +0.8**
comp=Z,65nm,0.8s,mb5.6
CDAG Cicekdag 78.97 317 *i* P **P 10 10 15.2 +0.3**
GEC2 GERESS Array S 78.97 335 P **P 10 10 15.3 +0.3**
GEC2 GERESS Array S 78.97 335 *e*P **P 10 10 14.9 -0.1**
GERES GERESS Array B 78.97 335 P **P 10 10 15.2 +0.3**
comp=Z,3.9nm,0.4s,mb4.7,baz=34,slow=5.0,SNR=39
GERES LR LR 10 50 03.6
comp=Z,364nm,18.9s,MS4.7,baz=22,slow=39
LONY Lake Ozonia 79.05 34 *e*P **P 10 10 14.2 -1.2**
DLF Lyons Farm 79.06 349 *e*P **P 10 10 13.0 -2.4**
DCN Croghan 79.11 349 *e*P **P 10 10 14.0 -1.7**
CONA Conrad Observa 79.15 333⇑P **P 10 10 16.1 +0.2**
comp=Z,41nm,1.3s,mb5.2,SNR=6.5
SOP Sopron 79.15 333⇑*e*P **P 10 10 17.2 +1.3**
STKA Stephens Creek 79.21 192 *e*P **P 10 10 15.8 -0.4**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 79.21 192 P **P 10 10 16.0 -0.2**
comp=Z,12nm,0.8s,mb4.9,baz=347,slow=6.9,SNR=24
STKA LR LR 10 45 15.1
comp=Z,265nm,18.9s,MS4.6,baz=26,slow=36
STKA Stephens Creek 79.21 192 *e*P **P 10 10 15.7 -0.5**
WCI Wyandotte Cave 79.21 45 P **P 10 10 15.8 -0.5**
WCI pmax pmax
comp=Z,200nm,1.7s,mb5.8
WCI Wyandotte Cave 79.21 45 *e*P **P 10 10 15.8 -0.5**
comp=Z,202nm,1.7s,mb5.8
GZT Gaziantep 79.22 314 *i* P **P 10 10 17.3 +1.0**
HGN Heimansgroeve 79.23 341 *e*P **P 10 10 15.6 -0.8**
comp=Z,67nm,1.2s,mb5.4
BEBN Eben Emael 79.26 341 P **P 10 10 16.9 +0.4**
BEBN E 10 10 18.2
BZS Buzias 79.26 329⇑*i*P **P 10 10 16.3 -0.2**
SGKT Sivrigoynuk 79.26 319 *i* P **P 10 10 17.7 +1.2**
ALLY Alegheny Colle 79.27 39 *e*P **P 10 10 16.6 0.0**
MEM Membach 79.36 340 P **P 10 10 17.3 +0.3**
MEM AP pP 10 10 22.8 +0.4
AVNT Avonos 79.41 317 *i* P **P 10 10 17.9 +0.5**
TOD Tromm 79.61 338 *e*P **P 10 10 18.5 +0.1**
ABH Alteburg 79.67 339 *e*P **P 10 10 18.7 0.0**
BCLA Clavier 79.69 341 P **P 10 10 18.9 0.0**
BCLA AP pP 10 10 20.9 -3.3
BCLA XP sP 10 10 24.8 -1.4
MOA Molln 79.70 334⇓*i*P **P 10 10 19.6 +0.6**
comp=Z,22nm,0.9s,mb5.1,SNR=7.7
MIB Mutribah 79.72 303 *e*P **P 10 10 19.2 +0.2**
MIB AMb AMB 10 10 22.5
comp=Z,57nm,0.7s,mb5.6
NCB Newcomb 79.74 34 *e*P **P 10 10 18.4 -0.8**
comp=Z,39nm,1.2s,mb5.2
PKSM Moragy 79.77 331⇓*i*P **P 10 10 18.7 -0.6**
PKSM Moragy 79.77 331 P **P 10 10 18.9 -0.3**
TAOE Nuku Hiva Isla 79.81 115 *e*LR LR 10 34 45.7
comp=Z,2μm,23.4s,baz=328
SNF Seneffe 79.84 341 P **P 10 10 19.9 +0.2**
SNF AP pP 10 10 22.0 -2.9
SNF XP sP 10 10 23.9 -3.0
SNF PCP PcP 10 10 25.4 -1.8
ARSA Arzberg 79.86 333⇑*i*P **P 10 10 20.6 +0.8**
comp=Z,36nm,1.2s,mb5.2
KBD Kabd 79.98 302 *e*P **P 10 10 20.5 +0.1**
GIVF Givet 80.10 341 *e*P **P 10 10 20.9 -0.2**
comp=Z,110nm,1.2s,mb5.4
GIVF Givet 80.10 341 *e*P **P 10 10 20.9 -0.2**
GIVF pmax pmax
comp=Z,55nm,1.2s,mb5.4
GIVF Givet 80.10 341 *e*P **P 10 10 20.9 -0.2**
comp=Z,55nm,1.2s,mb5.4
WVT Waverly 80.10 47 *e*P **P 10 10 20.4 -0.7**
WVT pmax pmax
comp=Z,14nm,0.9s,mb4.9
WVT Waverly 80.10 47 *e*P **P 10 10 20.4 -0.7**
comp=Z,14nm,0.9s,mb4.9
DOU Dourbes 80.16 341 ⇓P **P 10 10 21.4 0.0**
DOU AP pP 10 10 24.9 -1.8
DOU XP sP 10 10 26.2 -2.4
DOU PCP PcP 10 10 27.3 -1.3
QRN Al-Qurain 80.17 302 *e*P **P 10 10 21.2 -0.3**
NAY Al-Naaiem 80.19 302 *e*P **P 10 10 21.4 -0.1**
NAY AMb AMB 10 10 27.9
comp=Z,40nm,1.2s,mb5.2
WLF Walferdange 80.20 340 E **P 10 10 23.6 +2.0**
WLF PCP PcP 10 10 28.2 -0.6
RDF Al-Radifah 80.25 302 *e*P **P 10 10 21.3 -0.6**
RDF AMb AMB 10 10 35.0
comp=Z,95nm,0.7s,mb5.8
BAIF Baives 80.28 341⇓*i*P **P 10 10 21.9 -0.1**
comp=Z,29nm,0.7s,mb5.0
BAIF Baives 80.28 341⇓*i*P **P 10 10 21.9 -0.1**
BAIF pmax pmax
comp=Z,15nm,0.6s,mb5.1
BAIF Baives 80.28 341⇓*i*P **P 10 10 21.9 -0.1**
comp=Z,15nm,0.6s,mb5.1
STU Stuttgart 80.28 338 *e*P **P 10 10 22.0 0.0**
STU pmax pmax
comp=Z,52nm,0.9s,mb5.5
STU Stuttgart 80.28 338 *e*P **P 10 10 22.0 0.0**
comp=Z,52nm,0.9s,mb5.5
LANF Langenberg 80.44 339 *e*P **P 10 10 23.4 +0.5**
COBT Iskenderun 80.53 314 *i* P **P 10 10 24.0 +0.7**
PERS Pernice 80.53 333 *e*P **P 10 10 23.4 0.0**
PERS *e* pP 10 10 29.0 +0.3
BINY Binghamton 80.55 36 *e*P **P 10 10 23.3 -0.2**
ESKT Eskisehir 80.66 320 *i* P **P 10 10 24.2 +0.2**
KBA Koelnbreinsper 80.67 335⇑*i*P **P 10 10 25.2 +1.1**
comp=Z,26nm,0.8s,mb5.2,SNR=12
KBA Koelnbreinsper 80.67 335⇑*i* pP 10 10 30.9 +1.4
comp=Z,126nm,1.0s
KBA Koelnbreinsper 80.67 335 pP 10 10 30.9 +1.4
comp=Z,126nm,1.0s
KBA Koelnbreinsper 80.67 335 P **P 10 10 25.2 +1.1**
KBA *e* pP 10 10 30.9 +1.4
OBKA Obir 80.82 334⇑*i*P **P 10 10 25.3 +0.4**
comp=Z,8.0nm,0.7s,mb4.8
KDHN Kadinhani 80.89 318 *i* P **P 10 10 25.3 0.0**
ULDT Uludag 80.90 321 *i* P **P 10 10 25.6 +0.2**
BFO Black Forest 80.91 338 P **P 10 10 25.5 +0.1**
comp=Z,247nm,1.1s,mb6.0,SNR=8.2
BFO Black Forest 80.91 338 *e*P **P 10 10 25.6 +0.2**
BFO pmax pmax
comp=Z,57nm,1.1s,mb5.4
BFO Black Forest 80.91 338 *e*P **P 10 10 25.6 +0.2**
comp=Z,57nm,1.1s,mb5.4
FORT Forrest 80.92 203 *e*P **P 10 10 25.7 +0.2**
comp=Z,44nm,0.9s,mb5.4
WATA Walderalm 80.95 336⇑*i*P **P 10 10 26.5 +0.9**
comp=Z,20nm,0.8s,mb5.1
WATA Walderalm 80.95 336⇓*i* pP 10 10 32.6 +1.6
comp=Z,32nm,0.7s
WATA Walderalm 80.95 336 pP 10 10 32.6 +1.6
comp=Z,32nm,0.7s
WATA Walderalm 80.95 336 P **P 10 10 26.5 +0.9**
WATA *e* pP 10 10 32.6 +1.6
WTTA Wattenberg 81.00 336⇑*i*P **P 10 10 26.7 +0.8**
comp=Z,59nm,1.3s,mb5.4,SNR=24
WTTA Wattenberg 81.00 336⇑*i* pP 10 10 32.7 +1.4
comp=Z,152nm,1.3s
WTTA Wattenberg 81.00 336 pP 10 10 32.7 +1.4
comp=Z,152nm,1.3s
WTTA Wattenberg 81.00 336 P **P 10 10 26.7 +0.8**
WTTA *e* pP 10 10 32.7 +1.4
MCWV Mont Chateau 81.04 40 *e*P **P 10 10 25.8 -0.3**
comp=Z,50nm,1.0s,mb5.4
GCIS Gornji Cirnik 81.06 333 *e*P **P 10 10 26.0 -0.2**
GCIS *e* pP 10 10 31.5 -0.1
SSPA Standing Stone 81.07 38 *e*P **P 10 10 26.2 -0.1**
comp=Z,28nm,1.1s,mb5.1
MOTA Moosalm 81.07 336⇓*i*P **P 10 10 27.1 +0.8**
comp=Z,38nm,0.9s,mb5.3,SNR=17
MOTA Moosalm 81.07 336⇓*i* pP 10 10 33.1 +1.5
comp=Z,122nm,1.0s
MOTA Moosalm 81.07 336 pP 10 10 33.1 +1.5
comp=Z,122nm,1.0s
MOTA Moosalm 81.07 336 P **P 10 10 27.1 +0.8**
MOTA *e* pP 10 10 33.1 +1.5
WLS Welschbruch 81.08 339 *e*P **P 10 10 26.3 0.0**
LEGS Legarje 81.08 333 *e*P **P 10 10 25.9 -0.5**
CDF Champ du Feu 81.10 339⇓*i*P **P 10 10 26.5 +0.1**
comp=Z,151nm,1.2s,mb5.5
CDF Champ du Feu 81.10 339⇓*i*P **P 10 10 26.5 +0.1**
CDF pmax pmax
comp=Z,76nm,1.2s,mb5.5
CDF Champ du Feu 81.10 339⇓*i*P **P 10 10 26.5 +0.1**
comp=Z,76nm,1.2s,mb5.5
KVTX Kingsville 81.14 59 *e*P **P 10 10 27.8 +1.1**
comp=Z,16nm,0.5s,mb5.2
DIVS Divcibare 81.15 329 *i* P **P 10 10 26.4 -0.3**
SQTA Sankt Quirin 81.16 336⇓*i*P **P 10 10 27.8 +1.1**
comp=Z,24nm,0.9s,mb5.1,SNR=17
SQTA Sankt Quirin 81.16 336⇓*i* pP 10 10 33.7 +1.6
comp=Z,98nm,1.2s
SQTA Sankt Quirin 81.16 336 pP 10 10 33.7 +1.6
comp=Z,98nm,1.2s
SQTA Sankt Quirin 81.16 336 P **P 10 10 27.8 +1.1**
SQTA *e* pP 10 10 33.7 +1.6
PPT Papeete 81.16 127 *e*LR LR 10 35 27.1
comp=Z,804nm,22.5s,baz=326
PPT Papeete 81.16 127 LR LR 10 37 57.6
comp=Z,504nm,20.9s,MS4.8,baz=270,slow=29
LIBD Limburg 81.26 339 *e*P **P 10 10 27.5 +0.2**
VTS Vitosha 81.26 326⇓*i*P **P 10 10 27.3 0.0**
VTS Vitosha 81.26 326 P **P 10 10 27.6 +0.2**
ECH Echery 81.31 339 *e*P **P 10 10 27.3 -0.3**
FELD Feldberg im Sc 81.41 338 *e*P **P 10 10 28.5 +0.4**
DAVA Damuels 81.46 337⇑*i*P **P 10 10 29.2 +0.8**
comp=Z,22nm,0.8s,mb5.1,SNR=11
DAVA Damuels 81.46 337⇑*i* pP 10 10 35.1 +1.4
comp=Z,67nm,1.1s
DAVA Damuels 81.46 337 pP 10 10 35.1 +1.4
comp=Z,67nm,1.1s
DAVA Damuels 81.46 337 P **P 10 10 29.2 +0.8**
DAVA *e* pP 10 10 35.1 +1.4
EMMW East Machias 81.52 29 *e*P **P 10 10 28.7 0.0**
comp=Z,49nm,1.0s,mb5.4
MEZF Maizieres J'vi 81.55 340 *e*P **P 10 10 29.2 +0.4**
BBLS Bajina Basta - 81.56 329 *i* P **P 10 10 29.7 +0.9**
THEF They Montfort 81.59 340 *e*P **P 10 10 29.1 +0.1**
GDZ Gediz 81.62 320 *i* P **P 10 10 29.2 0.0**
MOF Molkenrain 81.66 339 *e*P **P 10 10 29.1 -0.3**
BTOK Tokmak 81.69 321 *i* P **P 10 10 29.7 +0.2**
HAU Haudompre 81.70 339⇓*i*P **P 10 10 29.6 0.0**
comp=Z,33nm,0.8s,mb5.0
HAU *e*R
comp=Z,915nm,23.0s
HAU Haudompre 81.70 339⇓*i*P **P 10 10 29.6 0.0**
HAU pmax pmax
comp=Z,16nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,920nm,23.0s,MS5.1
HAU Haudompre 81.70 339⇓*i*P **P 10 10 29.6 0.0**
comp=Z,16nm,0.8s,mb5.0
HAU LR LR
comp=Z,920nm,23.0s,MS5.1
HINF Hinteralfeld 81.76 339 *e*P **P 10 10 29.6 -0.3**
TKTP Tekketepe 82.10 319 *i* P **P 10 10 31.6 -0.1**
LOMF Lomont 82.20 339 *e*P **P 10 10 31.9 -0.3**
FWV Forest Hill 82.31 42 *e*P **P 10 10 32.6 -0.2**
SKO Skopje 82.47 327 *i* P **P 10 10 33.5 -0.1**
FLN La Foliniere 82.47 344⇓*i*P **P 10 10 33.4 -0.3**
comp=Z,194nm,1.4s,mb5.5
FLN *e*R
comp=Z,380nm,22.6s
FLN La Foliniere 82.47 344⇓*i*P **P 10 10 33.4 -0.3**
FLN pmax pmax
comp=Z,97nm,1.4s,mb5.5
FLN MLR MLR
comp=Z,380nm,22.6s,MS4.7
FLN La Foliniere 82.47 344⇓*i*P **P 10 10 33.4 -0.3**
comp=Z,97nm,1.4s,mb5.5
FLN LR LR
comp=Z,380nm,22.6s,MS4.7
LDF La Druitiere 82.56 344⇓*i*P **P 10 10 33.8 -0.3**
comp=Z,76nm,1.1s,mb5.3
LDF La Druitiere 82.56 344⇓*i*P **P 10 10 33.8 -0.3**
LDF pmax pmax
comp=Z,38nm,1.1s,mb5.3
LDF La Druitiere 82.56 344⇓*i*P **P 10 10 33.8 -0.3**
comp=Z,38nm,1.1s,mb5.3
VAY Valandovo 82.60 326 *i* P **P 10 10 33.5 -0.8**
ELN Prospectdale 82.62 42 *e*P **P 10 10 33.6 -0.8**
BLA Blacksburg 82.79 41 *e*P **P 10 10 34.8 -0.5**
BLA pmax pmax
comp=Z,43nm,0.9s,mb5.5
BLA Blacksburg 82.79 41 *e*P **P 10 10 34.8 -0.5**
comp=Z,43nm,0.9s,mb5.5
GRR Gorron 82.90 344⇓*i*P **P 10 10 35.9 0.0**
comp=Z,141nm,1.1s,mb5.6
GRR Gorron 82.90 344⇓*i*P **P 10 10 35.9 0.0**
GRR pmax pmax
comp=Z,70nm,1.1s,mb5.6
GRR Gorron 82.90 344⇓*i*P **P 10 10 35.9 0.0**
comp=Z,70nm,1.1s,mb5.6
LOR Lormes 82.98 341⇓*i*P **P 10 10 36.2 -0.1**
comp=Z,143nm,1.1s,mb5.6
LOR *e*R
comp=Z,608nm,21.8s
LOR Lormes 82.98 341⇓*i*P **P 10 10 36.2 -0.1**
LOR pmax pmax
comp=Z,71nm,1.1s,mb5.6
LOR MLR MLR
comp=Z,610nm,21.8s,MS4.9
LOR Lormes 82.98 341⇓*i*P **P 10 10 36.2 -0.1**
comp=Z,71nm,1.1s,mb5.6
LOR LR LR
comp=Z,610nm,21.8s,MS4.9
KRUS Krusevo 83.06 327 *i* P **P 10 10 36.7 0.0**
CABF La Chapelle 83.07 339 *e*P **P 10 10 37.0 +0.2**
comp=Z,69nm,1.0s,mb5.4
CABF La Chapelle 83.07 339 *e*P **P 10 10 37.0 +0.2**
CABF pmax pmax
comp=Z,35nm,1.0s,mb5.3
CABF La Chapelle 83.07 339 *e*P **P 10 10 37.0 +0.2**
comp=Z,34nm,1.0s,mb5.3
GOLH Golhisar 83.11 319 *i* P **P 10 10 37.0 0.0**
KDAG Bornova 83.15 321 *i* P **P 10 10 37.0 -0.2**
OG01 Vacheresse 83.18 338 *e*P **P 10 10 37.6 +0.2**
CSS Prodhromos 83.20 315 *e*P **P 10 10 38.0 +0.5**
comp=Z,24nm,0.8s,mb5.3
HYF Humbligny 83.25 341 *e*P **P 10 10 38.1 +0.4**
SSF Saint Saulge 83.26 341⇓*i*P **P 10 10 37.6 -0.1**
comp=Z,44nm,0.8s,mb5.3
SSF Saint Saulge 83.26 341⇓*i*P **P 10 10 37.6 -0.1**
SSF pmax pmax
comp=Z,22nm,0.8s,mb5.2
SSF Saint Saulge 83.26 341⇓*i*P **P 10 10 37.6 -0.1**
comp=Z,22nm,0.8s,mb5.2
SGMF Saint Gilles 83.34 345 *e*P **P 10 10 38.6 +0.4**
comp=Z,105nm,0.9s,mb5.5
SGMF Saint Gilles 83.34 345 *e*P **P 10 10 38.6 +0.4**
SGMF pmax pmax
comp=Z,53nm,0.9s,mb5.6
SGMF Saint Gilles 83.34 345 *e*P **P 10 10 38.6 +0.4**
comp=Z,52nm,0.9s,mb5.6
ROSF Rostrenen 83.39 346⇓*i*P **P 10 10 38.7 +0.3**
comp=Z,134nm,0.9s,mb5.7
ROSF Rostrenen 83.39 346⇓*i*P **P 10 10 38.7 +0.3**
ROSF pmax pmax
comp=Z,67nm,0.9s,mb5.7
ROSF Rostrenen 83.39 346⇓*i*P **P 10 10 38.7 +0.3**
comp=Z,67nm,0.9s,mb5.7
OHR Ohrid 83.45 327 *i* P **P 10 10 37.5 -1.3**
URLA Izmir 83.47 322 *i* P **P 10 10 38.2 -0.7**
AVF Avril sur Loir 83.55 341⇓*i*P **P 10 10 39.3 +0.1**
comp=Z,116nm,1.0s,mb5.6
AVF Avril sur Loir 83.55 341⇓*i*P **P 10 10 39.3 +0.1**
AVF pmax pmax
comp=Z,58nm,1.0s,mb5.7
AVF Avril sur Loir 83.55 341⇓*i*P **P 10 10 39.3 +0.1**
comp=Z,58nm,1.0s,mb5.7
SMF Signal de Mont 83.57 340⇓*i*P **P 10 10 39.3 -0.1**
comp=Z,240nm,1.1s,mb5.9
SMF Signal de Mont 83.57 340⇓*i*P **P 10 10 39.3 -0.1**
SMF pmax pmax
comp=Z,120nm,1.1s,mb5.9
SMF Signal de Mont 83.57 340⇓*i*P **P 10 10 39.3 -0.1**
comp=Z,120nm,1.1s,mb5.9
QUIF Quistinic 83.77 345 *e*P **P 10 10 40.6 +0.2**
RSL Roselend 83.80 338 *e*P **P 10 10 41.2 +0.7**
BGF Bois d'Agland 83.88 341 *e*P **P 10 10 40.7 -0.3**
comp=Z,46nm,0.7s,mb5.4
BGF Bois d'Agland 83.88 341 *e*P **P 10 10 40.7 -0.3**
BGF pmax pmax
comp=Z,23nm,0.7s,mb5.4
BGF Bois d'Agland 83.88 341 *e*P **P 10 10 40.7 -0.3**
comp=Z,23nm,0.7s,mb5.4
LPL La Plagne 83.93 338⇓*i*P **P 10 10 42.1 +0.9**
comp=Z,62nm,0.6s,mb5.6
LPL La Plagne 83.93 338⇓*i*P **P 10 10 42.1 +0.9**
LPL pmax pmax
comp=Z,31nm,0.6s,mb5.6
LPL La Plagne 83.93 338⇓*i*P **P 10 10 42.1 +0.9**
comp=Z,31nm,0.6s,mb5.6
LPG La Plagne 83.94 338⇓*i*P **P 10 10 42.3 +1.0**
comp=Z,71nm,0.7s,mb5.6
LPG La Plagne 83.94 338⇓*i*P **P 10 10 42.3 +1.0**
LPG pmax pmax
comp=Z,35nm,0.7s,mb5.6
LPG La Plagne 83.94 338⇓*i*P **P 10 10 42.3 +1.0**
comp=Z,35nm,0.7s,mb5.6
VLC Villacollemand 84.19 335 *e*P **P 10 10 43.3 +0.7**
comp=Z,28nm,0.8s,mb5.4
BDRM Kayabasi 84.19 320 *i* P **P 10 10 42.2 -0.3**
PLDF La Plantade 84.26 340 *e*P **P 10 10 43.3 +0.4**
TCF Toulx Ste Croi 84.28 341⇓*i*P **P 10 10 42.9 -0.1**
comp=Z,73nm,0.9s,mb5.5
TCF Toulx Ste Croi 84.28 341⇓*i*P **P 10 10 42.9 -0.1**
TCF pmax pmax
comp=Z,37nm,0.9s,mb5.5
TCF Toulx Ste Croi 84.28 341⇓*i*P **P 10 10 42.9 -0.1**
comp=Z,36nm,0.9s,mb5.5
AGO Saint Agoulin 84.30 341 *e*P **P 10 10 44.0 +0.9**
BNI Bardonecchia 84.38 338 *e*P **P 10 10 44.2 +0.7**
BNI pmax pmax
comp=Z,24nm,0.8s,mb5.4
BNI Bardonecchia 84.38 338 *e*P **P 10 10 44.2 +0.8**
comp=Z,24nm,0.8s,mb5.4
GDM Grand'Maison 84.38 338 *e*P **P 10 10 44.4 +0.9**
TOO Toolangi 84.40 188 *e*P **P 10 10 43.6 0.0**
comp=Z,8.4nm,1.2s,mb4.8
TOO Toolangi 84.40 188 *e*P **P 10 10 43.6 0.0**
TOO pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
GOGA Godfrey 84.44 46 *e*P **P 10 10 43.7 -0.1**
GRN Grenoble 84.44 339 *e*P **P 10 10 44.8 +1.0**
MFF Saint Martin d 84.47 343 *e*P **P 10 10 44.1 +0.1**
comp=Z,56nm,0.9s,mb5.4
MFF Saint Martin d 84.47 343 *e*P **P 10 10 44.1 +0.1**
MFF pmax pmax
comp=Z,28nm,0.9s,mb5.4
MFF Saint Martin d 84.47 343 *e*P **P 10 10 44.1 +0.1**
comp=Z,28nm,0.9s,mb5.4
WHFO Wadi Hawf 84.53 290 ⇓P **P 10 10 44.4 +0.2**
SNR=10
PYM Petit Puy Mans 84.61 341 *e*P **P 10 10 45.2 +0.6**
MBDF Montbardon 84.66 338 *e*P **P 10 10 45.2 +0.3**
comp=Z,40nm,0.8s,mb5.3
MBDF Montbardon 84.66 338 *e*P **P 10 10 45.2 +0.3**
MBDF pmax pmax
comp=Z,20nm,0.8s,mb5.3
MBDF Montbardon 84.66 338 *e*P **P 10 10 45.2 +0.3**
comp=Z,20nm,0.8s,mb5.3
ORIF Oris-en-Rattie 84.70 338 *e*P **P 10 10 45.7 +0.6**
comp=Z,80nm,0.9s,mb5.6
ORIF *e*R
comp=Z,663nm,21.5s
ORIF Oris-en-Rattie 84.70 338 *e*P **P 10 10 45.7 +0.6**
ORIF pmax pmax
comp=Z,40nm,0.9s,mb5.5
ORIF Oris-en-Rattie 84.70 338 *e*P **P 10 10 45.7 +0.6**
comp=Z,40nm,0.9s,mb5.5
JSC Jenkinsville 84.80 44 *e*P **P 10 10 45.7 +0.1**
LHS Liberty Hill 84.85 43 *e*P **P 10 10 45.7 -0.2**
SURF Saint Ours 84.87 338 *e*P **P 10 10 46.7 +0.7**
AQU L'Aquila 84.92 332⇑*i*P **P 10 10 48.3 +2.1**
AQU L'Aquila 84.92 332 *e*P **P 10 10 47.7 +1.5**
AQU L'Aquila 84.92 332 *e*P **P 10 10 47.8 +1.6**
KLBR Kellerberrin 84.92 211 *e*P **P 10 10 45.3 -0.9**
comp=Z,22nm,0.9s,mb5.3
APE Apeiranthos 85.01 322⇑*i*P **P 10 10 44.8 -1.9**
VIVF Saint-Julien-l 85.06 339 *e*P **P 10 10 47.3 +0.4**
comp=Z,129nm,1.2s,mb5.6
VIVF Saint-Julien-l 85.06 339 *e*P **P 10 10 47.3 +0.4**
VIVF pmax pmax
comp=Z,64nm,1.2s,mb5.6
VIVF Saint-Julien-l 85.06 339 *e*P **P 10 10 47.3 +0.4**
comp=Z,64nm,1.2s,mb5.6
AUTN L'Aution 85.16 337 *e*P **P 10 10 47.2 -0.2**
OG25 Le Caire 85.17 338 *e*P **P 10 10 48.0 +0.5**
TOUF Mont Tournerai 85.19 337 *e*P **P 10 10 47.8 +0.2**
LUCF Luceram 85.28 337 *e*P **P 10 10 48.2 +0.2**
SBF Sospel 85.28 337 *e*P **P 10 10 47.6 -0.4**
comp=Z,79nm,0.8s,mb5.6
SBF Sospel 85.28 337 *e*P **P 10 10 47.6 -0.4**
SBF pmax pmax
comp=Z,39nm,0.8s,mb5.6
SBF Sospel 85.28 337 *e*P **P 10 10 47.6 -0.4**
comp=Z,39nm,0.8s,mb5.6
RJF Les Rejaudoux 85.36 342⇓*i*P **P 10 10 47.9 -0.5**
comp=Z,101nm,1.0s,mb5.6
RJF *e*R
comp=Z,544nm,22.0s
RJF Les Rejaudoux 85.36 342⇓*i*P **P 10 10 47.9 -0.5**
RJF pmax pmax
comp=Z,51nm,1.0s,mb5.6
RJF MLR MLR
comp=Z,540nm,22.0s,MS4.9
RJF Les Rejaudoux 85.36 342⇓*i*P **P 10 10 47.9 -0.5**
comp=Z,51nm,1.0s,mb5.6
RJF LR LR
comp=Z,540nm,22.0s,MS4.9
CAF Calviac 85.60 341 *e*P **P 10 10 50.0 +0.4**
SMRF Simiane la Rot 85.66 338 *e*P **P 10 10 50.6 +0.7**
FRF La Foret Royal 85.77 337 *e*P **P 10 10 50.3 -0.2**
LFF La Frestale 85.88 342 *e*P **P 10 10 50.5 -0.5**
comp=Z,209nm,1.2s,mb5.9
LFF La Frestale 85.88 342 *e*P **P 10 10 50.5 -0.5**
LFF pmax pmax
comp=Z,104nm,1.2s,mb5.9
LFF La Frestale 85.88 342 *e*P **P 10 10 50.5 -0.5**
comp=Z,104nm,1.2s,mb5.9
TBI Tubuai 85.95 131 *e*LR LR 10 37 44.1
comp=Z,840nm,32.0s,baz=324
LASF Ste Croix 85.99 340⇓*i*P **P 10 10 51.3 -0.3**
comp=Z,114nm,1.2s,mb5.7
LMR La Mourre 86.02 337 *e*P **P 10 10 51.6 -0.1**
comp=Z,221nm,1.5s,mb5.9
LMR La Mourre 86.02 337 *e*P **P 10 10 51.6 -0.1**
LMR pmax pmax
comp=Z,110nm,1.5s,mb5.9
LMR La Mourre 86.02 337 *e*P **P 10 10 51.6 -0.1**
comp=Z,110nm,1.5s,mb5.9
PGF Pioggiola 86.07 335 *e*P **P 10 10 51.6 -0.3**
CORF Corte 86.25 335 *e*P **P 10 10 53.5 +0.7**
NWAO Narrogin (SRO) 86.31 211 P **P 10 10 53.3 +0.2**
comp=Z,36nm,0.9s,mb5.6,baz=25,slow=5.9,SNR=13
NWAO Narrogin (SRO) 86.31 211 *e*P **P 10 10 52.8 -0.3**
NWAO pmax pmax
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 86.31 211 *e*P **P 10 10 52.8 -0.3**
comp=Z,27nm,0.9s,mb5.5

TIP	**Timpagrande**	**86.63**	**329**	*e*P		**P**	**10 10 55.0**	**+0.3**
EIL	**Elat**	**86.64**	**311**	P		**P**	**10 11 00.4**	**+5.7**
	comp=Z,220nm,0.6s							
EIL				*e*PP		PP	10 14 19.4	+2.6
URZ	**Urewera**	**86.95**	**163**	LR		LR	10 42 09.6	
	comp=Z,322nm,20.0s,MS4.7,baz=15,slow=30							
MTLF	**Montolieu**	**87.07**	**340**	*e*P		**P**	**10 10 56.7**	**-0.2**
	comp=Z,60nm,1.1s,mb5.5							
MTLF	**Montolieu**	**87.07**	**340**	*e*P		**P**	**10 10 56.7**	**-0.2**
MTLF				pmax	pmax			
	comp=Z,30nm,1.1s,mb5.4							
MTLF	**Montolieu**	**87.07**	**340**	*e*P		**P**	**10 10 56.7**	**-0.2**
	comp=Z,30nm,1.1s,mb5.4							
EPF	**Esparros**	**87.79**	**342**	*e*P		**P**	**10 10 59.4**	**-0.9**
ETSF	**Etsaut**	**88.11**	**342**	*e*P		**P**	**10 11 01.5**	**-0.3**
	comp=Z,37nm,0.8s,mb5.4							
ETSF	**Etsaut**	**88.11**	**342**	*e*P		**P**	**10 11 01.5**	**-0.3**
ETSF				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.3							
ETSF	**Etsaut**	**88.11**	**342**	*e*P		**P**	**10 11 01.5**	**-0.3**
	comp=Z,18nm,0.8s,mb5.4							
PBRG	**Braganca**	**90.31**	**346**	*e*P		**P**	**10 11 11.4**	**-0.8**
CMIG	**Matias Romero**	**90.83**	**64**	P		**P**	**10 11 13.4**	**-1.1**
	comp=Z,14nm,0.8s,mb5.3,baz=315,slow=5.2,SNR=13							
RPZ	**Rata Peaks**	**91.23**	**168**	LR		LR	10 47 04.1	
	comp=Z,252nm,18.9s,MS4.7,baz=358,slow=32							
PVIS	**Viseu**	**91.56**	**347**	*e*P		**P**	**10 11 17.4**	**-0.6**
ESDC	**Sonseca Array**	**91.89**	**344**	P		**P**	**10 11 19.0**	**-0.5**
	comp=Z,7.2nm,0.8s,mb5.1,baz=10,slow=3.7,SNR=21							
ESDC				LR		LR	10 56 01.4	
	comp=Z,246nm,18.4s,MS4.7,baz=15,slow=38							
KEST	**Kesra**	**92.24**	**333**	P		**P**	**10 11 21.7**	**+0.6**
	comp=Z,6.4nm,0.8s,mb5.0,baz=289,slow=2.7,SNR=19							
KEST				LR		LR	10 56 42.9	
	comp=Z,106nm,21.7s,MS4.2,baz=178,slow=38							
PCBR	**Castelo Branco**	**92.35**	**347**	*e*P		**P**	**10 11 20.8**	**-0.8**
PESTR	**Estremoz**	**93.32**	**346**	*e*P		**P**	**10 11 24.6**	**-1.5**
EVO	**Evora**	**93.71**	**347**	*e*P		**P**	**10 11 26.2**	**-1.7**
	comp=Z,51nm,1.2s,mb5.5							
EVO				*e*R				
	comp=Z,383nm,20.8s							
RKT	**Rikitea**	**93.90**	**120**	*e*SS		SS	10 28 53.1	-4.1
	comp=Z,103nm,28.2s							
RKT				*e*LR		LR	10 41 15.6	
	comp=Z,613nm,33.2s,baz=327							
PBEJ	**Beja**	**94.18**	**346**	*e*P		**P**	**10 11 29.6**	**-0.5**
	comp=Z,19nm,1.3s,mb5.4							
TORD	**Torodi Ar. Bea**	**115.70**	**331**	PKP	PKPdf		10 16 53.2	-0.3
	comp=Z,2.8nm,0.8s,baz=351,slow=3.1,SNR=14							
TORD				PP	PP		10 17 47.6	-8.6
	comp=Z,2.2nm,0.8s,baz=4.6,slow=6.4,SNR=6.7							
TORD				PKKPbc	PKKPbc		10 27 19.1	-6.4
	comp=Z,0.2nm,0.6s,baz=188,slow=3.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**115.70**	**331**	PKP	PKPdf		10 16 53.2	-0.3
TORD				PP	PP		10 17 47.6	-8.6
TORD				PKKPbc	PKKPbc		10 27 19.1	-6.4
VNDA	**Vanda**	**124.09**	**178**	PKP	PKPdf		10 17 07.1	-2.5
	comp=Z,2.4nm,0.9s,baz=296,slow=4.4,SNR=16							
LIC	**Lamto**	**124.31**	**336**	*e*PKIKP	PKPdf		10 17 09.9	-0.2
	comp=Z,22nm,0.9s							
LIC				*e*R				
	comp=Z,377nm,22.8s							
LIC	**Lamto**	**124.31**	**336**	*e*PKPdf	PKPdf		10 17 09.9	-0.2
LIC				LR	LR			
	comp=Z,190nm,22.8s,MS4.7							
LSZ	**Lusaka**	**125.95**	**287**	*e*PKIKP	PKPdf		10 17 13.9	+0.7
MAW	**Mawson**	**132.88**	**212**	PKP	PKPdf		10 17 24.1	-2.2
	comp=Z,7.8nm,0.8s,baz=20,slow=2.4,SNR=17							
MAW	**Mawson**	**132.88**	**212**	*e*PKPdf	PKPdf		10 17 24.8	-1.6
LPAZ	**La Paz**	**133.20**	**64**	PKP	PKPdf		10 17 27.9	+1.0
	comp=Z,3.0nm,0.9s,baz=14,slow=5.3,SNR=9.9							
QSPA	**South Pole Qui**	**136.51**	**180**	*e*PKPdf	PKPdf		10 17 32.2	-0.9
BOSA	**Boshof**	**137.05**	**277**	PKP	PKPdf		10 17 35.7	+1.6
	comp=Z,4.2nm,0.8s,baz=39,slow=4.1,SNR=6.3							
BOSA	**Boshof**	**137.05**	**277**	PKP	PKPdf		10 17 35.7	+1.6
SYO	**Syowa Base**	**141.59**	**212**‖	*e*X	PKPdf		10 17 36.0	-6.4
NVL	**N'lazarevskaya**	**150.17**	**204**	*d i* PKIKP	PKPdf		10 17 59.3	+2.3
NVL				pmax	pmax			
	comp=Z,85nm,1.9s							
MAIT	**Maitri**	**150.19**	**204**	*e*PKPdf	PKPdf		10 17 59.7	+2.7
CAM3	**Guarapari**	**151.12**	**31**	(P)	PKPbc		10 18 04.7	+0.4
CAM3				*i*			10 18 07.8	
CAM3				*i*			10 18 11.7	
CAM3				*i*			10 18 20.9	
CAM4	**Nova Friburgo**	**151.82**	**36**‖	*i* P	PKPbc		10 18 05.7	-0.2
CAM4				*i*			10 18 14.9	
CAM4				*i*			10 18 30.9	
PMSA	**Palmer Station**	**152.28**	**145**	PKPbc	PKPbc		10 18 03.6	-3.3
	comp=Z,19nm,0.8s,baz=243,slow=2.8,SNR=3.9							
SNAA	**Sanae**	**152.92**	**195**	PKPbc	PKPbc		10 18 06.1	-2.3
	comp=Z,3.8nm,0.9s,baz=142,slow=1.8,SNR=24							
SNAA				PKPab	PKPab		10 18 18.2	-1.4
	comp=Z,10nm,0.9s,baz=120,slow=3.9,SNR=21							
SNAA	**Sanae**	**152.92**	**195**	*e*PKPdf	PKPdf		10 17 59.5	-1.7
SNAA				*e*			10 18 05.7	
SNAA				*e*			10 18 18.1	
SNAA				*e*			10 18 21.8	
SNAA				*e*			10 18 28.5	
SNAA				*e*			10 18 37.7	
SNAA				*e*			10 18 46.6	
VNA2	**Neumayer--Watz**	**154.33**	**193**	*e*PKPdf	PKPdf		10 18 01.9	-1.3
VNA2				*e*			10 18 05.3	
VNA2				*e*			10 18 09.6	
VNA2				*e*			10 18 24.3	
VNA2				*e*			10 18 29.1	
VNA2				*e*			10 18 34.5	
VNA2				*e*			10 18 36.9	
VNA2				*e*			10 18 43.7	
VNA2				*e*			10 18 51.6	
VNA2				*e*			10 19 05.8	
VNA3	**Neumayer Olymp**	**154.38**	**191**	*e*PKPdf	PKPdf		10 18 01.6	-1.6
VNA3				*e*			10 18 09.2	
VNA3				*e*			10 18 24.0	
VNA3				*e*			10 18 28.6	
VNA3				*e*			10 18 33.8	
VNA3				*e*			10 18 36.6	
VNA3				*e*			10 18 43.4	
VNA3				*e*			10 18 51.2	
VNA3				*e*			10 19 05.7	
VNA1	**Neumayer--Stat**	**154.71**	**193**	*e*PKPdf	PKPdf		10 18 02.2	-1.5
VNA1				*e*			10 18 06.1	
VNA1				*e*			10 18 12.2	
VNA1				*e*			10 18 27.0	
VNA1				*e*			10 18 31.0	
VNA1				*e*			10 18 37.2	
VNA1				*e*			10 18 45.5	

IDC 17 10:12:11.8±1.2, 4678N×15497E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=51.4km s-min=36.1km az=110.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**64.55**	**336**	P		P	10 22 50.1	-0.5
	0.7nm,0.5s,baz=45,slow=8.4,SNR=4.8							
ASAR	**Alice Springs**	**72.66**	**200**	P		P	10 23 41.2	-0.1
	0.4nm,0.8s,baz=19,slow=5.0,SNR=6.1							
TXAR	**Lajitas Array**	**76.36**	**62**	P		P	10 24 03.0	+0.2
	0.6nm,0.5s,baz=305,slow=4.8,SNR=11							

*ISCJB **17** 10:14:04.0±0.7, 468N×1550E±02, h10km, mb4.0/10, Error ellipse: s-maj=19.2km s-min=11.3km az=78.7*
*IDC **17** 10:14:04.3±0.8, 4676N×15508E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/25, mbtmp4.0/12, ML3.5/2, Error ellipse: s-maj=23.6km s-min=18.2km az=125.0*
*MOS **17** 10:14:07.5±1.4, 4688N×15483E, h36km, mb4.3/7, Error ellipse: s-maj=29.1km s-min=17.0km az=69.0*

ISC 17 10:14:05.5±0.7, 468N±01×1551E±02, h10km, n21, σ1°08/21, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.92**	**10**	*e*PN		**Pn**	**10 15 04.0**	**-1.7**
ASAJ	**Asahikawa**	**9.19**	**257**	Pn		**Pn**	**10 16 18.8**	**+0.7**
	0.8nm,0.3s,baz=172,slow=16,SNR=4.8							
ASAJ	**Asahikawa**	**9.19**	**257**	PN		**Pn**	**10 16 18.8**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.23**	**237**	Pn		**Pn**	**10 17 51.3**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=4.0							
KSRS	**Korea Array**	**22.12**	**255**	P		**P**	**10 19 03.0**	**+2.0**
	comp=Z,1.0nm,0.7s,mb3.3,baz=64,slow=10,SNR=3.9							
INK	**Inuvik**	**40.86**	**33**	P		**P**	**10 21 48.1**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.5,baz=263,slow=5.5,SNR=7.4							
INK	**Inuvik**	**40.86**	**33**	P		**P**	**10 21 48.1**	**+0.6**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**48.11**	**298**	P		**P**	**10 22 45.2**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=74,slow=5.9,SNR=4.4							
MKAR	**Makanchi Array**	**48.11**	**298**	P		**P**	**10 22 45.3**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**51.86**	**310**	P		**P**	**10 23 13.8**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=57,slow=7.6,SNR=11							
BVAR	**Borovoye Array**	**51.86**	**310**	P		**P**	**10 23 13.8**	**-0.1**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**10 24 42.8**	**+0.1**
	comp=Z,1.4nm,0.4s,mb4.4,baz=32,slow=6.9,SNR=11							
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**10 24 42.8**	**+0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**69.05**	**201**	P		**P**	**10 25 10.4**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=17,slow=6.5,SNR=8.3							
WRA	**Warramunga Arr**	**69.05**	**201**	P		**P**	**10 25 10.4**	**-1.0**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**72.73**	**200**	P		**P**	**10 25 34.4**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=16,slow=5.6,SNR=17							
ASAR	**Alice Springs**	**72.73**	**200**	P		**P**	**10 25 34.4**	**+0.6**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**76.27**	**62**	P		**P**	**10 25 55.5**	**+1.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=305,slow=4.9,SNR=40							
TXAR	**Lajitas Array**	**76.27**	**62**	P		**P**	**10 25 55.5**	**+1.2**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**79.28**	**192**	P		**P**	**10 26 10.3**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=23,slow=9.4,SNR=3.0							
ESDC	**Sonseca Array**	**91.87**	**344**	P		**P**	**10 27 14.4**	**+0.5**
	comp=Z,0.6nm,0.3s,mb4.3,baz=48,slow=4.6,SNR=4.1							

*IDC **17** 10:19:00.8±0.9, 4687N×15565E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/25, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=27.5km s-min=20.6km az=138.0*
*MOS **17** 10:19:04.5±1.4, 4695N×15551E, h33km, mb4.3/4, Error ellipse: s-maj=29.6km s-min=18.6km az=71.1*
*ISCJB **17** 10:19:05.4±2.4, 469N±0.1×1555E±02, h43km±21km, mb3.7/8, Error ellipse: s-maj=30.5km s-min=14.2km az=83.7*

ISC 17 10:19:07.5±2.1, 470N±01×1556E±02, h48km±18km, n15, σ0°76/15, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.73**	**5**	*e*PN		**Pn**	**10 20 02.6**	**0.0**
ASAJ	**Asahikawa**	**9.53**	**257**	Pn		**Pn**	**10 21 20.9**	**-1.2**
	0.4nm,0.3s,baz=82,slow=14,SNR=3.9							
MJAR	**Matsushiro Arr**	**16.58**	**237**	Pn		**Pn**	**10 22 58.2**	**+1.7**
	0.2nm,0.3s,baz=33,slow=6.9,SNR=4.2							
KSRS	**Korea Array**	**22.47**	**255**	P		**P**	**10 24 03.1**	**+0.6**
	0.4nm,0.3s,mb3.3,baz=200,slow=37,SNR=2.8							
INK	**Inuvik**	**40.56**	**33**	P		**P**	**10 26 42.3**	**+0.1**
	1.5nm,0.6s,mb3.8,baz=278,slow=8.7,SNR=11							
INK	**Inuvik**	**40.56**	**33**	P		**P**	**10 26 42.3**	**+0.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**48.32**	**298**	P		**P**	**10 27 44.6**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=60,slow=8.5,SNR=4.1							
BVAR	**Borovoye Array**	**52.01**	**310**	P		**P**	**10 28 11.3**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=50,slow=7.2,SNR=7.5							
BVAR	**Borovoye Array**	**52.01**	**310**	P		**P**	**10 28 11.3**	**-0.7**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**10 29 39.5**	**0.0**
	comp=Z,4.6nm,1.1s,mb4.4,baz=35,slow=7.0,SNR=4.2							
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**10 29 39.5**	**0.0**
FINES				pmax	pmax			
	comp=Z,5.0nm,1.1s							
WRA	**Warramunga Arr**	**69.30**	**201**	P		**P**	**10 30 09.2**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=23,slow=6.4,SNR=5.1							
WRA	**Warramunga Arr**	**69.30**	**201**	P		**P**	**10 30 09.2**	**-0.5**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**72.98**	**201**	P		**P**	**10 30 31.1**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=5.5,SNR=6.5							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**10 30 49.6**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=5.0,SNR=5.6							

IDC 17 10:29:33.7±1.6, 4650N×15449E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=55.9km s-min=20.0km az=166.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.72**	**258**	Pn		Pn	10 31 41.7	+0.6
	0.6nm,0.3s,baz=74,slow=18,SNR=3.7							
KSRS	**Korea Array**	**21.64**	**255**	P		P	10 34 26.6	+1.1
	1.9nm,0.9s,baz=56,slow=11,SNR=5.9							
INK	**Inuvik**	**41.35**	**32**	P		P	10 37 22.0	+0.7
	0.8nm,0.5s,baz=306,slow=5.2,SNR=11							
MKAR	**Makanchi Array**	**47.90**	**298**	P		P	10 38 12.8	-0.9
	0.8nm,0.7s,baz=65,slow=8.6,SNR=5.5							
NVAR	**Mina Array Bea**	**61.70**	**63**	P		P	10 39 53.8	+0.2
	0.3nm,0.6s,baz=302,slow=6.8,SNR=3.8							
PDAR	**Pinedale Array**	**64.12**	**54**	P		P	10 40 09.8	0.0
	0.8nm,0.9s,baz=321,slow=1.9,SNR=5.6							
FINES	**FINESS Array B**	**64.67**	**335**	P		P	10 40 12.2	-1.1
	0.9nm,0.5s,baz=30,slow=8.8,SNR=4.6							
TXAR	**Lajitas Array**	**76.78**	**61**	P		P	10 41 26.7	-0.4
	1.7nm,0.6s,baz=308,slow=4.4,SNR=26							

*NEIC **17** 10:31:39.9±0.6, 669S×151.19E, h10km, mb4.8/4, Error ellipse: s-maj=14.8km s-min=11.1km az=139.0*
*ISCJB **17** 10:31:44.7±2.9, 68S±0.1×151.1E±0.1, h58km±25km, mb4.3/12, MS3.6/2, Error ellipse: s-maj=19.6km s-min=17.1km az=17.9*
*IDC **17** 10:31:46.1±3.9, 680S×151.15E, h55km±33km, mb4.1/12, mb1 4.3/13, mb1mx4.3/17, mbtmp4.1/13, ML3.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/18, Error ellipse: s-maj=22.7km s-min=17.6km az=77.0*

ISC 17 10:31:45.8±2.1, 678S±010×1512E±01, h54km±18km, n23, σ0°87/22, mb4.3/12, MS3.6/2, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**236**	P		**Pn**	**10 32 55.1**	**+0.2**
	6.2nm,0.3s,baz=39,slow=11,SNR=16							
PMG				S		**Sn**	**10 33 49.9**	**+1.2**
	21nm,0.3s,baz=4.2,slow=21,SNR=14							
PMG				LR		LR	10 34 59.8	
	comp=Z,111nm,19.7s,baz=38,slow=41							
KAKA	**Kakadu**	**19.37**	**251**	*e*P		**Pn**	**10 36 06.5**	**-2.1**
	20nm,0.6s							
WB2	**Warramunga Arr**	**20.92**	**230**‖	*i* P		**P**	**10 36 23.3**	**-0.6**
WB2				*e*S		**S**	**10 40 16.2**	**+2.1**
WRA	**Warramunga Arr**	**20.93**	**230**	P		**P**	**10 36 23.4**	**-0.5**
	20nm,0.7s,baz=54,slow=10,SNR=91							
WRA				PcP		PcP	10 40 31.0	+1.0
	0.9nm,0.6s,baz=48,slow=1.9,SNR=5.5							
DZM	**Mont Dzumac**	**21.17**	**137**	P		**P**	**10 36 26.9**	**+0.3**
	6.6nm,0.5s,mb4.2,baz=243,slow=6.8,SNR=12							
GUMO	**Guam**	**21.18**	**343**	LR		LR	10 42 38.7	
	comp=Z,190nm,18.9s,MS3.5,baz=37,slow=31							
AS31	**Alice Springs**	**23.60**	**223**	P		**P**	**10 36 51.5**	**-0.2**
ASAR	**Alice Springs**	**23.60**	**223**	P		**P**	**10 36 51.6**	**-0.2**
	10nm,0.7s,mb4.4,baz=56,slow=8.9,SNR=229							
STKA	**Stephens Creek**	**26.52**	**198**	*e*P		**P**	**10 37 17.5**	**-0.8**
	7.9nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**26.52**	**198**	P		**P**	**10 37 17.0**	**-1.3**
	19nm,0.9s,mb4.6,baz=5.0,slow=9.0,SNR=37							
FITZ	**Fitzroy Crossi**	**27.31**	**243**‖	*i* P		**P**	**10 37 25.1**	**-0.3**
	24nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**P**	**10 37 25.2**	**-0.2**
	13nm,0.6s,mb4.7,baz=65,slow=8.2,SNR=88							
CBIJ	**Chichi jima**	**34.78**	**346**	LR		LR	10 51 04.3	
	comp=Z,136nm,20.2s,MS3.7,baz=55,slow=33							
KSRS	**Korea Array**	**49.07**	**335**	P		**P**	**10 40 28.5**	**+0.9**
	0.9nm,0.7s,mb3.9,baz=158,slow=8.1,SNR=4.3							
SONM	**Songino Array**	**67.15**	**329**	P		**P**	**10 42 34.4**	**+0.4**
	0.8nm,0.6s,mb3.9,baz=158,slow=4.4,SNR=6.5							
VNDA	**Vanda**	**70.93**	**178**	P		**P**	**10 42 58.1**	**+0.8**
	2.7nm,0.7s,mb4.3,baz=330,slow=6.7,SNR=19							
MKAR	**Makanchi Array**	**80.76**	**320**	P		**P**	**10 43 53.4**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=106,slow=7.5,SNR=3.9							
MAW	**Mawson**	**83.13**	**203**	P		**P**	**10 44 05.9**	**0.0**
	3.1nm,1.0s,mb4.3,baz=120,slow=7.0,SNR=7.7							
QSPA	**South Pole Qui**	**83.19**	**180**	*e*P		**P**	**10 44 06.7**	**+0.4**
	8.9nm,0.8s,mb4.8							
INK	**Inuvik**	**90.87**	**21**	P		**P**	**10 44 42.4**	**-1.2**
	2.2nm,0.9s,mb4.5,baz=203,slow=6.6,SNR=9.0							
SYO	**Syowa Base**	**91.27**	**200**‖	*e*P		**P**	**10 44 44.8**	**-0.6**
NVAR	**Mina Array Bea**	**94.57**	**52**	P		**P**	**10 45 02.0**	**+1.4**
	1.5nm,0.8s,mb4.5,baz=258,slow=8.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**149.30**	**284**	PKPbc		PKPbc	10 51 29.0	+0.5
	2.8nm,0.7s,baz=70,slow=3.0,SNR=17							

IDC 17 10:32:59.4±2.2, 1217N×9264E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, Error ellipse: s-maj=101.9km s-min=19.0km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**0.52**	**169**	*e*P		x	10 33 18.1	
PBA				*e*S		x	10 33 37.1	
PBA				*ex*		x	10 33 41.1	
	comp=N,5μm,0.6s							
PBA				*ex*		x	10 33 41.3	
	comp=E,4μm,0.3s							
VIS	**Vishakhapatnam**	**10.56**	**303**	*i* P		Pn	10 35 25.9	-6.0
VIS				*i* S		Sn	10 37 08.7	-22
MKAR	**Makanchi Array**	**35.60**	**348**	P		P	10 39 59.5	+0.9
	comp=E,1.4nm,0.8s,baz=161,slow=7.7,SNR=6.3							
SONM	**Songino Array**	**37.38**	**15**	P		P	10 40 13.3	-0.5
	comp=E,0.8nm,0.6s,baz=196,slow=11,SNR=6.8							
ZAL	**Zalesovo**	**42.13**	**353**	P		P	10 40 52.9	-0.4
	comp=E,1.7nm,0.4s,baz=324,slow=5.2,SNR=3.5							
FITZ	**Fitzroy Crossi**	**44.33**	**132**	P		P	10 41 11.3	+0.2
	comp=E,1.7nm,0.5s,baz=354,slow=22,SNR=6.4							
WRA	**Warramunga Arr**	**51.98**	**127**	P		P	10 42 10.8	+0.5
	comp=E,1.5nm,0.6s,baz=305,slow=8.4,SNR=13							
WRA				PcP		PcP	10 43 22.6	-0.1
	comp=E,0.7nm,0.5s,baz=319,slow=2.9,SNR=12							
ASAR	**Alice Springs**	**53.82**	**131**	P		P	10 42 24.7	+0.9
	comp=E,1.3nm,0.7s,baz=310,slow=6.6,SNR=15							
ASAR				PcP		PcP	10 43 29.6	0.0
	comp=E,0.5nm,0.6s,baz=320,slow=3.7,SNR=5.5							

*BJI **17** 10:57:59.4, 4794N×15584E, h10km, mB4.8, mb4.2, Ms4.4*
*NEIC **17** 10:58:06.3±0.6, 4708N×15486E, h10km, mb4.7/12, Error ellipse: s-maj=17.6km s-min=11.0km az=150.0*
*IDC **17** 10:58:06.2±0.7, 4724N×15470E, h0km, mb3.9/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.6/1, Error ellipse: s-maj=20.5km s-min=15.6km az=159.0*
*ISCJB **17** 10:58:08.6±0.5, 47.15N±0.006×15479E±0.09, h33km, mb4.2/26, MS3.9/3, Error ellipse: s-maj=11.1km s-min=4.9km az=89.1*
*MOS **17** 10:58:09.3±2.2, 47.10N×15486E, h46km, mb4.6/7, Error ellipse: s-maj=11.8km s-min=8.1km az=65.5*

ISC 17 10:58:12.0±1.1, 4722N±007×1548E±01, h46km±9km, h26km±3.7km; pP-P, n64, σ1°60/66, mb4.2/26, MS3.9/3, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.57**	**13**	*e*PN		**Pn**	**10 59 02.6**	**-2.2**
SKR				*e*S		**Sn**	**10 59 45.8**	**+0.1**
SKR				pmax	pmax			
	comp=E,80nm,0.5s							
SKR				pmax	pmax			
	comp=Z,150nm,0.5s							
SKR				smax				
	comp=N,390nm,0.9s							
SKR				smax				
	comp=E,330nm,0.9s							
SKR				smax				
	comp=Z,160nm,0.9s							
SKR				MLR	MLR			
	comp=Z,3μm,14.0s							
SKR				MLR	MLR			
	comp=E,6μm,16.0s							
KUR	**Kuril'sk**	**5.21**	**250**	*e*PN		**Pn**	**10 59 29.0**	**+1.6**
KUR				pmax	pmax			
	comp=Z,280nm,0.9s							
PET	**Petropavlovsk**	**6.31**	**22**	*e*PN		**Pn**	**10 59 45

ZAL	**Zalesovo**	**43.29**	**306**	P		**P**	**11 06 09.0**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.2,baz=84,slow=4.0,SNR=3.3							
ZAL	**Zalesovo**	**43.29**	**306**	P		**P**	**11 06 09.0**	**-0.2**
MKAR	**Makanchi Array**	**47.76**	**298**	P		**P**	**11 06 44.0**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.1,baz=25,slow=4.8,SNR=6.8							
MKAR	**Makanchi Array**	**47.76**	**298**	P		**P**	**11 06 44.0**	**-0.5**
YKA	**Yellowknife Ar**	**49.85**	**37**	P		**P**	**11 07 03.4**	**+3.0**
	comp=Z,4.0nm,1.0s,mb4.4,baz=187,slow=34,SNR=2.7							
YKA	**Yellowknife Ar**	**49.85**	**37**	P		**P**	**11 07 03.4**	**+3.0**
CHKZ	**Chkalovo**	**51.02**	**310**	P		**P**	**11 07 09.1**	**-1.4**
CHKZ				*e*	*P*	*P*	11 07 15.7	-6.3
CHKZ					*pmax*	*pmax*		
	comp=Z,8.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**51.02**	**310**	P		**P**	**11 07 07.9**	**-1.4**
	comp=Z,7.7nm,0.6s,mb4.8							
CHKZ				*e*	*P*	*P*	11 07 15.7	-6.3
LSA	**Lhasa**	**51.41**	**274**	*e*	*P*	**P**	**11 07 11.7**	**-0.5**
LSA					*pmax*	*pmax*		
	comp=Z,7.0nm,0.5s,mb4.8							
LSA	**Lhasa**	**51.41**	**274**	*e*	*P*	**P**	**11 07 11.7**	**-0.5**
	comp=Z,6.7nm,0.5s,mb4.8							
BVAR	**Borovoye Array**	**51.45**	**310**	P		**P**	**11 07 13.4**	**+0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=56,slow=7.9,SNR=6.3							
EDM	**Edmonton**	**55.14**	**47**	*e*	*P*	**P**	**11 07 37.8**	**-1.9**
PMG	**Port Moresby**	**56.78**	**189**	*e*	*P*	**P**	**11 07 47.2**	**-4.2**
PMG					*pmax*	*pmax*		
	comp=Z,6.0nm,0.9s							
PMG	**Port Moresby**	**56.78**	**189**	*e*	*P*	**P**	**11 07 47.2**	**-4.2**
	comp=Z,6.5nm,0.9s,mb4.7							
NVAR	**Mina Array Bea**	**61.18**	**64**	P		**P**	**11 08 23.3**	**+1.4**
	comp=Z,0.1nm,0.3s,mb3.4,baz=324,slow=5.6,SNR=2.6							
DUG	**Dugway**	**63.34**	**59**	*e*	*P*	**P**	**11 08 34.2**	**-2.1**
DUG					*pmax*	*pmax*		
	comp=Z,2.0nm,1.0s,mb4.2							
DUG	**Dugway**	**63.34**	**59**	*e*	*P*	**P**	**11 08 34.2**	**-2.1**
	comp=Z,2.4nm,1.0s,mb4.3							
PDAR	**Pinedale Array**	**63.52**	**55**	P		**P**	**11 08 39.0**	**+1.5**
	comp=Z,1.4nm,0.9s,mb4.0,baz=313,slow=3.0,SNR=11							
FINES	**FINESS Array B**	**64.10**	**335**	P		**P**	**11 08 40.3**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=40,slow=7.0,SNR=8.2							
NB2	**NORSAR Subarra**	**65.15**	**342**	P		**P**	**11 09 05.3**	**-2.0**
	comp=Z,8.3nm,1.2s,mb4.6,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.15**	**342**	P		**P**	**11 09 05.9**	**-1.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=27,slow=6.5,SNR=4.1							
WRA	**Warramunga Arr**	**69.35**	**201**	P		**P**	**11 09 14.9**	**+0.1**
	comp=Z,1.4nm,1.0s,mb3.9,baz=19,slow=6.6,SNR=7.3							
AKASG	**Malin Array Be**	**71.79**	**327**	P		**P**	**11 09 28.7**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=32,slow=5.9,SNR=5.4							
AKASG	**Malin Array Be**	**71.79**	**327**	*i*	*P*	**P**	**11 09 30.8**	**+1.1**
AKASG					*pmax*	*pmax*		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.79**	**327**	P		**P**	**11 09 28.7**	**-1.0**
ASAR	**Alice Springs**	**73.04**	**200**	P		**P**	**11 09 38.5**	**+1.4**
	comp=Z,1.9nm,0.9s,mb4.0,baz=14,slow=4.7,SNR=12							
BURAR	**Bucovina Array**	**75.83**	**327**	*i*	*P*	**P**	**11 09 52.3**	**-1.0**
TXAR	**Lajitas Array**	**76.25**	**62**	P		**P**	**11 09 56.5**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=5.1,SNR=10							
MORC	**Moravsky Berou**	**76.56**	**333**	*i*	*P*	**P**	**11 10 00.2**	**+2.8**
MORC	**Moravsky Berou**	**76.56**	**333**	*e*	*P*	**P**	**11 09 56.3**	**-1.1**
MORC					*epP*	*pP*	11 10 06.0	-4.7
	comp=Z,6.6nm,0.9s,mb4.6							
MLR	**Muntele Rosu**	**77.34**	**326**	*i*	*P*	**P**	**11 10 05.5**	**+3.7**
MALT	**Malatya**	**77.68**	**314**	*i*	*P*	**P**	**11 10 07.3**	**+3.6**
MALT	**Malatya**	**77.68**	**314**	*e*	*P*	**P**	**11 10 03.0**	**-0.7**
MALT					*e*	*pP*	11 10 12.5	-4.6
KHC	**Kasperske Hory**	**78.31**	**335**	*e*	*P*	**P**	**11 10 09.5**	**+2.3**
KHC					*epP*	*pP*	11 10 15.2	-5.4
KHC	**Kasperske Hory**	**78.31**	**335**	*e*	*P*	**P**	**11 10 09.5**	**+2.3**
KHC					*e*		11 10 15.2	
GERES	**GERESS Array B**	**78.53**	**335**	P		**P**	**11 10 09.6**	**+1.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=59,slow=5.1,SNR=4.8							
BRTR	**Keskin Array B**	**78.83**	**318**	P		**P**	**11 10 12.4**	**+2.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=24,slow=3.4,SNR=5.3							
PPT	**Papeete**	**81.50**	**127**	LR		LR	11 38 25.8	
	comp=Z,156nm,20.4s,MS4.3,baz=207,slow=29							

*ISCJB **17** 10:58:16.5±0.7, 475N×0.1×1543E×0.1, h10km, mb4.5/24, MS3.5/1, Error ellipse: s-maj=21.3km s-min=11.0km az=166.7*
*IDC **17** 10:58:16.5±0.8, 4747N×15425E, h0km, mb4.3/12, mb1 4.6/12, mb1mx4.3/24, mbtmp4.3/12, MS3.7/3, Ms1 3.7/3, ms1mx3.3/22, Error ellipse: s-maj=26.4km s-min=17.0km az=162.0*
*NEIC **17** 10:58:18.2±0.6, 4750N×15421E, h10km, mb5.0/9, Error ellipse: s-maj=20.5km s-min=10.4km az=180.0*
*SZGRF **17** 10:58:25.0, 4862N×15731E, h33km, mb5.3, East of Kuril Islands, Russia*

ISC 17 10:58:18.3±0.7, 476N±01×1542E±01, h10km, n44, σ0°81/44, mb4.5/24, MS3.5/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.75**	**252**	P		**P**	**11 03 10.6**	**+0.6**
	5.8nm,0.8s,mb4.1,baz=60,slow=9.6,SNR=14							
INK	**Inuvik**	**40.56**	**33**	P		**P**	**11 05 58.4**	**+0.6**
	8.3nm,0.5s,mb4.6,baz=296,slow=7.9,SNR=38							
INK	**Inuvik**	**40.56**	**33**	P		**P**	**11 05 58.4**	**+0.6**
MKAR	**Makanchi Array**	**47.23**	**297**	P		**P**	**11 06 50.5**	**-0.8**
	1.9nm,0.6s,mb4.2,baz=64,slow=8.4,SNR=7.4							
YKA	**Yellowknife Ar**	**49.82**	**37**	P		**P**	**11 07 10.9**	**-0.5**
	2.3nm,0.6s,mb4.4,baz=293,slow=6.8,SNR=6.9							
YKA					LR	LR	11 29 12.6	
	comp=Z,46nm,19.0s,MS3.5,baz=140,slow=37							
YKA	**Yellowknife Ar**	**49.82**	**37**	P		**P**	**11 07 10.9**	**-0.5**
YKA					LR	LR	11 29 12.6	
BVAR	**Borovoye Array**	**50.91**	**309**	P		**P**	**11 07 19.4**	**-0.3**
	1.4nm,0.4s,mb4.2,baz=52,slow=9.8,SNR=6.9							
BMO	**Blue Mountains**	**58.00**	**57**	*e*	*P*	**P**	**11 08 12.1**	**+0.9**
NVAR	**Mina Array Bea**	**61.40**	**63**	P		**P**	**11 08 34.0**	**-0.5**
	1.1nm,0.6s,mb4.1,baz=298,slow=8.8,SNR=7.8							
BW06	**Boulder Array**	**63.67**	**55**	*e*	*Pn*	**P**	**11 08 49.6**	**-0.1**
PDAR	**Pinedale Array**	**63.67**	**55**	P		**P**	**11 08 49.5**	**-0.2**
	2.9nm,0.9s,mb4.3,baz=284,slow=2.5,SNR=16							
SRU	**San Rafael**	**65.55**	**58**	*e*	*P*	**P**	**11 09 03.2**	**+1.2**
RWWY	**Rawlins**	**65.68**	**54**	*e*	*P*	**P**	**11 09 03.2**	**+0.4**
RSSD	**Black Hills**	**65.73**	**51**	*e*	*P*	**P**	**11 09 02.6**	**-0.6**
	7.1nm,0.8s,mb4.8							
ECSD	**EROS,Sioux Fal**	**69.78**	**47**	*e*	*P*	**P**	**11 09 27.5**	**-1.2**
	7.5nm,0.8s,mb4.7							
AKASG	**Malin Array Be**	**71.28**	**327**	P		**P**	**11 09 37.4**	**-0.4**
	2.6nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=11							
AKASG	**Malin Array Be**	**71.28**	**327**	P		**P**	**11 09 37.4**	**-0.4**
SCIA	**State Center**	**72.81**	**46**	*e*	*P*	**P**	**11 09 45.9**	**-1.2**
	13nm,0.8s,mb4.9							
ASAR	**Alice Springs**	**73.22**	**199**	P		**P**	**11 09 48.7**	**-0.8**
	1.3nm,0.6s,mb4.0,baz=16,slow=5.8,SNR=14							
STHS	**Stebnicka Huta**	**75.18**	**330**	*e*	*P*	**P**	**11 10 01.1**	**+0.2**
	6.6nm,0.9s,mb4.6							
KOLS	**Kolonicke sedl**	**75.24**	**330**	*e*	*P*	**P**	**11 10 01.6**	**+0.4**
DPC	**Dobruska-Polom**	**75.92**	**334**	*ep*	*P*	**P**	**11 10 03.7**	**-1.5**
CLL	**Collm**	**76.02**	**336**	*i*	*P*	**P**	**11 10 05.7**	**0.0**
	comp=Z,16nm,0.7s,mb5.1							
KECS	**Kecovo**	**76.24**	**330**	*e*	*P*	**P**	**11 10 06.8**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.2							
TXAR	**Lajitas Array**	**76.45**	**61**	P		**P**	**11 10 08.4**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2,baz=288,slow=3.7,SNR=17							
VYHS	**Vyhne**	**76.77**	**331**	*e*	*P*	**P**	**11 10 10.7**	**+0.7**
GRA1	**Grafenberg Arr**	**77.97**	**336**	*e*	*P*	**P**	**11 10 17.5**	**+0.8**
	comp=Z,35nm,1.4s,mb5.1							
GRF	**Grafenberg Arr**	**77.97**	**336**	*e*	*P*	**P**	**11 10 17.5**	**+0.8**
	comp=Z,35nm,1.4s,mb5.1							
GERES	**GERESS Array B**	**78.04**	**335**	P		**P**	**11 10 17.5**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.5,baz=32,slow=5.2,SNR=17							
GERES	**GERESS Array B**	**78.04**	**335**	P		**P**	**11 10 17.5**	**+0.4**
BRTR	**Keskin Array B**	**78.30**	**317**	P		**P**	**11 10 19.6**	**+1.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=48,slow=2.9,SNR=9.7							
BRTR	**Keskin Array B**	**78.30**	**317**	P		**P**	**11 10 19.6**	**+1.1**
WCI	**Wyandotte Cave**	**79.00**	**44**	*e*	*P*	**P**	**11 10 22.2**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.7							
CDF	**Champ du Feu**	**80.18**	**338**	*e*	*P*	**P**	**11 10 28.5**	**-0.3**
	comp=Z,4.9nm,0.5s,mb4.4							
CDF	**Champ du Feu**	**80.18**	**338**	*e*	*P*	**P**	**11 10 28.5**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.4							
GRR	**Gorron**	**82.00**	**344**	*e*	*P*	**P**	**11 10 38.3**	**-0.2**
ELN	**Prospectdale**	**82.36**	**41**	*e*	*P*	**P**	**11 10 37.3**	**-3.1**
SMF	**Signal de Mont**	**82.66**	**340**	*e*	*P*	**P**	**11 10 41.6**	**-0.3**
	comp=Z,15nm,0.8s,mb4.7							
SMF	**Signal de Mont**	**82.66**	**340**	*e*	*P*	**P**	**11 10 41.6**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.8							
LPG	**La Plagne**	**83.02**	**338**	*e*	*P*	**P**	**11 10 44.4**	**+0.6**
	comp=Z,4.6nm,0.5s,mb4.5							
LPG	**La Plagne**	**83.02**	**338**	*e*	*P*	**P**	**11 10 44.4**	**+0.6**
	comp=Z,2.3nm,0.5s,mb4.5							
BRAL	**Brewton**	**84.40**	**49**	*e*	*P*	**P**	**11 10 51.8**	**+0.9**
	comp=Z,194nm,0.8s							
CAF	**Calviac**	**84.69**	**341**	*e*	*P*	**P**	**11 10 52.0**	**-0.3**
TEIG	**Tepich**	**92.35**	**56**	*e*	*P*	**P**	**11 11 31.8**	**+2.9**
	comp=Z,12nm,0.9s,mb5.2							

*IDC **17** 11:05:38.1±0.8, 4694N×15552E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/27, mbtmp3.9/14, ML3.7/2, Error ellipse: s-maj=22.1km s-min=17.0km az=151.0*
*NEIC **17** 11:05:39.5±0.5, 4691N×15539E, h10km, mb4.6/4, Error ellipse: s-maj=13.0km s-min=9.7km az=136.0*
*MOS **17** 11:05:41.6±0.8, 4689N×15528E, h37km, mb4.8/5, Error ellipse: s-maj=18.9km s-min=12.8km az=89.9*
*ISCJB **17** 11:05:43.3±1.7, 4696N±0.10×1554E±0.1, h52km±14km, mb4.1/17, Error ellipse: s-maj=20.7km s-min=11.7km az=88.0*

ISC 17 11:05:45.3±1.6, 470N±01×1554E±01, h54km±13km, n30, σ0°90/30, mb4.1/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.72**	**7**	*e*	*PN*	**Pn**	**11 06 40.6**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**7.33**	**250**	PN		**Pn**	**11 07 31.7**	**+2.1**
ASAJ	**Asahikawa**	**9.43**	**257**	Pn		**Pn**	**11 07 57.0**	**-1.5**
	0.8nm,0.3s,baz=66,slow=19,SNR=7.4							
ASAJ	**Asahikawa**	**9.43**	**257**	PN		**Pn**	**11 07 57.0**	**-1.5**
ASAJ					*pmax*	*pmax*		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.50**	**237**	Pn		**Pn**	**11 09 29.4**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=6.1							
BILL	**Bilibino**	**21.82**	**11**	*e*	*P*	**P**	**11 10 32.7**	**-0.3**
BILL					*pmax*	*pmax*		
	comp=Z,5.0nm,0.9s,mb3.9							
BILL	**Bilibino**	**21.82**	**11**	*e*	*P*	**P**	**11 10 32.4**	**-0.6**
	comp=Z,5.7nm,0.5s,mb4.3							
KSRS	**Korea Array**	**22.37**	**255**	P		**P**	**11 10 40.0**	**+1.2**
	comp=Z,2.0nm,0.6s,mb3.7,baz=56,slow=11,SNR=8.8							
SONM	**Songino Array**	**32.73**	**290**	P		**P**	**11 12 12.3**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=59,slow=7.3,SNR=4.2							
INK	**Inuvik**	**40.60**	**33**	P		**P**	**11 13 19.3**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.1,baz=289,slow=7.2,SNR=22							
INK	**Inuvik**	**40.60**	**33**	P		**P**	**11 13 19.3**	**-0.4**
ZAL	**Zalesovo**	**43.75**	**306**	P		**P**	**11 13 44.6**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.1,baz=60,slow=5.0,SNR=3.9							
MKAR	**Makanchi Array**	**48.21**	**298**	P		**P**	**11 14 20.7**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=67,slow=8.2,SNR=7.3							
MKAR					*PcP*	*PcP*	11 15 47.6	+0.7
	comp=Z,0.9nm,0.8s,baz=108,slow=4.0,SNR=4.2							
MKAR	**Makanchi Array**	**48.21**	**298**	P		**P**	**11 14 20.7**	**+0.2**
MKAR					*PcP*	*PcP*	11 15 47.6	+0.7
CHKZ	**Chkalovo**	**51.46**	**311**	*e*	*P*	**P**	**11 14 44.3**	**-0.8**
CHKZ					*pmax*	*pmax*		
	comp=Z,6.0nm,0.4s,mb4.9							
CHKZ	**Chkalovo**	**51.46**	**311**	*e*	*P*	**P**	**11 14 44.3**	**-0.8**
	comp=Z,6.2nm,0.4s,mb4.9							
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**	**11 14 48.3**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.4,baz=56,slow=7.4,SNR=10							
ZRNK	**Zerenda**	**52.66**	**311**	*e*	*P*	**P**	**11 14 54.0**	**-0.1**
ZRNK					*pmax*	*pmax*		
	comp=Z,2.0nm,0.4s,mb4.4							
ZRNK	**Zerenda**	**52.66**	**311**	*e*	*P*	**P**	**11 14 54.0**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.4							
ARU	**Arti**	**55.88**	**318**	*e*	*P*	**P**	**11 15 17.0**	**-0.4**
ARU					*pmax*	*pmax*		
	comp=Z,15nm,1.8s,mb4.7							
ARU	**Arti**	**55.88**	**318**	*e*	*P*	**P**	**11 15 17.0**	**-0.4**
	comp=Z,15nm,1.8s,mb4.7							
AKTK	**Aktyubinsk**	**59.72**	**313**	P		**P**	**11 15 45.1**	**+0.8**
AKTO	**Aktyubinsk**	**59.72**	**313**	P		**P**	**11 15 45.1**	**+0.8**
	comp=Z,1.4nm,0.5s,mb4.3,baz=63,slow=8.8,SNR=6.5							
AKTO	**Aktyubinsk**	**59.72**	**313**	P		**P**	**11 15 45.1**	**+0.7**
AKTO					*pmax*	*pmax*		
	comp=Z,1.0nm,0.5s,mb4.1							
PDAR	**Pinedale Array**	**63.33**	**55**	P		**P**	**11 16 08.7**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.7,baz=270,slow=1.5,SNR=4.0							
FINES	**FINESS Array B**	**64.47**	**336**	P		**P**	**11 16 17.2**	**+1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=35,slow=7.0,SNR=5.9							
WRA	**Warramunga Arr**	**69.28**	**201**	P		**P**	**11 16 46.0**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.8,baz=21,slow=7.1,SNR=6.8							
KIV	**Kislovodsk**	**71.73**	**315**	*e*	*P*	**P**	**11 17 10.8**	**+9.1**
KIV					*pmax*	*pmax*		
	comp=Z,4.0nm,0.6s,mb4.5							
ASAR	**Alice Springs**	**72.97**	**201**	P		**P**	**11 17 10.0**	**+0.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=13,slow=5.4,SNR=9.8							
TXAR	**Lajitas Array**	**76.00**	**62**	P		**P**	**11 17 26.6**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=293,slow=3.9,SNR=11							

*IDC **17** 11:13:27.2±1.0, 47.12N×155.31E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML3.4/2, Error ellipse: s-maj=29.0km s-min=19.4km az=153.0*
*NEIC **17** 11:13:29.1±0.9, 4723N×155.16E, h10km, mb4.4/5, Error ellipse: s-maj=19.9km s-min=11.9km az=131.0*
*ISCJB **17** 11:13:30.7±2.0, 47.3N±0.1×155.1E±0.2, h33km±16km, mb3.9/13, Error ellipse: s-maj=25.1km s-min=11.8km az=87.4*
*MOS **17** 11:13:30.4±1.7, 4721N×155.05E, h31km, mb4.6/5, Error ellipse: s-maj=19.1km s-min=11.0km az=86.4*

ISC 17 11:13:33.4±1.6, 472N±01×1551E±02, h42km±13km, n23, σ1°17/23, mb3.9/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.50**	**10**	*e*	*PN*	**Pn**	**11 14 27.5**	**+2.2**
SKR				*e*			11 15 05.7	
PET	**Petropavlovsk**	**6.21**	**20**	PN		**Pn**	**11 15 01.0**	**-1.5**
ASAJ	**Asahikawa**	**9.32**	**255**	Pn		**Pn**	**11 15 44.6**	**-0.4**
	0.3nm,0.3s,baz=107,slow=19,SNR=3.3							
MJAR	**Matsushiro Arr**	**16.49**	**236**	Pn		**Pn**	**11 17 21.3**	**-0.3**
	0.2nm,0.3s,baz=135,slow=20,SNR=5.0							
YAK	**Yakutsk**	**20.68**	**325**	*e*	*P*	**P**	**11 18 07.6**	**-2.1**
YAK					*pmax*	*pmax*		
	comp=Z,27nm,0.4s							
YAK	**Yakutsk**	**20.68**	**325**	*e*	*P*	**P**	**11 18 07.6**	**-2.1**
	comp=Z,27nm,0.4s							
BILL	**Bilibino**	**21.62**	**11**	*e*	*P*	**P**	**11 18 21.6**	**+1.8**
BILL					*pmax*	*pmax*		
	comp=Z,8.0nm,1.2s,mb4.0							
BILL	**Bilibino**	**21.62**	**11**	*e*	*P*	**P**	**11 18 19.7**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.0							
KSRS	**Korea Array**	**22.26**	**254**	P		**P**	**11 18 28.3**	**+1.7**
	comp=Z,1.2nm,0.8s,mb3.4,baz=55,slow=11,SNR=6.3							
TIXI	**Tiksi**	**27.40**	**342**	*e*	*P*	**P**	**11 19 12.6**	**-2.2**
TIXI					*pmax*	*pmax*		
	comp=Z,4.0nm,0.8s,mb4.0							
TIXI	**Tiksi**	**27.40**	**342**	*e*	*P*	**P**	**11 19 12.6**	**-2.2**
	comp=Z,4.5nm,0.8s,mb4.0							
SONM	**Songino Array**	**32.47**	**289**	P		**P**	**11 19 59.3**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.6,baz=54,slow=8.2,SNR=7.5							
INK	**Inuvik**	**40.49**	**33**	P		**P**	**11 21 08.9**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.7,baz=289,slow=8.0,SNR=8.7							
ZAL	**Zalesovo**	**43.46**	**306**	P		**P**	**11 21 34.3**	**+2.1**
	comp=Z,1.4nm,0.4s,mb4.1,baz=216,slow=9.1,SNR=3.2							
MKAR	**Makanchi Array**	**47.94**	**298**	P		**P**	**11 22 07.8**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=71,slow=6.9,SNR=12							
CHKZ	**Chkalovo**	**51.17**	**311**	*e*	*P*	**P**	**11 22 31.9**	**-0.3**
CHKZ					*pmax*	*pmax*		
	comp=Z,10.0nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**51.17**	**311**	*e*	*P*	**P**	**11 22 31.9**	**-0.3**
	comp=Z,9.8nm,0.6s,mb4.9							
ZRNK	**Zerenda**	**52.37**	**310**	*e*	*P*	**P**	**11 22 41.4**	**+0.3**
ZRNK					*pmax*	*pmax*		
	comp=Z,2.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**52.37**	**310**	*e*	*P*	**P**	**11 22 41.4**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.1							
FINES	**FINESS Array B**	**64.18**	**336**	P		**P**	**11 24 04.0**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.4,baz=31,slow=12,SNR=6.0							
AKASG	**Malin Array Be**	**71.89**	**327**	P		**P**	**11 24 51.9**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=32,slow=5.8,SNR=4.2							
ASAR	**Alice Springs**	**73.13**	**200**	P		**P**	**11 24 58.7**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=5.0,SNR=6.7							
TXAR	**Lajitas Array**	**76.04**	**62**	P		**P**	**11 25 15.8**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=303,slow=4.8,SNR=9.4							

IDC 17 11:18:08.1±7.5, 599S×15130E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=115.7km s-min=68.1km az=32.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.33**	**230**	Pn		Pn	11 19 29.6	+0.8
	0.7nm,0.3s,baz=61,slow=13,SNR=3.4							
PMG						Sn	Sn	11 20 23.7	-7.1
	1.1nm,0.3s,baz=202,slow=13,SNR=2.9							
WB2	**Warramunga Arr**	**21.53**	**228**	*e*	*P*		P	11 22 58.1	-0.7
WRA	**Warramunga Arr**	**21.54**	**228**	P			P	11 22 58.2	-0.7
	1.9nm,0.7s,baz=53,slow=10,SNR=14								
ASAR	**Alice Springs**	**24.27**	**222**	P			P	11 23 26.6	-0.3
	0.9nm,0.6s,baz=56,slow=8.4,SNR=26								
ASPA	**Alice Springs**	**24.27**	**222**	*e*	*P*		P	11 23 26.7	-0.2
STKA	**Stephens Creek**	**27.31**	**198**	P			P	11 23 54.5	+0.2
	0.4nm,0.3s,baz=28,slow=11,SNR=3.6								
FITZ	**Fitzroy Crossi**	**27.78**	**242**	*e*	*P*		P	11 24 00.0	+1.4
	3.3nm,0.5s								
FITZ					*e*			11 24 08.9	
FITZ	**Fitzroy Crossi**	**27.78**	**242**	P			P	11 24 00.0	+1.4
	1.7nm,0.5s,baz=85,slow=7.6,SNR=13								

IDC 17 11:29:30.8±1.1, 4618N×15545E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=65.9km s-min=22.8km az=154.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.32**	**262**	Pn		Pn	11 31 45.0	-1.3
	0.4nm,0.3s,baz=56,slow=15,SNR=3.4							
KSRS	**Korea Array**	**22.20**	**257**	P		P	11 34 29.8	+1.1
	1.1nm,0.7s,baz=55,slow=9.5,SNR=4.7							
PDAR	**Pinedale Array**	**63.77**	**55**	P		P	11 40 04.3	-0.1
	0.7nm,0.9s,baz=349,slow=4.5,SNR=5.5							
ASAR	**Alice Springs**	**72.21**	**201**	P		P	11 40 57.3	-0.2
	0.5nm,0.9s,baz=35,slow=4.6,SNR=4.5							
TXAR	**Lajitas Array**	**76.35**	**62**	P		P	11 41 22.1	+0.4
	1.2nm,0.7s,baz=300,slow=4.2,SNR=15							

IDC 17 11:42:49.3±2.0, 4832N×15499E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=83.9km s-min=29.2km az=162.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.56**	**249**	Pn		Pn	11 45 09.2	+1.0
	0.4nm,0.3s,baz=80,slow=12,SNR=3.8							
KSRS	**Korea Array**	**22.49**	**251**	P		P	11 47 50.0	-0.3
	0.9nm,0.7s,baz=60,slow=9.4,SNR=4.2							
MKAR	**Makanchi Array**	**47.36**	**297**	P		P	11 51 24.6	-0.3
	0.6nm,0.7s,baz=62,slow=8.4,SNR=5.1							
TXAR	**Lajitas Array**	**75.62**	**62**	P		P	11 54 36.4	+0.2
	0.2nm,0.5s,baz=297,slow=4.3,SNR=3.5							

*ISCJB **17** 11:55:33.3±0.8, 470N±0.1×1558E±0.2, h10km, mb4.1/7, Error ell

ISC 17 12:02:10.8±0.8, 4730N±009×1466E±02, h415km±9km, n22, σ1§54/28, mb3.3/8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**3.52**	**198**	P	**P**	**12 03 20.1**	**+0.7**
JTKR	**Abashiri--Toko**	**3.83**	**211**	P	**P**	**12 03 24.1**	**+1.9**
NEM2	**Nemuro 2**	**3.99**	**189**	*eS*	**S**	**12 04 19.2**	**-3.5**
JAR	**Ashorobuto**	**4.48**	**208**	P	**P**	**12 03 29.6**	**+1.3**
JAR				*eS*	**S**	**12 04 32.9**	**+1.6**
JAK	**Akkeshi**	**4.51**	**198**	P	**P**	**12 03 28.1**	**-0.5**
JAK				*eS*	**S**	**12 04 29.9**	**-2.0**
JCH	**Churui**	**5.22**	**207**	P	**P**	**12 03 36.3**	**+0.6**
JCH				*eS*	**S**	**12 04 42.5**	**-2.4**
JNBK	**Urakawa-nobuka**	**5.72**	**210**	P	**P**	**12 03 41.7**	**+0.8**
JNBK				*eS*	**S**	**12 04 52.7**	**-1.8**
JKB	**Kayabe**	**6.72**	**218**	P	**P**	**12 03 53.4**	**+1.7**
JKB				*eS*	**S**	**12 05 13.3**	**-0.8**
JOT	**Ohata**	**7.14**	**216**	P	**P**	**12 03 58.0**	**+1.8**
JOT				*eS*	**S**	**12 05 20.2**	**-2.3**
JANG	**Nango**	**7.84**	**210**	*eS*	**S**	**12 05 34.6**	**-2.3**
JOM	**Ohasama**	**8.73**	**208**	*eS*	**S**	**12 05 55.6**	**+0.6**
JMK	**Ichinoseki**	**9.23**	**207**	*eS*	**S**	**12 06 06.3**	**+1.1**
MJAR	**Matsushiro Arr**	**12.43**	**213**	P	**P**	**12 04 59.4**	**+4.6**
	0.3nm,0.3s,baz=16,slow=10,SNR=5.2						
KSRS	**Korea Array**	**16.92**	**241**	P	**P**	**12 05 48.1**	**+4.9**
	baz=47,slow=10,SNR=14						
SONM	**Songino Array**	**26.93**	**286**	P	**P**	**12 07 16.9**	**+0.5**
	0.2nm,0.4s,mb2.9,baz=60,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**42.70**	**294**	P	**P**	**12 09 29.9**	**+0.7**
	0.7nm,0.5s,mb3.2,baz=65,slow=7.6,SNR=7.2						
FINES	**FINESS Array B**	**61.55**	**332**	P	**P**	**12 11 43.9**	**-1.9**
	1.1nm,0.6s,mb3.6,baz=41,slow=6.1,SNR=3.9						
NOA	**NORSAR Array B**	**66.16**	**338**	P	**P**	**12 12 13.9**	**-1.6**
	0.4nm,0.5s,mb3.3,baz=31,slow=6.9,SNR=2.3						
WRA	**Warramunga Arr**	**67.84**	**192**	P	**P**	**12 12 27.6**	**+1.7**
	0.3nm,0.5s,mb3.2,baz=8.9,slow=6.7,SNR=5.8						
PDAR	**Pinedale Array**	**67.92**	**51**	P	**P**	**12 12 24.9**	**-1.5**
	1.2nm,0.4s,mb3.9,baz=6.0,slow=0.7,SNR=13						
ASAR	**Alice Springs**	**71.56**	**192**	P	**P**	**12 12 50.9**	**+2.5**
	0.1nm,0.3s,mb2.8,baz=9.0,slow=5.6,SNR=6.6						
TXAR	**Lajitas Array**	**80.99**	**56**	P	**P**	**12 13 39.6**	**-1.1**
	0.7nm,0.6s,mb3.6,baz=283,slow=3.9,SNR=10.0						

MAN 17 12:09:21.1, 1650N×12233E, h49km, mb2.5, ML4.0, MS6.1, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.56**	**9**	*ePg*	Pn	12 09 34.6	+1.6
PALP				*eS*	Sn	12 09 47.8	+6.2
CVP	**Callao Caves**	**1.29**	**338**	*eP*	Pn	12 09 43.0	+0.3
PCPH	**Palayan**	**1.51**	**232**	*eP*	Pn	12 09 47.4	+1.7

*BJI **17** 12:11:35.7, 4632N×15420E, h6km, mB4.8, mb4.5*
*IDC **17** 12:11:35.9±0.6, 4588N×15428E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.1/20, ML3.7/2, Error ellipse: s-maj=18.3km s-min=14.9km az=129.0*
*ISCJB **17** 12:11:37.1±3.0, 4592N±008×15406E±0.10, h16km±20km, mb4.3/27, Error ellipse: s-maj=16.1km s-min=8.4km az=114.3*
*NEIC **17** 12:11:37.6±0.4, 4589N×15423E, h10km, mb4.7/6, Error ellipse: s-maj=11.4km s-min=8.8km az=131.0*
*MOS **17** 12:11:39.1±1.3, 4594N×15405E, h31km, mb4.9/5, Error ellipse: s-maj=13.2km s-min=10.0km az=102.0*

ISC 17 12:11:41.4±3.1, 4596N±008×15407E±009, h34km±21km, n46, σ1§15/48, mb4.3/27, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.41**	**263**	*i*P	**Pn**	**12 12 43.0**	**-2.9**
KUR				*eS*	**Sn**	**12 13 35.0**	**-1.1**
KUR				pmax	pmax		
	comp=Z,220nm,0.7s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	**Severo-Kuril's**	**4.92**	**15**	*eP*	**Pn**	**12 12 51.5**	**-1.4**
SKR				*e*		12 13 43.0	
YUK	**Yuzh-Kuril'sk**	**6.13**	**255**	*eP*	**Pn**	**12 13 02.0**	**-7.5**
YUK				*eS*	**Sn**	**12 14 16.5**	**-1.9**
YUK				pmax	pmax		
	comp=Z,160nm,0.4s						
YUK				smax			
	comp=N,240nm,0.6s						
YUK				smax			
	comp=E,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.88**	**281**	*eP*	**Pn**	**12 13 36.0**	**+2.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ASAJ	**Asahikawa**	**8.33**	**261**	Pn	**Pn**	**12 13 40.7**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=129,slow=28,SNR=11						
ASAJ	**Asahikawa**	**8.33**	**261**	P	**Pn**	**12 13 40.7**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.17**	**237**	*eP*	**Pn**	**12 15 18.6**	**+5.6**
MAJO				pmax	pmax		
	comp=Z,23nm,0.8s						
MAJO	**Matsushiro**	**15.17**	**237**	*eP*	**Pn**	**12 15 18.6**	**+5.5**
	comp=Z,23nm,0.8s						
MAT	**Matsushiro**	**15.17**	**237**	P	**Pn**	**12 15 19.1**	**+6.1**
MJAR	**Matsushiro Arr**	**15.17**	**237**	Pn	**Pn**	**12 15 13.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=37,slow=9.5,SNR=3.5						
KLR	**Kul'dur**	**15.40**	**290**	*eP*	**Pn**	**12 15 08.7**	**-7.3**
CN2	**Changchun**	**20.35**	**274**	*eP*	**P**	**12 16 15.0**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**21.22**	**256**	P	**P**	**12 16 25.4**	**+1.3**
	comp=Z,3.3nm,0.8s,mb3.7,baz=65,slow=8.6,SNR=11						
YAK	**Yakutsk**	**21.34**	**328**	*eP*	**P**	**12 16 23.4**	**-2.1**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,9.0nm,1.7s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.7s						
YAK	**Yakutsk**	**21.34**	**328**	*eP*	**P**	**12 16 22.5**	**-3.0**
	comp=E,24nm,0.6s,mb4.7						
BILL	**Bilibino**	**23.02**	**12**	*eP*	**P**	**12 16 44.7**	**+1.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.0						
BOD	**Bodaibo**	**27.00**	**311**	*eP*	**P**	**12 17 17.7**	**-2.4**
HHC	**Hu-ho-hao-te**	**31.02**	**276**	*eP*	**P**	**12 17 57.6**	**+1.8**
HHC				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,101nm,4.5s						
SONM	**Songino Array**	**32.23**	**291**	P	**P**	**12 18 06.9**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=81,slow=8.1,SNR=4.0						
INK	**Inuvik**	**41.97**	**32**	P	**P**	**12 19 28.4**	**-0.6**
	comp=Z,3.4nm,1.2s,mb3.9,baz=251,slow=6.3,SNR=5.0						
GYA	**Guiyang**	**42.20**	**259**	P	**P**	**12 19 31.9**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**43.63**	**307**	P	**P**	**12 19 41.0**	**-1.5**
	comp=Z,2.0nm,0.6s,mb4.0,baz=55,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**12 20 16.7**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=69,slow=7.2,SNR=19						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**12 20 40.6**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=298,slow=7.2,SNR=4.5						
CHKZ	**Chkalovo**	**51.45**	**311**	*eP*	**P**	**12 20 43.1**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.45**	**311**	*eP*	**P**	**12 20 43.1**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**12 20 47.5**	**+1.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=64,slow=8.4,SNR=12						
ZRNK	**Zerenda**	**52.65**	**311**	*eP*	**P**	**12 20 52.3**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**52.65**	**311**	*eP*	**P**	**12 20 52.3**	**+0.2**
	comp=Z,3.7nm,0.5s,mb4.6						
ARU	**Arti**	**56.04**	**318**	*eP*	**P**	**12 21 16.8**	**0.0**
ARU	**Arti**	**56.04**	**318**	*eP*	**P**	**12 21 17.1**	**+0.2**
	comp=Z,10nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**58.82**	**341**	P	**P**	**12 21 36.6**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.5,baz=33,slow=9.1,SNR=4.0						
PDAR	**Pinedale Array**	**64.68**	**54**	P	**P**	**12 22 15.0**	**-0.8**
	comp=Z,1.5nm,1.0s,mb4.0,baz=298,slow=3.2,SNR=9.5						
FINES	**FINESS Array B**	**65.04**	**335**	P	**P**	**12 22 18.3**	**+0.1**
	comp=Z,2.0nm,0.5s,mb4.4,baz=39,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**67.99**	**200**	P	**P**	**12 22 35.5**	**-1.6**
	comp=Z,4.0nm,0.8s,mb4.5,baz=19,slow=6.5,SNR=24						
FITZ	**Fitzroy Crossi**	**68.76**	**209**	P	**P**	**12 22 41.8**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=356,slow=12,SNR=3.1						
NB2	**NORSAR Subarra**	**69.19**	**342**	P	**P**	**12 22 44.4**	**-0.1**
	comp=Z,4.7nm,1.0s,mb4.4,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.19**	**342**	P	**P**	**12 22 44.6**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=28,slow=6.5,SNR=5.9						
ASAR	**Alice Springs**	**71.67**	**199**	P	**P**	**12 22 59.9**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=15,slow=5.7,SNR=29						
KIV	**Kislovodsk**	**71.83**	**315**	*eP*	**P**	**12 23 04.2**	**+3.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AKASG	**Malin Array Be**	**72.57**	**327**	P	**P**	**12 23 04.9**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.4,baz=33,slow=6.1,SNR=8.2						
KWP	**Kalwaria**	**75.84**	**330**	*eP*	**P**	**12 23 25.4**	**+1.3**
KWP				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
KWP	**Kalwaria**	**75.84**	**330**	*eP*	**P**	**12 23 25.4**	**+1.2**
	comp=Z,4.5nm,0.4s,mb4.8						
TXAR	**Lajitas Array**	**77.30**	**61**	P	**P**	**12 23 31.8**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=306,slow=3.9,SNR=19						
BRTR	**Keskin Array B**	**79.42**	**317**	P	**P**	**12 23 45.5**	**+1.4**
	comp=Z,1.9nm,1.0s,mb4.0,baz=70,slow=4.1,SNR=4.9						
GERES	**GERESS Array B**	**79.46**	**335**	P	**P**	**12 23 44.7**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=349,slow=2.0,SNR=5.8						

*ISCJB **17** 12:13:46.0±0.7, 468N±0.1×1545E±0.1, h10km, mb4.2/18, Error ellipse: s-maj=17.9km s-min=12.3km az=117.4*
*IDC **17** 12:13:46.1±0.9, 4673N×15462E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/23, mbtmp3.9/11, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/43, Error ellipse: s-maj=26.7km s-min=18.7km az=168.0*
*NEIC **17** 12:13:48.4±1.0, 4665N×15459E, h10km, mb4.7/4, Error ellipse: s-maj=27.4km s-min=19.7km az=153.0*
*MOS **17** 12:13:51.4±2.1, 4678N×15421E, h33km, mb4.7/7, Error ellipse: s-maj=23.9km s-min=13.2km az=105.4*

ISC 17 12:13:48.1±0.7, 467N±01×1545E±01, h10km, n35, σ1§31/34, mb4.2/18, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.09**	**14**	*e*PN	**Pn**	**12 14 43.0**	**-7.6**
ASAJ	**Asahikawa**	**8.78**	**257**	LR	LR	12 18 48.9	
	comp=Z,72nm,21.0s,baz=182,slow=34						
MJAR	**Matsushiro Arr**	**15.85**	**236**	Pn	**Pn**	**12 17 31.5**	**+0.2**
	0.1nm,0.3s,baz=37,slow=8.6,SNR=3.7						
CLNS	**Chul'man**	**20.76**	**310**	*eP*	**P**	**12 18 28.4**	**-0.6**
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
KSRS	**Korea Array**	**21.72**	**254**	P	**P**	**12 18 37.8**	**-1.5**
	comp=E,0.4nm,0.3s,mb3.3,baz=60,slow=9.2,SNR=4.8						
BILL	**Bilibino**	**22.20**	**12**	*eP*	**P**	**12 18 43.3**	**-1.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**32.24**	**290**	P	**P**	**12 20 16.3**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=64,slow=7.2,SNR=5.0						
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**12 22 25.1**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=70,slow=8.4,SNR=4.1						
BVAR	**Borovoye Array**	**51.61**	**310**	P	**P**	**12 22 54.2**	**-0.4**
	comp=Z,2.5nm,0.4s,mb4.5,baz=56,slow=7.0,SNR=14						
ZRNK	**Zerenda**	**52.37**	**310**	*eP*	**P**	**12 22 59.4**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**52.37**	**310**	*eP*	**P**	**12 22 59.4**	**-0.9**
	comp=Z,4.3nm,0.7s,mb4.5						
ARU	**Arti**	**55.67**	**318**	*eP*	**P**	**12 23 23.9**	**-0.5**
ARU	**Arti**	**55.67**	**318**	*eP*	**P**	**12 23 23.5**	**-0.9**
	comp=Z,8.5nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**61.58**	**63**	P	**P**	**12 24 04.7**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.8,baz=292,slow=7.1,SNR=3.9						
PDAR	**Pinedale Array**	**63.97**	**55**	P	**P**	**12 24 20.4**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=321,slow=2.1,SNR=6.0						
FINES	**FINESS Array B**	**64.46**	**335**	P	**P**	**12 24 23.8**	**-1.0**
	comp=Z,2.4nm,0.4s,mb4.6,baz=40,slow=7.8,SNR=14						
NB2	**NORSAR Subarra**	**68.55**	**342**	P	**P**	**12 24 50.6**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**12 24 50.6**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=26,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**72.51**	**200**	P	**P**	**12 25 15.7**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=17,slow=5.2,SNR=7.5						
TXAR	**Lajitas Array**	**76.66**	**61**	P	**P**	**12 25 38.2**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=300,slow=4.1,SNR=16						
CLL	**Collm**	**76.87**	**336**	*eP*	**P**	**12 25 42.0**	**+1.7**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CLL	**Collm**	**76.87**	**336**	*eP*	**P**	**12 25 42.0**	**+1.7**
	comp=Z,9.0nm,0.8s,mb4.8						
CLL	**Collm**	**76.87**	**336**	*i*P	**P**	**12 25 42.2**	**+1.9**
	comp=Z,9.0nm,0.8s,mb4.8						
GERES	**GERESS Array B**	**78.88**	**335**	P	**P**	**12 25 53.0**	**+1.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=38,slow=5.0,SNR=6.1						
CDF	**Champ du Feu**	**81.03**	**339**	*eP*	**P**	**12 26 06.0**	**+2.9**
	comp=Z,3.3nm,0.5s,mb4.2						
CDF	**Champ du Feu**	**81.03**	**339**	*eP*	**P**	**12 26 06.0**	**+2.9**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CDF	**Champ du Feu**	**81.03**	**339**	*eP*	**P**	**12 26 06.0**	**+2.9**
	comp=Z,1.6nm,0.5s,mb4.2						
GRR	**Gorron**	**82.86**	**344**	*eP*	**P**	**12 26 16.2**	**+3.4**
SMF	**Signal de Mont**	**83.51**	**340**	*eP*	**P**	**12 26 19.4**	**+3.3**
	comp=Z,15nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**83.51**	**340**	*eP*	**P**	**12 26 19.4**	**+3.3**
SMF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**83.51**	**340**	*eP*	**P**	**12 26 19.4**	**+3.3**
	comp=Z,7.3nm,1.0s,mb4.8						
LPG	**La Plagne**	**83.87**	**338**	*eP*	**P**	**12 26 20.1**	**+2.1**
	comp=Z,16nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.87**	**338**	*eP*	**P**	**12 26 20.1**	**+2.1**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LPG	**La Plagne**	**83.87**	**338**	*eP*	**P**	**12 26 20.1**	**+2.1**
	comp=Z,7.9nm,0.9s,mb4.8						
RJF	**Les Rejaudoux**	**85.31**	**341**	*eP*	**P**	**12 26 27.9**	**+2.7**

*CSEM **17** 12:29:19.2, 3488N×2562E, h10km, MD3.5/4, After ATH*
*NEIC **17** 12:29:19.2, 3488N×2562E, h10km, MD3.5(ATH), After ATH.*

ATH 17 12:29:19.2, 3488N×2562E, h10km±7km, MD3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.06**	**95**	*e*PG	Pg	12 29 21.5	+0.2
NPS	**Neapolis**	**0.38**	**359**	*e*PB	Pg	12 29 26.0	-0.7
NPS				*e*SB	Sg	12 29 31.6	-0.2
VAM	**Vamos**	**1.28**	**295**	*e*PN	Pn	12 29 42.3	-0.8
VAM				*e*SB	Sb	12 30 02.0	+2.2
KARP	**Karpathos**	**1.43**	**62**	*e*PB	Pb	12 29 46.3	+0.4

*ISCJB **17** 12:31:08.4±1.2, 2985N±007×3636E±008, h0km, Error ellipse: s-maj=10.4km s-min=9.3km az=80.7*
*CSEM **17** 12:31:10.9±0.3, 2979N×3611E, h1km, mL2.0, Error ellipse: s-maj=6.1km s-min=4.1km az=105.0, Mining explosion.*
*GII **17** 12:31:10.2±0.5, 2989N×3622E, h0km±12km, ML2.0/2*
*HLW **17** 12:31:11.4, 2951N×3659E, h20km, Mb2.8*

ISC 17 12:31:08.3±1.3, 2985N±007×3641E±008, h0km, n16, σ0§98/19, 2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.19**	**264**	Pg	**Pg**	**12 31 30.5**	**-0.6**
AQBJ				Sg	**Sg**	**12 31 47.6**	**+1.1**
HRFI	**Mount Harif**	**1.21**	**279**	Pg	**Pg**	**12 31 30.1**	**-1.3**
ZFRI	**Zfri**	**1.28**	**304**	Pg	**Pg**	**12 31 32.0**	**-0.8**
EIL	**Elat**	**1.28**	**262**	*eP*	**Pg**	**12 31 32.2**	**-0.6**
	223nm,0.5s						
EIL	**Elat**	**1.28**	**262**	Pg	**Pg**	**12 31 32.5**	**-0.3**
PRNI	**Paran**	**1.32**	**293**	Pg	**Pg**	**12 31 32.3**	**-1.2**
PRNI				Sg	**Sg**	**12 31 50.0**	**-0.6**
KMTI	**Karmit**	**1.48**	**280**	Pn	**Pn**	**12 31 35.3**	**-0.9**
HBST	**Basata**	**1.59**	**247**	P	**Pn**	**12 31 37.6**	**-0.1**
MZDA	**Masada**	**1.71**	**328**	Pn	**Pn**	**12 31 39.9**	**+0.6**
MASH	**Mash'abbe Sade**	**1.81**	**310**	Pn	**Pn**	**12 31 40.8**	**+0.1**
YTIR	**Yattir**	**1.88**	**324**	Pn	**Pn**	**12 31 42.5**	**+0.9**
SVTA	**Shivta**	**1.89**	**305**	Pn	**Pn**	**12 31 42.1**	**+0.3**
HDHB	**Dhahab**	**1.93**	**235**	P	**Pn**	**12 31 41.6**	**-0.7**
HNKL	**Nakhl**	**2.11**	**273**	P	**Pn**	**12 31 46.9**	**+2.1**
HNKL				S	**Sn**	**12 32 13.5**	**+1.7**
HKAT	**Jabal Katrina**	**2.49**	**239**	P	**Pn**	**12 31 50.0**	**-0.1**
AMAG	**Maghara**	**2.88**	**287**	P	**Pn**	**12 31 59.2**	**+3.7**

*NIED **17** 12:31:00, 3320N×13760E, h380km, Mw5.5 Best double couple: M0 1.72000×10^17 NP1:φs338.00000°, δ85.00000°, λ-64.00000°. NP2:φs77.00000°, δ26.00000°, λ-169.00000°.*
*ISCJB **17** 12:31:34.9±0.1, 3318N±002×13746E±001, h356km, mb5.2/197, Error ellipse: s-maj=2.5km s-min=1.6km az=148.7*
*JMA **17** 12:31:34.1±0.3, 3322N×13760E, h376km±3km, M5.5 Broadband fault plane solution: P waves. NP1: φs66.00000°, δ24.00000°, λ171.00000°. NP2: φs164.00000°, δ86.00000°, λ66.00000°. Principal axes: T Plg44.0000°, Azm51.0000°; N Plg24.0000°, Azm166.0000°; P Plg37.0000°, Azm275.0000°;*
JMA Felt II J1.
*BJI **17** 12:31:34.1, 3326N×13732E, h345km, mB5.3, mb5.6*
*MOS **17** 12:31:34.6±0.8, 3321N×13737E, h357km, mb5.3/80, Error ellipse: s-maj=6.7km s-min=3.7km az=108.3*
*GCMT **17** 12:31:36.7±0.2, 3313N×13740E, h357km±1km, MW5.4/72, Moment Tensor Solution. s72,c120; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr=0.25±.03; Mθθ 0.52±.05; Mφφ -0.27±.04; Mrθ 0.45±.04; Mφθ -0.35±.04; Mφr -1.50±.04; Best double couple: M0 1.65500×10^17 NP1:φs78.00000°, δ19.00000°, λ-170.00000°. NP2: φs339.00000°, δ87.00000°, λ-71.00000°. Principal axes: T 1.5480, Plg39.0000°, Azm52.0000°; N 0.2150, Plg19.0000°, Azm158.0000°; P -1.7630, Plg45.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **17** 12:31:36.3±0.4, 3318N×13744E, h363km±3km, mb4.7/32, mb1 4.8/38, mb1mx4.8/41, mbtmp4.8/38 Error ellipse: s-maj=8.1km s-min=6.0km az=59.0*
*NEIC **17** 12:31:36.7±0.4, 3321N×13735E, h366km±3km, mb5.2/106, MW5.4(NIED), Error ellipse: s-maj=3.7km s-min=2.7km az=155.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Chiba, Gumma, Iwate, Kanagawa, Miyagi, Nagano, Saitama and Tokyo Prefectures.
*SZGRF **17** 12:31:48.8, 3398N×13460E, h376km, mb5.6, Shikoku, Japan*

ISC 17 12:31:36.5±0.1, 3327N±002×13743E±001, h358km, h358km±2.2km:pP-P, n1015, σ0§89/1090, mb5.2/196, 163C-182D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.51**	**15**	P	**Pn**	**12 32 21.7**	**+0.1**
TK01				*e*S	**S**	**12 32 58.5**	**+0.7**
TK02	**Tokai 2**	**0.73**	**22**	↓P	**Pn**	**12 32 22.4**	**+0.3**
TK02				*e*S	**S**	**12 33 01.0**	**+2.3**
TK03	**Tokai 3**	**1.00**	**26**	↓P	**Pn**	**12 32 23.5**	**+0.5**
TK03				*e*S	**S**	**12 33 03.3**	**+2.9**
TK04	**Tokai 4**	**1.17**	**18**	↓P	**Pn**	**12 32 24.3**	**+0.6**
TK04				*e*S	**S**	**12 33 03.8**	**+2.1**
JIE	**Ise**	**1.27**	**332**	↑P	**Pn**	**12 32 24.7**	**+0.5**
JIE				*e*S	**S**	**12 33 02.9**	**+0.4**
JKN2	**Miekihoku**	**1.37**	**315**	↑P	**Pn**	**12 32 25.0**	**+0.3**
JKN2				*e*S	**S**	**12 33 03.3**	**0.0**
JAA	**Atsumi**	**1.38**	**350**	↑P	**Pn**	**12 32 25.3**	**+0.6**
JAA				*e*S	**S**	**12 33 03.6**	**+0.1**
JWZ	**Kozaga**	**1.46**	**281**	↑P	**Pn**	**12 32 25.2**	**+0.1**
JWZ				*e*S	**S**	**12 33 04.4**	**+0.2**
JSG	**Sagara**	**1.54**	**24**	↓P	**Pn**	**12 32 26.0**	**+0.4**
HMMJ	**Hamamatsu 2**	**1.60**	**9**	↓P	**Pn**	**12 32 26.0**	**+0.1**
HMMJ				*e*S	**S**	**12 33 05.6**	**0.0**
TSUJ	**Tsu 2**	**1.67**	**330**	↑P	**Pn**	**12 32 27.0**	**+0.7**
TSUJ				*e*S	**S**	**12 33 07.5**	**+1.2**
JKO	**Kozu shima**	**1.69**	**57**	↓P	**Pn**	**12 32 25.8**	**-0.6**
JYZW	**Yoshizawa**	**1.74**	**8**	P	**Pn**	**12 32 26.7**	**-0.1**
JWY	**Kouya**	**1.80**	**302**	↑P	**Pn**	**12 32 28.0**	**+0.9**
JWY				*e*S	**S**	**12 33 08.3**	**+0.4**
JWM	**Minabe**	**1.83**	**289**	↑P	**Pn**	**12 32 27.6**	**+0.3**
JIZS	**Izushimoda**	**1.88**	**39**	↓P	**Pn**	**12 32 27.2**	**-0.4**
SHZ3	**Shizuoka 3**	**1.91**	**20**	↓P	**Pn**	**12 32 28.0**	**+0.2**
NJJJ	**Nii jima 2**	**1.91**	**53**	↓P	**Pn**	**12 32 27.4**	**-0.4**
JHJ	**Hachijo jima 2**	**1.98**	**94**	P	**

JKD	Kudamatsu	4.70	281	⇑	P		Pn	12 32 54.3	+1.1	
ONAJ	Iwakimizuishiy	4.71	35	⇓	P		Pn	12 32 50.7	-2.6	
JHIK	Hikimi	4.75	287	⇑	P		Pn	12 32 54.4	+0.7	
JUS	Usuki	4.77	269	⇑	P		Pn	12 32 55.0	+1.1	
JUS					S		S	12 33 57.8	+1.2	
JSD	Sado	4.81	8		P		Pn	12 32 53.2	-1.1	
JFT	Otama	4.86	28	⇓	P		Pn	12 32 52.8	-2.1	
JKI	Kunimi	4.92	276	⇑	P		Pn	12 32 56.7	+1.2	
JKIT	Kitakata	5.07	264	⇑	P		Pn	12 32 58.6	+1.5	
JTSN	Tsuno	5.10	260		P		Pn	12 32 58.6	+1.1	
JAW	Awa shima	5.38	15		P		Pn	12 32 59.3	-1.3	
JYS	Shirataka	5.38	23	⇓	P		Pn	12 32 59.2	-1.4	
JTY	Toyota	5.40	282	⇑	P		Pn	12 33 01.8	+1.1	
JNU	Nakatsue	5.50	270		P		Pn	12 33 03.9	+2.0	
	139nm,0.3s,baz=271,slow=24,SNR=489									
JNU					S		S	12 34 11.5	+0.4	
	baz=239,slow=19,SNR=7.2									
JTZ	Takazaki	5.53	257	⇑	P		Pn	12 33 03.4	+1.2	
JFA	Akaike	5.56	276	⇑	P		Pn	12 33 03.4	+0.8	
JFA					S		S	12 34 13.2	+0.8	
JIU2	Izumi 2	5.61	264	⇑	P		Pn	12 33 04.4	+1.2	
JOU	Okura	5.72	26	⇓	P		Pn	12 33 02.7	-1.7	
JZO	Okuchi	5.87	261	⇑	P		Pn	12 33 07.0	+1.0	
JFI	Itaya	5.90	273		P		Pn	12 33 07.3	+0.9	
JTSR	Tashiro 2	5.90	251	⇑	P		Pn	12 33 07.8	+1.4	
JTN	Tanegashima 3	6.07	246		S		S	12 34 24.7	+1.8	
JIO	Ouri	6.07	30	⇓	P		Pn	12 33 05.5	-2.8	
JSU	Suzuyama	6.16	255	⇑	P		Pn	12 33 10.1	+0.8	
JHD	Hondo	6.19	265	⇑	P		Pn	12 33 10.7	+1.0	
JUR	Ureshino	6.28	270	⇑	P		Pn	12 33 11.7	+1.0	
JMK	Ichinoseki	6.45	27	⇓	P		Pn	12 33 10.2	-2.4	
JMK					eS		S	12 34 24.3	-6.4	
NGSJ	Nagasakinomoza	6.45	266		P		Pn	12 33 13.9	+1.3	
NGSJ					S		S	12 34 31.9	+1.2	
JSJ	Shimokoshiki	6.71	258	⇑	P		Pn	12 33 16.6	+1.0	
JKC	Kuchinoerabu	6.76	248	⇑	P		Pn	12 33 16.8	+0.6	
JTU	Tsushima	6.80	283	⇓	P		Pn	12 33 17.8	+1.2	
JFU	Fukue jima 2	7.32	268		P		Pn	12 33 24.1	+1.3	
CBIJ	Chichi jima	7.40	145		P		Pn	12 33 17.1	-6.6	
	56nm,0.3s,baz=80,slow=9.3,SNR=67									
CBIJ					S		S	12 34 37.4	-14	
	412nm,0.3s,baz=294,slow=22,SNR=28									
CBIJ	Chichi jima	7.40	145		P		Pn	12 33 16.1	-7.5	
CBIJ					eS		S	12 34 38.4	-13	
JTM	Tenmabayashi	8.05	20		P		Pn	12 33 29.7	-1.5	
KSRS	Korea Array	8.82	301		P		Pn	12 33 42.0	+1.7	
	baz=114,slow=12,SNR=1748									
KSRS					S		S	12 35 23.0	+1.4	
	baz=128,slow=22,SNR=4.0									
KSRS					ScP		ScP	12 42 24.4	-0.4	
	baz=180,slow=1.1,SNR=38									
KS15	Wonju Array Si	8.84	301		ePn		Pn	12 33 42.1	+1.5	
JOSM	Okushiri--Mats	8.95	10		P		Pn	12 33 40.3	-1.6	
JNB	Noboribetsu	9.62	16		P		Pn	12 33 47.7	-2.1	
INCN	Inchon	9.77	299	⇓	P		Pn	12 33 52.9	+1.3	
	SNR=94									
INCN	Inchon	9.77	299		ePn		Pn	12 33 52.9	+1.2	
	2μm,0.8s									
INCN					eSn		S	12 35 44.7	+2.3	
ERM	Erimo	9.84	26		Pn		Pn	12 33 50.8	-1.6	
	10μm,0.9s,SNR=80									
ERM	Erimo	9.84	26		eP		Pn	12 33 49.0	-3.4	
ERM					e			12 35 37.7		
ERM					pmax		pmax			
	comp=Z,1μm,0.9s									
ERM	Erimo	9.84	26		ePn		Pn	12 33 49.0	-3.4	
	comp=Z,1μm,0.9s									
ERM					eSn		S	12 35 37.7	-6.2	
JOW	Kunigami	10.20	233		P		Pn	12 33 56.8	0.0	
	comp=Z,5.3nm,0.3s,baz=64,slow=13,SNR=23									
JOW					S		S	12 35 49.8	-2.1	
	baz=150,slow=20,SNR=2.7									
JOW	Kunigami	10.20	233		P		Pn	12 33 56.7	0.0	
JBT2	Biratori 2	10.26	21		P		Pn	12 33 55.4	-2.0	
JAB	Ashibetsu	10.89	19		P		Pn	12 34 03.1	-1.8	
JHR	Hokuryu	10.98	17		P		Pn	12 34 04.7	-1.3	
JAR	Ashorobuto	11.18	25		P		Pn	12 34 06.3	-2.0	
JKE	Kume jima 2	11.54	236		P		Pn	12 34 13.0	+0.3	
ASAJ	Asahikawa	11.55	19		P		Pn	12 34 11.2	-1.6	
	comp=Z,80nm,0.3s,baz=226,slow=13,SNR=133									
ASAJ					S		S	12 36 16.6	-5.0	
	comp=Z,23nm,0.3s,baz=54,slow=27,SNR=9.9									
ASAJ	Asahikawa	11.55	19		P		Pn	12 34 11.2	-1.6	
ASAJ					S		S	12 36 16.7	-5.0	
ASAJ					pmax		pmax			
	comp=Z,80nm,0.3s									
ASAJ					smax					
	comp=N,23nm,0.3s									
JMP	Maruseppu	11.68	22		P		Pn	12 34 12.7	-1.5	
NEM2	Nemuro 2	12.00	30		P		Pn	12 34 17.2	-0.9	
YUK	Yuzh-Kuril'sk	12.60	29	⇑	iP		P	12 34 25.0	+0.7	
YUK					iS		S	12 36 38.0	-5.3	
YUK					pmax		pmax			
	comp=N,2μm,0.6s									
YUK					pmax		pmax			
	comp=E,520nm,0.6s									
YUK					pmax		pmax			
	comp=Z,3μm,0.6s									
YUK					pmax		pmax			
	comp=N,19μm,2.0s									
YUK					pmax		pmax			
	comp=E,7μm,2.0s									
YUK					pmax		pmax			
	comp=Z,16μm,2.0s									
YUK					smax					
	comp=N,38μm,2.0s									
YUK					smax					
	comp=E,12μm,0.8s									
YUK					smax					
	comp=N,7μm,0.5s									
YUK					smax					
	comp=E,7μm,0.5s									
SNY	Shenyang	13.91	312	⇓	P		P	12 34 39.1	+0.4	
SNY					S		S	12 37 08.8	-1.0	
SNY					AMB		AMB			
	comp=Z,229nm,1.3s									
SNY					AMB		AMB			
	comp=Z,1μm,3.5s									
SNY					LR		LR			
	comp=E,918nm,10.4s									
SNY					LR		LR			
	comp=Z,749nm,8.8s									
SSE	Sheshan	13.93	265		P		P	12 34 37.5	-1.5	
SSE					S		S	12 37 09.8	-0.4	
SSE					AMB		AMB			
	comp=Z,74nm,0.7s									
SSE					AMB		AMB			
	comp=Z,536nm,5.9s									
SSE					LR		LR			
	comp=N,407nm,9.3s									
SSE					LR		LR			
	comp=E,1μm,9.3s									
SSE					LR		LR			
	comp=Z,947nm,7.6s									
SSE	Sheshan	13.93	265		P		P	12 34 37.5	-1.5	
	comp=Z,74nm,0.7s									
SSE					S		S	12 37 09.7	-0.5	
DL2	Dalian	13.96	298		iP		P	12 34 39.3	0.0	
DL2					S		S	12 37 07.4	-3.4	
DL2					SCS		ScS	12 46 07.3	-2.1	
DL2					AMB		AMB			
	comp=Z,140nm,1.1s									
DL2					AMB		AMB			
	comp=Z,450nm,6.6s									
CN2	Changchun	14.07	322	⇓	P		P	12 34 40.4	-0.2	
CN2					eS		S	12 37 11.3	-1.8	
CN2					AMB		AMB			
	comp=Z,50nm,1.1s									
CN2					AMB		AMB			
	comp=Z,500nm,3.0s									
CN2					LR		LR			
	comp=N,1μm,12.0s									
CN2					LR		LR			
	comp=E,800nm,12.0s									
CN2					LR		LR			
	comp=Z,700nm,11.0s									
YSS	Yuzh-Sakhalins	14.26	15	α	iP		P	12 34 43.8	+1.2	
YSS					eS		S	12 37 14.8	-2.0	
YSS					pmax		pmax			
	comp=Z,3μm,0.8s									
YSS					pmax		pmax			
	comp=Z,6μm,4.0s									
YSS					smax					
	comp=N,2μm,3.0s									
YSS					smax					
	comp=N,2μm,3.0s									
YSS					smax					
	comp=N,620nm,1.0s									
YSS					smax					
	comp=E,550nm,0.9s									
YSS	Yuzh-Sakhalins	14.26	15		ePn		Pn	12 34 43.4	-1.1	
	comp=E,4μm,0.9s									
YSS					eSn		S	12 37 13.6	-3.2	
KUR	Kuril'sk	14.41	31	⇓	iP		P	12 34 42.5	-1.7	
KUR					i S		S	12 37 21.5	+1.7	
KUR					pmax		pmax			
	comp=N,430nm,0.8s									
KUR					pmax		pmax			
	comp=E,860nm,0.8s									
KUR					pmax		pmax			
	comp=Z,2μm,0.8s									
KUR					smax					
	comp=N,1μm,0.8s									
KUR					smax					
	comp=E,430nm,0.8s									
JIJ	Ishigaki jima	14.63	236		P		P	12 34 45.5	-1.2	
JKRS	Kuro-shima	14.81	236		P		P	12 34 47.6	-1.0	
IRIF	Iriomote-Funau	14.94	237		P		P	12 34 48.4	-1.6	
HABR	Khabarovsk	15.29	354	⇑	iP		P	12 34 53.5	-0.4	
HABR					eS		S	12 37 41.7	+4.1	
HABR					pmax		pmax			
	comp=Z,56nm,0.7s									
NJ2	Nanjing	15.70	271		eP		P	12 34 58.8	+0.5	
NJ2					XP			12 36 23.3		
NJ2					S		S	12 37 43.5	-2.1	
NJ2					AMB		AMB			
	comp=Z,370nm,0.7s									
NJ2					AMB		AMB			
	comp=Z,580nm,3.7s									
NJ2					LR		LR			
	comp=N,3μm,15.2s									
NJ2					LR		LR			
	comp=E,2μm,13.4s									
NJ2					LR		LR			
	comp=Z,1μm,14.5s									
UGL	Uglegorsk	16.17	11	α	iP		P	12 35 04.5	+1.1	
UGL					eS		S	12 37 58.0	+3.1	
UGL					pmax		pmax			
	comp=Z,660nm,0.8s									
UGL					pmax		pmax			
	comp=N,242nm,0.7s									
UGL					pmax		pmax			
	comp=E,591nm,0.8s									
UGL					pmax		pmax			
	comp=N,2μm,3.0s									
UGL					pmax		pmax			
	comp=E,2μm,3.0s									
UGL					pmax		pmax			
	comp=Z,2μm,3.0s									
UGL					smax					
	comp=N,4μm,6.0s									
UGL					smax					
	comp=E,5μm,6.0s									
UGL					smax					
	comp=Z,4μm,6.0s									
TATO	Taipei	16.19	243		eP		P	12 35 02.9	-0.6	
	comp=Z,260nm,1.4s									
YHNB	Yeheng	16.44	243		eP		P	12 35 04.8	-1.5	
KLR	Kul'dur	16.50	347		eP		P	12 35 03.0	-3.9	
KLR					eS		S	12 37 53.5	-7.9	
KLR					smax					
	comp=N,1μm,9.5s									
KLR					smax					
	comp=E,2μm,9.5s									
NACB	Ninganchiao	16.57	241		eP		P	12 35 05.0	-2.7	
BJT	Baijiatuau	18.32	298		eP		P	12 35 25.8	-0.6	
BJT					pmax		pmax			
	comp=Z,3μm,1.2s									
BJT	Baijiatuau	18.32	298		eP		P	12 35 25.8	-0.7	
	comp=Z,3μm,1.2s									
BJI	Beijing	18.33	298		P		P	12 35 25.8	-0.6	
BJI					S		S	12 38 34.3	-2.6	
BJI					AMB		AMB			
	comp=Z,2μm,1.2s									
BJI					AMB		AMB			
	comp=Z,5μm,3.3s									
BJI					LR		LR			
	comp=N,867nm,15.7s									
BJI					LR		LR			
	comp=E,408nm,15.8s									
BJI					LR		LR			
	comp=Z,554nm,18.4s									
BJI	Beijing	18.33	298		P		P	12 35 25.7	-0.7	
BJI					S		S	12 38 34.2	-2.7	
BJI					pmax		pmax			
	comp=Z,2μm,1.2s									
BJI	Beijing	18.33	298		P		P	12 35 25.7	-0.7	
	comp=Z,2μm,1.2s									
BJI					pP			12 35 38.5		
BJI					S		S	12 38 34.2	-2.7	
QZH	Quanzhou	18.42	248	⇑	iP		P	12 35 25.1	-2.3	
QZH					S		S	12 38 33.8	-4.9	
QZH					AMB		AMB			
	comp=Z,170nm,0.8s									
QZH					LR		LR			
	comp=N,2μm,9.4s									
QZH					LR		LR			
	comp=E,860nm,7.8s									
QZH					LR		LR			
	comp=Z,2μm,9.5s									
WHN	Wuhan	19.78	268	⇓	P		P	12 35 40.8	-0.9	
WHN					S		S	12 39 03.4	+0.8	
WHN					LR		LR			
	comp=Z,2μm,8.6s									
HIA	Hailar	20.71	326		eP		P	12 35 48.7	-1.6	
HIA					pmax		pmax			
	comp=Z,324nm,1.1s									
HIA	Hailar	20.71	326		eP		P	12 35 48.7	-1.6	
	comp=Z,324nm,1.1s									
GUMO	Guam	20.73	159		P		P	12 35 48.5	-2.0	
	comp=Z,100nm,0.6s,baz=181,slow=14,SNR=11									
CVP	Callao Caves	20.91	226		iP		P	12 35 49.0	-3.1	
HHC	Hu-ho-hao-te	21.94	298	⇓	iP		P	12 36 01.5	0.0	
HHC					XP		sP	12 37 43.3	-0.1	
HHC					S		S	12 39 37.3	-0.3	
HHC					PCP		PcP	12 39 48.1	+1.6	
HHC					SCP		ScP	12 42 50.4	+1.2	
HHC					PCS		PcS	12 43 25.1	-0.2	
HHC					AMB		AMB			
	comp=Z,427nm,1.7s,mb5.4									
HHC					AMB		AMB			
	comp=Z,2μm,4.8s									
HHC					LR		LR			
	comp=N,530nm,11.0s									
HHC					LR		LR			
	comp=E,820nm,12.4s									
HHC					LR		LR			
	comp=Z,941nm,14.7s									
SKR	Severo-Kuril's	22.16	33		eP		P	12 36 03.0	-0.5	
SKR					e			12 39 51.0		
SKR					pmax		pmax			
	comp=N,80nm,0.6s									
SKR					pmax		pmax			
	comp=Z,160nm,0.6s,mb5.4									
SKR					pmax		pmax			
	comp=E,220nm,1.0s									
SKR					pmax		pmax			
	comp=N,2μm,4.0s									
BTO	Baotou	23.04	296		eP		P	12 36 11.9	+0.4	
BTO					AMB		AMB			
	comp=Z,247nm,0.9s,mb5.4									
XAN	Xi'an	23.72	280		P		P	12 36 17.3	-0.3	
XAN					S		S	12 40 02.6	-3.3	
XAN					AMB		AMB			
	comp=Z,434nm,0.9s,mb5.7									
XAN					AMB		AMB			
	comp=Z,532nm,3.6s									
XAN					LR		LR			
	comp=N,103nm,7.3s									
XAN					LR		LR			
	comp=E,79nm,8.5s									
XAN					LR		LR			
	comp=Z,190nm,9.9s									
TGY	Tagaytay City	24.27	222		P		P	12 36 21.5	-1.1	
	comp=Z,54nm,0.3s,baz=214,slow=2.3,SNR=4.5									
PET	Petropavlovsk	24.92	31	⇓	iP		P	12 36 28.3	-0.1	
PET					e*SP		sP	12 38 10.5	-4.9	
PET					i S		S	12 40 22.0	-2.8	
PET					pmax		pmax			
	comp=Z,173nm,1.2s,mb5.2									
PET					pmax		pmax			
	comp=Z,200nm,14.3s									
PET					MLR		MLR			
	comp=Z,300nm,15.0s									
PET	Petropavlovsk	24.92	31	⇓	eP		P	12 36 27.7	-0.7	
NRGR	Nerungri	24.97	343		eP		P	12 36 30.0	+1.1	
NRGR					S		S	12 40 26.6	+0.9	
NRGR					smax					
	comp=E,13nm,0.2s									
CLNS	Chul'man	25.10	344		eP		P	12 36 29.9	-0.1	
CLNS					e			12 40 01.1		
CLNS					pmax		pmax			
	comp=N,35nm,0.9s									
CLNS					pmax		pmax			
	comp=Z,53nm,0.9s,mb4.8									
CLNS					pmax		pmax			
	comp=E,14nm,1.0s									
CLNS					pmax		pmax			
	comp=Z,28nm,0.8s,mb4.5									
CLNS					pmax		pmax			
	comp=N,22nm,0.9s									
CLNS					pmax		pmax			
	comp=E,14nm,0.8s									
CIT	Chita	25.49	324		eP		P	12 36 33.9	+0.4	
CIT					e			12 37 41.9		
CIT					eS		S	12 40 35.6	+1.8	
CIT					e			12 46 43.0		
ULN	Ulaanbaatar	27.09	312		P		P	12 36 49.2	+1.6	
	SNR=86									
GYA	Guiyang	27.47	264	⇓	iP		P	12 36 50.1	-0.9	
GYA					AP			12 37 57.3		
GYA					XP		sP	12 38 39.1	+0.3	
GYA					PCP		PcP	12 40 00.4	+1.5	
GYA					S		S	12 41 04.6	-0.3	
GYA					XS		sS	12 43 02.1	-4.2	
GYA					SCP		ScP	12 43 05.8	+1.0	
GYA					PCS		PcS	12 43 41.1	0.0	
GYA					SCS		ScS	12 46 56.3	-0.9	
GYA					AMB		AMB			
	comp=Z,270nm,1.3s,mb5.3									
GYA					AMB		AMB			
	comp=Z,430nm,2.9s,mb5.2									
SONM	Songino Array	27.49	311		P		P	12 36 52.3	+1.1	
	comp=Z,112nm,0.8s,mb5.2,baz=115,slow=8.4,SNR=638									
SONM					S		S	12 41 06.5	+1.3	
	comp=Z,2.9nm,1.0s,baz=99,slow=14,SNR=2.5									
SONM					ScP		ScP	12 43 04.3	-0.5	
	comp=Z,10.0nm,0.9s,baz=142,slow=2.9,SNR=10									
LZH	Lanzhou	27.69	285	⇓	P		P	12 36 52.9	-0.1	
LZH					AP			12 37 58.3		
LZH					XP		sP	12 38 39.1	-1.7	
LZH					PCP		PcP	12 40 03.0	+3.5	
LZH					S		S	12 41 06.0	-2.3	
LZH					XS		sS	12 43 01.0	-8.9	
LZH					SCP		ScP	12 43 07.3	+1.8	
LZH					PCS		PcS	12 43 44.0	+2.2	
LZH					SCS		ScS	12 46 58.1	-0.1	
LZH					AMB		AMB			
	comp=Z,260nm,1.0s,mb5.4									
LZH					AMB		AMB			
	comp=Z,1μm,4.0s									
LZH					LR		LR			
	comp=N,2μm,14.2s									
LZH					LR		LR			
	comp=Z,3μm,15.0s									
LZH	Lanzhou	27.69	285	⇓	P		P	12 36 52.9	-0.1	
LZH					*PP			12 37 58.3		
LZH					*SP		sP	12 38 39.1	-1.7	
LZH								12 40 03.0		
LZH					S		S	12 41 06.0	-2.3	
LZH					*SS		sS	12 43 01.0	-8.9	
LZH								12 46 58.1		
LZH					pmax		pmax			
	comp=Z,260nm,1.0s,mb5.4									
LZH					MLR		MLR			
	comp=Z,3μm,15.0s									
LZH	Lanzhou	27.69	285	⇓	P		P	12 36 52.9	-0.1	
	comp=Z,260nm,1.0s,mb5.4									
LZH					pP			12 37 58.3		
LZH					sP		sP	12 38 39.1	-1.7	
LZH					PcP		PcP	12 40 03.0	+3.5	
LZH					S		S	12 41 06.0	-2.3	
LZH					sS		sS	12 43 01.0	-8.9	
LZH					ScP		ScP	12 43 07.3	+1.8	
LZH					PcS		PcS	12 43 44.0	+2.2	
LZH					ScS		ScS	12 46 58.1	-0.1	
LZH					LR		LR			
	comp=Z,3μm,15.0s									
MA2	Magadan	27.76	15	c	eP		P	12 36 53.4	-0.2	
MA2					e			12 41 11.9		
MA2					e			12 43 12.4		
MA2					pmax		pmax			
	comp=N,200nm,0.7s									
MA2					pmax		pmax			
	comp=E,100nm,0.7s									
MA2					pmax		pmax			
	comp=Z,500nm,0.7s,mb5.8									
MA2	Magadan	27.76	15		eP		P	12 36 53.3	-0.3	
	comp=Z,321nm,0.7s,mb5.7									
QIZ	Qiongzhong	28.43	247		P		P	12 36 59.3	-0.2	
QIZ					PP		PP	12 38 11.6	-0.9	
QIZ					XP		sP	12 38 44.9	-2.5	
QIZ					S		S	12 41 20.0	+0.1	
QIZ					XS		sS	12 43 20.0	-1.7	
QIZ					AMB		AMB			
	comp=Z,58nm,1.0s,mb4.8									
QIZ					AMB		AMB			
	comp=Z,351nm,5.1s									
QIZ	Qiongzhong	28.43	247		eP		P	12 36 59.5	0.0	
	comp=Z,72nm,1.2s,mb4.8									
CD2	Chengdu	28.56	275	⇓	iP		P	12 37 00.1	-0.5	
CD2					AP			12 38 05.1		
CD2					XP		sP	12 38 46.5	-2.1	
CD2					PCP		PcP	12 40 00.3	-1.3	
CD2					XS		sS	12 43 18.1	-5.7	
CD2					SCS		ScS	12 47 03.8	+1.6	
CD2					AMB		AMB			
	comp=Z,1μm,0.8s,mb6.2									
CD2					AMB		AMB			
	comp=Z,820nm,3.8s									
CD2					LR		LR			
	comp=N,1μm,14.4s									
CD2					LR		LR			
	comp=E,700nm,12.0s									
CD2					LR		LR			
	comp=Z,866nm,9.6s									
YAK	Yakutsk	29.21	353	c	iP		P	12 37 05.5	-0.8	
YAK					i *PP			12 38 13.4		
YAK					e			12 40 02.6		
YAK					i S		S	12 41 28.8	-3.3	
YAK					i			12 46 59.9		
YAK					pmax		pmax			
	comp=Z,88nm,0.8s,mb5.0									
YAK					pmax		pmax			
	comp=N,44nm,1.4s									
YAK					pmax		pmax			
	comp=E,9.0nm,0.8s									
YAK					smax					
	comp=E,876nm,3.9s									
YAK					smax					
	comp=N,302nm,1.3s									
YAK					smax					
	comp=Z,138nm,1.3s									
YAK	Yakutsk	29.21	353		eP		P	12 37 05.7	-0.7	
	comp=Z,92nm,0.6s,mb5.2									
BOD	Bodaibo	29.24	334		eP		P	12 37 05.5	-1.1	
BOD					pmax		pmax			
	comp=Z,18nm,1.2s,mb4.2									
BOD					pmax		pmax			
	comp=Z,18nm,0.9s,mb4.3									
ZAK	Zakamensk	30.31	315	⇑	iP		P	12 37 16.4	+0.4	
ZAK					pmax		pmax			
	comp=Z,63nm,1.2s,mb4.7									
IRK	Irkutsk	30.48	318		eP		P	12 37 13.7	-3.8	
IRK					e			12 38 40.0		
IRK					e			12 41 57.2		
IRK					pmax		pmax			
	comp=Z,102nm,1.9s,mb4.7									
TLY	Talaya	30.60	317		P		P	12 37 19.9	+1.4	
	comp=Z,473nm,1.0s,mb5.7,SNR=17									
TLY	Talaya	30.60	317	⇓	P		P	12 37 19.9	+1.4

TLY eSS SS 12 43 58.9 -24
TLY pmax pmax
comp=Z,113nm,1.2s,mb5.0
TLY MLR MLR
comp=Z,227nm,13.0s
TLY Talaya 30.60 317 *i* P **P 12 37 19.7 +1.2**
GTA Gaotai 30.76 292 ⇓*i* P **P 12 37 19.8 -0.1**
GTA AP pP 12 38 25.8 -0.9
GTA PP PP 12 38 38.5 +0.3
GTA XP sP 12 39 05.8 -2.4
GTA PCP PcP 12 40 07.8 +0.4
GTA S **S 12 41 54.4 -1.8**
GTA SCP ScP 12 43 15.3 0.0
GTA XS sS 12 43 52.6 -5.9
GTA SS SS 12 44 14.3 -12
GTA SCS ScS 12 47 10.6 -2.2
GTA AMB AMB
comp=Z,126nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,590nm,5.9s
GTA LR LR
comp=N,359nm,14.8s
GTA LR LR
comp=E,421nm,12.2s
GTA LR LR
comp=Z,362nm,15.6s
SEY Seymchan 31.15 13⇑ *e*P **P 12 37 23.3 0.0**
KMI Kunming 31.25 264 P **P 12 37 23.6 -0.5**
KMI AP pP 12 38 32.6 +1.5
KMI PP PP 12 38 43.3 -0.3
KMI PPP 12 39 03.8
KMI S **S 12 42 02.1 -1.6**
KMI SCP ScP 12 43 18.1 +1.1
KMI XS sS 12 44 04.6 -1.5
KMI SS SS 12 44 22.8 -13
KMI AMB AMB
comp=Z,239nm,0.7s,mb5.5
KMI AMB AMB
comp=Z,509nm,3.1s
KMI LR LR
comp=N,443nm,13.2s
KMI LR LR
comp=E,562nm,16.2s
KMI LR LR
comp=Z,573nm,14.2s
KMI Kunming 31.25 264 P **P 12 37 23.6 -0.5**
KMI *PP pP 12 38 32.6 +1.5
KMI 12 38 43.2
KMI S **S 12 42 02.1 -1.6**
KMI *SS sS 12 44 04.6 -1.5
KMI SS SS 12 44 22.7 -13
KMI pmax pmax
comp=Z,239nm,0.7s,mb5.5
KMI MLR MLR
comp=Z,570nm,14.2s
KMI Kunming 31.25 264 P **P 12 37 23.6 -0.5**
comp=Z,239nm,0.7s,mb5.5
KMI pP pP 12 38 32.6 +1.5
KMI PP PP 12 38 43.2 -0.4
KMI PPP 12 39 03.7
KMI S **S 12 42 02.1 -1.6**
KMI ScP ScP 12 43 18.1 +1.1
KMI sS sS 12 44 04.6 -1.5
KMI SS SS 12 44 22.7 -13
KMI LR LR
comp=Z,570nm,14.2s
MOY Mondy 32.12 316 *e*P **P 12 37 32.2 +0.5**
MOY pmax pmax
comp=Z,51nm,1.2s,mb4.6
SMY Shemya 32.64 42 *e*P **P 12 37 36.9 +0.7**
SMY pmax pmax
comp=Z,847nm,2.0s,mb5.6
SMY MLR MLR
comp=Z,200nm,18.0s
SMY Shemya 32.64 42 *e*P **P 12 37 36.9 +0.7**
comp=Z,847nm,2.0s,mb5.6
SMY LR LR
comp=Z,200nm,18.0s
KKM Kota Kinabalu 33.51 221 P **P 12 37 43.7 +0.1**
KKM Kota Kinabalu 33.51 221 *e*P **P 12 37 43.2 -0.5**
TSM Tawau 34.12 217 P **P 12 37 47.8 -1.1**
AMKA Amchitka 35.27 46 *e*P **P 12 37 58.7 +0.1**
KKTK Khon Kaen 35.45 250 P **P 12 38 02.0 +1.9**
comp=Z,988nm,0.7s,mb6.2
CHG Chiang Mai 37.23 257 ⇓P **P 12 38 14.8 -0.3**
comp=Z,150nm,0.9s,mb5.2
CHTO Chiang Mai 37.23 257 ⇓P **P 12 38 15.0 -0.1**
SNR=68
CHTO Chiang Mai 37.23 257 *e*P **P 12 38 14.6 -0.5**
CHTO pmax pmax
comp=Z,165nm,1.0s,mb5.2
CHTO Chiang Mai 37.23 257 *e*P **P 12 38 14.6 -0.4**
comp=Z,165nm,1.0s,mb5.2
NST Nakhon Sawan 37.95 252 ⇑P **P 12 38 21.0 0.0**
comp=Z,133nm,1.1s,mb5.1
BDT Bhumibol Dam 38.00 255 ⇑P **P 12 38 21.5 +0.1**
comp=Z,64nm,0.9s,mb4.8
BILL Bilibino 38.56 17⇑ *i*P **P 12 38 26.0 0.0**
TIXI Tiksi 38.71 356 *e*P **P 12 38 26.2 -1.1**
TIXI pmax pmax
comp=Z,85nm,0.8s,mb5.0
TIXI Tiksi 38.71 356 *e*P **P 12 38 26.2 -1.1**
comp=Z,85nm,0.8s,mb5.0
LSA Lhasa 39.38 278 P **P 12 38 34.3 +1.5**
LSA LR LR
comp=E,130nm,11.4s
LSA LR LR
comp=Z,190nm,13.4s
LSA Lhasa 39.38 278 *e*P **P 12 38 33.8 +1.0**
LSA *e* 12 40 09.8
LSA pmax pmax
comp=Z,162nm,0.8s,mb5.3
LSA Lhasa 39.38 278 *e*P **P 12 38 33.8 +1.0**
comp=Z,162nm,0.8s,mb5.3
LSA *e*PP PP 12 40 09.8 -2.3
WMQ Urumqi 39.77 300 ⇓*i*P **P 12 38 36.5 +0.6**
WMQ AP pP 12 39 45.8 +0.2
WMQ PP PP 12 40 18.9 +2.7
WMQ XP sP 12 40 24.9 -1.4
WMQ PCP PcP 12 40 35.5 +1.4
WMQ SCP ScP 12 43 50.3 +2.1
WMQ S **S 12 44 14.8 +2.1**
WMQ PCS PcS 12 44 25.1 +0.3
WMQ XS sS 12 46 17.5 -1.1
WMQ SS SS 12 47 19.3 -6.2
WMQ SCS ScS 12 48 02.4 +0.2
WMQ AMB AMB
comp=Z,179nm,1.0s,mb5.2
NNT Nongplab 40.06 248 P **P 12 38 38.8 +0.5**
KSM Kuching 40.59 224 *e*P **P 12 38 42.5 -0.1**
AGT Agartala 41.34 269 *i* x **P 12 38 53.0 +4.3**
AGT *i* x x 12 39 14.0
KAPI Kappang 41.60 207 P **P 12 38 48.2 -2.5**
comp=Z,1μm,1.0s,mb5.9,SNR=34
ZAL Zalesovo 42.19 316 P **P 12 38 55.0 -0.4**
comp=Z,26nm,0.5s,mb4.7,baz=9.9,slow=8.6,SNR=139
ZAL PcP PcP 12 40 40.6 -1.4
comp=Z,8.5nm,0.8s,baz=335,slow=3.1,SNR=3.7
ZAL ScP ScP 12 43 56.2 -1.5
comp=Z,11nm,0.8s,baz=2.1,slow=6.0,SNR=10
ZAL S **S 12 44 45.8 -2.3**
comp=Z,2.6nm,0.3s,baz=98,slow=24,SNR=11
ZAL Zalesovo 42.19 316 P **P 12 38 55.0 -0.4**
ZAL 12 40 40.6
ZAL S **S 12 44 45.8 -2.3**
ZAL Zalesovo 42.19 316 P **P 12 38 55.0 -0.4**
ZAL PcP PcP 12 40 40.6 -1.4
ZAL ScP ScP 12 43 56.2 -1.5
ZAL S **S 12 44 45.8 -2.3**
NVS Novosibirsk 43.21 317 ⇓*i*P **P 12 39 03.2 -0.3**
NVS *i* S **S 12 45 01.3 -1.6**
NVS *i* SS SS 12 48 19.4 -8.2
NVS pmax pmax
comp=N,41nm,1.0s
NVS pmax pmax
comp=E,141nm,1.0s
NVS pmax pmax
comp=Z,162nm,1.0s,mb5.1
NVS smax
comp=N,140nm,1.8s
NVS smax
comp=E,58nm,1.7s
MK31 Makanchi Array 43.47 305 P **P 12 39 05.7 +0.1**
MK31 pmax pmax
comp=Z,50nm,0.7s,mb4.8
MKAR Makanchi Array 43.47 305 P **P 12 39 05.7 +0.1**
comp=Z,53nm,0.6s,mb4.9,baz=86,slow=10.0,SNR=395
MKAR PcP PcP 12 40 45.1 -1.3
comp=Z,14nm,0.8s,baz=83,slow=3.1,SNR=3.9
MKAR ScP ScP 12 44 02.0 -1.0
comp=Z,22nm,0.8s,baz=85,slow=4.4,SNR=20
MKAR Makanchi Array 43.47 305 P **P 12 39 05.7 +0.1**
MKAR 12 40 45.1
MKAR Makanchi Array 43.47 305 P **P 12 39 05.7 +0.1**
MKAR PcP PcP 12 40 45.1 -1.3
MKAR ScP ScP 12 44 02.0 -1.0
KULM Kulim 44.10 239 *e*P **P 12 39 09.7 -0.8**
JIRN Jiri 44.17 277 *e*P **P 12 39 12.0 +0.9**
comp=Z,1μm,0.7s,mb6.2
GUN Gumba 44.34 277 *e*P **P 12 39 13.0 +0.6**
comp=Z,738nm,0.7s,mb5.9
IPM Ipoh 44.39 238 P **P 12 39 12.3 -0.5**
KGM Kluang 44.58 233 P **P 12 39 14.4 +0.1**
PKI Pulchoki 44.85 277 *e*P **P 12 39 16.4 0.0**
comp=Z,865nm,1.1s,mb5.8
KKN Kakani 44.88 277 *e*P **P 12 39 16.8 +0.2**
comp=Z,897nm,0.8s,mb5.9
DMN Daman 45.09 277 *e*P **P 12 39 18.4 +0.1**
comp=Z,521nm,0.9s,mb5.7
GKN Gorkha 45.34 278 *e*P **P 12 39 20.3 +0.1**
comp=Z,936nm,0.9s,mb5.9
TNA Tin City 45.72 28 *e*P **P 12 39 23.9 +0.7**
comp=Z,98nm,0.8s,mb5.0
KURK Kurchatov 45.79 311 P **P 12 39 23.5 -0.3**
comp=Z,2μm,0.8s,SNR=91
BOK Bokaro 45.87 272 *e*P **P 12 39 24.5 +0.1**
KAKA Kakadu 45.97 187 ⇓*i*P **P 12 39 23.2 -1.9**
comp=Z,22nm,0.6s,mb4.5
KAKA *e*SCP ScP 12 44 13.2 -0.1
KOLN Koldanda 46.28 278 *e*P **P 12 39 27.9 +0.4**
comp=Z,624nm,0.9s,mb5.7
SDPT Sand Point 47.77 43 *e*P **P 12 39 37.0 -1.9**
ULHL Ulahol 48.28 299 P **P 12 39 43.5 +0.7**
SNR=9.9
PTH Pithoragarh 48.46 282 *e*P **P 12 39 44.9 +0.8**
LGTI Lohaghat 48.47 282 *i* P **P 12 39 44.5 +0.3**
TKM2 Tokmak 2 48.63 300 P **P 12 39 46.1 +0.7**
SNR=50
ALBI Allahabad 48.68 276 *e*P **P 12 39 43.0 -2.8**
CHGN Chignik 48.94 42 *e*P **P 12 39 44.5 -3.2**
KSH Kashi 49.03 296 P **P 12 39 50.1 +1.7**
KSH *e*AP pP 12 41 02.0 +0.6
KSH *e*PCP PcP 12 41 08.1 +2.0
KSH *e*XP sP 12 41 39.9 -1.3
KSH *e*PP PP 12 41 48.3 +2.4
KSH *e*SCP ScP 12 44 28.3 +2.1
KSH *e*PCS PcS 12 45 04.4 +1.3
KSH *e*S **S 12 46 25.3 +0.2**
KSH *e*XS sS 12 48 34.4 -1.2
KSH *e*SCS ScS 12 49 02.3 +0.7
KSH *e*SS SS 12 50 02.8 +1.6
KSH AMB AMB
comp=Z,3μm,2.7s,mb6.0
KSH LR LR
comp=N,915nm,6.0s
KSH LR LR
comp=E,1μm,5.4s
KSH LR LR
comp=Z,1μm,7.8s
KZA Kyzart 49.04 299 P **P 12 39 50.0 +1.6**
SNR=40
KBK Karagaybulak 49.15 300 P **P 12 39 49.9 +0.6**
SNR=24
CHMS Chumysh 49.23 301 P **P 12 39 50.0 +0.1**
SNR=17
FRU Bishkek 49.35 300 ⇓*i*P **P 12 39 51.0 +0.2**
FRU *i* pP 12 41 06.0 +2.1
FRU *e* 12 49 02.0
FRU pmax pmax
comp=Z,220nm,1.6s,mb5.1
USP Ospenovka 49.36 301 P **P 12 39 50.9 0.0**
SNR=17
AAK Ala-Archa 49.48 300 P **P 12 39 50.9 -0.9**
comp=Z,379nm,0.7s,mb5.7,SNR=40
AAK Ala-Archa 49.48 300 P **P 12 39 52.0 +0.2**
SNR=50
AAK Ala-Archa 49.48 300 *e*P **P 12 39 50.6 -1.2**
AAK *e*PP pP 12 41 05.9 +1.0
AAK pmax pmax
comp=Z,45nm,0.8s,mb4.8
AAK Ala-Archa 49.48 300 *e*P **P 12 39 50.6 -1.2**
comp=Z,45nm,0.8s,mb4.8
AAK *e*pP pP 12 41 05.9 +1.0
AAK *e*ScP ScP 12 44 25.9 -2.2
UCH Uchtor 49.55 300 P **P 12 39 53.5 +1.2**
SNR=60
EKS2 Erkin-Say 49.99 300 P **P 12 39 55.7 +0.1**
SNR=33
AML Almayashu 50.16 300 P **P 12 39 57.9 +1.1**
SNR=165
SDNR Sundarnagar 50.46 285 *e*P **P 12 39 59.1 +0.1**
SDNR *ex* x 12 42 04.0
SVW2 Sparrevohn 50.48 35 *e*P **P 12 39 59.8 +0.6**
CHKZ Chkalovo 50.58 315 *e*P **P 12 39 59.1 -0.8**
CHKZ pmax pmax
comp=Z,133nm,0.8s,mb5.2
CHKZ Chkalovo 50.58 315 *e*P **P 12 39 59.1 -0.8**
comp=Z,134nm,0.8s,mb5.2
VIS Vishakhapatnam 50.70 266 *e*P **P 12 40 01.2 +0.4**
VIS AMb AMB 12 40 02.7
comp=Z,198nm,0.7s,mb5.5
VIS *i* PP PP 12 41 57.9 -3.1
VIS *i* x x 12 41 58.4
BVA0 Borovoye Array 50.77 314 P **P 12 40 00.6 -0.7**
BVA0 pmax pmax
comp=Z,13nm,0.7s,mb4.3
BVAR Borovoye Array 50.77 314 P **P 12 40 00.9 -0.4**
comp=Z,70nm,0.6s,mb5.0,baz=98,slow=9.1,SNR=301
BVAR PcP PcP 12 41 12.2 -0.3
comp=Z,13nm,0.7s,baz=85,slow=4.6,SNR=4.8
BVAR ScP ScP 12 44 32.6 -1.1
comp=Z,16nm,0.6s,baz=98,slow=4.5,SNR=14
BVAR S **S 12 46 46.6 -2.3**
comp=Z,5.7nm,0.9s,baz=87,slow=14,SNR=6.0
BVAR Borovoye Array 50.77 314 P **P 12 40 00.9 -0.4**
BVAR pP 12 41 12.2 -2.7
BVAR S **S 12 46 46.6 -2.3**
BRVK Borovoye 50.83 314 P **P 12 40 01.9 +0.1**
comp=Z,748nm,0.7s,mb6.0,SNR=40
BRVK Borovoye 50.83 314 P **P 12 40 01.8 0.0**
SNR=44
BRVK Borovoye 50.83 314 *e*P **P 12 40 00.7 -1.1**
THN Thein Dam 51.16 287 *ex* x 12 40 03.0
NDI New Delhi 51.22 282 *e*P **P 12 40 02.2 -2.5**
NDI *ex* x 12 46 42.0
IMA2 Indian Mountai 51.56 29 *e*P **P 12 40 07.5 +0.3**
ZRNK Zerenda 51.61 314 *e*P **P 12 40 06.8 -0.7**
ZRNK pmax pmax
comp=Z,131nm,0.9s,mb5.3
ZRNK Zerenda 51.61 314 *e*P **P 12 40 06.8 -0.7**
comp=Z,131nm,0.9s,mb5.3
ZRNK *e*ScP ScP 12 44 35.4 -1.9
KDAK Kodiak Island 52.07 40 P **P 12 40 10.0 -0.9**
comp=Z,2μm,0.6s,SNR=57
KDAK Kodiak Island 52.07 40 P **P 12 40 10.3 -0.6**
comp=Z,210nm,0.6s,mb5.7,baz=278,slow=4.0,SNR=134
KDAK Kodiak Island 52.07 40 *e*P **P 12 40 10.4 -0.5**
KK31 Karatay Array 52.25 302 *i* P **P 12 40 12.1 -0.1**
KKAR Karatay Array 52.25 302 *i* P **P 12 40 12.1 -0.1**
KKAR pmax pmax
comp=Z,87nm,0.7s,mb5.2
FITZ Fitzroy Crossi 52.31 194 ⇓*i*P **P 12 40 11.8 -0.8**
comp=Z,54nm,0.6s,mb5.1
FITZ *e*SCP ScP 12 44 40.5 +0.1
FITZ *e*S **S 12 47 07.5 -2.2**
FITZ Fitzroy Crossi 52.31 194 ScP ScP 12 44 38.9 -1.5
comp=Z,7.7nm,0.9s,baz=9.3,slow=4.1,SNR=5.8
NGP Nagpur 52.71 272 ⇓*i*P **P 12 40 14.8 -0.8**
NIL Nilore 52.74 289 P **P 12 40 16.6 +0.9**
comp=Z,386nm,0.7s,mb5.8,SNR=20
WRAB Tennant Creek 52.98 184 P **P 12 40 16.0 -1.5**
comp=Z,248nm,0.6s,mb5.7,SNR=27
WRAB Tennant Creek 52.98 184 *e*P **P 12 40 16.1 -1.4**
WB2 Warramunga Arr 52.99 184 ⇓*i*P **P 12 40 16.0 -1.6**
WB2 *e*SCP ScP 12 44 41.5 -1.9
WB2 *e*S **S 12 47 15.8 -3.1**
WRA Warramunga Arr 52.99 184 P **P 12 40 16.1 -1.4**
comp=Z,28nm,0.6s,mb4.8,baz=359,slow=7.6,SNR=232
WRA ScP ScP 12 44 40.7 -2.6
comp=Z,4.6nm,0.7s,baz=359,slow=4.9,SNR=6.0
WRA S **S 12 47 15.5 -3.5**
comp=Z,3.8nm,0.8s,baz=3.2,slow=14,SNR=6.7
SLKM Skilak Lake 53.12 36 *e*P **P 12 40 17.2 -1.3**
BHPL Bhopal 53.17 276 *e*P **P 12 40 18.0 -0.9**
BHPL AMb AMB 12 40 19.9
comp=Z,162nm,0.7s,mb5.5
MCK McKinley 53.56 32 *e*P **P 12 40 21.4 -0.3**
MCK pmax pmax
comp=Z,104nm,1.0s,mb5.1
MCK McKinley 53.56 32 *e*P **P 12 40 21.4 -0.2**
comp=Z,104nm,1.0s,mb5.1
PMR Palmer 53.58 35 *e*P **P 12 40 20.6 -1.2**
PMR pmax pmax
comp=Z,108nm,0.7s,mb5.3
PMR Palmer 53.58 35 *e*P **P 12 40 20.6 -1.2**
comp=Z,108nm,0.7s,mb5.3
SML Sawmill 53.94 34 *e*P **P 12 40 24.3 -0.1**
COLA College 53.98 31⇑ *i*P **P 12 40 24.7 0.0**
AJM Ajmer 54.16 281 *e*P **P 12 40 25.4 -0.6**
AJM AMb AMB 12 40 26.8
comp=Z,218nm,0.7s,mb5.6
AJM *i* PP PP 12 42 31.5 -0.4
HYB Hyderabad 54.84 269 *i* P **P 12 40 30.5 -0.3**
comp=Z,300nm,1.0s,mb5.6
HYB *e*PcP PcP 12 41 27.5 -0.5
HYB *e*S **S 12 47 44.0 +0.5**
HYB *e*ScS ScS 12 49 40.0 -2.3
HYB Hyderabad 54.84 269 *e*P **P 12 40 30.5 -0.3**
HYB pmax pmax
comp=Z,300nm,1.0s,mb5.6
HYB Hyderabad 54.84 269 *e*P **P 12 40 30.5 -0.3**
comp=Z,300nm,1.0s,mb5.6
DIV Divide 55.23 35 *e*P **P 12 40 33.5 0.0**
EYAK Cordova Ski Ar 55.31 36 *e*P **P 12 40 34.2 0.0**
LATR Latur 56.04 271 *ex* x 12 40 28.6
MBWA Marble Bar 56.70 200 *e*P **P 12 40 42.7 -1.2**
comp=Z,60nm,0.7s,mb5.0
AS31 Alice Springs 56.72 184 *e*P **P 12 40 42.4 -1.5**
ASAR Alice Springs 56.72 184 P **P 12 40 42.6 -1.3**
comp=Z,20nm,0.6s,mb4.7,baz=14,slow=13,SNR=252
ASAR ScP ScP 12 44 58.8 -0.9
comp=Z,2.8nm,0.7s,baz=9.4,slow=5.3,SNR=4.2
ASAR S **S 12 48 05.2 -2.9**
comp=Z,1.5nm,0.8s,baz=12,slow=16,SNR=8.1
EGAK Eagle 56.84 30 *e*P **P 12 40 44.1 -0.8**
comp=Z,48nm,0.8s,mb4.9
ARU Arti 57.06 319 P **P 12 40 45.1 -1.3**
comp=Z,550nm,0.6s,mb6.1,SNR=22
ARU Arti 57.06 319⇑ *i*P **P 12 40 45.6 -0.8**
ARU *e* 12 41 32.8
ARU *e* pP 12 42 00.7 -1.2
ARU *e*SP 12 42 40.2
ARU *e* 12 42 53.7
ARU *e*PPP 12 44 20.7
ARU *e*S **S 12 48 12.5 0.0**
ARU *e* 12 49 50.7
ARU pmax pmax
comp=Z,80nm,0.9s,mb5.0
ARU Arti 57.06 319 *e*P **P 12 40 45.5 -0.8**
comp=Z,101nm,0.9s,mb5.2
SOKR Solikamsk 57.36 323 *e*P **P 12 40 48.3 -0.2**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb4.6
DAWY Dawson 57.72 31 *e*P **P 12 40 50.4 -0.5**
AB31 Akbulak array 57.90 311 *i* P **P 12 40 51.8 -0.4**
POO Poona 58.26 272 ⇓*ix* x 12 40 51.0
comp=Z,190nm,1.0s
POO *ex* x 12 41 28.2
POO AMb AMB 12 41 30.3
comp=Z,261nm,0.9s,mb5.5
PALK Pallekele 58.36 257 P **P 12 40 55.3 0.0**
comp=Z,339nm,0.8s,mb5.7,SNR=5.5
PALK Pallekele 58.36 257 ⇓P **P 12 40 55.8 +0.5**
SNR=7.1
PALK Pallekele 58.36 257 *e*P **P 12 40 55.6 +0.2**
comp=Z,81nm,1.4s,mb4.9
KAD Karad 58.56 271 *e*P **P 12 40 56.2 -0.5**
KAD AMb AMB 12 40 58.1
comp=Z,228nm,0.9s,mb5.6
AKTK Aktyubinsk 58.79 313 P **P 12 40 57.8 -0.5**
AKTK ScP ScP 12 45 05.8 -3.0
AKTO Aktyubinsk 58.79 313 P **P 12 40 57.8 -0.5**
comp=Z,37nm,0.6s,mb5.0,baz=81,slow=6.1,SNR=56
AKTO ScP ScP 12 45 05.8 -3.0
comp=Z,7.6nm,0.7s,baz=59,slow=6.0,SNR=5.4
AKTO Aktyubinsk 58.79 313 P **P 12 40 57.8 -0.5**
AKTO pmax pmax
comp=Z,37nm,0.6s,mb5.0
AKTO pmax pmax
comp=N,8.0nm,0.7s
INK Inuvik 59.20 26 *e*P **P 12 41 00.7 -0.4**
INK pmax pmax
comp=Z,3μm,0.8s
INK Inuvik 59.20 26 *e*P **P 12 41 00.7 -0.4**
comp=Z,3μm,0.8s
ORR Orenburg 60.44 315 *e*P **P 12 41 09.1 -0.3**
ORR pmax pmax
comp=Z,40nm,0.5s,mb5.1
SKAG Skagway 60.66 36 *e*P **P 12 41 11.3 +0.4**
comp=Z,186nm,1.3s,mb5.4
SKAG LR LR
comp=Z,100nm,17.0s
KHU Kahuku 60.73 85 *e*P **P 12 41 11.8 +0.4**
TRD Trivandrum 60.75 261 *e*P **P 12 41 11.4 0.0**
TRD AMb AMB 12 41 13.1
comp=Z,111nm,0.8s,mb5.3
SIT Sitka 61.36 38 *e*P **P 12 41 15.9 +0.4**
SIT pmax pmax
comp=Z,156nm,1.3s,mb5.3
SIT Sitka 61.36 38 *e*P **P 12 41 15.9 +0.3**
comp=Z,156nm,1.3s,mb5.3
DZM Mont Dzumac 61.60 149 P **P 12 41 17.7 +0.6**
comp=Z,4.6nm,0.7s,mb4.2,baz=60,slow=13,SNR=8.3
ABKT Ailbek 62.80 299 P **P 12 41 25.2 +0.2**
comp=Z,342nm,1.0s,mb5.8,SNR=6.5
SPB4 Spitsbergen Ar 63.57 349 *e*P **P 12 41 29.1 -0.9**
DLBC Dease Lake 63.59 36 *e*P **P 12 41 31.1 +0.9**
ALE Alert 64.04 3 P **P 12 41 33.0 -0.1**
comp=Z,500nm,0.9s,mb6.1,SNR=29
FORT Forrest 64.31 189 ⇓*i*P **P 12 41 33.7 -1.1**
comp=Z,105nm,0.5s,mb5.7
APA Apatity 64.77 336⇑ *i*P **P 12 41 36.0 -1.8**
APA pmax pmax
comp=Z,52nm,1.0s,mb5.1
STKA Stephens Creek 64.91 176 ⇓*i*P **P 12 41 37.8 -0.9**
comp=Z,11nm,0.6s,mb4.7
STKA Stephens Creek 64.91 176 P **P 12 41 37.8 -0.9**
comp=Z,14nm,0.6s,mb4.8,baz=347,slow=6.6,SNR=57
KEV Kevo 65.79 339 *ep* **P 12 41 43.4 -0.8**
comp=Z,8.9nm,0.4s,mb4.8
KEV Kevo 65.79 339 *e*P **P 12 41 43.4 -0.8**
KEV pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
ARCES ARCESS Array B 66.36 339 P **P 12 41 47.6 -0.2**
comp=Z,23nm,0.4s,mb5.2,baz=67,slow=8.6,SNR=95
ARE0 ARCESS Array S 66.36 339 *e*P **P 12 41 47.8 0.0**
RES Resolute Bay 67.03 13 *e*P **P 12 41 51.5 -0.5**
KLBR Kellerberrin 67.13 198 ⇓*i*P **P 12 41 50.9 -1.8**
comp=Z,40nm,0.9s,mb5.2
MUN Mundaring 67.92 199 *e*P **P 12 41 56.6 -0.9**
MAK Makhachkala 68.19 308 *e*P **P 12 41 55.9 -3.3**
MAK *e*S S 12 50 30.6 +0.7
MAK pmax pmax
comp=Z,289nm,1.3s,mb5.8
VRHR Novokhopersk 68.27 318 *e*P **P 12 41 58.7 -1.0**
VRHR pmax pmax
comp=Z,60nm,0.9s,mb5.3
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR pmax pmax
comp=E,80nm,1.3s
MOS Moscow 68.31 323 *e*P **P 12 41 58.4 -1.5**
MOS *e* 12 42 27.6
MOS pmax pmax
comp=Z,121nm,1.3s,mb5.5
NWAO Narrogin (SRO) 68.54 198 *e*P **P 12 41 59.7 -1.6**
NWAO pmax pmax
comp=Z,46nm,1.0s
NWAO Narrogin (SRO) 68.54 198 *e*P **P 12 41 59.7 -1.6**
comp=Z,46nm,1.0s,mb5.2
YKW3 Yellowknife Ar 68.64 28 *e*P **P 12 42 01.3 -0.7**
YKA Yellowknife Ar 68.68 28 P **P 12 42 01.5 -0.7**
comp=Z,39nm,0.7s,mb5.2,baz=303,slow=6.0,SNR=90
YKA pP pP 12 43 20.6 -0.4
comp=Z,6.1nm,0.9s,baz=298,slow=6.4,SNR=3.4

YKA **Yellowknife Ar** 68.68 28 P P 12 42 01.5 -0.7
YKA pP pP 12 43 20.6 -0.4
WBK Wadi Bani Khal 68.68 284 P P 12 42 02.9 +0.6
SNR=38
BIDO Bidbid 68.94 285 ⇓P P 12 42 04.6 +0.8
SNR=17
CNB Canberra Magne 69.13 170 *e*P P 12 42 04.8 -0.2
comp=Z,32nm,1.6s,mb4.8
OBN Obninsk 69.14 323 ⇓*i*P P 12 42 04.3 -0.7
OBN *e* 12 42 25.0
OBN *e**SP sP 12 44 00.8 -1.4
OBN *e*S S 12 50 40.5 -0.5
OBN pmax pmax
comp=Z,110nm,1.5s,mb5.4
SMDO Samad 69.22 284 ⇑P P 12 42 05.7 +0.2
SNR=18
BANOM Banah 69.29 288 ⇓P P 12 42 06.1 +0.2
SNR=9.4
JMDO Jabal Madar 69.50 284 P P 12 42 07.2 0.0
SNR=36
HOQ Hoqain 69.57 285 P P 12 42 08.1 +0.4
SNR=26
VRSR Storozhevoye 69.58 318 *e*P P 12 42 06.7 -1.0
VRSR pmax pmax
comp=N,110nm,0.9s
VRSR pmax pmax
comp=E,130nm,0.9s
VRSR pmax pmax
comp=Z,100nm,0.9s,mb5.5
HATD Hatta, Dubai 69.93 287 P P 12 42 10.5 +0.7
SNR=10
BSY Bisya 70.06 285 P P 12 42 10.9 +0.3
SNR=54
ASHO Ashiyiah 70.06 287 P P 12 42 10.8 +0.2
SNR=15
ARQ Araqi 70.33 285 P P 12 42 12.6 +0.5
SNR=92
DUS Dusheti 70.43 308 P P 12 42 14.8 +2.0
MTA Mtatsminda 70.56 307 P P 12 42 13.5 0.0
FIA1 FINESS Array S 70.60 332 *e*P P 12 42 12.7 -1.1
FINES FINESS Array B 70.60 332 P P 12 42 13.0 -0.8
comp=Z,18nm,0.5s,mb5.1,baz=65,slow=6.5,SNR=83
ZEI Tsey 70.65 309 *e*P P 12 42 12.7 -1.4
ZEI pmax pmax
comp=Z,43nm,0.7s,mb5.3
TOO Toolangi 70.88 173 *e*P P 12 42 15.2 -0.3
comp=Z,8.0nm,0.9s,mb4.5
TOO Toolangi 70.88 173 *e*P P 12 42 15.2 -0.3
TOO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KIV Kislovodsk 70.88 310 P P 12 42 15.8 +0.3
comp=Z,1μm,0.8s,SNR=16
KIV Kislovodsk 70.88 310 P P 12 42 16.0 +0.5
SNR=23
KIV Kislovodsk 70.88 310 *d i*P P 12 42 15.8 +0.3
KIV *i* *PP pP 12 43 35.7 +0.9
KIV pmax pmax
comp=Z,184nm,1.2s,mb5.7
KIV Kislovodsk 70.88 310 *e*P P 12 42 15.9 +0.4
KZR Kazreti 70.95 307 P P 12 42 16.2 +0.3
C03A Quillayute Air 70.99 45 ⇓P P 12 42 17.3 +1.2
baz=71
ONI Oni 71.03 309 P P 12 42 16.9 +0.6
PGC Sidney 71.30 44 *e*P P 12 42 18.4 +0.4
GNI Garni 71.31 306 P P 12 42 19.3 +1.3
comp=Z,53nm,0.8s,mb5.3,baz=350,slow=1.1,SNR=14
GNI Garni 71.31 306 P P 12 42 19.4 +1.4
SNR=12
GNI Garni 71.31 306 ⇓*i*P P 12 42 18.3 +0.3
GNI *i* *PP pP 12 43 38.7 +1.2
GNI pmax pmax
comp=Z,164nm,1.3s
GNI Garni 71.31 306 *e*P P 12 42 19.2 +1.2
B04A Port Angeles 71.56 44 ⇓P P 12 42 20.3 +0.8
baz=71,SNR=16
D03A Wishkah Elem. 71.86 45 ⇓P P 12 42 22.7 +1.4
baz=72
VDB Vedder Mountai 71.89 43 P P 12 42 21.3 -0.2
A05A Maple Falls 71.91 43 ⇓P P 12 42 21.6 0.0
baz=72
C04A Brinnon 72.04 44 P P 12 42 23.2 +0.9
baz=72,SNR=5.9
GNW Green Mountain 72.20 45 *e*P P 12 42 23.8 +0.6
A06A Chilliwack 72.21 43 ⇑P P 12 42 23.0 -0.3
baz=72,SNR=5.3
B05A Bryant 72.27 44 P P 12 42 24.3 +0.6
baz=72,SNR=24
D04A Dobbs Creek Ra 72.44 45 ⇓P P 12 42 25.8 +1.2
baz=72
F03A Seaside 72.58 46 ⇑P P 12 42 26.2 +0.7
baz=72
E04A Onalaska 72.75 45 ⇓P P 12 42 27.4 +1.0
baz=73,SNR=8.1
C05A Tolt Reservoir 72.80 44 P P 12 42 27.1 +0.3
baz=73,SNR=15
A07A Ashnola River, 72.85 42 ⇑P P 12 42 27.0 -0.1
baz=73
D05A Enumclaw 72.88 45 P P 12 42 28.1 +0.9
baz=73,SNR=7.1
H02A Toledo 72.93 48 ⇑P P 12 42 28.2 +0.7
baz=73
SOC Sochi 72.94 311 *e*P P 12 42 26.8 -0.8
SOC *e* 12 42 43.5
SOC *e* 12 45 23.0
SOC *e*S S 12 51 21.9 -2.5
SOC *e* 12 52 05.2
SOC *e*SSS 12 59 32.2
SOC pmax pmax
comp=Z,70nm,0.8s,mb5.4
G03A Yamhill 73.05 47 ⇓P P 12 42 28.9 +0.7
baz=73
HAKT HAKKARI 73.25 304 *i* P P 12 42 29.7 +0.3
MPOR Mary's Peak 73.30 48 P P 12 42 30.8 +1.1
B07A Winthrop 73.31 43 P P 12 42 30.0 +0.2
baz=73,SNR=30
E05A Randle 73.33 45 ⇑P P 12 42 29.7 -0.2
baz=73,SNR=6.8
H03A Soap Creek Ran 73.37 47 ⇓P P 12 42 31.0 +0.9
baz=73,SNR=11
I02A Mapleton 73.37 48 ⇑P P 12 42 30.7 +0.6
baz=73
COR Corvallis 73.41 47 *e*P P 12 42 31.4 +1.1
COR pmax pmax
comp=Z,229nm,1.2s,mb5.8
COR Corvallis 73.41 47 *e*P P 12 42 31.4 +1.0
comp=Z,229nm,1.2s,mb5.8
A08A Turner Farm, O 73.53 42 P P 12 42 31.2 +0.2
baz=73,SNR=23
D06A Cle Elum 73.55 44 ⇓P P 12 42 31.3 +0.2
baz=73,SNR=9.9
K01A Sixes 73.57 49 ⇓P P 12 42 32.1 +0.9
baz=73
KEBM Edson Butte 73.62 49 *e*P P 12 42 32.6 +1.0
SHAO Shalim 73.65 281 ⇓P P 12 42 31.9 +0.2
SNR=7.0
TBM Table Mountain 73.70 44 P P 12 42 32.2 +0.2
I03A Eugene 73.73 48 ⇓P P 12 42 33.1 +0.9
baz=74,SNR=8.7
C07A Waterville 73.74 43 ⇑P P 12 42 32.0 -0.2
baz=74,SNR=13
ANN Anapa 73.75 313 *e*P P 12 42 30.6 -1.7
ANN *e**PP pP 12 43 51.1 -1.3
ANN *e*S S 12 51 35.2 +1.9
ANN pmax pmax
comp=Z,149nm,1.3s,mb5.6
MNK Minsk 73.77 325 *e*P P 12 42 29.0 -3.4
E06A Yakima 73.81 45 ⇑P P 12 42 33.0 +0.4
baz=74,SNR=14
B08A Colville Reser 73.81 43 P P 12 42 32.7 +0.1
baz=74,SNR=37
EBG Ellensburg 73.86 44 P P 12 42 33.4 +0.5
J02A Umpqua 73.86 49 ⇑P P 12 42 33.8 +0.9
baz=74,SNR=9.8
F05A White Salmon 73.86 46 ⇑P P 12 42 33.3 +0.3
baz=74,SNR=8.3
A09A Danville 73.90 42 P P 12 42 33.5 +0.4
baz=74,SNR=39
TDH Tom, Dick, Har 73.97 46 P P 12 42 34.0 +0.5
KBO Bosley Butte 74.03 50 *e*P P 12 42 35.3 +1.4
HOOD Mount Hood Mea 74.04 46 *e*P P 12 42 34.5 +0.5
H04A Detroit Lake 74.04 47 P P 12 42 34.4 +0.5
baz=74,SNR=12
D07A Quincy 74.05 44 P P 12 42 34.1 +0.1
baz=74,SNR=10
K02A Glendale 74.21 49 ⇓P P 12 42 35.6 +0.7
baz=74,SNR=11
J03A Ideyld Park 74.23 48 ⇑P P 12 42 35.9 +0.9
baz=74,SNR=13
UMR Umm Al-Rimmam 74.25 295 *e*P P 12 42 34.8 -0.3
UMR AMb AMB 12 42 35.5
comp=Z,200nm,0.8s,mb5.9
C08A Higginbotham F 74.28 43 P P 12 42 35.3 0.0
baz=74,SNR=19
M01C Crescent City 74.28 50 ⇓P P 12 42 36.1 +0.8
baz=74
G05A Wamic 74.28 46 ⇑P P 12 42 35.9 +0.6
baz=74,SNR=7.1
EDM Edmonton 74.31 36 *e*P P 12 42 35.4 -0.1
BNGL BINGOL 74.32 306 *i* P P 12 42 36.9 +1.4
F06A Goldendale 74.33 45 ⇑P P 12 42 35.9 +0.3
baz=74,SNR=8.5
I04A Tendick Farm, 74.36 48 P P 12 42 36.2 +0.4
baz=74,SNR=18
SUMG Summit 74.40 359 *e*P P 12 42 39.6 +3.5
MIB Mutribah 74.41 296 *e*P P 12 42 35.6 -0.4
MIB AMb AMB 12 42 36.4
comp=Z,322nm,0.6s
B09A Rice 74.44 42 P P 12 42 36.6 +0.3
baz=74,SNR=27
KBD Kabd 74.45 295 *e*P P 12 42 36.1 -0.2
KBD AMb AMB 12 42 36.8
comp=Z,875nm,0.7s
L02A Cave Junction 74.45 50 ⇑P P 12 42 37.0 +0.6
baz=74,SNR=12
E07A Sunnyside 74.46 44 P P 12 42 36.7 +0.3
baz=74,SNR=26
A10A Northport 74.47 41 ⇓P P 12 42 36.6 +0.2
baz=74,SNR=12
QRN Al-Qurain 74.49 294 *e*P P 12 42 36.1 -0.4
QRN AMb AMB 12 42 36.9
comp=Z,300nm,0.7s,mb6.2
H05A Madras 74.65 47 ⇓P P 12 42 37.8 +0.4
baz=74,SNR=21
OD2 Odessa Site #2 74.68 43 P P 12 42 37.4 -0.2
RDF Al-Radifah 74.68 295 *e*P P 12 42 37.4 -0.2
RDF AMb AMB 12 42 38.1
comp=Z,434nm,0.6s
G06A Carlson Farm, 74.69 46 ⇓P P 12 42 38.1 +0.4
baz=75,SNR=14
C09A Chrisman Ranch 74.70 43 P P 12 42 37.9 +0.2
baz=75,SNR=23
D08A Wollman Farm, 74.73 44 ⇑P P 12 42 37.9 0.0
baz=75,SNR=28
HAWA Hanford 74.73 44 *e*P P 12 42 38.1 +0.1
WRD Warden 74.74 44 P P 12 42 37.5 -0.5
NAY Al-Naaiem 74.75 295 *e*P P 12 42 37.6 -0.4
NAY AMb AMB 12 42 38.4
comp=Z,252nm,0.6s,mb6.1
F07A Phinny Hill Vi 74.77 45 ⇓P P 12 42 38.6 +0.5
baz=75,SNR=30
VTHM Trough 74.77 46 P P 12 42 38.5 +0.4
J04A Umpqua Nationa 74.84 48 ⇑P P 12 42 39.2 +0.7
baz=75,SNR=26
JCC Jacoby Creek 74.86 51 ⇓P P 12 42 39.3 +0.7
baz=75
I05A Bend 74.88 47 ⇑P P 12 42 39.2 +0.5
baz=75,SNR=7.5
E08A Dider Farm, El 74.96 44 ⇓P P 12 42 39.4 +0.2
baz=75,SNR=26
KELT Kelkit 74.97 308 *i* P P 12 42 40.0 +0.8
B10A Chitwood Farm, 75.02 42 ⇓P P 12 42 39.7 +0.1
baz=75
KHMM Horse Mountain 75.03 51 *e*P P 12 42 40.6 +1.0
RBK Rabkut 75.08 281 ⇑P P 12 42 39.4 -0.5
SNR=39
D09A Jones Farm, Ri 75.08 43 P P 12 42 40.0 +0.1
baz=75,SNR=14
NEW Newport 75.10 42 *e*P P 12 42 39.8 -0.2
NEW pmax pmax
comp=Z,53nm,1.0s
NEW Newport 75.10 42 *e*P P 12 42 39.8 -0.2
comp=Z,53nm,1.0s,mb5.2
A11A Hall Mountain, 75.14 41 P P 12 42 41.2 +1.0
baz=75,SNR=42
H06A Lindquist Farm 75.14 46 P P 12 42 40.5 +0.3
baz=75,SNR=13
WHFO Wadi Hawf 75.23 282 P P 12 42 40.0 -0.7
SNR=114
AKASG Malin Array Be 75.23 321 P P 12 42 40.1 -0.7
comp=Z,9.5nm,0.4s,mb4.9,baz=51,slow=5.6,SNR=69
AKBB Malin Array Si 75.23 321 *e*P P 12 42 39.2 -1.5
C10A Spilker Farm, 75.24 42 ⇑P P 12 42 40.9 +0.1
baz=75,SNR=9.7
YBH Yreka Blue Hor 75.24 50 *e*P P 12 42 41.7 +0.9
YBH pmax pmax
comp=Z,52nm,1.0s
YBH Yreka Blue Hor 75.24 50 *e*P P 12 42 41.6 +0.9
comp=Z,52nm,1.0s,mb5.2
YBH Yreka Blue Hor 75.24 50 ⇑P P 12 42 41.6 +0.8
baz=75,SNR=32
KIEV Kiev 75.25 321 *e*P P 12 42 39.0 -1.8
KIEV pmax pmax
comp=Z,97nm,0.9s,mb5.5
KIEV Kiev 75.25 321 *e*P P 12 42 39.0 -1.8
comp=Z,97nm,0.9s,mb5.5
G07A Ruggs Ranch, H 75.26 45 ⇓P P 12 42 41.1 +0.3
baz=75,SNR=22
M02C Callahan 75.33 50 ⇓P P 12 42 42.0 +0.7
baz=75,SNR=21
N02C Big Bar 75.33 51 P P 12 42 42.0 +0.7
baz=75,SNR=9.0
O01C Eel River Cons 75.35 52 ⇓P P 12 42 42.2 +0.8
baz=75,SNR=5.1
J05A Fort Rock 75.36 48 ⇑P P 12 42 42.4 +0.9
baz=75
MARD Mardin 75.40 305 *i* P P 12 42 42.2 +0.5
K04A Chilquin 75.40 49 ⇑P P 12 42 42.2 +0.5
baz=75,SNR=9.1
B11A Sandpoint 75.42 41 P P 12 42 42.3 +0.5
baz=75,SNR=23
E09A Wood Farm, Sta 75.48 44 P P 12 42 42.5 +0.3
baz=75,SNR=42
F08A Pendleton 75.50 45 P P 12 42 42.8 +0.5
baz=75,SNR=53
L04A Klamath Falls 75.53 49 P P 12 42 43.2 +0.8
baz=75,SNR=35
A12A Yaak River Ran 75.54 41 P P 12 42 43.1 +0.6
baz=75,SNR=24
LHEM Herd Peak 75.61 50 P P 12 42 43.5 +0.7
HOG Hogback Mounta 75.61 49 P P 12 42 43.7 +0.8
I06A Prineville 75.64 47 P P 12 42 43.8 +0.8
baz=76,SNR=22
G08A Pilot Rock 75.67 45 ⇑P P 12 42 43.7 +0.5
baz=76,SNR=18
SIM Simferopol' 75.68 315 *e*P P 12 42 43.3 +0.1
SIM *e*S S 12 51 47.0 -7.5
SIM *e*S S 12 51 51.0 -3.5
M04C Macdoel 75.77 49 ⇓P P 12 42 44.5 +0.8
baz=76,SNR=29
M03C McCloud 75.86 50 ⇑P P 12 42 44.8 +0.5
baz=76,SNR=27
K05A Summer Lake 75.87 48 ⇓P P 12 42 45.3 +1.0
baz=76,SNR=34
ABTO Aybut 75.90 282 P P 12 42 44.2 -0.3
SNR=43
WDC Whiskeytown Da 75.95 51 *e*P P 12 42 44.6 -0.2
WDC pmax pmax
comp=Z,77nm,1.4s,mb5.2
WDC Whiskeytown Da 75.95 51 *e*P P 12 42 44.6 -0.2
comp=Z,77nm,1.4s,mb5.2
WDC Whiskeytown Da 75.95 51 P P 12 42 45.1 +0.3
baz=76,SNR=13
ELZG Elazig 76.00 307 *i* P P 12 42 46.2 +1.1
O02C Red Bluff 76.01 51 ⇓P P 12 42 45.9 +0.8
baz=76,SNR=18
P01C Doule 8 Ranch 76.02 52 ⇑P P 12 42 45.4 +0.2
baz=76
F09A S2 Ranch, Elgi 76.06 44 P P 12 42 45.9 +0.5
baz=76,SNR=18
E10A Myers Farm, Un 76.09 43 ⇓P P 12 42 45.6 +0.1
baz=76,SNR=26
HFS Hagfors 76.13 335 P P 12 42 45.0 -0.8
comp=Z,19nm,0.6s,mb5.0,baz=76,slow=6.3,SNR=81
D11A Klaveano Farm, 76.22 43 P P 12 42 46.1 -0.1
baz=76,SNR=41
SUW Suwalki 76.25 326 *e*P P 12 42 46.3 -0.2
H08A Prairie City 76.26 46 P P 12 42 47.1 +0.7
baz=76,SNR=24
L05A Lakeview 76.27 49 P P 12 42 47.5 +0.9
baz=76,SNR=21
F10A Beach Ranch, E 76.31 44 P P 12 42 47.0 +0.2
baz=76,SNR=20
GASB Alder Springs 76.33 52 ⇑P P 12 42 48.0 +1.1
baz=76,SNR=12
C12A Trout Creek 76.33 42 P P 12 42 47.0 +0.1
baz=76,SNR=17
NB2 NORSAR Subarra 76.35 336 P P 12 42 46.2 -0.8
comp=Z,51nm,1.1s,mb5.2,baz=44,slow=5.3
NOA NORSAR Array B 76.35 336 P P 12 42 46.4 -0.6
comp=Z,11nm,0.5s,mb4.8,baz=44,slow=5.6,SNR=38
NOA NORSAR Array B 76.35 336 P P 12 42 46.4 -0.6
M05C Lookout 76.44 49 P P 12 42 48.0 +0.5
baz=76,SNR=29
HOPS Hopland 76.44 52 ⇓P P 12 42 47.5 0.0
baz=76
MALT Malatya 76.47 307 ⇓*i*P P 12 42 48.8 +1.1
MALT Malatya 76.47 307 *e*P P 12 42 48.8 +1.1
J07A Hines 76.50 47 ⇓P P 12 42 48.7 +0.9
baz=76,SNR=52
B13A Whitefish 76.50 41 P P 12 42 48.5 +0.7
baz=76,SNR=51
HATC Hat Creek Radi 76.53 50 ⇑P P 12 42 48.4 +0.4
baz=76,SNR=24
LBCM Butte Creek Ri 76.59 50 P P 12 42 48.7 +0.4
O03C Acorn Hollow, 76.59 51 ⇑P P 12 42 48.2 -0.2
baz=76,SNR=5.4
BSMT Bassoo Peak 76.63 41 P P 12 42 49.1 +0.5
I08A Drewsey 76.65 46 ⇓P P 12 42 49.2 +0.5
baz=76,SNR=34
MOD Modoc 76.68 49 *e*P P 12 42 49.3 +0.5
comp=Z,40nm,1.1s,mb5.1
MOD Modoc 76.68 49 ⇑P P 12 42 49.2 +0.4
baz=76,SNR=45
H09A Durkee 76.78 45 P P 12 42 50.0 +0.7
baz=77,SNR=21
C13A Hot Springs 76.85 41 ⇑P P 12 42 50.1 +0.4
baz=77,SNR=47
BMO Blue Mountains 76.89 45 *e*P P 12 42 50.2 +0.3
comp=Z,56nm,1.0s,mb5.2
K07A Rock Creek Ran 76.91 47 P P 12 42 50.9 +0.8
baz=77,SNR=59
MNRC McLaughlin Nat 76.92 52 ⇓P P 12 42 50.9 +0.7
baz=77,SNR=38
M06C Likely Place G 76.94 49 ⇑P P 12 42 50.9 +0.6
baz=77,SNR=22
F11A Grangeville 76.97 43 P P 12 42 50.3 -0.1
baz=77,SNR=42
NSHM Saint Helena R 77.00 52 *e*P P 12 42 50.4 -0.2
J08A Circle Bar Ran 77.01 47 P P 12 42 51.5 +0.8
baz=77,SNR=73
O04C Chester 77.03 50 ⇑P P 12 42 51.3 +0.5
baz=77,SNR=59
ELFS Eagle Lake Fie 77.10 50 ⇑P P 12 42 51.8 +0.6
baz=77
BOYT Boyabat 77.11 311 *i* P P 12 42 51.7 +0.5
I09A Lost Marbles R 77.12 46 P P 12 42 51.8 +0.5
baz=77,SNR=48
SUTB Sutter Butte 77.16 51 ⇑P P 12 42 50.9 -0.6
baz=77,SNR=10
FARB Farallon Islan 77.17 53 ⇑P P 12 42 51.0 -0.5
baz=77
ORV Oroville 77.18 51 P P 12 42 51.3 -0.3
baz=77,SNR=44
G11A Walters Elk Ra 77.19 44 ⇑P P 12 42 51.3 -0.3
baz=77
CVS Carmenet Viney 77.19 53 ⇓P P 12 42 51.5 -0.2
baz=77,SNR=9.6
L07A Adell 77.22 48 ⇓P P 12 42 52.7 +0.9
baz=77,SNR=110
D13A Huson 77.25 42 P P 12 42 51.8 -0.2
baz=77,SNR=12
C14A Swan Lake 77.25 41 ⇓P P 12 42 52.1 +0.2
baz=77,SNR=21
OHCM Honcut 77.30 51 *e*P P 12 42 51.9 -0.4
Q03C Winters 77.33 52 ⇑P P 12 42 53.3 +0.9
baz=77,SNR=14
O05C Quincy 77.33 50 ⇓P P 12 42 52.6 +0.1
baz=77,SNR=26
K08A Mann Creek Ran 77.35 47 P P 12 42 53.2 +0.7
baz=77,SNR=67
WVOR Wild Horse Val 77.42 47 *e*P P 12 42 53.2 +0.3
WVOR pmax pmax
comp=Z,52nm,1.0s,mb5.2
WVOR Wild Horse Val 77.42 47 *e*P P 12 42 53.2 +0.3
comp=Z,52nm,1.0s,mb5.2
J09A Fry Pan Ranch, 77.46 46 ⇑P P 12 42 53.6 +0.5
baz=77,SNR=40
F12A Elk City 77.57 43 ⇓P P 12 42 53.9 +0.1
baz=77
N06A Buffalo Meadow 77.60 49 ⇑P P 12 42 54.2 +0.3
baz=78,SNR=60
CTKT Corum 77.61 310 *i* P P 12 42 54.6 +0.6
Q04C Lincoln 77.64 52 ⇓P P 12 42 54.2 +0.1
baz=78
MSO Missoula 77.69 42 *e*P P 12 42 54.0 -0.4
H11A Donnelly 77.73 44 P P 12 42 54.4 -0.2
baz=78,SNR=37
L08A Fields 77.74 47 P P 12 42 55.5 +0.8
baz=78,SNR=75
BEKR Beckwourth 77.75 50 ⇓P P 12 42 54.8 +0.1
baz=78,SNR=86
E13A Victor 77.78 42 P P 12 42 54.2 -0.7
baz=78,SNR=10
D14A Greenough 77.78 41 P P 12 42 54.6 -0.3
baz=78,SNR=33
BDM Black Diamond 77.80 53 P P 12 42 55.2 +0.3
baz=78,SNR=5.7
K09A Rome 77.84 47 P P 12 42 55.6 +0.5
baz=78,SNR=35
JRSC Jasper Ridge 77.84 53 ⇑P P 12 42 54.8 -0.4
baz=78,SNR=6.5
P05C Yuba Gap, Truc 77.89 51 ⇑P P 12 42 55.5 0.0
baz=78,SNR=19
BALT Daday 78.00 312 *i* P P 12 42 56.8 +0.7
CHMT Chamberlain Mo 78.02 41 *e*P P 12 42 55.8 -0.4
BNLO Ben Lomond (Sa 78.03 53 ⇓P P 12 42 56.0 -0.3
baz=78,SNR=8.2
WENL Wente Brothers 78.05 53 ⇓P P 12 42 56.3 -0.1
baz=78
F13A Darby 78.08 43 P P 12 42 55.8 -0.7
baz=78,SNR=20
LAVA Lava Cap Winer 78.11 51 P P 12 42 56.6 0.0
baz=78,SNR=29
N07B Gerlach 78.13 49 ⇑P P 12 42 57.2 +0.4
baz=78,SNR=31
P06A Stead Airport, 78.15 50 ⇑P P 12 42 57.3 +0.4
baz=78,SNR=7.5
E14A Clinton 78.18 42 P P 12 42 56.8 -0.3
baz=78,SNR=17
R04C Big Horse Ranc 78.25 52 P P 12 42 57.1 -0.3
baz=78,SNR=6.2
L09A Wilkinson Ranc 78.25 47 ⇑P P 12 42 58.1 +0.6
baz=78,SNR=31
D15A Lincoln 78.35 41 P P 12 42 57.9 -0.1
baz=78,SNR=10
S04C Ingram Canyon, 78.40 53 ⇓P P 12 42 58.3 0.0
baz=78,SNR=8.9
CDAG Cicekdag 78.43 310 *i* P P 12 42 58.8 +0.3
LVV L'vov 78.44 323 *i* P P 12 42 57.9 -0.6
WCN Washoe City 78.45 51 P P 12 42 59.1 +0.6
baz=78,SNR=12
O07A Toulon 78.53 49 ⇑P P 12 42 59.5 +0.5
baz=78,SNR=46
ELDT Eldivan 78.55 311 *i* P P 12 42 59.6 +0.6
R05C Kirkwood Meado 78.57 51 ⇑P P 12 42 59.3 +0.2
baz=78,SNR=19
AVNT Avonos 78.58 309 *i* P P 12 42 59.5 +0.2
F14A Wisdom 78.61 42 ⇑P P 12 42 59.3 -0.1
baz=78,SNR=14
FFC Flin Flon 78.61 31 P P 12 42 58.8 -0.6
comp=Z,359nm,0.7s,mb6.2,SNR=18
FFC Flin Flon 78.61 31 P P 12 42 58.8 -0.7
E15A Deer Lodge 78.65 42 P P 12 42 59.8 +0.1
baz=78,SNR=28
N08A GE Springer Mi 78.66 49 ⇓P P 12 43 00.3 +0.6
baz=78,SNR=33
PACP Pacheco Peak 78.69 53 ⇑P P 12 43 00.1 +0.2
baz=79,SNR=21
SAO San Andreas Ge 78.72 53 *e*P P 12 42 59.8 -0.2
M09A Marrel Ranch, 78.72 48 ⇓P P 12 43 00.6 +0.6
baz=79,SNR=14
CMB Columbia Colle 78.73 52 *e*P P 12 43 00.0 -0.1
CMB pmax pmax
comp=Z,60nm,1.2s,mb5.2
CMB Columbia Colle 78.73 52 *e*P P 12 43 00.0 0.0
comp=Z,60nm,1.2s,mb5.2
CMB Columbia Colle 78.73 52 ⇓P P 12 43 00.0 0.0
baz=79,SNR=26
FCC Fort Churchill 78.80 25 *e*P P 12 42 59.9 -0.5
FCC pmax pmax

comp=Z,48nm,0.9s,mb5.2
FCC Fort Churchill 78.80 25 *e*P P 12 42 59.9 -0.5
comp=Z,48nm,0.9s,mb5.2
BRTR Keskin Array B 78.84 310 P P 12 43 01.1 +0.5
comp=Z,55nm,0.8s,mb5.3,baz=107,slow=4.3,SNR=174
BRTR pP pP 12 44 21.5 -0.4
comp=Z,11nm,1.0s,baz=62,slow=6.7,SNR=4.8
HAST UC Hastings Re 78.85 54 ⇓P P 12 43 00.8 +0.1
baz=79,SNR=22
P07A Fallon 78.87 50 ⇑P P 12 43 01.3 +0.5
baz=79,SNR=5.8
COBT Iskenderun 78.89 306 *i* P P 12 43 01.4 +0.4
O08A Rochester Mine 78.92 49 ⇓P P 12 43 01.9 +0.8
baz=79
N09A Rock Creek Ran 79.00 48 P P 12 43 02.3 +0.8
baz=79,SNR=31
CFR Carcaliu 79.04 317 P P 12 43 04.6 +2.9
R06C Coleville 79.08 51 P P 12 43 02.5 +0.6
baz=79,SNR=28
F15A Butte 79.08 42 P P 12 43 02.4 +0.5
baz=79,SNR=87
WAKR Walker 79.09 51 *e*P P 12 43 02.5 +0.5
LRM Limekiln Ridge 79.12 42 *e*P P 12 43 02.5 +0.4
S05C Merced 79.15 52 ⇓P P 12 43 02.0 -0.3
baz=79,SNR=25
BSD Bornholm Skovb 79.16 330 ⇓*i*P P 12 43 01.4 -0.9
comp=Z,39nm,0.9s,mb5.1
BSD Bornholm Skovb 79.16 330 ⇓*i*P P 12 43 01.4 -0.9
BSD pmax pmax
comp=Z,39nm,0.9s,mb5.1
T05C Eagle Field, D 79.17 53 ⇓P P 12 43 02.8 +0.4
baz=79
S06C San Francisco 79.17 52 P P 12 43 02.4 0.0
baz=79,SNR=21
LRV Little Rabbit 79.19 54 *e*P P 12 43 02.2 -0.3
KWP Kalwaria 79.23 323 *e*P P 12 43 03.1 +0.4
M10A I.L. Ranch, Tu 79.23 47 ⇓P P 12 43 03.6 +0.8
baz=79,SNR=46
EGMT Eagleton 79.25 39 *e*P P 12 43 02.8 0.0
comp=Z,97nm,1.0s,mb5.5
EGMT Eagleton 79.25 39 ⇓P P 12 43 02.7 -0.1
baz=79,SNR=22
Q07A Schurz 79.26 50 ⇑P P 12 43 03.2 +0.3
baz=79
V03C Hunter Liggett 79.27 54 ⇓P P 12 43 03.3 +0.3
baz=79,SNR=9.1
ANTO Ankara 79.30 311 P P 12 43 03.9 +0.7
SNR=15
ANTO Ankara 79.30 311 ⇓*i*P P 12 43 03.2 +0.1
ANTO Ankara 79.30 311 ⇓P P 12 43 03.2 +0.1
P08A Dixie Valley 79.30 49 ⇑P P 12 43 03.9 +0.8
baz=79,SNR=6.7
TIRR Tirgusor 79.31 316 ⇑*i*P P 12 43 02.9 -0.2
TIRR Tirgusor 79.31 316 P P 12 43 03.3 +0.2
DLMT Dillon 79.31 42 *e*P P 12 43 03.2 +0.1
HLID Hailey 79.33 45 *e*P P 12 43 03.9 +0.6
HLID Hailey 79.33 45 ⇑P P 12 43 03.8 +0.6
baz=79,SNR=44
SGKT Sivrigoynuk 79.37 312 *i* P P 12 43 03.4 -0.1
VRI Vrincioaia 79.42 318 ⇓*i*P P 12 43 04.4 +0.6
VRI Vrincioaia 79.42 318 P P 12 43 05.3 +1.5
BMN Battle Mountai 79.43 48 *e*P P 12 43 04.5 +0.7
BMN pmax pmax
comp=Z,62nm,1.1s,mb5.2
BMN Battle Mountai 79.43 48 *e*P P 12 43 04.5 +0.7
comp=Z,62nm,1.1s,mb5.2
MCMT McKenzie Canyo 79.49 43 *e*P P 12 43 03.8 -0.3
G15A Dillon 79.49 43 P P 12 43 04.3 +0.2
baz=79,SNR=91
R07C Lee Vining 79.58 51 ⇑P P 12 43 05.0 +0.4
baz=79,SNR=12
O09A Fish Creek Ran 79.60 49 ⇑P P 12 43 05.4 +0.7
baz=80,SNR=45
N10A Dunphy 79.71 48 ⇑P P 12 43 06.0 +0.7
baz=80,SNR=14
V04C Ramage Ranch, 79.73 54 ⇓P P 12 43 05.8 +0.4
baz=80
M11A Holland Ranch, 79.74 47 ⇓P P 12 43 06.5 +1.0
baz=80,SNR=29
T06C Millerton Lake 79.75 52 P P 12 43 05.2 -0.3
baz=80,SNR=27
COP Copenhagen 79.76 332 *i* P P 12 43 04.8 -0.7
comp=Z,36nm,0.9s,mb5.1
COP Copenhagen 79.76 332 *e*P P 12 43 04.8 -0.7
COP pmax pmax
comp=Z,36nm,0.9s,mb5.1
COP Copenhagen 79.76 332 *e*P P 12 43 04.8 -0.7
comp=Z,36nm,0.9s,mb5.1
PKD Parkfield 79.78 54 ⇓P P 12 43 05.7 0.0
baz=80,SNR=16
KCC Kaiser Creek 79.83 52 ⇑P P 12 43 05.8 -0.2
baz=80,SNR=14
U05C Westside ANR, 79.85 53 ⇓P P 12 43 06.4 +0.4
baz=80
SFJD Kangerlussuaq 79.86 3 ⇑*i*P P 12 43 05.5 -0.6
Q08A Gabbs 79.87 50 ⇓P P 12 43 06.3 +0.2
baz=80,SNR=47
NVAR Mina Array Bea 79.87 51 P P 12 43 07.1 +0.9
KOLS Kolonicke sedl 79.89 323 *e*P P 12 43 06.3 +0.1
KOLS *e* 12 46 18.5
O10A Cortez Mining, 79.96 48 ⇑P P 12 43 07.5 +0.9
baz=80,SNR=18
MLAC Mammoth Lakes 79.98 52 ⇑P P 12 43 07.4 +0.7
baz=80,SNR=9.3
P09A Austin 79.98 49 ⇑P P 12 43 07.2 +0.5
baz=80,SNR=16
R08A Mina 80.05 51 ⇑P P 12 43 07.6 +0.5
baz=80
UZH Uzhgorod 80.07 322 *i* P P 12 43 07.0 -0.2
MLR Muntele Rosu 80.08 318 P P 12 43 06.7 -0.6
comp=Z,11nm,1.0s,mb4.5,baz=17,slow=5.8,SNR=13
MLR Muntele Rosu 80.08 318 ⇓*i*P P 12 43 07.3 0.0
MLR Muntele Rosu 80.08 318 P P 12 43 07.6 +0.4
STHS Stebnicka Huta 80.10 323 *i* P P 12 43 07.5 +0.2
STHS pmax pmax
comp=Z,15nm,0.9s,mb4.7
STHS Stebnicka Huta 80.10 323 *i* P P 12 43 07.5 +0.2
comp=Z,15nm,0.9s,mb4.7
N11A Elko Archery C 80.13 48 ⇑P P 12 43 08.2 +0.6
baz=80
PTRM Twisleman Ran 80.16 54 *e*P P 12 43 07.8 0.0
V05C Boulder Hill, 80.25 54 ⇑P P 12 43 08.8 +0.6
baz=80
OJC Ojcow 80.28 325 *i* P P 12 43 08.2 -0.1
M12A Wells 80.29 47 ⇓P P 12 43 09.3 +1.0
baz=80,SNR=70
QLMT Earthquake Lak 80.29 42 *e*P P 12 43 08.9 +0.6
MTUM Tungsten Hills 80.31 52 *e*P P 12 43 08.8 +0.3
Q09A Carvers 80.37 50 ⇓P P 12 43 09.0 +0.3
baz=80,SNR=6.3
P10A Eureka 80.37 49 ⇓P P 12 43 09.5 +0.7
baz=80,SNR=25
HELL Mitchell Peak, 80.39 52 P P 12 43 08.5 -0.4
baz=80,SNR=23
MUD Monsted U'grnd 80.44 334 *i* P P 12 43 08.7 -0.5
comp=Z,21nm,1.1s,mb4.8
MUD Monsted U'grnd 80.44 334 *e*P P 12 43 08.7 -0.5
comp=Z,21nm,1.1s,mb4.8
RCTC Rector, Farmer 80.45 53 ⇓P P 12 43 08.7 -0.6
baz=80
ELK Elko 80.48 47 *e*P P 12 43 10.2 +0.8
ELK pmax pmax
comp=Z,42nm,1.0s
ELK Elko 80.48 47 *e*P P 12 43 10.2 +0.8
comp=Z,42nm,1.0s,mb5.1
S08C White Mtn Res 80.49 51 ⇓P P 12 43 10.0 +0.6
baz=80,SNR=36
SMMC Simmler 80.50 54 ⇑P P 12 43 09.8 +0.3
baz=80,SNR=5.8
KDHN Kadinhani 80.50 310 *i* P P 12 43 09.3 -0.2
N12A Clover Valley, 80.54 47 ⇓P P 12 43 10.5 +0.8
baz=80,SNR=48
NIE Niedzica 80.56 324 *e*P P 12 43 10.2 +0.4
O11A Cowboy Ranch, 80.58 48 P P 12 43 10.6 +0.7
baz=80,SNR=33
VOIR 80.61 319 ⇓*i*P P 12 43 10.0 -0.1
VOIR 80.61 319 ⇓P P 12 43 10.0 -0.1
YMR Madison River 80.65 42 *e*P P 12 43 11.2 +0.9
comp=Z,56nm,1.0s,mb5.2
TIN Tinemaha 80.70 52 ⇓P P 12 43 11.0 +0.4
baz=81
ESKT Eskisehir 80.73 311 *i* P P 12 43 10.3 -0.4
BHL Bhannes 80.74 304 *e*P P 12 43 10.8 0.0
BORA Eskisehir 80.77 312 *i* P P 12 43 10.6 -0.3
TPH Tonopah 80.77 50 *e*P P 12 43 11.5 +0.6
comp=Z,58nm,0.9s,mb5.3
M13A Montello 80.78 46 ⇓P P 12 43 11.4 +0.5
baz=81,SNR=6.5
R09A Tonopah 80.78 50 P P 12 43 11.3 +0.3
baz=81,SNR=92
YNR Norris Junctio 80.78 42 *e*P P 12 43 12.9 +1.9
VES Vestal, Richgr 80.82 53 ⇓P P 12 43 10.2 -1.0
baz=81,SNR=13
PKM Peak Mountain 80.85 54 ⇓P P 12 43 11.7 +0.4
baz=81,SNR=8.0
P11A Circle Ranch, 80.86 49 ⇑P P 12 43 11.7 +0.4
baz=81,SNR=8.4
YFT Old Faithful 80.86 42 *e*P P 12 43 13.8 +2.4
BORG Borgarnes 80.90 351 P P 12 43 12.2 +0.7
comp=Z,19nm,0.8s,mb4.9,baz=68,slow=4.3,SNR=3.9
S09A Goldfield 80.97 51 ⇓P P 12 43 12.3 +0.3
baz=81,SNR=42
DRGR 81.03 321 ⇓*i*P P 12 43 12.3 +0.1
DRGR 81.03 321 ⇓P P 12 43 12.3 0.0
LKWY Lake 81.03 42 *e*P P 12 43 14.5 +2.3
N13A Wendover, West 81.05 47 ⇑P P 12 43 13.1 +0.7
baz=81,SNR=11
O12A Currie 81.06 48 P P 12 43 13.2 +0.7
baz=81,SNR=97
KECS Kecovo 81.08 323 *e*P P 12 43 12.3 -0.2
comp=Z,8.2nm,1.1s,mb4.4
KECS *e* 12 46 26.6
CWC Cottonwood Cre 81.15 52 ⇑P P 12 43 12.8 -0.1
baz=81
FLWY Flagg Ranch 81.16 43 *e*P P 12 43 14.3 +1.4
DCID1 Drake Creek 81.19 43 *e*P P 12 43 14.2 +1.1
R10A Warm Springs 81.24 50 ⇑P P 12 43 13.8 +0.4
baz=81,SNR=25
GRAC Grapevine Rang 81.30 51 ⇓P P 12 43 14.0 +0.3
baz=81
RLMT Red Lodge 81.32 41 *e*P P 12 43 14.0 +0.2
comp=Z,84nm,1.3s,mb5.3
ISA Isabella 81.33 53 *e*P P 12 43 12.9 -0.9
ISA Isabella 81.33 53 P P 12 43 12.9 -0.9
baz=81,SNR=7.5
Q11A Duckwater 81.33 49 ⇓P P 12 43 14.0 +0.2
baz=81,SNR=28
OKC Ostrava-Krasne 81.33 325 *e*P P 12 43 12.7 -1.1
MOOW Moose Ponds 81.34 43 *e*P P 12 43 14.8 +0.9
comp=Z,70nm,1.4s,mb5.2
HVU Hansel Valley 81.36 45 *e*P P 12 43 14.7 +0.7
ARVC Arvin 81.39 54 ⇑P P 12 43 13.7 -0.4
baz=81,SNR=6.5
P12A McGill 81.43 48 P P 12 43 15.1 +0.7
baz=81,SNR=62
ULDT Uludag 81.43 313 *i* P P 12 43 14.3 -0.1
BSC Santa Cruz Isl 81.49 55 ⇑P P 12 43 14.4 -0.2
baz=81
LOHW Long Hollow 81.51 43 *e*P P 12 43 15.4 +0.6
SNOW Snow King Moun 81.51 43 *e*P P 12 43 15.8 +1.0
comp=Z,37nm,0.8s,mb5.3
KSP Ksiaz 81.52 327 *e*P P 12 43 15.0 +0.2
KSP Ksiaz 81.52 327 ⇓*i*P P 12 43 14.8 0.0
KSP *e*pP pP 12 44 38.6 +2.0
KSP *e*S S 12 52 52.0 -3.9
ZIMR 81.54 317 P P 12 43 15.3 +0.4
DAC Darwin (Calif) 81.56 52 *e*P P 12 43 14.9 -0.1
MORC Moravsky Berou 81.66 325 ⇓*i*P P 12 43 15.5 0.0
MORC Moravsky Berou 81.66 325 *e*P P 12 43 15.0 -0.6
comp=Z,32nm,0.9s,mb5.2
TRCR Troy Canyon 81.67 49 *e*P P 12 43 15.4 -0.1
BGU Big Grassy Mou 81.72 46 *e*P P 12 43 16.2 +0.4
CSS Prodhromos 81.73 306 P P 12 43 15.7 -0.2
comp=Z,0.7nm,0.7s
Q12A Willow Creek R 81.74 49 P P 12 43 16.5 +0.6
baz=82,SNR=31
AHID Auburn Hatcher 81.75 44 *e*P P 12 43 15.6 -0.4
comp=Z,18nm,0.6s,mb5.1
PSZ Piszkesteto 81.75 323 ⇓*i*P P 12 43 16.1 +0.1
PSZ Piszkesteto 81.75 323 P P 12 43 16.7 +0.7
PSZ Piszkesteto 81.75 323 *e*P P 12 43 15.8 -0.2
comp=Z,42nm,1.0s,mb5.2
PSZ Piszkesteto 81.75 323 ⇓*e*P P 12 43 16.3 +0.3
MPMC Manual Prospec 81.76 52 ⇑P P 12 43 16.1 +0.1
baz=82,SNR=30
OSI Osito Adit 81.76 54 ⇑P P 12 43 15.9 -0.1
baz=82
DGMT Dagmar 81.80 36 *e*P P 12 43 16.1 -0.2
comp=Z,34nm,0.6s,mb5.3
BLG Laguna Peak 81.81 55 ⇓P P 12 43 15.6 -0.7
baz=82
SPUT South Promonto 81.84 46 *e*P P 12 43 14.0 -2.4
DPC Dobruska-Polom 81.84 326 *e*P P 12 43 16.6 +0.1
DPC *e*pP pP 12 44 37.6 -0.8
GDZ Gediz 81.84 312 *i* P P 12 43 16.4 -0.1
UPC Upice 81.88 327 *e*P P 12 43 16.6 -0.1
VYHS Vyhne 81.90 324 *i* P P 12 43 17.0 +0.2
VYHS *e* 12 46 27.8
VYHS pmax pmax
comp=Z,28nm,1.3s,mb4.9
VYHS Vyhne 81.90 324 *i* P P 12 43 17.0 +0.2
comp=Z,28nm,1.3s,mb4.9
VYHS *e*PP PP 12 46 27.8 -2.1
FURC Furnace Creek, 81.94 52 ⇓P P 12 43 17.1 +0.1
baz=82,SNR=32
LAO LASA Array 81.95 39 *e*P P 12 43 17.0 0.0
comp=Z,63nm,0.9s,mb5.4
LAO *e*PP PP 12 46 34.9 +4.6
LRMC Laurel Mountai 81.96 53 P P 12 43 16.9 -0.2
baz=82,SNR=22
EDW2 Edwards Air Fo 82.10 53 P P 12 43 17.9 +0.1
baz=82,SNR=21
ALFC Alevga 82.11 307 ⇓P P 12 43 17.1 -0.8
comp=Z,1.8nm,0.6s,mb4.1
ALFC Alevga 82.11 307 ⇓*e*P P 12 43 17.1 -0.8
SZAC Souni-Zanaja 82.15 306 P P 12 43 18.2 +0.1
HWUT Hardware Ranch 82.18 45 *e*P P 12 43 18.9 +0.7
comp=Z,68nm,1.0s,mb5.4
DECC Green Verdugo 82.23 54 ⇑P P 12 43 18.2 -0.3
baz=82
DUG Dugway 82.29 47 *e*P P 12 43 19.5 +0.7
DUG Dugway 82.29 47 P P 12 43 19.5 +0.7
baz=82,SNR=76
U10A Ash Meadows, A 82.31 51 ⇑P P 12 43 19.3 +0.4
baz=82,SNR=30
BZS Buzias 82.37 320 ⇓*i*P P 12 43 18.7 -0.5
BZS Buzias 82.37 320 P P 12 43 18.8 -0.3
AKMC Akamas 82.37 307 ⇓P P 12 43 18.6 -0.6
AKMC Akamas 82.37 307 ⇓*e*P P 12 43 18.6 -0.6
MWC Mount Wilson 82.43 54 *e*P P 12 43 19.3 -0.2
VRAC Vranov 82.43 325 P P 12 43 19.7 +0.1
comp=Z,34nm,0.8s,mb5.2,baz=51,slow=3.9,SNR=24
VRAC Vranov 82.43 325 ⇑*i*P P 12 43 19.6 +0.1
VRAC Vranov 82.43 325 P P 12 43 19.8 +0.3
NOQ North Oquirrh 82.44 46 *e*P P 12 43 20.3 +0.8
PPCY Paphos 82.44 307 ⇓P P 12 43 19.0 -0.6
PPCY Paphos 82.44 307 ⇓*e*P P 12 43 19.0 -0.1
PVCC Panska Ves 82.52 327 *e*P P 12 43 19.9 -0.1
BRG Berggiesshubel 82.56 328 ⇓*i*P P 12 43 19.8 -0.4
comp=Z,20nm,0.9s,mb4.9
BRG *e* 12 44 58.6
comp=Z,10nm,1.6s
BRG Berggiesshubel 82.56 328 ⇓*i*P P 12 43 19.8 -0.4
BRG pmax pmax
comp=Z,20nm,1.0s,mb4.9
BRG pmax pmax
comp=Z,10.0nm,1.6s,mb4.4
FMP Fort Macarthur 82.57 55 ⇓P P 12 43 19.7 -0.5
baz=82
SMOL Smolenice 82.58 324 *i* P P 12 43 20.8 +0.6
BW06 Boulder Array 82.63 43 *e*P P 12 43 20.4 -0.1
comp=Z,30nm,0.9s,mb5.1
PDAR Pinedale Array 82.63 43 P P 12 43 20.4 -0.2
comp=Z,18nm,0.7s,mb5.0,baz=283,slow=2.7,SNR=180
CTU Camp Tracy 82.63 46 *e*P P 12 43 20.6 +0.1
SHOC Shoshone 82.65 52 ⇑P P 12 43 20.4 -0.2
baz=82,SNR=13
GSC Goldstone 82.65 53 *e*P P 12 43 20.6 0.0
GSC *e* 12 46 33.8
GSC Goldstone 82.65 53 P P 12 43 20.6 0.0
baz=82,SNR=34
CIS Catalina Islan 82.66 55 ⇑P P 12 43 20.2 -0.5
baz=82
CLL Collm 82.67 329 ⇓*i*P P 12 43 20.0 -0.7
CLL pmax pmax
comp=Z,82nm,1.0s,mb5.5
CLL Collm 82.67 329 ⇓*i*P P 12 43 20.0 -0.7
comp=Z,82nm,1.0s,mb5.5
CLL *i* PcP PcP 12 43 51.5 +27
CLL *e*PP PP 12 46 36.0 -0.1
BFSC Mount Baldy St 82.69 54 P P 12 43 20.4 -0.4
baz=83,SNR=18
RRX Edison Barstow 82.76 53 ⇓P P 12 43 21.2 0.0
baz=83
SCI San Clemente I 82.81 55 ⇑P P 12 43 21.1 -0.3
baz=83
JLU Jordanelle 82.87 46 *e*P P 12 43 22.3 +0.6
NLU North Lily Min 82.89 47 *e*P P 12 43 22.3 +0.4
GOLH Golhisar 82.89 310 *i* P P 12 43 21.2 -0.6
DNZL Cakiroluk 82.95 311 *i* P P 12 43 28.8 +6.6
ZST Bratislava 82.95 324 *e*P P 12 43 22.4 +0.2
ZST pmax pmax
comp=Z,19nm,1.2s,mb4.8
ZST Bratislava 82.95 324 *e*P P 12 43 22.4 +0.2
comp=Z,19nm,1.2s,mb4.8
SHPR Sheep Range 83.02 51 *e*P P 12 43 22.9 +0.4
DAU Daniels Canyon 83.10 46 *e*P P 12 43 23.8 +0.9
MPU Maple Canyon 83.12 46 *e*P P 12 43 23.7 +0.7
TUQ Turquoise Mtn. 83.16 52 ⇑P P 12 43 23.3 +0.2
baz=83,SNR=42
BBRC Big Bear Sol-O 83.18 53 ⇓P P 12 43 23.1 -0.2
baz=83,SNR=18
HEC Hector,Ludlow 83.24 53 ⇑P P 12 43 23.5 -0.1
baz=83,SNR=27
V11A Goodsprings 83.24 51 ⇓P P 12 43 23.6 0.0
baz=83,SNR=21
ARUT Antelope Range 83.36 49 *e*P P 12 43 24.5 +0.3
MURC Murrieta 83.37 54 ⇑P P 12 43 23.9 -0.4
baz=83,SNR=7.6
VTS Vitosha 83.44 317 ⇑*i*P P 12 43 24.6 0.0
VTS Vitosha 83.44 317 ⇑P P 12 43 24.6 0.0
U12A Valley of Fire 83.47 51 ⇑P P 12 43 24.9 +0.2
baz=83,SNR=6.5
PKSM Moragy 83.53 322 ⇑*i*P P 12 43 24.6 -0.5
CCUT Cedar City 83.55 49 *e*P P 12 43 25.5 +0.3
CCUT *e*pP pP 12 44 47.6 +0.2
SOP Sopron 83.57 324 ⇓*e*P P 12 43 25.5 +0.2
EIL Elat 83.61 301 *e*P P 12 43 25.2 -0.3
KDAG Bornova 83.64 312 *i* P P 12 43 25.2 -0.4
NKC Novy Kostel 83.68 328 *e*P P 12 43 25.5 -0.4
V12A Nelson 83.69 51 P P 12 43 26.1 +0.3
baz=84,SNR=28
MSU Marysvale 83.71 48 *e*P P 12 43 27.0 +1.0
CONA Conrad Observa 83.74 325 ⇓*i*P P 12 43 26.4 +0.2
comp=Z,16nm,0.8s,mb4.9
MOX Moxa 83.75 329 *e*P P 12 43 25.5 -0.7
TMUT Trail Mountain 83.82 47 *e*P P 12 43 27.3 +0.8
109C Camp Elliot, M 83.85 55 ⇑P P 12 43 26.2 -0.5
baz=84,SNR=5.4
PFO Pinyon Flat Ob 83.87 54 P P 12 43 26.0 -0.8
comp=Z,413nm,0.9s,SNR=30
PFO Pinyon Flat Ob 83.87 54 *e*P P 12 43 26.5 -0.3
PFO Pinyon Flat Ob 83.87 54 ⇑P P 12 43 26.6 -0.2
baz=84,SNR=51
W12A Cal Nev Ari 83.93 52 ⇑P P 12 43 27.1 0.0
baz=84
BELC Belle Mtn. 83.95 53 P P 12 43 26.9 -0.2
baz=84,SNR=39
KHC Kasperske Hory 83.97 327 *e*P P 12 43 26.8 -0.5
KHC *e*pP pP 12 44 51.3 +1.7
URLA Izmir 84.08 312 *i* P P 12 43 25.7 -2.1
GEC2 GERESS Array S 84.11 326 *e*P P 12 43 27.2 -0.8
GERES GERESS Array B 84.11 326 P P 12 43 27.3 -0.7
comp=Z,9.5nm,0.7s,mb4.8,baz=40,slow=5.2,SNR=60
GERES pP pP 12 44 52.2 +1.7
comp=Z,3.2nm,0.9s,baz=35,slow=4.9,SNR=2.9
BAR Barrett 84.27 55 *e*P P 12 43 28.5 -0.3
MONP Monument Peak 84.32 54 P P 12 43 29.1 +0.1
baz=84,SNR=26
SRU San Rafael 84.35 46 *e*P P 12 43 29.7 +0.5
ARSA Arzberg 84.38 324 ⇓*i*P P 12 43 29.1 -0.2
comp=Z,10nm,0.9s,mb4.6
ULM Lac du Bonnet 84.42 31 P P 12 43 27.5 -2.0
comp=Z,31nm,1.0s,mb5.1,baz=310,slow=6.4,SNR=39
ULM Lac du Bonnet 84.42 31 P P 12 43 27.5 -2.0
IRM Iron Mountain 84.42 53 ⇓P P 12 43 29.4 -0.1
baz=84,SNR=27
BC3 Big Chuckw Mtn 84.52 53 ⇓P P 12 43 29.9 -0.1
baz=84,SNR=34
MOA Molln 84.56 326 ⇓*i*P P 12 43 29.5 -0.7
comp=Z,18nm,1.4s,mb4.7
STIP Stip 84.60 317 *e*P P 12 43 27.9 -2.5
VAY Valandovo 84.62 317 *e*P P 12 43 28.2 -2.3
GRA1 Grafenberg Arr 84.62 328 *e*P P 12 43 30.2 -0.3
comp=Z,35nm,0.9s,mb5.2
GRA1 *e*pP pP 12 44 56.2 +3.2
GRF Grafenberg Arr 84.62 328 *e*P P 12 43 30.2 -0.3
comp=Z,35nm,0.9s,mb5.2
GRF *e*pP pP 12 44 56.2 +3.2
GRF Grafenberg Arr 84.62 328 *e*P P 12 43 30.2 -0.3
GRF *e**PP pP 12 44 56.2 +3.2
GRF pmax pmax
comp=Z,35nm,0.9s,mb5.2
GRF Grafenberg Arr 84.62 328 *e*P P 12 43 30.2 -0.3
GRF *e**PP pP 12 44 56.2 +3.2
GRF pmax pmax
comp=Z,35nm,0.9s,mb5.2
GRFO Grafenberg 84.62 328 *e*P P 12 43 30.8 +0.3
GRFO pmax pmax
comp=Z,32nm,1.3s,mb5.0
GRFO Grafenberg 84.62 328 *e*P P 12 43 30.8 +0.2
comp=Z,32nm,1.3s,mb5.0
RWWY Rawlins 84.66 43 *e*P P 12 43 30.9 +0.2
RWWY *e*PP PP 12 46 53.0 +0.7
DVTC Desert V Tower 84.67 54 ⇓P P 12 43 30.6 -0.2
baz=84,SNR=12
W13A Hualapai Mount 84.69 51 ⇑P P 12 43 30.9 0.0
baz=85,SNR=12
SWSC Sam W. Stewart 84.71 54 P P 12 43 30.7 -0.2
baz=85,SNR=12
RSSD Black Hills 84.80 39 *e*P P 12 43 31.0 -0.4
RSSD pmax pmax
comp=Z,26nm,1.0s,mb5.0
RSSD Black Hills 84.80 39 *e*P P 12 43 30.9 -0.5
comp=Z,26nm,1.0s,mb5.0
SKO Skopje 84.84 318 *e*P P 12 43 28.9 -2.7
PDMCI Parker Dam,Lak 85.01 52 ⇑P P 12 43 32.2 -0.3
baz=85,SNR=20
X13A Yucca 85.03 52 P P 12 43 32.5 0.0
baz=85,SNR=29
Y12C Blythe 85.08 53 ⇑P P 12 43 32.8 0.0
baz=85,SNR=25
W14A Seligman 85.15 51 P P 12 43 33.5 +0.4
baz=85,SNR=34
GLA Glamis 85.30 53 *e*P P 12 43 33.9 0.0
GLA Glamis 85.30 53 P P 12 43 34.0 +0.1
baz=85,SNR=36
EKA Eskdalemuir Ar 85.52 339 P P 12 43 34.3 -0.6
comp=Z,7.1nm,0.8s,mb4.6,baz=39,slow=4.6,SNR=15
APE Apeiranthos 85.54 312 ⇑*i*P P 12 43 32.4 -2.7
APE Apeiranthos 85.54 312 ⇑P P 12 43 32.4 -2.7
W15A Williams 85.70 50 ⇓P P 12 43 36.5 +0.7
baz=86,SNR=21
X14A Yava 85.73 51 P P 12 43 36.4 +0.4
baz=86,SNR=31
OHR Ohrid 85.77 317 *e*P P 12 43 33.8 -2.3
AGMN Agassiz Refuge 85.87 32 *e*P P 12 43 35.1 -1.5
comp=Z,33nm,1.0s,mb5.1
PHWY Pilot Hill 85.91 42 *e*P P 12 43 37.2 +0.3
Y14A Wickenburg 85.97 52 ⇓P P 12 43 37.2 0.0
baz=86,SNR=20
PPT Papeete 85.99 114 *e*LR LR 13 11 25.5
comp=Z,90nm,24.8s
SANT Santorini 86.03 311 *e*P P 12 43 35.4 -2.0
WUAZ Wupatki 86.06 50 *e*P P 12 43 38.0 +0.4
comp=Z,32nm,1.0s,mb5.1
WUAZ Wupatki 86.06 50 ⇓P P 12 43 37.9 +0.3
baz=86
X15A Humboldt 86.14 51 P P 12 43 38.5 +0.5
baz=86,SNR=27
Z14A Wintersburg 86.36 52 ⇓P P 12 43 38.9 -0.1
baz=86
MOTA Moosalm 86.40 327 ⇓*i*P P 12 43 37.3 -1.9
comp=Z,4.5nm,0.6s,mb4.5
SMCO Snowmass 86.43 45 *e*P P 12 43 30.6 -8.7
comp=Z,34nm,0.9s,mb5.2
MVCO Mesa Verde 86.79 47 *e*P P 12 43 41.1 0.0
comp=Z,19nm,1.3s,mb4.8
MVCO Mesa Verde 86.79 47 ⇓P P 12 43 41.3 +0.2
baz=87,SNR=9.5
ISCO Idaho Springs 86.82 43 *e*P P 12 43 41.9 +0.7
BFO Black Forest 86.91 329 *e*P P 12 43 40.1 -1.5
BFO pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
BFO Black Forest 86.91 329 *e*P P 12 43 40.1 -1.5
comp=Z,7.2nm,0.8s,mb4.5
DAVA Damuels 87.00 327 ⇓*i*P P 12 43 41.3 -0.8

comp=Z,28nm,1.0s,mb5.0
115A Sonoran Desert 87.25 52 ⇓P **P 12 43 43.4 +0.2**
baz=87
BAIF Baives 87.27 332 *e*P **P 12 43 41.8 -1.5**
BAIF *e*pP pP 12 45 03.8 -2.6
CDF Champ du Feu 87.30 329 *e*P **P 12 43 42.0 -1.5**
comp=Z,27nm,1.1s,mb4.7
CDF Champ du Feu 87.30 329 *e*P **P 12 43 42.0 -1.5**
CDF pmax pmax
comp=Z,13nm,1.1s,mb4.7
CDF Champ du Feu 87.30 329 *e*P **P 12 43 42.0 -1.5**
comp=Z,13nm,1.1s,mb4.7
DAVOX Davos 87.38 327 P **P 12 43 43.4 -0.5**
comp=Z,17nm,0.6s,mb5.1,baz=30,slow=3.2,SNR=26
116A Eloy 87.68 52 ⇑P **P 12 43 45.6 +0.3**
baz=88
GVD Gavdhos 87.86 311 *e*P **P 12 43 45.2 -0.9**
comp=Z,47nm,0.9s,mb5.3
HINF Hinteralfeld 87.94 329 *e*P **P 12 43 44.6 -1.9**
HAU Haudompre 88.01 330 *e*P **P 12 43 45.0 -1.8**
EYMN Ely 88.05 30 *e*P **P 12 43 47.1 +0.1**
SDCO Great Sand Dun 88.25 45 *e*P **P 12 43 48.6 +0.6**
SDCO *e*PP PP 12 47 25.2 +4.3
TUC Tucson 88.44 52 *e*P **P 12 43 48.8 -0.1**
TUC pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TUC Tucson 88.44 52 *e*P **P 12 43 48.8 0.0**
comp=Z,5.7nm,0.8s,mb4.5
TAOE Nuku Hiva Isla 88.53 102 *e*LR LR 13 12 51.0
comp=Z,5um,34.1s
ECSD EROS,Sioux Fal 88.88 36 *e*P **P 12 43 50.0 -0.9**
comp=Z,38nm,0.9s,mb5.2
CABF La Chapelle 89.20 329 *e*P **P 12 43 50.0 -2.4**
comp=Z,76nm,1.4s,mb5.0
CABF La Chapelle 89.20 329 *e*P **P 12 43 50.0 -2.4**
CABF pmax pmax
comp=Z,38nm,1.4s,mb5.0
CABF La Chapelle 89.20 329 *e*P **P 12 43 50.0 -2.4**
comp=Z,38nm,1.4s,mb5.0
TIP Timpagrande 89.35 318 *e*P **P 12 43 52.2 -0.8**
LAZ Ladron 89.45 48 *e*P **P 12 43 53.6 +0.1**
TBI Tubuai 89.51 118 *e*LR LR 13 13 08.0
comp=Z,140nm,35.0s
ANMO Albuquerque 89.51 48⇑ *e*P **P 12 43 53.4 -0.4**
ANMO Albuquerque 89.51 48 *e*P **P 12 43 54.4 +0.6**
LOR Lormes 89.63 330 *e*P **P 12 43 52.8 -1.6**
comp=Z,27nm,1.1s,mb4.8
LOR *e*pP pP 12 45 15.0 -2.9
LOR Lormes 89.63 330 *e*P **P 12 43 52.8 -1.6**
LOR *e**PP pP 12 45 15.0 -2.9
LOR pmax pmax
comp=Z,13nm,1.1s,mb4.8
LOR Lormes 89.63 330 *e*P **P 12 43 52.8 -1.6**
comp=Z,13nm,1.1s,mb4.8
LOR *e*pP pP 12 45 15.0 -2.9
LPL La Plagne 89.77 328 *e*P **P 12 43 53.9 -1.1**
comp=Z,34nm,1.0s,mb5.0
LPL La Plagne 89.77 328 *e*P **P 12 43 53.9 -1.1**
LPL pmax pmax
comp=Z,17nm,1.0s,mb4.9
LPL La Plagne 89.77 328 *e*P **P 12 43 53.9 -1.1**
comp=Z,17nm,1.0s,mb4.9
LPG La Plagne 89.77 328 *e*P **P 12 43 54.1 -0.9**
comp=Z,52nm,1.0s,mb5.1
LPG *e*pP pP 12 45 15.2 -3.3
LPG La Plagne 89.77 328 *e*P **P 12 43 54.1 -0.9**
LPG *e**PP pP 12 45 15.2 -3.3
LPG pmax pmax
comp=Z,26nm,1.0s,mb5.1
LPG La Plagne 89.77 328 *e*P **P 12 43 54.1 -0.9**
comp=Z,26nm,1.0s,mb5.1
LPG *e*pP pP 12 45 15.2 -3.3
Y22C IRIS PASSCAL I 89.80 48 ⇑P **P 12 43 55.7 +0.6**
baz=90
SCHQ Schefferville 89.80 14 P **P 12 43 54.3 -0.9**
comp=Z,6.0nm,0.8s,mb4.6,baz=6.8,slow=5.3,SNR=10
LPM Los Pinos Moun 89.83 48 *e*P **P 12 43 55.8 +0.5**
BNM Barren Site 89.93 48 *e*P **P 12 43 56.3 +0.5**
SSF Saint Saulge 89.94 331 *e*P **P 12 43 54.4 -1.4**
comp=Z,25nm,1.1s,mb4.8
SSF *e*pP pP 12 45 17.5 -1.8
SSF Saint Saulge 89.94 331 *e*P **P 12 43 54.4 -1.4**
SSF *e**PP pP 12 45 17.5 -1.8
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SSF Saint Saulge 89.94 331 *e*P **P 12 43 54.4 -1.4**
comp=Z,13nm,1.1s,mb4.8
SSF *e*pP pP 12 45 17.5 -1.8
FLN La Foliniere 90.12 334 *e*P **P 12 43 55.2 -1.4**
LDF La Druitiere 90.12 333 *e*P **P 12 43 55.1 -1.6**
SMF Signal de Mont 90.13 330 *e*P **P 12 43 55.3 -1.4**
comp=Z,38nm,1.0s,mb5.0
SMF Signal de Mont 90.13 330 *e*P **P 12 43 55.3 -1.4**
SMF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SMF Signal de Mont 90.13 330 *e*P **P 12 43 55.3 -1.4**
comp=Z,19nm,1.0s,mb5.0
AVF Avril sur Loir 90.22 330 *e*P **P 12 43 55.8 -1.3**
comp=Z,80nm,1.4s,mb5.2
AVF *e*pP pP 12 45 18.1 -2.5
AVF Avril sur Loir 90.22 330 *e*P **P 12 43 55.8 -1.3**
AVF *e**PP pP 12 45 18.1 -2.5
AVF pmax pmax
comp=Z,40nm,1.4s,mb5.2
AVF Avril sur Loir 90.22 330 *e*P **P 12 43 55.8 -1.3**
comp=Z,40nm,1.4s,mb5.2
AVF *e*pP pP 12 45 18.1 -2.5
MBDF Montbardon 90.36 327 *e*P **P 12 43 55.9 -1.9**
comp=Z,7.0nm,0.7s,mb4.4
MBDF Montbardon 90.36 327 *e*P **P 12 43 55.9 -1.9**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MBDF Montbardon 90.36 327 *e*P **P 12 43 55.9 -1.9**
comp=Z,3.5nm,0.7s,mb4.4
GRR Gorron 90.57 334 *e*P **P 12 43 57.5 -1.2**
ORIF Oris-en-Rattie 90.61 328 *e*P **P 12 43 57.4 -1.5**
BGF Bois d'Agland 90.61 331 *e*P **P 12 43 57.7 -1.2**
comp=Z,35nm,1.0s,mb5.0
BGF Bois d'Agland 90.61 331 *e*P **P 12 43 57.7 -1.2**
BGF pmax pmax
comp=Z,18nm,1.0s,mb5.0
BGF Bois d'Agland 90.61 331 *e*P **P 12 43 57.7 -1.2**
comp=Z,18nm,1.0s,mb5.0
SBF Sospel 90.72 326 *e*P **P 12 43 57.2 -2.2**
comp=Z,46nm,1.1s,mb5.0
SBF Sospel 90.72 326 *e*P **P 12 43 57.2 -2.2**
SBF pmax pmax
comp=Z,23nm,1.1s,mb5.0
SBF Sospel 90.72 326 *e*P **P 12 43 57.2 -2.2**
comp=Z,23nm,1.1s,mb5.0
CBKS Cedar Bluff 90.80 41 *e*P **P 12 43 59.1 -0.7**
CBKS pmax pmax
comp=Z,27nm,1.0s,mb5.1
CBKS Cedar Bluff 90.80 41 *e*P **P 12 43 59.1 -0.8**
comp=Z,27nm,1.0s,mb5.1
PGF Pioggiola 90.97 325 *e*P **P 12 43 59.4 -1.2**
comp=Z,20nm,1.0s,mb4.7
PGF Pioggiola 90.97 325 *e*P **P 12 43 59.4 -1.2**
PGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PGF Pioggiola 90.97 325 *e*P **P 12 43 59.4 -1.2**
comp=Z,10nm,1.0s,mb4.7
TCF Toulx Ste Croi 91.09 331 *e*P **P 12 44 00.0 -1.2**
comp=Z,65nm,1.3s,mb5.1
TCF Toulx Ste Croi 91.09 331 *e*P **P 12 44 00.0 -1.2**
TCF pmax pmax
comp=Z,32nm,1.3s,mb5.1
TCF Toulx Ste Croi 91.09 331 *e*P **P 12 44 00.0 -1.2**
comp=Z,32nm,1.3s,mb5.1
VIVF Saint-Julien-l 91.19 329 *e*P **P 12 44 00.3 -1.3**
comp=Z,34nm,1.0s,mb4.9
VIVF Saint-Julien-l 91.19 329 *e*P **P 12 44 00.3 -1.3**
VIVF pmax pmax
comp=Z,17nm,1.0s,mb4.9
VIVF Saint-Julien-l 91.19 329 *e*P **P 12 44 00.3 -1.3**
comp=Z,17nm,1.0s,mb4.9
SGMF Saint Gilles 91.30 335 *e*P **P 12 43 59.8 -2.3**
comp=Z,121nm,1.4s,mb5.3
SGMF Saint Gilles 91.30 335 *e*P **P 12 43 59.8 -2.3**
SGMF pmax pmax
comp=Z,60nm,1.4s,mb5.3
SGMF Saint Gilles 91.30 335 *e*P **P 12 43 59.8 -2.3**
comp=Z,60nm,1.4s,mb5.3
FRF La Foret Royal 91.31 327 *e*P **P 12 44 00.0 -2.2**
SMRF Simiane la Rot 91.48 327 *e*P **P 12 44 01.5 -1.5**
comp=Z,62nm,1.2s,mb5.1
SMRF Simiane la Rot 91.48 327 *e*P **P 12 44 01.5 -1.5**
comp=Z,62nm,1.3s,mb5.4
ROSF Rostrenen 91.49 335 *e*P **P 12 44 01.1 -1.9**
comp=Z,36nm,0.8s,mb5.0
ROSF Rostrenen 91.49 335 *e*P **P 12 44 01.1 -1.9**
ROSF pmax pmax
comp=Z,18nm,0.8s,mb5.0
ROSF Rostrenen 91.49 335 *e*P **P 12 44 01.1 -1.9**
comp=Z,18nm,0.8s,mb5.1
LMR La Mourre 91.55 327 *e*P **P 12 44 01.2 -2.1**
comp=Z,78nm,1.4s,mb5.2
LMR La Mourre 91.55 327 *e*P **P 12 44 01.2 -2.1**
LMR pmax pmax
comp=Z,39nm,1.4s,mb5.1
LMR La Mourre 91.55 327 *e*P **P 12 44 01.2 -2.1**
comp=Z,39nm,1.4s,mb5.2
MFF Saint Martin d 91.78 332 *e*P **P 12 44 03.3 -1.0**
comp=Z,50nm,0.8s,mb5.2
MFF Saint Martin d 91.78 332 *e*P **P 12 44 03.3 -1.0**
MFF pmax pmax
comp=Z,25nm,0.8s,mb5.2
MFF Saint Martin d 91.78 332 *e*P **P 12 44 03.3 -1.0**
comp=Z,25nm,0.8s,mb5.2
SCIA State Center 91.91 35 *e*P **P 12 44 04.9 0.0**
comp=Z,47nm,0.8s,mb5.5
LASF Ste Croix 92.17 328 *e*P **P 12 44 04.2 -1.9**
comp=Z,31nm,1.1s,mb4.8
RJF Les Rejaudoux 92.17 331 *e*P **P 12 44 05.3 -0.8**
comp=Z,21nm,0.7s,mb4.9
RJF Les Rejaudoux 92.17 331 *e*P **P 12 44 05.3 -0.8**
RJF pmax pmax
comp=Z,11nm,0.7s,mb4.9
RJF Les Rejaudoux 92.17 331 *e*P **P 12 44 05.3 -0.8**
comp=Z,11nm,0.7s,mb4.9
KSU1 Kansas State U 92.28 39 *e*P **P 12 44 05.9 -0.8**
comp=Z,49nm,0.9s,mb5.4
MNTX Cornudas Mount 92.34 49 *e*P **P 12 44 07.0 +0.1**
AMTX Amarillo 92.45 45 *e*P **P 12 44 07.8 +0.4**
GDL1 Guadalupe Mon 92.64 48 *e*P **P 12 44 08.7 +0.4**
LFF La Frestale 92.79 331 *e*P **P 12 44 07.0 -2.0**
comp=Z,136nm,1.2s,mb5.5
LFF La Frestale 92.79 331 *e*P **P 12 44 07.0 -2.0**
LFF pmax pmax
comp=Z,68nm,1.3s,mb5.5
LFF La Frestale 92.79 331 *e*P **P 12 44 07.0 -2.0**
comp=Z,68nm,1.3s,mb5.5
MTLF Montolieu 93.47 329 *e*P **P 12 44 09.9 -2.2**
LPIG La Paz 93.92 58 P **P 12 44 15.4 +1.2**
comp=Z,19nm,0.3s,mb5.6,baz=152,slow=8.2,SNR=4.5
WMOK Wichita Mounta 94.24 43 *e*P **P 12 44 16.5 +0.9**
EPF Esparros 94.52 330 *e*P **P 12 44 14.9 -2.0**
ETSF Etsaut 95.00 330 *e*P **P 12 44 16.7 -2.4**
LTX Lajitas 95.02 50 *e*P **P 12 44 19.4 +0.2**
LTX pmax pmax
comp=Z,22nm,0.9s,mb5.2
LTX Lajitas 95.02 50 *e*P **P 12 44 19.4 +0.2**
comp=Z,22nm,0.9s,mb5.2
TXAR Lajitas Array 95.02 50 P **P 12 44 19.4 +0.3**
comp=Z,17nm,0.8s,mb5.1,baz=289,slow=3.2,SNR=175
TXAR pP pP 12 45 43.2 +0.3
comp=Z,4.9nm,1.1s,baz=310,slow=4.4,SNR=4.1
TXAR PP PP 12 48 09.8 -4.0
comp=Z,1.9nm,0.8s,baz=298,slow=6.0,SNR=3.9
TXAR PKKPbc PKKPbc 13 01 12.6 +0.3
comp=Z,0.4nm,0.9s,baz=122,slow=6.1,SNR=3.5
TXAR Lajitas Array 95.02 50 P **P 12 44 19.4 +0.2**
TXAR *PP pP 12 45 43.2 +0.3
TXAR 12 48 09.8
TXAR Lajitas Array 95.02 50 P **P 12 44 19.4 +0.3**
TXAR pP pP 12 45 43.2 +0.3
TXAR PP PP 12 48 09.8 -4.0
TXAR PKKPbc PKKPbc 13 01 12.6 +0.3
SJPF Ste Jean 95.10 331 *e*P **P 12 44 17.0 -2.5**
FVM French Village 96.29 36 *e*P **P 12 44 24.6 -0.3**
FVM pmax pmax
comp=Z,18nm,1.0s,mb5.2
FVM French Village 96.29 36 *e*P **P 12 44 24.6 -0.3**
comp=Z,18nm,1.0s,mb5.2
JCT Junction City 96.65 47 *e*P **P 12 44 26.5 -0.1**
JCT *e* 12 48 25.0
SIUC Southern Illin 97.09 36 *e*P **P 12 44 28.4 -0.2**
KMBO Kilima Mbogo 99.13 275 P Pdif 12 44 37.8 +0.2
comp=Z,2.8nm,0.9s,baz=71,slow=23,SNR=5.7
RKT Rikitea 100.42 111 *e*LR LR 13 18 19.6
comp=Z,82nm,27.5s
TOA0 Torodi Ar. Sit 117.46 310 *e*PKPdf PKPdf 12 49 38.7 -1.4
TORD Torodi Ar. Bea 117.46 310 PKP PKPdf 12 49 39.3 -0.7
comp=Z,1.1nm,0.5s,baz=38,slow=1.3,SNR=16
LBTB Lobatse 120.82 259 *e*PKIKP PKPdf 12 49 46.5 0.0
QSPA South Pole Qui 123.02 180 *e*PKPdf PKPdf 12 49 49.1 -1.6
SYO Syowa Base 123.40 205⇓ *e*PKPdf PKPdf 12 49 49.8 -1.6
CPD Cerro la Pandu 124.32 27 *e*PKIKP PKPdf 12 49 52.6 -0.6
SDV Santo Domingo 130.30 38 *e*PKPdf PKPdf 12 50 04.1 -0.5
ARE Arequipa 149.02 64 *e*PKP2 PKPbc 12 50 43.0 +0.3
LPAZ La Paz 151.40 60 *e*PKPdf PKPdf 12 50 43.0 +1.2
LPAZ *e*PKPbc PKPbc 12 50 49.2 +0.9
LVC Limon Verde 154.49 72 *e*PKPab PKPab 12 51 12.5 +1.4

JMA 17 12:41:10.2±0.1, 4207N×14246E, h68km±2km, M3.5,3C-8D
Broadband fault plane solution: P waves. NP1:
ϕ_S130.00000°, δ11.00000°, λ22.00000°. **NP2:**ϕ_S18.00000°, δ86.00000°, λ100.00000°. **Principal axes:** T Plg48.0000°, Azm299.0000°; N Plg10.0000°, Azm198.0000°; P Plg40.0000°, Azm99.0000°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.30**	**46**	⇑P		Pn	12 41 20.9	-0.3
JNBK				*e*S		Sn	12 41 29.1	-0.1
JEM	**Erimo**	**0.52**	**96**	⇑P		Pn	12 41 23.5	+0.5
JBT2	**Biratori 2**	**0.71**	**354**	⇓P		Pn	12 41 25.0	-0.1
JBT2				*e*S		Sn	12 41 36.1	+0.1
JCH	**Churui**	**0.86**	**51**	P		Pn	12 41 27.1	+0.2
JEW	**Eniwo**	**1.07**	**316**	⇓P		Pn	12 41 29.8	+0.3
JEW				*e*S		Sn	12 41 44.5	+0.6
JKB	**Kayabe**	**1.08**	**261**	⇓P		Pn	12 41 29.6	0.0
JKB				*e*S		Sn	12 41 43.9	-0.1
JFR	**Furan**	**1.10**	**5**	⇓P		Pn	12 41 29.7	-0.1
JNB	**Noboribetsu**	**1.13**	**291**	⇓P		Pn	12 41 29.6	-0.6
JNB				*e*S		Sn	12 41 44.4	-0.7
JOT	**Ohata**	**1.26**	**237**	⇓P		Pn	12 41 32.1	+0.2
JOB	**Onbets**	**1.31**	**50**	⇑P		Pn	12 41 33.7	+1.1
JOB				*e*S		Sn	12 41 51.3	+1.9
JAB	**Ashibetsu**	**1.44**	**353**	P		Pn	12 41 35.1	+0.8
JAB				*e*S		Sn	12 41 54.8	+2.3
JYM2	**Yakumo 2**	**1.56**	**272**	⇓P		Pn	12 41 35.8	0.0
JAR	**Ashorobuto**	**1.56**	**38**	P		Pn	12 41 36.1	+0.2
JSR	**Shiriuchi**	**1.62**	**251**	P		Pn	12 41 36.9	+0.2
JHR	**Hokuryu**	**1.76**	**342**	⇓P		Pn	12 41 39.8	+1.3
JHR				*e*S		Sn	12 42 02.3	+2.3

IDC 17 12:41:56.1±5.9,31.14N×138.12E,h181km±100km,mb2.9/2, mb1 3.1/5,mb1mx2.9/23,mbtmp3.1/5 Error ellipse: s-maj=182.2km s-min=16.5km az=68.0
ISCJB 17 12:41:57.4±0.6,3163N±007×1393E±0.1,h258km±11km, mb2.8/2,Error ellipse: s-maj=17.7km s-min=9.3km az=135.5
JMA 17 12:41:59.9±0.2,3184N×139.18E,h262km,M3.4
ISC 17 12:41:58.3±0.6, 3161N±007×1393E±01, h246km±11km, n12, σ0§98/15, mb2.9/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.55**	**14**	P		Pn	**12 42 38.9**	**+2.3**
	60nm,0.3s,baz=64,slow=15,SNR=12							
JHJ2	**Mitsune**	**1.55**	**15**	P		Pn	**12 42 38.8**	**+2.2**
BSO1	**Boso 1**	**3.33**	**24**	P		Pn	**12 42 54.6**	**+0.4**
BSO1				*e*S		S	**12 43 37.0**	**-1.4**
JIE	**Ise**	**3.55**	**322**	P		Pn	**12 42 56.8**	**+0.2**
JWZ	**Kozaga**	**3.61**	**303**	P		Pn	**12 42 56.5**	**-0.8**
JAI	**Aioi**	**4.66**	**299**	P		Pn	**12 43 09.1**	**-0.6**
JAG	**Ashikaga**	**4.80**	**1**	P		Pn	**12 43 10.5**	**-1.0**
MJAR	**Matsushiro Arr**	**5.01**	**350**	P		Pn	**12 43 14.0**	**0.0**
	0.5nm,0.3s,baz=167,slow=12,SNR=4.9							
JHO	**Hitachi**	**5.09**	**11**	P		Pn	**12 43 15.1**	**+0.1**
JHO				*e*S		S	**12 44 09.8**	**-6.4**
CBIJ	**Chichi jima**	**5.14**	**150**	P		Pn	**12 43 15.5**	**-0.1**
	4.9nm,0.3s,baz=280,slow=18,SNR=9.5							
CBIJ				S		S	**12 44 16.4**	**-0.9**
	5.7nm,0.3s,baz=277,slow=18,SNR=6.9							
WRA Warramunga Arr 51.48 186 P **P 12 50 38.8 +0.1**
0.6nm,0.7s,mb3.1,baz=2.2,slow=7.7,SNR=10
ASAR Alice Springs 55.21 186 P **P 12 51 06.2 +0.5**
0.1nm,0.4s,mb2.7,baz=355,slow=5.4,SNR=7.0

IDC 17 12:45:04.8±1.0, 4663N×15503E, h0km, mb3.7/5, mb1 4.0/5,mb1mx3.6/23,mbtmp3.7/5, Error ellipse: s-maj=31.6km s-min=29.5km az=92.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.16**	**298**	P		P	12 53 46.2	-0.6
	0.4nm,0.5s,baz=62,slow=8.4,SNR=3.3							
BVAR	**Borovoye Array**	**51.95**	**310**	P		P	12 54 15.3	-0.2
	0.9nm,0.4s,baz=58,slow=8.9,SNR=4.8							
WRA	**Warramunga Arr**	**68.85**	**201**	P		P	12 56 10.4	-0.7
	0.4nm,0.8s,baz=20,slow=6.8,SNR=4.4							
ASAR	**Alice Springs**	**72.53**	**200**	P		P	12 56 34.1	+0.6
	0.5nm,0.6s,baz=22,slow=5.8,SNR=8.0							
TXAR	**Lajitas Array**	**76.39**	**62**	P		P	12 56 56.2	+0.2
	1.0nm,0.6s,baz=303,slow=4.5,SNR=17							

NEIC 17 13:04:10.6±1.8,638S×15126E,h10km,mb4.2/2,Error ellipse: s-maj=36.9km s-min=26.9km az=137.0
IDC 17 13:04:10.3±2.4,629S×15099E,h0km,mb3.9/4,mb1 4.0/5, mb1mx3.7/15,mbtmp3.9/5,ML2.5/1, Error ellipse: s-maj=62.7km s-min=37.1km az=126.0
ISCJB 17 13:04:14.1±5.3,64S±03×1511E±0.3,h45km±36km, mb3.7/4,Error ellipse: s-maj=53.4km s-min=38.5km az=113.3
ISC 17 13:04:15.6±5.2, 63S±03×1511E±03, h46km±35km, n11, σ0§49/11, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.96**	**232**	Pn		**Pn**	**13 05 27.5**	**-0.1**
	1.4nm,0.3s,baz=72,slow=16,SNR=4.8							
PMG				Sn		**Sn**	**13 06 23.9**	**+0.2**
	3.6nm,0.3s,baz=142,slow=19,SNR=3.9							
KAKA	**Kakadu**	**19.46**	**250**	*e*P		**Pn**	**13 08 40.2**	**+0.3**
	6.5nm,0.8s							
WB2	**Warramunga Arr**	**21.17**	**229**	*e*P		**P**	**13 08 56.3**	**-0.6**
WRA	**Warramunga Arr**	**21.18**	**229**	P		**P**	**13 08 56.4**	**-0.6**
	2.1nm,0.7s,mb3.6,baz=53,slow=10,SNR=26							
AS31	**Alice Springs**	**23.89**	**222**	*e*P		**P**	**13 09 24.6**	**-0.3**
ASAR	**Alice Springs**	**23.89**	**222**	P		**P**	**13 09 24.6**	**-0.3**
	1.1nm,0.6s,mb3.5,baz=56,slow=9.4,SNR=31							
ASPA	**Alice Springs**	**23.90**	**222**	*e*P		**P**	**13 09 24.6**	**-0.3**
STKA	**Stephens Creek**	**26.93**	**198**	P		**P**	**13 09 53.4**	**+0.9**
	1.4nm,0.6s,mb3.6,baz=16,slow=8.0,SNR=4.5							
FITZ	**Fitzroy Crossi**	**27.46**	**242**	*e*P		**P**	**13 09 57.9**	**+0.7**
	3.8nm,0.4s,mb4.3							
FITZ	**Fitzroy Crossi**	**27.46**	**242**	P		**P**	**13 09 58.0**	**+0.8**
	2.2nm,0.5s,mb4.0,baz=61,slow=7.3,SNR=22							
TORD	**Torodi Ar. Bea**			PKPbc		PKPbc	13 24 01.2	+2.5
	0.2nm,0.3s,baz=98,slow=2.7,SNR=6.5							

ISCJB 17 13:10:36.4±0.7,463N±01×1539E±0.1,h10km,mb3.7/6, MS3.1/1,Error ellipse: s-maj=19.7km s-min=9.6km az=121.6
IDC 17 13:10:36.8±0.9,4626N×15396E,h0km,mb3.7/6, mb1 4.1/8,mb1mx3.8/24,mbtmp3.8/8,ML3.8/2,MS2.8/2, Ms1 2.8/2,ms1mx2.6/36,Error ellipse: s-maj=51.9km s-min=18.2km az=145.0
MOS 17 13:10:39.5±2.4,4635N×15371E,h33km,mb4.2/2,Error ellipse: s-maj=28.7km s-min=15.9km az=140.7
ISC 17 13:10:38.4±0.7, 463N±01×1540E±01, h10km, n16, σ0§90/15, mb3.7/6, MS3.1/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.39**	**258**	*e*PN		**Pn**	**13 11 43.5**	**-1.5**
KUR				pmax		pmax		
	comp=Z,150nm,0.5s							
SKR	**Severo-Kuril's**	**4.62**	**17**	ePN		**Pn**	**13 11 47.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**6.15**	**251**	PN		**Pn**	**13 12 03.0**	**-6.2**
YSS	**Yuzh-Sakhalins**	**7.74**	**279**	ePN		**Pn**	**13 12 32.5**	**+1.5**
ASAJ	**Asahikawa**	**8.31**	**259**	Pn		**Pn**	**13 12 39.2**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=82,slow=18,SNR=13							
ASAJ				LR		LR	13 15 52.7	
	comp=Z,36nm,21.9s,baz=65,slow=38							
ASAJ	**Asahikawa**	**8.31**	**259**	PN		**Pn**	**13 12 39.2**	**+0.3**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,36nm,21.9s							
MJAR	**Matsushiro Arr**	**15.28**	**236**	Pn		**Pn**	**13 14 14.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=35,slow=9.2,SNR=2.8							
KSRS	**Korea Array**	**21.22**	**255**	P		**P**	**13 15 23.8**	**-0.6**
	comp=Z,2.1nm,0.8s,mb3.5,baz=56,slow=10,SNR=6.2							
SONM	**Songino Array**	**32.03**	**290**	LR		LR	13 30 36.5	
	comp=Z,33nm,18.2s,MS3.1,baz=241,slow=37							
NVAR	**Mina Array Bea**	**62.13**	**63**	P		**P**	**13 21 00.7**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=294,slow=6.8,SNR=5.1							
PDAR	**Penedale Array**	**64.55**	**54**	P		**P**	**13 21 15.2**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=284,slow=2.9,SNR=8.2							
WRA	**Warramunga Arr**	**68.28**	**200**	P		**P**	**13 21 38.2**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=17,slow=6.7,SNR=5.1							
WRA	**Warramunga Arr**	**68.28**	**200**	P		**P**	**13 21 38.2**	**-1.2**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**71.96**	**199**	P		**P**	**13 22 02.8**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=12,slow=5.9,SNR=7.4							
TXAR	**Lajitas Array**	**77.21**	**61**	P		**P**	**13 22 32.8**	**+0.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=294,slow=3.9,SNR=21							
TXAR	**Lajitas Array**	**77.21**	**61**	P		**P**	**13 22 32.8**	**+0.3**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							

ISCJB 17 13:13:00.8±0.8,65S±01×151.1E±01,h10km,mb4.1/8, MS3.1/3,Error ellipse: s-maj=28.3km s-min=10.1km az=92.7
IDC 17 13:13:00.5±1.1,657S×151.13E,h0km,mb4.2/8,mb1 4.4/9, mb1mx4.1/16,mbtmp4.2/9,ML2.7/1,MS3.1/5,Ms1 3.0/5, ms1mx2.7/31,Error ellipse: s-maj=42.2km s-min=16.8km az=125.0
NEIC 17 13:13:02.1±0.6,650S×151.10E,h10km,mb4.3/3,Error ellipse: s-maj=23.1km s-min=9.8km az=130.0
ISC 17 13:13:02.3±0.8, 65S±01×1511E±01, h10km, n21, σ0§67/18, mb4.1/8, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**233**	Pn		**Pn**	**13 14 16.9**	**+1.4**
	2.1nm,0.3s,baz=98,slow=11,SNR=8.1							
PMG				Sn		**Sn**	**13 15 12.1**	**+0.1**
	6.9nm,0.3s,baz=229,slow=19,SNR=5.2							
HNR	**Honiara**	**9.21**	**109**	LR		LR	13 18 15.0	
	comp=Z,44nm,18.4s,baz=358,slow=34							
CTA	**Charters Tower**	**14.30**	**199**	LR		LR	13 21 14.8	
	comp=Z,48nm,19.2s,baz=231,slow=35							
KAKA	**Kakadu**	**19.42**	**250**	*e*P		**Pn**	**13 17 29.1**	**-0.7**
	10nm,0.6s							
WRAB	**Tennant Creek**	**21.06**	**229**	*e*P		**P**	**13 17 46.0**	**-0.4**
WB2	**Warramunga Arr**	**21.06**	**229**	*e*P		**P**	**13 17 46.3**	**-0.2**
WRA	**Warramunga Arr**	**21.07**	**229**	P		**P**	**13 17 46.2**	**-0.4**
	5.5nm,0.8s,mb4.0,baz=53,slow=10,SNR=35							
DZM	**Mont Dzumac**	**21.41**	**138**	LR		LR	13 24 45.5	
	comp=Z,76nm,18.4s,MS3.1,baz=182,slow=33							
AS31	**Alice Springs**	**23.77**	**222**	*e*P		**P**	**13 18 14.7**	**-0.3**
ASAR	**Alice Springs**	**23.77**	**222**	P		**P**	**13 18 14.7**	**-0.3**
	2.3nm,0.5s,mb3.8,baz=56,slow=8.6,SNR=69							
ASAR				S		**S**	**13 22 32.0**	**+1.8**
	0.6nm,0.9s,baz=39,slow=16,SNR=4.3							
ASAR				LR		LR	13 27 12.7	
	comp=Z,45nm,18.1s,MS3.0,baz=348,slow=36							
ASPA	**Alice Springs**	**23.77**	**222**	*e*P		**P**	**13 18 14.7**	**-0.

SONM	**Songino Array**	**66.89**	**329**	P	**P**	**13 23 54.9**	**+0.3**
	0.5nm,0.6s,mb3.8,baz=120,slow=4.8,SNR=4.2						
MAW	**Mawson**	**83.36**	**203**	P	**P**	**13 25 28.8**	**-0.7**
	2.1nm,0.9s,mb4.1,baz=89,slow=6.4,SNR=4.4						
INK	**Inuvik**	**90.64**	**21**	P	**P**	**13 26 04.7**	**-0.3**
	4.7nm,1.2s,mb4.7,baz=198,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**94.44**	**52**	P	**P**	**13 26 23.7**	**+1.1**
	0.5nm,0.7s,mb4.1,baz=281,slow=6.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	13 32 51.5	+0.5
	1.5nm,0.6s,baz=75,slow=2.9,SNR=11						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	13 32 51.5	+0.5

IDC 17 13:18:07.5±1.3, 4769N×15596E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/22, mbtmp3.8/3, Error ellipse: s-maj=54.5km s-min=37.5km az=108.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**64.00**	**336**	P	P	13 28 42.1	-0.6
	3.3nm,1.0s,baz=46,slow=8.2,SNR=4.2						
ASAR	**Alice Springs**	**73.75**	**201**	P	P	13 29 43.3	-0.1
	0.2nm,0.5s,baz=17,slow=6.1,SNR=5.9						
TXAR	**Lajitas Array**	**75.34**	**63**	P	P	13 29 52.8	+0.2
	0.3nm,0.5s,baz=300,slow=3.1,SNR=5.8						

IDC 17 13:29:43.8±1.0, 4626N×15296E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.7/11, Error ellipse: s-maj=31.0km s-min=20.6km az=174.0
ISCJB 17 13:29:44.2±0.7, 464N±0.1×1530E±0.1, h10km, mb4.1/17, Error ellipse: s-maj=21.2km s-min=8.9km az=120.0
NEIC 17 13:29:46.0±0.7, 4640N×15299E, h10km, mb4.3/2, Error ellipse: s-maj=18.9km s-min=11.6km az=155.0
MOS 17 13:29:47.2±0.8, 4640N×15295E, h33km, mb4.5/2, Error ellipse: s-maj=19.3km s-min=14.9km az=145.5

ISC 17 13:29:46.3±0.7, 465N±01×1530E±01, h10km, n27, σ0 88/27, mb4.1/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**253**	*e*PN	**Pn**	**13 30 44.5**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**5.60**	**247**	*e*PN	**Pn**	**13 31 09.0**	**-0.6**
ASAJ	**Asahikawa**	**7.71**	**256**	Pn	**Pn**	**13 31 40.2**	**+1.7**
	0.8nm,0.3s,baz=161,slow=14,SNR=7.9						
ASAJ	**Asahikawa**	**7.71**	**256**	PN	**Pn**	**13 31 40.3**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.36**	**241**	*e*PN	**Pn**	**13 31 48.4**	**+1.0**
KSRS	**Korea Array**	**20.64**	**253**	P	**P**	**13 34 24.8**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=59,slow=10,SNR=6.0						
SONM	**Songino Array**	**31.35**	**290**	P	**P**	**13 36 06.6**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=88,slow=7.5,SNR=2.3						
INK	**Inuvik**	**41.92**	**32**	*e*P	**P**	**13 37 37.7**	**+0.7**
MKAR	**Makanchi Array**	**47.00**	**298**	P	**P**	**13 38 16.6**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=67,slow=8.6,SNR=8.1						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**13 38 43.7**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**13 38 43.7**	**-1.1**
	comp=Z,3.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**53.89**	**296**	*e*P	**P**	**13 39 08.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**53.89**	**296**	*e*P	**P**	**13 39 08.8**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.0						
JIRN	**Jiri**	**54.89**	**275**	*e*P	**P**	**13 39 18.1**	**+1.1**
	comp=Z,3.0nm,0.3s,mb4.9						
KKN	**Kakani**	**55.44**	**275**	*e*P	**P**	**13 39 21.7**	**+0.8**
	comp=Z,6.4nm,0.6s,mb4.8						
DMN	**Daman**	**55.67**	**275**	*e*P	**P**	**13 39 23.6**	**+1.0**
	comp=Z,8.8nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.74**	**276**	*e*P	**P**	**13 39 23.9**	**+0.8**
	comp=Z,15nm,0.9s,mb5.0						
KOLN	**Koldanda**	**56.60**	**277**	*e*P	**P**	**13 39 29.3**	**0.0**
	comp=Z,8.4nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**58.08**	**341**	P	**P**	**13 39 39.3**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.4,baz=19,slow=6.8,SNR=3.8						
NVAR	**Mina Array Bea**	**62.63**	**62**	P	**P**	**13 40 11.1**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.6,baz=303,slow=8.3						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**13 40 21.4**	**-0.1**
	comp=Z,2.7nm,1.0s,mb4.2,baz=33,slow=5.9,SNR=5.1						
PDAR	**Pinedale Array**	**64.97**	**54**	P	**P**	**13 40 27.0**	**+0.8**
	comp=Z,0.3nm,0.8s,mb3.4,baz=285,slow=2.9,SNR=3.8						
NOA	**NORSAR Array B**	**68.46**	**341**	P	**P**	**13 40 48.7**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=66,slow=10.0,SNR=2.8						
AKASG	**Malin Array Be**	**71.73**	**326**	P	**P**	**13 41 08.2**	**-0.3**
	comp=Z,1.6nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=9.5						
ASAR	**Alice Springs**	**71.93**	**198**	P	**P**	**13 41 07.2**	**-2.5**
	comp=Z,0.2nm,0.8s,mb3.1,baz=15,slow=6.2,SNR=3.3						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**13 41 42.9**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=3.6,SNR=6.5						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**13 41 42.9**	**-0.2**

IDC 17 13:31:01.5±1.2, 4799N×15530E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=45.5km s-min=25.9km az=159.0
MOS 17 13:31:04.7±1.3, 4795N×15499E, h33km, mb4.0/3, Error ellipse: s-maj=61.4km s-min=33.4km az=67.8
ISCJB 17 13:31:06.1±2.6, 481N±02×1550E±03, h46km±22km, mb3.7/4, Error ellipse: s-maj=39.9km s-min=13.6km az=80.0

ISC 17 13:31:08.0±2.4, 481N±02×1551E±03, h46km±22km, n9, σ0 94/10, mb3.7/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**14**	*e*PN	**Pn**	**13 31 49.0**	**+0.5**
SKR				*e*S	**Sn**	**13 32 19.3**	**-0.4**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				smax			
	comp=N,670nm,1.0s						
SKR				smax			
	comp=E,400nm,1.0s						
SKR				smax			
	comp=Z,90nm,0.5s						
ASAJ	**Asahikawa**	**9.55**	**250**	Pn	**Pn**	**13 33 22.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=103,slow=17,SNR=2.2						
KSRS	**Korea Array**	**22.49**	**252**	P	**P**	**13 36 05.4**	**+1.9**
	comp=Z,1.9nm,0.6s,mb3.7,baz=43,slow=10,SNR=8.7						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**13 39 38.0**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=58,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**13 39 38.0**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.24**	**201**	P	**P**	**13 42 15.1**	**-1.1**
	comp=Z,0.6nm,1.1s,mb3.4,baz=24,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**70.24**	**201**	P	**P**	**13 42 15.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**13 42 49.0**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=302,slow=4.4,SNR=7.5						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**13 42 49.0**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB 17 13:33:36.6±0.3, 40.13N±001×122.12W±002, h24km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=159.9
NEIC 17 13:33:37.0, 40.15N×122.07W, h28km, MD3.5(NCEDC), After NCEDC.

ISC 17 13:33:36.7±0.4, 4013N±001×12212W±002, h18km±3km, n72, σ0 85/101, 39C-30D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03C	**Acorn Hollow,**	**0.15**	**152**	P	**Pg**	**13 33 42.1**	**+1.3**
	baz=0.1,SNR=507						
O03C				⇓S	**Sg**	**13 33 45.9**	**+2.2**
	baz=0.1						
O02C	**Red Bluff**	**0.51**	**276**	P	**Pg**	**13 33 47.5**	**+0.5**
	baz=0.5,SNR=467						
O02C				⇑S	**Sg**	**13 33 54.4**	**+0.5**
	baz=0.5						
WDC	**Whiskeytown Da**	**0.56**	**325**	*e*Pg	**Pg**	**13 33 46.6**	**-1.2**
WDC				*e*Sg	**Sg**	**13 33 53.7**	**-1.5**
WDC	**Whiskeytown Da**	**0.56**	**325**	⇓P	**Pg**	**13 33 47.0**	**-0.7**
	baz=0.6,SNR=497						
WDC				⇓S	**Sg**	**13 33 54.6**	**-0.6**
	baz=0.6						
GASB	**Alder Springs**	**0.66**	**224**	P	**Pb**	**13 33 49.9**	**+0.2**
	baz=0.7,SNR=409						
GASB				⇓S	**Sg**	**13 33 59.3**	**+0.7**
	baz=0.7						
ORV	**Oroville**	**0.74**	**140**	⇑P	**Pb**	**13 33 50.7**	**-0.4**
	baz=0.7,SNR=366						
ORV				⇑S	**Sb**	**13 34 00.4**	**-0.6**
	baz=0.7						
O04C	**Chester**	**0.82**	**76**	P	**Pb**	**13 33 51.6**	**-0.8**
	baz=0.8,SNR=306						
O04C				⇓S	**Sb**	**13 34 02.4**	**-0.6**
	baz=0.8						
HATC	**Hat Creek Radi**	**0.85**	**36**	⇓P	**Pb**	**13 33 52.6**	**-0.4**
	baz=0.8,SNR=120						
HATC				⇑S	**Sb**	**13 34 04.6**	**+0.6**
	baz=0.8						
OHCM	**Honcut**	**0.93**	**148**	*e*Pg	**Pg**	**13 33 52.8**	**-1.9**
OHCM				*e*Sg	**Sg**	**13 34 04.8**	**-2.3**
SUTB	**Sutter Butte**	**0.93**	**164**	P	**Pb**	**13 33 53.0**	**-1.3**
	baz=0.9,SNR=709						
SUTB				⇑S	**Sb**	**13 34 05.8**	**-0.6**
	baz=0.9						
O05C	**Quincy**	**0.94**	**100**	P	**Pb**	**13 33 53.6**	**-0.8**
	baz=0.9,SNR=258						
O05C				⇓S	**Sb**	**13 34 06.6**	**0.0**
	baz=0.9						
KIPM	**Iron Peak**	**1.09**	**254**	*e*Pn	**Pn**	**13 33 57.8**	**+0.7**
N02C	**Big Bar**	**1.14**	**308**	⇑P	**Pn**	**13 33 57.0**	**-0.7**
	baz=1.2,SNR=153						
N02C				⇓S	**Sb**	**13 34 11.9**	**-0.4**
	baz=1.2						
P01C	**Double 8 Ranch**	**1.14**	**235**	⇓P	**Pn**	**13 33 58.1**	**+0.4**
	baz=1.2,SNR=14						
P01C				⇑S	**Sb**	**13 34 11.9**	**-0.5**
	baz=1.2						
M03C	**McCloud**	**1.15**	**360**	⇑P	**Pn**	**13 33 56.9**	**-0.9**
	baz=1.1,SNR=29						
M03C				⇑S	**Sb**	**13 34 11.3**	**-1.2**
	baz=1.1						
ELFS	**Eagle Lake Fie**	**1.17**	**65**	⇓P	**Pn**	**13 33 58.0**	**-0.1**
	baz=1.1,SNR=26						
ELFS				⇑S	**Sb**	**13 34 12.5**	**-0.7**
	baz=1.1						
KCPM	**Cahto Peak**	**1.21**	**249**	*e*Pn	**Pn**	**13 33 59.1**	**+0.4**
MNRC	**McLaughlin Nat**	**1.27**	**191**	P	**Pn**	**13 33 58.2**	**-1.3**
	baz=1.3,SNR=41						
MNRC				⇑S	**Sb**	**13 34 14.8**	**-1.3**
	baz=1.3						
O01C	**Eel River Cons**	**1.30**	**271**	⇑P	**Pn**	**13 34 00.9**	**+0.9**
	baz=1.3,SNR=15						
O01C				⇑S	**Sn**	**13 34 15.4**	**-1.5**
	baz=1.3						
HOPS	**Hopland**	**1.35**	**213**	*e*Pn	**Pn**	**13 34 00.3**	**-0.3**
HOPS	**Hopland**	**1.35**	**213**	⇑P	**Pn**	**13 33 60.0**	**-0.6**
	baz=1.4,SNR=104						
HOPS				⇓S	**Sn**	**13 34 17.0**	**-1.0**
	baz=1.4						
BEKR	**Beckwourth**	**1.38**	**100**	⇑P	**Pn**	**13 34 01.1**	**0.0**
	baz=1.3,SNR=177						
BEKR				⇓S	**Sn**	**13 34 18.7**	**-0.1**
	baz=1.3						
M02C	**Callahan**	**1.38**	**337**	⇑P	**Pn**	**13 33 59.7**	**-1.4**
	baz=1.4						
M02C				⇓S	**Sn**	**13 34 18.2**	**-0.6**
	baz=1.4						
Q04C	**Lincoln**	**1.41**	**156**	P	**Pn**	**13 34 00.5**	**-0.9**
	baz=1.4,SNR=151						
Q04C				⇓S	**Sn**	**13 34 19.3**	**-0.3**
	baz=1.4						
P05C	**Yuba Gap, Truc**	**1.43**	**125**	⇓P	**Pn**	**13 34 02.0**	**+0.3**
	baz=1.4,SNR=440						
P05C				⇑S	**Sn**	**13 34 19.4**	**-0.6**
	baz=1.4						
KHMM	**Horse Mountain**	**1.44**	**302**	*e*Pn	**Pn**	**13 34 03.0**	**+1.2**
M05C	**Lookout**	**1.44**	**31**	⇑P	**Pn**	**13 34 01.6**	**-0.3**
	baz=1.4						
Q03C	**Winters**	**1.49**	**177**	⇑P	**Pn**	**13 34 01.7**	**-0.9**
	baz=1.5,SNR=9.6						
JCC	**Jacoby Creek**	**1.61**	**296**	⇓P	**Pn**	**13 34 04.5**	**+0.3**
	baz=1.6,SNR=50						
NSHM	**Saint Helena R**	**1.65**	**193**	*e*Pn	**Pn**	**13 34 03.4**	**-1.3**
M06C	**Likely Place G**	**1.65**	**49**	⇑P	**Pn**	**13 34 04.5**	**-0.3**
	baz=1.6,SNR=122						
YBH	**Yreka Blue Hor**	**1.67**	**345**	*e*Pn	**Pn**	**13 34 04.6**	**-0.4**
YBH	**Yreka Blue Hor**	**1.67**	**345**	P	**Pn**	**13 34 04.5**	**-0.5**
	baz=1.7,SNR=86						
YBH				⇓S	**Sn**	**13 34 25.4**	**-0.5**
	baz=1.7						
M04C	**Macdoel**	**1.67**	**7**	⇑P	**Pn**	**13 34 05.4**	**+0.3**
	baz=1.7,SNR=53						
LAVA	**Lava Cap Winer**	**1.74**	**142**	⇑P	**Pn**	**13 34 06.3**	**+0.3**
	baz=1.7,SNR=95						
CVS	**Carmenet Viney**	**1.80**	**188**	P	**Pn**	**13 34 05.9**	**-0.9**
	baz=1.8,SNR=12						
CVS				⇓S	**Sn**	**13 34 29.5**	**+0.4**
	baz=1.8						
N06A	**Buffalo Meadow**	**1.85**	**70**	⇓P	**Pn**	**13 34 07.0**	**-0.6**
	baz=1.8,SNR=43						
KRMB	**Red Mountain**	**1.94**	**316**	*e*Pn	**Pn**	**13 34 09.7**	**+0.9**
WCN	**Washoe City**	**2.00**	**114**	⇓P	**Pn**	**13 34 10.4**	**+0.8**
	baz=2.0,SNR=365						
L04A	**Klamath Falls**	**2.05**	**5**	⇓P	**Pn**	**13 34 10.9**	**+0.6**
	baz=2.0						
R04C	**Big Horse Ranc**	**2.08**	**153**	P	**Pn**	**13 34 10.7**	**0.0**
	baz=2.1,SNR=81						
R04C				⇑S	**Sn**	**13 34 37.3**	**+1.1**
	baz=2.1						
R05C	**Kirkwood Meado**	**2.13**	**131**	⇓P	**Pn**	**13 34 12.6**	**+1.3**
	baz=2.1,SNR=339						
L05A	**Lakeview**	**2.15**	**26**	⇓P	**Pn**	**13 34 12.1**	**+0.5**
	baz=2.1,SNR=66						
BDM	**Black Diamond**	**2.18**	**175**	⇑P	**Pn**	**13 34 11.7**	**-0.3**
	baz=2.2						
MOD	**Modoc**	**2.25**	**37**	*e*Pn	**Pn**	**13 34 13.3**	**+0.3**
MOD	**Modoc**	**2.25**	**37**	⇑P	**Pn**	**13 34 13.0**	**+0.1**
	baz=2.2,SNR=78						
CMB	**Columbia Colle**	**2.49**	**147**	*e*Pn	**Pn**	**13 34 16.4**	**+0.2**
CMB	**Columbia Colle**	**2.49**	**147**	⇑P	**Pn**	**13 34 16.6**	**+0.3**
	baz=2.5,SNR=11						
O07A	**Toulon**	**2.49**	**88**	⇑P	**Pn**	**13 34 16.1**	**-0.2**
	baz=2.4,SNR=19						
N07B	**Gerlach**	**2.49**	**74**	⇑P	**Pn**	**13 34 15.9**	**-0.4**
	baz=2.4						
WENL	**Wente Brothers**	**2.52**	**173**	⇑S	**Sn**	**13 34 48.1**	**+1.3**
	baz=2.5						
HUMO	**Hull Mountain**	**2.56**	**346**	*e*Pn	**Pn**	**13 34 17.7**	**+0.4**
HUMO	**Hull Mountain**	**2.56**	**346**	⇓P	**Pn**	**13 34 17.3**	**+0.1**
	baz=2.6						
HUMO				⇑S	**Sn**	**13 34 48.3**	**+0.4**
	baz=2.6						
S04C	**Ingram Canyon,**	**2.69**	**166**	⇑P	**Pn**	**13 34 18.9**	**-0.1**
	baz=2.7						
JRSC	**Jasper Ridge**	**2.72**	**182**	⇓P	**Pn**	**13 34 19.4**	**0.0**
	baz=2.7						
JRSC				⇓S	**Sn**	**13 34 51.8**	**-0.1**
	baz=2.7						
K05A	**Summer Lake**	**2.76**	**19**	⇑P	**Pn**	**13 34 21.0**	**+1.1**
	baz=2.7						
L07A	**Adell**	**2.83**	**47**	⇑P	**Pn**	**13 34 21.2**	**+0.3**
	baz=2.8						
K02A	**Glendale**	**2.83**	**339**	⇑P	**Pn**	**13 34 22.1**	**+1.1**
	baz=2.8,SNR=8.3						
S06C	**San Francisco**	**2.86**	**141**	P	**Pn**	**13 34 22.3**	**+1.0**
	baz=2.8,SNR=36						
S05C	**Merced**	**3.11**	**153**	⇑P	**Pn**	**13 34 25.6**	**+0.8**
	baz=3.1,SNR=14						
N08A	**GE Springer Mi**	**3.11**	**77**	⇓P	**Pn**	**13 34 24.5**	**-0.4**
	baz=3.1,SNR=20						
PACP	**Pacheco Peak**	**3.18**	**168**	⇓P	**Pn**	**13 34 26.5**	**+0.7**
	baz=3.2,SNR=9.8						
PACP				⇑S	**Sn**	**13 35 05.5**	**+2.2**
	baz=3.2						
K07A	**Rock Creek Ran**	**3.35**	**39**	⇑P	**Pn**	**13 34 28.6**	**+0.4**
	baz=3.3,SNR=9.1						
SAO	**San Andreas Ge**	**3.40**	**171**	*e*Pn	**Pn**	**13 34 29.9**	**+1.1**
WVOR	**Wild Horse Val**	**3.49**	**48**	*e*Pn	**Pn**	**13 34 33.8**	**+3.7**
I04A	**Tendick Farm,**	**3.67**	**357**	⇑S	**Sn**	**13 35 16.6**	**+1.3**
	baz=3.7						
HAST	**UC Hastings Re**	**3.76**	**173**	⇓P	**Pn**	**13 34 34.2**	**+0.4**
	baz=3.8						
LRV	**Little Rabbit**	**3.80**	**166**	*e*Pn	**Pn**	**13 34 34.9**	**+0.7**
MTUM	**Tungsten Hills**	**3.92**	**134**	*e*Pn	**Pn**	**13 34 37.5**	**+1.4**
K09A	**Rome**	**4.19**	**51**	⇑S	**Sn**	**13 35 28.7**	**+0.6**
	baz=4.1						
J08A	**Circle Bar Ran**	**4.23**	**39**	⇓S	**Sn**	**13 35 29.6**	**+0.5**
	baz=4.2						
DAC	**Darwin (Calif)**	**5.24**	**136**	*e*P	**Pb**	**13 35 07.3**	**-0.5**
DAC				*e*Sg	**Sg**	**13 36 18.9**	**-6.1**

IDC 17 13:40:02.8±0.6, 4692N×15565E, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/27, mbtmp4.3/22, ML4.0/2, Error ellipse: s-maj=18.2km s-min=12.9km az=152.0
SKHL 17 13:40:02.4±0.4, 4684N×15582E, h53km±22km, Ms4.2/1, msh5.3/1
ISCJB 17 13:40:03.5±0.4, 47.19N±005×15559E±006, h10km, mb4.6/65, MS4.0/2, Error ellipse: s-maj=8.4km s-min=4.4km az=124.7
NEIC 17 13:40:04.8±0.5, 4705N×15560E, h10km, mb4.8/27, Error ellipse: s-maj=13.4km s-min=7.4km az=156.0
MOS 17 13:40:05.7±1.0, 4698N×15549E, h36km, mb4.9/27, Error ellipse: s-maj=9.0km s-min=7.7km az=81.9
BJI 17 13:40:06.4, 4732N×15507E, h10km, mB5.1, mb4.4, Ms4.6, Msz4.4
SZGRF 17 13:40:26.5, 4849N×15276E, h33km, mb4.9, Kuril Islands, Russia

ISC 17 13:40:05.2±0.4, 4718N±006×15563E±006, h10km, (h13km±1.4km:pP-P), n130, σ19 31/138, mb4.6/65, MS4.0/2, 1C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.52**	**5**	*e*P	**Pn**	**13 41 01.2**	**+1.3**
SKR				AMB	AMB	13 41 08.0	
	220nm,1.0s						
SKR				AMB	AMB	13 41 08.0	
	290nm,1.0s						
SKR				*e*S	**Sn**	**13 41 39.6**	**-1.9**
SKR				A		13 41 44.3	
	890nm,0.6s						
SKR				A		13 41 44.3	
	560nm,0.6s						
SKR				A		13 41 44.3	
	160nm,0.6s						
SKR				A		13 41 46.0	
	2μm,4.0s						
SKR				A		13 41 46.0	
	5μm,4.0s						
SKR				AMS	AMS	13 42 59.0	
	4μm,12.0s						
SKR				AMS	AMS	13 42 59.0	
	4μm,12.0s						
KUR	**Kuril'sk**	**5.73**	**253**	*e*P	**Pn**	**13 41 25.5**	**-4.8**
KUR				AMB	AMB	13 41 28.5	
	228nm,0.6s						
KUR				*e*S	**Sn**	**13 42 27.5**	**-8.6**
KUR				A		13 42 34.0	
	190nm,0.6s						
KUR				A		13 42 34.0	
	152nm,0.6s						
PET	**Petropavlovsk**	**6.16**	**17**	*e*PN	**Pn**	**13 41 34.3**	**-1.9**
PET				pmax	pmax		
	comp=Z,73nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**6.16**	**17**	*e*Pn	**Pn**	**13 41 34.6**	**-1.6**
PET				*e*Sn	**Sn**	**13 42 41.2**	**-5.5**
YUK	**Yuzh-Kuril'sk**	**7.54**	**249**	*e*P	**Pn**	**13 41 54.3**	**-0.8**
YUK				AMB	AMB	13 41 59.9	
	comp=Z,250nm,0.5s						
YUK				*e*S	**Sn**	**13 43 11.0**	**-10**
YUK				A		13 43 22.7	
	comp=Z,330nm,0.5s						
YUK				A		13 43 22.7	
	comp=Z,230nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.80**	**273**	⇓*e*P	**Pn**	**13 42 14.0**	**+1.6**
YSS				AMB	AMB	13 42 15.0	
	comp=Z,30nm,0.9s						
YSS				*e*S	**Sn**	**13 43 53.0**	**+1.4**
YSS				*e*LQ		13 44 08.0	
YSS				AMS	AMS	13 46 48.0	
	comp=Z,1μm,15.0s						
YSS				AMS	AMS	13 46 48.0	
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.80**	**273**	⇓*e*PN	**Pn**	**13 42 14.0**	**+1.6**
YSS				S	**Sn**	**13 43 53.0**	**+1.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.80**	**273**	*e*P	**Pn**	**13 42 14.6**	**+2.2**
	comp=E,18nm,0.8s						
ASAJ	**Asahikawa**	**9.63**	**256**	Pn	**Pn**	**13 42 23.2**	**-0.6**
	comp=E,1.8nm,0.3s,baz=83,slow=16,SNR=17						
ASAJ	**Asahikawa**	**9.63**	**256**	PN	**Pn**	**13 42 23.3**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**10.29**	**244**	*i* PN	**Pn**	**13 42 31.7**	**-1.1**
ERM	**Erimo**	**10.29**	**244**	*e*P	**Pn**	**13 42 29.5**	**-3.3**
	comp=Z,38nm,0.6s						
SMY	**Shemya**	**13.11**	**58**	*e*PN	**Pn**	**13 43 09.1**	**-2.3**
SMY				pmax	pmax		
	comp=Z,27nm,0.6s						
SMY	**Shemya**	**13.11**	**58**	*e*P	**Pn**	**13 43 09.1**	**-2.3**
	comp=Z,27nm,0.6s						
KLR	**Kul'dur**	**16.04**	**286**	*e*P	**Pn**	**13 43 51.2**	**+0.4**
KLR				MLR	MLR		
	comp=N,600nm,13.0s						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
MAJO	**Matsushiro**	**16.74**	**237**	*e*P	**Pn**	**13 43 54.7**	**-5.0**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**16.74**	**237**	*e*P	**Pn**	**13 43 54.7**	**-5.0**
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**16.74**	**237**	P	**Pn**	**13 43 54.7**	**-5.0**
MAT				*e*S	**Sn**	**13 47 04.0**	**-1.7**
MJAR	**Matsushiro Arr**	**16.74**	**237**	Pn	**Pn**	**13 43 54.8**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=12						
**ZE

comp=Z,32nm,1.0s,mb4.7
KSRS Korea Array 22.57 255 P **P** 13 45 05.2 -0.3
comp=Z,4.7nm,0.8s,mb4.0,baz=61,slow=9.1,SNR=13
TIXI Tiksi 27.56 342 *e*P **P** 13 45 50.5 -1.8
TIXI pmax pmax
comp=Z,26nm,1.4s,mb4.7
TIXI Tiksi 27.56 342 *e*P **P** 13 45 50.5 -1.7
comp=Z,26nm,1.4s,mb4.7
HHC Hu-ho-hao-te 31.98 275 *e*P **P** 13 46 32.6 +1.2
HHC AMB AMB
comp=Z,13nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,102nm,7.6s
ULN Ulaanbaatar 32.38 289 *e*P **P** 13 46 33.0 -1.9
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
ULN Ulaanbaatar 32.38 289 *e*P **P** 13 46 33.0 -1.9
comp=Z,2.8nm,0.9s,mb4.1
SONM Songino Array 32.82 290 P **P** 13 46 37.4 -1.3
comp=Z,1.4nm,0.8s,mb3.9,baz=67,slow=9.2,SNR=8.7
ZAK Zakamensk 34.06 295 *e*P **P** 13 46 47.4 -2.1
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
MCK McKinley 34.20 41 *e*P **P** 13 46 50.3 -0.5
SML Sawmill 34.46 44 *e*P **P** 13 46 52.6 -0.4
COLA College 34.72 39 *i* P **P** 13 46 55.6 +0.3
COLA College 34.72 39 *e*P **P** 13 46 55.7 +0.4
comp=Z,35nm,1.3s,mb5.1
XAN Xi'an 37.27 267 P **P** 13 47 18.5 +1.4
XAN AMB AMB
comp=Z,5.0nm,1.5s,mb4.1
EGAK Eagle 37.59 39 *e*P **P** 13 47 19.2 -0.6
comp=Z,16nm,0.8s,mb4.8
DAWY Dawson 38.41 40 *e*P **P** 13 47 27.0 +0.2
LZH Lanzhou 39.59 273 *e*P **P** 13 47 39.5 +2.8
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,172nm,4.1s
LZH Lanzhou 39.59 273 *e*P **P** 13 47 39.5 +2.8
LZH *PP pP 13 47 51.0 +11
LZH *SP sP 13 47 57.0 +16
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.0
LZH Lanzhou 39.59 273 *e*P **P** 13 47 39.5 +2.8
comp=Z,42nm,1.5s,mb5.0
LZH pP pP 13 47 51.0 +11
LZH sP sP 13 47 57.0 +16
INK Inuvik 40.36 33 P **P** 13 47 43.5 +0.5
comp=Z,8.7nm,0.7s,mb4.6,baz=285,slow=7.4,SNR=27
GTA Gaotai 40.60 280 *e*P **P** 13 47 45.8 +0.8
GTA AP pP 13 47 49.8 +1.7
GTA XP sP 13 47 52.8 +3.4
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb3.9
GYA Guiyang 43.49 259 ⇓*i*P **P** 13 48 08.6 0.0
GYA AP pP 13 48 12.4 +0.6
GYA XP sP 13 48 15.6 +2.6
GYA PP PP 13 49 48.8 -0.9
GYA PCP PcP 13 49 58.9 +2.3
GYA S **S** 13 54 37.6 +0.4
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,3.9s
GYA LR LR
comp=N,460nm,16.9s,MS4.6
GYA LR LR
comp=E,540nm,17.2s,MS4.6
GYA LR LR
comp=Z,480nm,17.0s,MS4.5
ZAL Zalesovo 43.77 306 P **P** 13 48 09.8 -1.1
comp=Z,1.8nm,0.5s,mb4.1,baz=44,slow=9.2,SNR=8.4
NVS Novosibirsk 44.29 308 *e*P **P** 13 48 12.6 -2.5
NVS *e* 13 49 54.4
NVS pmax pmax
comp=Z,20nm,1.9s,mb4.5
NVS pmax pmax
comp=E,14nm,1.6s
KMI Kunming 47.02 261 P **P** 13 48 39.1 +2.5
KMI AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
KMI Kunming 47.02 261 P **P** 13 48 39.1 +2.5
comp=Z,8.0nm,1.4s,mb4.5
MK31 Makanchi Array 48.27 298 P **P** 13 48 45.6 -0.7
MK31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
MKAR Makanchi Array 48.27 298 P **P** 13 48 45.7 -0.6
comp=Z,8.6nm,1.0s,mb4.7,baz=57,slow=8.8,SNR=19
YKA Yellowknife Ar 49.54 38 P **P** 13 48 55.9 -0.1
comp=Z,7.4nm,0.9s,mb4.7,baz=296,slow=7.5,SNR=7.4
YKA Yellowknife Ar 49.54 38 P **P** 13 48 55.9 -0.1
RES Resolute Bay 49.87 19 *e*P **P** 13 48 58.9 +0.3
RES pmax pmax
comp=Z,118nm,0.9s,mb5.9
RES Resolute Bay 49.87 19 *e*P **P** 13 48 58.9 +0.3
comp=Z,118nm,0.9s,mb5.9
CHKZ Chkalovo 51.47 311 *e*P **P** 13 49 09.2 -1.4
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
CHKZ Chkalovo 51.47 311 *e*P **P** 13 49 09.2 -1.4
comp=Z,14nm,0.7s,mb5.0
VOSK Vostochnaya 51.75 310 P **P** 13 49 12.1 -0.7
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BVA0 Borovoye Array 51.91 310 P **P** 13 49 13.4 -0.6
BVA0 pmax pmax
comp=Z,29nm,2.8s,mb4.7
BVAR Borovoye Array 51.91 310 P **P** 13 49 13.9 0.0
comp=Z,2.8nm,0.3s,mb4.7,baz=54,slow=8.3,SNR=32
BRVK Borovoye 51.95 310 *e*P **P** 13 49 13.8 -0.4
BRVK pmax pmax
comp=Z,18nm,1.0s,mb5.0
BRVK Borovoye 51.95 310 *e*P **P** 13 49 13.8 -0.5
comp=Z,18nm,1.0s,mb5.0
ZRNK Zerenda 52.67 311 *e*P **P** 13 49 19.0 -0.6
ZRNK pmax pmax
comp=Z,14nm,1.0s,mb4.8
ZRNK Zerenda 52.67 311 *e*P **P** 13 49 19.0 -0.6
comp=Z,14nm,1.0s,mb4.8
CHTO Chiang Mai 53.90 258 *e*P **P** 13 49 27.9 -0.7
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 53.90 258 *e*P **P** 13 49 27.9 -0.7
comp=Z,8.9nm,1.0s,mb4.7
EDM Edmonton 54.76 47 *e*P **P** 13 49 34.9 0.0
FRU Bishkek 54.99 297 *e*P **P** 13 49 39.0 +2.4
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.3
AAK Ala-Archa 55.18 297 *e*P **P** 13 49 37.4 -0.6
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
AAK Ala-Archa 55.18 297 *e*P **P** 13 49 37.4 -0.6
comp=Z,6.1nm,1.0s,mb4.6
ARU Arti 55.85 318 ⇑*i*P **P** 13 49 42.2 -0.6
ARU *e* 13 51 43.8
ARU *eS* **S** 13 57 29.9 -0.2
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.1
ARU Arti 55.85 318 *e*P **P** 13 49 42.1 -0.7
comp=Z,21nm,1.0s,mb5.1
JIRN Jiri 56.62 276 *e*P **P** 13 49 50.8 +2.5
comp=Z,15nm,0.7s,mb5.1
KKN Kakani 57.16 277 *e*P **P** 13 49 53.8 +1.7
comp=Z,39nm,1.3s,mb5.3
DMN Daman 57.39 277 *e*P **P** 13 49 55.0 +1.2
comp=Z,34nm,1.0s,mb5.3
GKN Gorkha 57.46 277 *e*P **P** 13 49 56.4 +2.2
comp=Z,5.9nm,0.4s,mb5.0
KEV Kevo 57.50 341 *ep* **P** 13 49 59.0 +4.5
ARCES ARCESS Array B 58.00 342 P **P** 13 49 57.8 -0.3
comp=Z,7.6nm,0.9s,mb4.7,baz=39,slow=7.6,SNR=4.7
KOLN Koldanda 58.31 278 *e*P **P** 13 50 01.6 +1.4
comp=Z,21nm,1.1s,mb5.1
AB31 Akbulak array 59.46 311 *i* P **P** 13 50 08.0 -0.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
EGMT Eagleton 59.66 51 *e*P **P** 13 50 09.7 +0.2
comp=Z,9.2nm,1.3s,mb4.7
NVAR Mina Array Bea 60.70 64 P **P** 13 50 17.2 +0.5
comp=Z,2.2nm,0.8s,mb4.3,baz=293,slow=10,SNR=16
QLMT Earthquake Lak 60.73 55 *e*P **P** 13 50 17.5 +0.6
RRI2 Red Ridge 61.73 56 *e*P **P** 13 50 24.9 +1.3
comp=Z,6.1nm,0.9s,mb4.7
DUG Dugway 62.88 59 *e*P **P** 13 50 31.9 +0.5
DUG pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
DUG Dugway 62.88 59 *e*P **P** 13 50 31.9 +0.5
comp=Z,6.2nm,1.2s,mb4.6
PDAR Pinedale Array 63.09 55 P **P** 13 50 32.9 +0.1
comp=Z,3.2nm,0.9s,mb4.4,baz=299,slow=2.3,SNR=21
FINES FINESS Array B 64.37 336 P **P** 13 50 41.8 +0.6
comp=Z,1.8nm,0.5s,mb4.4,baz=25,slow=6.3,SNR=11
ULM Lac du Bonnet 65.06 42 P **P** 13 50 44.9 -0.8
comp=Z,1.5nm,0.8s,mb4.1,baz=316,slow=14,SNR=3.5
RSSD Black Hills 65.22 51 *e*P **P** 13 50 46.5 -0.2
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RSSD Black Hills 65.22 51 *e*P **P** 13 50 46.5 -0.3
comp=Z,6.1nm,1.0s,mb4.6
PSI Prapat 65.83 246 P **P** 13 50 50.6 -0.1
comp=Z,1.3nm,0.3s,mb4.4,baz=310,slow=17,SNR=2.9
OBN Obninsk 65.91 327 *e*P **P** 13 50 50.0 -1.2
OBN *e* 13 51 19.6
OBN *e* 13 53 14.0
OBN pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
NB2 NORSAR Subarra 68.36 342 P **P** 13 51 09.3 +2.5
comp=Z,2.2nm,1.0s,mb4.1,baz=26,slow=6.5
NOA NORSAR Array B 68.36 342 P **P** 13 51 08.1 +1.3
comp=Z,4.4nm,1.0s,mb4.5,baz=27,slow=6.4,SNR=5.0
WRA Warramunga Arr 69.51 201 P **P** 13 51 11.1 -2.8
comp=Z,4.0nm,0.9s,mb4.3,baz=17,slow=6.5,SNR=28
KIV Kislovodsk 71.72 316 *e*P **P** 13 51 32.3 +4.9
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
AKASG Malin Array Be 72.13 327 P **P** 13 51 30.1 +0.2
comp=Z,0.8nm,0.3s,mb4.1,baz=35,slow=6.2,SNR=9.4
ASAR Alice Springs 73.19 201 P **P** 13 51 34.3 -1.9
comp=Z,4.2nm,1.1s,mb4.3,baz=8.2,slow=4.5,SNR=12
TXAR Lajitas Array 75.77 62 P **P** 13 51 51.2 0.0
comp=Z,3.7nm,0.8s,mb4.4,baz=298,slow=4.1,SNR=41
TXAR Lajitas Array 75.77 62 P **P** 13 51 51.2 0.0
DPC Dobruska-Polom 76.70 335 *e*P **P** 13 51 58.4 +2.0
DPC epP pP 13 52 01.2 +1.5
CLL Collm 76.77 337 ⇓*i*P **P** 13 52 00.8 +4.0
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL Collm 76.77 337 ⇓*i*pP pP 13 52 00.8 +0.7
comp=Z,13nm,0.9s
CLL *i* sP sP 13 52 03.0 +1.7
BRG Berggiesshubel 76.90 336 *e*P **P** 13 52 02.1 +4.5
comp=Z,1.9nm,0.7s,mb4.1
BRG Berggiesshubel 76.90 336 *e*P **P** 13 52 02.1 +4.5
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
PVCC Panska Ves 77.04 336 *e*pP pP 13 52 02.8 +1.1
NKC Novy Kostel 77.89 337 *e*P **P** 13 52 03.1 0.0
NKC *e*pP pP 13 52 08.0 +1.6
MALT Malatya 78.11 314 *e*P **P** 13 52 07.0 +2.7
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MALT Malatya 78.11 314 *e*P **P** 13 52 07.0 +2.7
comp=Z,10nm,1.2s,mb4.6
KHC Kasperske Hory 78.58 336 *e*P **P** 13 52 09.0 +2.1
KHC *e*pP pP 13 52 11.9 +1.7
GRA1 Grafenberg Arr 78.71 337 *e*P **P** 13 52 13.0 +5.3
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.71 337 *e*P **P** 13 52 13.0 +5.3
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.71 337 *e*P **P** 13 52 13.0 +5.3
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.71 337 *e*P **P** 13 52 13.0 +5.3
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GERES GERESS Array B 78.80 335 P **P** 13 52 09.8 +1.6
comp=Z,1.7nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=11
BRTR Keskin Array B 79.24 318 P **P** 13 52 12.3 +1.7
comp=Z,3.7nm,0.8s,mb4.3,baz=90,slow=2.5,SNR=9.2
CDF Champ du Feu 80.89 339 *e*P **P** 13 52 23.3 +3.8
comp=Z,20nm,1.0s,mb4.7
CDF Champ du Feu 80.89 339 *e*P **P** 13 52 23.3 +3.8
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CDF Champ du Feu 80.89 339 *e*P **P** 13 52 23.3 +3.8
comp=Z,10.0nm,1.0s,mb4.7
GRR Gorron 82.64 344 *e*P **P** 13 52 33.1 +4.4
comp=Z,61nm,1.0s,mb5.3
GRR Gorron 82.64 344 *e*P **P** 13 52 33.1 +4.4
GRR pmax pmax
comp=Z,30nm,1.0s,mb5.3
GRR Gorron 82.64 344 *e*P **P** 13 52 33.1 +4.4
comp=Z,30nm,1.0s,mb5.3
SMF Signal de Mont 83.35 341 *e*P **P** 13 52 36.5 +4.1
comp=Z,7.3nm,0.7s,mb4.5
SMF Signal de Mont 83.35 341 *e*P **P** 13 52 36.5 +4.1
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SMF Signal de Mont 83.35 341 *e*P **P** 13 52 36.5 +4.1
comp=Z,3.7nm,0.7s,mb4.5
LPG La Plagne 83.74 339 *e*P **P** 13 52 39.1 +4.7
CAF Calviac 85.37 342 *e*P **P** 13 52 46.7 +4.1

BJI **17** *13:40:31.5, 830S×111 30E, h85km, mb5.1*
NEIC **17** *13:40:32.5±3.2, 829S×111 27E, h85km±31km, mb4.4/4, Error ellipse: s-maj=23.3km s-min=11.6km az=49.0*
NEIC Felt [II] at Pacitan.
IDC **17** *13:40:34.6±7.4, 824S×111 36E, h101km±68km, mb4.0/12, mb1 4.1/13, mb1mx3.9/20, mbtmp4.0/13, ML4.1/1, Error ellipse: s-maj=34.9km s-min=15.4km az=58.0*
ISCJB **17** *13:40:35.6±0.9, 83S±0.1×111 4E±0.1, h132km±8km, mb4.3/16, Error ellipse: s-maj=22.4km s-min=8.7km az=84.3*

ISC 17 13:40:36.8±0.9, 83S±0.1×111 4E±0.1, h124km±8km, n34, σ0 81/32, mb4.4/16, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.09**	**84**	P	**Pn**	**13 40 59.3**	**-0.7**
	5µm,0.4s						
KMMI	**Kalianget**	**2.86**	**65**	P	**Pn**	**13 41 27.4**	**+6.1**
	97nm,0.8s						
NBBI	**Negara**	**3.23**	**92**	P	**Pn**	**13 41 29.7**	**+3.6**
	501nm,0.8s						
JCJI	**Jatiwangi**	**3.54**	**300**	P	**Pn**	**13 41 30.5**	**+0.2**
	342nm,0.8s						
DNP	**Denpasar**	**3.83**	**96**	P	**Pn**	**13 41 34.0**	**-0.1**
	612nm,0.8s						
MBWA	**Marble Bar**	**15.14**	**149**	*e*P	**Pn**	**13 44 00.5**	**-3.5**
MBWA				*eS*	Sx	13 46 30.0	
FITZ	**Fitzroy Crossi**	**16.97**	**127**	*e*P	**Pn**	**13 44 28.0**	**+1.3**
	10nm,0.6s						
FITZ				*eS*	Sx	13 47 15.6	
FITZ	**Fitzroy Crossi**	**16.97**	**127**	P	**Pn**	**13 44 26.6**	**-0.1**
	0.6nm,0.3s,baz=304,slow=7.2,SNR=18						
KAKA	**Kakadu**	**21.18**	**104**	*e*P	**P**	**13 45 11.8**	**-0.4**
	12nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**25.08**	**120**	P	**P**	**13 45 49.8**	**+0.1**
	5.9nm,0.7s,mb4.2,baz=294,slow=11,SNR=72						
WRA				PcP	PcP	13 49 21.8	+0.8
	0.2nm,0.3s,baz=316,slow=1.7,SNR=5.5						
WRAB	**Tennant Creek**	**25.09**	**120**	*e*P	**P**	**13 45 49.6**	**-0.2**
WB2	**Warramunga Arr**	**25.09**	**120**	*e*P	**P**	**13 45 50.0**	**+0.2**
AS31	**Alice Springs**	**26.46**	**128**	*e*P	**P**	**13 46 01.7**	**-0.5**
ASAR	**Alice Springs**	**26.46**	**128**	P	**P**	**13 46 02.6**	**+0.5**
	1.4nm,0.7s,mb3.5,baz=302,slow=8.7,SNR=30						
ASAR				PcP	PcP	13 49 25.4	+1.3
	0.5nm,0.4s,baz=309,slow=1.9,SNR=5.6						
STKA	**Stephens Creek**	**36.62**	**134**	P	**P**	**13 47 31.5**	**+0.5**
	0.8nm,0.3s,mb4.1,baz=300,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**36.62**	**134**	P	**P**	**13 47 31.5**	**+0.5**
CD2	**Chengdu**	**39.64**	**350**	⇓*i*P	**P**	**13 47 56.6**	**+0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
KSRS	**Korea Array**	**48.06**	**18**	P	**P**	**13 49 04.7**	**+1.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=199,slow=8.5,SNR=8.0						
BJI	**Beijing**	**48.28**	**5**	P	**P**	**13 49 05.5**	**+0.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.1						
BJI	**Beijing**	**48.28**	**5**	P	**P**	**13 49 05.5**	**+0.2**
	comp=Z,17nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**51.22**	**28**	P	**P**	**13 49 26.4**	**-1.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=201,slow=8.0,SNR=7.3						
ULN	**Ulaanbaatar**	**56.03**	**357**	*e*P	**P**	**13 50 03.1**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.6						
SONM	**Songino Array**	**56.04**	**356**	P	**P**	**13 50 03.2**	**+0.6**
	comp=Z,4.4nm,0.6s,mb4.7,baz=177,slow=8.5,SNR=25						
WSAR	**Wadi Sarin**	**60.32**	**303**	P	**P**	**13 50 33.3**	**+0.9**
	comp=Z,5.0nm,0.8s,mb4.6,baz=129,slow=7.1,SNR=5.8						
MKAR Makanchi Array 60.63 337 P **P** 13 50 34.5 0.0
comp=Z,5.0nm,0.3s,mb5.0,baz=151,slow=7.2,SNR=44
ZAL Zalesovo 65.92 343 P **P** 13 51 08.7 -0.7
comp=Z,3.5nm,0.4s,mb4.6,baz=341,slow=4.5,SNR=5.0
BVAR Borovoye Array 70.28 335 P **P** 13 51 36.3 -0.4
comp=Z,3.4nm,0.6s,mb4.3,baz=144,slow=9.0,SNR=13
BRVK Borovoye 70.35 335 *e*P **P** 13 51 36.1 -0.9
CHKZ Chkalovo 70.66 336 *e*P **P** 13 51 38.4 -0.5
ZRNK Zerenda 70.81 334 *e*P **P** 13 51 39.0 -0.8
BRTR Keskin Array B 85.91 311 P **P** 13 53 04.2 +1.4
comp=Z,1.8nm,1.0s,mb4.0,baz=130,slow=5.8,SNR=3.2
AKASG Malin Array Be 91.39 321 P **P** 13 53 27.8 -0.9
comp=Z,0.6nm,0.5s,mb4.0,baz=81,slow=5.7,SNR=4.3
CCM Cathedral Cave 144.01 31 *e*PKP PKPdf 14 00 04.3 +6.8
COW Cow Castle Cre 152.64 22 *e*PKPbc PKPbc 14 00 21.2 +2.4

ISCJB **17** *13:46:22.8±2.5, 4651N±007×15349E±006, h2km±16km, mb4.5/46, MS3.7/2, Error ellipse: s-maj=11.9km s-min=5.9km az=126.4*
IDC **17** *13:46:23.8±0.6, 4652N×15335E, h0km, mb4.3/21, mb1 4.5/22, mb1mx4.4/27, mbtmp4.3/22, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/30, Error ellipse: s-maj=16.7km s-min=14.4km az=143.0*
BJI **17** *13:46:24.9, 4743N×15390E, h24km, mB4.8, mb4.4, Ms4.8, Msz4.6*
NEIC **17** *13:46:25.6±0.3, 4652N×15339E, h10km, mb4.6/20, Error ellipse: s-maj=9.8km s-min=6.8km az=149.0*
MOS **17** *13:46:28.0±1.2, 4658N×15333E, h37km, mb4.8/20, Error ellipse: s-maj=11.1km s-min=8.5km az=91.9*
SZGRF **17** *13:46:31.3, 4667N×15396E, h33km, mb4.9, Kuril Islands, Russia*

ISC 17 13:46:26.4±3.1, 4659N±007×15344E±007, h13km±19km, n113, σ1 9 0/109, mb4.5/46, MS3.7/2, 7C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.12**	**253**	⇑*i*PN	**Pn**	**13 47 28.5**	**-0.5**
KUR				*eS*	**Sn**	**13 48 16.5**	**-0.5**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,610nm,0.6s						
KUR				smax			
	comp=N,680nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
SKR	**Severo-Kuril's**	**4.46**	**22**	*e*PN	**Pn**	**13 47 34.4**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**5.92**	**247**	*e*PN	**Pn**	**13 47 54.5**	**+0.7**
YUK				pmax	pmax		
	comp=Z,260nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.34**	**277**	*e*PN	**Pn**	**13 48 20.2**	**+6.9**
YSS				*eS*	**Sn**	**13 49 42.0**	**+5.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax			
	comp=E,30nm,0.6s						
ASAJ	**Asahikawa**	**8.03**	**256**	Pn	**Pn**	**13 48 25.6**	**+2.9**
	comp=E,1.5nm,0.3s,baz=106,slow=9.9,SNR=18						
ASAJ	**Asahikawa**	**8.03**	**256**	PN	**Pn**	**13 48 25.6**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**14.77**	**288**	*e*P	**Pn**	**13 50 00.0**	**+5.0**
MAJO	**Matsushiro**	**15.16**	**234**	*e*P	**Pn**	**13 49 56.7**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**15.16**	**234**	*e*P	**Pn**	**13 49 56.7**	**-3.6**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**15.16**	**234**	P	**Pn**	**13 49 59.6**	**-0.6**
MJAR	**Matsushiro Arr**	**15.16**	**234**	Pn	**Pn**	**13 49 59.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=35,slow=12,SNR=6.4						
YAK	**Yakutsk**	**20.57**	**327**	*e*P	**P**	**13 51 03.9**	**-1.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s						
YAK	**Yakutsk**	**20.57**	**327**	*e*P	**P**	**13 51 03.9**	**-1.0**
	comp=Z,14nm,0.6s						
KSRS	**Korea Array**	**20.96**	**253**	P	**P**	**13 51 10.1**	**+1.0**
	comp=Z,5.5nm,0.9s,baz=60,slow=9.8,SNR=15						
CBIJ	**Chichi jima**	**21.40**	**208**	LR	LR	13 57 28.5	
	comp=Z,70nm,20.5s,MS3.0,baz=356,slow=31						
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**13 51 25.8**	**+0.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**13 51 25.8**	**+0.3**
	comp=Z,6.3nm,0.6s,mb4.2						
HHC	**Hu-ho-hao-te**	**30.53**	**275**	*e*P	**P**	**13 52 39.3**	**-0.1**
HHC				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,153nm,9.8s						
ULN	**Ulaanbaatar**	**31.16**	**290**	*e*P	**P**	**13 52 44.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**31.16**	**290**	*e*P	**P**	**13 52 44.8**	**-0.2**
	comp=Z,4.9nm,1.1s,mb4.2						
SONM	**Songino Array**	**31.60**	**290**	P	**P**	**13 52 47.6**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=90,slow=7.4,SNR=3.7						
KDAK	**Kodiak Island**	**34.03**	**51**	P	**P**	**13 53 08.8**	**-1.3**
	comp=Z,11nm,0.8s,mb4.9,baz=287,slow=2.4,SNR=4.2						
LZH	**Lanzhou**	**38.12**	**272**	*e*P	**P**	**13 53 46.3**	**+1.3**
LZH				AP	pP	13 53 51.3	+2.2
LZH				XP	sP	13 53 53.4	+2.6
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**38.12**	**272**	*e*P	**P**	**13 53 46.2**	**+1.2**
LZH				*SP	sP	13 53 53.4	+2.6
LZH				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**38.12**	**272**	*e*P	**P**	**13 53 46.2**	**+1.2**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	13 53 51.3	+2.2
LZH				sP	sP	13 53 53.4	+2.6
GTA	**Gaotai**	**39.22**	**279**	*e*P	**P**	**13 53 55.1**	**+0.8**
GTA				AP	pP	13 54 02.3	+3.9
GTA				XP	sP	13 54 04.3	+4.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
INK	**Inuvik**	**41.67**	**32**	P	**P**	**13 54 15.2**	**+0.7**
	comp=Z,2.9nm,0.9s,mb3.9,baz=298,slow=5.7,SNR=5.4						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**13 54 23.0**	**-1.6**
	comp=Z,1.3nm,0.4s,mb4.0,baz=37,slow=13,SNR=2.3						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**13 54 23.0**	**-1.6**
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**13 54 57.2**	**-1.7**
	comp=Z,4.3nm,0.7s,mb4.5,baz=67,slow=8.2,SNR=24						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**13 54 57.2**	**-1.7**
LSA	**Lhasa**	**50.51**	**273**	P	**P**	**13 55 27.3**	**+3.1**
LSA	**Lhasa**	**50.51**	**273**	*e*P	**P**	**13 55 27.1**	**+2.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.51**	**273**	*e*P	**P**	**13 55 27.1**	**+2.9**
	comp=Z,8.4nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**50.70**	**310**	*e*P	**P**	**13 55 24.2**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**50.70**	**310**	*e*P	**P**	**13 55 24.2**	**-1.5**
	comp=Z,12nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**50.92**	**37**	P	**P**	**13 55 26.6**	**-0.7**
	comp=Z,4.8nm,0.7s,mb4.5,baz=294,slow=7.0,SNR=8.3						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**13 55 28.1**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.4,baz=52,slow=9.6,SNR=16						
BRVK	**Borovoye**	**51.17**	**310**	*e*P	**P**	**13 55 28.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**51.17**	**310**	*e*P	**P**	**13 55 28.0**	**-1.2**
	comp=Z,6.5nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**51.90**	**310**	*e*P	**P**	**13 55 32.6**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**51.90**	**310**	*e*P	**P**	**13 55 32.6**	**-2.1**
	comp=Z,4.9nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.30**	**257**	*e*P	**P**	**13 55 38.8**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**52.30**	**257**	*e*P	**P**	**13 55 38.8**	**+1.2**
	comp=Z,6.6nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**13 55 50.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**13 55 50.1**	**-0.8**
	comp=Z,3.4nm,0.9s,mb4.3						
JIRN	**Jiri**	**55.18**	**275**	*e*P	**P**	**13 56 00.3**	**+1.6**

GUN	**Gumba**	**55.24**	**275**	*e*P		**P**		**13 56 01.1**	**+2.0**
	comp=Z,11nm,0.4s,mb5.2								
KKN	**Kakani**	**55.72**	**276**	*e*P		**P**		**13 56 04.5**	**+1.9**
	comp=Z,19nm,0.6s,mb5.3								
PKI	**Pulchoki**	**55.77**	**275**	*e*P		**P**		**13 56 03.9**	**+0.9**
	comp=Z,16nm,0.6s,mb5.2								
GKN	**Gorkha**	**56.03**	**276**	*e*P		**P**		**13 56 06.2**	**+1.4**
	comp=Z,22nm,0.6s,mb5.4								
EDM	**Edmonton**	**56.26**	**46**	*e*P		**P**		**13 56 06.4**	**-0.1**
KOLN	**Koldanda**	**56.89**	**277**	*e*P		**P**		**13 56 12.4**	**+1.5**
	comp=Z,9.4nm,0.6s,mb5.0								
ARCES	**ARCESS Array B**	**58.08**	**341**	P		**P**		**13 56 19.7**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=33,slow=8.9,SNR=3.5								
AKTK	**Aktyubinsk**	**59.00**	**312**	P		**P**		**13 56 24.4**	**-1.3**
AKTO	**Aktyubinsk**	**59.00**	**312**	P		**P**		**13 56 24.4**	**-1.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=60,slow=11,SNR=3.8								
AKTO	**Aktyubinsk**	**59.00**	**312**	P		**P**		**13 56 24.4**	**-1.3**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
MCMT	**McKenzie Canyo**	**61.51**	**54**	*e*P		**P**		**13 56 43.2**	**+0.3**
KHET	**Khetri**	**61.99**	**282**	*e*P		**P**		**13 56 44.6**	**-1.6**
KHET				*ex*		x		13 58 40.5	
KHET				AML		AML		13 59 04.6	
	comp=E,4.6nm,0.1s								
KHET				AML		AML		13 59 05.0	
	comp=N,12nm,0.1s								
NVAR	**Mina Array Bea**	**62.31**	**62**	P		**P**		**13 56 48.7**	**+0.4**
	comp=N,0.8nm,0.7s,mb4.0,baz=300,slow=5.6,SNR=6.8								
NVAR	**Mina Array Bea**	**62.31**	**62**	P		**P**		**13 56 48.7**	**+0.4**
RRI2	**Red Ridge**	**63.30**	**54**	*e*P		**P**		**13 56 56.0**	**+1.1**
	comp=N,9.9nm,1.0s,mb4.9								
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**		**13 57 00.7**	**-0.7**
	comp=N,5.4nm,0.6s,mb4.8,baz=36,slow=7.9,SNR=17								
DUG	**Dugway**	**64.47**	**58**	*e*P		**P**		**13 57 02.7**	**+0.1**
DUG				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
DUG	**Dugway**	**64.47**	**58**	*e*P		**P**		**13 57 02.7**	**+0.1**
	comp=Z,2.5nm,1.0s,mb4.2								
PDAR	**Pinedale Array**	**64.86**	**54**	P		**P**		**13 57 04.0**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.2,baz=284,slow=2.5,SNR=18								
ULM	**Lac du Bonnet**	**66.50**	**41**	P		**P**		**13 57 15.4**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.3,baz=336,slow=11,SNR=4.2								
WRA	**Warramunga Arr**	**68.44**	**199**	P		**P**		**13 57 26.3**	**-1.7**
	comp=Z,2.3nm,0.8s,mb4.3,baz=17,slow=6.7,SNR=15								
NB2	**NORSAR Subarra**	**68.45**	**341**	P		**P**		**13 57 27.6**	**-0.5**
	comp=Z,7.4nm,0.7s,mb4.8,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.45**	**341**	P		**P**		**13 57 27.9**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.8,baz=27,slow=6.3,SNR=22								
FITZ	**Fitzroy Crossi**	**69.11**	**208**	P		**P**		**13 57 31.2**	**-1.0**
	comp=Z,2.5nm,1.0s,mb4.1,baz=21,slow=8.6,SNR=4.8								
AKASG	**Malin Array Be**	**71.80**	**326**	P		**P**		**13 57 47.4**	**-1.3**
	comp=Z,6.5nm,0.6s,mb4.7,baz=34,slow=6.2,SNR=29								
AKBB	**Malin Array Si**	**71.80**	**326**	*e*P		**P**		**13 57 47.7**	**-0.9**
KIEV	**Kiev**	**71.81**	**326**	*e*P		**P**		**13 57 47.6**	**-1.1**
KIEV				pmax		pmax			
	comp=Z,13nm,0.9s,mb4.9								
KIEV	**Kiev**	**71.81**	**326**	*e*P		**P**		**13 57 47.6**	**-1.1**
	comp=Z,13nm,0.9s,mb4.9								
AS31	**Alice Springs**	**72.13**	**199**	*e*P		**P**		**13 57 50.1**	**-0.5**
ASAR	**Alice Springs**	**72.13**	**199**	P		**P**		**13 57 50.1**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=13,slow=5.6,SNR=25								
BURAR	**Bucovina Array**	**75.84**	**327**	⇓*i*P		**P**		**13 58 12.3**	**0.0**
UPC	**Upice**	**76.52**	**334**	*e*P		**P**		**13 58 17.2**	**+1.0**
DPC	**Dobruska-Polom**	**76.57**	**333**	*e*P		**P**		**13 58 17.6**	**+1.2**
MORC	**Moravsky Berou**	**76.68**	**332**	⇑*i*P		**P**		**13 58 17.6**	**+0.5**
CLL	**Collm**	**76.70**	**336**	*e*P		**P**		**13 58 18.0**	**+0.8**
CLL				pmax		pmax			
	comp=Z,13nm,0.7s,mb5.0								
CLL	**Collm**	**76.70**	**336**	*e*P		**P**		**13 58 18.0**	**+0.8**
	comp=Z,13nm,0.7s,mb5.0								
CLL	**Collm**	**76.70**	**336**	*i* P		**P**		**13 58 17.7**	**+0.5**
	comp=Z,13nm,0.7s,mb5.0								
TIRR	**Tirgusor**	**77.17**	**323**	⇓*i*P		**P**		**13 58 20.2**	**+0.3**
TIRR	**Tirgusor**	**77.17**	**323**	*e*P		**P**		**13 58 19.9**	**0.0**
TIRR				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
TIRR	**Tirgusor**	**77.17**	**323**	*e*P		**P**		**13 58 19.9**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.3								
MLR	**Muntele Rosu**	**77.32**	**325**	⇓*i*P		**P**		**13 58 21.7**	**+1.0**
LTX	**Lajitas**	**77.38**	**61**	*e*P		**P**		**13 58 21.0**	**0.0**
LTX				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
LTX	**Lajitas**	**77.38**	**61**	*e*P		**P**		**13 58 21.0**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.3								
TXAR	**Lajitas Array**	**77.38**	**61**	P		**P**		**13 58 21.0**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.4,baz=302,slow=4.0,SNR=50								
VRAC	**Vranov**	**77.39**	**333**	⇓*i*P		**P**		**13 58 22.2**	**+1.1**
MALT	**Malatya**	**77.42**	**313**	⇑*i*P		**P**		**13 58 23.1**	**+1.8**
MALT	**Malatya**	**77.42**	**313**	*e*P		**P**		**13 58 23.3**	**+2.0**
MALT				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
MALT	**Malatya**	**77.42**	**313**	*e*P		**P**		**13 58 23.3**	**+2.0**
	comp=Z,2.4nm,0.6s,mb4.3								
VOIR		**77.72**	**326**	⇑*i*P		**P**		**13 58 23.8**	**+0.9**
KHC	**Kasperske Hory**	**78.48**	**334**	*e*P		**P**		**13 58 27.4**	**+0.3**
GZR	**Gura Zlata**	**78.63**	**327**	⇑*i*P		**P**		**13 58 29.0**	**+1.1**
GRA1	**Grafenberg Arr**	**78.66**	**336**	*e*P		**P**		**13 58 28.9**	**+0.8**
	comp=Z,9.0nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.66**	**336**	*e*P		**P**		**13 58 28.9**	**+0.8**
	comp=Z,9.0nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.66**	**336**	*e*P		**P**		**13 58 28.9**	**+0.8**
GRF				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.66**	**336**	*e*P		**P**		**13 58 28.9**	**+0.8**
GRF				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
BRTR	**Keskin Array B**	**78.66**	**317**	P		**P**		**13 58 28.6**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=66,slow=3.0,SNR=6.3								
BRTR	**Keskin Array B**	**78.66**	**317**	P		**P**		**13 58 28.6**	**+0.5**
GERES	**GERESS Array B**	**78.70**	**334**	P		**P**		**13 58 27.6**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=35,slow=4.9,SNR=12								
BZS	**Buzias**	**78.87**	**328**	⇑*i*P		**P**		**13 58 27.1**	**-2.2**
PKSM	**Moragy**	**79.42**	**330**	⇓*i*P		**P**		**13 58 32.8**	**+0.5**
VTS	**Vitosha**	**80.83**	**325**	⇑*i*P		**P**		**13 58 40.2**	**+0.3**
PPT	**Papeete**	**81.88**	**126**	*e*LR		LR		14 24 39.4	
	comp=Z,380nm,25.5s,baz=323								
PPT	**Papeete**	**81.88**	**126**	LR		LR		14 29 11.7	
	comp=Z,200nm,21.6s,MS4.4,baz=295,slow=31								
TBI	**Tubuai**	**86.62**	**129**	*e*LR		LR		14 26 50.7	
	comp=Z,282nm,31.5s								
RKT	**Rikitea**	**94.72**	**119**	*e*LR		LR		14 30 37.0	
	comp=Z,266nm,33.5s								
SNAA	**Sanae**	**152.46**	**196**	PKPbc		PKPbc		14 06 19.8	-2.5
	comp=Z,0.3nm,0.6s,baz=78,slow=19,SNR=3.5								

IDC ***17*** *13:48:12.9±0.4, 46.25N×154.42E, h0km, mb4.6/26, mb1 4.8/28, mb1mx4.7/30, mbtmp4.6/28, ML4.2/2, MS4.2/8, Ms1 4.2/8, ms1mx3.6/30, Error ellipse: s-maj=14.4km s-min=11.3km az=140.0*

ISCJB ***17*** *13:48:13.6±1.1, 46.24N±004×154.42E±003, h13km±6km, mb4.9/112, MS4.3/23, Error ellipse: s-maj=7.2km s-min=2.9km az=157.8*

NEIC ***17*** *13:48:14.9±0.2, 46.29N×154.39E, h10km, mb5.1/42, Error ellipse: s-maj=7.6km s-min=4.5km az=159.0*

GCMT ***17*** *13:48:14.9±0.3, 46.31N×154.61E, h18km, MW5.0/66, Moment Tensor Solution. s26,c31; s66,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T=3.99±.23; $M_{\theta\theta}$=1.75±.14; $M_{\phi\phi}$=2.24±.14; $M_{r\theta}$=0.72±.34; $M_{\theta\phi}$=1.85±.08; $M_{\phi r}$=0.42±.32; Best double couple: M_0=4.01200×10^{16} NP1:ϕ_S=38.00000°, δ39.00000°, λ=-96.00000°. NP2: ϕ_S=225.00000°, δ51.00000°, λ=-85.00000°. Principal axes: T 3.9400, Plg6.0000°, Azm312.0000°; N 0.1450, Plg3.0000°, Azm42.0000°; P -4.0850, Plg83.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***17*** *13:48:15.2, 46.42N×154.01E, h10km, mB5.0, mb4.6, Ms4.5, Ms2.4*

MOS ***17*** *13:48:17.0±1.0, 46.25N×154.38E, h36km, mb5.2/54, MS4.3/7, Error ellipse: s-maj=7.0km s-min=5.4km az=86.3*

SKHL ***17*** *13:48:22.9±3.6, 46.88N×153.49E, h61km±23km, mb5.3/1, Ms4.5/2, msh5.3/1*

SZGRF ***17*** *13:48:23.6, 46.99N×154.54E, h33km, mb5.2, East of Kuril Islands, Russia*

ISC 17 13:48:17.2±1.1, 46.31N±004×154.34E±003, h24km±8km, h16km±1.6km:pP-P, n482, σ0≤80/492, mb4.9/111, MS4.3/23, 54C-44D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.54**	**14**	*e*P	**Pn**		**13 49 23.9**	**-0.5**
SKR					AMB	AMB	13 49 25.9	
	90nm,0.5s							
SKR					AMB	AMB	13 49 25.9	
	220nm,1.0s							
SKR					AMB	AMB	13 49 25.9	
	400nm,1.0s							
SKR				*e*S		**Sn**	**13 50 07.0**	**-9.4**
SKR				A			13 50 17.5	
	1μm,0.9s							
SKR				A			13 50 17.5	
	310nm,0.5s							
SKR				A			13 50 17.5	
	330nm,0.5s							
SKR				A			13 50 24.0	
	5μm,4.0s							
SKR				AMS		AMS	13 51 24.0	
	5μm,12.0s							
SKR				AMS		AMS	13 51 24.0	
	9μm,14.0s							
SKR				AMS		AMS	13 51 24.0	
	5μm,12.0s							
SKR				AMS		AMS	13 51 24.0	
	9μm,14.0s							
KUR	**Kuril'sk**	**4.66**	**259**	*e*P		**Pn**	**13 49 24.0**	**-2.1**
KUR				AMB		AMB	13 49 34.5	
	760nm,0.6s							
KUR				*e*S		**Sn**	**13 50 15.0**	**-4.3**
KUR				A			13 50 17.5	
	760nm,0.6s							
KUR				A			13 50 17.5	
	532nm,0.6s							
KUR				A			13 50 18.2	
	30nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**6.41**	**252**	*e*P		**Pn**	**13 49 50.5**	**+0.3**
YUK				*e*S		**Sn**	**13 50 58.9**	**-3.7**
YUK				A			13 51 09.0	
	410nm,0.5s							
YUK				A			13 51 09.0	
	730nm,0.5s							
PET	**Petropavlovsk**	**7.28**	**21**	*e*PN		**Pn**	**13 50 04.4**	**+2.3**
PET				MLR		MLR		
	comp=Z,1μm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.00**	**279**	⇑*e*P		**Pn**	**13 50 15.0**	**+3.0**
YSS				AMB		AMB	13 50 16.0	
	comp=Z,30nm,0.7s							
YSS				*e*LQ			13 52 02.0	
YSS	**Yuzh-Sakhalins**	**8.00**	**279**	⇑*e*PN		**Pn**	**13 50 15.0**	**+3.0**
YSS				pmax		pmax		
	comp=Z,30nm,0.7s							
YSS				MLR		MLR		
	comp=E,2μm,15.0s							
YSS				MLR		MLR		
	comp=Z,1μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.00**	**279**	*e*Pn		**Pn**	**13 50 13.8**	**+1.8**
ASAJ	**Asahikawa**	**8.58**	**259**	Pn		**Pn**	**13 50 20.5**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=66,slow=9.8,SNR=6.5							
ASAJ				LR		LR	13 52 54.6	
	comp=Z,979nm,21.4s,baz=49,slow=33							
ASAJ	**Asahikawa**	**8.58**	**259**	PN		**Pn**	**13 50 20.5**	**+0.6**
ASAJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,979nm,21.5s							
UGL	**Uglegorsk**	**8.73**	**293**	*e*L			13 52 45.0	
UGL				AMS		AMS	13 54 52.0	
	comp=Z,4μm,14.0s							
UGL				AMS		AMS	13 54 52.0	
	comp=Z,2μm,13.0s							
UGL				AMS		AMS	13 54 52.0	
	comp=Z,6μm,13.0s							
HABR	**Khabarovsk**	**13.25**	**286**	*e*PN		**Pn**	**13 51 30.6**	**+6.8**
KLR	**Kul'dur**	**15.46**	**289**	*e*P		**Pn**	**13 51 55.6**	**+1.9**
KLR				MLR		MLR		
	comp=Z,7μm,13.0s							
MJAR	**Matsushiro Arr**	**15.52**	**237**	Pn		**Pn**	**13 51 53.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=37,slow=12,SNR=6.4							
MAJO	**Matsushiro**	**15.52**	**237**	*e*P		**Pn**	**13 51 53.7**	**-0.8**
MAT	**Matsushiro**	**15.52**	**237**	P		**Pn**	**13 51 53.4**	**-1.1**
MAT				*e*S		**Sn**	**13 54 42.8**	**-2.8**
SEY	**Seymchan**	**16.70**	**357**	*i* P		**Pn**	**13 52 03.7**	**-5.9**
ZEA	**Zeya**	**18.85**	**303**	*e*P		**Pn**	**13 52 30.2**	**-5.9**
ZEA				AMB		AMB	13 52 46.0	
	comp=Z,400nm,6.0s							
ZEA				AMS		AMS	13 54 05.0	
	comp=Z,400nm,15.0s							
ZEA				AMS		AMS	13 54 05.0	
	comp=Z,500nm,14.0s							
CN2	**Changchun**	**20.52**	**273**	*e*P		**P**	**13 52 51.0**	**-2.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
CLNS	**Chul'man**	**20.95**	**311**	*e*P		**P**	**13 52 59.0**	**+0.6**
CLNS				*e*			13 53 10.2	
CLNS				*e*PPP			13 53 23.3	
CLNS				*e*S		**S**	**13 56 51.0**	**+0.3**
CLNS				*e*			13 57 00.7	
CLNS				*e*SS			13 57 20.4	
CLNS				pmax		pmax		
	comp=Z,30nm,0.9s							
CLNS				pmax		pmax		
	comp=N,14nm,1.0s							
CLNS				pmax		pmax		
	comp=E,12nm,0.7s							
CLNS				smax				
	comp=Z,14nm,0.9s							
CLNS				smax				
	comp=N,73nm,1.4s							
CLNS				smax				
	comp=E,46nm,1.2s							
CLNS				MLR		MLR		
	comp=Z,2μm,13.0s,MS4.7							
CLNS				MLR		MLR		
	comp=N,300nm,14.0s,MS4.8							
CLNS				MLR		MLR		
	comp=E,3μm,14.0s,MS4.8							
NRGR	**Nerungri**	**20.99**	**310**	*e*P		**P**	**13 52 51.4**	**-7.4**
YAK	**Yakutsk**	**21.16**	**327**	*e*P		**P**	**13 52 58.6**	**-2.0**
YAK				*e*			13 53 11.8	
YAK				*i* S		**S**	**13 56 47.7**	**-7.0**
YAK				*e*			13 57 05.0	
YAK				*e*SS			13 57 19.6	
YAK				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.3							
YAK				pmax		pmax		
	comp=N,11nm,1.3s							
YAK				pmax		pmax		
	comp=E,10.0nm,1.6s							
YAK				smax				
	comp=N,214nm,2.3s							
YAK				smax				
	comp=Z,128nm,3.0s							
YAK				smax				
	comp=E,418nm,3.7s							
YAK				MLR		MLR		
	comp=Z,583nm,14.0s,MS4.1							
YAK				MLR		MLR		
	comp=N,536nm,16.0s,MS4.1							
YAK				MLR		MLR		
	comp=E,427nm,17.0s,MS4.1							
YAK	**Yakutsk**	**21.16**	**327**	*e*P		**P**	**13 53 00.8**	**+0.2**
KSRS	**Korea Array**	**21.49**	**255**	P		**P**	**13 53 05.5**	**+1.3**
	comp=E,13nm,0.9s,mb4.3,baz=56,slow=10,SNR=15							
KSRS				PcP		PcP	13 57 07.0	+0.5
	comp=E,3.7nm,0.9s,baz=155,slow=1.1,SNR=9.2							
KSRS				LR		LR	14 01 14.3	
	comp=E,382nm,18.3s,MS3.8,baz=57,slow=36							
JNU	**Nakatsue**	**22.24**	**242**	LR		LR	14 01 12.3	
	comp=E,509nm,20.6s,MS3.9,baz=252,slow=35							
INCN	**Inchon**	**22.34**	**257**	*e*P		**P**	**13 53 15.0**	**+1.7**
	comp=E,82nm,1.3s,mb5.0							
SNY	**Shenyang**	**22.48**	**270**	⇓P		**P**	**13 53 15.0**	**+0.3**
SNY				AP			13 53 18.3	
SNY				XP		sP	13 53 24.9	+0.6
SNY				S		**S**	**13 57 17.0**	**-3.5**
SNY				XS		sS	13 57 25.1	-6.0
SNY				SS			13 57 50.0	
SNY				AMB		AMB		
	comp=Z,26nm,0.7s,mb4.8							
SNY				AMB		AMB		
	comp=Z,350nm,3.5s							
SNY				LR		LR		
	comp=E,796nm,13.8s							
SNY				LR		LR		
	comp=Z,865nm,14.9s,MS4.3							
BILL	**Bilibino**	**22.64**	**12**	⇓*i*P		**P**	**13 53 14.0**	**-2.5**
BILL				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.4							
BILL	**Bilibino**	**22.64**	**12**	*e*P		**P**	**13 53 14.3**	**-2.2**
	comp=Z,71nm,1.1s,mb5.0							
DL2	**Dalian**	**25.06**	**265**	⇑*i*P		**P**	**13 53 43.1**	**+3.4**
DL2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.7							
DL2				AMB		AMB		
	comp=Z,180nm,4.0s							
DL2				LR		LR		
	comp=N,210nm,11.7s,MS4.0							
DL2				LR		LR		
	comp=E,160nm,12.3s,MS4.0							
DL2				LR		LR		
	comp=Z,210nm,12.8s,MS3.8							
BOD	**Bodaibo**	**26.92**	**310**	*e*P		**P**	**13 53 53.7**	**-2.9**
BOD				*e*			13 58 33.4	
BOD				pmax		pmax		
	comp=Z,22nm,1.0s,mb4.6							
TIXI	**Tiksi**	**28.14**	**343**	*e*P		**P**	**13 54 05.0**	**-2.4**
TIXI				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
TIXI	**Tiksi**	**28.14**	**343**	*e*P		**P**	**13 54 05.0**	**-2.5**
	comp=Z,9.6nm,0.9s,mb4.4							
BJI	**Beijing**	**28.33**	**271**	P		**P**	**13 54 08.8**	**-0.3**
BJI				AMB		AMB		
	comp=Z,4.0nm,1.4s,mb3.9							
BJI				AMB		AMB		
	comp=Z,273nm,8.2s							
BJI				LR		LR		
	comp=N,867nm,15.8s,MS4.5							
BJI				LR		LR		
	comp=E,408nm,15.9s,MS4.5							
BJI				LR		LR		
	comp=Z,554nm,18.4s,MS4.2							
BJI	**Beijing**	**28.33**	**271**	P		**P**	**13 54 08.8**	**-0.3**
	comp=Z,4.0nm,1.4s,mb3.9							
BJI				S		**S**	**13 59 12.1**	**+18**
BJI				LR		LR		
	comp=Z,550nm,18.4s,MS4.2							
BJT	**Baijiatuau**	**28.34**	**271**	*e*P		**P**	**13 54 11.4**	**+2.1**
BJT				pmax		pmax		
	comp=Z,18nm,0.8s							
BJT	**Baijiatuau**	**28.34**	**271**	*e*P		**P**	**13 54 11.4**	**+2.1**
	comp=Z,18nm,0.8s,mb4.8							
SSE	**Sheshan**	**29.74**	**251**	P		**P**	**13 54 20.3**	**-1.4**
SSE				AP		pP	13 54 23.3	-5.5
SSE				S		**S**	**13 59 16.5**	**0.0**
SSE				XS		sS	13 59 21.8	-6.4
SSE				AMB		AMB		
	comp=Z,57nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,234nm,3.8s							
SSE				LR		LR		
	comp=N,374nm,16.1s,MS4.2							
SSE				LR		LR		
	comp=E,226nm,16.1s,MS4.2							
SSE				LR		LR		
	comp=Z,396nm,17.5s,MS4.1							
SSE	**Sheshan**	**29.74**	**251**	P		**P**	**13 54 20.3**	**-1.4**
	comp=Z,57nm,0.7s,mb5.4							
SSE				pP		pP	13 54 23.2	-5.6
SSE				sP		sP	13 54 24.5	-7.2
SSE				S		**S**	**13 59 16.5**	**0.0**
SSE				sS		sS	13 59 21.8	-6.4
SSE				LR		LR		
	comp=Z,400nm,17.5s,MS4.1							
NJ2	**Nanjing**	**30.69**	**255**	*e*P		**P**	**13 54 30.4**	**+0.3**
NJ2				AMB		AMB		
	comp=Z,30nm,0.5s,mb5.4							
HHC	**Hu-ho-hao-te**	**31.18**	**276**	*e*P		**P**	**13 54 34.8**	**+0.4**
HHC				AP		pP	13 54 39.6	-1.8
HHC				XP		sP	13 54 41.9	-2.4
HHC				PP		PP	13 55 37.0	-7.9
HHC				PCP		PcP	13 57 30.3	+1.3
HHC				S		**S**	**13 59 39.8**	**+0.8**
HHC				XS		sS	13 59 45.3	-5.3
HHC				SCP		ScP	14 01 11.3	+0.9
HHC				SS		SS	14 01 23.8	-29
HHC				AMB		AMB		
	comp=Z,23nm,1.2s,mb4.9							
HHC				AMB		AMB		
	comp=Z,159nm,5.4s							
HHC				LR		LR		
	comp=N,557nm,14.7s,MS4.4							
HHC				LR		LR		
	comp=E,331nm,14.9s,MS4.4							
HHC				LR		LR		
	comp=Z,426nm,12.1s,MS4.3							
ULN	**Ulaanbaatar**	**31.85**	**290**	⇓*e*P		**P**	**13 54 42.9**	**+2.6**
SVW2	**Sparrevohn**	**32.21**	**44**	*e*P		**P**	**13 54 44.1**	**+0.6**
SONM	**Songino Array**	**32.28**	**290**	P		**P**	**13 54 43.2**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.1,baz=77,slow=7.9,SNR=7.0							
SONM				PcP		PcP	13 57 31.7	-0.3
	comp=Z,3.0nm,0.9s,baz=89,slow=1.7,SNR=7.5							
SONM				LR		LR	14 08 15.4	
	comp=Z,458nm,19.6s,MS4.2,baz=76,slow=37							
SONM	**Songino Array**	**32.28**	**290**	P		**P**	**13 54 43.2**	**-0.9**
SONM							13 57 31.7	
SONM	**Songino Array**	**32.28**	**290**	P		**P**	**13 54 43.2**	**-0.9**
SONM				PcP		PcP	13 57 31.7	-0.3
SONM				LR		LR	14 08 15.4	
TLY	**Talaya**	**33.14**	**298**	*e*P		**P**	**13 54 48.9**	**-2.7**
TLY				*e*S		**S**	**13 59 59.0**	**-11**
TLY				*e*SS		SS	14 02 04.6	-28
TLY				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.9							
TLY				MLR		MLR		
	comp=Z,870nm,15.0s,MS4.6							
ZAK	**Zakamensk**	**33.63**	**296**	*e*P		**P**	**13 54 54.4**	**-1.5**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
IMA2	**Indian Mountai**	**33.67**	**35**	*e*P		**P**	**13 54 56.1**	**-0.1**
KDAK	**Kodiak Island**	**33.73**	**50**	P		**P**	**13 54 55.2**	**-1.6**
	comp=Z,47nm,0.9s,mb5.4,baz=304,slow=1.5,SNR=8.0							
KDAK	**Kodiak Island**	**33.73**	**50**	P		**P**	**13 54 55.2**	**-1.6**
PMR	**Palmer**	**35.33**	**44**	*e*P		**P**	**13 55 09.7**

LZH Lanzhou 38.76 273 P **P** 13 55 41.8 +2.1
comp=Z,70nm,1.0s,mb5.3
LZH pP pP 13 55 48.0 +1.2
LZH sP sP 13 55 50.0 +0.3
LZH PP PP 13 57 13.0 +4.4
LZH S **S** **14 01 34.0 -1.6**
LZH sS sS 14 01 44.0 -3.3
LZH SS SS 14 04 14.0 -13
LZH LR LR
comp=Z,3µm,16.0s,MS5.2
EGAK Eagle 38.82 38 *eP* **P** **13 55 39.1 -1.2**
comp=Z,100nm,1.0s,mb5.5
GTA Gaotai 39.88 280 P **P** **13 55 51.3 +2.2**
GTA AP pP 13 55 55.8 -0.4
GTA XP sP 13 55 58.3 -0.8
GTA PP PP 13 57 27.8 +6.9
GTA PCP PcP 13 57 55.8 +1.3
GTA PCS PcS 14 01 46.0 +1.3
GTA S **S** **14 01 59.6 +7.1**
GTA XS sS 14 02 07.6 +3.3
GTA AMB AMB
comp=Z,9.0nm,2.0s,mb4.2
GTA AMB AMB
comp=Z,211nm,8.0s
GTA LR LR
comp=N,366nm,14.4s,MS4.5
GTA LR LR
comp=E,348nm,15.2s,MS4.5
GTA LR LR
comp=Z,505nm,15.6s,MS4.5
INK Inuvik 41.57 32 P **P** **13 56 03.3 +0.3**
comp=Z,13nm,0.7s,mb4.7,baz=283,slow=6.9,SNR=28
INK Inuvik 41.57 32 *eP* **P** **13 56 03.3 +0.2**
CD2 Chengdu 41.69 267 *eP* **P** **13 56 03.5 -0.5**
CD2 AP pP 13 56 08.0 -3.2
CD2 XP sP 13 56 10.8 -3.3
CD2 PP PP 13 57 43.1 +2.5
CD2 S **S** **14 02 19.1 -0.4**
CD2 XS sS 14 02 26.5 -4.8
CD2 SS SS 14 05 18.8 -6.5
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,150nm,8.4s
CD2 LR LR
comp=N,250nm,15.6s,MS4.4
CD2 LR LR
comp=E,270nm,12.0s,MS4.4
CD2 LR LR
comp=Z,230nm,15.6s,MS4.2
GYA Guiyang 42.45 259 ⇓ *iP* **P** **13 56 10.8 +0.5**
GYA AP pP 13 56 14.8 -2.6
GYA XP sP 13 56 17.4 -2.9
GYA PP PP 13 57 52.3 +3.5
GYA PCP PcP 13 58 05.0 +2.1
GYA SCP ScP 14 01 54.5 +2.3
GYA S **S** **14 02 30.1 -0.6**
GYA SS SS 14 05 34.8 -5.5
GYA SCS ScS 14 06 11.3 +0.8
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,230nm,8.1s
GYA LR LR
comp=N,580nm,16.4s,MS4.7
GYA LR LR
comp=E,560nm,16.8s,MS4.7
GYA LR LR
comp=Z,490nm,17.0s,MS4.5
ZAL Zalesovo 43.57 307 P **P** **13 56 17.7 -1.6**
comp=Z,2.4nm,0.6s,mb4.1,baz=51,slow=7.4,SNR=6.2
ZAL PcP PcP 13 58 06.4 -0.3
comp=Z,4.2nm,0.8s,baz=23,slow=3.9,SNR=10
ZAL LR LR 14 17 07.1
comp=Z,664nm,18.0s,MS4.6,baz=40,slow=40
ZAL Zalesovo 43.57 307 P **P** **13 56 17.7 -1.6**
ZAL 13 58 06.4
ZAL Zalesovo 43.57 307 P **P** **13 56 17.7 -1.6**
ZAL PcP PcP 13 58 06.4 -0.3
ZAL LR LR 14 17 07.1
NVS Novosibirsk 44.13 308 *eP* **P** **13 56 22.2 -1.6**
NVS *e* 13 58 07.3
NVS *eS* **S** **14 02 51.9 -3.4**
NVS pmax pmax
comp=Z,53nm,2.4s,mb4.8
NVS pmax pmax
comp=N,23nm,2.1s
NVS pmax pmax
comp=E,37nm,2.1s
NVS smax
comp=N,22nm,2.0s
NVS smax
comp=E,18nm,2.3s
QIZ Qiongzhong 45.46 248 P **P** **13 56 33.4 -1.0**
QIZ S **S** **14 03 16.1 +1.5**
QIZ XS sS 14 03 29.3 +2.8
QIZ AMB AMB
comp=Z,12nm,2.4s,mb4.3
QIZ AMB AMB
comp=Z,112nm,4.6s
QIZ LR LR
comp=N,225nm,17.1s
QIZ LR LR
comp=Z,287nm,13.9s,MS4.4
WMQ Urumqi 45.88 292 *eP* **P** **13 56 34.4 -3.3**
KMI Kunming 46.00 261 P **P** **13 56 39.6 +0.9**
KMI AP pP 13 56 42.3 -3.6
KMI XP sP 13 56 43.9 -4.9
KMI PP PP 13 58 27.8 +1.2
KMI S **S** **14 03 24.6 +2.2**
KMI XS sS 14 03 30.9 -3.4
KMI SS SS 14 06 42.3 -5.0
KMI SSS 14 07 41.8
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,182nm,4.8s
KMI LR LR
comp=N,212nm,15.8s
KMI LR LR
comp=E,182nm,20.9s
KMI LR LR
comp=Z,193nm,16.4s,MS4.1
KMI Kunming 46.00 261 P **P** **13 56 39.6 +0.9**
KMI 13 58 27.7
KMI S **S** **14 03 24.6 +2.2**
KMI *SS sS 14 03 30.9 -3.4
KMI SS SS 14 06 42.2 -5.1
KMI SSS 14 07 41.7
KMI pmax pmax
comp=Z,13nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,190nm,16.4s,MS4.1
KMI Kunming 46.00 261 P **P** **13 56 39.6 +0.9**
comp=Z,13nm,1.0s,mb4.8
KMI pP pP 13 56 42.3 -3.6
KMI sP sP 13 56 43.9 -4.9
KMI PP PP 13 58 27.7 +1.1
KMI S **S** **14 03 24.6 +2.2**
KMI sS sS 14 03 30.9 -3.4
KMI SS SS 14 06 42.2 -5.1
KMI SSS 14 07 41.7
KMI LR LR
comp=Z,190nm,16.4s,MS4.1
MK31 Makanchi Array 47.90 298 P **P** **13 56 52.8 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MKAR Makanchi Array 47.90 298 P **P** **13 56 53.0 -0.5**
comp=Z,4.7nm,0.6s,mb4.7,baz=68,slow=8.2,SNR=18
MKAR PcP PcP 13 58 21.5 -0.3
comp=Z,4.9nm,0.9s,baz=62,slow=5.6,SNR=5.4
YKA Yellowknife Ar 50.77 37 P **P** **13 57 15.1 -0.3**
comp=Z,12nm,0.9s,mb4.8,baz=296,slow=7.4,SNR=12
YKA LR LR 14 22 02.6
comp=Z,94nm,18.4s,MS3.8,baz=85,slow=40
RES Resolute Bay 50.99 19 *eP* **P** **13 57 17.5 +0.5**
RES pmax pmax
comp=Z,18nm,1.0s,mb5.0
LSA Lhasa 51.15 274 P **P** **13 57 21.0 +2.7**
LSA Lhasa 51.15 274 *eP* **P** **13 57 21.1 +2.8**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.15 274 *eP* **P** **13 57 21.1 +2.9**
comp=Z,9.0nm,0.6s,mb4.9

CHKZ Chkalovo 51.37 311 *eP* **P** **13 57 19.2 -0.7**
CHKZ pmax pmax
comp=Z,18nm,0.8s,mb5.0
CHKZ Chkalovo 51.37 311 *eP* **P** **13 57 18.5 -1.4**
comp=Z,18nm,0.8s,mb5.0
VOSK Vostochnaya 51.62 310 P **P** **13 57 20.9 -0.9**
VOSK pmax pmax
comp=Z,11nm,1.0s,mb4.7
BVA0 Borovoye Array 51.80 310 P **P** **13 57 22.3 -0.8**
BVAR Borovoye Array 51.80 310 P **P** **13 57 22.7 -0.4**
comp=Z,4.8nm,0.6s,mb4.6,baz=58,slow=8.2,SNR=15
BVAR PcP PcP 13 58 35.5 -0.5
comp=Z,3.0nm,0.7s,baz=64,slow=3.4,SNR=4.4
BVAR PP PP 13 59 15.3 -5.6
comp=Z,2.4nm,0.6s,baz=61,slow=9.3,SNR=3.8
BVAR LR LR 14 22 43.1
comp=Z,305nm,18.1s,MS4.4,baz=323,slow=40
BVAR Borovoye Array 51.80 310 P **P** **13 57 22.7 -0.4**
BVAR 13 58 35.5
BVAR 13 59 15.3
BRVK Borovoye 51.84 310 P **P** **13 57 23.2 -0.2**
comp=Z,84nm,0.7s,mb5.8,SNR=8.6
BRVK Borovoye 51.84 310 *eP* **P** **13 57 23.0 -0.4**
ZRNK Zerenda 52.56 311 *eP* **P** **13 57 28.6 -0.2**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
ZRNK Zerenda 52.56 311 *eP* **P** **13 57 28.2 -0.6**
comp=Z,7.2nm,0.5s,mb4.9
CHTO Chiang Mai 52.85 258 *eP* **P** **13 57 32.3 +1.4**
CHTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CHTO Chiang Mai 52.85 258 *eP* **P** **13 57 32.1 +1.2**
comp=Z,2.0nm,0.7s,mb4.2
B04A Port Angeles 53.28 56 ⇑P **P** **13 57 34.4 +0.3**
baz=53
A05A Maple Falls 53.60 54 ⇑P **P** **13 57 36.4 -0.1**
baz=54
C04A Brinnon 53.76 56 ⇑P **P** **13 57 37.7 +0.1**
baz=54
B05A Bryant 53.98 55 ⇓P **P** **13 57 39.0 -0.2**
baz=54
C05A Tolt Reservoir 54.51 56 ⇑P **P** **13 57 42.8 -0.3**
baz=54
D05A Enumclaw 54.61 56 ⇑P **P** **13 57 43.7 -0.1**
baz=54
AAK Ala-Archa 54.79 297 P **P** **13 57 45.5 +0.4**
comp=Z,67nm,0.7s,mb5.8,SNR=8.8
AAK Ala-Archa 54.79 297 *eP* **P** **13 57 45.0 -0.1**
AAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
AAK Ala-Archa 54.79 297 *eP* **P** **13 57 45.0 -0.1**
comp=Z,14nm,0.8s,mb5.0
B07A Winthrop 54.99 54 P **P** **13 57 46.5 -0.1**
baz=55,SNR=6.0
E05A Randle 55.08 57 ⇑P **P** **13 57 47.0 -0.2**
baz=55
A08A Turner Farm, O 55.20 53 P **P** **13 57 47.9 -0.1**
baz=55,SNR=10
I02A Mapleton 55.25 60 ⇑P **P** **13 57 48.3 -0.1**
baz=55
D06A Cle Elum 55.26 56 ⇑P **P** **13 57 48.1 -0.4**
baz=55
C07A Waterville 55.44 55 P **P** **13 57 49.3 -0.5**
baz=55,SNR=5.4
B08A Colville Reser 55.48 54 P **P** **13 57 49.3 -0.8**
baz=55,SNR=9.9
K01A Sixes 55.52 62 ⇑P **P** **13 57 50.0 -0.4**
baz=55
E06A Yakima 55.54 56 ⇑P **P** **13 57 50.4 -0.1**
baz=55
A09A Danville 55.57 53 P **P** **13 57 50.5 -0.3**
baz=55,SNR=25
EBG Ellensburg 55.58 56 P **P** **13 57 50.9 +0.1**
I03A Eugene 55.60 60 ⇑P **P** **13 57 50.7 -0.3**
baz=56
KSH Kashi 55.61 293 *eP* **P** **13 57 54.1 +3.1**
KSH *eAP pP 13 57 59.1 +0.7
KSH *eXP sP 13 58 02.8 +1.6
KSH *ePCP PcP 13 58 54.5 +4.0
KSH *ePP PP 14 00 01.3 +6.1
KSH *ePPP 14 01 14.6
KSH *eSCP ScP 14 02 50.3 +2.4
KSH *eS **S** **14 05 38.8 +3.3**
KSH *eXS sS 14 05 47.8 +0.2
KSH *eSCS ScS 14 07 38.6 -0.1
F05A White Salmon 55.62 57 ⇓P **P** **13 57 50.7 -0.4**
baz=56
J02A Umpqua 55.76 61 P **P** **13 57 52.9 +0.8**
baz=56,SNR=6.6
D07A Quincy 55.76 55 ⇓P **P** **13 57 51.8 -0.3**
baz=56
JIRN Jiri 55.83 276 *eP* **P** **13 57 54.3 +1.7**
comp=Z,62nm,0.9s,mb5.6
H04A Detroit Lake 55.85 59 ⇓P **P** **13 57 52.9 +0.1**
baz=56,SNR=7.4
GUN Gumba 55.89 276 *eP* **P** **13 57 54.6 +1.6**
comp=Z,50nm,0.9s,mb5.6
ARU Arti 55.91 318 P **P** **13 57 52.4 -0.8**
comp=Z,228nm,0.9s,SNR=13
ARU Arti 55.91 318 ⇓ *iP* **P** **13 57 52.7 -0.5**
ARU *e* 13 59 54.1
ARU *eS **S** **14 05 33.7 -5.8**
ARU *eSSS 14 11 24.9
ARU pmax pmax
comp=Z,33nm,0.9s,mb5.4
VFP Flag Point 55.93 58 P **P** **13 57 53.8 +0.5**
HSO Harness Mounta 55.96 61 P **P** **13 57 54.7 +1.2**
C08A Higginbotham F 55.96 54 P **P** **13 57 53.2 -0.3**
baz=56,SNR=7.0
EDM Edmonton 56.01 46 *eP* **P** **13 57 53.3 -0.6**
G05A Wamic 56.06 58 ⇑P **P** **13 57 54.2 -0.1**
baz=56
F06A Goldendale 56.08 57 ⇓P **P** **13 57 53.8 -0.6**
baz=56
B09A Rice 56.11 53 P **P** **13 57 54.2 -0.4**
baz=56,SNR=10
J03A Ideyld Park 56.12 61 ⇑P **P** **13 57 55.1 +0.4**
baz=56
A10A Northport 56.13 52 ⇑P **P** **13 57 54.8 0.0**
baz=56
K02A Glendale 56.14 61 ⇓P **P** **13 57 54.9 +0.1**
baz=56
E07A Sunnyside 56.18 56 P **P** **13 57 54.9 -0.2**
baz=56,SNR=6.1
IRO Indian Ridge 56.19 60 P **P** **13 57 55.8 +0.6**
I04A Tendick Farm, 56.22 60 P **P** **13 57 55.6 +0.2**
baz=56,SNR=12
KKN Kakani 56.38 276 *eP* **P** **13 57 57.9 +1.4**
comp=Z,41nm,0.6s,mb5.6
C09A Chrisman Ranch 56.38 54 P **P** **13 57 56.3 -0.3**
baz=56,SNR=7.0
L02A Cave Junction 56.42 62 ⇑P **P** **13 57 56.6 -0.2**
baz=56
PKI Pulchoki 56.42 276 *eP* **P** **13 57 58.2 +1.3**
comp=Z,24nm,0.6s,mb5.4
D08A Wollman Farm, 56.43 55 ⇓P **P** **13 57 55.6 -1.4**
baz=56
H05A Madras 56.44 58 ⇓P **P** **13 57 57.0 0.0**
baz=56
G06A Carlson Farm, 56.46 58 P **P** **13 57 57.5 +0.3**
baz=56,SNR=5.3
F07A Phinny Hill Vi 56.51 57 ⇓P **P** **13 57 57.2 -0.2**
baz=56
VTHM Trough 56.54 58 P **P** **13 57 58.2 +0.5**
HUMO Hull Mountain 56.56 61 ⇑P **P** **13 57 57.3 -0.5**
baz=56
DMN Daman 56.61 276 *eP* **P** **13 57 59.8 +1.6**
comp=Z,75nm,0.9s,mb5.7
E08A Dider Farm, El 56.67 56 ⇑P **P** **13 57 57.5 -1.1**
baz=56
GKN Gorkha 56.69 277 *eP* **P** **13 58 00.2 +1.5**
comp=Z,45nm,0.7s,mb5.6
B10A Chitwood Farm, 56.69 53 ⇑P **P** **13 57 58.3 -0.5**
baz=56
I05A Bend 56.69 59 P **P** **13 57 59.6 +0.8**
baz=56,SNR=5.1
KTRM Thompson Ridge 56.70 62 P **P** **13 57 59.6 +0.8**
J04A Umpqua Nationa 56.71 60 P **P** **13 57 59.5 +0.6**
baz=57,SNR=7.1
NEW Newport 56.77 53 P **P** **13 57 58.4 -0.9**
comp=Z,15nm,1.0s,mb5.0,baz=303,slow=8.1,SNR=13
NEW Newport 56.77 53 *eP* **P** **13 57 58.6 -0.7**
NEW pmax pmax
comp=Z,23nm,1.1s
D09A Jones Farm, Ri 56.78 55 ⇑P **P** **13 57 58.0 -1.4**
baz=57
A11A Hall Mountain, 56.80 52 P **P** **13 57 59.6 +0.1**
baz=57,SNR=12
C10A Spilker Farm, 56.91 54 ⇑P **P** **13 57 59.3 -1.1**
baz=57
H06A Lindquist Farm 56.92 58 P **P** **13 58 00.5 +0.1**
baz=57,SNR=14
G07A Ruggs Ranch, H 57.01 57 ⇑P **P** **13 58 00.5 -0.5**
baz=57
B11A Sandpoint 57.09 52 P **P** **13 58 01.5 -0.1**
baz=57,SNR=13
E09A Wood Farm, Sta 57.18 55 P **P** **13 58 02.2 0.0**
baz=57,SNR=12
A12A Yaak River Ran 57.20 52 P **P** **13 58 02.7 +0.4**
baz=57,SNR=6.3
YBH Yreka Blue Hor 57.20 62 *eP* **P** **13 58 03.4 +1.0**
YBH pmax pmax
comp=Z,24nm,1.2s
YBH Yreka Blue Hor 57.20 62 P **P** **13 58 03.5 +1.1**
baz=57,SNR=11
J05A Fort Rock 57.21 60 ⇑P **P** **13 58 02.5 +0.1**
baz=57
F08A Pendleton 57.23 56 P **P** **13 58 02.5 0.0**
baz=57,SNR=10
K04A Chilquin 57.30 61 ⇑P **P** **13 58 03.4 +0.3**
baz=57
M02C Callahan 57.31 62 P **P** **13 58 04.0 +0.8**
baz=57,SNR=9.1
N02C Big Bar 57.36 63 ⇓P **P** **13 58 03.6 +0.1**
baz=57
G08A Pilot Rock 57.41 57 P **P** **13 58 03.6 -0.2**
baz=57,SNR=9.5
I06A Prineville 57.44 59 P **P** **13 58 04.9 +0.8**
baz=57,SNR=8.8
L04A Klamath Falls 57.45 61 P **P** **13 58 04.4 +0.3**
baz=57,SNR=8.1
B12A Libby 57.50 52 ⇑P **P** **13 58 04.5 +0.1**
baz=57
KOLN Koldanda 57.55 278 *eP* **P** **13 58 06.2 +1.4**
comp=Z,45nm,0.8s,mb5.6
M04C Macdoel 57.71 62 P **P** **13 58 06.8 +0.9**
baz=58,SNR=5.7
K05A Summer Lake 57.74 60 P **P** **13 58 07.4 +1.3**
baz=58,SNR=12
F09A S2 Ranch, Elgi 57.77 56 ⇓P **P** **13 58 06.5 +0.1**
baz=58
E10A Myers Farm, Un 57.78 55 P **P** **13 58 06.5 0.0**
baz=58,SNR=7.9
M03C McCloud 57.83 62 P **P** **13 58 07.5 +0.7**
baz=58,SNR=5.2
D11A Klaveano Farm, 57.90 54 P **P** **13 58 06.8 -0.5**
baz=58,SNR=13
WDC Whiskeytown Da 57.98 63 *eP* **P** **13 58 08.2 +0.4**
WDC pmax pmax
comp=Z,14nm,1.0s,mb5.0
WDC Whiskeytown Da 57.98 63 P **P** **13 58 08.3 +0.5**
baz=58,SNR=5.3
C12A Trout Creek 57.99 53 P **P** **13 58 07.6 -0.4**
baz=58,SNR=16
F10A Beach Ranch, E 58.01 55 P **P** **13 58 08.2 +0.2**
baz=58,SNR=7.5
H08A Prairie City 58.02 57 P **P** **13 58 08.3 +0.2**
baz=58,SNR=8.8
KEV Kevo 58.04 341 *ep* **P** **13 58 06.7 -1.6**
comp=Z,4.8nm,0.6s,mb4.7
KEV Kevo 58.04 341 *eP* **P** **13 58 06.7 -1.6**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
O02C Red Bluff 58.06 64 P **P** **13 58 09.3 +0.9**
baz=58,SNR=5.8
APA Apatity 58.08 337 ⇑ *iP* **P** **13 58 10.0 +1.5**
APA *i* 13 58 19.6
APA pmax pmax
comp=Z,13nm,1.0s,mb4.9
P01C Double 8 Ranch 58.13 65 ⇑P **P** **13 58 08.9 0.0**
baz=58
B13A Whitefish 58.16 52 P **P** **13 58 09.3 +0.2**
baz=58,SNR=28
L05A Lakeview 58.17 61 P **P** **13 58 10.3 +1.2**
baz=58,SNR=11
J07A Hines 58.31 59 P **P** **13 58 11.0 +0.8**
baz=58,SNR=8.2
M05C Lookout 58.38 62 ⇓P **P** **13 58 11.2 +0.6**
baz=58
GASB Alder Springs 58.41 64 ⇓P **P** **13 58 11.2 +0.4**
baz=58
I08A Drewsey 58.43 58 P **P** **13 58 11.4 +0.4**
baz=58,SNR=12
HATC Hat Creek Radi 58.50 62 P **P** **13 58 12.2 +0.7**
baz=58,SNR=6.6
C13A Hot Springs 58.51 52 P **P** **13 58 11.8 +0.3**
baz=58,SNR=8.4
H09A Durkee 58.52 57 P **P** **13 58 12.4 +0.8**
baz=58,SNR=8.0
ARCES ARCESS Array B 58.55 341 P **P** **13 58 11.1 -0.7**
comp=Z,13nm,0.9s,mb4.9,baz=19,slow=7.3,SNR=7.8
MOD Modoc 58.57 61 P **P** **13 58 12.3 +0.3**
baz=58,SNR=17
F11A Grangeville 58.67 55 P **P** **13 58 12.3 -0.4**
baz=58,SNR=16
K07A Rock Creek Ran 58.74 59 P **P** **13 58 13.9 +0.8**
baz=59,SNR=9.7
J08A Circle Bar Ran 58.81 58 P **P** **13 58 14.3 +0.7**
baz=59,SNR=9.2
M06C Likely Place G 58.88 61 P **P** **13 58 14.9 +0.8**
baz=59,SNR=5.6
I09A Lost Marbles R 58.88 57 P **P** **13 58 14.7 +0.6**
baz=59,SNR=7.5
G11A Walters Elk Ra 58.89 55 P **P** **13 58 14.3 +0.1**
baz=59,SNR=18
C14A Swan Lake 58.91 52 P **P** **13 58 14.6 +0.3**
baz=59,SNR=7.6
D13A Huson 58.91 53 P **P** **13 58 14.3 0.0**
baz=59,SNR=11
O04C Chester 59.03 63 P **P** **13 58 15.9 +0.7**
baz=59,SNR=8.5
MNRC McLaughlin Nat 59.04 65 ⇑P **P** **13 58 16.0 +0.8**
baz=59
L07A Adell 59.08 60 P **P** **13 58 16.4 +0.9**
baz=59,SNR=9.6
K08A Mann Creek Ran 59.17 59 ⇑P **P** **13 58 16.8 +0.6**
baz=59,SNR=22
ORV Oroville 59.23 64 P **P** **13 58 16.1 -0.4**
baz=59,SNR=5.7
J09A Fry Pan Ranch, 59.24 58 P **P** **13 58 17.1 +0.4**
baz=59,SNR=19
WVOR Wild Horse Val 59.26 59 *eP* **P** **13 58 16.5 -0.3**
WVOR pmax pmax
comp=Z,21nm,1.0s,mb5.1
WVOR Wild Horse Val 59.26 59 *eP* **P** **13 58 16.5 -0.3**
comp=Z,22nm,1.0s,mb5.1
O05C Quincy 59.34 63 P **P** **13 58 17.3 0.0**
baz=59,SNR=6.3
AB31 Akbulak array 59.36 311 *i* P **P** **13 58 17.7 +0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
D14A Greenough 59.45 52 P **P** **13 58 17.8 -0.3**
baz=59,SNR=24
E13A Victor 59.45 53 P **P** **13 58 18.1 +0.1**
baz=59,SNR=17
H11A Donnelly 59.45 56 P **P** **13 58 18.0 -0.1**
baz=59,SNR=16
Q03C Winters 59.45 65 ⇑P **P** **13 58 18.1 0.0**
baz=59
N06A Buffalo Meadow 59.54 62 P **P** **13 58 18.9 +0.2**
baz=59,SNR=14
L08A Fields 59.58 59 P **P** **13 58 19.2 +0.2**
baz=59,SNR=17
K09A Rome 59.64 59 P **P** **13 58 19.9 +0.4**
baz=60,SNR=10.0
AKTK Aktyubinsk 59.65 313 P **P** **13 58 19.9 +0.4**
AKTO Aktyubinsk 59.65 313 P **P** **13 58 19.9 +0.4**
comp=Z,3.7nm,0.6s,mb4.6,baz=67,slow=7.4,SNR=9.3
AKTO Aktyubinsk 59.65 313 P **P** **13 58 19.9 +0.4**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BEKR Beckwourth 59.74 63 P **P** **13 58 19.9 -0.2**
baz=60,SNR=22
F13A Darby 59.76 54 P **P** **13 58 19.8 -0.4**
baz=60,SNR=22
E14A Clinton 59.85 53 P **P** **13 58 21.0 +0.2**
baz=60,SNR=16
P05C Yuba Gap, Truc 59.93 63 ⇑P **P** **13 58 21.2 -0.1**
baz=60
D15A Lincoln 60.01 52 P **P** **13 58 21.9 -0.1**
baz=60,SNR=10.0
N07B Gerlach 60.04 61 P **P** **13 58 22.4 +0.2**
baz=60,SNR=14
L09A Wilkinson Ranc 60.08 59 ⇓P **P** **13 58 22.3 -0.1**
baz=60

P06A	Stead Airport,	60.14	63	⇓P		P		13 58 22.3	-0.5
	baz=60									
LAVA	Lava Cap Winer	60.18	64	P		P		13 58 22.6	-0.5
	baz=60,SNR=14									
WENL	Wente Brothers	60.23	65	⇓P		P		13 58 23.2	-0.3
	baz=60									
F14A	Wisdom	60.28	54	⇓P		P		13 58 23.8	0.0
	baz=60									
E15A	Deer Lodge	60.32	53	P		P		13 58 23.9	-0.1
	baz=60,SNR=21									
R04C	Big Horse Ranc	60.36	64	⇓P		P		13 58 24.0	-0.3
	baz=60									
WCN	Washoe City	60.46	63	P		P		13 58 25.3	+0.3
	baz=60,SNR=8.1									
O07A	Toulon	60.47	62	P		P		13 58 25.4	+0.3
	baz=60,SNR=23									
FFC	Flin Flon	60.53	40	P		P		13 58 25.7	+0.2
	comp=Z,162nm,1.0s,SNR=8.9									
FFC	Flin Flon	60.53	40	P		P		13 58 25.4	-0.1
N08A	GE Springer Mi	60.55	61	P		P		13 58 25.6	0.0
	baz=60,SNR=14									
ORR	Orenburg	60.56	315	*e*P		P		13 58 26.2	+0.5
ORR					pmax	pmax				
	comp=Z,10.0nm,0.6s,mb5.1									
ORR					MLR	MLR				
	comp=Z,480nm,18.0s,MS4.7									
S04C	Ingram Canyon,	60.57	65	⇑P		P		13 58 25.8	0.0
	baz=60									
M09A	Marrel Ranch,	60.57	60	⇑P		P		13 58 25.8	0.0
	baz=60,SNR=7.8									
R05C	Kirkwood Meado	60.62	64	P		P		13 58 26.1	0.0
	baz=60,SNR=8.6									
F15A	Butte	60.75	53	P		P		13 58 26.9	-0.1
	baz=61,SNR=42									
O08A	Rochester Mine	60.84	61	⇑P		P		13 58 27.8	+0.3
	baz=61									
CMB	Columbia Colle	60.84	64	*e*P		P		13 58 27.3	-0.3
CMB					pmax	pmax				
	comp=Z,17nm,1.1s,mb5.1									
CMB	Columbia Colle	60.84	64	⇑P		P		13 58 27.3	-0.3
	baz=61,SNR=11									
N09A	Rock Creek Ran	60.88	60	P		P		13 58 28.2	+0.3
	baz=61,SNR=14									
PACP	Pacheco Peak	60.90	66	⇓P		P		13 58 27.6	-0.4
	baz=61									
EGMT	Eagleton	60.90	50	P		P		13 58 28.1	0.0
	baz=61,SNR=21									
HLID	Hailey	61.05	56	P		P		13 58 29.1	+0.1
	baz=61,SNR=24									
M10A	I.L. Ranch, Tu	61.06	59	P		P		13 58 29.6	+0.6
	baz=61,SNR=19									
LCCM	Lewis and Clar	61.09	53	P		P		13 58 29.4	+0.1
HAST	UC Hastings Re	61.11	66	⇓P		P		13 58 28.8	-0.6
	baz=61									
R06C	Coleville	61.12	63	P		P		13 58 30.2	+0.7
	baz=61,SNR=22									
G15A	Dillon	61.17	54	P		P		13 58 29.6	-0.3
	baz=61,SNR=15									
MCMT	McKenzie Canyo	61.17	54	*e*P		P		13 58 29.5	-0.3
P08A	Dixie Valley	61.24	62	⇓P		P		13 58 30.6	+0.3
	baz=61									
S06C	San Francisco	61.27	64	P		P		13 58 30.3	-0.2
	baz=61,SNR=13									
S05C	Merced	61.29	65	⇓P		P		13 58 30.4	-0.2
	baz=61									
BMN	Battle Mountai	61.31	60	*e*P		P		13 58 31.0	+0.2
BMN					pmax	pmax				
	comp=Z,22nm,1.0s,mb5.2									
NDI	New Delhi	61.33	283	*ex*		x		13 58 31.0		
O09A	Fish Creek Ran	61.49	61	P		P		13 58 32.5	+0.4
	baz=61,SNR=16									
V03C	Hunter Liggett	61.54	67	⇑P		P		13 58 32.6	+0.3
	baz=61									
M11A	Holland Ranch,	61.56	59	P		P		13 58 33.5	+1.0
	baz=61,SNR=8.3									
N10A	Dunphy	61.57	60	⇑P		P		13 58 32.9	+0.4
	baz=61									
R07C	Lee Vining	61.64	64	P		P		13 58 33.5	+0.5
	baz=62,SNR=11									
O10A	Cortez Mining,	61.83	60	P		P		13 58 35.3	+1.0
	baz=62,SNR=6.3									
Q08A	Gabbs	61.85	62	P		P		13 58 34.6	+0.2
	baz=62,SNR=24									
NVAR	Mina Array Bea	61.89	63	P		P		13 58 34.6	-0.1
	comp=Z,12nm,0.8s,mb5.0,baz=288,slow=8.9,SNR=47									
T06C	Millerton Lake	61.89	65	P		P		13 58 34.0	-0.7
	baz=62,SNR=5.6									
P09A	Austin	61.91	61	⇓P		P		13 58 35.1	+0.3
	baz=62									
KCC	Kaiser Creek	61.94	64	P		P		13 58 34.8	-0.2
	baz=62,SNR=7.4									
N11A	Elko Archery C	61.97	59	⇑P		P		13 58 35.9	+0.7
	baz=62									
PKD	Parkfield	62.03	66	⇓P		P		13 58 35.0	-0.6
	baz=62									
MLAC	Mammoth Lakes	62.05	64	⇑P		P		13 58 36.7	+0.9
	baz=62									
R08A	Mina	62.06	63	P		P		13 58 36.4	+0.6
	baz=62,SNR=5.9									
M12A	Wells	62.08	58	P		P		13 58 36.6	+0.6
	baz=62,SNR=19									
P10A	Eureka	62.27	61	P		P		13 58 38.0	+0.8
	baz=62,SNR=8.8									
ELK	Elko	62.31	59	*e*P		P		13 58 38.1	+0.6
ELK					pmax	pmax				
	comp=Z,14nm,1.0s									
Q09A	Carvers	62.32	62	⇓P		P		13 58 37.8	+0.2
	baz=62									
YMR	Madison River	62.33	53	*e*P		P		13 58 37.1	-0.5
	comp=Z,50nm,1.3s,mb5.5									
N12A	Clover Valley,	62.36	59	P		P		13 58 38.6	+0.8
	baz=62,SNR=9.1									
PTRM	Twissleman Ran	62.42	66	*e*P		P		13 58 37.2	-1.0
O11A	Cowboy Ranch,	62.44	60	P		P		13 58 39.0	+0.6
	baz=62,SNR=7.3									
HELL	Mitchell Peak,	62.53	65	P		P		13 58 38.3	-0.7
	baz=62,SNR=22									
S08C	White Mtn Res	62.55	64	P		P		13 58 39.5	+0.4
	baz=62,SNR=8.6									
M13A	Montello	62.56	58	P		P		13 58 39.4	+0.2
	baz=62,SNR=22									
RCTC	Rector, Farmer	62.62	65	⇓P		P		13 58 39.5	-0.1
	baz=62									
LKWY	Lake	62.70	53	*e*P		P		13 58 42.3	+2.1
LKWY					pmax	pmax				
	comp=Z,21nm,1.0s,mb5.2									
P11A	Circle Ranch,	62.74	60	P		P		13 58 40.8	+0.4
	baz=63,SNR=5.0									
R09A	Tonopah	62.76	62	P		P		13 58 40.4	-0.2
	baz=63,SNR=50									
SMMC	Simmler	62.77	67	⇓P		P		13 58 40.5	-0.1
	baz=63									
TPH	Tonopah	62.77	63	*e*P		P		13 58 40.7	+0.1
TPH					pmax	pmax				
	comp=Z,25nm,1.0s,mb5.3									
TIN	Tinemaha	62.79	64	⇑P		P		13 58 41.0	+0.3
	baz=63									
N13A	Wendover, West	62.85	58	⇓P		P		13 58 41.0	-0.1
	baz=63									
O12A	Currie	62.90	59	P		P		13 58 41.6	+0.2
	baz=63,SNR=26									
RLMT	Red Lodge	62.98	52	*e*P		P		13 58 42.1	+0.1
	comp=Z,36nm,1.2s,mb5.4									
S09A	Goldfield	62.99	63	P		P		13 58 41.8	-0.3
	baz=63,SNR=16									
VES	Vestal, Richgr	63.02	66	⇓P		P		13 58 41.7	-0.5
	baz=63									
PKM	Peak Mountain	63.14	67	⇓P		P		13 58 42.9	-0.1
	baz=63									
R10A	Warm Springs	63.20	62	P		P		13 58 43.4	-0.1
	baz=63,SNR=10									
Q11A	Duckwater	63.25	61	P		P		13 58 44.0	+0.2
	baz=63,SNR=9.4									
CWC	Cottonwood Cre	63.27	64	P		P		13 58 43.8	-0.1
	baz=63,SNR=7.1									
P12A	McGill	63.30	60	P		P		13 58 44.5	+0.4
	baz=63,SNR=12									
GRAC	Grapevine Rang	63.36	64	⇓P		P		13 58 44.3	-0.2
	baz=63									
ISA	Isabella	63.51	65	*e*P		P		13 58 44.8	-0.7
ISA	Isabella	63.51	65	⇑P		P		13 58 45.0	-0.5
	baz=63									
TRCR	Troy Canyon	63.60	61	*e*P		P		13 58 45.9	-0.2
Q12A	Willow Creek R	63.62	60	P		P		13 58 46.4	+0.2
	baz=64,SNR=12									
ARVC	Arvin	63.62	66	⇑P		P		13 58 45.4	-0.8
	baz=64									
DAC	Darwin (Calif)	63.67	64	*e*P		P		13 58 46.2	-0.4
MPMC	Manual Prospec	63.88	64	P		P		13 58 47.6	-0.3
	baz=64,SNR=18									
FURC	Furnace Creek,	64.01	64	P		P		13 58 48.5	-0.3
	baz=64,SNR=25									
OSI	Osito Adit	64.02	66	⇓P		P		13 58 48.9	+0.1
	baz=64									
DUG	Dugway	64.09	58	*e*P		P		13 58 50.5	+1.2
DUG	Dugway	64.09	58	P		P		13 58 49.5	+0.1
	baz=64,SNR=31									
LRMC	Laurel Mountai	64.12	65	P		P		13 58 49.3	-0.2
	baz=64,SNR=6.9									
EDW2	Edwards Air Fo	64.31	66	P		P		13 58 50.9	+0.1
	baz=64,SNR=19									
PDAR	Pinedale Array	64.32	54	P		P		13 58 50.6	-0.2
	comp=Z,18nm,0.9s,mb5.1,baz=284,slow=2.4,SNR=61									
U10A	Ash Meadows, A	64.37	63	P		P		13 58 51.6	+0.5
	baz=64,SNR=13									
DECC	Green Verdugo	64.50	66	⇑P		P		13 58 52.1	+0.1
	baz=64									
MWC	Mount Wilson	64.69	66	*e*P		P		13 58 53.1	-0.1
SHOC	Shoshone	64.73	64	⇑P		P		13 58 53.4	-0.2
	baz=65									
GSC	Goldstone	64.79	65	*e*P		P		13 58 53.3	-0.6
GSC	Goldstone	64.79	65	P		P		13 58 53.8	-0.1
	baz=65,SNR=8.1									
FINES	FINESS Array B	64.80	335	P		P		13 58 53.3	-0.7
	comp=Z,3.0nm,0.5s,mb4.6,baz=36,slow=6.2,SNR=16									
FINES	FINESS Array B	64.80	335	*i* P		P		13 58 54.9	+0.9
FINES					pmax	pmax				
	comp=Z,3.0nm,0.5s									
DAU	Daniels Canyon	64.86	57	*e*P		P		13 58 54.8	+0.4
MPU	Maple Canyon	64.90	58	*e*P		P		13 58 55.1	+0.5
	comp=Z,20nm,0.9s,mb5.2									
BFSC	Mount Baldy St	64.93	66	P		P		13 58 55.2	+0.4
	baz=65,SNR=5.1									
U11A	Corn Creek	64.95	63	⇑P		P		13 58 54.9	-0.1
	baz=65									
TUQ	Turquoise Mtn.	65.25	64	P		P		13 58 56.7	-0.2
	baz=65,SNR=20									
ARUT	Antelope Range	65.26	61	*e*P		P		13 58 56.8	-0.2
V11A	Goodsprings	65.30	63	P		P		13 58 57.1	-0.1
	baz=65,SNR=8.6									
BBRC	Big Bear Sol-O	65.39	66	P		P		13 58 57.8	0.0
	baz=65,SNR=6.7									
HEC	Hector,Ludlow	65.39	65	P		P		13 58 57.3	-0.5
	baz=65,SNR=15									
SFJD	Kangerlussuaq	65.44	11	*i* P		P		13 58 58.1	0.0
CCUT	Cedar City	65.46	61	*e*P		P		13 58 58.3	0.0
U12A	Valley of Fire	65.47	62	⇓P		P		13 58 58.3	0.0
	baz=65									
MSU	Marysvale	65.55	59	*e*P		P		13 58 59.2	+0.4
MURC	Murrieta	65.64	66	⇓P		P		13 58 58.7	-0.6
	baz=66									
V12A	Nelson	65.73	63	P		P		13 59 00.3	+0.3
	baz=66,SNR=12									
W12A	Cal Nev Ari	66.00	64	⇓P		P		13 59 01.8	+0.1
	baz=66									
PFO	Pinyon Flat Ob	66.10	66	⇑P		P		13 59 01.8	-0.6
	baz=66									
BELC	Belle Mtn.	66.14	65	P		P		13 59 02.0	-0.6
	baz=66,SNR=5.7									
SRU	San Rafael	66.14	58	*e*P		P		13 59 02.7	+0.1
OBN	Obninsk	66.15	326	*i* P		P		13 59 03.7	+1.0
OBN				*e*				13 59 21.0		
OBN				*e*				13 59 34.0		
OBN				*e*				14 07 45.3		
OBN					pmax	pmax				
	comp=Z,45nm,2.0s,mb5.2									
109C	Camp Elliot, M	66.16	67	⇑P		P		13 59 02.4	-0.4
	baz=66									
ULM	Lac du Bonnet	66.30	41	P		P		13 59 02.5	-1.2
	comp=Z,4.7nm,0.8s,mb4.5,baz=311,slow=6.8,SNR=7.0									
RSSD	Black Hills	66.46	50	*e*P		P		13 59 04.1	-0.6
RSSD					pmax	pmax				
	comp=Z,33nm,1.1s,mb5.3									
RSSD	Black Hills	66.46	50	*e*P		P		13 59 04.1	-0.6
	comp=Z,33nm,1.1s,mb5.3									
IRM	Iron Mountain	66.56	65	P		P		13 59 04.9	-0.4
	baz=66,SNR=21									
MONP	Monument Peak	66.59	66	⇓P		P		13 59 04.9	-0.7
	baz=66									
BC3	Big Chuckw Mtn	66.70	65	P		P		13 59 05.4	-0.8
	baz=67,SNR=9.0									
W13A	Hualapai Mount	66.74	63	P		P		13 59 06.3	-0.1
	baz=67,SNR=8.8									
SWSC	Sam W. Stewart	66.96	66	⇓P		P		13 59 07.0	-0.9
	baz=67									
PDMCI	Parker Dam,Lak	67.10	64	P		P		13 59 08.7	-0.1
	baz=67,SNR=16									
X13A	Yucca	67.10	64	P		P		13 59 08.4	-0.3
	baz=67,SNR=20									
W14A	Seligman	67.16	63	P		P		13 59 09.3	+0.2
	baz=67,SNR=35									
Y12C	Blythe	67.23	65	⇑P		P		13 59 08.9	-0.6
	baz=67									
GLA	Glamis	67.50	65	*e*P		P		13 59 10.9	-0.4
GLA	Glamis	67.50	65	P		P		13 59 11.0	-0.3
	baz=67,SNR=12									
VOR	Voronezh	67.59	322	P		P		13 59 12.0	+0.1
VOR					pmax	pmax				
	comp=Z,80nm,2.0s,mb5.4									
W15A	Williams	67.68	62	⇑P		P		13 59 12.8	+0.4
	baz=68									
AGMN	Agassiz Refuge	67.69	43	*e*P		P		13 59 11.6	-0.9
	comp=Z,31nm,1.3s,mb5.2									
X14A	Yava	67.77	63	P		P		13 59 13.3	+0.3
	baz=68,SNR=21									
VRSR	Storozhevoye	67.98	322	*e*P		P		13 59 17.1	+2.8
VRSR					pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8									
VRSR					pmax	pmax				
	comp=N,10.0nm,0.8s									
VRSR					pmax	pmax				
	comp=E,20nm,1.1s									
WUAZ	Wupatki	68.00	61	P		P		13 59 15.1	+0.6
	baz=68,SNR=12									
Y14A	Wickenburg	68.05	64	P		P		13 59 14.6	-0.2
	baz=68,SNR=13									
X15A	Humboldt	68.16	63	P		P		13 59 15.8	+0.3
	baz=68,SNR=21									
WRAB	Tennant Creek	68.37	200	P		P		13 59 16.9	+0.2
	comp=E,97nm,1.2s,mb5.7,SNR=5.7									
WRAB	Tennant Creek	68.37	200	P		P		13 59 16.0	-0.7
WB2	Warramunga Arr	68.38	200	*e*P		P		13 59 15.5	-1.3
WRA	Warramunga Arr	68.38	200	P		P		13 59 15.8	-1.1
	comp=E,9.6nm,1.1s,mb4.8,baz=14,slow=6.4,SNR=20									
Z14A	Wintersburg	68.47	64	⇓P		P		13 59 17.1	-0.2
	baz=68									
ISCO	Idaho Springs	68.51	55	*e*P		P		13 59 17.9	+0.3
ISCO					pmax	pmax				
	comp=Z,32nm,1.1s,mb5.2									
MVCO	Mesa Verde	68.59	58	*e*P		P		13 59 17.6	-0.5
	comp=Z,26nm,1.1s,mb5.1									
MVCO	Mesa Verde	68.59	58	P		P		13 59 18.1	-0.1
	baz=68,SNR=14									
NB2	NORSAR Subarra	68.92	342	P		P		13 59 19.6	-0.6
	comp=Z,37nm,1.4s,mb5.1,baz=30,slow=6.5									
NOA	NORSAR Array B	68.92	342	P		P		13 59 19.4	-0.8
	comp=Z,2.5nm,1.0s,mb4.1,baz=156,slow=21,SNR=5.3									
FITZ	Fitzroy Crossi	69.16	209	P		P		13 59 21.7	0.0
	comp=Z,3.2nm,0.8s,mb4.3,baz=30,slow=8.2,SNR=7.5									
115A	Sonoran Desert	69.36	64	⇑P		P		13 59 22.6	-0.3
	baz=69									
116A	Eloy	69.78	64	⇑P		P		13 59 25.3	-0.2
	baz=70									
TUC	Tucson	70.52	64	*e*P		P		13 59 29.5	-0.6
TUC					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4									
TUC	Tucson	70.52	64	*e*PKPdf		P		13 59 29.5	-0.6
	comp=Z,4.2nm,0.8s,mb4.4									
ANMO	Albuquerque	71.34	59	*e*P		P		13 59 35.1	+0.1
ANMO					pmax	pmax				
	comp=Z,13nm,1.0s									
Y22C	IRIS PASSCAL I	71.67	60	⇓P		P		13 59 37.5	+0.4
	baz=72									
KIV	Kislovodsk	71.72	315	⇑*e*P		P		13 59 38.9	+1.6
KIV					pmax	pmax				
	comp=Z,41nm,3.0s									
AS31	Alice Springs	72.06	200	*e*P		P		13 59 39.5	+0.1
ASAR	Alice Springs	72.06	200	P		P		13 59 39.2	-0.1
	comp=Z,13nm,1.1s,mb4.8,baz=11,slow=5.1,SNR=27									
AKASG	Malin Array Be	72.39	327	P		P		13 59 39.4	-1.9
	comp=Z,1.5nm,0.4s,mb4.2,baz=32,slow=6.0,SNR=7.6									
AKASG	Malin Array Be	72.39	327	*i* P		P		13 59 44.5	+3.2
AKASG					pmax	pmax				
	comp=Z,2.0nm,0.4s									
AKBB	Malin Array Si	72.39	327	*e*P		P		13 59 42.6	+1.3
AKBB	Malin Array Si	72.39	327	*e*P		P		13 59 39.1	-2.2
KIEV	Kiev	72.40	327	*e*P		P		13 59 40.7	-0.7
KIEV					pmax	pmax				
	comp=Z,26nm,1.3s,mb5.0									
KIEV	Kiev	72.40	327	*e*P		P		13 59 39.1	-2.3
	comp=Z,26nm,1.3s,mb5.0									
CBKS	Cedar Bluff	72.46	52	*e*P		P		13 59 40.7	-1.1
CBKS					pmax	pmax				
	comp=Z,20nm,1.0s,mb5.0									
SCHQ	Schefferville	73.39	23	P		P		13 59 46.0	-1.3
	comp=Z,5.4nm,0.8s,mb4.5,baz=359,slow=6.1,SNR=4.7									
SCHQ	Schefferville	73.39	23	P		P		13 59 46.0	-1.3
ANN	Anapa	73.58	319	*e*P		P		13 59 53.1	+4.7
ANN					pmax	pmax				
	comp=Z,90nm,1.9s,mb5.4									
SCIA	State Center	73.62	46	*e*P		P		13 59 48.0	-0.6
	comp=Z,28nm,0.8s,mb5.2									
KWP	Kalwaria	75.64	330	*e*P		P		14 00 00.9	+0.6
WMOK	Wichita Mounta	75.93	54	*e*P		P		14 00 01.4	-0.6
WMOK					pmax	pmax				
	comp=Z,17nm,1.1s,mb4.9									
WMOK	Wichita Mounta	75.93	54	*e*P		P		14 00 01.4	-0.7
	comp=Z,18nm,1.1s,mb4.9									
OJC	Ojcow	76.12	332	*e*P		P		14 00 03.3	+0.2
STHS	Stebnicka Huta	76.32	331	*e*P		P		14 00 05.2	+1.0
STHS					pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
STHS	Stebnicka Huta	76.32	331	*e*P		P		14 00 05.2	+1.0
	comp=Z,8.8nm,0.8s,mb4.7									
KOLS	Kolonicke sedl	76.38	330	*e*P		P		14 00 04.4	-0.2
KSP	Ksiaz	76.68	334	*e*P		P		14 00 06.7	+0.5
LTX	Lajitas	76.97	61	*e*P		P		14 00 07.9	0.0
TXAR	Lajitas Array	76.97	61	P		P		14 00 07.4	-0.4
	comp=Z,28nm,0.8s,mb5.3,baz=297,slow=4.1,SNR=109									
OKC	Ostrava-Krasne	76.98	333	*e*P		P		14 00 08.4	+0.5
UPC	Upice	77.06	334	*e*pP		pP		14 00 14.8	-1.2
UPC				*ex*		x		14 00 23.7		
DPC	Dobruska-Polom	77.10	334	*e*P		P		14 00 09.0	+0.4
DPC				*e*pP		pP		14 00 14.1	-2.1
CLL	Collm	77.22	336	*e*P		P		14 00 09.0	-0.3
	comp=Z,12nm,1.0s,mb4.8									
CLL				*i* pP		pP		14 00 14.1	-2.8
CLL				*e*sPcP				14 00 25.0		
CLL				LmV				14 39 00.0		
	comp=Z,200nm,18.7s									
MORC	Moravsky Berou	77.22	333	*e*P		P		14 00 09.5	+0.2
BRG	Berggiesshubel	77.34	336	*e*P		P		14 00 09.6	-0.3
	comp=Z,5.9nm,1.4s,mb4.3									
BRG	Berggiesshubel	77.34	336	*e*P		P		14 00 09.6	-0.4
BRG					pmax	pmax				
	comp=Z,6.0nm,1.4s,mb4.3									
KECS	Kecovo	77.38	331	*e*P		P		14 00 09.5	-0.7
KECS					pmax	pmax				
	comp=Z,4.0nm,1.2s,mb4.2									
KECS	Kecovo	77.38	331	*e*P		P		14 00 09.5	-0.7
	comp=Z,3.5nm,1.2s,mb4.2									
PVCC	Panska Ves	77.47	335	*e*pP		pP		14 00 15.5	-2.8
TIRR	Tirgusor	77.78	324	*e*P		P		14 00 12.6	+0.2
TIRR	Tirgusor	77.78	324	*e*P		P		14 00 12.4	0.0
	comp=Z,9.3nm,1.0s,mb4.7									
VYHS	Vyhne	77.93	332	*e*P		P		14 00 13.5	+0.3
VYHS					pmax	pmax				
	comp=Z,21nm,2.2s,mb4.7									
VYHS	Vyhne	77.93	332	*e*P		P		14 00 13.5	+0.3
	comp=Z,21nm,2.2s,mb4.7									
MALT	Malatya	78.08	314	*e*P		P		14 00 16.7	+2.6
MALT					pmax	pmax				
	comp=Z,19nm,1.3s,mb4.9									
MOX	Moxa	78.20	337	*e*P		P		14 00 14.6	-0.1
NKC	Novy Kostel	78.34	336	*e*P		P		14 00 14.7	-0.8
STKA	Stephens Creek	78.67	191	P		P		14 00 15.7	-1.6
	comp=Z,4.8nm,1.0s,mb4.4,baz=306,slow=5.3,SNR=5.8									
ZST	Bratislava	78.75	332	*e*P		P		14 00 16.5	-1.3
ZST	Bratislava	78.75	332	*e*P		P		14 00 16.6	-1.2
KHC	Kasperske Hory	79.00	335	*e*P		P		14 00 18.6	-0.6
KHC				*e*pP		pP		14 00 25.0	-1.8
GRA1	Grafenberg Arr	79.17	337	*e*P		P		14 00 20.4	+0.3
	comp=Z,22nm,0.9s,mb5.1									
GRF	Grafenberg Arr	79.17	337	*e*P		P		14 00 20.4	+0.3
	comp=Z,22nm,0.9s,mb5.1									
GRF	Grafenberg Arr	79.17	337	*e*P		P		14 00 20.4	+0.3
GRF					pmax	pmax				
	comp=Z,22nm,0.9s,mb5.1									
GRF	Grafenberg Arr	79.17	337	*e*P		P		14 00 20.4	+0.3
GRF					pmax	pmax				
	comp=Z,22nm,0.9s,mb5.1									
GRFO	Grafenberg	79.17	337	*e*P		P		14 00 20.5	+0.4
GRFO					pmax	pmax				
	comp=Z,17nm,0.9s,mb5.0									
GRFO	Grafenberg	79.17	337	*e*P		P

VNA2			*e*		14 08 32.2	
VNA2			*e*		14 08 38.7	
VNA3	**Neumayer Olymp**	**153.84 192**	*e*PKPdf	PKPdf	14 08 04.2	-2.3
VNA3			*e*		14 08 12.7	
VNA3			*e*		14 08 23.0	
VNA3			*e*		14 08 25.4	
VNA3			*e*		14 08 38.2	

IDC ***17*** *13:51:28.3±1.0, 4665N×153.11E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.0/24, mbtmp4.1/11, ML3.3/1, Error ellipse: s-maj=32.4km s-min=22.0km az=96.0*
NEIC ***17*** *13:51:29.5±1.0, 4669N×15368E, h10km, mb4.3/3, Error ellipse: s-maj=23.3km s-min=22.3km az=138.0*
ISCJB ***17*** *13:51:32.0±1.6, 4652N±009×1535E±0.1, h41km±12km, mb4.5/19, Error ellipse: s-maj=18.0km s-min=9.1km az=106.3*
MOS ***17*** *13:51:31.7±1.4, 4662N×15330E, h33km, mb4.3/4, Error ellipse: s-maj=21.7km s-min=13.0km az=66.0*

ISC 17 13:51:34.5±1.4, 466N±01×1535E±01, h44km±11km, n37, σ1°27/40, mb4.5/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.16**	**253**	*e*PN	P	**Pn**	**13 52 26.0**	**-9.5**
KUR				*e*S		**Sn**	**13 53 23.0**	**+0.2**
KUR				pmax	pmax			
	comp=Z,160nm,0.4s							
KUR				smax				
	comp=N,530nm,0.5s							
KUR				smax				
	comp=E,230nm,0.5s							
SKR	**Severo-Kuril's**	**4.46**	**22**	*e*PN	P	**Pn**	**13 52 39.5**	**-0.1**
SKR				pmax	pmax			
	comp=N,220nm,1.0s							
SKR				pmax	pmax			
	comp=Z,220nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.96**	**248**	*e*PN	P	**Pn**	**13 52 59.0**	**-1.2**
YUK				*e*S		**Sn**	**13 54 07.0**	**-0.2**
YUK				pmax	pmax			
	comp=Z,190nm,0.5s							
YUK				smax				
	comp=E,420nm,0.6s							
YUK				smax				
	comp=N,330nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	*e*PN	P	**Pn**	**13 53 24.0**	**+4.1**
YSS				*e*S		**Sn**	**13 54 46.0**	**+3.5**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	*e*P	P	**Pn**	**13 53 21.1**	**+1.2**
	comp=Z,31nm,0.8s							
ASAJ	**Asahikawa**	**8.07**	**256**	Pn		**Pn**	**13 53 29.9**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=92,slow=12,SNR=4.0							
ASAJ	**Asahikawa**	**8.07**	**256**	PN		**Pn**	**13 53 29.9**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**15.20**	**234**	*e*P	P	**Pn**	**13 55 10.3**	**+4.3**
MAJO				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MAJO	**Matsushiro**	**15.20**	**234**	*e*P	P	**Pn**	**13 55 10.2**	**+4.2**
	comp=Z,10nm,0.7s							
MJAR	**Matsushiro Arr**	**15.20**	**234**	Pn		**Pn**	**13 55 03.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=32,slow=9.1,SNR=3.0							
KSRS	**Korea Array**	**21.01**	**254**	P		**P**	**13 56 10.6**	**-3.6**
	comp=Z,2.4nm,0.6s,mb3.7,baz=59,slow=10.0,SNR=3.4							
BILL	**Bilibino**	**22.51**	**13**	*e*P		**P**	**13 56 32.1**	**+1.9**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.1							
MKAR	**Makanchi Array**	**47.27**	**298**	P		**P**	**13 59 59.3**	**-4.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=57,slow=7.2,SNR=4.3							
CHTO	**Chiang Mai**	**52.35**	**257**	*e*P		**P**	**14 00 42.7**	**+0.8**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
CHTO	**Chiang Mai**	**52.35**	**257**	*e*P		**P**	**14 00 42.7**	**+0.8**
	comp=Z,3.9nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**54.16**	**297**	*e*P		**P**	**14 00 53.0**	**-2.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**54.16**	**297**	*e*P		**P**	**14 00 53.0**	**-2.2**
	comp=Z,1.5nm,0.8s,mb4.0							
JIRN	**Jiri**	**55.24**	**275**	*e*P		**P**	**14 01 04.2**	**+1.2**
	comp=Z,33nm,0.9s,mb5.3							
GUN	**Gumba**	**55.29**	**275**	*e*P		**P**	**14 01 03.7**	**+0.3**
	comp=Z,20nm,0.9s,mb5.1							
KKN	**Kakani**	**55.78**	**276**	*e*P		**P**	**14 01 08.4**	**+1.5**
	comp=Z,17nm,0.9s,mb5.1							
DMN	**Daman**	**56.01**	**276**	*e*P		**P**	**14 01 09.8**	**+1.2**
	comp=Z,28nm,0.8s,mb5.3							
GKN	**Gorkha**	**56.09**	**276**	*e*P		**P**	**14 01 09.8**	**+0.7**
	comp=Z,31nm,0.9s,mb5.3							
KOLN	**Koldanda**	**56.95**	**277**	*e*P		**P**	**14 01 16.4**	**+1.2**
	comp=Z,26nm,1.0s,mb5.2							
ARCES	**ARCESS Array B**	**58.12**	**341**	P		**P**	**14 01 22.5**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=8,slow=6.4,SNR=5.0							
AKTK	**Aktyubinsk**	**59.05**	**312**	P		**P**	**14 01 28.6**	**-1.4**
AKTO	**Aktyubinsk**	**59.05**	**312**	P		**P**	**14 01 28.6**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=86,slow=7.8,SNR=3.3							
AKTO	**Aktyubinsk**	**59.05**	**312**	P		**P**	**14 01 28.6**	**-1.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**64.32**	**335**	P		**P**	**14 02 03.2**	**-2.3**
	comp=Z,3.6nm,0.8s,mb4.5,baz=54,slow=9.7,SNR=4.9							
WRA	**Warramunga Arr**	**68.43**	**199**	P		**P**	**14 02 31.6**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.8,baz=16,slow=6.8,SNR=4.6							
NB2	**NORSAR Subarra**	**68.49**	**341**	P		**P**	**14 02 31.4**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.4,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.49**	**341**	P		**P**	**14 02 31.7**	**-0.4**
	comp=Z,3.3nm,0.5s,mb4.6,baz=28,slow=6.3,SNR=8.3							
NOA	**NORSAR Array B**	**68.49**	**341**	P		**P**	**14 02 31.7**	**-0.4**
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**	**14 02 51.2**	**-1.5**
	comp=Z,3.6nm,0.7s,mb4.4,baz=33,slow=6.1,SNR=9.4							
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**	**14 02 51.2**	**-1.5**
ASAR	**Alice Springs**	**72.12**	**199**	P		**P**	**14 02 54.9**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=6.4,SNR=4.9							
CLL	**Collm**	**76.75**	**336**	*e*P		**P**	**14 03 22.0**	**+0.8**
TXAR	**Lajitas Array**	**77.34**	**61**	P		**P**	**14 03 25.6**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=302,slow=4.0,SNR=3.5							

IDC 17 13:57:21.1±1.5, 4720N×15578E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=51.6km s-min=19.3km az=168.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.73**	**256**	Pn		Pn	13 59 42.5	+0.2
	0.4nm,0.3s,baz=177,slow=8.9,SNR=4.4							
KSRS	**Korea Array**	**22.68**	**255**	P		P	14 02 24.1	+0.1
	1.4nm,0.8s,baz=55,slow=9.9,SNR=6.8							
INK	**Inuvik**	**40.29**	**33**	P		P	14 04 59.9	-0.1
	1.5nm,0.7s,baz=328,slow=6.0,SNR=4.2							
MKAR	**Makanchi Array**	**48.35**	**298**	P		P	14 06 05.2	+0.7
	0.5nm,0.7s,baz=76,slow=7.6,SNR=4.4							
BVAR	**Borovoye Array**	**51.98**	**310**	P		P	14 06 31.2	-0.8
	0.7nm,0.4s,baz=54,slow=7.5,SNR=3.8							
NVAR	**Mina Array Bea**	**60.60**	**64**	P		P	14 07 34.5	+1.0
	0.5nm,0.6s,baz=297,slow=8.0,SNR=4.7							
PDAR	**Pinedale Array**	**63.00**	**55**	P		P	14 07 49.5	-0.2
	0.8nm,0.9s,baz=270,slow=3.0,SNR=4.8							
FINES	**FINESS Array B**	**64.40**	**336**	P		P	14 07 57.8	-1.2
	1.2nm,0.7s,baz=27,slow=8.8,SNR=4.6							
TXAR	**Lajitas Array**	**75.67**	**62**	P		P	14 09 07.8	-0.4
	0.6nm,0.7s,baz=311,slow=4.9,SNR=6.6							

IDC ***17*** *14:04:38.0±1.0, 4620N×15277E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.7/9, Error ellipse: s-maj=30.5km s-min=23.6km az=92.0*
ISCJB ***17*** *14:04:45.0±4.1, 462N±0.1×1527E±03, h66km±35km, mb3.6/10, Error ellipse: s-maj=32.5km s-min=23.7km az=15.6*

ISC 17 14:04:46.7±3.4, 462N±01×1527E±03, h67km±29km, n11, σ0°32/11, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.46**	**257**	Pn		**Pn**	**14 06 32.8**	**0.0**
	0.9nm,0.3s,baz=79,slow=16,SNR=6.9							
INK	**Inuvik**	**42.23**	**32**	P		**P**	**14 12 33.0**	**-0.1**
	0.7nm,0.7s,mb3.5,baz=198,slow=4.8,SNR=4.7							
MKAR	**Makanchi Array**	**46.93**	**298**	P		**P**	**14 13 10.7**	**+0.2**
	0.2nm,0.3s,mb3.3,baz=56,slow=5.1,SNR=5.0							
BVAR	**Borovoye Array**	**50.97**	**310**	P		**P**	**14 13 41.5**	**0.0**
	0.5nm,0.3s,mb4.0,baz=24,slow=9.1,SNR=4.4							
ARCES	**ARCESS Array B**	**58.24**	**341**	P		**P**	**14 14 34.4**	**+0.3**
	3.9nm,1.0s,mb4.4,baz=25,slow=7.0,SNR=5.9							
FINES	**FINESS Array B**	**64.38**	**335**	P		**P**	**14 15 15.1**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=42,slow=6.5,SNR=9.2							
WRA	**Warramunga Arr**	**67.94**	**199**	P		**P**	**14 15 37.8**	**-0.6**
	0.2nm,0.6s,mb3.1,baz=17,slow=6.3,SNR=2.8							
NB2	**NORSAR Subarra**	**68.62**	**341**	P		**P**	**14 15 42.8**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.8,baz=28,slow=6.5							
ASAR	**Alice Springs**	**71.64**	**198**	P		**P**	**14 16 01.6**	**+0.6**
	comp=Z,0.1nm,0.5s,mb2.9,baz=11,slow=6.2,SNR=5.6							
AKASG	**Malin Array Be**	**71.81**	**326**	P		**P**	**14 16 01.9**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.1,baz=34,slow=6.2,SNR=4.2							
TXAR	**Lajitas Array**	**77.98**	**60**	P		**P**	**14 16 37.8**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=309,slow=4.1,SNR=5.8							

IDC 17 14:04:49.9±2.6, 807S×111±1E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/17, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/25, Error ellipse: s-maj=133.7km s-min=21.4km az=54.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**16.48**	**310**	LR		LR	14 15 44.2	
	comp=Z,66nm,18.1s,baz=199,slow=40							
WRA	**Warramunga Arr**	**25.14**	**120**	P		P	14 10 17.4	+0.9
	0.4nm,0.6s,baz=295,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**26.55**	**128**	P		P	14 10 29.5	+0.1
	0.1nm,0.4s,baz=303,slow=9.1,SNR=6.7							
STKA	**Stephens Creek**	**36.72**	**134**	P		P	14 11 58.6	-0.1
	2.3nm,1.1s,baz=306,slow=18,SNR=3.0							
SONM	**Songino Array**	**55.84**	**356**	P		P	14 14 28.9	-0.1
	0.6nm,0.5s,baz=170,slow=7.7,SNR=4.8							
MKAR	**Makanchi Array**	**60.46**	**337**	P		P	14 15 01.6	+0.2
	0.5nm,0.4s,baz=148,slow=7.0,SNR=7.4							

ISCJB ***17*** *14:06:57.3±0.7, 468N±0.1×1554E±0.1, h10km, mb3.9/12, Error ellipse: s-maj=17.6km s-min=8.8km az=133.2*
IDC ***17*** *14:06:57.4±0.8, 4696N×15567E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/24, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=27.4km s-min=18.0km az=171.0*
MOS ***17*** *14:07:01.0±0.8, 4679N×15530E, h33km, mb4.1/8, Error ellipse: s-maj=21.5km s-min=20.3km az=81.1*

ISC 17 14:06:59.0±0.7, 468N±01×1555E±01, h10km, n23, σ0°97/22, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**5.51**	**256**	*e*PN	P	**Pn**	**14 08 20.8**	**-0.4**
KUR				*i* S		**Sn**	**14 09 24.0**	**-0.6**
KUR				pmax	pmax			
	comp=Z,240nm,0.8s							
KUR				smax				
	comp=N,140nm,0.9s							
KUR				smax				
	comp=E,70nm,0.9s							
MJAR	**Matsushiro Arr**	**16.44**	**237**	Pn		**Pn**	**14 10 49.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=30,slow=13,SNR=5.4							
BILL	**Bilibino**	**21.98**	**11**	*e*P		**P**	**14 11 55.0**	**+1.9**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.9							
KSRS	**Korea Array**	**22.36**	**255**	P		**P**	**14 12 00.6**	**+3.5**
	comp=Z,2.4nm,0.8s,mb3.7,baz=58,slow=10,SNR=8.3							
SONM	**Songino Array**	**32.81**	**290**	P		**P**	**14 13 32.8**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=78,slow=6.7,SNR=5.6							
SONM	**Songino Array**	**32.81**	**290**	P		**P**	**14 13 32.8**	**+0.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZAL	**Zalesovo**	**43.87**	**306**	P		**P**	**14 15 05.5**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.1,baz=350,slow=6.6,SNR=4.1							
ZAL	**Zalesovo**	**43.87**	**306**	P		**P**	**14 15 05.6**	**+0.1**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NVS	**Novosibirsk**	**44.41**	**308**	*e*P		**P**	**14 15 08.7**	**-1.1**
MKAR	**Makanchi Array**	**48.32**	**298**	P		**P**	**14 15 41.5**	**+0.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=60,slow=7.2,SNR=8.8							
MKAR	**Makanchi Array**	**48.32**	**298**	P		**P**	**14 15 41.5**	**+0.9**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**14 16 07.9**	**-0.9**
	comp=Z,2.4nm,0.8s,mb4.2,baz=57,slow=9.0,SNR=9.0							
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**14 16 07.9**	**-0.9**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**60.97**	**64**	P		**P**	**14 17 11.4**	**-1.0**
	comp=Z,0.9nm,0.8s,mb4.0,baz=293,slow=7.8,SNR=4.1							
PDAR	**Pinedale Array**	**63.39**	**55**	P		**P**	**14 17 27.1**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.6,baz=321,slow=3.8,SNR=3.5							
WRA	**Warramunga Arr**	**69.14**	**201**	P		**P**	**14 18 06.1**	**+0.6**
	comp=Z,0.5nm,0.9s,mb3.5,baz=21,slow=7.2,SNR=4.8							
WRA	**Warramunga Arr**	**69.14**	**201**	P		**P**	**14 18 06.1**	**+0.6**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KIV	**Kislovodsk**	**71.88**	**316**	*e*P		**P**	**14 18 22.8**	**+0.6**
KIV				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**	**14 18 46.2**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=4.4,SNR=7.1							
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**	**14 18 46.3**	**-0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
STKA	**Stephens Creek**	**79.34**	**192**	P		**P**	**14 19 06.0**	**+1.0**
	comp=Z,2.0nm,1.1s,mb4.0,baz=192,slow=9.3,SNR=3.2							
LPAZ	**La Paz**	**132.87**	**65**	PKP		PKPdf	14 26 13.5	-0.9
	comp=Z,1.2nm,0.5s,baz=322,slow=5.5,SNR=3.8							
LPAZ	**La Paz**	**132.87**	**65**	PKIKP		PKPdf	14 26 13.5	-0.9
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							

IDC 17 14:17:30.7±0.9, 4628N×15557E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/24, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=34.5km s-min=19.9km az=146.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.41**	**261**	Pn		Pn	14 19 47.0	-0.6
	0.6nm,0.3s,baz=129,slow=6.4,SNR=6.2							
MJAR	**Matsushiro Arr**	**16.23**	**239**	Pn		Pn	14 21 19.0	-1.0
	0.1nm,0.3s,baz=180,slow=32,SNR=2.7							
KSRS	**Korea Array**	**22.31**	**257**	P		P	14 22 30.4	+0.7
	1.3nm,0.7s,baz=54,slow=9.2,SNR=6.0							
NVAR	**Mina Array Bea**	**61.14**	**63**	P		P	14 27 47.1	+0.3
	0.7nm,0.7s,baz=293,slow=7.6,SNR=4.9							
FINES	**FINESS Array B**	**65.17**	**336**	P		P	14 28 13.1	-0.5
	3.3nm,0.9s,baz=87,slow=4.2,SNR=5.0							
WRA	**Warramunga Arr**	**68.66**	**201**	P		P	14 28 35.7	-0.1
	0.7nm,0.9s,baz=23,slow=6.4,SNR=4.0							
ASAR	**Alice Springs**	**72.34**	**201**	P		P	14 28 58.4	+0.1
	0.6nm,0.8s,baz=16,slow=4.9,SNR=8.1							
TXAR	**Lajitas Array**	**76.23**	**62**	P		P	14 29 21.1	+0.1
	1.3nm,0.7s,baz=298,slow=4.0,SNR=15							

ISCJB ***17*** *14:18:07.2±3.4, 114S±02×1660E±02, h51km±23km, mb4.0/6, Error ellipse: s-maj=41.6km s-min=14.1km az=90.7*
NEIC ***17*** *14:18:08.0±2.5, 1130S×16609E, h49km±16km, mb4.5/1, Error ellipse: s-maj=32.3km s-min=13.8km az=51.0*
IDC ***17*** *14:18:09.9±4.7, 1140S×16605E, h64km±33km, mb3.8/6, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=44.8km s-min=31.8km az=57.0*

ISC 17 14:18:08.5±2.9, 113S±02×1661E±02, h53km±18km, n11, σ0°83/12, mb4.0/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.34**	**287**	P		**Pn**	**14 19 41.4**	**+2.1**
	4.5nm,0.3s,baz=276,slow=3.0,SNR=3.3							
HNR	**Honiara**	**6.34**	**287**	*e*Pn		**Pn**	**14 19 39.0**	**-0.3**
HNR				*e*Sn		**Sn**	**14 20 50.3**	**0.0**
DZM	**Mont Dzumac**	**10.69**	**178**	P		**Pn**	**14 20 38.4**	**-0.5**
	1.8nm,0.3s,baz=4.0,slow=19,SNR=49							
PMG	**Port Moresby**	**18.73**	**274**	P		**Pn**	**14 22 22.4**	**-1.3**
	0.2nm,0.3s,baz=247,slow=18,SNR=3.2							
PMG				LR		LR	14 28 37.0	
	comp=Z,87nm,19.9s,baz=143,slow=34							
CTA	**Charters Tower**	**20.98**	**243**	P		**P**	**14 22 49.0**	**+1.7**
	11nm,1.0s,baz=70,slow=12,SNR=3.0							
STKA	**Stephens Creek**	**30.48**	**224**	P		**P**	**14 24 16.4**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=45,slow=9.7,SNR=4.1							

WRA	**Warramunga Arr**	**31.71**	**250**	P	**P**	**14 24 27.0**	**-0.2**
	1.3nm,0.7s,mb3.8,baz=82,slow=8.8,SNR=9.9						
WRA				PcP	PcP	14 27 17.6	-0.2
	0.4nm,0.8s,baz=69,slow=2.1,SNR=5.0						
ASAR	**Alice Springs**	**32.98**	**244**	P	**P**	**14 24 37.9**	**-0.4**
	2.4nm,0.7s,mb4.2,baz=67,slow=9.8,SNR=44						
ASAR				PcP	PcP	14 27 22.1	+0.8
	0.6nm,0.7s,baz=65,slow=2.5,SNR=11						
FITZ	**Fitzroy Crossi**	**39.65**	**255**	P	**P**	**14 25 34.4**	**-0.7**
	1.2nm,0.8s,mb3.7,baz=126,slow=8.4,SNR=3.6						
SBA	**Scott Base**	**66.52**	**180**	P	**P**	**14 28 53.4**	**+0.6**
	4.0nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**93.96**	**317**	P	**P**	**14 31 20.6**	**0.0**
	0.5nm,0.7s,mb4.0,baz=99,slow=7.5,SNR=3.9						

SOF ***17*** *14:21:25.0, 3931N×2331E, h10km, MD3.0*
ATH ***17*** *14:21:33.4, 3982N×2337E, h25km±2km, MD3.6/7, ML3.4*
NEIC ***17*** *14:21:33.4, 3982N×2337E, h25km, MD3.0(SOF), ML3.4(ATH), After ATH.*
THE ***17*** *14:21:34.6, 3987N×2340E, h10km, ML3.9*
CSEM ***17*** *14:21:34.2±0.1, 3983N×2340E, h20km, ML3.9, Error ellipse: s-maj=1.6km s-min=1.3km az=91.0*
ISCJB ***17*** *14:21:34.6±0.4, 3985N±002×2341E±003, h22km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=163.4*
SKO ***17*** *14:21:36.6, 3993N×2316E, h8km*

ISC 17 14:21:34.2±0.4, 3985N±002×2337E±003, h14km±3km, n45, σ0°92/69, 3C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAIG	**Paliouri**	**0.26**	**71**	*e*Pg		**Pg**	**14 21 39.7**	**+0.1**
PAIG				*e*Sg		**Sg**	**14 21 43.9**	**+0.5**
XOR	**Xorichti**	**0.50**	**196**	*e*Pg		**Pg**	**14 21 44.1**	**0.0**
PLG	**Polygyros**	**0.53**	**7**	*e*Pg		**Pg**	**14 21 44.1**	**-0.6**
PLG				*e*Sg		**Sg**	**14 21 52.2**	**+0.4**
PLG	**Polygyros**	**0.53**	**7**	↑*i*PN		**Pg**	**14 21 44.2**	**-0.5**
OUR	**Ouranopolis**	**0.68**	**44**	*e*Pg		**Pg**	**14 21 47.0**	**-0.5**
LIT	**Litokhoron**	**0.72**	**291**	*e*Pg		**Pg**	**14 21 48.2**	**-0.1**
LIT				*e*Sg		**Sg**	**14 21 58.8**	**+1.1**
HORT	**Hortiatis**	**0.78**	**345**	*e*Pg		**Pg**	**14 21 48.7**	**-0.7**
HORT				*e*Sg		**Sg**	**14 21 60.0**	**+0.4**
AOS	**Alonnisos**	**0.78**	**149**	*e*Pg		**Pg**	**14 21 49.4**	**-0.1**
AOS				*e*Sg		**Sg**	**14 22 01.0**	**+1.3**
AOS	**Alonnisos**	**0.78**	**149**	*e*Pg		**Pg**	**14 21 49.3**	**-0.2**
AOS				*e*Sg		**Sg**	**14 22 01.0**	**+1.3**
THE	**Thessaloniki**	**0.84**	**339**	*e*Pg		**Pg**	**14 21 50.0**	**-0.6**
THE				*e*Sg		**Sg**	**14 22 02.1**	**+0.4**
SOH	**Sokhos**	**0.97**	**359**	*e*Pg		**Pg**	**14 21 52.5**	**-0.6**
SOH				*e*Sg		**Sg**	**14 22 05.9**	**+0.1**
THL	**Klokotos Trika**	**1.08**	**255**	*e*PN		**Pn**	**14 21 54.1**	**-0.9**
AGG	**Agios Georgios**	**1.15**	**225**	*e*Pg		**Pg**	**14 21 55.2**	**-1.2**
AGG				*e*Sg		**Sg**	**14 22 13.1**	**+1.7**
LKR	**Lokris**	**1.23**	**194**	*e*PN		**Pn**	**14 21 56.1**	**-0.9**
SRS	**Serrai**	**1.28**	**8**	*e*Pg		**Pg**	**14 21 57.3**	**-1.6**
SRS				*e*Sg		**Sg**	**14 22 14.9**	**-0.7**
KZN	**Kozani**	**1.31**	**291**	*e*PN		**Pn**	**14 21 58.0**	**-0.1**
LOS	**Limnos**	**1.32**	**86**	*e*Pg		**Pn**	**14 21 57.4**	**-1.0**
LOS				*e*Sg		**Sb**	**14 22 14.3**	**-1.4**
LOS	**Limnos**	**1.32**	**86**	*e*Pg		**Pn**	**14 21 57.3**	**-1.0**
LOS				*e*Sg		**Sb**	**14 22 14.3**	**-1.4**
GRG	**Griva**	**1.33**	**327**	*e*Pg		**Pg**	**14 21 57.9**	**-2.0**
GRG				*e*Sg		**Sg**	**14 22 16.6**	**-0.6**
KNT	**Kendrikon**	**1.36**	**345**	*e*Pg		**Pg**	**14 21 59.0**	**-1.4**
KNT				*e*Sg		**Sg**	**14 22 17.5**	**-0.7**
LIA	**Limnos Island**	**1.40**	**87**	*e*PN		**Pn**	**14 21 59.0**	**-0.4**
EVR	**Evrytania**	**1.52**	**233**	*e*PN		**Pn**	**14 22 00.7**	**-0.3**
NVR	**Nevrokopi**	**1.55**	**14**	*e*PN		**Pn**	**14 22 02.4**	**+1.0**
VAY	**Valandovo**	**1.59**	**338**	*e*Pg		**Pn**	**14 22 01.9**	**-0.1**
VAY				*e*Sg		**Sn**	**14 22 23.2**	**+0.8**
VAY	**Valandovo**	**1.59**	**338**	*e*Pg		**Pn**	**14 22 02.1**	**0.0**
VAY				*e*Sg		**Sn**	**14 22 22.8**	**+

HHC XP sP 14 33 05.0 +1.4
HHC PP PP 14 33 53.1 -13
HHC PCP PcP 14 36 04.1 +5.2
HHC S **S** **14 37 50.6 -5.4**
HHC SCP ScP 14 39 43.9 +3.2
HHC SCS ScS 14 43 37.1 +0.9
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,132nm,10.5s
HHC LR LR
comp=N,160nm,12.7s,MS4.0
HHC LR LR
comp=E,200nm,13.7s,MS4.0
HHC LR LR
comp=Z,191nm,12.4s,MS3.9
SONM Songino Array 31.27 290 P **P** **14 33 06.4 -1.3**
comp=Z,0.5nm,0.8s,mb3.4,baz=61,slow=12,SNR=2.5
SONM LR LR 14 45 26.2
comp=Z,79nm,20.7s,MS3.4,baz=98,slow=36
SONM Songino Array 31.27 290 P **P** **14 33 06.4 -1.3**
SONM LR LR 14 45 26.2
MCK McKinley 36.04 40 *eP* **P** **14 33 51.8 +2.6**
MCK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MCK McKinley 36.04 40 *eP* **P** **14 33 51.8 +2.6**
comp=Z,8.5nm,1.3s,mb4.5
SML Sawmill 36.36 43 *eP* **P** **14 33 53.2 +1.3**
COLA College 36.53 38 *eP* **P** **14 33 57.2 +3.8**
COLA pmax pmax
comp=Z,16nm,1.4s,mb4.7
COLA College 36.53 38 *eP* **P** **14 33 57.1 +3.8**
comp=Z,16nm,1.4s,mb4.7
LZH Lanzhou 37.71 272 *eP* **P** **14 34 03.6 +0.2**
LZH AP pP 14 34 08.1 +0.4
LZH XP sP 14 34 10.5 +1.1
LZH PP PP 14 35 30.0 +0.5
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.7
LZH Lanzhou 37.71 272 *eP* **P** **14 34 03.6 +0.2**
comp=Z,19nm,1.3s,mb4.7
LZH pP pP 14 34 08.1 +0.4
LZH sP sP 14 34 10.5 +1.1
LZH PP PP 14 35 30.0 +0.5
GTA Gaotai 38.84 279 *eP* **P** **14 34 14.3 +1.4**
GTA AP pP 14 34 18.0 +0.8
GTA XP sP 14 34 21.3 +2.4
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.9
GYA Guiyang 41.45 258⇑ *i*P **P** **14 34 34.8 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
INK Inuvik 42.05 32 *eP* **P** **14 34 41.8 +2.3**
INK pmax pmax
comp=Z,163nm,1.0s
INK Inuvik 42.05 32 *eP* **P** **14 34 41.8 +2.3**
comp=Z,163nm,1.0s
ZAL Zalesovo 42.68 306 P **P** **14 34 43.0 -1.6**
comp=Z,1.3nm,0.3s,mb4.1,baz=66,slow=4.6,SNR=2.8
ZAL LR LR 14 54 31.9
comp=Z,188nm,19.2s,MS4.0,baz=45,slow=39
KMI Kunming 44.99 260 P **P** **14 35 06.1 +2.9**
KMI XP sP 14 35 11.6 +2.3
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.4
KMI Kunming 44.99 260 P **P** **14 35 06.1 +2.9**
comp=Z,6.0nm,0.9s,mb4.4
KMI sP sP 14 35 11.6 +2.3
MKAR Makanchi Array 46.94 298 P **P** **14 35 17.4 -1.1**
comp=Z,1.9nm,1.0s,mb4.0,baz=62,slow=11,SNR=7.0
LSA Lhasa 50.10 273 *eP* **P** **14 35 42.1 -0.8**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LSA Lhasa 50.10 273 *eP* **P** **14 35 42.1 -0.8**
comp=Z,3.7nm,0.7s,mb4.5
CHKZ Chkalovo 50.52 310 *eP* **P** **14 35 44.6 -1.4**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CHKZ Chkalovo 50.52 310 *eP* **P** **14 35 44.6 -1.5**
comp=Z,2.0nm,0.5s,mb4.3
BVAR Borovoye Array 50.94 310 LR LR 14 58 49.1
comp=Z,97nm,18.1s,MS3.9,baz=218,slow=38
BRVK Borovoye 50.98 310 *eP* **P** **14 35 48.2 -1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 50.98 310 *eP* **P** **14 35 48.2 -1.4**
comp=Z,3.0nm,0.9s,mb4.2
ZRNK Zerenda 51.71 310 *eP* **P** **14 35 53.1 -1.9**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 51.71 310 *eP* **P** **14 35 53.1 -1.9**
comp=Z,2.2nm,0.7s,mb4.2
AAK Ala-Archa 53.82 296 *eP* **P** **14 36 08.2 -2.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AAK Ala-Archa 53.82 296 *eP* **P** **14 36 08.2 -2.4**
comp=Z,3.4nm,0.9s,mb4.3
JIRN Jiri 54.79 275 *eP* **P** **14 36 18.3 +0.7**
comp=Z,14nm,0.9s,mb5.0
ARU Arti 55.15 318 *eP* **P** **14 36 18.7 -1.5**
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
ARU Arti 55.15 318 *eP* **P** **14 36 18.7 -1.5**
comp=Z,11nm,1.2s,mb4.8
KKN Kakani 55.33 275 *eP* **P** **14 36 22.3 +0.7**
comp=Z,8.8nm,0.8s,mb4.9
PKI Pulchoki 55.38 275 *eP* **P** **14 36 22.5 +0.6**
comp=Z,10nm,0.6s,mb5.0
GKN Gorkha 55.64 276 *eP* **P** **14 36 24.2 +0.4**
comp=Z,8.4nm,0.5s,mb5.0
KOLN Koldanda 56.50 276 *eP* **P** **14 36 30.4 +0.4**
comp=Z,11nm,0.8s,mb4.9
ARCES ARCESS Array B 58.12 341 P **P** **14 36 42.6 +1.2**
comp=Z,4.9nm,0.9s,mb4.5,baz=21,slow=7.7,SNR=3.6
NVAR Mina Array Bea 62.77 62 P **P** **14 37 14.4 +1.2**
comp=Z,0.2nm,0.4s,mb3.6,baz=289,slow=12,SNR=2.6
FINES FINESS Array B 64.28 335 P **P** **14 37 22.6 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=35,slow=7.0,SNR=6.3
FINES LR LR 15 04 46.2
comp=Z,58nm,21.4s,MS3.7,baz=324,slow=35
WRA Warramunga Arr 68.12 199 P **P** **14 37 45.7 -2.1**
comp=Z,0.8nm,0.9s,mb3.8,baz=18,slow=6.4,SNR=6.0
NB2 NORSAR Subarra 68.50 341 P **P** **14 37 50.2 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=28,slow=6.5
NOA NORSAR Array B 68.50 341 P **P** **14 37 50.4 +0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=28,slow=6.3,SNR=5.1
AKASG Malin Array Be 71.74 326 P **P** **14 38 09.6 -0.4**
comp=Z,0.5nm,0.3s,mb3.9,baz=31,slow=5.6,SNR=8.7
ASAR Alice Springs 71.81 198 P **P** **14 38 09.0 -1.5**
comp=Z,0.4nm,0.6s,mb3.5,baz=10,slow=5.6,SNR=6.7
TXAR Lajitas Array 77.83 60 P **P** **14 38 45.2 -0.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=302,slow=4.5,SNR=7.0
BRTR Keskin Array B 78.52 317 P **P** **14 38 49.6 +0.5**
comp=Z,1.9nm,1.0s,mb4.0,baz=64,slow=2.9,SNR=6.5
GERES GERESS Array B 78.69 334 P **P** **14 38 49.2 -0.8**
comp=Z,0.6nm,0.6s,mb3.7,baz=28,slow=6.0,SNR=4.8

*ISCJB **17** 14:28:44.3±0.4, 3294N±003×3562E±006, h14km±5km, Error ellipse: s-maj=8.7km s-min=3.6km az=39.2*
*GRAL **17** 14:28:44.4±0.5, 3289N×3559E, h13km±7km, MD2.8*
*GII **17** 14:28:44.8±0.2, 3292N×3562E, h10km, ML2.3/6, Mw2.2/4*
ISC 17 14:28:44.9±0.4**, 3294N**±003×**3562E**±006**, h14**km±5km**, n20, σ0§64/27, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSHT	**Keshet**	**0.17**	**74**	Pg	**Pg**	**14 28 49.7**	**+0.8**
MMC3	**Mount Meron ar**	**0.19**	**295**	Pg	**Pg**	**14 28 49.5**	**+0.2**
MMC2	**Mount Meron ar**	**0.20**	**297**	Pg	**Pg**	**14 28 49.7**	**+0.3**
GLH	**Golan-Tel Qazi**	**0.22**	**174**	Pg	**Pg**	**14 28 50.1**	**+0.3**
KSDI	**Kefar Szold**	**0.26**	**7**	Pg	**Pg**	**14 28 50.6**	**+0.2**
HRI	**Mount Hermon**	**0.34**	**16**	Pg	**Pg**	**14 28 52.2**	**+0.3**
HNTI	**Hanita**	**0.40**	**291**	Pg	**Pg**	**14 28 53.5**	**+0.5**
MMLI	**Mount Malkishu**	**0.52**	**199**	Pg	**Pg**	**14 28 54.8**	**-0.4**
RCY	**Rachaya**	**0.57**	**17**	*i* Pg	**Pg**	**14 28 56.0**	**-0.1**
RCY				*i* Sg	**Sg**	**14 29 04.3**	**+0.6**
OFRI	**'Ofer**	**0.62**	**240**	Pg	**Pg**	**14 28 56.7**	**-0.4**
OFRI				Sg	**Sg**	**14 29 05.3**	**+0.1**
HMDT	**Nahal Hemdat**	**0.69**	**187**	Pg	**Pg**	**14 28 57.5**	**-0.7**
HMDT				Sg	**Sg**	**14 29 07.6**	**+0.3**
SLTI	**Sal'it**	**0.85**	**215**	Pg	**Pg**	**14 29 00.5**	**-0.9**
SLTI				Sg	**Sg**	**14 29 12.5**	**0.0**
BHL	**Bhannes**	**0.97**	**2**	*e*Pg	**Pg**	**14 29 02.4**	**-1.2**
BHL				*e*Sg	**Sg**	**14 29 16.5**	**+0.3**
DRGI	**Dragot**	**1.35**	**188**	Pn	**Pn**	**14 29 08.5**	**-0.8**
HWQ	**Hawqa**	**1.37**	**11**	*i* Pg	**Pg**	**14 29 09.9**	**-1.2**
HWQ				*i* Sg	**Sg**	**14 29 28.9**	**-0.1**
DSI	**Dead Sea**	**1.38**	**189**	Pn	**Pn**	**14 29 08.6**	**-1.1**
AMAZ	**Amatzia**	**1.52**	**203**	Pn	**Pn**	**14 29 11.5**	**-0.1**
AMAZ				Sn	**Sn**	**14 29 32.6**	**+1.3**
MASH	**Mash'abbe Sade**	**2.06**	**200**	Pn	**Pn**	**14 29 19.2**	**+0.1**
SVTA	**Shivta**	**2.17**	**203**	Pn	**Pn**	**14 29 21.1**	**+0.5**
PRNI	**Paran**	**2.63**	**192**	Pn	**Pn**	**14 29 27.8**	**+0.9**

*ISCJB **17** 14:37:37.8±1.9, 462N±04×1552E±03, h10km, mb3.8/4, Error ellipse: s-maj=56.9km s-min=17.3km az=139.4*
*IDC **17** 14:37:40.5±1.9, 4683N×15563E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/23, mbtmp3.9/4, Error ellipse: s-maj=60.6km s-min=29.5km az=172.0*
*MOS **17** 14:37:41.1±1.5, 4612N×155.18E, h36km, mb4.3/3, Error ellipse: s-maj=68.6km s-min=39.2km az=173.9*
ISC 17 14:37:39.8±1.9**, 463N**±04×**1553E**±03**, h10**km**, n9, σ1§16/9, mb3.8/4, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.31**	**261**	*e*PN	**Pn**	**14 38 57.0**	**-2.2**
KUR				pmax	pmax		
	comp=Z,120nm,0.8s						
ASAJ	**Asahikawa**	**9.23**	**261**	Pn	**Pn**	**14 39 54.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=261,slow=30,SNR=2.7						
KSRS	**Korea Array**	**22.14**	**256**	P	**P**	**14 42 42.0**	**+6.4**
	comp=Z,2.0nm,1.1s,mb3.5,baz=58,slow=10,SNR=5.1						
BVAR	**Borovoye Array**	**52.28**	**310**	P	**P**	**14 46 51.0**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=71,slow=9.0,SNR=6.2						
BVAR	**Borovoye Array**	**52.28**	**310**	P	**P**	**14 46 51.0**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.05**	**336**	P	**P**	**14 48 20.6**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.2,baz=28,slow=8.6,SNR=8.1						
FINES	**FINESS Array B**	**65.05**	**336**	P	**P**	**14 48 20.6**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**14 49 29.1**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=305,slow=4.0,SNR=12						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**14 49 29.2**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **17** 14:38:00.7±1.1, 4098S×17424E, h49km±11km, mb4.0/5, mb1 4.2/8, mb1mx4.0/12, mbtmp4.1/8, ML4.6/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/23, Error ellipse: s-maj=20.8km s-min=8.2km az=128.0*
*ISCJB **17** 14:38:02.3±0.2, 4106S±003×174.34E±005, h81km±3km, mb4.6/15, Error ellipse: s-maj=6.4km s-min=4.1km az=58.1*
*BJI **17** 14:38:04.0, 41.10S×174.30E, h72km, mB5.6, mb5.2, Ms5.2, Ms2.4*
*NEIC **17** 14:38:04.3, 4106S×17433E, h72km, mb4.7/12, After WEL.*
NEIC Felt in much of lower North Island and upper South Island.
*WEL **17** 14:38:04.2±0.1, 4106S×17433E, h72km±1km, ML5.5/24, Error ellipse: s-maj=0.6km s-min=0.5km az=0.0*
WEL Felt from King Country to Canterbury, maximum reported intensity MM 5.
ISC 17 14:38:03.2±0.2**, 4107S**±003×**17435E**±005**, h76**km±3km**, h68**km±9.3km**:pP-P, n114,** σ0§95/119**, mb4.6**/15**, 32C-22D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCW	**Tory Channel**	**0.15**	**202**	⇓P	**Pn**	**14 38 14.5**	**+0.2**
TCW				*e*S	**Sn**	**14 38 22.1**	**-0.4**
TCW	**Tory Channel**	**0.15**	**202**	⇓PN	**Pn**	**14 38 14.5**	**+0.3**
TCW				*e*SN	**Sn**	**14 38 22.0**	**-0.4**
MRW	**Makara Radio**	**0.31**	**122**	⇑P	**Pn**	**14 38 15.4**	**+0.4**
MRW	**Makara Radio**	**0.31**	**122**	⇑PN	**Pn**	**14 38 15.4**	**+0.4**
SNZO	**South Karori**	**0.36**	**132**	P	**Pn**	**14 38 15.6**	**+0.2**
SNZO				S	**Sn**	**14 38 24.0**	**-0.4**
SNZO	**South Karori**	**0.36**	**132**	PN	**Pn**	**14 38 15.6**	**+0.2**
SNZO				SN	**Sn**	**14 38 24.0**	**-0.4**
WEL	**Wellington**	**0.38**	**125**	⇑P	**Pn**	**14 38 15.9**	**+0.4**
WEL				*e*S	**Sn**	**14 38 24.5**	**-0.2**
WEL	**Wellington**	**0.38**	**125**	⇑PN	**Pn**	**14 38 15.9**	**+0.4**
WEL				*e*SN	**Sn**	**14 38 24.5**	**-0.2**
DUWZ	**D'Urville Isla**	**0.42**	**309**	⇓PN	**Pn**	**14 38 15.9**	**+0.1**
KIW	**Kapiti Island**	**0.47**	**64**	⇑P	**Pn**	**14 38 16.7**	**+0.5**
KIW				*e*S	**Sn**	**14 38 25.5**	**-0.4**
KIW	**Kapiti Island**	**0.47**	**64**	⇑PN	**Pn**	**14 38 16.7**	**+0.4**
KIW				*e*SN	**Sn**	**14 38 25.5**	**-0.4**
BHW	**Baring Head**	**0.52**	**131**	⇑P	**Pn**	**14 38 16.9**	**+0.2**
BHW				*e*S	**Sn**	**14 38 26.0**	**-0.7**
BHW	**Baring Head**	**0.52**	**131**	⇑PN	**Pn**	**14 38 16.9**	**+0.3**
BHW				*e*SN	**Sn**	**14 38 26.0**	**-0.6**
CAW	**Cannon Point**	**0.54**	**94**	⇑PN	**Pn**	**14 38 26.6**	**+10**
CAW				SN	**Sn**	**14 38 36.1**	**+9.0**
CMWZ	**Cape Campbell**	**0.69**	**189**	⇓P	**Pn**	**14 38 19.5**	**+1.1**
CMWZ	**Cape Campbell**	**0.69**	**189**	⇓PN	**Pn**	**14 38 19.5**	**+1.1**
BSWZ	**Blackbirch Sta**	**0.74**	**209**	⇓P	**Pn**	**14 38 19.4**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.74**	**209**	⇓PN	**Pn**	**14 38 19.4**	**+0.4**
NNZ	**Nelson**	**0.75**	**258**	⇓P	**Pn**	**14 38 19.2**	**+0.2**
NNZ	**Nelson**	**0.75**	**258**	⇓PN	**Pn**	**14 38 19.2**	**+0.1**
MSWZ	**Moikau Station**	**0.76**	**117**	⇑P	**Pn**	**14 38 19.6**	**+0.4**
MSWZ	**Moikau Station**	**0.76**	**117**	⇑PN	**Pn**	**14 38 19.6**	**+0.4**
PAWZ	**Paruwai Farm**	**0.87**	**112**	PN	**Pn**	**14 38 20.7**	**+0.3**
MTW	**Mount Morrison**	**0.87**	**96**	⇑P	**Pn**	**14 38 20.6**	**+0.2**
MTW	**Mount Morrison**	**0.87**	**96**	⇑PN	**Pn**	**14 38 20.6**	**+0.2**
MRZ	**Mangatainoka R**	**1.01**	**67**	⇑P	**Pn**	**14 38 22.1**	**0.0**
MRZ	**Mangatainoka R**	**1.01**	**67**	⇑PN	**Pn**	**14 38 22.1**	**0.0**
MRZ				*e*SN	**Sn**	**14 38 36.3**	**+1.7**
TRWZ	**Traveller**	**1.06**	**109**	⇓PN	**Pn**	**14 38 23.0**	**+0.3**
TIWZ	**Tintock**	**1.20**	**76**	⇑PN	**Pn**	**14 38 24.4**	**0.0**
THZ	**Tophouse**	**1.29**	**237**	⇓P	**Pn**	**14 38 25.7**	**+0.1**
THZ	**Tophouse**	**1.29**	**237**	⇓PN	**Pn**	**14 38 25.7**	**+0.1**
WAZ	**Wanganui**	**1.40**	**20**	⇑P	**Pn**	**14 38 27.9**	**+0.9**
WAZ	**Wanganui**	**1.40**	**20**	⇑PN	**Pn**	**14 38 27.9**	**+0.9**
QRZ	**Quartz Range**	**1.40**	**279**	⇑P	**Pn**	**14 38 26.9**	**-0.1**
QRZ	**Quartz Range**	**1.40**	**279**	⇑PN	**Pn**	**14 38 26.9**	**-0.1**
KHZ	**Kahutara**	**1.48**	**204**	⇑P	**Pn**	**14 38 28.6**	**+0.6**
KHZ	**Kahutara**	**1.48**	**204**	⇑PN	**Pn**	**14 38 28.6**	**+0.5**
BFZ	**Birch Farm**	**1.49**	**76**	⇑P	**Pn**	**14 38 27.7**	**-0.4**
BFZ	**Birch Farm**	**1.49**	**76**	⇑PN	**Pn**	**14 38 27.7**	**-0.5**
TSZ	**Takapari Road**	**1.59**	**51**	⇑P	**Pn**	**14 38 29.0**	**-0.4**
TSZ	**Takapari Road**	**1.59**	**51**	⇑PN	**Pn**	**14 38 29.0**	**-0.4**
NRZ	**Ngariki Road**	**1.76**	**349**	⇓P	**Pn**	**14 38 32.6**	**+0.9**
NRZ	**Ngariki Road**	**1.76**	**349**	⇓PN	**Pn**	**14 38 32.6**	**+0.9**
RAEZ	**Rainy Point**	**1.78**	**1**	P	**Pn**	**14 38 33.3**	**+1.3**
RAEZ	**Rainy Point**	**1.78**	**1**	PN	**Pn**	**14 38 33.3**	**+1.4**
WPHZ	**Waipukurau**	**1.88**	**58**	⇑PN	**Pn**	**14 38 32.5**	**-0.8**
PKE	**Pukeiti**	**1.89**	**351**	PN	**Pn**	**14 38 34.3**	**+0.9**
PKVZ	**Pokaka**	**1.93**	**24**	*e*PN	**Pn**	**14 38 34.4**	**+0.4**
VRZ	**Vera Road**	**1.96**	**9**	⇑P	**Pn**	**14 38 35.6**	**+1.1**
VRZ	**Vera Road**	**1.96**	**9**	⇑PN	**Pn**	**14 38 35.6**	**+1.1**
MOVZ	**Moawhango**	**1.98**	**33**	⇑P	**Pn**	**14 38 34.3**	**-0.3**
MOVZ	**Moawhango**	**1.98**	**33**	⇑PN	**Pn**	**14 38 34.3**	**-0.3**
WNVZ	**Wahianoa**	**1.98**	**29**	*e*P	**Pn**	**14 38 35.4**	**+0.7**
WNVZ	**Wahianoa**	**1.98**	**29**	*e*PN	**Pn**	**14 38 35.4**	**+0.7**
FWVZ	**Far West T-bar**	**2.03**	**27**	PN	**Pn**	**14 38 35.9**	**+0.6**
DSZ	**Denniston Nort**	**2.03**	**250**	PN	**Pn**	**14 38 34.9**	**-0.5**
NGZ	**Ngauruhoe**	**2.12**	**27**	PN	**Pn**	**14 38 37.1**	**+0.6**
OTVZ	**Oturere**	**2.15**	**28**	⇑PN	**Pn**	**14 38 37.6**	**+0.6**
WTVZ	**West Tongariro**	**2.17**	**26**	*e*P	**Pn**	**14 38 37.5**	**+0.3**
WTVZ	**West Tongariro**	**2.17**	**26**	*e*PN	**Pn**	**14 38 37.5**	**+0.3**
LTZ	**Lake Taylor**	**2.31**	**222**	PN	**Pn**	**14 38 38.6**	**-0.5**
RITZ	**Rihia Road**	**2.39**	**29**	PN	**Pn**	**14 38 40.2**	**+0.1**
BKZ	**Black Stump Fm**	**2.51**	**42**	⇓P	**Pn**	**14 38 40.8**	**-1.0**
BKZ	**Black Stump Fm**	**2.51**	**42**	⇓PN	**Pn**	**14 38 40.8**	**-1.0**
HIZ	**Hauiti**	**2.58**	**9**	⇓P	**Pn**	**14 38 43.4**	**+0.7**
HIZ	**Hauiti**	**2.58**	**9**	⇓PN	**Pn**	**14 38 43.4**	**+0.7**
WATZ	**Wairara**	**2.58**	**25**	PN	**Pn**	**14 38 42.9**	**+0.2**
MQZ	**McQueen's Vall**	**2.92**	**205**	PN	**Pn**	**14 38 45.5**	**-1.9**
URZ	**Urewera**	**3.52**	**38**	P	**Pn**	**14 38 53.1**	**-2.4**
	67nm,0.3s,baz=243,slow=9.2,SNR=256						
URZ				S	**Sn**	**14 39 33.6**	**-2.3**
	2μm,0.3s,baz=94,slow=17,SNR=39						
URZ				LR	LR	14 40 09.5	
	comp=Z,575nm,19.3s,baz=155,slow=37						
URZ	**Urewera**	**3.52**	**38**	PN	**Pn**	**14 38 52.9**	**-2.6**
RPZ	**Rata Peaks**	**3.60**	**222**	P	**Pn**	**14 38 55.0**	**-1.5**
	34nm,0.3s,baz=59,slow=2.4,SNR=58						
RPZ				S	**Sn**	**14 39 35.1**	**-2.7**
	545nm,0.3s,baz=122,slow=16,SNR=14						
RPZ				LR	LR	14 39 52.1	
	comp=Z,753nm,19.3s,baz=264,slow=31						
MWZ	**Matawai**	**3.67**	**43**	PN	**Pn**	**14 38 54.7**	**-2.8**
MKAZ	**Moumakai**	**4.00**	**9**	PN	**Pn**	**14 39 02.3**	**+0.3**
KAAZ	**Kauri Point**	**4.25**	**4**	⇓P	**Pn**	**14 39 06.4**	**+1.0**
KAAZ	**Kauri Point**	**4.25**	**4**	⇓PN	**Pn**	**14 39 06.3**	**+1.0**
KUZ	**Kuaotunu**	**4.45**	**14**	⇑PN	**Pn**	**14 39 07.7**	**-0.4**
MXZ	**Matakaoa Point**	**4.65**	**42**	PN	**Pn**	**14 39 07.9**	**-3.0**
OUZ	**Omahuta**	**5.87**	**354**	PN	**Pn**	**14 39 28.0**	**+0.6**
DZM	**Mont Dzumac**	**20.09**	**338**	P	**P**	**14 42 28.0**	**-2.5**
	0.0nm,0.3s,baz=144,slow=18,SNR=1.7						
TAU	**Tasmania Unive**	**20.15**	**256**	P	**P**	**14 42 34.5**	**+3.3**
	20nm,1.0s						
STKA	**Stephens Creek**	**27.76**	**279**	P	**P**	**14 43 45.2**	**+0.5**
	3.6nm,1.0s,mb3.9,baz=158,slow=8.1,SNR=3.8						
STKA				LR	LR	14 53 16.1	
	comp=Z,115nm,20.4s,baz=121,slow=33						
STKA	**Stephens Creek**	**27.76**	**279**	P	**P**	**14 43 45.9**	**+1.2**
RAR	**Rarotonga**	**29.52**	**56**	LR	LR	14 51 60.0	
	comp=Z,171nm,21.1s,baz=131,slow=28						
AFI	**Afiamalu**	**29.64**	**28**	P	**P**	**14 43 59.7**	**-1.6**
	147nm,1.4s,mb5.4						
VNDA	**Vanda**	**36.93**	**184**	P	**P**	**14 45 05.3**	**+0.7**
	1.1nm,0.9s,mb3.8,baz=2.3,slow=9.0,SNR=5.6						
VNDA				PcP	PcP	14 47 25.6	+1.1
	0.6nm,0.6s,baz=5.3,slow=2.1,SNR=3.0						
VNDA				LR	LR	14 57 58.2	
	comp=Z,69nm,18.5s,baz=25,slow=32						
VNDA	**Vanda**	**36.93**	**184**	*e*P	**P**	**14 45 05.0**	**+0.4**
	1.1nm,0.9s,mb3.8						
SBA	**Scott Base**	**37.03**	**183**	*e*P	**P**	**14 45 07.2**	**+1.8**
	9.0nm,1.2s,mb4.6						
AS31	**Alice Springs**	**37.93**	**285**	*e*P	**P**	**14 45 12.7**	**-0.3**
ASAR	**Alice Springs**	**37.93**	**285**	P	**P**	**14 45 12.9**	**-0.2**
	2.4nm,0.4s,mb4.4,baz=122,slow=7.0,SNR=90						
ASAR				ScP	ScP	14 51 04.8	-3.6
	0.9nm,0.9s,baz=130,slow=4.9,SNR=5.4						
ASAR				LR	LR	14 58 04.9	
	comp=Z,102nm,22.0s,baz=137,slow=32						
PPT	**Papeete**	**38.80**	**64**	*e*LR	LR	14 55 40.6	
	372nm,33.2s						
WB2	**Warramunga Arr**	**39.93**	**290**	*e*P	**P**	**14 45 29.6**	**-0.2**
WRAB	**Tennant Creek**	**39.94**	**290**	*e*P	**P**	**14 45 29.1**	**-0.7**
	4.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**39.94**	**290**	P	**P**	**14 45 29.7**	**-0.2**
	1.8nm,0.3s,mb4.4,baz=126,slow=8.4,SNR=74						
WRA				ScP	ScP	14 51 12.8	-3.3
	1.5nm,0.9s,baz=129,slow=3.8,SNR=8.0						
CASY	**Casey**	**42.82**	**212**	*e*P	**P**	**14 45 53.5**	**0.0**
	13nm,0.9s,mb4.7						
CASY				*e*pP	pP	14 46 13.0	+1.0
RKT	**Rikitea**	**45.84**	**83**	*e*LR	LR	14 58 56.4	
	186nm,34.5s						
FITZ	**Fitzroy Crossi**	**47.42**	**284**	*e*P	**P**	**14 46 29.7**	**-0.2**
	6.7nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**49.06**	**180**	*e*P	**P**	**14 46 44.6**	**+2.1**
	39nm,1.2s,mb5.2						
MBWA	**Marble Bar**	**49.95**	**276**	*e*P	**P**	**14 46 47.6**	**-1.7**
	6.9nm,0.9s,mb4.6						
MBWA				*e*pP	pP	14 47 07.8	-0.4
MAW	**Mawson**	**60.11**	**204**	P	**P**	**14 48 03.5**	**+1.0**
	3.4nm,0.8s,mb4.4,baz=112,slow=8.8,SNR=5.5						
MAW	**Mawson**	**60.11**	**204**	*e*P	**P**	**14 48 02.8**	**+0.3**
	33nm,1.7s,mb5.1						
SYO	**Syowa Base**	**65.25**	**196**⇓	*e*P	**P**	**14 48 36.0**	**-0.7**
SNAA	**Sanae**	**67.55**	**181**	*e*	**P**	**14 48 52.1**	**+0.7**
SNAA				*e*		14 49 00.6	
SNAA				*e*		14 49 05.3	
SNAA	**Sanae**	**67.55**	**181**	*e*P	**P**	**14 48 50.5**	**-0.9**
	4.0nm,1.1s,mb4.2						
VNA3	**Neumayer Olymp**	**67.96**	**179**	*e*	**P**	**14 48 55.4**	**+1.5**
VNA3				*e*		14 49 03.9	
VNA2	**Neumayer--Watz**	**68.31**	**179**	*e*	**P**	**14 48 57.2**	**+1.1**
VNA2				*e*		14 49 06.6	
VNA2				*e*	pP	14 49 12.2	-3.8
KSM	**Kuching**	**71.69**	**289**	*e*P	**P**	**14 49 16.1**	**-0.8**
KMI	**Kunming**	**93.45**	**300**	P	**P**	**14 51 16.6**	**+6.5**
KMI				AP	pP	14 51 31.9	+1.0
KMI				XP	sP	14 51 38.8	-0.3
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.9						
KMI	**Kunming**	**93.45**	**300**	P	**P**	**14 51 16.6**	**+6.5**
	comp=Z,6.0nm,0.9s,mb4.9						
KMI				pP	pP	14 51 31.9	+1.0
KMI				sP	sP	14 51 38.7	-0.4
KMI				LR	LR		
	comp=Z,30nm,24.1s						
HHC	**Hu-ho-hao-te**	**99.44**	**317**	*e*P	Pdif	14 51 41.0	+3.7
HHC				AP	pP	14 52 02.8	+4.7
HHC				XP	sP	14 52 10.3	+4.0
HHC				PP	PP	14 55 48.6	+7.1
HHC				SKS		15 02 11.0	
HHC				S	S	15 03 08.0	+4.5
HHC				XS	sS	15 03 41.0	+1.7
HHC				SS	SS	15 10 00.8	+6.1
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb5.3						
HHC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.28**	**358**	*e*PN	**Sn**	**14 47 22.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.23**	**266**	*e*PN	**Pn**	**14 48 22.0**	**-7.3**
ZAL	**Zalesovo**	**43.40**	**305**	P	**P**	**14 54 18.3**	**-0.6**
	0.8nm,0.4s,mb3.8,baz=106,slow=0.8,SNR=2.8						
ZAL	**Zalesovo**	**43.40**	**305**	P	**P**	**14 54 18.3**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.07**	**297**	P	**P**	**14 54 57.7**	**+1.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=61,slow=7.1,SNR=4.0						
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**14 55 20.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=55,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**74.48**	**201**	P	**P**	**14 57 55.2**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=9.4,slow=5.5,SNR=7.3						
TXAR	**Lajitas Array**	**74.84**	**63**	P	**P**	**14 57 57.1**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=296,slow=3.9,SNR=5.5						
STKA	**Stephens Creek**	**80.99**	**193**	P	**P**	**14 58 30.3**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=323,slow=5.1,SNR=2.9						

IDC 17 14:54:54.6±4.5, 4752N×15574E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=162.2km s-min=39.3km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.17**	**298**	P	P	15 03 36.4	-0.3
	0.6nm,0.7s,baz=64,slow=9.6,SNR=5.1						
FINES	**FINESS Array B**	**64.09**	**336**	P	P	15 05 29.9	-0.6
	1.2nm,0.8s,baz=45,slow=8.6,SNR=3.7						
TXAR	**Lajitas Array**	**75.55**	**62**	P	P	15 06 41.2	+0.2
	0.4nm,0.7s,baz=298,slow=3.4,SNR=4.9						

IDC 17 15:01:19.3±1.3, 4629N×15424E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/22, mbtmp3.7/4, MS3.8/1, Ms1 3.8/1, ms1mx2.3/37, Error ellipse: s-maj=42.6km s-min=34.0km az=34.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**43.52**	**306**	P	P	15 09 24.5	0.0
	1.3nm,0.3s,baz=151,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**47.84**	**298**	P	P	15 09 58.0	-0.7
	0.5nm,0.8s,baz=77,slow=6.2,SNR=2.9						
NEW	**Newport**	**56.83**	**53**	LR	LR	15 35 01.8	
	comp=Z,91nm,20.1s,baz=8.7,slow=36						
ASAR	**Alice Springs**	**72.03**	**200**	P	P	15 12 45.0	0.0
	0.4nm,0.8s,baz=11,slow=6.2,SNR=5.8						
TXAR	**Lajitas Array**	**77.04**	**61**	P	P	15 13 14.3	+0.2
	0.3nm,0.6s,baz=309,slow=6.0,SNR=4.0						

GUC 17 15:02:49.9±0.7, 2862S×6835W, h105km, MD3.4, ML4.3, 2C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**2.12**	**271**	*i* S	Sn	15 03 51.0	+0.6
VACH				AML	AML	15 03 53.8	
	comp=N,2μm,0.1s						
CPCH	**Copiapo**	**2.18**	**305**	*e*P	Pn	15 03 25.2	+0.3
CPCH				*i* S	Sn	15 03 50.9	-0.8
CPCH				AML	AML	15 03 52.3	
	comp=E,5μm,0.1s						
CDCH	**Caldera**	**2.69**	**305**	*i*P	Pn	15 03 32.2	+0.7
CDCH				*i* S	Sn	15 04 01.8	-1.8
CDCH				AML	AML	15 04 03.7	
	comp=N,195nm,0.5s						
CMCH	**Combarbala**	**3.43**	**222**	*i*P	Pn	15 03 42.2	+0.7
CMCH				*i* S	Sn	15 04 22.2	+0.8
CMCH				AML	AML	15 04 23.2	
	comp=N,667nm,0.9s						
CPN1	**Cerro Paranal**	**4.39**	**335**	*i*P	Pn	15 03 56.1	+1.8
CEN1	**Los Morros**	**5.47**	**342**	*i*P	Pn	15 04 07.4	-1.6

*ISCJB **17** 15:03:16.4±1.0, 140S±03×1717E±0.1, h10km, mb4.2/4, Error ellipse: s-maj=37.2km s-min=14.2km az=1.5*
*IDC **17** 15:03:17.8±3.0, 1415S×17167E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/16, mbtmp4.4/4, ML4.9/1, Error ellipse: s-maj=65.0km s-min=52.3km az=142.0*
*NEIC **17** 15:03:18.5±0.7, 1416S×17173E, h10km, mb4.2/2, Error ellipse: s-maj=26.6km s-min=10.7km az=179.0*
ISC 17 15:03:18.6±1.0, 141S±03×1717E±01, h10km, n11, σ0§46/10, mb4.2/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.44**	**291**	Pn	**Pn**	**15 06 15.8**	**+0.1**
	7.5nm,0.3s,baz=254,slow=7.3,SNR=7.7						
AFI	**Afiamalu**	**16.00**	**91**	P	**Pn**	**15 07 03.8**	**0.0**
STKA	**Stephens Creek**	**32.74**	**232**	*e*P	**P**	**15 09 51.7**	**+0.1**
	1.0nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**32.74**	**232**	P	**P**	**15 09 51.9**	**+0.3**
	1.1nm,0.3s,mb4.2,baz=46,slow=9.0,SNR=16						
WB2	**Warramunga AR**	**36.16**	**255**	*e*P	**P**	**15 10 21.8**	**+0.7**
WRA	**Warramunga AR**	**36.17**	**255**	P	**P**	**15 10 21.9**	**+0.6**
	1.4nm,0.6s,mb4.1,baz=88,slow=8.8,SNR=25						
AS31	**Alice Springs**	**36.94**	**249**	*e*P	**P**	**15 10 27.2**	**-0.5**
ASAR	**Alice Springs**	**36.94**	**249**	P	**P**	**15 10 27.7**	**-0.1**
	2.5nm,0.5s,mb4.3,baz=77,slow=9.3,SNR=72						
ASPA	**Alice Springs**	**36.94**	**249**	*e*P	**P**	**15 10 27.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**44.38**	**258**	*e*P	**P**	**15 11 28.4**	**-0.9**
	2.3nm,0.6s,mb4.1						
NOA	**NORSAR Array B**	**131.05**	**348**	PKP	PKPdf	15 22 31.1	+0.5
	1.6nm,0.9s,baz=13,slow=4.3,SNR=3.6						

*ISCJB **17** 15:12:33.6±6.7, 470N±03×1558E±04, h9km±32km, mb4.1/14, Error ellipse: s-maj=69.3km s-min=14.7km az=87.5*
*MOS **17** 15:12:41.2±1.9, 4739N×15528E, h37km, mb4.5/6, Error ellipse: s-maj=18.1km s-min=11.6km az=109.7*
*IDC **17** 15:12:44.4±5.1, 4786N×154.17E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=110.5km s-min=30.9km az=135.0*
*NEIC **17** 15:12:49.0±8.7, 4858N×15421E, h10km, mb4.3/6, Error ellipse: s-maj=190.0km s-min=21.3km az=151.0*
ISC 17 15:12:35.6±6.7, 470N±03×1560E±04, h16km±32km, n27, σ1§02/28, mb4.1/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.70**	**1**	*e*PN	**Pn**	**15 13 33.4**	**+1.3**
SKR				*e*		15 14 12.5	
PET	**Petropavlovsk**	**6.28**	**15**	*e*Pn	**Pn**	**15 14 06.2**	**-1.4**
PET				*e*Sn	**Sn**	**15 15 11.7**	**-7.3**
YSS	**Yuzh-Sakhalins**	**9.05**	**275**	*e*PN	**Pn**	**15 14 46.6**	**+1.1**
ASAJ	**Asahikawa**	**9.82**	**258**	Pn	**Pn**	**15 14 55.6**	**-0.5**
	0.5nm,0.3s,baz=5.3,slow=16,SNR=4.4						
ASAJ	**Asahikawa**	**9.82**	**258**	PN	**Pn**	**15 14 55.6**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**21.23**	**325**	P	**P**	**15 17 19.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**21.23**	**325**	P	**P**	**15 17 19.7**	**-1.0**
	comp=Z,9.4nm,0.8s,mb4.2						
KSRS	**Korea Array**	**22.76**	**255**	P	**P**	**15 17 37.4**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.3,baz=50,slow=11,SNR=3.8						
SONM	**Songino Array**	**33.11**	**290**	P	**P**	**15 19 09.7**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=52,slow=9.3,SNR=5.0						
ZAL	**Zalesovo**	**44.08**	**306**	P	**P**	**15 20 39.6**	**-3.2**
	comp=Z,1.2nm,0.4s,mb4.0,baz=99,slow=3.4,SNR=3.0						
NVS	**Novosibirsk**	**44.60**	**308**	*e*P	**P**	**15 20 47.5**	**+0.5**
MKAR	**Makanchi Array**	**48.57**	**298**	P	**P**	**15 21 18.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=58,slow=6.6,SNR=8.0						
CHKZ	**Chkalovo**	**51.77**	**311**	*e*P	**P**	**15 21 42.2**	**-0.2**
CHKZ				pmax	pmax		
	comp=E,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.77**	**311**	*e*P	**P**	**15 21 42.2**	**-0.2**
	comp=Z,5.2nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**52.22**	**310**	P	**P**	**15 21 46.2**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=59,slow=7.8,SNR=14						
BRVK	**Borovoye**	**52.26**	**310**	*e*P	**P**	**15 21 47.0**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.26**	**310**	*e*P	**P**	**15 21 47.0**	**+1.0**
	comp=Z,2.8nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.98**	**311**	*e*P	**P**	**15 21 51.4**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.98**	**311**	*e*P	**P**	**15 21 51.4**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**55.48**	**298**	*e*P	**P**	**15 22 08.4**	**-1.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.48**	**298**	*e*P	**P**	**15 22 08.4**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1						
ARU	**Arti**	**56.15**	**318**	*e*P	**P**	**15 22 14.2**	**-0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**56.15**	**318**	*e*P	**P**	**15 22 14.2**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**15 23 13.7**	**+1.2**
	comp=Z,3.2nm,0.9s,mb4.3,baz=32,slow=11,SNR=5.1						
NB2	**NORSAR Subarra**	**68.62**	**342**	P	**P**	**15 23 41.9**	**+4.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**68.62**	**342**	P	**P**	**15 23 42.0**	**+4.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=26,slow=6.4,SNR=4.3						
GERES	**GERESS Array B**	**79.08**	**336**	P	**P**	**15 24 43.4**	**+4.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=22,slow=1.4,SNR=4.3						

*IDC **17** 15:14:26.5±0.9, 5444S×11954W, h0km, mb3.9/4, mb1 4.2/4, mb1mx4.0/12, mbtmp3.9/4, MS4.5/15, Ms1 4.5/15, ms1mx4.4/21, Error ellipse: s-maj=46.7km s-min=29.1km az=144.0*
*ISCJB **17** 15:14:27.7±7.9, 545S±02×1196W±0.3, h17km±52km, mb4.3/9, MS4.5/15, Error ellipse: s-maj=37.9km s-min=19.2km az=92.8*
*NEIC **17** 15:14:28.0±0.5, 5452S×11962W, h10km, mb4.6/6, Error ellipse: s-maj=20.9km s-min=15.2km az=136.0*
*GCMT **17** 15:14:28.0±0.2, 5467S×11920W, h12km±1km, MW5.2/86, Moment Tensor Solution. s56,c80; s86,c147; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.51±.16; Mθθ3.80±.20; Mϕϕ-3.29±.17; Mrθ1.45±.46; Mθϕ6.79±.17; Mϕr1.97±.47; Best double couple: Mo8.01100×10¹⁶ NP1:ϕs105.00000°, δ74.00000°, λ.5.00000°. NP2: ϕs13.00000°, δ86.00000°, λ164.00000°. Principal axes: T 8.4870, Plg14.0000°, Azm328.0000°; N -0.9500, Plg74.0000°, Azm178.0000°; P -7.5350, Plg8.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 15:14:29.5±7.4, 545S±02×1197W±03, h18km±43km, n39, σ0§88/15, mb4.3/9, MS4.5/15, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**28.38**	**20**	LR	LR	15 28 54.3	
	comp=Z,461nm,21.0s,MS4.0,baz=199,slow=31						
PMSA	**Palmer Station**	**28.98**	**133**	LR	LR	15 29 06.0	
	comp=Z,2μm,18.9s,MS4.8,baz=277,slow=30						
USHA	**Ushuaia**	**29.13**	**112**	LR	LR	15 28 45.9	
	comp=Z,1μm,19.5s,MS4.6,baz=223,slow=30						
RKT	**Rikitea**	**33.35**	**334**	*e*S	**S**	**15 26 25.0**	**-1.4**
RKT	244nm,29.2s			*e*LR	LR	15 29 49.6	
	4μm,27.2s,baz=157						
VNDA	**Vanda**	**35.10**	**202**	P	**P**	**15 21 23.3**	**+1.6**
	1.4nm,1.1s,mb3.8,baz=85,slow=6.0,SNR=4.4						
VNDA				LR	LR	15 32 45.5	
	comp=Z,310nm,19.4s,MS4.1,baz=95,slow=31						
VNDA	**Vanda**	**35.10**	**202**	P	**P**	**15 21 21.4**	**-0.3**
	9.0nm,1.7s,mb4.4						
VNDA				LR	LR	15 32 45.5	
QSPA	**South Pole Qui**	**35.70**	**180**	P	**P**	**15 21 27.0**	**+0.1**
	63nm,2.1s,mb5.2						
TBI	**Tubuai**	**38.21**	**313**	*e*S	**S**	**15 27 41.0**	**0.0**
	266nm,32.5s						
TBI				*e*LR	LR	15 32 09.8	
	3μm,26.8s,baz=154						
PPT	**Papeete**	**43.41**	**316**	*e*S	**S**	**15 28 59.7**	**+1.3**
	237nm,26.5s						
PPT				*e*LQ		15 32 29.4	
	2μm,28.2s						
PPT				*e*LR	LR	15 34 34.3	
	4μm,25.5s,baz=159						
PPT	**Papeete**	**43.41**	**316**	LR	LR	15 36 21.4	
	comp=Z,1μm,18.3s,MS4.9,baz=146,slow=30						
SNAA	**Sanae**	**46.62**	**157**	P	**P**	**15 22 54.5**	**-2.0**
	14nm,1.5s,mb4.7						
LPAZ	**La Paz**	**54.94**	**67**	LR	LR	15 41 40.6	
	comp=Z,581nm,18.9s,MS4.7,baz=28,slow=30						
LPAZ	**La Paz**	**54.94**	**67**	*e*P	**P**	**15 23 59.8**	**+0.5**
	9.2nm,1.2s,mb4.7						
MAW	**Mawson**	**58.22**	**181**	LR	LR	15 50 03.1	
	comp=Z,366nm,19.2s,MS4.5,baz=172,slow=37						
MAW	**Mawson**	**58.22**	**181**	P	**P**	**15 24 24.0**	**+1.4**
	3.4nm,1.0s,mb4.3						
SAML	**Samuel**	**63.68**	**67**	*e*P	**P**	**15 24 59.8**	**0.0**
	5.4nm,1.3s,mb4.4						
STKA	**Stephens Creek**	**69.40**	**244**	*e*P	**P**	**15 25 35.5**	**-0.8**
ROSC	**El Rosal**	**70.12**	**49**	LR	LR	15 51 05.1	
	comp=Z,315nm,20.5s,MS4.5,baz=26,slow=31						
HNR	**Honiara**	**76.77**	**272**	LR	LR	15 53 12.4	
	comp=Z,122nm,21.5s,MS4.2,baz=1.3,slow=30						
ASAR	**Alice Springs**	**80.02**	**243**	P	**P**	**15 26 37.8**	**0.0**
	1.1nm,1.1s,mb3.7,baz=152,slow=6.2,SNR=6.5						
WB2	**Warramunga Arr**	**82.83**	**246**	*e*P	**P**	**15 26 52.9**	**+0.2**
WRA	**Warramunga Arr**	**82.84**	**246**	P	**P**	**15 26 52.3**	**-0.5**
	3.6nm,1.0s,mb4.4,baz=142,slow=4.6,SNR=17						
WRA				LR	LR	16 00 19.6	
	comp=Z,294nm,18.6s,MS4.7,baz=150,slow=33						
PMG	**Port Moresby**	**84.23**	**262**	LR	LR	15 59 40.1	
	comp=Z,237nm,19.3s,MS4.6,baz=198,slow=32						
TXAR	**Lajitas Array**	**84.62**	**14**	P	**P**	**15 27 02.1**	**+0.2**
	0.5nm,0.9s,mb3.6,baz=207,slow=5.2,SNR=4.1						
TXAR				LR	LR	15 57 33.2	
	comp=Z,81nm,19.2s,MS4.1,baz=180,slow=31						
FITZ	**Fitzroy Crossi**	**88.89**	**240**	LR	LR	16 02 08.7	
	comp=Z,278nm,19.8s,MS4.7,baz=232,slow=32						
ANMO	**Albuquerque**	**89.80**	**11**	LR	LR	16 01 36.2	
	comp=Z,262nm,19.9s,MS4.7,baz=186,slow=32						
PDAR	**Pinedale Array**	**97.27**	**8**	LR	LR	16 03 54.1	
	comp=Z,270nm,20.1s,MS4.7,baz=191,slow=30						
LSA	**Lhasa**	**146.73**	**234**	*e*PKPbc	PKPbc	15 34 11.6	+1.4
TIXI	**Tiksi**	**146.90**	**327**	*e*PKPbc	PKPbc	15 34 08.1	-2.7
JIRN	**Jiri**	**147.20**	**226**	*e*P	PKPdf	15 34 12.9	+3.6
	24nm,1.1s						
DMN	**Daman**	**147.60**	**224**	*e*P	PKPdf	15 34 13.8	+3.8
	29nm,1.9s						
KKN	**Kakani**	**147.69**	**224**	*e*P	PKPdf	15 34 12.9	+2.7
	54nm,1.3s						
GKN	**Gorkha**	**148.14**	**224**	*e*P	PKPdf	15 34 13.4	+2.5
KOLN	**Koldanda**	**148.34**	**222**	*e*P	PKPdf	15 34 13.6	+2.4
	21nm,1.1s						
ULN	**Ulaanbaatar**	**150.40**	**277**	*e*PKPbc	PKPbc	15 34 17.4	-2.4
SONM	**Songino Array**	**150.76**	**276**	PKPbc	PKPbc	15 34 21.6	+0.9
	0.3nm,0.7s,baz=118,slow=2.1,SNR=3.2						
SONM				PKPab	PKPab	15 34 26.9	-0.8
	0.7nm,0.8s,baz=116,slow=3.4,SNR=5.0						
GERES	**GERESS Array B**	**151.00**	**82**	PKPbc	PKPbc	15 34 20.2	-1.0
	1.9nm,0.8s,baz=191,slow=1.4,SNR=6.6						
GERES				PKPab	PKPab	15 34 26.7	-2.0
	1.9nm,0.8s,baz=217,slow=1.3,SNR=8.0						
GERES	**GERESS Array B**	**151.00**	**82**	PKPbc	PKPbc	15 34 20.2	-1.0
GERES				PKPab	PKPab	15 34 26.7	-2.0
BRTR	**Keskin Array B**	**156.81**	**119**	PKPab	PKPab	15 34 50.6	-2.7
	0.7nm,0.7s,baz=160,slow=3.9,SNR=3.6						

*ISCJB **17** 15:19:14.6±0.9, 467N±0.1×1554E±02, h10km, mb3.7/7, Error ellipse: s-maj=20.7km s-min=14.5km az=73.4*
*IDC **17** 15:19:14.4±1.1, 4685N×15555E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/46, Error ellipse: s-maj=29.1km s-min=25.7km az=26.0*
*MOS **17** 15:19:19.1±1.7, 4683N×155.16E, h45km, mb4.0/4, Error ellipse: s-maj=31.6km s-min=22.8km az=82.3*
ISC 17 15:19:16.3±0.9, 468N±01×1554E±02, h10km, n15, σ0§95/15, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.95**	**6**	*e*PN	**Pn**	**15 20 17.6**	**+0.7**
KUR	**Kuril'sk**	**5.48**	**256**	*i* PN	**Pn**	**15 20 30.0**	**-8.0**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
ASAJ	**Asahikawa**	**9.40**	**258**	Pn	**Pn**	**15 21 30.6**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=56,slow=26,SNR=5.7						
ASAJ				LR	LR	15 26 04.5	
	comp=Z,34nm,18.2s,baz=204,slow=43						
ASAJ	**Asahikawa**	**9.40**	**258**	PN	**Pn**	**15 21 30.6**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,34nm,18.2s						
KSRS	**Korea Array**	**22.33**	**255**	P	**P**	**15 24 15.6**	**+1.5**
	comp=Z,3.2nm,0.9s,mb3.7,baz=56,slow=10.0,SNR=6.0						
SONM	**Songino Array**	**32.82**	**290**	P	**P**	**15 25 49.9**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=60,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**15 27 56.9**	**-1.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=60,slow=7.9,SNR=5.9						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**15 27 56.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**15 28 26.7**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=59,slow=8.8,SNR=8.0						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**15 28 26.7**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**69.07**	**201**	P	**P**	**15 30 22.0**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=22,slow=6.9,SNR=5.8						
WRA	**Warramunga Ar**	**69.07**	**201**	P	**P**	**15 30 22.0**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.75**	**201**	P	**P**	**15 30 45.9**	**+1.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=19,slow=6.4,SNR=11						
ASAR	**Alice Springs**	**72.75**	**201**	P	**P**	**15 30 45.9**	**+1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**76.09**	**62**	P	**P**	**15 31 03.0**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=308,slow=4.4,SNR=4.5						

*IDC **17** 15:26:28.5±0.9, 4668N×153.25E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/24, mbtmp3.8/12, ML3.5/1, Error ellipse: s-maj=26.2km s-min=20.5km az=95.0*
*ISCJB **17** 15:26:32.1±1.6, 466N±0.1×153.1E±0.1, h33km±13km, mb4.2/15, Error ellipse: s-maj=22.9km s-min=10.5km az=98.9*
*MOS **17** 15:26:33.5±1.4, 4665N×153.04E, h50km, mb4.4/6, Error ellipse: s-maj=20.5km s-min=14.3km az=63.9*
ISC 17 15:26:33.3±3.6, 466N±01×1531E±01, h29km±25km, n28, σ1§08/29, mb4.2/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**251**	*i* PN	**Pn**	**15 27 30.0**	**-1.4**
KUR				*i* S	**Sn**	**15 28 16.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
KUR				smax			
	comp=N,110nm,0.8s						
KUR				smax			
	comp=E,290nm,0.8s						
SKR	**Severo-Kuril's**	**4.52**	**25**	*e*PN	**Pn**	**15 27 41.1**	**+1.2**
SKR				*e*		15 28 31.5	
ASAJ	**Asahikawa**	**7.81**	**255**	Pn	**Pn**	**15 28 29.5**	**+4.5**
	comp=E,0.8nm,0.3s,baz=157,slow=26,SNR=6.8						
ASAJ	**Asahikawa**	**7.81**	**255**	PN	**Pn**	**15 28 29.5**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.00**	**233**	Pn	**Pn**	**15 30 02.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=282,slow=32,SNR=3.1						
KSRS	**Korea Array**	**20.75**	**253**	P	**P**	**15 31 12.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=55,slow=9.8,SNR=5.1						
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**15 32 50.8**	**-0.7**
	comp=Z,0.2nm,0.7s,mb3.0,baz=69,slow=9.9,SNR=2.2						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**15 35 01.4**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=66,slow=7.1,SNR=9.3						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**15 35 01.4**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**15 35 31.5**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=72,slow=9.5,SNR=4.7						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**15 35 31.5**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JIRN	**Jiri**	**54.95**	**275**	*e*P	**P**	**15 36 03.0**	**+1.4**
	comp=Z,9.4nm,0.9s,mb4.8						
KKN	**Kakani**	**55.49**	**275**	*e*P	**P**	**15 36 07.0**	**+1.4**
	comp=Z,7.3nm,0.7s,mb4.8						
DMN	**Daman**	**55.72**	**275**	*e*P	**P**	**15 36 08.2**	**+1.0**
	comp=Z,13nm,0.9s,mb5.0						
GKN	**Gorkha**	**55.80**	**276**	*e*P	**P**	**15 36 09.0**	**+1.2**
	comp=Z,6.8nm,0.6s,mb4.9						
KOLN	**Koldanda**	**56.65**	**276**	*e*P	**P**	**15 36 15.0**	**+1.1**
	comp=Z,11nm,0.9s,mb4.9						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	**P**	**15 36 22.0**	**-1.1**
	comp=Z,7.0nm,0.9s,mb4.7,baz=20,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	**P**	**15 36 22.0**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FINES	**FINESS Array B**	**64.15**	**335**	P	**P**	**15 37 04.0**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.2,baz=35,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**64.15**	**335**	P	**P**	**15 37 04.1**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s

BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**15 40 40.6**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**15 40 46.1**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**52.74**	**311**	*e*P	**P**	**15 40 46.1**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.3						
ARU	**Arti**	**55.93**	**318**	*e*P	**P**	**15 41 08.5**	**-0.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ARU	**Arti**	**55.93**	**318**	*e*P	**P**	**15 41 08.5**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**64.47**	**336**	P	**P**	**15 42 07.0**	**-0.2**
	comp=Z,3.5nm,1.0s,mb4.3,baz=35,slow=5.1,SNR=2.8						
WRA	**Warramunga Arr**	**69.40**	**201**	P	**P**	**15 42 37.7**	**-0.9**
	comp=Z,0.4nm,1.1s,mb3.3,baz=20,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**73.08**	**201**	P	**P**	**15 43 01.4**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=5.5,SNR=6.5						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**15 43 17.7**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=4.0,SNR=7.2						

IDC 17 15:33:23.1±1.1, 4580N×15467E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=43.0km s-min=30.7km az=96.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BVAR	**Borovoye Array**	**52.30**	**311**	P	P	15 42 35.9	-0.5
	0.3nm,0.3s,baz=52,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**67.98**	**201**	P	P	15 44 23.9	-0.1
	0.6nm,0.7s,baz=19,slow=6.9,SNR=8.2						
ASAR	**Alice Springs**	**71.66**	**200**	P	P	15 44 47.3	+0.7
	0.6nm,0.8s,baz=12,slow=6.4,SNR=8.0						
TXAR	**Lajitas Array**	**77.01**	**61**	P	P	15 45 18.1	+0.3
	0.5nm,0.7s,baz=316,slow=3.5,SNR=4.4						
STKA	**Stephens Creek**	**78.12**	**191**	P	P	15 45 23.1	-1.4
	1.2nm,0.9s,baz=337,slow=7.7,SNR=3.0						

IDC 17 15:34:19.0±0.8, 4631N×154.31E, h0km, mb3.9/14, mb1 4.2/15, mb1mx4.0/26, mbtmp4.0/15, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx2.6/43, Error ellipse: s-maj=21.9km s-min=16.5km az=160.0
NEIC 17 15:34:20.5±0.5, 4630N×154.23E, h10km, mb4.3/3, Error ellipse: s-maj=14.4km s-min=10.7km az=171.0
ISCJB 17 15:34:22.5±2.0, 464N±0.1×1542E±0.1, h36km±17km, mb4.0/17, MS4.3/1, Error ellipse: s-maj=21.1km s-min=12.3km az=118.5
MOS 17 15:34:22.5±0.7, 4634N×154.16E, h38km, mb4.4/4, Error ellipse: s-maj=20.6km s-min=14.0km az=89.8

ISC 17 15:34:25.1±1.7, 464N±01×1542E±01, h42km±15km, n28, σ0§71/27, mb4.0/17, MS4.3/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.47**	**16**	*e*PN	**Pn**	**15 35 30.1**	**-0.1**
ASAJ	**Asahikawa**	**8.52**	**259**	Pn	**Pn**	**15 36 25.6**	**-0.2**
	1.5nm,0.3s,baz=85,slow=14,SNR=6.6						
ASAJ	**Asahikawa**	**8.52**	**259**	PN	**Pn**	**15 36 25.6**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**21.44**	**255**	P	**P**	**15 39 11.1**	**+1.5**
	comp=Z,1.5nm,0.6s,mb3.5,baz=61,slow=10,SNR=5.2						
ULN	**Ulaanbaatar**	**31.74**	**290**	*e*P	**P**	**15 40 50.3**	**+5.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
ULN	**Ulaanbaatar**	**31.74**	**290**	*e*P	**P**	**15 40 50.3**	**+5.3**
	comp=Z,6.3nm,1.4s,mb4.2						
SONM	**Songino Array**	**32.18**	**290**	P	**P**	**15 40 47.7**	**-1.1**
	comp=Z,0.6nm,0.9s,mb3.4,baz=53,slow=5.8,SNR=2.9						
SML	**Sawmill**	**35.70**	**43**	*e*P	**P**	**15 41 19.2**	**-0.1**
INK	**Inuvik**	**41.54**	**32**	P	**P**	**15 42 08.5**	**+0.2**
	comp=Z,2.0nm,0.6s,mb3.9,baz=322,slow=6.1,SNR=8.6						
MKAR	**Makanchi Array**	**47.79**	**298**	P	**P**	**15 42 58.8**	**+0.7**
	comp=Z,2.3nm,0.9s,mb4.2,baz=60,slow=7.3,SNR=8.2						
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**15 43 23.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**15 43 23.8**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**51.68**	**310**	P	**P**	**15 43 28.4**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=55,slow=7.9,SNR=6.2						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**15 43 50.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.68**	**297**	*e*P	**P**	**15 43 50.5**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.1						
NEW	**Newport**	**56.77**	**53**	LR	LR	16 08 55.4	
	comp=Z,219nm,18.6s,MS4.3,baz=230,slow=37						
ARCES	**ARCESS Array B**	**58.24**	**341**	P	**P**	**15 44 16.1**	**-0.3**
	comp=Z,16nm,1.1s,mb4.9,baz=24,slow=15,SNR=3.6						
AKTK	**Aktyubinsk**	**59.53**	**312**	P	**P**	**15 44 23.4**	**-0.6**
AKTO	**Aktyubinsk**	**59.53**	**312**	P	**P**	**15 44 23.4**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.2,baz=98,slow=10,SNR=4.0						
AKTO	**Aktyubinsk**	**59.53**	**312**	P	**P**	**15 44 23.5**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**61.91**	**63**	P	**P**	**15 44 40.6**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=298,slow=8.7,SNR=5.2						
PDAR	**Pinedale Array**	**64.33**	**54**	P	**P**	**15 44 56.4**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=318,slow=2.0,SNR=6.5						
FINES	**FINESS Array B**	**64.68**	**335**	P	**P**	**15 44 58.6**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.4,baz=52,slow=9.9,SNR=4.0						
WRA	**Warramunga Arr**	**68.44**	**200**	P	**P**	**15 45 20.9**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=20,slow=6.6,SNR=5.2						
NB2	**NORSAR Subarra**	**68.81**	**342**	P	**P**	**15 45 24.7**	**-0.2**
	comp=Z,9.5nm,1.7s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.81**	**342**	P	**P**	**15 45 26.1**	**+1.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=107,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**72.13**	**200**	P	**P**	**15 45 45.6**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=8.7,slow=5.1,SNR=6.5						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**15 46 13.7**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=297,slow=4.4,SNR=21						

IDC 17 15:44:07.1±0.8, 4743N×153.45E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/25, mbtmp3.9/14, ML3.8/1, MS4.2/5, Ms1 4.2/5, ms1mx3.2/47, Error ellipse: s-maj=24.9km s-min=18.7km az=115.0
NEIC 17 15:44:08.9±0.7, 4736N×153.36E, h10km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=12.6km az=128.0
MOS 17 15:44:10.7±2.0, 4731N×153.68E, h33km, mb4.5/1, Error ellipse: s-maj=17.5km s-min=9.2km az=68.8
ISCJB 17 15:44:13.8±1.2, 4742N±009×1535E±0.1, h64km±10km, mb3.9/14, Error ellipse: s-maj=20.9km s-min=7.3km az=85.0

ISC 17 15:44:16.0±1.0, 4744N±009×1535E±01, h69km±9km, n33, σ1§08/31, mb3.8/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.68**	**27**	*e*PN	**Pn**	**15 45 11.5**	**+1.1**
SKR				*e*S	**Sn**	**15 45 50.6**	**-1.9**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,120nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**240**	PN	**Pn**	**15 45 45.2**	**-1.4**
YUK				*e*S	**Sn**	**15 47 09.0**	**+12**
YUK				smax			
	comp=N,230nm,0.5s						
YUK				smax			
	comp=E,150nm,0.5s						
PET	**Petropavlovsk**	**6.50**	**29**	*e*PN	**Pn**	**15 45 49.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.33**	**270**	⇑*e*PN	**Pn**	**15 46 02.0**	**+1.7**
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.33**	**270**	*e*Pn	**Pn**	**15 46 01.5**	**+1.2**
	comp=Z,44nm,0.4s						
ASAJ	**Asahikawa**	**8.30**	**250**	Pn	**Pn**	**15 46 13.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=58,slow=15,SNR=8.3						
ASAJ				LR	LR	15 49 16.1	
	comp=Z,43nm,18.9s,baz=23,slow=37						
ASAJ	**Asahikawa**	**8.30**	**250**	PN	**Pn**	**15 46 13.4**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,43nm,18.9s						

MA2	**Magadan**	**12.26**	**353**	*e*PN	**Pn**	**15 47 08.3**	**+0.7**
MJAR	**Matsushiro Arr**	**15.70**	**232**	Pn	**Pn**	**15 47 50.5**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=21,slow=11,SNR=7.2						
MAJO	**Matsushiro**	**15.71**	**232**	*e*P	**Pn**	**15 47 54.8**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
MAJO	**Matsushiro**	**15.71**	**232**	*e*Pn	**Pn**	**15 47 54.8**	**+1.8**
	comp=Z,14nm,1.0s						
KSRS	**Korea Array**	**21.25**	**251**	P	**P**	**15 48 56.2**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.6,baz=55,slow=11,SNR=8.0						
COLA	**College**	**35.44**	**39**	P	**P**	**15 51 04.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
COLA	**College**	**35.44**	**39**	P	**P**	**15 51 04.8**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.3						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**15 51 51.0**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=244,slow=4.1,SNR=4.3						
RES	**Resolute Bay**	**50.10**	**19**	P	**P**	**15 53 04.6**	**+0.6**
	comp=Z,59nm,0.8s						
YKA	**Yellowknife Ar**	**50.22**	**37**	LR	LR	16 13 07.3	
	comp=Z,86nm,21.6s,baz=195,slow=35						
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**15 53 08.8**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=62,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**57.28**	**341**	P	**P**	**15 53 56.6**	**+0.2**
	comp=Z,4.6nm,1.0s,mb4.5,baz=19,slow=7.7,SNR=4.0						
FINES	**FINESS Array B**	**63.52**	**335**	P	**P**	**15 54 38.5**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.2,baz=34,slow=7.2,SNR=16						
PDAR	**Pinedale Array**	**64.14**	**54**	P	**P**	**15 54 44.3**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=66,slow=1.8,SNR=3.8						
NB2	**NORSAR Subarra**	**67.66**	**341**	P	**P**	**15 55 04.7**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.9,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.66**	**341**	P	**P**	**15 55 05.7**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=27,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	**69.25**	**199**	P	**P**	**15 55 14.4**	**-1.2**
	comp=Z,0.5nm,0.9s,mb3.4,baz=15,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**15 55 25.4**	**-1.5**
	comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**72.94**	**199**	P	**P**	**15 55 38.4**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=7.5,slow=5.4,SNR=14						
WSAR	**Wadi Sarin**	**76.39**	**289**	LR	LR	16 30 44.0	
	comp=Z,184nm,21.0s,baz=286,slow=37						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**15 56 02.2**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=302,slow=4.6,SNR=6.7						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**15 56 02.2**	**+1.3**
GERES	**GERESS Array B**	**77.95**	**334**	P	**P**	**15 56 05.7**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=44,slow=6.2,SNR=4.1						
GERES				LR	LR	16 34 57.4	
	comp=Z,157nm,21.6s,baz=250,slow=39						
BRTR	**Keskin Array B**	**78.06**	**317**	P	**P**	**15 56 07.8**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.7,baz=25,slow=5.7,SNR=4.5						
ASF	**Jabal al Asfar**	**82.45**	**310**	LR	LR	16 38 08.2	
	comp=Z,226nm,21.4s,baz=236,slow=39						
MMAI	**Mount Meron Ar**	**82.55**	**312**	LR	LR	16 38 10.6	
	comp=Z,240nm,21.8s,baz=185,slow=39						

ISCJB 17 15:47:55.7±0.4, 2837N±003×54.12E±004, h10km, Error ellipse: s-maj=6.0km s-min=3.3km az=104.1
CSEM 17 15:47:57.2±0.2, 2849N×5396E, h10km, ML3.6, Error ellipse: s-maj=4.5km s-min=2.6km az=146.0
THR 17 15:47:57.0±0.8, 2829N×5401E, h38km±5km, ML3.6
TEH 17 15:47:58.4, 2842N×5398E, h9km, Mn3.6

ISC 17 15:47:55.8±1.0, 2835N±003×5406E±004, h1km±7km, n28, σ0§95/40, 2C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.95**	**266**	*e*Pg	**Pg**	**15 48 14.6**	**+0.5**
GHIR				AML	AML	15 48 39.6	
	comp=N,1μm,0.5s						
GHIR				AML	AML	15 48 46.7	
	comp=E,1μm,0.5s						
IMOK	**Mook**	**1.37**	**301**	*e*Pn	**Pn**	**15 48 21.6**	**-0.5**
IMOK				*e*Sn	**Sn**	**15 48 40.6**	**-0.3**
IPAR	**Pars**	**1.73**	**329**	*e*Pn	**Pn**	**15 48 28.2**	**+1.2**
IPAR				*e*Sn	**Sn**	**15 48 49.6**	**-0.1**
SHI	**Shiraz**	**1.87**	**314**	*e*Sn	**Sn**	**15 48 52.3**	**-0.9**
BNDS	**Bandar-Abbas**	**2.10**	**116**	*e*Pn	**Pn**	**15 48 31.6**	**-0.5**
BNDS				*e*Sg	**Sg**	**15 49 02.2**	**-0.9**
BNDS				AML	AML	15 49 10.9	
	comp=N,335nm,0.4s						
BNDS				AML	AML	15 49 11.7	
	comp=E,316nm,0.3s						
BNDS	**Bandar-Abbas** SNR=54	**2.10**	**116**	*e*Pn	**Pn**	**15 48 31.6**	**-0.5**
BNDS				*e*Sg	**Sg**	**15 49 02.2**	**-0.9**
	comp=E,316nm,0.3s,SNR=96						
KRBR	**Kerman**	**2.87**	**55**	*e*Pn	**Pn**	**15 48 43.8**	**+1.1**
KRBR				*e*Sg	**Sg**	**15 49 26.9**	**-1.0**
KRBR				AML	AML	15 49 36.1	
	comp=E,204nm,0.6s						
KRBR				AML	AML	15 49 36.6	
	comp=N,217nm,0.4s						
KRBR	**Kerman** SNR=54	**2.87**	**55**	*e*Pn	**Pn**	**15 48 43.8**	**+1.2**
KRBR				*e*Sg	**Sg**	**15 49 26.9**	**-1.0**
	comp=N,217nm,0.4s,SNR=94						
IMEH	**Mehriz**	**3.06**	**9**	*e*Pn	**Pn**	**15 48 46.4**	**+1.0**
BANOM	**Banah** SNR=49	**3.14**	**140**	P	**Pn**	**15 48 46.5**	**+0.1**
BANOM				⇓S	**Sn**	**15 49 25.0**	**+0.6**
IBAF	**Bafgh**	**3.48**	**22**	*e*Pn	**Pn**	**15 48 52.3**	**+1.2**
IBAF				*e*Sn	**Sn**	**15 49 32.0**	**-1.0**
ISAD	**Sadrabad**	**3.56**	**355**	*e*Pn	**Pn**	**15 48 53.9**	**+1.6**
ICHK	**Chekchek**	**3.89**	**4**	*e*Pn	**Pn**	**15 48 57.6**	**+0.9**
ASHO	**Ashiyiah** SNR=35	**4.07**	**153**	P	**Pn**	**15 48 59.7**	**+0.5**
ASHO				⇑S	**Sn**	**15 49 48.1**	**+0.6**
IGAR	**Garneh**	**4.20**	**338**	*e*Pn	**Pn**	**15 49 04.5**	**+3.5**
NASN	**Na'in**	**4.56**	**347**	*e*Pn	**Pn**	**15 49 06.5**	**+0.6**
IZEF	**Zefreh**	**4.77**	**342**	*e*Pn	**Pn**	**15 49 08.5**	**-0.3**
IZEF				*e*Sn	**Sn**	**15 50 01.0**	**-3.7**
IPIR	**Pirpir**	**5.11**	**328**	*e*Pn	**Pn**	**15 49 13.5**	**0.0**
IPIR				*e*Sn	**Sn**	**15 50 09.0**	**-4.2**
IKLH	**Kalahroud**	**5.39**	**337**	*e*Pn	**Pn**	**15 49 17.6**	**+0.2**
IKLH				*e*Sn	**Sn**	**15 50 16.0**	**-4.1**
ARQ	**Araqi** SNR=12	**5.46**	**156**	P	**Pn**	**15 49 19.1**	**+0.7**
ISFB	**Sefidab**	**6.18**	**346**	*e*Pn	**Pn**	**15 49 27.9**	**-0.3**
SMDO	**Samad** SNR=20	**6.38**	**145**	⇓P	**Pn**	**15 49 31.1**	**+0.2**
IVRN	**Varamin**	**6.92**	**344**	*e*Pn	**Pn**	**15 49 38.1**	**-0.2**
ASAO	**Ashtian**	**7.07**	**332**	*e*Pn	**Pn**	**15 49 40.4**	**0.0**
WBK	**Wadi Bani Khal** SNR=12	**7.24**	**141**	P	**Pn**	**15 49 42.0**	**-0.7**
IRAZ	**Razeghan**	**7.86**	**334**	*e*Pn	**Pn**	**15 49 50.4**	**-0.9**
WHFO	**Wadi Hawf** SNR=10	**10.39**	**182**	⇓P	**Pn**	**15 50 24.3**	**-1.7**
ABTO	**Aybut** SNR=5.7	**10.97**	**184**	⇑P	**Pn**	**15 50 30.9**	**-3.0**

IDC 17 15:50:26.3±1.9, 4664N×152.95E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=48.7km s-min=36.9km az=79.0

MOS 17 15:50:30.5±1.2, 4655N×15248E, h33km, mb4.2/1, Error ellipse: s-maj=71.1km s-min=37.0km az=143.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.48**	**249**	*e*PN	Pn	15 51 22.3	0.0
KUR				*i* S	Sn	15 52 11.8	+9.4
KUR				pmax	pmax		
	comp=Z,190nm,0.8s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,100nm,0.6s						
ASAJ	**Asahikawa**	**7.38**	**254**	Pn	Pn	15 52 19.9	+4.0
	comp=E,0.4nm,0.3s,baz=265,slow=33,SNR=3.6						
KSRS	**Korea Array**	**20.32**	**252**	P	P	15 55 07.8	+4.1
	comp=E,1.6nm,1.0s,baz=58,slow=7.1,SNR=4.1						
WRA	**Warramunga Arr**	**68.19**	**198**	P	P	16 01 29.2	+1.6
	comp=E,0.4nm,0.6s,baz=54,slow=10,SNR=5.3						
AKASG	**Malin Array Be**	**71.47**	**326**	P	P	16 01 48.9	+1.2
	comp=E,0.8nm,0.6s,baz=33,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**71.47**	**326**	P	P	16 01 48.9	+1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**71.88**	**198**	P	P	16 01 52.6	+2.4
	comp=Z,0.2nm,0.6s,baz=15,slow=7.9,SNR=4.7						

ISCJB 17 15:51:07.6±0.6, 4747N±008×1549E±0.1, h10km, mb4.1/15, Error ellipse: s-maj=15.1km s-min=8.9km az=70.7
IDC 17 15:51:07.7±0.8, 4730N×15493E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, Error ellipse: s-maj=25.3km s-min=16.5km az=160.0
NEIC 17 15:51:09.3±0.5, 4741N×15489E, h10km, mb4.3/2, Error ellipse: s-maj=12.7km s-min=8.0km az=150.0
MOS 17 15:51:11.3±1.0, 4748N×15486E, h37km, mb4.5/2, Error ellipse: s-maj=27.5km s-min=12.5km az=86.4

ISC 17 15:51:09.4±0.6, 4749N±008×1549E±01, h10km, n23, σ0§63/25, mb4.1/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.30**	**14**	*e*PN	**Pn**	**15 52 01.9**	**+0.7**
SKR				*e*S	**Sn**	**15 52 39.5**	**-1.0**
SKR				smax			
	comp=N,240nm,0.4s						
SKR				smax			
	comp=E,150nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.4s						
PET	**Petropavlovsk**	**6.05**	**22**	*e*Pn	**Pn**	**15 52 38.8**	**-0.1**
PET				*e*Sn	**Sn**	**15 53 44.2**	**-4.0**
BILL	**Bilibino**	**21.41**	**12**	*e*P	**P**	**15 55 57.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.1						
BILL	**Bilibino**	**21.41**	**12**	*e*P	**P**	**15 55 57.0**	**-0.4**
	comp=Z,11nm,1.2s,mb4.1						
JOW	**Kunigami**	**29.32**	**235**	P	**P**	**15 57 11.7**	**-0.5**
	comp=Z,18nm,0.7s,mb4.9,baz=126,slow=26,SNR=6.8						
SONM	**Songino Array**	**32.22**	**289**	P	**P**	**15 57 37.9**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=81,slow=9.1,SNR=3.4						
KDAK	**Kodiak Island**	**32.71**	**52**	P	**P**	**15 57 41.7**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7,baz=170,slow=5.8,SNR=4.8						
KDAK	**Kodiak Island**	**32.71**	**52**	P	**P**	**15 57 41.7**	**-0.3**
INK	**Inuvik**	**40.38**	**33**	P	**P**	**15 58 47.9**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.6,baz=290,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**47.66**	**298**	P	**P**	**15 59 46.3**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=71,slow=7.7,SNR=6.6						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**16 00 01.2**	**+0.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=293,slow=6.9,SNR=4.4						
CHKZ	**Chkalovo**	**50.87**	**310**	*e*P	**P**	**16 00 10.3**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**50.87**	**310**	*e*P	**P**	**16 00 10.3**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.31**	**310**	P	**P**	**16 00 14.6**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.3,baz=61,slow=7.4,SNR=14						
BRVK	**Borovoye**	**51.35**	**310**	*e*P	**P**	**16 00 13.2**	**-0.8**
ARCES	**ARCESS Array B**	**57.54**	**341**	P	**P**	**16 00 59.4**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=49,slow=7.4,SNR=2.9						
NVAR	**Mina Array Bea**	**61.03**	**64**	P	**P**	**16 01 23.8**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.8,baz=280,slow=10,SNR=5.2						
PDAR	**Pinedale Array**	**63.35**	**55**	P	**P**	**16 01 39.2**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=316,slow=4.1,SNR=5.2						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**16 01 42.9**	**+0.7**
	comp=Z,1.9nm,0.5s,mb4.4,baz=31,slow=8.8,SNR=15						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**16 01 42.9**	**+0.7**
ASAR	**Alice Springs**	**73.30**	**200**	P	**P**	**16 02 39.7**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=5.8,SNR=7.0						
TXAR	**Lajitas Array**	**76.09**	**62**	P	**P**	**16 02 57.2**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=308,slow=4.8,SNR=4.5						
TXAR	**Lajitas Array**	**76.09**	**62**	P	**P**	**16 02 57.2**	**-0.1**

NNC 17 16:02:49.8±6.1, 3421N×6928E, h0km, mb3.6, mpv4.1, Error ellipse: s-maj=80.4km s-min=60.9km az=118.0
IDC 17 16:03:20.3±0.9, 3651N×6993E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.8/3, Error ellipse: s-maj=22.9km s-min=18.7km az=43.0
NEIC 17 16:03:22.0±0.7, 3666N×6990E, h10km, mb3.8/1, Error ellipse: s-maj=12.4km s-min=11.8km az=150.0
MOS 17 16:03:23.8±1.0, 3673N×6986E, h33km, mb3.8/1, Error ellipse: s-maj=22.6km s-min=10.5km az=82.1
ISCJB 17 16:03:28.7±0.8, 3684N±004×7021E±009, h95km±11km, mb3.6/7, Error ellipse: s-maj=12.2km s-min=6.1km az=151.7

ISC 17 16:03:30.5±0.7, 3684N±004×7026E±009, h101km±10km, n43, σ1§34/44, mb3.6/7, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.30**	**155**	⇑P	**Pn**	**16 04 22.0**	**+1.8**
CE

NOA	**NORSAR Array B**	**43.75**	**323**	P	**P**	**16 11 27.9**	**+2.1**
TORD	**Torodi Ar. Bea**	**65.13**	**268**	P	**P**	**16 14 01.0**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=50,slow=6.5,SNR=6.9						
WRA	**Warramunga Arr**	**82.68**	**121**	P	**P**	**16 15 46.3**	**+3.5**
	comp=Z,0.7nm,0.6s,mb3.7,baz=324,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**84.94**	**124**	P	**P**	**16 15 58.0**	**+3.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=311,slow=4.6,SNR=12						

NIED ***17*** *16:08:00, 32.00N×132.00E, h17km, Mw4.4 Best double couple: M₀5.08000×10¹⁵ NP1:φ₁95.00000°, δ56.00000°, λ-51.00000°. NP2:φ₂319.00000°, δ50.00000°, λ-133.00000°.*

MOS ***17*** *16:08:34.6±1.1, 31.91N×131.85E, h33km, mb4.2/2, Error ellipse: s-maj=25.4km s-min=19.5km az=80.8*

ISCJB ***17*** *16:08:36.4±0.5, 31.95N±004×132.03E±005, h48km±6km, mb4.2/10, Error ellipse: s-maj=8.5km s-min=5.4km az=83.1*

JMA ***17*** *16:08:36.8±0.1, 31.96N×132.02E, h36km±2km, M4.3*

JMA Felt II J1.

NEIC ***17*** *16:08:37.7±0.9, 31.91N×131.82E, h38km± 10km, mb4.2/3, Error ellipse: s-maj=10.9km s-min=8.6km az=88.0*

NEIC Recorded [2 JMA] in Miyazaki and [1 JMA] in Kagoshima and Oita Prefectures.

IDC ***17*** *16:08:40.5s1.7, 31.85N×131.59E, h60km±16km, mb3.9/9, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, MS3.0/2, Ms1 3.0/2, ms1mx2.4/37, Error ellipse: s-maj=26.7km s-min=9.9km az=86.0*

ISC 17 16:08:37.0±0.9, 3193N±003×13198E±004, h31km±7km, n36, σ1§01/44, mb4.2/10, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTSN	**Tsuno**	**0.51**	**309**	P	**Pb**	**16 08 47.3**	**-0.4**
JTSN				eS	**Sb**	**16 08 54.9**	**-0.1**
JNAR	**Kushima--Naru**	**0.72**	**237**	i̯P	**Pn**	**16 08 51.4**	**+0.4**
JNAR				eS	**Sn**	**16 09 02.1**	**+1.1**
JTZ	**Takazaki**	**0.75**	**268**	eS	**Sn**	**16 09 02.3**	**+0.4**
JKIT	**Kitakata**	**0.83**	**328**	i̯P	**Pn**	**16 08 52.5**	**0.0**
JKIT				eS	**Sn**	**16 09 03.6**	**0.0**
JUS	**Usuki**	**1.15**	**351**	i̯P	**Pn**	**16 08 57.3**	**+0.3**
JIU2	**Izumi 2**	**1.16**	**302**	i̯P	**Pn**	**16 08 57.4**	**+0.3**
JTO	**Tosashimizu**	**1.17**	**37**	i̯P	**Pn**	**16 08 55.9**	**-1.3**
UWA2	**Uwa jima 2**	**1.40**	**23**	P	**Pn**	**16 08 59.7**	**-0.7**
UWA2				eS	**Sn**	**16 09 16.0**	**-1.7**
JNU	**Nakatsue**	**1.51**	**322**	P	**Pn**	**16 09 03.2**	**+1.3**
	113nm,0.3s,baz=273,slow=25,SNR=389						
JNU				S	**Sn**	**16 09 21.6**	**+1.1**
	397nm,0.3s,baz=238,slow=19,SNR=13						
JTN	**Tanegashima 3**	**1.53**	**214**	i̯P	**Pn**	**16 09 02.0**	**-0.1**
JOW	**Kunigami**	**6.01**	**213**	P	**Pn**	**16 10 02.4**	**-1.4**
	1.6nm,0.3s,baz=113,slow=28,SNR=2.7						
JOW				S	**Sn**	**16 11 08.8**	**-2.7**
	3.1nm,0.3s,baz=132,slow=28,SNR=3.6						
JOW				LR	LR	16 12 35.8	
	comp=Z,272nm,21.1s,baz=0.1,slow=41						
JOW	**Kunigami**	**6.01**	**213**	P	**Pn**	**16 10 02.4**	**-1.4**
JOW				S	**Sn**	**16 11 08.8**	**-2.7**
JOW				LR	LR	16 12 35.8	
KSRS	**Korea Array**	**6.45**	**330**	P	**Pn**	**16 10 09.9**	**+0.2**
	baz=147,slow=15,SNR=4.4						
MAJO	**Matsushiro**	**6.92**	**47**	*e*P	**Pn**	**16 10 17.1**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,34nm,0.9s						
MAJO	**Matsushiro**	**6.92**	**47**	*e*Pn	**Pn**	**16 10 17.1**	**+0.9**
	comp=Z,34nm,0.9s						
MAT	**Matsushiro**	**6.92**	**47**	P	**Pn**	**16 10 17.5**	**+1.3**
MAT				S	**Sn**	**16 11 33.1**	**-0.7**
MJAR	**Matsushiro Arr**	**6.92**	**47**	P	**Pn**	**16 10 17.8**	**+1.6**
	comp=Z,3.3nm,0.3s,baz=238,slow=13,SNR=39						
MJAR				LR	LR	16 12 17.6	
	comp=Z,57nm,20.6s,baz=245,slow=30						
MJAR	**Matsushiro Arr**	**6.92**	**47**	P	**Pn**	**16 10 17.8**	**+1.6**
MJAR				LR	LR	16 12 17.6	
ULN	**Ulaanbaatar**	**24.73**	**317**	*e*P	**P**	**16 13 54.1**	**-1.4**
SONM	**Songino Array**	**25.09**	**317**	P	**P**	**16 13 58.8**	**0.0**
	comp=Z,2.5nm,0.8s,mb3.8,baz=128,slow=9.8,SNR=15						
MKAR	**Makanchi Array**	**40.50**	**306**	P	**P**	**16 16 11.5**	**-1.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=92,slow=9.4,SNR=4.4						
AAK	**Ala-Archa**	**46.17**	**300**	*e*P	**P**	**16 17 03.1**	**+4.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**46.17**	**300**	*e*P	**P**	**16 17 03.1**	**+4.4**
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**48.41**	**315**	P	**P**	**16 17 13.7**	**-2.5**
	comp=Z,0.4nm,0.5s,mb3.8,baz=128,slow=9.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	**50.11**	**188**	*e*P	**P**	**16 17 29.4**	**+0.2**
	comp=Z,8.2nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.11**	**188**	P	**P**	**16 17 29.5**	**+0.3**
	comp=Z,7.0nm,0.8s,mb4.7,baz=19,slow=8.5,SNR=18						
WRA	**Warramunga Arr**	**51.62**	**177**	P	**P**	**16 17 40.4**	**-0.1**
	comp=Z,6.4nm,0.7s,mb4.7,baz=353,slow=8.4,SNR=71						
WB2	**Warramunga Arr**	**51.62**	**177**	*e*P	**P**	**16 17 40.4**	**-0.1**
AS31	**Alice Springs**	**55.31**	**178**	*e*P	**P**	**16 18 07.9**	**+0.3**
ASAR	**Alice Springs**	**55.31**	**178**	P	**P**	**16 18 07.6**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=4.9,slow=6.5,SNR=45						
ASPA	**Alice Springs**	**55.31**	**178**	*e*P	**P**	**16 18 07.9**	**+0.3**
DZM	**Mont Dzumac**	**63.02**	**144**	P	**P**	**16 19 02.0**	**+1.1**
	comp=Z,5.4nm,0.8s,mb4.7,baz=277,slow=8.1,SNR=5.8						
STKA	**Stephens Creek**	**64.11**	**171**	*e*P	**P**	**16 19 08.5**	**+0.4**
	comp=Z,6.1nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**64.11**	**171**	P	**P**	**16 19 08.5**	**+0.3**
	comp=Z,7.5nm,0.7s,mb4.8,baz=344,slow=7.4,SNR=21						
STKA	**Stephens Creek**	**64.11**	**171**	*e*P	**P**	**16 19 08.3**	**+0.1**
NVAR	**Mina Array Bea**	**84.24**	**48**	P	**P**	**16 21 07.2**	**+1.7**
	comp=Z,0.5nm,0.7s,mb3.7,baz=294,slow=6.5,SNR=3.9						

IDC ***17*** *16:08:27.9±0.7, 47.03N×152.60E, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/24, mbtmp4.0/10, MS3.2/1, Ms1 3.2/1, ms1mx2.8/41, Error ellipse: s-maj=25.3km s-min=18.8km az=130.0*

MOS ***17*** *16:08:30.6±1.9, 47.08N×153.14E, h33km, mb4.3/9, Error ellipse: s-maj=21.9km s-min=14.8km az=49.0*

ISCJB ***17*** *16:08:36.9±1.3, 47.1N±0.1×152.7E±0.2, h85km±12km, mb3.9/9, Error ellipse: s-maj=25.9km s-min=8.2km az=90.1*

ISC 17 16:08:38.7±1.1, 471N±01×1527E±02, h87km±11km, n27, σ1§08/26, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.25**	**31**	*e*PN	**Pn**	**16 09 41.5**	**+0.5**
SKR				eS	**Sn**	**16 10 28.0**	**-1.4**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**240**	PN	**Pn**	**16 10 00.5**	**0.0**
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.77**	**272**	*e*PN	**Pn**	**16 10 17.2**	**+1.8**
ASAJ	**Asahikawa**	**7.66**	**251**	Pn	**Pn**	**16 10 28.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=75,slow=15,SNR=11						
ASAJ	**Asahikawa**	**7.66**	**251**	PN	**Pn**	**16 10 28.2**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.06**	**231**	Pn	**Pn**	**16 12 04.4**	**-2.2**
	baz=95,slow=10,SNR=1.9						
KSRS	**Korea Array**	**20.61**	**251**	LR	LR	16 21 27.6	
	comp=Z,65nm,19.4s,baz=110,slow=38						
INK	**Inuvik**	**41.52**	**33**	P	**P**	**16 16 16.6**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.1,baz=253,slow=8.6,SNR=7.7						
INK	**Inuvik**	**41.52**	**33**	P	**P**	**16 16 16.7**	**-0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TGY	**Tagaytay City**	**42.22**	**229**	P	**P**	**16 16 20.8**	**-2.2**
	comp=Z,131nm,0.3s,baz=145,slow=19,SNR=3.5						
TGY	**Tagaytay City**	**42.22**	**229**	P	**P**	**16 16 20.8**	**-2.2**
TGY				pmax	pmax		
	comp=Z,131nm,0.4s						
NVAR	**Mina Array Bea**	**62.54**	**62**	P	**P**	**16 18 54.5**	**+1.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=289,slow=9.3,SNR=8.6						
FINES	**FINESS Array B**	**63.59**	**334**	P	**P**	**16 19 00.0**	**-0.2**
	comp=Z,2.6nm,1.0s,mb4.0,baz=38,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**63.59**	**334**	P	**P**	**16 19 00.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PDAR	**Pinedale Array**	**64.79**	**54**	P	**P**	**16 19 09.1**	**+1.1**
	comp=Z,1.7nm,0.8s,mb3.9,baz=325,slow=2.3,SNR=8.9						
NB2	**NORSAR Subarra**	**67.79**	**341**	P	**P**	**16 19 27.2**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.79**	**341**	P	**P**	**16 19 27.2**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.0,baz=25,slow=6.5,SNR=4.3						
NOA	**NORSAR Array B**	**67.79**	**341**	P	**P**	**16 19 27.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**68.75**	**199**	P	**P**	**16 19 32.7**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.5,baz=20,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**68.75**	**199**	P	**P**	**16 19 32.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.08**	**326**	P	**P**	**16 19 47.0**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=34,slow=6.9,SNR=5.8						
AKASG	**Malin Array Be**	**71.08**	**326**	P	**P**	**16 19 47.1**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.45**	**198**	P	**P**	**16 19 56.5**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=18,slow=5.7,SNR=4.3						
ASAR	**Alice Springs**	**72.45**	**198**	P	**P**	**16 19 56.5**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**16 20 26.1**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.2,baz=299,slow=4.1,SNR=44						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**16 20 26.1**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CFAA	**Coronel Fontan**	**145.23**	**78**	PKPbc	PKPbc	16 28 05.9	-0.1
	comp=Z,0.2nm,0.3s,baz=237,slow=4.7,SNR=3.8						

IDC 17 16:08:45.2±1.7, 4703N×15264E, h0km, mb4.0/7, mb1 4.3/7, mb1mx3.9/23, mbtmp4.0/7, Error ellipse: s-maj=114.7km s-min=21.0km az=123.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.59**	**33**	P	P	16 16 33.3	-1.4
	1.3nm,0.6s,baz=281,slow=6.3,SNR=4.5						
YKA	**Yellowknife Ar**	**50.90**	**37**	P	P	16 17 48.1	+0.1
	2.6nm,0.7s,baz=298,slow=7.1,SNR=5.3						
NVAR	**Mina Array Bea**	**62.59**	**62**	P	P	16 19 10.9	-0.1
	0.4nm,0.5s,baz=298,slow=8.1,SNR=3.0						
PDAR	**Pinedale Array**	**64.84**	**54**	P	P	16 19 26.4	+0.4
	2.3nm,0.8s,baz=301,slow=2.5,SNR=12						
WRA	**Warramunga Arr**	**68.67**	**198**	P	P	16 19 50.4	0.0
	0.6nm,0.7s,baz=17,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**72.37**	**198**	P	P	16 20 12.7	-0.3
	0.4nm,0.6s,baz=13,slow=5.4,SNR=4.5						
TXAR	**Lajitas Array**	**77.64**	**60**	P	P	16 20 43.4	0.0
	3.5nm,0.6s,baz=300,slow=3.1,SNR=12						
CFAA	**Coronel Fontan**	**145.26**	**78**	PKPbc	PKPbc	16 28 23.9	-0.6
	0.2nm,0.5s,baz=288,slow=3.4,SNR=4.3						

BJI ***17*** *16:08:42.3, 32.17N×132.17E, h12km, mB4.7, mb4.3, Ms3.9, Msz3.6*

IDC ***17*** *16:08:44.9±0.7, 32.10N×131.52E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/28, mbtmp4.3/16, ML3.9/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/35, Error ellipse: s-maj=23.9km s-min=14.9km az=83.0*

ISCJB ***17*** *16:08:48.3±0.5, 32.07N±007×131.8E±0.1, h35km, mb4.4/25, MS3.9/1, Error ellipse: s-maj=14.0km s-min=8.7km az=119.5*

ISC 17 16:08:50.2±0.5, 3216N±007×1318E±01, h35km, n42, σ1§16/41, mb4.4/25, MS3.9/1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**1.22**	**322**	LR	LR	16 09 37.9	
	comp=Z,4μm,19.6s,baz=314,slow=46						
JOW	**Kunigami**	**6.12**	**211**	Pn	**Pn**	**16 10 13.4**	**-4.7**
	7.6nm,0.3s,baz=117,slow=23,SNR=8.4						
INCN	**Inchon**	**6.78**	**323**	Pn	**Pn**	**16 10 24.0**	**-3.2**
BJI	**Beijing**	**14.84**	**306**	P	**Pn**	**16 12 18.0**	**+0.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.5s						
BJI				LR	LR		
	comp=N,245nm,18.8s						
BJI				LR	LR		
	comp=E,464nm,18.8s						
BJI				LR	LR		
	comp=Z,212nm,15.3s						
XAN	**Xi'an**	**19.23**	**282**	P	**Pn**	**16 13 12.0**	**-0.4**
XAN				AP	pP	16 13 22.5	+2.1
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**19.32**	**336**	*e*P	**Pn**	**16 13 10.9**	**-2.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**19.32**	**336**	*e*P	**Pn**	**16 13 10.9**	**-2.6**
	comp=Z,9.8nm,0.8s						
LZH	**Lanzhou**	**23.41**	**287**	*e*P	**P**	**16 13 58.5**	**+2.4**
LZH				AP		16 14 05.0	
LZH				XP	sP	16 14 10.0	+0.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,173nm,4.1s						
ULN	**Ulaanbaatar**	**24.43**	**317**	*e*	**P**	**16 14 06.9**	**+1.4**
SONM	**Songino Array**	**24.80**	**317**	P	**P**	**16 14 09.7**	**+0.9**
	comp=Z,4.4nm,0.7s,mb4.1,baz=130,slow=10.0,SNR=22						
KMI	**Kunming**	**26.37**	**262**	P	**P**	**16 14 23.4**	**+0.4**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
GTA	**Gaotai**	**26.81**	**295**	*e*P	**P**	**16 14 29.5**	**+2.5**
GTA				AP	pP	16 14 35.0	-2.0
GTA				XP	sP	16 14 38.0	-3.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb3.9						
JIRN	**Jiri**	**39.53**	**276**	*e*P	**P**	**16 16 19.4**	**+1.7**
	comp=Z,13nm,0.7s,mb4.8						
GUN	**Gumba**	**39.72**	**276**	*e*P	**P**	**16 16 19.2**	**0.0**
	comp=Z,38nm,0.7s,mb5.2						
MKAR	**Makanchi Array**	**40.22**	**306**	P	**P**	**16 16 21.8**	**-1.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=95,slow=11,SNR=6.0						
KKN	**Kakani**	**40.26**	**276**	*e*P	**P**	**16 16 23.2**	**-0.5**
	comp=Z,11nm,0.6s,mb4.8						
DMN	**Daman**	**40.47**	**276**	*e*P	**P**	**16 16 26.7**	**+1.3**
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**40.74**	**277**	*e*P	**P**	**16 16 26.3**	**-1.3**
	comp=Z,9.3nm,0.8s,mb4.5						
KOLN	**Koldanda**	**41.68**	**277**	*e*P	**P**	**16 16 35.6**	**+0.2**
	comp=Z,14nm,0.8s,mb4.6						
PSI	**Prapat**	**42.48**	**233**	P	**P**	**16 16 41.5**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.2,baz=288,slow=2.4,SNR=6.3						
PSI				LR	LR	16 33 26.3	
	comp=Z,153nm,20.0s,MS3.9,baz=280,slow=35						
BVAR	**Borovoye Array**	**48.12**	**315**	P	**P**	**16 17 25.8**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=96,slow=9.6,SNR=8.2						
FITZ	**Fitzroy Crossi**	**50.32**	**188**	P	**P**	**16 17 43.0**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=339,slow=7.1,SNR=5.7						
FITZ	**Fitzroy Crossi**	**50.32**	**188**	*e*	**P**	**16 17 43.3**	**-0.1**
WB2	**Warramunga Arr**	**51.87**	**177**	*e*	**P**	**16 17 54.0**	**-1.0**
WRA	**Warramunga Arr**	**51.87**	**177**	P	**P**	**16 17 54.0**	**-1.1**
	comp=Z,4.4nm,0.7s,mb4.5,baz=354,slow=8.2,SNR=16						
AS31	**Alice Springs**	**55.55**	**178**	*e*	**P**	**16 18 22.6**	**+0.6**
ASAR	**Alice Springs**	**55.55**	**178**	P	**P**	**16 18 22.2**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.6,baz=12,slow=12,SNR=19						
ASPA	**Alice Springs**	**55.55**	**178**	*e*	**P**	**16 18 22.6**	**+0.6**
AKTO	**Aktyubinsk**	**56.01**	**312**	P	**P**	**16 18 25.4**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=79,slow=14,SNR=6.0						
AKTO	**Aktyubinsk**	**56.01**	**312**	P	**P**	**16 18 25.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AKTO	**Aktyubinsk**	**56.01**	**312**	P	**P**	**16 18 25.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
INK	**Inuvik**	**62.24**	**25**	P	**P**	**16 19 09.2**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.8,baz=284,slow=8.5,SNR=11						
WSAR	**Wadi Sarin**	**64.27**	**282**	P	**P**	**16 19 20.9**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.4,baz=72,slow=9.6,SNR=5.2						
STKA	**Stephens Creek**	**64.37**	**171**	*e*	**P**	**16 19 21.9**	**-0.6**
STKA	**Stephens Creek**	**64.37**	**171**	*e*	**P**	**16 19 21.9**	**-0.6**
FINES	**FINESS Array B**	**69.25**	**330**	P	**P**	**16 19 52.5**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=76,slow=5.9,SNR=5.4						
AKASG	**Malin Array Be**	**73.04**	**320**	P	**P**	**16 20 14.8**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.2,baz=54,slow=6.3,SNR=10.0						
NB2	**NORSAR Subarra**	**75.35**	**334**	P	**P**	**16 20 29.3**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.2,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**75.35**	**334**	P	**P**	**16 20 28.9**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=50,slow=5.7,SNR=4.2						
BRTR	**Keskin Array B**	**75.83**	**308**	P	**P**	**16 20 32.6**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=83,slow=4.5,SNR=7.6						
NVAR	**Mina Array Bea**	**84.22**	**48**	P	**P**	**16 21 20.2**	**+2.2**
	comp=Z,1.1nm,0.7s,mb4.1,baz=302,slow=5.4,SNR=6.0						
ULM	**Lac du Bonnet**	**87.75**	**28**	P	**P**	**16 21 36.2**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.6,baz=320,slow=7.9,SNR=3.9						

IDC 17 16:15:04.5±1.3, 4694N×15505E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=42.1km s-min=35.8km az=39.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.03**	**298**	P	P	16 23 45.0	-0.4
	0.3nm,0.5s,baz=64,slow=8.2,SNR=3.7						
BVAR	**Borovoye Array**	**51.76**	**310**	P	P	16 24 13.5	-0.3
	0.7nm,0.5s,baz=58,slow=6.8,SNR=6.7						
ASAR	**Alice Springs**	**72.83**	**200**	P	P	16 26 35.0	-0.1
	0.3nm,0.8s,baz=14,slow=5.3,SNR=6.1						
TXAR	**Lajitas Array**	**76.23**	**62**	P	P	16 26 55.0	+0.2
	0.3nm,0.7s,baz=306,slow=3.0,SNR=3.9						

ISCJB ***17*** *16:23:44.9±1.4, 38.35N±006×144.90E±0.09, h39km±21km, mb3.6/3, Error ellipse: s-maj=13.6km s-min=7.2km az=83.5*

JMA ***17*** *16:23:46.2±0.2, 38.23N×144.80E, h50km, M4.1*

IDC ***17*** *16:23:48.0±1.6, 38.61N×144.30E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=41.6km s-min=22.6km az=82.0*

ISC 17 16:23:47.1±2.2, 3846N±006×1447E±01, h15km±18km, n17, σ1§35/25, mb3.6/3, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.46**	**286**	P	**Pn**	**16 24 27.0**	**+0.3**
OFUJ				eS	**Sn**	**16 24 57.3**	**+0.9**
MIYJ	**Miyakonagasawa**	**2.51**	**297**	P	**Pn**	**16 24 27.9**	**+0.5**
MIYJ				eS	**Sn**	**16 24 59.0**	**+1.2**
JIO	**Ouri**	**2.64**	**271**	P	**Pn**	**16 24 28.8**	**-0.4**
JIO				S	**Sn**	**16 25 00.4**	**-0.5**
JMK	**Ichinoseki**	**2.77**	**281**	P	**Pn**	**16 24 31.4**	**+0.4**
JMK				eS	**Sn**	**16 25 05.2**	**+0.9**
JOT	**Ohata**	**4.05**	**317**	P	**Pn**	**16 24 51.4**	**+2.8**
JCH	**Churui**	**4.27**	**347**	P	**Pn**	**16 24 51.3**	**-0.4**
JCH				eS	**Sn**	**16 25 39.7**	**-1.6**
JKB	**Kayabe**	**4.43**	**322**	P	**Pn**	**16 24 56.1**	**+2.3**
NEM2	**Nemuro 2**	**4.96**	**9**	P	**Pn**	**16 24 57.7**	**-3.4**
NEM2				eS	**Sn**	**16 25 53.1**	**-5.1**
JRY	**Ryogami san**	**5.24**	**244**	P	**Pn**	**16 25 02.8**	**-2.1**
JRY				eS	Sx	16 25 58.8	
MJAR	**Matsushiro Arr**	**5.51**	**252**	Pn	**Pn**	**16 25 07.8**	**-0.9**
	1.2nm,0.3s,baz=73,slow=16,SNR=10						
MJAR				Sn	**Sn**	**16 26 11.6**	**-0.2**
	0.9nm,0.3s,baz=114,slow=16,SNR=3.4						
MAT	**Matsushiro**	**5.51**	**252**	P	**Pn**	**16 25 07.1**	**-1.6**
MAT				S	**Sn**	**16 26 10.7**	**-1.1**
JOD2	**Odawara 2**	**5.52**	**236**	eS	Sx	16 26 04.9	
JTKR	**Abashiri--Toko**	**5.54**	**354**	P	**Pn**	**16 25 08.1**	**-0.9**
JTKR				eS	Sx	16 26 10.0	
ASAJ	**Asahikawa**	**5.87**	**345**	Pn	**Pn**	**16 25 14.7**	**+1.1**
	2.9nm,0.3s,baz=192,slow=13,SNR=39						
ASAJ				Sn	**Sn**	**16 26 19.6**	**-1.0**
	0.9nm,0.3s,baz=286,slow=18,SNR=2.4						
BVAR	**Borovoye Array**	**51.55**	**312**	P	**P**	**16 32 52.1**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=87,slow=7.4,SNR=4.9						
WRA	**Warramunga Arr**	**58.90**	**191**	P	**P**	**16 33 49.3**	**+3.7**
	0.8nm,0.8s,mb3.8,baz=11,slow=7.0,SNR=10.0						
ASAR	**Alice Springs**	**62.62**	**191**	P	**P**	**16 34 14.8**	**+3.9**
	0.2nm,0.5s,mb3.5,baz=8.8,slow=6.9,SNR=6.4						

NEIC ***17*** *16:32:54.8±0.5, 50.25N×190.9E, h5km, ML2.6(BRA), Error ellipse: s-maj=6.6km s-min=4.5km az=188.0*

ISCJB ***17*** *16:32:55.4±0.4, 50.14N±003×190.3E±003, h0km, Error ellipse: s-maj=3.7km s-min=2.3km az=19.1*

IPEC ***17*** *16:32:55.8±0.1, 50.24N×190.8E

CONA	**Conrad Observa**	**3.07**	**225**⇑	*i*Pn	**Pn**	**16 33 46.5**	**+0.6**
	0.7nm,0.2s							
CONA			⇑	*i*Sg	**Sg**	**16 34 35.3**	**+0.6**
	6.9nm,0.4s							
BRG	**Berggiesshubel**	**3.35**	**284**	Pg	**Pg**	**16 33 58.8**	**-1.5**
BRG				Sg	**Sg**	**16 34 41.4**	**-2.3**
BRG	**Berggiesshubel**	**3.35**	**284**	Pg	**Pg**	**16 33 58.8**	**-1.5**
BRG				Sg	**Sg**	**16 34 41.4**	**-2.3**
BRG				SG	**Sg**	**16 34 41.4**	**-2.3**
	10nm,0.8s							
BRG	**Berggiesshubel**	**3.35**	**284**	PG	**Pg**	**16 33 58.8**	**-1.5**
KHC	**Kasperske Hory**	**3.71**	**256**	*e*SG	**Sg**	**16 34 53.5**	**-1.9**
	20nm,0.4s							
GERES	**GERESS Array B**	**3.74**	**251**	Pn	**Pn**	**16 33 56.1**	**+1.0**
	0.3nm,0.3s,baz=68,slow=14,SNR=6.4							
GERES				Pg	**Pg**	**16 34 04.3**	**-3.4**
	0.6nm,0.3s,baz=64,slow=17,SNR=8.0							
GERES				Sn	**Sn**	**16 34 40.0**	**+0.3**
	1.2nm,0.3s,baz=64,slow=22,SNR=5.9							
GERES				Lg		16 34 54.4		
	2.9nm,0.3s,baz=69,slow=30,SNR=5.9							
GERES	**GERESS Array B**	**3.74**	**251**	Pg	**Pg**	**16 34 04.3**	**-3.4**
ARSA	**Arzberg**	**3.74**	**220**⇑	*i*Pn	**Pn**	**16 33 56.8**	**+1.7**
	0.8nm,0.2s							
ARSA			⇓	*e*Sg	**Sg**	**16 34 56.5**	**+0.2**
	2.9nm,0.4s							
MOA	**Molln**	**3.92**	**236**⇑	*i*Pg	**Pg**	**16 34 12.2**	**+1.1**
	0.8nm,0.2s							
MOA			⇑	*i*Sg	**Sg**	**16 35 00.4**	**-1.5**
	10nm,0.6s							
CLL	**Collm**	**4.02**	**289**	*e*Pg	**Pg**	**16 34 15.0**	**+1.8**
CLL				*e*Sg	**Sg**	**16 35 06.0**	**+0.7**
	comp=Z,12nm,0.5s							
NKC	**Novy Kostel**	**4.25**	**274**	*e*SG	**Sg**	**16 35 10.7**	**-2.1**
	comp=Z,17nm,0.5s							
AKASG	**Malin Array Be**	**6.51**	**81**	Pn	**Pn**	**16 34 37.4**	**+4.2**
	comp=Z,0.8nm,0.3s,baz=270,slow=12,SNR=8.1							
AKASG				Sn	**Sn**	**16 35 43.2**	**-5.0**
	comp=Z,1.0nm,0.3s,baz=262,slow=22,SNR=2.6							
AKASG				Lg		16 36 29.2		
	comp=Z,0.7nm,0.3s,baz=263,slow=24,SNR=3.6							
NOA	**NORSAR Array B**	**11.76**	**341**	Pn	**Pn**	**16 35 41.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**11.97**	**16**	Pn	**Pn**	**16 35 44.4**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=15,SNR=4.0							
FINES				Sn	**Sn**	**16 37 52.5**	**-10**
	comp=Z,0.1nm,0.3s,baz=226,slow=26,SNR=2.5							
ARCES	**ARCESS Array B**	**19.68**	**7**	Pn	**Pn**	**16 37 24.7**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=4.3							

*ISCJB **17** 16:42:22.5±1.6,456N±02×1557E±03,h10km,mb3.8/5, Error ellipse: s-maj=31.5km s-min=25.4km az=0.6*
*MOS **17** 16:42:25.5±2.1,4572N×15570E,h33km,mb4.4/2, Error ellipse: s-maj=74.5km s-min=33.5km az=90.0*
*IDC **17** 16:42:26.8±3.1,4670N×15584E,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.6/24,mbtmp3.8/5, Error ellipse: s-maj=98.4km s-min=28.6km az=1.0*

ISC 17 16:42:24.3±1.6,456N±02×1557E±03,h10km,n8,σ0≤90/8, mb3.8/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**5.08**	**3**	*e*P	**Pn**	**16 43 40.7**	**+0.2**
INK	**Inuvik**	**41.68**	**32**	P	**P**	**16 50 08.4**	**-4.6**
	3.6nm,0.7s,mb4.1,baz=269,slow=6.1,SNR=8.4						
INK	**Inuvik**	**41.68**	**32**	P	**P**	**16 50 08.4**	**-4.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**49.03**	**299**	P	**P**	**16 51 12.3**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=53,slow=5.6,SNR=4.1						
BVAR	**Borovoye Array**	**52.93**	**311**	P	**P**	**16 51 39.5**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=61,slow=8.9,SNR=4.1						
PDAR	**Pinedale Array**	**63.98**	**55**	P	**P**	**16 52 57.0**	**-0.8**
	comp=Z,0.7nm,0.9s,mb3.7,baz=299,slow=3.1,SNR=4.7						
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**	**16 54 15.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=306,slow=4.0,SNR=8.8						
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**	**16 54 15.3**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **17** 16:47:03.9±0.8,4599N×15378E,h0km,mb3.8/15, mb1 4.0/15,mb1mx3.9/25,mbtmp3.8/15, Error ellipse: s-maj=22.7km s-min=18.4km az=165.0*
*BJI **17** 16:47:04.9,4602N×15357E,h10km,mB4.9,mb4.4*
*NEIC **17** 16:47:05.8±0.6,4617N×15385E,h10km,mb4.1/2, Error ellipse: s-maj=17.4km s-min=12.0km az=143.0*
*MOS **17** 16:47:07.7±1.3,4611N×15371E,h33km,mb4.1/3, Error ellipse: s-maj=15.9km s-min=13.1km az=69.9*
*ISCJB **17** 16:47:09.2±1.6,4612N±010×1537E±01,h49km±14km, mb3.8/15, Error ellipse: s-maj=19.0km s-min=10.9km az=101.3*

ISC 17 16:47:11.3±1.4,4612N±010×1537E±01,h52km±12km,n32, σ0≤80/32,mb3.8/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.85**	**19**	*e*PN	**Pn**	**16 48 21.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.59**	**280**	*e*PN	**Pn**	**16 48 59.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.59**	**280**	*e*Pn	**Pn**	**16 48 59.7**	**+0.4**
PET	**Petropavlovsk**	**7.63**	**23**	PN	**Pn**	**16 48 51.0**	**-8.7**
ASAJ	**Asahikawa**	**8.10**	**260**	Pn	**Pn**	**16 49 05.8**	**-0.5**
	0.7nm,0.3s,baz=82,slow=12,SNR=5.8						
ASAJ	**Asahikawa**	**8.10**	**260**	PN	**Pn**	**16 49 05.8**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.04**	**236**	Pn	**Pn**	**16 50 40.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=6.6						
MJAR	**Matsushiro Arr**	**15.04**	**236**	P	**Pn**	**16 50 40.7**	**+0.2**
MAJO	**Matsushiro**	**15.04**	**236**	*e*P	**Pn**	**16 50 41.5**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**15.04**	**236**	*e*Pn	**Pn**	**16 50 41.5**	**+1.1**
	comp=Z,12nm,0.9s						
CN2	**Changchun**	**20.08**	**274**	*e*P	**P**	**16 51 39.5**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**21.01**	**255**	P	**P**	**16 51 51.3**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.4,baz=64,slow=9.8,SNR=5.4						
ULN	**Ulaanbaatar**	**31.49**	**290**	P	**P**	**16 53 27.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**31.49**	**290**	P	**P**	**16 53 27.4**	**-0.7**
	comp=Z,1.7nm,0.9s,mb3.9						
SONM	**Songino Array**	**31.93**	**291**	P	**P**	**16 53 32.0**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=78,slow=9.3,SNR=4.2						
INK	**Inuvik**	**41.97**	**32**	P	**P**	**16 54 57.3**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=187,slow=5.5,SNR=3.7						
MKAR	**Makanchi Array**	**47.59**	**298**	P	**P**	**16 55 40.9**	**-0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=73,slow=6.9,SNR=10						
MKAR	**Makanchi Array**	**47.59**	**298**	P	**P**	**16 55 40.9**	**-0.9**
BVAR	**Borovoye Array**	**51.58**	**310**	P	**P**	**16 56 11.4**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=47,slow=7.9,SNR=9.1						
AKTK	**Aktyubinsk**	**59.45**	**312**	P	**P**	**16 57 07.9**	**-0.8**
AKTO	**Aktyubinsk**	**59.45**	**312**	P	**P**	**16 57 07.9**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.0,baz=79,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**59.45**	**312**	P	**P**	**16 57 07.9**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**62.37**	**62**	P	**P**	**16 57 28.2**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.8,baz=297,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**16 57 44.9**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.3,baz=38,slow=9.6,SNR=6.5						
PDAR	**Pinedale Array**	**64.79**	**54**	P	**P**	**16 57 44.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=295,slow=4.2,SNR=5.3						
WRA	**Warramunga Arr**	**68.05**	**200**	P	**P**	**16 58 05.0**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=18,slow=6.6,SNR=3.2						
NB2	**NORSAR Subarra**	**68.96**	**341**	P	**P**	**16 58 13.3**	**+2.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.96**	**341**	P	**P**	**16 58 12.8**	**+1.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=27,slow=6.3,SNR=3.9						
ASAR	**Alice Springs**	**71.74**	**199**	P	**P**	**16 58 26.8**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=21,slow=6.6,SNR=7.7						
AKASG	**Malin Array Be**	**72.30**	**327**	P	**P**	**16 58 32.8**	**+1.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=35,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**77.45**	**61**	P	**P**	**16 59 01.2**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=304,slow=3.7,SNR=8.5						
GERES	**GERESS Array B**	**79.20**	**334**	P	**P**	**16 59 11.4**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=30,slow=5.4,SNR=3.5						

*IDC **17** 16:55:27.9±8.6,3506S×17993W,h66km±80km,mb3.6/2, mb1 4.0/3,mb1mx3.6/12,mbtmp3.9/3,ML4.6/1, Error ellipse: s-maj=71.1km s-min=54.3km az=157.0*
*ISCJB **17** 16:55:28.8±1.3,3572S±009×1796W±02,h120km±11km, mb4.0/5,Error ellipse: s-maj=23.7km s-min=11.0km az=53.1*
*NEIC **17** 16:55:40.7±2.1,3616S×17928E,h155km±10km,mb3.9/3, Error ellipse: s-maj=30.7km s-min=14.1km az=64.0*

ISC 17 16:55:28.4±1.3,3563S±009×1795W±02,h101km±11km, n45,σ1≤30/70,mb4.0/5,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.61**	**222**	P	**Pn**	**16 56 11.0**	**+2.0**
MXZ				S	**Sn**	**16 56 43.5**	**+3.3**
MXZ	**Matakaoa Point**	**2.61**	**222**	PN	**Pn**	**16 56 10.9**	**+2.0**
MXZ				SN	**Sn**	**16 56 43.5**	**+3.3**
PUZ	**Puketiti**	**3.03**	**216**	P	**Pn**	**16 56 17.4**	**+2.9**
PUZ				S	**Sn**	**16 56 56.2**	**+6.1**
PUZ	**Puketiti**	**3.03**	**216**	PN	**Pn**	**16 56 17.4**	**+2.9**
PUZ				SN	**Sn**	**16 56 56.2**	**+6.1**
MWZ	**Matawai**	**3.60**	**220**	P	**Pn**	**16 56 24.0**	**+1.9**
MWZ				S	**Sn**	**16 57 08.8**	**+5.1**
MWZ	**Matawai**	**3.60**	**220**	PN	**Pn**	**16 56 23.9**	**+1.8**
MWZ				SN	**Sn**	**16 57 08.8**	**+5.1**
URZ	**Urewera**	**3.77**	**225**	P	**Pn**	**16 56 27.0**	**+2.4**
	37nm,0.3s,baz=21,slow=2.5,SNR=139						
URZ				S	**Sn**	**16 57 12.2**	**+4.2**
	13nm,0.3s,baz=67,slow=21,SNR=9.1						
URZ	**Urewera**	**3.77**	**225**	P	**Pn**	**16 56 25.9**	**+1.4**
URZ	**Urewera**	**3.77**	**225**	PN	**Pn**	**16 56 25.8**	**+1.3**
URZ				SN	**Sn**	**16 57 10.5**	**+2.5**
KUZ	**Kuaotunu**	**4.02**	**252**	P	**Pn**	**16 56 25.6**	**-2.2**
KUZ	**Kuaotunu**	**4.02**	**252**	PN	**Pn**	**16 56 27.2**	**-0.6**
KNZ	**Kokohu**	**4.07**	**213**	*e*P	**Pn**	**16 56 29.8**	**+1.4**
KNZ				S	**Sn**	**16 57 15.2**	**+0.2**
KNZ	**Kokohu**	**4.07**	**213**	PN	**Pn**	**16 56 29.6**	**+1.2**
KNZ				SN	**Sn**	**16 57 15.2**	**+0.2**
PXZ	**Pawanui**	**5.25**	**212**	*e*PN	**Pn**	**16 56 44.6**	**+0.1**
PXZ				SN	**Sn**	**16 57 44.4**	**+0.6**
WPHZ	**Waipukurau**	**5.47**	**215**	*e*PN	**Pn**	**16 56 46.7**	**-0.7**
TSZ	**Takapari Road**	**5.70**	**218**	*e*P	**Pn**	**16 56 51.1**	**+0.6**
TSZ				S	**Sn**	**16 57 56.9**	**+2.4**
TSZ	**Takapari Road**	**5.70**	**218**	SN	**Sn**	**16 57 56.9**	**+2.4**
BFZ	**Birch Farm**	**6.05**	**212**	*e*P	**Pn**	**16 56 54.9**	**-0.5**
BFZ				S	**Sn**	**16 58 04.9**	**+1.7**
BFZ	**Birch Farm**	**6.05**	**212**	*e*PN	**Pn**	**16 56 54.7**	**-0.7**
BFZ				SN	**Sn**	**16 58 04.9**	**+1.7**
MRZ	**Mangatainoka R**	**6.34**	**216**	*e*P	**Pn**	**16 56 59.2**	**-0.1**
MRZ				S	**Sn**	**16 58 09.6**	**-0.7**
MRZ	**Mangatainoka R**	**6.34**	**216**	*e*PN	**Pn**	**16 56 58.9**	**-0.5**
MRZ				SN	**Sn**	**16 58 09.6**	**-0.7**
KIW	**Kapiti Island**	**6.83**	**218**	*e*P	**Pn**	**16 57 04.7**	**-1.2**
KIW				S	**Sn**	**16 58 21.7**	**-0.3**
KIW	**Kapiti Island**	**6.83**	**218**	*e*PN	**Pn**	**16 57 04.7**	**-1.1**
KIW				SN	**Sn**	**16 58 21.7**	**-0.3**
TRWZ	**Traveller**	**6.88**	**212**	PN	**Pn**	**16 57 05.7**	**-0.9**
MRW	**Makara Radio**	**7.21**	**217**	*e*P	**Pn**	**16 57 09.9**	**-1.1**
MRW				S	**Sn**	**16 58 31.1**	**-0.2**
MRW	**Makara Radio**	**7.21**	**217**	*e*PN	**Pn**	**16 57 09.9**	**-1.1**
MRW				SN	**Sn**	**16 58 31.1**	**-0.2**
TCW	**Tory Channel**	**7.41**	**219**	*e*P	**Pn**	**16 57 11.7**	**-2.1**
TCW				S	**Sn**	**16 58 34.5**	**-1.7**
TCW	**Tory Channel**	**7.41**	**219**	*e*PN	**Pn**	**16 57 11.7**	**-2.1**
TCW				SN	**Sn**	**16 58 34.5**	**-1.7**
NNZ	**Nelson**	**7.89**	**223**	*e*P	**Pn**	**16 57 18.5**	**-1.9**
NNZ				S	**Sn**	**16 58 46.8**	**-1.2**
NNZ	**Nelson**	**7.89**	**223**	*e*PN	**Pn**	**16 57 18.5**	**-1.9**
NNZ				SN	**Sn**	**16 58 46.8**	**-1.2**
THZ	**Tophouse**	**8.53**	**222**	*e*P	**Pn**	**16 57 27.3**	**-1.7**
THZ	**Tophouse**	**8.53**	**222**	*e*PN	**Pn**	**16 57 27.3**	**-1.7**
KHZ	**Kahutara**	**8.67**	**216**	*e*P	**Pn**	**16 57 28.6**	**-2.3**
KHZ				S	**Sn**	**16 59 01.9**	**-5.0**
KHZ	**Kahutara**	**8.67**	**216**	*e*PN	**Pn**	**16 57 28.6**	**-2.4**
KHZ				SN	**Sn**	**16 59 01.9**	**-5.1**
MQZ	**McQueen's Vall**	**10.08**	**214**	SN	**Sn**	**16 59 34.9**	**-6.3**
AS31	**Alice Springs**	**41.86**	**273**	*e*P	**P**	**17 03 08.2**	**-0.1**
ASAR	**Alice Springs**	**41.86**	**273**	P	**P**	**17 03 08.8**	**+0.5**
	0.5nm,0.3s,mb3.7,baz=114,slow=7.6,SNR=19						
ASPA	**Alice Springs**	**41.86**	**273**	*e*P	**P**	**17 03 09.6**	**+1.2**
VNDA	**Vanda**	**42.78**	**186**	P	**P**	**17 03 16.2**	**+0.3**
	2.1nm,1.2s,mb3.7						
WB2	**Warramunga Arr**	**43.31**	**279**	*e*P	**P**	**17 03 20.3**	**+0.2**
WB2	**Warramunga Arr**	**43.31**	**279**	*e*P	**P**	**17 03 19.8**	**-0.3**
WRAB	**Tennant Creek**	**43.32**	**279**	*e*P	**P**	**17 03 21.1**	**+1.0**
	1.7nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**43.32**	**279**	P	**P**	**17 03 19.8**	**-0.4**
	1.4nm,0.4s,mb4.0,baz=119,slow=7.7,SNR=50						
QSPA	**South Pole Qui**	**54.50**	**180**	*e*P	**P**	**17 04 54.9**	**+9.3**
	1.8nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**149.50**	**336**	PKPbc	PKPbc	17 15 06.4	+0.7
	1.3nm,0.6s,baz=49,slow=5.8,SNR=6.3						

*IDC **17** 17:12:56.7±0.5,4676N×15497E,h0km,mb4.4/21, mb1 4.6/22,mb1mx4.5/26,mbtmp4.4/22,MS3.8/14, Ms1 3.8/14,ms1mx3.5/39, Error ellipse: s-maj=16.6km s-min=13.4km az=144.0*
*ISCJB **17** 17:12:56.7±1.2,4679N±005×155.14E±005,h10km±7km, mb4.7/83,MS3.9/24, Error ellipse: s-maj=8.5km s-min=5.1km az=121.8*
*GCMT **17** 17:12:58.3±0.6,4690N×15527E,h14km±1km,MW4.8/52, Moment Tensor Solution. s7,c7; s52,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.90±.18; $M_{\theta\theta}$0.87±.11; $M_{\phi\phi}$ 1.02±.11; $M_{r\theta}$0.14±.23; $M_{\theta\phi}$0.98±.06; $M_{\phi r}$-0.05±.23; Best double couple: $M_0$1.91800×10^{16} NP1:ϕ_s39.00000°,δ44.00000°,λ-96.00000°. NP2: ϕ_s227.00000°,δ46.00000°,λ-84.00000°. Principal axes: T 1.9260, Plg1.0000°, Azm313.0000°; N -0.0250, Plg4.0000°, Azm43.0000°; P -1.9100, Plg86.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **17** 17:12:58.6,4702N×15475E,h8km,mB4.9,mb4.5,Ms4.3, Msz4.1*
*NEIC **17** 17:12:58.3±0.3,4683N×155.11E,h10km,mb4.8/37,Error ellipse: s-maj=8.2km s-min=5.5km az=145.0*
*MOS **17** 17:13:03.1±1.5,4683N×15499E,h59km,mb5.0/24, Error ellipse: s-maj=9.8km s-min=6.6km az=110.3*

ISC 17 17:13:00.2±1.3,4687N±005×15511E±006,h21km±9km, h15km±2.2km:pP-P,n183,σ1≤13/192,mb4.7/81,MS3.9/24, 14C-15D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.87**	**10**	*e*PN	**Pn**	**17 13 58.8**	**+0.3**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=Z,5μm,12.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
PET	**Petropavlovsk**	**6.57**	**19**	*e*Pn	**Pn**	**17 14 33.1**	**-2.4**
PET				*e*Sn	**Sn**	**17 15 36.5**	**-13**
YUK	**Yuzh-Kuril'sk**	**7.09**	**250**	*e*PN	**Pn**	**17 14 44.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**8.46**	**275**⇑	*e*PN	**Pn**	**17 15 05.8**	**+4.3**
YSS				*e*S	**Sn**	**17 16 41.0**	**+4.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.46**	**275**	*e*Pn	**Pn**	**17 15 04.8**	**+3.2**
	comp=E,43nm,1.0s						
ASAJ	**Asahikawa**	**9.21**	**257**	Pn	**Pn**	**17 15 12.4**	**+0.7**
	comp=E,1.8nm,0.3s,baz=77,slow=11,SNR=10						
ASAJ				LR	LR	17 18 58.9	
	comp=E,181nm,18.2s,baz=348,slow=40						
MA2	**Magadan**	**12.98**	**350**	PN	**Pn**	**17 15 57.4**	**-6.0**
HABR	**Khabarovsk**	**13.61**	**284**	P	**Pn**	**17 16 06.6**	**-5.4**
KLR	**Kul'dur**	**15.78**	**287**	*e*P	**Pn**	**17 16 41.8**	**+0.6**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MAJO	**Matsushiro**	**16.27**	**237**	*e*P	**Pn**	**17 16 42.9**	**-4.5**
MAJO				pmax	pmax		
	comp=Z,27nm,0.9s						
MAJO	**Matsushiro**	**16.27**	**237**	*e*Pn	**Pn**	**17 16 42.9**	**-4.5**
	comp=Z,27nm,0.9s						
MAT	**Matsushiro**	**16.27**	**237**	P	**Pn**	**17 16 42.7**	**-4.7**
MAT				*e*S	**Sn**	**17 19 47.0**	**-0.3**
MJAR	**Matsushiro Arr**	**16.27**	**237**	Pn	**Pn**	**17 16 42.8**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=13						
JHJ	**Hachijo jima 2**	**18.02**	**226**	LR	LR	17 24 12.6	
	comp=Z,60nm,18.9s,baz=79,slow=38						
YAK	**Yakutsk**	**20.98**	**326**	*e*P	**P**	**17 17 40.5**	**-1.5**
YAK				*e*		17 17 57.3	
YAK				*e*S	**S**	**17 21 26.6**	**-8.1**
YAK				*e*SS		17 21 50.3	
YAK				pmax	pmax		
	comp=Z,20nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				smax			
	comp=N,290nm,2.7s						
YAK				smax			
	comp=Z,123nm,2.3s						
YAK				smax			
	comp=E,140nm,1.5s						
YAK				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,100nm,14.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,200nm,14.0s,MS3.7						
YAK	**Yakutsk**	**20.98**	**326**	*e*Pn	**P**	**17 17 37.7**	**-4.3**
	comp=E,19nm,0.6s						
YAK				*e*Sn	**S**	**17 21 31.1**	**-3.7**
CLNS	**Chul'man**	**20.99**	**309**	*e*P	**P**	**17 17 45.4**	**+3.3**
CLNS				*e*PPP		17 18 05.8	
CLNS				*e*S	**S**	**17 21 32.0**	**-3.0**
CLNS				*e*		17 21 51.2	
CLNS				*e*SS		17 22 05.9	
CLNS				pmax	pmax		
	comp=Z,17nm,0.7s						
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				smax			
	comp=N,20nm,0.9s						
CLNS				smax			
	comp=E,13nm,0.9s						
CLNS				smax			
	comp=Z,7.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,1μm,15.0s,MS4.5						
CN2	**Changchun**	**21.02**	**272**	*e*P	**P**	**17 17 43.4**	**+1.0**
CN2				*e*XP	sP	17 17 50.4	-0.5
CN2				*e*S	**S**	**17 21 31.8**	**-3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=Z,500nm,14.0s,MS4.0						
BILL	**Bilibino**	**21.98**	**11**	*e*P	**P**	**17 17 52.0**	**-0.8**
BILL				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.7						
BILL	**Bilibino**	**21.98**	**11**	*e*P	**P**	**17 17 52.0**	**-0.8**
	comp=Z,29nm,1.0s,mb4.7						
KSRS	**Korea Array**	**22.15**	**255**	P	**P**	**17 17 54.1**	**-0.4**
	comp=Z,5.0nm,1.0s,mb3.9,baz=57,slow=10,SNR=12						
KSRS				LR	LR	17 26 51.9	
	comp=Z,83nm,18.2s,MS3.2,baz=250,slow=38						
CBIJ	**Chichi jima**	**22.22**	**212**	LR	LR	17 24 45.8	
	comp=Z,59nm,21.6s,MS3.0,baz=48,slow=32						
JNU	**Nakatsue**	**22.97**	**242**	P	**P**	**17 18 02.6**	**-0.7**
	comp=Z,20nm,0.9s,mb4.5,baz=234,slow=19,SNR=12						
JNU				LR	LR	17 27 19.4	
	comp=Z,226nm,19.3s,MS3.6,baz=70,slow=38						
INCN	**Inchon**	**22.99**	**256**	P	**P**	**17 18 04.1**	**+0.7**
	comp=Z,20nm,0.8s,mb4.6						
HIA	**Hailar**	**23.62**	**289**	P	**P**	**17 18 05.8**	**-4.1**
HIA				pmax	pmax		
	comp=Z,12nm,1.3s						
HIA	**Hailar**	**23.62**	**289**	P	**P**	**17 18 05.8**	**-4.1**
	comp=Z,12nm,1.3s,mb4.2						
BOD	**Bodaibo**	**26.97**	**309**	*e*P	**P**	**17 18 37.8**	**-2.5**
CIT	**Chita**	**27.22**	**296**	*e*P	**P**	**17 18 44.7**	**+2.1**
BJI	**Beijing**	**28.85**	**271**	P	**P**	**17 19 02.1**	**+5.0**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,277nm,14.6s,MS4.2						
BJI				LR	LR		

MCK	**McKinley**	**34.67**	**40**	P		**P**		**17 19 46.4**	**-1.9**
	comp=Z,4.6nm,1.0s,mb4.4								
SML	**Sawmill**	**34.94**	**44**	P		**P**		**17 19 49.8**	**-0.7**
COLA	**College**	**35.19**	**38**	*e*P		**P**		**17 19 53.9**	**+1.2**
COLA	**College**	**35.19**	**38**	P		**P**		**17 19 50.4**	**-2.4**
	comp=Z,22nm,1.3s,mb4.9								
XAN	**Xi'an**	**36.89**	**267**	P		**P**		**17 20 09.3**	**+2.0**
XAN				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb4.5								
EGAK	**Eagle**	**38.05**	**39**	*e*P		**P**		**17 20 16.7**	**-0.4**
	comp=Z,11nm,0.8s,mb4.6								
LZH	**Lanzhou**	**39.25**	**273**	*e*P		**P**		**17 20 29.0**	**+1.8**
LZH				AP		pP		17 20 37.5	+3.9
LZH				AMB		AMB			
	comp=Z,43nm,1.5s,mb5.0								
LZH				AMB		AMB			
	comp=Z,178nm,4.5s								
LZH	**Lanzhou**	**39.25**	**273**	*e*P		**P**		**17 20 29.0**	**+1.8**
	comp=Z,43nm,1.5s,mb5.0								
LZH				pP		pP		17 20 37.5	+3.9
LZH				sP		sP		17 20 42.5	+6.4
GTA	**Gaotai**	**40.30**	**280**	*e*P		**P**		**17 20 39.6**	**+3.7**
GTA				AP		pP		17 20 43.3	+1.0
GTA				XP		sP		17 20 46.3	+1.5
GTA				PP		PP		17 22 17.4	+8.7
GTA				PCP		PcP		17 22 39.8	+0.5
GTA				S		**S**		**17 26 48.5**	**+6.1**
GTA				XS		sS		17 26 56.4	+3.5
GTA				AMB		AMB			
	comp=Z,4.0nm,1.2s,mb4.0								
GTA				AMB		AMB			
	comp=Z,84nm,6.8s								
GTA				LR		LR			
	comp=N,227nm,14.4s,MS4.3								
GTA				LR		LR			
	comp=E,188nm,15.2s,MS4.3								
GTA				LR		LR			
	comp=Z,190nm,15.2s,MS4.1								
INK	**Inuvik**	**40.81**	**33**	P		**P**		**17 20 40.8**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.0,baz=297,slow=9.1,SNR=7.7								
INK	**Inuvik**	**40.81**	**33**	*e*P		**P**		**17 20 38.8**	**-1.4**
	comp=Z,229nm,0.9s,mb5.8								
CD2	**Chengdu**	**42.26**	**267**	⇑*i*P		**P**		**17 20 50.4**	**-1.6**
CD2				AP		pP		17 20 54.9	-3.5
CD2				XP		sP		17 20 57.4	-3.5
CD2				PP		PP		17 22 31.4	+1.5
CD2				S		**S**		**17 27 09.9**	**-1.5**
CD2				XS		sS		17 27 17.3	-4.6
CD2				SS		SS		17 30 12.4	-7.5
CD2				AMB		AMB			
	comp=Z,30nm,0.8s,mb5.0								
CD2				AMB		AMB			
	comp=Z,50nm,6.2s								
CD2				LR		LR			
	comp=N,160nm,14.4s,MS4.1								
CD2				LR		LR			
	comp=E,150nm,18.0s,MS4.1								
CD2				LR		LR			
	comp=Z,180nm,12.0s								
GYA	**Guiyang**	**43.08**	**259**	⇑*i*P		**P**		**17 20 58.8**	**+0.1**
GYA				AP		pP		17 21 02.9	-2.2
GYA				XP		sP		17 21 05.8	-1.8
GYA				PP		PP		17 22 41.8	+3.0
GYA				PCP		PcP		17 22 50.3	+1.9
GYA				SCP		ScP		17 26 40.0	+1.6
GYA				S		**S**		**17 27 24.8**	**+1.3**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.5								
GYA				AMB		AMB			
	comp=Z,110nm,4.7s								
GYA				LR		LR			
	comp=N,420nm,16.4s,MS4.6								
GYA				LR		LR			
	comp=E,430nm,16.0s,MS4.6								
GYA				LR		LR			
	comp=Z,410nm,16.8s,MS4.4								
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**		**17 21 01.8**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.0,baz=47,slow=9.2,SNR=11								
ZAL				PcP		PcP		17 22 49.9	-0.4
	comp=Z,1.7nm,0.7s,baz=44,slow=6.5,SNR=4.0								
ZAL				LR		LR		17 40 51.0	
	comp=Z,278nm,18.5s,MS4.2,baz=28,slow=38								
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**		**17 21 01.8**	**-1.6**
ZAL								17 22 49.9	
ZAL	**Zalesovo**	**43.66**	**306**	P		**P**		**17 21 01.8**	**-1.5**
ZAL				PcP		PcP		17 22 49.9	-0.5
ZAL				LR		LR		17 40 51.0	
NVS	**Novosibirsk**	**44.20**	**308**	*e*P		**P**		**17 21 05.4**	**-2.3**
NVS				*e*				17 22 49.1	
NVS				pmax		pmax			
	comp=Z,36nm,2.1s,mb4.7								
NVS				pmax		pmax			
	comp=N,22nm,2.0s								
NVS				pmax		pmax			
	comp=E,27nm,1.8s								
WMQ	**Urumqi**	**46.16**	**292**	⇓*i*P		**P**		**17 21 24.3**	**+1.1**
WMQ				AP		pP		17 21 28.8	-0.9
WMQ				XP		sP		17 21 31.3	-0.9
WMQ				PCP		PcP		17 23 01.0	+2.0
WMQ				PP		PP		17 23 12.5	+0.9
WMQ				PPP				17 23 56.4	
WMQ				S		**S**		**17 28 08.8**	**+0.7**
WMQ				XS		sS		17 28 16.4	-2.4
WMQ				AMB		AMB			
	comp=Z,7.0nm,0.5s,mb4.8								
WMQ				AMB		AMB			
	comp=Z,196nm,4.0s								
WMQ				LR		LR			
	comp=N,231nm,22.4s,MS4.1								
WMQ				LR		LR			
	comp=E,47nm,20.0s,MS4.1								
WMQ				LR		LR			
	comp=Z,151nm,15.4s,MS4.0								
QIZ	**Qiongzhong**	**46.16**	**249**	P		**P**		**17 21 22.8**	**-0.5**
QIZ				S		**S**		**17 28 08.9**	**+0.6**
QIZ				LR		LR			
	comp=Z,141nm,13.8s,MS4.1								
KMI	**Kunming**	**46.61**	**261**	P		**P**		**17 21 26.3**	**-0.5**
KMI				AP		pP		17 21 30.6	-2.7
KMI				XP		sP		17 21 32.5	-3.3
KMI				PP		PP		17 23 17.3	+0.9
KMI				S		**S**		**17 28 15.1**	**+0.4**
KMI				XS		sS		17 28 23.3	-2.0
KMI				AMB		AMB			
	comp=Z,7.0nm,1.6s,mb4.3								
KMI				AMB		AMB			
	comp=Z,47nm,3.9s								
KMI				LR		LR			
	comp=N,118nm,15.9s,MS4.1								
KMI				LR		LR			
	comp=E,116nm,16.6s,MS4.1								
KMI				LR		LR			
	comp=Z,86nm,23.8s								
KMI	**Kunming**	**46.61**	**261**	P		**P**		**17 21 26.2**	**-0.6**
KMI								17 23 17.2	
KMI				S		**S**		**17 28 15.1**	**+0.4**
KMI				*SS		sS		17 28 23.3	-2.0
KMI				pmax		pmax			
	comp=Z,7.0nm,1.6s,mb4.3								
KMI				MLR		MLR			
	comp=Z,90nm,23.8s,MS3.6								
KMI	**Kunming**	**46.61**	**261**	P		**P**		**17 21 26.2**	**-0.6**
	comp=Z,7.0nm,1.6s,mb4.3								
KMI				pP		pP		17 21 30.6	-2.7
KMI				sP		sP		17 21 32.5	-3.3
KMI				PP		PP		17 23 17.2	+0.8
KMI				S		**S**		**17 28 15.1**	**+0.4**
KMI				sS		sS		17 28 23.3	-2.0
KMI				LR		LR			
	comp=Z,90nm,23.8s,MS3.6								
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**		**17 21 37.6**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.4,baz=71,slow=8.2,SNR=17								
MKAR	**Makanchi Array**	**48.10**	**298**	*i* P		**P**		**17 21 38.2**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
YKA	**Yellowknife Ar**	**50.00**	**37**	P		**P**		**17 21 52.7**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=295,slow=8.1,SNR=3.9								
YKA	**Yellowknife Ar**	**50.00**	**37**	*i* P		**P**		**17 21 55.0**	**+2.0**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P		**P**		**17 22 02.0**	**-1.5**
CHKZ				pmax		pmax			
	comp=Z,14nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P		**P**		**17 22 02.0**	**-1.4**
	comp=Z,14nm,0.6s,mb5.1								
LSA	**Lhasa**	**51.63**	**274**	P		**P**		**17 22 08.5**	**+3.3**
LSA	**Lhasa**	**51.63**	**274**	*e*P		**P**		**17 22 06.9**	**+1.7**
LSA				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.8								
LSA	**Lhasa**	**51.63**	**274**	*e*P		**P**		**17 22 06.9**	**+1.7**
	comp=Z,11nm,0.9s,mb4.8								
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**		**17 22 06.3**	**-0.5**
	comp=Z,4.2nm,0.4s,mb4.7,baz=53,slow=7.7,SNR=34								
BVAR				LR		LR		17 46 54.6	
	comp=Z,229nm,18.3s,MS4.2,baz=139,slow=39								
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**		**17 22 06.0**	**-1.0**
BRVK				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**		**17 22 06.0**	**-1.0**
	comp=Z,9.6nm,0.8s,mb4.8								
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**		**17 22 11.6**	**-0.8**
ZRNK				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.8								
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**		**17 22 11.6**	**-0.8**
	comp=Z,6.9nm,0.6s,mb4.8								
CM31	**Chiang Mai Arr**	**53.73**	**258**	*e*P		**P**		**17 22 20.6**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.4								
ARU	**Arti**	**55.84**	**318**	⇑*i*P		**P**		**17 22 35.7**	**-0.3**
ARU				*e*				17 23 34.0	
ARU				*e*				17 24 40.4	
ARU				*e*S		**S**		**17 30 19.9**	**-2.3**
ARU				*e*SS		SS		17 34 03.4	-4.5
ARU				*e*SSS				17 36 18.1	
ARU				pmax		pmax			
	comp=Z,14nm,0.7s,mb5.1								
ARU	**Arti**	**55.84**	**318**	*e*P		**P**		**17 22 34.9**	**-1.2**
	comp=Z,16nm,0.6s,mb5.2								
HNR	**Honiara**	**56.22**	**174**	LR		LR		17 42 54.8	
	comp=Z,76nm,19.1s,MS3.8,baz=343,slow=32								
JIRN	**Jiri**	**56.30**	**276**	*e*P		**P**		**17 22 39.4**	**+0.1**
	comp=Z,26nm,0.8s,mb5.3								
PMG	**Port Moresby**	**56.47**	**189**	LR		LR		17 47 18.0	
	comp=Z,46nm,18.9s,MS3.6,baz=23,slow=37								
KKN	**Kakani**	**56.84**	**277**	*e*P		**P**		**17 22 44.0**	**+0.9**
	comp=Z,16nm,0.8s,mb5.1								
DMN	**Daan**	**57.07**	**277**	*e*P		**P**		**17 22 45.0**	**+0.2**
	comp=Z,31nm,0.8s,mb5.4								
GKN	**Gorkha**	**57.14**	**277**	*e*P		**P**		**17 22 45.4**	**+0.1**
	comp=Z,29nm,0.8s,mb5.3								
KEV	**Kevo**	**57.68**	**341**	*e*p		**P**		**17 22 48.3**	**-0.8**
KOLN	**Koldanda**	**57.99**	**278**	*e*P		**P**		**17 22 52.0**	**+0.7**
	comp=Z,37nm,1.0s,mb5.4								
ARCES	**ARCESS Array B**	**58.18**	**341**	P		**P**		**17 22 52.5**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.7,baz=34,slow=8.9,SNR=4.6								
ARCES				LR		LR		17 51 02.9	
	comp=Z,212nm,19.9s,MS4.3,baz=167,slow=39								
ARCES	**ARCESS Array B**	**58.18**	**341**	P		**P**		**17 22 52.5**	**-0.2**
ARCES				LR		LR		17 51 02.9	
AKTO	**Aktyubinsk**	**59.66**	**313**	LR		LR		17 50 08.6	
	comp=Z,134nm,19.7s,MS4.1,baz=52,slow=37								
NVAR	**Mina Array Bea**	**61.16**	**64**	P		**P**		**17 23 14.5**	**+1.4**
	comp=Z,2.6nm,0.9s,mb4.3,baz=295,slow=8.9,SNR=10								
NVAR				PcP		PcP		17 23 57.1	+1.3
	comp=Z,2.0nm,0.9s,baz=287,slow=6.5,SNR=4.7								
NVAR	**Mina Array Bea**	**61.16**	**64**	P		**P**		**17 23 14.5**	**+1.4**
NVAR				PcP		PcP		17 23 57.1	+1.3
RRI2	**Red Ridge**	**62.20**	**55**	*e*P		**P**		**17 23 21.7**	**+1.6**
KULM	**Kulim**	**62.37**	**246**	*e*P		**P**		**17 23 21.3**	**0.0**
REDW	**Red Top Meadow**	**62.45**	**55**	*e*P		**P**		**17 23 23.4**	**+1.5**
	comp=Z,7.0nm,1.0s,mb4.8								
PDAR	**Pinedale Array**	**63.56**	**55**	P		**P**		**17 23 29.9**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.3,baz=298,slow=1.9,SNR=14								
GSC	**Goldstone**	**64.07**	**65**	*e*P		**P**		**17 23 32.7**	**+0.1**
FINES	**FINESS Array B**	**64.51**	**336**	P		**P**		**17 23 35.4**	**0.0**
	comp=Z,13nm,1.0s,mb4.9,baz=38,slow=8.3,SNR=25								
FINES				LR		LR		17 53 32.7	
	comp=Z,111nm,20.6s,MS4.0,baz=21,slow=38								
SRU	**San Rafael**	**65.39**	**59**	*e*P		**P**		**17 23 41.2**	**0.0**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
SRU	**San Rafael**	**65.39**	**59**	*e*P		**P**		**17 23 41.1**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.6								
SRU				*e*				17 23 51.0	
RSSD	**Black Hills**	**65.69**	**51**	*e*P		**P**		**17 23 43.0**	**-0.1**
RSSD				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.7								
RSSD	**Black Hills**	**65.69**	**51**	*e*P		**P**		**17 23 43.0**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.7								
OBN	**Obninsk**	**65.97**	**326**	*e*P		**P**		**17 23 43.8**	**-1.1**
OBN				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
NB2	**NORSAR Subarra**	**68.55**	**342**	P		**P**		**17 24 00.8**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.55**	**342**	P		**P**		**17 24 01.1**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=26,slow=6.2,SNR=6.8								
WRAB	**Tennant Creek**	**69.08**	**201**	*e*P		**P**		**17 24 02.8**	**-1.8**
WRAB				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
WRAB	**Tennant Creek**	**69.08**	**201**	*e*P		**P**		**17 24 02.8**	**-1.8**
	comp=Z,6.3nm,1.0s,mb4.5								
WB2	**Warramunga Arr**	**69.09**	**201**	*e*P		**P**		**17 24 03.3**	**-1.3**
WRA	**Warramunga Arr**	**69.09**	**201**	P		**P**		**17 24 03.0**	**-1.6**
	comp=Z,5.1nm,0.9s,mb4.4,baz=20,slow=6.9,SNR=25								
ECSD	**EROS,Sioux Fal**	**69.81**	**47**	*e*P		**P**		**17 24 08.3**	**-0.8**
	comp=Z,5.3nm,0.9s,mb4.5								
FITZ	**Fitzroy Crossi**	**69.91**	**210**	*e*P		**P**		**17 24 09.3**	**-0.4**
	comp=Z,5.4nm,0.7s,mb4.6								
GOF	**Gofitskoye**	**70.70**	**316**	*e*P		**P**		**17 24 04.8**	**-10**
GOF				pmax		pmax			
	comp=Z,43nm,1.0s,mb5.3								
POO	**Poona**	**70.81**	**277**	*ex*		x		17 24 18.0	
KIV	**Kislovodsk**	**71.69**	**315**	*e*P		**P**		**17 24 27.5**	**+7.0**
KIV				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
KIV	**Kislovodsk**	**71.69**	**315**	*e*P		**P**		**17 24 25.6**	**+5.1**
	comp=Z,18nm,0.9s,mb5.0								
AKASG	**Malin Array Be**	**72.20**	**327**	P		**P**		**17 24 22.8**	**-0.8**
	comp=Z,1.4nm,0.4s,mb4.2,baz=33,slow=5.8,SNR=8.9								
AKBB	**Malin Array Si**	**72.20**	**327**	P		**P**		**17 24 23.5**	**-0.1**
KIEV	**Kiev**	**72.21**	**327**	*e*P		**P**		**17 24 23.2**	**-0.4**
KIEV				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
KIEV	**Kiev**	**72.21**	**327**	*e*P		**P**		**17 24 23.2**	**-0.4**
	comp=Z,11nm,1.0s,mb4.7								
AS31	**Alice Springs**	**72.78**	**200**	*e*P		**P**		**17 24 26.7**	**-0.3**
ASAR	**Alice Springs**	**72.78**	**200**	P		**P**		**17 24 26.4**	**-0.7**
	comp=Z,7.3nm,0.9s,mb4.6,baz=12,slow=5.7,SNR=70								
ASPA	**Alice Springs**	**72.78**	**200**	*e*P		**P**		**17 24 26.7**	**-0.3**
OJC	**Ojcow**	**75.86**	**332**	*e*P		**P**		**17 24 47.8**	**+2.8**
BURAR	**Bucovina Array**	**76.23**	**328**	⇑*i*P		**P**		**17 24 47.2**	**+0.1**
LTX	**Lajitas**	**76.23**	**62**	*e*P		**P**		**17 24 47.6**	**+0.5**
LTX				*e*				17 24 57.2	
LTX				*e*				17 25 06.5	
LTX				pmax		pmax			
	comp=Z,18nm,1.2s,mb4.9								
LTX	**Lajitas**	**76.23**	**62**	*e*P		**P**		**17 24 47.6**	**+0.5**
	comp=Z,18nm,1.2s,mb4.9								
LTX				*e*				17 24 57.2	
LTX				*e*				17 25 06.5	
TXAR	**Lajitas Array**	**76.23**	**62**	P		**P**		**17 24 47.9**	**+0.8**
	comp=Z,9.5nm,0.7s,mb4.9,baz=302,slow=4.5,SNR=115								
TXAR	**Lajitas Array**	**76.23**	**62**	P		**P**		**17 24 47.9**	**+0.8**
DPC	**Dobruska-Polom**	**76.82**	**334**	*e*P		**P**		**17 24 51.2**	**+0.8**
CLL	**Collm**	**76.91**	**337**	*i* P		**P**		**17 24 50.8**	**-0.1**
CLL				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.7								
CLL	**Collm**	**76.91**	**337**	⇑*i*P		**P**		**17 24 50.8**	**-0.1**
	comp=Z,12nm,1.2s,mb4.7								
CLL				*i* pP		pP		17 24 53.9	-3.8
CLL				epPcP				17 25 04.0	
MORC	**Moravsky Berou**	**76.96**	**333**	⇑*i*P		**P**		**17 24 51.1**	**-0.1**
MORC	**Moravsky Berou**	**76.96**	**333**	*e*P		**P**		**17 24 51.2**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.5								
BRG	**Berggiesshubel**	**77.04**	**336**	*e*P		**P**		**17 24 53.5**	**+1.9**
	comp=Z,5.2nm,1.3s,mb4.3								
BRG	**Berggiesshubel**	**77.04**	**336**	*e*P		**P**		**17 24 53.6**	**+1.9**
BRG				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.3								
TIRR	**Tirgusor**	**77.63**	**324**	⇑*i*P		**P**		**17 24 55.3**	**+0.3**
TIRR	**Tirgusor**	**77.63**	**324**	⇑P		**P**		**17 24 55.3**	**+0.4**
VRAC	**Vranov**	**77.66**	**334**	⇓*i*P		**P**		**17 24 58.4**	**+3.3**
VRAC	**Vranov**	**77.66**	**334**	⇓P		**P**		**17 24 58.4**	**+3.3**
MLR	**Muntele Rosu**	**77.74**	**326**	⇓*i*P		**P**		**17 24 56.7**	**+1.1**
MLR	**Muntele Rosu**	**77.74**	**326**	⇓P		**P**		**17 24 56.7**	**+1.1**
PSZ	**Piszkesteto**	**77.83**	**331**	P		**P**		**17 24 56.2**	**+0.1**
NKC	**Novy Kostel**	**78.03**	**337**	*e*P		**P**		**17 24 58.0**	**+0.8**
MALT	**Malatya**	**78.06**	**314**	⇓*i*P		**P**		**17 24 59.7**	**+2.3**
MALT	**Malatya**	**78.06**	**314**	P		**P**		**17 24 58.6**	**+1.2**
	comp=Z,5.9nm,0.9s,mb4.5								
VOIR		**78.13**	**327**	⇑*i*P		**P**		**17 25 01.1**	**+3.4**
VOIR		**78.13**	**327**	⇑P		**P**		**17 25 01.1**	**+3.4**
KHC	**Kasperske Hory**	**78.71**	**335**	*e*P		**P**		**17 25 01.0**	**+0.1**
GERES	**GERESS Array B**	**78.94**	**335**	P		**P**		**17 25 01.7**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=38,slow=6.8,SNR=10								
BRTR	**Keskin Array B**	**79.23**	**318**	P		**P**		**17 25 04.8**	**+1.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=57,slow=4.6,SNR=6.5								
BZS	**Buzias**	**79.23**	**329**	⇓*i*P		**P**		**17 25 03.5**	**-0.3**
BZS	**Buzias**	**79.23**	**329**	⇓P		**P**		**17 25 03.5**	**-0.3**
STKA	**Stephens Creek**	**79.33**	**192**	P		**P**		**17 25 02.7**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=309,slow=7.0,SNR=6.5								
STKA	**Stephens Creek**	**79.33**	**192**	*e*P		**P**		**17 25 02.4**	**-2.0**
ARSA	**Arzberg**	**79.82**	**333**	⇓P		**P**		**17 25 08.2**	**+1.2**
	comp=Z,9.9nm,1.6s,mb4.5								
STU	**Stuttgart**	**80.23**	**338**	P		**P**		**17 25 08.9**	**-0.3**
STU				pmax		pmax			
	comp=Z,26nm,1.3s,mb5.0								
STU	**Stuttgart**	**80.23**	**338**	P		**P**		**17 25 08.9**	**-0.3**
	comp=Z,26nm,1.3s,mb5.0								
KBA	**Koelnbreinsper**	**80.63**	**335**	⇓*i*P		**P**		**17 25 13.0**	**+1.6**
	comp=Z,16nm,0.8s,mb5.0								
WATA	**Walderalm**	**80.91**	**336**	⇑*i*P		**P**		**17 25 13.9**	**+1.1**
	comp=Z,3.4nm,0.5s,mb4.5								
WTTA	**Wattenberg**	**80.96**	**336**	⇑*i*P		**P**		**17 25 14.6**	**+1.5**
	comp=Z,12nm,0.7s,mb5.0								
MOTA	**Moosalm**	**81.03**	**336**	⇑*i*P		**P**		**17 25 15.2**	**+1.7**
	comp=Z,11nm,0.9s,mb4.8								
CDF	**Champ du Feu**	**81.05**	**339**	*e*P		**P**		**17 25 12.8**	**-0.8**
	comp=Z,20nm,1.0s,mb4.7								
CDF	**Champ du Feu**	**81.05**	**339**	*e*P		**P**		**17 25 12.8**	**-0.8**
CDF				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
CDF	**Champ du Feu**	**81.05**	**339**	*e*P		**P**		**17 25 12.8**	**-0.8**
	comp=Z,10nm,1.0s,mb4.7								
SQTA	**Sankt Quirin**	**81.11**	**336**	⇓*i*P		**P**		**17 25 15.2**	**+1.3**
	comp=Z,6.5nm,0.9s,mb4.6								
PPT	**Papeete**	**81.13**	**127**	*e*LR		LR		17 49 48.9	
	comp=Z,204nm,23.2s,baz=330								
VTS	**Vitosha**	**81.25**	**326**	⇓*i*P		**P**		**17 25 18.9**	**+4.3**
DAVA	**Damuels**	**81.42**	**337**	⇓*i*P		**P**		**17 25 13.9**	**-1.7**
	comp=Z,9.6nm,0.9s,mb4.7								
GRR	**Gorron**	**82.84**	**344**	*e*P		**P**		**17 25 22.8**	**-0.2**
SMF	**Signal de Mont**	**83.52**	**341**	*e*P		**P**		**17 25 26.2**	**-0.3**
	comp=Z,84nm,1.3s,mb5.4								
SMF	**Signal de Mont**	**83.52**	**341**	*e*P		**P**		**17 25 26.2**	**-0.3**
SMF				pmax		pmax			
	comp=Z,42nm,1.3s,mb5.4								
SMF	**Signal de Mont**	**83.52**	**341**	*e*P		**P**		**17 25 26.2**	**-0.3**
	comp=Z,42nm,1.3s,mb5.4								
LPG	**La Plagne**	**83.89**	**338**	*e*P		**P**		**17 25 29.0**	**+0.6**
	comp=Z,21nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.89**	**338**	*e*P		**P**		**17 25 29.0**	**+0.6**
LPG				pmax		pmax			
	comp=Z,11nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.89**	**338**	*e*P		**P**		**17 25 29.0**	**+0.6**
	comp=Z,11nm,0.9s,mb5.0								
CAF	**Calviac**	**85.55**	**341**	*e*P		**P**		**17 25 36.6**	**-0.2**
	comp=Z,10nm,0.8s,mb4.8								
CAF	**Calviac**	**85.55**	**341**	*e*P		**P**		**17 25 36.6**	**-0.2**
CAF				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
CAF	**Calviac**	**85.55**	**341**	*e*P		**P**		**17 25 36.6**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.8								
TBI	**Tubuai**	**85.92**	**131**	*e*LR		LR		17 52 01.3	
	comp=Z,216nm,32.0s								
RPZ	**Rata Peaks**	**91.30**	**169**	LR		LR		18 03 49.3	
	comp=Z,99nm,19.1s,MS4.3,baz=348,slow=34								
KEST	**Kesra**	**92.21**	**333**	P		**P**		**17 26 08.8**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.4,baz=22,slow=23,SNR=4.2								
RKT	**Rikitea**	**93.85**	**120**	*e*LR		LR		17

MAJO Matsushiro 16.14 237 *e*Pn **Pn 17 32 36.4 -4.7**
comp=Z,41nm,0.8s
MAT Matsushiro 16.14 237 P **Pn 17 32 35.5 -5.6**
MAT Matsushiro 16.14 237 P **Pn 17 32 37.1 -4.0**
JWT Wachi 18.65 239 P **Pn 17 33 11.6 -0.8**
CN2 Changchun 20.91 273 *e*P **P 17 33 33.3 -3.4**
CN2 *e*XP sP 17 33 40.0 -2.6
CN2 *e*S **S 17 37 20.0 -9.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s,MS3.9
CN2 LR LR
comp=E,300nm,14.0s,MS3.9
CN2 LR LR
comp=Z,300nm,15.0s,MS3.8
CLNS Chul'man 20.95 310 *e*P **P 17 33 32.4 -4.8**
CLNS *e* 17 33 43.6
CLNS *e* 17 37 47.9
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS pmax pmax
comp=Z,27nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS MLR MLR
comp=Z,300nm,12.0s,MS3.9
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.2
CLNS MLR MLR
comp=E,700nm,13.0s,MS4.2
YAK Yakutsk 20.98 326 *e*P **P 17 33 34.9 -2.5**
YAK *e* 17 33 52.5
YAK *e*S **S 17 37 24.9 -5.8**
YAK *e*SS 17 37 51.8
YAK pmax pmax
comp=Z,12nm,0.7s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax
comp=E,228nm,3.2s
YAK smax
comp=Z,117nm,2.0s
YAK smax
comp=N,210nm,2.8s
YAK MLR MLR
comp=Z,137nm,14.0s,MS3.5
YAK MLR MLR
comp=N,148nm,15.0s,MS3.6
YAK MLR MLR
comp=E,80nm,13.0s,MS3.6
YAK Yakutsk 20.98 326 *e*P **P 17 33 33.2 -4.2**
comp=E,28nm,0.5s
YAK *e*S **S 17 37 22.0 -8.7**
KSRS Korea Array 22.02 255 P **P 17 33 49.2 +0.6**
comp=E,11nm,0.8s,mb4.4,baz=56,slow=10,SNR=32
BILL Bilibino 22.08 11 *i*P **P 17 33 48.9 -0.4**
BILL *e* 17 34 04.4
BILL *e* 17 37 41.7
BILL pmax pmax
comp=Z,44nm,1.2s,mb4.8
BILL Bilibino 22.08 11 *e*P **P 17 33 46.8 -2.5**
comp=Z,31nm,0.6s,mb4.9
JNU Nakatsue 22.84 242 P **P 17 33 56.6 -0.8**
INCN Inchon 22.86 256 P **P 17 33 59.0 +1.4**
comp=Z,45nm,1.3s,mb4.7
SNY Shenyang 22.90 269 ⇑P **P 17 33 56.0 -2.0**
SNY S **S 17 38 01.9 -5.6**
SNY XS sS 17 38 09.8 -4.7
SNY SS 17 38 43.8
SNY AMB AMB
comp=Z,30nm,1.0s,mb4.7
SNY AMB AMB
comp=Z,150nm,3.5s
SNY LR LR
comp=N,240nm,14.3s
SNY LR LR
comp=Z,260nm,13.9s,MS3.8
HIA Hailar 23.54 289 *e*P **P 17 34 01.0 -3.8**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 23.54 289 *e*P **P 17 34 01.0 -3.8**
comp=Z,6.1nm,0.6s,mb4.2
BOD Bodaibo 26.93 309 *e*P **P 17 34 32.4 -3.1**
BOD pmax pmax
comp=Z,16nm,1.3s,mb4.4
CIT Chita 27.15 296 *e*P **P 17 34 32.9 -4.7**
BJI Beijing 28.74 271 P **P 17 34 53.8 +2.1**
BJI LR LR
comp=Z,90nm,21.2s,MS3.4
BJI Beijing 28.74 271 P **P 17 34 53.7 +2.0**
BJI LR LR
comp=Z,90nm,21.2s,MS3.4
BJT Baijiatuau 28.75 271 P **P 17 34 52.8 +1.0**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 28.75 271 P **P 17 34 52.8 +1.0**
comp=Z,8.9nm,0.6s,mb4.7
NJ2 Nanjing 31.22 255 *e*P **P 17 35 14.4 +0.7**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.4
HHC Hu-ho-hao-te 31.55 275 ⇑P **P 17 35 17.1 +0.6**
HHC AP pP 17 35 21.3 +0.5
HHC PP PP 17 36 20.3 -7.5
HHC PCP PcP 17 38 10.6 +1.6
HHC AMB AMB
comp=Z,21nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,188nm,9.3s
HHC LR LR
comp=N,209nm,14.3s,MS4.1
HHC LR LR
comp=E,187nm,14.9s,MS4.1
HHC LR LR
comp=Z,198nm,14.2s,MS3.9
ULN Ulaanbaatar 32.07 290 *i*P **P 17 35 18.6 -2.5**
ULN Ulaanbaatar 32.07 290 *e*P **P 17 35 19.5 -1.7**
comp=Z,3.7nm,0.8s,mb4.3
SONM Songino Array 32.50 290 P **P 17 35 24.0 -0.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=66,slow=9.1,SNR=16
SONM PcP PcP 17 38 10.7 -0.9
comp=Z,1.6nm,0.8s,baz=111,slow=2.0,SNR=5.8
TLY Talaya 33.27 298 *e*P **P 17 35 29.1 -2.6**
TLY pmax pmax
comp=Z,11nm,0.6s,mb5.0
TLY MLR MLR
comp=Z,159nm,13.0s,MS3.9
TLY Talaya 33.27 298 *e*P **P 17 35 30.5 -1.2**
comp=Z,5.9nm,0.6s,mb4.7
ZAK Zakamensk 33.80 295 *e*P **P 17 35 34.6 -1.6**
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MCK McKinley 34.80 40 *e*P **P 17 35 44.8 -0.1**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MCK McKinley 34.80 40 *e*P **P 17 35 44.8 -0.1**
comp=Z,4.6nm,1.0s,mb4.4
SML Sawmill 35.06 44 *e*P **P 17 35 45.4 -1.8**
COLA College 35.31 38 ⇓*i*P **P 17 35 50.4 +1.0**
COLA College 35.31 38 *e*P **P 17 35 49.1 -0.2**
comp=Z,8.7nm,0.9s,mb4.7
XAN Xi'an 36.78 267 P **P 17 36 03.1 +1.2**
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
EGAK Eagle 38.18 39 *e*P **P 17 36 12.5 -1.2**
comp=Z,6.3nm,0.8s,mb4.4
LZH Lanzhou 39.15 273 *e*P **P 17 36 23.0 +1.1**
LZH AMB AMB
comp=Z,45nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,213nm,4.3s
LZH Lanzhou 39.15 273 *e*P **P 17 36 23.0 +1.1**
comp=Z,45nm,1.2s,mb5.1
LZH pP pP 17 36 35.0 +8.8
LZH sP sP 17 36 41.0 +13
GTA Gaotai 40.20 280 P **P 17 36 32.0 +1.3**
GTA AP pP 17 36 36.0 +0.9
GTA XP sP 17 36 38.6 +1.8
GTA PP PP 17 38 09.3 +6.1
GTA PCP PcP 17 38 35.3 +0.7
GTA S **S 17 42 40.8 +3.6**
GTA XS sS 17 42 48.0 +3.7
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,105nm,6.8s
GTA LR LR
comp=N,188nm,14.8s,MS4.2
GTA LR LR
comp=E,175nm,16.4s,MS4.2
GTA LR LR
comp=Z,224nm,14.1s,MS4.2
INK Inuvik 40.93 33 P **P 17 36 36.8 +0.1**
comp=Z,2.5nm,0.5s,mb4.1,baz=296,slow=6.7,SNR=7.9
INK Inuvik 40.93 33 *e*P **P 17 36 36.1 -0.6**
comp=Z,131nm,0.7s,mb5.7
CD2 Chengdu 42.14 267 ⇑*i*P **P 17 36 47.3 +0.7**
CD2 XP sP 17 36 54.3 +1.6
CD2 PP PP 17 38 27.9 +3.7
CD2 S **S 17 43 05.4 -0.5**
CD2 XS sS 17 43 12.8 -0.3
CD2 SS SS 17 46 06.8 -6.9
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
CD2 LR LR
comp=N,250nm,14.2s,MS4.4
CD2 LR LR
comp=E,260nm,13.2s,MS4.4
CD2 LR LR
comp=Z,180nm,16.8s,MS4.0
GYA Guiyang 42.96 259 ⇓*i*P **P 17 36 53.8 +0.5**
GYA AP pP 17 36 57.8 +0.1
GYA XP sP 17 37 01.3 +1.9
GYA PP PP 17 38 36.3 +3.3
GYA PCP PcP 17 38 45.6 +1.9
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,16.4s,MS4.6
GYA LR LR
comp=E,490nm,16.8s,MS4.6
GYA LR LR
comp=Z,430nm,17.0s,MS4.4
ZAL Zalesovo 43.62 306 P **P 17 36 57.1 -1.4**
comp=Z,8.1nm,0.5s,mb4.7,baz=52,slow=6.9,SNR=24
ZAL PcP PcP 17 38 44.8 -1.1
comp=Z,2.0nm,0.5s,baz=67,slow=2.0,SNR=4.9
NVS Novosibirsk 44.16 308 *e*P **P 17 37 01.4 -1.5**
NVS *e* 17 38 44.9
WMQ Urumqi 46.08 292 ⇓*i*P **P 17 37 19.3 +1.1**
WMQ AP pP 17 37 23.8 +1.2
WMQ XP sP 17 37 26.3 +2.0
WMQ PCP PcP 17 38 56.0 +1.6
WMQ PP PP 17 39 07.4 +1.1
WMQ PPP 17 39 51.3
WMQ S **S 17 44 03.8 +0.5**
WMQ XS sS 17 44 11.3 +0.7
WMQ AMB AMB
comp=Z,11nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,176nm,5.2s
WMQ LR LR
comp=N,193nm,20.6s,MS4.1
WMQ LR LR
comp=E,81nm,18.2s,MS4.1
WMQ LR LR
comp=Z,118nm,18.4s,MS3.9
KMI Kunming 46.49 261 P **P 17 37 22.8 +1.3**
KMI AP pP 17 37 27.4 +1.5
KMI PP PP 17 39 13.5 +2.9
KMI AMB AMB
comp=Z,12nm,1.6s,mb4.6
KMI AMB AMB
comp=Z,85nm,3.4s
KMI LR LR
comp=N,83nm,21.0s,MS3.9
KMI LR LR
comp=E,117nm,19.1s,MS3.9
KMI LR LR
comp=Z,105nm,15.4s,MS3.9
KMI Kunming 46.49 261 P **P 17 37 22.7 +1.2**
KMI *SP sP 17 37 29.0 +1.4
KMI 17 39 13.5
KMI S **S 17 44 09.0 -0.2**
KMI pmax pmax
comp=Z,12nm,1.6s,mb4.6
KMI MLR MLR
comp=Z,110nm,15.4s,MS3.9
KMI Kunming 46.49 261 P **P 17 37 22.7 +1.2**
comp=Z,12nm,1.6s,mb4.6
KMI pP pP 17 37 27.4 +1.5
KMI sP sP 17 37 29.0 +1.4
KMI PP PP 17 39 13.5 +2.9
KMI S **S 17 44 09.0 -0.2**
KMI LR LR
comp=Z,110nm,15.4s,MS3.9
MK31 Makanchi Array 48.03 298 P **P 17 37 32.3 -1.2**
MK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MKAR Makanchi Array 48.03 298 P **P 17 37 32.8 -0.7**
comp=Z,5.1nm,0.5s,mb4.8,baz=69,slow=7.7,SNR=64
MKAR PcP PcP 17 39 00.7 -0.6
comp=Z,1.2nm,0.5s,baz=58,slow=4.9,SNR=3.8
YKA Yellowknife Ar 50.13 37 P **P 17 37 49.4 -0.1**
comp=Z,2.2nm,0.6s,mb4.4,baz=295,slow=7.0,SNR=5.5
YKA Yellowknife Ar 50.13 37 P **P 17 37 49.4 -0.1**
RES Resolute Bay 50.38 19 *e*P **P 17 37 51.6 +0.2**
comp=Z,137nm,0.7s,mb6.1
LSA Lhasa 51.53 274 P **P 17 38 04.0 +3.9**
LSA Lhasa 51.53 274 *e*P **P 17 38 01.7 +1.6**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 51.53 274 *e*P **P 17 38 01.7 +1.6**
comp=Z,6.3nm,0.6s,mb4.7
BVA0 Borovoye Array 51.80 310 P **P 17 38 01.2 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BVAR Borovoye Array 51.80 310 P **P 17 38 01.6 -0.5**
comp=Z,12nm,0.5s,mb5.1,baz=53,slow=7.7,SNR=81
BVAR PcP PcP 17 39 14.5 -0.6
comp=Z,2.5nm,0.4s,baz=64,slow=3.4,SNR=4.2
BRVK Borovoye 51.84 310 *e*P **P 17 38 01.5 -0.9**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.2
BRVK Borovoye 51.84 310 *e*P **P 17 38 01.5 -0.8**
comp=Z,20nm,0.6s,mb5.2
ZRNK Zerenda 52.56 311 *e*P **P 17 38 06.6 -1.1**
ZRNK *e* 17 38 17.3
ZRNK *e* 17 39 15.9
ZRNK pmax pmax
comp=Z,20nm,0.6s,mb5.2
ZRNK Zerenda 52.56 311 *e*P **P 17 38 06.6 -1.1**
comp=Z,20nm,0.6s,mb5.2
ZRNK *e* 17 38 17.3
ZRNK *e*PcP PcP 17 39 15.9 -2.0
CHTO Chiang Mai 53.36 258 *e*P **P 17 38 14.5 +0.9**
CHTO pmax pmax
comp=Z,18nm,1.4s,mb4.8
CHTO Chiang Mai 53.36 258 *e*P **P 17 38 14.5 +0.8**
comp=Z,18nm,1.4s,mb4.8
CM31 Chiang Mai Arr 53.61 258 *e*P **P 17 38 16.6 +1.1**
comp=Z,6.3nm,0.7s,mb4.7
ULHL Ulahol 54.08 296 P **P 17 38 20.1 +1.2**
SNR=5.6
TKM2 Tokmak 2 54.10 297 P **P 17 38 20.1 +1.0**
SNR=8.6
USP Ospenovka 54.58 298 P **P 17 38 23.4 +0.8**
SNR=26
KBK Karagaybulak 54.65 297 P **P 17 38 23.9 +0.9**
SNR=9.4
KZA Kyzart 54.79 296 P **P 17 38 25.9 +1.9**
SNR=8.6
AAK Ala-Archa 54.94 297 P **P 17 38 26.0 +0.8**
SNR=16
EKS2 Erkin-Say 55.36 298 P **P 17 38 29.1 +0.9**
SNR=19
AML Almayashu 55.71 297 P **P 17 38 26.5 -4.2**
SNR=11
ARU Arti 55.82 318 *e*P **P 17 38 30.6 -0.9**
ARU *e* 17 39 25.1
ARU *e* 17 40 32.1
ARU *e*S **S 17 46 17.6 -0.6**
ARU *e* 17 48 19.7
ARU Arti 55.82 318 *e*P **P 17 38 30.7 -0.8**
comp=Z,41nm,0.5s,mb5.7
JIRN Jiri 56.20 276 *e*P **P 17 38 35.1 +0.9**
comp=Z,16nm,0.5s,mb5.3
GUN Gumba 56.25 276 *e*P **P 17 38 36.4 +1.8**
comp=Z,14nm,0.4s,mb5.3
KKN Kakani 56.74 277 *e*P **P 17 38 39.3 +1.3**
comp=Z,19nm,0.5s,mb5.4
PKI Pulchoki 56.79 276 *e*P **P 17 38 39.2 +0.8**
comp=Z,16nm,0.7s,mb5.1
DMN Daman 56.97 276 *e*P **P 17 38 41.3 +1.6**
comp=Z,50nm,0.9s,mb5.6
GKN Gorkha 57.04 277 *e*P **P 17 38 40.7 +0.5**
comp=Z,17nm,0.4s,mb5.4
KKAR Karatay Array 57.08 300 *i*P **P 17 38 39.2 -1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KEV Kevo 57.71 341 *e*p **P 17 38 43.7 -1.2**
comp=Z,1.5nm,0.4s,mb4.4
KEV Kevo 57.71 341 *e*P **P 17 38 43.7 -1.2**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KOLN Koldanda 57.89 278 *e*P **P 17 38 47.3 +1.1**
comp=Z,19nm,0.7s,mb5.2
ARCES ARCESS Array B 58.22 341 P **P 17 38 48.2 -0.3**
comp=Z,9.4nm,0.7s,mb4.9,baz=36,slow=7.5,SNR=32
ARCES ARCESS Array B 58.22 341 P **P 17 38 48.2 -0.3**
ARE0 ARCESS Array S 58.22 341 *e*P **P 17 38 48.3 -0.2**
TMCR Tamitsa 58.87 333 *e*P **P 17 38 53.1 0.0**
AB31 Akbulak array 59.36 311 *i*P **P 17 38 56.2 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KSM Kuching 59.52 235 *e*P **P 17 38 58.3 +0.8**
AKTK Aktyubinsk 59.63 313 P **P 17 38 58.0 -0.2**
AKTO Aktyubinsk 59.63 313 P **P 17 38 58.0 -0.3**
comp=Z,6.1nm,0.6s,mb4.8,baz=68,slow=5.6,SNR=23
AKTO Aktyubinsk 59.63 313 P **P 17 38 58.0 -0.3**
AKTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
NVAR Mina Array Bea 61.29 63 P **P 17 39 10.6 +0.9**
comp=Z,2.0nm,0.8s,mb4.3,baz=291,slow=9.9,SNR=11
NVAR Mina Array Bea 61.29 63 P **P 17 39 10.6 +0.9**
QLMT Earthquake Lak 61.34 54 *e*P **P 17 39 10.7 +0.7**
KULM Kulim 62.24 246 *e*P **P 17 39 16.8 +0.8**
RRI2 Red Ridge 62.33 55 *e*P **P 17 39 17.8 +1.1**
comp=Z,6.8nm,0.8s,mb4.8
RLMT Red Lodge 62.34 53 *e*P **P 17 39 16.9 +0.1**
comp=Z,6.3nm,0.7s,mb4.8
KAKA Kakadu 62.58 205 *e*P **P 17 39 17.6 -0.7**
comp=Z,6.5nm,0.6s,mb4.9
REDW Red Top Meadow 62.58 55 *e*P **P 17 39 18.9 +0.6**
comp=Z,7.7nm,1.0s,mb4.8
PDAR Pinedale Array 63.69 55 P **P 17 39 25.9 +0.2**
comp=Z,3.2nm,0.8s,mb4.4,baz=290,slow=2.6,SNR=23
FIA1 FINESS Array S 64.52 336 *e*P **P 17 39 30.4 -0.7**
FINES FINESS Array B 64.53 336 P **P 17 39 30.4 -0.7**
comp=Z,9.8nm,0.5s,mb5.1,baz=38,slow=7.9,SNR=73
FINES FINESS Array B 64.53 336 P **P 17 39 30.4 -0.7**
ULM Lac du Bonnet 65.65 42 P **P 17 39 38.1 -0.4**
comp=Z,4.6nm,0.6s,mb4.7,baz=317,slow=5.3,SNR=8.9
RSSD Black Hills 65.82 51 *e*P **P 17 39 39.4 -0.2**
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RSSD Black Hills 65.82 51 *e*P **P 17 39 39.4 -0.2**
comp=Z,9.0nm,1.0s,mb4.8
OBN Obninsk 65.97 326 *e*P **P 17 39 37.1 -3.5**
OBN *e* 17 40 07.4
OBN *e*SS SS 17 52 40.0 -2.9
OBN pmax pmax
comp=Z,17nm,1.7s,mb4.8
OBN Obninsk 65.97 326 *e*P **P 17 39 39.5 -1.0**
NB2 NORSAR Subarra 68.58 342 P **P 17 39 56.3 -0.8**
comp=Z,4.2nm,0.5s,mb4.6,baz=29,slow=6.5
NOA NORSAR Array B 68.58 342 P **P 17 39 56.7 -0.4**
comp=Z,3.3nm,0.5s,mb4.5,baz=25,slow=6.3,SNR=17
WRAB Tennant Creek 68.98 201 *e*P **P 17 39 58.3 -1.2**
WRAB pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WRAB Tennant Creek 68.98 201 *e*P **P 17 39 58.3 -1.2**
comp=Z,7.0nm,1.0s,mb4.5
WB2 Warramunga Arr 68.98 201 *e*P **P 17 39 58.7 -0.9**
WRA Warramunga Arr 68.99 201 P **P 17 39 58.5 -1.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=16,slow=6.7,SNR=21
EYMN Ely 69.31 41 *e*P **P 17 40 00.4 -1.2**
comp=Z,9.2nm,1.0s,mb4.7
FITZ Fitzroy Crossi 69.80 210 *e*P **P 17 40 04.6 0.0**
comp=Z,5.2nm,0.6s,mb4.6
FITZ Fitzroy Crossi 69.80 210 P **P 17 40 04.6 0.0**
comp=Z,3.2nm,0.7s,mb4.4,baz=15,slow=9.8,SNR=9.2
ECSD EROS,Sioux Fal 69.94 47 *e*P **P 17 40 04.5 -0.9**
comp=Z,5.2nm,0.9s,mb4.5
ANMO Albuquerque 70.73 59 *e*P **P 17 40 11.1 +0.8**
SUW Suwalki 71.55 332 P **P 17 40 14.8 -0.5**
SUW pmax pmax
comp=Z,21nm,1.0s,mb5.0
SUW Suwalki 71.55 332 P **P 17 40 14.8 -0.5**
comp=Z,21nm,1.0s,mb5.0
KIV Kislovodsk 71.66 315 *e*P **P 17 40 18.7 +2.7**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.0
KIV Kislovodsk 71.66 315 *e*P **P 17 40 18.1 +2.1**
comp=Z,24nm,1.0s,mb5.1
AKASG Malin Array Be 72.20 327 P **P 17 40 18.4 -0.9**
comp=Z,3.7nm,0.5s,mb4.6,baz=33,slow=6.2,SNR=22
AKBB Malin Array Si 72.20 327 *e*P **P 17 40 18.1 -1.1**
KIEV Kiev 72.21 327 P **P 17 40 18.0 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KIEV Kiev 72.21 327 P **P 17 40 18.0 -1.3**
comp=Z,5.6nm,0.6s,mb4.7
AS31 Alice Springs 72.67 200 *e*P **P 17 40 21.9 -0.1**
ASAR Alice Springs 72.67 200 P **P 17 40 22.0 0.0**
comp=Z,4.2nm,0.6s,mb4.5,baz=18,slow=5.4,SNR=9.1
SCHQ Schefferville 72.77 24 P **P 17 40 21.0 -1.6**
comp=Z,4.6nm,0.7s,mb4.5,baz=331,slow=3.8,SNR=6.9
SCIA State Center 72.98 46 P **P 17 40 23.2 -0.7**
comp=Z,15nm,0.6s,mb5.1
PALK Pallekele 73.95 263 P **P 17 40 30.0 +0.4**
comp=Z,34nm,1.2s,mb5.2
OJC Ojcow 75.88 332 *e*P **P 17 40 43.5 +2.8**
STHS Stebnicka Huta 76.10 331 *e*P **P 17 40 42.3 +0.3**
STHS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
STHS Stebnicka Huta 76.10 331 *e*P **P 17 40 42.3 +0.3**
comp=Z,7.5nm,0.7s,mb4.7
KOLS Kolonicke sedl 76.16 330 *e*P **P 17 40 41.5 -0.8**
BURAR Bucovina Array 76.23 328 ⇑*i*P **P 17 40 42.7 0.0**
BURAR Bucovina Array 76.23 328 ⇑P **P 17 40 42.7 -0.1**
LTX Lajitas 76.36 62 *e*P **P 17 40 43.5 0.0**
LTX pmax pmax
comp=Z,18nm,0.8s,mb5.0
LTX Lajitas 76.36 62 *e*P **P 17 40 43.5 0.0**
comp=Z,18nm,0.8s,mb5.0
TXAR Lajitas Array 76.36 62 P **P 17 40 43.9 +0.4**
comp=Z,14nm,0.7s,mb5.0,baz=301,slow=4.4,SNR=152
TXAR Lajitas Array 76.36 62 P **P 17 40 43.9 +0.4**
UPC Upice 76.79 334 *e*P **P 17 40 48.9 +3.0**
DPC Dobruska-Polom 76.84 334 *e*P **P 17 40 46.6 +0.4**
CLL Collm 76.93 337 *e*P **P 17 40 46.0 -0.7**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 76.93 337 *e*P **P 17 40 46.0 -0.7**
comp=Z,11nm,1.0s,mb4.7
CLL *i* pP 17 40 49.3 -2.0
CLL Collm 76.93 337 *e*P **P 17 40 46.0 -0.7**
comp=Z,11nm,1.0s,mb4.7
CLL *i* pP pP 17 40 49.3 -2.0
comp=Z,22nm,0.6s
CLL *ex* x 17 41 08.0
CLL *ex* x 17 41 18.0
MORC Moravsky Berou 76.97 333 ⇓*i*P **P 17 40 48.5 +1.6**
MORC Moravsky Berou 76.97 333 *e*P **P 17 40 48.2 +1.2**
comp=Z,6.6nm,0.7s,mb4.7
BRG Berggiesshubel 77.06 336 *e*P **P 17 40 49.9 +2.5**
comp=Z,4.3nm,0.7s,mb4.5
BRG Berggiesshubel 77.06 336 *e*P **P 17 40 49.9 +2.5**
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KECS Kecovo 77.16 331 *e*P **P 17 40 47.1 -0.8**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 77.16 331 *e*P **P 17 40 47.1 -0.8**
comp=Z,2.4nm,0.7s,mb4.2
TIRR Tirgusor 77.62 324 ⇑*i*P **P 17 40 51.5 +0.9**
TIRR Tirgusor 77.62 324 *e*P **P 17 40 49.8 -0.8**
comp=Z,6.7nm,1.1s,mb4.5
VRAC Vranov 77.68 334 ⇓*i*P **P 17 40 53.1 +2.2**
VRAC Vranov 77.68 334 ⇓P **P 17 40 53.1 +2.2**
VYHS Vyhne 77.69 332 *e*P **P 17 40 53.7 +2.8**

VYHS				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
VYHS	**Vyhne**	**77.69**	**332**	*e*P	**P**	**17 40 53.7**	**+2.8**
	comp=Z,3.5nm,0.7s,mb4.4							
MLR	**Muntele Rosu**	**77.74**	**326**	⇑*i*P	**P**	**17 40 52.0**	**+0.8**
MLR	**Muntele Rosu**	**77.74**	**326**	⇑P	**P**	**17 40 52.0**	**+0.8**
PSZ	**Piszkesteto**	**77.84**	**331**	*e*P	**P**	**17 40 54.7**	**+2.9**
MOX	**Moxa**	**77.91**	**337**	*e*P	**P**	**17 40 55.3**	**+3.2**
	comp=Z,11nm,1.1s,mb4.7							
MOX	**Moxa**	**77.91**	**337**	*e*P	**P**	**17 40 55.3**	**+3.2**
MOX				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
MALT	**Malatya**	**78.03**	**314**	⇑*i*P	**P**	**17 40 54.0**	**+1.1**
MALT	**Malatya**	**78.03**	**314**	*e*P	**P**	**17 40 53.3**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.3							
NKC	**Novy Kostel**	**78.06**	**336**	*e*P	**P**	**17 40 51.8**	**-1.2**
NKC				*e*pP	pP	17 40 56.2	-1.4
VOIR		**78.13**	**326**	⇓*i*P	**P**	**17 40 53.8**	**+0.4**
VOIR		**78.13**	**326**	⇓P	**P**	**17 40 53.8**	**+0.5**
ZST	**Bratislava**	**78.50**	**333**	*e*P	**P**	**17 40 58.4**	**+2.9**
ZST				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
ZST	**Bratislava**	**78.50**	**333**	*e*P	**P**	**17 40 58.4**	**+2.9**
	comp=Z,7.7nm,1.3s,mb4.5							
KHC	**Kasperske Hory**	**78.73**	**335**	*e*P	**P**	**17 40 56.6**	**-0.1**
KHC				*e*pP	pP	17 41 00.3	-1.0
GRA1	**Grafenberg Arr**	**78.88**	**337**	*e*P	**P**	**17 41 00.8**	**+3.3**
	comp=Z,21nm,0.6s,mb5.2							
GRF	**Grafenberg Arr**	**78.88**	**337**	*e*P	**P**	**17 41 00.8**	**+3.3**
	comp=Z,21nm,0.6s,mb5.2							
GRF	**Grafenberg Arr**	**78.88**	**337**	*e*P	**P**	**17 41 00.8**	**+3.3**
GRF				pmax	pmax			
	comp=Z,21nm,0.6s,mb5.2							
GRF	**Grafenberg Arr**	**78.88**	**337**	*e*P	**P**	**17 41 00.8**	**+3.3**
GRF				pmax	pmax			
	comp=Z,21nm,0.6s,mb5.2							
GERES	**GERESS Array B**	**78.95**	**335**	P	**P**	**17 40 57.6**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.5,baz=37,slow=6.0,SNR=26							
CONA	**Conrad Observa**	**79.13**	**333**	⇓*i*P	**P**	**17 40 60.0**	**+1.1**
	comp=Z,4.6nm,0.6s,mb4.6							
BR131	**Keskin Array S**	**79.21**	**318**	*e*P	**P**	**17 40 59.5**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**79.21**	**318**	P	**P**	**17 40 59.9**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.3,baz=27,slow=3.6,SNR=11							
STKA	**Stephens Creek**	**79.23**	**192**	P	**P**	**17 40 58.3**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=346,slow=16,SNR=3.9							
STKA	**Stephens Creek**	**79.23**	**192**	*e*P	**P**	**17 40 58.2**	**-1.2**
BZS	**Buzias**	**79.24**	**329**	⇓*i*P	**P**	**17 40 59.9**	**+0.4**
BZS	**Buzias**	**79.24**	**329**	⇓P	**P**	**17 40 59.9**	**+0.4**
ARSA	**Arzberg**	**79.84**	**333**	⇓*i*P	**P**	**17 41 05.3**	**+2.6**
	comp=Z,3.4nm,0.6s,mb4.5							
KBA	**Koelnbreinsper**	**80.65**	**335**	⇓*i*P	**P**	**17 41 08.4**	**+1.3**
	comp=Z,21nm,0.7s,mb5.2							
WTTA	**Wattenberg**	**80.98**	**336**	⇑*i*P	**P**	**17 41 09.9**	**+1.0**
	comp=Z,7.8nm,0.9s,mb4.6							
WTTA	**Wattenberg**	**80.98**	**336**	⇓*i*	**P**	**17 41 13.7**	**+4.9**
	comp=Z,15nm,0.6s,mb5.1							
WTTA	**Wattenberg**	**80.98**	**336**		**P**	**17 41 13.7**	**+4.9**
	comp=Z,15nm,0.6s,mb5.1							
WTTA	**Wattenberg**	**80.98**	**336**	P	**P**	**17 41 09.8**	**+1.0**
WTTA				*e*	pP	17 41 13.7	+0.2
MOTA	**Moosalm**	**81.05**	**336**	⇑*i*P	**P**	**17 41 09.4**	**+0.1**
	comp=Z,31nm,1.3s,mb5.1							
CDF	**Champ du Feu**	**81.08**	**339**	*e*P	**P**	**17 41 09.1**	**-0.3**
	comp=Z,12nm,0.6s,mb4.7							
CDF	**Champ du Feu**	**81.08**	**339**	*e*P	**P**	**17 41 09.1**	**-0.3**
CDF				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
CDF	**Champ du Feu**	**81.08**	**339**	*e*P	**P**	**17 41 09.1**	**-0.3**
	comp=Z,5.9nm,0.6s,mb4.7							
SQTA	**Sankt Quirin**	**81.14**	**336**	⇓*e*P	**P**	**17 41 10.8**	**+1.1**
	comp=Z,8.3nm,0.8s,mb4.7							
VTS	**Vitosha**	**81.24**	**326**	⇓*i*P	**P**	**17 41 09.8**	**-0.5**
VTS	**Vitosha**	**81.24**	**326**	⇓P	**P**	**17 41 09.8**	**-0.5**
GRR	**Gorron**	**82.88**	**344**	*e*P	**P**	**17 41 18.9**	**0.0**
	comp=Z,76nm,1.1s,mb5.4							
GRR	**Gorron**	**82.88**	**344**	*e*P	**P**	**17 41 18.9**	**0.0**
GRR				pmax	pmax			
	comp=Z,38nm,1.0s,mb5.4							
GRR	**Gorron**	**82.88**	**344**	*e*P	**P**	**17 41 18.9**	**0.0**
	comp=Z,38nm,1.0s,mb5.4							
SMF	**Signal de Mont**	**83.55**	**340**	*e*P	**P**	**17 41 22.3**	**-0.1**
	comp=Z,77nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**83.55**	**340**	*e*P	**P**	**17 41 22.3**	**-0.1**
SMF				pmax	pmax			
	comp=Z,38nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**83.55**	**340**	*e*P	**P**	**17 41 22.3**	**-0.1**
	comp=Z,38nm,1.3s,mb5.4							
LPG	**La Plagne**	**83.92**	**338**	*e*P	**P**	**17 41 24.9**	**+0.7**
	comp=Z,18nm,0.5s,mb5.2							
LPG	**La Plagne**	**83.92**	**338**	*e*P	**P**	**17 41 24.9**	**+0.7**
LPG				pmax	pmax			
	comp=Z,9.0nm,0.5s,mb5.2							
LPG	**La Plagne**	**83.92**	**338**	*e*P	**P**	**17 41 24.9**	**+0.7**
	comp=Z,9.1nm,0.5s,mb5.2							
CAF	**Calviac**	**85.58**	**341**	*e*P	**P**	**17 41 32.6**	**0.0**
	comp=Z,24nm,1.0s,mb5.1							
CAF	**Calviac**	**85.58**	**341**	*e*P	**P**	**17 41 32.6**	**0.0**
CAF				pmax	pmax			
	comp=Z,12nm,1.0s,mb5.1							
CAF	**Calviac**	**85.58**	**341**	*e*P	**P**	**17 41 32.6**	**0.0**
	comp=Z,12nm,1.0s,mb5.1							
ESDC	**Sonseca Array**	**91.87**	**344**	P	**P**	**17 42 00.7**	**-1.8**
	comp=Z,0.3nm,0.3s,mb4.1,baz=48,slow=2.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**115.68**	**331**	PKP	PKPdf	17 47 35.6	-1.0
	comp=Z,0.4nm,0.4s,baz=358,slow=3.2,SNR=4.8							
VNDA	**Vanda**	**124.12**	**178**	PKP	PKPdf	17 47 49.2	-3.6
	comp=Z,0.7nm,1.0s,baz=356,slow=4.2,SNR=4.1							
MAW	**Mawson**	**132.90**	**212**	PKP	PKPdf	17 48 06.9	-2.6
	comp=Z,0.8nm,0.6s,baz=252,slow=5.6,SNR=3.6							
CFAA	**Coronel Fontan**	**143.74**	**81**	PKP	PKPdf	17 48 25.9	-3.4
	comp=Z,0.3nm,0.4s,baz=323,slow=4.8,SNR=6.1							
SNAA	**Sanae**	**152.94**	**195**	PKPbc	PKPbc	17 48 48.6	-3.0
	comp=Z,0.6nm,0.6s,baz=16,slow=6.2,SNR=14							
SNAA				PKPab	PKPab	17 49 00.3	-2.4
	comp=Z,1.9nm,1.0s,baz=107,slow=7.4,SNR=8.0							
SNAA	**Sanae**	**152.94**	**195**	*e*PKPdf	PKPbc	17 48 49.0	-2.6
SNAA				*e*		17 49 00.9	
SNAA				*e*		17 49 11.6	
SNAA	**Sanae**	**152.94**	**195**	*e*PKIKP	PKPdf	17 48 44.2	-0.1
SNAA				*e*		17 48 48.4	
SNAA						17 48 48.6	
SNAA				*e*		17 48 59.4	
SNAA						17 49 00.3	
SNA	**Sanae**	**152.94**	**195**	*e*PKPdf	PKPdf	17 48 44.2	-0.1
SNAA				*e*PKPbc	PKPbc	17 48 48.4	-3.2
SNAA				PKPbc	PKPbc	17 48 48.6	-3.0
SNAA				*e*PKPab	PKPab	17 48 59.4	-3.3
SNAA				PKPab	PKPab	17 49 00.3	-2.4
VNA2	**Neumayer--Watz**	**154.35**	**193**	*e*PKPdf	PKPdf	17 48 48.1	+1.8
VNA2				*e*		17 48 52.4	
VNA2				*e*		17 48 59.4	
VNA2				*e*		17 49 08.2	
VNA3	**Neumayer Olymp**	**154.41**	**191**	*e*PKPdf	PKPdf	17 48 47.5	+1.1
VNA3				*e*		17 48 51.4	
VNA3				*e*		17 48 58.8	
VNA3				*e*		17 49 07.7	

IDC ***17*** *17:32:46.8±0.6, 4766N×154.31E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/26, mbtmp4.0/16, ML3.4/1, Error ellipse: s-maj=21.0km s-min=15.4km az=138.0*

BJI ***17*** *17:32:48.4, 4778N×154.36E, h6km, mBA 4.7, mb4.4, Ms4.1, Msz3.8*

NEIC ***17*** *17:32:48.0±0.5, 4762N×154.36E, h10km, mb4.4/7, Error ellipse: s-maj=13.1km s-min=8.6km az=131.0*

MOS ***17*** *17:32:50.4±1.5, 4775N×154.54E, h33km, mb4.7/6, Error ellipse: s-maj=14.3km s-min=8.6km az=75.0*

ISCJB ***17*** *17:32:52.6±1.2, 4778N±007×154.4E±0.1, h55km±10km, mb4.4/30, MS4.0/1, Error ellipse: s-maj=15.9km s-min=6.7km az=93.4*

ISC 17 17:32:54.8±1.0, 4782N±007×1544E±01, h58km±8km, n56, σ1§15/58, mb4.4/30, MS4.0/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.08**	**20**	*e*PN	**Pn**	**17 33 40.4**	**-0.5**
SKR				*e*S	**Sn**	**17 34 17.5**	**+1.0**
SKR				pmax	pmax		
	comp=N,140nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax			
	comp=N,460nm,0.5s						
SKR				smax			
	comp=E,540nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
PET	**Petropavlovsk**	**5.87**	**26**	*e*Pn	**Pn**	**17 34 17.9**	**-1.3**
PET				*e*Sn	**Sn**	**17 35 19.6**	**-5.5**
YUK	**Yuzh-Kuril'sk**	**7.07**	**241**	*e*PN	**Pn**	**17 34 36.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**7.97**	**268**	*e*PN	**Pn**	**17 34 49.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.97**	**268**	*e*Pn	**Pn**	**17 34 47.5**	**-0.4**
ASAJ	**Asahikawa**	**9.03**	**250**	Pn	**Pn**	**17 35 02.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=67,slow=15,SNR=3.1						
ASAJ	**Asahikawa**	**9.03**	**250**	PN	**Pn**	**17 35 02.4**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**11.98**	**351**	*e*PN	**Pn**	**17 35 42.6**	**-0.1**
KLR	**Kul'dur**	**15.09**	**284**	*e*P	**Pn**	**17 36 28.4**	**+4.0**
MAJO	**Matsushiro**	**16.44**	**233**	*e*P	**Pn**	**17 36 42.8**	**+1.3**
MJAR	**Matsushiro Arr**	**16.44**	**233**	Pn	**Pn**	**17 36 35.6**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=3.0						
YAK	**Yakutsk**	**19.94**	**325**	*e*P	**Pn**	**17 37 22.1**	**-1.9**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK	**Yakutsk**	**19.94**	**325**	*e*Pn	**Pn**	**17 37 22.1**	**-1.9**
	comp=Z,22nm,0.8s						
BILL	**Bilibino**	**21.16**	**12**	P	**P**	**17 37 34.0**	**-1.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
BILL	**Bilibino**	**21.16**	**12**	P	**P**	**17 37 34.0**	**-1.0**
	comp=Z,8.2nm,1.1s,mb4.0						
KSRS	**Korea Array**	**21.98**	**252**	P	**P**	**17 37 42.5**	**-1.3**
	comp=Z,4.3nm,0.9s,mb3.9,baz=58,slow=9.6,SNR=8.2						
HHC	**Hu-ho-hao-te**	**31.12**	**273**	*e*P	**P**	**17 39 09.8**	**+2.1**
HHC				PP	PP	17 40 07.8	-11
HHC				PCP	PcP	17 42 04.3	+2.5
HHC				S	**S**	**17 44 14.3**	**+5.1**
HHC				XS	sS	17 44 20.3	-13
HHC				SCP	ScP	17 45 47.8	+8.1
HHC				SS	SS	17 45 59.9	-24
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,115nm,9.1s						
HHC				LR	LR		
	comp=N,209nm,13.7s,MS4.1						
HHC				LR	LR		
	comp=E,234nm,14.1s,MS4.1						
HHC				LR	LR		
	comp=Z,198nm,13.8s,MS3.9						
TLY	**Talaya**	**32.50**	**296**	P	**P**	**17 39 22.6**	**+2.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
TLY	**Talaya**	**32.50**	**296**	P	**P**	**17 39 22.6**	**+2.7**
	comp=Z,5.0nm,0.7s,mb4.5						
MCK	**McKinley**	**34.26**	**41**	*e*P	**P**	**17 39 35.7**	**+0.5**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MCK	**McKinley**	**34.26**	**41**	*e*P	**P**	**17 39 35.6**	**+0.5**
	comp=Z,3.9nm,1.0s,mb4.3						
COLA	**College**	**34.75**	**39**	P	**P**	**17 39 38.3**	**-1.1**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
COLA	**College**	**34.75**	**39**	P	**P**	**17 39 38.3**	**-1.1**
	comp=Z,8.8nm,0.9s,mb4.7						
LZH	**Lanzhou**	**38.75**	**271**	*e*P	**P**	**17 40 13.5**	**+0.1**
LZH				AP	pP	17 40 18.1	-10
LZH				XP	sP	17 40 20.5	-14
LZH				PP	PP	17 41 43.0	0.0
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.75**	**271**	*e*P	**P**	**17 40 13.5**	**+0.1**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	17 40 18.1	-10
LZH				sP	sP	17 40 20.5	-14
LZH				PP	PP	17 41 43.0	0.0
INK	**Inuvik**	**40.27**	**33**	P	**P**	**17 40 27.6**	**+1.5**
	comp=Z,2.1nm,0.5s,mb4.1,baz=300,slow=8.8,SNR=5.7						
INK	**Inuvik**	**40.27**	**33**	*e*P	**P**	**17 40 27.2**	**+1.1**
INK				pmax	pmax		
	comp=Z,167nm,0.9s						
INK	**Inuvik**	**40.27**	**33**	*e*P	**P**	**17 40 27.2**	**+1.1**
	comp=Z,167nm,0.9s,mb5.8						
GYA	**Guiyang**	**42.82**	**258**	P	**P**	**17 40 49.6**	**+2.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
KMI	**Kunming**	**46.31**	**260**	P	**P**	**17 41 19.3**	**+4.5**
KMI				AP	pP	17 41 21.8	-8.0
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**47.25**	**297**	P	**P**	**17 41 22.9**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.3,baz=64,slow=7.6,SNR=12						
RES	**Resolute Bay**	**49.54**	**19**	*e*P	**P**	**17 41 39.7**	**0.0**
RES				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.7						
RES	**Resolute Bay**	**49.54**	**19**	*e*P	**P**	**17 41 39.7**	**0.0**
	comp=Z,76nm,0.9s,mb5.7						
BVAR	**Borovoye Array**	**50.88**	**309**	P	**P**	**17 41 50.4**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=63,slow=7.0,SNR=5.2						
BVAR	**Borovoye Array**	**50.88**	**309**	P	**P**	**17 41 50.4**	**+0.6**
CHTO	**Chiang Mai**	**53.23**	**257**	*e*P	**P**	**17 42 06.0**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**53.23**	**257**	*e*P	**P**	**17 42 06.0**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.16**	**296**	*e*P	**P**	**17 42 14.6**	**+0.5**
JIRN	**Jiri**	**55.75**	**275**	*e*P	**P**	**17 42 25.2**	**-0.4**
	comp=Z,6.4nm,0.5s,mb4.9						
GUN	**Gumba**	**55.80**	**275**	*e*P	**P**	**17 42 25.5**	**-0.4**
	comp=Z,4.7nm,0.3s,mb5.0						
KKN	**Kakani**	**56.28**	**275**	*e*P	**P**	**17 42 29.4**	**+0.1**
	comp=Z,5.5nm,0.5s,mb4.8						
GKN	**Gorkha**	**56.57**	**276**	*e*P	**P**	**17 42 31.3**	**-0.1**
	comp=Z,3.4nm,0.3s,mb4.8						
KOLN	**Koldanda**	**57.42**	**277**	*e*P	**P**	**17 42 37.2**	**-0.2**
	comp=Z,14nm,0.9s,mb5.0						
NVAR	**Mina Array Bea**	**61.15**	**64**	P	**P**	**17 43 04.8**	**+1.6**
	comp=Z,1.9nm,0.8s,mb4.3,baz=299,slow=8.2,SNR=10						
PDAR	**Pinedale Array**	**63.40**	**55**	P	**P**	**17 43 19.6**	**+1.3**
	comp=Z,1.9nm,0.9s,mb4.2,baz=305,slow=2.3,SNR=12						
FINES	**FINESS Array B**	**63.46**	**335**	P	**P**	**17 43 16.7**	**-1.9**
	comp=Z,0.7nm,0.4s,mb4.2,baz=37,slow=7.8,SNR=6.7						
ULM	**Lac du Bonnet**	**65.13**	**42**	P	**P**	**17 43 29.6**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=316,slow=10,SNR=3.0						
NOA	**NORSAR Array B**	**67.50**	**342**	P	**P**	**17 43 43.7**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.7,baz=28,slow=6.5,SNR=2.4						
NOA	**NORSAR Array B**	**67.50**	**342**	P	**P**	**17 43 43.7**	**-1.0**
WRA	**Warramunga Arr**	**69.81**	**200**	P	**P**	**17 43 57.3**	**-1.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=18,slow=6.6,SNR=7.9						
FITZ	**Fitzroy Crossi**	**70.51**	**209**	P	**P**	**17 44 02.0**	**-1.3**
	comp=Z,2.0nm,1.0s,mb4.0,baz=7.1,slow=8.1,SNR=4.4						
AKASG	**Malin Array Be**	**71.16**	**327**	P	**P**	**17 44 05.8**	**-1.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=34,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	**73.51**	**200**	P	**P**	**17 44 20.4**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=12,slow=5.5,SNR=16						
TXAR	**Lajitas Array**	**76.19**	**62**	P	**P**	**17 44 37.9**	**+1.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=299,slow=4.6,SNR=21						
GERES	**GERESS Array B**	**77.88**	**335**	P	**P**	**17 44 47.4**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=28,slow=4.4,SNR=4.2						
CFAA	**Coronel Fontan**	**143.91**	**79**	PKP	PKPdf	17 52 21.2	-2.4
	comp=Z,0.3nm,0.5s,baz=251,slow=2.9,SNR=5.0						

IDC 17 17:43:39.4±1.0, 4666N×15493E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=35.2km s-min=26.3km az=81.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.05**	**258**	Pn	**Pn**	**17 45 54.2**	**+3.0**
	0.6nm,0.3s,baz=90,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**17 52 20.2**	**-0.6**
	0.4nm,0.7s,baz=71,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**17 52 48.1**	**-1.5**
	0.6nm,0.6s,baz=51,slow=6.5,SNR=6.3						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**17 54 19.8**	**+0.9**
	1.0nm,0.6s,baz=42,slow=9.0,SNR=4.7						
WRA	**Warramunga Arr**	**68.85**	**201**	P	**P**	**17 54 45.2**	**-0.5**
	0.3nm,0.7s,baz=18,slow=6.8,SNR=5.1						
ASAR	**Alice Springs**	**72.54**	**200**	P	**P**	**17 55 08.6**	**+0.4**
	0.6nm,0.7s,baz=17,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**76.44**	**62**	P	**P**	**17 55 30.6**	**-0.3**
	0.9nm,0.7s,baz=287,slow=3.5,SNR=6.7						

WEL 17 17:59:25.7±0.2, 3800S×17638E, h147km±1km, ML3.5/11, Error ellipse: s-maj=3.4km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.63**	**114**	PN	Pn	17 59 47.6	+0.2
URZ				SN	Sn	18 00 04.0	+0.1
MWZ	**Matawai**	**0.96**	**111**	PN	Pn	17 59 50.3	+0.5
MWZ				SN	Sn	18 00 08.2	-0.1
KNZ	**Kokohu**	**1.44**	**136**	PN	Pn	17 59 54.7	+0.4
KNZ				SN	Sn	18 00 15.7	-0.6
MXZ	**Matakaoa Point**	**1.59**	**75**	PN	Pn	17 59 56.0	0.0
MXZ				SN	Sn	18 00 19.5	+0.4
WPHZ	**Waipukurau**	**2.06**	**179**	PN	Pn	18 00 01.1	-0.2
WPHZ				SN	Sn	18 00 27.4	-1.3
PXZ	**Pawanui**	**2.06**	**170**	PN	Pn	18 00 01.2	-0.1
TSZ	**Takapari Road**	**2.08**	**189**	PN	Pn	18 00 01.0	-0.6
TSZ				SN	Sn	18 00 28.1	-1.1
BFZ	**Birch Farm**	**2.68**	**182**	PN	Pn	18 00 07.6	-1.3
MRZ	**Mangatainoka R**	**2.73**	**193**	PN	Pn	18 00 08.0	-1.5
MRZ				SN	Sn	18 00 40.5	-2.9
TIWZ	**Tintock**	**2.80**	**188**	PN	Pn	18 00 09.0	-1.4
MTW	**Mount Morrison**	**3.23**	**192**	PN	Pn	18 00 13.4	-2.4
CAW	**Cannon Point**	**3.27**	**198**	PN	Pn	18 00 23.5	+7.2
CAW				SN	Sn	18 01 00.5	+5.0
MSWZ	**Moikau Station**	**3.52**	**194**	PN	Pn	18 00 16.9	-2.7
TCW	**Tory Channel**	**3.60**	**206**	SN	Sn	18 00 59.3	-3.8
NNZ	**Nelson**	**3.96**	**215**	SN	Sn	18 01 08.6	-3.1
MQZ	**McQueen's Vall**	**6.36**	**205**	SN	Sn	18 01 58.9	-10

NIED ***17*** *18:03:00, 2850N×130.20E, h35km, Mw6.1 Best double couple: M0 1.58000×10^18 NP1:φs=21.00000°, δ90.00000°, λ54.00000°. NP2:φs=290.00000°, δ36.00000°, λ179.00000°.*

BGS ***17*** *18:03:03.5, 2723N×130.00E, h33km, mb5.6*

BJI ***17*** *18:03:05.1, 2822N×130.50E, h22km, mB 6.1, mb5.4, Ms6.3, Msz6.1*

ISCJB ***17*** *18:03:11.2±0.1, 2859N±002×129.87E±0.2, h23km, mb5.7/250, MS5.9/206, Error ellipse: s-maj=2.6km s-min=1.9km az=126.2*

IDC ***17*** *18:03:11.0±0.2, 2855N×129.89E, h16km±12km, mb5.4/32, mb1 5.4/39, mb1mx5.4/41, mbtmp5.4/39, ML4.9/7, MS5.9/30, Ms1 5.9/30, ms1mx5.6/40, Error ellipse: s-maj=12.9km s-min=8.0km az=72.0*

MOS ***17*** *18:03:12.3±1.0, 2864N×129.96E, h33km, mb6.0/98, MS5.9/49, Error ellipse: s-maj=6.5km s-min=3.5km az=115.0*

JMA ***17*** *18:03:12.0±0.1, 2852N×130.15E, h30km±2km, M6.0 JMA Felt IV J1.*

NEIC ***17*** *18:03:12.3±0.1, 2859N×129.90E, h22km, mb5.8/152, ME5.7, MS5.8/153, MW6.1, MW6.1(NIED), Error ellipse: s-maj=3.4km s-min=3.1km az=149.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^18Nm; Mrr 0.87; Mθθ -1.19; Mφφ 0.32; Mrθ 0.95; Mφθ -0.24; Mrφ 0.85; Best double couple: M0 1.70000×10^18 NP1:φs=55.00000°, δ72.00000°, λ68.00000°. NP2:φs=289.00000°, δ28.00000°, λ140.00000°. Principal axes: T 1.6400, Plg57.0000°, Azm296.0000°; N 0.0700, Plg21.0000°, Azm62.0000°; P -1.7100, Plg24.0000°, Azm163.0000°; Broadband fault plane solution: P waves. NP1:φs=235.00000°, δ15.00000°, λ90.00000°. NP2:φs=55.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm325.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm145.0000°; Two events about 5 seconds apart. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*

NEIC Recorded [4 JMA] on Amami-oshima and Kikaiga-shima; [2 JMA] on Tokuno-shima; [1 JMA] on Okino-erabu-shima and Kuchino-shima.

GCMT ***17*** *18:03:12.3±0.1, 2837N×130.22E, h30km, MW6.2/107, Moment Tensor Solution. s104, c238; s107, c346; Duration: 2§9 Moment tensor: Scale 10^18Nm; Mrr 1.50±.01; Mθθ -0.43±.01; Mφφ -1.07±.01; Mrθ 1.10±.02; Mθφ -0.80±.01; Mrφ 1.08±.02; Best double couple: M0 2.19200×10^18 NP1:φs=205.00000°, δ23.00000°, λ74.00000°. NP2:φs=42.00000°, δ68.00000°, λ97.00000°. Principal axes: T 2.1520, Plg67.0000°, Azm325.0000°; N 0.0780, Plg6.0000°, Azm220.0000°; P -2.2330, Plg22.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***17*

MAJO Matsushiro 10.56 39 eP Pn 18 05 41.9 -0.9
MAJO pmax pmax
comp=Z,110nm,0.7s
MAJO Matsushiro 10.56 39 ePn Pn 18 05 41.9 -1.0
comp=Z,109nm,0.7s
MAT Matsushiro 10.56 39 P Pn 18 05 41.9 -0.9
MAT S **Sn 18 07 43.0 +2.8**
MJAR Matsushiro Arr 10.56 39 Pn **Pn 18 05 42.0 -0.8**
comp=Z,4.9nm,0.3s,baz=250,slow=14,SNR=57
QZH Quanzhou 10.74 253⇑*iP* **Pn 18 05 46.8 +1.5**
QZH *e*S **Sn 18 07 42.4 -2.3**
QZH AMB AMB
comp=Z,320nm,1.0s
QZH AMB AMB
comp=Z,9μm,6.6s
QZH LR LR
comp=N,198μm,14.1s
QZH LR LR
comp=E,84μm,12.2s
QZH LR LR
comp=Z,156μm,16.0s
CBIJ Chichi jima 10.98 95 Pn **Pn 18 05 45.8 -2.8**
comp=Z,126nm,0.3s,baz=278,slow=5.3,SNR=66
CBIJ LR LR 18 09 32.4
comp=Z,80μm,19.1s,baz=295,slow=35
DL2 Dalian 12.35 328⇑*iP* **Pn 18 06 11.0 +3.7**
DL2 XP 18 06 18.3
DL2 PP 18 06 20.1
DL2 *e*S **Sn 18 08 32.0 +8.0**
DL2 LG1 18 09 46.9
DL2 LG2 18 10 12.3
DL2 AMB AMB
comp=Z,100nm,1.5s
DL2 AMB AMB
comp=Z,2μm,5.3s
DL2 LR LR
comp=N,43μm,16.7s
DL2 LR LR
comp=E,39μm,15.5s
DL2 LR LR
comp=Z,54μm,17.7s
CVP Callao Caves 13.15 216 *eP* **Pn 18 06 16.0 -2.3**
TIA Tai'an 13.18 308 *eP* **Pn 18 06 23.1 +4.5**
TIA AP 18 06 30.4
TIA XP 18 06 34.1
TIA S Sn 18 09 05.0 +21
TIA AMB AMB
comp=Z,416nm,1.6s
TIA AMB AMB
comp=Z,3μm,5.0s
TIA LR LR
comp=N,47μm,14.0s
TIA LR LR
comp=E,17μm,16.0s
PALP Palanan 13.40 212⇓*iP* **Pn 18 06 23.4 +1.7**
WHN Wuhan 13.67 282 ⇓P **Pn 18 06 29.5 +4.2**
WHN LR LR
comp=Z,204μm,17.7s
SNY Shenyang 14.15 340 ⇑P **Pn 18 06 35.0 +3.1**
SNY AP 18 06 38.5
SNY XP 18 06 42.6
SNY S **Sn 18 09 21.3 +13**
SNY SS 18 09 36.0
SNY LR LR
comp=N,51μm,18.4s
SNY LR LR
comp=Z,79μm,20.6s
PCPH Palayan 15.33 214⇓*eP* **Pn 18 06 48.2 +0.4**
HKC Hong Kong 15.53 250⇓*iP* **Pn 18 06 58.0 +7.7**
HKC S **Sn 18 09 54.0 +12**
CN2 Changchun 15.57 348 ⇑P **Pn 18 06 55.8 +4.9**
CN2 *e*AP pP 18 07 00.5 -1.3
CN2 AMB AMB
comp=Z,100nm,0.9s
CN2 AMB AMB
comp=Z,4μm,7.0s
CN2 LR LR
comp=N,65μm,18.0s
CN2 LR LR
comp=E,44μm,18.0s
CN2 LR LR
comp=Z,79μm,19.0s
PVCP Virac 15.87 201⇓*eP* **Pn 18 06 54.9 +0.1**
BJT Baijiatuau 16.04 319 *eP* **Pn 18 07 00.1 +3.1**
BJT pmax pmax
comp=Z,456nm,1.0s
BJT Baijiatuau 16.04 319 *eP* **Pn 18 07 00.1 +3.1**
comp=Z,456nm,1.0s
BJI Beijing 16.05 319 P **Pn 18 06 59.9 +2.8**
BJI AMB AMB
comp=Z,47nm,1.0s
BJI AMB AMB
comp=Z,7μm,6.3s
BJI LR LR
comp=N,13μm,17.7s
BJI LR LR
comp=E,89μm,17.7s
BJI LR LR
comp=Z,57μm,19.5s
BJI Beijing 16.05 319 P **Pn 18 06 59.9 +2.8**
comp=Z,47nm,1.0s
BJI S Sn 18 10 18.6 +24
TGY Tagaytay City 16.67 212⇑*eP* **Pn 18 07 08.7 +3.8**
TGY Tagaytay City 16.67 212 Pn **Pn 18 07 07.1 +2.1**
comp=Z,7.3nm,0.3s,baz=326,slow=10.0,SNR=11
ERM Erimo 17.17 35 *eP* **Pn 18 07 09.0 -2.3**
ERM Erimo 17.17 35 *eP* **Pn 18 07 10.9 -0.4**
comp=Z,100nm,0.9s
PLP Palo 17.96 196 *eP* **Pn 18 07 22.8 +1.8**
ASAJ Asahikawa 18.51 30 P **Pn 18 07 25.4 -2.3**
comp=Z,2.2nm,0.3s,baz=231,slow=15,SNR=17
ASAJ LR LR 18 14 58.2
comp=Z,9μm,20.0s,baz=238,slow=38
ASAJ Asahikawa 18.51 30 P **Pn 18 07 25.4 -2.3**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,9μm,20.0s
XAN Xi'an 18.71 292 P **Pn 18 07 31.3 +1.1**
XAN AP pP 18 07 40.3 +3.8
XAN S **Sn 18 11 05.8 +7.2**
XAN AMB AMB
comp=Z,123nm,0.9s
XAN AMB AMB
comp=Z,4μm,6.5s
XAN LR LR
comp=N,17μm,15.2s
XAN LR LR
comp=E,24μm,12.9s
XAN LR LR
comp=Z,41μm,19.1s
SCPH Surigao 19.19 193 *eP* **Pn 18 07 36.6 +0.6**
HHC Hu-ho-hao-te 19.34 314⇑*iP* **Pn 18 07 37.6 -0.2**
HHC XP sP 18 07 50.5 +3.7
HHC PP 18 07 56.6
HHC S **Sn 18 11 19.1 +5.1**
HHC PCP PcP 18 11 57.9 -0.3
HHC AMB AMB
comp=Z,150nm,1.8s
HHC AMB AMB
comp=Z,13μm,11.2s
HHC LR LR
comp=N,52μm,18.1s
HHC LR LR
comp=E,44μm,18.1s
HHC LR LR
comp=Z,58μm,17.3s
YUK Yuzh-Kuril'sk 20.00 35 *iP* **Pn 18 07 44.0 -1.6**
YUK *e*S **Sn 18 11 23.0 -6.8**
YUK pmax pmax
comp=Z,7μm,2.2s
YUK pmax pmax
comp=N,15μm,3.0s
YUK pmax pmax
comp=E,3μm,2.0s
YUK smax
comp=N,8μm,4.0s
YUK smax
comp=E,8μm,3.5s
YUK MLR MLR
comp=Z,41μm,22.0s
YUK MLR MLR
comp=N,57μm,20.0s
YUK MLR MLR
comp=E,17μm,22.0s
BTO Baotou 20.21 311 *eP* **P 18 07 47.8 +1.7**
BTO AMB AMB
comp=Z,89nm,2.6s
BTO LR LR
comp=N,6μm,20.1s,MS5.2
BTO LR LR
comp=E,10μm,19.6s,MS5.2
HABR Khabarovsk 20.22 10⇑*iP* **P 18 07 43.0 -3.2**
HABR *e*S **S 18 11 27.1 -4.8**
HABR pmax pmax
comp=Z,141nm,1.5s
HABR MLR MLR
comp=Z,34μm,15.1s,MS5.8
GUMO Guam 20.43 134 P **P 18 07 47.5 -0.9**
comp=Z,645nm,0.8s,baz=238,slow=2.7,SNR=14
GUMO LR LR 18 14 25.0
comp=Z,29μm,18.9s,MS5.7,baz=146,slow=33
GUMO Guam 20.43 134 *eP* **P 18 07 48.1 -0.3**
GUMO pmax pmax
comp=Z,2μm,1.3s
GUMO MLR MLR
comp=Z,28μm,19.0s,MS5.7
GUMO Guam 20.43 134 *eP* **P 18 07 48.1 -0.4**
comp=Z,2μm,1.3s
GUMO LR LR
comp=Z,28μm,19.0s,MS5.7
KLR Kul'dur 20.63 3 *eP* **P 18 07 45.8 -4.9**
KLR *e* 18 11 36.0
KLR pmax pmax
comp=Z,7μm,13.0s
KLR pmax pmax
comp=N,4μm,13.5s
KLR pmax pmax
comp=E,1μm,13.5s
CGP Cagayan de Oro 20.64 195⇓*eP* **P 18 07 49.9 -0.9**
QIZ Qiongzhong 20.65 247 P **P 18 07 51.1 +0.2**
QIZ AP 18 07 58.3
QIZ XP sP 18 08 03.0 +2.0
QIZ S **S 18 11 39.8 -0.6**
QIZ XS sS 18 11 48.6 -2.9
QIZ AMB AMB
comp=Z,212nm,0.9s
QIZ LR LR
comp=N,54μm,19.2s,MS6.1
QIZ LR LR
comp=E,65μm,20.1s,MS6.1
QIZ LR LR
comp=Z,78μm,22.5s,MS6.0
QIZ Qiongzhong 20.65 247 *eP* **P 18 07 53.1 +2.2**
comp=Z,742nm,1.4s
QIZ LR LR
comp=Z,85μm,22.0s,MS6.1
GYA Guiyang 20.71 270⇑*iP* **P 18 07 52.6 +1.1**
GYA AP 18 08 03.4
GYA XP sP 18 08 07.3 +5.6
GYA PP 18 08 15.8
GYA XS sS 18 11 53.3 +0.7
GYA AMB AMB
comp=Z,180nm,0.9s
GYA AMB AMB
comp=Z,2μm,6.6s
GYA LR LR
comp=N,84μm,16.2s,MS6.3
GYA LR LR
comp=E,72μm,15.3s,MS6.3
GYA LR LR
comp=Z,94μm,16.5s,MS6.2
YSS Yuzh-Sakhalins 20.89 25*j eP* **P 18 07 49.7 -3.7**
YSS *e**SP sP 18 08 03.0 -0.6
YSS *e*S **S 18 11 37.0 -8.1**
YSS *e* 18 11 50.0
YSS *e* 18 12 04.0
YSS pmax pmax
comp=Z,500nm,1.2s
YSS MLR MLR
comp=N,13μm,20.0s,MS5.5
YSS MLR MLR
comp=Z,15μm,20.0s,MS5.3
YSS MLR MLR
comp=E,14μm,19.0s,MS5.5
YSS Yuzh-Sakhalins 20.89 25 *eP* **P 18 07 49.8 -3.7**
comp=E,573nm,1.2s
DAV Davao City (W) 21.82 192 *eP* **P 18 08 02.6 -0.8**
comp=E,494nm,1.0s,mb5.9
DAV LR LR
comp=Z,31μm,20.0s,MS5.7
DMPH Davao City--Mi 21.82 192 *eP* **P 18 08 02.4 -1.0**
HIA Hailar 22.04 342 *eP* **P 18 08 04.0 -1.8**
HIA pmax pmax
comp=Z,75nm,0.9s
HIA MLR MLR
comp=Z,51μm,20.0s
HIA Hailar 22.04 342 *eP* **P 18 08 04.0 -1.8**
comp=Z,75nm,0.9s,mb5.1
HIA LR LR
comp=Z,51μm,20.0s,MS5.9
CD2 Chengdu 22.79 282⇑*iP* **P 18 08 13.4 -0.4**
CD2 AP 18 08 19.8
CD2 XP sP 18 08 22.3 -1.7
CD2 PP 18 08 44.8
CD2 S **S 18 12 16.1 -5.4**
CD2 SS 18 13 03.5
CD2 AMB AMB
comp=Z,880nm,1.2s,mb6.1
CD2 AMB AMB
comp=Z,9μm,11.2s
CD2 LR LR
comp=N,69μm,15.6s,MS6.3
CD2 LR LR
comp=E,71μm,16.8s,MS6.3
CD2 LR LR
comp=Z,90μm,15.7s,MS6.3
LZH Lanzhou 23.19 295 P **P 18 08 18.3 +0.3**
LZH AP 18 08 25.1
LZH XP sP 18 08 27.5 -0.7
LZH PP 18 08 53.0
LZH S **S 18 12 32.0 +3.9**
LZH XS sS 18 12 42.0 +1.8
LZH AMB AMB
comp=Z,2μm,1.3s,mb6.3
LZH AMB AMB
comp=Z,6μm,5.7s
LZH LR LR
comp=E,86μm,13.6s
LZH LR LR
comp=Z,103μm,14.3s,MS6.4
LZH Lanzhou 23.19 295 P **P 18 08 18.2 +0.2**
LZH *SP sP 18 08 27.5 -0.7
LZH 18 08 53.0
LZH S **S 18 12 32.0 +3.9**
LZH *SS sS 18 12 42.0 +1.8
LZH SS 18 13 24.1
LZH pmax pmax
comp=Z,2μm,1.3s,mb6.3
LZH MLR MLR
comp=Z,103μm,14.3s,MS6.4
LZH Lanzhou 23.19 295 P **P 18 08 18.2 +0.2**
comp=Z,2μm,1.3s,mb6.3
LZH pP 18 08 25.1
LZH sP sP 18 08 27.5 -0.7
LZH PP 18 08 53.0
LZH S **S 18 12 32.0 +3.9**
LZH sS sS 18 12 42.0 +1.8
LZH SS 18 13 24.1
LZH LR LR
comp=Z,103μm,14.3s,MS6.4
KMI Kunming 24.45 268 P **P 18 08 29.9 0.0**
KMI AP 18 08 37.0
KMI XP sP 18 08 40.5 +0.1
KMI PP 18 09 03.3
KMI PPP 18 09 18.8
KMI S **S 18 12 46.9 -1.6**
KMI XS sS 18 13 00.1 -0.6
KMI SS 18 13 44.8
KMI SSS 18 14 03.8
KMI AMB AMB
comp=Z,392nm,0.9s,mb5.8
KMI AMB AMB
comp=Z,4μm,8.0s
KMI LR LR
comp=N,33μm,15.6s,MS6.4
KMI LR LR
comp=E,86μm,17.9s,MS6.4
KMI LR LR
comp=Z,113μm,16.3s,MS6.5
KKTK Khon Kaen 27.77 250 P **P 18 09 02.0 +2.1**
comp=Z,3μm,0.5s
NRGR Nerungri 28.27 354 *eP* **P 18 09 02.7 -1.6**
CLNS Chul'man 28.43 354 *eP* **P 18 09 03.3 -2.4**
CLNS *e**PP pP 18 09 09.2 -4.0
CLNS *e*PPP 18 10 02.4
CLNS *e* 18 12 10.8
CLNS *e*S **S 18 13 48.9 -2.5**
CLNS pmax pmax
comp=Z,42nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,76nm,1.4s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS smax
comp=N,1μm,14.5s
CLNS smax
comp=Z,2μm,15.3s
CLNS smax
comp=E,1μm,14.7s
CLNS MLR MLR
comp=Z,24μm,19.0s,MS5.8
CLNS MLR MLR
comp=N,6μm,20.0s,MS5.7
CLNS MLR MLR
comp=E,16μm,16.0s,MS5.7
SKR Severo-Kuril's 29.61 35 *eP* **P 18 09 15.0 -1.3**
SKR *e* 18 10 10.0
SKR *e*S **S 18 14 07.0 -3.1**
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.8
SKR pmax pmax
comp=Z,5μm,10.0s
SKR smax
comp=N,6μm,16.0s
SKR smax
comp=E,7μm,16.0s
SKR MLR MLR
comp=Z,25μm,20.0s,MS5.8
SKR MLR MLR
comp=N,15μm,18.0s,MS5.7
SKR MLR MLR
comp=E,7μm,18.0s,MS5.7
ZAK Zakamensk 29.63 325 *eP* **P 18 09 16.4 0.0**
ZAK *e* 18 12 19.2
ZAK *e* 18 16 03.7
ZAK pmax pmax
comp=Z,22nm,1.2s,mb4.8
CHG Chiang Mai 29.90 258 ⇑P **P 18 09 19.5 +0.7**
comp=Z,150nm,1.0s,mb5.7
CHTO Chiang Mai 29.90 258 P **P 18 09 19.8 +1.1**
SNR=107
CHTO Chiang Mai 29.90 258 *eP* **P 18 09 19.2 +0.5**
comp=Z,105nm,0.8s,mb5.6
CHTO LR LR
comp=Z,32μm,20.0s,MS6.0
CM31 Chiang Mai Arr 30.05 257 PFAKE 18 09 30.0 +10
CM31 LR LR
comp=Z,27μm,20.0s,MS5.9
TLY Talaya 30.26 327 P **P 18 09 22.4 +0.4**
comp=Z,180nm,1.3s,mb5.6,SNR=10
TLY Talaya 30.26 327 P **P 18 09 23.0 +1.1**
SNR=16
TLY Talaya 30.26 327*c iP* **P 18 09 21.0 -1.0**
TLY *e* 18 10 30.8
TLY *e*SS SS 18 16 14.5 -15
TLY pmax pmax
comp=Z,90nm,1.7s,mb5.2
TLY MLR MLR
comp=Z,48μm,17.0s,MS6.2
TLY Talaya 30.26 327 *eP* **P 18 09 23.1 +1.2**
comp=Z,85nm,1.4s,mb5.3
IRK Irkutsk 30.33 328 *eP* **P 18 09 22.8 +0.2**
IRK *e*S **S 18 14 28.5 +7.3**
IRK pmax pmax
comp=Z,150nm,1.6s,mb5.5
NST Nakhon Sawan 30.33 251 P **P 18 09 23.8 +1.2**
comp=Z,104nm,1.6s,mb5.3
BDT Bhumibol Dam 30.53 255 P **P 18 09 25.0 +0.6**
comp=Z,22nm,0.9s,mb5.0
BOD Bodaibo 31.24 344 *eP* **P 18 09 28.2 -2.4**
BOD pmax pmax
comp=Z,13nm,1.1s,mb4.7
MOY Mondy 31.56 325 *eP* **P 18 09 33.7 +0.3**
MOY pmax pmax
comp=Z,20nm,0.7s,mb5.1
IMP Imphal 32.28 272 *i* P **P 18 09 40.0 +0.2**
NNT Nongplab 32.30 247 P **P 18 09 42.5 +2.6**
PET Petropavlovsk 32.30 33α*iP* **P 18 09 35.7 -4.2**
PET *e*S **S 18 14 47.1 -4.9**
PET pmax pmax
comp=Z,2μm,8.8s
PET pmax pmax
comp=Z,127nm,1.5s,mb5.5
PET pmax pmax
comp=Z,1μm,16.8s
PET pmax pmax
comp=Z,900nm,15.7s
PET MLR MLR
comp=Z,23μm,18.0s,MS5.9

PET MLR MLR
comp=Z,19μm,21.0s
PET Petropavlovsk 32.30 33 *e*P **P 18 09 39.2 -0.7**
PET LR LR
comp=Z,21μm,20.0s,MS5.8
KSM Kuching 32.84 218 *e*P **P 18 09 45.6 +1.0**
YAK Yakutsk 33.42 360 *e*P **P 18 09 47.7 -2.0**
YAK *e**PP pP 18 09 58.5 +1.3
YAK *e* 18 10 57.5
YAK *e*PPP 18 11 13.1
YAK *e* 18 12 29.9
YAK *e*S **S 18 15 06.0 -3.5**
YAK *e*SS SS 18 17 16.3 -18
YAK *e* 18 20 08.3
YAK pmax pmax
comp=N,75nm,1.3s
YAK pmax pmax
comp=Z,103nm,1.3s,mb5.6
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,48nm,1.1s,mb5.3
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,17nm,1.3s
YAK smax
comp=N,39nm,1.8s
YAK smax
comp=Z,8.0nm,1.0s
YAK smax
comp=E,45nm,1.4s
YAK MLR MLR
comp=Z,19μm,22.0s,MS5.8
YAK MLR MLR
comp=N,18μm,23.0s,MS5.8
YAK MLR MLR
comp=E,14μm,25.0s,MS5.8
YAK Yakutsk 33.42 360 *e*P **P 18 09 47.7 -2.0**
comp=E,89nm,0.9s,mb5.7
LSA Lhasa 33.75 281 P **P 18 09 54.1 +1.5**
LSA AP pP 18 10 01.4 +1.3
LSA PP PP 18 11 05.8 -3.4
LSA S **S 18 15 21.3 +6.7**
LSA AMB AMB
comp=Z,80nm,0.8s,mb5.7
LSA LR LR
comp=N,24μm,20.7s,MS6.1
LSA LR LR
comp=E,35μm,21.8s,MS6.1
LSA LR LR
comp=Z,42μm,23.3s,MS6.1
LSA Lhasa 33.75 281 *e*P **P 18 09 54.0 +1.4**
LSA pmax pmax
comp=Z,68nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,42μm,20.0s,MS6.2
LSA Lhasa 33.75 281 *e*P **P 18 09 54.0 +1.4**
comp=Z,68nm,0.8s,mb5.6
LSA LR LR
comp=Z,42μm,20.0s,MS6.2
SHL Shillong 33.89 274⇑ *i*P **P 18 09 53.5 -0.3**
comp=Z,312nm,0.8s
SHL AMb AMB 18 09 59.2
comp=Z,3μm,0.8s
SHL *e*S **S 18 15 18.5 +1.8**
MA2 Magadan 34.08 19 *e*P **P 18 09 54.4 -1.1**
MA2 *e*S **S 18 15 17.7 -2.1**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,15μm,18.0s,MS5.8
MA2 Magadan 34.08 19 *e*P **P 18 09 54.6 -0.9**
MA2 LR LR
comp=Z,7μm,20.0s,MS5.4
AGT Agartala 34.88 271 *i*P **P 18 10 03.0 +0.6**
AGT *i*x x 18 11 02.0
SNG Songkhla 34.91 238 P **P 18 10 04.0 +1.4**
KULM Kulim 36.14 236 *e*P **P 18 10 12.6 -0.7**
IPM Ipoh 36.43 234 P **P 18 10 16.9 +1.2**
KGM Kluang 36.63 229 P **P 18 10 19.6 +2.1**
SLGI Shiliguri 36.66 277 *ex* **P 18 10 17.5 -0.2**
WMQ Urumqi 36.85 306⇓ *i*P **P 18 10 19.5 +0.2**
WMQ AP pP 18 10 23.6 -3.3
WMQ XP sP 18 10 26.5 -3.5
WMQ PP PP 18 11 45.5 +2.1
WMQ PPP 18 12 05.5
WMQ PCP PcP 18 12 41.8 +1.0
WMQ S **S 18 16 03.1 +0.8**
WMQ SCP ScP 18 16 26.8 +0.9
WMQ PCS PcS 18 16 28.9 +0.1
WMQ AMB AMB
comp=Z,76nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,2μm,8.3s
WMQ LR LR
comp=N,26μm,20.0s,MS6.2
WMQ LR LR
comp=E,33μm,20.0s,MS6.2
WMQ LR LR
comp=Z,42μm,19.0s,MS6.2
SEY Seymchan 37.32 17 *e*P **P 18 10 21.6 -1.6**
SEY Seymchan 37.32 17 *e*P **P 18 10 21.7 -1.5**
CAL Calcutta 37.84 271 *e*P **P 18 10 27.9 +0.2**
CAL *ex* x 18 16 33.7
CAL AMP 18 28 03.3
comp=Z,25μm,19.2s
JIRN Jiri 38.40 279 *e*P **P 18 10 33.1 +0.8**
comp=Z,156nm,0.7s,mb5.8
PBA Port Blair 38.55 252 *e*P **P 18 10 29.8 -3.9**
PBA *ex* x 18 10 52.7
comp=Z,351nm,1.3s
PBA *e*S **S 18 16 23.5 -4.4**
GUN Gumba 38.61 280 *e*P **P 18 10 35.1 +0.9**
comp=Z,665nm,0.9s,mb6.4
PKI Pulchoki 39.09 279 *e*P **P 18 10 38.6 +0.4**
comp=Z,794nm,1.0s,mb6.4
KKN Kakani 39.16 280 *e*P **P 18 10 39.3 +0.6**
comp=Z,1μm,1.1s,mb6.5
DMN Daman 39.35 280 *e*P **P 18 10 40.6 +0.3**
comp=Z,624nm,0.9s,mb6.3
BOK Bokaro 39.61 273 *e*P **P 18 10 42.7 +0.1**
BOK AMb AMB 18 10 51.9
comp=Z,348nm,1.9s,mb5.8
BOK *i*x x 18 16 37.6
GKN Gorkha 39.67 280 *e*P **P 18 10 43.4 +0.4**
comp=Z,554nm,0.9s,mb6.3
SMY Shemya 40.40 41 PFAKE 18 11 00.0 +11
SMY LR LR
comp=Z,6μm,20.0s,MS5.4
KOLN Koldanda 40.62 280 *e*P **P 18 10 51.5 +0.6**
comp=Z,1μm,1.5s,mb6.2
MK31 Makanchi Array 41.11 309 P **P 18 10 53.3 -1.6**
MK31 pmax pmax
comp=Z,94nm,1.2s,mb5.3
MKAR Makanchi Array 41.11 309 P **P 18 10 54.0 -1.0**
comp=Z,14nm,0.5s,mb4.8,baz=90,slow=9.5,SNR=112
MKAR PcP PcP 18 12 54.5 +0.4
comp=Z,24nm,0.7s,baz=88,slow=3.0,SNR=7.1
MKAR PKiKP PKiKP 18 20 00.2 -2.1
comp=Z,0.6nm,0.8s,baz=20,slow=0.3,SNR=4.8
MKAR Makanchi Array 41.11 309 P **P 18 10 54.0 -1.0**
MKAR PcP PcP 18 12 54.5 +0.4
KAKA Kakadu 41.16 176 *e*P **P 18 10 52.8 -2.5**
comp=Z,257nm,1.6s,mb5.6
ZAL Zalesovo 41.31 321 P **P 18 10 54.5 -2.0**
comp=Z,44nm,0.4s,mb5.5,baz=6.2,slow=7.1,SNR=139
ZAL LR LR 18 30 30.1
comp=Z,37μm,18.1s,MS6.3,baz=359,slow=40
ZAL Zalesovo 41.31 321 *i*P **P 18 10 55.5 -1.0**
ZAL pmax pmax
comp=Z,44nm,0.4s
PMG Port Moresby 41.31 154 P **P 18 10 55.3 -1.3**
comp=Z,96nm,1.2s,mb5.3,baz=11,slow=7.2,SNR=14
PMG LR LR 18 25 53.8
comp=Z,30μm,21.4s,MS6.1,baz=126,slow=33
PMG Port Moresby 41.31 154 P **P 18 10 55.3 -1.3**
PMG pmax pmax
comp=Z,96nm,1.2s
PMG MLR MLR
comp=Z,30μm,21.4s
PMG Port Moresby 41.31 154 *e*P **P 18 10 55.0 -1.6**
comp=Z,128nm,1.0s,mb5.5
PMG LR LR
comp=Z,26μm,20.0s,MS6.1
NVS Novosibirsk 42.47 321 *e*P **P 18 11 05.1 -0.9**
NVS *e* 18 12 57.3
NVS *i* 18 21 01.8
NVS pmax pmax
comp=Z,264nm,2.4s,mb5.4
NVS pmax pmax
comp=E,310nm,2.7s
ALBI Allahabad 42.77 277 *e*P **P 18 11 06.5 -2.0**
AMKA Amchitka 43.13 44 *e*P **P 18 11 10.1 -1.3**
LGTI Lohaghat 43.15 284 *i*P **P 18 11 13.0 +1.4**
LGTI *ex* x 18 13 02.0
PTH Pithoragarh 43.16 284 *e*P **P 18 11 13.9 +2.3**
VIS Vishakhapatnam 43.92 266 *e*P **P 18 11 18.0 +0.2**
VIS AMb AMB 18 11 25.5
comp=Z,177nm,1.3s,mb5.6
VIS *i*x x 18 17 53.5
KURK Kurchatov 44.16 315 P **P 18 11 18.1 -1.6**
comp=Z,552nm,0.9s,mb6.3,SNR=50
AAA Alma-Ata 44.58 304 *i*P **P 18 11 21.5 -1.5**
AAA *e*S **S 18 17 54.5 -2.8**
AAA pmax pmax
comp=Z,2μm,18.2s
AAA smax
comp=E,4μm,21.6s
AAA MLR MLR
comp=Z,30μm,16.7s,MS6.3
BILL Bilibino 44.95 18*c i*P **P 18 11 25.2 -0.8**
BILL *e* 18 13 07.7
BILL *e*S **S 18 18 01.3 -1.4**
BILL *e*SS SS 18 21 23.9 -0.7
BILL pmax pmax
comp=Z,107nm,1.5s,mb5.5
BILL MLR MLR
comp=Z,10μm,17.0s,MS5.8
BILL Bilibino 44.95 18 *e*P **P 18 11 24.6 -1.4**
comp=Z,74nm,1.0s,mb5.5
BILL LR LR
comp=Z,12μm,19.0s,MS5.8
JBP Jabalpur 44.98 275⇑ *i*P **P 18 11 26.3 +0.1**
JBP *ex* x 18 11 36.9
comp=Z,255nm,1.8s
JBP *ex* x 18 17 56.5
ULHL Ulahol 45.09 302 P **P 18 11 28.0 +0.9**
SNR=21
KSH Kashi 45.38 299⇑ P **P 18 11 30.8 +1.4**
KSH *e*AP pP 18 11 37.0 -0.1
KSH *e*XP sP 18 11 41.1 +0.9
KSH *e*PCP PcP 18 13 11.0 +2.5
KSH *e*PP PP 18 13 18.3 +2.6
KSH *e*SCP ScP 18 17 01.0 +1.4
KSH *e*S **S 18 18 09.9 +1.0**
KSH *e*PS 18 18 29.3
KSH *e*SCS ScS 18 21 24.8 +0.4
KSH *e*SS SS 18 21 33.3 +0.6
KSH LR LR
comp=N,37μm,12.5s,MS6.7
KSH LR LR
comp=E,49μm,13.3s,MS6.7
KSH LR LR
comp=Z,80μm,15.5s,MS6.8
SDNR Sundarnagar 45.54 287 *e*P **P 18 11 31.0 +0.3**
TKM2 Tokmak 2 45.56 303 P **P 18 11 31.6 +0.7**
SNR=77
KZA Kyzart 45.83 302 P **P 18 11 34.4 +1.4**
SNR=44
NDI New Delhi 45.91 283 *e*P **P 18 11 32.0 -1.6**
comp=Z,30nm,0.6s,mb5.4
NDI *e*P 18 11 32.9
NDI AMb AMB 18 11 39.2
NDI *ex* x 18 18 15.0
BHK Bhakra 46.02 287 *e*P **P 18 11 35.0 +0.6**
KBK Karagaybulak 46.04 303 P **P 18 11 35.1 +0.5**
SNR=42
MIDW Midway 46.06 77 PFAKE 18 11 50.0 +15
MIDW LR LR
comp=Z,5μm,19.0s,MS5.5
CHMS Chumysh 46.18 303 P **P 18 11 35.5 -0.3**
SNR=31
FRU Bishkek 46.28 303 *e*P **P 18 11 37.0 +0.5**
FRU pmax pmax
comp=Z,240nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,22μm,20.0s,MS6.1
USP Ospenovka 46.36 304 P **P 18 11 36.6 -0.5**
SNR=43
UCH Uchtor 46.37 302 P **P 18 11 37.9 +0.6**
SNR=134
AAK Ala-Archa 46.38 303 P **P 18 11 36.5 -0.8**
comp=Z,196nm,0.9s,mb6.0,SNR=17
AAK Ala-Archa 46.38 303 P **P 18 11 37.7 +0.4**
SNR=29
AAK Ala-Archa 46.38 303 P **P 18 11 36.3 -1.0**
AAK LR LR
comp=Z,9μm,20.0s,MS5.7
THN Thein Dam 46.42 289 *e*P **P 18 11 36.1 -1.5**
NGP Nagpur 46.44 273 *e*P **P 18 11 37.5 -0.3**
NGP AMb AMB 18 11 45.9
comp=Z,302nm,2.3s,mb5.8
FITZ Fitzroy Crossi 46.62 186 *e*P **P 18 11 38.1 -1.1**
comp=Z,125nm,1.0s,mb5.8
FITZ *e*S **S 18 18 24.7 -2.1**
FITZ *e*SCS ScS 18 21 59.0 +27
FITZ Fitzroy Crossi 46.62 186 P **P 18 11 38.2 -1.0**
comp=Z,45nm,0.8s,mb5.5,baz=14,slow=11,SNR=72
EKS2 Erkin-Say 46.90 303 P **P 18 11 42.1 +0.7**
SNR=21
AML Almayashu 46.98 302 P **P 18 11 43.7 +1.6**
SNR=14
BHPL Bhopal 47.19 276 *e*P **P 18 11 43.4 -0.3**
BHPL AMb AMB 18 11 50.1
comp=Z,128nm,1.3s,mb5.7
HNR Honiara 47.68 138 P **P 18 11 46.6 -0.8**
comp=Z,55nm,1.0s,mb5.5,baz=45,slow=1.4,SNR=3.4
HNR LR LR 18 29 55.6
comp=Z,7μm,21.1s,MS5.6,baz=0.6,slow=34
HNR Honiara 47.68 138 P **P 18 11 46.6 -0.8**
HNR pmax pmax
comp=Z,55nm,1.0s,mb5.5
HNR MLR MLR
comp=Z,7μm,21.1s,MS5.6
HYB Hyderabad 48.24 268 *i*P **P 18 11 53.0 +1.2**
comp=Z,120nm,1.0s,mb5.9
HYB *es*P sP 18 12 03.0 +0.5
HYB *e* 18 12 14.0
HYB *e*PP PP 18 13 40.0 -4.2
HYB *e*S **S 18 18 52.0 +2.3**
HYB *e*ScS ScS 18 21 40.0 -3.1
HYB LR LR 18 30 50.0
comp=Z,22nm,18.0s
HYB Hyderabad 48.24 268 *e*P **P 18 11 53.0 +1.2**
HYB *e*S **S 18 19 02.0 +12**
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 48.24 268 *e*P **P 18 11 53.0 +1.2**
comp=Z,120nm,1.0s,mb5.9
HYB *e*S **S 18 19 02.0 +12**
NIL Nilore 48.24 291 P **P 18 11 52.5 +0.7**
comp=Z,334nm,0.5s,mb6.6,SNR=19
WRAB Tennant Creek 48.45 174 P **P 18 11 52.1 -1.3**
comp=Z,893nm,1.1s,mb6.7,SNR=24
WRAB Tennant Creek 48.45 174 P **P 18 11 51.9 -1.5**
WRAB pmax pmax
comp=Z,260nm,1.0s,mb6.2
WRAB Tennant Creek 48.45 174 *e*P **P 18 11 51.7 -1.7**
WRA Warramunga Arr 48.46 174 P **P 18 11 51.8 -1.8**
comp=Z,91nm,0.9s,mb5.8,baz=352,slow=8.4,SNR=208
WRA S **S 18 18 52.1 -0.8**
comp=Z,4.0nm,1.1s,baz=355,slow=15,SNR=6.5
WRA LR LR 18 31 07.2
comp=Z,10μm,21.0s,MS5.8,baz=5.0,slow=35
WRA PKPPKP 18 43 03.7
comp=Z,1.7nm,1.0s,baz=142,slow=2.3,SNR=4.7
WRA Warramunga Arr 48.46 174 *i*P **P 18 11 51.7 -1.8**
WRA pmax pmax
comp=Z,91nm,0.9s
WB2 Warramunga Arr 48.46 174 *e*P **P 18 11 51.4 -2.1**
WB2 *e*pP pP 18 12 01.1 -0.2
WB2 *e*PCP PcP 18 13 34.4 +15
WB2 *e*S **S 18 18 50.9 -2.0**
WB2 *e*SCS ScS 18 21 49.0 +4.4
MDRS Chennai 48.57 262 *e*P **P 18 11 55.9 +1.6**
MDRS AMb AMB 18 12 04.2
comp=Z,275nm,2.1s,mb5.9
MDRS *ex* x 18 18 27.5
AJM Ajmer 48.67 281 *e*P **P 18 11 54.1 -1.0**
AJM AMb AMB 18 12 03.3
comp=Z,145nm,1.6s,mb5.8
KK31 Karatay Array 49.28 304 *i*P **P 18 11 59.2 -0.6**
KK31 pmax pmax
comp=Z,69nm,0.8s,mb5.7
KK31 Karatay Array 49.28 304 *i*P **P 18 11 59.3 -0.5**
KKAR Karatay Array 49.28 304 *i*P **P 18 11 59.2 -0.6**
KKAR pmax pmax
comp=Z,59nm,0.9s,mb5.6
BVA0 Borovoye Array 49.52 317 P **P 18 12 00.0 -1.6**
BVA0 pmax pmax
comp=Z,48nm,1.3s,mb5.4
BVAR Borovoye Array 49.52 317 P **P 18 12 00.9 -0.7**
comp=Z,41nm,0.4s,mb5.8,baz=91,slow=10,SNR=276
BVAR PcP PcP 18 13 23.2 0.0
comp=Z,35nm,0.7s,baz=96,slow=3.6,SNR=5.2
BVAR ScS ScS 18 21 53.8 +2.1
comp=Z,1.0nm,0.7s,baz=68,slow=5.1,SNR=3.6
BVAR LR LR 18 34 59.7
comp=Z,57μm,18.6s,MS6.6,baz=319,slow=38
BVAR Borovoye Array 49.52 317 P **P 18 12 00.9 -0.7**
BVAR 18 13 23.2
BVAR 18 21 53.8
BRVK Borovoye 49.59 317 P **P 18 12 01.0 -1.1**
comp=Z,1μm,1.1s,SNR=63
BRVK Borovoye 49.59 317 P **P 18 12 01.4 -0.7**
SNR=86
BRVK Borovoye 49.59 317 *e*P **P 18 12 00.6 -1.5**
BRVK pmax pmax
comp=Z,202nm,0.8s,mb6.2
BRVK MLR MLR
comp=Z,13μm,21.0s,MS5.9
BRVK Borovoye 49.59 317 *e*P **P 18 12 00.6 -1.5**
comp=Z,202nm,0.8s,mb6.2
BRVK LR LR
comp=Z,13μm,21.0s,MS5.9
LATR Latur 49.61 270 *ex* x 18 11 53.0
ZRNK Zerenda 50.35 317 *e*P **P 18 12 06.7 -1.2**
ZRNK pmax pmax
comp=Z,134nm,0.8s,mb6.0
ZRNK Zerenda 50.35 317 *e*P **P 18 12 06.7 -1.2**
comp=Z,134nm,0.8s,mb6.0
MBWA Marble Bar 50.45 192⇓ P **P 18 12 07.3 -1.4**
SNR=15
MBWA Marble Bar 50.45 192 *e*P **P 18 12 07.1 -1.5**
comp=Z,292nm,1.4s,mb6.1
MBWA LR LR
comp=Z,5μm,21.0s,MS5.5
CTA Charters Tower 50.93 160 *e*P **P 18 12 11.3 -1.0**
comp=Z,20nm,0.8s,mb5.1
CTA *ep*P pP 18 12 20.3 +0.2
CTA *es*P sP 18 12 26.0 +2.9
CTA *e*PCP PcP 18 13 37.1 +8.7
CTA *e*S **S 18 19 10.0 -17**
CTA Charters Tower 50.93 160 P **P 18 12 11.4 -0.9**
comp=Z,24nm,0.8s,mb5.2,baz=357,slow=8.6,SNR=13
CTA S **S 18 19 28.2 +0.8**
comp=Z,7.7nm,1.0s,baz=45,slow=10.0,SNR=2.4
CTA Charters Tower 50.93 160 *e*P **P 18 12 11.3 -1.0**
CTA *e**PP pP 18 12 20.3 +0.2
CTA *e**SP sP 18 12 26.0 +2.9
CTA pmax pmax
comp=Z,20nm,0.8s
CTAO Charters Tower 50.93 160 *e*P **P 18 12 11.0 -1.3**
CTAO pmax pmax
comp=Z,49nm,0.8s,mb5.5
CTAO MLR MLR
comp=Z,17μm,19.0s,MS6.1
CTAO Charters Tower 50.93 160 *e*P **P 18 12 11.0 -1.3**
comp=Z,49nm,0.8s,mb5.5
CTAO LR LR
comp=Z,17μm,19.0s,MS6.1
PALK Pallekele 50.96 255 P **P 18 12 14.1 +1.6**
comp=Z,412nm,0.9s,mb6.4,SNR=5.8
PALK Pallekele 50.96 255⇑ P **P 18 12 14.5 +2.0**
SNR=6.8
PALK Pallekele 50.96 255 *e*P **P 18 12 13.8 +1.3**
comp=Z,295nm,1.6s,mb6.0
PALK LR LR
comp=Z,5μm,21.0s,MS5.5
COCO West Island 51.65 223 PFAKE 18 12 30.0 +12
COCO LR LR
comp=Z,968nm,21.0s
POO Poona 51.95 272⇑ *i*P **P 18 12 18.0 -1.9**
comp=Z,340nm,1.0s,mb6.2
POO AMb AMB 18 13 02.7
comp=Z,275nm,2.1s,mb5.8
AS31 Alice Springs 52.12 175 *e*P **P 18 12 20.0 -1.2**
AS31 *ep*P pP 18 12 29.7 +0.7
AS31 *e*S **S 18 19 41.8 -2.0**
AS31 *e*ScS ScS 18 22 10.9 +1.3
KAD Karad 52.12 270 *e*P **P 18 12 20.3 -0.9**
KAD AMb AMB 18 12 29.8
comp=Z,245nm,1.8s,mb5.8
ASAR Alice Springs 52.12 175 P **P 18 12 20.1 -1.2**
comp=Z,36nm,1.0s,mb5.2,baz=353,slow=6.4,SNR=131
ASAR S **S 18 19 45.9 +2.1**
comp=Z,1.8nm,1.0s,baz=8.8,slow=19,SNR=3.1
ASAR LR LR 18 34 04.6
comp=Z,8μm,19.0s,MS5.8,baz=1.2,slow=36
ASAR PKPPKP 18 42 49.0
comp=Z,1.2nm,1.0s,baz=151,slow=1.9,SNR=5.0
ASAR Alice Springs 52.12 175 P **P 18 12 20.1 -1.1**
ASAR S **S 18 19 45.9 +2.1**
ASPA Alice Springs 52.12 175 *e*P **P 18 12 20.0 -1.2**
ASPA *ep*P pP 18 12 29.7 +0.7
ASPA *e*S **S 18 19 41.8 -2.0**
ASPA *e*SCS ScS 18 22 10.9 +1.3
BHV Bhavnagar 52.29 276 *e*P **P 18 12 23.5 +1.0**
BOM Bombay 52.72 273 *e*P **P 18 12 25.9 +0.2**
BOM *ex* x 18 12 34.2
comp=Z,354nm,1.6s
BOM *ex* x 18 20 09.2
MNGI Mangalore 53.36 265 *i*P **P 18 12 31.0 +0.6**
MNGI AMb AMB 18 12 39.4
comp=Z,203nm,1.2s,mb5.9
MNGI *i*x x 18 20 07.5
MNGI *ex* x 18 40 37.7
comp=Z,10μm,18.7s
TRD Trivandrum 53.55 259 *e*P **P 18 12 32.2 +0.4**
TRD AMb AMB 18 12 41.1
comp=Z,269nm,1.1s,mb6.1
TRD *i*x x 18 18 39.1
AB31 Akbulak array 56.12 312 *e*P **P 18 12 50.0 -0.4**
AB31 pmax pmax
comp=Z,11nm,0.6s,mb5.1
AB31 Akbulak array 56.12 312 *i*P **P 18 12 50.0 -0.4**
ARU Arti 56.46 321 P **P 18 12 52.5 -0.3**
comp=Z,1μm,0.8s,SNR=58
ARU Arti 56.46 321⇑ *i*P **P 18 12 52.1 -0.7**
ARU *e* 18 13 43.8
ARU *e* 18 15 01.0
ARU *e*PPP 18 16 20.0
ARU *e*S **S 18 20 44.9 +2.5**
ARU *e*SSS 18 26 33.0
ARU pmax pmax
comp=Z,220nm,0.9s,mb6.2
ARU MLR MLR
comp=N,10μm,18.0s,MS6.3
ARU MLR MLR
comp=Z,31μm,18.0s,MS6.5
ARU MLR MLR
comp=E,22μm,17.0s,MS6.3
ARU Arti 56.46 321 *e*P **P 18 12 51.3 -1.5**
ARU pmax pmax
comp=E,228nm,0.9s,mb6.2
ARU LR LR
comp=Z,9μm,20.0s,MS5.8
AKTK Aktyubinsk 57.24 314 P **P 18 12 58.3 0.0**
AKTO Aktyubinsk 57.24 314 P **P 18 12 58.3 0.0**
comp=Z,11nm,0.5s,mb5.2,baz=95,slow=7.1,SNR=32
AKTO Aktyubinsk 57.24 314 P **P 18 12 58.3 0.0**
AKTO pmax pmax
comp=Z,11nm,0.5s,mb5.1
SOKR Solikamsk 57.30 325 *e*P **P 18 12 57.7 -1.1**
SOKR S **S 18 20 57.7 +4.2**
SOKR pmax pmax
comp=Z,290nm,1.2s,mb6.2
SOKR MLR MLR
comp=Z,53μm,20.0s,MS6.6
SVW2 Sparrevohn 57.97 34 *e*P **P 18 13 03.9 +0.5**
IMA2 Indian Mountai 58.72 28 *e*P **P 18 13 08.9 +0.2**
FORT Forrest 59.09 182 *e*P **P 18 13 11.4 +0.1**
comp=Z,35nm,0.9s,mb5.4
FORT *ep*P pP 18 13 21.8 +2.7
ABKT Ailbek 59.40 299 P **P 18 13 14.3 +0.9**
comp=Z,789nm,0.8s,mb6.8,SNR=47

KDAK	**Kodiak Island**	**59.73**	**37**	P		**P**		**18 13 15.0**	**-0.7**		
	comp=Z,479nm,1.1s,mb6.4,SNR=9.0										
KDAK	**Kodiak Island**	**59.73**	**37**	P		**P**		**18 13 15.3**	**-0.4**		
	comp=Z,90nm,1.1s,mb5.7,baz=358,slow=1.5,SNR=17										
KDAK				LR		LR		18 37 11.4			
	comp=Z,4μm,20.6s,MS5.5,baz=358,slow=34										
KDAK	**Kodiak Island**	**59.73**	**37**	*e*P		**P**		**18 13 14.8**	**-0.9**		
	comp=Z,208nm,1.3s,mb6.0										
KDAK				LR		LR					
	comp=Z,2μm,22.0s,MS5.1										
SLKM	**Skilak Lake**	**60.63**	**34**	*e*P		**P**		**18 13 20.9**	**-0.9**		
KLBR	**Kellerberrin**	**60.98**	**192**	*e*P		**P**		**18 13 24.3**	**+0.1**		
	comp=Z,122nm,1.2s,mb5.9										
PMR	**Palmer**	**61.03**	**33**	*e*P		**P**		**18 13 23.7**	**-0.8**		
PMR				pmax		pmax					
	comp=Z,135nm,0.9s,mb6.1										
PMR				MLR		MLR					
	comp=Z,3μm,18.0s,MS5.5										
PMR	**Palmer**	**61.03**	**33**	*e*P		**P**		**18 13 23.7**	**-0.8**		
	comp=Z,135nm,0.9s,mb6.1										
PMR				LR		LR					
	comp=Z,3μm,18.0s,MS5.5										
STKA	**Stephens Creek**	**61.18**	**169**	*e*P		**P**		**18 13 23.3**	**-2.3**		
	comp=Z,41nm,0.9s,mb5.6										
STKA				*e*S		**S**		**18 21 41.8**	**-1.8**		
STKA				*e*SCS		SS		18 25 49.1	+5.4		
STKA	**Stephens Creek**	**61.18**	**169**	P		**P**		**18 13 23.5**	**-2.0**		
	comp=Z,25nm,0.7s,mb5.5,baz=344,slow=7.3,SNR=42										
STKA				S		**S**		**18 21 41.0**	**-2.6**		
	comp=Z,1.7nm,1.0s,baz=130,slow=17,SNR=2.0										
STKA				LR		LR		18 40 37.5			
	comp=Z,7μm,19.8s,MS5.8,baz=112,slow=37										
COLA	**College**	**61.22**	**29**	*e*P		**P**		**18 13 25.5**	**-0.4**		
COLA				pmax		pmax					
	comp=Z,48nm,0.9s,mb5.6										
COLA				MLR		MLR					
	comp=Z,4μm,22.0s,MS5.5										
COLA	**College**	**61.22**	**29**	*e*P		**P**		**18 13 25.5**	**-0.4**		
	comp=Z,48nm,0.9s,mb5.6										
COLA				LR		LR					
	comp=Z,4μm,22.0s,MS5.5										
DZM	**Mont Dzumac**	**61.50**	**141**	P		**P**		**18 13 27.0**	**-0.7**		
	comp=Z,33nm,1.0s,mb5.4,baz=14,slow=9.1,SNR=19										
DZM				LR		LR		18 37 25.0			
	comp=Z,5μm,21.1s,MS5.6,baz=333,slow=33										
MUN	**Mundaring**	**61.65**	**193**	*e*P		**P**		**18 13 29.0**	**+0.2**		
MUN				*e*S		**S**		**18 21 43.8**	**-5.8**		
NWAO	**Narrogin (SRO)**	**62.37**	**192**	P		**P**		**18 13 32.4**	**-1.2**		
	comp=Z,20nm,0.9s,mb5.2,baz=13,slow=8.2,SNR=6.2										
NWAO	**Narrogin (SRO)**	**62.37**	**192**	P		**P**		**18 13 32.4**	**-1.2**		
NWAO				LR		LR					
	comp=Z,3μm,21.0s,MS5.5										
MENT	**Mentasta**	**63.32**	**31**	*e*P		**P**		**18 13 39.9**	**0.0**		
WBK	**Wadi Bani Khal**	**63.41**	**282**	⇑P		**P**		**18 13 41.7**	**+1.2**		
	SNR=14										
BIDO	**Bidbid**	**63.80**	**284**	⇑P		**P**		**18 13 45.3**	**+2.2**		
	SNR=10										
SMDO	**Samad**	**64.03**	**283**	⇑P		**P**		**18 13 46.2**	**+1.6**		
	SNR=21										
EGAK	**Eagle**	**64.06**	**28**	*e*P		**P**		**18 13 44.0**	**-0.8**		
	comp=Z,41nm,0.9s,mb5.5										
EGAK				LR		LR					
	comp=Z,3μm,20.0s,MS5.5										
JMDO	**Jabal Madar**	**64.24**	**282**	⇑P		**P**		**18 13 47.6**	**+1.6**		
	SNR=24										
PECR	**Pechory**	**64.44**	**322**	*i* P		**P**		**18 13 46.0**	**-1.3**		
PECR				*e*PPP				18 17 44.0			
PECR				*e*S		**S**		**18 22 39.4**	**+15**		
PECR				pmax		pmax					
	comp=Z,2μm,1.0s										
PECR				pmax		pmax					
	comp=Z,2μm,7.0s										
PECR				pmax		pmax					
	comp=N,1μm,6.0s										
PECR				pmax		pmax					
	comp=E,1μm,6.0s										
PECR				smax							
	comp=E,1μm,13.0s										
PECR				MLR		MLR					
	comp=N,3μm,15.0s,MS6.3										
PECR				MLR		MLR					
	comp=E,14μm,15.0s,MS6.3										
PECR				MLR		MLR					
	comp=Z,45μm,15.0s,MS6.8										
HOQ	**Hoqain**	**64.47**	**284**	⇑P		**P**		**18 13 49.3**	**+1.8**		
	SNR=14										
BANOM	**Banah**	**64.49**	**287**	⇑P		**P**		**18 13 48.7**	**+1.1**		
	SNR=6.4										
BSY	**Bisya**	**64.88**	**283**	P		**P**		**18 13 51.3**	**+1.2**		
	SNR=28										
DAWY	**Dawson**	**64.97**	**29**	*e*P		**P**		**18 13 49.8**	**-1.0**		
HATD	**Hatta, Dubai**	**65.02**	**286**	P		**P**		**18 13 52.4**	**+1.3**		
	SNR=9.8										
ASHO	**Ashiyiah**	**65.14**	**286**	P		**P**		**18 13 53.6**	**+1.8**		
	SNR=22										
ARQ	**Araqi**	**65.24**	**284**	P		**P**		**18 13 54.2**	**+1.7**		
	SNR=17										
TMCR	**Tamitsa**	**65.43**	**331**	*i* P		**P**		**18 13 53.3**	**-0.4**		
TMCR				pmax		pmax					
	comp=Z,248nm,1.4s,mb6.0										
LVZ	**Lovozero**	**65.76**	**336**	*e*P		**P**		**18 13 54.0**	**-1.8**		
LVZ				*e*				18 16 21.9			
LVZ				*e*S		S		18 22 36.4	-4.3		
LVZ				*e*SS		SS		18 26 49.5	-5.7		
LVZ				pmax		pmax					
	comp=Z,64nm,2.2s,mb5.3										
LVZ				pmax		pmax					
	comp=N,21nm,1.1s										
LVZ				pmax		pmax					
	comp=E,24nm,1.5s										
LVZ				smax							
	comp=N,2μm,26.6s										
LVZ				smax							
	comp=Z,966nm,21.4s										
LVZ				smax							
	comp=E,2μm,20.0s										
DGAR	**Diego Garcia**	**65.91**	**246**	PFAKE				18 14 10.0	+13		
DGAR				LR		LR					
	comp=Z,3μm,22.0s,MS5.4										
INK	**Inuvik**	**66.12**	**24**	P		**P**		**18 13 57.5**	**-0.7**		
	comp=Z,34nm,0.5s,mb5.6,baz=292,slow=5.8,SNR=60										
INK	**Inuvik**	**66.12**	**24**	*e*P		**P**		**18 13 57.5**	**-0.7**		
INK				pmax		pmax					
	comp=Z,69nm,0.9s										
INK	**Inuvik**	**66.12**	**24**	*e*P		**P**		**18 13 57.2**	**-0.9**		
	comp=Z,2μm,0.9s										
CNB	**Canberra Magne**	**66.19**	**163**	*e*P		**P**		**18 13 58.2**	**-0.4**		
	comp=Z,28nm,1.2s,mb5.2										
CNB				*e*pP		pP		18 14 07.2	+0.6		
APA	**Apatity**	**66.31**	**335**	⇑*i*P		**P**		**18 13 57.5**	**-1.9**		
APA				*e*S		S		18 22 47.0	-0.4		
APA				*e*SS		SS		18 27 10.0	+6.2		
APA				pmax		pmax					
	comp=Z,24nm,0.8s,mb5.3										
APA				MLR		MLR					
	comp=Z,15μm,18.0s,MS6.2										
SPB4	**Spitsbergen Ar**	**66.81**	**348**	*e*P		**P**		**18 14 00.9**	**-1.7**		
KBS	**Kingsbay**	**67.18**	**349**	*e*P		**P**		**18 14 05.8**	**+0.8**		
KBS				*e*S		S		18 23 01.7	+3.8		
KBS				AMS		AMS		18 45 47.3			
	comp=Z,8μm,20.8s,MS5.9										
VRHR	**Novokhopersk**	**67.26**	**317**	*e*P		**P**		**18 14 04.2**	**-1.3**		
VRHR				pmax		pmax					
	comp=Z,120nm,0.7s,mb6.0										
VRHR				pmax		pmax					
	comp=N,3.0nm,1.1s										
VRHR				pmax		pmax					
	comp=E,30nm,0.4s										
TOO	**Toolangi**	**67.44**	**167**	*e*P		**P**		**18 14 06.4**	**-0.2**		
	comp=E,37nm,1.1s,mb5.3										
TOO				*e*S		S		18 22 55.1	-6.0		
TOO	**Toolangi**	**67.44**	**167**	*e*P		**P**		**18 14 06.4**	**-0.2**		
TOO				*e*S		S		18 22 55.1	-6.0		
TOO				pmax		pmax					
	comp=Z,37nm,1.1s,mb5.3										
POHA	**Pohakuloa**	**67.64**	**79**	PFAKE				18 14 20.0	+12		
POHA				LR		LR					
	comp=Z,8μm,22.0s,MS5.9										
KEV	**Kevo**	**67.77**	**338**	P		**P**		**18 14 07.4**	**-1.3**		
KEV				pmax		pmax					
	comp=Z,39nm,0.7s,mb5.5										
KEV	**Kevo**	**67.77**	**338**	*e*P		**P**		**18 14 06.4**	**-2.3**		
	comp=Z,26nm,0.5s,mb5.5										
KEV				LR		LR					
	comp=Z,25μm,21.0s,MS6.4										
BJO	**Bjornoya**	**67.95**	**344**	*e*P		**P**		**18 14 13.6**	**+3.7**		
BJO				*e*S		S		18 23 09.0	+1.8		
BJO				*e*SS		SS		18 27 25.1	-4.2		
BJO				AMS		AMS		18 48 27.9			
	comp=Z,17μm,21.1s,MS6.2										
BJO1	**Bjornoya**	**68.00**	**344**	*e*P		**P**		**18 14 13.6**	**+3.4**		
BJO1				LR		LR					
	comp=Z,17μm,21.1s,MS6.2										
SHAO	**Shalim**	**68.08**	**279**	⇑P		**P**		**18 14 11.4**	**+0.8**		
	SNR=9.4										
MOS	**Moscow**	**68.09**	**322**	*e*P		**P**		**18 14 08.9**	**-1.8**		
MOS				*e*				18 14 27.8			
MOS				*e*				18 14 42.1			
MOS				*e*S		S		18 23 13.3	+4.5		
MOS				*e*				18 24 05.3			
MOS				pmax		pmax					
	comp=Z,431nm,1.3s,mb6.3										
MOS				pmax		pmax					
	comp=Z,1μm,2.4s,mb6.5										
MOS				MLR		MLR					
	comp=N,16μm,17.0s,MS6.4										
MOS				MLR		MLR					
	comp=E,10μm,17.0s,MS6.4										
MOS				MLR		MLR					
	comp=Z,26μm,17.0s,MS6.5										
SKAG	**Skagway**	**68.14**	**33**	*e*P		**P**		**18 14 11.4**	**+0.4**		
	comp=Z,105nm,1.2s,mb5.7										
SKAG				LR		LR					
	comp=Z,5μm,20.0s,MS5.7										
ARCES	**ARCESS Array B**	**68.34**	**338**	P		**P**		**18 14 10.6**	**-1.7**		
	comp=Z,20nm,0.7s,mb5.3,baz=71,slow=5.6,SNR=56										
ARCES				LR		LR		18 49 11.8			
	comp=Z,22μm,20.3s,MS6.4,baz=57,slow=40										
ARE0	**ARCESS Array S**	**68.34**	**338**	*e*P		**P**		**18 14 10.4**	**-1.8**		
ZEI	**Tsey**	**68.44**	**308**	*e*P		**P**		**18 14 13.1**	**+0.2**		
ZEI				*e**PP		pP		18 14 20.0	-0.9		
ZEI				*e*				18 14 36.0			
ZEI				*e*				18 16 44.5			
ZEI				pmax		pmax					
	comp=Z,93nm,0.6s,mb6.0										
VOR	**Voronezh**	**68.50**	**318**	*e*P		**P**		**18 14 12.0**	**-1.3**		
VOR				pmax		pmax					
	comp=N,150nm,1.2s										
VOR				pmax		pmax					
	comp=Z,420nm,1.2s,mb6.2										
VOR				pmax		pmax					
	comp=E,400nm,1.3s										
VRSR	**Storozhevoye**	**68.68**	**318***c*	*i*P		**P**		**18 14 13.0**	**-1.4**		
VRSR				pmax		pmax					
	comp=Z,220nm,1.0s,mb6.0										
VRSR				pmax		pmax					
	comp=N,120nm,0.8s										
VRSR				pmax		pmax					
	comp=E,240nm,0.8s										
VRSR				MLR		MLR					
	comp=N,4μm,18.0s,MS6.4										
VRSR				MLR		MLR					
	comp=Z,24μm,18.0s,MS6.5										
VRSR				MLR		MLR					
	comp=E,21μm,19.0s,MS6.4										
VORD	**Divnogorie**	**68.70**	**317**	*e*P		**P**		**18 14 12.7**	**-1.8**		
VORD				pmax		pmax					
	comp=N,20nm,0.9s										
VORD				pmax		pmax					
	comp=Z,80nm,0.9s,mb5.7										
VORD				pmax		pmax					
	comp=E,20nm,0.5s										
GNI	**Garni**	**68.72**	**305**	P		**P**		**18 14 15.9**	**+1.2**		
GNI	**Garni**	**68.72**	**305**	⇑P		**P**		**18 14 16.9**	**+2.3**		
	SNR=16										
GNI	**Garni**	**68.72**	**305***c*	*i*P		**P**		**18 14 14.6**	**0.0**		
GNI				pmax		pmax					
	comp=Z,175nm,1.4s										
GNI	**Garni**	**68.72**	**305**	*e*P		**P**		**18 14 16.1**	**+1.5**		
	comp=Z,103nm,0.9s,mb5.8										
GNI				LR		LR					
	comp=Z,4μm,19.0s,MS5.7										
OBN	**Obninsk**	**68.86**	**322**	P		**P**		**18 14 15.6**	**+0.1**		
	comp=Z,1μm,1.3s,mb6.7,SNR=22										
OBN	**Obninsk**	**68.86**	**322***c*	*i*P		**P**		**18 14 14.4**	**-1.1**		
OBN				*e*				18 16 44.0			
OBN				*e*S		S		18 23 15.8	-2.2		
OBN				pmax		pmax					
	comp=Z,461nm,1.5s,mb6.2										
OBN				MLR		MLR					
	comp=Z,32μm,20.0s,MS6.5										
OBN	**Obninsk**	**68.86**	**322**	*e*P		**P**		**18 14 14.6**	**-0.9**		
	comp=Z,113nm,0.7s,mb5.9										
OBN				LR		LR					
	comp=Z,7μm,20.0s,MS5.9										
KIV	**Kislovodsk**	**68.87**	**309**	P		**P**		**18 14 16.9**	**+1.3**		
	comp=Z,940nm,1.2s,mb6.6,SNR=28										
KIV	**Kislovodsk**	**68.87**	**309**	⇑P		**P**		**18 14 16.9**	**+1.3**		
	SNR=44										
KIV	**Kislovodsk**	**68.87**	**309***c*	*i*P		**P**		**18 14 15.6**	**0.0**		
KIV				*e*				18 14 43.5			
KIV				*e*				18 16 56.1			
KIV				pmax		pmax					
	comp=Z,496nm,2.0s,mb6.1										
KIV	**Kislovodsk**	**68.87**	**309**	*e*P		**P**		**18 14 16.0**	**+0.5**		
	comp=Z,155nm,1.0s,mb5.9										
KIV				LR		LR					
	comp=Z,4μm,19.0s,MS5.7										
ALE	**Alert**	**68.93**	**2**	P		**P**		**18 14 15.0**	**-0.9**		
	comp=Z,571nm,0.9s,mb6.5,SNR=42										
SIT	**Sitka**	**68.96**	**36**	*e*P		**P**		**18 14 16.4**	**+0.3**		
SIT				pmax		pmax					
	comp=Z,142nm,1.1s,mb5.8										
SIT				MLR		MLR					
	comp=Z,4μm,20.0s,MS5.7										
SIT	**Sitka**	**68.96**	**36**	*e*P		**P**		**18 14 16.4**	**+0.3**		
	comp=Z,142nm,1.1s,mb5.8										
SIT				LR		LR					
	comp=Z,4μm,20.0s,MS5.7										
KTK1	**Kautokeino**	**69.29**	**338**	*e*P		**P**		**18 14 17.9**	**-0.3**		
KTK1				AMb		AMB		18 14 23.8			
	comp=Z,111nm,2.4s,mb5.4										
KTK1	**Kautokeino**	**69.29**	**338**	*e*P		**P**		**18 14 17.9**	**-0.3**		
	comp=Z,111nm,2.4s,mb5.4										
RBK	**Rabkut**	**69.53**	**279**	P		**P**		**18 14 20.6**	**+0.9**		
	SNR=34										
WHFO	**Wadi Hawf**	**69.73**	**280**	⇑P		**P**		**18 14 21.5**	**+0.6**		
	SNR=37										
VANB	**Van**	**70.25**	**304**	P		**P**		**18 14 23.9**	**-0.2**		
PUL	**Pulkovo**	**70.31**	**328**	*e*P		**P**		**18 14 23.7**	**-0.8**		
PUL				*e*				18 17 01.8			
PUL				*e*PPP				18 18 45.9			
PUL				*e*S		S		18 23 37.6	+2.5		
PUL				pmax		pmax					
	comp=Z,167nm,0.6s,mb6.1										
PUL				pmax		pmax					
	comp=N,134nm,0.7s										
PUL				pmax		pmax					
	comp=E,68nm,0.6s										
PUL				pmax		pmax					
	comp=Z,854nm,1.6s,mb6.4										
PUL				smax							
	comp=N,1μm,19.2s										
PUL				smax							
	comp=Z,2μm,16.1s										
PUL				smax							
	comp=E,3μm,19.2s										
PUL				MLR		MLR					
	comp=Z,47μm,19.0s,MS6.8										
PUL				MLR		MLR					
	comp=N,17μm,21.0s,MS6.7										
PUL				MLR		MLR					
	comp=E,40μm,21.0s,MS6.7										
PUL	**Pulkovo**	**70.31**	**328**	*e*P		**P**		**18 14 23.0**	**-1.5**		
HKR	**Hakkari**	**70.36**	**303**	P		**P**		**18 14 25.1**	**+0.4**		
TRO	**Tromso**	**70.36**	**340**	*e*P		**P**		**18 14 28.5**	**+3.7**		
TRO				*e*S		S		18 23 36.5	+0.9		
TRO				AMS		AMS		18 50 46.6			
	comp=Z,20μm,20.0s,MS6.4										
ABTO	**Aybut**	**70.38**	**279**	⇓P		**P**		**18 14 25.4**	**+0.5**		
	SNR=32										
QRN	**Al-Qurain**	**70.39**	**293**	*e*P		**P**		**18 14 25.0**	**0.0**		
QRN				AMb		AMB		18 14 26.0			
	comp=Z,160nm,0.4s,mb6.3										
HAKT	**HAKKARI**	**70.39**	**303**	*i* P		**P**		**18 14 25.6**	**+0.6**		
KBD	**Kabd**	**70.41**	**293**	*e*P		**P**		**18 14 24.9**	**-0.2**		
KBD				AMb		AMB		18 14 32.2			
	comp=Z,661nm,0.8s,mb6.6										
MIB	**Mutribah**	**70.45**	**294**	*e*P		**P**		**18 14 25.1**	**-0.2**		
MIB				AMb		AMB		18 14 32.5			
	comp=Z,318nm,0.8s,mb6.3										
AFI	**Afiamalu**	**70.46**	**119**	PFAKE				18 14 40.0	+15		
AFI				LR		LR					
	comp=Z,7μm,21.0s,MS5.9										
CUKT	**Cukurca**	**70.58**	**302**	P		**P**		**18 14 26.7**	**+0.6**		
RDF	**Al-Radifah**	**70.62**	**293**	*e*P		**P**		**18 14 26.5**	**+0.2**		
RDF				AMb		AMB		18 14 27.6			
	comp=Z,312nm,0.4s,mb6.6										
WRAK	**Wrangell Islan**	**70.72**	**36**	P		**P**		**18 14 28.2**	**+1.2**		
NAY	**Al-Naaiem**	**70.74**	**293**	*e*P		**P**		**18 14 26.9**	**-0.1**		
NAY				AMb		AMB		18 14 34.1			
	comp=Z,254nm,0.8s,mb6.2										
SOC	**Sochi**	**71.02**	**310**	*e*P		**P**		**18 14 27.6**	**-1.1**		
SOC				*e**SP		sP		18 14 34.4	-5.4		
SOC				*e*				18 14 43.7			
SOC				*e*PPP				18 18 43.4			
SOC				*e*S		S		18 23 42.5	-0.8		
SOC				pmax		pmax					
	comp=Z,124nm,0.9s,mb5.8										
DLBC	**Dease Lake**	**71.08**	**33**	*e*P		**P**		**18 14 29.9**	**+0.8**		
ERZM	**Erzurum**	**71.23**	**306**	*i* P		**P**		**18 14 31.9**	**+1.9**		
EZM	**Erzurum**	**71.23**	**306**	P		**P**		**18 14 31.3**	**+1.2**		
MSL	**Mosul**	**71.32**	**302**	*ex*		x		18 14 31.0			
MSL				*ex*		x		18 14 43.0			
MSL				*ex*		x		18 23 48.0			
SIRT	**Sirnak**	**71.35**	**303**	P		**P**		**18 14 31.2**	**+0.4**		
BHD	**Baghdad**	**71.47**	**298**	*ex*		x		18 14 29.0			
BHD				*ex*		x		18 14 40.0			
BHD				*ex*		x		18 23 45.0			
FIA1	**FINESS Array S**	**71.52**	**331**	*e*P		**P**		**18 14 30.2**	**-1.6**		
FINES	**FINESS Array B**	**71.52**	**331**	P		**P**		**18 14 30.6**	**-1.2**		
	comp=Z,27nm,0.4s,mb5.5,baz=66,slow=5.7,SNR=166										
FINES				LR		LR		18 49 12.7			
	comp=Z,20μm,21.3s,MS6.3,baz=66,slow=39										
BNGL	**BINGOL**	**71.74**	**305**	*i* P		**P**		**18 14 34.5**	**+1.4**		
BTMT	**Batman**	**71.78**	**304**	P		**P**		**18 14 34.7**	**+1.4**		
ANN	**Anapa**	**72.08**	**312***c*	*i*P		**P**		**18 14 34.5**	**-0.7**		
ANN				*e*S		S		18 23 56.0	+0.4		
ANN				pmax		pmax					
	comp=Z,590nm,1.4s,mb6.3										
ANN				MLR		MLR					
	comp=N,11μm,18.0s,MS6.3										
ANN				MLR		MLR					
	comp=E,10μm,18.0s,MS6.3										
ANN				MLR		MLR					
	comp=Z,14μm,18.0s,MS6.3										
BINT	**Bingol**	**72.25**	**305**	P		**P**		**18 14 37.8**	**+1.7**		
EZC	**Erzincan**	**72.39**	**306**	P		**P**		**18 14 40.2**	**+3.2**		
VSU	**Vasula**	**72.54**	**328**	*e*P		**P**		**18 14 37.4**	**-0.5**		
VSU	**Vasula**	**72.54**	**328**	*e*P		**P**		**18 14 37.5**	**-0.4**		
KELT	**Kelkit**	**72.64**	**307**	*i* P		**P**		**18 14 39.4**	**+0.9**		
MARD	**Mardin**	**72.64**	**303**	*i* P		**P**		**18 14 39.0**	**+0.5**		
DIY	**Diyarbakir**	**72.82**	**304**	P		**P**		**18 14 41.0**	**+1.4**		
RES	**Resolute Bay**	**72.93**	**11**	*e*P		**P**		**18 14 39.3**	**-0.9**		
RES				pmax		pmax					
	comp=Z,3μm,1.0s										
RES	**Resolute Bay**	**72.93**	**11**	*e*P		**P**		**18 14 39.3**	**-1.0**		
	comp=Z,3μm,1.0s										
PTK	**Pertek**	**73.03**	**305**	P		**P**		**18 14 42.2**	**+1.4**		
DAG	**Danmarks Havn**	**73.09**	**353**	⇓*i*P		**P**		**18 14 40.0**	**-1.2**		
	comp=Z,71nm,1.0s,mb5.5										
DAG	**Danmarks Havn**	**73.09**	**353**	⇓*i*P		**P**		**18 14 40.0**	**-1.2**		
DAG				pmax		pmax					
	comp=Z,71nm,1.0s,mb5.5										
MOR8	**Moi Rana**	**73.63**	**338**	*e*P		**P**		**18 14 42.2**	**-2.1**		
MOR8				AMb		AMB		18 14 52.2			
	comp=Z,121nm,2.0s,mb5.5										
MOR8	**Moi Rana**	**73.63**	**338**	*e*P		**P**		**18 14 42.2**	**-2.1**		
	comp=Z,121nm,2.0s,mb5.5										
MNK	**Minsk**	**73.75**	**324**	*e*P		**P**		**18 14 42.0**	**-3.1**		
MYA	**Malataya**	**73.95**	**305**	P		**P**		**18 14 47.6**	**+1.4**		
MALT	**Malatya**	**73.95**	**305**	⇑*i*P		**P**		**18 14 47.6**	**+1.4**		
MALT	**Malatya**	**73.95**	**305**	*e*P		**P**		**18 14 47.2**	**+1.0**		
MALT				pmax		pmax					
	comp=Z,112nm,0.9s,mb5.8										
MALT	**Malatya**	**73.95**	**305**	*e*P		**P**		**18 14 47.2**	**+0.9**		
	comp=Z,112nm,0.9s,mb5.8										
URFA	**Urfa**	**74.02**	**304**	P		**P**		**18 14 47.9**	**+1.3**		
SIM	**Simferopol'**	**74.18**	**313***ce*	P		**P**		**18 14 48.0**	**+0.4**		
SIM				*e*S		S		18 24 15.0	-4.4		
SIM				pmax		pmax					
	comp=Z,2μm,19.0s										
SVSK	**Karacayir**	**74.32**	**307**	P		**P**		**18 14 49.5**	**+1.2**		
ATAB	**Bozova**	**74.39**	**304**	*i* P		**P**		**18 14 52.9**	**+4.0**		
TOKT	**Tokat**	**74.47**	**308**	P		**P**		**18 14 49.8**	**+0.6**		
KVT	**Kavak**	**74.50**	**308**	P		**P**		**18 14 50.4**	**+1.0**		
AKASG	**Malin Array Be**	**74.68**	**320**	P		**P**		**18 14 49.3**	**-1.2**		
	comp=Z,76nm,0.5s,mb5.9,baz=58,slow=6.2,SNR=297										

BR131 Keskin Array S 76.74 308 *e*P **P** **18 15 01.7 -0.5**
comp=Z,158nm,0.9s,mb5.9
BR131 LR LR
comp=Z,6µm,21.0s,MS5.9
BRTR Keskin Array B 76.74 308 P **P** **18 15 02.3 0.0**
comp=Z,106nm,0.7s,mb5.9,baz=109,slow=3.6,SNR=352
BRTR LR LR 18 54 06.4
comp=Z,7µm,21.3s,MS6.0,baz=188,slow=40
BRTR Keskin Array B 76.74 308 *i* P **P** **18 15 02.2 -0.1**
BRTR pmax pmax
comp=Z,106nm,0.7s
KARA Karaisali 76.82 305 P **P** **18 15 03.3 +0.6**
KAMT Kaman 76.84 308 P **P** **18 15 02.5 -0.3**
ANTO Ankara 77.26 308 P **P** **18 15 05.2 0.0**
ANTO Ankara 77.26 308 ⇑P **P** **18 15 06.5 +1.3**
SNR=77
ANTO Ankara 77.26 308 ⇑ *i*P **P** **18 15 05.3 +0.1**
ANTO Ankara 77.26 308 *e*P **P** **18 15 05.7 +0.5**
ANTO pmax pmax
comp=Z,239nm,1.2s,mb6.0
ANTO MLR MLR
comp=Z,10µm,22.0s,MS6.1
ANTO Ankara 77.26 308 *e*P **P** **18 15 05.7 +0.5**
comp=Z,239nm,1.2s,mb6.0
ANTO LR LR
comp=Z,10µm,22.0s,MS6.1
MERS Mersin 77.38 305 P **P** **18 15 05.2 -0.6**
SGKT Sivrigoynuk 77.45 309 *i* P **P** **18 15 06.9 +0.6**
NB2 NORSAR Subarra 77.83 334 P **P** **18 15 06.5 -1.9**
comp=Z,32nm,0.7s,mb5.3,baz=52,slow=5.9
NOA NORSAR Array B 77.83 334 P **P** **18 15 06.7 -1.7**
comp=Z,36nm,0.8s,mb5.4,baz=50,slow=5.4,SNR=90
NOA LR LR 18 56 19.5
comp=Z,11µm,18.5s,MS6.2,baz=40,slow=41
BHL Bhannes 77.85 302 *e*P **P** **18 15 08.3 -0.2**
CFR Carcaliu 77.87 315 P **P** **18 15 12.6 +4.0**
RCY Rachaya 77.92 302 *e*P **P** **18 15 09.8 +1.0**
DOMB Dombas 78.00 336 *e*P **P** **18 15 08.3 -1.0**
DOMB AMb AMB 18 15 18.5
comp=Z,116nm,1.4s,mb5.6
DOMB Dombas 78.00 336 *e*P **P** **18 15 08.3 -1.0**
comp=Z,116nm,1.4s,mb5.6
LVV L'vov 78.04 320 *e*P **P** **18 15 10.5 +1.0**
LVV *e*S S 18 25 16.3 +15
LVV MLR MLR
comp=Z,9µm,17.0s,MS6.2
TIRR Tirgusor 78.04 314 ⇓ *i*P **P** **18 15 09.4 -0.1**
TIRR Tirgusor 78.04 314 *e*P **P** **18 15 09.2 -0.3**
TIRR pmax pmax
comp=Z,423nm,1.7s,mb6.1
TIRR Tirgusor 78.04 314 *e*P **P** **18 15 09.2 -0.4**
comp=Z,423nm,1.7s,mb6.1
NAO01 NORSAR Array S 78.08 334 *e*P **P** **18 15 07.9 -1.8**
comp=Z,16nm,0.7s,mb5.1
NAO01 LR LR
comp=Z,16µm,20.0s,MS6.3
MOL Molde 78.20 336 *e*P **P** **18 15 11.2 +0.7**
MOL AMS AMS 18 55 44.6
comp=Z,24µm,19.5s,MS6.5
HARR Harsova 78.23 315 P **P** **18 15 15.0 +4.4**
IKL Isikli 78.26 305 P **P** **18 15 10.0 -0.7**
KDHN Kadinhani 78.34 307 *i* P **P** **18 15 11.1 -0.1**
VRI Vrincioaia 78.41 316 ⇑ *i*P **P** **18 15 13.1 +1.5**
VRI Vrincioaia 78.41 316 P **P** **18 15 12.1 +0.5**
WAR Warsaw 78.41 324 *e*P **P** **18 15 11.8 +0.2**
WAR *e*PcP PcP 18 15 18.6 -2.2
WAR L 18 53 19.9
comp=Z,28nm,18.4s
BURAR Bucovina Array 78.46 318 ⇓ *i*P **P** **18 15 12.6 +0.8**
BURAR Bucovina Array 78.46 318 ⇓P **P** **18 15 12.7 +0.9**
BURAR Bucovina Array 78.46 318 P **P** **18 15 12.9 +1.1**
PSN Preselentsi 78.56 314 P **P** **18 15 14.0 +1.6**
MSEY Mahe Island 78.65 258 PFAKE 18 15 20.0 +7.1
MSEY LR LR
comp=Z,1µm,20.0s,MS5.3
OSL Oslo 78.70 333 *e*P **P** **18 15 12.9 -0.3**
ESKT Eskisehir 78.75 309 P **P** **18 15 13.2 -0.3**
ESKT Eskisehir 78.75 309 *i* P **P** **18 15 13.4 -0.1**
BORA Eskisehir 78.86 309 *i* P **P** **18 15 13.6 -0.5**
LBOS 78.86 280 ⇑ *e*P **P** **18 15 13.1 -1.0**
KWP Kalwaria 78.87 321 *e*P **P** **18 15 14.3 +0.2**
KWP *e*PcP PcP 18 15 18.5 -4.3
KWP *e*S S 18 25 28.9 +18
KWP *e*SKS 18 26 03.1
KWP L 18 53 05.4
comp=Z,38nm,19.3s
KWP Kalwaria 78.87 321 *e*P **P** **18 15 14.3 +0.2**
KWP *e*PcP PcP 18 15 18.5 -4.3
KWP *e*S S 18 25 28.9 +18
KWP *e*SKS 18 26 03.1
MLR Muntele Rosu 79.08 316 ⇑ *i*P **P** **18 15 15.2 0.0**
MLR Muntele Rosu 79.08 316 P **P** **18 15 16.2 +1.0**
PGC Sidney 79.08 40 *e*P **P** **18 15 15.7 +0.4**
comp=Z,112nm,1.2s,mb5.7
ADVT Abdulvahap 79.08 310 P **P** **18 15 15.4 +0.1**
MAMC Mammari 79.08 304 P **P** **18 15 16.3 +1.0**
CSS Prodhromos 79.09 304 P **P** **18 15 16.4 +1.1**
comp=Z,2.2nm,0.9s
CSS Prodhromos 79.09 304 *e*P **P** **18 15 15.0 -0.3**
KLYT Kilyos 79.16 311 P **P** **18 15 15.2 -0.4**
ISK Istanbul-Kandi 79.23 311 P **P** **18 15 15.8 -0.3**
YLV Yalova 79.26 310 P **P** **18 15 16.0 -0.2**
PRD Provadia 79.29 313 P **P** **18 15 18.8 +2.4**
KONO Kongsberg 79.33 334 *e*P **P** **18 15 17.5 +0.9**
KONO *e*S S 18 25 17.7 +2.1
KONO *e*SS SS 18 30 26.7 +4.0
KONO Kongsberg 79.33 334 *e*P **P** **18 15 15.2 -1.4**
KONO Kongsberg 79.33 334 *e*P **P** **18 15 15.3 -1.3**
KONO LR LR
comp=Z,20µm,22.0s,MS6.4
B04A Port Angeles 79.35 41 ⇓P **P** **18 15 16.6 -0.2**
baz=79
SHUT Suhut-Afyon 79.41 308 P **P** **18 15 17.6 +0.5**
GEMT Gemlik 79.45 310 P **P** **18 15 17.1 -0.2**
KOLS Kolonicke sedl 79.48 320 *e*P **P** **18 15 17.9 +0.5**
SZAC Souni-Zanaja 79.52 304 P **P** **18 15 18.9 +1.3**
ALFC Alevga 79.54 304 P **P** **18 15 18.0 +0.2**
comp=Z,2.2nm,0.7s
BUC1 Bucharest 79.59 315 P **P** **18 15 21.1 +3.1**
ELBA Catalca 79.61 311 *i* P **P** **18 15 17.6 -0.5**
ELBA Catalca 79.61 311 *i* P **P** **18 15 17.6 -0.5**
ULDT Uludag 79.62 310 *i* P **P** **18 15 18.4 +0.2**
UZH Uzhgorod 79.62 320 ⇓ *i*P **P** **18 15 21.0 +2.8**
UZH *i* 18 15 26.0
UZH *i* 18 18 22.0
UZH *e*PPP 18 20 18.0
UZH *i* S S 18 25 25.0 +6.3
UZH *i* PS 18 26 19.0
UZH *e*SS SS 18 30 35.0 +7.9
UZH MLR MLR
comp=Z,14µm,19.0s,MS6.3
VOIR 79.65 316 ⇑ *i*P **P** **18 15 18.6 +0.2**
VOIR 79.65 316 ⇑P **P** **18 15 18.6 +0.3**
D03A Wishkah Elem. 79.68 42 ⇓P **P** **18 15 18.6 0.0**
baz=80
ISP Isparta 79.77 307 P **P** **18 15 17.8 -1.2**
ISP Isparta 79.77 307 *e*P **P** **18 15 18.5 -0.5**
ISP Isparta 79.77 307 P **P** **18 15 19.4 +0.4**
ISP pmax pmax
comp=Z,550nm,1.6s,mb6.2
ISP Isparta 79.77 307 P **P** **18 15 18.3 -0.7**
GKP Gorka Klasztor 79.78 326 *e*P **P** **18 15 18.8 -0.3**
GKP *e*pP pP 18 15 21.9 -5.3
GKP *e*SKS 18 25 47.1
GKP L 18 54 49.7
comp=Z,55nm,17.1s
GKP Gorka Klasztor 79.78 326 *e*P **P** **18 15 18.8 -0.3**
GKP *e**PP pP 18 15 21.9 -5.3
GKP MLR MLR
comp=Z,55µm,17.1s,MS7.0
AKMC Akamas 79.79 304 P **P** **18 15 18.3 -0.8**
STHS Stebnicka Huta 79.80 321 *e*P **P** **18 15 20.1 +0.9**
STHS pmax pmax
comp=Z,35nm,1.0s,mb5.2
STHS Stebnicka Huta 79.80 321 *e*P **P** **18 15 20.1 +0.9**
comp=Z,35nm,1.0s,mb5.2
TKTP Tekketepe 79.81 308 *i* P **P** **18 15 19.7 +0.4**
BSD Bornholm Skovb 79.83 328 *i* P **P** **18 15 19.0 -0.3**
comp=Z,226nm,1.5s,mb5.9
BSD *i* 18 18 33.4
BSD *i* S S 18 25 28.5 +7.6
BSD
comp=Z,26µm,18.0s

BSD Bornholm Skovb 79.83 328 *i* P **P** **18 15 19.0 -0.3**
BSD *i* S S 18 25 28.5 +7.6
BSD pmax pmax
comp=Z,230nm,1.5s,mb5.9
BSD MLR MLR
comp=Z,26µm,18.0s,MS6.6
BSD Bornholm Skovb 79.83 328 *i* P **P** **18 15 19.0 -0.3**
comp=Z,227nm,1.5s,mb5.9
BSD *i* 18 18 33.4
BSD *i* S S 18 25 28.5 +7.6
C04A Brinnon 79.83 41 ⇓P **P** **18 15 19.4 0.0**
baz=80
PPCY Paphos 79.85 304 P **P** **18 15 18.7 -0.7**
GDZ Gediz 79.89 309 *i* P **P** **18 15 19.4 -0.3**
A06A Chilliwack 79.95 39 ⇓P **P** **18 15 19.9 -0.1**
baz=80
B05A Bryant 80.05 40 ⇑P **P** **18 15 20.2 -0.3**
baz=80,SNR=5.4
TRBA At Turbah 80.14 280 ⇑⇑ *e*P **P** **18 15 23.2 +2.2**
OJC Ojcow 80.15 322 *e*P **P** **18 15 21.3 +0.2**
OJC *e*pP pP 18 15 26.0 -3.2
OJC *e*PcP PcP 18 15 28.3 0.0
OJC *e*SKSac SKSac 18 25 36.6 -0.4
OJC L 18 54 12.6
comp=Z,174nm,18.8s
OJC Ojcow 80.15 322 *e*P **P** **18 15 21.3 +0.2**
OJC *e* pP 18 15 28.3 -0.9
OJC MLR MLR
comp=Z,174µm,18.8s
JMB Yambol 80.17 313 *e*P **P** **18 15 21.4 +0.2**
JMB Yambol 80.17 313 P **P** **18 15 22.4 +1.2**
D04A Dobbs Creek Ra 80.25 41 ⇑P **P** **18 15 21.8 +0.2**
baz=80
EIL Elat 80.29 298 *e*P **P** **18 15 22.5 +0.6**
comp=Z,14µm,2.2s
NIE Niedzica 80.31 321 *e*P **P** **18 15 23.0 +1.1**
DRGR 80.35 318 ⇑ *i*P **P** **18 15 22.8 +0.7**
DRGR 80.35 318 P **P** **18 15 22.7 +0.5**
ZIMR 80.35 315 P **P** **18 15 23.0 +0.8**
EDRB Edirne 80.38 312 P **P** **18 15 22.6 +0.3**
F03A Seaside 80.42 43 ⇑P **P** **18 15 22.3 -0.3**
baz=80
BER Bergen 80.46 335 *e*P **P** **18 15 22.9 +0.2**
BER *e*S S 18 25 26.1 -1.5
BER *e*SS SS 18 30 41.7 +2.1
MFT Murefte 80.55 311 P **P** **18 15 22.3 -0.9**
BTOK Tokmak 80.55 310 *i* P **P** **18 15 23.4 +0.2**
E04A Onalaska 80.57 42 ⇓P **P** **18 15 23.5 +0.1**
baz=80
C05A Tolt Reservoir 80.58 41 ⇓P **P** **18 15 23.1 -0.3**
baz=80,SNR=12
A07A Ashnola River, 80.58 39 ⇓P **P** **18 15 23.2 -0.2**
baz=80
COP Copenhagen 80.62 329 *i* P **P** **18 15 23.6 0.0**
comp=Z,39nm,0.6s,mb5.5
COP *i* 18 18 40.0
COP *i* S S 18 25 40.2 +11
COP
comp=Z,16µm,19.0s
COP Copenhagen 80.62 329 *i* P **P** **18 15 23.6 0.0**
COP *i* S S 18 25 40.2 +11
COP pmax pmax
comp=Z,39nm,0.6s,mb5.5
COP MLR MLR
comp=Z,16µm,19.0s,MS6.4
SART Tekirdag 80.66 311 *i* P **P** **18 15 23.6 -0.3**
RKY Sarkoy-Tekirda 80.67 311 P **P** **18 15 22.5 -1.4**
D05A Enumclaw 80.68 41 ⇑P **P** **18 15 23.9 0.0**
baz=80,SNR=6.6
BLS5 Blasjo 80.69 334 *e*P **P** **18 15 24.8 +0.8**
BLS5 AMb AMB 18 15 32.5
comp=Z,65nm,1.3s,mb5.4
BLS5 Blasjo 80.69 334 *e*P **P** **18 15 24.8 +0.8**
comp=Z,65nm,1.3s,mb5.4
KECS Kecovo 80.72 321 *e*P **P** **18 15 24.8 +0.7**
KECS *e* 18 18 29.9
KECS pmax pmax
comp=Z,47nm,1.6s,mb5.2
KECS Kecovo 80.72 321 *e*P **P** **18 15 24.8 +0.7**
comp=Z,47nm,1.6s,mb5.2
KECS *e* 18 15 28.0
KECS *e*PP PP 18 18 29.9 +1.8
GOLH Golhisar 80.72 307 *i* P **P** **18 15 23.4 -0.8**
DENT Denizli 80.84 308 P **P** **18 15 26.1 +1.3**
DNZL Cakiroluk 80.86 308 *i* P **P** **18 15 31.8 +6.9**
G03A Yamhill 80.90 43 ⇑P **P** **18 15 25.2 +0.1**
baz=81
CRAR CRAIOVA 80.98 316 P **P** **18 15 28.9 +3.4**
SNZO South Karori 80.99 147 PFAKE 18 15 40.0 +14
SNZO LR LR
comp=Z,8µm,21.0s,MS6.1
TDL Tradedollar La 80.99 42 P **P** **18 15 26.5 +0.9**
FMW Mount Fremont 81.00 41 P **P** **18 15 26.1 +0.4**
GZR Gura Zlata 81.04 317 ⇓ *i*P **P** **18 15 27.0 +1.1**
GZR Gura Zlata 81.04 317 P **P** **18 15 27.6 +1.7**
B07A Winthrop 81.05 39 ⇑P **P** **18 15 25.5 -0.4**
baz=81,SNR=15
CANB Canakkale 81.07 311 P **P** **18 15 21.6 -4.4**
CANB Canakkale 81.07 311 *i* P **P** **18 15 26.0 0.0**
RAC Raciborz 81.09 323 *e*P **P** **18 15 26.9 +0.8**
F04A Amboy 81.09 42 ⇑P **P** **18 15 26.0 -0.2**
baz=81,SNR=12
NLW Nelson Butte 81.14 40 P **P** **18 15 26.8 +0.4**
LIKS Likavka 81.17 322 *e*P **P** **18 15 28.0 +1.5**
H03A Soap Creek Ran 81.23 44 ⇑P **P** **18 15 27.0 +0.2**
baz=81,SNR=6.1
A08A Turner Farm, O 81.25 39 ⇑P **P** **18 15 26.7 -0.2**
baz=81,SNR=18
OKC Ostrava-Krasne 81.25 323 *e*P **P** **18 15 26.4 -0.6**
OKC *e*pP pP 18 15 32.1 -3.0
OKC *e*S S 18 25 37.3 +1.5
OKC AMS AMS 18 54 50.0
comp=Z,22µm,17.8s
OKC Ostrava-Krasne 81.25 323 *e*P **P** **18 15 26.4 -0.6**
OKC *e* pP 18 15 32.1 -3.0
OKC *e*SKS 18 25 37.3
COR Corvallis 81.27 44 *e*P **P** **18 15 27.9 +0.8**
COR pmax pmax
comp=Z,71nm,0.8s,mb5.7
COR MLR MLR
comp=Z,3µm,20.0s,MS5.6
COR Corvallis 81.27 44 *e*P **P** **18 15 27.9 +0.8**
comp=Z,71nm,0.8s,mb5.7
COR LR LR
comp=Z,3µm,20.0s,MS5.6
ALN Alexandroupoli 81.31 312 *e*P **P** **18 15 26.5 -0.7**
ALN Alexandroupoli 81.31 312 P **P** **18 15 27.7 +0.5**
D06A Cle Elum 81.33 41 ⇑P **P** **18 15 27.2 -0.2**
baz=81,SNR=6.7
KDZ Kurdzhali 81.33 313 P **P** **18 15 27.4 0.0**
FETY Fethiye 81.35 307 P **P** **18 15 26.7 -0.8**
PSZ Piszkesteto 81.36 320 ⇑ *i*P **P** **18 15 28.7 +1.2**
PSZ Piszkesteto 81.36 320 P **P** **18 15 28.0 +0.5**
PSZ pmax pmax
comp=Z,170nm,1.4s,mb5.8
PSZ Piszkesteto 81.36 320 *e*P **P** **18 15 27.9 +0.4**
comp=Z,172nm,1.4s,mb5.8
PSZ Piszkesteto 81.36 320 *e*P **P** **18 15 28.6 +1.1**
K01A Sixes 81.48 46 ⇓P **P** **18 15 27.8 -0.3**
baz=81
C07A Waterville 81.51 40 P **P** **18 15 28.0 -0.3**
baz=81,SNR=19
RDO Rodhopi 81.51 312 *e*P **P** **18 15 29.3 +1.0**
KEBM Edson Butte 81.53 46 *e*P **P** **18 15 29.3 +0.8**
B08A Colville Reser 81.54 39 ⇓P **P** **18 15 28.1 -0.4**
baz=81,SNR=34
MUD Monsted U'grnd 81.55 331 *i* P **P** **18 15 28.5 -0.1**
comp=Z,58nm,0.9s,mb5.5
MUD Monsted U'grnd 81.55 331 *i* P **P** **18 15 28.5 -0.1**
MUD pmax pmax
comp=Z,58nm,0.9s,mb5.5
PLD Plovdiv 81.56 313 *e*P **P** **18 15 28.9 +0.3**
PLD Plovdiv 81.56 313 P **P** **18 15 28.8 +0.2**
MORC Moravsky Berou 81.61 323 ⇓ *i*P **P** **18 15 29.8 +0.9**
MORC Moravsky Berou 81.61 323 *e*P **P** **18 15 28.2 -0.7**
MORC pmax pmax
comp=Z,136nm,1.4s,mb5.7
MORC Moravsky Berou 81.61 323 *e*P **P** **18 15 28.2 -0.6**
comp=Z,136nm,1.4s,mb5.7
E06A Yakima 81.61 41 ⇓P **P** **18 15 28.8 -0.1**
baz=81,SNR=15
A09A Danville 81.61 38 ⇑P **P** **18 15 29.0 +0.1**
baz=81,SNR=19
I03A Eugene 81.61 44 ⇓P **P** **18 15 28.9 +0.1**
baz=81
BZS Buzias 81.61 318 ⇑ *i*P **P** **18 15 28.1 -0.8**
BZS Buzias 81.61 318 ⇑P **P** **18 15 28.2 -0.7**
BZS Buzias 81.61 318 P **P** **18 15 28.7 -0.2**
VYHS Vyhne 81.63 321 *i* P **P** **18 15 29.4 +0.4**
VYHS pmax pmax
comp=Z,54nm,1.0s,mb5.4
VYHS MLR MLR
comp=Z,23µm,18.1s,MS6.6
VYHS Vyhne 81.63 321 *i* P **P** **18 15 29.4 +0.4**
comp=Z,54nm,1.0s,mb5.4
VYHS LR LR
comp=Z,23µm,18.1s,MS6.6
KSP Ksiaz 81.65 324 *e*P **P** **18 15 30.0 +0.9**
KSP *e*pP pP 18 15 32.3 -4.9
KSP *e*SKS 18 26 04.1
KSP L 18 55 33.5
comp=Z,51nm,18.6s
KSP Ksiaz 81.65 324 *e*P **P** **18 15 29.0 -0.1**
KSP *e*PP PP 18 18 37.0 +1.2
KSP *e*SKS 18 25 46.0
KSP *e*SS SS 18 30 51.0 -6.3
KSP LR LR
comp=Z,59µm,18.6s,MS7.0
YER Yerkesik 81.67 308 P **P** **18 15 29.7 +0.5**
PGB Panagyurishte 81.67 314 P **P** **18 15 29.6 +0.4**
F05A White Salmon 81.69 42 ⇑P **P** **18 15 29.1 -0.2**
baz=82
IZM Izmir 81.74 309 P **P** **18 15 29.6 +0.1**
J02A Umpqua 81.75 45 ⇓P **P** **18 15 29.3 -0.3**
baz=82
RZN Rozhen 81.77 313 P **P** **18 15 30.7 +1.0**
EDM Edmonton 81.80 33 *e*P **P** **18 15 29.2 -0.6**
D07A Quincy 81.83 40 ⇑P **P** **18 15 29.9 -0.1**
baz=82,SNR=8.1
BOZC Bozcaada 81.83 311 *i* P **P** **18 15 28.4 -1.6**
H04A Detroit Lake 81.90 43 ⇓P **P** **18 15 30.1 -0.3**
baz=82
BLCB Balcova 81.90 309 P **P** **18 15 30.3 -0.1**
BLCB Balcova 81.90 309 *e*P **P** **18 15 30.0 -0.4**
BLCB Balcova 81.90 309 P **P** **18 15 30.2 -0.2**
DPC Dobruska-Polom 81.92 324 *e*P **P** **18 15 30.4 -0.1**
DPC *e*pP pP 18 15 35.2 -3.5
DPC AMS AMS 18 55 30.0
comp=Z,21µm,17.5s
DPC Dobruska-Polom 81.92 324 *e*P **P** **18 15 30.4 -0.1**
DPC *e* 18 15 35.2
DPC LR LR
comp=Z,21µm,17.5s,MS6.6
MLSB Milas 81.94 308 P **P** **18 15 30.2 -0.4**
PRK Paraskevi 81.99 310 *e*P **P** **18 15 30.7 -0.2**
UPC Upice 81.99 324 *e*P **P** **18 15 31.0 +0.1**
C08A Higginbotham F 82.03 39 P **P** **18 15 30.9 -0.2**
baz=82,SNR=28
BUD Budapest 82.09 320 *e*P **P** **18 15 31.2 -0.2**
K02A Glendale 82.11 45 ⇑P **P** **18 15 31.4 -0.1**
baz=82,SNR=6.1
G05A Wamic 82.12 42 ⇓P **P** **18 15 31.5 -0.1**
baz=82,SNR=7.5
J03A Ideyld Park 82.12 45 ⇓P **P** **18 15 31.6 +0.1**
baz=82,SNR=8.1
F06A Goldendale 82.15 42 ⇓P **P** **18 15 31.8 +0.1**
baz=82,SNR=9.2
B09A Rice 82.16 39 ⇓P **P** **18 15 31.4 -0.3**
baz=82,SNR=15
A10A Northport 82.16 38 ⇓P **P** **18 15 31.9 +0.1**
baz=82,SNR=8.1
M01C Crescent City 82.19 46 ⇑P **P** **18 15 32.2 +0.2**
baz=82
URLA Izmir 82.22 309 *i* P **P** **18 15 31.4 -0.6**
IRO Indian Ridge 82.22 44 P **P** **18 15 33.0 +0.9**
ARG Arkhangelos 82.23 307 *e*P **P** **18 15 32.0 -0.1**
I04A Tendick Farm, 82.24 44 ⇑P **P** **18 15 32.2 +0.1**
baz=82,SNR=11
E07A Sunnyside 82.25 41 ⇑P **P** **18 15 32.1 -0.1**
baz=82,SNR=19
VTS Vitosha 82.25 314 *e*P **P** **18 15 32.5 +0.2**
VTS Vitosha 82.25 314 ⇑ *i*P **P** **18 15 32.7 +0.5**
VTS Vitosha 82.25 314 P **P** **18 15 32.9 +0.7**
HBO Huckleberry Mo 82.27 44 P **P** **18 15 33.3 +1.0**
BDRM Kayabasi 82.28 308 *i* P **P** **18 15 33.1 +0.7**
DAT Datca 82.36 308 P **P** **18 15 30.7 -2.1**
L02A Cave Junction 82.36 46 ⇓P **P** **18 15 32.7 -0.1**
baz=82,SNR=7.0
SMG Samos 82.38 309 *e*P **P** **18 15 33.5 +0.6**
LIA Limnos Island 82.38 311 *e*P **P** **18 15 33.5 +0.6**
VRAC Vranov 82.38 323 ⇓ *i*P **P** **18 15 33.1 +0.2**
VRAC Vranov 82.38 323 P **P** **18 15 33.8 +0.9**
SMOL Smolenice 82.39 322 *e*P **P** **18 15 34.4 +1.4**
LOS Limnos 82.43 311 P **P** **18 15 33.1 -0.1**
MMB Musomiste 82.45 313 P **P** **18 15 33.5 +0.2**
NVR Nevrokopi 82.49 313 *e*P **P** **18 15 35.6 +2.1**
H05A Madras 82.49 43 ⇓P **P** **18 15 33.1 -0.4**
baz=82,SNR=9.3
D08A Wollman Farm, 82.50 40 ⇑P **P** **18 15 33.5 -0.1**
baz=82,SNR=24
WRD Warden 82.52 40 P **P** **18 15 33.7 +0.1**
G06A Carlson Farm, 82.52 42 ⇓P **P** **18 15 33.8 +0.1**
baz=82,SNR=17
HAWA Hanford 82.53 41 *e*P **P** **18 15 33.5 -0.2**
comp=Z,54nm,1.0s,mb5.5
HAWA LR LR
comp=Z,2µm,20.0s,MS5.5
HUMO Hull Mountain 82.53 45 PFAKE 18 15 40.0 +6.3
HUMO LR LR
comp=Z,3µm,22.0s,MS5.6
F07A Phinny Hill Vi 82.58 41 ⇑P **P** **18 15 34.4 +0.4**
baz=82
KTRM Thompson Ridge 82.64 46 P **P** **18 15 35.6 +1.3**
KKB Krupnik 82.71 314 P **P** **18 15 34.0 -0.7**
J04A Umpqua Nationa 82.72 44 ⇓P **P** **18 15 35.1 +0.4**
baz=82,SNR=13
PVCC Panska Ves 82.72 324 *e*P **P** **18 15 34.7 0.0**
PVCC *e*SKS 18 25 58.2
PVCC AMS AMS 18 56 10.0
comp=Z,28µm,17.9s
I05A Bend 82.73 43 ⇓P **P** **18 15 34.9 +0.2**
baz=82
B10A Chitwood Farm, 82.74 38 ⇓P **P** **18 15 35.0 +0.2**
baz=82
E08A Dider Farm, El 82.74 41 ⇑P **P** **18 15 34.9 +0.1**
baz=82,SNR=22
ZST Bratislava 82.75 322 *e*P **P** **18 15 35.6 +0.8**
ZST *e* 18 27 15.8
ZST Bratislava 82.75 322 *e*P **P** **18 15 35.6 +0.8**
ZST pmax pmax
comp=Z,46nm,0.8s,mb5.6
ZST MLR MLR
comp=Z,24µm,18.2s,MS6.6
ZST Bratislava 82.75 322 *e*P **P** **18 15 35.6 +0.8**
comp=Z,46nm,0.8s,mb5.6
ZST LR LR
comp=Z,24µm,18.2s,MS6.6
JCC Jacoby Creek 82.79 47 ⇓P **P** **18 15 35.5 +0.4**
baz=83
NEW Newport 82.81 38 P **P** **18 15 35.5 +0.3**
comp=Z,39nm,0.9s,mb5.5,baz=305,slow=4.1,SNR=28
NEW Newport 82.81 38 *e*P **P** **18 15 35.5 +0.3**
NEW pmax pmax
comp=Z,44nm,0.9s
NEW MLR MLR
comp=Z,4µm,22.0s
NEW Newport 82.81 38 *e*P **P** **18 15 35.5 +0.3**
comp=Z,44nm,0.9s,mb5.5
NEW LR LR
comp=Z,4µm,22.0s,MS5.8
A11A Hall Mountain, 82.82 37 ⇓P **P** **18 15 35.6 +0.4**
baz=83,SNR=31
BRG Berggiesshubel 82.83 325 ⇓ *i*P **P** **18 15 35.1 -0.2**
comp=Z,7.8nm,0.8s,mb4.8
BRG *i* 18 15 40.1
comp=Z,106nm,1.5s
BRG PP PP 18 18 49.0 +3.4
BRG SS SS 18 31 36.0 +21
BRG
comp=N,6µm,13.5s
BRG
comp=E,12µm,15.4s
BRG
comp=Z,33µm,18.2s
BRG Berggiesshubel 82.83 325 ⇓ *i*P **P** **18 15 35.1 -0.2**
BRG *i* 18 15 40.1
BRG 18 18 49.0
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8

BRG pmax pmax
comp=Z,106nm,1.5s,mb5.7
BRG MLR MLR
comp=N,6µm,13.5s,MS6.4
BRG MLR MLR
comp=E,12µm,15.5s,MS6.4
BRG MLR MLR
comp=Z,33µm,18.2s,MS6.7
D09A Jones Farm, Ri 82.85 40 P **P 18 15 35.8 +0.4**
baz=83,SNR=15
OUR Ouranopolis 82.94 312 *e*P **P 18 15 35.0 -0.8**
OUR Ouranopolis 82.94 312 P **P 18 15 35.5 -0.3**
KHMM Horse Mountain 82.95 47 *e*P **P 18 15 36.3 +0.4**
C10A Spilker Farm, 82.97 39 ⇓P **P 18 15 36.5 +0.5**
baz=83
H06A Lindquist Farm 82.98 43 ⇓P **P 18 15 36.1 0.0**
baz=83,SNR=14
PKSM Moragy 83.02 319⇑ *i*P **P 18 15 35.4 -0.9**
PKSM Moragy 83.02 319 P **P 18 15 36.2 0.0**
CLL Collm 83.04 326⇑ *i*P **P 18 15 36.2 -0.1**
CLL pmax pmax
comp=Z,94nm,1.0s,mb5.8
CLL MLR MLR
comp=Z,23µm,18.0s,MS6.6
CLL Collm 83.04 326⇑ *i*P **P 18 15 36.2 -0.1**
comp=Z,94nm,1.0s,mb5.8
CLL *e*S S 18 26 03.0 +8.9
CLL LR LR
comp=Z,23µm,18.0s,MS6.6
CLL Collm 83.04 326⇑ *i*P **P 18 15 36.2 -0.1**
comp=Z,94nm,1.0s,mb5.8
CLL *i* pP pP 18 15 42.6 -1.9
CLL *e*S S 18 26 03.0 +8.9
comp=N,2µm,12.9s
CLL *e*S S 18 26 03.0 +8.9
comp=E,3µm,22.5s
CLL *e*PS 18 26 47.0
CLL *e*SS SS 18 31 34.0 +16
PRA Prague 83.06 324 P **P 18 15 37.0 +0.5**
G07A Ruggs Ranch, H 83.08 42 ⇑P **P 18 15 36.7 +0.1**
baz=83,SNR=22
GRUS Gruza 83.09 317 *i* P **P 18 15 33.4 -3.2**
SOH Sokhos 83.09 313 *e*P **P 18 15 35.7 -0.9**
SOH Sokhos 83.09 313 P **P 18 15 34.8 -1.8**
B11A Sandpoint 83.12 38 ⇑P **P 18 15 36.5 -0.2**
baz=83,SNR=12
YBH Yreka Blue Hor 83.15 46 *e*P **P 18 15 37.5 +0.6**
YBH pmax pmax
comp=Z,117nm,1.6s
YBH Yreka Blue Hor 83.15 46 *e*P **P 18 15 37.5 +0.6**
comp=Z,117nm,1.6s,mb5.7
YBH Yreka Blue Hor 83.15 46 ⇓P **P 18 15 37.2 +0.3**
baz=83,SNR=12
KNT Kendrikon 83.20 313 *e*P **P 18 15 35.9 -1.3**
KNT Kendrikon 83.20 313 P **P 18 15 37.4 +0.2**
A12A Yaak River Ran 83.21 37 ⇑P **P 18 15 37.4 +0.2**
baz=83,SNR=19
J05A Fort Rock 83.23 44 ⇓P **P 18 15 37.5 +0.2**
baz=83,SNR=36
KARP Karpathos 83.24 307 *e*P **P 18 15 36.5 -0.9**
M02C Callahan 83.24 46 ⇓P **P 18 15 37.7 +0.3**
baz=83,SNR=11
E09A Wood Farm, Sta 83.25 40 P **P 18 15 37.6 +0.2**
baz=83,SNR=42
N02C Big Bar 83.26 47 ⇑P **P 18 15 37.6 +0.1**
baz=83,SNR=11
PLG Polygyros 83.27 312 *e*P **P 18 15 36.8 -0.7**
PLG Polygyros 83.27 312 *e*P **P 18 15 38.0 +0.5**
PLG Polygyros 83.27 312 P **P 18 15 37.6 +0.1**
O01C Eel River Cons 83.28 48 ⇑P **P 18 15 37.8 +0.2**
baz=83
K04A Chilquin 83.29 45 ⇑P **P 18 15 37.4 -0.2**
baz=83
F08A Pendleton 83.30 41 ⇓P **P 18 15 37.7 0.0**
baz=83,SNR=32
VAY Valandovo 83.33 314 *e*P **P 18 15 36.8 -1.0**
VAY Valandovo 83.33 314 *e*P **P 18 15 36.9 -1.0**
VAY Valandovo 83.33 314 P **P 18 15 37.0 -0.8**
SOP Sopron 83.35 321 *e*P **P 18 15 38.3 +0.4**
PAIG Paliouri 83.35 312 *e*P **P 18 15 36.9 -1.0**
PAIG Paliouri 83.35 312 P **P 18 15 37.8 -0.2**
STIP Stip 83.37 314 *e*P **P 18 15 37.5 -0.6**
HORT Hortiatis 83.38 313 *e*P **P 18 15 37.0 -1.0**
HORT Hortiatis 83.38 313 P **P 18 15 37.9 -0.2**
DIVS Divcibare 83.41 317 *i* P **P 18 15 38.1 -0.2**
DIVS Divcibare 83.41 317 *e*P **P 18 15 37.6 -0.6**
L04A Klamath Falls 83.43 45 ⇑P **P 18 15 38.3 0.0**
baz=83,SNR=9.5
THE Thessaloniki 83.44 313 P **P 18 15 37.1 -1.3**
G08A Pilot Rock 83.48 42 ⇓P **P 18 15 38.5 -0.1**
baz=83,SNR=15
I06A Prineville 83.49 43 ⇑P **P 18 15 38.6 -0.1**
baz=83,SNR=22
B12A Libby 83.52 38 ⇓P **P 18 15 38.6 -0.2**
baz=83,SNR=6.5
CONA Conrad Observa 83.58 322 *i* P **P 18 15 40.0 +0.8**
comp=Z,93nm,0.9s,mb5.9,SNR=36
APE Apeiranthos 83.60 309 *e*P **P 18 15 37.2 -2.0**
APE Apeiranthos 83.60 309 *e*P **P 18 15 36.3 -2.9**
APE Apeiranthos 83.60 309⇑ *i*P **P 18 15 37.4 -1.8**
APE Apeiranthos 83.60 309*c i*P **P 18 15 37.6 -1.6**
APE Apeiranthos 83.60 309 P **P 18 15 36.7 -2.6**
AOS Alonnisos 83.62 311 P **P 18 15 39.1 -0.2**
GRG Griva 83.63 313 *e*P **P 18 15 38.7 -0.7**
GRG Griva 83.63 313 P **P 18 15 39.5 +0.1**
M04C Macdoel 83.67 46 ⇓P **P 18 15 40.0 +0.4**
baz=84,SNR=17
KIPM Iron Peak 83.68 48 *e*P **P 18 15 38.8 -0.8**
SKO Skopje 83.69 315 *e*P **P 18 15 40.2 +0.5**
SKO Skopje 83.69 315 *e*P **P 18 15 39.9 +0.2**
SKO Skopje 83.69 315 P **P 18 15 40.5 +0.8**
K05A Summer Lake 83.75 44 ⇓P **P 18 15 40.3 +0.3**
baz=84,SNR=19
M03C McCloud 83.77 46 ⇑P **P 18 15 40.4 +0.3**
baz=84,SNR=15
F09A S2 Ranch, Elgi 83.85 41 ⇑P **P 18 15 40.5 0.0**
baz=84,SNR=7.4
E10A Myers Farm, Un 83.85 40 ⇓P **P 18 15 40.0 -0.5**
baz=84,SNR=17
WDC Whiskeytown Da 83.88 47 *e*P **P 18 15 39.7 -0.9**
WDC pmax pmax
comp=Z,68nm,1.3s,mb5.6
WDC Whiskeytown Da 83.88 47 *e*P **P 18 15 39.7 -0.9**
comp=Z,68nm,1.3s,mb5.6
WDC Whiskeytown Da 83.88 47 P **P 18 15 41.1 +0.4**
baz=84,SNR=8.4
O02C Red Bluff 83.93 47 ⇑P **P 18 15 41.4 +0.4**
baz=84,SNR=11
P01C Double 8 Ranch 83.95 48 ⇓P **P 18 15 41.4 +0.3**
baz=84
D11A Klaveano Farm, 83.95 39 P **P 18 15 41.2 +0.2**
baz=84,SNR=13
XOR Xorichti 83.97 312 P **P 18 15 40.1 -1.0**
NKC Novy Kostel 83.98 325 *e*P **P 18 15 41.0 -0.2**
NKC *ex* x 18 25 44.1
NKC AMS AMS 18 57 30.0
comp=Z,34µm,17.0s
NKC Novy Kostel 83.98 325 *e*P **P 18 15 41.0 -0.2**
NKC *e*SKS 18 25 44.1
SANT Santorini 84.01 308 P **P 18 15 38.8 -2.6**
LIT Litokhoron 84.03 313 *e*P **P 18 15 40.5 -1.0**
LIT Litokhoron 84.03 313 P **P 18 15 40.0 -1.5**
C12A Trout Creek 84.03 38 P **P 18 15 41.8 +0.3**
baz=84,SNR=8.7
WALA Waterton Lakes 84.05 36 *e*P **P 18 15 42.2 +0.7**
comp=Z,55nm,1.0s,mb5.6
KHC Kasperske Hory 84.08 324 *e*P **P 18 15 41.5 -0.2**
KHC *e*SKS 18 26 03.0
KHC AMS AMS 18 56 50.0
comp=Z,22µm,17.3s
F10A Beach Ranch, E 84.08 40 ⇑P **P 18 15 41.9 +0.2**
baz=84,SNR=16
H08A Prairie City 84.08 42 ⇓P **P 18 15 41.9 +0.2**
baz=84,SNR=16
K06A Valley Falls 84.10 44 ⇑P **P 18 15 42.0 +0.2**
baz=84
ZKR Zakros 84.12 307 *e*P **P 18 15 41.3 -0.6**
ZKR Zakros 84.12 307 P **P 18 15 41.4 -0.5**
MOX Moxa 84.14 326 *e*P **P 18 15 41.8 -0.2**
comp=Z,397nm,2.3s,mb6.1
MOX
comp=Z,21µm,18.0s
MOX Moxa 84.14 326 *e*P **P 18 15 41.8 -0.2**
MOX pmax pmax
comp=Z,397nm,2.3s,mb6.1
MOX MLR MLR
comp=Z,21µm,18.0s,MS6.6
KRUS Krusevo 84.14 314 *e*P **P 18 15 42.1 +0.1**
IVA Berane 84.15 316⇑ *i*P **P 18 15 42.3 +0.3**
L05A Lakeview 84.16 45 ⇓P **P 18 15 42.4 +0.3**
baz=84,SNR=9.2
ARSA Arzberg 84.17 321⇑ *i*P **P 18 15 42.2 +0.1**
comp=Z,92nm,1.2s,mb5.8,SNR=28
B13A Whitefish 84.18 37 ⇑P **P 18 15 42.2 +0.1**
baz=84,SNR=17
GEC2 GERESS Array S 84.19 323 *e*P **P 18 15 41.9 -0.3**
GERES GERESS Array B 84.19 323 P **P 18 15 42.1 -0.2**
comp=Z,29nm,0.9s,mb5.4,baz=48,slow=4.7,SNR=149
GERES PKKPbc PKKPbc 18 33 53.4 -1.8
comp=Z,0.7nm,0.7s,baz=197,slow=1.4,SNR=6.6
GERES LR LR 18 57 16.7
comp=Z,29µm,19.3s,MS6.7,baz=51,slow=38
PLE Pljevlja 84.20 317⇑ *i*P **P 18 15 43.2 +0.9**
PVY Plav 84.26 316⇑ *i*P **P 18 15 42.7 +0.1**
GASB Alder Springs 84.26 48 ⇓P **P 18 15 43.3 +0.6**
baz=84,SNR=15
BORG Borgarnes 84.27 348 *e*P **P 18 15 44.0 +1.4**
comp=Z,112nm,1.3s,mb5.8
BORG LR LR
comp=Z,1µm,20.0s,MS5.3
BIA Bitola 84.28 314 P **P 18 15 43.0 +0.3**
BCI Bajram Curri 84.33 316 *i* Pn **P 18 15 43.4 +0.5**
M05C Lookout 84.34 46 P **P 18 15 43.5 +0.4**
baz=84,SNR=17
J07A Hines 84.35 43 ⇑P **P 18 15 43.3 +0.3**
baz=84,SNR=46
ATH Athens Observa 84.36 310 *e*P **P 18 15 42.6 -0.5**
FNA Florina 84.38 314 *e*P **P 18 15 41.9 -1.3**
FNA Florina 84.38 314 P **P 18 15 43.0 -0.2**
HOPS Hopland 84.38 48 PFAKE 18 15 50.0 +6.8
HOPS LR LR
comp=Z,4µm,22.0s,MS5.8
KZN Kozani 84.39 313 *e*P **P 18 15 43.5 +0.3**
HATC Hat Creek Radi 84.44 46 ⇑P **P 18 15 43.8 +0.3**
baz=84,SNR=14
NPS Neapolis 84.47 307 *e*P **P 18 15 44.4 +0.7**
PHP Peshkopia 84.47 315 *i* Pn **P 18 15 43.0 -0.7**
LKR Lokris 84.48 311 *e*P **P 18 15 41.8 -1.9**
I08A Drewsey 84.49 42 ⇓P **P 18 15 44.2 +0.5**
baz=84,SNR=8.2
MOA Molln 84.49 322⇑ *i*P **P 18 15 44.2 +0.4**
comp=Z,96nm,1.4s,mb5.8,SNR=26
LBCM Butte Creek Ri 84.50 46 P **P 18 15 44.5 +0.7**
O03C Acorn Hollow, 84.52 47 ⇑P **P 18 15 44.2 +0.3**
baz=84
C13A Hot Springs 84.54 38 ⇓P **P 18 15 44.3 +0.3**
baz=84,SNR=22
UPM Unac-Piva 84.56 317⇑ *i*P **P 18 15 44.0 -0.2**
OHR Ohrid 84.57 314 *e*P **P 18 15 42.8 -1.3**
OHR Ohrid 84.57 314 *e*P **P 18 15 42.5 -1.6**
OHR Ohrid 84.57 314 P **P 18 15 43.8 -0.3**
MOD Modoc 84.57 45 *e*P **P 18 15 42.7 -1.4**
comp=Z,29nm,1.0s,mb5.4
MOD LR LR
comp=Z,1µm,21.0s,MS5.3
MOD Modoc 84.57 45 ⇓P **P 18 15 44.4 +0.3**
baz=84,SNR=24
H09A Durkee 84.59 41 ⇑P **P 18 15 44.3 0.0**
baz=84,SNR=14
PUK Puka 84.61 315 *i* Pn **P 18 15 43.7 -0.7**
THL Klokotos Trika 84.63 312 *e*P **P 18 15 42.2 -2.3**
BMO Blue Mountains 84.69 41 *e*P **P 18 15 44.3 -0.5**
comp=Z,40nm,1.0s,mb5.5
BMO LR LR
comp=Z,2µm,20.0s,MS5.5
SFJD Kangerlussuaq 84.69 0⇑ *i*P **P 18 15 43.6 -1.2**
SFJD *i* S S 18 26 12.6 +1.9
SFJD LR LR
comp=Z,6µm,20.0s,MS6.0
AGG Agios Georgios 84.72 312 *e*P **P 18 15 43.3 -1.7**
AGG Agios Georgios 84.72 312 P **P 18 15 43.5 -1.4**
NKY Niksic 84.73 316⇑ *i*P **P 18 15 43.8 -1.1**
F11A Grangeville 84.74 40 ⇓P **P 18 15 45.1 +0.1**
baz=84
SISC Sisak 84.75 320 P **P 18 15 44.8 -0.3**
PERS Pernice 84.76 321 *e*P **P 18 15 45.0 -0.1**
K07A Rock Creek Ran 84.77 44 ⇑P **P 18 15 45.7 +0.5**
baz=85,SNR=35
TTG Podgorica 84.79 316⇑ *i*P **P 18 15 44.6 -0.7**
KBN Korca 84.84 314 *i* p **P 18 15 45.7 +0.2**
M06C Likely Place G 84.85 46 ⇓P **P 18 15 45.6 +0.1**
baz=85,SNR=20
MNRC McLaughlin Nat 84.86 48 ⇓P **P 18 15 45.9 +0.2**
baz=85,SNR=19
J08A Circle Bar Ran 84.86 43 ⇓P **P 18 15 46.1 +0.5**
baz=85,SNR=38
C14A Swan Lake 84.93 37 ⇑P **P 18 15 45.8 -0.1**
baz=85,SNR=18
GRA1 Grafenberg Arr 84.93 325 *e*P **P 18 15 46.2 +0.2**
comp=Z,2µm,3.0s
GRA1 *e*PP PP 18 19 04.8 +2.1
GRA1 *e*S S 18 26 12.6 -0.6
GRA1 *e*SS SS 18 31 58.7 +13
GRA1 LR LR
comp=Z,17µm,19.5s,MS6.5
GRF Grafenberg Arr 84.93 325 *e*P **P 18 15 46.2 +0.2**
comp=Z,2µm,3.0s
GRF *e*PP PP 18 19 04.8 +2.1
GRF *e*S S 18 26 12.6 -0.6
GRF *e*SS SS 18 31 58.7 +13
GRF *e*L 18 59 49.0
comp=Z,17µm,19.5s
GRF Grafenberg Arr 84.93 325 *e*P **P 18 15 46.2 +0.2**
GRF *e* 18 19 04.8
GRF *e*S S 18 26 12.6 -0.6
GRF pmax pmax
comp=Z,2µm,3.0s
GRF Grafenberg Arr 84.93 325 *e*P **P 18 15 46.2 +0.2**
GRF *e* 18 19 04.8
GRF *e*S S 18 26 12.6 -0.6
GRF pmax pmax
comp=Z,2µm,3.0s
GRF MLR MLR
comp=Z,17µm,19.5s,MS6.5
GRFO Grafenberg 84.94 325 *e*P **P 18 15 46.1 +0.1**
GRFO pmax pmax
comp=Z,102nm,1.1s,mb5.9
GRFO MLR MLR
comp=Z,16µm,20.0s,MS6.4
GRFO Grafenberg 84.94 325 *e*P **P 18 15 46.1 +0.1**
comp=Z,102nm,1.1s,mb5.9
GRFO LR LR
comp=Z,16µm,20.0s,MS6.4
NSHM Saint Helena R 84.94 49 *e*P **P 18 15 46.0 -0.1**
I09A Lost Marbles R 84.94 42 ⇑P **P 18 15 45.8 -0.3**
baz=85,SNR=18
O04C Chester 84.95 47 ⇑P **P 18 15 45.4 -0.7**
baz=85,SNR=44
BRY Bratogost 84.96 317⇑ *i*P **P 18 15 45.3 -0.8**
D13A Huson 84.96 38 P **P 18 15 46.1 0.0**
baz=85,SNR=8.9
G11A Walters Elk Ra 84.96 40 ⇓P **P 18 15 45.5 -0.6**
baz=85
DESE Dese 84.99 280 *e*P **P 18 15 49.6 +3.3**
DESE *e*S S 18 26 07.0 -6.8
MEV Metsovon 85.02 313 P **P 18 15 46.7 +0.2**
TIR Tirane 85.02 315 *e*P **P 18 15 46.4 0.0**
TIR Tirane 85.02 315 P **P 18 15 45.7 -0.8**
TIR Tirane 85.02 315 *i* p **P 18 15 46.3 -0.1**
MLA1 Latheron 85.04 337 *e*P **P 18 15 45.6 -0.9**
WIT Witteveen 85.06 329 *e*P **P 18 15 47.3 +0.7**
ULC Ulcinj 85.06 316⇑ *i*P **P 18 15 46.0 -0.6**
BUM Brajici-Budva 85.08 316⇑ *i*P **P 18 15 46.5 -0.3**
L07A Adell 85.10 44 ⇑P **P 18 15 47.1 +0.3**
baz=85,SNR=53
ORV Oroville 85.10 47 P **P 18 15 46.6 -0.2**
baz=85,SNR=22
EVR Evrytania 85.12 312 *e*P **P 18 15 46.2 -0.7**
FARB Farallon Islan 85.12 50 ⇓P **P 18 15 47.1 +0.2**
baz=85
CVS Carmenet Viney 85.14 49 ⇑P **P 18 15 46.7 -0.3**
baz=85
OBKA Obir 85.15 321⇑ *i*P **P 18 15 47.2 +0.2**
comp=Z,108nm,1.6s,mb5.7,SNR=18
SIVA Sivas 85.16 307 *e*P **P 18 15 47.0 -0.1**
SIVA Sivas 85.16 307 P **P 18 15 46.9 -0.3**
K08A Mann Creek Ran 85.21 43 ⇑P **P 18 15 47.1 -0.3**
baz=85,SNR=13
OHCM Honcut 85.23 48 *e*P **P 18 15 47.2 -0.3**
HCY Herceg Novi 85.24 316⇑ *i*P **P 18 15 47.4 -0.2**
O05C Quincy 85.25 47 ⇓P **P 18 15 47.5 -0.1**
baz=85,SNR=11
WVOR Wild Horse Val 85.29 44 *e*P **P 18 15 48.0 +0.2**
WVOR pmax pmax
comp=Z,240nm,1.8s,mb6.0
WVOR Wild Horse Val 85.29 44 *e*P **P 18 15 48.0 +0.2**
comp=Z,240nm,1.8s,mb6.0
J09A Fry Pan Ranch, 85.30 43 ⇑P **P 18 15 47.7 -0.2**
baz=85,SNR=37
JAN Janina 85.33 313 *e*P **P 18 15 48.3 +0.3**
BOJS Bojanci 85.36 320 *e*P **P 18 15 47.7 -0.5**
BOJS *e*PP PP 18 19 07.7 +1.5
BOJS *e*S S 18 26 20.0 +2.6
VAM Vamos 85.38 308 *e*P **P 18 15 48.7 +0.4**
MSO Missoula 85.40 38 *e*P **P 18 15 47.4 -0.9**
comp=Z,49nm,1.4s,mb5.4
MSO LR LR
comp=Z,2µm,22.0s,MS5.4
LJU Ljubljana 85.44 321 *e*P **P 18 15 48.1 -0.4**
LJU *e*S S 18 26 19.3 +1.1
KBA Koelnbreinsper 85.46 322⇑ *i*P **P 18 15 49.1 +0.5**
comp=Z,35nm,0.6s,mb5.7,SNR=16
D14A Greenough 85.48 38 ⇑P **P 18 15 48.6 -0.1**
baz=85,SNR=17
STON Ston 85.48 317 *i* P **P 18 15 46.4 -2.3**
E13A Victor 85.50 39 ⇑P **P 18 15 48.8 0.0**
baz=85
N06A Buffalo Meadow 85.50 46 ⇑P **P 18 15 48.9 +0.1**
baz=85,SNR=29
H11A Donnelly 85.52 41 ⇑P **P 18 15 48.8 -0.1**
baz=85
VLI Veliai 85.55 310 *e*P **P 18 15 45.5 -3.6**
MCD Coleburn Disti 85.55 337 *e*P **P 18 15 48.3 -0.8**
WTSB Winterswijk 85.57 329 *e*P **P 18 15 48.5 -0.7**
comp=Z,43nm,3.0s
KARN Karanos 85.58 308 *e*P **P 18 15 48.8 -0.5**
FCC Fort Churchill 85.59 21 *e*P **P 18 15 48.7 -0.6**
FCC pmax pmax
comp=Z,117nm,1.2s,mb6.0
FCC Fort Churchill 85.59 21 *e*P **P 18 15 48.7 -0.5**
comp=Z,117nm,1.2s,mb6.0
L08A Fields 85.61 44 ⇑P **P 18 15 49.5 +0.2**
baz=85,SNR=38
MVH1 Achvaich 85.61 337 *e*P **P 18 15 47.7 -1.7**
BEKR Beckwourth 85.67 47 ⇑P **P 18 15 49.5 -0.2**
baz=86,SNR=37
K09A Rome 85.69 43 ⇓P **P 18 15 49.5 -0.3**
baz=86,SNR=33
CHMT Chamberlain Mo 85.72 38 *e*P **P 18 15 49.6 -0.3**
IGT Igoumenitsa 85.74 313 *e*P **P 18 15 49.4 -0.6**
IGT Igoumenitsa 85.74 313 P **P 18 15 49.4 -0.6**
SRN Sarande 85.75 313 *i* p **P 18 15 49.0 -1.1**
CADS Cadrg 85.77 321 *e*P **P 18 15 49.7 -0.5**
JAVS Javornik 85.79 321 *e*P **P 18 15 49.3 -0.9**
JRSC Jasper Ridge 85.79 49 ⇑P **P 18 15 50.4 +0.2**
baz=86
FFC Flin Flon 85.80 27 P **P 18 15 49.0 -1.3**
comp=Z,372nm,1.1s,mb6.5,SNR=19
FFC Flin Flon 85.80 27 P **P 18 15 49.7 -0.6**
RLS Riolos of Patr 85.81 311 *e*P **P 18 15 50.5 +0.1**
F13A Darby 85.82 39 P **P 18 15 50.4 0.0**
baz=86,SNR=9.2
P05C Yuba Gap, Truc 85.82 47 ⇑P **P 18 15 50.5 +0.1**
baz=86,SNR=6.1
E14A Clinton 85.90 38 ⇑P **P 18 15 50.7 -0.1**
baz=86,SNR=6.8
KEK Kerkira 85.98 313 *e*P **P 18 15 49.9 -1.3**
BNLO Ben Lomond (Sa 85.98 50 ⇓P **P 18 15 51.5 +0.3**
baz=86
ITM Ithomi 85.98 310 *e*P **P 18 15 50.9 -0.3**
LKD Levkas 85.99 312 *e*P **P 18 15 49.9 -1.4**
LKD Levkas 85.99 312 P **P 18 15 50.8 -0.4**
WENL Wente Brothers 85.99 49 ⇑P **P 18 15 51.1 -0.2**
baz=86
N07B Gerlach 86.03 45 ⇓P **P 18 15 51.5 +0.1**
baz=86,SNR=26
D15A Lincoln 86.03 37 ⇓P **P 18 15 51.1 -0.3**
baz=86,SNR=8.3
LAVA Lava Cap Winer 86.04 48 P **P 18 15 51.6 +0.1**
baz=86,SNR=15
MDO Dochfour 86.05 337 *e*P **P 18 15 50.2 -1.3**
P06A Stead Airport, 86.06 47 ⇑P **P 18 15 51.4 -0.2**
baz=86
L09A Wilkinson Ranc 86.12 44 ⇑P **P 18 15 51.6 -0.3**
baz=86,SNR=5.7
NVLJ Novalja 86.14 320 *i* P **P 18 15 50.6 -1.4**
R04C Big Horse Ranc 86.19 48 ⇑P **P 18 15 52.0 -0.3**
baz=86
TOD Tromm 86.19 326 *e*P **P 18 15 52.5 +0.2**
WATA Walderalm 86.24 323⇑ *i*P **P 18 15 52.6 +0.1**
comp=Z,36nm,1.1s,mb5.5
WATA Walderalm 86.24 323 P **P 18 15 52.6 +0.1**
WTTA Wattenberg 86.25 323⇑ *i*P **P 18 15 52.1 -0.5**
comp=Z,69nm,1.0s,mb5.8,SNR=13
KAC Achnashellach 86.31 338 *e*P **P 18 15 51.5 -1.3**
VLS Valsamata 86.32 312 *e*P **P 18 15 53.3 +0.4**
F14A Wisdom 86.34 39 ⇑P **P 18 15 53.1 +0.1**
baz=86,SNR=10
S04C Ingram Canyon, 86.34 49 ⇑P **P 18 15 52.8 -0.2**
baz=86,SNR=5.3
E15A Deer Lodge 86.35 38 ⇓P **P 18 15 52.8 -0.2**
baz=86,SNR=24
WCN Washoe City 86.37 47 ⇓P **P 18 15 53.0 -0.1**
baz=86
O07A Toulon 86.44 46 ⇑P **P 18 15 53.6 +0.1**
baz=86,SNR=16
MOTA Moosalm 86.48 323⇑ *i*P **P 18 15 53.7 0.0**
comp=Z,36nm,0.8s,mb5.7,SNR=22
R05C Kirkwood Meado 86.50 47 ⇑P **P 18 15 54.0 +0.2**
baz=86,SNR=5.8
SQTA Sankt Quirin 86.51 323 *i* P **P 18 15 53.9 +0.1**
comp=Z,36nm,0.9s,mb5.6,SNR=13
N08A GE Springer Mi 86.55 45 ⇑P **P 18 15 54.1 +0.1**
baz=86,SNR=18
KPL Plockton 86.56 338 *e*P **P 18 15 52.3 -1.8**
KPL AMb AMB 18 16 00.9
comp=Z,118nm,1.3s,mb6.0
M09A Marrel Ranch, 86.60 44 ⇑P **P 18 15 54.4 +0.2**
baz=86
ESY Stoneypath 86.60 335 *e*P **P 18 15 52.9 -1.4**
ABH Alteburg 86.62 327 *e*P **P 18 15 55.3 +0.9**
PACP Pacheco Peak 86.64 49 ⇓P **P 18 15 54.6 +0.2**
baz=86,SNR=12
CMB Columbia Colle 86.67 48 *e*P **P 18 15 53.7 -0.9**
CMB pmax pmax
comp=Z,126nm,1.6s,mb5.9
CMB MLR MLR
comp=Z,3µm,22.0s,MS5.6
CMB Columbia Colle 86.67 48 *e*P **P 18 15 53.7 -0.9**
comp=Z,126nm,1.6s,mb5.9
CMB LR LR
comp=Z,3µm,22.0s,MS5.6
CMB Columbia Colle 86.67 48 P **P 18 15 54.9 +0.3**
baz=86,SNR=17
SAO San Andreas Ge 86.67 50 PFAKE 18 16 10.0 +15
SAO LR LR
comp=Z,4µm,21.0s,MS5.8
HGN Heimansgroeve 86.78 328 *e*P **P 18 15 55.8 +0.7**
comp=Z,112nm,1.1s,mb6.0
HGN *e*PP PP 18 19 21.8 +4.1
HGN *e*S S 18 26 30.4 -0.9
HGN *e*SS SS 18 32 49.5 +36
P07A Fallon 86.78 46 ⇑P **P 18 15 55.6 +0.4**
baz=87
XSO Sourhope Farm 86.79 335 *e*P **P 18 15 53.8 -1.4**
F15A Butte 86.80 38 ⇓P **P 18 15 55.2 0.0**
baz=87,SNR=24
HAST UC Hastings Re 86.81 50 P **P 18 15 55.6 +0.3**
baz=87,SNR=13
O08A Rochester Mine 86.82 45 ⇑P **P 18 15 55.6 +0.3**
baz=87
EGMT Eagleton 86.85 35 *e*P **P 18 15 54.8 -0.7**
comp=Z,119nm,1.0s,mb6.1
EGMT LR LR
comp=Z,3µm,22.0s,MS5.7
MEM Membach 86.86 328 P **P 18 15 55.2 -0.3**
MEM PCP PcP 18 15 55.9 -1.8
MEM E 18 16 13.0
FURI Furi 86.86 278 *e*P **P 18 15 58.2 +2.7**
EBL Broad Law 86.87 336 *e*P **P 18 15 54.1 -1.5**
BEBN Eben Emael 86.88 328 P **P 18 15 55.4 -0.3**
BEBN E 18 16 01.0
BEBN AP pP 18 16 06.4 +2.5
N09A Rock Creek Ran 86.88 45 ⇓P **P 18 15 56.0 +0.4**
baz=87,SNR=6.5
EAU Auchinoon 86.96 336 *e*P **P 18 15 54.9 -1.1**

EAB **Aberfoyle** 87.01 336 *e*P P 18 15 55.4 -0.9
DLMT **Dillon** 87.04 39 *e*P P 18 15 56.6 +0.2
comp=Z,103nm,1.0s,mb6.0
S05C **Merced** 87.09 49 ⇓P P 18 15 56.6 -0.1
baz=87
M10A **I.L. Ranch, Tu** 87.09 44 ⇓P P 18 15 57.1 +0.5
baz=87,SNR=5.6
S06C **San Francisco** 87.11 48 P P 18 15 57.0 +0.3
baz=87,SNR=11
HLID **Hailey** 87.13 41 *e*P P 18 15 57.0 +0.1
comp=Z,47nm,1.1s,mb5.6
HLID LR LR
comp=Z,2µm,21.0s,MS5.6
LRV **Little Rabbit** 87.15 50 *e*P P 18 15 57.8 +0.9
DAVA **Damuels** 87.16 324 ⇑*i*P P 18 15 56.5 -0.5
comp=Z,68nm,1.0s,mb5.8,SNR=26
P08A **Dixie Valley** 87.21 46 ⇑P P 18 15 57.5 +0.3
baz=87
V03C **Hunter Liggett** 87.22 50 ⇑P P 18 15 57.9 +0.6
baz=87,SNR=5.9
G15A **Dillon** 87.22 39 ⇓P P 18 15 57.2 -0.1
baz=87,SNR=79
MCMT **McKenzie Canyo** 87.23 39 *e*P P 18 15 57.8 +0.4
XAL **Allendale** 87.25 335 *e*P P 18 15 55.9 -1.6
BFO **Black Forest** 87.27 325 P P 18 15 57.6 +0.1
comp=Z,112nm,1.7s,mb5.8,SNR=5.3
BFO **Black Forest** 87.27 325 P P 18 15 57.0 -0.5
BFO LR LR
comp=Z,3µm,21.0s,MS5.7
ESK **Eskdalemuir** 87.28 335 P P 18 15 56.9 -0.7
comp=Z,308nm,1.0s,mb6.5,SNR=7.4
ESK **Eskdalemuir** 87.28 335 *e*P P 18 15 56.4 -1.2
ESK AMb AMB 18 15 59.9
comp=Z,107nm,1.3s,mb5.9
ESK **Eskdalemuir** 87.28 335 *e*P P 18 15 56.4 -1.2
ESK LR LR
comp=Z,4µm,19.0s,MS5.8
BCLA **Clavier** 87.31 328 P P 18 15 57.2 -0.5
BCLA E pP 18 16 04.1 -1.8
BCLA XP sP 18 16 13.1 +4.2
BCLA E 18 16 30.9
BMN **Battle Mountai** 87.32 45 *e*P P 18 15 57.6 -0.2
BMN pmax pmax
comp=Z,148nm,1.5s,mb6.0
BMN **Battle Mountai** 87.32 45 *e*P P 18 15 57.6 -0.2
comp=Z,148nm,1.5s,mb6.0
ECK **Cauldkaine Hil** 87.35 335 *e*P P 18 15 56.8 -1.1
PGBU **Glenifferbraes** 87.36 336 *e*P P 18 15 56.9 -1.0
PGBU AMb AMB 18 16 04.3
comp=Z,69nm,1.4s,mb5.7
WLF **Walferdange** 87.43 327 P P 18 15 58.3 -0.1
WLF XP sP 18 16 14.8 +5.4
WLF **Walferdange** 87.43 327 *e*P P 18 15 57.5 -0.8
WLF pmax pmax
comp=Z,70nm,1.1s,mb5.8
WLF **Walferdange** 87.43 327 *e*P P 18 15 57.5 -0.8
comp=Z,70nm,1.1s,mb5.8
UCC **Uccle** 87.48 329 P P 18 15 58.1 -0.5
UCC AP pP 18 16 09.4 +2.6
UCC XP sP 18 16 13.3 +3.6
DAVOX **Davos** 87.49 323 P P 18 15 58.9 +0.3
comp=Z,53nm,0.8s,mb5.8,baz=57,slow=5.7
O09A **Fish Creek Ran** 87.49 45 ⇓P P 18 15 58.8 +0.2
baz=87,SNR=14
R07C **Lee Vining** 87.51 47 ⇑P P 18 15 59.2 +0.5
baz=87
N10A **Dunphy** 87.59 44 ⇓P P 18 15 59.3 +0.3
baz=87
M11A **Holland Ranch,** 87.60 43 ⇑P P 18 15 59.5 +0.4
baz=87
V04C **Ramage Ranch,** 87.68 50 ⇓P P 18 15 59.9 +0.4
baz=88
T06C **Millerton Lake** 87.69 49 ⇓P P 18 15 59.9 +0.4
baz=88
WLS **Welschbruch** 87.70 326 *e*P P 18 15 59.4 -0.2
SNF **Seneffe** 87.72 329 P P 18 15 58.8 -0.9
SNF E pP 18 16 04.6 -3.3
SNF AP pP 18 16 10.3 +2.4
SNF XP sP 18 16 14.8 +4.0
SNF E 18 16 32.2
FELD **Feldberg im Sc** 87.73 325 *e*P P 18 16 01.4 +1.6
PKD **Parkfield** 87.73 50 P P 18 16 00.1 +0.3
baz=88,SNR=9.0
CDF **Champ du Feu** 87.74 326 *e*P P 18 15 58.9 -0.9
comp=Z,61nm,1.0s,mb5.5
CDF **Champ du Feu** 87.74 326 *e*P P 18 15 58.9 -0.9
CDF pmax pmax
comp=Z,30nm,1.0s,mb5.5
CDF **Champ du Feu** 87.74 326 *e*P P 18 15 58.9 -0.9
comp=Z,30nm,1.0s,mb5.5
GIVF **Givet** 87.75 328 *e*P P 18 15 59.2 -0.7
KCC **Kaiser Creek** 87.77 48 P P 18 16 00.3 +0.4
baz=88,SNR=9.6
Q08A **Gabbs** 87.78 46 ⇓P P 18 16 00.4 +0.4
baz=88,SNR=5.4
U05C **Westside ANR,** 87.80 49 ⇓P P 18 16 00.8 +0.8
baz=88
O10A **Cortez Mining,** 87.84 45 ⇑P P 18 16 01.0 +0.7
baz=88,SNR=7.5
DOU **Dourbes** 87.87 328 P P 18 15 59.3 -1.1
DOU E pP 18 16 05.5 -3.1
DOU XP sP 18 16 15.3 +3.7
DOU E 18 16 25.7
P09A **Austin** 87.88 45 ⇓P P 18 16 01.0 +0.5
baz=88
ECH **Echery** 87.93 326 *e*P P 18 16 00.3 -0.4
N11A **Elko Archery C** 88.00 44 ⇓P P 18 16 01.4 +0.4
baz=88
QLMT **Earthquake Lak** 88.02 39 *e*P P 18 16 02.6 +1.5
BAIF **Baives** 88.07 328 *e*P P 18 16 00.5 -0.9
PTRM **Twissleman Ran** 88.12 50 *e*P P 18 16 02.4 +0.8
M12A **Wells** 88.14 43 ⇓P P 18 16 02.2 +0.6
baz=88,SNR=21
MOF **Molkenrain** 88.18 325 *e*P P 18 16 01.4 -0.5
KBI1 **Birley Grange** 88.20 333 *e*P P 18 16 00.9 -1.1
V05C **Boulder Hill,** 88.20 50 ⇑P P 18 16 02.8 +0.8
baz=88
TIP **Timpagrande** 88.21 314 *e*P P 18 16 01.6 -0.4
MTUM **Tungsten Hills** 88.25 48 *e*P P 18 16 02.5 +0.3
BBS **Basel-Blauen** 88.26 325 *e*P P 18 16 01.4 -0.8
P10A **Eureka** 88.26 45 ⇑P P 18 16 02.6 +0.3
baz=88
Q09A **Carvers** 88.28 46 ⇑P P 18 16 02.9 +0.5
baz=88
AQU **L'Aquila** 88.33 318 ⇑*i*P P 18 16 03.8 +1.2
AQU **L'Aquila** 88.33 318 P P 18 16 03.2 +0.6
AQU pmax pmax
comp=Z,120nm,1.0s,mb6.1
AQU **L'Aquila** 88.33 318 *e*P P 18 16 03.3 +0.7
comp=Z,116nm,1.0s,mb6.1
ELK **Elko** 88.34 44 *e*P P 18 16 01.3 -1.4
ELK pmax pmax
comp=Z,132nm,1.8s
ELK MLR MLR
comp=Z,3µm,19.0s
ELK **Elko** 88.34 44 *e*P P 18 16 01.2 -1.4
comp=Z,132nm,1.8s,mb5.9
ELK LR LR
comp=Z,3µm,19.0s,MS5.8
HINF **Hinteralfeld** 88.35 326 *e*P P 18 16 02.0 -0.7
comp=Z,26nm,0.9s,mb5.2
HINF **Hinteralfeld** 88.35 326 *e*P P 18 16 02.0 -0.7
HINF pmax pmax
comp=Z,13nm,0.9s,mb5.2
HINF **Hinteralfeld** 88.35 326 *e*P P 18 16 02.0 -0.7
comp=Z,13nm,0.9s,mb5.2
GCMT **Greycliff** 88.35 37 *e*P P 18 16 02.5 -0.2
YMR **Madison River** 88.38 39 *e*P P 18 16 04.8 +2.0
comp=Z,62nm,0.9s,mb5.8
N12A **Clover Valley,** 88.40 43 ⇓P P 18 16 03.4 +0.5
baz=88,SNR=12
S08C **White Mtn Res** 88.42 48 ⇓P P 18 16 04.2 +1.2
baz=88
SMMC **Simmler** 88.45 50 ⇓P P 18 16 04.4 +1.2
baz=88
O11A **Cowboy Ranch,** 88.46 44 P P 18 16 04.6 +1.4
baz=88,SNR=8.0
HAU **Haudompre** 88.47 326 *e*P P 18 16 02.6 -0.6
comp=Z,25nm,0.8s,mb5.2
HAU *e*R
comp=Z,33µm,17.5s
HAU **Haudompre** 88.47 326 *e*P P 18 16 02.6 -0.6
HAU pmax pmax
comp=Z,12nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,33µm,17.5s,MS6.8
HAU **Haudompre** 88.47 326 *e*P P 18 16 02.6 -0.6
comp=Z,12nm,0.8s,mb5.2
HAU LR LR
comp=Z,33µm,17.5s,MS6.8
YNR **Norris Junctio** 88.50 38 *e*P P 18 16 05.7 +2.3
YFT **Old Faithful** 88.59 39 *e*P P 18 16 06.8 +3.0
M13A **Montello** 88.62 43 ⇓P P 18 16 04.9 +1.0
baz=88
TIN **Tinemaha** 88.64 48 ⇓P P 18 16 04.8 +0.8
baz=88
LOMF **Lomont** 88.67 325 *e*P P 18 16 05.9 +1.7
R09A **Tonopah** 88.69 46 ⇓P P 18 16 05.4 +1.0
baz=88
TPH **Tonopah** 88.69 47 *e*P P 18 16 05.0 +0.7
TPH pmax pmax
comp=Z,180nm,1.8s,mb6.1
TPH **Tonopah** 88.69 47 *e*P P 18 16 05.0 +0.7
comp=Z,180nm,1.8s,mb6.1
P11A **Circle Ranch,** 88.74 45 ⇑P P 18 16 05.2 +0.7
baz=88
LKWY **Lake** 88.75 38 *e*P P 18 16 07.7 +3.1
LKWY pmax pmax
comp=Z,35nm,0.8s,mb5.7
LKWY MLR MLR
comp=Z,4µm,20.0s,MS5.8
LKWY **Lake** 88.75 38 *e*P P 18 16 07.7 +3.1
comp=Z,35nm,0.8s,mb5.7
LKWY LR LR
comp=Z,4µm,20.0s,MS5.8
MEZF **Maizieres J'vi** 88.76 327 *e*P P 18 16 03.8 -0.8
comp=Z,99nm,1.1s,mb5.8
MEZF **Maizieres J'vi** 88.76 327 *e*P P 18 16 03.8 -0.8
comp=Z,99nm,1.1s,mb6.1
VES **Vestal, Richgr** 88.77 49 ⇓P P 18 16 05.2 +0.6
baz=89
PKM **Peak Mountain** 88.81 50 ⇑P P 18 16 05.9 +1.1
baz=89
S09A **Goldfield** 88.90 47 ⇑P P 18 16 05.8 +0.5
baz=89
FLWY **Flagg Ranch** 88.90 39 *e*P P 18 16 06.9 +1.6
comp=Z,66nm,0.8s,mb6.0
N13A **Wendover, West** 88.90 43 ⇑P P 18 16 06.0 +0.7
baz=89,SNR=6.7
VLC **Villacollemand** 88.91 321 *e*P P 18 16 09.4 +4.1
comp=Z,54nm,1.0s,mb5.8
O12A **Currie** 88.93 44 ⇓P P 18 16 06.1 +0.7
baz=89,SNR=21
DCID1 **Drake Creek** 88.94 39 *e*P P 18 16 07.2 +1.7
RLMT **Red Lodge** 89.00 37 *e*P P 18 16 06.3 +0.5
comp=Z,37nm,0.8s,mb5.8
RLMT LR LR
comp=Z,3µm,22.0s,MS5.6
RRI2 **Red Ridge** 89.02 40 *e*P P 18 16 07.6 +1.7
comp=Z,104nm,1.5s,mb5.9
CWC **Cottonwood Cre** 89.09 48 ⇓P P 18 16 07.2 +1.1
baz=89
MOOW **Moose Ponds** 89.09 39 *e*P P 18 16 07.3 +1.1
comp=Z,96nm,1.6s,mb5.9
R10A **Warm Springs** 89.15 46 ⇑P P 18 16 07.5 +1.0
baz=89
HVU **Hansel Valley** 89.18 42 *e*P P 18 16 07.0 +0.4
HVU pmax pmax
comp=Z,124nm,1.6s,mb6.0
HVU **Hansel Valley** 89.18 42 *e*P P 18 16 07.0 +0.4
comp=Z,124nm,1.6s,mb6.0
GRAC **Grapevine Rang** 89.23 48 ⇓P P 18 16 07.5 +0.7
baz=89
Q11A **Duckwater** 89.23 45 P P 18 16 08.0 +1.2
baz=89,SNR=5.8
ISA **Isabella** 89.28 49 PFAKE 18 16 20.0 +13
ISA LR LR
comp=Z,727nm,22.0s,MS5.1
ISA **Isabella** 89.28 49 ⇑P P 18 16 08.1 +1.1
baz=89
REDW **Red Top Meadow** 89.28 40 *e*P P 18 16 07.6 +0.5
comp=Z,80nm,1.5s,mb5.8
DGMT **Dagmar** 89.29 33 *e*P P 18 16 06.6 -0.5
comp=Z,95nm,1.0s,mb6.1
DGMT LR LR
comp=Z,4µm,20.0s,MS5.8
P12A **McGill** 89.31 44 ⇑P P 18 16 07.9 +0.7
baz=89,SNR=20
DAC **Darwin (Calif)** 89.50 48 PFAKE 18 16 20.0 +12
DAC LR LR
comp=Z,2µm,20.0s,MS5.6
AHID **Auburn Hatcher** 89.52 40 *e*P P 18 16 08.7 +0.5
comp=Z,10.0nm,0.8s,mb5.2
AHID LR LR
comp=Z,2µm,22.0s,MS5.6
LAO **LASA Array** 89.53 35 *e*P P 18 16 08.5 +0.3
comp=Z,96nm,1.0s,mb6.1
LAO LR LR
comp=Z,3µm,20.0s,MS5.7
CABF **La Chapelle** 89.55 325 *e*P P 18 16 07.3 -1.0
comp=Z,42nm,1.1s,mb5.4
CABF **La Chapelle** 89.55 325 *e*P P 18 16 07.3 -1.0
CABF pmax pmax
comp=Z,21nm,1.1s,mb5.4
CABF **La Chapelle** 89.55 325 *e*P P 18 16 07.3 -1.0
comp=Z,21nm,1.1s,mb5.4
BGU **Big Grassy Mou** 89.56 42 *e*P P 18 16 08.7 +0.3
TRCR **Troy Canyon** 89.57 46 *e*P P 18 16 09.5 +1.1
Q12A **Willow Creek R** 89.62 45 ⇓P P 18 16 09.5 +0.8
baz=89,SNR=12
SPUT **South Promonto** 89.66 42 *e*P P 18 16 07.1 -1.8
MPMC **Manual Prospec** 89.70 48 ⇑P P 18 16 10.0 +1.0
baz=90
MCH1 **Michaelchurch** 89.74 333 *e*P P 18 16 08.1 -1.1
MCH1 AMb AMB 18 16 19.8
comp=Z,68nm,1.9s,mb5.7
BLG **Laguna Peak** 89.77 51 ⇑P P 18 16 10.2 +0.8
baz=90
FURC **Furnace Creek,** 89.87 48 ⇑P P 18 16 10.9 +1.1
baz=90
LRMC **Laurel Mountai** 89.90 49 ⇑P P 18 16 11.1 +1.1
baz=90
SNCC **San Nicolas Is** 89.94 52 PFAKE 18 16 20.0 +10
SNCC LR LR
comp=Z,4µm,21.0s,MS5.8
LPL **La Plagne** 89.96 324 *e*P P 18 16 09.6 -0.7
comp=Z,15nm,0.5s,mb5.3
LPL **La Plagne** 89.96 324 *e*P P 18 16 09.6 -0.7
LPL pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
LPL **La Plagne** 89.96 324 *e*P P 18 16 09.6 -0.7
comp=Z,7.4nm,0.5s,mb5.3
LPG **La Plagne** 89.97 324 *e*P P 18 16 09.4 -0.9
comp=Z,33nm,0.7s,mb5.5
LPG **La Plagne** 89.97 324 *e*P P 18 16 09.4 -0.9
LPG pmax pmax
comp=Z,17nm,0.7s,mb5.5
LPG **La Plagne** 89.97 324 *e*P P 18 16 09.4 -0.9
comp=Z,17nm,0.7s,mb5.5
HWUT **Hardware Ranch** 89.99 41 *e*P P 18 16 11.1 +0.7
comp=Z,193nm,1.5s,mb6.2
HWUT LR LR
comp=Z,2µm,19.0s,MS5.6
DUG **Dugway** 90.14 43 *e*P P 18 16 10.5 -0.6
DUG pmax pmax
comp=Z,95nm,1.4s,mb5.9
DUG MLR MLR
comp=Z,3µm,19.0s,MS5.7
DUG **Dugway** 90.14 43 *e*P P 18 16 10.4 -0.6
comp=Z,95nm,1.4s,mb5.9
DUG LR LR
comp=Z,3µm,19.0s,MS5.7
DECC **Green Verdugo** 90.19 50 ⇑P P 18 16 11.9 +0.6
baz=90
LOR **Lormes** 90.19 327 *e*P P 18 16 10.6 -0.7
comp=Z,19nm,0.9s,mb5.1
LOR *e*R
comp=Z,36µm,18.2s
LOR **Lormes** 90.19 327 *e*P P 18 16 10.6 -0.7
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LOR MLR MLR
comp=Z,36µm,18.3s,MS6.8
LOR **Lormes** 90.19 327 *e*P P 18 16 10.6 -0.7
comp=Z,9.4nm,0.9s,mb5.1
LOR LR LR
comp=Z,36µm,18.3s,MS6.8
U10A **Ash Meadows, A** 90.24 48 ⇓P P 18 16 12.2 +0.6
baz=90
NOQ **North Oquirrh** 90.27 42 *e*P P 18 16 13.0 +1.3
comp=Z,273nm,1.4s,mb6.4
PPT **Papeete** 90.28 110 *e*PP PP 18 19 44.3 -1.4
comp=Z,693nm,25.8s
PPT **Papeete** 90.28 110 *e*PS PS 18 28 12.5 -1.3
comp=Z,4µm,24.8s
PPT **Papeete** 90.28 110 *e*SKSac SKSac 18 26 39.9 -1.4
comp=Z,2µm,27.5s
PPT *e*SS SS 18 32 57.3 -6.8
comp=Z,4µm,25.2s
PPT *e*LR LR 18 45 03.3
comp=Z,7µm,25.5s,baz=290
PPT **Papeete** 90.28 110 LR LR 18 48 22.6
comp=Z,3µm,21.2s,MS5.6,baz=294,slow=30
BNI **Bardonecchia** 90.31 324 *e*P P 18 16 10.8 -1.1
BNI pmax pmax
comp=Z,28nm,1.1s,mb5.5
BNI **Bardonecchia** 90.31 324 *e*P P 18 16 10.8 -1.1
comp=Z,28nm,1.1s,mb5.5
BW06 **Boulder Array** 90.38 39 PFAKE 18 16 20.0 +7.8
BW06 LR LR
comp=Z,3µm,19.0s,MS5.7
PDAR **Pinedale Array** 90.38 39 P P 18 16 12.7 +0.4
comp=Z,18nm,0.8s,mb5.4,baz=325,slow=0.8,SNR=81
PDAR PKKPbc PKKPbc 18 33 39.9 -0.4
comp=Z,0.6nm,0.9s,baz=147,slow=3.9,SNR=2.8
PMOR **Pomariorio Ree** 90.42 107 *e*P P 18 16 12.5 +0.1
comp=Z,178nm,1.3s,mb6.2
CTU **Camp Tracy** 90.46 42 *e*P P 18 16 13.1 +0.5
comp=Z,85nm,1.5s,mb5.8
MBDF **Montbardon** 90.48 323 *e*P P 18 16 12.0 -0.7
comp=Z,26nm,0.8s,mb5.3
MBDF **Montbardon** 90.48 323 *e*P P 18 16 12.0 -0.7
MBDF pmax pmax
comp=Z,13nm,0.8s,mb5.3
MBDF **Montbardon** 90.48 323 *e*P P 18 16 12.0 -0.7
comp=Z,13nm,0.8s,mb5.3
SSF **Saint Saulge** 90.51 327 *e*P P 18 16 11.8 -1.0
comp=Z,18nm,0.9s,mb5.1
SSF **Saint Saulge** 90.51 327 *e*P P 18 16 11.8 -1.0
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
SSF **Saint Saulge** 90.51 327 *e*P P 18 16 11.8 -1.0
comp=Z,8.8nm,0.9s,mb5.1
GSC **Goldstone** 90.59 49 P P 18 16 13.7 +0.5
GSC **Goldstone** 90.59 49 *e*P P 18 16 11.5 -1.7
GSC **Goldstone** 90.59 49 ⇓P P 18 16 13.4 +0.2
baz=90
CIS **Catalina Islan** 90.62 51 ⇑P P 18 16 13.3 0.0
baz=90
SMF **Signal de Mont** 90.64 326 *e*P P 18 16 12.6 -0.8
comp=Z,44nm,1.0s,mb5.5
SMF **Signal de Mont** 90.64 326 *e*P P 18 16 12.6 -0.8
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.4
SMF **Signal de Mont** 90.64 326 *e*P P 18 16 12.6 -0.8
comp=Z,22nm,1.0s,mb5.4
JLU **Jordanelle** 90.69 42 *e*P P 18 16 14.2 +0.6
SBF **Sospel** 90.71 322 *e*P P 18 16 12.4 -1.3
comp=Z,98nm,0.9s,mb5.8
SBF **Sospel** 90.71 322 *e*P P 18 16 12.4 -1.3
SBF pmax pmax
comp=Z,49nm,0.9s,mb5.8
SBF **Sospel** 90.71 322 *e*P P 18 16 12.4 -1.3
comp=Z,49nm,0.9s,mb5.8
PGF **Pioggiola** 90.72 321 *e*P P 18 16 12.4 -1.4
comp=Z,133nm,1.2s,mb5.8
PGF **Pioggiola** 90.72 321 *e*P P 18 16 12.4 -1.4
PGF pmax pmax
comp=Z,67nm,1.3s,mb5.8
PGF **Pioggiola** 90.72 321 *e*P P 18 16 12.4 -1.4
comp=Z,67nm,1.3s,mb5.8
NLU **North Lily Min** 90.73 43 *e*P P 18 16 15.3 +1.5
VAH **Vaihoa** 90.76 107 *e*P P 18 16 14.2 +0.2
comp=Z,123nm,1.2s,mb6.1
AVF **Avril sur Loir** 90.78 326 *e*P P 18 16 13.1 -0.9
comp=Z,32nm,0.9s,mb5.3
AVF **Avril sur Loir** 90.78 326 *e*P P 18 16 13.1 -0.9
AVF pmax pmax
comp=Z,16nm,0.9s,mb5.3
AVF **Avril sur Loir** 90.78 326 *e*P P 18 16 13.1 -0.9
comp=Z,16nm,0.9s,mb5.3
HYF **Humbligny** 90.78 327 *e*P P 18 16 13.1 -1.0
CORF **Corte** 90.80 320 *e*P P 18 16 14.7 +0.5
ORIF **Oris-en-Rattie** 90.81 324 *e*P P 18 16 12.7 -1.5
comp=Z,18nm,0.8s,mb5.2
ORIF *e*R
comp=Z,22µm,19.5s
ORIF **Oris-en-Rattie** 90.81 324 *e*P P 18 16 12.7 -1.5
ORIF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
ORIF **Oris-en-Rattie** 90.81 324 *e*P P 18 16 12.7 -1.5
comp=Z,9.1nm,0.8s,mb5.2
DAU **Daniels Canyon** 90.93 42 *e*P P 18 16 16.1 +1.3
MPU **Maple Canyon** 90.96 42 P P 18 16 16.5 +1.6
comp=Z,35nm,1.1s,mb5.6
MPU LR LR
comp=Z,3µm,19.0s,MS5.7
LDF **La Druitiere** 91.09 329 *e*P P 18 16 14.5 -1.0
comp=Z,153nm,1.1s,mb6.0
LDF **La Druitiere** 91.09 329 *e*P P 18 16 14.5 -1.0
LDF pmax pmax
comp=Z,76nm,1.1s,mb5.9
LDF **La Druitiere** 91.09 329 *e*P P 18 16 14.5 -1.0
comp=Z,76nm,1.1s,mb5.9
TUQ **Turquoise Mtn.** 91.09 48 ⇑P P 18 16 16.1 +0.5
baz=91
FLN **La Foliniere** 91.13 330 *e*P P 18 16 14.6 -1.1
comp=Z,119nm,1.2s,mb5.8
FLN **La Foliniere** 91.13 330 *e*P P 18 16 14.6 -1.1
FLN pmax pmax
comp=Z,59nm,1.2s,mb5.8
FLN **La Foliniere** 91.13 330 *e*P P 18 16 14.6 -1.1
comp=Z,60nm,1.2s,mb5.8
V11A **Goodsprings** 91.17 48 ⇓P P 18 16 16.7 +0.8
baz=91
HEC **Hector,Ludlow** 91.19 49 ⇓P P 18 16 16.5 +0.5
baz=91
BGF **Bois d'Agland** 91.19 327 *e*P P 18 16 14.6 -1.4
comp=Z,18nm,0.7s,mb5.2
BGF **Bois d'Agland** 91.19 327 *e*P P 18 16 14.6 -1.4
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
BGF **Bois d'Agland** 91.19 327 *e*P P 18 16 14.6 -1.4
comp=Z,9.3nm,0.7s,mb5.2
PLDF **La Plantade** 91.22 326 *e*P P 18 16 16.9 +0.8
FRF **La Foret Royal** 91.33 323 *e*P P 18 16 15.2 -1.4
comp=Z,69nm,1.3s,mb5.5
FRF **La Foret Royal** 91.33 323 *e*P P 18 16 15.2 -1.4
FRF pmax pmax
comp=Z,35nm,1.3s,mb5.5
FRF **La Foret Royal** 91.33 323 *e*P P 18 16 15.2 -1.4
comp=Z,35nm,1.3s,mb5.5
U12A **Valley of Fire** 91.39 47 ⇑P P 18 16 17.3 +0.4
baz=91
AGO **Saint Agoulin** 91.41 326 *e*P P 18 16 17.6 +0.6
CCUT **Cedar City** 91.45 45 *e*P P 18 16 18.0 +0.9
VIVF **Saint-Julien-l** 91.48 324 *e*P P 18 16 16.3 -1.0
LMR **La Mourre** 91.56 322 *e*P P 18 16 16.3 -1.4
MVU **Marysvale** 91.56 44 PFAKE 18 16 30.0 +12
MVU LR LR
comp=Z,2µm,19.0s,MS5.6
GRR **Gorron** 91.57 330 *e*P P 18 16 16.6 -1.1
comp=Z,107nm,1.0s,mb5.8
GRR **Gorron** 91.57 330 *e*P P 18 16 16.6 -1.1
GRR pmax pmax
comp=Z,54nm,1.0s,mb5.8
GRR **Gorron** 91.57 330 *e*P P 18 16 16.6 -1.1
comp=Z,54nm,1.0s,mb5.8
MSU **Marysvale** 91.58 44 P P 18 16 19.1 +1.3
MSU **Marysvale** 91.58 44 *e*P P 18 16 18.7 +0.9
V12A **Nelson** 91.62 47 ⇓P P 18 16 18.6 +0.6
baz=91
SMRF **Simiane la Rot** 91.62 323 *e*P P 18 16 16.3 -1.7
ULM **Lac du Bonnet** 91.63 27 P P 18 16 17.2 -0.8
comp=Z,58nm,0.9s,mb5.9,baz=319,slow=4.7,SNR=56
ULM LR LR 19 00 24.0
comp=Z,3µm,20.1s,MS5.7,baz=230,slow=37
ULM **Lac du Bonnet** 91.63 27 *e*P P 18 16 17.3 -0.7
comp=Z,86nm,0.9s,mb6.1
TMUT **Trail Mountain** 91.67 43 *e*P P 18 16 19.7 +1.6
TCF **Toulx Ste Croi** 91.69 327 *e*P P 18 16 17.3 -1.0
PFO **Pinyon Flat Ob** 91.82 50 *e*P P 18 16 18.5 -0.4
PFO pmax pmax
comp=Z,115nm,1.8s,mb5.9
PFO MLR MLR
comp=Z,938nm,21.0s,MS5.2
PFO **Pinyon Flat Ob** 91.82 50 *e*P P 18 16 18.5 -0.4
comp=Z,115nm,1.8s,mb5.9
PFO LR LR
comp=Z,938nm,21.0s,MS5.2

PFO Pinyon Flat Ob 91.82 50 ⇑P P 18 16 19.0 +0.1
baz=92
BELC Belle Mtn. 91.90 49 ⇑P P 18 16 19.7 +0.5
baz=92
SRU San Rafael 92.20 43 *e*P **P 18 16 20.7 +0.1**
SRU pmax pmax
comp=Z,38nm,0.9s,mb5.7
SRU San Rafael 92.20 43 *e*P **P 18 16 20.7 +0.1**
comp=Z,38nm,0.9s,mb5.7
MONP Monument Peak 92.27 50 ⇓P P 18 16 21.0 0.0
baz=92
IRM Iron Mountain 92.37 49 ⇓P P 18 16 21.9 +0.5
baz=92,SNR=5.6
RWWY Rawlins 92.40 39 *e*P **P 18 16 22.5 +0.9**
comp=Z,38nm,0.9s,mb5.7
SGMF Saint Gilles 92.42 330 *e*P **P 18 16 20.4 -1.3**
comp=Z,219nm,1.2s,mb6.0
SGMF Saint Gilles 92.42 330 *e*P **P 18 16 20.4 -1.3**
SGMF pmax pmax
comp=Z,109nm,1.2s,mb6.1
SGMF Saint Gilles 92.42 330 *e*P **P 18 16 20.4 -1.3**
comp=Z,109nm,1.2s,mb6.1
RSSD Black Hills 92.42 36 *e*P **P 18 16 21.8 +0.1**
RSSD pmax pmax
comp=Z,30nm,0.9s,mb5.6
RSSD MLR MLR
comp=Z,3μm,19.0s,MS5.8
RSSD Black Hills 92.42 36 *e*P **P 18 16 21.8 +0.1**
comp=Z,30nm,0.9s,mb5.6
RSSD LR LR
comp=Z,3μm,19.0s,MS5.8
LASF Ste Croix 92.44 324 *e*P **P 18 16 20.8 -1.0**
comp=Z,22nm,1.1s,mb5.1
BC3 Big Chuckw Mtn 92.47 49 ⇑P P 18 16 22.4 +0.6
baz=92
VSL Villasalto 92.50 318 *e*P **P 18 16 22.2 +0.1**
comp=Z,66nm,0.9s,mb6.1
MFF Saint Martin d 92.58 328 *e*P **P 18 16 21.3 -1.1**
comp=Z,92nm,1.2s,mb5.8
MFF Saint Martin d 92.58 328 *e*P **P 18 16 21.3 -1.1**
MFF pmax pmax
comp=Z,46nm,1.2s,mb5.8
MFF Saint Martin d 92.58 328 *e*P **P 18 16 21.3 -1.1**
comp=Z,46nm,1.2s,mb5.8
W13A Hualapai Mount 92.62 47 ⇓P P 18 16 22.7 +0.1
baz=92,SNR=12
DVTC Desert V Tower 92.62 50 ⇑P P 18 16 23.2 +0.6
baz=92
SWSC Sam W. Stewart 92.66 50 ⇓P P 18 16 23.6 +0.8
baz=92
ROSF Rostrenen 92.67 331 *e*P **P 18 16 21.8 -1.0**
comp=Z,388nm,1.4s,mb6.3
ROSF Rostrenen 92.67 331 *e*P **P 18 16 21.8 -1.0**
comp=Z,194nm,1.4s,mb6.3
RJF Les Rejaudoux 92.73 326 *e*P **P 18 16 22.2 -0.9**
comp=Z,78nm,1.3s,mb5.7
RJF *e*R
comp=Z,27μm,18.2s
RJF Les Rejaudoux 92.73 326 *e*P **P 18 16 22.2 -0.9**
comp=Z,39nm,1.3s,mb5.7
RJF LR LR
comp=Z,27μm,18.3s,MS6.7
CAF Calviac 92.74 326 *e*P **P 18 16 22.3 -0.8**
comp=Z,26nm,1.0s,mb5.3
CAF Calviac 92.74 326 *e*P **P 18 16 22.3 -0.8**
comp=Z,13nm,1.0s,mb5.3
KMBO Kilima Mbogo 92.86 270 P **P 18 16 24.8 +1.1**
comp=Z,9.2nm,0.9s,mb5.2,baz=27,slow=7.0,SNR=17
KMBO LR LR 19 00 34.8
comp=Z,5μm,21.0s,MS5.9,baz=223,slow=37
KMBO Kilima Mbogo 92.86 270 P **P 18 16 25.6 +2.0**
SNR=16
KMBO Kilima Mbogo 92.86 270 *e*P **P 18 16 24.7 +1.0**
KMBO pmax pmax
comp=Z,29nm,1.1s
KMBO MLR MLR
comp=Z,5μm,20.0s
KMBO Kilima Mbogo 92.86 270 *e*P **P 18 16 24.7 +1.0**
comp=Z,29nm,1.1s,mb5.6
KMBO LR LR
comp=Z,5μm,20.0s,MS5.9
QUIF Quistinic 92.94 331 *e*P **P 18 16 22.8 -1.3**
comp=Z,297nm,1.5s,mb6.2
QUIF Quistinic 92.94 331 *e*P **P 18 16 22.8 -1.3**
comp=Z,148nm,1.5s,mb6.2
PDMCI Parker Dam,Lak 92.95 48 P **P 18 16 24.8 +0.7**
baz=93,SNR=7.2
X13A Yucca 92.97 48 ⇑P P 18 16 24.5 +0.3
baz=93,SNR=12
Y12C Blythe 93.03 49 ⇓P P 18 16 25.3 +0.9
baz=93
W14A Seligman 93.07 47 ⇓P P 18 16 25.3 +0.6
baz=93,SNR=21
AGMN Agassiz Refuge 93.15 29 *e*P **P 18 16 24.8 -0.2**
comp=Z,29nm,1.0s,mb5.7
AGMN LR LR
comp=Z,3μm,21.0s,MS5.8
TBI Tubuai 93.23 115 *e*PP PP 18 20 06.6 -2.4
comp=Z,701nm,28.8s
TBI Tubuai 93.23 115 *e*PS PS 18 28 48.0 +1.5
comp=Z,3μm,31.2s
TBI Tubuai 93.23 115 *e*S S 18 27 25.8 -5.2
comp=Z,7μm,27.0s
TBI *e*SS SS 18 33 44.7 -1.9
comp=Z,2μm,25.8s
TBI *e*LR LR 18 46 12.8
comp=Z,7μm,24.2s,baz=298
GLA Glamis 93.25 50 *e*P **P 18 16 25.9 +0.4**
GLA Glamis 93.25 50 P **P 18 16 26.5 +1.0**
baz=93,SNR=9.4
LFF La Frestale 93.38 327 *e*P **P 18 16 24.3 -1.8**
comp=Z,27nm,0.6s,mb5.5
LFF La Frestale 93.38 327 *e*P **P 18 16 24.3 -1.8**
comp=Z,14nm,0.6s,mb5.6
W15A Williams 93.61 47 ⇑P P 18 16 28.1 +0.9
baz=93,SNR=9.8
PHWY Pilot Hill 93.63 38 *e*P **P 18 16 28.2 +1.0**
X14A Yava 93.66 47 ⇑P P 18 16 28.3 +0.9
baz=94
MTLF Montolieu 93.80 325 *e*P **P 18 16 26.7 -1.3**
comp=Z,26nm,1.1s,mb5.2
MTLF Montolieu 93.80 325 *e*P **P 18 16 26.7 -1.3**
comp=Z,13nm,1.1s,mb5.3
Y14A Wickenburg 93.91 48 P **P 18 16 29.6 +1.0**
baz=94,SNR=12
WUAZ Wupatki 93.97 46 *e*P **P 18 16 30.1 +1.3**
comp=Z,41nm,1.1s,mb5.8
X15A Humboldt 94.07 47 ⇑P P 18 16 30.3 +1.0
baz=94,SNR=24
TAOE Nuku Hiva Isla 94.14 98 *e*PS PS 18 28 53.7 -2.8
comp=Z,12μm,27.0s
TAOE Nuku Hiva Isla 94.14 98 *e*SS SS 18 34 04.0 +4.5
comp=Z,10μm,24.5s
TAOE *e*LR LR 18 46 35.1
comp=Z,14μm,23.1s
Z14A Wintersburg 94.31 48 ⇓P P 18 16 31.4 +1.0
baz=94
ISCO Idaho Springs 94.58 40 *e*P **P 18 16 32.9 +1.3**
ISCO pmax pmax
comp=Z,11nm,0.9s,mb5.3
ISCO MLR MLR
comp=Z,3μm,21.0s,MS5.7
ISCO Idaho Springs 94.58 40 *e*P **P 18 16 32.9 +1.3**
comp=Z,11nm,0.9s,mb5.3
ISCO LR LR
comp=Z,3μm,21.0s,MS5.7
MVCO Mesa Verde 94.64 43 *e*P **P 18 16 32.6 +0.7**
comp=Z,64nm,1.6s,mb5.8
MVCO LR LR
comp=Z,2μm,22.0s,MS5.6
KEST Kesra 94.97 315 P **P 18 16 34.0 +0.6**
comp=Z,9.7nm,1.1s,mb5.2,baz=342,slow=3.9,SNR=14
KEST LR LR 19 07 36.1
comp=Z,5μm,18.2s,MS6.0,baz=335,slow=41
EPF Esparros 94.97 325 *e*P **P 18 16 31.6 -1.8**
115A Sonoran Desert 95.19 48 P **P 18 16 35.8 +1.4**
baz=95,SNR=5.7
EYMN Ely 95.21 27 *e*P **P 18 16 33.7 -0.8**
comp=Z,28nm,0.8s,mb5.8
EYMN LR LR
comp=Z,4μm,21.0s,MS5.8
DRV Dumont d'Urvil 95.29 176 P **P 18 16 33.0 -1.9**
DRV Dumont d'Urvil 95.29 176 PP PP 18 20 28.0 +2.9
DRV SKS 18 27 09.0
DRV S S 18 27 53.0 +4.0
DRV SS SS 18 34 17.0 +1.1
ETSF Etsaut 95.51 326 *e*P **P 18 16 34.7 -1.2**
comp=Z,35nm,1.2s,mb5.4
ETSF Etsaut 95.51 326 *e*P **P 18 16 34.7 -1.2**
comp=Z,17nm,1.2s,mb5.4
116A Eloy 95.62 48 ⇓P P 18 16 37.8 +1.4
baz=95
SCHQ Schefferville 95.66 10 P **P 18 16 36.0 -0.5**
comp=Z,15nm,0.9s,mb5.4,baz=328,slow=3.1,SNR=12
SCHQ LR LR 19 03 06.1
comp=Z,8μm,20.2s,MS6.2,baz=346,slow=38
SCHQ Schefferville 95.66 10 *e*P **P 18 16 35.9 -0.6**
comp=Z,19nm,0.9s,mb5.5
SCHQ LR LR
comp=Z,12μm,20.0s,MS6.3
SJPF Ste Jean 95.68 326 *e*P **P 18 16 35.5 -1.1**
CASY Casey 95.75 188 *e*P **P 18 16 35.2 -1.7**
CASY *e*PP PP 18 20 30.3 +1.7
CASY *e*S SKSac 18 27 10.9 -0.6
CASY Casey 95.75 188 *e*P **P 18 16 35.2 -1.7**
CASY *e*PP PP 18 20 30.3 +1.7
CASY *e*S SKSac 18 27 10.9 -0.6
CASY LR LR
comp=Z,3μm,19.0s,MS5.7
SDCO Great Sand Dun 96.05 41 *e*P **P 18 16 39.2 +0.9**
comp=Z,8.9nm,1.2s,mb5.1
SDCO LR LR
comp=Z,4μm,22.0s,MS5.8
ECSD EROS,Sioux Fal 96.34 32 *e*P **P 18 16 39.1 -0.5**
comp=Z,8.5nm,0.8s,mb5.2
ECSD LR LR
comp=Z,3μm,20.0s,MS5.7
TUC Tucson 96.38 48 P **P 18 16 40.4 +0.6**
TUC pmax pmax
comp=Z,97nm,2.0s,mb5.9
TUC Tucson 96.38 48 *e*P **P 18 16 39.8 0.0**
comp=Z,97nm,2.0s,mb5.9
LAZ Ladron 97.33 44 *e*P **P 18 16 45.2 +1.1**
ANMO Albuquerque 97.38 44 *e*P **P 18 16 44.5 +0.2**
ANMO Albuquerque 97.38 44 PFAKE 18 17 00.0 +16
ANMO LR LR
comp=Z,2μm,19.0s,MS5.7
BNM Barren Site 97.81 44 *e*P **P 18 16 47.4 +1.1**
CBKS Cedar Bluff 98.48 37 PFAKE 18 17 00.0 +11
CBKS LR LR
comp=Z,2μm,19.0s,MS5.7
SCIA State Center 99.33 31 PFAKE
SCIA LR LR 18 17 00.0 +6.9
comp=Z,3μm,22.0s,MS5.7
ESDC Sonseca Array 99.63 326 P Pdif 18 16 54.1 -0.3
comp=Z,2.6nm,0.7s,baz=28,slow=5.9,SNR=7.1
ESDC LR LR 19 10 54.5
comp=Z,12μm,19.6s,MS6.4,baz=35,slow=41
ESLA Sonseca Array 99.63 326 PFAKE 18 17 10.0 +16
ESLA LR LR
comp=Z,81μm,20.0s
JFWS Jewell Farm 99.82 29 PFAKE 18 17 10.0 +15
JFWS LR LR
comp=Z,6μm,22.0s,MS6.0
KSU1 Kansas State U 99.88 35 PFAKE 18 17 10.0 +14
KSU1 LR LR
comp=Z,3μm,21.0s,MS5.7
PAB San Pablo 99.92 326 PFAKE 18 17 10.0 +14
PAB LR LR
comp=Z,17μm,20.0s,MS6.5
MNTX Cornudas Mount 100.24 45 PFAKE 18 17 10.0 +13
MNTX LR LR
comp=Z,3μm,21.0s,MS5.7
AMTX Amarillo 100.25 41 PFAKE 18 17 10.0 +13
AMTX LR LR
comp=Z,2μm,20.0s,MS5.7
HDIL Hopedale 102.16 30 PFAKE 18 17 20.0 +14
HDIL LR LR
comp=Z,3μm,20.0s,MS5.9
LTX Lajitas 102.93 46 PFAKE 18 17 20.0 +11
LTX LR LR
comp=Z,4μm,22.0s,MS5.9
TXAR Lajitas Array 102.93 46 P Pdif 18 17 09.9 +0.8
comp=Z,2.2nm,0.9s,baz=270,slow=2.5,SNR=12
TXAR PKKPbc PKKPbc 18 33 07.0 +0.8
comp=Z,0.6nm,0.9s,baz=126,slow=4.6,SNR=3.1
AAM Ann Arbor 102.95 25 PFAKE 18 17 20.0 +11
AAM LR LR
comp=Z,4μm,21.0s,MS5.9
CCM Cathedral Cave 103.31 32 PFAKE 18 17 20.0 +9.2
CCM LR LR
comp=Z,2μm,19.0s,MS5.7
LONY Lake Ozonia 103.77 18 PFAKE 18 17 20.0 +7.2
LONY LR LR
comp=Z,5μm,21.0s,MS6.0
PKME Peaks-Kenny Pk 104.42 14 PFAKE 18 17 30.0 +14
PKME LR LR
comp=Z,6μm,21.0s,MS6.1
NCB Newcomb 104.46 18 PFAKE 18 17 30.0 +14
NCB LR LR
comp=Z,5μm,22.0s,MS6.0
JCT Junction City 104.51 43 PFAKE 18 17 30.0 +14
JCT LR LR
comp=Z,2μm,22.0s,MS5.6
LBNH Lisbon 104.80 16 PFAKE 18 17 30.0 +13
LBNH LR LR
comp=Z,4μm,21.0s,MS5.9
RKT Rikitea 104.97 108 *e*PP PP 18 21 40.0 +1.4
comp=Z,492nm,28.2s
RKT Rikitea 104.97 108 *e*PS PS 18 30 52.5 -0.5
comp=Z,3μm,27.2s
RKT Rikitea 104.97 108 *e*SKSac SKSac 18 27 54.9 -1.7
comp=Z,2μm,29.2s
RKT *e*SS SS 18 36 32.1 +1.1
comp=Z,5μm,27.8s
RKT *e*LR LR 18 51 33.8
comp=Z,3μm,23.2s
BINY Binghamton 105.60 20 PFAKE 18 21 50.0 +16
BINY LR LR
comp=Z,5μm,20.0s,MS6.1
HRV Harvard--Oak R 106.52 16 PFAKE 18 21 50.0 +14
HRV LR LR
comp=Z,3μm,21.0s,MS5.9
MCWV Mont Chateau 106.65 24 PFAKE 18 21 50.0 +14
MCWV LR LR
comp=Z,7μm,19.0s,MS6.2
OXF Oxford 107.04 33 PFAKE 18 21 50.0 +13
OXF LR LR
comp=Z,3μm,20.0s,MS5.8
HKT Hockley 107.22 41 PFAKE 18 21 50.0 +13
HKT LR LR
comp=Z,2μm,21.0s,MS5.7
LSZ Lusaka 107.27 262 *e*PKiKP PKiKP 18 21 36.2 -1.0
LSZ LR LR
comp=Z,8μm,20.0s,MS6.3
PLAL Pickwick Lake 107.29 32 PFAKE 18 21 50.0 +13
PLAL LR LR
comp=Z,4μm,20.0s,MS6.0
VNDA Vanda 107.62 173 PKKPbc PKKPbc 18 32 51.7 -0.2
comp=Z,1.8nm,1.1s,baz=285,slow=1.8,SNR=6.0
VNDA Vanda 107.62 173 *e*PKiKP PKiKP 18 21 34.1 -3.7
KVTX Kingsville 107.78 44 PFAKE 18 21 50.0 +12
KVTX LR LR
comp=Z,2μm,20.0s,MS5.8
MAW Mawson 107.97 202 *e*P PKiKP 18 21 32.0 -6.5
comp=Z,0.2nm,0.2s
MAW Mawson 107.97 202 PKKPbc PKKPbc 18 32 48.7 -2.1
comp=Z,3.3nm,0.8s,baz=223,slow=4.2,SNR=6.2
MAW PKKPab PKKPab 18 33 02.8 -1.9
comp=Z,2.9nm,0.8s,baz=237,slow=11,SNR=4.6
MAW Mawson 107.97 202 PFAKE 18 21 50.0 +11
MAW LR LR
comp=Z,3μm,20.0s,MS5.8
SBA Scott Base 108.46 172 *e*PKiKP PKiKP 18 21 38.7 -0.7
SBA LR LR
comp=Z,5μm,22.0s,MS6.0
BLA Blacksburg 108.60 25 PFAKE 18 21 50.0 +10
BLA LR LR
comp=Z,6μm,19.0s,MS6.2
CBN Corbin 108.80 22 PFAKE 18 21 50.0 +10
CBN LR LR
comp=Z,4μm,20.0s,MS5.9
MYNC Murphy 108.97 29 PFAKE 18 21 50.0 +10
MYNC LR LR
comp=Z,4μm,22.0s,MS6.0
PTCN Pitcairn Islan 109.84 108 PFAKE 18 21 50.0 +8.0
PTCN LR LR
comp=Z,3μm,19.0s,MS5.9
GOGA Godfrey 110.68 29 PFAKE 18 22 00.0 +16
GOGA LR LR
comp=Z,3μm,19.0s,MS5.9
BRAL Brewton 111.04 34 PFAKE 18 22 00.0 +16
BRAL LR LR
comp=Z,3μm,19.0s,MS6.0
CNNC Cliffs of the 111.29 24 PFAKE 18 22 00.0 +15
CNNC LR LR
comp=Z,4μm,19.0s,MS6.0
NHSC New Hope 112.31 27 PFAKE 18 22 00.0 +13
NHSC LR LR
comp=Z,4μm,19.0s,MS6.1
LBTB Lobatse 113.41 253 PFAKE 18 22 00.0 +11
LBTB LR LR
comp=Z,4μm,20.0s,MS6.0
TOA0 Torodi Ar. Sit 114.96 302 *e*PKiKP PKiKP 18 21 51.5 -0.3
TORD Torodi Ar. Bea 114.96 302 PKhKP 18 21 38.4
comp=Z,1.8nm,1.2s,baz=56,slow=3.6,SNR=3.6
TORD PKP PKiKP 18 21 52.2 +0.5
comp=Z,6.7nm,0.8s,baz=26,slow=2.6,SNR=27
TORD PKKPbc PKKPbc 18 32 28.7 +0.9
comp=Z,1.6nm,0.8s,baz=240,slow=3.4,SNR=7.8
TORD Torodi Ar. Bea 114.96 302 PKP PKiKP 18 21 52.2 +0.5
TORD PKKPbc PKKPbc 18 32 28.7 +0.9
BOSA Boshof 114.98 250 PKP PKiKP 18 21 51.5 -0.3
comp=Z,4.2nm,0.7s,baz=349,slow=4.9,SNR=9.0
BOSA Boshof 114.98 250 PKP PKiKP 18 21 51.5 -0.3
BOSA LR LR
comp=Z,3μm,21.0s,MS5.8
DWPF Disney 116.11 31 PFAKE 18 22 10.0 +16
DWPF LR LR
comp=Z,4μm,21.0s,MS6.0
SYO Syowa Base 116.50 204 ⇓ *e*PKPdf PKPdf 18 21 53.2 -1.5
BBSR BB Station 117.78 14 PFAKE 18 22 10.0 +13
BBSR LR LR
comp=Z,3μm,22.0s,MS5.9
QSPA South Pole Qui 118.38 180 *e*P PKPdf 18 21 56.7 -1.6
QSPA LR LR
comp=Z,3μm,20.0s,MS5.9
LIC Lamto 124.47 301 *e*PKIKP PKPdf 18 22 07.8 -2.2
comp=Z,39nm,0.8s
LIC *e*R
comp=Z,6μm,21.0s
LIC Lamto 124.47 301 *e*PKPdf PKPdf 18 22 07.8 -2.2
LIC LR LR
comp=Z,3μm,21.0s,MS5.9
NVL N'lazarevskaya 125.92 201 ⇓ *e*PKIKP PKPdf 18 22 11.1 -1.7
NVL *e* 18 41 20.0
NVL pmax pmax
comp=Z,11nm,0.8s
NVL MLR MLR
comp=Z,3μm,19.0s,MS5.9
NVL MLR MLR
comp=Z,1μm,17.0s
RPN Rapa Nui 128.09 103 PFAKE 18 22 30.0 +13
RPN LR LR
comp=Z,565nm,19.0s,MS5.3
JTS JuntasAbangare 128.72 46 *e*PKPdf PKPdf 18 22 17.4 -0.8
JTS LR LR
comp=Z,468nm,19.0s,MS5.2
SNAA Sanae 129.85 198 *e*PKPdf PKPdf 18 22 13.4 -6.9
SNAA *e* 18 22 20.9
SNAA *e* 18 22 26.1
SNAA *e* 18 22 30.3
SNAA *e* 18 22 37.4
SNAA *e* 18 22 42.8
SNAA *e* 18 22 58.0
SNAA *e* 18 23 05.8
SNAA Sanae 129.85 198 *e*PKPdf PKPdf 18 22 15.4 -4.9
MTP Monte Pirata 131.22 20 *e*PKPdf PKPdf 18 22 22.4 -0.5
VNA2 Neumayer--Watz 131.48 197 *e*PKPdf PKPdf 18 22 15.9 -7.5
VNA2 *e* 18 22 23.7
VNA2 *e* 18 22 30.7
VNA2 *e* 18 22 38.5
VNA2 *e* 18 22 41.4
VNA2 *e* 18 22 46.5
VNA2 *e* 18 22 49.4
VNA2 *e* 18 22 54.2
VNA2 *e* 18 23 08.6
VNA3 Neumayer Olymp 131.86 196 *e*PKPdf PKPdf 18 22 14.4 -10
VNA3 *e* 18 22 22.8
VNA3 *e* 18 22 28.7
VNA3 *e* 18 22 37.9
VNA3 *e* 18 22 41.9
VNA3 *e* 18 22 44.9
VNA3 *e* 18 22 49.7
VNA3 *e* 18 23 01.9
PAYG Puerto Ayora 132.63 61 PFAKE 18 22 40.0 +14
PAYG LR LR
comp=Z,2μm,19.0s,MS5.9
SHEL Horse Pasture 137.30 277 PFAKE 18 22 50.0 +16
SHEL LR LR
comp=Z,883nm,19.0s,MS5.5
BBGH Gun Hill 137.49 14 PFAKE 18 22 50.0 +15
BBGH LR LR
comp=Z,4μm,21.0s,MS6.1
SDV Santo Domingo 137.77 31 PKhKP 18 22 24.9
comp=Z,9.0nm,0.7s,baz=280,slow=1.7,SNR=7.2
SDV PKP PKPdf 18 22 36.3 +1.2
comp=Z,30nm,0.8s,baz=293,slow=2.0,SNR=25
SDV Santo Domingo 137.77 31 PKP PKPdf 18 22 36.3 +1.2
SDV LR LR
comp=Z,1μm,20.0s,MS5.6
ROSC El Rosal 139.36 39 *e*PKPpre 18 22 33.3
OTAV Otavalo 140.52 48 PFAKE 18 22 50.0 +10
OTAV LR LR
comp=Z,1μm,20.0s,MS5.7
ASCN Ascension 140.55 294 PFAKE 18 22 50.0 +10
ASCN LR LR
comp=Z,1μm,20.0s,MS5.6
PMSA Palmer Station 142.76 170 PFAKE 18 22 50.0 +5.8
PMSA LR LR
comp=Z,3μm,22.0s,MS6.0
ATAH Atahualpa 145.71 57 PKPbc PKPbc 18 22 50.8 +1.1
comp=Z,20nm,0.7s,baz=357,slow=7.2,SNR=6.7
NNA Nana 150.07 62 PKPbc PKPbc 18 23 01.3 -0.2
comp=Z,42nm,0.8s,baz=320,slow=4.8,SNR=18
NNA Nana 150.07 62 *e*PKPbc PKPbc 18 23 01.1 -0.4
NNA LR LR
comp=Z,560nm,22.0s,MS5.3
USHA Ushuaia 150.63 158 PKPbc PKPbc 18 23 03.1 +0.2
comp=Z,40nm,1.0s,baz=284,slow=0.8,SNR=7.2
HOPE Hope Point 152.50 197 PFAKE 18 23 10.0 +10
HOPE LR LR
comp=Z,1μm,21.0s,MS5.7
RCBR Riachuelo 153.64 327 PFAKE 18 23 10.0 +8.1
RCBR LR LR
comp=Z,4μm,19.0s,MS6.3
EFI East Falkland 156.21 168 PFAKE 18 23 20.0 +15
EFI LR LR
comp=Z,1μm,20.0s,MS5.7
SAML Samuel 156.89 35 PFAKE 18 23 20.0 +14
SAML LR LR
comp=Z,3μm,21.0s,MS6.1
LPAZ La Paz 159.34 57 PKP PKPdf 18 23 11.4 +2.2
comp=Z,4.3nm,0.9s,baz=15,slow=5.6,SNR=17
LPAZ La Paz 159.34 57 *e*PKPbc PKPdf 18 23 11.4 +2.1
LPAZ LR LR
comp=Z,2μm,22.0s,MS6.0
LVC Limon Verde 162.02 75 PKP PKPdf 18 23 13.2 +1.0
comp=Z,6.3nm,0.7s,baz=270,slow=4.2,SNR=4.3
LVC Limon Verde 162.02 75 *e*PKPbc PKPdf 18 23 13.9 +1.7
LVC LR LR
comp=Z,3μm,21.0s
SIV San Ignacio 163.86 41 PKP PKPdf 18 23 15.1 +1.1
comp=Z,7.4nm,0.9s,baz=133,slow=1.1,SNR=34
SIV PKPab PKPab 18 24 06.5 -0.1
comp=Z,4.9nm,0.8s,baz=317,slow=4.0,SNR=4.5
CFAA Coronel Fontan 164.03 105 PKP PKPdf 18 23 14.3 +0.2
comp=Z,0.2nm,0.3s,baz=311,slow=5.2,SNR=4.8

IDC 17 18:05:47.5±1.1, 4548N×15525E, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.2/23, mbtmp4.4/5, Error ellipse: s-maj=55.9km s-min=24.9km az=133.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.91**	**258**	P	P		P	18 10 43.0	+0.7
	29nm,1.2s,baz=58,slow=10.0,SNR=4.2								
INK	**Inuvik**	**41.94**	**32**	P	P		P	18 13 38.6	-1.3
	1.9nm,0.7s,baz=263,slow=7.8,SNR=3.8								
WRA	**Warramunga Arr**	**67.83**	**201**	P	P		P	18 16 46.9	-0.5
	6.9nm,0.8s,baz=20,slow=6.7,SNR=5.8								
ASAR	**Alice Springs**	**71.51**	**201**	P	P		P	18 17 10.2	+0.1
	3.0nm,0.7s,baz=16,slow=5.0,SNR=6.2								
TXAR	**Lajitas Array**	**76.81**	**62**	P	P		P	18 17 42.0	+0.9
	1.5nm,0.6s,baz=298,slow=3.8,SNR=3.6								

THR ***17*** *18:06:50.5±0.5, 3022N×5772E, h14km±4km, ML3.6*
CSEM ***17*** *18:06:51.7±0.2, 3011N×5777E, h16km, ML3.6, Error ellipse: s-maj=5.5km s-min=3.6km az=172.0*
ISCJB ***17*** *18:06:52.1±0.7, 3026N±004×5768E±004, h10km, Error ellipse: s-maj=6.8km s-min=4.2km az=133.4*
TEH ***17*** *18:06:56.4, 3042N×5769E, h11km, Mn3.5*

ISC 17 18:06:53.0±0.7, 3025N±004×5769E±003, h10km, n16, σ1§51/30, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**252**	*e*Pg		**Pg**	**18 07 07.0**	**-2.3**
KRBR				*e*Sg		**Sg**	**18 07 19.0**	**-1.4**
KRBR	comp=N,2µm,0.2s			AML		AML	18 07 19.2	
KRBR	comp=E,2µm,0.2s			AML		AML	18 07 19.4	
KRBR	**Kerman** SNR=90	**0.85**	**252**	*e*Pg		**Pg**	**18 07 07.0**	**-2.3**
KRBR	SNR=90			*e*Sg		**Sg**	**18 07 19.0**	**-1.4**
IBAF	**Bafgh**	**2.26**	**307**	*e*Pn		**Pb**	**18 07 32.4**	**-1.5**
IBAF				*e*Sn		**Sn**	**18 07 58.7**	**+0.4**
IKOO		**2.44**	**27**	*e*Pn		**Pn**	**18 07 33.7**	**+0.8**
IKOO				*e*Sn		**Sn**	**18 08 02.4**	**-0.4**
ZHSF	**Zahedan**	**2.75**	**103**	*e*Pn		**Pn**	**18 07 35.8**	**-1.4**
ZHSF				*e*Sg		**Sg**	**18 08 15.5**	**-6.0**
ZHSF	comp=N,255nm,0.4s			AML		AML	18 08 15.7	
ZHSF	comp=E,181nm,0.6s			AML		AML	18 08 18.3	
ZHSF	**Zahedan** SNR=52	**2.75**	**103**	*e*Pn		**Pn**	**18 07 35.8**	**-1.4**
ZHSF	SNR=90			*e*Sg		**Sg**	**18 08 15.5**	**-6.0**
ITEG		**2.79**	**19**	*e*Pn		**Pn**	**18 07 38.5**	**+0.8**
ITEG				*e*Sg		**Sg**	**18 08 21.0**	**-1.6**
IMEH	**Mehriz**	**2.88**	**294**	*e*Pn		**Pn**	**18 07 41.3**	**+2.4**
IMEH				*e*Sg		**Sg**	**18 08 27.3**	**+1.8**
IDAH		**3.10**	**36**	*e*Pn		**Pn**	**18 07 43.5**	**+1.5**
IDAH				*e*Sg		**Sg**	**18 08 29.7**	**-2.9**
BNDS	**Bandar-Abbas**	**3.14**	**205**	*e*Pn		**Pn**	**18 07 41.6**	**-0.9**
BNDS	comp=E,115nm,0.4s			AML		AML	18 08 27.1	
BNDS	comp=N,108nm,0.6s			AML		AML	18 08 29.6	
IMON		**3.38**	**29**	*e*Pn		**Pn**	**18 07 46.8**	**+1.0**
IMON				*e*Sg		**Sg**	**18 08 41.6**	**-0.1**
ICHK	**Chekchek**	**3.44**	**306**	*e*Pn		**Pn**	**18 07 48.3**	**+1.6**
ICHK				*e*Sg		**Sg**	**18 08 43.4**	**-0.1**
ISAD	**Sadrabad**	**3.81**	**297**	*e*Pn		**Pn**	**18 07 54.0**	**+2.2**
ISAD				*e*Sg		**Sg**	**18 08 52.5**	**-3.0**
IPAR	**Pars**	**4.04**	**265**	*e*Pn		**Pn**	**18 07 58.0**	**+3.1**
IPAR				*e*Sg		**Sg**	**18 08 58.3**	**-4.6**
NASN	**Na'in**	**4.88**	**303**	*e*Pn		**Pn**	**18 08 06.5**	**+0.1**
IZEF	**Zefreh**	**5.28**	**301**	*e*Pn		**Pn**	**18 08 13.4**	**+1.5**
IZEF				*e*Sg		**Sg**	**18 09 40.5**	**-2.0**

IDC ***17*** *18:15:53.7±1.2, 2864N×12952E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.9/24, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=37.1km s-min=16.4km az=88.0*
JMA ***17*** *18:15:54.6±0.1, 2845N×13008E, h32km±1km, M3.7*
JMA Felt I J1.
ISCJB ***17*** *18:15:55.6±0.6, 2851N±004×12995E±008, h35km±5km, mb4.2/13, Error ellipse: s-maj=12.8km s-min=4.1km az=62.4*
NEIC ***17*** *18:15:58.2±3.0, 2862N×12948E, h30km±23km, mb4.0/1, Error ellipse: s-maj=20.2km s-min=8.9km az=93.0*

ISC 17 18:15:55.8±0.7, 2846N±005×13001E±008, h27km±4km, n29, σ0§78/40, mb4.2/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.15**	**194**	P		**Pb**	**18 16 00.4**	**-0.8**
JZK				S		**Sb**	**18 16 05.0**	**+0.2**
JAM	**Amami Oshima**	**0.36**	**262**	P		**Pb**	**18 16 03.6**	**-0.3**
JAM				S		**Sb**	**18 16 09.8**	**+0.3**
JTK	**Tokunoshima**	**1.16**	**235**	P		**Pn**	**18 16 16.2**	**0.0**
JTK				*e*S		**Sn**	**18 16 30.9**	**-0.2**
JNN	**Nakanoshima**	**1.38**	**355**	P		**Pn**	**18 16 18.9**	**-0.3**
JKC	**Kuchinoerabu**	**2.00**	**5**	P		**Pn**	**18 16 27.7**	**0.0**
JOW	**Kunigami** 77nm,0.3s,baz=92,slow=20,SNR=123	**2.24**	**224**	Pn		**Pn**	**18 16 30.9**	**-0.2**
JOW	61nm,0.3s,baz=351,slow=22,SNR=4.4			Sn		**Sn**	**18 16 58.8**	**+1.0**
JOW	**Kunigami**	**2.24**	**224**	P		**Pn**	**18 16 30.9**	**-0.2**
JOW				S		**Sn**	**18 16 58.1**	**+0.3**
JIH	**Iheya**	**2.31**	**232**	P		**Pn**	**18 16 31.9**	**-0.1**
JIH				*e*S		**Sn**	**18 16 59.6**	**+0.2**
JTN	**Tanegashima 3**	**2.34**	**21**	P		**Pn**	**18 16 32.1**	**-0.3**
JTN				*e*S		**Sn**	**18 16 59.8**	**-0.5**
NAH1	**Naha**	**3.06**	**223**	*e*S		**Sn**	**18 17 18.5**	**+0.6**
JJT2	**Tamagusuku 2**	**3.07**	**222**	P		**Pn**	**18 16 42.6**	**+0.1**
JJT2				*e*S		**Sn**	**18 17 18.5**	**+0.2**
JAGN	**Aguni-jima**	**3.09**	**233**	P		**Pn**	**18 16 42.9**	**+0.2**
JAGN				*e*S		**Sn**	**18 17 19.2**	**+0.4**
JKE	**Kume jima 2**	**3.57**	**234**	P		**Pn**	**18 16 49.4**	**0.0**
JKE				*e*S		**Sn**	**18 17 30.3**	**-0.4**
JNU	**Nakatsue** 6.9nm,0.3s,baz=229,slow=19,SNR=29	**4.70**	**9**	Pn		**Pn**	**18 17 06.4**	**+1.5**
JNU	7.5nm,0.3s,baz=276,slow=26,SNR=5.8			Sn		**Sn**	**18 18 00.2**	**+1.6**
KSRS	**Korea Array** baz=160,slow=13,SNR=4.1	**9.14**	**349**	Pn		**Pn**	**18 18 07.7**	**+1.9**
SONM	**Songino Array** 0.8nm,1.1s,mb3.2,baz=149,slow=9.9,SNR=2.7	**26.64**	**323**	P		**P**	**18 21 30.4**	**-1.6**
JIRN	**Jiri** 10nm,0.9s,mb4.5	**38.52**	**280**	*e*P		**P**	**18 23 16.8**	**+1.0**
GUN	**Gumba** 18nm,0.7s,mb4.9	**38.74**	**280**	*e*P		**P**	**18 23 18.1**	**+0.5**
KKN	**Kakani** 19nm,0.8s,mb4.8	**39.28**	**280**	*e*P		**P**	**18 23 21.9**	**-0.3**
DMN	**Daman** 7.8nm,0.6s,mb4.6	**39.47**	**280**	*e*P		**P**	**18 23 23.4**	**-0.3**
GKN	**Gorkha** 11nm,0.6s,mb4.8	**39.80**	**281**	*e*P		**P**	**18 23 25.8**	**-0.7**
KOLN	**Koldanda** 2.9nm,0.4s,mb4.2	**40.74**	**280**	*e*P		**P**	**18 23 33.6**	**-0.7**
MKAR	**Makanchi Array** 1.0nm,0.9s,mb3.5,baz=90,slow=10,SNR=6.9	**41.28**	**310**	P		**P**	**18 23 37.6**	**-1.1**
WRA	**Warramunga Arr** 0.6nm,0.8s,mb3.7,baz=352,slow=8.3,SNR=4.6	**48.30**	**175**	P		**P**	**18 24 38.1**	**+3.5**
BVAR	**Borovoye Array** 2.5nm,0.8s,mb4.3,baz=78,slow=7.7,SNR=7.9	**49.70**	**317**	P		**P**	**18 24 44.4**	**-1.0**
BVAR	0.9nm,0.7s,baz=90,slow=4.4,SNR=3.7			PcP		PcP	18 26 05.8	-0.5
ASAR	**Alice Springs** 0.4nm,0.5s,mb3.6,baz=7.1,slow=13,SNR=6.0	**51.96**	**175**	P		**P**	**18 25 06.6**	**+4.2**
AKASG	**Malin Array Be** 2.1nm,0.5s,mb4.3,baz=58,slow=6.3,SNR=7.3	**74.86**	**320**	P		**P**	**18 27 33.1**	**-0.8**
BR131	**Keskin Array S** 0.9nm,0.6s,mb3.9	**76.91**	**308**	*e*P		**P**	**18 27 45.0**	**-0.6**
BRTR	**Keskin Array B** 2.5nm,0.6s,mb4.3,baz=109,slow=4.7,SNR=7.7	**76.91**	**308**	P		**P**	**18 27 45.3**	**-0.3**

MAN 17 18:17:53.7, 1568N×12173E, h8km, mb3.4, ML4.6, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.62**	**259**	⇑*e*P		Pg	18 18 05.9	+0.2
PCPH				*e*S		Sg	18 18 16.0	+2.2

ISCJB ***17*** *18:19:49.2±0.1, 4313S±0009×004W±001, h10km, mb4.5/39, Error ellipse: s-maj=1.5km s-min=1.1km az=89.1*
MOS ***17*** *18:19:50.7±1.4, 4315N×009W, h20km, mb4.6/16, Error ellipse: s-maj=5.5km s-min=2.7km az=54.3*
LDG ***17*** *18:19:50.9±0.1, 4297N×008W, h9km, Md4.2/2, Ml5.4/37, Error ellipse: s-maj=2.0km s-min=1.6km az=144.0*
IDC ***17*** *18:19:50.9±0.6, 4302N×002W, h0km, mb4.2/18, mb1 4.3/27, mb1mx4.2/35, mbtmp4.2/27, ML4.2/8, Error ellipse: s-maj=15.1km s-min=10.7km az=135.0*
CSEM ***17*** *18:19:51.8±0.0, 4304N×001W, h10km, mb4.6/12, ML5.1/53, Error ellipse: s-maj=0.9km s-min=0.6km az=127.0*
BJI ***17*** *18:19:51.4, 4358N×006W, h10km, mB5.0, mb4.8, Ms5.3, Msz5.1*
NEIC ***17*** *18:19:51.6, 4299N×005W, h10km, mb4.7/12, ML4.9(STR), ML5.1(MRB), ML5.4(LDG), MN4.8(MDD), After STR.*
NEIC Some buildings damaged in the Lourdes-Bagneres-Argeles area, France. Rockslides and power outages occurred in the area. Several days later, water wells dried up at Artigues. Felt throughout Haute-Pyrenees and in parts of Ariege, Haute-Garonne, Gers, Gironde, Landes, Pyrenees-Atlantiques and Pyrenees-Orientales, France. Felt [IV] at Benasque and Bielsa; [III] at Broto, Cervera, Lleida, Monzon, Panticosa, Sallent de Gallego and Tarrega; [II] at Albalate de Cinca, Alcover, Aoiz, Barbastro, Barcelona, Calafell, Castejon de Sos, Castelldefels, Esterri de Aneu, Fraga, Huesca, Igualada, Hospitalet, La Garriga, La Nou de Gaya, Mollerusa, Montblanc, Papiol, Premia de Mar, Rubi, Sabadell, Tarragona, Torello, Tudela, Valls, Villafranca del Panades, Vilanova del Cami and Zaragoza, Spain.
SFS ***17*** *18:19:51.0, 4302N×001E, h0km, ML4.5*
MDD ***17*** *18:19:51.7±0.2, 4303N×002E, h0km, mbLg4.5/36, Error ellipse: s-maj=2.3km s-min=1.2km az=16.0, PRXIMO III-IV BENASQUE BIELSA III CERLER N PANTICOSA III SALLENT DE LLEGO VIELHA II-III ALMUNIA DE SAN JUAN BROTO CAMPO II-III CERVERA LLEIDA RREGA II ALBALATE DE CINCA ALCOVER AOIZ II BARBASTRO BARCELONA CALAFELL II CASTEJN DE SOS CASTELLDEFELS II CERDANYOLA DEL S EL PAPIOL II ESTERRI ANEU FRAGA HONDARRIBIA II HUESCA IGUALADA L''HOSPITALET DE LLOBREGAT II LA GARRIGA LA NOU DE GAIA LA POBLA DE SEGUR II MOLLERUSSA MONTBLANC PREMI DE MAR RUBI II SABADELL TARRAGONA TORELLO TUDELA II VALL DE BO.L, VALLS VILAFRANCA DEL S II VILANOVA DEL CAM.B, VILANOVA I LA GELTR.B, ZARAGOZA I CANDANCH.HU, OLOT PAMPLONA NIGO*
MDD EMS: V INTENSIDAD MAXIMA EN FRANCIA (BCSF).
CRAAG ***17*** *18:19:51.4, 4290N×0.10W, Mb5.2*
STR ***17*** *18:19:51.6±0.5, 4299N×005W, h10km±1km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
INMG ***17*** *18:19:52.0±1.1, 4300N×004W, h3km±2km, MD4.4, ML4.3, Error ellipse: s-maj=2.1km s-min=1.4km az=57.0*
SZGRF ***17*** *18:19:52.1, 43.17N×026W, h10km, mb5.4, Pyrenees*
IGIL ***17*** *18:19:53.2, 4290N×0.10W, h0km, ML4.3*
NAO ***17*** *18:19:53.9, 4296N×0.15W, h33km, mb4.2*

ISC 17 18:19:50.1±0.2, 43087N±0008×003W±001, h1km±1km, n565, σ1§28/856, mb4.6/39, 23C-18D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**118**	Pg		**Pg**	**18 19 53.0**	**+1.3**
LABF	**Labassere**	**0.08**	**118**	Pg		**Pg**	**18 19 53.2**	**+1.5**
VIEF	**Viey**	**0.21**	**170**	Pg		**Pg**	**18 19 54.1**	**0.0**
VIEF				Sg		**Sg**	**18 19 59.5**	**+2.7**
VIEF	**Viey**	**0.21**	**170**	Pg		**Pg**	**18 19 54.4**	**+0.3**
REYF	**Montagne du Re**	**0.27**	**267**	Pg		**Pg**	**18 19 56.8**	**+1.5**
REYF	**Montagne du Re**	**0.27**	**267**	Pg		**Pg**	**18 19 56.9**	**+1.6**
REYF				Lg			18 20 01.4	
EPF	**Esparros**	**0.27**	**102**	*e*Pg		**Pg**	**18 19 56.2**	**+0.8**
EPF				*e*Sg		**Sg**	**18 20 00.2**	**+1.2**
EPF	**Esparros** 57µm,0.2s	**0.27**	**102**	*e*Pg		**Pg**	**18 19 56.2**	**+0.8**
EPF	28µm,0.2s			*e*Sg		**Sg**	**18 20 00.2**	**+1.2**
RESF	**Ens**	**0.39**	**136**	Pg		**Pg**	**18 19 57.4**	**-0.1**
RESF	**Ens**	**0.39**	**136**	Pg		**Pg**	**18 19 57.7**	**+0.1**
RESF				Lg			18 20 02.1	
EBIE	**Bielsa** 44µm,0.3s,SNR=18	**0.42**	**163**	⇑Pg		**Pg**	**18 19 58.2**	**0.0**
EBIE	68µm,0.2s,SNR=7.9			Lg			18 20 02.7	
EBIE	**Bielsa** 44µm,0.3s,SNR=18	**0.42**	**163**	Pg		**Pg**	**18 19 58.2**	**0.0**
EBIE	68µm,0.2s,SNR=7.9			Lg			18 20 02.7	
ETSF	**Etsaut**	**0.43**	**245**	*e*Pg		**Pg**	**18 19 59.6**	**+1.1**
ETSF				*e*Sg		**Sg**	**18 20 05.5**	**+1.4**
ETSF	**Etsaut** 68µm,0.5s	**0.43**	**245**	*e*Pg		**Pg**	**18 19 59.6**	**+1.1**
ETSF	34µm,0.5s			*e*Sg		**Sg**	**18 20 05.5**	**+1.4**
FDAF	**Les Forges d'A**	**0.48**	**236**	Lg			18 20 06.8	
ATE	**Arette**	**0.49**	**270**	Pg		**Pg**	**18 20 01.0**	**+1.4**
ATE	**Arette**	**0.49**	**270**	Pg		**Pg**	**18 20 00.9**	**+1.3**
ATE				Lg			18 20 08.5	
MELF	**Melles**	**0.61**	**110**	Pg		**Pg**	**18 20 01.7**	**-0.2**
MELF				Lg			18 20 10.0	
ORDF	**Ordiarp**	**0.68**	**281**	Pg		**Pg**	**18 20 04.8**	**+1.6**
ORDF				Lg			18 20 15.2	
LARF	**Larrau**	**0.71**	**266**	Pg		**Pg**	**18 20 05.0**	**+1.3**
LARF				Lg			18 20 16.1	
MLS	**Moulis**	**0.83**	**99**	Pg		**Pg**	**18 20 05.5**	**-0.6**
MLS				Sg		**Sg**	**18 20 16.7**	**-0.2**
MLS	**Moulis**	**0.83**	**99**	Pg		**Pg**	**18 20 06.2**	**+0.1**
SJPF	**Ste Jean**	**0.88**	**272**	*e*Pg		**Pg**	**18 20 07.7**	**+0.7**
SJPF				*e*Sg		**Sg**	**18 20 18.8**	**+0.4**
SJPF	**Ste Jean** 23µm,0.8s	**0.88**	**272**	*e*Pg		**Pg**	**18 20 07.7**	**+0.7**
SJPF				*e*Sg		**Sg**	**18 20 18.8**	**+0.4**
OSSF	**Osses**	**0.92**	**281**	Pg		**Pg**	**18 20 08.2**	**+0.4**
OSSF	**Osses**	**0.92**	**281**	Pg		**Pg**	**18 20 08.9**	**+1.1**
OSSF				Lg			18 20 22.1	
SALF	**Salau**	**0.95**	**110**	Pg		**Pg**	**18 20 07.4**	**-1.0**
SALF	**Salau**	**0.95**	**110**	Pg		**Pg**	**18 20 07.5**	**-0.9**
SALF				Lg			18 20 20.0	
IPRE	**Itoiz** 1µm,0.4s,SNR=18	**1.02**	**254**	⇓Pg		**Pg**	**18 20 10.6**	**+0.9**
IPRE	2µm,0.4s,SNR=9.9			Lg			18 20 24.9	
IPRE	**Itoiz** 1µm,0.4s,SNR=18	**1.02**	**254**	Pg		**Pg**	**18 20 10.6**	**+1.0**
EALK	**Alkurruntz** 466nm,0.2s,SNR=238	**1.09**	**278**	Pg		**Pg**	**18 20 11.6**	**+0.6**
EALK	1µm,0.3s,SNR=15			Lg			18 20 27.9	
ELIZ	**Elizondo** 238nm,0.2s,SNR=220	**1.10**	**275**	Pg		**Pg**	**18 20 11.8**	**+0.5**
CSOR	**Sort**	**1.11**	**129**	P		**Pg**	**18 20 10.9**	**-0.5**
CSOR				S		**Sg**	**18 20 24.9**	**-0.9**
CSOR	**Sort**	**1.11**	**129**	Pn		**Pn**	**18 20 10.9**	**-1.9**
CSOR	120nm,0.3s			Sn		**Sn**	**18 20 24.9**	**-3.9**
IUSE	**Utxeti** 947nm,0.3s,SNR=144	**1.12**	**263**	Pg		**Pg**	**18 20 12.5**	**+0.8**
IUSE	2µm,0.2s,SNR=13			Lg			18 20 28.5	
IUSE	**Utxeti** 947nm,0.3s,SNR=144	**1.12**	**263**	Pg		**Pg**	**18 20 12.5**	**+0.8**
GRBF	**Gourbit**	**1.17**	**102**	Pg		**Pg**	**18 20 11.5**	**-1.1**
PAND	**Andorre**	**1.29**	**115**	Pg		**Pg**	**18 20 15.1**	**+0.3**
PAND				Lg			18 20 30.7	
CORG	**Organya**	**1.31**	**130**	P		**Pg**	**18 20 14.5**	**-0.7**
CORG				S		**Sg**	**18 20 30.9**	**-1.3**
CORG	**Organya**	**1.31**	**130**	Pg		**Pg**	**18 20 14.5**	**-0.7**
CORG	72nm,0.4s			Lg			18 20 30.9	
CORG	**Organya**	**1.31**	**130**	P		**Pg**	**18 20 14.5**	**-0.7**
CORG				S		**Sg**	**18 20 30.9**	**-1.3**
CAVN	**Les Avellanes**	**1.33**	**154**	P		**Pg**	**18 20 15.1**	**-0.6**
CAVN				S		**Sg**	**18 20 31.5**	**-1.5**
CAVN	**Les Avellanes** 462nm,0.4s	**1.33**	**154**	Pg		**Pg**	**18 20 15.1**	**-0.6**
CAVN				Lg			18 20 31.5	
CAVN	**Les Avellanes**	**1.33**	**154**	P		**Pg**	**18 20 15.1**	**-0.6**
CAVN				S		**Sg**	**18 20 31.5**	**-1.5**
ESAC	**San Caprasio** 23µm,0.3s,SNR=18	**1.40**	**194**	⇑Pg		**Pg**	**18 20 17.1**	**+0.1**
ESAC	34µm,0.3s,SNR=22			Lg			18 20 35.1	
ESAC	**San Caprasio** 23µm,0.3s,SNR=18	**1.40**	**194**	Pg		**Pg**	**18 20 17.1**	**+0.1**
LPEF	**Le Peyrat**	**1.43**	**95**	Pg		**Pg**	**18 20 16.3**	**-1.1**
LPEF				Lg			18 20 37.8	
CLLI	**Llivia** 56nm,0.7s	**1.59**	**112**	Lg			18 20 40.7	
CARF	**Carcanieres**	**1.61**	**103**	Pg		**Pg**	**18 20 20.7**	**-0.3**
CARF				Sg		**Sg**	**18 20 42.9**	**+1.0**
CARF	**Carcanieres**	**1.61**	**103**	Pg		**Pg**	**18 20 19.9**	**-1.1**
CARF				Lg			18 20 42.7	
EMIR	**Miracle** 3µm,0.4s,SNR=597	**1.64**	**135**	Pg		**Pg**	**18 20 20.7**	**-0.9**
EMIR	24µm,0.7s,SNR=58			Lg			18 20 42.3	
EMIR	**Miracle** 3µm,0.4s,SNR=597	**1.64**	**135**	Pg		**Pg**	**18 20 20.7**	**-0.9**
VALF	**Valcebollere**	**1.65**	**114**	Pg		**Pg**	**18 20 21.1**	**-0.7**
VALF	**Valcebollere**	**1.65**	**114**	Pg		**Pg**	**18 20 20.7**	**-1.1**
VALF				Lg			18 20 44.3	
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg		**Pg**	**18 20 22.5**	**+0.5**
MTLF	15µm,0.3s			*e*Sg		**Sg**	**18 20 43.7**	**+0.2**
MTLF	**Montolieu**	**1.66**	**80**	*e*Pn		**Pn**	**18 20 19.2**	**-1.2**
MTLF				*e*Pg		**Pg**	**18 20 22.5**	**+0.5**
MTLF				*e*Sg		**Sg**	**18 20 43.7**	**+0.2**
MTLF	**Montolieu** 8µm,0.3s	**1.66**	**80**	*e*Pg		**Pg**	**18 20 22.5**	**+0.5**
MTLF				*e*Sg		**Sg**	**18 20 43.7**	**+0.2**
CBRU	**Bruguera**	**1.81**	**115**	P		**Pn**	**18 20 24.2**	**+1.8**
CBRU	**Bruguera**	**1.81**	**115**	P		**Pn**	**18 20 24.2**	**+1.7**
LRDF	**Laroque-de-Fa**	**1.89**	**94**	Pg		**Pg**	**18 20 26.2**	**-0.1**
LRDF	**Laroque-de-Fa**	**1.89**	**94**	Pg		**Pg**	**18 20 26.1**	**-0.2**
LRDF				Lg			18 20 50.6	
ECRI	**Cripan** 246nm,0.2s,SNR=18	**1.89**	**256**	⇓Pg		**Pg**	**18 20 25.8**	**-0.5**
EPOB	**Poblet** 3µm,0.6s,SNR=1041	**1.92**	**154**	Pn		**Pn**	**18 20 23.7**	**-0.2**
EPOB	7µm,0.7s,SNR=7.5			Pg		**Pg**	**18 20 25.8**	**-1.1**
EPOB	25µm,0.8s,SNR=48			Lg			18 20 50.0	
EPOB	**Poblet** 3µm,0.6s,SNR=1000	**1.92**	**154**	Pn		**Pn**	**18 20 23.7**	**-0.2**
EPOB	**Poblet** 7µm,0.7s,SNR=7.5	**1.92**	**154**	Pg		**Pg**	**18 20 25.8**	**-1.1**
LFF	**La Frestale**	**1.93**	**16**	*e*Pg		**Pg**	**18 20 28.8**	**+1.6**
LFF				*e*Sn		**Sn**	**18 20 49.1**	**0.0**
LFF	13µm,0.4s			*e*Sg		**Sg**	**18 20 55.7**	**+3.4**
LFF	**La Frestale**	**1.93**	**16**	*e*P		**Pn**	**18 20 23.7**	**-0.4**
LFF				*e*			18 20 49.1	
LFF	**La Frestale**	**1.93**	**16**	*e*Pn		**Pn**	**18 20 23.7**	**-0.4**
LFF				*e*Pg		**Pg**	**18 20 28.8**	**+1.6**
LFF				*e*Sn		**Sn**	**18 20 49.1**	**0.0**
LFF				*e*Sg		**Sg**	**18 20 55.7**	**+3.4**
LFF	**La Frestale**	**1.93**	**16**	*e*Pg		**Pg**	**18 20 28.8**	**+1.6**
LFF				*e*Sn		**Sn**	**18 20 49.1**	**0.0**
LFF	7µm,0.4s			*e*Sg		**Sg**	**18 20 55.7**	**+3.4**
FILF	**Fillols**	**1.97**	**105**	Pg		**Pg**	**18 20 25.7**	**-2.3**
FILF	**Fillols**	**1.97**	**105**	Pg		**Pg**	**18 20 25.6**	**-2.4**
FILF				Lg			18 20 50.1	
CGAR	**Garraf**	**1.99**	**154**	P		**Pn**	**18 20 29.7**	**+4.8**
CGAR	**Garraf**	**1.99**	**154**	Pn		**Pn**	**18 20 29.7**	**+4.8**
ERTA	**Horta de San J** 2µm,0.6s,SNR=80	**2.15**	**173**	Pn		**Pn**	**18 20 26.8**	**-0.3**
ERTA	2µm,0.5s,SNR=12			Pg		**Pg**	**18 20 30.0**	**-1.3**
ERTA	2µm,0.4s,SNR=4.0			Sn		**Sn**	**18 20 51.9**	**-2.4**
ERTA	5µm,0.3s,SNR=23			Lg			18 20 57.5	
ERTA	**Horta de San J** 2µm,0.6s,SNR=80	**2.15**	**173**	Pn		**Pn**	**18 20 26.8**	**-0.3**
ERTA	**Horta de San J** 2µm,0.5s,SNR=12	**2.15**	**173**	Pg		**Pg**	**18 20 30.0**	**-1.3**
ERTA	2µm,0.4s,SNR=4.0			Sn		**Sn**	**18 20 51.9**	**-2.4**
SJAF	**Saint Jean de**	**2.22**	**105**	Pg		**Pg**	**18 20 30.2**	**-2.6**
SJAF	**Saint Jean de**	**2.22**	**105**	Pg		**Pg**	**18 20 30.1**	**-2.7**
SJAF				Lg			18 20 58.8	
EJON	**La Jonquera** 131nm,0.3s,SNR=7.9	**2.24**	**106**	Pn		**Pn**	**18 20 28.5**	**+0.1**
EJON	405nm,0.2s,SNR=260			Pg		**Pg**	**18 20 33.0**	**0.0**
EJON	378nm,0.4s,SNR=4.0			Sn		**Sn**	**18 20 55.6**	**-1.0**
EJON	4µm,0.3s,SNR=20			Lg			18 21 02.7	
EJON	**La Jonquera** 131nm,0.3s,SNR=7.9	**2.24**	**106**	Pn		**Pn**	**18 20 28.5**	**+0.1**
EJON	**La Jonquera** 405nm,0.2s,SNR=260	**2.24**	**106**	Pg		**Pg**	**18 20 33.0**	**-0.1**
EJON	378nm,0.4s,SNR=4.0			Sn		**Sn**	**18 20 55.6**	**-1.0**
CFON	**Fontmartina**	**2.25**	**125**	P		**Pn**	**18 20 30.0**	**+1.4**
CFON	**Fontmartina**	**2.25**	**125**	Pg		**Pg**	**18 20 29.9**	**-3.4**
CFON	**Fontmartina**	**2.25**	**125**	P		**Pn**	**18 20 30.0**	**+1.5**
CAF	**Calviac**	**2.38**	**39**	*e*Pg		**Pg**	**18 20 36.6**	**+0.9**
CAF	7µm,0.4s			*e*Sg		**Sg**	**18 21 07.7**	**+1.1**
CAF	**Calviac**	**2.38**	**39**	*e*Pn		**Pn**	**18 20 29.0**	**-1.3**
CAF				*e*Pg		**Pg**	**18 20 36.6**	**+0.9**
CAF				*e*Sg		**Sg**	**18 21 07.7**	**+1.1**
CAF	**Calviac** 4µm,0.4s	**2.38**	**39**	*e*Pg		**Pg**	**18 20 36.6**	**+0.9**
CAF				*e*Sg		**Sg**	**18 21 07.7**	**+1.1**
RJF	**Les Rejaudoux**	**2.48**	**26**	*e*Pg		**Pg**	**18 20 38.9**	**+1.2**
RJF				*e*Sn		**Sn**	**18 21 01.9**	**-0.7**
RJF	5µm,0.4s			*e*Sg		**Sg**	**18 21 12.2**	**+2.4**
RJF	**Les Rejaudoux**	**2.48**	**26**	*e*P		**Pn**	**18 20 30.2**	**-1.5**
RJF				*e*			18 21 01.9	
RJF	**Les Rejaudoux**	**2.48**	**26**	*e*Pn		**Pn**	**18 20 30.2**	**-1.5**
RJF				*e*Pg		**Pg**	**18 20 38.9**	**+1.2**
RJF				*e*Sn		**Sn**	**18 21 01.9**	**-0.7**
RJF				*e*Sg		**Sg**	**18 21 12.2**	**+2.4**
RJF	**Les Rejaudoux**	**2.48**	**26**	*e*Pg		**Pg**	**18 20 38.9**	**+1.2**
RJF				*e*Sn		**Sn**	**18 21 01.9**	**-0.7**
RJF	3µm,0.4s			*e*Sg		**Sg**	**18 21 12.2**	**+2.4**
ELAN	**Lanestosa** 408nm,0.8s,SNR=56	**2.50**	**274**	Pn		**Pn**	**18 20 32.3**	**+0.4**
ELAN	68nm,0.2s,SNR=7.9			Pg		**Pg**	**18 20 38.0**	**0.0**
ELAN	2µm,0.8s,SNR=13			Sn		**Sn**	**18 21 03.4**	**+0.4**
ELAN	**Lanestosa** 408nm,0.8s,SNR=56	**2.50**	**274**	Pn		**Pn**	**18 20 32.3**	**+0.4**
ELAN	**Lanestosa** 68nm,0.2s,SNR=7.9	**2.50**	**274**	Pg		**Pg**	**18 20 38.0**	**0.0**
ELAN	2µm,

LASF eSg Sg 18 21 25.5 -0.7
4µm,0.5s
OLEF Ile d'Oleron 3.01 342 Pn Pn 18 20 39.8 +0.8
CHIF Chize 3.06 355 Pg Pg 18 20 49.7 +0.9
CHIF Chize 3.06 355 Pn Pn 18 20 40.5 +0.9
CHIF Pg Pg 18 20 49.7 +0.9
CHIF Chize 3.06 355 Pg Pg 18 20 49.7 +0.9
LBL Lubilhac 3.19 47 Pn Pn 18 20 40.2 -1.2
PYM Petit Puy Mans 3.44 38 Pn Pn 18 20 44.2 -0.6
CFF Clermont-Ferra 3.49 39 Pn Pn 18 20 45.7 +0.1
MFF Saint Martin d 3.52 359 ePg Pg 18 20 57.1 -0.4
MFF eSg Sg 18 21 43.6 +0.5
3µm,0.5s
MFF Saint Martin d 3.52 359 ePn Pn 18 20 44.9 -1.0
MFF ePg Pg 18 20 57.1 -0.4
MFF eSg Sg 18 21 43.6 +0.5
MFF Saint Martin d 3.52 359 ePg Pg 18 20 57.1 -0.4
MFF eSg Sg 18 21 43.6 +0.5
2µm,0.5s
TCF Toulx Ste Croi 3.58 26 ePg Pg 18 20 59.1 +0.4
TCF eSg Sg 18 21 45.7 +0.7
4µm,0.5s
TCF Toulx Ste Croi 3.58 26 ePn Pn 18 20 44.5 -2.2
TCF ePg Pg 18 20 59.1 +0.4
TCF eSg Sg 18 21 45.7 +0.7
TCF Toulx Ste Croi 3.58 26 ePg Pg 18 20 59.1 +0.4
TCF eSg Sg 18 21 45.7 +0.7
2µm,0.5s
COLF Collangettes 3.61 46 Pn Pn 18 20 46.2 -1.0
LCHF La Chataignera 3.62 352 Pn Pn 18 20 47.8 +0.5
LRYF La Roche-sur-Y 3.66 343 Pg Pg 18 20 59.6 -0.6
AGO Saint Agoulin 3.73 36 Pn Pn 18 20 48.4 -0.4
EARI Arriondas 3.80 275 Pn Pn 18 20 51.1 +1.3
55nm,0.3s,SNR=144
EARI Pg Pg 18 21 01.2 -1.7
220nm,0.6s,SNR=11
EARI Sn Sn 18 21 34.1 -0.9
389nm,0.6s,SNR=5.0
EARI Lg 18 21 54.3
2µm,1.1s,SNR=5.8
EARI Arriondas 3.80 275 Pn Pn 18 20 51.1 +1.3
55nm,0.3s,SNR=144
EARI Arriondas 3.80 275 Pg Pg 18 21 01.2 -1.7
220nm,0.6s,SNR=11
EARI Sn Sn 18 21 34.2 -0.9
389nm,0.6s,SNR=5.0
VIVF Saint-Julien-l 3.83 61 ePg Pg 18 21 03.2 -0.3
VIVF eSg Sg 18 21 51.9 -1.1
3µm,0.5s
VIVF Saint-Julien-l 3.83 61 ePn Pn 18 20 51.1 +0.9
VIVF ePg Pg 18 21 03.2 -0.3
VIVF eSg Sg 18 21 51.9 -1.1
VIVF Saint-Julien-l 3.83 61 ePg Pg 18 21 03.2 -0.3
VIVF eSg Sg 18 21 51.9 -1.1
1µm,0.5s
PRAF Pradon 3.85 77 Pn Pn 18 20 51.1 +0.6
PLDF La Plantade 3.89 41 Pn Pn 18 20 50.3 -0.7
GUD Guadarrama 3.93 233 Pn Pn 18 20 52.9 +1.2
243nm,0.8s,SNR=7.9
GUD Pg Pg 18 21 03.3 -2.2
327nm,0.7s,SNR=7.9
ETOS Mallorca 3.94 146 Pn Pn 18 20 51.7 0.0
56nm,0.3s,SNR=97
ETOS Sn Sn 18 21 35.1 -3.6
388nm,0.4s,SNR=5.0
ETOS Mallorca 3.94 146 Pn Pn 18 20 51.7 -0.1
56nm,0.3s,SNR=97
ETOS Sn Sn 18 21 35.1 -3.6
388nm,0.4s,SNR=5.0
GELF Grande-Etoile 4.00 84 Pn Pn 18 20 53.2 +0.7
BGF Bois d'Agland 4.03 29 ePg Pg 18 21 07.7 +0.4
BGF eSg Sg 18 22 00.2 +0.7
9µm,0.4s
BGF Bois d'Agland 4.03 29 ePn Pn 18 20 51.5 -1.4
BGF ePg Pg 18 21 07.7 +0.4
BGF eSg Sg 18 22 00.2 +0.7
BGF Bois d'Agland 4.03 29 ePg Pg 18 21 07.7 +0.4
BGF eSg Sg 18 22 00.2 +0.7
5µm,0.4s
SMRF Simiane la Rot 4.17 76 ePg Pg 18 21 08.9 -1.1
SMRF eSg Sg 18 22 04.5 +0.4
3µm,0.8s
SMRF Simiane la Rot 4.17 76 ePn Pn 18 20 54.4 -0.5
SMRF ePg Pg 18 21 08.9 -1.1
SMRF eSg Sg 18 22 04.5 +0.4
SMRF Simiane la Rot 4.17 76 ePg Pg 18 21 08.9 -1.1
SMRF eSg Sg 18 22 04.5 +0.4
2µm,0.8s
EIBI Ibiza 4.19 165 Pn Pn 18 20 54.5 -0.6
94nm,0.7s,SNR=27
EIBI Sn Sn 18 21 40.1 -4.6
254nm,0.3s,SNR=9.6
EIBI Ibiza 4.19 165 Pn Pn 18 20 54.5 -0.6
94nm,0.7s,SNR=27
EIBI Sn Sn 18 21 40.1 -4.6
254nm,0.3s,SNR=9.6
EBEN Beniarda 4.38 182 Pn Pn 18 20 57.7 -0.1
116nm,0.6s,SNR=70
EBEN Pg Pg 18 21 09.8 -4.3
329nm,0.7s,SNR=12
EBEN Sn Sn 18 21 46.3 -3.2
693nm,0.8s,SNR=5.1
EBEN Lg 18 22 08.6
3µm,1.1s,SNR=5.4
EBEN Beniarda 4.38 182 Pn Pn 18 20 57.7 -0.1
116nm,0.6s,SNR=70
EBEN Beniarda 4.38 182 Pg Pg 18 21 09.8 -4.3
329nm,0.7s,SNR=12
EBEN Sn Sn 18 21 46.3 -3.2
693nm,0.8s,SNR=5.1
STOF St-Etienne Org 4.41 76 Pn Pn 18 20 58.0 -0.2
AVF Avril sur Loir 4.41 32 ePg Pg 18 21 15.1 +0.4
AVF eSg Sg 18 22 13.1 +1.2
2µm,0.5s
AVF Avril sur Loir 4.41 32 ePn Pn 18 20 56.3 -1.9
AVF ePg Pg 18 21 15.1 +0.4
AVF eSg Sg 18 22 13.1 +1.2
AVF Avril sur Loir 4.41 32 ePg Pg 18 21 15.1 +0.4
AVF eSg Sg 18 22 13.1 +1.2
1µm,0.5s
TAVF Tavernes 4.47 81 Pn Pn 18 21 00.6 +1.6
SMF Signal de Mont 4.50 36 ePg Pg 18 21 15.7 -0.6
SMF eSg Sg 18 22 13.1 -1.5
2µm,0.6s
SMF Signal de Mont 4.50 36 ePn Pn 18 20 58.1 -1.3
SMF ePg Pg 18 21 15.7 -0.6
SMF eSg Sg 18 22 13.1 -1.5
SMF Signal de Mont 4.50 36 ePg Pg 18 21 15.7 -0.6
SMF eSg Sg 18 22 13.1 -1.5
1µm,0.6s
ESDC Sonseca Array 4.52 222 Pn Pn 18 20 59.4 -0.3
48nm,0.3s,baz=44,slow=14,SNR=149
ESDC Sn Sn 18 21 49.8 -3.0
104nm,0.3s,baz=44,slow=26,SNR=6.9
ESDC Lg 18 22 12.9
107nm,0.3s,baz=33,slow=31,SNR=6.5
ESDC Sonseca Array 4.52 222 Pn Pn 18 20 59.4 -0.3
29nm,0.3s,baz=43,slow=14,SNR=242
ESDC Sn Sn 18 21 50.4 -2.4
225nm,0.9s,baz=44,slow=24,SNR=3.7
ESDC Lg 18 22 14.8
298nm,0.6s,baz=42,slow=28,SNR=7.9
ESDC Sonseca Array 4.52 222 Pn Pn 18 20 59.4 -0.3
29nm,0.3s,SNR=242
ESDC Sn Sn 18 21 50.4 -2.4
225nm,0.9s,SNR=3.7
ESLA Sonseca Array 4.52 222 eP Pn 18 20 59.3 -0.3
ESLA Sonseca Array 4.52 222 eP Pn 18 20 59.3 -0.4
ETOB Tobarra 4.58 195 Pn Pn 18 21 00.4 -0.2
125nm,0.5s,SNR=92
ETOB Pg Pg 18 21 12.1 -5.9
180nm,0.5s,SNR=8.2
ETOB Sn Sn 18 21 50.9 -3.6
425nm,0.8s,SNR=4.2
ETOB Lg 18 22 19.1
4µm,1.1s,SNR=5.5
ETOB Tobarra 4.58 195 Pn Pn 18 21 00.4 -0.2
125nm,0.5s,SNR=92
ETOB Tobarra 4.58 195 Pg Pg 18 21 12.1 -5.9
180nm,0.5s,SNR=8.2
ETOB Sn Sn 18 21 50.9 -3.6
425nm,0.8s,SNR=4.2
HYF Humbligny 4.59 23 ePn Pn 18 21 00.0 -0.6
HYF ePg Pg 18 21 18.4 +0.4
HYF eSg Sg 18 22 17.9 +0.4

OG25 Le Caire 4.60 72 Pn Pn 18 21 02.5 +1.6
ORIF Oris-en-Rattie 4.64 65 ePg Pg 18 21 20.0 +1.0
ORIF eSg Sg 18 22 17.1 -2.0
724nm,0.5s
ORIF Oris-en-Rattie 4.64 65 ePn Pn 18 21 01.6 +0.3
ORIF ePg Pg 18 21 20.0 +1.0
ORIF eSg Sg 18 22 17.1 -2.0
ORIF Oris-en-Rattie 4.64 65 ePg Pg 18 21 20.0 +1.0
ORIF eSg Sg 18 22 17.1 -2.0
362nm,0.5s
GRN Grenoble 4.68 61 Pn Pn 18 21 05.6 +3.7
SSF Saint Saulge 4.70 31 ePg Pg 18 21 20.2 +0.1
SSF eSg Sg 18 22 21.5 +0.5
2µm,0.6s
SSF Saint Saulge 4.70 31 ePn Pn 18 20 59.9 -2.2
SSF ePg Pg 18 21 20.2 +0.1
SSF eSg Sg 18 22 21.5 +0.5
SSF Saint Saulge 4.70 31 ePg Pg 18 21 20.2 +0.1
SSF eSg Sg 18 22 21.5 +0.5
876nm,0.6s
LMR La Mourre 4.78 85 ePg Pg 18 21 19.7 -2.1
LMR eSg Sg 18 22 19.6 -4.2
424nm,0.3s
LMR La Mourre 4.78 85 ePn Pn 18 21 02.5 -0.8
LMR ePg Pg 18 21 19.7 -2.1
LMR eSg Sg 18 22 19.6 -4.2
LMR La Mourre 4.78 85 ePg Pg 18 21 19.7 -2.1
LMR eSg Sg 18 22 19.6 -4.2
212nm,0.3s
PAB San Pablo 4.81 224 eP Pn 18 21 02.8 -0.9
EVIA Vianos 4.82 204 Pn Pn 18 21 04.3 +0.5
122nm,0.5s,SNR=44
EVIA Sn Sn 18 21 57.4 -3.0
321nm,0.6s,SNR=4.6
EVIA Lg 18 22 23.7
486nm,0.4s,SNR=4.0
EVIA Vianos 4.82 204 Pn Pn 18 21 04.3 +0.4
122nm,0.5s,SNR=44
EVIA Sn Sn 18 21 57.4 -3.0
321nm,0.6s,SNR=4.6
FRF La Foret Royal 4.89 82 ePg Pg 18 21 23.8 -0.1
FRF eSg Sg 18 22 23.9 -3.4
1µm,0.6s
FRF La Foret Royal 4.89 82 ePn Pn 18 21 02.4 -2.4
FRF ePg Pg 18 21 23.8 -0.1
FRF eSg Sg 18 22 23.9 -3.4
FRF La Foret Royal 4.89 82 ePg Pg 18 21 23.8 -0.1
FRF eSg Sg 18 22 23.9 -3.4
646nm,0.6s
GDM Grand'Maison 4.90 62 Pn Pn 18 21 06.5 +1.6
OG05 Jujurieux 4.91 51 Pn Pn 18 21 06.0 +1.0
LOR Lormes 5.00 32 ePg Pg 18 21 25.8 -0.2
LOR eSn Sn 18 22 01.8 -3.0
LOR eSg Sg 18 22 32.3 +1.5
4µm,0.8s
LOR Lormes 5.00 32 eP Pn 18 21 04.7 -1.6
LOR e 18 22 01.8
LOR Lormes 5.00 32 ePn Pn 18 21 04.7 -1.6
LOR ePg Pg 18 21 25.8 -0.2
LOR eSn Sn 18 22 01.8 -3.0
LOR eSg Sg 18 22 32.3 +1.5
LOR Lormes 5.00 32 ePg Pg 18 21 25.8 -0.2
LOR eSn Sn 18 22 01.8 -3.0
LOR eSg Sg 18 22 32.3 +1.5
2µm,0.8s
ECAL Calabor 5.09 259 ⇓Pn Pn 18 21 08.7 +1.1
180nm,0.4s,SNR=18
ECAL Pg Pg 18 21 25.0 -2.7
130nm,0.4s,SNR=4.7
ECAL Sn Sn 18 22 05.1 -1.9
826nm,0.9s,SNR=6.5
ECAL Lg 18 22 34.7
513nm,0.6s,SNR=5.0
ECAL Calabor 5.09 259 Pn Pn 18 21 08.7 +1.1
180nm,0.4s,SNR=18
ECAL Calabor 5.09 259 Pg Pg 18 21 25.0 -2.7
130nm,0.4s,SNR=4.7
ECAL Sn Sn 18 22 05.1 -1.9
826nm,0.9s,SNR=6.5
PBRG Braganca 5.13 258 ePn Pn 18 21 09.1 +1.0
PBRG eSn Sn 18 22 05.3 -2.7
PBRG
222nm,0.6s
PBRG Braganca 5.13 258 ePn Pn 18 21 09.1 +1.0
PBRG eSn Sn 18 22 05.3 -2.7
222nm,0.6s
SURF Saint Ours 5.14 72 Pn Pn 18 21 09.7 +1.4
MBDF Montbardon 5.18 69 ePg Pg 18 21 28.8 -0.6
MBDF eSn Sn 18 22 05.8 -3.3
MBDF eSg Sg 18 22 34.2 -2.3
857nm,0.9s
MBDF Montbardon 5.18 69 eP Pn 18 21 08.9 +0.1
MBDF e 18 22 05.8
MBDF Montbardon 5.18 69 ePn Pn 18 21 08.9 +0.1
MBDF ePg Pg 18 21 28.8 -0.6
MBDF eSn Sn 18 22 05.8 -3.3
MBDF eSg Sg 18 22 34.2 -2.3
MBDF Montbardon 5.18 69 ePg Pg 18 21 28.8 -0.6
MBDF eSn Sn 18 22 05.8 -3.3
MBDF eSg Sg 18 22 34.2 -2.3
428nm,0.9s
EPON Pontenova 5.21 275 Pn Pn 18 21 10.8 +1.6
192nm,0.8s,SNR=136
EPON Sn Sn 18 22 08.7 -1.3
71nm,0.3s,SNR=11
EPON Pontenova 5.21 275 Pn Pn 18 21 10.8 +1.6
192nm,0.8s,SNR=136
EPON Sn Sn 18 22 08.7 -1.3
71nm,0.3s,SNR=11
BNI Bardonecchia 5.21 66 eP Pn 18 21 09.6 +0.3
MVIF Mont Vial 5.29 79 Pn Pn 18 21 10.1 -0.1
ERUA La Rua 5.29 265 P Pn 18 21 11.8 +1.5
ERUA 18 22 10.2
ERUA La Rua 5.29 265 Pn Pn 18 21 11.8 +1.6
101nm,0.3s,SNR=26
ERUA Pg Pg 18 21 26.9 -4.5
75nm,0.3s,SNR=4.0
ERUA Sn Sn 18 22 10.2 -1.6
232nm,0.6s,SNR=8.2
ERUA Lg 18 22 41.4
251nm,0.6s,SNR=4.0
QUIF Quistinic 5.31 337 ePg Pg 18 21 30.5 -1.4
QUIF eSg Sg 18 22 40.6 -0.1
964nm,0.6s
QUIF Quistinic 5.31 337 ePn Pn 18 21 09.5 -1.1
QUIF ePg Pg 18 21 30.5 -1.4
QUIF eSg Sg 18 22 40.6 -0.1
QUIF Quistinic 5.31 337 ePg Pg 18 21 30.5 -1.4
QUIF eSg Sg 18 22 40.6 -0.1
482nm,0.6s
EMUR La Murta 5.32 190 ⇑Pn Pn 18 21 11.1 +0.4
166nm,0.6s,SNR=18
EMUR Pg Pg 18 21 26.8 -5.3
111nm,0.4s,SNR=7.6
EMUR Sn Sn 18 22 08.5 -4.2
852nm,1.2s,SNR=4.4
EMUR Lg 18 22 39.3
708nm,0.7s,SNR=5.0
EMUR La Murta 5.32 190 Pn Pn 18 21 11.1 +0.4
166nm,0.6s,SNR=18
EMUR La Murta 5.32 190 Pg Pg 18 21 26.8 -5.3
111nm,0.4s,SNR=7.6
EMUR Sn Sn 18 22 08.5 -4.1
852nm,1.2s,SNR=4.4
OG22 Abries 5.32 69 Pn Pn 18 21 13.2 +2.4
GRR Gorron 5.33 354 ePg Pg 18 21 31.2 -1.2
GRR eSn Sn 18 22 11.8 -1.2
GRR eSg Sg 18 22 42.4 +0.9
1µm,0.4s
GRR Gorron 5.33 354 eP Pn 18 21 09.3 -1.6
GRR e 18 22 11.8
GRR Gorron 5.33 354 ePn Pn 18 21 09.3 -1.6
GRR ePg Pg 18 21 31.2 -1.2
GRR eSn Sn 18 22 11.8 -1.2
GRR eSg Sg 18 22 42.4 +0.9
GRR Gorron 5.33 354 ePg Pg 18 21 31.2 -1.2
GRR eSn Sn 18 22 11.8 -1.2
GRR eSg Sg 18 22 42.4 +0.9
522nm,0.4s
PZZ Prazzo 5.35 72 P Pn 18 21 12.2 +1.1
TOUF Mont Tournerai 5.37 78 Pn Pn 18 21 11.7 +0.3
LPL La Plagne 5.42 61 ePg Pg 18 21 33.0 -1.1
LPL eSg Sg 18 22 42.1 -2.3
1µm,0.8s

LPL La Plagne 5.42 61 ePn Pn 18 21 12.3 +0.2
LPL ePg Pg 18 21 33.0 -1.1
LPL eSg Sg 18 22 42.1 -2.3
LPL La Plagne 5.42 61 Pn Pn 18 21 12.3 +0.2
LPL Pg Pg 18 21 33.0 -1.1
LPL Lg 18 22 42.1
519nm,0.8s
LUCF Luceram 5.42 79 Pn Pn 18 21 11.9 -0.2
LPG La Plagne 5.43 61 ePg Pg 18 21 33.0 -1.2
LPG eSg Sg 18 22 44.0 -0.5
1µm,0.7s
LPG La Plagne 5.43 61 ePn Pn 18 21 13.4 +1.2
LPG ePg Pg 18 21 33.0 -1.2
LPG eSg Sg 18 22 44.0 -0.5
LPG La Plagne 5.43 61 Pn Pn 18 21 13.4 +1.2
LPG Pg Pg 18 21 33.0 -1.2
LPG Lg 18 22 44.0
535nm,0.7s
LPG La Plagne 5.43 61 ePg Pg 18 21 33.0 -1.2
LPG eSg Sg 18 22 44.0 -0.5
535nm,0.7s
RSL Roselend 5.43 59 Pn Pn 18 21 13.8 +1.6
STV Sta Anna Valdi 5.46 75 P Pn 18 21 14.9 +2.3
SGMF Saint Gilles 5.46 342 ePg Pg 18 21 33.1 -1.7
SGMF eSn Sn 18 22 13.5 -2.7
SGMF eSg Sg 18 22 43.7 -2.0
3µm,0.8s
SGMF Saint Gilles 5.46 342 eP Pn 18 21 11.1 -1.6
SGMF e 18 22 13.5
SGMF Saint Gilles 5.46 342 ePn Pn 18 21 11.1 -1.6
SGMF ePg Pg 18 21 33.1 -1.7
SGMF eSn Sn 18 22 13.5 -2.7
SGMF eSg Sg 18 22 43.7 -2.0
SGMF Saint Gilles 5.46 342 ePg Pg 18 21 33.1 -1.7
SGMF eSn Sn 18 22 13.5 -2.7
SGMF eSg Sg 18 22 43.7 -2.0
1µm,0.8s
SBF Sospel 5.49 79 ePg Pg 18 21 33.9 -1.4
SBF eSg Sg 18 22 41.9 -4.4
2µm,0.8s
SBF Sospel 5.49 79 ePn Pn 18 21 12.4 -0.6
SBF ePg Pg 18 21 33.9 -1.4
SBF eSg Sg 18 22 41.9 -4.4
SBF Sospel 5.49 79 Pn Pn 18 21 12.4 -0.6
SBF Pg Pg 18 21 33.9 -1.4
SBF Lg 18 22 41.9
812nm,0.8s
AUTN L'Aution 5.49 78 Pn Pn 18 21 12.7 -0.4
LDF La Druitiere 5.51 359 ePn Pn 18 21 11.5 -1.8
LDF ePg Pg 18 21 34.5 -1.2
LDF eSg Sg 18 22 47.7 +0.6
CART Cartagena 5.54 188 eP Pn 18 21 13.5 -0.3
246nm,0.8s
CART Cartagena 5.54 188 Pn Pn 18 21 14.1 +0.3
CART Cartagena 5.54 188 iP Pn 18 21 14.1 +0.3
SAOF Saorge 5.58 78 Pn Pn 18 21 14.1 -0.2
CABF La Chapelle 5.59 49 ePg Pg 18 21 38.2 +0.8
CABF eSn Sn 18 22 13.0 -6.4
CABF eSg Sg 18 22 49.1 -0.8
4µm,0.9s
CABF La Chapelle 5.59 49 eP Pn 18 21 15.2 +0.7
CABF e 18 22 13.0
CABF La Chapelle 5.59 49 ePn Pn 18 21 15.2 +0.7
CABF ePg Pg 18 21 38.2 +0.8
CABF eSn Sn 18 22 13.0 -6.4
CABF eSg Sg 18 22 49.1 -0.8
CABF La Chapelle 5.59 49 Pn Pn 18 21 15.2 +0.7
CABF Pg Pg 18 21 38.2 +0.8
CABF Sn Sn 18 22 13.0 -6.4
CABF Lg 18 22 49.1
2µm,0.9s
CABF La Chapelle 5.59 49 ePn Pn 18 21 15.2 +0.7
CABF La Chapelle 5.59 49 ePg Pg 18 21 38.2 +0.8
CABF eSn Sn 18 22 13.0 -6.4
CABF eSg Sg 18 22 49.1 -0.8
2µm,0.9s
EHUE Huescar 5.62 201 Pn Pn 18 21 15.1 +0.3
42nm,0.7s,SNR=7.9
EHUE Pg Pg 18 21 33.2 -4.6
71nm,0.7s,SNR=7.9
EHUE Lg 18 22 50.5
492nm,1.0s,SNR=7.9
RSP Reno Superiore 5.63 66 P Pn 18 21 19.3 +4.3
FLN La Foliniere 5.69 357 ePg Pg 18 21 38.6 -0.5
FLN eSg Sg 18 22 51.6 -1.2
1µm,0.6s
FLN La Foliniere 5.69 357 ePn Pn 18 21 14.1 -1.6
FLN ePg Pg 18 21 38.6 -0.5
FLN eSg Sg 18 22 51.6 -1.2
FLN La Foliniere 5.69 357 Pn Pn 18 21 14.1 -1.6
FLN Pg Pg 18 21 38.6 -0.5
FLN Lg 18 22 51.6
694nm,0.6s
FLN La Foliniere 5.69 357 ePg Pg 18 21 38.6 -0.5
FLN eSg Sg 18 22 51.6 -1.2
694nm,0.6s
EBAN Banos Encina 5.69 211 Pn Pn 18 21 14.9 -0.9
136nm,0.6s,SNR=37
EBAN Sn Sn 18 22 18.1 -3.6
266nm,0.5s,SNR=5.8
EBAN Lg 18 22 51.7
648nm,0.7s,SNR=5.0
EBAN Banos Encina 5.69 211 Pn Pn 18 21 14.9 -0.9
136nm,0.6s,SNR=37
EBAN Sn Sn 18 22 18.1 -3.6
266nm,0.5s,SNR=5.8
ROSF Rostrenen 5.72 338 ePg Pg 18 21 38.0 -1.8
ROSF eSn Sn 18 22 16.2 -6.3
ROSF eSg Sg 18 22 53.5 -0.4
838nm,0.6s
ROSF Rostrenen 5.72 338 eP Pn 18 21 15.2 -1.0
ROSF e 18 22 16.2
ROSF Rostrenen 5.72 338 ePn Pn 18 21 15.2 -1.0
ROSF ePg Pg 18 21 38.0 -1.8
ROSF eSn Sn 18 22 16.2 -6.3
ROSF eSg Sg 18 22 53.5 -0.4
ROSF Rostrenen 5.72 338 Pn Pn 18 21 15.2 -1.0
ROSF Pg Pg 18 21 38.0 -1.8
ROSF Sn Sn 18 22 16.2 -6.3
ROSF Lg 18 22 53.5
419nm,0.6s
ROSF Rostrenen 5.72 338 ePn Pn 18 21 15.2 -1.0
ROSF Rostrenen 5.72 338 ePg Pg 18 21 38.0 -1.8
ROSF eSn Sn 18 22 16.2 -6.3
ROSF eSg Sg 18 22 53.5 -0.4
419nm,0.6s
EQES Quesada 5.77 205 Pn Pn 18 21 17.4 +0.5
100nm,0.7s,SNR=57
EQES Pg Pg 18 21 35.4 -5.2
392nm,0.7s,SNR=4.0
EQES Sn Sn 18 22 19.8 -3.9
92nm,0.5s,SNR=4.1
EQES Lg 18 22 55.3
1µm,0.8s,SNR=5.0
EQES Quesada 5.77 205 Pn Pn 18 21 17.4 +0.6
100nm,0.7s,SNR=57
EQES Quesada 5.77 205 Pg Pg 18 21 35.4 -5.2
392nm,0.7s,SNR=4.0
EQES Sn Sn 18 22 19.8 -3.8
92nm,0.5s,SNR=4.1
OG01 Vacheresse 5.78 54 Pn Pn 18 21 18.4 +1.4
IMI Imperia 5.82 79 P Pn 18 21 20.1 +2.6
PVRL Vila Real 5.99 255 ePn Pn 18 21 20.6 +0.6
PVRL eSn Sn 18 22 24.1 -5.1
PVRL
315nm,0.8s
EADA Adamuz 6.01 217 Pn Pn 18 21 20.4 +0.2
111nm,0.9s,SNR=79
EADA Sn Sn 18 22 25.8 -3.9
163nm,0.8s,SNR=4.0
EADA Lg 18 22 59.2
3µm,2.1s,SNR=5.0
EADA Adamuz 6.01 217 Pn Pn 18 21 20.4 +0.2
111nm,0.9s,SNR=79
EADA Sn Sn 18 22 25.8 -3.8
163nm,0.8s,SNR=4.0
PCAB Cabril 6.08 260 ePn Pn 18 21 21.9 +0.7
PCAB eSn Sn 18 22 28.4 -3.0
PCAB
195nm,0.8s
PCAB Cabril 6.08 260 eP Pn 18 21 21.8 +0.6
STS Santiago 6.26 271 Pn Pn 18 21 24.8 +1.2
47nm,0.5s,SNR=16
STS Sn Sn 18 22 33.4 -2.3

178nm,0.9s,SNR=7.9
STS Lg 18 23 14.2
129nm,0.7s,SNR=7.9
STS Santiago 6.26 271 Pn Pn 18 21 24.8 +1.2
47nm,0.5s,SNR=16
STS Sn **Sn 18 22 33.4 -2.3**
178nm,0.9s,SNR=7.9
ORO Oropa 6.28 63 P Pn 18 21 28.6 +4.7
PVIS Viseu 6.33 251 *e*Pn **Pn 18 21 24.9 +0.3**
PVIS *e*Sn **Sn 18 22 32.8 -4.7**
PVIS
201nm,1.0s
PVIS Viseu 6.33 251 *e*Pn **Pn 18 21 24.9 +0.3**
PVIS *e*Sn **Sn 18 22 32.8 -4.7**
201nm,1.0s
ENIJ Nijar 6.33 196 Pn **Pn 18 21 25.8 +1.2**
101nm,0.4s,SNR=7.2
ENIJ Pg **Pg 18 21 45.3 -6.2**
116nm,0.5s,SNR=28
ENIJ Lg 18 23 12.9
247nm,0.9s,SNR=5.4
ELUQ Luque 6.40 212 Pn **Pn 18 21 26.3 +0.7**
182nm,0.9s,SNR=23
ECOG Cogollos-Vega 6.40 206 Pn **Pn 18 21 26.3 +0.7**
56nm,0.8s,SNR=7.9
ECOG Lg 18 23 15.1
328nm,0.8s,SNR=7.9
EQUE Quentar 6.43 205 Pn **Pn 18 21 26.5 +0.6**
24nm,0.3s,SNR=51
EQUE Lg 18 23 14.6
1µm,1.2s,SNR=4.5
EZAM Zamans 6.46 265 Pn **Pn 18 21 26.7 +0.2**
65nm,0.4s,SNR=7.9
EZAM Sn **Sn 18 22 37.5 -3.4**
134nm,0.6s,SNR=7.9
EZAM Lg 18 23 19.6
204nm,0.7s,SNR=7.9
EZAM Zamans 6.46 265 Pn **Pn 18 21 26.7 +0.3**
65nm,0.4s,SNR=7.9
EZAM Sn **Sn 18 22 37.5 -3.3**
134nm,0.6s,SNR=7.9
PCBR Castelo Branco 6.47 242 *e*Pn **Pn 18 21 26.6 +0.1**
PCBR *e*Sn **Sn 18 22 37.1 -3.8**
PCBR
191nm,0.6s
PCBR Castelo Branco 6.47 242 *e*P **Pn 18 21 26.5 0.0**
MEZF Maizieres J'vi 6.47 31 *e*Pg **Pg 18 21 53.5 -0.7**
MEZF *e*Sg **Sg 18 23 18.7 +0.6**
2µm,0.7s
MEZF Maizieres J'vi 6.47 31 *e*Pn **Pn 18 21 27.3 +0.7**
MEZF *e*Pg **Pg 18 21 53.5 -0.7**
MEZF *e*Sg **Sg 18 23 18.7 +0.6**
MEZF Maizieres J'vi 6.47 31 Pn **Pn 18 21 27.3 +0.7**
MEZF Pg **Pg 18 21 53.5 -0.7**
MEZF Lg 18 23 18.7
2µm,0.7s
EBER Berja 6.56 201 Pn **Pn 18 21 28.8 +1.1**
85nm,0.6s,SNR=20
EBER Lg 18 23 20.2
946nm,0.7s,SNR=4.4
EBER Berja 6.56 201 Pn **Pn 18 21 28.8 +1.1**
85nm,0.6s,SNR=20
EMAZ Mazaricos 6.56 272 Pn **Pn 18 21 28.9 +1.1**
154nm,0.7s,SNR=46
EMAZ Sn **Sn 18 22 39.8 -3.5**
95nm,0.4s,SNR=4.6
EMAZ Mazaricos 6.56 272 Pn **Pn 18 21 28.9 +1.1**
154nm,0.7s,SNR=46
EMAZ Sn **Sn 18 22 39.8 -3.5**
95nm,0.4s,SNR=4.6
HAU Haudompre 6.65 40 *e*Pn **Pn 18 21 28.8 -0.2**
HAU *e*Sg **Sg 18 23 22.2 -1.5**
913nm,0.7s
HAU Haudompre 6.65 40 *e*Pn **Pn 18 21 28.8 -0.2**
HAU *e*Sg **Sg 18 23 22.2 -1.5**
456nm,0.7s
PGF Pioggiola 6.66 92 *e*Pn **Pn 18 21 26.6 -2.5**
PGF *e*Sn **Sn 18 22 37.6 -8.0**
PTO Porto 6.67 256 *e*Pn **Pn 18 21 29.8 +0.6**
ERON Agron 6.72 207 Pn **Pn 18 21 31.2 +1.3**
128nm,0.7s,SNR=16
ELOJ Sierra Loja 6.72 209 Pn **Pn 18 21 30.9 +1.0**
108nm,0.7s,SNR=7.9
ELOJ Lg 18 23 25.4
202nm,1.0s,SNR=7.9
HINF Hinteralfeld 6.76 43 *e*Pg **Pg 18 21 58.0 -1.7**
HINF *e*Sg **Sg 18 23 25.9 -1.5**
1µm,1.0s
HINF Hinteralfeld 6.76 43 *e*Pn **Pn 18 21 29.3 -1.3**
HINF *e*Pg **Pg 18 21 58.0 -1.7**
HINF *e*Sg **Sg 18 23 25.9 -1.5**
HINF Hinteralfeld 6.76 43 Pn **Pn 18 21 29.3 -1.3**
HINF Pg **Pg 18 21 58.0 -1.7**
HINF Lg 18 23 25.9
706nm,1.0s
HINF Hinteralfeld 6.76 43 *e*Pg **Pg 18 21 58.0 -1.7**
HINF *e*Sg **Sg 18 23 25.9 -1.5**
706nm,1.0s
EGUA Guajares 6.81 205 Pn **Pn 18 21 32.6 +1.4**
8.4nm,0.3s,SNR=7.9
EGUA Pg **Pg 18 21 54.3 -6.3**
19nm,0.6s,SNR=4.0
EGUA Lg 18 23 27.2
115nm,1.1s,SNR=7.9
EBAD Badajoz 6.83 233 Pn **Pn 18 21 31.3 -0.2**
36nm,0.3s,SNR=51
EBAD Sn **Sn 18 22 44.6 -5.3**
100nm,0.6s,SNR=4.8
EBAD Lg 18 23 29.2
1µm,1.2s,SNR=5.0
EBAD Badajoz 6.83 233 Pn **Pn 18 21 31.3 -0.2**
36nm,0.3s,SNR=51
EBAD Sn **Sn 18 22 44.6 -5.3**
100nm,0.6s,SNR=4.8
EBNR Beni Rached 6.89 169 P **Pn 18 21 42.0 +10**
ECHF Ech Chlef 7.00 171 Pn **Pn 18 21 41.0 +7.2**
ECHA Ech Chlef 7.01 171 P **Pn 18 21 41.0 +7.1**
PESTR Estremoz 7.11 236 *e*Pn **Pn 18 21 35.1 -0.1**
PESTR *e*Sn **Sn 18 22 51.8 -4.8**
PESTR
187nm,0.3s
EMAL Malaga-Limoner 7.16 210 Pn **Pn 18 21 37.4 +1.3**
EMAL Lg 18 23 35.8
EMAL Malaga-Limoner 7.16 210 *e*P **Pn 18 21 37.3 +1.3**
EANR 'Ain N'Sour 7.18 173 P **Pn 18 21 44.0 +7.7**
EMHD Djebel Mahouad 7.25 161 P **Pn 18 21 40.0 +2.8**
EMIN Mina Concepcio 7.34 226 Pn **Pn 18 21 38.0 -0.4**
34nm,0.8s,SNR=25
EMIN Pg **Pg 18 22 05.3 -5.5**
17nm,0.4s,SNR=7.9
EMIN Sn **Sn 18 22 56.9 -5.5**
91nm,0.8s,SNR=6.8
EMIN Lg 18 23 45.1
834nm,1.3s,SNR=5.0
EMIN Mina Concepcio 7.34 226 Pn **Pn 18 21 38.0 -0.5**
34nm,0.8s,SNR=25
EMIN Mina Concepcio 7.34 226 Pg **Pg 18 22 05.3 -5.5**
17nm,0.4s,SNR=7.9
EMIN Sn **Sn 18 22 56.9 -5.5**
91nm,0.8s,SNR=6.8
USTO Oran 7.36 183 P **Pn 18 21 48.0 +9.3**
CDF Champ du Feu 7.38 41 *e*Pg **Pg 18 22 12.1 +0.6**
CDF *e*Sg **Sg 18 23 47.5 +0.5**
1µm,1.0s
CDF Champ du Feu 7.38 41 *e*Pn **Pn 18 21 38.5 -0.5**
CDF *e*Pg **Pg 18 22 12.1 +0.6**
CDF *e*Sg **Sg 18 23 47.5 +0.5**
CDF Champ du Feu 7.38 41 Pn **Pn 18 21 38.5 -0.5**
CDF Pg **Pg 18 22 12.1 +0.6**
CDF Lg 18 23 47.5
538nm,1.0s
LIJA Lijar 7.42 216 Pn **Pn 18 21 40.5 +0.9**
LIJA Lg 18 23 48.0
LIJA Lijar 7.42 216 *i* P **Pn 18 21 40.5 +0.9**
GRAM 7.44 76 P **Pn 18 21 41.6 +1.8**
VINC Vinca 7.46 78 P **Pn 18 21 42.1 +2.0**
EMIJ Mijas 7.47 211 Pn **Pn 18 21 41.2 +1.0**
EMIJ Pg **Pg 18 22 07.9 -5.3**
EMIJ Sn **Sn 18 22 60.0 -5.5**
EMIJ Lg 18 23 49.3
EMIJ Mijas 7.47 211 Pn **Pn 18 21 41.2 +1.0**
31nm,0.4s,SNR=18
EMIJ Pg **Pg 18 22 07.9 -5.3**
104nm,0.9s,SNR=4.0
EMIJ Sn **Sn 18 22 60.0 -5.5**
47nm,0.5s,SNR=4.4
EMIJ Lg 18 23 49.3
1µm,2.1s,SNR=5.0
EMIJ Mijas 7.47 211 Pg **Pg 18 22 07.9 -5.3**
104nm,0.9s,SNR=4.0
EMIJ Sn **Sn 18 23 00.0 -5.5**
47nm,0.5s,SNR=4.4
OJBR Djebel Berber 7.50 178 P **Pn 18 21 46.0 +5.4**
ALMR Almeirim 7.55 242 *e*P **Pn 18 21 39.3 -2.1**
ALMR AML AML 18 21 52.8
comp=Z,236nm,0.7s
ALMR *e*S **Sn 18 22 57.2 -10**
ALMR *e*S **Sn 18 22 57.2 -10**
ALMR Almeirim 7.55 242 *e*P **Pn 18 21 39.3 -2.1**
ALMR *e*S **Sn 18 22 57.2 -10**
ALMR
comp=Z,236nm,0.7s
BAIF Baives 7.56 21 *e*Pn **Pn 18 21 40.3 -1.2**
BAIF *e*Sn **Sn 18 23 01.2 -6.6**
BAIF *e*Sg **Sg 18 23 50.6 -2.3**
comp=Z,1µm,1.1s
BAIF Baives 7.56 21 *e*P **Pn 18 21 40.3 -1.2**
BAIF *e* 18 23 01.2
BAIF Baives 7.56 21 *e*Pn **Pn 18 21 40.3 -1.2**
BAIF *e*Sn **Sn 18 23 01.2 -6.6**
BAIF *e*Sg **Sg 18 23 50.6 -2.3**
comp=Z,709nm,1.1s
EVO Evora 7.57 236 *e*Sn **Sn 18 23 00.6 -7.6**
EVO *e*Sg **Sg 18 23 43.9 -9.5**
comp=Z,1µm,0.9s
ESPR Espera 7.65 218 Pn **Pn 18 21 43.6 +0.9**
comp=Z,160nm,0.8s,SNR=31
ESPR Sn **Sn 18 23 07.5 -2.6**
comp=Z,60nm,0.6s,SNR=4.5
ESPR Lg 18 23 53.4
comp=Z,3µm,2.0s,SNR=5.0
ESPR Espera 7.65 218 Pn **Pn 18 21 43.6 +0.8**
comp=Z,160nm,0.8s,SNR=31
ESPR Sn **Sn 18 23 07.5 -2.6**
comp=Z,60nm,0.6s,SNR=4.5
ERBM Eremo 7.67 76 P **Pn 18 21 48.0 +4.9**
DOU Dourbes 7.70 23 P **Pn 18 21 42.9 -0.5**
DOU AP 18 21 44.8
DOU S **Sn 18 23 11.8 +0.6**
REAL Reales 7.71 213 Pn **Pn 18 21 45.0 +1.5**
REAL Lg 18 23 50.0
REAL Reales 7.71 213 *i* P **Pn 18 21 45.0 +1.5**
PII Pisa 7.71 82 P **Pn 18 21 47.4 +3.9**
GIBL Gibalbin 7.74 218 *e*P **Pn 18 21 45.0 +1.1**
ODJA Bouhanifia 7.75 181 P **Pn 18 21 47.0 +3.0**
ETRT Tiaret 7.75 172 P **Pn 18 21 50.0 +5.9**
GIVF Givet 7.77 24 *e*Pn **Pn 18 21 43.9 -0.5**
GIVF *e*Sn **Sn 18 23 08.1 -4.9**
GIVF *e*Sg **Sg 18 23 59.8 +0.2**
comp=Z,758nm,0.6s
GIVF Givet 7.77 24 Pn **Pn 18 21 43.9 -0.5**
GIVF Sn **Sn 18 23 08.1 -4.9**
GIVF Lg 18 23 59.8
comp=Z,379nm,0.6s
GIVF Givet 7.77 24 *e*Pn **Pn 18 21 43.9 -0.5**
GIVF *e*Sn **Sn 18 23 08.1 -4.9**
MOE Montemor 7.79 237 *e*Pn **Pn 18 21 44.3 -0.3**
MOE *e*Sn **Sn 18 23 08.1 -5.3**
MOE Montemor 7.79 237 *e*P **Pn 18 21 44.4 -0.2**
GSCL Gusciola 7.79 77 P **Pn 18 21 49.1 +4.4**
PBEJ Beja 7.82 232 *e*Pn **Pn 18 21 44.8 -0.2**
PBEJ *e*Sn **Sn 18 23 07.5 -6.7**
PBEJ
comp=Z,129nm,1.2s
PBEJ Beja 7.82 232 *e*P **Pn 18 21 44.0 -1.0**
EJIF Jimena Fronter 7.84 214 Pn **Pn 18 21 45.0 -0.3**
comp=Z,81nm,0.6s,SNR=7.9
EJIF Sn **Sn 18 23 09.0 -5.7**
comp=Z,129nm,1.0s,SNR=7.9
EJIF Lg 18 24 01.2
comp=Z,559nm,1.2s,SNR=7.9
EJIF Jimena Fronter 7.84 214 Pn **Pn 18 21 45.0 -0.3**
comp=Z,81nm,0.6s,SNR=7.9
EJIF Sn **Sn 18 23 09.0 -5.7**
comp=Z,129nm,1.0s,SNR=7.9
WLF Walferdange 7.84 31 *e*Pn **Pn 18 21 45.3 0.0**
WLF *e*Sg **Sg 18 24 01.9 -0.1**
WLF Walferdange 7.84 31 P **Pn 18 21 45.2 -0.1**
WLF AP 18 21 48.2
WLF PNPN 18 21 54.5
WLF E 18 22 22.8
WLF S **Sn 18 23 16.0 +1.3**
WLF E 18 23 25.1
WLF E 18 24 05.2
WLF Walferdange 7.84 31 *e*P **Pn 18 21 43.3 -2.0**
WLF pmax pmax
comp=Z,349nm,1.2s
WLF Walferdange 7.84 31 *e*P **Pn 18 21 43.3 -2.0**
comp=Z,349nm,1.2s
BFO Black Forest 7.85 45 *e*Pn **Pn 18 21 47.0 +1.5**
BFO *e*Sg **Sg 18 24 03.4 +1.1**
VSL Villasalto 7.94 114 *e*P **Pn 18 21 46.1 -0.6**
comp=Z,61nm,0.7s
DAVOX Davos 7.94 59 Pn **Pn 18 21 49.0 +2.3**
baz=270,slow=18,SNR=6.0
DAVOX Lg 18 24 06.0
baz=200,slow=21,SNR=8.5
EGRO El Granado 7.95 228 Pn **Pn 18 21 46.0 -0.8**
comp=Z,6.9nm,0.3s,SNR=29
EGRO Sn **Sn 18 23 10.5 -6.9**
comp=Z,107nm,0.6s,SNR=4.8
EGRO Lg 18 24 05.8
comp=Z,1µm,1.1s,SNR=5.0
EGRO El Granado 7.95 228 Pn **Pn 18 21 46.0 -0.8**
EGRO Sn **Sn 18 23 10.5 -6.9**
DFRA Djebel Bou Aff 7.96 143 P **Pn 18 21 51.0 +4.1**
SNF Seneffe 7.99 20 P **Pn 18 21 46.9 -0.5**
SNF AP 18 21 49.2
SNF SN **Sn 18 23 16.1 -2.3**
SNF XSN 18 23 20.7
SNF E 18 23 27.0
SNF E 18 23 35.2
SNF SB **Sb 18 23 50.7 +5.7**
SNF E 18 24 12.3
SET Setif 8.05 147 P **Pn 18 21 51.0 +2.8**
PLOU Loures 8.08 242 *e*Pn **Pn 18 21 49.3 +0.7**
PLOU *e*Sn **Sn 18 23 16.4 -4.1**
PLOU
comp=Z,184nm,0.4s
MAGA Magasa 8.09 67 P **Pn 18 21 55.0 +6.3**
PMAFR Mafra 8.12 243 *e*Pn **Pn 18 21 49.9 +0.7**
PMAFR *e*Sn **Sn 18 23 17.1 -4.6**
PMAFR
comp=Z,329nm,0.5s
SFS San Fernando 8.14 218 Pn **Pn 18 21 54.3 +4.8**
SFS Lg 18 24 18.2
SFS San Fernando 8.14 218 *e*P **Pn 18 21 54.3 +4.8**
CNIL Conil 8.16 217 Pn **Pn 18 21 53.0 +3.3**
CNIL Lg 18 24 10.0
CNIL Conil 8.16 217 *e*P **Pn 18 21 53.0 +3.3**
DAVA Damuels 8.16 56⇑ *e*Pn **Pn 18 21 50.5 +0.8**
comp=Z,18nm,0.6s
DAVA ⇑ *i*Sg **Sg 18 24 12.3 +0.2**
comp=Z,147nm,0.5s
DAVA Damuels 8.16 56⇑ *e*Pn **Pn 18 21 50.5 +0.8**
comp=Z,18nm,0.6s
BCLA Clavier 8.20 25 P **Pn 18 21 50.2 0.0**
CAEH 'Ain El Ouahch 8.22 138 P **Pn 18 21 56.0 +5.5**
CSNT Castellina Chi 8.27 83 P **Pn 18 21 56.1 +4.9**
MDAL Dalia 8.32 212 *i* P **Pn 18 21 54.0 +2.1**
ZAI Zaio 8.38 196 *i* P **Pn 18 21 53.0 +0.3**
VMG Vicchio 8.45 80 P **Pn 18 22 00.0 +6.3**
CKFL Kef-Lekhel 8.46 140 P **Pn 18 21 57.5 +3.7**
CASM Ain Smara 8.47 141 P **Pn 18 21 57.0 +3.1**
STU Stuttgart 8.58 45 *e*Sg **Sg 18 24 25.3 -0.2**
MEM Membach 8.58 27 P **Pn 18 21 54.6 -0.9**
MEM E 18 22 05.2
MEM E 18 22 16.2
MEM XPG 18 22 37.2
MEM S **Sn 18 23 32.0 -1.0**
CTEI Djebel Teioual 8.59 143 P **Pn 18 22 00.0 +4.4**
TOU Touzarine 8.62 201 Pn **Pn 18 21 56.0 +0.1**
CMAH Djebel Manchou 8.62 136 P **Pn 18 21 58.0 +1.9**
DKH Dar Kharkhour 8.64 210 Pn **Pn 18 22 02.0 +5.7**
PTEO Sao Teotonio 8.64 233 *e*Pn **Pn 18 21 55.5 -0.8**
PTEO *e*Sn **Sn 18 23 27.7 -6.8**
PTEO
comp=Z,169nm,0.3s
SFI Santa Sofia 8.67 81 P **Pn 18 22 00.2 +3.5**

HGN Heimansgroeve 8.69 26 *e*Pn **Pn 18 21 58.8 +1.8**
HGN *e*Sg **Sg 18 24 29.5 +0.3**
HGN *e*Pg **Pg 18 22 40.6 +4.0**
HGN *e*Sg **Sg 18 24 29.5 +0.4**
HGN Heimansgroeve 8.69 26 *e*Pn **Pn 18 21 58.8 +1.8**
APPI Appiano 8.69 63 P **Pn 18 22 03.5 +6.5**
CRE Caprese Michel 8.74 82 P **Pn 18 22 02.9 +5.2**
CMER Merouana 8.75 146 P **Pn 18 22 01.0 +3.2**
SQTA Sankt Quirin 8.95 59⇓ *i*Pn **Pn 18 22 02.7 +2.2**
comp=Z,6.6nm,0.2s
TSY Tnine Yamani 8.97 213 *i* P **Pn 18 22 03.0 +2.1**
TNS Taunus Mts 9.21 36 *e*Pn **Pn 18 22 03.2 -0.9**
TNS *e*Sg Sn 18 24 43.8 +55
WTTA Wattenberg 9.23 59⇑ *i*Pn **Pn 18 22 08.0 +3.6**
comp=Z,63nm,0.7s
WTTA Wattenberg 9.23 59 Pn **Pn 18 22 08.1 +3.6**
WTTA Sg Sn 18 24 48.5 +60
WTTA Wattenberg 9.23 59 Pn **Pn 18 22 08.1 +3.7**
WTTA Sg Sn 18 24 48.5 +60
RSA Sarsar 9.36 211 *e*P **Pn 18 22 10.0 +3.9**
FUR Furstenfeldbru 9.40 53 *e*Sg Sx 18 24 51.0
SNTG Esanatoglia 9.48 85 P **Pn 18 22 14.3 +6.5**
BUG Bochum--Univer 9.71 28 *e*Sg Sx 18 24 59.8
FVI Forni Avoltri 9.75 65 P **Pn 18 22 18.2 +6.7**
AQU L'Aquila 9.91 90 P **Pn 18 22 12.6 -1.1**
WTSB Winterswijk 10.01 25 *e*Pn **Pn 18 22 15.7 +0.7**
WTSB *e*Sg Sn 18 25 08.9 +61
PTCC Patocco-Chiusa 10.08 66 P **Pn 18 22 21.2 +5.2**
GRFO Grafenberg 10.19 46 *e*P **Pn 18 22 15.5 -2.1**
GRFO pmax pmax
comp=Z,85nm,1.6s
GRFO Grafenberg 10.19 46 *e*P **Pn 18 22 15.5 -2.1**
comp=Z,85nm,1.6s
GRF Grafenberg Arr 10.19 46 *e*Sg Sx 18 25 19.8
KBA Koelnbreinsper 10.26 63⇑ *e*Pn **Pn 18 22 20.5 +2.0**
comp=Z,12nm,0.6s
KBA ⇓ *e*Sn **Sn 18 24 23.0 +8.8**
comp=Z,10nm,0.8s
KEST Kesra 10.31 132 Pn **Pn 18 22 20.0 +0.7**
comp=Z,1.1nm,0.3s,baz=274,slow=2.9,SNR=24
KEST Sn **Sn 18 24 10.3 -5.2**
comp=Z,0.6nm,0.3s,baz=211,slow=12,SNR=2.6
VOY Vojsko 10.36 69 *e*Pn **Pn 18 22 22.5 +2.6**
VOY *e* 18 22 29.0
VOY *e*Sn **Sn 18 24 19.8 +3.1**
MIF Mishlifen 10.49 205 *i* P **Pn 18 22 27.0 +5.4**
LHO Holmfirth 10.54 354 P **Pn 18 22 21.9 -0.4**
LHO S **Sn 18 24 26.4 +5.5**
CZD Col de Zad 10.79 203 *i* P **Pn 18 22 29.0 +3.3**
MDT Midelt 10.87 201 Pn **Pn 18 22 27.0 +0.2**
comp=Z,0.4nm,0.3s,baz=14,slow=9.4,SNR=11
MOX Moxa 10.97 42 *e*PN **Pn 18 22 31.1 +2.8**
MOX *e*SG 18 25 44.1
MOX
comp=Z,2µm,21.0s
MOX Moxa 10.97 42 *e*Pn **Pn 18 22 31.1 +2.8**
MOX *e*Sg 18 25 44.1
MOX Moxa 10.97 42 *e*P **Pn 18 22 31.1 +2.8**
comp=Z,2µm,21.0s
DLF Lyons Farm 11.09 339 *e*P **Pn 18 22 28.1 -1.8**
DLF *e*S **Sn 18 24 27.4 -7.2**
MOA Molln 11.11 60⇑ *i*Pn **Pn 18 22 35.2 +5.1**
comp=Z,13nm,0.7s
MOA ⇑ *e*Sn **Sn 18 24 40.0 +5.1**
comp=Z,8.5nm,0.5s
GEC2 GERESS Array S 11.15 54 *e*P **Pn 18 22 30.9 +0.2**
GERES GERESS Array B 11.15 54 Pn **Pn 18 22 31.2 +0.5**
comp=Z,0.8nm,0.3s,baz=242,slow=13,SNR=21
GERES Sn **Sn 18 24 33.8 -2.1**
comp=Z,1.0nm,0.3s,baz=255,slow=23,SNR=2.8
NKC Novy Kostel 11.15 46 *e*P **Pn 18 22 34.4 +3.7**
NKC *ex* x 18 25 46.9
KHC Kasperske Hory 11.21 53 *e*P **Pn 18 22 30.9 -0.5**
KHC *ex* x 18 25 47.9
CLZ Clausthal 11.22 35 *e*Sg Sx 18 25 49.5
DCN Croghan 11.34 337 *e*P **Pn 18 22 33.2 -0.1**
DCN *e*S **Sn 18 24 36.4 -4.2**
KIB El Ksiba 11.51 206 *i* P **Pn 18 22 39.0 +3.3**
ZFT Errachidia 11.55 199 *i* P **Pn 18 22 40.0 +3.8**
ARSA Arzberg 11.74 64⇑ *e*Pn **Pn 18 22 41.1 +2.4**
comp=Z,7.3nm,0.6s
ARSA Arzberg 11.74 64 Pn **Pn 18 22 41.1 +2.4**
ARSA Sg 18 26 28.6
CLL Collm 12.07 43 *e*Sg Sx 18 26 20.8
CLL Collm 12.07 43 *e*P **Pn 18 22 35.0 -8.3**
CLL MLR MLR
comp=Z,3µm,40.7s
CLL Collm 12.07 43 *e*Pn **Pn 18 22 35.0 -8.3**
CLL *e*Sg 18 26 35.0
CLL Collm 12.07 43 *e*P **Pn 18 22 46.5 +3.2**
CLL *ex* x 18 23 47.0
CLL Collm 12.07 43 *e*Sg Sx 18 26 16.0
CONA Conrad Observa 12.15 61⇑ *e*Pn **Pn 18 22 47.8 +3.4**
comp=Z,9.0nm,0.7s
CONA ⇑ *i*Sn **Sn 18 25 02.7 +2.3**
comp=Z,6.3nm,0.5s
BRG Berggiesshubel 12.30 46 *e*P **Pn 18 22 43.2 -3.2**
comp=Z,8.8nm,1.6s
BRG *e* 18 23 06.9
comp=Z,8.4nm,1.4s
BRG Berggiesshubel 12.30 46 *e*P **Pn 18 22 43.2 -3.2**
BRG pmax pmax
comp=Z,88nm,1.6s
BRG pmax pmax
comp=Z,8.0nm,1.4s
ESK Eskdalemuir 12.41 352 *e*P **Pn 18 22 45.9 -2.1**
ESK pmax pmax
comp=Z,21nm,0.4s
ESK Eskdalemuir 12.41 352 *e*P **Pn 18 22 45.9 -2.1**
comp=Z,22nm,0.4s
EKA Eskdalemuir Ar 12.43 352 Pn **Pn 18 22 47.9 -0.3**
comp=Z,1.9nm,0.3s,baz=157,slow=14,SNR=33
EKA Sn **Sn 18 25 12.1 +4.9**
comp=Z,0.4nm,0.3s,baz=174,slow=24,SNR=2.5
VRAC Vranov 13.07 56 Pn **Pn 18 22 59.1 +2.1**
comp=Z,0.6nm,0.3s,baz=255,slow=15,SNR=3.3
VRAC Sn **Sn 18 25 16.2 -6.9**
comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=2.1
VRAC Lg 18 26 52.9
comp=Z,0.6nm,0.3s,baz=174,slow=21,SNR=5.4
VRAC Vranov 13.07 56⇓ *i*P **Pn 18 23 02.7 +5.7**
VRAC Vranov 13.07 56 P **Pn 18 22 59.1 +2.1**
VRAC 18 25 16.2
VRAC Vranov 13.07 56 Pn **Pn 18 22 59.1 +2.1**
VRAC ⇓P 18 23 02.7
VRAC Sn **Sn 18 25 16.2 -6.9**
VRAC Lg 18 26 52.9
TIP Timpagrande 13.24 101 *e*P **Pn 18 23 03.6 +4.3**
TIP Timpagrande 13.24 101 *e*Pn **Pn 18 23 03.6 +4.3**
UPC Upice 13.24 50 *e*P **Pn 18 23 09.0 +10**
DPC Dobruska-Polom 13.35 51 *e*S Sx 18 26 56.9
OUK Oukaimeden 13.39 210 *i* P **Pn 18 23 05.0 +3.6**
CIA Chichaoua 13.43 214 *i* P **Pn 18 23 03.0 +1.2**
PKSM Moragy 13.65 70⇑ *i*P **Pn 18 23 09.9 +5.0**
PKSM Moragy 13.65 70 ⇑P **Pn 18 23 09.8 +5.0**
MORC Moravsky Berou 13.82 55⇓ *i*P **Pn 18 23 11.0 +3.8**
MORC Moravsky Berou 13.82 55 *e*P **Pn 18 23 06.8 -0.5**
MORC ⇓P 18 23 11.0
VYHS Vyhne 14.22 61 *e*SN **Sn 18 25 48.7 -2.2**
VYHS *e* 18 27 52.5
VYHS Vyhne 14.22 61 *e*P **Pn 18 23 17.0 +4.4**
VYHS *e* 18 25 48.7
VYHS Vyhne 14.22 61 *e*Pn **Pn 18 23 17.0 +4.4**
VYHS *e*Sn **Sn 18 25 48.7 -2.2**
VYHS *e*Sg 18 27 52.5
PSZ Piszkesteto 14.77 64 *e*P **Pn 18 23 20.4 +0.3**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 14.77 64 *e*P **Pn 18 23 20.4 +0.2**
comp=Z,6.8nm,0.9s
PSZ P 18 23 23.9
PSZ Piszkesteto 14.77 64 P **Pn 18 23 23.9 +3.8**
KECS Kecovo 15.28 62 *e*PN **Pn 18 23 26.4 -0.6**
BZS Buzias 15.68 73⇑ *i*P **Pn 18 23 39.0 +6.7**
BZS Buzias 15.68 73⇑P **Pn 18 23 39.0 +6.7**
STHS Stebnicka Huta 15.99 59 *e*P **Pn 18 23 43.6 +7.3**
STHS *e* 18 28 50.7
DRGR 16.51 69⇓ *i*P **Pn 18 23 49.0 +6.1**
DRGR 16.51 69⇓P **Pn 18 23 49.0 +6.1**
BURAR Bucovina Array 18.28 67⇓ *i*P **Pn 18 24 09.4 +4.4**
BURAR Bucovina Array 18.28 67⇓P **Pn 18 24 09.4 +4.4**
MLR Muntele Rosu 18.72 74 P **Pn 18 24 14.2 +3.7**
comp=Z,0.4nm,0.3s,baz=306,slow=5.7,SNR=5.2

MLR Muntele Rosu 18.72 74 ⇑*i*P **Pn 18 24 15.2 +4.7**
MLR Muntele Rosu 18.72 74 ⇑P **Pn 18 24 15.2 +4.8**
HFS Hagfors 19.01 21 P **Pn 18 24 15.2 +1.3**
comp=Z,0.4nm,0.3s,baz=224,slow=4.1,SNR=12
KMPD K-Podol'skiy 19.20 64 P **Pn 18 24 18.0 +1.7**
NB2 NORSAR Subarra 19.21 17 P **Pn 18 24 17.5 +1.1**
comp=Z,20nm,1.4s,baz=206,slow=11
NOA NORSAR Array B 19.21 17 P **Pn 18 24 18.3 +1.9**
comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=4.4
NOA NORSAR Array B 19.21 17 P **Pn 18 24 18.3 +1.9**
VRI Vrincioaia 19.26 72 ⇓*i*P **Pn 18 24 21.3 +4.3**
VRI Vrincioaia 19.26 72 ⇓P **Pn 18 24 21.3 +4.3**
APE Apeiranthos 20.42 98 ⇑*i*P **P 18 24 28.5 -0.2**
APE Apeiranthos 20.42 98 *e*P **P 18 24 27.8 -0.9**
TIRR Tirgusor 20.54 76 ⇓*i*P **P 18 24 34.1 +4.1**
TIRR Tirgusor 20.54 76 ⇓P **P 18 24 34.1 +4.1**
SANT Santorini 20.67 100 *e*P **P 18 24 28.8 -2.6**
comp=Z,29nm,0.7s
IDI Anoyia 20.77 104 P **P 18 24 32.4 -0.1**
comp=Z,19nm,0.8s,baz=305,slow=13,SNR=10.0
KIEV Kiev 21.28 59 *e*P **P 18 24 38.0 0.0**
KIEV pmax pmax
comp=Z,20nm,0.8s,mb4.5
KIEV Kiev 21.28 59 *e*P **P 18 24 38.0 +0.1**
comp=Z,20nm,0.8s,mb4.5
AKASG Malin Array Be 21.29 59 P **P 18 24 37.9 -0.2**
comp=Z,13nm,0.9s,mb4.2,baz=251,slow=10,SNR=12
AKASG Malin Array Be 21.29 59 *i*P **P 18 24 38.4 +0.3**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 21.29 59 *i*P **P 18 24 38.4 +0.3**
comp=Z,13nm,0.9s,mb4.3
AKBB Malin Array Si 21.29 59 *e*P **P 18 24 37.1 -1.0**
FINES FINESS Array B 24.07 31 P **P 18 25 08.0 +1.0**
comp=Z,5.0nm,0.6s,mb4.2,baz=242,slow=4.1,SNR=14
FINES FINESS Array B 24.07 31 P **P 18 25 08.0 +1.0**
BORG Borgarnes 24.82 338 P **P 18 25 21.6 +7.8**
comp=Z,15nm,0.7s,mb4.8,baz=172,slow=7.7,SNR=4.1
BR131 Keskin Array S 25.38 86 *e*P **P 18 25 19.5 +0.7**
comp=Z,4.3nm,0.6s,mb4.4
BRTR Keskin Array B 25.38 86 P **P 18 25 19.4 +0.6**
comp=Z,5.2nm,0.6s,mb4.4,baz=277,slow=8.7,SNR=17
BRTR Keskin Array B 25.38 86 *i*P **P 18 25 19.7 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 25.38 86 *i*P **P 18 25 19.7 +0.9**
comp=Z,5.0nm,0.6s,mb4.4
OBN Obninsk 26.49 50 *e*P **P 18 25 29.8 +0.9**
OBN *e* 18 26 07.3
OBN *e*SS 18 31 03.9
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
OBN Obninsk 26.49 50 *e*P **P 18 25 29.8 +0.9**
comp=Z,7.0nm,1.1s,mb4.2
CSS Prodhromos 27.02 96 *e*P **P 18 25 33.4 -0.4**
comp=Z,22nm,0.8s,mb5.0
CSS Prodhromos 27.02 96 *e*P **P 18 25 33.3 -0.4**
comp=Z,22nm,0.8s,mb5.0
MMAI Mount Meron Ar 29.46 98 P **P 18 25 56.7 +1.2**
comp=Z,2.6nm,0.7s,mb4.2,baz=306,slow=10,SNR=4.5
ARCES ARCESS Array B 29.58 18 P **P 18 25 57.3 +0.8**
comp=Z,3.6nm,0.7s,mb4.3,baz=215,slow=9.4,SNR=20
TOA0 Torodi Ar. Sit 29.87 177 *e*P **P 18 25 58.4 -0.7**
TORD Torodi Ar. Bea 29.87 177 P **P 18 25 58.6 -0.5**
comp=Z,8.5nm,1.0s,mb4.5,baz=345,slow=9.5,SNR=11
KEV Kevo 30.09 18 *e*p **P 18 26 01.9 +0.8**
comp=Z,5.4nm,0.7s,mb4.5
KEV Kevo 30.09 18 *e*P **P 18 26 01.9 +0.8**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ASF Jabal al Asfar 30.98 98 P **P 18 26 09.2 +0.3**
comp=Z,5.8nm,0.8s,mb4.5,baz=162,slow=9.5,SNR=5.6
LIC Lamto 36.98 188 *e*P **P 18 27 02.8 +1.8**
comp=Z,66nm,1.1s,mb5.0
LIC Lamto 36.98 188 *e*P **P 18 27 02.8 +1.8**
comp=Z,33nm,1.1s,mb5.0
LIC *e*PP PP 18 28 22.4 -2.7
ARU Arti 38.92 49 ⇓*i*P **P 18 27 18.8 +1.4**
ARU *e* 18 28 48.4
ARU *e*PPP 18 29 06.2
ARU *e*S **S 18 33 16.3 -0.3**
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ARU Arti 38.92 49 P **P 18 27 21.0 +3.6**
ARU Arti 38.92 49 *i*P **P 18 27 18.8 +1.4**
comp=Z,10.0nm,0.9s,mb4.5
AKTK Aktyubinsk 39.53 58 P **P 18 27 24.3 +1.7**
AKTK Aktyubinsk 39.53 58 P **P 18 27 24.3 +1.7**
AKTO Aktyubinsk 39.53 58 P **P 18 27 24.3 +1.7**
comp=Z,1.4nm,0.6s,mb3.8,baz=287,slow=11,SNR=5.6
AKTO Aktyubinsk 39.53 58 P **P 18 27 24.3 +1.7**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
ZRNK Zerenda 45.53 52 *e*P **P 18 28 12.6 +1.3**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZRNK Zerenda 45.53 52 *e*P **P 18 28 12.6 +1.3**
comp=Z,4.2nm,0.9s,mb4.5
ZRNK Zerenda 45.53 52 *e*P **P 18 28 12.6 +1.3**
comp=Z,4.2nm,0.9s,mb4.5
BRVK Borovoye 46.24 52 *e*P **P 18 28 17.8 +0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 46.24 52 *e*P **P 18 28 17.8 +0.9**
comp=Z,2.6nm,0.6s,mb4.4
BRVK Borovoye 46.24 52 *e*P **P 18 28 17.8 +0.9**
comp=Z,2.6nm,0.6s,mb4.4
BVAR Borovoye Array 46.31 52 P **P 18 28 18.2 +0.7**
comp=Z,1.8nm,0.8s,mb4.2,baz=292,slow=7.6,SNR=4.6
ZAL Zalesovo 53.98 47 P **P 18 29 14.9 -0.8**
comp=Z,0.8nm,0.4s,mb4.1,baz=168,slow=7.5,SNR=2.6
ZAL Zalesovo 53.98 47 *i*P **P 18 29 21.7 +6.0**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 55.28 133 P **P 18 29 27.1 +2.0**
comp=Z,2.6nm,0.9s,mb4.3,baz=314,slow=8.7,SNR=4.8
KMBO Kilima Mbogo 55.28 133 *e*P **P 18 29 27.3 +2.2**
KMBO pmax pmax
comp=Z,10.0nm,1.4s
KMBO Kilima Mbogo 55.28 133 *e*P **P 18 29 27.2 +2.1**
comp=Z,10nm,1.4s,mb4.7
KMBO Kilima Mbogo 55.28 133 *e*P **P 18 29 27.3 +2.2**
comp=Z,10.0nm,1.4s,mb4.7
MKAR Makanchi Array 55.82 55 P **P 18 29 29.9 +1.0**
comp=Z,1.7nm,0.7s,mb4.2,baz=312,slow=5.5,SNR=11
MKAR Makanchi Array 55.82 55 *i*P **P 18 29 29.8 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 55.82 55 P **P 18 29 29.9 +0.9**
WMQ Urumqi 60.61 56 ⇑P **P 18 30 00.4 -2.1**
WMQ AP 18 30 05.4
WMQ XP sP 18 30 07.9 +5.0
WMQ PCP PcP 18 30 44.5 -2.4
WMQ PP PP 18 32 16.0 0.0
WMQ PPP 18 33 43.6
WMQ SCP ScP 18 34 43.9 -5.4
WMQ *e*S **S 18 38 14.5 -5.2**
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.8
WMQ LR LR
comp=N,1μm,17.9s
WMQ LR LR
comp=E,778nm,19.7s
WMQ LR LR
comp=Z,986nm,17.8s
ULM Lac du Bonnet 61.71 314 P **P 18 30 10.5 +0.5**
comp=Z,5.0nm,1.0s,mb4.7,baz=24,slow=5.9,SNR=3.5
ULM Lac du Bonnet 61.71 314 P **P 18 30 10.5 +0.5**
LSZ Lusaka 63.59 149 *e*P **P 18 30 23.3 +0.8**
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
LSZ Lusaka 63.59 149 *e*P **P 18 30 23.3 +0.8**
comp=Z,8.1nm,1.0s,mb4.9
KOLN Koldanda 67.20 73 *e*P **P 18 30 46.2 +0.3**
comp=Z,43nm,1.7s,mb5.4
GKN Gorkha 67.78 72 *e*P **P 18 30 49.9 +0.3**
comp=Z,22nm,1.2s,mb5.3
KKN Kakani 68.36 72 *e*P **P 18 30 53.7 +0.5**
comp=Z,10nm,0.7s,mb5.2
SONM Songino Array 68.69 44 P **P 18 30 55.8 +0.5**
comp=Z,0.6nm,0.7s,mb3.9,baz=303,slow=8.7,SNR=3.6
GUN Gumba 68.70 71 *e*P **P 18 30 56.1 +0.7**
comp=Z,42nm,1.1s,mb5.6
ULN Ulaanbaatar 69.00 44 *e*P **P 18 30 57.9 +0.7**
JIRN Jiri 69.07 71 *e*P **P 18 30 58.0 +0.3**
comp=Z,15nm,0.9s,mb5.2

PDAR Pinedale Array 73.73 314 P **P 18 31 27.1 +1.3**
comp=Z,0.5nm,0.8s,mb3.6,baz=61,slow=7.3,SNR=3.6
LZH Lanzhou 75.11 54 *e*P **P 18 31 33.1 -0.8**
LZH AP 18 31 37.9
LZH XP sP 18 31 40.3 +6.0
LZH PP PP 18 34 22.5 +0.6
LZH AMB AMB
comp=Z,17nm,1.2s,mb5.0
LZH Lanzhou 75.11 54 *e*P **P 18 31 33.1 -0.8**
LZH *PP 18 31 37.9
LZH *SP sP 18 31 40.2 +5.9
LZH 18 34 22.5
LZH pmax pmax
comp=Z,17nm,1.2s,mb5.0
LZH Lanzhou 75.11 54 *e*P **P 18 31 33.1 -0.8**
comp=Z,17nm,1.2s,mb5.0
LZH pP 18 31 37.9
LZH sP sP 18 31 40.2 +5.9
LZH PP PP 18 34 22.5 +0.6
HHC Hu-ho-hao-te 76.17 47 *e*P **P 18 31 39.3 -0.7**
HHC XP sP 18 31 46.3 +6.0
HHC PP PP 18 34 31.8 +1.0
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.9
CD2 Chengdu 78.59 58 *e*P **P 18 31 51.4 -2.1**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
TXAR Lajitas Array 79.58 300 P **P 18 32 00.9 +2.0**
comp=Z,0.3nm,0.5s,mb3.4,baz=69,slow=5.5,SNR=4.4
SIV San Ignacio 81.10 238 P **P 18 32 08.6 +1.5**
comp=Z,8.1nm,0.6s,mb4.9,baz=75,slow=5.4,SNR=29
KMI Kunming 81.92 63 P **P 18 32 11.6 +0.2**
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.6
KMI Kunming 81.92 63 P **P 18 32 11.6 +0.2**
comp=Z,5.0nm,1.0s,mb4.6
GYA Guiyang 83.51 60 P **P 18 32 19.4 -0.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
NJ2 Nanjing 86.62 48 *e*P **P 18 32 35.4 +0.1**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.5
WRA Warramunga Arr 135.46 73 PKP PKPdf 18 39 13.6 +1.6
comp=Z,0.4nm,0.7s,baz=315,slow=2.2,SNR=5.3
WRA PP PP 18 41 45.5 -3.0
comp=Z,0.3nm,0.7s,baz=314,slow=5.8,SNR=4.5
ASAR Alice Springs 137.54 78 PKhKP 18 39 10.9
comp=Z,0.3nm,0.7s,baz=314,slow=1.7,SNR=6.0
ASAR PKP PKPdf 18 39 16.0 +0.2
comp=Z,0.3nm,0.6s,baz=324,slow=2.2,SNR=7.5
VNDA Vanda 144.67 173 PKP PKPdf 18 39 27.3 -1.3
comp=Z,6.6nm,0.8s,baz=263,slow=5.0,SNR=21
VNDA Vanda 144.67 173 *e*PKPdf PKPdf 18 39 25.0 -3.6
SBA Scott Base 144.71 175 *e*PKIKP PKPdf 18 39 27.4 -1.3
STKA Stephens Creek 147.81 83 PKPbc PKPbc 18 39 36.6 -0.2
comp=Z,8.3nm,0.8s,baz=328,slow=4.6,SNR=7.3

*ISCJB **17** 18:28:29.1±0.2, 4314N×001×003E±002, h6km±3km, Error ellipse: s-maj=2.5km s-min=2.3km az=80.1*
*STR **17** 18:28:30.8±0.1, 4301N×001E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 18:28:30.8±0.0, 4300N×000W, h10km, Ml2.7/11, Error ellipse: s-maj=0.9km s-min=0.7km az=164.0*
*CSEM **17** 18:28:30.9±0.0, 4302N×000E, h8km, ML2.6/11, Error ellipse: s-maj=0.8km s-min=0.7km az=122.0*
*NEIC **17** 18:28:30.8, 4301N×001E, h5km, ML2.0(MRB), ML2.6(STR), ML2.7(LDG), After STR.*
*MDD **17** 18:28:31.3±0.2, 4302N×000E, h0km, mbLg1.8/27, Error ellipse: s-maj=1.5km s-min=1.2km az=21.0, PRXIMO*
ISC 17 18:28:30.3±0.2**, 4308N**±001×**002E**±002, **h11**km±2km**, n95, s**0**80**/174**, 1C, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
LABF	**Labassere**	**0.05**	**129**	Pg	**Pg**	**18 28 32.9**	**+0.5**
LABF				Sg	**Sg**	**18 28 34.2**	**+0.2**
LABF	**Labassere**	**0.05**	**129**	Pg	**Pg**	**18 28 32.9**	**+0.5**
LABF				Lg		18 28 34.2	
VIEF	**Viey**	**0.20**	**179**	Pg	**Pg**	**18 28 34.0**	**-0.5**
VIEF				Sg	**Sg**	**18 28 36.0**	**-1.3**
VIEF	**Viey**	**0.20**	**179**	Pg	**Pg**	**18 28 34.0**	**-0.5**
VIEF				Lg		18 28 36.1	
EPF	**Esparros**	**0.24**	**102**	*e*Pg	**Pg**	**18 28 36.0**	**+0.8**
EPF				*e*Sg	**Sg**	**18 28 39.7**	**+1.1**
	166nm,0.2s						
EPF	**Esparros**	**0.24**	**102**	*e*Pg	**Pg**	**18 28 36.0**	**+0.8**
EPF				*e*Sg	**Sg**	**18 28 39.7**	**+1.1**
	83nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**268**	Pg	**Pg**	**18 28 36.5**	**+0.1**
REYF				Lg		18 28 40.8	
RESF	**Ens**	**0.36**	**139**	Pg	**Pg**	**18 28 37.2**	**-0.2**
RESF				Sg	**Sg**	**18 28 42.1**	**-0.1**
RESF	**Ens**	**0.36**	**139**	Pg	**Pg**	**18 28 37.3**	**-0.1**
RESF				Lg		18 28 42.1	
EBIE	**Bielsa**	**0.40**	**167**	⇑Pg	**Pg**	**18 28 37.7**	**-0.5**
	SNR=18						
EBIE				Lg		18 28 42.5	
	67nm,0.3s,SNR=66						
EBIE	**Bielsa**	**0.40**	**167**	Pg	**Pg**	**18 28 37.7**	**-0.5**
	SNR=18						
EBIE				Lg		18 28 42.5	
	67nm,0.3s,SNR=66						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	**18 28 39.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 28 44.5**	**-0.9**
	135nm,0.3s						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	**18 28 39.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 28 44.5**	**-0.9**
	67nm,0.3s						
FDAF	**Les Forges d'A**	**0.50**	**239**	Pg	**Pg**	**18 28 39.8**	**-0.3**
FDAF				Lg		18 28 46.1	
ATE	**Arette**	**0.53**	**271**	Pg	**Pg**	**18 28 40.9**	**+0.3**
ATE				Sg	**Sg**	**18 28 47.7**	**+0.2**
ATE	**Arette**	**0.53**	**271**	Pg	**Pg**	**18 28 40.7**	**+0.2**
ATE				Lg		18 28 47.8	
MELF	**Melles**	**0.58**	**111**	Pg	**Pg**	**18 28 41.7**	**+0.1**
MELF				Sg	**Sg**	**18 28 49.3**	**+0.1**
MELF	**Melles**	**0.58**	**111**	Pg	**Pg**	**18 28 41.6**	**+0.1**
MELF				Lg		18 28 49.1	
LARF	**Larrau**	**0.74**	**267**	Pg	**Pg**	**18 28 44.8**	**+0.2**
LARF				Sg	**Sg**	**18 28 54.9**	**+0.7**
LARF	**Larrau**	**0.74**	**267**	Pg	**Pg**	**18 28 44.8**	**+0.3**
LARF				Lg		18 28 54.8	
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**18 28 47.6**	**-0.3**
SJPF				*e*Sg	**Sg**	**18 28 59.1**	**-0.7**
	15nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**18 28 47.6**	**-0.3**
SJPF				*e*Sg	**Sg**	**18 28 59.1**	**-0.7**
	7.4nm,0.3s						
SALF	**Salau**	**0.92**	**110**	Pg	**Pg**	**18 28 47.9**	**0.0**
SALF	**Salau**	**0.92**	**110**	Pg	**Pg**	**18 28 48.0**	**0.0**
SALF				Lg		18 28 59.7	
IPRE	**Itoiz**	**1.05**	**255**	Pg	**Pg**	**18 28 49.8**	**-0.6**
	2.4nm,0.3s,SNR=6.3						
IPRE				Lg		18 29 04.1	
	6.7nm,0.4s,SNR=6.2						
IPRE	**Itoiz**	**1.05**	**255**	Pg	**Pg**	**18 28 49.8**	**-0.6**
	2.4nm,0.3s,SNR=6.3						
CSOR	**Sort**	**1.08**	**130**	P	**Pb**	**18 28 50.7**	**-0.3**
CSOR				S	**Sb**	**18 29 05.4**	**+0.3**
CSOR	**Sort**	**1.08**	**130**	Pg	**Pb**	**18 28 50.7**	**-0.3**
CSOR				Lg		18 29 05.4	
	8.1nm,0.2s						
CSOR	**Sort**	**1.08**	**130**	P	**Pb**	**18 28 50.7**	**-0.3**
CSOR				S	**Sb**	**18 29 05.4**	**+0.3**
EALK	**Alkurruntz**	**1.13**	**278**	Pg	**Pg**	**18 28 53.4**	**+1.5**
	7.8nm,0.3s,SNR=4.0						
EALK				Lg		18 29 09.1	
	43nm,1.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.14**	**275**	Pg	**Pg**	**18 28 52.5**	**+0.3**
	3.0nm,0.3s,SNR=6.1						
ELIZ				Lg		18 29 08.2	
	5.3nm,0.3s,SNR=6.7						
IUSE	**Utxeti**	**1.16**	**264**	Pg	**Pg**	**18 28 52.8**	**+0.3**
	4.2nm,0.2s,SNR=7.0						
IUSE				Lg		18 29 08.2	
	3.4nm,0.3s,SNR=7.0						
IUSE	**Utxeti**	**1.16**	**264**	Pg	**Pg**	**18 28 52.8**	**+0.3**
	4.2nm,0.2s,SNR=7.0						
CORG	**Organya**	**1.28**	**131**	P	**Pn**	**18 28 54.5**	**+0.4**
CORG				S	**Sb**	**18 29 11.8**	**+1.0**
CORG	**Organya**	**1.28**	**131**	Pg	**Pg**	**18 28 54.4**	**-0.5**
CORG				Lg		18 29 11.7	
	4.0nm,0.3s						
CORG	**Organya**	**1.28**	**131**	P	**Pn**	**18 28 54.5**	**+0.4**
CORG				S	**Sb**	**18 29 11.8**	**+1.0**
CAVN	**Les Avellanes**	**1.31**	**155**	P	**Pn**	**18 28 54.9**	**+0.3**
CAVN				S	**Sb**	**18 29 12.2**	**+0.4**
CAVN	**Les Avellanes**	**1.31**	**155**	Pg	**Pg**	**18 28 54.8**	**-0.7**
CAVN				Lg		18 29 12.1	
	24nm,0.1s						
CAVN	**Les Avellanes**	**1.31**	**155**	P	**Pn**	**18 28 54.9**	**+0.4**
CAVN				S	**Sb**	**18 29 12.2**	**+0.4**
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	**18 28 57.2**	**-0.1**
	23nm,0.3s,SNR=9.0						
ESAC				Lg		18 29 16.1	
	26nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	**18 28 57.2**	**0.0**
	23nm,0.3s,SNR=9.0						
CLLI	**Llivia**	**1.56**	**112**	P	**Pn**	**18 29 00.1**	**+2.2**
CLLI				S	**Sn**	**18 29 20.7**	**+2.6**
CLLI	**Llivia**	**1.56**	**112**	Pg	**Pg**	**18 29 00.0**	**-0.2**
CLLI				Lg		18 29 20.6	
	3.1nm,0.2s						
CLLI	**Llivia**	**1.56**	**112**	P	**Pn**	**18 29 00.1**	**+2.2**
CLLI				S	**Sn**	**18 29 20.7**	**+2.6**
EMIR	**Miracle**	**1.61**	**136**	Pg	**Pg**	**18 29 00.3**	**-0.9**
	7.8nm,0.3s,SNR=7.0						
EMIR				Lg		18 29 21.8	
	49nm,1.4s,SNR=5.0						
EMIR	**Miracle**	**1.61**	**136**	Pg	**Pg**	**18 29 00.3**	**-0.9**
	7.8nm,0.3s,SNR=7.0						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**18 29 01.9**	**+0.4**
MTLF				*e*Sn	**Sn**	**18 29 18.3**	**-1.5**
MTLF				*e*Sg	**Sg**	**18 29 23.0**	**+0.4**
	19nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pn	**Pn**	**18 28 58.5**	**-0.4**
MTLF				*e*Pg	**Pg**	**18 29 01.9**	**+0.4**
MTLF				*e*Sn	**Sn**	**18 29 18.3**	**-1.5**
MTLF				*e*Sg	**Sg**	**18 29 23.0**	**+0.4**
MTLF	**Montolieu**	**1.63**	**80**	Pn	**Pn**	**18 28 58.5**	**-0.4**
MTLF				Pg	**Pg**	**18 29 01.9**	**+0.4**
MTLF				Sn	**Sn**	**18 29 18.3**	**-1.5**
MTLF				Lg		18 29 23.0	
	9.4nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pn	**Pn**	**18 28 58.5**	**-0.4**
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**18 29 01.9**	**+0.4**
MTLF				*e*Sn	**Sn**	**18 29 18.3**	**-1.5**
MTLF				*e*Sg	**Sg**	**18 29 23.0**	**+0.4**
	9.4nm,0.3s						
EPOB	**Poblet**	**1.90**	**155**	Pg	**Pg**	**18 29 05.2**	**-1.5**
	0.2nm,0.2s,SNR=7.9						
EPOB				Lg		18 29 29.9	
	11nm,0.7s,SNR=8.8						
EPOB	**Poblet**	**1.90**	**155**	Pg	**Pg**	**18 29 05.2**	**-1.4**
	0.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.92**	**257**	Pn	**Pn**	**18 29 04.9**	**+2.1**
	1.4nm,0.3s,SNR=7.9						
ECRI				Pg	**Pg**	**18 29 07.1**	**0.0**
	3.7nm,0.2s,SNR=7.9						
ECRI				Lg		18 29 32.8	
	14nm,0.8s,SNR=7.9						
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	**18 29 08.0**	**+0.7**
LFF				*e*Sn	**Sn**	**18 29 26.6**	**-0.7**
LFF				*e*Sg	**Sg**	**18 29 34.3**	**+1.9**
	22nm,0.5s						
LFF	**La Frestale**	**1.93**	**15**	*e*Pn	**Pn**	**18 29 03.3**	**+0.3**
LFF				*e*Pg	**Pg**	**18 29 08.0**	**+0.7**
LFF				*e*Sn	**Sn**	**18 29 26.6**	**-0.7**
LFF				*e*Sg	**Sg**	**18 29 34.3**	**+1.9**
LFF	**La Frestale**	**1.93**	**15**	Pn	**Pn**	**18 29 03.3**	**+0.3**
LFF				Pg	**Pg**	**18 29 08.0**	**+0.7**
LFF				Sn	**Sn**	**18 29 26.6**	**-0.7**
LFF				Lg		18 29 34.3	
	11nm,0.5s						
LFF	**La Frestale**	**1.93**	**15**	*e*Pn	**Pn**	**18 29 03.3**	**+0.3**
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	**18 29 08.0**	**+0.7**
LFF				*e*Sn	**Sn**	**18 29 26.6**	**-0.7**
LFF				*e*Sg	**Sg**	**18 29 34.3**	**+1.9**
	11nm,0.5s						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	**18 29 11.7**	**+0.5**
	0.4nm,0.3s,SNR=4.0						
ERTA				Lg		18 29 37.5	
	6.6nm,0.6s,SNR=6.3						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	**18 29 11.7**	**+0.5**
	0.4nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**18 29 08.0**	**+1.2**
	0.0nm,0.2s,SNR=4.0						
EJON				Lg		18 29 41.4	
	21nm,0.6s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**18 29 08.0**	**+1.2**
	SNR=4.0						
CAF	**Calviac**	**2.36**	**38**	*e*Pg	**Pg**	**18 29 16.0**	**+0.4**
CAF				*e*Sn	**Sn**	**18 29 36.8**	**-1.2**
CAF				*e*Sg	**Sg**	**18 29 47.3**	**+1.1**
	3.7nm,0.2s						
CAF	**Calviac**	**2.36**	**38**	*e*Pn	**Pn**	**18 29 08.8**	**-0.2**
CAF				*e*Pg	**Pg**	**18 29 16.0**	**+0.4**
CAF				*e*Sn	**Sn**	**18 29 36.8**	**-1.2**
CAF				*e*Sg	**Sg**	**18 29 47.3**	**+1.1**
CAF	**Calviac**	**2.36**	**38**	Pn	**Pn**	**18 29 08.8**	**-0.2**
CAF				Pg	**Pg**	**18 29 16.0**	**+0.4**
CAF				Sn	**Sn**	**18 29 36.8**	**-1.2**
CAF				Lg		18 29 47.3	
	1.9nm,0.2s						
CAF	**Calviac**	**2.36**	**38**	*e*Pn	**Pn**	**18 29 08.8**	**-0.2**
CAF	**Calviac**	**2.36**	**38**	*e*Pg	**Pg**	**18 29 16.0**	**+0.4**
CAF				*e*Sn	**Sn**	**18 29 36.8**	**-1.2**
CAF				*e*Sg	**Sg**	**18 29 47.3**	**+1.1**
	1.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**18 29 18.0**	**+0.4**
RJF				*e*Sn	**Sn**	**18 29 39.6**	**-1.0**
RJF				*e*Sg	**Sg**	**18 29 51.1**	**+1.4**
	5.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**18 29 10.3**	**-0.2**
RJF				*e*Pg	**Pg**	**18 29 18.0**	**+0.4**
RJF				*e*Sn	**Sn**	**18 29 39.6**	**-1.0**
RJF				*e*Sg	**Sg**	**18 29 51.1**	**+1.4**
RJF	**Les Rejaudoux**	**2.47**	**25**	Pn	**Pn**	**18 29 10.3**	**-0.2**
RJF				Pg	**Pg**	**18 29 18.0**	**+0.4**
RJF				Sn	**Sn**	**18 29 39.6**	**-1.0**
RJF				Lg		18 29 51.1	
	2.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**18 29 10.3**	**-0.2**
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**18 29 18.0**	**+0.4**
RJF				*e*Sn	**Sn**	**18 29 39.6**	**-1.0**
RJF				*e*Sg	**Sg**	**18 29 51.1**	**+1.4**
	2.8nm,0.2s						
ELAN	**Lanestosa**	**2.53**	**275**	Lg		18 29 53.0	
	2.6nm,1.3s,SNR=7.9						
ETOR	**Torete**	**2.74**	**215**	Pn	**Pn**	**18 29 15.7**	**+1.6**
	2.8nm,0.7s,SNR=7.9						
ETOR				Sn	**Sn**	**18 29 46.6**	**-0.6**
	1.3nm,0.6s,SNR=7.9						
ETOR				Lg		18 29 58.3	
	14nm,0.9s,SNR=7.9						
ETOR	**Torete**	**2.74**	**215**	Pn	**Pn**	**18 29 15.7**	**+1.6**
ETOR				Sn	**Sn**	**18 29 46.6**	**-0.6**
	1.3nm,0.6s,SNR=7.9						
ETOR				Sn	**Sn**	**18 29 46.6**	**-0.6**
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**18 29 26.8**	**-0.2**
LASF				*e*Sg	**Sg**	**18 30 04.8**	**-0.6**
	5.3nm,0.3s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pn	**Pn**	**18 29 16.2**	**-1.0**
LASF				*e*Pg	**Pg**	**18 29 26.8**	**-0.2**
LASF				*e*Sg	**Sg**	**18 30 04.8**	**-0.

TCF					*e*Sg		**Sg**	**18 30 25.0**	**+0.1**
	3.3nm,0.3s								
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pn		**Pn**	**18 29 25.3**	**-0.3**	
TCF				*e*Pg		**Pg**	**18 29 38.3**	**-0.3**	
TCF				*e*Sg		**Sg**	**18 30 25.0**	**+0.1**	
TCF	**Toulx Ste Croi**	**3.57**	**25**	Pn		**Pn**	**18 29 25.3**	**-0.3**	
TCF				Pg		**Pg**	**18 29 38.3**	**-0.3**	
TCF				Lg			18 30 25.0		
	1.6nm,0.3s								
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg		**Pg**	**18 29 38.3**	**-0.3**	
TCF				*e*Sg		**Sg**	**18 30 25.0**	**+0.1**	
	1.6nm,0.3s								
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg		**Pg**	**18 29 46.8**	**-0.4**	
BGF				*e*Sg		**Sg**	**18 30 39.5**	**+0.2**	
	12nm,0.4s								
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg		**Pg**	**18 29 46.8**	**-0.4**	
BGF				*e*Sg		**Sg**	**18 30 39.5**	**+0.2**	
	6.0nm,0.4s								
AVF	**Avril sur Loir**	**4.40**	**31**	*e*Sg		**Sg**	**18 30 51.0**	**-0.6**	
	1.4nm,0.3s								
AVF	**Avril sur Loir**	**4.40**	**31**	*e*Sg		**Sg**	**18 30 51.0**	**-0.6**	
	0.7nm,0.3s								
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pn		**Pn**	**18 29 40.4**	**-0.5**	
SSF				*e*Pg		**Pg**	**18 29 59.0**	**-1.0**	
LOR	**Lormes**	**4.99**	**32**	*e*Pn		**Pn**	**18 29 44.7**	**-0.4**	
LOR				*e*Pg		**Pg**	**18 30 04.6**	**-1.3**	
LPG	**La Plagne**	**5.40**	**61**	*e*Pn		**Pn**	**18 29 50.6**	**-0.2**	
LPG				*e*Pg		**Pg**	**18 30 12.2**	**-1.6**	

SZGRF ***17*** *18:28:41.4, 64.64N×81.81W, h33km, mb5.3, South of Panama*

IDC ***17*** *18:28:45.7±0.5, 729.9N×795.7W, h0km, mb4.8/15, mb1 5.0/20, mb1mx4.9/23, mbtmp4.8/20, ML4.3/5, MS4.9/5, Ms1 5.0/5, ms1mx4.5/24, Error ellipse: s-maj=19.8km s-min=11.7km az=57.0*

MOS ***17*** *18:28:46.4±1.0, 727.9N×796.3W, h10km, mb5.5/48, MS4.8/30, Error ellipse: s-maj=7.0km s-min=5.7km az=111.2*

NEIC ***17*** *18:28:47.4±0.2, 7.17N×79.64W, h10km, mb5.3/100, MS5.2/136, Error ellipse: s-maj=6.4km s-min=3.8km az=27.0*

NEIC Felt in much of Panama.

GCMT ***17*** *18:28:47.3±0.2, 739.9N×794.7W, h19km±1km, MW5.4/86, Moment Tensor Solution. s25,c36; s86,c141; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr=0.38±.07; Mθθ=0.43±.05; Mφφ=0.80±.06; Mrθ=0.26±.11; Mθφ=1.56±.05; Mφr=0.49±.12; Best double couple: M=1.78700×10^17 NP1:φs=258.00000°, δ70.00000°, λ-10.00000°. NP2: φs=351.00000°, δ80.00000°, λ-160.00000°. Principal axes: T 1.9000, Plg7.0000°, Azm123.0000°; N -0.2260, Plg68.0000°, Azm16.0000°; P -1.6750, Plg21.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CASC ***17*** *18:28:47.4±2.3, 724.N×795.3W, h9km±15km, MD5.2, ML4.4, mb5.3(NEIC)*

ISCJB ***17*** *18:28:47.9±0.7, 720.N±003.×796.3W±002.0, h25km±5km, mb5.1/114, MS5.1/142, Error ellipse: s-maj=4.4km s-min=2.9km az=37.0*

BJI ***17*** *18:28:48.3, 720.N×796.0W, h10km, mB5.5, Ms5.7, Msz5.3*

ISC 17 18:28:50.7±0.8, 723.N±003.×796.1W±002.0, h29km±5km, n687, σ0:95/566, mb5.1/114, MS5.1/142, 114C-103D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
AZU	**Azuero**	**0.87**	**310**	⇑	*iP*	**Pn**	**18**	**29**	**02.7**	**-4.2**
ACH	**Altos**	**1.46**	**347**	⇑	*iP*	**Pn**	**18**	**29**	**12.6**	**-2.5**
ZANG	**Zanguenga, Cho**	**1.74**	**351**	⇑	*eP*	**Pn**	**18**	**29**	**17.1**	**-1.8**
ZANG					*eS*	**Sn**	**18**	**29**	**40.8**	**+0.7**
UPA	**Univ. de Panam**	**1.75**	**2**	⇓	*eP*	**Pn**	**18**	**29**	**17.6**	**-1.4**
UPA					*eS*	**Sn**	**18**	**29**	**39.7**	**-0.5**
UPD1	**Univ de Panama**	**2.05**	**50**	⇑	*iP*	**Pn**	**18**	**29**	**21.1**	**-2.1**
UPD1					*eS*	**Sn**	**18**	**29**	**47.7**	**-0.1**
PINA	**Piqa, Costa Ab**	**2.06**	**347**	⇓	*eP*	**Pn**	**18**	**29**	**22.2**	**-1.2**
ACLA	**Agua Clara, Si**	**2.13**	**357**	⇑	*eP*	**Pn**	**18**	**29**	**22.6**	**-1.7**
ACLA					*eS*	**Sn**	**18**	**29**	**49.1**	**-0.5**
DVD	**David**	**3.06**	**293**	⇑	*iP*	**Pn**	**18**	**29**	**36.4**	**-0.7**
BRU	**Baru**	**3.32**	**298**	⇑	*iP*	**Pn**	**18**	**29**	**40.9**	**+0.2**
CTCR	**Cotoan**	**3.54**	**298**	⇑	*eP*	**Pn**	**18**	**29**	**43.1**	**-0.6**
CNI	**Changuinola**	**3.61**	**307**	⇑	*iP*	**Pn**	**18**	**29**	**44.0**	**-0.6**
MALC	**Bahia Malaga**	**3.91**	**145**	⇑	*iP*	**Pn**	**18**	**29**	**45.6**	**-3.2**
LIO	**Limon**	**4.37**	**309**		*eP*	**Pn**	**18**	**29**	**55.6**	**+0.5**
VTU	**Volcan Turrial**	**4.96**	**304**		*eP*	**Pn**	**18**	**30**	**03.8**	**+0.7**
TOLC	**Tolima**	**4.99**	**121**		*eP*	**Pn**	**18**	**30**	**02.1**	**-1.4**
QCR	**Quepos**	**5.01**	**296**		*eP*	**Pn**	**18**	**30**	**02.9**	**-1.0**
IRZ2	**Volcan Irazu 2**	**5.04**	**303**		*eP*	**Pn**	**18**	**30**	**05.9**	**+1.5**
OCM	**Ochomogo**	**5.06**	**302**	⇓	*eP*	**Pn**	**18**	**30**	**06.4**	**+1.9**
SJS	**Escuela Geolog**	**5.16**	**302**	⇑	*eP*	**Pn**	**18**	**30**	**08.0**	**+2.0**
SJS	**Escuela Geolog**	**5.16**	**302**		*eP*	**Pn**	**18**	**30**	**08.1**	**+2.1**
LAJ	**Bijagual**	**5.18**	**301**		*eP*	**Pn**	**18**	**30**	**12.0**	**+5.8**
LAJ					*eS*	**Sn**	**18**	**31**	**43.0**	**+38**
TRTC	**Tortuguero**	**5.25**	**310**		*eP*	**Pn**	**18**	**30**	**06.0**	**-1.1**
PRS1	**Puriscal**	**5.40**	**301**		*eP*	**Pn**	**18**	**30**	**09.6**	**+0.3**
POA2	**Poas 2**	**5.45**	**303**		*eP*	**Pn**	**18**	**30**	**11.4**	**+1.5**
CGA2	**Cerro Gallo 2**	**5.55**	**300**		*eP*	**Pn**	**18**	**30**	**11.9**	**+0.6**
EPA	**Esparza**	**5.65**	**299**	⇓	*eP*	**Pn**	**18**	**30**	**13.2**	**+0.5**
ROSC	**El Rosal**	**5.75**	**114**		Pn	**Pn**	**18**	**30**	**14.5**	**+0.4**
	62nm,0.3s,baz=328,slow=3.1,SNR=74									
ROSC					LR	LR	18	32	08.4	
	comp=Z,5μm,18.1s,baz=355,slow=35									
ROSC	**El Rosal**	**5.75**	**114**	⇑	*iP*	**Pn**	**18**	**30**	**14.2**	**+0.2**
ROSC	**El Rosal**	**5.75**	**114**		*ePn*	**Pn**	**18**	**30**	**14.2**	**+0.1**
VACR	**Volcan Arenal**	**5.96**	**303**		*eP*	**Pn**	**18**	**30**	**18.3**	**+1.4**
CAO	**Cobano**	**5.97**	**295**		*eP*	**Pn**	**18**	**30**	**16.6**	**-0.4**
JCR	**Jicaral**	**6.04**	**296**		*eP*	**Pn**	**18**	**30**	**18.0**	**0.0**
JTS	**JuntasAbangare**	**6.10**	**300**		Pn	**Pn**	**18**	**30**	**18.1**	**-0.7**
	6μm,0.7s,SNR=39									
JTS	**JuntasAbangare**	**6.10**	**300**		Pn	**Pn**	**18**	**30**	**18.7**	**-0.2**
	11nm,0.3s,baz=87,slow=5.2,SNR=100									
JTS					Lg		18	31	52.9	
	baz=163,slow=19,SNR=4.2									
JTS					LR	LR	18	33	06.2	
	comp=Z,17μm,18.2s,baz=81,slow=43									
JTS	**JuntasAbangare**	**6.10**	**300**		*eP*	**Pn**	**18**	**30**	**18.8**	**0.0**
JTS					pmax	pmax				
	comp=Z,1μm,0.8s									
JTS	**JuntasAbangare**	**6.10**	**300**		*ePn*	**Pn**	**18**	**30**	**18.8**	**0.0**
	comp=Z,1μm,0.8s									
OCAC	**Ocana**	**6.31**	**80**	⇑	*iP*	**Pn**	**18**	**30**	**20.4**	**-1.4**
LIM1	**Limonal**	**6.56**	**302**	⇑	*eP*	**Pn**	**18**	**30**	**25.4**	**+0.2**
RUSC	**La Rusia**	**6.61**	**101**	⇑	*iP*	**Pn**	**18**	**30**	**25.4**	**-0.5**
VCR	**Vista de Mar**	**6.62**	**296**	⇑	*eP*	**Pn**	**18**	**30**	**26.0**	**0.0**
VCR	**Vista de Mar**	**6.62**	**296**		*eP*	**Pn**	**18**	**30**	**25.0**	**-1.0**
VCR					*eS*	**Sb**	**18**	**32**	**13.0**	**+9.4**
OTAV	**Otavalo**	**7.04**	**171**		*eP*	**Pn**	**18**	**30**	**30.2**	**-1.5**
MADN	**Villa Maderas**	**7.17**	**306**	⇑	*eP*	**Pn**	**18**	**30**	**35.5**	**+1.9**
CONN	**Concepcion**	**7.34**	**306**		*eP*	**Pn**	**18**	**30**	**36.7**	**+0.9**
TISN	**Laguna Tiscapa**	**8.19**	**307**		*eP*	**Pn**	**18**	**30**	**49.5**	**+2.0**
COPN	**Copaltepe**	**8.46**	**306**		*eP*	**Pn**	**18**	**30**	**50.9**	**-0.4**
CNGN	**Cerro Negro**	**8.73**	**307**		*eP*	**Pn**	**18**	**30**	**56.3**	**+1.3**
SDV	**Santo Domingo**	**9.04**	**79**		Pn	**Pn**	**18**	**30**	**57.5**	**-1.6**
	comp=Z,20nm,0.3s,baz=271,slow=8.8,SNR=173									
SDV					Sn	**Sn**	**18**	**32**	**34.0**	**-5.8**
	comp=Z,35nm,0.3s,baz=70,slow=21,SNR=5.9									
SDV					LR	LR	18	34	59.3	
	comp=Z,8μm,19.0s,baz=273,slow=42									
SDV	**Santo Domingo**	**9.04**	**79**		*ePn*	**Pn**	**18**	**30**	**57.6**	**-1.5**
	comp=Z,426nm,1.0s									
CRIN	**San Cristobal**	**9.13**	**307**		*eP*	**Pn**	**18**	**31**	**02.8**	**+2.4**
TGUH	**Tegucigalpa,Un**	**10.14**	**313**		*ePn*	**Pn**	**18**	**31**	**15.3**	**+1.0**
	comp=Z,450nm,0.9s									
PCJ	**Portland Cotta**	**10.72**	**13**		*eS*	**Sn**	**18**	**33**	**22.8**	**+1.6**
CVJ	**Coleyville**	**11.12**	**10**	⇓	*eP*	**Pn**	**18**	**31**	**31.5**	**+3.9**
GWJ	**Greenwich**	**11.14**	**14**		*eP*	**Pn**	**18**	**31**	**26.8**	**-1.2**
CMJ	**Castle Mountai**	**11.29**	**16**	⇑	*eP*	**Pn**	**18**	**31**	**29.6**	**-0.5**
LMGC	**Las Mercedes**	**13.01**	**11**		*eP*	**Pn**	**18**	**31**	**55.4**	**+1.9**
PAYG	**Puerto Ayora**	**13.23**	**234**		*ePn*	**Pn**	**18**	**31**	**56.7**	**+0.1**
	comp=Z,154nm,1.1s									
RCC	**Rio Carpintero**	**13.25**	**16**		*ePG*	**Pn**	**18**	**31**	**55.0**	**-1.7**
RCC					*eSG*	**Sn**	**18**	**34**	**14.8**	**-8.2**
	comp=N,2μm,1.0s									
RCC					*e*					
	comp=E,2μm,1.0s									
MASC	**Masc**	**13.89**	**22**		*eP*	**Pn**	**18**	**32**	**05.8**	**+0.3**
CCCC	**Cccc**	**14.01**	**7**		*eP*	**Pn**	**18**	**32**	**10.4**	**+3.3**
MOAC	**Moa**	**14.09**	**18**		*eP*	**Pn**	**18**	**32**	**09.8**	**+1.5**
ATAH	**Atahualpa**	**14.18**	**175**		Pn	**Pn**	**18**	**32**	**10.6**	**+1.0**
	comp=E,1.1nm,0.3s,baz=344,slow=13,SNR=6.2									

MGV	**Manicaragua**	**14.80**	**359**		*eP*	**Pn**	**18**	**32**	**22.9**	**+4.9**
PCRV	**Puerto La Cruz**	**15.08**	**78**		Pn	**Pn**	**18**	**32**	**16.6**	**-5.1**
	comp=E,3.3nm,0.3s,baz=271,slow=6.7,SNR=9.9									
TEIG	**Tepich**	**15.42**	**328**		*ePn*	**Pn**	**18**	**32**	**25.6**	**-0.4**
	comp=E,25nm,0.6s									
SOR	**Soroa**	**15.82**	**348**		*eP*	**Pn**	**18**	**32**	**35.4**	**+4.1**
CPD	**Cerro la Pandu**	**17.13**	**50**		*eP*	**Pn**	**18**	**32**	**43.1**	**-4.8**
MTP	**Monte Pirata**	**17.44**	**50**		*eP*	**Pn**	**18**	**32**	**48.0**	**-3.7**
CMIG	**Matias Romero**	**17.85**	**305**		P	**Pn**	**18**	**32**	**55.6**	**-1.2**
	comp=E,0.6nm,0.3s,baz=112,slow=6.8,SNR=10									
TPP	**Pointe-a-Pierr**	**18.20**	**79**		*eP*	**Pn**	**18**	**33**	**02.5**	**+1.4**
TRN	**Trinidad (W)**	**18.30**	**78**		*eP*	**Pn**	**18**	**33**	**00.6**	**-1.7**
GRW	**Mount Saint Ca**	**18.35**	**73**		*eP*	**Pn**	**18**	**33**	**02.6**	**-0.3**
TBH	**Brigand Hill**	**18.60**	**79**		*eP*	**Pn**	**18**	**33**	**05.4**	**-0.6**
TPR	**Prospect**	**19.00**	**77**		*eP*	**Pn**	**18**	**33**	**07.0**	**-3.7**
FCV	**Fort Charlotte**	**19.00**	**70**		*eP*	**Pn**	**18**	**33**	**12.2**	**+1.4**
SVB	**Belmont**	**19.03**	**70**		*eP*	**Pn**	**18**	**33**	**12.7**	**+1.6**
SSV	**Crater Summit**	**19.10**	**70**		*eP*	**Pn**	**18**	**33**	**12.8**	**+0.9**
NNA	**Nana**	**19.28**	**172**		P	**Pn**	**18**	**33**	**16.0**	**+1.7**
	comp=E,1.4nm,0.3s,baz=359,slow=8.6,SNR=6.1									
NNA	**Nana**	**19.28**	**172**		*eP*	**Pn**	**18**	**33**	**13.2**	**-1.0**
	comp=E,88nm,1.1s									
TBG	**Guadalouge-3**	**19.56**	**62**		*eP*	**Pn**	**18**	**33**	**16.5**	**-1.0**
BBL	**Barber's Block**	**19.59**	**64**		*eP*	**Pn**	**18**	**33**	**19.5**	**+1.7**
MGG	**Marie-Galante**	**19.87**	**63**		*eP*	**Pn**	**18**	**33**	**20.1**	**-1.2**
BPA	**Boggy Peak**	**19.89**	**59**		*eP*	**Pn**	**18**	**33**	**24.3**	**+2.9**
CPB	**Codrington**	**20.19**	**58**		*eP*	**P**	**18**	**33**	**23.1**	**+0.2**
DWPF	**Disney**	**20.84**	**355**		*eP*	**P**	**18**	**33**	**33.9**	**+3.9**
	comp=E,172nm,1.3s									
DWPF						LR	LR			
	comp=Z,2μm,19.0s,MS4.4									
BRAL	**Brewton**	**24.67**	**345**		*eP*	**P**	**18**	**34**	**12.2**	**+3.3**
	comp=Z,310nm,1.3s,mb5.7									
ARE	**Arequipa**	**24.87**	**161**		*eP*	**P**	**18**	**34**	**13.0**	**+2.3**
NHSC	**New Hope**	**25.76**	**359**		PFAKE		18	34	30.0	+11
NHSC					LR	LR				
	comp=Z,2μm,20.0s,MS4.7									
LPAZ	**La Paz**	**25.98**	**154**		P	**P**	**18**	**34**	**20.9**	**+0.2**
	comp=Z,22nm,1.1s,mb4.6,baz=335,slow=11,SNR=28									
LPAZ					LR	LR	18	45	50.8	
	comp=Z,2μm,19.4s,MS4.7,baz=206,slow=39									
LPAZ	**La Paz**	**25.98**	**154**		*eP*	**P**	**18**	**34**	**20.9**	**+0.1**
LPAZ					pmax	pmax				
	comp=Z,59nm,1.3s									
LPAZ					MLR	MLR				
	comp=Z,2μm,20.0s									
LPAZ	**La Paz**	**25.98**	**154**		*eP*	**P**	**18**	**34**	**20.9**	**+0.1**
	comp=Z,58nm,1.3s,mb5.0									
LPAZ					LR	LR				
	comp=Z,2μm,20.0s,MS4.7									
GOGA	**Godfrey**	**26.30**	**353**		*eP*	**P**	**18**	**34**	**25.9**	**+2.2**
GOGA					pmax	pmax				
	comp=Z,70nm,0.8s,mb5.2									
GOGA					MLR	MLR				
	comp=Z,1μm,20.0s,MS4.5									
GOGA	**Godfrey**	**26.30**	**353**		*eP*	**P**	**18**	**34**	**25.9**	**+2.2**
	comp=Z,70nm,0.8s,mb5.2									
GOGA					LR	LR				
	comp=Z,1μm,20.0s,MS4.5									
JSC	**Jenkinsville**	**26.97**	**357**		*eP*	**P**	**18**	**34**	**32.8**	**+3.1**
HKT	**Hockley**	**27.27**	**328**		*eP*	**P**	**18**	**34**	**32.7**	**+0.3**
HKT					pmax	pmax				
	comp=Z,48nm,1.3s,mb4.9									
HKT					MLR	MLR				
	comp=Z,1μm,22.0s,MS4.4									
HKT	**Hockley**	**27.27**	**328**		*eP*	**P**	**18**	**34**	**32.7**	**+0.3**
	comp=Z,48nm,1.3s,mb4.9									
HKT					LR	LR				
	comp=Z,1μm,22.0s,MS4.4									
TKL	**Tuckaleechee C**	**28.55**	**353**		P	**P**	**18**	**34**	**46.1**	**+2.3**
	comp=Z,16nm,0.7s,mb4.9,baz=169,slow=10,SNR=16									
BBSR	**BB Station**	**28.61**	**27**		PFAKE		18	35	00.0	+16
BBSR					LR	LR				
	comp=Z,3μm,22.0s,MS4.8									
OXF	**Oxford**	**28.62**	**343**		*eP*	**P**	**18**	**34**	**45.4**	**+0.9**
OXF					pmax	pmax				
	comp=Z,67nm,1.1s,mb5.3									
OXF	**Oxford**	**28.62**	**343**		*eP*	**P**	**18**	**34**	**45.4**	**+0.9**
	comp=Z,67nm,1.1s,mb5.3									
TZTN	**Tazewell**	**29.40**	**354**		*eP*	**P**	**18**	**34**	**50.9**	**-0.6**
	comp=Z,29nm,1.0s,mb5.0									
SIV	**San Ignacio**	**29.48**	**142**		P	**P**	**18**	**34**	**50.9**	**-1.1**
	comp=Z,39nm,0.9s,mb5.1,baz=320,slow=9.6,SNR=59									
WVT	**Waverly**	**29.74**	**346**		*eP*	**P**	**18**	**34**	**53.7**	**-0.7**
WVT					pmax	pmax				
	comp=Z,21nm,0.7s,mb5.0									
WVT					MLR	MLR				
	comp=Z,2μm,21.0s,MS4.7									
WVT	**Waverly**	**29.74**	**346**		*eP*	**P**	**18**	**34**	**53.6**	**-0.7**
	comp=Z,21nm,0.7s,mb5.0									
WVT					LR	LR				
	comp=Z,2μm,21.0s,MS4.7									
ELN	**Prospectdale**	**29.88**	**358**		*eP*	**P**	**18**	**34**	**57.2**	**+1.5**
JCT	**Junction City**	**29.90**	**323**		*eP*	**P**	**18**	**34**	**55.8**	**0.0**
JCT					pmax	pmax				
	comp=Z,60nm,1.4s,mb5.1									
JCT					MLR	MLR				
	comp=Z,1μm,22.0s,MS4.5									
JCT	**Junction City**	**29.90**	**323**		*eP*	**P**	**18**	**34**	**55.8**	**+0.1**
	comp=Z,60nm,1.4s,mb5.1									
JCT					LR	LR				
	comp=Z,1μm,22.0s,MS4.5									
FWV	**Forest Hill**	**30.24**	**358**		*eP*	**P**	**18**	**35**	**00.3**	**+1.5**
CBN	**Corbin**	**30.91**	**3**		PFAKE		18	35	20.0	+15
CBN					LR	LR				
	comp=Z,2μm,21.0s,MS4.7									
LVC	**Limon Verde**	**31.45**	**161**		P	**P**	**18**	**35**	**10.6**	**+1.2**
	comp=Z,14nm,0.9s,mb4.8,baz=270,slow=4.1,SNR=10.0									
LVC	**Limon Verde**	**31.45**	**161**		*eP*	**P**	**18**	**35**	**10.7**	**+1.2**
	comp=Z,34nm,0.9s,mb5.2									
LVC					LR	LR				
	comp=Z,1μm,19.0s,MS4.7									
WCI	**Wyandotte Cave**	**31.45**	**350**		*eP*	**P**	**18**	**35**	**11.6**	**+2.1**
WCI					pmax	pmax				
	comp=Z,54nm,0.9s,mb5.4									
WCI					MLR	MLR				
	comp=Z,1μm,22.0s,MS4.6									
WCI	**Wyandotte Cave**	**31.45**	**350**		*eP*	**P**	**18**	**35**	**11.6**	**+2.1**
	comp=Z,54nm,0.9s,mb5.4									
WCI					LR	LR				
	comp=Z,1μm,22.0s,MS4.6									
LTX	**Lajitas**	**31.57**	**317**		*eP*	**P**	**18**	**35**	**10.8**	**+0.2**
LTX					pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.5									
LTX					MLR	MLR				
	comp=Z,1μm,21.0s,MS4.5									
LTX	**Lajitas**	**31.57**	**317**		*eP*	**P**	**18**	**35**	**10.8**	**+0.2**
	comp=Z,7.6nm,0.9s,mb4.5									
LTX					LR	LR				
	comp=Z,1μm,21.0s,MS4.5									
TXAR	**Lajitas Array**	**31.57**	**317**		P	**P**	**18**	**35**	**11.9**	**+1.3**
	comp=Z,3.2nm,0.8s,mb4.2,baz=128,slow=6.9,SNR=15									
TXAR					PcP	PcP	18	38	02.5	-0.1
	comp=Z,1.4nm,0.9s,baz=138,slow=5.7,SNR=4.3									
MCWV	**Mont Chateau**	**32.29**	**360**		PFAKE		18	35	30.0	+13
MCWV					LR	LR				
	comp=Z,1μm,20.0s,MS4.7									
CCM	**Cathedral Cave**	**32.45**	**343**		PFAKE		18	35	30.0	+12
CCM					LR	LR				
	comp=Z,721nm,20.0s,MS4.4									
WMOK	**Wichita Mounta**	**32.58**	**330**		*eP*	**P**	**18**	**35**	**16.6**	**-2.8**
WMOK					pmax	pmax				
	comp=Z,15nm,0.9s,mb4.9									
WMOK					MLR	MLR				
	comp=Z,1μm,22.0s,MS4.5									
WMOK	**Wichita Mounta**	**32.58**	**330**		*eP*	**P**	**18**	**35**	**16.6**	**-2.8**
	comp=Z,15nm,0.9s,mb4.9									
WMOK					LR	LR				
	comp=Z,1μm,22.0s,MS4.5									
MVL	**Millersville**	**32.76**	**5**		*eP*	**P**	**18**	**35**	**23.0**	**+2.0**
SSPA	**Standing Stone**	**33.30**	**2**		*eP*	**P**	**18**	**35**	**25.5**	**-0.2**
	comp=Z,76nm,1.5s,mb5.4									
SSPA					LR	LR				
	comp=Z,2μm,19.0s,MS4.7									
LUPA	**Lehigh Univers**	**33.44**	**6**		*eP*	**P**	**18**	**35**	**28.5**	**+1.5**
AMTX	**Amarillo**	**34.21**	**327**		*eP*	**P**	**18**	**35**	**33.3**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9									
AMTX					LR	LR				
	comp=Z,2μm,20.0s,MS4.8									
MNTX	**Cornudas Mount**	**34.22**	**319**		*eP*	**P**	**18**	**35**	**31.8**	**-1.9**
	comp=Z,30nm,0.9s,mb5.2									
MNTX					LR	LR				
	comp=Z,898nm,19.0s,MS4.5									
ALLY	**Alegheny Colle**	**34.28**	**359**		*eP*	**P**	**18**	**35**	**34.5**	**+0.2**
BINY	**Binghamton**	**34.98**	**5**		*eP*	**P**	**18**	**35**	**42.4**	**+2.1**
	comp=Z,71nm,1.4s,mb5.4									

BINY					LR	LR			
	comp=Z,2μm,21.0s,MS4.8								
AAM	**Ann Arbor**	**35.11**	**355**		PFAKE		18	35	50.0	+8.6
AAM					LR	LR				
	comp=Z,2μm,20.0s,MS4.8									
KSU1	**Kansas State U**	**35.24**	**337**		*eP*	**P**	**18**	**35**	**42.3**	**-0.2**
	comp=Z,125nm,0.9s,mb5.8									
WES	**Weston**	**35.77**	**11**		PFAKE		18	36	00.0	+13
WES					LR	LR				
	comp=Z,1μm,22.0s,MS4.7									
HRV	**Harvard--Oak R**	**35.85**	**10**		PFAKE		18	36	00.0	+12
HRV					LR	LR				
	comp=Z,2μm,20.0s,MS4.9									
CBKS	**Cedar Bluff**	**36.32**	**333**		*eP*	**P**	**18**	**35**	**53.2**	**+1.5**
CBKS					pmax	pmax				
	comp=Z,57nm,0.9s,mb5.5									
CBKS					MLR	MLR				
	comp=Z,2μm,20.0s,MS4.9									
CBKS	**Cedar Bluff**	**36.32**	**333**		*eP*	**P**	**18**	**35**	**53.2**	**+1.5**
	comp=Z,57nm,0.9s,mb5.5									
CBKS					LR	LR				
	comp=Z,2μm,20.0s,MS4.9									
BNM	**Barren Site**	**36.60**	**321**		*eP*	**P**	**18**	**35**	**53.5**	**-0.6**
LPM	**Los Pinos Moun**	**36.71**	**321**		*eP*	**P**	**18**	**35**	**56.8**	**+1.7**
JFWS	**Jewell Farm**	**36.76**	**347**		*eP*	**P**	**18**	**35**	**54.4**	**-1.1**
JFWS					pmax	pmax				
	comp=Z,53nm,0.6s,mb5.5									
JFWS					MLR	MLR				
	comp=Z,2μm,20.0s,MS4.8									
JFWS	**Jewell Farm**	**36.76**	**347**		*eP*	**P**	**18**	**35**	**54.4**	**-1.2**
	comp=Z,52nm,0.6s,mb5.5									
JFWS					LR	LR				
	comp=Z,2μm,20.0s,MS4.8									
LENM	**Lemitar**	**36.83**	**321**		*eP*	**P**	**18**	**35**	**57.8**	**+1.7**
NCB	**Newcomb**	**36.90**	**6**		*eP*	**P**	**18**	**35**	**57.3**	**+0.6**
	comp=Z,72nm,1.4s,mb5.3									
NCB					LR	LR				
	comp=Z,2μm,19.0s,MS4.8									
ANMO	**Albuquerque**	**37.02**	**322**		*eP*	**P**	**18**	**35**	**57.0**	**-0.8**
ANMO					pmax	pmax				
	comp=Z,40nm,0.9s									
ANMO					MLR	MLR				
	comp=Z,2μm,20.0s									
ANMO	**Albuquerque**	**37.02**	**322**		*eP*	**P**	**18**	**35**

109C **Camp Elliot, M** 43.13 311 ⇓P P 18 36 49.2 +0.8
baz=43
AGMN **Agassiz Refuge** 43.19 344 eP P 18 36 47.7 -1.2
comp=Z,32nm,1.0s,mb5.0
V11A **Goodsprings** 43.41 316 ⇓P P 18 36 51.2 +0.6
baz=44
MPU **Maple Canyon** 43.45 324 eP P 18 36 52.1 +1.2
comp=Z,58nm,1.3s,mb5.2
MPU LR LR
comp=Z,3µm,21.0s,MS5.2
DAU **Daniels Canyon** 43.48 324 eP P 18 36 51.0 -0.3
HEC **Hector,Ludlow** 43.51 314 ⇓P P 18 36 51.7 +0.2
baz=44,SNR=7.0
MURC **Murrieta** 43.53 312 ⇓P P 18 36 52.6 +0.9
baz=44
TUQ **Turquoise Mtn.** 43.54 315 ⇑P P 18 36 52.3 +0.6
baz=44,SNR=6.7
BBRC **Big Bear Sol-O** 43.65 313 ⇑P P 18 36 53.8 +1.2
baz=44
NLU **North Lily Min** 43.67 323 eP P 18 36 52.3 -0.5
JLU **Jordanelle** 43.72 324 eP P 18 36 54.1 +1.0
CTU **Camp Tracy** 43.95 324 eP P 18 36 56.1 +1.0
comp=Z,16nm,0.9s,mb4.7
RRX **Edison Barstow** 44.01 314 ⇓P P 18 36 56.2 +0.7
baz=44
SHOC **Shoshone** 44.03 316 ⇓P P 18 36 56.5 +0.8
baz=44
GSC **Goldstone** 44.09 315 eP P 18 36 56.1 0.0
GSC **Goldstone** 44.09 315 ⇑P P 18 36 56.5 +0.4
baz=44
NOQ **North Oquirrh** 44.14 324 eP P 18 36 57.5 +1.0
BW06 **Boulder Array** 44.15 328 PFAKE 18 37 10.0 +13
BW06 LR LR
comp=Z,3µm,19.0s,MS5.2
PDAR **Pinedale Array** 44.15 328 P P 18 36 55.2 -1.3
comp=Z,15nm,0.6s,mb4.9,baz=132,slow=11,SNR=35
BFSC **Mount Baldy St** 44.17 313 ⇑P P 18 36 57.5 +0.6
baz=44,SNR=9.8
SCI **San Clemente I** 44.25 311 ⇓P P 18 36 58.3 +0.9
baz=44
DUG **Dugway** 44.26 323 eP P 18 36 56.9 -0.6
DUG pmax pmax
comp=Z,20nm,1.0s,mb4.8
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.0
DUG **Dugway** 44.26 323 eP P 18 36 56.9 -0.6
comp=Z,20nm,1.0s,mb4.8
DUG LR LR
comp=Z,2µm,20.0s,MS5.0
U10A **Ash Meadows, A** 44.33 316 ⇑P P 18 36 59.2 +1.1
baz=44
CIS **Catalina Islan** 44.33 311 ⇓P P 18 36 58.9 +0.8
baz=44
HWUT **Hardware Ranch** 44.44 325 eP P 18 36 57.2 -1.8
comp=Z,12nm,0.6s,mb4.8
HWUT LR LR
comp=Z,2µm,21.0s,MS5.0
DECC **Green Verdugo** 44.67 313 ⇓P P 18 37 00.6 -0.2
baz=45
EDW2 **Edwards Air Fo** 44.72 313 ⇓P P 18 37 01.3 +0.1
baz=45,SNR=13
FURC **Furnace Creek,** 44.72 316 ⇑P P 18 37 01.3 +0.1
baz=45,SNR=8.3
SPUT **South Promonto** 44.75 325 eP P 18 36 59.7 -1.7
LRMC **Laurel Mountai** 44.80 314 ⇑P P 18 37 01.5 -0.3
baz=45,SNR=12
Q12A **Willow Creek R** 44.80 320 ⇓P P 18 37 02.2 +0.4
baz=45
BGU **Big Grassy Mou** 44.85 324 eP P 18 37 01.2 -1.0
TRCR **Troy Canyon** 44.89 319 eP P 18 37 00.7 -1.8
MPMC **Manual Prospec** 44.95 315 ⇑P P 18 37 02.7 -0.3
baz=45,SNR=14
AHID **Auburn Hatcher** 44.96 327 eP P 18 37 01.4 -1.8
AHID LR LR
comp=Z,21nm,0.9s,mb5.0
comp=Z,2µm,22.0s,MS5.1
ULM **Lac du Bonnet** 44.99 345 P P 18 37 02.0 -1.3
comp=Z,58nm,0.9s,mb5.4,baz=156,slow=7.8,SNR=30
ULM **Lac du Bonnet** 44.99 345 eP P 18 37 02.0 -1.3
comp=Z,83nm,0.9s,mb5.6
ULM LR LR
comp=Z,4µm,21.0s,MS5.3
P12A **McGill** 45.10 321 ⇑P P 18 37 04.4 +0.2
baz=45
SNCC **San Nicolas Is** 45.10 311 PFAKE 18 37 20.0 +16
SNCC LR LR
comp=Z,4µm,21.0s,MS5.3
DAC **Darwin (Calif)** 45.13 315 eP P 18 37 02.8 -1.7
DAC pmax pmax
comp=Z,14nm,1.1s,mb4.7
DAC MLR MLR
comp=Z,2µm,20.0s,MS5.1
DAC **Darwin (Calif)** 45.13 315 eP P 18 37 02.8 -1.7
comp=Z,14nm,1.1s,mb4.7
DAC LR LR
comp=Z,2µm,20.0s,MS5.1
Q11A **Duckwater** 45.21 320 ⇑P P 18 37 05.3 +0.2
baz=45,SNR=14
REDW **Red Top Meadow** 45.24 328 eP P 18 37 03.7 -1.6
comp=Z,93nm,1.2s,mb5.5
HVU **Hansel Valley** 45.24 325 eP P 18 37 05.4 +0.1
HVU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
HVU **Hansel Valley** 45.24 325 eP P 18 37 05.3 0.0
comp=Z,7.4nm,0.7s,mb4.6
SNOW **Snow King Moun** 45.26 328 eP P 18 37 04.8 -0.6
comp=Z,73nm,1.2s,mb5.4
LOHW **Long Hollow** 45.28 326 eP P 18 37 04.0 -1.7
comp=Z,21nm,0.8s,mb5.0
R10A **Warm Springs** 45.32 319 ⇑P P 18 37 06.4 +0.4
baz=45,SNR=16
GRAC **Grapevine Rang** 45.35 316 ⇑P P 18 37 06.6 +0.4
baz=45,SNR=10
ARVC **Arvin** 45.44 313 ⇑P P 18 37 07.2 +0.3
baz=46
ISA **Isabella** 45.45 314 eP P 18 37 07.0 0.0
ISA MLR MLR
comp=Z,727nm,22.0s,MS4.6
ISA **Isabella** 45.45 314 ⇑P P 18 37 07.1 +0.1
baz=46,SNR=12
MOOW **Moose Ponds** 45.45 328 eP P 18 37 05.9 -1.1
comp=Z,17nm,0.8s,mb4.9
LAO **LASA Array** 45.47 334 eP P 18 37 09.3 +2.2
comp=Z,161nm,1.5s,mb5.6
LAO LR LR
comp=Z,3µm,21.0s,MS5.2
O12A **Currie** 45.47 322 ⇓P P 18 37 07.3 +0.1
baz=46,SNR=11
RRI2 **Red Ridge** 45.48 327 eP P 18 37 05.8 -1.4
comp=Z,26nm,0.8s,mb5.1
RCBR **Riachuelo** 45.49 105 PFAKE 18 37 20.0 +13
RCBR LR LR
comp=Z,2µm,20.0s,MS5.1
N13A **Wendover, West** 45.50 323 ⇓P P 18 37 07.7 +0.3
baz=46
CWC **Cottonwood Cre** 45.55 315 ⇑P P 18 37 08.0 +0.2
baz=46
S09A **Goldfield** 45.63 317 ⇓P P 18 37 08.4 0.0
baz=46,SNR=13
FLWY **Flagg Ranch** 45.66 329 eP P 18 37 07.2 -1.4
comp=Z,91nm,1.5s,mb5.5
P11A **Circle Ranch,** 45.68 320 ⇓P P 18 37 09.0 +0.1
baz=46
RLMT **Red Lodge** 45.68 331 eP P 18 37 07.6 -1.2
comp=Z,25nm,0.7s,mb5.3
M13A **Montello** 45.79 323 ⇑P P 18 37 10.0 +0.4
baz=46,SNR=8.5
R09A **Tonopah** 45.80 318 ⇑P P 18 37 09.9 +0.2
baz=46,SNR=14
TPH **Tonopah** 45.81 318 eP P 18 37 12.4 +2.5
TPH pmax pmax
comp=Z,38nm,1.2s,mb5.2
TPH MLR MLR
comp=Z,2µm,20.0s,MS5.1
TPH **Tonopah** 45.81 318 eP P 18 37 12.4 +2.5
comp=Z,38nm,1.2s,mb5.2
TPH LR LR
comp=Z,2µm,20.0s,MS5.1
LKWY **Lake** 45.84 329 PFAKE 18 37 20.0 +10
LKWY LR LR
comp=Z,5µm,22.0s,MS5.4
O11A **Cowboy Ranch,** 45.95 321 ⇑P P 18 37 11.2 +0.3
baz=46,SNR=13
VES **Vestal, Richgr** 45.96 314 ⇓P P 18 37 11.3 +0.2
baz=46,SNR=8.3
TIN **Tinemaha** 45.97 316 ⇑P P 18 37 10.9 -0.1
baz=46

YFT **Old Faithful** 45.99 329 eP P 18 37 13.1 +1.9
N12A **Clover Valley,** 46.00 322 ⇓P P 18 37 11.9 +0.5
baz=46
PKM **Peak Mountain** 46.06 313 ⇓P P 18 37 11.9 +0.1
baz=46,SNR=6.7
ELK **Elko** 46.06 322 PFAKE 18 37 20.0 +8.2
ELK LR LR
comp=Z,3µm,19.0s,MS5.3
DGMT **Dagmar** 46.08 337 eP P 18 37 10.0 -2.0
comp=Z,57nm,0.8s,mb5.5
DGMT LR LR
comp=Z,4µm,20.0s,MS5.3
S08C **White Mtn Res** 46.15 317 ⇓P P 18 37 12.8 +0.3
baz=46,SNR=15
P10A **Eureka** 46.17 320 ⇑P P 18 37 13.3 +0.7
baz=46
Q09A **Carvers** 46.20 319 ⇑P P 18 37 13.4 +0.5
baz=46
YMR **Madison River** 46.20 329 eP P 18 37 12.6 -0.3
comp=Z,21nm,0.7s,mb5.2
YMR LR LR
comp=Z,3µm,21.0s,MS5.2
M12A **Wells** 46.27 323 ⇓P P 18 37 14.0 +0.6
baz=46
RCTC **Rector, Farmer** 46.30 315 ⇓P P 18 37 14.3 +0.6
baz=46
MTUM **Tungsten Hills** 46.35 316 eP P 18 37 13.4 -0.7
GCMT **Greycliff** 46.36 331 eP P 18 37 14.9 +0.7
SMMC **Simler** 46.38 313 ⇑P P 18 37 14.7 +0.4
baz=46
R08A **Mina** 46.55 318 ⇓P P 18 37 16.6 +1.0
baz=47
QLMT **Earthquake Lak** 46.56 329 eP P 18 37 15.7 0.0
O10A **Cortez Mining,** 46.57 321 ⇑P P 18 37 15.2 -0.6
baz=47
PTRM **Twissleman Ran** 46.69 313 eP P 18 37 20.5 +3.7
Q08A **Gabbs** 46.70 318 ⇑P P 18 37 16.0 -0.8
baz=47,SNR=11
NVAR **Mina Array Bea** 46.72 318 P P 18 37 17.0 0.0
comp=Z,10nm,0.7s,mb4.9,baz=129,slow=6.4,SNR=30
M11A **Holland Ranch,** 46.80 322 ⇑P P 18 37 17.0 -0.7
baz=47
KCC **Kaiser Creek** 46.85 316 ⇑P P 18 37 17.1 -0.9
baz=47,SNR=6.2
O09A **Fish Creek Ran** 46.94 320 ⇓P P 18 37 18.0 -0.7
baz=47,SNR=30
T06C **Millerton Lake** 46.97 315 ⇑P P 18 37 17.9 -1.1
baz=47
R07C **Lee Vining** 47.05 317 ⇑P P 18 37 19.0 -0.6
baz=47
PKD **Parkfield** 47.06 313 ⇓P P 18 37 18.6 -1.0
baz=47
BMN **Battle Mountai** 47.11 321 eP P 18 37 18.8 -1.2
BMN pmax pmax
comp=Z,46nm,1.0s,mb5.4
BMN MLR MLR
comp=Z,3µm,20.0s,MS5.2
BMN **Battle Mountai** 47.11 321 eP P 18 37 18.8 -1.2
comp=Z,46nm,1.0s,mb5.4
BMN LR LR
comp=Z,3µm,20.0s,MS5.2
V04C **Ramage Ranch,** 47.16 313 ⇑P P 18 37 19.8 -0.6
baz=47
MCMT **McKenzie Canyo** 47.29 328 eP P 18 37 21.2 -0.3
M10A **I.L. Ranch, Tu** 47.31 322 ⇓P P 18 37 21.3 -0.3
baz=47
HLID **Hailey** 47.31 326 eP P 18 37 20.6 -1.0
comp=Z,12nm,0.7s,mb4.9
HLID LR LR
comp=Z,2µm,20.0s,MS5.1
G15A **Dillon** 47.33 329 ⇓P P 18 37 21.6 -0.1
baz=48,SNR=12
S06C **San Francisco** 47.49 316 ⇑P P 18 37 22.4 -0.6
baz=48,SNR=16
DLMT **Dillon** 47.52 329 eP P 18 37 25.9 +2.7
comp=Z,31nm,1.1s,mb5.2
N09A **Rock Creek Ran** 47.53 321 ⇑P P 18 37 23.2 -0.1
baz=48,SNR=8.2
R06C **Coleville** 47.54 317 ⇓P P 18 37 22.9 -0.5
baz=48
S05C **Merced** 47.57 315 ⇑P P 18 37 23.0 -0.6
baz=48
LRV **Little Rabbit** 47.62 314 eP P 18 37 25.7 +1.7
F15A **Butte** 47.80 329 ⇑P P 18 37 24.9 -0.5
baz=48,SNR=42
M09A **Mariel Ranch,** 47.81 321 ⇓P P 18 37 24.8 -0.7
baz=48
N08A **GE Springer Mi** 47.88 320 ⇓P P 18 37 25.1 -0.9
baz=48,SNR=5.8
CMB **Columbia Colle** 47.94 316 eP P 18 37 26.4 -0.1
CMB pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CMB MLR MLR
comp=Z,2µm,19.0s,MS5.1
CMB **Columbia Colle** 47.94 316 eP P 18 37 26.4 -0.1
comp=Z,4.8nm,0.7s,mb4.6
CMB LR LR
comp=Z,2µm,19.0s,MS5.1
CMB **Columbia Colle** 47.94 316 ⇑P P 18 37 25.8 -0.7
baz=48
TRQA **Tornquist** 47.95 161 eP P 18 37 25.8 -0.8
comp=Z,22nm,0.9s,mb5.2
TRQA LR LR
comp=Z,2µm,21.0s,MS5.0
HAST **UC Hastings Re** 47.99 313 ⇓P P 18 37 26.0 -0.8
baz=48
O07A **Toulon** 48.02 319 ⇑P P 18 37 26.7 -0.4
baz=48
EGMT **Eagleton** 48.04 333 eP P 18 37 28.8 +1.5
comp=Z,19nm,0.7s,mb5.2
EGMT LR LR
comp=Z,3µm,22.0s,MS5.2
R05C **Kirkwood Meado** 48.06 317 ⇓P P 18 37 27.6 +0.2
baz=48,SNR=10
PACP **Pacheco Peak** 48.08 314 ⇓P P 18 37 27.4 -0.1
baz=48,SNR=6.2
SAO **San Andreas Ge** 48.09 314 eP P 18 37 28.8 +1.2
SAO pmax pmax
comp=Z,16nm,0.8s,mb5.1
SAO MLR MLR
comp=Z,3µm,19.0s,MS5.2
SAO **San Andreas Ge** 48.09 314 eP P 18 37 28.8 +1.2
comp=Z,16nm,0.8s,mb5.1
SAO LR LR
comp=Z,3µm,19.0s,MS5.2
WCN **Washoe City** 48.15 318 ⇑P P 18 37 28.1 0.0
baz=48
F14A **Wisdom** 48.23 329 ⇓P P 18 37 29.2 +0.5
baz=48
E15A **Deer Lodge** 48.27 330 ⇓P P 18 37 29.4 +0.4
baz=48,SNR=16
L09A **Wilkinson Ranc** 48.28 322 ⇓P P 18 37 29.2 0.0
baz=48
S04C **Ingram Canyon,** 48.34 315 ⇑P P 18 37 29.2 -0.3
baz=48
N07B **Gerlach** 48.41 320 ⇑P P 18 37 29.6 -0.5
baz=48
R04C **Big Horse Ranc** 48.43 316 ⇑P P 18 37 30.0 -0.2
baz=48
LAVA **Lava Cap Winer** 48.53 317 ⇓P P 18 37 30.8 -0.3
baz=49
SCHQ **Schefferville** 48.57 10 P P 18 37 30.3 -1.0
comp=Z,28nm,0.7s,mb5.4,baz=173,slow=6.1,SNR=14
SCHQ **Schefferville** 48.57 10 eP P 18 37 30.2 -1.1
comp=Z,41nm,0.8s,mb5.5
SCHQ LR LR
comp=Z,12µm,20.0s,MS5.9
O06A **Flanigan** 48.64 319 ⇓P P 18 37 32.0 +0.1
baz=49
D15A **Lincoln** 48.64 330 ⇓P P 18 37 32.1 +0.2
baz=49
E14A **Clinton** 48.70 329 ⇓P P 18 37 32.5 +0.2
baz=49
WENL **Wente Brothers** 48.70 315 ⇑P P 18 37 32.5 +0.2
baz=49
F13A **Darby** 48.71 328 ⇓P P 18 37 31.8 -0.6
baz=49,SNR=21
K09A **Rome** 48.71 323 ⇓P P 18 37 32.0 -0.4
baz=49,SNR=35
P05C **Yuba Gap, Truc** 48.72 317 ⇑P P 18 37 32.5 +0.1
baz=49,SNR=17
L08A **Fields** 48.80 322 ⇑P P 18 37 32.7 -0.4
baz=49,SNR=19
BEKR **Beckwourth** 48.83 318 ⇓P P 18 37 33.0 -0.3
baz=49
CHMT **Chamberlain Mo** 48.91 330 eP P 18 37 33.5 -0.5
H11A **Donnelly** 48.93 326 ⇓P P 18 37 34.2 +0.1
baz=49

BDM **Black Diamond** 48.93 315 ⇓P P 18 37 34.1 0.0
baz=49
N06A **Buffalo Meadow** 48.95 319 ⇓P P 18 37 34.6 +0.3
baz=49,SNR=6.1
E13A **Victor** 49.07 329 ⇓P P 18 37 35.2 0.0
baz=49
J09A **Fry Pan Ranch,** 49.11 323 ⇓P P 18 37 36.0 +0.6
baz=49,SNR=6.0
WVOR **Wild Horse Val** 49.11 322 eP P 18 37 34.1 -1.4
WVOR pmax pmax
comp=Z,78nm,1.2s,mb5.6
WVOR MLR MLR
comp=Z,2µm,21.0s,MS5.1
WVOR **Wild Horse Val** 49.11 322 eP P 18 37 34.1 -1.4
comp=Z,78nm,1.2s,mb5.6
WVOR LR LR
comp=Z,2µm,21.0s,MS5.1
D14A **Greenough** 49.16 330 ⇑P P 18 37 36.6 +0.8
baz=49,SNR=5.6
F12A **Elk City** 49.18 327 ⇓P P 18 37 36.2 +0.2
baz=49
K08A **Mann Creek Ran** 49.19 322 ⇓P P 18 37 36.0 -0.1
baz=49
MSO **Missoula** 49.20 329 eP P 18 37 34.0 -2.2
comp=Z,7.9nm,0.8s,mb4.8
MSO LR LR
comp=Z,2µm,22.0s,MS5.0
O05C **Quincy** 49.25 318 ⇑P P 18 37 36.8 +0.2
baz=49
L07A **Adell** 49.32 321 ⇓P P 18 37 36.6 -0.5
baz=49,SNR=17
OHCM **Honcut** 49.32 317 eP P 18 37 35.9 -1.3
ORV **Oroville** 49.44 317 P P 18 37 37.8 -0.2
baz=50,SNR=13
I09A **Lost Marbles R** 49.47 324 ⇓P P 18 37 37.4 -0.8
baz=50
G11A **Walters Elk Ra** 49.50 326 ⇑P P 18 37 38.4 -0.1
baz=50
J08A **Circle Bar Ran** 49.54 323 ⇑P P 18 37 38.4 -0.4
baz=50,SNR=8.0
O04C **Chester** 49.54 318 ⇓P P 18 37 38.8 0.0
baz=50
K07A **Rock Creek Ran** 49.63 322 ⇓P P 18 37 38.7 -0.8
baz=50,SNR=6.2
D13A **Huson** 49.64 329 ⇓P P 18 37 39.0 -0.5
baz=50,SNR=12
BMO **Blue Mountains** 49.74 325 PFAKE 18 37 50.0 +10
BMO LR LR
comp=Z,2µm,20.0s,MS5.1
C14A **Swan Lake** 49.74 330 ⇑P P 18 37 39.9 -0.4
baz=50
F11A **Grangeville** 49.75 327 ⇑P P 18 37 39.6 -0.8
baz=50
MOD **Modoc** 49.86 320 PFAKE 18 37 50.0 +8.8
MOD LR LR
comp=Z,1µm,21.0s,MS5.0
MOD **Modoc** 49.86 320 ⇓P P 18 37 40.4 -0.8
baz=50
I08A **Drewsey** 49.91 324 ⇓P P 18 37 41.1 -0.5
baz=50
HATC **Hat Creek Radi** 50.04 319 ⇓P P 18 37 42.1 -0.5
baz=50
C13A **Hot Springs** 50.09 330 ⇓P P 18 37 42.8 -0.2
baz=50
M05C **Lookout** 50.11 319 ⇑P P 18 37 42.8 -0.3
baz=50
HOPS **Hopland** 50.25 316 PFAKE 18 38 00.0 +16
HOPS LR LR
comp=Z,4µm,19.0s,MS5.4
K06A **Valley Falls** 50.31 321 ⇑P P 18 37 44.4 -0.1
baz=50
GASB **Alder Springs** 50.31 317 ⇑P P 18 37 44.6 0.0
baz=50,SNR=5.0
H08A **Prairie City** 50.33 324 ⇓P P 18 37 44.6 -0.2
baz=50
F10A **Beach Ranch, E** 50.39 326 ⇓P P 18 37 44.8 -0.4
baz=50,SNR=13
B13A **Whitefish** 50.51 330 ⇑P P 18 37 46.0 -0.2
baz=51,SNR=9.8
C12A **Trout Creek** 50.57 329 ⇑P P 18 37 46.3 -0.2
baz=51,SNR=8.9
D11A **Klaveano Farm,** 50.58 328 ⇓P P 18 37 46.5 -0.1
baz=51,SNR=8.9
F09A **S2 Ranch, Elgi** 50.60 326 ⇑P P 18 37 46.5 -0.3
baz=51
O02C **Red Bluff** 50.61 317 ⇓P P 18 37 46.0 -0.8
baz=51
WDC **Whiskeytown Da** 50.64 318 PFAKE 18 38 00.0 +13
WDC LR LR
comp=Z,3µm,22.0s,MS5.2
E10A **Myers Farm, Un** 50.64 327 ⇑P P 18 37 47.2 +0.1
baz=51
P01C **Double 8 Ranch** 50.65 316 ⇑P P 18 37 46.8 -0.3
baz=51
FFC **Flin Flon** 50.65 343 P P 18 37 47.3 +0.1
comp=Z,131nm,0.9s,mb5.9,SNR=7.5
FFC **Flin Flon** 50.65 343 P P 18 37 47.5 +0.3
K05A **Summer Lake** 50.67 321 ⇑P P 18 37 47.2 -0.1
baz=51
M03C **McCloud** 50.70 319 ⇓P P 18 37 46.9 -0.7
baz=51
M04C **Macdoel** 50.78 320 ⇑P P 18 37 47.4 -0.8
baz=51
KIPM **Iron Peak** 50.91 317 eP P 18 37 48.9 -0.2
I06A **Prineville** 50.91 323 ⇑P P 18 37 48.5 -0.7
baz=51
G08A **Pilot Rock** 50.95 325 ⇑P P 18 37 49.1 -0.3
baz=51,SNR=15
L04A **Klamath Falls** 51.01 320 ⇓P P 18 37 48.9 -1.0
baz=51
B12A **Libby** 51.13 330 ⇑P P 18 37 50.0 -0.8
baz=51
F08A **Pendleton** 51.14 325 ⇓P P 18 37 50.0 -0.9
baz=51,SNR=8.8
J05A **Fort Rock** 51.18 321 ⇑P P 18 37 50.2 -0.9
baz=51
E09A **Wood Farm, Sta** 51.22 326 ⇑P P 18 37 50.3 -1.2
baz=51,SNR=17
M02C **Callahan** 51.24 319 ⇓P P 18 37 50.7 -0.9
baz=51
N02C **Big Bar** 51.26 318 ⇓P P 18 37 50.7 -1.1
baz=51
O01C **Eel River Cons** 51.29 317 ⇑P P 18 37 51.1 -0.9
baz=51
YBH **Yreka Blue Hor** 51.31 319 PFAKE 18 38 00.0 +7.8
YBH LR LR
comp=Z,2µm,19.0s,MS5.2
YBH **Yreka Blue Hor** 51.31 319 ⇓P P 18 37 51.7 -0.5
baz=51
G07A **Ruggs Ranch, H** 51.34 324 ⇑P P 18 37 50.7 -1.7
baz=51
H06A **Lindquist Farm** 51.43 323 ⇓P P 18 37 52.3 -0.8
baz=52
A12A **Yaak River Ran** 51.47 330 ⇓P P 18 37 52.9 -0.4
baz=52
B11A **Sandpoint** 51.50 329 ⇓P P 18 37 53.3 -0.2
baz=52,SNR=21
KHMM **Horse Mountain** 51.57 318 eP P 18 37 55.6 +1.5
D09A **Jones Farm, Ri** 51.65 327 ⇑P P 18 37 54.2 -0.4
baz=52,SNR=6.6
J04A **Umpqua Nationa** 51.70 321 ⇑P P 18 37 54.5 -0.5
baz=52,SNR=7.7
E08A **Dider Farm, El** 51.71 326 ⇓P P 18 37 54.6 -0.6
baz=52
NEW **Newport** 51.77 329 eP P 18 37 57.1 +1.5
NEW pmax pmax
comp=Z,29nm,1.0s
NEW MLR MLR
comp=Z,4µm,22.0s
NEW **Newport** 51.77 329 eP P 18 37 57.1 +1.5
comp=Z,29nm,1.0s,mb5.2
NEW LR LR
comp=Z,4µm,22.0s,MS5.4
A11A **Hall Mountain,** 51.84 330 ⇓P P 18 37 55.8 -0.2
baz=52,SNR=11
F07A **Phinny Hill Vi** 51.85 325 ⇓P P 18 37 56.1 -0.1
baz=52
G06A **Carlson Farm,** 51.88 324 ⇑P P 18 37 55.9 -0.5
baz=52,SNR=8.6
HUMO **Hull Mountain** 51.91 320 PFAKE 18 38 10.0 +13
HUMO LR LR
comp=Z,2µm,19.0s,MS5.3
HAWA **Hanford** 51.92 326 PFAKE 18 38 10.0 +13
HAWA LR LR
comp=Z,2µm,20.0s,MS5.1
D08A **Wollman Farm,** 51.97 327 ⇓P P 18 37 56.2 -0.9
baz=52,SNR=6.4
C09A **Chrisman Ranch** 52.08 328 ⇑P P 18 37 57.3 -0.6

baz=52
I04A Tendick Farm, 52.17 321 ⇓P **P** 18 37 57.8 -0.7
baz=52
E07A Sunnyside 52.19 326 ⇑P **P** 18 37 57.9 -0.8
baz=52
F06A Goldendale 52.27 324 ⇑P **P** 18 37 58.5 -0.7
baz=52,SNR=8.8
G05A Wamic 52.29 324 ⇓P **P** 18 37 59.1 -0.3
baz=52
B09A Rice 52.40 328 ⇓P **P** 18 37 59.4 -0.8
baz=52,SNR=12
A10A Northport 52.45 329 ⇑P **P** 18 38 00.4 -0.3
baz=53
C08A Higginbotham F 52.48 327 ⇑P **P** 18 38 00.6 -0.2
baz=53
H04A Detroit Lake 52.50 323 ⇑P **P** 18 38 00.9 -0.2
baz=53,SNR=6.6
KBO Bosley Butte 52.53 319 *e*P **P** 18 38 01.9 +0.7
D07A Quincy 52.63 326 ⇑P **P** 18 38 01.7 -0.3
baz=53
F05A White Salmon 52.73 324 ⇑P **P** 18 38 03.0 +0.3
baz=53
I03A Eugene 52.80 321 ⇓P **P** 18 38 03.9 +0.6
baz=53
E06A Yakima 52.82 325 ⇓P **P** 18 38 02.6 -0.7
baz=53,SNR=7.5
G04A Mulino 52.96 323 ⇑P **P** 18 38 03.6 -0.8
baz=53
A09A Danville 52.97 329 ⇑P **P** 18 38 04.4 -0.1
baz=53,SNR=5.4
C07A Waterville 52.97 327 ⇓P **P** 18 38 04.5 -0.1
baz=53,SNR=13
B08A Colville Reser 52.98 328 ⇓P **P** 18 38 04.1 -0.4
baz=53,SNR=6.8
D06A Cle Elum 53.12 326 ⇑P **P** 18 38 04.9 -0.6
baz=53
COR Corvallis 53.13 322 PFAKE 18 38 20.0 +14
COR LR LR
comp=Z,3μm,20.0s,MS5.3
H03A Soap Creek Ran 53.17 322 ⇓P **P** 18 38 05.3 -0.6
baz=53
A08A Turner Farm, O 53.32 328 P **P** 18 38 05.9 -1.2
baz=53,SNR=10
EDM Edmonton 53.42 335 *e*P **P** 18 38 09.2 +1.4
B07A Winthrop 53.46 327 ⇑P **P** 18 38 07.6 -0.5
baz=54
D05A Enumclaw 53.76 325 ⇓P **P** 18 38 09.9 -0.3
baz=54
A07A Ashnola River, 53.95 328 ⇑P **P** 18 38 11.6 -0.2
baz=54
B05A Bryant 54.42 326 ⇓P **P** 18 38 15.4 +0.3
baz=54
C04A Brinnon 54.60 325 ⇓P **P** 18 38 17.0 +0.6
baz=55
A05A Maple Falls 54.83 327 ⇑P **P** 18 38 18.8 +0.6
baz=55
B04A Port Angeles 55.09 325 ⇓P **P** 18 38 21.0 +1.0
baz=55
PTCN Pitcairn Islan 58.68 235 PFAKE 18 39 00.0 +15
PTCN LR LR
comp=Z,3μm,19.0s,MS5.5
YKA Yellowknife Ar 60.79 342 P **P** 18 38 57.4 -2.5
comp=Z,35nm,0.7s,mb5.6,baz=134,slow=6.6,SNR=32
YKA Yellowknife Ar 60.79 342 P **P** 18 38 57.4 -2.5
EFI East Falkland 61.52 165 PFAKE 18 39 20.0 +15
EFI LR LR
comp=Z,432nm,22.0s,MS4.6
DLBC Dease Lake 63.97 333 *e*P **P** 18 39 20.5 -0.7
SIT Sitka 65.80 330 PFAKE 18 39 40.0 +6.9
SIT LR LR
comp=Z,2μm,19.0s,MS5.4
ASCN Ascension 66.77 102 PFAKE 18 39 50.0 +11
ASCN LR LR
comp=Z,434nm,20.0s,MS4.7
RES Resolute Bay 67.99 356 *e*P **P** 18 39 46.3 -0.7
RES pmax pmax
comp=Z,613nm,1.0s
RES Resolute Bay 67.99 356 *e*P **P** 18 39 46.2 -0.8
comp=Z,613nm,1.0s
BORG Borgarnes 70.33 23 PFAKE 18 40 10.0 +8.5
BORG LR LR
comp=Z,1μm,19.0s,MS5.1
INK Inuvik 70.53 341 *e*P **P** 18 40 00.6 -2.2
INK pmax pmax
comp=Z,4μm,1.2s
INK Inuvik 70.53 341 *e*P **P** 18 40 00.6 -2.2
comp=Z,4μm,1.2s
DAWY Dawson 70.62 336 *e*P **P** 18 40 01.7 -1.6
EGAK Eagle 71.61 337 *e*P **P** 18 40 08.0 -1.3
comp=Z,31nm,0.9s,mb5.2
PMSA Palmer Station 72.74 173 PFAKE 18 40 30.0 +14
PMSA LR LR
comp=Z,3μm,22.0s,MS5.5
LIC Lamto 73.99 86⇑ *i*P **P** 18 40 22.9 -0.5
comp=Z,117nm,1.1s,mb5.4
LIC Lamto 73.99 86⇑ *i*P **P** 18 40 22.9 -0.5
comp=Z,58nm,1.1s,mb5.4
PMR Palmer 74.00 332 PFAKE 18 40 30.0 +6.5
PMR LR LR
comp=Z,2μm,19.0s,MS5.5
PAB San Pablo 74.07 51 *e*P **P** 18 40 21.0 -2.9
PAB pmax pmax
comp=Z,60nm,1.5s
PAB MLR MLR
comp=Z,17μm,20.0s
PAB San Pablo 74.07 51 *e*P **P** 18 40 21.0 -2.9
comp=Z,60nm,1.5s
PAB LR LR
comp=Z,17μm,20.0s
COLA College 74.34 336 *e*P **P** 18 40 24.2 -1.2
COLA pmax pmax
comp=Z,26nm,0.9s,mb5.2
COLA MLR MLR
comp=Z,1μm,19.0s,MS5.2
COLA College 74.34 336 *e*P **P** 18 40 24.1 -1.3
comp=Z,26nm,0.9s,mb5.2
COLA LR LR
comp=Z,1μm,19.0s,MS5.2
ESDC Sonseca Array 74.38 51 P **P** 18 40 25.8 +0.1
comp=Z,9.2nm,0.9s,mb4.7,baz=272,slow=5.7,SNR=23
ESLA Sonseca Array 74.38 51 PFAKE 18 40 40.0 +14
ESLA LR LR
comp=Z,81μm,20.0s
KDAK Kodiak Island 74.86 328 PFAKE 18 40 40.0 +11
KDAK LR LR
comp=Z,542nm,20.0s,MS4.8
ROSF Rostrenen 75.55 42 *e*P **P** 18 40 33.1 +0.6
comp=Z,230nm,1.4s,mb5.6
ROSF Rostrenen 75.55 42 *e*P **P** 18 40 33.1 +0.6
ROSF pmax pmax
comp=Z,115nm,1.4s,mb5.6
ROSF Rostrenen 75.55 42 *e*P **P** 18 40 33.1 +0.6
comp=Z,115nm,1.4s,mb5.6
QUIF Quistinic 75.58 42 *e*P **P** 18 40 33.2 +0.5
comp=Z,322nm,1.6s,mb5.7
QUIF Quistinic 75.58 42 *e*P **P** 18 40 33.2 +0.5
QUIF pmax pmax
comp=Z,161nm,1.5s,mb5.7
QUIF Quistinic 75.58 42 *e*P **P** 18 40 33.2 +0.5
comp=Z,161nm,1.5s,mb5.7
ALE Alert 75.62 2 P **P** 18 40 33.0 +0.1
comp=Z,85nm,1.4s,mb5.5,SNR=5.4
SGMF Saint Gilles 76.02 42 *e*P **P** 18 40 35.9 +0.8
comp=Z,493nm,1.9s,mb5.8
SGMF Saint Gilles 76.02 42 *e*P **P** 18 40 35.9 +0.8
SGMF pmax pmax
comp=Z,246nm,1.9s,mb5.8
SGMF Saint Gilles 76.02 42 *e*P **P** 18 40 35.9 +0.8
comp=Z,246nm,1.9s,mb5.8
ESK Eskdalemuir 76.36 35 PFAKE 18 40 50.0 +13
ESK LR LR
comp=Z,3μm,19.0s,MS5.6
SJPF Ste Jean 76.62 48 *e*P **P** 18 40 38.9 +0.4
comp=Z,32nm,0.8s,mb5.0
SJPF Ste Jean 76.62 48 *e*P **P** 18 40 38.9 +0.4
SJPF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SJPF Ste Jean 76.62 48 *e*P **P** 18 40 38.9 +0.4
comp=Z,16nm,0.8s,mb5.0
TRIS Tristan da Cun 76.62 131 PFAKE 18 40 50.0 +11
TRIS LR LR
comp=Z,2μm,21.0s,MS5.4
SHEL Horse Pasture 76.63 108 PFAKE 18 40 50.0 +11
SHEL LR LR
comp=Z,828nm,20.0s,MS5.0
SVW2 Sparrevohn 76.94 331 *e*P **P** 18 40 41.4 +1.0
IMA2 Indian Mountai 76.99 336 *e*P **P** 18 40 44.3 +3.7

ETSF Etsaut 77.10 48 *e*P **P** 18 40 42.0 +0.8
GRR Gorron 77.16 42 *e*P **P** 18 40 42.2 +0.6
comp=Z,62nm,1.0s,mb5.2
GRR Gorron 77.16 42 *e*P **P** 18 40 42.2 +0.6
GRR pmax pmax
comp=Z,31nm,1.0s,mb5.2
GRR Gorron 77.16 42 *e*P **P** 18 40 42.2 +0.6
comp=Z,31nm,1.0s,mb5.2
FLN La Foliniere 77.43 42 *e*P **P** 18 40 44.0 +0.9
comp=Z,194nm,1.4s,mb5.5
FLN La Foliniere 77.43 42 *e*P **P** 18 40 44.0 +0.9
FLN pmax pmax
comp=Z,97nm,1.4s,mb5.5
FLN La Foliniere 77.43 42 *e*P **P** 18 40 44.0 +0.9
comp=Z,97nm,1.4s,mb5.5
MFF Saint Martin d 77.55 44 *e*P **P** 18 40 44.6 +0.8
comp=Z,289nm,1.8s,mb5.6
MFF Saint Martin d 77.55 44 *e*P **P** 18 40 44.6 +0.8
MFF pmax pmax
comp=Z,145nm,1.8s,mb5.6
MFF Saint Martin d 77.55 44 *e*P **P** 18 40 44.6 +0.8
comp=Z,145nm,1.8s,mb5.6
LDF La Druitiere 77.66 42 *e*P **P** 18 40 45.0 +0.6
comp=Z,103nm,1.2s,mb5.3
LDF La Druitiere 77.66 42 *e*P **P** 18 40 45.0 +0.6
LDF pmax pmax
comp=Z,52nm,1.2s,mb5.3
LDF La Druitiere 77.66 42 *e*P **P** 18 40 45.0 +0.6
comp=Z,52nm,1.2s,mb5.3
EPF Esparros 77.76 48 *e*P **P** 18 40 45.5 +0.6
LFF La Frestale 78.10 46 *e*P **P** 18 40 47.6 +0.8
comp=Z,190nm,1.7s,mb5.5
LFF La Frestale 78.10 46 *e*P **P** 18 40 47.6 +0.8
LFF pmax pmax
comp=Z,95nm,1.7s,mb5.5
LFF La Frestale 78.10 46 *e*P **P** 18 40 47.6 +0.8
comp=Z,95nm,1.7s,mb5.5
RJF Les Rejaudoux 78.66 45 *e*P **P** 18 40 50.6 +0.7
CAF Calviac 79.04 46 *e*P **P** 18 40 52.6 +0.6
comp=Z,106nm,1.6s,mb5.2
CAF Calviac 79.04 46 *e*P **P** 18 40 52.6 +0.6
CAF pmax pmax
comp=Z,53nm,1.6s,mb5.2
CAF Calviac 79.04 46 *e*P **P** 18 40 52.6 +0.6
comp=Z,53nm,1.6s,mb5.2
MTLF Montolieu 79.14 47 *e*P **P** 18 40 53.1 +0.5
comp=Z,74nm,1.4s,mb5.1
MTLF Montolieu 79.14 47 *e*P **P** 18 40 53.1 +0.5
MTLF pmax pmax
comp=Z,37nm,1.4s,mb5.1
MTLF Montolieu 79.14 47 *e*P **P** 18 40 53.1 +0.5
comp=Z,37nm,1.4s,mb5.1
TCF Toulx Ste Croi 79.17 44 *e*P **P** 18 40 53.5 +0.8
HYF Humbligny 79.47 43 *e*P **P** 18 40 55.1 +0.7
BGF Bois d'Agland 79.61 44 *e*P **P** 18 40 55.6 +0.5
TOA0 Torodi Ar. Sit 79.95 78 *e*P **P** 18 40 56.4 -0.6
TORD Torodi Ar. Bea 79.95 78 P **P** 18 40 56.6 -0.3
comp=Z,3.1nm,0.8s,mb4.3,baz=289,slow=6.7,SNR=41
TORD PKKPbc PKKPbc 18 59 42.3 +0.5
comp=Z,0.3nm,0.7s,baz=145,slow=1.6,SNR=3.2
AVF Avril sur Loir 79.96 44 *e*P **P** 18 40 57.4 +0.4
comp=Z,134nm,1.8s,mb5.3
AVF Avril sur Loir 79.96 44 *e*P **P** 18 40 57.4 +0.4
AVF pmax pmax
comp=Z,67nm,1.8s,mb5.3
AVF Avril sur Loir 79.96 44 *e*P **P** 18 40 57.4 +0.4
comp=Z,67nm,1.8s,mb5.3
SSF Saint Saulge 80.06 44 *e*P **P** 18 40 58.3 +0.7
comp=Z,19nm,0.8s,mb4.7
SSF Saint Saulge 80.06 44 *e*P **P** 18 40 58.3 +0.7
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 80.06 44 *e*P **P** 18 40 58.3 +0.7
comp=Z,9.3nm,0.8s,mb4.8
SMF Signal de Mont 80.29 44 *e*P **P** 18 40 59.3 +0.5
comp=Z,188nm,1.8s,mb5.4
SMF Signal de Mont 80.29 44 *e*P **P** 18 40 59.3 +0.5
SMF pmax pmax
comp=Z,94nm,1.8s,mb5.4
SMF Signal de Mont 80.29 44 *e*P **P** 18 40 59.3 +0.5
comp=Z,94nm,1.8s,mb5.4
LOR Lormes 80.30 43 *e*P **P** 18 40 59.6 +0.7
comp=Z,154nm,1.9s,mb5.3
LOR Lormes 80.30 43 *e*P **P** 18 40 59.6 +0.7
LOR pmax pmax
comp=Z,77nm,1.9s,mb5.3
LOR Lormes 80.30 43 *e*P **P** 18 40 59.6 +0.7
comp=Z,77nm,1.9s,mb5.3
LASF Ste Croix 80.33 47 *e*P **P** 18 40 59.6 +0.6
comp=Z,163nm,1.9s,mb5.3
BAIF Baives 80.53 41 *e*P **P** 18 41 00.8 +0.7
SNF Seneffe 80.58 40 P **P** 18 41 01.1 +0.7
DOU Dourbes 80.78 40 P **P** 18 41 01.3 -0.1
VIVF Saint-Julien-l 80.90 46 *e*P **P** 18 41 02.8 +0.7
GIVF Givet 80.93 40 *e*P **P** 18 41 02.8 +0.6
MEZF Maizieres J'vi 81.10 42 *e*P **P** 18 41 03.9 +0.8
comp=Z,151nm,1.5s,mb5.4
MEZF Maizieres J'vi 81.10 42 *e*P **P** 18 41 03.9 +0.8
comp=Z,151nm,1.5s,mb5.7
BCLA Clavier 81.23 40 P **P** 18 41 04.5 +0.6
SMRF Simiane la Rot 81.57 47 *e*P **P** 18 41 05.8 +0.2
comp=Z,83nm,1.3s,mb5.2
SMRF Simiane la Rot 81.57 47 *e*P **P** 18 41 05.8 +0.2
comp=Z,83nm,1.3s,mb5.5
ORIF Oris-en-Rattie 81.75 46 *e*P **P** 18 41 06.9 +0.3
comp=Z,51nm,1.3s,mb5.0
ORIF Oris-en-Rattie 81.75 46 *e*P **P** 18 41 06.9 +0.3
ORIF pmax pmax
comp=Z,26nm,1.3s,mb5.0
ORIF Oris-en-Rattie 81.75 46 *e*P **P** 18 41 06.9 +0.3
comp=Z,26nm,1.3s,mb5.0
WLF Walferdange 81.80 41 P **P** 18 41 07.3 +0.5
CABF La Chapelle 81.84 44 *e*P **P** 18 41 07.7 +0.6
comp=Z,67nm,1.4s,mb5.1
CABF La Chapelle 81.84 44 *e*P **P** 18 41 07.7 +0.6
CABF pmax pmax
comp=Z,33nm,1.4s,mb5.1
CABF La Chapelle 81.84 44 *e*P **P** 18 41 07.7 +0.6
comp=Z,33nm,1.4s,mb5.1
HAU Haudompre 81.97 43 *e*P **P** 18 41 08.5 +0.7
LMR La Mourre 82.27 47 *e*P **P** 18 41 09.4 +0.1
comp=Z,191nm,1.7s,mb5.5
LMR La Mourre 82.27 47 *e*P **P** 18 41 09.4 +0.1
LMR pmax pmax
comp=Z,95nm,1.7s,mb5.5
LMR La Mourre 82.27 47 *e*P **P** 18 41 09.4 +0.1
comp=Z,95nm,1.7s,mb5.5
HINF Hinteralfeld 82.32 43 *e*P **P** 18 41 09.9 +0.3
comp=Z,66nm,1.5s,mb5.0
HINF Hinteralfeld 82.32 43 *e*P **P** 18 41 09.9 +0.3
HINF pmax pmax
comp=Z,33nm,1.5s,mb5.0
HINF Hinteralfeld 82.32 43 *e*P **P** 18 41 09.9 +0.3
comp=Z,33nm,1.5s,mb5.0
LPL La Plagne 82.33 45 *e*P **P** 18 41 10.0 +0.4
FRF La Foret Royal 82.36 47 *e*P **P** 18 41 10.3 +0.5
MBDF Montbardon 82.39 46 *e*P **P** 18 41 10.4 +0.4
CDF Champ du Feu 82.58 42 *e*P **P** 18 41 11.4 +0.5
SBF Sospel 82.92 47 *e*P **P** 18 41 11.8 -0.9
comp=Z,134nm,1.5s,mb5.5
SBF Sospel 82.92 47 *e*P **P** 18 41 11.8 -0.9
SBF pmax pmax
comp=Z,67nm,1.5s,mb5.5
SBF Sospel 82.92 47 *e*P **P** 18 41 11.8 -0.9
comp=Z,67nm,1.5s,mb5.5
KBS Kingsbay 83.26 11 PFAKE 18 41 30.0 +16
KBS LR LR
comp=Z,2μm,19.0s,MS5.6
MUD Monsted U'grnd 83.36 34 *i*P **P** 18 41 16.9 +2.0
comp=Z,25nm,1.1s,mb5.2
MUD Monsted U'grnd 83.36 34 *e*P **P** 18 41 16.9 +2.0
MUD pmax pmax
comp=Z,25nm,1.1s,mb5.2
MUD Monsted U'grnd 83.36 34 *e*P **P** 18 41 16.9 +2.0
comp=Z,25nm,1.1s,mb5.2
KONO Kongsberg 83.42 31 PFAKE 18 41 30.0 +15
KONO LR LR
comp=Z,4μm,20.0s,MS5.8
NB2 NORSAR Subarra 84.13 29 P **P** 18 41 18.2 -0.7
comp=Z,109nm,2.0s,mb5.6,baz=273,slow=5.1
NOA NORSAR Array B 84.13 29 P **P** 18 41 18.4 -0.5
comp=Z,4.9nm,0.8s,mb4.7,baz=275,slow=5.0,SNR=7.9
PGF Pioggiola 84.14 48 *e*P **P** 18 41 19.2 +0.2
VSL Villasalto 84.68 51 *e*P **P** 18 41 21.6 0.0
comp=Z,40nm,1.0s,mb5.5
KEST Kesra 84.98 55 P **P** 18 41 24.2 +1.0

comp=Z,3.5nm,1.0s,mb4.5,baz=220,slow=3.5,SNR=7.4
GRA1 Grafenberg Arr 85.08 41 *e*P **P** 18 41 23.2 -0.5
comp=Z,46nm,1.8s,mb5.3
GRF Grafenberg Arr 85.08 41 *e*P **P** 18 41 23.2 -0.5
comp=Z,46nm,1.8s,mb5.3
GRF Grafenberg Arr 85.08 41 *e*P **P** 18 41 23.2 -0.5
GRF pmax pmax
comp=Z,46nm,1.8s,mb5.3
GRF Grafenberg Arr 85.08 41 *e*P **P** 18 41 23.2 -0.5
GRF pmax pmax
comp=Z,46nm,1.8s,mb5.3
GRFO Grafenberg 85.08 41 PFAKE 18 41 40.0 +16
GRFO LR LR
comp=Z,3μm,19.0s,MS5.7
MOX Moxa 85.25 40 *e*P **P** 18 41 24.6 +0.1
comp=Z,65nm,2.2s,mb5.4
MOX Moxa 85.25 40 *e*P **P** 18 41 24.6 +0.1
MOX pmax pmax
comp=Z,65nm,2.2s,mb5.4
HFS Hagfors 85.44 30 P **P** 18 41 24.5 -0.9
comp=Z,4.8nm,0.9s,mb4.6,baz=260,slow=8.2,SNR=3.3
NKC Novy Kostel 85.82 40 *e*P **P** 18 41 26.9 -0.5
CLL Collm 86.05 39 *e*P **P** 18 41 29.0 +0.5
CLL pmax pmax
comp=Z,26nm,1.4s,mb5.3
CLL Collm 86.05 39 *e*P **P** 18 41 29.0 +0.5
comp=Z,26nm,1.4s,mb5.3
CLL *e*pP pP 18 41 35.0 -2.9
KHC Kasperske Hory 86.67 41 *e*P **P** 18 41 31.7 +0.1
BRG Berggiesshubel 86.69 39 *e*P **P** 18 41 25.3 -6.4
comp=Z,3.8nm,1.2s,mb4.5
BRG Berggiesshubel 86.69 39 *e*P **P** 18 41 25.3 -6.4
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.5
GERES GERESS Array B 86.79 41 P **P** 18 41 31.4 -0.7
comp=Z,4.0nm,1.1s,mb4.5,baz=252,slow=2.7,SNR=12
PVCC Panska Ves 87.13 40 *e*P **P** 18 41 33.9 +0.1
UPC Upice 88.04 39 *e*P **P** 18 41 37.0 -1.2
KSP Ksiaz 88.17 39 *e*P **P** 18 41 39.0 +0.2
KSP *e*pP pP 18 41 50.2 +2.0
DPC Dobruska-Polom 88.26 40 *e*P **P** 18 41 39.6 +0.4
KEV Kevo 88.94 19 PFAKE 18 41 50.0 +7.5
KEV LR LR
comp=Z,3μm,20.0s,MS5.6
ZST Bratislava 89.12 42 *e*P **P** 18 41 43.5 +0.2
VYHS Vyhne 90.20 41 *e*P **P** 18 41 46.7 -1.6
FINES FINESS Array B 91.11 28 P **P** 18 41 54.9 +2.3
comp=Z,3.2nm,0.9s,mb4.7,baz=264,slow=1.4,SNR=3.6
KECS Kecovo 91.28 41 *e*P **P** 18 41 51.6 -1.8
KECS pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
KECS Kecovo 91.28 41 *e*P **P** 18 41 51.6 -1.8
comp=Z,4.9nm,1.2s,mb4.7
KECS *e* 18 42 20.3
STHS Stebnicka Huta 91.57 40 *e*P **P** 18 41 54.2 -0.5
STHS pmax pmax
comp=Z,5.0nm,1.4s,mb4.7
STHS Stebnicka Huta 91.57 40 *e*P **P** 18 41 54.2 -0.5
comp=Z,5.0nm,1.4s,mb4.7
STHS *e* 18 42 07.0
STHS *e* 18 42 17.9
BILL Bilibino 92.11 340 *e*P **P** 18 42 01.4 +4.2
BILL pmax pmax
comp=Z,12nm,1.0s,mb5.2
BILL Bilibino 92.11 340 PFAKE 18 42 10.0 +13
BILL LR LR
comp=Z,1μm,19.0s,MS5.4
KOLS Kolonicke sedl 92.33 40 *e*P **P** 18 42 02.0 +3.8
KOLS *e* 18 42 35.8
MSKU Masuku 93.40 91 PFAKE 18 42 20.0 +17
MSKU LR LR
comp=Z,83nm,20.0s,MS4.2
AFI Afiamalu 93.81 257 LR LR 19 14 07.0
comp=Z,838nm,20.0s,MS5.2,baz=300,slow=29
SMY Shemya 94.02 324 PFAKE 18 42 20.0 +14
SMY LR LR
comp=Z,865nm,20.0s,MS5.2
KIEV Kiev 96.15 37 PFAKE 18 42 30.0 +14
KIEV LR LR
comp=Z,2μm,19.0s,MS5.5
QSPA South Pole Qui 97.23 180 PFAKE 18 42 30.0 +9.4
QSPA LR LR
comp=Z,3μm,20.0s,MS5.8
OBN Obninsk 98.58 31 *e*P **P** 18 42 28.7 +2.0
OBN pmax pmax
comp=Z,3.0nm,0.5s,mb5.1
OBN Obninsk 98.58 31 PFAKE 18 42 40.0 +13
OBN LR LR
comp=Z,314nm,22.0s,MS4.8
TSUM Tsumeb 99.10 108 PFAKE 18 42 40.0 +11
TSUM LR LR
comp=Z,5μm,20.0s,MS6.0
RAO Raoul Island 100.72 242 PFAKE 18 42 50.0 +14
RAO LR LR
comp=Z,1μm,19.0s,MS5.5
SBA Scott Base 101.91 191 PFAKE 18 42 50.0 +8.5
SBA LR LR
comp=Z,798nm,20.0s,MS5.2
ANTO Ankara 102.19 47 PFAKE 18 42 50.0 +7.2
ANTO LR LR
comp=Z,2μm,20.0s,MS5.6
MA2 Magadan 102.39 336 PFAKE 18 42 50.0 +6.4
MA2 LR LR
comp=Z,1μm,19.0s,MS5.5
PET Petropavlovsk 102.46 328 PFAKE 18 43 00.0 +16
PET LR LR
comp=Z,1μm,19.0s,MS5.4
SUR Sutherland 102.61 121 PFAKE 18 43 00.0 +15
SUR LR LR
comp=Z,876nm,20.0s,MS5.3
BR131 Keskin Array S 102.85 47 PFAKE 18 43 00.0 +14
BR131 LR LR
comp=Z,784nm,19.0s,MS5.3
VNDA Vanda 103.01 191 PFAKE 18 43 00.0 +14
VNDA LR LR
comp=Z,940nm,20.0s,MS5.3
BOSA Boshof 106.45 118 PFAKE 18 47 20.0 +7.4
BOSA LR LR
comp=Z,2μm,19.0s,MS5.8
SNZO South Karori 106.52 229 PFAKE 18 47 20.0 +7.3
SNZO LR LR
comp=Z,1μm,20.0s,MS5.4
LBTB Lobatse 106.77 114 PFAKE 18 47 30.0 +17
LBTB LR LR
comp=Z,2μm,20.0s,MS5.7
KIV Kislovodsk 107.24 40 PFAKE 18 47 30.0 +16
KIV LR LR
comp=Z,207nm,19.0s,MS4.7
YAK Yakutsk 107.33 346 PFAKE 18 47 30.0 +16
YAK LR LR
comp=Z,1μm,19.0s,MS5.5
ARU Arti 107.87 23 PFAKE 18 47 30.0 +15
ARU LR LR
comp=Z,318nm,22.0s,MS4.8
LSZ Lusaka 108.98 104 PFAKE 18 47 30.0 +13
LSZ LR LR
comp=Z,2μm,19.0s,MS5.8
GNI Garni 110.42 42 PFAKE 18 47 30.0 +10
GNI LR LR
comp=Z,586nm,19.0s,MS5.2
YSS Yuzh-Sakhalins 114.28 330 PFAKE 18 47 40.0 +13
YSS LR LR
comp=Z,968nm,19.0s,MS5.4
MAW Mawson 114.64 165 PFAKE 18 47 40.0 +12
MAW LR LR
comp=Z,1μm,19.0s,MS5.5
BRVK Borovoye 114.73 19 PFAKE 18 47 40.0 +12
BRVK LR LR
comp=Z,333nm,19.0s,MS5.0
KMBO Kilima Mbogo 116.78 88 PKP PKPdf 18 47 34.3 +2.1
comp=Z,0.7nm,0.6s,baz=53,slow=20,SNR=3.3
KMBO Kilima Mbogo 116.78 88 PKP PKPdf 18 47 34.3 +2.1
KMBO LR LR
comp=Z,1μm,20.0s,MS5.5
ERM Erimo 117.36 325 PFAKE 18 47 50.0 +17
ERM LR LR
comp=Z,272nm,19.0s,MS4.9
ZAL Zalesovo 117.66 10 PKP PKPdf 18 47 35.3 +1.4
comp=Z,1.2nm,0.8s,baz=254,slow=1.1,SNR=6.3
CASY Casey 120.62 185 PFAKE 18 47 50.0 +10
CASY LR LR
comp=Z,746nm,19.0s,MS5.3
HNR Honiara 121.09 263 PFAKE 18 47 50.0 +10
HNR LR LR
comp=Z,623nm,19.0s,MS5.3

HIA	**Hailar**	**121.25**	**345**		PFAKE		18 47 50.0	+9.2	
HIA					LR	LR			
	comp=Z,1μm,21.0s,MS5.5								
TLY	**Talaya**	**121.26**	**358**		PFAKE		18 47 50.0	+9.2	
TLY					LR	LR			
	comp=Z,275nm,21.0s,MS4.9								
MKAR	**Makanchi Array**	**123.86**	**15**		PKP	PKPdf	18 47 45.2	-0.6	
	comp=Z,1.0nm,0.7s,baz=344,slow=3.9,SNR=6.0								
MAJO	**Matsushiro**	**123.86**	**324**		PFAKE		18 48 00.0	+14	
MAJO					LR	LR			
	comp=Z,983nm,19.0s,MS5.5								
CN2	**Changchun**	**124.38**	**338**	*e*	PKP	PKPdf	18 47 49.0	+2.2	
ULN	**Ulaanbaatar**	**124.83**	**355**		PFAKE		18 48 00.0	+12	
ULN					LR	LR			
	comp=Z,963nm,20.0s,MS5.5								
SONM	**Songino Array**	**124.92**	**355**		PKP	PKPdf	18 47 46.5	-1.4	
	comp=Z,2.9nm,0.9s,baz=311,slow=1.6,SNR=15								
TAU	**Tasmania Unive**	**125.63**	**221**		PFAKE		18 48 00.0	+11	
TAU					LR	LR			
	comp=Z,190nm,19.0s,MS4.8								
CNB	**Canberra Magne**	**127.20**	**231**	*e*	PKP	PKPdf	18 47 52.2	0.0	
	comp=Z,9.7nm,0.8s								
WMQ	**Urumqi**	**127.91**	**12**	‖	PKP	PKPdf	18 47 51.3	-2.2	
WMQ					PP	PP			
	comp=Z,844nm,8.8s								
WMQ					LR	LR			
	comp=N,557nm,19.2s								
WMQ					LR	LR			
	comp=E,682nm,25.0s								
WMQ					LR	LR			
	comp=Z,347nm,21.1s,MS5.0								
KSRS	**Korea Array**	**128.65**	**332**		PKP	PKPdf	18 47 57.1	+2.1	
	comp=Z,4.1nm,0.8s,baz=15,slow=1.8,SNR=16								
INCN	**Inchon**	**129.22**	**333**		PFAKE		18 48 10.0	+14	
INCN					LR	LR			
	comp=Z,3μm,19.0s,MS6.0								
BJT	**Baijiatuan**	**130.78**	**344**		PFAKE		18 48 10.0	+11	
BJT					LR	LR			
	comp=Z,1μm,19.0s,MS5.7								
HHC	**Hu-ho-hao-te**	**131.07**	**349**	*e*	PKP	PKPdf	18 48 00.1	+0.5	
HHC					PP	PP	18 50 21.1	+4.5	
HHC					PKS		18 51 35.8		
HHC					SKS	SKSdf	18 55 06.1	-2.8	
HHC					SKKS	SKKSac	18 57 06.5	-4.6	
HHC					SS	SS	19 07 48.8	+2.9	
HHC					PP	PP			
	comp=Z,588nm,10.9s								
HHC					LR	LR			
	comp=N,598nm,21.8s,MS5.4								
HHC					LR	LR			
	comp=E,523nm,21.0s,MS5.4								
HHC					LR	LR			
	comp=Z,891nm,20.2s,MS5.5								
GUMO	**Guam**	**131.24**	**295**		PFAKE		18 48 10.0	+10	
GUMO					LR	LR			
	comp=Z,568nm,19.0s,MS5.3								
GTA	**Gaotai**	**133.60**	**1**	*e*	PKP	PKPdf	18 48 07.1	+2.8	
PMG	**Port Moresby**	**133.70**	**264**		PFAKE		18 48 20.0	+15	
PMG					LR	LR			
	comp=Z,494nm,19.0s,MS5.2								
CTA	**Charters Tower**	**133.80**	**249**	*e*	PKP	PKPdf	18 48 05.7	+1.0	
	comp=Z,6.7nm,0.9s								
CTAO	**Charters Tower**	**133.80**	**249**		PFAKE		18 48 20.0	+15	
CTAO					LR	LR			
	comp=Z,382nm,20.0s,MS5.1								
STKA	**Stephens Creek**	**134.49**	**232**	*e*	PKP	PKPdf	18 48 04.7	-1.3	
	comp=Z,4.3nm,0.8s								
STKA	**Stephens Creek**	**134.49**	**232**		PKP	PKPdf	18 48 05.0	-1.0	
	comp=Z,2.1nm,0.7s,baz=46,slow=1.8,SNR=4.1								
LZH	**Lanzhou**	**136.80**	**356**	*e*	P	PKPdf	18 48 12.5	+2.2	
LZH					pP		18 48 25.1		
LZH					sP		18 48 30.2		
NJ2	**Nanjing**	**137.15**	**337**	*e*	PKP	PKPdf	18 48 12.8	+1.8	
NJ2					PP	PP	18 51 01.9	+6.6	
NJ2					PP	PP			
	comp=Z,360nm,6.2s								
NJ2					LR	LR			
	comp=N,540nm,24.6s,MS5.7								
NJ2					LR	LR			
	comp=E,2μm,24.5s,MS5.7								
NJ2					LR	LR			
	comp=Z,660nm,23.5s,MS5.3								
KOLN	**Koldanda**	**141.61**	**24**	*e*	P	PKPdf	18 48 18.6	-0.5	
	comp=Z,38nm,1.5s								
GKN	**Gorkha**	**141.81**	**23**	*e*	P	PKPdf	18 48 17.5	-1.9	
	comp=Z,15nm,0.7s								
CD2	**Chengdu**	**141.94**	**355**	*e*	PKP	PKPdf	18 48 19.6	-0.1	
CD2					PP	PP	18 51 29.0	+4.2	
CD2					PKS		18 51 53.9		
CD2					SKS	SKSdf	18 55 24.3	-3.2	
CD2					SKKS	SKKSac	18 58 14.9	-1.2	
CD2					PP	PP			
	comp=Z,90nm,10.2s								
CD2					LR	LR			
	comp=N,130nm,15.6s								
CD2					LR	LR			
	comp=Z,120nm,16.8s,MS4.7								
TATO	**Taipei**	**141.97**	**328**		PFAKE		18 48 30.0	+10	
TATO					LR	LR			
	comp=Z,1μm,19.0s,MS5.7								
LSA	**Lhasa**	**142.23**	**13**		PKP	PKPdf	18 48 26.0	+5.8	
LSA	**Lhasa**	**142.23**	**13**		PFAKE		18 48 30.0	+10	
LSA					LR	LR			
	comp=Z,454nm,20.0s,MS5.2								
KKN	**Kakani**	**142.25**	**22**	*e*	P	PKPdf	18 48 17.8	-2.4	
	comp=Z,12nm,0.8s								
JIRN	**Jiri**	**142.70**	**21**	*e*	P	PKPdf	18 48 18.4	-2.6	
	comp=Z,22nm,1.0s								
AS31	**Alice Springs**	**143.94**	**239**	*e*	PKPpre		18 48 20.0		
ASAR	**Alice Springs**	**143.94**	**239**		PKhKP		18 48 20.1		
	comp=Z,14nm,0.8s,baz=118,slow=4.0,SNR=93								
ASAR					PKP	PKPdf	18 48 24.8	+1.6	
	comp=Z,16nm,0.8s,baz=114,slow=3.9,SNR=23								
WB2	**Warramunga Arr**	**144.74**	**246**	*e*	PKP	PKPdf	18 48 23.2	-1.4	
WRAB	**Tennant Creek**	**144.75**	**246**	*e*	PKIKP	PKPdf	18 48 23.2	-1.4	
WRAB					MLR	MLR			
	comp=Z,125nm,19.0s,MS4.7								
WRA	**Warramunga Arr**	**144.75**	**246**		PKP	PKPdf	18 48 23.2	-1.4	
	comp=Z,52nm,0.9s,baz=104,slow=3.1,SNR=249								
FORT	**Forrest**	**145.08**	**224**	*e*	PKP	PKPdf	18 48 23.8	-1.4	
	comp=Z,32nm,0.7s								
GYA	**Guiyang**	**145.97**	**350**		PKP	PKPdf	18 48 25.4	-1.3	
GYA					PKP2	PKPab	18 48 28.9	+0.9	
GYA					PP	PP	18 51 51.0	+2.1	
GYA					PKS		18 51 59.3		
GYA					PP	PP			
	comp=Z,130nm,8.4s								
GYA					LR	LR			
	comp=N,210nm,21.8s,MS5.0								
GYA					LR	LR			
	comp=E,190nm,20.9s,MS5.0								
GYA					LR	LR			
	comp=Z,180nm,21.0s,MS4.8								
HYB	**Hyderabad**	**147.36**	**41**	*i*	PKP	PKPdf	18 48 33.0	+4.0	
HYB				*e*			18 48 37.5		
HYB	**Hyderabad**	**147.36**	**41**	*e*	P	PKPdf	18 48 33.0	+4.0	
KMI	**Kunming**	**147.77**	**356**		PKP	PKPdf	18 48 29.5	-0.2	
KMI					PKP2	PKPab	18 48 35.3	+0.3	
KMI					PP	PP	18 52 04.3	+4.8	
KMI					LR	LR			
	comp=N,570nm,19.7s,MS5.5								
KMI					LR	LR			
	comp=E,389nm,19.7s,MS5.5								
KMI					LR	LR			
	comp=Z,541nm,17.4s,MS5.4								
KMI	**Kunming**	**147.77**	**356**		PKP	PKPdf	18 48 29.5	-0.2	
KMI					PKP	PKPdf	18 48 35.2	+5.5	
KMI					pPKP	pPKPdf	18 48 40.0	+0.6	
KMI					sPKP		18 48 43.9		
KMI					PP	PP	18 52 04.3	+4.8	
KMI					LR	LR			
	comp=Z,540nm,17.4s,MS5.4								
KAKA	**Kakadu**	**147.99**	**258**	*e*	PKP	PKPdf	18 48 32.9	+2.8	
	comp=Z,70nm,0.9s								
NWAO	**Narrogin (SRO)**	**150.03**	**209**	*e*	PKIKP	PKPdf	18 48 37.0	+3.6	
NWAO					MLR	MLR			
	comp=Z,401nm,20.0s								
KLBR	**Kellerberrin**	**150.84**	**212**	*e*	PKP	PKPdf	18 48 39.5	+4.9	
	comp=Z,33nm,0.7s								
DAV	**Davao City (W)**	**151.14**	**299**		PFAKE		18 48 50.0	+15	
DAV					LR	LR			
	comp=Z,849nm,20.0s,MS5.5								
MUN	**Mundaring**	**151.30**	**209**	*e*	PKP	PKPdf	18 48 40.8	+5.5	
DGAR	**Diego Garcia**	**152.29**	**92**		PFAKE		18 48 50.0	+13	
DGAR					LR	LR			
	comp=Z,208nm,20.0s,MS4.9								
QIZ	**Qiongzhong**	**152.30**	**340**		PKP	PKPdf	18 48 41.3	+4.5	
QIZ					PP	PP	18 52 32.9	+7.2	
QIZ	**Qiongzhong**	**152.30**	**340**		PFAKE		18 48 50.0	+13	
QIZ					LR	LR			
	comp=Z,962nm,22.0s,MS5.6								
FITZ	**Fitzroy Crossi**	**153.14**	**244**	*e*	PKP	PKPdf	18 48 41.4	+3.3	
	comp=Z,19nm,1.1s								
FITZ	**Fitzroy Crossi**	**153.14**	**244**		PKP	PKPdf	18 48 39.6	+1.5	
	comp=Z,6.0nm,0.8s,baz=189,slow=2.1,SNR=9.0								
FITZ					PKPbc	PKPbc	18 48 44.9	-0.6	
	comp=Z,12nm,1.0s,baz=167,slow=1.7,SNR=7.7								
CHTO	**Chiang Mai**	**154.09**	**3**		PFAKE		18 48 50.0	+11	
CHTO					LR	LR			
	comp=Z,626nm,19.0s,MS5.5								
CM31	**Chiang Mai Arr**	**154.44**	**3**		PFAKE		18 48 50.0	+10	
CM31					LR	LR			
	comp=Z,656nm,19.0s,MS5.5								
PALK	**Pallekele**	**155.64**	**54**		PFAKE		18 48 50.0	+8.4	
PALK					LR	LR			
	comp=Z,124nm,20.0s,MS4.7								
MBWA	**Marble Bar**	**156.73**	**231**		PFAKE		18 48 50.0	+7.0	
MBWA					LR	LR			
	comp=Z,610nm,19.0s,MS5.5								

LDG 17 18:30:48.6±0.1, 4305N×004W, h10km, MI1.5/1, Error ellipse: s-maj=4.7km s-min=1.0km az=173.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.28**	**95**	*e*Pg		Pg		18 30 53.4	-0.8
EPF				*e*Sg		Sg		18 30 58.0	+0.1
	9.7nm,0.2s								
ETSF	**Etsaut**	**0.41**	**248**	*e*Pg		Pg		18 30 56.7	0.0
ETSF				*e*Sg		Sg		18 31 02.5	+0.3
	5.8nm,0.2s								
SJPF	**Ste Jean**	**0.87**	**274**	*e*Pg		Pg		18 31 05.1	-0.3
SJPF				*e*Sg		Sg		18 31 16.3	-0.5
	1.6nm,0.3s								
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg		Pg		18 31 19.8	-0.9

*ISCJB **17** 18:31:03.1±0.3, 4317N×002×006E±003, h10km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=44.8*
*STR **17** 18:31:05.6±0.2, 4307N×000E, h2km±1km, MI1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 18:31:05.3±0.1, 4306N×003E, h10km, MI2.5/14, Error ellipse: s-maj=1.1km s-min=1.0km az=114.0*
*CSEM **17** 18:31:05.4±0.1, 4306N×003E, h10km, ML2.5/13, Error ellipse: s-maj=1.2km s-min=1.0km az=153.0*
*NEIC **17** 18:31:05.6, 4307N×000E, h2km, ML1.9(STR), ML2.5(LDG), MN1.9(MDD), After STR.*

ISC 17 18:31:04.3±0.3, 4311N±002×004E±003, h15km±3km, n72, sθ74/135, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**160**			Pg	**Pg**	**18 31 07.1**	**-0.1**
LABF						Sg	**Sg**	**18 31 08.3**	**-0.8**
LABF	**Labassere**	**0.07**	**160**			Pg	**Pg**	**18 31 07.2**	**0.0**
LABF						Lg		18 31 08.4	
VIEF	**Viey**	**0.23**	**184**			Pg	**Pg**	**18 31 09.5**	**+0.2**
VIEF						Sg	**Sg**	**18 31 12.2**	**-0.5**
VIEF	**Viey**	**0.23**	**184**			Pg	**Pg**	**18 31 09.5**	**+0.2**
VIEF						Lg		18 31 12.0	
EPF	**Esparros**	**0.23**	**110**	*e*Pg		Pg	**Pg**	**18 31 10.1**	**+0.7**
EPF				*e*Sg		Sg	**Sg**	**18 31 13.4**	**+0.5**
	86nm,0.3s								
EPF	**Esparros**	**0.23**	**110**	*e*Pg		Pg	**Pg**	**18 31 10.1**	**+0.7**
EPF				*e*Sg		Sg	**Sg**	**18 31 13.4**	**+0.5**
	43nm,0.3s								
REYF	**Montagne du Re**	**0.32**	**263**			Pg	**Pg**	**18 31 11.3**	**+0.3**
REYF						Lg		18 31 15.8	
REYF	**Montagne du Re**	**0.32**	**263**			Lg		18 31 33.2	
RESF	**Ens**	**0.37**	**144**			Pg	**Pg**	**18 31 12.4**	**+0.6**
RESF						Sg	**Sg**	**18 31 17.6**	**+0.7**
RESF	**Ens**	**0.37**	**144**			Pg	**Pg**	**18 31 12.6**	**+0.7**
RESF						Lg		18 31 17.4	
RESF	**Ens**	**0.37**	**144**			Lg		18 31 33.6	
EBIE	**Bielsa**	**0.43**	**170**			Pg	**Pg**	**18 31 13.2**	**+0.3**
	7.9nm,0.1s,SNR=7.9								
EBIE						Lg		18 31 18.5	
	74nm,0.2s,SNR=19								
EBIE	**Bielsa**	**0.43**	**170**			Lg		18 31 34.1	
	3.7nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**0.43**	**170**			Pg	**Pg**	**18 31 13.2**	**+0.3**
	7.9nm,0.1s,SNR=7.9								
ETSF	**Etsaut**	**0.49**	**245**	*e*Pg		Pg	**Pg**	**18 31 14.1**	**+0.1**
ETSF				*e*Sg		Sg	**Sg**	**18 31 16.2**	**-4.4**
	26nm,0.2s								
ETSF	**Etsaut**	**0.49**	**245**			Pg	**Pg**	**18 31 14.1**	**+0.1**
ETSF						Lg		18 31 16.2	
	13nm,0.2s								
SJPF	**Ste Jean**	**0.93**	**271**	*e*Pg		Pg	**Pg**	**18 31 22.6**	**+0.3**
SJPF				*e*Sg		Sg	**Sg**	**18 31 34.6**	**+0.2**
	5.0nm,0.3s								
SJPF	**Ste Jean**	**0.93**	**271**	*e*Pg		Pg	**Pg**	**18 31 22.6**	**+0.3**
SJPF				*e*Sg		Sg	**Sg**	**18 31 34.6**	**+0.2**
	2.5nm,0.3s								
IPRE	**Itoiz**	**1.07**	**254**	Lg				18 31 40.4	
	3.5nm,0.4s,SNR=7.9								
IUSE	**Utxeti**	**1.18**	**263**	Lg				18 31 44.5	
	2.5nm,0.3s,SNR=4.5								
ESAC	**San Caprasio**	**1.44**	**195**	Pg		Pg	**Pg**	**18 31 32.2**	**+0.3**
	23nm,0.2s,SNR=7.9								
ESAC				Lg				18 31 51.7	
	26nm,0.3s,SNR=95								
MTLF	**Montolieu**	**1.61**	**81**	*e*Pg		Pg	**Pg**	**18 31 35.9**	**+0.8**
MTLF				*e*Sg		Sg	**Sg**	**18 31 56.6**	**+0.6**
	3.3nm,0.2s								
MTLF	**Montolieu**	**1.61**	**81**	*e*Pn		Pn	**Pn**	**18 31 32.1**	**0.0**
MTLF				*e*Pg		Pg	**Pg**	**18 31 35.9**	**+0.8**
MTLF				*e*Sg		Sg	**Sg**	**18 31 56.6**	**+0.6**
MTLF	**Montolieu**	**1.61**	**81**	Pn		Pn	**Pn**	**18 31 32.1**	**0.0**
MTLF				Pg		Pg	**Pg**	**18 31 35.9**	**+0.8**
MTLF				Lg				18 31 56.6	
	1.6nm,0.2s								
MTLF	**Montolieu**	**1.61**	**81**	*e*Pg		Pg	**Pg**	**18 31 35.9**	**+0.8**
MTLF				*e*Sg		Sg	**Sg**	**18 31 56.6**	**+0.6**
	1.6nm,0.2s								
EMIR	**Miracle**	**1.62**	**137**	Pg		Pg	**Pg**	**18 31 35.5**	**+0.1**
	2.6nm,0.2s,SNR=7.9								
EMIR				Lg				18 31 57.2	
	4.6nm,0.1s,SNR=7.9								
EMIR	**Miracle**	**1.62**	**137**	Pg		Pg	**Pg**	**18 31 35.5**	**+0.1**
	2.6nm,0.2s,SNR=7.9								
LFF	**La Frestale**	**1.90**	**15**	*e*Pg		Pg	**Pg**	**18 31 41.7**	**+1.0**
LFF				*e*Sn		Sn	**Sn**	**18 31 59.9**	**+0.2**
LFF				*e*Sg		Sg	**Sg**	**18 32 07.3**	**+1.9**
	5.7nm,0.2s								
LFF	**La Frestale**	**1.90**	**15**	*e*Pn		Pn	**Pn**	**18 31 36.8**	**+0.7**
LFF				*e*Pg		Pg	**Pg**	**18 31 41.7**	**+1.0**
LFF				*e*Sn		Sn	**Sn**	**18 31 59.9**	**+0.2**
LFF				*e*Sg		Sg	**Sg**	**18 32 07.3**	**+1.9**
LFF	**La Frestale**	**1.90**	**15**	Pn		Pn	**Pn**	**18 31 36.8**	**+0.7**
LFF				Pg		Pg	**Pg**	**18 31 41.7**	**+1.0**
LFF				Sn		Sn	**Sn**	**18 31 59.9**	**+0.2**
LFF				Lg				18 32 07.3	
	2.8nm,0.2s								
LFF	**La Frestale**	**1.90**	**15**	*e*Pn		Pn	**Pn**	**18 31 36.8**	**+0.7**
LFF	**La Frestale**	**1.90**	**15**	*e*Pg		Pg	**Pg**	**18 31 41.7**	**+1.0**
LFF				*e*Sn		Sn	**Sn**	**18 31 59.9**	**+0.2**
LFF				*e*Sg		Sg	**Sg**	**18 32 07.3**	**+1.9**
	2.8nm,0.2s								
EPOB	**Poblet**	**1.92**	**156**	Pg		Pg	**Pg**	**18 31 40.4**	**-0.6**
	0.7nm,0.1s,SNR=7.9								
EPOB				Lg				18 32 05.7	
	3.1nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**2.16**	**174**	Pg		Pg	**Pg**	**18 31 45.1**	**-0.6**
	0.6nm,0.1s,SNR=4.0								
ERTA				Lg				18 32 13.7	
	3.3nm,0.1s,SNR=7.4								
CAF	**Calviac**	**2.33**	**38**	*e*Pg		Pg	**Pg**	**18 31 49.3**	**+0.4**
CAF				*e*Sg		Sg	**Sg**	**18 32 20.4**	**+1.2**
	6.2nm,0.2s								
CAF	**Calviac**	**2.33**	**38**	*e*Pn		Pn	**Pn**	**18 31 42.2**	**+0.2**
CAF				*e*Pg		Pg	**Pg**	**18 31 49.3**	**+0.4**
CAF				*e*Sg		Sg	**Sg**	**18 32 20.4**	**+1.2**
CAF	**Calviac**	**2.33**	**38**	*e*Pg		Pg	**Pg**	**18 31 49.3**	**+0.4**
CAF				*e*Sg		Sg	**Sg**	**18 32 20.4**	**+1.2**
	3.1nm,0.2s								
RJF	**Les Rejaudoux**	**2.44**	**25**	*e*Pg		Pg	**Pg**	**18 31 51.3**	**+0.3**
RJF				*e*Sn		Sn	**Sn**	**18 32 12.6**	**-0.4**
RJF									
	5.5nm,0.2s								
RJF	**Les Rejaudoux**	**2.44**	**25**	*e*Pn		Pn	**Pn**	**18 31 44.2**	**+0.7**
RJF				*e*Pg		Pg	**Pg**	**18 31 51.3**	**+0.3**
RJF				*e*Sn		Sn	**Sn**	**18 32 12.6**	**-0.4**
RJF				*e*Sg		Sg	**Sg**	**18 32 24.0**	**+1.4**
RJF	**Les Rejaudoux**	**2.44**	**25**	Pn		Pn	**Pn**	**18 31 44.2**	**+0.7**
RJF				Pg		Pg	**Pg**	**18 31 51.3**	**+0.3**
RJF				Sn		Sn	**Sn**	**18 32 12.6**	**-0.4**
RJF				Lg				18 32 24.0	
	2.8nm,0.2s								
RJF	**Les Rejaudoux**	**2.44**	**25**	*e*Pn		Pn	**Pn**	**18 31 44.2**	**+0.7**
RJF	**Les Rejaudoux**	**2.44**	**25**	*e*Pg		Pg	**Pg**	**18 31 51.3**	**+0.3**
RJF				*e*Sn		Sn	**Sn**	**18 32 12.6**	**-0.4**
RJF				*e*Sg		Sg	**Sg**	**18 32 24.0**	**+1.4**
	2.8nm,0.2s								
EMOS	**Mosqueruela**	**2.77**	**188**			Pg	**Pg**	**18 31 56.3**	**-1.0**
	0.6nm,0.2s,SNR=7.9								
EMOS						Lg		18 32 32.2	
	0.7nm,0.2s,SNR=7.9								
LASF	**Ste Croix**	**2.94**	**69**	*e*Pg		Pg	**Pg**	**18 32 00.2**	**-0.3**
LASF				*e*Sg		Sg	**Sg**	**18 32 38.2**	**-0.4**
	2.7nm,0.3s								
LASF	**Ste Croix**	**2.94**	**69**	*e*Pn		Pn	**Pn**	**18 31 50.2**	**-0.1**
LASF				*e*Pg		Pg	**Pg**	**18 32 00.2**	**-0.3**
LASF				*e*Sg		Sg	**Sg**	**18 32 38.2**	**-0.4**
LASF	**Ste Croix**	**2.94**	**69**	Pn		Pn	**Pn**	**18 31 50.2**	**-0.1**
LASF				Pg		Pg	**Pg**	**18 32 00.2**	**-0.3**
LASF				Lg				18 32 38.2	
	1.4nm,0.3s								
LASF	**Ste Croix**	**2.94**	**69**	*e*Pg		Pg	**Pg**	**18 32 00.2**	**-0.3**
LASF				*e*Sg		Sg	**Sg**	**18 32 38.2**	**-0.4**
	1.4nm,0.3s								
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pg		Pg	**Pg**	**18 32 11.1**	**-0.1**
MFF				*e*Sn		Sn	**Sn**	**18 32 37.5**	**-1.6**
MFF				*e*Sg		Sg	**Sg**	**18 32 56.6**	**+0.1**
	1.9nm,0.2s								
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pn		Pn	**Pn**	**18 31 58.7**	**+0.6**
MFF				*e*Pg		Pg	**Pg**	**18 32 11.1**	**-0.1**
MFF				*e*Sn		Sn	**Sn**	**18 32 37.5**	**-1.6**
MFF				*e*Sg		Sg	**Sg**	**18 32 56.6**	**+0.1**
MFF	**Saint Martin d**	**3.50**	**358**	Pn		Pn	**Pn**	**18 31 58.7**	**+0.6**
MFF				Pg		Pg	**Pg**	**18 32 11.1**	**-0.1**
MFF				Sn		Sn	**Sn**	**18 32 37.5**	**-1.6**
MFF				Lg				18 32 56.6	
	0.9nm,0.2s								
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pn		Pn	**Pn**	**18 31 58.7**	**+0.6**
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pg		Pg	**Pg**	**18 32 11.1**	**-0.1**
MFF				*e*Sn		Sn	**Sn**	**18 32 37.5**	**-1.6**
MFF				*e*Sg		Sg	**Sg**	**18 32 56.6**	**+0.1**
	0.9nm,0.2s								
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pg		Pg	**Pg**	**18 32 11.7**	**-0.3**
TCF				*e*Sg		Sg	**Sg**	**18 32 57.8**	**0.0**
	2.6nm,0.3s								
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pn		Pn	**Pn**	**18 31 59.1**	**+0.5**
TCF				*e*Pg		Pg	**Pg**	**18 32 11.7**	**-0.3**
TCF				*e*Sg		Sg	**Sg**	**18 32 57.8**	**0.0**
TCF	**Toulx Ste Croi**	**3.53**	**25**	Pn		Pn	**Pn**	**18 31 59.1**	**+0.5**
TCF				Pg		Pg	**Pg**	**18 32 11.7**	**-0.3**
TCF				Lg				18 32 57.8	
	1.3nm,0.3s								
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pg		Pg	**Pg**	**18 32 11.7**	**-0.3**
TCF				*e*Sg		Sg	**Sg**	**18 32 57.8**	**0.0**
	1.3nm,0.3s								
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pg		Pg	**Pg**	**18 32 20.4**	**-0.2**
BGF				*e*Sg		Sg	**Sg**	**18 33 12.0**	**-0.2**
	9.4nm,0.4s								
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pn		Pn	**Pn**	**18 32 05.3**	**+0.5**
BGF				*e*Pg		Pg	**Pg**	**18 32 20.4**	**-0.2**
BGF				*e*Sg		Sg	**Sg**	**18 33 12.0**	**-0.2**
BGF	**Bois d'Agland**	**3.98**	**29**	Pn		Pn	**Pn**	**18 32 05.3**	**+0.5**
BGF				Pg		Pg	**Pg**	**18 32 20.4**	**-0.2**
BGF				Lg				18 33 12.0	
	4.7nm,0.4s								
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pg		Pg	**Pg**	**18 32 20.4**	**-0.2**
BGF				*e*Sg		Sg	**Sg**	**18 33 12.0**	**-0.2**
	4.7nm,0.4s								
SMRF	**Simiane la Rot**	**4.11**	**76**	*e*Pn		Pn	**Pn**	**18 32 07.0**	**+0.4**
SMRF				*e*Sg		Sg	**Sg**	**18 33 14.9**	**-1.5**
	1.8nm,0.4s								
SMRF	**Simiane la Rot**	**4.11**	**76**	*e*Pn		Pn	**Pn**	**18 32 07.0**	**+0.4**
SMRF				*e*Sg		Sg	**Sg**	**18 33 14.9**	**-1.5**
	0.9nm,0.4s								

	17nm,0.2s								
ETSF	**Etsaut**	**0.45**	**249**	*e*Pg		**Pg**	**18 34 02.0**	**0.0**	
ETSF				*e*Sg		**Sg**	**18 34 07.0**	**-1.0**	
	17nm,0.2s								
ETSF	**Etsaut**	**0.45**	**249**	Pg		**Pg**	**18 34 02.1**	**+0.1**	
ETSF				Lg			18 34 07.4		
	8.7nm,0.2s								
SJPF	**Ste Jean**	**0.90**	**274**	*e*Pg		**Pg**	**18 34 10.4**	**-0.3**	
SJPF				*e*Sg		**Sg**	**18 34 22.1**	**-0.4**	
	3.5nm,0.3s								
SJPF	**Ste Jean**	**0.90**	**274**	*e*Pg		**Pg**	**18 34 10.4**	**-0.3**	
SJPF				*e*Sg		**Sg**	**18 34 21.5**	**-1.0**	
	3.4nm,0.2s								
SJPF	**Ste Jean**	**0.90**	**274**	Pg		**Pg**	**18 34 10.4**	**-0.3**	
SJPF				Lg			18 34 22.1		
	1.8nm,0.3s								
ELIZ	**Elizondo**	**1.13**	**276**	Pg		**Pg**	**18 34 17.8**	**+2.8**	
	0.7nm,0.2s,SNR=7.9								
ELIZ				Lg			18 34 31.7		
	0.9nm,0.2s,SNR=7.9								
IUSE	**Utxeti**	**1.15**	**265**	Pg		**Pg**	**18 34 16.9**	**+1.7**	
	1.0nm,0.1s,SNR=7.9								
IUSE				Lg			18 34 32.1		
	0.8nm,0.1s,SNR=7.9								
ESAC	**San Caprasio**	**1.38**	**195**	Pg		**Pg**	**18 34 20.3**	**+0.5**	
	12nm,0.3s,SNR=7.9								
ESAC				Lg			18 34 38.6		
	7.6nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**1.60**	**135**	Lg			18 34 45.5		
	2.6nm,0.1s,SNR=7.9								
MTLF	**Montolieu**	**1.64**	**79**	*e*Pn		**Pn**	**18 34 21.9**	**+0.2**	
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg		**Pg**	**18 34 24.8**	**+0.1**	
MTLF				*e*Sg		**Sg**	**18 34 46.2**	**+0.2**	
	2.6nm,0.2s								
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg		**Pg**	**18 34 25.2**	**+0.5**	
MTLF				*e*Sg		**Sg**	**18 34 46.5**	**+0.5**	
	2.7nm,0.2s								
MTLF	**Montolieu**	**1.64**	**79**	Pn		**Pn**	**18 34 21.9**	**+0.2**	
MTLF				Pg		**Pg**	**18 34 24.8**	**+0.1**	
MTLF				Lg			18 34 46.5		
	1.4nm,0.2s								
EPOB	**Poblet**	**1.88**	**155**	Pg		**Pg**	**18 34 27.6**	**-1.8**	
	0.3nm,0.2s,SNR=7.9								
EPOB				Sn		**Sn**	**18 34 50.1**	**+1.4**	
	0.4nm,0.1s,SNR=7.9								
EPOB				Lg			18 34 52.8		
	1.4nm,0.1s,SNR=7.9								
LFF	**La Frestale**	**1.95**	**16**	*e*Pn		**Pn**	**18 34 25.7**	**-0.3**	
LFF	**La Frestale**	**1.95**	**16**	*e*Pg		**Pg**	**18 34 31.0**	**+0.3**	
LFF				*e*Sn		**Sn**	**18 34 49.3**	**-1.0**	
LFF				*e*Sg		**Sg**	**18 34 56.7**	**+0.7**	
	3.5nm,0.3s								
LFF	**La Frestale**	**1.95**	**16**	*e*Pn		**Pn**	**18 34 26.5**	**+0.5**	
LFF	**La Frestale**	**1.95**	**16**	*e*Pg		**Pg**	**18 34 31.5**	**+0.8**	
LFF				*e*Sn		**Sn**	**18 34 50.2**	**-0.1**	
LFF				*e*Sg		**Sg**	**18 34 57.5**	**+1.5**	
	3.3nm,0.2s								
LFF	**La Frestale**	**1.95**	**16**	Pn		**Pn**	**18 34 26.5**	**+0.5**	
LFF				Pg		**Pg**	**18 34 31.0**	**+0.3**	
LFF				Sn		**Sn**	**18 34 50.2**	**-0.1**	
LFF				Lg			18 34 57.5		
	1.6nm,0.2s								
ERTA	**Horta de San J**	**2.12**	**173**	Lg			18 35 00.5		
	0.9nm,0.1s,SNR=7.9								
CAF	**Calviac**	**2.38**	**38**	*e*Pn		**Pn**	**18 34 31.9**	**0.0**	
CAF	**Calviac**	**2.38**	**38**	*e*Pg		**Pg**	**18 34 38.9**	**0.0**	
CAF				*e*Sg		**Sg**	**18 35 10.3**	**+0.4**	
	1.6nm,0.2s								
CAF	**Calviac**	**2.38**	**38**	*e*Pn		**Pn**	**18 34 32.0**	**+0.1**	
CAF	**Calviac**	**2.38**	**38**	*e*Pg		**Pg**	**18 34 39.4**	**+0.5**	
CAF				*e*Sg		**Sg**	**18 35 10.6**	**+0.7**	
	1.8nm,0.2s								
CAF	**Calviac**	**2.38**	**38**	Pn		**Pn**	**18 34 32.0**	**+0.1**	
CAF				Pg		**Pg**	**18 34 38.9**	**0.0**	
CAF				Lg			18 35 10.6		
	0.9nm,0.2s								
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pn		**Pn**	**18 34 33.2**	**-0.2**	
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg		**Pg**	**18 34 40.9**	**-0.1**	
RJF				*e*Sg		**Sg**	**18 35 13.5**	**+0.2**	
	1.4nm,0.2s								
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pn		**Pn**	**18 34 33.3**	**-0.1**	
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg		**Pg**	**18 34 41.4**	**+0.4**	
RJF				*e*Sn		**Sn**	**18 35 03.2**	**-0.5**	
RJF				*e*Sg		**Sg**	**18 35 14.1**	**+0.8**	
	1.6nm,0.2s								
RJF	**Les Rejaudoux**	**2.49**	**25**	Pn		**Pn**	**18 34 33.3**	**-0.1**	
RJF				Pg		**Pg**	**18 34 41.4**	**+0.4**	
RJF				Sn		**Sn**	**18 35 03.2**	**-0.5**	
RJF				Lg			18 35 14.1		
	0.8nm,0.2s								
LASF	**Ste Croix**	**2.98**	**69**	*e*Pn		**Pn**	**18 34 39.8**	**-0.3**	
LASF	**Ste Croix**	**2.98**	**69**	*e*Pg		**Pg**	**18 34 49.9**	**-0.4**	
LASF				*e*Sg		**Sg**	**18 35 28.5**	**-0.4**	
	1.8nm,0.3s								
LASF	**Ste Croix**	**2.98**	**69**	*e*Pn		**Pn**	**18 34 39.5**	**-0.6**	
LASF	**Ste Croix**	**2.98**	**69**	*e*Pg		**Pg**	**18 34 50.9**	**+0.6**	
LASF				*e*Sg		**Sg**	**18 35 28.2**	**-0.7**	
	1.0nm,0.2s								
LASF	**Ste Croix**	**2.98**	**69**	Pn		**Pn**	**18 34 39.8**	**-0.3**	
LASF				Pg		**Pg**	**18 34 49.9**	**-0.4**	
LASF				Lg			18 35 28.5		
	0.9nm,0.3s								
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pn		**Pn**	**18 34 47.4**	**-0.5**	
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pg		**Pg**	**18 35 00.2**	**-0.9**	
MFF				*e*Sg		**Sg**	**18 35 47.0**	**0.0**	
	1.9nm,0.2s								
MFF	**Saint Martin d**	**3.54**	**358**	Pn		**Pn**	**18 34 47.4**	**-0.5**	
MFF				Pg		**Pg**	**18 35 00.2**	**-0.9**	
MFF				Lg			18 35 47.0		
	0.9nm,0.2s								
VIVF	**Saint-Julien-l**	**3.82**	**60**	*e*Pn		**Pn**	**18 34 51.6**	**0.0**	
VIVF	**Saint-Julien-l**	**3.82**	**60**	*e*Pg		**Pg**	**18 35 05.8**	**-0.6**	
VIVF				*e*Sg		**Sg**	**18 35 55.0**	**-0.8**	
	7.5nm,0.3s								
VIVF	**Saint-Julien-l**	**3.82**	**60**	Pn		**Pn**	**18 34 51.6**	**0.0**	
VIVF				Pg		**Pg**	**18 35 05.8**	**-0.6**	
VIVF				Lg			18 35 55.0		
	3.8nm,0.3s								
SMF	**Signal de Mont**	**4.50**	**36**	*e*Pg		**Pg**	**18 35 17.8**	**-1.7**	

*ISCJB **17** 18:35:52.3±0.5, 43.10N±0.03×002W±0.04, h12km±4km, Error ellipse: s-maj=5.7km s-min=3.9km az=111.2*
*LDG **17** 18:35:53.9±0.1, 43.01N×0.03W, h10km, MI1.7/4, Error ellipse: s-maj=2.6km s-min=1.5km az=156.0*
*STR **17** 18:35:54.5±0.1, 43.00N×0.01E, h2km±1km, MI1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **17** 18:35:54.2±0.4, 43.01N×0.02W, h8km±4km, mbLg0.9/6, Error ellipse: s-maj=3.0km s-min=2.3km az=151.0, PRXIMO*

ISC 17 18:35:53.2±0.5, **4305N**±0.03×**002W**±0.04, **h12**km±4km, **n20, σ0°58**/31, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**88**	Pg	**Pg**	**18 35 56.0**	**+0.4**
LABF				Sg	**Sg**	**18 35 57.2**	**-0.2**
LABF	**Labassere**	**0.07**	**88**	Pg	**Pg**	**18 35 56.1**	**+0.4**
LABF				Lg		18 35 57.3	
VIEF	**Viey**	**0.16**	**169**	Pg	**Pg**	**18 35 57.1**	**+0.1**
VIEF				Sg	**Sg**	**18 35 58.9**	**-0.7**
VIEF	**Viey**	**0.16**	**169**	Pg	**Pg**	**18 35 57.1**	**+0.1**
VIEF				Lg		18 35 59.0	
EPF	**Esparros**	**0.26**	**93**	*e*Pg	**Pg**	**18 35 58.9**	**+0.2**
EPF				*e*Sg	**Sg**	**18 36 03.5**	**+1.2**
	10nm,0.2s						
EPF	**Esparros**	**0.26**	**93**	Pg	**Pg**	**18 35 58.9**	**+0.2**
EPF				Lg		18 36 03.5	
	5.1nm,0.2s						
EBIE	**Bielsa**	**0.38**	**162**	Pg	**Pg**	**18 36 00.3**	**-0.5**
	SNR=7.9						
EBIE				Lg		18 36 05.3	
	SNR=7.9						
ETSF	**Etsaut**	**0.42**	**250**	*e*Pg	**Pg**	**18 36 02.1**	**+0.5**
ETSF				*e*Sg	**Sg**	**18 36 08.0**	**+0.8**
	5.2nm,0.3s						
ETSF	**Etsaut**	**0.42**	**250**	Pg	**Pg**	**18 36 02.1**	**+0.5**
ETSF				Lg		18 36 08.0	
	2.6nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	**Pg**	**18 36 10.4**	**0.0**
SJPF				*e*Sg	**Sg**	**18 36 21.7**	**-0.2**
	0.6nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**275**	Pg	**Pg**	**18 36 10.4**	**0.0**
SJPF				Lg		18 36 21.7	
	0.3nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**194**	Pg	**Pg**	**18 36 17.8**	**-1.7**
	SNR=7.9						
ESAC				Sn	**Sn**	**18 36 37.1**	**+0.9**
	12nm,0.3s,SNR=7.1						
ESAC				Lg		18 36 40.0	
	SNR=7.9						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pn	**Pn**	**18 36 22.0**	**-0.2**
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	**Pg**	**18 36 25.4**	**+0.3**
MTLF				*e*Sg	**Sg**	**18 36 46.6**	**-0.1**
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.66**	**79**	Pn	**Pn**	**18 36 22.0**	**-0.2**
MTLF				Pg	**Pg**	**18 36 25.4**	**+0.3**
MTLF				Lg		18 36 46.6	
	0.6nm,0.2s						
CAF	**Calviac**	**2.41**	**38**	*e*Pn	**Pn**	**18 36 31.9**	**-0.6**
CAF	**Calviac**	**2.41**	**38**	*e*Pg	**Pg**	**18 36 39.4**	**0.0**
CAF				*e*Sg	**Sg**	**18 37 10.5**	**-0.1**
	0.9nm,0.2s						
CAF	**Calviac**	**2.41**	**38**	Pn	**Pn**	**18 36 31.9**	**-0.6**
CAF				Pg	**Pg**	**18 36 39.4**	**0.0**
CAF				Lg		18 37 10.5	
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.51**	**26**	*e*Pg	**Pg**	**18 36 41.1**	**-0.3**
RJF				*e*Sg	**Sg**	**18 37 14.0**	**0.0**
	1.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.51**	**26**	Pg	**Pg**	**18 36 41.1**	**-0.3**
RJF				Lg		18 37 14.0	
	0.6nm,0.2s						

*ISCJB **17** 18:38:59.3±0.3, 43.13N±0.02×005E±0.02, h11km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=126.1*
*STR **17** 18:39:01.2±0.1, 43.01N×0.01E, h5km±1km, MI2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 18:39:01.1±0.0, 43.02N×0.01E, h10km, MI2.6/14, Error ellipse: s-maj=0.8km s-min=0.7km az=153.0*
*CSEM **17** 18:39:01.2±0.0, 43.03N×0.01E, h10km, ML2.6/14, Error ellipse: s-maj=0.7km s-min=0.6km az=118.0*
*NEIC **17** 18:39:01.2, 4301N×0.01E, h5km, ML2.5(STR), ML2.6(LDG), MN1.8(MDD), After STR.*
*MDD **17** 18:39:01.8±0.2, 43.02N×0.00E, h0km, mbLg1.8/25, Error ellipse: s-maj=2.0km s-min=1.2km az=4.0, PRXIMO*

ISC 17 18:39:00.3±0.3, **4307N**±0.02×**003E**±0.02, **h15**km±3km, **n83, σ0°78**/140, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**130**	Pg	**Pg**	**18 39 03.1**	**+0.2**
LABF				Sg	**Sg**	**18 39 04.4**	**-0.4**
LABF	**Labassere**	**0.04**	**130**	Pg	**Pg**	**18 39 03.1**	**+0.2**
LABF				Lg		18 39 04.4	
VIEF	**Viey**	**0.19**	**182**	Pg	**Pg**	**18 39 04.3**	**-0.4**
VIEF				Sg	**Sg**	**18 39 06.5**	**-1.3**
VIEF	**Viey**	**0.19**	**182**	Pg	**Pg**	**18 39 04.3**	**-0.4**
VIEF				Lg		18 39 06.4	
EPF	**Esparros**	**0.23**	**101**	*e*Pg	**Pg**	**18 39 06.0**	**+0.6**
EPF				*e*Sg	**Sg**	**18 39 09.9**	**+1.1**
	61nm,0.2s						
EPF	**Esparros**	**0.23**	**101**	*e*Pg	**Pg**	**18 39 06.0**	**+0.6**
EPF				*e*Sg	**Sg**	**18 39 09.9**	**+1.1**
	31nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**269**	Pg	**Pg**	**18 39 06.8**	**+0.1**
REYF				Lg		18 39 11.1	
RESF	**Ens**	**0.35**	**140**	Pg	**Pg**	**18 39 07.5**	**+0.1**
RESF				Sg	**Sg**	**18 39 12.2**	**0.0**
RESF	**Ens**	**0.35**	**140**	Pg	**Pg**	**18 39 07.6**	**+0.1**
RESF				Lg		18 39 12.3	
EBIE	**Bielsa**	**0.40**	**168**	Pg	**Pg**	**18 39 08.0**	**-0.3**
	8.0nm,0.1s,SNR=7.9						
EBIE				Lg		18 39 12.6	
	41nm,0.1s,SNR=6.6						
EBIE	**Bielsa**	**0.40**	**168**	Pg	**Pg**	**18 39 08.0**	**-0.3**
	8.0nm,0.1s,SNR=7.9						
EBIE				Lg		18 39 12.6	
	41nm,0.1s,SNR=6.6						
ETSF	**Etsaut**	**0.47**	**248**	*e*Pg	**Pg**	**18 39 09.5**	**-0.1**
ETSF				*e*Sg	**Sg**	**18 39 15.3**	**-0.5**
	52nm,0.2s						
ETSF	**Etsaut**	**0.47**	**248**	*e*Pg	**Pg**	**18 39 09.5**	**-0.1**
ETSF				*e*Sg	**Sg**	**18 39 15.3**	**-0.5**
	26nm,0.2s						
FDAF	**Les Forges d'A**	**0.51**	**240**	Pg	**Pg**	**18 39 10.2**	**-0.1**
FDAF				Lg		18 39 16.5	
ATE	**Arette**	**0.54**	**272**	Pg	**Pg**	**18 39 11.3**	**+0.5**
ATE				Sg	**Sg**	**18 39 18.0**	**0.0**
ATE	**Arette**	**0.54**	**272**	Pg	**Pg**	**18 39 11.0**	**+0.1**
ATE				Lg		18 39 18.0	
MELF	**Melles**	**0.57**	**110**	Pg	**Pg**	**18 39 12.1**	**+0.6**
MELF	**Melles**	**0.57**	**110**	Pg	**Pg**	**18 39 12.0**	**+0.5**
MELF				Lg		18 39 19.2	
LARF	**Larrau**	**0.75**	**268**	Pg	**Pg**	**18 39 15.5**	**+0.7**
LARF				Sg	**Sg**	**18 39 25.5**	**+0.8**
LARF	**Larrau**	**0.75**	**268**	Pg	**Pg**	**18 39 15.5**	**+0.7**
LARF				Lg		18 39 24.7	
SALF	**Salau**	**0.91**	**110**	Pg	**Pg**	**18 39 18.5**	**+0.7**
SALF				Sg	**Sg**	**18 39 30.8**	**+1.1**
SALF	**Salau**	**0.91**	**110**	Pg	**Pg**	**18 39 18.2**	**+0.4**
SALF				Lg		18 39 31.1	
SJPF	**Ste Jean**	**0.92**	**273**	*e*Pg	**Pg**	**18 39 18.4**	**+0.3**
SJPF				*e*Sg	**Sg**	**18 39 30.4**	**+0.2**
	7.7nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**273**	*e*Pg	**Pg**	**18 39 18.4**	**+0.3**
SJPF				*e*Sg	**Sg**	**18 39 30.4**	**+0.2**
	3.8nm,0.2s						
IPRE	**Itoiz**	**1.05**	**256**	Lg		18 39 35.1	
	10nm,2.1s,SNR=4.9						
CSOR	**Sort**	**1.07**	**130**	Pg	**Pg**	**18 39 20.9**	**-0.1**
CSOR				Lg		18 39 35.1	
	11nm,0.2s						
GRBF	**Gourbit**	**1.13**	**101**	Pg	**Pg**	**18 39 22.9**	**+0.8**
ELIZ	**Elizondo**	**1.15**	**275**	Pg	**Pg**	**18 39 23.4**	**+1.0**
	7.1nm,0.2s,SNR=6.8						
ELIZ				Lg		18 39 39.4	
	7.1nm,0.2s,SNR=8.3						
IUSE	**Utxeti**	**1.17**	**264**	Pg	**Pg**	**18 39 24.0**	**+1.3**
	1.2nm,0.1s,SNR=7.9						
IUSE				Lg		18 39 39.1	
	3.1nm,0.3s,SNR=4.6						
IUSE	**Utxeti**	**1.17**	**264**	Pg	**Pg**	**18 39 24.0**	**+1.3**
	1.2nm,0.1s,SNR=7.9						
CORG	**Organya**	**1.27**	**131**	Pg	**Pg**	**18 39 25.1**	**+0.4**
CORG				Lg		18 39 42.5	
	5.8nm,0.4s						
CAVN	**Les Avellanes**	**1.30**	**156**	Pg	**Pg**	**18 39 25.1**	**-0.3**
CAVN				Lg		18 39 42.3	
	32nm,0.2s						
ESAC	**San Caprasio**	**1.40**	**196**	Pg	**Pg**	**18 39 27.3**	**+0.1**
	57nm,0.3s,SNR=30						
ESAC				Lg		18 39 45.9	
	35nm,0.3s,SNR=9.0						
ESAC	**San Caprasio**	**1.40**	**196**	Pg	**Pg**	**18 39 27.3**	**+0.1**
	57nm,0.3s,SNR=30						
CLLI	**Llivia**	**1.55**	**112**	Pg	**Pg**	**18 39 30.5**	**+0.5**
CLLI				Lg		18 39 51.1	
	2.2nm,0.2s						
EMIR	**Miracle**	**1.60**	**136**	Pg	**Pg**	**18 39 31.1**	**+0.1**
	2.1nm,0.1s,SNR=7.9						
EMIR				Lg		18 39 52.6	
	11nm,0.3s,SNR=7.4						
EMIR	**Miracle**	**1.60**	**136**	Pg	**Pg**	**18 39 31.1**	**+0.1**
	2.1nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.62**	**80**	*e*Pg	**Pg**	**18 39 32.0**	**+0.6**
MTLF				*e*Sg	**Sg**	**18 39 53.2**	**+0.7**
	22nm,0.3s						
MTLF	**Montolieu**	**1.62**	**80**	*e*Pg	**Pg**	**18 39 32.0**	**+0.6**
MTLF				*e*Sg	**Sg**	**18 39 53.2**	**+0.7**
	11nm,0.3s						
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	**18 39 35.3**	**-1.2**
	1.4nm,0.1s,SNR=11						
EPOB				Lg		18 39 59.2	
	3.6nm,0.3s,SNR=6.6						
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	**18 39 35.3**	**-1.2**
	1.4nm,0.1s,SNR=11						
ECRI	**Cripan**	**1.93**	**257**	Pg	**Pg**	**18 39 37.1**	**-0.1**
	0.8nm,0.2s,SNR=7.9						
ECRI				Lg		18 40 03.1	
	1.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	**18 39 38.0**	**+0.6**
LFF				*e*Sn	**Sn**	**18 39 56.9**	**+0.2**
LFF				*e*Sg	**Sg**	**18 40 04.0**	**+1.5**
	20nm,0.4s						
LFF	**La Frestale**	**1.93**	**15**	*e*Pn	**Pn**	**18 39 32.6**	**0.0**
LFF				*e*Pg	**Pg**	**18 39 38.0**	**+0.6**
LFF				*e*Sn	**Sn**	**18 39 56.9**	**+0.2**
LFF				*e*Sg	**Sg**	**18 40 04.0**	**+1.5**
LFF	**La Frestale**	**1.93**	**15**	Pn	**Pn**	**18 39 32.6**	**0.0**
LFF				Pg	**Pg**	**18 39 38.0**	**+0.6**
LFF				Sn	**Sn**	**18 39 56.9**	**+0.2**
LFF				Lg		18 40 04.0	
	10nm,0.4s						
LFF	**La Frestale**	**1.93**	**15**	*e*Pn	**Pn**	**18 39 32.6**	**0.0**
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	**18 39 38.0**	**+0.6**
LFF				*e*Sn	**Sn**	**18 39 56.9**	**+0.2**
LFF				*e*Sg	**Sg**	**18 40 04.0**	**+1.5**
	10nm,0.4s						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	**18 39 39.3**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
ERTA				Lg		18 40 06.7	
	3.8nm,0.3s,SNR=7.2						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	**18 39 39.3**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.19**	**106**	Pg	**Pg**	**18 39 42.0**	**-0.4**
	SNR=4.0						
EJON				Lg		18 40 12.5	
	2.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.19**	**106**	Pg	**Pg**	**18 39 42.0**	**-0.4**
	SNR=4.0						
CFON	**Fontmartina**	**2.21**	**126**	Sn	**Sn**	**18 40 06.4**	**+2.9**
	11nm,0.2s						
CAF	**Calviac**	**2.36**	**38**	*e*Pg	**Pg**	**18 39 46.2**	**+0.6**
CAF				*e*Sn	**Sn**	**18 40 06.7**	**-0.6**
CAF				*e*Sg	**Sg**	**18 40 17.1**	**+0.9**
	6.3nm,0.3s						
CAF	**Calviac**	**2.36**	**38**	*e*Pn	**Pn**	**18 39 38.8**	**+0.3**
CAF				*e*Pg	**Pg**	**18 39 46.2**	**+0.6**
CAF				*e*Sn	**Sn**	**18 40 06.7**	**-0.6**
CAF				*e*Sg	**Sg**	**18 40 17.1**	**+0.9**
CAF	**Calviac**	**2.36**	**38**	Pn	**Pn**	**18 39 38.8**	**+0.3**
CAF				Pg	**Pg**	**18 39 46.2**	**+0.6**
CAF				Sn	**Sn**	**18 40 06.7**	**-0.6**
CAF				Lg		18 40 17.1	
	3.2nm,0.3s						
CAF	**Calviac**	**2.36**	**38**	*e*Pn	**Pn**	**18 39 38.8**	**+0.3**
CAF	**Calviac**	**2.36**	**38**	*e*Pg	**Pg**	**18 39 46.2**	**+0.6**
CAF				*e*Sn	**Sn**	**18 40 06.7**	**-0.6**
CAF				*e*Sg	**Sg**	**18 40 17.1**	**+0.9**
	3.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**18 39 48.3**	**+0.6**
RJF				*e*Sn	**Sn**	**18 40 09.5**	**-0.5**
RJF				*e*Sg	**Sg**	**18 40 20.6**	**+0.9**
	9.8nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**18 39 40.6**	**+0.6**
RJF				*e*Pg	**Pg**	**18 39 48.3**	**+0.6**
RJF				*e*Sn	**Sn**	**18 40 09.5**	**-0.5**
RJF				*e*Sg	**Sg**	**18 40 20.6**	**+0.9**
RJF	**Les Rejaudoux**	**2.47**	**25**	Pn	**Pn**	**18 39 40.6**	**+0.6**
RJF				Pg	**Pg**	**18 39 48.3**	**+0.6**
RJF				Sn	**Sn**	**18 40 09.5**	**-0.5**
RJF				Lg		18 40 20.6	
	4.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**18 39 40.6**	**+0.6**
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**18 39 48.3**	**+0.6**
RJF				*e*Sn	**Sn**	**18 40 09.5**	**-0.5**
RJF				*e*Sg	**Sg**	**18 40 20.6**	**+0.9**
	4.9nm,0.3s						
EMOS	**Mosqueruela**	**2.73**	**188**	Pg	**Pg**	**18 39 49.6**	**-3.1**
	5.9nm,0.8s,SNR=5.6						
EMOS				Sn	**Sn**	**18 40 15.9**	**-0.5**
	0.5nm,0.2s,SNR=7.9						
EMOS				Lg		18 40 25.6	
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**188**	Pg	**Pg**	**18 39 49.6**	**-3.1**
	5.9nm,0.8s,SNR=5.6						
EMOS				Sn	**Sn**	**18 40 15.9**	**-0.5**
	0.5nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**18 39 56.7**	**-0.2**
LASF				*e*Sg	**Sg**	**18 40 35.2**	**0.0**
	5.2nm,0.3s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pn	**Pn**	**18 39 46.9**	**+0.2**
LASF				*e*Pg	**Pg**	**18 39 56.7**	**-0.2**
LASF				*e*Sg	**Sg**	**18 40 35.2**	**0.0**
LASF	**Ste Croix**	**2.96**	**69**	Pn	**Pn**	**18 39 46.9**	**+0.2**
LASF				Pg	**Pg**	**18 39 56.7**	**-0.2**
LASF				Lg		18 40 35.2	
	2.6nm,0.3s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**18 39 56.7**	**-0.2**
LASF				*e*Sg	**Sg**	**18 40 35.2**	**0.0**
	2.6nm,0.3s						
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	**18 40 07.4**	**-0.5**
MFF				*e*Sg	**Sg**	**18 40 53.4**	**-0.3**
	1.8nm,0.2s						
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	**18 40 07.4**	**-0.5**
MFF				*e*Sg	**Sg**	**18 40 53.4**	**-0.3**
	0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg	**Pg**	**18 40 08.2**	**-0.5

0.2nm,0.3s,mb3.2,baz=96,slow=8.9,SNR=3.7
FINES FINESS Array B 71.62 331 P **P** **18 54 28.3 -2.1**
1.7nm,0.8s,mb4.0,baz=36,slow=7.8,SNR=5.9
AKASG Malin Array Be 74.79 320 P **P** **18 54 48.3 -0.9**
1.4nm,0.5s,mb4.2,baz=60,slow=6.4,SNR=5.5
BRTR Keskin Array B 76.85 308 P **P** **18 55 01.2 +0.3**
2.3nm,0.7s,mb4.2,baz=49,slow=9.7,SNR=12

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*ISCJB **17** 18:43:15.2±0.2, 43.18N±001×005E±002, h6km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=65.2*
*STR **17** 18:43:17.4±0.1, 4301N×000E, h2km±1km, MI2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 18:43:17.1±0.0, 4302N×000E, h10km, MI3.0/15, Error ellipse: s-maj=0.6km s-min=0.5km az=158.0*
*CSEM **17** 18:43:17.4±0.1, 4305N×000E, h5km, ML2.9/16, Error ellipse: s-maj=1.4km s-min=0.9km az=117.0*
*NEIC **17** 18:43:17.4, 4301N×000E, h2km, ML2.2(MRB), ML2.7(STR), ML3.0(LDG), MN2.2(MDD), After STR.*
*MDD **17** 18:43:17.9±0.2, 4301N×000E, h0km, mbLg2.1/24, Error ellipse: s-maj=1.6km s-min=1.2km az=16.0, PRXIMO*
ISC 17 18:43:16.5±0.2, 4310N±001×003E±002, h10km±2km, n104, σ0§95/188, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**148**	Pg	**Pg**	**18 43 19.2**	**+0.6**
LABF				Sg	**Sg**	**18 43 20.4**	**+0.3**
LABF	**Labassere**	**0.06**	**148**	Pg	**Pg**	**18 43 19.2**	**+0.6**
LABF				Lg		18 43 20.4	
VIEF	**Viey**	**0.21**	**181**	Pg	**Pg**	**18 43 20.3**	**-0.7**
VIEF	**Viey**	**0.21**	**181**	Pg	**Pg**	**18 43 20.4**	**-0.6**
VIEF				Lg		18 43 22.5	
EPF	**Esparros**	**0.24**	**107**	*e*Pg	**Pg**	**18 43 22.0**	**+0.6**
EPF				*e*Sg	**Sg**	**18 43 26.2**	**+1.5**
	108nm,0.2s						
EPF	**Esparros**	**0.24**	**107**	*e*Pg	**Pg**	**18 43 22.0**	**+0.6**
EPF				*e*Sg	**Sg**	**18 43 26.2**	**+1.5**
	54nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**265**	Pg	**Pg**	**18 43 22.9**	**+0.2**
REYF				Sg	**Sg**	**18 43 27.3**	**+0.4**
REYF	**Montagne du Re**	**0.31**	**265**	Pg	**Pg**	**18 43 22.9**	**+0.2**
REYF				Lg		18 43 27.3	
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**18 43 23.6**	**-0.2**
RESF				Sg	**Sg**	**18 43 28.3**	**-0.4**
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**18 43 23.6**	**-0.2**
RESF				Lg		18 43 28.4	
EBIE	**Bielsa**	**0.42**	**169**	⇑Pg	**Pg**	**18 43 24.1**	**-0.7**
	56nm,0.3s,SNR=18						
EBIE				Lg		18 43 28.5	
	80nm,0.1s,SNR=14						
EBIE	**Bielsa**	**0.42**	**169**	Pg	**Pg**	**18 43 24.1**	**-0.7**
	56nm,0.3s,SNR=18						
EBIE				Lg		18 43 28.5	
	80nm,0.1s,SNR=14						
ETSF	**Etsaut**	**0.48**	**245**	*e*Pg	**Pg**	**18 43 25.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 43 30.9**	**-1.2**
	128nm,0.3s						
ETSF	**Etsaut**	**0.48**	**245**	*e*Pg	**Pg**	**18 43 25.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 43 30.9**	**-1.2**
	64nm,0.3s						
FDAF	**Les Forges d'A**	**0.52**	**238**	Pg	**Pg**	**18 43 26.2**	**-0.4**
FDAF				Lg		18 43 32.6	
ATE	**Arette**	**0.54**	**269**	Pg	**Pg**	**18 43 27.0**	**0.0**
ATE				Lg		18 43 34.4	
MELF	**Melles**	**0.58**	**113**	Pg	**Pg**	**18 43 28.1**	**+0.3**
MELF				Sg	**Sg**	**18 43 36.2**	**+0.8**
MELF	**Melles**	**0.58**	**113**	Pg	**Pg**	**18 43 28.1**	**+0.3**
MELF				Lg		18 43 36.2	
ORDF	**Ordiarp**	**0.72**	**280**	Lg		18 43 41.1	
LARF	**Larrau**	**0.75**	**266**	Pg	**Pg**	**18 43 31.1**	**+0.1**
LARF				Sg	**Sg**	**18 43 41.2**	**+0.5**
LARF	**Larrau**	**0.75**	**266**	Pg	**Pg**	**18 43 31.1**	**+0.1**
LARF				Lg		18 43 41.6	
MLS	**Moulis**	**0.79**	**100**	Lg		18 43 44.7	
SALF	**Salau**	**0.92**	**111**	Pg	**Pg**	**18 43 34.4**	**+0.2**
SALF				Sg	**Sg**	**18 43 46.7**	**+0.6**
SALF	**Salau**	**0.92**	**111**	Pg	**Pg**	**18 43 34.4**	**+0.2**
SALF				Lg		18 43 46.1	
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**18 43 34.2**	**0.0**
SJPF				*e*Sg	**Sg**	**18 43 46.0**	**-0.2**
	15nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**18 43 34.2**	**0.0**
SJPF				*e*Sg	**Sg**	**18 43 46.0**	**-0.2**
	7.6nm,0.2s						
IPRE	**Itoiz**	**1.06**	**254**	Pg	**Pg**	**18 43 37.0**	**+0.1**
	2.5nm,0.4s,SNR=4.0						
IPRE				Lg		18 43 51.1	
	7.2nm,0.3s,SNR=20						
IPRE	**Itoiz**	**1.06**	**254**	Pg	**Pg**	**18 43 37.0**	**+0.1**
	2.5nm,0.4s,SNR=4.0						
CSOR	**Sort**	**1.09**	**131**	P	**Pb**	**18 43 36.9**	**-0.5**
CSOR				S	**Sg**	**18 43 51.6**	**0.0**
CSOR	**Sort**	**1.09**	**131**	Pg	**Pg**	**18 43 36.8**	**-0.6**
CSOR				Lg		18 43 51.6	
	19nm,0.1s						
EALK	**Alkurruntz**	**1.13**	**277**	Lg		18 43 54.3	
	37nm,0.6s,SNR=7.9						
GRBF	**Gourbit**	**1.14**	**103**	Pg	**Pg**	**18 43 38.9**	**+0.6**
ELIZ	**Elizondo**	**1.14**	**274**	Pg	**Pg**	**18 43 39.2**	**+0.7**
	1.1nm,0.1s,SNR=7.9						
ELIZ				Lg		18 43 54.9	
	7.8nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**18 43 40.4**	**+1.5**
	1.6nm,0.3s,SNR=4.0						
IUSE				Lg		18 43 55.4	
	4.3nm,0.3s,SNR=6.5						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**18 43 40.4**	**+1.4**
	1.6nm,0.3s,SNR=4.0						
CORG	**Organya**	**1.29**	**132**	P	**Pn**	**18 43 40.9**	**+0.4**
CORG				S	**Sb**	**18 43 57.4**	**0.0**
CORG	**Organya**	**1.29**	**132**	Pg	**Pg**	**18 43 40.9**	**-0.3**
CORG				Lg		18 43 57.4	
	9.4nm,0.3s						
CAVN	**Les Avellanes**	**1.33**	**156**	P	**Pn**	**18 43 41.2**	**+0.1**
CAVN				S	**Sb**	**18 43 58.6**	**+0.1**
CAVN	**Les Avellanes**	**1.33**	**156**	Pg	**Pn**	**18 43 41.2**	**+0.1**
CAVN				Lg		18 43 58.6	
	81nm,0.2s						
ESAC	**San Caprasio**	**1.43**	**195**	Pg	**Pg**	**18 43 43.0**	**-0.8**
	93nm,0.3s,SNR=47						
ESAC				Lg		18 44 02.2	
	175nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.43**	**195**	Pg	**Pg**	**18 43 43.0**	**-0.9**
	93nm,0.3s,SNR=47						
CLLI	**Llivia**	**1.56**	**113**	P	**Pn**	**18 43 46.6**	**+2.3**
CLLI				S	**Sn**	**18 44 07.0**	**+2.5**
CLLI	**Llivia**	**1.56**	**113**	Pg	**Pg**	**18 43 46.5**	**+0.1**
CLLI				Lg		18 44 07.0	
	5.3nm,0.2s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**18 43 48.2**	**+0.6**
MTLF				*e*Sg	**Sg**	**18 44 09.7**	**+1.2**
	44nm,0.3s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**18 43 48.2**	**+0.6**
MTLF				*e*Sg	**Sg**	**18 44 09.7**	**+1.2**
	22nm,0.3s						
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**18 43 46.5**	**-1.1**
	5.6nm,0.2s,SNR=9.9						
EMIR				Lg		18 44 08.1	
	23nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**18 43 46.5**	**-1.1**
	5.6nm,0.2s,SNR=9.9						
VALF	**Valcebollere**	**1.62**	**115**	Lg		18 44 09.7	
LFF	**La Frestale**	**1.91**	**15**	*e*Pg	**Pg**	**18 43 54.0**	**+0.8**
LFF				*e*Sn	**Sn**	**18 44 12.7**	**-0.5**
LFF				*e*Sg	**Sg**	**18 44 19.9**	**+2.0**
	30nm,0.4s						
LFF	**La Frestale**	**1.91**	**15**	*e*Pn	**Pn**	**18 43 49.2**	**+0.1**
LFF				*e*Pg	**Pg**	**18 43 54.0**	**+0.8**
LFF				*e*Sn	**Sn**	**18 44 12.7**	**-0.5**
LFF				*e*Sg	**Sg**	**18 44 19.9**	**+2.0**
LFF	**La Frestale**	**1.91**	**15**	Pn	**Pn**	**18 43 49.2**	**+0.1**
LFF				Pg	**Pg**	**18 43 54.0**	**+0.8**
LFF				Sn	**Sn**	**18 44 12.7**	**-0.5**
LFF				Lg		18 44 19.9	
	15nm,0.4s						
LFF	**La Frestale**	**1.91**	**15**	*e*Pn	**Pn**	**18 43 49.2**	**+0.1**
LFF	**La Frestale**	**1.91**	**15**	*e*Pg	**Pg**	**18 43 54.0**	**+0.8**
LFF				*e*Sn	**Sn**	**18 44 12.7**	**-0.5**
LFF				*e*Sg	**Sg**	**18 44 19.9**	**+2.0**
	15nm,0.4s						
EPOB	**Poblet**	**1.91**	**156**	Pn	**Pn**	**18 43 49.2**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**18 43 51.4**	**-1.8**
	4.8nm,0.5s,SNR=24						
EPOB				Sn	**Sn**	**18 44 13.5**	**+0.3**
	3.0nm,0.2s,SNR=7.9						
EPOB				Lg		18 44 15.9	
	9.6nm,0.4s,SNR=5.0						
EPOB	**Poblet**	**1.91**	**156**	Pn	**Pn**	**18 43 49.2**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.91**	**156**	Pg	**Pg**	**18 43 51.4**	**-1.8**
	4.8nm,0.5s,SNR=24						
EPOB				Sn	**Sn**	**18 44 13.5**	**+0.3**
	3.0nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.93**	**256**	Pn	**Pn**	**18 43 51.8**	**+2.4**
	0.5nm,0.1s,SNR=7.9						
ECRI				Pg	**Pg**	**18 43 53.8**	**+0.3**
	2.0nm,0.4s,SNR=7.9						
ECRI				Sn	**Sn**	**18 44 16.2**	**+2.5**
	3.2nm,0.2s,SNR=7.9						
ECRI				Lg		18 44 19.8	
	3.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.93**	**256**	Pg	**Pg**	**18 43 53.8**	**+0.2**
	2.0nm,0.4s,SNR=7.9						
ECRI				Sn	**Sn**	**18 44 16.2**	**+2.5**
	3.2nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.15**	**174**	Pg	**Pg**	**18 43 55.7**	**-2.1**
	2.4nm,0.3s,SNR=46						
ERTA				Lg		18 44 23.6	
	8.9nm,0.3s,SNR=9.7						
ERTA	**Horta de San J**	**2.15**	**174**	Pg	**Pg**	**18 43 55.7**	**-2.1**
	2.4nm,0.3s,SNR=46						
EJON	**La Jonquera**	**2.20**	**106**	Lg		18 44 26.8	
	3.7nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**2.23**	**126**	P	**Pn**	**18 43 56.3**	**+2.8**
CFON	**Fontmartina**	**2.23**	**126**	Pg	**Pg**	**18 43 56.2**	**-3.0**
CAF	**Calviac**	**2.34**	**38**	*e*Pg	**Pg**	**18 44 02.1**	**+0.7**
CAF				*e*Sn	**Sn**	**18 44 22.6**	**-1.3**
CAF				*e*Sg	**Sg**	**18 44 33.3**	**+1.5**
	9.8nm,0.2s						
CAF	**Calviac**	**2.34**	**38**	*e*Pn	**Pn**	**18 43 55.1**	**0.0**
CAF				*e*Pg	**Pg**	**18 44 02.1**	**+0.7**
CAF				*e*Sn	**Sn**	**18 44 22.6**	**-1.3**
CAF				*e*Sg	**Sg**	**18 44 33.3**	**+1.5**
CAF	**Calviac**	**2.34**	**38**	Pn	**Pn**	**18 43 55.1**	**0.0**
CAF				Pg	**Pg**	**18 44 02.1**	**+0.7**
CAF				Sn	**Sn**	**18 44 22.6**	**-1.3**
CAF				Lg		18 44 33.3	
	4.9nm,0.2s						
CAF	**Calviac**	**2.34**	**38**	*e*Pn	**Pn**	**18 43 55.1**	**0.0**
CAF	**Calviac**	**2.34**	**38**	*e*Pg	**Pg**	**18 44 02.1**	**+0.7**
CAF				*e*Sn	**Sn**	**18 44 22.6**	**-1.3**
CAF				*e*Sg	**Sg**	**18 44 33.3**	**+1.5**
	4.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pg	**Pg**	**18 44 04.1**	**+0.6**
RJF				*e*Sg	**Sg**	**18 44 36.8**	**+1.5**
	14nm,0.2s						
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pn	**Pn**	**18 43 56.6**	**+0.1**
RJF				*e*Pg	**Pg**	**18 44 04.1**	**+0.6**
RJF				*e*Sg	**Sg**	**18 44 36.8**	**+1.5**
RJF	**Les Rejaudoux**	**2.45**	**25**	Pn	**Pn**	**18 43 56.6**	**+0.1**
RJF				Pg	**Pg**	**18 44 04.1**	**+0.6**
RJF				Lg		18 44 36.8	
	7.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pg	**Pg**	**18 44 04.1**	**+0.6**
RJF				*e*Sg	**Sg**	**18 44 36.8**	**+1.5**
	7.0nm,0.2s						
EMOS	**Mosqueruela**	**2.76**	**188**	Pn	**Pn**	**18 44 01.6**	**+0.8**
	4.8nm,0.4s,SNR=4.0						
EMOS				Pg	**Pg**	**18 44 07.1**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**18 44 33.7**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
EMOS				Lg		18 44 42.8	
	1.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.76**	**188**	Pn	**Pn**	**18 44 01.6**	**+0.8**
	4.8nm,0.4s,SNR=4.0						
EMOS	**Mosqueruela**	**2.76**	**188**	Pg	**Pg**	**18 44 07.1**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**18 44 33.7**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.76**	**215**	Pn	**Pn**	**18 44 01.9**	**+1.2**
	4.7nm,1.0s,SNR=6.8						
ETOR				Sn	**Sn**	**18 44 33.9**	**-0.2**
	8.7nm,0.5s,SNR=5.0						
ETOR				Lg		18 44 45.8	
	12nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.76**	**215**	Pn	**Pn**	**18 44 01.9**	**+1.1**
	4.7nm,1.0s,SNR=6.8						
ETOR				Sn	**Sn**	**18 44 33.9**	**-0.2**
	8.7nm,0.5s,SNR=5.0						
LASF	**Ste Croix**	**2.95**	**69**	*e*Pg	**Pg**	**18 44 12.6**	**-0.4**
LASF				*e*Sn	**Sn**	**18 44 36.7**	**-2.1**
LASF				*e*Sg	**Sg**	**18 44 51.4**	**+0.2**
	6.4nm,0.2s						
LASF	**Ste Croix**	**2.95**	**69**	*e*Pn	**Pn**	**18 44 02.9**	**-0.5**
LASF				*e*Pg	**Pg**	**18 44 12.6**	**-0.4**
LASF				*e*Sn	**Sn**	**18 44 36.7**	**-2.1**
LASF				*e*Sg	**Sg**	**18 44 51.4**	**+0.2**
LASF	**Ste Croix**	**2.95**	**69**	Pn	**Pn**	**18 44 02.9**	**-0.5**
LASF				Pg	**Pg**	**18 44 12.6**	**-0.4**
LASF				Sn	**Sn**	**18 44 36.7**	**-2.1**
LASF				Lg		18 44 51.4	
	3.2nm,0.2s						
LASF	**Ste Croix**	**2.95**	**69**	*e*Pn	**Pn**	**18 44 02.9**	**-0.5**
LASF	**Ste Croix**	**2.95**	**69**	*e*Pg	**Pg**	**18 44 12.6**	**-0.4**
LASF				*e*Sn	**Sn**	**18 44 36.7**	**-2.1**
LASF				*e*Sg	**Sg**	**18 44 51.4**	**+0.2**
	3.2nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pg	**Pg**	**18 44 23.5**	**-0.2**
MFF				*e*Sn	**Sn**	**18 44 50.4**	**-2.2**
MFF				*e*Sg	**Sg**	**18 45 09.1**	**0.0**
	2.0nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pn	**Pn**	**18 44 11.0**	**0.0**
MFF				*e*Pg	**Pg**	**18 44 23.5**	**-0.2**
MFF				*e*Sn	**Sn**	**18 44 50.4**	**-2.2**
MFF				*e*Sg	**Sg**	**18 45 09.1**	**0.0**
MFF	**Saint Martin d**	**3.51**	**358**	Pn	**Pn**	**18 44 11.0**	**0.0**
MFF				Pg	**Pg**	**18 44 23.5**	**-0.2**
MFF				Sn	**Sn**	**18 44 50.4**	**-2.2**
MFF				Lg		18 45 09.1	
	1.0nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pn	**Pn**	**18 44 11.0**	**0.0**
MFF	**Saint Martin d**	**3.51**	**358**	*e*Pg	**Pg**	**18 44 23.5**	**-0.2**
MFF				*e*Sn	**Sn**	**18 44 50.4**	**-2.2**
MFF				*e*Sg	**Sg**	**18 45 09.1**	**0.0**
	1.0nm,0.2s						
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Pg	**Pg**	**18 44 24.2**	**-0.3**
TCF				*e*Sg	**Sg**	**18 45 10.9**	**+0.4**
	3.1nm,0.2s						
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Pg	**Pg**	**18 44 24.2**	**-0.3**
TCF				*e*Sg	**Sg**	**18 45 10.9**	**+0.4**
	1.5nm,0.2s						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg	**Pg**	**18 44 32.5**	**-0.6**
BGF				*e*Sg	**Sg**	**18 45 24.9**	**0.0**
	18nm,0.4s						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pn	**Pn**	**18 44 17.5**	**-0.3**
BGF				*e*Pg	**Pg**	**18 44 32.5**	**-0.6**
BGF				*e*Sg	**Sg**	**18 45 24.9**	**0.0**
BGF	**Bois d'Agland**	**4.00**	**29**	Pn	**Pn**	**18 44 17.5**	**-0.3**
BGF				Pg	**Pg**	**18 44 32.5**	**-0.6**
BGF				Lg		18 45 24.9	
	9.1nm,0.4s						
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg	**Pg**	**18 44 32.5**	**-0.6**
BGF				*e*Sg	**Sg**	**18 45 24.9**	**0.0**
	9.1nm,0.4s						
AVF	**Avril sur Loir**	**4.38**	**31**	*e*Pg	**Pg**	**18 44 39.6**	**-0.8**
AVF				*e*Sg	**Sg**	**18 45 36.8**	**-0.4**
	4.8nm,0.4s						
AVF	**Avril sur Loir**	**4.38**	**31**	*e*Pg	**Pg**	**18 44 39.6**	**-0.8**
AVF				*e*Sg	**Sg**	**18 45 36.8**	**-0.4**
	2.4nm,0.4s						
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pg	**Pg**	**18 44 41.2**	**-0.8**
SMF				*e*Sg	**Sg**	**18 45 39.4**	**-0.4**
	3.2nm,0.3s						
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pg	**Pg**	**18 44 41.2**	**-0.8**
SMF				*e*Sg	**Sg**	**18 45 39.4**	**-0.4**
	1.6nm,0.3s						
HYF	**Humbligny**	**4.56**	**23**	*e*Pg	**Pg**	**18 44 42.9**	**-1.0**
HYF				*e*Sg	**Sg**	**18 45 42.6**	**-0.3**
SSF	**Saint Saulge**	**4.66**	**31**	*e*Pg	**Pg**	**18 44 44.8**	**-1.1**
SSF				*e*Sg	**Sg**	**18 45 45.7**	**-0.6**
	2.5nm,0.3s						
SSF	**Saint Saulge**	**4.66**	**31**	*e*Pn	**Pn**	**18 44 26.7**	**-0.3**
SSF				*e*Pg	**Pg**	**18 44 44.8**	**-1.1**
SSF				*e*Sg	**Sg**	**18 45 45.7**	**-0.6**
SSF	**Saint Saulge**	**4.66**	**31**	Pn	**Pn**	**18 44 26.7**	**-0.3**
SSF				Pg	**Pg**	**18 44 44.8**	**-1.1**
SSF				Lg		18 45 45.7	
	1.2nm,0.3s						
SSF	**Saint Saulge**	**4.66**	**31**	*e*Pg	**Pg**	**18 44 44.8**	**-1.1**
SSF				*e*Sg	**Sg**	**18 45 45.7**	**-0.6**
	1.2nm,0.3s						
LOR	**Lormes**	**4.97**	**32**	*e*Pg	**Pg**	**18 44 50.5**	**-1.2**
LOR				*e*Sg	**Sg**	**18 45 55.2**	**-0.9**
	5.7nm,0.5s						
LOR	**Lormes**	**4.97**	**32**	*e*Pg	**Pg**	**18 44 50.5**	**-1.2**
LOR				*e*Sg	**Sg**	**18 45 55.2**	**-0.9**
	2.8nm,0.5s						

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*LDG **17** 18:46:20.5±0.1, 4302N×002W, h2km, MI1.8/4, Error ellipse: s-maj=1.7km s-min=1.1km az=159.0*
*STR **17** 18:46:20.8±0.1, 4301N×001W, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 17 18:46:20.6±0.4, 4301N×001W, h8km±4km, mbLg0.9/7, Error ellipse: s-maj=2.4km s-min=2.0km az=90.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**61**	Pg	Pg	18 46 22.4	-0.2
LABF				Sg	Sg	18 46 23.7	-0.2
LABF	**Labassere**	**0.07**	**61**	Pg	Pg	18 46 22.4	-0.2
LABF				Lg		18 46 23.7	
VIEF	**Viey**	**0.13**	**168**	Pg	Pg	18 46 23.5	0.0
VIEF				Sg	Sg	18 46 25.5	+0.1
VIEF	**Viey**	**0.13**	**168**	Pg	Pg	18 46 23.6	+0.1
VIEF				Lg		18 46 25.7	
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	18 46 25.4	-0.4
EPF				*e*Sg	Sg	18 46 29.9	+0.6
	7.1nm,0.2s						
EPF	**Esparros**	**0.26**	**86**	Pg	Pg	18 46 25.4	-0.4
EPF				Lg		18 46 29.9	
	3.5nm,0.2s						
EBIE	**Bielsa**	**0.34**	**160**	Pg	Pg	18 46 26.8	-0.6
	2.9nm,0.3s,SNR=7.5						
EBIE				Lg		18 46 32.0	
	6.5nm,0.3s,SNR=20						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	18 46 28.7	0.0
ETSF				*e*Sg	Sg	18 46 34.1	-0.1
	5.0nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	18 46 28.7	0.0
ETSF				Lg		18 46 34.1	
	2.5nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	18 46 37.1	-0.7
SJPF				*e*Sg	Sg	18 46 48.7	-0.7
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	18 46 37.1	-0.7
SJPF				Lg		18 46 48.7	
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	18 46 48.4	-1.8
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	18 46 51.5	-1.1
MTLF				*e*Sg	Sg	18 47 13.0	-1.2
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	18 46 48.4	-1.8
MTLF				Pg	Pg	18 46 51.5	-1.1
MTLF				Lg		18 47 13.0	
	0.9nm,0.2s						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	18 46 57.6	-1.4
LFF				*e*Sg	Sg	18 47 23.3	-1.7
	3.7nm,0.4s						
LFF	**La Frestale**	**2.00**	**16**	Pg	Pg	18 46 57.6	-1.4
LFF				Lg		18 47 23.3	
	1.9nm,0.4s						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	18 47 05.5	-1.7
CAF				*e*Sg	Sg	18 47 36.5	-2.3
	0.9nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	18 47 05.5	-1.7
CAF				Lg		18 47 36.5	
	0.4nm,0.2s						

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*STR **17** 18:50:07.2±0.1, 4302N×007W, h2km±1km, MI2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 18:50:06.2±0.1, 4307N×003W, h10km, MI1.4/2, Error ellipse: s-maj=4.1km s-min=1.9km az=176.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**106**	Pg	Pg	18 50 09.5	+1.0
LABF				Sg	Sg	18 50 11.3	+1.2
VIEF	**Viey**	**0.19**	**168**	Pg	Pg	18 50 10.4	+0.2
VIEF				Sg	Sg	18 50 12.7	-0.2
EPF	**Esparros**	**0.27**	**98**	*e*Pg	Pg	18 50 10.7	-1.0
EPF				*e*Sg	Sg	18 50 15.1	-0.3
	8.5nm,0.3s						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	Pg	18 50 14.8	+0.3
ETSF				*e*Sg	Sg	18 50 20.3	+0.1
	7.5nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**273**	*e*Pg	Pg	18 50 22.6	-0.5
SJPF				*e*Sg	Sg	18 50 33.8	-0.8
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	18 50 37.1	-1.0
MTLF				*e*Sg	Sg	18 50 58.9	-0.8
	2.3nm,0.4s						

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*STR **17** 18:51:41.5±0.1, 4301N×000E, h2km±1km, MI1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
**LDG 17 18:51:41.0±0.1, 4302N×002W, h5km, MI1.4/2, Error ellipse: s-maj=2.7km s-min=1.2km az=170.0, Pyrenees

RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Pg	Pg	18 54 24.2	-1.5
RJF				*e*Sn	Sn	18 54 46.1	-3.4
RJF				*e*Sg	Sg	18 54 57.3	-1.5
	1.1nm,0.2s						
LASF	**Ste Croix**	**3.02**	**68**	*e*Pn	Pn	18 54 22.4	-2.3
LASF	**Ste Croix**	**3.02**	**68**	*e*Pg	Pg	18 54 32.9	-1.7
LASF				*e*Sg	Sg	18 55 11.2	-2.5
	1.4nm,0.3s						

BJI ***17*** *18:55:53.1,2802N×130.74E,h42km,mb4.3*
JMA ***17*** *18:55:58.3±0.1,2847N×130.19E,h36km±2km,M4.1*
ISCJB ***17*** *18:55:58.9±0.6,2850N±005×130.14E±007,h40km±4km, mb4.3/25,Error ellipse: s-maj=12.3km s-min=5.1km az=61.8*
MOS ***17*** *18:55:59.0±1.0,2863N×130.15E,h39km,mb4.5/4,Error ellipse: s-maj=19.6km s-min=12.1km az=112.8*
NEIC ***17*** *18:56:01.1±1.0,2852N×130.12E,h42km±9km,mb4.4/3, Error ellipse: s-maj=13.2km s-min=9.2km az=110.0*
IDC ***17*** *18:56:01.0±2.7,2859N×130.09E,h38km±23km,mb3.9/15, mb1 4.0/18,mb1mx4.0/27,mbtmp3.9/18,ML3.7/3,MS3.8/2, Ms1 3.8/2,ms1mx3.2/37,Error ellipse: s-maj=22.9km s-min=14.4km az=91.0*

ISC 17 18:55:59.8±0.7,2852N±005×13010E±007,h30km±4km, n53,σ0°82/59,mb4.3/25,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.23**	**210**	P	**Pb**	**18 56 05.4**	**-0.9**
JZK				S	**Sb**	**18 56 11.0**	**+0.3**
JAM	**Amami Oshima**	**0.45**	**257**	P	**Pb**	**18 56 08.9**	**-0.5**
JAM				S	**Sb**	**18 56 16.1**	**+0.1**
JTK	**Tokunoshima**	**1.25**	**235**	P	**Pn**	**18 56 21.5**	**+0.3**
JNN	**Nakanoshima**	**1.33**	**351**	P	**Pn**	**18 56 22.4**	**+0.1**
JKC	**Kuchinoerabu**	**1.94**	**2**	P	**Pn**	**18 56 30.6**	**-0.1**
JTN	**Tanegashima 3**	**2.26**	**20**	P	**Pn**	**18 56 35.0**	**-0.1**
JOW	**Kunigami**	**2.33**	**224**	Pn	**Pn**	**18 56 36.1**	**0.0**
	24nm,0.3s,baz=116,slow=21,SNR=18						
JOW				Sn	**Sn**	**18 57 07.0**	**+3.2**
	18nm,0.3s,baz=117,slow=26,SNR=6.4						
JOW				LR	LR	18 57 28.0	
	comp=Z,1μm,21.4s,baz=66,slow=37						
JOW	**Kunigami**	**2.33**	**224**	P	**Pn**	**18 56 36.0**	**-0.1**
JOW	**Kunigami**	**2.33**	**224**	Pn	**Pn**	**18 56 36.1**	**0.0**
JOW				Sn	**Sn**	**18 57 07.0**	**+3.2**
JOW				LR	LR	18 57 28.0	
JIH	**Iheya**	**2.40**	**233**	P	**Pn**	**18 56 37.2**	**+0.2**
JTSR	**Tashiro 2**	**2.73**	**15**	P	**Pn**	**18 56 41.6**	**0.0**
JTSR				*e*S	**Sn**	**18 57 13.9**	**+0.3**
JKE	**Kume jima 2**	**3.67**	**234**	P	**Pn**	**18 56 54.7**	**+0.3**
JNU	**Nakatsue**	**4.64**	**8**	Pn	**Pn**	**18 57 09.1**	**+1.3**
	9.8nm,0.3s,baz=214,slow=19,SNR=30						
JNU				Sn	**Sn**	**18 58 02.2**	**+1.6**
	11nm,0.3s,baz=253,slow=21,SNR=7.1						
JNU				LR	LR	18 59 05.5	
	comp=Z,2μm,19.0s,baz=11,slow=40						
KSRS	**Korea Array**	**9.10**	**349**	Pn	**Pn**	**18 58 12.8**	**+3.9**
	baz=166,slow=15,SNR=16						
MJAR	**Matsushiro Arr**	**10.52**	**38**	Pn	**Pn**	**18 58 28.7**	**+0.2**
	0.2nm,0.3s,baz=219,slow=15,SNR=3.6						
CN2	**Changchun**	**15.71**	**347**	*e*P	**Pn**	**18 59 44.4**	**+5.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**16.24**	**319**	P	**Pn**	**18 59 48.5**	**+2.8**
XAN	**Xi'an**	**18.91**	**292**	P	**Pn**	**19 00 18.1**	**-0.6**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s						
GYA	**Guiyang**	**20.89**	**270**	P	**P**	**19 00 40.8**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CD2	**Chengdu**	**22.99**	**282**	P	**P**	**19 01 01.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
LZH	**Lanzhou**	**23.40**	**296**	*e*P	**P**	**19 01 10.5**	**+4.3**
LZH				AP		19 01 15.8	
LZH				XP	sP	19 01 18.0	-0.1
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.4						
LZH	**Lanzhou**	**23.40**	**296**	*e*P	**P**	**19 01 10.5**	**+4.3**
	comp=Z,19nm,1.3s,mb4.4						
LZH				pP		19 01 15.8	
LZH				sP	sP	19 01 18.0	-0.1
KMI	**Kunming**	**24.63**	**269**	P	**P**	**19 01 17.8**	**+0.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.1						
KMI	**Kunming**	**24.63**	**269**	P	**P**	**19 01 17.8**	**+0.3**
	comp=Z,8.0nm,1.2s,mb4.1						
SONM	**Songino Array**	**26.64**	**323**	P	**P**	**19 01 35.1**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.5,baz=139,slow=11,SNR=12						
JIRN	**Jiri**	**38.59**	**279**	*e*P	**P**	**19 03 19.6**	**-0.4**
	comp=Z,7.9nm,0.9s,mb4.5						
GUN	**Gumba**	**38.81**	**280**	*e*P	**P**	**19 03 22.3**	**+0.5**
	comp=Z,22nm,0.9s,mb4.9						
KKN	**Kakani**	**39.35**	**280**	*e*P	**P**	**19 03 26.2**	**-0.2**
	comp=Z,22nm,0.9s,mb4.9						
DMN	**Daman**	**39.54**	**280**	*e*P	**P**	**19 03 27.9**	**0.0**
	comp=Z,19nm,1.0s,mb4.8						
GKN	**Gorkha**	**39.87**	**280**	*e*P	**P**	**19 03 30.2**	**-0.4**
	comp=Z,14nm,0.8s,mb4.7						
KOLN	**Koldanda**	**40.81**	**280**	*e*P	**P**	**19 03 38.3**	**-0.2**
	comp=Z,11nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**41.31**	**310**	P	**P**	**19 03 42.9**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.6,baz=101,slow=9.3,SNR=9.2						
MKAR				PcP	PcP	19 05 40.6	-0.1
	comp=Z,0.7nm,0.8s,baz=81,slow=3.1,SNR=3.6						
ZAL	**Zalesovo**	**41.50**	**321**	P	**P**	**19 03 43.1**	**-1.0**
	comp=Z,1.9nm,0.6s,mb3.9,baz=8.9,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**48.35**	**175**	P	**P**	**19 04 39.2**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.9,baz=354,slow=8.3,SNR=8.8						
BVAR	**Borovoye Array**	**49.72**	**317**	P	**P**	**19 04 49.1**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.7,baz=91,slow=8.9,SNR=33						
BVAR				PcP	PcP	19 06 10.1	+0.2
	comp=Z,1.6nm,0.7s,baz=114,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**52.01**	**176**	P	**P**	**19 05 07.8**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=8.5,slow=13,SNR=8.8						
ARU	**Arti**	**56.65**	**321**	*e*P	**P**	**19 05 38.9**	**-1.2**
AKTK	**Aktyubinsk**	**57.44**	**314**	P	**P**	**19 05 45.0**	**-0.6**
AKTO	**Aktyubinsk**	**57.44**	**314**	P	**P**	**19 05 45.0**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=86,slow=15,SNR=3.7						
AKTO	**Aktyubinsk**	**57.44**	**314**	P	**P**	**19 05 45.1**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
INK	**Inuvik**	**66.14**	**24**	P	**P**	**19 06 42.3**	**-1.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=289,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**68.50**	**339**	P	**P**	**19 06 58.4**	**-0.7**
	comp=Z,3.3nm,0.9s,mb4.4,baz=77,slow=5.6,SNR=2.7						
KIV	**Kislovodsk**	**69.08**	**309**	*e*P	**P**	**19 07 02.9**	**+0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**71.70**	**331**	P	**P**	**19 07 18.5**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=57,slow=7.0,SNR=6.7						
AKASG	**Malin Array Be**	**74.88**	**320**	P	**P**	**19 07 37.6**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.7,baz=58,slow=6.2,SNR=22						
YKA	**Yellowknife Ar**	**75.75**	**26**	P	**P**	**19 07 42.8**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=300,slow=5.6,SNR=4.7						
YKA	**Yellowknife Ar**	**75.75**	**26**	P	**P**	**19 07 42.8**	**+0.2**
BR131	**Keskin Array S**	**76.94**	**308**	*e*P	**P**	**19 07 49.5**	**+0.2**
	comp=Z,5.6nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**76.94**	**308**	P	**P**	**19 07 50.0**	**+0.6**
	comp=Z,6.5nm,0.7s,mb4.6,baz=99,slow=5.2,SNR=37						
NB2	**NORSAR Subarra**	**78.00**	**334**	P	**P**	**19 07 53.1**	**-2.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**78.00**	**334**	P	**P**	**19 07 53.2**	**-2.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=51,slow=5.4,SNR=5.8						
CLL	**Collm**	**83.22**	**326**	*e*P	**P**	**19 08 23.0**	**-0.2**
GERES	**GERESS Array B**	**84.37**	**324**	P	**P**	**19 08 29.5**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.1,baz=57,slow=4.9,SNR=7.8						

STR ***17*** *18:56:37.5±0.3,4301N×000E,h2km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 18:56:37.2±0.1,4300N×002W,h7km,Ml1.8/4,Error ellipse: s-maj=3.0km s-min=1.7km az=160.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**56**	Pg	Pg	18 56 39.1	0.0
LABF				Sg	Sg	18 56 40.1	-0.4
VIEF	**Viey**	**0.12**	**166**	Pg	Pg	18 56 40.1	+0.2
VIEF				Sg	Sg	18 56 42.3	+0.6
EPF	**Esparros**	**0.26**	**84**	*e*Pg	Pg	18 56 42.2	-0.2
EPF				*e*Sg	Sg	18 56 46.8	+0.9
	4.3nm,0.2s						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	18 56 45.6	+0.4
ETSF				*e*Sg	Sg	18 56 51.2	+0.6
	3.1nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	18 56 53.8	-0.5
SJPF				*e*Sg	Sg	18 57 05.0	-0.9
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	18 57 05.3	-1.5
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	18 57 08.6	-0.6
MTLF				*e*Sg	Sg	18 57 29.6	-1.2
	3.5nm,0.4s						
CAF	**Calviac**	**2.44**	**37**	*e*Pn	Pn	18 57 15.2	-2.2
CAF	**Calviac**	**2.44**	**37**	*e*Pg	Pg	18 57 22.8	-1.1
CAF				*e*Sg	Sg	18 57 53.8	-1.8
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Sg	Sg	18 57 58.1	-1.1
	0.7nm,0.2s						

STR ***17*** *18:57:05.8±0.1,4301N×002W,h2km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 18:57:05.3±0.1,4303N×002W,h8km,Ml1.6/2,Error ellipse: s-maj=3.0km s-min=1.4km az=174.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**71**	Pg	Pg	18 57 07.6	+0.3
LABF				Sg	Sg	18 57 08.8	+0.1
VIEF	**Viey**	**0.14**	**167**	Pg	Pg	18 57 08.6	+0.2
VIEF				Sg	Sg	18 57 10.7	+0.2
EPF	**Esparros**	**0.26**	**89**	*e*Pg	Pg	18 57 10.4	-0.1
EPF				*e*Sg	Sg	18 57 14.7	+0.6
	7.7nm,0.2s						
ETSF	**Etsaut**	**0.42**	**253**	*e*Pg	Pg	18 57 13.7	+0.3
ETSF				*e*Sg	Sg	18 57 19.4	+0.5
	5.8nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	18 57 21.9	-0.5
SJPF				*e*Sg	Sg	18 57 33.0	-0.9
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Sg	Sg	18 57 58.2	-0.7
	1.3nm,0.2s						

STR ***17*** *18:57:30.1±0.0,4302N×003W,h2km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 18:57:29.4±0.1,4307N×002W,h9km,Ml2.0/7,Error ellipse: s-maj=1.5km s-min=1.0km az=155.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**110**	Pg	Pg	18 57 32.0	+0.5
LABF				Sg	Sg	18 57 33.3	+0.3
VIEF	**Viey**	**0.19**	**171**	Pg	Pg	18 57 33.0	-0.4
VIEF				Sg	Sg	18 57 35.1	-0.9
EPF	**Esparros**	**0.27**	**99**	*e*Pg	Pg	18 57 34.8	+0.1
EPF				*e*Sg	Sg	18 57 38.9	+0.6
	14nm,0.2s						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	Pg	18 57 38.1	+0.2
ETSF				*e*Sg	Sg	18 57 43.9	+0.3
	8.7nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**273**	*e*Pg	Pg	18 57 46.2	-0.2
SJPF				*e*Sg	Sg	18 57 57.6	-0.4
	2.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pn	Pn	18 57 57.0	-1.6
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	18 58 00.2	-1.0
MTLF				*e*Sg	Sg	18 58 22.0	-0.6
	5.8nm,0.3s						
LFF	**La Frestale**	**1.95**	**16**	*e*Pg	Pg	18 58 05.4	-1.3
LFF				*e*Sg	Sg	18 58 30.6	-1.3
	5.4nm,0.5s						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	Pg	18 58 13.6	-1.5
CAF				*e*Sg	Sg	18 58 44.5	-1.6
	2.3nm,0.4s						
RJF	**Les Rejaudoux**	**2.49**	**26**	*e*Sg	Sg	18 58 47.4	-2.0
	1.6nm,0.3s						
LASF	**Ste Croix**	**2.99**	**69**	*e*Pg	Pg	18 58 25.0	-1.7
LASF				*e*Sg	Sg	18 59 03.2	-2.2
	1.4nm,0.3s						
TCF	**Toulx Ste Croi**	**3.59**	**26**	*e*Sg	Sg	18 59 21.6	-3.0
	0.8nm,0.3s						

IDC ***17*** *18:58:17.7±0.7,4609N×154.07E,h0km,mb4.0/16, mb1 4.1/17,mb1mx4.0/26,mbtmp3.9/17,ML3.3/1,Error ellipse: s-maj=19.6km s-min=17.8km az=135.0*
NEIC ***17*** *18:58:18.9±0.7,4601N×154.14E,h10km,mb4.7/1,Error ellipse: s-maj=18.1km s-min=13.4km az=154.0*
BJI ***17*** *18:58:19.5,4615N×153.80E,h10km,mb4.5*
MOS ***17*** *18:58:20.5±1.4,4602N×153.96E,h30km,mb4.5/3,Error ellipse: s-maj=17.6km s-min=12.2km az=93.4*
ISCJB ***17*** *18:58:21.9±2.2,4613N±01×154.1E±0.1,h40km±17km, mb4.2/25,Error ellipse: s-maj=21.5km s-min=12.3km az=117.4*

ISC 17 18:58:24.7±1.9,4624N±01×1541E±01,h49km±15km,n37, σ0°93/37,mb4.2/25,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.71**	**16**	*e*PN	**Pn**	**18 59 32.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**7.88**	**280**	*e*PN	**Pn**	**19 00 17.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.88**	**280**	*e*P	**Pn**	**19 00 16.9**	**+0.2**
MJAR	**Matsushiro Arr**	**15.32**	**237**	Pn	**Pn**	**19 01 52.0**	**-5.6**
	comp=Z,1.1nm,0.3s,baz=37,slow=12,SNR=2.7						
KSRS	**Korea Array**	**21.31**	**255**	P	**P**	**19 03 07.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.4,baz=53,slow=11,SNR=3.9						
BILL	**Bilibino**	**22.81**	**12**	*e*P	**P**	**19 03 25.6**	**+2.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.0						
SONM	**Songino Array**	**32.20**	**291**	P	**P**	**19 04 47.6**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=87,slow=8.6,SNR=2.9						
LZH	**Lanzhou**	**38.62**	**273**	*e*P	**P**	**19 05 43.1**	**-0.1**
LZH				AP	pP	19 05 48.3	-7.7
LZH				XP	sP	19 05 50.1	-12
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.62**	**273**	*e*P	**P**	**19 05 43.1**	**-0.1**
	comp=Z,18nm,1.2s,mb4.7						
LZH				pP	pP	19 05 48.3	-7.7
LZH				sP	sP	19 05 50.1	-12
GTA	**Gaotai**	**39.76**	**280**	*e*P	**P**	**19 05 53.9**	**+1.2**
GTA				AP	pP	19 06 02.5	-3.1
GTA				XP	sP	19 06 06.1	-5.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.1						
INK	**Inuvik**	**41.77**	**32**	P	**P**	**19 06 10.4**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.6,baz=288,slow=4.0,SNR=2.5						
GYA	**Guiyang**	**42.28**	**259**	P	**P**	**19 06 12.9**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**43.54**	**307**	P	**P**	**19 06 21.7**	**-1.9**
	comp=Z,1.0nm,0.7s,mb3.7,baz=40,slow=5.9,SNR=4.0						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**19 06 56.9**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.3,baz=71,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**19 06 56.9**	**-0.6**
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**19 07 26.4**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=63,slow=7.2,SNR=4.8						
JIRN	**Jiri**	**55.70**	**276**	*e*P	**P**	**19 07 56.9**	**+0.8**
	comp=Z,12nm,0.9s,mb4.9						
GUN	**Gumba**	**55.76**	**276**	*e*P	**P**	**19 07 57.5**	**+0.9**
KKN	**Kakani**	**56.25**	**276**	*e*P	**P**	**19 08 01.3**	**+1.3**
	comp=Z,12nm,0.8s,mb5.0						
DMN	**Daman**	**56.48**	**276**	*e*P	**P**	**19 08 02.1**	**+0.4**
	comp=Z,13nm,0.8s,mb5.0						
GKN	**Gorkha**	**56.56**	**277**	*e*P	**P**	**19 08 02.8**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0						
KOLN	**Koldanda**	**57.42**	**277**	*e*P	**P**	**19 08 09.1**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9						
ARCES	**ARCESS Array B**	**58.64**	**341**	P	**P**	**19 08 16.9**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.6,baz=20,slow=7.8,SNR=5.1						
AKTK	**Aktyubinsk**	**59.64**	**313**	P	**P**	**19 08 22.9**	**-0.9**
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**19 08 22.9**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=73,slow=9.0,SNR=6.2						
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**19 08 22.9**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**62.08**	**63**	P	**P**	**19 08 39.4**	**-1.0**
	comp=Z,0.4nm,0.7s,mb3.7,baz=298,slow=12,SNR=4.3						
NVAR	**Mina Array Bea**	**62.08**	**63**	P	**P**	**19 08 39.4**	**-1.0**
FINES	**FINESS Array B**	**64.87**	**335**	P	**P**	**19 08 58.4**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.3,baz=41,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**68.19**	**200**	P	**P**	**19 09 18.9**	**-1.1**
	comp=Z,2.2nm,1.1s,mb4.1,baz=17,slow=6.7,SNR=9.1						
NB2	**NORSAR Subarra**	**69.01**	**342**	P	**P**	**19 09 25.5**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.01**	**342**	P	**P**	**19 09 24.4**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=26,slow=6.3,SNR=4.5						
NOA	**NORSAR Array B**	**69.01**	**342**	P	**P**	**19 09 24.4**	**-0.7**
ASAR	**Alice Springs**	**71.88**	**199**	P	**P**	**19 09 42.3**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=10,slow=5.0,SNR=16						
AKASG	**Malin Array Be**	**72.42**	**327**	P	**P**	**19 09 44.7**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=31,slow=5.9,SNR=5.2						
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**19 10 14.1**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=301,slow=3.8,SNR=12						
BRTR	**Keskin Array B**	**79.30**	**317**	P	**P**	**19 10 26.3**	**+1.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=46,slow=4.3,SNR=6.4						

STR ***17*** *19:01:40.7±0.1,4301N×001W,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 19:01:40.2±0.1,4302N×002W,h8km,Ml1.5/3,Error ellipse: s-maj=2.4km s-min=1.3km az=163.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**69**	Pg	Pg	19 01 42.3	+0.1
LABF				Sg	Sg	19 01 43.6	-0.1
LABF	**Labassere**	**0.08**	**69**	Pg	Pg	19 01 42.3	+0.1
LABF				Lg		19 01 43.6	
VIEF	**Viey**	**0.14**	**165**	Pg	Pg	19 01 43.4	+0.2
VIEF				Sg	Sg	19 01 45.3	0.0
VIEF	**Viey**	**0.14**	**165**	Pg	Pg	19 01 43.4	+0.2
VIEF				Lg		19 01 45.2	
EPF	**Esparros**	**0.27**	**87**	*e*Pg	Pg	19 01 45.2	-0.3
EPF				*e*Sg	Sg	19 01 49.2	+0.1
	4.4nm,0.2s						
EPF	**Esparros**	**0.27**	**87**	Pg	Pg	19 01 45.2	-0.3
EPF				Lg		19 01 49.2	
	2.2nm,0.2s						
EBIE	**Bielsa**	**0.35**	**160**	Pg	Pg	19 01 48.9	+1.8
	SNR=7.9						
EBIE				Lg		19 01 51.9	
	2.6nm,0.2s,SNR=13						
ETSF	**Etsaut**	**0.41**	**253**	*e*Pg	Pg	19 01 48.4	+0.2
ETSF				*e*Sg	Sg	19 01 54.0	+0.4
	6.4nm,0.2s						
ETSF	**Etsaut**	**0.41**	**253**	Pg	Pg	19 01 48.4	+0.2
ETSF				Lg		19 01 54.0	
	3.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	19 01 56.7	-0.5
SJPF				*e*Sg	Sg	19 02 07.9	-0.8
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	19 01 56.7	-0.5
SJPF				Lg		19 02 07.9	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 02 08.2	-1.5
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 02 11.5	-0.7
MTLF				*e*Sg	Sg	19 02 32.7	-1.2
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	19 02 08.2	-1.5
MTLF				Pg	Pg	19 02 11.5	-0.7
MTLF				Lg		19 02 32.7	
	0.6nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	*e*Pn	Pn	19 02 18.0	-2.2
CAF	**Calviac**	**2.43**	**38**	*e*Pg	Pg	19 02 25.7	-1.1
CAF				*e*Sg	Sg	19 02 56.7	-1.6
	0.7nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	Pn	Pn	19 02 18.0	-2.2
CAF				Pg	Pg	19 02 25.7	-1.1
CAF				Lg		19 02 56.7	
	0.3nm,0.3s						

ISCJB ***17*** *19:02:23.9±0.5,4308N±003×000W±004,h15km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=110.8*
STR ***17*** *19:02:25.8±0.0,4301N×002W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *19:02:25.5±0.1,4300N×002W,h6km,Ml1.9/6,Error ellipse: s-maj=2.0km s-min=1.3km az=157.0*

ISC 17 19:02:25.0±0.5,4304N±003×000W±003,h13km±5km,n29, σ0°63/36,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**83**	Pg	**Pg**	**19 02 27.5**	**0.0**
LABF				Sg	**Sg**	**19 02 28.8**	**-0.4**
LABF	**Labassere**	**0.06**	**83**	Pg	**Pg**	**19 02 27.6**	**+0.1**
LABF				Lg		19 02 28.8	
VIEF	**Viey**	**0.16**	**173**	Pg	**Pg**	**19 02 28.6**	**-0.1**
VIEF				Sg	**Sg**	**19 02 30.7**	**-0.7**
VIEF	**Viey**	**0.16**	**173**	Pg	**Pg**	**19 02 28.7**	**-0.1**
VIEF				Lg		19 02 30.8	
EPF	**Esparros**	**0.25**	**92**	*e*Pg	**Pg**	**19 02 30.6**	**+0

*NEIC **17** 19:06:18.6±0.4,4700N×15543E,h10km,mb4.7/8,Error ellipse: s-maj=11.3km s-min=7.0km az=131.0*
*ISCJB **17** 19:06:20.5±0.5,4698N±007×15545E±010,h35km, mb4.5/33,Error ellipse: s-maj=11.9km s-min=6.7km az=96.9*
*MOS **17** 19:06:20.6±0.9,4700N×15524E,h34km,mb4.8/6,Error ellipse: s-maj=12.7km s-min=9.4km az=85.8*
ISC 17 19:06:22.5±0.5,4707N±007×15545E±010,h35km,n60, σ1§19/61,mb4.5/32,2C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.64**	**7**	*e*PN	**Pn**	**19 07 16.5**	**+0.2**
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,60nm,0.5s			pmax	pmax		
SKR	comp=Z,80nm,0.5s			pmax	pmax		
KUR	**Kuril'sk**	**5.58**	**254**	⇑*i*PN	**Pn**	**19 07 39.7**	**-3.3**
KUR	comp=Z,230nm,0.8s			pmax	pmax		
PET	**Petropavlovsk**	**6.30**	**18**	*e*PN	**Pn**	**19 07 50.3**	**-2.6**
PET	comp=Z,44nm,0.5s			pmax	pmax		
PET	comp=Z,700nm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**6.30**	**18**	*e*P	**Pn**	**19 07 49.8**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**7.38**	**249**	*e*PN	**Pn**	**19 08 06.0**	**-1.8**
YSS	**Yuzh-Sakhalins**	**8.68**	**274**	*e*PN	**Pn**	**19 08 29.0**	**+3.5**
ASAJ	**Asahikawa**	**9.48**	**257**	Pn	**Pn**	**19 08 37.0**	**+0.5**
ASAJ	comp=Z,1.7nm,0.3s,baz=77,slow=19,SNR=8.4			LR	LR	19 11 45.0	
	comp=Z,800nm,19.1s,baz=178,slow=34						
ASAJ	**Asahikawa**	**9.48**	**257**	PN	**Pn**	**19 08 37.1**	**+0.5**
ASAJ	comp=Z,2.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,800nm,19.1s			MLR	MLR		
MJAR	**Matsushiro Arr**	**16.57**	**237**	Pn	**Pn**	**19 10 09.2**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=30,slow=14,SNR=15						
MAJO	**Matsushiro**	**16.58**	**237**	*e*P	**Pn**	**19 10 08.5**	**-3.6**
MAJO	comp=Z,21nm,1.0s			pmax	pmax		
MAJO	**Matsushiro**	**16.58**	**237**	*e*P	**Pn**	**19 10 08.5**	**-3.6**
	comp=Z,20nm,1.0s						
MAT	**Matsushiro**	**16.58**	**237**	P	**Pn**	**19 10 08.7**	**-3.4**
MAT				*e*S	**S**	**19 13 30.5**	**+4.8**
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**19 11 00.1**	**-2.2**
YAK	comp=Z,20nm,1.4s			pmax	pmax		
YAK	comp=N,7.0nm,1.2s			pmax	pmax		
YAK	comp=E,10.0nm,1.3s			pmax	pmax		
CN2	**Changchun**	**21.24**	**272**	*e*P	**P**	**19 11 03.6**	**-1.8**
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**19 11 11.9**	**+1.1**
BILL	comp=Z,4.0nm,0.6s,mb4.0			pmax	pmax		
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**19 11 11.6**	**+0.8**
	comp=Z,9.2nm,0.6s,mb4.4						
KSRS	**Korea Array**	**22.43**	**255**	P	**P**	**19 11 19.5**	**+1.4**
	comp=Z,4.2nm,0.8s,mb3.9,baz=60,slow=10,SNR=14						
KDAK	**Kodiak Island**	**32.65**	**51**	P	**P**	**19 12 49.5**	**-1.5**
	comp=Z,13nm,0.9s,mb4.9,baz=260,slow=8.5,SNR=15						
SONM	**Songino Array**	**32.74**	**290**	P	**P**	**19 12 51.2**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=61,slow=8.6,SNR=11						
SONM				PcP	PcP	19 15 36.9	+0.1
	comp=Z,0.6nm,0.9s,baz=68,slow=0.8,SNR=4.0						
COLA	**College**	**34.89**	**39**	*e*P	**P**	**19 13 10.8**	**+0.3**
COLA	comp=Z,8.0nm,0.8s,mb4.7			pmax	pmax		
COLA	**College**	**34.89**	**39**	*e*P	**P**	**19 13 10.8**	**+0.3**
	comp=Z,7.8nm,0.8s,mb4.7						
EGAK	**Eagle**	**37.75**	**39**	*e*P	**P**	**19 13 34.5**	**-0.5**
	comp=Z,10nm,0.7s,mb4.7						
INK	**Inuvik**	**40.52**	**33**	P	**P**	**19 13 58.5**	**+0.4**
	comp=Z,7.1nm,0.7s,mb4.4,baz=295,slow=6.6,SNR=16						
INK	**Inuvik**	**40.52**	**33**	P	**P**	**19 13 58.5**	**+0.4**
CD2	**Chengdu**	**42.50**	**267**	⇑*i*P	**P**	**19 14 15.8**	**+1.5**
CD2	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB		
GYA	**Guiyang**	**43.35**	**259**	⇓*i*P	**P**	**19 14 22.5**	**+1.3**
GYA	comp=Z,10.0nm,1.0s,mb4.5			AMB	AMB		
ZAL	**Zalesovo**	**43.74**	**306**	P	**P**	**19 14 24.1**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.1,baz=53,slow=6.4,SNR=8.3						
ZAL				PcP	PcP	19 16 10.6	-0.2
	comp=Z,1.3nm,0.6s,baz=11,slow=4.1,SNR=6.4						
ZAL	**Zalesovo**	**43.74**	**306**	P	**P**	**19 14 24.1**	**-0.3**
ZAL				PcP	PcP	19 16 10.6	-0.2
NVS	**Novosibirsk**	**44.26**	**308**	*e*P	**P**	**19 14 27.7**	**-0.8**
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**19 14 59.8**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=69,slow=7.0,SNR=16						
MKAR				PcP	PcP	19 16 26.2	-0.2
	comp=Z,1.6nm,0.8s,baz=46,slow=3.5,SNR=6.1						
CHKZ	**Chkalovo**	**51.45**	**311**	*e*P	**P**	**19 15 23.4**	**-0.8**
CHKZ	comp=Z,11nm,0.5s,mb5.0			pmax	pmax		
CHKZ	**Chkalovo**	**51.45**	**311**	*e*P	**P**	**19 15 23.4**	**-0.7**
	comp=Z,11nm,0.5s,mb5.0						
BVAR	**Borovoye Array**	**51.89**	**310**	P	**P**	**19 15 27.4**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.8,baz=57,slow=6.8,SNR=66						
BVAR				PcP	PcP	19 16 39.3	-0.6
	comp=Z,2.1nm,0.6s,baz=64,slow=4.0,SNR=6.1						
BRVK	**Borovoye**	**51.92**	**310**	*e*P	**P**	**19 15 28.1**	**+0.4**
ZRNK	**Zerenda**	**52.65**	**311**	*e*P	**P**	**19 15 33.3**	**+0.2**
ZRNK	comp=Z,5.0nm,0.5s,mb4.7			pmax	pmax		
ZRNK	**Zerenda**	**52.65**	**311**	*e*P	**P**	**19 15 33.3**	**+0.2**
	comp=Z,5.4nm,0.5s,mb4.7						
ARU	**Arti**	**55.85**	**318**	*e*P	**P**	**19 15 56.6**	**+0.2**
ARU	**Arti**	**55.85**	**318**	*e*P	**P**	**19 15 55.9**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0						
JIRN	**Jiri**	**56.51**	**276**	*e*P	**P**	**19 16 05.2**	**+4.0**
	comp=Z,6.3nm,0.5s,mb4.7						
KKN	**Kakani**	**57.05**	**277**	*e*P	**P**	**19 16 08.1**	**+3.2**
	comp=Z,16nm,1.0s,mb5.0						
DMN	**Daman**	**57.28**	**277**	*e*P	**P**	**19 16 10.3**	**+3.7**
	comp=Z,37nm,1.2s,mb5.3						
GKN	**Gorkha**	**57.35**	**277**	*e*P	**P**	**19 16 09.9**	**+2.8**
	comp=Z,9.4nm,0.5s,mb5.0						
KEV	**Kevo**	**57.57**	**341**	*e*p	**P**	**19 16 08.2**	**-0.4**
ARCES	**ARCESS Array B**	**58.07**	**341**	P	**P**	**19 16 11.7**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.5,baz=27,slow=7.4,SNR=7.8						
KOLN	**Koldanda**	**58.20**	**278**	*e*P	**P**	**19 16 14.5**	**+1.5**
	comp=Z,8.7nm,0.8s,mb4.8						
AKTK	**Aktyubinsk**	**59.70**	**313**	P	**P**	**19 16 24.2**	**+0.7**
AKTK				PcP	PcP	19 17 10.6	+0.5
AKTO	**Aktyubinsk**	**59.70**	**313**	P	**P**	**19 16 24.2**	**+0.7**
	comp=Z,1.8nm,0.5s,mb4.3,baz=53,slow=7.9,SNR=11						
AKTO				PcP	PcP	19 17 10.6	+0.5
	comp=Z,2.7nm,0.7s,baz=73,slow=4.8,SNR=6.0						
AKTO	**Aktyubinsk**	**59.70**	**313**	P	**P**	**19 16 24.2**	**+0.8**
AKTO						19 17 10.6	
AKTO	comp=Z,2.0nm,0.5s,mb4.4			pmax	pmax		
AKTO	comp=Z,3.0nm,0.7s,mb4.4			pmax	pmax		
KAKA	**Kakadu**	**62.98**	**205**	*e*P	**P**	**19 16 45.6**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**63.26**	**55**	P	**P**	**19 16 48.0**	**+0.5**
	comp=Z,0.9nm,0.8s,mb4.0,baz=298,slow=3.2,SNR=4.2						
FINES	**FINESS Array B**	**64.42**	**336**	P	**P**	**19 16 55.3**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=24,slow=7.7,SNR=15						
NB2	**NORSAR Subarra**	**68.43**	**342**	P	**P**	**19 17 18.9**	**-1.9**
	comp=Z,15nm,1.2s,mb4.9,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.43**	**342**	P	**P**	**19 17 20.8**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=27,slow=6.4,SNR=4.5						
WB2	**Warramunga Arr**	**69.36**	**201**	*e*P	**P**	**19 17 25.9**	**-0.7**
WRA	**Warramunga Arr**	**69.36**	**201**	P	**P**	**19 17 25.9**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=21,slow=7.0,SNR=12						
KIV	**Kislovodsk**	**71.71**	**315**	*e*P	**P**	**19 17 33.0**	**-7.9**
KIV	comp=Z,10.0nm,1.0s,mb4.7			pmax	pmax		
ASAR	**Alice Springs**	**73.05**	**201**	P	**P**	**19 17 49.4**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=16,slow=5.7,SNR=15						
TXAR	**Lajitas Array**	**75.93**	**62**	P	**P**	**19 18 06.2**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=302,slow=3.9,SNR=20						
GERES	**GERESS Array B**	**78.85**	**335**	P	**P**	**19 18 22.5**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=46,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**79.24**	**318**	P	**P**	**19 18 25.2**	**+1.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=90,slow=3.7,SNR=5.1						

*STR **17** 19:07:17.2±0.1,4301N×002W,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 19:07:16.7±0.1,4302N×002W,h7km,Ml1.4/4,Error ellipse: s-maj=2.2km s-min=1.2km az=164.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**68**	Pg	Pg	19 07 19.0	+0.4
LABF				Sg	Sg	19 07 20.2	+0.3
VIEF	**Viey**	**0.14**	**166**	Pg	Pg	19 07 20.0	+0.4
VIEF				Sg	Sg	19 07 22.0	+0.4
EPF	**Esparros**	**0.27**	**87**	*e*Pg	Pg	19 07 22.1	+0.1
EPF				*e*Sg	Sg	19 07 25.9	+0.4
	3.3nm,0.2s						
ETSF	**Etsaut**	**0.41**	**253**	*e*Pg	Pg	19 07 25.1	+0.4
ETSF				*e*Sg	Sg	19 07 31.0	+0.9
	2.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	19 07 33.1	-0.6
SJPF				*e*Sg	Sg	19 07 44.3	-0.9
	0.6nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 07 44.7	-1.7
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 07 47.9	-0.8
MTLF				*e*Sg	Sg	19 08 09.3	-1.1
	0.3nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	*e*Pg	Pg	19 08 02.3	-1.0
CAF				*e*Sg	Sg	19 08 33.0	-1.8
	0.5nm,0.3s						
LASF	**Ste Croix**	**3.01**	**68**	*e*Pn	Pn	19 08 02.2	-2.6
LASF	**Ste Croix**	**3.01**	**68**	*e*Pg	Pg	19 08 13.6	-0.8
LASF				*e*Sg	Sg	19 08 51.1	-2.4
	0.5nm,0.3s						

CASC 17 19:07:45.0±2.5,1391N×9134W,h78km±46km,MD3.7,1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.49**	**324**	⇑*e*P	Pn	19 07 58.5	+0.1
FUG	**Fuego 3**	**0.72**	**42**	*e*P	Pn	19 07 59.9	-0.8
TER	**Terranova**	**0.74**	**59**	*e*P	Pn	19 08 02.1	+1.1
TER				*e*S	Sn	19 08 14.1	+1.3
RBDL	**Robledal**	**1.62**	**83**	*e*P	x	19 09 16.5	
RBDL				*e*S	x	19 09 37.9	
RTR	**El Retiro**	**1.64**	**90**	*e*P	x	19 09 16.8	
RTR				*e*S	x	19 09 38.9	
SBLS	**San Blas**	**1.67**	**92**	*e*P	x	19 09 17.1	
SBLS				*e*S	x	19 09 38.4	
SNJE	**San Jose**	**1.68**	**91**	*e*P	x	19 09 17.4	
SNJE				*e*S	x	19 09 39.9	
LFRS	**El Faro**	**2.23**	**97**	*e*P	x	19 09 25.2	
LFRS				*e*S	x	19 09 51.3	

LDG 17 19:09:26.4±0.1,4308N×001W,h10km,Ml1.5/2,Error ellipse: s-maj=6.7km s-min=1.4km az=177.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**117**	Pg	Pg	19 09 28.9	+0.2
LABF				Lg		19 09 30.0	
VIEF	**Viey**	**0.20**	**172**	Pg	Pg	19 09 30.2	-0.4
VIEF				Lg		19 09 32.4	
EPF	**Esparros**	**0.26**	**101**	*e*Pg	Pg	19 09 31.7	0.0
EPF				*e*Sg	Sg	19 09 35.5	+0.2
	4.8nm,0.2s						
EPF	**Esparros**	**0.26**	**101**	Pg	Pg	19 09 31.7	0.0
EPF				Lg		19 09 35.5	
	2.4nm,0.2s						
ETSF	**Etsaut**	**0.44**	**246**	*e*Pg	Pg	19 09 35.1	+0.1
ETSF				*e*Sg	Sg	19 09 41.1	+0.3
	2.5nm,0.2s						
ETSF	**Etsaut**	**0.44**	**246**	Pg	Pg	19 09 35.1	+0.1
ETSF				Lg		19 09 41.1	
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**273**	*e*Pg	Pg	19 09 43.2	-0.3
SJPF				*e*Sg	Sg	19 09 54.3	-0.8
	0.9nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**273**	Pg	Pg	19 09 43.2	-0.3
SJPF				Lg		19 09 54.3	
	0.4nm,0.3s						
MTLF	**Montolieu**	**1.65**	**80**	*e*Sg	Sg	19 10 18.9	-0.6
	0.8nm,0.2s						

*ISCJB **17** 19:09:38.1±0.3,4310N±002×005E±002,h12km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=133.8*
*STR **17** 19:09:39.4±0.2,4301N×001E,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 19:09:39.3±0.1,4301N×001W,h9km,Ml2.3/9,Error ellipse: s-maj=1.3km s-min=1.0km az=163.0*
ISC 17 19:09:39.0±0.3,4307N±002×003E±002,h12km±3km,n43, σ0§85/52,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**122**	Pg	**Pg**	**19 09 41.3**	**+0.1**
LABF				Sg	**Sg**	**19 09 42.6**	**-0.2**
LABF	**Labassere**	**0.04**	**122**	Pg	**Pg**	**19 09 41.3**	**+0.1**
LABF				Lg		19 09 42.6	
VIEF	**Viey**	**0.18**	**182**	Pg	**Pg**	**19 09 42.5**	**-0.6**
VIEF				Sg	**Sg**	**19 09 44.7**	**-1.2**
VIEF	**Viey**	**0.18**	**182**	Pg	**Pg**	**19 09 42.6**	**-0.5**
VIEF				Lg		19 09 44.7	
EPF	**Esparros**	**0.23**	**99**	*e*Pg	**Pg**	**19 09 44.4**	**+0.5**
EPF				*e*Sg	**Sg**	**19 09 48.3**	**+1.2**
	33nm,0.2s						
EPF	**Esparros**	**0.23**	**99**	Pg	**Pg**	**19 09 44.4**	**+0.5**
EPF				Lg		19 09 48.3	
	16nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**271**	Pg	**Pg**	**19 09 45.0**	**-0.3**
REYF				Sg	**Sg**	**19 09 49.3**	**-0.3**
REYF	**Montagne du Re**	**0.31**	**271**	Pg	**Pg**	**19 09 45.0**	**-0.3**
REYF				Lg		19 09 49.3	
RESF	**Ens**	**0.34**	**139**	Pg	**Pg**	**19 09 45.9**	**0.0**
RESF				Sg	**Sg**	**19 09 50.4**	**-0.1**
RESF	**Ens**	**0.34**	**139**	Pg	**Pg**	**19 09 45.8**	**-0.1**
RESF				Lg		19 09 50.6	
EBIE	**Bielsa**	**0.39**	**168**	Lg		19 09 37.0	
	SNR=7.9						
EBIE	**Bielsa**	**0.39**	**168**	Pg	**Pg**	**19 09 46.2**	**-0.5**
	18nm,0.3s,SNR=15						
EBIE				Lg		19 09 51.2	
	18nm,0.3s,SNR=41						
ETSF	**Etsaut**	**0.47**	**249**	*e*Pg	**Pg**	**19 09 47.6**	**-0.6**
ETSF				*e*Sg	**Sg**	**19 09 53.4**	**-1.0**
	34nm,0.3s						
ETSF	**Etsaut**	**0.47**	**249**	Pg	**Pg**	**19 09 47.6**	**-0.6**
ETSF				Lg		19 09 53.4	
	17nm,0.3s						
ATE	**Arette**	**0.54**	**272**	Pg	**Pg**	**19 09 50.8**	**+1.3**
ATE				Sg	**Sg**	**19 09 57.0**	**+0.4**
ATE	**Arette**	**0.54**	**272**	Lg		19 09 56.7	
MELF	**Melles**	**0.57**	**110**	Pg	**Pg**	**19 09 50.6**	**+0.5**
MELF	**Melles**	**0.57**	**110**	Pg	**Pg**	**19 09 49.9**	**-0.2**
MELF				Lg		19 09 58.5	
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**19 09 58.4**	**+1.9**
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**19 09 56.9**	**+0.4**
SALF				Lg		19 10 08.5	
SJPF	**Ste Jean**	**0.92**	**273**	*e*Pg	**Pg**	**19 09 55.8**	**-1.0**
SJPF				*e*Sg	**Sg**	**19 10 07.6**	**-1.3**
	3.6nm,0.2s						
IPRE	**Itoiz**	**1.05**	**256**	Pg	**Pg**	**19 10 02.6**	**+3.3**
	0.3nm,0.4s,SNR=7.9						
IPRE				Lg		19 10 13.8	
	0.8nm,1.3s,SNR=7.9						
ELIZ	**Elizondo**	**1.15**	**275**	Pg	**Pg**	**19 10 02.4**	**+1.3**
	0.5nm,0.2s,SNR=4.0						
ELIZ				Lg		19 10 20.1	
	0.8nm,1.2s,SNR=7.9						
IUSE	**Utxeti**	**1.17**	**265**	Pg	**Pg**	**19 10 03.9**	**+2.4**
	2.1nm,0.5s,SNR=7.9						
IUSE				Lg		19 10 20.8	
	7.9nm,1.0s,SNR=7.9						
ESAC	**San Caprasio**	**1.39**	**196**	Pg	**Pg**	**19 10 05.9**	**+0.1**
	14nm,0.3s,SNR=9.3						
ESAC				Lg		19 10 24.8	
	27nm,0.3s,SNR=13						
ESAC	**San Caprasio**	**1.39**	**196**	Lg		19 11 07.6	
	SNR=7.9						
EMIR	**Miracle**	**1.59**	**136**	Pg	**Pg**	**19 10 10.1**	**+0.5**
	5.7nm,0.4s,SNR=6.2						
EMIR				Lg		19 10 30.9	
	9.7nm,0.8s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTLF	**Montolieu**	**1.62**	**80**	*e*Pn	**Pn**	**19 10 07.3**	**-0.1**
MTLF	**Montolieu**	**1.62**	**80**	*e*Pg	**Pg**	**19 10 10.5**	**+0.4**
MTLF				*e*Sg	**Sg**	**19 10 31.3**	**+0.1**
	3.6nm,0.2s						
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**19 10 14.1**	**-1.0**
	31nm,1.1s,SNR=7.9						
EPOB				Lg		19 10 37.9	
	2.5nm,1.0s,SNR=7.9						
EPOB	**Poblet**	**1.88**	**155**	Lg		19 11 22.1	
	SNR=7.9						
LFF	**La Frestale**	**1.94**	**15**	*e*Pn	**Pn**	**19 10 11.8**	**0.0**
LFF	**La Frestale**	**1.94**	**15**	*e*Pg	**Pg**	**19 10 16.8**	**+0.6**
LFF				*e*Sg	**Sg**	**19 10 42.5**	**+1.1**
	3.6nm,0.2s						
ERTA	**Horta de San J**	**2.12**	**174**	Lg		19 10 45.7	
	18nm,0.8s,SNR=7.9						
ERTA	**Horta de San J**	**2.12**	**174**	Lg		19 11 29.1	
	SNR=7.9						
CAF	**Calviac**	**2.37**	**38**	*e*Pn	**Pn**	**19 10 17.0**	**-0.6**
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**19 10 24.5**	**+0.1**
CAF				*e*Sg	**Sg**	**19 10 55.8**	**+0.7**
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pn	**Pn**	**19 10 18.9**	**-0.3**
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pg	**Pg**	**19 10 26.7**	**+0.2**
	1.0nm,0.2s						
RJF				*e*Sn	**Sn**	**19 10 48.1**	**-1.3**
RJF				*e*Sg	**Sg**	**19 10 58.6**	**-0.1**
	120nm,1.8s						
ETOR	**Torete**	**2.73**	**215**	Sn	**Sn**	**19 10 57.6**	**+2.0**
	4.8nm,0.8s,SNR=7.9						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pn	**Pn**	**19 10 25.0**	**-0.8**
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**19 10 35.1**	**-0.6**
LASF				*e*Sg	**Sg**	**19 11 13.6**	**-0.4**
	1.7nm,0.3s						
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg	**Pg**	**19 10 55.0**	**-1.1**
BGF				*e*Sg	**Sg**	**19 11 47.6**	**-0.6**
	4.9nm,0.4s						

IDC 17 19:10:20.3±0.8,4681N×15501E,h0km,mb3.9/7, mb1 4.2/7,mb1mx3.8/22,mbtmp3.9/7,Error ellipse: s-maj=25.9km s-min=24.3km az=122.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.13**	**257**	Pn	Pn	19 12 38.0	+4.7
	0.8nm,0.3s,baz=224,slow=25,SNR=3.0						
KSRS	**Korea Array**	**22.07**	**255**	P	P	19 15 20.2	+3.5
	0.6nm,0.6s,baz=57,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**48.07**	**298**	P	P	19 19 00.7	-0.9
	0.8nm,0.7s,baz=70,slow=7.2,SNR=5.8						
BVAR	**Borovoye Array**	**51.83**	**310**	P	P	19 19 29.8	-0.3
	1.1nm,0.4s,baz=51,slow=8.1,SNR=12						
PDAR	**Pinedale Array**	**63.65**	**55**	P	P	19 20 52.5	-0.8
	0.5nm,0.9s,baz=338,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**64.54**	**336**	P	P	19 20 58.9	-0.2
	2.8nm,0.7s,baz=42,slow=5.8,SNR=10						
WRA	**Warramunga Arr**	**69.01**	**201**	P	P	19 21 26.7	-0.9
	0.5nm,0.8s,baz=17,slow=6.7,SNR=4.7						
ASAR	**Alice Springs**	**72.69**	**200**	P	P	19 21 50.5	+0.5
	1.0nm,0.8s,baz=16,slow=5.9,SNR=12						
TXAR	**Lajitas Array**	**76.32**	**62**	P	P	19 22 11.9	+0.8
	2.0nm,0.6s,baz=304,slow=4.7,SNR=24						

LDG 17 19:10:22.6±0.1,4301N×003W,h10km,Ml1.8/9,Error ellipse: s-maj=2.7km s-min=1.4km az=164.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.27**	**85**	*e*Pg	Pg	19 10 27.5	-0.5
EPF				*e*Sg	Sg	19 10 31.6	-0.1
	17nm,0.3s						
EPF	**Esparros**	**0.27**	**85**	Pg	Pg	19 10 27.5	-0.5
EPF				Lg		19 10 31.6	
	8.6nm,0.3s						
EBIE	**Bielsa**	**0.34**	**159**	Pg	Pg	19 10 31.0	+1.6
	SNR=7.9						
EBIE				Lg		19 10 34.5	
	SNR=7.9						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	19 10 31.0	+0.4
ETSF				*e*Sg	Sg	19 10 36.5	+0.5
	19nm,0.3s						
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	19 10 31.0	+0.4
ETSF				Lg		19 10 36.5	
	9.5nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	19 10 39.1	-0.6
SJPF				*e*Sg	Sg	19 10 50.1	-1.1
	1.7nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	19 10 39.1	-0.6
SJPF				Lg		19 10 50.1	
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 10 50.6	-1.3
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 10 53.7	-1.0
MTLF				*e*Sg	Sg	19 11 14.9	-1.5
	1.1nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	19 10 50.6	-1.3
MTLF				Pg	Pg	19 10 53.7	-1.0
MTLF				Lg		19 11 14.9	
	0.6nm,0.2s						
LFF	**La Frestale**	**2.01**	**16**	*e*Sg	Sg	19 11 26.0	-1.2
	2.8nm,0.3s						
CAF	**Calviac**	**2.44**	**37**	*e*Sg	Sg	19 11 39.4	-1.6
	0.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Sg	Sg	19 11 43.6	-1.0

	comp=Z,14nm,1.0s,mb4.3									
BILL	**Bilibino**	**21.98**	**11**	*e*P		**P**		**19 16 02.1**	**+1.0**	
	comp=Z,14nm,1.0s,mb4.4									
KSRS	**Korea Array**	**22.06**	**254**	P		**P**		**19 16 02.9**	**+1.0**	
	comp=Z,1.5nm,0.8s,mb3.5,baz=55,slow=10,SNR=4.2									
ZAL	**Zalesovo**	**43.57**	**306**	P		**P**		**19 19 09.8**	**-1.0**	
	comp=Z,1.1nm,0.6s,mb3.8,baz=29,slow=7.1,SNR=4.0									
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**19 19 45.0**	**-0.7**	
	comp=Z,1.3nm,0.7s,mb4.0,baz=64,slow=6.5,SNR=6.5									
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P		**P**		**19 20 10.1**	**-0.8**	
BVAR	**Borovoye Array**	**51.74**	**310**	P		**P**		**19 20 14.1**	**-0.1**	
	comp=Z,2.1nm,0.6s,mb4.2,baz=51,slow=7.7,SNR=8.4									
AAK	**Ala-Archa**	**54.91**	**297**	*e*P		**P**		**19 20 35.8**	**-1.6**	
AAK				pmax	pmax					
	comp=Z,2.0nm,0.8s,mb4.2									
AAK	**Ala-Archa**	**54.91**	**297**	*e*P		**P**		**19 20 35.8**	**-1.7**	
	comp=Z,2.3nm,0.8s,mb4.3									
ARCES	**ARCESS Array B**	**58.12**	**341**	P		**P**		**19 21 00.9**	**+0.5**	
	comp=Z,11nm,1.1s,mb4.8,baz=28,slow=8.2,SNR=3.6									
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**		**19 21 38.0**	**+0.2**	
	comp=Z,0.8nm,0.8s,mb3.8,baz=298,slow=3.2,SNR=5.7									
FINES	**FINESS Array B**	**64.44**	**336**	P		**P**		**19 21 42.7**	**-0.4**	
	comp=Z,2.4nm,0.6s,mb4.4,baz=34,slow=7.2,SNR=9.2									
FINES	**FINESS Array B**	**64.44**	**336**	P		**P**		**19 21 42.7**	**-0.4**	
NB2	**NORSAR Subarra**	**68.49**	**342**	P		**P**		**19 22 11.4**	**+2.4**	
	comp=Z,7.7nm,1.1s,mb4.7,baz=29,slow=6.5									
WRA	**Warramunga Arr**	**69.08**	**201**	P		**P**		**19 22 10.9**	**-1.7**	
	comp=Z,1.1nm,0.9s,mb3.8,baz=17,slow=6.8,SNR=6.5									
AKASG	**Malin Array Be**	**72.12**	**327**	P		**P**		**19 22 31.4**	**+0.2**	
	comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=6.3,SNR=4.0									
ASAR	**Alice Springs**	**72.77**	**200**	P		**P**		**19 22 34.6**	**-0.4**	
	comp=Z,1.8nm,0.8s,mb4.1,baz=16,slow=5.1,SNR=11									
TXAR	**Lajitas Array**	**76.31**	**62**	P		**P**		**19 22 56.2**	**+0.6**	
	comp=Z,4.2nm,0.8s,mb4.4,baz=301,slow=4.4,SNR=18									
GERES	**GERESS Array B**	**78.87**	**335**	P		**P**		**19 23 11.6**	**+1.7**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=41,slow=7.8,SNR=4.1									

ISCJB ***17*** *19:12:42.5±0.4, 43.10N±003×000W±003, h8km, Error ellipse: s-maj=4.0km s-min=3.1km az=97.1*
STR ***17*** *19:12:44.6±0.0, 43.01N×000E, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *19:12:44.0±0.1, 43.01N×002W, h8km, Ml1.9/6, Error ellipse: s-maj=1.7km s-min=1.1km az=156.0*
MDD ***17*** *19:12:44.2±0.4, 43.01N×001W, h9km±4km, mbLg1.0/7, Error ellipse: s-maj=2.7km s-min=2.3km az=140.0, PRXIMO*
ISC 17 19:12:43.2±0.5, 4303N±003×000W±004, h15km±5km, n24, σ0§44/36, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**75**	Pg		**Pg**	**19 12 46.2**	**+0.1**
LABF				Sg		**Sg**	**19 12 47.3**	**-0.6**
LABF	**Labassere**	**0.06**	**75**	Pg		**Pg**	**19 12 46.2**	**+0.1**
LABF				Lg			19 12 47.4	
VIEF	**Viey**	**0.15**	**172**	Pg		**Pg**	**19 12 47.3**	**+0.2**
VIEF				Sg		**Sg**	**19 12 49.4**	**-0.3**
VIEF	**Viey**	**0.15**	**172**	Pg		**Pg**	**19 12 47.4**	**+0.3**
VIEF				Lg			19 12 49.4	
EPF	**Esparros**	**0.25**	**90**	*e*Pg		**Pg**	**19 12 49.2**	**+0.5**
EPF				*e*Sg		**Sg**	**19 12 53.1**	**+0.7**
	8.3nm,0.2s							
EPF	**Esparros**	**0.25**	**90**	Pg		**Pg**	**19 12 49.2**	**+0.5**
EPF				Lg			19 12 53.1	
	4.2nm,0.2s							
EBIE	**Bielsa**	**0.36**	**163**	Pg		**Pg**	**19 12 50.7**	**+0.1**
	6.5nm,0.3s,SNR=22							
EBIE				Lg			19 12 55.4	
	SNR=7.9							
ETSF	**Etsaut**	**0.43**	**252**	*e*Pg		**Pg**	**19 12 52.4**	**+0.6**
ETSF				*e*Sg		**Sg**	**19 12 57.8**	**+0.2**
	6.1nm,0.3s							
ETSF	**Etsaut**	**0.43**	**252**	Pg		**Pg**	**19 12 52.4**	**+0.6**
ETSF				Lg			19 12 57.8	
	3.0nm,0.3s							
SJPF	**Ste Jean**	**0.90**	**276**	*e*Pg		**Pg**	**19 13 00.5**	**-0.1**
SJPF				*e*Sg		**Sg**	**19 13 11.8**	**-0.6**
	1.1nm,0.2s							
SJPF	**Ste Jean**	**0.90**	**276**	Pg		**Pg**	**19 13 00.5**	**-0.1**
SJPF				Lg			19 13 11.8	
	0.6nm,0.2s							
MTLF	**Montolieu**	**1.65**	**78**	*e*Pn		**Pn**	**19 13 11.9**	**+0.3**
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg		**Pg**	**19 13 15.4**	**+0.4**
MTLF				*e*Sg		**Sg**	**19 13 36.7**	**+0.3**
	2.5nm,0.3s							
MTLF	**Montolieu**	**1.65**	**78**	Pn		**Pn**	**19 13 11.9**	**+0.3**
MTLF				Pg		**Pg**	**19 13 15.4**	**+0.4**
MTLF				Lg			19 13 36.7	
	1.2nm,0.3s							
EPOB	**Poblet**	**1.86**	**154**	Pg		**Pg**	**19 13 18.6**	**-0.3**
	SNR=7.9							
EPOB				Lg			19 13 45.9	
	SNR=7.9							
LFF	**La Frestale**	**1.98**	**15**	*e*Pg		**Pg**	**19 13 21.5**	**+0.3**
LFF				*e*Sg		**Sg**	**19 13 47.5**	**+0.6**
	4.4nm,0.5s							
LFF	**La Frestale**	**1.98**	**15**	Pg		**Pg**	**19 13 21.5**	**+0.3**
LFF				Lg			19 13 47.5	
	2.2nm,0.5s							
CAF	**Calviac**	**2.41**	**38**	*e*Pg		**Pg**	**19 13 29.2**	**-0.2**
CAF				*e*Sg		**Sg**	**19 14 00.6**	**-0.1**
	1.5nm,0.3s							
CAF	**Calviac**	**2.41**	**38**	Pg		**Pg**	**19 13 29.2**	**-0.2**
CAF				Lg			19 14 00.6	
	0.8nm,0.3s							
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Pg		**Pg**	**19 13 31.3**	**-0.2**
RJF				*e*Sg		**Sg**	**19 14 04.2**	**0.0**
	1.9nm,0.3s							
RJF	**Les Rejaudoux**	**2.52**	**25**	Pg		**Pg**	**19 13 31.3**	**-0.2**
RJF				Lg			19 14 04.2	
	0.9nm,0.3s							
LASF	**Ste Croix**	**2.99**	**68**	*e*Pn		**Pn**	**19 13 29.8**	**-0.3**
LASF	**Ste Croix**	**2.99**	**68**	*e*Pg		**Pg**	**19 13 40.0**	**-0.6**
LASF				*e*Sg		**Sg**	**19 14 18.3**	**-1.1**
	1.0nm,0.3s							
LASF	**Ste Croix**	**2.99**	**68**	Pn		**Pn**	**19 13 29.8**	**-0.3**
LASF				Pg		**Pg**	**19 13 40.0**	**-0.6**
LASF				Lg			19 14 18.3	
	0.0nm,0.3s							

IDC ***17*** *19:15:17.6±0.5, 47.11N×155.33E, h0km, mb4.5/20, mb1 4.7/22, mb1mx4.6/27, mbtmp4.5/22, ML4.1/2, Error ellipse: s-maj=16.8km s-min=13.0km az=139.0*
ISCJB ***17*** *19:15:17.4±0.3, 47.08N±005×155.32E±006, h10km, mb4.8/80, MS4.2/1, Error ellipse: s-maj=7.3km s-min=4.7km az=119.6*
SKHL ***17*** *19:15:18.1±1.4, 47.07N×155.35E, h47km±16km, Ms4.5/1*
NEIC ***17*** *19:15:18.9±0.4, 47.02N×155.40E, h10km, mb4.9/38, Error ellipse: s-maj=10.8km s-min=6.9km az=134.0*
BJI ***17*** *19:15:20.5, 47.41N×154.77E, h10km, mB5.2, mb4.8, Ms4.6, Ms2.4.7*
MOS ***17*** *19:15:22.2±1.9, 47.13N×155.02E, h33km, mb5.0/29, Error ellipse: s-maj=8.2km s-min=5.7km az=113.6*
SZGRF ***17*** *19:15:35.6, 48.21N×153.75E, h33km, mb5.0, Kuril Islands, Russia*
ISC 17 19:15:19.1±0.3, 4711N±005×15539E±006, h10km, (h22km±5.4km: pP-P), n199, σ1§39/205, mb4.8/80, MS4.2/1, 12C-14D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.60**	**7**	*e*P		**Pn**	**19 16 13.0**	**-2.0**
SKR				AMB	AMB		19 16 18.0	
	80nm,0.5s							
SKR				AMB	AMB		19 16 18.0	
	90nm,0.5s							
SKR				*e*S		**Sn**	**19 16 53.0**	**-4.6**
SKR				A			19 16 57.0	
	480nm,0.5s							
SKR				A			19 16 57.0	
	460nm,0.5s							
SKR				A			19 16 57.0	
	170nm,0.5s							
SKR				AMS	AMS		19 18 22.0	
	3μm,10.0s							
SKR				AMS	AMS		19 18 22.0	
	5μm,10.0s							
KUR	**Kuril'sk**	**5.55**	**253**	*i* P		**Pn**	**19 16 38.8**	**-3.0**
KUR				AMB	AMB		19 16 39.2	
	170nm,0.5s							
KUR				*i* S		**Sn**	**19 17 39.5**	**-6.2**
KUR				A			19 17 43.8	
	510nm,0.6s							
KUR				A			19 17 43.8	
	490nm,0.6s							
PET	**Petropavlovsk**	**6.28**	**18**	*e*PN		**Pn**	**19 16 49.5**	**-2.2**
PET				pmax	pmax			
	comp=Z,29nm,0.5s							
PET				MLR	MLR			
	comp=Z,2μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**7.36**	**249**	*e*P		**Pn**	**19 17 05.0**	**-1.6**
YUK				AMB	AMB		19 17 15.1	
	comp=Z,200nm,0.5s							
YUK				*i* S		**Sn**	**19 18 26.1**	**-4.1**
YUK				A			19 18 26.5	
	comp=Z,190nm,0.5s							
YUK				A			19 18 26.5	
	comp=Z,380nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**7.36**	**249**	*e*PN		**Pn**	**19 17 05.0**	**-1.6**
YUK				pmax	pmax			
	comp=Z,200nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.64**	**274**	⇑*i*P		**Pn**	**19 17 27.0**	**+2.9**
YSS				AMB	AMB		19 17 29.0	
	comp=Z,60nm,1.0s							
YSS				*e*S		**Sn**	**19 19 01.5**	**0.0**
YSS				A			19 19 09.0	
	comp=Z,60nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.64**	**274**	⇑*i*PN		**Pn**	**19 17 27.0**	**+2.9**
YSS				S		**Sn**	**19 19 01.5**	**0.0**
YSS				pmax	pmax			
	comp=Z,60nm,1.0s							
YSS				smax				
	comp=E,60nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.64**	**274**	*e*P		**Pn**	**19 17 25.8**	**+1.7**
	comp=E,29nm,0.6s							
ASAJ	**Asahikawa**	**9.46**	**256**	Pn		**Pn**	**19 17 36.0**	**+0.7**
	comp=E,2.3nm,0.3s,baz=84,slow=15,SNR=12							
ASAJ	**Asahikawa**	**9.46**	**256**	PN		**Pn**	**19 17 36.0**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ERM	**Erimo**	**10.11**	**244**	*i* PN		**Pn**	**19 17 43.1**	**-1.1**
ERM	**Erimo**	**10.11**	**244**	*e*P		**Pn**	**19 17 41.9**	**-2.3**
	comp=Z,54nm,0.9s							
HABR	**Khabarovsk**	**13.74**	**283**	⇓*i*P		**Pn**	**19 18 34.7**	**+0.7**
HABR				*e*S		**Sn**	**19 21 08.8**	**+2.2**
HABR				pmax	pmax			
	comp=E,31nm,1.2s							
KLR	**Kul'dur**	**15.90**	**286**	*e*P		**Pn**	**19 19 02.2**	**-0.7**
MJAR	**Matsushiro Arr**	**16.56**	**237**	Pn		**Pn**	**19 19 08.4**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=30,slow=14,SNR=13							
MAJO	**Matsushiro**	**16.57**	**237**	*e*P		**Pn**	**19 19 07.8**	**-3.6**
MAJO				pmax	pmax			
	comp=Z,54nm,0.9s							
MAJO	**Matsushiro**	**16.57**	**237**	*e*P		**Pn**	**19 19 07.8**	**-3.6**
	comp=Z,54nm,0.9s							
MAT	**Matsushiro**	**16.57**	**237**	P		**Pn**	**19 19 07.7**	**-3.7**
MAT				*e*S		**Sn**	**19 22 29.3**	**+14**
YAK	**Yakutsk**	**20.89**	**325**	*e*P		**P**	**19 19 59.6**	**-1.8**
YAK				*e*			19 20 17.3	
YAK				*e*S		**S**	**19 23 49.1**	**-5.2**
YAK				SS			19 24 12.4	
YAK				pmax	pmax			
	comp=Z,43nm,1.3s							
YAK				pmax	pmax			
	comp=N,19nm,1.2s							
YAK				pmax	pmax			
	comp=E,32nm,1.4s							
YAK				pmax	pmax			
	comp=Z,32nm,1.4s							
YAK				pmax	pmax			
	comp=N,16nm,1.6s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
YAK				smax				
	comp=E,108nm,2.3s							
YAK				smax				
	comp=Z,99nm,2.9s							
YAK				smax				
	comp=N,280nm,4.0s							
YAK				MLR	MLR			
	comp=N,400nm,17.0s,MS4.2							
YAK				MLR	MLR			
	comp=Z,900nm,17.0s,MS4.2							
YAK				MLR	MLR			
	comp=E,900nm,19.0s,MS4.2							
YAK	**Yakutsk**	**20.89**	**325**	*e*P		**P**	**19 19 58.5**	**-3.0**
	comp=E,37nm,0.6s							
CLNS	**Chul'man**	**20.99**	**309**	*e*P		**P**	**19 20 01.0**	**-1.5**
CLNS				pmax	pmax			
	comp=Z,29nm,0.8s							
CLNS				pmax	pmax			
	comp=N,25nm,0.9s							
CLNS				pmax	pmax			
	comp=E,27nm,0.9s							
CN2	**Changchun**	**21.20**	**272**	*e*P		**P**	**19 20 01.6**	**-3.2**
CN2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.5							
BILL	**Bilibino**	**21.71**	**11**	⇓*e*P		**P**	**19 20 08.8**	**-1.5**
BILL				*e*S		**S**	**19 24 05.2**	**-5.2**
BILL				pmax	pmax			
	comp=Z,18nm,0.9s,mb4.5							
BILL	**Bilibino**	**21.71**	**11**	*e*P		**P**	**19 20 08.9**	**-1.3**
	comp=Z,38nm,1.0s,mb4.8							
KSRS	**Korea Array**	**22.40**	**254**	P		**P**	**19 20 18.0**	**+0.4**
	comp=Z,14nm,0.7s,mb4.5,baz=57,slow=9.7,SNR=32							
SNY	**Shenyang**	**23.21**	**269**	⇑P		**P**	**19 20 23.4**	**-2.8**
SNY				AMB	AMB			
	comp=Z,30nm,0.9s,mb4.7							
INCN	**Inchon**	**23.23**	**256**	*e*P		**P**	**19 20 27.3**	**+0.9**
	comp=Z,46nm,0.9s,mb4.9							
JNU	**Nakatsue**	**23.26**	**242**	P		**P**	**19 20 27.8**	**+1.1**
	comp=Z,20nm,0.8s,mb4.6,baz=263,slow=22,SNR=4.6							
BOD	**Bodaibo**	**26.97**	**309**	*e*P		**P**	**19 20 57.6**	**-3.2**
BOD				pmax	pmax			
	comp=Z,15nm,1.4s,mb4.3							
CIT	**Chita**	**27.29**	**296**	*e*P		**P**	**19 21 00.7**	**-3.0**
CIT				pmax	pmax			
	comp=Z,36nm,1.4s,mb4.7							
TIXI	**Tiksi**	**27.58**	**342**	*e*P		**P**	**19 21 03.9**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,16nm,0.6s,mb4.8							
TIXI	**Tiksi**	**27.58**	**342**	*e*P		**P**	**19 21 03.9**	**-2.4**
	comp=Z,16nm,0.6s,mb4.8							
BJI	**Beijing**	**29.04**	**270**	P		**P**	**19 21 20.9**	**+1.6**
BJI				AMB	AMB			
	comp=Z,12nm,0.6s,mb4.8							
BJI	**Beijing**	**29.04**	**270**	P		**P**	**19 21 20.9**	**+1.6**
	comp=Z,12nm,0.6s,mb4.8							
BJT	**Baijiatuao**	**29.05**	**270**	*e*P		**P**	**19 21 20.9**	**+1.4**
BJT				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BJT	**Baijiatuao**	**29.05**	**270**	*e*P		**P**	**19 21 20.9**	**+1.4**
	comp=Z,9.4nm,0.8s,mb4.6							
HHC	**Hu-ho-hao-te**	**31.82**	**275**	*e*P		**P**	**19 21 43.0**	**-0.9**
HHC				AMB	AMB			
	comp=Z,23nm,1.2s,mb4.9							
HHC				AMB	AMB			
	comp=Z,594nm,7.3s							
ULN	**Ulaanbaatar**	**32.25**	**289**	⇑*e*P		**P**	**19 21 45.9**	**-1.8**
ULN	**Ulaanbaatar**	**32.25**	**289**	*e*P		**P**	**19 21 46.5**	**-1.2**
	comp=Z,3.9nm,0.8s,mb4.3							
SONM	**Songino Array**	**32.69**	**290**	P		**P**	**19 21 50.4**	**-1.1**
	comp=Z,4.1nm,0.7s,mb4.5,baz=62,slow=8.8,SNR=36							
SONM				PcP		PcP	19 24 37.1	0.0
	comp=Z,1.9nm,0.8s,baz=128,slow=2.4,SNR=7.1							
TLY	**Talaya**	**33.40**	**297**	*e*P		**P**	**19 21 56.2**	**-1.5**
TLY				*e*			19 22 06.7	
TLY				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
ZAK	**Zakamensk**	**33.94**	**295**	*e*		**P**	**19 21 59.7**	**-2.7**
ZAK				*e*			19 24 40.0	
COLA	**College**	**34.88**	**39**	*i* P		**P**	**19 22 10.8**	**+0.2**
XAN	**Xi'an**	**37.10**	**266**	P		**P**	**19 22 29.8**	**+0.2**
XAN				AP		pP	19 22 40.3	+7.6
XAN				AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.3							
EGAK	**Eagle**	**37.74**	**39**	*e*P		**P**	**19 22 34.0**	**-1.1**
	comp=Z,10nm,0.9s,mb4.5							
LZH	**Lanzhou**	**39.43**	**273**	*e*P		**P**	**19 22 50.0**	**+0.8**
LZH				AP		pP	19 22 59.5	+7.2
LZH				AMB	AMB			
	comp=Z,56nm,1.1s,mb5.2							
LZH				AMB	AMB			
	comp=Z,251nm,4.1s							
LZH	**Lanzhou**	**39.43**	**273**	*e*P		**P**	**19 22 50.0**	**+0.8**
	comp=Z,56nm,1.1s,mb5.2							
LZH				pP	pP		19 22 59.5	+7.2
LZH				sP	sP		19 23 04.5	+11
GTA	**Gaotai**	**40.45**	**280**	P		**P**	**19 22 59.1**	**+1.4**
GTA				AP	pP		19 23 02.9	+2.1
GTA				XP	sP		19 23 06.0	+4.0
GTA				PCP	PcP		19 25 01.4	+1.0
GTA				AMB	AMB			
	comp=Z,11nm,1.2s,mb4.5							
INK	**Inuvik**	**40.51**	**33**	P		**P**	**19 22 57.6**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.3,baz=276,slow=8.4,SNR=14							
GYA	**Guiyang**	**43.32**	**259**	⇓*i*P		**P**	**19 23 21.6**	**+0.5**
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
ZAL	**Zalesovo**	**43.68**	**306**	P		**P**	**19 23 22.4**	**-1.7**
	comp=Z,11nm,0.6s,mb4.8,baz=44,slow=8.2,SNR=42							
ZAL				PcP	PcP		19 25 10.6	-0.5
	comp=Z,2.8nm,0.5s,baz=51,slow=3.3,SNR=4.7							
ZAL	**Zalesovo**	**43.68**	**306**	P		**P**	**19 23 22.4**	**-1.7**
ZAL				PcP	PcP		19 25 10.6	-0.5
NVS	**Novosibirsk**	**44.20**	**308**	*i* P		**P**	**19 23 26.8**	**-1.5**
NVS				*i*			19 25 11.5	
NVS				pmax	pmax			
	comp=Z,25nm,1.2s,mb4.8							
NVS				pmax	pmax			
	comp=E,39nm,1.4s							
WMQ	**Urumqi**	**46.24**	**292**	*e*P		**P**	**19 23 46.5**	**+2.0**
KMI	**Kunming**	**46.84**	**261**	P		**P**	**19 23 50.3**	**+1.1**
KMI				AMB	AMB			
	comp=Z,10.0nm,1.7s,mb4.5							
KMI	**Kunming**	**46.84**	**261**	P		**P**	**19 23 50.2**	**+1.0**
KMI				*SP	sP		19 24 05.9	+12
KMI				pmax	pmax			
	comp=Z,10.0nm,1.7s,mb4.5							
KMI	**Kunming**	**46.84**	**261**	P		**P**	**19 23 50.2**	**+1.0**
	comp=Z,10.0nm,1.7s,mb4.5							
KMI				sP	sP		19 24 05.9	+12
MK31	**Makanchi Array**	**48.16**	**298**	P		**P**	**19 23 57.9**	**-1.5**
MK31				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9							
MKAR	**Makanchi Array**	**48.16**	**298**	P		**P**	**19 23 58.5**	**-0.9**
	comp=Z,6.5nm,0.5s,mb4.9,baz=73,slow=6.8,SNR=61							
MKAR				PcP	PcP		19 25 26.5	-0.3
	comp=Z,2.5nm,0.6s,baz=61,slow=2.6,SNR=5.1							
KURK	**Kurchatov**	**48.46**	**304**	P		**P**	**19 24 00.1**	**-1.6**
KURK				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.3							
YKA	**Yellowknife Ar**	**49.69**	**38**	P		**P**	**19 24 11.5**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.6,baz=295,slow=7.7,SNR=5.0							
YKA	**Yellowknife Ar**	**49.69**	**38**	P		**P**	**19 24 11.5**	**+0.3**
RES	**Resolute Bay**	**49.99**	**19**	*e*P		**P**	**19 24 14.1**	**+0.7**
	comp=Z,120nm,0.5s							
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P		**P**	**19 24 22.6**	**-1.4**
CHKZ				pmax	pmax			
	comp=Z,54nm,0.5s,mb5.7							
CHKZ	**Chkalovo**	**51.39**	**311**	*e*P		**P**	**19 24 22.6**	**-1.3**
	comp=Z,54nm,0.5s,mb5.7							
VOSK	**Vostochnaya**	**51.67**	**309**	P		**P**	**19 24 24.9**	**-1.2**
VOSK				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
LSA	**Lhasa**	**51.81**	**274**	P		**P**	**19 24 29.8**	**+2.7**
LSA	**Lhasa**	**51.81**	**274**	*e*P		**P**	**19 24 29.1**	**+2.0**
LSA				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9							
LSA	**Lhasa**	**51.81**	**274**	*e*P		**P**	**19 24 29.1**	**+2.0**
	comp=Z,11nm,0.7s,mb4.9							
BVA0	**Borovoye Array**	**51.83**	**310**	P		**P**	**19 24 26.5**	**-0.8**
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**51.83**	**310**	P		**P**	**19 24 26.2**	**-1.0**
	comp=Z,23nm,0.4s,mb5.4,baz=56,slow=7.4,SNR=212							
BVAR				PcP	PcP		19 25 39.7	-0.5
	comp=Z,2.3nm,0.7s,baz=54,slow=3.7,SNR=2.2							
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**	**19 24 26.6**	**-1.0**
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**19 24 32.0**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,21nm,0.4s,mb5.4							
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**19 24 32.0**	**-0.9**
	comp=Z,21nm,0.4s,mb5.4							
CHTO	**Chiang Mai**	**53.72**	**258**	*e*P		**P**	**19 24 42.0**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
CHTO	**Chiang Mai**	**53.72**	**258**	*e*P		**P**	**19 24 42.0**	**+0.7**
	comp=Z,5.7nm,0.7s,mb4.6							
CHMS	**Chumysh**	**54.70**	**298**	P		**P**	**19 24 49.4**	**+0.9**
	SNR=8.1							
USP	**Ospenovka**	**54.70**	**298**	P		**P**	**19 24 48.7**	**+0.2**
	SNR=36							
KBK	**Karagaybulak**	**54.78**	**297**	P		**P**	**19 24 49.9**	**+1.0**
	SNR=12							
KZA	**Kyzart**	**54.92**	**296**	P		**P**	**19 24 52.1**	**+2.1**
	SNR=10							
AAK	**Ala-Archa**	**55.07**	**297**	P		**P**	**19 24 51.7**	**+0.6**
	SNR=20							
AAK	**Ala-Archa**	**55.07**	**297**	*e*P		**P**	**19 24 50.1**	**-1.0**
AAK				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1							
AAK	**Ala-Archa**	**55.07**	**297**	*e*P		**P**	**19 24 50.1**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1							
EKS2	**Erkin-Say**	**55.48**	**298**	P		**P**	**19 24 55.3**	**+1.2**
	SNR=18							
ARU	**Arti**	**55.79**	**318**	⇓*i*P		**P**	**19 24 56.1**	**-0.2**
ARU				*e*			19 26 55.4	
ARU				*e*PPP			19 28 15.1	
ARU				*e*S		**S**	**19 32 42.6**	**-0.6**
ARU				*e*SS		SS	19 36 27.2	-1.5
ARU				pmax	pmax			
	comp=Z,49nm,1.5s,m

NOA	**NORSAR Array B**	**68.38**	**342**	P		**P**	**19 26 20.5**	**-0.3**
	comp=Z,5.7nm,0.7s,mb4.7,baz=26,slow=6.4,SNR=19							
NOA	**NORSAR Array B**	**68.38**	**342**	P		**P**	**19 26 20.5**	**-0.3**
HYB	**Hyderabad**	**68.55**	**273**	*i* P		**P**	**19 26 22.5**	**+0.6**
HYB	**Hyderabad**	**68.55**	**273**	*e*P		**P**	**19 26 26.0**	**+4.1**
WB2	**Warramunga Arr**	**69.39**	**201**	*e*P		**P**	**19 26 24.8**	**-2.3**
WRA	**Warramunga Arr**	**69.39**	**201**	P		**P**	**19 26 26.0**	**-1.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=22,slow=7.0,SNR=23							
FITZ	**Fitzroy Crossi**	**70.22**	**210**	*e*P		**P**	**19 26 30.1**	**-2.1**
	comp=Z,4.8nm,1.0s,mb4.4							
POO	**Poona**	**70.97**	**277**	*ex*		**P**	**19 26 34.0**	**-2.8**
KIV	**Kislovodsk**	**71.65**	**315**	*e*P		**P**	**19 26 41.9**	**+1.0**
KIV				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8							
KIV	**Kislovodsk**	**71.65**	**315**	*e*P		**P**	**19 26 41.2**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9							
ZEI	**Tsey**	**71.95**	**314**	*e*P		**P**	**19 26 42.1**	**-0.6**
ZEI				*e**PP		pP	19 26 51.0	+5.0
ZEI				*e*			19 26 58.6	
ZEI				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
AKASG	**Malin Array Be**	**72.10**	**327**	P		**P**	**19 26 42.5**	**-1.1**
	comp=Z,2.8nm,0.4s,mb4.5,baz=33,slow=6.2,SNR=13							
AS31	**Alice Springs**	**73.07**	**201**	*e*P		**P**	**19 26 47.9**	**-1.5**
ASAR	**Alice Springs**	**73.07**	**201**	P		**P**	**19 26 49.5**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=15,slow=5.6,SNR=24							
ASPA	**Alice Springs**	**73.07**	**201**	*e*P		**P**	**19 26 47.9**	**-1.5**
KWP	**Kalwaria**	**75.30**	**330**	*e*P		**P**	**19 27 02.9**	**+0.5**
OJC	**Ojcow**	**75.74**	**332**	*e*P		**P**	**19 27 07.9**	**+3.0**
TXAR	**Lajitas Array**	**75.95**	**62**	P		**P**	**19 27 06.7**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=295,slow=4.3,SNR=12							
STHS	**Stebnicka Huta**	**75.97**	**331**	*e*P		**P**	**19 27 09.5**	**+3.3**
STHS				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
STHS	**Stebnicka Huta**	**75.97**	**331**	*e*P		**P**	**19 27 09.5**	**+3.3**
	comp=Z,6.3nm,0.9s,mb4.5							
KOLS	**Kolonicke sedl**	**76.04**	**330**	*e*P		**P**	**19 27 09.4**	**+2.8**
BURAR	**Bucovina Array**	**76.13**	**328**	⇓*i*P		**P**	**19 27 06.8**	**-0.3**
BURAR	**Bucovina Array**	**76.13**	**328**	⇓P		**P**	**19 27 06.8**	**-0.3**
OKC	**Ostrava-Krasne**	**76.59**	**333**	*e*P		**P**	**19 27 11.9**	**+2.1**
UPC	**Upice**	**76.64**	**335**	*e*P		**P**	**19 27 13.4**	**+3.4**
DPC	**Dobruska-Polom**	**76.69**	**334**	*e*P		**P**	**19 27 13.0**	**+2.7**
CLL	**Collm**	**76.77**	**337**	*e*P		**P**	**19 27 10.0**	**-0.7**
CLL				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
CLL	**Collm**	**76.77**	**337**	*e*P		**P**	**19 27 10.0**	**-0.7**
	comp=Z,7.0nm,0.9s,mb4.6							
CLL				*e*		pP	19 27 14.0	0.0
CLL	**Collm**	**76.77**	**337**	⇓*i*P		**P**	**19 27 10.0**	**-0.7**
	comp=Z,7.0nm,0.9s,mb4.6							
CLL				*i* pP		pP	19 27 13.5	-0.5
	comp=Z,30nm,1.3s							
MORC	**Moravsky Berou**	**76.83**	**333**	⇑*i*P		**P**	**19 27 14.5**	**+3.4**
MORC	**Moravsky Berou**	**76.83**	**333**	⇑P		**P**	**19 27 14.5**	**+3.4**
BRG	**Berggiesshubel**	**76.90**	**336**	*e*P		**P**	**19 27 14.3**	**+2.8**
	comp=Z,7.4nm,1.3s,mb4.5							
BRG	**Berggiesshubel**	**76.90**	**336**	*e*P		**P**	**19 27 14.3**	**+2.8**
BRG				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
KECS	**Kecovo**	**77.03**	**331**	*e*P		**P**	**19 27 12.2**	**0.0**
KECS				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
KECS	**Kecovo**	**77.03**	**331**	*e*P		**P**	**19 27 12.2**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.2							
VRAC	**Vranov**	**77.53**	**334**	⇓*i*P		**P**	**19 27 19.0**	**+3.9**
TIRR	**Tirgusor**	**77.55**	**324**	⇓*i*P		**P**	**19 27 15.7**	**+0.6**
TIRR	**Tirgusor**	**77.55**	**324**	⇓P		**P**	**19 27 15.7**	**+0.5**
VYHS	**Vyhne**	**77.56**	**332**	*e*P		**P**	**19 27 18.3**	**+3.1**
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.3							
VYHS	**Vyhne**	**77.56**	**332**	*e*P		**P**	**19 27 18.3**	**+3.1**
	comp=Z,4.4nm,1.1s,mb4.3							
MLR	**Muntele Rosu**	**77.65**	**326**	⇑*i*P		**P**	**19 27 16.5**	**+0.8**
MLR	**Muntele Rosu**	**77.65**	**326**	⇑P		**P**	**19 27 16.5**	**+0.8**
NKC	**Novy Kostel**	**77.89**	**337**	*e*P		**P**	**19 27 16.8**	**-0.2**
VOIR		**78.03**	**327**	⇑*i*P		**P**	**19 27 20.2**	**+2.4**
VOIR		**78.03**	**327**	⇑P		**P**	**19 27 20.2**	**+2.4**
MALT	**Malatya**	**78.04**	**314**	⇓*i*P		**P**	**19 27 19.5**	**+1.6**
MALT	**Malatya**	**78.04**	**314**	⇓P		**P**	**19 27 19.5**	**+1.7**
ZST	**Bratislava**	**78.36**	**333**	*e*P		**P**	**19 27 22.2**	**+2.5**
ZST				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
ZST	**Bratislava**	**78.36**	**333**	*e*P		**P**	**19 27 22.2**	**+2.5**
	comp=Z,8.4nm,1.1s,mb4.6							
KHC	**Kasperske Hory**	**78.57**	**336**	*e*P		**P**	**19 27 20.0**	**-0.8**
KHC				*e*pP		pP	19 27 24.5	+0.4
GRA1	**Grafenberg Arr**	**78.71**	**337**	*e*P		**P**	**19 27 25.0**	**+3.4**
	comp=Z,9.0nm,0.8s,mb4.8							
GRF	**Grafenberg Arr**	**78.71**	**337**	*e*P		**P**	**19 27 25.0**	**+3.4**
	comp=Z,9.0nm,0.8s,mb4.8							
GRF	**Grafenberg Arr**	**78.71**	**337**	*e*P		**P**	**19 27 25.0**	**+3.4**
GRF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
GRF	**Grafenberg Arr**	**78.71**	**337**	*e*P		**P**	**19 27 25.0**	**+3.4**
GRF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
GRFO	**Grafenberg**	**78.71**	**337**	P		**P**	**19 27 23.5**	**+1.9**
GRFO				pmax	pmax			
	comp=Z,44nm,1.3s,mb5.2							
GRFO	**Grafenberg**	**78.71**	**337**	P		**P**	**19 27 23.5**	**+1.9**
	comp=Z,44nm,1.3s,mb5.2							
GERES	**GERESS Array B**	**78.80**	**335**	P		**P**	**19 27 22.0**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.2,baz=35,slow=5.8,SNR=19							
BZS	**Buzias**	**79.13**	**329**	⇑*i*P		**P**	**19 27 26.5**	**+2.6**
BR131	**Keskin Array S**	**79.18**	**318**	*e*P		**P**	**19 27 24.5**	**+0.4**
	comp=Z,8.2nm,1.0s,mb4.6							
BRTR	**Keskin Array B**	**79.18**	**318**	P		**P**	**19 27 24.7**	**+0.5**
	comp=Z,5.2nm,0.8s,mb4.5,baz=85,slow=1.2,SNR=14							
ANTO	**Ankara**	**79.45**	**319**	*e*P		**P**	**19 27 27.7**	**+2.1**
ANTO				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.0							
ANTO	**Ankara**	**79.45**	**319**	*e*P		**P**	**19 27 27.7**	**+2.1**
	comp=Z,17nm,0.9s,mb5.0							
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**19 27 33.8**	**+0.4**
	comp=Z,33nm,1.1s,mb4.9							
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**19 27 33.8**	**+0.4**
CDF				pmax	pmax			
	comp=Z,17nm,1.1s,mb4.9							
CDF	**Champ du Feu**	**80.89**	**339**	*e*P		**P**	**19 27 33.8**	**+0.4**
	comp=Z,17nm,1.1s,mb4.9							
VTS	**Vitosha**	**81.15**	**326**	⇓*i*P		**P**	**19 27 38.3**	**+3.5**
VTS	**Vitosha**	**81.15**	**326**	⇓P		**P**	**19 27 38.3**	**+3.5**
TZTN	**Tazewell**	**81.42**	**44**	*e*P		**P**	**19 27 36.2**	**0.0**
	comp=Z,27nm,0.9s,mb5.2							
GRR	**Gorron**	**82.66**	**344**	*e*P		**P**	**19 27 43.5**	**+0.8**
	comp=Z,59nm,1.0s,mb5.2							
GRR	**Gorron**	**82.66**	**344**	*e*P		**P**	**19 27 43.5**	**+0.8**
GRR				pmax	pmax			
	comp=Z,29nm,1.0s,mb5.3							
GRR	**Gorron**	**82.66**	**344**	*e*P		**P**	**19 27 43.5**	**+0.8**
	comp=Z,29nm,1.0s,mb5.3							
SMF	**Signal de Mont**	**83.36**	**341**	*e*P		**P**	**19 27 46.9**	**+0.5**
	comp=Z,62nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**83.36**	**341**	*e*P		**P**	**19 27 46.9**	**+0.5**
SMF				pmax	pmax			
	comp=Z,31nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**83.36**	**341**	*e*P		**P**	**19 27 46.9**	**+0.5**
	comp=Z,31nm,1.2s,mb5.2							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**19 27 49.6**	**+1.3**
	comp=Z,31nm,0.8s,mb5.2							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**19 27 49.6**	**+1.3**
LPG				pmax	pmax			
	comp=Z,15nm,0.8s,mb5.2							
LPG	**La Plagne**	**83.74**	**338**	*e*P		**P**	**19 27 49.6**	**+1.3**
	comp=Z,15nm,0.8s,mb5.2							
CAF	**Calviac**	**85.38**	**341**	*e*P		**P**	**19 27 57.3**	**+0.7**
	comp=Z,17nm,0.8s,mb4.9							
CAF	**Calviac**	**85.38**	**341**	*e*P		**P**	**19 27 57.3**	**+0.7**
CAF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
CAF	**Calviac**	**85.38**	**341**	*e*P		**P**	**19 27 57.3**	**+0.7**
	comp=Z,8.4nm,0.8s,mb4.9							
TIP	**Timpagrande**	**86.50**	**329**	*e*P		**P**	**19 28 01.5**	**-0.6**
KEST	**Kesra**	**92.08**	**333**	P		**P**	**19 28 33.7**	**+5.2**
	comp=Z,1.7nm,0.7s,mb4.5,baz=36,slow=2.4,SNR=6.5							
VNDA	**Vanda**	**124.42**	**178**	PKP		PKPdf	19 34 16.0	-2.4
	comp=Z,0.3nm,0.7s,baz=308,slow=3.7,SNR=3.6							
MAW	**Mawson**	**133.33**	**212**	PKP		PKPdf	19 34 33.9	-1.5
	comp=Z,0.9nm,0.8s,baz=140,slow=2.6,SNR=4.1							
BOSA	**Boshof**	**137.31**	**278**	PKP		PKPdf	19 34 46.2	+3.5
	comp=Z,3.0nm,1.0s,baz=8.0,slow=1.4,SNR=3.2							
SNAA	**Sanae**	**153.33**	**195**	PKPbc	PKPbc		19 35 15.2	-2.2
	comp=Z,0.7nm,0.6s,baz=215,slow=3.5,SNR=14							

MDD ***17*** *19:17:29.6±0.3,4302N×001W,h10km±2km,mbLg0.8/8, Error ellipse: s-maj=3.2km s-min=2.3km az=158.0, PRXIMO*

STR ***17*** *19:17:29.5±0.5,4302N×005W,h2km±1km,Ml1.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 19:17:29.3±0.1,4302N×002W,h9km,Ml1.7/5,Error ellipse: s-maj=1.6km s-min=1.0km az=160.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**68**	Pg	Pg	19 17 31.7	+0.3
LABF				Sg	Sg	19 17 33.0	0.0
LABF	**Labassere**	**0.08**	**68**	Pg	Pg	19 17 31.8	+0.3
LABF				Lg		19 17 33.1	
VIEF	**Viey**	**0.14**	**166**	Pg	Pg	19 17 32.5	+0.1
VIEF				Sg	Sg	19 17 34.9	+0.4
VIEF	**Viey**	**0.14**	**166**	Pg	Pg	19 17 32.5	0.0
VIEF				Lg		19 17 35.0	
EPF	**Esparros**	**0.27**	**87**	*e*Pg	Pg	19 17 34.5	-0.1
EPF				*e*Sg	Sg	19 17 38.6	+0.4
	10nm,0.2s						
EPF	**Esparros**	**0.27**	**87**	Pg	Pg	19 17 34.5	-0.1
EPF				Lg		19 17 38.6	
	5.1nm,0.2s						
EBIE	**Bielsa**	**0.35**	**160**	Pg	Pg	19 17 36.4	+0.1
	SNR=7.9						
EBIE				Lg		19 17 40.9	
	2.0nm,0.3s,SNR=8.9						
ETSF	**Etsaut**	**0.41**	**253**	*e*Pg	Pg	19 17 37.8	+0.5
ETSF				*e*Sg	Sg	19 17 43.2	+0.4
	4.4nm,0.2s						
ETSF	**Etsaut**	**0.41**	**253**	Pg	Pg	19 17 37.8	+0.5
ETSF				Lg		19 17 43.2	
	2.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	19 17 45.8	-0.5
SJPF				*e*Sg	Sg	19 17 57.6	-0.3
	1.1nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	Pg	Pg	19 17 45.8	-0.5
SJPF				Lg		19 17 57.6	
	0.6nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 17 57.1	-1.6
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 18 00.6	-0.7
MTLF				*e*Sg	Sg	19 18 22.1	-0.9
	1.4nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	19 17 57.1	-1.6
MTLF				Pg	Pg	19 18 00.6	-0.7
MTLF				Lg		19 18 22.1	
	0.7nm,0.3s						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	19 18 06.4	-1.2
LFF				*e*Sg	Sg	19 18 31.8	-1.7
	1.2nm,0.3s						
LFF	**La Frestale**	**2.00**	**16**	Pg	Pg	19 18 06.4	-1.2
LFF				Lg		19 18 31.8	
	0.6nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	*e*Pn	Pn	19 18 07.2	-2.0
CAF	**Calviac**	**2.43**	**38**	*e*Pg	Pg	19 18 14.8	-1.1
CAF				*e*Sg	Sg	19 18 45.9	-1.5
	0.8nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	Pn	Pn	19 18 07.2	-2.0
CAF				Pg	Pg	19 18 14.8	-1.1
CAF				Lg		19 18 45.9	
	0.4nm,0.3s						
LASF	**Ste Croix**	**3.01**	**68**	*e*Pg	Pg	19 18 25.3	-1.7
LASF				*e*Sg	Sg	19 19 04.0	-2.1
	1.1nm,0.3s						
LASF	**Ste Croix**	**3.01**	**68**	Pg	Pg	19 18 25.3	-1.7
LASF				Lg		19 19 04.0	
	0.6nm,0.3s						

MDD ***17*** *19:17:53.8±0.5,4303N×001W,h9km±4km,mbLg0.6/1, Error ellipse: s-maj=3.5km s-min=2.5km az=164.0, PRXIMO*

STR ***17*** *19:17:54.1±0.0,4302N×002W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 19:17:53.5±0.1,4303N×002W,h7km,Ml1.3/2,Error ellipse: s-maj=3.7km s-min=1.6km az=171.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**78**	Pg	Pg	19 17 55.8	+0.5
LABF				Sg	Sg	19 17 57.1	+0.5
LABF	**Labassere**	**0.07**	**78**	Pg	Pg	19 17 55.9	+0.6
LABF				Lg		19 17 57.1	
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	19 17 57.0	+0.3
VIEF				Sg	Sg	19 17 59.0	+0.2
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	19 17 57.0	+0.4
VIEF				Lg		19 17 59.0	
EPF	**Esparros**	**0.27**	**90**	*e*Pg	Pg	19 17 58.5	-0.2
EPF				*e*Sg	Sg	19 18 02.5	+0.2
	3.1nm,0.2s						
EPF	**Esparros**	**0.27**	**90**	Pg	Pg	19 17 58.5	-0.2
EPF				Lg		19 18 02.5	
	1.6nm,0.2s						
EBIE	**Bielsa**	**0.37**	**161**	Lg		19 18 05.4	
	SNR=7.9						
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg	Pg	19 18 01.9	+0.3
ETSF				*e*Sg	Sg	19 18 07.8	+0.8
	2.4nm,0.3s						
ETSF	**Etsaut**	**0.42**	**251**	Pg	Pg	19 18 01.9	+0.3
ETSF				Lg		19 18 07.8	
	1.2nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	19 18 10.0	-0.5
SJPF				*e*Sg	Sg	19 18 21.2	-0.8
	0.6nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	Pg	Pg	19 18 10.0	-0.5
SJPF				Lg		19 18 21.2	
	0.3nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pn	Pn	19 18 21.4	-1.7
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	19 18 25.0	-0.5
MTLF				*e*Sg	Sg	19 18 46.1	-1.0
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	Pn	Pn	19 18 21.4	-1.7
MTLF				Pg	Pg	19 18 25.0	-0.5
MTLF				Lg		19 18 46.1	
	0.4nm,0.3s						

STR ***17*** *19:22:21.8±0.2,4301N×002W,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***17*** *19:22:22.2±0.3,4301N×001W,h0km,mbLg0.4/6,Error ellipse: s-maj=2.7km s-min=2.0km az=145.0,PRXIMO*

LDG 17 19:22:21.7±0.1,4301N×002W,h5km,Ml1.5/3,Error ellipse: s-maj=3.0km s-min=1.7km az=167.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**57**	Pg	Pg	19 22 23.5	+0.1
LABF				Sg	Sg	19 22 24.9	+0.3
LABF	**Labassere**	**0.08**	**57**	Pg	Pg	19 22 23.6	+0.1
LABF				Lg		19 22 24.9	
VIEF	**Viey**	**0.12**	**167**	Pg	Pg	19 22 24.6	+0.3
VIEF				Sg	Sg	19 22 26.6	+0.6
VIEF	**Viey**	**0.12**	**167**	Pg	Pg	19 22 24.7	+0.4
VIEF				Lg		19 22 26.5	
EPF	**Esparros**	**0.26**	**84**	*e*Pg	Pg	19 22 26.7	-0.1
EPF				*e*Sg	Sg	19 22 30.7	+0.5
	2.2nm,0.2s						
EPF	**Esparros**	**0.26**	**84**	Pg	Pg	19 22 26.7	-0.1
EPF				Lg		19 22 30.7	
	1.1nm,0.2s						
EBIE	**Bielsa**	**0.34**	**160**	Pg	Pg	19 22 28.1	-0.2
	SNR=7.9						
EBIE				Lg		19 22 33.2	
	5.0nm,1.0s,SNR=9.3						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	19 22 29.9	+0.2
ETSF				*e*Sg	Sg	19 22 36.1	+1.0
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	19 22 29.9	+0.2
ETSF				Lg		19 22 36.1	
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	19 22 38.3	-0.5
SJPF				*e*Sg	Sg	19 22 49.5	-0.9
	0.7nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	19 22 38.3	-0.5
SJPF				Lg		19 22 49.5	
	0.3nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**195**	Lg		19 23 06.1	
	SNR=7.9						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 22 49.6	-2.0
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 22 53.2	-0.5
MTLF				*e*Sg	Sg	19 23 14.3	-1.0
	1.4nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	19 22 49.6	-2.0
MTLF				Pg	Pg	19 22 53.2	-0.5
MTLF				Lg		19 23 14.3	
	0.7nm,0.3s						
EPOB	**Poblet**	**1.84**	**153**	Pg	Pg	19 22 58.4	+1.4
	SNR=7.9						
EPOB				Lg		19 23 21.6	
	SNR=7.9						
LFF	**La Frestale**	**2.01**	**15**	*e*Pg	Pg	19 22 59.4	-0.8
LFF				*e*Sg	Sg	19 23 26.4	+0.1
	0.8nm,0.2s						
LFF	**La Frestale**	**2.01**	**15**	Pg	Pg	19 22 59.4	-0.8
LFF				Lg		19 23 26.4	
	0.4nm,0.2s						

MDD ***17*** *19:23:48.2±0.5,4301N×001W,h9km±4km,mbLg0.9/4, Error ellipse: s-maj=2.7km s-min=2.4km az=146.0, PRXIMO*

STR ***17*** *19:23:48.4±0.1,4301N×002W,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 19:23:48.1±0.1,4301N×002W,h8km,Ml1.6/4,Error ellipse: s-maj=2.3km s-min=1.4km az=162.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**58**	Pg	Pg	19 23 50.1	-0.1
LABF				Sg	Sg	19 23 51.5	-0.1
LABF	**Labassere**	**0.08**	**58**	Pg	Pg	19 23 50.2	0.0
LABF				Lg		19 23 51.5	
VIEF	**Viey**	**0.12**	**165**	Pg	Pg	19 23 51.2	+0.3
VIEF				Sg	Sg	19 23 53.2	+0.4
VIEF	**Viey**	**0.12**	**165**	Pg	Pg	19 23 51.2	+0.4
VIEF				Lg		19 23 53.3	
EPF	**Esparros**	**0.27**	**84**	*e*Pg	Pg	19 23 53.2	-0.2
EPF				*e*Sg	Sg	19 23 57.2	+0.3
	5.2nm,0.2s						
EPF	**Esparros**	**0.27**	**84**	Pg	Pg	19 23 53.2	-0.2
EPF				Lg		19 23 57.2	
	2.6nm,0.2s						
EBIE	**Bielsa**	**0.34**	**159**	Pg	Pg	19 23 54.7	-0.1
	SNR=7.9						
EBIE				Lg		19 23 59.7	
	2.9nm,0.3s,SNR=11						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	19 23 56.4	+0.3
ETSF				*e*Sg	Sg	19 24 01.9	+0.4
	2.7nm,0.2s						
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	19 23 56.4	+0.3
ETSF				Lg		19 24 01.9	
	1.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	19 24 04.6	-0.6
SJPF				*e*Sg	Sg	19 24 15.7	-1.1
	0.6nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	19 24 04.6	-0.6
SJPF				Lg		19 24 15.7	
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	19 24 16.0	-1.6
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 24 19.4	-0.7
MTLF				*e*Sg	Sg	19 24 40.6	-1.2
	1.9nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	19 24 16.0	-1.6
MTLF				Pg	Pg	19 24 19.4	-0.7
MTLF				Lg		19 24 40.6	
	0.9nm,0.3s						
LFF	**La Frestale**	**2.01**	**16**	*e*Pg	Pg	19 24 25.7	-0.9
LFF				*e*Sg	Sg	19 24 52.6	-0.1
	1.0nm,0.3s						
LFF	**La Frestale**	**2.01**	**16**	Pg	Pg	19 24 25.7	-0.9
LFF				Lg		19 24 52.6	
	0.5nm,0.3s						
CAF	**Calviac**	**2.44**	**37**	*e*Pn	Pn	19 24 26.0	-2.2
CAF	**Calviac**	**2.44**	**37**	*e*Pg	Pg	19 24 33.6	-1.3
CAF				*e*Sg	Sg	19 25 04.7	-1.8
	0.7nm,0.2s						
CAF	**Calviac**	**2.44**	**37**	Pn	Pn	19 24 26.0	-2.2
CAF				Pg	Pg	19 24 33.6	-1.3
CAF				Lg		19 25 04.7	
	0.3nm,0.2s						

NEIC ***17*** *19:25:44.2,1699N×9547W,h102km,MD4.0(MEX),After MEX.*

MEX 17 19:25:44.3±0.9,1699N×9549W,h101km±10km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.59**	**80**	*i* P	Pn	19 25 59.4	-1.4
CMIG				*i* S	Sn	19 26 10.9	-2.2
OXX	**Oaxaca**	**1.19**	**275**	*i* P	Pn	19 26 06.5	-0.3
OXX				*i* S	Sn	19 26 24.0	+0.2
VHO	**Vista Hermosa**	**1.19**	**274**	*i* P	Pn	19 26 05.8	-1.1
VHO				*i* S	Sn	19 26 23.0	-1.0
VHO	**Vista Hermosa**	**1.19**	**274**	*i* P	Pn	19 26 06.1	-0.8
VHO				*i* S	Sn	19 26 23.0	-1.0
**

1.1nm,0.2s
LFF La Frestale 1.99 16 Pg Pg 19 38 15.9 -1.1
LFF Lg 19 38 41.7
0.6nm,0.2s
CAF Calviac 2.43 38 *e*Pn Pn 19 38 16.6 -2.1
CAF Calviac 2.43 38 *e*Pg Pg 19 38 24.2 -1.1
CAF *e*Sg Sg 19 38 55.2 -1.6
0.7nm,0.2s
CAF Calviac 2.43 38 Pn Pn 19 38 16.6 -2.1
CAF Pg Pg 19 38 24.2 -1.1
CAF Lg 19 38 55.2
0.3nm,0.2s

IDC 17 19:39:06.4±2.0, 4757N×15368E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=52.1km s-min=26.3km az=157.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.47**	**250**	Pn	Pn	19 41 12.2	+1.9
	1.3nm,0.3s,baz=123,slow=17,SNR=6.3						
KSRS	**Korea Array**	**21.42**	**251**	P	P	19 43 56.2	+0.3
	1.3nm,0.7s,baz=56,slow=9.9,SNR=5.7						
SONM	**Songino Array**	**31.43**	**288**	P	P	19 45 29.6	+0.3
	0.5nm,1.0s,baz=64,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**46.91**	**297**	P	P	19 47 36.3	-2.3
	0.6nm,0.7s,baz=57,slow=7.0,SNR=6.1						
BVAR	**Borovoye Array**	**50.63**	**309**	P	P	19 48 06.1	-1.1
	0.5nm,0.3s,baz=52,slow=7.3,SNR=5.1						
FINES	**FINESS Array B**	**63.46**	**335**	P	P	19 49 38.2	+0.1
	0.6nm,0.3s,baz=32,slow=6.0,SNR=12						
NOA	**NORSAR Array B**	**67.57**	**341**	P	P	19 50 05.3	+0.6
	0.8nm,0.6s,baz=27,slow=6.4,SNR=4.0						
TXAR	**Lajitas Array**	**76.76**	**61**	P	P	19 50 59.4	-0.3
	0.2nm,0.5s,baz=309,slow=2.6,SNR=3.9						

*IDC **17** 19:39:42.8±1.3, 4656N×15341E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/25, mbtmp4.0/15, ML3.7/1, Error ellipse: s-maj=40.5km s-min=16.2km az=172.0*
*NEIC **17** 19:39:44.6±0.7, 4662N×15335E, h10km, mb4.2/4, Error ellipse: s-maj=18.9km s-min=10.2km az=149.0*
*BJI **17** 19:39:44.6, 4703N×15381E, h27km, mB4.9, mb4.3*
*ISCJB **17** 19:39:45.9±2.5, 466N±0.1×1533E±0.1, h31km±18km, mb4.2/21, Error ellipse: s-maj=21.4km s-min=8.1km az=114.4*
*MOS **17** 19:39:47.2±1.6, 4653N×15331E, h46km, mb4.3/5, Error ellipse: s-maj=13.3km s-min=10.6km az=57.6*

ISC 17 19:39:48.5±1.2, 466N±01×1534E±01, h36km±10km, n42, σ1§14/45, mb4.2/21, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.07**	**252**	↓*i* P	N	**Pn**	**19 40 46.4**	**-1.8**
KUR				*i* S		**Sn**	**19 41 34.0**	**-0.6**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,300nm,0.7s						
KUR				smax			
	comp=E,450nm,0.7s						
SKR	**Severo-Kuril's**	**4.48**	**23**	*e*PN	**Pn**	**19 40 54.0**	**+0.2**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.88**	**247**	*e*PN	**Pn**	**19 41 14.0**	**+1.0**
YUK				*e*S	**Sn**	**19 42 25.0**	**+5.9**
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				smax			
	comp=N,750nm,0.8s						
YUK				smax			
	comp=E,270nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.29**	**277**	*e*PN	**Pn**	**19 41 37.0**	**+4.5**
YSS				S	**Sn**	**19 43 03.0**	**+9.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=E,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.29**	**277**	*e*P	**Pn**	**19 41 34.2**	**+1.7**
ASAJ	**Asahikawa**	**7.98**	**256**	Pn	**Pn**	**19 41 43.2**	**+1.4**
	comp=E,1.3nm,0.3s,baz=98,slow=20,SNR=9.5						
ASAJ	**Asahikawa**	**7.98**	**256**	PN	**Pn**	**19 41 43.2**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.63**	**242**	*e*PN	**Pn**	**19 41 50.6**	**-0.2**
ERM				pmax	pmax		
	comp=Z,50nm,0.6s						
ERM	**Erimo**	**8.63**	**242**	*e*P	**Pn**	**19 41 50.6**	**-0.2**
	comp=Z,50nm,0.6s						
MJAR	**Matsushiro Arr**	**15.12**	**234**	Pn	**Pn**	**19 43 17.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=21,slow=11,SNR=4.4						
CN2	**Changchun**	**19.83**	**272**	*e*P	**Pn**	**19 44 17.8**	**+0.1**
YAK	**Yakutsk**	**20.54**	**327**	*e*P	**P**	**19 44 23.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	**Yakutsk**	**20.54**	**327**	*e*P	**P**	**19 44 23.2**	**-0.5**
	comp=Z,8.1nm,0.7s						
KSRS	**Korea Array**	**20.91**	**253**	P	**P**	**19 44 28.6**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=55,slow=11,SNR=7.6						
BILL	**Bilibino**	**22.50**	**13**	*e*P	**P**	**19 44 46.7**	**+1.9**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**19 46 06.6**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.1,baz=218,slow=34,SNR=3.1						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**19 47 33.8**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=288,slow=5.4,SNR=2.2						
MKAR	**Makanchi Array**	**47.16**	**298**	P	**P**	**19 48 16.6**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=65,slow=9.1,SNR=9.2						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**19 48 41.9**	**-2.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**50.66**	**310**	*e*P	**P**	**19 48 41.9**	**-2.2**
	comp=Z,2.6nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**50.95**	**37**	P	**P**	**19 48 45.8**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=296,slow=7.0,SNR=5.5						
YKA	**Yellowknife Ar**	**50.95**	**37**	P	**P**	**19 48 45.8**	**-0.5**
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**19 48 45.1**	**-2.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=54,slow=7.6,SNR=6.1						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**19 48 51.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**19 48 51.2**	**-1.9**
	comp=Z,1.4nm,0.6s,mb4.1						
CHTO	**Chiang Mai**	**52.25**	**257**	*e*P	**P**	**19 48 56.6**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
CHTO	**Chiang Mai**	**52.25**	**257**	*e*P	**P**	**19 48 56.6**	**+0.6**
	comp=Z,3.4nm,1.0s,mb4.2						
JIRN	**Jiri**	**55.13**	**275**	*e*P	**P**	**19 49 17.8**	**+0.7**
	comp=Z,9.4nm,0.7s,mb4.9						
KKN	**Kakani**	**55.67**	**276**	*e*P	**P**	**19 49 22.0**	**+1.0**
	comp=Z,7.8nm,0.7s,mb4.9						
DMN	**Daman**	**55.91**	**276**	*e*P	**P**	**19 49 24.9**	**+2.2**
GKN	**Gorkha**	**55.98**	**276**	*e*P	**P**	**19 49 24.3**	**+1.1**
	comp=Z,13nm,0.8s,mb5.0						
KOLN	**Koldanda**	**56.84**	**277**	*e*P	**P**	**19 49 29.5**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**19 50 06.7**	**-0.6**
	comp=Z,1.2nm,0.8s,mb4.1,baz=289,slow=9.7,SNR=6.9						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**19 50 19.0**	**-0.9**
	comp=Z,1.3nm,0.3s,mb4.4,baz=38,slow=6.4,SNR=11						
PDAR	**Pinedale Array**	**64.70**	**54**	P	**P**	**19 50 22.6**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=300,slow=1.9,SNR=14						
NB2	**NORSAR Subarra**	**68.43**	**341**	P	**P**	**19 50 45.9**	**-0.7**
	comp=Z,5.5nm,1.0s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.43**	**341**	P	**P**	**19 50 46.9**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=28,slow=6.4,SNR=4.1						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**19 51 06.5**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=34,slow=6.2,SNR=8.9						
CLL	**Collm**	**76.68**	**336**	*e*P	**P**	**19 51 36.0**	**+0.3**
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**19 51 39.4**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.4,baz=304,slow=4.3,SNR=34						
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**19 51 48.8**	**+2.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=58,slow=3.6,SNR=3.4						
GERES	**GERESS Array B**	**78.67**	**334**	P	**P**	**19 51 47.9**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=29,slow=4.5,SNR=5.3						

*IDC **17** 19:42:24.1±2.6, 656S×151.12E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=64.2km s-min=42.2km az=108.0*

NEIC 17 19:42:26.2±1.0, 670S×15110E, h10km, mb4.3/3, Error ellipse: s-maj=35.5km s-min=16.0km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.74**	**235**	*e*P	Pn	19 43 43.9	+6.2
PMG				*e*S	Sn	19 44 03.1	-30
KAKA	**Kakadu**	**19.33**	**251**	*e*P	Pn	19 46 53.1	+0.4
	8.3nm,0.7s						
WB2	**Warramunga Arr**	**20.92**	**229**	*e*P	P	19 47 09.1	+0.2
WRA	**Warramunga Arr**	**20.93**	**229**	P	P	19 47 09.8	+0.8
	1.0nm,0.4s,baz=56,slow=11,SNR=17						
AS31	**Alice Springs**	**23.61**	**223**	*e*P	P	19 47 37.0	-0.5
ASAR	**Alice Springs**	**23.61**	**223**	P	P	19 47 37.9	+0.3
	1.6nm,0.5s,baz=54,slow=8.7,SNR=37						
STKA	**Stephens Creek**	**26.57**	**198**	*e*P	P	19 48 05.2	+0.8
	3.1nm,0.4s						
STKA	**Stephens Creek**	**26.57**	**198**	P	P	19 48 05.5	+1.0
	4.4nm,0.5s,baz=11,slow=9.0,SNR=17						
FITZ	**Fitzroy Crossi**	**27.28**	**243**	*e*P	P	19 48 11.0	+0.2
	8.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.28**	**243**	P	P	19 48 11.1	+0.3
	2.4nm,0.8s,baz=53,slow=12,SNR=12						

*NIED **17** 19:44:00, 2850N×13000E, h35km, Mw4.9 Best double couple: M0 2.30000×10^16 NP1:φs=78.00000°, δ78.00000°, λ105.00000°. NP2:φs=204.00000°, δ19.00000°, λ38.00000°.*
*BJI **17** 19:44:21.9, 2824N×13037E, h38km, mB4.9, mb4.5, Ms4.6, Msz4.4*
*ISCJB **17** 19:44:26.5±0.4, 2855N±003×12995E±003, h37km±3km, mb5.0/92, MS4.6/10, Error ellipse: s-maj=5.7km s-min=3.3km az=72.9*
*MOS **17** 19:44:26.0±1.2, 2860N×12998E, h33km, mb5.3/32, Error ellipse: s-maj=9.7km s-min=5.2km az=115.6*
*JMA **17** 19:44:26.7, 2853N×12999E, h33km±1km, M4.9*
JMA Felt II J1.
*IDC **17** 19:44:27.5±4.0, 2859N×12985E, h31km±29km, mb4.5/24, mb1 4.7/29, mb1mx4.6/34, mbtmp4.6/29, ML4.6/5, MS4.4/12, Ms1 4.4/12, ms1mx4.0/48, Error ellipse: s-maj=14.6km s-min=10.3km az=82.0*
*NEIC **17** 19:44:28.5±0.7, 2854N×12986E, h39km±6km, mb5.0/41, MW4.8(NIED), Error ellipse: s-maj=6.1km s-min=5.1km az=115.0*
NEIC Recorded [2 JMA] on Amami-oshima and Kikaiga-shima.
*SZGRF **17** 19:44:32.9, 3080N×13202E, h33km, mb5.6, Southeast of Shikoku, Japan*

ISC 17 19:44:27.3±0.5, 2858N±003×12991E±003, h28km±3km, h30km±2.0km: pP-P, n248, σ0§94/256, mb5.0/92, MS4.6/10, 10C-24D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.27**	**168**	P	**Pb**	**19 44 33.1**	**-1.0**
JZK				*e*S	**Sb**	**19 44 38.1**	**-0.6**
JAM	**Amami Oshima**	**0.32**	**239**	P	**Pb**	**19 44 35.0**	**+0.3**
JAM				*e*S	**Sb**	**19 44 40.8**	**+0.9**
JTK	**Tokunoshima**	**1.16**	**227**	P	**Pn**	**19 44 47.8**	**+0.2**
JTK				*e*S	**Sn**	**19 45 02.6**	**+0.2**
JNN	**Nakanoshima**	**1.26**	**359**	P	**Pn**	**19 44 49.6**	**+0.6**
JKC	**Kuchinoerabu**	**1.90**	**7**	P	**Pn**	**19 44 58.2**	**+0.5**
JOW	**Kunigami**	**2.26**	**220**	Pn	**Pn**	**19 45 02.9**	**+0.1**
	105nm,0.3s,baz=82,slow=13,SNR=213						
JOW				Sn	**Sn**	**19 45 29.4**	**-0.3**
	194nm,0.3s,baz=52,slow=23,SNR=9.0						
JOW				LR	LR	19 46 12.0	
	comp=Z,5μm,18.0s,baz=257,slow=47						
JOW	**Kunigami**	**2.26**	**220**	P	**Pn**	**19 45 02.8**	**0.0**
JOW				*e*S	**Sn**	**19 45 30.0**	**+0.3**
JTN	**Tanegashima 3**	**2.27**	**24**	P	**Pn**	**19 45 03.1**	**+0.2**
JTN				*e*S	**Sn**	**19 45 30.6**	**+0.7**
JIH	**Iheya**	**2.31**	**229**	P	**Pn**	**19 45 03.8**	**+0.4**
NAH1	**Naha**	**3.08**	**220**	P	**Pn**	**19 45 14.6**	**+0.6**
JAGN	**Aguni-jima**	**3.09**	**231**	P	**Pn**	**19 45 15.2**	**+1.1**
JAGN				*e*S	**Sn**	**19 45 50.7**	**+0.6**
JJT2	**Tamagusuku 2**	**3.10**	**219**	P	**Pn**	**19 45 14.4**	**+0.1**
JJT2				*e*S	**Sn**	**19 45 50.8**	**+0.5**
JKE	**Kume jima 2**	**3.57**	**232**	P	**Pn**	**19 45 21.0**	**+0.3**
JKE				*e*S	**Sn**	**19 46 01.6**	**-0.3**
JNU	**Nakatsue**	**4.61**	**10**	Pn	**Pn**	**19 45 37.0**	**+1.9**
	115nm,0.3s,baz=229,slow=19,SNR=116						
JNU				Sn	**Sn**	**19 46 28.2**	**+0.7**
	12nm,0.3s,baz=258,slow=22,SNR=2.6						
JNU				LR	LR	19 46 58.1	
	comp=Z,1μm,18.4s,baz=312,slow=33						
TATO	**Taipei**	**8.34**	**246**	*e*P	**Pn**	**19 46 22.1**	**-4.1**
	89nm,1.0s						
YHNB	**Yeheng**	**8.57**	**245**	*e*P	**Pn**	**19 46 30.4**	**+1.0**
NACB	**Ninganchiao**	**8.65**	**241**	*e*P	**Pn**	**19 46 28.2**	**-2.4**
KSRS	**Korea Array**	**9.01**	**350**	Pn	**Pn**	**19 46 39.0**	**+3.6**
	baz=166,slow=14,SNR=58						
KSRS				LR	LR	19 50 26.5	
	comp=Z,3μm,18.4s,baz=185,slow=40						
INCN	**Inchon**	**9.30**	**344**	*e*P	**Pn**	**19 46 42.9**	**+3.5**
	63nm,0.8s						
JHJ	**Hachijo jima 2**	**9.62**	**59**	LR	LR	19 50 05.3	
	comp=Z,1μm,20.6s,baz=275,slow=35						
NJ2	**Nanjing**	**10.16**	**293**	*e*P	**Pn**	**19 46 56.8**	**+5.5**
NJ2				AP		19 47 06.1	
NJ2				XP		19 47 10.3	
NJ2				AMB	AMB		
	comp=Z,740nm,4.0s						
NJ2				LR	LR		
	comp=N,6μm,15.5s						
NJ2				LR	LR		
	comp=E,5μm,16.4s						
NJ2				LR	LR		
	comp=Z,3μm,17.4s						
MAJO	**Matsushiro**	**10.58**	**39**	*e*P	**Pn**	**19 46 56.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**	**10.58**	**39**	*e*P	**Pn**	**19 46 56.1**	**-0.9**
	comp=Z,12nm,0.6s						
MAT	**Matsushiro**	**10.58**	**39**	P	**Pn**	**19 46 56.2**	**-0.8**
MAT				*e*S	**Sn**	**19 48 56.2**	**+1.7**
MJAR	**Matsushiro Arr**	**10.58**	**39**	Pn	**Pn**	**19 46 56.7**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=241,slow=14,SNR=14						
CBIJ	**Chichi jima**	**10.96**	**95**	Pn	**Pn**	**19 47 01.4**	**-0.9**
	comp=Z,41nm,0.3s,baz=209,slow=1.0,SNR=24						
CBIJ				LR	LR	19 50 55.6	
	comp=Z,893nm,18.2s,baz=309,slow=35						
TIA	**Tai'an**	**13.21**	**308**	*e*P	**Pn**	**19 47 36.9**	**+4.0**
WHN	**Wuhan**	**13.69**	**282**	P	**Pn**	**19 47 43.5**	**+4.1**
CN2	**Changchun**	**15.61**	**348**	↓P	**Pn**	**19 48 10.5**	**+5.2**
CN2				*e*XP	sP	19 48 17.3	-3.0
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,13.0s						
CN2				LR	LR		
	comp=E,900nm,13.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
BJT	**Baijiatuau**	**16.08**	**319**	*e*P	**Pn**	**19 48 13.7**	**+2.4**
BJT				pmax	pmax		
	comp=Z,70nm,1.1s						
BJT	**Baijiatuau**	**16.08**	**319**	*e*P	**Pn**	**19 48 13.7**	**+2.4**
	comp=Z,70nm,1.1s						
BJI	**Beijing**	**16.09**	**319**	P	**Pn**	**19 48 14.0**	**+2.6**
BJI				AMB	AMB		
	comp=Z,14nm,1.1s						
BJI				AMB	AMB		
	comp=Z,551nm,5.8s						
BJI				LR	LR		
	comp=N,1μm,13.7s						
BJI				LR	LR		
	comp=E,2μm,13.7s						
BJI				LR	LR		
	comp=Z,1μm,19.7s						
BJI	**Beijing**	**16.09**	**319**	P	**Pn**	**19 48 14.0**	**+2.6**
	comp=Z,14nm,1.1s						
BJI				S	sS	19 51 36.8	+3.1
ASAJ	**Asahikawa**	**18.54**	**30**	P	**Pn**	**19 48 39.8**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=232,slow=15,SNR=9.6						
ASAJ				LR	LR	19 55 55.5	
	comp=Z,925nm,21.2s,baz=268,slow=37						
ASAJ	**Asahikawa**	**18.54**	**30**	P	**Pn**	**19 48 39.8**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,925nm,21.2s						
XAN	**Xi'an**	**18.73**	**292**	P	**Pn**	**19 48 44.6**	**+0.3**
XAN				AMB	AMB		
	comp=Z,55nm,0.8s						
HHC	**Hu-ho-hao-te**	**19.38**	**314**	*e*P	**Pn**	**19 48 51.9**	**-0.2**
HHC				XP	sP	19 49 04.3	+2.3
HHC				PP		19 49 07.3	
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,530nm,10.3s						
HHC				LR	LR		
	comp=N,1μm,14.7s						
HHC				LR	LR		
	comp=E,936nm,14.4s						
HHC				LR	LR		
	comp=Z,973nm,15.8s						
BTO	**Baotou**	**20.25**	**312**	*e*P	**P**	**19 49 00.1**	**-0.2**
QIZ	**Qiongzhong**	**20.65**	**247**	*e*P	**P**	**19 49 05.7**	**+1.1**
	comp=Z,33nm,1.0s						
KLR	**Kul'dur**	**20.67**	**3**	*e*P	**P**	**19 49 00.0**	**-4.9**
GYA	**Guiyang**	**20.72**	**270**	↑*i*P	**P**	**19 49 05.9**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	**20.92**	**25**	↓*i*P	**P**	**19 49 07.8**	**+0.3**
YSS				pmax	pmax		
	comp=Z,111nm,1.6s						
YSS	**Yuzh-Sakhalins**	**20.92**	**25**	*e*P	**P**	**19 49 08.2**	**+0.6**
	comp=Z,80nm,1.3s						
CD2	**Chengdu**	**22.81**	**282**	↑*i*P	**P**	**19 49 26.8**	**-1.0**
CD2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.0						
LZH	**Lanzhou**	**23.22**	**295**	*e*P	**P**	**19 49 29.8**	**-2.3**
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,171nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,12.6s						
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS4.8						
LZH	**Lanzhou**	**23.22**	**295**	*e*P	**P**	**19 49 29.7**	**-2.4**
LZH				*SP	sP	19 49 37.3	-6.1
LZH				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
LZH	**Lanzhou**	**23.22**	**295**	*e*P	**P**	**19 49 29.7**	**-2.4**
	comp=Z,40nm,1.2s,mb4.7						
LZH				pP		19 49 33.7	
LZH				sP	sP	19 49 37.3	-6.1
KMI	**Kunming**	**24.46**	**268**	P	**P**	**19 49 44.3**	**+0.6**
KMI				AP		19 49 49.4	
KMI				XP	sP	19 49 52.1	-3.3
KMI				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,180nm,3.7s						
KMI				LR	LR		
	comp=N,542nm,15.6s,MS4.3						
KMI				LR	LR		
	comp=E,518nm,17.2s,MS4.3						
KMI				LR	LR		
	comp=Z,739nm,21.9s,MS4.1						
KMI	**Kunming**	**24.46**	**268**	P	**P**	**19 49 44.2**	**+0.5**
KMI				*SP	sP	19 49 52.1	-3.3
KMI				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.7						
KMI	**Kunming**	**24.46**	**268**	P	**P**	**19 49 44.2**	**+0.5**
	comp=Z,41nm,1.3s,mb4.7						
KMI				pP		19 49 49.4	
KMI				sP	sP	19 49 52.1	-3.3
ULN	**Ulaanbaatar**	**26.16**	**324**	↓*i*P	**P**	**19 49 58.7**	**-0.5**
ULN	**Ulaanbaatar**	**26.16**	**324**	*e*P	**P**	**19 49 58.2**	**-1.0**
	comp=Z,8.6nm,0.7s,mb4.4						
CIT	**Chita**	**26.41**	**337**	*e*P	**P**	**19 50 00.9**	**-0.5**
CIT				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.6						
SONM	**Songino Array**	**26.49**	**323**	P	**P**	**19 50 01.5**	**-0.6**
	comp=Z,6.4nm,1.0s,mb4.1,baz=137,slow=8.7,SNR=31						
SONM				LR	LR	20 01 00.2	
	comp=Z,635nm,20.9s,MS4.2,baz=211,slow=38						
GTA	**Gaotai**	**27.08**	**301**	*e*P	**P**	**19 50 06.5**	**-0.9**
GTA				PCP	PcP	19 53 28.8	+0.9
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.3						
KKTK	**Khon Kaen**	**27.77**	**250**	P	**P**	**19 50 14.9**	**+1.3**
	comp=Z,432nm,0.7s,mb6.2						
NANT	**Nan**	**28.40**	**256**	↓P	**P**	**19 50 17.0**	**-2.2**
	comp=Z,88nm,1.0s,mb5.3						
ZAK	**Zakamensk**	**29.67**	**325**	*e*P	**P**	**19 50 29.4**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
CHTO	**Chiang Mai**	**29.90**	**258**	*e*P	**P**	**19 50 32.8**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**29.90**	**258**	*e*P	**P**	**19 50 32.8**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7						
YAK	**Yakutsk**	**33.46**	**360**	*e*P	**P**	**19 51 01.4**	**-2.4**
YAK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
YAK				pmax	pmax		
	comp=N,18nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
LSA	**Lhasa**	**33.77**	**281**	P	**P**	**19 51 08.0**	**+1.5**
LSA	**Lhasa**	**33.77**	**281**	*e*P	**P**	**19 51 07.7**	**+1.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
LSA	**Lhasa**	**33.77**	**281**	*e*P	**P**	**19 51 07.7**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8						
WMQ	**Urumqi**	**36.89**	**306**	*e*P	**P**	**19 51 32.5**	**-0.8**
JIRN	**Jiri**	**38.41**	**279**	*e*P	**P**	**19 51 46.5**	**+0.3**
	comp=Z,33nm,1.0s,mb5.0						
GUN	**Gumba**	**38.63**	**280**	*e*P	**P**	**19 51 48.5**	**+0.4**
	comp=Z,47nm,0.6s,mb5.4						
PKI	**Pulchoki**	**39.11**	**279**	*e*P	**P**	**19 51 51.7**	**-0.4**
	comp=Z,73nm,0.8s,mb5.5						
KKN	**Kakani**	**39.17**	**280**	*e*P	**P**	**19 51 52.5**	**-0.1**
	comp=Z,98nm,0.9s,mb5.5						
DMN	**Daman**	**39.36**	**280**	*e*P	**P**	**19 51 54.3**	**+0.1**
	comp=Z,58nm,0.8s,mb5.3						
GKN	**Gorkha**	**39.69**	**280**	*e*P	**P**	**19 51 56.7**	**-0.2**
	comp=Z,72nm,0.9s,mb5.4						
KOLN	**Koldanda**	**40.63**	**280**	*e*P	**P**	**19 52 04.7**	**-0.1**

SNR=19
AAK Ala-Archa 46.41 303 P **P** 19 52 51.7 +0.5
SNR=5.5
AAK Ala-Archa 46.41 303 *e*P **P** 19 52 49.7 -1.5
THN Thein Dam 46.44 289 *e*P **P** 19 52 49.9 -1.6
FITZ Fitzroy Crossi 46.59 186 *e*P **P** 19 52 52.6 -0.1
comp=Z,21nm,0.9s,mb5.1
FITZ Fitzroy Crossi 46.59 186 P **P** 19 52 52.6 0.0
comp=Z,8.2nm,0.8s,mb4.7,baz=359,slow=2.7,SNR=6.5
EKS2 Erkin-Say 46.94 303 P **P** 19 52 55.7 +0.3
SNR=5.1
WRAB Tennant Creek 48.41 174 *e*P **P** 19 53 06.0 -0.9
WRAB *e* 19 53 17.1
WRAB pmax pmax
comp=Z,20nm,1.1s,mb5.1
WRAB Tennant Creek 48.41 174 *e*P **P** 19 53 06.0 -0.9
comp=Z,20nm,1.1s,mb5.1
WRAB *e* 19 53 17.1
WRA Warramunga Arr 48.42 174 P **P** 19 53 06.3 -0.6
comp=Z,111nm,0.9s,mb4.9,baz=350,slow=8.4,SNR=20
WB2 Warramunga Arr 48.42 174 *e*P **P** 19 53 06.6 -0.3
CHKZ Chkalovo 49.48 318 *e*P **P** 19 53 13.6 -1.5
CHKZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CHKZ Chkalovo 49.48 318 *e*P **P** 19 53 13.6 -1.5
comp=Z,9.9nm,0.8s,mb4.9
BVAR Borovoye Array 49.56 317 P **P** 19 53 15.1 -0.5
comp=Z,19nm,0.7s,mb5.2,baz=93,slow=8.9,SNR=62
BVAR PcP PcP 19 54 36.5 -0.6
comp=Z,5.3nm,0.7s,baz=83,slow=3.6,SNR=5.3
BRVK Borovoye 49.62 317 *e*P **P** 19 53 15.3 -0.8
BRVK pmax pmax
comp=Z,34nm,0.8s,mb5.4
BRVK Borovoye 49.62 317 *e*P **P** 19 53 15.3 -0.8
comp=Z,34nm,0.8s,mb5.4
ZRNK Zerenda 50.39 317 *e*P **P** 19 53 20.6 -1.3
ZRNK pmax pmax
comp=Z,26nm,0.8s,mb5.3
ZRNK Zerenda 50.39 317 *e*P **P** 19 53 20.6 -1.3
comp=Z,26nm,0.8s,mb5.3
MBWA Marble Bar 50.41 192 *e*P **P** 19 53 21.6 -0.5
CTA Charters Tower 50.89 160 P **P** 19 53 25.5 -0.2
comp=Z,6.4nm,0.8s,mb4.6,baz=335,slow=4.0,SNR=3.9
CTAO Charters Tower 50.89 160 *e*P **P** 19 53 25.8 +0.1
ASAR Alice Springs 52.08 175 P **P** 19 53 34.4 -0.3
comp=Z,4.8nm,0.9s,mb4.4,baz=352,slow=6.3,SNR=14
ARU Arti 56.50 321 *e*P **P** 19 54 06.3 -0.5
comp=Z,301nm,0.9s,mb6.3,SNR=19
ARU Arti 56.50 321 *e*P **P** 19 54 05.5 -1.3
ARU *e* 19 55 04.4
ARU *e* 19 56 08.7
ARU *e*S **S** 20 01 56.2 -0.1
ARU Arti 56.50 321 *e*P **P** 19 54 06.1 -0.7
comp=Z,47nm,0.9s,mb5.5
AKTK Aktyubinsk 57.27 314 P **P** 19 54 11.5 -0.8
AKTO Aktyubinsk 57.27 314 P **P** 19 54 11.5 -0.8
comp=Z,3.7nm,0.8s,mb4.5,baz=72,slow=11,SNR=7.2
AKTO Aktyubinsk 57.27 314 P **P** 19 54 11.5 -0.8
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SOKR Solikamsk 57.34 325 *e*P **P** 19 54 12.1 -0.7
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,980nm,21.0s,MS4.9
SVW2 Sparrevohn 57.99 34 *e*P **P** 19 54 17.8 +0.5
ORR Orenburg 59.17 315⇓*i*P **P** 19 54 25.0 -0.5
ORR pmax pmax
comp=Z,30nm,0.8s,mb5.4
ORR MLR MLR
comp=Z,660nm,18.0s,MS4.8
ABKT Ailbek 59.43 299 P **P** 19 54 28.0 +0.7
comp=Z,115nm,0.7s,mb6.0,SNR=10
KDAK Kodiak Island 59.75 37 P **P** 19 54 28.9 -0.7
comp=Z,33nm,0.8s,mb5.4,baz=242,slow=6.0,SNR=11
SLKM Skilak Lake 60.66 34 *e*P **P** 19 54 35.9 +0.2
STKA Stephens Creek 61.14 169 *e*P **P** 19 54 38.4 -0.6
comp=Z,6.0nm,0.8s,mb4.8
STKA Stephens Creek 61.14 169 P **P** 19 54 38.7 -0.3
comp=Z,6.1nm,0.7s,mb4.8,baz=320,slow=5.9,SNR=11
DZM Mont Dzumac 61.46 141 P **P** 19 54 42.5 +1.3
comp=Z,5.9nm,0.8s,mb4.8,baz=342,slow=16,SNR=5.3
EGAK Eagle 64.09 28 *e*P **P** 19 54 58.0 -0.7
comp=Z,8.7nm,0.9s,mb4.8
DAWY Dawson 65.00 29 *e*P **P** 19 55 04.5 -0.2
TMCR Tamitsa 65.47 331 *e*P **P** 19 55 06.8 -0.9
TMCR pmax pmax
comp=Z,42nm,1.0s,mb5.4
INK Inuvik 66.15 24 P **P** 19 55 12.0 -0.1
comp=Z,9.9nm,0.6s,mb5.0,baz=295,slow=5.0,SNR=26
INK Inuvik 66.15 24 *e*P **P** 19 55 11.8 -0.3
INK pmax pmax
comp=Z,717nm,1.0s
INK Inuvik 66.15 24 *e*P **P** 19 55 11.8 -0.3
comp=Z,717nm,1.0s
VRHR Novokhopersk 67.30 317 *e*P **P** 19 55 18.3 -1.1
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,2.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
KEV Kevo 67.81 339 *e*p **P** 19 55 19.4 -3.2
MOS Moscow 68.12 322 *e*P **P** 19 55 21.4 -3.2
MOS pmax pmax
comp=Z,104nm,1.2s,mb5.7
ARCES ARCESS Array B 68.38 339 P **P** 19 55 24.6 -1.5
comp=Z,5.6nm,0.8s,mb4.6,baz=72,slow=7.9,SNR=6.7
ARCES LR LR 20 30 10.4
comp=Z,503nm,18.2s,MS4.8,baz=156,slow=40
ZEI Tsey 68.47 308 *e*P **P** 19 55 26.6 -0.2
ZEI *e**PP pP 19 55 35.0 -0.6
ZEI pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRSR Storozhevoye 68.72 318 *e*P **P** 19 55 27.8 -0.5
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.3
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,50nm,0.9s
OBN Obninsk 68.90 322⇓*i*P **P** 19 55 28.6 -0.9
OBN *e* pP 19 55 37.0 -1.3
OBN *e**PP pP 19 55 46.2 +7.9
OBN *e*S S 20 04 26.5 -5.4
OBN pmax pmax
comp=Z,48nm,1.2s,mb5.3
OBN Obninsk 68.90 322 *e*P **P** 19 55 29.0 -0.5
comp=Z,13nm,0.8s,mb4.9
KIV Kislovodsk 68.91 309⇓*e*P **P** 19 55 29.3 -0.2
KIV pmax pmax
comp=Z,45nm,1.3s,mb5.2
KIV Kislovodsk 68.91 309 *e*P **P** 19 55 29.8 +0.3
comp=Z,28nm,1.0s,mb5.1
ALE Alert 68.97 2 P **P** 19 55 29.0 -0.9
comp=Z,92nm,0.9s,mb5.7,SNR=7.6
MIB Mutribah 70.48 294 *e*P **P** 19 55 39.3 +0.1
MIB AMb AMB 19 55 40.0
comp=Z,52nm,0.9s,mb5.5
RDF Al-Radifah 70.64 293 *e*P **P** 19 55 40.1 -0.1
RDF AMb AMB 19 55 41.9
comp=Z,61nm,0.6s,mb5.7
NAY Al-Naaiem 70.77 293 *e*P **P** 19 55 40.8 -0.2
NAY AMb AMB 19 55 41.7
comp=Z,42nm,0.7s,mb5.5
FINES FINESS Array B 71.56 331 P **P** 19 55 44.5 -1.3
comp=Z,3.1nm,0.6s,mb4.4,baz=72,slow=6.3,SNR=11
ANN Anapa 72.12 312 *e*P **P** 19 55 46.3 -2.8
ANN pmax pmax
comp=Z,92nm,1.3s,mb5.5
RES Resolute Bay 72.97 11 *e*P **P** 19 55 53.3 -0.9
RES pmax pmax
comp=Z,1μm,1.3s
RES Resolute Bay 72.97 11 *e*P **P** 19 55 53.3 -0.8
comp=Z,1μm,1.3s
ELZG Elazig 73.51 305 *i* P **P** 19 55 59.0 +1.6
MALT Malatya 73.99 305⇓*i*P **P** 19 56 01.7 +1.6
MALT Malatya 73.99 305 ⇓P **P** 19 56 01.7 +1.5
SIM Simferopol' 74.22 313*de*P **P** 19 56 01.7 +0.2
SIM pmax pmax
comp=Z,39nm,0.9s,mb5.3
AKASG Malin Array Be 74.72 320 P **P** 19 56 03.7 -0.7
comp=Z,17nm,0.7s,mb5.1,baz=58,slow=6.3,SNR=69
AKASG LR LR 20 31 47.5
comp=Z,542nm,18.3s,MS4.9,baz=60,slow=38
AKASG Malin Array Be 74.72 320 P **P** 19 56 03.7 -0.7
AKASG LR LR 20 31 47.5
AKBB Malin Array Si 74.72 320 *e*P **P** 19 56 02.9 -1.5
KIEV Kiev 74.73 320 *e*P **P** 19 56 02.8 -1.7
KIEV pmax pmax
comp=Z,20nm,0.8s,mb5.1
KIEV Kiev 74.73 320 *e*P **P** 19 56 02.8 -1.7
comp=Z,20nm,0.8s,mb5.1
BOYT Boyabat 75.17 309 *i* P **P** 19 56 07.3 +0.3
CTKT Corum 75.59 308 *i* P **P** 19 56 10.3 +0.9
YKA Yellowknife Ar 75.78 26 P **P** 19 56 10.4 -0.1
comp=Z,7.2nm,0.8s,mb4.7,baz=301,slow=5.4,SNR=12
BALT Daday 76.16 310 *i* P **P** 19 56 13.4 +0.8
CDAG Cicekdag 76.31 308 *i* P **P** 19 56 14.3 +0.8
AVNT Avonos 76.34 307 *i* P **P** 19 56 14.0 +0.4
SUW Suwalki 76.43 324 *e*P **P** 19 56 13.2 -1.0
ELDT Eldivan 76.58 309 *i* P **P** 19 56 15.4 +0.3
BR131 Keskin Array S 76.77 308 *e*P **P** 19 56 16.1 -0.1
comp=Z,23nm,0.8s,mb5.2
BRTR Keskin Array B 76.77 308 P **P** 19 56 16.1 -0.1
comp=Z,28nm,0.9s,mb5.2,baz=100,slow=4.4,SNR=116
ANTO Ankara 77.29 308⇓*i*P **P** 19 56 19.9 +0.8
ANTO Ankara 77.29 308 ⇓P **P** 19 56 19.9 +0.8
SGKT Sivrigaynuk 77.48 309 *i* P **P** 19 56 21.0 +0.8
NB2 NORSAR Subarra 77.87 334 P **P** 19 56 20.2 -2.1
comp=Z,11nm,1.0s,mb4.7,baz=52,slow=5.3
NOA NORSAR Array B 77.87 334 P **P** 19 56 20.8 -1.5
comp=Z,3.6nm,0.7s,mb4.4,baz=49,slow=5.3,SNR=9.4
NOA LR LR 20 36 55.7
comp=Z,200nm,18.1s,MS4.5,baz=255,slow=40
CFR Carcaliu 77.91 315⇑*i*P **P** 19 56 27.0 +4.5
TIRR Tirgusor 78.08 314⇑*i*P **P** 19 56 23.4 0.0
TIRR Tirgusor 78.08 314 *e*P **P** 19 56 21.9 -1.5
comp=Z,19nm,1.2s,mb4.9
VRI Vrincioaia 78.45 316⇑*i*P **P** 19 56 26.7 +1.2
VRI Vrincioaia 78.45 316 ⇑P **P** 19 56 26.7 +1.2
BURAR Bucovina Array 78.50 318⇓*i*P **P** 19 56 26.4 +0.6
BURAR Bucovina Array 78.50 318 ⇓P **P** 19 56 26.4 +0.6
ESKT Eskisehir 78.79 309 *i* P **P** 19 56 26.9 -0.4
BORA Eskisehir 78.89 309 *i* P **P** 19 56 27.9 -0.1
MLR Muntele Rosu 79.11 316⇓*i*P **P** 19 56 29.3 +0.2
MLR Muntele Rosu 79.11 316 ⇓P **P** 19 56 29.3 +0.1
CSS Prodhromos 79.13 304 *e*P **P** 19 56 28.0 -1.2
comp=Z,16nm,0.8s,mb5.0
KOLS Kolonicke sedl 79.52 320 *e*P **P** 19 56 31.8 +0.5
ULDT Uludag 79.66 310 *i* P **P** 19 56 32.5 +0.4
UZH Uzhgorod 79.66 320 *e*P **P** 19 56 32.4 +0.3
STHS Stebnicka Huta 79.83 321 *e*P **P** 19 56 33.5 +0.4
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 79.83 321 *e*P **P** 19 56 33.5 +0.4
comp=Z,3.0nm,0.8s,mb4.3
TKTP Tekketepe 79.85 308 *i* P **P** 19 56 33.4 +0.3
OJC Ojcow 80.19 322 *e*P **P** 19 56 35.3 +0.3
NIE Niedzica 80.35 321 *e*P **P** 19 56 36.6 +0.8
KECS Kecovo 80.76 321 *e*P **P** 19 56 37.1 -0.9
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS Kecovo 80.76 321 *e*P **P** 19 56 37.1 -0.9
comp=Z,3.8nm,1.2s,mb4.2
DNZL Cakiroluk 80.90 308 *i* P **P** 19 56 45.6 +6.8
OKC Ostrava-Krasne 81.29 323 *e*P **P** 19 56 40.5 -0.4
OKC *ep*P pP 19 56 48.8 -1.1
MORC Moravsky Berou 81.64 323⇓*i*P **P** 19 56 42.7 -0.1
VYHS Vyhne 81.67 321 *e*P **P** 19 56 43.2 +0.3
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VYHS Vyhne 81.67 321 *e*P **P** 19 56 43.2 +0.3
comp=Z,7.3nm,1.2s,mb4.5
KSP Ksiaz 81.69 324 *e*P **P** 19 56 43.4 +0.4
KSP *e**PP pP 19 56 51.6 -0.4
EDM Edmonton 81.82 33 *e*P **P** 19 56 43.8 +0.1
DPC Dobruska-Polom 81.96 324 *e*P **P** 19 56 44.8 +0.4
DPC *ep*P pP 19 56 55.4 +2.0
URLA Izmir 82.25 309 *i* P **P** 19 56 48.3 -0.7
VTS Vitosha 82.29 314⇑*i*P **P** 19 56 47.3 +1.2
VTS Vitosha 82.29 314 ⇑P **P** 19 56 47.3 +1.2
VRAC Vranov 82.42 323 LR LR 20 37 16.5
comp=Z,536nm,18.6s,MS4.9,baz=174,slow=38
VRAC Vranov 82.42 323⇓*i*P **P** 19 56 47.4 +0.6
SMOL Smolenice 82.43 322 *e*P **P** 19 56 48.0 +1.1
PVCC Panska Ves 82.76 324 *e*P **P** 19 56 48.7 +0.1
ZST Bratislava 82.79 322 *e*P **P** 19 56 50.4 +1.7
ZST pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ZST Bratislava 82.79 322 *e*P **P** 19 56 50.4 +1.7
comp=Z,8.0nm,1.1s,mb4.7
NEW Newport 82.84 38 P **P** 19 56 49.2 +0.2
comp=Z,7.7nm,0.8s,mb4.8,baz=347,slow=4.1,SNR=6.4
NEW Newport 82.84 38 P **P** 19 56 49.2 +0.2
BRG Berggiesshubel 82.87 325 *e*P **P** 19 56 48.8 -0.3
comp=Z,4.6nm,1.1s,mb4.4
BRG Berggiesshubel 82.87 325 *e*P **P** 19 56 48.8 -0.4
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
PKSM Moragy 83.06 319⇑*i*P **P** 19 56 50.7 +0.6
PKSM Moragy 83.06 319 ⇑P **P** 19 56 50.7 +0.6
CLL Collm 83.08 326 *e*P **P** 19 56 50.0 -0.2
CLL pmax pmax
comp=Z,36nm,1.5s,mb5.2
CLL Collm 83.08 326 *e*P **P** 19 56 50.0 -0.2
comp=Z,36nm,1.5s,mb5.2
CLL Collm 83.08 326 *i* P **P** 19 56 49.7 -0.5
comp=Z,36nm,1.5s,mb5.2
CLL *e*(PcP) PcP 19 56 57.0 +2.2
CONA Conrad Observa 83.62 322⇓*i*P **P** 19 56 54.1 +1.1
comp=Z,8.5nm,0.9s,mb4.9
NKC Novy Kostel 84.02 325 *e*P **P** 19 56 53.9 -1.2
NKC *ep*P pP 19 57 02.9 -1.2
SANT Santorini 84.04 308 *e*P **P** 19 56 54.4 -0.8
comp=Z,38nm,1.1s,mb5.4
KHC Kasperske Hory 84.12 324 *e*P **P** 19 56 54.9 -0.7
KHC *ep*P pP 19 57 02.9 -1.7
ARSA Arzberg 84.21 321⇓*i*P **P** 19 56 56.7 +0.7
comp=Z,5.6nm,1.1s,mb4.6
GERES GERESS Array B 84.22 323 P **P** 19 56 56.2 +0.1
comp=Z,6.9nm,1.1s,mb4.7,baz=51,slow=4.2,SNR=22
GERES GERESS Array B 84.22 323 P **P** 19 56 56.2 +0.1
GERES pmax pmax
comp=Z,7.0nm,1.1s
MOA Molln 84.53 322⇓*i*P **P** 19 56 57.3 -0.4
comp=Z,9.1nm,1.1s,mb4.8
SFJD Kangerlussuaq 84.73 0 *i* P **P** 19 56 57.9 -0.8
GRA1 Grafenberg Arr 84.97 325 *e*P **P** 19 57 00.0 +0.1
comp=Z,61nm,1.6s,mb5.5
GRF Grafenberg Arr 84.97 325 *e*P **P** 19 57 00.0 +0.1
comp=Z,61nm,1.6s,mb5.5
GRF Grafenberg Arr 84.97 325 *e*P **P** 19 57 00.0 +0.1
GRF pmax pmax
comp=Z,61nm,1.6s,mb5.5
GRF Grafenberg Arr 84.97 325 *e*P **P** 19 57 00.0 +0.1
GRF pmax pmax
comp=Z,61nm,1.6s,mb5.5
KBA Koelnbreinsper 85.50 322⇓*i*P **P** 19 57 04.2 +1.7
comp=Z,18nm,1.7s,mb4.9
MOTA Moosalm 86.52 323⇓*i*P **P** 19 57 07.6 0.0
comp=Z,8.3nm,0.9s,mb5.0
EGMT Eagleton 86.88 35 *e*P **P** 19 57 09.6 +0.2
comp=Z,19nm,1.0s,mb5.3
DLMT Dillon 87.06 39 *e*P **P** 19 57 10.7 +0.5
comp=Z,22nm,1.1s,mb5.3
HLID Hailey 87.15 41 *e*P **P** 19 57 11.7 +1.1
comp=Z,8.3nm,1.0s,mb4.9
NVAR Mina Array Bea 87.81 47 P **P** 19 57 15.0 +1.2
comp=Z,1.7nm,0.8s,mb4.4,baz=287,slow=7.7,SNR=12
QLMT Earthquake Lak 88.04 39 *e*P **P** 19 57 16.1 +1.2
YMR Madison River 88.40 39 *e*P **P** 19 57 17.9 +1.3
comp=Z,13nm,0.8s,mb5.2
YFT Old Faithful 88.61 39 *e*P **P** 19 57 20.2 +2.6
FLWY Flagg Ranch 88.92 39 *e*P **P** 19 57 20.7 +1.6
comp=Z,13nm,0.8s,mb5.3
HWUT Hardware Ranch 90.01 41 *e*P **P** 19 57 25.4 +1.3
comp=Z,19nm,1.1s,mb5.3
PDAR Pinedale Array 90.41 39 P **P** 19 57 26.4 +0.3
comp=Z,3.6nm,0.8s,mb4.8,baz=321,slow=1.0,SNR=34
MSU Marysvale 91.60 44 *e*P **P** 19 57 33.2 +1.6
ULM Lac du Bonnet 91.66 27 P **P** 19 57 31.9 +0.1
comp=Z,8.3nm,0.9s,mb5.1,baz=314,slow=5.0,SNR=7.9
RSSD Black Hills 92.45 36 *e*P **P** 19 57 35.9 +0.4
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
RSSD Black Hills 92.45 36 *e*P **P** 19 57 35.9 +0.4
comp=Z,6.1nm,0.9s,mb4.9
WUAZ Wupatki 93.99 46 *e*P **P** 19 57 43.7 +1.2
comp=Z,10.0nm,1.1s,mb5.2
TORD Torodi Ar. Bea 114.99 302 PKP PKiKP 20 03 04.9 -0.6
comp=Z,1.3nm,0.9s,baz=51,slow=1.8,SNR=3.7
TORD PP PP 20 04 07.2 +2.5
comp=Z,1.1nm,1.1s,baz=47,slow=6.8,SNR=3.9
TORD Torodi Ar. Bea 114.99 302 PKP PKiKP 20 03 04.9 -0.6
TORD PP PP 20 04 07.2 +2.5

IDC ***17*** *19:45:17.5±0.8, 653S×15106E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/17, mbtmp4.3/13, ML2.5/1, MS4.4/3, Ms1 4.4/3, ms1mx3.4/32, Error ellipse: s-maj=25.8km s-min=16.2km az=99.0*
ISCJB ***17*** *19:45:20.0±5.7, 652S±0.10×15107E±0.10, h27km±40km, mb4.3/14, MS4.5/3, Error ellipse: s-maj=18.6km s-min=13.4km az=86.2*
NEIC ***17*** *19:45:19.4±0.5, 653S×151.10E, h10km, mb4.9/5, Error ellipse: s-maj=15.5km s-min=10.4km az=125.0*
ISC 17 19:45:24.4±2.6, 656S±010×1511E±01, h51km±23km, n26, o0$71/21, mb4.3/13, MS4.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.79**	**233**	Pn		**19 46 32.6**	**-1.3**
	1.3nm,0.3s,baz=90,slow=13,SNR=2.7						
PMG				Sn		19 47 29.0	+1.0
	6.6nm,0.3s,baz=310,slow=16,SNR=6.1						
PMG				LR	LR	19 48 32.0	
	comp=Z,305nm,19.4s,baz=63,slow=40						
WRA	**Warramunga Arr**	**20.99**	**229**	P		**19 50 03.8**	**+0.5**
	8.9nm,0.9s,baz=53,slow=11,SNR=18						
DZM	**Mont Dzumac**	**21.42**	**138**	P		**19 50 08.8**	**+0.9**
	11nm,0.9s,mb4.2,baz=355,slow=11,SNR=4.5						
AS31	**Alice Springs**	**23.69**	**222**	*e*P		**19 50 31.4**	**+0.1**
ASAR	**Alice Springs**	**23.69**	**222**	P		**19 50 31.8**	**+0.4**
	4.0nm,0.5s,mb4.2,baz=55,slow=9.6,SNR=37						
STKA	**Stephens Creek**	**26.70**	**198**	P		**19 50 57.7**	**-1.0**
	12nm,0.8s,mb4.5,baz=9.4,slow=9.3,SNR=19						
FITZ	**Fitzroy Crossi**	**27.31**	**243**	*e*P		**19 51 04.8**	**+0.6**
	24nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P		**19 51 04.1**	**-0.1**
	2.9nm,0.5s,mb4.0,baz=67,slow=12,SNR=14						
KSRS	**Korea Array**	**48.82**	**335**	P		**19 54 03.9**	**-0.6**
	1.9nm,0.8s,mb4.2,baz=159,slow=8.5,SNR=7.5						
RAR	**Rarotonga**	**49.69**	**112**	LR	LR	20 12 06.9	
	comp=Z,284nm,21.3s,MS4.2,baz=62,slow=32						
ASAJ	**Asahikawa**	**51.01**	**352**	LR	LR	20 15 46.2	
	comp=Z,388nm,18.3s,MS4.5,baz=183,slow=36						
SONM	**Songino Array**	**66.90**	**329**	P		**19 56 12.1**	**+0.9**
	1.9nm,0.8s,mb4.2,baz=147,slow=3.6,SNR=9.2						
VNDA	**Vanda**	**71.16**	**178**	P		**19 56 37.0**	**-0.6**
	1.6nm,0.9s,mb3.9,baz=331,slow=5.9,SNR=7.8						
MKAR	**Makanchi Array**	**80.51**	**320**	P		**19 57 31.2**	**+0.2**
	1.4nm,0.8s,mb3.9,baz=125,slow=3.4,SNR=5.6						
MKAR	**Makanchi Array**	**80.51**	**320**	P		**19 57 31.2**	**+0.2**
ZAL	**Zalesovo**	**81.66**	**327**	P		**19 57 36.0**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=11,slow=8.4,SNR=4.3						
MAW	**Mawson**	**83.29**	**203**	P		**19 57 45.3**	**-0.3**
	1.4nm,0.7s,mb4.1,baz=92,slow=6.2,SNR=4.2						
QSPA	**South Pole Qui**	**83.42**	**180**	*e*P		**19 57 45.7**	**-0.6**
	9.8nm,0.8s,mb4.9						
EGAK	**Eagle**	**86.65**	**23**	*e*P		**19 58 02.7**	**+0.3**
	11nm,1.0s,mb5.0						
DAWY	**Dawson**	**87.09**	**24**	*e*P		**19 58 05.5**	**+0.9**
INK	**Inuvik**	**90.71**	**21**	P		**19 58 21.8**	**+0.1**
	4.4nm,0.9s,mb4.8,baz=257,slow=5.9,SNR=4.3						
INK	**Inuvik**	**90.71**	**21**	P		**19 58 21.8**	**+0.1**
AKTO	**Aktyubinsk**	**96.94**	**320**	LR	LR	20 48 30.1	
	comp=Z,234nm,18.0s,MS4.7,baz=108,slow=39						
GERES	**GERESS Array B**	**124.60**	**327**	PKP	PKPdf	20 04 20.1	+2.0
	0.3nm,0.4s,baz=15,slow=4.1,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**149.13**	**285**	*e*P	PKPdf	20 05 08.3	+5.5
TORD	**Torodi Ar. Bea**	**149.13**	**285**	PKPbc	PKPbc	20 05 10.2	+3.2
	2.7nm,0.6s,baz=74,slow=2.9,SNR=13						

ISCJB ***17*** *19:45:53.0±0.3, 4308N±002×003E±002, h8km, Error ellipse: s-maj=3.0km s-min=2.4km az=144.2*
STR ***17*** *19:45:54.4±0.1, 4301N×000E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *19:45:54.3±0.1, 4300N×001W, h8km, Ml2.1/6, Error ellipse: s-maj=1.9km s-min=1.3km az=176.0*
ISC 17 19:45:53.8±0.3, 4303N±002×001E±002, h15km±3km, n49, o0$64/62, 1C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.05**	**65**	Pg	**Pg**	**19 45 56.3**	**-0.3**
LABF				Sg	**Sg**	**19 45 57.7**	**-0.7**
LABF	**Labassere**	**0.05**	**65**	Pg	**Pg**	**19 45 56.4**	**-0.1**
LABF				Lg		19 45 57.8	
VIEF	**Viey**	**0.14**	**176**	Pg	**Pg**	**19 45 57.5**	**-0.1**
VIEF				Sg	**Sg**	**19 45 59.5**	**-0.6**
VIEF	**Viey**	**0.14**	**176**	Pg	**Pg**	**19 45 57.5**	**-0.1**
VIEF				Lg		19 45 59.5	
EPF	**Esparros**	**0.24**	**89**	*e*Pg	**Pg**	**19 45 59.4**	**+0.3**
EPF				*e*Sg	**Sg**	**19 46 03.4**	**+0.7**
	26nm,0.2s						
EPF	**Esparros**	**0.24**	**89**	Pg	**Pg**	**19 45 59.4**	**+0.3**
EPF				Lg		19 46 03.4	
	13nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**279**	Pg	**Pg**	**19 45 59.9**	**-0.1**
REYF				Sg	**Sg**	**19 46 04.3**	**0.0**
REYF	**Montagne du Re**	**0.30**	**279**	Pg	**Pg**	**19 45 60.0**	**-0.1**
REYF				Lg		19 46 04.3	
RESF	**Ens**	**0.33**	**132**	Pg	**Pg**	**19 46 00.9**	**+0.4**
RESF				Sg	**Sg**	**19 46 05.5**	**+0.4**
RESF	**Ens**	**0.33**	**132**	Pg	**Pg**	**19 46 00.8**	**+0.3**
RESF				Lg		19 46 05.6	
EBIE	**Bielsa**	**0.35**	**164**	⇑Pg	**Pg**	**19 46 01.2**	**+0.2**
	6.4nm,0.3s,SNR=18						
EBIE				Lg		19 46 05.9	
	2.9nm,0.3s,SNR=6.7						
ETSF	**Etsaut**	**0.44**	**253**	*e*Pg	**Pg**	**19 46 02.6**	**+0.1**
ETSF				*e*Sg	**Sg**	**19 46 08.6**	**+0.2**
	13nm,0.2s						
ETSF	**Etsaut**	**0.44**	**253**	Pg	**Pg**	**19 46 02.6**	**+0.1**
ETSF				Lg		19 46 08.6	
	6.3nm,0.2s						
ATE	**Arette**	**0.53**	**277**	Pg	**Pg**	**19 46 05.0**	**+0.9**
ATE				Sg	**Sg**	**19 46 12.2**	**+1.0**
ATE	**Arette**	**0.53**	**277**	Pg	**Pg**	**19 46 04.9**	**+0.7**
ATE				Lg		19 46 11.5	
MELF	**Melles**	**0.57**	**105**	Pg	**Pg**	**19 46 05.3**	**+0.3**
MELF				Sg	**Sg**	**19 46 13.4**	**+0.8**
MELF	**Melles**	**0.57**	**105**	Pg	**Pg**	**19 46 05.2**	**+0.2**
MELF				Lg		19 46 13.2	
SALF	**Salau**	**0.91**	**107**	Pg	**Pg**	**19 46 11.5**	**+0.2**
SALF	**Salau**	**0.91**	**107**	Pg	**Pg**	**19 46 11.5**	**+0.2**
SALF				Lg		19 46 23.7	
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	**Pg**	**19 46 10.7**	**-0.7**
SJPF				*e*Sg	**Sg**	**19 46 21.9**	**-1.4**
	3.8nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**276**	Pg	**Pg**	**19 46 10.7**	**-0.7**
SJPF				Lg		19 46 21.9	
	1.9nm,0.3s						
IPRE	**Itoiz**	**1.03**	**258**	Lg		19 46 29.4	
	11nm,3.7s,SNR=7.9						
ELIZ	**Elizondo**	**1.14**	**277**	Lg		19 46 29.2	
	9.7nm,1.2s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**267**	Lg		19 46 32.9	
	5.0nm,1.7s,SNR=7.9						
CORG	**Organya**	**1.25**	**129**	Pg	**Pg**	**19 46 17.8**	**0.0**
CORG				Lg		19 46 34.9	
	0.9nm,0.3s						
CAVN	**Les Avellanes**	**1.27**	**154**	Pg	**Pg**	**19 46 18.2**	**0.0**
CAVN				Lg		19 46 35.3	
	7.6nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	**Pg**	**19 46 20.8**	**+1.1**
	10nm,0.3s,SNR=6.7						
ESAC				Lg		19 46 39.6	
	12nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**195**	Lg		19 47 28.1	
	SNR=7.9						
CLLI	**Llivia**	**1.55**	**110**	Pg	**Pg**	**19 46 22.7**	**-0.8**
CLLI				Lg		19 46 42.8	
	0.9nm,0.9s						
EMIR	**Miracle**	**1.58**	**134**	Pg	**Pg**	**19 46 24.5**	**+0.5**
	30nm,1.2s,SNR=4.0						
EMIR				Lg		19 46 46.2	
	43nm,1.2s,SNR=6.8						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pn	**Pn**	**19 46 22.4**	**+0.3**
MTLF	**Montolieu**

MTLF				Pg		Pg	19 46 25.5	+0.1	
MTLF				Lg			19 46 46.6		
	2.2nm,0.3s								
CBRU	**Bruguera**	**1.76**	**114**	Lg			19 46 48.3		
	1.8nm,0.5s								
EPOB	**Poblet**	**1.85**	**154**	Pg		Pg	19 46 28.8	-0.5	
	2.0nm,0.7s,SNR=7.9								
EPOB				Lg			19 46 52.9		
	2.3nm,1.2s,SNR=7.9								
LFF	**La Frestale**	**1.98**	**15**	*e*Pg		Pg	19 46 31.8	0.0	
LFF				*e*Sg		Sg	19 46 58.9	+1.3	
	3.5nm,0.3s								
LFF	**La Frestale**	**1.98**	**15**	Pg		Pg	19 46 31.8	0.0	
LFF				Lg			19 46 58.9		
	1.8nm,0.3s								
ERTA	**Horta de San J**	**2.08**	**173**	Lg			19 47 01.2		
	22nm,4.1s,SNR=7.9								
EJON	**La Jonquera**	**2.20**	**104**	Pg		Pg	19 46 32.7	-3.2	
	1.3nm,0.5s,SNR=7.9								
EJON				Lg			19 47 03.8		
	1.3nm,0.4s,SNR=7.9								
CAF	**Calviac**	**2.41**	**37**	*e*Pn		Pn	19 46 32.3	-0.3	
CAF	**Calviac**	**2.41**	**37**	*e*Pg		Pg	19 46 39.8	-0.2	
CAF				*e*Sg		Sg	19 47 10.7	-0.5	
	1.6nm,0.2s								
CAF	**Calviac**	**2.41**	**37**	Pn		Pn	19 46 32.3	-0.3	
CAF				Pg		Pg	19 46 39.8	-0.2	
CAF				Lg			19 47 10.7		
	0.8nm,0.2s								
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Pn		Pn	19 46 33.4	-0.7	
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Pg		Pg	19 46 42.1	0.0	
RJF				*e*Sn		Sn	19 47 05.0	+0.4	
RJF				*e*Sg		Sg	19 47 15.5	+0.7	
	1.3nm,0.2s								
RJF	**Les Rejaudoux**	**2.52**	**25**	Pn		Pn	19 46 33.4	-0.7	
RJF				Pg		Pg	19 46 42.1	0.0	
RJF				Sn		Sn	19 47 05.0	+0.4	
RJF				Lg			19 47 15.5		
	0.6nm,0.2s								
ETOR	**Torete**	**2.69**	**216**	Lg			19 47 23.4		
	2.3nm,1.2s,SNR=7.9								
LASF	**Ste Croix**	**2.99**	**68**	*e*Pn		Pn	19 46 40.4	-0.1	
LASF	**Ste Croix**	**2.99**	**68**	*e*Pg		Pg	19 46 50.2	-0.8	
LASF				*e*Sg		Sg	19 47 28.9	-0.8	
	1.4nm,0.2s								
LASF	**Ste Croix**	**2.99**	**68**	Pn		Pn	19 46 40.4	-0.1	
LASF				Pg		Pg	19 46 50.2	-0.8	
LASF				Lg			19 47 28.9		
	0.7nm,0.2s								

LDG 17 19:46:39.8±0.1, 4304N×003W, h10km, MI1.6/3, Error ellipse: s-maj=4.9km s-min=1.6km az=164.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**85**	Pg	Pg	19 46 41.8	-0.3
LABF				Lg		19 46 43.1	
EPF	**Esparros**	**0.27**	**92**	*e*Pg	Pg	19 46 44.7	-0.6
EPF				*e*Sg	Sg	19 46 48.8	-0.2
	3.4nm,0.2s						
EPF	**Esparros**	**0.27**	**92**	Pg	Pg	19 46 44.7	-0.6
EPF				Lg		19 46 48.8	
	1.7nm,0.2s						
EBIE	**Bielsa**	**0.38**	**160**	Pg	Pg	19 46 46.5	-0.7
	SNR=7.9						
EBIE				Lg		19 46 50.1	
	SNR=7.9						
ETSF	**Etsaut**	**0.41**	**250**	*e*Pg	Pg	19 46 48.1	+0.2
ETSF				*e*Sg	Sg	19 46 54.0	+0.6
	2.9nm,0.2s						
ETSF	**Etsaut**	**0.41**	**250**	Pg	Pg	19 46 48.1	+0.2
ETSF				Lg		19 46 54.0	
	1.4nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**275**	*e*Pg	Pg	19 46 56.2	-0.5
SJPF				*e*Sg	Sg	19 47 07.3	-0.9
	1.1nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**275**	Pg	Pg	19 46 56.2	-0.5
SJPF				Lg		19 47 07.3	
	0.6nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	19 47 11.1	-0.8
MTLF				*e*Sg	Sg	19 47 32.3	-1.3
	1.4nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	Pg	Pg	19 47 11.1	-0.8
MTLF				Lg		19 47 32.3	
	0.7nm,0.3s						
CAF	**Calviac**	**2.42**	**38**	*e*Pg	Pg	19 47 24.7	-1.4
CAF				*e*Sg	Sg	19 47 56.3	-1.1
	0.6nm,0.3s						
CAF	**Calviac**	**2.42**	**38**	Pg	Pg	19 47 24.7	-1.4
CAF				Lg		19 47 56.3	
	0.3nm,0.3s						

KNET 17 19:47:57.2±0.3, 4256N×7536E, h19km±3km, ml2.9, Error ellipse: s-maj=2.7km s-min=2.1km az=16.0
ISCJB 17 19:47:58.1±0.7, 4256N±005×7534E±005, h4km±9km, Error ellipse: s-maj=8.9km s-min=5.7km az=122.5
NNC 17 19:47:58.8±0.7, 4259N×7534E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=4.8km s-min=3.6km az=120.0

ISC 17 19:47:58.4±0.6, 4256N±005×7532E±005, h2km±12km, n15, σ0§64/16, 7C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.29**	**289**	P	Pg	19 48 05.0	+0.9
	SNR=3208						
TKM2	**Tokmak 2**	**0.41**	**29**	P	Pg	19 48 06.4	+0.1
	SNR=218						
TKM2	**Tokmak 2**	**0.41**	**29**	⇑P	Pg	19 48 06.4	+0.1
	5.4nm,0.3s						
TKM2				⇑S	Sg	19 48 11.8	+0.2
	6.2nm,0.2s						
KZA	**Kyzart**	**0.49**	**186**	P	Pg	19 48 08.4	+0.6
	SNR=189						
CHMS	**Chumysh**	**0.61**	**316**	P	Pg	19 48 10.1	+0.1
	SNR=44						
AAK	**Ala-Archa**	**0.62**	**277**	P	Pg	19 48 10.6	+0.3
	SNR=202						
UCH	**Uchtor**	**0.69**	**241**	P	Pg	19 48 11.9	+0.3
	SNR=46						
ULHL	**Ulahol**	**0.75**	**115**	P	Pg	19 48 12.2	-0.7
	SNR=269						
USP	**Ospenovka**	**0.93**	**320**	P	Pg	19 48 15.9	-0.3
	SNR=155						
EKS2	**Erkin-Say**	**1.15**	**275**	P	Pg	19 48 20.5	+0.1
	SNR=176						
AML	**Almayashu**	**1.28**	**251**	P	Pg	19 48 22.8	-0.2
	SNR=28						
KNDC	**Almaty**	**1.37**	**61**	⇑P	Pn	19 48 24.1	-0.5
	13nm,0.2s						
KNDC				⇑S	Sg	19 48 42.6	0.0
	118nm,0.5s						
KK31	**Karatay Array**	**3.58**	**280**	⇑Pg	Pg	19 49 05.1	-1.9
	2.5nm,0.3s,baz=97,slow=16,SNR=192						
KK31				⇓Lg		19 49 51.4	
	29nm,0.5s,baz=99,slow=29						
MK05	**Makanchi Array**	**6.52**	**47**	⇑Pn	Pn	19 49 36.2	+0.8
	2.9nm,1.0s						
MK05				⇓Lg		19 51 21.2	
	2.4nm,0.6s						
KURK	**Kurchatov**	**8.46**	**14**	⇑Lg		19 52 26.4	
	9.4nm,1.2s						

ISCJB 17 19:52:32.6±0.6, 544S±0.1×1199W±0.2, h10km, mb4.2/11, MS4.7/7, Error ellipse: s-maj=18.2km s-min=15.1km az=47.9
IDC 17 19:52:32.6±0.7, 5436N×12001W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.3/15, mbtmp4.1/9, MS4.7/7, Ms1 4.7/7, ms1mx4.3/23, Error ellipse: s-maj=34.1km s-min=19.7km az=150.0
NEIC 17 19:52:33.9±0.5, 5433S×12002W, h10km, mb4.8/2, Error ellipse: s-maj=26.1km s-min=16.9km az=140.0
GCMT 17 19:52:33.9±0.3, 5465S×11945W, h16km±1km, MW5.2/73, Moment Tensor Solution. s30,c33; s73,c102; Duration: 1§0 Moment tensor: Scale 10¹⁶Nm; Mr0.23±.36; Mθθ2.36±.35; Mϕϕ-2.59±.34; Mrθ0.28±.92; Mθϕ6.78±.24; Mϕr-2.42±1.00; Best double couple: Mo7.60200×10¹⁶ NP1:ϕs279.00000°,δ72.00000°,λ-4.00000°. Principal axes: T 7.3010, Plg10.0000°, Azm144.0000°; N 0.6020, Plg72.0000°, Azm22.0000°; P -7.9040, Plg15.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 17 19:52:34.8, 5430S×12000W, h10km, Ms5.3, Msz5.2

ISC 17 19:52:34.0±0.6, 544S±01×1200W±02, h10km, n35, σ1§08/14, mb4.2/11, MS4.7/7, 2C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.13**	**133**	LR	LR	20 07 10.6	
	comp=Z,2μm,18.3s,MS4.8,baz=319,slow=30						
RKT	**Rikitea**	**33.24**	**334**	*e*S	**S**	**20 04 32.5**	**+1.2**
	489nm,27.2s						
RKT				*e*LR	LR	20 08 05.3	
	4μm,26.8s,baz=162						
VNDA	**Vanda**	**35.08**	**202**	P	**P**	**19 59 29.1**	**+1.8**
	3.4nm,1.1s,mb4.2,baz=95,slow=7.6,SNR=6.5						
QSPA	**South Pole Qui**	**35.75**	**180**	*e*P	**P**	**19 59 33.8**	**+0.8**
	8.8nm,1.0s,mb4.6						
TBI	**Tubuai**	**38.07**	**313**	*e*LR	LR	20 10 26.4	
	3μm,26.5s,baz=158						
PPT	**Papeete**	**43.27**	**317**	*e*LQ		20 10 32.6	
	2μm,27.2s						
PPT				*e*LR	LR	20 12 50.4	
	3μm,25.5s,baz=155						
RPZ	**Rata Peaks**	**44.67**	**254**	LR	LR	20 15 07.4	
	comp=Z,2μm,19.8s,MS5.0,baz=172,slow=30						
URZ	**Urewera**	**44.76**	**264**	LR	LR	20 15 20.3	
	comp=Z,484nm,21.3s,MS4.4,baz=81,slow=31						
SNAA	**Sanae**	**46.72**	**157**	P	**P**	**20 01 01.9**	**-1.2**
	1.1nm,1.0s,mb3.8,baz=184,slow=6.3,SNR=4.5						
RAO	**Raoul Island**	**48.26**	**277**	LR	LR	20 15 58.7	
	comp=Z,348nm,19.6s,MS4.3,baz=130,slow=29						
LVC	**Limon Verde**	**49.51**	**71**	P	**P**	**20 01 24.9**	**+0.1**
	4.0nm,0.9s,mb4.5,baz=270,slow=2.5,SNR=3.4						
LPAZ	**La Paz**	**55.07**	**67**	P	**P**	**20 02 06.8**	**+0.8**
	2.5nm,1.1s,mb4.2,baz=165,slow=5.7,SNR=5.5						
LPAZ				LR	LR	20 20 05.8	
	comp=Z,548nm,18.8s,MS4.7,baz=128,slow=30						
LPAZ	**La Paz**	**55.07**	**67**	P	**P**	**20 02 06.8**	**+0.8**
LPAZ				LR	LR	20 20 05.8	
STKA	**Stephens Creek**	**69.27**	**244**	P	**P**	**20 03 42.8**	**+1.5**
	1.8nm,0.9s,mb4.0,baz=117,slow=11,SNR=3.0						
STKA				LR	LR	20 28 46.1	
	comp=Z,633nm,19.6s,MS4.9,baz=193,slow=31						
ASAR	**Alice Springs**	**79.89**	**243**	P	**P**	**20 04 42.5**	**-0.4**
	2.7nm,1.2s,mb4.1,baz=144,slow=6.4,SNR=7.3						
WRA	**Warramunga Arr**	**82.71**	**246**	P	**P**	**20 04 57.6**	**-0.4**
	3.4nm,1.0s,mb4.3,baz=145,slow=4.6,SNR=16						
WRAB	**Tennant Creek**	**82.71**	**246**	*e*P	**P**	**20 04 56.8**	**-1.2**
	12nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**84.61**	**14**	P	**P**	**20 05 07.0**	**-0.7**
	0.4nm,0.9s,mb3.5,baz=193,slow=3.7,SNR=4.1						
TXAR	**Lajitas Array**	**84.61**	**14**	P	**P**	**20 05 07.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**88.77**	**240**	P	**P**	**20 05 26.4**	**-1.6**
	3.9nm,1.1s,mb4.7,baz=147,slow=8.1,SNR=3.2						
BOSA	**Boshof**	**92.02**	**150**	LR	LR	20 40 51.3	
	comp=Z,541nm,18.8s,MS5.0,baz=232,slow=32						
LZH	**Lanzhou**	**144.81**	**257**	*e*PKP	PKPdf	20 12 10.0	-1.2
LZH				APKP		20 12 14.5	
LZH				XPKP		20 12 19.0	
JIRN	**Jiri**	**147.11**	**226**	*e*P	PKPdf	20 12 18.4	+3.3
	26nm,1.2s						
DMN	**Daman**	**147.52**	**225**	*e*P	PKPdf	20 12 17.4	+1.6
	32nm,1.1s						
KKN	**Kakani**	**147.60**	**225**	*e*P	PKPdf	20 12 17.7	+1.8
	32nm,1.1s						
GKN	**Gorkha**	**148.06**	**224**	*e*P	PKPdf	20 12 18.3	+1.6
KOLN	**Koldanda**	**148.26**	**222**	*e*P	PKPdf	20 12 18.8	+1.8
GTA	**Gaotai**	**149.41**	**257**	*e*PKP	PKPbc	20 12 23.3	0.0
SONM	**Songino Array**	**150.60**	**276**	PKPbc	PKPbc	20 12 26.4	+0.3
	0.5nm,0.8s,baz=81,slow=1.9,SNR=3.6						
SONM				PKPab	PKPab	20 12 31.8	-1.1
	0.9nm,0.8s,baz=132,slow=2.4,SNR=6.1						
GERES	**GERESS Array B**	**151.16**	**82**	PKPbc	PKPbc	20 12 26.4	-1.1
	3.8nm,1.1s,baz=103,slow=1.8,SNR=11						
GERES				PKPab	PKPab	20 12 34.8	-0.4
	1.7nm,0.8s,baz=198,slow=2.5,SNR=4.7						
MORC	**Moravsky Berou**	**153.82**	**83**	⇑*i*P	PKPdf	20 12 22.7	-2.8
VOIR		**155.99**	**98**	⇓*i*P	PKPdf	20 12 28.1	-0.4
VOIR		**155.99**	**98**	⇓P	PKPdf	20 12 28.1	-0.4
MLR	**Muntele Rosu**	**156.54**	**98**	⇑*i*P	PKPdf	20 12 26.5	-2.7
MKAR	**Makanchi Array**	**163.96**	**251**	PKPab	PKPab	20 13 30.2	-0.2
	0.6nm,0.9s,baz=103,slow=4.6,SNR=3.3						

IDC 17 20:00:28.7±0.9, 4649N×15287E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=33.2km s-min=21.9km az=79.0
NEIC 17 20:00:30.5±0.9, 4636N×15289E, h10km, mb4.4/2, Error ellipse: s-maj=30.8km s-min=20.5km az=71.0
ISCJB 17 20:00:33.3±1.7, 464N±0.1×153.1E±0.1, h43km±13km, mb4.1/13, Error ellipse: s-maj=21.4km s-min=10.3km az=91.3
MOS 17 20:00:33.6±1.6, 4640N×15292E, h43km, mb4.5/3, Error ellipse: s-maj=21.1km s-min=12.5km az=99.8

ISC 17 20:00:35.5±1.6, 464N±01×1531E±01, h48km±12km, n34, σ1§17/35, mb4.1/13, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.71**	**24**	*e*PN	**Pn**	**20 01 44.0**	**0.0**
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.64**	**248**	*e*PN	**Pn**	**20 01 56.4**	**-0.4**
YUK				S	**Sn**	**20 03 00.5**	**+0.2**
YUK				smax			
	comp=N,630nm,0.7s						
YUK				smax			
	comp=E,310nm,0.6s						
YAK	**Yakutsk**	**20.59**	**328**	*e*P	**P**	**20 05 13.3**	**+2.8**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
YAK	**Yakutsk**	**20.59**	**328**	P	**P**	**20 05 12.0**	**+1.5**
	comp=E,8.4nm,0.6s						
KSRS	**Korea Array**	**20.69**	**253**	P	**P**	**20 05 12.3**	**+0.8**
	comp=E,1.3nm,0.8s,baz=64,slow=10,SNR=4.3						
SONM	**Songino Array**	**31.43**	**290**	P	**P**	**20 06 50.6**	**-1.6**
	comp=E,3nm,0.4s,mb3.4,baz=90,slow=8.9,SNR=3.5						
SCPH	**Surigao**	**43.44**	**222**	*e*P	**P**	**20 08 31.4**	**-2.3**
MKAR	**Makanchi Array**	**47.08**	**298**	P	**P**	**20 09 00.6**	**-2.0**
	comp=E,0.8nm,0.4s,mb4.0,baz=66,slow=6.9,SNR=28						
MKAR	**Makanchi Array**	**47.08**	**298**	P	**P**	**20 09 00.6**	**-2.0**
CHKZ	**Chkalovo**	**50.63**	**310**	*e*P	**P**	**20 09 27.3**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
CHKZ	**Chkalovo**	**50.63**	**310**	*e*P	**P**	**20 09 27.3**	**-2.5**
	comp=Z,2.6nm,0.4s,mb4.5						
JIRN	**Jiri**	**54.96**	**275**	*e*P	**P**	**20 10 02.3**	**+0.6**
GUN	**Gumba**	**55.02**	**275**	*e*P	**P**	**20 10 03.1**	**+1.0**
KKN	**Kakani**	**55.51**	**276**	*e*P	**P**	**20 10 06.5**	**+0.8**
	comp=Z,8.0nm,0.7s,mb4.8						
DMN	**Daman**	**55.74**	**275**	*e*P	**P**	**20 10 08.3**	**+1.0**
GKN	**Gorkha**	**55.82**	**276**	*e*P	**P**	**20 10 08.7**	**+0.8**
	comp=Z,7.6nm,0.5s,mb5.0						
KOLN	**Koldanda**	**56.68**	**277**	*e*P	**P**	**20 10 14.9**	**+0.9**
	comp=Z,14nm,1.0s,mb4.9						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**20 11 04.8**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.2,baz=47,slow=5.8,SNR=16						
WRA	**Warramunga Arr**	**68.20**	**199**	P	**P**	**20 11 30.4**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=20,slow=6.8,SNR=4.8						
NB2	**NORSAR Subarra**	**68.53**	**341**	P	**P**	**20 11 32.4**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**20 11 32.8**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=28,slow=6.4,SNR=5.6						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**20 11 50.7**	**-2.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=35,slow=6.3,SNR=5.5						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**20 11 50.7**	**-2.4**
ASAR	**Alice Springs**	**71.89**	**198**	P	**P**	**20 11 54.1**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=10,slow=5.7,SNR=11						
STHS	**Stebnicka Huta**	**75.79**	**330**	*e*P	**P**	**20 12 17.5**	**+1.1**
BURAR	**Bucovina Array**	**75.86**	**327**	⇑*i*P	**P**	**20 12 17.2**	**+0.4**
BURAR	**Bucovina Array**	**75.86**	**327**	⇑P	**P**	**20 12 17.2**	**+0.5**
TIRR	**Tirgusor**	**77.17**	**323**	⇑*i*P	**P**	**20 12 24.3**	**+0.1**
TIRR	**Tirgusor**	**77.17**	**323**	⇑P	**P**	**20 12 24.3**	**+0.1**
TXAR	**Lajitas Array**	**77.66**	**60**	P	**P**	**20 12 27.9**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=297,slow=5.2,SNR=5.0						
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**20 12 31.6**	**-0.7**
	comp=Z,1.7nm,0.9s,mb4.0,baz=71,slow=4.5,SNR=6.8						
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**20 12 31.6**	**-0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VTS	**Vitosha**	**80.83**	**325**	⇓*i*P	**P**	**20 12 45.5**	**+1.3**
VTS	**Vitosha**	**80.83**	**325**	⇓P	**P**	**20 12 45.5**	**+1.2**

ISCJB 17 20:00:47.2±0.2, 4314N±002×005E±002, h11km±2km, Error ellipse: s-maj=2.7km s-min=2.3km az=120.8
STR 17 20:00:49.2±0.1, 4301N×001E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 17 20:00:49.1±0.1, 4304N×000W, h9km, Md2.6/3, Ml2.6/14, Error ellipse: s-maj=0.9km s-min=0.7km az=156.0
MDD 17 20:00:49.7±0.3, 4301N×001E, h9km±2km, mbLg1.7/22, Error ellipse: s-maj=1.9km s-min=1.3km az=19.0, PRXIMO
CSEM 17 20:00:49.4±0.1, 4305N×001E, h5km, ML2.6/15, Error ellipse: s-maj=0.9km s-min=0.8km az=132.0
NEIC 17 20:00:49.2, 4301N×001E, h5km, ML2.5(STR), ML2.6(LDG), After STR.

ISC 17 20:00:48.4±0.2, 4310N±001×004E±002, h12km±2km, n81, σ0§95/131, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**151**	Pg	**Pg**	**20 00 51.3**	**+0.5**
LABF				Sg	**Sg**	**20 00 52.6**	**+0.1**
LABF	**Labassere**	**0.06**	**151**	Pg	**Pg**	**20 00 51.4**	**+0.6**
LABF				Lg		20 00 52.6	
VIEF	**Viey**	**0.22**	**182**	Pg	**Pg**	**20 00 52.4**	**-0.6**
VIEF				Sg	**Sg**	**20 00 54.4**	**-1.7**
VIEF	**Viey**	**0.22**	**182**	Pg	**Pg**	**20 00 52.5**	**-0.6**
VIEF				Lg		20 00 54.5	
EPF	**Esparros**	**0.23**	**107**	*e*Pg	**Pg**	**20 00 54.2**	**+0.9**
EPF				*e*Sg	**Sg**	**20 00 58.2**	**+1.5**
	149nm,0.2s						
EPF	**Esparros**	**0.23**	**107**	*e*Pg	**Pg**	**20 00 54.2**	**+0.9**
EPF				*e*Sg	**Sg**	**20 00 58.2**	**+1.5**
	74nm,0.2s						
REYF	**Montagne du Re**	**0.32**	**265**	Pg	**Pg**	**20 00 55.0**	**+0.2**
REYF				Sg	**Sg**	**20 00 59.2**	**+0.1**
REYF	**Montagne du Re**	**0.32**	**265**	Pg	**Pg**	**20 00 55.1**	**+0.4**
REYF				Lg		20 00 59.7	
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**20 00 55.9**	**+0.2**
RESF				Sg	**Sg**	**20 01 00.3**	**-0.4**
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**20 00 55.8**	**0.0**
RESF				Lg		20 01 00.4	
EBIE	**Bielsa**	**0.42**	**169**	⇑Pg	**Pg**	**20 00 56.2**	**-0.6**
	7.4nm,0.1s,SNR=18						
EBIE				Lg		20 01 00.6	
	12nm,0.3s,SNR=14						
EBIE	**Bielsa**	**0.42**	**169**	Pg	**Pg**	**20 00 56.2**	**-0.5**
	7.4nm,0.1s,SNR=18						
EBIE				Lg		20 01 00.6	
	12nm,0.3s,SNR=14						
ETSF	**Etsaut**	**0.48**	**246**	*e*Pg	**Pg**	**20 00 57.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**20 01 03.0**	**-1.2**
	88nm,0.4s						
ETSF	**Etsaut**	**0.48**	**246**	*e*Pg	**Pg**	**20 00 57.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**20 01 03.0**	**-1.2**
	44nm,0.4s						
FDAF	**Les Forges d'A**	**0.52**	**238**	Pg	**Pg**	**20 00 58.5**	**-0.2**
FDAF				Lg		20 01 04.8	
ATE	**Arette**	**0.54**	**269**	Pg	**Pg**	**20 00 59.0**	**0.0**
ATE				Sg	**Sg**	**20 01 06.6**	**+0.5**
ATE	**Arette**	**0.54**	**269**	Pg	**Pg**	**20 00 59.5**	**+0.6**
ATE				Lg		20 01 06.8	
MELF	**Melles**	**0.58**	**113**	Pg	**Pg**	**20 01 00.2**	**+0.5**
MELF				Sg	**Sg**	**20 01 07.9**	**+0.6**
MELF	**Melles**	**0.58**	**113**	Pg	**Pg**	**20 01 00.2**	**+0.5**
MELF				Lg		20 01 08.3	
LARF	**Larrau**	**0.75**	**266**	Pg	**Pg**	**20 01 03.1**	**+0.1**
LARF				Sg	**Sg**	**20 01 13.6**	**+0.8**
LARF	**Larrau**	**0.75**	**266**	Pg	**Pg**	**20 01 03.3**	**+0.3**
LARF				Lg		20 01 13.7	
SALF	**Salau**	**0.91**	**111**	Pg	**Pg**	**20 01 06.3**	**+0.3**
SALF				Sg	**Sg**	**20 01 18.5**	**+0.5**
SALF	**Salau**	**0.91**	**111**	Pg	**Pg**	**20 01 06.3**	**+0.3**
SALF				Lg		20 01 18.4	
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**20 01 05.6**	**-0.6**
SJPF				*e*Sg	**Sg**	**20 01 16.8**	**-1.5**
	9.5nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**20 01 05.6**	**-0.6**
SJPF				*e*Sg	**Sg**	**20 01 16.8**	**-1.5**
	4.8nm,0.2s						
IPRE	**Itoiz**	**1.06**	**254**	Pg	**Pg**	**20 01 10.9**	**+2.0**
	0.9nm,0.2s,SNR=7.9						
IPRE				Lg		20 01 24.5	
	3.2nm,0.3s,SNR=7.8						
IPRE	**Itoiz**	**1.06**	**254**	Pg	**Pg**	**20 01 10.9**	**+2.0**
	0.9nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.09**	**131**	Pg	**Pg**	**20 01 09.2**	**-0.1**
CSOR				Lg		20 01 22.6	
	9.8nm,0.2s						
EALK	**Alkurruntz**	**1.14**	**277**	Lg		20 01 27.5	
	11nm,0.3s,SNR=9.7						
ELIZ	**Elizondo**	**1.15**	**274**	Pg	**Pg**	**20 01 11.7**	**+1.2**
	2.7nm,0.3s,SNR=7.5						
ELIZ				Lg		20 01 28.4	
	4.7nm,0.3s,SNR=8.2						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**20 01 13.6**	**+2.7**
	0.2nm,0.2s,SNR=7.9						
IUSE				Lg		20 01 27.1	
	2.5nm,0.3s,SNR=5.4						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**20 01 13.6**	**+2.7**
	0.2nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.28**	**132**	Pg	**Pg**	**20 01 12.0**

EJON	**La Jonquera**	**2.20**	**106**	Pg		**Pg**	**20 01 30.3**	**-0.3**
	1.1nm,0.7s,SNR=4.0							
EJON				Lg			20 01 59.4	
	2.5nm,0.3s,SNR=6.9							
EJON	**La Jonquera**	**2.20**	**106**	Pg		**Pg**	**20 01 30.3**	**-0.3**
	1.1nm,0.7s,SNR=4.0							
CAF	**Calviac**	**2.34**	**38**	*e*Pg		**Pg**	**20 01 34.1**	**+0.8**
CAF				*e*Sn		**Sn**	**20 01 54.7**	**-0.7**
CAF				*e*Sg		**Sg**	**20 02 05.2**	**+1.6**
	6.0nm,0.2s							
CAF	**Calviac**	**2.34**	**38**	*e*Pn		**Pn**	**20 01 26.9**	**+0.2**
CAF				*e*Pg		**Pg**	**20 01 34.1**	**+0.8**
CAF				*e*Sn		**Sn**	**20 01 54.7**	**-0.7**
CAF				*e*Sg		**Sg**	**20 02 05.2**	**+1.6**
CAF	**Calviac**	**2.34**	**38**	Pn		**Pn**	**20 01 26.9**	**+0.2**
CAF				Pg		**Pg**	**20 01 34.1**	**+0.8**
CAF				Sn		**Sn**	**20 01 54.7**	**-0.7**
CAF	**Calviac**	**2.34**	**38**	*e*Pg		**Pg**	**20 01 34.1**	**+0.8**
CAF				*e*Sn		**Sn**	**20 01 54.7**	**-0.7**
CAF				*e*Sg		**Sg**	**20 02 05.2**	**+1.6**
	3.0nm,0.2s							
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pg		**Pg**	**20 01 36.0**	**+0.6**
RJF				*e*Sg		**Sg**	**20 02 08.1**	**+1.0**
	8.5nm,0.3s							
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pn		**Pn**	**20 01 28.3**	**+0.1**
RJF				*e*Pg		**Pg**	**20 01 36.0**	**+0.6**
RJF				*e*Sg		**Sg**	**20 02 08.1**	**+1.0**
RJF	**Les Rejaudoux**	**2.45**	**25**	Pn		**Pn**	**20 01 28.3**	**+0.1**
RJF				Pg		**Pg**	**20 01 36.0**	**+0.6**
RJF				Lg			20 02 08.1	
	4.2nm,0.3s							
RJF	**Les Rejaudoux**	**2.45**	**25**	*e*Pg		**Pg**	**20 01 36.0**	**+0.6**
RJF				*e*Sg		**Sg**	**20 02 08.1**	**+1.0**
	4.2nm,0.3s							
EMOS	**Mosqueruela**	**2.76**	**188**	Lg			20 02 15.0	
	29nm,1.1s,SNR=7.9							
ETOR	**Torete**	**2.76**	**215**	Pn		**Pn**	**20 01 34.3**	**+1.8**
	0.7nm,2.4s,SNR=7.9							
ETOR				Pg		**Pg**	**20 01 40.6**	**-0.7**
	8.4nm,2.4s,SNR=7.9							
ETOR				Sn		**Sn**	**20 02 05.6**	**-0.2**
	4.0nm,2.4s,SNR=7.9							
ETOR				Lg			20 02 16.3	
	1.9nm,3.5s,SNR=7.9							
ETOR	**Torete**	**2.76**	**215**	Pg		**Pg**	**20 01 40.6**	**-0.7**
	8.4nm,2.4s,SNR=7.9							
ETOR	**Torete**	**2.76**	**215**	Pg		**Pg**	**20 01 40.6**	**-0.7**
ETOR				Sn		**Sn**	**20 02 05.6**	**-0.2**
	4.0nm,2.4s,SNR=7.9							
LASF	**Ste Croix**	**2.94**	**69**	*e*Pg		**Pg**	**20 01 45.9**	**+1.1**
LASF				*e*Sg		**Sg**	**20 02 23.4**	**+0.4**
	4.4nm,0.4s							
LASF	**Ste Croix**	**2.94**	**69**	*e*Pg		**Pg**	**20 01 45.9**	**+1.1**
LASF				*e*Sg		**Sg**	**20 02 23.4**	**+0.4**
	2.2nm,0.4s							
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pg		**Pg**	**20 01 55.1**	**-0.5**
MFF				*e*Sg		**Sg**	**20 02 40.7**	**-0.3**
	1.9nm,0.2s							
MFF	**Saint Martin d**	**3.50**	**358**	*e*Pg		**Pg**	**20 01 55.1**	**-0.5**
MFF				*e*Sg		**Sg**	**20 02 40.7**	**-0.3**
	0.9nm,0.2s							
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Sg		**Sg**	**20 02 41.9**	**-0.4**
	4.4nm,0.4s							
TCF	**Toulx Ste Croi**	**3.55**	**25**	*e*Sg		**Sg**	**20 02 41.9**	**-0.4**
	2.2nm,0.4s							
EARI	**Arriondas**	**3.84**	**275**	Sn		**Sn**	**20 02 34.9**	**+2.5**
	0.6nm,3.5s,SNR=4.0							
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg		**Pg**	**20 02 03.3**	**-1.6**
BGF				*e*Sg		**Sg**	**20 02 56.3**	**-0.4**
	15nm,0.6s							
BGF	**Bois d'Agland**	**4.00**	**29**	*e*Pg		**Pg**	**20 02 03.3**	**-1.6**
BGF				*e*Sg		**Sg**	**20 02 56.3**	**-0.4**
	7.7nm,0.6s							
AVF	**Avril sur Loir**	**4.38**	**31**	*e*Pg		**Pg**	**20 02 11.3**	**-1.0**
AVF				*e*Sg		**Sg**	**20 03 08.1**	**-0.9**
	1.7nm,0.4s							
AVF	**Avril sur Loir**	**4.38**	**31**	*e*Pg		**Pg**	**20 02 11.3**	**-1.0**
AVF				*e*Sg		**Sg**	**20 03 08.1**	**-0.9**
	0.9nm,0.4s							
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pg		**Pg**	**20 02 13.0**	**-0.8**
SMF				*e*Sg		**Sg**	**20 03 11.1**	**-0.5**
	1.8nm,0.3s							
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pg		**Pg**	**20 02 13.0**	**-0.8**
SMF				*e*Sg		**Sg**	**20 03 11.1**	**-0.5**
	0.9nm,0.3s							
HYF	**Humbligny**	**4.56**	**23**	*e*Pg		**Pg**	**20 02 14.6**	**-1.1**
HYF				*e*Sg		**Sg**	**20 03 13.5**	**-1.3**
SSF	**Saint Saulge**	**4.66**	**31**	*e*Sg		**Sg**	**20 03 17.2**	**-0.9**
	1.0nm,0.3s							
SSF	**Saint Saulge**	**4.66**	**31**	*e*Sg		**Sg**	**20 03 17.2**	**-0.9**
	0.5nm,0.3s							
LOR	**Lormes**	**4.97**	**32**	*e*Sg		**Sg**	**20 03 26.0**	**-1.9**
	4.1nm,0.7s							
LOR	**Lormes**	**4.97**	**32**	*e*Sg		**Sg**	**20 03 26.0**	**-1.9**
	2.0nm,0.7s							

***IDC 17** 20:02:13.5±9.7,**451S**×**15194E**,**h0**km,**mb3.6**/3,**mb1 3.8**/3,*
mb1mx3.5**/14,**mbtmp3.6**/3,**Error ellipse:
s-maj=161.8km s-min=95.4km az=9.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**227**	P	P	20 07 19.2	-0.6
	0.6nm,0.6s,baz=52,slow=10.0,SNR=4.6						
ASAR	**Alice Springs**	**25.79**	**221**	P	P	20 07 47.5	+1.5
	0.9nm,0.8s,baz=55,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**28.90**	**198**	P	P	20 08 13.6	-0.4
	1.0nm,0.5s,baz=14,slow=6.8,SNR=5.1						

***WEL 17** 20:02:24.7±0.3,**3813S**×**17648E**,**h134**km±2km,**ML3.5**/13,*
Error ellipse: s-maj=2.5km s-min=2.5km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.52**	**105**	PN	Pn	20 02 44.1	-0.2
URZ				SN	Sn	20 02 59.2	0.0
MWZ	**Matawai**	**0.85**	**104**	PN	Pn	20 02 46.8	+0.1
MWZ				SN	Sn	20 03 03.5	+0.1
BKZ	**Black Stump Fm**	**1.04**	**179**	SN	Sn	20 03 06.4	+0.1
OTVZ	**Oturere**	**1.22**	**211**	PN	Pn	20 02 50.2	+0.2
KNZ	**Kokohu**	**1.29**	**134**	PN	Pn	20 02 51.0	+0.1
KNZ				SN	Sn	20 03 10.4	-0.4
PUZ	**Puketiti**	**1.41**	**88**	PN	Pn	20 02 51.5	-0.5
PUZ				SN	Sn	20 03 12.0	-0.8
MXZ	**Matakaoa Point**	**1.55**	**69**	PN	Pn	20 02 53.5	-0.2
MXZ				SN	Sn	20 03 17.0	+1.2
WPHZ	**Waipukurau**	**1.94**	**181**	PN	Pn	20 02 57.1	-1.0
WPHZ				SN	Sn	20 03 21.8	-1.9
TSZ	**Takapari Road**	**1.97**	**192**	PN	Pn	20 02 57.2	-1.4
BFZ	**Birch Farm**	**2.56**	**184**	PN	Pn	20 03 03.8	-2.0
MRZ	**Mangatainoka R**	**2.62**	**195**	PN	Pn	20 03 04.3	-2.3
TIWZ	**Tintock**	**2.69**	**190**	PN	Pn	20 03 05.2	-2.2
MTW	**Mount Morrison**	**3.12**	**194**	PN	Pn	20 03 09.7	-3.3
TRWZ	**Traveller**	**3.32**	**190**	PN	Pn	20 03 12.5	-3.2
MSWZ	**Moikau Station**	**3.42**	**196**	PN	Pn	20 03 13.2	-3.7
TCW	**Tory Channel**	**3.52**	**208**	PN	Pn	20 03 14.4	-3.8
NNZ	**Nelson**	**3.91**	**217**	SN	Sn	20 04 04.7	-3.9
KHZ	**Kahutara**	**4.84**	**207**	PN	Pn	20 03 31.4	-4.3
MQZ	**McQueen's Vall**	**6.28**	**206**	PN	Pn	20 03 48.5	-6.6
MQZ				SN	Sn	20 04 55.1	-10

***IDC 17** 20:07:28.0±2.1,**637N**×**12642E**,**h0**km,**mb3.5**/4,**mb1 3.7**/4,*
mb1mx3.4**/20,**mbtmp3.5**/4,**Error ellipse:
s-maj=129.3km s-min=24.6km az=68.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.32**	**182**	P	P	20 12 47.7	+0.4
	0.7nm,0.4s,baz=2.0,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**27.28**	**164**	P	P	20 13 14.3	+0.3
	0.3nm,0.7s,baz=344,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**30.73**	**166**	P	P	20 13 45.0	+0.3
	0.2nm,0.3s,baz=342,slow=7.3,SNR=9.7						
MKAR	**Makanchi Array**	**55.24**	**324**	P	P	20 17 02.9	+0.1
	0.5nm,0.5s,baz=122,slow=7.8,SNR=7.1						

*STR **17** 20:15:26.8±0.1,4303N×003W,h2km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **17** 20:15:27.1±0.4,4303N×002W,h0km,mbLg0.6/3,Error ellipse: s-maj=3.4km s-min=2.1km az=163.0,PRXIMO*

LDG 17 20:15:26.5±0.1,4304N×002W,h6km,Md1.5/3,Ml1.2/2,
Error ellipse: s-maj=2.5km s-min=1.1km az=173.0,
Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**80**	Pg	Pg	20 15 28.6	+0.4
LABF				Sg	Sg	20 15 30.0	+0.6
LABF	**Labassere**	**0.07**	**80**	Pg	Pg	20 15 28.7	+0.5
LABF				Lg		20 15 30.0	
VIEF	**Viey**	**0.15**	**168**	Pg	Pg	20 15 29.9	+0.3
VIEF				Sg	Sg	20 15 32.1	+0.3
VIEF	**Viey**	**0.15**	**168**	Pg	Pg	20 15 29.9	+0.2
VIEF				Lg		20 15 32.1	
EPF	**Esparros**	**0.27**	**91**	*e*Pg	Pg	20 15 31.6	-0.1
EPF				*e*Sg	Sg	20 15 35.6	+0.4
	1.3nm,0.2s						
EPF	**Esparros**	**0.27**	**91**	Pg	Pg	20 15 31.6	-0.1
EPF				Lg		20 15 35.6	
	0.6nm,0.2s						
EBIE	**Bielsa**	**0.37**	**161**	Pg	Pg	20 15 33.5	-0.1
	SNR=7.9						
EBIE				Lg		20 15 38.4	
	1.7nm,0.1s,SNR=5.8						
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg	Pg	20 15 35.0	+0.4
ETSF				*e*Sg	Sg	20 15 40.5	+0.5
	3.2nm,0.3s						
ETSF	**Etsaut**	**0.42**	**251**	Pg	Pg	20 15 35.0	+0.4
ETSF				Lg		20 15 40.5	
	1.6nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	Pg	20 15 43.0	-0.5
SJPF				*e*Sg	Sg	20 15 54.2	-0.8
	0.5nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**275**	Pg	Pg	20 15 43.0	-0.5
SJPF				Lg		20 15 54.2	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	20 15 57.6	-0.8
MTLF				*e*Sg	Sg	20 16 19.2	-0.8
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	Pg	Pg	20 15 57.6	-0.8
MTLF				Lg		20 16 19.2	
	0.2nm,0.2s						

IDC 17 20:15:36.4±1.2,4625N×15465E,h0km,mb3.9/5,
mb1 4.0/5,mb1mx3.7/22,mbtmp3.9/5,Error ellipse:
s-maj=37.1km s-min=28.5km az=10.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.51**	**291**	P	P	20 22 09.6	+0.8
	0.9nm,1.1s,baz=77,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**48.12**	**298**	P	P	20 24 17.0	-1.0
	0.7nm,0.5s,baz=70,slow=7.8,SNR=9.6						
FINES	**FINESS Array B**	**64.94**	**336**	P	P	20 26 17.4	-0.5
	1.9nm,0.8s,baz=33,slow=8.3,SNR=6.2						
ASAR	**Alice Springs**	**72.08**	**200**	P	P	20 27 02.4	-0.1
	0.4nm,0.7s,baz=1.7,slow=5.9,SNR=4.7						
TXAR	**Lajitas Array**	**76.81**	**61**	P	P	20 27 30.2	+0.3
	1.4nm,0.6s,baz=307,slow=4.2,SNR=18						
EKA	**Eskdalemuir Ar**	**77.07**	**347**	P	P	20 27 35.1	+3.6
	1.7nm,0.9s,baz=20,slow=4.9,SNR=4.4						

*MDD **17** 20:21:49.5±0.3,4302N×001W,h0km,mbLg0.4/4,Error ellipse: s-maj=3.1km s-min=2.1km az=155.0,PRXIMO*
*STR **17** 20:21:49.5±0.1,4301N×001W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 20:21:48.8±0.1,4303N×002W,h8km,Ml1.3/2,Error
ellipse: s-maj=4.1km s-min=1.8km az=172.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**75**	Pg	Pg	20 21 51.1	+0.3
LABF				Sg	Sg	20 21 52.3	+0.1
LABF	**Labassere**	**0.07**	**75**	Pg	Pg	20 21 51.1	+0.4
LABF				Lg		20 21 52.4	
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	20 21 52.2	+0.2
VIEF				Sg	Sg	20 21 54.1	0.0
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	20 21 52.2	+0.2
VIEF				Lg		20 21 54.2	
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	20 21 53.7	-0.4
EPF				*e*Sg	Sg	20 21 57.5	-0.2
	3.8nm,0.2s						
EPF	**Esparros**	**0.27**	**89**	Pg	Pg	20 21 53.7	-0.4
EPF				Lg		20 21 57.5	
	1.9nm,0.2s						
EBIE	**Bielsa**	**0.36**	**160**	Pg	Pg	20 21 55.9	0.0
	SNR=7.9						
EBIE				Lg		20 21 59.9	
	1.8nm,0.3s,SNR=7.4						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	20 21 57.1	+0.2
ETSF				*e*Sg	Sg	20 22 03.1	+0.8
	2.0nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	Pg	Pg	20 21 57.1	+0.2
ETSF				Lg		20 22 03.1	
	1.0nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	20 22 05.1	-0.7
SJPF				*e*Sg	Sg	20 22 16.2	-1.1
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	Pg	Pg	20 22 05.1	-0.7
SJPF				Lg		20 22 16.2	
	0.2nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**194**	Pg	Pg	20 22 15.8	+1.2
	SNR=7.9						
ESAC				Lg		20 22 33.5	
	SNR=7.9						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	20 22 20.1	-0.7
MTLF				*e*Sg	Sg	20 22 41.3	-1.1
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	Pg	Pg	20 22 20.1	-0.7
MTLF				Lg		20 22 41.3	
	0.3nm,0.2s						

*IDC **17** 20:22:23.9±2.9,4797N×15378E,h0km,mb3.7/3,*
mb1 4.0/4,mb1mx3.5/23,mbtmp3.7/4,ML3.7/1,MS3.9/2,
Ms1 3.9/2,ms1mx2.7/42,Error ellipse: s-maj=183.1km
s-min=31.1km az=134.0

MOS 17 20:22:25.3±2.8,4860N×15244E,h33km,mb4.0/1,Error
ellipse: s-maj=99.9km s-min=22.1km az=57.8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.60**	**225**	*e*PN	Pn	20 23 33.5	+1.0
YUK	**Yuzh-Kuril'sk**	**6.45**	**227**	*e*PN	Pn	20 23 57.0	-0.9
YUK				S	Sn	20 25 25.5	+15
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,150nm,0.5s						
MJAR	**Matsushiro Arr**	**15.94**	**226**	Pn	Pn	20 26 12.9	+5.9
	comp=E,0.3nm,0.3s,baz=37,slow=8.4,SNR=6.4						
JHJ	**Hachijo jima 2**	**18.15**	**216**	LR	LR	20 32 38.6	
	comp=E,135nm,20.3s,baz=105,slow=34						
WRA	**Warramunga Arr**	**70.12**	**198**	P	P	20 33 35.3	+1.0
	comp=E,0.4nm,0.6s,baz=16,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**73.82**	**198**	P	P	20 33 59.1	+2.6
	comp=E,0.5nm,0.6s,baz=13,slow=5.1,SNR=8.6						
ASAR	**Alice Springs**	**73.82**	**198**	P	P	20 33 59.1	+2.6
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**76.60**	**333**	LR	LR	21 12 31.3	
	comp=Z,174nm,21.0s,baz=276,slow=39						
TXAR	**Lajitas Array**	**76.98**	**60**	P	P	20 34 15.9	+1.3
	comp=Z,0.4nm,0.7s,baz=297,slow=5.0,SNR=6.1						

*ISCJB **17** 20:26:51.9±0.5,4313N±002×000W±003,h14km±5km,*
Error ellipse: s-maj=4.3km s-min=3.7km az=95.2
*LDG **17** 20:26:53.7±0.1,4305N×002W,h8km,Md1.8/3,Ml1.9/6,*
Error ellipse: s-maj=1.7km s-min=1.4km az=157.0
*STR **17** 20:26:54.1±0.1,4301N×001E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **17** 20:26:54.4±0.4,4302N×001W,h6km±5km,mbLg1.2/6,*
Error ellipse: s-maj=2.2km s-min=2.0km az=89.0,PRXIMO
ISC 17 20:26:53.1±0.5,4309N±002×002W±003,h11km±5km,n27,
σ0§64/37,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**120**	Pg	**Pg**	**20 26 56.2**	**+0.7**
LABF				Sg	**Sg**	**20 26 57.3**	**0.0**
LABF	**Labassere**	**0.07**	**120**	Pg	**Pg**	**20 26 56.2**	**+0.7**
LABF				Lg		20 26 57.4	
VIEF	**Viey**	**0.20**	**172**	Pg	**Pg**	**20 26 57.2**	**-0.3**
VIEF				Sg	**Sg**	**20 26 59.2**	**-1.2**
VIEF	**Viey**	**0.20**	**172**	Pg	**Pg**	**20 26 57.3**	**-0.2**
VIEF				Lg		20 26 59.3	
EPF	**Esparros**	**0.27**	**102**	*e*Pg	**Pg**	**20 26 59.1**	**+0.5**
EPF				*e*Sg	**Sg**	**20 27 03.0**	**+0.8**
	14nm,0.2s						
EPF	**Esparros**	**0.27**	**102**	Pg	**Pg**	**20 26 59.1**	**+0.5**
EPF				Lg		20 27 03.0	
	6.9nm,0.2s						
RESF	**Ens**	**0.38**	**137**	Pg	**Pg**	**20 27 00.6**	**0.0**
RESF				Sg	**Sg**	**20 27 05.1**	**-0.6**
RESF	**Ens**	**0.38**	**137**	Pg	**Pg**	**20 27 00.6**	**-0.1**
RESF				Lg		20 27 05.3	
EBIE	**Bielsa**	**0.42**	**164**	Pg	**Pg**	**20 27 01.0**	**-0.3**
	2.2nm,0.3s,SNR=9.2						
EBIE				Lg		20 27 05.8	
	2.2nm,0.3s,SNR=22						
ETSF	**Etsaut**	**0.44**	**245**	*e*Pg	**Pg**	**20 27 02.5**	**+0.7**
ETSF				*e*Sg	**Sg**	**20 27 08.3**	**+0.7**
	12nm,0.3s						
ETSF	**Etsaut**	**0.44**	**245**	Pg	**Pg**	**20 27 02.5**	**+0.7**
ETSF				Lg		20 27 08.3	
	6.2nm,0.3s						
MELF	**Melles**	**0.61**	**110**	Pg	**Pg**	**20 27 06.7**	**+1.8**
MELF				Sg	**Sg**	**20 27 12.7**	**-0.2**
MELF	**Melles**	**0.61**	**110**	Lg		20 27 13.4	
SJPF	**Ste Jean**	**0.89**	**272**	*e*Pg	**Pg**	**20 27 10.4**	**+0.2**
SJPF				*e*Sg	**Sg**	**20 27 21.6**	**-0.2**
	1.6nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**272**	Pg	**Pg**	**20 27 10.4**	**+0.2**
SJPF				Lg		20 27 21.6	
	0.8nm,0.3s						
ESAC	**San Caprasio**	**1.40**	**194**	Pg	**Pg**	**20 27 18.7**	**-1.4**
	SNR=7.9						
ESAC				Lg		20 27 40.0	
	5.7nm,0.3s,SNR=5.6						
MTLF	**Montolieu**	**1.65**	**80**	*e*Pg	**Pg**	**20 27 25.2**	**+0.4**
MTLF				*e*Sg	**Sg**	**20 27 46.6**	**+0.4**
	3.2nm,0.4s						
MTLF	**Montolieu**	**1.65**	**80**	Pg	**Pg**	**20 27 25.2**	**+0.4**
MTLF				Lg		20 27 46.6	
	1.6nm,0.4s						
EPOB	**Poblet**	**1.91**	**155**	Pg	**Pg**	**20 27 35.6**	**+5.8**
	SNR=7.9						
EPOB				Sn	**Sn**	**20 27 50.0**	**+0.4**
	SNR=7.9						
LFF	**La Frestale**	**1.93**	**16**	*e*Pg	**Pg**	**20 27 30.1**	**-0.1**
LFF				*e*Sg	**Sg**	**20 27 55.3**	**+0.1**
	2.3nm,0.3s						
LFF	**La Frestale**	**1.93**	**16**	Pg	**Pg**	**20 27 30.1**	**-0.1**
LFF				Lg		20 27 55.3	
	1.1nm,0.3s						
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**20 27 38.2**	**-0.4**
CAF				*e*Sg	**Sg**	**20 28 09.1**	**-0.3**
	0.8nm,0.3s						
CAF	**Calviac**	**2.37**	**38**	Pg	**Pg**	**20 27 38.2**	**-0.4**
CAF				Lg		20 28 09.1	
	0.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.48**	**26**	*e*Pg	**Pg**	**20 27 40.2**	**-0.4**
RJF				*e*Sg	**Sg**	**20 28 12.2**	**-0.5**
	1.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.48**	**26**	Pg	**Pg**	**20 27 40.2**	**-0.4**
RJF				Lg		20 28 12.2	
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Sg	**Sg**	**20 28 28.2**	**-0.7**
	0.9nm,0.3s						
LASF	**Ste Croix**	**2.98**	**69**	Lg		20 28 28.2	
	0.4nm,0.3s						

*IDC **17** 20:34:44.7±1.6,4671N×15486E,h0km,mb4.2/16,*
mb1 4.3/17,mb1mx4.1/27,mbtmp4.1/17,ML3.6/1,Error
ellipse: s-maj=46.1km s-min=19.1km az=176.0
*BJI **17** 20:34:46.5,4808N×15538E,h23km,mB4.8,mb4.3*
*NEIC **17** 20:34:49.2±1.5,4719N×15483E,h10km,mb4.6/15,Error*
ellipse: s-maj=38.5km s-min=16.4km az=167.0
*ISCJB **17** 20:34:53.1±1.2,4781N±0.1×1537E±02,h10km,mb4.4/34,*
Error ellipse: s-maj=28.5km s-min=8.2km az=91.7
*MOS **17** 20:34:54.6±1.5,4723N×15378E,h35km,mb4.7/10,Error*
ellipse: s-maj=15.9km s-min=9.5km az=112.7
*SZGRF **17** 20:35:00.4,4768N×15441E,h33km,mb4.7,Kuril Islands,*
Russia

ISC 17 20:34:52.2±1.2,4761N±02×1543E±02,h10km,n80,
σ1§09/82,mb4.4/34,6C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.35**	**20**	*e*PN	**Pn**	**20 35 45.0**	**+0.4**
SKR				pmax	pmax		
	comp=Z,120nm,0.8s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR	**Kuril'sk**	**5.02**	**245**	*e*PN	**Pn**	**20 36 03.0**	**-4.5**
KUR				S	**Sn**	**20 37 00.5**	**-5.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,180nm,0.4s						
KUR				smax			
	comp=E,190nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.88**	**270**	*e*PN	**Pb**	**20 37 02.0**	**-6.9**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
ASAJ	**Asahikawa**	**8.87**	**252**	Pn	**Pn**	**20 36 59.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=268,slow=27,SNR=5.6						
ASAJ	**Asahikawa**	**8.87**	**252**	PN	**Pn**	**20 36 59.8**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.21**	**233**	Pn	**Pn**	**20 38 32.4**	**-7.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=3.5						
MAT	**Matsushiro**	**16.21**	**233**	P	**Pn**	**20 38 39.6**	**-0.4**
MAT				*e*S	**Sn**	**20 41 56.0**	**+16**
BILL	**Bilibino**	**21.43**	**12**	*e*P	**

	comp=Z,7.3nm,0.7s,mb4.8								
JIRN	**Jiri**	**55.69**	**275**	*e*P		**P**	**20 44 28.6**	**0.0**	
	comp=Z,16nm,0.9s,mb5.1								
GUN	**Gumba**	**55.74**	**275**	*e*P		**P**	**20 44 29.5**	**+0.5**	
KKN	**Kakani**	**56.22**	**276**	*e*P		**P**	**20 44 31.9**	**-0.5**	
DMN	**Daman**	**56.45**	**276**	*e*P		**P**	**20 44 34.5**	**+0.4**	
	comp=Z,9.8nm,0.6s,mb5.0								
GKN	**Gorkha**	**56.52**	**276**	*e*P		**P**	**20 44 34.7**	**+0.2**	
	comp=Z,23nm,0.9s,mb5.2								
ARCES	**ARCESS Array B**	**57.36**	**341**	P		**P**	**20 44 40.0**	**-0.5**	
	comp=Z,4.0nm,0.9s,mb4.5,baz=24,slow=6.7,SNR=9.8								
KOLN	**Koldanda**	**57.37**	**277**	*e*P		**P**	**20 44 40.4**	**-0.2**	
	comp=Z,12nm,0.8s,mb5.0								
AKTK	**Aktyubinsk**	**58.80**	**312**	P		**P**	**20 44 50.7**	**+0.1**	
AKTO	**Aktyubinsk**	**58.80**	**312**	P		**P**	**20 44 50.7**	**+0.1**	
	comp=Z,1.6nm,0.6s,mb4.3,baz=51,slow=6.1,SNR=9.2								
AKTO	**Aktyubinsk**	**58.80**	**312**	P		**P**	**20 44 50.7**	**+0.1**	
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**	**20 45 17.9**	**-5.4**	
	comp=Z,0.8nm,1.0s,mb3.7,baz=302,slow=2.8,SNR=4.6								
FINES	**FINESS Array B**	**63.66**	**335**	P		**P**	**20 45 22.9**	**-0.6**	
	comp=Z,2.4nm,0.5s,mb4.5,baz=37,slow=7.7,SNR=32								
NOA	**NORSAR Array B**	**67.73**	**342**	P		**P**	**20 45 50.8**	**+1.0**	
	comp=Z,2.7nm,0.8s,mb4.3,baz=26,slow=6.3,SNR=5.6								
HFS	**Hagfors**	**67.99**	**340**	P		**P**	**20 45 51.5**	**+0.1**	
	comp=Z,3.6nm,0.7s,mb4.5,baz=64,slow=3.4,SNR=12								
AKASG	**Malin Array Be**	**71.33**	**327**	P		**P**	**20 46 10.8**	**-1.2**	
	comp=Z,2.1nm,0.6s,mb4.2,baz=33,slow=6.0,SNR=9.4								
AKASG	**Malin Array Be**	**71.33**	**327**	P		**P**	**20 46 10.8**	**-1.2**	
STHS	**Stebnicka Huta**	**75.23**	**330**	*e*P		**P**	**20 46 37.3**	**+2.3**	
STHS				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
STHS	**Stebnicka Huta**	**75.23**	**330**	*e*P		**P**	**20 46 37.3**	**+2.3**	
	comp=Z,3.6nm,0.9s,mb4.3								
STHS				*e*			20 47 52.7		
KOLS	**Kolonicke sedl**	**75.29**	**330**	*e*P		**P**	**20 46 34.6**	**-0.8**	
BURAR	**Bucovina Array**	**75.36**	**327**	⇓*i*P		**P**	**20 46 35.6**	**-0.2**	
CLL	**Collm**	**76.07**	**336**	*e*P		**P**	**20 46 42.0**	**+2.1**	
CLL				*e*			20 46 53.0		
CLL				pmax	pmax				
	comp=Z,13nm,0.9s,mb4.9								
CLL	**Collm**	**76.07**	**336**	*e*P		**P**	**20 46 42.0**	**+2.1**	
	comp=Z,13nm,0.9s,mb4.9								
CLL				*e*PcP	PcP		20 46 53.0	+0.9	
MORC	**Moravsky Berou**	**76.11**	**333**	⇑*i*P		**P**	**20 46 40.3**	**+0.2**	
MORC	**Moravsky Berou**	**76.11**	**333**	⇑P		**P**	**20 46 40.3**	**+0.2**	
TXAR	**Lajitas Array**	**76.39**	**61**	P		**P**	**20 46 36.5**	**-5.2**	
	comp=Z,1.5nm,0.6s,mb4.1,baz=299,slow=4.2,SNR=19								
TIRR	**Tirgusor**	**76.76**	**323**	⇓*i*P		**P**	**20 46 45.5**	**+1.7**	
TIRR	**Tirgusor**	**76.76**	**323**	⇓P		**P**	**20 46 45.5**	**+1.8**	
VYHS	**Vyhne**	**76.82**	**331**	*e*P		**P**	**20 46 45.8**	**+1.7**	
VYHS				*e*			20 47 51.2		
VYHS				*e*			20 48 01.0		
MLR	**Muntele Rosu**	**76.87**	**326**	⇑*i*P		**P**	**20 46 46.9**	**+2.5**	
MLR	**Muntele Rosu**	**76.87**	**326**	⇑P		**P**	**20 46 46.9**	**+2.5**	
MALT	**Malatya**	**77.20**	**313**	⇓*i*P		**P**	**20 46 46.5**	**+0.2**	
MALT	**Malatya**	**77.20**	**313**	⇓P		**P**	**20 46 46.5**	**+0.3**	
GRA1	**Grafenberg Arr**	**78.02**	**336**	*e*P		**P**	**20 46 53.6**	**+2.8**	
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.02**	**336**	*e*P		**P**	**20 46 53.6**	**+2.8**	
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.02**	**336**	*e*P		**P**	**20 46 53.6**	**+2.8**	
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.02**	**336**	*e*P		**P**	**20 46 53.6**	**+2.8**	
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
GERES	**GERESS Array B**	**78.09**	**335**	P		**P**	**20 46 50.5**	**-0.7**	
	comp=Z,0.9nm,0.6s,mb3.9,baz=22,slow=4.7,SNR=8.2								
BRTR	**Keskin Array B**	**78.36**	**317**	P		**P**	**20 46 52.2**	**-0.5**	
	comp=Z,0.9nm,0.8s,mb3.8,baz=40,slow=4.5,SNR=2.5								
BZS	**Buzias**	**78.37**	**328**	⇑*i*P		**P**	**20 46 54.9**	**+2.1**	
BZS	**Buzias**	**78.37**	**328**	⇑P		**P**	**20 46 54.9**	**+2.1**	
CDF	**Champ du Feu**	**80.22**	**338**	*e*P		**P**	**20 47 03.3**	**+0.4**	
	comp=Z,85nm,1.7s,mb5.1								
CDF	**Champ du Feu**	**80.22**	**338**	*e*P		**P**	**20 47 03.3**	**+0.4**	
CDF				pmax	pmax				
	comp=Z,42nm,1.7s,mb5.1								
CDF	**Champ du Feu**	**80.22**	**338**	*e*P		**P**	**20 47 03.3**	**+0.4**	
	comp=Z,42nm,1.7s,mb5.1								
VTS	**Vitosha**	**80.38**	**326**	⇓*i*P		**P**	**20 47 05.9**	**+2.2**	
VTS	**Vitosha**	**80.38**	**326**	⇓P		**P**	**20 47 06.0**	**+2.2**	
GRR	**Gorron**	**82.03**	**344**	*e*P		**P**	**20 47 12.9**	**+0.3**	
	comp=Z,43nm,1.1s,mb5.0								
GRR	**Gorron**	**82.03**	**344**	*e*P		**P**	**20 47 12.9**	**+0.3**	
GRR				pmax	pmax				
	comp=Z,21nm,1.1s,mb5.0								
GRR	**Gorron**	**82.03**	**344**	*e*P		**P**	**20 47 12.9**	**+0.3**	
	comp=Z,21nm,1.1s,mb5.0								
MMAI	**Mount Meron Ar**	**82.89**	**312**	P		**P**	**20 47 16.1**	**-0.9**	
	comp=Z,0.3nm,0.3s,mb3.7,baz=30,slow=8.6,SNR=5.4								
CAF	**Calviac**	**84.73**	**341**	*e*P		**P**	**20 47 26.7**	**+0.3**	
	comp=Z,11nm,0.9s,mb4.7								
CAF	**Calviac**	**84.73**	**341**	*e*P		**P**	**20 47 26.7**	**+0.3**	
CAF				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.7								
CAF	**Calviac**	**84.73**	**341**	*e*P		**P**	**20 47 26.7**	**+0.3**	
	comp=Z,5.6nm,0.9s,mb4.7								

MDD ***17*** *20:35:15.7±0.3, 42.99N×001E, h0km, mbLg0.4/3, Error ellipse: s-maj=3.2km s-min=2.2km az=154.0, PRXIMO*
STR ***17*** *20:35:15.1±0.2, 43.01N×0.00E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 20:35:15.0±0.2, 4300N×000W, h10km, Ml1.4/2, Error ellipse: s-maj=6.1km s-min=2.6km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**48**	Pg	Pg	20 35 16.7	-0.5
LABF				Sg	Sg	20 35 18.0	-0.9
LABF	**Labassere**	**0.07**	**48**	Pg	Pg	20 35 16.8	-0.5
LABF				Lg		20 35 18.0	
VIEF	**Viey**	**0.12**	**171**	Pg	Pg	20 35 17.8	0.0
VIEF				Sg	Sg	20 35 19.6	-0.2
EPF	**Esparros**	**0.25**	**82**	*e*Pg	Pg	20 35 20.5	+0.4
EPF				*e*Sg	Sg	20 35 24.4	+0.8
	1.3nm,0.2s						
EPF	**Esparros**	**0.25**	**82**	Pg	Pg	20 35 20.5	+0.4
EPF				Lg		20 35 24.4	
	0.6nm,0.2s						
EBIE	**Bielsa**	**0.33**	**161**	Pg	Pg	20 35 21.1	-0.4
	1.9nm,0.3s,SNR=7.8						
EBIE				Lg		20 35 25.9	
	SNR=7.9						
ETSF	**Etsaut**	**0.42**	**257**	*e*Pg	Pg	20 35 23.9	+0.6
ETSF				*e*Sg	Sg	20 35 29.8	+0.9
	1.7nm,0.2s						
ETSF	**Etsaut**	**0.42**	**257**	Pg	Pg	20 35 23.9	+0.6
ETSF				Lg		20 35 29.8	
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**278**	*e*Pg	Pg	20 35 31.9	-0.5
SJPF				*e*Sg	Sg	20 35 43.1	-1.1
	0.8nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**278**	Pg	Pg	20 35 31.9	-0.5
SJPF				Lg		20 35 43.1	
	0.4nm,0.3s						
ESAC	**San Caprasio**	**1.32**	**195**	Lg		20 35 59.5	
	SNR=7.9						
MTLF	**Montolieu**	**1.66**	**77**	*e*Pg	Pg	20 35 46.2	-0.6
MTLF	**Montolieu**	**1.66**	**77**	Pg	Pg	20 35 46.2	-0.6

ISCJB ***17*** *20:35:34.1±0.5, 43.15N±003×002W±003, h2km, Error ellipse: s-maj=4.0km s-min=3.3km az=126.1*
LDG ***17*** *20:35:35.6±0.1, 4305N×002W, h7km, Ml1.8/5, Error ellipse: s-maj=2.0km s-min=1.3km az=159.0*
STR ***17*** *20:35:36.2±0.1, 4301N×002W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***17*** *20:35:36.2±0.3, 4303N×003W, h0km, mbLg1.0/3, Error ellipse: s-maj=3.0km s-min=2.1km az=166.0, PRXIMO*

ISC 17 20:35:34.7±0.7, 4307N±004×002W±004, h14km±8km, n21, σ0s59/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**109**	Pg	**Pg**	**20 35 37.9**	**+0.4**
LABF				Sg	**Sg**	**20 35 39.2**	**-0.2**
LABF	**Labassere**	**0.07**	**109**	Pg	**Pg**	**20 35 37.9**	**+0.5**
LABF				Lg		20 35 39.2	
VIEF	**Viey**	**0.19**	**171**	Pg	**Pg**	**20 35 39.0**	**0.0**
VIEF				Sg	**Sg**	**20 35 41.0**	**-1.0**
VIEF	**Viey**	**0.19**	**171**	Pg	**Pg**	**20 35 39.0**	**0.0**
VIEF				Lg		20 35 41.1	
EPF	**Esparros**	**0.26**	**98**	*e*Pg	**Pg**	**20 35 40.8**	**+0.6**
EPF				*e*Sg	**Sg**	**20 35 44.6**	**+0.6**
	7.1nm,0.2s						
EPF	**Esparros**	**0.26**	**98**	Pg	**Pg**	**20 35 40.8**	**+0.6**
EPF				Lg		20 35 44.6	
	3.5nm,0.2s						
EBIE	**Bielsa**	**0.40**	**163**	Pg	**Pg**	**20 35 42.4**	**-0.3**
	2.1nm,0.3s,SNR=8.0						
EBIE				Lg		20 35 47.7	
	SNR=7.9						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	**Pg**	**20 35 44.1**	**+0.8**
ETSF				*e*Sg	**Sg**	**20 35 49.8**	**+0.6**
	4.6nm,0.2s						
ETSF	**Etsaut**	**0.43**	**247**	Pg	**Pg**	**20 35 44.1**	**+0.8**
ETSF				Lg		20 35 49.8	
	2.3nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**273**	*e*Pg	**Pg**	**20 35 52.2**	**+0.4**
SJPF				*e*Sg	**Sg**	**20 36 03.4**	**-0.1**
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**273**	Pg	**Pg**	**20 35 52.2**	**+0.4**
SJPF				Lg		20 36 03.4	
	0.6nm,0.2s						
ELIZ	**Elizondo**	**1.11**	**275**	Pg	**Pg**	**20 35 54.7**	**-1.4**
	SNR=7.9						
EMIR	**Miracle**	**1.62**	**135**	Lg		20 36 28.1	
	SNR=7.9						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	**Pg**	**20 36 07.1**	**+0.7**
MTLF				*e*Sg	**Sg**	**20 36 28.2**	**+0.3**
	4.0nm,0.3s						
MTLF	**Montolieu**	**1.66**	**80**	Pg	**Pg**	**20 36 07.1**	**+0.7**
MTLF				Lg		20 36 28.2	
	2.0nm,0.3s						
LFF	**La Frestale**	**1.95**	**16**	*e*Pg	**Pg**	**20 36 12.0**	**0.0**
LFF				*e*Sg	**Sg**	**20 36 37.4**	**+0.1**
	1.3nm,0.3s						
LFF	**La Frestale**	**1.95**	**16**	Pg	**Pg**	**20 36 12.0**	**0.0**
LFF				Lg		20 36 37.4	
	0.6nm,0.3s						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**20 36 20.0**	**-0.4**
CAF				*e*Sg	**Sg**	**20 36 51.3**	**-0.1**
	0.9nm,0.2s						
CAF	**Calviac**	**2.39**	**38**	Pg	**Pg**	**20 36 20.0**	**-0.4**
CAF				Lg		20 36 51.3	
	0.4nm,0.2s						
LASF	**Ste Croix**	**2.99**	**69**	*e*Sg	**Sg**	**20 37 09.8**	**-0.9**
	1.1nm,0.3s						
LASF	**Ste Croix**	**2.99**	**69**	Lg		20 37 09.8	
	0.6nm,0.3s						

STR ***17*** *20:35:55.3±0.1, 4302N×003W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***17*** *20:35:55.1±0.4, 4304N×003W, h0km, mbLg0.8/5, Error ellipse: s-maj=3.4km s-min=2.1km az=167.0, PRXIMO*

LDG 17 20:35:54.0±0.1, 4305N×003W, h12km, Ml1.6/2, Error ellipse: s-maj=4.6km s-min=1.9km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**91**	Pg	Pg	20 35 57.2	+0.7
LABF				Sg	Sg	20 35 58.5	+0.2
LABF	**Labassere**	**0.07**	**91**	Pg	Pg	20 35 57.2	+0.7
LABF				Lg		20 35 58.5	
VIEF	**Viey**	**0.17**	**168**	Pg	Pg	20 35 58.2	+0.4
VIEF				Sg	Sg	20 36 00.4	-0.1
VIEF	**Viey**	**0.17**	**168**	Pg	Pg	20 35 58.3	+0.4
VIEF				Lg		20 36 00.4	
EPF	**Esparros**	**0.27**	**94**	*e*Pg	Pg	20 35 59.3	-0.2
EPF				*e*Sg	Sg	20 36 03.1	-0.2
	9.0nm,0.2s						
EPF	**Esparros**	**0.27**	**94**	Pg	Pg	20 35 59.3	-0.2
EPF				Lg		20 36 03.1	
	4.5nm,0.2s						
EBIE	**Bielsa**	**0.38**	**161**	Lg		20 36 06.7	
	3.4nm,0.3s,SNR=8.3						
ETSF	**Etsaut**	**0.42**	**249**	*e*Pg	Pg	20 36 02.6	+0.3
ETSF				*e*Sg	Sg	20 36 08.5	+0.6
	9.5nm,0.2s						
ETSF	**Etsaut**	**0.42**	**249**	Pg	Pg	20 36 02.6	+0.3
ETSF				Lg		20 36 08.5	
	4.8nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**275**	*e*Pg	Pg	20 36 10.5	-0.5
SJPF				*e*Sg	Sg	20 36 21.7	-0.8
	1.1nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**275**	Pg	Pg	20 36 10.5	-0.5
SJPF				Lg		20 36 21.7	
	0.6nm,0.3s						
ESAC	**San Caprasio**	**1.37**	**194**	Pg	Pg	20 36 21.7	+1.5
	7.8nm,0.3s,SNR=5.6						
ESAC				Lg		20 36 40.6	
	9.1nm,0.4s,SNR=5.0						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	20 36 25.3	-0.7
MTLF				*e*Sg	Sg	20 36 46.8	-0.8
	1.8nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	Pg	Pg	20 36 25.3	-0.7
MTLF				Lg		20 36 46.8	
	0.9nm,0.3s						
EPOB	**Poblet**	**1.88**	**154**	Lg		20 36 53.9	
	SNR=7.9						
ERTA	**Horta de San J**	**2.11**	**173**	Lg		20 37 01.9	
	SNR=7.9						

IDC 17 20:36:05.6±3.9, 4844N×15485E, h33km±4km, mb3.9/9, mb1 4.0/11, mb1mx3.7/26, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=93.3km s-min=24.5km az=132.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.52**	**248**	Pn	Pn	20 38 22.1	+1.7
	0.9nm,0.3s,baz=72,slow=14,SNR=4.2						
MJAR	**Matsushiro Arr**	**17.05**	**232**	Pn	Pn	20 40 00.6	-0.7
	0.1nm,0.3s,baz=28,slow=11,SNR=2.8						
KSRS	**Korea Array**	**22.45**	**251**	P	P	20 41 00.8	-0.8
	2.2nm,0.9s,baz=48,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**47.22**	**297**	P	P	20 44 34.8	-0.5
	3.4nm,0.8s,baz=66,slow=7.1,SNR=11						
MKAR				pP	pP	20 44 45.1	0.0
	2.0nm,0.7s,baz=73,slow=7.9,SNR=5.3						
BVAR	**Borovoye Array**	**50.70**	**309**	P	P	20 45 01.4	-0.5
	1.2nm,0.5s,baz=62,slow=8.4,SNR=3.7						
FINES	**FINESS Array B**	**63.01**	**335**	P	P	20 46 28.2	-1.0
	4.1nm,1.0s,baz=68,slow=9.1,SNR=3.1						
FINES				pP	pP	20 46 39.1	-0.3
	3.2nm,0.9s,baz=19,slow=7.1,SNR=1.7						
NB2	**NORSAR Subarra**	**67.00**	**342**	P	P	20 46 54.1	-1.0
	comp=Z,4.9nm,1.1s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**67.00**	**342**	P	P	20 46 54.2	-0.9
	comp=Z,2.0nm,0.8s,baz=25,slow=6.4,SNR=3.4						
NOA				pP	pP	20 47 04.7	-0.7
	comp=Z,0.8nm,0.6s,baz=26,slow=6.5,SNR=2.0						
HFS	**Hagfors**	**67.28**	**340**	P	P	20 46 56.3	-0.5
	comp=Z,2.5nm,0.6s,baz=56,slow=3.7,SNR=6.8						
HFS				pP	pP	20 47 06.6	-0.5
	comp=Z,1.3nm,0.4s,baz=66,slow=5.0,SNR=1.9						
AKASG	**Malin Array Be**	**70.79**	**327**	P	P	20 47 17.8	-0.8
	comp=Z,0.9nm,0.4s,baz=28,slow=5.7,SNR=4.2						
AKASG				pP	pP	20 47 27.3	-1.7
	comp=Z,1.3nm,0.6s,baz=31,slow=6.1,SNR=3.0						
GERES	**GERESS Array B**	**77.44**	**335**	P	P	20 47 58.2	+0.7
	comp=Z,0.5nm,0.7s,baz=0.0,slow=1.3,SNR=3.8						
GERES				pP	pP	20 48 07.7	-0.2
	comp=Z,0.9nm,0.7s,baz=28,slow=6.0,SNR=4.0						
BRTR	**Keskin Array B**	**77.95**	**318**	P	P	20 48 01.1	+0.8
	comp=Z,1.1nm,0.8s,baz=45,slow=3.7,SNR=4.5						
BRTR				pP	pP	20 48 11.7	+0.9
	comp=Z,2.1nm,0.8s,baz=72,slow=4.0,SNR=6.0						

JMA ***17*** *20:40:39.0±0.1, 2846N×13020E, h34km±2km, M3.6*
JMA Felt I J1.
ISCJB ***17*** *20:40:40.3±0.6, 2853N±004×13005E±008, h39km±5km, mb3.7/9, Error ellipse: s-maj=12.7km s-min=4.7km az=53.6*
NEIC ***17*** *20:40:42.8±1.0, 2855N×12973E, h40km±12km, MG3.9(JMA), Error ellipse: s-maj=17.3km s-min=9.7km az=108.0*
IDC ***17*** *20:40:42.0±3.8, 2857N×12979E, h34km±31km, mb3.6/9, mb1 3.7/13, mb1mx3.6/26, mbtmp3.6/13, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=31.8km s-min=15.3km az=84.0*

ISC 17 20:40:40.5±0.7, 2854N±004×13007E±008, h27km±5km, n26, σ0s98/33, mb3.7/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.24**	**200**	P	**Pb**	**20 40 45.9**	**-1.1**
JZK				S	**Sb**	**20 40 51.4**	**+0.1**
JAM	**Amami Oshima**	**0.43**	**252**	P	**Pb**	**20 40 49.7**	**0.0**
JAM				S	**Sb**	**20 40 56.7**	**+0.8**
JTK	**Tokunoshima**	**1.24**	**233**	P	**Pn**	**20 41 02.1**	**0.0**
JTK				S	**Sn**	**20 41 18.4**	**+0.5**
JNN	**Nakanoshima**	**1.30**	**353**	P	**Pn**	**20 41 03.2**	**+0.3**
JNN				S	**Sn**	**20 41 19.2**	**-0.2**
JKC	**Kuchinoerabu**	**1.92**	**3**	P	**Pn**	**20 41 11.9**	**+0.6**
JTN	**Tanegashima 3**	**2.25**	**20**	P	**Pn**	**20 41 15.9**	**0.0**
JOW	**Kunigami**	**2.33**	**223**	Pn	**Pn**	**20 41 16.2**	**-0.8**
	14nm,0.3s,baz=102,slow=23,SNR=27						
JOW				Sn	**Sn**	**20 41 46.9**	**+2.1**
	34nm,0.3s,baz=113,slow=26,SNR=6.9						
JOW				LR	LR	20 42 13.8	
	comp=Z,361nm,18.8s,baz=61,slow=42						
JOW	**Kunigami**	**2.33**	**223**	P	**Pn**	**20 41 16.2**	**-0.8**
JIH	**Iheya**	**2.39**	**232**	P	**Pn**	**20 41 17.1**	**-0.8**
JTSR	**Tashiro 2**	**2.72**	**16**	P	**Pn**	**20 41 22.8**	**+0.4**
JTSR				S	**Sn**	**20 41 54.6**	**+0.3**
JAGN	**Aguni-jima**	**3.17**	**233**	P	**Pn**	**20 41 28.7**	**+0.1**
JNU	**Nakatsue**	**4.62**	**8**	Pn	**Pn**	**20 41 49.9**	**+1.4**
	6.6nm,0.3s,baz=211,slow=19,SNR=29						
JNU				Sn	**Sn**	**20 42 42.9**	**+1.7**
	4.2nm,0.3s,baz=187,slow=22,SNR=5.9						
KSRS	**Korea Array**	**9.07**	**349**	Pn	**Pn**	**20 42 48.3**	**-1.3**
	baz=162,slow=14,SNR=2.8						
MAJO	**Matsushiro**	**10.52**	**39**	*e*P	**Pn**	**20 43 13.9**	**+4.4**
	6.6nm,0.5s						
MJAR	**Matsushiro Arr**	**10.52**	**39**	Pn	**Pn**	**20 43 14.0**	**+4.5**
	3.4nm,0.3s,baz=33,slow=18,SNR=23						
SONM	**Songino Array**	**26.60**	**323**	P	**P**	**20 46 15.2**	**-1.3**
	0.5nm,0.7s,mb3.2,baz=138,slow=8.6,SNR=6.5						
MKAR	**Makanchi Array**	**41.27**	**310**	P	**P**	**20 48 22.2**	**-1.2**
	0.3nm,0.6s,mb3.1,baz=87,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**41.27**	**310**	P	**P**	**20 48 22.2**	**-1.2**
ZAL	**Zalesovo**	**41.46**	**321**	P	**P**	**20 48 23.8**	**-1.1**
	0.9nm,0.4s,mb3.8,baz=335,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**48.38**	**175**	P	**P**	**20 49 19.4**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=354,slow=8.5,SNR=3.1						
BVAR	**Borovoye Array**	**49.68**	**317**	P	**P**	**20 49 30.2**	**+0.3**
	1.3nm,0.5s,mb4.2,baz=91,slow=9.4,SNR=9.0						
ASAR	**Alice Springs**	**52.04**	**176**	P	**P**	**20 49 50.0**	**+2.3**
	0.2nm,0.6s,mb3.2,baz=8.6,slow=8.1,SNR=3.9						
FINES	**FINESS Array B**	**71.66**	**331**	P	**P**	**20 51 58.0**	**-1.7**
	2.6nm,0.8s,mb4.2,baz=90,slow=7.6,SNR=7.0						
FINES	**FINESS Array B**	**71.66**	**331**	P	**P**	**20 51 58.0**	**-1.7**
AKASG	**Malin Array Be**	**74.84**	**320**	P	**P**	**20 52 17.9**	**-0.6**
	1.3nm,0.5s,mb4.2,baz=56,slow=6.2,SNR=5.8						
BRTR	**Keskin Array B**	**76.90**	**308**	P	**P**	**20 52 30.6**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=107,slow=5.2,SNR=7.4						

IDC 17 20:41:09.9±2.8, 805S×11753E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=238.8km s-min=24.8km az=52.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.73**	**142**	Pn	Pn	20 44 12.4	+0.3
	0.0nm,0.3s,baz=342,slow=9.6,SNR=2.5						
FITZ				Sn	Sn	20 46 26.0	-8.7
	0.1nm,0.3s,baz=18,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**20.12**	**128**	P	P	20 45 45.1	-0.2
	0.7nm,0.6s,baz=302,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.08**	**137**	P	P	20 46 07.2	+0.7
	0.5nm,0.4s,baz=309,slow=8.7,SNR=20						
MKAR	**Makanchi Array**	**62.96**	**334**	P	P	20 51 38.3	+0.1
	0.3nm,0.6s,baz=152,slow=7.4,SNR=4.9						

ISCJB ***17*** *20:42:23.1±0.6, 4305N±005×001E±004, h7km, Error ellipse: s-maj=7.7km s-min=3.8km az=168.2*
STR ***17*** *20:42:23.6±0.0, 4303N×003W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *20:42:23.5±0.1, 4302N×003E, h8km, Md1.7/3, Ml1.5/2, Error ellipse: s-maj=4.0km s-min=2.1km az=165.0*
MDD ***17*** *20:42:24.0±0.5, 4302N×001E, h7km±5km, mbLg1.1/3, Error ellipse: s

	1.1nm,0.3s								
SJPF	**Ste Jean**	**0.89**	**276**	Pg	Pg	20 43 38.8	-0.4		
SJPF				Lg		20 43 49.9			
	0.6nm,0.3s								
ESAC	**San Caprasio**	**1.35**	**194**	Lg		20 44 07.6			
	SNR=7.9								
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	20 43 53.6	-0.5		
MTLF				*e*Sg	Sg	20 44 14.7	-1.1		
	0.9nm,0.2s								
MTLF	**Montolieu**	**1.67**	**78**	Pg	Pg	20 43 53.6	-0.5		
MTLF				Lg		20 44 14.7			
	0.4nm,0.2s								

ISCJB ***17*** *20:44:22.2±0.5, 4309N×003W×002W±003, h6km, Error ellipse: s-maj=4.2km s-min=3.3km az=116.5*
STR ***17*** *20:44:23.7±0.1, 4300N×001W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***17*** *20:44:23.7±0.5, 4302N×002W, h6km±6km, mbLg0.9/6, Error ellipse: s-maj=3.0km s-min=2.5km az=154.0, PRXIMO*
LDG ***17*** *20:44:23.3±0.1, 4300N×002W, h6km, Md1.8/3, Ml1.7/6, Error ellipse: s-maj=2.3km s-min=1.5km az=158.0*

ISC 17 20:44:22.6±0.8, 4302N±004×000W±004, h14km±7km, n19, σ0§55/25, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**64**	Pg	**Pg**	**20 44 25.5**	**+0.2**
LABF				Sg	**Sg**	**20 44 26.8**	**-0.5**
LABF	**Labassere**	**0.06**	**64**	Pg	**Pg**	**20 44 25.5**	**+0.2**
LABF				Lg		20 44 26.8	
VIEF	**Viey**	**0.14**	**171**	Pg	**Pg**	**20 44 26.4**	**+0.2**
VIEF				Sg	**Sg**	**20 44 28.3**	**-0.4**
VIEF	**Viey**	**0.14**	**171**	Pg	**Pg**	**20 44 26.4**	**+0.3**
VIEF				Lg		20 44 28.5	
EPF	**Esparros**	**0.25**	**87**	*e*Pg	**Pg**	**20 44 28.5**	**+0.5**
EPF				*e*Sg	**Sg**	**20 44 32.3**	**+0.6**
	11nm,0.2s						
EPF	**Esparros**	**0.25**	**87**	Pg	**Pg**	**20 44 28.5**	**+0.5**
EPF				Lg		20 44 32.3	
	5.5nm,0.2s						
EBIE	**Bielsa**	**0.35**	**162**	Pg	**Pg**	**20 44 29.9**	**+0.2**
	SNR=7.9						
EBIE				Lg		20 44 35.0	
	7.4nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	**Pg**	**20 44 31.7**	**+0.6**
ETSF				*e*Sg	**Sg**	**20 44 37.0**	**+0.2**
	2.4nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	**Pg**	**20 44 31.7**	**+0.6**
ETSF				Lg		20 44 37.0	
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Pg	**Pg**	**20 44 39.7**	**-0.3**
SJPF				*e*Sg	**Sg**	**20 44 51.0**	**-0.8**
	1.2nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**276**	Pg	**Pg**	**20 44 39.7**	**-0.3**
SJPF				Lg		20 44 51.0	
	0.6nm,0.3s						
ESAC	**San Caprasio**	**1.34**	**195**	Lg		20 45 09.3	
	770nm,4.0s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	**Pg**	**20 44 54.6**	**+0.2**
MTLF				*e*Sg	**Sg**	**20 45 15.9**	**0.0**
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	**Pg**	**20 44 54.6**	**+0.2**
MTLF				Lg		20 45 15.9	
	0.4nm,0.3s						
LFF	**La Frestale**	**1.99**	**15**	*e*Pg	**Pg**	**20 45 00.8**	**-0.1**
LFF				*e*Sg	**Sg**	**20 45 27.7**	**+1.0**
	3.8nm,0.4s						
LFF	**La Frestale**	**1.99**	**15**	Pg	**Pg**	**20 45 00.8**	**-0.1**
LFF				Lg		20 45 27.7	
	1.9nm,0.4s						
CAF	**Calviac**	**2.42**	**37**	*e*Sg	**Sg**	**20 45 39.9**	**-0.5**
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**25**	*e*Sg	**Sg**	**20 45 44.3**	**+0.3**
	0.8nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Sg	**Sg**	**20 45 57.6**	**-1.4**
	0.6nm,0.3s						

ISCJB ***17*** *20:46:35.9±2.5, 564S±007×132.1E±0.1, h14km±17km, mb3.8/4, Error ellipse: s-maj=24.9km s-min=11.6km az=157.7*
NEIC ***17*** *20:46:37.1±1.1, 562S×13227E, h10km, mb4.3/2, Error ellipse: s-maj=38.9km s-min=12.6km az=78.0*
IDC ***17*** *20:46:44.3±10.0, 578S×13227E, h75km±100km, mb3.5/2, mb1 4.1/5, mb1mx3.8/12, mbtmp3.9/5, ML4.5/3, Error ellipse: s-maj=72.7km s-min=28.3km az=61.0*

ISC 17 20:46:38.2±3.2, 563S±007×1322E±01, h15km±22km, n14, σ1§20/21, mb3.8/4, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.04**	**178**	*e*P	**Pn**	**20 48 25.4**	**+4.7**
	43nm,0.8s						
KAKA				*e*S	**Sn**	**20 49 49.5**	**+9.0**
FITZ	**Fitzroy Crossi**	**13.94**	**207**	*e*P	**Pn**	**20 49 55.9**	**+0.8**
	23nm,0.6s						
FITZ				*e*S	**Sn**	**20 52 28.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.94**	**207**	P	**Pn**	**20 49 56.8**	**+1.7**
	3.4nm,0.3s,baz=34,slow=12,SNR=76						
FITZ				S	**Sn**	**20 52 29.0**	**-0.5**
	3.1nm,0.3s,baz=190,slow=15,SNR=8.7						
WRAB	**Tennant Creek**	**14.38**	**172**	*e*P	**Pn**	**20 50 00.0**	**-1.0**
WRA	**Warramunga Arr**	**14.38**	**172**	P	**Pn**	**20 50 00.6**	**-0.6**
	1.7nm,0.3s,baz=357,slow=13,SNR=59						
WRA				S	**Sn**	**20 52 41.1**	**+0.7**
	1.0nm,0.3s,baz=357,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**14.38**	**172**	P	**Pn**	**20 50 00.6**	**-0.6**
WRA				S	**Sn**	**20 52 41.1**	**+0.7**
WB2	**Warramunga Arr**	**14.39**	**172**	*e*P	**Pn**	**20 50 00.1**	**-1.1**
WB2				*e*S	**Sn**	**20 52 41.9**	**+1.4**
AS31	**Alice Springs**	**18.01**	**175**	*e*P	**Pn**	**20 50 49.3**	**+1.4**
ASAR	**Alice Springs**	**18.01**	**175**	P	**Pn**	**20 50 49.1**	**+1.2**
	1.0nm,0.3s,baz=356,slow=9.2,SNR=41						
ASAR				S	**Sn**	**20 54 07.2**	**-1.3**
	0.2nm,0.3s,baz=354,slow=26,SNR=5.5						
FORT	**Forrest**	**25.31**	**188**	*e*P	**P**	**20 52 03.8**	**-0.4**
	8.7nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**27.57**	**162**	*e*P	**P**	**20 52 24.0**	**-0.5**
	2.3nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**27.57**	**162**	P	**P**	**20 52 22.4**	**-2.1**
	0.5nm,0.3s,mb3.6,baz=328,slow=10,SNR=4.3						
SONM	**Songino Array**	**57.87**	**340**	P	**P**	**20 56 31.1**	**+1.8**
	0.2nm,0.7s,mb3.3,baz=150,slow=6.7,SNR=2.4						
MKAR	**Makanchi Array**	**68.29**	**326**	P	**P**	**20 57 37.0**	**-1.5**
	0.2nm,0.4s,mb3.5,baz=117,slow=7.8,SNR=5.7						

ISCJB ***17*** *20:55:24.8±0.2, 4322N±001×006E±002, h2km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=97.3*
STR ***17*** *20:55:27.4±0.1, 4302N×002E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *20:55:27.3±0.1, 4305N×001W, h9km, Md2.7/3, Ml2.8/24, Error ellipse: s-maj=0.9km s-min=0.7km az=3.0*
MDD ***17*** *20:55:27.9±0.2, 4302N×001E, h7km±2km, mbLg2.0/18, Error ellipse: s-maj=1.7km s-min=1.2km az=16.0, PRXIMO*
CSEM ***17*** *20:55:27.3±0.0, 4306N×001W, h10km, ML2.8/24, Error ellipse: s-maj=0.8km s-min=0.7km az=65.0*
NEIC ***17*** *20:55:27.4, 4302N×002E, h5km, ML2.5(STR), ML2.8(LDG), After STR.*

ISC 17 20:55:26.3±0.2, 4314N±001×003E±002, h10km±2km, n128, σ1§12/233, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**160**	Pg	**Pg**	**20 55 29.4**	**+0.6**
LABF				Sg	**Sg**	**20 55 30.7**	**+0.1**
LABF	**Labassere**	**0.09**	**160**	Pg	**Pg**	**20 55 29.5**	**+0.6**
LABF				Lg		20 55 30.7	
EPF	**Esparros**	**0.25**	**115**	*e*Pg	**Pg**	**20 55 32.4**	**+1.0**
EPF				*e*Sg	**Sg**	**20 55 36.3**	**+1.4**
	155nm,0.2s						
EPF	**Esparros**	**0.25**	**115**	*e*Pg	**Pg**	**20 55 32.4**	**+1.0**
EPF				*e*Sg	**Sg**	**20 55 36.3**	**+1.4**
	77nm,0.2s						
VIEF	**Viey**	**0.25**	**181**	Pg	**Pg**	**20 55 30.6**	**-0.9**
VIEF				Sg	**Sg**	**20 55 33.5**	**-1.4**
VIEF	**Viey**	**0.25**	**181**	Pg	**Pg**	**20 55 30.7**	**-0.8**
VIEF				Lg		20 55 32.9	
REYF	**Montagne du Re**	**0.32**	**258**	Pg	**Pg**	**20 55 33.1**	**+0.5**
REYF				Sg	**Sg**	**20 55 37.5**	**+0.6**
REYF	**Montagne du Re**	**0.32**	**258**	Pg	**Pg**	**20 55 33.2**	**+0.5**
REYF				Lg		20 55 37.4	
RESF	**Ens**	**0.40**	**145**	Pg	**Pg**	**20 55 33.9**	**-0.3**
RESF				Sg	**Sg**	**20 55 38.6**	**-0.9**
RESF	**Ens**	**0.40**	**145**	Pg	**Pg**	**20 55 33.9**	**-0.2**
RESF				Lg		20 55 38.7	
EBIE	**Bielsa**	**0.46**	**169**	⇑Pg	**Pg**	**20 55 34.4**	**-0.9**
	42nm,0.3s,SNR=18						
EBIE				Lg		20 55 39.3	
	42nm,0.3s,SNR=15						
EBIE	**Bielsa**	**0.46**	**169**	Pg	**Pg**	**20 55 34.4**	**-0.9**
	42nm,0.3s,SNR=18						
EBIE				Lg		20 55 39.3	
	42nm,0.3s,SNR=15						
ETSF	**Etsaut**	**0.49**	**241**	*e*Pg	**Pg**	**20 55 35.9**	**0.0**
ETSF				*e*Sg	**Sg**	**20 55 41.6**	**-0.8**
	117nm,0.2s						
ETSF	**Etsaut**	**0.49**	**241**	*e*Pg	**Pg**	**20 55 35.9**	**0.0**
ETSF				*e*Sg	**Sg**	**20 55 41.6**	**-0.8**
	58nm,0.2s						
ATE	**Arette**	**0.54**	**265**	Pg	**Pg**	**20 55 37.3**	**+0.5**
ATE				Sg	**Sg**	**20 55 45.3**	**+1.5**
ATE	**Arette**	**0.54**	**265**	Pg	**Pg**	**20 55 37.3**	**+0.5**
ATE				Lg		20 55 44.7	
FDAF	**Les Forges d'A**	**0.54**	**234**	Pg	**Pg**	**20 55 36.6**	**-0.2**
FDAF				Lg		20 55 42.9	
MELF	**Melles**	**0.60**	**116**	Pg	**Pg**	**20 55 38.2**	**+0.3**
MELF				Sg	**Sg**	**20 55 46.0**	**+0.3**
MELF	**Melles**	**0.60**	**116**	Pg	**Pg**	**20 55 38.1**	**+0.2**
MELF				Lg		20 55 46.3	
ORDF	**Ordiarp**	**0.71**	**277**	Pg	**Pg**	**20 55 41.3**	**+1.3**
ORDF				Lg		20 55 51.3	
LARF	**Larrau**	**0.75**	**263**	Pg	**Pg**	**20 55 41.3**	**+0.5**
LARF				Sg	**Sg**	**20 55 51.9**	**+1.2**
LARF	**Larrau**	**0.75**	**263**	Pg	**Pg**	**20 55 41.3**	**+0.5**
LARF				Lg		20 55 51.9	
MLS	**Moulis**	**0.80**	**102**	Lg		20 55 53.6	
SJPF	**Ste Jean**	**0.92**	**269**	*e*Pg	**Pg**	**20 55 44.0**	**0.0**
SJPF				*e*Sg	**Sg**	**20 55 55.2**	**-0.8**
	16nm,0.3s						
SJPF	**Ste Jean**	**0.92**	**269**	*e*Pg	**Pg**	**20 55 44.0**	**0.0**
SJPF				*e*Sg	**Sg**	**20 55 55.2**	**-0.8**
	8.2nm,0.3s						
SALF	**Salau**	**0.93**	**113**	Pg	**Pg**	**20 55 44.5**	**+0.3**
SALF				Sg	**Sg**	**20 55 56.2**	**-0.2**
SALF	**Salau**	**0.93**	**113**	Pg	**Pg**	**20 55 44.5**	**+0.2**
SALF				Lg		20 55 56.7	
IPRE	**Itoiz**	**1.07**	**253**	Pg	**Pg**	**20 55 48.4**	**+1.5**
	2.4nm,0.3s,SNR=9.7						
IPRE				Lg		20 56 00.8	
	5.2nm,0.4s,SNR=6.7						
IPRE	**Itoiz**	**1.07**	**253**	Pg	**Pg**	**20 55 48.5**	**+1.6**
	2.4nm,0.3s,SNR=9.7						
EALK	**Alkurruntz**	**1.13**	**275**	Pg	**Pg**	**20 55 51.2**	**+3.2**
EALK				Lg		20 56 06.6	
ELIZ	**Elizondo**	**1.14**	**272**	Pg	**Pg**	**20 55 49.4**	**+1.2**
ELIZ				Lg		20 56 07.6	
ELIZ	**Elizondo**	**1.14**	**272**	Pg	**Pg**	**20 55 49.4**	**+1.1**
	3.5nm,0.2s,SNR=14						
ELIZ				Lg		20 56 05.0	
	16nm,0.2s,SNR=8.5						
GRBF	**Gourbit**	**1.14**	**104**	Pg	**Pg**	**20 55 49.1**	**+0.8**
IUSE	**Utxeti**	**1.17**	**261**	Pg	**Pg**	**20 55 50.8**	**+2.0**
	4.9nm,0.1s,SNR=11						
IUSE				Lg		20 56 04.9	
	6.5nm,0.3s,SNR=8.1						
IUSE	**Utxeti**	**1.17**	**261**	Pg	**Pg**	**20 55 50.9**	**+2.0**
	3.1nm,0.3s,SNR=11						
PAND	**Andorre**	**1.27**	**118**	Lg		20 56 06.7	
ESAC	**San Caprasio**	**1.46**	**195**	Pg	**Pg**	**20 55 53.9**	**-0.5**
	84nm,0.3s,SNR=51						
ESAC				Lg		20 56 12.8	
	106nm,0.3s,SNR=21						
ESAC	**San Caprasio**	**1.46**	**195**	Pg	**Pg**	**20 55 53.9**	**-0.5**
	84nm,0.3s,SNR=51						
MTLF	**Montolieu**	**1.61**	**82**	*e*Pg	**Pg**	**20 55 58.4**	**+1.1**
MTLF				*e*Sg	**Sg**	**20 56 19.9**	**+1.7**
	31nm,0.3s						
MTLF	**Montolieu**	**1.61**	**82**	*e*Pn	**Pn**	**20 55 55.3**	**+0.5**
MTLF				*e*Pg	**Pg**	**20 55 58.4**	**+1.1**
MTLF				*e*Sg	**Sg**	**20 56 19.9**	**+1.7**
MTLF	**Montolieu**	**1.61**	**82**	Pn	**Pn**	**20 55 55.3**	**+0.5**
MTLF				Pg	**Pg**	**20 55 58.4**	**+1.1**
MTLF				Lg		20 56 19.9	
	16nm,0.3s						
MTLF	**Montolieu**	**1.61**	**82**	*e*Pg	**Pg**	**20 55 58.4**	**+1.1**
MTLF				*e*Sg	**Sg**	**20 56 19.9**	**+1.7**
	16nm,0.3s						
VALF	**Valcebollere**	**1.64**	**116**	Pg	**Pg**	**20 55 58.4**	**+0.7**
VALF	**Valcebollere**	**1.64**	**116**	Pg	**Pg**	**20 55 59.1**	**+1.4**
VALF				Lg		20 56 20.1	
EMIR	**Miracle**	**1.65**	**137**	Pg	**Pg**	**20 55 58.0**	**+0.1**
	4.8nm,0.3s,SNR=6.9						
EMIR				Lg		20 56 18.9	
	20nm,0.3s,SNR=8.6						
EMIR	**Miracle**	**1.65**	**137**	Pg	**Pg**	**20 55 58.0**	**+0.1**
	4.8nm,0.3s,SNR=6.9						
LFF	**La Frestale**	**1.88**	**16**	*e*Pg	**Pg**	**20 56 03.9**	**+1.6**
LFF				*e*Sg	**Sg**	**20 56 28.8**	**+2.2**
	25nm,0.3s						
LFF	**La Frestale**	**1.88**	**16**	*e*Pn	**Pn**	**20 55 58.9**	**+0.5**
LFF				*e*Pg	**Pg**	**20 56 03.9**	**+1.6**
LFF				*e*Sg	**Sg**	**20 56 28.8**	**+2.2**
LFF	**La Frestale**	**1.88**	**16**	Pn	**Pn**	**20 55 58.9**	**+0.5**
LFF				Pg	**Pg**	**20 56 03.9**	**+1.6**
LFF				Lg		20 56 28.8	
	13nm,0.3s						
LFF	**La Frestale**	**1.88**	**16**	*e*Pg	**Pg**	**20 56 03.9**	**+1.6**
LFF				*e*Sg	**Sg**	**20 56 28.8**	**+2.2**
	13nm,0.3s						
ECRI	**Cripan**	**1.94**	**255**	Pn	**Pg**	**20 56 02.5**	**-1.1**
ECRI				Sn	**Sn**	**20 56 27.0**	**+3.2**
ECRI				Lg		20 56 30.2	
ECRI	**Cripan**	**1.94**	**255**	Pg	**Pg**	**20 56 02.5**	**-1.1**
	1.6nm,0.7s,SNR=7.9						
ECRI				Lg		20 56 30.2	
	4.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.94**	**156**	Pg	**Pg**	**20 56 01.8**	**-1.8**
	3.9nm,0.3s,SNR=32						
EPOB				Lg		20 56 26.2	
	19nm,0.7s,SNR=13						
EPOB	**Poblet**	**1.94**	**156**	Pg	**Pg**	**20 56 01.8**	**-1.8**
	3.9nm,0.3s,SNR=32						
ERTA	**Horta de San J**	**2.19**	**174**	Pg	**Pg**	**20 56 05.7**	**-2.6**
	7.2nm,0.8s,SNR=6.0						
ERTA				Lg		20 56 33.7	
	7.9nm,0.3s,SNR=6.1						
ERTA	**Horta de San J**	**2.19**	**174**	Pg	**Pg**	**20 56 05.7**	**-2.6**
	7.2nm,0.8s,SNR=6.0						
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**20 56 06.8**	**-2.0**
EJON				Lg		20 56 37.3	
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**20 56 08.8**	**0.0**
	0.6nm,0.2s,SNR=7.9						
EJON				Lg		20 56 37.3	
	3.6nm,0.3s,SNR=7.3						
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**20 56 06.8**	**-2.0**
	0.6nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.31**	**39**	*e*Pg	**Pg**	**20 56 12.1**	**+1.4**
CAF				*e*Sn	**Sn**	**20 56 32.8**	**-0.2**
CAF				*e*Sg	**Sg**	**20 56 42.7**	**+2.0**
	14nm,0.2s						
CAF	**Calviac**	**2.31**	**39**	*e*Pn	**Pn**	**20 56 04.9**	**+0.4**
CAF				*e*Pg	**Pg**	**20 56 12.1**	**+1.4**
CAF				*e*Sn	**Sn**	**20 56 32.8**	**-0.2**
CAF				*e*Sg	**Sg**	**20 56 42.7**	**+2.0**
CAF	**Calviac**	**2.31**	**39**	Pn	**Pn**	**20 56 04.9**	**+0.4**
CAF				Pg	**Pg**	**20 56 12.1**	**+1.4**
CAF				Sn	**Sn**	**20 56 32.8**	**-0.2**
CAF				Lg		20 56 42.7	
	7.2nm,0.2s						
CAF	**Calviac**	**2.31**	**39**	*e*Pn	**Pn**	**20 56 04.9**	**+0.4**
CAF	**Calviac**	**2.31**	**39**	*e*Pg	**Pg**	**20 56 12.1**	**+1.4**
CAF				*e*Sn	**Sn**	**20 56 32.8**	**-0.2**
CAF				*e*Sg	**Sg**	**20 56 42.7**	**+2.0**
	7.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**26**	*e*Pg	**Pg**	**20 56 14.1**	**+1.4**
RJF				*e*Sg	**Sg**	**20 56 46.3**	**+2.3**
	13nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**26**	*e*Pn	**Pn**	**20 56 06.3**	**+0.4**
RJF				*e*Pg	**Pg**	**20 56 14.1**	**+1.4**
RJF				*e*Sg	**Sg**	**20 56 46.3**	**+2.3**
RJF	**Les Rejaudoux**	**2.42**	**26**	Pn	**Pn**	**20 56 06.3**	**+0.4**
RJF				Pg	**Pg**	**20 56 14.1**	**+1.4**
RJF				Lg		20 56 46.3	
	6.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**26**	*e*Pg	**Pg**	**20 56 14.1**	**+1.4**
RJF				*e*Sg	**Sg**	**20 56 46.3**	**+2.3**
	6.7nm,0.2s						
ETOR	**Torete**	**2.79**	**215**	Pn	**Pn**	**20 56 12.3**	**+1.3**
ETOR				Pg	**Pg**	**20 56 18.9**	**-0.9**
ETOR				Sn	**Sn**	**20 56 45.3**	**+0.6**
ETOR				Lg		20 56 56.0	
ETOR	**Torete**	**2.79**	**215**	Pn	**Pn**	**20 56 12.3**	**+1.3**
	4.8nm,0.9s,SNR=6.1						
ETOR				Pg	**Pg**	**20 56 18.9**	**-0.9**
	5.6nm,0.3s,SNR=4.0						
ETOR				Sn	**Sn**	**20 56 43.0**	**-1.7**
	6.1nm,0.4s,SNR=5.3						
ETOR				Lg		20 56 54.5	
	7.7nm,1.1s,SNR=4.9						
EMOS	**Mosqueruela**	**2.79**	**188**	Pn	**Pn**	**20 56 11.6**	**+0.5**
EMOS				Pg	**Pg**	**20 56 16.9**	**-3.0**
EMOS				Sn	**Sn**	**20 56 44.2**	**-0.7**
EMOS				Lg		20 56 51.9	
EMOS	**Mosqueruela**	**2.79**	**188**	Pn	**Pn**	**20 56 11.6**	**+0.5**
	0.1nm,1.0s,SNR=4.0						
EMOS				Pg	**Pg**	**20 56 16.9**	**-3.0**
	5.6nm,0.4s,SNR=10						
EMOS				Sn	**Sn**	**20 56 42.7**	**-2.2**
	1.1nm,0.6s,SNR=7.9						
EMOS				Lg		20 56 51.9	
	1.3nm,0.8s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**188**	Pn	**Pn**	**20 56 11.6**	**+0.5**
	0.1nm,1.0s,SNR=4.0						
EMOS	**Mosqueruela**	**2.79**	**188**	Pg	**Pg**	**20 56 17.0**	**-2.9**
EMOS				Sn	**Sn**	**20 56 44.2**	**-0.6**
	1.1nm,0.6s,SNR=7.9						
LASF	**Ste Croix**	**2.93**	**70**	*e*Pg	**Pg**	**20 56 23.1**	**+0.5**
LASF				*e*Sg	**Sg**	**20 57 01.7**	**+1.1**
	8.7nm,0.3s						
LASF	**Ste Croix**	**2.93**	**70**	*e*Pn	**Pn**	**20 56 13.4**	**+0.4**
LASF				*e*Pg	**Pg**	**20 56 23.1**	**+0.5**
LASF				*e*Sg	**Sg**	**20 57 01.7**	**+1.1**
LASF	**Ste Croix**	**2.93**	**70**	Pn	**Pn**	**20 56 13.4**	**+0.4**
LASF				Pg	**Pg**	**20 56 23.1**	**+0.5**
LASF				Lg		20 57 01.7	
	4.3nm,0.3s						
LASF	**Ste Croix**	**2.93**	**70**	*e*Pg	**Pg**	**20 56 23.1**	**+0.5**
LASF				*e*Sg	**Sg**	**20 57 01.7**	**+1.1**
	4.3nm,0.3s						
MFF	**Saint Martin d**	**3.47**	**358**	*e*Pg	**Pg**	**20 56 33.1**	**+0.3**
MFF				*e*Sg	**Sg**	**20 57 18.5**	**+0.8**
	10nm,0.4s						
MFF	**Saint Martin d**	**3.47**	**358**	*e*Pn	**Pn**	**20 56 20.5**	**+0.2**
MFF				*e*Pg	**Pg**	**20 56 33.1**	**+0.3**
MFF				*e*Sg	**Sg**	**20 57 18.5**	**+0.8**
MFF	**Saint Martin d**	**3.47**	**358**	Pn	**Pn**	**20 56 20.5**	**+0.2**
MFF				Pg	**Pg**	**20 56 33.1**	**+0.3**
MFF				Lg		20 57 18.5	
	5.1nm,0.4s						
MFF	**Saint Martin d**	**3.47**	**358**	*e*Pg	**Pg**	**20 56 33.1**	**+0.3**
MFF				*e*Sg	**Sg**	**20 57 18.5**	**+0.8**
	5.1nm,0.4s						
TCF	**Toulx Ste Croi**	**3.51**	**25**	*e*Pg	**Pg**	**20 56 34.0**	**+0.3**
TCF				*e*Sn	**Sn**	**20 57 01.4**	**-1.2**
TCF				*e*Sg	**Sg**	**20 57 20.3**	**+1.1**
	7.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.51**	**25**	*e*Pg	**Pg**	**20 56 34.0**	**+0.3**
TCF				*e*Sn	**Sn**	**20 57 01.4**	**-1.2**
TCF				*e*Sg	**Sg**	**20 57 20.3**	**+1.1**
	3.5nm,0.3s						
EARI	**Arriondas**	**3.83**	**274**	Pn	**Pn**	**20 56 28.7**	**+3.3**
	0.5nm,0.7s,SNR=7.9						
EARI				Sn	**Sn**	**20 57 12.8**	**+2.3**
	1.7nm,1.1s,SNR=7.9						
EARI	**Arriondas**	**3.83**	**274**	Pn	**Pn**	**20 56 28.7**	**+3.3**
	0.5nm,0.7s,SNR=7.9						
BGF	**Bois d'Agland**	**3.96**	**29**	*e*Pg	**Pg**	**20 56 42.6**	**+0.3**
BGF				*e*Sg	**Sg**	**20 57 34.3**	**+0.6**
	18nm,0.3s						
BGF	**Bois d'Agland**	**3.96**	**29**	*e*Pn	**Pn**	**20 56 27.6**	**+0.4**
BGF				*e*Pg	**Pg**	**20 56 42.6**	**+0.3**
BGF				*e*Sg	**Sg**	**20 57 34.3**	**+0.6**
BGF	**Bois d'Agland**	**3.96**	**29**	Pn	**Pn**	**20 56 27.6**	**+0.4**
BGF				Pg	**Pg**	**20 56 42.6**	**+0.3**
BGF				Lg		20 57 34.3	
	9.1nm,0.3s						
BGF	**Bois d'Agland**	**3.96**	**29**	*e*Pg	**Pg**	**20 56 42.6**	**+0.3**
BGF				*e*Sg	**Sg**	**20 57 34.3**	**+0.6**
	9.1nm,0.3s						
GUD	**Guadarrama**	**4.00**	**233**	Pn	**Pn**	**20 56 29.7**	**+2.1**
	1.0nm,1.0s,SNR=7.9						
GUD				Sn	**Sn**	**20 57 14.1**	**-0.3**
	4.0nm,1.0s,SNR=7.9						
GUD				Lg		20 57 32.9	
	0.6nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	**4.12**	**76**	*e*Pg	**Pg**	**20 56 44.7**	**-0.5**
SMRF				*e*Sg	**Sg**	**20 57 38.4**	**-0.1**
	1.2nm,0.3s						
SMRF	**Simiane la Rot**	**4.12**	**76**	*e*Pn	**Pn**	**20 56 28.6**	**-0.7**
SMRF				*e*Pg	**Pg**	**20 56 44.7**	**-0.5**
SMRF				*e*Sg	**Sg**	**20 57 38.4**	**-0.1**
SMRF	**Simiane la Rot**	**4.12**	**76**	Pn	**Pn**	**20 56 28.6**

SGMF	**Saint Gilles**	**5.43**	**341**	Pn	**Pn**	**20 56 47.2**	**-0.1**
SGMF				Pg	**Pg**	**20 57 08.9**	**-1.4**
SGMF				Lg		20 58 19.0	
	0.6nm,0.3s						
SGMF	**Saint Gilles**	**5.43**	**341**	*e*Pg	**Pg**	**20 57 08.9**	**-1.4**
SGMF				*e*Sg	**Sg**	**20 58 19.0**	**-1.7**
	0.6nm,0.3s						
LDF	**La Druitiere**	**5.46**	**359**	*e*Pg	**Pg**	**20 57 09.4**	**-1.5**
LDF				*e*Sg	**Sg**	**20 58 20.4**	**-1.2**
	1.4nm,0.3s						
LDF	**La Druitiere**	**5.46**	**359**	*e*Pg	**Pg**	**20 57 09.4**	**-1.5**
LDF				*e*Sg	**Sg**	**20 58 20.4**	**-1.2**
	0.7nm,0.3s						
CABF	**La Chapelle**	**5.53**	**49**	*e*Pg	**Pg**	**20 57 10.9**	**-1.4**
CABF				*e*Sg	**Sg**	**20 58 23.2**	**-0.7**
	1.7nm,0.4s						
CABF	**La Chapelle**	**5.53**	**49**	*e*Pg	**Pg**	**20 57 10.9**	**-1.4**
CABF				*e*Sg	**Sg**	**20 58 23.2**	**-0.7**
	0.9nm,0.4s						
FLN	**La Foliniere**	**5.64**	**357**	*e*Pg	**Pg**	**20 57 12.7**	**-1.6**
FLN				*e*Sg	**Sg**	**20 58 26.0**	**-1.4**
	2.8nm,0.4s						
FLN	**La Foliniere**	**5.64**	**357**	*e*Pg	**Pg**	**20 57 12.7**	**-1.6**
FLN				*e*Sg	**Sg**	**20 58 26.0**	**-1.4**
	1.4nm,0.4s						
ROSF	**Rostrenen**	**5.69**	**337**	*e*Pg	**Pg**	**20 57 13.4**	**-1.9**
ROSF				*e*Sg	**Sg**	**20 58 27.4**	**-1.6**
	1.0nm,0.3s						
ROSF	**Rostrenen**	**5.69**	**337**	*e*Pn	**Pn**	**20 56 50.5**	**-0.4**
ROSF				*e*Pg	**Pg**	**20 57 13.4**	**-1.9**
ROSF				*e*Sg	**Sg**	**20 58 27.4**	**-1.6**
ROSF	**Rostrenen**	**5.69**	**337**	Pn	**Pn**	**20 56 50.5**	**-0.4**
ROSF				Pg	**Pg**	**20 57 13.4**	**-1.9**
ROSF				Lg		20 58 27.4	
	0.0nm,0.3s						
ROSF	**Rostrenen**	**5.69**	**337**	*e*Pg	**Pg**	**20 57 13.4**	**-1.9**
ROSF				*e*Sg	**Sg**	**20 58 27.4**	**-1.6**
	0.5nm,0.3s						

STR ***17*** *20:58:37.4±0.1, 4301N×001W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 20:58:36.8±0.1, 4308N×003W, h10km, Ml1.8/2, Error ellipse: s-maj=8.0km s-min=1.7km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**112**	Pg	Pg	20 58 39.1	0.0
LABF				Sg	Sg	20 58 40.4	-0.4
VIEF	**Viey**	**0.20**	**169**	Pg	Pg	20 58 40.2	-0.8
VIEF				Sg	Sg	20 58 42.3	-1.5
EPF	**Esparros**	**0.28**	**100**	*e*Pg	Pg	20 58 42.1	-0.2
EPF				*e*Sg	Sg	20 58 45.8	-0.3
	12nm,0.2s						
ETSF	**Etsaut**	**0.43**	**245**	*e*Pg	Pg	20 58 45.3	+0.1
ETSF				*e*Sg	Sg	20 58 51.0	+0.1
	3.7nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**273**	*e*Pg	Pg	20 58 53.3	-0.4
SJPF				*e*Sg	Sg	20 59 04.5	-0.6
	1.4nm,0.3s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	20 59 08.1	-0.6
MTLF				*e*Sg	Sg	20 59 29.5	-0.8
	2.5nm,0.2s						

STR ***17*** *21:02:15.8±2.6, 4309N×0.11W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 21:02:17.8±0.1, 4306N×003W, h10km, Md1.8/3, Ml1.5/2, Error ellipse: s-maj=10.4km s-min=2.0km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**102**	Pg	Pg	21 02 17.9	-2.1
LABF				Sg	Sg	21 02 21.3	-0.4
VIEF	**Viey**	**0.18**	**169**	Pg	Pg	21 02 21.2	-0.5
VIEF				Sg	Sg	21 02 23.2	-1.2
EPF	**Esparros**	**0.27**	**97**	*e*Pg	Pg	21 02 22.9	-0.3
EPF				*e*Sg	Sg	21 02 26.9	0.0
	9.8nm,0.2s						
ETSF	**Etsaut**	**0.42**	**247**	*e*Pg	Pg	21 02 26.2	+0.1
ETSF				*e*Sg	Sg	21 02 32.1	+0.3
	2.7nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	21 02 34.4	-0.4
SJPF				*e*Sg	Sg	21 02 45.5	-0.7
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	21 02 49.1	-0.6
MTLF				*e*Sg	Sg	21 03 10.6	-0.7
	0.8nm,0.3s						

IDC ***17*** *21:09:34.0±0.8, 4740N×15363E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/23, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=31.3km s-min=22.0km az=102.0*

NEIC ***17*** *21:09:35.4±0.6, 4740N×15356E, h10km, mb4.4/1, Error ellipse: s-maj=21.5km s-min=13.0km az=126.0*

MOS ***17*** *21:09:37.2±1.7, 4737N×15367E, h33km, mb4.5/1, Error ellipse: s-maj=27.9km s-min=14.3km az=60.0*

ISCJB ***17*** *21:09:38.8±1.5, 474N±0.1×1537E±02, h51km±13km, mb3.9/9, Error ellipse: s-maj=27.5km s-min=7.6km az=86.6*

ISC 17 21:09:40.9±1.4, 474N±01×1537E±02, h53km±12km, n16, σ1§26/18, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.63**	**25**	*e*PN	**Pn**	**21 10 34.5**	**0.0**
SKR				*e*S	**Sn**	**21 11 16.0**	**-0.1**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
KUR	**Kuril'sk**	**4.58**	**243**	*e*PN	**Pn**	**21 10 46.0**	**-1.5**
KUR				*i* S	**Sn**	**21 11 41.5**	**+2.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,140nm,0.9s						
KUR				smax			
	comp=E,240nm,0.9s						
ASAJ	**Asahikawa**	**8.42**	**251**	Pn	**Pn**	**21 11 42.1**	**+2.0**
	comp=E,1.0nm,0.3s,baz=141,slow=14,SNR=3.2						
ASAJ	**Asahikawa**	**8.42**	**251**	PN	**Pn**	**21 11 42.1**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.80**	**232**	Pn	**Pn**	**21 13 16.9**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=84,slow=15,SNR=3.2						
KMI	**Kunming**	**45.74**	**259**	P	**P**	**21 17 55.9**	**-0.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
KMI	**Kunming**	**45.74**	**259**	P	**P**	**21 17 55.9**	**-0.9**
	comp=Z,5.0nm,1.2s,mb4.3						
ARCES	**ARCESS Array B**	**57.33**	**341**	P	**P**	**21 19 22.7**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.4,baz=22,slow=7.9,SNR=3.8						
NVAR	**Mina Array Bea**	**61.78**	**63**	P	**P**	**21 19 54.5**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.6,baz=289,slow=5.5,SNR=3.8						
FINES	**FINESS Array B**	**63.58**	**335**	P	**P**	**21 20 05.3**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.9,baz=28,slow=6.3,SNR=7.5						
NB2	**NORSAR Subarra**	**67.70**	**341**	P	**P**	**21 20 32.0**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.70**	**341**	P	**P**	**21 20 32.1**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=25,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**69.28**	**199**	P	**P**	**21 20 41.9**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=19,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**72.97**	**199**	P	**P**	**21 21 05.3**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=5.4,SNR=9.8						
TXAR	**Lajitas Array**	**76.83**	**61**	P	**P**	**21 21 28.2**	**+1.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=305,slow=5.1,SNR=12						
GERES	**GERESS Array B**	**78.01**	**334**	P	**P**	**21 21 35.9**	**+2.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=29,slow=6.4,SNR=1.9						

KRSC 17 21:20:48.4±0.1, 5156N×16028E, h42km±42km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.40**	**309**	*e*P	Pn	21 21 13.5	+2.1
RUS				*e*S	Sn	21 21 32.7	+4.0
RUS	**Russkaya**	**1.40**	**309**	*e*P	Pn	21 21 13.5	+2.1
SPN	**Mys Shipunski**	**1.55**	**354**	*e*S	Sn	21 21 32.7	+4.0
SPN	**Mys Shipunski**	**1.55**	**354**	*e*S	Sn	21 21 35.8	+3.5
SPN	**Mys Shipunski**	**1.55**	**354**	*e*S	Sn	21 21 35.8	+3.5
GRL	**Gorelyy**	**1.69**	**307**	*e*P	Pn	21 21 16.5	+1.1
GRL	**Gorelyy**	**1.69**	**307**	*e*P	Pn	21 21 16.5	+1.1
NLC	**Nalytchevo**	**1.71**	**341**	*e*P	Pn	21 21 18.6	+2.9
NLC				*e*S	Sn	21 21 39.8	+3.4
NLC	**Nalytchevo**	**1.71**	**341**	*e*P	Pn	21 21 18.6	+2.9
NLC				*e*S	Sn	21 21 39.8	+3.4
PET	**Petropavlovsk**	**1.77**	**326**	*e*P	Pn	21 21 19.6	+3.0
PET				*e*S	Sn	21 21 41.6	+3.7
PET	**Petropavlovsk**	**1.77**	**326**	*e*P	Pn	21 21 19.6	+3.0
PET				*e*S	Sn	21 21 41.6	+3.7
AVH	**Avacha**	**1.95**	**332**	*e*P	Pn	21 21 22.5	+3.5
AVH	**Avacha**	**1.95**	**332**	*e*P	Pn	21 21 22.5	+3.5
GNL	**Ganaly**	**2.57**	**327**	*e*P	Pn	21 21 31.5	+4.0
GNL	**Ganaly**	**2.57**	**327**	*e*P	Pn	21 21 31.5	+4.0
MKZ	**Mys Kozlova**	**3.13**	**16**	*e*P	Pn	21 21 37.2	+2.1
MKZ				*e*S	Sn	21 22 12.8	+1.6
MKZ	**Mys Kozlova**	**3.13**	**16**	*e*P	Pn	21 21 37.2	+2.1
MKZ				*e*S	Sn	21 22 12.8	+1.6

IDC ***17*** *21:32:01.9±1.0, 4700N×15524E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=35.3km s-min=25.3km az=100.0*

NEIC ***17*** *21:32:03.6±0.9, 4693N×155.14E, h10km, mb4.4/1, Error ellipse: s-maj=25.0km s-min=18.2km az=116.0*

MOS ***17*** *21:32:05.9±2.5, 4668N×154.95E, h33km, mb4.2/1, Error ellipse: s-maj=44.4km s-min=22.7km az=81.1*

ISCJB ***17*** *21:32:10.7±2.2, 468N±0.1×1548E±03, h79km±20km, mb3.8/6, Error ellipse: s-maj=34.2km s-min=18.4km az=53.0*

ISC 17 21:32:12.1±2.1, 469N±01×1548E±03, h77km±19km, n10, σ1§22/10, mb3.8/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.93**	**13**	*e*PN	**Pn**	**21 33 10.7**	**+0.7**
MJAR	**Matsushiro Arr**	**16.07**	**236**	Pn	**Pn**	**21 35 51.7**	**-1.6**
	0.1nm,0.3s,baz=29,slow=13,SNR=4.0						
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**21 41 09.1**	**+1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**21 41 09.1**	**+1.3**
	comp=Z,2.5nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**21 41 10.9**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.9,baz=72,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**21 42 39.7**	**-0.5**
	comp=Z,4.9nm,1.1s,mb4.2,baz=31,slow=6.4,SNR=7.1						
WRA	**Warramunga Arr**	**69.00**	**201**	P	**P**	**21 43 10.0**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.7,baz=21,slow=6.6,SNR=6.6						
ASAR	**Alice Springs**	**72.69**	**200**	P	**P**	**21 43 33.6**	**+2.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=17,slow=5.5,SNR=11						
TXAR	**Lajitas Array**	**76.44**	**62**	P	**P**	**21 43 51.2**	**-2.2**
	comp=Z,0.2nm,0.7s,mb3.0,baz=322,slow=4.1,SNR=3.3						
CLL	**Collm**	**76.83**	**336**	*e*P	**P**	**21 43 55.0**	**-0.6**

STR ***17*** *21:34:17.1±0.2, 4301N×001W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 21:34:16.6±0.1, 4303N×002W, h5km, Md1.8/3, Ml1.5/2, Error ellipse: s-maj=3.2km s-min=1.4km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**77**	Pg	Pg	21 34 18.8	+0.6
LABF				Sg	Sg	21 34 20.1	+0.7
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	21 34 20.0	+0.4
VIEF				Sg	Sg	21 34 21.9	+0.2
EPF	**Esparros**	**0.27**	**90**	*e*Pg	Pg	21 34 21.7	-0.1
EPF				*e*Sg	Sg	21 34 25.7	+0.4
	4.0nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	21 34 25.0	+0.4
ETSF				*e*Sg	Sg	21 34 30.8	+0.8
	3.6nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**276**	*e*Pg	Pg	21 34 33.1	-0.5
SJPF				*e*Sg	Sg	21 34 44.2	-0.8
	0.8nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	21 34 48.0	-0.6
MTLF				*e*Sg	Sg	21 35 09.2	-1.0
	1.1nm,0.3s						

BJI 17 21:41:25.6, 2349N×11731E, h23km, ML3.5, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**1.86**	**39**	P	Pn	21 41 56.9	+0.9
QZH				PG	Pn	21 42 01.8	+5.8
QZH				S	Sn	21 42 19.5	+0.7
QZH				SG	Sn	21 42 25.8	+7.0
QZH				Smax			
	comp=N,380nm,0.5s						
QZH				Smax			
	comp=E,380nm,0.5s						
GZH	**Guangzhou**	**3.67**	**265**	PG	Pn	21 42 28.8	+7.9
GZH				SG	Sn	21 43 11.6	+8.2
GZH				Smax			
	comp=N,464nm,0.6s						
GZH				Smax			
	comp=E,285nm,0.6s						

ISCJB ***17*** *21:53:59.2±0.4, 4314N±002×001E±003, h6km, Error ellipse: s-maj=3.7km s-min=2.9km az=126.6*

STR ***17*** *21:54:00.5±0.1, 4301N×001E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***17*** *21:54:00.6±0.1, 4303N×001W, h6km, Md2.4/3, Ml1.9/7, Error ellipse: s-maj=1.8km s-min=1.2km az=163.0*

ISC 17 21:53:59.8±0.7, 4306N±004×000W±003, h14km±7km, n12, σ0§59/24, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**106**	Pg	**Pg**	**21 54 02.7**	**+0.2**
LABF				Sg	**Sg**	**21 54 03.9**	**-0.5**
VIEF	**Viey**	**0.18**	**174**	Pg	**Pg**	**21 54 03.8**	**-0.2**
VIEF				Sg	**Sg**	**21 54 05.8**	**-1.1**
EPF	**Esparros**	**0.25**	**97**	*e*Pg	**Pg**	**21 54 05.8**	**+0.6**
EPF				*e*Sg	**Sg**	**21 54 09.4**	**+0.6**
	14nm,0.2s						
REYF	**Montagne du Re**	**0.29**	**271**	Pg	**Pg**	**21 54 06.5**	**+0.7**
REYF				Sg	**Sg**	**21 54 11.0**	**+1.2**
ETSF	**Etsaut**	**0.44**	**248**	*e*Pg	**Pg**	**21 54 09.2**	**+0.6**
ETSF				*e*Sg	**Sg**	**21 54 13.9**	**-0.6**
	11nm,0.2s						
MELF	**Melles**	**0.59**	**109**	Pg	**Pg**	**21 54 11.7**	**+0.4**
MELF				Sg	**Sg**	**21 54 18.9**	**-0.2**
SJPF	**Ste Jean**	**0.90**	**274**	*e*Pg	**Pg**	**21 54 17.1**	**0.0**
SJPF				*e*Sg	**Sg**	**21 54 28.2**	**-0.7**
	2.1nm,0.3s						
MTLF	**Montolieu**	**1.65**	**80**	*e*Pg	**Pg**	**21 54 31.9**	**+0.5**
MTLF				*e*Sg	**Sg**	**21 54 53.8**	**+1.1**
	4.1nm,0.2s						
LFF	**La Frestale**	**1.95**	**16**	*e*Pg	**Pg**	**21 54 36.8**	**-0.4**
LFF				*e*Sg	**Sg**	**21 55 02.6**	**+0.1**
	5.1nm,0.5s						
CAF	**Calviac**	**2.38**	**38**	*e*Pg	**Pg**	**21 54 45.4**	**-0.1**
CAF				*e*Sg	**Sg**	**21 55 16.4**	**0.0**
	1.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg	**Pg**	**21 54 47.1**	**-0.4**
RJF				*e*Sg	**Sg**	**21 55 19.5**	**-0.4**
	1.1nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Pg	**Pg**	**21 54 56.4**	**-0.5**
LASF				*e*Sg	**Sg**	**21 55 34.7**	**-0.8**
	0.9nm,0.3s						

ISCJB ***17*** *22:03:55.2±1.5, 453N±0.2×1543E±03, h10km, mb4.0/6, Error ellipse: s-maj=39.7km s-min=21.1km az=99.1*

IDC ***17*** *22:03:55.1±5.6, 4528N×154.47E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/24, mbtmp4.0/5, Error ellipse: s-maj=180.9km s-min=35.0km az=17.0*

NEIC ***17*** *22:03:56.6±1.3, 4527N×15440E, h10km, mb4.1/2, Error ellipse: s-maj=35.0km s-min=17.7km az=140.0*

ISC 17 22:03:56.7±1.6, 453N±02×1544E±03, h10km, n7, σ0§76/7, mb4.0/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**15.01**	**240**	*e*Pn	**Pn**	**22 07 28.9**	**0.0**
	3.0nm,0.4s						
CHKZ	**Chkalovo**	**52.01**	**311**	*e*P	**P**	**22 13 05.9**	**-0.4**
	2.4nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**52.43**	**311**	P	**P**	**22 13 09.8**	**+0.4**
	0.6nm,0.4s,mb3.9,baz=54,slow=7.0,SNR=8.3						
FINES	**FINESS Array B**	**65.69**	**336**	P	**P**	**22 14 40.0**	**-1.4**
	0.6nm,0.5s,mb3.9,baz=35,slow=7.0,SNR=5.8						
NOA	**NORSAR Array B**	**69.85**	**342**	P	**P**	**22 15 08.9**	**+1.4**
	0.6nm,0.8s,mb3.6,baz=36,slow=5.5,SNR=2.4						
HFS	**Hagfors**	**70.08**	**340**	P	**P**	**22 15 09.0**	**0.0**
	3.3nm,0.9s,mb4.3,baz=46,slow=6.2,SNR=4.3						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**22 15 52.0**	**-0.1**
	1.2nm,0.6s,mb4.0,baz=299,slow=4.1,SNR=17						

IDC ***17*** *22:07:57.8±0.6, 4684N×15487E, h0km, mb4.3/24, mb1 4.4/25, mb1mx4.4/31, mbtmp4.3/25, MS3.8/5, Ms1 3.8/5, ms1mx3.2/34, Error ellipse: s-maj=16.5km s-min=13.8km az=158.0*

ISCJB ***17*** *22:07:58.3±0.3, 4680N±005×15485E±005, h13km, mb4.5/70, MS3.9/9, Error ellipse: s-maj=7.5km s-min=3.7km az=135.1*

NEIC ***17*** *22:07:59.5±0.3, 4669N×15499E, h10km, mb4.7/34, Error ellipse: s-maj=10.9km s-min=6.7km az=159.0*

BJI ***17*** *22:08:00.1, 4708N×15451E, h10km, mB4.8, mb4.4, Ms4.1, Msz3.9*

SKHL ***17*** *22:08:01.0±1.1, 4697N×15466E, h54km±21km*

MOS ***17*** *22:08:01.9±1.9, 4686N×15481E, h33km, mb4.9/22, Error ellipse: s-maj=8.8km s-min=6.2km az=98.8*

SZGRF ***17*** *22:08:21.6, 5070N×15880E, h33km, mb4.9, East of Kuril Islands, Russia*

ISC 17 22:08:00.4±0.3, 4689N±005×15489E±005, h14km, h14km±3.4km: pP-P, n171, σ1§37/179, mb4.5/70, MS3.9/9, 4C-21D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.88**	**12**	*e*P	**Pn**	**22 08 57.5**	**-2.2**
SKR				AMB	AMB	22 09 02.6	
	60nm,0.5s						
SKR				AMB	AMB	22 09 02.6	
	80nm,0.5s						
SKR				*e*S	**Sn**	**22 09 39.0**	**-6.0**
SKR				A		22 09 49.0	
	220nm,0.5s						
SKR				A		22 09 49.0	
	150nm,0.5s						
SKR				A		22 09 49.0	
	80nm,0.5s						
SKR	**Severo-Kuril's**	**3.88**	**12**	*e*PN	**Pn**	**22 08 57.5**	**-2.2**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.16**	**254**	⇓ *i* P	**Pn**	**22 09 14.8**	**-2.5**
KUR				AMB	AMB	22 09 17.0	
	comp=Z,340nm,0.7s						
KUR				*i* S	**Sn**	**22 10 11.0**	**-5.7**
KUR				A		22 10 14.5	
	comp=Z,610nm,0.5s						
KUR				A		22 10 14.5	
	comp=Z,230nm,0.5s						
PET	**Petropavlovsk**	**6.60**	**20**	*e*PN	**Pn**	**22 09 34.6**	**-2.4**
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**6.60**	**20**	*e*Pn	**Pn**	**22 09 37.8**	**+0.7**
	comp=Z,81nm,1.1s						
PET				*e*Sn	**Sn**	**22 10 44.3**	**-7.8**
YUK	**Yuzh-Kuril'sk**	**6.96**	**249**	*e*P	**Pn**	**22 09 41.1**	**-0.9**
YUK				AMB	AMB	22 09 44.4	
	comp=Z,370nm,0.2s						
YUK				*e*S	**Sn**	**22 11 00.5**	**-0.5**
YUK				A		22 11 06.2	
	comp=Z,370nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.31**	**275**	*e*P	**Pn**	**22 10 04.0**	**+3.5**
YSS				*e*S	**Sn**	**22 11 34.0**	**-0.1**
YSS				A		22 11 37.0	
	comp=Z,30nm,0.5s						
YSS				*e*LQ		22 12 14.0	
YSS				AMS	AMS	22 14 00.0	
	comp=Z,500nm,16.0s						
ASAJ	**Asahikawa**	**9.07**	**257**	Pn	**Pn**	**22 10 12.2**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=105,slow=14,SNR=16						
ASAJ				LR	LR	22 14 18.5	
	comp=Z,176nm,18.1s,baz=140,slow=42						
ASAJ	**Asahikawa**	**9.07**	**257**	PN	**Pn**	**22 10 12.2**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,177nm,18.1s						
ERM	**Erimo**	**9.70**	**244**	*i* PN	**Pn**	**22 10 18.3**	**-1.3**
ERM	**Erimo**	**9.70**	**244**	*e*Pn	**Pn**	**22 10 17.3**	**-2.3**
KLR	**Kul'dur**	**15.63**	**287**	*e*P	**Pn**	**22 11 42.7**	**+2.4**
KLR				MLR	MLR		
	comp=Z,900nm,12.0s						
MAJO	**Matsushiro**	**16.16**	**236**	*e*P	**Pn**	**22 11 44.5**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,26nm,0.8s						
MAJO	**Matsushiro**	**16.16**	**236**	*e*Pn	**Pn**	**22 11 44.5**	**-2.6**
	comp=Z,26nm,0.8s						
MAT	**Matsushiro**	**16.16**	**236**	P	**Pn**	**22 11 43.5**	**-3.6**
MAT				*e*S	**Sn**	**22 14 41.2**	**-4.9**
MJAR	**Matsushiro Arr**	**16.16**	**236**	Pn	**Pn**	**22 11 43.5**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=12						
ZEA	**Zeya**	**18.85**	**301**	*e*P	**Pn**	**22 12 20.1**	**-0.5**
CLNS	**Chul'man**	**20.86**	**310**	*e*P	**P**	**22 12 41.3**	**-0.6**
CLNS				pmax	pmax		
	comp=Z,22nm,1.0s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CN2	**Changchun**	**20.86**	**272**	*e*P	**P**	**22 12 38.8**	**-3.2**
CN2				*e*XP	sP	22 12 46.0	-1.6
CN2				*e*S	**S**	**22 16 27.0**	**-7.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS3.8						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS3.8						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS3.8						
YAK	**Yakutsk**	**20.87**	**326**	*i* P	**P**	**22 12 40.8**	**-1.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	**Bilibino**	**21.99**	**11**	⇓ *e*P	**P**	**22 12 52.1**	**-2.0**
BILL				*e*S	**S**	**22 16 53.7**	**-2.8**

SONM Songino Array 32.43 290 P **P** 22 14 29.2 -0.9
comp=Z,0.9nm,0.6s,mb3.8,baz=62,slow=9.2,SNR=7.5
SONM LR LR 22 29 15.5
comp=Z,142nm,19.6s,MS3.7,baz=0.8,slow=39
ZAK Zakamensk 33.72 295 *e*P **P** 22 14 39.9 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
COLA College 35.27 38 ⇓*i*P **P** 22 14 54.4 -0.3
COLA College 35.27 38 *e*P **P** 22 14 54.3 -0.4
comp=Z,13nm,1.1s,mb4.8
XAN Xi'an 36.74 266 P **P** 22 15 08.3 +1.0
XAN AMB AMB
comp=Z,3.0nm,0.7s,mb4.2
EGAK Eagle 38.13 39 *e*P **P** 22 15 18.5 -0.6
comp=Z,5.7nm,0.8s,mb4.3
DAWY Dawson 38.95 40 *e*P **P** 22 15 26.4 +0.4
LZH Lanzhou 39.10 273 *e*P **P** 22 15 28.5 +1.3
LZH *PP pP 22 15 39.0 +7.5
LZH *SP sP 22 15 43.0 +10
LZH pmax pmax
comp=Z,22nm,1.5s,mb4.7
LZH Lanzhou 39.10 273 *e*P **P** 22 15 28.5 +1.3
comp=Z,22nm,1.5s,mb4.7
LZH pP pP 22 15 39.0 +7.5
LZH sP sP 22 15 43.0 +10
GTA Gaotai 40.15 280 *e*P **P** 22 15 36.8 +0.8
GTA AP pP 22 15 46.9 +6.7
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.9
INK Inuvik 40.88 33 P **P** 22 15 42.7 +0.7
comp=Z,5.9nm,0.8s,mb4.3,baz=306,slow=9.9,SNR=9.5
CD2 Chengdu 42.10 266 ⇑*i*P **P** 22 15 53.5 +1.4
CD2 AP pP 22 15 58.0 +1.7
CD2 XP sP 22 16 00.6 +2.6
CD2 PP PP 22 17 34.3 +4.8
CD2 S **S** **22 22 11.8 +0.6**
CD2 XS sS 22 22 19.1 +0.9
CD2 SS SS 22 25 13.1 -5.6
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,130nm,16.8s,MS4.1
CD2 LR LR
comp=E,140nm,15.6s,MS4.1
CD2 LR LR
comp=Z,130nm,13.2s,MS4.0
GYA Guiyang 42.94 259 P **P** **22 16 00.3 +1.5**
GYA AP pP 22 16 04.3 +1.2
GYA XP sP 22 16 07.5 +2.7
GYA PP PP 22 17 41.8 +3.3
GYA PCP PcP 22 17 51.5 +2.1
GYA SCP ScP 22 21 41.3 +1.3
GYA S **S** **22 22 24.0 +0.6**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,110nm,4.8s
GYA LR LR
comp=N,420nm,16.4s,MS4.6
GYA LR LR
comp=E,460nm,16.9s,MS4.6
GYA LR LR
comp=Z,410nm,17.0s,MS4.4
ZAL Zalesovo 43.53 306 P **P** **22 16 02.4 -1.2**
comp=Z,1.8nm,0.4s,mb4.1,baz=73,slow=8.9,SNR=6.7
ZAL LR LR 22 35 05.6
comp=Z,111nm,20.9s,MS3.8,baz=251,slow=37
NVS Novosibirsk 44.07 308 *e*P **P** **22 16 05.6 -2.3**
KMI Kunming 46.47 261 P **P** **22 16 28.3 +1.3**
KMI AP pP 22 16 32.1 +0.8
KMI XP sP 22 16 34.8 +1.8
KMI PP PP 22 18 13.6 -2.5
KMI S **S** **22 23 16.3 +1.6**
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
KMI LR LR
comp=N,85nm,15.3s,MS3.9
KMI LR LR
comp=E,78nm,16.0s,MS3.9
KMI LR LR
comp=Z,78nm,24.3s
KMI Kunming 46.47 261 P **P** **22 16 28.2 +1.2**
KMI *SP sP 22 16 34.7 +1.7
KMI 22 18 13.6
KMI S **S** **22 23 16.3 +1.6**
KMI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,80nm,24.3s,MS3.6
KMI Kunming 46.47 261 P **P** **22 16 28.2 +1.2**
comp=Z,6.0nm,1.1s,mb4.4
KMI pP pP 22 16 32.1 +0.8
KMI sP sP 22 16 34.7 +1.7
KMI PP PP 22 18 13.6 -2.5
KMI S **S** **22 23 16.3 +1.6**
KMI LR LR
comp=Z,80nm,24.3s,MS3.6
MKAR Makanchi Array 47.95 298 P **P** **22 16 37.8 -0.8**
comp=Z,0.8nm,0.5s,mb4.0,baz=67,slow=7.3,SNR=7.1
POHA Pohakuloa 48.44 107 *e*P **P** **22 16 40.6 -1.7**
comp=Z,31nm,0.7s,mb5.4
RES Resolute Bay 50.31 19 *e*P **P** **22 16 56.8 +0.2**
RES pmax pmax
comp=Z,118nm,0.9s,mb5.9
RES Resolute Bay 50.31 19 *e*P **P** **22 16 56.8 +0.1**
comp=Z,118nm,0.9s,mb5.9
CHKZ Chkalovo 51.27 311 *e*P **P** **22 17 02.2 -1.6**
CHKZ pmax pmax
comp=Z,11nm,0.6s,mb5.0
CHKZ Chkalovo 51.27 311 *e*P **P** **22 17 02.2 -1.6**
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 51.48 274 *e*P **P** **22 17 07.4 +2.0**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 51.48 274 *e*P **P** **22 17 07.4 +1.9**
comp=Z,10nm,0.6s,mb4.9
BVAR Borovoye Array 51.70 310 P **P** **22 17 06.9 -0.2**
comp=Z,2.9nm,0.4s,mb4.5,baz=54,slow=7.4,SNR=33
BVAR LR LR 22 41 46.0
comp=Z,118nm,19.9s,MS3.9,baz=319,slow=39
ZRNK Zerenda 52.47 310 *e*P **P** **22 17 12.3 -0.5**
ZRNK *e* 22 17 24.4
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 52.47 310 *e*P **P** **22 17 12.3 -0.5**
comp=Z,5.6nm,0.7s,mb4.6
ZRNK *e* 22 17 24.4
CHTO Chiang Mai 53.34 258 *e*P **P** **22 17 20.3 +1.1**
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CHTO Chiang Mai 53.34 258 *e*P **P** **22 17 20.3 +1.1**
comp=Z,7.0nm,1.0s,mb4.5
ARU Arti 55.72 318 ⇓*i*P **P** **22 17 35.7 -0.9**
ARU *e* 22 18 33.3
ARU *e* 22 19 38.3
ARU *e*S **S** **22 25 24.1 +1.4**
ARU *e*SS SS 22 29 06.0 -2.1
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ARU Arti 55.72 318 *e*P **P** **22 17 35.9 -0.6**
GKN Gorkha 56.99 277 *e*P **P** **22 17 42.3 -3.3**
comp=Z,36nm,0.8s,mb5.5
KOLN Koldanda 57.84 278 *e*P **P** **22 17 48.4 -3.2**
comp=Z,88nm,0.8s,mb5.9
BMO Blue Mountains 57.98 57 P **P** **22 17 52.0 -0.6**
comp=Z,0.9nm,0.6s,mb4.0
BMO *e*PcP PcP 22 18 44.4 -0.2
ARCES ARCESS Array B 58.11 341 P **P** **22 17 52.6 -0.9**
comp=Z,2.2nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=4.1
AKTK Aktyubinsk 59.53 313 P **P** **22 18 02.9 -0.5**
AKTO Aktyubinsk 59.53 313 P **P** **22 18 02.9 -0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=79,slow=6.2,SNR=5.0
AKTO Aktyubinsk 59.53 313 P **P** **22 18 02.9 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
LRM Limekiln Ridge 60.13 54 *e*P **P** **22 18 08.3 +0.8**
NVAR Mina Array Bea 61.28 63 P **P** **22 18 15.4 +0.1**
comp=Z,1.1nm,0.7s,mb4.1,baz=297,slow=10.0,SNR=5.1
QLMT Earthquake Lak 61.31 54 *e*P **P** **22 18 15.6 0.0**
GCMT Greycliff 61.68 52 *e*P **P** **22 18 18.7 +0.7**
RRI2 Red Ridge 62.31 55 *e*P **P** **22 18 23.4 +1.2**
MOOW Moose Ponds 62.38 55 *e*P **P** **22 18 22.6 -0.1**
comp=Z,4.2nm,1.2s,mb4.4

LOHW Long Hollow 62.54 55 *e*P **P** **22 18 25.1 +1.3**
comp=Z,6.5nm,1.2s,mb4.6
REDW Red Top Meadow 62.56 55 *e*P **P** **22 18 25.1 +1.2**
comp=Z,9.8nm,1.2s,mb4.8
BW06 Boulder Array 63.67 55 *e*P **P** **22 18 31.5 +0.2**
comp=Z,4.4nm,1.1s,mb4.4
PDAR Pinedale Array 63.67 55 P **P** **22 18 31.4 +0.1**
comp=Z,3.3nm,1.0s,mb4.3,baz=280,slow=2.7,SNR=15
FIA1 FINESS Array S 64.42 335 *e*P **P** **22 18 35.9 -0.4**
FIA1 *e* 22 18 48.8
FINES FINESS Array B 64.42 335 P **P** **22 18 35.2 -1.0**
comp=Z,6.5nm,0.6s,mb4.8,baz=42,slow=8.3,SNR=21
SRU San Rafael 65.51 58 *e*P **P** **22 18 44.2 +0.9**
ULM Lac du Bonnet 65.61 42 P **P** **22 18 43.3 -0.6**
comp=Z,2.2nm,0.6s,mb4.4,baz=282,slow=8.1,SNR=3.7
RSSD Black Hills 65.80 51 *e*P **P** **22 18 44.6 -0.6**
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RSSD Black Hills 65.80 51 *e*P **P** **22 18 44.5 -0.6**
comp=Z,6.4nm,0.9s,mb4.7
OBN Obninsk 65.87 326 *e*P **P** **22 18 44.3 -1.4**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SMCO Snowmass 67.52 56 *e*P **P** **22 18 53.5 -2.6**
comp=Z,4.4nm,0.4s,mb4.8
ISCO Idaho Springs 67.86 55 *e*P **P** **22 18 59.3 +1.0**
ISCO pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ISCO Idaho Springs 67.86 55 *e*P **P** **22 18 59.3 +0.9**
comp=Z,6.9nm,1.1s,mb4.6
MVCO Mesa Verde 67.97 59 *e*P **P** **22 18 58.0 -0.9**
comp=Z,3.7nm,0.9s,mb4.4
NB2 NORSAR Subarra 68.48 342 P **P** **22 19 00.9 -1.3**
comp=Z,3.2nm,0.6s,mb4.5,baz=30,slow=6.5
NOA NORSAR Array B 68.48 342 P **P** **22 19 01.2 -0.9**
comp=Z,2.2nm,0.6s,mb4.4,baz=26,slow=6.4,SNR=8.4
HFS Hagfors 68.74 340 P **P** **22 19 03.7 -0.1**
comp=Z,5.2nm,0.4s,mb4.8,baz=72,slow=4.8,SNR=39
WRA Warramunga Arr 69.06 201 P **P** **22 19 05.1 -0.7**
comp=Z,2.5nm,0.8s,mb4.2,baz=15,slow=6.6,SNR=4.3
FITZ Fitzroy Crossi 69.86 210 P **P** **22 19 10.4 -0.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=32,slow=3.4,SNR=4.3
ANMO Albuquerque 70.71 59 P **P** **22 19 15.6 -0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=284,slow=9.8,SNR=4.0
ANMO Albuquerque 70.71 59 *i*P **P** **22 19 15.5 -0.5**
AKASG Malin Array Be 72.10 327 P **P** **22 19 22.8 -1.6**
comp=Z,2.3nm,0.6s,mb4.3,baz=30,slow=6.1,SNR=6.7
AS31 Alice Springs 72.75 200 *e*P **P** **22 19 27.7 -0.5**
ASAR Alice Springs 72.75 200 P **P** **22 19 28.1 -0.2**
comp=Z,3.5nm,0.6s,mb4.5,baz=15,slow=5.5,SNR=15
SCIA State Center 72.94 46 *e*P **P** **22 19 28.4 -0.9**
comp=Z,11nm,0.3s,mb5.3
MNTX Cornudas Mount 73.64 61 *e*P **P** **22 19 33.7 +0.2**
STHS Stebnicka Huta 75.99 331 *e*P **P** **22 19 48.3 +1.2**
STHS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
STHS Stebnicka Huta 75.99 331 *e*P **P** **22 19 48.3 +1.2**
comp=Z,8.3nm,1.3s,mb4.5
KOLS Kolonicke sedl 76.06 330 *e*P **P** **22 19 50.0 +2.5**
BURAR Bucovina Array 76.13 328 ⇓*i*P **P** **22 19 50.5 +2.6**
BURAR Bucovina Array 76.13 328 ⇓P **P** **22 19 50.5 +2.6**
LTX Lajitas 76.36 62 *e*P **P** **22 19 49.3 +0.1**
TXAR Lajitas Array 76.36 62 P **P** **22 19 49.2 0.0**
comp=Z,9.2nm,0.7s,mb4.8,baz=300,slow=4.3,SNR=126
EKA Eskdalemuir Ar 76.48 347 P **P** **22 19 50.5 +0.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=26,slow=5.1,SNR=10
UPC Upice 76.69 334 *e*P **P** **22 19 53.6 +2.5**
DPC Dobruska-Polom 76.74 334 *e*P **P** **22 19 52.3 +1.0**
CLL Collm 76.83 337 *i*P **P** **22 19 54.4 +2.5**
CLL *e* pP 22 19 57.0 +0.7
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLL Collm 76.83 337 *i*P **P** **22 19 54.4 +2.5**
comp=Z,12nm,1.1s,mb4.7
CLL *e* pP 22 19 57.0 +0.7
CLL Collm 76.83 337 *i*P **P** **22 19 54.2 +2.3**
comp=Z,12nm,1.1s,mb4.7
CLL *i* pP pP 22 19 56.6 +0.3
CLL *i* (PcP) PcP 22 20 06.3 +3.3
MORC Moravsky Berou 76.87 333 ⇑*i*P **P** **22 19 54.6 +2.5**
MORC Moravsky Berou 76.87 333 *e*P **P** **22 19 54.3 +2.2**
comp=Z,5.4nm,0.9s,mb4.5
BRG Berggiesshubel 76.96 336 *e*P PcP 22 20 06.5 +2.9
comp=Z,3.7nm,1.1s
KECS Kecovo 77.05 331 *e*P **P** **22 19 55.5 +2.4**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 77.05 331 *e*P **P** **22 19 55.5 +2.4**
comp=Z,2.3nm,1.0s,mb4.1
TIRR Tirgusor 77.52 324 ⇓*i*P **P** **22 19 58.0 +2.2**
TIRR Tirgusor 77.52 324 ⇓P **P** **22 19 58.0 +2.2**
VRAC Vranov 77.58 334 ⇓*i*P **P** **22 19 58.7 +2.6**
VRAC Vranov 77.58 334 ⇓P **P** **22 19 58.7 +2.7**
VYHS Vyhne 77.59 332 *e*P **P** **22 19 58.8 +2.7**
MLR Muntele Rosu 77.64 326 ⇓*i*P **P** **22 19 57.2 +0.8**
MLR Muntele Rosu 77.64 326 ⇓P **P** **22 19 57.2 +0.8**
DRGR 77.74 329 ⇓*i*P **P** **22 19 59.3 +2.4**
DRGR 77.74 329 ⇓P **P** **22 19 59.4 +2.4**
MOX Moxa 77.80 337 *e*P **P** **22 20 00.1 +2.8**
JCT Junction City 77.82 58 *e*P **P** **22 19 57.0 -0.4**
JCT pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
JCT Junction City 77.82 58 *e*P **P** **22 19 57.0 -0.4**
comp=Z,4.2nm,0.3s,mb4.8
MALT Malatya 77.94 314 ⇓*i*P **P** **22 19 58.8 +0.7**
MALT Malatya 77.94 314 ⇓P **P** **22 19 58.8 +0.8**
KHC Kasperske Hory 78.63 335 *e*P **P** **22 20 04.9 +3.0**
GRA1 Grafenberg Arr 78.78 337 *e*P **P** **22 20 05.1 +2.4**
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 78.78 337 *e*P **P** **22 20 05.1 +2.4**
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 78.78 337 *e*P **P** **22 20 05.1 +2.4**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 78.78 337 *e*P **P** **22 20 05.1 +2.4**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GERES GERESS Array B 78.85 335 P **P** **22 20 02.8 -0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=28,slow=6.7,SNR=5.9
GERES LR LR 22 59 26.4
comp=Z,106nm,20.4s,MS4.2,baz=198,slow=39
BR131 Keskin Array S 79.11 318 P **P** **22 20 04.0 -0.6**
comp=Z,2.7nm,1.0s,mb4.1
BRTR Keskin Array B 79.11 318 P **P** **22 20 04.1 -0.5**
comp=Z,0.5nm,0.5s,mb3.7,baz=54,slow=4.6,SNR=3.8
BZS Buzias 79.14 329 ⇓*i*P **P** **22 20 06.9 +2.2**
BZS Buzias 79.14 329 ⇓P **P** **22 20 06.9 +2.2**
PKSM Moragy 79.65 331 ⇑*i*P **P** **22 20 09.7 +2.2**
PKSM Moragy 79.65 331 ⇑P **P** **22 20 09.7 +2.2**
CDF Champ du Feu 80.97 339 *e*P **P** **22 20 13.7 -0.9**
comp=Z,7.1nm,0.8s,mb4.3
CDF Champ du Feu 80.97 339 *e*P **P** **22 20 13.7 -0.9**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 80.97 339 *e*P **P** **22 20 13.7 -0.9**
comp=Z,3.5nm,0.8s,mb4.3
VTS Vitosha 81.14 326 ⇓*i*P **P** **22 20 18.4 +2.9**
VTS Vitosha 81.14 326 ⇓P **P** **22 20 18.4 +2.9**
TKL Tuckaleechee C 82.42 45 P **P** **22 20 21.1 -1.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=326,slow=1.7,SNR=4.1
GRR Gorron 82.78 344 *e*P **P** **22 20 23.5 -0.6**
comp=Z,148nm,1.4s,mb5.5
GRR Gorron 82.78 344 *e*P **P** **22 20 23.5 -0.6**
GRR pmax pmax
comp=Z,74nm,1.4s,mb5.5
GRR Gorron 82.78 344 *e*P **P** **22 20 23.5 -0.6**
comp=Z,74nm,1.4s,mb5.5
SMF Signal de Mont 83.45 340 *e*P **P** **22 20 26.8 -0.8**
comp=Z,33nm,1.3s,mb4.9
SMF Signal de Mont 83.45 340 *e*P **P** **22 20 26.8 -0.8**
SMF pmax pmax
comp=Z,16nm,1.3s,mb4.9
SMF Signal de Mont 83.45 340 *e*P **P** **22 20 26.8 -0.8**
comp=Z,16nm,1.3s,mb4.9
LPG La Plagne 83.82 338 *e*P **P** **22 20 29.5 0.0**
comp=Z,6.9nm,0.6s,mb4.7
LPG La Plagne 83.82 338 *e*P **P** **22 20 29.5 0.0**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPG La Plagne 83.82 338 *e*P **P** **22 20 29.5 0.0**
comp=Z,3.5nm,0.6s,mb4.7
CAF Calviac 85.48 341 *e*P **P** **22 20 37.1 -0.8**
comp=Z,10nm,0.8s,mb4.7
CAF Calviac 85.48 341 *e*P **P** **22 20 37.1 -0.8**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7

CAF Calviac 85.48 341 *e*P **P** **22 20 37.1 -0.8**
comp=Z,5.1nm,0.8s,mb4.7
CMIG Matias Romero 90.81 64 P **P** **22 21 01.6 -1.7**
comp=Z,2.8nm,0.9s,mb4.6,baz=326,slow=3.5,SNR=3.6
CASY Casey 117.85 199 *e*PKPdf PKPdf 22 26 40.2 -6.3
SIV San Ignacio 137.15 56 PKP PKPdf 22 27 22.6 -0.6
comp=Z,1.1nm,0.7s,baz=56,slow=2.4,SNR=6.5
CFAA Coronel Fontan 143.77 81 PKiKP 22 27 29.6
comp=Z,0.2nm,0.4s,baz=292,slow=7.1,SNR=5.5
CFAA PKP PKPdf 22 27 34.3 -0.9
comp=Z,0.4nm,0.8s,baz=266,slow=6.0,SNR=6.2
SNAA Sanae 153.02 195 PKPbc PKPbc 22 27 54.5 -3.0
comp=Z,0.7nm,0.8s,baz=267,slow=4.4,SNR=8.1
SNAA Sanae 153.02 195 PKIKP PKPdf 22 27 54.5 +4.3
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 153.02 195 *e*PKPbc PKPbc 22 27 54.9 -2.6
SNAA *e*PKPab PKPab 22 28 04.4 -4.5

BJI ***17*** *22:09:03.0, 075N×12782E, h134km, mB4.9, mb4.7*
ISCJB ***17*** *22:09:10.9±1.5, 159N±005×12744E±007, h142km±14km, mb4.5/28, Error ellipse: s-maj=13.2km s-min=6.3km az=131.7*
NEIC ***17*** *22:09:11.3±1.6, 160N×12751E, h134km±16km, mb4.5/8, Error ellipse: s-maj=12.5km s-min=5.6km az=55.0*
IDC ***17*** *22:09:13.3±1.5, 151N×12739E, h150km±13km, mb4.1/16, mb1 4.2/17, mb1mx4.1/22, mbtmp4.1/17, MS3.1/1, Ms1 3.1/1, ms1mx2.7/27, Error ellipse: s-maj=18.7km s-min=7.2km az=75.0*
ISC 17 22:09:11.4±1.4, 160N±005×12751E±008, h130km±13km, n61, σ088/61, mb4.5/28, 5C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**8.07**	**252**	P	**Pn**	**22 11 05.2**	**-0.5**
	168nm,0.8s						
KKM	**Kota Kinabalu**	**12.10**	**292**	*e*P	**Pn**	**22 11 58.7**	**-0.8**
JAY	**Jayapura**	**13.81**	**107**	P	**Pn**	**22 12 28.6**	**+7.0**
	116nm,0.8s						
KAKA	**Kakadu**	**15.04**	**161**	*e*P	**Pn**	**22 12 36.7**	**-0.4**
	26nm,0.6s						
KMMI	**Kalianget**	**16.02**	**237**	P	**Pn**	**22 12 53.5**	**+4.2**
	130nm,1.1s						
KSM	**Kuching**	**17.20**	**270**	*e*P	**Pn**	**22 13 03.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.66**	**185**	*e*P	**P**	**22 13 30.1**	**0.0**
	3.6nm,0.3s						
FITZ				*e*S	**S**	**22 17 00.2**	**-4.7**
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	**P**	**22 13 30.8**	**+0.7**
	0.4nm,0.3s,baz=38,slow=9.8,SNR=13						
FITZ				S	**S**	**22 17 00.3**	**-4.6**
	0.0nm,0.3s,baz=244,slow=17,SNR=3.3						
BJII	**Banjamegara**	**19.85**	**243**	P	**P**	**22 13 33.1**	**+0.9**
	163nm,1.6s						
GUMO	**Guam**	**20.90**	**54**	LR	LR	22 22 08.9	
	comp=Z,45nm,18.5s,baz=140,slow=37						
LEM	**Lembang**	**21.55**	**247**	P	**P**	**22 13 53.0**	**+2.7**
	76nm,1.0s,mb5.1						
PMG	**Port Moresby**	**22.42**	**120**	P	**P**	**22 13 59.9**	**+0.5**
	6.8nm,0.5s,mb4.3,baz=168,slow=7.0,SNR=3.4						
PMG	**Port Moresby**	**22.42**	**120**	*e*P	**P**	**22 13 58.8**	**-0.7**
	12nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**22.43**	**163**	P	**P**	**22 14 00.0**	**+0.4**
	39nm,0.7s,mb4.9,baz=342,slow=11,SNR=137						
WRA				S	**S**	**22 17 56.9**	**+0.7**
	3.1nm,0.7s,baz=333,slow=19,SNR=7.4						
WRA				ScP	ScP	22 21 12.8	-1.8
	1.6nm,0.8s,baz=338,slow=3.1,SNR=6.7						
WB2	**Warramunga Arr**	**22.43**	**163**	⇑*i*P	**P**	**22 13 59.9**	**+0.3**
WB2				*e*S	**S**	**22 17 56.3**	**+0.1**
MBWA	**Marble Bar**	**23.86**	**198**	*e*P	**P**	**22 14 12.7**	**0.0**
	17nm,1.2s,mb4.5						
QIZ	**Qiongzhong**	**24.49**	**316**	P	**P**	**22 14 19.0**	**+0.6**
QIZ	**Qiongzhong**	**24.49**	**316**	*e*P	**P**	**22 14 18.4**	**0.0**
	37nm,0.9s,mb4.9						
AS31	**Alice Springs**	**25.87**	**166**	*e*P	**P**	**22 14 31.3**	**+0.4**
ASAR	**Alice Springs**	**25.87**	**166**	P	**P**	**22 14 31.4**	**+0.5**
	3.9nm,0.5s,mb4.3,baz=347,slow=7.4,SNR=52						
ASAR				pP	pP	22 15 03.0	+4.5
	6.7nm,0.8s,baz=347,slow=12,SNR=5.2						
ASAR				S	**S**	**22 18 47.5**	**-3.7**
	0.8nm,0.8s,baz=358,slow=19,SNR=4.5						
ASAR				ScP	ScP	22 21 22.8	-1.4
	1.7nm,0.7s,baz=338,slow=2.2,SNR=7.0						
ASPA	**Alice Springs**	**25.87**	**166**	*e*P	**P**	**22 14 31.3**	**+0.4**
KULM	**Kulim**	**27.06**	**278**	*e*P	**P**	**22 14 40.3**	**-1.3**
CTA	**Charters Tower**	**28.33**	**140**	P	**P**	**22 14 51.7**	**-1.2**
	7.9nm,1.0s,mb4.4,baz=52,slow=6.6,SNR=3.0						
CTAO	**Charters Tower**	**28.33**	**140**	*e*P	**P**	**22 14 51.2**	**-1.7**
	8.9nm,0.7s,mb4.6						
PSI	**Prapat**	**28.59**	**273**	P	**P**	**22 14 54.4**	**-0.8**
	7.1nm,0.6s,mb4.6,baz=92,slow=5.8,SNR=12						
NANT	**Nan**	**31.35**	**305**	⇑P	**P**	**22 15 18.0**	**-1.5**
	131nm,1.0s,mb5.6						
CHG	**Chiang Mai**	**32.81**	**303**	P	**P**	**22 15 32.4**	**+0.1**
KMI	**Kunming**	**33.44**	**316**	P	**P**	**22 15 39.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=Z,54nm,21.4s						
KMI	**Kunming**	**33.44**	**316**	P	**P**	**22 15 39.2**	**+1.4**
	comp=Z,10.0nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=Z,50nm,21.4s						
KSRS	**Korea Array**	**35.68**	**1**	P	**P**	**22 15 57.8**	**+0.7**
	comp=Z,3.7nm,0.6s,mb4.2,baz=177,slow=9.4,SNR=13						
KSRS				ScP	ScP	22 21 55.1	-1.4
	comp=Z,2.1nm,0.8s,baz=188,slow=3.5,SNR=6.2						
STKA	**Stephens Creek**	**35.87**	**159**	*e*P	**P**	**22 15 59.8**	**+1.1**
	comp=Z,41nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**35.87**	**159**	P	**P**	**22 15 59.9**	**+1.1**
	comp=Z,52nm,0.7s,mb5.3,baz=333,slow=8.7,SNR=131						
STKA	**Stephens Creek**	**35.87**	**159**	⇑*i*P	**P**	**22 15 59.7**	**+1.0**
MJAR	**Matsushiro Arr**	**36.15**	**15**	P	**P**	**22 16 00.1**	**-1.0**
	comp=Z,4.0nm,0.8s,mb4.1,baz=184,slow=9.3,SNR=11						
BJI	**Beijing**	**39.63**	**346**	P	**P**	**22 16 30.5**	**+0.2**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
BJI	**Beijing**	**39.63**	**346**	P	**P**	**22 16 30.5**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.5						
LZH	**Lanzhou**	**40.72**	**330**	*e*P	**P**	**22 16 40.5**	**+1.2**
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,168nm,4.1s						
LSA	**Lhasa**	**44.43**	**313**	P	**P**	**22 17 08.3**	**-1.0**
GTA	**Gaotai**	**45.31**	**330**	*e*P	**P**	**22 17 17.3**	**+1.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1						
JIRN	**Jiri**	**47.26**	**307**	*e*P	**P**	**22 17 32.1**	**+0.7**
	comp=Z,24nm,0.7s,mb5.0						
GUN	**Gumba**	**47.61**	**307**	*e*P	**P**	**22 17 34.9**	**+0.7**
	comp=Z,53nm,0.8s,mb5.2						
PKI	**Pulchoki**	**47.84**	**307**	*e*P	**P**	**22 17 36.8**	**+0.9**
	comp=Z,12nm,0.5s,mb4.7						
KKN	**Kakani**	**48.04**	**307**	*e*P	**P**	**22 17 37.7**	**+0.2**
	comp=Z,38nm,1.0s,mb5.0						
DMN	**Daman**	**48.10**	**306**	*e*P	**P**	**22 17 38.8**	**+0.9**
SONM	**Songino Array**	**49.55**	**341**	P	**P**	**22 17 49.5**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.9,baz=156,slow=8.2,SNR=14						
SONM				ScP	ScP	22 22 49.7	-2.5
	comp=Z,0.9nm,0.8s,baz=158,slow=4.9,SNR=4.7						
HYB	**Hyderabad**	**50.59**	**291**	⇑*i*P	**P**	**22 17 56.5**	**-0.3**
HYB	**Hyderabad**	**50.59**	**291**	⇑*e*P	**P**	**22 17 56.5**	**-0.3**
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**22 19 02.7**	**+0.3**
	comp=Z,7.0nm,0.5s,mb4.8,baz=116,slow=8.1,SNR=52						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**22 19 02.7**	**+0.3**
ZAL	**Zalesovo**	**62.83**	**333**	P	**P**	**22 19 24.0**	**+0.7**
	comp=Z,1.3nm,0.5s,mb4.0,baz=336,slow=3.9,SNR=5.7						
BVAR	**Borovoye Array**	**69.52**	**327**	P	**P**	**22 20 05.3**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.0,baz=134,slow=8.3,SNR=7.9						
ZRNK	**Zerenda**	**70.24**	**327**	*e*P	**P**	**22 20 09.7**	**-0.7**
AKTK	**Aktyubinsk**	**75.80**	**322**	P	**P**	**22 20 42.3**	**-0.8**
AKTO	**Aktyubinsk**	**75.80**	**322**	P	**P**	**22 20 42.3**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.1,baz=100,slow=7.3,SNR=9.1						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**22 21 12.4**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.0,baz=314,slow=6.7,SNR=19						
MAW	**Mawson**	**82.04**	**200**	P	**P**	**22 21 15.6**	**-1.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=52,slow=6.8,SNR=4.1						
ARCES	**ARCESS Array B**	**92.70**	**340**	P	**P**	**22 22 07.2**	**-1.5**
	comp=Z,3.1nm,0.8s,mb4.5,baz=89,slow=4.8,SNR=4.4						
SSPA	**Standing Stone**	**132.01**	**26**	*e*Pdif	Pdif	22 25 04.0

SIV	**San Ignacio**	**163.38**	**150**	PKPab	PKPab	22 29 52.0	+1.8		
	comp=Z,1.1nm,0.7s,baz=223,slow=6.8,SNR=6.6								

STR ***17*** *22:13:51.3±0.0, 4302N×001W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 22:13:51.0±0.1**, 4303N×002W, h4km, Md1.7/3, Ml1.3/2, Error ellipse: s-maj=1.9km s-min=0.9km az=172.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**72**	Pg	Pg	22 13 53.0	+0.4
LABF				Sg	Sg	22 13 54.2	+0.6
VIEF	**Viey**	**0.14**	**167**	Pg	Pg	22 13 54.1	+0.2
VIEF				Sg	Sg	22 13 56.2	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	22 13 56.0	-0.1
EPF				*e*Sg	Sg	22 13 59.9	+0.3
	2.3nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	22 13 59.2	+0.2
ETSF				*e*Sg	Sg	22 14 04.9	+0.5
	1.5nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	22 14 07.6	-0.4
SJPF				*e*Sg	Sg	22 14 18.8	-0.7
	0.5nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	22 14 22.2	-0.8
MTLF				*e*Sg	Sg	22 14 43.6	-1.0
	0.9nm,0.3s						

NEIC ***17*** *22:15:08.3±0.8, 4748N×154.03E, h10km, mb4.4/2, Error ellipse: s-maj=21.4km s-min=15.2km az=119.0*
IDC ***17*** *22:15:08.5±0.8, 4741N×15297E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/24, mbtmp4.0/10, Error ellipse: s-maj=32.7km s-min=20.2km az=92.0*
MOS ***17*** *22:15:12.7±3.0, 4738N×153.17E, h33km, mb4.2/1, Error ellipse: s-maj=19.6km s-min=12.5km az=63.2*
ISCJB ***17*** *22:15:19.4±1.4, 4745N±010×1530E±02, h99km±12km, mb3.9/12, Error ellipse: s-maj=21.5km s-min=10.0km az=84.9*

ISC 17 22:15:20.8±1.3**, 4745N**±010×**1530E**±02**, h100**km±11km**, n24**, σ0**91/25, mb3.9**/12**, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**31**	*e*PN	**Pn**	**22 16 17.4**	**-0.2**
KUR	**Kuril'sk**	**4.20**	**240**	⇑*i*PN	**Pn**	**22 16 18.2**	**-4.5**
KUR				*i* S	**Sn**	**22 17 09.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,170nm,0.8s						
KUR				smax			
	comp=N,230nm,6.0s						
KUR				smax			
	comp=E,150nm,6.0s						
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	⇑*i*PN	**Pn**	**22 17 02.0**	**+1.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	*e*Pn	**Pn**	**22 17 02.2**	**+1.4**
	comp=Z,56nm,0.8s						
ASAJ	**Asahikawa**	**8.01**	**249**	Pn	**Pn**	**22 17 08.7**	**-5.7**
	comp=Z,0.5nm,0.3s,baz=25,slow=30,SNR=2.9						
ASAJ	**Asahikawa**	**8.01**	**249**	PN	**Pn**	**22 17 08.7**	**-5.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.46**	**231**	Pn	**Pn**	**22 18 54.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.9,SNR=13						
KSRS	**Korea Array**	**20.96**	**251**	P	**P**	**22 19 58.2**	**+2.4**
	comp=Z,3.4nm,0.8s,baz=49,slow=9.4,SNR=8.8						
NACB	**Ninganchiao**	**34.10**	**238**	P	**P**	**22 21 56.5**	**+0.6**
INK	**Inuvik**	**41.10**	**33**	P	**P**	**22 22 55.0**	**+0.2**
	comp=Z,0.9nm,0.4s,mb3.9,baz=180,slow=25,SNR=3.8						
CHKZ	**Chkalovo**	**49.94**	**310**	*e*P	**P**	**22 24 03.5**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**49.94**	**310**	*e*P	**P**	**22 24 03.5**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**50.37**	**309**	P	**P**	**22 24 07.3**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=55,slow=7.0,SNR=3.5						
ARCES	**ARCESS Array B**	**57.17**	**341**	P	**P**	**22 24 58.0**	**+0.7**
	comp=Z,5.1nm,1.0s,mb4.5,baz=26,slow=8.4,SNR=4.0						
GCMT	**Greycliff**	**62.34**	**52**	*e*P	**P**	**22 25 27.0**	**-5.7**
FINES	**FINESS Array B**	**63.38**	**335**	P	**P**	**22 25 38.2**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=7.7,SNR=16						
NB2	**NORSAR Subarra**	**67.55**	**341**	P	**P**	**22 26 06.7**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.55**	**341**	P	**P**	**22 26 06.6**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=32,slow=6.7,SNR=3.9						
HFS	**Hagfors**	**67.78**	**339**	P	**P**	**22 26 08.1**	**+0.1**
	comp=Z,2.2nm,0.4s,mb4.3,baz=72,slow=6.4,SNR=20						
WRA	**Warramunga Arr**	**69.15**	**199**	P	**P**	**22 26 15.9**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.4,baz=18,slow=6.8,SNR=5.9						
ASAR	**Alice Springs**	**72.85**	**198**	P	**P**	**22 26 39.4**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.8,baz=13,slow=5.3,SNR=16						
TXAR	**Lajitas Array**	**77.20**	**61**	P	**P**	**22 27 04.2**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=298,slow=4.8,SNR=10						
GERES	**GERESS Array B**	**77.80**	**334**	P	**P**	**22 27 06.9**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=32,slow=5.2,SNR=6.3						
TAU	**Tasmania Unive**	**90.11**	**184**	P	**P**	**22 28 08.7**	**-1.0**
	comp=Z,4.0nm,0.6s,mb4.7						

STR ***17*** *22:16:52.6±0.0, 4302N×002W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 22:16:52.3±0.1**, 4303N×002W, h5km, Md1.7/3, Ml1.3/2, Error ellipse: s-maj=3.2km s-min=1.5km az=172.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**76**	Pg	Pg	22 16 54.4	+0.5
LABF				Sg	Sg	22 16 55.7	+0.7
VIEF	**Viey**	**0.15**	**168**	Pg	Pg	22 16 55.6	+0.3
VIEF				Sg	Sg	22 16 57.7	+0.4
EPF	**Esparros**	**0.26**	**90**	*e*Pg	Pg	22 16 57.4	0.0
EPF				*e*Sg	Sg	22 17 01.4	+0.5
	3.7nm,0.2s						
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg	Pg	22 17 00.9	+0.5
ETSF				*e*Sg	Sg	22 17 06.4	+0.6
	2.8nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	22 17 08.9	-0.4
SJPF				*e*Sg	Sg	22 17 19.9	-1.0
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	22 17 23.6	-0.6
MTLF				*e*Sg	Sg	22 17 44.7	-1.1
	0.7nm,0.3s						

STR ***17*** *22:17:33.0±0.0, 4300N×000E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 22:17:32.4±0.1**, 4307N×002W, h10km, Md1.6/3, Ml1.3/2, Error ellipse: s-maj=11.3km s-min=2.3km az=174.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**106**	Pg	Pg	22 17 34.6	0.0
LABF				Sg	Sg	22 17 35.8	-0.4
VIEF	**Viey**	**0.19**	**170**	Pg	Pg	22 17 35.7	-0.7
VIEF				Sg	Sg	22 17 37.7	-1.4
EPF	**Esparros**	**0.27**	**98**	*e*Pg	Pg	22 17 37.5	-0.3
EPF				*e*Sg	Sg	22 17 41.3	-0.2
	3.1nm,0.2s						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	Pg	22 17 41.1	+0.3
ETSF				*e*Sg	Sg	22 17 46.8	+0.3
	2.3nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**273**	*e*Pg	Pg	22 17 49.0	-0.4
SJPF				*e*Sg	Sg	22 18 00.2	-0.7
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	22 18 03.8	-0.5
MTLF				*e*Sg	Sg	22 18 25.0	-0.8
	0.6nm,0.3s						

IDC ***17*** *22:21:23.7±1.6, 4596N×155.14E, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.8/25, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=52.6km s-min=18.7km az=178.0*
ISCJB ***17*** *22:21:24.2±1.1, 462N±02×155.1E±0.1, h10km, mb4.0/14, Error ellipse: s-maj=27.4km s-min=13.5km az=150.5*
NEIC ***17*** *22:21:24.4±0.9, 4587N×155.11E, h10km, mb4.3/3, Error ellipse: s-maj=25.3km s-min=18.1km az=187.0*
MOS ***17*** *22:21:28.4±1.7, 4634N×154.84E, h33km, mb4.5/5, Error ellipse: s-maj=24.6km s-min=15.2km az=103.2*

ISC 17 22:21:26.0±1.1**, 462N**±02×**1550E**±01**, h10**km**, n25, σ1**§**03/25, mb4.0/14, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.57**	**9**	*e*PN	**Pn**	**22 22 32.0**	**-3.2**
ASAJ	**Asahikawa**	**9.03**	**261**	Pn	**Pn**	**22 23 34.7**	**-1.6**
	0.7nm,0.3s,baz=160,slow=15,SNR=2.3						
ASAJ	**Asahikawa**	**9.03**	**261**	PN	**Pn**	**22 23 34.7**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.92**	**256**	P	**P**	**22 26 19.8**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.3,baz=59,slow=9.8,SNR=3.0						
BILL	**Bilibino**	**22.68**	**11**	P	**P**	**22 26 26.3**	**-1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
BILL	**Bilibino**	**22.68**	**11**	P	**P**	**22 26 26.3**	**-1.3**
	comp=Z,5.4nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**44.04**	**307**	P	**P**	**22 29 33.5**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=9.4,SNR=3.3						
ZAL	**Zalesovo**	**44.04**	**307**	P	**P**	**22 29 33.5**	**-0.4**
MKAR	**Makanchi Array**	**48.38**	**299**	P	**P**	**22 30 08.0**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=74,slow=8.7,SNR=8.7						
MKAR	**Makanchi Array**	**48.38**	**299**	P	**P**	**22 30 08.0**	**-0.1**
CHKZ	**Chkalovo**	**51.81**	**311**	*e*P	**P**	**22 30 33.0**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**51.81**	**311**	*e*P	**P**	**22 30 33.0**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**52.25**	**310**	P	**P**	**22 30 37.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=62,slow=8.5,SNR=5.2						
ZRNK	**Zerenda**	**53.01**	**311**	*e*P	**P**	**22 30 42.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**53.01**	**311**	*e*P	**P**	**22 30 42.4**	**-0.5**
	comp=Z,3.0nm,0.4s,mb4.6						
AKTK	**Aktyubinsk**	**60.10**	**313**	P	**P**	**22 31 35.4**	**+2.0**
AKTO	**Aktyubinsk**	**60.10**	**313**	P	**P**	**22 31 35.4**	**+2.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=65,slow=9.8,SNR=5.5						
AKTO	**Aktyubinsk**	**60.10**	**313**	P	**P**	**22 31 35.4**	**+2.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**61.52**	**63**	P	**P**	**22 31 43.1**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.6,baz=304,slow=9.7,SNR=3.8						
PDAR	**Pinedale Array**	**64.01**	**55**	P	**P**	**22 31 59.3**	**-0.4**
	comp=Z,0.9nm,0.9s,mb3.8,baz=281,slow=3.8,SNR=6.1						
FINES	**FINESS Array B**	**65.12**	**336**	P	**P**	**22 32 06.8**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=36,slow=7.7,SNR=16						
NOA	**NORSAR Array B**	**69.20**	**342**	P	**P**	**22 32 34.0**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=29,slow=6.2,SNR=2.8						
KIV	**Kislovodsk**	**72.15**	**315**	*e*P	**P**	**22 32 51.6**	**+0.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**76.61**	**62**	P	**P**	**22 33 16.4**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.3,baz=304,slow=4.4,SNR=38						
STKA	**Stephens Creek**	**78.63**	**192**	P	**P**	**22 33 23.0**	**-5.0**

SKHL ***17*** *22:23:27.3±1.3, 4634N×154.11E, h40km±10km*
IDC ***17*** *22:23:28.3±0.6, 4661N×15352E, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.4/24, mbtmp4.4/17, MS3.7/1, Ms1 3.7/1, ms1mx2.9/38, Error ellipse: s-maj=18.4km s-min=17.1km az=41.0*
ISCJB ***17*** *22:23:29.0±0.4, 4663N±006×15359E±007, h10km, mb4.7/70, MS3.9/2, Error ellipse: s-maj=10.3km s-min=4.6km az=107.9*
BJI ***17*** *22:23:29.6, 4696N×15397E, h28km, mB4.8, mb4.6, Ms4.1, Msz3.8*
MOS ***17*** *22:23:34.0±1.4, 4666N×15353E, h47km, mb4.9/27, Error ellipse: s-maj=9.9km s-min=6.1km az=111.4*
NEIC ***17*** *22:23:34.1±0.4, 4665N×15364E, h35km, mb4.7/34, Error ellipse: s-maj=10.2km s-min=7.5km az=143.0*
SZGRF ***17*** *22:23:41.4, 4683N×151.18E, h33km, mb5.2, Kuril Islands, Russia*

ISC 17 22:23:30.5±2.3**, 4676N**±006×**15362E**±008**, h8**km±14km**, n175, σ1**§**13**/183**, mb4.7**/70**, MS3.9**/2**, 19C-17D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.26**	**22**	*e*P	**Pn**	**22 24 36.0**	**+0.3**
SKR				AMB	AMB	22 24 41.5	
	60nm,0.5s						
SKR				AMB	AMB	22 24 41.5	
	80nm,0.5s						
SKR				*e*S	**Sn**	**22 25 24.1**	**-1.5**
SKR				A		22 25 26.3	
	90nm,0.5s						
SKR				A		22 25 26.3	
	80nm,0.5s						
KUR	**Kuril'sk**	**4.29**	**251**	*i* P	**Pn**	**22 24 34.0**	**-2.1**
KUR				AMB	AMB	22 24 35.3	
	340nm,0.7s						
KUR				*i* S	**Sn**	**22 25 23.0**	**-3.3**
KUR				A		22 25 37.5	
	420nm,0.5s						
KUR				A		22 25 37.5	
	170nm,0.5s						
KUR	**Kuril'sk**	**4.29**	**251**	⇓*i*PN	**Pn**	**22 24 34.0**	**-2.1**
KUR				*i* S	**Sn**	**22 25 23.0**	**-3.3**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=N,420nm,0.5s						
KUR				smax			
	comp=E,110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.11**	**246**	*e*P	**Pn**	**22 25 00.4**	**-0.6**
YUK				*e*S	**Sn**	**22 26 11.2**	**+0.2**
YUK				A		22 26 16.0	
	comp=E,570nm,0.5s						
YUK				A		22 26 16.0	
	comp=E,200nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.46**	**275**	*e*P	**Pn**	**22 25 24.0**	**+4.4**
YSS				AMB	AMB	22 25 27.0	
	comp=E,30nm,0.8s						
YSS				*e*L		22 27 00.0	
YSS	**Yuzh-Sakhalins**	**7.46**	**275**	*e*PN	**Pn**	**22 25 24.0**	**+4.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.46**	**275**	*e*Pn	**Pn**	**22 25 22.5**	**+3.0**
	comp=Z,33nm,0.8s						
ASAJ	**Asahikawa**	**8.19**	**255**	Pn	**Pn**	**22 25 30.4**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=86,slow=15,SNR=12						
ASAJ	**Asahikawa**	**8.19**	**255**	PN	**Pn**	**22 25 30.4**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**8.86**	**241**	*e*PN	**Pn**	**22 25 40.9**	**+2.0**
ERM				pmax	pmax		
	comp=Z,37nm,0.6s						
ERM	**Erimo**	**8.86**	**241**	*e*Pn	**Pn**	**22 25 40.9**	**+2.0**
	comp=Z,37nm,0.6s						
ERM				*e*Sn	**Sn**	**22 27 15.2**	**-3.8**
KLR	**Kul'dur**	**14.85**	**288**	*e*P	**Pn**	**22 27 04.0**	**+3.3**
MJAR	**Matsushiro Arr**	**15.36**	**234**	Pn	**Pn**	**22 27 03.4**	**-4.2**
	baz=32,slow=12,SNR=4.0						
MAJO	**Matsushiro**	**15.37**	**234**	*e*P	**Pn**	**22 27 05.6**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**15.37**	**234**	*e*Pn	**Pn**	**22 27 05.5**	**-2.1**
	comp=Z,13nm,0.6s						
MAT	**Matsushiro**	**15.37**	**234**	P	**Pn**	**22 27 03.9**	**-3.7**
CN2	**Changchun**	**20.00**	**272**	⇓P	**P**	**22 28 03.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CLNS	**Chul'man**	**20.28**	**310**	*e*P	**P**	**22 28 15.6**	**+9.0**
CLNS				pmax	pmax		
	comp=Z,25nm,1.2s						
CLNS				pmax	pmax		
	comp=N,17nm,0.9s						
CLNS				pmax	pmax		
	comp=E,17nm,1.2s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=Z,300nm,13.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS4.6						
YAK	**Yakutsk**	**20.51**	**327**	*e*P	**P**	**22 28 09.4**	**+0.4**
YAK				S	**S**	**22 31 48.1**	**-10**
YAK				pmax	pmax		
	comp=Z,28nm,0.6s						
YAK	**Yakutsk**	**20.51**	**327**	*e*P	**P**	**22 28 09.4**	**+0.4**
	comp=Z,28nm,0.6s						
YAK				S	**S**	**22 31 48.1**	**-10**
KSRS	**Korea Array**	**21.13**	**253**	P	**P**	**22 28 16.5**	**+0.7**
	comp=Z,8.0nm,0.8s,mb4.1,baz=61,slow=9.9,SNR=16						
SNY	**Shenyang**	**21.99**	**268**	⇑P	**P**	**22 28 25.1**	**+0.1**
SNY				S	**S**	**22 32 19.6**	**-8.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
SNY				AMB	AMB		
	comp=Z,110nm,3.5s						
SNY				LR	LR		
	comp=N,170nm,5.0s						
BILL	**Bilibino**	**22.31**	**13**	*e*P	**P**	**22 28 28.5**	**+0.1**
BILL				*e*		22 28 50.4	
BILL				*e*		22 32 19.4	
BILL				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.2						
BILL	**Bilibino**	**22.31**	**13**	*e*P	**P**	**22 28 29.1**	**+0.7**
	comp=Z,5.7nm,0.6s,mb4.2						
BOD	**Bodaibo**	**26.25**	**310**	*e*P	**P**	**22 29 04.9**	**-1.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb3.7						
TIXI	**Tiksi**	**27.56**	**343**	*e*P	**P**	**22 29 15.9**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TIXI	**Tiksi**	**27.56**	**343**	*e*P	**P**	**22 29 15.8**	**-2.0**
	comp=Z,1.9nm,0.6s,mb3.9						
BJI	**Beijing**	**27.83**	**270**	P	**P**	**22 29 23.3**	**+3.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI	**Beijing**	**27.83**	**270**	P	**P**	**22 29 23.2**	**+2.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI	**Beijing**	**27.83**	**270**	P	**P**	**22 29 23.2**	**+2.9**
	comp=Z,9.0nm,0.8s,mb4.5						
BJT	**Baijiatuan**	**27.84**	**270**	*e*P	**P**	**22 29 19.7**	**-0.7**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJT	**Baijiatuan**	**27.84**	**270**	*e*P	**P**	**22 29 19.7**	**-0.7**
	comp=Z,5.5nm,0.5s,mb4.4						
HHC	**Hu-ho-hao-te**	**30.64**	**274**	*e*P	**P**	**22 29 43.1**	**-2.2**
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,132nm,5.4s						
SONM	**Songino Array**	**31.66**	**290**	P	**P**	**22 29 52.9**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=73,slow=8.2,SNR=4.8						
ZAK	**Zakamensk**	**32.99**	**295**	*e*P	**P**	**22 30 04.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
LZH	**Lanzhou**	**38.24**	**272**	*e*P	**P**	**22 30 51.0**	**0.0**
LZH				AP	pP	22 30 59.0	+5.5
LZH				XP	sP	22 31 04.0	+10
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,127nm,4.2s						
LZH	**Lanzhou**	**38.24**	**272**	*e*P	**P**	**22 30 51.0**	**0.0**
	comp=Z,30nm,1.2s,mb4.9						
LZH				pP	pP	22 30 59.0	+5.5
LZH				sP	sP	22 31 04.0	+10
GTA	**Gaotai**	**39.31**	**279**	*e*P	**P**	**22 31 00.9**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
CD2	**Chengdu**	**41.23**	**266**	⇑*i*P	**P**	**22 31 16.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
GYA	**Guiyang**	**42.06**	**258**	⇓*i*P	**P**	**22 31 23.1**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**42.91**	**306**	P	**P**	**22 31 27.6**	**-2.0**
	comp=Z,1.7nm,0.4s,mb4.1,baz=46,slow=6.9,SNR=6.2						
NVS	**Novosibirsk**	**43.46**	**308**	*e*P	**P**	**22 31 33.0**	**-1.1**
KMI	**Kunming**	**45.59**	**260**	P	**P**	**22 31 51.9**	**+0.9**
KMI				AP	pP	22 32 02.8	+9.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
KMI	**Kunming**	**45.59**	**260**	P	**P**	**22 31 51.9**	**+0.9**
	comp=Z,8.0nm,0.9s,mb4.7						
KMI				pP	pP	22 32 02.8	+9.2
MKAR	**Makanchi Array**	**47.25**	**298**	P	**P**	**22 32 03.2**	**-0.9**
	comp=Z,3.6nm,0.5s,mb4.5,baz=67,slow=8.1,SNR=19						
LSA	**Lhasa**	**50.62**	**273**	P	**P**	**22 32 32.8**	**+2.8**
LSA	**Lhasa**	**50.62**	**273**	*e*P	**P**	**22 32 31.6**	**+1.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**50.62**	**273**	*e*P	**P**	**22 32 31.6**	**+1.6**
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**50.70**	**310**	*e*P	**P**	**22 32 28.9**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**50.70**	**310**	*e*P	**P**	**22 32 28.9**	**-1.7**
	comp=Z,9.9nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**22 32 32.8**	**-1.0**
	comp=Z,2.6nm,0.4s,mb4.5,baz=52,slow=8.3,SNR=13						
BVAR				LR	LR	22 55 11.6	
	comp=Z,62nm,18.2s,MS3.7,baz=258,slow=37						
ZRNK	**Zerenda**	**51.89**	**310**	*e*P	**P**	**22 32 38.1**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.89**	**310**	*e*P	**P**	**22 32 38.1**	**-1.4**
	comp=Z,3.0nm,0.5s,mb4.5						
ARU	**Arti**	**55.24**	**318**	⇑*i*P	**P**	**22 33 03.0**	**-1.1**
ARU				*e*		22 35 04.3	
ARU				*e*S	**S**	**22 40 47.6**	**-0.3**
ARU				*e*SS	SS	22 44 32.2	+0.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ARU	**Arti**	**55.24**	**318**	*e*P	**P**	**22 33 02.1**	**-2.0**
	comp=Z,5.9nm,0.6s,mb4.8						
JIRN	**Jiri**	**55.30**	**275**	*e*P	**P**	**22 33 05.7**	**+1.2**
	comp=Z,26nm,0.6s,mb5.4						
GUN	**Gumba**	**55.35**	**275**	*e*P	**P**	**22 33 05.9**	**+1.0**
	comp=Z,20nm,0.5s,mb5.4						
KKN	**Kakani**	**55.84

comp=Z,12nm,1.0s,mb4.8
KIV Kislovodsk 71.05 315 *e*P P 22 34 42.7 -6.3
comp=Z,13nm,0.9s,mb4.9
AKASG Malin Array Be 71.74 326 P P 22 34 52.4 -0.8
comp=Z,11nm,0.8s,mb4.8,baz=34,slow=6.2,SNR=28
AKBB Malin Array Si 71.74 326 *e*P P 22 34 51.1 -2.1
KIEV Kiev 71.75 326 *e*P P 22 34 51.7 -1.6
KIEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIEV Kiev 71.75 326 *e*P P 22 34 51.7 -1.6
comp=Z,8.9nm,0.8s,mb4.8
AS31 Alice Springs 72.32 199 *e*P P 22 34 55.2 -1.6
ASAR Alice Springs 72.33 199 P P 22 34 55.4 -1.3
comp=Z,3.9nm,0.6s,mb4.5,baz=10,slow=5.3,SNR=56
RGN Rugen 73.62 337 P P 22 35 00.2 -4.2
comp=Z,100nm,1.3s,mb5.6
KWP Kalwaria 75.00 329 *e*P P 22 35 12.3 -0.1
KWP pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KWP Kalwaria 75.00 329 *e*P P 22 35 12.3 -0.1
comp=Z,9.2nm,0.8s,mb4.8
OJC Ojcow 75.48 331 *e*P P 22 35 15.2 0.0
STHS Stebnicka Huta 75.69 330 *e*P P 22 35 17.5 +1.1
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
STHS Stebnicka Huta 75.69 330 *e*P P 22 35 17.5 +1.1
comp=Z,6.5nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.74 329 *e*P P 22 35 17.1 +0.4
BURAR Bucovina Array 75.78 327⇑*i*P P 22 35 17.0 +0.1
BURAR Bucovina Array 75.78 327⇑*i*P P 22 35 17.0 +0.2
NIE Niedzica 76.00 331 *e*P P 22 35 18.9 +0.7
OKC Ostrava-Krasne 76.35 332 *e*P P 22 35 20.7 +0.5
UPC Upice 76.43 334 *e*P P 22 35 21.0 +0.4
DPC Dobruska-Polom 76.48 333 *e*P P 22 35 21.0 +0.1
MORC Moravsky Berou 76.60 332⇑*i*P P 22 35 22.0 +0.4
MORC Moravsky Berou 76.60 332 *e*P P 22 35 21.0 -0.6
comp=Z,11nm,0.8s,mb4.8
CLL Collm 76.60 336 *e*P P 22 35 21.0 -0.6
CLL pmax pmax
comp=Z,21nm,0.6s,mb5.2
CLL Collm 76.60 336 *e*P P 22 35 21.0 -0.6
comp=Z,21nm,0.6s,mb5.2
CLL Collm 76.60 336 *i* P P 22 35 21.4 -0.2
comp=Z,21nm,0.6s,mb5.2
PLOR Plostina 76.69 325⇑*i*P P 22 35 23.1 +1.0
BOYT Boyabat 76.70 317 *i* P P 22 35 23.7 +1.6
BRG Berggiesshubel 76.72 335 *e*P P 22 35 22.2 -0.1
comp=Z,2.4nm,0.8s,mb4.2
BRG Berggiesshubel 76.72 335 *e*P P 22 35 22.2 -0.1
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 76.74 330 *e*P P 22 35 22.5 +0.1
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.74 330 *e*P P 22 35 22.5 +0.1
comp=Z,3.4nm,0.9s,mb4.3
PVCC Panska Ves 76.85 335 *e*P P 22 35 23.0 0.0
TIRR Tirgusor 77.12 323⇓*i*P P 22 35 25.3 +0.8
TIRR Tirgusor 77.12 323⇓P P 22 35 25.2 +0.8
LTX Lajitas 77.18 61 *e*P P 22 35 24.5 -0.4
LTX *e* 22 35 35.2
LTX pmax pmax
comp=Z,133nm,1.2s,mb5.7
LTX Lajitas 77.18 61 *e*P P 22 35 24.5 -0.3
comp=Z,133nm,1.2s,mb5.7
LTX *e*PcP PcP 22 35 35.2 -0.4
TXAR Lajitas Array 77.18 61 P P 22 35 24.7 -0.2
comp=Z,4.6nm,0.6s,mb4.6,baz=302,slow=4.1,SNR=50
TXAR Lajitas Array 77.18 61 P P 22 35 24.7 -0.2
MLR Muntele Rosu 77.26 325⇓*i*P P 22 35 26.0 +0.7
VYHS Vyhne 77.29 331 *e*P P 22 35 26.0 +0.5
VRAC Vranov 77.31 333⇑*i*P P 22 35 28.8 +3.2
VRAC Vranov 77.31 333⇑P P 22 35 28.8 +3.2
BALT Daday 77.31 318 *i* P P 22 35 27.0 +1.4
DRGR 77.40 328⇓*i*P P 22 35 26.6 +0.5
DRGR 77.40 328⇓P P 22 35 26.6 +0.6
MALT Malatya 77.41 313⇓*i*P P 22 35 27.5 +1.4
MALT Malatya 77.41 313 *e*P P 22 35 26.9 +0.8
comp=Z,5.6nm,0.8s,mb4.5
PSZ Piszkesteto 77.43 330 *e*P P 22 35 21.4 -4.9
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PSZ Piszkesteto 77.43 330 *e*P P 22 35 21.4 -4.9
comp=Z,5.6nm,0.8s,mb4.5
VOIR 77.66 326⇓*i*P P 22 35 29.1 +1.6
VOIR 77.66 326⇓P P 22 35 29.1 +1.6
NKC Novy Kostel 77.72 336 *e*P P 22 35 28.3 +0.4
ZST Bratislava 78.12 332 *e*P P 22 35 31.2 +1.1
ZST pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZST Bratislava 78.12 332 *e*P P 22 35 31.2 +1.1
comp=Z,4.1nm,0.8s,mb4.4
KHC Kasperske Hory 78.39 334 *e*P P 22 35 31.6 0.0
GRA1 Grafenberg Arr 78.56 336 *e*P P 22 35 33.8 +1.3
comp=Z,16nm,0.8s,mb5.0
GRF Grafenberg Arr 78.56 336 *e*P P 22 35 33.8 +1.3
comp=Z,16nm,0.8s,mb5.0
GRF Grafenberg Arr 78.56 336 *e*P P 22 35 33.8 +1.3
GRF pmax pmax
comp=Z,16nm,0.8s,mb5.0
GRF Grafenberg Arr 78.56 336 *e*P P 22 35 33.8 +1.3
GRF pmax pmax
comp=Z,16nm,0.8s,mb5.0
GZR Gura Zlata 78.56 327⇓*i*P P 22 35 33.3 +0.8
GZR Gura Zlata 78.56 327⇓P P 22 35 33.2 +0.7
GERES GERESS Array B 78.60 334 P P 22 35 32.8 +0.1
comp=Z,3.1nm,0.7s,mb4.4,baz=35,slow=5.0,SNR=28
BR131 Keskin Array S 78.62 317 *e*P P 22 35 32.8 -0.1
comp=Z,1.9nm,0.7s,mb4.1
BRTR Keskin Array B 78.62 317 P P 22 35 33.5 +0.6
comp=Z,2.7nm,0.7s,mb4.3,baz=81,slow=4.1,SNR=15
SGKT Sivrigoymuk 78.68 319 *i* P P 22 35 31.7 -1.5
CONA Conrad Observa 78.75 333⇑*i*P P 22 35 34.6 +1.0
comp=Z,5.0nm,0.7s,mb4.6
BZS Buzias 78.80 328⇑*i*P P 22 35 33.8 0.0
BZS Buzias 78.80 328⇑P P 22 35 33.8 -0.1
ANTO Ankara 78.90 318⇑*i*P P 22 35 35.6 +1.2
ANTO Ankara 78.90 318⇑P P 22 35 35.6 +1.2
MIB Mutribah 78.96 302 *e*P P 22 35 35.7 +1.0
MIB AMb AMB 22 35 36.5
comp=Z,59nm,0.6s,mb5.7
PKSM Moragy 79.34 330⇓*i*P P 22 35 36.3 -0.5
PKSM Moragy 79.34 330⇓P P 22 35 36.3 -0.5
QRN Al-Qurain 79.40 301 *e*P P 22 35 38.3 +1.2
NAY Al-Naaiem 79.42 301 *e*P P 22 35 37.6 +0.4
NAY AMb AMB 22 35 39.0
comp=Z,12nm,0.6s,mb5.0
RDF Al-Radifah 79.48 301 *e*P P 22 35 38.7 +1.1
RDF AMb AMB 22 35 41.3
comp=Z,30nm,0.9s,mb5.2
KBA Koelnbreinsper 80.29 334⇑*i*P P 22 35 42.3 +0.3
comp=Z,19nm,0.7s,mb5.1
WATA Walderalm 80.59 335⇑*i*P P 22 35 44.4 +0.8
comp=Z,5.7nm,0.6s,mb4.7
WTTA Wattenberg 80.63 335⇑*i*P P 22 35 44.9 +1.1
comp=Z,12nm,0.6s,mb5.0
MOTA Moosalm 80.72 335⇑*i*P P 22 35 45.2 +0.9
comp=Z,7.3nm,0.7s,mb4.7
VTS Vitosha 80.77 325⇓*i*P P 22 35 45.3 +0.8
VTS Vitosha 80.77 325⇓P P 22 35 45.2 +0.7
CDF Champ du Feu 80.78 338 *e*P P 22 35 43.9 -0.7
comp=Z,6.6nm,0.6s,mb4.5
CDF Champ du Feu 80.78 338 *e*P P 22 35 43.9 -0.7
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CDF Champ du Feu 80.78 338 *e*P P 22 35 43.9 -0.7
comp=Z,3.3nm,0.6s,mb4.4
SQTA Sankt Quirin 80.80 335⇑*i*P P 22 35 45.6 +1.0
comp=Z,6.8nm,0.8s,mb4.6
GRR Gorron 82.66 343 *e*P P 22 35 53.6 -0.9
SMF Signal de Mont 83.28 340 *e*P P 22 35 57.1 -0.6
comp=Z,10nm,0.7s,mb4.7
SMF Signal de Mont 83.28 340 *e*P P 22 35 57.1 -0.6
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SMF Signal de Mont 83.28 340 *e*P P 22 35 57.1 -0.6
comp=Z,5.3nm,0.7s,mb4.7
LPL La Plagne 83.60 337 *e*P P 22 35 59.4 0.0
comp=Z,4.8nm,0.7s,mb4.5
LPL La Plagne 83.60 337 *e*P P 22 35 59.4 0.0
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LPL La Plagne 83.60 337 *e*P P 22 35 59.4 0.0
comp=Z,2.4nm,0.6s,mb4.5
CAF Calviac 85.32 340 *e*P P 22 36 07.4 -0.7
SNAA Sanae 152.66 196 PKPbc PKPbc 22 43 24.0 -3.8
comp=Z,0.4nm,0.6s,baz=211,slow=7.8,SNR=9.7

IDC ***17*** *22:28:56.2±0.9, 4709N×15534E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/25, mbtmp4.0/14, Error ellipse: s-maj=24.1km s-min=19.8km az=133.0*
ISCJB ***17*** *22:28:59.7±0.7, 4727N±0.0×1554E±0.2, h35km, mb4.2/19, Error ellipse: s-maj=18.0km s-min=10.9km az=70.5*
MOS ***17*** *22:29:00.9±1.1, 4702N×15503E, h48km, mb5.0/5, Error ellipse: s-maj=19.3km s-min=14.4km az=90.0*
NEIC ***17*** *22:29:01.5±0.6, 4700N×15508E, h35km, mb4.8/7, Error ellipse: s-maj=16.1km s-min=10.3km az=133.0*
ISC 17 22:29:01.5±0.8, 4728N±0.0×1554E±0.2, h35km, n35, σ0s99/35, mb4.2/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**8**	*e*PN	**Pn**	**22 29 51.2**	**-1.3**
SKR	comp=N,70nm,0.4s			pmax	pmax		
SKR	comp=Z,80nm,0.4s			pmax	pmax		
MJAR	**Matsushiro Arr**	**16.66**	**236**	Pn	**Pn**	**22 32 47.3**	**-4.9**
	baz=28,slow=14,SNR=4.6						
MAJO	**Matsushiro**	**16.66**	**236**	*e*P	**Pn**	**22 32 46.8**	**-5.4**
MAJO	comp=Z,13nm,0.8s			pmax	pmax		
MAJO	**Matsushiro**	**16.66**	**236**	*e*Pn	**Pn**	**22 32 46.8**	**-5.3**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**16.66**	**236**	P	**Pn**	**22 32 53.0**	**+0.8**
BILL	**Bilibino**	**21.54**	**11**	*e*P	**P**	**22 33 46.1**	**-1.5**
BILL	comp=Z,14nm,1.0s,mb4.3			pmax	pmax		
BILL	**Bilibino**	**21.54**	**11**	*e*P	**P**	**22 33 46.1**	**-1.5**
	comp=Z,14nm,1.0s,mb4.3						
KSRS	**Korea Array**	**22.45**	**254**	P	**P**	**22 33 57.6**	**+0.3**
	comp=Z,2.6nm,0.7s,mb3.8,baz=56,slow=11,SNR=8.2						
SONM	**Songino Array**	**32.63**	**289**	P	**P**	**22 35 29.2**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=66,slow=9.1,SNR=5.8						
PMR	**Palmer**	**34.13**	**45**	*e*P	**P**	**22 35 47.2**	**+4.3**
PMR	comp=Z,36nm,1.4s,mb5.1			pmax	pmax		
PMR	**Palmer**	**34.13**	**45**	*e*P	**P**	**22 35 47.1**	**+4.2**
	comp=Z,36nm,1.4s,mb5.1						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**22 36 37.6**	**+1.9**
	comp=Z,3.6nm,0.6s,mb4.3,baz=279,slow=4.8,SNR=8.5						
INK	**Inuvik**	**40.36**	**33**	*e*P	**P**	**22 36 37.0**	**+1.3**
INK	comp=Z,79nm,0.9s			pmax	pmax		
INK	**Inuvik**	**40.36**	**33**	*e*P	**P**	**22 36 37.0**	**+1.3**
	comp=Z,79nm,0.9s,mb5.4						
ZAL	**Zalesovo**	**43.58**	**306**	P	**P**	**22 37 01.5**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.2,baz=69,slow=7.0,SNR=6.2						
NVS	**Novosibirsk**	**44.10**	**308**	*e*P	**P**	**22 37 05.8**	**-0.4**
MKAR	**Makanchi Array**	**48.08**	**298**	P	**P**	**22 37 37.2**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.2,baz=68,slow=8.0,SNR=7.0						
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**22 38 01.6**	**-0.3**
CHKZ	comp=Z,8.0nm,0.6s,mb4.8			pmax	pmax		
CHKZ	**Chkalovo**	**51.28**	**311**	*e*P	**P**	**22 38 01.6**	**-0.3**
	comp=Z,7.9nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**22 38 05.8**	**+0.6**
	comp=Z,3.2nm,0.5s,mb4.5,baz=56,slow=7.2,SNR=21						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**22 38 11.0**	**+0.2**
ZRNK	comp=Z,2.0nm,0.4s,mb4.4			pmax	pmax		
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**22 38 11.0**	**+0.2**
	comp=Z,2.3nm,0.4s,mb4.5						
ARCES	**ARCESS Array B**	**57.86**	**341**	P	**P**	**22 38 50.3**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.4,baz=32,slow=8.6,SNR=5.1						
FINES	**FINESS Array B**	**64.21**	**336**	P	**P**	**22 39 33.2**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=28,slow=9.7,SNR=11						
NB2	**NORSAR Subarra**	**68.22**	**342**	P	**P**	**22 39 59.5**	**+1.1**
	comp=Z,4.8nm,1.1s,mb4.4,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.22**	**342**	P	**P**	**22 39 58.9**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=26,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**69.55**	**201**	P	**P**	**22 40 05.2**	**-1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=18,slow=6.8,SNR=4.1						
KIV	**Kislovodsk**	**71.53**	**315**	*e*P	**P**	**22 40 24.9**	**+6.1**
KIV	comp=Z,12nm,1.0s,mb4.8			pmax	pmax		
ASAR	**Alice Springs**	**73.23**	**201**	P	**P**	**22 40 28.4**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=19,slow=5.9,SNR=3.9						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**22 40 44.4**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=299,slow=4.9,SNR=6.0						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**22 40 44.4**	**+0.2**
CLL	**Collm**	**76.61**	**337**	*e*(P)	**P**	**22 40 53.0**	**+4.6**
CLL				esP	sP	22 41 04.0	+0.6
BRTR	**Keskin Array B**	**79.06**	**318**	P	**P**	**22 41 03.1**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=53,slow=4.8,SNR=3.5						
WVT	**Waverly**	**79.53**	**47**	*e*P	**P**	**22 41 01.2**	**-3.4**
WVT	comp=Z,7.0nm,0.6s,mb4.8			pmax	pmax		
WVT	**Waverly**	**79.53**	**47**	*e*P	**P**	**22 41 01.1**	**-3.5**
	comp=Z,7.4nm,0.6s,mb4.8						

IDC 17 22:30:51.7±15.0, 4421N×15355E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/22, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=490.6km s-min=46.5km az=25.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**13.96**	**242**	LR	LR	22 38 19.2	
	comp=Z,73nm,20.8s,baz=45,slow=32						
ARCES	**ARCESS Array B**	**60.36**	**341**	P	P	22 41 01.9	-0.6
	5.7nm,1.0s,baz=40,slow=5.9,SNR=3.2						
FINES	**FINESS Array B**	**66.48**	**335**	P	P	22 41 42.0	-1.0
	1.7nm,0.8s,baz=37,slow=6.8,SNR=6.0						
NOA	**NORSAR Array B**	**70.74**	**342**	P	P	22 42 09.7	+0.1
	0.8nm,0.8s,baz=31,slow=6.6,SNR=3.0						
TXAR	**Lajitas Array**	**78.48**	**60**	P	P	22 42 54.8	+0.2
	0.5nm,0.7s,baz=302,slow=4.7,SNR=5.5						

IDC 17 22:32:01.1±4.3, 4607N×15525E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/23, mbtmp4.0/4, Error ellipse: s-maj=154.4km s-min=31.8km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.56**	**299**	P	P	22 40 45.0	-1.0
	0.5nm,0.7s,baz=70,slow=7.8,SNR=4.5						
BVAR	**Borovoye Array**	**52.43**	**311**	P	P	22 41 15.8	+0.5
	0.5nm,0.4s,baz=75,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**65.28**	**336**	P	P	22 42 43.8	-0.8
	12nm,1.3s,baz=40,slow=7.7,SNR=7.6						
TXAR	**Lajitas Array**	**76.53**	**62**	P	P	22 43 53.2	+0.2
	1.0nm,0.5s,baz=306,slow=4.8,SNR=14						

IDC 17 22:36:35.2±4.0, 4689N×15276E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/22, mbtmp4.0/5, Error ellipse: s-maj=126.4km s-min=38.4km az=9.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.67**	**297**	P	P	22 45 05.3	-0.2
	1.0nm,0.8s,baz=66,slow=7.9,SNR=5.1						
FINES	**FINESS Array B**	**63.81**	**335**	P	P	22 47 08.3	-0.9
	2.5nm,1.0s,baz=30,slow=11,SNR=4.2						
NOA	**NORSAR Array B**	**68.02**	**341**	P	P	22 47 36.3	0.0
	0.9nm,0.8s,baz=29,slow=6.5,SNR=2.4						
AKASG	**Malin Array Be**	**71.30**	**326**	P	P	22 47 56.0	-0.5
	1.2nm,0.5s,baz=35,slow=6.2,SNR=6.7						
TXAR	**Lajitas Array**	**77.53**	**60**	P	P	22 48 33.6	+0.2
	0.3nm,0.7s,baz=313,slow=4.9,SNR=4.9						

GUC 17 22:40:10.2±0.8, 3052S×7105W, h55km±6km, MD3.5, ML2.9, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.16**	**237**⇑	*i*P	Pn	22 40 19.2	+0.5
OVCH				*i* S	Sn	22 40 25.7	+0.7
OVCH				AML	AML	22 40 26.1	
	comp=N,2μm,0.3s						
LSCH	**La Serena**	**0.63**	**344**⇑	*i*P	Pn	22 40 23.6	+0.3
LSCH				*i* S	Sn	22 40 33.3	+0.5
LSCH				AML	AML	22 40 33.6	
	comp=N,190nm,0.2s						
CMCH	**Combarbala**	**0.65**	**176**⇑	*i*P	Pn	22 40 23.7	+0.1
CMCH				*i* S	Sn	22 40 34.1	+0.9
CMCH				AML	AML	22 40 34.8	
	comp=N,1μm,0.1s						
CHNG	**Los Chungos**	**1.41**	**196**	*e*P	Pn	22 40 34.3	+0.7
CHNG				*i* S	Sn	22 40 51.6	+0.5
PTCH	**Petorca**	**1.74**	**177**⇓	*i*P	Pn	22 40 39.0	+1.0
PTCH				*i* S	Sn	22 40 59.9	+0.8
PTCH				AML	AML	22 41 03.4	
	comp=E,491nm,0.1s						

STR ***17*** *22:43:28.8±0.0, 4302N×002W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 22:43:28.1±0.1, 4305N×002W, h8km, Md2.0/3, Ml1.6/6, Error ellipse: s-maj=1.6km s-min=1.1km az=153.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**93**	Pg	Pg	22 43 30.5	+0.5
LABF				Sg	Sg	22 43 31.8	+0.4
VIEF	**Viey**	**0.17**	**169**	Pg	Pg	22 43 31.7	0.0
VIEF				Sg	Sg	22 43 33.7	-0.3
EPF	**Esparros**	**0.27**	**94**	*e*Pg	Pg	22 43 33.2	-0.2
EPF	9.0nm,0.2s			*e*Sg	Sg	22 43 37.2	+0.3
ETSF	**Etsaut**	**0.42**	**249**	*e*Pg	Pg	22 43 36.6	+0.2
ETSF	6.5nm,0.2s			*e*Sg	Sg	22 43 42.5	+0.6
SJPF	**Ste Jean**	**0.89**	**274**	*e*Pg	Pg	22 43 44.8	-0.3
SJPF	1.2nm,0.4s			*e*Sg	Sg	22 43 55.9	-0.7
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pg	22 43 59.4	-0.6
MTLF	0.8nm,0.2s			*e*Sg	Sg	22 44 20.7	-0.8
LFF	**La Frestale**	**1.97**	**16**	*e*Pg	Pg	22 44 04.4	-1.4
LFF	2.8nm,0.4s			*e*Sg	Sg	22 44 29.6	-1.7
CAF	**Calviac**	**2.40**	**38**	*e*Pg	Pg	22 44 12.6	-1.6
CAF	0.8nm,0.3s			*e*Sg	Sg	22 44 43.6	-1.7
RJF	**Les Rejaudoux**	**2.51**	**26**	*e*Pg	Pg	22 44 14.8	-1.4
RJF	0.7nm,0.2s			*e*Sg	Sg	22 44 46.5	-2.2
LASF	**Ste Croix**	**3.00**	**69**	*e*Pg	Pg	22 44 23.8	-1.8
LASF	0.3nm,0.1s			*e*Sg	Sg	22 45 02.3	-2.1

STR ***17*** *22:49:41.7±0.1, 4302N×003W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 17 22:49:41.5±0.1, 4303N×002W, h3km, Md1.8/3, Ml1.6/2, Error ellipse: s-maj=3.2km s-min=1.5km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**72**	Pg	Pg	22 49 43.4	+0.4
LABF				Sg	Sg	22 49 44.8	+0.8
VIEF	**Viey**	**0.14**	**166**	Pg	Pg	22 49 44.6	+0.3
VIEF				Sg	Sg	22 49 46.6	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	22 49 46.5	-0.1
EPF	4.0nm,0.2s			*e*Sg	Sg	22 49 50.4	+0.3
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	22 49 49.9	+0.5
ETSF	2.7nm,0.2s			*e*Sg	Sg	22 49 55.4	+0.6
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	22 49 57.9	-0.6
SJPF	1.3nm,0.3s			*e*Sg	Sg	22 50 09.1	-0.8
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	22 50 12.9	-0.6
MTLF	1.5nm,0.3s			*e*Sg	Sg	22 50 34.1	-1.0

CSEM ***17*** *22:57:13.1±1.0, 3866N×2907W, h2km±7km, ML2.3, Error ellipse: s-maj=10.6km s-min=6.2km az=73.0, After PDA*
PDA ***17*** *22:57:13.1±1.0, 3866N×2907W, h2km±7km, MD3.3, ML2.3, Error ellipse: s-maj=10.6km s-min=6.2km az=73.0*
SVSA 17 22:57:13.1±1.0, 3866N×2907W, h2km±7km, MD3.3, ML2.3, Error ellipse: s-maj=10.6km s-min=6.2km az=73.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.29**	**97**	*e*P	Pg	22 57 18.2	-0.5
PCED				*e*S	Sg	22 57 22.6	+0.2
PCED	413nm,0.2s						
PCED	**Cedros**	**0.29**	**97**	*e*P	Pg	22 57 18.2	-0.5
PCED				*e*S	Sg	22 57 22.6	+0.2
CALA	**Caldeira**	**0.30**	**106**	*e*S	Sg	22 57 22.6	-0.1
HOR	**Horta**	**0.37**	**111**	*e*P	Pg	22 57 19.7	-0.5
HOR				*e*S	Sg	22 57 24.8	-0.2
PCND	**Candelaria**	**0.51**	**112**	*e*P	Pg	22 57 22.3	-0.6
PCND				*e*S	Sg	22 57 29.1	-0.5
PCND	61nm,0.4s						
PICO	**Pico**	**0.53**	**108**	*e*P	Pg	22 57 23.2	0.0
PICO				*e*S	Sg	22 57 30.0	-0.1
PTEI	**Pico do Teixo**	**0.58**	**106**	*e*S	Sg	22 57 30.7	-1.1
PTEI	57nm,0.3s						
PBOI	**Pico dos Bois**	**0.59**	**112**	*e*S	Sg	22 57 31.0	-1.0
PBOI	43nm,0.2s						
ROSA	**Rosais**	**0.65**	**85**	*e*P	Pg	22 57 24.4	-1.2
ROSA				*e*S	Sg	22 57 32.5	-1.5
PAMA	**Santo Amaro**	**0.70**	**88**	*e*S	Sg	22 57 34.0	-1.5
PAMA	70nm,0.2s						
PMAN	**Manadas**	**0.77**	**92**	*e*S	Sg	22 57 35.4	-2.4
PMAN	62nm,0.3s						
SRBC	**Serra Branca**	**0.89**	**65**	*e*P	Pg	22 57 23.2	-6.9

WEL 17 22:57:36.0±0.5, 3847S×17570E, h172km±4km, ML3.5/10, Error ellipse: s-maj=5.4km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**0.93**	**139**	PN	Pn	22 58 02.8	+0.5
BKZ				SN	Sn	22 58 22.7	+0.2
URZ	**Urewera**	**1.13**	**80**	PN	Pn	22 58 03.6	-0.2
URZ				SN	Sn	22 58 24.4	-0.8
WAZ	**Wanganui**	**1.40**	**203**	PN	Pn	22 58 06.3	0.0
TSZ	**Takapari Road**	**1.60**	**173**	PN	Pn	22 58 08.1	-0.2
TSZ				SN	Sn	22 58 31.6	-1.5
KNZ	**Kokohu**	**1.64**	**110**	SN	Sn	22 58 34.2	+0.4
WPHZ	**Waipukurau**	**1.69**	**160**	PN	Pn	22 58 09.2	0.0
WPHZ				SN	Sn	22 58 33.8	-1.0
MRZ	**Mangatainoka R**	**2.19**	**182**	PN	Pn	22 58 13.5	-1.1
MRZ				SN	Sn	22 58 41.6	-2.9
BFZ	**Birch Farm**	**2.25**	**169**	PN	Pn	22 58 14.1	-1.1
KIW	**Kapiti Island**	**2.47**	**194**	PN	Pn	22 58 15.9	-1.9
MRW	**Makara Radio**	**2.86**	**195**	PN	Pn	22 58 20.4	-2.1
SNZO	**South Karori**	**2.94**	**195**	PN	Pn	22 58 21.0	-2.4
SNZO				SN	Sn	22 58 56.5	-3.8
TCW	**Tory Channel**	**2.95**	**201**	PN	Pn	22 58 21.2	-2.5
NNZ	**Nelson**	**3.28**	**212**	*e*PN	Pn	22 58 23.7	-4.0
KHZ	**Kahutara**	**4.28**	**202**	PN	Pn	22 58 37.1	-3.3
MQZ	**McQueen's Vall**	**5.72**	**203**	SN	Sn	22 59 54.9	-10

STR ***17*** *23:00:12.9±0.3, 4301N×000E, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***17*** *23:00:12.2±0.0, 4303N×002W, h8km, Md2.0/3, Ml1.8/6, Error ellipse: s-maj=0.9km s-min=0.7km az=158.0*
MDD ***17*** *23:00:12.8±0.4, 4302N×001W, h7km±5km, mbLg1.3/13, Error ell

VIEF	**Viey**	**0.18**	**173**	Pg		**Pg**	**23 00 15.6**	**-0.1**
VIEF				Sg		**Sg**	**23 00 17.6**	**-1.0**
VIEF	**Viey**	**0.18**	**173**	Pg		**Pg**	**23 00 15.6**	**-0.1**
VIEF				Lg			23 00 17.8	
EPF	**Esparros**	**0.26**	**97**	*e*Pg		**Pg**	**23 00 17.7**	**+0.7**
EPF				*e*Sg		**Sg**	**23 00 21.4**	**+0.7**
	19nm,0.2s							
EPF	**Esparros**	**0.26**	**97**	Pg		**Pg**	**23 00 17.7**	**+0.7**
EPF				Lg			23 00 21.4	
	9.7nm,0.2s							
RESF	**Ens**	**0.36**	**135**	Pg		**Pg**	**23 00 18.9**	**+0.1**
RESF				Sg		**Sg**	**23 00 23.7**	**0.0**
RESF	**Ens**	**0.36**	**135**	Pg		**Pg**	**23 00 18.9**	**+0.1**
RESF				Lg			23 00 23.7	
EBIE	**Bielsa**	**0.39**	**164**	Pg		**Pg**	**23 00 19.3**	**-0.1**
	8.2nm,0.3s,SNR=26							
EBIE				Lg			23 00 24.0	
	9.8nm,0.1s,SNR=6.6							
ETSF	**Etsaut**	**0.44**	**248**	*e*Pg		**Pg**	**23 00 20.7**	**+0.4**
ETSF				*e*Sg		**Sg**	**23 00 26.3**	**+0.2**
	5.7nm,0.2s							
ETSF	**Etsaut**	**0.44**	**248**	Pg		**Pg**	**23 00 20.7**	**+0.4**
ETSF				Lg			23 00 26.3	
	2.8nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**274**	*e*Pg		**Pg**	**23 00 28.9**	**0.0**
SJPF				*e*Sg		**Sg**	**23 00 40.3**	**-0.3**
	1.5nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**274**	Pg		**Pg**	**23 00 28.9**	**0.0**
SJPF				Lg			23 00 40.3	
	0.8nm,0.2s							
SALF	**Salau**	**0.93**	**109**	Pg		**Pg**	**23 00 29.6**	**0.0**
IUSE	**Utxeti**	**1.14**	**265**	Lg			23 00 52.3	
	2.3nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.38**	**194**	Pg		**Pg**	**23 00 38.8**	**+0.6**
	2.9nm,0.2s,SNR=7.9							
ESAC				Lg			23 00 57.3	
	19nm,0.2s,SNR=12							
EMIR	**Miracle**	**1.61**	**135**	Pg		**Pg**	**23 00 42.8**	**+0.3**
	0.7nm,0.2s,SNR=4.0							
EMIR				Lg			23 01 04.4	
	2.9nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**1.65**	**79**	*e*Pg		**Pg**	**23 00 43.8**	**+0.5**
MTLF				*e*Sg		**Sg**	**23 01 05.1**	**+0.4**
	1.4nm,0.3s							
MTLF	**Montolieu**	**1.65**	**79**	Pg		**Pg**	**23 00 43.8**	**+0.5**
MTLF				Lg			23 01 05.1	
	0.7nm,0.3s							
EPOB	**Poblet**	**1.89**	**154**	Pg		**Pg**	**23 00 47.3**	**-0.6**
	0.1nm,0.1s,SNR=7.9							
EPOB				Lg			23 01 10.6	
	2.3nm,0.2s,SNR=5.7							
LFF	**La Frestale**	**1.95**	**16**	*e*Pg		**Pg**	**23 00 49.3**	**+0.2**
LFF				*e*Sg		**Sg**	**23 01 14.6**	**+0.2**
	1.9nm,0.3s							
LFF	**La Frestale**	**1.95**	**16**	Pg		**Pg**	**23 00 49.3**	**+0.2**
LFF				Lg			23 01 14.6	
	0.9nm,0.3s							
ERTA	**Horta de San J**	**2.12**	**173**	Pg		**Pg**	**23 00 52.1**	**-0.2**
	1.2nm,0.4s,SNR=7.9							
ERTA				Lg			23 01 18.2	
	1.4nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.39**	**38**	*e*Pg		**Pg**	**23 00 57.1**	**-0.3**
CAF				*e*Sg		**Sg**	**23 01 28.2**	**-0.2**
	0.8nm,0.2s							
CAF	**Calviac**	**2.39**	**38**	Pg		**Pg**	**23 00 57.1**	**-0.3**
CAF				Lg			23 01 28.2	
	0.4nm,0.2s							
RJF	**Les Rejaudoux**	**2.50**	**26**	*e*Pg		**Pg**	**23 00 59.4**	**0.0**
RJF				*e*Sg		**Sg**	**23 01 31.6**	**-0.2**
	0.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.50**	**26**	Pg		**Pg**	**23 00 59.4**	**0.0**
RJF				Lg			23 01 31.6	
	0.3nm,0.2s							
LASF	**Ste Croix**	**2.99**	**69**	*e*Pg		**Pg**	**23 01 07.8**	**-1.0**
LASF				*e*Sg		**Sg**	**23 01 47.0**	**-0.5**
	1.3nm,0.2s							
LASF	**Ste Croix**	**2.99**	**69**	Pg		**Pg**	**23 01 07.8**	**-1.0**
LASF				Lg			23 01 47.0	
	0.6nm,0.2s							

IDC 17 23:11:56.2±1.3, 4680N×15523E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=51.8km s-min=36.7km az=107.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**64.61**	**336**	P	P	23 22 34.9	-0.5
	3.6nm,1.0s,baz=41,slow=8.3,SNR=5.4						
ASAR	**Alice Springs**	**72.73**	**200**	P	P	23 23 26.1	-0.1
	0.4nm,0.6s,baz=15,slow=5.4,SNR=5.7						
TXAR	**Lajitas Array**	**76.19**	**62**	P	P	23 23 46.5	+0.2
	0.2nm,0.6s,baz=311,slow=4.7,SNR=3.0						

IDC 17 23:14:41.4±3.6, 625S×15065E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=131.1km s-min=46.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.89**	**228**	P	P	23 19 25.7	+0.5
	1.4nm,0.7s,baz=53,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**23.65**	**221**	P	P	23 19 54.1	-0.4
	0.8nm,0.7s,baz=56,slow=7.8,SNR=9.4						
FITZ	**Fitzroy Crossi**	**27.09**	**242**	P	P	23 20 26.4	+0.6
	1.6nm,0.4s,baz=44,slow=6.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**148.66**	**285**	PKPbc	PKPbc	23 34 31.2	+0.7
	0.2nm,0.4s,baz=91,slow=2.7,SNR=8.7						

*STR **17** 23:18:29.6±0.0, 4301N×002W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 23:18:29.4±0.1, 4302N×002W, h4km, Md2.0/3, Ml1.7/5, Error ellipse: s-maj=2.0km s-min=1.2km az=161.0*
*MDD **17** 23:18:29.9±0.4, 4300N×001W, h5km±6km, mbLg1.0/8, Error ellipse: s-maj=2.4km s-min=1.9km az=89.0, PRXIMO*

ISC 17 23:18:28.7±0.6, 4302N±004×000W±004, h14km±6km, n22, σ0§58/29, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**68**	Pg	**Pg**	**23 18 31.4**	**+0.1**
LABF				Sg	**Sg**	**23 18 32.7**	**-0.5**
LABF	**Labassere**	**0.06**	**68**	Pg	**Pg**	**23 18 31.4**	**+0.1**
LABF				Lg		23 18 32.7	
VIEF	**Viey**	**0.14**	**172**	Pg	**Pg**	**23 18 32.5**	**+0.2**
VIEF				Sg	**Sg**	**23 18 34.5**	**-0.3**
VIEF	**Viey**	**0.14**	**172**	Pg	**Pg**	**23 18 32.6**	**+0.3**
VIEF				Lg		23 18 34.6	
EPF	**Esparros**	**0.25**	**88**	*e*Pg	**Pg**	**23 18 34.4**	**+0.3**
EPF				*e*Sg	**Sg**	**23 18 38.3**	**+0.6**
	5.7nm,0.2s						
EPF	**Esparros**	**0.25**	**88**	Pg	**Pg**	**23 18 34.4**	**+0.3**
EPF				Lg		23 18 38.3	
	2.8nm,0.2s						
EBIE	**Bielsa**	**0.35**	**162**	⇑Pg	**Pg**	**23 18 36.3**	**+0.4**
	SNR=18						
EBIE				Lg		23 18 40.7	
	2.8nm,0.0s,SNR=17						
ETSF	**Etsaut**	**0.43**	**253**	*e*Pg	**Pg**	**23 18 37.7**	**+0.5**
ETSF				*e*Sg	**Sg**	**23 18 43.5**	**+0.6**
	4.5nm,0.2s						
ETSF	**Etsaut**	**0.43**	**253**	Pg	**Pg**	**23 18 37.7**	**+0.5**
ETSF				Lg		23 18 43.5	
	2.2nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Pg	**Pg**	**23 18 45.9**	**-0.2**
SJPF				*e*Sg	**Sg**	**23 18 56.9**	**-1.0**
	0.6nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	Pg	**Pg**	**23 18 45.9**	**-0.2**
SJPF				Lg		23 18 56.9	
	0.3nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	**Pg**	**23 18 54.2**	**-0.4**
	SNR=7.9						
ESAC				Lg		23 19 15.4	
	1.1nm,0.1s,SNR=6.2						
EMIR	**Miracle**	**1.58**	**134**	Lg		23 19 20.2	
	0.1nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	**Pg**	**23 19 00.8**	**+0.3**
MTLF				*e*Sg	**Sg**	**23 19 22.0**	**0.0**
	3.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	**Pg**	**23 19 00.8**	**+0.3**
MTLF				Lg		23 19 22.0	
	1.8nm,0.3s						
EPOB	**Poblet**	**1.85**	**154**	Lg		23 19 27.8	
	0.4nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**1.99**	**15**	*e*Pg	**Pg**	**23 19 06.9**	**0.0**
LFF				*e*Sg	**Sg**	**23 19 34.0**	**+1.3**
	2.1nm,0.3s						
LFF	**La Frestale**	**1.99**	**15**	Pg	**Pg**	**23 19 06.9**	**0.0**
LFF				Lg		23 19 34.0	
	1.1nm,0.3s						
CAF	**Calviac**	**2.42**	**37**	*e*Pg	**Pg**	**23 19 14.3**	**-0.7**
CAF				*e*Sg	**Sg**	**23 19 46.0**	**-0.4**
	0.8nm,0.2s						
CAF	**Calviac**	**2.42**	**37**	Pg	**Pg**	**23 19 14.3**	**-0.7**
CAF				Lg		23 19 46.0	
	0.4nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	**Pg**	**23 19 26.4**	**+0.3**
LASF				*e*Sg	**Sg**	**23 20 03.8**	**-1.2**
	0.3nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	Pg	**Pg**	**23 19 26.4**	**+0.3**
LASF				Lg		23 20 03.8	
	0.2nm,0.2s						

*STR **17** 23:22:25.5±0.2, 4301N×003W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 23:22:25.7±0.1, 4300N×003W, h4km, Md2.0/3, Ml2.0/7, Error ellipse: s-maj=1.7km s-min=1.2km az=175.0*
*MDD **17** 23:22:26.1±0.2, 4300N×002W, h0km, mbLg1.4/11, Error ellipse: s-maj=1.7km s-min=1.4km az=33.0, PRXIMO*

ISC 17 23:22:25.2±0.5, 4305N±002×001W±003, h11km±6km, n38, σ0§74/51, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**89**	Pg	**Pg**	**23 22 27.6**	**+0.2**
LABF				Sg	**Sg**	**23 22 28.9**	**-0.1**
LABF	**Labassere**	**0.06**	**89**	Pg	**Pg**	**23 22 27.6**	**+0.2**
LABF				Lg		23 22 29.0	
VIEF	**Viey**	**0.16**	**171**	Pg	**Pg**	**23 22 28.6**	**-0.2**
VIEF				Sg	**Sg**	**23 22 30.6**	**-0.7**
VIEF	**Viey**	**0.16**	**171**	Pg	**Pg**	**23 22 28.6**	**-0.2**
VIEF				Lg		23 22 30.7	
EPF	**Esparros**	**0.26**	**93**	*e*Pg	**Pg**	**23 22 30.7**	**+0.2**
EPF				*e*Sg	**Sg**	**23 22 34.4**	**+0.4**
	14nm,0.2s						
EPF	**Esparros**	**0.26**	**93**	Pg	**Pg**	**23 22 30.7**	**+0.2**
EPF				Lg		23 22 34.4	
	7.2nm,0.2s						
REYF	**Montagne du Re**	**0.28**	**275**	Pg	**Pg**	**23 22 30.9**	**0.0**
REYF				Sg	**Sg**	**23 22 35.2**	**+0.5**
REYF	**Montagne du Re**	**0.28**	**275**	Pg	**Pg**	**23 22 30.9**	**+0.1**
REYF				Lg		23 22 35.2	
RESF	**Ens**	**0.35**	**133**	Pg	**Pg**	**23 22 32.1**	**0.0**
RESF				Sg	**Sg**	**23 22 36.9**	**+0.1**
RESF	**Ens**	**0.35**	**133**	Pg	**Pg**	**23 22 32.1**	**0.0**
RESF				Lg		23 22 36.9	
EBIE	**Bielsa**	**0.38**	**163**	⇑Pg	**Pg**	**23 22 32.4**	**-0.3**
	12nm,0.3s,SNR=18						
EBIE				Lg		23 22 37.0	
	14nm,0.1s,SNR=44						
ETSF	**Etsaut**	**0.43**	**250**	*e*Pg	**Pg**	**23 22 33.5**	**-0.1**
ETSF				*e*Sg	**Sg**	**23 22 38.8**	**-0.5**
	28nm,0.3s						
ETSF	**Etsaut**	**0.43**	**250**	Pg	**Pg**	**23 22 33.5**	**-0.1**
ETSF				Lg		23 22 38.8	
	14nm,0.3s						
ATE	**Arette**	**0.51**	**275**	Pg	**Pg**	**23 22 35.3**	**+0.2**
ATE	**Arette**	**0.51**	**275**	Pg	**Pg**	**23 22 35.6**	**+0.5**
ATE				Lg		23 22 42.4	
MELF	**Melles**	**0.59**	**107**	Pg	**Pg**	**23 22 38.1**	**+1.4**
MELF				Sg	**Sg**	**23 22 44.7**	**+0.3**
MELF	**Melles**	**0.59**	**107**	Pg	**Pg**	**23 22 37.2**	**+0.5**
MELF				Lg		23 22 44.7	
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	**Pg**	**23 22 42.1**	**-0.3**
SJPF				*e*Sg	**Sg**	**23 22 53.4**	**-0.6**
	2.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**275**	Pg	**Pg**	**23 22 42.1**	**-0.3**
SJPF				Lg		23 22 53.4	
	1.2nm,0.2s						
SALF	**Salau**	**0.93**	**108**	Pg	**Pg**	**23 22 43.8**	**+0.8**
SALF	**Salau**	**0.93**	**108**	Pg	**Pg**	**23 22 42.5**	**-0.5**
SALF				Lg		23 22 54.5	
IUSE	**Utxeti**	**1.13**	**265**	Pg	**Pg**	**23 22 49.0**	**+2.1**
	1.2nm,0.1s,SNR=7.9						
IUSE				Lg		23 23 05.6	
	0.7nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**195**	Pg	**Pg**	**23 22 51.7**	**+0.3**
	9.2nm,0.3s,SNR=5.8						
ESAC				Lg		23 23 10.3	
	11nm,0.1s,SNR=12						
EMIR	**Miracle**	**1.60**	**134**	Pg	**Pg**	**23 22 56.8**	**+0.8**
	SNR=7.9						
EMIR				Lg		23 23 17.8	
	1.0nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	**Pg**	**23 22 57.2**	**+0.2**
MTLF				*e*Sg	**Sg**	**23 23 18.0**	**-0.4**
	1.5nm,0.2s						
MTLF	**Montolieu**	**1.66**	**79**	Pg	**Pg**	**23 22 57.2**	**+0.2**
MTLF				Lg		23 23 18.0	
	0.8nm,0.2s						
EPOB	**Poblet**	**1.88**	**154**	Pg	**Pg**	**23 23 00.2**	**-1.0**
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		23 23 24.3	
	1.8nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.97**	**16**	*e*Pg	**Pg**	**23 23 03.1**	**+0.2**
LFF				*e*Sg	**Sg**	**23 23 30.1**	**+1.6**
	3.1nm,0.3s						
LFF	**La Frestale**	**1.97**	**16**	Pg	**Pg**	**23 23 03.1**	**+0.2**
LFF				Lg		23 23 30.1	
	1.6nm,0.3s						
ERTA	**Horta de San J**	**2.10**	**173**	Lg		23 23 30.6	
	1.1nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.40**	**38**	*e*Pg	**Pg**	**23 23 11.6**	**+0.4**
CAF				*e*Sg	**Sg**	**23 23 42.2**	**-0.2**
	1.5nm,0.2s						
CAF	**Calviac**	**2.40**	**38**	Pg	**Pg**	**23 23 11.6**	**+0.4**
CAF				Lg		23 23 42.2	
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.51**	**25**	*e*Pg	**Pg**	**23 23 13.5**	**+0.2**
RJF				*e*Sg	**Sg**	**23 23 46.5**	**+0.6**
	3.9nm,0.4s						
RJF	**Les Rejaudoux**	**2.51**	**25**	Pg	**Pg**	**23 23 13.5**	**+0.2**
RJF				Lg		23 23 46.5	
	1.9nm,0.4s						
LASF	**Ste Croix**	**2.99**	**69**	*e*Pg	**Pg**	**23 23 22.2**	**-0.4**
LASF				*e*Sg	**Sg**	**23 24 00.0**	**-1.4**
	0.6nm,0.2s						
LASF	**Ste Croix**	**2.99**	**69**	Pg	**Pg**	**23 23 22.2**	**-0.4**
LASF				Lg		23 24 00.0	
	0.3nm,0.2s						
MFF	**Saint Martin d**	**3.56**	**358**	*e*Pg	**Pg**	**23 23 31.6**	**-1.7**
MFF				*e*Sg	**Sg**	**23 24 18.0**	**-1.4**
	0.9nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**358**	Pg	**Pg**	**23 23 31.6**	**-1.7**
MFF				Lg		23 24 18.0	
	0.4nm,0.3s						

*NEIC **17** 23:23:54.5±0.8, 2191N×143.10E, h35km, Error ellipse: s-maj=34.1km s-min=15.0km az=77.0*

IDC 17 23:24:09.6±10.0, 2183N×14290E, h176km±95km, mb3.3/8, mb1 3.5/8, mb1mx3.4/21, mbtmp3.3/8, Error ellipse: s-maj=48.1km s-min=14.9km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.25**	**324**	P	P	23 28 32.2	+1.0
	2.7nm,0.6s,baz=139,slow=9.2,SNR=8.9						
SONM	**Songino Array**	**39.07**	**321**	P	P	23 31 18.6	-0.7
	0.9nm,0.5s,baz=129,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**42.35**	**192**	P	P	23 31 47.4	+1.2
	1.3nm,0.8s,baz=12,slow=8.3,SNR=5.5						
ASAR	**Alice Springs**	**46.06**	**191**	P	P	23 32 14.6	-1.1
	0.5nm,0.6s,baz=14,slow=9.2,SNR=8.6						
STKA	**Stephens Creek**	**53.41**	**181**	P	P	23 33 11.8	+0.7
	2.4nm,1.0s,baz=317,slow=4.0,SNR=2.8						
STKA	**Stephens Creek**	**53.41**	**181**	P	P	23 33 11.8	+0.7
ZAL	**Zalesovo**	**53.95**	**322**	P	P	23 33 14.8	-0.2
	0.8nm,0.5s,baz=36,slow=7.6,SNR=5.0						
ZAL	**Zalesovo**	**53.95**	**322**	P	P	23 33 14.8	-0.2
MKAR	**Makanchi Array**	**54.41**	**313**	P	P	23 33 18.9	+0.6
	0.6nm,0.6s,baz=91,slow=7.7,SNR=6.8						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	P	23 36 17.0	+0.6
	0.5nm,0.7s,baz=269,slow=8.3,SNR=4.3						

IDC 17 23:26:44.1±1.2, 4805N×15477E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=48.4km s-min=36.7km az=107.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**63.34**	**335**	P	P	23 37 14.3	-0.6
	0.4nm,0.4s,baz=35,slow=7.0,SNR=6.8						
ASAR	**Alice Springs**	**73.81**	**200**	P	P	23 38 20.2	-0.1
	0.5nm,0.6s,baz=10,slow=5.5,SNR=5.2						
TXAR	**Lajitas Array**	**75.88**	**62**	P	P	23 38 32.5	+0.2
	0.7nm,0.6s,baz=300,slow=4.0,SNR=12						

GUC 17 23:32:54.4±0.3, 2637S×7084W, h15km±3km, MD3.7, ML3.6, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.70**	**180**	⇑*i*P	Pg	23 33 06.7	-1.4
CDCH				*i* S	Sg	23 33 15.4	-2.0
CDCH				AML	AML	23 33 16.1	
	comp=N,1μm,0.1s						
CPCH	**Copiapo**	**1.08**	**157**	*e*P	Pb	23 33 11.9	-2.8
CPCH				*i* S	Sb	23 33 25.2	-3.4
CPCH				AML	AML	23 33 25.6	
	comp=E,25μm,0.1s						
CPN1	**Cerro Paranal**	**1.78**	**13**	*e*P	Pn	23 33 23.6	-0.9
CPN1				*e*S	Sn	23 33 46.0	-0.9
CPN1				AML	AML	23 33 55.1	
	comp=E,433nm,0.2s						
VACH	**Vallenar**	**2.20**	**178**	*i* S	Sn	23 33 56.5	-0.8

*IDC **17** 23:33:28.3±0.8, 4708N×15353E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/24, mbtmp3.9/14, ML3.8/1, MS3.5/3, Ms1 3.6/3, ms1mx2.7/46, Error ellipse: s-maj=23.3km s-min=19.3km az=118.0*
*NEIC **17** 23:33:29.4±0.6, 4704N×15358E, h10km, mb4.3/2, Error ellipse: s-maj=18.1km s-min=12.5km az=136.0*
*MOS **17** 23:33:30.4±2.3, 4690N×15394E, h33km, mb4.6/4, Error ellipse: s-maj=14.8km s-min=10.4km az=69.2*
*ISCJB **17** 23:33:34.5±1.3, 472N±0.1×1536E±0.1, h60km±11km, mb4.0/17, MS3.8/2, Error ellipse: s-maj=22.7km s-min=8.4km az=102.4*

ISC 17 23:33:36.7±1.2, 472N±01×1536E±01, h65km±9km, n33, σ1§11/31, mb4.0/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**25**	*e*PN	**Pn**	**23 34 32.4**	**-1.4**
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=E,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,90nm,0.6s						
KUR	**Kuril'sk**	**4.42**	**246**	*e*PN	**Pn**	**23 34 40.0**	**-1.1**
KUR				*e*S	**Sn**	**23 35 31.0**	**-0.3**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
PET	**Petropavlovsk**	**6.70**	**27**	*e*PN	**Pn**	**23 35 14.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.39**	**272**	*e*PN	**Pn**	**23 35 27.5**	**+5.6**
ASAJ	**Asahikawa**	**8.28**	**252**	Pn	**Pn**	**23 35 34.9**	**+0.9**
	comp=E,1.5nm,0.3s,baz=96,slow=10,SNR=3.4						
ASAJ				LR	LR	23 38 37.2	
	comp=E,132nm,19.9s,baz=354,slow=38						
ASAJ	**Asahikawa**	**8.28**	**252**	PN	**Pn**	**23 35 34.9**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,132nm,19.9s						
MJAR	**Matsushiro Arr**	**15.60**	**233**	Pn	**Pn**	**23 37 07.2**	**-5.2**
	comp=Z,0.4nm,0.3s,baz=20,slow=15,SNR=3.0						
MJAR	**Matsushiro Arr**	**15.60**	**233**	Pn	**Pn**	**23 37 07.2**	**-5.2**
KSRS	**Korea Array**	**21.23**	**252**	P	**P**	**23 38 19.1**	**+1.9**
	comp=Z,2.8nm,0.7s,mb3.7,baz=52,slow=11,SNR=7.6						
SONM	**Songino Array**	**31.49**	**289**	P	**P**	**23 39 53.5**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=56,slow=9.3,SNR=2.9						
COLA	**College**	**35.60**	**39**	*e*P	**P**	**23 40 26.4**	**-1.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
COLA	**College**	**35.60**	**39**	*e*P	**P**	**23 40 26.4**	**-1.6**
	comp=Z,1.9nm,0.4s,mb4.4						
INK	**Inuvik**	**41.12**	**33**	P	**P**	**23 41 15.4**	**+1.1**
	comp=Z,3.0nm,0.4s,mb4.3,baz=162,slow=22,SNR=26						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**23 42 00.9**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.3,baz=60,slow=6.6,SNR=4.8						
KKH	**Kailua Kona**	**49.14**	**106**	*e*P	**P**	**23 42 11.7**	**-6.1**
YKA	**Yellowknife Ar**	**50.39**	**37**	P	**P**	**23 42 28.0**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.3,baz=295,slow=7.0,SNR=5.9						
YKA	**Yellowknife Ar**	**50.39**	**37**	P	**P**	**23 42 28.0**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**50.40**	**310**	*e*P	**P**	**23 42 26.2**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.40**	**310**	*e*P	**P**	**23 42 26.2**	**-1.2**
	comp=Z,2.3nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**23 42 30.8**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.6,baz=92,slow=0.8,SNR=4.0						
ARCES	**ARCESS Array B**	**57.55**	**341**	P	**P**	**23 43 18.5**	**-1.0**
	comp=Z,6.4nm,1.0s,mb4.6,baz=20,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**23 44 01.6**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=30,slow=9.1,SNR=8.6						
CTA	**Charters Tower**	**67.28**	**187**	LR	LR	00 11 38.5	
	comp=Z,56nm,19.7s,baz=51,slow=34						
NB2	**NORSAR Subarra**	**67.92**	**341**	P	**P**	**23 44 28.7**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.92

DMN	**Daman**	**55.84**	**275**	*e*P		**P**	**23 44 06.0**	**+0.4**
	11nm,0.6s,mb5.1							
GKN	**Gorkha**	**55.91**	**276**	*e*P		**P**	**23 44 06.6**	**+0.5**
	10nm,0.6s,mb5.0							
KOLN	**Koldanda**	**56.77**	**276**	*e*P		**P**	**23 44 12.9**	**+0.7**
	8.6nm,0.7s,mb4.9							
FINES	**FINESS Array B**	**63.99**	**335**	P		**P**	**23 45 01.2**	**-0.5**
	2.0nm,0.7s,mb4.3,baz=46,slow=8.2,SNR=4.0							
FINES	**FINESS Array B**	**63.99**	**335**	P		**P**	**23 45 01.2**	**-0.5**
NB2	**NORSAR Subarra**	**68.17**	**341**	P		**P**	**23 45 28.8**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.3,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.17**	**341**	P		**P**	**23 45 28.3**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=28,slow=6.4,SNR=7.3							
AKASG	**Malin Array Be**	**71.53**	**326**	P		**P**	**23 45 48.6**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.5,baz=34,slow=6.3,SNR=12							
ASAR	**Alice Springs**	**72.36**	**199**	P		**P**	**23 45 51.2**	**-2.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=11,slow=4.9,SNR=4.3							
CLL	**Collm**	**76.42**	**336**	*e*P		**P**	**23 46 18.0**	**+0.2**
CLL				*e*pP		pP	23 46 24.0	+3.0
TXAR	**Lajitas Array**	**77.32**	**61**	P		**P**	**23 46 23.6**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.7,baz=302,slow=3.9,SNR=5.1							
BRTR	**Keskin Array B**	**78.40**	**317**	P		**P**	**23 46 29.1**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.8,baz=73,slow=4.5,SNR=4.8							
GERES	**GERESS Array B**	**78.41**	**334**	P		**P**	**23 46 29.2**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=39,slow=5.1,SNR=6.5							

STR ***17*** *23:36:52.3±0.1, 4302N×004W, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 23:36:52.2±0.0, 4302N×003W, h5km, Md1.8/3, Ml1.6/3, Error ellipse: s-maj=1.1km s-min=0.6km az=165.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**72**	Pg	Pg	23 36 54.3	+0.3
LABF				Sg	Sg	23 36 55.7	+0.5
VIEF	**Viey**	**0.14**	**164**	Pg	Pg	23 36 55.2	+0.1
VIEF				Sg	Sg	23 36 57.4	+0.3
EPF	**Esparros**	**0.27**	**88**	*e*Pg	Pg	23 36 57.4	-0.1
EPF				*e*Sg	Sg	23 37 01.3	+0.2
	4.4nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	23 37 00.2	+0.1
ETSF				*e*Sg	Sg	23 37 05.6	+0.2
	4.4nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**276**	*e*Pg	Pg	23 37 08.8	-0.3
SJPF				*e*Sg	Sg	23 37 19.9	-0.6
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.68**	**78**	*e*Pg	Pg	23 37 23.5	-0.8
MTLF				*e*Sg	Sg	23 37 44.9	-1.1
	2.1nm,0.3s						
CAF	**Calviac**	**2.43**	**38**	*e*Pg	Pg	23 37 37.2	-1.6
CAF				*e*Sg	Sg	23 38 08.7	-1.6
	0.7nm,0.2s						

ISCJB ***17*** *23:38:10.5±1.3, 480N×01.×1553E±0.3, h10km, mb3.9/8, Error ellipse: s-maj=30.3km s-min=12.8km az=50.4*
IDC ***17*** *23:38:10.8±0.3, 4804N×15534E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, Error ellipse: s-maj=102.2km s-min=33.4km az=8.0*
NEIC ***17*** *23:38:12.4±2.3, 4801N×15531E, h10km, Error ellipse: s-maj=72.3km s-min=23.8km az=186.0*
MOS ***17*** *23:38:14.8±0.9, 4810N×155.17E, h36km, mb4.0/1, Error ellipse: s-maj=49.4km s-min=19.8km az=97.5*

ISC 17 23:38:12.0±1.3, 480N±01×1553E±03, h10km, n11, σ0°56/12, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.78**	**11**	*e*PN	**Pn**	**23 38 56.0**	**-0.5**
SKR				*e*S	**Sn**	**23 39 30.5**	**+0.4**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=N,90nm,0.7s						
SKR				smax			
	comp=E,130nm,0.7s						
SKR				smax			
	comp=Z,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.54**	**268**	*e*PN	**Pn**	**23 40 09.2**	**-6.5**
MKAR	**Makanchi Array**	**47.68**	**297**	P	**P**	**23 46 48.6**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.2,baz=65,slow=11,SNR=13						
BVAR	**Borovoye Array**	**51.22**	**309**	P	**P**	**23 47 15.7**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=60,slow=8.8,SNR=5.2						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**23 48 41.9**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.2,baz=35,slow=7.0,SNR=5.4						
NB2	**NORSAR Subarra**	**67.54**	**342**	P	**P**	**23 49 08.9**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**67.54**	**342**	P	**P**	**23 49 08.9**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.2,baz=25,slow=6.4,SNR=3.7						
HFS	**Hagfors**	**67.82**	**340**	P	**P**	**23 49 09.8**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=59,slow=7.1,SNR=9.8						
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**23 49 57.4**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=306,slow=4.4,SNR=6.3						
GERES	**GERESS Array B**	**77.99**	**335**	P	**P**	**23 50 10.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=35,slow=4.9,SNR=5.0						
BRTR	**Keskin Array B**	**78.49**	**318**	P	**P**	**23 50 14.4**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=52,slow=4.8,SNR=4.7						

ISCJB ***17*** *23:42:39.1±0.3, 1264S±006×1470W±007, h10km, mb4.8/74, MS4.3/27, Error ellipse: s-maj=11.5km s-min=7.0km az=72.5*
IDC ***17*** *23:42:39.2±0.5, 1273S×1468W, h0km, mb4.4/25, mb1 4.5/25, mb1mx4.5/30, mbtmp4.4/25, MS4.3/22, Ms1 4.3/22, ms1mx4.1/30, Error ellipse: s-maj=17.7km s-min=12.9km az=120.0*
NEIC ***17*** *23:42:40.8±0.2, 1272S×1470W, h10km, mb5.1/43, Error ellipse: s-maj=6.9km s-min=4.2km az=125.0*
GCMT ***17*** *23:42:40.8±0.3, 1280S×1457W, h14km±1km, MW5.0/68, Moment Tensor Solution. s18,c23; s68,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.79±.29; Mθθ0.74±.16; Mϕϕ3.05±.20; Mrθ-0.58±.42; Mϕθ-0.88±.09; Mϕr-0.33±.34; Best double couple: M◎3.62000×10^16 NP1:ϕs350.00000°,δ47.00000°,λ-78.00000°. NP2: ϕs153.00000°,δ45.00000°,λ-102.00000°. Principal axes: T 3.3500, Plg1.0000°, Azm72.0000°; N 0.5400, Plg9.0000°, Azm162.0000°; P -3.8900, Plg81.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***17*** *23:42:49.1, 1108S×1550W, h19km, mb4.8, Ascension Island region*

ISC 17 23:42:41.1±0.3, 1271S±006×1465W±007, h10km, n155, σ0°75/143, mb4.8/74, MS4.3/27, 15C-6D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**21.11**	**27**	*e*P	**P**	**23 47 24.7**	**-1.0**
	229nm,1.5s,mb5.0						
LIC				*e*R			
	1μm,19.0s						
LIC	**Lamto**	**21.11**	**27**	*e*P	**P**	**23 47 24.7**	**-1.0**
	114nm,1.5s,mb5.0						
LIC				LR	LR		
	comp=Z,610nm,19.0s,MS4.0						
TOA0	**Torodi Ar. Sit**	**30.38**	**33**	*e*P	**P**	**23 48 52.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.38**	**33**	P	**P**	**23 48 52.2**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.1,baz=218,slow=7.3,SNR=18						
TORD				LR	LR	23 59 22.6	
	comp=Z,953nm,18.8s,MS4.5,baz=220,slow=33						
TORD	**Torodi Ar. Bea**	**30.38**	**33**	P	**P**	**23 48 52.2**	**-0.9**
TORD				LR	LR	23 59 22.6	
TSUM	**Tsumeb**	**31.62**	**106**	LR	LR	23 59 32.9	
	comp=Z,371nm,18.5s,MS4.1,baz=317,slow=32						
SUR	**Sutherland**	**37.91**	**127**	LR	LR	00 02 02.1	
	comp=Z,330nm,19.4s,MS4.2,baz=27,slow=31						
LBTB	**Lobatse**	**39.86**	**114**	LR	LR	00 03 34.2	
	comp=Z,501nm,21.0s,MS4.3,baz=285,slow=32						
BOSA	**Boshof**	**40.34**	**119**	LR	LR	00 04 21.0	
	comp=Z,480nm,18.3s,MS4.4,baz=283,slow=32						
LSZ	**Lusaka**	**41.60**	**99**	P	**P**	**23 50 29.8**	**+0.6**
	comp=Z,7.9nm,1.0s,mb4.3,baz=259,slow=8.4,SNR=12						
LSZ				LR	LR	00 04 51.1	
	comp=Z,566nm,21.9s,MS4.4,baz=278,slow=32						
MATP	**Matopo**	**41.97**	**106**	P	**P**	**23 50 30.7**	**-1.5**
	comp=Z,2.9nm,0.8s,mb3.9,baz=276,slow=12,SNR=6.8						
MATP				LR	LR	00 06 07.6	
	comp=Z,398nm,18.5s,MS4.3,baz=271,slow=34						
SIV	**San Ignacio**	**45.02**	**260**	P	**P**	**23 50 57.8**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=97,slow=10,SNR=9.7						
SAML	**Samuel**	**47.76**	**269**	*e*P	**P**	**23 51 19.0**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.7						
TRQA	**Tornquist**	**48.98**	**230**	*e*P	**P**	**23 51 25.6**	**-2.1**
	comp=Z,24nm,1.3s,mb5.1						
LPAZ	**La Paz**	**51.78**	**259**	P	**P**	**23 51 49.1**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=96,slow=6.7,SNR=12						
LPAZ				LR	LR	00 11 56.6	
	comp=Z,181nm,18.8s,MS4.1,baz=262,slow=34						
CFAA	**Coronel Fontan**	**52.53**	**240**	P	**P**	**23 51 53.4**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=116,slow=3.0,SNR=5.6						
KMBO	**Kilima Mbogo**	**52.69**	**82**	P	**P**	**23 51 57.9**	**+2.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=41,slow=22,SNR=9.0						
KMBO				LR	LR	00 11 45.4	
	comp=Z,384nm,18.1s,MS4.5,baz=96,slow=33						
KMBO	**Kilima Mbogo**	**52.69**	**82**	P	**P**	**23 51 57.9**	**+2.2**
KMBO				LR	LR	00 11 45.4	
ESDC	**Sonseca Array**	**53.06**	**10**	P	**P**	**23 51 59.1**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=161,slow=6.3,SNR=5.4						
ESDC				LR	LR	00 14 52.4	
	comp=Z,94nm,18.0s,MS3.9,baz=310,slow=36						
KEST	**Kesra**	**53.26**	**24**	P	**P**	**23 52 01.8**	**+1.9**
	comp=Z,6.8nm,1.1s,mb4.5,baz=175,slow=7.6,SNR=8.0						
KEST				LR	LR	00 13 58.7	
	comp=Z,192nm,20.2s,MS4.1,baz=193,slow=35						
ARE	**Arequipa**	**54.99**	**259**	*e*P	**P**	**23 52 13.0**	**+0.5**
ETSF	**Etsaut**	**56.83**	**12**	*e*P	**P**	**23 52 25.4**	**-0.2**
	comp=Z,28nm,1.2s,mb4.9						
ETSF	**Etsaut**	**56.83**	**12**	*e*P	**P**	**23 52 25.4**	**-0.2**
	comp=Z,14nm,1.2s,mb4.9						
SJPF	**Ste Jean**	**56.90**	**12**	*e*P	**P**	**23 52 25.8**	**-0.3**
	comp=Z,74nm,1.4s,mb5.2						
SJPF	**Ste Jean**	**56.90**	**12**	*e*P	**P**	**23 52 25.8**	**-0.3**
	comp=Z,37nm,1.4s,mb5.2						
VAE	**Valguarnera**	**56.90**	**27**	LR	LR	00 17 19.3	
	comp=Z,580nm,18.4s,MS4.7,baz=217,slow=37						
EPF	**Esparros**	**57.15**	**13**	*e*P	**P**	**23 52 27.8**	**-0.1**
MTLF	**Montolieu**	**57.88**	**14**	*e*P	**P**	**23 52 32.9**	**-0.2**
	comp=Z,28nm,1.3s,mb4.8						
MTLF	**Montolieu**	**57.88**	**14**	*e*P	**P**	**23 52 32.9**	**-0.2**
	comp=Z,14nm,1.3s,mb4.8						
LASF	**Ste Croix**	**58.98**	**15**	*e*P	**P**	**23 52 41.0**	**+0.2**
	comp=Z,30nm,1.1s,mb4.9						
LMR	**La Mourre**	**59.04**	**18**	*e*P	**P**	**23 52 41.2**	**0.0**
	comp=Z,88nm,1.6s,mb5.2						
LMR	**La Mourre**	**59.04**	**18**	*e*P	**P**	**23 52 41.2**	**0.0**
	comp=Z,44nm,1.5s,mb5.3						
LFF	**La Frestale**	**59.05**	**13**	*e*P	**P**	**23 52 41.0**	**-0.3**
PGF	**Pioggiola**	**59.12**	**20**	*e*P	**P**	**23 52 42.0**	**+0.2**
FRF	**La Foret Royal**	**59.28**	**18**	*e*P	**P**	**23 52 42.5**	**-0.4**
	comp=Z,87nm,1.4s,mb5.3						
FRF	**La Foret Royal**	**59.28**	**18**	*e*P	**P**	**23 52 42.5**	**-0.4**
	comp=Z,43nm,1.4s,mb5.3						
CAF	**Calviac**	**59.33**	**14**	*e*P	**P**	**23 52 42.7**	**-0.5**
SMRF	**Simiane la Rot**	**59.35**	**17**	*e*P	**P**	**23 52 43.3**	**0.0**
	comp=Z,184nm,1.7s,mb5.5						
SMRF	**Simiane la Rot**	**59.35**	**17**	*e*P	**P**	**23 52 43.3**	**0.0**
	comp=Z,184nm,1.7s,mb5.8						
TIP	**Timpagrande**	**59.35**	**28**	*e*P	**P**	**23 52 42.4**	**-0.9**
SNAA	**Sanae**	**59.36**	**176**	P	**P**	**23 52 43.3**	**-0.1**
	comp=Z,7.2nm,0.9s,mb4.7,baz=331,slow=6.1,SNR=37						
RJF	**Les Rejaudoux**	**59.57**	**13**	*e*P	**P**	**23 52 44.6**	**-0.2**
	comp=Z,56nm,1.2s,mb5.2						
RJF				*e*R			
	comp=Z,353nm,18.2s						
RJF	**Les Rejaudoux**	**59.57**	**13**	*e*P	**P**	**23 52 44.6**	**-0.2**
	comp=Z,28nm,1.2s,mb5.2						
RJF				LR	LR		
	comp=Z,350nm,18.3s,MS4.5						
SDV	**Santo Domingo**	**59.61**	**288**	*e*P	**P**	**23 52 45.4**	**+0.3**
	comp=Z,15nm,0.9s,mb5.0						
SBF	**Sospel**	**59.80**	**18**	*e*P	**P**	**23 52 46.4**	**0.0**
ORIF	**Oris-en-Rattie**	**60.30**	**17**	*e*P	**P**	**23 52 50.1**	**+0.2**
	comp=Z,45nm,1.3s,mb5.0						
ORIF				*e*R			
	comp=Z,575nm,18.5s						
ORIF	**Oris-en-Rattie**	**60.30**	**17**	*e*P	**P**	**23 52 50.1**	**+0.2**
	comp=Z,22nm,1.3s,mb5.0						
MBDF	**Montbardon**	**60.38**	**17**	*e*P	**P**	**23 52 50.7**	**+0.3**
	comp=Z,44nm,1.3s,mb5.0						
MBDF	**Montbardon**	**60.38**	**17**	*e*P	**P**	**23 52 50.7**	**+0.3**
	comp=Z,22nm,1.3s,mb5.0						
MFF	**Sant Martin d**	**60.46**	**11**	*e*P	**P**	**23 52 50.8**	**-0.2**
AQU	**L'Aquila**	**60.56**	**24**	*e*P	**P**	**23 52 52.7**	**+1.1**
	comp=Z,16nm,0.9s,mb5.2						
TCF	**Toulx Ste Croi**	**60.66**	**13**	*e*P	**P**	**23 52 52.1**	**-0.2**
	comp=Z,97nm,1.4s,mb5.4						
TCF	**Toulx Ste Croi**	**60.66**	**13**	*e*P	**P**	**23 52 52.1**	**-0.2**
	comp=Z,48nm,1.4s,mb5.4						
IDI	**Anoyia**	**60.67**	**37**	P	**P**	**23 52 52.9**	**+0.5**
	comp=Z,7.0nm,0.9s,mb4.8,baz=210,slow=10,SNR=6.0						
IDI				LR	LR	00 19 52.0	
	comp=Z,86nm,20.1s,MS3.9,baz=219,slow=37						
BGF	**Bois d'Agland**	**61.05**	**14**	*e*P	**P**	**23 52 55.1**	**+0.1**
	comp=Z,28nm,1.0s,mb5.0						
BGF	**Bois d'Agland**	**61.05**	**14**	*e*P	**P**	**23 52 55.1**	**+0.1**
	comp=Z,14nm,1.0s,mb5.0						
LPG	**La Plagne**	**61.08**	**17**	*e*P	**P**	**23 52 55.5**	**+0.3**
	comp=Z,43nm,1.2s,mb5.2						
LPG	**La Plagne**	**61.08**	**17**	*e*P	**P**	**23 52 55.5**	**+0.3**
	comp=Z,22nm,1.2s,mb5.2						
LPL	**La Plagne**	**61.09**	**17**	*e*P	**P**	**23 52 55.5**	**+0.2**
	comp=Z,34nm,1.1s,mb5.1						
LPL	**La Plagne**	**61.09**	**17**	*e*P	**P**	**23 52 55.5**	**+0.2**
	comp=Z,17nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**61.37**	**14**	*e*P	**P**	**23 52 56.8**	**-0.4**
	comp=Z,60nm,1.5s,mb5.2						
SMF	**Signal de Mont**	**61.37**	**14**	*e*P	**P**	**23 52 56.8**	**-0.4**
	comp=Z,30nm,1.5s,mb5.2						
AVF	**Avril sur Loir**	**61.39**	**14**	*e*P	**P**	**23 52 57.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**61.39**	**14**	*e*P	**P**	**23 52 57.1**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.8						
ROSF	**Rostrenen**	**61.61**	**9**	*e*P	**P**	**23 52 58.1**	**-0.7**
SGMF	**Saint Gilles**	**61.64**	**9**	*e*P	**P**	**23 52 58.5**	**-0.5**
HYF	**Humbligny**	**61.68**	**13**	*e*P	**P**	**23 52 59.1**	**-0.1**
SSF	**Saint Saulge**	**61.68**	**14**	*e*P	**P**	**23 52 59.2**	**-0.1**
	comp=Z,39nm,1.2s,mb5.1						
SSF	**Saint Saulge**	**61.68**	**14**	*e*P	**P**	**23 52 59.2**	**-0.1**
	comp=Z,19nm,1.2s,mb5.1						
ROSC	**El Rosal**	**61.80**	**283**	LR	LR	00 19 36.6	
	comp=Z,328nm,19.2s,MS4.5,baz=279,slow=36						
CABF	**La Chapelle**	**61.92**	**16**	*e*P	**P**	**23 53 00.8**	**0.0**
	comp=Z,29nm,0.8s,mb5.2						
CABF	**La Chapelle**	**61.92**	**16**	*e*P	**P**	**23 53 00.8**	**0.0**
	comp=Z,14nm,0.8s,mb5.2						
LOR	**Lormes**	**61.96**	**14**	*e*P	**P**	**23 53 00.6**	**-0.5**
	comp=Z,41nm,1.3s,mb5.1						
LOR				*e*R			
	comp=Z,424nm,21.2s						
LOR	**Lormes**	**61.96**	**14**	*e*P	**P**	**23 53 00.6**	**-0.5**
	comp=Z,20nm,1.3s,mb5.1						
LOR				LR	LR		
	comp=Z,420nm,21.3s,MS4.6						
DAVOX	**Davos**	**63.18**	**19**	P	**P**	**23 53 09.4**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.6,baz=224,slow=4.3,SNR=4.6						
HINF	**Hinteralfeld**	**63.23**	**16**	*e*P	**P**	**23 53 09.0**	**-0.6**
	comp=Z,60nm,1.5s,mb5.2						
HINF	**Hinteralfeld**	**63.23**	**16**	*e*P	**P**	**23 53 09.0**	**-0.6**
	comp=Z,30nm,1.5s,mb5.2						
HAU	**Haudompre**	**63.27**	**16**	*e*P	**P**	**23 53 09.5**	**-0.4**
	comp=Z,64nm,1.4s,mb5.3						
HAU				*e*R			
	comp=Z,363nm,19.0s						
HAU	**Haudompre**	**63.27**	**16**	*e*P	**P**	**23 53 09.5**	**-0.4**
	comp=Z,32nm,1.4s,mb5.3						
HAU				LR	LR		
	comp=Z,360nm,19.0s,MS4.6						
MEZF	**Maizieres J'vi**	**63.40**	**15**	*e*P	**P**	**23 53 10.4**	**-0.3**
	comp=Z,29nm,0.8s,mb5.1						
MEZF	**Maizieres J'vi**	**63.40**	**15**	*e*P	**P**	**23 53 10.4**	**-0.3**
	comp=Z,29nm,0.8s,mb5.5						
DAVA	**Damuels**	**63.63**	**18**	↑*i*P	**P**	**23 53 12.5**	**+0.3**
	comp=Z,36nm,1.4s,mb5.2						
CDF	**Champ du Feu**	**63.89**	**16**	*e*P	**P**	**23 53 13.8**	**-0.2**
	comp=Z,21nm,1.2s,mb4.8						
CDF	**Champ du Feu**	**63.89**	**16**	*e*P	**P**	**23 53 13.8**	**-0.2**
	comp=Z,10nm,1.2s,mb4.7						
SQTA	**Sankt Quirin**	**63.99**	**19**	↑*i*P	**P**	**23 53 14.6**	**0.0**
	comp=Z,7.9nm,0.8s,mb4.8						
MOTA	**Moosalm**	**64.06**	**19**	↓*i*P	**P**	**23 53 15.1**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.6						
BFO	**Black Forest**	**64.11**	**17**	*e*P	**P**	**23 53 14.4**	**-1.0**
	comp=Z,27nm,1.4s,mb5.1						
WTTA	**Wattenberg**	**64.17**	**20**	↑*i*P	**P**	**23 53 16.1**	**+0.3**
	comp=Z,27nm,1.5s,mb5.0						
OTAV	**Otavalo**	**64.53**	**276**	*e*P	**P**	**23 53 18.7**	**+0.5**
	comp=Z,8.5nm,0.9s,mb4.8						
BAIF	**Baives**	**64.66**	**13**	*e*P	**P**	**23 53 18.4**	**-0.6**
	comp=Z,24nm,1.0s,mb4.9						
BAIF	**Baives**	**64.66**	**13**	*e*P	**P**	**23 53 18.4**	**-0.6**
	comp=Z,12nm,1.0s,mb4.9						
GIVF	**Givet**	**64.84**	**14**	*e*P	**P**	**23 53 19.8**	**-0.4**
VTS	**Vitosha**	**65.07**	**30**	↓*i*P	**P**	**23 53 22.4**	**+0.7**
VTS	**Vitosha**	**65.07**	**30**	↓P	**P**	**23 53 22.4**	**+0.7**
ARSA	**Arzberg**	**65.50**	**22**	↑*i*P	**P**	**23 53 25.2**	**+0.7**
	comp=Z,18nm,1.6s,mb4.8						
ARSA	**Arzberg**	**65.50**	**22**	P	**P**	**23 53 25.2**	**+0.7**
MOA	**Molln**	**65.56**	**21**	↑*i*P	**P**	**23 53 24.6**	**-0.3**
	comp=Z,13nm,1.2s,mb4.8						
PKSM	**Moragy**	**65.85**	**25**	↑*i*P	**P**	**23 53 27.6**	**+0.8**
PKSM	**Moragy**	**65.85**	**25**	↑P	**P**	**23 53 27.6**	**+0.9**
MMAI	**Mount Meron Ar**	**65.93**	**45**	LR	LR	00 22 39.0	
	comp=Z,85nm,18.6s,MS4.0,baz=235,slow=36						
GRA1	**Grafenberg Ar**	**66.18**	**18**	*e*P	**P**	**23 53 29.1**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.6						
GRA1				*e*pP	pP	23 53 34.4	+2.3
GRF	**Grafenberg Arr**	**66.18**	**18**	*e*P	**P**	**23 53 29.1**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.6						
GRF				*e*pP	pP	23 53 34.4	+2.3
CONA	**Conrad Observa**	**66.20**	**22**	↑*i*P	**P**	**23 53 29.9**	**+1.0**
	comp=Z,13nm,1.5s,mb4.7						
GERES	**GERESS Array B**	**66.22**	**20**	P	**P**	**23 53 29.0**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=197,slow=4.2,SNR=14						
KHC	**Khaspirske Hory**	**66.43**	**20**	*e*P	**P**	**23 53 30.4**	**-0.1**
ULDT	**Uludag**	**66.45**	**35**	*i*P	**P**	**23 53 25.8**	**-4.8**
ASF	**Jabal al Asfar**	**66.50**	**46**	LR	LR	00 22 09.0	
	comp=Z,166nm,18.6s,MS4.3,baz=277,slow=36						
BZS	**Buzias**	**66.64**	**27**	↑*i*P	**P**	**23 53 32.5**	**+0.7**
BZS	**Buzias**	**66.64**	**27**	↑P	**P**	**23 53 32.5**	**+0.7**
ZST	**Bratislava**	**66.88**	**23**	*e*P	**P**	**23 53 34.1**	**+0.8**
	comp=Z,14nm,1.6s,mb4.8						
ZST				LR	LR		
	comp=Z,300nm,18.1s,MS4.5						
ESKT	**Eskisehir**	**67.02**	**37**	*i*P	**P**	**23 53 34.6**	**+0.4**
NKC	**Novy Kostel**	**67.03**	**19**	*e*P	**P**	**23 53 34.1**	**-0.2**
VRAC	**Vranov**	**67.62**	**22**	P	**P**	**23 53 38.2**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.3,baz=226,slow=7.1,SNR=4.4						
PSZ	**Piszkesteto**	**67.74**	**24**	*e*P	**P**	**23 53 35.7**	**-3.1**
	comp=Z,14nm,1.3s,mb4.8						
VYHS	**Vyhne**	**67.78**	**23**	*e*P	**P**	**23 53 39.2**	**+0.1**
	comp=Z,19nm,1.6s,mb4.9						
PVCC	**Panska Ves**	**67.96**	**20**	*e*P	**P**	**23 53 40.3**	**+0.1**
DRGR		**68.03**	**27**	↑*i*P	**P**	**23 53 41.2**	**+0.6**
BRG	**Berggiesshubel**	**68.06**	**19**	*e*P	**P**	**23 53 40.6**	**-0.1**
	comp=Z,7.1nm,1.3s,mb4.5						
VOIR		**68.08**	**29**	↓*i*P	**P**	**23 53 42.5**	**+1.6**
DPC	**Dobruska-Polom**	**68.40**	**21**	*e*P	**P**	**23 53 43.1**	**+0.2**
SGKT	**Sivrigoynuk**	**68.41**	**37**	*i*P	**P**	**23 53 42.1**	**-0.8**
KECS	**Kecovo**	**68.43**	**24**	*i*P	**P**	**23 53 43.7**	**+0.6**
	comp=Z,5.2nm,0.9s,mb4.6						
KECS				*e*		23 53 49.8	
UPC	**Upice**	**68.43**	**20**	*e*P	**P**	**23 53 42.2**	**-0.9**
EKA	**Eskdalemuir Ar**	**68.47**	**7**	P	**P**	**23 53 42.9**	**-0.5**
	comp=Z,7.5nm,1.0s,mb4.7,baz=185,slow=6.7,SNR=5.8						
MLR	**Muntele Rosu**	**68.54**	**29**	P	**P**	**23 53 44.0**	**+0.1**
	comp=Z,7.7nm,0.8s,mb4.7,baz=181,slow=6.8,SNR=12						
MLR				LR	LR	00 22 41.9	
	comp=Z,229nm,19.5s,MS4.4,baz=197,slow=35						
**ML

SLKM	**Skilak Lake**	**59.54**	**32**	*e*P	**P**	**23 56 09.3**	**-0.7**
BVAR	**Borovoye Array**	**62.71**	**319**	P	**P**	**23 56 31.8**	**+0.5**
	2.8nm,0.7s,mb4.3,baz=97,slow=7.6,SNR=11						
NVAR	**Mina Array Bea**	**82.80**	**52**	P	**P**	**23 58 34.6**	**+4.5**
	0.7nm,0.7s,mb3.6,baz=282,slow=7.4,SNR=4.9						
LPAZ	**La Paz**	**149.64**	**85**	PKPbc	PKPbc	00 05 59.3	+4.4
	0.7nm,0.8s,baz=311,slow=7.4,SNR=3.5						

NEIC ***17*** *23:47:58.4±3.4,2177N×14327E,h35km,mb3.9/1,Error ellipse: s-maj=150.0km s-min=11.8km az=74.0*
ISCJB ***17*** *23:48:10.5±0.9,216N±0.1×1427E±03,h150km,mb3.8/10,Error ellipse: s-maj=36.9km s-min=13.6km az=146.7*
IDC ***17*** *23:48:14.1±8.0,2162N×14275E,h170km±73km,mb3.6/10,mb1 3.7/10,mb1mx3.6/22,mbtmp3.6/10,MS3.2/2,Ms1 3.2/2,ms1mx2.3/45,Error ellipse: s-maj=39.2km s-min=13.5km az=75.0*

ISC 17 23:48:12.2±0.9,216N±01×1427E±03,h150km,n15,σ0§60/12,mb3.8/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.49**	**355**	LR	LR	23 51 26.0	
	comp=Z,262nm,19.9s,baz=8.1,slow=35						
GUMO	**Guam**	**8.23**	**165**	LR	LR	23 52 37.8	
	comp=Z,140nm,19.7s,baz=324,slow=32						
KSRS	**Korea Array**	**20.35**	**324**	P	**P**	**23 52 38.1**	**+1.4**
	1.5nm,0.4s,baz=148,slow=11,SNR=8.0						
ULN	**Ulaanbaatar**	**38.78**	**321**	*e*P	**P**	**23 55 21.6**	**-0.5**
	2.0nm,0.8s,mb3.8						
SONM	**Songino Array**	**39.15**	**321**	P	**P**	**23 55 24.1**	**-1.0**
	2.2nm,0.8s,mb3.9,baz=129,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**42.10**	**192**	P	**P**	**23 55 49.5**	**+0.1**
	2.4nm,0.8s,mb3.9,baz=14,slow=8.6,SNR=7.5						
ASAR	**Alice Springs**	**45.81**	**191**	P	**P**	**23 56 19.1**	**+0.2**
	1.1nm,0.7s,mb3.6,baz=10,slow=8.9,SNR=8.7						
STKA	**Stephens Creek**	**53.19**	**181**	P	**P**	**23 57 14.6**	**-0.2**
	1.6nm,0.7s,mb3.8,baz=337,slow=8.6,SNR=4.4						
STKA	**Stephens Creek**	**53.19**	**181**	P	**P**	**23 57 14.6**	**-0.2**
ZAL	**Zalesovo**	**54.04**	**322**	P	**P**	**23 57 20.3**	**-0.6**
	1.1nm,0.7s,mb3.7,baz=4.0,slow=9.9,SNR=6.4						
MKAR	**Makanchi Array**	**54.46**	**313**	P	**P**	**23 57 24.4**	**+0.5**
	1.1nm,0.7s,mb3.7,baz=91,slow=9.9,SNR=5.1						
BVAR	**Borovoye Array**	**62.48**	**320**	P	**P**	**23 58 19.3**	**-0.3**
	5.0nm,0.7s,mb4.4,baz=93,slow=8.0,SNR=14						
NVAR	**Mina Array Bea**	**83.52**	**51**	P	**P**	**00 00 23.4**	**+0.1**
	1.3nm,0.7s,mb3.8,baz=269,slow=7.4,SNR=7.8						
BRTR	**Keskin Array B**	**90.11**	**313**	P	**P**	**00 00 55.5**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=105,slow=1.4,SNR=3.9						
LPAZ	**La Paz**	**150.35**	**85**	PKPbc	PKPbc	00 07 46.7	+1.0
	2.0nm,1.1s,baz=285,slow=1.7,SNR=3.9						

STR ***17*** *23:48:27.4±0.1,4301N×000E,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 23:48:26.8±0.1,4299N×001W,h10km,Md1.7/3,Ml1.6/4,Error ellipse: s-maj=2.9km s-min=1.3km az=164.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**46**	Pg	Pg	23 48 29.0	-0.2
LABF				Sg	Sg	23 48 30.3	-0.6
VIEF	**Viey**	**0.11**	**167**	Pg	Pg	23 48 30.1	+0.6
VIEF				Sg	Sg	23 48 32.0	+0.6
EPF	**Esparros**	**0.26**	**81**	*e*Pg	Pg	23 48 32.0	-0.1
EPF				*e*Sg	Sg	23 48 35.9	+0.3
	4.8nm,0.2s						
ETSF	**Etsaut**	**0.41**	**258**	*e*Pg	Pg	23 48 35.3	+0.4
ETSF				*e*Sg	Sg	23 48 40.8	+0.4
	4.4nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**278**	*e*Pg	Pg	23 48 43.4	-0.7
SJPF				*e*Sg	Sg	23 48 55.5	-0.4
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.67**	**77**	*e*Pg	Pg	23 48 58.0	-0.8
MTLF				*e*Sg	Sg	23 49 19.4	-1.0
	0.8nm,0.2s						
LFF	**La Frestale**	**2.02**	**15**	*e*Pg	Pg	23 49 04.5	-1.1
LFF				*e*Sg	Sg	23 49 30.8	-1.0
	1.2nm,0.2s						
CAF	**Calviac**	**2.45**	**37**	*e*Pg	Pg	23 49 12.3	-1.4
CAF				*e*Sg	Sg	23 49 43.4	-2.0
	0.9nm,0.3s						

IDC 17 23:50:02.5±3.6,591S×15055E,h0km,mb3.4/3,mb1 3.7/3,mb1mx3.5/14,mbtmp3.5/3,Error ellipse: s-maj=125.7km s-min=47.5km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.05**	**227**	P	P	23 54 49.3	+1.4
	0.5nm,0.4s,baz=51,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**23.84**	**221**	P	P	23 55 16.1	-1.2
	0.7nm,0.6s,baz=59,slow=8.7,SNR=9.1						
FITZ	**Fitzroy Crossi**	**27.16**	**241**	P	P	23 55 48.2	+0.7
	0.6nm,0.3s,baz=64,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.48**	**285**	PKPbc	PKPbc	00 09 52.0	+0.9
	0.1nm,0.3s,baz=87,slow=2.8,SNR=6.7						

IDC ***17*** *23:55:36.3±0.9,1606S×16787E,h163km±7km,mb4.2/12,mb1 4.2/13,mb1mx4.1/20,mbtmp4.2/13,MS3.3/3,Ms1 3.3/3,ms1mx3.0/34,Error ellipse: s-maj=15.4km s-min=12.3km az=86.0*
ISCJB ***17*** *23:55:37.9±1.6,1617S±008×1678E±0.1,h191km±13km,mb4.4/12,Error ellipse: s-maj=17.8km s-min=10.9km az=127.9*
NEIC ***17*** *23:55:38.3±1.4,1611S×16787E,h184km±12km,mb4.8/3,Error ellipse: s-maj=13.6km s-min=9.5km az=60.0*

ISC 17 23:55:38.3±1.6,1617S±008×1679E±01,h182km±13km,h169km±5.1km:pP-P,n30,σ0§75/28,mb4.4/12,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.03**	**193**	P	**Pn**	**23 57 05.0**	**-0.6**
	12nm,0.3s,baz=51,slow=17,SNR=75						
DZM				S	**Sn**	**23 58 13.9**	**0.0**
	4.0nm,0.3s,baz=317,slow=22,SNR=13						
HNR	**Honiara**	**10.23**	**310**	P	**Pn**	**23 58 01.0**	**+0.3**
	25nm,0.3s,baz=226,slow=2.3,SNR=7.9						
HNR				LR	LR	00 01 21.8	
	comp=Z,112nm,21.5s,baz=178,slow=34						
HNR	**Honiara**	**10.23**	**310**	P	**Pn**	**23 58 01.0**	**+0.3**
HNR				LR	LR	00 01 21.8	
CTA	**Charters Tower**	**20.92**	**256**	*e*P	**P**	**00 00 07.5**	**+0.9**
	15nm,0.6s						
CTA	**Charters Tower**	**20.92**	**256**	P	**P**	**00 00 07.0**	**+0.4**
	22nm,0.8s,baz=85,slow=12,SNR=16						
PMG	**Port Moresby**	**21.29**	**286**	P	**P**	**00 00 11.6**	**+1.1**
	31nm,0.9s,mb4.6,baz=150,slow=8.8,SNR=6.5						
PMG				LR	LR	00 06 17.4	
	comp=Z,87nm,19.0s,baz=14,slow=30						
URZ	**Urewera**	**23.46**	**162**	P	**P**	**00 00 32.6**	**+1.3**
	19nm,0.7s,mb4.6,baz=273,slow=3.9,SNR=5.2						
RPZ	**Rata Peaks**	**27.59**	**175**	P	**P**	**00 01 09.6**	**+1.1**
	7.9nm,0.5s,mb4.7,baz=48,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**28.55**	**232**	P	**P**	**00 01 18.1**	**+1.2**
	2.4nm,0.6s,mb4.1,baz=73,slow=5.2,SNR=7.1						
WB2	**Warramunga Arr**	**32.07**	**258**	*e*P	**P**	**00 01 47.2**	**-0.7**
WRA	**Warramunga Arr**	**32.08**	**258**	P	**P**	**00 01 47.2**	**-0.8**
	6.4nm,0.7s,mb4.4,baz=88,slow=8.5,SNR=38						
AS31	**Alice Springs**	**32.74**	**251**	*e*P	**P**	**00 01 53.7**	**-0.1**
ASAR	**Alice Springs**	**32.75**	**251**	P	**P**	**00 01 53.8**	**0.0**
	29nm,0.6s,mb5.2,baz=77,slow=8.9,SNR=403						
ASAR				pP	pP	00 02 28.8	-2.8
	6.2nm,0.9s,baz=82,slow=9.1,SNR=2.6						
ASAR				ScP	ScP	00 08 04.9	+3.4
	2.7nm,0.9s,baz=92,slow=3.4,SNR=10						
ASPA	**Alice Springs**	**32.75**	**251**	*e*P	**P**	**00 01 53.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.35**	**261**	*e*P	**P**	**00 02 57.9**	**-0.2**
	26nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.35**	**261**	P	**P**	**00 02 58.4**	**+0.3**
	21nm,0.8s,mb4.8,baz=96,slow=8.1,SNR=33						
FITZ				LR	LR	00 19 23.3	
	comp=Z,57nm,18.9s,baz=88,slow=35						
MJAR	**Matsushiro Arr**	**59.45**	**332**	P	**P**	**00 05 20.9**	**-0.9**
	1.5nm,0.8s,mb3.9,baz=165,slow=8.0,SNR=4.8						
MJAR	**Matsushiro Arr**	**59.45**	**332**	P	**P**	**00 05 20.9**	**-0.9**
VNDA	**Vanda**	**61.45**	**181**	P	**P**	**00 05 35.8**	**+0.4**
	2.5nm,0.7s,mb4.2,baz=1.7,slow=6.4,SNR=19						
QSPA	**South Pole Qui**	**73.87**	**180**	*e*P	**P**	**00 06 53.4**	**+0.3**
	18nm,0.9s,mb4.8						
MAW	**Mawson**	**80.78**	**202**	P	**P**	**00 07 31.1**	**-0.3**
	2.2nm,0.8s,mb3.8,baz=83,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**84.00**	**323**	P	**P**	**00 07 47.8**	**-0.3**
	1.3nm,0.8s,mb3.7,baz=144,slow=5.7,SNR=12						
SONM				pP	pP	00 08 28.0	-4.8
	1.5nm,1.0s,baz=152,slow=6.6,SNR=4.5						
SONM				LR	LR	00 42 48.1	
	comp=Z,1μm,18.0s,baz=74,slow=34						
KRMB	**Red Mountain**	**85.12**	**44**	*e*P	**P**	**00 07 52.7**	**-1.0**
NVAR	**Mina Array Bea**	**87.76**	**49**	P	**P**	**00 08 07.8**	**+1.2**
	0.1nm,0.3s,baz=244,slow=5.7,SNR=2.4						
NVAR				pP	pP	00 08 48.1	-3.5
	1.0nm,1.0s,baz=270,slow=4.5,SNR=3.2						
SNAA	**Sanae**	**92.15**	**183**	*e*	**P**	**00 08 26.3**	**-0.7**
SNAA				*e*		00 08 29.9	
SNAA				*e*		00 08 44.3	
SNAA				*e*	pP	00 09 14.7	+2.4
VNA3	**Neumayer Olymp**	**92.80**	**181**	*e*	**P**	**00 08 28.8**	**-1.2**
VNA3				*e*		00 08 33.2	
VNA2	**Neumayer--Watz**	**93.07**	**182**	*e*	**P**	**00 08 31.0**	**-0.3**
	baz=201,slow=3.8						
VNA2				*e*		00 08 35.8	
VNA2				*e*		00 08 48.9	
VNA2				*e*		00 08 54.0	
VNA2				*e*		00 09 08.4	
VNA2				*e*	pP	00 09 15.9	-0.6
KURK	**Kurchatov**	**101.87**	**319**	⇓Lg		00 09 20.6	
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**121.78**	**345**	PKP	PKPdf	00 14 08.3	-2.2
	5.0nm,1.1s,baz=67,slow=3.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**166.30**	**259**	PKP	PKPdf	00 15 21.8	+0.3
	0.5nm,0.7s,baz=46,slow=1.0,SNR=5.1						
TORD				PKPab	PKPab	00 16 24.3	+0.5
	0.7nm,0.9s,baz=116,slow=3.4,SNR=3.2						

STR ***17*** *23:59:29.1±0.1,4301N×002W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 17 23:59:28.8±0.1,4300N×002W,h10km,Md1.8/3,Ml1.5/4,Error ellipse: s-maj=5.2km s-min=1.5km az=167.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**54**	Pg	Pg	23 59 30.9	-0.3
LABF				Sg	Sg	23 59 32.3	-0.6
VIEF	**Viey**	**0.12**	**165**	Pg	Pg	23 59 32.0	+0.4
VIEF				Sg	Sg	23 59 34.0	+0.3
EPF	**Esparros**	**0.27**	**83**	*e*Pg	Pg	23 59 34.0	-0.2
EPF				*e*Sg	Sg	23 59 37.6	-0.2
	5.6nm,0.2s						
ETSF	**Etsaut**	**0.41**	**256**	*e*Pg	Pg	23 59 37.1	+0.3
ETSF				*e*Sg	Sg	23 59 42.6	+0.3
	4.0nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**278**	*e*Pg	Pg	23 59 45.5	-0.5
SJPF				*e*Sg	Sg	23 59 56.5	-1.1
	0.6nm,0.3s						
MTLF	**Montolieu**	**1.67**	**77**	*e*Pg	Pg	00 00 00.2	-0.7
MTLF				*e*Sg	Sg	00 00 21.4	-1.2
	0.8nm,0.3s						
CAF	**Calviac**	**2.44**	**37**	*e*Pg	Pg	00 00 14.4	-1.3
CAF				*e*Sg	Sg	00 00 45.7	-1.7
	0.5nm,0.3s						
LASF	**Ste Croix**	**3.02**	**68**	*e*Pg	Pg	00 00 25.4	-1.2
LASF				*e*Sg	Sg	00 01 03.1	-2.6
	0.8nm,0.3s						

IDC 18 00:01:44.1±7.2,250S×13954E,h0km,mb3.6/2,mb1 3.8/3,mb1mx3.5/12,mbtmp3.6/3,Error ellipse: s-maj=158.6km s-min=82.2km az=123.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.07**	**196**	P	Pn	00 05 57.6	+1.1
	baz=18,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**21.74**	**194**	P	P	00 06 36.5	-0.5
	0.6nm,0.7s,baz=27,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**29.29**	**176**	P	P	00 07 48.5	+0.5
	1.3nm,0.4s,baz=349,slow=10,SNR=3.2						

STR ***18*** *00:06:06.2±0.1,4301N×002W,h2km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 00:06:05.4±0.1,4302N×000W,h11km,Md1.5/2,Ml1.3/1,Error ellipse: s-maj=3.3km s-min=1.7km az=156.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**65**	Pg	Pg	00 06 08.0	+0.3
LABF				Sg	Sg	00 06 09.4	+0.1
VIEF	**Viey**	**0.14**	**172**	Pg	Pg	00 06 09.1	+0.4
VIEF				Sg	Sg	00 06 11.1	+0.1
EPF	**Esparros**	**0.25**	**88**	*e*Pg	Pg	00 06 10.4	-0.2
EPF				*e*Sg	Sg	00 06 14.3	+0.2
	2.5nm,0.2s						
ETSF	**Etsaut**	**0.43**	**253**	*e*Pg	Pg	00 06 13.7	-0.1
ETSF				*e*Sg	Sg	00 06 19.7	+0.2
	3.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Sg	Sg	00 06 58.2	-0.4
	0.4nm,0.2s						
CAF	**Calviac**	**2.42**	**37**	*e*Sg	Sg	00 07 21.6	-1.5

ISCJB ***18*** *00:08:39.0±0.6,5143N±003×1602E±003,h0km,Error ellipse: s-maj=4.8km s-min=2.2km az=20.4*
NEIC ***18*** *00:08:39.5±1.1,5156N×1609E,h5km,ML3.1(SZGRF),Error ellipse: s-maj=12.2km s-min=5.1km az=199.0*
VIE ***18*** *00:08:41.0±1.5,5146N×1619E,h0km,Error ellipse: s-maj=11.6km s-min=9.2km az=99.0,Suspected Mining induced. 70 km NW of Breslau*
BGR ***18*** *00:08:40.2±0.6,5151N×1606E,h1km,ML3.1,Error ellipse: s-maj=10.0km s-min=6.7km az=156.0*
WAR ***18*** *00:08:40.7,5154N×1602E,ML2.6,Mining Induced*
IPEC ***18*** *00:08:40.4±0.3,5152N×1636E,h0km,ML1.8/3,Error ellipse: s-maj=3.9km s-min=2.0km az=84.0*
CSEM ***18*** *00:08:41.3±0.1,5147N×1602E,h1km,ML3.3/5,Error ellipse: s-maj=2.5km s-min=1.1km az=11.0*
PRU ***18*** *00:08:41.2,5147N×1603E,h0km*

ISC 18 00:08:40.0±0.6,5150N±003×1603E±003,h0km,n43,σ0§94/84,5C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**166**	*e*Pg	**Pg**	**00 08 53.8**	**+0.8**
KSP				*e*		00 08 55.8	
KSP				*e*Sg	**Sg**	**00 09 03.6**	**+1.8**
KSP				*e*		00 09 07.1	
KSP	**Ksiaz**	**0.68**	**166**	*e*Pg	**Pg**	**00 08 53.7**	**+0.7**
KSP				*e*Sg	**Sg**	**00 09 03.6**	**+1.8**
UPC	**Upice**	**0.99**	**180**	*e*PG	**Pg**	**00 08 59.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.17**	**171**	*e*PG	**Pg**	**00 09 02.5**	**+0.2**
DPC				*e*SG	**Sg**	**00 09 18.7**	**+1.2**
	31nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**171**	*e*Pg	**Pg**	**00 09 02.5**	**+0.2**
DPC				*e*Sg	**Sg**	**00 09 17.8**	**+0.3**
PVCC	**Panska Ves**	**1.34**	**224**	*e*PG	**Pg**	**00 09 05.7**	**0.0**
PVCC				*e*SG	**Sg**	**00 09 24.5**	**+1.5**
	140nm,0.3s						
BRG	**Berggiesshubel**	**1.45**	**245**	*e*Pg	**Pg**	**00 09 07.8**	**-0.1**
BRG				*e*Sg	**Sg**	**00 09 27.3**	**+0.6**
BRG	**Berggiesshubel**	**1.45**	**245**	PN	**Pn**	**00 09 06.4**	**-1.1**
BRG				PG	**Pg**	**00 09 07.7**	**-0.2**
BRG				SG	**Sg**	**00 09 27.6**	**+1.0**
	59nm,0.6s						
FBE	**Freiberg**	**1.78**	**252**	*e*Pn	**Pn**	**00 09 13.6**	**+1.7**
FBE				*e*Sg	**Sg**	**00 09 37.1**	**0.0**
CLL	**Collm**	**1.90**	**265**	*e*Pn	**Pn**	**00 09 12.5**	**-1.2**
CLL				*e*Pg	**Pg**	**00 09 15.0**	**-1.5**
CLL				*e*Sg	**Sg**	**00 09 41.0**	**-0.1**
CLL	**Collm**	**1.90**	**265**	*i* Pn	**Pn**	**00 09 12.5**	**-1.2**
CLL				*e*Pg	**Pg**	**00 09 15.0**	**-1.5**
CLL				*e*Sg	**Sg**	**00 09 41.0**	**-0.1**
CLL	**Collm**	**1.90**	**265**	*i* P	**Pn**	**00 09 11.6**	**-2.1**
CLL	**Collm**	**1.90**	**265**	*i* Pn	**Pn**	**00 09 12.5**	**-1.2**
CLL				*e*Pg	**Pg**	**00 09 15.0**	**-1.5**
CLL				*ex*	x	00 09 16.0	
CLL				*e*Sg	**Sg**	**00 09 41.0**	**-0.1**
	comp=Z,36nm,0.6s						
MORC	**Moravsky Berou**	**1.98**	**150**	*e*Pn	**Pn**	**00 09 14.2**	**-0.5**
MORC				*e*Sn	**Sn**	**00 09 40.5**	**+0.3**
MORC	**Moravsky Berou**	**1.98**	**150**	*e*Pn	**Pn**	**00 09 14.2**	**-0.5**
MORC				*e*Sg	**Sg**	**00 09 40.0**	**-3.5**
MORC				*e*Sn	**Sn**	**00 09 40.5**	**+0.3**
OKC	**Ostrava-Krasne**	**2.14**	**140**	*e*PG	**Pg**	**00 09 19.8**	**-1.3**
OKC				*e*SG	**Sg**	**00 09 47.6**	**-1.3**
VRAC	**Vranov**	**2.22**	**170**	*e*Pn	**Pn**	**00 09 18.3**	**+0.2**
VRAC				*e*Sg	**Sg**	**00 09 50.1**	**-1.4**
	comp=Z,5.4nm,0.2s						
KRUC	**Moravsky**	**2.45**	**174**	*e*Pn	**Pn**	**00 09 22.2**	**+1.0**
KRUC				*e*Sg	**Sg**	**00 09 57.3**	**-1.5**
	comp=Z,4.8nm,0.1s						
TANN	**Tannenbergstha**	**2.50**	**246**	*e*Pn	**Pn**	**00 09 21.9**	**0.0**
TANN				*e*Sg	**Sg**	**00 09 59.6**	**-0.7**
WERD	**Werda**	**2.58**	**247**	*e*Sg	**Sg**	**00 10 01.7**	**-1.1**
NKC	**Novy Kostel**	**2.60**	**242**	*e*PN	**Pn**	**00 09 23.4**	**+0.2**
NKC				*e*PG	**Pg**	**00 09 29.5**	**-0.3**
NKC				*e*SG	**Sg**	**00 10 04.2**	**+0.7**
	comp=Z,45nm,0.6s						
GUNZ	**Gunzen**	**2.60**	**245**	*e*Sg	**Sg**	**00 10 03.8**	**+0.3**
WERN	**Wernitzgruen**	**2.61**	**244**	*e*Pn	**Pn**	**00 09 23.7**	**+0.3**
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**00 09 31.8**	**-0.2**
OJC				*e*Sg	**Sg**	**00 10 07.4**	**+0.2**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**	**00 09 26.4**	**-0.2**
KHC				*e*PG	**Pg**	**00 09 32.0**	**-2.5**
KHC				*e*SN	**Sn**	**00 10 01.3**	**-0.3**
KHC				*e*SG	**Sg**	**00 10 11.2**	**-0.2**
	comp=Z,14nm,0.7s						
MOX	**Moxa**	**2.91**	**255**	*e*Pg	**Pg**	**00 09 35.2**	**-0.6**
MOX				*e*Sg	**Sg**	**00 10 13.4**	**-0.1**
MOX	**Moxa**	**2.91**	**255**	*e*PG	**Pg**	**00 09 35.2**	**-0.6**
MOX				*e*SG	**Sg**	**00 10 14.4**	**+0.9**
MANZ	**Manzenberg**	**2.91**	**240**	*e*Sg	**Sg**	**00 10 15.9**	**+2.3**
MANZ	**Manzenberg**	**2.91**	**240**	Sg	**Sg**	**00 10 15.9**	**+2.3**
ROTZ	**Rotzenmuhle**	**2.99**	**236**	*e*Pn	**Pn**	**00 09 28.9**	**+0.3**
GEC2	**GERESS Array S**	**3.05**	**210**	*e*Pn	**Pn**	**00 09 30.4**	**+0.9**
GEC2				*e*Sg	**Sg**	**00 10 17.1**	**-0.9**
GEC2	**GERESS Array S**	**3.05**	**210**	*e*Pn	**Pn**	**00 09 30.4**	**+1.0**
GEC2				*e*Sg	**Sg**	**00 10 17.1**	**-0.8**
WET	**Wettzell**	**3.10**	**222**	*e*Pn	**Pn**	**00 09 30.4**	**+0.3**
WET				*e*Sg	**Sg**	**00 10 19.0**	**-0.7**
WET	**Wettzell**	**3.10**	**222**	*e*Pn	**Pn**	**00 09 30.4**	**+0.2**
WET				*e*Sg	**Sg**	**00 10 19.0**	**-0.7**
NIE	**Niedzica**	**3.44**	**126**	*e*P	**Sg**	**00 09 45.0**	**-1.0**
NIE				*e*S	**Sg**	**00 10 30.5**	**-0.1**
GRA1	**Grafenberg Arr**	**3.56**	**241**	*e*Pn	**Pn**	**00 09 36.4**	**0.0**
GRA1				*e*Sg	**Sg**	**00 10 33.9**	**-0.3**
GRF	**Grafenberg Arr**	**3.56**	**241**	*e*Pn	**Pn**	**00 09 36.4**	**0.0**
GRF				*e*Sg	**Sg**	**00 10 33.9**	**-0.4**
CONA	**Conrad Observa**	**3.58**	**182**	⇑*e*Pn	**Pn**	**00 09 39.2**	**+2.6**
CONA				⇓*i*Sg	**Sg**	**00 10 34.6**	**-0.4**
	comp=Z,8.5nm,0.5s						
MOA	**Molln**	**3.83**	**198**	⇑*i*Pn	**Pn**	**00 09 40.6**	**+0.4**
	comp=Z,1.6nm,0.2s						
MOA				⇓*i*Sg	**Sg**	**00 10 48.9**	**+5.9**
	comp=Z,7.4nm,0.5s						
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*PG	**Pg**	**00 09 55.4**	**0.0**
STHS				*e*SG	**Sg**	**00 10 47.8**	**+1.5**
ARSA	**Arzberg**	**4.27**	**185**	⇑*i*Sg	**Sg**	**00 11 02.1**	**+5.0**
	comp=Z,3.6nm,0.4s						
ARSA	**Arzberg**	**4.27**	**185**	Sg	**Sg**	**00 11 02.1**	**+5.0**
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*Pn	**Pn**	**00 09 53.8**	**+0.8**
KBA				⇑*i*Sg	**Sg**	**00 11 20.2**	**+7.3**
	comp=Z,4.0nm,0.4s						

NEIC ***18*** *00:16:31.8±1.6,4686N×15293E,h10km,mb4.1/1,Error ellipse: s-maj=43.6km s-min=15.6km az=176.0*
IDC ***18*** *00:16:31.1±1.9,4705N×15303E,h0km,mb4.1/14,mb1 4.2/15,mb1mx4.0/28,mbtmp4.1/15,ML3.8/1,Error ellipse: s-maj=48.2km s-min=23.2km az=157.0*
ISCJB ***18*** *00:16:35.7±2.0,470N±02×1528E±02,h43km±14km,mb4.1/14,Error ellipse: s-maj=42.3km s-min=13.9km az=110.7*
MOS ***18*** *00:16:35.6±1.1,4691N×15281E,h47km,mb4.3/1,Error ellipse: s-maj=21.1km s-min=11.8km az=101.2*

ISC 18 00:16:38.2±1.8,470N±02×1529E±02,h52km±13km,n40,σ0§90/40,mb4.1/14,10C-8D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.26**	**29**	*e*PN	**Pn**	**00 17 41.5**	**+0.9**
ASAJ	**Asahikawa**	**7.76**	**252**	Pn	**Pn**	**00 18 27.8**	**-0.7**
	1.4nm,0.3s,baz=296,slow=26,SNR=4.7						
ASAJ	**Asahikawa**	**7.76**	**252**	PN	**Pn**	**00 18 27.8**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.71**	**252**	P	**P**	**00 21 15.1**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=51,slow=12,SNR=4.6						
INK	**Inuvik**	**41.53**	**33**	P	**P**	**00 24 19.5**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.7,baz=308,slow=3.4,SNR=3.6						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**00 25 00.4**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**24**	*e*PN	**Pn**	**00 18 07.5**	**+0.9**
SKR				*e*S	**Sn**	**00 18 50.0**	**+0.7**
SKR	comp=N,150nm,0.5s			pmax	pmax		
SKR	comp=E,90nm,0.5s			pmax	pmax		
SKR	comp=Z,310nm,0.5s			pmax	pmax		
SKR	comp=N,160nm,0.6s			smax			
SKR	comp=E,320nm,0.6s			smax			
SKR	comp=Z,80nm,0.6s			smax			
KUR	**Kuril'sk**	**4.58**	**246**	*e*PN	**Pn**	**00 18 15.0**	**-3.1**
KUR				*e*S	**Sn**	**00 19 08.5**	**-1.5**
KUR	comp=N,140nm,0.5s			pmax	pmax		
KUR	comp=E,150nm,0.5s			pmax	pmax		
KUR	comp=Z,300nm,0.5s			pmax	pmax		
KUR	comp=N,610nm,0.6s			smax			
KUR	comp=E,300nm,0.6s			smax			
KUR	comp=N,4μm,4.0s			smax			
KUR	comp=E,4μm,4.0s			smax			
YUK	**Yuzh-Kuril'sk**	**6.42**	**242**	*e*PN	**Pn**	**00 18 48.0**	**+4.6**
YUK				*e*S	**Sn**	**00 20 02.5**	**+7.1**
YUK	comp=N,570nm,0.5s			smax			
YUK	comp=E,380nm,0.5s			smax			
PET	**Petropavlovsk**	**6.55**	**27**	*e*PN	**Pn**	**00 18 45.4**	**+0.2**
PET	comp=Z,35nm,0.5s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**7.52**	**272**	*i* PN	**Pn**	**00 19 03.0**	**+4.5**
YSS				*e*S	**Sn**	**00 20 26.5**	**+4.0**
YSS	comp=E,20nm,0.7s			pmax	pmax		
YSS	comp=Z,30nm,0.7s			pmax	pmax		
YSS	comp=E,60nm,0.7s			smax			
YSS	**Yuzh-Sakhalins** comp=E,40nm,0.6s	**7.52**	**272**	*e*Pn	**Pn**	**00 18 52.4**	**-6.1**
ASAJ	**Asahikawa** comp=E,0.8nm,0.3s,baz=80,slow=12,SNR=1.9	**8.43**	**252**	Pn	**Pn**	**00 19 09.8**	**-1.3**
ASAJ	**Asahikawa**	**8.43**	**252**	PN	**Pn**	**00 19 09.8**	**-1.2**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ERM	**Erimo**	**9.21**	**239**	*e*PN	**Pn**	**00 19 24.5**	**+2.8**
ERM	comp=Z,41nm,0.6s			pmax	pmax		
ERM	**Erimo** comp=Z,41nm,0.6s	**9.21**	**239**	*e*Pn	**Pn**	**00 19 24.5**	**+2.8**
KLR	**Kul'dur**	**14.79**	**286**	*e*P	**Pn**	**00 20 41.0**	**+3.1**
MAT	**Matsushiro**	**15.76**	**233**	P	**Pn**	**00 20 48.4**	**-2.1**
MJAR	**Matsushiro Arr** comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=7.6	**15.76**	**233**	Pn	**Pn**	**00 20 50.1**	**-0.4**
YAK	**Yakutsk**	**20.12**	**326**	*e*P	**P**	**00 21 39.8**	**-2.3**
YAK	comp=Z,16nm,0.9s			pmax	pmax		
YAK	comp=N,10.0nm,1.3s			pmax	pmax		
YAK	comp=E,15nm,1.5s			pmax	pmax		
KSRS	**Korea Array** comp=E,4.4nm,0.7s,mb3.9,baz=61,slow=11,SNR=9.2	**21.38**	**252**	P	**P**	**00 21 56.7**	**+1.0**
SONM	**Songino Array** comp=E,0.7nm,0.7s,mb3.6,baz=96,slow=6.6,SNR=4.9	**31.58**	**289**	P	**P**	**00 23 29.3**	**-1.2**
KDAK	**Kodiak Island** comp=E,27nm,1.1s,mb5.1,baz=146,slow=21,SNR=5.5	**33.42**	**52**	P	**P**	**00 23 45.2**	**-1.3**
KDAK	**Kodiak Island**	**33.42**	**52**	P	**P**	**00 23 45.2**	**-1.3**
SML	**Sawmill**	**35.28**	**44**	*e*P	**P**	**00 24 02.6**	**0.0**
COLA	**College**	**35.44**	**39**	*e*P	**P**	**00 24 03.3**	**-0.7**
COLA	comp=Z,18nm,0.9s,mb5.0			pmax	pmax		
COLA	**College** comp=Z,18nm,0.9s,mb5.0	**35.44**	**39**	*e*P	**P**	**00 24 03.3**	**-0.7**
EGAK	**Eagle** comp=Z,17nm,0.9s,mb4.8	**38.30**	**39**	*e*P	**P**	**00 24 27.6**	**-0.8**
INK	**Inuvik** comp=Z,6.6nm,0.5s,mb4.5,baz=295,slow=6.0,SNR=17	**40.96**	**33**	P	**P**	**00 24 51.1**	**+0.6**
CD2	**Chengdu**	**41.37**	**265**	⇓*i*P	**P**	**00 24 54.5**	**+0.7**
CD2	comp=Z,20nm,1.2s,mb4.6			AMB	AMB		
ZAL	**Zalesovo** comp=Z,2.0nm,0.5s,mb4.1,baz=105,slow=9.4,SNR=5.7	**42.68**	**306**	P	**P**	**00 25 02.7**	**-1.8**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,mb3.9,baz=68,slow=8.3,SNR=7.1	**47.09**	**297**	P	**P**	**00 25 38.7**	**-0.9**
MKAR	**Makanchi Array**	**47.09**	**297**	P	**P**	**00 25 38.7**	**-0.9**
RES	**Resolute Bay**	**50.19**	**19**	*e*P	**P**	**00 26 03.1**	**-0.3**
RES	comp=Z,1μm,1.6s			pmax	pmax		
RES	**Resolute Bay** comp=Z,1μm,1.6s	**50.19**	**19**	*e*P	**P**	**00 26 03.1**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,5.4nm,0.8s,mb4.7,baz=298,slow=7.6,SNR=8.3	**50.23**	**37**	P	**P**	**00 26 04.0**	**+0.3**
YKA	**Yellowknife Ar**	**50.23**	**37**	P	**P**	**00 26 04.0**	**+0.3**
YKA	comp=Z,5.0nm,0.8s			pmax	pmax		
CHKZ	**Chkalovo**	**50.43**	**310**	*e*P	**P**	**00 26 03.5**	**-1.8**
CHKZ	comp=Z,8.0nm,0.6s,mb4.9			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,7.5nm,0.6s,mb4.9	**50.43**	**310**	*e*P	**P**	**00 26 03.5**	**-1.7**
LSA	**Lhasa**	**50.69**	**273**	P	**P**	**00 26 09.3**	**+2.1**
LSA	**Lhasa**	**50.69**	**273**	*e*P	**P**	**00 26 07.7**	**+0.5**
LSA	comp=Z,5.0nm,0.6s,mb4.6			pmax	pmax		
LSA	**Lhasa** comp=Z,5.2nm,0.6s,mb4.6	**50.69**	**273**	*e*P	**P**	**00 26 07.7**	**+0.5**
BVAR	**Borovoye Array** comp=Z,2.1nm,0.5s,mb4.3,baz=52,slow=9.6,SNR=13	**50.87**	**309**	P	**P**	**00 26 08.2**	**-0.3**
BRVK	**Borovoye**	**50.91**	**309**	*e*P	**P**	**00 26 07.0**	**-1.8**
BRVK	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
BRVK	**Borovoye** comp=Z,3.1nm,0.6s,mb4.4	**50.91**	**309**	*e*P	**P**	**00 26 07.0**	**-1.8**
CHTO	**Chiang Mai**	**52.67**	**257**	*e*P	**P**	**00 26 21.7**	**-0.3**
CHTO	comp=Z,5.0nm,0.8s,mb4.5			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,5.3nm,0.8s,mb4.5	**52.67**	**257**	*e*P	**P**	**00 26 21.7**	**-0.4**
ARU	**Arti**	**54.92**	**317**	*e*P	**P**	**00 26 37.3**	**-1.2**
ARU	comp=Z,7.0nm,0.6s,mb4.9			pmax	pmax		
ARU	**Arti** comp=Z,7.0nm,0.6s,mb4.9	**54.92**	**317**	*e*P	**P**	**00 26 37.3**	**-1.1**
JIRN	**Jiri** comp=Z,28nm,0.8s,mb5.4	**55.35**	**275**	*e*P	**P**	**00 26 43.0**	**+1.5**
GUN	**Gumba** comp=Z,7.2nm,0.4s,mb5.0	**55.40**	**275**	*e*P	**P**	**00 26 42.6**	**+0.7**
EDM	**Edmonton**	**55.62**	**47**	*e*P	**P**	**00 26 43.6**	**+0.1**
KKN	**Kakani** comp=Z,24nm,0.9s,mb5.2	**55.88**	**275**	*e*P	**P**	**00 26 47.0**	**+1.6**
PKI	**Pulchoki** comp=Z,25nm,1.0s,mb5.2	**55.94**	**275**	*e*P	**P**	**00 26 46.9**	**+1.1**
DMN	**Daman** comp=Z,56nm,1.0s,mb5.5	**56.12**	**275**	*e*P	**P**	**00 26 48.3**	**+1.3**
GKN	**Gorkha** comp=Z,36nm,0.9s,mb5.4	**56.18**	**276**	*e*P	**P**	**00 26 48.4**	**+0.9**
KEV	**Kevo**	**56.99**	**341**	*e*p	**P**	**00 26 50.2**	**-3.1**
KOLN	**Koldanda** comp=Z,33nm,0.9s,mb5.3	**57.03**	**277**	*e*P	**P**	**00 26 54.5**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,5.0nm,0.9s,mb4.5,baz=36,slow=6.4,SNR=3.9	**57.50**	**341**	P	**P**	**00 26 55.0**	**-1.8**
FINES	**FINESS Array B** comp=Z,2.7nm,0.4s,mb4.6,baz=38,slow=7.6,SNR=22	**63.75**	**335**	P	**P**	**00 27 38.5**	**-0.9**
PDAR	**Pinedale Array** comp=Z,1.0nm,0.9s,mb3.9,baz=306,slow=3.5,SNR=7.0	**64.07**	**54**	P	**P**	**00 27 42.2**	**+0.7**
ULM	**Lac du Bonnet** comp=Z,1.7nm,0.6s,mb4.2,baz=292,slow=7.3,SNR=3.9	**65.83**	**41**	P	**P**	**00 27 53.0**	**0.0**
PV10	**Paradox Valley**	**67.31**	**58**	*e*P	**P**	**00 28 03.2**	**+0.7**
NB2	**NORSAR Subarra** comp=Z,17nm,0.9s,mb5.1,baz=30,slow=6.5	**67.87**	**341**	P	**P**	**00 28 05.3**	**-0.7**
NOA	**NORSAR Array B** comp=Z,9.5nm,0.7s,mb4.9,baz=28,slow=6.0,SNR=21	**67.87**	**341**	P	**P**	**00 28 05.4**	**-0.6**
HFS	**Hagfors** comp=Z,10nm,0.4s,mb5.2,baz=57,slow=5.5,SNR=30	**68.11**	**340**	P	**P**	**00 28 06.9**	**-0.6**
ISCO	**Idaho Springs**	**68.27**	**55**	*e*P	**P**	**00 28 03.2**	**-5.3**
ISCO	comp=Z,5.0nm,0.9s,mb4.5			pmax	pmax		
ISCO	**Idaho Springs** comp=Z,4.6nm,0.9s,mb4.5	**68.27**	**55**	*e*P	**P**	**00 28 03.2**	**-5.3**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.5s,mb3.6,baz=19,slow=6.5,SNR=4.6	**69.16**	**200**	P	**P**	**00 28 13.1**	**-1.0**
ECSD	**ECOS,Sioux Fal** comp=Z,4.7nm,0.9s,mb4.4	**70.19**	**47**	*e*P	**P**	**00 28 19.5**	**-0.9**
AKASG	**Malin Array Be** comp=Z,2.2nm,0.4s,mb4.4,baz=32,slow=5.9,SNR=14	**71.35**	**326**	P	**P**	**00 28 26.4**	**-1.0**
AKASG	**Malin Array Be**	**71.35**	**326**	P	**P**	**00 28 26.4**	**-1.0**
SCHQ	**Schefferville** comp=Z,3.0nm,0.7s,mb4.3,baz=246,slow=7.6,SNR=5.6	**72.64**	**23**	P	**P**	**00 28 35.4**	**+0.2**
ASAR	**Alice Springs** comp=Z,2.2nm,0.7s,mb4.2,baz=11,slow=5.3,SNR=20	**72.86**	**199**	P	**P**	**00 28 36.6**	**+0.2**
KWP	**Kalwaria**	**74.59**	**329**	*e*P	**P**	**00 28 46.3**	**-0.3**
KWP	comp=Z,23nm,0.9s,mb5.1			pmax	pmax		
KWP	**Kalwaria** comp=Z,23nm,0.9s,mb5.1	**74.59**	**329**	*e*P	**P**	**00 28 46.3**	**-0.3**
OJC	**Ojcow**	**75.07**	**331**	*e*PX	**P**	**00 28 49.3**	**-0.1**
STHS	**Stebnicka Huta**	**75.28**	**330**	*i* P	**P**	**00 28 50.9**	**+0.3**
STHS	comp=Z,8.0nm,0.8s,mb4.7			pmax	pmax		
STHS	**Stebnicka Huta** comp=Z,7.5nm,0.8s,mb4.7	**75.28**	**330**	*i* P	**P**	**00 28 50.9**	**+0.3**
KOLS	**Kolonicke sedl**	**75.34**	**329**	*e*P	**P**	**00 28 50.5**	**-0.4**
NIE	**Niedzica**	**75.59**	**331**	*e*P	**P**	**00 28 52.9**	**+0.5**
OKC	**Ostrava-Krasne**	**75.93**	**332**	*e*P	**P**	**00 28 54.1**	**-0.2**
UPC	**Upice**	**76.00**	**334**	*e*P	**P**	**00 28 55.1**	**+0.4**
DPC	**Dobruska-Polom**	**76.05**	**333**	*e*P	**P**	**00 28 55.3**	**+0.3**
CLL	**Collm**	**76.16**	**336**	*e*P	**P**	**00 28 56.0**	**+0.4**
CLL	**Collm** comp=Z,19nm,0.9s,mb5.0	**76.16**	**336**	⇓*i*P	**P**	**00 28 55.5**	**-0.1**
MORC	**Moravsky Berou**	**76.17**	**332**	⇑*i*P	**P**	**00 28 56.2**	**+0.5**
MORC	**Moravsky Berou**	**76.17**	**332**	P	**P**	**00 28 56.1**	**+0.4**
BRG	**Berggiesshubel** comp=Z,2.4nm,1.0s,mb4.3	**76.29**	**335**	*i* P	**P**	**00 28 55.9**	**-0.5**
BRG	**Berggiesshubel** comp=Z,4.0nm,1.0s,mb4.3	**76.29**	**335**	*i* P	**P**	**00 28 55.9**	**-0.4**
KECS	**Kecovo**	**76.33**	**330**	*e*P	**P**	**00 28 56.3**	**-0.3**
KECS	comp=Z,4.0nm,1.0s,mb4.3			pmax	pmax		
KECS	**Kecovo** comp=Z,4.2nm,1.0s,mb4.3	**76.33**	**330**	*e*P	**P**	**00 28 56.3**	**-0.3**
PVCC	**Panska Ves**	**76.41**	**335**	*e*P	**P**	**00 28 56.8**	**-0.3**
TIRR	**Tirgusor**	**76.75**	**323**	P	**P**	**00 28 59.1**	**+0.1**
TXAR	**Lajitas Array** comp=Z,0.9nm,0.6s,mb3.9,baz=302,slow=4.4,SNR=7.5	**76.84**	**61**	P	**P**	**00 28 59.6**	**+0.1**
VYHS	**Vyhne**	**76.88**	**331**	*e*P	**P**	**00 28 59.7**	**0.0**
VYHS	comp=Z,3.0nm,0.8s,mb4.3			pmax	pmax		
VYHS	**Vyhne** comp=Z,2.8nm,0.8s,mb4.2	**76.88**	**331**	*e*P	**P**	**00 28 59.7**	**0.0**
VRAC	**Vranov** comp=Z,5.8nm,0.7s,mb4.6,baz=43,slow=5.6,SNR=9.2	**76.88**	**333**	P	**P**	**00 28 59.9**	**+0.2**
MLR	**Muntele Rosu** comp=Z,7.9nm,0.7s,mb4.8,baz=190,slow=5.2,SNR=17	**76.88**	**325**	P	**P**	**00 29 00.7**	**+1.0**
MLR	**Muntele Rosu**	**76.88**	**325**	P	**P**	**00 29 00.7**	**+1.0**
MLR	comp=Z,8.0nm,0.7s			pmax	pmax		
MLR	**Muntele Rosu**	**76.88**	**325**	P	**P**	**00 29 01.1**	**+1.3**
DRGR		**77.00**	**328**	P	**P**	**00 29 00.4**	**0.0**
MALT	**Malatya**	**77.11**	**313**	P	**P**	**00 29 02.7**	**+1.7**
NKC	**Novy Kostel**	**77.28**	**336**	*e*P	**P**	**00 28 57.5**	**-4.5**
ZST	**Bratislava**	**77.70**	**332**	*e*P	**P**	**00 29 05.2**	**+0.9**
ZST	comp=Z,6.0nm,0.6s,mb4.7			pmax	pmax		
ZST	**Bratislava** comp=Z,5.6nm,0.6s,mb4.7	**77.70**	**332**	*e*P	**P**	**00 29 05.2**	**+0.9**
KHC	**Kasperske Hory**	**77.95**	**335**	*e*P	**P**	**00 29 06.3**	**+0.6**
GRA1	**Grafenberg Arr** comp=Z,15nm,0.9s,mb4.9	**78.11**	**336**	*e*P	**P**	**00 29 07.4**	**+0.8**
GRF	**Grafenberg Arr** comp=Z,15nm,0.9s,mb4.9	**78.11**	**336**	*e*P	**P**	**00 29 07.4**	**+0.8**
GRF	**Grafenberg Arr**	**78.11**	**336**	*e*P	**P**	**00 29 07.4**	**+0.8**
GRF	comp=Z,15nm,0.9s,mb4.9			pmax	pmax		
GERES	**GERESS Array B** comp=Z,1.8nm,0.7s,mb4.1,baz=31,slow=5.9,SNR=16	**78.17**	**334**	P	**P**	**00 29 07.1**	**+0.2**
BR131	**Keskin Array S** comp=Z,3.7nm,0.9s,mb4.3	**78.31**	**317**	*e*P	**P**	**00 29 07.8**	**+0.1**
BRTR	**Keskin Array B** comp=Z,4.5nm,0.9s,mb4.4,baz=71,slow=3.9,SNR=17	**78.31**	**317**	P	**P**	**00 29 08.7**	**+1.0**
BZS	**Buzias**	**78.40**	**328**	P	**P**	**00 29 08.4**	**+0.2**
MMAI	**Mount Meron Ar** comp=Z,3.5nm,0.6s,mb4.6,baz=42,slow=6.7,SNR=10	**82.79**	**312**	P	**P**	**00 29 32.6**	**+0.9**
CFAA	**Coronel Fontan** comp=Z,0.7nm,0.6s,baz=292,slow=2.8,SNR=11	**144.46**	**79**	PKP	PKPdf	00 36 41.4	-2.4

IDC ***18*** *00:18:52.6±0.8, 4724N×15368E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/26, mbtmp4.1/14, Error ellipse: s-maj=28.8km s-min=21.0km az=94.0*
NEIC ***18*** *00:18:53.8±1.6, 4720N×15368E, h10km, mb4.4/2, Error ellipse: s-maj=42.3km s-min=13.0km az=175.0*
ISCJB ***18*** *00:18:58.8±2.5, 473N±0.1×1537E±02, h59km±22km, mb4.1/16, Error ellipse: s-maj=22.5km s-min=15.9km az=109.8*
MOS ***18*** *00:18:59.2±0.9, 4729N×15376E, h63km, mb4.5/3, Error ellipse: s-maj=23.0km s-min=12.6km az=94.0*

ISC 18 00:19:00.6±2.2, 473N±01×1537E±02, h61km±20km, n40, σ0§80/41, mb4.1/16, 12C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.53**	**245**	*e*PN	**Pn**	**00 20 08.0**	**+1.3**
KUR				*e*S	**Sn**	**00 20 57.0**	**-1.0**
KUR	comp=Z,180nm,0.8s			pmax	pmax		
KUR	comp=N,380nm,0.6s			smax			
KLR	**Kul'dur**	**14.73**	**286**	*e*P	**Pn**	**00 22 30.3**	**+4.8**
COLA	**College**	**35.47**	**39**	*e*P	**P**	**00 25 49.7**	**-1.4**
COLA	comp=Z,11nm,1.3s,mb4.6			pmax	pmax		
COLA	**College** comp=Z,10nm,1.3s,mb4.6	**35.47**	**39**	*e*P	**P**	**00 25 49.7**	**-1.4**
INK	**Inuvik** comp=Z,2.5nm,0.5s,mb4.1,baz=272,slow=5.5,SNR=6.2	**40.98**	**33**	P	**P**	**00 26 37.8**	**+0.3**
RES	**Resolute Bay**	**50.19**	**19**	*e*P	**P**	**00 27 49.5**	**-0.7**
CHKZ	**Chkalovo**	**50.38**	**310**	*e*P	**P**	**00 27 50.9**	**-0.7**
CHKZ	comp=Z,3.0nm,0.8s,mb4.4			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,2.6nm,0.8s,mb4.3	**50.38**	**310**	*e*P	**P**	**00 27 50.9**	**-0.7**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=7.9,SNR=4.3	**50.82**	**309**	P	**P**	**00 27 55.0**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,6.0nm,1.1s,mb4.5,baz=27,slow=8.1,SNR=4.6	**57.47**	**341**	P	**P**	**00 28 42.7**	**-0.6**
FINES	**FINESS Array B** comp=Z,1.4nm,0.5s,mb4.3,baz=30,slow=7.6,SNR=7.5	**63.71**	**335**	P	**P**	**00 29 25.6**	**-0.1**
ULM	**Lac du Bonnet** comp=Z,1.4nm,0.8s,mb4.1,baz=329,slow=5.4,SNR=3.3	**65.85**	**41**	P	**P**	**00 29 40.0**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.6s,mb4.3,baz=26,slow=6.5	**67.84**	**341**	P	**P**	**00 29 52.2**	**-0.1**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.6s,mb4.3,baz=27,slow=6.0,SNR=7.1	**67.84**	**341**	P	**P**	**00 29 52.2**	**-0.1**
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**00 29 52.2**	**-0.1**
HFS	**Hagfors** comp=Z,5.3nm,0.5s,mb4.9,baz=64,slow=6.8,SNR=18	**68.08**	**340**	P	**P**	**00 29 53.8**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.4s,mb3.6,baz=20,slow=6.8,SNR=4.8	**69.16**	**199**	P	**P**	**00 29 59.6**	**-1.0**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,mb4.0,baz=33,slow=6.1,SNR=4.3	**71.31**	**326**	P	**P**	**00 30 13.2**	**-0.5**
ASAR	**Alice Springs** comp=Z,1.3nm,0.7s,mb4.0,baz=11,slow=6.5,SNR=7.5	**72.85**	**199**	P	**P**	**00 30 23.5**	**+0.6**
ASAR	**Alice Springs** comp=Z,1.0nm,0.7s	**72.85**	**199**	P	**P**	**00 30 23.5**	**+0.6**
ASAR				pmax	pmax		
STHS	**Stebnicka Huta**	**75.24**	**330**	*e*P	**P**	**00 30 37.5**	**+0.6**
BURAR	**Bucovina Array**	**75.35**	**327**	⇑*i*P	**P**	**00 30 37.9**	**+0.4**
BURAR	**Bucovina Array**	**75.35**	**327**	⇑P	**P**	**00 30 37.9**	**+0.4**
CLL	**Collm**	**76.13**	**336**	*e*P	**P**	**00 30 42.0**	**+0.1**
PLOR	**Plostina**	**76.27**	**325**	⇓*i*P	**P**	**00 30 46.5**	**+3.8**
MLR	**Muntele Rosu** comp=Z,1.9nm,0.5s,mb4.2,baz=255,slow=1.1,SNR=4.0	**76.84**	**325**	P	**P**	**00 30 47.8**	**+1.8**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑*i*P	**P**	**00 30 47.2**	**+1.2**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑P	**P**	**00 30 47.2**	**+1.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.7s,mb3.7,baz=299,slow=4.6,SNR=4.6	**76.88**	**61**	P	**P**	**00 30 46.5**	**+0.3**
TXAR	**Lajitas Array**	**76.88**	**61**	P	**P**	**00 30 46.5**	**+0.3**
DRGR		**76.96**	**328**	⇑*i*P	**P**	**00 30 47.2**	**+0.6**
DRGR		**76.96**	**328**	⇑P	**P**	**00 30 47.2**	**+0.6**
MALT	**Malatya**	**77.07**	**313**	⇑*i*P	**P**	**00 30 45.9**	**-1.3**
MALT	**Malatya**	**77.07**	**313**	⇑P	**P**	**00 30 45.9**	**-1.4**
VOIR		**77.23**	**326**	⇑*i*P	**P**	**00 30 47.7**	**-0.5**
VOIR		**77.23**	**326**	⇑P	**P**	**00 30 47.7**	**-0.4**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,mb3.5,baz=35,slow=5.6,SNR=4.9	**78.14**	**334**	P	**P**	**00 30 53.4**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,mb3.8,baz=90,slow=2.5,SNR=4.0	**78.26**	**317**	P	**P**	**00 30 55.2**	**+1.4**
BZS	**Buzias**	**78.36**	**328**	⇑*i*P	**P**	**00 30 48.3**	**-6.1**
BZS	**Buzias**	**78.36**	**328**	⇑P	**P**	**00 30 48.3**	**-6.1**

CSEM ***18*** *00:19:38.6, 6782N×2021E, h0km, ML2.7, Mining explosion. After UPP*
UPP ***18*** *00:19:38.6, 6782N×2021E, h0km, ML2.7, Mining explosion.*

HEL 18 00:19:39.2±0.0, 6782N×2021E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	00 19 41.6	-0.3
KUA				*i* S	Sg	00 19 43.7	0.0
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 19 47.1	-0.7
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 19 52.0	-0.8
LANU	**Lannavaara** baz=304	**0.71**	**71**	P	Pg	00 19 52.0	-0.8
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 19 52.0	-1.0
DUNU	**Dundret** baz=78	**0.72**	**169**	P	Pg	00 19 52.0	-1.0
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 19 53.3	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 19 53.6	-0.7
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 20 01.8	-0.5
KIF				*e*S	Sg	00 20 18.2	+0.3
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 20 03.8	-1.8
HARU	**Harads**	**1.69**	**169**	*e*P	Pn	00 20 09.3	-0.7
HARU	**Harads** baz=337	**1.69**	**169**	P	Pn	00 20 09.3	-0.7
SJUU	**Sjulsmark**	**2.39**	**166**	*e*P	Pn	00 20 20.2	+0.6
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 20 20.5	+0.1
SGF				*e*SG	Sg	00 20 54.2	-3.6
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 20 30.1	+0.2
KEV				*e*S	Sn	00 21 08.3	+0.2

ISCJB ***18*** *00:21:40.0±0.2, 4697N±004×15500E±003, h13km, mb5.0/156, MS4.6/51, Error ellipse: s-maj=5.5km s-min=3.0km az=146.6*
IDC ***18*** *00:21:39.2±0.5, 4695N×15500E, h0km, mb4.8/30, mb1 4.9/31, mb1mx4.9/33, mbtmp4.8/31, ML4.3/1, MS4.4/26, Ms1 4.4/26, ms1mx4.2/46, Error ellipse: s-maj=14.3km s-min=12.1km az=153.0*
SKHL ***18*** *00:21:40.3±1.0, 4683N×15543E, h69km±19km, mb5.6/2, mbh5.2/1, Ms5.1/8, msh5.3/3*
NEIC ***18*** *00:21:41.2±0.2, 4698N×15497E, h10km, mb5.2/61, MS5.3/1, Error ellipse: s-maj=5.7km s-min=4.0km az=168.0*
GCMT ***18*** *00:21:41.2±0.2, 4704N×15529E, h12km, MW5.1/89, Moment Tensor Solution. s34,c46; s89,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.65±.10; $M_{\theta\theta}$2.91±.10; $M_{\phi\phi}$2.74±.09; $M_{r\theta}$0.09±.34; $M_{\theta\phi}$2.71±.08; $M_{\phi r}$-0.42±.33; Best double couple: M_o5.60900×10^{16} NP1:ϕ_s229.00000°, δ44.00000°, λ-85.00000°. NP2: ϕ_s42.00000°, δ46.00000°, λ-95.00000°. Principal axes: T 5.5410, Plg1.0000°, Azm136.0000°; N 0.1370, Plg4.0000°, Azm46.0000°; P -5.6780, Plg86.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***18*** *00:21:43.5, 4721N×15427E, h10km, mB5.3, mb4.8, Ms5.0, Msz4.8*
MOS ***18*** *00:21:45.1±1.3, 4703N×15487E, h48km, mb5.4/60, MS4.9/14, Error ellipse: s-maj=8.4km s-min=4.6km az=113.2*
SZGRF ***18*** *00:21:49.3, 4825N×15753E, h33km, mb5.6, East of Kuril Islands, Russia*

ISC 18 00:21:42.0±0.2, 4707N±003×15497E±003, h14km, h14km±1.1km:pP-P, n464, σ1§17/464, mb5.0/156, MS4.6/51, 40C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.70**	**11**	*e*P	**Pn**	**00 22 36.6**	**-2.1**
SKR	330nm,0.9s			AMB	AMB	00 22 43.0	
SKR	210nm,0.9s			AMB	AMB	00 22 43.0	
SKR	440nm,0.9s			AMB	AMB	00 22 43.0	
SKR				*e*S	**Sn**	**00 23 19.6**	**-2.5**
SKR	640nm,0.6s			A		00 23 23.5	
SKR	540nm,0.6s			A		00 23 23.5	
SKR	320nm,0.6s			A		00 23 23.5	
SKR	9μm,10.0s			A		00 23 32.0	
SKR	8μm,10.0s			A		00 23 32.0	
SKR	8μm,10.0s			A		00 23 32.0	
SKR	6μm,10.0s			A		00 23 32.0	
SKR	6μm,10.0s			AMS	AMS	00 24 30.0	
SKR	20μm,16.0s			AMS	AMS	00 24 30.0	
SKR	6μm,16.0s			AMS	AMS	00 24 30.0	
SKR	10μm,10.0s			AMS	AMS	00 24 30.0	
SKR	21μm,16.0s			AMS	AMS	00 24 30.0	
SKR	10μm,16.0s			AMS	AMS	00 24 30.0	
KUR	**Kuril'sk**	**5.26**	**252**	*e*P	**Pn**	**00 22 58.0**	**-2.3**
KUR	304nm,0.6s			AMB	AMB	00 22 58.5	
KUR				*e*S	**Sn**	**00 23 55.5**	**-5.3**
KUR	304nm,0.6s			A		00 23 58.5	
KUR	532nm,0.6s			A		00 23 58.5	
KUR	10μm,4.0s			A		00 24 05.0	
KUR	11μm,12.0s			AMS	AMS	00 25 26.5	
KUR	8μm,

UGL Uglegorsk 8.87 288 *e*P **Pn** **00 23 54.0 +4.2**
UGL AMB AMB 00 23 56.0
comp=Z,224nm,1.0s
UGL *e*L 00 25 52.0
UGL AMS AMS 00 28 22.0
comp=Z,8μm,14.0s
UGL AMS AMS 00 28 22.0
comp=Z,9μm,13.0s
UGL AMS AMS 00 28 22.0
comp=Z,10μm,13.0s
UGL Uglegorsk 8.87 288 *e*PN **Pn** **00 23 54.0 +4.2**
UGL pmax pmax
comp=Z,224nm,1.0s
UGL MLR MLR
comp=Z,8μm,14.0s
UGL MLR MLR
comp=N,9μm,13.0s
UGL MLR MLR
comp=E,13μm,13.0s
TYV Tymovskoe 8.94 300 *e*P **Pn** **00 23 53.0 +2.2**
TYV AMB AMB 00 23 56.5
comp=E,16nm,0.7s
TYV AMB AMB 00 23 56.5
comp=E,31nm,0.7s
TYV AMS AMS 00 28 40.0
comp=E,4μm,13.0s
TYV AMS AMS 00 28 40.0
comp=E,5μm,14.0s
TYV AMS AMS 00 28 40.0
comp=E,7μm,14.0s
ASAJ Asahikawa 9.16 256 Pn **Pn** **00 23 54.4 +0.5**
comp=E,3.7nm,0.3s,baz=82,slow=18,SNR=9.4
ASAJ LR LR 00 28 11.1
comp=E,1μm,18.7s,baz=79,slow=43
ERM Erimo 9.83 243 *i* PN **Pn** **00 24 01.4 -1.5**
OKH Okha 10.06 315 *e*L 00 26 33.0
OKH AMS AMS 00 29 27.6
comp=E,10μm,12.0s
OKH AMS AMS 00 29 27.6
comp=E,8μm,10.0s
OKH AMS AMS 00 29 27.6
comp=E,11μm,14.0s
NKL Nikolayevsk 11.00 309 *e*L 00 27 32.0
NKL AMS AMS 00 29 19.0
comp=E,4μm,16.0s
NKL AMS AMS 00 29 19.0
comp=E,6μm,16.0s
TEY Ternei 12.92 268 *e*P **Pn** **00 24 40.0 -5.2**
TEY AMB AMB 00 24 53.0
comp=E,1μm,6.0s
TEY AMB AMB 00 24 53.0
comp=E,800nm,4.0s
TEY AMS AMS 00 29 53.0
comp=E,2μm,16.0s
TEY AMS AMS 00 29 53.0
comp=E,1μm,13.0s
HABR Khabarovsk 13.47 283 ⇑ *i* PN **Pn** **00 24 55.5 +2.7**
HABR *e*S **Sn** **00 27 30.9 +8.6**
HABR pmax pmax
comp=Z,68nm,2.6s
KLR Kul'dur 15.64 286 *e*P **Pn** **00 25 22.5 +0.6**
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,13μm,13.0s
SEY Seymchan 15.97 356 *i* P **Pn** **00 25 27.1 +0.9**
MAJO Matsushiro 16.30 236 *e*P **Pn** **00 25 25.9 -4.6**
MAJO pmax pmax
comp=Z,118nm,1.3s
MAJO Matsushiro 16.30 236 *e*Pn **Pn** **00 25 25.9 -4.6**
comp=Z,118nm,1.3s
MAT Matsushiro 16.30 236 P **Pn** **00 25 25.4 -5.1**
MAT S **Sn** **00 28 30.0 -1.1**
MJAR Matsushiro Arr 16.30 236 Pn **Pn** **00 25 25.3 -5.2**
comp=Z,0.7nm,0.3s,baz=30,slow=14,SNR=9.9
AMKA Amchitka 16.44 66 *e*Pn **Pn** **00 25 35.0 +2.7**
ZEA Zeya 18.81 301 *e*P **Pn** **00 25 59.3 -2.3**
ZEA AMB AMB 00 26 01.5
comp=Z,33nm,0.8s
ZEA AMB AMB 00 26 06.0
comp=Z,500nm,7.0s
ZEA AMB AMB 00 26 06.0
comp=Z,800nm,7.0s
ZEA *e*S **Sn** **00 29 29.0 -2.9**
ZEA A 00 29 55.0
comp=Z,700nm,13.0s
YAK Yakutsk 20.76 325 *e*P **P** **00 26 22.5 0.0**
YAK *e* 00 26 38.1
YAK *e*S **S** **00 30 07.3 -6.6**
YAK *e*SS 00 30 29.7
YAK *e*SSS 00 30 37.6
YAK pmax pmax
comp=Z,45nm,0.8s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,15nm,1.0s
YAK smax
comp=E,300nm,2.7s
YAK smax
comp=N,500nm,4.4s
YAK MLR MLR
comp=E,1μm,17.0s,MS4.4
YAK MLR MLR
comp=Z,2μm,17.0s,MS4.5
YAK MLR MLR
comp=N,800nm,18.0s,MS4.4
YAK Yakutsk 20.76 325 *e*P **P** **00 26 21.3 -1.2**
comp=N,60nm,0.8s
CLNS Chul'man 20.79 309 *e*P **P** **00 26 22.0 -0.8**
CLNS *e* 00 26 37.3
CLNS *e*PPP 00 26 45.0
CLNS *e*S **S** **00 30 08.9 -5.6**
CLNS *e* 00 30 29.5
CLNS *e*SS 00 30 35.8
CLNS pmax pmax
comp=Z,25nm,0.6s
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS smax
comp=N,154nm,18.1s
CLNS smax
comp=Z,392nm,13.1s
CLNS smax
comp=E,971nm,13.3s
CLNS MLR MLR
comp=N,800nm,14.0s,MS4.7
CLNS MLR MLR
comp=Z,3μm,14.0s,MS4.8
CLNS MLR MLR
comp=E,2μm,15.0s,MS4.7
CN2 Changchun 20.91 272 *e*P **P** **00 26 20.0 -4.1**
CN2 *e*S **S** **00 30 06.8 -10**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,14.0s,MS4.7
CN2 LR LR
comp=E,2μm,14.0s,MS4.7
CN2 LR LR
comp=Z,2μm,14.0s,MS4.6
BILL Bilibino 21.81 11 *c i* P **P** **00 26 32.4 -1.4**
BILL *e*S **S** **00 30 34.8 +0.3**
BILL pmax pmax
comp=Z,22nm,0.8s,mb4.6
BILL MLR MLR
comp=Z,1μm,15.0s,MS4.3
BILL Bilibino 21.81 11 *e*P **P** **00 26 31.5 -2.2**
comp=Z,68nm,0.9s,mb5.1
KSRS Korea Array 22.11 254 P **P** **00 26 37.0 +0.1**
comp=Z,14nm,0.8s,mb4.4,baz=56,slow=10,SNR=22
KS15 Wonju Array Si 22.14 254 *e*P **P** **00 26 40.5 +3.2**
CBIJ Chichi jima 22.34 211 LR LR 00 32 45.1
comp=Z,406nm,22.0s,MS3.8,baz=113,slow=30
SNY Shenyang 22.92 268 ⇑ P **P** **00 26 44.9 -0.7**
SNY S **S** **00 30 53.1 -2.1**
SNY AMB AMB
comp=Z,20nm,0.5s,mb4.8
SNY AMB AMB
comp=Z,540nm,6.0s
SNY LR LR
comp=E,2μm,15.3s
SNY LR LR
comp=Z,2μm,16.2s,MS4.7
JNU Nakatsue 22.98 241 LR LR 00 35 56.7
comp=Z,2μm,19.1s,MS4.5,baz=80,slow=37
DL2 Dalian 25.57 264 ⇑ *i* P **P** **00 27 11.8 +1.3**
DL2 S **S** **00 31 39.0 +1.1**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
DL2 AMB AMB
comp=Z,190nm,5.0s
DL2 LR LR
comp=N,620nm,14.4s,MS4.3
DL2 LR LR
comp=E,280nm,13.3s,MS4.3
DL2 LR LR
comp=Z,470nm,14.4s,MS4.2
BOD Bodaibo 26.77 309 *e*P **P** **00 27 19.3 -2.1**
BOD pmax pmax
comp=Z,22nm,1.7s,mb4.4
CIT Chita 27.05 296 *e*P **P** **00 27 23.0 -0.9**
CIT *e* 00 27 34.8
CIT pmax pmax
comp=Z,65nm,2.6s,mb4.7
TIXI Tiksi 27.53 342 *e*P **P** **00 27 26.1 -2.2**
TIXI pmax pmax
comp=Z,40nm,0.9s,mb5.0
TIXI Tiksi 27.53 342 *e*P **P** **00 27 26.1 -2.2**
comp=Z,40nm,0.9s,mb5.0
BJI Beijing 28.75 270 P **P** **00 27 41.3 +2.2**
BJI S **S** **00 32 28.0 -0.1**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.7
BJI AMB AMB
comp=Z,391nm,6.1s
BJI LR LR
comp=N,2μm,15.9s,MS4.8
BJI LR LR
comp=E,767nm,15.9s,MS4.8
BJI LR LR
comp=Z,8μm,17.2s,MS5.4
BJI Beijing 28.75 270 P **P** **00 27 41.2 +2.1**
BJI S **S** **00 32 28.0 -0.1**
BJI pmax pmax
comp=Z,13nm,0.8s,mb4.7
BJI MLR MLR
comp=Z,8μm,17.2s,MS5.4
BJI Beijing 28.75 270 P **P** **00 27 41.2 +2.1**
comp=Z,13nm,0.8s,mb4.7
BJI S **S** **00 32 28.0 -0.1**
BJI LR LR
comp=Z,8μm,17.2s,MS5.4
SSE Sheshan 30.40 250 P **P** **00 27 52.6 -1.2**
SSE S **S** **00 32 52.3 -1.8**
SSE XS sS 00 32 57.6 -3.3
SSE AMB AMB
comp=Z,52nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,293nm,3.8s
SSE LR LR
comp=N,312nm,15.0s,MS4.3
SSE LR LR
comp=E,404nm,15.0s,MS4.3
SSE LR LR
comp=Z,605nm,14.4s,MS4.4
SSE Sheshan 30.40 250 P **P** **00 27 52.6 -1.2**
comp=Z,52nm,0.7s,mb5.4
SSE sP sP 00 27 57.1 -2.5
SSE S **S** **00 32 52.3 -1.8**
SSE sS sS 00 32 57.6 -3.3
SSE LR LR
comp=Z,610nm,14.4s,MS4.4
NJ2 Nanjing 31.31 254 *e*P **P** **00 28 02.8 +1.0**
NJ2 AP pP 00 28 06.1 +0.2
NJ2 XP sP 00 28 10.3 +2.7
NJ2 PP PP 00 29 05.9 -6.6
NJ2 S **S** **00 33 06.5 -1.7**
NJ2 XS sS 00 33 14.5 -0.6
NJ2 AMB AMB
comp=Z,680nm,4.8s
NJ2 LR LR
comp=N,1μm,15.2s,MS4.9
NJ2 LR LR
comp=E,1μm,15.4s,MS4.9
NJ2 LR LR
comp=Z,1μm,16.3s,MS4.7
SVW2 Sparrevohn 31.37 45 *e*P **P** **00 28 02.6 +0.3**
HHC Hu-ho-hao-te 31.54 275 *e*P **P** **00 28 04.3 +0.5**
HHC AP pP 00 28 08.6 +0.7
HHC XP sP 00 28 12.0 +2.4
HHC PP PP 00 29 08.3 -6.7
HHC PCP PcP 00 30 59.0 +2.7
HHC S **S** **00 33 11.0 -0.8**
HHC XS sS 00 33 17.9 -0.8
HHC SCP ScP 00 34 38.3 -0.8
HHC SCS ScS 00 38 36.3 -0.6
HHC AMB AMB
comp=Z,26nm,1.5s,mb4.8
HHC AMB AMB
comp=Z,227nm,6.2s
HHC LR LR
comp=N,1μm,14.9s,MS4.8
HHC LR LR
comp=E,1μm,14.7s,MS4.8
HHC LR LR
comp=Z,1μm,14.9s,MS4.8
ULN Ulaanbaatar 31.99 289 ‖ *i* P **P** **00 28 06.7 -1.1**
ULN Ulaanbaatar 31.99 289 *e*P **P** **00 28 06.8 -1.0**
comp=Z,7.7nm,1.0s,mb4.5
SONM Songino Array 32.43 290 P **P** **00 28 10.4 -1.2**
comp=Z,4.5nm,0.8s,mb4.3,baz=65,slow=8.2,SNR=28
SONM PcP PcP 00 30 56.8 -2.0
comp=Z,0.8nm,0.7s,baz=98,slow=1.3,SNR=3.6
IMA2 Indian Mountai 32.80 36 *e*P **P** **00 28 14.6 -0.3**
KDAK Kodiak Island 32.91 51 P **P** **00 28 14.4 -1.5**
comp=Z,18nm,0.8s,mb5.0,baz=55,slow=2.3,SNR=4.7
KDAK Kodiak Island 32.91 51 *e*P **P** **00 28 14.6 -1.2**
comp=Z,34nm,0.9s,mb5.3
TLY Talaya 33.16 297 *e*P **P** **00 28 17.3 -0.8**
ZAK Zakamensk 33.70 295 *e*P **P** **00 28 19.0 -3.7**
ZAK *e* 00 31 01.4
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
GUMO Guam 34.43 198 LR LR 00 39 24.1
comp=Z,162nm,21.3s,MS3.7,baz=310,slow=31
COLA College 35.09 39 *i* P **P** **00 28 33.8 -1.0**
COLA College 35.09 39 *i* P **P** **00 28 33.9 -0.9**
XAN Xi'an 36.81 266 P **P** **00 28 50.3 +0.8**
XAN AP pP 00 28 57.9 +4.2
XAN S **S** **00 34 28.8 -4.5**
XAN AMB AMB
comp=Z,6.0nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,67nm,3.3s
XAN LR LR
comp=N,554nm,15.6s,MS4.6
XAN LR LR
comp=E,553nm,15.2s,MS4.6
XAN LR LR
comp=Z,1μm,16.3s,MS4.8
MENT Mentasta 36.95 42 *e*P **P** **00 28 51.5 +0.8**
EGAK Eagle 37.96 39 *e*P **P** **00 28 58.4 -0.8**
comp=Z,57nm,0.8s,mb5.3
DAWY Dawson 38.78 40 *e*P **P** **00 29 05.7 -0.5**
LZH Lanzhou 39.15 273 P **P** **00 29 10.0 +0.8**
LZH AP pP 00 29 16.4 +3.0
LZH XP sP 00 29 22.0 +6.9
LZH PP PP 00 30 43.0 +4.0
LZH S **S** **00 35 04.0 -4.7**
LZH XS sS 00 35 15.0 -0.6
LZH SS SS 00 37 45.0 -16
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,380nm,4.0s
LZH LR LR
comp=E,2μm,14.2s
LZH LR LR
comp=Z,3μm,15.2s,MS5.2
LZH Lanzhou 39.15 273 P **P** **00 29 10.0 +0.8**
LZH *SP sP 00 29 22.0 +6.9
LZH 00 30 43.0
LZH S **S** **00 35 04.0 -4.7**
LZH SS SS 00 37 45.0 -16
LZH pmax pmax
comp=Z,70nm,1.0s,mb5.3
LZH MLR MLR
comp=Z,3μm,15.2s,MS5.2
LZH Lanzhou 39.15 273 P **P** **00 29 10.0 +0.8**
comp=Z,70nm,1.0s,mb5.3
LZH pP pP 00 29 16.4 +3.0
LZH sP sP 00 29 22.0 +6.9
LZH PP PP 00 30 43.0 +4.0
LZH S **S** **00 35 04.0 -4.7**
LZH sS sS 00 35 15.0 -0.6
LZH SS SS 00 37 45.0 -16
LZH LR LR
comp=Z,3μm,15.2s,MS5.2
GTA Gaotai 40.17 280 *e*P **P** **00 29 19.1 +1.3**
GTA AP pP 00 29 23.0 +1.0
GTA XP sP 00 29 25.3 +1.6
GTA PP PP 00 30 56.3 +6.1
GTA PCP PcP 00 31 22.4 +0.5
GTA S **S** **00 35 28.1 +4.0**
GTA XS sS 00 35 34.6 +3.6
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,162nm,3.8s
GTA LR LR
comp=N,966nm,13.3s,MS5.0
GTA LR LR
comp=E,1μm,14.8s,MS5.0
GTA LR LR
comp=Z,1μm,16.4s,MS4.9
INK Inuvik 40.70 33 P **P** **00 29 22.7 +0.6**
comp=Z,31nm,0.8s,mb5.0,baz=291,slow=7.5,SNR=74
INK Inuvik 40.70 33 *e*P **P** **00 29 22.8 +0.6**
comp=Z,1μm,0.9s
GZH Guangzhou 40.96 249 P **P** **00 29 28.6 +4.3**
GZH S **S** **00 35 43.3 +7.4**
GZH LR LR
comp=N,581nm,15.2s,MS4.7
GZH LR LR
comp=E,478nm,13.7s,MS4.7
GZH LR LR
comp=Z,745nm,13.9s,MS4.7
CD2 Chengdu 42.17 266 P **P** **00 29 32.9 -1.3**
CD2 AP pP 00 29 37.4 -1.0
CD2 XP sP 00 29 39.9 -0.2
CD2 PP PP 00 31 13.6 +1.7
CD2 PCP PcP 00 31 28.6 +0.2
CD2 S **S** **00 35 51.1 -2.7**
CD2 XS sS 00 35 58.5 -2.2
CD2 SS SS 00 38 52.5 -9.1
CD2 SCS ScS 00 39 32.8 -3.4
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,370nm,6.9s
CD2 LR LR
comp=N,900nm,14.3s,MS4.8
CD2 LR LR
comp=E,640nm,16.7s,MS4.8
CD2 LR LR
comp=Z,1μm,14.4s,MS4.9
GYA Guiyang 43.02 259 ‖ *i* P **P** **00 29 41.1 0.0**
GYA AP pP 00 29 45.8 +0.4
GYA XP sP 00 29 48.6 +1.5
GYA PP PP 00 31 24.5 +3.5
GYA PCP PcP 00 31 33.8 +2.6
GYA SCP ScP 00 35 23.6 +1.6
GYA S **S** **00 36 08.8 +0.5**
GYA SS SS 00 39 11.6 -6.8
GYA SCS ScS 00 39 41.3 -0.2
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.5s
GYA LR LR
comp=N,740nm,16.2s,MS4.9
GYA LR LR
comp=E,1μm,17.9s,MS4.9
GYA LR LR
comp=Z,670nm,16.5s,MS4.6
ZAL Zalesovo 43.47 306 P **P** **00 29 43.3 -1.4**
comp=Z,7.4nm,0.7s,mb4.5,baz=44,slow=9.5,SNR=32
ZAL LR LR 00 49 31.3
comp=Z,2μm,18.6s,MS4.9,baz=40,slow=38
NVS Novosibirsk 44.00 308 *e*P **P** **00 29 47.5 -1.5**
NVS *e* 00 31 32.4
NVS pmax pmax
comp=E,134nm,2.2s
NVS pmax pmax
comp=Z,144nm,2.2s,mb5.3
NVS pmax pmax
comp=N,62nm,2.5s
DLBC Dease Lake 44.46 47 *e*P **P** **00 29 53.1 +0.4**
WMQ Urumqi 45.99 292 ⇑ *i* P **P** **00 30 06.3 +1.4**
WMQ AP pP 00 30 10.8 +1.7
WMQ XP sP 00 30 13.3 +2.5
WMQ PCP PcP 00 31 43.1 +1.7
WMQ PP PP 00 31 54.5 +1.8
WMQ PPP 00 32 38.4
WMQ S **S** **00 36 50.8 +1.4**
WMQ XS sS 00 36 58.4 +1.9
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
WMQ AMB AMB
comp=Z,127nm,4.2s
WMQ LR LR
comp=N,1μm,20.8s,MS4.9
WMQ LR LR
comp=E,456nm,19.2s,MS4.9
WMQ LR LR
comp=Z,756nm,18.7s,MS4.7
QIZ Qiongzhong 46.15 248 P **P** **00 30 05.8 -0.3**
QIZ AP pP 00 30 09.1 -1.2
QIZ S **S** **00 36 51.9 +0.2**
QIZ XS sS 00 36 57.9 -0.8
QIZ SS SS 00 40 03.8 -13
QIZ AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
QIZ AMB AMB
comp=Z,139nm,5.2s
QIZ LR LR
comp=N,245nm,16.1s,MS4.4
QIZ LR LR
comp=E,245nm,16.1s,MS4.4
QIZ LR LR
comp=Z,432nm,16.1s,MS4.5
KMI Kunming 46.55 261 P **P** **00 30 10.8 +1.6**
KMI AP pP 00 30 14.3 +0.8
KMI PP PP 00 32 00.3 +1.7
KMI PPP 00 32 45.8
KMI S **S** **00 37 00.8 +3.3**
KMI XS sS 00 37 05.6 +1.1
KMI AMB AMB
comp=Z,16nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,331nm,4.2s
KMI LR LR
comp=N,432nm,15.5s,MS4.7
KMI LR LR
comp=E,431nm,14.9s,MS4.7
KMI LR LR
comp=Z,443nm,15.9s,MS4.5
KMI Kunming 46.55 261 P **P** **00 30 10.7 +1.5**
KMI 00 32 00.2
KMI PPP 00 32 45.8
KMI S **S** **00 37 00.8 +3.3**
KMI *SS sS 00 37 05.6 +1.1
KMI 00 40 08.7
KMI pmax pmax
comp=Z,16nm,0.9s,mb5.0
KMI MLR MLR
comp=Z,440nm,15.9s,MS4.5
KMI Kunming 46.55 261 P **P** **00 30 10.7 +1.5**
comp=Z,16nm,0.9s,mb5.0
KMI pP pP 00 30 14.2 +0.7
KMI sP sP 00 30 15.0 -0.2
KMI PP PP 00 32 00.2 +1.6
KMI PPP 00 32 45.8
KMI S **S** **00 37 00.8 +3.3**
KMI sS sS 00 37 05.6 +1.1
KMI ScS ScS 00 40 08.7 +4.7
KMI SS SS 00 40 22.2 -1.2
KMI LR LR

comp=Z,440nm,15.9s,MS4.5
MK31 Makanchi Array 47.92 298 P **P** **00 30 18.8 -1.1**
MK31 pmax pmax
comp=Z,32nm,1.1s,mb5.3
MKAR Makanchi Array 47.92 298 P **P** **00 30 19.2 -0.7**
comp=Z,8.4nm,0.6s,mb5.0,baz=68,slow=7.5,SNR=44
KURK Kurchatov 48.24 304 P **P** **00 30 21.8 -0.6**
comp=Z,419nm,0.7s,SNR=46
KURK Kurchatov 48.24 304 P **P** **00 30 21.1 -1.3**
KURK pmax pmax
comp=Z,21nm,0.8s,mb5.2
KURK Kurchatov 48.24 304 *i* P **P** **00 30 21.2 -1.2**
ALE Alert 49.30 6 P **P** **00 30 31.0 +0.5**
comp=Z,60nm,0.9s,mb5.6,SNR=6.2
YKA Yellowknife Ar 49.90 37 P **P** **00 30 34.4 -0.7**
comp=Z,4.8nm,0.8s,mb4.6,baz=295,slow=7.2,SNR=5.8
YKA PcP PcP 00 31 54.2 -1.2
comp=Z,3.4nm,0.7s,baz=301,slow=3.4,SNR=4.8
YKA Yellowknife Ar 49.90 37 P **P** **00 30 34.4 -0.7**
YKA PcP PcP 00 31 54.2 -1.2
RES Resolute Bay 50.12 19 *eP* **P** **00 30 37.3 +0.5**
RES pmax pmax
comp=Z,12nm,0.8s,mb5.0
RES Resolute Bay 50.12 19 *eP* **P** **00 30 37.0 +0.2**
comp=Z,464nm,0.9s
CHKZ Chkalovo 51.20 311 P **P** **00 30 43.2 -1.7**
CHKZ pmax pmax
comp=Z,60nm,0.6s,mb5.7
CHKZ Chkalovo 51.20 311 *eP* **P** **00 30 43.1 -1.8**
VOSK Vostochnaya 51.47 309 P **P** **00 30 45.9 -1.1**
VOSK pmax pmax
comp=Z,31nm,1.1s,mb5.2
LSA Lhasa 51.52 274 P **P** **00 30 50.0 +2.6**
LSA Lhasa 51.52 274 *eP* **P** **00 30 49.5 +2.1**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.2
LSA Lhasa 51.52 274 *eP* **P** **00 30 49.5 +2.2**
comp=Z,25nm,0.8s,mb5.2
BVA0 Borovoye Array 51.63 310 P **P** **00 30 46.9 -1.3**
BVA0 pmax pmax
comp=Z,11nm,1.0s,mb4.7
BVAR Borovoye Array 51.63 310 P **P** **00 30 47.5 -0.7**
comp=Z,15nm,0.4s,mb5.2,baz=59,slow=7.6,SNR=82
BRVK Borovoye 51.67 310 P **P** **00 30 47.2 -1.3**
comp=Z,277nm,0.8s,SNR=25
BRVK Borovoye 51.67 310 *eP* **P** **00 30 47.2 -1.3**
BRVK pmax pmax
comp=Z,31nm,0.7s,mb5.3
BRVK Borovoye 51.67 310 *eP* **P** **00 30 47.2 -1.3**
comp=Z,31nm,0.7s,mb5.3
NANT Nan 52.27 256 ⇑P **P** **00 30 51.0 -1.9**
comp=Z,72nm,0.8s,mb5.7
ZRNK Zerenda 52.40 310 *eP* **P** **00 30 52.7 -1.2**
ZRNK pmax pmax
comp=Z,32nm,0.9s,mb5.2
ZRNK Zerenda 52.40 310 *eP* **P** **00 30 52.7 -1.1**
comp=Z,32nm,0.9s,mb5.2
CHTO Chiang Mai 53.43 258 *eP* **P** **00 31 01.8 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.9s,mb4.9
CHTO Chiang Mai 53.43 258 *eP* **P** **00 31 01.8 +0.3**
comp=Z,14nm,0.9s,mb4.9
TKM2 Tokmak 2 53.99 297 P **P** **00 31 07.9 +2.2**
SNR=6.1
CHMS Chumysh 54.47 297 P **P** **00 31 06.2 -2.9**
SNR=7.5
USP Ospenovka 54.47 298 P **P** **00 31 10.0 +0.9**
SNR=21
KBK Karagaybulak 54.54 297 P **P** **00 31 10.0 +0.4**
SNR=8.3
KZA Kyzart 54.68 296 P **P** **00 31 10.7 +0.1**
SNR=5.9
AAK Ala-Archa 54.83 297 P **P** **00 31 11.8 +0.1**
comp=Z,104nm,0.8s,mb5.9,SNR=12
AAK Ala-Archa 54.83 297 P **P** **00 31 12.3 +0.6**
SNR=15
AAK Ala-Archa 54.83 297 *eP* **P** **00 31 10.1 -1.6**
AAK pmax pmax
comp=Z,15nm,0.8s,mb5.1
AAK Ala-Archa 54.83 297 *eP* **P** **00 31 10.1 -1.6**
comp=Z,15nm,0.8s,mb5.1
EDM Edmonton 55.17 47 *eP* **P** **00 31 13.6 -0.6**
EKS2 Erkin-Say 55.25 297 P **P** **00 31 15.0 +0.3**
SNR=11
AML Almayashu 55.60 297 P **P** **00 31 18.6 +1.3**
SNR=6.0
ARU Arti 55.63 318 P **P** **00 31 17.2 -0.3**
comp=Z,319nm,0.6s,SNR=22
ARU Arti 55.63 318 ⇓*i*P **P** **00 31 17.2 -0.3**
ARU *e* 00 32 14.7
ARU *e* 00 33 17.8
ARU *eS* **S** **00 39 05.6 +2.5**
ARU pmax pmax
comp=Z,36nm,0.8s,mb5.5
ARU Arti 55.63 318 *eP* **P** **00 31 17.0 -0.5**
KSH Kashi 55.70 293 *eP* **P** **00 31 19.5 +1.5**
KSH *eA*P pP 00 31 25.8 +3.5
KSH *eX*P sP 00 31 28.5 +4.5
KSH *eP*CP PcP 00 32 19.5 +2.2
KSH *eP*P PP 00 33 25.4 +3.1
KSH *eP*PP 00 34 39.8
KSH *eS*CP ScP 00 36 17.4 +1.5
KSH *eS* **S** **00 39 03.8 -0.2**
KSH *eX*S sS 00 39 12.5 +1.3
KSH *eP*S 00 39 22.3
KSH *eS*CS ScS 00 41 05.3 -1.6
KSH LR LR
comp=N,1μm,6.1s
KSH LR LR
comp=E,2μm,5.8s
KSH LR LR
comp=Z,1μm,7.8s
NEW Newport 55.97 54 P **P** **00 31 19.4 -0.5**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 55.97 54 P **P** **00 31 19.4 -0.5**
comp=Z,3.2nm,0.8s,mb4.4
JIRN Jiri 56.19 276 *eP* **P** **00 31 23.1 +1.6**
comp=Z,35nm,0.7s,mb5.5
GUN Gumba 56.24 276 *eP* **P** **00 31 23.1 +1.3**
comp=Z,15nm,0.4s,mb5.4
HNR Honiara 56.42 174 LR LR 00 50 49.8
comp=Z,350nm,20.8s,MS4.4,baz=0.2,slow=31
PMG Port Moresby 56.65 189 *eP* **P** **00 31 23.5 -1.3**
PMG pmax pmax
comp=Z,24nm,1.0s
PMG Port Moresby 56.65 189 *eP* **P** **00 31 23.5 -1.3**
comp=Z,24nm,1.0s,mb5.2
KKN Kakani 56.72 276 *eP* **P** **00 31 26.4 +1.1**
comp=Z,60nm,0.9s,mb5.6
PKI Pulchoki 56.77 276 *eP* **P** **00 31 27.1 +1.5**
comp=Z,21nm,0.6s,mb5.3
DMN Daman 56.95 276 *eP* **P** **00 31 28.7 +1.8**
comp=Z,57nm,0.8s,mb5.6
KK31 Karatay Array 56.95 300 *i* P **P** **00 31 26.5 -0.4**
KKAR Karatay Array 56.95 300 P **P** **00 31 26.4 -0.5**
GKN Gorkha 57.02 277 *eP* **P** **00 31 28.8 +1.4**
comp=Z,39nm,0.7s,mb5.6
WDC Whiskeytown Da 57.25 64 *eP* **P** **00 31 29.5 +0.5**
WDC pmax pmax
comp=Z,19nm,1.6s,mb4.9
WDC Whiskeytown Da 57.25 64 *eP* **P** **00 31 29.5 +0.5**
comp=Z,19nm,1.6s,mb4.9
KEV Kevo 57.46 341 *ep* **P** **00 31 29.6 -0.9**
comp=Z,22nm,0.8s,mb5.2
KEV Kevo 57.46 341 *eP* **P** **00 31 29.6 -0.9**
KEV pmax pmax
comp=Z,22nm,0.8s,mb5.2
APA Apatity 57.54 337 ⇓*i*P **P** **00 31 21.0 -10**
APA *i* 00 31 31.8
APA *i* 00 31 39.1
APA pmax pmax
comp=Z,52nm,1.0s,mb5.5
APA MLR MLR
comp=Z,2μm,18.0s,MS5.1
BMO Blue Mountains 57.84 57 *eP* **P** **00 31 33.1 -0.1**
comp=Z,24nm,1.8s,mb4.9
BMO *ep*P pP 00 31 58.4 +21
KOLN Koldanda 57.87 277 *eP* **P** **00 31 33.9 +0.5**
comp=Z,64nm,0.9s,mb5.7
ARCES ARCESS Array B 57.97 341 P **P** **00 31 33.7 -0.4**
comp=Z,24nm,0.8s,mb5.3,baz=37,slow=6.4,SNR=19
ARCES LR LR 01 00 13.5
comp=Z,807nm,18.5s,MS4.9,baz=32,slow=40
ARE0 ARCESS Array S 57.97 341 *eP* **P** **00 31 33.9 -0.2**
WVOR Wild Horse Val 58.50 60 *eP* **P** **00 31 37.6 -0.2**
WVOR pmax pmax
comp=Z,13nm,1.5s,mb4.7
WVOR Wild Horse Val 58.50 60 *eP* **P** **00 31 37.6 -0.2**
comp=Z,12nm,1.5s,mb4.7
TMCR Tamitsa 58.64 333 *eP* **P** **00 31 38.8 0.0**
KTK1 Kautokeino 58.87 342 *eP* **P** **00 31 41.1 +0.7**
KTK1 AMb AMB 00 31 42.9
comp=Z,79nm,1.1s,mb5.7
KTK1 Kautokeino 58.87 342 *eP* **P** **00 31 41.1 +0.7**
comp=Z,79nm,1.1s,mb5.7
CHMT Chamberlain Mo 58.88 53 *eP* **P** **00 31 39.8 -0.7**
BOK Bokaro 58.91 272 *eP* **P** **00 31 41.7 +1.0**
BOK AMb AMB 00 31 55.7
comp=Z,22nm,1.4s,mb5.0
AB31 Akbulak array 59.19 311 *i* P **P** **00 31 42.2 -0.4**
TRO Tromso 59.24 344 *eP* **P** **00 31 41.9 -1.1**
TRO AMb AMB 00 31 45.3
comp=Z,88nm,1.6s,mb5.5
AKTK Aktyubinsk 59.45 313 P **P** **00 31 44.0 -0.4**
AKTK LR LR 00 58 47.6
AKTO Aktyubinsk 59.45 313 P **P** **00 31 44.0 -0.4**
comp=Z,6.4nm,0.5s,mb4.9,baz=71,slow=7.8,SNR=24
AKTO LR LR 00 58 47.6
comp=Z,411nm,20.6s,MS4.5,baz=63,slow=37
AKTO Aktyubinsk 59.45 313 P **P** **00 31 42.8 -1.6**
LRM Limekiln Ridge 59.99 54 *eP* **P** **00 31 48.7 +0.6**
CMB Columbia Colle 60.12 65 *eP* **P** **00 31 48.2 -0.8**
HLID Hailey 60.27 57 *eP* **P** **00 31 51.2 +1.2**
HLID *ep*P pP 00 32 06.0 +12
ORR Orenburg 60.33 315 ⇓*i*P **P** **00 31 50.7 +0.3**
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.5
ORR MLR MLR
comp=Z,1μm,16.0s,MS5.1
NVAR Mina Array Bea 61.16 64 P **P** **00 31 56.7 +0.6**
comp=Z,0.8nm,0.6s,mb4.0,baz=292,slow=8.7,SNR=6.3
NVAR Mina Array Bea 61.16 64 P **P** **00 31 56.7 +0.6**
QLMT Earthquake Lak 61.17 54 *eP* **P** **00 31 57.1 +0.9**
GCMT Greycliff 61.53 52 *eP* **P** **00 31 56.8 -1.8**
NDI New Delhi 61.58 282 *eP* **P** **00 32 00.4 +1.5**
NDI AMb AMB 00 32 19.1
comp=Z,21nm,0.6s,mb5.5
AYAN Aya Nagar 61.77 282 *eP* **P** **00 32 00.2 0.0**
AYAN AMb AMB 00 32 20.4
comp=Z,9.9nm,1.2s,mb4.8
SONA Sohna 61.95 282 *eP* **P** **00 32 02.8 +1.4**
SONA AMb AMB 00 32 21.7
comp=Z,18nm,1.0s,mb5.2
AGRA Agra 62.04 281 *eP* **P** **00 32 02.2 +0.2**
AGRA AMb AMB 00 32 02.6
comp=Z,66nm,0.3s
RRI2 Red Ridge 62.16 55 *eP* **P** **00 32 03.7 +0.8**
MOOW Moose Ponds 62.23 55 *eP* **P** **00 32 04.5 +1.1**
comp=Z,21nm,1.8s,mb5.0
LOHW Long Hollow 62.40 55 *eP* **P** **00 32 05.5 +1.1**
comp=Z,17nm,1.4s,mb5.0
KUDL Kundal 62.42 283 *eP* **P** **00 32 04.4 -0.2**
KUDL AMb AMB 00 32 24.5
comp=Z,24nm,0.6s,mb5.5
REDW Red Top Meadow 62.42 55 *eP* **P** **00 32 06.0 +1.4**
comp=Z,18nm,1.2s,mb5.1
LAO LASA Array 62.78 50 *eP* **P** **00 32 07.5 +0.5**
SPUT South Promonto 62.82 58 *eP* **P** **00 32 06.3 -0.9**
KAKA Kakadu 62.84 205 *eP* **P** **00 32 05.5 -1.9**
comp=Z,9.6nm,0.8s,mb5.0
KHET Khetri 62.92 283 *eP* **P** **00 32 08.8 +0.9**
KHET AMb AMB 00 32 28.3
comp=Z,7.5nm,1.5s,mb4.6
MOR8 Moi Rana 63.09 343 *eP* **P** **00 32 07.7 -1.3**
HWUT Hardware Ranch 63.14 57 *eP* **P** **00 32 10.2 +0.8**
comp=Z,50nm,2.1s,mb5.3
DUG Dugway 63.33 59 *eP* **P** **00 32 11.8 +1.2**
DUG *e**PP pP 00 32 24.6 +10
BW06 Boulder Array 63.53 55 *eP* **P** **00 32 12.8 +0.8**
PDAR Pinedale Array 63.53 55 P **P** **00 32 11.9 0.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=304,slow=2.9,SNR=11
MPU Maple Canyon 64.13 58 P **P** **00 32 15.6 -0.3**
comp=Z,1.3nm,0.4s,mb4.3
FIA1 FINESS Array S 64.28 335 *eP* **P** **00 32 15.8 -1.2**
FINES FINESS Array B 64.29 335 P **P** **00 32 16.5 -0.4**
comp=Z,7.1nm,0.4s,mb5.1,baz=38,slow=8.6,SNR=46
FINES LR LR 01 03 29.7
comp=Z,522nm,18.1s,MS4.8,baz=169,slow=39
FINES FINESS Array B 64.29 335 P **P** **00 32 16.5 -0.4**
FINES LR LR 01 03 29.7
SHPR Sheep Range 64.31 63 *eP* **P** **00 32 17.5 +0.4**
SFJD Kangerlussuaq 64.61 11 *eP* **P** **00 32 18.1 -0.9**
SFJD pmax pmax
comp=Z,19nm,0.7s,mb5.2
SFJD Kangerlussuaq 64.61 11 *eP* **P** **00 32 18.1 -1.0**
comp=Z,19nm,0.7s,mb5.2
AJM Ajmer 64.75 282 *eP* **P** **00 32 21.7 +1.7**
AJM AMb AMB 00 32 41.1
comp=Z,16nm,0.8s,mb5.1
MOS Moscow 64.89 326 *eP* **P** **00 32 18.3 -2.6**
MOS *e* 00 32 30.5
MOS pmax pmax
comp=Z,73nm,1.8s,mb5.4
NSS Namsos 65.04 343 *eP* **P** **00 32 21.2 -0.6**
BHPL Bhopal 65.04 278 *eP* **P** **00 32 23.0 +1.1**
BHPL AMb AMB 00 32 28.8
comp=Z,18nm,0.6s,mb5.3
NGP Nagpur 65.35 275 *eP* **P** **00 32 23.1 -0.7**
NGP AMb AMB 00 32 39.1
comp=Z,24nm,1.6s,mb5.0
PSI Prapat 65.37 246 P **P** **00 32 24.9 +0.9**
comp=Z,3.3nm,0.4s,mb4.7,baz=304,slow=18,SNR=6.4
PSI Prapat 65.37 246 P **P** **00 32 24.9 +0.9**
SRU San Rafael 65.37 59 P **P** **00 32 25.1 +1.1**
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SRU San Rafael 65.37 59 *eP* **P** **00 32 25.0 +1.0**
ULM Lac du Bonnet 65.44 42 P **P** **00 32 23.5 -1.0**
comp=Z,2.8nm,0.8s,mb4.4,baz=302,slow=6.3,SNR=5.1
RSSD Black Hills 65.64 51 *eP* **P** **00 32 25.2 -0.6**
RSSD pmax pmax
comp=Z,46nm,2.0s,mb5.2
RSSD Black Hills 65.64 51 *eP* **P** **00 32 25.2 -0.5**
comp=Z,46nm,2.0s,mb5.2
OBN Obninsk 65.76 326 ⇓*eP* **P** **00 32 26.5 0.0**
OBN *e* 00 34 47.0
OBN *eS* S 00 41 26.8 +14
OBN pmax pmax
comp=Z,70nm,1.4s,mb5.5
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 65.76 326 *eP* **P** **00 32 27.1 +0.6**
GLA Glamis 66.79 66 *eP* **P** **00 32 33.9 +0.8**
JASL Jaisalmer 66.93 285 *eP* **P** **00 32 32.0 -2.0**
PV01 Paradox Valley 67.16 58 *eP* **P** **00 32 34.2 -1.2**
VOR Voronezh 67.25 323 P **P** **00 32 34.0 -2.0**
VOR pmax pmax
comp=Z,90nm,2.0s,mb5.5
CTA Charters Tower 67.30 189 LR LR 00 59 58.9
comp=Z,131nm,18.3s,MS4.2,baz=51,slow=34
SMCO Snowmass 67.37 56 *eP* **P** **00 32 28.3 -8.6**
comp=Z,5.5nm,1.1s,mb4.5
ABKT Ailbek 67.52 302 P **P** **00 32 38.0 +0.2**
comp=Z,160nm,0.8s,mb6.1,SNR=12
VRSR Storozhevoye 67.64 322 *eP* **P** **00 32 39.7 +1.2**
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=E,20nm,1.0s
ISCO Idaho Springs 67.72 55 *eP* **P** **00 32 40.5 +1.5**
ISCO *e**PP pP 00 32 51.7 +8.3
ISCO pmax pmax
comp=Z,31nm,1.8s,mb5.0
ISCO Idaho Springs 67.72 55 *eP* **P** **00 32 40.5 +1.5**
comp=Z,31nm,1.8s,mb5.0
ISCO *ep*P pP 00 32 51.7 +8.3
VORD Divnogorie 67.78 322 *eP* **P** **00 32 38.1 -1.3**
VORD pmax pmax
comp=Z,20nm,1.0s,mb5.1
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,9.0nm,0.8s
MVCO Mesa Verde 67.83 59 *eP* **P** **00 32 38.8 -0.9**
comp=E,1.2nm,0.4s,mb4.3
HYB Hyderabad 68.26 272 *i* P **P** **00 32 46.0 +3.6**
HYB Hyderabad 68.26 272 *eP* **P** **00 32 46.0 +3.6**
NB2 NORSAR Subarra 68.33 342 P **P** **00 32 41.9 -1.0**
comp=Z,53nm,1.4s,mb5.4,baz=25,slow=6.5
NOA NORSAR Array B 68.33 342 P **P** **00 32 42.5 -0.3**
comp=Z,6.2nm,0.7s,mb4.8,baz=26,slow=6.3,SNR=16
NOA LR LR 01 08 16.7
comp=Z,304nm,19.0s,MS4.5,baz=20,slow=41
NAO01 NORSAR Array S 68.58 342 *eP* **P** **00 32 42.0 -2.4**
comp=Z,6.6nm,0.7s,mb4.7
HFS Hagfors 68.59 340 P **P** **00 32 43.8 -0.7**
comp=Z,7.3nm,0.5s,mb4.9,baz=52,slow=3.5,SNR=33
HFS LR LR 01 05 39.4
comp=Z,497nm,18.9s,MS4.8,baz=54,slow=38
SDCO Great Sand Dun 69.19 57 *eP* **P** **00 32 49.4 +1.1**
comp=Z,37nm,2.0s,mb5.0
WRAB Tennant Creek 69.23 201 *eP* **P** **00 32 46.5 -2.0**
WRAB Tennant Creek 69.23 201 *eP* **P** **00 32 47.0 -1.5**
WB2 Warramunga Arr 69.24 201 *eP* **P** **00 32 46.5 -2.0**
WRA Warramunga Arr 69.24 201 P **P** **00 32 47.0 -1.6**
comp=Z,7.4nm,0.8s,mb4.6,baz=19,slow=6.7,SNR=25
WRA LR LR 00 59 45.7
comp=Z,109nm,20.9s,MS4.1,baz=355,slow=33
MNK Minsk 69.38 330 *eP* **P** **00 32 46.0 -3.4**
DZM Mont Dzumac 69.59 169 LR LR 00 58 45.7
comp=Z,255nm,19.4s,MS4.5,baz=32,slow=32
FITZ Fitzroy Crossi 70.04 210 *eP* **P** **00 32 52.7 -0.7**
comp=Z,5.6nm,0.8s,mb4.5
FITZ Fitzroy Crossi 70.04 210 LR LR 01 02 40.6
comp=Z,97nm,18.2s,MS4.1,baz=202,slow=35
GOF Gofitskoye 70.49 316 *eP* **P** **00 33 02.2 +6.0**
GOF pmax pmax
comp=Z,100nm,1.0s,mb5.7
ANMO Albuquerque 70.58 59 P **P** **00 32 56.5 -0.3**
comp=Z,0.7nm,0.5s,baz=304,slow=10,SNR=4.6
KAD Karad 71.31 275 *eP* **P** **00 33 01.9 +0.6**
KAD AMb AMB 00 33 08.9
comp=Z,37nm,1.4s,mb5.1
SUW Suwalki 71.32 332 *eP* **P** **00 33 00.9 -0.3**
SUW Suwalki 71.32 332 *eP* **P** **00 33 00.7 -0.5**
KIV Kislovodsk 71.48 315 P **P** **00 33 05.9 +3.7**
comp=Z,189nm,0.7s,mb6.1,SNR=6.0
KIV Kislovodsk 71.48 315 ⇑*eP* **P** **00 33 03.0 +0.8**
KIV *e* 00 35 41.9
KIV pmax pmax
comp=Z,36nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,700nm,17.0s,MS5.0
KIV Kislovodsk 71.48 315 *eP* **P** **00 33 05.5 +3.3**
AKASG Malin Array Be 71.98 327 P **P** **00 33 04.4 -0.8**
comp=Z,23nm,0.7s,mb5.2,baz=34,slow=6.2,SNR=53
AKASG LR LR 01 08 51.5
comp=Z,446nm,20.0s,MS4.7,baz=25,slow=39
AKBB Malin Array Si 71.98 327 *eP* **P** **00 33 04.0 -1.2**
KIEV Kiev 71.99 327 P **P** **00 33 04.0 -1.3**
KIEV pmax pmax
comp=Z,21nm,0.7s,mb5.2
KIEV Kiev 71.99 327 *eP* **P** **00 33 02.7 -2.6**
comp=Z,20nm,0.7s,mb5.2
SCHQ Schefferville 72.51 24 LR LR 01 09 55.6
comp=Z,170nm,18.5s,MS4.3,baz=337,slow=40
BSD Bornholm Skovb 72.77 337 *i* P **P** **00 33 12.3 +2.4**
comp=Z,16nm,0.6s,mb5.1
BSD Bornholm Skovb 72.77 337 *i* P **P** **00 33 12.3 +2.4**
BSD pmax pmax
comp=Z,16nm,0.6s,mb5.1
SCIA State Center 72.78 47 *eP* **P** **00 33 09.1 -0.9**
comp=Z,7.3nm,0.4s,mb5.0
AS31 Alice Springs 72.93 200 *eP* **P** **00 33 10.2 -0.7**
ASAR Alice Springs 72.93 200 P **P** **00 33 09.9 -1.0**
comp=Z,6.9nm,0.8s,mb4.6,baz=13,slow=5.5,SNR=57
ASAR LR LR 01 01 05.4
comp=Z,196nm,20.1s,MS4.4,baz=356,slow=32
ASPA Alice Springs 72.93 200 *eP* **P** **00 33 10.2 -0.7**
SOC Sochi 73.17 317 *eP* **P** **00 33 12.9 +0.6**
SOC pmax pmax
comp=Z,33nm,0.8s,mb5.3
GNI Garni 73.28 311 P **P** **00 33 14.2 +1.2**
comp=Z,8.6nm,0.7s,mb4.8,baz=24,slow=3.8,SNR=7.7
GNI Garni 73.28 311 *ceP* **P** **00 33 13.6 +0.6**
GNI pmax pmax
comp=Z,43nm,2.4s
GNI Garni 73.28 311 P **P** **00 33 14.2 +1.2**
GNI *eP* pP 00 33 16.6 -0.8
ANN Anapa 73.29 319 *eP* **P** **00 33 09.5 -3.5**
ANN pmax pmax
comp=Z,66nm,1.3s,mb5.4
MNTX Cornudas Mount 73.50 61 *eP* **P** **00 33 15.1 +0.8**
GKP Gorka Klasztor 73.76 335 *eP* **P** **00 33 17.2 +1.4**
SIM Simferopol' 74.64 321 *ceP* **P** **00 33 21.8 +0.9**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,580nm,17.0s,MS4.9
WMOK Wichita Mounta 75.14 55 *eP* **P** **00 33 24.3 +0.5**
KIS Kishinev 75.16 325 *eP* **P** **00 33 23.0 -0.9**
KIS *e* 00 33 43.0
KIS Kishinev 75.16 325 *eP* **P** **00 33 23.0 -0.9**
KIS *eL* 01 00 40.0
KIS LRM 01 15 22.0
comp=Z,300nm,16.0s
KWP Kalwaria 75.19 330 *eP* **P** **00 33 24.2 +0.1**
KWP Kalwaria 75.19 330 *eP* **P** **00 33 23.9 -0.2**
KWP pmax pmax
comp=Z,65nm,1.0s,mb5.5
IAS Iasi 75.49 326 ⇑*i*P **P** **00 33 25.8 0.0**
IAS Iasi 75.49 326 P **P** **00 33 25.8 0.0**
OJC Ojcow 75.64 332 *eP* **P** **00 33 27.2 +0.5**
HAKT HAKKARI 75.76 310 *i* P **P** **00 33 28.5 +1.1**
STHS Stebnicka Huta 75.87 331 *eP* **P** **00 33 28.7 +0.7**
STHS pmax pmax
comp=Z,22nm,0.7s,mb5.2
STHS Stebnicka Huta 75.87 331 *eP* **P** **00 33 28.7 +0.7**
comp=Z,22nm,0.7s,mb5.2
KOLS Kolonicke sedl 75.94 330 *eP* **P** **00 33 30.0 +1.6**
BURAR Bucovina Array 76.01 328 ⇑*i*P **P** **00 33 28.7 -0.1**
BURAR Bucovina Array 76.01 328 ⇑P **P** **00 33 28.7 -0.1**
NIE Niedzica 76.17 331 *eP* **P** **00 33 30.3 +0.6**
KSP Ksiaz 76.17 334 *eP* **P** **00 33 32.7 +3.0**
KSP Ksiaz 76.17 334 *eP* **P** **00 33 30.2 +0.5**
KSP *ep*P pP 00 33 32.3 -1.9
KSP LR LR
comp=Z,2μm,19.5s,MS5.3
UZH Uzhgorod 76.19 330 *eP* **P** **00 33 31.6 +1.8**
UZH *e* 00 33 47.2
LTX Lajitas 76.22 62 *eP* **P** **00 33 30.6 +0.6**
TXAR Lajitas Array 76.22 62 P **P** **00 33 29.6 -0.5**
comp=Z,11nm,1.0s,mb4.7,baz=296,slow=3.7,SNR=48
OKC Ostrava-Krasne 76.50 333 *eP* **P** **00 33 30.1 -1.5**
UPC Upice 76.56 334 *eP* **P** **00 33 31.8 -0.1**
DPC Dobruska-Polom 76.60 334 *eP* **P** **00 33 32.4 +0.2**
DPC *ep*P pP 00 33 35.6 -1.0
DPC AMS AMS 01 12 00.0
comp=Z,800nm,15.9s
CLL Collm 76.69 337 *eP* **P** **00 33 32.0 -0.7**
CLL pmax pmax
comp=Z,61nm,1.2s,mb5.4
CLL Collm 76.69 337 *eP* **P** **00 33 32.0 -0.7**
comp=Z,61nm,1.2s,mb5.4
CLL *ep*P pP 00 33 36.0 -1.1
MORC Moravsky Berou 76.74 333 ⇑*i*P **P** **00 33 32.9 0.0**
MORC Moravsky Berou 76.74 333 *eP* **P** **00 33 33.1 +0.2**
comp=Z,32nm,1.0s,mb5.2
BRG Berggiesshubel 76.82 336 *eP* **P** **00 33 35.0 +1.6**
comp=Z,3.4nm,1.0s,mb4.2
BRG *i* pP 00 33 37.9 +0.1
comp=Z,18nm,1.2s
BRG Berggiesshubel 76.82 336 *eP* **P** **00 33 35.0 +1.6**
BRG *i* pP 00 33 37.9 0.0
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRI Vrincioaia 76.91 326 ⇑*i*P **P** **00 33 35.9 +2.0**
VRI Vrincioaia 76.91 326 ⇑P **P** **00 33 35.9 +2.0**
KECS Kecovo 76.93 331 *eP* **P** **00 33 33.7 -0.3**
KECS pmax pmax
comp=Z,11nm,1.2s,mb4.7
KECS Kecovo 76.93 331 *eP* **P** **00 33 33.7 -0.3**
comp=Z,11nm,1.2s,mb4.7
CFR Carcaliu 76.93 324 ⇑*i*P **P** **00 33 36.2 +2.2**
CFR Carcaliu 76.93 324 ⇑P **P** **00 33 36.2 +2.1**
PLOR Plostina 76.95 326 ⇑*i*P **P** **00 33 37.1 +3.0**
PVCC Panska Ves 76.95 335 *eP* **P** **00 33 34.8 +0.6**
MSL Mosul 77.04 310 *ex* x 00 33 36.0
MSL *ex* x 00 43 24.0
BOYT Boyabat 77.09 318 *i* P **P** **00 33 36.3 +1.4**
TIRR Tirgusor 77.42 324 ⇑*i*P **P** **00 33 36.6 -0.1**
TIRR Tirgusor 77.42 324 ⇑P **P** **00 33 36.6 -0.2**
ELZG Elazig 77.44 314 *i* P **P** **00 33 38.4 +1.5**

VRAC	**Vranov**	**77.44 334**	P	**P**	**00 33 37.8**	**+0.8**
	comp=Z,17nm,0.8s,mb5.0,baz=28,slow=6.0,SNR=15					
VRAC	**Vranov**	**77.44 334**	⇑*i*P	**P**	**00 33 38.0**	**+1.1**
VRAC	**Vranov**	**77.44 334**	P	**P**	**00 33 37.8**	**+0.9**
VRAC			pmax	pmax		
	comp=Z,17nm,0.8s					
VRAC	**Vranov**	**77.44 334**	⇑P	**P**	**00 33 38.0**	**+1.1**
MARD	**Mardin**	**77.45 312**	*i*P	**P**	**00 33 30.4**	**-6.6**
VYHS	**Vyhne**	**77.46 332**	*i*P	**P**	**00 33 37.2**	**+0.2**
VYHS	**Vyhne**	**77.46 332**	*i*P	**P**	**00 33 37.3**	**+0.3**
VYHS			pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8					
VYHS	**Vyhne**	**77.46 332**	*i*P	**P**	**00 33 37.3**	**+0.3**
	comp=Z,16nm,1.3s,mb4.8					
MLR	**Muntele Rosu**	**77.52 326**	⇓*i*P	**P**	**00 33 37.7**	**+0.3**
MLR	**Muntele Rosu**	**77.52 326**	⇓P	**P**	**00 33 37.7**	**+0.4**
PSZ	**Piszkesteto**	**77.61 331**	⇑P	**P**	**00 33 38.0**	**+0.1**
PSZ	**Piszkesteto**	**77.61 331**	*e*P	**P**	**00 33 38.2**	**+0.4**
	comp=Z,38nm,1.4s,mb5.1					
DRGR		**77.62 329**	⇓*i*P	**P**	**00 33 37.6**	**-0.3**
DRGR		**77.62 329**	⇓P	**P**	**00 33 37.6**	**-0.3**
MOX	**Moxa**	**77.66 337**	*e*P	**P**	**00 33 39.4**	**+1.3**
	comp=Z,31nm,1.5s,mb5.0					
MOX	**Moxa**	**77.66 337**	*e*P	**P**	**00 33 39.4**	**+1.3**
MOX			pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0					
BALT	**Daday**	**77.68 319**	*i*P	**P**	**00 33 39.1**	**+0.9**
JCT	**Junction City**	**77.68 58**	*e*P	**P**	**00 33 38.8**	**+0.6**
CTKT	**Corum**	**77.77 318**	*i*P	**P**	**00 33 39.9**	**+1.1**
SNX	**Sinaia**	**77.80 326**	⇑*i*P	**P**	**00 33 40.1**	**+1.2**
SNX	**Sinaia**	**77.80 326**	⇑P	**P**	**00 33 40.1**	**+1.2**
NKC	**Novy Kostel**	**77.81 336**	*e*P	**P**	**00 33 39.7**	**+0.7**
NKC	**Novy Kostel**	**77.81 336**	*e*P	**P**	**00 33 34.7**	**-4.3**
MALT	**Malatya**	**77.86 314**	⇑*i*P	**P**	**00 33 40.5**	**+1.3**
MALT	**Malatya**	**77.86 314**	*e*P	**P**	**00 33 40.4**	**+1.2**
MALT			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9					
MALT	**Malatya**	**77.86 314**	*e*P	**P**	**00 33 40.4**	**+1.2**
	comp=Z,17nm,1.0s,mb4.9					
SMOL	**Smolenice**	**77.89 333**	*e*P	**P**	**00 33 39.9**	**+0.5**
VOIR		**77.91 326**	⇑*i*P	**P**	**00 33 40.0**	**+0.5**
VOIR		**77.91 326**	⇑P	**P**	**00 33 40.0**	**+0.5**
ZST	**Bratislava**	**78.27 333**	*e*P	**P**	**00 33 41.0**	**-0.5**
ZST			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8					
ZST			MLR	MLR		
	comp=Z,700nm,17.5s,MS5.0					
ZST	**Bratislava**	**78.27 333**	*e*P	**P**	**00 33 41.0**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8					
ZST			LR	LR		
	comp=Z,700nm,17.5s,MS5.0					
KHC	**Kasperske Hory**	**78.49 335**	*e*P	**P**	**00 33 42.9**	**+0.2**
KHC			AMS	AMS	01 12 00.0	
	comp=Z,900nm,24.9s					
ELDT	**Eldivan**	**78.50 318**	*i*P	**P**	**00 33 45.0**	**+2.2**
ATAB	**Bozova**	**78.58 314**	*i*P	**P**	**00 33 44.2**	**+1.0**
GRA1	**Grafenberg Arr**	**78.64 337**	*e*P	**P**	**00 33 43.9**	**+0.4**
	comp=Z,65nm,1.4s,mb5.4					
GRF	**Grafenberg Arr**	**78.64 337**	*e*P	**P**	**00 33 43.9**	**+0.4**
	comp=Z,65nm,1.4s,mb5.4					
GRF	**Grafenberg Arr**	**78.64 337**	*e*P	**P**	**00 33 43.9**	**+0.4**
GRF			pmax	pmax		
	comp=Z,65nm,1.4s,mb5.4					
GRF	**Grafenberg Arr**	**78.64 337**	*e*P	**P**	**00 33 43.9**	**+0.4**
GRF			pmax	pmax		
	comp=Z,65nm,1.4s,mb5.4					
GRFO	**Grafenberg**	**78.64 337**	*e*P	**P**	**00 33 44.0**	**+0.5**
GRFO			pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2					
GRFO	**Grafenberg**	**78.64 337**	*e*P	**P**	**00 33 44.0**	**+0.4**
	comp=Z,33nm,1.0s,mb5.2					
GEC2	**GERESS Array S**	**78.72 335**	P	**P**	**00 33 44.0**	**0.0**
GEC2	**GERESS Array S**	**78.72 335**	*e*P	**P**	**00 33 43.7**	**-0.3**
GERES	**GERESS Array B**	**78.72 335**	P	**P**	**00 33 44.0**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.6,baz=34,slow=5.5,SNR=39					
CDAG	**Cicekdag**	**78.76 317**	*i*P	**P**	**00 33 43.0**	**-1.3**
GZR	**Gura Zlata**	**78.79 328**	⇓*i*P	**P**	**00 33 44.4**	**0.0**
GZR	**Gura Zlata**	**78.79 328**	P	**P**	**00 33 44.3**	**-0.1**
GZR	**Gura Zlata**	**78.79 328**	⇓P	**P**	**00 33 44.4**	**+0.1**
CONA	**Conrad Observa**	**78.89 333**	⇓*i*P	**P**	**00 33 46.1**	**+1.1**
	comp=Z,9.5nm,0.7s,mb4.9					
HGN	**Heimansgroeve**	**78.96 341**	*e*P	**P**	**00 33 49.3**	**+4.0**
	comp=Z,43nm,2.5s,mb4.9					
BZS	**Buzias**	**79.02 329**	⇓*i*P	**P**	**00 33 45.5**	**-0.1**
BZS	**Buzias**	**79.02 329**	⇓P	**P**	**00 33 45.5**	**-0.1**
BR131	**Keskin Array S**	**79.02 318**	*e*P	**P**	**00 33 46.6**	**+1.0**
BRTR	**Keskin Array B**	**79.02 318**	P	**P**	**00 33 46.1**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.7,baz=80,slow=3.9,SNR=21					
BRTR			LR	LR	01 17 12.7	
	comp=Z,414nm,18.7s,MS4.8,baz=106,slow=42					
SGKT	**Sivrigoynuk**	**79.05 319**	*i*P	**P**	**00 33 46.5**	**+0.7**
MEM	**Membach**	**79.08 340**	P	**P**	**00 33 45.4**	**-0.6**
MEM			XP	sP	00 33 49.5	-2.6
AVNT	**Avonos**	**79.21 317**	*i*P	**P**	**00 33 47.3**	**+0.6**
ANTO	**Ankara**	**79.29 318**	⇑*i*P	**P**	**00 33 48.8**	**+1.7**
ANTO	**Ankara**	**79.29 318**	P	**P**	**00 33 49.2**	**+2.1**
ANTO			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
ANTO	**Ankara**	**79.29 318**	⇑P	**P**	**00 33 48.8**	**+1.7**
ZIMR		**79.29 325**	⇑*i*P	**P**	**00 33 47.3**	**+0.2**
ZIMR		**79.29 325**	P	**P**	**00 33 47.2**	**+0.1**
BCLA	**Clavier**	**79.42 341**	P	**P**	**00 33 47.0**	**-0.9**
BCLA			AP	pP	00 33 50.1	-2.3
BCLA			XP	sP	00 33 51.6	-2.3
MOA	**Molln**	**79.45 334**	⇓*i*P	**P**	**00 33 48.7**	**+0.8**
	comp=Z,17nm,1.2s,mb4.8					
STKA	**Stephens Creek**	**79.50 192**	P	**P**	**00 33 46.1**	**-2.2**
	comp=Z,3.6nm,0.9s,mb4.3,baz=344,slow=12,SNR=6.1					
STKA			LR	LR	01 09 09.1	
	comp=Z,235nm,19.5s,MS4.5,baz=26,slow=36					
PKSM	**Moragy**	**79.52 331**	⇑*i*P	**P**	**00 33 47.4**	**-1.0**
ARSA	**Arzberg**	**79.60 333**	⇓*i*P	**P**	**00 33 50.6**	**+1.8**
	comp=Z,22nm,1.2s,mb5.0					
DOU	**Dourbes**	**79.88 341**	P	**P**	**00 33 49.2**	**-1.1**
DOU			AP	pP	00 33 53.1	-1.8
DOU			XP	sP	00 33 54.1	-2.3
DOU			E		00 33 55.8	
TAOE	**Nuku Hiva Isla**	**79.91 115**	*e*LR	LR	00 57 53.3	
	comp=Z,2μm,28.0s					
WLF	**Walferdange**	**79.93 340**	AP	pP	00 33 53.3	-1.8
WLF			XP	sP	00 33 54.3	-2.5
STU	**Stuttgart**	**80.01 338**	*e*P	**P**	**00 33 55.5**	**+4.5**
STU			pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0					
STU	**Stuttgart**	**80.01 338**	*e*P	**P**	**00 33 55.5**	**+4.4**
	comp=Z,14nm,0.8s,mb5.0					
PERS	**Pernice**	**80.28 333**	*i*P	**P**	**00 33 52.7**	**+0.2**
COBT	**Iskenderun**	**80.33 314**	*i*P	**P**	**00 33 54.9**	**+2.1**
KBA	**Koelnbreinsper**	**80.41 335**	⇑*i*P	**P**	**00 33 54.0**	**+0.8**
	comp=Z,109nm,0.9s,mb4.8,SNR=10					
KBA	**Koelnbreinsper**	**80.41 335**	⇑*i*	**P**	**00 33 58.0**	**+4.8**
	comp=Z,53nm,0.9s,mb5.4					
KBA	**Koelnbreinsper**	**80.41 335**		**P**	**00 33 58.0**	**+4.8**
	comp=Z,53nm,0.9s,mb5.4					
KBA	**Koelnbreinsper**	**80.41 335**	P	**P**	**00 33 54.0**	**+0.8**
KBA			*e*	pP	00 33 58.0	+0.3
ESKT	**Eskisehir**	**80.44 320**	*i*P	**P**	**00 33 53.2**	**-0.2**
OBKA	**Obir**	**80.56 334**	⇑*i*P	**P**	**00 33 54.8**	**+0.8**
	comp=Z,5.7nm,1.0s,mb4.4					
OBKA	**Obir**	**80.56 334**	⇑*i*	**P**	**00 33 58.0**	**+4.0**
	comp=Z,11nm,0.7s,mb4.9					
OBKA	**Obir**	**80.56 334**		**P**	**00 33 58.0**	**+4.0**
	comp=Z,11nm,0.7s,mb4.9					
OBKA	**Obir**	**80.56 334**	P	**P**	**00 33 54.8**	**+0.8**
OBKA			*e*	pP	00 33 58.0	-0.5
WATA	**Walderalm**	**80.69 336**	⇑*i*P	**P**	**00 33 55.4**	**+0.7**
	comp=Z,15nm,0.5s,mb5.2					
WTTA	**Wattenberg**	**80.74 336**	⇑*i*P	**P**	**00 33 56.0**	**+1.0**
	comp=Z,20nm,0.9s,mb5.0,SNR=20					
WTTA	**Wattenberg**	**80.74 336**	⇑*i*	**P**	**00 33 59.8**	**+4.9**
	comp=Z,38nm,0.6s,mb5.5					
WTTA	**Wattenberg**	**80.74 336**		**P**	**00 33 59.8**	**+4.9**
	comp=Z,38nm,0.6s,mb5.5					
WTTA	**Wattenberg**	**80.74 336**	P	**P**	**00 33 56.0**	**+1.0**
WTTA			*e*	pP	00 33 59.8	+0.4
MOTA	**Moosalm**	**80.81 336**	⇑*i*P	**P**	**00 33 55.9**	**+0.6**
	comp=Z,17nm,0.9s,mb5.0,SNR=23					
CDF	**Champ du Feu**	**80.83 339**	*e*P	**P**	**00 33 55.5**	**+0.1**
	comp=Z,17nm,0.8s,mb4.7					
CDF	**Champ du Feu**	**80.83 339**	*e*P	**P**	**00 33 55.5**	**+0.1**
CDF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
CDF	**Champ du Feu**	**80.83 339**	*e*P	**P**	**00 33 55.5**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.7					

GRUS	**Gruza**	**80.83 328**	*i*P	**P**	**00 33 54.1**	**-1.4**
SQTA	**Sankt Quirin**	**80.90 336**	⇓*i*P	**P**	**00 33 57.0**	**+1.3**
	comp=Z,17nm,1.0s,mb4.9,SNR=12					
DIVS	**Divcibare**	**80.91 329**	*i*P	**P**	**00 33 55.0**	**-0.8**
DIVS	**Divcibare**	**80.91 329**	*e*P	**P**	**00 33 55.0**	**-0.8**
VTS	**Vitosha**	**81.03 326**	*e*P	**P**	**00 33 56.6**	**+0.1**
VTS	**Vitosha**	**81.03 326**	⇓*i*P	**P**	**00 33 56.5**	**0.0**
VTS	**Vitosha**	**81.03 326**	⇓P	**P**	**00 33 56.5**	**0.0**
DAVA	**Damuels**	**81.20 337**	⇓*i*P	**P**	**00 33 58.4**	**+1.0**
	comp=Z,6.8nm,0.8s,mb4.6					
DAVA	**Damuels**	**81.20 337**	⇑*i*	**P**	**00 34 02.0**	**+4.6**
	comp=Z,28nm,1.1s,mb5.1					
DAVA	**Damuels**	**81.20 337**		**P**	**00 34 02.0**	**+4.6**
	comp=Z,28nm,1.1s,mb5.1					
DAVA	**Damuels**	**81.20 337**	P	**P**	**00 33 58.4**	**+1.0**
DAVA			*e*	pP	00 34 02.0	+0.1
BOJS	**Bojanci**	**81.25 333**	*e*P	**P**	**00 34 00.3**	**+2.6**
BBLS	**Bajina Basta -**	**81.31 329**	*i*P	**P**	**00 33 58.5**	**+0.5**
PPT	**Papeete**	**81.33 127**	*e*LR	LR	00 58 34.1	
	comp=Z,681nm,22.5s,baz=326					
ALN	**Alexandroupoli**	**81.35 323**	*e*P	**P**	**00 33 58.8**	**+0.6**
DAVOX	**Davos**	**81.67 337**	P	**P**	**00 34 01.3**	**+1.4**
	comp=Z,19nm,0.8s,mb5.1,baz=39,slow=5.5,SNR=19					
STIP	**Stip**	**82.19 326**	*e*P	**P**	**00 33 59.4**	**-3.2**
	comp=Z,1.9nm,0.6s,mb4.2					
VAY	**Valandovo**	**82.36 326**	*e*P	**P**	**00 34 01.5**	**-2.0**
	comp=Z,45nm,1.6s,mb5.2					
KNT	**Kendrikon**	**82.37 326**	*e*P	**P**	**00 34 02.7**	**-0.9**
LOS	**Limnos**	**82.55 323**	*e*P	**P**	**00 34 03.8**	**-0.8**
GRR	**Gorron**	**82.62 344**	*e*P	**P**	**00 34 04.8**	**-0.1**
	comp=Z,140nm,1.4s,mb5.5					
GRR	**Gorron**	**82.62 344**	*e*P	**P**	**00 34 04.8**	**-0.1**
GRR			pmax	pmax		
	comp=Z,70nm,1.4s,mb5.5					
GRR	**Gorron**	**82.62 344**	*e*P	**P**	**00 34 04.8**	**-0.1**
	comp=Z,70nm,1.4s,mb5.5					
OUR	**Ouranopolis**	**82.66 324**	*e*P	**P**	**00 34 03.5**	**-1.6**
GRG	**Griva**	**82.74 326**	*e*P	**P**	**00 34 06.5**	**+1.0**
PLG	**Polygyros**	**82.83 325**	*e*P	**P**	**00 34 03.9**	**-2.1**
BIA	**Bitola**	**83.10 327**	*e*P	**P**	**00 34 05.0**	**-2.4**
PAIG	**Paliouri**	**83.12 324**	*e*P	**P**	**00 34 05.8**	**-1.6**
URLA	**Izmir**	**83.25 322**	*i*P	**P**	**00 34 07.1**	**-1.1**
FNA	**Florina**	**83.28 326**	*e*P	**P**	**00 34 08.8**	**+0.5**
SMF	**Signal de Mont**	**83.30 340**	*e*P	**P**	**00 34 08.0**	**-0.4**
	comp=Z,151nm,1.3s,mb5.6					
SMF	**Signal de Mont**	**83.30 340**	*e*P	**P**	**00 34 08.0**	**-0.4**
SMF			pmax	pmax		
	comp=Z,76nm,1.3s,mb5.6					
SMF	**Signal de Mont**	**83.30 340**	*e*P	**P**	**00 34 08.0**	**-0.4**
	comp=Z,76nm,1.3s,mb5.6					
LPG	**La Plagne**	**83.68 338**	*e*P	**P**	**00 34 11.3**	**+1.0**
	comp=Z,39nm,0.6s,mb5.4					
LPG	**La Plagne**	**83.68 338**	*e*P	**P**	**00 34 11.3**	**+1.0**
LPG			pmax	pmax		
	comp=Z,19nm,0.6s,mb5.4					
LPG	**La Plagne**	**83.68 338**	*e*P	**P**	**00 34 11.3**	**+1.0**
	comp=Z,20nm,0.6s,mb5.4					
AOS	**Alonnisos**	**83.69 324**	*e*P	**P**	**00 34 08.8**	**-1.6**
XOR	**Xorichti**	**83.80 324**	*e*P	**P**	**00 34 10.4**	**-0.6**
BNI	**Bardonecchia**	**84.11 338**	P	**P**	**00 34 13.5**	**+0.9**
BNI			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0					
BNI	**Bardonecchia**	**84.11 338**	*e*P	**P**	**00 34 17.4**	**+4.9**
	comp=Z,9.9nm,0.6s,mb5.1					
AGG	**Agios Georgios**	**84.43 325**	*e*P	**P**	**00 34 10.1**	**-4.1**
AQU	**L'Aquila**	**84.66 332**	*e*P	**P**	**00 34 22.8**	**+7.4**
AQU			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2					
AQU	**L'Aquila**	**84.66 332**	*e*P	**P**	**00 34 22.8**	**+7.4**
	comp=Z,16nm,0.8s,mb5.2					
IGT	**Igoumenitsa**	**84.76 326**	*e*P	**P**	**00 34 14.3**	**-1.5**
CAF	**Calviac**	**85.33 341**	*e*P	**P**	**00 34 19.0**	**+0.3**
	comp=Z,62nm,1.2s,mb5.3					
CAF	**Calviac**	**85.33 341**	*e*P	**P**	**00 34 19.0**	**+0.3**
CAF			pmax	pmax		
	comp=Z,31nm,1.2s,mb5.3					
CAF	**Calviac**	**85.33 341**	*e*P	**P**	**00 34 19.0**	**+0.3**
	comp=Z,31nm,1.2s,mb5.3					
TBI	**Tubuai**	**86.12 131**	*e*LR	LR	01 00 47.3	
	comp=Z,742nm,31.5s,baz=326					
TIP	**Timpagrande**	**86.38 329**	*e*P	**P**	**00 34 24.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**86.57 211**	LR	LR	01 11 32.7	
	comp=Z,91nm,20.0s,MS4.2,baz=102,slow=35					
IDI	**Anoyia**	**86.58 321**	P	**P**	**00 34 23.9**	**-1.0**
	comp=Z,5.6nm,0.6s,mb5.0,baz=358,slow=11,SNR=6.3					
IDI			LR	LR	01 19 21.1	
	comp=Z,161nm,19.2s,MS4.4,baz=134,slow=40					
VSL	**Villasalto**	**88.51 334**	*e*P	**P**	**00 34 39.2**	**+5.0**
VAE	**Valguarnera**	**88.72 330**	LR	LR	01 16 10.6	
	comp=Z,489nm,19.5s,MS4.9,baz=308,slow=37					
ESDC	**Sonseca Array**	**91.62 344**	P	**P**	**00 34 47.0**	**-1.7**
	comp=Z,2.7nm,0.9s,mb4.6,baz=12,slow=3.9,SNR=5.7					
ESDC			LR	LR	01 19 27.9	
	comp=Z,216nm,19.5s,MS4.6,baz=10.0,slow=38					
KEST	**Kesra**	**91.99 333**	P	**P**	**00 34 51.0**	**+0.6**
	comp=Z,3.1nm,0.9s,mb4.7,baz=332,slow=12,SNR=9.3					
KEST			LR	LR	01 21 58.5	
	comp=Z,160nm,18.3s,MS4.5,baz=346,slow=39					
RKT	**Rikitea**	**94.03 120**	*e*LR	LR	01 04 25.9	
	comp=Z,549nm,32.8s,baz=338					
ATD	**Arta Tunnel**	**96.16 294**	LR	LR	01 25 05.0	
	comp=Z,457nm,18.3s,MS5.0,baz=358,slow=40					
TORD	**Torodi Ar. Bea**	**115.45 331**	PKP	PKPdf	00 40 22.9	-0.6
	comp=Z,1.2nm,0.9s,baz=324,slow=2.4,SNR=5.2					
TORD			PP	PP	00 41 21.3	-3.7
	comp=Z,2.2nm,0.8s,baz=7.0,slow=7.8,SNR=9.4					
TORD	**Torodi Ar. Bea**	**115.45 331**	PKP	PKPdf	00 40 22.9	-0.6
TORD			PP	PP	00 41 21.3	-3.7
VNDA	**Vanda**	**124.39 178**	PKP	PKPdf	00 40 37.4	-3.3
	comp=Z,0.6nm,0.8s,baz=297,slow=5.4,SNR=4.5					
LSZ	**Lusaka**	**125.88 287**	*e*PKIKP	PKPdf	00 40 43.1	-0.4
LPAZ	**La Paz**	**133.06 64**	PKP	PKPdf	00 40 58.4	+1.2
	comp=Z,0.7nm,0.6s,baz=156,slow=2.4,SNR=5.4					
MAW	**Mawson**	**133.14 212**	PKP	PKPdf	00 40 55.5	-1.8
	comp=Z,2.4nm,0.9s,baz=121,slow=6.1,SNR=3.8					
CFAA	**Coronel Fontan**	**143.69 81**	PKhKP		00 41 12.8	
	comp=Z,0.9nm,0.9s,baz=284,slow=3.5,SNR=10					
CFAA	**Coronel Fontan**	**143.69 81**	PKP	PKPdf	00 41 12.8	-3.8
NVL	**N'lazarevskaya**	**150.44 204**	*e*PKIKP	PKPdf	00 41 29.3	+1.4
NVL			pmax	pmax		
	comp=Z,44nm,1.9s					
TRQA	**Tornquist**	**151.56 85**	*e*PKPbc	PKPbc	00 41 34.1	-1.6
SNAA	**Sanae**	**153.21 195**	PKPbc	PKPbc	00 41 37.1	-2.4
	comp=Z,0.6nm,0.7s,baz=167,slow=4.1,SNR=7.0					
SNAA	**Sanae**	**153.21 195**	*e*PKPdf	PKPdf	00 41 31.8	-0.2
SNAA			*e*		00 41 37.7	
SNAA			*e*		00 41 49.6	
SNAA			*e*		00 42 01.7	
SNAA	**Sanae**	**153.21 195**	PKIKP	PKPdf	00 41 37.1	+5.1
SNAA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
SNAA	**Sanae**	**153.21 195**	*e*PKPbc	PKPbc	00 41 37.6	-1.9
SNAA			*e*PKPab	PKPab	00 41 48.2	-3.0
VNA2	**Neumayer--Watz**	**154.62 193**	*e*PKPdf	PKPdf	00 41 32.7	-1.3
VNA2			*e*		00 41 41.4	
VNA2			*e*		00 41 56.4	
VNA2			*e*		00 42 09.8	
VNA3	**Neumayer Olymp**	**154.67 192**	*e*PKPdf	PKPdf	00 41 32.1	-2.0
VNA3			*e*		00 41 41.0	
VNA3			*e*		00 41 56.2	
VNA3			*e*		00 42 09.2	

CSEM ***18*** *00:32:44.0, 4277N×4571E, h19km, mb3.9, After OBN*
MOS 18 00:32:44.3±1.0, 4277N×4571E, h19km, mb3.9/1, Error ellipse: s-maj=30.2km s-min=9.7km az=25.2, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.72**	**295**	*i* Pg	Pg	00 33 00.1	+1.6
SNJR				*i* Sg	Sg	00 33 13.5	+5.4
VLKR	**Vladikavkaz**	**0.80**	**291**	*e*Pg	Pg	00 33 01.0	+0.9
VLKR				*i* Sg	Sg	00 33 15.0	+4.3
KRNR	**Karanay**	**0.89**	**86**	*e*PG	Pg	00 33 01.3	-0.3
KRNR				*i* S	Sb	00 33 13.0	+0.5
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.89**	**86**	*e*Pg	Pg	00 33 01.3	-0.3
	comp=Z,25nm,0.2s						
KRNR				*i* Sg	Sg	00 33 13.0	-0.3
LACR	**Lac**	**1.04**	**274**	*i* Pg	Pg	00 33 03.8	-0.7
LACR				*i* Sg	Sg	00 33 19.6	+1.5
BTKR	**Batakoyurt**	**1.04**	**306**	*i* Pg	Pg	00 33 04.0	-0.6
BTKR				*i* Sg	Sg	00 33 20.2	+1.9

ARNR	**Ardon**	**1.13 292**	*i* Pg	Pg	00 33 05.0	-1.2
ARNR			*i* Sg	Sg	00 33 21.8	+0.8
KMSR	**Komsomolskaya**	**1.20 301**	*i* Pg	Pg	00 33 06.1	-1.4
KMSR			*i* Sg	Sg	00 33 23.7	+0.5
KORR	**Kora**	**1.24 285**	*i* Pg	Pg	00 33 06.6	-1.8
KORR			*i* Sg	Sg	00 33 24.6	0.0
ZEI	**Tsey**	**1.33 271**	*i* Pg	Pg	00 33 07.3	-2.7
ZEI			*i* Sg	Sg	00 33 25.7	-1.7
PRTR	**Priterechnaya**	**1.43 314**	*i* Pg	Pg	00 33 07.8	-4.1
DIGR	**Digorskoe uzhe**	**1.57 275**	*i* Pg	Pg	00 33 10.4	-4.1

IDC ***18*** *00:57:01.8±0.4, 4695N×15502E, h0km, mb4.8/32, mb1 4.9/33, mb1mx4.9/35, mbtmp4.8/33, ML4.1/1, MS4.0/9, Ms1 4.0/9, ms1mx3.6/40, Error ellipse: s-maj=14.1km s-min=11.6km az=114.0*

ISCJB ***18*** *00:57:01.7±0.2, 4695N±004×15507E±004, h10km, mb5.0/145, MS4.4/27, Error ellipse: s-maj=5.9km s-min=3.3km az=143.7*

SKHL ***18*** *00:57:02.1±2.1, 4694N×155.16E, h55km±24km, mb5.7/3, msh5.7/1*

BJI ***18*** *00:57:03.9, 4725N×15463E, h10km, mB5.2, mb5.0, Ms4.7, Msz4.5*

NEIC ***18*** *00:57:03.4±0.2, 4695N×155.11E, h10km, mb5.1/62, Error ellipse: s-maj=4.9km s-min=3.7km az=158.0*

GCMT ***18*** *00:57:03.4±0.4, 4701N×15520E, h12km, MW4.8/64, Moment Tensor Solution. s14,c15; s64,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.94±.06; $M_{\theta\theta}$0.77±.07; $M_{\phi\phi}$1.18±.05; $M_{r\theta}$-0.58±.28; $M_{\theta\phi}$0.83±.05; $M_{r\phi}$0.13±.23; Best double couple: $M_0$1.96600×10^{16} NP1:ϕ_s205.00000°, δ43.00000°, λ-110.00000°. NP2: ϕ_s52.00000°, δ51.00000°, λ-72.00000°. Principal axes: T 1.8450, Plg4.0000°, Azm129.0000°; N 0.2480, Plg14.0000°, Azm220.0000°; P -2.0870, Plg76.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***18*** *00:57:06.3±1.3, 4700N×15489E, h40km, mb5.3/55, MS4.3/13 Error ellipse: s-maj=7.9km s-min=4.9km az=117.1*

SZGRF ***18*** *00:57:17.6, 4894N×15583E, h33km, mb5.4, Kuril Islands, Russia*

ISC 18 00:57:02.1±1.3, 4706N±004×15507E±004, h1km±7km, n403, σ0°96/404, mb5.1/145, MS4.4/27, 49C-12D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.69**	**10**	*e*P	**Pn**	**00 57 59.5**	**-0.8**
SKR				AMB	AMB	00 58 04.0	
	80nm,0.5s						
SKR				AMB	AMB	00 58 04.0	
	150nm,0.5s						
SKR				*e*S	**Sn**	**00 58 41.0**	**-3.5**
SKR				A		00 58 45.0	
	690nm,0.5s						
SKR				A		00 58 45.0	
	540nm,0.5s						
SKR				A		00 58 45.0	
	310nm,0.5s						
SKR				*e*rx	rx	01 00 23.0	
SKR	**Severo-Kuril's**	**3.69**	**10**	*e*PN	**Pn**	**00 57 59.5**	**-0.8**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR	**Kuril'sk**	**5.33**	**253**	⇑*i*P	**Pn**	**00 58 20.0**	**-2.8**
KUR				AMB	AMB	00 58 20.5	
	comp=Z,860nm,0.8s						
KUR				AMB	AMB	00 58 24.0	
	comp=Z,3μm,6.0s						
KUR				*e*S	**Sn**	**00 59 20.0**	**-4.8**
KUR				A		00 59 24.5	
	comp=Z,516nm,0.7s						
KUR				A		00 59 24.5	
	comp=Z,774nm,0.7s						
KUR				A		00 59 38.0	
	comp=Z,6μm,4.0s						
KUR				A	

comp=E,2.9nm,0.3s,baz=88,slow=13,SNR=24
ASAJ LR LR 01 03 34.9
comp=E,615nm,18.5s,baz=285,slow=43
ASAJ Asahikawa 9.23 256 PN **Pn** **00 59 17.8 +1.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,615nm,18.5s
ERM Erimo 9.88 244 Pn **Pn** **00 59 24.6 -0.7**
comp=Z,494nm,0.8s,SNR=8.5
ERM Erimo 9.88 244 *e*PN **Pn** **00 59 24.4 -0.9**
ERM Erimo 9.88 244 *e*Pn **Pn** **00 59 22.7 -2.7**
comp=E,68nm,0.8s
HABR Khabarovsk 13.54 283 *e*PN **Pn** **01 00 17.7 +2.3**
HABR S **Sn** **01 02 53.1 +6.6**
HABR pmax pmax
comp=Z,43nm,1.2s
KLR Kul'dur 15.71 287 *e*P **Pn** **01 00 44.0 -0.6**
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,6μm,13.0s
MJAR Matsushiro Arr 16.35 236 Pn **Pn** **01 00 49.3 -3.6**
comp=Z,0.8nm,0.3s,baz=31,slow=13,SNR=35
MJAR LR LR 01 07 42.8
comp=Z,260nm,18.7s,baz=65,slow=40
MJAR Matsushiro Arr 16.35 236 Pn **Pn** **01 00 49.3 -3.6**
MJAR LR LR 01 07 42.8
MJAR LR LR 01 18 11.8
MAJO Matsushiro 16.35 236 *e*P **Pn** **01 00 49.0 -3.9**
MAJO pmax pmax
comp=Z,102nm,0.8s
MAJO Matsushiro 16.35 236 *e*Pn **Pn** **01 00 49.0 -3.9**
comp=Z,102nm,0.8s
MAT Matsushiro 16.35 236 P **Pn** **01 00 48.5 -4.4**
ZEA Zeya 18.87 301 *e*P **Pn** **01 01 19.7 -4.5**
ZEA AMB AMB 01 01 23.5
comp=Z,44nm,0.8s
ZEA AMB AMB 01 01 23.5
comp=Z,44nm,0.9s
ZEA AMB AMB 01 01 23.5
comp=Z,41nm,1.0s
ZEA AMB AMB 01 01 27.0
comp=Z,700nm,10.0s
YAK Yakutsk 20.81 325 *e*P **P** **01 01 42.8 -2.1**
YAK *e* 01 02 00.0
YAK *e*S **S** **01 05 37.1 -0.7**
YAK *e*SS 01 06 05.5
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,41nm,1.3s
YAK pmax pmax
comp=Z,56nm,1.3s
YAK smax
comp=N,600nm,3.1s
YAK smax
comp=E,500nm,4.9s
YAK MLR MLR
comp=N,400nm,18.0s,MS4.1
YAK MLR MLR
comp=Z,700nm,18.0s,MS4.1
YAK MLR MLR
comp=E,600nm,17.0s,MS4.1
YAK Yakutsk 20.81 325 *e*P **P** **01 01 44.0 -0.9**
comp=E,45nm,0.8s
CLNS Chul'man 20.85 309 *e*P **P** **01 01 45.0 -0.4**
CLNS *e* 01 01 58.2
CLNS *e*PPP 01 02 06.0
CLNS *e* 01 05 48.0
CLNS *e*SS 01 06 06.0
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,36nm,0.8s
CLNS MLR MLR
comp=Z,1μm,15.0s,MS4.4
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.4
CLNS MLR MLR
comp=E,1μm,12.0s,MS4.4
CN2 Changchun 20.98 272 *e*P **P** **01 01 43.5 -3.3**
CN2 *e*XP sP 01 01 50.5 +3.4
CN2 *e*S **S** **01 05 30.3 -11**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,12.0s,MS4.4
CN2 LR LR
comp=E,700nm,12.0s,MS4.4
CN2 LR LR
comp=Z,800nm,14.0s,MS4.2
BILL Bilibino 21.81 11 *de*P **P** **01 01 54.0 -1.7**
BILL pmax pmax
comp=Z,42nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.0
BILL Bilibino 21.81 11 *e*P **P** **01 01 54.6 -1.0**
comp=Z,91nm,1.3s,mb5.0
KSRS Korea Array 22.17 254 P **P** **01 01 59.5 -0.1**
comp=Z,15nm,0.7s,mb4.5,baz=55,slow=9.8,SNR=36
KSRS PcP PcP 01 05 57.1 +0.5
comp=Z,1.9nm,0.6s,baz=27,slow=2.0,SNR=5.4
KSRS LR LR 01 09 51.0
comp=Z,237nm,19.2s,MS3.6,baz=40,slow=35
KS15 Wonju Array Si 22.20 254 *e*P **P** **01 02 02.8 +3.0**
SNY Shenyang 22.99 268 ⇑P **P** **01 02 07.0 -1.2**
SNY AMB AMB
comp=Z,28nm,0.8s,mb4.8
SNY AMB AMB
comp=Z,297nm,4.8s
SNY LR LR
comp=N,753nm,14.4s,MS4.3
SNY LR LR
comp=E,551nm,17.4s,MS4.3
SNY LR LR
comp=Z,1μm,16.5s,MS4.3
INCN Inchon 23.01 256 P **P** **01 02 09.2 +0.8**
comp=Z,25nm,0.3s,mb5.2
HIA Hailar 23.54 288 *e*P **P** **01 02 10.9 -3.1**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 23.54 288 *e*P **P** **01 02 10.9 -3.2**
comp=Z,8.7nm,0.6s,mb4.5
DL2 Dalian 25.63 264 P **P** **01 02 34.8 +1.6**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
BOD Bodaibo 26.83 309 *e*P **P** **01 02 41.6 -2.4**
BOD pmax pmax
comp=Z,20nm,1.3s,mb4.7
CIT Chita 27.12 296 *e*P **P** **01 02 44.8 -1.8**
CIT *e* 01 02 56.5
CIT pmax pmax
comp=Z,83nm,1.4s,mb5.3
TIXI Tiksi 27.57 342 *e*P **P** **01 02 49.0 -1.6**
TIXI pmax pmax
comp=Z,38nm,1.0s,mb5.2
TIXI Tiksi 27.57 342 *e*P **P** **01 02 49.0 -1.6**
comp=Z,38nm,1.0s,mb5.2
BJI Beijing 28.82 270 P **P** **01 03 03.8 +2.0**
BJI AMB AMB
comp=Z,28nm,0.7s,mb5.2
BJI AMB AMB
comp=Z,185μm,3.0s
BJI LR LR
comp=N,765nm,15.5s,MS4.4
BJI LR LR
comp=E,169nm,15.5s,MS4.4
BJI LR LR
comp=Z,499nm,16.8s,MS4.2
BJI Beijing 28.82 270 P **P** **01 03 03.7 +1.9**
BJI pmax pmax
comp=Z,28nm,0.7s,mb5.2
BJI MLR MLR
comp=Z,500nm,16.8s,MS4.2
BJI Beijing 28.82 270 P **P** **01 03 03.7 +1.9**
comp=Z,28nm,0.7s,mb5.2
BJI S **S** **01 08 06.2 +14**
BJI LR LR
comp=Z,500nm,16.8s,MS4.2
BJT Baijiatuau 28.83 270 *e*P **P** **01 03 03.4 +1.5**
BJT pmax pmax
comp=Z,21nm,0.7s
BJT Baijiatuau 28.83 270 *e*P **P** **01 03 03.4 +1.5**
comp=Z,21nm,0.7s,mb5.1
NJ2 Nanjing 31.37 255 *e*P **P** **01 03 26.8 +2.4**
NJ2 AP 01 03 30.1
NJ2 XP sP 01 03 34.3 +10
NJ2 PP PP 01 04 29.9 -5.2
NJ2 S **S** **01 08 31.5 -1.0**
NJ2 XS sS 01 08 39.5 +6.5
NJ2 AMB AMB
comp=Z,670nm,4.4s
NJ2 LR LR
comp=N,1μm,17.2s,MS4.8
NJ2 LR LR
comp=E,1μm,17.4s,MS4.8
NJ2 LR LR
comp=Z,450nm,16.8s,MS4.2
HHC Hu-ho-hao-te 31.61 275 *e*P **P** **01 03 26.6 +0.1**
HHC AP 01 03 31.1
HHC XP sP 01 03 33.8 +7.0
HHC PP PP 01 04 29.8 -7.9
HHC PCP PcP 01 06 18.6 -0.2
HHC S **S** **01 08 33.5 -2.7**
HHC XS sS 01 08 40.8 +4.1
HHC SCP ScP 01 10 01.8 -1.3
HHC SS SS 01 10 22.8 -28
HHC SCS ScS 01 13 56.0 -5.0
HHC AMB AMB
comp=Z,34nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,342nm,9.1s
HHC LR LR
comp=N,545nm,15.3s,MS4.5
HHC LR LR
comp=E,559nm,14.3s,MS4.5
HHC LR LR
comp=Z,488nm,14.2s,MS4.3
ULN Ulaanbaatar 32.06 289 ⇑*i*P **P** **01 03 28.7 -1.8**
ULN Ulaanbaatar 32.06 289 *e*P **P** **01 03 29.1 -1.3**
comp=Z,15nm,1.1s,mb4.8
SONM Songino Array 32.49 290 P **P** **01 03 33.6 -0.7**
comp=Z,7.8nm,0.9s,mb4.7,baz=63,slow=8.7,SNR=56
SONM LR LR 01 18 11.8
comp=Z,505nm,18.2s,MS4.2,baz=250,slow=39
SONM Songino Array 32.49 290 P **P** **01 03 33.6 -0.7**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM MLR MLR
comp=Z,505nm,18.3s
BTO Baotou 32.77 275 *e*P **P** **01 03 35.5 -1.1**
KDAK Kodiak Island 32.87 51 LR LR 01 17 13.4
comp=Z,220nm,18.9s,MS3.9,baz=282,slow=37
KDAK Kodiak Island 32.87 51 *e*P **P** **01 03 36.2 -1.3**
comp=Z,16nm,0.8s,mb5.0
TLY Talaya 33.23 297 P **P** **01 03 40.9 +0.2**
comp=Z,109nm,0.9s,mb5.8,SNR=5.0
TLY Talaya 33.23 297 *e*P **P** **01 03 39.8 -0.9**
TLY *e*SS SS 01 11 27.9 +3.5
TLY pmax pmax
comp=Z,19nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,708nm,15.0s,MS4.5
TLY Talaya 33.23 297 *e*P **P** **01 03 40.5 -0.2**
ZAK Zakamensk 33.76 295 *e*P **P** **01 03 43.6 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
COLA College 35.06 39 *e*P **P** **01 03 56.6 0.0**
COLA *e* 01 06 31.5
COLA pmax pmax
comp=Z,38nm,0.8s,mb5.4
COLA College 35.06 39 *e*P **P** **01 03 56.6 +0.1**
comp=Z,38nm,0.8s,mb5.4
COLA *e*PcP PcP 01 06 31.5 +3.0
XAN Xi'an 36.88 266 P **P** **01 04 12.0 -0.1**
XAN AMB AMB
comp=Z,30nm,0.9s,mb5.0
XAN LR LR
comp=N,274nm,15.0s,MS4.3
XAN LR LR
comp=E,247nm,14.4s,MS4.3
XAN LR LR
comp=Z,510nm,17.0s,MS4.4
EGAK Eagle 37.92 39 *e*P **P** **01 04 20.7 -0.4**
comp=Z,42nm,0.8s,mb5.2
DAWY Dawson 38.75 40 *e*P **P** **01 04 28.6 +0.6**
LZH Lanzhou 39.22 273 P **P** **01 04 32.4 +0.5**
LZH AP 01 04 39.4
LZH XP sP 01 04 43.0 +11
LZH AMB AMB
comp=Z,120nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,512nm,4.1s
LZH LR LR
comp=E,920nm,13.9s
LZH LR LR
comp=Z,2μm,15.2s,MS5.0
LZH Lanzhou 39.22 273 P **P** **01 04 32.4 +0.5**
comp=Z,120nm,1.1s,mb5.4
LZH pP 01 04 39.4
LZH sP sP 01 04 43.0 +11
LZH LR LR
comp=Z,2μm,15.2s,MS5.0
GTA Gaotai 40.24 280 *e*P **P** **01 04 41.4 +1.0**
GTA AP 01 04 44.9
GTA XP sP 01 04 47.8 +7.0
GTA PP PP 01 06 19.1 +6.2
GTA PCP PcP 01 06 44.9 +0.5
GTA S **S** **01 10 49.0 +0.5**
GTA XS sS 01 10 56.3 +7.4
GTA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GTA AMB AMB
comp=Z,278nm,4.2s
GTA LR LR
comp=N,473nm,13.3s,MS4.7
GTA LR LR
comp=E,552nm,15.2s,MS4.7
GTA LR LR
comp=Z,474nm,16.0s,MS4.4
INK Inuvik 40.67 33 P **P** **01 04 45.1 +1.2**
comp=Z,30nm,0.7s,mb5.1,baz=294,slow=7.0,SNR=73
INK Inuvik 40.67 33 *e*P **P** **01 04 44.7 +0.7**
comp=Z,1μm,0.8s
CD2 Chengdu 42.24 266 P **P** **01 04 55.8 -1.1**
CD2 AP 01 05 00.3
CD2 XP sP 01 05 02.8 +5.6
CD2 PP PP 01 06 36.5 +2.0
CD2 SS SS 01 14 15.4 -11
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.3
CD2 AMB AMB
comp=Z,500nm,8.2s
CD2 LR LR
comp=N,410nm,14.3s,MS4.5
CD2 LR LR
comp=E,330nm,16.7s,MS4.5
CD2 LR LR
comp=Z,500nm,14.3s,MS4.5
GYA Guiyang 43.09 259 ⇓*i*P **P** **01 05 04.1 +0.3**
GYA AP 01 05 08.4
GYA XP sP 01 05 11.3 +7.2
GYA PP PP 01 06 47.6 +3.9
GYA PCP PcP 01 06 56.0 +2.3
GYA SCP ScP 01 10 46.0 0.0
GYA S **S** **01 11 30.4 -0.3**
GYA SS SS 01 14 35.4 -7.3
GYA SCS ScS 01 15 03.8 -1.8
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,100nm,4.5s
GYA LR LR
comp=N,870nm,16.4s,MS4.9
GYA LR LR
comp=E,1μm,17.4s,MS4.9
GYA LR LR
comp=Z,680nm,16.6s,MS4.6
ZAL Zalesovo 43.53 306 P **P** **01 05 05.8 -1.6**
comp=Z,9.1nm,0.8s,mb4.6,baz=43,slow=8.9,SNR=55
ZAL PcP PcP 01 06 54.4 -0.8
comp=Z,3.3nm,0.6s,baz=20,slow=5.2,SNR=3.1
NVS Novosibirsk 44.06 308 *e*P **P** **01 05 10.1 -1.5**
NVS *i* 01 06 54.7
NVS pmax pmax
comp=Z,62nm,1.5s,mb5.1
NVS pmax pmax
comp=N,25nm,1.6s
NVS pmax pmax
comp=E,83nm,1.6s
WMQ Urumqi 46.06 292 ⇑*i*P **P** **01 05 28.6 +1.1**
WMQ AP 01 05 33.1
WMQ XP sP 01 05 35.6 +7.7
WMQ PCP PcP 01 07 05.4 +1.5
WMQ PP PP 01 07 16.8 +1.5
WMQ PPP 01 08 00.8
WMQ S **S** **01 12 13.1 -0.7**
WMQ XS sS 01 12 20.8 +6.5
WMQ AMB AMB
comp=Z,13nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,187nm,5.4s
WMQ LR LR
comp=N,319nm,17.0s,MS4.5
WMQ LR LR
comp=E,302nm,15.6s,MS4.5
WMQ LR LR
comp=Z,388nm,18.2s,MS4.4
QIZ Qiongzhong 46.21 248 P **P** **01 05 28.5 -0.2**
QIZ S **S** **01 12 15.4 -0.5**
QIZ AMB AMB
comp=Z,9.0nm,1.5s,mb4.6
KMI Kunming 46.62 261 P **P** **01 05 32.8 +0.9**
KMI AP 01 05 36.3
KMI XP sP 01 05 37.6 +5.4
KMI PP PP 01 07 21.9 +0.7
KMI PPP 01 08 06.9
KMI SCP ScP 01 11 00.3 -0.2
KMI S **S** **01 12 21.3 -0.5**
KMI XS sS 01 12 26.4 +4.2
KMI SS SS 01 15 39.5 -8.2
KMI AMB AMB
comp=Z,20nm,0.9s,mb5.2
KMI AMB AMB
comp=Z,147nm,3.3s
KMI LR LR
comp=N,227nm,14.4s,MS4.4
KMI LR LR
comp=E,202nm,14.4s,MS4.4
KMI LR LR
comp=Z,184nm,15.6s,MS4.1
KMI Kunming 46.62 261 P **P** **01 05 32.7 +0.8**
KMI 01 07 21.9
KMI PPP 01 08 06.9
KMI S **S** **01 12 21.3 -0.5**
KMI *SS sS 01 12 26.4 +4.2
KMI SS SS 01 15 39.5 -8.2
KMI pmax pmax
comp=Z,20nm,0.9s,mb5.2
KMI MLR MLR
comp=Z,180nm,15.6s,MS4.1
KMI Kunming 46.62 261 P **P** **01 05 32.7 +0.8**
comp=Z,20nm,0.9s,mb5.2
KMI pP 01 05 36.2
KMI sP sP 01 05 37.6 +5.4
KMI PP PP 01 07 21.9 +0.7
KMI PPP 01 08 06.9
KMI ScP ScP 01 11 00.3 -0.2
KMI S **S** **01 12 21.3 -0.5**
KMI sS sS 01 12 26.4 +4.2
KMI SS SS 01 15 39.5 -8.2
KMI LR LR
comp=Z,180nm,15.6s,MS4.1
MK31 Makanchi Array 47.99 298 P **P** **01 05 41.0 -1.6**
MK31 pmax pmax
comp=Z,20nm,0.8s,mb5.3
MKAR Makanchi Array 47.99 298 P **P** **01 05 41.8 -0.8**
comp=Z,15nm,0.7s,mb5.2,baz=66,slow=8.1,SNR=90
MKAR PcP PcP 01 07 10.1 -0.7
comp=Z,2.7nm,0.6s,baz=75,slow=3.2,SNR=7.4
KURK Kurchatov 48.31 304 P **P** **01 05 43.4 -1.6**
comp=Z,605nm,0.9s,SNR=66
KURK Kurchatov 48.31 304 P **P** **01 05 43.8 -1.2**
KURK pmax pmax
comp=Z,32nm,0.8s,mb5.5
YKA Yellowknife Ar 49.87 37 P **P** **01 05 56.9 -0.1**
comp=Z,3.4nm,0.7s,mb4.4,baz=294,slow=7.0,SNR=7.0
YKA PcP PcP 01 07 17.1 -0.5
comp=Z,2.3nm,0.7s,baz=303,slow=3.6,SNR=4.4
YKA Yellowknife Ar 49.87 37 P **P** **01 05 56.9 -0.1**
YKA PcP PcP 01 07 17.1 -0.5
RES Resolute Bay 50.11 19 *e*P **P** **01 05 59.8 +1.0**
comp=Z,622nm,1.3s
CHKZ Chkalovo 51.26 311 P **P** **01 06 05.9 -1.6**
CHKZ pmax pmax
comp=Z,52nm,0.8s,mb5.5
CHKZ Chkalovo 51.26 311 *e*P **P** **01 06 06.1 -1.4**
comp=Z,52nm,0.8s,mb5.5
VOSK Vostochnaya 51.53 309 P **P** **01 06 08.3 -1.3**
VOSK pmax pmax
comp=Z,19nm,0.9s,mb5.0
LSA Lhasa 51.59 274 P **P** **01 06 12.3 +2.3**
LSA Lhasa 51.59 274 *e*P **P** **01 06 12.5 +2.5**
LSA pmax pmax
comp=Z,21nm,0.6s,mb5.2
LSA Lhasa 51.59 274 *e*P **P** **01 06 12.5 +2.5**
comp=Z,21nm,0.6s,mb5.2
BVA0 Borovoye Array 51.70 310 P **P** **01 06 09.6 -1.2**
BVA0 pmax pmax
comp=Z,45nm,2.0s,mb5.0
BVAR Borovoye Array 51.70 310 P **P** **01 06 10.4 -0.4**
comp=Z,17nm,0.7s,mb5.1,baz=54,slow=8.1,SNR=57
BVAR LR LR 01 30 50.5
comp=Z,615nm,19.5s,MS4.6,baz=319,slow=39
BRVK Borovoye 51.73 310 P **P** **01 06 10.2 -0.9**
comp=Z,207nm,0.7s,mb6.2,SNR=11
BRVK Borovoye 51.73 310 *e*P **P** **01 06 10.1 -1.0**
BRVK pmax pmax
comp=Z,28nm,0.8s,mb5.2
BRVK Borovoye 51.73 310 *e*P **P** **01 06 10.1 -0.9**
comp=Z,28nm,0.8s,mb5.2
ZRNK Zerenda 52.45 310 *e*P **P** **01 06 15.5 -0.9**
ZRNK pmax pmax
comp=Z,18nm,0.7s,mb5.1
ZRNK Zerenda 52.45 310 *e*P **P** **01 06 15.5 -1.0**
comp=Z,18nm,0.7s,mb5.1
CHTO Chiang Mai 53.49 258 *e*P **P** **01 06 24.9 +0.8**
CHTO pmax pmax
comp=Z,33nm,1.0s,mb5.2
CHTO Chiang Mai 53.49 258 *e*P **P** **01 06 24.9 +0.8**
comp=Z,33nm,1.0s,mb5.2
CM31 Chiang Mai Arr 53.75 258 *e*P **P** **01 06 31.7 +5.7**
TKM2 Tokmak 2 54.06 297 P **P** **01 06 29.3 +1.1**
SNR=6.5
CHMS Chumysh 54.53 297 P **P** **01 06 32.6 +0.9**
SNR=5.7
USP Ospenovka 54.53 298 P **P** **01 06 32.4 +0.7**
SNR=20
KBK Karagaybulak 54.61 297 P **P** **01 06 33.1 +0.9**
SNR=10
KZA Kyzart 54.75 296 P **P** **01 06 35.4 +2.1**
SNR=5.5
AAK Ala-Archa 54.90 297 P **P** **01 06 33.5 -0.8**
comp=Z,200nm,0.7s,SNR=15
AAK Ala-Archa 54.90 297 P **P** **01 06 35.0 +0.7**
SNR=23
AAK Ala-Archa 54.90 297 P **P** **01 06 34.0 -0.4**
EDM Edmonton 55.13 47 *e*P **P** **01 06 36.0 0.0**
EKS2 Erkin-Say 55.31 298 P **P** **01 06 38.1 +0.7**
SNR=16
ARU Arti 55.69 318 P **P** **01 06 39.8 -0.2**
comp=Z,316nm,0.6s,SNR=14
ARU Arti 55.69 318 ⇑*i*P **P** **01 06 39.7 -0.3**
ARU *e* 01 08 40.6
ARU *e*PPP 01 09 54.2
ARU *e*S **S** **01 14 28.1 +0.8**
ARU *e*SS SS 01 18 13.9 +1.5
ARU pmax pmax
comp=Z,30nm,0.7s,mb5.4
ARU Arti 55.69 318 *e*P **P** **01 06 38.8 -1.2**
KSH Kashi 55.77 293 *e*P **P** **01 06 42.6 +2.0**
KSH *e*AP 01 06 48.3
KSH *e*XP sP 01 06 51.3 +10
KSH *e*PCP PcP 01 07 42.8 +3.0
KSH *e*PP PP 01 08 48.6 +3.6
KSH *e*SCP ScP 01 11 42.3 +2.4
KSH *e*S **S** **01 14 24.3 -4.1**
KSH *e*XS sS 01 14 34.5 +5.7
KSH *e*PS 01 14 44.1
KSH *e*SCS ScS 01 16 27.5 -3.6
KSH *e*SS SS 01 18 11.3 -2.4

KSH LR LR
comp=Z,1µm,7.8s
JIRN Jiri 56.26 276 *eP* **P 01 06 45.2 +1.1**
comp=Z,67nm,1.0s,mb5.6
GUN Gumba 56.31 276 *eP* **P 01 06 45.4 +0.9**
comp=Z,39nm,0.8s,mb5.5
KKN Kakani 56.79 276 *eP* **P 01 06 49.2 +1.3**
comp=Z,29nm,0.7s,mb5.5
PKI Pulchoki 56.84 276 *eP* **P 01 06 49.1 +0.8**
comp=Z,46nm,1.0s,mb5.5
KKAR Karatay Array 57.02 300 *i* P **P 01 06 49.0 -0.5**
KKAR pmax pmax
comp=Z,15nm,0.9s,mb5.0
DMN Daman 57.02 276 *eP* **P 01 06 50.8 +1.2**
comp=Z,68nm,1.0s,mb5.7
GKN Gorkha 57.09 277 *eP* **P 01 06 50.8 +0.8**
comp=Z,61nm,0.9s,mb5.7
KEV Kevo 57.49 341 *ep* **P 01 06 51.9 -1.0**
comp=Z,11nm,0.7s,mb5.0
KEV Kevo 57.49 341 *eP* **P 01 06 51.9 -1.0**
KEV pmax pmax
comp=Z,11nm,0.7s,mb5.0
APA Apatity 57.58 337 ⇓ *i* P **P 01 06 52.4 -1.1**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
BMO Blue Mountains 57.78 57 *eP* **P 01 06 55.6 +0.7**
comp=Z,7nm,0.9s,mb4.3
KOLN Koldanda 57.94 278 *eP* **P 01 06 56.8 +0.7**
comp=Z,42nm,0.9s,mb5.5
ARCES ARCESS Array B 58.00 341 P **P 01 06 56.4 -0.1**
comp=Z,18nm,0.8s,mb5.1,baz=25,slow=7.1,SNR=19
WVOR Wild Horse Val 58.45 60 *eP* **P 01 06 59.3 -0.3**
WVOR pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
WVOR Wild Horse Val 58.45 60 *eP* **P 01 06 59.3 -0.3**
comp=Z,4.9nm,1.1s,mb4.5
TMCR Tamitsa 58.68 333 *eP* **P 01 07 01.5 +0.3**
TMCR pmax pmax
comp=Z,69nm,0.7s,mb5.8
CHMT Chamberlain Mo 58.83 53 *eP* **P 01 07 01.7 -0.6**
BOK Bokaro 58.98 272 *eP* **P 01 07 03.0 -0.3**
BOK AMb AMB 01 07 08.3
comp=Z,18nm,0.7s,mb5.2
AB31 Akbulak array 59.25 311 *i* P **P 01 07 04.6 -0.6**
AB31 pmax pmax
comp=Z,14nm,0.6s,mb5.2
AKTK Aktyubinsk 59.51 313 P **P 01 07 06.5 -0.5**
AKTO Aktyubinsk 59.51 313 P **P 01 07 06.5 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=60,slow=4.9,SNR=48
AKTO Aktyubinsk 59.51 313 P **P 01 07 06.1 -0.9**
KSM Kuching 59.74 235 *eP* **P 01 07 08.5 -0.1**
LRM Limekiln Ridge 59.94 54 *eP* **P 01 07 09.7 -0.2**
LRM *epP* 01 07 26.0
CMB Columbia Colle 60.06 65 *eP* **P 01 07 10.9 +0.1**
comp=Z,0.6nm,0.5s
HLID Hailey 60.22 57 P **P 01 07 11.4 -0.4**
comp=Z,16nm,1.5s,mb4.8
HLID PcP PcP 01 07 58.3 +0.9
ORR Orenburg 60.38 315 *eP* **P 01 07 13.1 +0.1**
ORR MLR MLR
comp=Z,530nm,17.0s,MS4.8
BMN Battle Mountai 60.51 61 *eP* **P 01 07 14.0 +0.2**
BMN pmax pmax
comp=Z,2.0nm,0.3s,mb4.7
BMN Battle Mountai 60.51 61 *eP* **P 01 07 14.0 +0.2**
comp=Z,1.7nm,0.3s,mb4.7
CHCP Chirah Chowk 61.06 289 P **P 01 07 18.9 +1.3**
NVAR Mina Array Bea 61.10 64 P **P 01 07 18.4 +0.5**
comp=Z,0.8nm,0.6s,baz=297,slow=8.0,SNR=6.9
GCMT Greycliff 61.48 52 *eP* **P 01 07 20.7 +0.3**
NDI New Delhi 61.65 283 *eP* **P 01 07 21.3 -0.3**
NDI AMb AMB 01 07 24.6
comp=Z,33nm,2.3s,mb5.2
CEP Cherat 61.83 290 P **P 01 07 23.3 +0.5**
AYAN Aya Nagar 61.84 282 *eP* **P 01 07 22.4 -0.4**
AYAN AMb AMB 01 07 26.1
comp=Z,13nm,1.1s,mb5.1
SONA Sohna 62.02 282 *eP* **P 01 07 23.7 -0.4**
SONA AMb AMB 01 07 27.6
comp=Z,16nm,0.8s,mb5.3
AGRA Agra 62.11 281 *eP* **P 01 07 24.9 +0.3**
AGRA AMb AMB 01 07 35.3
comp=Z,72nm,0.4s
RRI2 Red Ridge 62.11 55 *eP* **P 01 07 29.1 +4.5**
MOOW Moose Ponds 62.18 55 *eP* **P 01 07 26.3 +1.2**
LOHW Long Hollow 62.35 55 *eP* **P 01 07 26.9 +0.7**
comp=Z,10nm,1.3s,mb4.9
SNOW Snow King Moun 62.36 55 *eP* **P 01 07 26.8 +0.5**
comp=Z,17nm,0.9s,mb5.3
REDW Red Top Meadow 62.37 55 *eP* **P 01 07 27.8 +1.4**
comp=Z,18nm,1.2s,mb5.2
KUDL Kundal 62.49 283 *eP* **P 01 07 27.0 -0.2**
KUDL AMb AMB 01 07 30.5
comp=Z,18nm,0.7s,mb5.4
THW Thamme Wali 62.59 290 P **P 01 07 28.2 +0.3**
LAO LASA Array 62.74 50 *eP* **P 01 07 28.8 -0.1**
comp=Z,11nm,1.2s,mb4.9
KAKA Kakadu 62.85 205 *eP* **P 01 07 28.3 -1.3**
comp=Z,24nm,0.9s,mb5.3
KHET Khetri 62.99 283 *eP* **P 01 07 30.8 +0.3**
KHET AMb AMB 01 07 34.7
comp=Z,8.9nm,1.8s,mb4.6
DUG Dugway 63.27 59 P **P 01 07 33.2 +0.8**
DUG *e* 01 07 42.4
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
DUG Dugway 63.27 59 *eP* **P 01 07 32.7 +0.3**
comp=Z,3.2nm,1.3s,mb4.3
BW06 Boulder Array 63.48 55 *eP* **P 01 07 33.9 +0.2**
comp=Z,2.4nm,1.0s,mb4.3
PDAR Pinedale Array 63.48 55 P **P 01 07 33.8 0.0**
comp=Z,1.2nm,0.8s,baz=295,slow=2.7,SNR=9.6
PDAR LR LR 01 36 42.2
comp=Z,75nm,19.6s,baz=311,slow=37
SBDP Sheikh Budin 63.52 290 P **P 01 07 33.8 -0.2**
NLU North Lily Min 63.86 59 P **P 01 07 36.5 +0.2**
DRP Derazinda 64.27 290 P **P 01 07 40.1 +1.1**
FIA1 FINESS Array S 64.32 336 *eP* **P 01 07 38.9 -0.5**
FINES FINESS Array B 64.33 336 P **P 01 07 39.0 -0.4**
comp=Z,10.0nm,0.6s,mb5.2,baz=39,slow=7.8,SNR=76
SFJD Kangerlussuaq 64.61 11 ⇑ *iP* **P 01 07 45.3 +4.1**
AJM Ajmer 64.82 282 *eP* **P 01 07 42.4 -0.1**
AJM AMb AMB 01 07 44.5
comp=Z,15nm,1.0s,mb5.2
MOS Moscow 64.94 326 *eP* **P 01 07 41.4 -2.0**
MOS pmax pmax
comp=Z,86nm,1.4s,mb5.8
BHPL Bhopal 65.11 278 *eP* **P 01 07 44.8 +0.3**
BHPL AMb AMB 01 07 48.9
comp=Z,46nm,1.2s,mb5.6
SRU San Rafael 65.32 59 *eP* **P 01 07 44.6 -1.2**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
SRU San Rafael 65.32 59 *eP* **P 01 07 44.6 -1.2**
comp=Z,7.4nm,0.9s,mb4.9
ULM Lac du Bonnet 65.41 42 P **P 01 07 45.8 -0.6**
comp=Z,1.4nm,0.6s,mb4.3,baz=305,slow=11,SNR=4.1
NGP Nagpur 65.42 275 *eP* **P 01 07 45.7 -0.8**
NGP AMb AMB 01 07 50.5
comp=Z,49nm,2.3s,mb5.3
PSI Prapat 65.43 246 P **P 01 07 47.1 +0.5**
comp=Z,12nm,0.9s,mb5.1,baz=3.1,slow=3.9,SNR=13
RSSD Black Hills 65.59 51 *eP* **P 01 07 47.8 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
RSSD Black Hills 65.59 51 *eP* **P 01 07 47.8 +0.1**
comp=Z,8.8nm,1.1s,mb4.9
OBN Obninsk 65.81 326 P **P 01 07 48.1 -0.9**
comp=Z,212nm,1.6s,mb6.1,SNR=5.9
OBN Obninsk 65.81 326 ⇓ *eP* **P 01 07 47.4 -1.6**
OBN *e* 01 10 10.0
OBN pmax pmax
comp=Z,69nm,1.4s,mb5.7
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.4
OBN Obninsk 65.81 326 *eP* **P 01 07 48.1 -0.9**
PV10 Paradox Valley 66.67 58 *eP* **P 01 07 54.3 -0.2**
VRHR Novokhopersk 66.75 321 *eP* **P 01 07 54.4 -0.6**
VRHR pmax pmax
comp=E,6.0nm,0.5s
VRHR pmax pmax
comp=Z,8.0nm,0.5s,mb5.2
VRHR pmax pmax
comp=N,2.0nm,0.8s
JASL Jaisalmer 67.00 285 *eP* **P 01 07 57.3 +0.7**
WUAZ Wupatki 67.20 62 *eP* **P 01 07 57.8 -0.1**
WUAZ *epP* 01 08 19.3
CTAO Charters Tower 67.30 189 *eP* **P 01 07 54.8 -3.8**
ABKT Ailbek 67.59 302 P **P 01 08 01.0 +0.6**
comp=N,161nm,0.8s,SNR=6.9
ISCO Idaho Springs 67.67 55 *eP* **P 01 08 02.0 +1.1**
VRSR Storozhevoye 67.69 322 *eP* **P 01 08 01.0 0.0**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.7s
MVCO Mesa Verde 67.77 59 *eP* **P 01 08 00.9 -0.7**
HYB Hyderabad 68.33 273 *i* P **P 01 08 05.5 +0.5**
HYB Hyderabad 68.33 273 *eP* **P 01 08 09.0 +4.0**
NB2 NORSAR Subarra 68.36 342 P **P 01 08 04.4 -0.8**
comp=Z,3.3nm,0.7s,mb4.7,baz=26,slow=6.5
NOA NORSAR Array B 68.36 342 P **P 01 08 04.8 -0.5**
comp=Z,8.2nm,1.0s,mb4.9,baz=26,slow=6.3,SNR=15
HFS Hagfors 68.63 340 P **P 01 08 06.6 -0.3**
comp=Z,5.1nm,0.4s,mb5.1,baz=45,slow=4.8,SNR=27
SDCO Great Sand Dun 69.14 57 *eP* **P 01 08 10.9 +0.8**
WRAB Tennant Creek 69.25 201 P **P 01 08 09.2 -1.6**
comp=Z,139nm,0.9s,mb6.2,SNR=6.8
WRAB Tennant Creek 69.25 201 *i* P **P 01 08 08.2 -2.6**
WRAB Tennant Creek 69.25 201 *eP* **P 01 08 09.3 -1.4**
comp=Z,22nm,0.9s,mb5.4
WB2 Warramunga Arr 69.26 201 *eP* **P 01 08 08.7 -2.1**
WRA Warramunga Arr 69.26 201 P **P 01 08 09.3 -1.5**
comp=Z,16nm,0.9s,mb5.3,baz=19,slow=6.5,SNR=58
MNK Minsk 69.43 330 *eP* **P 01 08 09.0 -2.9**
DZM Mont Dzumac 69.56 169 LR LR 01 32 41.1
comp=Z,1µm,21.0s,MS5.2,baz=190,slow=31
FITZ Fitzroy Crossi 70.06 210 ⇓ *iP* **P 01 08 15.1 -0.7**
comp=Z,11nm,0.8s,mb5.0
FITZ Fitzroy Crossi 70.06 210 P **P 01 08 15.2 -0.6**
comp=Z,6.8nm,0.9s,mb4.8,baz=39,slow=6.3,SNR=12
GOF Gofitskoye 70.55 316 *eP* **P 01 08 24.7 +5.9**
GOF pmax pmax
comp=Z,100nm,1.0s,mb5.9
POO Poona 70.76 277 *eP* **P 01 08 19.5 -0.6**
SUW Suwalki 71.36 332 *eP* **P 01 08 23.3 -0.4**
SUW Suwalki 71.36 332 *eP* **P 01 08 23.1 -0.6**
SUW pmax pmax
comp=Z,24nm,0.8s,mb5.4
KAD Karad 71.38 276 *eP* **P 01 08 24.1 +0.3**
KAD AMb AMB 01 08 30.2
comp=Z,48nm,1.0s,mb5.6
KIV Kislovodsk 71.54 315 ⇓ *eP* **P 01 08 24.2 -0.6**
KIV *e* 01 11 00.2
KIV pmax pmax
comp=Z,44nm,1.8s,mb5.3
KIV MLR MLR
comp=Z,300nm,17.0s,MS4.6
KIV Kislovodsk 71.54 315 *eP* **P 01 08 25.2 +0.5**
ZEI Tsey 71.83 314 *eP* **P 01 08 25.8 -0.7**
ZEI pmax pmax
comp=Z,12nm,1.0s,mb5.0
AKASG Malin Array Be 72.03 327 P **P 01 08 27.0 -0.7**
comp=Z,15nm,0.8s,mb5.2,baz=33,slow=6.1,SNR=45
AKASG Malin Array Be 72.03 327 P **P 01 08 27.0 -0.7**
AKBB Malin Array Si 72.03 327 *eP* **P 01 08 26.7 -1.0**
AKBB *ePP* PP 01 11 01.5 -6.0
SCHQ Schefferville 72.50 24 LR LR 01 45 35.1
comp=Z,80nm,19.0s,MS4.0,baz=80,slow=40
BSD Bornholm Skovb 72.80 337 *i* P **P 01 08 32.1 -0.2**
comp=Z,38nm,1.3s,mb5.4
BSD Bornholm Skovb 72.80 337 *i* P **P 01 08 32.1 -0.2**
BSD pmax pmax
comp=Z,38nm,1.3s,mb5.4
AS31 Alice Springs 72.94 200 *eP* **P 01 08 32.7 -0.5**
ASAR Alice Springs 72.94 200 P **P 01 08 32.6 -0.5**
comp=Z,14nm,0.9s,mb5.1,baz=13,slow=5.3,SNR=105
ASPA Alice Springs 72.94 200 *eP* **P 01 08 32.7 -0.5**
GNI Garni 73.34 311 *e* **P 01 08 37.5 +2.0**
comp=Z,9.4nm,0.7s,mb5.1,baz=147,slow=21,SNR=7.4
MNTX Cornudas Mount 73.45 61 *eP* **P 01 08 35.8 -0.3**
comp=Z,2.2nm,1.0s,mb4.2
SIM Simferopol' 74.69 321 *ceP* **P 01 08 43.9 +0.5**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,310nm,17.0s,MS4.7
WMOK Wichita Mounta 75.09 55 *eP* **P 01 08 45.5 -0.2**
KIS Kishinev 75.21 325 *eP* **P 01 08 44.0 -2.4**
KIS *e* 01 08 51.0
KIS *e* 01 09 04.0
KIS Kishinev 75.21 325 *eUNK* **P 01 08 44.0 -2.4**
KWP Kalwaria 75.24 330 *eP* **P 01 08 47.2 +0.6**
OJC Ojcow 75.69 332 *eP* **P 01 08 49.1 -0.1**
STHS Stebnicka Huta 75.91 331 *eP* **P 01 08 51.1 +0.7**
STHS pmax pmax
comp=Z,16nm,0.8s,mb5.2
STHS Stebnicka Huta 75.91 331 *eP* **P 01 08 51.1 +0.7**
comp=Z,16nm,0.8s,mb5.2
KOLS Kolonicke sedl 75.98 330 *eP* **P 01 08 51.0 +0.2**
BURAR Bucovina Array 76.06 328 ⇑ *iP* **P 01 08 51.2 -0.1**
BURAR Bucovina Array 76.06 328 ⇑ *P* **P 01 08 51.2 -0.1**
LTX Lajitas 76.17 62 *eP* **P 01 08 52.1 +0.2**
LTX pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LTX Lajitas 76.17 62 *eP* **P 01 08 52.1 +0.2**
comp=Z,8.4nm,0.8s,mb4.9
TXAR Lajitas Array 76.17 62 P **P 01 08 52.0 +0.1**
comp=Z,12nm,1.0s,mb5.0,baz=299,slow=4.0,SNR=66
KSP Ksiaz 76.22 335 *eP* **P 01 08 52.5 +0.3**
KSP Ksiaz 76.22 335 *eP* **P 01 08 52.0 -0.2**
KSP *epP* 01 08 54.5
NIE Niedzica 76.22 331 *eP* **P 01 08 52.9 +0.7**
EKA Eskdalemuir Ar 76.34 347 P **P 01 08 53.2 +0.3**
comp=Z,3.4nm,0.8s,mb4.5,baz=13,slow=4.5,SNR=12
OKC Ostrava-Krasne 76.54 333 *eP* **P 01 08 53.9 -0.1**
UPC Upice 76.59 335 *eP* **P 01 08 54.2 -0.1**
UPC *epP* 01 08 57.5
DPC Dobruska-Polom 76.64 334 *eP* **P 01 08 55.2 +0.6**
CLL Collm 76.73 337 ⇑ *iP* **P 01 08 55.0 -0.1**
CLL pmax pmax
comp=Z,19nm,1.1s,mb5.1
CLL Collm 76.73 337 ⇑ *iP* **P 01 08 55.0 -0.1**
comp=Z,19nm,1.1s,mb5.1
CLL *i* 01 08 57.8
CLL Collm 76.73 337 ⇑ *iP* **P 01 08 55.0 -0.1**
comp=Z,19nm,1.1s,mb5.1
CLL *i pP* 01 08 57.8
comp=Z,51nm,1.1s
CLL *epPcP* 01 09 08.0
MORC Moravsky Berou 76.78 333 ⇑ *iP* **P 01 08 55.7 +0.3**
MORC Moravsky Berou 76.78 333 *eP* **P 01 08 55.4 0.0**
MORC pmax pmax
comp=Z,33nm,1.0s,mb5.4
MORC Moravsky Berou 76.78 333 *eP* **P 01 08 55.4 0.0**
comp=Z,33nm,1.0s,mb5.4
BRG Berggiesshubel 76.86 336 *eP* **P 01 08 55.8 0.0**
comp=Z,4.9nm,1.0s,mb4.6
BRG *i* 01 08 58.6
comp=Z,11nm,1.1s
LIKS Likavka 76.93 332 *eP* **P 01 08 58.0 +1.8**
VRI Vrincioaia 76.96 326 ⇑ *iP* **P 01 08 57.4 +1.0**
VRI Vrincioaia 76.96 326 ⇑ *P* **P 01 08 57.4 +1.0**
KECS Kecovo 76.97 331 *eP* **P 01 08 56.6 +0.2**
KECS *ePCP* PcP 01 09 09.9 +2.4
KECS Kecovo 76.97 331 *eP* **P 01 08 56.6 +0.2**
KECS *e* 01 09 09.9
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
KECS Kecovo 76.97 331 *eP* **P 01 08 56.6 +0.2**
comp=Z,6.5nm,0.9s,mb4.8
KECS *e* 01 09 09.9
CFR Carcaliu 76.98 325 ⇑ *iP* **P 01 08 57.9 +1.4**
CFR Carcaliu 76.98 325 *P* **P 01 08 58.1 +1.6**
PVCC Panska Ves 76.99 335 *eP* **P 01 08 56.7 +0.1**
PVCC *epP* 01 08 59.6
PLOR Plostina 77.00 326 ⇓ *iP* **P 01 08 58.6 +2.0**
BOYT Boyabat 77.14 318 *i* P **P 01 08 58.1 +0.7**
TIRR Tirgusor 77.47 324 ⇑ *iP* **P 01 08 59.3 +0.1**
TIRR Tirgusor 77.47 324 ⇑ *P* **P 01 08 59.3 +0.1**
TIRR P 01 08 59.8
VRAC Vranov 77.49 334 P **P 01 08 58.6 -0.8**
comp=Z,16nm,0.8s,mb5.2,baz=36,slow=6.6,SNR=10
VRAC Vranov 77.49 334 ⇑ *iP* **P 01 08 59.7 +0.4**
VRAC Vranov 77.49 334 *P* **P 01 09 00.1 +0.8**
ELZG Elazig 77.50 314 *i* P **P 01 09 00.4 +1.0**
VYHS Vyhne 77.50 332 *eP* **P 01 08 59.5 +0.1**
VYHS pmax pmax
comp=Z,12nm,1.4s,mb4.8
VYHS Vyhne 77.50 332 *eP* **P 01 08 59.5 +0.1**
comp=Z,12nm,1.4s,mb4.8
MLR Muntele Rosu 77.57 326 P **P 01 09 00.8 +1.0**
comp=Z,16nm,0.7s,mb5.3,baz=183,slow=2.8,SNR=35
MLR Muntele Rosu 77.57 326 ⇓ *iP* **P 01 09 00.0 +0.2**
MLR Muntele Rosu 77.57 326 ⇑ *P* **P 01 09 00.8 +1.0**
JCT Junction City 77.63 59 *eP* **P 01 09 00.1 0.0**
JCT pmax pmax
comp=Z,20nm,1.3s,mb5.1
JCT Junction City 77.63 59 *eP* **P 01 09 00.1 -0.1**
comp=Z,20nm,1.3s,mb5.1
PSZ Piszkesteto 77.66 331 ⇓ *iP* **P 01 08 58.7 -1.6**
PSZ Piszkesteto 77.66 331 *eP* **P 01 09 00.6 +0.3**
comp=Z,12nm,0.9s,mb5.0
PSZ Piszkesteto 77.66 331 ⇑ *eP* **P 01 09 01.1 +0.8**
DRGR 77.66 329 ⇑ *iP* **P 01 09 00.1 -0.2**
DRGR 77.66 329 *P* **P 01 09 00.8 +0.5**
MOX Moxa 77.70 337 *eP* **P 01 09 00.7 +0.2**
comp=Z,19nm,1.2s,mb5.1
MOX Moxa 77.70 337 *eP* **P 01 09 00.7 +0.2**
MOX pmax pmax
comp=Z,19nm,1.2s,mb5.1
BALT Daday 77.73 319 *i* P **P 01 08 59.3 -1.5**
CTKT Corum 77.83 318 *i* P **P 01 09 01.8 +0.5**
SNX Sinaia 77.85 326 ⇑ *iP* **P 01 09 02.7 +1.3**
SNX Sinaia 77.85 326 ⇑ *P* **P 01 09 02.7 +1.3**
NKC Novy Kostel 77.85 336 *eP* **P 01 09 01.5 +0.1**
MALT Malatya 77.92 314 ⇑ *iP* **P 01 09 02.9 +1.2**
MALT Malatya 77.92 314 *eP* **P 01 09 03.2 +1.5**
MALT pmax pmax
comp=Z,15nm,0.9s,mb5.1
MALT Malatya 77.92 314 *eP* **P 01 09 03.2 +1.5**
comp=Z,15nm,0.9s,mb5.1
VOIR 77.96 327 ⇑ *iP* **P 01 09 02.5 +0.5**
VOIR 77.96 327 ⇑ *P* **P 01 09 02.5 +0.6**
ZST Bratislava 78.31 333 *eP* **P 01 09 04.6 +0.7**
ZST pmax pmax
comp=Z,18nm,1.2s,mb5.1
ZST Bratislava 78.31 333 *eP* **P 01 09 04.6 +0.7**
comp=Z,18nm,1.2s,mb5.1
BUD Budapest 78.32 331 ⇑ *eP* **P 01 09 04.8 +0.8**
KHC Kasperske Hory 78.53 335 *eP* **P 01 09 05.6 +0.4**
KHC *epP* 01 09 08.8
ELDT Eldivan 78.56 319 *i* P **P 01 09 06.2 +0.9**
GRA1 Grafenberg Arr 78.67 337 *eP* **P 01 09 06.3 +0.4**
comp=Z,34nm,1.1s,mb5.3
GRF Grafenberg Arr 78.67 337 *eP* **P 01 09 06.3 +0.4**
comp=Z,34nm,1.1s,mb5.3
GRF Grafenberg Arr 78.67 337 *eP* **P 01 09 06.3 +0.4**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.3
GRF Grafenberg Arr 78.67 337 *eP* **P 01 09 06.3 +0.4**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.3
GRFO Grafenberg 78.68 337 *eP* **P 01 09 06.3 +0.4**
GRFO pmax pmax
comp=Z,16nm,0.8s,mb5.1
GRFO Grafenberg 78.68 337 *eP* **P 01 09 06.3 +0.3**
comp=Z,16nm,0.8s,mb5.1
GERES GERESS Array B 78.75 335 P **P 01 09 06.6 +0.2**
comp=Z,4.7nm,0.7s,mb4.6,baz=35,slow=4.8,SNR=25
GZR Gura Zlata 78.84 328 ⇑ *iP* **P 01 09 06.7 -0.1**
GZR Gura Zlata 78.84 328 *P* **P 01 09 07.0 +0.2**
CONA Conrad Observa 78.94 333 ⇑ *iP* **P 01 09 08.5 +1.1**
comp=Z,8.9nm,0.8s,mb4.9,SNR=11
SOP Sopron 78.94 333 ⇑ *eP* **P 01 09 08.4 +1.0**
HGN Heimansgroeve 78.99 341 *eP* **P 01 09 07.9 +0.3**
comp=Z,24nm,1.3s,mb5.1
BZS Buzias 79.06 329 ⇑ *iP* **P 01 09 07.6 -0.5**
BZS Buzias 79.06 329 ⇑ *P* **P 01 09 07.6 -0.4**
BR131 Keskin Array S 79.07 318 *eP* **P 01 09 08.8 +0.7**
comp=Z,6.9nm,0.9s,mb4.7
BRTR Keskin Array B 79.07 318 P **P 01 09 08.4 +0.3**
comp=Z,6.7nm,0.8s,mb4.7,baz=57,slow=4.6,SNR=23
SGKT Sivrigoynuk 79.10 319 *i* P **P 01 09 08.7 +0.4**
MEM Membach 79.12 341 P **P 01 09 08.1 -0.3**
MEM XP sP 01 09 12.2 +3.5
AVNT Avonos 79.27 317 *i* P **P 01 09 09.1 -0.1**
ZIMR 79.34 325 ⇑ *iP* **P 01 09 09.1 -0.5**
ZIMR 79.34 325 *P* **P 01 09 09.1 -0.5**
BCLA Clavier 79.45 341 AP pP 01 09 12.6 +2.1
MOA Molln 79.49 334 ⇑ *iP* **P 01 09 10.9 +0.6**
comp=Z,4.7nm,0.8s,mb4.5
MOA Molln 79.49 334 ⇓ *i* **P 01 09 14.1 +3.7**
comp=Z,8.6nm,0.8s,mb4.8
MOA Molln 79.49 334 **P 01 09 14.1 +3.7**
comp=Z,8.6nm,0.8s,mb4.8
MOA Molln 79.49 334 P **P 01 09 10.9 +0.6**
MOA *e* 01 09 14.1
STKA Stephens Creek 79.50 192 *eP* **P 01 09 09.0 -1.5**
comp=Z,5.2nm,1.0s,mb4.4
STKA Stephens Creek 79.50 192 P **P 01 09 08.7 -1.8**
comp=Z,5.4nm,0.8s,mb4.5,baz=356,slow=8.7,SNR=7.7
PKSM Moragy 79.57 331 ⇑ *iP* **P 01 09 10.1 -0.7**
PKSM Moragy 79.57 331 P **P 01 09 10.2 -0.6**
ARSA Arzberg 79.64 333 ⇑ *iP* **P 01 09 11.9 +0.7**
comp=Z,8.9nm,0.8s,mb4.8
ARSA Arzberg 79.64 333 P **P 01 09 11.9 +0.7**
DOU Dourbes 79.92 341 P **P 01 09 12.6 -0.1**
DOU XP sP 01 09 16.6 +3.5
PERS Pernice 80.32 333 *iP* **P 01 09 14.8 -0.1**
COBT Iskenderun 80.39 314 *iP* **P 01 09 15.3 0.0**
KBA Koelnbreinsper 80.45 335 ⇑ *iP* **P 01 09 16.7 +1.1**
comp=Z,11nm,0.8s,mb4.9,SNR=28
ESKT Eskisehir 80.50 320 *iP* **P 01 09 15.7 -0.2**
OBKA Obir 80.61 334 ⇑ *iP* **P 01 09 16.7 +0.3**
BFO Black Forest 80.68 338 *eP* **P 01 09 16.6 -0.2**
BFO pmax pmax
comp=Z,13nm,0.9s,mb5.0
BFO Black Forest 80.68 338 *eP* **P 01 09 16.6 -0.3**
comp=Z,13nm,0.9s,mb5.0
WATA Walderalm 80.73 336 ⇑ *iP* **P 01 09 18.2 +1.1**
comp=Z,22nm,0.9s,mb5.2
ULDT Uludag 80.73 321 *iP* **P 01 09 17.5 +0.3**
WTTA Wattenberg 80.78 336 ⇑ *iP* **P 01 09 17.7 +0.4**
comp=Z,18nm,0.9s,mb5.1
WTTA Wattenberg 80.78 336 ⇓ *i* **P 01 09 22.2 +4.8**
comp=Z,32nm,0.8s,mb5.4
WTTA Wattenberg 80.78 336 **P 01 09 22.2 +4.8**
comp=Z,32nm,0.8s,mb5.4
WTTA Wattenberg 80.78 336 P **P 01 09 17.7 +0.4**
WTTA *e* 01 09 22.2
MOTA Moosalm 80.85 336 ⇑ *iP* **P 01 09 18.7 +0.9**
comp=Z,28nm,0.9s,mb5.3,SNR=16
CDF Champ du Feu 80.87 339 *eP* **P 01 09 17.6 -0.2**
comp=Z,121nm,1.7s,mb5.4
CDF Champ du Feu 80.87 339 *eP* **P 01 09 17.6 -0.2**
CDF pmax pmax
comp=Z,60nm,1.7s,mb5.3
CDF Champ du Feu 80.87 339 *eP* **P 01 09 17.6 -0.2**
comp=Z,60nm,1.7s,mb5.3
GRUS Gruza 80.88 328 *iP* **P 01 09 16.7 -1.2**
SQTA Sankt Quirin 80.93 336 *iP* **P 01 09 19.3 +1.1**
comp=Z,25nm,0.9s,mb5.2,SNR=14
DIVS Divcibare 80.95 329 *iP* **P 01 09 17.8 -0.5**
VTS Vitosha 81.08 326 ⇑ *iP* **P 01 09 19.0 0.0**
VTS Vitosha 81.08 326 *P* **P 01 09 18.9 0.0**
FORT Forrest 81.22 203 *eP* **P 01 09 19.2 -0.5**
comp=Z,17nm,0.7s,mb5.2
DAVA Damuels 81.24 337 ⇑ *iP* **P 01 09 20.7 +0.9**
comp=Z,22nm,0.8s,mb5.2
BOJS Bojanci 81.29 333 *eP* **P 01 09 19.7 -0.4**
DAVOX Davos 81.70 337 P **P 01 09 23.3 +1.0**
comp=Z,13nm,0.7s,mb5.2,baz=63,slow=4.2,SNR=7.7
TKTP Tekketepe 81.95 319 *iP* **P 01 09 23.8 +0.3**
STIP Stip 82.23 326 *eP* **P 01 09 19.7 -5.4**
SKO Skopje 82.28 327 *eP* **P 01 09 21.4 -3.9**
VAY Valandovo 82.41 326 *eP* **P 01 09 24.3 -1.7**
GRR Gorron 82.65 344 *eP* **P 01 09 27.5 +0.2**
comp=Z,125nm,1.3s,mb5.7
GRR Gorron 82.65 344 *eP* **P 01 09 27.5 +0.2**
GRR pmax pmax
comp=Z,62nm,1.3s,mb5.7
GRR Gorron 82.65 344 *eP* **P 01 09 27.5 +0.2**
comp=Z,62nm,1.3s,mb5.7
BIA Bitola 83.14 327 *eP* **P 01 09 26.6 -3.2**
URLA Izmir 83.31 322 *iP* **P 01 09 29.8 -0.9**
SMF Signal de Mont 83.34 340 *eP* **P 01 09 30.8 0.0**
comp=Z,82nm,1.1s,mb5.6
SMF Signal de Mont 83.34 340 *eP* **P 01 09 30.8 0.0**
SMF pmax pmax
comp=Z,41nm,1.1s,mb5.6
SMF Signal de Mont 83.34 340 *eP* **P 01 09 30.8 0.0**
comp=Z,41nm,1.1s,mb5.6

LPG	**La Plagne**	**83.71**	**338**	*e*P		**P**	**01 09 33.5**	**+0.8**	
	comp=Z,62nm,0.9s,mb5.5								
LPG	**La Plagne**	**83.71**	**338**	*e*P		**P**	**01 09 33.5**	**+0.8**	
LPG					pmax	pmax			
	comp=Z,31nm,0.9s,mb5.5								
LPG	**La Plagne**	**83.71**	**338**	*e*P		**P**	**01 09 33.5**	**+0.8**	
	comp=Z,31nm,0.9s,mb5.5								
BNI	**Bardonecchia**	**84.15**	**338**	*e*P		**P**	**01 09 39.7**	**+4.7**	
BNI					pmax	pmax			
	comp=Z,16nm,0.9s,mb5.2								
BNI	**Bardonecchia**	**84.15**	**338**	*e*P		**P**	**01 09 39.7**	**+4.8**	
	comp=Z,16nm,0.9s,mb5.2								
AQU	**L'Aquila**	**84.71**	**333**	⇑*i*P		**P**	**01 09 39.1**	**+1.3**	
AQU	**L'Aquila**	**84.71**	**333**	*e*P		**P**	**01 09 39.5**	**+1.7**	
CAF	**Calviac**	**85.36**	**341**	*e*P		**P**	**01 09 41.3**	**+0.2**	
	comp=Z,41nm,1.0s,mb5.3								
CAF	**Calviac**	**85.36**	**341**	*e*P		**P**	**01 09 41.3**	**+0.2**	
CAF					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.3								
CAF	**Calviac**	**85.36**	**341**	*e*P		**P**	**01 09 41.3**	**+0.2**	
	comp=Z,20nm,1.0s,mb5.3								
TIP	**Timpagrande**	**86.43**	**329**	*e*P		**P**	**01 09 46.1**	**-0.2**	
NWAO	**Narrogin (SRO)**	**86.60**	**211**	P		**P**	**01 09 45.6**	**-1.6**	
	comp=Z,25nm,0.9s,mb5.4,baz=52,slow=5.4,SNR=8.7								
ESDC	**Sonseca Array**	**91.65**	**344**	P		**P**	**01 10 10.5**	**-0.5**	
	comp=Z,1.5nm,0.9s,mb4.3,baz=338,slow=1.6,SNR=4.6								
KEST	**Kesra**	**92.03**	**333**	P		**P**	**01 10 12.9**	**+0.1**	
	comp=Z,1.7nm,0.8s,mb4.4,baz=293,slow=4.7,SNR=4.9								
KEST					LR	LR	01 57 39.2		
	comp=Z,68nm,19.5s,MS4.1,baz=254,slow=40								
TORD	**Torodi Ar. Bea**	**115.50**	**331**	PP		PP	01 16 45.1	-2.3	
	comp=Z,2.5nm,0.9s,baz=12,slow=7.5,SNR=5.7								
VNDA	**Vanda**	**124.37**	**178**	PKP		PKPdf	01 16 00.1	-2.8	
	comp=Z,2.0nm,1.1s,baz=317,slow=4.2,SNR=5.3								
SBA	**Scott Base**	**124.84**	**177**	PKIKP		PKPdf	01 16 00.8	-3.0	
LSZ	**Lusaka**	**125.95**	**288**	*e*PKIKP		PKPdf	01 16 06.1	+0.2	
LPAZ	**La Paz**	**133.00**	**64**	PKP		PKPdf	01 16 20.7	+1.4	
	comp=Z,2.8nm,0.9s,baz=341,slow=6.8,SNR=8.5								
MAW	**Mawson**	**153.16**	**212**	PKP		PKPdf	01 16 18.4	-1.2	
	comp=Z,2.4nm,0.8s,baz=318,slow=1.6,SNR=4.2								
CFAA	**Coronel Fontan**	**143.62**	**81**	PKhKP			01 16 34.9		
	comp=Z,1.4nm,0.8s,baz=303,slow=2.8,SNR=16								
NVL	**N'lazarevskaya**	**150.46**	**204**	*d i* PKIKP		PKPdf	01 16 52.0	+1.8	
NVL					pmax	pmax			
	comp=Z,26nm,1.2s								
TRQA	**Tornquist**	**151.49**	**85**	*e*PKPbc		PKPbc	01 16 56.4	-1.5	
CAM4	**Nova Friburgo**	**151.54**	**36**	⇑*i*P		PKPdf	01 16 55.0	+3.2	
CAM4				*i*			01 16 57.7		
CAM4				*i*			01 16 59.7		
CAM4				*i*			01 17 01.5		
SNAA	**Sanae**	**153.21**	**195**	PKPbc		PKPbc	01 16 59.0	-2.7	
	comp=Z,2.0nm,1.0s,baz=250,slow=6.6,SNR=9.6								
SNAA	**Sanae**	**153.21**	**195**	*e*PKPdf		PKPdf	01 16 52.0	-2.3	
SNAA				*e*			01 16 58.4		
SNAA				*e*			01 17 11.1		
SNAA				*e*			01 17 12.4		
SNAA				*e*			01 17 30.9		
SNAA				*e*			01 17 47.0		
VNA2	**Neumayer--Watz**	**154.62**	**193**	*e*PKPdf		PKPdf	01 16 56.4	+0.1	
VNA2				*e*			01 17 02.5		
VNA2				*e*			01 17 11.8		
VNA2				*e*			01 17 18.2		
VNA2				*e*			01 17 31.0		
VNA2				*e*			01 17 43.9		
VNA3	**Neumayer Olymp**	**154.68**	**191**	*e*PKPdf		PKPdf	01 16 55.0	-1.4	
VNA3				*e*			01 17 01.8		
VNA3				*e*			01 17 11.0		
VNA3				*e*			01 17 17.6		
VNA3				*e*			01 17 30.7		
VNA3				*e*			01 17 43.7		

*IDC **18** 00:59:37.1±0.8,4685N×154.92E,h0km,mb4.5/21, mb1 4.6/22,mb1mx4.4/31,mbtmp4.5/22,ML3.9/1,MS4.0/2, Ms1 4.0/2,ms1mx3.1/41,Error ellipse: s-maj=22.8km s-min=17.8km az=112.0*

*NEIC **18** 00:59:38.5±0.7,4677N×15506E,h10km,mb5.1/11,Error ellipse: s-maj=18.8km s-min=11.7km az=132.0*

*ISCJB **18** 00:59:42.2±0.7,4679N±009×1545E±01,h35km,mb4.5/32, MS4.0/2,Error ellipse: s-maj=17.0km s-min=7.3km az=89.9*

*MOS **18** 00:59:42.4±1.3,4687N×154.32E,h32km,mb5.3/9,Error ellipse: s-maj=15.8km s-min=8.2km az=108.1*

*SZGRF **18** 00:59:50.7,4884N×158.13E,h33km,mb4.8,East of Kuril Islands, Russia*

ISC 18 00:59:42.6±0.6,4673N±009×1548E±01,h35km,n101, σ1§28/99,mb4.6/32,MS4.0/2,13C-11D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KUR	**Kuril'sk**	**5.05**	**255**	*e*PN		**Pn**	**01 00 54.5**		**-1.2**
KUR				*e*S		**Sn**	**01 01 53.5**		**+0.7**
KUR					pmax	pmax			
	comp=Z,320nm,0.8s								
KUR					smax				
	comp=N,430nm,0.8s								
KUR					smax				
	comp=E,220nm,0.8s								
MJAR	**Matsushiro Arr**	**16.00**	**236**	Pn		**Pn**	**01 03 25.0**		**+0.1**
	comp=E,0.5nm,0.3s,baz=30,slow=13,SNR=5.7								
MAJO	**Matsushiro**	**16.00**	**236**	*e*P		**Pn**	**01 03 24.4**		**-0.5**
MAT	**Matsushiro**	**16.00**	**236**	P		**Pn**	**01 03 23.7**		**-1.2**
KSRS	**Korea Array**	**21.89**	**255**	P		**P**	**01 04 31.8**		**-0.7**
	comp=E,1.1nm,0.6s,mb3.4,baz=52,slow=9.4,SNR=2.6								
BILL	**Bilibino**	**22.17**	**11**	*e*P		**P**	**01 04 30.8**		**-4.6**
TIXI	**Tiksi**	**27.82**	**343**	*e*P		**P**	**01 05 24.0**		**-4.4**
SONM	**Songino Array**	**32.42**	**290**	P		**P**	**01 06 08.9**		**-0.3**
	comp=E,1.6nm,0.9s,mb3.8,baz=78,slow=9.2,SNR=4.2								
EGAK	**Eagle**	**38.30**	**38**	*e*P		**P**	**01 06 55.4**		**-4.3**
INK	**Inuvik**	**41.05**	**33**	P		**P**	**01 07 19.8**		**-2.8**
	comp=E,9.9nm,0.8s,mb4.5,baz=290,slow=5.4,SNR=9.4								
ZAL	**Zalesovo**	**43.57**	**306**	P		**P**	**01 07 41.4**		**-1.6**
	comp=E,2.6nm,0.4s,mb4.3,baz=38,slow=8.4,SNR=5.4								
ZAL	**Zalesovo**	**43.57**	**306**	P		**P**	**01 07 41.4**		**-1.6**
NVS	**Novosibirsk**	**44.11**	**308**	*e*P		**P**	**01 07 44.6**		**-2.8**
MKAR	**Makanchi Array**	**47.97**	**298**	P		**P**	**01 08 16.5**		**-1.3**
	comp=E,3.6nm,0.8s,mb4.5,baz=65,slow=7.0,SNR=5.2								
YKA	**Yellowknife Ar**	**50.25**	**37**	LR		LR	01 29 36.4		
	comp=E,66nm,21.3s,MS3.6,baz=185,slow=36								
BVAR	**Borovoye Array**	**51.75**	**310**	P		**P**	**01 08 45.5**		**-1.0**
	comp=E,2.8nm,0.4s,mb4.6,baz=58,slow=7.7,SNR=7.3								
ZRNK	**Zerenda**	**52.52**	**310**	*e*P		**P**	**01 08 50.8**		**-1.4**
ZRNK					pmax	pmax			
	comp=Z,29nm,0.5s,mb5.5								
ZRNK	**Zerenda**	**52.52**	**310**	*e*P		**P**	**01 08 50.8**		**-1.4**
	comp=Z,29nm,0.5s,mb5.5								
ARU	**Arti**	**55.80**	**318**	*e*P		**P**	**01 09 14.2**		**-1.9**
ARU	**Arti**	**55.80**	**318**	*e*P		**P**	**01 09 14.5**		**-1.6**
	comp=Z,10nm,0.6s,mb5.0								
ARCES	**ARCESS Array B**	**58.24**	**341**	P		**P**	**01 09 31.8**		**-1.6**
	comp=Z,5.5nm,0.9s,mb4.6,baz=30,slow=7.6,SNR=3.7								
AKTK	**Aktyubinsk**	**59.59**	**313**	P		**P**	**01 09 42.8**		**0.0**
AKTO	**Aktyubinsk**	**59.59**	**313**	P		**P**	**01 09 42.8**		**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=67,slow=7.6,SNR=3.6								
AKTO	**Aktyubinsk**	**59.59**	**313**	P		**P**	**01 09 42.8**		**0.0**
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
FINES	**FINESS Array B**	**64.54**	**335**	P		**P**	**01 10 14.3**		**-1.7**
	comp=Z,2.9nm,0.5s,mb4.6,baz=41,slow=7.8,SNR=9.0								
FINES	**FINESS Array B**	**64.54**	**335**	P		**P**	**01 10 14.3**		**-1.7**
NB2	**NORSAR Subarra**	**68.61**	**342**	P		**P**	**01 10 39.7**		**-2.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.61**	**342**	P		**P**	**01 10 41.6**		**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=25,slow=6.3,SNR=3.8								
HFS	**Hagfors**	**68.87**	**340**	P		**P**	**01 10 43.7**		**+0.1**
	comp=Z,2.6nm,0.4s,mb4.5,baz=53,slow=6.0,SNR=13								
WRA	**Warramunga Arr**	**68.88**	**201**	P		**P**	**01 10 44.6**		**+1.0**
	comp=Z,5.1nm,0.8s,mb4.5,baz=19,slow=6.6,SNR=8.0								
AKASG	**Malin Array Be**	**72.19**	**327**	P		**P**	**01 11 02.1**		**-1.7**
	comp=Z,2.3nm,0.5s,mb4.4,baz=34,slow=6.3,SNR=7.0								
ASAR	**Alice Springs**	**72.57**	**200**	P		**P**	**01 11 07.6**		**+1.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=17,slow=5.1,SNR=9.0								
KWP	**Kalwaria**	**75.42**	**330**	*e*P		**P**	**01 11 22.3**		**-0.5**
KWP					pmax	pmax			
	comp=Z,29nm,1.0s,mb5.2								
KWP	**Kalwaria**	**75.42**	**330**	*e*P		**P**	**01 11 22.3**		**-0.4**
	comp=Z,29nm,1.0s,mb5.2								
STHS	**Stebnicka Huta**	**76.10**	**331**	*e*P		**P**	**01 11 28.7**		**+2.1**
KOLS	**Kolonicke sedl**	**76.17**	**330**	*e*P		**P**	**01 11 27.7**		**+0.7**
BURAR	**Bucovina Array**	**76.23**	**328**	⇓*i*P		**P**	**01 11 28.7**		**+1.3**
BURAR	**Bucovina Array**	**76.23**	**328**	⇓P		**P**	**01 11 28.7**		**+1.3**
LTX	**Lajitas**	**76.50**	**62**	*e*P		**P**	**01 11 26.2**		**-2.7**
TXAR	**Lajitas Array**	**76.50**	**62**	P		**P**	**01 11 26.4**		**-2.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=305,slow=4.8,SNR=4.7								
EKA	**Eskdalemuir Ar**	**76.62**	**347**	P		**P**	**01 11 29.2**		**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=21,slow=4.9,SNR=4.2								
OKC	**Ostrava-Krasne**	**76.74**	**333**	*e*P		**P**	**01 11 31.6**		**+1.3**
UPC	**Upice**	**76.81**	**334**	*e*P		**P**	**01 11 31.2**		**+0.6**
DPC	**Dobruska-Polom**	**76.85**	**334**	*e*P		**P**	**01 11 31.5**		**+0.6**
CLL	**Collm**	**76.95**	**337**	*e*P		**P**	**01 11 32.0**		**+0.6**
CLL					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0								
CLL	**Collm**	**76.95**	**337**	*e*P		**P**	**01 11 32.0**		**+0.6**
	comp=Z,20nm,1.0s,mb5.0								
CLL	**Collm**	**76.95**	**337**	*i* P		**P**	**01 11 32.5**		**+1.1**
	comp=Z,20nm,1.0s,mb5.0								
CLL				*i*	pP	pP	01 11 35.1	-7.3	
MORC	**Moravsky Berou**	**76.98**	**333**	⇓*i*P		**P**	**01 11 33.1**		**+1.5**
VRI	**Vrincioaia**	**77.12**	**326**	⇓*i*P		**P**	**01 11 36.4**		**+4.0**
VRI	**Vrincioaia**	**77.12**	**326**	⇓P		**P**	**01 11 36.4**		**+4.0**
CFR	**Carcaliu**	**77.13**	**324**	⇓*i*P		**P**	**01 11 36.9**		**+4.4**
CFR	**Carcaliu**	**77.13**	**324**	⇓P		**P**	**01 11 36.9**		**+4.5**
KECS	**Kecovo**	**77.16**	**331**	*e*P		**P**	**01 11 34.1**		**+1.5**
PLOR	**Plostina**	**77.16**	**326**	⇑*i*P		**P**	**01 11 34.2**		**+1.6**
PVCC	**Panska Ves**	**77.21**	**325**	*e*P		**P**	**01 11 34.0**		**+1.1**
TIRR	**Tirgusor**	**77.61**	**324**	⇑*i*P		**P**	**01 11 36.8**		**+1.6**
TIRR	**Tirgusor**	**77.61**	**324**	⇑P		**P**	**01 11 36.8**		**+1.6**
VRAC	**Vranov**	**77.69**	**333**	P		**P**	**01 11 36.1**		**+0.5**
	comp=Z,5.2nm,0.7s,mb4.6,baz=37,slow=8.9,SNR=4.9								
VRAC	**Vranov**	**77.69**	**333**	⇑*i*P		**P**	**01 11 36.7**		**+1.1**
VRAC	**Vranov**	**77.69**	**333**	⇑P		**P**	**01 11 36.7**		**+1.1**
VYHS	**Vyhne**	**77.70**	**332**	*e*P		**P**	**01 11 37.2**		**+1.6**
MLR	**Muntele Rosu**	**77.73**	**326**	P		**P**	**01 11 36.8**		**+1.0**
	comp=Z,8.9nm,0.6s,mb4.9,baz=314,slow=2.5,SNR=7.9								
MLR	**Muntele Rosu**	**77.73**	**326**	⇑*i*P		**P**	**01 11 37.8**		**+2.0**
MLR	**Muntele Rosu**	**77.73**	**326**	⇑P		**P**	**01 11 37.8**		**+2.0**
DRGR		**77.84**	**329**	⇑*i*P		**P**	**01 11 36.8**		**+0.4**
DRGR		**77.84**	**329**	⇑P		**P**	**01 11 36.8**		**+0.4**
PSZ	**Piszkesteto**	**77.85**	**331**	⇑*i*P		**P**	**01 11 38.5**		**+2.0**
PSZ	**Piszkesteto**	**77.85**	**331**	⇑P		**P**	**01 11 38.5**		**+2.0**
MALT	**Malatya**	**78.00**	**314**	⇓*i*P		**P**	**01 11 38.0**		**+0.7**
MALT	**Malatya**	**78.00**	**314**	⇓P		**P**	**01 11 38.0**		**+0.7**
SNX	**Sinaia**	**78.01**	**326**	⇑*i*P		**P**	**01 11 40.0**		**+2.6**
SNX	**Sinaia**	**78.01**	**326**	⇑P		**P**	**01 11 40.0**		**+2.6**
NKC	**Novy Kostel**	**78.07**	**336**	*e*P		**P**	**01 11 39.1**		**+1.4**
VOIR		**78.12**	**326**	⇓*i*P		**P**	**01 11 40.3**		**+2.3**
VOIR		**78.12**	**326**	⇓P		**P**	**01 11 40.3**		**+2.3**
KHC	**Kasperske Hory**	**78.75**	**335**	*e*P		**P**	**01 11 40.9**		**-0.5**
GRA1	**Grafenberg Arr**	**78.90**	**337**	*e*P		**P**	**01 11 43.2**		**+0.9**
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.90**	**337**	*e*P		**P**	**01 11 43.2**		**+0.9**
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.90**	**337**	*e*P		**P**	**01 11 43.2**		**+0.9**
GRF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**78.90**	**337**	*e*P		**P**	**01 11 43.2**		**+0.9**
GRF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
GERES	**GERESS Array B**	**78.97**	**335**	P		**P**	**01 11 42.7**		**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=38,slow=6.8,SNR=6.5								
BRTR	**Keskin Array B**	**79.18**	**318**	P		**P**	**01 11 43.2**		**-0.6**
	comp=Z,4.2nm,0.9s,mb4.4,baz=68,slow=3.3,SNR=4.0								
CDF	**Champ du Feu**	**81.10**	**339**	*e*P		**P**	**01 11 53.1**		**-1.1**
	comp=Z,4.6nm,0.6s,mb4.3								
CDF	**Champ du Feu**	**81.10**	**339**	*e*P		**P**	**01 11 53.1**		**-1.1**
CDF					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
CDF	**Champ du Feu**	**81.10**	**339**	*e*P		**P**	**01 11 53.1**		**-1.1**
	comp=Z,2.3nm,0.6s,mb4.3								
DAVOX	**Davos**	**81.92**	**336**	P		**P**	**01 11 58.3**		**-0.2**
	comp=Z,8.6nm,0.9s,mb4.7,baz=338,slow=4.2,SNR=5.2								
GRR	**Gorron**	**82.92**	**344**	*e*P		**P**	**01 12 02.8**		**-0.9**
	comp=Z,48nm,1.1s,mb5.1								
GRR	**Gorron**	**82.92**	**344**	*e*P		**P**	**01 12 02.8**		**-0.9**
GRR					pmax	pmax			
	comp=Z,24nm,1.1s,mb5.1								
GRR	**Gorron**	**82.92**	**344**	*e*P		**P**	**01 12 02.8**		**-0.9**
	comp=Z,24nm,1.1s,mb5.1								
SMF	**Signal de Mont**	**83.58**	**340**	*e*P		**P**	**01 12 06.0**		**-1.1**
	comp=Z,40nm,1.1s,mb5.1								
SMF	**Signal de Mont**	**83.58**	**340**	*e*P		**P**	**01 12 06.0**		**-1.1**
SMF					pmax	pmax			
	comp=Z,20nm,1.1s,mb5.2								
SMF	**Signal de Mont**	**83.58**	**340**	*e*P		**P**	**01 12 06.0**		**-1.1**
	comp=Z,20nm,1.1s,mb5.2								
MMAI	**Mount Meron Ar**	**83.68**	**313**	P		**P**	**01 12 07.0**		**-0.6**
	comp=Z,2.9nm,0.7s,mb4.5,baz=38,slow=7.3,SNR=4.0								
LPG	**La Plagne**	**83.94**	**338**	*e*P		**P**	**01 12 08.8**		**-0.2**
	comp=Z,22nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.94**	**338**	*e*P		**P**	**01 12 08.8**		**-0.2**
LPG					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.94**	**338**	*e*P		**P**	**01 12 08.8**		**-0.2**
	comp=Z,11nm,0.9s,mb5.0								
CAF	**Calviac**	**85.61**	**341**	*e*P		**P**	**01 12 16.5**		**-0.9**
	comp=Z,65nm,1.6s,mb5.3								
CAF	**Calviac**	**85.61**	**341**	*e*P		**P**	**01 12 16.5**		**-0.9**
CAF					pmax	pmax			
	comp=Z,33nm,1.6s,mb5.3								
CAF	**Calviac**	**85.61**	**341**	*e*P		**P**	**01 12 16.5**		**-0.9**
	comp=Z,32nm,1.6s,mb5.3								
ESDC	**Sonseca Array**	**91.91**	**344**	LR		LR	02 00 55.6		
	comp=Z,139nm,18.9s,MS4.4,baz=0.0,slow=40								
CFAA	**Coronel Fontan**	**143.87**	**81**	PKhKP			01 19 09.7		
	comp=Z,0.3nm,0.5s,baz=284,slow=1.9,SNR=3.5								

*IDC **18** 01:04:01.1±2.0,4653N×15500E,h0km,mb4.0/12, mb1 4.1/12,mb1mx4.0/25,mbtmp4.0/12,Error ellipse: s-maj=55.4km s-min=23.6km az=164.0*

*ISCJB **18** 01:04:02.0±1.0,4654N±02×1552E±02,h10km,mb4.0/13, Error ellipse: s-maj=27.8km s-min=13.9km az=118.6*

*NEIC **18** 01:04:04.1±1.2,4663N×15507E,h10km,Error ellipse: s-maj=33.3km s-min=17.7km az=156.0*

*MOS **18** 01:04:12.3±1.4,4719N×15359E,h33km,mb4.0/1,Error ellipse: s-maj=29.2km s-min=14.3km az=113.1*

ISC 18 01:04:03.8±1.0,4664N±02×1551E±02,h10km,n41, σ1§46/41,mb4.0/13,16C-5D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SKR	**Severo-Kuril's**	**4.15**	**9**	*e*PN		**Pn**	**01 05 01.2**		**-6.1**
MJAR	**Matsushiro Arr**	**16.09**	**237**	Pn		**Pn**	**01 07 50.8**		**+0.7**
	comp=E,0.4nm,0.3s,baz=32,slow=15,SNR=4.2								
MAT	**Matsushiro**	**16.09**	**237**	P		**Pn**	**01 07 45.1**		**-4.9**
KSRS	**Korea Array**	**22.04**	**255**	P		**P**	**01 08 56.9**		**-1.6**
	comp=Z,0.5nm,0.4s,mb3.3,baz=52,slow=10.0,SNR=3.0								
SONM	**Songino Array**	**32.64**	**290**	P		**P**	**01 10 33.5**		**-2.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=64,slow=1.4,SNR=5.1								
INK	**Inuvik**	**41.07**	**32**	P		**P**	**01 11 45.4**		**-2.1**
	comp=Z,1.4nm,0.5s,mb3.8,baz=245,slow=5.9,SNR=4.2								
MKAR	**Makanchi Array**	**48.20**	**298**	P		**P**	**01 12 42.7**		**-1.7**
	comp=Z,1.1nm,0.6s,mb4.1,baz=68,slow=9.1,SNR=4.8								
MKAR	**Makanchi Array**	**48.20**	**298**	P		**P**	**01 12 42.7**		**-1.7**
BVAR	**Borovoye Array**	**51.99**	**310**	P		**P**	**01 13 11.1**		**-2.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=52,slow=9.7,SNR=6.4								
KRMB	**Red Mountain**	**56.02**	**63**	*e*P		**P**	**01 13 42.3**		**-0.3**
FINES	**FINESS Array B**	**64.75**	**336**	P		**P**	**01 14 40.4**		**-1.9**
	comp=Z,1.3nm,0.5s,mb4.3,baz=45,slow=7.5,SNR=10.0								
NB2	**NORSAR Subarra**	**68.80**	**342**	P		**P**	**01 15 06.4**		**-1.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.80**	**342**	P		**P**	**01 15 07.7**		**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=28,slow=6.4,SNR=2.9								
AKASG	**Malin Array Be**	**72.41**	**327**	P		**P**	**01 15 27.8**		**-2.4**
	comp=Z,3.0nm,0.7s,mb4.3,baz=34,slow=6.2,SNR=4.3								
STHS	**Stebnicka Huta**	**76.31**	**331**	*e*P		**P**	**01 15 54.5**		**+1.6**
TXAR	**Lajitas Array**	**76.40**	**62**	P		**P**	**01 15 52.6**		**-0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=303,slow=3.8,SNR=5.0								
BURAR	**Bucovina Array**	**76.45**	**328**	⇓*i*P		**P**	**01 15 54.5**		**+0.8**
BURAR	**Bucovina Array**	**76.45**	**328**	⇓P		**P**	**01 15 54.5**		**+0.8**
EKA	**Eskdalemuir Ar**	**76.80**	**347**	P		**P**	**01 15 54.6**		**-1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=15,slow=4.5,SNR=4.4								
MORC	**Moravsky Berou**	**77.19**	**333**	⇑*i*P		**P**	**01 15 59.2**		**+1.3**
MORC	**Moravsky Berou**	**77.19**	**333**	⇑P		**P**	**01 15 59.2**		**+1.4**
PLOR	**Plostina**	**77.38**	**326**	⇑*i*P		**P**	**01 16 02.1**		**+3.2**
TIRR	**Tirgusor**	**77.84**	**324**	⇑*i*P		**P**	**01 16 02.6**		**+1.1**
TIRR	**Tirgusor**	**77.84**	**324**	⇑P		**P**	**01 16 02.6**		**+1.1**
MLR	**Muntele Rosu**	**77.95**	**326**	P		**P**	**01 16 02.2**		**+0.1**
	comp=Z,5.1nm,0.6s,mb4.7,baz=223,slow=3.7,SNR=12								
MLR	**Muntele Rosu**	**77.95**	**326**	⇓*i*P		**P**	**01 16 04.1**		**+2.0**
MLR	**Muntele Rosu**	**77.95**	**326**	⇓P		**P**	**01 16 04.1**		**+2.0**
DRGR		**78.05**	**329**	⇑*i*P		**P**	**01 16 03.9**		**+1.2**
DRGR		**78.05**	**329**	⇑P		**P**	**01 16 03.9**		**+1.2**
SNX	**Sinaia**	**78.23**	**326**	⇑*i*P		**P**	**01 16 05.6**		**+1.9**
SNX	**Sinaia**	**78.23**	**326**	⇑P		**P**	**01 16 05.6**		**+2.0**
VOIR		**78.34**	**327**	⇑*i*P		**P**	**01 16 05.7**		**+1.4**
VOIR		**78.34**	**327**	⇑P		**P**	**01 16 05.7**		**+1.4**
GERES	**GERESS Array B**	**79.17**	**335**	P		**P**	**01 16 09.1**		**+0.3**
	comp=Z,0.7nm,0.6s,mb3.7,baz=18,slow=4.6,SNR=6.2								
GZR	**Gura Zlata**	**79.22**	**328**	⇑*i*P		**P**	**01 16 10.1**		**+1.0**
GZR	**Gura Zlata**	**79.22**	**328**	⇑P		**P**	**01 16 10.1**		**+0.9**
BRTR	**Keskin Array B**	**79.41**	**318**	P		**P**	**01 16 09.9**		**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=71,slow=5.6,SNR=6.4								
BZS	**Buzias**	**79.45**	**329**	⇑*i*P		**P**	**01 16 10.7**		**+0.3**
BZS	**Buzias**	**79.45**	**329**	⇑P		**P**	**01 16 10.7**		**+0.3**
VTS	**Vitosha**	**81.46**	**326**	⇑*i*P		**P**	**01 16 23.1**		**+2.0**
VTS	**Vitosha**	**81.46**	**326**	⇑P		**P**	**01 16 23.1**		**+1.9**

*IDC **18** 01:05:06.8±0.9,2694N×5561E,h0km,mb4.2/17, mb1 4.3/19,mb1mx4.2/27,mbtmp4.2/19,ML4.1/2,Error ellipse: s-maj=20.0km s-min=14.5km az=146.0*

*ISCJB **18** 01:05:06.7±0.2,2691N±002×5556E±004,h10km, mb4.1/18,Error ellipse: s-maj=4.8km s-min=2.9km az=130.6*

*CSEM **18** 01:05:09.7±0.3,2687N×5561E,h39km±3km,ML4.0,Error ellipse: s-maj=3.6km s-min=3.3km az=169.0*

*THR **18** 01:05:09.1±0.5,2706N×5575E,h15km±5km,ML4.0*

*TEH **18** 01:05:15.0,2722N×5574E,h14km,Mn4.3*

*NEIC **18** 01:05:15.0,2722N×5574E,h14km,mb4.4/3,MN4.3(TEH), After TEH.*

**ISC 18 01:05:08.8±0.2,2690N±002×5560E±004,h10km

IVRN				*e*Sg		**Sn**	**01 08 37.2**	**-16**
IVRN				*e*Sg		**Sn**	**01 08 37.5**	**-16**
IVRN	**Varamin**	**8.73**	**339**	Pn		**Pn**	**01 07 15.1**	**0.0**
IVRN				Sg		**Sn**	**01 08 37.4**	**-16**
SHAO	**Shalim**	**8.83**	**180**	P		**Pn**	**01 07 15.4**	**-1.1**
	SNR=175							
WHFO	**Wadi Hawf**	**9.09**	**191**	P		**Pn**	**01 07 20.1**	**+0.1**
	SNR=68							
ISHM	**Shahmirzad**	**9.10**	**348**	*e*Pn		**Pn**	**01 07 20.5**	**+0.4**
ISHM				*e*Pn		**Pn**	**01 07 21.7**	**+1.6**
ISHM				*e*Pn		**Pn**	**01 07 21.9**	**+1.8**
ISHM				*e*Sg		Sn	01 08 28.1	-34
ISHM				*e*Sg		Sn	01 08 28.1	-34
ISHM	**Shahmirzad**	**9.10**	**348**	Pn		**Pn**	**01 07 20.5**	**+0.4**
ISHM				Sg		Sn	01 08 28.0	-35
DAMV	**Damavand**	**9.24**	**341**	*e*Pn		**Pn**	**01 07 23.2**	**+1.1**
IKIA	**Kiasar**	**9.42**	**351**	*e*Pn		**Pn**	**01 07 24.5**	**-0.1**
IKIA				*e*Pn		**Pn**	**01 07 25.3**	**+0.7**
IKIA				*e*Sg		Sn	01 09 47.8	+37
IKIA	**Kiasar**	**9.42**	**351**	Pn		**Pn**	**01 07 24.5**	**-0.1**
IKIA				Sg		Sn	01 09 47.7	+37
IKIA	**Kiasar**	**9.42**	**351**	*e*Pn		**Pn**	**01 07 25.3**	**+0.7**
RBK	**Rabkut**	**9.44**	**188**	P		**Pn**	**01 07 23.9**	**-0.8**
	SNR=85							
IAFJ	**Afjeh**	**9.53**	**341**	*e*Pn		**Pn**	**01 07 26.6**	**+0.6**
IAFJ				*e*Pn		**Pn**	**01 07 27.4**	**+1.4**
IAFJ				*e*Pn		**Pn**	**01 07 27.5**	**+1.5**
IAFJ				*e*Sg		Sn	01 08 36.4	-37
IAFJ				*e*Sg		Sn	01 08 36.7	-36
ABTO	**Aybut**	**9.73**	**193**	⫴P		**Pn**	**01 07 27.9**	**-0.9**
	SNR=77							
CHTH	**Charan**	**9.76**	**338**	*e*Pn		**Pn**	**01 07 29.9**	**+0.7**
IRAZ	**Razeghan**	**9.77**	**332**	*e*Pn		**Pn**	**01 07 28.7**	**-0.6**
IRAZ				*e*Pn		**Pn**	**01 07 29.3**	**0.0**
IRAZ				*e*Pn		**Pn**	**01 07 29.7**	**+0.4**
IRAZ				*e*Sn		Sn	**01 09 11.8**	**-7.3**
IRAZ				*e*Sg		Sn	**01 09 12.9**	**-6.2**
IRAZ	**Razeghan**	**9.77**	**332**	Pn		**Pn**	**01 07 29.3**	**0.0**
IRAZ				Sn		Sn	**01 09 11.8**	**-7.3**
IRAZ				Sg		Sn	**01 09 12.9**	**-6.2**
IRAZ	**Razeghan**	**9.77**	**332**	*e*Pn		**Pn**	**01 07 29.7**	**+0.4**
IRAZ				*e*Sn		Sn	**01 09 11.8**	**-7.3**
IRAZ				*e*Sg		Sn	**01 09 12.9**	**-6.2**
IKOM	**Komasi**	**10.06**	**318**	*e*Pn		**Pn**	**01 07 32.9**	**-0.4**
IKOM				*e*Pn		**Pn**	**01 07 33.2**	**-0.1**
IKOM				*e*Pn		**Pn**	**01 07 33.3**	**0.0**
IKOM				*e*Sn		Sn	**01 09 20.1**	**-6.0**
IKOM				*e*Sg		Sn	**01 09 21.3**	**-4.8**
IKOM	**Komasi**	**10.06**	**318**	Pn		**Pn**	**01 07 32.8**	**-0.5**
IKOM				Sn		Sn	**01 09 20.1**	**-6.0**
IKOM				Sg		Sn	**01 09 21.2**	**-4.9**
IKOM	**Komasi**	**10.06**	**318**	*e*Pn		**Pn**	**01 07 33.3**	**0.0**
IKOM				*e*Sn		Sn	**01 09 20.1**	**-6.0**
IMYA	**Miamay**	**10.17**	**21**	*e*Pn		**Pn**	**01 07 33.9**	**-0.9**
IMYA				*e*Pn		**Pn**	**01 07 34.5**	**-0.3**
IMYA				*e*Sg			01 10 45.5	
IMYA	**Miamay**	**10.17**	**21**	Pn		**Pn**	**01 07 33.9**	**-0.9**
IMYA				Sg			01 10 45.4	
IMYA	**Miamay**	**10.17**	**21**	*e*Pn		**Pn**	**01 07 34.5**	**-0.3**
IBST	**Bostanabad**	**13.04**	**328**	*e*Pn		**Pn**	**01 08 12.4**	**-1.7**
IMRD	**Marand**	**14.41**	**327**	*e*Pn		**Pn**	**01 08 33.9**	**+1.1**
HAKT	**HAKKARI**	**14.62**	**320**	*i* P		**Pn**	**01 08 32.6**	**-3.1**
MARD	**Mardin**	**16.27**	**313**	*i* P		**Pn**	**01 08 54.4**	**-3.0**
ASF	**Jabal al Asfar**	**17.10**	**292**	P		**Pn**	**01 09 07.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=265,slow=3.1,SNR=14							
MMAI	**Mount Meron Ar**	**18.52**	**294**	P		**Pn**	**01 09 24.4**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=97,slow=14,SNR=8.6							
KIV	**Kislovodsk**	**19.97**	**332**	*e*P		**Pn**	**01 09 42.6**	**-0.2**
	comp=Z,49nm,0.9s							
KIV	**Kislovodsk**	**19.97**	**332**	*e*P		**Pn**	**01 09 42.6**	**-0.2**
	comp=Z,49nm,0.9s							
AAK	**Ala-Archa**	**22.00**	**40**	*e*P		**P**	**01 10 02.6**	**-0.5**
	comp=Z,10nm,1.0s,mb4.2							
AAK	**Ala-Archa**	**22.00**	**40**	*e*P		**P**	**01 10 02.6**	**-0.5**
BR131	**Keskin Array S**	**22.30**	**311**	*e*P		**P**	**01 10 06.9**	**+0.6**
	comp=Z,8.2nm,0.6s,mb4.3							
BRTR	**Keskin Array B**	**22.30**	**311**	P		**P**	**01 10 07.0**	**+0.8**
	comp=Z,6.7nm,0.7s,mb4.2,baz=136,slow=11,SNR=13							
AKTK	**Aktyubinsk**	**23.58**	**4**	P		**P**	**01 10 19.1**	**-0.6**
AKTK	**Aktyubinsk**	**23.58**	**4**	P		**P**	**01 10 19.1**	**-0.6**
AKTO	**Aktyubinsk**	**23.58**	**4**	P		**P**	**01 10 19.1**	**-0.6**
	comp=Z,3.0nm,0.4s,mb4.1,baz=169,slow=8.5,SNR=8.3							
BVAR	**Borovoye Array**	**28.34**	**19**	P		**P**	**01 11 01.3**	**-1.5**
	comp=Z,4.4nm,0.8s,mb4.1,baz=206,slow=7.4,SNR=7.2							
MKAR	**Makanchi Array**	**28.94**	**40**	P		**P**	**01 11 08.1**	**0.0**
	comp=Z,1.2nm,0.5s,mb3.9,baz=225,slow=8.5,SNR=17							
BZS	**Buzias**	**32.83**	**314**	⇑*i*P		**P**	**01 11 42.3**	**-0.2**
BZS	**Buzias**	**32.83**	**314**	⇑P		**P**	**01 11 42.3**	**-0.2**
KMBO	**Kilima Mbogo**	**32.99**	**215**	P		**P**	**01 11 44.9**	**+0.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=38,slow=18,SNR=3.7							
ZAL	**Zalesovo**	**34.53**	**31**	P		**P**	**01 11 54.7**	**-2.6**
	comp=Z,3.8nm,0.5s,mb4.6,baz=45,slow=8.3,SNR=13							
GERES	**GERESS Array B**	**39.02**	**316**	P		**P**	**01 12 34.2**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=98,slow=7.7,SNR=9.4							
FINES	**FINESS Array B**	**39.82**	**338**	P		**P**	**01 12 40.8**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.1,baz=138,slow=9.5,SNR=15							
KEST	**Kesra**	**40.18**	**294**	P		**P**	**01 12 45.6**	**+0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=78,slow=9.3,SNR=11							
DAVOX	**Davos**	**40.94**	**311**	P		**P**	**01 12 50.7**	**-0.7**
	comp=Z,3.1nm,0.4s,mb4.3,baz=118,slow=11,SNR=8.7							
SONM	**Songino Array**	**44.54**	**48**	P		**P**	**01 13 20.5**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=263,slow=7.4,SNR=6.0							
NB2	**NORSAR Subarra**	**45.27**	**331**	P		**P**	**01 13 24.3**	**-2.2**
	comp=Z,1.5nm,0.6s,mb4.0,baz=114,slow=7.9							
NOA	**NORSAR Array B**	**45.27**	**331**	P		**P**	**01 13 24.6**	**-1.9**
	comp=Z,3.2nm,0.8s,mb4.2,baz=119,slow=8.0,SNR=6.7							
KEV	**Kevo**	**45.99**	**347**	*e*p		**P**	**01 13 30.4**	**-1.8**
ARCES	**ARCESS Array B**	**46.13**	**346**	P		**P**	**01 13 32.2**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=140,slow=9.6,SNR=8.0							
ARCES	**ARCESS Array B**	**46.13**	**346**	P		**P**	**01 13 32.2**	**-1.1**
ESDC	**Sonseca Array**	**50.56**	**300**	P		**P**	**01 14 07.1**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=73,slow=7.0,SNR=15							
TOA0	**Torodi Ar. Sit**	**52.10**	**266**	*e*P		**P**	**01 14 18.7**	**-0.3**
TOA0	**Torodi Ar. Sit**	**52.10**	**266**	*e*P		**P**	**01 14 18.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**52.10**	**266**	P		**P**	**01 14 18.8**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.5,baz=62,slow=7.2,SNR=56							
KSRS	**Korea Array**	**60.78**	**60**	P		**P**	**01 15 20.8**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.3,baz=288,slow=8.4,SNR=4.5							
BOSA	**Boshof**	**62.40**	**210**	P		**P**	**01 15 31.5**	**-0.3**
	comp=Z,2.4nm,0.5s,mb4.6,baz=64,slow=4.6,SNR=12							

ellipse: s-maj=21.4km s-min=16.5km az=88.4
ISCJB ***18*** *01:13:10.1±2.0, 467N±0.1×1554E±0.2, h69km±16km, mb3.8/12, Error ellipse: s-maj=28.7km s-min=13.3km az=105.7*

ISC 18 01:13:11.5±1.8, 467N±01×1554E±02, h68km±14km, n20, σ0§77/20, mb3.8/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.04**	**7**	*e*PN		**Pn**	**Pn**	**01 14 11.0**	**+0.2**
ASAJ	**Asahikawa**	**9.36**	**259**	Pn		**Pn**	**Pn**	**01 15 23.8**	**+0.2**
	1.5nm,0.3s,baz=89,slow=13,SNR=4.5								
ASAJ	**Asahikawa**	**9.36**	**259**	PN		**Pn**	**Pn**	**01 15 23.8**	**+0.2**
ASAJ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MJAR	**Matsushiro Ar**	**16.33**	**238**	Pn		**Pn**	**Pn**	**01 16 56.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=4.2								
KSRS	**Korea Array**	**22.28**	**255**	P		**P**	**P**	**01 18 02.8**	**-0.3**
	comp=Z,0.6nm,0.3s,mb3.3,baz=64,slow=8.8,SNR=3.1								
SONM	**Songino Array**	**32.83**	**290**	P		**P**	**P**	**01 19 38.7**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=47,slow=11,SNR=3.8								
INK	**Inuvik**	**40.87**	**33**	P		**P**	**P**	**01 20 45.9**	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.1,baz=302,slow=6.5,SNR=6.4								
INK	**Inuvik**	**40.87**	**33**	P		**P**	**P**	**01 20 45.9**	**-0.9**
ZAL	**Zalesovo**	**43.94**	**307**	P		**P**	**P**	**01 21 11.2**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=37,slow=5.7,SNR=3.8								
MKAR	**Makanchi Array**	**48.36**	**298**	P		**P**	**P**	**01 21 47.3**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.8,baz=67,slow=7.4,SNR=7.1								
CHKZ	**Chkalovo**	**51.67**	**311**	*e*P		**P**	**P**	**01 22 11.0**	**-0.5**
CHKZ				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.5								
CHKZ	**Chkalovo**	**51.67**	**311**	*e*P		**P**	**P**	**01 22 11.0**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.5								
BVAR	**Borovoye Array**	**52.11**	**310**	P		**P**	**P**	**01 22 15.4**	**+0.7**
	comp=Z,1.2nm,0.4s,mb4.2,baz=53,slow=7.1,SNR=6.5								
AKTK	**Aktyubinsk**	**59.93**	**313**	P		**P**	**P**	**01 23 10.0**	**-0.6**
AKTO	**Aktyubinsk**	**59.93**	**313**	P		**P**	**P**	**01 23 10.0**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.1,baz=44,slow=6.4,SNR=4.4								
AKTO	**Aktyubinsk**	**59.93**	**313**	P		**P**	**P**	**01 23 10.0**	**-0.6**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.2								
PDAR	**Pinedale Array**	**63.52**	**55**	P		**P**	**P**	**01 23 34.1**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.3,baz=315,slow=0.6,SNR=4.0								
FINES	**FINESS Array B**	**64.76**	**336**	P		**P**	**P**	**01 23 42.3**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.0,baz=48,slow=8.5,SNR=6.0								
TXAR	**Lajitas Array**	**76.15**	**62**	P		**P**	**P**	**01 24 53.2**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=305,slow=4.2,SNR=9.8								
GERES	**GERESS Array B**	**79.19**	**335**	P		**P**	**P**	**01 25 11.8**	**+2.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=31,slow=8.0,SNR=4.1								

NEIC ***18*** *01:13:54.4, 3840S×17684E, h73km, ML3.7(WEL), After WEL.*

WEL 18 01:13:54.7±0.4, 3841S×17682E, h68km±4km, ML3.7/11, 4C, Error ellipse: s-maj=2.3km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.27**	**58**	P		Pn	Pn	01 14 05.2	-0.3
URZ	**Urewera**	**0.27**	**58**	⇑P*		Pn	Pn	01 14 05.2	-0.3
URZ				S*		Sn	Sn	01 14 12.7	-0.7
TAZ	**Tarawera**	**0.30**	**305**	P		Pn	Pn	01 14 06.0	+0.3
TAZ	**Tarawera**	**0.30**	**305**	⇑P*		Pn	Pn	01 14 06.0	+0.2
PATZ	**Paeroa**	**0.44**	**273**	P		Pn	Pn	01 14 07.3	+0.4
LIRZ	**Lichensteins R**	**0.53**	**319**	P		Pn	Pn	01 14 07.6	-0.1
LIRZ	**Lichensteins R**	**0.53**	**319**	P*		Pn	Pn	01 14 07.4	-0.3
MWZ	**Matawai**	**0.56**	**83**	P		Pn	Pn	01 14 08.1	+0.1
MWZ				S		Sn	Sn	01 14 16.7	-1.0
MWZ	**Matawai**	**0.56**	**83**	P*		Pn	Pn	01 14 08.0	0.0
MWZ				S*		Sn	Sn	01 14 18.3	+0.6
BKZ	**Black Stump Fm**	**0.80**	**199**	P		Pn	Pn	01 14 10.6	-0.1
BKZ	**Black Stump Fm**	**0.80**	**199**	⇑P*		Pn	Pn	01 14 10.5	-0.2
TGRZ	**Tauranga**	**0.81**	**326**	P		Pn	Pn	01 14 10.4	-0.3
TGRZ	**Tauranga**	**0.81**	**326**	P*		Pn	Pn	01 14 10.4	-0.4
KNZ	**Kokohu**	**0.91**	**133**	*e*P		Pn	Pn	01 14 12.1	+0.1
KNZ	**Kokohu**	**0.91**	**133**	PN		Pn	Pn	01 14 12.1	+0.2
WIZ	**White Island**	**0.92**	**18**	P		Pn	Pn	01 14 11.2	-1.0
RITZ	**Rihia Road**	**0.95**	**232**	P		Pn	Pn	01 14 12.8	+0.3
RITZ	**Rihia Road**	**0.95**	**232**	P*		Pn	Pn	01 14 12.8	+0.3
KATZ	**Kakaramea**	**1.05**	**237**	P		Pn	Pn	01 14 14.3	+0.5
KATZ	**Kakaramea**	**1.05**	**237**	P*		Pn	Pn	01 14 14.3	+0.5
KRVZ	**Karewarewa**	**1.15**	**233**	P*		Pn	Pn	01 14 15.5	+0.4
PUZ	**Puketiti**	**1.18**	**74**	P		Pn	Pn	01 14 15.8	+0.4
OTVZ	**Oturere**	**1.18**	**230**	P*		Pn	Pn	01 14 15.7	+0.2
OTVZ				S*		Sn	Sn	01 14 30.8	-0.1
NGZ	**Ngauruhoe**	**1.23**	**231**	P		Pn	Pn	01 14 16.4	+0.4
TWVZ	**Taurewa**	**1.27**	**238**	P		Pn	Pn	01 14 16.6	0.0
TWVZ	**Taurewa**	**1.27**	**238**	P*		Pn	Pn	01 14 16.6	-0.1
WPVZ	**Whakapapa**	**1.28**	**231**	P		Pn	Pn	01 14 16.8	+0.1
MOVZ	**Moawhango**	**1.30**	**219**	P		Pn	Pn	01 14 16.8	-0.2
MOVZ	**Moawhango**	**1.30**	**219**	⇑P*		Pn	Pn	01 14 16.8	-0.2
WNVZ	**Wahianoa**	**1.33**	**226**	P		Pn	Pn	01 14 17.6	+0.2
WNVZ	**Wahianoa**	**1.33**	**226**	P*		Pn	Pn	01 14 17.6	+0.2
MXZ	**Matakaoa Point**	**1.44**	**55**	*e*P		Pn	Pn	01 14 20.0	+1.1
MXZ	**Matakaoa Point**	**1.44**	**55**	*e*P*		Pn	Pn	01 14 19.7	+0.9
PXZ	**Pawanui**	**1.67**	**179**	PN		Pn	Pn	01 14 20.0	-1.3
WPHZ	**Waipukurau**	**1.69**	**190**	*e*PN		Pn	Pn	01 14 21.6	-0.5
VRZ	**Vera Road**	**1.77**	**245**	*e*P		Pn	Pn	01 14 23.7	+0.5
TSZ	**Takapari Road**	**1.78**	**202**	P		Pn	Pn	01 14 22.3	-1.1
TSZ	**Takapari Road**	**1.78**	**202**	PN		Pn	Pn	01 14 22.0	-1.4
WAZ	**Wanganui**	**1.97**	**226**	P		Pn	Pn	01 14 26.7	+0.8
BFZ	**Birch Farm**	**2.32**	**191**	*e*P		Pn	Pn	01 14 29.9	-0.7
MRZ	**Mangatainoka R**	**2.45**	**203**	*e*P		Pn	Pn	01 14 30.2	-2.2
MRZ	**Mangatainoka R**	**2.45**	**203**	*e*PN		Pn	Pn	01 14 29.9	-2.5
KIW	**Kapiti Island**	**2.86**	**210**	P		Pn	Pn	01 14 35.6	-2.4
KIW	**Kapiti Island**	**2.86**	**210**	*e*PN		Pn	Pn	01 14 35.5	-2.5
TCW	**Tory Channel**	**3.42**	**214**	P		Pn	Pn	01 14 42.6	-3.0
TCW	**Tory Channel**	**3.42**	**214**	PN		Pn	Pn	01 14 42.6	-3.1
QRZ	**Quartz Range**	**4.10**	**233**	*e*P		Pn	Pn	01 14 52.4	-2.6
QRZ	**Quartz Range**	**4.10**	**233**	PN		Pn	Pn	01 14 52.4	-2.5
LTZ	**Lake Taylor**	**5.58**	**217**	SN		Sn	Sn	01 16 10.1	-7.7
MQZ	**McQueen's Vall**	**6.16**	**209**	SN		Sn	Sn	01 16 20.8	-11

IDC ***18*** *01:07:11.0±1.5, 2212S×14803E, h0km, mb3.9/2, mb1 3.7/6, mb1mx3.6/13, mbtmp3.6/6, ML3.3/4, Error ellipse: s-maj=26.9km s-min=17.8km az=63.0, Queensland*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.61**	**320**	Pn		Pn	Pn	01 07 55.1	+0.6
	4.8nm,0.3s,baz=145,slow=16,SNR=35								
CTA				Lg				01 08 34.4	
	21nm,0.3s,baz=102,slow=18,SNR=11								
STKA	**Stephens Creek**	**11.28**	**209**	Pn		Pn	Pn	01 09 52.4	-1.1
	0.3nm,0.3s,baz=27,slow=11,SNR=3.7								
STKA				Sn		Sn	Sn	01 11 53.7	-6.6
	0.2nm,0.3s,baz=343,slow=16,SNR=3.0								
STKA				Lg				01 13 09.7	
	0.2nm,0.3s,baz=333,slow=18,SNR=3.3								
WRA	**Warramunga Arr**	**12.96**	**277**	Pn		Pn	Pn	01 10 15.8	-0.7
	0.1nm,0.3s,baz=96,slow=12,SNR=5.1								
WRA				Lg				01 14 04.3	
	0.2nm,0.3s,baz=111,slow=28,SNR=9.5								
ASAR	**Alice Springs**	**13.11**	**261**	Pn		Pn	Pn	01 10 18.8	+0.3
	0.1nm,0.3s,baz=84,slow=13,SNR=4.1								
ASAR				Sn		Sn	Sn	01 12 37.9	-7.1
	0.1nm,0.3s,baz=86,slow=24,SNR=5.2								
ASAR				Lg				01 14 08.9	
	0.1nm,0.3s,baz=88,slow=26,SNR=5.8								
SONM	**Songino Array**	**79.03**	**333**	P		P	P	01 19 17.1	+0.2
	0.8nm,0.8s,baz=157,slow=4.1,SNR=4.9								
SNAA	**Sanae**	**84.33**	**189**	P		P	P	01 19 46.4	+1.5
	1.3nm,1.0s,baz=162,slow=3.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**146.76**	**260**	PKPbc		PKPbc	PKPbc	01 26 53.5	-1.4
	0.9nm,0.7s,baz=98,slow=3.3,SNR=7.9								

IDC ***18*** *01:13:03.4±1.5, 4674N×15549E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/26, mbtmp3.8/12, ML3.8/1, Error ellipse: s-maj=44.6km s-min=18.9km az=168.0*
NEIC ***18*** *01:13:05.3±0.9, 4681N×15547E, h10km, mb4.4/1, Error ellipse: s-maj=24.9km s-min=12.9km az=158.0*
MOS ***18*** *01:13:06.8±1.6, 4663N×15543E, h33km, mb4.5/2, Error ellipse: s-maj=16.5km s-min=11.2km az=154.0*

ISCJB ***18*** *01:14:17.8±2.4, 47.1N±05×1553E±02, h10km, mb4.0/12, Error ellipse: s-maj=72.7km s-min=19.3km az=5.8*
IDC ***18*** *01:14:17.7±2.7, 4697N×15541E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, Error ellipse: s-maj=85.2km s-min=23.5km az=4.0*
NEIC ***18*** *01:14:19.1±1.8, 4694N×15535E, h10km, mb4.5/2, Error ellipse: s-maj=56.6km s-min=15.2km az=183.0*

ISC 18 01:14:19.7±2.4, 471N±05×1553E±02, h10km, n14, σ0§62/14, mb4.0/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.64**	**290**	P		**P**	**P**	**01 20 52.2**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=70,slow=9.8,SNR=2.8								
ZAL	**Zalesovo**	**43.64**	**306**	P		**P**	**P**	**01 22 25.2**	**+0.8**
	1.3nm,0.5s,mb4.0,baz=57,slow=4.8,SNR=5.0								
MKAR	**Makanchi Array**	**48.11**	**298**	P		**P**	**P**	**01 22 59.2**	**-0.4**
	0.7nm,0.7s,mb3.8,baz=67,slow=8.3,SNR=3.6								
CHKZ	**Chkalovo**	**51.35**	**311**	*e*P		**P**	**P**	**01 23 23.3**	**-1.0**
	4.8nm,0.4s,mb4.8								
BVAR	**Borovoye Array**	**51.79**	**310**	P		**P**	**P**	**01 23 27.7**	**+0.1**
	2.8nm,0.5s,mb4.4,baz=64,slow=6.7,SNR=8.1								
ZRNK	**Zerenda**	**52.55**	**310**	*e*P		**P**	**P**	**01 23 32.9**	**-0.4**
	2.1nm,0.6s,mb4.2								
ARCES	**ARCESS Array B**	**57.99**	**341**	P		**P**	**P**	**01 24 11.9**	**-0.6**
	2.3nm,0.8s,mb4.2,baz=38,slow=5.0,SNR=5.7								
AKTK	**Aktyubinsk**	**59.60**	**313**	P		**P**	**P**	**01 24 23.7**	**0.0**
AKTO	**Aktyubinsk**	**59.60**	**313**	P		**P**	**P**	**01 24 23.7**	**0.0**
	1.3nm,0.6s,mb4.1,baz=58,slow=12,SNR=4.3								
PDAR	**Pinedale Array**	**63.29**	**55**	P		**P**	**P**	**01 24 48.7**	**0.0**
	0.4nm,0.8s,mb3.6,baz=270,slow=1.5,SNR=3.7								
FINES	**FINESS Array B**	**64.34**	**336**	P		**P**	**P**	**01 24 55.3**	**-0.3**
	1.3nm,0.6s,mb4.2,baz=34,slow=8.3,SNR=6.9								
NOA	**NORSAR Array B**	**68.35**	**342**	P		**P**	**P**	**01 25 22.9**	**+1.6**
	1.1nm,0.7s,mb4.0,baz=26,slow=6.4,SNR=3.0								
TXAR	**Lajitas Array**	**75.98**	**62**	P		**P**	**P**	**01 26 06.8**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=291,slow=4.1,SNR=7.1								
TXAR	**Lajitas Array**	**75.98**	**62**	P		**P**	**P**	**01 26 06.8**	**-0.1**

IDC ***18*** *01:20:49.4±2.1, 423S×12877E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=100.6km s-min=28.0km az=72.0*

NEIC 18 01:20:54.7±1.4, 434S×12860E, h35km, mb3.6/1, Error ellipse: s-maj=46.9km s-min=16.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.98**	**192**	Pn		Pn	Pn	01 24 10.5	+0.3
	0.1nm,0.3s,baz=28,slow=17,SNR=3.1								
WRAB	**Tennant Creek**	**16.48**	**161**	*e*Pn		Pn	Pn	01 24 42.7	-0.5
	2.8nm,0.6s								
WRA	**Warramunga Arr**	**16.48**	**161**	Pn		Pn	Pn	01 24 44.7	+1.5
	0.3nm,0.3s,baz=341,slow=12,SNR=7.0								
ASAR	**Alice Springs**	**19.88**	**166**	P		Pn	Pn	01 25 22.5	-2.2
	0.3nm,0.3s,baz=344,slow=10,SNR=27								
MKAR	**Makanchi Array**	**65.25**	**327**	P		P	P	01 31 33.0	+0.2
	0.5nm,0.7s,baz=129,slow=9.6,SNR=4.3								

IDC ***18*** *01:22:22.6±0.5, 1995S×17424W, h0km, mb5.3/20, mb1 5.4/23, mb1mx5.3/27, mbtmp5.3/23, ML5.6/2, MS4.1/20, Ms1 4.1/20, ms1mx4.0/32, Error ellipse: s-maj=17.2km s-min=12.4km az=140.0*
SZGRF ***18*** *01:22:28.4, 1973S×17282W, h33km, Tonga Islands region*
BJI ***18*** *01:22:30.6, 1962S×17393W, h66km, mB5.5, mb5.5, Ms5.3, Msz4.8*
MOS ***18*** *01:22:30.3±3.5, 1968S×17435W, h37km, mb5.4/34, MS4.8/5, Error ellipse: s-maj=9.1km s-min=7.1km az=45.5*
ISCJB ***18*** *01:22:30.6±0.1, 2002S±004×17427W±003, h71km, mb5.2/82, Error ellipse: s-maj=6.4km s-min=3.2km az=106.5*
NEIC ***18*** *01:22:31.6±0.2, 2006S×17425W, mb5.1/52, Error ellipse: s-maj=8.2km s-min=4.1km az=155.0*
NEIC Felt [II] at Neiafu. Also felt at Pangai.
GCMT ***18*** *01:22:31.6±0.2, 20.1S×17366W, h77km±3km, MW5.1/76, Moment Tensor Solution. s51,c73; s76,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.22; $M_{\theta\theta}$-1.02±.20; $M_{\phi\phi

STKA **Stephens Creek** 41.16 244⇑ *i*P P 01 30 08.7 -0.7
comp=Z,32nm,1.2s,mb5.0
STKA *e*PCP PcP 01 32 28.8 +21
STKA Stephens Creek 41.16 244 P **P** **01 30 08.9 -0.5**
comp=Z,26nm,0.5s,mb5.3,baz=91,slow=9.3,SNR=79
STKA LR LR 01 44 32.5
comp=Z,452nm,21.5s,baz=52,slow=32
AS31 Alice Springs 48.05 256⇑ *i*P **P** **01 31 03.2 -1.1**
ASAR Alice Springs 48.05 256 P **P** **01 31 03.3 -1.0**
comp=Z,94nm,0.7s,mb5.8,baz=90,slow=8.2,SNR=409
ASAR PcP PcP 01 32 31.7 +0.6
comp=Z,7.2nm,0.5s,baz=104,slow=3.1,SNR=4.9
ASAR S **S** **01 37 54.4 -2.8**
comp=Z,2.5nm,0.7s,baz=94,slow=15,SNR=8.0
ASAR LR LR 01 48 57.4
comp=Z,366nm,21.5s,baz=116,slow=33
ASAR Alice Springs 48.05 256 P **P** **01 31 03.3 -1.0**
ASAR 01 32 31.7
ASAR S **S** **01 37 54.4 -2.8**
ASAR pmax pmax
comp=Z,94nm,0.7s
ASAR pmax pmax
comp=Z,7.0nm,0.5s
ASAR smax
comp=N,3.0nm,0.7s
ASPA Alice Springs 48.06 256⇑ *i*P **P** **01 31 03.2 -1.1**
WB2 Warramunga Arr 48.15 261⇑ *i*P **P** **01 31 03.5 -1.6**
WRAB Tennant Creek 48.15 261 P **P** **01 31 03.0 -2.1**
comp=N,626nm,0.5s
WRAB Tennant Creek 48.15 261 *e*P **P** **01 31 03.5 -1.5**
WRA Warramunga Arr 48.16 261 P **P** **01 31 03.2 -1.9**
comp=N,42nm,0.4s,mb5.6,baz=94,slow=5.9,SNR=570
WRA S **S** **01 37 56.6 -2.1**
comp=N,2.0nm,0.9s,baz=104,slow=13,SNR=4.8
WRA LR LR 01 50 22.2
comp=N,375nm,19.7s,baz=85,slow=35
WRA Warramunga Arr 48.16 261 P **P** **01 31 03.2 -1.9**
WRA S **S** **01 37 56.6 -2.1**
WRA pmax pmax
comp=Z,42nm,0.4s
WRA smax
comp=N,2.0nm,0.9s
KAKA Kakadu 51.51 270⇑ *i*P **P** **01 31 29.3 -1.2**
comp=N,70nm,0.5s,mb5.9
FORT Forrest 52.71 246⇑ *i*P **P** **01 31 38.2 -1.2**
comp=N,87nm,0.5s,mb6.0
FITZ Fitzroy Crossi 56.59 261⇑ *i*P **P** **01 32 06.8 -0.7**
comp=N,58nm,0.6s,mb5.8
FITZ Fitzroy Crossi 56.59 261 P **P** **01 32 07.1 -0.4**
comp=N,28nm,0.4s,mb5.6,baz=111,slow=4.5,SNR=181
FITZ LR LR 01 55 36.3
comp=N,289nm,19.4s,baz=93,slow=35
SBA Scott Base 58.56 185 *e*P **P** **01 32 24.3 +2.9**
SBA pmax pmax
comp=Z,17nm,0.8s,mb5.1
SBA Scott Base 58.56 185 *e*P **P** **01 32 24.3 +3.0**
comp=Z,17nm,0.8s,mb5.1
VNDA Vanda 58.68 186 P **P** **01 32 24.1 +1.9**
comp=Z,7.7nm,1.0s,mb4.7,baz=2.9,slow=7.0,SNR=39
VNDA LR LR 01 55 26.1
comp=Z,50nm,18.7s,baz=10,slow=34
RPN Rapa Nui 59.33 110 LR LR 01 51 15.8
comp=Z,275nm,21.9s,baz=347,slow=29
MBWA Marble Bar 61.39 256 *e*P **P** **01 32 40.0 -0.8**
KLBR Kellerberrin 61.43 244⇑ *i*P **P** **01 32 40.5 -0.5**
comp=Z,80nm,0.9s,mb5.8
NWAO Narrogin (SRO) 61.71 243 P **P** **01 32 43.2 +0.3**
comp=Z,51nm,1.0s,mb5.5,baz=110,slow=7.4,SNR=16
NWAO Narrogin (SRO) 61.71 243 P **P** **01 32 43.2 +0.3**
NWAO pmax pmax
comp=Z,51nm,1.0s
NWAO Narrogin (SRO) 61.71 243 P **P** **01 32 43.2 +0.3**
MUN Mundaring 62.69 244⇑ *i*P **P** **01 32 49.4 0.0**
KAPI Kappang 65.78 274 P **P** **01 33 08.1 -1.5**
comp=Z,253nm,0.8s,mb6.1,SNR=7.4
CASY Casey 65.87 205 *e*P **P** **01 33 10.9 +0.7**
CASY Casey 65.87 205 *e*P **P** **01 33 10.8 +0.6**
comp=Z,24nm,0.8s,mb5.1
JHJ Hachijo jima 2 68.73 320 P **P** **01 33 28.4 +0.1**
comp=Z,369nm,0.8s,baz=148,slow=5.0,SNR=5.3
QSPA South Pole Qui 70.00 180 *e*P **P** **01 33 37.6 +1.5**
comp=Z,34nm,1.0s,mb5.1
TSM Tawau 70.89 282 P **P** **01 33 42.7 +1.2**
MJAR Matsushiro Arr 72.02 321 P **P** **01 33 48.0 -0.3**
comp=Z,43nm,0.7s,mb5.4,baz=157,slow=5.7,SNR=89
MJAR Matsushiro Arr 72.02 321 P **P** **01 33 48.0 -0.3**
MJAR pmax pmax
comp=Z,43nm,0.7s
MAJO Matsushiro 72.02 321 *e*P **P** **01 33 48.4 +0.1**
MAT Matsushiro 72.02 321 P **P** **01 33 47.7 -0.6**
MAT S S 01 43 02.0 -2.2
JOW Kunigami 72.64 308 P **P** **01 33 53.4 +1.3**
comp=Z,85nm,0.8s,mb5.6,baz=144,slow=8.3,SNR=7.5
KKM Kota Kinabalu 73.08 283 P **P** **01 33 55.6 +0.9**
KKM Kota Kinabalu 73.08 283 *e*P **P** **01 33 54.7 0.0**
JNU Nakatsue 74.44 315 P **P** **01 34 04.0 +1.4**
comp=Z,79nm,1.1s,mb5.4,baz=223,slow=19,SNR=4.1
HAST UC Hastings Re 75.03 42 P **P** **01 34 06.2 +0.3**
baz=75,SNR=5.8
PKD Parkfield 75.38 43⇓P **P** **01 34 08.0 -0.1**
baz=76
U04C Hernandez Rese 75.49 42⇑P **P** **01 34 09.3 +0.7**
baz=76
PACP Pacheco Peak 75.58 41⇑P **P** **01 34 09.5 +0.4**
baz=76,SNR=8.6
S04C Ingram Canyon, 75.87 41⇑P **P** **01 34 10.9 +0.1**
baz=76,SNR=8.0
MWC Mount Wilson 75.96 45 *e*P **P** **01 34 11.2 -0.1**
MNRC McLaughlin Nat 76.08 39⇓P **P** **01 34 12.4 +0.4**
baz=76,SNR=7.0
O01C Eel River Cons 76.10 37⇑P **P** **01 34 12.3 +0.1**
baz=76
MURC Murrieta 76.17 46⇓P **P** **01 34 12.6 +0.1**
baz=76
VES Vestal, Richgr 76.25 43⇑P **P** **01 34 12.7 -0.3**
baz=76
MONP Monument Peak 76.29 47 P **P** **01 34 13.4 +0.2**
baz=76,SNR=5.2
DVTC Desert V Tower 76.38 47⇑P **P** **01 34 13.7 0.0**
baz=76
EDW2 Edwards Air Fo 76.39 45 P **P** **01 34 13.9 +0.1**
baz=76,SNR=7.6
NACB Ninganchiao 76.40 302 *e*P **P** **01 34 13.7 -0.1**
GASB Alder Springs 76.41 38⇑P **P** **01 34 14.5 +0.6**
baz=77
PET Petropavlovsk 76.49 344 *e*P **P** **01 34 13.3 -1.0**
PET pmax pmax
comp=Z,14nm,0.6s,mb4.9
PET Petropavlovsk 76.49 344 *e*P **P** **01 34 13.3 -1.1**
comp=Z,14nm,0.6s,mb4.9
ISA Isabella 76.54 44 *e*P **P** **01 34 15.2 +0.6**
ISA Isabella 76.54 44⇓P **P** **01 34 14.8 +0.2**
baz=77,SNR=6.2
T06C Millerton Lake 76.57 42⇑P **P** **01 34 14.6 -0.2**
baz=77,SNR=8.3
PFO Pinyon Flat Ob 76.68 47 P **P** **01 34 15.8 +0.4**
comp=Z,6.5nm,1.0s,mb4.3,baz=237,slow=3.9,SNR=6.5
PFO Pinyon Flat Ob 76.68 47 P **P** **01 34 15.9 +0.5**
PFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
PFO Pinyon Flat Ob 76.68 47 P **P** **01 34 15.2 -0.2**
baz=77,SNR=6.0
O02C Red Bluff 76.72 38⇑P **P** **01 34 16.0 +0.4**
baz=77
SWSC Sam W. Stewart 76.75 47⇓P **P** **01 34 15.5 -0.3**
baz=77
CMB Columbia Colle 76.78 41 *e*P **P** **01 34 15.7 -0.3**
CMB Columbia Colle 76.78 41 P **P** **01 34 15.8 -0.2**
baz=77,SNR=11
HELL Mitchell Peak, 76.80 43 P **P** **01 34 15.8 -0.3**
baz=77,SNR=7.1
YHNB Yeheng 76.81 303 *e*P **P** **01 34 15.9 -0.2**
N02C Big Bar 76.85 37⇓P **P** **01 34 16.1 -0.2**
baz=77
KSM Kuching 76.86 276 *e*P **P** **01 34 17.1 +0.7**
TATO Taipei 76.88 303 *e*P **P** **01 34 16.5 0.0**
LRMC Laurel Mountai 76.94 44⇑P **P** **01 34 16.9 +0.1**
baz=77,SNR=8.1
KCC Kaiser Creek 77.01 42 P **P** **01 34 17.3 0.0**
baz=77,SNR=7.8
LAVA Lava Cap Winer 77.02 40⇑P **P** **01 34 17.0 -0.3**
baz=77
S06C San Francisco 77.02 41⇑P **P** **01 34 17.1 -0.2**
baz=77,SNR=5.7
ORV Oroville 77.07 39⇑P **P** **01 34 17.3 -0.3**
baz=77
WDC Whiskeytown Da 77.12 38 *e*P **P** **01 34 18.0 +0.1**
WDC pmax pmax
comp=Z,19nm,1.3s,mb4.7
WDC Whiskeytown Da 77.12 38 *e*P **P** **01 34 18.0 +0.1**
comp=Z,19nm,1.3s,mb4.7
WDC Whiskeytown Da 77.12 38⇑P **P** **01 34 17.7 -0.2**
baz=77
YSS Yuzh-Sakhalins 77.15 331 *c i*P **P** **01 34 18.4 +0.4**
YSS pmax pmax
comp=Z,117nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 77.15 331 *e*P **P** **01 34 18.5 +0.5**
BELC Belle Mtn. 77.22 46 P **P** **01 34 18.6 +0.2**
baz=77,SNR=9.8
CWC Cottonwood Cre 77.26 43 P **P** **01 34 18.7 +0.1**
baz=77,SNR=6.6
R05C Kirkwood Meado 77.39 41 P **P** **01 34 19.5 +0.1**
baz=78,SNR=8.7
BC3 Big Chuckw Mtn 77.39 47 P **P** **01 34 19.8 +0.4**
baz=78,SNR=8.6
MPMC Manual Prospec 77.42 44 P **P** **01 34 19.8 +0.3**
baz=78,SNR=19
GSC Goldstone 77.42 45 *e*P **P** **01 34 19.8 +0.2**
GSC Goldstone 77.42 45 P **P** **01 34 19.7 +0.1**
baz=78,SNR=6.8
P05C Yuba Gap, Truc 77.44 40 P **P** **01 34 19.8 +0.1**
baz=78,SNR=5.3
HEC Hector,Ludlow 77.47 46 P **P** **01 34 19.8 -0.1**
baz=78,SNR=8.2
M02C Callahan 77.48 37⇑P **P** **01 34 20.5 +0.6**
baz=78
DAC Darwin (Calif) 77.48 44 *e*P **P** **01 34 20.4 +0.5**
GLA Glamis 77.49 48 *e*P **P** **01 34 20.6 +0.7**
GLA Glamis 77.49 48⇑P **P** **01 34 20.3 +0.4**
baz=78,SNR=7.2
MTUM Tungsten Hills 77.50 42 *e*P **P** **01 34 20.1 +0.1**
TIN Tinemaha 77.54 43⇓P **P** **01 34 20.6 +0.4**
baz=78
R07C Lee Vining 77.65 42⇑P **P** **01 34 21.2 +0.4**
baz=78
WAKR Wxer 77.66 41 *e*P **P** **01 34 21.2 +0.3**
R06C Coleville 77.66 41⇓P **P** **01 34 21.3 +0.4**
baz=78
O05C Quincy 77.68 39⇓P **P** **01 34 21.0 0.0**
baz=78
YBH Yreka Blue Hor 77.78 37 *e*P **P** **01 34 21.8 +0.2**
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 77.78 37 *e*P **P** **01 34 21.8 +0.2**
comp=Z,9.7nm,0.9s,mb4.5
YBH Yreka Blue Hor 77.78 37⇑P **P** **01 34 21.8 +0.2**
baz=78,SNR=6.6
O04C Chester 77.81 39 P **P** **01 34 21.8 +0.1**
baz=78,SNR=5.8
M03C McCloud 77.82 37⇑P **P** **01 34 21.9 +0.2**
baz=78
S08C White Mtn Res 77.84 42⇑P **P** **01 34 22.5 +0.6**
baz=78,SNR=19
IRM Iron Mountain 77.89 47 P **P** **01 34 22.4 +0.3**
baz=78,SNR=14
HATC Hat Creek Radi 77.90 38⇑P **P** **01 34 22.4 +0.2**
baz=78
BEKR Beckwourth 77.95 39⇑P **P** **01 34 22.4 -0.1**
baz=78
WCN Washoe City 77.96 40⇑P **P** **01 34 22.6 +0.1**
baz=78,SNR=6.3
GRAC Grapevine Rang 78.05 43 P **P** **01 34 23.6 +0.5**
baz=78,SNR=14
FURC Furnace Creek, 78.07 44⇓P **P** **01 34 23.1 0.0**
baz=78
Y12C Blythe 78.09 47⇑P **P** **01 34 23.4 +0.2**
baz=78,SNR=6.9
TUQ Turquoise Mtn. 78.09 45⇓P **P** **01 34 23.4 +0.1**
baz=78,SNR=6.6
M04C Macdoel 78.31 37⇑P **P** **01 34 24.5 0.0**
baz=78
NVAR Mina Array Bea 78.32 42 P **P** **01 34 24.7 +0.2**
comp=Z,13nm,0.7s,mb4.8,baz=231,slow=9.4,SNR=93
U10A Ash Meadows, A 78.39 44⇓P **P** **01 34 25.2 +0.3**
baz=78,SNR=6.0
R08A Mina 78.39 42⇑P **P** **01 34 25.2 +0.3**
baz=78,SNR=5.8
M05C Lookout 78.43 38⇑P **P** **01 34 25.2 0.0**
baz=79,SNR=5.4
O06A Flanigan 78.45 39 P **P** **01 34 25.4 +0.1**
baz=79,SNR=12
L04A Klamath Falls 78.53 37⇓P **P** **01 34 25.8 0.0**
baz=79
S09A Goldfield 78.58 43⇓P **P** **01 34 25.8 -0.2**
baz=79,SNR=14
V11A Goodsprings 78.65 45⇓P **P** **01 34 26.4 0.0**
baz=79
PDMCI Parker Dam,Lak 78.66 47⇑P **P** **01 34 26.6 +0.2**
baz=79,SNR=15
W12A Cal Nev Ari 78.72 46⇓P **P** **01 34 27.0 +0.2**
baz=79
M06C Lilly Place G 78.72 38 P **P** **01 34 26.9 +0.1**
baz=79,SNR=5.7
TPH Tonopah 78.78 42 *e*P **P** **01 34 27.4 +0.3**
TPH pmax pmax
comp=Z,21nm,0.8s,mb5.0
TPH Tonopah 78.78 42 *e*P **P** **01 34 27.4 +0.2**
comp=Z,21nm,0.8s,mb5.0
Q08A Gabbs 78.81 41⇑P **P** **01 34 27.1 -0.1**
baz=79,SNR=9.8
N06A Buffalo Meadow 78.81 39⇓P **P** **01 34 27.2 0.0**
baz=79,SNR=10
KSRS Korea Array 78.95 317 P **P** **01 34 29.4 +1.4**
comp=Z,20nm,0.9s,mb5.0,baz=135,slow=5.7,SNR=42
KSRS LR LR 02 05 39.5
comp=Z,107nm,19.7s,baz=321,slow=33
KS15 Wonju Array Si 78.97 317 *e*P **P** **01 34 25.0 -3.1**
V12A Nelson 78.97 46 P **P** **01 34 28.5 +0.3**
baz=79,SNR=11
Z14A Wintersburg 78.97 48⇑P **P** **01 34 28.5 +0.3**
baz=79,SNR=5.7
R09A Tonopah 78.98 42⇑P **P** **01 34 28.0 -0.1**
baz=79,SNR=10
U11A Corn Creek 79.01 45⇓P **P** **01 34 28.7 +0.3**
baz=79
O07A Toulon 79.02 40⇓P **P** **01 34 28.2 -0.2**
baz=79,SNR=20
X13A Yucca 79.03 47⇑P **P** **01 34 28.8 +0.3**
baz=79,SNR=11
H02A Toledo 79.05 34⇑P **P** **01 34 29.4 +0.8**
baz=79
L05A Lakeview 79.05 38⇑P **P** **01 34 29.0 +0.4**
baz=79,SNR=5.2
J04A Umpqua Nationa 79.11 36⇑P **P** **01 34 29.1 +0.3**
baz=79
115A Sonoran Desert 79.13 49⇑P **P** **01 34 29.3 +0.3**
baz=79
QZH Quanzhou 79.16 302⇑ *i*P **P** **01 34 29.9 +0.7**
QZH AMB AMB
comp=Z,330nm,0.7s,mb6.3
SHPR Sheep Range 79.21 45 *e*P **P** **01 34 29.9 +0.5**
P08A Dixie Valley 79.22 41⇑P **P** **01 34 30.0 +0.5**
baz=79
Y14A Wickenburg 79.25 48 P **P** **01 34 29.8 +0.2**
baz=79,SNR=17
Q09A Carvers 79.26 42⇑P **P** **01 34 29.8 +0.1**
baz=79
MOD Modoc 79.27 38 *e*P **P** **01 34 30.0 +0.3**
MOD Modoc 79.27 38 P **P** **01 34 29.8 +0.1**
baz=79,SNR=9.6
W13A Hualapai Mount 79.27 46 P **P** **01 34 30.4 +0.6**
baz=79,SNR=9.4
116A Eloy 79.43 50⇑P **P** **01 34 31.0 +0.4**
baz=80,SNR=5.9
K05A Summer Lake 79.45 37⇑P **P** **01 34 30.9 +0.2**
baz=80,SNR=8.3
R10A Warm Springs 79.50 43⇓P **P** **01 34 31.4 +0.4**
baz=80
O08A Rochester Mine 79.54 40⇓P **P** **01 34 31.7 +0.5**
baz=80
U12A Valley of Fire 79.58 45 P **P** **01 34 32.0 +0.6**
baz=80,SNR=16
X14A Yava 79.61 47 P **P** **01 34 32.2 +0.6**
baz=80,SNR=14
J05A Fort Rock 79.62 36⇑P **P** **01 34 31.8 +0.1**
baz=80,SNR=14
P09A Austin 79.72 41⇓P **P** **01 34 32.1 -0.1**
baz=80
N08A GE Springer Mi 79.85 40⇑P **P** **01 34 32.7 -0.2**
baz=80,SNR=15
G03A Yamhill 79.85 34⇑P **P** **01 34 32.7 -0.2**
baz=80
K06A Valley Falls 79.86 37⇑P **P** **01 34 32.9 0.0**
baz=80,SNR=8.0
W14A Seligman 79.89 47 P **P** **01 34 34.0 +1.0**
baz=80,SNR=20
L07A Adell 79.90 38⇑P **P** **01 34 33.4 +0.2**
baz=80,SNR=14
TUC Tucson 79.96 50 *e*P **P** **01 34 33.3 -0.2**
TUC pmax pmax
comp=Z,17nm,1.0s,mb4.8
TUC Tucson 79.96 50 *e*P **P** **01 34 33.3 -0.2**
comp=Z,17nm,1.0s,mb4.8
O09A Fish Creek Ran 80.05 41 P **P** **01 34 34.0 0.0**
baz=80,SNR=8.7
X15A Humboldt 80.08 48⇑P **P** **01 34 34.8 +0.7**
baz=80,SNR=17
I05A Bend 80.17 36⇑P **P** **01 34 35.0 +0.4**
baz=80
BMN Battle Mountai 80.19 41 *e*P **P** **01 34 35.1 +0.4**
Q11A Duckwater 80.23 43 P **P** **01 34 35.0 +0.1**
baz=80,SNR=17
N09A Rock Creek Ran 80.26 40⇑P **P** **01 34 35.3 +0.2**
baz=80,SNR=7.5
K07A Rock Creek Ran 80.37 38 P **P** **01 34 35.9 +0.2**
baz=80,SNR=9.7
W15A Williams 80.43 47⇑P **P** **01 34 37.1 +1.0**
baz=81
H05A Madras 80.51 35⇑P **P** **01 34 36.6 +0.2**
baz=81
O10A Cortez Mining, 80.55 41⇓P **P** **01 34 36.9 +0.2**
baz=81
WVOR Wild Horse Val 80.56 38 *e*P **P** **01 34 35.7 -1.0**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
WVOR Wild Horse Val 80.56 38 *e*P **P** **01 34 35.7 -1.0**
comp=Z,14nm,1.0s,mb4.7
P11A Circle Ranch, 80.58 42⇑P **P** **01 34 36.9 +0.1**
baz=81
L08A Fields 80.59 39 P **P** **01 34 36.9 +0.1**
baz=81,SNR=21
I06A Prineville 80.62 36⇓P **P** **01 34 37.1 0.0**
baz=81,SNR=9.3
M09A Marrel Ranch, 80.65 40⇑P **P** **01 34 37.3 +0.1**
baz=81
F04A Amboy 80.72 34⇓P **P** **01 34 37.1 -0.4**
baz=81
J07A Hines 80.76 37⇓P **P** **01 34 37.8 0.0**
baz=81
N10A Dunphy 80.80 41⇓P **P** **01 34 37.9 -0.1**
baz=81
K08A Mann Creek Ran 80.84 38 P **P** **01 34 38.4 +0.2**
baz=81,SNR=16
G05A Wamic 80.85 35⇑P **P** **01 34 38.1 -0.1**
baz=81
Q12A Willow Creek R 80.87 43⇓P **P** **01 34 38.5 +0.2**
baz=81,SNR=8.1
L09A Wilkinson Ranc 80.88 39⇓P **P** **01 34 38.4 0.0**
baz=81
O11A Cowboy Ranch, 80.98 41 P **P** **01 34 39.3 +0.3**
baz=81,SNR=5.9
E04A Onalaska 81.00 33⇓P **P** **01 34 39.2 +0.1**
baz=81
H06A Lindquist Farm 81.05 36⇑P **P** **01 34 39.2 -0.1**
baz=81,SNR=9.1
ARUT Antelope Range 81.06 44 *e*P **P** **01 34 39.8 +0.4**
P12A McGill 81.07 42 P **P** **01 34 39.7 +0.2**
baz=81,SNR=5.2
I07A Izee 81.10 37⇓P **P** **01 34 39.5 -0.1**
baz=81
F05A White Salmon 81.19 34⇓P **P** **01 34 39.9 -0.2**
baz=81
G06A Carlson Farm, 81.21 35⇓P **P** **01 34 40.1 0.0**
baz=81
WUAZ Wupatki 81.22 47 *e*P **P** **01 34 41.3 +1.1**
comp=Z,20nm,1.2s,mb4.8
WUAZ Wupatki 81.22 47⇑P **P** **01 34 40.9 +0.7**
baz=81
J08A Circle Bar Ran 81.23 38 P **P** **01 34 40.2 -0.1**
baz=81,SNR=9.2
M10A I.L. Ranch, Tu 81.26 40⇑P **P** **01 34 40.6 +0.2**
baz=81,SNR=9.8
K09A Rome 81.26 38 P **P** **01 34 40.5 0.0**
baz=81,SNR=19
N11A Elko Archery C 81.33 41⇑P **P** **01 34 40.4 -0.4**
baz=82
F06A Goldendale 81.47 35⇓P **P** **01 34 41.4 -0.2**
baz=82
E05A Randle 81.47 34⇓P **P** **01 34 41.1 -0.4**
baz=82
I08A Drewsey 81.52 37⇑P **P** **01 34 41.5 -0.3**
baz=82,SNR=6.8
C04A Brinnon 81.62 32⇓P **P** **01 34 42.2 -0.2**
baz=82
O12A Currie 81.63 42 P **P** **01 34 42.5 +0.1**
baz=82,SNR=5.0
J09A Fry Pan Ranch, 81.64 38⇑P **P** **01 34 42.2 -0.2**
baz=82,SNR=7.6
M11A Holland Ranch, 81.66 40⇑P **P** **01 34 42.9 +0.3**
baz=82
G07A Ruggs Ranch, H 81.75 36⇓P **P** **01 34 42.8 -0.3**
baz=82,SNR=5.1
D05A Enumclaw 81.77 33⇑P **P** **01 34 43.1 -0.1**
baz=82
N12A Clover Valley, 81.78 41 P **P** **01 34 43.7 +0.5**
baz=82,SNR=5.4
H08A Prairie City 81.84 37⇓P **P** **01 34 43.3 -0.2**
baz=82
HABR Khabarovsk 81.86 329⇑ *e*P **P** **01 34 44.4 +0.8**
HABR pmax pmax
comp=Z,93nm,1.0s,mb5.6
E06A Yakima 81.87 34⇑P **P** **01 34 43.5 -0.1**
baz=82
F07A Phinny Hill Vi 82.01 35⇓P **P** **01 34 44.3 -0.1**
baz=82
I09A Lost Marbles R 82.03 37⇓P **P** **01 34 44.4 -0.1**
baz=82
G08A Pilot Rock 82.16 36 P **P** **01 34 45.1 0.0**
baz=82,SNR=14
M12A Wells 82.18 41 P **P** **01 34 45.5 +0.2**
baz=82,SNR=6.0
C05A Tolt Reservoir 82.26 33⇓P **P** **01 34 45.3 -0.4**
baz=82,SNR=5.6
MSU Marysvale 82.30 44 *e*P **P** **01 34 47.0 +1.1**
N13A Wendover, West 82.30 42⇓P **P** **01 34 46.0 +0.1**
baz=82
NJ2 Nanjing 82.36 308 *e*P **P** **01 34 46.8 +0.6**
NJ2 AP pP 01 35 06.1 +0.1
NJ2 XP sP 01 35 14.3 +0.3
NJ2 PP PP 01 37 57.9 +2.1
NJ2 S S 01 44 53.5 -2.9
NJ2 AMB AMB
comp=Z,560nm,9.4s
NJ2 LR LR
comp=N,1μm,24.6s
NJ2 LR LR
comp=E,1μm,23.4s
NJ2 LR LR
comp=Z,340nm,26.4s
D06A Cle Elum 82.36 34⇓P **P** **01 34 46.1 -0.1**
baz=82
B05A Bryant 82.43 32⇓P **P** **01 34 46.3 -0.3**
baz=83
E07A Sunnyside 82.47 34⇓P **P** **01 34 46.6 -0.2**
baz=83,SNR=8.8
H09A Durkee 82.49 37⇓P **P** **01 34 46.6 -0.4**
baz=83
F08A Pendleton 82.58 36⇓P **P** **01 34 47.1 -0.2**
baz=83,SNR=7.6
M13A Montello 82.61 41 P **P** **01 34 47.8 +0.2**
baz=83,SNR=5.2
DUG Dugway 82.81 43 *e*P **P** **01 34 48.8 +0.3**
DUG Dugway 82.81 43⇓P **P** **01 34 48.6 +0.1**
baz=83
BMO Blue Mountains 82.81 37 *e*P **P** **01 34 48.4 -0.2**
BMO pmax pmax
comp=Z,17nm,1.3s,mb4.7
BMO Blue Mountains 82.81 37 *e*P **P** **01 34 48.4 -0.2**
comp=Z,16nm,1.3s,mb4.7
D07A Quincy 82.82 34⇑P **P** **01 34 48.4 -0.2**
baz=83
E08A Dider Farm, El 82.86 35⇓P **P** **01 34 48.7 -0.1**
baz=83
F09A S2 Ranch, Elgi 83.00 36⇓P **P** **01 34 49.0 -0.5**
baz=83
C07A Waterville 83.09 33⇑P **P** **01 34 49.2 -0.8**
baz=83,SNR=7.2
MAW Mawson 83.14 199⇑ *i*P **P** **01 34 51.0 +0.7**
comp=Z,5.6nm,0.6s,mb4.6
MAW Mawson 83.14 199 P **P** **01 34 51.4 +1.1**
comp=Z,9.4nm,0.8s,mb4.7,baz=119,slow=8.5,SNR=21
MAW LR LR 02 09 08.3
comp=Z,108nm,18.5s,baz=72,slow=34

MAW **Mawsson** 83.14 199⇑ *i*P P 01 34 51.0 +0.7
MAW pmax pmax
comp=Z,6.0nm,0.6s
D08A **Wollman Farm,** 83.29 34 P P 01 34 51.0 -0.1
baz=83,SNR=10.0
TMUT **Trail Mountain** 83.35 44 *e*P P 01 34 52.9 +1.5
E09A **Wood Farm, Sta** 83.36 35 P P 01 34 51.0 -0.4
baz=84,SNR=6.8
H11A **Donnelly** 83.46 38 ⇑P P 01 34 51.6 -0.3
baz=84,SNR=12
MPU **Maple Canyon** 83.47 43 *e*P P 01 34 51.6 -0.3
MPU *e*pP pP 01 35 12.4 +0.7
F10A **Beach Ranch, E** 83.54 36 ⇑P P 01 34 51.5 -0.8
baz=84,SNR=17
B07A **Winthrop** 83.56 33 ⇑P P 01 34 51.9 -0.5
baz=84,SNR=6.2
KGM **Kluang** 83.59 274 P P 01 34 54.4 +1.8
D09A **Jones Farm, Ri** 83.62 35 ⇑P P 01 34 52.3 -0.4
baz=84,SNR=6.9
MNTX **Cornudas Mount** 83.64 53 *e*P P 01 34 53.1 +0.3
comp=Z,10nm,0.9s,mb4.7
Y22C **IRIS PASSCAL I** 83.64 50 ⇑P P 01 34 52.6 -0.2
baz=84
LAZ **Ladron** 83.64 50 *e*P P 01 34 53.9 +1.0
LENM **Lemitar** 83.65 50 *e*P P 01 34 54.1 +1.3
SPUT **South Promonto** 83.65 42 *e*P P 01 34 50.3 -2.6
C08A **Higginbotham F** 83.68 34 ⇓P P 01 34 52.5 -0.5
baz=84,SNR=7.5
SRU **San Rafael** 83.70 45 *e*P P 01 34 53.8 +0.6
HVU **Hansel Valley** 83.71 41 *e*P P 01 34 52.8 -0.4
HVU *e*PP pP 01 35 07.8 -5.2
HLID **Hailey** 83.72 39 *e*P P 01 34 53.6 +0.4
comp=Z,16nm,0.8s,mb4.9
HLID **Hailey** 83.72 39 P P 01 34 53.6 +0.3
baz=84
G11A **Walters Elk Ra** 83.73 37 ⇑P P 01 34 52.8 -0.5
baz=84
CTU **Camp Tracy** 83.76 43 *e*P P 01 34 54.3 +0.9
A07A **Ashnola River,** 83.80 32 ⇑P P 01 34 53.3 -0.4
baz=84
LTX **Lajitas** 83.87 56 *e*P P 01 34 54.6 +0.6
LTX pmax pmax
comp=Z,12nm,1.0s,mb4.7
LTX **Lajitas** 83.87 56 *e*P P 01 34 54.6 +0.6
comp=Z,12nm,1.0s,mb4.7
TXAR **Lajitas Array** 83.87 56 P P 01 34 54.4 +0.4
comp=Z,3.5nm,0.9s,mb4.2,baz=220,slow=8.3,SNR=31
TXAR LR LR 02 03 46.0
comp=Z,139nm,19.2s,baz=0.0,slow=30
BNM **Barren Site** 83.89 50 *e*P P 01 34 54.8 +0.7
B08A **Colville Reser** 83.89 33 ⇓P P 01 34 53.1 -1.0
baz=84,SNR=10
JLU **Jordanelle** 83.90 43 *e*P P 01 34 47.1 -7.0
E10A **Myers Farm, Un** 83.91 36 ⇑P P 01 34 53.5 -0.7
baz=84
DAU **Daniels Canyon** 83.92 43 *e*P P 01 34 54.5 +0.2
DAU *e*PP pP 01 35 13.5 -0.6
QIZ **Qiongzhong** 83.93 293 P P 01 34 54.8 +0.5
QIZ **Qiongzhong** 83.93 293 *e*P P 01 34 55.4 +1.1
comp=Z,11nm,0.7s,mb4.8
LPM **Los Pinos Moun** 83.97 50 *e*P P 01 34 55.4 +0.9
KLR **Kul'dur** 84.00 328 *e*P P 01 34 51.3 -3.4
F11A **Grangeville** 84.08 37 ⇑P P 01 34 53.3 -1.8
baz=84,SNR=8.5
MVCO **Mesa Verde** 84.09 47 ⇑P P 01 34 55.5 +0.4
baz=84
C09A **Chrisman Ranch** 84.09 34 ⇑P P 01 34 54.5 -0.6
baz=84
CN2 **Changchun** 84.16 321 *e*P P 01 34 56.0 +0.5
CN2 *e*AP pP 01 35 16.5 +1.2
CN2 *e*XP sP 01 35 24.8 +1.6
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
A08A **Turner Farm, O** 84.30 33 ⇑P P 01 34 55.7 -0.5
baz=84,SNR=10
PV10 **Paradox Valley** 84.31 46 *e*P P 01 34 56.4 +0.2
HWUT **Hardware Ranch** 84.37 42 *e*P P 01 34 56.3 -0.2
comp=Z,7.3nm,0.8s,mb4.6
ANMO **Albuquerque** 84.40 50 LR LR 02 03 27.5
comp=Z,142nm,19.3s,baz=183,slow=29
ANMO **Albuquerque** 84.40 50⇑ *e*P P 01 34 57.3 +0.6
ANMO **Albuquerque** 84.40 50 *e*P P 01 34 57.4 +0.7
comp=Z,20nm,1.0s,mb4.9
PV01 **Paradox Valley** 84.51 46 *e*P P 01 34 57.5 +0.2
F12A **Elk City** 84.51 37 P P 01 34 56.9 -0.3
baz=85,SNR=32
B09A **Rice** 84.55 34 ⇑P P 01 34 56.7 -0.7
baz=85,SNR=5.8
C10A **Spilker Farm,** 84.62 35 ⇑P P 01 34 57.3 -0.5
baz=85
GDL2 **Guadalupe Moun** 84.64 53 *e*P P 01 34 59.0 +1.1
A09A **Danville** 84.67 33 ⇓P P 01 34 57.6 -0.4
baz=85,SNR=7.2
D11A **Klaveano Farm,** 84.68 36 ⇑P P 01 34 57.0 -1.1
baz=85,SNR=7.1
NEW **Newport** 84.99 34 *e*P P 01 34 59.2 -0.5
F13A **Darby** 85.06 37 P P 01 34 59.5 -0.5
baz=85,SNR=17
WHN **Wuhan** 85.06 305 P P 01 35 01.0 +1.0
WHN AMB AMB
comp=Z,60nm,1.0s,mb5.5
RRI2 **Red Ridge** 85.47 41 *e*P P 01 35 02.1 0.0
comp=Z,29nm,1.3s,mb5.0
B11A **Sandpoint** 85.50 34 ⇓P P 01 35 01.7 -0.5
baz=86
E13A **Victor** 85.51 37 ⇑P P 01 35 01.4 -0.9
baz=86,SNR=6.3
C12A **Trout Creek** 85.53 35 ⇓P P 01 35 02.0 -0.4
baz=86,SNR=6.3
F14A **Wisdom** 85.62 38 ⇓P P 01 35 02.5 -0.3
baz=86
D13A **Huson** 85.74 36 ⇑P P 01 35 02.6 -0.8
baz=86,SNR=11
REDW **Red Top Meadow** 85.77 41 *e*P P 01 35 03.9 +0.4
comp=Z,23nm,1.4s,mb4.9
G15A **Dillon** 85.77 39 P P 01 35 03.5 0.0
baz=86,SNR=16
A11A **Hall Mountain,** 85.81 34 ⇑P P 01 35 03.5 -0.2
baz=86,SNR=5.7
DLMT **Dillon** 85.82 38 *e*P P 01 35 04.5 +0.8
comp=Z,11nm,0.9s,mb4.8
SNOW **Snow King Moun** 85.88 41 *e*P P 01 35 04.5 +0.4
E14A **Clinton** 85.89 37 ⇑P P 01 35 03.8 -0.4
baz=86,SNR=10
C13A **Hot Springs** 86.02 36 ⇑P P 01 35 04.5 -0.3
baz=86
MOOW **Moose Ponds** 86.04 41 *e*P P 01 35 05.1 +0.2
LOHW **Long Hollow** 86.05 41 *e*P P 01 35 05.1 +0.2
comp=Z,9.4nm,1.3s,mb4.6
F15A **Butte** 86.14 38 ⇓P P 01 35 04.9 -0.5
baz=86
A12A **Yaak River Ran** 86.17 34 ⇓P P 01 35 05.0 -0.5
baz=86
FLWY **Flagg Ranch** 86.25 40 *e*P P 01 35 06.2 +0.3
comp=Z,12nm,1.1s,mb4.8
BW06 **Boulder Array** 86.25 42 *e*P P 01 35 05.7 -0.2
comp=Z,9.9nm,1.4s,mb4.5
PDAR **Pinedale Array** 86.25 42 P P 01 35 05.5 -0.4
comp=Z,3.2nm,1.0s,mb4.2,baz=205,slow=3.1,SNR=20
PDAR PKKPbc PKKPbc 01 53 03.4 -0.1
comp=Z,0.7nm,0.8s,baz=94,slow=3.7,SNR=6.4
PDAR LR LR 02 04 42.5
comp=Z,139nm,19.6s,baz=253,slow=30
D14A **Greenough** 86.27 37 ⇓P P 01 35 05.0 -1.0
baz=86
CHMT **Chamberlain Mo** 86.31 37 *e*P P 01 35 05.3 -0.9
E15A **Deer Lodge** 86.39 38 ⇓P P 01 35 06.2 -0.4
baz=86
SDCO **Great Sand Dun** 86.42 48 *e*P P 01 35 07.2 +0.4
comp=Z,23nm,1.8s,mb4.8
SDCO *e*pP pP 01 35 16.5 -10
B13A **Whitefish** 86.48 35 ⇓P P 01 35 06.4 -0.6
baz=87
C14A **Swan Lake** 86.52 36 ⇑P P 01 35 06.9 -0.4
baz=87
IPM **Ipoh** 86.59 276 P P 01 35 09.6 +2.1
D15A **Lincoln** 86.80 37 ⇓P P 01 35 08.3 -0.3
baz=87
SEY **Seymchan** 86.80 345⇑ *e*P P 01 35 08.1 -0.5
SEY **Seymchan** 86.80 345⇑ *e*P P 01 35 08.2 -0.4
COLA **College** 87.07 11 *e*P P 01 35 08.8 -1.1
COLA *e*PP pP 01 35 28.5 -1.4
COLA pmax pmax
comp=Z,63nm,0.9s,mb5.5
COLA **College** 87.07 11 *e*P P 01 35 08.8 -1.1
comp=Z,63nm,0.9s,mb5.5
COLA *e*pP pP 01 35 28.5 -1.4
KULM **Kulim** 87.22 277 *e*P P 01 35 12.0 +1.4
IMA2 **Indian Mountai** 87.27 8 *e*P P 01 35 10.3 -0.6
ISCO **Idaho Springs** 87.33 46 *e*P P 01 35 11.5 +0.3
AMTX **Amarillo** 87.85 52 *e*P P 01 35 13.0 -0.6
comp=Z,11nm,1.0s,mb4.8
SYO **Syowa Base** 87.89 192⇓ *e*P P 01 35 12.8 -1.1
SYO **Syowa Base** 87.89 192⇓ *e*PcP PcP 01 35 14.7 -0.9
BJT **Baijiatuao** 88.09 314 *e*P P 01 35 14.6 -0.2
BJT pmax pmax
comp=Z,11nm,0.6s
BJT **Baijiatuao** 88.09 314 *e*P P 01 35 14.6 -0.2
comp=Z,11nm,0.6s,mb5.1
BJI **Beijing** 88.10 314 P P 01 35 14.3 -0.5
BJI AMB AMB
comp=Z,35nm,1.4s,mb5.2
BJI AMB AMB
comp=Z,265μm,3.0s
BJI **Beijing** 88.10 314 P P 01 35 14.2 -0.6
BJI pmax pmax
comp=Z,35nm,1.4s,mb5.2
BJI **Beijing** 88.10 314 P P 01 35 14.2 -0.6
comp=Z,35nm,1.4s,mb5.2
DAWY **Dawson** 88.11 15 *e*P P 01 35 14.7 -0.2
DAWY *e*pP pP 01 35 33.8 -1.2
VNA3 **Neumayer Olymp** 88.31 175 *e*P P 01 35 16.4 +0.6
VNA3 *e* 01 35 24.4
VNA3 *e* 01 35 30.9
VNA3 *e* pP 01 35 36.4 +0.6
VNA3 *e* 01 35 43.8
VNA3 *e* 01 35 46.5
VNA3 *e* 01 35 55.0
VNA3 *e* 01 36 27.0
SNAA **Sanae** 88.31 177 *e*P P 01 35 15.7 -0.1
SNAA *e* 01 35 22.5
SNAA *e* 01 35 29.4
SNAA *e* pP 01 35 35.9 0.0
SNAA *e* 01 35 42.6
SNAA *e* 01 35 44.2
SNAA **Sanae** 88.31 177⇑ *e*P P 01 35 15.0 -0.8
SNAA **Sanae** 88.31 177 *e*P P 01 35 15.9 +0.1
comp=Z,19nm,1.0s,mb5.1
EGAK **Eagle** 88.32 14 *e*P P 01 35 15.3 -0.6
comp=Z,21nm,1.1s,mb5.1
EGAK *e*pP pP 01 35 32.9 -3.0
VNA2 **Neumayer--Watz** 88.79 176 *e*P P 01 35 18.7 +0.6
VNA2 *e* 01 35 25.4
VNA2 *e* 01 35 32.3
VNA2 *e* pP 01 35 38.7 +0.6
VNA2 *e* 01 35 45.0
VNA2 *e* 01 35 56.4
VNA2 *e* 01 36 30.7
VNA1 **Neumayer--Stat** 88.99 175 *e*P P 01 35 19.5 +0.5
VNA1 *e* 01 35 26.7
VNA1 *e* 01 35 34.2
VNA1 *e* pP 01 35 40.3 +1.2
VNA1 *e* 01 35 47.3
BILL **Bilibino** 89.01 353⇑ *i*P P 01 35 18.3 -0.8
KKTK **Khon Kaen** 89.11 288 P P 01 35 21.5 +1.9
GYA **Guiyang** 89.53 298⇑ *i*P P 01 35 23.3 +1.7
GYA AP pP 01 35 42.3 +0.7
GYA XP sP 01 35 50.0 +0.5
GYA PP PP 01 38 56.3 +2.5
GYA SKS 01 45 43.8
GYA S S 01 46 04.3 -2.1
GYA PS PS 01 47 21.4 +0.6
GYA SS SS 01 52 04.4 +1.0
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,570nm,19.8s
GYA LR LR
comp=E,530nm,17.9s
GYA LR LR
comp=Z,610nm,19.4s
EDM **Edmonton** 89.86 32 *e*P P 01 35 22.8 -0.3
RSSD **Black Hills** 90.42 43 *e*P P 01 35 24.6 -1.1
RSSD pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
RSSD **Black Hills** 90.42 43 *e*P P 01 35 24.6 -1.1
XAN **Xi'an** 90.71 306 P P 01 35 28.3 +1.3
XAN AMB AMB
comp=Z,28nm,1.1s,mb5.3
NST **Nakhon Sawan** 91.29 286 P P 01 35 32.5 +2.7
HHC **Hu-ho-hao-te** 91.61 313 *e*P P 01 35 31.8 +0.6
HHC AP pP 01 35 53.3 +2.0
HHC XP sP 01 36 00.8 +1.6
HHC PP PP 01 39 13.1 +2.8
HHC SKS 01 45 55.9
HHC S S 01 46 23.6 -1.8
HHC XS sS 01 46 58.4 -1.3
HHC SS SS 01 52 33.9 +0.5
HHC AMB AMB
comp=Z,49nm,1.0s,mb5.7
HHC AMB AMB
comp=Z,309nm,10.5s
HHC LR LR
comp=N,192nm,21.2s
HHC LR LR
comp=E,163nm,20.0s
HHC LR LR
comp=Z,235nm,16.2s
NANT **Nan** 91.87 289 ⇑P P 01 35 32.0 -0.4
comp=Z,575nm,1.0s
CLNS **Chul'man** 91.92 331 *e*P P 01 35 30.8 -1.8
CLNS pmax pmax
comp=Z,28nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.9s
KMI **Kunming** 92.32 296 P P 01 35 37.1 +2.6
KMI AP pP 01 35 56.3 +1.7
KMI XP sP 01 36 04.8 +2.3
KMI PP PP 01 39 20.3 +4.4
KMI PPP 01 41 22.5
KMI SKS 01 46 02.8
KMI S S 01 46 30.8 -1.0
KMI XS sS 01 47 04.1 -2.0
KMI PS PS 01 47 54.0 +2.2
KMI SS SS 01 52 44.1 +0.5
KMI SSS 01 56 25.5
KMI AMB AMB
comp=Z,50nm,1.0s,mb5.7
KMI AMB AMB
comp=Z,240nm,3.4s
KMI LR LR
comp=N,177nm,19.8s
KMI LR LR
comp=E,172nm,17.8s
KMI LR LR
comp=Z,172nm,22.9s
KMI **Kunming** 92.32 296 P P 01 35 37.1 +2.6
KMI *PP pP 01 35 56.2 +1.6
KMI 01 39 20.3
KMI PPP 01 41 22.5
KMI 01 46 02.7
KMI S S 01 46 30.8 -1.0
KMI PS PS 01 47 54.0 +2.2
KMI SS SS 01 52 44.1 +0.5
KMI SSS 01 56 25.5
KMI pmax pmax
comp=Z,50nm,1.0s,mb5.7
KMI MLR MLR
comp=Z,170nm,22.9s
KMI **Kunming** 92.32 296 P P 01 35 37.1 +2.6
comp=Z,50nm,1.0s,mb5.7
KMI pP pP 01 35 56.2 +1.6
KMI sP sP 01 36 04.7 +2.2
KMI PP PP 01 39 20.3 +4.4
KMI PPP 01 41 22.5
KMI SKS 01 46 02.7
KMI S S 01 46 30.8 -1.0
KMI sS sS 01 47 04.1 -2.0
KMI PS PS 01 47 54.0 +2.2
KMI SS SS 01 52 44.1 +0.5
KMI SSS 01 56 25.5
KMI LR LR
comp=Z,170nm,22.9s
DGMT **Dagmar** 92.35 39 *e*P P 01 35 35.1 +0.5
JTS **JuntasAbangare** 92.81 80 LR LR 02 05 58.3
comp=Z,234nm,20.2s,baz=358,slow=28
JTS **JuntasAbangare** 92.81 80 *e*P P 01 35 36.9 +0.1
JTS pmax pmax
comp=Z,13nm,0.9s
JTS **JuntasAbangare** 92.81 80 *e*P P 01 35 36.9 +0.1
comp=Z,13nm,0.9s,mb5.2
JTS *e*pP pP 01 35 58.2 +1.4
BDT **Bhumibol Dam** 92.85 287 ⇓P P 01 35 39.0 +2.0
comp=Z,24nm,1.0s,mb5.5
INK **Inuvik** 92.96 14 *e*P P 01 35 36.8 -0.7
INK pmax pmax
comp=Z,557nm,1.1s
INK **Inuvik** 92.96 14 *e*P P 01 35 36.8 -0.7
comp=Z,558nm,1.1s
YAK **Yakutsk** 93.06 337 *c e*P P 01 35 36.2 -1.8
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.6
YAK **Yakutsk** 93.06 337⇑ *e*P P 01 35 36.3 -1.7
ATAH **Atahualpa** 93.08 99 LR LR 02 10 40.0
comp=Z,94nm,18.3s,baz=215,slow=31
CHG **Chiang Mai** 93.44 289 ⇑P P 01 35 41.4 +1.7
comp=Z,60nm,1.0s,mb5.9
CHTO **Chiang Mai** 93.44 289 *e*P P 01 35 41.3 +1.6
CHTO pmax pmax
comp=Z,58nm,1.0s,mb5.9
CHTO **Chiang Mai** 93.44 289 *e*P P 01 35 41.3 +1.6
comp=Z,58nm,1.0s,mb5.9
CD2 **Chengdu** 93.55 301 *e*P P 01 35 39.6 -0.6
CD2 AP pP 01 36 00.4 +0.1
CD2 XP sP 01 36 08.8 +0.6
CD2 SKS 01 46 05.8
CD2 S S 01 46 39.0 -3.7
CD2 SS SS 01 53 02.1 +0.8
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,160nm,11.9s
CD2 LR LR
comp=N,200nm,15.6s
CD2 LR LR
comp=E,130nm,14.3s
CD2 LR LR
comp=Z,180nm,11.9s
YKA **Yellowknife Ar** 94.67 24 LR LR 02 09 12.9
comp=Z,75nm,21.2s,baz=210,slow=30
ECSD **EROS,Sioux Fal** 95.10 45 *e*P P 01 35 46.3 -1.0
comp=Z,19nm,1.3s,mb5.4
LZH **Lanzhou** 95.33 306 *e*P P 01 35 49.5 +1.1
LZH AMB AMB
comp=Z,43nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,173nm,4.3s
LZH **Lanzhou** 95.33 306 *e*P P 01 35 49.5 +1.1
LZH *PP pP 01 35 59.0 -9.5
LZH *SP sP 01 36 07.0 -9.3
LZH pmax pmax
comp=Z,43nm,1.5s,mb5.7
LZH **Lanzhou** 95.33 306 *e*P P 01 35 49.5 +1.1
comp=Z,43nm,1.5s,mb5.7
LZH pP pP 01 35 59.0 -9.5
LZH sP sP 01 36 07.0 -9.3
ULN **Ulaanbaatar** 97.37 318⇑ *e*P P 01 35 57.0 -0.6
ULN **Ulaanbaatar** 97.37 318⇑ *e*P P 01 35 57.1 -0.5
SONM **Songino Array** 97.77 318 P P 01 35 59.4 0.0
comp=Z,2.9nm,0.9s,mb4.8,baz=123,slow=3.9,SNR=14
SONM PP PP 01 39 56.9 -1.3
comp=Z,2.5nm,1.0s,baz=118,slow=7.7,SNR=6.7
SONM **Songino Array** 97.77 318 P P 01 35 59.4 0.0
SONM 01 39 56.9
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,1.0s
ULM **Lac du Bonnet** 98.03 39 LR LR 02 13 22.9
comp=Z,131nm,20.5s,baz=254,slow=31
LPAZ **La Paz** 98.94 111 LR LR 02 10 48.4
comp=Z,63nm,19.6s,baz=311,slow=29
TIXI **Tiksi** 99.26 344 *e*P P 01 36 04.4 -1.7
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
TIXI **Tiksi** 99.26 344 *e*P P 01 36 04.4 -1.7
comp=Z,3.8nm,1.0s,mb4.9
GTA **Gaotai** 99.45 308 *e*P Pdif 01 36 08.0 +1.1
GTA AP pP 01 36 27.9 +0.8
GTA XP sP 01 36 36.1 +1.2
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb5.0
WMQ **Urumqi** 109.32 311 PDIF Pdif 01 36 51.1 +0.3
WMQ PP PP 01 41 28.1 +3.8
WMQ PP PP
comp=Z,254nm,5.8s
WMQ LR LR
comp=N,85nm,21.0s
WMQ LR LR
comp=E,71nm,21.1s
WMQ LR LR
comp=Z,92nm,19.1s
ZAL **Zalesovo** 112.38 321 PKiKP PKiKP 01 40 58.3 -1.6
comp=Z,1.5nm,0.6s,baz=223,slow=0.6,SNR=7.2
ZAL **Zalesovo** 112.38 321 *i* PKiKP PKiKP 01 40 58.3 -1.6
ZAL pmax pmax
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** 113.47 313 PKiKP PKiKP 01 41 00.8 -1.1
comp=Z,2.6nm,0.7s,baz=138,slow=0.9,SNR=15
MKAR **Makanchi Array** 113.47 313 *i* PKiKP PKiKP 01 41 00.8 -1.1
MKAR pmax pmax
comp=Z,3.0nm,0.7s
CHKZ **Chkalovo** 120.78 321 *e*PKiKP PKPdf 01 41 14.6 -1.4
BVAR **Borovoye Array** 121.01 320 PKP PKPdf 01 41 15.7 -0.7
comp=Z,5.3nm,0.4s,baz=128,slow=1.7,SNR=34
BVAR **Borovoye Array** 121.01 320 PKiKP PKPdf 01 41 15.7 -0.7
BVAR pmax pmax
comp=Z,5.0nm,0.4s
ZRNK **Zerenda** 121.85 321 *e*PKiKP PKPdf 01 41 16.8 -1.2
ARU **Arti** 126.82 326 *i* PKiKP PKPdf 01 41 25.1 -2.5
ARU *e* 01 48 26.0
ARU *e*SS SS 02 00 24.1 -2.4
ARU **Arti** 126.82 326⇑ *e*PKP PKPdf 01 41 25.9 -1.7
BOSA **Boshof** 128.07 202 PKP PKPdf 01 41 32.6 +2.6
comp=Z,2.0nm,0.8s,baz=151,slow=9.2,SNR=3.8
BOSA **Boshof** 128.07 202 PKiKP PKPdf 01 41 32.6 +2.6
BOSA pmax pmax
comp=Z,2.0nm,0.8s
KEV **Kevo** 128.66 351 *e*p PKPdf 01 41 29.4 -1.7
comp=Z,8.1nm,0.8s
ARCES **ARCESS Array B** 129.08 351 PKP PKPdf 01 41 31.0 -0.9
comp=Z,9.7nm,0.7s,baz=46,slow=0.3,SNR=52
ARCES **ARCESS Array B** 129.08 351 PKiKP PKPdf 01 41 31.0 -0.9
ARCES pmax pmax
comp=Z,10.0nm,0.7s
FINES **FINESS Array B** 136.28 346 PKP PKPdf 01 41 43.6 -1.8
comp=Z,4.5nm,0.8s,baz=259,slow=1.9,SNR=16
FINES **FINESS Array B** 136.28 346 PKiKP PKPdf 01 41 43.7 -1.7
FINES pmax pmax
comp=Z,5.0nm,0.8s
OBN **Obninsk** 137.99 334⇓ *i* PKiKP PKPdf 01 41 49.0 +0.4
OBN pmax pmax
comp=Z,22nm,1.8s
OBN **Obninsk** 137.99 334 *e*PKP PKPdf 01 41 49.0 +0.4
NOA **NORSAR Array B** 138.88 356 PKP PKPdf 01 41 49.1 -1.1
comp=Z,2.0nm,0.8s,baz=350,slow=2.4,SNR=5.0
NOA **NORSAR Array B** 138.88 356 PKiKP PKPdf 01 41 49.1 -1.1
NOA pmax pmax
comp=Z,2.0nm,0.8s
KIV **Kislovodsk** 141.14 316⇑ *i* PKiKP PKPdf 01 41 57.6 +3.3
KIV *e* 01 44 57.6
KIV *e*SS SS 02 03 26.6 +7.6
KIV pmax pmax
comp=Z,10.0nm,0.9s
GNI **Garni** 141.19 310⇑ *i* PKiKP PKPdf 01 41 54.9 +0.5
GNI **Garni** 141.19 310 *e*PKPdf PKPdf 01 41 55.0 +0.6
KMBO **Kilima Mbogo** 142.64 239 PKhKP 01 41 55.3
comp=Z,2.6nm,0.8s,baz=170,slow=1.3,SNR=8.9
KMBO **Kilima Mbogo** 142.64 239 *i* PKHKP 01 41 55.3
KMBO pmax pmax
comp=Z,3.0nm,0.8s
HAKT **HAKKARI** 142.77 306 *i* P PKPdf 01 41 53.9 -3.4
MUD **Monsted U'grnd** 143.57 357 *i* P PKPdf 01 42 24.3 +26
comp=Z,43nm,1.3s
EKA **Eskdalemuir Ar** 144.15 9 PKhKP 01 41 56.4
comp=Z,3.7nm,0.8s,baz=336,slow=3.0,SNR=5.4
EKA **Eskdalemuir Ar** 144.15 9 *i* PKHKP 01 41 56.4

EKA pmax pmax
comp=Z,4.0nm,0.8s
BNGL BINGOL 144.21 309 *i* P PKPdf 01 41 59.7 -0.1
AKASG Malin Array Be 144.25 334 PKhKP 01 41 57.0
comp=Z,7.2nm,0.4s,baz=40,slow=4.5,SNR=91
AKASG Malin Array Be 144.25 334 *i* PKHKP 01 41 57.0
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKBB Malin Array Si 144.25 334 *e*PKHKP 01 41 56.9
KIEV Kiev 144.26 334 *e*PKHKP 01 41 57.1
MARD Mardin 145.06 307 *i* P PKPbc 01 42 01.6 +0.8
KELT Kelkit 145.08 312 *i* P PKPbc 01 42 02.2 +1.4
GKP Gorka Klasztor 145.69 348 *e*PKP PKPdf 01 42 02.5 +0.2
ELZG Elazig 145.94 310 *i* P PKPdf 01 42 05.4 +2.6
FURI Furi 146.32 256 *e*P PKPbc 01 42 07.5 +2.8
MALT Malatya 146.42 310 ⇓*i*P PKPdf 01 42 06.3 +2.7
MALT Malatya 146.42 310 P PKPbc 01 42 06.7 +1.8
ATAB Bozova 146.84 309 *i* P PKPbc 01 42 07.2 +1.0
LVV L'vov 146.94 338 *e*PKIKP PKPdf 01 42 06.1 +1.7
KIS Kishinev 147.21 330 ⇑*i*PKIKP PKPdf 01 42 06.0 +1.1
KIS *e* 01 42 23.0
KIS pmax pmax
comp=Z,100nm,1.5s
KIS Kishinev 147.21 330 ⇓*i*UNK PKPdf 01 42 06.0 +1.1
KIS XM 01 42 07.0
comp=Z,100nm,1.5s
BOYT Boyabat 147.38 317 *i* P PKPbc 01 42 08.8 +1.1
NRDL Niedersach Rie 147.46 355 *e*PKPbc PKPbc 01 42 07.0 -0.9
KWP Kalwaria 147.55 339 *e*PKP PKPbc 01 42 08.5 +0.4
IAS Iasi 147.64 332 ⇑*i*P PKPbc 01 42 08.6 +0.2
IAS Iasi 147.64 332 P PKPbc 01 42 08.6 +0.2
IBBN Ibbenburen 147.78 358 *e*PKPbc PKPbc 01 42 08.8 0.0
CTKT Corum 147.87 316 *i* P PKPbc 01 42 09.8 +0.8
OJC Ojcow 147.91 343 *e*PKP PKPbc 01 42 09.2 +0.1
CLZ Clausthal 148.08 355 *e*PKPbc PKPbc 01 42 09.8 +0.2
KSP Ksiaz 148.18 347 *e*PKP PKPbc 01 42 10.2 +0.4
KSP Ksiaz 148.18 347 *e*PKP PKPbc 01 42 10.3 +0.5
STHS Stebnicka Huta 148.20 341 *e*PKP PKPbc 01 42 10.0 +0.1
STHS *e* 01 42 14.0
BALT Daday 148.28 319 *i* P PKPbc 01 42 11.0 +0.9
KOLS Kolonicke sedl 148.29 339 *e*PKP PKPbc 01 42 10.1 0.0
BURAR Bucovina Array 148.31 335 ⇓*i*P PKPbc 01 42 11.0 +0.8
BURAR Bucovina Array 148.31 335 ⇓P PKPbc 01 42 11.0 +0.9
CLL Collm 148.31 351 *e*PKPdf PKPdf 01 42 06.8 +0.1
CLL *e*PKPbc PKPbc 01 42 10.1 -0.1
comp=Z,45nm,0.8s
CLL *e*PKPab PKPab 01 42 12.7 -0.7
CLL *ep*PKPbc pPKPbc 01 42 30.2 -0.7
CLL Collm 148.31 351 ⇑*i*PKP PKPbc 01 42 10.0 -0.2
CLL *ep*PKP pPKPdf 01 42 30.0 +2.4
CLL Collm 148.31 351 *e*(PKPdf) PKPdf 01 42 07.0 +0.3
comp=Z,9.0nm,1.4s
CLL ⇑*i*PKPbc PKPbc 01 42 10.0 -0.2
comp=Z,45nm,0.8s
CLL *i*PKPab PKPab 01 42 13.0 -0.4
comp=Z,32nm,0.9s
CLL *ep*PKPbc pPKPbc 01 42 30.0 -0.9
NIE Niedzica 148.48 342 *e*PKPc PKPbc 01 42 11.3 +0.7
UZH Uzhgorod 148.55 339 ⇓*i*PKIKP PKPbc 01 42 10.4 -0.4
UPC Upice 148.56 347 ⇑*e*PKP PKPbc 01 42 11.1 +0.3
UPC *ep*PKP pPKPdf 01 42 31.5 +3.5
BRG Berggiesshubel 148.59 350 *e*PKPbc PKPbc 01 42 11.0 +0.1
BRG Berggiesshubel 148.59 350 *i* PKP PKPbc 01 42 11.1 +0.2
comp=Z,15nm,0.8s
BRG *i* 01 42 30.8
comp=Z,29nm,1.4s
BRG *e* 02 10 08.7
comp=Z,7.6nm,1.5s
DPC Dobruska-Polom 148.64 347 ⇑*e*PKP PKPbc 01 42 11.6 +0.6
DPC *ep*PKP pPKPdf 01 42 32.4 +4.3
CDAG Cicekdag 148.66 315 *i* P PKPbc 01 42 11.3 +0.3
BUG Bochum--Univer 148.67 358 *e*PKPbc PKPbc 01 42 10.6 -0.5
OKC Ostrava-Krasne 148.70 345 ⇑*e*PKP PKPbc 01 42 11.2 0.0
COBT Iskenderun 148.72 308 *i* P PKPbc 01 42 12.1 +0.9
AVNT Avonos 148.74 313 *i* P PKPbc 01 42 11.7 +0.4
PVCC Panska Ves 148.81 349 ⇑*e*PKP PKPbc 01 42 11.5 0.0
PVCC *ep*PKP pPKPdf 01 42 32.3 +3.9
ELDT Eldivan 148.82 317 *i* P PKPbc 01 42 12.2 +0.7
CFR Carcaliu 148.86 329 ⇑*i*P PKPbc 01 42 11.7 +0.1
CFR Carcaliu 148.86 329 P PKPbc 01 42 12.4 +0.8
MORC Moravsky Berou 148.90 345 ⇑*i*P PKPbc 01 42 11.9 +0.2
MORC Moravsky Berou 148.90 345 ⇑P PKPbc 01 42 11.9 +0.2
VRI Vrincioaia 149.02 331 ⇑*i*P PKPbc 01 42 11.7 -0.3
VRI Vrincioaia 149.02 331 P PKPbc 01 42 12.3 +0.3
PLOR Plostina 149.07 331 ⇑*i*P PKPbc 01 42 12.0 -0.1
BR131 Keskin Array S 149.09 315 *e*PKPbc PKPbc 01 42 12.2 +0.1
BRTR Keskin Array B 149.09 315 PKPbc PKPbc 01 42 12.1 -0.1
comp=Z,5.8nm,0.5s,baz=137,slow=4.2,SNR=21
BRTR Keskin Array B 149.09 315 PKIKP PKPbc 01 42 12.1 -0.1
BRTR pmax pmax
comp=Z,6.0nm,0.5s
MOX Moxa 149.14 353 *e*P PKPbc 01 42 12.2 -0.1
comp=Z,21nm,1.1s
TIRR Tirgusor 149.24 327 ⇑*i*P PKPbc 01 42 12.5 0.0
TIRR Tirgusor 149.24 327 P PKPbc 01 42 12.8 +0.3
TANN Tannenbergstha 149.25 352 *e*PKPbc PKPbc 01 42 13.0 +0.4
KECS Kecovo 149.26 341 *i* PKP PKPbc 01 42 12.7 +0.1
KECS *e* 01 42 17.4
PRA Prague 149.28 349 ⇑PKP PKPbc 01 42 12.0 -0.6
HARR Harsova 149.32 328 ⇓*i*P PKPbc 01 42 14.0 +1.3
HARR Harsova 149.32 328 ⇓P PKPbc 01 42 14.0 +1.2
NKC Novy Kostel 149.43 352 ⇑*e*PKP PKPbc 01 42 13.2 +0.2
MEM Membach 149.52 360 PKiKP PKiKP 01 42 13.2 -1.1
VRAC Vranov 149.56 346 PKPbc PKPbc 01 42 12.9 -0.5
comp=Z,14nm,0.8s,baz=46,slow=1.9,SNR=15
VRAC PKPab PKPab 01 42 18.3 -0.2
comp=Z,17nm,0.9s,baz=13,slow=4.6,SNR=15
VRAC Vranov 149.56 346 ⇑*i*P PKPbc 01 42 13.6 +0.3
VRAC Vranov 149.56 346 PKIKP PKPbc 01 42 12.9 -0.4
VRAC 01 42 18.3
VRAC pmax pmax
comp=Z,14nm,0.8s
VRAC pmax pmax
comp=Z,17nm,0.9s
VRAC Vranov 149.56 346 PKP2 PKPab 01 42 18.3 -0.2
VRAC pmax pmax
comp=Z,17nm,0.9s
VRAC Vranov 149.56 346 P PKPbc 01 42 14.1 +0.7
ANTO Ankara 149.57 316 ⇑*i*P PKPbc 01 42 14.0 +0.7
ANTO Ankara 149.57 316 P PKPbc 01 42 14.3 +0.9
SGKT Sivrigoynuk 149.65 318 *i* P PKPbc 01 42 13.9 +0.3
MLR Muntele Rosu 149.66 331 ⇑*i*P PKPbc 01 42 13.4 -0.2
MLR Muntele Rosu 149.66 331 P PKPbc 01 42 13.7 +0.1
MANZ Manzenberg 149.72 352 *e*PKPbc PKPbc 01 42 14.5 +0.8
VYHS Vyhne 149.74 343 *i* PKP PKPbc 01 42 14.1 +0.3
VYHS *e* 01 42 20.1
TNS Taunus Mts 149.83 357 *e*PKPbc PKPbc 01 42 14.1 +0.1
ROTZ Rotzenmuhle 149.92 352 *e*PKPbc PKPbc 01 42 14.5 +0.3
PSZ Piszkesteto 149.95 341 ⇑*i*P PKPbc 01 42 14.2 -0.1
PSZ Piszkesteto 149.95 341 P PKPbc 01 42 14.4 +0.1
PSZ Piszkesteto 149.95 341 *e*PKP PKPbc 01 42 14.6 +0.3
DRGR 149.96 336 ⇓*i*P PKPbc 01 42 15.0 +0.7
DRGR 149.96 336 P PKPbc 01 42 14.0 -0.3
SNX Sinaia 149.96 332 ⇓*i*P PKPbc 01 42 15.4 +1.1
SNX Sinaia 149.96 332 ⇓P PKPbc 01 42 15.4 +1.1
GIVF Givet 150.02 1 *e*PKP1 PKPbc 01 42 13.9 -0.6
comp=Z,65nm,1.0s
DOU Dourbes 150.02 2 PKiKP PKiKP 01 42 14.4 -0.9
DOU APKiKP 01 42 34.8
BAIF Baives 150.05 2 *e*PKP1 PKPbc 01 42 14.1 -0.4
comp=Z,71nm,1.1s
SMOL Smolenice 150.10 344 *i* PKP PKPbc 01 42 15.5 +0.9
VOIR 150.10 332 ⇓*i*P PKPbc 01 42 15.4 +0.7
VOIR 150.10 332 ⇓P PKPbc 01 42 15.3 +0.7
GRF Grafenberg Arr 150.12 353 *e*PKPbc PKPbc 01 42 15.1 +0.4
GRFO Grafenberg 150.12 353 *e*PKHKP PKPbc 01 42 14.8 +0.1
BHL Bhannes 150.14 304 *e*P PKPbc 01 42 15.6 +0.9
MTUR Matau 150.26 332 ⇓*i*P PKPbc 01 42 16.4 +1.4
MTUR Matau 150.26 332 ⇓P PKPbc 01 42 16.4 +1.3
KHC Kasperske Hory 150.33 350 ⇑*e*PKP PKPbc 01 42 15.4 +0.2
KHC *e*PKPAB PKPab 01 42 21.9 +0.2
KHC *ep*PKP pPKPdf 01 42 36.0 +5.2
KHC Kasperske Hory 150.33 350 *e*PKHKP PKPbc 01 42 15.4 +0.2
KHC *e* 01 42 21.9
WLF Walferdange 150.47 359 *e*PKPbc PKPbc 01 42 16.1 +0.6
WLF Walferdange 150.47 359 PKiKP PKiKP 01 42 16.2 -0.1
WLF APKiKP 01 42 38.0
WLF Walferdange 150.47 359 *e*PKPbc PKPbc 01 42 16.0 +0.5
ZST Bratislava 150.48 345 *i* PKP PKPbc 01 42 16.4 +0.9
GEC2 GERESS Array S 150.59 349 *e*PKPbc PKPbc 01 42 15.9 +0.1
GERES GERESS Array B 150.59 349 PKP PKPdf 01 42 10.4 +0.1
comp=Z,0.9nm,0.8s,baz=48,slow=2.0,SNR=6.1
GERES PKPbc PKPbc 01 42 15.7 -0.1
comp=Z,11nm,0.8s,baz=45,slow=2.1,SNR=73
GERES GERESS Array B 150.59 349 PKIKP PKPdf 01 42 10.4 +0.1
GERES 01 42 15.7
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,11nm,0.8s
BUD Budapest 150.60 342 *e*PKP PKPbc 01 42 16.0 +0.2
KDHN Kadinhani 150.73 315 *i* P PKPbc 01 42 16.1 0.0
ROSF Rostrenen 150.87 12 *e*PKP1 PKPbc 01 42 15.0 -1.5
FLN La Froliere 150.93 9 *e*PKP1 PKPbc 01 42 15.6 -1.0
comp=Z,41nm,0.9s
FLN *eR* 01 42 23.0
comp=Z,199nm,19.5s
FLN La Froliere 150.93 9 *e*PKP PKPbc 01 42 15.6 -1.0
FLN LR LR
comp=Z,200nm,19.5s
ESKT Eskisehir 151.01 317 *i* P PKPbc 01 42 16.7 -0.1
CONA Conrad Observa 151.03 346 ⇑*i*PKiKP PKiKP 01 42 17.4 0.0
comp=Z,19nm,0.8s,SNR=23
BORA Eskisehir 151.05 318 *i* P PKPbc 01 42 17.0 +0.1
SGMF Saint Gilles 151.09 12 *e*PKP1 PKPbc 01 42 15.8 -1.2
comp=Z,33nm,0.9s
SOP Sopron 151.09 345 *e*PKP PKPbc 01 42 17.5 +0.5
GZR Gura Zlata 151.09 335 ⇑*i*P PKPbc 01 42 17.0 0.0
GZR Gura Zlata 151.09 335 P PKPdf 01 42 17.2 +6.1
LDF La Druitiere 151.15 8 *e*PKP1 PKPbc 01 42 16.0 -1.1
comp=Z,38nm,1.1s
STU Stuttgart 151.23 355 *e*PKPbc PKPbc 01 42 17.5 +0.2
STU Stuttgart 151.23 355 *e*PKPbc PKPbc 01 42 17.7 +0.4
GRR Gorron 151.24 9 *e*PKP1 PKPbc 01 42 16.4 -0.9
comp=Z,41nm,0.8s
ZIMR 151.33 330 ⇑*i*P PKPbc 01 42 18.1 +0.6
BZS Buzias 151.36 336 ⇑*i*P PKPbc 01 42 17.6 0.0
BZS Buzias 151.36 336 P PKPbc 01 42 18.0 +0.4
MOA Molln 151.44 348 ⇑*i*P PKPbc 01 42 17.7 0.0
comp=Z,9.6nm,0.6s,SNR=12
CSS Prodhromos 151.52 307 *e*PKPbc PKPbc 01 42 18.0 0.0
FUR Furstenfeldbru 151.62 352 *e*PKPbc PKPbc 01 42 18.3 +0.1
MEZF Maizieres J'vi 151.62 1 *e*PKP1 PKPbc 01 42 17.8 -0.4
comp=Z,53nm,1.0s
CDF Champ du Feu 151.69 358 *e*PKP1 PKPbc 01 42 17.8 -0.6
comp=Z,41nm,1.0s
ULDT Uludag 151.70 320 *i* P PKPbc 01 42 18.7 +0.3
BFO Black Forest 151.73 356 *e*PKPbc PKPbc 01 42 18.2 -0.3
ARSA Arzberg 151.74 346 ⇑*i*P PKPbc 01 42 19.0 +0.5
comp=Z,7.0nm,0.8s
PKSM Moragy 151.86 341 ⇑*i*P PKPbc 01 42 18.5 -0.3
PKSM Moragy 151.86 341 P PKPbc 01 42 19.1 +0.3
HAU Haudompre 152.12 359 *e*PKP1 PKPbc 01 42 18.7 -0.7
comp=Z,26nm,0.7s
HAU *eR* 01 42 23.0
comp=Z,197nm,17.2s
HAU Haudompre 152.12 359 *e*PKP PKPbc 01 42 18.7 -0.7
HAU LR LR
comp=Z,200nm,17.3s
TKTP Tekketepe 152.18 315 *i* P PKPbc 01 42 18.9 -0.6
HINF Hinteralfeld 152.30 358 *e*PKP1 PKPbc 01 42 18.9 -0.9
comp=Z,9.7nm,0.6s
KBA Koelnbreinsper 152.35 349 ⇑*i*P PKPbc 01 42 19.4 -0.5
comp=Z,8.7nm,0.6s,SNR=9.7
WATA Walderalm 152.39 351 ⇓*i*P PKPbc 01 42 20.0 +0.1
comp=Z,12nm,0.5s
PERS Pernice 152.41 346 *i* PKPdf PKPdf 01 42 14.3 +1.2
PERS *e*PKPbc PKPbc 01 42 19.6 -0.4
MOTA Moosalm 152.44 352 ⇓*i*P PKPbc 01 42 20.1 +0.1
comp=Z,10.0nm,0.7s
WTTA Wattenberg 152.45 351 ⇑*i*P PKPbc 01 42 20.3 +0.3
comp=Z,29nm,0.5s,SNR=26
SQTA Sankt Quirin 152.55 352 ⇑*i*P PKPbc 01 42 20.5 +0.2
comp=Z,13nm,0.7s
SVIS Svilajnac 152.62 335 *i* P PKPbc 01 42 17.6 -2.9
DAVA Damuels 152.64 354 ⇑*i*P PKPbc 01 42 21.1 +0.6
comp=Z,23nm,1.0s
OBKA Obir 152.66 347 ⇑*i*P 01 42 19.9 -0.7
comp=Z,5.7nm,0.7s
HYF Humbligny 152.75 5 *e*PKP1 PKPbc 01 42 20.5 -0.2
LOR Lormes 152.82 3 *e*PKP1 PKPbc 01 42 20.3 -0.6
comp=Z,47nm,1.1s
LOR *eR* 01 42 23.0
comp=Z,196nm,17.0s
LOR Lormes 152.82 3 *e*PKP PKPbc 01 42 20.3 -0.6
LOR LR LR
comp=Z,200nm,17.0s
SSF Saint Saulge 153.01 3 *e*PKP1 PKPbc 01 42 20.8 -0.5
comp=Z,24nm,0.9s
DAVOS Davos 153.09 354 PKIKP PKPbc 01 42 21.9 +0.4
DAVOX Davos 153.14 354 PKPbc PKPbc 01 42 21.9 +0.3
comp=Z,10nm,0.5s,baz=318,slow=12,SNR=26
DAVOX Davos 153.14 354 PKPbc PKPbc 01 42 21.9 +0.3
VTS Vitosha 153.16 331 ⇑*i*P PKPbc 01 42 21.0 -0.6
VTS Vitosha 153.16 331 P PKPbc 01 42 22.1 +0.4
GRUS Gruza 153.16 336 *i* P PKPbc 01 42 21.3 -0.4
DIVS Divcibare 153.26 337 *i* P PKPbc 01 42 21.7 -0.1
VISS Visnje 153.26 346 *i* PKPbc PKPbc 01 42 21.8 -0.1
AVF Avril sur Loir 153.27 4 *e*PKP1 PKPbc 01 42 20.7 -1.2
SMF Signal de Mont 153.44 3 *e*PKP1 PKPbc 01 42 21.4 -0.9
BOJS Bojanci 153.45 345 *i* PKPdf PKPdf 01 42 14.5 -0.1
BOJS *i* PKPbc PKPbc 01 42 22.3 0.0
BGF Bois d'Agland 153.47 5 *e*PKP1 PKPbc 01 42 21.7 -0.6
comp=Z,20nm,0.8s
CABF La Chapelle 153.52 360 *e*PKP1 PKPbc 01 42 22.4 0.0
comp=Z,39nm,1.1s
TCF Toulx Ste Croi 153.68 6 *e*PKP1 PKPbc 01 42 21.9 -0.9
comp=Z,6.9nm,0.8s
RJF Les Rejaudoux 154.59 7 *e*PKP1 PKPbc 01 42 23.8 -0.9
RJF *eR* 01 42 23.0
comp=Z,254nm,17.2s
RJF Les Rejaudoux 154.59 7 *e*PKP PKPbc 01 42 23.8 -0.9
RJF LR LR
comp=Z,250nm,17.3s
LPL La Plagne 154.60 358 *e*PKP1 PKPbc 01 42 25.0 +0.2
comp=Z,14nm,1.1s
LPG La Plagne 154.62 358 *e*PKP1 PKPbc 01 42 24.3 -0.5
BNI Bardonecchia 155.07 358 *e*PKIKP PKPdf 01 42 27.9 +11
ORIF Oris-en-Rattie 155.22 360 *e*PKP1 PKPdf 01 42 25.7 +8.6
comp=Z,23nm,1.3s
ORIF *eR* 01 42 23.0
comp=Z,238nm,21.0s
MBDF Montbardon 155.39 358 *e*PKP1 PKPdf 01 42 25.4 +8.1
comp=Z,12nm,0.9s
APE Apeiranthos 155.82 319 ⇑*i*P PKPab 01 42 44.4 -0.5
SANT Santorini 156.30 317 *e*PKPab PKPab 01 42 46.1 -0.8
IDI Anoyia 157.33 316 PKPab PKPab 01 42 51.2 -0.2
comp=Z,16nm,0.8s,baz=159,slow=6.3,SNR=18
TORD Torodi Ar. Bea 172.09 150 PKP PKPdf 01 42 32.6 0.0
comp=Z,1.1nm,0.9s,baz=225,slow=0.2,SNR=5.1
TORD PKPab PKPab 01 44 01.3 +5.1
comp=Z,1.2nm,0.8s,baz=204,slow=4.9,SNR=4.3
TORD PP PP 01 47 51.9 +4.5
comp=Z,1.2nm,1.1s,baz=158,slow=4.7,SNR=2.6

STR **18** *01:38:57.2±0.1, 43.02°N±0.02°W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 01:38:57.3±0.1, 4301m N-001m W, h3km, Md2.0/2, Ml1.7/4, Error ellipse: s-maj=1.7km s-min=1.1km az=147.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**56**	Pg	Pg	01 38 59.0	+0.3
LABF				Sg	Sg	01 39 00.2	+0.5
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	01 39 00.0	+0.2
VIEF				Sg	Sg	01 39 02.2	+0.7
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	01 39 02.0	-0.2
EPF				*e*Sg	Sg	01 39 06.0	+0.5
	14nm,0.2s						
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	01 39 05.5	+0.1
ETSF				*e*Sg	Sg	01 39 11.0	+0.2
	11nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	*e*Sg	Sg	01 39 25.9	-0.3
	1.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	01 39 28.4	-0.7
MTLF				*e*Sg	Sg	01 39 49.4	-1.2
	1.7nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	01 39 42.3	-1.6
CAF				*e*Sg	Sg	01 40 13.5	-1.9
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	01 39 44.5	-1.6
RJF				*e*Sg	Sg	01 40 18.0	-1.0
	0.6nm,0.2s						

ISCJB **18** *01:57:24.9±0.9, 469N±0.1×1556E±0.2, h10km, mb4.0/13, MS3.9/2, Error ellipse: s-maj=21.1km s-min=17.0km az=49.0*

IDC **18** *01:57:25.1±1.1, 4683N×15558E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/23, mbtmp3.7/10, ML4.1/1, MS3.8/2, Ms1 3.8/2, ms1mx2.6/37, Error ellipse: s-maj=27.8km s-min=24.4km az=94.0*

NEIC **18** *01:57:27.1±0.8, 4686N×15543E, h10km, mb4.9/4, Error ellipse: s-maj=19.6km s-min=16.7km az=97.0*

MOS **18** *01:57:28.6±2.0, 4706N×15542E, h33km, mb4.6/2, Error ellipse: s-maj=26.5km s-min=16.1km az=94.0*

ISC 18 01:57:26.7±0.9, 469N±01×1555E±02, h10km, n17, σ1§06/17, mb4.0/13, MS3.9/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.80**	**6**	*e*PN	**Pn**	**01 58 20.4**	**-4.9**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MJAR	**Matsushiro Arr**	**16.53**	**237**	Pn	**Pn**	**02 01 18.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=33,slow=14,SNR=3.3						
KSRS	**Korea Array**	**22.44**	**255**	P	**P**	**02 02 27.5**	**+1.9**
	comp=Z,1.7nm,0.7s,mb3.6,baz=58,slow=12,SNR=4.2						
BJT	**Baijiatuan**	**29.16**	**271**	*e*P	**P**	**02 03 18.8**	**-9.1**
	comp=Z,28nm,0.3s,mb5.5						
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**02 03 58.9**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=46,slow=8.4,SNR=3.2						
ZAL	**Zalesovo**	**43.88**	**306**	P	**P**	**02 05 33.1**	**-0.2**
	comp=Z,0.9nm,0.3s,mb4.0,baz=138,slow=5.2,SNR=3.3						
ZAL				LR	LR	02 25 07.4	
	comp=Z,79nm,18.9s,MS3.6,baz=22,slow=38						
MKAR	**Makanchi Array**	**48.34**	**298**	P	**P**	**02 06 08.6**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=55,slow=6.4,SNR=4.1						
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**02 06 31.7**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P	**P**	**02 06 31.7**	**-1.4**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**02 06 41.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**52.80**	**311**	*e*P	**P**	**02 06 41.7**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**64.60**	**336**	P	**P**	**02 08 04.1**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=30,slow=8.8,SNR=5.9						
FINES				LR	LR	02 39 50.5	
	comp=Z,113nm,19.5s,MS4.1,baz=9.1,slow=39						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**02 08 32.9**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=20,slow=6.7,SNR=6.2						
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**02 08 55.8**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=18,slow=5.4,SNR=6.4						
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**02 09 13.7**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=299,slow=4.3,SNR=4.0						
GERES	**GERESS Array B**	**79.03**	**335**	P	**P**	**02 09 33.3**	**+2.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=26,slow=4.6,SNR=3.9						
SANT	**Santorini**	**85.79**	**322**	*e*P	**P**	**02 10 07.5**	**+1.3**
	comp=Z,26nm,1.1s,mb5.4						

ISCJB **18** *01:59:04.9±0.6, 1823N±008×8185W±007, h10km, mb4.1/8, MS3.5/2, Error ellipse: s-maj=11.7km s-min=9.1km az=55.9*

IDC **18** *01:59:05.2±1.2, 1827N×8181W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.8/19, mbtmp3.9/5, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=37.4km s-min=27.9km az=56.0*

NEIC **18** *01:59:06.5±0.6, 1818N×8189W, h10km, mb4.4/6, Error ellipse: s-maj=14.4km s-min=10.0km az=215.0*

SSNC **18** *01:59:10.6, 1887N×8201W, h30km, MD4.1, ML4.0*

ISC 18 01:59:07.0±0.6, 1826N±008×8185W±007, h10km, n21, σ1§19/17, mb4.1/8, MS3.5/2, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGV	**Manicaragua**	**4.22**	**24**	*e*P	**Pn**	**02 00 08.2**	**-3.2**
	baz=213						
MGV				*e*S	**Sn**	**02 00 50.1**	**-11**
	comp=N,107nm,0.4s						
MGV				*e*			
	comp=E,155nm,0.4s						
CCCC	**Cccc**	**4.83**	**52**	*e*P	**Pn**	**02 00 20.9**	**+1.1**
TEIG	**Tepich**	**6.38**	**289**	*e*Pn	**Pn**	**02 00 39.1**	**-2.0**
	comp=E,25nm,0.5s						
TGUH	**Tegucigalpa,Un**	**6.68**	**232**	*e*Pn	**Pn**	**02 00 41.2**	**-4.0**
JTS	**JuntasÁbangare**	**8.47**	**201**	Pn	**Pn**	**02 01 10.2**	**+0.4**
	comp=E,0.4nm,0.3s,baz=346,slow=17,SNR=3.2						
SDV	**Santo Domingo**	**14.33**	**129**	Pn	**Pn**	**02 02 30.4**	**+0.5**
	comp=E,0.5nm,0.3s,baz=286,slow=6.6,SNR=3.6						
SDV				LR	LR	02 07 44.4	
	comp=E,90nm,22.0s,baz=318,slow=36						
CPD	**Cerro la Pandu**	**15.14**	**88**	*e*Pn	**Pn**	**02 02 40.3**	**-0.7**
OTAV	**Otavalo**	**18.21**	**169**	*e*Pn	**Pn**	**02 03 14.0**	**-5.9**
	comp=E,9.4nm,1.3s						
PCRV	**Puerto La Cruz**	**18.50**	**113**	LR	LR	02 11 00.1	
	comp=E,96nm,20.0s,baz=274,slow=39						
LTX	**Lajitas**	**22.77**	**303**	*e*P	**P**	**02 04 11.7**	**+2.2**
	comp=E,7.8nm,1.2s,mb4.0						
TXAR	**Lajitas Array**	**22.77**	**303**	P	**P**	**02 04 10.8**	**+1.3**
	comp=E,2.4nm,0.8s,mb3.7,baz=119,slow=8.7,SNR=25						
AMTX	**Amarillo**	**24.19**	**317**	*e*P	**P**	**02 04 22.8**	**-0.8**
	comp=E,22nm,1.1s,mb4.5						
LPIG	**La Paz**	**27.14**	**287**	LR	LR	02 19 18.5	
	comp=E,91nm,18.1s,MS3.4,baz=115,slow=45						
SDCO	**Great Sand Dun**	**28.38**	**318**	*e*P	**P**	**02 05 02.5**	**+1.1**
	comp=E,16nm,1.7s,mb4.4						
SAML	**Samuel**	**32.71**	**144**	*e*P	**P**	**02 05 39.2**	**-0.4**
	comp=E,3.9nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**33.88**	**322**	P	**P**	**02 05 49.8**	**-0.1**
	comp=E,2.2nm,0.9s,mb4.1,baz=128,slow=10,SNR=19						
REDW	**Red Top Meadow**	**35.00**	**322**	*e*P	**P**	**02 05 59.4**	**-0.1**
	comp=E,9.6nm,1.1s,mb4.6						
SCHQ	**Schefferville**	**38.28**	**14**	LR	LR	02 22 05.6	
	comp=E,122nm,20.2s,MS3.7,baz=278,slow=36						
GERES	**GERESS Array B**	**80.03**	**42**	P	**P**	**02 11 16.4**	**-0.3**
	comp=E,0.1nm,0.3s,mb3.2,baz=277,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**145.81**	**261**	PKPbc	PKPbc	02 18 46.0	-0.4
	comp=E,1.2nm,0.7s,baz=82,slow=3.9,SNR=9.8						
ASAR	**Alice Springs**	**146.25**	**255**	PKPbc	PKPbc	02 18 47.6	-0.1
	comp=E,1.8nm,0.9s,baz=102,slow=3.4,SNR=10						

STR **18** *01:59:42.0±0.0, 4302N×002W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 01:59:41.8±0.1, 4302N-001W, h4km, Md1.8/2, Ml1.7/1, Error ellipse: s-maj=1.7km s-min=1.0km az=152.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**62**	Pg	Pg	01 59 43.7	+0.4
LABF				Sg	Sg	01 59 45.0	+0.7
VIEF	**Viey**	**0.13**	**169**	Pg	Pg	01 59 44.8	+0.4
VIEF				Sg

LTZ	**Lake Taylor**	**1.47**	**195**	⇑PN	Pn	02 01 31.1	0.0
BHW	**Baring Head**	**1.57**	**92**	PN	Pn	02 01 31.4	-0.8
BHW				SN	Sn	02 01 52.6	-1.7
KIW	**Kapiti Island**	**1.68**	**73**	PN	Pn	02 01 33.0	-0.5
CAW	**Cannon Point**	**1.74**	**82**	PN	Pn	02 01 42.8	+8.6
CAW				SN	Sn	02 02 05.7	+7.9
MSWZ	**Moikau Station**	**1.85**	**92**	PN	Pn	02 01 34.7	-0.8
MTW	**Mount Morrison**	**2.06**	**85**	PN	Pn	02 01 36.7	-1.3
MRZ	**Mangatainoka R**	**2.23**	**73**	PN	Pn	02 01 38.7	-1.5
WVZ	**Waitaha Valley**	**2.29**	**221**	*e*PN	Pn	02 01 40.0	-0.9
MQZ	**McQueen's Vall**	**2.34**	**182**	PN	Pn	02 01 40.4	-1.2
VRZ	**Vera Road**	**2.70**	**35**	PN	Pn	02 01 46.2	+0.1
BFZ	**Birch Farm**	**2.70**	**77**	PN	Pn	02 01 44.3	-1.8
TSZ	**Takapari Road**	**2.74**	**63**	PN	Pn	02 01 45.0	-1.6
WPHZ	**Waipukurau**	**3.06**	**66**	SN	Sn	02 02 25.7	-1.7
FOZ	**Fox Glacier**	**3.18**	**225**	PN	Pn	02 01 49.6	-2.6
HIZ	**Hauiti**	**3.26**	**30**	PN	Pn	02 01 52.9	-0.4
LBZ	**Lake Benmore**	**3.58**	**211**	PN	Pn	02 01 55.9	-1.6
ODZ	**Otahua Downs**	**4.00**	**202**	PN	Pn	02 02 01.7	-1.4
JCZ	**Jackson Bay**	**4.02**	**226**	PN	Pn	02 02 01.7	-1.7
WKZ	**Wanaka**	**4.43**	**217**	PN	Pn	02 02 06.0	-2.7
EAZ	**Earnscleugh**	**4.63**	**212**	SN	Sn	02 02 58.6	-5.7

IDC ***18*** *02:06:20.5±1.9, 0.18N×9765E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=58.3km s-min=20.5km az=63.0*

ISCJB ***18*** *02:06:23.7±1.2, 0.03N×0.01×977E±02, h35km, mb3.9/7, Error ellipse: s-maj=27.2km s-min=16.3km az=151.3*

NEIC ***18*** *02:06:24.9±0.9, 0.22N×9769E, h30km, mb3.9/1, Error ellipse: s-maj=22.1km s-min=13.0km az=74.0*

ISC 18 02:06:26.1±1.2, 0.3N±0.1×977E±02, h35km, n9, σ0.59/9, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.76**	**25**	**Pn**	**Pn**	**02 07 07.3**	**-0.5**
	2.2nm,0.3s,baz=189,slow=4.9,SNR=10						
KULM	**Kulim**	**5.75**	**30**	*e*P	**Pn**	**02 07 49.2**	**+0.3**
WRA	**Warramunga Arr**	**41.11**	**121**	P	**P**	**02 14 05.8**	**-0.8**
	1.0nm,0.7s,mb3.6,baz=302,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**42.43**	**127**	P	**P**	**02 14 18.1**	**+0.7**
	1.0nm,0.8s,mb3.5,baz=295,slow=7.9,SNR=11						
KSRS	**Korea Array**	**46.29**	**34**	P	**P**	**02 14 48.1**	**-0.1**
	0.8nm,0.5s,mb3.9,baz=218,slow=8.8,SNR=4.5						
SONM	**Songino Array**	**47.94**	**8**	P	**P**	**02 15 02.1**	**+1.0**
	0.9nm,0.5s,mb4.1,baz=191,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**48.24**	**346**	P	**P**	**02 15 03.9**	**+0.4**
	1.1nm,0.7s,mb4.0,baz=158,slow=8.7,SNR=9.3						
ZAL	**Zalesovo**	**54.52**	**351**	P	**P**	**02 15 50.2**	**-0.3**
	2.3nm,0.4s,mb4.5,baz=344,slow=4.2,SNR=5.4						
CHKZ	**Chkalovo**	**57.75**	**341**	*e*P	**P**	**02 16 12.7**	**-0.8**
	0.9nm,0.7s,mb3.9						

STR ***18*** *02:07:54.6±0.0, 4302N×002W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 02:07:54.4±0.1, 4301N×000W, h7km, Md1.4/2, Ml1.6/1, Error ellipse: s-maj=3.6km s-min=1.7km az=158.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**59**	Pg	Pg	02 07 56.3	+0.2
LABF				Sg	Sg	02 07 57.5	+0.1
VIEF	**Viey**	**0.13**	**171**	Pg	Pg	02 07 57.4	+0.2
VIEF				Sg	Sg	02 07 59.5	+0.4
EPF	**Esparros**	**0.25**	**86**	*e*Pg	Pg	02 07 59.3	-0.1
EPF				*e*Sg	Sg	02 08 03.0	+0.2
	3.5nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	02 08 02.7	+0.1
ETSF				*e*Sg	Sg	02 08 08.4	+0.2
	1.6nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pn	Pn	02 08 22.0	-1.9
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	02 08 25.7	-0.5
MTLF				*e*Sg	Sg	02 08 46.8	-0.9
	0.9nm,0.3s						

STR ***18*** *02:09:46.9±0.1, 4302N×002W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 02:09:46.9±0.1, 4301N×000W, h3km, Md2.1/2, Ml1.8/4, Error ellipse: s-maj=1.7km s-min=1.2km az=131.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**53**	Pg	Pg	02 09 48.6	+0.2
LABF				Sg	Sg	02 09 49.9	+0.6
VIEF	**Viey**	**0.12**	**171**	Pg	Pg	02 09 49.8	+0.5
VIEF				Sg	Sg	02 09 51.8	+0.9
EPF	**Esparros**	**0.25**	**84**	*e*Pg	Pg	02 09 51.6	-0.2
EPF				*e*Sg	Sg	02 09 55.7	+0.6
	16nm,0.2s						
ETSF	**Etsaut**	**0.42**	**256**	*e*Pg	Pg	02 09 55.0	0.0
ETSF				*e*Sg	Sg	02 10 00.7	+0.2
	10nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	02 10 18.0	-0.7
MTLF				*e*Sg	Sg	02 10 39.2	-1.0
	1.2nm,0.2s						
LFF	**La Frestale**	**2.01**	**15**	*e*Pg	Pg	02 10 24.1	-1.3
LFF				*e*Sg	Sg	02 10 50.7	-0.7
	1.3nm,0.3s						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	02 10 32.0	-1.5
CAF				*e*Sg	Sg	02 11 03.2	-1.9
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Pg	Pg	02 10 34.3	-1.4
RJF				*e*Sg	Sg	02 11 07.3	-1.4
	0.9nm,0.2s						

ISCJB ***18*** *02:14:12.7±0.3, 4310N±002×004E±002, h13km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=124.5*

STR ***18*** *02:14:14.0±0.1, 4301N×000E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***18*** *02:14:14.1±0.1, 4301N×000W, h10km, Md2.3/2, Ml2.3/9, Error ellipse: s-maj=1.6km s-min=1.1km az=170.0*

MDD ***18*** *02:14:14.6±0.2, 4301N×000E, h6km±3km, mbLg1.7/16, Error ellipse: s-maj=1.8km s-min=1.4km az=34.0, PRXIMO*

ISC 18 02:14:13.8±0.3, 4306N±002×002E±002, h11km±3km, n47, σ0.84/62, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**107**	Pg	**Pg**	**02 14 16.1**	**+0.3**
LABF				Sg	**Sg**	**02 14 17.4**	**+0.1**
LABF	**Labassere**	**0.04**	**107**	Pg	**Pg**	**02 14 16.2**	**+0.4**
LABF				Lg		02 14 17.5	
VIEF	**Viey**	**0.18**	**179**	Pg	**Pg**	**02 14 17.3**	**-0.3**
VIEF				Sg	**Sg**	**02 14 19.3**	**-1.0**
VIEF	**Viey**	**0.18**	**179**	Pg	**Pg**	**02 14 17.3**	**-0.3**
VIEF				Lg		02 14 19.4	
EPF	**Esparros**	**0.24**	**97**	*e*Pg	**Pg**	**02 14 19.0**	**+0.3**
EPF				*e*Sg	**Sg**	**02 14 23.1**	**+1.1**
	52nm,0.2s						
EPF	**Esparros**	**0.24**	**97**	Pg	**Pg**	**02 14 19.0**	**+0.3**
EPF				Lg		02 14 23.1	
	26nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**272**	Pg	**Pg**	**02 14 19.8**	**0.0**
REYF				Sg	**Sg**	**02 14 24.2**	**+0.3**
REYF	**Montagne du Re**	**0.30**	**272**	Pg	**Pg**	**02 14 19.8**	**-0.1**
REYF				Lg		02 14 24.2	
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**02 14 20.6**	**0.0**
RESF				Sg	**Sg**	**02 14 25.3**	**0.0**
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**02 14 20.6**	**0.0**
RESF				Lg		02 14 25.3	
EBIE	**Bielsa**	**0.39**	**166**	⇑Pg	**Pg**	**02 14 21.0**	**-0.3**
	16nm,0.3s,SNR=18						
EBIE				Lg		02 14 25.7	
	16nm,0.1s,SNR=51						
ETSF	**Etsaut**	**0.45**	**249**	*e*Pg	**Pg**	**02 14 22.5**	**-0.2**
ETSF				*e*Sg	**Sg**	**02 14 28.0**	**-0.7**
	22nm,0.2s						
ETSF	**Etsaut**	**0.45**	**249**	Pg	**Pg**	**02 14 22.5**	**-0.2**
ETSF				Lg		02 14 28.0	
	11nm,0.2s						
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**02 14 24.1**	**+0.1**
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**02 14 24.1**	**0.0**
ATE				Lg		02 14 31.3	
MELF	**Melles**	**0.57**	**109**	Pg	**Pg**	**02 14 25.2**	**+0.3**
MELF				Sg	**Sg**	**02 14 32.9**	**+0.4**
MELF	**Melles**	**0.57**	**109**	Pg	**Pg**	**02 14 25.0**	**+0.1**
MELF				Lg		02 14 32.7	
SALF	**Salau**	**0.91**	**109**	Pg	**Pg**	**02 14 32.4**	**+1.1**
SALF	**Salau**	**0.91**	**109**	Pg	**Pg**	**02 14 31.4**	**0.0**
SALF				Lg		02 14 43.5	
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**02 14 31.1**	**-0.3**
SJPF				*e*Sg	**Sg**	**02 14 43.4**	**+0.2**
	2.9nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**274**	Pg	**Pg**	**02 14 31.1**	**-0.3**
SJPF				Lg		02 14 43.4	
	1.4nm,0.2s						
IPRE	**Itoiz**	**1.04**	**256**	Pg	**Pg**	**02 14 33.2**	**-0.6**
	SNR=7.9						
IPRE				Lg		02 14 47.5	
	0.5nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.13**	**279**	Lg		02 14 51.2	
	3.8nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**1.14**	**276**	Pg	**Pg**	**02 14 37.0**	**+1.4**
	3.7nm,0.4s,SNR=7.6						
ELIZ				Lg		02 14 51.6	
	1.0nm,0.1s,SNR=5.0						
IUSE	**Utxeti**	**1.16**	**265**	Pg	**Pg**	**02 14 38.5**	**+2.6**
	0.7nm,0.1s,SNR=4.0						
IUSE				Lg		02 14 51.8	
	0.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.39**	**195**	Pg	**Pg**	**02 14 40.7**	**+0.3**
	22nm,0.2s,SNR=13						
ESAC				Lg		02 14 58.5	
	8.9nm,0.1s,SNR=9.2						
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**02 14 44.8**	**+0.4**
	3.9nm,0.3s,SNR=10						
EMIR				Lg		02 15 04.9	
	3.8nm,0.1s						
MTLF	**Montolieu**	**1.63**	**79**	*e*Pg	**Pg**	**02 14 45.1**	**0.0**
MTLF				*e*Sg	**Sg**	**02 15 06.2**	**-0.1**
	4.6nm,0.2s						
MTLF	**Montolieu**	**1.63**	**79**	Pg	**Pg**	**02 14 45.1**	**0.0**
MTLF				Lg		02 15 06.2	
	2.3nm,0.2s						
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**02 14 48.5**	**-1.3**
	2.5nm,0.5s,SNR=7.3						
EPOB				Sn	**Sn**	**02 15 09.6**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		02 15 12.9	
	2.5nm,0.2s						
LFF	**La Frestale**	**1.95**	**15**	*e*Pg	**Pg**	**02 14 51.5**	**+0.3**
LFF				*e*Sg	**Sg**	**02 15 18.6**	**+2.2**
	3.9nm,0.2s						
LFF	**La Frestale**	**1.95**	**15**	Pg	**Pg**	**02 14 51.5**	**+0.3**
LFF				Lg		02 15 18.6	
	1.9nm,0.2s						
ERTA	**Horta de San J**	**2.12**	**174**	Pg	**Pg**	**02 14 52.8**	**-1.6**
	0.4nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**02 15 15.9**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		02 15 20.2	
	1.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.20**	**105**	Lg		02 15 25.0	
	0.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.38**	**38**	*e*Pn	**Pn**	**02 14 52.0**	**-0.7**
CAF	**Calviac**	**2.38**	**38**	*e*Pg	**Pg**	**02 14 59.4**	**0.0**
CAF				*e*Sg	**Sg**	**02 15 30.2**	**0.0**
	2.8nm,0.2s						
CAF	**Calviac**	**2.38**	**38**	Pn	**Pn**	**02 14 52.0**	**-0.7**
CAF				Pg	**Pg**	**02 14 59.4**	**0.0**
CAF				Lg		02 15 30.2	
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg	**Pg**	**02 15 01.9**	**+0.4**
RJF				*e*Sg	**Sg**	**02 15 34.2**	**+0.5**
	3.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.49**	**25**	Pg	**Pg**	**02 15 01.9**	**+0.4**
RJF				Lg		02 15 34.2	
	1.6nm,0.3s						
ETOR	**Torete**	**2.72**	**215**	Sn	**Sn**	**02 15 31.5**	**+1.2**
	SNR=7.9						
ETOR				Lg		02 15 40.4	
	2.5nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**2.97**	**69**	*e*Pn	**Pn**	**02 14 59.5**	**-1.3**
LASF	**Ste Croix**	**2.97**	**69**	*e*Pg	**Pg**	**02 15 11.2**	**+0.5**
LASF				*e*Sg	**Sg**	**02 15 48.6**	**-0.5**
	1.6nm,0.2s						
LASF	**Ste Croix**	**2.97**	**69**	Pn	**Pn**	**02 14 59.5**	**-1.3**
LASF				Pg	**Pg**	**02 15 11.2**	**+0.5**
LASF				Lg		02 15 48.6	
	0.8nm,0.2s						
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pg	**Pg**	**02 15 19.6**	**-2.1**
MFF				*e*Sg	**Sg**	**02 16 05.6**	**-2.0**
	2.5nm,0.3s						
MFF	**Saint Martin d**	**3.54**	**358**	Pg	**Pg**	**02 15 19.6**	**-2.1**
MFF				Lg		02 16 05.6	
	1.2nm,0.3s						
BGF	**Bois d'Agland**	**4.04**	**29**	*e*Sg	**Sg**	**02 16 22.9**	**-0.4**
	4.3nm,0.4s						
BGF	**Bois d'Agland**	**4.04**	**29**	Lg		02 16 22.9	
	2.2nm,0.4s						

CSEM ***18*** *02:17:03.0, 67.18N×2064E, h13km, ML2.8, Mining explosion. After UPP*

UPP ***18*** *02:17:03.0, 67.18N×2064E, h13km, ML2.8, Mining explosion.*

HEL 18 02:17:03.2±0.0, 6718N×2066E, h0km, ML1.1, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**212**	*i* P	Pg	02 17 04.4	-0.1
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	02 17 13.8	-0.7
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	02 17 17.4	-0.9
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	02 17 18.8	-1.0
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	02 17 19.7	-1.4
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	02 17 20.7	-1.1
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	02 17 21.3	-1.3
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	02 17 35.7	-0.3
KIF				*e*SG	Sg	02 18 00.8	-1.4
SGF	**Sodankyl**	**2.29**	**81**	*e*SG	Sg	02 18 13.3	-3.5

MAN 18 02:28:32.2, 1934N×12088E, h71km, mb2.3, ML3.9, MS5.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.04**	**194**	⇑*i* P	Pn	02 28 52.0	+0.7
CVP	**Callao Caves**	**1.86**	**151**	*e*P	Pn	02 29 03.0	+1.0

ISCJB ***18*** *02:29:57.7±1.5, 470N±02×1528E±03, h10km, mb3.9/9, Error ellipse: s-maj=35.5km s-min=15.8km az=103.1*

NEIC ***18*** *02:29:57.2±0.7, 4653N×15281E, h10km, mb3.9/3, Error ellipse: s-maj=21.2km s-min=17.9km az=46.0*

MOS ***18*** *02:29:59.0±1.6, 4676N×15309E, h33km, mb4.2/3, Error ellipse: s-maj=21.9km s-min=20.9km az=123.5*

IDC ***18*** *02:30:09.8±5.7, 4655N×15278E, h114km±50km, mb3.4/7, mb1 3.5/8, mb1mx3.3/23, mbtmp3.4/8, Error ellipse: s-maj=36.3km s-min=25.8km az=87.0*

ISC 18 02:29:57.7±1.2, 468N±02×1530E±02, h10km, n18, σ1.9±0.5/18, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**248**	*e*PN	**Pn**	**02 30 58.0**	**+0.1**
KUR				pmax	pmax		
	comp=Z,120nm,0.4s						
ASAJ	**Asahikawa**	**7.80**	**254**	P	**Pn**	**02 31 56.5**	**+5.2**
	comp=Z,1.0nm,0.3s,baz=93,slow=15,SNR=3.6						
ASAJ	**Asahikawa**	**7.80**	**254**	PN	**Pn**	**02 31 56.6**	**+5.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.75**	**252**	P	**P**	**02 34 40.7**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=53,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**02 38 27.7**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=72,slow=7.8,SNR=5.8						
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**02 38 27.7**	**-0.3**
CHKZ	**Chkalovo**	**50.36**	**310**	*e*P	**P**	**02 38 54.2**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8						
ZRNK	**Zerenda**	**51.55**	**310**	*e*P	**P**	**02 39 03.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.55**	**310**	*e*P	**P**	**02 39 03.5**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9						
AAK	**Ala-Archa**	**53.76**	**296**	*e*P	**P**	**02 39 20.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**53.76**	**296**	*e*P	**P**	**02 39 20.1**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**02 40 31.2**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=35,slow=4.7,SNR=7.4						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**02 40 31.2**	**0.0**
NB2	**NORSAR Subarra**	**68.17**	**341**	P	**P**	**02 40 58.1**	**0.0**
	comp=Z,5.0nm,1.1s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**02 40 58.4**	**+0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=6.4,SNR=2.7						
AKASG	**Malin Array Be**	**71.48**	**326**	P	**P**	**02 41 18.1**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=33,slow=6.3,SNR=4.9						
ASAR	**Alice Springs**	**72.23**	**198**	P	**P**	**02 41 20.3**	**-2.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=9.7,slow=5.0,SNR=7.5						
TXAR	**Lajitas Array**	**77.53**	**60**	P	**P**	**02 41 55.2**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=297,slow=5.5,SNR=4.1						

ISCJB ***18*** *02:32:34.1±0.9, 466N±02×1548E±02, h10km, mb3.8/11, Error ellipse: s-maj=25.2km s-min=19.8km az=157.1*

IDC ***18*** *02:32:34.2±1.0, 4649N×15481E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, Error ellipse: s-maj=29.5km s-min=23.6km az=166.0*

NEIC ***18*** *02:32:35.5±0.8, 4645N×15468E, h10km, mb4.1/2, Error ellipse: s-maj=23.5km s-min=17.9km az=197.0*

ISC 18 02:32:35.9±0.9, 466N±02×1548E±02, h10km, n12, σ0.89/12, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.84**	**255**	P	**P**	**02 37 30.2**	**+1.8**
	1.1nm,0.6s,mb3.5,baz=53,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**02 41 13.6**	**-1.5**
	0.7nm,0.7s,mb3.8,baz=69,slow=7.2,SNR=5.7						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**02 41 40.3**	**-0.5**
	2.1nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**02 41 44.0**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=29,slow=10,SNR=4.3						
ZRNK	**Zerenda**	**52.60**	**311**	*e*P	**P**	**02 41 49.4**	**-0.4**
	1.4nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**63.92**	**55**	P	**P**	**02 43 09.6**	**+0.6**
	0.3nm,0.6s,mb3.5,baz=354,slow=4.5,SNR=3.4						
FINES	**FINESS Array B**	**64.66**	**335**	P	**P**	**02 43 13.6**	**-0.2**
	2.3nm,0.9s,mb4.2,baz=35,slow=10,SNR=7.2						
FINES	**FINESS Array B**	**64.66**	**335**	P	**P**	**02 43 13.6**	**-0.3**
NOA	**NORSAR Array B**	**68.74**	**342**	P	**P**	**02 43 41.1**	**+1.3**
	1.3nm,0.8s,mb3.9,baz=185,slow=15,SNR=2.7						
HFS	**Hagfors**	**69.00**	**340**	P	**P**	**02 43 41.8**	**+0.4**
	2.4nm,0.9s,mb4.1,baz=54,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**72.43**	**200**	P	**P**	**02 44 01.5**	**-0.8**
	0.2nm,0.8s,mb3.1,baz=12,slow=4.8,SNR=5.2						
TXAR	**Lajitas Array**	**76.58**	**62**	P	**P**	**02 44 26.1**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=305,slow=4.0,SNR=6.4						

NIED ***18*** *02:35:00, 4700N×15550E, h32km, Mw5.1 Best double couple: M0 4.73000×10^16 NP1:φs320.00000°, δ82.00000°, λ170.00000°. NP2:φs52.00000°, δ80.00000°, λ8.00000°.*

IDC ***18*** *02:35:33.3±0.4, 4705N×15540E, h0km, mb4.9/27, mb1 5.0/29, mb1mx5.0/31, mbtmp4.9/29, ML4.5/2, MS4.4/22, Ms1 4.4/22, ms1mx4.1/43, Error ellipse: s-maj=14.1km s-min=11.8km az=144.0*

ISCJB ***18*** *02:35:33.4±0.1, 4688N±003×15547E±002, h13km, mb5.1/174, MS4.7/44, Error ellipse: s-maj=4.7km s-min=1.8km az=149.7*

SKHL ***18*** *02:35:34.0±0.5, 47.12N×15558E, h61km±28km, mb5.7/2, mbh5.1/1, Ms5.0/4, msh5.4/2*

GCMT ***18*** *02:35:36.7±0.2, 47.16N×15557E, h12km, MW5.2/84, Moment Tensor Solution. s51,c84; s84,c158; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-6.34±.13; Mθθ1.71±.13; Mφφ4.63±.11; Mrθ1.71±.40; Mrφ4.24±.10; Mθφ0.85±.35; Best double couple: M07.27200×10^16 NP1:φs26.00000°, δ39.00000°, λ-105.00000°. NP2: φs224.00000°, δ52.00000°, λ-78.00000°. Principal axes: T 7.8560, Plg7.0000°, Azm306.0000°; N -1.1670, Plg9.0000°, Azm37.0000°; P -6.6880, Plg78.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *02:35:36.7±2.5, 4707N×15541E, h17km±15km, mb5.1/87 Error ellipse: s-maj=5.5km s-min=3.2km az=169.0*

MOS ***18*** *02:35:37.3±1.0, 4704N×15533E, h35km, mb5.4/63, MS4.7/14, Error ellipse: s-maj=6.8km s-min=4.6km az=108.3*

BJI ***18*** *02:35:39.1, 4743N×15473E, h17km, mB5.3, mb5.0, Ms4.9, Msz4.8*

BGS ***18*** *02:35:40.1, 4707N×15541E, h10km, mb5.6*

SZGRF ***18*** *02:35:52.4, 4965N×15635E, h33km, mb5.7, MS4.6, Kuril Islands, Russia*

ISC 18 02:35:35.7±0.1, 4700N±003×15541E±002, h14km, h14km±5km: pP-P, n746, σ1.9±10/771, mb5.1/173, MS4.7/44, 118C-97D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.72**	**7**	*e*P	**Pn**	**02 36 28.5**	**-4.2**
SKR				AMB	AMB	02 36 34.0	
	2μm,4.0s						
SKR				AMB	AMB	02 36 34.0	
	3μm,4.0s						
SKR				AMB	AMB	02 36 34.0	
	2μm,4.0s						
SKR				AMB	AMB	02 36 34.0	
	2μm,4.0s						
SKR				AMB	AMB	02 36 34.0	
	3μm,4.0s						
SKR				AMB	AMB	02 36 34.0	
	2μm,4.0s						
SKR				AMB	AMB	02 36 36.2	
	150nm,0.5s						
SKR				AMB	AMB	02 36 36.2	
	90nm,0.5s						
SKR				AMB	AMB	02 36 36.2	
	310nm,0.5s						
SKR				*e*S	**Sn**	**02 37 09.0**	**-7.3**
SKR				A		02 37 12.5	
	2μm,0.5s						
SKR				A		02 37 12.5	
	1μm,0.5s						
S

YUK	**Yuzh-Kuril'sk**	**7.33**	**250**	*e*P		**Pn**	**02 37 22.5**	**+0.2**
YUK				AMB	AMB		02 37 26.9	
	comp=Z,350nm,0.5s							
YUK				*e*S		**Sn**	**02 38 40.4**	**-4.9**
YUK				A			02 38 44.0	
	comp=Z,1μm,0.5s							
YUK				A			02 38 44.0	
	comp=Z,570nm,0.5s							
YUK				A			02 38 45.0	
	comp=Z,5μm,0.9s							
YUK				AMS	AMS		02 39 48.0	
	comp=Z,6μm,12.0s							
YUK				AMS	AMS		02 39 48.0	
	comp=Z,5μm,12.0s							
NEM2	**Nemuro 2**	**7.74**	**246**	P		**Pn**	**02 37 26.1**	**-1.7**
NEM2				*e*S		**Sn**	**02 38 46.9**	**-8.3**
JRA	**Rausu**	**7.85**	**251**	*e*S		**Sn**	**02 38 55.5**	**-2.6**
JNK	**Nakash**	**8.27**	**250**	P		**Pn**	**02 37 37.4**	**+2.2**
JAK	**Akkeshi**	**8.58**	**246**	P		**Pn**	**02 37 38.0**	**-1.4**
JAK				*e*S		**Sn**	**02 39 07.8**	**-8.2**
JTKR	**Abashiri--Toko**	**8.63**	**254**	P		**Pn**	**02 37 40.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.66**	**274**	⇑*i*P		**Pn**	**02 37 43.3**	**+2.8**
YSS				⇓*i*P			02 37 43.3	
YSS				AMB	AMB		02 37 46.0	
	comp=Z,80nm,0.5s							
YSS				AMB	AMB		02 37 46.0	
	comp=Z,70nm,0.5s							
YSS				AMB	AMB		02 37 46.0	
	comp=Z,100nm,0.7s							
YSS				*e*S		**Sn**	**02 39 17.0**	**-0.9**
YSS				A			02 39 20.0	
	comp=Z,110nm,0.6s							
YSS				*e*LQ			02 39 37.0	
YSS				AMS	AMS		02 42 12.0	
	comp=Z,5μm,15.0s							
YSS				AMS	AMS		02 42 12.0	
	comp=Z,6μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.66**	**274**	*j* PN		**Pn**	**02 37 43.3**	**+2.8**
YSS				pmax	pmax			
	comp=Z,100nm,0.7s							
YSS				pmax	pmax			
	comp=N,80nm,0.5s							
YSS				pmax	pmax			
	comp=E,70nm,0.5s							
YSS				MLR	MLR			
	comp=E,5μm,15.0s							
YSS				MLR	MLR			
	comp=Z,6μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.66**	**274**	*e*Pn		**Pn**	**02 37 44.5**	**+4.0**
JMP	**Maruseppu**	**8.98**	**255**	P		**Pn**	**02 37 47.1**	**+2.2**
JAR	**Ashorobuto**	**9.02**	**250**	P		**Pn**	**02 37 47.0**	**+1.5**
JAR				*e*S		**Sn**	**02 39 23.4**	**-3.4**
JOB	**Onbets**	**9.17**	**248**	P		**Pn**	**02 37 47.3**	**-0.2**
JOB				*e*S		**Sn**	**02 39 24.7**	**-5.8**
UGL	**Uglegorsk**	**9.18**	**288**	*e*P		**Pn**	**02 37 50.0**	**+2.3**
UGL				AMB	AMB		02 37 52.0	
	comp=Z,180nm,0.9s							
UGL				*e*L			02 39 48.0	
UGL				AMS	AMS		02 42 40.0	
	comp=Z,8μm,12.0s							
UGL				AMS	AMS		02 42 40.0	
	comp=Z,11μm,12.0s							
UGL				AMS	AMS		02 42 40.0	
	comp=Z,8μm,14.0s							
UGL	**Uglegorsk**	**9.18**	**288**	*e*PN		**Pn**	**02 37 50.0**	**+2.3**
UGL				*e*			02 39 37.5	
UGL				pmax	pmax			
	comp=Z,180nm,0.9s							
UGL				MLR	MLR			
	comp=Z,8μm,14.0s							
UGL				MLR	MLR			
	comp=N,8μm,12.0s							
UGL				MLR	MLR			
	comp=E,11μm,12.0s							
TYV	**Tymovskoe**	**9.24**	**299**	*e*P		**Pn**	**02 37 49.0**	**+0.4**
TYV				AMB	AMB		02 37 54.0	
	comp=E,53nm,0.8s							
TYV				AMB	AMB		02 37 54.0	
	comp=E,67nm,0.8s							
TYV				*e*S		**Sn**	**02 39 31.0**	**-1.3**
TYV				AMS	AMS		02 42 58.0	
	comp=E,7μm,15.0s							
TYV				AMS	AMS		02 42 58.0	
	comp=E,9μm,15.0s							
TYV				AMS	AMS		02 42 58.0	
	comp=E,6μm,16.0s							
JKK2	**Kamakawa 2**	**9.44**	**255**	P		**Pn**	**02 37 51.7**	**+0.5**
ASAJ	**Asahikawa**	**9.44**	**257**	Pn		**Pn**	**02 37 52.5**	**+1.2**
	comp=E,5.5nm,0.3s,baz=89,slow=16,SNR=20							
ASAJ				LR	LR		02 41 36.8	
	comp=E,1μm,18.3s,baz=73,slow=38							
ASAJ	**Asahikawa**	**9.44**	**257**	P		**Pn**	**02 37 53.5**	**+2.3**
ASAJ	**Asahikawa**	**9.44**	**257**	PN		**Pn**	**02 37 52.5**	**+1.3**
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,1μm,18.3s							
JWK2	**Keihoku**	**9.53**	**265**	P		**Pn**	**02 37 57.6**	**+5.1**
JCH	**Churui**	**9.62**	**247**	P		**Pn**	**02 37 52.7**	**-1.0**
JCH				*e*S		**Sn**	**02 39 33.5**	**-8.0**
JFR	**Furan**	**9.84**	**252**	P		**Pn**	**02 37 58.5**	**+1.8**
JFR				*e*S		**Sn**	**02 39 42.2**	**-4.8**
JAB	**Ashibetsu**	**9.93**	**254**	P		**Pn**	**02 38 01.5**	**+3.5**
ERM	**Erimo**	**10.07**	**245**	Pn		**Pn**	**02 37 59.7**	**-0.1**
	comp=Z,652nm,0.7s,SNR=21							
ERM	**Erimo**	**10.07**	**245**	*e*PN		**Pn**	**02 37 59.9**	**+0.1**
ERM				pmax	pmax			
	comp=Z,56nm,0.6s							
ERM	**Erimo**	**10.07**	**245**	*e*Pn		**Pn**	**02 37 59.9**	**0.0**
	comp=Z,56nm,0.6s							
ERM				*e*Sn		**Sn**	**02 39 42.5**	**-10**
JEM	**Erimo**	**10.07**	**245**	P		**Pn**	**02 37 59.7**	**-0.1**
JEM				*e*S		**Sn**	**02 39 42.4**	**-10**
JBT2	**Biratori 2**	**10.17**	**250**	P		**Pn**	**02 38 00.4**	**-0.9**
JBT2				*e*S		**Sn**	**02 39 48.2**	**-6.9**
JNBK	**Urakawa-nobuka**	**10.18**	**247**	P		**Pn**	**02 37 58.9**	**-2.4**
JNBK				*e*S		**Sn**	**02 39 46.4**	**-8.8**
OKH	**Okha**	**10.33**	**314**	*e*L			02 42 38.0	
JEW	**Eniwo**	**10.74**	**252**	P		**Pn**	**02 38 09.1**	**+0.1**
JNB	**Noboribetsu**	**11.18**	**251**	P		**Pn**	**02 38 14.2**	**-0.8**
JNB				*e*S		**Sn**	**02 40 11.9**	**-7.9**
NKL	**Nikolayevsk**	**11.28**	**308**	*e*P		**Pn**	**02 38 13.5**	**-3.0**
NKL				AMB	AMB		02 38 18.3	
	comp=Z,330nm,1.5s							
NKL				*e*L			02 42 41.0	
JKB	**Kayabe**	**11.47**	**249**	P		**Pn**	**02 38 17.2**	**-1.9**
JKB				*e*S		**Sn**	**02 40 15.7**	**-11**
JSH	**Shimam**	**11.75**	**254**	P		**Pn**	**02 38 22.7**	**-0.1**
JYM2	**Yakumo 2**	**11.78**	**251**	P		**Pn**	**02 38 22.2**	**-1.1**
JANG	**Nango**	**12.03**	**242**	P		**Pn**	**02 38 22.6**	**-4.1**
JANG				*e*S		**Sn**	**02 40 24.8**	**-16**
JTM	**Tenmabayashi**	**12.06**	**244**	P		**Pn**	**02 38 24.7**	**-2.4**
JTM				*e*S		**Sn**	**02 40 26.1**	**-15**
JTH	**Tanohata**	**12.10**	**239**	P		**Pn**	**02 38 24.3**	**-3.3**
JOSM	**Okushiri--Mats**	**12.38**	**252**	P		**Pn**	**02 38 29.3**	**-2.2**
JOM	**Ohasama**	**12.74**	**239**	P		**Pn**	**02 38 34.3**	**-2.0**
JOM				S		**Sn**	**02 40 44.5**	**-13**
OFUJ	**Ofunato**	**12.78**	**237**	P		**Pn**	**02 38 33.2**	**-3.7**
OFUJ				*e*S		**Sn**	**02 40 45.5**	**-13**
JRG	**Rokugo**	**13.17**	**240**	P		**Pn**	**02 38 40.1**	**-2.2**
JRG				*e*S		**Sn**	**02 40 56.2**	**-12**
TEY	**Ternei**	**13.22**	**268**	*e*P		**Pn**	**02 38 44.0**	**+1.0**
TEY				*e*LR	LR		02 42 14.0	
SMY	**Shemya**	**13.34**	**58**	*e*PN		**Pn**	**02 38 43.6**	**-0.9**
JIO	**Ouri**	**13.39**	**235**	P		**Pn**	**02 38 41.5**	**-3.8**
JIO				*e*S		**Sn**	**02 40 59.3**	**-15**
HABR	**Khabarovsk**	**13.78**	**284**	*e*P		**Pn**	**02 38 52.3**	**+1.7**
HABR				*e*S		**Sn**	**02 41 28.9**	**+5.4**
HABR				pmax	pmax			
	comp=Z,67nm,1.4s							
JMM	**Marumori**	**14.11**	**235**	P		**Pn**	**02 38 49.5**	**-5.7**
JYA	**Atsumi**	**14.24**	**240**	P		**Pn**	**02 38 54.2**	**-2.7**
JFK	**Kawauchi**	**14.43**	**233**	P		**Pn**	**02 38 56.7**	**-2.7**
JFK				*e*S		**Sn**	**02 41 25.6**	**-14**
JFY	**Yanaizu**	**15.05**	**236**	P		**Pn**	**02 39 06.3**	**-1.6**
JSD	**Sado**	**15.47**	**241**	P		**Pn**	**02 39 11.3**	**-2.1**
KLR	**Kul'dur**	**15.95**	**287**	*e*P		**Pn**	**02 39 18.6**	**-1.0**
KLR				*e*			02 42 21.0	
KLR				MLR	MLR			
	comp=Z,14μm,13.0s							
SEY	**Seymchan**	**16.07**	**355**	*e*P		**Pn**	**02 39 18.8**	**-2.3**
AMKA	**Amchitka**	**16.20**	**66**	*e*P		**Pn**	**02 39 26.1**	**+3.3**
JRY	**Ryogami san**	**16.49**	**234**	P		**Pn**	**02 39 23.2**	**-3.4**
MAJO	**Matsushiro**	**16.51**	**237**	*e*P		**Pn**	**02 39 25.6**	**-1.2**
MAT	**Matsushiro**	**16.51**	**237**	P		**Pn**	**02 39 24.2**	**-2.6**
MAT				*e*S		**Sn**	**02 42 33.0**	**+3.1**
MAT	**Matsushiro**	**16.51**	**237**	P		**Pn**	**02 39 25.1**	**-1.7**
MJAR	**Matsushiro Arr**	**16.51**	**237**	Pn		**Pn**	**02 39 25.0**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=26,slow=14,SNR=21							
MJAR				LR	LR		02 46 22.5	
	comp=Z,529nm,19.3s,baz=60,slow=39							
JHJ	**Hachijo jima 2**	**18.26**	**226**	LR		LR	02 46 48.7	
	comp=Z,137nm,19.4s,baz=11,slow=37							
JWT	**Wachi**	**19.02**	**239**	P		**Pn**	**02 39 57.0**	**-0.8**
ZEA	**Zeya**	**19.10**	**301**	*e*P		**Pn**	**02 39 52.7**	**-6.2**
ZEA				AMB	AMB		02 39 57.5	
	comp=Z,83nm,1.4s							
ZEA				AMB	AMB		02 39 57.5	
	comp=Z,110nm,1.4s							
ZEA				AMB	AMB		02 39 57.5	
	comp=Z,58nm,1.2s							
ZEA				AMB	AMB		02 40 04.0	
	comp=Z,900nm,8.0s							
ZEA				AMB	AMB		02 40 04.0	
	comp=Z,500nm,8.0s							
YAK	**Yakutsk**	**20.99**	**325**	*e*P		**P**	**02 40 17.1**	**-1.5**
YAK				*e*			02 40 36.3	
YAK				*e*S		**S**	**02 44 03.3**	**-8.7**
YAK				*i* SS			02 44 32.3	
YAK				*i* SSS			02 44 48.4	
YAK				pmax	pmax			
	comp=Z,83nm,0.8s							
YAK				pmax	pmax			
	comp=N,21nm,1.4s							
YAK				pmax	pmax			
	comp=E,38nm,1.4s							
YAK				pmax	pmax			
	comp=Z,78nm,0.9s							
YAK				pmax	pmax			
	comp=N,118nm,1.9s							
YAK				pmax	pmax			
	comp=E,68nm,1.7s							
YAK				smax				
	comp=N,120nm,7.1s							
YAK				smax				
	comp=Z,138nm,7.2s							
YAK				smax				
	comp=E,114nm,5.9s							
YAK				MLR	MLR			
	comp=Z,1μm,18.0s,MS4.4							
YAK				MLR	MLR			
	comp=N,936nm,15.0s,MS4.4							
YAK				MLR	MLR			
	comp=E,978nm,17.0s,MS4.4							
YAK	**Yakutsk**	**20.99**	**325**	*e*P		**P**	**02 40 17.2**	**-1.4**
	comp=E,156nm,0.7s							
CLNS	**Chul'man**	**21.07**	**309**	*e*P		**P**	**02 40 17.7**	**-1.8**
CLNS				*e*			02 40 35.1	
CLNS				*e*PPP			02 40 44.2	
CLNS				*e*S		**S**	**02 44 07.5**	**-6.1**
CLNS				*e*			02 44 23.8	
CLNS				*e*SS			02 44 47.8	
CLNS				*e*			02 51 44.5	
CLNS				pmax	pmax			
	comp=Z,106nm,1.0s,mb5.1							
CLNS				pmax	pmax			
	comp=N,49nm,0.8s							
CLNS				pmax	pmax			
	comp=E,71nm,0.9s							
CLNS				smax				
	comp=N,174nm,1.5s							
CLNS				smax				
	comp=Z,21nm,0.9s							
CLNS				smax				
	comp=E,39nm,1.1s							
CLNS				MLR	MLR			
	comp=Z,3μm,15.0s,MS4.7							
CLNS				MLR	MLR			
	comp=N,900nm,14.0s,MS4.7							
CLNS				MLR	MLR			
	comp=E,2μm,13.0s,MS4.7							
NRGR	**Nerungri**	**21.12**	**309**	*e*P		**P**	**02 40 11.8**	**-8.1**
NRGR				pmax	pmax			
	comp=Z,16nm,0.2s,mb5.0							
CN2	**Changchun**	**21.22**	**272**	*e*P		**P**	**02 40 18.5**	**-2.5**
CN2				*e*S		**S**	**02 44 07.3**	**-9.2**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.1							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,900nm,14.0s,MS4.6							
CN2				LR	LR			
	comp=E,2μm,14.0s,MS4.6							
CN2				LR	LR			
	comp=Z,2μm,16.0s,MS4.6							
BILL	**Bilibino**	**21.82**	**11**	*c*eP		**P**	**02 40 26.6**	**-0.9**
BILL				*e*			02 40 55.3	
BILL				pmax	pmax			
	comp=Z,79nm,1.0s,mb5.1							
BILL				MLR	MLR			
	comp=Z,2μm,17.0s,MS4.6							
BILL	**Bilibino**	**21.82**	**11**	*e*P		**P**	**02 40 27.1**	**-0.4**
	comp=Z,52nm,0.7s,mb5.1							
KSRS	**Korea Array**	**22.38**	**255**	P		**P**	**02 40 35.2**	**+1.8**
	comp=Z,19nm,0.7s,mb4.6,baz=55,slow=9.5,SNR=35							
KSRS				PcP	PcP		02 44 28.3	0.0
	comp=Z,2.2nm,0.8s,baz=35,slow=2.3,SNR=4.1							
KSRS				LR	LR		02 48 56.5	
	comp=Z,1μm,18.5s,MS4.3,baz=58,slow=36							
KS15	**Wonju Array Si**	**22.41**	**255**	*e*P		**P**	**02 40 36.6**	**+2.8**
JNU	**Nakatsue**	**23.21**	**242**	LR		LR	02 49 44.0	
	comp=Z,2μm,19.8s,MS4.5,baz=259,slow=37							
INCN	**Inchon**	**23.22**	**256**	*e*P		**P**	**02 40 43.4**	**+1.0**
	comp=Z,129nm,1.1s,mb5.3							
SNY	**Shenyang**	**23.22**	**269**	⇑P		**P**	**02 40 42.1**	**-0.3**
SNY				S		**S**	**02 44 54.8**	**+1.1**
SNY				AMB	AMB			
	comp=Z,20nm,0.5s,mb4.8							
SNY				AMB	AMB			
	comp=Z,262nm,7.8s							
SNY				LR	LR			
	comp=N,1μm,13.8s,MS4.8							
SNY				LR	LR			
	comp=E,2μm,15.0s,MS4.8							
SNY				LR	LR			
	comp=Z,2μm,15.0s,MS4.8							
HIA	**Hailar**	**23.78**	**289**	*e*P		**P**	**02 40 46.7**	**-1.2**
HIA				pmax	pmax			
	comp=Z,11nm,0.5s							
HIA	**Hailar**	**23.78**	**289**	*e*P		**P**	**02 40 46.7**	**-1.2**
	comp=Z,11nm,0.5s,mb4.5							
DL2	**Dalian**	**25.86**	**264**	P		**P**	**02 41 09.8**	**+3.0**
DL2				S		**S**	**02 45 38.3**	**+2.3**
DL2				AMB	AMB			
	comp=Z,30nm,0.8s,mb4.9							
DL2				AMB	AMB			
	comp=Z,320nm,4.7s							
DL2				LR	LR			
	comp=N,560nm,14.8s,MS4.3							
DL2				LR	LR			
	comp=E,350nm,13.3s,MS4.3							
DL2				LR	LR			
	comp=Z,690nm,15.1s,MS4.3							
BOD	**Bodaibo**	**27.05**	**309**	*e*P		**P**	**02 41 14.7**	**-2.9**
BOD				*e*			02 45 51.6	
BOD				pmax	pmax			
	comp=Z,32nm,0.9s,mb4.8							
CIT	**Chita**	**27.35**	**296**	*e*P		**P**	**02 41 20.7**	**+0.4**
CIT				pmax	pmax			
	comp=Z,48nm,1.2s,mb4.9							
BJI	**Beijing**	**29.05**	**271**	P		**P**	**02 41 36.1**	**+0.7**
BJI				S		**S**	**02 46 27.1**	**+0.7**
BJI				AMB	AMB			
	comp=Z,15nm,0.8s,mb4.8							
BJI				LR	LR			
	comp=N,2μm,14.3s,MS5.0							
BJI				LR	LR			
	comp=E,2μm,14.3s,MS5.0							
BJI				LR	LR			
	comp=Z,1μm,15.6s,MS4.7							
BJI	**Beijing**	**29.05**	**271**	P		**P**	**02 41 36.1**	**+0.7**
	comp=Z,15nm,0.8s,mb4.8							
BJI				S		**S**	**02 46 27.1**	**+0.7**
BJI				LR	LR			
	comp=Z,1μm,15.6s,MS4.7							
BJT	**Baijiatuau**	**29.07**	**271**	*e*P		**P**	**02 41 37.5**	**+1.9**
BJT				pmax	pmax			
	comp=Z,18nm,0.8s							
BJT	**Baijiatuau**	**29.07**	**271**	*e*P		**P**	**02 41 37.5**	**+1.9**
	comp=Z,18nm,0.8s,mb4.8							
SSE	**Sheshan**	**30.66**	**251**	P		**P**	**02 41 52.5**	**+2.8**
SSE				AP	pP		02 41 58.5	+4.4
SSE				S		**S**	**02 46 55.8**	**+4.1**
SSE				XS	sS		02 47 06.3	+7.4
SSE				AMB	AMB			
	comp=Z,52nm,0.8s,mb5.4							
SSE				AMB	AMB			
	comp=Z,300nm,3.8s							
SSE				LR	LR			
	comp=N,821nm,18.0s,MS4.5							
SSE				LR	LR			
	comp=E,401nm,18.0s,MS4.5							
SSE				LR	LR			
	comp=Z,834nm,16.2s,MS4.5							
SSE	**Sheshan**	**30.66**	**251**	P		**P**	**02 41 52.5**	**+2.8**
	comp=Z,52nm,0.8s,mb5.4							
SSE				pP	pP		02 41 58.5	+4.4
SSE				S		**S**	**02 46 55.8**	**+4.1**
SSE				sS	sS		02 47 06.3	+7.4
SSE				SS	SS		02 49 07.8	+5.2
SSE				LR	LR			
	comp=Z,830nm,16.2s,MS4.5							
SVW2	**Sparrevohn**	**31.20**	**45**	*e*P		**P**	**02 41 54.1**	**-0.4**
NJ2	**Nanjing**	**31.58**	**255**	*e*P		**P**	**02 42 00.8**	**+3.0**
NJ2				AP	pP		02 42 04.1	+2.0
NJ2				XP	sP		02 42 07.3	+3.4
NJ2				PP	PP		02 43 04.9	-4.2
NJ2				S		**S**	**02 47 07.5**	**+1.5**
NJ2				XS	sS		02 47 15.5	+2.3
NJ2				AMB	AMB			
	comp=Z,630nm,4.5s							
NJ2				LR	LR			
	comp=N,1μm,14.2s,MS4.9							
NJ2				LR	LR			
	comp=E,2μm,15.4s,MS4.9							
NJ2				LR	LR			
	comp=Z,2μm,16.5s,MS4.8							
HHC	**Hu-ho-hao-te**	**31.85**	**275**	*e*P		**P**	**02 42 00.1**	**0.0**
HHC				AP	pP		02 42 04.3	-0.2
HHC				XP	sP		02 42 07.3	+1.0
HHC				PP	PP		02 43 06.0	-6.0
HHC				PCP	PcP		02 44 50.3	-0.5
HHC				S	**S**		**02 47 08.4**	**-1.8**
HHC				XS	sS		02 47 15.1	-2.3
HHC				SCP	ScP		02 48 33.5	-0.2
HHC				SCS	ScS		02 52 29.5	-2.5
HHC				AMB	AMB			
	comp=Z,18nm,1.0s,mb4.9							
HHC				AMB	AMB			
	comp=Z,193nm,4.6s							
HHC				LR	LR			
	comp=N,1μm,13.9s,MS4.9							
HHC				LR	LR			
	comp=E,1μm,13.8s,MS4.9							
HHC				LR	LR			
	comp=Z,1μm,14.0s,MS4.8							
ULN	**Ulaanbaatar**	**32.30**	**290**	*e*P		**P**	**02 42 03.2**	**-0.9**
ULN	**Ulaanbaatar**	**32.30**	**290**	*e*P		**P**	**02 42 02.9**	**-1.2**
	comp=Z,16nm,0.8s,mb4.9							
IMA2	**Indian Mountai**	**32.68**	**36**	*e*P		**P**	**02 42 07.0**	**-0.4**
KDAK	**Kodiak Island**	**32.72**	**51**	P		**P**	**02 42 06.2**	**-1.6**
	comp=Z,26nm,0.8s,mb5.2,baz=349,slow=1.8,SNR=10							
KDAK				LR	LR		02 54 30.8	
	comp=Z,435nm,18.0s,MS4.2,baz=272,slow=35							
SONM	**Songino Array**	**32.74**	**290**	P		**P**	**02 42 06.4**	**-1.5**
	comp=Z,15nm,0.9s,mb4.9,baz=68,slow=8.5,SNR=34							
SONM				PcP	PcP		02 44 52.8	-0.4
	comp=Z,4.8nm,0.9s,baz=86,slow=2.3,SNR=7.5							
SONM				LR	LR		02 56 57.0	
	comp=Z,1μm,18.2s,MS4.6,baz=189,slow=39							
SONM	**Songino Array**	**32.74**	**290**	P		**P**	**02 42 06.4**	**-1.5**
SONM							02 44 52.8	
TLY	**Talaya**	**33.47**	**298**	*e*P		**P**	**02 42 13.4**	**-0.9**
TLY				*e*			02 42 26.9	
TLY				*e*			02 43 30.2	
TLY				*e*S		**S**	**02 47 27.9**	**-7.5**
TLY				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.0							
TLY				MLR	MLR			
	comp=Z,2μm,16.0s,MS4.9							
TLY	**Talaya**	**33.47**	**298**	*e*P		**P**	**02 42 14.6**	**+0.3**
	comp=Z,16nm,0.8s,mb5.0							
ZAK	**Zakamensk**	**34.00**	**295**	*e*P		**P**	**02 42 18.7**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
PMR	**Palmer**	**34.33**	**44**	*e*P		**P**	**02 42 20.5**	**-1.3**
PMR				pmax	pmax			
	comp=Z,47nm,1.4s,mb5.2							
PMR	**Palmer**	**34.33**	**44**	*e*P		**P**	**02 42 20.5**	**-1.3**
	comp=Z,47nm,1.4s,mb5.2							
COLA	**College**	**34.96**	**39**	*e*P		**P**	**02 42 26.5**	**-0.8**
COLA				pmax	pmax			
	comp=Z,55nm,0.9s,mb5.5							
COLA	**College**	**34.96**	**39**	*e*P		**P**	**02 42 26.5**	**-0.8**
	comp=Z,55nm,0.9s,mb5.5							
MOY	**Mondy**	**35.07**	**298**	*e*P		**P**	**02 42 29.1**	**+0.9**
QZH	**Quanzhou**	**36.56**	**246**	P		**P**	**02 42 43.0**	**+2.0**
QZH				S		**S**	**02 48 26.1**	**+3.0**
QZH				AMB	AMB			
	comp=Z,1μm,4.6s							
QZH				LR	LR			
	comp=Z,890nm,19.9s,MS4.5							
XAN	**Xi'an**	**37.11**	**267**	P		**P**	**02 42 49.8**	**+4.2**
XAN				S		**S**	**02 48 28.8**	**-2.5**
XAN				SS	SS		02 50 57.8	-16
XAN				AMB	AMB			
	comp=Z,24nm,1.0s,mb5.0							
XAN				AMB	AMB			
	comp=Z,248nm,6.7s							
XAN				LR	LR			
	comp=N,766nm,14.5s,MS4.7							
XAN				LR	LR			
	comp=E,660nm,14.8s,MS4.7							
XAN				LR	LR			
	comp=Z,1μm,15.6s,MS4.8							
EGAK	**Eagle**	**37.83**	**39**	*e*P		**P**	**02 42 50.2**	**-1.5**
	comp=Z,61nm,0.9s,mb5.3							
DAWY	**Dawson**	**38.65**	**40**	*e*P		**P**	**02 42 58.5**	**-0.2**
LZH	**Lanzhou**	**39.45**	**273**	P		**P**	**02 43 05.8**	**+0.4**
LZH				AP	pP		02 43 09.9	+0.1
LZH				XP	sP		02 43 11.8	+0.2
LZH				PP	PP		02 44 41.0	+5.1
LZH				S	**S**		**02 49 07.0**	**+0.2**
LZH				XS	sS		02 49 16.0	+1.9
LZH				AMB	AMB			
	comp=Z,80nm,1.2s,mb5.3							
LZH				AMB	AMB			
	comp=Z,330nm,4.6s							
LZH				LR	LR			
	comp=N,2μm,13.9s							
LZH				LR	LR			
	comp=Z,2μm,16.0s,MS5.1							
LZH	**Lanzhou**	**39.45**	**273**	P		**P**	**02 43 05.7**	**+0.3**
LZH				*SP	sP		02 43 11.8	+0.2
LZH							02 44 41.0	
LZH				S	**S**		**02 49 07.0**	**+0.2**
LZH				SS	SS		02 51 53.0	-8.1
LZH				pmax	pmax			
	comp=Z,80nm,1.2s,mb5.3							
LZH				MLR	MLR			
	comp=Z,2μm,16.0s,MS5.1							
LZH	**Lanzhou**	**39.45**	**273**	P		**P**	**02 43 05.7**	**+0.3**
	comp

GTA LR LR
comp=E,1μm,15.7s,MS4.9
GTA LR LR
comp=Z,1μm,16.4s,MS4.8
INK Inuvik 40.60 33 P **P 02 43 14.2 -0.7**
comp=Z,42nm,0.9s,mb5.1,baz=284,slow=6.8,SNR=69
INK Inuvik 40.60 33 *eP* **P 02 43 14.8 -0.1**
comp=Z,2μm,0.9s
CD2 Chengdu 42.47 267⇑ *iP* **P 02 43 31.3 +1.1**
CD2 AP pP 02 43 35.5 +0.8
CD2 XP sP 02 43 38.3 +1.8
CD2 PP PP 02 45 12.0 +3.3
CD2 S **S 02 49 52.0 +0.3**
CD2 SS SS 02 52 55.0 -6.1
CD2 AMB AMB
comp=Z,80nm,1.1s,mb5.3
CD2 AMB AMB
comp=Z,410nm,7.2s
CD2 LR LR
comp=N,800nm,19.0s,MS4.8
CD2 LR LR
comp=E,630nm,14.3s,MS4.8
CD2 LR LR
comp=Z,960nm,15.4s,MS4.8
GYA Guiyang 43.31 259⇓ *iP* **P 02 43 38.3 +1.3**
GYA AP pP 02 43 42.8 +1.3
GYA XP sP 02 43 45.9 +2.6
GYA PCP PcP 02 45 28.1 +2.3
GYA SCP ScP 02 49 17.6 +1.0
GYA S **S 02 50 04.8 +0.8**
GYA SS SS 02 53 11.3 -6.2
GYA SCS ScS 02 53 35.9 -0.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,340nm,6.6s
GYA LR LR
comp=N,370nm,15.9s,MS4.7
GYA LR LR
comp=E,640nm,16.5s,MS4.7
GYA LR LR
comp=Z,740nm,18.2s,MS4.6
ZAL Zalesovo 43.76 306 P **P 02 43 39.1 -1.5**
comp=Z,27nm,0.7s,mb5.1,baz=42,slow=8.3,SNR=58
ZAL PcP PcP 02 45 26.6 -0.7
comp=Z,7.3nm,0.7s,baz=25,slow=4.8,SNR=4.3
ZAL LR LR 03 04 27.4
comp=Z,1μm,18.5s,MS4.8,baz=35,slow=40
ZAL Zalesovo 43.76 306 P **P 02 43 39.2 -1.5**
ZAL 02 45 26.6
DLBC Dease Lake 44.29 47 *eP* **P 02 43 46.3 +1.4**
NVS Novosibirsk 44.29 308 *eP* **P 02 43 43.4 -1.5**
NVS *e* 02 45 27.1
NVS *eS* **S 02 50 12.5 -5.8**
NVS pmax pmax
comp=E,110nm,1.4s
NVS pmax pmax
comp=Z,100nm,1.4s,mb5.3
NVS smax
comp=N,17nm,1.3s
NVS smax
comp=E,79nm,2.0s
WMQ Urumqi 46.30 292⇑ *iP* **P 02 44 02.3 +1.4**
WMQ AP pP 02 44 06.8 +1.4
WMQ XP sP 02 44 09.3 +2.2
WMQ PCP PcP 02 45 38.3 +2.2
WMQ PP PP 02 45 50.8 +1.3
WMQ PPP 02 46 34.9
WMQ S **S 02 50 47.4 0.0**
WMQ XS sS 02 50 54.8 0.0
WMQ AMB AMB
comp=Z,22nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,357nm,5.1s
WMQ LR LR
comp=N,2μm,21.4s,MS5.0
WMQ LR LR
comp=E,456nm,21.4s,MS5.0
WMQ LR LR
comp=Z,1μm,18.7s,MS4.8
QIZ Qiongzhong 46.40 249 P **P 02 44 03.0 +1.3**
QIZ S **S 02 50 51.1 +2.2**
QIZ XS sS 02 50 57.0 +0.8
QIZ SS SS 02 54 10.3 -4.2
QIZ AMB AMB
comp=Z,15nm,1.4s,mb4.7
QIZ AMB AMB
comp=Z,185nm,8.0s
QIZ LR LR
comp=N,471nm,16.0s
QIZ LR LR
comp=Z,473nm,15.7s,MS4.5
KMI Kunming 46.84 261 P **P 02 44 06.9 +1.8**
KMI AP pP 02 44 11.1 +1.5
KMI PP PP 02 45 56.6 +1.4
KMI PPP 02 46 43.3
KMI S **S 02 50 55.4 +0.3**
KMI XS sS 02 51 02.9 +0.4
KMI SS SS 02 54 16.1 -5.5
KMI SSS 02 55 23.4
KMI AMB AMB
comp=Z,12nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,269nm,3.8s
KMI LR LR
comp=N,506nm,15.9s,MS4.8
KMI LR LR
comp=E,635nm,14.8s,MS4.8
KMI LR LR
comp=Z,336nm,16.3s,MS4.4
KMI Kunming 46.84 261 P **P 02 44 06.9 +1.8**
KMI *SP sP 02 44 12.9 +1.6
KMI 02 45 56.6
KMI PPP 02 46 43.2
KMI S **S 02 50 55.4 +0.3**
KMI *SS sS 02 51 02.9 +0.4
KMI SS SS 02 54 16.1 -5.5
KMI SSS 02 55 23.4
KMI pmax pmax
comp=Z,12nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,340nm,16.3s,MS4.4
KMI Kunming 46.84 261 P **P 02 44 06.9 +1.8**
comp=Z,12nm,1.1s,mb4.7
KMI pP pP 02 44 11.1 +1.5
KMI sP sP 02 44 12.9 +1.6
KMI PP PP 02 45 56.6 +1.4
KMI PPP 02 46 43.2
KMI S **S 02 50 55.4 +0.3**
KMI sS sS 02 51 02.9 +0.4
KMI SS SS 02 54 16.1 -5.5
KMI SSS 02 55 23.4
KMI LR LR
comp=Z,340nm,16.3s,MS4.4
MK31 Makanchi Array 48.22 298 P **P 02 44 14.8 -1.1**
MK31 pmax pmax
comp=Z,29nm,0.7s,mb5.4
MKAR Makanchi Array 48.22 298 P **P 02 44 14.9 -1.0**
comp=Z,44nm,0.9s,mb5.5,baz=66,slow=8.1,SNR=63
KURK Kurchatov 48.54 304 P **P 02 44 17.0 -1.3**
comp=Z,940nm,0.9s,SNR=42
ALE Alert 49.34 6 P **P 02 44 23.2 -1.2**
comp=Z,149nm,0.8s,mb6.1,SNR=10
YKW3 Yellowknife Ar 49.74 37 *eP* **P 02 44 26.5 -1.0**
YKA Yellowknife Ar 49.78 37 P **P 02 44 27.0 -0.8**
comp=Z,15nm,0.8s,mb5.1,baz=295,slow=7.5,SNR=20
RES Resolute Bay 50.10 19 *eP* **P 02 44 30.3 +0.1**
comp=Z,1μm,1.1s
CHKZ Chkalovo 51.47 311 *eP* **P 02 44 39.7 -0.9**
LSA Lhasa 51.83 275 P **P 02 44 50.3 +7.0**
LSA Lhasa 51.83 275 *eP* **P 02 44 46.7 +3.4**
LSA pmax pmax
comp=Z,24nm,0.8s,mb5.2
LSA Lhasa 51.83 275 *eP* **P 02 44 46.7 +3.4**
comp=Z,24nm,0.8s,mb5.2
BVA0 Borovoye Array 51.91 310 P **P 02 44 43.3 -0.6**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BVAR Borovoye Array 51.91 310 P **P 02 44 43.3 -0.6**
comp=Z,40nm,0.4s,mb5.7,baz=56,slow=8.3,SNR=184
BVAR LR LR 03 09 33.6
comp=Z,1μm,18.6s,MS4.9,baz=321,slow=39
BRVK Borovoye 51.95 310 P **P 02 44 43.8 -0.4**
comp=Z,610nm,0.6s,SNR=44
BRVK Borovoye 51.95 310 *eP* **P 02 44 43.5 -0.7**
BRVK pmax pmax
comp=Z,84nm,0.8s,mb5.7
BRVK Borovoye 51.95 310 *eP* **P 02 44 43.5 -0.7**
comp=Z,84nm,0.8s,mb5.7
NANT Nan 52.55 257⇑ P **P 02 44 48.0 -0.6**
comp=Z,125nm,1.0s,mb5.8
ZRNK Zerenda 52.67 311 *eP* **P 02 44 48.6 -0.9**
ZRNK pmax pmax
comp=Z,34nm,0.5s,mb5.5
ZRNK Zerenda 52.67 311 *eP* **P 02 44 48.6 -0.9**
comp=Z,34nm,0.5s,mb5.5
KKTK Khon Kaen 52.91 253 P **P 02 44 53.0 +1.7**
B05A Bryant 52.98 56⇑ P **P 02 44 50.2 -1.5**
baz=53
E04A Onalaska 53.51 58⇑ P **P 02 44 56.4 +0.7**
baz=53
C05A Tolt Reservoir 53.51 56⇓ P **P 02 44 55.4 -0.3**
baz=53
A07A Ashnola River, 53.53 54⇓ P **P 02 44 55.4 -0.4**
baz=53
CHG Chiang Mai 53.71 258⇓ P **P 02 44 58.9 +1.7**
comp=Z,25nm,0.9s,mb5.1
CHTO Chiang Mai 53.71 258 P **P 02 44 59.2 +2.0**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
CHTO Chiang Mai 53.71 258 *eP* **P 02 44 59.0 +1.9**
comp=Z,14nm,0.8s,mb4.9
F04A Amboy 54.04 59⇑ P **P 02 44 58.1 -1.4**
baz=54
E05A Randle 54.08 58⇓ P **P 02 44 59.3 -0.6**
baz=54
A08A Turner Farm, O 54.19 54⇑ P **P 02 45 00.6 -0.1**
baz=54
TKM2 Tokmak 2 54.30 297 P **P 02 45 02.5 +1.1**
SNR=9.9
C07A Waterville 54.44 56⇑ P **P 02 45 01.2 -1.2**
baz=54
B08A Colville Reser 54.48 55⇓ P **P 02 45 02.5 -0.3**
baz=54
A09A Danville 54.56 54 P **P 02 45 03.4 0.0**
baz=54,SNR=5.1
I03A Eugene 54.62 61⇑ P **P 02 45 02.7 -1.0**
baz=54
F05A White Salmon 54.63 58⇑ P **P 02 45 03.0 -0.8**
baz=54
D07A Quincy 54.76 56⇑ P **P 02 45 03.6 -1.2**
baz=54
CHMS Chumysh 54.77 298 P **P 02 45 05.5 +0.6**
SNR=12
USP Ospenovka 54.77 298 P **P 02 45 05.8 +0.9**
SNR=30
J02A Umpqua 54.78 62⇑ P **P 02 45 05.1 +0.2**
baz=54
KBK Karagaybulak 54.84 297 P **P 02 45 06.4 +1.0**
SNR=13
SOKR Solikamsk 54.88 322 *eP* **P 02 45 05.2 -0.5**
SOKR pmax pmax
comp=Z,20nm,0.6s,mb5.3
FRU Bishkek 54.95 297 *eP* **P 02 45 07.5 +1.4**
C08A Higginbotham F 54.96 55⇓ P **P 02 45 05.9 -0.3**
baz=55
EDM Edmonton 55.00 47 *eP* **P 02 45 05.7 -0.8**
G05A Wamic 55.07 59⇑ P **P 02 45 07.2 +0.1**
baz=55
F06A Goldendale 55.09 58⇓ P **P 02 45 06.3 -0.8**
baz=55
B09A Rice 55.11 54⇑ P **P 02 45 06.7 -0.7**
baz=55
AAK Ala-Archa 55.13 297 P **P 02 45 07.3 -0.2**
comp=Z,268nm,0.8s,SNR=22
AAK Ala-Archa 55.13 297 P **P 02 45 08.6 +1.1**
SNR=20
AAK Ala-Archa 55.13 297 *eP* **P 02 45 07.3 -0.2**
AAK pmax pmax
comp=Z,34nm,0.8s,mb5.4
AAK Ala-Archa 55.13 297 *eP* **P 02 45 07.3 -0.2**
comp=Z,34nm,0.8s,mb5.4
J03A Ideyld Park 55.14 62⇓ P **P 02 45 08.4 +0.8**
baz=55
K02A Glendale 55.17 62⇓ P **P 02 45 07.4 -0.4**
baz=55
E07A Sunnyside 55.18 57⇑ P **P 02 45 07.0 -0.9**
baz=55
I04A Tendick Farm, 55.23 61⇑ P **P 02 45 09.0 +0.8**
baz=55
M01C Crescent City 55.30 64⇑ P **P 02 45 08.7 0.0**
baz=55
C09A Chrisman Ranch 55.38 55⇑ P **P 02 45 09.3 0.0**
baz=55
D08A Wollman Farm, 55.44 56⇓ P **P 02 45 08.5 -1.2**
baz=55
L02A Cave Junction 55.45 63⇓ P **P 02 45 09.4 -0.3**
baz=55
H05A Madras 55.46 59⇑ P **P 02 45 08.7 -1.1**
baz=55
G06A Carlson Farm, 55.47 59⇓ P **P 02 45 08.8 -1.1**
baz=55
F07A Phinny Hill Vi 55.51 58⇓ P **P 02 45 08.4 -1.8**
baz=55
EKS2 Erkin-Say 55.55 298 P **P 02 45 11.1 +0.6**
SNR=20
I05A Bend 55.71 60⇑ P **P 02 45 10.9 -0.8**
baz=55
J04A Umpqua Nationa 55.73 61⇑ P **P 02 45 11.7 -0.1**
baz=56
NEW Newport 55.77 54 *eP* **P 02 45 11.4 -0.6**
NEW pmax pmax
comp=Z,13nm,1.5s
NEW Newport 55.77 54 *eP* **P 02 45 11.4 -0.7**
comp=Z,13nm,1.5s,mb4.7
D09A Jones Farm, Ri 55.78 56⇑ P **P 02 45 11.5 -0.6**
baz=56
A11A Hall Mountain, 55.79 53⇓ P **P 02 45 11.8 -0.4**
baz=56
ARU Arti 55.89 318 P **P 02 45 12.4 -0.5**
comp=Z,527nm,0.7s,SNR=12
ARU Arti 55.89 318⇓ *iP* **P 02 45 12.4 -0.5**
ARU *e* 02 46 06.9
ARU *e* 02 47 14.9
ARU *eS* **S 02 53 03.7 +3.7**
ARU pmax pmax
comp=Z,76nm,1.0s,mb5.7
ARU Arti 55.89 318 *eP* **P 02 45 12.2 -0.7**
comp=Z,70nm,0.8s,mb5.7
AML Almayashu 55.91 297 P **P 02 45 14.5 +1.4**
SNR=13
C10A Spilker Farm, 55.91 54⇓ P **P 02 45 12.2 -1.0**
baz=56
H06A Lindquist Farm 55.93 59⇑ P **P 02 45 14.0 +0.7**
baz=56
KSH Kashi 56.01 293 *eP* **P 02 45 15.8 +2.0**
KSH *eAP* pP 02 45 21.1 +2.7
KSH *eXP* sP 02 45 23.3 +3.2
KSH *ePCP* PcP 02 46 15.3 +3.2
KSH *ePP* PP 02 47 21.4 +2.7
KSH *ePPP* 02 48 36.4
KSH *eSCP* ScP 02 50 11.6 +0.9
KSH *eS* **S 02 53 00.9 -0.7**
KSH *eXS* sS 02 53 11.5 +2.3
KSH *ePS* 02 53 21.3
KSH *eSCS* ScS 02 55 01.9 -0.7
KSH *eSS* SS 02 56 46.3 -1.4
KSH LR LR
comp=N,853nm,4.3s
KSH LR LR
comp=E,808nm,4.8s
KSH LR LR
comp=Z,981nm,6.4s
G07A Ruggs Ranch, H 56.02 58⇑ P **P 02 45 13.0 -0.8**
baz=56
B11A Sandpoint 56.08 53⇑ P **P 02 45 14.6 +0.2**
baz=56
E09A Wood Farm, Sta 56.18 56⇓ P **P 02 45 14.1 -0.9**
baz=56
A12A Yaak River Ran 56.19 53⇑ P **P 02 45 15.0 -0.1**
baz=56
J05A Fort Rock 56.23 61⇑ P **P 02 45 14.9 -0.4**
baz=56,SNR=8.0
F08A Pendleton 56.23 57⇑ P **P 02 45 14.2 -1.2**
baz=56
YBH Yreka Blue Hor 56.23 63 *eP* **P 02 45 16.9 +1.5**
YBH pmax pmax
comp=Z,12nm,1.2s
YBH Yreka Blue Hor 56.23 63 *eP* **P 02 45 16.9 +1.5**
comp=Z,12nm,1.2s,mb4.8
YBH Yreka Blue Hor 56.23 63⇑ P **P 02 45 15.7 +0.3**
baz=56,SNR=6.3
M02C Callahan 56.34 63⇓ P **P 02 45 16.5 +0.3**
baz=56
N02C Big Bar 56.40 64⇓ P **P 02 45 16.9 +0.3**
baz=56
G08A Pilot Rock 56.41 58⇓ P **P 02 45 17.4 +0.7**
baz=56
I06A Prineville 56.46 60⇓ P **P 02 45 17.2 +0.2**
baz=56
L04A Klamath Falls 56.47 62⇑ P **P 02 45 17.4 +0.3**
baz=56
JIRN Jiri 56.49 276 *eP* **P 02 45 18.5 +1.2**
GUN Gumba 56.55 276 *eP* **P 02 45 19.1 +1.5**
M04C Macdoel 56.73 63⇑ P **P 02 45 18.3 -0.6**
baz=56
K05A Summer Lake 56.76 61⇓ P **P 02 45 18.7 -0.4**
baz=56,SNR=5.9
F09A S2 Ranch, Elgi 56.78 57⇑ P **P 02 45 18.4 -0.9**
baz=56
E10A Myers Farm, Un 56.78 56⇓ P **P 02 45 19.0 -0.3**
baz=56
I07A Izee 56.79 59⇑ P **P 02 45 19.5 +0.1**
baz=56
M03C McCloud 56.86 63⇓ P **P 02 45 19.5 -0.3**
baz=57
D11A Klaveano Farm, 56.90 55⇓ P **P 02 45 19.5 -0.6**
baz=57
C12A Trout Creek 56.99 54⇓ P **P 02 45 19.8 -1.0**
baz=57
WDC Whiskeytown Da 57.01 64 *eP* **P 02 45 21.7 +0.8**
WDC Whiskeytown Da 57.01 64⇓ P **P 02 45 21.3 +0.3**
baz=57
F10A Beach Ranch, E 57.01 56⇓ P **P 02 45 20.4 -0.6**
baz=57
H08A Prairie City 57.03 58 P **P 02 45 21.6 +0.6**
baz=57,SNR=5.7
KKN Kakani 57.03 277 *eP* **P 02 45 22.8 +1.7**
PKI Pulchoki 57.08 276 *eP* **P 02 45 22.8 +1.4**
comp=Z,152nm,1.2s,mb5.9
O02C Red Bluff 57.09 65⇑ P **P 02 45 21.0 -0.6**
baz=57
K06A Valley Falls 57.10 61 P **P 02 45 22.8 +1.3**
baz=57,SNR=10
B13A Whitefish 57.16 53 P **P 02 45 22.3 +0.4**
baz=57,SNR=10
LVZ Lovozero 57.16 337 *eP* **P 02 45 20.4 -1.6**
LVZ pmax pmax
comp=Z,49nm,1.5s,mb5.3
LVZ pmax pmax
comp=N,32nm,1.8s
LVZ pmax pmax
comp=E,15nm,1.7s
L05A Lakeview 57.19 62⇓ P **P 02 45 21.8 -0.4**
baz=57
KK31 Karatay Array 57.26 300 *i* P **P 02 45 22.4 -0.3**
KKAR Karatay Array 57.26 300 P **P 02 45 22.4 -0.3**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
DMN Daman 57.26 277 *eP* **P 02 45 24.4 +1.7**
comp=Z,147nm,0.9s,mb6.0
BSMT Bassoo Peak 57.29 53 *eP* **P 02 45 23.2 +0.4**
J07A Hines 57.32 60⇑ P **P 02 45 23.0 -0.1**
baz=57
GKN Gorkha 57.33 277 *eP* **P 02 45 25.3 +2.1**
comp=Z,166nm,0.9s,mb6.0
M05C Lookout 57.40 63⇑ P **P 02 45 24.0 +0.3**
baz=57
I08A Drewsey 57.44 59⇓ P **P 02 45 24.7 +0.8**
baz=57
GASB Alder Springs 57.45 65⇑ P **P 02 45 24.4 +0.4**
baz=57
C13A Hot Springs 57.50 53⇓ P **P 02 45 24.1 -0.4**
baz=57
H09A Durkee 57.53 58 P **P 02 45 25.3 +0.7**
baz=57,SNR=11
HATC Hat Creek Radi 57.53 63⇑ P **P 02 45 25.5 +0.9**
baz=57
MOD Modoc 57.59 62 *eP* **P 02 45 25.3 +0.3**
comp=Z,4.7nm,0.9s,mb4.5
MOD Modoc 57.59 62⇓ P **P 02 45 25.3 +0.3**
baz=57
BMO Blue Mountains 57.62 57 *eP* **P 02 45 25.7 +0.5**
KEV Kevo 57.63 341 *ep* **P 02 45 23.5 -1.8**
comp=Z,3.9nm,0.4s,mb4.8
KEV Kevo 57.63 341 *eP* **P 02 45 23.5 -1.8**
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
F11A Grangeville 57.67 56⇑ P **P 02 45 24.7 -0.9**
baz=57
APA Apatity 57.73 337⇑ *eP* **P 02 45 21.0 -5.0**
APA pmax pmax
comp=Z,45nm,1.5s,mb5.3
K07A Rock Creek Ran 57.76 60⇑ P **P 02 45 26.4 +0.2**
baz=58
J08A Circle Bar Ran 57.82 59⇓ P **P 02 45 26.8 +0.2**
baz=58
I09A Lost Marbles R 57.89 58⇑ P **P 02 45 26.3 -0.8**
baz=58
G11A Walters Elk Ra 57.90 56⇓ P **P 02 45 26.3 -0.9**
baz=58
M06C Likely Place G 57.90 62⇑ P **P 02 45 27.5 +0.3**
baz=58
C14A Swan Lake 57.90 53⇑ P **P 02 45 25.6 -1.6**
baz=58
D13A Huson 57.91 54⇓ P **P 02 45 26.0 -1.3**
baz=58
L07A Adell 58.10 61⇓ P **P 02 45 28.9 +0.2**
baz=58
ARCES ARCESS Array B 58.13 341 P **P 02 45 28.0 -0.8**
comp=Z,21nm,0.9s,mb5.2,baz=39,slow=7.5,SNR=24
ARCES LR LR 03 11 03.3
comp=Z,598nm,21.1s,MS4.7,baz=30,slow=37
KOLN Koldanda 58.18 278 *eP* **P 02 45 30.4 +1.2**
comp=Z,158nm,1.2s,mb5.9
K08A Mann Creek Ran 58.19 60 P **P 02 45 30.1 +0.9**
baz=58,SNR=7.7
J09A Fry Pan Ranch, 58.25 59 P **P 02 45 30.6 +0.9**
baz=58,SNR=5.7
F12A Elk City 58.26 55 P **P 02 45 30.1 +0.4**
baz=58,SNR=7.9
ORV Oroville 58.26 64⇑ P **P 02 45 28.6 -1.2**
baz=58
WVOR Wild Horse Val 58.27 60 *eP* **P 02 45 30.1 +0.3**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WVOR Wild Horse Val 58.27 60 *eP* **P 02 45 30.1 +0.3**
comp=Z,6.7nm,1.0s,mb4.6
MSO Missoula 58.35 54 *eP* **P 02 45 30.4 0.0**
comp=Z,7.1nm,1.2s,mb4.6
O05C Quincy 58.38 64⇓ P **P 02 45 30.3 -0.3**
baz=58
OHCM Honcut 58.40 65 *eP* **P 02 45 30.3 -0.4**
D14A Greenough 58.44 53 P **P 02 45 31.1 +0.1**
baz=58,SNR=9.3
E13A Victor 58.45 54⇓ P **P 02 45 31.0 0.0**
baz=58
H11A Donnelly 58.45 57 P **P 02 45 31.4 +0.3**
baz=58,SNR=15
N06A Buffalo Meadow 58.56 62 P **P 02 45 32.6 +0.8**
baz=58,SNR=9.0
L08A Fields 58.59 60⇑ P **P 02 45 30.7 -1.3**
baz=58
K09A Rome 58.66 60⇑ P **P 02 45 31.7 -0.7**
baz=58
CHMT Chamberlain Mo 58.68 53 *eP* **P 02 45 32.6 -0.1**
F13A Darby 58.76 55 P **P 02 45 33.1 -0.1**
baz=58,SNR=5.2
BEKR Beckwourth 58.77 64 P **P 02 45 33.7 +0.4**
baz=58,SNR=7.2
TMCR Tamitsa 58.84 333 *i* P **P 02 45 34.0 +0.2**
E14A Clinton 58.85 54⇑ P **P 02 45 33.2 -0.6**
baz=59,SNR=6.5
O06A Flanigan 58.92 63⇓ P **P 02 45 34.0 -0.3**
baz=59
D15A Lincoln 59.01 53⇑ P **P 02 45 34.9 0.0**
baz=59
KTK1 Kautokeino 59.04 342⇑ *iP* **P 02 45 35.4 +0.2**
KTK1 AMb AMB 02 45 38.0
comp=Z,63nm,2.2s,mb5.2
KTK1 *ep* pP 02 45 40.7 +1.0
KTK1 Kautokeino 59.04 342⇑ *iP* **P 02 45 35.4 +0.2**
comp=Z,63nm,2.2s,mb5.3
N07B Gerlach 59.07 62⇑ P **P 02 45 35.3 0.0**
baz=59
L09A Wilkinson Ranc 59.10 60⇓ P **P 02 45 35.5 -0.1**
baz=59
LAVA Lava Cap Winer 59.22 65⇑ P **P 02 45 36.5 +0.1**
baz=59

BOK Bokaro 59.22 273 *e*P **P 02 45 37.6 +1.3**
BOK AMb AMB 02 45 45.1
comp=Z,26nm,1.0s,mb5.2
F14A Wisdom 59.28 54 ⇑P **P 02 45 36.5 -0.3**
baz=59
E15A Deer Lodge 59.31 54 P **P 02 45 36.9 -0.1**
baz=59,SNR=6.7
LGTI Lohaghat 59.37 282 *i* x x 02 45 44.0
TRO Tromso 59.40 344 *e*P **P 02 45 35.9 -1.7**
AB31 Akbulak array 59.47 311⇑*e*P **P 02 45 37.5 -0.6**
WCN Washoe City 59.49 64 ⇓P **P 02 45 38.0 -0.2**
baz=59
O07A Toulon 59.50 62 ⇑P **P 02 45 38.3 0.0**
baz=59
FFC Flin Flon 59.53 41 P **P 02 45 38.1 -0.4**
comp=Z,107nm,0.9s,mb5.9,SNR=7.0
FFC Flin Flon 59.53 41 P **P 02 45 38.6 +0.1**
N08A GE Springer Mi 59.57 62 ⇑P **P 02 45 38.2 -0.6**
baz=59
HRY Holter Researc 59.58 53 *e*P **P 02 45 38.7 -0.2**
M09A Marrel Ranch, 59.59 61 ⇑P **P 02 45 39.2 +0.2**
baz=59
R05C Kirkwood Meado 59.66 64 ⇓P **P 02 45 38.3 -1.1**
baz=59
AKTK Aktyubinsk 59.73 313 *i* P **P 02 45 39.2 -0.7**
AKTO Aktyubinsk 59.73 313 LR LR 03 14 54.5
comp=Z,560nm,18.3s,MS4.7,baz=244,slow=40
AKTO Aktyubinsk 59.73 313 P **P 02 45 39.1 -0.8**
F15A Butte 59.75 54 P **P 02 45 40.4 +0.4**
baz=60,SNR=7.0
LRM Limekiln Ridge 59.78 54 *e*P **P 02 45 40.6 +0.3**
CMB Columbia Colle 59.88 65 *e*P **P 02 45 41.4 +0.5**
CMB Columbia Colle 59.88 65 ⇑P **P 02 45 41.0 +0.1**
baz=60
N09A Rock Creek Ran 59.89 61 ⇑P **P 02 45 41.3 +0.3**
baz=60
EGMT Eagleton 59.90 51 *e*P **P 02 45 41.1 +0.1**
comp=Z,18nm,1.1s,mb5.0
EGMT Eagleton 59.90 51 ⇑P **P 02 45 40.3 -0.7**
baz=60
PACP Pacheco Peak 59.95 67 ⇑P **P 02 45 42.2 +0.8**
baz=60
DLMT Dillon 59.98 54 *e*P **P 02 45 43.6 +1.9**
HLID Hailey 60.06 57 *e*P **P 02 45 42.5 +0.3**
comp=Z,6.6nm,1.1s,mb4.6
HLID Hailey 60.06 57 ⇓P **P 02 45 42.9 +0.7**
baz=60
M10A I.L. Ranch, Tu 60.07 60 ⇑P **P 02 45 42.5 +0.2**
baz=60
R06C Coleville 60.15 64 ⇑P **P 02 45 42.9 +0.1**
baz=60
G15A Dillon 60.17 55 ⇓P **P 02 45 42.3 -0.6**
baz=60,SNR=5.7
MCMT McKenzie Canyo 60.17 55 *e*P **P 02 45 42.7 -0.2**
WAKR Walker 60.17 64 *e*P **P 02 45 43.9 +0.9**
S06C San Francisco 60.30 65 P **P 02 45 44.3 +0.4**
baz=60,SNR=5.2
BMN Battle Mountai 60.33 61 *e*P **P 02 45 44.7 +0.6**
BMN pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BMN Battle Mountai 60.33 61 *e*P **P 02 45 44.7 +0.6**
comp=Z,7.7nm,1.0s,mb4.7
S05C Merced 60.34 66 ⇑P **P 02 45 43.9 -0.1**
baz=60
O09A Fish Creek Ran 60.52 62 ⇑P **P 02 45 45.9 +0.6**
baz=60
M11A Holland Ranch, 60.57 60 ⇑P **P 02 45 46.2 +0.5**
baz=60
ORR Orenburg 60.59 315 *e*P **P 02 45 45.4 -0.4**
ORR *e* 02 45 56.5
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.5
ORR MLR MLR
comp=Z,940nm,19.0s,MS5.0
O10A Cortez Mining, 60.85 61 ⇓P **P 02 45 47.9 +0.3**
baz=61
Q08A Gabbs 60.88 63 ⇑P **P 02 45 48.5 +0.7**
baz=61
NVAR Mina Array Bea 60.92 64 P **P 02 45 48.8 +0.7**
comp=Z,5nm,0.8s,mb4.4,baz=289,slow=9.9,SNR=14
P09A Austin 60.93 62 ⇓P **P 02 45 48.8 +0.6**
baz=61
QLMT Earthquake Lak 60.96 54 *e*P **P 02 45 49.0 +0.7**
KCC Kaiser Creek 60.98 65 ⇑P **P 02 45 48.0 -0.5**
baz=61
M12A Wells 61.10 59 ⇑P **P 02 45 48.6 -0.7**
baz=61
P10A Eureka 61.29 62 ⇑P **P 02 45 50.3 -0.3**
baz=61
YMR Madison River 61.32 54 *e*P **P 02 45 50.0 -0.8**
comp=Z,6.8nm,0.8s,mb4.8
GCMT Greycliff 61.33 53 *e*P **P 02 45 51.0 +0.2**
N12A Clover Valley, 61.38 60 ⇓P **P 02 45 49.9 -1.3**
baz=61
YNR Norris Junctio 61.45 54 *e*P **P 02 45 53.0 +1.3**
O11A Cowboy Ranch, 61.46 61 ⇑P **P 02 45 50.8 -0.9**
baz=61
YFT Old Faithful 61.53 54 *e*P **P 02 45 54.8 +2.6**
HELL Mitchell Peak, 61.57 66 ⇓P **P 02 45 51.7 -0.7**
baz=61
M13A Montello 61.57 59 ⇑P **P 02 45 52.4 -0.1**
baz=61
S08C White Mtn Res 61.58 64 ⇓P **P 02 45 52.1 -0.5**
baz=61
LOF Lofoten 61.70 345 *e*P **P 02 45 53.9 +0.6**
LOF AMb AMB 02 45 58.7
comp=Z,256nm,1.5s,mb6.1
LOF Lofoten 61.70 345 *e*P **P 02 45 53.9 +0.6**
comp=Z,256nm,1.5s,mb6.1
R09A Tonopah 61.79 63 P **P 02 45 54.5 +0.5**
baz=62,SNR=7.1
FLWY Flagg Ranch 61.84 55 *e*P **P 02 45 55.5 +1.2**
comp=Z,10.0nm,1.0s,mb4.9
N13A Wendover, West 61.87 59 ⇓P **P 02 45 54.7 +0.2**
baz=62
DCID1 Drake Creek 61.88 55 *e*P **P 02 45 56.5 +2.0**
NDI New Delhi 61.89 283 *e*P **P 02 45 54.3 -0.4**
NDI AMb AMB 02 46 11.7
comp=Z,49nm,1.2s,mb5.5
O12A Currie 61.91 60 P **P 02 45 55.5 +0.7**
baz=62,SNR=7.5
RRI2 Red Ridge 61.96 56 *e*P **P 02 45 56.4 +1.3**
S09A Goldfield 62.02 64 ⇓P **P 02 45 55.0 -0.5**
baz=62
MOOW Moose Ponds 62.03 55 *e*P **P 02 45 56.6 +1.1**
comp=Z,9.6nm,1.3s,mb4.8
HVU Hansel Valley 62.12 58 *e*P **P 02 45 56.5 +0.4**
HVU pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
HVU Hansel Valley 62.12 58 *e*P **P 02 45 56.5 +0.3**
comp=Z,1.1nm,1.0s,mb4.5
LOHW Long Hollow 62.19 55 *e*P **P 02 45 57.8 +1.1**
comp=Z,13nm,1.2s,mb4.9
SNOW Snow King Moun 62.20 55 *e*P **P 02 45 58.2 +1.5**
comp=Z,15nm,1.1s,mb5.0
REDW Red Top Meadow 62.21 55 *e*P **P 02 45 57.9 +1.1**
comp=Z,47nm,1.5s,mb5.4
R10A Warm Springs 62.23 63 ⇑P **P 02 45 56.4 -0.5**
baz=62
Q11A Duckwater 62.27 62 ⇑P **P 02 45 57.2 +0.1**
baz=62
CWC Cottonwood Cre 62.31 65 ⇓P **P 02 45 57.0 -0.4**
baz=62
P12A McGill 62.32 61 ⇓P **P 02 45 57.2 -0.3**
baz=62
GRAC Grapevine Rang 62.39 64 ⇓P **P 02 45 58.5 +0.5**
baz=62
LAO LASA Array 62.60 50 *e*P **P 02 46 00.1 +0.7**
comp=Z,19nm,1.0s,mb5.2
KULM Kulim 62.61 246 *e*P **P 02 46 01.1 +1.6**
Q12A Willow Creek R 62.64 61 ⇑P **P 02 45 59.4 -0.3**
baz=62
KAKA Kakadu 62.90 205 *e*P **P 02 46 00.9 -0.5**
comp=Z,15nm,0.6s,mb5.3
MPMC Manual Prospec 62.92 65 ⇑P **P 02 46 01.4 -0.1**
baz=63
HWUT Hardware Ranch 62.92 57 *e*P **P 02 46 02.2 +0.7**
comp=Z,38nm,1.9s,mb5.2
FURC Furnace Creek, 63.05 65 P **P 02 46 02.9 +0.5**
baz=63,SNR=5.7
DUG Dugway 63.10 59 *e*P **P 02 46 03.4 +0.7**
DUG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
DUG Dugway 63.10 59 *e*P **P 02 46 03.4 +0.7**
comp=Z,6.2nm,0.9s,mb4.7
DUG Dugway 63.10 59 ⇑P **P 02 46 03.0 +0.3**
baz=63
LRMC Laurel Mountai 63.16 66 ⇑P **P 02 46 02.2 -1.0**
baz=63
MOR8 Moi Rana 63.25 343 *e*P **P 02 46 01.6 -2.2**
MOR8 AMb AMB 02 46 03.8
comp=Z,47nm,1.4s,mb5.4
MOR8 Moi Rana 63.25 343 *e*P **P 02 46 01.6 -2.2**
comp=Z,47nm,1.4s,mb5.4
BW06 Boulder Array 63.32 55 *e*P **P 02 46 04.5 +0.3**
comp=Z,9.2nm,1.1s,mb4.8
PDAR Pinedale Array 63.32 55 P **P 02 46 04.4 +0.2**
comp=Z,5.7nm,0.9s,mb4.7,baz=293,slow=2.4,SNR=36
PDAR LR LR 03 11 13.9
comp=Z,102nm,20.2s,MS4.0,baz=88,slow=34
EDW2 Edwards Air Fo 63.36 67 ⇑P **P 02 46 04.4 -0.1**
baz=63
U10A Ash Meadows, A 63.41 64 ⇓P **P 02 46 05.2 +0.5**
baz=63
NLU North Lily Min 63.69 59 *e*P **P 02 46 07.2 +0.6**
GSC Goldstone 63.83 66 ⇓P **P 02 46 07.2 -0.4**
baz=64
DAU Daniels Canyon 63.87 58 *e*P **P 02 46 08.4 +0.6**
MPU Maple Canyon 63.91 59 *e*P **P 02 46 07.4 -0.6**
comp=Z,4.9nm,0.9s,mb4.5
SHPR Sheep Range 64.07 64 *e*P **P 02 46 09.8 +0.7**
ARUT Antelope Range 64.28 62 *e*P **P 02 46 10.1 -0.4**
TUQ Turquoise Mtn. 64.29 65 ⇓P **P 02 46 10.8 +0.2**
baz=64
FRB Frobisher Bay 64.29 20 P **P 02 46 08.9 -1.6**
comp=Z,15nm,1.0s,mb5.0,baz=305,slow=13,SNR=3.5
HEC Hecr,Ludlow 64.43 66 ⇓P **P 02 46 12.0 +0.6**
baz=64
FIA1 FINESS Array S 64.48 336 *e*P **P 02 46 10.9 -0.9**
FINES FINESS Array B 64.48 336 P **P 02 46 10.7 -1.1**
comp=Z,41nm,0.8s,mb5.5,baz=40,slow=7.7,SNR=46
FINES LR LR 03 15 23.6
comp=Z,309nm,21.6s,MS4.5,baz=15,slow=37
PUL Pulkovo 64.56 333 *e*P **P 02 46 14.0 +1.7**
PUL pmax pmax
PUL MLR MLR
comp=Z,728nm,17.0s,MS4.9
MSU Marysvale 64.57 60 *e*P **P 02 46 12.8 +0.4**
SFJD Kangerlussuaq 64.62 11 *i* P **P 02 46 12.0 -0.7**
TMUT Trail Mountain 64.63 59 *e*P **P 02 46 12.5 -0.2**
V12A Nelson 64.77 64 ⇓P **P 02 46 13.2 -0.4**
baz=64
AJM Ajmer 65.06 283 *e*P **P 02 46 15.9 +0.3**
AJM AMb AMB 02 46 20.7
comp=Z,17nm,0.8s,mb5.1
VIS Vishakhapatnam 65.09 270 *e*P **P 02 46 16.9 +1.1**
VIS AMb AMB 02 46 26.0
comp=Z,28nm,0.7s,mb5.4
MOS Moscow 65.12 327 *e*P **P 02 46 11.8 -4.2**
MOS *e* 02 46 52.3
MOS pmax pmax
comp=Z,80nm,1.4s,mb5.6
SRU San Rafael 65.15 59 *e*P **P 02 46 16.3 +0.1**
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SRU San Rafael 65.15 59 *e*P **P 02 46 16.3 +0.1**
comp=Z,8.1nm,0.9s,mb4.8
NSS Namsos 65.19 344 *e*P **P 02 46 17.7 +1.2**
ULM Lac du Bonnet 65.30 42 P **P 02 46 16.3 -0.8**
comp=Z,4.6nm,0.8s,mb4.5,baz=310,slow=4.2,SNR=8.1
ULM Lac du Bonnet 65.30 42 *e*P **P 02 46 16.0 -1.1**
comp=Z,5.2nm,0.8s,mb4.6
RSSD Black Hills 65.45 51 *e*P **P 02 46 17.6 -0.5**
RSSD pmax pmax
comp=Z,11nm,1.0s,mb4.8
RSSD Black Hills 65.45 51 *e*P **P 02 46 17.6 -0.5**
comp=Z,11nm,1.0s,mb4.8
IRM Iron Mountain 65.61 66 P **P 02 46 19.5 +0.3**
baz=65,SNR=5.9
NGP Nagpur 65.66 275 *e*P **P 02 46 22.2 +2.8**
BC3 Big Chuckw Mtn 65.75 66 ⇑P **P 02 46 19.7 -0.3**
baz=66
W13A Hualapai Mount 65.77 64 ⇑P **P 02 46 19.2 -1.0**
baz=66
OBN Obninsk 65.99 327⇓*e*P **P 02 46 20.3 -1.3**
OBN *e* 02 48 45.2
OBN *eS* S 02 55 05.7 -3.1
OBN pmax pmax
comp=Z,64nm,1.4s,mb5.5
OBN Obninsk 65.99 327 *e*P **P 02 46 22.9 +1.3**
X13A Yucca 66.14 64 ⇓P **P 02 46 22.5 -0.1**
baz=66
PDMCI Parker Dam,Lak 66.14 65 ⇓P **P 02 46 22.2 -0.4**
baz=66
W14A Seligman 66.19 63 P **P 02 46 23.8 +0.9**
baz=66,SNR=6.8
Y12C Blythe 66.27 66 ⇓P **P 02 46 24.0 +0.6**
baz=66
PV10 Paradox Valley 66.50 59 *e*P **P 02 46 25.6 +0.7**
GLA Glamis 66.54 66 ⇑P **P 02 46 25.5 +0.3**
baz=66
AGMN Agassiz Refuge 66.68 44 *e*P **P 02 46 25.0 -1.0**
comp=Z,15nm,1.1s,mb4.9
W15A Williams 66.71 63 ⇑P **P 02 46 26.7 +0.5**
baz=66
VSU Vasula 66.72 333 *e*P **P 02 46 24.9 -1.3**
X14A Yava 66.80 64 ⇓P **P 02 46 27.3 +0.6**
baz=66
PV01 Paradox Valley 66.94 58 *e*P **P 02 46 27.5 -0.2**
WUAZ Wupatki 67.03 62 ⇓P **P 02 46 29.0 +0.8**
baz=67
Y14A Wickenburg 67.08 64 ⇓P **P 02 46 29.2 +0.6**
baz=67
X15A Humboldt 67.19 64 ⇑P **P 02 46 29.5 +0.2**
baz=67,SNR=5.9
AFI Afiamalu 67.39 145 LR LR 03 15 05.2
comp=Z,210nm,18.0s,MS4.4,baz=248,slow=35
VOR Voronezh 67.49 323 P **P 02 46 31.0 -0.2**
VOR pmax pmax
comp=Z,200nm,3.0s
ISCO Idaho Springs 67.51 55 *e*P **P 02 46 32.1 +0.8**
ISCO pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ISCO Idaho Springs 67.51 55 *e*P **P 02 46 32.1 +0.8**
comp=Z,9.6nm,1.2s,mb4.7
MVCO Mesa Verde 67.61 59 *e*P **P 02 46 31.7 -0.2**
comp=Z,6.7nm,0.9s,mb4.7
MVCO Mesa Verde 67.61 59 ⇓P **P 02 46 32.0 +0.1**
baz=67
ABKT Ailbek 67.82 302 P **P 02 46 34.2 +1.0**
comp=Z,172nm,0.9s,mb6.1,SNR=5.2
VORD Divnogorie 68.03 322 *e*P **P 02 46 32.6 -1.9**
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VORD pmax pmax
comp=N,20nm,0.8s
115A Sonoran Desert 68.40 65 ⇓P **P 02 46 37.2 +0.3**
baz=68
NB2 NORSAR Subarra 68.49 342 P **P 02 46 36.5 -1.0**
comp=Z,22nm,0.8s,mb5.2,baz=26,slow=6.5
NOA NORSAR Array B 68.49 342 P **P 02 46 36.7 -0.7**
comp=Z,15nm,0.7s,mb5.1,baz=26,slow=6.4,SNR=20
NOA LR LR 03 22 21.0
comp=Z,356nm,18.0s,MS4.6,baz=0.0,slow=41
NOA NORSAR Array B 68.49 342 P **P 02 46 36.7 -0.7**
NOA LR LR 03 22 21.0
HYB Hyderabad 68.56 273 *i* P **P 02 46 38.0 +0.1**
HYB Hyderabad 68.56 273 *e*P **P 02 46 38.0 +0.1**
NAO01 NORSAR Array S 68.74 342 *e*P **P 02 46 38.5 -0.5**
comp=Z,24nm,0.9s,mb5.1
HFS Hagfors 68.77 341 P **P 02 46 37.7 -1.4**
comp=Z,26nm,0.6s,mb5.3,baz=48,slow=4.4,SNR=60
116A Eloy 68.81 65 ⇓P **P 02 46 39.5 0.0**
baz=69
EYMN Ely 68.95 42 *e*P **P 02 46 39.3 -1.0**
comp=Z,11nm,1.1s,mb4.7
SDCO Great Sand Dun 68.98 57 *e*P **P 02 46 41.0 +0.5**
comp=Z,15nm,1.6s,mb4.7
WRAB Tennant Creek 69.27 201 *e*P **P 02 46 42.7 +0.4**
WB2 Warramunga Arr 69.28 201 *e*P **P 02 46 42.0 -0.4**
WB2 *e* 02 46 54.2
WRA Warramunga Arr 69.28 201 P **P 02 46 41.7 -0.7**
comp=Z,7.3nm,0.8s,mb4.7,baz=20,slow=6.7,SNR=33
ECSD EROS,Sioux Fal 69.57 47 *e*P **P 02 46 42.9 -1.3**
comp=Z,10nm,1.0s,mb4.7
MNK Minsk 69.60 330 *e*P **P 02 46 40.0 -4.3**
FITZ Fitzroy Crossi 70.12 210 *e*P **P 02 46 48.7 +1.1**
comp=Z,10nm,1.4s,mb4.6
ANMO Albuquerque 70.35 60 *e*P **P 02 46 49.6 +0.6**
MDRS Chennai 70.45 268 *e*P **P 02 46 50.1 +0.6**
GOF Gofitskoye 70.76 316 *e*P **P 02 46 57.3 +5.9**
GOF pmax pmax
comp=Z,70nm,0.8s,mb5.6
BLS5 Blasjo 70.93 344 *e*P **P 02 46 57.5 +5.0**
POO Poona 71.00 277 *ex* x 02 46 40.0
SUW Suwalki 71.52 333 *e*P **P 02 46 55.4 -0.7**
KAD Karad 71.62 276 *e*P **P 02 46 57.8 +1.2**
KAD AMb AMB 02 47 06.0
comp=Z,70nm,0.8s,mb5.7
KIV Kislovodsk 71.75 315⇓*e*P **P 02 46 57.1 -0.3**
KIV *e* 02 49 33.9
KIV *i* S S 02 56 10.4 -6.7
KIV pmax pmax
comp=Z,32nm,0.9s,mb5.2
KIV Kislovodsk 71.75 315 *e*P **P 02 46 59.5 +2.1**
ZEI Tsey 72.04 314 *e*P **P 02 46 59.2 0.0**
ZEI *e* 02 47 15.0
ZEI pmax pmax
comp=Z,12nm,0.9s,mb4.8
AKASG Malin Array Be 72.21 327 P **P 02 46 58.8 -1.4**
comp=Z,4.7nm,0.3s,mb4.8,baz=33,slow=6.3,SNR=24
AKASG LR LR 03 23 56.0
comp=Z,347nm,18.6s,MS4.7,baz=25,slow=40
AKBB Malin Array Si 72.21 327 P **P 02 46 59.1 -1.1**
AKBB Malin Array Si 72.21 327 *e*P **P 02 46 58.8 -1.4**
KIEV Kiev 72.22 327 P **P 02 46 58.7 -1.5**
KIEV pmax pmax
comp=Z,22nm,0.8s,mb5.1
KIEV Kiev 72.22 327 *e*P **P 02 46 58.5 -1.7**
comp=Z,22nm,0.8s,mb5.2
MTA Mtatsminda 72.39 313 P **P 02 47 02.3 +1.0**
SCHQ Schefferville 72.46 24 P **P 02 47 00.6 -1.1**
comp=Z,3.7nm,0.9s,mb4.3,baz=234,slow=19,SNR=3.7
SCHQ LR LR 03 18 22.8
comp=Z,160nm,19.9s,MS4.3,baz=317,slow=36
SCHQ Schefferville 72.46 24 P **P 02 47 01.5 -0.1**
comp=Z,8.7nm,0.9s,mb4.7
SCIA State Center 72.61 47 *e*P **P 02 47 01.4 -1.2**
comp=Z,14nm,0.6s,mb5.1
BSD Bornholm Skovb 72.95 338⇑*i*P **P 02 47 07.6 +3.0**
AS31 Alice Springs 72.96 201 *e*P **P 02 47 05.3 +0.6**
ASAR Alice Springs 72.97 201 P **P 02 47 05.3 +0.7**
comp=Z,5.3nm,0.7s,mb4.6,baz=16,slow=5.5,SNR=46
AMTX Amarillo 73.18 57 *e*P **P 02 47 05.2 -0.8**
MNTX Cornudas Mount 73.27 61 *e*P **P 02 47 06.8 +0.3**
ANN Anapa 73.54 319 *e*P **P 02 47 04.8 -3.3**
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.4
GNI Garni 73.56 312 *e*P **P 02 47 08.7 +0.5**
GNI pmax pmax
comp=Z,30nm,0.8s
GNI Garni 73.56 312 *e*P **P 02 47 10.2 +2.0**
GKP Gorka Klasztor 73.95 335 *e*P **P 02 47 12.9 +2.4**
MCD Coleburn Disti 74.29 348 *e*P **P 02 47 16.8 +4.3**
MDO Dochfour 74.58 349 *e*P **P 02 47 17.6 +3.5**
LVV L'vov 74.80 330 *e*P PcP 02 47 26.8 -2.6
SIM Simferopol' 74.88 321*ce*P **P 02 47 20.2 +4.3**
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,650nm,17.0s,MS5.0
WMOK Wichita Mounta 74.93 55 *e*P **P 02 47 15.8 -0.4**
KWP Kalwaria 75.41 330 *e*P **P 02 47 19.2 +0.3**
IAS Iasi 75.72 326⇓*i*P **P 02 47 20.4 -0.3**
IAS Iasi 75.72 326 P **P 02 47 20.4 -0.4**
EAB Aberfoyle 75.80 348 *e*P **P 02 47 24.3 +3.2**
OJC Ojcow 75.85 332 *e*P **P 02 47 24.7 +3.2**
EDI Edinburgh 75.89 348 *e*P **P 02 47 25.7 +4.0**
EDI AMb AMB 02 47 27.0
comp=Z,93nm,1.4s,mb5.5
TRD Trivandrum 75.96 267 *e*P **P 02 47 21.7 -0.4**
TRD AMb AMB 02 47 35.3
comp=Z,37nm,1.4s,mb5.1
LTX Lajitas 75.99 62 *e*P **P 02 47 23.5 +1.2**
LTX pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LTX Lajitas 75.99 62 *e*P **P 02 47 23.5 +1.2**
comp=Z,5.6nm,0.6s,mb4.7
TXAR Lajitas Array 75.99 62 P **P 02 47 21.9 -0.3**
comp=Z,4.8nm,0.5s,mb4.7,baz=299,slow=4.4,SNR=51
EAU Auchinoon 76.00 348 *e*P **P 02 47 26.6 +4.3**
EBL Broad Law 76.01 348 *e*P **P 02 47 26.5 +4.1**
STHS Stebnicka Huta 76.08 331 *e*P **P 02 47 23.2 +0.4**
STHS pmax pmax
comp=Z,21nm,0.7s,mb5.2
STHS Stebnicka Huta 76.08 331 *e*P **P 02 47 23.2 +0.4**
comp=Z,21nm,0.7s,mb5.2
STHS *e* pP 02 47 26.4 -1.1
KOLS Kolonicke sedl 76.15 330 *e*P **P 02 47 22.9 -0.3**
PGBU Glenifferbraes 76.18 348 *e*P **P 02 47 27.7 +4.3**
PGBU AMb AMB 02 47 29.1
comp=Z,69nm,1.3s,mb5.4
BURAR Bucovina Array 76.24 328⇓*i*P **P 02 47 23.2 -0.5**
BURAR Bucovina Array 76.24 328⇓P **P 02 47 23.2 -0.5**
KSP Ksiaz 76.37 335 *e*P **P 02 47 23.5 -1.0**
KSP *ep*P pP 02 47 27.7 -1.5
NIE Niedzica 76.38 332 *e*P **P 02 47 28.4 +3.9**
UZH Uzhgorod 76.40 330 *e*P **P 02 47 29.0 +4.4**
EKA Eskdalemuir Ar 76.46 348 P **P 02 47 25.1 +0.2**
comp=Z,10nm,0.5s,mb5.0,baz=17,slow=4.9,SNR=84
ESK Eskdalemuir 76.48 348 *e*P **P 02 47 28.8 +3.7**
ESK AMb AMB 02 47 29.8
comp=Z,137nm,1.6s,mb5.6
ECK Cauldkaine Hil 76.60 348 *e*P **P 02 47 29.7 +3.9**
OKC Ostrava-Krasne 76.70 333 *e*P **P 02 47 26.1 -0.2**
OKC *ep*P pP 02 47 29.6 -1.4
UPC Upice 76.75 335 *e*P **P 02 47 26.9 +0.3**
UPC *ep*P pP 02 47 30.2 -1.1
DPC Dobruska-Polom 76.80 334 *e*P **P 02 47 26.9 0.0**
DPC *ep*P pP 02 47 31.0 -0.6
CLL Collm 76.88 337⇑*i*P **P 02 47 26.7 -0.6**
CLL *e* 02 47 33.0
CLL pmax pmax
comp=Z,19nm,1.1s,mb4.9
CLL Collm 76.88 337⇑*i*P **P 02 47 26.7 -0.6**
comp=Z,19nm,1.1s,mb4.9
CLL *i* pP 02 47 30.7 -1.3
CLL *e* 02 47 33.0
CLL Collm 76.88 337⇑*i*P **P 02 47 26.7 -0.6**
comp=Z,19nm,1.1s,mb4.9
CLL LmV 02 26 00.0
comp=Z,200nm,21.6s
CLL *i* pP pP 02 47 30.7 -1.3
CLL *es*P sP 02 47 33.0 -0.7
comp=Z,55nm,1.0s
CLL *e*PP PP 02 50 24.0 +3.7
MORC Moravsky Berou 76.94 333⇓*i*P **P 02 47 27.3 -0.4**
MORC Moravsky Berou 76.94 333 *e*P **P 02 47 27.0 -0.7**
MORC P pP 02 47 30.9 -1.5
BRG Berggiesshubel 77.01 336 *e*P **P 02 47 27.6 -0.5**
comp=Z,6.3nm,1.3s,mb4.4
BRG *i* pP 02 47 31.3 -1.5
comp=Z,11nm,1.0s
KECS Kecovo 77.14 331 *e*P **P 02 47 28.3 -0.5**
KECS pmax pmax
comp=Z,13nm,1.1s,mb4.8
KECS Kecovo 77.14 331 *e*P **P 02 47 28.3 -0.5**
comp=Z,13nm,1.1s,mb4.8
KECS *e* pP 02 47 31.9 -1.6
VRI Vrincioaia 77.14 326⇓*i*P **P 02 47 31.4 +2.6**
VRI Vrincioaia 77.14 326⇓P **P 02 47 31.4 +2.6**
PVCC Panska Ves 77.15 336 *e*P **P 02 47 28.3 -0.5**
PVCC *ep*P pP 02 47 32.6 -0.9
CFR Carcaliu 77.17 325⇓*i*P **P 02 47 31.6 +2.7**
CFR Carcaliu 77.17 325 P **P 02 47 31.9 +2.9**
PLOR Plostina 77.18 326⇓*i*P **P 02 47 31.6 +2.6**
MSL Mosul 77.32 310 *ex* x 02 47 31.0
BOYT Boyabat 77.34 318 *i* P **P 02 47 30.7 +0.8**
JCT Junction City 77.46 59 *e*P **P 02 47 30.4 -0.2**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
JCT Junction City 77.46 59 *e*P **P 02 47 30.4 -0.2**
comp=Z,5.0nm,0.6s,mb4.6
VRAC Vranov 77.65 334 P **P 02 47 30.8 -0.8**
comp=Z,7.6nm,0.6s,mb4.8,baz=32,slow=6.7,SNR=5.8
VRAC Vranov 77.65 334⇓*i*P **P 02 47 30.9 -0.7**
VRAC Vranov 77.65 334⇓P **P 02 47 30.9 -0.7**
HARR Harsova 77.65 325 P **P 02 47 34.9 +3.2**
TIRR Tirgusor 77.65 324⇑*i*P **P 02 47 31.3 -0.4**
TIRR Tirgusor 77.65 324 *e*P **P 02 47 31.2 -0.5**
comp=Z,44nm,0.9s,mb5.4
VYHS Vyhne 77.67 332 *e*P **P 02 47 31.5 -0.2**
VYHS *e* pP 02 47 35.5 -0.9
VYHS pmax pmax

comp=Z,13nm,1.0s,mb4.8
VYHS Vyhne 77.67 332 *e*P **P 02 47 31.5 -0.2**
comp=Z,13nm,1.0s,mb4.8
VYHS *e* pP 02 47 35.5 -0.9
MLR Muntele Rosu 77.75 326 ⇓*i*P **P 02 47 32.5 +0.3**
MLR Muntele Rosu 77.75 326 ⇓P **P 02 47 32.5 +0.3**
PSZ Piszkesteto 77.83 331 ⇓*i*P **P 02 47 32.8 +0.2**
PSZ Piszkesteto 77.83 331 *e*P **P 02 47 32.9 +0.3**
comp=Z,26nm,1.0s,mb5.1
77.84 329 ⇑*i*P **P 02 47 32.3 -0.4**
DRGR 77.84 329 ⇑P **P 02 47 32.4 -0.3**
MOX Moxa 77.85 337 *e*P **P 02 47 36.5 +3.7**
comp=Z,31nm,1.1s,mb5.2
MOX Moxa 77.85 337 *e*P **P 02 47 36.5 +3.7**
MOX pmax pmax
comp=Z,31nm,1.1s,mb5.2
NKC Novy Kostel 78.00 337 *e*P **P 02 47 33.2 -0.4**
CTKT Corum 78.03 318 *i*P **P 02 47 34.7 +0.9**
SMOL Smolenice 78.09 333 *e*P **P 02 47 38.5 +4.4**
MALT Malatya 78.13 314 ⇑*i*P **P 02 47 35.0 +0.7**
MALT Malatya 78.13 314 *e*P **P 02 47 35.2 +0.9**
comp=Z,17nm,0.8s,mb5.0
VOIR 78.14 327 ⇓*i*P **P 02 47 34.9 +0.5**
KBI1 Birley Grange 78.21 346 *e*P **P 02 47 38.9 +4.1**
ZST Bratislava 78.48 333 *e*P **P 02 47 36.8 +0.6**
ZST *e*pP pP 02 47 40.9 0.0
ZST Bratislava 78.48 333 *e*P **P 02 47 36.9 +0.7**
ZST *e* pP 02 47 40.9 0.0
ZST pmax pmax
comp=Z,19nm,1.0s,mb5.0
ZST MLR MLR
comp=Z,600nm,18.4s,MS5.0
ZST Bratislava 78.48 333 *e*P **P 02 47 36.9 +0.7**
comp=Z,19nm,1.0s,mb5.0
ZST *e* pP 02 47 40.9 0.0
ZST LR LR
comp=Z,600nm,18.4s,MS5.0
KWE Weaver Farm 78.49 346 *e*P **P 02 47 41.2 +4.9**
BUC1 Bucharest 78.69 326 ⇓*i*P **P 02 47 41.8 +4.4**
BUC1 Bucharest 78.69 326 P **P 02 47 41.8 +4.4**
KHC Kasperske Hory 78.69 336 *e*P **P 02 47 37.5 +0.1**
KHC *e*pP pP 02 47 41.3 -0.8
GRA1 Grafenberg Arr 78.82 337 *e*P **P 02 47 38.2 +0.1**
comp=Z,55nm,0.9s,mb5.5
GRA1 LR LR
comp=Z,300nm,19.0s,MS4.7
GRF Grafenberg Arr 78.82 337 *e*P **P 02 47 38.2 +0.1**
comp=Z,55nm,0.9s,mb5.5
GRF *e*L 03 25 58.5
comp=Z,303nm,19.0s
GRF Grafenberg Arr 78.82 337 *e*P **P 02 47 38.2 +0.1**
GRF pmax pmax
comp=Z,55nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,300nm,19.0s,MS4.7
GRF Grafenberg Arr 78.82 337 *e*P **P 02 47 38.2 +0.1**
GRF pmax pmax
comp=Z,55nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,300nm,19.0s,MS4.7
GRFO Grafenberg 78.83 337 *e*P **P 02 47 37.7 -0.5**
GRFO pmax pmax
comp=Z,51nm,0.9s,mb5.5
GRFO Grafenberg 78.83 337 *e*P **P 02 47 37.7 -0.5**
comp=Z,51nm,0.9s,mb5.5
ATAB Bozova 78.85 314 *i*P **P 02 47 36.2 -2.1**
DLF Lyons Farm 78.91 349 ⇑*i*P **P 02 47 42.7 +4.1**
GEC2 GERESS Array S 78.91 335 *e*P **P 02 47 38.3 -0.3**
GERES GERESS Array B 78.91 335 P **P 02 47 37.9 -0.7**
comp=Z,4.1nm,0.4s,mb4.7,baz=34,slow=5.0,SNR=26
GERES LR LR 03 27 53.2
comp=Z,561nm,18.3s,MS4.9,baz=18,slow=40
GZR Gura Zlata 79.01 328 ⇑*i*P **P 02 47 39.0 -0.2**
GZR Gura Zlata 79.01 328 ⇓*i*P **P 02 47 42.4 +3.2**
GZR Gura Zlata 79.01 328 ⇑P **P 02 47 39.0 -0.2**
GZR P pP 02 47 42.4 -1.5
CONA Conrad Observa 79.10 334 ⇑*i*P **P 02 47 40.2 +0.6**
comp=Z,18nm,1.1s,mb4.9,SNR=7.3
HGN Heimansgroeve 79.13 341 *e*P **P 02 47 38.5 -1.3**
comp=Z,31nm,1.0s,mb5.2
BZS Buzias 79.24 329 ⇓*i*P **P 02 47 40.2 -0.2**
BZS Buzias 79.24 329 ⇓P **P 02 47 40.2 -0.2**
MEM Membach 79.26 341 E **P 02 47 37.7 -2.8**
MEM E 02 47 44.9
BR131 Keskin Array S 79.28 318 *e*P **P 02 47 41.0 +0.4**
comp=Z,22nm,0.8s,mb5.2
BRTR Keskin Array B 79.28 318 P **P 02 47 41.0 +0.4**
comp=Z,5.1nm,1.0s,mb4.4,baz=84,slow=3.8,SNR=18
BRTR PP PP 02 50 36.6 -3.7
comp=Z,1.9nm,1.0s,baz=350,slow=12,SNR=3.5
BRTR LR LR 03 30 18.7
comp=Z,235nm,18.7s,MS4.5,baz=315,slow=42
BRTR Keskin Array B 79.28 318 P **P 02 47 41.1 +0.5**
BRTR 02 50 36.7
SGKT Sivrigoynuk 79.30 320 *i*P **P 02 47 41.4 +0.6**
STKA Stephens Creek 79.49 192 P **P 02 47 42.0 +0.2**
comp=Z,3.4nm,1.0s,mb4.2,baz=329,slow=9.4,SNR=4.6
TOD Tromm 79.53 339 *e*P **P 02 47 42.8 +0.8**
ZIMR 79.53 326 ⇓*i*P **P 02 47 45.0 +3.0**
ZIMR 79.53 326 P **P 02 47 45.0 +3.0**
ANTO Ankara 79.55 319 ⇓*i*P **P 02 47 40.7 -1.4**
ANTO Ankara 79.55 319 P **P 02 47 42.8 +0.7**
ANTO pmax pmax
comp=Z,38nm,0.9s,mb5.3
ANTO Ankara 79.55 319 *e*P **P 02 47 42.2 +0.1**
comp=Z,38nm,0.8s,mb5.4
BCLA Clavier 79.59 341 E **P 02 47 46.7 +4.3**
TAOE Nuku Hiva Isla 79.61 115 *e*LR LR 03 12 20.3
comp=Z,2μm,31.5s
MOA Molln 79.64 335 ⇑*i*P **P 02 47 42.7 +0.1**
comp=Z,12nm,1.5s,mb4.6
PKSM Moragy 79.73 331 ⇑*i*P **P 02 47 45.5 +2.4**
PKSM Moragy 79.73 331 P **P 02 47 46.4 +3.3**
ARSA Arzberg 79.81 334 ⇑*i*P **P 02 47 43.8 +0.3**
comp=Z,4.9nm,1.2s,mb4.3,SNR=10
ARSA Arzberg 79.81 334 ⇑*i* **P 02 47 48.1 +4.6**
comp=Z,22nm,1.1s,mb5.0
ARSA Arzberg 79.81 334 **P 02 47 48.1 +4.6**
comp=Z,22nm,1.1s,mb5.0
ARSA Arzberg 79.81 334 P **P 02 47 43.8 +0.3**
ARSA *e* pP 02 47 48.1 -0.1
MIB Mutribah 79.87 303 *e*P **P 02 47 43.9 +0.1**
MIB AMb AMB 02 47 51.4
comp=Z,102nm,0.6s,mb5.9
JMB Yambol 80.05 324 *e*P **P 02 47 47.7 +2.8**
DOU Dourbes 80.05 341 XP sP 02 47 48.4 -2.9
NAY Al-Naaiem 80.34 303 *e*P **P 02 47 46.4 0.0**
NAY AMb AMB 02 47 53.3
comp=Z,36nm,0.8s,mb5.4
RDF Al-Radifah 80.40 302 *e*P **P 02 47 46.8 0.0**
RDF AMb AMB 02 47 54.0
comp=Z,89nm,0.7s,mb5.8
PERS Pernice 80.48 333 *e*P **P 02 47 47.3 +0.1**
PERS *i* pP 02 47 51.4 -0.4
COBT Iskenderun 80.60 315 *i*P **P 02 47 48.8 +1.0**
KBA Koelnbreinsper 80.61 335 ⇑*i*P **P 02 47 48.6 +0.8**
comp=Z,14nm,1.1s,mb4.8,SNR=10
KBA Koelnbreinsper 80.61 335 ⇑*i* **P 02 47 53.1 +5.3**
comp=Z,48nm,0.7s,mb5.5
KBA Koelnbreinsper 80.61 335 **P 02 47 53.1 +5.3**
comp=Z,48nm,0.7s,mb5.5
KBA Koelnbreinsper 80.61 335 P **P 02 47 48.6 +0.8**
KBA *e* pP 02 47 53.1 +0.6
ESKT Eskisehir 80.70 320 *i*P **P 02 47 48.2 -0.1**
OBKA Obir 80.77 334 ⇓*i*P **P 02 47 44.7 -3.9**
comp=Z,6.1nm,1.1s,mb4.4,SNR=11
OBKA Obir 80.77 334 ⇑*i* **P 02 47 53.1 +4.4**
comp=Z,16nm,0.8s,mb5.0
OBKA Obir 80.77 334 **P 02 47 53.1 +4.4**
comp=Z,16nm,0.8s,mb5.0
OBKA Obir 80.77 334 P **P 02 47 44.7 -3.9**
OBKA *e* 02 47 53.1
BFO Black Forest 80.83 338 *e*P **P 02 47 48.1 -0.9**
BFO pmax pmax
comp=Z,26nm,1.1s,mb5.1
BFO Black Forest 80.83 338 *e*P **P 02 47 48.1 -0.9**
comp=Z,26nm,1.1s,mb5.1
WATA Walderalm 80.88 336 ⇑*i*P **P 02 47 49.7 +0.4**
comp=Z,5.2nm,0.7s,mb4.6,SNR=10.0
WTTA Wattenberg 80.93 336 ⇑*i*P **P 02 47 50.3 +0.8**
comp=Z,18nm,1.1s,mb4.9,SNR=12
WTTA Wattenberg 80.93 336 ⇑*i* **P 02 47 54.9 +5.3**
comp=Z,32nm,0.5s,mb5.5
WTTA Wattenberg 80.93 336 **P 02 47 54.9 +5.3**
comp=Z,32nm,0.5s,mb5.5
WTTA Wattenberg 80.93 336 P **P 02 47 50.3 +0.8**
WTTA *e* pP 02 47 54.9 +0.6
WLS Welschbruch 80.99 339 *e*P **P 02 47 52.5 +2.6**
MOTA Moosalm 81.00 336 ⇑*i*P **P 02 47 50.5 +0.5**
comp=Z,16nm,1.0s,mb4.9,SNR=11
CDF Champ du Feu 81.01 339 *e*P **P 02 47 49.4 -0.6**
comp=Z,52nm,0.9s,mb5.2
CDF Champ du Feu 81.01 339 *e*P **P 02 47 49.4 -0.6**
CDF pmax pmax
comp=Z,26nm,0.9s,mb5.2
CDF Champ du Feu 81.01 339 *e*P **P 02 47 49.4 -0.6**
comp=Z,26nm,0.9s,mb5.2
PPT Papeete 81.04 128 *e*S S 02 57 57.1 -1.9
comp=Z,372nm,29.8s
PPT *e*LR LR 03 12 50.7
comp=Z,634nm,28.5s,baz=323
PPT Papeete 81.04 128 LR LR 03 16 08.6
comp=Z,166nm,20.7s,MS4.4,baz=278,slow=30
GRUS Gruza 81.05 329 *i*P **P 02 47 53.1 +2.9**
SQTA Sankt Quirin 81.09 336 ⇓*i*P **P 02 47 51.3 +0.9**
comp=Z,15nm,1.4s,mb4.7,SNR=12
SQTA Sankt Quirin 81.09 336 ⇓*i* **P 02 47 55.9 +5.5**
comp=Z,43nm,0.9s,mb5.4
SQTA Sankt Quirin 81.09 336 **P 02 47 55.9 +5.5**
comp=Z,43nm,0.9s,mb5.4
SQTA Sankt Quirin 81.09 336 P **P 02 47 51.3 +0.9**
SQTA *e* pP 02 47 55.9 +0.7
PLD Plovdiv 81.10 325 *e*P **P 02 47 54.1 +3.6**
DIVS Divcibare 81.13 329 *i*P **P 02 47 53.8 +3.2**
DIVS Divcibare 81.13 329 *e*P **P 02 47 53.4 +2.8**
ECH Echery 81.22 339 *e*P **P 02 47 51.6 +0.5**
VTS Vitosha 81.26 326 *e*P **P 02 47 54.6 +3.3**
VTS Vitosha 81.26 326 ⇓*i*P **P 02 47 54.8 +3.5**
VTS Vitosha 81.26 326 P **P 02 47 55.0 +3.7**
FELD Feldberg im Sc 81.33 338 *e*P **P 02 47 52.1 +0.4**
DAVA Damuels 81.39 337 ⇑*i*P **P 02 47 53.9 +1.9**
comp=Z,17nm,0.9s,mb5.0
BOJS Bojanci 81.45 333 *e*P **P 02 47 56.2 +3.9**
THEF They Montfort 81.49 340 *e*P **P 02 47 52.9 +0.4**
BBLS Bajina Basta - 81.53 329 *i*P **P 02 47 56.1 +3.3**
MOF Molkenrain 81.57 339 *e*P **P 02 47 53.4 +0.5**
ALN Alexandroupoli 81.59 324 *e*P **P 02 47 52.6 -0.5**
BTOK Tokmak 81.72 322 *i*P **P 02 47 57.2 +3.4**
TKTP Tekketepe 82.15 319 *i*P **P 02 47 55.7 -0.3**
STIP Stip 82.42 327 *e*P **P 02 48 00.3 +2.9**
STIP Stip 82.42 327 *e*P **P 02 47 56.4 -1.0**
VAY Valandovo 82.59 326 *e*P **P 02 48 01.3 +3.0**
VAY Valandovo 82.59 326 *e*P **P 02 47 57.0 -1.3**
KNT Kendrikon 82.61 326 *e*P **P 02 48 58.0 -0.3**
BCI Bajram Curri 82.61 328 *i*Pn **P 02 48 02.0 +3.6**
GRR Gorron 82.78 344 *e*P **P 02 47 59.4 +0.1**
comp=Z,82nm,1.1s,mb5.4
GRR Gorron 82.78 344 *e*P **P 02 47 59.4 +0.1**
GRR pmax pmax
comp=Z,41nm,1.1s,mb5.4
GRR Gorron 82.78 344 *e*P **P 02 47 59.4 +0.1**
comp=Z,41nm,1.1s,mb5.4
LIA Limnos Island 82.78 324 *e*P **P 02 48 03.5 +4.2**
LOS Limnos 82.79 324 *e*P **P 02 47 58.9 -0.5**
PRK Paraskevi 82.89 323 *e*P **P 02 48 04.0 +4.1**
PUK Puka 82.96 328 *i*Pn **P 02 48 03.9 +3.7**
GRG Griva 82.97 326 *e*P **P 02 48 03.8 +3.5**
PLG Polygyros 83.07 325 *e*P **P 02 47 59.8 -1.0**
PLG Polygyros 83.07 325 *e*P **P 02 48 04.7 +3.9**
PHP Peshkopia 83.07 328 *i*Pn **P 02 47 57.7 -3.1**
CSS Prodhromos 83.12 316 *e*P **P 02 48 05.2 +3.4**
comp=Z,14nm,0.5s,mb5.2
BIA Bitola 83.33 327 *e*P **P 02 48 02.1 -0.1**
PAIG Paliouri 83.36 325 *e*P **P 02 48 01.0 -1.3**
OHR Ohrid 83.44 327 *e*P **P 02 48 02.1 -0.7**
SMF Signal de Mont 83.47 341 *e*P **P 02 48 02.4 -0.5**
comp=Z,110nm,1.1s,mb5.5
SMF Signal de Mont 83.47 341 *e*P **P 02 48 02.4 -0.5**
SMF pmax pmax
comp=Z,55nm,1.1s,mb5.5
SMF Signal de Mont 83.47 341 *e*P **P 02 48 02.4 -0.5**
comp=Z,55nm,1.1s,mb5.5
FNA Florina 83.51 327 *e*P **P 02 48 06.3 +3.2**
TIR Tirane 83.58 328 *e*P **P 02 48 07.0 +3.6**
TIR Tirane 83.58 328 *i*Pn **P 02 48 07.6 +4.2**
LIT Litokhoron 83.68 326 *e*P **P 02 48 07.1 +3.2**
RSL Roselend 83.71 339 *e*P **P 02 48 04.3 +0.2**
LPG La Plagne 83.86 338 *e*P **P 02 48 05.3 +0.5**
comp=Z,63nm,0.8s,mb5.5
LPG La Plagne 83.86 338 *e*P **P 02 48 05.3 +0.5**
LPG pmax pmax
comp=Z,31nm,0.8s,mb5.5
LPG La Plagne 83.86 338 *e*P **P 02 48 05.3 +0.5**
comp=Z,31nm,0.8s,mb5.5
VLC Villacollemand 84.12 335 *e*P **P 02 48 13.1 +6.8**
PLDF La Plantade 84.16 341 *e*P **P 02 48 06.7 +0.3**
AGO Saint Agoulin 84.19 341 *e*P **P 02 48 07.1 +0.5**
BNI Bardonecchia 84.29 338 P **P 02 48 07.6 +0.5**
BNI *e* pP 02 48 13.4 +1.6
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.3
BNI Bardonecchia 84.29 338 *e*P **P 02 48 07.4 +0.3**
comp=Z,22nm,0.8s,mb5.3
ARG Arkhangelos 84.64 320 P **P 02 48 13.6 +4.8**
AGG Agios Georgios 84.67 325 *e*P **P 02 48 11.3 +2.3**
AQU L'Aquila 84.87 333 ⇑*i*P **P 02 48 10.2 +0.2**
AQU L'Aquila 84.87 333 *e*P **P 02 48 11.1 +1.1**
IGT Igoumenitsa 84.99 327 *e*P **P 02 48 13.7 +3.1**
KEK Kerkira 85.03 327 *e*P **P 02 48 15.1 +4.3**
APE Apeiranthos 85.04 322 ⇑*i*P **P 02 48 04.1 -6.7**
APE Apeiranthos 85.04 322 ⇑P **P 02 48 04.1 -6.7**
LUCF Luceram 85.20 337 *e*P **P 02 48 11.3 -0.3**
REVF Revere 85.34 337 *e*P **P 02 48 11.1 -1.2**
CAF Calviac 85.50 341 *e*P **P 02 48 13.0 -0.1**
comp=Z,68nm,0.9s,mb5.6
CAF Calviac 85.50 341 *e*P **P 02 48 13.0 -0.1**
CAF pmax pmax
comp=Z,34nm,0.9s,mb5.6
CAF Calviac 85.50 341 *e*P **P 02 48 13.0 -0.1**
comp=Z,34nm,0.9s,mb5.6
SANT Santorini 85.66 322 *e*P **P 02 48 13.9 0.0**
comp=Z,28nm,1.0s,mb5.4
TAVF Tavernes 85.79 338 *e*P **P 02 48 15.6 +1.0**
PRAF Pradon 85.84 339 *e*P **P 02 48 16.2 +1.4**
RLS Riolos of Patr 85.84 325 *e*P **P 02 48 19.3 +4.5**
RLS Riolos of Patr 85.84 325 P **P 02 48 19.5 +4.7**
TBI Tubuai 85.85 131 *e*S S 02 58 45.0 -2.6
comp=Z,226nm,34.8s
TBI *e*LR LR 03 14 52.5
comp=Z,816nm,33.0s
CORF Corte 86.19 336 *e*P **P 02 48 17.2 +0.7**
ZKR Zakros 86.40 320 *e*P **P 02 48 20.8 +3.2**
VLI Veliai 86.41 324 *e*P **P 02 48 21.5 +3.8**
VLI Veliai 86.41 324 P **P 02 48 21.3 +3.6**
ITM Ithomi 86.42 325 *e*P **P 02 48 21.3 +3.6**
ITM Ithomi 86.42 325 P **P 02 48 21.2 +3.5**
TIP Timpagrande 86.60 329 *e*P **P 02 48 18.6 0.0**
NWAO Narrogin (SRO) 86.67 211 *e*P **P 02 48 19.3 +0.4**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 86.67 211 *e*P **P 02 48 19.3 +0.4**
comp=Z,10nm,0.8s,mb5.1
KARN Karanos 87.14 322 *e*P **P 02 48 25.3 +4.1**
VSL Villasalto 88.71 334 *e*P **P 02 48 36.9 +8.2**
ESDC Sonseca Array 91.77 344 P **P 02 48 41.5 -1.5**
comp=Z,2.9nm,0.9s,mb4.6,baz=31,slow=3.5,SNR=6.5
ESDC LR LR 03 32 37.2
comp=Z,291nm,20.6s,MS4.7,baz=25,slow=37
ESLA Sonseca Array 91.77 344 *e*P **P 02 48 42.3 -0.7**
comp=Z,2.2nm,1.0s,mb4.4
PAB San Pablo 91.97 344 *e*P **P 02 48 43.1 -0.8**
PAB pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
PAB San Pablo 91.97 344 *e*P **P 02 48 43.0 -0.8**
comp=Z,7.7nm,0.9s,mb5.0
KEST Kesra 92.19 333 LR LR 03 32 31.7
comp=Z,99nm,18.9s,MS4.3,baz=5.1,slow=37
RKT Rikitea 93.73 120 *e*SS SS 03 06 20.1 +1.1
comp=Z,155nm,26.8s
RKT *e*LR LR 03 18 22.8
comp=Z,453nm,34.8s
TORD Torodi Ar. Bea 115.67 331 PKP PKPdf 02 54 17.1 -0.3
comp=Z,0.8nm,0.5s,baz=20,slow=2.0,SNR=18
TORD PP PP 02 55 17.7 -2.3
comp=Z,2.0nm,0.8s,baz=22,slow=8.1,SNR=7.7
TORD PKKPbc PKKPbc 03 04 47.0 -2.8
comp=Z,0.2nm,0.6s,baz=232,slow=1.6,SNR=4.6
VNDA Vanda 124.30 178 PKP PKPdf 02 54 32.0 -2.0
comp=Z,1.5nm,0.8s,baz=334,slow=3.5,SNR=9.2
LPAZ La Paz 132.82 64 PKP PKPdf 02 54 51.1 +0.8
comp=Z,1.8nm,0.9s,baz=22,slow=5.9,SNR=5.8
MAW Mawson 133.23 212 PKP PKPdf 02 54 49.9 -1.1
comp=Z,3.0nm,0.8s,baz=18,slow=4.4,SNR=8.4
NVL N'lazarevskaya 150.50 204 *e*PKIKP PKPbc 02 55 24.8 -2.1
NVL pmax pmax
comp=Z,26nm,1.0s
TRQA Tornquist 151.26 86 *e*PKPbc PKPbc 02 55 28.0 -0.7
USHA Ushuaia 151.67 122 PKPbc PKPbc 02 55 28.5 -1.2
comp=Z,17nm,0.8s,baz=1.9,slow=5.1,SNR=8.4
PMSA Palmer Station 152.27 144 PKPbc PKPbc 02 55 29.3 -1.7
comp=Z,22nm,1.0s,baz=160,slow=11,SNR=4.5
SNAA Sanae 153.22 195 PKPbc PKPbc 02 55 30.5 -2.6
comp=Z,1.9nm,0.6s,baz=220,slow=3.3,SNR=41
SNAA Sanae 153.22 195 *e*PKPdf PKPbc 02 55 31.2 -1.9
SNAA *e* 02 55 34.4
SNAA *e* 02 55 37.1
SNAA *e* 02 55 43.6
SNAA *e* 02 55 50.0
SNAA *e* 02 56 02.8
SNAA *e* 02 56 27.5
SNAA Sanae 153.22 195 PKIKP PKPbc 02 55 30.5 -2.6
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 153.22 195 *e*PKPbc PKPbc 02 55 31.1 -2.0
SNAA *e*PKPab PKPab 02 55 43.5 -1.3
VNA2 Neumayer--Watz 154.62 193 *e*PKPdf PKPbc 02 55 35.0 -1.1
baz=162,slow=2.2
VNA2 *e* 02 55 38.0
VNA2 *e* 02 55 40.7
VNA2 *e* 02 55 50.2
VNA2 *e* 02 55 54.2
VNA2 *e* 02 55 58.7
VNA2 *e* 02 56 11.8
VNA2 *e* 02 56 29.0
VNA2 *e* 02 59 25.0
VNA3 Neumayer Olymp 154.66 191 *e*PKPdf PKPbc 02 55 34.6 -1.6
VNA3 *e* 02 55 37.7
VNA3 *e* 02 55 40.7
VNA3 *e* 02 55 49.5
VNA3 *e* 02 55 53.4
VNA3 *e* 02 56 11.1
VNA3 *e* 02 59 24.8

HLW **18** *02:57:53.6, 32.21N×35.71E, h20km, Mb4.1*
CSEM **18** *02:57:54.0±0.1, 32.03N×35.39E, h2km, Mw3.4, Error ellipse: s-maj=3.1km s-min=1.2km az=103.0*
GII **18** *02:57:54.5±0.5, 32.04N×35.42E, h2km±2km, mb4.1/2, ML3.9/8, Mw3.6/6*
ISCJB **18** *02:57:54.3±0.5, 32.02N±0.002×35.37E±0.005, h3km±4km, Error ellipse: s-maj=7.2km s-min=2.7km az=15.0*
NIC **18** *02:57:55.7±0.3, 31.86N×35.64E, h25km, ML3.1, MW3.3*
GRAL **18** *02:57:56.0±2.2, 32.00N×35.33E, h0km±10km, MD4.0*
NEIC **18** *02:57:57.1±10.0, 32.13N×35.45E, h10km, ML3.1(NIC), Error ellipse: s-maj=128.0km s-min=17.5km az=170.0*

ISC 18 02:57:54.9±0.5, 32.01N±002×35.43E±005, h1km±4km, n47, σ0.9 s 74/64, 3C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.25**	**20**	Pg	**Pg**	**02 57 59.3**	**-0.4**
SLTI	**Sal'it**	**0.40**	**305**	Pg	**Pg**	**02 58 02.4**	**-0.1**
DRGI	**Dragot**	**0.42**	**184**	Pg	**Pg**	**02 58 03.6**	**+0.6**
DRGI				Sg	**Sg**	**02 58 10.5**	**+2.0**
MMLI	**Mount Malkishu**	**0.42**	**360**	Pg	**Pg**	**02 58 02.8**	**-0.2**
MZDA	**Masada**	**0.70**	**184**	Pg	**Pg**	**02 58 08.7**	**+0.3**
MZDA				Sg	**Sg**	**02 58 19.1**	**+1.6**
MZDA	**Masada**	**0.70**	**184**	⇑Pg	**Pg**	**02 58 08.7**	**+0.3**
MZDA				Sg	**Sg**	**02 58 19.1**	**+1.6**
OFRI	**'Ofer**	**0.71**	**329**	Pg	**Pg**	**02 58 08.3**	**-0.2**
GLH	**Golan-Tel Qazi**	**0.72**	**15**	Pg	**Pg**	**02 58 08.8**	**0.0**
MMA0	**Mount Meron ar**	**1.00**	**359**	Pg	**Pg**	**02 58 13.3**	**-0.7**
RTMI	**Retamim**	**1.14**	**213**	Pg	**Pg**	**02 58 16.5**	**-0.3**
KSDI	**Kefar Szold**	**1.19**	**10**	Pg	**Pg**	**02 58 17.0**	**-0.8**
KZIT	**Kziot**	**1.41**	**219**	Pn	**Pn**	**02 58 21.2**	**-0.5**
KZIT				Sn	**Sn**	**02 58 40.8**	**0.0**
ZFRI	**Zfri**	**1.47**	**188**	Pn	**Pn**	**02 58 21.7**	**-0.8**
MATL	**Matirih**	**1.47**	**357**	*e*P	**Pn**	**02 58 21.4**	**-1.1**
RCY	**Rachaya**	**1.50**	**13**	*e*P	**Pn**	**02 58 21.9**	**-1.0**
RCY				*e*S	**Sn**	**02 58 43.0**	**-0.1**
PRNI	**Paran**	**1.70**	**192**	Pn	**Pn**	**02 58 25.2**	**-0.3**
PRNI				Sn	**Sn**	**02 58 48.6**	**+0.7**
BHL	**Bhannes**	**1.89**	**6**	*e*P	**Pn**	**02 58 28.7**	**+0.4**
BHL				*e*S	**Sn**	**02 58 53.3**	**+0.5**
HWQ	**Hawqa**	**2.30**	**11**	*e*P	**Pn**	**02 58 35.5**	**+1.6**
HWQ				*e*S	**Sn**	**02 59 04.1**	**+1.3**
AQBJ	**Aqaba**	**2.30**	**188**	Pn	**Pn**	**02 58 33.8**	**-0.1**
AMAG	**Maghara**	**2.34**	**235**	P	**Pn**	**02 58 34.3**	**-0.1**
EIL	**Elat**	**2.37**	**190**	Pn	**Pn**	**02 58 34.3**	**-0.5**
HNKL	**Nakhl**	**2.42**	**211**	P	**Pn**	**02 58 35.1**	**-0.4**
HBST	**Basata**	**2.85**	**192**	P	**Pn**	**02 58 40.8**	**-0.6**
SUZ		**3.11**	**226**	P	**Pn**	**02 58 44.9**	**-0.1**
PHNC	**Paralimni**	**3.20**	**339**	P	**Pn**	**02 58 46.0**	**-0.3**
PHNC				S	**Sn**	**02 59 22.1**	**-2.9**
HDHB	**Dhahab**	**3.35**	**192**	P	**Pn**	**02 58 47.5**	**-0.8**
CSS	**Prodhromos**	**3.42**	**330**	P	**Pn**	**02 58 49.9**	**+0.6**
CSS				S	**Sn**	**02 59 31.4**	**+0.9**
SZAC	**Souni-Zanaja** 6.0nm,0.2s	**3.46**	**323**	⇑P	**Pn**	**02 58 50.2**	**+0.3**
SZAC				S	**Sn**	**02 59 32.7**	**+1.2**
SZAC	**Souni-Zanaja**	**3.46**	**323**	⇑*i*P	**Pn**	**02 58 50.2**	**+0.3**
SZAC				S	**Sn**	**02 59 32.7**	**+1.2**
SZAC	**Souni-Zanaja** 6.0nm,0.2s	**3.46**	**323**	⇑*i*P	**Pn**	**02 58 50.2**	**+0.3**
HHAG	**Hagoal**	**3.52**	**235**	P	**Pn**	**02 58 50.1**	**-0.5**
MAMC	**Mammari**	**3.65**	**330**	P	**Pn**	**02 58 52.2**	**-0.2**
KOT	**Kottamia**	**3.72**	**237**	⇓P	**Pn**	**02 58 53.7**	**+0.2**
KOT				S	**Sn**	**02 59 37.1**	**-0.8**
HRDS	**Abu Rudays**	**3.77**	**210**	P	**Pn**	**02 58 54.2**	**+0.1**
PPCY	**Paphos**	**3.85**	**319**	P	**Pn**	**02 58 54.8**	**-0.4**
PPCY				S	**Sn**	**02 59 40.5**	**-0.5**
ALFC	**Alevga** 3.5nm,0.4s	**3.92**	**324**	P	**Pn**	**02 58 56.5**	**+0.3**
ALFC				S	**Sn**	**02 59 44.4**	**+1.6**
AKMC	**Akamas**	**3.96**	**320**	P	**Pn**	**02 58 57.6**	**+0.9**
GLL	**Jalalah**	**4.01**	**234**	P	**Pn**	**02 58 57.5**	**+0.1**
GLL				S	**Sn**	**02 59 44.7**	**-0.4**
GLL	**Jalalah**	**4.01**	**234**	P	**Pn**	**02 58 57.5**	**0.0**
HSAF	**As Saff**	**4.10**	**235**	P	**Pn**	**02 58 58.7**	**+0.1**
TR1		**4.19**	**198**	P	**Pn**	**02 58 59.1**	**-0.7**
SHRM		**4.26**	**196**	P	**Pn**	**02 59 00.6**	**-0.2**
GRB	**Gharib**	**4.38**	**212**	P	**Pn**	**02 59 01.9**	**-0.5**
HMYD	**Mayadein**	**4.55**	**242**	⇓P	**Pn**	**02 59 05.2**	**+0.4**
HNAT	**Natroun**	**4.77**	**241**	P	**Pn**	**02 59 08.3**	**+0.5**
HHRG	**Al Ghardaqah**	**5.04**	**199**	P	**Pn**	**02 59 10.9**	**-0.7**
MALT	**Malatya** 18nm,1.2s	**6.75**	**21**	*e*Pn	**Pn**	**02 59 34.9**	**-0.1**
MALT				*e*Sg	**Sg**	**03 01 31.8**	**+0.2**

ISCJB **18** *02:59:12.0±5.8, 46.7N±0.02×153.6E±0.03, h10km±35km, mb4.0/5, Error ellipse: s-maj=49.2km s-min=16.2km az=105.0*
NEIC **18** *02:59:12.6±2.7, 46.41N×153.57E, h10km, mb3.9/1, Error ellipse: s-maj=84.6km s-min=26.1km az=187.0*
IDC **18** *02:59:12.9±2.2, 46.89N×153.78E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=66.1km s-min=29.7km az=176.0*
MOS **18** *02:59:15.9±1.6, 46.74N×153.50E, h38km, mb4.2/1, Error ellipse: s-maj=27.1km s-min=19.9km az=64.8*

ISC 18 02:59:13.6±6.6, 46.7N±0.02×153.6E±0.03, h10km±41km, n12, σ1.9 s 05/11, mb4.0/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.26**	**252**	*e*PN	**Pn**	**03 00 17.0**	**-1.5**
SKR	**Severo-Kuril's**	**4.32**	**22**	*e*PN	**Pn**	**03 00 19.3**	**-0.1**
SKR				*e*		03 01 09.0	
ASAJ	**Asahikawa** 1.3nm,0.3s,baz=31,slow=20,SNR=4.7	**8.16**	**256**	Pn	**Pn**	**03 01 15.7**	**+3.6**
ASAJ	**Asahikawa**	**8.16**	**256**	PN	**Pn**	**03 01 15.7**	**+3.6**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**03 07 47.0**	**0.0**
comp=Z,0.3nm,0.5s,mb3.5,baz=67,slow=7.8,SNR=6.0							
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**03 08 13.0**	**-0.5**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
CHKZ	**

comp=Z,0.9nm,0.5s,mb4.0
FINES FINESS Array B 64.23 335 P **P** **03 09 48.8 0.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=41,slow=6.7,SNR=11
NB2 NORSAR Subarra 68.39 341 P **P** **03 10 16.4 +1.0**
comp=Z,3.2nm,0.8s,mb4.4,baz=28,slow=6.5
NOA NORSAR Array B 68.39 341 P **P** **03 10 15.1 -0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=27,slow=6.5,SNR=4.0
MDRS Chennai 69.20 267 *ex* x 03 11 06.5
TXAR Lajitas Array 77.22 61 P **P** **03 11 07.8 0.0**
comp=Z,1.1nm,0.5s,mb4.0,baz=304,slow=4.7,SNR=14

NEIC ***18*** *03:02:38.5±0.4, 6.48S×151.14E, h10km, mb4.9/19, Error ellipse: s-maj=12.9km s-min=7.0km az=117.0*
BJI ***18*** *03:02:41.2, 5.97S×150.67E, h10km, mB5.4, mb4.8, Ms4.8, Msz4.5*
ISCJB ***18*** *03:02:47.5±1.5, 6.62S±0.06×150.91E±0.06, h88km±13km, mb4.7/36, Error ellipse: s-maj=10.9km s-min=9.5km az=104.2*
IDC ***18*** *03:02:49.1±2.4, 6.64S×150.84E, h92km±22km, mb4.4/17, mb1 4.5/20, mb1mx4.5/21, mbtmp4.4/20, MS4.1/17, Ms1 4.1/17, ms1mx3.9/30, Error ellipse: s-maj=17.3km s-min=13.9km az=96.0*
ISC 18 03:02:44.7±1.6, 6.64S±0.06×151.21E±0.08, h55km±13km**, h31**km±10.4km**:pP-P, n80, σ1§11/74, mb4.8/38, MS4.2/17, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**235**	P			**Pn**	**03 03 54.8**	**-0.3**
	6.1nm,0.3s,baz=21,slow=4.6,SNR=16								
PMG				S			**Sn**	**03 04 51.5**	**+1.4**
	34nm,0.3s,baz=190,slow=23,SNR=11								
PMG				LR		LR	LR	03 06 01.9	
	comp=Z,533nm,18.1s,baz=44,slow=42								
PMG	**Port Moresby**	**4.86**	**235**	*e*Pn			**Pn**	**03 03 54.2**	**-1.0**
PMG				*e*Sn			**Sn**	**03 04 51.4**	**+1.3**
HNR	**Honiara**	**9.09**	**108**	P			**Pn**	**03 05 02.7**	**+10**
	7.1nm,0.3s,baz=111,slow=1.8,SNR=3.0								
HNR				LR		LR	LR	03 07 40.5	
	comp=Z,806nm,21.4s,baz=356,slow=31								
CTA	**Charters Tower**	**14.20**	**199**	P			**Pn**	**03 06 03.6**	**+0.8**
	0.3nm,0.3s,baz=40,slow=13,SNR=2.9								
KAKA	**Kakadu**	**19.45**	**251**	*e*P			**Pn**	**03 07 06.0**	**-2.3**
	61nm,1.1s								
WB2	**Warramunga Arr**	**21.04**	**229**	**P**			**P**	**03 07 23.8**	**-0.1**
WB2				*e*S			**S**	**03 11 16.4**	**+1.4**
WRA	**Warramunga Arr**	**21.05**	**229**	P			**P**	**03 07 23.6**	**-0.4**
	35nm,1.0s,mb4.7,baz=52,slow=10,SNR=55								
WRA				S			**S**	**03 11 16.2**	**+1.0**
	10nm,1.3s,baz=57,slow=19,SNR=5.4								
GUMO	**Guam**	**21.06**	**343**	P			**P**	**03 07 25.9**	**+1.7**
	53nm,0.7s,mb5.0,baz=203,slow=13,SNR=3.5								
GUMO				LR		LR	LR	03 13 49.1	
	comp=Z,419nm,19.2s,MS3.8,baz=95,slow=32								
DZM	**Mont Dzumac**	**21.25**	**138**	P			**P**	**03 07 32.3**	**+6.2**
	13nm,0.9s,mb4.2,baz=296,slow=14,SNR=3.5								
DZM				LR		LR	LR	03 14 20.8	
	comp=Z,1μm,20.4s,MS4.3,baz=288,slow=32								
AS31	**Alice Springs**	**23.73**	**223**	*e*P			**P**	**03 07 51.8**	**+0.1**
AS31				*e*S			**S**	**03 12 07.6**	**+4.8**
ASAR	**Alice Springs**	**23.73**	**223**	P			**P**	**03 07 51.8**	**+0.1**
	26nm,0.9s,mb4.7,baz=57,slow=8.8,SNR=92								
ASAR				S			**S**	**03 12 07.4**	**+4.6**
	1.9nm,0.7s,baz=52,slow=8.4,SNR=8.6								
ASAR				LR		LR	LR	03 17 08.5	
	comp=Z,199nm,18.7s,MS3.6,baz=299,slow=37								
ASPA	**Alice Springs**	**23.73**	**223**	*e*P			**P**	**03 07 51.8**	**+0.1**
ASPA				*e*S			**S**	**03 12 07.6**	**+4.7**
STKA	**Stephens Creek**	**26.66**	**198**	*e*P			**P**	**03 08 18.0**	**-0.3**
	19nm,0.9s,mb4.6								
STKA				*e*			pP	03 08 29.5	-2.5
STKA	**Stephens Creek**	**26.66**	**198**	P			**P**	**03 08 17.4**	**-0.9**
	50nm,1.1s,mb4.9,baz=8.7,slow=9.0,SNR=24								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	*e*P			**P**	**03 08 24.8**	**-0.2**
	63nm,1.1s,mb5.1								
FITZ	**Fitzroy Crossi**	**27.41**	**243**	P			**P**	**03 08 24.2**	**-0.8**
	29nm,0.9s,mb4.8,baz=72,slow=9.4,SNR=67								
FITZ				LR		LR	LR	03 19 45.5	
	comp=Z,132nm,19.1s,MS3.5,baz=58,slow=38								
FORT	**Forrest**	**32.37**	**219**	*e*P			**P**	**03 09 08.5**	**-0.4**
	21nm,0.9s,mb5.0								
MBWA	**Marble Bar**	**33.69**	**241**	*e*P			**P**	**03 09 20.5**	**+0.1**
	14nm,1.0s,mb4.8								
CBIJ	**Chichi jima**	**34.66**	**346**	LR		LR	LR	03 21 35.1	
	comp=Z,413nm,21.6s,MS4.1,baz=132,slow=33								
RAO	**Raoul Island**	**36.78**	**131**	LR		LR	LR	03 20 47.5	
	comp=Z,340nm,20.7s,MS4.1,baz=57,slow=29								
AFI	**Afiamalu**	**37.09**	**104**	LR		LR	LR	03 24 09.5	
	comp=Z,274nm,18.2s,MS4.1,baz=162,slow=34								
URZ	**Urewera**	**39.26**	**147**	LR		LR	LR	03 23 17.0	
	comp=Z,373nm,21.5s,MS4.2,baz=333,slow=31								
RPZ	**Rata Peaks**	**40.83**	**158**	LR		LR	LR	03 24 43.3	
	comp=Z,672nm,20.7s,MS4.5,baz=15,slow=32								
JHJ	**Hachijo jima 2**	**41.01**	**345**	LR		LR	LR	03 23 51.9	
	comp=Z,290nm,19.4s,MS4.2,baz=176,slow=31								
YHNB	**Yeheng**	**42.58**	**318**	*e*P			**P**	**03 10 35.6**	**+0.4**
JNU	**Nakatsue**	**44.01**	**335**	LR		LR	LR	03 24 55.9	
	comp=Z,722nm,21.4s,MS4.6,baz=98,slow=30								
MJAR	**Matsushiro Arr**	**44.65**	**345**	PcP			PcP	03 12 33.3	-0.4
	4.6nm,0.9s,baz=174,slow=4.1,SNR=9.1								
KSRS	**Korea Array**	**48.96**	**335**	P			**P**	**03 11 24.9**	**-0.5**
	2.2nm,0.7s,mb4.3,baz=139,slow=9.8,SNR=5.7								
KSRS				PcP			PcP	03 12 49.0	+0.2
	2.0nm,0.7s,baz=151,slow=4.4,SNR=7.5								
KSRS				LR		LR	LR	03 28 23.2	
	comp=Z,204nm,19.1s,MS4.1,baz=143,slow=31								
KULM	**Kulim**	**51.84**	**282**	*e*P			**P**	**03 11 46.1**	**-1.0**
PSI	**Prapat**	**53.03**	**279**	P			**P**	**03 11 54.1**	**-1.9**
	4.8nm,0.7s,mb4.6,baz=140,slow=5.0,SNR=9.8								
KMI	**Kunming**	**56.73**	**306**	P			**P**	**03 12 23.3**	**+0.5**
KMI				AMB		AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6								
KMI				LR		LR	LR		
	comp=N,129nm,22.5s								
KMI				LR		LR	LR		
	comp=E,111nm,27.7s								
KMI				LR		LR	LR		
	comp=Z,223nm,20.3s,MS4.2								
KMI	**Kunming**	**56.73**	**306**	P			**P**	**03 12 23.2**	**+0.4**
	comp=Z,8.0nm,1.2s,mb4.6								
KMI				pP		pP	pP	03 12 34.3	-3.3
KMI				sP		sP	sP	03 12 38.0	-5.8
KMI				LR		LR	LR		
	comp=Z,220nm,20.3s,MS4.2								
HHC	**Hu-ho-hao-te**	**59.64**	**326**	*e*P			**P**	**03 12 45.6**	**+2.5**
HHC				PCP		PcP	PcP	03 13 31.1	+1.4
HHC				SCP		ScP	ScP	03 17 26.4	+0.5
HHC				AMB		AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8								
HHC				AMB		AMB	AMB		
	comp=Z,337nm,9.4s								
HHC				LR		LR	LR		
	comp=N,205nm,16.3s,MS4.6								
HHC				LR		LR	LR		
	comp=E,327nm,17.4s,MS4.6								
HHC				LR		LR	LR		
	comp=Z,296nm,16.2s,MS4.5								
LZH	**Lanzhou**	**61.47**	**317**	*e*P			**P**	**03 12 52.5**	**-3.0**
LZH				AP		pP	pP	03 12 57.5	-13
LZH				XP		sP	sP	03 13 01.0	-16
LZH				AMB		AMB	AMB		
	comp=Z,28nm,1.2s,mb5.3								
LZH	**Lanzhou**	**61.47**	**317**	*e*P			**P**	**03 12 52.5**	**-3.0**
	comp=Z,28nm,1.2s,mb5.3								
LZH				pP		pP	pP	03 12 57.5	-13
LZH				sP		sP	sP	03 13 01.0	-16
HIA	**Hailar**	**62.08**	**337**	*e*P			**P**	**03 12 58.7**	**-0.9**
	comp=Z,4.0nm,0.4s,mb4.9								
ULN	**Ulaanbaatar**	**66.74**	**329**	*e*P			**P**	**03 13 30.2**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.5								
SONM	**Songino Array**	**67.05**	**329**	P			**P**	**03 13 31.1**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=146,slow=5.9,SNR=19								
SONM				LR		LR	LR	03 43 53.1	
	comp=Z,155nm,18.0s,MS4.3,baz=3.0,slow=37								
VNDA	**Vanda**	**71.06**	**178**	P			**P**	**03 13 56.6**	**-0.3**
	comp=Z,5.9nm,1.2s,mb4.4,baz=332,slow=7.5,SNR=10								
VNDA	**Vanda**	**71.06**	**178**	*e*P			**P**	**03 13 56.4**	**-0.5**
	comp=Z,13nm,1.4s,mb4.7								
JIRN	**Jiri**	**71.39**	**302**	*e*P			**P**	**03 13 58.9**	**0.0**
	comp=Z,30nm,0.9s,mb5.2								
GUN	**Gumba**	**71.73**	**302**	*e*P			**P**	**03 14 00.8**	**-0.2**
	comp=Z,60nm,1.1s,mb5.4								
PKI	**Pulchoki**	**72.03**	**302**	*e*P			**P**	**03 14 02.9**	**+0.2**
	comp=Z,28nm,0.9s,mb5.2								
DMN	**Daman**	**72.29**	**302**	*e*P			**P**	**03 14 04.3**	**0.0**
	comp=Z,28nm,0.9s,mb5.2								
GKN	**Gorkha**	**72.81**	**302**	*e*P			**P**	**03 14 07.4**	**0.0**
KOLN	**Koldanda**	**73.62**	**301**	*e*P			**P**	**03 14 11.7**	**-0.4**
	comp=Z,19nm,0.8s,mb5.1								
BILL	**Bilibino**	**75.27**	**6**	*e*P			**P**	**03 14 21.5**	**-0.2**
	comp=Z,21nm,1.1s,mb5.0								
NDI	**New Delhi**	**79.29**	**301**	*e*P			**P**	**03 14 41.5**	**-2.7**
MKAR	**Makanchi Array**	**80.68**	**319**	P			**P**	**03 14 51.8**	**+0.1**
	comp=Z,7.7nm,1.0s,mb4.6,baz=91,slow=6.1,SNR=11								
ZAL	**Zalesovo**	**81.81**	**327**	P			**P**	**03 14 55.9**	**-1.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=355,slow=5.7,SNR=5.3								
KSH	**Kashi**	**82.94**	**311**	*e*P			**P**	**03 15 05.6**	**+2.0**
KSH				*e*AP		pP		03 15 11.3	-7.9
KSH				*e*XP		sP		03 15 13.4	-12
KSH				AMB		AMB			
	comp=Z,121nm,1.0s,mb5.9								
MAW	**Mawson**	**83.27**	**203**	P			**P**	**03 15 04.5**	**-0.9**
	comp=Z,5.4nm,0.8s,mb4.6,baz=109,slow=6.7,SNR=8.0								
MAW				LR		LR		03 48 55.5	
	comp=Z,115nm,19.6s,MS4.3,baz=72,slow=33								
MAW	**Mawson**	**83.27**	**203**	*e*P			**P**	**03 15 05.5**	**+0.2**
	comp=Z,23nm,1.2s,mb5.1								
QSPA	**South Pole Qui**	**83.33**	**180**	*e*P			**P**	**03 15 05.3**	**-0.3**
	comp=Z,16nm,1.0s,mb5.0								
KZA	**Kyzart**	**84.11**	**313**	P			**P**	**03 15 11.4**	**+1.8**
	SNR=13								
COLA	**College**	**84.14**	**22**	*e*P			**P**	**03 15 08.4**	**-1.3**
	comp=Z,7.3nm,0.8s,mb4.9								
KBK	**Karagaybulak**	**84.47**	**314**	P			**P**	**03 15 13.8**	**+2.4**
	SNR=5.8								
UCH	**Uchtor**	**84.67**	**313**	P			**P**	**03 15 13.7**	**+1.2**
	SNR=11								
CHMS	**Chumysh**	**84.69**	**314**	P			**P**	**03 15 13.6**	**+1.1**
	SNR=6.4								
AAK	**Ala-Archa**	**84.78**	**314**	P			**P**	**03 15 14.2**	**+1.1**
	SNR=5.5								
AAK	**Ala-Archa**	**84.78**	**314**	*e*P			**P**	**03 15 12.9**	**-0.1**
	comp=Z,16nm,1.1s,mb5.1								
USP	**Ospenovka**	**84.93**	**314**	P			**P**	**03 15 13.9**	**+0.1**
	SNR=11								
AML	**Almayashu**	**85.24**	**313**	P			**P**	**03 15 17.0**	**+1.7**
	SNR=19								
EKS2	**Erkin-Say**	**85.31**	**314**	P			**P**	**03 15 16.4**	**+0.7**
	SNR=12								
EGAK	**Eagle**	**86.67**	**23**	*e*P			**P**	**03 15 22.3**	**0.0**
	comp=Z,13nm,1.1s,mb5.1								
DAWY	**Dawson**	**87.11**	**24**	*e*P			**P**	**03 15 24.8**	**+0.2**
BVAR	**Borovoye Array**	**89.76**	**323**	P			**P**	**03 15 35.0**	**-2.1**
	comp=Z,1.1nm,0.6s,mb4.4,baz=86,slow=6.1,SNR=3.9								
BRVK	**Borovoye**	**89.83**	**323**	*e*P			**P**	**03 15 35.8**	**-1.6**
	comp=Z,6.0nm,1.1s,mb4.8								
ZRNK	**Zerenda**	**90.57**	**323**	*e*P			**P**	**03 15 39.9**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.5								
INK	**Inuvik**	**90.73**	**21**	P			**P**	**03 15 40.8**	**-0.8**
	comp=Z,9.0nm,1.1s,mb5.0,baz=227,slow=5.8,SNR=5.4								
INK	**Inuvik**	**90.73**	**21**	*e*P			**P**	**03 15 40.6**	**-1.0**
	comp=Z,441nm,1.1s								
SYO	**Syowa Base**	**91.41**	**200**	‖*e*P			**P**	**03 15 44.4**	**-0.3**
CMB	**Columbia Colle**	**92.79**	**52**	*e*P			**P**	**03 15 52.1**	**+1.0**
	comp=Z,3.2nm,1.1s,mb4.7								
NVAR	**Mina Array Bea**	**94.46**	**52**	P			**P**	**03 16 00.3**	**+1.5**
	comp=Z,3.9nm,1.0s,mb4.8,baz=263,slow=4.7,SNR=12								
YKA	**Yellowknife Ar**	**97.78**	**28**	P			**P**	**03 16 15.3**	**+1.4**
	comp=Z,0.9nm,0.3s,mb4.7,baz=274,slow=4.9,SNR=15								
SNAA	**Sanae**	**100.00**	**188**	LR		LR	LR	04 04 36.1	
	comp=Z,53nm,19.1s,MS4.1,baz=202,slow=37								
GERES	**GERESS Array B**	**124.76**	**327**	PKP			PKPdf	03 21 38.0	-0.2
	comp=Z,0.7nm,0.8s,baz=315,slow=0.9,SNR=6.1								
SDV	**Santo Domingo**	**138.50**	**84**	*e*PKPdf			PKPdf	03 22 05.6	+1.5
TOA0	**Torodi Ar. Sit**	**149.30**	**285**	*e*PKPbc			PKPbc	03 22 27.6	+0.4
TORD	**Torodi Ar. Bea**	**149.30**	**285**	PKPbc			PKPbc	03 22 27.9	+0.7
	comp=Z,4.0nm,0.4s,baz=70,slow=2.2,SNR=48								

IDC ***18*** *03:04:33.1±0.7, 4.720N×155.55E, h0km, mb4.4/20, mb1 4.6/21, mb1mx4.5/26, mbtmp4.4/21, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/45, Error ellipse: s-maj=19.2km s-min=13.7km az=166.0*
SKHL ***18*** *03:04:36.0±2.6, 47.18N×155.38E, h49km±15km*
ISCJB ***18*** *03:04:37.6±0.3, 47.34N±0.05×155.46E±0.05, h35km, mb4.6/77, MS4.1/5, Error ellipse: s-maj=8.0km s-min=4.5km az=153.5*
BJI ***18*** *03:04:37.4, 47.58N×155.25E, h16km, mB5.1, mb4.7, Ms4.5, Msz4.0*
MOS ***18*** *03:04:38.4±1.2, 47.23N×155.38E, h45km, mb4.9/31, Error ellipse: s-maj=10.5km s-min=6.5km az=111.9*
NEIC ***18*** *03:04:39.1±1.1, 47.17N×155.52E, h37km±10km, mb4.6/37, Error ellipse: s-maj=8.3km s-min=4.7km az=172.0*
SZGRF ***18*** *03:04:43.8, 48.59N×158.28E, h33km, mb5.0, East of Kuril Islands, Russia*
ISC 18 03:04:39.5±0.3, 47.38N±0.05×155.46E±0.005, h35km**, (h11**km**±8.4**km**:pP-P), n175, σ0§99/184, mb4.6/77, MS4.1/5, 13C-11D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.33**	**7**	*e*P			**Pn**	**03 05 29.1**	**0.0**
SKR				AMB		AMB	AMB	03 05 30.5	
	80nm,0.5s								
SKR				*e*S			**Sn**	**03 06 07.0**	**-0.5**
SKR				A				03 06 09.0	
	240nm,0.4s								
SKR				A				03 06 09.0	
	160nm,0.4s								
SKR				A				03 06 09.0	
	100nm,0.4s								
KUR	**Kuril'sk**	**5.68**	**251**	*e*P			**Pn**	**03 05 56.6**	**-4.8**
KUR				AMB		AMB	AMB	03 05 58.0	
	304nm,0.6s								
KUR				*e*S			**Sn**	**03 06 59.0**	**-6.3**
KUR				A				03 07 05.0	
	456nm,0.5s								
PET	**Petropavlovsk**	**6.01**	**19**	*e*PN			**Pn**	**03 06 03.4**	**-2.5**
PET				pmax		pmax	pmax		
	comp=Z,34nm,0.7s								
PET				MLR		MLR	MLR		
	comp=Z,500nm,11.0s								
PET	**Petropavlovsk**	**6.01**	**19**	*e*Pn			**Pn**	**03 06 03.5**	**-2.3**
PET				*e*Sn			**Sn**	**03 07 10.2**	**-3.3**
YSS	**Yuzh-Sakhalins**	**8.67**	**272**	‖*e*P			**Pn**	**03 06 44.4**	**+2.0**
YSS				AMB		AMB	AMB	03 06 46.0	
	comp=Z,50nm,0.8s								
YSS				*e*S			**Sn**	**03 08 18.7**	**-0.2**
YSS				A				03 08 23.0	
	comp=Z,60nm,0.7s								
YSS				*e*LQ				03 08 38.0	
YSS				AMS		AMS	AMS	03 11 06.0	
	comp=Z,600nm,15.0s								
YSS	**Yuzh-Sakhalins**	**8.67**	**272**	‖*e*PN			**Pn**	**03 06 44.4**	**+2.0**
YSS				pmax		pmax	pmax		
	comp=Z,50nm,0.8s								
YSS				MLR		MLR	MLR		
	comp=Z,600nm,15.0s								
YSS	**Yuzh-Sakhalins**	**8.67**	**272**	*e*Pn			**Pn**	**03 06 44.3**	**+2.0**
	comp=Z,52nm,0.9s								
TYV	**Tymovskoe**	**9.09**	**297**	*e*P			**Pn**	**03 06 49.5**	**+1.4**
ASAJ	**Asahikawa**	**9.57**	**255**	Pn			**Pn**	**03 06 53.0**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=81,slow=14,SNR=18								
ASAJ				LR		LR	LR	03 09 56.1	
	comp=Z,256nm,21.2s,baz=53,slow=34								
ASAJ	**Asahikawa**	**9.57**	**255**	PN			**Pn**	**03 06 53.1**	**-1.6**
ASAJ				pmax		pmax	pmax		
	comp=Z,2.0nm,0.3s								
ASAJ				MLR		MLR	MLR		
	comp=Z,256nm,21.2s								
ERM	**Erimo**	**10.27**	**243**	*e*Pn			**Pn**	**03 07 02.0**	**-2.3**
ERM				*e*Sn			**Sn**	**03 08 48.5**	**-10**
MAJO	**Matsushiro**	**16.75**	**236**	*e*P			**Pn**	**03 08 25.3**	**-6.0**
MAJO				pmax		pmax	pmax		
	comp=Z,26nm,0.8s								
MAJO	**Matsushiro**	**16.75**	**236**	*e*Pn			**Pn**	**03 08 25.3**	**-6.0**
	comp=Z,26nm,0.8s								
MAJO				*e*P				03 08 32.9	
MAT	**Matsushiro**	**16.75**	**236**	P			**Pn**	**03 08 25.6**	**-5.7**
MJAR	**Matsushiro Arr**	**16.75**	**236**	Pn			**Pn**	**03 08 25.2**	**-6.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=8.7								
ZEA	**Zeya**	**18.94**	**300**	*e*P			**Pn**	**03 08 53.7**	**-4.5**
ZEA				AMB		AMB	AMB	03 08 57.3	
	comp=Z,29nm,1.0s								
YAK	**Yakutsk**	**20.70**	**325**	*e*P			**P**	**03 09 15.1**	**-1.4**
YAK				*e*				03 13 02.2	
YAK				pmax		pmax	pmax		
	comp=Z,22nm,0.9s								
YAK				pmax		pmax			
	comp=N,13nm,1.6s								
YAK				pmax		pmax			
	comp=E,23nm,1.3s								
YAK				pmax		pmax			
	comp=E,17nm,1.3s								
CLNS	**Chul'man**	**20.86**	**308**	*e*P			**P**	**03 09 17.6**	**-0.7**
CLNS				pmax		pmax			
	comp=Z,36nm,1.0s								
CLNS				pmax		pmax			
	comp=N,11nm,0.9s								
CLNS				pmax		pmax			
	comp=E,18nm,1.0s								
BILL	**Bilibino**	**21.44**	**11**	*e*P			**P**	**03 09 20.6**	**-3.9**
BILL				pmax		pmax			
	comp=Z,43nm,1.4s,mb4.6								
BILL	**Bilibino**	**21.44**	**11**	*e*P			**P**	**03 09 25.1**	**+0.6**
	comp=Z,35nm,1.1s,mb4.6								
KSRS	**Korea Array**	**22.52**	**254**	P			**P**	**03 09 35.6**	**-0.4**
	comp=Z,12nm,0.9s,mb4.3,baz=54,slow=10,SNR=18								
KS15	**Wonju Array Si**	**22.55**	**254**	*e*P			**P**	**03 09 40.5**	**+4.1**
BOD	**Bodaibo**	**26.84**	**308**	*e*P			**P**	**03 10 14.1**	**-2.5**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.4s,mb4.0								
HHC	**Hu-ho-hao-te**	**31.85**	**275**	*e*P			**P**	**03 11 02.6**	**+1.6**
HHC				AP		pP	pP	03 11 07.3	-3.8
HHC				XP		sP	sP	03 11 09.6	-5.7
HHC				PP		PP	PP	03 12 09.8	-3.4
HHC				AMB		AMB	AMB		
	comp=Z,15nm,1.1s,mb4.7								
HHC				AMB		AMB	AMB		
	comp=Z,187nm,11.2s								
HHC				LR		LR	LR		
	comp=N,242nm,14.7s,MS4.2								
HHC				LR		LR	LR		
	comp=E,303nm,14.0s,MS4.2								
HHC				LR		LR	LR		
	comp=Z,223nm,14.9s,MS4.0								
SONM	**Songino Array**	**32.64**	**289**	P			**P**	**03 11 07.0**	**-1.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=62,slow=8.4,SNR=20								
ZAK	**Zakamensk**	**33.87**	**295**	*e*P			**P**	**03 11 17.3**	**-1.4**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
XAN	**Xi'an**	**37.16**	**266**	P			**P**	**03 11 47.6**	**+0.6**
XAN				AMB		AMB			
	comp=Z,3.0nm,0.5s,mb4.4								
EGAK	**Eagle**	**37.51**	**39**	*e*P			**P**	**03 11 48.5**	**-1.4**
	comp=Z,5.7nm,1.1s,mb4.2								
DAWY	**Dawson**	**38.33**	**40**	*e*P			**P**	**03 11 56.4**	**-0.4**
LZH	**Lanzhou**	**39.47**	**273**	*e*P			**P**	**03 12 06.5**	**+0.2**
LZH				AP		pP	pP	03 12 17.0	+0.4
LZH				AMB		AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9								
LZH				AMB		AMB	AMB		
	comp=Z,128nm,4.1s								
LZH	**Lanzhou**	**39.47**	**273**	*e*P			**P**	**03 12 06.5**	**+0.2**
LZH				*PP		pP	pP	03 12 17.0	+0.4
LZH				*SP		sP	sP	03 12 23.0	+2.2
LZH								03 13 36.4	
LZH				pmax		pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9								
LZH	**Lanzhou**	**39.47**	**273**	*e*P			**P**	**03 12 06.5**	**+0.2**
	comp=Z,30nm,1.2s,mb4.9								
LZH				pP		pP	pP	03 12 17.0	+0.4
LZH				sP		sP	sP	03 12 23.0	+2.2
LZH				PP		PP	PP	03 13 36.4	-0.9
INK	**Inuvik**	**40.26**	**33**	P			**P**	**03 12 12.2**	**-0.8**
	comp=Z,4.0nm,0.7s,mb4.2,baz=282,slow=6.2,SNR=13								
INK	**Inuvik**	**40.26**	**33**	*e*P			**P**	**03 12 13.0**	**+0.1**
INK				pmax		pmax	pmax		
	comp=Z,149nm,0.8s								
INK	**Inuvik**	**40.26**	**33**	*e*P			**P**	**03 12 13.0**	**+0.1**
	comp=Z,149nm,0.8s,mb5.8								
GTA	**Gaotai**	**40.45**	**280**	*e*P			**P**	**03 12 15.8**	**+1.3**
GTA				AMB		AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6								
CD2	**Chengdu**	**42.53**	**266**	*e*P			**P**	**03 12 32.0**	**+0.5**
CD2				XP		sP	sP	03 12 39.0	-7.0
CD2				S		S	**S**	**03 18 53.5**	**+2.0**
CD2				SS		SS	SS	03 21 57.5	-4.3
CD2				AMB		AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8								
CD2				LR		LR	LR		
	comp=N,270nm,13.1s,MS4.4								
CD2				LR		LR	LR		
	comp=E,270nm,15.5s,MS4.4								
CD2

BRVK	**Borovoye**	**51.73**	**310**	*e*P		**P**	**03 13 43.1**	**-0.2**
LSA	**Lhasa**	**51.83**	**274**	*e*P		**P**	**03 13 46.2**	**+2.2**
LSA					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8							
LSA	**Lhasa**	**51.83**	**274**	*e*P		**P**	**03 13 46.2**	**+2.1**
	comp=Z,11nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**52.45**	**310**	*e*P		**P**	**03 13 48.4**	**-0.2**
ZRNK					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
ZRNK	**Zerenda**	**52.45**	**310**	*e*P		**P**	**03 13 48.4**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.8							
CHTO	**Chiang Mai**	**53.82**	**258**	*e*P		**P**	**03 13 59.4**	**+0.7**
CHTO					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
CHTO	**Chiang Mai**	**53.82**	**258**	*e*P		**P**	**03 13 59.4**	**+0.6**
	comp=Z,4.6nm,0.7s,mb4.5							
EDM	**Edmonton**	**54.72**	**47**	*e*P		**P**	**03 14 04.1**	**-1.1**
ARU	**Arti**	**55.62**	**318**	⇑*i*P		**P**	**03 14 11.9**	**+0.1**
ARU				*e*			03 16 16.5	
ARU				*e*S		**S**	**03 22 03.6**	**+8.3**
ARU					pmax	pmax		
	comp=Z,24nm,0.7s,mb5.3							
ARU	**Arti**	**55.62**	**318**	*e*P		**P**	**03 14 12.0**	**+0.2**
	comp=Z,29nm,0.7s,mb5.4							
KK31	**Karatay Array**	**57.09**	**300**	*i* P		**P**	**03 14 22.0**	**-0.2**
KK31					pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6							
KKAR	**Karatay Array**	**57.09**	**300**	P		**P**	**03 14 22.0**	**-0.2**
KKAR					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
KEV	**Kevo**	**57.28**	**341**	*e*p		**P**	**03 14 20.7**	**-2.8**
	comp=Z,5.1nm,0.8s,mb4.6							
KEV	**Kevo**	**57.28**	**341**	*e*P		**P**	**03 14 20.7**	**-2.8**
KEV					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
MOD	**Modoc**	**57.38**	**62**	*e*P		**P**	**03 14 24.3**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.1							
BMO	**Blue Mountains**	**57.39**	**58**	*e*P		**P**	**03 14 24.2**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.3							
ARCES	**ARCESS Array B**	**57.78**	**341**	P		**P**	**03 14 27.6**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.7,baz=26,slow=6.9,SNR=5.4							
WVOR	**Wild Horse Val**	**58.06**	**60**	*e*P		**P**	**03 14 28.8**	**-0.2**
WVOR					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
WVOR	**Wild Horse Val**	**58.06**	**60**	*e*P		**P**	**03 14 28.8**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4							
CHMT	**Chamberlain Mo**	**58.43**	**54**	*e*P		**P**	**03 14 31.1**	**-0.5**
AB31	**Akbulak array**	**59.24**	**311**	*i* P		**P**	**03 14 37.7**	**+0.4**
AB31					pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0							
AKTK	**Aktyubinsk**	**59.49**	**313**	P		**P**	**03 14 38.8**	**-0.2**
AKTO	**Aktyubinsk**	**59.49**	**313**	P		**P**	**03 14 38.8**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.9,baz=69,slow=8.1,SNR=32							
AKTO	**Aktyubinsk**	**59.49**	**313**	P		**P**	**03 14 38.8**	**-0.2**
AKTO					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
LRM	**Limekiln Ridge**	**59.53**	**54**	*e*P		**P**	**03 14 40.1**	**+0.8**
HLID	**Hailey**	**59.82**	**57**	*e*P		**P**	**03 14 41.4**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.1							
ORR	**Orenburg**	**60.34**	**315**	*e*P		**P**	**03 14 43.8**	**-1.0**
ORR					pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2							
QLMT	**Earthquake Lak**	**60.71**	**55**	*e*P		**P**	**03 14 48.1**	**+0.7**
NVAR	**Mina Array Bea**	**60.72**	**64**	P		**P**	**03 14 47.3**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.2,baz=293,slow=7.6,SNR=13							
GCMT	**Greycliff**	**61.07**	**53**	*e*P		**P**	**03 14 50.1**	**+0.3**
RRI2	**Red Ridge**	**61.71**	**56**	*e*P		**P**	**03 14 55.3**	**+1.2**
MOOW	**Moose Ponds**	**61.78**	**55**	*e*P		**P**	**03 14 55.0**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.2							
LOHW	**Long Hollow**	**61.95**	**55**	*e*P		**P**	**03 14 56.8**	**+1.1**
	comp=Z,3.6nm,1.0s,mb4.5							
SNOW	**Snow King Moun**	**61.96**	**55**	*e*P		**P**	**03 14 56.2**	**+0.4**
	comp=Z,7.0nm,0.9s,mb4.8							
REDW	**Red Top Meadow**	**61.97**	**56**	*e*P		**P**	**03 14 56.9**	**+1.1**
	comp=Z,6.0nm,0.9s,mb4.7							
LAO	**LASA Array**	**62.33**	**50**	*e*P		**P**	**03 15 00.5**	**+2.2**
	comp=Z,6.2nm,0.9s,mb4.7							
HWUT	**Hardware Ranch**	**62.69**	**57**	*e*P		**P**	**03 15 01.1**	**+0.4**
	comp=Z,7.2nm,1.3s,mb4.6							
DUG	**Dugway**	**62.88**	**59**	*e*P		**P**	**03 15 02.1**	**+0.2**
DUG					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5							
DUG	**Dugway**	**62.88**	**59**	*e*P		**P**	**03 15 02.1**	**+0.1**
	comp=Z,4.4nm,1.1s,mb4.5							
BW06	**Boulder Array**	**63.07**	**55**	*e*P		**P**	**03 15 02.9**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.5							
PDAR	**Pinedale Array**	**63.08**	**55**	P		**P**	**03 15 02.9**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.4,baz=289,slow=2.7,SNR=24							
ARUT	**Antelope Range**	**64.07**	**62**	*e*P		**P**	**03 15 09.5**	**-0.3**
FIA1	**FINESS Array S**	**64.14**	**336**	*e*P		**P**	**03 15 10.1**	**-0.2**
FINES	**FINESS Array B**	**64.14**	**336**	P		**P**	**03 15 09.9**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.6,baz=41,slow=7.5,SNR=32							
SRU	**San Rafael**	**64.92**	**59**	*e*P		**P**	**03 15 15.6**	**+0.2**
ULM	**Lac du Bonnet**	**64.99**	**42**	P		**P**	**03 15 15.1**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.4,baz=315,slow=10,SNR=7.2							
ULM	**Lac du Bonnet**	**64.99**	**42**	P		**P**	**03 15 15.1**	**-0.7**
RSSD					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
RSSD	**Black Hills**	**65.19**	**51**	*e*P		**P**	**03 15 16.7**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.7							
OBN	**Obninsk**	**65.68**	**326**	⇑*e*P		**P**	**03 15 20.0**	**-0.3**
OBN				*e*			03 17 47.2	
OBN					pmax	pmax		
	comp=Z,33nm,1.9s,mb5.0							
ISCO	**Idaho Springs**	**67.27**	**56**	*e*P		**P**	**03 15 30.9**	**+0.5**
ISCO					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
ISCO	**Idaho Springs**	**67.27**	**56**	*e*P		**P**	**03 15 30.9**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.4							
NB2	**NORSAR Subarra**	**68.14**	**342**	P		**P**	**03 15 35.8**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**68.14**	**342**	P		**P**	**03 15 35.5**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.5,baz=26,slow=6.4,SNR=10.0							
WB2	**Warramunga Arr**	**69.65**	**201**	*e*P		**P**	**03 15 43.4**	**-1.9**
WRA	**Warramunga Arr**	**69.65**	**201**	P		**P**	**03 15 43.2**	**-2.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=16,slow=6.5,SNR=6.8							
ANMO	**Albuquerque**	**70.13**	**60**	*e*P		**P**	**03 15 48.4**	**+0.1**
ANMO					pmax	pmax		
	comp=Z,2.0nm,0.9s							
ANMO	**Albuquerque**	**70.13**	**60**	*e*P		**P**	**03 15 48.4**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.0							
GOF	**Gofitskoye**	**70.50**	**316**	*e*P		**P**	**03 15 56.7**	**+6.1**
KIV	**Kislovodsk**	**71.49**	**315**	⇑*e*P		**P**	**03 15 55.0**	**-1.6**
KIV					pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8							
KIV	**Kislovodsk**	**71.49**	**315**	*e*P		**P**	**03 15 59.0**	**+2.5**
AKASG	**Malin Array Be**	**71.90**	**327**	P		**P**	**03 15 58.0**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.3,baz=34,slow=6.0,SNR=8.6							
SCIA	**State Center**	**72.32**	**47**	*e*P		**P**	**03 16 00.9**	**-0.6**
ANN	**Anapa**	**73.27**	**319**	*e*P		**P**	**03 16 07.3**	**+0.1**
ANN					pmax	pmax		
	comp=Z,61nm,1.3s,mb5.4							
ASAR	**Alice Springs**	**73.34**	**201**	P		**P**	**03 16 06.0**	**-1.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=11,slow=6.0,SNR=5.6							
KWP	**Kalwaria**	**75.09**	**330**	*e*P		**P**	**03 16 18.4**	**+0.7**
STHS	**Stebnicka Huta**	**75.76**	**331**	*i* P		**P**	**03 16 22.5**	**+0.9**
STHS					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**75.76**	**331**	*i* P		**P**	**03 16 22.5**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.3							
TXAR	**Lajitas Array**	**75.78**	**62**	P		**P**	**03 16 20.8**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=301,slow=4.5,SNR=14							
TXAR	**Lajitas Array**	**75.78**	**62**	P		**P**	**03 16 20.8**	**-1.0**
BURAR	**Bucovina Array**	**75.93**	**328**	⇓*i*P		**P**	**03 16 22.5**	**-0.1**
BURAR	**Bucovina Array**	**75.93**	**328**	⇓P		**P**	**03 16 22.5**	**-0.1**
OKC	**Ostrava-Krasne**	**76.37**	**333**	*e*P		**P**	**03 16 31.7**	**+6.6**
UPC	**Upice**	**76.42**	**335**	*e*P		**P**	**03 16 25.4**	**+0.1**
DPC	**Dobruska-Polom**	**76.47**	**334**	*e*P		**P**	**03 16 26.3**	**+0.7**
CLL	**Collm**	**76.54**	**337**	*e*P		**P**	**03 16 26.0**	**0.0**
CLL					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
CLL	**Collm**	**76.54**	**337**	*e*P		**P**	**03 16 26.0**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.6							
CLL				*e*pP		pP	03 16 30.0	-7.0
MORC	**Moravsky Berou**	**76.61**	**333**	⇑*i*P		**P**	**03 16 26.8**	**+0.3**
MORC	**Moravsky Berou**	**76.61**	**333**	*e*P		**P**	**03 16 27.0**	**+0.6**
MORC					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
MORC	**Moravsky Berou**	**76.61**	**333**	*e*P		**P**	**03 16 27.0**	**+0.5**
	comp=Z,4.3nm,1.0s,mb4.3							
VYHS	**Vyhne**	**77.34**	**332**	*e*P		**P**	**03 16 35.1**	**+4.5**
TIRR	**Tirgusor**	**77.36**	**324**	⇓*i*P		**P**	**03 16 31.4**	**+0.7**
TIRR	**Tirgusor**	**77.36**	**324**	⇓P		**P**	**03 16 31.4**	**+0.7**
MLR	**Muntele Rosu**	**77.45**	**326**	⇓*i*P		**P**	**03 16 31.2**	**0.0**
MLR	**Muntele Rosu**	**77.45**	**326**	⇓P		**P**	**03 16 31.2**	**0.0**
DRGR		**77.52**	**329**	⇓*i*P		**P**	**03 16 31.5**	**-0.1**
DRGR		**77.52**	**329**	⇓P		**P**	**03 16 31.6**	**0.0**
VOIR		**77.83**	**327**	⇑*i*P		**P**	**03 16 31.4**	**-1.9**
VOIR		**77.83**	**327**	⇑P		**P**	**03 16 31.4**	**-1.9**
MALT	**Malatya**	**77.88**	**314**	⇓*i*P		**P**	**03 16 35.3**	**+1.7**
MALT	**Malatya**	**77.88**	**314**	*e*P		**P**	**03 16 35.0**	**+1.4**
	comp=Z,5.7nm,0.9s,mb4.5							
KHC	**Kasperske Hory**	**78.35**	**336**	*e*P		**P**	**03 16 36.8**	**+0.6**
GRA1	**Grafenberg Arr**	**78.48**	**337**	*e*P		**P**	**03 16 37.7**	**+0.8**
	comp=Z,16nm,1.2s,mb4.8							
GRF	**Grafenberg Arr**	**78.48**	**337**	*e*P		**P**	**03 16 37.7**	**+0.8**
	comp=Z,16nm,1.2s,mb4.8							
GRF	**Grafenberg Arr**	**78.48**	**337**	*e*P		**P**	**03 16 37.7**	**+0.8**
GRF					pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8							
GRF	**Grafenberg Arr**	**78.48**	**337**	*e*P		**P**	**03 16 37.7**	**+0.8**
GRF					pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8							
GERES	**GERESS Array B**	**78.57**	**335**	P		**P**	**03 16 37.7**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=28,slow=6.0,SNR=10							
BZS	**Buzias**	**78.92**	**329**	⇓*i*P		**P**	**03 16 38.6**	**-0.7**
BZS	**Buzias**	**78.92**	**329**	⇓P		**P**	**03 16 38.6**	**-0.7**
BR131	**Keskin Array S**	**79.01**	**318**	*e*P		**P**	**03 16 41.0**	**+1.2**
BRTR	**Keskin Array B**	**79.01**	**318**	P		**P**	**03 16 40.0**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=46,slow=3.6,SNR=6.8							
KBA	**Koelnbreinsper**	**80.28**	**335**	⇑*i*P		**P**	**03 16 48.1**	**+1.5**
	comp=Z,15nm,0.8s,mb5.0							
WTTA	**Wattenberg**	**80.59**	**336**	⇑*i*P		**P**	**03 16 49.7**	**+1.4**
	comp=Z,27nm,1.6s,mb4.9							
CDF	**Champ du Feu**	**80.66**	**339**	*e*P		**P**	**03 16 49.3**	**+0.6**
	comp=Z,9.3nm,1.0s,mb4.4							
CDF	**Champ du Feu**	**80.66**	**339**	*e*P		**P**	**03 16 49.3**	**+0.6**
CDF					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
CDF	**Champ du Feu**	**80.66**	**339**	*e*P		**P**	**03 16 49.3**	**+0.6**
	comp=Z,4.7nm,1.0s,mb4.4							
MOTA	**Moosalm**	**80.66**	**336**	⇑*i*P		**P**	**03 16 49.8**	**+1.0**
	comp=Z,5.4nm,0.7s,mb4.6							
GRR	**Gorron**	**82.42**	**344**	*e*P		**P**	**03 16 59.1**	**+1.1**
	comp=Z,70nm,1.2s,mb5.2							
GRR	**Gorron**	**82.42**	**344**	*e*P		**P**	**03 16 59.1**	**+1.1**
GRR					pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1							
GRR	**Gorron**	**82.42**	**344**	*e*P		**P**	**03 16 59.1**	**+1.1**
	comp=Z,35nm,1.3s,mb5.1							
SMF	**Signal de Mont**	**83.12**	**341**	*e*P		**P**	**03 17 02.2**	**+0.5**
	comp=Z,76nm,1.4s,mb5.2							
SMF	**Signal de Mont**	**83.12**	**341**	*e*P		**P**	**03 17 02.2**	**+0.5**
SMF					pmax	pmax		
	comp=Z,38nm,1.4s,mb5.2							
SMF	**Signal de Mont**	**83.12**	**341**	*e*P		**P**	**03 17 02.2**	**+0.5**
	comp=Z,38nm,1.4s,mb5.2							
LPG	**La Plagne**	**83.51**	**338**	*e*P		**P**	**03 17 05.1**	**+1.4**
	comp=Z,24nm,1.0s,mb5.0							
LPG	**La Plagne**	**83.51**	**338**	*e*P		**P**	**03 17 05.1**	**+1.4**
LPG					pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0							
LPG	**La Plagne**	**83.51**	**338**	*e*P		**P**	**03 17 05.1**	**+1.4**
	comp=Z,12nm,1.0s,mb5.0							
CAF	**Calviac**	**85.15**	**341**	*e*P		**P**	**03 17 12.3**	**+0.3**
	comp=Z,31nm,1.9s,mb5.3							
CAF	**Calviac**	**85.15**	**341**	*e*P		**P**	**03 17 12.3**	**+0.3**
CAF					pmax	pmax		
	comp=Z,46nm,1.8s,mb5.3							
CAF	**Calviac**	**85.15**	**341**	*e*P		**P**	**03 17 12.3**	**+0.3**
	comp=Z,46nm,1.8s,mb5.3							
VNDA	**Vanda**	**124.69**	**178**	PKP		PKPdf	03 23 31.2	-4.1
	comp=Z,0.5nm,0.7s,baz=352,slow=3.7,SNR=3.9							
SNAA	**Sanae**	**153.59**	**195**	*e*PKIKP		PKPdf	03 24 31.0	+4.4

IDC 18 03:06:55.0±3.0, 626S×15104E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/14, mbtmp4.1/4, Error ellipse: s-maj=74.2km s-min=46.9km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.17**	**228**	P	P	03 11 42.4	+0.6
	2.7nm,0.8s,baz=54,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**23.90**	**222**	P	P	03 12 10.5	+0.1
	8.7nm,1.1s,baz=52,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**26.97**	**198**	P	P	03 12 38.1	-0.1
	1.1nm,0.4s,baz=8.8,slow=12,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.43**	**242**	P	P	03 12 42.9	+0.5
	2.4nm,0.5s,baz=65,slow=11,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc	PKPbc	03 26 45.8	+0.8
	0.9nm,0.7s,baz=63,slow=2.9,SNR=6.0						

IDC 18 03:07:02.3±9.8, 622S×151.18E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, Error ellipse: s-maj=157.1km s-min=67.1km az=38.0

NEIC 18 03:07:04.4±2.1, 622S×15106E, h10km, mb4.3/2, Error ellipse: s-maj=62.8km s-min=23.0km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.21**	**228**	P	P	03 11 50.6	+0.4
	4.0nm,0.8s,baz=56,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**21.21**	**228**	P	P	03 11 50.6	+0.4
AS31	**Alice Springs**	**23.94**	**222**	*e*P	P	03 12 19.1	+0.5
ASAR	**Alice Springs**	**23.94**	**222**	P	P	03 12 18.9	+0.3
	2.0nm,0.6s,baz=54,slow=8.4,SNR=7.7						
ASAR	**Alice Springs**	**23.94**	**222**	P	P	03 12 18.9	+0.3
STKA	**Stephens Creek**	**27.02**	**198**	P	P	03 12 47.0	+0.5
	3.2nm,0.5s,baz=8.6,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**27.02**	**198**	*e*P	P	03 12 46.5	0.0
FITZ	**Fitzroy Crossi**	**27.46**	**242**	P	P	03 12 51.1	+0.6
	1.6nm,0.3s,baz=53,slow=10,SNR=7.0						
FITZ	**Fitzroy Crossi**	**27.46**	**242**	P	P	03 12 51.1	+0.6
AAK	**Ala-Archa**	**84.38**	**314**	*e*P	P	03 19 35.4	-1.5
	2.5nm,0.8s						
ZRNK	**Zerenda**	**90.14**	**323**	*e*P	P	03 20 06.7	+1.9
	0.6nm,0.5s						

IDC 18 03:07:52.9±2.4, 603S×15116E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=75.9km s-min=29.4km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.41**	**228**	P	P	03 12 43.3	+1.0
	1.4nm,0.6s,baz=54,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**24.15**	**222**	P	P	03 13 10.3	-0.2
	2.3nm,0.6s,baz=54,slow=8.6,SNR=8.3						
STKA	**Stephens Creek**	**27.23**	**198**	P	P	03 13 38.1	-0.4
	1.7nm,0.4s,baz=24,slow=6.1,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P	P	03 13 42.4	+0.2
	2.5nm,0.5s,baz=64,slow=8.8,SNR=3.2						
ZAL	**Zalesovo**	**81.28**	**327**	P	P	03 20 09.8	-1.1
	3.1nm,0.7s,baz=50,slow=4.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.09**	**285**	PKPbc	PKPbc	03 27 46.0	+2.9
	0.5nm,0.4s,baz=74,slow=2.3,SNR=5.1						

SKHL 18 03:11:51.1±1.6, 4702N×15564E, h45km±12km

IDC 18 03:11:52.8±0.6, 4710N×15535E, h0km, mb4.5/20, mb1 4.6/21, mb1mx4.5/27, mbtmp4.5/21, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/41, Error ellipse: s-maj=17.6km s-min=13.0km az=152.0

ISCJB 18 03:11:54.4±0.3, 4727N±0.005×15534E±0.005, h14km, mb4.7/80, MS4.1/7, Error ellipse: s-maj=7.8km s-min=4.2km az=138.3

NEIC 18 03:11:54.8±3.7, 4715N×15537E, h9km±22km, mb4.8/35, Error ellipse: s-maj=10.4km s-min=6.2km az=157.0

MOS 18 03:11:57.4±1.2, 4730N×15526E, h33km, mb5.0/30, Error ellipse: s-maj=9.6km s-min=5.9km az=113.6

BJI 18 03:11:57.6, 4743N×15458E, h10km, mB5.1, mb4.7, Ms4.3, Msz4.1

SZGRF 18 03:12:04.7, 4850N×15738E, h33km, mb4.8, East of Kuril Islands, Russia

ISC 18 03:11:56.3±0.3, 4730N±0.005×15534E±0.005, h15km, h15km±1.5km: pP-P, n216, σ1§14/217, mb4.7/80, MS4.1/7, 12C-19D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.43**	**8**	*e*P	**Pn**	**03 12 46.1**	**-3.1**
SKR					AMB	AMB	03 12 54.5	
	80nm,0.5s							
SKR					AMB	AMB	03 12 54.5	
	120nm,0.5s							
SKR					*e*S	**Sn**	**03 12 28.5**	**-1.0**
SKR					A		03 13 32.0	
	230nm,0.5s							
SKR					A		03 13 32.0	
	150nm,0.5s							
SKR	**Severo-Kuril's**	**3.43**	**8**	*e*PN	**Pn**	**03 12 46.1**	**-3.1**
SKR					*e*S	**Sn**	**03 12 28.5**	**-1.0**
SKR					pmax	pmax		
	comp=N,80nm,0.5s							
SKR					pmax	pmax		
	comp=Z,120nm,0.5s							
SKR					smax			
	comp=N,230nm,0.5s							
SKR					smax			
	comp=E,230nm,0.5s							
SKR					smax			
	comp=Z,150nm,0.5s							
KUR	**Kuril'sk**	**5.58**	**251**	⇓*i*P	**Pn**	**03 13 14.0**	**-4.7**
KUR					AMB	AMB	03 13 32.0	
	comp=Z,304nm,0.6s							
KUR					*e*S	**Sn**	**03 14 15.0**	**-7.6**
KUR					A		03 14 18.6	
	comp=Z,456nm,0.6s							
KUR					A		03 14 18.6	
	comp=Z,152nm,0.6s							
PET	**Petropavlovsk**	**6.12**	**19**	*e*P	**Pn**	**03 13 25.4**	**-0.7**
PET	**Petropavlovsk**	**6.12**	**19**	*e*Pn	**Pn**	**03 13 25.5**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**7.40**	**247**	*e*P	**Pn**	**03 13 41.8**	**-1.9**
YUK					*e*S	**Sn**	**03 15 00.5**	**-6.9**
YUK					A		03 15 09.0	
	comp=Z,380nm,0.5s							
YUK					A		03 15 09.0	
	comp=Z,300nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.59**	**272**	*e*P	**Pn**	**03 14 02.7**	**+2.6**
YSS					AMB	AMB	03 14 04.0	
	comp=Z,40nm,0.5s							
YSS					*e*S	**Sn**	**03 15 36.2**	**-0.6**
YSS					*e*LQ		03 16 16.0	
YSS					AMS	AMS	03 18 36.0	
	comp=Z,600nm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.59**	**272**	*e*Pn	**Pn**	**03 14 02.8**	**+2.7**
TYV	**Tymovskoe**	**9.06**	**298**	*e*P	**Pn**	**03 14 08.0**	**+1.5**
TYV					AMB	AMB	03 14 11.0	
	comp=Z,22nm,0.8s							
ASAJ	**Asahikawa**	**9.47**	**255**	Pn	**Pn**	**03 14 11.1**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=106,slow=15,SNR=9.5							
ASAJ	**Asahikawa**	**9.47**	**255**	PN	**Pn**	**03 14 11.1**	**-1.0**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ERM	**Erimo**	**10.16**	**243**	*e*PN	**Pn**	**03 14 18.6**	**-2.9**
HABR	**Khabarovsk**	**13.67**	**282**	*e*P	**Pn**	**03 15 10.3**	**+0.7**
HABR					S	**Sn**	**03 17 44.7**	**+3.6**
KLR	**Kul'dur**	**15.82**	**286**	*e*P	**Pn**	**03 15 39.3**	**+0.9**
MAJO	**Matsushiro**	**16.64**	**236**	*e*P	**Pn**	**03 15 50.4**	**+1.5**
MAJO					pmax	pmax		
	comp=Z,39nm,0.8s							
MAJO	**Matsushiro**	**16.64**	**236**	*e*Pn	**Pn**	**03 15 50.4**	**+1.5**
	comp=Z,39nm,0.8s							
MJAR	**Matsushiro Ar**	**16.64**	**236**	Pn	**Pn**	**03 15 43.1**	**-5.8**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=9.7							
ZEA	**Zeya**	**18.91**	**300**	*e*P	**Pn**	**03 16 12.3**	**-4.7**
ZEA					AMB	AMB	03 16 13.3	
	comp=Z,21nm,1.2s							
YAK	**Yakutsk**	**20.72**	**325**	*e*P	**P**	**03 16 35.8**	**-0.3**
YAK					pmax	pmax		
	comp=Z,41nm,0.7s							
YAK	**Yakutsk**	**20.72**	**325**	*e*Pn	**P**	**03 16 35.8**	**-0.3**
	comp=Z,41nm,0.7s							
CLNS	**Chul'man**	**20.85**	**308**	*e*P	**P**	**03 16 36.7**	**-0.8**
CLNS					pm

comp=Z,760nm,15.0s,MS4.7
LZH Lanzhou 39.39 273 P P 03 19 26.2 +0.9
comp=Z,50nm,1.0s,mb5.2
LZH pP pP 03 19 37.2 +7.2
LZH sP sP 03 19 43.1 +11
LZH LR LR
comp=Z,760nm,15.0s,MS4.7
INK Inuvik 40.37 33 P P 03 19 34.2 +0.7
comp=Z,19nm,0.8s,mb4.8,baz=285,slow=6.6,SNR=37
INK Inuvik 40.37 33 *eP* **P 03 19 34.6 +1.1**
comp=Z,771nm,0.9s
GTA Gaotai 40.39 280 *eP* **P 03 19 34.4 +0.8**
GTA AP pP 03 19 38.3 0.0
GTA XP sP 03 19 40.5 +0.4
GTA PP PP 03 21 11.3 +4.7
GTA PcP PcP 03 21 37.3 +0.7
GTA S **S 03 25 42.0 +0.8**
GTA XS sS 03 25 49.6 +0.8
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,343nm,3.8s
GTA LR LR
comp=N,179nm,12.9s,MS4.3
GTA LR LR
comp=E,188nm,11.8s,MS4.3
GTA LR LR
comp=Z,232nm,16.0s,MS4.1
GYA Guiyang 43.32 259⇑ *iP* **P 03 19 57.5 -0.1**
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.8
ZAL Zalesovo 43.54 306 P P 03 19 57.4 -2.0
comp=Z,7.0nm,0.6s,mb4.6,baz=50,slow=8.2,SNR=25
ZAL PcP PcP 03 21 46.0 -1.0
comp=Z,3.2nm,0.7s,baz=28,slow=1.3,SNR=6.4
NVS Novosibirsk 44.07 308 *eP* **P 03 20 02.3 -1.3**
NVS pmax pmax
comp=Z,32nm,1.3s,mb4.9
NVS pmax pmax
comp=E,10.0nm,1.7s
WMQ Urumqi 46.15 292⇑ *iP* **P 03 20 20.8 +0.7**
WMQ AP pP 03 20 25.3 +0.5
WMQ XP sP 03 20 27.8 +1.1
WMQ PCP PcP 03 21 56.9 +0.9
WMQ PP PP 03 22 09.4 +1.0
WMQ PPP 03 22 53.5
WMQ S **S 03 27 06.0 +0.4**
WMQ XS sS 03 27 13.3 0.0
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,90nm,5.0s
WMQ LR LR
comp=N,133nm,23.4s
WMQ LR LR
comp=E,67nm,18.2s
WMQ LR LR
comp=Z,112nm,18.2s
KMI Kunming 46.84 261 P P 03 20 26.3 +0.7
KMI AP pP 03 20 31.0 +0.7
KMI XP sP 03 20 33.3 +1.2
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.6
KMI LR LR
comp=Z,53nm,16.3s,MS3.6
KMI Kunming 46.84 261 P P 03 20 26.2 +0.6
KMI *SP sP 03 20 33.3 +1.2
KMI pmax pmax
comp=Z,11nm,1.3s,mb4.6
KMI MLR MLR
comp=Z,50nm,16.3s,MS3.6
KMI Kunming 46.84 261 P P 03 20 26.2 +0.6
comp=Z,11nm,1.3s,mb4.6
KMI pP pP 03 20 31.0 +0.7
KMI sP sP 03 20 33.3 +1.2
KMI LR LR
comp=Z,50nm,16.3s,MS3.6
MK31 Makanchi Array 48.04 298 P P 03 20 33.9 -1.0
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MKAR Makanchi Array 48.04 298 P P 03 20 34.2 -0.7
comp=Z,5.4nm,0.7s,mb4.7,baz=70,slow=7.7,SNR=32
MKAR PcP PcP 03 22 01.4 -1.3
comp=Z,1.9nm,0.6s,baz=121,slow=1.3,SNR=4.7
MKAR Makanchi Array 48.04 298 P P 03 20 34.2 -0.7
MKAR PcP PcP 03 22 01.4 -1.3
YKA Yellowknife Ar 49.57 38 P P 03 20 47.0 +0.4
comp=Z,6.3nm,0.8s,mb4.7,baz=297,slow=7.7,SNR=8.5
YKA Yellowknife Ar 49.57 38 P P 03 20 47.0 +0.4
RES Resolute Bay 49.83 19 *eP* **P 03 20 50.1 +1.5**
comp=Z,344nm,0.9s
CHKZ Chkalovo 51.24 311 *eP* **P 03 20 58.1 -1.2**
CHKZ pmax pmax
comp=Z,37nm,0.6s,mb5.5
CHKZ Chkalovo 51.24 311 *eP* **P 03 20 58.1 -1.2**
comp=Z,37nm,0.6s,mb5.5
BVA0 Borovoye Array 51.69 310 P P 03 21 02.1 -0.5
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 51.72 310 *eP* **P 03 21 01.8 -1.1**
LSA Lhasa 51.76 274 *eP* **P 03 21 06.0 +2.8**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 51.76 274 *eP* **P 03 21 06.0 +2.8**
comp=Z,12nm,0.8s,mb4.9
ZRNK Zerenda 52.44 310 *eP* **P 03 21 07.6 -0.7**
ZRNK pmax pmax
comp=Z,12nm,0.5s,mb5.1
ZRNK Zerenda 52.44 310 *eP* **P 03 21 07.6 -0.7**
comp=Z,12nm,0.5s,mb5.1
CHTO Chiang Mai 53.73 258 *eP* **P 03 21 18.1 +0.4**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CHTO Chiang Mai 53.73 258 *eP* **P 03 21 18.1 +0.4**
comp=Z,5.8nm,0.8s,mb4.6
TKM2 Tokmak 2 54.12 297 P **P 03 21 21.6 +1.0**
SNR=5.3
USP Ospenovka 54.59 298 P **P 03 21 23.7 -0.3**
SNR=17
KBK Karagaybulak 54.66 297 P **P 03 21 25.3 +0.8**
SNR=6.0
FRU Bishkek 54.77 297 *eP* **P 03 21 26.5 +1.2**
KZA Kyzart 54.81 296 P **P 03 21 27.7 +2.1**
SNR=5.6
EDM Edmonton 54.83 47 *eP* **P 03 21 25.8 +0.1**
AAK Ala-Archa 54.95 297 P **P 03 21 27.7 +1.1**
SNR=11
AAK Ala-Archa 54.95 297 *eP* **P 03 21 26.2 -0.4**
AAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
AAK Ala-Archa 54.95 297 *eP* **P 03 21 26.2 -0.5**
comp=Z,17nm,1.0s,mb5.0
EKS2 Erkin-Say 55.37 298 P **P 03 21 30.8 +1.1**
SNR=9.1
ARU Arti 55.63 318⇓ *iP* **P 03 21 31.0 -0.5**
ARU *e* 03 23 34.2
ARU *eS* **S 03 29 18.3 +1.3**
ARU *eSS* SS 03 33 03.8 +1.7
ARU pmax pmax
comp=Z,21nm,0.7s,mb5.3
ARU Arti 55.63 318 *eP* **P 03 21 30.1 -1.5**
JIRN Jiri 56.42 276 *eP* **P 03 21 38.2 +1.0**
comp=Z,16nm,0.5s,mb5.3
GUN Gumba 56.47 276 *eP* **P 03 21 38.4 +0.9**
comp=Z,21nm,0.7s,mb5.3
HNR Honiara 56.62 175 LR LR 03 45 40.2
comp=Z,94nm,18.8s,MS3.9,baz=358,slow=36
KKN Kakani 56.95 276 *eP* **P 03 21 42.4 +1.5**
PKI Pulchoki 57.00 276 *eP* **P 03 21 42.3 +1.0**
comp=Z,8.6nm,0.7s,mb4.9
KK31 Karatay Array 57.06 300 *iP* **P 03 21 41.1 -0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KKAR Karatay Array 57.06 300 *iP* **P 03 21 41.1 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
DMN Daman 57.18 276 *eP* **P 03 21 44.0 +1.4**
comp=Z,41nm,0.9s,mb5.5
GKN Gorkha 57.25 277 *eP* **P 03 21 44.1 +1.1**
comp=Z,22nm,0.6s,mb5.4
KEV Kevo 57.33 341 *ep* **P 03 21 42.0 -1.6**
comp=Z,7.6nm,0.8s,mb4.8
KEV Kevo 57.33 341 *eP* **P 03 21 42.0 -1.6**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARCES ARCESS Array B 57.83 341 P **P 03 21 46.6 -0.5**
comp=Z,9.0nm,0.8s,mb4.8,baz=20,slow=5.5,SNR=9.6
KOLN Koldanda 58.10 278 *eP* **P 03 21 49.4 +0.4**
comp=Z,29nm,0.8s,mb5.3
CHMT Chamberlain Mo 58.54 53 *eP* **P 03 21 51.9 -0.2**
TMCR Tamitsa 58.56 333 *eP* **P 03 21 52.7 +0.5**
TMCR pmax pmax
comp=Z,82nm,1.9s,mb5.4
AB31 Akbulak array 59.24 311 *iP* **P 03 21 57.0 0.0**
AB31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AKTK Aktyubinsk 59.49 313 P **P 03 21 58.5 -0.2**
AKTO Aktyubinsk 59.49 313 P **P 03 21 58.5 -0.2**
comp=Z,7.7nm,0.7s,mb4.9,baz=59,slow=5.9,SNR=25
AKTO Aktyubinsk 59.49 313 P **P 03 21 58.6 -0.1**
AKTO pmax pmax
comp=Z,100nm,4.0s
NVAR Mina Array Bea 60.83 64 P **P 03 22 06.8 -1.1**
comp=Z,0.6nm,0.6s,mb3.9,baz=294,slow=11,SNR=5.6
QLMT Earthquake Lak 60.83 54 *eP* **P 03 22 08.5 +0.6**
GCMT Greycliff 61.19 53 *eP* **P 03 22 11.2 +0.9**
RRI2 Red Ridge 61.83 56 *eP* **P 03 22 18.4 +3.8**
MOOW Moose Ponds 61.89 55 *eP* **P 03 22 16.0 +0.9**
comp=Z,1.9nm,1.2s,mb4.1
LAO LASA Array 62.44 50 *eP* **P 03 22 19.8 +1.1**
comp=Z,9.0nm,1.1s,mb4.8
BW06 Boulder Array 63.19 55 *eP* **P 03 22 24.1 +0.3**
comp=Z,1.4nm,0.9s,mb4.1
PDAR Pinedale Array 63.19 55 P **P 03 22 23.4 -0.3**
comp=Z,1.3nm,0.8s,mb4.1,baz=318,slow=2.0,SNR=11
FIA1 FINESS Array S 64.19 336 *eP* **P 03 22 29.8 -0.5**
FINES FINESS Array B 64.19 336 P **P 03 22 29.6 -0.7**
comp=Z,5.8nm,0.6s,mb4.8,baz=37,slow=8.8,SNR=28
RSSD Black Hills 65.30 51 *eP* **P 03 22 37.5 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
RSSD Black Hills 65.30 51 *eP* **P 03 22 37.5 -0.1**
comp=Z,4.8nm,1.2s,mb4.4
PSI Prapat 65.69 246 P **P 03 22 39.8 -0.4**
comp=Z,6.4nm,0.7s,mb4.8,baz=56,slow=5.4,SNR=8.8
OBN Obninsk 65.71 326‖ *eP* **P 03 22 39.7 -0.5**
OBN *e* 03 25 01.2
OBN pmax pmax
comp=Z,19nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
ISCO Idaho Springs 67.38 56 *eP* **P 03 22 51.5 +0.6**
ISCO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ISCO Idaho Springs 67.38 56 *eP* **P 03 22 51.5 +0.6**
comp=Z,2.6nm,0.9s,mb4.3
NB2 NORSAR Subarra 68.19 342 P **P 03 22 55.8 -0.2**
comp=Z,3.3nm,0.6s,mb4.5,baz=26,slow=6.5
NOA NORSAR Array B 68.19 342 P **P 03 22 56.0 -0.1**
comp=Z,5.0nm,0.7s,mb4.6,baz=26,slow=6.4,SNR=13
NOA NORSAR Array B 68.19 342 P **P 03 22 56.0 -0.1**
WB2 Warramunga Arr 69.55 201 *eP* **P 03 23 01.8 -2.6**
WRA Warramunga Arr 69.55 201 P **P 03 23 02.0 -2.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=20,slow=7.0,SNR=10
GOF Gofitskoye 70.51 316 *eP* **P 03 23 16.3 +5.9**
KIV Kislovodsk 71.50 315‖ *eP* **P 03 23 16.9 +0.5**
KIV *e* 03 25 53.5
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
AKASG Malin Array Be 71.93 327 P **P 03 23 18.1 -0.9**
comp=Z,2.3nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=10
SOC Sochi 73.18 317 *eP* **P 03 23 26.3 -0.1**
SOC *e**PP pP 03 23 33.2 +1.9
ASAR Alice Springs 73.23 200 P **P 03 23 24.9 -1.8**
comp=Z,1.6nm,0.7s,mb4.0,baz=18,slow=5.4,SNR=16
GNI Garni 73.33 311 *eP* **P 03 23 27.3 0.0**
GNI pmax pmax
comp=Z,23nm,1.5s
OJC Ojcow 75.56 332 *eP* **P 03 23 43.5 +3.2**
STHS Stebnicka Huta 75.79 331 *eP* **P 03 23 42.5 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 75.79 331 *eP* **P 03 23 42.5 +0.9**
comp=Z,5.4nm,0.8s,mb4.5
STHS *e* pP 03 23 46.0 -0.5
KOLS Kolonicke sedl 75.87 330 *eP* **P 03 23 42.2 +0.2**
TXAR Lajitas Array 75.89 62 P **P 03 23 42.0 -0.2**
comp=Z,2.0nm,0.7s,mb4.1,baz=296,slow=4.3,SNR=15
BURAR Bucovina Array 75.96 328⇓ *iP* **P 03 23 42.2 -0.3**
BURAR Bucovina Array 75.96 328⇓ P **P 03 23 42.2 -0.4**
OKC Tinava-Krasne 76.41 333 *eP* **P 03 23 47.4 +2.3**
UPC Upice 76.46 335 *eP* **P 03 23 43.3 -2.1**
DPC Dobruska-Polom 76.51 334 *eP* **P 03 23 45.8 +0.1**
DPC *ep*P pP 03 23 49.8 -0.8
CLL Collm 76.58 337 *eP* **P 03 23 46.0 -0.1**
comp=Z,11nm,1.4s,mb4.6
CLL *ep*P pP 03 23 49.0 -2.0
comp=Z,15nm,1.0s
MORC Moravsky Berou 76.65 333⇑ *iP* **P 03 23 47.1 +0.6**
MORC Moravsky Berou 76.65 333 *eP* **P 03 23 46.9 +0.4**
comp=Z,19nm,1.3s,mb4.9
BRG Berggiesshubel 76.72 336 *eP* **P 03 23 50.1 +3.2**
comp=Z,2.4nm,1.0s,mb4.1
BRG Berggiesshubel 76.72 336 *eP* **P 03 23 50.1 +3.2**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 76.85 331 *eP* **P 03 23 47.5 -0.1**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 76.85 331 *eP* **P 03 23 47.5 -0.1**
comp=Z,2.9nm,0.8s,mb4.3
PVCC Panska Ves 76.86 336 *eP* **P 03 23 49.5 +1.9**
VRI Vrincioaia 76.87 326⇓ *iP* **P 03 23 53.9 +6.2**
VRI Vrincioaia 76.87 326⇓ *iP* **P 03 23 53.9 +6.2**
CFR Carcaliu 76.89 325⇓ *iP* **P 03 23 52.4 +4.6**
CFR Carcaliu 76.89 325⇓ P **P 03 23 52.4 +4.5**
PLOR Plostina 76.91 326⇓ *iP* **P 03 23 54.0 +6.1**
VRAC Vranov 77.36 334⇓ *iP* **P 03 23 54.5 +4.1**
VRAC Vranov 77.36 334 P **P 03 23 54.9 +4.5**
VYHS Vyhne 77.38 332 *eP* **P 03 23 51.0 +0.4**
TIRR Tirgusor 77.38 324⇓ *iP* **P 03 23 50.5 -0.1**
TIRR Tirgusor 77.38 324⇓ P **P 03 23 50.5 -0.1**
MLR Muntele Rosu 77.48 326⇓ *iP* **P 03 23 51.7 +0.6**
MLR Muntele Rosu 77.48 326⇓ P **P 03 23 51.7 +0.5**
DRGR 77.56 329⇓ *iP* **P 03 23 55.2 +3.6**
DRGR 77.56 329 P **P 03 23 54.9 +3.4**
NKC Novy Kostel 77.71 337 *eP* **P 03 23 52.0 -0.4**
MALT Malatya 77.89 314⇑ *iP* **P 03 23 54.1 +0.7**
MALT Malatya 77.89 314 *eP* **P 03 23 56.0 +2.6**
comp=Z,15nm,1.3s,mb4.8
ZST Bratislava 78.19 333 *eP* **P 03 23 55.3 +0.2**
ZST pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZST Bratislava 78.19 333 *eP* **P 03 23 55.3 +0.2**
comp=Z,5.6nm,1.0s,mb4.5
KHC Kasperske Hory 78.39 335 *eP* **P 03 23 56.3 +0.1**
KHC *ep*P pP 03 24 00.2 -1.0
GRA1 Grafenberg Arr 78.53 337 *eP* **P 03 23 57.8 +0.8**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.53 337 *eP* **P 03 23 57.8 +0.8**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.53 337 *eP* **P 03 23 57.8 +0.8**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.53 337 *eP* **P 03 23 57.9 +0.9**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.53 337 *eP* **P 03 23 57.9 +0.9**
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 78.62 335 P **P 03 23 57.3 -0.2**
comp=Z,0.7nm,0.4s,mb3.9,baz=28,slow=6.0,SNR=6.4
GZR Gura Zlata 78.73 328⇓ *iP* **P 03 24 01.2 +3.1**
GZR Gura Zlata 78.73 328⇓ P **P 03 24 01.2 +3.1**
BZS Buzias 78.95 329⇑ *iP* **P 03 23 58.9 -0.4**
BZS Buzias 78.95 329⇑ P **P 03 23 58.9 -0.4**
BR131 Keskin Array S 79.02 318 *eP* **P 03 24 00.4 +0.7**
BRTR Keskin Array B 79.02 318 P **P 03 24 00.3 +0.7**
comp=Z,2.9nm,0.9s,mb4.2,baz=66,slow=3.8,SNR=12
ANTO Ankara 79.29 319 *eP* **P 03 24 01.6 +0.5**
ANTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ANTO Ankara 79.29 319 *eP* **P 03 24 01.6 +0.5**
comp=Z,6.2nm,0.7s,mb4.7
PERS Pernice 80.19 333 *iP* **P 03 24 10.2 +4.2**
KBA Koelnbreinsper 80.32 335⇑ *iP* **P 03 24 08.1 +1.4**
comp=Z,16nm,0.8s,mb5.0
WTTA Wattenberg 80.64 336⇑ *iP* **P 03 24 09.8 +1.4**
comp=Z,14nm,0.7s,mb5.0
MOTA Moosalm 80.71 336⇑ *iP* **P 03 24 09.7 +0.9**
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 80.71 339 *eP* **P 03 24 07.3 -1.5**
comp=Z,16nm,1.0s,mb4.6
CDF Champ du Feu 80.71 339 *eP* **P 03 24 07.3 -1.5**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 80.71 339 *eP* **P 03 24 07.3 -1.5**
comp=Z,7.8nm,1.0s,mb4.6
VTS Vitosha 80.98 326⇓ *iP* **P 03 24 13.8 +3.5**
VTS Vitosha 80.98 326 P **P 03 24 14.5 +4.2**
VISS Visnje 81.02 333 *iP* **P 03 24 14.4 +4.0**
BOJS Bojanci 81.16 333 *iP* **P 03 24 16.3 +5.1**
GRR Gorron 82.48 344 *eP* **P 03 24 17.1 -1.1**
comp=Z,77nm,1.3s,mb5.2
GRR Gorron 82.48 344 *eP* **P 03 24 17.1 -1.1**
GRR pmax pmax
comp=Z,39nm,1.3s,mb5.2
GRR Gorron 82.48 344 *eP* **P 03 24 17.1 -1.1**
comp=Z,38nm,1.3s,mb5.2
SMF Signal de Mont 83.17 341 *eP* **P 03 24 20.5 -1.3**
comp=Z,132nm,1.5s,mb5.4
SMF Signal de Mont 83.17 341 *eP* **P 03 24 20.5 -1.3**
SMF pmax pmax
comp=Z,66nm,1.5s,mb5.4
SMF Signal de Mont 83.17 341 *eP* **P 03 24 20.5 -1.3**
comp=Z,66nm,1.5s,mb5.4
LPG La Plagne 83.56 338 *eP* **P 03 24 22.9 -0.9**
comp=Z,29nm,0.9s,mb5.1
LPG La Plagne 83.56 338 *eP* **P 03 24 22.9 -0.9**
LPG pmax pmax
comp=Z,14nm,0.9s,mb5.1
LPG La Plagne 83.56 338 *eP* **P 03 24 22.9 -0.9**
comp=Z,14nm,0.9s,mb5.1
CAF Calviac 85.20 341 *eP* **P 03 24 30.7 -1.4**
comp=Z,14nm,0.8s,mb4.8
CAF Calviac 85.20 341 *eP* **P 03 24 30.7 -1.4**
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CAF Calviac 85.20 341 *eP* **P 03 24 30.7 -1.4**
comp=Z,6.8nm,0.8s,mb4.8
TIP Timpagrande 86.32 329 *eP* **P 03 24 43.0 +5.3**
TORD Torodi Ar. Bea 115.38 331 PKP PKPdf 03 30 36.5 -0.8
comp=Z,4.4nm,0.5s,baz=0.1,slow=1.9,SNR=4.1
TRQA Tornquist 151.28 85 *e*PKPbc PKPbc 03 31 47.6 -1.6
SNAA Sanae 153.49 195 *e*PKPbc PKPbc 03 31 50.0 -4.1
comp=Z,0.7nm,0.7s,baz=13,slow=19,SNR=9.6
SNAA Sanae 153.49 195 *e*PKPdf PKPdf 03 31 40.6 -5.9
SNAA *e* 03 31 50.7
SNAA *e* 03 32 01.5
SNAA Sanae 153.49 195 PKIKP PKPdf 03 31 50.0 +3.5
SNAA pmax pmax
comp=Z,1.0nm,0.7s
SNAA Sanae 153.49 195 *e*PKPbc PKPbc 03 31 50.7 -3.4
VNA2 Neumayer--Watz 154.90 193 *e*PKPdf PKPdf 03 31 41.1 -7.3
VNA2 *e* 03 31 49.3
VNA2 *e* 03 32 02.0
VNA2 *e* 03 32 07.7
VNA3 Neumayer Olymp 154.94 191 *e*PKPdf PKPdf 03 31 41.4 -7.1
VNA3 *e* 03 31 49.9
VNA3 *e* 03 32 02.4
VNA3 *e* 03 32 07.8

IDC 18 03:15:53.5±8.4, 631S×15069E, h89km±58km, mb3.5/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=100.4km s-min=56.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.66**	**228**	P		03 17 01.1	-0.3
	1.6nm,0.3s,baz=338,slow=6.9,SNR=3.8						
PMG				S		03 17 55.9	+1.6
	3.8nm,0.3s,baz=117,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**20.88**	**228**	P		03 20 27.6	-0.8
	2.0nm,0.8s,baz=52,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**23.63**	**221**	P		03 20 56.1	-0.3
	1.2nm,0.7s,baz=55,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**27.10**	**242**	P		03 21 28.6	+0.7
	2.3nm,0.5s,baz=81,slow=8.0,SNR=9.6						
TORD	**Torodi Ar. Bea**	**148.72**	**285**	PKPbc	PKPbc	03 35 31.8	+1.4
	0.4nm,0.6s,baz=86,slow=2.7,SNR=5.7						

*STR **18** 03:19:55.3±0.1, 4303N×004W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 03:19:55.2±0.0, 4302N×001E, h8km, Md1.4/2, Ml1.4/1, Error ellipse: s-maj=0.9km s-min=0.4km az=161.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.05**	**64**	Pg	Pg	03 19 57.3	+0.4
LABF				Sg	Sg	03 19 58.6	+0.4
VIEF	**Viey**	**0.14**	**175**	Pg	Pg	03 19 58.4	+0.2
VIEF				Sg	Sg	03 20 00.8	+0.5
EPF	**Esparros**	**0.24**	**88**	*e*Pg	Pg	03 20 00.3	+0.2
EPF				*e*Sg	Sg	03 20 03.6	+0.3
	2.3nm,0.2s						
ETSF	**Etsaut**	**0.43**	**253**	*e*Pg	Pg	03 20 03.7	0.0
ETSF				*e*Sg	Sg	03 20 09.5	+0.1
	2.3nm,0.2s						
MTLF	**Montolieu**	**1.65**	**78**	*e*Sg	Sg	03 20 47.0	-1.1
	0.6nm,0.2s						

*ISCJB **18** 03:21:20.4±5.5, 474N±02×1550E±03, h11km±36km, mb4.1/10, Error ellipse: s-maj=43.2km s-min=14.2km az=90.5*
*IDC **18** 03:21:20.6±3.4, 4747N×15497E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=82.3km s-min=29.3km az=154.0*
*NEIC **18** 03:21:22.1±1.1, 4741N×15498E, h10km, mb4.2/5, Error ellipse: s-maj=25.6km s-min=9.7km az=139.0*
*MOS **18** 03:21:23.4±0.8, 4744N×15501E, h34km, mb4.5/4, Error ellipse: s-maj=23.2km s-min=12.3km az=86.5*
ISC 18 03:21:22.4±5.9, 474N±02×1551E±03, h16km±39km, n21, σ0°36/21, mb4.1/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.36**	**12**	*e*PN	**Pn**	**03 22 14.5**	**+0.3**
PET	**Petropavlovsk**	**6.08**	**21**	*e*PN	**Pn**	**03 22 51.0**	**-0.6**
PET				pmax	pmax		
	comp=Z,18nm,0.6s						
MJAR	**Matsushiro Arr**	**16.54**	**235**	Pn	**Pn**	**03 25 13.8**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=26,slow=12,SNR=4.4						
MJAR	**Matsushiro Arr**	**16.54**	**235**	Pn	**Pn**	**03 25 13.8**	**+0.2**
BILL	**Bilibino**	**21.47**	**12**	*e*P	**P**	**03 26 10.9**	**+0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
BILL	**Bilibino**	**21.47**	**12**	*e*P	**P**	**03 26 10.9**	**+0.7**
	comp=Z,3.8nm,0.6s,mb3.9						
SONM	**Songino Array**	**32.37**	**289**	P	**P**	**03 27 50.6**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=70,slow=8.2,SNR=3.7						
INK	**Inuvik**	**40.38**	**33**	P	**P**	**03 28 59.3**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.2,baz=310,slow=6.4,SNR=9.1						
ZAL	**Zalesovo**	**43.32**	**306**	P	**P**	**03 29 23.4**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=58,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**03 29 59.1**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=72,slow=6.9,SNR=6.3						
RES	**Resolute Bay**	**49.79**	**19**	*e*P	**P**	**03 30 14.4**	**+0.1**
RES				pmax	pmax		
	comp=Z,49nm,0.6s						
RES	**Resolute Bay**	**49.79**	**19**	*e*P	**P**	**03 30 14.4**	**+0.1**
	comp=Z,49nm,0.6s						
CHKZ	**Chkalovo**	**51.02**	**310**	*e*P	**P**	**03 30 23.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
CHKZ	**Chkalovo**	**51.02**	**310**	*e*P	**P**	**03 30 23.4**	**-0.2**
	comp=Z,4.5nm,0.4s,mb4.8						
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**	**03 30 27.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**	**03 30 27.6**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**52.23**	**310**	*e*P	**P**	**03 30 32.9**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**52.23**	**310**	*e*P	**P**	**03 30 32.9**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.3						
AAK	**Ala-Archa**	**54.73**	**297**	*e*P	**P**	**03 30 51.2**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.73**	**297**	*e*P	**P**	**03 30 51.2**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1						

FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**03 31 54.9**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=52,slow=7.5,SNR=10						

IDC 18 03:23:32.2±3.5, 617S×15103E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=119.0km s-min=47.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**230**	Sn	Sn	03 25 48.4	+1.3
	2.2nm,0.3s,baz=263,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**21.23**	**228**	P	P	03 28 19.6	0.0
	2.9nm,0.9s,baz=52,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**23.96**	**222**	P	P	03 28 48.0	-0.1
	1.4nm,0.7s,baz=55,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**27.47**	**242**	P	P	03 29 20.8	+0.9
	1.6nm,0.5s,baz=87,slow=7.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**149.01**	**285**	PKPbc	PKPbc	03 43 22.9	+0.8
	0.7nm,0.6s,baz=65,slow=2.7,SNR=6.4						

*STR **18** 03:26:38.7±0.1, 4302N×003W, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 03:26:38.4±0.1, 4303N×001W, h6km, Md1.7/2, Ml1.6/2, Error ellipse: s-maj=2.8km s-min=1.3km az=166.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**75**	Pg	Pg	03 26 40.5	+0.5
LABF				Sg	Sg	03 26 41.8	+0.6
VIEF	**Viey**	**0.15**	**170**	Pg	Pg	03 26 41.7	+0.3
VIEF				Sg	Sg	03 26 43.9	+0.4
EPF	**Esparros**	**0.26**	**90**	*e*Pg	Pg	03 26 43.5	0.0
EPF				*e*Sg	Sg	03 26 47.5	+0.6
	2.1nm,0.1s						
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg	Pg	03 26 46.9	+0.3
ETSF				*e*Sg	Sg	03 26 52.7	+0.6
	3.5nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Sg	Sg	03 27 06.1	-1.0
	1.0nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	03 27 09.4	-0.8
MTLF				*e*Sg	Sg	03 27 30.7	-1.1
	1.4nm,0.3s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	03 27 34.9	-1.0

*IDC **18** 03:29:18.6±0.8, 4667N×15588E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=34.2km s-min=19.9km az=137.0*

*NEIC **18** 03:29:20.1±0.5, 4674N×15568E, h10km, mb4.1/3, Error ellipse: s-maj=17.1km s-min=14.3km az=87.0*

*ISCJB **18** 03:29:22.4±4.9, 468N±0.1×1557E±0.3, h39km±42km, mb3.9/10, Error ellipse: s-maj=30.3km s-min=23.3km az=24.3*

ISC 18 03:29:26.1±3.5, 468N±01×1557E±03, h56km±31km, n11, σ0§51/11, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.56**	**259**	Pn	**Pn**	**03 31 40.6**	**-0.3**
	0.4nm,0.3s,baz=87,slow=12,SNR=3.1						
KSRS	**Korea Array**	**22.48**	**256**	P	**P**	**03 34 21.8**	**+1.2**
	1.0nm,0.5s,mb3.5,baz=60,slow=9.4,SNR=4.3						
CHKZ	**Chkalovo**	**51.73**	**311**	*e*P	**P**	**03 38 27.2**	**-0.5**
	1.5nm,0.5s,mb4.2						
BRVK	**Borovoye**	**52.21**	**310**	*e*P	**P**	**03 38 31.3**	**0.0**
	2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**52.94**	**311**	*e*P	**P**	**03 38 36.5**	**-0.1**
	1.1nm,0.5s,mb4.0						
PDAR	**Pinedale Array**	**63.31**	**55**	P	**P**	**03 39 48.9**	**-0.3**
	0.9nm,1.1s,mb3.8,baz=298,slow=3.2,SNR=4.8						
FINES	**FINESS Array B**	**64.74**	**336**	P	**P**	**03 39 58.5**	**0.0**
	1.3nm,0.7s,mb4.1,baz=57,slow=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**03 40 25.8**	**-0.7**
	0.9nm,0.7s,mb3.8,baz=22,slow=6.9,SNR=9.8						
FITZ	**Fitzroy Crossi**	**70.03**	**210**	P	**P**	**03 40 31.8**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=352,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**72.83**	**201**	P	**P**	**03 40 48.9**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=19,slow=5.5,SNR=9.8						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**03 41 07.7**	**+0.8**
	1.2nm,0.6s,mb4.0,baz=304,slow=4.6,SNR=13						

IGQ 18 03:33:09.8, 081S×7962W, h38km±2km, Mb4.0, Ms3.8, 5C-5D, Error ellipse: s-maj=3.1km s-min=2.1km az=159.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.75**	**348**	P	Pn	03 33 26.9	+3.0
MAG1				S	Sn	03 33 36.0	+2.0
CAMI	**Rancho Maria**	**1.12**	**83**	⇓P	Pn	03 33 31.4	+2.4
CAMI				S	Sn	03 33 48.2	+5.0
NAS1	**Nasa**	**1.16**	**81**	P	Pn	03 33 32.4	+3.0
JUA2	**San Juan 2**	**1.18**	**60**	⇓P	Pn	03 33 31.9	+2.2
JUA2				S	Sn	03 33 47.5	+3.0
IGUA	**Igualata**	**1.19**	**125**	P	Pn	03 33 32.4	+2.5
IGUA				S	Sn	03 33 48.9	+4.0
PINO	**Pino**	**1.20**	**57**	⇑P	Pn	03 33 31.8	+1.8
PINO				S	Sn	03 33 49.2	+4.1
GGP	**Refugio Guagua**	**1.20**	**58**	⇓P	Pn	03 33 32.0	+2.0
GGP				S	Sn	03 33 48.4	+3.2
VC1	**Cotopaxi 1**	**1.23**	**82**	⇓P	Pn	03 33 32.8	+2.4
VC1				S	Sn	03 33 50.8	+5.0
YANA	**Yana**	**1.25**	**57**	⇑P	Pn	03 33 32.3	+1.5
YANA				S	Sn	03 33 48.0	+1.5
TAMB	**Tambo**	**1.26**	**85**	⇑P	Pn	03 33 33.5	+2.7
TAMB				S	Sn	03 33 52.7	+6.2
PISA	**Pisayambo**	**1.26**	**101**	P	Pn	03 33 33.4	+2.5
PISA				S	Sn	03 33 52.7	+6.2
RUN5	**Runtun**	**1.34**	**117**	P	Pn	03 33 34.6	+2.7
RUN5				S	Sn	03 33 51.1	+2.6
ARRY	**Arrayan**	**1.35**	**121**	⇑P	Pn	03 33 33.8	+1.7
ARRY				S	Sn	03 33 52.6	+3.7
ULBA	**Ulba**	**1.37**	**118**	P	Pn	03 33 34.0	+1.7
ULBA				S	Sn	03 33 53.8	+4.6
PATA	**Patacocha**	**1.37**	**120**	P	Pn	03 33 36.0	+3.6
PATA				S	Sn	03 33 53.9	+4.6
ANTI	**Antisana**	**1.50**	**76**	⇑P	Pn	03 33 36.2	+2.0
ANTI				S	Sn	03 33 57.3	+4.7
COTA	**Cotacachi**	**1.71**	**48**	⇓P	Pn	03 33 39.0	+1.9
COTA				S	Sn	03 34 00.5	+2.7
CAYR	**Refugio Cayamb**	**1.81**	**63**	P	Pn	03 33 41.0	+2.6
CAYR				S	Sn	03 34 05.7	+5.6
CAYA	**Cayambe**	**1.85**	**62**	P	Pn	03 33 42.5	+3.5

*ISCJB **18** 03:35:29.6±0.5, 466N±0.1×15485E±007, h10km, mb4.2/32, MS3.8/3, Error ellipse: s-maj=14.9km s-min=6.7km az=155.6*

*NEIC **18** 03:35:31.2±0.3, 4654N×15484E, h10km, mb4.3/17, Error ellipse: s-maj=9.4km s-min=5.2km az=165.0*

*MOS **18** 03:35:34.1±0.9, 4648N×15479E, h47km, mb4.6/12, Error ellipse: s-maj=15.3km s-min=11.4km az=83.1*

*BJI **18** 03:35:34.6, 4670N×15385E, h10km, mB4.9, mb4.3, Ms4.1, Msz3.8*

*IDC **18** 03:35:36.0±4.2, 4647N×15483E, h45km±40km, mb3.7/12, mb1 4.0/14, mb1mx3.8/25, mbtmp3.7/14, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.5/37, Error ellipse: s-maj=19.9km s-min=19.1km az=168.0*

ISC 18 03:35:31.6±0.5, 466N±01×15482E±007, h10km, (h15km±3km:pP-P), n59, σ0§64/60, mb4.2/32, MS3.8/3, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.13**	**11**	*e*PN	**Pn**	**03 36 40.1**	**+5.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**8.97**	**258**	P	**Pn**	**03 37 42.6**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=70,slow=13,SNR=10						
ASAJ				LR	LR	03 41 51.6	
	comp=Z,71nm,18.9s,baz=0.4,slow=42						
ASAJ	**Asahikawa**	**8.97**	**258**	PN	**Pn**	**03 37 42.7**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,71nm,18.9s						
MJAR	**Matsushiro Arr**	**15.98**	**237**	P	**Pn**	**03 39 17.0**	**+0.5**
	baz=329,slow=43,SNR=3.1						
MAT	**Matsushiro**	**15.98**	**237**	P	**Pn**	**03 39 21.4**	**+4.9**
KSRS	**Korea Array**	**21.90**	**255**	P	**P**	**03 40 28.2**	**+3.4**
	comp=Z,2.4nm,0.7s,mb3.7,baz=56,slow=11,SNR=6.8						
BILL	**Bilibino**	**22.25**	**11**	*e*P	**P**	**03 40 28.7**	**+0.1**
BILL	**Bilibino**	**22.25**	**11**	*e*P	**P**	**03 40 28.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**31.48**	**275**	*e*P	**P**	**03 41 54.3**	**+0.9**
HHC				AP	pP	03 41 58.6	+2.1
HHC				XP	sP	03 42 01.3	+3.6
HHC				PP	PP	03 42 59.0	-5.4
HHC				PCP	PcP	03 44 47.9	+1.5
HHC				S	**S**	**03 47 00.1**	**-1.3**
HHC				XS	sS	03 47 08.0	+1.6
HHC				SCP	ScP	03 48 29.1	-0.5
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,152nm,7.4s						
HHC				LR	LR		
	comp=N,148nm,12.5s,MS4.0						
HHC				LR	LR		
	comp=E,131nm,12.8s,MS4.0						
HHC				LR	LR		
	comp=Z,174nm,15.7s,MS3.8						
SONM	**Songino Array**	**32.48**	**290**	P	**P**	**03 42 01.9**	**-0.4**
	comp=Z,0.9nm,1.1s,mb3.5,baz=276,slow=1.3,SNR=4.0						
EGAK	**Eagle**	**38.35**	**38**	*e*P	**P**	**03 42 52.5**	**-0.2**
WMQ	**Urumqi**	**46.06**	**292**	⇑*i*P	**P**	**03 43 55.5**	**-0.1**
WMQ				AP	pP	03 44 00.0	+1.3
WMQ				XP	sP	03 44 02.5	+2.6
WMQ				PCP	PcP	03 45 32.3	+0.4
WMQ				PP	PP	03 45 43.8	+0.3
WMQ				PPP		03 46 27.6	
WMQ				S	**S**	**03 50 40.0**	**-1.0**
WMQ				XS	sS	03 50 47.6	+1.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,150nm,4.3s						
WMQ				LR	LR		
	comp=N,58nm,16.3s,MS3.7						
WMQ				LR	LR		
	comp=E,38nm,17.3s,MS3.7						
WMQ				LR	LR		
	comp=Z,53nm,14.4s,MS3.6						
KMI	**Kunming**	**46.38**	**261**	P	**P**	**03 43 57.6**	**-0.5**
KMI				AP	pP	03 44 01.8	+0.5
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**46.38**	**261**	P	**P**	**03 43 57.6**	**-0.5**
	comp=Z,9.0nm,0.8s,mb4.8						
KMI				pP	pP	03 44 01.8	+0.5
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**03 44 10.2**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=74,slow=6.4,SNR=4.2						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**03 44 36.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**03 44 36.3**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**03 44 39.6**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=60,slow=7.0,SNR=9.4						
BRVK	**Borovoye**	**51.87**	**310**	*e*P	**P**	**03 44 40.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.87**	**310**	*e*P	**P**	**03 44 40.2**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**52.59**	**311**	*e*P	**P**	**03 44 45.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.59**	**311**	*e*P	**P**	**03 44 45.1**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**54.93**	**297**	*e*P	**P**	**03 45 02.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.93**	**297**	*e*P	**P**	**03 45 02.9**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2						
EDM	**Edmonton**	**55.53**	**47**	*e*P	**P**	**03 45 06.6**	**-0.4**
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**03 45 08.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**03 45 08.7**	**-0.8**
	comp=Z,4.2nm,0.6s,mb4.7						
NEW	**Newport**	**56.30**	**53**	LR	LR	04 09 23.4	
	comp=Z,107nm,19.6s,MS3.9,baz=231,slow=36						
NEW	**Newport**	**56.30**	**53**	*e*P	**P**	**03 45 08.1**	**-4.4**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**56.30**	**53**	*e*P	**P**	**03 45 08.1**	**-4.4**
	comp=Z,2.7nm,0.8s,mb4.3						
MOD	**Modoc**	**58.12**	**61**	*e*P	**P**	**03 45 25.4**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**58.15**	**57**	*e*P	**P**	**03 45 25.7**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9						
WVOR	**Wild Horse Val**	**58.80**	**60**	*e*P	**P**	**03 45 30.1**	**0.0**
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**58.80**	**60**	*e*P	**P**	**03 45 30.1**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.3						
CHMT	**Chamberlain Mo**	**59.22**	**53**	*e*P	**P**	**03 45 32.5**	**-0.5**
AKTK	**Aktyubinsk**	**59.67**	**313**	P	**P**	**03 45 36.3**	**+0.2**
AKTO	**Aktyubinsk**	**59.67**	**313**	P	**P**	**03 45 36.3**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=84,slow=9.1,SNR=6.5						
AKTO	**Aktyubinsk**	**59.67**	**313**	P	**P**	**03 45 36.3**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**61.44**	**63**	P	**P**	**03 45 48.0**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.3,baz=301,slow=7.5,SNR=12						
MOOW	**Moose Ponds**	**62.56**	**55**	*e*P	**P**	**03 45 56.4**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.1						
LOHW	**Long Hollow**	**62.72**	**55**	*e*P	**P**	**03 45 57.3**	**+0.5**
	comp=Z,0.9nm,0.5s,mb4.2						
LAO	**LASA Array**	**63.13**	**50**	*e*P	**P**	**03 46 00.1**	**+0.6**
	comp=Z,6.3nm,1.1s,mb4.7						
DUG	**Dugway**	**63.63**	**59**	*e*P	**P**	**03 46 03.0**	**+0.2**
DUG				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6						
DUG	**Dugway**	**63.63**	**59**	*e*P	**P**	**03 46 03.0**	**+0.1**
	comp=Z,11nm,1.8s,mb4.6						
BW06	**Boulder Array**	**63.85**	**55**	*e*P	**P**	**03 46 04.2**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**63.85**	**55**	P	**P**	**03 46 04.5**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.1,baz=292,slow=3.2,SNR=14						
FINES	**FINESS Array B**	**64.63**	**335**	P	**P**	**03 46 09.8**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=36,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**64.63**	**335**	P	**P**	**03 46 09.8**	**+0.4**
TMUT	**Trail Mountain**	**65.15**	**59**	*e*P	**P**	**03 46 12.7**	**-0.1**
SRU	**San Rafael**	**65.68**	**58**	*e*P	**P**	**03 46 16.3**	**+0.1**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SRU	**San Rafael**	**65.68**	**58**	*e*P	**P**	**03 46 16.2**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.3						
RSSD	**Black Hills**	**65.99**	**51**	*e*P	**P**	**03 46 17.8**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
RSSD	**Black Hills**	**65.99**	**51**	*e*P	**P**	**03 46 17.8**	**-0.4**
	comp=Z,3.6nm,1.1s,mb4.3						
NB2	**NORSAR Subarra**	**68.70**	**342**	P	**P**	**03 46 36.7**	**+1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=25,slow=6.2						
NOA	**NORSAR Array B**	**68.70**	**342**	P	**P**	**03 46 36.4**	**+1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=26,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**68.81**	**201**	P	**P**	**03 46 33.0**	**-3.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=23,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**72.50**	**200**	P	**P**	**03 46 58.0**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=13,slow=4.9,SNR=24						
TXAR	**Lajitas Array**	**76.51**	**62**	P	**P**	**03 47 21.9**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=300,slow=4.1,SNR=30						
GERES	**GERESS Array B**	**79.06**	**335**	P	**P**	**03 47 36.1**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=3.4,slow=5.0,SNR=2.7						

*STR **18** 03:37:29.2±0.1, 4299N×0.15E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 03:37:29.3±0.1, 4300N×002W, h9km, Md1.5/2, Ml1.5/2, Error ellipse: s-maj=2.4km s-min=1.4km az=161.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**51**	Pg	Pg	03 37 31.1	-0.4
LABF				Sg	Sg	03 37 32.4	-0.7
VIEF	**Viey**	**0.11**	**166**	Pg	Pg	03 37 32.2	+0.2
VIEF				Sg	Sg	03 37 34.4	+0.5
EPF	**Esparros**	**0.26**	**82**	*e*Pg	Pg	03 37 34.6	0.0
EPF				*e*Sg	Sg	03 37 38.5	+0.4
	2.0nm,0.2s						
ETSF	**Etsaut**	**0.41**	**257**	*e*Pg	Pg	03 37 37.4	+0.1
ETSF				*e*Sg	Sg	03 37 43.0	+0.2
	2.6nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**278**	*e*Pg	Pg	03 37 46.2	-0.3
MTLF	**Montolieu**	**1.67**	**77**	*e*Pg	Pg	03 38 00.8	-0.5
MTLF				*e*Sg	Sg	03 38 22.0	-1.0
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**25**	*e*Pg	Pg	03 38 17.0	-1.3
RJF				*e*Sg	Sg	03 38 49.8	-1.7
	0.7nm,0.2s						

*IDC **18** 03:41:18.3±0.9, 4654N×155.11E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/24, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=31.8km s-min=23.6km az=162.0*

*NEIC **18** 03:41:19.7±0.7, 4655N×15501E, h10km, mb4.2/3, Error ellipse: s-maj=23.4km s-min=14.9km az=192.0*

*ISCJB **18** 03:41:22.4±4.7, 466N±02×1550E±02, h43km±44km, mb3.9/9, Error ellipse: s-maj=35.6km s-min=25.8km az=35.1*

ISC 18 03:41:25.8±3.3, 466N±02×1549E±02, h57km±32km, n11, σ0§46/11, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.03**	**259**	Pn	**Pn**	**03 43 33.5**	**0.0**
	0.6nm,0.3s,baz=95,slow=32,SNR=3.2						
CHKZ	**Chkalovo**	**51.49**	**311**	*e*P	**P**	**03 50 25.2**	**-0.3**
	1.7nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**03 50 28.7**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=59,slow=8.6,SNR=4.4						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**03 50 28.4**	**-0.6**
	2.4nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**52.69**	**311**	*e*P	**P**	**03 50 35.1**	**+0.7**
	0.7nm,0.4s,mb3.9						
NVAR	**Mina Array Bea**	**61.40**	**63**	P	**P**	**03 51 36.6**	**+0.6**
	0.4nm,0.7s,mb3.6,baz=301,slow=9.3,SNR=3.4						
PDAR	**Pinedale Array**	**63.83**	**55**	P	**P**	**03 51 51.5**	**-0.7**
	0.3nm,0.7s,mb3.4,baz=236,slow=6.4,SNR=3.8						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**03 51 58.5**	**+0.5**
	1.0nm,0.5s,mb4.1,baz=50,slow=8.1,SNR=14						
ASAR	**Alice Springs**	**72.47**	**200**	P	**P**	**03 52 46.3**	**0.0**
	0.8nm,0.7s,mb3.7,baz=12,slow=5.4,SNR=8.8						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**03 53 09.6**	**0.0**
	1.4nm,0.6s,mb4.1,baz=299,slow=3.8,SNR=14						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**03 53 09.6**	**0.0**

*ISCJB **18** 03:43:01.9±0.9, 2695N±008×5564E±005, h10km, mb3.6/6, Error ellipse: s-maj=11.8km s-min=5.7km az=168.3*

*CSEM **18** 03:43:02.7±0.2, 2693N×5582E, h25km, mb3.7/3, Error ellipse: s-maj=5.9km s-min=3.8km az=159.0*

*IDC **18** 03:43:03.7±5.1, 2708N×5533E, h0km, mb3.7/3, Error ellipse: s-maj=101.0km s-min=36.6km az=128.0*

*KISR **18** 03:43:03.4±0.3, 2659N×5528E, h33km, mb4.9(CSEM)*

*THR **18** 03:43:04.5±0.3, 27.17N×5568E, h8km±4km, ML3.1*

*NEIC **18** 03:43:04.4, 27.11N×5574E, h17km, mb3.7/3, ML3.2(THR), After THR.*

*TEH **18** 03:43:07.6, 2705N×5568E, h18km, Mn3.5*

ISC 18 03:43:04.3±0.9, 2702N±008×5568E±004, h10km, n34, σ1§41/45, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**49**	*e*Pg	**Pg**	**03 43 14.4**	**-1.1**
BNDS				*e*Sg	**Sg**	**03 43 21.6**	**-1.5**
BNDS				AML	AML	03 43 32.2	
	comp=N,1μm,0.4s						
BNDS				AML	AML	03 43 34.0	
	comp=E,1μm,0.3s						
BNDS	**Bandar-Abbas**	**0.58**	**49**	Pg	**Pg**	**03 43 13.0**	**-2.5**
BNDS				Sg	**Sg**	**03 43 21.0**	**-2.1**
BNDS	**Bandar-Abbas**	**0.58**	**49**	*e*Pg	**Pg**	**03 43 14.4**	**-1.1**
	SNR=92						
BNDS				*e*Sg	**Sg**	**03 43 21.6**	**-1.5**
	comp=E,1μm,0.3s,SNR=92						
GHIR	**Ghir-Karzin**	**2.70**	**298**	*e*Pn	**Pn**	**03 43 49.2**	**+1.5**
GHIR				AML	AML	03 44 50.2	
	comp=E,96nm,0.5s						
GHIR	**Ghir-Karzin**	**2.70**	**298**	Pn	**Pn**	**03 43 49.0**	**+1.2**
IMOK	**Mook**	**3.31**	**308**	*e*Pn	**Pn**	**03 43 57.8**	**+1.7**
IMOK				*e*Sg	**Sg**	**03 44 52.1**	**+1.5**
IPAR	**Pars**	**3.65**	**321**	*e*Pn	**Pn**	**03 44 02.0**	**+1.3**
IBAF	**Bafgh**	**4.56**	**359**	*e*Pn	**Pn**	**03 44 15.0**	**+1.7**
ZHSF	**Zahedan**	**5.18**	**59**	*e*Pn	**Pn**	**03 44 23.6**	**+1.8**
ICHK	**Chekchek**	**5.33**	**348**	*e*Pn	**Pn**	**03 44 25.9**	**+2.1**
NASN	**Na'in**	**6.28**	**337**	*e*Pn	**Pn**	**03 44 38.1**	**+1.2**
NASN	**Na'in**	**6.28**	**337**	Pn	**Pn**	**03 44 38.0**	**+1.1**
IZEF	**Zefreh**	**6.54**	**334**	*e*Pn	**Pn**	**03 44 41.1**	**+0.6**
IZEF				*e*Sn	**Sn**	**03 45 51.5**	**-3.6**
IPIR	**Pirpir**	**7.01**	**325**	*e*Pn	**Pn**	**03 44 47.3**	**+0.3**
IPIR				*e*Sn	**Sn**	**03 46 03.7**	**-3.1**
IKLH	**Kalahroud**	**7.21**	**332**	*e*Pn	**Pn**	**03 44 50.6**	**+0.8**
UMR	**Umm Al-Rimmam**	**7.46**	**292**	*e*P	**Pn**	**03 44 53.1**	**-0.1**
NAY	**Al-Naaiem**	**7.78**	**289**	*e*P	**Pn**	**03 44 57.1**	**-0.4**
NAY				*e*S	**Sn**	**03 46 22.3**	**-3.3**
NAY				AML	AML	03 46 24.6	
	comp=Z,2.2nm,0.4s						
MIB	**Mutribah**	**7.85**	**293**	*e*P	**Pn**	**03 44 58.6**	**+0.1**
MI

SKR AMB AMB 03 46 11.0
110nm,0.5s
SKR eS Sn **03 46 51.5 -6.3**
SKR A 03 46 58.5
460nm,0.4s
SKR A 03 46 58.5
200nm,0.4s
SKR Severo-Kuril's 4.53 14 ePn **Pn 03 46 04.5 -1.0**
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,90nm,0.5s
SKR pmax pmax
comp=Z,110nm,0.5s
KUR Kuril'sk 4.66 259⇑ *i*P **Pn 03 46 03.8 -3.3**
KUR AMB AMB 03 46 04.0
comp=Z,205nm,0.5s
KUR AMB AMB 03 46 04.0
comp=Z,532nm,0.5s
KUR eS **Sn 03 46 55.0 -5.8**
KUR A 03 46 57.0
comp=Z,532nm,0.6s
KUR Kuril'sk 4.66 259⇑ *i*PN **Pn 03 46 03.8 -3.3**
KUR pmax pmax
comp=N,210nm,0.5s
KUR pmax pmax
comp=Z,530nm,0.5s
PET Petropavlovsk 7.28 21 ePn **Pn 03 46 43.9 +0.7**
PET Petropavlovsk 7.28 21 ePn **Pn 03 46 41.8 -1.4**
YSS Yuzh-Sakhalins 8.00 279 eP **Pn 03 46 55.0 +1.9**
YSS AMB AMB 03 46 56.7
comp=Z,30nm,0.8s
YSS AMB AMB 03 46 56.7
comp=Z,30nm,0.8s
YSS eLQ 03 49 00.0
YSS AMS AMS 03 51 04.0
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 8.00 279 ePN **Pn 03 46 55.0 +1.9**
YSS pmax pmax
comp=E,30nm,0.8s
YSS pmax pmax
comp=Z,30nm,0.8s
ASAJ Asahikawa 8.58 259 Pn **Pn 03 47 00.8 -0.2**
comp=Z,5.2nm,0.3s,baz=94,slow=17,SNR=18
ASAJ LR LR 03 50 41.9
comp=Z,202nm,18.0s,baz=151,slow=40
ERM Erimo 9.11 246 ePn **Pn 03 47 08.2 -0.1**
ERM eSn **Sn 03 48 42.3 -8.1**
HABR Khabarovsk 13.25 286 ePN **Pn 03 48 05.6 +0.7**
KLR Kul'dur 15.46 289 eP **Pn 03 48 30.8 -4.0**
MJAR Matsushiro Arr 15.52 237 Pn **Pn 03 48 32.6 -3.0**
comp=Z,0.5nm,0.3s,baz=30,slow=12,SNR=8.9
MAJO Matsushiro 15.52 237 eP **Pn 03 48 34.3 -1.3**
MAJO pmax pmax
comp=Z,24nm,0.9s
MAJO Matsushiro 15.52 237 ePn **Pn 03 48 34.3 -1.3**
comp=Z,24nm,0.9s
MAT Matsushiro 15.52 237 P **Pn 03 48 33.9 -1.7**
MAT eS **Sn 03 51 22.6 -4.6**
CN2 Changchun 20.52 273 eP **P 03 49 31.0 -4.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CLNS Chul'man 20.95 311 eP **P 03 49 38.8 -0.8**
CLNS pmax pmax
comp=Z,14nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
YAK Yakutsk 21.15 327 eP **P 03 49 41.4 -0.4**
YAK pmax pmax
comp=Z,24nm,0.8s,mb4.6
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.3s
KSRS Korea Array 21.49 255 P **P 03 49 46.5 +1.1**
comp=E,4.3nm,0.6s,mb4.0,baz=54,slow=11,SNR=14
KSRS PcP PcP 03 53 45.1 -2.8
comp=E,0.9nm,0.5s,baz=4.3,slow=1.3,SNR=4.9
BILL Bilibino 22.64 12 *c*eP **P 03 49 58.8 +1.0**
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.4
HIA Hailar 23.31 290 eP **P 03 50 02.1 -2.7**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 23.31 290 eP **P 03 50 02.1 -2.7**
comp=Z,6.8nm,0.6s,mb4.2
BOD Bodaibo 26.92 310 eP **P 03 50 35.0 -2.9**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
CIT Chita 27.00 297 eP **P 03 50 36.8 -1.8**
TIXI Tiksi 28.13 343 eP **P 03 50 47.2 -1.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
TIXI Tiksi 28.13 343 eP **P 03 50 47.2 -1.6**
comp=Z,6.5nm,0.9s,mb4.3
BJI Beijing 28.33 271 P **P 03 50 50.8 +0.3**
BJI Beijing 28.33 271 P **P 03 50 50.7 +0.2**
BJT Baijiatuau 28.34 271 eP **P 03 50 50.6 0.0**
HHC Hu-ho-hao-te 31.17 276 eP **P 03 51 16.6 +0.9**
HHC AP pP 03 51 21.0 +0.2
HHC PP PP 03 52 19.8 -6.3
HHC PCP PcP 03 54 11.4 +1.0
HHC S **S 03 56 22.0 +1.0**
HHC XS sS 03 56 27.6 -1.7
HHC SCP ScP 03 57 52.8 +0.2
HHC SS SS 03 58 06.8 -28
HHC SCS ScS 04 01 47.8 -2.0
HHC AMB AMB
comp=Z,34nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,97nm,5.1s
HHC LR LR
comp=N,136nm,13.6s,MS4.0
HHC LR LR
comp=E,205nm,13.1s,MS4.0
HHC LR LR
comp=Z,171nm,13.9s,MS3.9
SONM Songino Array 32.28 290 P **P 03 51 24.2 -1.3**
comp=Z,1.5nm,0.6s,mb4.0,baz=67,slow=7.8,SNR=8.8
SONM PcP PcP 03 54 12.3 -1.1
comp=Z,0.8nm,0.6s,baz=104,slow=3.2,SNR=4.0
TLY Talaya 33.13 298 eP **P 03 51 30.7 -2.2**
TLY eS **S 03 56 50.0 -1.5**
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.9
TLY MLR MLR
comp=Z,151nm,15.0s,MS3.8
TLY Talaya 33.13 298 eP **P 03 51 31.7 -1.2**
comp=Z,10nm,0.6s,mb4.9
ZAK Zakamensk 33.63 296 eP **P 03 51 35.4 -1.9**
ZAK *e* 03 54 16.4
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KDAK Kodiak Island 33.73 50 P **P 03 51 36.9 -1.2**
comp=Z,27nm,1.0s,mb5.2,baz=301,slow=21,SNR=6.4
KDAK Kodiak Island 33.73 50 eP **P 03 51 36.8 -1.3**
comp=Z,51nm,1.1s,mb5.4
COLA College 35.96 38 eP **P 03 51 57.2 -0.2**
COLA College 35.96 38 eP **P 03 51 57.6 +0.2**
XAN Xi'an 36.33 267 P **P 03 52 03.0 +2.5**
XAN AP pP 03 52 11.5 +5.9
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
XAN LR LR
comp=N,225nm,22.0s
XAN LR LR
comp=E,511nm,15.3s
XAN LR LR
comp=Z,811nm,16.0s
LZH Lanzhou 38.75 273 eP **P 03 52 24.6 +3.6**
LZH AP pP 03 52 28.9 +2.7
LZH XP sP 03 52 31.8 +3.6
LZH AMB AMB
comp=Z,40nm,1.1s,mb5.1
LZH AMB AMB
comp=Z,170nm,4.3s
LZH LR LR
comp=E,840nm,15.0s
LZH LR LR
comp=Z,2μm,16.6s,MS5.0
LZH Lanzhou 38.75 273 eP **P 03 52 24.6 +3.6**
comp=Z,40nm,1.1s,mb5.1
LZH pP pP 03 52 28.9 +2.7
LZH sP sP 03 52 31.7 +3.5
LZH LR LR
comp=Z,2μm,16.6s,MS5.0
EGAK Eagle 38.82 38 eP **P 03 52 20.8 -0.8**
comp=Z,27nm,1.1s,mb4.9
DAWY Dawson 39.65 39 eP **P 03 52 29.1 +0.6**
GTA Gaotai 39.88 280⇑P **P 03 52 31.3 +0.9**
GTA AP pP 03 52 34.8 -0.8
GTA XP sP 03 52 37.8 +0.2
GTA PP PP 03 54 08.4 +6.3
GTA PCP PcP 03 54 36.8 +0.8
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,108nm,4.0s
GTA LR LR
comp=N,234nm,12.5s,MS4.5
GTA LR LR
comp=E,409nm,13.7s,MS4.5
GTA LR LR
comp=Z,420nm,15.2s,MS4.4
INK Inuvik 41.57 32 P **P 03 52 44.4 0.0**
comp=Z,8.2nm,0.6s,mb4.6,baz=295,slow=6.7,SNR=27
INK Inuvik 41.57 32 P **P 03 52 44.4 0.0**
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 41.57 32 eP **P 03 52 45.0 +0.6**
comp=Z,308nm,0.7s
CD2 Chengdu 41.69 267 P **P 03 52 45.9 +0.5**
CD2 XP sP 03 52 52.9 +0.3
CD2 PP PP 03 54 26.6 +4.8
CD2 S **S 03 59 04.1 +2.6**
CD2 XS sS 03 59 11.5 +1.5
CD2 SS SS 04 02 05.5 -1.6
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 LR LR
comp=N,1μm,17.8s,MS4.9
CD2 LR LR
comp=E,1μm,17.8s,MS4.9
CD2 LR LR
comp=Z,1μm,15.6s,MS4.8
GYA Guiyang 42.45 259⇑ *i*P **P 03 52 51.9 +0.3**
GYA AP pP 03 52 55.9 -0.9
GYA XP sP 03 52 58.6 -0.2
GYA PP PP 03 54 34.8 +4.8
GYA PCP PcP 03 54 47.1 +2.7
GYA SCP ScP 03 58 36.8 +2.4
GYA S **S 03 59 15.1 +2.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,410nm,16.4s,MS4.5
GYA LR LR
comp=E,380nm,16.8s,MS4.5
GYA LR LR
comp=Z,460nm,17.2s,MS4.4
ZAL Zalesovo 43.57 307 P **P 03 52 59.0 -1.7**
comp=Z,2.8nm,0.5s,mb4.3,baz=81,slow=20,SNR=7.5
ZAL PcP PcP 03 54 46.4 -1.8
comp=Z,3.2nm,0.4s,baz=282,slow=13,SNR=4.1
ZAL LR LR 04 13 38.9
comp=Z,181nm,18.4s,MS4.0,baz=167,slow=40
ZAL Zalesovo 43.57 307 P **P 03 52 59.0 -1.7**
ZAL 03 54 46.4
NVS Novosibirsk 44.13 308 eP **P 03 53 01.3 -3.8**
QIZ Qiongzhong 45.46 248 P **P 03 53 16.0 +0.2**
QIZ S **S 03 59 58.4 +1.8**
QIZ LR LR
comp=N,761nm,19.3s,MS4.7
QIZ LR LR
comp=E,538nm,19.5s,MS4.7
QIZ LR LR
comp=Z,439nm,16.4s,MS4.5
WMQ Urumqi 45.88 292⇑ *i*P **P 03 53 21.6 +2.6**
WMQ AP pP 03 53 26.1 +1.9
WMQ XP sP 03 53 28.6 +2.3
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,109nm,3.6s
WMQ LR LR
comp=N,101nm,21.4s
WMQ LR LR
comp=E,54nm,16.1s
WMQ LR LR
comp=Z,114nm,17.4s,MS3.9
KMI Kunming 46.00 261 P **P 03 53 23.4 +3.4**
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI Kunming 46.00 261 P **P 03 53 23.4 +3.4**
comp=Z,9.0nm,0.8s,mb4.8
MK31 Makanchi Array 47.90 298 P **P 03 53 33.7 -1.1**
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MKAR Makanchi Array 47.90 298 P **P 03 53 33.9 -0.9**
comp=Z,4.8nm,0.6s,mb4.7,baz=68,slow=7.7,SNR=42
MKAR Makanchi Array 47.90 298 P **P 03 53 33.9 -0.9**
YKA Yellowknife Ar 50.77 37 P **P 03 53 55.9 -0.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=292,slow=7.1,SNR=3.9
YKA Yellowknife Ar 50.77 37 P **P 03 53 55.9 -0.9**
RES Resolute Bay 50.98 19 eP **P 03 53 58.8 +0.4**
comp=Z,402nm,0.8s
LSA Lhasa 51.15 274 P **P 03 54 04.3 +4.7**
LSA Lhasa 51.15 274 eP **P 03 54 03.9 +4.3**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.0
LSA Lhasa 51.15 274 eP **P 03 54 03.9 +4.3**
comp=Z,10nm,0.6s,mb4.9
CHKZ Chkalovo 51.36 311 eP **P 03 54 00.0 -1.2**
BVA0 Borovoye Array 51.79 310 P **P 03 54 03.6 -0.9**
BVAR Borovoye Array 51.79 310 P **P 03 54 03.8 -0.6**
comp=Z,4.7nm,0.5s,mb4.7,baz=61,slow=6.9,SNR=30
BVAR LR LR 04 19 25.0
comp=Z,66nm,18.4s,MS3.7,baz=319,slow=40
BRVK Borovoye 51.83 310 eP **P 03 54 04.0 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.83 310 eP **P 03 54 04.0 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
ZRNK Zerenda 52.56 311 eP **P 03 54 09.1 -1.1**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
ZRNK Zerenda 52.56 311 eP **P 03 54 09.1 -1.1**
comp=Z,4.9nm,0.5s,mb4.7
A07A Ashnola River, 54.53 54⇑P **P 03 54 24.1 -0.5**
baz=54
B07A Winthrop 54.99 54⇓P **P 03 54 27.4 -0.5**
baz=55
A08A Turner Farm, O 55.20 53⇓P **P 03 54 29.2 -0.3**
baz=55
B08A Colville Reser 55.48 54⇓P **P 03 54 31.0 -0.5**
baz=55
A09A Danville 55.56 53⇑P **P 03 54 32.0 -0.1**
baz=55
J02A Umpqua 55.75 61⇑P **P 03 54 33.7 +0.2**
baz=56
JIRN Jiri 55.83 276 eP **P 03 54 35.4 +1.4**
comp=Z,26nm,0.5s,mb5.5
H04A Detroit Lake 55.85 59⇓P **P 03 54 34.5 +0.3**
baz=56
GUN Gumba 55.89 276 eP **P 03 54 36.5 +2.1**
comp=Z,24nm,0.5s,mb5.5
ARU Arti 55.91 318⇓ *i*P **P 03 54 33.5 -1.1**
ARU *e* 03 56 38.7
ARU eS **S 04 02 19.8 -1.7**
ARU eSS SS 04 06 05.9 -1.5
ARU pmax pmax
comp=Z,15nm,0.7s,mb5.1
ARU Arti 55.91 318 eP **P 03 54 33.7 -0.8**
comp=Z,18nm,0.7s,mb5.2
C08A Higginbotham F 55.96 54⇑P **P 03 54 35.3 +0.3**
baz=56
EDM Edmonton 56.01 46 eP **P 03 54 35.3 0.0**
G05A Wamic 56.06 58⇓P **P 03 54 36.5 +0.9**
baz=56
F06A Goldendale 56.08 57⇑P **P 03 54 36.0 +0.2**
baz=56
B09A Rice 56.11 53⇓P **P 03 54 35.5 -0.5**
baz=56
J03A Ideyld Park 56.12 61⇓P **P 03 54 35.7 -0.4**
baz=56
K02A Glendale 56.14 61⇑P **P 03 54 34.6 -1.6**
baz=56
KKN Kakani 56.38 276 eP **P 03 54 39.7 +1.8**
comp=Z,23nm,0.5s,mb5.5
C09A Chrisman Ranch 56.38 54⇑P **P 03 54 37.6 -0.3**
baz=56
PKI Pulchoki 56.42 276 eP **P 03 54 39.5 +1.2**
D08A Wollman Farm, 56.43 55⇑P **P 03 54 36.9 -1.4**
baz=56
H05A Madras 56.44 58⇑P **P 03 54 38.1 -0.3**
baz=56
G06A Carlson Farm, 56.46 58⇓P **P 03 54 38.2 -0.3**
baz=56
F07A Phinny Hill Vi 56.50 57⇓P **P 03 54 38.9 +0.1**
baz=56
DMN Daman 56.61 276 eP **P 03 54 40.9 +1.3**
GKN Gorkha 56.68 277 eP **P 03 54 41.2 +1.1**
comp=Z,65nm,0.8s,mb5.7
I05A Bend 56.69 59⇓P **P 03 54 40.7 +0.5**
baz=56
J04A Umpqua Nationa 56.71 60⇑P **P 03 54 41.2 +0.9**
baz=56
D09A Jones Farm, Ri 56.78 55⇑P **P 03 54 40.6 -0.2**
baz=57
A11A Hall Mountain, 56.80 52⇓P **P 03 54 41.3 +0.4**
baz=57
H06A Lindquist Farm 56.92 58⇑P **P 03 54 41.3 -0.5**
baz=57
G07A Ruggs Ranch, H 57.01 57⇑P **P 03 54 42.5 +0.1**
baz=57
B11A Sandpoint 57.09 52⇓P **P 03 54 43.4 +0.4**
baz=57
E09A Wood Farm, Sta 57.18 55⇑P **P 03 54 43.6 0.0**
baz=57
A12A Yaak River Ran 57.20 52⇓P **P 03 54 43.5 -0.2**
baz=57
YBH Yreka Blue Hor 57.20 62⇑P **P 03 54 44.2 +0.4**
baz=57
J05A Fort Rock 57.21 60⇓P **P 03 54 44.1 +0.3**
baz=57
M02C Callahan 57.31 62⇓P **P 03 54 45.1 +0.5**
baz=57
G08A Pilot Rock 57.41 57⇑P **P 03 54 45.8 +0.6**
baz=57
I06A Prineville 57.44 59⇓P **P 03 54 46.2 +0.7**
baz=57
KOLN Koldanda 57.54 278 eP **P 03 54 47.4 +1.2**
M04C Macdoel 57.71 62⇓P **P 03 54 47.9 +0.6**
baz=58
K05A Summer Lake 57.73 60⇓P **P 03 54 47.8 +0.3**
baz=58
F09A S2 Ranch, Elgi 57.77 56⇓P **P 03 54 47.2 -0.6**
baz=58
I07A Izee 57.78 58⇓P **P 03 54 48.1 +0.2**
baz=58
E10A Myers Farm, Un 57.78 55⇑P **P 03 54 47.7 -0.2**
baz=58
M03C McCloud 57.83 62⇑P **P 03 54 48.4 +0.2**
baz=58
D11A Klaveano Farm, 57.90 54⇑P **P 03 54 48.2 -0.5**
baz=58
WDC Whiskeytown Da 57.98 63 eP **P 03 54 49.3 +0.1**
WDC Whiskeytown Da 57.98 63⇓P **P 03 54 48.9 -0.3**
baz=58
C12A Trout Creek 57.99 53⇑P **P 03 54 49.6 +0.2**
baz=58
F10A Beach Ranch, E 58.01 55⇓P **P 03 54 49.8 +0.3**
baz=58
H08A Prairie City 58.02 57⇑P **P 03 54 49.6 +0.1**
baz=58
KEV Kevo 58.04 341 ep **P 03 54 48.3 -1.4**
comp=Z,6.5nm,0.6s,mb4.8
KEV Kevo 58.04 341 eP **P 03 54 48.3 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
O02C Red Bluff 58.06 64⇓P **P 03 54 49.8 0.0**
baz=58
K06A Valley Falls 58.08 60⇓P **P 03 54 50.4 +0.5**
baz=58
B13A Whitefish 58.16 52 P **P 03 54 50.9 +0.4**
baz=58,SNR=7.0
L05A Lakeview 58.16 61⇑P **P 03 54 51.2 +0.6**
baz=58
J07A Hines 58.30 59⇑P **P 03 54 52.2 +0.7**
baz=58
M05C Lookout 58.38 62⇓P **P 03 54 52.5 +0.4**
baz=58
I08A Drewsey 58.43 58⇓P **P 03 54 53.0 +0.6**
baz=58
C13A Hot Springs 58.51 52⇓P **P 03 54 52.9 -0.1**
baz=58
H09A Durkee 58.52 57⇑P **P 03 54 53.3 +0.3**
baz=58
ARCES ARCESS Array B 58.55 341 P **P 03 54 52.7 -0.5**
comp=Z,6.7nm,0.7s,mb4.8,baz=28,slow=8.0,SNR=15
ARCES LR LR 04 26 15.4
comp=Z,110nm,18.1s,MS4.0,baz=209,slow=42
MOD Modoc 58.57 61 eP **P 03 54 53.5 +0.1**
comp=Z,1.9nm,0.7s,mb4.2
MOD Modoc 58.57 61⇑P **P 03 54 52.8 -0.6**
baz=58
BMO Blue Mountains 58.62 56 eP **P 03 54 53.5 -0.2**
comp=Z,2.8nm,1.0s,mb4.2
F11A Grangeville 58.67 55⇓P **P 03 54 53.1 -1.0**
baz=58
K07A Rock Creek Ran 58.74 59⇓P **P 03 54 54.2 -0.3**
baz=58
J08A Circle Bar Ran 58.81 58⇓P **P 03 54 54.9 -0.1**
baz=59
M06C Likely Place G 58.88 61⇓P **P 03 54 55.3 -0.2**
baz=59
I09A Lost Marbles R 58.88 57⇑P **P 03 54 55.4 -0.1**
baz=59
G11A Walters Elk Ra 58.89 55⇓P **P 03 54 55.4 -0.2**
baz=59
C14A Swan Lake 58.91 52⇓P **P 03 54 55.8 +0.1**
baz=59
D13A Huson 58.91 53⇑P **P 03 54 56.0 +0.2**
baz=59
O04C Chester 59.03 63⇓P **P 03 54 56.1 -0.5**
baz=59
L07A Adell 59.08 60⇓P **P 03 54 56.6 -0.4**
baz=59
K08A Mann Creek Ran 59.17 59⇑P **P 03 54 57.7 +0.2**
baz=59
ORV Oroville 59.23 64⇑P **P 03 54 56.9 -1.0**
baz=59
J09A Fry Pan Ranch, 59.24 58⇓P **P 03 54 57.9 -0.1**
baz=59
F12A Elk City 59.26 55 P **P 03 54 58.8 +0.6**
baz=59,SNR=6.8
WVOR Wild Horse Val 59.26 59 eP **P 03 54 58.1 -0.1**
WVOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WVOR Wild Horse Val 59.26 59 eP **P 03 54 58.1 0.0**
comp=Z,6.9nm,1.1s,mb4.6
MSO Missoula 59.35 53 eP **P 03 54 58.9 0.0**
comp=Z,7.3nm,1.2s,mb4.6
AB31 Akbulak array 59.36 311 eP **P 03 54 58.5 -0.3**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
D14A Greenough 59.45 52 P **P 03 54 59.5 0.0**
baz=59,SNR=8.9
E13A Victor 59.45 53⇓P **P 03 54 59.9 +0.4**
baz=59
H11A Donnelly 59.45 56⇑P **P 03 54 59.6 +0.1**
baz=59
N06A Buffalo Meadow 59.54 62⇑P **P 03 55 00.0 -0.1**
baz=59
L08A Fields 59.58 59⇑P **P 03 55 00.7 +0.3**
baz=59
K09A Rome 59.64 59⇑P **P 03 55 01.2 +0.4**
baz=59
AKTK Aktyubinsk 59.65 313 P **P 03 55 00.0 -0.8**
AKTK LR LR 04 20 20.0
AKTO Aktyubinsk 59.65 313 P **P 03 55 00.0 -0.8**
comp=Z,3.8nm,0.6s,mb4.6,baz=60,slow=9.2,SNR=13
AKTO LR LR 04 20 20.0
comp=Z,84nm,18.5s,MS3.9,baz=256,slow=36
AKTO Aktyubinsk 59.65 313 P **P 03 55 00.0 -0.9**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTO MLR MLR
comp=Z,84nm,18.5s,MS3.9
CHMT Chamberlain Mo 59.69 53 eP **P 03 55 00.7 -0.4**
BEKR Beckwourth 59.74 63⇓P **P 03 55 01.6 +0.1**
baz=60
F13A Darby 59.76 54⇑P **P 03 55 01.5 -0.1**
baz=60

E14A	Clinton	59.85	53	⇓P		P	03 55 01.8 -0.4
	baz=60						
O06A	Flanigan	59.89	62	⇓P		P	03 55 02.3 -0.2
	baz=60						
D15A	Lincoln	60.01	52	⇓P		P	03 55 03.5 +0.1
	baz=60						
N07B	Gerlach	60.04	61	⇑P		P	03 55 03.5 0.0
	baz=60						
L09A	Wilkinson Ranc	60.08	59	⇓P		P	03 55 03.9 0.0
	baz=60						
LAVA	Lava Cap Winer	60.18	64	⇑P		P	03 55 04.0 -0.5
	baz=60						
E15A	Deer Lodge	60.31	53	P		P	03 55 05.7 +0.3
	baz=60,SNR=5.5						
O07A	Toulon	60.47	62	⇓P		P	03 55 06.6 +0.1
	baz=60						
N08A	GE Springer Mi	60.55	61	⇑P		P	03 55 06.9 -0.2
	baz=60						
M09A	Marrel Ranch,	60.57	60	⇑P		P	03 55 07.2 0.0
	baz=60						
R05C	Kirkwood Meado	60.62	64	⇑P		P	03 55 07.4 -0.1
	baz=60						
F15A	Butte	60.75	53	P		P	03 55 08.4 0.0
	baz=60,SNR=8.4						
LRM	Limekiln Ridge	60.79	53	*e*P		P	03 55 10.1 +1.4
CMB	Columbia Colle	60.84	64	*e*P		P	03 55 15.2 +6.2
CMB	Columbia Colle	60.84	64	⇓P		P	03 55 09.0 0.0
	baz=61						
N09A	Rock Creek Ran	60.87	60	⇑P		P	03 55 09.4 +0.2
	baz=61						
EGMT	Eagleton	60.90	50	⇑P		P	03 55 09.8 +0.4
	baz=61						
HLID	Hailey	61.05	56	*e*P		P	03 55 10.8 +0.3
HLID	Hailey	61.05	56	P		P	03 55 10.6 +0.1
	baz=61						
M10A	I.L. Ranch, Tu	61.05	59	⇓P		P	03 55 10.9 +0.4
	baz=61						
HAST	UC Hastings Re	61.11	66	⇓P		P	03 55 10.8 0.0
	baz=61						
R06C	Coleville	61.12	63	⇑P		P	03 55 10.8 -0.1
	baz=61						
G15A	Dillon	61.17	54	P		P	03 55 11.4 +0.1
	baz=61,SNR=5.6						
MCMT	McKenzie Canyo	61.17	54	*e*P		P	03 55 10.9 -0.4
S06C	San Francisco	61.27	64	⇑P		P	03 55 12.1 +0.2
	baz=61						
BMN	Battle Mountai	61.31	60	*e*P		P	03 55 12.3 +0.1
BMN					pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.7						
BMN	Battle Mountai	61.31	60	*e*P		P	03 55 12.3 +0.1
	comp=Z,3.6nm,0.7s,mb4.6						
O09A	Fish Creek Ran	61.49	61	⇓P		P	03 55 13.9 +0.5
	baz=61						
M11A	Holland Ranch,	61.55	59	⇓P		P	03 55 14.4 +0.6
	baz=61						
O10A	Cortez Mining,	61.83	60	⇓P		P	03 55 16.1 +0.4
	baz=62						
Q08A	Gabbs	61.85	62	⇑P		P	03 55 16.0 +0.1
	baz=62						
NVAR	Mina Array Bea	61.88	63	P		P	03 55 16.3 +0.2
	comp=Z,2.7nm,0.7s,mb4.5,baz=300,slow=7.4,SNR=20						
NVAR	Mina Array Bea	61.88	63	P		P	03 55 16.3 +0.2
KAKA	Kakadu	61.96	204	*e*P		P	03 55 15.2 -1.4
	comp=Z,9.4nm,0.6s,mb5.1						
QLMT	Earthquake Lak	61.96	54	*e*P		P	03 55 17.1 +0.5
M12A	Wells	62.08	58	⇑P		P	03 55 17.7 +0.3
	baz=62						
GCMT	Greycliff	62.34	52	*e*P		P	03 55 19.4 +0.3
N12A	Clover Valley,	62.36	59	⇑P		P	03 55 19.3 +0.1
	baz=62						
O11A	Cowboy Ranch,	62.44	60	⇑P		P	03 55 19.7 -0.1
	baz=62						
V05C	Boulder Hill,	62.48	66	⇓P		P	03 55 19.8 -0.3
	baz=62						
HELL	Mitchell Peak,	62.53	65	⇓P		P	03 55 20.1 -0.3
	baz=62						
S08C	White Mtn Res	62.55	64	⇑P		P	03 55 20.3 -0.2
	baz=62						
M13A	Montello	62.56	58	⇓P		P	03 55 20.9 +0.3
	baz=62						
LKWY	Lake	62.70	53	*e*P		pP	03 55 28.0 +1.1
P11A	Circle Ranch,	62.74	60	⇓P		P	03 55 22.0 +0.2
	baz=62						
R09A	Tonopah	62.76	62	⇓P		P	03 55 21.8 -0.2
	baz=62						
N13A	Wendover, West	62.85	58	⇑P		P	03 55 21.8 -0.7
	baz=63						
O12A	Currie	62.90	59	P		P	03 55 23.3 +0.4
	baz=63,SNR=5.5						
RRI2	Red Ridge	62.95	55	*e*P		P	03 55 24.2 +1.0
	comp=Z,8.8nm,0.8s,mb4.9						
S09A	Goldfield	62.99	63	⇓P		P	03 55 23.6 +0.1
	baz=63						
MOOW	Moose Ponds	63.02	54	*e*P		P	03 55 24.6 +0.9
	comp=Z,6.1nm,1.1s,mb4.6						
LOHW	Long Hollow	63.19	54	*e*P		P	03 55 25.4 +0.6
	comp=Z,12nm,1.4s,mb4.8						
R10A	Warm Springs	63.20	62	⇑P		P	03 55 25.2 +0.3
	baz=63						
REDW	Red Top Meadow	63.21	55	*e*P		P	03 55 24.4 -0.5
Q11A	Duckwater	63.25	61	⇓P		P	03 55 24.7 -0.5
	baz=63						
P12A	McGill	63.30	60	⇓P		P	03 55 25.4 -0.1
	baz=63						
GRAC	Grapevine Rang	63.36	64	⇑P		P	03 55 26.4 +0.5
	baz=63						
SPUT	South Promonto	63.59	57	*e*P		P	03 55 25.0 -2.5
LAO	LASA Array	63.61	49	*e*P		P	03 55 27.8 +0.3
	comp=Z,5.1nm,0.8s,mb4.6						
Q12A	Willow Creek R	63.62	60	⇓P		P	03 55 27.5 -0.1
	baz=63						
MPMC	Manual Prospec	63.88	64	⇓P		P	03 55 29.1 -0.2
	baz=64						
HWUT	Hardware Ranch	63.92	56	*e*P		P	03 55 30.3 +0.7
	comp=Z,3.9nm,0.9s,mb4.4						
FURC	Furnace Creek,	64.01	64	⇑P		P	03 55 30.2 0.0
	baz=64						
DUG	Dugway	64.09	58	*e*P		P	03 55 30.8 +0.1
DUG					pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.6						
DUG	Dugway	64.09	58	*e*P		P	03 55 30.8 0.0
	comp=Z,7.5nm,1.2s,mb4.6						
DUG	Dugway	64.09	58	⇑P		P	03 55 30.9 +0.1
	baz=64						
LRMC	Laurel Mountai	64.12	65	⇓P		P	03 55 30.4 -0.5
	baz=64						
BW06	Boulder Array	64.32	54	*e*P		P	03 55 32.2 -0.1
	comp=Z,6.2nm,1.0s,mb4.6						
PDAR	Pinedale Array	64.32	54	P		P	03 55 32.1 -0.1
	comp=Z,2.9nm,0.8s,mb4.3,baz=294,slow=2.3,SNR=24						
U10A	Ash Meadows, A	64.37	63	⇑P		P	03 55 32.6 0.0
	baz=64						
GSC	Goldstone	64.79	65	⇓P		P	03 55 34.6 -0.7
	baz=65						
FIA1	FINESS Array S	64.80	335	*e*P		P	03 55 36.2 +0.8
FINES	FINESS Array B	64.80	335	P		P	03 55 35.2 -0.2
	comp=Z,5.4nm,0.4s,mb5.0,baz=37,slow=7.4,SNR=42						
SHPR	Sheep Range	65.04	63	*e*P		P	03 55 37.4 +0.5
TUQ	Turquoise Mtn.	65.25	64	⇓P		P	03 55 37.8 -0.5
	baz=65						
ARUT	Antelope Range	65.26	61	*e*P		P	03 55 38.4 0.0
V11A	Goodsprings	65.30	63	⇑P		P	03 55 38.3 -0.3
	baz=65						
MSU	Marysvale	65.55	59	*e*P		P	03 55 40.6 +0.3
V12A	Nelson	65.73	63	⇑P		P	03 55 41.6 +0.2
	baz=66						
BELC	Belle Mtn.	66.14	65	⇑P		P	03 55 42.8 -1.2
	baz=66						
SRU	San Rafael	66.14	58	*e*P		P	03 55 43.8 -0.2
SRU					pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.8						
SRU	San Rafael	66.14	58	*e*P		P	03 55 43.8 -0.3
	comp=Z,6.7nm,0.7s,mb4.8						
OBN	Obninsk	66.15	326	⇑*e*P		P	03 55 42.5 -1.6
OBN				*e*			03 58 05.8
OBN				*e*S		S	04 04 19.4 -13
OBN					pmax	pmax	
	comp=Z,10.0nm,1.3s,mb4.7						
ULM	Lac du Bonnet	66.30	41	P		P	03 55 44.4 -0.7
	comp=Z,1.3nm,0.5s,mb4.2,baz=294,slow=10,SNR=5.2						
RSSD	Black Hills	66.46	50	*e*P		P	03 55 45.4 -0.7
RSSD					pmax	pmax	
	comp=Z,5.0nm,1.1s,mb4.5						
RSSD	Black Hills	66.46	50	*e*P		P	03 55 45.4 -0.7
	comp=Z,4.6nm,1.1s,mb4.4						
IRM	Iron Mountain	66.56	65	⇑P		P	03 55 46.7 -0.1
	baz=66						
BC3	Big Chuckw Mtn	66.70	65	⇓P		P	03 55 47.5 -0.2
	baz=66						
W13A	Hualapai Mount	66.74	63	⇓P		P	03 55 47.4 -0.4
	baz=66						
X13A	Yucca	67.10	64	P		P	03 55 50.1 -0.1
	baz=67,SNR=5.0						
PDMC	Parker Dam,Lak	67.10	64	P		P	03 55 50.1 -0.1
	baz=67,SNR=5.3						
W14A	Seligman	67.16	63	P		P	03 55 51.0 +0.5
	baz=67,SNR=10.0						
Y12C	Blythe	67.22	65	⇑P		P	03 55 50.8 -0.1
	baz=67						
PV10	Paradox Valley	67.49	58	*e*P		P	03 55 53.2 +0.5
GLA	Glamis	67.50	65	⇓P		P	03 55 52.9 +0.2
	baz=67						
W15A	Williams	67.68	62	⇑P		P	03 55 54.0 +0.1
	baz=68						
X14A	Yava	67.77	63	⇓P		P	03 55 54.8 +0.4
	baz=68						
PV01	Paradox Valley	67.93	58	*e*P		P	03 55 55.4 0.0
WUAZ	Wupatki	68.00	61	*e*P		P	03 55 56.6 +0.7
	comp=Z,4.6nm,1.0s,mb4.5						
WUAZ	Wupatki	68.00	61	⇑P		P	03 55 55.9 0.0
	baz=68						
Y14A	Wickenburg	68.05	64	⇑P		P	03 55 56.3 +0.1
	baz=68						
X15A	Humboldt	68.16	63	P		P	03 55 57.3 +0.4
	baz=68,SNR=6.7						
WB2	Warramunga Arr	68.38	200	*e*P		P	03 55 57.2 -1.0
WRA	Warramunga Arr	68.38	200	P		P	03 55 56.8 -1.5
	comp=Z,3.8nm,0.8s,mb4.5,baz=19,slow=6.7,SNR=19						
ISCO	Idaho Springs	68.51	55	*e*P		P	03 55 58.9 -0.2
ISCO					pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.5						
ISCO	Idaho Springs	68.51	55	*e*P		P	03 55 58.9 -0.1
	comp=Z,9.5nm,1.3s,mb4.6						
MVCO	Mesa Verde	68.59	58	*e*P		P	03 55 59.7 +0.1
	comp=Z,3.0nm,0.8s,mb4.3						
MVCO	Mesa Verde	68.59	58	⇑P		P	03 56 00.1 +0.6
	baz=68						
NB2	NORSAR Subarra	68.92	342	P		P	03 56 01.8 +0.2
	comp=Z,5.4nm,0.6s,mb4.7,baz=29,slow=6.5						
NOA	NORSAR Array B	68.92	342	P		P	03 56 02.8 +1.2
	comp=Z,3.9nm,0.5s,mb4.6,baz=26,slow=6.4,SNR=12						
FITZ	Fitzroy Crossi	69.16	209	*e*P		P	03 56 02.9 -0.2
	comp=Z,4.8nm,0.7s,mb4.5						
NAO01	NORSAR Array S	69.16	342	*e*P		P	03 56 05.7 +2.5
	comp=Z,4.1nm,0.6s,mb4.5						
115A	Sonoran Desert	69.36	64	⇑P		P	03 56 04.5 +0.1
	baz=69						
116A	Eloy	69.78	64	⇓P		P	03 56 06.9 0.0
	baz=70						
SDCO	Great Sand Dun	69.97	56	*e*P		P	03 56 08.6 +0.5
	comp=Z,8.1nm,1.5s,mb4.4						
ANMO	Albuquerque	71.34	59	*e*P		P	03 56 17.0 +0.5
KIV	Kislovodsk	71.71	315	⇑*e*P		P	03 56 16.5 -2.2
KIV				*e*			03 58 52.2
KIV					pmax	pmax	
	comp=Z,20nm,1.3s,mb4.9						
KIV	Kislovodsk	71.71	315	*e*P		P	03 56 23.1 +4.4
AS31	Alice Springs	72.07	200	*e*P		P	03 56 20.8 -0.1
ASAR	Alice Springs	72.07	200	P		P	03 56 20.4 -0.4
	comp=Z,2.9nm,0.7s,mb4.3,baz=12,slow=5.9,SNR=34						
AKASG	Malin Array Be	72.38	327	P		P	03 56 22.0 -0.7
	comp=Z,7.7nm,0.5s,mb4.9,baz=34,slow=6.3,SNR=30						
AKASG	Malin Array Be	72.38	327	P		P	03 56 22.0 -0.7
AKBB	Malin Array Si	72.38	327	*e*P		P	03 56 25.1 +2.4
KIEV	Kiev	72.39	327	*e*P		P	03 56 24.5 +1.7
KIEV					pmax	pmax	
	comp=Z,12nm,0.6s,mb5.0						
KIEV	Kiev	72.39	327	*e*P		P	03 56 24.5 +1.8
	comp=Z,12nm,0.6s,mb5.0						
SCHQ	Schefferville	73.38	23	P		P	03 56 27.9 -0.7
	comp=Z,2.4nm,0.7s,mb4.2,baz=290,slow=6.5,SNR=3.6						
GNI	Garni	73.46	311	P		P	03 56 30.4 +1.2
	comp=Z,4.5nm,0.6s,mb4.6,baz=241,slow=2.4,SNR=5.0						
GNI					LR	LR	04 31 20.0
	comp=Z,61nm,19.9s,MS3.9,baz=336,slow=38						
GNI	Garni	73.46	311	*e*P		P	03 56 27.9 -1.2
GNI					pmax	pmax	
	comp=Z,27nm,2.0s						
MNTX	Cornudas Mount	74.25	61	*e*P		P	03 56 33.5 -0.2
STHS	Stebnicka Huta	76.32	331	*i* P		P	03 56 50.6 +5.0
STHS					pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4						
STHS	Stebnicka Huta	76.32	331	*i* P		P	03 56 50.6 +5.0
	comp=Z,5.0nm,0.9s,mb4.4						
KOLS	Kolonicke sedl	76.38	330	*e*P		P	03 56 50.6 +4.6
BURAR	Bucovina Array	76.42	327	⇓*i*P		P	03 56 46.7 +0.5
BURAR	Bucovina Array	76.42	327	⇓P		P	03 56 46.7 +0.5
LTX	Lajitas	76.97	61	*e*P		P	03 56 49.3 0.0
LTX					pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.7						
LTX	Lajitas	76.97	61	*e*P		P	03 56 49.3 0.0
	comp=Z,6.9nm,0.7s,mb4.7						
TXAR	Lajitas Array	76.97	61	P		P	03 56 49.1 -0.2
	comp=Z,5.3nm,0.6s,mb4.7,baz=305,slow=4.2,SNR=50						
OKC	Ostrava-Krasne	76.98	333	*e*P		pP	03 57 00.8 +6.0
UPC	Upice	77.05	334	*e*pP		P	03 56 54.2 +4.4
DPC	Dobruska-Polom	77.10	334	*e*pP		P	03 56 54.7 +4.7
CLL	Collm	77.21	336	⇑*i*P		P	03 56 54.2 +3.5
CLL				*e*			03 57 07.0
CLL					pmax	pmax	
	comp=Z,11nm,0.7s,mb4.9						
CLL	Collm	77.21	336	⇑*i*P		P	03 56 54.2 +3.5
	comp=Z,11nm,0.7s,mb4.9						
CLL				*e*			03 57 07.0
CLL	Collm	77.21	336	*i*pP		pP	03 56 54.2 -1.9
	comp=Z,11nm,0.7s						
CLL				*e*sPcP			03 57 07.0
MORC	Moravsky Berou	77.22	333	⇓*i*P		P	03 56 54.4 +3.7
MORC	Moravsky Berou	77.22	333	*e*P		P	03 56 54.3 +3.6
MORC					pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.5						
MORC	Moravsky Berou	77.22	333	*e*P		P	03 56 54.3 +3.6
	comp=Z,5.2nm,0.8s,mb4.5						
VRI	Vrincioaia	77.29	325	⇑*i*P		P	03 56 55.9 +4.8
VRI	Vrincioaia	77.29	325	⇑P		P	03 56 55.9 +4.8
CFR	Carcaliu	77.30	324	⇑*i*P		P	03 56 55.8 +4.6
CFR	Carcaliu	77.30	324	⇑P		P	03 56 55.8 +4.7
PLOR	Plostina	77.33	325	⇑*i*P		P	03 56 56.0 +4.6
TIRR	Tirgusor	77.77	324	⇑*i*P		P	03 56 54.4 +0.6
TIRR	Tirgusor	77.77	324	*e*P		P	03 56 55.4 +1.6
	comp=Z,8.8nm,1.0s,mb4.6						
MLR	Muntele Rosu	77.91	326	P		P	03 56 55.4 +0.8
	comp=Z,12nm,0.5s,mb5.1,baz=216,slow=4.9,SNR=24						
MLR	Muntele Rosu	77.91	326	⇓*i*P		P	03 56 55.2 +0.6
MLR	Muntele Rosu	77.91	326	⇓P		P	03 56 55.2 +0.6
VYHS	Vyhne	77.92	332	*e*P		P	03 56 57.7 +3.1
VRAC	Vranov	77.93	333	⇓*i*P		pP	03 57 11.6 +11
VRAC	Vranov	77.93	333	⇓P		pP	03 57 11.6 +11
MALT	Malatya	78.07	314	⇑*i*P		P	03 56 57.3 +1.8
MALT	Malatya	78.07	314	*e*P		P	03 56 59.5 +4.0
	comp=Z,3.7nm,0.7s,mb4.4						
VOIR		78.30	326	⇓*i*P		P	03 56 58.2 +1.4
VOIR		78.30	326	⇓P		P	03 56 58.2 +1.4
STKA	Stephens Creek	78.67	191	P		P	03 56 56.2 -2.5
	comp=Z,1.7nm,0.6s,mb4.2,baz=349,slow=7.0,SNR=6.2						
ZST	Bratislava	78.75	332	*e*P		P	03 57 05.2 +6.0
KHC	Kasperske Hory	79.00	335	*e*P		P	03 57 00.9 +0.3
GRA1	Grafenberg Arr	79.17	337	*e*P		P	03 57 01.7 +0.2
	comp=Z,9.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	79.17	337	*e*P		P	03 57 01.7 +0.2
	comp=Z,9.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	79.17	337	*e*P		P	03 57 01.7 +0.2
GRF					pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.8						
GRF	Grafenberg Arr	79.17	337	*e*P		P	03 57 01.7 +0.2
GRF					pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.8						
GZR	Gura Zlata	79.20	328	⇓*i*P		P	03 57 04.4 +2.7
GZR	Gura Zlata	79.20	328	⇓P		P	03 57 04.4 +2.7
GERES	GERESS Array B	79.22	335	P		P	03 57 03.4 +1.6
	comp=Z,1.0nm,0.5s,mb4.0,baz=37,slow=5.8,SNR=13						
BR131	Keskin Array S	79.29	318	*e*P		P	03 57 04.1 +1.9
	comp=Z,6.1nm,1.0s,mb4.5						
BRTR	Keskin Array B	79.29	318	P		P	03 57 02.9 +0.7
	comp=Z,3.6nm,0.8s,mb4.3,baz=52,slow=5.0,SNR=11						
BZS	Buzias	79.44	328	⇑*i*P		P	03 57 03.3 +0.3
BZS	Buzias	79.44	328	⇑P		P	03 57 03.3 +0.3
ANTO	Ankara	79.57	318	⇓*i*P		P	03 57 08.8 +5.1
ANTO	Ankara	79.57	318	*e*P		P	03 57 08.2 +4.5
	comp=Z,7.4nm,0.8s,mb4.7						
MEM	Membach	79.65	340	AP		pP	03 57 07.5 -2.1
MEM				E			03 57 13.2
PKSM	Moragy	79.97	330	⇓*i*P		P	03 57 08.2 +2.3
PKSM	Moragy	79.97	330	⇓P		P	03 57 08.2 +2.3
BCLA	Clavier	80.00	340	AP		pP	03 57 09.8 -1.7
BCLA				XP		sP	03 57 11.4 -2.0
BCLA				E			03 57 22.3
BCLA				E			03 57 51.2
BFO	Black Forest	81.19	338	*e*P		P	03 57 12.1 -0.3
BFO				pmax		pmax	
	comp=Z,7.0nm,0.8s,mb4.6						
BFO	Black Forest	81.19	338	*e*P		P	03 57 12.1 -0.3
	comp=Z,6.7nm,0.8s,mb4.6						
CDF	Champ du Feu	81.38	339	*e*P		P	03 57 11.9 -1.5
	comp=Z,25nm,0.9s,mb4.8						
CDF	Champ du Feu	81.38	339	*e*P		P	03 57 11.9 -1.5
CDF				pmax		pmax	
	comp=Z,13nm,0.9s,mb4.9						
CDF	Champ du Feu	81.38	339	*e*P		P	03 57 11.9 -1.5
	comp=Z,13nm,0.9s,mb4.8						
VTS	Vitosha	81.42	326	⇓*i*P		P	03 57 12.8 -0.8
VTS	Vitosha	81.42	326	⇓P		P	03 57 12.8 -0.8
GRR	Gorron	83.23	344	*e*P		P	03 57 21.7 -1.4
	comp=Z,75nm,1.2s,mb5.3						
GRR	Gorron	83.23	344	*e*P		P	03 57 21.7 -1.4
GRR				pmax		pmax	
	comp=Z,37nm,1.2s,mb5.3						
GRR	Gorron	83.23	344	*e*P		P	03 57 21.7 -1.4
	comp=Z,37nm,1.2s,mb5.3						
ASF	Jabal al Asfar	83.63	311	P		P	03 57 25.7 +0.6
	comp=Z,2.7nm,0.9s,mb4.4,baz=327,slow=1.8,SNR=5.2						
MMAI	Mount Meron Ar	83.74	312	P		P	03 57 26.1 +0.4
	comp=Z,5.7nm,0.5s,mb5.0,baz=46,slow=7.1,SNR=19						
SMF	Signal de Mont	83.87	340	*e*P		P	03 57 25.1 -1.3
	comp=Z,34nm,0.8s,mb5.2						
SMF	Signal de Mont	83.87	340	*e*P		P	03 57 25.1 -1.3
SMF				pmax		pmax	
	comp=Z,17nm,0.8s,mb5.2						
SMF	Signal de Mont	83.87	340	*e*P		P	03 57 25.1 -1.3
	comp=Z,17nm,0.8s,mb5.2						
LPG	La Plagne	84.22	338	*e*P		P	03 57 27.8 -0.4
	comp=Z,20nm,0.8s,mb5.0						
LPG	La Plagne	84.22	338	*e*P		P	03 57 27.8 -0.4
LPG				pmax		pmax	
	comp=Z,10.0nm,0.8s,mb5.0						
LPG	La Plagne	84.22	338	*e*P		P	03 57 27.8 -0.4
	comp=Z,10nm,0.8s,mb5.0						
AQU	L'Aquila	85.14	332	*e*P		P	03 57 39.1 +6.3
CAF	Calviac	85.91	341	*e*P		P	03 57 35.1 -1.5
	comp=Z,18nm,0.7s,mb5.1						
CAF	Calviac	85.91	341	*e*P		P	03 57 35.1 -1.5
CAF				pmax		pmax	
	comp=Z,9.0nm,0.7s,mb5.1						
CAF	Calviac	85.91	341	*e*P		P	03 57 35.1 -1.5
	comp=Z,8.8nm,0.7s,mb5.1						
TIP	Timpagrande	86.81	328	*e*P		P	03 57 44.5 +3.5
IDI	Anoyia	86.89	321	P		P	03 57 43.6 +2.1
	comp=Z,4.9nm,0.5s,mb5.0,baz=51,slow=20,SNR=11						
SIV	San Ignacio	137.79	56	PKP		PKPdf	04 04 19.6 -1.4
	comp=Z,1.4nm,0.7s,baz=76,slow=1.2,SNR=8.1						
SNAA	Sanae	152.36	195	*e*PKIKP		PKPdf	04 04 49.6 +3.8
SNAA				*e*			04 05 00.2
VNA2	Neumayer--Watz	153.78	193	*e*PKPdf		PKPdf	04 04 46.3 -1.6
VNA2				*e*			04 04 53.7
VNA2				*e*			04 04 56.3
VNA2				*e*			04 05 05.9
VNA2				*e*			04 05 14.4
VNA2				*e*			04 05 20.1
VNA3	Neumayer Olymp	153.84	192	*e*PKPdf		PKPdf	04 04 46.3 -1.7
VNA3				*e*			04 04 56.5
VNA3				*e*			04 05 06.1
VNA3				*e*			04 05 21.2

IDC 18 03:45:43.2±7.4, 3102S×17832W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/25, Error ellipse: s-maj=310.3km s-min=60.1km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.80	268	P	P	03 53 42.4	-0.3
	0.2nm,0.5s,baz=109,slow=8.5,SNR=5.4						
WRA	Warramunga Arr	43.85	273	P	P	03 53 51.6	+0.5
	0.4nm,0.3s,baz=112,slow=8.1,SNR=17						
GUMO	Guam	56.73	316	LR	LR	04 15 19.7	
	comp=Z,126nm,18.5s,baz=289,slow=31						
FINES	FINESS Array B	145.63	339	PKPbc	PKPbc	04 05 22.2	-1.5
	1.4nm,0.9s,baz=37,slow=1.0,SNR=4.4						

*NEIC **18** 03:48:58.3, 34.79N×24.07E, h16km, MD3.6(ATH), After ATH.*
*CSEM **18** 03:48:58.3, 34.79N×24.07E, h16km, MD3.6/5, After ATH*
ATH 18 03:48:58.3, 3479N×2407E, h16km±6km, MD3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	Gavdhos	0.05	16	*e*PB	Pg	03 49 01.5	+0.3
VAM	Vamos	0.62	10	*e*PB	Pb	03 49 10.2	-0.6
XRY	Khrisi	1.34	86	*e*PN	Pn	03 49 23.0	+0.7
NPS	Neapolis	1.35	69	*e*PN	Pn	03 49 24.2	+1.7
SANT	Santorini	1.94	35	*e*Pn	Pn

LVC	**Limon Verde**	**7.13**	**20**	Pn		**Pn**	**03 51 53.8**	**-1.9**
	comp=E,0.3nm,0.3s,baz=270,slow=15,SNR=11							
LVC				Lg			03 54 02.0	
	comp=E,6.4nm,0.3s,baz=180,slow=32,SNR=8.9							
LVC	**Limon Verde**	**7.13**	**20**	*e*Pn		**Pn**	**03 51 58.2**	**+2.4**
LVC				*e*Sg		Sn	03 53 57.4	+42
LVC				Lg			03 54 02.0	
TRQA	**Tornquist**	**11.76**	**140**	*e*Pn		**Pn**	**03 52 59.1**	**+0.1**
LPAZ	**La Paz**	**13.40**	**14**	Pn		**Pn**	**03 53 22.9**	**+1.5**
	comp=E,0.1nm,0.3s,baz=188,slow=11,SNR=3.6							
LPAZ	**La Paz**	**13.40**	**14**	*e*Pn		**Pn**	**03 53 24.5**	**+3.1**
	comp=E,1.8nm,0.6s							
SIV	**San Ignacio**	**16.44**	**38**	Pn		**Pn**	**03 54 00.7**	**-0.8**
	comp=E,0.1nm,0.3s,baz=223,slow=11,SNR=9.8							
NNA	**Nana**	**17.99**	**343**	P		**Pn**	**03 54 20.2**	**-0.6**
	comp=E,0.3nm,0.3s,baz=202,slow=19,SNR=1.6							
VNA3	**Neumayer Olymp**	**53.50**	**159**	*e*		**P**	**03 59 29.9**	**-0.2**
VNA3				*e*		pP	03 59 42.2	+0.1
VNA2	**Neumayer--Watz**	**54.13**	**159**	*e*		**P**	**03 59 34.5**	**-0.2**
	baz=292,slow=8.1							
VNA2				*e*		pP	03 59 47.8	+1.1
SNAA	**Sanae**	**55.72**	**159**	P		**P**	**03 59 45.0**	**-1.2**
	comp=E,1.3nm,0.6s,mb4.1,baz=281,slow=7.7,SNR=27							
SNAA	**Sanae**	**55.72**	**159**	*e*		**P**	**03 59 45.5**	**-0.7**
SNAA	**Sanae**	**55.72**	**159**	*e*P		**P**	**03 59 45.0**	**-1.2**
	comp=E,9.3nm,1.3s,mb4.7							
TXAR	**Lajitas Array**	**65.94**	**329**	P		**P**	**04 00 55.6**	**0.0**
	comp=E,0.6nm,0.8s,mb3.7,baz=153,slow=9.8,SNR=3.9							
MNTX	**Cornudas Mount**	**68.73**	**329**	*e*P		**P**	**04 01 13.1**	**-0.2**
	comp=E,0.7nm,0.7s,mb3.7							
SDCO	**Great Sand Dun**	**73.95**	**333**	*e*P		**P**	**04 01 45.8**	**+1.0**
	comp=E,0.8nm,0.6s,mb3.8							
MAW	**Mawson**	**77.49**	**164**	P		**P**	**04 02 04.1**	**-0.9**
	comp=E,1.4nm,0.6s,mb4.1,baz=312,slow=4.6,SNR=4.2							
HWUT	**Hardware Ranch**	**79.72**	**331**	*e*P		**P**	**04 02 18.0**	**+0.7**
	comp=E,1.7nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**79.85**	**333**	P		**P**	**04 02 18.1**	**+0.1**
	comp=E,0.4nm,0.6s,mb3.5,baz=126,slow=7.5,SNR=4.5							
ULM	**Lac du Bonnet**	**82.16**	**345**	P		**P**	**04 02 30.0**	**-0.3**
	comp=E,1.1nm,0.6s,mb4.0,baz=115,slow=18,SNR=3.3							
TORD	**Torodi Ar. Bea**	**82.25**	**70**	P		**P**	**04 02 30.7**	**0.0**
	comp=E,1.7nm,1.0s,mb4.0,baz=271,slow=4.7,SNR=11							
HLID	**Hailey**	**82.53**	**330**	*e*P		**P**	**04 02 33.4**	**+1.1**
	comp=E,1.6nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**149.72**	**55**	*e*PKPbc		PKPbc	04 09 59.2	+0.1
AAK				*e*PKPab		PKPab	04 10 04.0	-0.4
ZAL	**Zalesovo**	**150.03**	**28**	PKPbc		PKPbc	04 09 59.8	-0.1
	comp=E,3.9nm,0.8s,baz=166,slow=2.0,SNR=14							
MKAR	**Makanchi Array**	**153.23**	**42**	PKPbc		PKPbc	04 10 06.5	-0.7
	comp=E,0.7nm,0.7s,baz=344,slow=2.1,SNR=5.8							
MKAR	**Makanchi Array**	**153.23**	**42**	PKPbc		PKPbc	04 10 06.5	-0.7

*ISCJB **18** 03:51:60.0±2.0, 3928N×003×7708E×010, h19km±20km, Error ellipse: s-maj=12.7km s-min=5.8km az=7.9*
*BJI **18** 03:52:00.8, 3952N×7693E, h16km, mb3.8, ML3.9*
ISC 18 03:52:00.9±1.9, 3932N±004×7689E±010, h1km±14km, n23, σ1§00/34, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.73**	**286**	⇑*i*PG	**Pg**	**03 52 14.8**	**-0.2**
KSH				SG	**Sg**	**03 52 24.0**	**-0.5**
KSH				Smax			
	comp=E,3μm,0.2s						
ULHL	**Ulahol**	**2.96**	**351**	P	**Pn**	**03 52 49.5**	**+0.4**
	SNR=15						
KZA	**Kyzart**	**3.02**	**336**	P	**Pn**	**03 52 51.9**	**+2.0**
	SNR=45						
UCH	**Uchtor**	**3.42**	**329**	P	**Pn**	**03 52 54.7**	**-0.5**
	SNR=14						
KBK	**Karagaybulak**	**3.64**	**337**	P	**Pn**	**03 53 04.0**	**+5.6**
	SNR=38						
AML	**Almayashu**	**3.71**	**320**	P	**Pn**	**03 52 58.8**	**-0.6**
	SNR=9.8						
TKM2	**Tokmak 2**	**3.73**	**345**	P	**Pn**	**03 52 59.8**	**+0.3**
	SNR=27						
AAK	**Ala-Archa**	**3.77**	**332**	P	**Pn**	**03 53 00.0**	**-0.1**
	SNR=15						
CHMS	**Chumysh**	**4.01**	**337**	P	**Pn**	**03 53 03.2**	**-0.3**
	SNR=9.3						
EKS2	**Erkin-Say**	**4.08**	**326**	P	**Pn**	**03 53 04.8**	**+0.3**
	SNR=11						
USP	**Ospenovka**	**4.33**	**336**	P	**Pn**	**03 53 07.4**	**-0.4**
	SNR=25						
DLH	**Dalhousie**	**6.81**	**187**	*e*P	**Pn**	**03 53 47.0**	**+5.1**
DLH				*ex*	**Sn**	**03 55 02.0**	**+2.0**
SDNR	**Sundarnagar**	**7.80**	**179**	*e*P	**Pn**	**03 54 00.0**	**+4.4**
SDNR				*ex*	**Sn**	**03 55 22.5**	**-2.0**
WMQ	**Urumqi**	**9.26**	**57**	*e*P	**Pn**	**03 54 14.0**	**-1.5**
WMQ				S	**Sn**	**03 55 56.6**	**-3.8**
WMQ				Smax			
	comp=N,51nm,1.0s						
WMQ				Smax			
	comp=E,50nm,0.6s						
NDI	**New Delhi**	**10.62**	**178**	*e*P	**Pn**	**03 54 34.4**	**+0.3**
NDI				*e*S	**Sn**	**03 56 18.3**	**-15**
NDI				AML	AML	04 00 24.7	
	comp=N,11nm,0.2s						
NDI				AML	AML	04 00 26.7	
	comp=E,15nm,0.3s						
AYAN	**Aya Nagar**	**10.81**	**179**	*e*P	**Pn**	**03 54 37.6**	**+0.8**
AYAN				*e*S	**Sn**	**03 56 23.4**	**-15**
SONA	**Sohna**	**11.04**	**179**	*e*P	**Pn**	**03 54 40.8**	**+0.8**
SONA				*e*S	**Sn**	**03 56 27.6**	**-16**
SONA				AML	AML	03 56 44.2	
	comp=E,37nm,0.7s						
SONA				AML	AML	03 56 45.5	
	comp=N,24nm,1.1s						
KUDL	**Kundal**	**11.15**	**182**	*e*P	**Pn**	**03 54 40.9**	**-0.6**
KUDL				*e*S	**Sn**	**03 56 32.1**	**-15**
KUDL				AML	AML	03 56 49.3	
	comp=N,22nm,0.4s						
KUDL				AML	AML	03 56 53.1	
	comp=E,15nm,0.3s						
KHET	**Khetri**	**11.25**	**185**	*e*P	**Pn**	**03 54 43.1**	**+0.2**
KHET				*e*S	**Sn**	**03 56 34.3**	**-15**
KHET				AML	AML	03 56 54.6	
	comp=N,20nm,0.5s						
KHET				AML	AML	03 56 56.2	
	comp=E,21nm,0.4s						
AJM	**Ajmer**	**12.94**	**189**	*e*P	**Pn**	**03 55 09.4**	**+3.5**
AJM				*e*S	**Sn**	**03 57 14.1**	**-17**
BHPL	**Bhopal**	**16.04**	**178**	*e*P	**Pn**	**03 55 51.1**	**+3.5**
BHPL				*e*S	**Sn**	**03 58 40.7**	**-5.3**
BOK	**Bokaro**	**17.26**	**151**	*e*S	**Sn**	**03 59 05.4**	**-10**
GTA	**Gaotai**	**17.73**	**82**	*e*P	**Pn**	**03 56 09.5**	**+0.6**
GTA				AP	pP	03 56 14.8	+4.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s						

*STR **18** 03:54:00.0±0.1, 4301N×001W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 03:53:59.9±0.1, 4301N×001W, h3km, Md1.4/2, Ml1.2/1, Error ellipse: s-maj=2.1km s-min=1.0km az=157.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**59**	Pg	Pg	03 54 01.6	+0.3
LABF				Sg	Sg	03 54 02.9	+0.6
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	03 54 02.8	+0.3
VIEF				Sg	Sg	03 54 04.8	+0.6
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	03 54 04.8	0.0
EPF				*e*Sg	Sg	03 54 08.8	+0.6
	2.6nm,0.2s						
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	03 54 08.1	+0.1
ETSF				*e*Sg	Sg	03 54 13.9	+0.5
	1.5nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	03 54 30.9	-0.8
MTLF				*e*Sg	Sg	03 54 52.6	-0.7
	0.2nm,0.2s						
LFF	**La Frestale**	**2.00**	**15**	*e*Sg	Sg	03 55 04.5	+0.3

*NIED **18** 04:05:00, 4560N×15180E, h20km, Mw4.0 Best double couple: Mo1.25000×10^15 NP1:φ=240.00000°, δ=70.00000°, λ=147.00000°. NP2:φ=343.00000°, δ=59.00000°, λ=23.00000°.*
*BJI **18** 04:05:03.5, 4564N×15164E, h8km, mB5.0, mb4.5, Ms4.3, Msz3.9*
*JMA **18** 04:05:03.9±0.5, 4563N×15183E, h30km, M4.3*
*NEIC **18** 04:05:03.7±0.4, 4539N×15170E, h10km, mb4.4/18, Error ellipse: s-maj=12.1km s-min=7.9km az=151.0*
*MOS **18** 04:05:04.9±1.4, 4536N×15163E, h30km, mb4.6/17, Error ellipse: s-maj=10.9km s-min=8.9km az=108.2*
*SZGRF **18** 04:05:06.0, 4608N×15632E, h33km, mb4.5, East of Kuril Islands, Russia*
*ISCJB **18** 04:05:06.4±0.5, 4527N±007×15161E±007, h45km, mb4.3/42, MS3.8/2, Error ellipse: s-maj=12.1km s-min=4.2km az=118.0*
*IDC **18** 04:05:08.6±0.7, 4543N×15174E, h45km±5km, mb3.8/16, mb1 4.0/17, mb1mx3.9/25, mbtmp3.8/17, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.0/32, Error ellipse: s-maj=18.4km s-min=14.6km az=179.0*
ISC 18 04:05:08.5±0.5, 4534N±007×15163E±007, h47km, h47km±1.8km: pP-P, n103, σ1§33/108, mb4.3/42, MS3.8/2, 8C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**4.31**	**254**	*i* PN	**Pn**	**04 06 08.9**	**-2.6**
YUK				*e*S	**Sn**	**04 07 02.0**	**+1.5**
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
YUK				smax			
	comp=N,370nm,0.5s						
YUK				smax			
	comp=E,200nm,0.5s						
NEM2	**Nemuro 2**	**4.66**	**247**	P	**Pn**	**04 06 14.8**	**-1.4**
NEM2				*e*S	**Sn**	**04 07 07.6**	**-1.4**
JNK	**Nakash**	**5.25**	**253**	P	**Pn**	**04 06 24.5**	**+0.2**
JAK	**Akkeshi**	**5.51**	**247**	P	**Pn**	**04 06 26.3**	**-1.6**
JAK				*e*S	**Sn**	**04 07 28.0**	**-1.9**
JTKR	**Abashiri--Toko**	**5.67**	**259**	P	**Pn**	**04 06 31.3**	**+1.1**
JAR	**Ashorobuto**	**5.99**	**253**	P	**Pn**	**04 06 35.4**	**+0.8**
JMP	**Maruseppu**	**6.04**	**260**	P	**Pn**	**04 06 36.7**	**+1.5**
SKR	**Severo-Kuril's**	**6.14**	**28**	*e*PN	**Pn**	**04 06 34.2**	**-2.4**
JKK2	**Kamakawa 2**	**6.50**	**260**	P	**Pn**	**04 06 43.2**	**+1.6**
ASAJ	**Asahikawa**	**6.55**	**262**	P	**Pn**	**04 06 44.2**	**+2.0**
	comp=E,1.2nm,0.3s,baz=98,slow=21,SNR=6.9						
ASAJ				LR	LR	04 09 41.9	
	comp=E,182nm,19.6s,baz=261,slow=41						
ASAJ	**Asahikawa**	**6.55**	**262**	PN	**Pn**	**04 06 44.2**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,182nm,19.6s						
JCH	**Churui**	**6.55**	**248**	P	**Pn**	**04 06 41.7**	**-0.5**
JCH				*e*S	**Sn**	**04 07 54.3**	**-1.3**
ERM	**Erimo**	**6.98**	**245**	*e*PN	**Pn**	**04 06 47.1**	**-1.0**
ERM				pmax	pmax		
	comp=Z,50nm,0.6s						
ERM	**Erimo**	**6.98**	**245**	*e*Pn	**Pn**	**04 06 47.1**	**-1.0**
	comp=Z,50nm,0.6s						
JNB	**Noboribetsu**	**8.16**	**253**	P	**Pn**	**04 07 04.6**	**+0.3**
JKB	**Kayabe**	**8.42**	**250**	P	**Pn**	**04 07 06.4**	**-1.5**
JKB				*e*S	**Sn**	**04 08 37.0**	**-4.6**
JANG	**Nango**	**8.93**	**240**	*e*S	**Sn**	**04 08 45.9**	**-8.0**
JTM	**Tenmabayashi**	**8.96**	**243**	*e*S	**Sn**	**04 08 48.8**	**-6.1**
JTH	**Tanohata**	**8.99**	**237**	*e*S	**Sn**	**04 08 46.4**	**-9.1**
OFUJ	**Ofunato**	**9.67**	**233**	*e*S	**Sn**	**04 09 03.8**	**-8.4**
MJAR	**Matsushiro Arr**	**13.40**	**234**	P	**Pn**	**04 08 14.4**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=4.1						
KLR	**Kul'dur**	**14.04**	**293**	*e*P	**Pn**	**04 08 22.8**	**-1.8**
CN2	**Changchun**	**18.69**	**275**	*e*P	**Pn**	**04 09 22.5**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CLNS	**Chul'man**	**20.21**	**314**	*e*P	**P**	**04 09 39.3**	**0.0**
CLNS				pmax	pmax		
	comp=Z,17nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,1.1s						
BJI	**Beijing**	**26.45**	**271**	P	**P**	**04 10 38.8**	**-2.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.0						
BJI	**Beijing**	**26.45**	**271**	P	**P**	**04 10 38.8**	**-2.1**
	comp=Z,8.0nm,1.7s,mb4.0						
HHC	**Hu-ho-hao-te**	**29.38**	**276**	*e*P	**P**	**04 11 09.3**	**+2.2**
HHC				AP	pP	04 11 13.8	-5.7
HHC				XP	sP	04 11 16.5	-8.6
HHC				PP	PP	04 12 00.9	-13
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,125nm,9.8s						
HHC				LR	LR		
	comp=N,203nm,14.6s,MS4.0						
HHC				LR	LR		
	comp=E,184nm,13.1s,MS4.0						
HHC				LR	LR		
	comp=Z,151nm,14.0s,MS3.8						
SONM	**Songino Array**	**30.85**	**291**	P	**P**	**04 11 20.4**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=77,slow=8.0,SNR=16						
TLY	**Talaya**	**31.93**	**299**	*e*P	**P**	**04 11 20.0**	**-10**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
TLY	**Talaya**	**31.93**	**299**	*e*P	**P**	**04 11 20.0**	**-10**
	comp=Z,6.9nm,0.9s,mb4.5						
LZH	**Lanzhou**	**36.91**	**273**	*e*P	**P**	**04 12 15.0**	**+2.4**
LZH				AP	pP	04 12 20.1	-5.1
LZH				XP	sP	04 12 22.3	-8.5
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
LZH	**Lanzhou**	**36.91**	**273**	*e*P	**P**	**04 12 15.0**	**+2.4**
	comp=Z,18nm,1.2s,mb4.8						
LZH				pP	pP	04 12 20.1	-5.1
LZH				sP	sP	04 12 22.3	-8.5
GTA	**Gaotai**	**38.18**	**280**	⇑P	**P**	**04 12 25.5**	**+2.1**
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
INK	**Inuvik**	**43.40**	**31**	P	**P**	**04 13 05.8**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.1,baz=275,slow=7.1,SNR=8.0						
KMI	**Kunming**	**43.97**	**260**	P	**P**	**04 13 18.3**	**+7.4**
KMI				AP	pP	04 13 24.3	+0.6
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
KMI	**Kunming**	**43.97**	**260**	P	**P**	**04 13 18.2**	**+7.3**
KMI				*PP	pP	04 13 24.3	+0.6
KMI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
KMI	**Kunming**	**43.97**	**260**	P	**P**	**04 13 18.2**	**+7.3**
	comp=Z,4.0nm,1.1s,mb4.1						
KMI				pP	pP	04 13 24.3	+0.6
WMQ	**Urumqi**	**44.48**	**292**	⇑P	**P**	**04 13 15.4**	**+0.4**
WMQ				AP	pP	04 13 19.9	-8.0
WMQ				XP	sP	04 13 22.4	-11
WMQ				PP	PP	04 14 57.4	-2.0
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,201nm,4.3s						
WMQ				LR	LR		
	comp=N,90nm,18.8s,MS3.7						
WMQ				LR	LR		
	comp=E,14nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,43nm,16.3s,MS3.5						
MKAR	**Makanchi Array**	**46.68**	**298**	P	**P**	**04 13 32.5**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=68,slow=6.8,SNR=17						
MKAR				pP	pP	04 13 44.4	-0.9
	comp=Z,1.3nm,0.8s,baz=68,slow=6.6,SNR=5.0						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**04 14 00.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**04 14 00.5**	**-1.7**
	comp=Z,3.3nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.96**	**310**	P	**P**	**04 14 05.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=10,slow=9.0,SNR=4.7						
BVAR				PcP	PcP	04 15 20.9	-0.1
	comp=Z,0.4nm,0.5s,baz=63,slow=3.9,SNR=3.2						
BRVK	**Borovoye**	**51.01**	**310**	*e*P	**P**	**04 14 04.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**51.01**	**310**	*e*P	**P**	**04 14 04.9**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**04 14 09.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**04 14 09.2**	**-1.9**
	comp=Z,1.1nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**53.54**	**297**	*e*P	**P**	**04 14 24.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**53.54**	**297**	*e*P	**P**	**04 14 24.6**	**+0.3**
	comp=Z,5.6nm,0.8s,mb4.5						
JIRN	**Jiri**	**54.03**	**275**	*e*P	**P**	**04 14 29.8**	**+1.9**
	comp=Z,18nm,0.9s,mb5.0						
GUN	**Gumba**	**54.09**	**275**	*e*P	**P**	**04 14 30.1**	**+1.7**
KKN	**Kakani**	**54.59**	**275**	*e*P	**P**	**04 14 33.9**	**+1.9**
PKI	**Pulchoki**	**54.63**	**275**	*e*P	**P**	**04 14 33.6**	**+1.3**
DMN	**Daman**	**54.82**	**275**	*e*P	**P**	**04 14 35.7**	**+2.0**
	comp=Z,11nm,0.6s,mb5.0						
KOLN	**Koldanda**	**55.78**	**276**	*e*P	**P**	**04 14 42.5**	**+1.9**
	comp=Z,19nm,0.9s,mb5.1						
KEV	**Kevo**	**58.33**	**340**	*e*p	**P**	**04 14 56.6**	**-2.0**
ARCES	**ARCESS Array B**	**58.85**	**341**	P	**P**	**04 15 01.1**	**-1.0**
	comp=Z,5.7nm,0.9s,mb4.6,baz=36,slow=7.3,SNR=15						
AKTK	**Aktyubinsk**	**58.90**	**312**	P	**P**	**04 15 02.9**	**+0.3**
AKTK				pP	pP	04 15 16.2	+0.3
AKTO	**Aktyubinsk**	**58.90**	**312**	P	**P**	**04 15 02.9**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.9,baz=67,slow=13,SNR=3.5						
AKTO				pP	pP	04 15 16.2	+0.3
	comp=Z,0.9nm,0.5s,baz=63,slow=13,SNR=3.2						
AKTO	**Aktyubinsk**	**58.90**	**312**	P	**P**	**04 15 02.9**	**+0.3**
AKTO				*PP	pP	04 15 16.2	+0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**64.02**	**61**	P	**P**	**04 15 37.1**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=304,slow=8.6,SNR=6.1						
NVAR				pP	pP	04 15 50.3	-0.2
	comp=Z,1.1nm,0.6s,baz=295,slow=9.1,SNR=7.2						
FIA1	**FINESS Array S**	**64.87**	**334**	*e*P	**P**	**04 15 41.5**	**-1.2**
FINES	**FINESS Array B**	**64.87**	**334**	P	**P**	**04 15 41.9**	**-0.8**
	comp=Z,4.2nm,0.7s,mb4.6,baz=44,slow=5.8,SNR=21						
FINES				pP	pP	04 15 55.4	-0.7
	comp=Z,3.4nm,0.7s,baz=36,slow=8.0,SNR=4.6						
MOOW	**Moose Ponds**	**65.13**	**52**	*e*P	**P**	**04 15 44.5**	**+0.1**
	comp=Z,1.6nm,0.9s,mb4.0						
DUG	**Dugway**	**66.21**	**56**	*e*P	**P**	**04 15 51.2**	**-0.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
DUG	**Dugway**	**66.21**	**56**	*e*P	**P**	**04 15 51.2**	**-0.2**
	comp=Z,3.3nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**66.42**	**53**	P	**P**	**04 15 52.1**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=194,slow=2.4,SNR=3.6						
PDAR				pP	pP	04 16 04.6	-1.6
	comp=Z,0.9nm,0.9s,baz=290,slow=2.7,SNR=5.3						
WRA	**Warramunga Arr**	**66.84**	**198**	P	**P**	**04 15 55.9**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=18,slow=6.6,SNR=3.9						
SRU	**San Rafael**	**68.26**	**56**	*e*P	**P**	**04 16 03.4**	**-0.9**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
SRU	**San Rafael**	**68.26**	**56**	*e*P	**P**	**04 16 03.4**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.1						
NB2	**NORSAR Subarra**	**69.23**	**341**	P	**P**	**04 16 10.1**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.23**	**341**	P	**P**	**04 16 09.2**	**-1.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=31,slow=6.5,SNR=5.8						
NOA				pP	pP	04 16 23.1	-0.8
	comp=Z,1.2nm,0.7s,baz=20,slow=9.6,SNR=2.7						
ASAR	**Alice Springs**	**70.54**	**197**	P	**P**	**04 16 19.7**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=12,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**04 16 27.7**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=35,slow=5.8,SNR=9.8						
AKASG				pP	pP	04 16 40.8	-0.9
	comp=Z,1.3nm,0.5s,baz=34,slow=5.8,SNR=5.1						
KWP	**Kalwaria**	**75.50**	**328**	*e*P	**P**	**04 16 48.6**	**+0.9**
KWP				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
KWP	**Kalwaria**	**75.50**	**328**	*e*P	**P**	**04 16 48.5**	**+0.8**
	comp=Z,13nm,0.9s,mb4.8						
BURAR	**Bucovina Array**	**76.19**	**326**	⇑*i*P	**P**	**04 16 52.4**	**+0.8**
BURAR	**Bucovina Array**	**76.19**	**326**	⇑P	**P**	**04 16 52.4**	**+0.7**
STHS	**Stebnicka Huta**	**76.21**	**329**	*e*P	**P**	**04 16 53.0**	**+1.2**
STHS				*e*PCP	PcP	04 17 05.8	+2.2
STHS	**Stebnicka Huta**	**76.21**	**329**	*e*P	**P**	**04 16 53.0**	**+1.2**
STHS				*e*	pP	04 17 05.9	+0.4
MORC	**Moravsky Berou**	**77.20**	**331**	*e*P	**P**	**04 16 58.1**	**+0.8**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MORC	**Moravsky Berou**	**77.20**	**331**	*e*P	**P**	**04 16 58.1**	**+0.7**
	comp=Z,4.2nm,1.0s,mb4.3						
CLL	**Collm**	**77.31**	**335**	*e*P	**P**	**04 16 59.0**	**+1.0**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CLL	**Collm**	**77.31**	**335**	*e*P	**P**	**04 16 59.0**	**+1.0**
	comp=Z,5.0nm,0.6s,mb4.6						
MLR	**Muntele Rosu**	**77.62**	**324**	⇑*i*P	**P**	**04 17 00.9**	**+1.2**
MLR	**Muntele Rosu**	**77.62**	**324**	⇑P	**P**	**04 17 00.9**	**+1.2**
VYHS	**Vyhne**	**77.84**	**330**	*e*P	**P**	**04 17 01.5**	**+0.6**
VOIR		**78.03**	**325**	⇑*i*P	**P**	**04 17 03.4**	**+1.4**
VOIR		**78.03**	**325**	⇑P	**P**	**04 17 03.4**	**+1.4**
BR131	**Keskin Array S**	**78.70**	**316**	*e*P	**P**	**04 17 06.9**	**+1.3**
	comp=Z,2.3nm,

MKAR				pP	pP	04 17 35.1	-0.3
RES	**Resolute Bay**	**49.95**	**19**	*e*P	**P**	**04 17 39.0**	**+0.5**
RES				pmax	pmax		
	comp=Z,62nm,0.6s						
RES	**Resolute Bay**	**49.95**	**19**	*e*P	**P**	**04 17 39.0**	**+0.5**
	comp=Z,62nm,0.6s						
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**04 17 47.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.0						
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**04 17 47.6**	**-0.9**
	comp=Z,7.7nm,0.4s,mb5.0						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**04 17 52.0**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.6,baz=58,slow=7.6,SNR=23						
BVAR				pP	pP	04 18 03.3	-0.1
	comp=Z,2.0nm,0.4s,baz=58,slow=8.1,SNR=7.6						
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**	**04 17 52.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.75**	**310**	*e*P	**P**	**04 17 52.0**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**52.47**	**310**	*e*P	**P**	**04 17 57.3**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**52.47**	**310**	*e*P	**P**	**04 17 57.3**	**-0.2**
	comp=Z,3.3nm,0.4s,mb4.6						
AAK	**Ala-Archa**	**54.96**	**297**	*e*P	**P**	**04 18 15.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.96**	**297**	*e*P	**P**	**04 18 15.8**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**57.92**	**341**	P	**P**	**04 18 36.5**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.4,baz=32,slow=8.6,SNR=5.1						
AB31	**Akbulak array**	**59.27**	**311**	*i* P	**P**	**04 18 46.5**	**+0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AKTK	**Aktyubinsk**	**59.53**	**313**	P	**P**	**04 18 48.3**	**+0.4**
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**04 18 48.3**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=83,slow=6.9,SNR=6.6						
AKTO	**Aktyubinsk**	**59.53**	**313**	P	**P**	**04 18 48.3**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
PBA	**Port Blair**	**62.93**	**257**	*e*P	x	04 18 56.6	
PBA				*e*S	x	04 19 10.3	
PBA				*ex*	x	04 19 11.5	
	comp=N,1μm,0.4s						
PBA				*ex*	x	04 19 11.6	
	comp=E,1μm,0.4s						
FINES	**FINESS Array B**	**64.26**	**336**	P	**P**	**04 19 19.6**	**-0.2**
	comp=E,1.7nm,0.6s,mb4.3,baz=39,slow=9.1,SNR=15						
FINES				pP	pP	04 19 31.9	+0.4
	comp=E,2.0nm,0.7s,baz=37,slow=7.0,SNR=2.5						
NOA	**NORSAR Array B**	**68.28**	**342**	P	**P**	**04 19 45.4**	**-0.1**
	comp=E,2.1nm,1.0s,mb4.1,baz=26,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**69.43**	**201**	P	**P**	**04 19 51.1**	**-1.5**
	comp=E,0.4nm,0.7s,mb3.4,baz=27,slow=7.0,SNR=4.0						
WRA				pP	pP	04 20 02.3	-2.2
	comp=E,0.9nm,0.9s,baz=18,slow=6.7,SNR=5.4						
AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**04 20 07.3**	**-0.8**
	comp=E,0.7nm,0.5s,mb3.9,baz=31,slow=6.2,SNR=3.5						
ASAR	**Alice Springs**	**73.11**	**200**	P	**P**	**04 20 14.7**	**-0.1**
	comp=E,0.2nm,0.6s,mb3.2,baz=14,slow=5.4,SNR=4.6						
ASAR				pP	pP	04 20 25.1	-1.7
	comp=E,0.8nm,0.8s,baz=16,slow=5.6,SNR=4.9						
TXAR	**Lajitas Array**	**75.99**	**62**	P	**P**	**04 20 31.9**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.6,baz=319,slow=5.0,SNR=4.2						
BRG	**Berggiesshubel**	**76.80**	**336**	*e*P	**P**	**04 20 41.6**	**+5.5**
	comp=E,14nm,1.9s,mb4.6						
BRG	**Berggiesshubel**	**76.80**	**336**	*e*P	**P**	**04 20 41.6**	**+5.5**
BRG				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.6						
GERES	**GERESS Array B**	**78.69**	**335**	P	**P**	**04 20 46.7**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=45,slow=7.1,SNR=2.8						
BRTR	**Keskin Array B**	**79.07**	**318**	P	**P**	**04 20 50.0**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=31,slow=6.9,SNR=2.4						

INMG ***18*** *04:13:29.8±1.4, 4268N×794W, h0km±8km, ML1.4, Error ellipse: s-maj=4.0km s-min=2.5km az=72.0*
CSEM ***18*** *04:13:29.6±0.2, 4266N×793W, h10km, ML1.4, Error ellipse: s-maj=7.6km s-min=4.5km az=13.0*

MDD 18 04:13:29.7±0.4, 4268N×796W, h0km, mbLg1.7/7, Error ellipse: s-maj=4.8km s-min=2.9km az=32.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STS	**Santiago**	**0.49**	**296**	Pg	Pg	04 13 38.7	-0.4
	1.6nm,0.2s,SNR=7.9						
STS				Lg		04 13 45.0	
	13nm,0.1s,SNR=10						
EMAZ	**Mazaricos**	**0.80**	**290**	Pg	Pg	04 13 45.1	0.0
	2.4nm,0.1s,SNR=12						
EMAZ				Lg		04 13 54.8	
	9.6nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**0.80**	**290**	Pg	Pg	04 13 45.1	+0.1
	2.4nm,0.1s,SNR=12						
EPON	**Pontenova**	**0.88**	**42**	Pg	Pg	04 13 45.7	-0.9
	1.5nm,0.1s,SNR=14						
EPON				Lg		04 13 57.3	
	2.7nm,0.1s,SNR=11						
EPON	**Pontenova**	**0.88**	**42**	Pg	Pg	04 13 45.7	-0.9
	1.5nm,0.1s,SNR=14						
PCAB	**Cabril**	**0.96**	**183**	*e*P	Pg	04 13 47.9	-0.3
PCAB				*e*S	Sg	04 14 00.1	-0.6
PCAB							
	6.6nm,0.2s						
ECAL	**Calabor**	**1.16**	**129**	Pg	Pg	04 13 51.2	-0.8
	1.3nm,0.2s,SNR=7.7						
ECAL				Lg		04 14 06.2	
	6.7nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**1.16**	**129**	Pg	Pg	04 13 51.2	-0.8
	1.3nm,0.2s,SNR=7.7						
PBRG	**Braganca**	**1.25**	**134**	*e*P	Pg	04 13 53.0	-0.7
PBRG				*e*S	Sg	04 14 09.1	-0.8
PBRG							
	6.4nm,0.3s						
PVRL	**Vila Real**	**1.41**	**173**	*e*S	Sg	04 14 14.3	-0.7
PVRL							
	4.0nm,0.1s						
PVRL	**Vila Real**	**1.41**	**173**	Lg		04 14 14.3	
	2.0nm,0.1s						
PTO	**Porto**	**1.61**	**198**	*e*S	Sn	04 14 19.3	-1.5

IDC 18 04:17:34.3±11.0, 369S×12307E, h245km±104km, mb3.8/3, mb1 3.8/4, mb1mx3.2/17, mbtmp3.7/4, MS4.0/1, Ms1 4.0/1, ms1mx2.0/31, Error ellipse: s-maj=145.2km s-min=49.5km az=64.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.54**	**147**	P	P	04 21 44.1	+0.5
	1.2nm,0.3s,baz=328,slow=10,SNR=106						
WB2	**Warramunga Arr**	**19.55**	**147**	*e*P	P	04 21 44.1	+0.4
ASAR	**Alice Springs**	**22.45**	**153**	P	P	04 22 13.2	+0.5
	2.4nm,0.5s,baz=342,slow=16,SNR=54						
JOW	**Kunigami**	**30.75**	**9**	LR	LR	04 35 07.9	
	comp=Z,280nm,19.0s,baz=277,slow=34						
STKA	**Stephens Creek**	**33.01**	**150**	P	P	04 23 45.8	-0.7
	1.5nm,0.5s,baz=320,slow=9.1,SNR=5.4						
FINES	**FINESS Array B**	**96.57**	**331**	P	P	04 30 35.3	-0.8
	3.4nm,1.0s,baz=38,slow=7.2,SNR=4.9						
TXAR	**Lajitas Array**	**128.93**	**55**	PKP	PKPdf	04 36 14.2	+1.4
	0.1nm,0.4s,baz=242,slow=2.4,SNR=3.6						

BJI ***18*** *04:49:41.2, 48.10N×154.96E, h29km, mB5.0, mb4.5, Ms4.3, Ms2.4.0*
NEIC ***18*** *04:49:42.3±3.6, 4821N×154.41E, h4km±22km, mb4.6/25, Error ellipse: s-maj=9.3km s-min=6.0km az=147.0*
SZGRF ***18*** *04:49:43.4, 4827N×158.15E, h33km, mb4.8, East of Kuril Islands, Russia*
MOS ***18*** *04:49:44.7±1.0, 48.17N×154.45E, h32km, mb4.8/14, Error ellipse: s-maj=11.5km s-min=6.9km az=91.6*
ISCJB ***18*** *04:49:45.5±0.8, 48.15N±005×154.59E±007, h42km±7km, mb4.4/44, MS4.0/12, Error ellipse: s-maj=10.8km s-min=4.9km az=100.0*
IDC ***18*** *04:49:49.5±4.1, 48.16N×154.50E, h64km±37km, mb3.9/18, mb1 4.0/19, mb1mx3.9/28, mbtmp3.9/19, ML4.4/1, MS3.9/11, Ms1 3.9/11, ms1mx3.4/37, Error ellipse: s-maj=19.1km s-min=16.4km az=160.0*
ISC 18 04:49:48.0±0.8, 4819N±005×15456E±007, h50km±6km, h14km±6.1km: pP-P, n118, σ1§14/120, mb4.4/44, MS4.0/12,

9C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**22**	*e*PN	**Pn**	**04 50 28.5**	**-0.4**
SKR				*e*S	**Sn**	**04 51 01.2**	**+1.0**
SKR				pmax	pmax		
	comp=N,310nm,0.5s						
SKR				pmax	pmax		
	comp=E,230nm,0.5s						
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=N,2μm,4.0s						
SKR				smax			
	comp=E,3μm,4.0s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
KUR	**Kuril'sk**	**5.47**	**240**	*e*PN	**Pn**	**04 51 05.0**	**-2.0**
KUR				pmax	pmax		
	comp=E,230nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,2.0s						
PET	**Petropavlovsk**	**5.49**	**27**	*e*PN	**Pn**	**04 51 06.3**	**-1.0**
PET				*e*S	**Sn**	**04 52 11.4**	**+2.3**
PET				pmax	pmax		
	comp=Z,71nm,0.5s						
PET				smax			
	comp=N,239nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET	**Petropavlovsk**	**5.49**	**27**	*e*Pn	**Pn**	**04 51 05.7**	**-1.6**
	comp=Z,54nm,0.5s						
PET				*e*Sn	**Sn**	**04 52 09.0**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**7.34**	**239**	*e*PN	**Pn**	**04 51 32.5**	**0.0**
YUK				*e*S	**Sn**	**04 52 57.7**	**+3.3**
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,750nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.08**	**266⇑**	*e*PN	**Pn**	**04 51 46.0**	**+3.2**
YSS				*e*S	**Sn**	**04 53 15.0**	**+2.3**
YSS				pmax	pmax		
	comp=N,20nm,0.9s						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.08**	**266**	*e*Pn	**Pn**	**04 51 45.3**	**+2.5**
	comp=Z,40nm,0.6s						
ASAJ	**Asahikawa**	**9.25**	**248**	P	**Pn**	**04 52 01.0**	**+2.3**
	comp=Z,3.9nm,0.3s,baz=79,slow=13,SNR=9.9						
ASAJ				LR	LR	04 55 19.1	
	comp=Z,399nm,19.7s,baz=83,slow=36						
ASAJ	**Asahikawa**	**9.25**	**248**	PN	**Pn**	**04 52 01.0**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,399nm,19.7s						
KLR	**Kul'dur**	**15.09**	**282**	*e*P	**Pn**	**04 53 23.2**	**+5.3**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MAJO	**Matsushiro**	**16.74**	**232**	*e*P	**Pn**	**04 53 37.1**	**-1.8**
MJAR	**Matsushiro Arr**	**16.74**	**232**	P	**Pn**	**04 53 36.3**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=6.6						
MJAR				LR	LR	04 59 44.4	
	comp=Z,152nm,21.9s,baz=30,slow=36						
YAK	**Yakutsk**	**19.69**	**324**	*e*P	**Pn**	**04 54 13.1**	**-1.6**
YAK				pmax	pmax		
	comp=Z,28nm,1.4s						
YAK				pmax	pmax		
	comp=N,14nm,1.3s						
YAK				pmax	pmax		
	comp=E,25nm,1.4s						
CLNS	**Chul'man**	**19.89**	**307**	*e*P	**Pn**	**04 54 17.7**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,37nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,300nm,15.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,1μm,16.0s						
KSRS	**Korea Array**	**22.18**	**251**	P	**P**	**04 54 39.7**	**-0.1**
	comp=E,10nm,1.0s,mb4.2,baz=52,slow=10,SNR=20						
JNU	**Nakatsue**	**23.31**	**238**	LR	LR	05 03 47.0	
	comp=E,727nm,19.8s,MS4.1,baz=314,slow=36						
HHC	**Hu-ho-hao-te**	**31.19**	**273**	*e*P	**P**	**04 56 02.1**	**-0.2**
HHC				PP	PP	04 57 03.1	-10
HHC				PCP	PcP	04 58 57.9	+1.7
HHC				S	**S**	**05 01 06.3**	**+1.4**
HHC				SCP	ScP	05 02 39.4	+4.5
HHC				SCS	ScS	05 06 34.4	+2.2
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,96nm,6.1s						
HHC				LR	LR		
	comp=N,156nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=E,168nm,12.3s,MS4.0						
HHC				LR	LR		
	comp=Z,219nm,13.6s,MS4.0						
COLA	**College**	**34.40**	**40**	*e*P	**P**	**04 56 30.6**	**+0.3**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
COLA	**College**	**34.40**	**40**	*e*P	**P**	**04 56 30.6**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.4						
GUMO	**Guam**	**35.43**	**196**	LR	LR	05 07 25.2	
	comp=Z,97nm,21.6s,MS3.5,baz=65,slow=30						
EGAK	**Eagle**	**37.26**	**40**	*e*P	**P**	**04 56 53.5**	**-1.3**
	comp=Z,3.5nm,0.9s,mb4.2						
LZH	**Lanzhou**	**38.84**	**271**	*e*P	**P**	**04 57 07.5**	**-0.6**
LZH				AP	pP	04 57 13.5	-7.9
LZH				XP	sP	04 57 15.8	-11
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH	**Lanzhou**	**38.84**	**271**	*e*P	**P**	**04 57 07.5**	**-0.6**
	comp=Z,19nm,1.3s,mb4.7						
LZH				pP	pP	04 57 13.5	-7.9
LZH				sP	sP	04 57 15.8	-11
GTA	**Gaotai**	**39.73**	**278**	*e*P	**P**	**04 57 16.0**	**+0.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
INK	**Inuvik**	**39.91**	**33**	P	**P**	**04 57 17.3**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.0,baz=290,slow=9.3,SNR=9.9						
INK				LR	LR	05 16 50.5	
	comp=Z,92nm,19.5s,MS3.6,baz=225,slow=41						
INK	**Inuvik**	**39.91**	**33**	*e*P	**P**	**04 57 17.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,47nm,0.5s						
INK	**Inuvik**	**39.91**	**33**	*e*P	**P**	**04 57 17.1**	**0.0**
	comp=Z,47nm,0.5s,mb5.5						
ZAL	**Zalesovo**	**42.59**	**305**	P	**P**	**04 57 38.0**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=92,slow=6.3,SNR=4.3						
GYA	**Guiyang**	**42.99**	**257**	P	**P**	**04 57 42.1**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WMQ	**Urumqi**	**45.33**	**291**	⇑P	**P**	**04 58 00.9**	**-0.1**
WMQ				AP	pP	04 58 05.4	-9.1
WMQ				PCP	PcP	04 59 42.3	+2.4
WMQ				PP	PP	04 59 47.0	-0.7
WMQ				PPP		05 00 27.3	
WMQ				SCP	ScP	05 03 33.0	+4.7
WMQ				S	**S**	**05 04 39.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,178nm,4.6s						
WMQ				LR	LR		
	comp=N,129nm,15.5s,MS4.0						
WMQ				LR	LR		
	comp=E,63nm,17.1s,MS4.0						
WMQ				LR	LR		
	comp=Z,125nm,16.3s,MS3.9						
KMI	**Kunming**	**46.47**	**259**	P	**P**	**04 58 10.8**	**+0.8**
KMI				AP	pP	04 58 16.8	-6.8
KMI				XP	sP	04 58 18.6	-11
KMI				LR	LR		
	comp=Z,43nm,23.2s,MS3.3						
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**04 58 14.6**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.1,baz=61,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**04 58 14.6**	**-0.8**
RES	**Resolute Bay**	**49.16**	**19**	*e*P	**P**	**04 58 30.4**	**-0.4**
RES				pmax	pmax		
	comp=Z,147nm,1.0s						
RES	**Resolute Bay**	**49.16**	**19**	*e*P	**P**	**04 58 30.4**	**-0.4**
	comp=Z,147nm,1.0s						
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P	**P**	**04 58 37.8**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P	**P**	**04 58 37.8**	**-1.4**
	comp=Z,7.0nm,0.4s,mb5.0						
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**04 58 41.7**	**-0.9**
	comp=Z,4.3nm,0.4s,mb4.8,baz=56,slow=7.8,SNR=41						
BVAR				PcP	PcP	04 59 58.6	-0.6
	comp=Z,2.5nm,0.9s,baz=64,slow=3.4,SNR=4.9						
BVAR				LR	LR	05 22 09.2	
	comp=Z,234nm,18.8s,MS4.2,baz=317,slow=38						
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**04 58 41.7**	**-0.9**
BVAR						04 59 58.6	
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**04 58 41.8**	**-1.1**
BRVK				pmax	pmax		
	comp=E,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**04 58 41.8**	**-1.1**
	comp=Z,5.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**51.46**	**310**	*e*P	**P**	**04 58 47.0**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.46**	**310**	*e*P	**P**	**04 58 47.0**	**-1.2**
	comp=Z,3.2nm,0.5s,mb4.5						
CHTO	**Chiang Mai**	**53.41**	**257**	*e*P	**P**	**04 59 03.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**53.41**	**257**	*e*P	**P**	**04 59 03.1**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.5						
ARU	**Arti**	**54.62**	**317**	*e*P	**P**	**04 59 10.1**	**-1.3**
ARU	**Arti**	**54.62**	**317**	*e*P	**P**	**04 59 09.7**	**-1.8**
	comp=Z,3.4nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**56.81**	**341**	P	**P**	**04 59 26.3**	**-0.9**
	comp=Z,4.0nm,0.9s,mb4.5,baz=50,slow=7.4,SNR=5.4						
ARCES				LR	LR	05 26 00.8	
	comp=Z,251nm,19.3s,MS4.3,baz=30,slow=38						
ARCES	**ARCESS Array B**	**56.81**	**341**	P	**P**	**04 59 26.3**	**-0.9**
ARCES				LR	LR	05 26 00.8	
BMO	**Blue Mountains**	**57.46**	**57**	*e*P	**P**	**04 59 34.4**	**+2.6**
	comp=Z,0.9nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**58.50**	**312**	P	**P**	**04 59 36.6**	**-2.4**
AKTK				PcP	PcP	05 00 29.0	-0.1
AKTO	**Aktyubinsk**	**58.50**	**312**	P	**P**	**04 59 36.6**	**-2.4**
	comp=Z,0.6nm,0.3s,mb4.1,baz=30,slow=8.1,SNR=2.3						
AKTO				PcP	PcP	05 00 29.0	-0.1
	comp=Z,1.9nm,0.9s,baz=24,slow=4.9,SNR=4.5						
AKTO	**Aktyubinsk**	**58.50**	**312**	P	**P**	**04 59 36.6**	**-2.4**
AKTO						05 00 29.0	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
HLID	**Hailey**	**59.89**	**57**	*e*P	**P**	**04 59 49.3**	**+0.7**
	comp=Z,3.3nm,1.4s,mb4.2						
NVAR	**Mina Array Bea**	**60.91**	**64**	P	**P**	**04 59 55.5**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.8,baz=310,slow=6.7,SNR=3.8						
SNOW	**Snow King Moun**	**61.99**	**55**	*e*P	**P**	**05 00 00.4**	**-2.5**
	comp=Z,15nm,1.3s,mb5.0						
DUG	**Dugway**	**62.98**	**59**	*e*P	**P**	**05 00 12.1**	**+2.6**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
DUG	**Dugway**	**62.98**	**59**	*e*P	**P**	**05 00 12.1**	**+2.6**
	comp=Z,1.6nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**63.11**	**55**	P	**P**	**05 00 10.9**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.9,baz=302,slow=2.8,SNR=4.7						
FINES	**FINESS Array B**	**63.15**	**335**	P	**P**	**05 00 09.3**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.3,baz=33,slow=7.0,SNR=11						
FINES				LR	LR	05 31 43.9	
	comp=Z,149nm,18.1s,MS4.2,baz=355,slow=40						
SRU	**San Rafael**	**65.02**	**59**	*e*P	**P**	**05 00 24.5**	**+1.6**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
SRU	**San Rafael**	**65.02**	**59**	*e*P	**P**	**05 00 24.5**	**+1.7**
	comp=Z,2.1nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**67.18**	**342**	P	**P**	**05 00 37.0**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.3,baz=24,slow=6.1,SNR=3.9						
NOA	**NORSAR Array B**	**67.18**	**342**	P	**P**	**05 00 37.0**	**+0.3**
WRAB	**Tennant Creek**	**70.19**	**200**	*e*P	**P**	**05 00 57.2**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**70.19**	**200**	*e*P	**P**	**05 00 57.2**	**+1.7**
	comp=Z,4.9nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**70.20**	**200**	P	**P**	**05 00 54.1**	**-1.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=16,slow=6.5,SNR=5.4						
ASAR	**Alice Springs**	**73.89**	**200**	P	**P**	**05 01 17.6**	**-0.1**
	comp=Z,2.7nm,1.0s,mb3.5,baz=14,slow=5.8,SNR=6.5						
KWP	**Kalwaria**	**74.08**	**330**	*e*P	**P**	**05 01 19.1**	**+0.4**
KWP				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
KWP	**Kalwaria**	**74.08**	**330**	*e*P	**P**	**05 01 19.1**	**+0.4**
	comp=Z,40nm,1.4s,mb5.2						
STHS	**Stebnicka Huta**	**74.75**	**330**	*e*P	**P**	**05 01 23.9**	**+1.3**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
STHS	**Stebnicka Huta**	**74.75**	**330**	*e*P	**P**	**05 01 23.9**	**+1.3**
	comp=Z,4.2nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**74.83**	**330**	*e*P	**P**	**05 01 23.3**	**+0.2**
BURAR	**Bucovina Array**	**74.92**	**327⇑**	*i*P	**P**	**05 01 24.1**	**+0.5**
BURAR	**Bucovina Array**	**74.92**	**327**	⇑P	**P**	**05 01 24.1**	**+0.5**
OKC	**Ostrava-Krasne**	**75.38**	**333**	*e*P	**P**	**05 01 26.3**	**+0.1**
DPC	**Dobruska-Polom**	**75.47**	**334**	*e*P	**P**	**05 01 27.5**	**+0.7**
CLL	**Collm**	**75.55**	**336**	*i* P	**P**	**05 01 26.8**	**-0.4**
CLL				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
CLL	**Collm**	**75.55**	**336**	*

comp=Z,6.8nm,0.9s,mb4.6,baz=72,slow=3.6,SNR=32
ANTO Ankara 78.27 318 *e*P **P 05 01 43.4 +0.9**
ANTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ANTO Ankara 78.27 318 *e*P **P 05 01 43.4 +0.9**
comp=Z,9.6nm,0.8s,mb4.8
PKSM Moragy 78.41 330⇓*i*P **P 05 01 42.6 -0.7**
PKSM Moragy 78.41 330 ⇓P **P 05 01 42.6 -0.6**
VTS Vitosha 79.94 326 ⇓P **P 05 01 51.6 0.0**
VTS Vitosha 79.94 326 ⇓P **P 05 01 51.6 0.0**
STKA Stephens Creek 80.55 191 LR LR 05 36 01.2
comp=Z,58nm,18.4s,MS4.0,baz=205,slow=34
ASF Jabal al Asfar 82.51 311 P **P 05 02 06.6 +1.3**
comp=Z,5.9nm,1.1s,mb4.5,baz=124,slow=1.5,SNR=6.2
MMAI Mount Meron Ar 82.59 312 P **P 05 02 06.5 +0.8**
comp=Z,8.3nm,1.1s,mb4.7,baz=35,slow=9.5,SNR=4.2
ESDC Sonseca Array 90.46 344 LR LR 05 50 42.1
comp=Z,94nm,20.1s,MS4.2,baz=335,slow=40
KEST Kesra 90.86 332 LR LR 05 47 50.1
comp=Z,42nm,21.4s,MS3.8,baz=172,slow=38

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*IDC **18** 04:52:49.6±2.9, 338S×102.18E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=133.4km s-min=17.2km az=53.0*
*ISCJB **18** 04:52:53.0±2.4, 34S±05×1022E±06, h35km, mb4.0/9, Error ellipse: s-maj=111.8km s-min=13.6km az=104.5*
*NEIC **18** 04:52:54.6±2.2, 334S×10228E, h30km, mb4.3/2, Error ellipse: s-maj=108.0km s-min=13.0km az=52.0*
ISC 18 04:52:55.4±2.4, 34S±05×1022E±06, h35km, n11, σ0≤84/11, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.21**	**124**	P		**P**		**04 58 36.1**	**+0.2**
	0.9nm,0.9s,mb3.3,baz=346,slow=8.3,SNR=1.9								
WRA	**Warramunga Arr**	**35.39**	**120**	P		**P**		**04 59 47.3**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=304,slow=10,SNR=12								
WRAB	**Tennant Creek**	**35.39**	**120**	*e*P		**P**		**04 59 48.3**	**+0.5**
	1.1nm,0.3s,mb4.3								
ASAR	**Alice Springs**	**36.66**	**126**	P		**P**		**04 59 58.3**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=300,slow=7.8,SNR=7.8								
SONM	**Songino Array**	**51.10**	**4**	P		**P**		**05 01 54.5**	**0.0**
	0.9nm,0.6s,mb3.9,baz=182,slow=10,SNR=8.8								
MKAR	**Makanchi Array**	**52.95**	**343**	P		**P**		**05 02 06.0**	**-2.3**
	1.0nm,0.4s,mb4.1,baz=152,slow=8.6,SNR=13								
MKAR	**Makanchi Array**	**52.95**	**343**	P		**P**		**05 02 06.0**	**-2.3**
ZAL	**Zalesovo**	**58.91**	**348**	P		**P**		**05 02 51.9**	**+0.9**
	1.9nm,0.4s,mb4.4,baz=308,slow=5.7,SNR=9.4								
BVAR	**Borovoye Array**	**62.23**	**339**	P		**P**		**05 03 13.5**	**0.0**
	1.2nm,0.5s,mb4.3,baz=126,slow=7.7,SNR=6.1								
BVAR	**Borovoye Array**	**62.23**	**339**	P		**P**		**05 03 13.5**	**0.0**
CHKZ	**Chkalovo**	**62.67**	**339**	*e*P		**P**		**05 03 17.5**	**+1.0**
	2.5nm,0.8s,mb4.4								

IDC 18 04:56:35.4±6.9, 4774N×15402E, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=462.3km s-min=33.7km az=130.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**61.43**	**63**	P		P		05 06 53.7	+0.1
	3.4nm,1.2s,baz=308,slow=8.9,SNR=4.5								
PDAR	**Pinedale Array**	**63.67**	**55**	P		P		05 07 08.7	+0.2
	0.9nm,1.0s,baz=273,slow=5.8,SNR=5.2								
ASAR	**Alice Springs**	**73.34**	**199**	P		P		05 08 08.9	-0.1
	0.3nm,0.8s,baz=19,slow=6.0,SNR=4.1								
TXAR	**Lajitas Array**	**76.47**	**61**	P		P		05 08 27.1	+0.1
	0.8nm,0.9s,baz=321,slow=7.0,SNR=5.8								

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*NNC **18** 05:00:04.0±2.9, 3813N×6919E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=24.3km s-min=17.6km az=170.0*
*IDC **18** 05:00:05.8±1.2, 3803N×6962E, h0km, mb4.0/9, mb1 4.1/13, mb1mx4.0/25, mbtmp4.0/13, ML3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/31, Error ellipse: s-maj=22.4km s-min=16.0km az=160.0*
*MOS **18** 05:00:11.7±1.2, 3857N×6954E, h35km, mb4.3/3, Error ellipse: s-maj=12.6km s-min=7.1km az=90.2*
*NEIC **18** 05:00:11.1±5.6, 3841N×6957E, h24km±37km, mb3.9/5, Error ellipse: s-maj=26.0km s-min=11.0km az=171.0*
*ISCJB **18** 05:00:13.5±1.5, 3859N±008×6956E±007, h55km±15km, mb3.8/10, MS3.8/1, Error ellipse: s-maj=13.8km s-min=8.4km az=44.8*
ISC 18 05:00:14.7±1.5, 3855N±009×6953E±006, h50km±13km, n51, σ1≤16/56, mb3.8/10, MS3.8/1, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.61**	**9**	Pn		**Pn**		**05 01 22.9**	**+1.1**
	8.2nm,0.6s,baz=202,slow=15,SNR=108								
KK31				⇓Pg		**Pn**		**05 01 37.8**	**+16**
	29nm,0.4s,baz=200,slow=12,SNR=18								
KK31				⇑Lg				05 02 40.8	
	96nm,0.6s,baz=191,slow=26,SNR=10.0								
KKAR	**Karatay Array**	**4.61**	**9**	*i* PN		**Pn**		**05 01 37.8**	**+16**
KKAR				pmax	pmax				
	comp=Z,12nm,0.4s								
AML	**Almayashu**	**4.78**	**40**	P		**Pn**		**05 01 24.4**	**+0.2**
	SNR=21								
EKS2	**Erkin-Say**	**5.22**	**37**	P		**Pn**		**05 01 34.9**	**+4.7**
	SNR=12								
UCH	**Uchtor**	**5.29**	**44**	P		**Pn**		**05 01 31.4**	**+0.4**
	SNR=33								
AAK	**Ala-Archa**	**5.56**	**41**	P		**Pn**		**05 01 37.5**	**+2.7**
	SNR=31								
AAK	**Ala-Archa**	**5.56**	**41**	*e*PN		**Pn**		**05 01 34.5**	**-0.3**
AAK				pmax	pmax				
	comp=Z,32nm,0.6s								
AAK	**Ala-Archa**	**5.56**	**41**	*e*Pn		**Pn**		**05 01 34.5**	**-0.3**
	comp=Z,32nm,0.6s								
AAK				*e*Sn		**Sn**		**05 02 36.8**	**-0.6**
KZA	**Kyzart**	**5.61**	**49**	P		**Pn**		**05 01 35.9**	**+0.3**
	SNR=15								
FRU	**Bishkek**	**5.76**	**40**	*e*PN		**Pn**		**05 01 41.5**	**+3.9**
FRU				pmax	pmax				
	comp=Z,57nm,1.5s								
KBK	**Karagaybulak**	**5.81**	**43**	P		**Pn**		**05 01 40.7**	**+2.4**
	SNR=7.2								
USP	**Ospenovka**	**6.03**	**37**	P		**Pn**		**05 01 42.3**	**+1.1**
	SNR=6.9								
TKM2	**Tokmak 2**	**6.34**	**45**	P		**Pn**		**05 01 45.4**	**-0.2**
	SNR=9.2								
TKM2	**Tokmak 2**	**6.34**	**45**	⇑Pn		**Pn**		**05 01 44.0**	**-1.6**
	comp=Z,1.4nm,0.6s								
TKM2				⇑Sn		**Sn**		**05 03 06.3**	**+10**
	comp=Z,4.7nm,0.7s								
TKM2				⇑Lg				05 03 40.1	
	comp=Z,16nm,1.4s								
TKM2	**Tokmak 2**	**6.34**	**45**	PN		**Pn**		**05 01 44.9**	**-0.7**
TKM2								05 03 06.3	
TKM2				pmax	pmax				
	comp=Z,16nm,0.8s								
TKM2				smax					
	comp=Z,30nm,0.7s								
MKAR	**Makanchi Array**	**12.48**	**45**	Pn		**Pn**		**05 03 07.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=225,slow=13,SNR=20								
MKAR	**Makanchi Array**	**12.48**	**45**	Pn		**Pn**		**05 03 07.8**	**-1.7**
AB31	**Akbulak array**	**12.73**	**330**	⇓Pn		**Pn**		**05 03 10.4**	**-2.5**
	comp=Z,7.9nm,0.8s,baz=166,slow=11,SNR=48								
AB31				⇓Sn		**Sn**		**05 05 34.9**	**+1.8**
	comp=Z,4.6nm,0.6s,baz=149,slow=23,SNR=4.0								
AB31				⇓Lg				05 06 55.1	
	comp=Z,14nm,0.8s								
ZRNK	**Zerenda**	**14.40**	**359**	*e*P		**Pn**		**05 03 32.5**	**-3.2**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ZRNK	**Zerenda**	**14.40**	**359**	*e*Pn		**Pn**		**05 03 32.5**	**-3.1**
	comp=Z,5.0nm,0.7s								
AKTK	**Aktyubinsk**	**14.42**	**329**	Pn		**Pn**		**05 03 35.1**	**-0.7**
AKTK				Sn		**Sn**		**05 06 13.7**	**-0.7**
AKTO	**Aktyubinsk**	**14.42**	**329**	⇓Pn		**Pn**		**05 03 33.4**	**-2.5**
	comp=Z,0.4nm,1.0s								
AKTO				⇑Sn		**Sn**		**05 06 15.5**	**+1.2**
	comp=Z,0.5nm,1.2s								
AKTO	**Aktyubinsk**	**14.42**	**329**	Pn		**Pn**		**05 03 35.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=142,slow=14,SNR=13								
AKTO				Sn		**Sn**		**05 06 13.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=2.9								
BVAR	**Borovoye Array**	**14.49**	**2**	Pn		**Pn**		**05 03 36.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=191,slow=14,SNR=8.9								
BVAR				LR		LR		05 09 35.9	
	comp=Z,86nm,20.7s,baz=319,slow=38								
BRVK	**Borovoye**	**14.52**	**2**	*e*P		**Pn**		**05 03 37.3**	**+0.2**
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.5s								
BRVK	**Borovoye**	**14.52**	**2**	*e*Pn		**Pn**		**05 03 37.2**	**+0.1**
	comp=Z,5.4nm,0.5s								
CHKZ	**Chkalovo**	**15.14**	**2**	*e*P		**Pn**		**05 03 46.5**	**+1.2**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CHKZ	**Chkalovo**	**15.14**	**2**	*e*P		**Pn**		**05 03 46.5**	**+1.1**
	comp=Z,2.6nm,0.5s								
ORR	**Orenburg**	**16.68**	**326**	*e*P		**Pn**		**05 04 05.8**	**+1.0**
ORR				pmax	pmax				
	comp=Z,30nm,1.4s								
ZAL	**Zalesovo**	**18.60**	**29**	P		**Pn**		**05 04 27.4**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=236,slow=9.0,SNR=13								
NVS	**Novosibirsk**	**18.75**	**25**	*e*P		**Pn**		**05 04 27.6**	**-2.7**
GNI	**Garni**	**19.23**	**283**	*e*P		**Pn**		**05 04 36.1**	**+0.1**
GNI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
GNI	**Garni**	**19.23**	**283**	*e*P		**Pn**		**05 04 36.1**	**+0.2**
	comp=Z,7.2nm,0.6s								
ARU	**Arti**	**19.32**	**341**	*e*P		**Pn**		**05 04 36.3**	**-0.7**
ARU	**Arti**	**19.32**	**341**	*e*P		**Pn**		**05 04 36.1**	**-0.9**
	comp=Z,3.8nm,0.5s								
KIV	**Kislovodsk**	**20.85**	**294**	*e*P		**P**		**05 04 51.7**	**-0.5**
KIV				pmax	pmax				
	comp=Z,10.0nm,0.5s								
KIV	**Kislovodsk**	**20.85**	**294**	*e*P		**P**		**05 04 51.7**	**-0.5**
	comp=Z,10nm,0.5s								
ZAK	**Zakamensk**	**26.60**	**53**	*e*P		**P**		**05 05 47.4**	**-0.8**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.3s,mb3.5								
BR131	**Keskin Array S**	**27.75**	**284**	*e*P		**P**		**05 05 59.0**	**+0.4**
	comp=Z,0.8nm,0.4s,mb3.7								
BRTR	**Keskin Array B**	**27.75**	**284**	P		**P**		**05 05 58.6**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=103,slow=10,SNR=5.7								
SONM	**Songino Array**	**28.20**	**59**	P		**P**		**05 06 03.6**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.2,baz=270,slow=8.5,SNR=3.5								
AKASG	**Malin Array Be**	**30.77**	**306**	P		**P**		**05 06 24.9**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.7,baz=82,slow=7.1,SNR=4.1								
FINES	**FINESS Array B**	**35.13**	**325**	P		**P**		**05 07 03.8**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=123,slow=10,SNR=6.9								
ARCES	**ARCESS Array B**	**38.80**	**337**	P		**P**		**05 07 34.8**	**+0.3**
	comp=Z,11nm,1.1s,mb4.5,baz=91,slow=4.9,SNR=7.7								
GERES	**GERESS Array B**	**40.81**	**303**	P		**P**		**05 07 52.4**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.1,baz=67,slow=8.7,SNR=4.2								
NOA	**NORSAR Array B**	**42.05**	**322**	P		**P**		**05 08 03.2**	**+1.9**
	comp=Z,1.2nm,0.7s,mb3.6,baz=98,slow=8.4,SNR=3.6								
CBIJ	**Chichi jima**	**60.69**	**77**	LR		LR		05 40 31.3	
	comp=Z,58nm,18.3s,MS3.8,baz=122,slow=40								
TORD	**Torodi Ar. Bea**	**64.63**	**267**	P		**P**		**05 10 46.0**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.4,baz=41,slow=6.3,SNR=20								
YKA	**Yellowknife Ar**	**79.25**	**2**	P		**P**		**05 12 14.5**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=349,slow=5.2,SNR=5.0								
YKA	**Yellowknife Ar**	**79.25**	**2**	P		**P**		**05 12 14.5**	**-0.1**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
CFAA	**Coronel Fontan**	**144.99**	**268**	PKP		PKPdf		05 19 44.3	-1.9
	comp=Z,0.3nm,0.9s,baz=22,slow=5.4,SNR=5.3								

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*SKHL **18** 05:00:40.9±0.5, 4695N×15486E, h50km, Ms4.6/2*
*NEIC **18** 05:00:40.1±0.3, 4674N×15499E, h10km, mb5.0/63, Error ellipse: s-maj=8.5km s-min=4.8km az=169.0*
*MOS **18** 05:00:42.9±1.7, 4667N×15483E, h45km, mb5.1/42, Error ellipse: s-maj=7.1km s-min=5.7km az=106.1*
*ISCJB **18** 05:00:43.6±0.2, 4680N±005×15500E±003, h49km, mb4.8/123, MS4.2/14, Error ellipse: s-maj=7.1km s-min=2.7km az=167.6*
*BJI **18** 05:00:43.3, 4743N×154.13E, h10km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*IDC **18** 05:00:45.2±0.5, 4686N×15481E, h51km±3km, mb4.3/24, mb1 4.5/25, mb1mx4.4/29, mbtmp4.3/25, MS3.6/5, Ms1 3.6/5, ms1mx3.0/42, Error ellipse: s-maj=12.4km s-min=10.7km az=161.0*
*SZGRF **18** 05:00:56.6, 48.17N×15361E, h33km, mb5.2, Kuril Islands, Russia*
ISC 18 05:00:45.7±0.2, 4683N±005×15495E±003, h51km, h51km±1.1km: pP-P, n463, σ1≤05/468, mb4.8/123, MS4.2/14, 65C-82D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.94**	**11**	*e*P		**Pn**		**05 01 37.5**	**-6.1**
SKR				AMB	AMB			05 01 42.2	
	80nm,0.5s								
SKR				AMB	AMB			05 01 42.2	
	90nm,0.5s								
SKR				*e*S		**Sn**		**05 02 19.6**	**-8.9**
SKR				A				05 02 25.5	
	460nm,0.5s								
SKR				A				05 02 25.5	
	310nm,0.5s								
SKR				A				05 02 25.5	
	150nm,0.5s								
SKR				AMS	AMS			05 03 38.0	
	5μm,12.0s								
SKR				AMS	AMS			05 03 38.0	
	4μm,12.0s								
KUR	**Kuril'sk**	**5.18**	**255**	*e*P		**Pn**		**05 01 55.0**	**-5.7**
KUR				AMB	AMB			05 01 59.5	
	163nm,0.7s								
KUR				AMB	AMB			05 01 59.5	
	258nm,0.7s								
KUR				AMB	AMB			05 01 59.5	
	533nm,0.7s								
KUR				*e*S		**Sn**		**05 02 51.0**	**-8.1**
KUR				A				05 03 05.7	
	616nm,0.6s								
KUR				A				05 03 05.7	
	608nm,0.6s								
KUR	**Kuril'sk**	**5.18**	**255**	*e*PN		**Pn**		**05 01 55.0**	**-5.7**
KUR				pmax	pmax				
	comp=N,160nm,0.7s								
KUR				pmax	pmax				
	comp=E,260nm,0.7s								
KUR				pmax	pmax				
	comp=Z,530nm,0.7s								
PET	**Petropavlovsk**	**6.65**	**20**	*e*P		**Pn**		**05 02 14.7**	**-6.1**
PET	**Petropavlovsk**	**6.65**	**20**	*e*PN		**Pn**		**05 02 15.4**	**-5.4**
PET				pmax	pmax				
	comp=Z,39nm,0.6s								
PET	**Petropavlovsk**	**6.65**	**20**	*e*Pn		**Pn**		**05 02 14.8**	**-6.0**
PET				*e*Sn		**Sn**		**05 03 25.5**	**-10**
YUK	**Yuzh-Kuril'sk**	**6.97**	**250**	*e*P		**Pn**		**05 02 22.4**	**-2.8**
YUK				AMB	AMB			05 02 25.0	
	comp=Z,230nm,0.4s								
YUK				*e*S		**Sn**		**05 03 36.0**	**-7.2**
YUK				A				05 03 46.0	
	comp=Z,500nm,0.5s								
YSS	**Yuzh-Sakhalins**	**8.35**	**275**	⇑*e*P		**Pn**		**05 02 44.1**	**0.0**
YSS				AMB	AMB			05 02 46.0	
	comp=Z,30nm,1.0s								
YSS				AMB	AMB			05 02 46.0	
	comp=Z,30nm,1.0s								
YSS				*e*S		**Sn**		**05 04 11.7**	**-5.3**
YSS				A				05 04 17.0	
	comp=Z,70nm,0.5s								
YSS				*e*LQ				05 04 30.0	
YSS				AMS	AMS			05 06 14.0	
	comp=Z,900nm,16.0s								
YSS				AMS	AMS			05 06 14.0	
	comp=Z,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.35**	**275**	⇑*e*PN		**Pn**		**05 02 44.1**	**0.0**
YSS				pmax	pmax				
	comp=E,30nm,1.0s								
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
YSS				MLR	MLR				
	comp=Z,900nm,16.0s								
YSS				MLR	MLR				
	comp=N,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.35**	**275**	*e*Pn		**Pn**		**05 02 43.7**	**-0.4**
	comp=N,25nm,0.5s								
UGL	**Uglegorsk**	**8.93**	**289**	*e*P		**Pn**		**05 02 52.0**	**-0.1**
UGL				AMB	AMB			05 02 53.0	
	comp=N,60nm,0.7s								
UGL				AMS	AMS			05 06 47.0	
	comp=N,1μm,12.0s								
UGL				AMS	AMS			05 06 47.0	
	comp=N,2μm,16.0s								
UGL				AMS	AMS			05 06 47.0	
	comp=N,2μm,16.0s								
TYV	**Tymovskoe**	**9.05**	**301**	*e*P		**Pn**		**05 02 50.8**	**-2.9**
TYV				AMB	AMB			05 02 57.0	
	comp=N,11nm,0.8s								
TYV				AMB	AMB			05 02 57.0	
	comp=N,29nm,0.8s								
ASAJ	**Asahikawa**	**9.09**	**257**	P		**Pn**		**05 02 51.2**	**-3.0**
	comp=N,3.6nm,0.3s,baz=76,slow=20,SNR=12								
ASAJ				LR		LR		05 06 32.2	
	comp=N,294nm,18.3s,baz=75,slow=38								
ERM	**Erimo**	**9.71**	**245**	Pn		**Pn**		**05 03 01.4**	**-1.3**
	comp=N,333nm,0.6s,SNR=7.0								
ERM	**Erimo**	**9.71**	**245**	*e*PN		**Pn**		**05 02 59.4**	**-3.3**
ERM				pmax	pmax				
	comp=Z,47nm,0.6s								
ERM	**Erimo**	**9.71**	**245**	*e*Pn		**Pn**		**05 02 59.4**	**-3.2**
	comp=Z,47nm,0.6s								
ERM				*e*Sn		**Sn**		**05 04 37.2**	**-13**
KLR	**Kul'dur**	**15.69**	**287**	*e*P		**Pn**		**05 04 20.0**	**-3.4**
MJAR	**Matsushiro Arr**	**16.15**	**236**	P		**Pn**		**05 04 24.9**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=12								
MJAR				LR		LR		05 11 26.4	
	comp=Z,235nm,18.2s,baz=70,slow=40								
MJAR	**Matsushiro Arr**	**16.15**	**236**	P		**Pn**		**05 04 24.9**	**-4.3**
MJAR				LR		LR		05 11 26.4	
MAJO	**Matsushiro**	**16.15**	**236**	*e*P		**Pn**		**05 04 25.3**	**-3.9**
MAT	**Matsushiro**	**16.15**	**236**	P		**Pn**		**05 04 23.8**	**-5.4**
JHJ	**Hachijo jima 2**	**17.91**	**226**	LR		LR		05 10 55.7	
	comp=Z,37nm,20.3s,baz=255,slow=34								
CN2	**Changchun**	**20.91**	**272**	*e*P		**P**		**05 05 18.0**	**-5.8**
CN2				*e*S		**S**		**05 09 04.8**	**-9.3**
CN2				AMB	AMB				
	comp=Z,10.0nm,0.6s								
CN2				AMB	AMB				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,500nm,14.0s,MS4.1								
CN2				LR	LR				
	comp=E,300nm,14.0s,MS4.1								
CN2				LR	LR				
	comp=Z,500nm,21.0s								
CLNS	**Chul'man**	**20.93**	**310**	*e*P		**P**		**05 05 21.9**	**-2.2**
CLNS				pmax	pmax				
	comp=Z,29nm,1.2s								
CLNS				pmax	pmax				
	comp=N,19nm,1.0s								
CLNS				pmax	pmax				
	comp=E,12nm,1.0s								
YAK	**Yakutsk**	**20.95**	**326**	*e*P		**P**		**05 05 16.1**	**-8.2**
YAK				*i*				05 05 33.3	
YAK				*e*S		**S**		**05 09 09.9**	**-5.0**
YAK				*i* SS				05 09 32.3	
YAK				*i* SSS				05 09 52.5	
YAK				pmax	pmax				
	comp=Z,14nm,0.9s								
YAK				pmax	pmax				
	comp=N,5.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.2s								
YAK				smax					
	comp=E,254nm,3.2s								
YAK				smax					
	comp=Z,596nm,5.4s								
YAK				smax					
	comp=N,1μm,5.0s								
YAK				MLR	MLR				
	comp=N,174nm,18.0s,MS3.6								
YAK				MLR	MLR				
	comp=E,188nm,18.0s,MS3.6								
YAK				MLR	MLR				
	comp=Z,238nm,18.0s,MS3.6								
YAK	**Yakutsk**	**20.95**	**326**	*e*Pn		**P**		**05 05 23.3**	**-1.0**
	comp=Z,40nm,0.4s								
KSRS	**Korea Array**	**22.03**	**255**	P		**P**		**05 05 35.8**	**0.0**
	comp=Z,17nm,0.8s,mb4.5,baz=58,slow=9.6,SNR=23								
BILL	**Bilibino**	**22.05**	**11**	⇓*e*P		**P**		**05 05 33.7**	**-2.4**
BILL				pmax	pmax				
	comp=Z,38nm,1.0s,mb4.8								
BILL				MLR	MLR				
	comp=Z,200nm,16.0s,MS3.6								
BILL	**Bilibino**	**22.05**	**11**	*e*P		**P**		**05 05 33.2**	**-2.9**
	comp=Z,49nm,1.0s,mb4.9								
JNU	**Nakatsue**	**22.85**	**242**	LR		LR		05 16 00.2	
	comp=Z,352nm,18.3s,MS3.8,baz=256,slow=40								
SNY	**Shenyang**	**22.90**	**269**	⇓P		**P**		**05 05 45.0**	**-0.1**
SNY				AMB	AMB				
	comp=Z,31nm,0.9s,mb4.7								
SNY				AMB	AMB				
	comp=Z,244nm,6.6s								
SNY				LR	LR				
	comp=N,423nm,15.0s,MS4.2								
SNY				LR	LR				
	comp=E,515nm,14.4s,MS4.2								
SNY				LR	LR				
	comp=Z,373nm,17.7s,MS3.9								
DL2	**Dalian**	**25.52**	**264**	P		**P**		**05 06 12.0**	**+2.6**
DL2				AMB	AMB				
	comp=Z,30nm,0.8s,mb4.9								
BOD	**Bodaibo**	**26.91**	**309**	*e*P		**P**		**05 06 17.8**	**-4.2**
BOD				*e*	pP			05 06 31.4	-3.5
BOD				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.3								
CIT	**Chita**	**27.14**	**296**	*e*P		**P**		**05 06 21.0**	**-3.0**
CIT				*e*	pP			05 06 34.0	-3.0
NJ2	**Nanjing**	**31.23**	**255**	*e*P		**P**		**05 07 00.8**	**+0.5**
NJ2				AP	pP			05 07 04.1	-9.3
NJ2				XP	sP			05 07 07.3	-12
NJ2				PP	PP			05 08 03.9	-7.6
NJ2				S	**S**			**05 12 04.5**	**+1.4**
NJ2				XS	sS			05 12 12.5	-13
NJ2				LR	LR				
	comp=N,2μm,16.1s,MS5.0								
NJ2				LR	LR				
	comp=E,1μm,14.2s,MS5.0								
NJ2				LR	LR				
	comp=Z,1μm,13.3s,MS4.8								
HHC	**Hu-ho-hao-te**	**31.54**	**275**	*e*P		**P**		**05 07 02.8**	**-0.3**
HHC				AP	pP			05 07 07.3	-8.8
HHC				XP	sP			05 07 09.8	-12
HHC				PP	PP			05 08 06.3	-8.

LZH AMB AMB
comp=Z,210nm,4.0s
LZH LR LR
comp=E,2µm,15.4s
LZH LR LR
comp=Z,2µm,16.4s,MS5.1
LZH Lanzhou 39.14 273 *eP* **P 05 08 10.2 +1.9**
LZH *PP pP 05 08 21.3 -0.3
LZH *SP sP 05 08 29.5 +1.9
LZH 05 09 48.0
LZH pmax pmax
comp=Z,50nm,1.2s,mb5.1
LZH MLR MLR
comp=Z,2µm,16.4s,MS5.1
LZH Lanzhou 39.14 273 *eP* **P 05 08 10.2 +1.9**
comp=Z,50nm,1.2s,mb5.1
LZH pP pP 05 08 21.3 -0.3
LZH sP sP 05 08 29.5 +1.9
LZH PP PP 05 09 48.0 +9.2
LZH S **S 05 14 17.0 +12**
LZH sS sS 05 14 33.0 +6.0
LZH SS SS 05 17 14.0 +15
LZH LR LR
comp=Z,2µm,16.4s,MS5.1
GTA Gaotai 40.20 280 *eP* **P 05 08 16.5 -0.6**
GTA AP pP 05 08 19.8 -11
GTA XP sP 05 08 22.9 -13
GTA PP PP 05 09 53.1 +2.8
GTA PCP PcP 05 10 20.8 +0.4
GTA S **S 05 14 23.5 +3.1**
GTA XS sS 05 14 31.5 -11
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,42nm,3.8s
GTA LR LR
comp=N,178nm,12.2s,MS4.4
GTA LR LR
comp=E,265nm,12.9s,MS4.4
GTA LR LR
comp=Z,224nm,16.3s,MS4.1
INK Inuvik 40.91 33 *P* **P 05 08 22.5 -0.5**
comp=Z,11nm,0.9s,mb4.5,baz=274,slow=7.7,SNR=19
INK Inuvik 40.91 33 *eP* **P 05 08 22.0 -1.0**
comp=Z,437nm,0.9s
CD2 Chengdu 42.14 267 *eP* **P 05 08 32.9 -0.2**
CD2 AP pP 05 08 37.4 -9.1
CD2 XP sP 05 08 39.9 -12
CD2 PP PP 05 10 13.9 +2.6
CD2 S **S 05 14 51.8 +2.6**
CD2 XS sS 05 14 58.9 -13
CD2 SS SS 05 17 52.5 -5.8
CD2 AMB AMB
comp=Z,70nm,0.6s,mb5.5
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,230nm,15.6s,MS4.3
CD2 LR LR
comp=E,170nm,15.6s,MS4.3
CD2 LR LR
comp=Z,220nm,14.4s,MS4.2
GYA Guiyang 42.96 259⇑ *iP* **P 05 08 39.8 +0.1**
GYA AP pP 05 08 43.8 -9.4
GYA XP sP 05 08 46.8 -12
GYA PP PP 05 10 22.4 +2.2
GYA PCP PcP 05 10 31.8 +2.3
GYA SCP ScP 05 14 21.5 +5.2
GYA S **S 05 15 04.8 +3.5**
GYA SCS ScS 05 18 39.4 +3.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,130nm,5.0s
GYA LR LR
comp=N,580nm,16.2s,MS4.7
GYA LR LR
comp=E,490nm,16.4s,MS4.7
GYA LR LR
comp=Z,510nm,17.0s,MS4.5
ZAL Zalesovo 43.60 306 P **P 05 08 42.4 -2.5**
comp=Z,5.2nm,0.5s,mb4.5,baz=74,slow=3.9,SNR=9.5
ZAL pP pP 05 08 55.6 -2.8
comp=Z,9.1nm,0.5s,baz=64,slow=8.6,SNR=7.5
NVS Novosibirsk 44.14 308 *eP* **P 05 08 47.3 -1.9**
NVS pmax pmax
comp=E,21nm,1.5s
NVS pmax pmax
comp=Z,31nm,1.5s,mb4.8
WMQ Urumqi 46.07 292⇑ *iP* **P 05 09 05.5 +1.0**
WMQ AP pP 05 09 10.0 -8.1
WMQ XP sP 05 09 12.5 -11
WMQ PCP PcP 05 10 42.3 +2.2
WMQ PP PP 05 10 53.8 +0.6
WMQ PPP 05 11 37.6
WMQ S **S 05 15 50.0 +3.6**
WMQ XS sS 05 15 57.6 -12
WMQ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
WMQ AMB AMB
comp=Z,145nm,5.1s
WMQ LR LR
comp=N,193nm,19.3s,MS4.1
WMQ LR LR
comp=E,46nm,20.5s,MS4.1
WMQ LR LR
comp=Z,150nm,17.2s,MS4.0
KMI Kunming 46.50 261 P **P 05 09 08.0 +0.1**
KMI AP pP 05 09 11.3 -10
KMI PP PP 05 10 57.4 -0.3
KMI S **S 05 15 55.8 +3.3**
KMI XS sS 05 16 00.5 -15
KMI SCS ScS 05 19 01.3 +3.0
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI LR LR
comp=N,144nm,10.1s
KMI LR LR
comp=E,122nm,16.9s
KMI LR LR
comp=Z,96nm,12.5s,MS4.0
KMI Kunming 46.50 261 P **P 05 09 08.0 +0.1**
KMI 05 10 57.4
KMI S **S 05 15 55.7 +3.2**
KMI *SS sS 05 16 00.5 -15
KMI 05 19 01.3
KMI SS SS 05 19 16.0 -2.8
KMI SSS 05 20 19.9
KMI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMI MLR MLR
comp=Z,100nm,12.5s,MS4.0
KMI Kunming 46.50 261 P **P 05 09 08.0 +0.1**
comp=Z,9.0nm,0.8s,mb4.8
KMI pP pP 05 09 11.3 -10
KMI sP sP 05 09 12.7 -15
KMI PP PP 05 10 57.4 -0.3
KMI S **S 05 15 55.7 +3.2**
KMI sS sS 05 16 00.5 -15
KMI ScS ScS 05 19 01.3 +3.0
KMI SS SS 05 19 16.0 -2.8
KMI SSS 05 20 19.9
KMI LR LR
comp=Z,100nm,12.5s,MS4.0
MK31 Makanchi Array 48.02 298 P **P 05 09 18.2 -1.5**
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MKAR Makanchi Array 48.02 298 P **P 05 09 18.1 -1.6**
comp=Z,5.6nm,0.8s,mb4.7,baz=68,slow=7.1,SNR=23
MKAR pP pP 05 09 30.7 -2.6
comp=Z,8.6nm,0.8s,baz=64,slow=8.2,SNR=11
YKA Yellowknife Ar 50.10 37 P **P 05 09 34.8 -0.8**
comp=Z,5.1nm,0.8s,mb4.6,baz=294,slow=6.8,SNR=7.4
RES Resolute Bay 50.36 19 *eP* **P 05 09 37.2 -0.4**
CHKZ Chkalovo 51.34 311 *eP* **P 05 09 43.0 -2.0**
LSA Lhasa 51.52 274 P **P 05 09 49.0 +2.7**
LSA Lhasa 51.52 274 *eP* **P 05 09 49.0 +2.7**
LSA pmax pmax
comp=Z,27nm,0.6s,mb5.3
LSA Lhasa 51.52 274 *eP* **P 05 09 49.0 +2.7**
comp=Z,28nm,0.6s,mb5.4
BVA0 Borovoye Array 51.78 310 P **P 05 09 46.9 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVAR Borovoye Array 51.78 310 P **P 05 09 46.9 -1.4**
comp=Z,15nm,0.4s,mb5.2,baz=56,slow=7.5,SNR=64
BVAR pP pP 05 10 00.4 -1.6
comp=Z,14nm,0.5s,baz=55,slow=8.1,SNR=14
BVAR PcP PcP 05 10 58.5 -2.3
comp=Z,1.5nm,0.4s,baz=55,slow=5.5,SNR=2.7
BRVK Borovoye 51.82 310 P **P 05 09 46.1 -2.4**
comp=Z,201nm,0.6s,SNR=9.7
BRVK Borovoye 51.82 310 *eP* **P 05 09 46.5 -2.0**
BRVK pmax pmax
comp=Z,21nm,0.6s,mb5.2
BRVK Borovoye 51.82 310 *eP* **P 05 09 46.5 -2.0**
comp=Z,21nm,0.6s,mb5.2
NANT Nan 52.20 257 P **P 05 09 49.0 -2.3**
ZRNK Zerenda 52.54 311 *eP* **P 05 09 52.2 -1.7**
comp=Z,17nm,0.6s,mb5.2
CHG Chiang Mai 53.36 258⇓ P **P 05 10 00.4 +0.4**
comp=Z,10nm,0.9s,mb4.8
CHTO Chiang Mai 53.36 258 *eP* **P 05 10 00.5 +0.5**
CHTO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 53.36 258 *eP* **P 05 10 00.5 +0.5**
comp=Z,11nm,0.9s,mb4.8
A08A Turner Farm, O 54.55 54⇓ P **P 05 10 07.2 -1.4**
baz=54
C07A Waterville 54.80 55⇑ P **P 05 10 08.1 -2.3**
baz=55
B08A Colville Reser 54.84 54⇑ P **P 05 10 09.0 -1.7**
baz=55
A09A Danville 54.92 53⇑ P **P 05 10 10.2 -1.1**
baz=55
AAK Ala-Archa 54.92 297 *eP* **P 05 10 09.5 -1.8**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
AAK Ala-Archa 54.92 297 *eP* **P 05 10 09.5 -1.8**
comp=Z,7.9nm,0.8s,mb4.8
D07A Quincy 55.12 56⇓ P **P 05 10 11.7 -1.1**
baz=55
J02A Umpqua 55.14 62⇓ P **P 05 10 12.2 -0.7**
baz=55
C08A Higginbotham F 55.32 55⇓ P **P 05 10 13.1 -1.1**
baz=55
EDM Edmonton 55.35 47 *eP* **P 05 10 13.8 -0.6**
F06A Goldendale 55.45 58⇓ P **P 05 10 14.4 -0.7**
baz=55
B09A Rice 55.47 54⇑ P **P 05 10 14.4 -0.8**
baz=55
J03A Ideyld Park 55.50 61⇑ P **P 05 10 17.0 +1.5**
baz=55
K02A Glendale 55.53 62⇑ P **P 05 10 15.9 +0.3**
baz=55
E07A Sunnyside 55.54 57⇓ P **P 05 10 15.3 -0.4**
baz=55
I04A Tendick Farm, 55.60 61⇑ P **P 05 10 16.1 -0.1**
baz=55
C09A Chrisman Ranch 55.74 55⇑ P **P 05 10 16.4 -0.8**
baz=56
KSH Kashi 55.78 293 *eP* **P 05 10 18.8 +1.3**
KSH *eAP pP 05 10 24.3 -7.1
KSH *eXP sP 05 10 27.8 -9.4
KSH *ePCP PcP 05 11 18.4 +2.3
KSH *ePP PP 05 12 25.3 +3.0
KSH *ePPP 05 13 38.8
KSH *eSCP ScP 05 15 14.9 +4.1
KSH *eS **S 05 18 02.8 +2.1**
KSH *eXS sS 05 18 13.4 -11
KSH *ePS 05 18 24.9
KSH *eSCS ScS 05 20 04.4 +2.1
ARU Arti 55.80 318⇑ *iP* **P 05 10 15.7 -1.9**
ARU *e* 05 11 13.0
ARU *eS **S 05 18 03.9 +2.9**
ARU pmax pmax
comp=Z,59nm,0.7s,mb5.7
ARU Arti 55.80 318 *eP* **P 05 10 15.9 -1.7**
L02A Cave Junction 55.81 63⇓ P **P 05 10 18.0 +0.3**
baz=56
J04A Umpqua Nationa 56.09 61⇑ P **P 05 10 20.0 +0.3**
baz=56
A11A Hall Mountain, 56.15 53⇓ P **P 05 10 19.6 -0.5**
baz=56
JIRN Jiri 56.19 276 *eP* **P 05 10 21.0 +0.6**
comp=Z,109nm,0.8s,mb5.9
GUN Gumba 56.25 276 *eP* **P 05 10 21.9 +1.1**
comp=Z,72nm,0.9s,mb5.7
H06A Lindquist Farm 56.29 59⇑ P **P 05 10 20.4 -0.7**
baz=56
G07A Ruggs Ranch, H 56.38 58⇓ P **P 05 10 21.6 -0.1**
baz=56
B11A Sandpoint 56.44 53⇑ P **P 05 10 22.6 +0.4**
baz=56
E09A Wood Farm, Sta 56.54 56⇑ P **P 05 10 22.8 -0.1**
baz=56
A12A Yaak River Ran 56.55 52⇑ P **P 05 10 23.1 +0.1**
baz=56
J05A Fort Rock 56.59 60 P **P 05 10 24.3 +1.1**
baz=56,SNR=5.4
YBH Yreka Blue Hor 56.59 63⇓ P **P 05 10 23.9 +0.6**
baz=56
M02C Callahan 56.70 63⇑ P **P 05 10 25.3 +1.3**
baz=56
KKN Kakani 56.73 276 *eP* **P 05 10 26.5 +2.2**
comp=Z,93nm,1.0s,mb5.8
G08A Pilot Rock 56.77 57⇑ P **P 05 10 23.5 -1.0**
baz=57
PKI Pulchoki 56.78 276 *eP* **P 05 10 26.3 +1.7**
comp=Z,75nm,1.1s,mb5.6
I06A Prineville 56.82 59⇓ P **P 05 10 25.1 +0.3**
baz=57
DMN Daman 56.97 276 *eP* **P 05 10 28.1 +2.2**
comp=Z,145nm,0.9s
GKN Gorkha 57.03 277 *eP* **P 05 10 29.4 +3.0**
comp=Z,161nm,0.9s
KK31 Karatay Array 57.06 300 *iP* **P 05 10 25.5 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KKAR Karatay Array 57.06 300 *eP* **P 05 10 25.5 -1.1**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
M04C Macdoel 57.09 62⇓ P **P 05 10 28.1 +1.2**
baz=57
K05A Summer Lake 57.12 61⇓ P **P 05 10 27.6 +0.6**
baz=57
E10A Myers Farm, Un 57.14 55⇑ P **P 05 10 26.1 -1.0**
baz=57
I07A Izee 57.15 59⇓ P **P 05 10 27.8 +0.6**
baz=57
D11A Klaveano Farm, 57.25 54⇑ P **P 05 10 26.9 -1.1**
baz=57
C12A Trout Creek 57.35 53⇓ P **P 05 10 28.1 -0.5**
baz=57
WDC Whiskeytown Da 57.37 64⇑ P **P 05 10 28.5 -0.3**
baz=57
F10A Beach Ranch, E 57.37 56⇑ P **P 05 10 29.0 +0.2**
baz=57
H08A Prairie City 57.39 58⇑ P **P 05 10 28.5 -0.4**
baz=57
WALA Waterton Lakes 57.41 51 *eP* **P 05 10 28.9 -0.2**
comp=Z,8.0nm,0.9s,mb4.8
O02C Red Bluff 57.45 64⇓ P **P 05 10 30.0 +0.7**
baz=57
K06A Valley Falls 57.46 60 P **P 05 10 30.4 +1.0**
baz=57,SNR=6.3
B13A Whitefish 57.51 52 P **P 05 10 29.9 +0.1**
baz=57,SNR=8.8
L05A Lakeview 57.55 61⇓ P **P 05 10 30.6 +0.6**
baz=57
J07A Hines 57.68 59⇓ P **P 05 10 31.5 +0.6**
baz=58
KEV Kevo 57.69 341 *ep* **P 05 10 31.1 +0.1**
APA Apatity 57.76 337⇓ *iP* **P 05 10 29.5 -2.0**
APA *i* pP 05 10 43.5 -2.0
APA pmax pmax
comp=Z,43nm,1.3s,mb5.3
M05C Lookout 57.77 62⇓ P **P 05 10 31.6 0.0**
baz=58
I08A Drewsey 57.80 58⇑ P **P 05 10 32.4 +0.6**
baz=58
C13A Hot Springs 57.86 53⇑ P **P 05 10 32.1 -0.2**
baz=58
H09A Durkee 57.89 57⇓ P **P 05 10 32.6 +0.2**
baz=58
KOLN Koldanda 57.89 278 *eP* **P 05 10 35.7 +3.3**
comp=Z,76nm,0.9s,mb5.8
HATC Hat Creek Radi 57.89 63⇑ P **P 05 10 32.2 -0.3**
baz=58
MOD Modoc 57.95 61 *eP* **P 05 10 33.0 +0.1**
comp=Z,3.0nm,0.8s,mb4.4
MOD Modoc 57.95 61⇓ P **P 05 10 32.6 -0.3**
baz=58
BMO Blue Mountains 57.98 57 *eP* **P 05 10 32.8 -0.2**
comp=Z,3.9nm,0.8s,mb4.5
F11A Grangeville 58.03 55⇓ P **P 05 10 33.0 -0.4**
baz=58
K07A Rock Creek Ran 58.12 60⇓ P **P 05 10 34.0 0.0**
baz=58
J08A Circle Bar Ran 58.18 59⇓ P **P 05 10 33.8 -0.6**
baz=58
ARCES ARCESS Array B 58.19 341 P **P 05 10 32.4 -2.1**
comp=Z,8.1nm,0.8s,mb4.8,baz=37,slow=8.7,SNR=14
I09A Lost Marbles R 58.25 58⇓ P **P 05 10 34.3 -0.7**
baz=58
G11A Walters Elk Ra 58.25 56⇑ P **P 05 10 34.6 -0.4**
baz=58
C14A Swan Lake 58.26 52⇓ P **P 05 10 34.5 -0.5**
baz=58
M06C Likely Place G 58.26 62⇑ P **P 05 10 34.4 -0.6**
baz=58
D13A Huson 58.27 53⇓ P **P 05 10 34.3 -0.8**
baz=58
O04C Chester 58.42 63⇑ P **P 05 10 36.2 +0.1**
baz=58
L07A Adell 58.46 61⇑ P **P 05 10 35.5 -0.9**
baz=58
K08A Mann Creek Ran 58.55 60⇓ P **P 05 10 37.0 0.0**
baz=58
J09A Fry Pan Ranch, 58.61 59⇓ P **P 05 10 36.5 -1.0**
baz=58
F12A Elk City 58.62 55 P **P 05 10 37.8 +0.3**
baz=58,SNR=7.1
ORV Oroville 58.62 64⇓ P **P 05 10 36.1 -1.4**
baz=58
WVOR Wild Horse Val 58.63 60 *eP* **P 05 10 37.1 -0.5**
WVOR pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
WVOR Wild Horse Val 58.63 60 *eP* **P 05 10 37.1 -0.5**
comp=Z,4.9nm,1.1s,mb4.5
MSO Missoula 58.71 53 *eP* **P 05 10 38.0 -0.1**
I10A Payette 58.73 57 P **P 05 10 37.6 -0.7**
baz=58
O05C Quincy 58.74 63⇑ P **P 05 10 38.1 -0.2**
baz=58
OHCM Honcut 58.76 64 *eP* **P 05 10 37.9 -0.6**
D14A Greenough 58.80 53 P **P 05 10 38.3 -0.4**
baz=59,SNR=10
E13A Victor 58.80 54 P **P 05 10 38.9 +0.1**
baz=59,SNR=6.0
H11A Donnelly 58.81 56 P **P 05 10 38.3 -0.6**
baz=59,SNR=15
BOK Bokaro 58.91 273 *ex* x 05 10 53.5
BOK AMb AMB 05 10 55.3
comp=Z,14nm,1.1s,mb4.9
N06A Buffalo Meadow 58.92 62 P **P 05 10 39.9 +0.2**
baz=59,SNR=6.5
L08A Fields 58.95 60 P **P 05 10 40.5 +0.6**
baz=59,SNR=5.8
K09A Rome 59.02 59⇑ P **P 05 10 39.6 -0.6**
baz=59
CHMT Chamberlain Mo 59.04 53 *eP* **P 05 10 39.9 -0.5**
F13A Darby 59.12 55 P **P 05 10 40.8 -0.1**
baz=59,SNR=6.8
BEKR Beckwourth 59.14 63 P **P 05 10 41.1 0.0**
baz=59,SNR=7.0
E14A Clinton 59.20 54 P **P 05 10 41.6 +0.1**
baz=59,SNR=7.1
O06A Flanigan 59.28 63⇑ P **P 05 10 41.9 -0.2**
baz=59
P05C Yuba Gap, Truc 59.32 64⇓ P **P 05 10 42.5 +0.1**
baz=59
AB31 Akbulak array 59.34 311 *i* P **P 05 10 41.2 -1.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
D15A Lincoln 59.36 53⇓ P **P 05 10 42.5 -0.1**
baz=59
N07B Gerlach 59.43 62⇑ P **P 05 10 42.2 -0.9**
baz=59
L09A Wilkinson Ranc 59.46 60⇓ P **P 05 10 43.4 0.0**
baz=59
LAVA Lava Cap Winer 59.58 64⇑ P **P 05 10 44.3 +0.1**
baz=59
AKTK Aktyubinsk 59.61 313 P **P 05 10 42.0 -2.3**
AKTK pP pP 05 10 56.8 -1.6
AKTO Aktyubinsk 59.61 313 P **P 05 10 42.0 -2.3**
comp=Z,3.6nm,0.6s,mb4.6,baz=75,slow=6.8,SNR=6.6
AKTO pP pP 05 10 56.8 -1.6
comp=Z,5.3nm,0.7s,baz=97,slow=21,SNR=4.8
AKTO Aktyubinsk 59.61 313 P **P 05 10 42.0 -2.3**
AKTO *PP pP 05 10 56.8 -1.6
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
E15A Deer Lodge 59.67 53 P **P 05 10 44.8 0.0**
baz=59,SNR=7.4
WCN Washoe City 59.85 63⇓ P **P 05 10 46.4 +0.4**
baz=60
O07A Toulon 59.86 62 P **P 05 10 46.8 +0.7**
baz=60,SNR=7.5
N08A GE Springer Mi 59.93 61⇓ P **P 05 10 47.0 +0.4**
baz=60
M09A Marrel Ranch, 59.95 60⇑ P **P 05 10 46.7 0.0**
baz=60
F15A Butte 60.11 54 P **P 05 10 47.7 -0.1**
baz=60,SNR=11
LRM Limekiln Ridge 60.14 54 *eP* **P 05 10 48.3 +0.2**
CMB Columbia Colle 60.24 65 *eP* **P 05 10 49.0 +0.3**
CMB Columbia Colle 60.24 65⇓ P **P 05 10 48.2 -0.5**
baz=60
EGMT Eagleton 60.25 50 *eP* **P 05 10 48.7 -0.1**
comp=Z,17nm,1.1s,mb5.0
EGMT Eagleton 60.25 50⇑ P **P 05 10 48.6 -0.2**
baz=60
N09A Rock Creek Ran 60.26 61 P **P 05 10 49.1 +0.3**
baz=60,SNR=5.8
PACP Pacheco Peak 60.30 66⇑ P **P 05 10 49.0 -0.1**
baz=60
HLID Hailey 60.42 57 *eP* **P 05 10 49.6 -0.3**
comp=Z,4.9nm,1.2s,mb4.4
HLID Hailey 60.42 57⇓ P **P 05 10 50.5 +0.6**
baz=60
M10A I.L. Ranch, Tu 60.43 60⇑ P **P 05 10 50.3 +0.3**
baz=60
R06C Coleville 60.52 64⇓ P **P 05 10 50.4 -0.2**
baz=60
G15A Dillon 60.52 54 P **P 05 10 50.4 -0.2**
baz=60,SNR=7.2
MCMT McKenzie Canyo 60.53 55 *eP* **P 05 10 49.8 -0.8**
S06C San Francisco 60.66 65 P **P 05 10 51.6 0.0**
baz=60,SNR=5.1
BMN Battle Mountai 60.70 61 *eP* **P 05 10 52.0 +0.2**
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BMN Battle Mountai 60.70 61 *eP* **P 05 10 52.0 +0.2**
comp=Z,4.7nm,0.6s,mb4.8
O09A Fish Creek Ran 60.88 61⇓ P **P 05 10 53.1 +0.1**
baz=61
M11A Holland Ranch, 60.93 59 P **P 05 10 54.5 +1.1**
baz=61,SNR=5.5
R07C Lee Vining 61.03 64⇓ P **P 05 10 54.6 +0.5**
baz=61
O10A Cortez Mining, 61.22 61⇓ P **P 05 10 54.5 -0.8**
baz=61
Q08A Gabbs 61.24 63 P **P 05 10 55.8 +0.3**
baz=61,SNR=6.2
NVAR Mina Array Bea 61.28 63 P **P 05 10 56.0 +0.3**
comp=Z,2.9nm,0.7s,mb4.5,baz=293,slow=10,SNR=16
NVAR pP pP 05 11 09.8 -0.1
comp=Z,0.9nm,0.6s,baz=304,slow=6.4,SNR=3.9
T06C Millerton Lake 61.30 65⇑ P **P 05 10 55.8 -0.1**
baz=61
QLMT Earthquake Lak 61.32 54 *eP* **P 05 10 56.6 +0.6**
KCC Kaiser Creek 61.34 65⇑ P **P 05 10 56.0 -0.1**
baz=61
R08A Mina 61.45 63⇓ P **P 05 10 57.1 +0.2**
baz=61
M12A Wells 61.46 59 P **P 05 10 57.9 +1.0**
baz=61,SNR=5.4
NDI New Delhi 61.62 283 *eP* **P 05 10 58.0 -0.1**
NDI AMb AMB 05 11 02.3
comp=Z,19nm,0.4s,mb5.6
P10A Eureka 61.66 61⇑ P **P 05 10 58.4 +0.1**
baz=61
YMR Madison River 61.68 54 *eP* **P 05 10 58.7 +0.2**
comp=Z,9.8nm,1.1s,mb4.8
GCMT Greycliff 61.69 52 *eP* **P 05 10 58.8 +0.3**
N12A Clover Valley, 61.73 59⇓ P **P 05 10 59.5 +0.7**
baz=62

O11A	**Cowboy Ranch,** baz=62	61.82	60	⇓P		P	05 10 59.8	+0.4
YFT	**Old Faithful**	61.89	54	*e*P		P	05 11 02.3	+2.4
HELL	**Mitchell Peak,** baz=62,SNR=8.5	61.93	65	P		P	05 11 00.1	0.0
M13A	**Montello** baz=62,SNR=7.0	61.93	59	P		P	05 11 00.8	+0.6
S08C	**White Mtn Res** baz=62	61.94	64	⇓P		P	05 11 00.4	+0.2
P11A	**Circle Ranch,** baz=62	62.12	61	⇑P		P	05 11 01.9	+0.4
R09A	**Tonopah** baz=62	62.15	63	⇑P		P	05 11 01.8	+0.2
FLWY	**Flagg Ranch** comp=Z,7.7nm,0.9s,mb4.8	62.20	54	*e*P		P	05 11 01.7	-0.2
N13A	**Wendover, West** baz=62	62.23	59	⇓P		P	05 11 01.9	-0.2
DCID1	**Drake Creek**	62.23	55	*e*P		P	05 11 03.9	+1.8
O12A	**Currie** baz=62,SNR=8.3	62.28	60	P		P	05 11 02.7	+0.2
RRI2	**Red Ridge** comp=Z,15nm,0.8s,mb5.2	62.31	55	*e*P		P	05 11 03.5	+0.8
S09A	**Goldfield** baz=62,SNR=5.7	62.38	63	P		P	05 11 03.2	+0.1
MOOW	**Moose Ponds** comp=Z,10nm,1.2s,mb4.8	62.38	55	*e*P		P	05 11 03.8	+0.6
HVU	**Hansel Valley**	62.48	57	*e*P		P	05 11 03.4	-0.4
HVU	comp=Z,3.0nm,1.0s,mb4.4				pmax	pmax		
HVU	**Hansel Valley** comp=Z,3.4nm,1.0s,mb4.4	62.48	57	*e*P		P	05 11 03.4	-0.4
LOHW	**Long Hollow** comp=Z,14nm,1.2s,mb5.0	62.55	55	*e*P		P	05 11 05.0	+0.7
SNOW	**Snow King Moun** comp=Z,21nm,1.1s,mb5.2	62.56	55	*e*P		P	05 11 05.8	+1.5
REDW	**Red Top Meadow** comp=Z,15nm,0.9s,mb5.1	62.57	55	*e*P		P	05 11 05.5	+1.1
R10A	**Warm Springs** baz=62	62.59	62	⇓P		P	05 11 04.4	-0.1
Q11A	**Duckwater** baz=62	62.63	62	⇑P		P	05 11 04.7	-0.2
P12A	**McGill** baz=62	62.68	61	⇓P		P	05 11 05.3	+0.1
GRAC	**Grapevine Rang** baz=62	62.75	64	⇓P		P	05 11 05.9	+0.3
DGMT	**Dagmar**	62.84	47	*e*P		P	05 11 06.2	0.0
ISA	**Isabella** baz=63	62.91	66	⇑P		P	05 11 05.8	-1.0
LAO	**LASA Array**	62.95	50	*e*P		P	05 11 07.2	+0.2
SPUT	**South Promonto**	62.96	58	*e*P		P	05 11 04.2	-2.9
Q12A	**Willow Creek R** baz=63	63.00	61	⇑P		P	05 11 07.7	+0.5
MPMC	**Manual Prospec** baz=63	63.28	65	⇑P		P	05 11 08.8	-0.3
HWUT	**Hardware Ranch** comp=Z,6.5nm,1.1s,mb4.7	63.28	57	*e*P		P	05 11 08.8	-0.4
FURC	**Furnace Creek,** baz=63,SNR=6.1	63.41	64	P		P	05 11 10.2	+0.3
OSI	**Osito Adit** baz=63	63.43	67	⇓P		P	05 11 10.4	+0.3
DUG	**Dugway**	63.46	59	*e*P		P	05 11 10.5	+0.2
DUG	comp=Z,10.0nm,1.0s,mb4.9				pmax	pmax		
DUG	**Dugway** comp=Z,9.7nm,1.0s,mb4.9	63.46	59	*e*P		P	05 11 10.5	+0.2
DUG	**Dugway** baz=63	63.46	59	⇓P		P	05 11 10.1	-0.2
LRMC	**Laurel Mountai** baz=63	63.52	66	⇓P		P	05 11 10.4	-0.3
BW06	**Boulder Array** comp=Z,11nm,1.0s,mb4.8	63.68	55	*e*P		P	05 11 11.7	0.0
PDAR	**Pinedale Array** comp=Z,6.4nm,0.9s,mb4.7,baz=296,slow=2.3,SNR=48	63.68	55	P		P	05 11 11.6	-0.2
EDW2	**Edwards Air Fo** baz=64,SNR=6.9	63.72	66	P		P	05 11 12.4	+0.4
U10A	**Ash Meadows, A** baz=64,SNR=7.6	63.77	64	P		P	05 11 13.1	+0.8
JLU	**Jordanelle**	64.00	58	*e*P		P	05 11 15.0	+1.1
NLU	**North Lily Min**	64.05	59	*e*P		P	05 11 13.5	-0.7
SHOC	**Shoshone** baz=64	64.13	64	⇑P		P	05 11 14.4	-0.3
GSC	**Goldstone**	64.19	65	*e*P		P	05 11 14.9	-0.2
GSC	**Goldstone** baz=64,SNR=5.2	64.19	65	P		P	05 11 15.0	-0.1
DAU	**Daniels Canyon**	64.23	58	*e*P		P	05 11 15.9	+0.5
MPU	**Maple Canyon** comp=Z,4.2nm,0.9s,mb4.5	64.27	58	*e*P		P	05 11 16.1	+0.4
BFSC	**Mount Baldy St** baz=64	64.34	67	⇓P		P	05 11 16.1	0.0
SHPR	**Sheep Range**	64.43	63	*e*P		P	05 11 17.2	+0.5
FIA1	**FINESS Array S**	64.50	336	*e*P		P	05 11 15.5	-1.7
FINES	**FINESS Array B** comp=Z,32nm,0.8s,mb5.4,baz=35,slow=6.9,SNR=71	64.50	336	P		P	05 11 15.6	-1.6
FINES	comp=Z,41nm,0.6s,baz=38,slow=9.6,SNR=23				pP	pP	05 11 29.6	-1.7
ARUT	**Antelope Range**	64.64	61	*e*P		P	05 11 18.1	0.0
TUQ	**Turquoise Mtn.** baz=64,SNR=7.6	64.65	65	P		P	05 11 18.5	+0.4
V11A	**Goodsprings** baz=64	64.70	64	⇑P		P	05 11 18.1	-0.3
VIS	**Vishakhapatnam**	64.77	269	*e*P		P	05 11 18.7	-0.2
VIS	comp=Z,21nm,0.9s,mb5.2				AMb	AMB	05 11 29.2	
AJM	**Ajmer**	64.78	282	*e*P		P	05 11 21.0	+2.1
AJM	comp=Z,16nm,0.4s,mb5.5				AMb	AMB	05 11 26.1	
HEC	**Hector,Ludlow** baz=65,SNR=5.5	64.79	65	P		P	05 11 19.2	+0.2
MSU	**Marysvale**	64.93	60	*e*P		P	05 11 20.1	+0.2
TMUT	**Trail Mountain**	64.99	59	*e*P		P	05 11 21.4	+1.1
MURC	**Murrieta** baz=65	65.05	67	⇑P		P	05 11 20.2	-0.5
BHPL	**Bhopal**	65.06	278	*e*P		P	05 11 20.2	-0.5
BHPL	comp=Z,29nm,1.0s,mb5.3				AMb	AMB	05 11 24.6	
V12A	**Nelson** baz=65	65.13	64	⇓P		P	05 11 20.9	-0.3
NGP	**Nagpur**	65.36	275	*e*P		P	05 11 24.4	+1.7
NGP	comp=Z,41nm,1.8s,mb5.2				AMb	AMB	05 11 38.5	
W12A	**Cal Nev Ari** baz=65	65.39	64	⇓P		P	05 11 23.2	+0.3
SRU	**San Rafael**	65.51	58	*e*P		P	05 11 24.1	+0.4
BELC	**Belle Mtn.** baz=65	65.54	66	⇓P		P	05 11 23.6	-0.3
109C	**Camp Elliot, M** baz=65	65.57	67	⇑P		P	05 11 24.8	+0.7
ULM	**Lac du Bonnet** comp=Z,4.8nm,0.7s,mb4.7,baz=320,slow=6.8,SNR=11	65.63	42	P		P	05 11 23.6	-0.9
RWWY	**Rawlins** comp=Z,11nm,0.9s,mb4.9	65.70	54	*e*P		P	05 11 25.0	+0.1
RSSD	**Black Hills**	65.81	51	P		P	05 11 25.3	-0.3
RSSD	comp=Z,13nm,0.8s,mb5.0				pmax	pmax		
RSSD	**Black Hills** comp=Z,13nm,0.8s,mb5.0	65.81	51	*e*P		P	05 11 25.0	-0.6
OBN	**Obninsk**	65.95	326	⇑*e*P		P	05 11 25.4	-1.1
OBN				*i*		pP	05 11 38.6	-2.1
OBN				*e*			05 13 50.8	
OBN				*e*S		S	05 20 00.3	-10
OBN	comp=Z,41nm,1.3s,mb5.3				pmax	pmax		
OBN	**Obninsk**	65.95	326	*e*P		P	05 11 27.9	+1.3
IRM	**Iron Mountain** baz=66,SNR=9.7	65.97	65	P		P	05 11 26.6	0.0
MONP	**Monument Peak** baz=66	66.00	67	⇓P		P	05 11 26.7	-0.2
BC3	**Big Chuckw Mtn** baz=66	66.11	66	⇓P		P	05 11 27.0	-0.6
W13A	**Hualapai Mount** baz=66,SNR=5.0	66.13	64	P		P	05 11 28.0	+0.3
DVTC	**Desert V Tower** baz=66	66.36	67	⇑P		P	05 11 29.0	-0.2
SWSC	**Sam W. Stewart** baz=66	66.36	67	⇑P		P	05 11 28.1	-1.1
X13A	**Yucca** baz=66,SNR=8.6	66.50	64	P		P	05 11 30.1	+0.1
PDMCI	**Parker Dam,Lak** baz=66,SNR=8.8	66.50	65	P		P	05 11 30.0	-0.1
W14A	**Seligman** baz=66,SNR=15	66.55	63	P		P	05 11 31.0	+0.6
Y12C	**Blythe** baz=66	66.63	65	⇑P		P	05 11 31.2	+0.4
PV10	**Paradox Valley**	66.86	58	*e*P		P	05 11 32.8	+0.4
GLA	**Glamis**	66.90	66	*e*P		P	05 11 33.0	+0.4
GLA	**Glamis** baz=67,SNR=6.2	66.90	66	P		P	05 11 32.7	+0.1
W15A	**Williams** baz=67	67.07	63	⇓P		P	05 11 34.6	+0.9
X14A	**Yava** baz=67,SNR=9.8	67.16	64	P		P	05 11 34.9	+0.6
PV01	**Paradox Valley**	67.30	58	*e*P		P	05 11 34.9	-0.2
WUAZ	**Wupatki** comp=Z,6.3nm,1.0s,mb4.6	67.39	62	*e*P		P	05 11 36.4	+0.7
WUAZ	**Wupatki** baz=67	67.39	62	⇓P		P	05 11 35.7	0.0
Y14A	**Wickenburg** baz=67,SNR=11	67.44	64	P		P	05 11 36.2	+0.1
X15A	**Humboldt** baz=67,SNR=12	67.55	63	P		P	05 11 37.5	+0.8
VRSR	**Storozhevoye**	67.82	322	*e*P		P	05 11 40.0	+1.6
VRSR	comp=N,50nm,1.0s				pmax	pmax		
VRSR	comp=Z,20nm,1.0s,mb5.1				pmax	pmax		
VRSR	comp=E,20nm,0.9s				pmax	pmax		
Z14A	**Wintersburg** baz=68	67.87	65	⇓P		P	05 11 38.8	+0.1
ISCO	**Idaho Springs** comp=Z,9.0nm,0.8s,mb4.8	67.87	55	*e*P		P	05 11 39.2	+0.5
ISCO	comp=Z,20nm,1.0s,mb5.1				pmax	pmax		
ISCO	**Idaho Springs** comp=Z,9.0nm,0.8s,mb4.8	67.87	55	*e*P		P	05 11 39.2	+0.5
MVCO	**Mesa Verde** comp=Z,6.1nm,0.9s,mb4.6	67.97	59	*e*P		P	05 11 39.3	-0.1
MVCO	**Mesa Verde** baz=68	67.97	59	⇓P		P	05 11 39.6	+0.2
NB2	**NORSAR Subarra** comp=Z,4.4nm,0.6s,mb4.6,baz=26,slow=6.5	68.55	342	P		P	05 11 41.4	-1.6
NOA	**NORSAR Array B** comp=Z,9.6nm,0.8s,mb4.8,baz=26,slow=6.3,SNR=16	68.55	342	P		P	05 11 41.6	-1.4
NOA	comp=Z,7.7nm,0.7s,baz=26,slow=6.3,SNR=6.8				pP	pP	05 11 57.0	-0.3
115A	**Sonoran Desert** baz=68,SNR=6.7	68.76	65	P		P	05 11 44.9	+0.6
NAO01	**NORSAR Array S** comp=Z,23nm,1.1s,mb5.0	68.80	342	*e*P		P	05 11 43.8	-0.8
WRAB	**Tennant Creek** comp=Z,4.0nm,0.8s,mb4.4	69.00	201	*e*P		P	05 11 44.9	-0.9
WRAB	comp=Z,4.3nm,0.8s,mb4.4				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,4.3nm,0.8s,mb4.4	69.00	201	*e*P		P	05 11 44.9	-0.9
WB2	**Warramunga Arr**	69.01	201	*e*P		P	05 11 44.9	-1.0
WRA	**Warramunga Arr** comp=Z,2.6nm,0.8s,mb4.2,baz=18,slow=6.8,SNR=14	69.01	201	P		P	05 11 44.7	-1.2
116A	**Eloy** baz=69	69.17	64	⇓P		P	05 11 47.3	+0.4
FITZ	**Fitzroy Crossi** comp=Z,1.6nm,0.7s,mb4.1,baz=33,slow=7.8,SNR=5.0	69.82	210	P		P	05 11 50.4	-0.5
ECSD	**EROS,Sioux Fal** comp=Z,12nm,0.9s,mb4.8	69.92	47	*e*P		P	05 11 50.0	-1.4
MDRS	**Chennai**	70.13	268	*e*P		P	05 11 50.4	-2.4
LAZ	**Ladron**	70.69	60	*e*P		P	05 11 56.6	+0.4
ANMO	**Albuquerque**	70.71	59	*e*P		P	05 11 56.6	+0.3
KAD	**Karad**	71.32	276	*e*P		P	05 11 59.9	-0.1
KAD	comp=Z,18nm,1.4s,mb4.8				AMb	AMB	05 12 14.9	
KIV	**Kislovodsk**	71.64	315	*e*P		P	05 12 01.5	-0.4
KIV				*i*		pP	05 12 17.7	+1.4
KIV				*e*			05 14 41.1	
KIV				*e*S		S	05 21 12.8	-4.8
KIV	comp=Z,26nm,1.0s,mb5.1				pmax	pmax		
KIV	**Kislovodsk**	71.64	315	*e*P		P	05 12 06.2	+4.2
ZEI	**Tsey**	71.92	314	*e*P		P	05 12 05.5	+1.9
ZEI				*e**PP		pP	05 12 16.7	-1.3
ZEI	comp=Z,13nm,1.0s,mb4.8				pmax	pmax		
AKASG	**Malin Array Be** comp=Z,6.1nm,0.5s,mb4.8,baz=32,slow=5.9,SNR=11	72.17	327	P		P	05 12 03.0	-2.1
AKASG	comp=Z,5.4nm,0.5s,baz=32,slow=6.0,SNR=9.9				pP	pP	05 12 17.6	-1.8
AS31	**Alice Springs**	72.69	200	*e*P		P	05 12 07.9	-0.3
ASAR	**Alice Springs** comp=Z,5.9nm,0.8s,mb4.6,baz=16,slow=5.1,SNR=45	72.70	200	P		P	05 12 08.2	0.0
ASAR	comp=Z,3.2nm,0.8s,baz=13,slow=5.7,SNR=7.3				pP	pP	05 12 21.7	-0.9
SCIA	**State Center** comp=Z,38nm,0.8s,mb5.4	72.96	46	*e*P		P	05 12 09.0	-0.8
BSD	**Bornholm Skovb** comp=Z,21nm,0.6s	72.98	337	*i* P		pP	05 12 24.3	0.0
COP	**Copenhagen** comp=Z,36nm,0.9s	73.11	339	*i* P		pP	05 12 25.5	+0.4
KSU1	**Kansas State U** comp=Z,13nm,0.7s,mb5.0	73.29	50	*e*P		P	05 12 09.2	-2.5
GNI	**Garni** comp=Z,2.9nm,0.4s,mb4.6,baz=38,slow=12,SNR=2.9	73.43	311	P		P	05 12 13.1	+0.5
GNI	**Garni**	73.43	311	*e*P		P	05 12 12.7	+0.1
GNI	comp=Z,14nm,0.9s				pmax	pmax		
GNI	**Garni**	73.43	311	*e*P		P	05 12 16.9	+4.4
AMTX	**Amarillo**	73.54	57	*e*P		P	05 12 13.5	+0.2
MNTX	**Cornudas Mount** comp=Z,5.8nm,1.1s,mb4.4	73.63	61	*e*P		P	05 12 13.5	-0.3
JFWS	**Jewell Farm**	73.65	44	*e*P		P	05 12 12.1	-1.7
GDL2	**Guadalupe Moun**	73.89	60	*e*P		P	05 12 15.7	+0.4
GKP	**Gorka Klasztor**	73.97	335	*e*P		pP	05 12 30.1	0.0
WMOK	**Wichita Mounta** comp=Z,10.0nm,1.0s,mb4.7	75.29	55	*e*P		P	05 12 23.8	+0.4
WMOK	comp=Z,10nm,1.0s,mb4.7				pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,10nm,1.0s,mb4.7	75.29	55	*e*P		P	05 12 23.8	+0.5
KIS	**Kishinev**	75.35	325	*e*UNK			05 12 37.0	
KWP	**Kalwaria**	75.39	330	*e*P		P	05 12 23.6	-0.4
OJC	**Ojcow**	75.85	332	*e*P		P	05 12 27.9	+1.3
STHS	**Stebnicka Huta**	76.07	331	*e*P		P	05 12 27.7	-0.1
STHS				*e*PCP		PcP	05 12 43.6	+3.7
KOLS	**Kolonicke sedl**	76.14	330	*e*P		P	05 12 32.6	+4.4
KOLS				*e*PCP		PcP	05 12 44.2	+4.0
BURAR	**Bucovina Array**	76.21	328	⇑*i*P		P	05 12 27.6	-1.0
LTX	**Lajitas**	76.35	62	*e*P		P	05 12 29.6	+0.2
TXAR	**Lajitas Array** comp=Z,21nm,0.7s,mb5.2,baz=300,slow=4.3,SNR=169	76.35	62	P		P	05 12 29.6	+0.2
TXAR	comp=Z,5.3nm,0.7s,baz=294,slow=3.8,SNR=7.5				pP	pP	05 12 42.9	-1.0
NIE	**Niedzica**	76.38	331	*e*P		P	05 12 31.6	+2.0
KSP	**Ksiaz**	76.39	334	*e*P		P	05 12 31.0	+1.4
KSP				*e*		pP	05 12 42.3	-1.8
OKC	**Ostrava-Krasne**	76.71	333	*e*P		P	05 12 32.8	+1.4
OKC				*e*PCP		PcP	05 12 45.8	+3.2
UPC	**Upice**	76.77	334	*e*P		P	05 12 33.2	+1.4
UPC				*e*PCP		PcP	05 12 47.1	+4.2
DPC	**Dobruska-Polom**	76.81	334	*e*P		P	05 12 33.8	+1.8
DPC				*e*PCP		PcP	05 12 46.2	+3.1
DPC	**Dobruska-Polom**	76.81	334	*e*P		P	05 12 33.8	+1.8
DPC				*e*		pP	05 12 46.2	-0.3
CLL	**Collm**	76.91	337	*i* P		P	05 12 33.3	+0.7
CLL				*i*		pP	05 12 47.7	+0.6
CLL	comp=Z,14nm,0.6s,mb5.1				pmax	pmax		
CLL	**Collm** comp=Z,14nm,0.6s,mb5.1	76.91	337	*i* P		P	05 12 33.3	+0.7
CLL	comp=Z,33nm,0.9s				⇓*i*sPcP	pP	05 12 47.7	+0.6
MORC	**Moravsky Berou**	76.95	333	⇑*i*P		P	05 12 33.1	+0.3
MORC	**Moravsky Berou** comp=Z,21nm,0.9s,mb5.1	76.95	333	*e*P		P	05 12 31.9	-1.0
BRG	**Berggiesshubel** comp=Z,2.2nm,0.8s,mb4.2	77.04	336	*e*P		P	05 12 34.3	+1.0
BRG	comp=Z,11nm,1.1s				*e*	pP	05 12 48.0	+0.2
BRG	**Berggiesshubel**	77.04	336	*e*P		P	05 12 34.3	+1.0
BRG				*e*		pP	05 12 48.0	+0.2
BRG	comp=Z,2.0nm,0.8s,mb4.1				pmax	pmax		
KECS	**Kecovo**	77.13	331	*e*P		P	05 12 35.5	+1.7
KECS				*e*PCP		PcP	05 12 49.2	+4.7
PVCC	**Panska Ves**	77.17	335	*e*P		P	05 12 35.0	+1.0
PVCC				*e*PCP		PcP	05 12 47.7	+3.1
FVM	**French Village** comp=Z,9.0nm,0.7s,mb4.8	77.32	47	*e*P		P	05 12 33.3	-1.6
FVM	comp=Z,9.0nm,0.7s,mb4.8				pmax	pmax		
FVM	**French Village** comp=Z,9.0nm,0.7s,mb4.8	77.32	47	*e*P		P	05 12 33.3	-1.7
TIRR	**Tirgusor**	77.60	324	⇓*i*P		P	05 12 36.1	-0.4
TIRR	**Tirgusor** comp=Z,17nm,1.0s,mb4.9	77.60	324	*e*P		P	05 12 37.4	+0.9
VRAC	**Vranov**	77.65	334	⇓*i*P		P	05 12 36.7	-0.1
MLR	**Muntele Rosu**	77.72	326	⇓*i*P		P	05 12 36.7	-0.4
MLR	**Muntele Rosu**	77.72	326	⇓P		P	05 12 36.7	-0.4
PSZ	**Piszkesteto**	77.82	331	⇑*i*P		P	05 12 39.8	+2.1
PSZ	**Piszkesteto**	77.82	331	*e*P		P	05 12 39.8	+2.1
JCT	**Junction City**	77.82	58	*e*P		P	05 12 35.3	-2.4
JCT	comp=Z,13nm,0.8s,mb4.9				pmax	pmax		
JCT	**Junction City** comp=Z,13nm,0.8s,mb4.9	77.82	58	*e*P		P	05 12 35.3	-2.4
MOX	**Moxa**	77.88	337	*e*P		P	05 12 40.3	+2.3
MOX				*e*		pP	05 12 53.2	+0.7
SNX	**Sinaia**	77.99	326	⇓*i*P		P	05 12 41.6	+3.0
SNX	**Sinaia**	77.99	326	⇓P		P	05 12 41.6	+2.9
MALT	**Malatya**	78.01	314	⇓*i*P		P	05 12 39.9	+1.1
MALT	**Malatya** comp=Z,10nm,0.8s,mb4.8	78.01	314	*e*P		P	05 12 39.7	+0.9
NKC	**Novy Kostel**	78.03	336	*e*P		P	05 12 40.7	+1.9
SMOL	**Smolenice**	78.10	333	*e*P		P	05 12 41.0	+1.8
SMOL				*e*PCP		PcP	05 12 54.3	+5.6
VOIR		78.10	326	⇓*i*P		P	05 12 41.8	+2.6
KHC	**Kasperske Hory**	78.71	335	*e*P		P	05 12 44.9	+2.3
KHC				*ex*		x	05 12 58.4	
GRA1	**Grafenberg Arr** comp=Z,18nm,0.8s,mb5.0	78.85	337	*e*P		P	05 12 46.1	+2.7
GRF	**Grafenberg Arr** comp=Z,18nm,0.8s,mb5.0	78.85	337	*e*P		P	05 12 46.1	+2.7
GRF	comp=Z,18nm,0.8s,mb5.0				pmax	pmax		
GRF	**Grafenberg Arr** comp=Z,18nm,0.8s,mb5.0	78.85	337	*e*P		P	05 12 46.1	+2.7
GRF	comp=Z,18nm,0.8s,mb5.0				pmax	pmax		
GRFO	**Grafenberg** comp=Z,18nm,0.7s,mb5.1	78.86	337	P		P	05 12 46.3	+2.9
GRFO	comp=Z,18nm,0.7s,mb5.1				pmax	pmax		
GRFO	**Grafenberg** comp=Z,18nm,0.7s,mb5.1	78.86	337	*e*P		P	05 12 45.9	+2.5
GERES	**GERESS Array B** comp=Z,1.7nm,0.6s,mb4.2,baz=36,slow=6.1,SNR=24	78.93	335	P		P	05 12 43.0	-0.8
GERES	comp=Z,2.8nm,0.5s,baz=35,slow=6.1,SNR=9.1				pP	pP	05 12 58.7	+0.3
GZR	**Gura Zlata**	78.99	328	⇓*i*P		P	05 12 45.7	+1.6
GZR	**Gura Zlata**	78.99	328	⇓P		P	05 12 45.7	+1.6
CONA	**Conrad Observa** comp=Z,8.1nm,1.4s,mb4.5	79.10	333	⇑*i*P		P	05 12 44.7	-0.1
BR131	**Keskin Array S** comp=Z,7.3nm,0.8s,mb4.7	79.19	318	*e*P		P	05 12 45.4	+0.2
BRTR	**Keskin Array B** comp=Z,3.8nm,0.8s,mb4.4,baz=71,slow=2.5,SNR=15	79.19	318	P		P	05 12 44.9	-0.3
BRTR	comp=Z,7.4nm,0.9s,baz=62,slow=4.0,SNR=14				pP	pP	05 13 00.7	+0.9
BZS	**Buzias**	79.21	329	⇓*i*P		P	05 12 46.8	+1.4
BZS	**Buzias**	79.21	329	⇓P		P	05 12 46.8	+1.4
STKA	**Stephens Creek** comp=Z,2.2nm,0.8s,mb4.2,baz=354,slow=11,SNR=3.4	79.26	192	P		P	05 12 44.8	-0.8
MEM	**Membach**	79.31	340	AP		P	05 12 48.7	+2.8
MEM				E		pP	05 13 01.8	+1.4
ANTO	**Ankara**	79.46	318	*e*P		P	05 12 48.7	+2.0
ANTO	comp=Z,19nm,1.3s,mb4.9				pmax	pmax		
ANTO	**Ankara** comp=Z,19nm,1.3s,mb4.9	79.46	318	*e*P		P	05 12 48.7	+2.0
BCLA	**Clavier**	79.64	341	AP		P	05 12 50.2	+2.5
BCLA				E		pP	05 13 03.6	+1.3
SNF	**Seneffe**	79.79	341	E		pP	05 13 04.2	+1.2
WVT	**Waverly**	80.07	47	P		P	05 12 49.7	-0.3
WVT	comp=Z,6.0nm,0.9s,mb4.5				pmax	pmax		
WVT	**Waverly** comp=Z,5.8nm,0.8s,mb4.6	80.07	47	*e*P		P	05 12 49.3	-0.7
DOU	**Dourbes**	80.11	341	P		P	05 12 50.6	+0.4
DOU				AP			05 12 53.0	
DOU				E		pP	05 13 06.1	+1.3
PERS	**Pernice**	80.48	333	*e*P		P	05 12 54.3	+2.1
OXF	**Oxford**	80.53	49	*e*P		P	05 12 52.0	-0.5
OXF	comp=Z,24nm,1.0s,mb5.1				pmax	pmax		
OXF	**Oxford** comp=Z,24nm,1.0s,mb5.1	80.53	49	*e*P		P	05 12 52.0	-0.4
KBA	**Koelnbreinsper** comp=Z,22nm,0.7s,mb5.2	80.62	335	⇓*i*P		P	05 12 53.5	+0.5
WTTA	**Wattenberg** comp=Z,10nm,0.6s,mb4.9	80.95	336	⇓*i*P		P	05 12 55.4	+0.7
MOTA	**Moosalm** comp=Z,24nm,1.1s,mb5.0	81.03	336	⇑*i*P		P	05 12 54.9	-0.2
CDF	**Champ du Feu** comp=Z,16nm,0.8s,mb4.7	81.05	339	*e*P		P	05 12 56.9	+1.6
CDF	**Champ du Feu** comp=Z,8.0nm,0.8s,mb4.7	81.05	339	*e*P		P	05 12 56.9	+1.6
CDF	comp=Z,7.9nm,0.8s,mb4.7				pmax	pmax		
CDF	**Champ du Feu** comp=Z,7.9nm,0.8s,mb4.7	81.05	339	*e*P		P	05 12 56.9	+1.6
VISS	**Visnje**	81.32	333	*e*P		P	05 12 57.1	+0.4
DAVA	**Damuels** comp=Z,12nm,0.9s,mb4.8	81.42	337	⇑*e*P		P	05 12 57.8	+0.6
DAVA				⇑*i*			05 13 00.4	
DAVA	**Damuels**	81.42	337	P		P	05 12 57.8	+0.6
DAVA				*e*			05 13 00.4	
BOJS	**Bojanci**	81.45	333	*i* P		P	05 12 59.0	+1.6
ELN	**Prospectdale**	82.58	42	*e*P		P	05 13 02.4	-0.9
GRR	**Gorron** comp=Z,146nm,1.7s,mb5.4	82.85	344	*e*P		P	05 13 06.8	+2.1
GRR	**Gorron** comp=Z,73nm,1.7s,mb5.4	82.85	344	*e*P		P	05 13 06.8	+2.1
GRR	comp=Z,73nm,1.7s,mb5.4				pmax	pmax		
GRR	**Gorron** comp=Z,73nm,1.7s,mb5.4	82.85	344	*e*P		P	05 13 06.8	+2.1
SMF	**Signal de Mont** comp=Z,35nm,0.9s,mb5.2	83.53	340	*e*P		P	05 13 09.9	+1.7
SMF	**Signal de Mont** comp=Z,18nm,0.9s,mb5.2	83.53	340	*e*P		P	05 13 09.9	+1.7
SMF	comp=Z,18nm,0.9s,mb5.2				pmax	pmax		
SMF	**Signal de Mont** comp=Z,18nm,0.9s,mb5.2	83.53	340	*e*P		P	05 13 09.9	+1.7
ASF	**Jabal al Asfar** comp=Z,1.2nm,0.5s,mb4.3,baz=351,slow=7.5,SNR=4.0	83.60	311	P		P	05 13 08.6	0.

NEIC 18 05:04:13.7±0.7, 1275S×16740E, h35km, mb4.1/3, Error ellipse: s-maj=22.4km s-min=16.3km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.40**	**227**	P	P	05 10 23.5	+1.1
	2.2nm,0.5s,baz=32,slow=8.4,SNR=7.9						
STKA	**Stephens Creek**	**30.40**	**227**	*e*P	P	05 10 23.1	+0.7
WRA	**Warramunga Arr**	**32.48**	**253**	P	P	05 10 40.5	-0.3
	0.6nm,0.5s,baz=85,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**33.54**	**246**	P	P	05 10 50.1	+0.1
	1.4nm,0.6s,baz=74,slow=9.3,SNR=39						
VNDA	**Vanda**	**64.83**	**181**	*e*P	P	05 14 48.3	-0.6
	0.4nm,0.5s						
ULN	**Ulaanbaatar**	**80.63**	**324**	*e*P	P	05 16 23.4	+0.6
	1.1nm,0.6s						
SONM	**Songino Array**	**80.99**	**323**	P	P	05 16 25.6	+0.9
	0.5nm,0.6s,baz=123,slow=5.5,SNR=4.5						
SNAA	**Sanae**	**95.52**	**183**	*e*P	P	05 17 35.4	+0.4
	2.0nm,1.0s						
MKAR	**Makanchi Array**	**95.87**	**317**	P	P	05 17 36.4	-0.2
	0.3nm,0.6s,baz=92,slow=5.6,SNR=3.8						
ARCES	**ARCESS Array B**	**119.38**	**346**	PKP	PKPdf	05 22 55.9	-1.5
	0.9nm,0.3s,baz=68,slow=1.9,SNR=43						
FINES	**FINESS Array B**	**123.94**	**339**	PKhKP		05 22 59.7	
	6.3nm,1.2s,baz=70,slow=6.3,SNR=3.7						
FINES				PKP	PKPdf	05 23 06.8	-1.2
	2.4nm,1.0s,baz=114,slow=1.7,SNR=7.4						
FINES	**FINESS Array B**	**123.94**	**339**	PKP	PKPdf	05 23 06.8	-1.2

*IDC **18** 05:06:00.1±1.0, 4700N×154.83E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.8/7, Error ellipse: s-maj=30.1km s-min=22.8km az=165.0*
*ISCJB **18** 05:06:01.1±1.0, 473N±02×1548E±02, h10km, mb4.0/10, Error ellipse: s-maj=27.2km s-min=16.3km az=119.8*
*NEIC **18** 05:06:02.2±0.9, 4721N×15488E, h10km, mb4.1/3, Error ellipse: s-maj=24.1km s-min=17.6km az=147.0*

ISC 18 05:06:02.6±1.0, 473N±02×1548E±02, h10km, n11, σ1ᵍ08/11, mb4.0/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.33**	**235**	Pn	**Pn**	**05 09 53.3**	**+1.4**
	0.4nm,0.3s,baz=37,slow=11,SNR=5.2						
KSRS	**Korea Array**	**22.07**	**253**	P	**P**	05 10 57.3	-0.3
	1.2nm,0.6s,mb3.5,baz=66,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	05 14 39.4	-0.4
	0.2nm,0.4s,mb3.5,baz=71,slow=8.9,SNR=3.5						
CHKZ	**Chkalovo**	**51.01**	**310**	*e*P	**P**	05 15 03.6	-1.0
	2.6nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	05 15 07.7	-0.2
	1.2nm,0.4s,mb4.2,baz=57,slow=7.4,SNR=9.1						
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	05 15 10.7	+2.5
	1.6nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**54.66**	**297**	*e*P	**P**	05 15 31.2	-0.5
	1.1nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**63.50**	**55**	P	**P**	05 16 33.5	+0.6
	0.5nm,0.8s,mb3.7,baz=0.0,slow=4.4,SNR=4.1						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	05 16 36.5	-0.2
	1.4nm,0.6s,mb4.2,baz=50,slow=6.0,SNR=8.8						
ASAR	**Alice Springs**	**73.07**	**200**	P	**P**	05 17 30.1	-2.8
	0.9nm,0.7s,mb3.8,baz=7.0,slow=5.0,SNR=9.3						
TXAR	**Lajitas Array**	**76.22**	**62**	P	**P**	05 17 51.4	+0.3
	1.9nm,0.6s,mb4.2,baz=303,slow=4.3,SNR=18						

*IDC **18** 05:11:37.7±0.9, 4718N×15283E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, MS4.1/1, Ms1 4.1/1, ms1mx2.5/42, Error ellipse: s-maj=31.6km s-min=22.4km az=115.0*
*NEIC **18** 05:11:39.5±0.6, 4710N×15287E, h10km, mb4.0/2, Error ellipse: s-maj=21.0km s-min=17.8km az=80.0*
*ISCJB **18** 05:11:47.5±1.5, 472N±0.1×1529E±02, h89km±14km, mb3.8/8, Error ellipse: s-maj=24.4km s-min=10.5km az=93.7*
*MOS **18** 05:11:48.5±1.1, 4727N×15307E, h104km, mb4.1/3, Error ellipse: s-maj=30.7km s-min=16.1km az=69.6*

ISC 18 05:11:49.3±1.3, 473N±01×1529E±02, h91km±12km, n18, σ1ᵍ18/18, mb3.8/8, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.02**	**30**	*e*PN	**Pn**	**05 12 47.5**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**5.90**	**239**	PN	**Pn**	**05 13 16.5**	**+2.3**
YUK				*e*S	**Sn**	**05 14 19.5**	**-1.0**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
MJAR	**Matsushiro Arr**	**15.29**	**231**	Pn	**Pn**	**05 15 21.4**	**+1.3**
	comp=E,0.6nm,0.3s,baz=29,slow=8.9,SNR=5.2						
KSRS	**Korea Array**	**20.83**	**251**	P	**P**	05 16 22.1	-1.4
	comp=E,2.3nm,0.8s,baz=58,slow=11,SNR=5.3						
JNU	**Nakatsue**	**21.87**	**238**	LR	LR	05 24 49.8	
	comp=E,485nm,19.1s,baz=5.7,slow=36						
MK09	**Makanchi Array**	**46.60**	**297**	⇓Pn	**P**	**05 20 09.8**	**+1.6**
	comp=E,1.4nm,0.6s,mb3.9,baz=161,slow=16						
MK09				⇑Lg		05 21 02.8	
	comp=E,8.2nm,0.6s,baz=162,slow=30						
CHKZ	**Chkalovo**	**50.00**	**310**	*e*P	**P**	**05 20 34.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**50.00**	**310**	*e*P	**P**	**05 20 34.0**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9						
BRVK	**Borovoye**	**50.47**	**309**	*e*P	**P**	**05 20 38.6**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**50.47**	**309**	*e*P	**P**	**05 20 38.6**	**+0.7**
	comp=Z,1.3nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**63.52**	**335**	P	**P**	**05 22 10.0**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.8,baz=28,slow=8.6,SNR=6.7						
PDAR	**Pinedale Array**	**64.66**	**54**	P	**P**	**05 22 18.1**	**+1.4**
	comp=Z,0.8nm,0.8s,mb3.6,baz=108,slow=0.5,SNR=7.6						
NOA	**NORSAR Array B**	**67.70**	**341**	P	**P**	**05 22 36.8**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=0.8,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**68.95**	**199**	P	**P**	**05 22 42.9**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=16,slow=6.7,SNR=4.9						
ASAR	**Alice Springs**	**72.65**	**198**	P	**P**	**05 23 06.8**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=13,slow=4.1,SNR=7.2						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**05 23 35.0**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.8,baz=337,slow=8.2,SNR=3.6						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**05 23 35.0**	**+0.8**
GERES	**GERESS Array B**	**77.94**	**334**	P	**P**	**05 23 35.9**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=4.2						

JMA 18 05:12:13.2±0.3, 2851N×13026E, h27km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.32**	**233**	P	Pb	05 12 20.5	-0.1
JZK				S	Sb	05 12 25.8	+0.1
JAM	**Amami Oshima**	**0.58**	**260**	P	Pb	05 12 24.8	-0.1
JTK	**Tokunoshima**	**1.36**	**238**	P	Pn	05 12 37.4	+1.0
JTK				*e*S	Sn	05 12 53.2	-0.4
JOW	**Kunigami**	**2.43**	**227**	P	Pn	05 12 51.2	+0.1

*NIED **18** 05:12:00, 2850N×13020E, h14km, Mw4.0 Best double couple: M₀1.05000×10¹⁵ NP1:φs215.00000°, δ79.00000°, λ-111.00000°. NP2:φs97.00000°, δ24.00000°, λ-30.00000°.*
*ISCJB **18** 05:12:21.5±1.4, 2843N±006×13028E±0.10, h23km±8km, mb3.5/4, Error ellipse: s-maj=15.0km s-min=9.6km az=46.1*
*JMA **18** 05:12:21.7±0.2, 2850N×13024E, h26km±4km, M3.5*
JMA Felt I J1.
*IDC **18** 05:12:22.3±1.4, 2793N×12948E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/22, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=45.4km s-min=20.7km az=81.0*

ISC 18 05:12:22.7±1.3, 2847N±006×13020E±009, h21km±8km, n11, σ0ᵍ80/14, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.26**	**232**	P	**Pb**	**05 12 28.5**	**-0.2**
JZK				S	**Sb**	**05 12 33.6**	**+0.7**
JAM	**Amami Oshima**	**0.53**	**263**	P	**Pb**	**05 12 32.8**	**-0.5**
JAM				S	**Sb**	**05 12 40.2**	**-0.3**
JTK	**Tokunoshima**	**1.30**	**239**	P	**Pn**	**05 12 45.3**	**-0.3**
JTK				*e*S	**Sn**	**05 13 02.5**	**+0.1**
JNN	**Nakanoshima**	**1.39**	**348**	*e*S	**Sn**	**05 13 04.1**	**-0.5**
JTN	**Tanegashima 3**	**2.27**	**17**	P	**Pn**	**05 12 59.2**	**+0.2**
JOW	**Kunigami**	**2.37**	**227**	Pn	**Pn**	**05 12 50.6**	**-10**
	2.9nm,0.3s,baz=108,slow=19,SNR=9.0						
KSRS	**Korea Array**	**9.16**	**349**	Pn	**Pn**	**05 14 41.0**	**+7.5**
	baz=171,slow=14,SNR=5.1						
SONM	**Songino Array**	**26.73**	**323**	P	**P**	**05 18 04.6**	**+4.0**
	0.7nm,0.7s,mb3.3,baz=137,slow=9.5,SNR=5.2						
WRA	**Warramunga Arr**	**49.30**	**175**	P	**P**	**05 21 02.0**	**-0.4**
	0.5nm,1.0s,mb3.5,baz=354,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**51.96**	**176**	P	**P**	**05 21 29.4**	**-0.8**
	0.4nm,0.5s,mb3.6,baz=10,slow=13,SNR=6.9						
BRTR	**Keskin Array B**	**77.04**	**308**	P	**P**	**05 24 16.4**	**+2.3**
	0.3nm,0.4s,mb3.6,baz=21,slow=8.4,SNR=3.3						

*NEIC **18** 05:13:42.3±0.7, 4790N×15307E, h10km, mb4.2/2, Error ellipse: s-maj=22.8km s-min=16.6km az=174.0*
*ISCJB **18** 05:13:57.5±3.3, 480N±02×1529E±02, h156km±31km, mb3.6/8, Error ellipse: s-maj=29.5km s-min=22.9km az=143.9*
*IDC **18** 05:13:58.6±4.3, 4798N×15288E, h152km±41km, mb3.2/7, mb1 3.6/8, mb1mx3.4/23, mbtmp3.3/8, Error ellipse: s-maj=34.8km s-min=18.8km az=143.0*

ISC 18 05:13:58.6±3.1, 480N±02×1529E±02, h150km±29km, n12, σ0ᵍ73/11, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.13**	**245**	P	**Pn**	**05 15 53.7**	**+0.1**
	6.1nm,0.3s,baz=68,slow=14,SNR=15						
KSRS	**Korea Array**	**21.05**	**249**	P	**P**	05 18 30.4	-0.2
	2.6nm,0.7s,mb3.7,baz=47,slow=11,SNR=8.9						
SONM	**Songino Array**	**30.79**	**287**	P	**P**	05 19 59.9	+0.1
	0.4nm,0.8s,baz=64,slow=9.8,SNR=2.6						
CHKZ	**Chkalovo**	**49.52**	**309**	*e*P	**P**	05 22 32.2	-1.6
	1.8nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**53.15**	**295**	*e*P	**P**	05 23 02.5	+1.7
	2.7nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**62.01**	**63**	P	**P**	05 24 02.6	-0.1
	0.6nm,0.7s,mb3.6,baz=291,slow=7.5,SNR=5.3						
NVAR	**Mina Array Bea**	**62.01**	**63**	P	**P**	**05 24 02.6**	**-0.1**
PDAR	**Pinedale Array**	**64.15**	**54**	P	**P**	**05 24 16.9**	**0.0**
	0.6nm,0.7s,mb3.5,baz=70,slow=1.7,SNR=5.5						
WRA	**Warramunga Arr**	**69.63**	**199**	P	**P**	05 24 51.1	-0.4
	0.3nm,1.0s,mb3.0,baz=15,slow=6.0,SNR=5.1						
ASAR	**Alice Springs**	**73.33**	**198**	P	**P**	05 25 13.9	+0.2
	0.4nm,0.5s,mb3.4,baz=7.4,slow=6.0,SNR=5.1						
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	05 25 35.0	+0.2
	0.7nm,0.6s,mb3.5,baz=289,slow=4.3,SNR=7.5						
CFAA	**Coronel Fontan**	**144.90**	**77**	PKP	PKPdf	05 33 15.8	-1.8
	0.2nm,0.6s,baz=305,slow=4.7						

*BJI **18** 05:26:38.2, 4642N×15393E, h21km, mB5.0, mb4.7, Ms4.3, Msz3.9*
*MOS **18** 05:26:39.1±1.1, 4628N×15398E, h42km, mb4.9/29, Error ellipse: s-maj=8.3km s-min=7.0km az=83.4*
*NEIC **18** 05:26:39.8±2.3, 4626N×154.10E, h31km±16km, mb4.7/43, Error ellipse: s-maj=7.9km s-min=4.8km az=154.0*
*SKHL **18** 05:26:39.1±1.1, 4630N×15420E, h61km±28km, mb5.2/3*
*ISCJB **18** 05:26:39.0±0.2, 4630N±005×154.16E±003, h39km, mb4.6/79, MS4.0/23, Error ellipse: s-maj=7.4km s-min=2.8km az=157.3*
*IDC **18** 05:26:41.1±0.6, 4627N×154.11E, h41km±5km, mb4.1/21, mb1 4.3/22, mb1mx4.3/26, mbtmp4.1/22, ML4.2/1, MS3.9/9, Ms1 4.0/9, ms1mx3.5/32, Error ellipse: s-maj=14.4km s-min=11.6km az=124.0*

ISC 18 05:26:41.3±0.2, 4634N±005×15413E±003, h41km, h41km±3.2km:pP-P, n320, σ0ᵍ88/326, mb4.6/79, MS4.0/23, 61C-69D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.52**	**258**	*e*P	**Pn**	**05 27 42.6**	**-4.6**
KUR				AMB	AMB	05 27 55.0	
	304nm,0.6s						
KUR				*e*S	**Sn**	**05 28 31.0**	**-7.5**
KUR				A		05 28 42.0	
	380nm,0.5s						
KUR				A		05 28 42.0	
	304nm,0.5s						
SKR	**Severo-Kuril's**	**4.54**	**16**	*e*P	**Pn**	**05 27 45.5**	**-2.0**
SKR				AMB	AMB	05 27 49.0	
	80nm,0.5s						
SKR				*e*S	**Sn**	**05 28 34.5**	**-4.5**
SKR				A		05 28 38.5	
	530nm,1.0s						
SKR				A		05 28 38.5	
	990nm,1.0s						
SKR				A		05 28 38.5	
	220nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.28**	**251**	*e*P	**Pn**	**05 28 10.8**	**-0.6**
YUK				AMB	AMB	05 28 11.5	
	180nm,0.4s						
YUK				*e*S	**Sn**	**05 29 17.5**	**-4.4**
YUK				A		05 29 25.7	
	420nm,0.4s						
YUK				A		05 29 25.7	
	150nm,0.5s						
PET	**Petropavlovsk**	**7.30**	**22**	*e*P	**Pn**	**05 28 23.1**	**-2.3**
PET	**Petropavlovsk**	**7.30**	**22**	Pn	**Pn**	**05 28 23.1**	**-2.3**
PET				*e*Sn	**Sn**	**05 29 40.2**	**-6.7**
YSS	**Yuzh-Sakhalins**	**7.85**	**279**	*e*P	**Pn**	**05 28 36.6**	**+3.7**
YSS				*e*S	**Sn**	**05 30 02.0**	**+1.5**
YSS				*e*LQ		05 30 38.0	
YSS				AMS	AMS	05 32 25.0	
	500nm,16.0s						
YSS				AMS	AMS	05 32 25.0	
	500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.85**	**279**	*e*PN	**Pn**	**05 28 36.6**	**+3.7**
YSS				S	**Sn**	**05 30 02.0**	**+1.5**
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.85**	**279**	*e*Pn	**Pn**	**05 28 34.0**	**+1.1**
ASAJ	**Asahikawa**	**8.44**	**259**	P	**Pn**	**05 28 41.4**	**+0.4**
	comp=E,2.9nm,0.3s,baz=76,slow=17,SNR=5.6						
ASAJ	**Asahikawa**	**8.44**	**259**	PN	**Pn**	**05 28 41.4**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**8.99**	**245**	*e*Pn	**Pn**	**05 28 46.1**	**-2.5**
ERM				*e*Sn	**Sn**	**05 30 18.5**	**-10**
KLR	**Kul'dur**	**15.31**	**289**	*e*P	**Pn**	**05 30 13.2**	**-1.2**
MJAR	**Matsushiro Arr**	**15.41**	**236**	P	**Pn**	**05 30 11.7**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=32,slow=11,SNR=12						
MAJO	**Matsushiro**	**15.41**	**236**	*e*P	**Pn**	**05 30 14.2**	**-1.6**
MAT	**Matsushiro**	**15.41**	**236**	P	**Pn**	**05 30 13.0**	**-2.8**
CN2	**Changchun**	**20.37**	**273**	*e*P	**P**	**05 31 14.0**	**-0.4**
CN2				*e*XP	sP	05 31 21.0	-8.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s,MS4.0						
CLNS	**Chul'man**	**20.82**	**311**	*e*P	**P**	**05 31 17.4**	**-1.8**
CLNS				pmax	pmax		
	comp=Z,11nm,1.1s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,400nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,100nm,9.0s						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s						
YAK	**Yakutsk**	**21.04**	**327**	*e*S	**S**	**05 35 15.1**	**+1.5**
YAK				smax			
	comp=E,665nm,4.5s						
YAK				smax			
	comp=Z,604nm,5.6s						
YAK				smax			
	comp=N,543nm,3.6s						
YAK				MLR	MLR		
	comp=Z,183nm,16.0s,MS3.5						
YAK				MLR	MLR		
	comp=N,204nm,17.0s,MS3.6						
YAK				MLR	MLR		
	comp=E,125nm,17.0s,MS3.6						
KSRS	**Korea Array**	**21.36**	**255**	P	**P**	**05 31 25.0**	**0.0**
	comp=E,6.1nm,0.9s,mb4.0,baz=56,slow=10,SNR=16						
SNY	**Shenyang**	**22.33**	**269**	⇓P	**P**	**05 31 33.8**	**-1.6**
SNY				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
SNY				AMB	AMB		
	comp=Z,277nm,3.9s						
SNY				LR	LR		
	comp=E,372nm,13.8s						
SNY				LR	LR		
	comp=Z,305nm,15.0s,MS3.9						
BILL	**Bilibino**	**22.64**	**12**	*e*P	**P**	**05 31 40.1**	**+1.4**
BILL				pmax	pmax		
	comp=Z,46nm,1.3s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
BILL	**Bilibino**	**22.64**	**12**	*e*P	**P**	**05 31 40.3**	**+1.6**
	comp=Z,60nm,1.3s,mb4.9						
HIA	**Hailar**	**23.16**	**290**	*e*P	**P**	**05 31 41.0**	**-3.2**
BOD	**Bodaibo**	**26.79**	**310**	*e*P	**P**	**05 32 14.9**	**-2.5**
BOD				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.2						
CIT	**Chita**	**26.86**	**297**	*e*P	**P**	**05 32 18.1**	**+0.1**
BJI	**Beijing**	**28.18**	**271**	P	**P**	**05 32 30.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.2						
BJI				AMB	AMB		
	comp=Z,267nm,6.1s						
BJI				LR	LR		
	comp=N,361nm,15.2s,MS4.1						
BJI				LR	LR		
	comp=E,208nm,15.2s,MS4.1						
BJI				LR	LR		
	comp=Z,187nm,19.6s,MS3.7						
BJI	**Beijing**	**28.18**	**271**	P	**P**	**05 32 30.8**	**+1.0**
	comp=Z,4.0nm,0.6s,mb4.2						
BJI				S	**S**	**05 37 26.2**	**+14**
BJI				LR	LR		
	comp=Z,190nm,19.6s,MS3.7						
NJ2	**Nanjing**	**30.56**	**255**	*e*P	**P**	**05 32 52.4**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**31.03**	**275**	*e*P	**P**	**05 32 57.0**	**+1.9**
HHC				AP	pP	05 33 02.0	-4.3
HHC				PP	PP	05 33 59.6	-5.9
HHC				PCP	PcP	05 35 51.5	+1.3
HHC				S	**S**	**05 38 00.8**	**+3.6**
HHC				XS	sS	05 38 08.4	-7.5
HHC				SCP	ScP	05 39 34.9	+5.2
HHC				SCS	ScS	05 43 30.8	+4.1
HHC				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,79nm,6.1s						
HHC				LR	LR		
	comp=N,242nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=E,325nm,14.5s,MS4.2						
HHC				LR	LR		
	comp=Z,176nm,13.0s,MS3.9						
ULN	**Ulaanbaatar**	**31.70**	**290**	*e*P	**P**	**05 32 59.4**	**-1.6**
ULN	**Ulaanbaatar**	**31.70**	**290**	*e*P	**P**	**05 33 06.2**	**+5.3**
	comp=Z,1.3nm,0.9s,mb4.8						
SONM	**Songino Array**	**32.13**	**290**	P	**P**	**05 33 03.7**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=68,slow=8.3,SNR=9.7						
SONM				LR	LR	05 47 56.2	
	comp=Z,152nm,19.6s,MS3.7,baz=352,slow=40						
ZAK	**Zakamensk**	**33.49**	**296**	*e*P	**P**	**05 33 13.8**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KDAK	**Kodiak Island**	**33.82**	**50**	P	**P**	**05 33 18.5**	**-1.0**
	comp=Z,12nm,0.8s,mb4.9,baz=310,slow=10.0,SNR=7.6						
KDAK	**Kodiak Island**	**33.82**	**50**	*e*P	**P**	**05 33 18.5**	**-1.0**
	comp=Z,16nm,0.6s,mb5.1						
PMR	**Palmer**	**35.41**	**44**	*e*P	**P**	**05 33 33.1**	**-0.1**
PMR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
PMR	**Palmer**	**35.41**	**44**	*e*P	**P**	**05 33 33.1**	**-0.1**
	comp=Z,7.4nm,0.9s,mb4.6						
COLA	**College**	**36.02**	**38**	*e*P	**P**	**05 33 39.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**36.02**	**38**	*e*P	**P**	**05 33 39.0**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9						
XAN	**Xi'an**	**36.19**	**267**	P	**P**	**05 33 40.3**	**+0.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**38.61**	**273**	P	**P**	**05 34 02.0**	**+1.6**
LZH				PP	PP	05 35 35.0	+5.8
LZH				*e*S	**S**	**05 39 56.0**	**+2.2**
LZH				XS	sS	05 40 12.0	-0.7
LZH				*e*SS	SS	05 42 38.0	-6.8
LZH				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,180nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,14.3s						
LZH	**Lanzhou**	**38.61**	**273**	P	**P**	**05 34 02.0**	**+1.6**
LZH				*PP	pP	05 34 13.6	+1.8
LZH				*SP	sP	05 34 23.4	+6.8
LZH						05 35 35.0	
LZH				*e*S	**S**	**05 39 56.0**	**+2.2**
LZH				*SS	sS	05 40 12.0	-0.7
LZH				*e*SS	SS	05 42 38.0	-6.8
LZH				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,15.8s,MS5.0						
LZH	**Lanzhou**	**38.61**	**273**	P	**P**	**05 34 02.0**	**+1.6**
	comp=Z,70nm,1.3s,mb5.2						
LZH				pP	pP	05 34 13.6	+1.8
LZH				sP	sP	05 34 23.4	+6.8
LZH				PP	PP	05 35 35.0	+5.8
LZH				*e*S	**S**	**05 39 56.0**	**+2.2**
LZH				sS	sS	05 40 12.0	-0.7
LZH				*e*SS	SS	05 42 38.0	-6.8
LZH				LR	LR		
	comp=Z,2μm,15.8s,MS5.0						
EGAK	**Eagle**	**38.89**	**38**	*e*P	**P**	**05 34 02.2**	**-0.5**
	comp=Z,16nm,0.9s,mb4.8						
DAWY	**Dawson**	**39.71**	**39**	*e*P	**P**	**05 34 10.3**	**+0.6**
GTA	**Gaotai**	**39.73**	**280**	⇑P	**P**	**05 34 11.5**	**+1.7**
GTA				AP	pP	05 34 19.1	-2.1
GTA				XP	sP	05 34 23.0	-3.0
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,117nm,3.8s						
CD2	**Chengdu**	**41.55**	**266**	*e*P	**P**	**05 34 24.8**	**0.0**

comp=Z,480nm,16.8s,MS4.5
ZAL Zalesovo 43.43 306 P **P** 05 34 39.2 -0.9
comp=Z,1.5nm,0.5s,mb4.0,baz=20,slow=8.7,SNR=4.8
ZAL pP pP 05 34 50.0 -1.6
comp=Z,1.4nm,0.4s,baz=54,slow=9.9,SNR=3.0
ZAL Zalesovo 43.43 306 P **P** **05 34 39.2 -0.9**
ZAL pP pP 05 34 50.0 -1.6
WMQ Urumqi 45.73 292⇑*i*P **P** **05 35 00.4 +2.0**
WMQ AP pP 05 35 07.4 -7.4
WMQ XP sP 05 35 07.4 -7.4
WMQ PCP PcP 05 36 38.4 +2.7
WMQ PP PP 05 36 47.9 +1.9
WMQ PPP 05 37 31.4
WMQ SCP ScP 05 40 30.1 +4.7
WMQ S **S** **05 41 42.4 +3.6**
WMQ XS sS 05 41 49.6 -8.4
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,156nm,4.5s
WMQ LR LR
comp=N,107nm,17.6s,MS4.0
WMQ LR LR
comp=E,107nm,16.4s,MS4.0
WMQ LR LR
comp=Z,101nm,19.0s,MS3.8
KMI Kunming 45.86 261 P **P** **05 34 59.8 +0.3**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI LR LR
comp=Z,28nm,15.7s,MS3.3
KMI Kunming 45.86 261 P **P** **05 34 59.7 +0.2**
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KMI MLR MLR
comp=Z,30nm,15.7s,MS3.3
KMI Kunming 45.86 261 P **P** **05 34 59.7 +0.2**
comp=Z,10.0nm,0.9s,mb4.8
KMI LR LR
comp=Z,30nm,15.7s,MS3.3
MKAR Makanchi Array 47.75 298 P **P** **05 35 13.3 -0.9**
comp=Z,5.0nm,0.7s,mb4.6,baz=66,slow=6.9,SNR=38
MKAR pP pP 05 35 25.4 -0.5
comp=Z,2.0nm,0.5s,baz=71,slow=8.0,SNR=7.3
YKA Yellowknife Ar 50.83 37 P **P** **05 35 36.9 -0.8**
comp=Z,2.3nm,0.9s,mb4.1,baz=297,slow=6.4,SNR=3.1
YKA Yellowknife Ar 50.83 37 P **P** **05 35 36.9 -0.8**
LSA Lhasa 51.00 274 P **P** **05 35 42.3 +3.3**
LSA Lhasa 51.00 274 *e*P **P** **05 35 42.3 +3.3**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 51.00 274 *e*P **P** **05 35 42.3 +3.3**
comp=Z,9.5nm,0.6s,mb4.9
RES Resolute Bay 51.00 19 *e*P **P** **05 35 39.8 +0.8**
RES pmax pmax
comp=Z,372nm,0.9s
RES Resolute Bay 51.00 19 *e*P **P** **05 35 39.8 +0.8**
comp=Z,372nm,0.9s
CHKZ Chkalovo 51.23 311 *e*P **P** **05 35 39.8 -0.9**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CHKZ Chkalovo 51.23 311 *e*P **P** **05 35 39.8 -1.0**
comp=Z,7.5nm,0.6s,mb4.8
BVAR Borovoye Array 51.66 310 LR LR 06 00 11.4
comp=Z,195nm,18.3s,MS4.2,baz=320,slow=39
BRVK Borovoye 51.70 310 *e*P **P** **05 35 43.9 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.70 310 *e*P **P** **05 35 43.9 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
ZRNK Zerenda 52.43 310 *e*P **P** **05 35 49.4 -0.3**
CHTO Chiang Mai 52.71 258 *e*P **P** **05 35 50.6 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CHTO Chiang Mai 52.71 258 *e*P **P** **05 35 50.6 -1.1**
comp=Z,3.2nm,0.7s,mb4.4
A07A Ashnola River, 54.62 54⇑P **P** **05 36 05.6 -0.2**
baz=54
AAK Ala-Archa 54.64 297 *e*P **P** **05 36 05.7 -0.2**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
AAK Ala-Archa 54.64 297 *e*P **P** **05 36 05.7 -0.2**
comp=Z,8.1nm,0.8s,mb4.8
A08A Turner Farm, O 55.29 53⇓P **P** **05 36 11.4 +0.8**
baz=55
KSH Kashi 55.46 293 *e*P **P** **05 36 16.8 +5.0**
KSH *e*AP pP 05 36 21.4 -2.2
KSH *e*XP sP 05 36 23.5 -4.9
KSH *e*PCP PcP 05 37 17.1 +5.5
KSH *e*PP PP 05 38 22.3 +6.4
KSH *e*PPP 05 39 36.6
KSH *e*SCP ScP 05 41 13.8 +6.7
KSH *e*S **S** **05 44 01.8 +8.0**
KSH *e*XS sS 05 44 10.4 -3.0
KSH *e*PS 05 44 20.8
KSH *e*SCS ScS 05 46 01.8 +4.2
C07A Waterville 55.54 55⇓P **P** **05 36 11.3 -1.1**
baz=55
B08A Colville Reser 55.58 54⇑P **P** **05 36 11.3 -1.4**
baz=55
A09A Danville 55.66 53⇓P **P** **05 36 13.1 -0.2**
baz=56
JIRN Jiri 55.68 276 *e*P **P** **05 36 14.9 +1.5**
GUN Gumba 55.74 276 *e*P **P** **05 36 15.9 +2.1**
comp=Z,28nm,0.7s,mb5.4
ARU Arti 55.78 318⇓*i*P **P** **05 36 13.9 -0.2**
ARU *e*S **S** **05 44 02.4 +4.2**
ARU pmax pmax
comp=Z,18nm,0.8s,mb5.2
ARU Arti 55.78 318 *e*P **P** **05 36 13.8 -0.4**
comp=Z,14nm,0.7s,mb5.1
J02A Umpqua 55.87 61⇑P **P** **05 36 14.9 +0.2**
baz=56
C08A Higginbotham F 56.06 54⇓P **P** **05 36 15.9 -0.2**
baz=56
EDM Edmonton 56.09 46 *e*P **P** **05 36 16.5 +0.2**
G05A Wamic 56.16 58⇑P **P** **05 36 16.1 -0.8**
baz=56
KKN Kakani 56.23 276 *e*P **P** **05 36 18.6 +1.3**
comp=Z,28nm,0.7s,mb5.4
J03A Ideyld Park 56.23 61⇑P **P** **05 36 19.0 +1.7**
baz=56
PKI Pulchoki 56.27 276 *e*P **P** **05 36 19.0 +1.4**
I04A Tendick Farm, 56.33 60⇑P **P** **05 36 17.2 -0.8**
baz=56
DMN Daman 56.46 276 *e*P **P** **05 36 20.8 +1.8**
comp=Z,57nm,0.9s,mb5.6
C09A Chrisman Ranch 56.48 54⇓P **P** **05 36 18.3 -0.8**
baz=56
L02A Cave Junction 56.53 62⇓P **P** **05 36 19.3 -0.1**
baz=56
D08A Wollman Farm, 56.53 55⇓P **P** **05 36 18.4 -1.1**
baz=56
GKN Gorkha 56.53 277 *e*P **P** **05 36 21.1 +1.6**
comp=Z,21nm,0.4s,mb5.5
G06A Carlson Farm, 56.57 58⇑P **P** **05 36 19.3 -0.5**
baz=56
J04A Umpqua Nationa 56.82 60⇑P **P** **05 36 21.4 -0.1**
baz=57
H06A Lindquist Farm 57.03 58⇓P **P** **05 36 22.8 -0.1**
baz=57
E09A Wood Farm, Sta 57.28 55⇓P **P** **05 36 24.3 -0.5**
baz=57
J05A Fort Rock 57.32 60⇑P **P** **05 36 24.9 -0.1**
baz=57
YBH Yreka Blue Hor 57.32 62⇑P **P** **05 36 25.5 +0.5**
baz=57
KOLN Koldanda 57.39 277 *e*P **P** **05 36 27.1 +1.5**
comp=Z,35nm,0.9s,mb5.4
G08A Pilot Rock 57.51 57⇑P **P** **05 36 26.3 -0.1**
baz=57
I06A Prineville 57.55 59⇑P **P** **05 36 26.9 +0.2**
baz=57
L04A Klamath Falls 57.56 61⇓P **P** **05 36 26.3 -0.4**
baz=57
B12A Libby 57.59 52⇓P **P** **05 36 26.5 -0.5**
baz=57
M04C Macdoel 57.82 62⇑P **P** **05 36 28.5 -0.1**
baz=58
K05A Summer Lake 57.84 60⇑P **P** **05 36 28.0 -0.7**
baz=58
F09A S2 Ranch, Elgi 57.88 56⇑P **P** **05 36 29.4 +0.5**
baz=58
E10A Myers Farm, Un 57.88 55⇓P **P** **05 36 29.2 +0.2**
baz=58
M03C McCloud 57.94 62⇑P **P** **05 36 29.3 -0.1**
baz=58
KEV Kevo 57.96 341 *e*p **P** **05 36 27.9 -1.6**
comp=Z,2.2nm,0.5s,mb4.4
KEV Kevo 57.96 341 *e*P **P** **05 36 27.9 -1.6**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
D11A Klaveano Farm, 57.99 54⇓P **P** **05 36 29.3 -0.4**
baz=58
C12A Trout Creek 58.09 53⇑P **P** **05 36 30.3 -0.1**
baz=58
WDC Whiskeytown Da 58.09 63⇑P **P** **05 36 31.0 +0.5**
baz=58
F10A Beach Ranch, E 58.11 55⇓P **P** **05 36 29.9 -0.7**
baz=58
H08A Prairie City 58.12 57⇑P **P** **05 36 29.3 -1.4**
baz=58
K06A Valley Falls 58.19 60⇓P **P** **05 36 31.0 -0.1**
baz=58
B13A Whitefish 58.26 52⇓P **P** **05 36 31.2 -0.4**
baz=58
L05A Lakeview 58.28 61⇑P **P** **05 36 31.7 -0.1**
baz=58
ARCES ARCESS Array B 58.47 341 P **P** **05 36 32.7 -0.4**
comp=Z,7.3nm,0.9s,mb4.7,baz=42,slow=8.2,SNR=13
M05C Lookout 58.49 62⇓P **P** **05 36 32.8 -0.4**
baz=58
GASB Alder Springs 58.53 64⇓P **P** **05 36 32.5 -1.0**
baz=58
I08A Drewsey 58.54 58⇓P **P** **05 36 33.2 -0.4**
baz=58
C13A Hot Springs 58.60 52⇓P **P** **05 36 33.6 -0.4**
baz=58
H09A Durkee 58.62 57⇑P **P** **05 36 34.4 +0.2**
baz=58
MOD Modoc 58.68 61 *e*P **P** **05 36 34.4 -0.2**
comp=Z,2.1nm,0.8s,mb4.2
MOD Modoc 58.68 61⇑P **P** **05 36 34.8 +0.2**
baz=58
BMO Blue Mountains 58.72 56 *e*P **P** **05 36 34.9 +0.1**
comp=Z,2.1nm,0.9s,mb4.2
F11A Grangeville 58.77 55⇑P **P** **05 36 34.8 -0.4**
baz=59
K07A Rock Creek Ran 58.85 59⇑P **P** **05 36 35.4 -0.4**
baz=59
J08A Circle Bar Ran 58.92 58⇓P **P** **05 36 36.4 +0.2**
baz=59
I09A Lost Marbles R 58.98 57⇓P **P** **05 36 36.9 +0.2**
baz=59
M06C Likely Place G 58.99 61⇑P **P** **05 36 36.3 -0.4**
baz=59
G11A Walters Elk Ra 58.99 55⇓P **P** **05 36 36.0 -0.7**
baz=59
C14A Swan Lake 59.00 52⇓P **P** **05 36 37.0 +0.2**
baz=59
D13A Huson 59.01 53⇑P **P** **05 36 35.8 -1.0**
baz=59
O04C Chester 59.14 62⇓P **P** **05 36 38.0 +0.2**
baz=59
L07A Adell 59.19 60⇑P **P** **05 36 37.4 -0.7**
baz=59
K08A Mann Creek Ran 59.28 59 P **P** **05 36 39.5 +0.7**
baz=59,SNR=5.1
ORV Oroville 59.34 63⇑P **P** **05 36 39.1 -0.1**
baz=59
J09A Fry Pan Ranch, 59.35 58⇓P **P** **05 36 39.1 -0.1**
baz=59
F12A Elk City 59.36 54 P **P** **05 36 40.1 +0.8**
baz=59,SNR=5.7
WVOR Wild Horse Val 59.37 59 *e*P **P** **05 36 39.2 -0.1**
WVOR pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
WVOR Wild Horse Val 59.37 59 *e*P **P** **05 36 39.2 -0.1**
comp=Z,2.7nm,1.0s,mb4.2
O05C Quincy 59.46 63⇓P **P** **05 36 39.6 -0.4**
baz=59
I10A Payette 59.46 57⇑P **P** **05 36 40.2 +0.2**
baz=59
AKTO Aktyubinsk 59.52 312 LR LR 06 05 29.1
comp=Z,255nm,18.0s,MS4.4,baz=239,slow=39
D14A Greenough 59.54 52 P **P** **05 36 40.7 +0.2**
baz=59,SNR=7.0
E13A Victor 59.55 53⇑P **P** **05 36 40.8 +0.2**
baz=59
H11A Donnelly 59.55 56 P **P** **05 36 40.8 +0.2**
baz=59,SNR=5.4
N06A Buffalo Meadow 59.65 61⇓P **P** **05 36 40.9 -0.4**
baz=60
L08A Fields 59.69 59⇓P **P** **05 36 42.1 +0.5**
baz=60
CHMT Chamberlain Mo 59.78 52 *e*P **P** **05 36 41.9 -0.3**
F13A Darby 59.85 54 P **P** **05 36 43.0 +0.3**
baz=60,SNR=5.3
BEKR Beckwourth 59.86 63⇑P **P** **05 36 42.7 -0.1**
baz=60
E14A Clinton 59.95 53⇓P **P** **05 36 43.2 -0.1**
baz=60
O06A Flanigan 60.00 62⇓P **P** **05 36 44.0 +0.2**
baz=60
D15A Lincoln 60.10 52⇑P **P** **05 36 44.6 +0.2**
baz=60
LAVA Lava Cap Winer 60.29 64⇑P **P** **05 36 45.7 0.0**
baz=60
E15A Deer Lodge 60.41 53⇑P **P** **05 36 46.4 -0.1**
baz=60
WCN Washoe City 60.57 63⇓P **P** **05 36 47.5 0.0**
baz=60
O07A Toulon 60.59 61⇓P **P** **05 36 47.6 -0.1**
baz=60
M09A Marrel Ranch, 60.68 60⇓P **P** **05 36 48.0 -0.4**
baz=60
R05C Kirkwood Meado 60.74 63⇓P **P** **05 36 49.0 +0.3**
baz=61
F15A Butte 60.85 53 P **P** **05 36 50.2 +0.7**
baz=61,SNR=6.7
LRM Limekiln Ridge 60.88 53 *e*P **P** **05 36 50.5 +0.8**
CMB Columbia Colle 60.95 64 *e*P **P** **05 36 50.3 +0.1**
CMB pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
CMB Columbia Colle 60.95 64 *e*P **P** **05 36 50.3 +0.1**
comp=Z,2.0nm,0.7s,mb4.4
CMB Columbia Colle 60.95 64⇓P **P** **05 36 50.2 0.0**
baz=61
N09A Rock Creek Ran 60.98 60⇓P **P** **05 36 50.7 +0.3**
baz=61
EGMT Eagleton 60.99 50⇓P **P** **05 36 51.0 +0.5**
baz=61
HLID Hailey 61.16 56 *e*P **P** **05 36 51.6 0.0**
comp=Z,3.3nm,1.1s,mb4.4
HLID Hailey 61.16 56⇑P **P** **05 36 51.5 -0.1**
baz=61
M10A I.L. Ranch, Tu 61.16 59⇓P **P** **05 36 51.9 +0.3**
baz=61
R06C Coleville 61.23 63⇓P **P** **05 36 53.0 +0.9**
baz=61
G15A Dillon 61.26 54 P **P** **05 36 52.7 +0.4**
baz=61,SNR=5.9
S06C San Francisco 61.38 64⇑P **P** **05 36 52.8 -0.3**
baz=61
O09A Fish Creek Ran 61.60 61⇑P **P** **05 36 55.5 +0.9**
baz=61
M11A Holland Ranch, 61.66 59⇓P **P** **05 36 55.3 +0.3**
baz=62
R07C Lee Vining 61.75 63⇑P **P** **05 36 56.8 +1.2**
baz=62
Q08A Gabbs 61.96 62 P **P** **05 36 57.5 +0.5**
baz=62,SNR=5.5
NVAR Mina Array Bea 62.00 63 P **P** **05 36 57.7 +0.5**
comp=Z,2.5nm,0.7s,mb4.4,baz=297,slow=8.0,SNR=15
QLMT Earthquake Lak 62.06 53 *e*P **P** **05 36 56.7 -1.0**
M12A Wells 62.19 58⇑P **P** **05 36 59.7 +1.2**
baz=62
P10A Eureka 62.38 61⇓P **P** **05 37 00.1 +0.3**
baz=62
GCMT Greycliff 62.43 52 *e*P **P** **05 37 01.1 +0.9**
N12A Clover Valley, 62.47 59⇓P **P** **05 37 00.4 0.0**
baz=62
O11A Cowboy Ranch, 62.55 60⇓P **P** **05 37 01.2 +0.3**
baz=62
V05C Boulder Hill, 62.60 66⇓P **P** **05 37 01.6 +0.4**
baz=62
HELL Mitchell Peak, 62.64 65 P **P** **05 37 01.5 0.0**
baz=62,SNR=5.3
S08C White Mtn Res 62.66 63⇑P **P** **05 37 01.7 0.0**
baz=62
M13A Montello 62.66 58⇑P **P** **05 37 01.7 0.0**
baz=62
R09A Tonopah 62.88 62 P **P** **05 37 03.2 +0.1**
baz=63,SNR=9.1
N13A Wendover, West 62.96 58⇓P **P** **05 37 03.9 +0.3**
baz=63
O12A Currie 63.01 59 P **P** **05 37 04.5 +0.5**
baz=63,SNR=5.5
RRI2 Red Ridge 63.05 55 *e*P **P** **05 37 05.8 +1.5**
comp=Z,9.0nm,0.8s,mb5.0
MOOW Moose Ponds 63.12 54 *e*P **P** **05 37 05.8 +1.1**
comp=Z,6.7nm,1.2s,mb4.7
HVU Hansel Valley 63.21 57 *e*P **P** **05 37 05.7 +0.4**
HVU pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
HVU Hansel Valley 63.21 57 *e*P **P** **05 37 05.7 +0.4**
comp=Z,5.2nm,1.0s,mb4.6
LOHW Long Hollow 63.29 54 *e*P **P** **05 37 07.2 +1.4**
REDW Red Top Meadow 63.31 54 *e*P **P** **05 37 06.9 +0.9**
R10A Warm Springs 63.31 62⇑P **P** **05 37 06.3 +0.3**
baz=63
Q11A Duckwater 63.36 61⇑P **P** **05 37 06.0 -0.3**
baz=63
P12A McGill 63.41 60⇑P **P** **05 37 05.7 -0.9**
baz=63
GRAC Grapevine Rang 63.47 63⇑P **P** **05 37 08.4 +1.3**
baz=63
LAO LASA Array 63.70 49 *e*P **P** **05 37 09.3 +0.8**
comp=Z,8.8nm,1.1s,mb4.7
Q12A Willow Creek R 63.73 60⇓P **P** **05 37 08.5 -0.3**
baz=64
MPMC Manual Prospec 63.99 64⇓P **P** **05 37 10.0 -0.5**
baz=64
HWUT Hardware Ranch 64.02 56 *e*P **P** **05 37 11.5 +0.9**
comp=Z,4.7nm,1.1s,mb4.4
FURC Furnace Creek, 64.12 64 P **P** **05 37 11.9 +0.5**
baz=64,SNR=5.7
DUG Dugway 64.20 58 *e*P **P** **05 37 12.7 +0.9**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DUG Dugway 64.20 58 *e*P **P** **05 37 12.7 +0.8**
comp=Z,5.4nm,0.9s,mb4.6
DUG Dugway 64.20 58⇓P **P** **05 37 12.1 +0.3**
baz=64
BW06 Boulder Array 64.42 54 *e*P **P** **05 37 13.4 +0.1**
comp=Z,3.4nm,0.9s,mb4.4
PDAR Pinedale Array 64.42 54 P **P** **05 37 13.4 +0.2**
comp=Z,2.9nm,0.8s,mb4.3,baz=286,slow=2.4,SNR=22
EDW2 Edwards Air Fo 64.43 66⇓P **P** **05 37 13.1 -0.2**
baz=64
U10A Ash Meadows, A 64.48 63⇓P **P** **05 37 14.1 +0.4**
baz=64
FIA1 FINESS Array S 64.70 335 *e*P **P** **05 37 16.2 +1.1**
FINES FINESS Array B 64.70 335 P **P** **05 37 14.7 -0.5**
comp=Z,3.3nm,0.5s,mb4.6,baz=39,slow=7.3,SNR=34
FINES pP pP 05 37 26.6 -0.6
comp=Z,4.0nm,0.6s,baz=35,slow=7.9,SNR=4.8
FINES LR LR 06 08 34.3
comp=Z,115nm,18.7s,MS4.1,baz=344,slow=39
FINES FINESS Array B 64.70 335 P **P** **05 37 14.7 -0.5**
FINES *PP pP 05 37 26.6 -0.6
NLU North Lily Min 64.78 58 *e*P **P** **05 37 16.1 +0.4**
GSC Goldstone 64.91 65⇓P **P** **05 37 16.2 -0.2**
baz=65
MPU Maple Canyon 65.00 58 *e*P **P** **05 37 17.6 +0.5**
comp=Z,6.1nm,0.9s,mb4.6
SHPR Sheep Range 65.15 63 *e*P **P** **05 37 18.7 +0.6**
TUQ Turquoise Mtn. 65.37 64⇓P **P** **05 37 19.6 +0.1**
baz=65
ARUT Antelope Range 65.37 61 *e*P **P** **05 37 19.7 +0.2**
V11A Goodsprings 65.42 63⇑P **P** **05 37 19.9 +0.1**
baz=65
HEC Hector,Ludlow 65.51 65⇑P **P** **05 37 20.4 +0.1**
baz=65
TMUT Trail Mountain 65.72 58 *e*P **P** **05 37 22.2 +0.4**
V12A Nelson 65.85 63⇓P **P** **05 37 22.3 -0.2**
baz=66
OBN Obninsk 66.04 326⇑*e*P **P** **05 37 22.6 -1.2**
OBN *e* 05 39 49.4
OBN *e*S S 05 46 05.8 -3.0
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
SRU San Rafael 66.24 58 *e*P **P** **05 37 25.7 +0.6**
BELC Belle Mtn. 66.25 65⇑P **P** **05 37 25.0 -0.2**
baz=66
ULM Lac du Bonnet 66.37 41 P **P** **05 37 25.6 -0.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=322,slow=15,SNR=3.8
RSSD Black Hills 66.55 50 *e*P **P** **05 37 26.6 -0.4**
RSSD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
RSSD Black Hills 66.55 50 *e*P **P** **05 37 26.6 -0.5**
comp=Z,4.8nm,1.0s,mb4.5
IRM Iron Mountain 66.68 65⇑P **P** **05 37 27.5 -0.4**
baz=66
BC3 Big Chuckw Mtn 66.82 65⇓P **P** **05 37 28.3 -0.5**
baz=67
X13A Yucca 67.22 63⇓P **P** **05 37 30.8 -0.5**
baz=67
PDMCI Parker Dam,Lak 67.22 64⇑P **P** **05 37 30.5 -0.8**
baz=67
W14A Seligman 67.27 62 P **P** **05 37 32.4 +0.7**
baz=67,SNR=8.2
Y12C Blythe 67.34 65⇓P **P** **05 37 31.3 -0.8**
baz=67
PV10 Paradox Valley 67.60 58 *e*P **P** **05 37 34.3 +0.6**
GLA Glamis 67.61 65 *e*P **P** **05 37 34.2 +0.4**
GLA Glamis 67.61 65⇓P **P** **05 37 33.7 -0.1**
baz=67
AGMN Agassiz Refuge 67.76 43 *e*P **P** **05 37 33.9 -0.8**
comp=Z,3.4nm,0.8s,mb4.4
W15A Williams 67.80 62⇓P **P** **05 37 35.1 +0.1**
baz=68
X14A Yava 67.88 63 P **P** **05 37 36.1 +0.7**
baz=68,SNR=5.4
PV01 Paradox Valley 68.03 58 *e*P **P** **05 37 36.9 +0.4**
WUAZ Wupatki 68.11 61⇑P **P** **05 37 36.5 -0.5**
baz=68
Y14A Wickenburg 68.16 63⇓P **P** **05 37 37.4 +0.2**
baz=68
X15A Humboldt 68.27 63 P **P** **05 37 39.0 +1.1**
baz=68,SNR=7.8
WRAB Tennant Creek 68.35 200 *e*P **P** **05 37 37.5 -0.9**
WB2 Warramunga Arr 68.36 200 *e*P **P** **05 37 37.5 -1.0**
WRA Warramunga Arr 68.36 200 P **P** **05 37 37.2 -1.3**
comp=Z,8.7nm,1.0s,mb4.8,baz=17,slow=6.5,SNR=32
WRA pP pP 05 37 48.9 -1.7
comp=Z,3.8nm,0.8s,baz=19,slow=6.9,SNR=6.9
ISCO Idaho Springs 68.61 55 *e*P **P** **05 37 41.0 +1.0**
ISCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ISCO Idaho Springs 68.61 55 *e*P **P** **05 37 41.0 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
MVCO Mesa Verde 68.70 58 *e*P **P** **05 37 40.9 +0.2**
comp=Z,4.3nm,0.8s,mb4.4
MVCO Mesa Verde 68.70 58⇑P **P** **05 37 40.7 +0.1**
baz=68
NB2 NORSAR Subarra 68.84 342 P **P** **05 37 41.5 0.0**
comp=Z,11nm,0.8s,mb4.8,baz=29,slow=6.5
NOA NORSAR Array B 68.84 342 P **P** **05 37 41.4 -0.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=27,slow=6.4,SNR=9.4
NOA LR LR 06 16 41.1
comp=Z,89nm,18.5s,MS4.0,baz=165,slow=44
FITZ Fitzroy Crossi 69.12 209 *e*P **P** **05 37 43.0 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
FITZ Fitzroy Crossi 69.12 209 P **P** **05 37 43.1 -0.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=6.6
ANMO Albuquerque 71.45 59 *e*P **P** **05 37 58.2 +0.8**
KIV Kislovodsk 71.58 315⇑*e*P **P** **05 37 59.4 +1.1**
KIV *e* 05 40 36.3
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
AS31 Alice Springs 72.05 199 *e*P **P** **05 38 00.6 -0.4**
ASAR Alice Springs 72.05 199 P **P** **05 38 01.1 0.0**
comp=Z,7.1nm,0.9s,mb4.6,baz=12,slow=5.2,SNR=55
AKASG Malin Array Be 72.27 327 P **P** **05 38 01.9 -0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=34,slow=6.2,SNR=8.4
AKASG pP pP 05 38 15.0 +0.4
comp=Z,1.4nm,0.4s,baz=35,slow=6.2,SNR=6.9
GNI Garni 73.33 311 LR LR 06 10 40.8
comp=Z,44nm,21.0s,MS3.7,baz=356,slow=36
GNI Garni 73.33 311 *e*P **P** **05 38 08.0 -0.7**
GNI pmax pmax
comp=Z,15nm,1.3s
MNTX Cornudas Mount 74.36 61 *e*P **P** **05 38 14.5 -0.2**
comp=Z,10nm,1.8s,mb4.5
KWP Kalwaria 75.53 330 *e*P **P** **05 38 22.4 +0.9**
KWP pmax pmax

	comp=Z,28nm,1.1s,mb5.1								
KWP	**Kalwaria**	**75.53**	**330**	*e*P		**P**	**05 38 22.4**	**+0.9**
	comp=Z,28nm,1.1s,mb5.1								
BURAR	**Bucovina Array**	**76.31**	**327**	*i*P		**P**	**05 38 28.6**	**+2.7**
LTX	**Lajitas**	**77.08**	**61**	*e*P		**P**	**05 38 30.5**	**+0.3**
LTX				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
LTX	**Lajitas**	**77.08**	**61**	*e*P		**P**	**05 38 30.5**	**+0.2**
	comp=Z,6.3nm,0.8s,mb4.6								
TXAR	**Lajitas Array**	**77.08**	**61**	P		**P**	**05 38 30.4**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.5,baz=302,slow=4.1,SNR=53								
CLL	**Collm**	**77.12**	**336**	*e*P		**P**	**05 38 29.0**	**-1.5**
CLL				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5								
CLL	**Collm**	**77.12**	**336**	*e*P		**P**	**05 38 29.0**	**-1.5**
	comp=Z,7.0nm,1.0s,mb4.5								
CLL				*e*pPcP			05 38 50.0		
MORC	**Moravsky Berou**	**77.12**	**333**	*i*P		**P**	**05 38 30.5**	**0.0**
MORC	**Moravsky Berou**	**77.12**	**333**	⇓P		**P**	**05 38 30.5**	**0.0**
MLR	**Muntele Rosu**	**77.80**	**326**	*i*P		**P**	**05 38 35.7**	**+1.4**
MLR	**Muntele Rosu**	**77.80**	**326**	⇓P		**P**	**05 38 35.7**	**+1.4**
PSZ	**Piszkesteto**	**77.96**	**330**	*i*P		**P**	**05 38 34.2**	**-1.0**
VOIR		**78.19**	**326**	⇑P		**P**	**05 38 37.4**	**+1.0**
VOIR		**78.19**	**326**	⇑P		**P**	**05 38 37.4**	**+1.0**
STKA	**Stephens Creek**	**78.68**	**191**	P		**P**	**05 38 38.0**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=322,slow=4.5,SNR=3.1								
KHC	**Kasperske Hory**	**78.91**	**335**	*e*P		**P**	**05 38 39.8**	**-0.6**
GERES	**GERESS Array B**	**79.13**	**335**	P		**P**	**05 38 41.9**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=28,slow=6.0,SNR=6.2								
GERES				LR		LR	06 17 44.2		
	comp=Z,94nm,18.4s,MS4.2,baz=268,slow=39								
BRTR	**Keskin Array B**	**79.17**	**317**	P		**P**	**05 38 42.5**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=65,slow=3.7,SNR=8.1								
BRTR				pP		pP	05 38 55.9	+1.7	
	comp=Z,1.6nm,0.8s,baz=98,slow=2.5,SNR=5.1								
BZS	**Buzias**	**79.33**	**328**	⇑*i*P		**P**	**05 38 43.3**	**+0.6**
BZS	**Buzias**	**79.33**	**328**	⇑P		**P**	**05 38 43.3**	**+0.6**
MEM	**Membach**	**79.57**	**340**	AP		pP	05 38 49.2	-7.2
MEM				XP		sP	05 38 51.8	-9.2
BCLA	**Clavier**	**79.91**	**340**	P		**P**	**05 38 45.6**	**-0.3**
BCLA				AP		pP	05 38 50.4	-7.8
BCLA				XP		sP	05 38 53.1	-10
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**05 38 51.0**	**-2.3**
	comp=Z,25nm,1.2s,mb4.7								
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**05 38 51.0**	**-2.3**
CDF				pmax	pmax				
	comp=Z,13nm,1.2s,mb4.7								
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**05 38 51.0**	**-2.3**
	comp=Z,13nm,1.2s,mb4.7								
PPT	**Papeete**	**81.35**	**127**	LR		LR	06 05 15.0		
	comp=Z,94nm,21.5s,MS4.1,baz=331,slow=28								
GRR	**Gorron**	**83.16**	**344**	*e*P		**P**	**05 39 00.8**	**-2.2**
	comp=Z,33nm,1.1s,mb5.0								
GRR	**Gorron**	**83.16**	**344**	*e*P		**P**	**05 39 00.8**	**-2.2**
GRR				pmax	pmax				
	comp=Z,17nm,1.1s,mb5.0								
GRR	**Gorron**	**83.16**	**344**	*e*P		**P**	**05 39 00.8**	**-2.2**
	comp=Z,17nm,1.1s,mb5.0								
ASF	**Jabal al Asfar**	**83.49**	**311**	LR		LR	06 16 46.4		
	comp=Z,23nm,20.8s,MS3.5,baz=162,slow=36								
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**05 39 03.8**	**-2.5**
	comp=Z,36nm,1.1s,mb5.1								
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**05 39 03.8**	**-2.5**
SMF				pmax	pmax				
	comp=Z,18nm,1.1s,mb5.1								
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**05 39 03.8**	**-2.5**
	comp=Z,18nm,1.1s,mb5.1								
LPG	**La Plagne**	**84.13**	**338**	*e*P		**P**	**05 39 06.9**	**-1.1**
	comp=Z,11nm,0.8s,mb4.8								
LPG	**La Plagne**	**84.13**	**338**	*e*P		**P**	**05 39 06.9**	**-1.1**
LPG				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.8								
LPG	**La Plagne**	**84.13**	**338**	*e*P		**P**	**05 39 06.9**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.8								
CAF	**Calviac**	**85.83**	**341**	*e*P		**P**	**05 39 14.0**	**-2.5**
CAF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.7								
CAF	**Calviac**	**85.83**	**341**	*e*P		**P**	**05 39 14.0**	**-2.5**
	comp=Z,4.1nm,0.8s,mb4.7								
CFAA	**Coronel Fontan**	**144.37**	**81**	PKP		PKPdf	05 46 10.2	-2.8	
	comp=Z,0.4nm,0.8s,baz=312,slow=4.5,SNR=6.5								
SNAA	**Sanae**	**152.35**	**195**	PKPbc		PKPbc	05 46 30.4	-2.4	
	comp=Z,1.9nm,1.1s,baz=158,slow=3.3,SNR=8.8								
SNAA				PKPab		PKPab	05 46 40.8	-2.1	
	comp=Z,1.7nm,0.9s,baz=74,slow=2.5,SNR=8.5								
SNAA	**Sanae**	**152.35**	**195**	*e*PKPbc		PKPbc	05 46 30.1	-2.7	
SNAA				*e*PKPab		PKPab	05 46 40.5	-2.4	
VNA2	**Neumayer--Watz**	**153.78**	**194**	*e*PKPdf		PKPdf	05 46 26.4	-1.6	
VNA2				*e*			05 46 32.6		
VNA2				*e*			05 46 36.1		
VNA2				*e*			05 46 47.4		
VNA2				*e*			05 46 56.6		
VNA2				*e*			05 47 00.7		
VNA2				*e*			05 47 08.2		
VNA2				*e*			05 47 26.5		
VNA3	**Neumayer Olymp**	**153.84**	**192**	*e*PKPdf		PKPdf	05 46 26.8	-1.3	
VNA3				*e*			05 46 32.4		
VNA3				*e*			05 46 35.9		
VNA3				*e*			05 47 0.0		
VNA3				*e*			05 46 55.9		
VNA3				*e*			05 46 59.9		
VNA3				*e*			05 47 08.0		
VNA3				*e*			05 47 25.9		

MAN 18 05:28:46.6, 1886N×12119E, h10km, mb2.2, ML3.9, MS2.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.76**	**226**	⇓*i*P	Pg	05 29 01.0	-0.3
CVP	**Callao Caves**	**1.30**	**152**	*e*P	Pn	05 29 09.5	-1.3

*STR **18** 05:28:50.4±0.0, 4301N×001W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 05:28:49.8±0.1, 4303N×001W, h8km, Md1.6/2, Ml1.7/1, Error ellipse: s-maj=3.8km s-min=1.7km az=165.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**74**	Pg	Pg	05 28 52.0	+0.4
LABF				Sg	Sg	05 28 53.2	+0.3
VIEF	**Viey**	**0.15**	**172**	Pg	Pg	05 28 53.1	+0.1
VIEF				Sg	Sg	05 28 55.2	+0.1
EPF	**Esparros**	**0.25**	**90**	*e*Pg	Pg	05 28 55.1	+0.3
EPF				*e*Sg	Sg	05 28 58.9	+0.7
	4.2nm,0.2s						
ETSF	**Etsaut**	**0.43**	**252**	*e*Pg	Pg	05 28 58.5	+0.4
ETSF				*e*Sg	Sg	05 29 04.3	+0.6
	3.0nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Sg	Sg	05 29 17.5	-1.2
MTLF	**Montolieu**	**1.66**	**78**	*e*Pn	Pn	05 29 17.4	-1.7
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	05 29 20.3	-1.2
MTLF				*e*Sg	Sg	05 29 42.4	-0.6
	0.8nm,0.2s						

*STR **18** 05:38:06.8±0.0, 4299N×0.15E, h2km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 05:38:06.6±0.1, 4303N×001W, h6km, Md1.6/2, Ml1.6/2, Error ellipse: s-maj=1.6km s-min=0.8km az=155.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**72**	Pg	Pg	05 38 08.7	+0.5
LABF				Sg	Sg	05 38 10.0	+0.6
VIEF	**Viey**	**0.15**	**170**	Pg	Pg	05 38 09.8	+0.2
VIEF				Sg	Sg	05 38 12.0	+0.4
EPF	**Esparros**	**0.26**	**89**	*e*Pg	Pg	05 38 11.8	+0.2
EPF				*e*Sg	Sg	05 38 15.7	+0.7
	7.7nm,0.3s						
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg	Pg	05 38 15.0	+0.2
ETSF				*e*Sg	Sg	05 38 20.6	+0.3
	4.8nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	05 38 37.5	-0.9
MTLF				*e*Sg	Sg	05 38 59.3	-0.6
	0.7nm,0.3s						
CAF	**Calviac**	**2.42**	**38**	*e*Sg	Sg	05 39 22.3	-2.0
	0.4nm,0.2s						

*NEIC **18** 05:47:36.2±3.1, 3633N×7120E, h178km±26km, mb4.4/1, Error ellipse: s-maj=29.8km s-min=16.4km az=206.0*
*IDC **18** 05:47:36.5±6.9, 3634N×7119E, h179km±62km, mb3.4/6, mb1 3.5/8, mb1mx3.2/22, mbtmp3.3/8, Error ellipse: s-maj=35.6km s-min=23.7km az=26.0*
*ISCJB **18** 05:47:38.5±2.3, 3655N±02×712E±02, h207km±20km, mb3.5/6, Error ellipse: s-maj=28.4km s-min=18.3km az=39.8*

ISC 18 05:47:40.4±2.4, 366N±02×713E±02, h211km±20km, n25, σ0s58/27, mb3.5/6, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.84**	**18**	P	**Pn**	**05 49 05.9**	**+0.1**
	SNR=71						
UCH	**Uchtor**	**6.16**	**23**	P	**Pn**	**05 49 10.3**	**+0.4**
	SNR=74						
KZA	**Kyzart**	**6.29**	**28**	P	**Pn**	**05 49 11.3**	**-0.2**
	SNR=7.7						
EKS2	**Erkin-Say**	**6.37**	**17**	P	**Pn**	**05 49 12.5**	**+0.1**
	SNR=19						
AAK	**Ala-Archa**	**6.53**	**21**	P	**Pn**	**05 49 14.7**	**+0.1**
	SNR=19						
AAK	**Ala-Archa**	**6.53**	**21**	*e*Pn	**Pn**	**05 49 13.7**	**-0.9**
	10nm,0.4s						
AAK				*e*Sn	**S**	**05 50 28.6**	**-0.9**
KK31	**Karatay Array**	**6.53**	**355**	Pn	**Pn**	**05 49 14.0**	**-0.7**
	1.1nm,0.2s,baz=165,slow=11,SNR=114						
KK31				Pg	**Pn**	**05 49 25.2**	**+11**
	1.4nm,0.7s,baz=180,slow=16,SNR=3.8						
KK31				Lg		05 50 23.0	
	2.7nm,0.3s,baz=185,slow=21,SNR=15						
KBK	**Karagaybulak**	**6.69**	**24**	P	**Pn**	**05 49 18.1**	**+1.5**
	SNR=5.4						
ULHL	**Ulahol**	**6.83**	**33**	P	**Pn**	**05 49 18.7**	**+0.2**
	SNR=18						
CHMS	**Chumysh**	**6.94**	**22**	P	**Pn**	**05 49 20.3**	**+0.4**
	SNR=5.7						
USP	**Ospenovka**	**7.12**	**19**	P	**Pn**	**05 49 21.3**	**-0.8**
	SNR=14						
TKM2	**Tokmak 2**	**7.15**	**26**	P	**Pn**	**05 49 22.8**	**+0.3**
	SNR=24						
MKAR	**Makanchi Array**	**13.09**	**35**	P	**Pn**	**05 50 38.3**	**-0.3**
	0.2nm,0.3s,baz=208,slow=13,SNR=9.8						
AB31	**Akbulak array**	**15.11**	**330**	P	**Pn**	**05 51 02.9**	**-0.6**
	0.4nm,0.3s,baz=146,slow=12,SNR=9.0						
AKTK	**Aktyubinsk**	**16.81**	**330**	P	**P**	**05 51 23.1**	**+0.6**
AKTO	**Aktyubinsk**	**16.81**	**330**	P	**P**	**05 51 23.1**	**+0.6**
	0.5nm,0.3s,baz=138,slow=10,SNR=9.6						
FINES	**FINESS Array B**	**37.53**	**326**	P	**P**	**05 54 34.5**	**+0.4**
	1.9nm,0.8s,mb3.7,baz=118,slow=11,SNR=6.7						
ARCES	**ARCESS Array B**	**41.15**	**337**	P	**P**	**05 55 04.3**	**+0.3**
	5.7nm,1.0s,mb4.0,baz=116,slow=8.6,SNR=11						
NB2	**NORSAR Subarra**	**44.44**	**323**	P	**P**	**05 55 29.7**	**-0.7**
	comp=Z,1.1nm,0.5s,mb3.4,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.44**	**323**	P	**P**	**05 55 30.4**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.5,baz=97,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	**P**	**05 58 02.9**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.2,baz=49,slow=5.9,SNR=8.8						
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	**P**	**05 58 02.9**	**-0.9**
YKA	**Yellowknife Ar**	**81.15**	**3**	P	**P**	**05 59 32.5**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=354,slow=5.3,SNR=7.1						
YKA	**Yellowknife Ar**	**81.15**	**3**	P	**P**	**05 59 32.5**	**+0.2**
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**05 59 35.8**	**-0.2**
	comp=Z,0.4nm,1.0s,mb3.0,baz=326,slow=5.1,SNR=6.2						

*ISCJB **18** 05:56:35.8±0.2, 1135N±004×8559W±004, h173km±1km, mb4.4/49, Error ellipse: s-maj=8.1km s-min=3.0km az=82.1*
*IDC **18** 05:56:35.8±1.0, 1143N×8551W, h162km±11km, mb4.0/16, mb1 4.2/18, mb1mx4.1/22, mbtmp4.0/18, Error ellipse: s-maj=20.5km s-min=10.3km az=49.0*
*BJI **18** 05:56:36.4, 1130N×8560W, h167km, mB4.8*
*NEIC **18** 05:56:36.4±0.3, 1130N×8564W, h168km±4km, mb4.6/36, MD4.3(CASC), Error ellipse: s-maj=7.9km s-min=5.3km az=218.0*
*CASC **18** 05:56:37.0±2.2, 1131N×8557W, h160km±4km, MD4.4, ML3.9, mb4.7(NEIC)*

ISC 18 05:56:36.9±0.2, 1135N±004×8558W±004, h167km±1km, n269, σ0s87/262, mb4.4/49, 76C-59D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.08**	**38**	⇑*e*P	**Pn**	**05 56 59.5**	**+0.5**
MADN				*e*S	**Sn**	**05 57 16.9**	**+0.9**
CONN	**Concepcion**	**0.22**	**349**	⇑*i*P	**Pn**	**05 56 59.7**	**+0.4**
SSNN	**San Juan del S**	**0.27**	**258**	*e*P	**Pn**	**05 56 59.0**	**-0.4**
LIM1	**Limonal**	**0.72**	**153**	⇑*i*P	**Pn**	**05 57 00.8**	**-0.5**
LIM1				*e*S	**Sn**	**05 57 19.4**	**-0.7**
MASN	**Masaya**	**0.85**	**319**	⇑*e*P	**Pn**	**05 57 01.5**	**-1.0**
MASN				*e*S	**Sn**	**05 57 19.5**	**-2.1**
TICN	**Ticuantepe**	**0.93**	**317**	⇑*e*P	**Pn**	**05 57 03.3**	**+0.4**
TICN				*e*S	**Sn**	**05 57 22.9**	**+0.2**
MGAN	**Managua**	**1.03**	**321**	⇑*i*P	**Pn**	**05 57 03.9**	**+0.3**
MGAN				*e*S	**Sn**	**05 57 24.1**	**+0.1**
TISN	**Laguna Tiscapa**	**1.04**	**320**	⇓*e*P	**Pn**	**05 57 04.2**	**+0.6**
XAVN	**Gruta Xavier**	**1.08**	**318**	⇑*i*P	**Pn**	**05 57 04.5**	**+0.5**
VCR	**Vista de Mar**	**1.21**	**182**	⇑*i*P	**Pn**	**05 57 04.0**	**-1.1**
VCR	**Vista de Mar**	**1.21**	**182**	⇑*i*P	**Pn**	**05 57 03.9**	**-1.1**
JTS	**JuntasAbangare**	**1.22**	**149**	P	**Pn**	**05 57 03.3**	**-1.8**
	491nm,0.3s,baz=337,slow=8.0,SNR=1365						
JTS				S	**Sn**	**05 57 23.2**	**-3.6**
	2μm,0.3s,baz=202,slow=19,SNR=38						
JTS	**JuntasAbangare**	**1.22**	**149**	⇓*e*P	**Pn**	**05 57 03.3**	**-1.8**
JTS	**JuntasAbangare**	**1.22**	**149**	⇑*i*Pn	**Pn**	**05 57 03.3**	**-1.8**
JTS				*e*Sn	**Sn**	**05 57 23.9**	**-3.0**
VACR	**Volcan Arenal**	**1.24**	**134**	⇑*i*P	**Pn**	**05 57 05.3**	**0.0**
FORC	**Fortuna**	**1.25**	**134**	*e*P	**Pn**	**05 57 05.2**	**-0.2**
FORC				*e*S	**Sn**	**05 57 26.5**	**-0.9**
COPN	**Copaltepe**	**1.29**	**310**	⇓*e*P	**Pn**	**05 57 05.9**	**+0.1**
MOMJ	**Momotombo**	**1.41**	**319**	⇑*i*P	**Pn**	**05 57 07.3**	**+0.4**
MOMJ				*e*S	**Sn**	**05 57 30.3**	**+0.3**
MIRN	**Miramar**	**1.55**	**315**	⇓*e*P	**Pn**	**05 57 08.9**	**+0.6**
MIRN				*e*S	**Sn**	**05 57 32.3**	**-0.2**
JCR	**Jicaral**	**1.56**	**163**	⇑*i*P	**Pn**	**05 57 07.6**	**-0.7**
JCR				*e*S	**Sn**	**05 57 23.5**	**-9.1**
CNGN	**Cerro Negro**	**1.58**	**317**	⇑*e*P	**Pn**	**05 57 07.7**	**-0.9**
CNGN				*e*S	**Sn**	**05 57 32.1**	**-1.0**
CNGN				*i*		05 57 39.5	
	comp=E,6μm,0.2s						
EPA	**Esparza**	**1.66**	**144**	⇓*e*P	**Pn**	**05 57 09.2**	**-0.3**
CAO	**Cobano**	**1.70**	**164**	⇓*i*P	**Pn**	**05 57 08.7**	**-1.1**
CGA2	**Cerro Gallo 2**	**1.72**	**140**	⇓*e*P	**Pn**	**05 57 10.1**	**+0.1**
CGA2	**Cerro Gallo 2**	**1.72**	**140**	⇓*e*P	**Pn**	**05 57 10.1**	**+0.1**
POA2	**Poas 2**	**1.75**	**131**	⇓*e*P	**Pn**	**05 57 10.9**	**+0.5**
PRS1	**Puriscal**	**1.84**	**137**	⇑*e*P	**Pn**	**05 57 12.0**	**+0.7**
PRS1				*e*S	**Sn**	**05 57 26.7**	**-11**
CRIN	**San Cristobal**	**1.97**	**313**	*e*P	**Pn**	**05 57 13.1**	**+0.4**
CRIN				*e*S	**Sn**	**05 57 40.7**	**+0.4**
TRTC	**Tortuguero**	**1.99**	**112**	⇑*e*P	**Pn**	**05 57 12.9**	**-0.1**
TRTC				*e*S	**Sn**	**05 57 32.2**	**-8.6**
SJS	**Escuela Geolog**	**2.05**	**133**	⇑*e*P	**Pn**	**05 57 14.7**	**+1.0**
SJS				*e*S	**Sn**	**05 57 31.9**	**-10**
LAJ	**Bijagual**	**2.06**	**136**	⇓*e*P	**Pn**	**05 57 12.0**	**-1.7**
IRZ2	**Volcan Irazu 2**	**2.15**	**129**	*e*P	**Pn**	**05 57 15.0**	**+0.3**
IRZ2				*e*S	**Sn**	**05 57 46.0**	**+2.0**
OCM	**Ochomogo**	**2.15**	**132**	⇑*e*P	**Pn**	**05 57 14.8**	**0.0**
OCM				*e*S	**Sn**	**05 57 45.5**	**+1.5**
VTU	**Volcan Turrial**	**2.23**	**126**	*e*P	**Pn**	**05 57 15.8**	**+0.1**
QCR	**Quepos**	**2.37**	**144**	⇑*e*P	**Pn**	**05 57 17.3**	**0.0**
LIO	**Limon**	**2.84**	**118**	*e*P	**Pn**	**05 57 23.2**	**+0.3**
CNCH	**Conchagua**	**2.92**	**311**	*e*P	x	05 57 25.3	
TGUH	**Tegucigalpa,Un**	**3.16**	**329**	⇓*i*Pn	**Pn**	**05 57 28.1**	**+1.2**
TGUH				*e*Sn	**Sn**	**05 58 01.2**	**-4.6**
BLLM	**Bellamira**	**3.33**	**309**	*e*P	x	05 57 30.9	
VSM	**San Miguel**	**3.35**	**309**	*e*P	x	05 57 31.8	
CNI	**Changuinola**	**3.57**	**122**	*e*P	**Pn**	**05 57 32.4**	**+0.2**
CTCR	**Cotoan**	**3.69**	**131**	⇑*e*P	**Pn**	**05 57 34.4**	**+0.7**
SNVI	**San Vicente**	**3.90**	**306**	*e*P	x	05 57 38.3	
SNVI				*e*P	x	05 57 38.3	
BRU	**Baru**	**3.90**	**130**	*e*P	**Pn**	**05 57 37.1**	**+0.8**
LCBS	**La Ceiba**	**4.03**	**305**	⇑*e*P	x	05 57 40.1	
LFRS	**El Faro**	**4.08**	**304**	⇑*e*P	x	05 57 40.9	
LBRS	**Las Brisas**	**4.13**	**306**	*e*P	x	05 57 41.7	
LFU	**La Fuente**	**4.19**	**305**	*e*P	x	05 57 42.6	
LFU				*e*S	x	05 58 31.9	
DVD	**David**	**4.23**	**133**	*e*P	**Pn**	**05 57 41.1**	**+0.6**
DVD				*e*S	**Sn**	**05 58 29.1**	**-1.1**
SNET	**Serv Nac Est T**	**4.25**	**304**	*i*P	x	05 57 40.7	
BOQS	**Boqueron**	**4.32**	**304**	⇑*e*P	x	05 57 44.4	
SBLS	**San Blas**	**4.66**	**303**	⇑*e*P	x	05 57 48.3	
SNJE	**San Jose**	**4.66**	**303**	*e*P	x	05 57 48.5	
RTR	**El Retiro**	**4.71**	**303**	*e*P	x	05 57 49.0	
RBDL	**Robledal**	**4.86**	**305**	⇑*e*P	x	05 57 50.8	
RBDL				*e*S	x	05 58 46.0	
ACH	**Altos**	**6.17**	**115**	*e*P	**Pn**	**05 58 06.2**	**+0.2**
AZU	**Azuero**	**6.32**	**124**	*e*P	**Pn**	**05 58 08.7**	**+0.8**
CMIG	**Matias Romero**	**10.67**	**303**	P	**Pn**	**05 59 04.3**	**-1.1**
	comp=E,5.6nm,0.3s,baz=120,slow=10.0,SNR=189						
CMIG				S	**Sn**	**06 00 53.5**	**-10**
	comp=E,1.1nm,0.3s,baz=341,slow=23,SNR=4.5						
ROSC	**El Rosal**	**12.87**	**119**	P	**Pn**	**05 59 42.0**	**+8.3**
	comp=E,0.3nm,0.3s,baz=103,slow=19,SNR=6.5						
ROSC	**El Rosal**	**12.87**	**119**	*e*Pn	**Pn**	**05 59 42.0**	**+8.2**
OTAV	**Otavalo**	**13.11**	**147**	*e*Pn	**Pn**	**05 59 43.8**	**+6.9**
SDV	**Santo Domingo**	**14.92**	**98**	P	**Pn**	**05 59 59.9**	**+0.4**
	comp=E,0.4nm,0.3s,baz=296,slow=8.5,SNR=20						
SDV	**Santo Domingo**	**14.92**	**98**	*e*Pn	**Pn**	**06 00 00.4**	**+0.9**
ATAH	**Atahualpa**	**19.58**	**158**	P	**P**	**06 00 57.1**	**+5.1**
	comp=E,0.4nm,0.3s,baz=29,slow=13,SNR=3.5						
BRAL	**Brewton**	**19.62**	**356**	*e*P	**P**	**06 00 51.9**	**-0.6**
	comp=E,122nm,1.2s						
CPD	**Cerro la Pandu**	**20.14**	**68**	*e*P	**P**	**06 00 59.6**	**+1.6**
HUMP	**Col San Antoni**	**20.23**	**68**	*e*P	**P**	**06 01 02.0**	**+3.0**
CBYP	**Canovanas**	**20.27**	**68**	*e*P	**P**	**06 00 59.3**	**0.0**
MTP	**Monte Pirata**	**20.49**	**69**	*e*P	**P**	**06 01 04.1**	**+2.4**
PCRV	**Puerto La Cruz**	**20.61**	**91**	P	**P**	**06 01 04.0**	**+1.0**
	comp=E,34nm,0.6s,baz=252,slow=4.7,SNR=27						
HKT	**Hockley**	**20.82**	**334**	*e*P	**P**	**06 01 05.0**	**-0.3**
	comp=E,26nm,1.5s						
LRAL	**Lakeview Retre**	**21.63**	**357**	*e*P	**P**	**06 01 14.2**	**+0.5**
	comp=E,34nm,0.4s,mb5.1						
GOGA	**Godfrey**	**22.05**	**5**	*e*P	**P**	**06 01 18.8**	**+0.6**
	comp=E,18nm,0.5s,mb4.8						
COW	**Cow Castle Cre**	**22.39**	**11**	*e*P	**P**	**06 01 22.9**	**+1.5**
JCT	**Junction City**	**23.17**	**327**	*e*P	**P**	**06 01 28.0**	**-0.6**
	comp=E,6.9nm,0.7s,mb4.2						
JSC	**Jenkinsville**	**23.17**	**9**	*e*P	**P**	**06 01 29.4**	**+0.8**
OXF	**Oxford**	**23.32**	**352**	*e*P	**P**	**06 01 29.8**	**-0.2**
	comp=E,24nm,0.5s,mb4.9						
LHS	**Liberty Hill**	**23.43**	**10**	*e*P	**P**	**06 01 31.8**	**+0.8**
UALR	**University of**	**24.12**	**346**	*e*P	**P**	**06 01 36.9**	**-0.3**
	comp=E,32nm,0.9s,mb4.8						
TKL	**Tuckaleechee C**	**24.26**	**4**	P	**P**	**06 01 39.1**	**+0.6**
	comp=E,47nm,1.0s,mb5.0,baz=176,slow=11,SNR=31						
LTX	**Lajitas**	**24.59**	**319**	*e*P	**P**	**06 01 41.6**	**+0.1**
	comp=E,19nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**24.59**	**319**	P	**P**	**06 01 41.4**	**0.0**
	comp=E,24nm,1.0s,mb4.7,baz=139,slow=9.2,SNR=84						
TXAR				PcP	PcP	06 05 15.7	+1.0
	comp=E,1.8nm,0.8s,baz=142,slow=4.7,SNR=8.8						
TXAR	**Lajitas Array**	**24.59**	**319**	P	**P**	**06 01 41.4**	**-0.1**
TXAR				PcP	PcP	06 05 15.7	+1.0
WVT	**Waverly**	**24.76**	**356**	*e*P	**P**	**06 01 42.0**	**-1.0**
	comp=E,36nm,1.1s,mb4.8						
CNNC	**Cliffs of the**	**24.79**	**15**	*e*P	**P**	**06 01 43.5**	**+0.2**
	comp=E,24nm,0.9s,mb4.7						
UTMT	**University of**	**25.06**	**354**	*e*P	**P**	**06 01 45.9**	**+0.1**
TZTN	**Tazewell**	**25.16**	**4**	*e*P	**P**	**06 01 45.8**	**-0.8**
ELN	**Prospectdale**	**26.14**	**9**	*e*P	**P**	**06 01 56.1**	**+0.7**
BLA	**Blacksburg**	**26.17**	**9**	*e*P	**P**	**06 01 56.4**	**+0.7**
	comp=E,72nm,1.5s,mb5.1

baz=36
TUQ Turquoise Mtn. 36.49 316 ⇓P P 06 03 26.4 +0.6
baz=36,SNR=5.5
BBRC Big Bear Sol-O 36.55 314 ⇓P P 06 03 27.3 +0.8
baz=36
SHPR Sheep Range 36.59 318 *eP* P 06 03 28.0 +1.3
EYMN Ely 36.82 353 *eP* P 06 03 27.1 -1.6
SHOC Shoshone 36.99 316 ⇑P P 06 03 30.8 +0.7
baz=37
GSC Goldstone 37.02 315 *eP* P 06 03 31.6 +1.2
GSC Goldstone 37.02 315 P P 06 03 31.5 +1.1
baz=37,SNR=6.3
BFSC Mount Baldy St 37.07 313 ⇑P P 06 03 31.6 +0.8
baz=37
CIS Catalina Islan 37.20 311 ⇓P P 06 03 32.3 +0.4
baz=37
U10A Ash Meadows, A 37.31 317 ⇑P P 06 03 33.6 +0.8
baz=37,SNR=8.9
DUG Dugway 37.48 325 *eP* P 06 03 34.1 -0.2
comp=E,2.3nm,1.0s,mb3.8
DUG Dugway 37.48 325 ⇑P P 06 03 34.2 0.0
baz=38
DECC Green Verdugo 37.56 313 ⇓P P 06 03 35.2 +0.3
baz=38
PDAR Pinedale Array 37.62 331 P P 06 03 34.1 -1.3
comp=E,0.9nm,1.0s,mb3.5,baz=119,slow=7.3,SNR=7.4
PDAR PcP PcP 06 05 48.6 -0.8
comp=E,0.6nm,0.8s,baz=122,slow=5.6,SNR=3.6
BW06 Boulder Array 37.62 331 *eP* P 06 03 34.0 -1.4
comp=E,2.9nm,1.0s,mb3.9
EDW2 Edwards Air Fo 37.63 314 ⇑P P 06 03 35.8 +0.3
baz=38
FURC Furnace Creek, 37.69 317 ⇑P P 06 03 36.6 +0.6
baz=38,SNR=7.9
LRMC Laurel Mountai 37.72 315 ⇓P P 06 03 36.9 +0.6
baz=38,SNR=5.3
HWUT Hardware Ranch 37.77 328 *eP* P 06 03 36.5 -0.2
comp=E,4.1nm,0.7s,mb4.2
AGMN Agassiz Refuge 37.83 349 *eP* P 06 03 35.3 -1.9
comp=E,6.4nm,0.4s,mb4.6
MPMC Manual Prospec 37.90 316 ⇓P P 06 03 38.1 +0.3
baz=38,SNR=13
Q12A Willow Creek R 37.91 322 ⇓P P 06 03 38.4 +0.5
baz=38
DAC Darwin (Calif) 38.08 316 *eP* P 06 03 40.2 +0.9
Q11A Duckwater 38.29 321 ⇑P P 06 03 41.6 +0.5
baz=38
GRAC Grapevine Rang 38.33 317 ⇓P P 06 03 41.8 +0.5
baz=38,SNR=8.6
R10A Warm Springs 38.37 320 ⇓P P 06 03 42.0 +0.3
baz=38
ISA Isabella 38.37 315 *eP* P 06 03 43.1 +1.4
ISA Isabella 38.37 315 ⇑P P 06 03 42.0 +0.3
baz=38
CWC Cottonwood Cre 38.50 316 ⇑P P 06 03 43.2 +0.4
baz=38
S09A Goldfield 38.63 318 ⇓P P 06 03 44.7 +0.7
baz=39
O12A Currie 38.63 323 ⇓P P 06 03 44.5 +0.6
baz=39
REDW Red Top Meadow 38.69 330 *eP* P 06 03 45.1 +0.7
comp=E,18nm,1.2s,mb4.6
N13A Wendover, West 38.71 324 ⇓P P 06 03 44.8 +0.3
baz=39
SNOW Snow King Moun 38.72 330 *eP* P 06 03 37.5 -7.1
comp=E,7.4nm,1.0s,mb4.3
R09A Tonopah 38.83 319 ⇑P P 06 03 45.9 +0.4
baz=39,SNR=13
VES Vestal, Richgr 38.88 314 ⇑P P 06 03 46.3 +0.4
baz=39,SNR=6.2
MOOW Moose Ponds 38.92 331 *eP* P 06 03 45.7 -0.6
comp=E,11nm,1.7s,mb4.2
PKM Peak Mountain 38.94 313 ⇓P P 06 03 46.8 +0.3
baz=39
M13A Montello 39.02 325 ⇑P P 06 03 47.5 +0.4
baz=39
O11A Cowboy Ranch, 39.09 322 ⇓P P 06 03 48.0 +0.3
baz=39
S08C White Mtn Res 39.13 317 ⇓P P 06 03 48.4 +0.3
baz=39,SNR=15
N12A Clover Valley, 39.18 324 ⇓P P 06 03 48.6 +0.1
baz=39
RCTC Rector, Farmer 39.23 315 ⇑P P 06 03 49.0 +0.1
baz=39
HELL Mitchell Peak, 39.27 316 ⇑P P 06 03 49.6 +0.4
baz=39,SNR=14
SMMC Simmler 39.27 313 ⇑P P 06 03 49.2 0.0
baz=39
LAO LASA Array 39.33 337 *eP* P 06 03 50.5 +0.9
R08A Mina 39.56 318 ⇓P P 06 03 51.2 -0.4
baz=40
ULM Lac du Bonnet 39.71 350 P P 06 03 50.7 -2.1
comp=E,3.9nm,0.4s,mb4.4,baz=163,slow=8.2,SNR=26
ULM Lac du Bonnet 39.71 350 *eP* P 06 03 49.8 -3.0
NVAR Mina Array Bea 39.73 318 P P 06 03 53.9 +0.8
comp=E,4.9nm,0.8s,mb4.2,baz=141,slow=5.8,SNR=36
NVAR PcP PcP 06 05 56.1 0.0
comp=E,2.4nm,0.8s,baz=154,slow=3.4,SNR=10
Q08A Gabbs 39.74 319 P P 06 03 53.5 +0.4
baz=40,SNR=8.7
KCC Kaiser Creek 39.81 316 ⇓P P 06 03 54.2 +0.5
baz=40,SNR=5.6
T06C Millerton Lake 39.91 316 ⇓P P 06 03 54.4 -0.1
baz=40
PKD Parkfield 39.96 314 ⇑P P 06 03 54.9 0.0
baz=40
R07C Lee Vining 40.04 317 ⇓P P 06 03 55.7 +0.1
baz=40
DGMT Dagmar 40.14 341 *eP* P 06 03 56.0 -0.4
comp=E,11nm,0.7s,mb4.6
S06C San Francisco 40.46 317 ⇓P P 06 03 59.3 +0.3
baz=40,SNR=7.1
S05C Merced 40.51 316 ⇑P P 06 03 59.7 +0.2
baz=40,SNR=7.0
WAKR Walker 40.52 318 *eP* P 06 04 00.8 +1.3
R06C Coleville 40.54 318 ⇓P P 06 04 00.2 +0.5
baz=40
HLID Hailey 40.64 327 *eP* P 06 04 00.2 -0.3
HLID Hailey 40.64 327 ⇓P P 06 04 00.3 -0.2
baz=41
N09A Rock Creek Ran 40.65 322 ⇑P P 06 04 00.6 0.0
baz=41
G15A Dillon 40.81 331 ⇑P P 06 04 01.7 -0.2
baz=41
CMB Columbia Colle 40.90 317 ⇑P P 06 04 02.7 0.0
baz=41
PACP Pacheco Peak 41.01 315 ⇑P P 06 04 03.6 +0.1
baz=41
R05C Kirkwood Meado 41.05 318 ⇑P P 06 04 04.2 +0.4
baz=41,SNR=7.2
O07A Toulon 41.08 320 ⇑P P 06 04 04.7 +0.6
baz=41
S04C Ingram Canyon, 41.28 315 ⇓P P 06 04 06.2 +0.5
baz=41
R04C Big Horse Ranc 41.39 316 ⇑P P 06 04 07.0 +0.4
baz=41
O06A Flanigan 41.68 320 P P 06 04 09.2 +0.2
baz=42,SNR=7.3
P05C Yuba Gap, Truc 41.72 318 ⇓P P 06 04 09.2 0.0
baz=42
E15A Deer Lodge 41.82 332 ⇓P P 06 04 09.4 -0.6
baz=42
BDM Black Diamond 41.87 316 ⇑P P 06 04 10.1 -0.4
baz=42
K09A Rome 41.91 324 ⇑P P 06 04 10.4 -0.4
baz=42,SNR=5.8
L08A Fields 41.95 323 ⇓P P 06 04 10.7 -0.5
baz=42
F13A Darby 42.16 330 ⇑P P 06 04 11.5 -1.4
baz=42
E14A Clinton 42.21 331 ⇑P P 06 04 12.0 -1.2
baz=42
H11A Donnelly 42.26 328 ⇑P P 06 04 12.6 -1.1
baz=42
WVOR Wild Horse Val 42.27 323 *eP* P 06 04 12.8 -0.9
comp=E,3.4nm,0.8s,mb4.0
J09A Fry Pan Ranch, 42.33 325 ⇓P P 06 04 14.0 -0.2
baz=42
K08A Mann Creek Ran 42.37 324 P P 06 04 14.6 +0.1
baz=42,SNR=6.8
ORV Oroville 42.44 318 ⇓P P 06 04 14.9 -0.2
baz=42,SNR=6.5
L07A Adell 42.45 322 ⇓P P 06 04 14.5 -0.6
baz=42
SUTB Sutter Butte 42.46 317 ⇑P P 06 04 14.9 -0.4
baz=42
E13A Victor 42.56 331 ⇑P P 06 04 14.8 -1.2
baz=43
O04C Chester 42.57 319 ⇑P P 06 04 15.4 -0.8
baz=43
F12A Elk City 42.60 329 ⇑P P 06 04 15.2 -1.2
baz=43
I09A Lost Marbles R 42.72 325 ⇑P P 06 04 16.5 -0.9
baz=43
J08A Circle Bar Ran 42.75 324 ⇓P P 06 04 17.0 -0.6
baz=43
K07A Rock Creek Ran 42.79 323 ⇑P P 06 04 16.9 -1.1
baz=43
G11A Walters Elk Ra 42.87 328 ⇑P P 06 04 17.1 -1.4
baz=43
F11A Grangeville 43.14 329 ⇓P P 06 04 19.4 -1.4
baz=43
P01C Double 8 Ranch 43.62 317 ⇑P P 06 04 23.7 -0.9
baz=44
F09A S2 Ranch, Elgi 43.93 327 ⇑P P 06 04 25.5 -1.6
baz=44
D11A Klaveano Farm, 44.03 330 ⇑P P 06 04 26.7 -1.2
baz=44
SCHQ Schefferville 45.84 15 P P 06 04 40.5 -1.6
comp=E,28nm,0.8s,mb4.9,baz=214,slow=6.1,SNR=24
EDM Edmonton 47.31 338 *eP* P 06 04 51.6 -2.0
YKA Yellowknife Ar 55.16 344 P P 06 05 49.6 -2.3
comp=E,1.7nm,0.3s,mb4.2,baz=131,slow=8.4,SNR=26
RES Resolute Bay 63.54 357 *eP* P 06 06 47.9 -1.5
INK Inuvik 64.80 342 P P 06 06 56.0 -1.7
comp=E,4.3nm,1.0s,mb4.2,baz=172,slow=4.4,SNR=7.2
INK Inuvik 64.80 342 *eP* P 06 06 55.7 -2.0
comp=E,325nm,1.3s
COLA College 68.19 336 *eP* P 06 07 16.9 -2.2
ESDC Sonseca Array 76.43 52 P P 06 08 07.0 -1.0
comp=E,0.4nm,0.4s,mb3.4,baz=284,slow=5.0,SNR=4.6
NOA NORSAR Array B 83.44 29 P P 06 08 44.3 -1.3
comp=E,1.8nm,1.0s,mb3.8,baz=295,slow=3.4,SNR=2.9
TORD Torodi Ar. Bea 84.86 78 P P 06 08 50.4 -2.4
comp=E,0.8nm,1.0s,mb3.4,baz=249,slow=4.1,SNR=4.0
ARCES ARCESS Array B 86.63 19 P P 06 08 59.5 -1.9
comp=E,5.8nm,1.0s,mb4.4,baz=282,slow=5.3,SNR=4.6
GERES GERESS Array B 87.58 41 P P 06 09 03.4 -2.7
comp=E,0.5nm,0.8s,mb3.4,baz=167,slow=6.6,SNR=3.6
ULN Ulaanbaatar 119.99 350 *e*PKPdf PKPdf 06 15 09.4 +1.9
SONM Songino Array 120.13 351 PKP PKPdf 06 15 06.3 -1.5
comp=E,0.2nm,0.9s,baz=48,slow=2.1,SNR=3.6
WMQ Urumqi 124.76 6 ⇓PKP PKPdf 06 15 16.0 -0.6
WMQ XPKP 06 16 15.3
WMQ PP PP 06 17 10.0 +3.7
WMQ PPP 06 19 51.3
WMQ PP PP
comp=Z,25nm,5.6s
WMQ LR LR
comp=N,52nm,18.6s
WMQ LR LR
comp=E,75nm,19.0s
WMQ LR LR
comp=Z,34nm,17.1s
HHC Hu-ho-hao-te 125.70 344 *e*PKP PKPdf 06 15 18.4 0.0
HHC XPKP 06 16 17.5
HHC PP PP 06 17 14.8 +2.3
HHC PKS 06 18 53.3
HHC SKS SKSdf 06 22 12.4 -2.1
HHC SKKS SKKSac 06 23 49.5 -4.4
HHC SS SS 06 33 58.8 -0.3
HHC PP PP
comp=Z,108nm,7.2s
HHC LR LR
comp=N,125nm,21.4s
HHC LR LR
comp=E,181nm,20.0s
HHC LR LR
comp=Z,97nm,20.0s
LZH Lanzhou 131.99 350 *eP* PKPdf 06 15 31.5 +1.1
LZH pP 06 16 12.1
LZH sP 06 16 26.0
STKA Stephens Creek 132.06 237 PKP PKPdf 06 15 31.6 +1.1
comp=Z,1.1nm,0.6s,baz=156,slow=2.8,SNR=4.3
CD2 Chengdu 137.04 348 *e*PKP PKPdf 06 15 38.3 -1.5
AS31 Alice Springs 140.53 247 *e*PKPdf PKPdf 06 15 46.5 +0.2
ASAR Alice Springs 140.53 247 PKhKP 06 15 39.9
comp=Z,0.9nm,0.8s,baz=108,slow=4.0,SNR=8.7
ASAR PKP PKPdf 06 15 47.1 +0.9
comp=Z,1.4nm,0.5s,baz=93,slow=1.9,SNR=15
WB2 Warramunga Arr 140.69 252 *e*PKPdf PKPdf 06 15 47.0 +0.5
WRAB Tennant Creek 140.69 252 *e*PKPdf PKPdf 06 15 47.1 +0.5
WRA Warramunga Arr 140.70 252 PKhKP 06 15 39.9
comp=Z,0.6nm,0.5s,baz=94,slow=3.1,SNR=13
WRA PKP PKPdf 06 15 47.6 +1.1
comp=Z,3.2nm,0.7s,baz=91,slow=1.5,SNR=23
KMI Kunming 142.86 347 PKP PKPdf 06 15 53.8 +3.4
KMI Kunming 142.86 347 P PKPdf 06 15 53.7 +3.3

NIED ***18*** *06:02:00,2850N×13020E,h14km,Mw4.1 Best double couple: M0 1.67000×10^15 NP1:φs=37.00000°,δ74.00000°, λ93.00000°. NP2:φs204.00000°,δ16.00000°,λ78.00000°.*
JMA ***18*** *06:02:17.5±0.1,2849N×13020E,h39km±2km, M3.7*
JMA Felt I J1.
ISCJB ***18*** *06:02:18.2±0.7,2852N±005×130.14E±009,h42km±4km, mb4.1/16,MS3.4/1, Error ellipse: s-maj=14.5km s-min=4.5km az=54.9*
NEIC ***18*** *06:02:20.4±1.2,2853N×12997E,h44km±11km,mb4.1/2, Error ellipse: s-maj=21.5km s-min=9.9km az=93.0*
IDC ***18*** *06:02:20.4±1.7,2857N×13008E,h46km±13km,mb3.7/11, mb1 3.8/14,mb1mx3.7/25,mbtmp3.7/14,ML3.5/3,MS3.3/2, Ms1 3.3/2,ms1mx2.7/31,Error ellipse: s-maj=25.8km s-min=9.5km az=107.0*

ISC 18 06:02:19.5±0.7,2852N±005×13011E±008,h35km±5km, n34,σ0 94/40,mb4.1/16,MS3.4/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.23**	**211**	P		**Pn**	**06 02 25.1 -1.5**
JZK				S		**Sn**	**06 02 30.9 -0.7**
JAM	**Amami Oshima**	**0.45**	**257**	P		**Pn**	**06 02 28.4 -1.1**
JAM				*e*S		**Sn**	**06 02 35.7 -0.7**
JTK	**Tokunoshima**	**1.25**	**235**	P		**Pn**	**06 02 41.0 +0.5**
JNN	**Nakanoshima**	**1.34**	**351**	P		**Pn**	**06 02 41.3 -0.3**
JKC	**Kuchinoerabu**	**1.94**	**2**	P		**Pn**	**06 02 49.7 -0.2**
JKC				*e*S		**Sn**	**06 03 13.5 +0.5**
JTN	**Tanegashima 3**	**2.26**	**19**	P		**Pn**	**06 02 53.6 -0.7**
JTN				*e*S		**Sn**	**06 03 22.6 +1.6**
JOW	**Kunigami**	**2.33**	**225**	P		**Pn**	**06 02 55.4 0.0**
	15nm,0.3s,baz=105,slow=21,SNR=22						
JOW				S		**Sn**	**06 03 25.0 +2.2**
	30nm,0.3s,baz=333,slow=27,SNR=4.4						
JOW	**Kunigami**	**2.33**	**225**	P		**Pn**	**06 02 55.1 -0.2**
JIH	**Iheya**	**2.40**	**233**	*e*S		**Sn**	**06 03 25.8 +1.4**
JTSR	**Tashiro 2**	**2.73**	**15**	*e*S		**Sn**	**06 03 32.1 -0.5**
JKE	**Kume jima 2**	**3.67**	**234**	P		**Pn**	**06 03 14.0 +0.3**
JNU	**Nakatsue**	**4.64**	**8**	P		**Pn**	**06 03 28.2 +1.3**
	5.4nm,0.3s,baz=201,slow=20,SNR=24						
JNU				S		**Sn**	**06 04 19.8 +0.2**
	5.9nm,0.3s,baz=186,slow=23,SNR=4.3						
KSRS	**Korea Array**	**9.10**	**349**	P		**Pn**	**06 04 29.6 +1.4**
	baz=164,slow=13,SNR=3.3						
KSRS				LR	LR		06 08 11.1
	comp=Z,118nm,19.9s,baz=79,slow=39						
BJI	**Beijing**	**16.25**	**319**	P		**Pn**	**06 06 10.5 +5.6**
	9.0nm,1.1s						
SONM	**Songino Array**	**26.64**	**323**	P		**P**	**06 07 54.0 -0.8**
	0.7nm,0.7s,mb3.3,baz=136,slow=11,SNR=4.3						
SONM				LR	LR		06 19 28.8
	comp=Z,102nm,18.6s,MS3.4,baz=147,slow=39						
JIRN	**Jiri**	**38.59**	**279**	*e*P		**P**	**06 09 39.4 +0.4**
	2.0nm,0.3s,mb4.3						
GUN	**Gumba**	**38.81**	**280**	*e*P		**P**	**06 09 41.4 +0.6**
	8.0nm,0.4s,mb4.8						
PKI	**Pulchoki**	**39.29**	**280**	*e*P		**P**	**06 09 44.7 -0.1**
	5.5nm,0.4s,mb4.6						
KKN	**Kakani**	**39.35**	**280**	*e*P		**P**	**06 09 45.4 +0.1**
	10nm,0.5s,mb4.8						
DMN	**Daman**	**39.54**	**280**	*e*P		**P**	**06 09 46.8 -0.1**
GKN	**Gorkha**	**39.87**	**280**	*e*P		**P**	**06 09 49.6 0.0**
	7.3nm,0.4s,mb4.7						
KOLN	**Koldanda**	**40.81**	**280**	*e*P		**P**	**06 09 57.0 -0.4**
MKAR	**Makanchi Array**	**41.31**	**310**	P		**P**	**06 10 00.7 -0.9**
	0.3nm,0.4s,mb3.3,baz=94,slow=8.7,SNR=4.9						
ZAL	**Zalesovo**	**41.50**	**321**	P		**P**	**06 10 00.9 -2.2**
	2.1nm,0.4s,mb4.2,baz=22,slow=4.2,SNR=5.2						
WRA	**Warramunga Arr**	**48.35**	**175**	P		**P**	**06 10 56.8 -0.7**
	0.8nm,0.9s,mb3.8,baz=355,slow=8.4,SNR=6.4						
BVAR	**Borovoye Array**	**49.72**	**317**	P		**P**	**06 11 07.9 -0.2**
	1.5nm,0.4s,mb4.4,baz=93,slow=10,SNR=11						
ASAR	**Alice Springs**	**52.01**	**176**	P		**P**	**06 11 26.6 +1.3**
	0.4nm,0.6s,mb3.5,baz=1.1,slow=14,SNR=5.6						
FINES	**FINESS Array B**	**71.70**	**331**	P		**P**	**06 13 36.4 -1.4**
	1.0nm,0.5s,mb4.0,baz=73,slow=4.6,SNR=9.3						
AKASG	**Malin Array Be**	**74.88**	**320**	P		**P**	**06 13 56.1 -0.3**
	1.7nm,0.4s,mb4.3,baz=57,slow=6.2,SNR=5.3						
BR131	**Keskin Array S**	**76.95**	**308**	*e*P		**P**	**06 14 09.1 +0.8**
	3.0nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**76.95**	**308**	P		**P**	**06 14 09.1 +0.8**
	2.9nm,0.6s,mb4.4,baz=99,slow=4.6,SNR=15						
NOA	**NORSAR Array B**	**78.00**	**334**	P		**P**	**06 14 13.5 -0.6**
	0.1nm,0.7s,mb2.9,baz=57,slow=4.8,SNR=2.7						
CLL	**Collm**	**83.22**	**326**	*e*P		**P**	**06 14 44.0 +1.9**
CLL				*e*pP		pP	06 14 53.0 -0.3
GERES	**GERESS Array B**	**84.38**	**324**	P		**P**	**06 14 47.4 -0.6**
	0.5nm,0.7s,mb3.8,baz=32,slow=5.2,SNR=4.0						

NEIC ***18*** *06:04:58.0,4002N×2547E,h24km,MD3.7(SOF), ML3.9(ATH),ML4.2(THE),After ATH.*
ATH ***18*** *06:04:58.0,4002N×2547E,h24km±1km,MD3.9/11,ML3.9*
CSEM ***18*** *06:04:59.3±0.0,4002N×2547E,h20km,ML3.9,Error ellipse: s-maj=1.4km s-min=1.1km az=4.0*
THE ***18*** *06:04:59.1,3994N×2559E,h17km,ML4.2*
ISCJB ***18*** *06:04:59.2±0.3,4000N±002×2544E±002,h18km±4km, Error ellipse: s-maj=3.0km s-min=2.3km az=25.0*
ISK ***18*** *06:04:59.9,3994N×2559E,h15km,MD3.6,ML3.9*
SKO ***18*** *06:05:00.1,3996N×2543E,h18km*
SOF ***18*** *06:05:02.3,4030N×2550E,h20km,MD3.7*

ISC 18 06:04:58.8±0.3,4002N±001×2545E±002,h5km±2km,n123, s0 97/163,10C-11D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.24**	**239**	*e*PB		**Pg**	**06 05 04.3 +0.9**
LIA				*e*SB		**Sg**	**06 05 08.6 +2.0**
LOS	**Limnos**	**0.29**	**253**	*e*Pg		**Pg**	**06 05 05.7 +1.2**
LOS				*e*Sg		**Sg**	**06 05 14.7 +6.3**
BOZC	**Bozcaada**	**0.50**	**111**	*i* P		**Pg**	**06 05 08.7 +0.2**
BOZC				*i* S		**Sg**	**06 05 15.1 +0.2**
BOZC	**Bozcaada**	**0.50**	**111**	*i* P		**Pg**	**06 05 08.6 +0.2**
EZN	**Ezine**	**0.70**	**106**	*i* PG		**Pg**	**06 05 11.6 -0.7**
EZN				*i* SG		**Sg**	**06 05 20.3 -1.2**
ALN	**Alexandroupoli**	**0.99**	**27**	*e*Pg		**Pg**	**06 05 17.7 0.0**
ALN				*e*Sg		**Sg**	**06 05 31.5 +1.0**
PRK	**Paraskevi**	**1.00**	**140**	*e*PN		**Pg**	**06 05 17.7 -0.3**
PRK				*e*SB		**Sg**	**06 05 30.5 -0.5**
RDO	**Rodhopi**	**1.13**	**3**	*e*PN		**Pg**	**06 05 19.9 -0.5**
RDO				*e*SB		**Sg**	**06 05 35.0 0.0**
OUR	**Ouranopolis**	**1.17**	**286**	*e*Pg		**Pg**	**06 05 20.5 -0.6**
AYVA	**Ayvalik**	**1.20**	**126**	*i* P		**Pg**	**06 05 21.2 -0.5**
AYVA				*i* S		**Sg**	**06 05 37.5 +0.3**
CANB	**Canakkale**	**1.24**	**90**	*i* PN		**Pg**	**06 05 21.3 -1.3**
CANB				*i* SN		**Sg**	**06 05 38.0 -0.7**
CANB	**Canakkale**	**1.24**	**90**	*i* P		**Pg**	**06 05 21.6 -0.9**
CANB				*i* S		**Sg**	**06 05 39.3 +0.6**
CANB	**Canakkale**	**1.24**	**90**	*i* P		**Pg**	**06 05 21.6 -1.0**
PAIG	**Paliouri**	**1.36**	**267**	*e*Pg		**Pg**	**06 05 23.4 -1.5**
AOS	**Alonnisos**	**1.48**	**235**	*e*Pg		**Pg**	**06 05 25.1 -2.1**
RKY	**Sarkoy-Tekirda**	**1.48**	**63**	*i* PN		**Pn**	**06 05 25.4 -0.6**
RKY				*i* SN		**Sn**	**06 05 44.1 -1.6**
SART	**Tekirdag**	**1.48**	**63**	*i* P		**Pn**	**06 05 25.9 -0.2**
SART				*i* S		**Sn**	**06 05 44.9 -0.9**
PLG	**Polygyros**	**1.57**	**284**	*e*Pb		**Pn**	**06 05 27.0 -0.3**
PLG	**Polygyros**	**1.57**	**284**	*e*PN		**Pn**	**06 05 26.8 -0.5**
PLG				*e*SN		**Sn**	**06 05 46.5 -1.5**
PLG	**Polygyros**	**1.57**	**284**	*e*Pb		**Pn**	**06 05 27.0 -0.3**
PLG				*e*Sn		**Sn**	**06 05 46.5 -1.5**
MFT	**Murefte**	**1.60**	**61**	*i* PN		**Pn**	**06 05 27.7 +0.1**
KDZ	**Kurdzhali**	**1.63**	**359**	*i* P		**Pn**	**06 05 27.3 -0.8**
KDZ				Pg		**Pg**	**06 05 29.2 -0.8**
KDZ				Sg		**Sg**	**06 05 50.8 -0.3**
MRMT	**Marmara Adasi**	**1.74**	**70**	*i* PN		**Pn**	**06 05 28.9 -0.7**
RZN	**Rozhen**	**1.75**	**342**	*i* P		**Pn**	**06 05 29.9 +0.1**
RZN				Sg		**Sg**	**06 05 56.6 +1.4**
SOH	**Sokhos**	**1.79**	**297**	*e*Pb		**Pn**	**06 05 29.9 -0.3**
SRS	**Serrai**	**1.79**	**308**	*e*Pb		**Pn**	**06 05 29.6 -0.7**
NVR	**Nevrokopi**	**1.79**	**318**	*e*PN		**Pn**	**06 05 31.2 +0.9**
NVR				*e*SN		**Sn**	**06 05 52.9 -0.5**
XOR	**Xorichti**	**1.86**	**250**	*e*Pb		**Pn**	**06 05 30.1 -1.1**
EDC	**Edincik**	**1.88**	**79**	PN		**Pn**	**06 05 32.0 +0.5**
URLA	**Izmir**	**1.88**	**151**	*i* P		**Pn**	**06 05 30.8 -0.8**
URLA				*i* S		**Sn**	**06 05 54.5 -1.1**
HORT	**Hortiatis**	**1.89**	**289**	*e*Pn		**Pn**	**06 05 31.3 -0.3**
BTOK	**Tokmak**	**2.00**	**97**	*i* P		**Pn**	**06 05 34.2 +0.9**
BTOK				*i* S		**Sn**	**06 05 58.9 +0.2**
DIM	**Dimitrovgrad**	**2.03**	**2**	*i* P		**Pn**	**06 05 33.0 -0.6**
DIM				Sg		**Sg**	**06 06 04.7 +0.7**
MMB	**Musomiste**	**2.04**	**321**	*i* Pg		**Pn**	**06 05 33.5 -0.2**
MMB				Sg		**Sg**	**06 06 02.7 -1.6**
BLCB	**Balcova**	**2.05**	**142**	PN		**Pn**	**06 05 32.2 -1.7**
BLCB	**Balcova**	**2.05**	**142**	*e*Pb		**Pn**	**06 05 29.0 -4.9**
EDRB	**Edirne**	**2.07**	**28**	PN		**Pn**	**06 05 36.0 +1.8**
PLD	**Plovdiv**	**2.16**	**345**	*e*Pn		**Pn**	**06 05 35.8 +0.4**
PLD	**Plovdiv**	**2.16**	**345**	P		**Pn**	**06 05 35.6 +0.3**
PLD	**Plovdiv**	**2.16**	**345**	*e*Pn		**Pn**	**06 05 35.8 +0.5**
KCT	**Karacabey**	**2.24**	**83**	PN		**Pn**	**06 05 37.0 +0.5**
KNT	**Kendrikon**	**2.25**	**301**	*e*Pn		**Pn**	**06 05 36.6 0.0**
LIT	**Litokhoron**	**2.27**	**273**	*e*Pn		**Pn**	**06 05 36.0 -0.9**
LKR	**Lokris**	**2.34**	**235**	*e*PN		**Pn**	**06 05 36.9 -0.9**
ATH	**Athens Observa**	**2.45**	**214**	*e*PB		**Pn**	**06 05 39.5 +0.1**
GRG	**Griva**	**2.50**	**293**	*e*Pn		**Pn**	**06 05 40.5 +0.4**
CTT	**Catalca**	**2.54**	**63**	PN		**Pn**	**06 05 40.4 -0.1**
ELBA	**Catalca**	**2.54**	**63**	*i* P		**Pn**	**06 05 41.1 +0.5**
ELBA				*i* S		**Sn**	**06 06 08.3 -3.4**
VAY	**Valandovo**	**2.54**	**302**	*e*Pn		**Pn**	**06 05 40.9 +0.2**
VAY	**Valandovo**	**2.54**	**302**	*e*Pn		**Pn**	**06 05 41.1 +0.4**
VAY				*e*Sg		**Sg**	**06 06 21.8 +1.2**
VAY	**Valandovo**	**2.54**	**302**	*e*Pn		**Pn**	**06 05 41.1 +0.4**
VAY				*e*Sg		**Sg**	**06 06 21.7 +1.2**
SMG	**Samos**	**2.55**	**154**	*e*PN		**Pn**	**06 05 39.9 -0.9**
KKB	**Krupnik**	**2.57**	**317**	*i* P		**Pn**	**06 05 41.9 +0.9**
KKB				Sg		**Sg**	**06 06 20.6 -0.8**
JMB	**Yambol**	**2.59**	**19**	*e*Pn		**Pn**	**06 05 40.4 -0.8**
AGG	**Agios Georgios**	**2.61**	**249**	*e*Pn		**Pn**	**06 05 41.1 -0.4**
THL	**Klokotos Trika**	**2.68**	**261**	*e*PN		**Pn**	**06 05 42.2 -0.4**
PGB	**Panagyurishte**	**2.70**	**340**	*i* P		**Pn**	**06 05 42.4 -0.5**
KZN	**Kozani**	**2.83**	**277**	*e*PN		**Pn**	**06 05 44.7 +0.1**
ULDT	**Uludag**	**2.83**	**86**	*i* P		**Pn**	**06 05 45.0 +0.3**
ULDT				*i* S		**Sb**	**06 06 27.1 +2.4**
GEMT	**Gemlik**	**2.90**	**81**	PN		**Pn**	**06 05 45.0 -0.5**
BADT	**Buyukada**	**2.92**	**72**	PN		**Pn**	**06 05 46.2 +0.3**
ISK	**Istanbul-Kandi**	**2.94**	**68**	PN		**Pn**	**06 05 46.4 +0.2**
ISK	**Istanbul-Kandi**	**2.94**	**68**	*e*Pn		**Pn**	**06 05 45.0 -1.2**
APE	**Apeiranthos**	**2.95**	**179**	*e*Pn		**Pn**	**06 05 44.5 -1.7**
APE	**Apeiranthos**	**2.95**	**179**	⇑*i*P		**Pn**	**06 05 44.5 -1.7**
APE	**Apeiranthos**	**2.95**	**179**	*e*Pn		**Pn**	**06 05 45.5 -0.7**
STIP	**Stip**	**2.98**	**305**	*e*Pn		**Pn**	**06 05 48.0 +1.3**
STIP				*e*Sg		**Sg**	**06 06 35.9 +1.2**
STIP	**Stip**	**2.98**	**305**	*e*Pn		**Pn**	**06 05 48.0 +1.3**
STIP				*e*Sg		**Sg**	**06 06 35.8 +1.1**
KLYT	**Kilyos**	**3.00**	**65**	PN		**Pn**	**06 05 47.8 +0.9**
EVR	**Evrytania**	**3.02**	**250**	*e*PN		**Pn**	**06 05 47.5 +0.2**
YLV	**Yalova**	**3.05**	**78**	PN		**Pn**	**06 05 48.2 +0.6**
VTS	**Vitosha**	**3.07**	**327**	*i* P		**Pn**	**06 05 48.4 +0.5**
VTS				Sg		**Sg**	**06 06 36.6 -0.9**
VTS	**Vitosha**	**3.07**	**327**	⇑*i*P		**Pn**	**06 05 48.8 +0.9**
VTS	**Vitosha**	**3.07**	**327**	*e*Pn		**Pn**	**06 05 48.6 +0.7**
**

KYTH	**Kithira**	**4.19**	**208**	*e*PN	**Pn**	**06 06 03.0**	**-0.3**
ESKT	**Eskisehir**	**4.19**	**95**	*i* P	**Pn**	**06 06 03.7**	**+0.4**
ESKT				*i* S	**Sg**	**06 07 11.8**	**-1.7**
ESKT	**Eskisehir**	**4.19**	**95**	*e*Pn	**Pn**	**06 06 03.0**	**-0.3**
SEYT	**Eskypehyr**	**4.19**	**95**	*i* P	**Pn**	**06 06 03.7**	**+0.4**
SHUT	**Suhut-Afyon**	**4.22**	**109**	*e*PN	**Pn**	**06 06 04.4**	**+0.7**
KEK	**Kerkira**	**4.36**	**268**	*e*PN	**Pn**	**06 06 06.8**	**+1.2**
FETY	**Fethiye**	**4.43**	**139**	*e*PN	**Pn**	**06 06 07.1**	**+0.5**
KARP	**Karpathos**	**4.67**	**163**	*e*PN	**Pn**	**06 06 09.7**	**-0.2**
TIRR	**Tirgusor**	**4.95**	**25**	⇓*i*P	**Pn**	**06 06 11.9**	**-1.8**
GRUS	**Gruza**	**5.23**	**319**	*i* Pn	**Pn**	**06 06 17.1**	**-0.5**
GRUS				Sn	**Sn**	**06 07 15.9**	**-2.4**
SNX	**Sinaia**	**5.33**	**1**	⇑*i*P	**Pn**	**06 06 19.4**	**+0.4**
SNX	**Sinaia**	**5.33**	**1**	⇑P	**Pn**	**06 06 19.4**	**+0.5**
VOIR		**5.42**	**357**	⇓*i*P	**Pn**	**06 06 20.3**	**+0.1**
VOIR		**5.42**	**357**	⇓P	**Pn**	**06 06 20.3**	**+0.1**
MLR	**Muntele Rosu**	**5.48**	**4**	⇑*i*P	**Pn**	**06 06 22.0**	**+1.0**
MLR	**Muntele Rosu**	**5.48**	**4**	⇑P	**Pn**	**06 06 22.0**	**+1.0**
CFR	**Carcaliu**	**5.52**	**20**	⇓*i*P	**Pn**	**06 06 28.0**	**+6.4**
CFR	**Carcaliu**	**5.52**	**20**	⇓P	**Pn**	**06 06 28.0**	**+6.4**
GZR	**Gura Zlata**	**5.72**	**341**	⇑*i*P	**Pn**	**06 06 23.8**	**-0.5**
GZR	**Gura Zlata**	**5.72**	**341**	⇑P	**Pn**	**06 06 23.8**	**-0.5**
DIVS	**Divcibare**	**5.75**	**317**	*i* Pn	**Pn**	**06 06 24.4**	**-0.3**
DIVS				Sn	**Sn**	**06 07 27.9**	**-3.2**
PLOR	**Plostina**	**5.89**	**8**	⇓*i*P	**Pn**	**06 06 28.7**	**+2.0**
VRI	**Vrincioaia**	**5.92**	**9**	⇓*i*P	**Pn**	**06 06 28.6**	**+1.6**
BBLS	**Bajina Basta -**	**5.92**	**312**	*i* Pn	**Pb**	**06 06 38.3**	**-4.1**
BZS	**Buzias**	**6.26**	**335**	⇑*i*P	**Pn**	**06 06 28.7**	**-3.0**
BZS	**Buzias**	**6.26**	**335**	⇑P	**Pn**	**06 06 28.7**	**-3.1**
BR131	**Keskin Array S** 3.2nm,0.3s	**6.31**	**90**	*e*Pn	**Pn**	**06 06 33.0**	**+0.6**
BR131				*e*Sn	**Sn**	**06 07 43.9**	**-0.9**
BR131	**Keskin Array S** 3.2nm,0.3s	**6.31**	**90**	*e*Pn	**Pn**	**06 06 33.0**	**+0.6**
BR131				*e*Sn	**Sn**	**06 07 43.9**	**-0.9**
BURAR	**Bucovina Array**	**7.59**	**359**	⇓*i*P	**Pn**	**06 06 51.7**	**+1.7**
BURAR	**Bucovina Array**	**7.59**	**359**	⇓P	**Pn**	**06 06 51.7**	**+1.7**
PKSM	**Moragy**	**7.94**	**323**	⇓*i*P	**Pn**	**06 06 54.2**	**-0.6**
PKSM	**Moragy**	**7.94**	**323**	⇓P	**Pn**	**06 06 54.2**	**-0.6**

*STR **18** 06:16:15.6±0.0, 4302N×002W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 06:16:15.7±0.1, 4301N×001W, h3km, Md1.5/2, Ml1.4/2, Error ellipse: s-maj=2.5km s-min=1.9km az=141.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**56**	Pg	Pg	06 16 17.4	+0.2
LABF				Sg	Sg	06 16 18.7	+0.6
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	06 16 18.5	+0.3
VIEF				Sg	Sg	06 16 20.6	+0.8
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	06 16 20.4	-0.2
EPF				*e*Sg	Sg	06 16 24.0	+0.1
	2.1nm,0.2s						
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	06 16 23.7	-0.1
ETSF				*e*Sg	Sg	06 16 29.4	+0.2
	1.5nm,0.3s						
MTLF	**Montolieu** 0.3nm,0.3s	**1.66**	**78**	*e*Sg	Sg	06 17 07.9	-1.2
LFF	**La Frestale**	**2.00**	**15**	*e*Pn	Pn	06 16 48.2	-2.2
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	06 16 53.1	-1.0
LFF				*e*Sn	Sn	06 17 13.6	-2.4
	1.6nm,0.3s						

*STR **18** 06:20:58.2±0.0, 4302N×003W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 06:20:57.8±0.1, 4303N×002W, h10km, Md1.8/2, Ml1.7/3, Error ellipse: s-maj=4.0km s-min=2.1km az=160.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**74**	Pg	Pg	06 21 00.1	+0.1
LABF				Sg	Sg	06 21 01.4	-0.2
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	06 21 01.1	0.0
VIEF				Sg	Sg	06 21 03.3	-0.1
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	06 21 03.1	-0.1
EPF				*e*Sg	Sg	06 21 07.0	+0.2
	5.1nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	06 21 06.3	+0.4
ETSF				*e*Sg	Sg	06 21 11.9	+0.5
	3.5nm,0.2s						
SJPF	**Ste Jean** 1.6nm,0.3s	**0.89**	**276**	*e*Sg	Sg	06 21 25.4	-1.0
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	06 21 29.4	-0.4
MTLF				*e*Sg	Sg	06 21 51.0	-0.4
	1.1nm,0.2s						
CAF	**Calviac**	**2.42**	**38**	*e*Sn	Sn	06 22 02.8	-4.3
CAF				*e*Sg	Sg	06 22 13.9	-1.8
	0.6nm,0.2s						

*ISCJB **18** 06:21:43.3±0.8, 1034N±004×6245W±003, h10km±6km, Error ellipse: s-maj=7.3km s-min=3.9km az=136.6*
*TRN **18** 06:21:43.3, 1030N×6240W, h6km, MD3.2*
*FUNV **18** 06:21:43.8, 1037N×6237W, h15km, MW3.0*
*NEIC **18** 06:21:44.7, 1028N×6233W, h9km, MD3.2(TRN), After TRN.*
ISC 18 06:21:43.6±0.6, 1035N±004×6244W±003, h11km±5km, n13, σ0s95/22, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.36**	**37**	⇑*e*P	**Pg**	**06 21 50.5**	**-0.4**
GUIV				*e*S	**Sg**	**06 21 54.8**	**-0.9**
GUNV	**Guanoco**	**0.53**	**249**	*e*P	**Pg**	**06 21 54.2**	**+0.3**
GUNV				*e*S	**Sg**	**06 22 03.7**	**+2.8**
TCE	**Chacachacare**	**0.76**	**63**	*e*P	**Pg**	**06 21 57.9**	**-0.4**
TCE				*e*S	**Sg**	**06 22 08.3**	**0.0**
CRUV	**Carupano**	**0.84**	**292**	*e*P	**Pg**	**06 21 59.4**	**-0.5**
CRUV				*e*S	**Sg**	**06 22 11.0**	**+0.2**
TPP	**Pointe-a-Pierr**	**0.98**	**92**	*e*P	**Pg**	**06 22 02.4**	**0.0**
TRN	**Trinidad (W)**	**1.06**	**74**	*e*P	**Pb**	**06 22 02.8**	**-1.3**
TRN				*e*S	**Sg**	**06 22 18.6**	**+0.6**
ITEV	**Isla Los Testi**	**1.20**	**326**	*e*S	**Sb**	**06 22 21.9**	**-0.1**
TBH	**Brigand Hill**	**1.36**	**84**	*e*P	**Pn**	**06 22 07.8**	**-0.8**
ORIV	**Oritupano**	**1.59**	**217**	*e*P	**Pn**	**06 22 11.7**	**-0.1**
ORIV				*e*S	**Sn**	**06 22 32.6**	**+0.4**
TPR	**Prospect**	**1.83**	**63**	*e*P	**Pn**	**06 22 16.0**	**+0.9**
GRW	**Mount Saint Ca**	**1.95**	**23**	*e*P	**Pn**	**06 22 19.8**	**+3.1**
GRW				*e*S	**Sn**	**06 22 43.2**	**+2.0**
PCRV	**Puerto La Cruz**	**2.17**	**266**	*e*P	**Pn**	**06 22 19.2**	**-0.4**
PCRV				*e*S	**Sn**	**06 22 45.5**	**-1.0**
CUPV	**Cœpira**	**3.31**	**265**	*e*P	**Pn**	**06 22 35.3**	**0.0**
CUPV				*e*S	**Sn**	**06 23 13.5**	**-1.1**

*STR **18** 06:28:52.8±0.1, 4303N×004W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 06:28:52.6±0.1, 4302N×000W, h7km, Md1.4/2, Ml1.4/1, Error ellipse: s-maj=1.9km s-min=0.9km az=161.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**68**	Pg	Pg	06 28 54.7	+0.4
LABF				Sg	Sg	06 28 56.1	+0.6
VIEF	**Viey**	**0.14**	**172**	Pg	Pg	06 28 55.9	+0.3
VIEF				Sg	Sg	06 28 58.1	+0.5
EPF	**Esparros**	**0.25**	**88**	*e*Pg	Pg	06 28 57.8	+0.2
EPF				*e*Sg	Sg	06 29 01.5	+0.6
	2.4nm,0.2s						
ETSF	**Etsaut**	**0.43**	**253**	*e*Pg	Pg	06 29 01.1	+0.2
ETSF				*e*Sg	Sg	06 29 06.4	-0.1
	2.6nm,0.2s						
MTLF	**Montolieu** 0.7nm,0.4s	**1.66**	**78**	*e*Sg	Sg	06 29 44.6	-1.2

*ISCJB **18** 06:35:36.6±0.7, 4691N±010×1527E±01, h10km, mb4.5/21, Error ellipse: s-maj=17.6km s-min=6.0km az=99.5*
*NEIC **18** 06:35:38.2±0.7, 4697N×15292E, h10km, Error ellipse: s-maj=18.6km s-min=12.0km az=160.0*
*MOS **18** 06:35:42.3±1.8, 4678N×15271E, h66km, mb3.9/1, Error ellipse: s-maj=17.4km s-min=13.1km az=49.6*
*IDC **18** 06:35:45.4±3.8, 4684N×15268E, h70km±34km, mb3.7/16, mb1 3.9/18, mb1mx3.8/26, mbtmp3.7/18, ML3.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=19.8km s-min=16.9km az=177.0*
ISC 18 06:35:38.9±0.7, 4471N±01×1527E±01, h10km, n40, σ0s92/41, mb4.5/21, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**243**	*e*PN	**Pn**	**06 36 34.5**	**-2.9**
KUR				*e*S	**Sn**	**06 37 20.5**	**-1.5**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,610nm,0.5s						
KUR				smax			
	comp=E,530nm,0.5s						
SKR	**Severo-Kuril's**	**4.29**	**31**	*e*PN	**Pn**	**06 36 50.0**	**+5.9**
SKR				*e*S	**Sn**	**06 37 37.9**	**+3.8**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.65**	**240**	PN	**Pn**	**06 37 03.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**6.77**	**273**	*e*PN	**Pn**	**06 37 24.3**	**+6.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.77**	**273**	*e*Pn	**Pn**	**06 37 22.8**	**+4.6**
	comp=Z,22nm,0.8s						
ASAJ	**Asahikawa**	**7.64**	**251**	P	**Pn**	**06 37 33.9**	**+3.6**
	comp=Z,1.4nm,0.3s,baz=89,slow=15,SNR=9.0						
ASAJ				LR	LR	06 41 05.4	
	comp=Z,40nm,18.4s,baz=11,slow=42						
ASAJ	**Asahikawa**	**7.64**	**251**	PN	**Pn**	**06 37 33.9**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,40nm,18.4s						
MAT	**Matsushiro**	**15.02**	**231**	P	**Pn**	**06 39 12.9**	**+1.7**
MJAR	**Matsushiro Arr**	**15.02**	**231**	P	**Pn**	**06 39 12.9**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=33,slow=9.2,SNR=8.8						
KSRS	**Korea Array**	**20.59**	**251**	P	**P**	**06 40 18.6**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=48,slow=11,SNR=11						
SONM	**Songino Array**	**30.93**	**289**	P	**P**	**06 41 57.2**	**+1.4**
	comp=Z,2.4nm,1.2s,mb3.9,baz=70,slow=8.4,SNR=3.2						
SONM				LR	LR	06 55 29.8	
	comp=Z,55nm,19.9s,baz=34,slow=38						
INK	**Inuvik**	**41.56**	**33**	P	**P**	**06 43 26.8**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=301,slow=5.8,SNR=4.0						
INK	**Inuvik**	**41.56**	**33**	P	**P**	**06 43 26.8**	**+0.2**
ZAL	**Zalesovo**	**42.19**	**305**	P	**P**	**06 43 30.9**	**-0.8**
	comp=Z,1.3nm,0.5s,mb3.9,baz=323,slow=2.0,SNR=4.2						
ZAL				PcP	PcP	06 45 24.6	-1.2
	comp=Z,0.9nm,0.4s,baz=152,slow=5.4,SNR=3.4						
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**06 44 05.8**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=67,slow=7.4,SNR=18						
MKAR				PcP	PcP	06 45 39.4	-1.3
	comp=Z,0.5nm,0.3s,baz=55,slow=6.0,SNR=6.2						
BVAR	**Borovoye Array**	**50.42**	**309**	P	**P**	**06 44 36.0**	**-0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=54,slow=6.0,SNR=4.1						
BVAR				PcP	PcP	06 45 53.5	-1.3
	comp=Z,0.9nm,0.4s,baz=74,slow=3.1,SNR=4.3						
JIRN	**Jiri**	**54.61**	**274**	*e*P	**P**	**06 45 07.8**	**+0.3**
	comp=Z,31nm,0.6s,mb5.5						
GUN	**Gumba**	**54.66**	**274**	*e*P	**P**	**06 45 07.8**	**-0.1**
	comp=Z,11nm,0.4s,mb5.2						
KKN	**Kakani**	**55.14**	**275**	*e*P	**P**	**06 45 11.8**	**+0.4**
	comp=Z,23nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.20**	**274**	*e*P	**P**	**06 45 11.6**	**-0.2**
	comp=Z,11nm,0.6s,mb5.1						
DMN	**Daman**	**55.38**	**275**	*e*P	**P**	**06 45 13.1**	**0.0**
	comp=Z,33nm,0.7s,mb5.5						
GKN	**Gorkha**	**55.45**	**275**	*e*P	**P**	**06 45 13.8**	**+0.2**
	comp=Z,33nm,0.7s,mb5.5						
KOLN	**Koldanda**	**56.30**	**276**	*e*P	**P**	**06 45 20.0**	**+0.3**
	comp=Z,22nm,0.7s,mb5.3						
ARCES	**ARCESS Array B**	**57.45**	**341**	P	**P**	**06 45 27.4**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.4,baz=44,slow=7.2,SNR=6.1						
ARCES	**ARCESS Array B**	**57.45**	**341**	P	**P**	**06 45 27.4**	**-0.4**
NVAR	**Mina Array Bea**	**62.57**	**62**	P	**P**	**06 46 02.4**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.6,baz=306,slow=7.7,SNR=3.4						
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**06 46 09.4**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.5,baz=36,slow=8.3,SNR=32						
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**06 46 17.9**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=318,slow=2.0,SNR=4.3						
NB2	**NORSAR Subarra**	**67.83**	**341**	P	**P**	**06 46 36.9**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.4,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.83**	**341**	P	**P**	**06 46 37.2**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=28,slow=6.4,SNR=9.3						
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**06 46 56.8**	**-0.6**
	comp=Z,3.0nm,0.5s,mb4.5,baz=35,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**72.40**	**198**	P	**P**	**06 47 02.1**	**-3.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=12,slow=5.4,SNR=16						
BURAR	**Bucovina Array**	**75.15**	**326**	⇓*i*P	**P**	**06 47 21.4**	**+0.1**
BURAR	**Bucovina Array**	**75.15**	**326**	⇓P	**P**	**06 47 21.4**	**+0.1**
MLR	**Muntele Rosu**	**76.63**	**325**	⇑*i*P	**P**	**06 47 29.8**	**+0.1**
MLR	**Muntele Rosu**	**76.63**	**325**	⇑P	**P**	**06 47 29.8**	**+0.1**
TXAR	**Lajitas Array**	**77.61**	**60**	P	**P**	**06 47 35.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=308,slow=7.8,SNR=3.3						
BRTR	**Keskin Array B**	**77.95**	**316**	P	**P**	**06 47 37.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=33,slow=7.3,SNR=6.1						
GERES	**GERESS Array B**	**78.04**	**334**	P	**P**	**06 47 37.8**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=38,slow=5.5,SNR=8.4						
CFAA	**Coronel Fontan**	**145.24**	**78**	PKPbc	PKPbc	06 55 14.2	-2.2
	comp=Z,0.5nm,0.7s,baz=296,slow=0.3,SNR=9.4						

IDC 18 06:40:29.4±10.0, 647S×15079E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, Error ellipse: s-maj=155.9km s-min=69.6km az=40.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.85**	**228**	P	P	06 45 13.2	+0.4
	0.7nm,0.6s,baz=53,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**23.58**	**222**	P	P	06 45 41.9	0.0
	0.6nm,0.7s,baz=56,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**26.70**	**198**	P	P	06 46 09.8	-0.4
	1.2nm,0.9s,baz=339,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**27.12**	**242**	P	P	06 46 14.8	+0.8
	1.6nm,0.5s,baz=51,slow=7.4,SNR=8.8						

*JMA **18** 06:48:38.8±0.3, 3342N×14083E, h40km, M3.3*
*ISCJB **18** 06:48:39.3±1.1, 3343N±005×14078E±008, h43km±16km, mb3.6/2, Error ellipse: s-maj=12.4km s-min=6.4km az=52.7*
*IDC **18** 06:48:39.0±1.6, 3298N×14058E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=32.2km s-min=18.4km az=27.0*
ISC 18 06:48:39.0±1.5, 3342N±004×14079E±008, h28km±9km, n12, σ0s98/19, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.87**	**249**	P	**Pn**	**06 48 55.3**	**-0.1**
JHJ2				*e*S	**Sb**	**06 49 06.7**	**-0.1**
JHJ	**Hachijo jima 2**	**0.90**	**250**	Pn	**Pn**	**06 48 55.6**	**-0.1**
	156nm,0.3s,baz=98,slow=12,SNR=31						
JHJ				Sn	**Sn**	**06 49 06.7**	**-1.1**
	424nm,0.3s,baz=266,slow=23,SNR=26						
BSO1	**Boso 1**	**1.24**	**7**	P	**Pn**	**06 49 00.2**	**-0.2**
BSO1				*e*S	**Sn**	**06 49 14.5**	**-1.7**
BSO2	**Boso 2**	**1.32**	**359**	*e*S	**Sn**	**06 49 19.1**	**+0.7**
BSO3	**Boso 3**	**1.39**	**351**	P	**Pn**	**06 49 02.8**	**+0.2**
BSO3				*e*S	**Sn**	**06 49 20.4**	**+0.3**
JKO	**Kozu shima**	**1.57**	**299**	*e*S	**Sn**	**06 49 26.0**	**+1.5**
JIM2	**Oshima 3**	**1.71**	**319**	P	**Pn**	**06 49 07.3**	**+0.3**
JIM2				*e*S	**Sn**	**06 49 27.7**	**-0.3**
KTJJ	**Kamata 2**	**2.07**	**317**	*e*S	**Sn**	**06 49 35.9**	**-0.9**
JOD2	**Odawara 2**	**2.31**	**323**	P	**Pn**	**06 49 16.5**	**+1.3**
JOD2				*e*S	**Sn**	**06 49 42.0**	**-0.7**
MJAR	**Matsushiro Arr**	**3.76**	**326**	Pn	**Pb**	**06 49 42.8**	**-1.9**
	0.8nm,0.3s,baz=142,slow=11,SNR=5.3						
MJAR				Sn	**Sb**	**06 50 31.6**	**+1.7**
	0.6nm,0.3s,baz=27,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**53.42**	**188**	P	**P**	**06 57 57.4**	**+1.1**
	0.2nm,0.5s,mb3.3,baz=5.3,slow=7.6,SNR=8.4						
TXAR	**Lajitas Array**	**92.73**	**52**	P	**P**	**07 01 54.8**	**+6.2**
	0.3nm,0.5s,mb3.9,baz=310,slow=7.0,SNR=4.0						

*STR **18** 06:49:39.5±0.0, 4302N×003W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 06:49:39.7±0.1, 4300N×000E, h5km, Md1.8/2, Ml1.7/2, Error ellipse: s-maj=1.7km s-min=1.1km az=158.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**50**	Pg	Pg	06 49 41.4	+0.1
LABF				Sg	Sg	06 49 42.7	+0.3
VIEF	**Viey**	**0.12**	**172**	Pg	Pg	06 49 42.6	+0.4
VIEF				Sg	Sg	06 49 44.8	+1.0
EPF	**Esparros**	**0.25**	**84**	*e*Pg	Pg	06 49 44.3	-0.3
EPF				*e*Sg	Sg	06 49 48.3	+0.4
	7.1nm,0.3s						
ETSF	**Etsaut**	**0.42**	**256**	*e*Pg	Pg	06 49 47.8	-0.1
ETSF	**Etsaut**	**0.42**	**256**	*e*Pn	Pg	06 49 49.0	+1.1
ETSF				*e*Sg	Sg	06 49 53.5	+0.1
	6.6nm,0.2s						
SJPF	**Ste Jean** 1.0nm,0.2s	**0.91**	**277**	*e*Sg	Sg	06 50 08.5	-0.3
SJPF				*e*Sn	Sn	06 50 10.2	-2.3
MTLF	**Montolieu**	**1.66**	**77**	*e*Pg	Pg	06 50 10.4	-1.0
MTLF				*e*Sg	Sg	06 50 32.0	-0.9
	1.9nm,0.3s						
LFF	**La Frestale**	**2.01**	**15**	*e*Pg	Pg	06 50 17.2	-1.0
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Sn	Sn	06 50 49.8	-3.2

*STR **18** 07:04:14.1±0.0, 4299N×014E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 07:04:14.3±0.1, 4302N×002W, h2km, Md1.3/2, Ml1.3/2, Error ellipse: s-maj=1.8km s-min=0.9km az=164.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**67**	Pg	Pg	07 04 15.8	+0.1
LABF				Sg	Sg	07 04 17.1	+0.4
VIEF	**Viey**	**0.14**	**168**	Pg	Pg	07 04 17.1	+0.1
VIEF				Sg	Sg	07 04 19.2	+0.4
EPF	**Esparros**	**0.26**	**88**	*e*Pg	Pg	07 04 19.4	+0.1
EPF				*e*Sg	Sg	07 04 23.1	+0.4
	4.3nm,0.2s						
ETSF	**Etsaut**	**0.42**	**253**	*e*Pg	Pg	07 04 22.5	+0.2
ETSF				*e*Sg	Sg	07 04 28.1	+0.4
	2.9nm,0.3s						
SJPF	**Ste Jean** 0.9nm,0.3s	**0.89**	**276**	*e*Sg	Sg	07 04 42.1	-0.8
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	07 04 45.1	-1.1
MTLF				*e*Sg	Sg	07 05 06.8	-1.0
	0.4nm,0.3s						

*NEIC **18** 07:11:32.5, 1764N×10143W, h40km, MD4.0(MEX), After MEX.*
MEX 18 07:11:32.5±0.4, 1763N×10142W, h39km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.05**	**238**	*i* P	Pn	07 11 37.4	-1.4
ZIIG				*i* S	Sn	07 11 41.6	-1.5
ZIIG	**Zihuatanejo**	**0.05**	**238**	*i* P	Pn	07 11 36.9	-1.8
ZIIG				*i* S	Sn	07 11 42.2	-0.8
CAIG	**El Cayaco**	**1.25**	**118**	*e*P	Pn	07 11 52.1	-1.3
CAIG				*i* S	Sn	07 12 06.7	-2.3
CAIG	**El Cayaco**	**1.25**	**118**	*e*P	Pn	07 11 52.1	-1.3
CAIG				*i* S	Sn	07 12 08.9	-0.1
ACX	**Acapulco**	**1.63**	**118**	*e*P	Pn	07 11 58.5	-0.1
MEIG	**Mezcala**	**1.74**	**80**	*i* P	Pn	07 11 58.4	-1.8
MEIG				*i* S	Sn	07 12 18.9	-2.2
MMIG	**Aquila**	**1.94**	**290**	*e*P	Pn	07 12 01.6	-1.4
MMIG				*i* S	Sn	07 12 23.9	-2.3
PLIG	**Platanillo**	**1.98**	**67**	*i* P	Pn	07 12 02.3	-1.2
PLIG				*i* S	Sn	07 12 24.9	-2.0
PLIG	**Platanillo**	**1.98**	**67**	*i* P	Pn	07 12 02.3	-1.2
PLIG				*i* S	Sn	07 12 26.1	-0.8
MOIG	**Morelia**	**2.05**	**6**	*e*P	Pn	07 12 02.8	-1.6
MOIG				*i* S	Sn	07 12 27.0	-1.7
MOIG	**Morelia**	**2.05**	**6**	*e*P	Pn	07 12 02.8	-1.6
MOIG				*i* S	Sn	07 12 28.1	-0.6
PPM	**Popocatepetl**	**3.01**	**61**	*e*P	Pn	07 12 25.0	+7.3
IIO	**Organos**	**3.22**	**52**	*i* P	Pn	07 12 17.9	-2.6
IIO				*i* S	Sn	07 12 56.3	-1.3
UTMO	**Huajuapan**	**3.45**	**86**	*i* P	Pn	07 12 22.0	-1.8
UTMO				*i* S	Sn	07 13 01.6	-1.8

*IDC **18** 07:12:00.9±1.0, 4749N×15448E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/22, mbtmp3.6/7, MS3.5/1, Ms1 3.5/1, ms1mx2.6/36, Error ellipse: s-maj=31.4km s-min=23.7km az=163.0*
*MOS **18** 07:12:05.7±1.0, 4750N×15426E, h49km, mb4.1/3, Error ellipse: s-maj=53.9km s-min=29.4km az=85.4*
*ISCJB **18** 07:12:07.2±3.0, 476N±02×1544E±02, h59km±26km, mb3.

TAMB	**Tambo**	**1.94**	**87**	P	Pn	07 15 27.5	+3.6
RETU	**Refugio**	**1.97**	**109**	P	Pn	07 15 28.9	+4.6
ARRY	**Arrayan**	**1.98**	**110**	⇓P	Pn	07 15 27.4	+3.1
ARRY				S	Sn	07 15 53.1	+4.6
RUN5	**Runtun**	**1.98**	**108**	P	Pn	07 15 27.5	+3.2
ULBA	**Ulba**	**2.00**	**108**	⇓P	Pn	07 15 27.7	+2.9
ULBA				S	Sn	07 15 56.2	+7.0
ANTI	**Antisana**	**2.18**	**81**	⇑P	Pn	07 15 30.9	+3.8
ANTI				S	Sn	07 16 00.5	+7.0
COTA	**Cotacachi**	**2.28**	**60**	P	Pn	07 15 30.6	+2.1
CAYR	**Refugio Cayamb**	**2.44**	**70**	⇑P	Pn	07 15 34.8	+4.0
CAYA	**Cayambe**	**2.48**	**69**	⇑P	Pn	07 15 35.2	+4.0

*IDC **18** 07:28:05.8±1.1, 4725N×15308E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, Error ellipse: s-maj=31.9km s-min=28.0km az=33.0*
*MOS **18** 07:28:09.2±1.2, 4716N×15256E, h33km, mb4.5/5, Error ellipse: s-maj=56.7km s-min=21.9km az=84.7*
*ISCJB **18** 07:28:14.2±3.4, 473N±02×1530E±03, h78km±26km, mb3.8/9, Error ellipse: s-maj=33.7km s-min=31.2km az=83.0*

ISC 18 07:28:15.7±3.2, 473N±02×1530E±03, h77km±25km, n16, σ0§29/16, mb3.8/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.96**	**30**	*e*PN	**Pn**	**07 29 14.0**	**0.0**
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=Z,90nm,0.5s			pmax	pmax		
ARCES	**ARCESS Array B**	**57.29**	**341**	P	**P**	**07 37 55.4**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=18,slow=6.3,SNR=5.7						
ARCES	**ARCESS Array B**	**57.29**	**341**	P	**P**	**07 37 55.4**	**-0.1**
ARCES	comp=Z,3.0nm,0.9s			pmax	pmax		
FINES	**FINESS Array B**	**63.49**	**335**	P	**P**	**07 38 37.8**	**+0.1**
	comp=Z,1.4nm,0.4s,mb4.2,baz=38,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**63.49**	**335**	P	**P**	**07 38 37.8**	**+0.1**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
PDAR	**Pinedale Array**	**64.49**	**54**	P	**P**	**07 38 44.3**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=299,slow=1.5,SNR=5.4						
ULM	**Lac du Bonnet**	**66.16**	**41**	P	**P**	**07 38 55.1**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=309,slow=3.6,SNR=4.1						
NB2	**NORSAR Subarra**	**67.67**	**341**	P	**P**	**07 39 04.8**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**341**	P	**P**	**07 39 05.5**	**+0.9**
	comp=Z,2.1nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=6.8						
NOA	**NORSAR Array B**	**67.67**	**341**	P	**P**	**07 39 05.5**	**+0.9**
NOA	comp=Z,2.0nm,0.5s			pmax	pmax		
AKASG	**Malin Array Be**	**71.03**	**326**	P	**P**	**07 39 25.2**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=7.1						
AKASG	**Malin Array Be**	**71.03**	**326**	P	**P**	**07 39 25.2**	**-0.2**
AKASG	comp=Z,2.0nm,0.4s			pmax	pmax		
ASAR	**Alice Springs**	**72.71**	**198**	P	**P**	**07 39 35.5**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=18,slow=12,SNR=4.7						
TXAR	**Lajitas Array**	**77.30**	**61**	P	**P**	**07 40 01.7**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=304,slow=4.9,SNR=18						
TXAR	**Lajitas Array**	**77.30**	**61**	P	**P**	**07 40 01.7**	**-0.1**
TXAR	comp=Z,1.0nm,0.4s			pmax	pmax		
GERES	**GERESS Array B**	**77.91**	**334**	P	**P**	**07 40 04.8**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=47,slow=5.9,SNR=3.9						

IDC 18 07:28:42.6±0.9, 4704N×15416E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, MS2.8/1, Ms1 2.8/1, ms1mx1.8/42, Error ellipse: s-maj=29.0km s-min=24.3km az=156.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.62**	**254**	LR	LR	07 34 00.2	
	comp=Z,57nm,18.6s,baz=94,slow=37						
MJAR	**Matsushiro Arr**	**15.83**	**234**	Pn	Pn	07 32 31.8	+5.1
	0.2nm,0.3s,baz=26,slow=11,SNR=4.2						
KSRS	**Korea Array**	**21.57**	**253**	P	P	07 33 35.0	+1.4
	0.7nm,0.3s,baz=334,slow=40,SNR=2.7						
MKAR	**Makanchi Array**	**47.45**	**298**	P	P	07 37 18.8	-0.1
	0.3nm,0.6s,baz=86,slow=7.2,SNR=2.8						
PDAR	**Pinedale Array**	**64.00**	**55**	P	P	07 39 18.0	+0.2
	0.4nm,0.7s,baz=318,slow=2.0,SNR=4.2						
FINES	**FINESS Array B**	**64.08**	**335**	P	P	07 39 17.6	-0.8
	1.3nm,0.5s,baz=32,slow=8.8,SNR=8.3						
NB2	**NORSAR Subarra**	**68.19**	**342**	P	P	07 39 43.6	-1.1
	comp=Z,3.2nm,0.8s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.19**	**342**	P	P	07 39 45.2	+0.5
	comp=Z,1.7nm,0.7s,baz=26,slow=6.4,SNR=4.8						
AKASG	**Malin Array Be**	**71.70**	**327**	P	P	07 40 04.7	-1.7
	comp=Z,0.3nm,0.2s,baz=80,slow=26,SNR=4.2						
ASAR	**Alice Springs**	**72.71**	**199**	P	P	07 40 12.0	-0.4
	comp=Z,0.7nm,0.7s,baz=4.8,slow=5.0,SNR=9.1						
TXAR	**Lajitas Array**	**76.73**	**61**	P	P	07 40 36.1	+0.4
	comp=Z,1.6nm,0.6s,baz=303,slow=4.2,SNR=16						

*STR **18** 07:37:41.3±0.1, 4299N×0.15E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 07:37:41.3±0.1, 4302N×002W, h7km, Md1.7/2, Ml1.5/3, Error ellipse: s-maj=2.6km s-min=1.1km az=166.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**67**	Pg	Pg	07 37 43.1	0.0
LABF				Sg	Sg	07 37 44.4	0.0
VIEF	**Viey**	**0.14**	**168**	Pg	Pg	07 37 44.3	+0.1
VIEF				Sg	Sg	07 37 46.5	+0.3
EPF	**Esparros**	**0.26**	**88**	*e*Pg	Pg	07 37 46.3	-0.1
EPF				*e*Sg	Sg	07 37 50.1	+0.2
	8.6nm,0.3s						
ETSF	**Etsaut**	**0.42**	**253**	*e*Pg	Pg	07 37 49.4	0.0
ETSF	**Etsaut**	**0.42**	**253**	*e*Pn	Pg	07 37 50.6	+1.2
ETSF				*e*Sg	Sg	07 37 54.9	0.0
	9.6nm,0.4s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Sg	Sg	07 38 09.3	-0.7
	0.9nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	07 38 12.3	-0.9
MTLF				*e*Sg	Sg	07 38 33.6	-1.2
	0.8nm,0.2s						
LASF	**Ste Croix**	**3.01**	**68**	*e*Sg	Sg	07 39 16.3	-1.6
	0.3nm,0.2s						

*ISCJB **18** 07:41:15.2±0.8, 4740N±008×1556E±02, h10km, mb4.1/13, Error ellipse: s-maj=18.8km s-min=9.7km az=47.2*
*IDC **18** 07:41:15.2±1.0, 4729N×15558E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=27.9km s-min=21.9km az=164.0*
*NEIC **18** 07:41:16.9±0.7, 4734N×15554E, h10km, mb4.6/2, Error ellipse: s-maj=17.8km s-min=13.9km az=142.0*
*MOS **18** 07:41:18.3±0.9, 4737N×15551E, h33km, mb4.9/2, Error ellipse: s-maj=30.9km s-min=20.2km az=108.6*

ISC 18 07:41:17.0±0.8, 4741N±008×1555E±02, h10km, n21, σ0§79/21, mb4.1/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.30**	**6**	*e*PN	**Pn**	**07 42 20.5**	**+12**
SKR				*e*S	**Sn**	**07 42 48.0**	**0.0**
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,200nm,0.3s			smax			
SKR	comp=E,120nm,0.3s			smax			
SKR	comp=Z,80nm,0.5s			smax			
MJAR	**Matsushiro Arr**	**16.81**	**236**	Pn	**Pn**	**07 45 13.0**	**+0.6**
	baz=33,slow=9.9,SNR=4.5						
KSRS	**Korea Array**	**22.58**	**254**	P	**P**	**07 46 18.5**	**+1.1**
	comp=Z,0.7nm,0.4s,mb3.5,baz=58,slow=12,SNR=3.3						
ZAL	**Zalesovo**	**43.59**	**306**	P	**P**	**07 49 20.1**	**-1.1**
	comp=Z,1.8nm,0.3s,mb4.2,baz=157,slow=8.3,SNR=4.6						
MKAR	**Makanchi Array**	**48.11**	**298**	P	**P**	**07 49 56.5**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=69,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**48.11**	**298**	P	**P**	**07 49 56.5**	**-0.4**
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**07 50 20.4**	**-0.6**
CHKZ	comp=Z,4.0nm,0.3s,mb4.8			pmax	pmax		
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**07 50 20.4**	**-0.6**
	comp=Z,4.4nm,0.3s,mb4.9						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**07 50 24.4**	**0.0**
	comp=Z,2.1nm,0.3s,mb4.5,baz=56,slow=8.2,SNR=14						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**07 50 29.8**	**-0.2**
ZRNK	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**07 50 29.8**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**57.77**	**341**	P	**P**	**07 51 09.6**	**+1.4**
	comp=Z,2.7nm,0.9s,mb4.3,baz=40,slow=8.6,SNR=4.2						
PDAR	**Pinedale Array**	**63.01**	**55**	P	**P**	**07 51 44.9**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.7,baz=321,slow=2.1,SNR=4.7						
FINES	**FINESS Array B**	**64.14**	**336**	P	**P**	**07 51 51.7**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=44,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**64.14**	**336**	P	**P**	**07 51 51.7**	**+0.2**
NB2	**NORSAR Subarra**	**68.13**	**342**	P	**P**	**07 52 16.0**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.13**	**342**	P	**P**	**07 52 17.3**	**+0.2**
	comp=Z,2.8nm,1.0s,mb4.3,baz=26,slow=6.3,SNR=3.9						
ASAR	**Alice Springs**	**73.38**	**201**	P	**P**	**07 52 47.8**	**-1.3**
	comp=Z,0.5nm,1.0s,mb3.4,baz=12,slow=5.8,SNR=4.4						
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**07 53 02.5**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=301,slow=4.1,SNR=7.0						
CLL	**Collm**	**76.53**	**337**	*e*pP	pP	07 53 12.0	+1.4
GERES	**GERESS Array B**	**78.57**	**335**	P	**P**	**07 53 22.8**	**+4.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=46,slow=5.6,SNR=5.4						

*STR **18** 07:48:06.1±0.1, 4297N×024E, h6km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 07:48:05.8±0.1, 4289N×027E, h2km, Md1.8/2, Ml1.8/2, Error ellipse: s-maj=4.3km s-min=1.5km az=166.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RESF	**Ens**	**0.10**	**147**	Pg	Pg	07 48 10.2	+2.5
RESF				Sg	Sg	07 48 13.2	+4.2
EPF	**Esparros**	**0.15**	**21**	*e*Pg	Pg	07 48 08.8	+0.1
EPF				*e*Sg	Sg	07 48 10.8	+0.1
	102nm,0.2s						
VIEF	**Viey**	**0.18**	**269**	Pg	Pg	07 48 10.2	+1.0
VIEF				Sg	Sg	07 48 13.3	+1.7
LABF	**Labassere**	**0.21**	**318**	Pg	Pg	07 48 09.6	-0.3
LABF				Sg	Sg	07 48 12.2	-0.5
ETSF	**Etsaut**	**0.61**	**271**	*e*Pg	Pg	07 48 17.5	+0.1
ETSF				*e*Sg	Sg	07 48 25.2	-0.1
	21nm,0.3s						
SJPF	**Ste Jean**	**1.12**	**282**	*e*Sg	Sg	07 48 40.4	-1.3
	1.4nm,0.2s						
MTLF	**Montolieu**	**1.50**	**72**	*e*Pg	Pg	07 48 33.6	-0.9
MTLF				*e*Sg	Sg	07 48 53.0	-1.0
	2.0nm,0.3s						

*STR **18** 07:49:25.2±0.1, 4297N×024E, h6km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 07:49:25.0±0.1, 4294N×026E, h10km, Md1.8/2, Ml1.8/3, Error ellipse: s-maj=2.0km s-min=0.7km az=164.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.11**	**34**	*e*Pg	Pg	07 49 28.0	+0.3
EPF				*e*Sg	Sg	07 49 30.0	+0.3
	90nm,0.2s						
RESF	**Ens**	**0.14**	**155**	Pg	Pg	07 49 29.4	+1.1
RESF				Sg	Sg	07 49 32.5	+2.0
LABF	**Labassere**	**0.17**	**309**	Pg	Pg	07 49 28.8	+0.1
LABF				Sg	Sg	07 49 31.4	+0.1
VIEF	**Viey**	**0.18**	**252**	Pg	Pg	07 49 29.4	+0.5
VIEF				Sg	Sg	07 49 32.5	+1.0
ETSF	**Etsaut**	**0.60**	**266**	*e*Pg	Pg	07 49 36.7	+0.1
ETSF				*e*Sg	Sg	07 49 44.5	0.0
	19nm,0.3s						
SJPF	**Ste Jean**	**1.10**	**280**	*e*Sg	Sg	07 49 59.9	-0.6
	2.1nm,0.3s						
MTLF	**Montolieu**	**1.49**	**74**	*e*Pg	Pg	07 49 52.9	-0.7
MTLF				*e*Sg	Sg	07 50 11.8	-1.1
	1.8nm,0.3s						
RJF	**Les Rejaudoux**	**2.53**	**21**	*e*Sg	Sg	07 50 44.6	-1.8
	1.2nm,0.2s						

IDC 18 07:52:07.3±1.7, 1485S×17475W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, Error ellipse: s-maj=190.7km s-min=28.3km az=161.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.03**	**72**	Pn	Pn	07 52 56.7	+0.2
	16nm,0.3s,baz=17,slow=7.6,SNR=22						
AFI				Sn	Sn	07 53 26.7	-6.9
	49nm,0.3s,baz=39,slow=21,SNR=21						
STKA	**Stephens Creek**	**43.19**	**239**	P	P	08 00 10.3	+0.4
	0.5nm,0.3s,baz=72,slow=3.2,SNR=3.1						
WRA	**Warrnunga Arr**	**48.70**	**256**	P	P	08 00 54.4	+1.0
	0.5nm,0.6s,baz=92,slow=6.7,SNR=9.5						
ASAR	**Alice Springs**	**49.04**	**251**	P	P	08 00 55.7	-0.3
	2.3nm,0.6s,baz=86,slow=8.0,SNR=48						

*ISCJB **18** 07:55:17.2±1.5, 942S±006×788W±02, h77km±14km, mb3.7/6, Error ellipse: s-maj=28.2km s-min=6.4km az=145.0*
*IDC **18** 07:55:17.9±2.0, 952S×7881W, h74km±18km, mb3.5/4, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, MS3.7/2, Ms1 3.7/2, ms1mx2.9/20, Error ellipse: s-maj=34.1km s-min=7.5km az=72.0*
*NEIC **18** 07:55:18.4±1.7, 952S×7890W, h72km±17km, mb4.1/1, Error ellipse: s-maj=28.5km s-min=9.9km az=67.0*
NEIC Felt [II] at Chimbote.

ISC 18 07:55:18.6±1.4, 944S±006×788W±02, h69km±14km, n21, σ0§84/25, mb3.7/6, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.45**	**9**	P	**Pn**	**07 55 56.3**	**0.0**
	18nm,0.3s,baz=227,slow=4.5,SNR=151						
ATAH				S	**Sn**	**07 56 24.7**	**-0.5**
	72nm,0.3s,baz=58,slow=20,SNR=14						
NNA	**Nana**	**3.17**	**143**	P	**Pn**	**07 56 05.8**	**-0.2**
	106nm,0.3s,baz=320,slow=12,SNR=89						
NNA				S	**Sn**	**07 56 41.3**	**-1.3**
	222nm,0.3s,baz=200,slow=15,SNR=10.0						
NNA	**Nana**	**3.17**	**143**	*e*Pn	**Pn**	**07 56 05.6**	**-0.5**
NNA				*e*Sn	**Sn**	**07 56 42.0**	**-0.6**
OTAV	**Otavalo**	**9.62**	**2**	*e*Pn	**Pn**	**07 57 35.5**	**+1.3**
	3.7nm,0.6s						
OTAV				*e*Sn	**Sn**	**07 59 19.9**	**-0.7**
ARE	**Arequipa**	**9.95**	**135**	*e*P	**Pn**	**07 57 47.0**	**+8.2**
LPAZ	**La Paz**	**12.40**	**124**	P	**Pn**	**07 58 12.8**	**+0.5**
	0.2nm,0.3s,baz=316,slow=14,SNR=14						
LPAZ	**La Paz**	**12.40**	**124**	*e*Pn	**Pn**	**07 58 12.8**	**+0.6**
	3.8nm,0.7s						
LVC	**Limon Verde**	**16.16**	**145**	Pn	**Pn**	**07 59 02.3**	**+1.0**
LVC				*e*Sn		07 59 11.2	
SIV	**San Ignacio**	**18.44**	**112**	P	**Pn**	**07 59 28.9**	**-0.5**
	0.6nm,0.3s,baz=295,slow=11,SNR=30						
SDV	**Santo Domingo**	**19.92**	**24**	P	**Pn**	**07 59 48.3**	**+1.4**
	2.2nm,0.3s,baz=248,slow=8.9,SNR=4.9						
SDV	**Santo Domingo**	**19.92**	**24**	P	**Pn**	**07 59 48.3**	**+1.4**
CFAA	**Coronel Fontan**	**24.13**	**158**	P	**P**	**08 00 29.3**	**+1.3**
	0.7nm,0.8s,mb3.0,baz=338,slow=9.1,SNR=10.0						
CFAA	**Coronel Fontan**	**24.13**	**158**	P	**P**	**08 00 29.3**	**+1.3**
TRQA	**Tornquist**	**32.26**	**155**	*e*P	**P**	**08 01 39.6**	**-0.9**
	2.4nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**45.41**	**329**	P	**P**	**08 03 29.9**	**-0.5**
	0.7nm,0.8s,mb3.4,baz=149,slow=8.0,SNR=5.7						
ARUT	**Antelope Range**	**57.08**	**328**	*e*P	**P**	**08 04 58.5**	**+0.9**
ARUT				*e*pP	pP	08 05 14.2	-1.3
PDAR	**Pinedale Array**	**59.07**	**334**	P	**P**	**08 05 10.6**	**-1.0**
	0.4nm,0.6s,mb3.6,baz=125,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**60.21**	**325**	P	**P**	**08 05 18.8**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=148,slow=5.3,SNR=8.5						
NVAR	**Mina Array Bea**	**60.21**	**325**	P	**P**	**08 05 18.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.97**	**75**	P	**P**	**08 07 35.7**	**-0.4**
	2.7nm,0.8s,mb4.1,baz=269,slow=4.5,SNR=11						
TORD				LR	LR	08 41 37.2	
	comp=Z,106nm,21.3s,baz=160,slow=34						
TORD	**Torodi Ar. Bea**	**82.97**	**75**	P	**P**	**08 07 35.7**	**-0.4**
TORD				LR	LR	08 41 37.2	

*ISCJB **18** 07:55:44.8±0.6, 131N±01×8855W±006, h80km±10km, mb3.8/5, Error ellipse: s-maj=18.7km s-min=5.8km az=56.9*
*CASC **18** 07:55:45.0±2.8, 1285N×8864W, h67km±48km, MD4.1, ML4.2, mb4.7(NEIC)*
*NEIC **18** 07:55:47.5±1.1, 1305N×8866W, h93km±12km, mb4.7/1, Error ellipse: s-maj=23.3km s-min=11.6km az=222.0*
*IDC **18** 07:55:47.9±1.8, 1276N×8877W, h122km±37km, mb3.2/4, mb1 3.6/6, mb1mx3.4/19, mbtmp3.3/6, MS2.7/2, Ms1 2.7/2, ms1mx2.5/14, Error ellipse: s-maj=96.4km s-min=13.9km az=32.0*

ISC 18 07:55:45.9±0.6, 130N±01×8853W±007, h78km±10km, n38, σ1§05/32, mb3.8/5, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.47**	**33**	*e*P	x	07 56 00.4	
VSM				*e*S	x	07 56 13.7	
BLLM	**Bellamira**	**0.50**	**35**	⇓*e*P	x	07 56 00.5	
BLLM				Lg	x	07 56 11.0	
SNVI	**San Vicente**	**0.65**	**333**	*e*P	x	07 56 01.3	
SNVI				*e*S	x	07 56 12.1	
CNCH	**Conchagua**	**0.72**	**70**	⇓*e*P	x	07 56 03.2	
CNCH				*e*S	x	07 56 16.1	
LCBS	**La Ceiba**	**0.76**	**325**	⇓*e*P	x	07 56 02.3	
LCBS				*e*S	x	07 56 13.6	
LFRS	**El Faro**	**0.78**	**319**	⇑*i*P	x	07 56 02.4	
LBRS	**Las Brisas**	**0.86**	**325**	⇓*i*P	x	07 56 04.0	
LBRS				*e*S	x	07 56 17.6	
LFU	**La Fuente**	**0.91**	**322**	*e*P	x	07 56 04.4	
SNET	**Serv Nac Est T**	**0.94**	**314**	*i*	**Pn**	**07 56 15.4**	**+11**
	comp=Z,5μm,0.6s						
BOQS	**Boqueron**	**1.01**	**314**	⇓*e*P	x	07 56 05.5	
BOQS				*e*S	x	07 56 18.7	
SBLS	**San Blas**	**1.33**	**307**	*e*P	x	07 56 09.6	
SBLS				*e*S	x	07 56 26.2	
SNJE	**San Jose**	**1.33**	**309**	*e*P	x	07 56 09.8	
RTR	**El Retiro**	**1.38**	**309**	*e*P	x	07 56 10.6	
RTR				*e*S	x	07 56 26.7	
CRIN	**San Cristobal**	**1.48**	**103**	*e*P	**Pn**	**07 56 10.7**	**-0.2**
CRIN				*e*S	**Sn**	**07 56 29.4**	**-0.4**
RBDL	**Robledal**	**1.55**	**314**	*e*P	x	07 56 12.8	
RBDL				*e*S	x	07 56 33.1	
MTO2	**Montecristo 2**	**1.58**	**329**	*e*P	x	07 56 13.3	
MIRN	**Miramar**	**1.87**	**108**	*e*P	**Pn**	**07 56 15.1**	**-1.0**
MIRN				*e*S	**Sn**	**07 56 38.4**	**-0.6**
MOMJ	**Momotombo**	**2.04**	**107**	*e*P	**Pn**	**07 56 16.8**	**-1.5**
MOMJ				*e*S	**Sn**	**07 56 43.9**	**+0.9**
COPN	**Copaltepe**	**2.08**	**114**	*e*P	**Pn**	**07 56 18.6**	**-0.2**
XAVN	**Gruta Xavier**	**2.33**	**112**	*e*P	**Pn**	**07 56 21.2**	**-0.9**
XAVN				*e*S	**Sn**	**07 56 51.6**	**+1.8**
MGAN	**Managua**	**2.40**	**111**	*e*P	**Pn**	**07 56 22.7**	**-0.4**
MGAN				*e*S	**Sn**	**07 56 50.8**	**-0.7**
TICN	**Ticuantepe**	**2.46**	**114**	*e*P	**Pn**	**07 56 24.1**	**+0.3**
TICN				*e*S	**Sn**	**07 56 52.4**	**-0.5**
FUG	**Fuego 3**	**2.65**	**302**	*e*P	**Pn**	**07 56 26.1**	**-0.4**
JAT	**Jato**	**3.28**	**293**	*e*P	**Pn**	**07 56 34.0**	**-1.0**
VCR	**Vista de Mar**	**4.05**	**135**	*e*P	**Pn**	**07 56 45.3**	**-0.2**
JTS	**JuntasAbangare**	**4.44**	**127**	P	**Pn**	**07 56 54.1**	**+3.3**
	comp=Z,10nm,0.3s,baz=280,slow=6.0,SNR=39						
JTS				S	**Sn**	**07 57 45.8**	**+4.6**
	comp=Z,5.1nm,0.3s,baz=330,slow=24,SNR=3.5						
JCR	**Jicaral**	**4.61**	**133**	*e*P	**Pn**	**07 56 54.3**	**+1.2**
PRS1	**Puriscal**	**5.13**	**126**	*e*P	**Pn**	**07 57 02.5**	**+2.4**
TEIG	**Tepich**	**7.16**	**2**	*e*Pn	**Pn**	**07 57 29.3**	**+1.4**
	comp=Z,64nm,0.7s						
CMIG	**Matias Romero**	**7.34**	**304**	P	**Pn**	**07 57 30.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=126,slow=8.4,SNR=11						
CMIG				S	**Sn**	**07 58 55.7**	**+3.5**
	comp=Z,1.3nm,0.3s,baz=12,slow=12,SNR=4.0						
CMIG				LR	LR	08 00 21.5	
	comp=Z,43nm,20.0s,baz=8.4,slow=37						
CMIG	**Matias Romero**	**7.34**	**304**	P	**Pn**	**07 57 30.4**	**0.0**
CMIG				S	**Sn**	**07 58 55.7**	**+3.5**
CMIG				LR	LR	08 00 21.5	
ROSC	**El Rosal**	**16.20**	**119**	LR	LR	08 05 45.4	
	comp=Z,34nm,20.4s,baz=4.4,slow=37						
TXAR	**Lajitas Array**	**21.46**	**321**	P	**P**	**08 00 27.6**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.1,baz=143,slow=11,SNR=8.6						
TKL	**Tuckaleechee C**	**22.93**	**10**	P	**P**	**08 00 44.1**	**+0.6**
	comp=Z,2.6nm,0.8s,mb3.6,baz=174,slow=13,SNR=4.3						
PDAR	**Pinedale Array**	**34.77**	**332**	P	**P**	**08 02 28.4**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=120,slow=10,SNR=4.8						
REDW	**Red Top Meadow**	**35.82**	**332**	*e*P	**P**	**08 02 37.3**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.7						
MCMT	**McKenzie Canyo**	**37.87**	**331**	*e*P	**P**	**08 02 56.2**	**+1.0**
YKA	**Yellowknife Ar**	**52.78**	**345**	P	**P**	**08 04 51.3**	**-1.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=148,slow=6.6,SNR=5.0						

*LDG **18** 07:55:51.0±0.1, 4302N×002W, h6km, Md1.9/2, Ml1.8/4, Error ellipse: s-maj=1.4km s-min=1.0km az=158.0*
*STR **18** 07:55:51.2±0.0, 4301N×000E, h4km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

**MDD 18

LDG 18 08:00:10.5±0.1, 4305N×004W, h10km, Md1.4/2, Ml1.3/2, Error ellipse: s-maj=11.6km s-min=2.2km az=168.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**95**	Pg	Pg	08 00 12.5	-0.4
LABF				Sg	Sg	08 00 13.9	-0.7
VIEF	**Viey**	**0.18**	**164**	Pg	Pg	08 00 13.6	-0.7
VIEF				Sg	Sg	08 00 15.7	-1.2
EPF	**Esparros**	**0.28**	**95**	*e*Pg	Pg	08 00 15.7	-0.4
EPF				*e*Sg	Sg	08 00 19.6	-0.3
	3.5nm,0.2s						
ETSF	**Etsaut**	**0.41**	**248**	*e*Pg	Pg	08 00 18.7	+0.1
ETSF				*e*Sg	Sg	08 00 24.2	+0.2
	2.8nm,0.2s						
SJPF	**Ste Jean**	**0.87**	**274**	*e*Sg	Sg	08 00 38.0	-0.6
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.68**	**79**	*e*Pg	Pg	08 00 42.1	-0.6
MTLF				*e*Sg	Sg	08 01 03.4	-1.0
	0.5nm,0.2s						
LASF	**Ste Croix**	**3.01**	**69**	*e*Pn	Pn	08 00 56.2	-2.0

IDC 18 08:03:48.1±1.0, 4628N×15462E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/22, mbtmp3.9/4, Error ellipse: s-maj=49.1km s-min=27.2km az=111.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**64.91**	**335**	P	P	08 14 28.7	-0.6
	2.0nm,0.9s,baz=46,slow=8.2,SNR=5.9						
WRA	**Warramunga Arr**	**68.42**	**201**	P	P	08 14 50.1	-1.6
	1.1nm,0.7s,baz=23,slow=7.1,SNR=8.1						
ASAR	**Alice Springs**	**72.10**	**200**	P	P	08 15 15.8	+1.5
	0.6nm,0.6s,baz=19,slow=6.4,SNR=9.4						
TXAR	**Lajitas Array**	**76.82**	**61**	P	P	08 15 42.0	+0.2
	1.3nm,0.6s,baz=303,slow=4.3,SNR=15						

IDC 18 08:21:10.2±1.5, 107S×14563E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.1/9, MS3.6/11, Ms1 3.6/11, ms1mx3.4/28, Error ellipse: s-maj=47.8km s-min=19.3km az=87.0

ISCJB 18 08:21:13.7±1.1, 1.13S±009×1456E±02, h35km, mb4.1/11, MS3.6/9, Error ellipse: s-maj=30.9km s-min=12.2km az=3.6

NEIC 18 08:21:16.5±1.0, 1.16S×14551E, h40km, mb4.5/4, Error ellipse: s-maj=28.2km s-min=10.9km az=92.0

ISC 18 08:21:15.8±1.1, 115S±008×1456E±02, h35km, n23, σ0§92/16, mb4.1/11, MS3.6/9, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.34**	**169**	LR	LR	08 25 59.3	
	comp=Z,246nm,21.9s,baz=315,slow=34						
GUMO	**Guam**	**14.66**	**357**	LR	LR	08 29 50.3	
	comp=Z,87nm,20.0s,baz=109,slow=36						
KAKA	**Kakadu**	**17.39**	**228**	*e*P	**Pn**	**08 25 16.1**	**+0.4**
	15nm,0.9s						
WRAB	**Tennant Creek**	**21.68**	**210**	*e*P	**P**	**08 26 02.8**	**-0.6**
	29nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**21.69**	**210**	*e*P	**P**	**08 26 01.6**	**-1.9**
WRA	**Warramunga Arr**	**21.69**	**210**	P	**P**	**08 26 02.9**	**-0.7**
	7.4nm,0.8s,mb4.2,baz=34,slow=10,SNR=24						
WRA				LR	LR	08 35 06.8	
	comp=Z,220nm,18.6s,MS3.6,baz=40,slow=38						
AS31	**Alice Springs**	**25.10**	**206**	*e*P	**P**	**08 26 38.4**	**+1.2**
ASAR	**Alice Springs**	**25.10**	**206**	P	**P**	**08 26 37.1**	**0.0**
	6.3nm,1.0s,mb4.1,baz=37,slow=8.6,SNR=31						
ASAR				LR	LR	08 36 53.5	
	comp=Z,197nm,18.7s,MS3.6,baz=284,slow=38						
FITZ	**Fitzroy Crossi**	**25.86**	**228**	*e*P	**P**	**08 26 44.1**	**0.0**
	9.8nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.86**	**228**	P	**P**	**08 26 44.5**	**+0.4**
	6.8nm,1.0s,mb4.1,baz=62,slow=8.6,SNR=6.9						
FITZ				LR	LR	08 38 17.8	
	comp=Z,84nm,18.9s,MS3.3,baz=47,slow=40						
DZM	**Mont Dzumac**	**29.04**	**137**	LR	LR	08 36 21.1	
	comp=Z,156nm,18.6s,MS3.6,baz=38,slow=31						
STKA	**Stephens Creek**	**30.80**	**187**	P	**P**	**08 27 29.5**	**+1.4**
	0.6nm,0.4s,mb3.8,baz=7.0,slow=5.8,SNR=3.4						
STKA				LR	LR	08 41 10.6	
	comp=Z,130nm,19.3s,MS3.6,baz=26,slow=39						
JOW	**Kunigami**	**32.46**	**330**	LR	LR	08 38 08.9	
	comp=Z,129nm,19.6s,MS3.6,baz=41,slow=32						
MJAR	**Matsushiro Arr**	**38.13**	**350**	LR	LR	08 42 37.0	
	comp=Z,71nm,18.6s,MS3.5,baz=215,slow=34						
AFI	**Afiamalu**	**44.00**	**109**	LR	LR	08 45 30.4	
	comp=Z,62nm,18.2s,MS3.6,baz=139,slow=33						
PSI	**Prapat**	**46.85**	**275**	P	**P**	**08 29 42.9**	**+0.5**
	3.5nm,0.7s,mb4.4,baz=181,slow=5.6,SNR=6.4						
LZH	**Lanzhou**	**53.68**	**318**	*e*P	**P**	**08 30 35.2**	**+1.2**
	19nm,1.3s,mb4.9						
LZH				pP	pP	08 30 40.5	-4.1
LZH				sP	sP	08 30 42.1	-6.6
SONM	**Songino Array**	**59.53**	**330**	P	**P**	**08 31 14.7**	**-0.9**
	0.7nm,0.8s,mb3.8,baz=123,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**72.91**	**320**	P	**P**	**08 32 41.8**	**+0.4**
	0.9nm,0.9s,mb3.7,baz=101,slow=7.5,SNR=6.8						
ZAL	**Zalesovo**	**74.21**	**328**	P	**P**	**08 32 47.8**	**-1.2**
	0.7nm,0.4s,mb4.0,baz=22,slow=6.2,SNR=3.9						
VNDA	**Vanda**	**76.80**	**176**	P	**P**	**08 33 03.7**	**-0.1**
	0.7nm,0.5s,mb3.7,baz=338,slow=7.8,SNR=6.5						
VNDA	**Vanda**	**76.80**	**176**	P	**P**	**08 33 03.7**	**-0.1**
MAW	**Mawson**	**86.17**	**202**	LR	LR	09 11 50.4	
	comp=Z,33nm,18.3s,MS3.8,baz=248,slow=35						

STR 18 08:22:59.2±0.1, 4301N×002E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 18 08:22:57.9±0.4, 4294N×003E, h8km, Ml1.5/1, Error ellipse: s-maj=52.7km s-min=2.1km az=167.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.06**	**184**	Pg	Pg	08 23 02.2	+2.5
VIEF				Sg	Sg	08 23 04.4	+3.4
LABF	**Labassere**	**0.11**	**17**	Pg	Pg	08 23 01.1	+0.7
LABF				Sg	Sg	08 23 02.4	+0.2
EPF	**Esparros**	**0.24**	**68**	*e*Pg	Pg	08 23 02.7	-0.1
EPF				*e*Sg	Sg	08 23 06.5	+0.4
	3.2nm,0.2s						
ETSF	**Etsaut**	**0.43**	**265**	*e*Pg	Pg	08 23 06.4	+0.1
ETSF				*e*Sg	Sg	08 23 12.1	0.0
	1.8nm,0.2s						
MTLF	**Montolieu**	**1.65**	**75**	*e*Sg	Sg	08 23 50.1	-0.9
	0.8nm,0.3s						

ISCJB 18 08:26:07.4±0.2, 5027N±001×748E±002, h4km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=84.9

BGR 18 08:26:09.7±0.4, 5032N×756E, h10km, ML2.5/7, Error ellipse: s-maj=4.4km s-min=3.3km az=72.0

LDG 18 08:26:09.5±0.1, 5027N×740E, h8km, Md3.1/1, Ml3.1/10, Error ellipse: s-maj=3.1km s-min=2.0km az=74.0

CSEM 18 08:26:09.0±0.1, 5028N×744E, h8km, ML3.1/7, Error ellipse: s-maj=1.9km s-min=1.7km az=33.0

UCC 18 08:26:09.8±0.6, 5027N×738E, h12km±1km, ML2.2

NEIC 18 08:26:09.0, 5026N×738E, h10km, ML2.5(STR), ML2.6(SZGRF), ML2.7(LEDBW), ML3.1(LDG), After LEDBW.

BNS 18 08:26:10.0±0.7, 5032N×740E, h6km±9km, ML2.2

STR 18 08:26:12.7±0.8, 5004N×749E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 18 08:26:08.3±0.2, 5028N±001×744E±002, h11km±2km, n97, σ1§18/189, 10C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.10**	**221**	⇑*i*Pg	**Pg**	**08 26 12.5**	**+1.5**
BGG				*e*Sg	**Sg**	**08 26 14.1**	**+1.2**
	1um,0.1s						
ABH	**Alteburg**	**0.41**	**170**	⇓P*	**Pg**	**08 26 17.9**	**+1.6**
ABH				S*	**Sg**	**08 26 22.9**	**+1.2**
ABH	**Alteburg**	**0.41**	**170**	Pg	**Pg**	**08 26 17.7**	**+1.4**
HILG	**Hillesheim**	**0.49**	**271**	⇑*e*Pg	**Pg**	**08 26 18.9**	**+1.1**
HILG				*e*Sg	**Sg**	**08 26 25.1**	**+0.8**
	197nm,0.2s						
STB	**Steinbach**	**0.50**	**309**	⇓*e*Pg	**Pg**	**08 26 19.0**	**+1.0**
STB				*e*Sg	**Sg**	**08 26 25.1**	**+0.6**
	76nm,0.1s						
RUP	**Ruppelstein**	**0.63**	**203**	⇑*e*P*	**Pb**	**08 26 21.3**	**0.0**
RUP	**Ruppelstein**	**0.63**	**203**	⇑*e*P	**Pg**	**08 26 21.3**	**+0.8**
RUP	**Ruppelstein**	**0.63**	**203**	Pg	**Pg**	**08 26 21.2**	**+0.7**
TNS	**Taunus Mts**	**0.65**	**95**	*e*Pg	**Pg**	**08 26 21.6**	**+0.8**
	SNR=16						
TNS				*e*Sg	**Sg**	**08 26 28.9**	**-0.5**
TNS	**Taunus Mts**	**0.65**	**95**	*e*Pg	**Pg**	**08 26 22.3**	**+1.5**
TNS				*e*Sg	**Sg**	**08 26 28.8**	**-0.5**
TNS	**Taunus Mts**	**0.65**	**95**	Pg	**Pg**	**08 26 21.6**	**+0.8**
	SNR=16						
TNS				*e*Sg	**Sg**	**08 26 28.8**	**-0.5**
BNS	**Bensberg**	**0.70**	**346**	*e*Sg	**Sg**	**08 26 31.0**	**-0.1**
HOBG	**Hohbusch**	**0.71**	**354**	⇑*e*Pg	**Pg**	**08 26 22.6**	**+0.7**
KLL	**Kalltalsperre**	**0.81**	**297**	*e*Pg	**Pg**	**08 26 24.4**	**+0.5**
DREG	**Dreilaegerbach**	**0.86**	**297**	*e*Pg	**Pg**	**08 26 25.5**	**+0.6**
MEM	**Membach**	**0.97**	**290**	⇑P	**Pg**	**08 26 27.5**	**+0.5**
WLF	**Walferdange**	**1.04**	**234**	*e*Pg	**Pg**	**08 26 28.6**	**+0.3**
WLF				*e*Sg	**Sg**	**08 26 42.8**	**+1.1**
WLF	**Walferdange**	**1.04**	**234**	⇑P	**Pb**	**08 26 27.8**	**-0.5**
WLF				S	**Sb**	**08 26 41.4**	**-0.4**
	comp=N,29nm,0.3s						
WLF	**Walferdange**	**1.04**	**234**	*e*Pg	**Pg**	**08 26 29.1**	**+0.9**
WLF				*e*Sg	**Sg**	**08 26 41.5**	**-0.2**
WLF	**Walferdange**	**1.04**	**234**	P	**Pb**	**08 26 27.7**	**-0.5**
WLF	**Walferdange**	**1.04**	**234**	*e*Pg	**Pg**	**08 26 29.1**	**+0.9**
WLF				*e*Sg	**Sg**	**08 26 41.5**	**-0.2**
KTD	**Kalmit**	**1.05**	**156**	P	**Pb**	**08 26 29.6**	**+1.2**
HGN	**Heimansgroeve**	**1.08**	**297**	*e*Pg	**Pg**	**08 26 29.5**	**+0.5**
	comp=N,31nm,0.2s,baz=100						
HGN				*e*Sg	**Sg**	**08 26 42.8**	**-0.2**
HGN	**Heimansgroeve**	**1.08**	**297**	*e*Pg	**Pg**	**08 26 29.5**	**+0.5**
	comp=N,31nm,0.2s						
HGN				*e*Sg	**Sg**	**08 26 42.8**	**-0.2**
TOD	**Tromm**	**1.11**	**127**	⇓P	**Pb**	**08 26 30.2**	**+0.8**
TOD				S	**Sb**	**08 26 45.0**	**+1.1**
TOD	**Tromm**	**1.11**	**127**	⇓P	**Pb**	**08 26 30.2**	**+0.7**
TOD				S	**Sb**	**08 26 45.1**	**+1.2**
TOD	**Tromm**	**1.11**	**127**	Pg	**Pg**	**08 26 30.1**	**+0.5**
TOD				Sg	**Sg**	**08 26 44.3**	**+0.2**
LAUG	**Laupendahl**	**1.12**	**344**	⇓*i*Pg	**Pg**	**08 26 30.0**	**+0.2**
LAUG				*e*Sg	**Sg**	**08 26 43.3**	**-0.9**
	comp=N,118nm,0.4s						
SWS	**Schriesheim-Wi**	**1.14**	**134**	⇑P	**Pb**	**08 26 30.8**	**+0.8**
SWS				Pg	**Pg**	**08 26 31.6**	**+1.4**
SWS				S	**Sb**	**08 26 45.0**	**+0.2**
SWS	**Schriesheim-Wi**	**1.14**	**134**	P	**Pb**	**08 26 30.8**	**+0.8**
SWS				S	**Sb**	**08 26 45.0**	**+0.2**
BUG	**Bochum--Univer**	**1.17**	**355**	*e*Pn	**Pn**	**08 26 30.7**	**+0.3**
	SNR=1.4						
BUG				*e*Pg	**Pg**	**08 26 32.0**	**+1.3**
	SNR=5.5						
BUG				*e*Sg	**Sg**	**08 26 45.6**	**-0.2**
BEBN	**Eben Emael**	**1.24**	**295**	⇑P	**Pn**	**08 26 32.2**	**+0.8**
BEBN				S	**Sb**	**08 26 47.9**	**+0.3**
BEBN	**Eben Emael**	**1.24**	**295**	P	**Pn**	**08 26 32.2**	**+0.7**
LANF	**Langenberg**	**1.32**	**170**	Pg	**Pg**	**08 26 35.7**	**+2.0**
LANF				Sg	**Sg**	**08 26 51.8**	**+0.9**
LANF	**Langenberg**	**1.32**	**170**	Pg	**Pg**	**08 26 34.1**	**+0.4**
BCLA	**Clavier**	**1.38**	**277**	⇓P	**Pn**	**08 26 34.4**	**+1.0**
BCLA				S	**Sn**	**08 26 51.9**	**+0.3**
	comp=E,33nm,0.4s						
SIND	**Sindeldorf**	**1.68**	**123**	P	**Pn**	**08 26 38.4**	**+0.8**
SIND				Pg	**Pg**	**08 26 41.1**	**+0.6**
SIND				Sg	**Sg**	**08 27 03.1**	**+0.7**
SIND	**Sindeldorf**	**1.68**	**123**	P	**Pn**	**08 26 38.4**	**+0.8**
SIND				Pg	**Pg**	**08 26 41.1**	**+0.5**
SIND				Sg	**Sg**	**08 27 03.2**	**+0.8**
GIVF	**Givet**	**1.69**	**265**	*e*P	**Pn**	**08 26 38.9**	**+1.2**
GIVF				*e*Sg	**Sg**	**08 27 00.7**	**-2.0**
	comp=E,65nm,0.3s						
GIVF	**Givet**	**1.69**	**265**	*e*P	**Pn**	**08 26 38.9**	**+1.2**
GIVF				*e*Sg	**Sg**	**08 27 00.7**	**-2.0**
	comp=E,33nm,0.3s						
UBBA	**Unterbreizbach**	**1.72**	**71**	*e*Pn	**Pn**	**08 26 39.6**	**+1.5**
	SNR=1.1						
UBBA				*e*Pg	**Pg**	**08 26 41.2**	**0.0**
	SNR=2.9						
UBBA				*e*Sg	**Sg**	**08 27 02.0**	**-1.6**
WTSB	**Winterswijk**	**1.73**	**347**	*e*Pg	**Pg**	**08 26 41.5**	**0.0**
	comp=E,6.7nm,0.2s						
WTSB				*e*Sg	**Sg**	**08 27 02.2**	**-1.8**
WTSB	**Winterswijk**	**1.73**	**347**	*e*Pg	**Pg**	**08 26 41.5**	**0.0**
	comp=E,6.7nm,0.2s						
WTSB				*e*Sg	**Sg**	**08 27 02.2**	**-1.8**
DOU	**Dourbes**	**1.84**	**265**	⇑P	**Pn**	**08 26 40.6**	**+0.9**
DOU				S	**Sn**	**08 27 03.4**	**+0.4**
	comp=E,38nm,0.3s						
WLS	**Welschbruch**	**1.87**	**182**	Pn	**Pn**	**08 26 41.2**	**+1.0**
WLS				Sg	**Sn**	**08 27 06.5**	**+2.7**
WLS	**Welschbruch**	**1.87**	**182**	Pg	**Pg**	**08 26 47.8**	**+3.6**
CDF	**Champ du Feu**	**1.88**	**183**	*e*Pn	**Pn**	**08 26 40.7**	**+0.5**
CDF				*e*Sg	**Sn**	**08 27 06.4**	**+2.5**
	comp=E,42nm,0.4s						
CDF	**Champ du Feu**	**1.88**	**183**	*e*Pn	**Pn**	**08 26 40.7**	**+0.5**
CDF				*e*Sg	**Sn**	**08 27 06.4**	**+2.5**
	comp=E,21nm,0.4s						
STU	**Stuttgart**	**1.90**	**142**	*e*Pg	**Pg**	**08 26 45.1**	**+0.5**
	SNR=1.5						
STU				*e*Sg	**Sg**	**08 27 09.3**	**+0.1**
GTTG	**Gvttingen**	**2.04**	**51**	*e*Pg	**Pb**	**08 26 45.7**	**+0.5**
	SNR=2.7						
GTTG				*e*Sg	**Sb**	**08 27 12.3**	**+1.7**
BFO	**Black Forest**	**2.04**	**163**	*e*Pg	**Pg**	**08 26 48.8**	**+1.5**
	SNR=5.4						
BFO				*e*Sg	**Sg**	**08 27 13.9**	**+0.1**
BFO	**Black Forest**	**2.04**	**163**	*e*Pn	**Pn**	**08 26 47.8**	**+5.3**
BFO				*e*Sg	**Sg**	**08 27 14.3**	**+0.5**
BFO	**Black Forest**	**2.04**	**163**	*e*Pn	**Pn**	**08 26 47.8**	**+5.3**
BFO				*e*Sg	**Sg**	**08 27 14.3**	**+0.5**
IBBN	**Ibbenburen**	**2.04**	**5**	*e*Sg	**Sg**	**08 27 12.1**	**-1.7**
ECH	**Echery**	**2.08**	**185**	Pg	**Pg**	**08 26 51.0**	**+2.9**
BAIF	**Baives**	**2.09**	**265**	*e*P	**Pn**	**08 26 44.9**	**+1.7**
BAIF				*e*Sg	**Sg**	**08 27 13.1**	**-2.4**
	comp=E,47nm,0.3s						
BAIF	**Baives**	**2.09**	**265**	*e*P	**Pn**	**08 26 44.9**	**+1.7**
BAIF				*e*Sg	**Sg**	**08 27 13.1**	**-2.4**
	comp=E,24nm,0.3s						
BUCH	**Bad Urach**	**2.22**	**145**	Pg	**Pg**	**08 26 51.1**	**+0.3**
BUCH				Sg	**Sg**	**08 27 19.9**	**+0.3**
THEF	**They Montfort**	**2.27**	**205**	Pg	**Pg**	**08 26 50.4**	**-1.4**
KIZ	**Kirchzarten**	**2.35**	**172**	Pg	**Pg**	**08 26 56.9**	**+3.6**
KIZ				S	**Sn**	**08 27 13.7**	**-1.9**
KIZ				Sg	**Sg**	**08 27 23.3**	**-0.5**
MEZF	**Maizieres J'vi**	**2.37**	**222**	*e*Pg	**Pg**	**08 26 53.4**	**-0.3**
MEZF				*e*Sg	**Sg**	**08 27 22.1**	**-2.3**
	comp=E,13nm,0.3s						
MEZF	**Maizieres J'vi**	**2.37**	**222**	*e*Pn	**Pn**	**08 26 47.5**	**+0.5**
MEZF				*e*Pg	**Pg**	**08 26 53.4**	**-0.3**
MEZF				*e*Sg	**Sg**	**08 27 22.1**	**-2.3**
MEZF	**Maizieres J'vi**	**2.37**	**222**	*e*Pg	**Pg**	**08 26 53.4**	**-0.3**
MEZF				*e*Sg	**Sg**	**08 27 22.1**	**-2.3**
	comp=E,6.4nm,0.3s						
HAU	**Haudompre**	**2.39**	**198**	*e*Pg	**Pg**	**08 26 53.8**	**-0.3**
HAU				*e*Sn	**Sn**	**08 27 13.0**	**-3.6**
HAU				*e*Sg	**Sg**	**08 27 24.2**	**-0.8**
	comp=E,22nm,0.3s						
HAU	**Haudompre**	**2.39**	**198**	*e*Pn	**Pn**	**08 26 47.2**	**-0.1**
HAU				*e*Pg	**Pg**	**08 26 53.8**	**-0.3**
HAU				*e*Sn	**Sn**	**08 27 13.0**	**-3.6**
HAU				*e*Sg	**Sg**	**08 27 24.2**	**-0.8**
HAU	**Haudompre**	**2.39**	**198**	*e*Pg	**Pg**	**08 26 53.8**	**-0.3**
HAU				*e*Sn	**Sn**	**08 27 13.0**	**-3.6**
HAU				*e*Sg	**Sg**	**08 27 24.2**	**-0.8**
	comp=E,11nm,0.3s						
CLZ	**Clausthal**	**2.42**	**49**	*e*Pn	**Pn**	**08 26 48.3**	**+0.5**
	SNR=1.4						
CLZ				*e*Pg	**Pg**	**08 26 52.3**	**-2.4**
	SNR=8.8						
CLZ				*e*Sg	**Sg**	**08 27 24.1**	**-2.0**
CLZ	**Clausthal**	**2.42**	**49**	*e*Pg	**Pg**	**08 26 52.5**	**-2.2**
CLZ				*e*Sg	**Sg**	**08 27 25.4**	**-0.6**
MOF	**Molkenrain**	**2.44**	**185**	Pn	**Pn**	**08 26 46.9**	**-1.1**
MOF				Sg	**Sg**	**08 27 24.1**	**-2.6**
GUT	**Gutenstein**	**2.47**	**153**	P	**Pn**	**08 26 49.6**	**+1.1**
GUT				S	**Sn**	**08 27 17.0**	**-1.5**
GUT	**Gutenstein**	**2.47**	**153**	P	**Pn**	**08 26 49.6**	**+1.2**
GUT				S	**Sn**	**08 27 17.0**	**-1.6**
HDH	**Heidenheim-Cha**	**2.48**	**132**	Sg	**Sg**	**08 27 27.1**	**-0.8**
HINF	**Hinteralfeld**	**2.50**	**189**	*e*Pg	**Pg**	**08 26 55.9**	**-0.2**
HINF				*e*Sn	**Sn**	**08 27 15.8**	**-3.5**
HINF				*e*Sg	**Sg**	**08 27 26.9**	**-1.6**
HINF	**Hinteralfeld**	**2.50**	**189**	*e*Pn	**Pn**	**08 26 49.8**	**+1.0**
HINF				*e*Pg	**Pg**	**08 26 55.9**	**-0.2**
HINF				*e*Sn	**Sn**	**08 27 15.8**	**-3.5**
HINF				*e*Sg	**Sg**	**08 27 26.9**	**-1.6**
HINF	**Hinteralfeld**	**2.50**	**189**	*e*Pg	**Pg**	**08 26 55.9**	**-0.2**
HINF				*e*Sn	**Sn**	**08 27 15.8**	**-3.5**
HINF				*e*Sg	**Sg**	**08 27 26.9**	**-1.6**
GRF	**Grafenberg Arr**	**2.51**	**102**	*e*Pg	**Pg**	**08 26 55.4**	**-1.0**
	SNR=2.0						
GRF				*e*Sg	**Sg**	**08 27 27.2**	**-1.8**
MOX	**Moxa**	**2.69**	**81**	*e*Pg	**Pg**	**08 26 58.4**	**-1.5**
	SNR=1.7						
MOX				*e*Sn	**Sn**	**08 27 23.4**	**-0.6**
MOX				*e*Sg	**Sg**	**08 27 31.5**	**-3.3**
MOX	**Moxa**	**2.69**	**81**	*e*PG	**Pg**	**08 27 01.2**	**+1.4**
MOX				*e*SN	**Sn**	**08 27 23.4**	**-0.6**
MOX				*e*SG	**Sg**	**08 27 34.3**	**-0.4**
MOX	**Moxa**	**2.69**	**81**	*e*Pg	**Pg**	**08 27 01.2**	**+1.4**
MOX				*e*Sn	**Sn**	**08 27 23.4**	**-0.6**
WERD	**Werda**	**3.12**	**85**	*e*Sg	**Sg**	**08 27 46.9**	**-1.5**
TANN	**Tannenbergstha**	**3.22**	**86**	*e*Sg	**Sg**	**08 27 49.2**	**-2.5**
CLL	**Collm**	**3.67**	**72**	*e*Pg	**Pg**	**08 27 19.0**	**+0.3**
CLL				*e*Sg	**Sg**	**08 28 02.8**	**-3.4**
CLL	**Collm**	**3.67**	**72**	*e*Pg	**Pg**	**08 27 19.0**	**+0.3**
CLL				*e*Sg	**Sg**	**08 28 05.0**	**-1.3**
CABF	**La Chapelle**	**3.78**	**194**	*e*Pn	**Pn**	**08 27 06.4**	**-0.1**
LOR	**Lormes**	**3.83**	**220**	*e*Pn	**Pn**	**08 27 06.3**	**-0.9**
LOR				*e*Sn	**Sn**	**08 27 49.6**	**-2.7**
LOR				*e*Sg	**Sg**	**08 28 09.5**	**-1.9**
	comp=E,4.5nm,0.2s						
LOR	**Lormes**	**3.83**	**220**	*e*Pn	**Pn**	**08 27 06.3**	**-0.9**
LOR				*e*Sn	**Sn**	**08 27 49.6**	**-2.7**
LOR				*e*Sg	**Sg**	**08 28 09.5**	**-1.9**
	comp=E,2.2nm,0.2s						
SSF	**Saint Saulge**	**4.15**	**220**	*e*Pg	**Pg**	**08 27 26.1**	**-1.6**
SSF				*e*Sg	**Sg**	**08 28 16.8**	**-4.6**
	comp=E,6.2nm,0.5s						
SSF	**Saint Saulge**	**4.15**	**220**	*e*Pn	**Pn**	**08 27 10.2**	**-1.3**
SSF				*e*Pg	**Pg**	**08 27 26.1**	**-1.6**
SSF				*e*Sg	**Sg**	**08 28 16.8**	**-4.6**
SSF	**Saint Saulge**	**4.15**	**220**	*e*Pg	**Pg**	**08 27 26.1**	**-1.6**
SSF				*e*Sg	**Sg**	**08 28 16.8**	**-4.6**
	comp=E,3.1nm,0.5s						
BRG	**Berggiesshubel**	**4.18**	**79**	SG	**Sg**	**08 28 22.4**	**-0.2**
	comp=E,2.0nm,0.8s						
SMF	**Signal de Mont**	**4.36**	**215**	*e*Pn	**Pn**	**08 27 13.0**	**-1.4**
SMF				*e*Pg	**Pg**	**08 27 29.3**	**-2.4**
SMF				*e*Sn	**Sn**	**08 28 00.1**	**-5.0**
HYF	**Humbligny**	**4.38**	**228**	*e*Pg	**Pg**	**08 27 30.5**	**-1.6**
AVF	**Avril sur Loir**	**4.43**	**219**	*e*Pn	**Pn**	**08 27 14.9**	**-0.4**
BGF	**Bois d'Agland**	**4.82**	**221**	*e*Sn	**Sn**	**08 28 11.8**	**-4.8**
BGF				*e*Sg	**Sg**	**08 28 43.4**	**+0.3**
LDF	**La Druitiere**	**5.22**	**254**	*e*Sn	**Sn**	**08 28 21.1**	**-5.2**
GRR	**Gorron**	**5.75**	**254**	*e*Sn	**Sn**	**08 28 33.6**	**-5.8**
MFF	**Saint Martin d**	**6.25**	**237**	*e*Sn	**Sn**	**08 28 47.0**	**-4.7**

IDC 18 08:26:50.7±1.8, 4707N×15572E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/22, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=63.5km s-min=27.0km az=176.0

ISCJB 18 08:26:52.8±5.6, 470N±002×1558E±02, h25km±40km, mb3.8/6, Error ellipse: s-maj=34.3km s-min=17.7km az=91.6

MOS 18 08:26:54.2±2.6, 4703N×15589E, h34km, mb4.2/3, Error ellipse: s-maj=34.2km s-min=23.4km az=73.5

ISC 18 08:26:53.1±8.2, 471N±002×1557E±02, h15km±52km, n13, σ0§75/13, mb3.8/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.65**	**4**	*e*PN	**Pn**	**08 27 49.0**	**0.0**
ASAJ	**Asahikawa**	**9.63**	**257**	Pn	**Pn**	**08 29 17.4**	**+6.1**
	0.5nm,0.3s,baz=83,slow=16,SNR=4.3						
ASAJ	**Asahikawa**	**9.63**	**257**	PN	**Pn**	**08 29 17.4**	**+6.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.70**	**237**	Pn	**Pn**	**08 30 46.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**48.36**	**298**	P	**P**	**08 35 33.8**	**-0.4**

comp=Z,1.8nm,0.7s,mb3.5,baz=50,slow=11,SNR=7.5
INK Inuvik 40.89 33 P **P 08 39 29.4 +1.2**
comp=Z,1.3nm,0.5s,mb4.0,baz=305,slow=6.8,SNR=5.3
INK Inuvik 40.89 33 P **P 08 39 29.4 +1.2**
INK pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.06 297 P **P 08 40 19.0 +1.4**
comp=Z,0.3nm,0.7s,mb3.1,baz=72,slow=6.8,SNR=3.4
FINES FINESS Array B 63.68 335 P **P 08 42 15.8 -1.1**
comp=Z,1.3nm,0.9s,mb3.8,baz=30,slow=6.0,SNR=7.5
FINES FINESS Array B 63.68 335 P **P 08 42 15.8 -1.1**
FINES pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 64.02 54 P **P 08 42 20.4 +1.2**
comp=Z,0.5nm,1.0s,mb3.3,baz=196,slow=1.1,SNR=3.9
NB2 NORSAR Subarra 67.80 341 P **P 08 42 42.6 -0.7**
comp=Z,1.2nm,0.6s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 67.80 341 P **P 08 42 42.7 -0.7**
comp=Z,1.0nm,0.6s,mb3.8,baz=26,slow=6.3,SNR=5.9
NOA NORSAR Array B 67.80 341 P **P 08 42 42.7 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 68.04 340 P **P 08 42 44.2 -0.7**
comp=Z,1.8nm,0.4s,mb4.3,baz=53,slow=5.7,SNR=20
HFS Hagfors 68.04 340 P **P 08 42 44.2 -0.7**
HFS pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 72.93 199 P **P 08 43 12.5 -2.2**
comp=Z,0.3nm,0.8s,mb3.2,baz=4.6,slow=6.3,SNR=5.0
TXAR Lajitas Array 76.80 61 P **P 08 43 37.4 +0.4**
comp=Z,0.6nm,0.7s,mb3.4,baz=225,slow=1.6,SNR=4.8
TXAR Lajitas Array 76.80 61 P **P 08 43 37.4 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 76.82 325 P **P 08 43 37.6 +0.5**
comp=Z,0.7nm,0.5s,mb3.7,baz=185,slow=9.9,SNR=3.2
MLR Muntele Rosu 76.82 325 P **P 08 43 37.6 +0.5**
MLR pmax pmax
comp=Z,1.0nm,0.5s

GUC 18 08:39:20.6±1.0, 2823S×7118W, h38km±9km, MD3.9, ML3.5, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.50**	**133**	⇓*i*	P	08 39 31.6	+0.3
VACH				*i*	S	08 39 39.0	+0.2
VACH				AML	AML	08 39 39.4	
	comp=E,25μm,0.1s						
VACH				AML	AML	08 39 39.8	
	comp=N,23μm,0.2s						
CPCH	**Copiapo**	**1.14**	**40**	⇓*i*	P	08 39 41.5	+1.4
CPCH				*i*	S	08 39 56.3	+1.9
CPCH				AML	AML	08 40 00.1	
	comp=E,8μm,0.0s						
CPCH				AML	AML	08 40 00.6	
	comp=N,7μm,0.1s						
CDCH	**Caldera**	**1.20**	**15**	⇓*i*	P	08 39 41.4	+0.6
CDCH				*e*S	Sn	08 39 57.4	+1.5
CDCH				AML	AML	08 40 03.8	
	comp=N,210nm,0.3s						
CDCH				AML	AML	08 40 04.8	
	comp=E,199nm,0.3s						
TLL	**Tololo Astrono**	**1.96**	**170**	⇓*i*	P	08 39 53.4	+2.2
TLL				*i*	S	08 40 17.6	+3.0
TLL				AML	AML	08 40 20.5	
	comp=E,188nm,0.7s						
TLL				AML	AML	08 40 27.6	
	comp=N,295nm,0.7s						

IPEC ***18*** *08:40:46.7±0.2, 5029N×1889E, h0km, ML1.8/2, Error ellipse: s-maj=2.6km s-min=0.8km az=173.0*
CSEM ***18*** *08:40:46.0±0.1, 5036N×1889E, h2km, ML1.8/2, Error ellipse: s-maj=3.0km s-min=1.2km az=6.0*
PRU ***18*** *08:40:47.2, 5031N×1885E, h0km*
WAR 18 08:40:47.1, 5025N×1896E, ML2.5, 2C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	08 40 57.6	+0.1
OJC				*i* Sg	Sg	08 41 05.5	+1.0
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	08 40 57.5	0.0
OJC				*e*Sg	Sg	08 41 05.4	+0.9
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	08 40 59.4	-0.4
OKC				*e*SG	Sg	08 41 09.0	+0.6
MORC	**Moravsky Berou**	**1.02**	**243**	⇓*i*P	Pg	08 41 05.9	-0.8
MORC	**Moravsky Berou**	**1.02**	**243**	*e*Pg	Pg	08 41 05.7	-1.0
MORC				*e*Sg	Sg	08 41 19.2	-0.8
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	08 41 10.7	+0.5
NIE				*e*Sg	Sg	08 41 28.1	+2.2
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	08 41 16.5	-3.0
DPC				*e*SG	Sg	08 41 39.1	-2.4
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*Pg	Pg	08 41 16.5	-3.0
DPC				*e*Sg	Sg	08 41 38.6	-2.9
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PN	Pn	08 41 19.1	+1.1
STHS				*e*SN	Sn	08 41 42.8	+2.4
VYHS	**Vyhne**	**1.75**	**183**	*e*PN	Pn	08 41 17.6	-1.1
VYHS				*e*SN	Sn	08 41 41.7	-0.1
VRAC	**Vranov**	**1.79**	**239**	⇑*i*P	Pn	08 41 19.3	0.0
VRAC	**Vranov**	**1.79**	**239**	*e*Pn	Pn	08 41 19.0	-0.3
VRAC				*e*Sg	Sg	08 41 41.8	-3.0
UPC	**Upice**	**1.90**	**279**	*e*PG	Pg	08 41 20.6	-3.0
UPC				*e*SG	Sg	08 41 46.5	-1.7
KECS	**Kecovo**	**2.03**	**150**	*e*PN	Pn	08 41 23.9	+1.4
KECS				*e*SN	Sn	08 41 50.2	+1.7
KOLS	**Kolonicke sedl**	**2.53**	**120**	*e*PG	Pg	08 41 36.0	+0.5
BRG	**Berggiesshubel** 2.4nm,0.8s	**3.26**	**283**	SG	Sg	08 42 31.2	-0.6
KHC	**Kasperske Hory**	**3.67**	**254**	*e*SG	Sg	08 42 42.2	-2.7
NKC	**Novy Kostel**	**4.18**	**272**	*e*SG	Sg	08 42 59.5	-1.8
BURAR	**Bucovina Array**	**4.89**	**120**	⇑*i*P	Pn	08 42 02.5	+0.6

IDC 18 08:41:36.1±1.1, 5404N×16033E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.5/23, mbtmp3.9/4, Error ellipse: s-maj=43.0km s-min=28.4km az=143.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array** 1.2nm,0.6s,baz=58,slow=11,SNR=5.3	**27.71**	**246**	P	P	08 47 24.3	-1.7
FINES	**FINESS Array B** 2.3nm,0.9s,baz=34,slow=7.6,SNR=6.2	**59.31**	**336**	P	P	08 51 39.7	0.0
TXAR	**Lajitas Array** 1.0nm,0.6s,baz=306,slow=4.4,SNR=12	**70.14**	**67**	P	P	08 52 49.7	-0.6
ASAR	**Alice Springs** 0.6nm,0.7s,baz=15,slow=5.4,SNR=7.1	**80.68**	**204**	P	P	08 53 52.1	+1.2

KRSC 18 08:49:27.2±1.0, 5071N×15816E, h5km±5km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.74**	**7**	*e*P	Pn	08 49 59.8	+1.8
RUS				*e*S	Sn	08 50 23.3	+2.7
RUS	**Russkaya**	**1.74**	**7**	*e*P	Pn	08 49 59.8	+1.8
RUS				*e*S	Sn	08 50 23.3	+2.7
GRL	**Gorelyy**	**1.85**	**358**	*e*P	Pn	08 50 00.9	+1.4
GRL				*e*S	Sn	08 50 25.8	+2.6
GRL	**Gorelyy**	**1.85**	**358**	*e*P	Pn	08 50 00.9	+1.4
GRL				*e*S	Sn	08 50 25.8	+2.6
PET	**Petropavlovsk**	**2.34**	**7**	*e*P	Pn	08 50 07.7	+1.4
PET				*e*S	Sn	08 50 37.4	+2.0
PET	**Petropavlovsk**	**2.34**	**7**	*e*P	Pn	08 50 07.7	+1.4
PET				*e*S	Sn	08 50 37.4	+2.0
NLC	**Nalytchevo**	**2.57**	**16**	P	Pn	08 50 10.5	+1.0
NLC				*i* S	Sn	08 50 41.9	+0.8
NLC	**Nalytchevo**	**2.57**	**16**	P	Pn	08 50 10.5	+1.0
NLC				*i* S	Sn	08 50 41.9	+0.8
AVH	**Avacha**	**2.58**	**8**	*e*P	Pn	08 50 11.6	+1.9
AVH				*e*S	Sn	08 50 43.9	+2.5
AVH	**Avacha**	**2.58**	**8**	*e*P	Pn	08 50 11.6	+1.9
AVH				*e*S	Sn	08 50 43.9	+2.5
SPN	**Mys Shipunski**	**2.66**	**25**	P	Pn	08 50 12.8	+2.2
SPN				*i* S	Sn	08 50 46.3	+3.1
SPN	**Mys Shipunski**	**2.66**	**25**	P	Pn	08 50 12.8	+2.2
SPN				*i* S	Sn	08 50 46.3	+3.1
GNL	**Ganaly**	**2.99**	**358**	*e*P	Pn	08 50 14.6	-0.7
GNL	**Ganaly**	**2.99**	**358**	*e*P	Pn	08 50 14.6	-0.7
MKZ	**Mys Kozlova**	**4.42**	**28**	*e*P	Pn	08 50 36.2	+1.3
MKZ				*e*S	Sn	08 51 26.8	0.0
MKZ	**Mys Kozlova**	**4.42**	**28**	*e*P	Pn	08 50 36.2	+1.3
MKZ				*e*S	Sn	08 51 26.8	0.0
KMNR	**Kamenistaya**	**5.21**	**13**	*e*P	Pn	08 50 46.5	+0.8
KMNR	**Kamenistaya**	**5.21**	**13**	*e*P	Pn	08 50 46.5	+0.8
ZLN	**Zelenaya**	**5.55**	**16**	*e*P	Pn	08 50 51.9	+1.5
ZLN	**Zelenaya**	**5.55**	**16**	*e*P	Pn	08 50 51.9	+1.5
KBTR	**Krutoberegovo**	**6.17**	**25**	*e*P	Pn	08 50 59.4	+0.5
KBTR	**Krutoberegovo**	**6.17**	**25**	*e*P	Pn	08 50 59.4	+0.5

NIED ***18*** *08:50:00, 4790N×15550E, h14km, Mw5.1 Best double couple: M0 5.74000×10^16 NP1:ϕs=236.00000°, δ89.00000°, λ-96.00000°. NP2:ϕs=138.00000°, δ6.00000°, λ-8.00000°.*
BJI ***18*** *08:50:49.4, 4829N×15538E, h10km, mB5.1, mb4.9, Ms4.8, Msz4.7*
SKHL ***18*** *08:50:52.5±4.5, 4783N×15550E, h61km±29km, mb6.2/2, Ms5.0/6, msh5.7/2*
IDC ***18*** *08:50:52.7±0.6, 4811N×15483E, h0km, mb4.5/24, mb1 4.7/25, mb1mx4.6/29, mbtmp4.5/25, ML4.2/1, MS4.5/21, Ms1 4.5/21, ms1mx4.3/28, Error ellipse: s-maj=17.7km s-min=13.5km az=155.0*
ISCJB ***18*** *08:50:53.3±0.2, 4807N±0.003×15484E±0.004, h13km, mb5.0/121, MS4.6/41, Error ellipse: s-maj=5.6km s-min=2.5km az=106.4*
GCMT ***18*** *08:50:54.8±0.3, 4815N×15537E, h28km, MW5.1/66, Moment Tensor Solution. s41,c59; s66,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.55±.19; Mθθ-1.55±.12; Mϕϕ-3.00±.12; Mre1.48±.21; Mθϕ-2.12±.09; Mϕr2.07±.16; Best double couple: M0 5.19800×10^16 NP1:ϕs216.00000°, δ30.00000°, λ90.00000°. NP2: ϕs36.00000°, δ60.00000°, λ90.00000°. Principal axes: T 5.2150, Plg75.0000°, Azm306.0000°; N -0.0340, Plg0.0000°, Azm216.0000°; P -5.1810, Plg15.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *08:50:54.8±0.2, 4817N×15481E, h10km, mb5.1/64 Error ellipse: s-maj=6.1km s-min=3.8km az=160.0*
MOS ***18*** *08:50:56.6±1.0, 4812N×15475E, h35km, mb5.3/42, MS4.5/15, Error ellipse: s-maj=8.3km s-min=4.9km az=101.5*
SZGRF ***18*** *08:50:57.6, 4839N×15697E, h33km, mb5.5, East of Kuril Islands, Russia*
ISC 18 08:50:55.3±0.2, 4816N±0.003×15479E±0.004, h14km, h14km±1.8km; pP-P, n399, σ1s12/433, mb5.0/121, MS4.6/41, 37C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.67**	**18**	*e*P	**Pn**	**08 51 37.5**	**-0.3**
SKR				AMB	AMB	08 51 42.5	
	230nm,0.4s						
SKR				AMB	AMB	08 51 42.5	
	420nm,0.5s						
SKR				AMB	AMB	08 51 42.5	
	560nm,0.5s						
SKR				AMB	AMB	08 51 46.0	
	2μm,4.0s						
SKR				AMB	AMB	08 51 46.0	
	3μm,4.0s						
SKR				AMB	AMB	08 51 46.0	
	5μm,4.0s						
SKR				*i* S	**Sn**	**08 52 07.5**	**-2.5**
SKR				A		08 52 20.0	
	10μm,4.0s						
SKR				A		08 52 20.0	
	10μm,5.0s						
SKR				A		08 52 20.0	
	9μm,5.0s						
SKR				A		08 52 20.0	
	8μm,4.0s						
SKR				A		08 52 20.0	
	11μm,5.0s						
SKR				A		08 52 20.0	
	8μm,5.0s						
SKR				A		08 52 24.5	
	3μm,0.5s						
SKR				A		08 52 24.5	
	5μm,0.5s						
SKR				A		08 52 24.5	
	2μm,0.5s						
SKR				AMS	AMS	08 52 58.0	
	14μm,14.0s						
SKR				AMS	AMS	08 52 58.0	
	11μm,12.0s						
SKR				AMS	AMS	08 52 58.0	
	13μm,12.0s						
SKR				AMS	AMS	08 52 58.0	
	13μm,14.0s						
SKR				AMS	AMS	08 52 58.0	
	10μm,12.0s						
SKR				AMS	AMS	08 52 58.0	
	13μm,12.0s						
SKR	**Severo-Kuril's**	**2.67**	**18**	*e*PN	**Pn**	**08 51 37.5**	**-0.3**
SKR				*i* S	**Sn**	**08 52 07.5**	**-2.5**
SKR				pmax	pmax		
	comp=N,420nm,0.5s						
SKR				pmax	pmax		
	comp=Z,560nm,0.5s						
SKR				pmax	pmax		
	comp=E,230nm,0.4s						
SKR				pmax	pmax		
	comp=N,3μm,4.0s						
SKR				pmax	pmax		
	comp=E,5μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				smax			
	comp=N,11μm,5.0s						
SKR				smax			
	comp=E,8μm,4.0s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,5μm,0.5s						
SKR				MLR	MLR		
	comp=N,11μm,12.0s						
SKR				MLR	MLR		
	comp=Z,13μm,12.0s						
SKR				MLR	MLR		
	comp=E,14μm,14.0s						
PET	**Petropavlovsk**	**5.46**	**25**	*e*P	**Pn**	**08 52 15.6**	**-0.5**
PET	**Petropavlovsk**	**5.46**	**25**	*e*PN	**Pn**	**08 52 16.8**	**+0.7**
PET				pmax	pmax		
	comp=Z,299nm,0.6s						
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
PET	**Petropavlovsk**	**5.46**	**25**	*e*Pn	**Pn**	**08 52 15.6**	**-0.5**
	comp=Z,246nm,0.8s						
PET				*e*Sn	**Sn**	**08 53 16.5**	**-2.1**
KUR	**Kuril'sk**	**5.59**	**241**	⇓*i*P	**Pn**	**08 52 19.0**	**+1.0**
KUR				AMB	AMB	08 52 20.0	
	comp=Z,152nm,0.5s						
KUR				AMB	AMB	08 52 20.0	
	comp=Z,456nm,0.5s						
KUR				AMB	AMB	08 52 21.0	
	comp=Z,5μm,2.0s						
KUR				*e*S	**Sn**	**08 53 26.5**	**+4.5**
KUR				A		08 53 36.0	
	comp=Z,10μm,4.0s						
KUR				A		08 53 52.0	
	comp=Z,1μm,0.7s						
KUR				A		08 53 52.0	
	comp=Z,2μm,0.7s						
KUR				AMS	AMS	08 54 38.0	
	comp=Z,11μm,14.0s						
KUR				AMS	AMS	08 54 38.0	
	comp=Z,11μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**7.45**	**240**	⇑*i*P	**Pn**	**08 52 46.4**	**+2.9**
YUK				AMB	AMB	08 52 47.5	
	comp=Z,150nm,0.5s						
YUK				AMB	AMB	08 52 47.5	
	comp=Z,610nm,0.3s						
YUK				*e*S	**Sn**	**08 54 13.0**	**+5.2**
YUK				A		08 54 37.0	
	comp=Z,4μm,1.4s						
YUK				A		08 54 41.0	
	comp=Z,2μm,0.9s						
YUK				A		08 54 41.0	
	comp=Z,990nm,0.9s						
YUK				AMS	AMS	08 55 50.0	
	comp=Z,10μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**7.45**	**240**	⇑*i*PN	**Pn**	**08 52 46.4**	**+2.9**
YUK				*i* S	**Sn**	**08 54 13.0**	**+5.2**
YUK				pmax	pmax		
	comp=Z,610nm,0.3s						
YUK				smax			
	comp=N,8μm,1.4s						
YUK				smax			
	comp=E,4μm,1.4s						
YUK				smax			
	comp=N,2μm,0.9s						
YUK				smax			
	comp=E,990nm,0.6s						
YUK				MLR	MLR		
	comp=N,10μm,14.0s						
YUK				MLR	MLR		
	comp=E,8μm,17.0s						
NEM2	**Nemuro 2**	**7.94**	**236**	P	**Pn**	**08 52 50.2**	**0.0**
NEM2				*e*S	**Sn**	**08 54 15.9**	**-3.9**
JRA	**Rausu**	**7.94**	**241**	P	**Pn**	**08 52 53.0**	**+2.8**
JRA				*e*S	**Sn**	**08 54 24.5**	**+4.6**
YSS	**Yuzh-Sakhalins**	**8.23**	**266**	*e*P	**Pn**	**08 53 00.0**	**+5.7**
YSS				AMB	AMB	08 53 01.0	
	comp=E,160nm,0.7s						
YSS				AMB	AMB	08 53 01.0	
	comp=E,90nm,0.7s						
YSS				AMB	AMB	08 53 01.0	
	comp=E,180nm,0.7s						
YSS				*e*S	**Sn**	**08 54 31.0**	**+3.9**
YSS				A		08 54 42.0	
	comp=E,190nm,0.9s						
YSS				*e*LQ		08 55 02.0	
YSS				AMS	AMS	08 57 52.0	
	comp=E,2μm,14.0s						
YSS				AMS	AMS	08 57 52.0	
	comp=E,600nm,12.0s						
YSS				AMS	AMS	08 57 52.0	
	comp=E,1μm,14.0s						
YSS				*e*rx	rx	08 59 01.3	
YSS	**Yuzh-Sakhalins**	**8.23**	**266**	*e*PN	**Pn**	**08 53 00.0**	**+5.7**
YSS				*e*S	**Sn**	**08 54 31.0**	**+3.9**
YSS				pmax	pmax		
	comp=N,90nm,0.7s						
YSS				pmax	pmax		
	comp=E,180nm,0.7s						
YSS				pmax	pmax		
	comp=Z,160nm,0.7s						
YSS				smax			
	comp=E,190nm,0.9s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,600nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.23**	**266**	*e*Pn	**Pn**	**08 52 59.9**	**+5.7**
	comp=N,134nm,0.7s						
YSS				*e*Sn	**Sn**	**08 54 25.0**	**-2.1**
TYV	**Tymovskoe**	**8.35**	**293**	*e*P	**Pn**	**08 53 00.5**	**+4.7**
TYV				AMB	AMB	08 53 03.0	
	comp=N,40nm,0.8s						
TYV				AMB	AMB	08 53 03.0	
	comp=N,60nm,0.8s						
TYV				AMS	AMS	08 56 44.0	
	comp=N,6μm,16.0s						
TYV				AMS	AMS	08 56 44.0	
	comp=N,10μm,16.0s						
JNK	**Nakash**	**8.38**	**241**	P	**Pn**	**08 52 58.4**	**+2.1**
UGL	**Uglegorsk**	**8.48**	**281**	*e*PN	**Pn**	**08 53 04.5**	**+6.8**
UGL				*e*		08 54 38.5	
UGL				pmax	pmax		
	comp=Z,144nm,0.7s						
UGL				MLR	MLR		
	comp=N,4μm,14.0s						
UGL				MLR	MLR		
	comp=E,8μm,14.0s						
UGL				MLR	MLR		
	comp=Z,7μm,14.0s						
JTKR	**Abashiri--Toko**	**8.65**	**245**	P	**Pn**	**08 53 03.7**	**+3.8**
JAK	**Akkeshi**	**8.76**	**238**	P	**Pn**	**08 53 01.3**	**-0.2**
JAK				*e*S	**Sn**	**08 54 36.1**	**-3.9**
JMP	**Maruseppu**	**8.96**	**247**	P	**Pn**	**08 53 07.8**	**+3.5**
JSE	**Soyaes**	**9.00**	**254**	P	**Pn**	**08 53 11.1**	**+6.3**
JAR	**Ashorobuto**	**9.11**	**242**	P	**Pn**	**08 53 08.4**	**+2.1**
JAR				*e*S	**Sn**	**08 54 50.7**	**+2.0**
OKH	**Okha**	**9.24**	**310**	*e*L		08 56 03.0	
OKH				AMS	AMS	08 58 02.0	
	comp=Z,5μm,8.0s						
OKH				AMS	AMS	08 58 02.0	
	comp=Z,11μm,14.0s						
OKH				AMS	AMS	08 58 02.0	
	comp=Z,8μm,10.0s						
JWK2	**Keihoku**	**9.30**	**257**	P	**Pn**	**08 53 17.1**	**+8.2**
JOB	**Onbets**	**9.31**	**240**	P	**Pn**	**08 53 10.3**	**+1.3**
JOB				*e*S	**Sn**	**08 54 51.2**	**-2.3**
ASAJ	**Asahikawa**	**9.38**	**249**	Pn	**Pn**	**08 53 15.4**	**+5.4**
ASAJ	comp=Z,9.5nm,0.3s,baz=81,slow=13,SNR=63			LR	LR	08 56 40.5	
	comp=Z,3μm,18.9s,baz=70,slow=37						
ASAJ	**Asahikawa**	**9.38**	**249**	P	**Pn**	**08 53 15.2**	**+5.2**
ASAJ	**Asahikawa**	**9.38**	**249**	PN	**Pn**	**08 53 15.4**	**+5.4**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,18.9s						
JKK2	**Kamakawa 2**	**9.41**	**247**	P	**Pn**	**08 53 14.0**	**+3.6**
JCH	**Churui**	**9.76**	**240**	P	**Pn**	**08 53 15.6**	**+0.4**
JCH				*e*S	**Sn**	**08 55 00.9**	**-3.7**
JFR	**Furan**	**9.89**	**244**	P	**Pn**	**08 53 19.8**	**+2.8**
JAB	**Ashibetsu**	**9.93**	**247**	P	**Pn**	**08 53 21.9**	**+4.4**
JBT2	**Biratori 2**	**10.25**	**243**	P	**Pn**	**08 53 23.4**	**+1.5**
JEM	**Erimo**	**10.26**	**238**	P	**Pn**	**08 53 18.5**	**-3.6**
ERM	**Erimo**	**10.26**	**238**	Pn	**Pn**	**08 53 25.0**	**+2.9**
	comp=Z,676nm,0.5s,SNR=15						
ERM	**Erimo**	**10.26**	**238**	*e*PN	**Pn**	**08 53 21.7**	**-0.4**
ERM				pmax	pmax		
	comp=Z,61nm,0.6s						
ERM	**Erimo**	**10.26**	**238**	*e*P	**Pn**	**08 53 21.7**	**-0.4**
	comp=Z,61nm,0.6s						
ERM				Pn	**Pn**	**08 53 25.4**	**+3.3**
ERM				*e*Sn	**Sn**	**08 55 04.2**	**-13**
JNBK	**Urakawa-nobuka**	**10.32**	**240**	P	**Pn**	**08 53 21.0**	**-1.9**
JNBK				*e*S	**Sn**	**08 55 13.8**	**-4.6**
JEW	**Eniwo**	**10.77**	**245**	P	**Pn**	**08 53 31.5**	**+2.5**
JNB	**Noboribetsu**	**11.23**	**245**	P	**Pn**	**08 53 36.0**	**+0.7**
JNB				*e*S	**Sn**	**08 55 35.7**	**-4.8**
JKB	**Kayabe**	**11.57**	**242**	P	**Pn**	**08 53 39.1**	**-0.9**
JKB				*e*S	**Sn**	**08 55 42.5**	**-6.5**
JSH	**Shimam**	**11.74**	**247**	P	**Pn**	**08 53 44.4**	**+2.2**
JYM2	**Yakumo 2**	**11.84**	**245**	P	**Pn**	**08 53 44.3**	**+0.7**
JOT	**Ohata**	**11.88**	**240**	P	**Pn**	**08 53 42.6**	**-1.6**
JOT				*e*S	**Sn**	**08 55 46.9**	**-10**
JTM	**Tenmabayashi**	**12.25**	**238**	P	**Pn**	**08 53 47.0**	**-2.3**
JANG	**Nango**	**12.28**	**236**	P	**Pn**	**08 53 46.5**	**-3.2**
JANG				*e*S	**Sn**	**08 55 54.8**	**-12**
JTH	**Tanohata**	**12.40**	**233**	P	**Pn**	**08 53 48.1**	**-3.2**
JTH				*e*S	**Sn**	**08 55 56.4**	**-13**
JOSM	**Okushiri--Mats**	**12.40**	**246**	P	**Pn**	**08 53 52.2**	**+0.9**
TEY	**Ternei**	**12.89**	**263**	*e*P	**Pn**	**08 53 56.0**	**-2.0**
TEY				AMS	AMS	08 59 34.0	
	comp=Z,1μm,13.0s						
TEY				AMS	AMS	08 59 34.0	
	comp=Z,2μm,14.0s						
JOM	**Ohasama**	**13.04**	**233**	P	**Pn**	**08 53 56.3**	**-3.7**
JOM				*e*S	**Sn**	**08 56 12.1**	**-13**
OFUJ	**Ofunato**	**13.13**	**231**	P	**Pn**	**08 53 57.5**	**-3.7**
OFUJ				*e*S	**Sn**	**08 56 16.6**	**-10**
HABR	**Khabarovsk**	**13.15**	**279**	⇑*i*PN	**Pn**	**08 54 07.7**	**+6.2**
HABR				*e*S	**Sn**	**08 56 38.0**	**+11**
HABR				pmax	pmax		
	comp=Z,78nm,1.5s						
HABR				MLR	MLR		
	comp=Z,4μm,18.4s						
JRG	**Rokugo**	**13.45**	**235**	P	**Pn**	**08 54 02.9**	**-2.8**
JIO	**Ouri**	**13.76**	**230**	P	**Pn**	**08 54 05.3**	**-4.6**
JIO				*e*S	**Sn**	**08 56 31.0**	**-12**
JMM	**Marumori**	**14.49**	**230**	P	**Pn**	**08 54 14.6**	**-5.3**
JMM				*e*S	**Sn**	**08 56 47.5**	**-13**
JYA	**Atsumi**	**14.53**	**234**	P	**Pn**	**08 54 19.0**	**-1.3**
JFK	**Kawauchi**	**14.84**	**228**	P	**Pn**	**08 54 21.9**	**-2.6**
SEY	**Seymchan**	**14.87**	**356**	⇓*e*P	**Pn**	**08 54 25.2**	**+0.2**
KLR	**Kul'dur**	**15.25**	**283**	*e*P	**Pn**	**08 54 33.2**	**+3.2**

KLR pmax pmax
comp=E,150nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,19µm,13.0s
JFY Yanaizu 15.40 231 P **Pn** **08 54 29.6 -2.5**
JSD Sado 15.72 236 P **Pn** **08 54 42.2 +6.0**
MAJO Matsushiro 16.84 233 *e*P **Pn** **08 54 49.0 -1.6**
MAJO pmax pmax
comp=Z,39nm,0.8s
MAJO Matsushiro 16.84 233 *e*Pn **Pn** **08 54 49.1 -1.5**
comp=Z,39nm,0.8s
MAT Matsushiro 16.84 233 P **Pn** **08 54 48.3 -2.3**
MAT *e*S **Sn** **08 57 54.0 -3.5**
MAT Matsushiro 16.84 233 P **Pn** **08 54 48.8 -1.8**
MJAR Matsushiro Arr 16.84 233 Pn **Pn** **08 54 48.7 -1.9**
comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=28
JRY Ryogami san 16.88 230 P **Pn** **08 54 48.9 -2.2**
JRY *e*S **Sn** **08 57 48.6 -10**
JOD2 Odawara 2 17.38 228 P **Pn** **08 54 51.3 -6.0**
JGF Kuroka 18.00 232 P **Pn** **08 55 06.4 +1.4**
ZEA Zeya 18.16 298 *e*P **Pn** **08 55 07.2 +0.2**
ZEA AMB AMB 08 55 14.0
comp=Z,35nm,1.0s
ZEA AMB AMB 08 55 14.0
comp=Z,43nm,1.2s
JHJ Hachijo jima 2 18.80 222 LR LR 09 02 54.2
comp=Z,141nm,18.1s,baz=72,slow=38
JIE Ise 19.27 231 P **Pn** **08 55 21.0 +0.6**
JWT Wachi 19.30 235 P **Pn** **08 55 17.2 -3.5**
YAK Yakutsk 19.80 324 *e*P **Pn** **08 55 25.2 -1.6**
YAK *e*S **Sn** **08 59 11.1 +2.0**
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
YAK smax
comp=N,523nm,3.3s
YAK smax
comp=E,192nm,3.1s
YAK MLR MLR
comp=N,685nm,15.0s
YAK MLR MLR
comp=E,773nm,15.0s
YAK MLR MLR
comp=Z,1µm,15.0s
YAK Yakutsk 19.80 324 *e*P **Pn** **08 55 23.4 -3.4**
comp=Z,97nm,0.8s
CLNS Chul'man 20.03 307 *e*P **P** **08 55 29.6 +1.9**
CLNS *e* 08 55 39.3
CLNS *e*PPP 08 55 45.1
CLNS *e*S **S** **08 59 03.9 -8.5**
CLNS *e*SS 08 59 48.3
CLNS pmax pmax
comp=Z,97nm,0.9s
CLNS pmax pmax
comp=N,43nm,1.2s
CLNS pmax pmax
comp=E,56nm,1.0s
CLNS smax
comp=N,68nm,10.1s
CLNS smax
comp=Z,81nm,13.9s
CLNS smax
comp=E,1µm,15.0s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS4.6
CLNS MLR MLR
comp=N,700nm,14.0s,MS4.6
CLNS MLR MLR
comp=E,2µm,13.0s,MS4.6
JAD Aida 20.23 237 P **P** **08 55 30.7 +0.8**
JWZ Kozaga 20.46 231 P **P** **08 55 34.1 +1.7**
BILL Bilibino 20.77 12*d i*P **P** **08 55 33.0 -2.7**
BILL *e*S **S** **08 59 31.6 +4.5**
BILL pmax pmax
comp=Z,20nm,0.9s
BILL MLR MLR
comp=Z,2µm,22.0s,MS4.5
BILL Bilibino 20.77 12 *e*P **P** **08 55 33.6 -2.1**
comp=Z,25nm,0.8s
JHS Saijyo 20.79 239 P **P** **08 55 37.7 +1.8**
CN2 Changchun 20.79 269 ⇑P **P** **08 55 34.8 -1.1**
CN2 *e*XP sP 08 55 43.8 +2.0
CN2 *e*S **S** **08 59 19.6 -7.9**
CN2 AMB AMB
comp=Z,40nm,0.9s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,900nm,15.0s,MS4.5
CN2 LR LR
comp=E,1µm,15.0s,MS4.5
CN2 LR LR
comp=Z,2µm,15.0s,MS4.6
JMN Monobe 21.29 235 P **P** **08 55 38.7 -2.7**
KSRS Korea Array 22.32 251 P **P** **08 55 53.9 +1.5**
comp=Z,32nm,0.6s,mb4.9,baz=52,slow=10,SNR=86
KSRS LR LR 09 04 13.8
comp=Z,1µm,18.0s,MS4.3,baz=60,slow=36
SNY Shenyang 22.86 266 ⇑P **P** **08 55 58.6 +0.5**
SNY AMB AMB
comp=Z,15nm,0.6s,mb4.6
SNY LR LR
comp=N,709nm,16.2s,MS4.5
SNY LR LR
comp=E,1µm,17.7s,MS4.5
SNY LR LR
comp=Z,1µm,16.8s,MS4.4
HIA Hailar 23.04 286 P **P** **08 56 00.0 0.0**
HIA pmax pmax
comp=Z,6.0nm,0.4s
HIA Hailar 23.04 286 P **P** **08 56 00.0 +0.1**
comp=Z,5.7nm,0.4s,mb4.3
CBIJ Chichi jima 23.22 210 LR LR 09 03 29.9
comp=Z,239nm,19.4s,MS3.7,baz=86,slow=33
JNU Nakatsue 23.42 239 P **P** **08 56 08.0 +3.9**
comp=Z,46nm,1.0s,mb4.9,baz=258,slow=21,SNR=4.3
JNU LR LR 09 04 46.5
comp=Z,2µm,20.8s,MS4.6,baz=77,slow=36
JNU Nakatsue 23.42 239 P **P** **08 56 09.8 +5.7**
DL2 Dalian 25.59 261 P **P** **08 56 24.8 +0.9**
DL2 S **S** **09 00 52.9 +1.5**
DL2 XS sS 09 01 07.8 +9.3
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
DL2 AMB AMB
comp=Z,120nm,8.8s
DL2 LR LR
comp=N,350nm,12.5s,MS4.2
DL2 LR LR
comp=E,230nm,11.8s,MS4.2
DL2 LR LR
comp=Z,420nm,11.8s,MS4.2
BOD Bodaibo 26.01 307 *e*P **P** **08 56 25.9 -1.8**
TIXI Tiksi 26.46 342 *e*P **P** **08 56 29.3 -2.5**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.5
TIXI Tiksi 26.46 342 *e*P **P** **08 56 29.3 -2.5**
comp=Z,13nm,0.8s,mb4.5
BJI Beijing 28.65 268 P **P** **08 56 52.9 +1.5**
BJI S **S** **09 01 43.4 +3.8**
BJI AMB AMB
comp=Z,6.0nm,1.0s,mb4.3
BJI LR LR
comp=N,1µm,15.8s,MS4.6
BJI LR LR
comp=E,388nm,16.9s,MS4.6
BJI LR LR
comp=Z,786nm,16.9s,MS4.4
BJI Beijing 28.65 268 P **P** **08 56 52.9 +1.5**
comp=Z,6.0nm,1.0s,mb4.3
BJI S **S** **09 01 43.4 +3.8**
BJI LR LR
comp=Z,790nm,16.9s,MS4.4
SSE Sheshan 30.67 249 P **P** **08 57 08.5 -0.8**
SSE S **S** **09 02 12.0 +0.6**
SSE AMB AMB
comp=Z,32nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,218nm,4.2s
SSE LR LR
comp=N,262nm,16.5s,MS4.4
SSE LR LR
comp=E,725nm,16.5s,MS4.4
SSE LR LR
comp=Z,900nm,13.7s,MS4.6
SSE Sheshan 30.67 249 P **P** **08 57 08.5 -0.8**
comp=Z,32nm,0.8s,mb5.2
SSE sP sP 08 57 12.8 -2.6
SSE S **S** **09 02 12.0 +0.6**
SSE sS sS 09 02 17.3 -1.2
SSE SS SS 09 04 23.0 +0.7
SSE LR LR
comp=Z,900nm,13.7s,MS4.6
HHC Hu-ho-hao-te 31.35 273 ⇑P **P** **08 57 16.3 +1.0**
HHC AP pP 08 57 20.6 +1.0
HHC XP sP 08 57 24.0 +2.6
HHC PP PP 08 58 20.1 -6.0
HHC PCP PcP 09 00 10.8 +1.8
HHC S **S** **09 02 22.5 +0.5**
HHC XS sS 09 02 31.1 +2.0
HHC SCP ScP 09 03 49.5 -2.1
HHC SS SS 09 04 12.9 -23
HHC SCS ScS 09 07 46.3 -2.8
HHC AMB AMB
comp=Z,34nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,150nm,5.4s
HHC LR LR
comp=N,779nm,15.1s,MS4.8
HHC LR LR
comp=E,1µm,13.4s,MS4.8
HHC LR LR
comp=Z,2µm,13.3s,MS4.9
NJ2 Nanjing 31.50 253 *e*P **P** **08 57 17.8 +1.1**
NJ2 AP pP 08 57 21.1 +0.1
NJ2 XP sP 08 57 24.3 +1.6
NJ2 PP PP 08 58 21.9 -5.9
NJ2 S **S** **09 02 23.5 -0.9**
NJ2 AMB AMB
comp=Z,540nm,4.6s
NJ2 LR LR
comp=N,2µm,16.1s,MS4.9
NJ2 LR LR
comp=E,1µm,16.3s,MS4.9
NJ2 LR LR
comp=Z,1µm,15.6s,MS4.8
ULN Ulaanbaatar 31.53 288*d i*P **P** **08 57 17.1 +0.2**
SONM Songino Array 31.96 288 P **P** **08 57 20.9 +0.2**
comp=Z,4.4nm,0.8s,mb4.3,baz=66,slow=8.4,SNR=26
SONM PcP PcP 09 00 10.0 -0.7
comp=Z,1.5nm,0.9s,baz=98,slow=2.5,SNR=3.9
SONM ScP ScP 09 03 51.9 -1.7
comp=Z,0.7nm,0.9s,baz=142,slow=3.5,SNR=4.1
SONM LR LR 09 11 30.9
comp=Z,2µm,18.3s,MS4.8,baz=75,slow=39
SONM Songino Array 31.96 288 P **P** **08 57 20.9 +0.2**
SONM 09 00 10.0
KDAK Kodiak Island 32.34 53 LR LR 09 10 18.2
comp=Z,740nm,21.9s,MS4.3,baz=267,slow=36
BTO Baotou 32.49 273 *e*P **P** **08 57 24.1 -1.3**
TLY Talaya 32.57 296 P **P** **08 57 26.5 +0.5**
comp=Z,127nm,0.8s,mb5.9,SNR=10
TLY Talaya 32.57 296 *e*P **P** **08 57 25.5 -0.5**
TLY *e* 08 58 40.6
TLY *e*S **S** **09 02 45.7 +4.7**
TLY *e*SS SS 09 04 36.8 -24
TLY pmax pmax
comp=Z,21nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,2µm,16.0s,MS4.8
TLY Talaya 32.57 296 *e*P **P** **08 57 25.0 -1.1**
comp=Z,22nm,0.9s,mb5.1
ZAK Zakamensk 33.14 294 *e*P **P** **08 57 30.6 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
COLA College 34.32 40 *e*P **P** **08 57 40.8 -0.5**
COLA *e* 08 59 00.0
COLA pmax pmax
comp=Z,27nm,0.8s,mb5.2
COLA College 34.32 40 *e*P **P** **08 57 40.8 -0.5**
comp=Z,27nm,0.8s,mb5.2
COLA *e*PP PP 08 59 00.0 +1.0
XAN Xi'an 36.78 265 P **P** **08 58 02.3 -0.1**
XAN AP pP 08 58 11.8 +5.1
XAN AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
EGAK Eagle 37.19 40 *e*P **P** **08 58 05.8 -0.1**
comp=Z,17nm,0.8s,mb4.9
EGAK *e*PP PP 08 59 36.2 +5.5
EGAK *e*PcP PcP 09 00 19.9 -5.8
DAWY Dawson 38.03 41 *e*P **P** **08 58 11.7 -1.3**
LZH Lanzhou 38.99 271 P **P** **08 58 22.3 +1.2**
LZH AP pP 08 58 32.8 +7.3
LZH AMB AMB
comp=Z,110nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,140nm,4.2s
LZH LR LR
comp=N,2µm,15.6s
LZH LR LR
comp=Z,1µm,16.0s,MS4.9
LZH Lanzhou 38.99 271 P **P** **08 58 22.3 +1.2**
comp=Z,110nm,1.1s,mb5.5
LZH pP pP 08 58 32.7 +7.2
LZH sP sP 08 58 37.2 +10
LZH LR LR
comp=Z,1µm,16.0s,MS4.9
INK Inuvik 39.85 33 P **P** **08 58 27.8 -0.5**
comp=Z,4.8nm,0.7s,mb4.3,baz=306,slow=4.8,SNR=10
INK Inuvik 39.85 33 *e*P **P** **08 58 27.9 -0.3**
INK Inuvik 39.85 33 *e*P **P** **08 58 27.4 -0.9**
comp=Z,764nm,1.4s
GTA Gaotai 39.88 278 P **P** **08 58 29.6 +1.1**
GTA AP pP 08 58 33.3 +0.4
GTA XP sP 08 58 36.0 +1.3
GTA PP PP 09 00 07.1 +6.9
GTA PCP PcP 09 00 33.4 -0.7
GTA S **S** **09 04 37.8 +4.9**
GTA XS sS 09 04 44.3 +4.2
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,124nm,4.2s
GTA LR LR
comp=N,829nm,14.5s,MS5.0
GTA LR LR
comp=E,1µm,16.3s,MS5.0
GTA LR LR
comp=Z,2µm,16.4s,MS5.0
CD2 Chengdu 42.14 265⇑*i*P **P** **08 58 47.3 +0.2**
CD2 AP pP 08 58 51.8 +0.3
CD2 XP sP 08 58 55.0 +1.8
CD2 PP PP 09 00 28.0 +3.4
CD2 S **S** **09 05 05.5 -0.9**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,510nm,16.8s,MS4.6
CD2 LR LR
comp=E,520nm,19.2s,MS4.6
CD2 LR LR
comp=Z,290nm,14.4s,MS4.3
ZAL Zalesovo 42.74 305 P **P** **08 58 50.9 -1.1**
comp=Z,2.6nm,0.6s,mb4.1,baz=32,slow=7.5,SNR=8.9
ZAL PcP PcP 09 00 41.5 -1.9
comp=Z,3.8nm,0.9s,baz=93,slow=1.9,SNR=5.6
ZAL LR LR 09 18 30.5
comp=Z,894nm,18.4s,MS4.7,baz=43,slow=39
ZAL Zalesovo 42.74 305 P **P** **08 58 50.9 -1.1**
ZAL 09 00 41.5
GYA Guiyang 43.13 258⇑*i*P **P** **08 58 56.1 +0.9**
GYA PP PP 09 00 38.3 +2.9
GYA PCP PcP 09 00 46.9 +2.1
GYA SCP ScP 09 04 36.8 +1.3
GYA S **S** **09 05 18.5 -2.5**
GYA SS SS 09 08 25.9 -7.8
GYA SCS ScS 09 08 54.6 -0.7
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,170nm,5.1s
GYA LR LR
comp=N,570nm,20.7s,MS4.6
GYA LR LR
comp=E,600nm,18.6s,MS4.6
GYA LR LR
comp=Z,640nm,15.6s,MS4.6
NVS Novosibirsk 43.25 307 *e*P **P** **08 58 58.3 +2.2**
WMQ Urumqi 45.49 291⇑*i*P **P** **08 59 14.6 +0.6**
WMQ AP pP 08 59 19.1 +0.7
WMQ XP sP 08 59 21.6 +1.4
WMQ PCP PcP 09 00 54.1 +1.3
WMQ PP PP 09 01 01.6 +1.1
WMQ PPP 09 01 43.1
WMQ S **S** **09 05 54.6 -0.7**
WMQ AMB AMB
comp=Z,15nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,187nm,5.7s
WMQ LR LR
comp=N,607nm,16.0s,MS4.8
WMQ LR LR
comp=E,548nm,16.0s,MS4.8
WMQ LR LR
comp=Z,766nm,16.0s,MS4.7
QIZ Qiongzhong 46.45 247 P **P** **08 59 21.1 -0.5**
QIZ S **S** **09 06 09.3 +0.2**
QIZ XS sS 09 06 17.4 +1.0
QIZ AMB AMB
comp=Z,16nm,1.2s,mb4.8
QIZ AMB AMB
comp=Z,83nm,7.4s
QIZ LR LR
comp=N,334nm,15.5s,MS4.5
QIZ LR LR
comp=E,315nm,14.8s,MS4.5
QIZ LR LR
comp=Z,699nm,15.8s,MS4.7
KMI Kunming 46.62 260 P **P** **08 59 23.5 +0.5**
KMI AP pP 08 59 25.6 -1.8
KMI XP sP 08 59 27.3 -1.8
KMI PP PP 09 01 12.5 0.0
KMI PPP 09 01 57.8
KMI S **S** **09 06 08.8 -2.8**
KMI SS SS 09 09 29.1 -8.5
KMI SSS 09 10 36.0
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,57nm,3.1s
KMI LR LR
comp=N,684nm,17.8s,MS4.7
KMI LR LR
comp=E,407nm,16.8s,MS4.7
KMI LR LR
comp=Z,393nm,16.8s,MS4.4
KMI Kunming 46.62 260 P **P** **08 59 23.5 +0.5**
KMI 09 01 12.5
KMI PPP 09 01 57.7
KMI S **S** **09 06 08.7 -2.9**
KMI *SS sS 09 06 13.1 -5.7
KMI SS SS 09 09 29.1 -8.5
KMI SSS 09 10 36.0
KMI pmax pmax
comp=Z,12nm,0.7s,mb4.9
KMI MLR MLR
comp=Z,390nm,16.8s,MS4.4
KMI Kunming 46.62 260 P **P** **08 59 23.5 +0.5**
comp=Z,12nm,0.7s,mb4.9
KMI pP pP 08 59 25.6 -1.8
KMI sP sP 08 59 27.2 -1.9
KMI PP PP 09 01 12.5 0.0
KMI PPP 09 01 57.7
KMI S **S** **09 06 08.7 -2.9**
KMI sS sS 09 06 13.1 -5.7
KMI SS SS 09 09 29.1 -8.5
KMI SSS 09 10 36.0
KMI LR LR
comp=Z,390nm,16.8s,MS4.4
MK31 Makanchi Array 47.31 297 P **P** **08 59 28.0 -0.4**
MK31 pmax pmax
comp=Z,19nm,0.7s,mb5.1
MKAR Makanchi Array 47.31 297 P **P** **08 59 28.1 -0.3**
comp=Z,19nm,0.7s,mb5.2,baz=65,slow=7.9,SNR=130
MKAR LR LR 09 20 27.5
comp=Z,3.6nm,18.9s,baz=9.7,slow=38
KURK Kurchatov 47.54 303 P **P** **08 59 29.0 -1.1**
comp=Z,413nm,0.6s,SNR=27
ALE Alert 48.22 6 P **P** **08 59 34.0 -1.4**
comp=Z,120nm,0.7s,mb6.0,SNR=9.6
YKA Yellowknife Ar 49.11 38 P **P** **08 59 41.2 -1.0**
comp=Z,4.9nm,0.9s,mb4.5,baz=296,slow=7.1,SNR=4.7
YKA Yellowknife Ar 49.11 38 P **P** **08 59 41.2 -1.0**
RES Resolute Bay 49.13 19 *e*P **P** **08 59 42.6 +0.2**
RES Resolute Bay 49.13 19 *e*P **P** **08 59 41.9 -0.6**
comp=Z,229nm,0.8s
CHKZ Chkalovo 50.40 310 *e*P **P** **08 59 50.9 -1.2**
CHKZ pmax pmax
comp=Z,24nm,0.9s,mb5.2
CHKZ Chkalovo 50.40 310 *e*P **P** **08 59 50.9 -1.2**
comp=Z,24nm,0.9s,mb5.2
VOSK Vostochnaya 50.70 309 P **P** **08 59 53.2 -1.1**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BVAR Borovoye Array 50.85 309 P **P** **08 59 54.9 -0.5**
comp=Z,8.9nm,0.6s,mb4.9,baz=60,slow=7.4,SNR=36
BVAR PcP PcP 09 01 11.8 -0.2
comp=Z,1.9nm,0.5s,baz=83,slow=5.1,SNR=3.7
BRVK Borovoye 50.89 309 *e*P **P** **08 59 54.6 -1.1**
BRVK pmax pmax
comp=Z,12nm,0.6s,mb5.0
BRVK Borovoye 50.89 309 *e*P **P** **08 59 54.6 -1.1**
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 51.34 273 P **P** **09 00 01.3 +2.2**
ZRNK Zerenda 51.60 310 *e*P **P** **09 00 00.1 -1.0**
ZRNK pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
ZRNK Zerenda 51.60 310 *e*P **P** **09 00 00.1 -1.1**
comp=Z,7.8nm,0.5s,mb4.9
NANT Nan 52.42 256 ⇑P **P** **09 00 04.0 -3.2**
comp=Z,102nm,0.9s,mb5.8
IMP Imphal 52.70 266 *i* P **P** **09 00 10.0 +0.7**
ULHL Ulahol 53.40 295 P **P** **09 00 14.7 +0.2**
SNR=10.0
TKM2 Tokmak 2 53.40 296 P **P** **09 00 15.0 +0.5**
SNR=9.1
CHG Chiang Mai 53.55 257 ⇓P **P** **09 00 17.0 +1.5**
comp=Z,24nm,0.8s,mb5.2
CHTO Chiang Mai 53.55 257 P **P** **09 00 17.2 +1.7**
CHTO pmax pmax
comp=Z,26nm,1.1s,mb5.1
CHTO Chiang Mai 53.55 257 *e*P **P** **09 00 17.1 +1.5**
comp=Z,26nm,1.1s,mb5.1
USP Ospenovka 53.86 297 P **P** **09 00 18.3 +0.5**
SNR=19
CHMS Chumysh 53.87 297 P **P** **09 00 18.1 +0.2**
SNR=5.6
FRU Bishkek 54.04 296 *e*P **P** **09 00 18.5 -0.6**
KZA Kyzart 54.10 295 P **P** **09 00 21.0 +1.5**
SNR=7.9
AAK Ala-Archa 54.23 296 P **P** **09 00 19.3 -1.2**
comp=Z,110nm,0.7s,mb5.9,SNR=12
AAK Ala-Archa 54.23 296 P **P** **09 00 20.9 +0.4**
SNR=14
AAK Ala-Archa 54.23 296⇑*e*P **P** **09 00 19.5 -1.0**
AAK pmax pmax
comp=Z,13nm,0.7s,mb5.0
AAK MLR MLR
comp=Z,900nm,23.0s,MS4.8
AAK Ala-Archa 54.23 296 *e*P **P** **09 00 19.8 -0.7**
comp=Z,13nm,0.8s,mb4.9
EDM Edmonton 54.52 48 P **P** **09 00 22.6 0.0**
EDM Edmonton 54.52 48 *e*P **P** **09 00 21.6 -1.1**
EKS2 Erkin-Say 54.65 297 P **P** **09 00 24.1 +0.6**
SNR=14
ARU Arti 54.74 317⇓*i*P **P** **09 00 22.6 -1.7**
ARU *e* 09 02 23.8
ARU *e*PPP 09 03 37.0
ARU *e*S **S** **09 08 02.0 -2.3**
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARU MLR MLR
comp=N,200nm,16.0s,MS4.6
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.6
ARU MLR MLR
comp=E,400nm,17.0s,MS4.6

AML	Almayashu	55.01	296	P		P	09 00 26.9	+0.8	
	SNR=7.1								
KSH	Kashi	55.17	292	*e*P		P	09 00 28.9	+1.6	
KSH				*e*AP		pP	09 00 33.3	+1.5	
KSH				*e*XP		sP	09 00 36.6	+3.0	
KSH				*e*PCP		PcP	09 01 29.1	+0.7	
KSH				*e*PP		PP	09 02 36.8	+6.1	
KSH				*e*PPP			09 03 46.1		
KSH				*e*SCP		ScP	09 05 25.8	-0.8	
KSH				*e*S		S	09 08 09.4	-0.6	
KSH				*e*XS		sS	09 08 19.8	+2.4	
KSH				*e*PS			09 08 28.1		
KSH				*e*SCS		ScS	09 10 14.4	-1.8	
KSH				*e*SS		SS	09 11 52.8	-1.2	
KSH				LR		LR			
	comp=Z,981nm,6.4s								
JIRN	Jiri	55.97	275	*e*P		P	09 00 34.4	+1.3	
	comp=Z,20nm,0.4s,mb5.5								
GUN	Gumba	56.01	275	*e*P		P	09 00 34.6	+1.2	
	comp=Z,24nm,0.4s,mb5.6								
KKN	Kakani	56.49	276	*e*P		P	09 00 38.2	+1.4	
	comp=Z,93nm,1.1s,mb5.7								
PKI	Pulchoki	56.55	275	*e*P		P	09 00 37.8	+0.6	
	comp=Z,30nm,0.7s,mb5.4								
DMN	Daman	56.73	275	*e*P		P	09 00 39.8	+1.3	
	comp=Z,146nm,1.2s,mb5.9								
GKN	Gorkha	56.78	276	*e*P		P	09 00 39.9	+1.1	
	comp=Z,58nm,0.5s,mb5.8								
ARCES	ARCESS Array B	56.89	341	P		P	09 00 38.1	-1.6	
	comp=Z,2.2nm,0.6s,mb4.4,baz=25,slow=6.7,SNR=5.3								
ARCES				LR		LR	09 29 03.3		
	comp=Z,881nm,19.7s,MS4.9,baz=31,slow=40								
KOLN	Koldanda	57.62	277	*e*P		P	09 00 46.0	+1.2	
	comp=Z,57nm,0.9s,mb5.6								
OHCM	Honcut	58.29	65	P		P	09 00 50.4	+0.9	
CHMT	Chamberlain Mo	58.33	54	*e*P		P	09 00 50.4	+0.7	
AB31	Akbulak array	58.40	310	*i* P		P	09 00 49.4	-0.8	
AB31				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
AKTK	Aktyubinsk	58.63	312	P		P	09 00 50.5	-1.3	
AKTO	Aktyubinsk	58.63	312	P		P	09 00 50.5	-1.3	
	comp=Z,2.5nm,0.7s,mb4.4,baz=47,slow=6.9,SNR=10								
AKTO	Aktyubinsk	58.63	312	P		P	09 00 50.6	-1.3	
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
BOK	Bokaro	58.76	272	*e*P		P	09 00 53.4	+0.7	
BOK				AMb		AMB	09 00 57.0		
	comp=Z,36nm,1.5s,mb5.2								
EGMT	Eagleton	59.48	51	*e*P		P	09 00 58.0	+0.2	
	comp=Z,2.8nm,0.7s,mb4.4								
HLID	Hailey	59.78	57	*e*P		P	09 01 00.4	+0.6	
	comp=Z,3.0nm,1.0s,mb4.3								
MCMT	McKenzie Canyo	59.85	55	*e*P		P	09 01 01.1	+0.8	
QLMT	Earthquake Lak	60.63	55	*e*P		P	09 01 06.4	+0.8	
NVAR	Mina Array Bea	60.78	64	P		P	09 01 07.2	+0.6	
	comp=Z,0.7nm,0.7s,baz=304,slow=6.7,SNR=3.7								
GCMT	Greycliff	60.96	53	*e*P		P	09 01 08.8	+0.9	
YMR	Madison River	60.98	54	*e*P		P	09 01 09.1	+1.0	
	comp=Z,6.8nm,0.8s,mb4.8								
YFT	Old Faithful	61.20	55	*e*P		P	09 01 10.6	+1.1	
NDI	New Delhi	61.23	282	*e*P		P	09 01 09.3	-0.4	
NDI				AMb		AMB	09 01 12.6		
	comp=Z,28nm,2.0s,mb5.0								
RLMT	Red Lodge	61.61	53	*e*P		P	09 01 12.8	+0.5	
	comp=Z,14nm,1.3s,mb4.9								
RRI2	Red Ridge	61.65	56	*e*P		P	09 01 12.4	-0.1	
	comp=Z,9.2nm,0.8s,mb5.0								
REDW	Red Top Meadow	61.90	56	*e*P		P	09 01 14.8	+0.6	
	comp=Z,15nm,1.1s,mb5.0								
DGMT	Dagmar	62.01	48	*e*P		P	09 01 14.1	-0.9	
	comp=Z,11nm,0.8s,mb5.0								
LAO	LASA Array	62.18	50	*e*P		P	09 01 16.4	+0.3	
	comp=Z,18nm,0.9s,mb5.2								
DUG	Dugway	62.87	59	*e*P		P	09 01 21.7	+1.0	
DUG				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.8								
DUG	Dugway	62.87	59	*e*P		P	09 01 21.7	+0.9	
	comp=Z,7.8nm,1.1s,mb4.8								
PDAR	Pinedale Array	63.00	55	P		P	09 01 20.9	-0.7	
	comp=Z,1.0nm,0.9s,mb4.0,baz=280,slow=2.6,SNR=6.2								
FINES	FINESS Array B	63.25	335	P		P	09 01 22.2	-1.0	
	comp=Z,4.2nm,0.7s,mb4.7,baz=43,slow=8.0,SNR=22								
FINES				LR		LR	09 31 34.7		
	comp=Z,640nm,18.5s,MS4.8,baz=259,slow=39								
NLU	North Lily Min	63.45	59	*e*P		P	09 01 25.7	+1.1	
KAKA	Kakadu	63.78	204	*e*P		P	09 01 25.8	-1.0	
	comp=Z,9.3nm,0.7s,mb4.9								
ARUT	Antelope Range	64.10	62	*e*P		P	09 01 29.8	+0.9	
MSU	Marysvale	64.35	60	*e*P		P	09 01 31.7	+1.2	
ULM	Lac du Bonnet	64.71	42	P		P	09 01 31.3	-1.6	
	comp=Z,3.3nm,0.8s,mb4.4,baz=314,slow=2.2,SNR=7.1								
ULM				LR		LR	09 31 21.8		
	comp=Z,258nm,19.5s,MS4.4,baz=314,slow=38								
ULM	Lac du Bonnet	64.71	42	P		P	09 01 31.3	-1.6	
ULM				LR		LR	09 31 21.8		
BHPL	Bhopal	64.78	277	*e*P		P	09 01 34.3	+1.0	
BHPL				AMb		AMB	09 01 35.2		
	comp=Z,56nm,0.7s,mb5.7								
OBN	Obninsk	64.79	326	⇓*e*P		P	09 01 32.6	-0.8	
OBN				*e*			09 03 56.1		
OBN				*i* S		S	09 10 17.8	+4.1	
OBN				MLR		MLR			
	comp=Z,300nm,22.0s,MS4.4								
SRU	San Rafael	64.91	59	*e*P		P	09 01 34.5	+0.4	
SRU	San Rafael	64.91	59	*e*P		P	09 01 33.2	-1.0	
RSSD	Black Hills	65.05	51	*e*P		P	09 01 34.6	-0.5	
RSSD				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.9								
RSSD	Black Hills	65.05	51	*e*P		P	09 01 34.5	-0.6	
	comp=Z,11nm,0.8s,mb4.9								
NGP	Nagpur	65.14	274	*e*P		P	09 01 35.9	+0.2	
AGMN	Agassiz Refuge	66.12	44	*e*P		P	09 01 42.4	+0.4	
	comp=Z,68nm,2.1s,mb5.3								
PV10	Paradox Valley	66.25	59	P		P	09 01 44.1	+1.2	
PV01	Paradox Valley	66.69	59	*e*P		P	09 01 45.8	+0.1	
SMCO	Snowmass	66.87	57	*e*P		P	09 01 47.7	+0.9	
	comp=Z,3.4nm,0.8s,mb4.4								
ISCO	Idaho Springs	67.20	55	*e*P		P	09 01 48.7	-0.2	
ISCO				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
ISCO	Idaho Springs	67.20	55	*e*P		P	09 01 48.7	-0.1	
	comp=Z,4.8nm,0.9s,mb4.5								
NB2	NORSAR Subarra	67.25	342	P		P	09 01 48.2	-1.0	
	comp=Z,3.6nm,0.7s,mb4.5,baz=26,slow=6.5								
NOA	NORSAR Array B	67.25	342	P		P	09 01 48.5	-0.8	
	comp=Z,11nm,1.0s,mb4.8,baz=26,slow=6.4,SNR=13								
NOA				LR		LR	09 35 21.8		
	comp=Z,446nm,18.6s,MS4.7,baz=20,slow=40								
BORG	Borgarnes	67.39	358	P		P	09 01 50.8	+0.6	
	comp=Z,22nm,0.9s,mb5.2,baz=23,slow=6.5,SNR=5.2								
HYB	Hyderabad	68.10	272	*i* P		P	09 01 55.0	+0.4	
HYB	Hyderabad	68.10	272	*e*P		P	09 01 55.0	+0.4	
ECSD	EROS,Sioux Fal	69.09	47	*e*P		P	09 01 59.2	-1.6	
	comp=Z,9.1nm,0.8s,mb4.8								
MDRS	Chennai	70.08	267	*ex*		x	08 59 56.6		
WB2	Warramunga Arr	70.22	200	*e*P		P	09 02 09.1	+1.4	
WB2				*e*			09 02 18.7		
WRA	Warramunga Arr	70.22	200	P		P	09 02 06.2	-1.6	
	comp=Z,1.2nm,0.8s,baz=16,slow=6.3,SNR=10								
WRA				LR		LR	09 30 14.1		
	comp=Z,104nm,18.4s,baz=40,slow=34								
SUW	Suwalki	70.30	332	*e*P		P	09 02 08.0	-0.2	
POO	Poona	70.45	276	⇑*i*P		P	09 02 07.0	-2.1	
	comp=Z,40nm,1.0s,mb5.3								
KIV	Kislovodsk	70.62	315	⇓*e*P		P	09 02 13.6	+3.4	
KIV				*e*			09 04 43.1		
KIV				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.8								
FITZ	Fitzroy Crossi	70.93	209	*e*P		P	09 02 11.8	-0.2	
	comp=Z,8.0nm,0.7s,mb4.8								
AKASG	Malin Array Be	71.00	327	P		P	09 02 11.3	-1.2	
	comp=Z,12nm,0.9s,mb4.8,baz=32,slow=6.0,SNR=27								
AKASG				LR		LR	09 39 19.1		
	comp=Z,386nm,18.6s,MS4.7,baz=20,slow=41								
AKASG	Malin Array Be	71.00	327	P		P	09 02 11.3	-1.2	
AKASG				LR		LR	09 39 19.1		
KAD	Karad	71.10	275	*e*P		P	09 02 14.1	+1.1	
KAD				AMb		AMB	09 02 16.7		
	comp=Z,38nm,0.8s,mb5.3								
SCHQ	Schefferville	71.56	24	P		P	09 02 17.1	+1.3	
	comp=Z,2.3nm,0.5s,mb4.4,baz=305,slow=6.4,SNR=14								
SCHQ				LR		LR	09 39 42.5		
	comp=Z,206nm,18.5s,MS4.4,baz=286,slow=41								
BSD	Bornholm Skovb	71.71	337	⇓*i*P		P	09 02 16.6	-0.2	
	comp=Z,44nm,1.1s,mb5.3								
BSD				pmax		pmax			
	comp=Z,44nm,1.1s,mb5.3								
SCIA	State Center	72.12	47	*e*P		P	09 02 18.3	-0.9	
	comp=Z,20nm,0.6s,mb5.2								
SOC	Sochi	72.30	316	*e*P		P	09 02 18.4	-1.9	
SOC				*e*S		S	09 11 43.3	+0.3	
GNI	Garni	72.48	311	*i* P		P	09 02 23.1	+1.7	
GNI				pmax		pmax			
	comp=Z,15nm,0.8s								
GNI				MLR		MLR			
	comp=Z,1μm,21.0s								
GKP	Gorka Klasztor	72.72	335	*e*P		P	09 02 22.9	+0.1	
AS31	Alice Springs	73.91	200	*e*P		P	09 02 30.5	+0.7	
ASAR	Alice Springs	73.91	200	P		P	09 02 29.8	-0.1	
	comp=Z,1.3nm,0.6s,mb4.0,baz=14,slow=5.5,SNR=17								
ASAR				LR		LR	09 31 47.2		
	comp=Z,172nm,19.9s,MS4.3,baz=13,slow=33								
ASAR	Alice Springs	73.91	200	P		P	09 02 29.8	-0.1	
ASAR				LR		LR	09 31 47.2		
KWP	Kalwaria	74.19	330	*e*P		P	09 02 32.0	+0.5	
KIS	Kishinev	74.20	325	*e*P		P	09 02 30.0	-1.5	
KIS	Kishinev	74.20	325	*e*UNK			09 02 30.0		
WMOK	Wichita Mounta	74.61	55	*e*P		P	09 02 32.8	-1.1	
WMOK				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.7								
WMOK	Wichita Mounta	74.61	55	*e*P		P	09 02 32.8	-1.2	
	comp=Z,7.5nm,0.8s,mb4.7								
OJC	Ojcow	74.63	332	*e*P		P	09 02 33.7	-0.3	
STHS	Stebnicka Huta	74.86	331	*e*P		P	09 02 36.0	+0.7	
STHS				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.1								
STHS	Stebnicka Huta	74.86	331	*e*P		P	09 02 36.0	+0.7	
	comp=Z,22nm,0.9s,mb5.1								
KOLS	Kolonicke sedl	74.93	330	*e*P		P	09 02 35.5	-0.3	
KOLS	Kolonicke sedl	74.93	330	*e*P		P	09 02 35.6	-0.2	
BURAR	Bucovina Array	75.03	327	⇑*i*P		P	09 02 36.0	-0.3	
BURAR	Bucovina Array	75.03	327	⇑P		P	09 02 36.0	-0.3	
KSP	Ksiaz	75.14	334	*e*P		P	09 02 37.3	+0.3	
KSP	Ksiaz	75.14	334	*e*P		P	09 02 37.0	0.0	
KSP				LR		LR			
	comp=Z,1μm,18.4s,MS5.3								
NIE	Niedzica	75.16	331	*e*P		P	09 02 37.4	+0.3	
NRDL	Niedersach Rie	75.30	339	*e*P		P	09 02 36.7	-1.2	
OKC	Ostrava-Krasne	75.47	333	*e*P		P	09 02 39.0	+0.1	
UPC	Upice	75.52	334	*e*P		P	09 02 39.3	+0.1	
DPC	Dobruska-Polom	75.57	334	*e*P		P	09 02 39.8	+0.4	
CLL	Collm	75.64	336	*e*P		P	09 02 39.2	-0.7	
	comp=Z,63nm,1.0s,mb5.5								
CLL	Collm	75.64	336	⇑*i*P		P	09 02 39.3	-0.6	
CLL				pmax		pmax			
	comp=Z,63nm,1.0s,mb5.5								
CLL				MLR		MLR			
	comp=Z,500nm,20.2s,MS4.8								
CLL	Collm	75.64	336	⇑*i*P		P	09 02 39.3	-0.6	
	comp=Z,63nm,1.0s,mb5.5								
CLL				*e*PcP		PcP	09 02 54.0	+1.3	
CLL				LmV			09 39 00.0		
	comp=Z,500nm,20.2s								
MORC	Moravsky Berou	75.71	333	⇑*i*P		P	09 02 40.2	-0.1	
MORC	Moravsky Berou	75.71	333	*e*P		P	09 02 40.1	-0.2	
	comp=Z,42nm,1.0s,mb5.3								
BRG	Berggiesshubel	75.78	336	*e*P		P	09 02 40.3	-0.3	
	comp=Z,30nm,1.2s,mb5.1								
BRG	Berggiesshubel	75.78	336	*i* P		P	09 02 40.1	-0.5	
	comp=Z,18nm,1.2s,mb4.9								
BRG									
	comp=N,403nm,25.3s								
BRG									
	comp=E,266nm,25.6s								
BRG									
	comp=Z,631nm,26.0s								
LTX	Lajitas	75.81	62	*e*P		P	09 02 40.3	-0.6	
LTX				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
LTX	Lajitas	75.81	62	*e*P		P	09 02 40.3	-0.6	
	comp=Z,10nm,0.8s,mb4.8								
TXAR	Lajitas Array	75.81	62	P		P	09 02 40.2	-0.6	
	comp=Z,3.5nm,0.8s,mb4.4,baz=297,slow=4.7,SNR=18								
TXAR	Lajitas Array	75.81	62	P		P	09 02 40.2	-0.6	
CLZ	Clausthal	75.84	338	*e*P		P	09 02 41.2	+0.2	
	comp=Z,77nm,1.3s,mb5.5								
CLZ	Clausthal	75.84	338	*e*P		P	09 02 41.2	+0.2	
CLZ				pmax		pmax			
	comp=Z,77nm,1.3s,mb5.5								
PVCC	Panska Ves	75.92	335	*e*P		P	09 02 41.3	-0.1	
KECS	Kecovo	75.92	331	*e*P		P	09 02 41.3	-0.1	
KECS				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.7								
KECS	Kecovo	75.92	331	*e*P		P	09 02 41.3	-0.1	
	comp=Z,11nm,1.1s,mb4.7								
CFR	Carcaliu	75.98	324	P		P	09 02 42.1	+0.3	
IBBN	Ibbenburen	76.03	340	*e*P		P	09 02 42.1	0.0	
VRAC	Vranov	76.42	333	⇑*i*P		P	09 02 44.5	+0.2	
VRAC	Vranov	76.42	333	P		P	09 02 45.0	+0.7	
VYHS	Vyhne	76.44	332	*i* P		P	09 02 44.3	-0.1	
VYHS				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.8								
VYHS	Vyhne	76.44	332	*i* P		P	09 02 44.3	-0.1	
	comp=Z,16nm,1.2s,mb4.8								
TIRR	Tirgusor	76.47	324	⇓*i*P		P	09 02 44.4	-0.2	
TIRR	Tirgusor	76.47	324	*e*P		P	09 02 44.2	-0.3	
	comp=Z,62nm,1.5s,mb5.3								
MLR	Muntele Rosu	76.56	326	⇑*i*P		P	09 02 44.9	-0.2	
MLR	Muntele Rosu	76.56	326	P		P	09 02 45.9	+0.8	
TANN	Tannenbergstha	76.60	336	*e*P		P	09 02 45.0	-0.3	
PSZ	Piszkesteto	76.60	331	⇑*i*P		P	09 02 45.5	+0.2	
PSZ	Piszkesteto	76.60	331	P		P	09 02 45.7	+0.4	
PSZ				pmax		pmax			
	comp=Z,15nm,1.0s,mb4.9								
PSZ	Piszkesteto	76.60	331	*e*P		P	09 02 44.9	-0.4	
	comp=Z,15nm,1.0s,mb4.9								
MOX	Moxa	76.61	337	*e*P		P	09 02 45.0	-0.4	
	comp=Z,41nm,1.2s,mb5.2								
MOX	Moxa	76.61	337	*e*P		P	09 02 45.4	0.0	
	comp=Z,63nm,1.6s,mb5.3								
MOX	Moxa	76.61	337	*e*P		P	09 02 45.4	0.0	
MOX				pmax		pmax			
	comp=Z,63nm,1.6s,mb5.3								
NKC	Novy Kostel	76.77	336	*e*P		P	09 02 46.5	+0.2	
SMOL	Smolenice	76.87	332	*e*P		P	09 02 47.7	+0.9	
UBBA	Unterbreizbach	76.87	338	*e*P		P	09 02 46.4	-0.4	
VOIR		76.94	326	⇑*i*P		P	09 02 47.1	-0.1	
VOIR		76.94	326	⇑P		P	09 02 47.1	-0.1	
BUG	Bochum--Univer	76.95	340	*e*P		P	09 02 47.0	-0.3	
MALT	Malatya	77.02	314	⇑*i*P		P	09 02 49.2	+1.5	
MALT	Malatya	77.02	314	P		P	09 02 48.6	+0.9	
	comp=Z,57nm,1.4s,mb5.3								
MANZ	Manzenberg	77.08	336	*e*P		P	09 02 48.0	0.0	
JCT	Junction City	77.21	59	P		P	09 02 49.6	+0.8	
JCT				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
JCT	Junction City	77.21	59	*e*P		P	09 02 42.0	-6.7	
	comp=Z,10nm,1.0s,mb4.7								
ZST	Bratislava	77.25	332	*e*P		P	09 02 48.9	-0.1	
ZST				pmax		pmax			
	comp=Z,26nm,1.3s,mb5.0								
ZST				MLR		MLR			
	comp=Z,400nm,20.4s,MS4.7								
ZST	Bratislava	77.25	332	*e*P		P	09 02 48.9	-0.1	
	comp=Z,26nm,1.3s,mb5.0								
ZST				LR		LR			
	comp=Z,400nm,20.4s,MS4.7								
ROTZ	Rotzenmuhle	77.26	336	*e*P		P	09 02 49.4	+0.4	
KHC	Kasperske Hory	77.45	335	*e*P		P	09 02 50.1	0.0	
KHC	Kasperske Hory	77.45	335	P		P	09 02 49.3	-0.8	
GRA1	Grafenberg Arr	77.59	337	*e*P		P	09 02 50.8	-0.1	
	comp=Z,64nm,1.1s,mb5.5								
GRF	Grafenberg Arr	77.59	337	*e*P		P	09 02 50.8	-0.1	
	comp=Z,64nm,1.1s,mb5.5								
GRF	Grafenberg Arr	77.59	337	*e*P		P	09 02 50.8	-0.1	
GRF				pmax		pmax			
	comp=Z,64nm,1.1s,mb5.5								
GRF	Grafenberg Arr	77.59	337	*e*P		P	09 02 50.8	-0.1	
GRF				pmax		pmax			
	comp=Z,64nm,1.1s,mb5.5								
GRFO	Grafenberg	77.59	337	*e*P		P	09 02 50.1	-0.8	
GRFO				pmax		pmax			
	comp=Z,72nm,1.3s,mb5.4								
GRFO	Grafenberg	77.59	337	*e*P		P	09 02 50.1	-0.7	
	comp=Z,72nm,1.3s,mb5.4								
WET	Wettzell	77.64	336	*e*P		P	09 02 51.3	+0.2	
	comp=Z,52nm,1.2s,mb5.3								
WET	Wettzell	77.64	336	*e*P		P	09 02 51.3	+0.2	
WET				pmax		pmax			
	comp=Z,52nm,1.2s,mb5.3								
GEC2	GERESS Array S	77.68	335	*e*P		P	09 02 51.4	0.0	
	comp=Z,17nm,1.0s,mb4.9								
GEC2	GERESS Array S	77.68	335	*e*P		P	09 02 51.4	0.0	
GEC2				pmax		pmax			
	comp=Z,17nm,1.0s,mb4.9								
GERES	GERESS Array B	77.68	335	P		P	09 02 51.6	+0.2	
	comp=Z,7.8nm,0.7s,mb4.8,baz=33,slow=5.2,SNR=59								
GERES				LR		LR	09 40 45.7		
	comp=Z,597nm,19.8s,MS4.9,baz=19,slow=38								
GZR	Gura Zlata	77.80	328	⇑*i*P		P	09 02 52.1	0.0	
GZR	Gura Zlata	77.80	328	⇑P		P	09 02 52.1	0.0	
TNS	Taunus Mts	77.81	339	*e*P		P	09 02 52.2	+0.1	
	comp=Z,40nm,1.1s,mb5.3								
TNS	Taunus Mts	77.81	339	*e*P		P	09 02 52.2	+0.1	
TNS				pmax		pmax			
	comp=Z,40nm,1.1s,mb5.3								
CONA	Conrad Observa	77.87	333	⇑*i*P		P	09 02 53.0	+0.6	
	comp=Z,14nm,0.9s,mb4.9								
MEM	Membach	78.02	340	P		P	09 02 52.9	-0.3	
BZS	Buzias	78.02	328	⇑*i*P		P	09 02 53.3	0.0	
BZS	Buzias	78.02	328	P		P	09 02 53.2	-0.1	
BR131	Keskin Array S	78.13	318	*e*P		P	09 02 54.1	+0.2	
	comp=Z,15nm,0.9s,mb4.9								
BRTR	Keskin Array B	78.13	318	P		P	09 02 54.6	+0.7	
	comp=Z,13nm,0.9s,mb4.9,baz=64,slow=3.1,SNR=48								
TOD	Tromm	78.29	338	*e*P		P	09 02 55.1	+0.3	
ABH	Alteburg	78.34	339	*e*P		P	09 02 55.3	+0.3	
BCLA	Clavier	78.35	341	P		P	09 02 55.3	+0.2	
BCLA				E		pP	09 03 01.3	+1.5	
ANTO	Ankara	78.39	318	*e*P		P	09 02 56.1	+0.8	
ANTO				pmax		pmax			
	comp=Z,43nm,1.5s,mb5.2								
ANTO	Ankara	78.39	318	*e*P		P	09 02 55.9	+0.6	
	comp=Z,43nm,1.5s,mb5.2								
MOA	Molln	78.41	334	⇑*i*P		P	09 02 55.8	+0.4	
	comp=Z,20nm,1.0s,mb5.0,SNR=7.4								
SNF	Seneffe	78.49	341	P		P	09 02 55.6	-0.2	
PKSM	Moragy	78.51	331	⇓*i*P		P	09 02 54.8	-1.2	
PKSM	Moragy	78.51	331	P		P	09 02 55.5	-0.5	
ARSA	Arzberg	78.58	333	⇑*i*P		P	09 02 56.7	+0.4	
	comp=Z,17nm,1.1s,mb4.9								
RUP	Ruppelstein	78.62	339	*e*P		P	09 02 57.0	+0.4	
DOU	Dourbes	78.81	341	P		P	09 02 57.5	-0.1	
DOU				AP		pP	09 03 00.8	-1.5	
UMR	Umm Al-Rimmam	78.86	302	*e*P		P	09 02 58.3	+0.4	
WLF	Walferdange	78.87	340	P		P	09 02 57.3	-0.7	
WLF				AP		pP	09 03 00.4	-2.2	
MIB	Mutribah	78.89	302	*e*P		P	09 02 58.3	+0.2	
MIB				AMb		AMB	09 02 59.6		
	comp=Z,116nm,0.9s,mb5.8								
FUR	Furstenfeldbru	78.97	336	*e*P		P	09 02 58.9	+0.4	
	comp=Z,73nm,1.2s,mb5.5								
FUR	Furstenfeldbru	78.97	336	*e*P		P	09 02 58.9	+0.4	
FUR				pmax		pmax			
	comp=Z,73nm,1.2s,mb5.5								
KBD	Kabd	79.16	302	*e*P		P	09 02 59.9	+0.4	
KBD				AMb		AMB	09 03 01.3		
	comp=Z,299nm,1.0s								
NAY	Al-Naaiem	79.36	302	*e*P		P	09 03 00.7	0.0	
NAY				AMb		AMB	09 03 02.2		
	comp=Z,50nm,0.9s,mb5.4								
KBA	Koelnbreinsper	79.38	334	⇑*i*P		P	09 03 01.5	+0.8	
	comp=Z,75nm,1.6s,mb5.4,SNR=25								
RDF	Al-Radifah	79.43	302	*e*P		P	09 03 01.6	+0.6	
RDF				AMb		AMB	09 03 04.0		
	comp=Z,181nm,1.2s,mb5.9								
BFO	Black Forest	79.59	338	*e*P		P	09 03 01.8	-0.1	
WTTA	Wattenberg	79.69	335	⇑*i*P		P	09 03 03.4	+0.9	
	comp=Z,82nm,

EPF				*e*Sg	Sg	08 52 12.6	+0.9		
	3.4nm,0.2s								
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg	Pg	08 52 11.6	+0.5		
ETSF	**Etsaut**	**0.42**	**251**	*e*Pn	Pg	08 52 12.6	+1.5		
ETSF				*e*Sg	Sg	08 52 17.1	+0.3		
	3.2nm,0.2s								
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	Pg	08 52 19.5	-0.5		
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pg	08 52 33.6	-1.1		
MTLF				*e*Sg	Sg	08 52 55.4	-0.8		
	0.6nm,0.2s								

ISCJB ***18*** *09:24:24.7±0.6, 45.81N±0.010×153.8E±0.01, h10km, mb4.0/16, Error ellipse: s-maj=15.6km s-min=10.7km az=109.2*
MOS ***18*** *09:24:28.4±1.1, 45.86N×153.61E, h36km, mb4.3/12, Error ellipse: s-maj=18.7km s-min=14.5km az=79.7*
IDC ***18*** *09:24:31.4±4.2, 45.81N×153.78E, h46km±40km, mb3.7/16, mb1 4.0/17, mb1mx3.9/24, mbtmp3.8/17, ML3.3/1, Error ellipse: s-maj=19.1km s-min=15.7km az=127.0*

ISC 18 09:24:26.4±0.6, 4583N±010×1538E±01, h10km, n35, σ0§69/34, mb3.9/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.24**	**264**	*e*PN	**Pn**	**09 25 27.3**	**-3.7**
SKR	**Severo-Kuril's**	**5.09**	**17**	*e*PN	**Pn**	**09 25 43.0**	**+0.3**
ASAJ	**Asahikawa**	**8.15**	**262**	P	**Pn**	**09 26 26.4**	**+1.6**
	0.4nm,0.3s,baz=209,slow=13,SNR=3.7						
MAT	**Matsushiro**	**14.96**	**237**	P	**Pn**	**09 28 03.2**	**+5.3**
MJAR	**Matsushiro Arr**	**14.96**	**237**	P	**Pn**	**09 28 03.3**	**+5.4**
	0.1nm,0.3s,baz=39,slow=10,SNR=5.6						
KSRS	**Korea Array**	**21.03**	**256**	P	**P**	**09 29 14.3**	**+4.1**
	1.1nm,0.7s,mb3.3,baz=57,slow=10,SNR=4.3						
SONM	**Songino Array**	**32.12**	**291**	P	**P**	**09 30 53.9**	**+0.1**
	0.3nm,0.4s,mb3.5,baz=68,slow=9.4,SNR=2.7						
INK	**Inuvik**	**42.16**	**32**	P	**P**	**09 32 19.5**	**+0.4**
	4.5nm,0.8s,mb4.1,baz=286,slow=6.1,SNR=16						
INK	**Inuvik**	**42.16**	**32**	P	**P**	**09 32 19.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**47.81**	**298**	P	**P**	**09 33 03.2**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=71,slow=7.1,SNR=4.6						
MKAR	**Makanchi Array**	**47.81**	**298**	P	**P**	**09 33 03.2**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**51.37**	**36**	P	**P**	**09 33 31.1**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=298,slow=7.1,SNR=5.6						
YKA	**Yellowknife Ar**	**51.37**	**36**	P	**P**	**09 33 31.1**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**09 33 33.9**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=52,slow=9.6,SNR=4.7						
BVAR	**Borovoye Array**	**51.83**	**310**	P	**P**	**09 33 33.9**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**62.42**	**62**	P	**P**	**09 34 50.2**	**+0.6**
	comp=Z,0.6nm,0.5s,mb4.0,baz=306,slow=7.5,SNR=6.4						
PDAR	**Pinedale Array**	**64.89**	**54**	P	**P**	**09 35 05.8**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.9,baz=305,slow=3.2,SNR=8.9						
FINES	**FINESS Array B**	**65.08**	**335**	P	**P**	**09 35 06.8**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=28,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**65.08**	**335**	P	**P**	**09 35 06.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**67.81**	**200**	P	**P**	**09 35 23.8**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=18,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**67.81**	**200**	P	**P**	**09 35 23.8**	**-0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**69.26**	**342**	P	**P**	**09 35 33.4**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=26,slow=6.3,SNR=3.2						
NOA	**NORSAR Array B**	**69.26**	**342**	P	**P**	**09 35 33.4**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.50**	**199**	P	**P**	**09 35 47.7**	**+0.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=6.4,SNR=24						
ASAR	**Alice Springs**	**71.50**	**199**	P	**P**	**09 35 47.7**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**72.59**	**327**	P	**P**	**09 35 53.3**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=34,slow=6.1,SNR=6.3						
AKASG	**Malin Array Be**	**72.59**	**327**	P	**P**	**09 35 53.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.51**	**61**	P	**P**	**09 36 22.5**	**+0.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=298,slow=4.0,SNR=17						
TXAR	**Lajitas Array**	**77.51**	**61**	P	**P**	**09 36 22.5**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**78.14**	**191**	P	**P**	**09 36 25.3**	**-0.4**
	comp=Z,1.7nm,1.0s,mb3.9,baz=307,slow=5.0,SNR=3.1						
BRTR	**Keskin Array B**	**79.40**	**317**	P	**P**	**09 36 33.5**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=85,slow=4.3,SNR=5.8						
BRTR	**Keskin Array B**	**79.40**	**317**	P	**P**	**09 36 33.5**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**79.50**	**334**	P	**P**	**09 36 32.9**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=38,slow=6.8,SNR=4.7						
GERES	**GERESS Array B**	**79.50**	**334**	P	**P**	**09 36 32.9**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CFAA	**Coronel Fontan**	**144.66**	**81**	PKP	PKPdf	09 44 01.2	-2.1
	comp=Z,0.4nm,0.9s,baz=316,slow=2.8,SNR=4.7						

ISCJB ***18*** *09:26:23.2±3.0, 41.49N±0.006×784E±0.2, h10km, Error ellipse: s-maj=25.1km s-min=8.2km az=4.4*
BJI ***18*** *09:26:25.2, 41.77N×78.36E, h15km, ML2.8*

ISC 18 09:26:23.1±3.2, 4159N±006×785E±02, h10km, n10, σ0§85/12, 1C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.79**	**292**	P	**Pn**	**09 26 54.6**	**+0.5**
	SNR=43						
KZA	**Kyzart**	**2.46**	**282**	P	**Pb**	**09 27 08.6**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**2.52**	**303**	P	**Pb**	**09 27 08.0**	**-0.4**
	SNR=27						
TKM2	**Tokmak 2**	**2.52**	**303**	⇓P	**Pb**	**09 27 07.6**	**-0.8**
	0.6nm,0.5s						
TKM2				⇑S	**Sb**	**09 27 39.7**	**+0.2**
	1.7nm,0.6s						
KSH	**Kashi**	**2.82**	**223**	PG	**Pg**	**09 27 17.3**	**+0.2**
KSH				SG	**Sg**	**09 27 53.6**	**-0.1**
KSH				Smax			
	comp=N,196nm,0.7s						
KSH				Smax			
	comp=E,352nm,1.3s						
KBK	**Karagaybulak**	**2.83**	**293**	P	**Pn**	**09 27 13.5**	**+5.0**
	SNR=7.8						
UCH	**Uchtor**	**3.03**	**283**	P	**Pb**	**09 27 17.3**	**+0.2**
	SNR=7.9						
AAK	**Ala-Archa**	**3.14**	**291**	P	**Pn**	**09 27 05.0**	**-7.6**
	SNR=8.9						
AML	**Almayashu**	**3.62**	**280**	P	**Pb**	**09 27 24.0**	**-3.1**
	SNR=13						
KK31	**Karatay Array**	**6.09**	**287**	Pn	**Pb**	**09 28 08.8**	**-0.5**
	comp=E,0.7nm,0.6s,baz=98,slow=15,SNR=9.4						
KK31				⇓Lg		09 29 36.0	
	comp=E,1.5nm,0.6s,baz=91,slow=28,SNR=5.9						

IDC 18 09:33:11.8±6.9, 4669N×15353E, h63km±64km, mb3.5/3, mb1 3.6/4, mb1mx3.2/23, mbtmp3.5/4, ML3.3/1, 1D, Error ellipse: s-maj=55.3km s-min=33.9km az=108.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.12**	**255**	P	Pn	09 35 06.8	-0.1
	0.4nm,0.3s,baz=74,slow=15,SNR=3.6						
FINES	**FINESS Array B**	**64.22**	**335**	P	P	09 43 39.5	-0.5
	2.5nm,1.0s,baz=28,slow=8.6,SNR=3.6						
WB2	**Warramunga Arr**	**68.55**	**199**	⇓*i*P	pP	09 44 21.2	-3.6
ASAR	**Alice Springs**	**72.25**	**199**	P	P	09 44 30.1	-0.1
	0.4nm,0.7s,baz=12,slow=6.2,SNR=6.7						
TXAR	**Lajitas Array**	**77.27**	**61**	P	P	09 44 59.5	+0.2
	0.5nm,0.5s,baz=310,slow=4.5,SNR=7.2						

ISCJB ***18*** *09:48:33.3±1.8, 484S±007×142.13E±008, h91km±17km, mb4.3/15, Error ellipse: s-maj=14.5km s-min=9.5km az=77.0*
IDC ***18*** *09:48:34.1±3.0, 473S×142.24E, h84km±28km, mb3.9/10, mb1 4.2/13, mb1mx4.1/15, mbtmp4.2/13, MS3.6/4, Ms1 3.6/4, ms1mx2.8/28, Error ellipse: s-maj=21.1km s-min=10.4km az=105.0*
NEIC ***18*** *09:48:35.4±1.8, 479S×142.17E, h101km±17km, mb4.8/10, Error ellipse: s-maj=13.6km s-min=11.8km az=126.0*
BJI ***18*** *09:48:35.4, 480S×142.20E, h100km, mB5.2, mb4.7*

ISC 18 09:48:34.9±1.6, 481S±008×14223E±008, h92km±16km, n35, σ1§05/36, mb4.3/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.69**	**133**	P	**Pn**	**09 50 12.0**	**+1.6**
	21nm,0.3s,baz=334,slow=4.3,SNR=69						
PMG				S	**Sn**	**09 51 21.7**	**-3.5**
	1.7nm,0.3s,baz=279,slow=22,SNR=3.4						
PMG				LR	LR	09 53 18.4	
	comp=Z,96nm,19.8s,baz=33,slow=42						
PMG	**Port Moresby**	**6.69**	**133**	*e*Pn	**Pn**	**09 50 11.5**	**+1.1**
	78nm,0.5s						
KAKA	**Kakadu**	**12.45**	**230**	*e*P	**Pn**	**09 51 27.5**	**-1.2**
	49nm,0.5s						
KAKA				*e*S	**Sn**	**09 53 41.4**	**-4.1**
CTA	**Charters Tower**	**15.68**	**166**	P	**Pn**	**09 52 13.7**	**+3.2**
	0.3nm,0.3s,baz=333,slow=9.2,SNR=3.7						
WB2	**Warramunga Arr**	**16.88**	**206**	*e*P	**Pn**	**09 52 25.3**	**0.0**
WB2				*e*S	**S**	**09 55 26.8**	**-10**
WRA	**Warramunga Arr**	**16.89**	**206**	P	**Pn**	**09 52 25.2**	**-0.2**
	3.5nm,0.3s,baz=27,slow=12,SNR=81						
HNR	**Honiara**	**18.17**	**106**	P	**Pn**	**09 52 41.2**	**+0.3**
	13nm,0.3s,baz=273,slow=3.5,SNR=12						
HNR	**Honiara**	**18.17**	**106**	*e*P	**Pn**	**09 52 41.5**	**+0.5**
	194nm,1.1s						
AS31	**Alice Springs**	**20.39**	**202**	*e*P	**Pn**	**09 53 04.3**	**+0.1**
ASAR	**Alice Springs**	**20.39**	**202**	P	**P**	**09 53 04.5**	**+0.2**
	6.4nm,0.5s,baz=30,slow=11,SNR=180						
ASAR				S	**S**	**09 56 52.6**	**+5.1**
	1.4nm,0.6s,baz=27,slow=25,SNR=3.9						
ASAR				LR	LR	10 00 31.1	
	comp=Z,48nm,19.2s,baz=276,slow=35						
FITZ	**Fitzroy Crossi**	**20.92**	**230**	*e*P	**P**	**09 53 09.8**	**-0.1**
	19nm,0.5s						
FITZ				*e*S	**S**	**09 56 58.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.92**	**230**	P	**P**	**09 53 09.9**	**0.0**
	9.2nm,0.5s,baz=54,slow=11,SNR=27						
FITZ				S	**S**	**09 56 59.9**	**+2.0**
	7.4nm,0.7s,baz=168,slow=16,SNR=5.0						
STKA	**Stephens Creek**	**26.93**	**181**	P	**P**	**09 54 08.2**	**+0.8**
	0.8nm,0.5s,mb3.5,baz=358,slow=11,SNR=3.4						
JNU	**Nakatsue**	**39.23**	**345**	LR	LR	10 09 33.5	
	comp=Z,844nm,20.6s,baz=293,slow=32						
MJAR	**Matsushiro Arr**	**41.31**	**355**	P	**P**	**09 56 09.4**	**-1.8**
	1.3nm,0.7s,mb3.9,baz=170,slow=5.7,SNR=5.1						
KSRS	**Korea Array**	**44.11**	**344**	LR	LR	10 12 03.1	
	comp=Z,164nm,20.9s,baz=159,slow=32						
KMI	**Kunming**	**48.55**	**310**	P	**P**	**09 57 13.3**	**+4.6**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
KMI	**Kunming**	**48.55**	**310**	P	**P**	**09 57 13.2**	**+4.5**
	comp=Z,8.0nm,1.2s,mb4.5						
KMI				pP	pP	09 57 20.0	-11
HHC	**Hu-ho-hao-te**	**53.42**	**331**	*e*P	**P**	**09 57 47.8**	**+2.7**
HHC				AP	pP	09 58 14.8	+7.2
HHC				XP	sP	09 58 28.0	+10
HHC				PCP	PcP	09 58 53.8	+2.6
HHC				PP	PP	09 59 51.1	+4.8
HHC				SCP	ScP	10 02 39.3	-1.2
HHC				PCS	PcS	10 02 51.8	+1.5
HHC				S	**S**	**10 05 10.9**	**+0.5**
HHC				XS	sS	10 05 55.8	+6.9
HHC				SCS	ScS	10 07 22.5	-3.2
HHC				SS	SS	10 08 51.0	-0.5
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,134nm,4.2s						
HHC				LR	LR		
	comp=N,213nm,17.4s						
HHC				LR	LR		
	comp=E,207nm,15.8s						
HHC				LR	LR		
	comp=Z,251nm,14.3s						
ULN	**Ulaanbaatar**	**60.86**	**334**	*e*P	**P**	**09 58 37.8**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.5						
SONM	**Songino Array**	**61.13**	**333**	P	**P**	**09 58 40.4**	**+1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=158,slow=7.2,SNR=14						
VNDA	**Vanda**	**73.41**	**176**	P	**P**	**09 59 56.3**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=336,slow=7.8,SNR=6.3						
MKAR	**Makanchi Array**	**73.59**	**322**	P	**P**	**09 59 58.9**	**+0.9**
	comp=Z,3.7nm,0.7s,mb4.2,baz=108,slow=7.8,SNR=6.9						
MKAR	**Makanchi Array**	**73.59**	**322**	P	**P**	**09 59 58.9**	**+0.9**
ZAL	**Zalesovo**	**75.52**	**329**	P	**P**	**10 00 08.5**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.0,baz=348,slow=3.3,SNR=7.4						
MAW	**Mawson**	**81.52**	**202**	P	**P**	**10 00 41.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=95,slow=7.0,SNR=8.0						
BVAR	**Borovoye Array**	**83.04**	**325**	P	**P**	**10 00 50.4**	**+0.4**
	comp=Z,8.3nm,0.8s,mb4.6,baz=104,slow=6.3,SNR=40						
ZRNK	**Zerenda**	**83.82**	**324**	*e*P	**P**	**10 00 54.0**	**-0.1**
	comp=Z,8.9nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**85.15**	**180**	*e*P	**P**	**10 00 59.8**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.6						
COLA	**College**	**85.94**	**24**	*e*P	**P**	**10 01 03.2**	**-1.5**
	comp=Z,5.4nm,0.4s,mb4.8						
EGAK	**Eagle**	**88.65**	**25**	*e*P	**P**	**10 01 17.2**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**140.19**	**285**	PKP	PKPdf	10 07 54.9	+2.1
	comp=Z,1.3nm,0.7s,baz=82,slow=2.2,SNR=7.5						
LPAZ	**La Paz**	**143.38**	**126**	PKP	PKPdf	10 07 57.8	-0.7
	comp=Z,0.9nm,0.6s,baz=156,slow=1.7,SNR=5.7						
ROSC	**El Rosal**	**143.58**	**88**	PKhKP		10 07 57.4	
	comp=Z,4.5nm,0.5s,baz=302,slow=1.4,SNR=4.1						
SDV	**Santo Domingo**	**147.13**	**81**	PKPbc	PKPbc	10 08 07.3	+0.1
	comp=Z,3.0nm,0.7s,baz=276,slow=5.3,SNR=5.2						

GUC 18 10:00:23.4±0.9, 3321S×7234W, h25km±10km, MD3.6, ML2.9, 6C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.61**	**73**	⇓*i*P	Pb	10 00 35.2	-0.2
IHA				*i* S	Sb	10 00 43.7	0.0
LCCH	**Las Cruces**	**0.70**	**113**	⇑*i*P	Pb	10 00 35.9	-1.0
PACH	**Papudo**	**1.01**	**49**	*i* P	Pn	10 00 42.4	+0.3
PACH				*i* S	Sb	10 00 56.6	+1.4
LNV	**Longovilo**	**1.07**	**134**	⇓*i*P	Pn	10 00 42.2	-0.7
LNV				*i* S	Sb	10 00 56.5	-0.4
ROCH	**El Roble**	**1.14**	**78**	⇓*i*P	Pn	10 00 43.9	+0.2
ROCH				*i* S	Sn	10 00 58.8	+0.2
TACH	**Talagante**	**1.25**	**111**	⇑*i*P	Pn	10 00 45.0	-0.3
TACH				*i* S	Sn	10 01 01.2	-0.2
RCDM	**Rinconada Maip**	**1.31**	**103**	⇑*i*P	Pn	10 00 46.1	-0.1
RCDM				*i* S	Sn	10 01 02.7	-0.2
RCDM				AML	AML	10 01 05.8	
	comp=E,245nm,0.3s						
PEL	**Peldehue**	**1.39**	**88**	⇑*i*P	Pn	10 00 47.8	+0.7
PEL				*i* S	Sn	10 01 05.7	+1.0
PEL				AML	AML	10 01 08.0	
	comp=E,724nm,0.6s						
ANTU	**Antumapu**	**1.47**	**105**	⇓*i*P	Pn	10 00 48.6	+0.3
ANTU				*i* S	Sn	10 01 07.8	+1.0
ANTU				AML	AML	10 01 10.0	
	comp=E,231nm,0.4s						
CHNG	**Los Chungos**	**1.50**	**28**	*i* P	Pn	10 00 49.5	+0.8
CHNG				*i* S	Sn	10 01 08.0	+0.5
CHNG				AML	AML	10 01 16.5	
	comp=E,50nm,0.6s						
CLCH	**Cerro Calan**	**1.52**	**98**	*e*P	Pn	10 00 49.7	+0.7
CLCH				*i* S	Sn	10 01 10.0	+2.0
CLCH				AML	AML	10 01 11.8	
	comp=E,311nm,0.2s						
CLCH				AML	AML	10 01 12.4	
	comp=E,334nm,0.2s						
JACH	**Jahuel**	**1.56**	**71**	*e*P	Pn	10 00 50.5	+0.9
JACH				*i* S	Sn	10 01 11.0	+2.0
PCH	**Pirque**	**1.58**	**106**	⇑*i*P	Pn	10 00 51.2	+1.4
PCH				*i* S	Sn	10 01 12.2	+2.7
CHCH	**Chadas Angostu**	**1.58**	**118**	⇑*i*P	Pn	10 00 50.5	+0.7
CACH	**El Canelo**	**1.71**	**122**	*e*P	Pn	10 00 53.6	+2.0
CACH				*i* S	Sn	10 01 15.5	+2.8
SFDO	**San Fernando**	**1.78**	**142**	*e*P	Pn	10 00 53.9	+1.3
LMEL	**Las Melosas**	**1.89**	**110**	*e*P	Pn	10 00 56.1	+2.0
LMEL				*i* S	Sn	10 01 20.5	+3.3
LMEL				AML	AML	10 01 21.7	
	comp=N,182nm,0.3s						
CICH	**Cipreses**	**1.94**	**125**	*e*P	Pn	10 00 56.4	+1.5
CMCH	**Combarbala**	**2.33**	**30**	*e*P	Pn	10 01 01.0	+0.9
CMCH				AML	AML	10 01 43.1	
	comp=N,422nm,0.6s						

IDC ***18*** *10:05:42.3±3.8, 11.11N×8793W, h19km±23km, mb4.7/19, mb1 4.9/22, mb1mx4.8/24, mbtmp4.7/22, ML4.8/3, MS4.7/22, Ms1 4.7/22, ms1mx4.6/30, Error ellipse: s-maj=17.1km s-min=11.0km az=45.0*
ISCJB ***18*** *10:05:43.0±0.1, 11.14N±002×87.85W±002, h29km, mb5.0/109, MS4.8/121, Error ellipse: s-maj=3.8km s-min=1.7km az=53.0*
CASC ***18*** *10:05:43.5±2.7, 11.06N×87.99W, h36km±999km, MD4.7, ML4.6, mb5.1(NEIC)*
MOS ***18*** *10:05:43.9±0.8, 11.21N×87.74W, h37km, mb5.2/59, MS4.7/34, Error ellipse: s-maj=7.4km s-min=4.6km az=104.5*
BJI ***18*** *10:05:44.3, 11.10N×87.80W, h30km, mB5.4, Ms5.4, Msz5.0*
NEIC ***18*** *10:05:44.3±0.2, 11.11N×87.81W, mb5.1/95, MS4.7/102, MW5.5, MD4.9(CASC), Error ellipse: s-maj=4.7km s-min=2.4km az=212.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^17 Nm; Mrr-1.88; Mθθ 0.88; Mφφ 0.99; Mrθ -0.69; Mrφ -0.93; Mθφ 0.21; Best double couple: Mw2.00000×10^17 NP1:φs127.00000°, δ55.00000°, λ-102.00000°. NP2:φs326.00000°, δ37.00000°, λ-74.00000°. Principal axes: T 1.9800, Plg9.0000°, Azm225.0000°; N 0.0700, Plg9.0000°, Azm133.0000°; P -2.0400, Plg77.0000°, Azm359.0000°;*
GCMT ***18*** *10:05:44.3±0.1, 1093N×8822W, h12km, MW5.5/100, Moment Tensor Solution. s79,c137; s100,c221; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr-2.42±.03; Mθθ 1.70±.03; Mφφ 0.71±.04; Mrθ -0.08±.08; Mrφ -1.24±.03; Mθφ 0.22±.10; Best double couple: Mw2.49300×10^17 NP1:φs301.00000°, δ43.00000°, λ-95.00000°. NP2:φs128.00000°, δ47.00000°, λ-85.00000°. Principal axes: T 2.5500, Plg2.0000°, Azm214.0000°; N -0.1160, Plg3.0000°, Azm304.0000°; P -2.4350, Plg86.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***18*** *10:06:05.6, 12.72N×83.45W, h33km, mb5.4, Nicaragua*

ISC 18 10:05:45.4±0.1, 1119N±002×8780W±002, h31km, h31km±.7km:pP-P, n789, σ0§92/703, mb5.0/109, MS4.8/121, 92C-86D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.54**	**50**	⇓*i*P	**Pn**	**10 06 11.8**	**+1.1**
MIRN	**Miramar**	**1.63**	**41**	⇓*i*P	**Pn**	**10 06 12.8**	**+0.8**
TEL3	**Telica 3**	**1.66**	**34**	*e*P	**Pn**	**10 06 13.1**	**+0.7**
CRIN	**San Cristobal**	**1.67**	**26**	⇑*e*P	**Pn**	**10 06 13.1**	**+0.6**
CRIN				*e*S	**Sn**	**10 06 38.0**	**+5.2**
CNGN	**Cerro Negro**	**1.69**	**40**	⇑*e*P	**Pn**	**10 06 13.4**	**+0.7**
CNGN				*e*S	**Sn**	**10 06 38.8**	**+5.4**
CNGN				*i*		10 06 46.6	
	comp=N,32μm,0.5s						
TELN	**Telica**	**1.69**	**34**	⇑*e*P	**Pn**	**10 06 13.5**	**+0.6**
MOMJ	**Momotombo**	**1.72**	**45**	⇑*e*P	**Pn**	**10 06 13.9**	**+0.6**
XAVN	**Gruta Xavier**	**1.73**	**57**	⇑*e*P	**Pn**	**10 06 14.0**	**+0.7**
TICN	**Ticuantepe**	**1.75**	**61**	⇑*e*P	**Pn**	**10 06 14.3**	**+0.7**
MGAN	**Managua**	**1.79**	**58**	⇑*i*P	**Pn**	**10 06 14.8**	**+0.6**
MGAN				*i*		10 06 42.3	
	comp=E,36μm,0.4s						
MASN	**Masaya**	**1.80**	**64**	⇑*e*P	**Pn**	**10 06 14.7**	**+0.4**
MASN				*i*		10 06 54.4	
	comp=E,18μm,0.3s						
CONN	**Concepcion**	**2.16**	**80**	⇑*i*P	**Pn**	**10 06 19.3**	**-0.1**
VSM	**San Miguel**	**2.27**	**348**	⇑*e*P	x	10 06 24.0	
VSM				*e*S	x	10 06 53.4	
BLLM	**Bellamira**	**2.27**	**349**	⇑*e*P	x	10 06 23.7	
BLLM				*e*S	x	10 06 51.3	
VCR	**Vista de Mar**	**2.38**	**116**	⇑*e*P	**Pn**	**10 06 20.6**	**-1.7**
LIM1	**Limonal**	**2.55**	**101**	⇑*e*P	**Pn**	**10 06 24.6**	**-0.1**
LIM1				*e*S	**Sn**	**10 06 57.5**	**+3.0**
LBRS	**Las Brisas**	**2.81**	**334**	*e*P	x	10 06 30.4	
LBRS				*e*S	x	10 07 02.1	
LFU	**La Fuente**	**2.84**	**333**	*e*P	x	10 06 30.6	
SNET	**Serv Nac Est T**	**2.84**	**331**	*e*P	x	10 06 26.6	
SNET				*i*		10 07 06.6	
	comp=Z,11μm,0.5s						
TGUH	**Tegucigalpa,Un**	**2.89**	**10**	*e*Pn	**Pn**	**10 06 30.0**	**+0.6**
TGUH				*e*Sn	**Sn**	**10 07 03.6**	**+0.6**
JTS	**JuntasAbangare**	**2.94**	**108**	Pn	**Pn**	**10 06 28.6**	**-1.3**
	comp=Z,226nm,0.3s,baz=304,slow=20,SNR=265						
JTS				Sn	**Sn**	**10 07 04.2**	**0.0**
	comp=Z,332nm,0.3s,baz=283,slow=21,SNR=9.3						
JTS				LR	LR	10 08 05.2	
	comp=Z,11μm,20.1s,baz=290,slow=47						
JTS	**JuntasAbangare**	**2.94**	**108**	P	**Pn**	**10 06 28.6**	**-1.4**
JTS						10 07 04.2	
JTS				pmax	pmax		
	comp=Z,226nm,0.3s						
JTS				smax			
	comp=N,332nm,0.3s						
JTS				MLR	MLR		

SOR Soroa 12.41 21 *e*P **Pn** **10 08 44.3 +4.4**
ACX Acapulco 13.04 297 *e*P **Pn** **10 08 48.0 -0.5**
MGV Manicaragua 13.18 34 *e*P **Pn** **10 08 51.6 +1.1**
baz=238
MGV *e*S Sn 10 11 38.4 +22
comp=N,22nm,2.1s
MGV *e*
comp=E,32nm,2.1s
YAIG Yautepec 13.28 306 *i* P **Pn** **10 08 52.1 +0.3**
PLIG Platanillo 13.38 304 *i* P **Pn** **10 08 53.6 +0.3**
CAIG El Cayaco 13.42 297 *i* P **Pn** **10 08 52.4 -1.2**
IIO Organos 13.43 310 *i* P **Pn** **10 08 54.6 +0.7**
UNM Universidad Na 13.63 308 *i* P **Pn** **10 08 57.2 +0.6**
CCCC Cccc 13.84 43 *e*P **Pn** **10 09 01.9 +2.4**
OTAV Otavalo 14.31 139 *e*Pn **Pn** **10 09 07.2 +1.3**
OTAV *e*Sn **Sn** 10 11 43.3 -0.1
RCC Rio Carpintero 14.57 52 *e*P **Pn** **10 09 07.6 -1.8**
ROSC El Rosal 14.74 114 Pn **Pn** **10 09 14.6 +2.9**
comp=E,0.1nm,0.3s,baz=286,slow=23,SNR=5.8
ROSC El Rosal 14.74 114 *e*Pn **Pn** **10 09 12.4 +0.7**
ROSC *e*pPn 10 09 21.1
MOIG Morelia 15.41 305 *i* P **Pn** **10 09 20.5 -0.1**
MOAC Moa 15.51 51 *e*P **Pn** **10 09 24.8 +2.9**
baz=258
MOAC *e*S **Sn** **10 12 13.3 +0.5**
comp=N,5μm,4.8s
MOAC *e*
comp=E,4μm,5.5s
MASC Masc 15.81 54 *e*P **Pn** **10 09 29.2 +3.5**
SDV Santo Domingo 17.06 96 P **Pn** **10 09 42.1 +0.6**
comp=E,1.8nm,0.3s,baz=276,slow=5.6,SNR=25
SDV S **Sn** **10 13 00.2 +10**
comp=E,0.2nm,0.3s,baz=155,slow=22,SNR=4.1
SDV LR LR 10 16 33.8
comp=E,2μm,21.5s,baz=328,slow=38
SDV Santo Domingo 17.06 96 *e*Pn **Pn** **10 09 41.8 +0.2**
comp=E,90nm,0.9s
SDV *e*S **Sn** **10 13 02.6 +12**
SFJM Santa Fe 17.32 304 *i* P **Pn** **10 09 45.0 +0.2**
KVTX Kingsville 18.83 331 *e*P **Pn** **10 10 02.8 -0.5**
comp=E,122nm,0.8s
BRAL Brewton 19.73 2 *e*P **Pn** **10 10 13.9 -0.2**
comp=E,309nm,1.3s
HKT Hockley 20.11 339 *e*P **P** **10 10 15.9 -0.7**
HKT *e*S **S** **10 14 00.7 -0.1**
HKT pmax pmax
comp=Z,123nm,1.4s
HKT MLR MLR
comp=Z,1μm,20.0s,MS4.2
HKT Hockley 20.11 339 *e*P **P** **10 10 15.8 -0.7**
comp=Z,123nm,1.4s
HKT *e*S **S** **10 14 00.7 -0.1**
HKT LR LR
comp=Z,1μm,20.0s,MS4.2
ATAH Atahualpa 20.35 152 P **P** **10 10 21.1 +1.8**
comp=Z,36nm,0.9s,baz=333,slow=7.4,SNR=18
ATAH S **S** **10 14 14.6 +8.9**
comp=Z,1.8nm,0.7s,baz=127,slow=20,SNR=2.7
ATAH PcP PcP 10 14 32.8 +1.4
comp=Z,10nm,1.0s,baz=130,slow=6.1,SNR=4.5
ATAH LR LR 10 17 18.6
comp=Z,2μm,18.6s,MS4.6,baz=152,slow=34
MPR Mayaguez 21.15 68 *e*P **P** **10 10 28.9 +0.9**
MAIG Mazatlaan 21.39 306 *i* P **P** **10 10 30.5 0.0**
LRAL Lakeview Retre 21.75 2 *e*P **P** **10 10 34.5 +0.2**
comp=Z,90nm,1.2s,mb5.1
LRAL *e*S **S** **10 14 34.4 +1.2**
LRAL LR LR
comp=Z,2μm,20.0s,MS4.5
JCT Junction City 22.19 332 *e*P **P** **10 10 36.9 -2.2**
JCT pmax pmax
comp=Z,58nm,0.7s,mb5.1
JCT MLR MLR
comp=Z,924nm,21.0s,MS4.2
JCT Junction City 22.19 332 *e*P **P** **10 10 36.9 -2.1**
comp=Z,58nm,0.7s,mb5.1
JCT LR LR
comp=Z,924nm,21.0s,MS4.2
CPD Cerro la Pandu 22.23 70 *e*P **P** **10 10 39.2 -0.2**
CPD *e* 10 10 52.7
CPD *e* 10 14 34.7
CBYP Canovanas 22.34 69 *e*P **P** **10 10 40.1 -0.5**
GOGA Godfrey 22.47 10 *e*P **P** **10 10 42.0 0.0**
GOGA *e*S **S** **10 14 47.4 +0.3**
GOGA pmax pmax
comp=Z,75nm,0.8s,mb5.2
GOGA MLR MLR
comp=Z,2μm,19.0s,MS4.6
GOGA Godfrey 22.47 10 *e*P **P** **10 10 42.0 +0.1**
comp=Z,75nm,0.8s,mb5.2
GOGA *e*S **S** **10 14 47.4 +0.3**
GOGA LR LR
comp=Z,2μm,19.0s,MS4.6
MTP Monte Pirata 22.58 70 *e*P **P** **10 10 44.4 +1.3**
PCRV Puerto La Cruz 22.78 90 P **P** **10 10 46.4 +1.0**
comp=Z,113nm,0.9s,mb5.3,baz=269,slow=5.0,SNR=35
PCRV S **S** **10 14 56.8 +4.3**
comp=Z,8.9nm,1.0s,baz=351,slow=13,SNR=3.2
NHSC New Hope 22.91 17 *e*P **P** **10 10 47.8 +1.2**
comp=Z,212nm,1.3s,mb5.4
NHSC LR LR
comp=Z,2μm,20.0s,MS4.5
COW Cow Castle Cre 23.02 15 *e*P **P** **10 10 49.0 +1.2**
OXF Oxford 23.26 357 *e*P **P** **10 10 49.0 -1.3**
OXF *e**PP 10 10 57.6
OXF pmax pmax
comp=Z,97nm,1.0s,mb5.2
OXF MLR MLR
comp=Z,2μm,22.0s,MS4.6
OXF Oxford 23.26 357 *e*P **P** **10 10 49.0 -1.3**
comp=Z,98nm,1.0s,mb5.2
OXF *e*pP 10 10 57.5
OXF LR LR
comp=Z,2μm,22.0s,MS4.6
LTX Lajitas 23.34 323 *e*P **P** **10 10 50.3 -0.9**
LTX pmax pmax
comp=Z,52nm,0.9s,mb5.0
LTX MLR MLR
comp=Z,1μm,20.0s,MS4.3
LTX Lajitas 23.34 323 *e*P **P** **10 10 50.3 -1.0**
comp=Z,52nm,0.9s,mb5.0
LTX LR LR
comp=Z,1μm,20.0s,MS4.3
TXAR Lajitas Array 23.34 323 P **P** **10 10 50.3 -1.0**
comp=Z,30nm,0.8s,mb4.8,baz=141,slow=9.1,SNR=168
TXAR PcP PcP 10 14 37.7 +0.3
comp=Z,3.7nm,1.0s,baz=121,slow=4.8,SNR=3.5
TXAR Lajitas Array 23.34 323 P **P** **10 10 50.3 -0.9**
TXAR 10 14 37.7
TXAR pmax pmax
comp=Z,30nm,0.8s
TXAR pmax pmax
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 23.34 323 P **P** **10 10 50.3 -1.0**
TXAR PcP PcP 10 14 37.7 +0.3
PLAL Pickwick Lake 23.68 359 PFAKE 10 11 00.0 +5.6
PLAL LR LR
comp=Z,2μm,22.0s,MS4.5
JSC Jenkinsville 23.74 14 *e*P **P** **10 10 55.2 +0.2**
UALR University of 23.84 351 *e*P **P** **10 10 54.9 -0.9**
comp=Z,82nm,1.0s,mb5.1
UALR *e*PcP PcP 10 14 37.8 -0.6
MYNC Murphy 24.00 7 PFAKE 10 11 10.0 +13
MYNC LR LR
comp=Z,3μm,19.0s,MS4.8
LHS Liberty Hill 24.04 14 *e*P **P** **10 10 58.1 +0.4**
TKL Tuckaleechee C 24.63 8 P **P** **10 11 03.0 -0.1**
comp=Z,65nm,0.9s,mb5.2,baz=183,slow=13,SNR=38
TKL Tuckaleechee C 24.63 8 P **P** **10 11 03.0 0.0**
TKL pmax pmax
comp=Z,65nm,0.9s,mb5.2
WVT Waverly 24.82 360 *e*P **P** **10 11 03.8 -1.1**
WVT pmax pmax
comp=Z,17nm,0.9s,mb4.6
WVT MLR MLR
comp=Z,1μm,19.0s,MS4.5
WVT Waverly 24.82 360 *e*P **P** **10 11 03.8 -1.0**
comp=Z,17nm,0.9s,mb4.6
WVT LR LR
comp=Z,1μm,19.0s,MS4.5
LPIG La Paz 24.95 304 P **P** **10 11 05.9 0.0**
comp=Z,26nm,0.7s,mb4.9,baz=356,slow=4.4,SNR=5.2
LPIG LR LR 10 22 44.3
comp=Z,2μm,18.3s,MS4.6,baz=110,slow=41
LPIG La Paz 24.95 304 P **P** **10 11 05.9 0.0**
LPIG LR LR 10 22 44.3

UTMT University of 25.05 358 *e*P **P** **10 11 06.2 -0.7**
comp=Z,98nm,1.0s,mb5.3
NNA Nana 25.47 154 P **P** **10 11 08.8 -1.9**
comp=Z,64nm,1.2s,mb5.0,baz=330,slow=4.7,SNR=7.5
NNA Nana 25.47 154 *e*P **P** **10 11 09.9 -0.8**
WMOK Wichita Mounta 25.48 339 *e*P **P** **10 11 10.2 -0.6**
WMOK pmax pmax
comp=Z,116nm,1.5s,mb5.2
WMOK MLR MLR
comp=Z,1μm,21.0s,MS4.3
WMOK Wichita Mounta 25.48 339 *e*P **P** **10 11 10.2 -0.6**
comp=Z,116nm,1.5s,mb5.2
WMOK LR LR
comp=Z,1μm,21.0s,MS4.3
TZTN Tazewell 25.53 8 *e*P **P** **10 11 10.7 -0.5**
TZTN LR LR
comp=Z,2μm,20.0s,MS4.6
CNNC Cliffs of the 25.57 19 *e*P **P** **10 11 13.3 +1.6**
comp=Z,74nm,0.8s,mb5.3
CNNC LR LR
comp=Z,2μm,20.0s,MS4.7
LZG Guadaloupe-1 25.75 76 *e*P **P** **10 11 13.7 +0.4**
TBG Guadaloupe-3 25.84 77 *e*P **P** **10 11 18.2 +4.2**
GDL2 Guadalupe Moun 25.89 326 *e*P **P** **10 11 14.7 +0.2**
SVB Belmont 26.02 83 *e*P **P** **10 11 09.3 -6.4**
FCV Fort Charlotte 26.02 83 *e*P **P** **10 11 19.0 +3.3**
SSV Crater Summit 26.08 83 *e*P **P** **10 11 12.9 -3.3**
MNTX Cornudas Mount 26.08 324 *e*P **P** **10 11 15.8 -0.5**
MNTX LR LR
comp=Z,613nm,20.0s,MS4.1
SIUC Southern Illin 26.44 357 *e*P **P** **10 11 18.4 -1.0**
comp=Z,50nm,0.7s,mb5.2
USIN University of 26.66 0 *e*P **P** **10 11 22.5 +1.1**
comp=Z,32nm,0.8s,mb4.9
ELN Prospectdale 26.69 13 *e*P **P** **10 11 22.0 +0.3**
BLA Blacksburg 26.74 13 *e*P **P** **10 11 21.4 -0.8**
BLA pmax pmax
comp=Z,36nm,0.9s,mb4.9
BLA Blacksburg 26.74 13 *e*P **P** **10 11 21.4 -0.8**
comp=Z,36nm,0.9s,mb4.9
AMTX Amarillo 26.76 334 *e*P **P** **10 11 21.4 -0.9**
AMTX LR LR
comp=Z,2μm,22.0s,MS4.6
FVM French Village 26.78 355 *e*P **P** **10 11 22.7 +0.1**
FVM pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
FVM French Village 26.78 355 *e*P **P** **10 11 22.7 +0.2**
comp=Z,7.7nm,1.0s,mb4.2
CCM Cathedral Cave 26.93 354 PFAKE 10 11 40.0 +16
CCM LR LR
comp=Z,2μm,22.0s,MS4.6
WCI Wyandotte Cave 26.95 3 *e*P **P** **10 11 22.8 -1.3**
WCI pmax pmax
comp=Z,27nm,0.8s,mb4.8
WCI MLR MLR
comp=Z,863nm,20.0s,MS4.3
WCI Wyandotte Cave 26.95 3 *e*P **P** **10 11 22.8 -1.4**
comp=Z,27nm,0.8s,mb4.8
WCI LR LR
comp=Z,863nm,20.0s,MS4.3
FWV Forest Hill 27.01 12 *e*P **P** **10 11 24.4 -0.2**
BBGH Gun Hill 27.67 83 PFAKE 10 11 40.0 +9.5
BBGH LR LR
comp=Z,3μm,21.0s,MS4.8
CBN Corbin 28.47 17 *e*P **P** **10 11 38.5 +0.8**
comp=Z,85nm,1.4s,mb5.2
CBN LR LR
comp=Z,2μm,20.0s,MS4.7
BNM Barren Site 28.60 326 *e*P **P** **10 11 39.1 +0.3**
Y22C IRIS PASSCAL I 28.71 326 ⇑P **P** **10 11 40.8 +1.1**
baz=29
LPM Los Pinos Moun 28.72 326 *e*P **P** **10 11 41.7 +1.8**
LENM Lemitar 28.80 326 *e*P **P** **10 11 41.7 +1.1**
KSU1 Kansas State U 28.88 346 *e*P **P** **10 11 40.1 -1.2**
comp=Z,40nm,0.9s,mb5.1
KSU1 LR LR
comp=Z,2μm,19.0s,MS4.7
LAZ Ladron 29.07 326 *e*P **P** **10 11 43.5 +0.5**
LAZ *e*pP pP 10 11 52.5 +0.6
ANMO Albuquerque 29.11 327 P **P** **10 11 42.5 -0.9**
comp=Z,2.2nm,0.8s,mb3.9,baz=152,slow=10,SNR=8.6
ANMO Albuquerque 29.11 327 *e*P **P** **10 11 43.8 +0.4**
ANMO LR LR
comp=Z,852nm,20.0s,MS4.4
MCWV Mont Chateau 29.21 13 *e*P **P** **10 11 44.5 +0.2**
comp=Z,20nm,0.9s,mb4.8
MCWV LR LR
comp=Z,2μm,21.0s,MS4.6
CBKS Cedar Bluff 29.50 341 *e*P **P** **10 11 45.8 -1.0**
CBKS pmax pmax
comp=Z,25nm,0.8s,mb5.0
CBKS MLR MLR
comp=Z,1μm,20.0s,MS4.6
CBKS Cedar Bluff 29.50 341 *e*P **P** **10 11 45.8 -1.0**
comp=Z,25nm,0.8s,mb5.0
CBKS LR LR
comp=Z,1μm,20.0s,MS4.6
TUC Tucson 29.83 318 *e*P **P** **10 11 49.9 +0.2**
TUC *e* 10 12 03.1
TUC pmax pmax
comp=Z,15nm,1.0s,mb4.7
TUC MLR MLR
comp=Z,2μm,19.0s,MS4.7
TUC Tucson 29.83 318 *e*P **P** **10 11 49.9 +0.1**
comp=Z,15nm,1.0s,mb4.7
TUC *e* 10 12 03.1
TUC LR LR
comp=Z,2μm,19.0s,MS4.7
BBSR BB Station 29.94 42 *e*P **P** **10 11 49.9 -0.8**
comp=Z,47nm,1.1s,mb5.1
BBSR LR LR
comp=Z,3μm,19.0s,MS4.9
MVL Millersville 30.43 18 *e*P **P** **10 11 56.8 +1.8**
116A Eloy 30.59 318 ⇓P **P** **10 11 56.5 0.0**
baz=31,SNR=25
SSPA Standing Stone 30.60 15 *e*P **P** **10 11 56.3 -0.2**
comp=Z,38nm,1.2s,mb5.1
SSPA LR LR
comp=Z,1μm,19.0s,MS4.5
SDCO Great Sand Dun 30.84 332 *e*P **P** **10 11 59.2 +0.6**
comp=Z,23nm,1.2s,mb4.9
SDCO LR LR
comp=Z,2μm,21.0s,MS4.7
SCIA State Center 30.96 352 *e*P **P** **10 11 58.7 -1.0**
comp=Z,28nm,0.8s,mb5.2
SCIA LR LR
comp=Z,2μm,22.0s,MS4.8
115A Sonoran Desert 31.02 317 P **P** **10 12 00.8 +0.5**
baz=31,SNR=17
AAM Ann Arbor 31.20 6 *e*P **P** **10 12 01.3 -0.5**
AAM pmax pmax
comp=Z,12nm,0.3s,mb5.2
AAM MLR MLR
comp=Z,2μm,19.0s,MS4.7
AAM Ann Arbor 31.20 6 *e*P **P** **10 12 01.3 -0.6**
comp=Z,12nm,0.3s,mb5.2
AAM LR LR
comp=Z,2μm,19.0s,MS4.7
LUPA Lehigh Univers 31.28 18 *e*P **P** **10 12 03.3 +0.8**
JFWS Jewell Farm 31.67 357 *e*P **P** **10 12 04.5 -1.5**
JFWS MLR MLR
comp=Z,1μm,22.0s,MS4.6
ARE Arequipa 31.86 149 *e*P **P** **10 12 08.0 +0.3**
MVCO Mesa Verde 31.90 328 *e*P **P** **10 12 08.2 +0.2**
comp=Z,41nm,1.3s,mb5.1
MVCO LR LR
comp=Z,2μm,19.0s,MS4.7
MVCO Mesa Verde 31.90 328 P **P** **10 12 08.2 +0.2**
baz=32,SNR=17
Z14A Wintersburg 31.91 318 ⇓P **P** **10 12 08.6 +0.6**
baz=32,SNR=11
PAL Palisades 32.12 20 *e*P **P** **10 12 09.5 -0.4**
X15A Humboldt 32.15 320 P **P** **10 12 11.2 +0.9**
baz=32,SNR=48
Y14A Wickenburg 32.30 318 P **P** **10 12 12.1 +0.6**
baz=32,SNR=36
WUAZ Wupatki 32.31 322 *e*P **P** **10 12 12.4 +0.8**
WUAZ LR LR
comp=Z,1μm,21.0s,MS4.5
WUAZ Wupatki 32.31 322 ⇑P **P** **10 12 12.6 +1.0**
baz=32,SNR=42
X14A Yava 32.56 319 P **P** **10 12 14.7 +0.9**
baz=33,SNR=32
BINY Binghamton 32.57 16 *e*P **P** **10 12 13.9 +0.1**
BINY LR LR
comp=Z,2μm,22.0s,MS4.8

ISCO Idaho Springs 32.58 334 *e*P **P** **10 12 14.4 +0.5**
ISCO pmax pmax
comp=Z,28nm,1.4s,mb5.0
ISCO MLR MLR
comp=Z,1μm,20.0s,MS4.5
ISCO Idaho Springs 32.58 334 *e*P **P** **10 12 14.4 +0.4**
comp=Z,28nm,1.4s,mb5.0
ISCO LR LR
comp=Z,1μm,20.0s,MS4.5
W15A Williams 32.62 321 P **P** **10 12 15.8 +1.4**
baz=33,SNR=25
PV01 Paradox Valley 32.64 329 *e*P **P** **10 12 14.7 +0.2**
PV01 *e*PcP PcP 10 14 59.6 -0.4
SMCO Snowmass 32.68 332 *e*P **P** **10 12 14.2 -0.7**
GLA Glamis 32.99 315 *e*P **P** **10 12 17.9 +0.3**
GLA Glamis 32.99 315 P **P** **10 12 18.2 +0.7**
baz=33,SNR=17
PV10 Paradox Valley 33.06 329 *e*P **P** **10 12 18.0 -0.2**
W14A Seligman 33.15 320 P **P** **10 12 20.2 +1.2**
baz=33,SNR=27
Y12C Blythe 33.19 317 ⇓P **P** **10 12 19.8 +0.5**
baz=33,SNR=11
X13A Yucca 33.24 319 P **P** **10 12 20.4 +0.7**
baz=33,SNR=32
PDMCI Parker Dam,Lak 33.26 318 P **P** **10 12 20.6 +0.7**
baz=33,SNR=55
ECSD EROS,Sioux Fal 33.31 348 *e*P **P** **10 12 18.4 -2.0**
comp=Z,115nm,1.6s,mb5.6
ECSD LR LR
comp=Z,3μm,22.0s,MS4.9
LPAZ La Paz 33.53 144 P **P** **10 12 21.6 -0.7**
comp=Z,6.0nm,0.8s,mb4.6,baz=332,slow=8.0,SNR=28
LPAZ PcP PcP 10 15 02.7 +0.2
comp=Z,4.1nm,1.0s,baz=0.2,slow=6.3,SNR=4.3
LPAZ LR LR 10 26 24.4
comp=Z,928nm,20.8s,MS4.5,baz=304,slow=37
LPAZ La Paz 33.53 144 P **P** **10 12 21.6 -0.7**
LPAZ 10 15 02.7
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ MLR MLR
comp=Z,928nm,20.8s
LPAZ La Paz 33.53 144 *e*P **P** **10 12 21.4 -0.8**
comp=Z,6.7nm,0.9s,mb4.6
LPAZ LR LR
comp=Z,857nm,21.0s,MS4.4
W13A Hualapai Mount 33.59 319 ⇓P **P** **10 12 24.1 +1.3**
baz=34,SNR=78
SWSC Sam W. Stewart 33.60 314 ⇑P **P** **10 12 23.1 +0.2**
baz=34,SNR=15
DVTC Desert V Tower 33.66 314 ⇑P **P** **10 12 24.1 +0.8**
baz=34,SNR=14
BC3 Big Chuckw Mtn 33.76 316 P **P** **10 12 25.1 +0.8**
baz=34,SNR=18
PHWY Pilot Hill 33.77 336 *e*P **P** **10 12 24.3 0.0**
IRM Iron Mountain 33.85 317 P **P** **10 12 25.7 +0.6**
baz=34,SNR=12
NEE2 Needles Airpor 33.86 318 ⇓P **P** **10 12 25.8 +0.7**
baz=34
MONP Monument Peak 34.01 314 P **P** **10 12 27.2 +0.7**
baz=34,SNR=9.7
BAR Barrett 34.08 313 *e*P **P** **10 12 27.0 0.0**
WES Weston 34.24 22 PFAKE 10 12 40.0 +12
WES LR LR
comp=Z,3μm,20.0s,MS5.0
HRV Harvard--Oak R 34.26 22 PFAKE 10 12 40.0 +11
HRV LR LR
comp=Z,3μm,19.0s,MS5.1
BELC Belle Mtn. 34.33 316 P **P** **10 12 30.0 +0.8**
baz=34,SNR=9.5
ACCN Adirondack Com 34.34 18 *e*P **P** **10 12 29.1 -0.1**
W12A Cal Nev Ari 34.35 319 ⇑P **P** **10 12 30.2 +0.8**
baz=34
SRU San Rafael 34.38 328 *e*P **P** **10 12 30.1 +0.5**
PFO Pinyon Flat Ob 34.43 315 *e*P **P** **10 12 30.7 +0.6**
PFO pmax pmax
comp=Z,26nm,1.4s,mb5.0
PFO MLR MLR
comp=Z,218nm,19.0s,MS3.9
PFO Pinyon Flat Ob 34.43 315 *e*P **P** **10 12 30.7 +0.6**
comp=Z,26nm,1.4s,mb5.0
PFO LR LR
comp=Z,218nm,19.0s,MS3.9
PFO Pinyon Flat Ob 34.43 315 P **P** **10 12 30.8 +0.7**
baz=34,SNR=15
109C Camp Elliot, M 34.50 313 ⇑P **P** **10 12 30.8 +0.1**
baz=35
V12A Nelson 34.60 319 P **P** **10 12 32.5 +1.0**
baz=35,SNR=60
NCB Newcomb 34.70 17 PFAKE 10 12 40.0 +7.6
NCB LR LR
comp=Z,3μm,19.0s,MS5.0
RWWY Rawlins 34.82 334 *e*P **P** **10 12 33.8 +0.3**
MSU Marysvale 34.84 325 *e*P **P** **10 12 34.7 +1.1**
MSU *e* 10 15 07.2
U12A Valley of Fire 34.84 321 P **P** **10 12 34.6 +1.0**
baz=35,SNR=20
MVU Marysvale 34.85 325 PFAKE 10 12 50.0 +16
MVU LR LR
comp=Z,2μm,21.0s,MS4.7
CCUT Cedar City 34.86 323 *e*P **P** **10 12 34.3 +0.6**
TMUT Trail Mountain 34.88 327 *e*P **P** **10 12 34.5 +0.6**
MURC Murrieta 34.94 314 P **P** **10 12 35.5 +1.0**
baz=35,SNR=14
HEC Hector,Ludlow 35.03 317 P **P** **10 12 36.4 +1.2**
baz=35,SNR=11
V11A Goodsprings 35.04 319 P **P** **10 12 36.2 +0.8**
baz=35,SNR=11
ARUT Antelope Range 35.06 323 *e*P **P** **10 12 36.3 +0.8**
BBRC Big Bear Sol-O 35.11 316 P **P** **10 12 37.3 +1.4**
baz=35,SNR=10
TUQ Turquoise Mtn. 35.12 318 ⇑P **P** **10 12 36.7 +0.7**
baz=35,SNR=21
LONY Lake Ozonia 35.20 16 *e*P **P** **10 12 36.1 -0.5**
LONY LR LR
comp=Z,3μm,20.0s,MS5.0
SHPR Sheep Range 35.28 320 *e*P **P** **10 12 38.3 +1.0**
SHPR *e*PcP PcP 10 15 08.3 +0.7
U11A Corn Creek 35.37 320 ⇓P **P** **10 12 39.1 +0.9**
baz=36
MSNY Massena 35.47 16 *e*P **P** **10 12 39.1 +0.1**
RRX Edison Barstow 35.51 316 ⇓P **P** **10 12 40.1 +0.6**
baz=36
SCI San Clemente I 35.58 312 ⇑P **P** **10 12 41.0 +1.0**
baz=36
BFSC Mount Baldy St 35.61 315 ⇓P **P** **10 12 40.7 +0.5**
baz=36,SNR=10
GSC Goldstone 35.62 317 *e*P **P** **10 12 41.1 +0.7**
GSC *e* 10 15 08.9
GSC Goldstone 35.62 317 P **P** **10 12 41.2 +0.9**
baz=36,SNR=9.5
SHOC Shoshone 35.62 318 ⇓P **P** **10 12 41.1 +0.7**
baz=36,SNR=7.1
MPU Maple Canyon 35.63 328 *e*P **P** **10 12 40.1 -0.3**
comp=Z,14nm,0.9s,mb4.9
MPU LR LR
comp=Z,2μm,20.0s,MS5.0
LBNH Lisbon 35.66 20 PFAKE 10 12 50.0 +9.3
LBNH LR LR
comp=Z,3μm,22.0s,MS4.9
FRNY Flat Rock 35.68 17 *e*P **P** **10 12 40.6 -0.2**
RSSD Black Hills 35.68 340 *e*P **P** **10 12 40.5 -0.3**
RSSD pmax pmax
comp=Z,11nm,0.6s,mb5.0
RSSD MLR MLR
comp=Z,1μm,19.0s,MS4.7
RSSD Black Hills 35.68 340 *e*P **P** **10 12 40.5 -0.3**
comp=Z,11nm,0.6s,mb5.0
RSSD LR LR
comp=Z,1μm,19.0s,MS4.7
CIS Catalina Islan 35.70 313 ⇓P **P** **10 12 41.3 +0.3**
baz=36
DAU Daniels Canyon 35.72 329 *e*P **P** **10 12 41.6 +0.4**
FMP Fort Macarthur 35.77 314 ⇓P **P** **10 12 42.1 +0.5**
baz=36
MWC Mount Wilson 35.88 315 *e*P **P** **10 12 43.6 +1.0**
JLU Jordanelle 35.96 329 *e*P **P** **10 12 44.0 +0.7**
U10A Ash Meadows, A 35.97 319 P **P** **10 12 44.7 +1.4**
baz=36,SNR=27
DECC Green Verdugo 36.08 314 ⇑P **P** **10 12 45.1 +0.8**
baz=36
CTU Camp Tracy 36.18 328 *e*P **P** **10 12 45.2 +0.1**
EDW2 Edwards Air Fo 36.19 316 ⇓P **P** **10 12 45.6 +0.4**
baz=36,SNR=9.3

LRMC	**Laurel Mountai**	**36.31**	**317**	P		**P**	**10 12 47.0**	**+0.7**
	baz=36,SNR=13								
FURC	**Furnace Creek,**	**36.34**	**319**	P		**P**	**10 12 47.5**	**+1.0**
	baz=36,SNR=20								
NOQ	**North Oquirrh**	**36.34**	**328**	*e*P		**P**	**10 12 46.6**	**0.0**
DUG	**Dugway**	**36.38**	**327**	*e*P		**P**	**10 12 47.1**	**+0.3**
DUG				MLR		MLR			
	comp=Z,1µm,20.0s,MS4.6								
DUG	**Dugway**	**36.38**	**327**	P		**P**	**10 12 47.3**	**+0.4**
	baz=36,SNR=9.1								
SNCC	**San Nicolas Is**	**36.42**	**312**	⇑P		**P**	**10 12 47.5**	**+0.2**
	baz=36								
MPMC	**Manual Prospec**	**36.51**	**318**	P		**P**	**10 12 48.5**	**+0.6**
	baz=37,SNR=17								
BLG	**Laguna Peak**	**36.53**	**314**	⇓P		**P**	**10 12 48.5**	**+0.4**
	baz=37								
OSI	**Osito Adit**	**36.55**	**315**	⇓P		**P**	**10 12 48.7**	**+0.4**
	baz=37								
TRCR	**Troy Canyon**	**36.71**	**322**	*e*P		**P**	**10 12 50.2**	**+0.6**
DAC	**Darwin (Calif)**	**36.71**	**318**	*e*P		**P**	**10 12 50.2**	**+0.6**
DAC				pmax		pmax			
	comp=Z,24nm,1.5s,mb4.8								
DAC				MLR		MLR			
	comp=Z,2µm,20.0s,MS4.8								
DAC	**Darwin (Calif)**	**36.71**	**318**	*e*P		**P**	**10 12 50.1**	**+0.5**
	comp=Z,24nm,1.5s,mb4.8								
DAC				LR		LR			
	comp=Z,2µm,20.0s,MS4.8								
Q12A	**Willow Creek R**	**36.71**	**324**	⇓P		**P**	**10 12 50.8**	**+1.1**
	baz=37,SNR=19								
BW06	**Boulder Array**	**36.72**	**333**	*e*P		**P**	**10 12 49.4**	**-0.3**
BW06				LR		LR			
	comp=Z,1µm,20.0s,MS4.7								
PDAR	**Pinedale Array**	**36.72**	**333**	P		**P**	**10 12 49.0**	**-0.8**
	comp=Z,11nm,1.1s,mb4.6,baz=134,slow=8.5,SNR=31								
PDAR				PcP		PcP	10 15 10.8	-1.0	
	comp=Z,3.0nm,0.9s,baz=160,slow=4.7,SNR=5.0								
PDAR				LR		LR	10 30 15.5		
	comp=Z,710nm,21.5s,MS4.4,baz=138,slow=40								
EYMN	**Ely**	**36.76**	**356**	*e*P		**P**	**10 12 47.8**	**-2.3**
EYMN				LR		LR			
	comp=Z,1µm,22.0s,MS4.7								
HWUT	**Hardware Ranch**	**36.77**	**330**	*e*P		**P**	**10 12 50.0**	**-0.2**
	comp=Z,30nm,0.9s,mb5.1								
HWUT				LR		LR			
	comp=Z,1µm,19.0s,MS4.8								
ISA	**Isabella**	**36.95**	**316**	*e*P		**P**	**10 12 52.4**	**+0.7**
ISA				*e*			10 15 13.1		
ISA				MLR		MLR			
	comp=Z,261nm,22.0s,MS4.0								
ISA	**Isabella**	**36.95**	**316**	P		**P**	**10 12 52.5**	**+0.8**
	baz=37,SNR=6.7								
GRAC	**Grapevine Rang**	**36.98**	**319**	⇑P		**P**	**10 12 53.0**	**+1.0**
	baz=37,SNR=16								
SPUT	**South Promonto**	**36.99**	**329**	*e*P		**P**	**10 12 49.5**	**-2.5**
BGU	**Big Grassy Mou**	**37.02**	**328**	*e*P		**P**	**10 12 52.1**	**-0.2**
P12A	**McGill**	**37.04**	**324**	⇑P		**P**	**10 12 53.4**	**+0.9**
	baz=37,SNR=25								
Q11A	**Duckwater**	**37.07**	**323**	P		**P**	**10 12 53.8**	**+1.1**
	baz=37,SNR=49								
R10A	**Warm Springs**	**37.10**	**321**	P		**P**	**10 12 54.5**	**+1.5**
	baz=37,SNR=41								
SBC	**Santa Barbara**	**37.16**	**314**	⇓P		**P**	**10 12 55.0**	**+1.5**
	baz=37								
S09A	**Goldfield**	**37.33**	**320**	P		**P**	**10 12 55.8**	**+0.9**
	baz=37,SNR=78								
AHID	**Auburn Hatcher**	**37.43**	**331**	*e*P		**P**	**10 12 55.8**	**0.0**
	comp=Z,25nm,0.7s,mb5.2								
AHID				LR		LR			
	comp=Z,1µm,20.0s,MS4.8								
VES	**Vestal, Richgr**	**37.46**	**316**	⇓P		**P**	**10 12 57.0**	**+1.0**
	baz=38,SNR=8.6								
PKM	**Peak Mountain**	**37.47**	**314**	⇓P		**P**	**10 12 56.6**	**+0.5**
	baz=38,SNR=9.1								
PKME	**Peaks-Kenny Pk**	**37.47**	**22**	*e*P		**P**	**10 12 56.8**	**+0.7**
	comp=Z,119nm,1.3s,mb5.6								
PKME				LR		LR			
	comp=Z,3µm,20.0s,MS5.1								
O12A	**Currie**	**37.49**	**325**	P		**P**	**10 12 57.0**	**+0.8**
	baz=38,SNR=16								
HVU	**Hansel Valley**	**37.51**	**329**	*e*P		**P**	**10 12 56.8**	**+0.4**
TPH	**Tonopah**	**37.54**	**320**	*e*P		**P**	**10 12 58.0**	**+1.3**
TPH				*e**PP		pP	10 13 06.7	+1.0	
TPH				MLR		MLR			
	comp=Z,2µm,20.0s,MS4.8								
R09A	**Tonopah**	**37.55**	**321**	P		**P**	**10 12 58.0**	**+1.2**
	baz=38,SNR=68								
TIN	**Tinemaha**	**37.57**	**318**	⇓P		**P**	**10 12 58.0**	**+1.1**
	baz=38								
P11A	**Circle Ranch,**	**37.59**	**324**	⇓P		**P**	**10 12 58.0**	**+0.9**
	baz=38,SNR=7.6								
AGMN	**Agassiz Refuge**	**37.60**	**351**	*e*P		**P**	**10 12 55.0**	**-2.1**
	comp=Z,51nm,1.0s,mb5.2								
AGMN				LR		LR			
	comp=Z,2µm,22.0s,MS4.8								
N13A	**Wendover, West**	**37.60**	**326**	⇑P		**P**	**10 12 57.9**	**+0.7**
	baz=38								
REDW	**Red Top Meadow**	**37.77**	**332**	*e*P		**P**	**10 12 58.6**	**0.0**
S08C	**White Mtn Res**	**37.80**	**319**	P		**P**	**10 13 00.1**	**+1.3**
	baz=38,SNR=58								
SMMC	**Simmler**	**37.81**	**315**	⇓P		**P**	**10 12 59.8**	**+0.8**
	baz=38,SNR=6.9								
RCTC	**Rector, Farmer**	**37.82**	**317**	P		**P**	**10 12 59.8**	**+0.7**
	baz=38,SNR=16								
HELL	**Mitchell Peak,**	**37.88**	**317**	P		**P**	**10 13 00.5**	**+0.9**
	baz=38,SNR=18								
O11A	**Cowboy Ranch,**	**37.91**	**324**	⇓P		**P**	**10 13 00.7**	**+0.9**
	baz=38,SNR=14								
M13A	**Montello**	**37.93**	**327**	P		**P**	**10 13 00.2**	**+0.2**
	baz=38,SNR=11								
MTUM	**Tungsten Hills**	**37.96**	**318**	*e*P		**P**	**10 13 01.8**	**+1.5**
RRI2	**Red Ridge**	**37.98**	**332**	*e*P		**P**	**10 13 00.4**	**0.0**
Q09A	**Carvers**	**37.98**	**321**	⇑P		**P**	**10 13 01.6**	**+1.2**
	baz=38,SNR=9.0								
MOOW	**Moose Ponds**	**38.03**	**333**	*e*P		**P**	**10 13 00.5**	**-0.3**
	comp=Z,26nm,0.8s,mb5.0								
P10A	**Eureka**	**38.05**	**323**	⇓P		**P**	**10 13 02.1**	**+1.1**
	baz=38,SNR=8.7								
N12A	**Clover Valley,**	**38.05**	**326**	P		**P**	**10 13 01.7**	**+0.7**
	baz=38,SNR=25								
ELK	**Elko**	**38.09**	**325**	*e*P		**P**	**10 13 02.9**	**+1.6**
ELK				pmax		pmax			
	comp=Z,9.0nm,0.7s								
ELK				MLR		MLR			
	comp=Z,2µm,20.0s								
ELK	**Elko**	**38.09**	**325**	*e*P		**P**	**10 13 02.9**	**+1.5**
	comp=Z,8.8nm,0.7s,mb4.6								
ELK				LR		LR			
	comp=Z,2µm,20.0s,MS4.8								
DCID1	**Drake Creek**	**38.10**	**332**	*e*P		**P**	**10 13 02.0**	**+0.5**
PTRM	**Twissleman Ran**	**38.14**	**315**	*e*P		**P**	**10 13 01.9**	**+0.2**
R08A	**Mina**	**38.26**	**320**	P		**P**	**10 13 04.4**	**+1.6**
	baz=38,SNR=39								
FLWY	**Flagg Ranch**	**38.27**	**333**	*e*P		**P**	**10 13 02.9**	**+0.1**
	comp=Z,30nm,1.1s,mb4.9								
FLWY				*e*pP		pP	10 13 11.8	-0.1	
FLWY				*e*PcP		PcP	10 15 16.9	+0.4	
MLAC	**Mammoth Lakes**	**38.30**	**319**	⇑P		**P**	**10 13 04.1**	**+1.0**
	baz=38,SNR=11								
LVC	**Limon Verde**	**38.36**	**151**	LR		LR	10 27 47.9		
	comp=Z,488nm,21.0s,MS4.3,baz=90,slow=35								
LVC	**Limon Verde**	**38.36**	**151**	*e*P		**P**	**10 13 03.6**	**0.0**
	comp=Z,19nm,0.9s,mb4.8								
LVC				LR		LR			
	comp=Z,973nm,21.0s,MS4.6								
M12A	**Wells**	**38.37**	**326**	P		**P**	**10 13 03.9**	**+0.2**
	baz=38,SNR=8.5								
P09A	**Austin**	**38.41**	**322**	⇓P		**P**	**10 13 05.0**	**+1.0**
	baz=38,SNR=5.6								
N11A	**Elko Archery C**	**38.42**	**325**	⇓P		**P**	**10 13 04.8**	**+0.7**
	baz=38								
NVAR	**Mina Array Bea**	**38.43**	**320**	P		**P**	**10 13 05.7**	**+1.5**
	comp=Z,26nm,0.8s,mb5.0,baz=138,slow=5.9,SNR=166								
KCC	**Kaiser Creek**	**38.44**	**318**	P		**P**	**10 13 04.9**	**+0.6**
	baz=38,SNR=11								
Q08A	**Gabbs**	**38.46**	**321**	⇓P		**P**	**10 13 05.3**	**+0.9**
	baz=39,SNR=81								
RLMT	**Red Lodge**	**38.49**	**335**	*e*P		**P**	**10 13 04.2**	**-0.5**
	comp=Z,46nm,1.2s,mb5.1								
RLMT				LR		LR			
	comp=Z,1µm,20.0s,MS4.8								
O10A	**Cortez Mining,**	**38.50**	**324**	⇑P		**P**	**10 13 05.5**	**+0.7**
	baz=39,SNR=25								
PKD	**Parkfield**	**38.52**	**315**	⇓P		**P**	**10 13 05.3**	**+0.3**
	baz=39,SNR=6.1								
LKWY	**Lake**	**38.52**	**334**	*e*P		**P**	**10 13 05.7**	**+0.8**
LKWY				*e**PP		pP	10 13 13.9	-0.1	
LKWY				pmax		pmax			
	comp=Z,32nm,1.1s,mb5.0								
LKWY				MLR		MLR			
	comp=Z,2µm,21.0s,MS4.9								
LKWY	**Lake**	**38.52**	**334**	*e*P		**P**	**10 13 05.7**	**+0.8**
	comp=Z,32nm,1.1s,mb5.0								
LKWY				*e*pP		pP	10 13 13.9	-0.1	
LKWY				LR		LR			
	comp=Z,2µm,21.0s,MS4.9								
T06C	**Millerton Lake**	**38.52**	**317**	P		**P**	**10 13 04.7**	**-0.3**
	baz=39,SNR=6.9								
V04C	**Ramage Ranch,**	**38.59**	**315**	⇑P		**P**	**10 13 06.0**	**+0.5**
	baz=39								
YFT	**Old Faithful**	**38.62**	**333**	*e*P		**P**	**10 13 07.1**	**+1.3**
YFT				*e*PcP		PcP	10 15 20.0	+2.4	
LAO	**LASA Array**	**38.67**	**340**	*e*P		**P**	**10 13 05.6**	**-0.6**
	comp=Z,66nm,1.3s,mb5.2								
LAO				LR		LR			
	comp=Z,1µm,21.0s,MS4.7								
R07C	**Lee Vining**	**38.70**	**319**	⇑P		**P**	**10 13 07.5**	**+1.0**
	baz=39								
YNR	**Norris Junctio**	**38.76**	**334**	*e*P		**P**	**10 13 08.0**	**+1.0**
N10A	**Dunphy**	**38.79**	**324**	⇓P		**P**	**10 13 08.0**	**+0.8**
	baz=39,SNR=6.9								
O09A	**Fish Creek Ran**	**38.83**	**323**	P		**P**	**10 13 08.5**	**+1.0**
	baz=39,SNR=35								
YMR	**Madison River**	**38.85**	**333**	*e*P		**P**	**10 13 07.9**	**+0.2**
	comp=Z,100nm,1.2s,mb5.4								
YMR				*e*pP		pP	10 13 16.8	+0.1	
YMR				LR		LR			
	comp=Z,1µm,20.0s,MS4.7								
M11A	**Holland Ranch,**	**38.86**	**326**	⇓P		**P**	**10 13 08.2**	**+0.3**
	baz=39,SNR=12								
U04C	**Hernandez Rese**	**38.90**	**316**	⇑P		**P**	**10 13 08.2**	**0.0**
	baz=39,SNR=7.7								
BMN	**Battle Mountai**	**39.01**	**323**	*e*P		**P**	**10 13 10.0**	**+0.9**
BMN				MLR		MLR			
	comp=Z,1µm,21.0s,MS4.6								
V03C	**Hunter Liggett**	**39.04**	**315**	⇓P		**P**	**10 13 10.1**	**+0.8**
	baz=39								
Q07A	**Schurz**	**39.05**	**320**	⇓P		**P**	**10 13 10.6**	**+1.2**
	baz=39								
P08A	**Dixie Valley**	**39.06**	**322**	⇓P		**P**	**10 13 10.4**	**+0.9**
	baz=39,SNR=7.1								
LRV	**Little Rabbit**	**39.10**	**316**	*e*P		**P**	**10 13 10.2**	**+0.4**
LRV				*e*pP		pP	10 13 19.8	+0.9	
S06C	**San Francisco**	**39.10**	**318**	⇑P		**P**	**10 13 10.5**	**+0.6**
	baz=39,SNR=16								
T05C	**Eagle Field, D**	**39.11**	**316**	⇓P		**P**	**10 13 09.8**	**-0.1**
	baz=39								
S05C	**Merced**	**39.12**	**317**	⇑P		**P**	**10 13 10.1**	**+0.1**
	baz=39,SNR=6.3								
QLMT	**Earthquake Lak**	**39.18**	**333**	*e*P		**P**	**10 13 11.3**	**+0.8**
WAKR	**Walker**	**39.19**	**319**	*e*P		**P**	**10 13 11.9**	**+1.3**
GCMT	**Greycliff**	**39.20**	**336**	*e*P		**P**	**10 13 10.2**	**-0.5**
R06C	**Coleville**	**39.21**	**319**	⇑P		**P**	**10 13 11.4**	**+0.6**
	baz=39								
M10A	**I.L. Ranch, Tu**	**39.34**	**325**	⇓P		**P**	**10 13 12.1**	**+0.3**
	baz=40,SNR=19								
HAST	**UC Hastings Re**	**39.45**	**315**	⇑P		**P**	**10 13 12.8**	**+0.1**
	baz=40,SNR=5.2								
N09A	**Rock Creek Ran**	**39.46**	**324**	P		**P**	**10 13 13.7**	**+0.8**
	baz=40,SNR=47								
P07A	**Fallon**	**39.46**	**321**	⇑P		**P**	**10 13 13.7**	**+0.9**
	baz=40,SNR=8.8								
O08A	**Rochester Mine**	**39.48**	**323**	⇓P		**P**	**10 13 13.6**	**+0.6**
	baz=40								
ULM	**Lac du Bonnet**	**39.51**	**352**	P		**P**	**10 13 10.5**	**-2.7**
	comp=Z,11nm,0.7s,mb4.7,baz=170,slow=8.6,SNR=24								
ULM				PcP		PcP	10 15 19.3	-1.1	
	comp=Z,7.6nm,0.8s,baz=146,slow=4.5,SNR=3.3								
ULM				LR		LR	10 31 55.4		
	comp=Z,955nm,19.8s,MS4.6,baz=164,slow=40								
ULM	**Lac du Bonnet**	**39.51**	**352**	*e*P		**P**	**10 13 10.4**	**-2.8**
	comp=Z,14nm,0.5s,mb5.0								
ULM				*e*S		**S**	**10 19 16.4**	**+2.9**	
ULM				LR		LR			
	comp=Z,2µm,20.0s,MS4.8								
CMB	**Columbia Colle**	**39.54**	**318**	*e*P		**P**	**10 13 19.5**	**+6.0**
CMB				pmax		pmax			
	comp=Z,37nm,1.7s,mb4.8								
CMB				MLR		MLR			
	comp=Z,651nm,22.0s,MS4.4								
CMB	**Columbia Colle**	**39.54**	**318**	*e*P		**P**	**10 13 19.5**	**+6.0**
	comp=Z,37nm,1.7s,mb4.8								
CMB				LR		LR			
	comp=Z,651nm,22.0s,MS4.4								
CMB	**Columbia Colle**	**39.54**	**318**	⇑P		**P**	**10 13 13.8**	**+0.3**
	baz=40,SNR=9.0								
SAO	**San Andreas Ge**	**39.57**	**316**	PFAKE			10 13 30.0	+16	
SAO				LR		LR			
	comp=Z,1µm,19.0s,MS4.8								
PACP	**Pacheco Peak**	**39.59**	**316**	⇓P		**P**	**10 13 14.2**	**+0.3**
	baz=40								
DGMT	**Dagmar**	**39.61**	**343**	*e*P		**P**	**10 13 13.6**	**-0.5**
DGMT				LR		LR			
	comp=Z,2µm,21.0s,MS4.8								
HLID	**Hailey**	**39.63**	**329**	*e*P		**P**	**10 13 14.2**	**-0.1**
HLID				LR		LR			
	comp=Z,1µm,20.0s,MS4.7								
HLID	**Hailey**	**39.63**	**329**	P		**P**	**10 13 14.2**	**0.0**
	baz=40,SNR=16								
R05C	**Kirkwood Meado**	**39.72**	**319**	P		**P**	**10 13 16.3**	**+1.3**
	baz=40,SNR=46								
N08A	**GE Springer Mi**	**39.77**	**323**	⇑P		**P**	**10 13 15.5**	**+0.1**
	baz=40,SNR=24								
M09A	**Marrel Ranch,**	**39.79**	**324**	P		**P**	**10 13 16.2**	**+0.7**
	baz=40,SNR=6.5								
MCMT	**McKenzie Canyo**	**39.82**	**332**	*e*P		**P**	**10 13 16.5**	**+0.7**
MCMT				*e*pP		pP	10 13 24.9	0.0	
O07A	**Toulon**	**39.83**	**322**	⇑P		**P**	**10 13 16.2**	**+0.3**
	baz=40,SNR=20								
WCN	**Washoe City**	**39.86**	**320**	P		**P**	**10 13 17.2**	**+1.0**
	baz=40,SNR=26								
S04C	**Ingram Canyon,**	**39.88**	**317**	P		**P**	**10 13 16.4**	**+0.2**
	baz=40,SNR=6.2								
G15A	**Dillon**	**39.91**	**333**	P		**P**	**10 13 17.1**	**+0.5**
	baz=40,SNR=31								
R04C	**Big Horse Ranc**	**40.02**	**318**	P		**P**	**10 13 18.7**	**+1.2**
	baz=40,SNR=14								
DLMT	**Dillon**	**40.11**	**333**	*e*P		**P**	**10 13 18.5**	**+0.3**
	comp=Z,38nm,1.0s,mb5.1								
LAVA	**Lava Cap Winer**	**40.17**	**319**	P		**P**	**10 13 19.3**	**+0.5**
	baz=40,SNR=12								
WENL	**Wente Brothers**	**40.23**	**317**	⇑P		**P**	**10 13 20.1**	**+0.9**
	baz=40								
N07B	**Gerlach**	**40.27**	**323**	⇓P		**P**	**10 13 19.3**	**-0.2**
	baz=40								
L09A	**Wilkinson Ranc**	**40.30**	**325**	⇓P		**P**	**10 13 19.8**	**0.0**
	baz=40,SNR=22								
P05C	**Yuba Gap, Truc**	**40.40**	**320**	⇓P		**P**	**10 13 21.4**	**+0.8**
	baz=40,SNR=19								
LRM	**Limekiln Ridge**	**40.40**	**333**	*e*P		**P**	**10 13 20.7**	**0.0**
O06A	**Flanigan**	**40.41**	**321**	P		**P**	**10 13 21.6**	**+0.9**
	baz=40,SNR=79								
F15A	**Butte**	**40.44**	**333**	P		**P**	**10 13 20.9**	**0.0**
	baz=41,SNR=41								
JRSC	**Jasper Ridge**	**40.44**	**316**	⇑P		**P**	**10 13 21.5**	**+0.5**
	baz=40								
BDM	**Black Diamond**	**40.48**	**317**	⇑P		**P**	**10 13 22.0**	**+0.7**
	baz=41								
BEKR	**Beckwourth**	**40.57**	**320**	P		**P**	**10 13 22.9**	**+0.9**
	baz=41,SNR=48								
Q04C	**Lincoln**	**40.63**	**318**	⇑P		**P**	**10 13 23.5**	**+1.0**
	baz=41,SNR=8.4								
N06A	**Buffalo Meadow**	**40.77**	**322**	P		**P**	**10 13 24.0**	**+0.3**
	baz=41,SNR=80								
K09A	**Rome**	**40.78**	**326**	P		**P**	**10 13 24.0**	**+0.2**
	baz=41,SNR=49								
L08A	**Fields**	**40.79**	**325**	P		**P**	**10 13 23.9**	**+0.1**
	baz=41,SNR=20								
F14A	**Wisdom**	**40.81**	**332**	⇑P		**P**	**10 13 23.6**	**-0.4**
	baz=41								
HRY	**Holter Researc**	**40.83**	**335**	*e*P		**P**	**10 13 24.4**	**+0.2**
Q03C	**Winters**	**40.94**	**318**	⇓P		**P**	**10 13 25.9**	**+0.9**
	baz=41								
E15A	**Deer Lodge**	**40.95**	**334**	P		**P**	**10 13 24.9**	**-0.3**
	baz=41,SNR=28								
O05C	**Quincy**	**40.97**	**320**	⇓P		**P**	**10 13 26.0**	**+0.6**
	baz=41,SNR=20								
OHCM	**Honcut**	**40.98**	**319**	*e*P		**P**	**10 13 25.7**	**+0.3**
OHCM				*e*PcP		PcP	10 15 25.4	+0.2	
EGMT	**Eagleton**	**41.07**	**338**	*e*P		**P**	**10 13 25.8**	**-0.4**
	comp=Z,78nm,1.2s,mb5.2								
EGMT				LR		LR			
	comp=Z,839nm,21.0s,MS4.6								
EGMT	**Eagleton**	**41.07**	**338**	P		**P**	**10 13 25.9**	**-0.3**
	baz=41,SNR=32								
CVS	**Carmenet Viney**	**41.08**	**317**	⇑P		**P**	**10 13 25.9**	**-0.3**
	baz=41								
ORV	**Oroville**	**41.11**	**319**	P		**P**	**10 13 27.2**	**+0.7**
	baz=41,SNR=29								
SUTB	**Sutter Butte**	**41.11**	**319**	⇓P		**P**	**10 13 26.7**	**+0.2**
	baz=41,SNR=9.6								
WVOR	**Wild Horse Val**	**41.12**	**325**	*e*P		**P**	**10 13 25.9**	**-0.6**
WVOR				*e**PP		pP	10 13 35.3	-0.4	
WVOR				pmax		pmax			
	comp=Z,107nm,1.5s,mb5.2								
WVOR				MLR		MLR			
	comp=Z,1µm,20.0s,MS4.8								
WVOR	**Wild Horse Val**	**41.12**	**325**	*e*P		**P**	**10 13 25.9**	**-0.7**
	comp=Z,107nm,1.5s,mb5.2								
WVOR				*e*pP		pP	10 13 35.3	-0.4	
WVOR				LR		LR			
	comp=Z,1µm,20.0s,MS4.8								
K08A	**Mann Creek Ran**	**41.22**	**325**	⇓P		**P**	**10 13 27.7**	**+0.3**
	baz=41,SNR=66								
J09A	**Fry Pan Ranch,**	**41.23**	**326**	⇑P		**P**	**10 13 27.5**	**+0.1**
	baz=41,SNR=29								
F13A	**Darby**	**41.23**	**332**	P		**P**	**10 13 26.9**	**-0.6**
	baz=41,SNR=33								
ELFS	**Eagle Lake Fie**	**41.23**	**321**	P		**P**	**10 13 28.7**	**+1.2**
	baz=41,SNR=31								
H11A	**Donnelly**	**41.25**	**329**	P		**P**	**10 13 27.1**	**-0.5**
	baz=41,SNR=16								
L07A	**Adell**	**41.26**	**324**	P		**P**	**10 13 28.1**	**+0.4**
	baz=41,SNR=52								
NSHM	**Saint Helena R**	**41.27**	**317**	*e*P		**P**	**10 13 27.8**	**0.0**
O04C	**Chester**	**41.28**	**321**	⇑P		**P**	**10 13 28.5**	**+0.5**
	baz=41,SNR=25								
E14A	**Clinton**	**41.32**	**333**	P		**P**	**10 13 27.9**	**-0.3**
	baz=42,SNR=12								
MNRC	**McLaughlin Nat**	**41.35**	**318**	⇓P		**P**	**10 13 28.9**	**+0.4**
	baz=42								
D15A	**Lincoln**	**41.38**	**334**	P		**P**	**10 13 28.6**	**-0.2**
	baz=42,SNR=25								
M06C	**Likely Place G**	**41.43**	**322**	P		**P**	**10 13 29.4**	**+0.3**
	baz=42,SNR=22								
CHMT	**Chamberlain Mo**	**41.60**	**334**	*e*P		**P**	**10 13 29.9**	**-0.6**
J08A	**Circle Bar Ran**	**41.63**	**326**	P		**P**	**10 13 30.8**	**0.0**
	baz=42,SNR=30								
K07A	**Rock Creek Ran**	**41.63**	**325**	P		**P**	**10 13 30.7**	**0.0**
	baz=42,SNR=45								
I09A	**Lost Marbles R**	**41.64**	**327**	P		**P**	**10 13 30.4**	**-0.4**
	baz=42,SNR=20								
F12A	**Elk City**	**41.64**	**331**	P		**P**	**10 13 30.5**	**-0.4**
	baz=42,SNR=76								
E13A	**Victor**	**41.66**	**332**	P		**P**	**10 13 30.5**	**-0.5**
	baz=42,SNR=25								
O03C	**Acorn Hollow,**	**41.70**	**319**	⇓P		**P**	**10 13 31.2**	**-0.1**
	baz=42								
MOD	**Modoc**	**41.75**	**323**	*e*P		**P**	**10 13 31.2**	**-0.5**
MOD				LR		LR			
	comp=Z,669nm,20.0s,MS4.5								
MOD	**Modoc**	**41.75**	**323**	P		**P**	**10 13 31.4**	**-0.3**
	baz=42,SNR=27								
HATC	**Hat Creek Radi**	**41.80**	**321**	P		**P**	**10 13 32.5**	**+0.3**
	baz=42,SNR=10								
HOPS	**Hopland**	**41.83**	**318**	PFAKE			10 13 40.0	+7.6	
HOPS				LR		LR			
	comp=Z,1µm,20.0s,MS4.8								
HOPS	**Hopland**	**41.83**	**318**	⇑P		**P**	**10 13 31.6**	**-0.8**
	baz=42								
MSO	**Missoula**	**41.84**	**333**	*e*P		**P**	**10 13 32.0**	**-0.5**
	comp=Z,30nm,1.3s,mb4.8								
MSO				LR		LR			
	comp=Z,574nm,19.0s,MS4.5								
D14A	**Greenough**	**41.84**	**334**	P		**P**	**10 13 31.7**	**-0.7**
	baz=42,SNR=9.7								
G11A	**Walters Elk Ra**	**41.88**	**330**	P		**P**	**10 13 31.9**	**-0.9**
	baz=42,SNR=15								
M05C	**Lookut**	**41.93**	**322**	⇑P		**P**	**10 13 33.1**	**-0.1**
	baz=42,SNR=33								
GASB	**Alder Springs**	**41.95**	**319**	⇑P		**P**	**10 13 33.9**	**+0.6**
	baz=42,SNR=9.0								
BMO	**Blue Mountains**	**42.01**	**328**	*e*P		**P**	**10 13 32.4**	**-1.5**
BMO				LR		LR			
	comp=Z,733nm,21.0s,MS4.5								
I08A	**Drewsey**	**42.04**	**326**	⇓P		**P**	**10 13 33.4**	**-0.7**
	baz=42,SNR=8.8								
H09A	**Durkee**	**42.07**	**328**

baz=44,SNR=26
I05A Bend 43.70 325 P **P** 10 13 47.6 0.0
baz=44,SNR=14
HUMO Hull Mountain 43.75 322 PFAKE
HUMO LR LR
comp=Z,2µm,22.0s,MS4.9
B12A Libby 43.81 333 P **P** 10 13 48.4 0.0
baz=44,SNR=12
L02A Cave Junction 43.89 321 ⇓P **P** 10 13 48.3 -0.7
baz=44
G06A Carlson Farm, 44.03 327 ⇑P **P** 10 13 50.2 +0.1
baz=44,SNR=7.3
E08A Dider Farm, El 44.03 329 ⇑P **P** 10 13 49.2 -1.1
baz=44,SNR=7.2
M01C Crescent City 44.04 320 ⇓P **P** 10 13 49.7 -0.5
baz=44
D09A Jones Farm, Ri 44.05 330 P **P** 10 13 49.9 -0.5
baz=44,SNR=22
F07A Phinny Hill Vi 44.08 328 ⇑P **P** 10 13 50.1 -0.5
baz=44
C10A Spilker Farm, 44.11 332 ⇑P **P** 10 13 50.2 -0.7
baz=44
I04A Tendick Farm, 44.13 324 P **P** 10 13 50.2 -0.7
baz=44,SNR=14
B11A Sandpoint 44.13 333 ⇓P **P** 10 13 50.6 -0.4
baz=44
K02A Glendale 44.16 322 ⇓P **P** 10 13 50.5 -0.8
baz=44,SNR=7.0
A12A Yaak River Ran 44.19 334 P **P** 10 13 51.4 -0.1
baz=44,SNR=8.9
J03A Ideyld Park 44.20 323 ⇓P **P** 10 13 50.8 -0.8
baz=44
HAWA Hanford 44.21 329 PFAKE
HAWA LR LR
comp=Z,751nm,22.0s,MS4.6
KBO Bosley Butte 44.30 321 *e*P **P** 10 13 53.3 +0.9
NEW Newport 44.35 332 *e*P **P** 10 13 51.5 -1.2
NEW MLR MLR
comp=Z,829nm,21.0s
D08A Wollman Farm, 44.35 330 P **P** 10 13 52.3 -0.5
baz=44,SNR=13
G05A Wamic 44.40 326 ⇑P **P** 10 13 53.4 +0.2
baz=44,SNR=11
B10A Chitwood Farm, 44.42 332 ⇑P **P** 10 13 52.7 -0.6
baz=44
BROR Big Rock Looko 44.43 324 P **P** 10 13 53.0 -0.4
F06A Goldendale 44.45 327 ⇑P **P** 10 13 53.7 +0.1
baz=45
E07A Sunnyside 44.48 328 ⇓P **P** 10 13 53.2 -0.7
baz=45,SNR=18
A11A Hall Mountain, 44.51 333 ⇑P **P** 10 13 53.8 -0.3
baz=45,SNR=17
H04A Detroit Lake 44.54 325 ⇑P **P** 10 13 53.6 -0.7
baz=45,SNR=9.3
C09A Chrisman Ranch 44.55 331 ⇑P **P** 10 13 53.7 -0.7
baz=45
J02A Umpqua 44.56 323 ⇓P **P** 10 13 54.1 -0.4
baz=45
HOOD Mount Hood Mea 44.63 326 *e*P **P** 10 13 56.0 +1.0
I03A Eugene 44.74 323 ⇑P **P** 10 13 55.1 -0.7
baz=45
KEBM Edson Butte 44.74 322 *e*P **P** 10 13 56.8 +0.9
F05A White Salmon 44.89 327 ⇑P **P** 10 13 57.3 +0.2
baz=45,SNR=12
C08A Higginbotham F 44.91 330 ⇑P **P** 10 13 56.8 -0.4
baz=45,SNR=12
B09A Rice 44.94 332 P **P** 10 13 56.7 -0.8
baz=45,SNR=25
D07A Quincy 44.97 329 ⇑P **P** 10 13 57.3 -0.4
baz=45
G04A Mulino 45.02 325 ⇑P **P** 10 13 57.4 -0.7
baz=45,SNR=5.2
E06A Yakima 45.06 328 P **P** 10 13 58.7 +0.3
baz=45,SNR=20
A10A Northport 45.07 332 ⇓P **P** 10 13 57.4 -1.1
baz=45
EBG Ellensburg 45.08 328 P **P** 10 13 58.9 +0.3
H03A Soap Creek Ran 45.16 324 ⇑P **P** 10 13 58.5 -0.8
baz=45
MPOR Mary's Peak 45.21 324 P **P** 10 13 59.9 +0.3
TBM Table Mountain 45.27 329 P **P** 10 14 00.2 +0.1
C07A Waterville 45.35 330 ⇓P **P** 10 14 00.5 -0.3
baz=46,SNR=13
D06A Cle Elum 45.41 329 P **P** 10 14 01.2 0.0
baz=46,SNR=9.0
F04A Amboy 45.44 326 ⇑P **P** 10 14 00.7 -0.7
baz=46,SNR=5.6
B08A Colville Reser 45.45 331 P **P** 10 14 00.7 -0.9
baz=46,SNR=13
E05A Randle 45.48 327 ⇑P **P** 10 14 01.1 -0.7
baz=46,SNR=15
A09A Danville 45.53 332 P **P** 10 14 01.6 -0.6
baz=46,SNR=19
G03A Yamhill 45.54 325 ⇑P **P** 10 14 01.8 -0.4
baz=46,SNR=7.4
FMW Mount Fremont 45.67 328 P **P** 10 14 03.3 +0.1
A08A Turner Farm, O 45.84 331 P **P** 10 14 04.1 -0.5
baz=46,SNR=11
WRW Wenatchee Ridg 45.87 329 P **P** 10 14 04.8 -0.1
D05A Enumclaw 46.00 328 P **P** 10 14 05.5 -0.4
baz=46,SNR=8.1
E04A Onalaska 46.01 327 P **P** 10 14 05.2 -0.7
baz=46,SNR=5.7
F03A Seaside 46.06 325 ⇓P **P** 10 14 05.7 -0.6
baz=46
C05A Tolt Reservoir 46.17 329 ⇑P **P** 10 14 06.2 -1.0
baz=46,SNR=7.5
A07A Ashnola River, 46.43 331 ⇑P **P** 10 14 09.1 -0.1
baz=47,SNR=20
E03A Lebam 46.44 326 ⇑P **P** 10 14 09.2 -0.2
baz=47
SCHQ Schefferville 46.57 17 P **P** 10 14 08.2 -2.2
comp=Z,10.0nm,0.5s,mb5.0,baz=214,slow=5.1,SNR=27
SCHQ PcP PcP 10 15 43.9 -0.3
comp=Z,8.4nm,0.6s,baz=216,slow=3.0,SNR=4.7
SCHQ LR LR 10 36 19.0
comp=Z,2µm,18.1s,MS5.1,baz=245,slow=39
SCHQ Schefferville 46.57 17 *e*P **P** 10 14 08.9 -1.5
comp=Z,34nm,0.9s,mb5.3
SCHQ *e*PcP PcP 10 15 43.9 -0.3
SCHQ LR LR
comp=Z,2µm,19.0s,MS5.1
RPW Rockport 46.58 329 P **P** 10 14 09.5 -0.9
EDM Edmonton 46.65 339 *e*P **P** 10 14 09.8 -1.2
GNW Green Mountain 46.68 328 *e*P **P** 10 14 10.3 -0.9
B05A Bryant 46.75 329 P **P** 10 14 10.4 -1.4
baz=47,SNR=8.8
C04A Brinnon 46.85 328 P **P** 10 14 11.8 -0.8
baz=47,SNR=9.5
HDW Hoodsport 46.85 328 P **P** 10 14 11.7 -0.8
D03A Wishkah Elem. 46.90 327 ⇑P **P** 10 14 12.4 -0.6
baz=47
A05A Maple Falls 47.23 330 ⇑P **P** 10 14 14.6 -0.9
baz=47,SNR=8.5
OSD Olympics--Snow 47.30 327 P **P** 10 14 16.5 +0.4
B04A Port Angeles 47.35 328 P **P** 10 14 16.5 +0.1
baz=48,SNR=13
PGC Sidney 47.69 328 *e*P **P** 10 14 19.1 0.0
PLCA Paso Flores 54.07 164 P **P** 10 15 04.9 -2.2
TRQA Tornquist 54.63 155 *e*P **P** 10 15 08.3 -2.9
comp=Z,44nm,1.3s,mb5.3
TRQA LR LR
comp=Z,533nm,19.0s,MS4.6
YKA Yellowknife Ar 54.73 345 P **P** 10 15 10.3 -1.6
comp=Z,17nm,0.8s,mb5.1,baz=140,slow=7.4,SNR=33
YKA PcP PcP 10 16 13.4 -0.9
comp=Z,3.8nm,0.6s,baz=144,slow=4.2,SNR=8.2
YKA LR LR 10 40 29.5
comp=Z,835nm,21.6s,MS4.8,baz=140,slow=38
YKA Yellowknife Ar 54.73 345 P **P** 10 15 10.3 -1.6
YKA 10 16 13.4
YKA pmax pmax
comp=Z,17nm,0.8s
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA MLR MLR
comp=Z,835nm,21.6s
YKW3 Yellowknife Ar 54.79 345 *e*P **P** 10 15 10.8 -1.5
TAOE Nuku Hiva Isla 55.75 251 *e*S **S** 10 23 06.3 +2.4
comp=Z,3µm,25.6s
TAOE *e*LR LR 10 31 15.3
comp=Z,7µm,27.1s
WRAK Wrangell Islan 56.70 332 PFAKE 10 15 40.0 +14
WRAK LR LR
comp=Z,708nm,20.0s,MS4.8
DLBC Dease Lake 56.89 335 *e*P **P** 10 15 27.8 +0.4
RKT Rikitea 57.40 233 *e*S **S** 10 23 27.3 +1.5

comp=Z,2µm,26.2s
RKT *e*SS SS 10 27 12.1 -3.4
comp=Z,182nm,28.8s
RKT *e*LQ 10 29 55.6
comp=Z,947nm,29.8s
RKT *e*LR LR 10 32 22.3
comp=Z,2µm,28.8s,baz=52
SIT Sitka 58.43 332 PFAKE
SIT LR LR 10 15 50.0 +12
comp=Z,1µm,20.0s,MS5.1
SFJD Kangerlussuaq 61.01 16 *i* P **P** 10 15 58.3 +2.3
SFJD *i* 10 20 01.3
SFJD Kangerlussuaq 61.01 16 *e*P **P** 10 15 58.3 +2.3
SFJD *i* 10 20 01.3
SFJD LR LR
comp=Z,1µm,20.0s,MS5.0
RES Resolute Bay 63.59 358 *e*P **P** 10 16 11.3 -2.0
RES pmax pmax
comp=Z,556nm,0.7s
RES Resolute Bay 63.59 358 *e*P **P** 10 16 11.3 -1.9
comp=Z,556nm,0.7s
DAWY Dawson 63.81 337 *e*P **P** 10 16 13.1 -1.6
INK Inuvik 64.30 343 LR LR 10 46 15.1
comp=Z,953nm,21.2s,MS5.0,baz=125,slow=38
INK Inuvik 64.30 343 *e*P **P** 10 16 17.1 -0.8
INK pmax pmax
comp=Z,4µm,1.3s
INK Inuvik 64.30 343 *e*P **P** 10 16 17.1 -0.7
comp=Z,4µm,1.3s
EGAK Eagle 64.84 338 *e*P **P** 10 16 19.8 -1.6
comp=Z,39nm,1.1s,mb5.3
EGAK LR LR
comp=Z,1µm,20.0s,MS5.0
EYAK Cordova Ski Ar 64.85 332 *e*P **P** 10 16 19.9 -1.6
MENT Mentasta 64.98 335 *e*P **P** 10 16 22.1 -0.2
PMR Palmer 66.77 333 *e*P **P** 10 16 32.6 -1.2
PMR pmax pmax
comp=Z,58nm,1.4s,mb5.4
PMR MLR MLR
comp=Z,1µm,22.0s,MS5.1
PMR Palmer 66.77 333 *e*P **P** 10 16 32.6 -1.2
comp=Z,58nm,1.4s,mb5.4
PMR LR LR
comp=Z,1µm,22.0s,MS5.1
KDAK Kodiak Island 67.24 328 LR LR 10 50 31.6
comp=Z,619nm,18.6s,MS4.9,baz=98,slow=40
PPT Papeete 67.37 246 *e*S S 10 25 34.5 +3.3
PPT *e*SS SS 10 29 56.8 +5.4
comp=Z,458nm,26.5s
PPT *e*LR LR 10 36 43.8
comp=Z,3µm,26.8s,baz=60
PPT Papeete 67.37 246 LR LR 10 37 36.1
comp=Z,788nm,19.6s,MS4.9,baz=69,slow=28
COLA College 67.45 336 *d i*P **P** 10 16 36.9 -1.2
COLA College 67.45 336 *e*P **P** 10 16 36.7 -1.4
comp=Z,59nm,1.4s,mb5.4
COLA LR LR
comp=Z,673nm,22.0s,MS4.8
TBI Tubuai 69.39 240 *e*S S 10 26 00.1 +4.9
comp=Z,3µm,41.0s
TBI *e*LR LR 10 37 40.4
comp=Z,2µm,27.2s,baz=65
SVW2 Sparrevohn 69.58 331 *e*P **P** 10 16 50.3 -1.2
ALE Alert 72.09 3 P **P** 10 17 05.0 -1.7
comp=Z,94nm,0.9s,mb5.7,SNR=8.1
EVO Evora 75.16 53 *e*P **P** 10 17 23.1 -1.6
comp=Z,25nm,0.9s,mb4.8
PMSA Palmer Station 77.84 170 *e*P **P** 10 17 37.6 -2.3
comp=Z,49nm,1.1s,mb5.3
PMSA LR LR
comp=Z,400nm,19.0s,MS4.8
ROSF Rostrenen 78.10 43 *e*P **P** 10 17 40.4 -1.0
comp=Z,85nm,1.3s,mb5.2
ROSF Rostrenen 78.10 43 *e*P **P** 10 17 40.4 -1.0
ROSF pmax pmax
comp=Z,43nm,1.3s,mb5.2
ROSF Rostrenen 78.10 43 *e*P **P** 10 17 40.4 -1.0
comp=Z,43nm,1.3s,mb5.2
QUIF Quistinic 78.20 43 *e*P **P** 10 17 40.8 -1.1
comp=Z,391nm,1.9s,mb5.7
QUIF Quistinic 78.20 43 *e*P **P** 10 17 40.8 -1.1
QUIF pmax pmax
comp=Z,195nm,1.9s,mb5.7
QUIF Quistinic 78.20 43 *e*P **P** 10 17 40.8 -1.1
comp=Z,195nm,1.9s,mb5.7
ESDC Sonseca Array 78.23 52 P **P** 10 17 41.9 -0.2
comp=Z,2.4nm,0.6s,mb4.3,baz=285,slow=6.0,SNR=12
ESDC LR LR 10 48 26.4
comp=Z,682nm,19.6s,MS5.0,baz=275,slow=33
SGMF Saint Gilles 78.59 43 *e*P **P** 10 17 42.9 -1.1
comp=Z,59nm,1.2s,mb5.1
SGMF Saint Gilles 78.59 43 *e*P **P** 10 17 42.9 -1.1
SGMF pmax pmax
comp=Z,29nm,1.2s,mb5.1
SGMF Saint Gilles 78.59 43 *e*P **P** 10 17 42.9 -1.1
comp=Z,29nm,1.2s,mb5.1
GRR Gorron 79.71 43 *e*P **P** 10 17 48.9 -1.3
FLN La Foliniere 79.92 42 *e*P **P** 10 17 50.1 -1.2
comp=Z,74nm,1.5s,mb5.1
FLN *e*R
comp=Z,1µm,22.5s
FLN La Foliniere 79.92 42 *e*P **P** 10 17 50.1 -1.2
FLN pmax pmax
comp=Z,37nm,1.5s,mb5.1
FLN MLR MLR
comp=Z,1µm,22.5s,MS5.2
FLN La Foliniere 79.92 42 *e*P **P** 10 17 50.1 -1.2
comp=Z,37nm,1.5s,mb5.1
FLN LR LR
comp=Z,1µm,22.5s,MS5.2
SJPF Ste Jean 79.96 48 *e*P **P** 10 17 50.4 -1.2
LDF La Druitiere 80.17 42 *e*P **P** 10 17 51.5 -1.2
comp=Z,14nm,0.7s,mb4.7
LDF La Druitiere 80.17 42 *e*P **P** 10 17 51.5 -1.2
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LDF La Druitiere 80.17 42 *e*P **P** 10 17 51.5 -1.2
comp=Z,6.8nm,0.7s,mb4.7
MFF Saint Martin d 80.36 44 *e*P **P** 10 17 52.4 -1.3
comp=Z,38nm,1.2s,mb4.9
MFF Saint Martin d 80.36 44 *e*P **P** 10 17 52.4 -1.3
MFF pmax pmax
comp=Z,19nm,1.2s,mb4.9
MFF Saint Martin d 80.36 44 *e*P **P** 10 17 52.4 -1.3
comp=Z,19nm,1.2s,mb4.9
ETSF Etsaut 80.47 48 *e*P **P** 10 17 53.3 -1.0
comp=Z,36nm,1.2s,mb4.9
ETSF Etsaut 80.47 48 *e*P **P** 10 17 53.3 -1.0
ETSF pmax pmax
comp=Z,18nm,1.2s,mb4.9
ETSF Etsaut 80.47 48 *e*P **P** 10 17 53.3 -1.0
comp=Z,18nm,1.2s,mb4.9
EPF Esparros 81.11 48 *e*P **P** 10 17 56.9 -0.8
comp=Z,68nm,1.6s,mb5.0
EPF Esparros 81.11 48 *e*P **P** 10 17 56.9 -0.8
EPF pmax pmax
comp=Z,34nm,1.6s,mb5.0
EPF Esparros 81.11 48 *e*P **P** 10 17 56.9 -0.8
comp=Z,34nm,1.6s,mb5.0
LFF La Frestale 81.17 46 *e*P **P** 10 17 56.8 -1.2
RJF Les Rejaudoux 81.67 45 *e*P **P** 10 17 59.7 -1.0
comp=Z,60nm,1.3s,mb5.0
RJF *e*R
comp=Z,892nm,21.2s
RJF Les Rejaudoux 81.67 45 *e*P **P** 10 17 59.7 -1.0
RJF pmax pmax
comp=Z,30nm,1.3s,mb5.1
RJF MLR MLR
comp=Z,890nm,21.3s,MS5.1
RJF Les Rejaudoux 81.67 45 *e*P **P** 10 17 59.7 -1.0
comp=Z,30nm,1.3s,mb5.1
RJF LR LR
comp=Z,890nm,21.3s,MS5.1
LIC Lamto 81.75 85 ⇓*i*P **P** 10 18 01.6 +0.5
comp=Z,97nm,1.0s,mb5.4
LIC *e*R
comp=Z,365nm,22.2s
LIC Lamto 81.75 85 ⇓*i*P **P** 10 18 01.6 +0.5
comp=Z,49nm,1.0s,mb5.4
LIC LR LR
comp=Z,180nm,22.2s,MS4.4
TCF Toulx Ste Croi 82.02 44 *e*P **P** 10 18 01.3 -1.2
CAF Calviac 82.10 46 *e*P **P** 10 18 01.6 -1.3
comp=Z,33nm,1.2s,mb4.8
CAF Calviac 82.10 46 *e*P **P** 10 18 01.6 -1.3
CAF pmax pmax
comp=Z,16nm,1.2s,mb4.8

CAF Calviac 82.10 46 *e*P **P** 10 18 01.6 -1.3
comp=Z,16nm,1.2s,mb4.8
BGF Bois d'Agland 82.42 44 *e*P **P** 10 18 03.5 -1.1
comp=Z,18nm,0.7s,mb4.8
BGF Bois d'Agland 82.42 44 *e*P **P** 10 18 03.5 -1.1
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BGF Bois d'Agland 82.42 44 *e*P **P** 10 18 03.5 -1.1
comp=Z,9.2nm,0.7s,mb4.8
MTLF Montolieu 82.43 47 *e*P **P** 10 18 03.4 -1.3
comp=Z,37nm,1.1s,mb4.9
MTLF Montolieu 82.43 47 *e*P **P** 10 18 03.4 -1.3
MTLF pmax pmax
comp=Z,19nm,1.1s,mb4.9
MTLF Montolieu 82.43 47 *e*P **P** 10 18 03.4 -1.3
comp=Z,19nm,1.1s,mb4.9
AVF Avril sur Loir 82.73 44 *e*P **P** 10 18 04.3 -1.9
comp=Z,9.7nm,1.0s,mb4.5
AVF Avril sur Loir 82.73 44 *e*P **P** 10 18 04.3 -1.9
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
AVF Avril sur Loir 82.73 44 *e*P **P** 10 18 04.3 -1.9
comp=Z,4.8nm,1.0s,mb4.5
SSF Saint Saulge 82.79 44 *e*P **P** 10 18 05.0 -1.5
comp=Z,3.6nm,0.6s,mb4.2
SSF Saint Saulge 82.79 44 *e*P **P** 10 18 05.0 -1.5
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SSF Saint Saulge 82.79 44 *e*P **P** 10 18 05.0 -1.5
comp=Z,1.8nm,0.6s,mb4.3
BAIF Baives 82.80 40 *e*P **P** 10 18 05.3 -1.3
comp=Z,11nm,1.0s,mb4.5
BAIF Baives 82.80 40 *e*P **P** 10 18 05.3 -1.3
BAIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BAIF Baives 82.80 40 *e*P **P** 10 18 05.3 -1.3
comp=Z,5.7nm,1.0s,mb4.6
LOR Lormes 83.00 43 *e*P **P** 10 18 06.3 -1.3
comp=Z,22nm,1.1s,mb4.8
LOR *e*R
comp=Z,898nm,20.2s
LOR Lormes 83.00 43 *e*P **P** 10 18 06.3 -1.3
LOR pmax pmax
comp=Z,11nm,1.1s,mb4.8
LOR MLR MLR
comp=Z,900nm,20.3s,MS5.1
LOR Lormes 83.00 43 *e*P **P** 10 18 06.3 -1.3
comp=Z,11nm,1.1s,mb4.8
LOR LR LR
comp=Z,900nm,20.3s,MS5.1
SMF Signal de Mont 83.08 44 *e*P **P** 10 18 06.7 -1.3
comp=Z,19nm,1.0s,mb4.8
SMF Signal de Mont 83.08 44 *e*P **P** 10 18 06.7 -1.3
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SMF Signal de Mont 83.08 44 *e*P **P** 10 18 06.7 -1.3
comp=Z,9.5nm,1.0s,mb4.8
GIVF Givet 83.19 40 *e*P **P** 10 18 07.2 -1.4
comp=Z,5.7nm,0.5s,mb4.5
GIVF Givet 83.19 40 *e*P **P** 10 18 07.2 -1.4
GIVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
GIVF Givet 83.19 40 *e*P **P** 10 18 07.2 -1.4
comp=Z,2.8nm,0.5s,mb4.5
LASF Ste Croix 83.50 46 *e*P **P** 10 18 08.7 -1.5
comp=Z,99nm,1.8s,mb5.2
MEZF Maizieres J'vi 83.59 42 *e*P **P** 10 18 09.4 -1.3
VIVF Saint-Julien-l 83.94 46 *e*P **P** 10 18 11.0 -1.5
HAU Haudompre 84.53 42 *e*P **P** 10 18 14.2 -1.3
comp=Z,5.7nm,0.6s,mb4.6
HAU *e*R
comp=Z,811nm,20.5s
HAU Haudompre 84.53 42 *e*P **P** 10 18 14.2 -1.3
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
HAU MLR MLR
comp=Z,810nm,20.5s,MS5.1
HAU Haudompre 84.53 42 *e*P **P** 10 18 14.2 -1.3
comp=Z,2.8nm,0.6s,mb4.6
HAU LR LR
comp=Z,810nm,20.5s,MS5.1
CABF La Chapelle 84.61 44 *e*P **P** 10 18 14.5 -1.4
comp=Z,20nm,1.0s,mb4.9
CABF La Chapelle 84.61 44 *e*P **P** 10 18 14.5 -1.4
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CABF La Chapelle 84.61 44 *e*P **P** 10 18 14.5 -1.4
comp=Z,10nm,1.0s,mb4.9
NB2 NORSAR Subarra 84.62 29 P **P** 10 18 15.5 -0.4
comp=Z,2.5nm,0.7s,mb4.5,baz=283,slow=5.1
NOA NORSAR Array B 84.62 29 P **P** 10 18 15.9 -0.1
comp=Z,2.9nm,0.7s,mb4.5,baz=286,slow=4.7,SNR=8.0
NOA LR LR 10 51 11.8
comp=Z,420nm,21.6s,MS4.8,baz=285,slow=32
SMRF Simiane la Rot 84.73 46 *e*P **P** 10 18 15.1 -1.4
comp=Z,49nm,1.3s,mb5.2
SMRF Simiane la Rot 84.73 46 *e*P **P** 10 18 15.1 -1.4
comp=Z,49nm,1.3s,mb5.5
ORIF Oris-en-Rattie 84.78 45 *e*P **P** 10 18 15.3 -1.4
ORIF *e*R
comp=Z,660nm,21.8s
HINF Hinteralfeld 84.90 42 *e*P **P** 10 18 16.0 -1.3
comp=Z,6.7nm,0.7s,mb4.6
HINF Hinteralfeld 84.90 42 *e*P **P** 10 18 16.0 -1.3
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
HINF Hinteralfeld 84.90 42 *e*P **P** 10 18 16.0 -1.3
comp=Z,3.3nm,0.7s,mb4.6
CDF Champ du Feu 85.07 42 *e*P **P** 10 18 16.9 -1.3
LPL La Plagne 85.26 45 *e*P **P** 10 18 18.0 -1.1
comp=Z,5.1nm,0.6s,mb4.5
LPL La Plagne 85.26 45 *e*P **P** 10 18 18.0 -1.1
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPL La Plagne 85.26 45 *e*P **P** 10 18 18.0 -1.1
comp=Z,2.5nm,0.6s,mb4.5
LPG La Plagne 85.28 45 *e*P **P** 10 18 17.9 -1.3
MBDF Montbardon 85.44 45 *e*P **P** 10 18 18.9 -1.1
comp=Z,8.9nm,0.7s,mb4.7
MBDF Montbardon 85.44 45 *e*P **P** 10 18 18.9 -1.1
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MBDF Montbardon 85.44 45 *e*P **P** 10 18 18.9 -1.1
comp=Z,4.4nm,0.7s,mb4.7
LMR La Mourre 85.52 47 *e*P **P** 10 18 18.5 -1.9
BILL Bilibino 85.56 339 *e*P **P** 10 18 19.9 -0.7
BILL pmax pmax
comp=Z,16nm,0.7s,mb5.4
BILL MLR MLR
comp=Z,673nm,21.0s,MS5.0
BILL Bilibino 85.56 339 *e*P **P** 10 18 19.9 -0.8
comp=Z,16nm,0.7s,mb5.4
BILL LR LR
comp=Z,673nm,21.0s,MS5.0
FRF La Foret Royal 85.57 47 *e*P **P** 10 18 18.8 -1.9
comp=Z,19nm,1.0s,mb5.0
FRF La Foret Royal 85.57 47 *e*P **P** 10 18 18.8 -1.9
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
FRF La Foret Royal 85.57 47 *e*P **P** 10 18 18.8 -1.9
comp=Z,9.6nm,1.0s,mb5.0
HFS Hagfors 86.04 29 LR LR 10 52 55.0
comp=Z,316nm,21.2s,MS4.7,baz=262,slow=33
SBF Sospel 86.08 46 *e*P **P** 10 18 21.8 -1.4
TORD Torodi Ar. Bea 87.02 77 P **P** 10 18 27.4 -0.4
comp=Z,13nm,1.3s,mb5.0,baz=288,slow=4.4,SNR=13
TORD LR LR 10 52 50.1
comp=Z,348nm,21.0s,MS4.7,baz=295,slow=32
GRA1 Grafenberg Arr 87.32 40 *e*P **P** 10 18 29.5 +0.2
comp=Z,36nm,1.5s,mb5.4
GRF Grafenberg Arr 87.32 40 *e*P **P** 10 18 29.5 +0.2
comp=Z,36nm,1.5s,mb5.4
GRF Grafenberg Arr 87.32 40 *e*P **P** 10 18 29.5 +0.2
GRF pmax pmax
comp=Z,36nm,1.5s,mb5.4
GRF Grafenberg Arr 87.32 40 *e*P **P** 10 18 29.5 +0.2
GRF pmax pmax
comp=Z,36nm,1.5s,mb5.4
GRFO Grafenberg 87.32 40 PFAKE 10 18 40.0 +11
GRFO LR LR
comp=Z,1µm,21.0s,MS5.3
MOX Moxa 87.33 39 *e*P **P** 10 18 28.9 -0.4
MOX
comp=Z,500nm,19.0s
PGF Pioggiola 87.47 47 *e*P **P** 10 18 28.6 -1.4
comp=Z,49nm,1.1s,mb5.3
PGF Pioggiola 87.47 47 *e*P **P** 10 18 28.6 -1.4

PGF pmax pmax
comp=Z,24nm,1.1s,mb5.3
PGF Pioggiola 87.47 47 *e*P **P 10 18 28.6 -1.4**
comp=Z,24nm,1.1s,mb5.3
ARCES ARCESS Array B 87.48 19 P **P 10 18 29.4 -0.6**
comp=Z,2.8nm,0.6s,mb4.7,baz=294,slow=4.0,SNR=19
ARCES LR LR 11 01 20.4
comp=Z,416nm,19.9s,MS4.8,baz=256,slow=38
ARCES ARCESS Array B 87.48 19 P **P 10 18 29.4 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,416nm,19.9s
ARCES ARCESS Array B 87.48 19 P **P 10 18 29.4 -0.6**
ARCES LR LR 11 01 20.4
NKC Novy Kostel 87.95 39 *e*P **P 10 18 32.5 +0.2**
CLL Collm 88.01 38 *e*P **P 10 18 32.0 -0.6**
CLL *e*S S 10 29 10.0 -4.0
CLL pmax pmax
comp=Z,29nm,1.7s,mb5.2
CLL Collm 88.01 38 *e*P **P 10 18 32.0 -0.6**
comp=Z,29nm,1.7s,mb5.2
CLL *e*S S 10 29 10.0 -4.0
CLL Collm 88.01 38 *e*P **P 10 18 32.0 -0.6**
comp=Z,29nm,1.7s,mb5.2
CLL *e*S S 10 29 10.0 -4.0
CLL *e*SS SS 10 35 06.0 +3.8
CLL LmV 10 58 00.0
comp=Z,500nm,18.4s
KHC Kasperske Hory 88.95 40 *e*P **P 10 18 37.2 +0.2**
GERES GERESS Array B 89.11 40 P **P 10 18 37.9 +0.2**
comp=Z,1.3nm,0.3s,mb4.7,baz=298,slow=2.9,SNR=9.7
GERES LR LR 10 54 07.9
comp=Z,889nm,21.9s,MS5.2,baz=269,slow=33
KEST Kesra 89.26 54 P **P 10 18 39.5 +1.0**
comp=Z,1.7nm,0.8s,mb4.4,baz=246,slow=3.2,SNR=3.0
KEST LR LR 10 54 20.8
comp=Z,331nm,21.5s,MS4.7,baz=208,slow=33
ROBS Robic 89.69 43 *e*P **P 10 18 44.7 +4.3**
UPC Upice 90.06 38 *e*P **P 10 18 46.2 +4.0**
KSP Ksiaz 90.13 38 *e*P **P 10 18 44.7 +2.2**
KSP *e*SKS 10 29 18.0
DPC Dobruska-Polom 90.30 38 *e*P **P 10 18 45.6 +2.3**
FINES FINESS Array B 91.24 26 P **P 10 18 46.8 -0.9**
comp=Z,6.6nm,1.1s,mb4.9,baz=259,slow=3.9,SNR=4.5
FINES LR LR 11 02 18.4
comp=Z,295nm,18.8s,MS4.8,baz=113,slow=37
FINES FINESS Array B 91.24 26 P **P 10 18 46.8 -0.9**
FINES pmax pmax
comp=Z,7.0nm,1.1s
FINES MLR MLR
comp=Z,295nm,18.8s
SEY Seymchan 92.96 337 *i* P **P 10 18 52.1 -3.6**
PSZ Piszkesteto 93.32 40 *e*P **P 10 18 57.0 -0.3**
PSZ pmax pmax
comp=Z,60nm,1.9s,mb5.7
PSZ Piszkesteto 93.32 40 *e*P **P 10 18 57.0 -0.3**
comp=Z,60nm,1.9s,mb5.7
TIXI Tiksi 93.81 349 PFAKE 10 19 10.0 +10
TIXI LR LR
comp=Z,552nm,19.0s,MS5.0
VNA3 Neumayer Olymp 96.73 161 *e*P **P 10 19 09.7 -3.2**
VNA3 *e* 10 19 11.1
VNA3 *e* 10 19 14.4
VNA3 *e* pP 10 19 17.9 -4.9
VNA3 *e* 10 19 22.2
VNA1 Neumayer--Stat 97.03 161 *e*P **P 10 19 10.2 -4.1**
VNA1 *e* 10 19 11.8
VNA1 *e* 10 19 15.3
VNA1 *e* pP 10 19 19.6 -4.5
VNA2 Neumayer--Watz 97.38 161 *e*P **P 10 19 06.8 -9.0**
baz=282,slow=6.6
VNA2 *e* 10 19 08.2
VNA2 *e* 10 19 11.8
VNA2 *e* pP 10 19 15.4 -10
VNA2 *e* 10 19 20.2
VNA2 *e* 10 19 28.8
VNA2 *e* 10 19 35.4
KIEV Kiev 97.73 35 PFAKE 10 19 30.0 +13
KIEV LR LR
comp=Z,998nm,22.0s,MS5.3
AKASG Malin Array Be 97.74 35 LR LR 10 59 10.1
comp=Z,709nm,21.7s,MS5.1,baz=275,slow=33
SNAA Sanae 98.96 161 *e*P **P 10 19 19.6 -3.3**
OBN Obninsk 99.23 29 *e* PP 10 23 35.1 +8.2
OBN *e*S SKSac 10 29 59.2 -1.0
OBN *e*PS PS 10 32 27.3 +3.6
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.9
QSPA South Pole Qui 101.17 180 PFAKE 10 19 40.0 +7.3
QSPA LR LR
comp=Z,472nm,22.0s,MS5.0
YAK Yakutsk 101.36 343 PFAKE 10 19 40.0 +6.4
YAK LR LR
comp=Z,725nm,22.0s,MS5.2
KIV Kislovodsk 109.07 36 PFAKE 10 24 20.0 +8.0
KIV LR LR
comp=Z,66nm,20.0s,MS4.2
ZAL Zalesovo 114.82 5 PKP PKiKP 10 24 20.0 -3.0
comp=Z,0.7nm,0.5s,baz=203,slow=5.0,SNR=3.2
ZAL Zalesovo 114.82 5 PKiKP PKiKP 10 24 20.0 -2.9
ZAL pmax pmax
comp=Z,1.0nm,0.5s
DRV Dumont d'Urvil 116.07 199 SP SP 10 35 13.0 +5.0
DRV SS SS 10 41 53.0 +23
LSZ Lusaka 117.74 101 PKP PKPdf 10 24 28.4 -0.2
comp=Z,2.2nm,0.6s,baz=178,slow=1.6,SNR=6.7
LSZ Lusaka 117.74 101 PKiKP PKPdf 10 24 28.4 -0.2
LSZ pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 119.74 349 *i* PKiKP PKPdf 10 24 31.2 -1.2
SONM Songino Array 119.89 349 PKP PKPdf 10 24 31.4 -1.3
comp=Z,2.0nm,0.7s,baz=340,slow=1.5,SNR=17
SONM PP PP 10 25 53.8 -2.9
comp=Z,1.7nm,1.0s,baz=20,slow=4.7,SNR=5.3
SONM PKKPbc PKKPbc 10 34 38.1 -3.6
comp=Z,0.5nm,0.7s,baz=172,slow=2.9,SNR=3.8
SONM Songino Array 119.89 349 PKiKP PKPdf 10 24 31.4 -1.3
SONM 10 25 53.8
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 120.40 167 *e*PKP PKPdf 10 24 30.7 -3.0
comp=Z,2.0nm,0.6s
MAW Mawson 120.40 167 PKP PKPdf 10 24 29.8 -3.8
comp=Z,2.6nm,0.7s,baz=278,slow=2.1,SNR=12
KSRS Korea Array 121.14 327 PKP PKPdf 10 24 33.2 -1.9
comp=Z,2.3nm,0.8s,baz=26,slow=1.8,SNR=10
MKAR Makanchi Array 121.60 8 PKP PKPdf 10 24 34.1 -1.9
comp=Z,0.9nm,0.7s,baz=332,slow=2.3,SNR=8.7
MKAR Makanchi Array 121.60 8 PKiKP PKPdf 10 24 34.1 -1.9
MKAR pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 124.03 16 *i* PKiKP PKPdf 10 24 39.7 -0.9
WMQ Urumqi 125.10 4 ⇓PKP PKPdf 10 24 41.8 -0.9
WMQ PP PP 10 26 36.3 +4.4
WMQ PPP 10 29 14.9
WMQ PP PP
comp=Z,91nm,6.9s
WMQ LR LR
comp=N,53nm,37.1s
WMQ LR LR
comp=E,491nm,28.8s
WMQ LR LR
comp=Z,731nm,33.0s,MS5.1
CTA Charters Tower 127.39 253 *e*PKP PKPdf 10 24 46.4 -0.7
comp=Z,12nm,1.0s
CTA Charters Tower 127.39 253 PKP PKPdf 10 24 46.5 -0.6
comp=Z,13nm,1.0s,baz=260,slow=2.9,SNR=3.2
CTA Charters Tower 127.39 253 PKiKP PKPdf 10 24 46.5 -0.6
CTA pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 129.16 352 PKP PKPdf 10 24 50.3 -0.1
GTA XPKP 10 25 07.1
GTA PKS 10 28 25.8
GTA SKS SKSdf 10 31 56.6 -3.2
GTA SKKS SKKSac 10 33 51.3 -2.4
GTA PP PP
comp=Z,149nm,6.9s
GTA LR LR
comp=N,1μm,16.8s,MS5.8
GTA LR LR
comp=E,1μm,16.4s,MS5.8
GTA LR LR
comp=Z,2μm,12.6s
NJ2 Nanjing 130.00 330 *e*PKP PKPdf 10 24 54.4 +2.4
STKA Stephens Creek 130.14 238 *e*PKP PKPdf 10 24 49.6 -2.7
comp=Z,6.6nm,1.0s
STKA *e* 10 25 11.8
STKA Stephens Creek 130.14 238 PKP PKPdf 10 24 51.4 -1.0
comp=Z,12nm,1.1s,baz=59,slow=2.2,SNR=11
LZH Lanzhou 131.71 347 *e*PKP PKPdf 10 24 55.3 0.0
LZH XPKP 10 25 12.5
LZH LR LR
comp=N,125nm,19.3s
LZH LR LR
comp=Z,254nm,20.4s,MS4.9
LZH Lanzhou 131.71 347 *e*PKP PKPdf 10 24 55.2 -0.1
LZH pPKP pPKPdf 10 25 07.0 +1.6
LZH sPKP 10 25 12.5
LZH LR LR
comp=Z,250nm,20.4s,MS4.9
XAN Xi'an 132.29 341 PKP PKPdf 10 24 55.3 -1.1
CD2 Chengdu 136.69 345 *e*PKP PKPdf 10 25 03.8 -0.8
CD2 XPKP 10 25 18.0
CD2 PP PP 10 27 49.9 +3.0
CD2 SKS SKSdf 10 32 09.1 -4.1
CD2 SKKS SKKSac 10 34 36.3 -3.3
CD2 PP PP
comp=Z,120nm,8.2s
NDI New Delhi 137.79 20 *e*P PKPdf 10 25 03.4 -3.2
NDI *e*P 10 25 06.5
ASAR Alice Springs 138.48 247 PKhKP 10 24 54.7
comp=Z,1.5nm,0.9s,baz=110,slow=2.9,SNR=8.0
ASAR PKP PKPdf 10 25 05.8 -2.1
comp=Z,11nm,1.0s,baz=106,slow=1.7,SNR=30
ASAR Alice Springs 138.48 247 *i* PKHKP 10 24 54.7
ASAR 10 25 05.9
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR pmax pmax
comp=Z,11nm,1.0s
ASAR Alice Springs 138.48 247 PKP PKPdf 10 25 05.8 -2.1
WB2 Warramunga Arr 138.57 253 *e*PKP 10 24 57.5
WRAB Tennant Creek 138.57 253 ⇑PKIKP PKPdf 10 25 07.7 -0.4
WRA Warramunga Arr 138.58 253 PKhKP 10 24 55.5
comp=Z,1.7nm,0.8s,baz=96,slow=3.6,SNR=8.0
WRA PKP PKPdf 10 25 06.4 -1.7
comp=Z,12nm,0.8s,baz=93,slow=1.5,SNR=14
WRA Warramunga Arr 138.58 253 *i* PKHKP 10 24 55.5
WRA 10 25 06.4
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,12nm,0.8s
WRA Warramunga Arr 138.58 253 PKP PKPdf 10 25 06.4 -1.7
LSA Lhasa 139.33 1 PFAKE 10 25 20.0 +11
LSA LR LR
comp=Z,820nm,19.0s,MS5.5
GYA Guiyang 140.02 340 PDIF Pdif 10 22 24.8 -0.7
GYA PKP PKPdf 10 25 10.3 -0.4
GYA PP PP 10 28 10.3 +2.7
GYA PKS 10 28 44.6
GYA SKKS SKKSac 10 34 55.3 -4.0
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,240nm,20.8s,MS5.0
GYA LR LR
comp=E,180nm,21.8s,MS5.0
GYA LR LR
comp=Z,170nm,21.0s,MS4.8
GKN Gorkha 140.35 11 *e*P PKPdf 10 25 04.9 -6.4
comp=Z,81nm,1.4s
KOLN Koldanda 140.38 12 *e*P PKPdf 10 25 05.1 -6.3
comp=Z,49nm,1.4s
GUN Gumba 140.65 9 *e*P PKPdf 10 25 06.3 -5.6
comp=Z,39nm,0.9s
KKN Kakani 140.67 10 *e*P PKPdf 10 25 06.2 -5.7
comp=Z,4.5nm,0.2s
DMN Daman 140.82 10 *e*P PKPdf 10 25 06.7 -5.5
comp=Z,29nm,1.1s
PKI Pulchoki 140.91 10 *e*P PKPdf 10 25 06.5 -5.8
comp=Z,28nm,1.0s
JIRN Jiri 140.94 8 *e*P PKPdf 10 25 06.8 -5.6
comp=Z,11nm,0.6s
FORT Forrest 141.50 234 *e*PKP PKPdf 10 25 11.3 -2.1
comp=Z,13nm,0.8s
FORT *e* 10 25 33.5
KMI Kunming 142.47 344 PKP PKPdf 10 25 13.8 -1.3
KMI Kunming 142.47 344 P PKPdf 10 25 13.7 -1.4
BHPL Bhopal 142.84 23 *e*P PKPdf 10 25 13.7 -2.1
IMP Imphal 144.20 357 *i* x x 10 25 12.0
BOM Bombay 144.51 33 *e*P PKPdf 10 25 17.2 -1.5
BOK Bokaro 144.68 10 *e*P PKPdf 10 25 18.5 -0.5
QIZ Qiongzhong 145.29 330 PKP PKPdf 10 25 19.0 -1.1
QIZ PP PP 10 28 43.8 +4.3
QIZ PP PP
comp=Z,292nm,11.4s
NGP Nagpur 145.36 22 *e*P PKPbc 10 25 19.8 -0.3
POO Poona 145.36 32 ⇓*i*P PKPbc 10 25 18.0 -2.1
comp=Z,100nm,1.0s
CAL Calcutta 146.26 6 *e*P PKPdf 10 25 21.1 -0.6
CAL *ex* x 10 27 42.9
KAD Karad 146.55 32 *e*P PKPdf 10 25 21.4 -0.8
FITZ Fitzroy Crossi 146.97 254 *e*PKP PKPdf 10 25 21.8 -1.1
comp=Z,53nm,0.8s
FITZ Fitzroy Crossi 146.97 254 PKPbc PKPbc 10 25 22.2 -2.7
comp=Z,30nm,0.9s,baz=74,slow=2.0,SNR=40
NWAO Narrogin (SRO) 148.44 223 PFAKE 10 25 40.0 +15
NWAO LR LR
comp=Z,412nm,19.0s,MS5.2
HYB Hyderabad 148.53 26 *i* PKP PKPdf 10 25 25.0 -0.5
HYB *e*PKPAB PKPab 10 25 33.0 +0.4
HYB Hyderabad 148.53 26 *e*P PKPdf 10 25 25.0 -0.5
NANT Nan 149.04 344 ⇓P PKPdf 10 25 28.0 +1.7
comp=Z,200nm,1.0s
CHG Chiang Mai 149.45 347 ⇓P PKPdf 10 25 31.1 +4.1
comp=Z,32nm,1.3s
MUN Mundaring 149.70 223 *e*PKP PKPdf 10 25 26.3 -1.1
MUN *e* 10 25 49.3
VIS Vishakhapatnam 149.96 17 *e*P PKPdf 10 25 26.9 -0.9
VIS AMb AMB 10 25 50.3
comp=Z,93nm,1.3s
MNGI Mangalore 150.46 36 *e*P PKPdf 10 25 27.1 -1.5
KKTK Khon Kaen 150.70 339 P PKPdf 10 25 35.0 +6.1
BDT Bhumibol Dam 150.96 347 P PKPdf 10 25 30.0 +0.7
comp=Z,16nm,0.8s
MBWA Marble Bar 151.81 246 PFAKE 10 25 40.0 +9.4
MBWA LR LR
comp=Z,571nm,22.0s,MS5.3
KSM Kuching 158.03 304 *e*P PKPdf 10 25 38.3 -0.8
PSI Prapat 164.57 334 PKP PKPdf 10 25 45.0 -1.0
comp=Z,3.5nm,0.7s,baz=251,slow=9.2,SNR=7.2
PSI Prapat 164.57 334 PKiKP PKPdf 10 25 45.0 -1.0
PSI pmax pmax
comp=Z,4.0nm,0.7s

IDC ***18*** *10:05:47.2±0.9, 46.16N×154.66E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx1.7/38, Error ellipse: s-maj=29.1km s-min=20.2km az=138.0*

ISCJB ***18*** *10:05:50.8±0.8, 462N×02.2×1545E±02, h35km, mb3.7/7, Error ellipse: s-maj=24.9km s-min=15.1km az=119.7*

MOS ***18*** *10:05:50.9±1.7, 46.05N×154.33E, h33km, mb4.1/5, Error ellipse: s-maj=40.1km s-min=22.7km az=75.4*

ISC 18 10:05:52.6±0.8, 463N±02×1546E±02, h35km, n16, σ1§01/16, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.55**	**12**	*e*PN	**Pn**	**10 07 04.5**	**+5.6**
ASAJ	**Asahikawa**	**8.74**	**260**	Pn	**Pn**	**10 07 55.6**	**-0.9**
	1.8nm,0.3s,baz=133,slow=6.1,SNR=12						
ASAJ				LR	LR	10 10 43.2	
	comp=Z,61nm,19.0s,baz=26,slow=34						
ASAJ	**Asahikawa**	**8.74**	**260**	PN	**Pn**	**10 07 55.6**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,61nm,19.0s						
MAT	**Matsushiro**	**15.63**	**237**	P	**Pn**	**10 09 33.5**	**+3.3**
KSRS	**Korea Array**	**21.64**	**256**	P	**P**	**10 10 41.2**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.4,baz=54,slow=9.6,SNR=4.2						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**10 13 37.1**	**+0.6**
	comp=Z,1.3nm,0.5s,mb3.8,baz=275,slow=6.3,SNR=15						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**10 13 37.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.08**	**298**	P	**P**	**10 14 28.6**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=66,slow=8.7,SNR=10.0						
MKAR	**Makanchi Array**	**48.08**	**298**	P	**P**	**10 14 28.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**10 16 27.6**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=28,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**10 16 27.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.39**	**201**	P	**P**	**10 16 49.1**	**-1.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=20,slow=6.7,SNR=4.1						
WRA	**Warramunga Arr**	**68.39**	**201**	P	**P**	**10 16 49.1**	**-1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.07**	**200**	P	**P**	**10 17 13.6**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=12,slow=5.6,SNR=5.0						
TXAR	**Lajitas Array**	**76.84**	**61**	P	**P**	**10 17 41.1**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=307,slow=4.4,SNR=12						
TXAR	**Lajitas Array**	**76.84**	**61**	P	**P**	**10 17 41.1**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

STR ***18*** *10:11:08.5±0.1, 4303N×004W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 10:11:08.3±0.1, 4303N×001W, h8km, Md1.6/2, Ml1.3/2, Error ellipse: s-maj=2.2km s-min=1.0km az=166.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**73**	Pg	Pg	10 11 10.5	+0.4
LABF				Sg	Sg	10 11 11.8	+0.4
VIEF	**Viey**	**0.15**	**171**	Pg	Pg	10 11 11.6	+0.2
VIEF				Sg	Sg	10 11 14.0	+0.4
EPF	**Esparros**	**0.25**	**90**	*e*Pg	Pg	10 11 13.7	+0.3
EPF				*e*Sg	Sg	10 11 17.1	+0.3
	3.2nm,0.2s						
ETSF	**Etsaut**	**0.43**	**252**	*e*Pg	Pg	10 11 16.9	+0.3
ETSF				*e*Sg	Sg	10 11 22.6	+0.4
	2.0nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Sg	Sg	10 11 36.4	-0.8
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pn	Pn	10 11 36.0	-1.6
MTLF				*e*Sg	Sg	10 12 00.8	-0.7
	0.3nm,0.2s						

UCR 18 10:18:09.2, 964N×8364W, h13km, MD2.8, Costa Rica

ISCJB ***18*** *10:20:30.6±0.8, 522S±0.1×1505E±0.1, h35km, mb4.5/3, Error ellipse: s-maj=14.9km s-min=14.1km az=63.3*

NEIC ***18*** *10:20:31.2±0.7, 522S×1504W, mb4.6/1, Error ellipse: s-maj=13.9km s-min=13.0km az=129.0*

IDC ***18*** *10:20:33.4±2.7, 582S×1506E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=95.7km s-min=29.2km az=101.0*

ISC 18 10:20:33.0±0.8, 519S±01.0×1505E±01, h35km, n13, σ1§22/12, mb4.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.35**	**218**	Pn	**Pn**	**10 21 47.9**	**-2.4**
	1.4nm,0.3s,baz=54,slow=17,SNR=4.9						
PMG				Sn	**Sn**	**10 22 42.1**	**-8.5**
	0.9nm,0.3s,baz=155,slow=19,SNR=2.5						
HNR	**Honiara**	**10.27**	**115**	*e*Pn	**Pn**	**10 22 56.9**	**-0.9**
GUMO	**Guam**	**19.47**	**343**	*e*P	**Pn**	**10 24 57.1**	**-1.0**
	26nm,0.7s						
WB2	**Warramunga Arr**	**21.50**	**226**	P	**P**	**10 25 19.3**	**+0.6**
AS31	**Alice Springs**	**24.36**	**219**	*e*P	**P**	**10 25 47.7**	**0.0**
AS31				*e*pP		10 25 53.7	
ASAR	**Alice Springs**	**24.36**	**219**	P	**P**	**10 25 50.8**	**+3.2**
	2.1nm,0.7s,mb3.7,baz=54,slow=7.6,SNR=7.0						
DAV	**Davao City (W)**	**27.70**	**296**	*e*P	**P**	**10 26 18.5**	**+0.7**
	133nm,0.3s						
STKA	**Stephens Creek**	**27.84**	**196**	P	**P**	**10 26 20.3**	**+1.3**
	5.7nm,0.9s,mb4.2,baz=27,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**27.84**	**196**	P	**P**	**10 26 20.3**	**+1.3**
COCO	**West Island**	**53.44**	**259**	P	**P**	**10 29 48.6**	**-0.8**
	102nm,1.1s,mb5.7						
COCO				*e*pP	pP	10 29 55.2	-4.7
SONM	**Songino Array**	**65.45**	**329**	P	pP	10 31 23.6	+0.5
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.5						
PTRM	**Twissleman Ran**	**92.40**	**55**	*e*P	**P**	**10 33 41.1**	**+1.2**
PTRM				*e*pP	pP	10 33 48.0	-3.1
TORD	**Torodi Ar. Bea**	**148.24**	**287**	PKPbc	PKPbc	10 40 20.8	+5.5
	0.7nm,0.7s,baz=80,slow=3.0,SNR=4.5						

CASC 18 10:23:12.1±1.8, 1116N×8810W, h20km±41km, MD3.8, ML3.5, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.80**	**55⇑**	*e*P	Pn	10 23 41.9	0.0
COPN				*e*S	Sn	10 24 06.0	+1.8
MIRN	**Miramar**	**1.87**	**47**	*e*P	Pn	10 23 42.7	-0.2
MIRN				*e*S	Sn	10 24 07.0	+1.1
CNGN	**Cerro Negro**	**1.92**	**46**	*e*P	Pn	10 23 43.7	+0.1
CNGN				*e*S	Sn	10 24 08.3	+1.1
CNGN				*i*		10 24 11.0	
	comp=E,543nm,0.2s						
MOMJ	**Momotombo**	**1.97**	**51**	*e*P	Pn	10 23 44.4	0.0
XAVN	**Gruta Xavier**	**2.00**	**60**	*e*P	Pn	10 23 44.7	-0.1
XAVN				*e*S	Sn	10 24 09.9	+0.7
TICN	**Ticuantepe**	**2.03**	**64**	*e*P	Pn	10 23 45.3	+0.1
MGAN	**Managua**	**2.07**	**61**	*e*P	Pn	10 23 45.3	-0.4
MGAN				*e*S	Sn	10 24 11.6	+0.7
MGAN				*i*		10 24 12.2	
	comp=E,540nm,0.2s						
CNCH	**Conchagua**	**2.12**	**7**	*e*P	x	10 23 52.0	
CNCH				*e*S	x	10 24 18.3	
LFRS	**El Faro**	**2.62**	**339**	*e*P	x	10 23 59.5	
LFRS				*e*S	x	10 24 31.5	
LCBS	**La Ceiba**	**2.63**	**341**	*e*P	x	10 23 59.2	
LCBS				*e*S	x	10 24 30.1	
RTR	**El Retiro**	**3.11**	**331**	*e*P	x	10 24 08.0	
RTR				*e*S	x	10 24 44.5	
RBDL	**Robledal**	**3.32**	**332**	*e*P	x	10 24 09.8	
RBDL				*e*S	x	10 24 50.6	

STR ***18*** *10:23:34.7±0.9, 4828N×653E, h10km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 10:23:32.9±0.2, 4842N×690E, h15km, Md1.7/3, Error ellipse: s-maj=6.1km s-min=2.1km az=149.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDF	**Champ du Feu**	**0.25**	**91**	*e*Pg	Pg	10 23 38.4	0.0
CDF				*e*Sg	Sg	10 23 42.9	+0.8
	4.2nm,0.3s						
ECH	**Echery**	**0.27**	**139**	Pg	Pg	10 23 43.5	+4.9
HAU	**Haudompre**	**0.55**	**222**	*e*Pg	Pg	10 23 43.7	-0.1
HAU				*e*Sg	Sg	10 23 51.2	0.0
MOF	**Molkenrain**	**0.59**	**164**	Pg	Pg	10 23 45.1	+0.6
MOF				Sg	Sg	10 23 55.1	+2.8
HINF	**Hinteralfeld**	**0.60**	**183**	*e*Pg	Pg	10 23 44.6	-0.1
HINF				*e*Sg	Sg	10 23 52.6	-0.2
	2.0nm,0.2s						
THEF	**They Montfort**	**0.64**	**253**	Pg	Pg	10 23 42.5	-2.9

ISCJB ***18*** *10:25:45.5±0.6, 3681N±003×2754E±006, h10km±5km, Error ellipse: s-maj=8.6km s-min=5.4km az=167.6*

CSEM ***18*** *10:25:45.3±0.1, 3681N×2755E, h10km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.1km az=95.0*

NEIC ***18*** *10:25:45.5, 3678N×2756E, h30km, MD3.2(ATH), After ATH.*

ISK ***18*** *10:25:45.8, 3682N×2759E, h5km, MD2.7*

ATH ***18*** *10:25:45.5, 3678N×2756E, h30km±1km, MD3.2/5*

ISC 18 10:25:45.8±0.6, 3680N±003×2755E±006, h12km±5km, n10, σ0§50/15, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.08**	**161**	PG	**Pg**	**10 25 48.4**	**0.0**
DAT				SG	**Sg**	**10 25 49.8**	**-0.5**
NISR	**Nisiros**	**0.39**	**241**	*e*PB	**Pg**	**10 25 54.5**	**+1.0**
MLSB	**Milas**	**0.53**	**20**	*e*PG	**Pg**	**10 25 56.0**	**-0.1**
MLSB				*e*SG	**Sg**	**10 26 03.4**	**+0.3**
YER	**Yerkesik**	**0.68**	**60**	*e*PG	**Pg**	**10 25 58.6**	**-0.3**
ARG	**Arkhangelos**	**0.75**	**141**	*e*PN	**Pg**	**10 26 00.1**	**-0.2**
ARG				*e*SN	**Sg**	**10 26 11.0**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.88**	**92**	*e*PG	**Pg**	**10 26 02.1**	**-0.6**
SMG	**Samos**	**1.07**	**328**	*e*PN	**Pn**	**10 26 06.3**	**-0.2**
SMG				*e*SN	**Sn**	**10 26 21.3**	**+0.1**
FETY	**Fethiye**	**1.25**	**97**	*e*PN	**Pn**	**10 26 09.8**	**+0.8**
KARP	**Karpathos**	**1.29**	**194**	*e*PN	**Pn**	**10 26 09.4**	**-0.2**
KARP				*e*SN	**Sn**	**10 26 26.3**	**-0.5**
APE	**Apeiranthos**	**1.64**	**280**	*e*PB	**Pn**	**10 26 14.0**	**-0.3**

CSEM ***18*** *10:29:10.7±0.1, 4102N×3374E, h1km±1km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=166.0*

ISK ***18*** *10:29:10.9, 4103N×3371E, h5km, MD3.4, ML3.6*

MOS ***18*** *10:29:11.9±0.9, 4100N×3368E, h10km, mb3.6/1, Error ellipse: s-maj=15.9km s-min=8.8km az=100.7*

ISCJB ***18*** *10:29:11.6±0.6, 4105N±002×3372E±003, h2km±5km, MS3.3/1, Error ellipse: s-maj=4.3km s-min=3.5km az=93.8*

NEIC ***18*** *10:29:12.0, 4103N×3372E, h4km, MD3.5(ISK), ML3.7(BUC), After ISK.*

IDC ***18*** *10:29:12.2±1.2, 4102N×3371E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, ML3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=27.9km s-min=9.8km az=82.0*

ISC 18 10:29:12.6±0.5, 4101N±002×3375E±003, h2km±4km, n57, σ1§25/69, MS3.3/1, 11C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.21**	**82**	*i* PG	**Pg**	**10 29 16.5**	**-0.1**
TOS				*i* SG	**Sg**	**10 29 21.9**	**+2.6**
CANT	**Cankiri**	**0.41**	**194**	PG	**Pg**	**10 29 20.7**	**+0.1**
CANT				SG	**Sg**	**10 29 26.7**	**+0.8**
ELDT	**Eldivan**	**0.57**	**206**	*i* P	**Pg**	**10 29 23.3**	**-0.3**
ELDT				*i* S	**Sg**	**10 29 33.0**	**+2.0**
BALT	**Daday**	**0.59**	**332**	*i* P	**Pg**	**10 29 23.0**	**-1.0**
BALT				*i* S	**Sg**	**10 29 33.9**	**+2.2**
SAFT	**Safranbolu**	**0.84**	**286**	PG	**Pg**	**10 29 26.3**	**-2.4**
CTKT	**Corum**	**0.88**	**116**	*i* P	**Pg**	**10 29 29.7**	**+0.3**
CTKT				*i* S	**Sg**	**10 29 38.3**	**-2.5**
BYBT	**Boyabat**	**0.89**	**59**	PG	**Pg**	**10 29 29.0**	**-0.7**
BOYT	**Boyabat**	**0.96**	**64**	*i* P	**Pg**	**10 29 30.4**	**-0.6**
BOYT				*i* S	**Sg**	**10 29 45.1**	**+1.6**
BZK	**Bozkurt**	**0.97**	**11**	PG	**Pg**	**10 29 30.3**	**-0.9**
CORM	**Corum**	**1.06**	**141**	PN	**Pn**	**10 29 32.5**	**-2.1**
BR131	**Keskin Array S**	**1.28**	**184**	*e*Pg	**Pg**	**10 29 36.0**	**-1.2**
BR131				*e*Sg	**Sg**	**10 29 54.0**	**+0.1**
BR131	**Keskin Array S**	**1.28**	**184**	*e*Pg	**Pg**	**10 29 36.0**	**-1.2**
BR131				*e*Sg	**Sg**	**10 29 54.0**	**+0.1**
BRTR	**Keskin Array B** 67nm,0.3s,baz=360,slow=16,SNR=420	**1.28**	**184**	Pg	**Pg**	**10 29 35.6**	**-1.6**
BRTR	202nm,0.3s,baz=8.2,slow=23,SNR=35			Lg		10 29 54.5	
DIKM	**Dikmen**	**1.30**	**60**	PN	**Pn**	**10 29 36.9**	**-0.9**
ANTO	**Ankara**	**1.35**	**213**	⇑*i*P	**Pn**	**10 29 36.7**	**-1.8**
ANTO	**Ankara**	**1.35**	**213**	⇑⇑P	**Pn**	**10 29 36.7**	**-1.9**
SGKT	**Sivrigoynuk**	**1.36**	**252**	*i* P	**Pn**	**10 29 36.4**	**-2.2**
SGKT				*i* S	**Sg**	**10 29 55.8**	**-0.6**
CDAG	**Cicekdag**	**1.46**	**161**	*i* P	**Pn**	**10 29 39.5**	**-0.5**
CDAG	**Cicekdag**	**1.46**	**161**	*i* P	**Pn**	**10 29 39.5**	**-0.5**
KAMT	**Kaman**	**1.64**	**181**	PN	**Pn**	**10 29 42.3**	**-0.1**
KVT	**Kavak**	**1.74**	**87**	PN	**Pn**	**10 29 43.0**	**-0.8**
KDZE	**Karadeniz Ereo**	**1.77**	**281**	PN	**Pn**	**10 29 43.2**	**-1.1**
YOZ	**Yozgat**	**1.82**	**138**	PN	**Pn**	**10 29 45.6**	**+0.7**
HENT	**Hendek**	**2.17**	**266**	*i* P	**Pn**	**10 29 52.0**	**+2.2**
ESKT	**Eskisehir**	**2.67**	**237**	PN	**Pn**	**10 29 57.2**	**+0.5**
BNN	**Bunyan**	**2.69**	**143**	*e*PN	**Pn**	**10 29 57.8**	**+0.9**
SVSK	**Karacayir**	**2.71**	**113**	*e*PN	**Pn**	**10 29 57.6**	**+0.5**
HRT	**Hereke**	**3.10**	**268**	*e*PN	**Pn**	**10 30 02.5**	**-0.1**
ADVT	**Abdulvahap**	**3.10**	**261**	*e*PN	**Pn**	**10 30 03.1**	**+0.5**
IZI	**Iznik**	**3.32**	**260**	*e*PN	**Pn**	**10 30 06.0**	**+0.4**
YLV	**Yalova**	**3.35**	**264**	*e*PN	**Pn**	**10 30 06.2**	**+0.1**
GEMT	**Gemlik**	**3.52**	**262**	*e*PN	**Pn**	**10 30 08.5**	**+0.2**
SEV	**Sevastopol'**	**3.54**	**359**	⇓*i*P	**Pn**	**10 30 06.7**	**-1.8**
SEV				*e*S	**Sn**	**10 30 48.8**	**-2.1**
SEV	comp=Z,10.0nm,0.3s			pmax	pmax		
SEV	comp=N,13nm,0.3s			smax			
SEV	comp=E,8.0nm,0.3s			smax			
SEV	**Sevastopol'** comp=E,10.0nm,0.3s	**3.54**	**359**	*i* P	**Pn**	**10 30 06.7**	**-1.8**
KLYT	**Kilyos**	**3.57**	**275**	*e*PN	**Pn**	**10 30 09.7**	**+0.7**
SUDU	**Sudak**	**3.99**	**13**	*e*P	**Pn**	**10 30 17.0**	**+2.3**
SUDU				*e*S	**Sn**	**10 30 58.0**	**-4.0**
SUDU	comp=E,170nm,1.2s			smax			
ISP	**Isparta**	**4.04**	**220**	*e*P	**Pn**	**10 30 14.4**	**-1.0**
MALT	**Malatya**	**4.50**	**125**	*e*Pn	**Pn**	**10 30 22.4**	**+0.6**
TIRR	**Tirgusor**	**5.23**	**313**	⇓*i*P	**Pn**	**10 30 31.6**	**-0.2**
TIRR	**Tirgusor**	**5.23**	**313**	⇓P	**Pn**	**10 30 31.6**	**-0.2**
MLR	**Muntele Rosu** comp=E,0.8nm,0.3s,baz=126,slow=14,SNR=5.1	**7.25**	**311**	Pn	**Pn**	**10 31 01.0**	**+1.5**
MLR	**Muntele Rosu**	**7.25**	**311**	⇑*i*P	**Pn**	**10 31 00.9**	**+1.3**
MLR	**Muntele Rosu**	**7.25**	**311**	⇑P	**Pn**	**10 31 00.9**	**+1.4**
VOIR		**7.74**	**308**	⇑*i*P	**Pn**	**10 31 08.5**	**+2.1**
VOIR		**7.74**	**308**	⇑P	**Pn**	**10 31 08.5**	**+2.1**
MMAI	**Mount Meron Ar** baz=354,slow=9.0,SNR=2.7	**8.09**	**170**	Pn	**Pn**	**10 31 15.0**	**+4.0**
BURAR	**Bucovina Array**	**9.00**	**320**	⇑*i*P	**Pn**	**10 31 23.1**	**-0.5**
BURAR	**Bucovina Array**	**9.00**	**320**	⇑P	**Pn**	**10 31 23.1**	**-0.5**
GZR	**Gura Zlata**	**9.13**	**302**	⇑*i*P	**Pn**	**10 31 27.3**	**+1.9**
GZR	**Gura Zlata**	**9.13**	**302**	⇑P	**Pn**	**10 31 27.3**	**+1.9**
BZS	**Buzias**	**9.97**	**302**	⇑*i*P	**Pn**	**10 31 37.3**	**+0.4**
AKASG	**Malin Array Be** comp=E,1.6nm,0.3s,baz=155,slow=13,SNR=5.0	**10.19**	**344**	Pn	**Pn**	**10 31 36.5**	**-3.4**
AKASG	comp=E,1.2nm,0.3s,baz=157,slow=23,SNR=4.0			Sn	**Sn**	**10 33 27.2**	**-7.6**
AKASG	**Malin Array Be**	**10.19**	**344**	Pn	**Pn**	**10 31 36.5**	**-3.4**
AKTK	**Aktyubinsk**	**19.31**	**53**	P	**Pn**	**10 33 40.5**	**+0.6**
AKTO	**Aktyubinsk** comp=E,0.1nm,0.3s,baz=243,slow=16,SNR=3.9	**19.31**	**53**	P	**Pn**	**10 33 40.5**	**+0.6**
FINES	**FINESS Array B** comp=E,1.4nm,0.9s,baz=162,slow=14,SNR=2.3	**20.99**	**350**	P	**P**	**10 33 58.4**	**+1.1**
FINES	comp=E,118nm,18.3s,MS3.3,baz=348,slow=40			LR	LR	10 43 06.3	
FINES	**FINESS Array B**	**20.99**	**350**	P	**P**	**10 33 58.4**	**+1.2**
FINES	comp=Z,1.0nm,0.9s			pmax	pmax		
FINES	comp=Z,118nm,18.3s			MLR	MLR		

IDC ***18*** *10:34:06.1±0.6, 4664N×15355E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.4/28, mbtmp4.3/22, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/39, Error ellipse: s-maj=17.2km s-min=15.0km az=135.0*

ISCJB ***18*** *10:34:08.4±0.4, 4664N±006×15357E±007, h21km, mb4.6/57, MS4.0/7, Error ellipse: s-maj=9.1km s-min=5.7km az=106.5*

SKHL ***18*** *10:34:10.0±2.8, 4673N×15388E, h58km±29km, Ms4.6/1*

BJI ***18*** *10:34:13.8, 4674N×15238E, h10km, mB4.9, mb4.5, Ms4.3, Msz4.1*

NEIC ***18*** *10:34:15.0±0.4, 4732N×152.10E, h10km, mb4.7/23, Error ellipse: s-maj=10.5km s-min=5.9km az=155.0*

SZGRF ***18*** *10:34:15.8, 4704N×15325E, h33km, mb4.9, Kuril Islands, Russia*

MOS ***18*** *10:34:16.1±0.9, 47.16N×152.16E, h35km, mb4.8/23, Error ellipse: s-maj=12.7km s-min=7.7km az=101.8*

ISC 18 10:34:10.3±0.4, 4669N±005×15362E±007, h22km, h22km±4.1km: pP-P, n161, σ1§22/141, mb4.6/57, MS4.0/8, 15C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.32**	**22**	*e*P	**Pn**	**10 35 14.5**	**-0.1**
SKR	80nm,0.6s			AMB	AMB	10 35 23.0	
SKR	100nm,0.6s			AMB	AMB	10 35 23.0	
SKR				*e*S	**Sn**	**10 36 01.2**	**-3.1**
SKR	3μm,12.0s			AMS	AMS	10 37 09.0	
SKR	5μm,12.0s			AMS	AMS	10 37 09.0	
SKR	**Severo-Kuril's**	**4.32**	**22**	*e*PN	**Pn**	**10 35 14.5**	**-0.1**
SKR	comp=E,80nm,0.6s			pmax	pmax		
SKR	comp=Z,100nm,0.6s			pmax	pmax		
SKR	comp=E,5μm,12.0s			MLR	MLR		
SKR	comp=Z,3μm,12.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**6.08**	**247**	*e*P	**Pn**	**10 35 43.5**	**+4.8**
YUK				*e*S0		10 36 56.0	
YUK	comp=Z,1μm,0.9s			A		10 37 25.0	
YSS	**Yuzh-Sakhalins**	**7.46**	**276**	*e*P	**Pn**	**10 35 59.0**	**+1.3**
YSS				*e*S	**Sn**	**10 37 20.0**	**-1.6**
YSS				*e*LQ		10 37 54.0	
YSS	comp=Z,600nm,14.0s			AMS	AMS	10 39 41.0	
YSS	**Yuzh-Sakhalins**	**7.46**	**276**	*e*Pn	**Pn**	**10 35 48.3**	**-9.4**
UGL	**Uglegorsk**	**8.13**	**291**	*e*P		10 36 13.0	
UGL	comp=Z,123nm,1.0s			AMB	AMB	10 36 16.0	
UGL	comp=Z,2μm,14.0s			AMS	AMS	10 39 43.0	
UGL	comp=Z,1μm,14.0s			AMS	AMS	10 39 43.0	
UGL	comp=Z,1μm,14.0s			AMS	AMS	10 39 43.0	
ASAJ	**Asahikawa** comp=Z,1.0nm,0.3s,baz=122,slow=17,SNR=8.5	**8.17**	**256**	Pn	**Pn**	**10 36 08.8**	**+1.3**
ASAJ	**Asahikawa**	**8.17**	**256**	PN	**Pn**	**10 36 08.9**	**+1.4**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
TYV	**Tymovskoe**	**8.36**	**304**	*e*P	**Pn**	**10 36 13.0**	**+3.0**
TYV	comp=Z,74nm,1.2s			AMB	AMB	10 36 17.5	
ERM	**Erimo**	**8.83**	**242**	*e*PN	**Pn**	**10 36 15.2**	**-1.3**
ERM	comp=Z,56nm,0.8s			pmax	pmax		
ERM	**Erimo** comp=Z,56nm,0.8s	**8.83**	**242**	*e*Pn	**Pn**	**10 36 15.2**	**-1.4**
ERM				*e*Sn	**Sn**	**10 37 47.9**	**-7.5**
NKL	**Nikolayevsk**	**10.54**	**313**	*e*P	**Pn**	**10 36 43.0**	**+3.0**
HABR	**Khabarovsk**	**12.66**	**285**	*e*PN	**Pn**	**10 37 08.7**	**-0.3**
KLR	**Kul'dur**	**14.86**	**288**	*e*P	**Pn**	**10 37 43.3**	**+4.3**
MJAR	**Matsushiro Arr** comp=Z,0.0nm,0.3s,baz=30,slow=13,SNR=4.1	**15.32**	**234**	Pn	**Pn**	**10 37 43.7**	**-1.4**
MAJO	**Matsushiro**	**15.33**	**234**	*e*Pn	**Pn**	**10 37 45.0**	**-0.1**
MAJO				*e*Sn	**Sn**	**10 40 27.9**	**-6.3**
MAT	**Matsushiro**	**15.33**	**234**	P	**Pn**	**10 37 50.4**	**+5.3**
JHJ	**Hachijo jima 2** comp=Z,77nm,19.5s,baz=193,slow=33	**17.18**	**223**	LR	LR	10 43 30.2	
CN2	**Changchun**	**20.00**	**272**	*e*P	**Pn**	**10 38 36.3**	**-6.8**
CN2	comp=Z,10.0nm,0.9s			AMB	AMB		
CN2	comp=Z,200nm,4.0s			AMB	AMB		
CN2	comp=N,400nm,14.0s,MS4.0			LR	LR		
CN2	comp=E,300nm,14.0s,MS4.0			LR	LR		
CN2	comp=Z,300nm,16.0s,MS3.7			LR	LR		
CLNS	**Chul'man**	**20.32**	**310**	*e*P	**P**	**10 38 39.4**	**-5.4**
CLNS	comp=Z,8.0nm,1.0s			pmax	pmax		
CLNS	comp=N,2.0nm,1.1s			pmax	pmax		
CLNS	comp=E,9.0nm,1.2s			pmax	pmax		
CLNS	comp=Z,10.0nm,1.3s			pmax	pmax		
CLNS	comp=N,10.0nm,0.8s			pmax	pmax		
CLNS	comp=E,5.0nm,1.0s			MLR	MLR		
CLNS	comp=Z,800nm,15.0s,MS4.2			MLR	MLR		
CLNS	comp=N,400nm,19.0s,MS4.4			MLR	MLR		
CLNS	comp=E,2μm,16.0s,MS4.4			MLR	MLR		
YAK	**Yakutsk**	**20.56**	**327**	⇑*e*P	**P**	**10 38 47.5**	**+0.2**
YAK	comp=Z,14nm,0.5s			pmax	pmax		
YAK	comp=Z,200nm,14.0s,MS3.6			MLR	MLR		
KSRS	**Korea Array** comp=Z,3.8nm,0.9s,mb3.8,baz=58,slow=10,SNR=10	**21.11**	**253**	P	**P**	**10 38 53.1**	**-0.2**
BILL	**Bilibino**	**22.37**	**12**	⇑*i*P	**P**	**10 39 07.2**	**+0.4**
BILL				*e*S	**S**	**10 43 13.3**	**+1.5**
BILL	comp=Z,7.0nm,0.7s,mb4.2			pmax	pmax		
BILL	comp=Z,300nm,22.0s,MS3.7			MLR	MLR		
BILL	**Bilibino** comp=Z,12nm,0.9s,mb4.3	**22.37**	**12**	*e*P	**P**	**10 39 09.1**	**+2.3**
BOD	**Bodaibo**	**26.29**	**310**	*e*P	**P**	**10 39 41.0**	**-3.1**
BOD	comp=Z,7.0nm,2.6s,mb3.7			pmax	pmax		
TIXI	**Tiksi**	**27.62**	**343**	*e*P	**P**	**10 39 54.2**	**-1.9**
TIXI	comp=Z,2.0nm,0.6s,mb3.9			pmax	pmax		
TIXI	**Tiksi** comp=Z,1.6nm,0.6s,mb3.8	**27.62**	**343**	*e*P	**P**	**10 39 54.2**	**-1.8**
NJ2	**Nanjing**	**30.31**	**254**	*e*P	**P**	**10 40 21.4**	**+1.4**
NJ2	comp=Z,10.0nm,0.7s,mb4.7			AMB	AMB		
HHC	**Hu-ho-hao-te**	**30.65**	**274**	*e*P	**P**	**10 40 20.8**	**-2.1**
HHC				AP	pP	10 40 25.8	-3.8
HHC				XP	sP	10 40 28.0	-4.3
HHC				PP	PP	10 41 16.3	-16
HHC				PCP	PcP	10 43 27.0	+6.2
HHC				S	**S**	**10 45 14.1**	**-10**
HHC				SCP	ScP	10 47 07.1	+5.1
HHC				SCS	ScS	10 51 00.3	+1.9
HHC	comp=Z,8.0nm,1.1s,mb4.5			AMB	AMB		
HHC	comp=Z,143nm,7.3s			AMB	AMB		
HHC	comp=N,343nm,13.9s,MS4.3			LR	LR		
HHC	comp=E,281nm,13.8s,MS4.3			LR	LR		
HHC	comp=Z,241nm,14.4s,MS4.0			LR	LR		
ULN	**Ulaanbaatar**	**31.25**	**289**	*i* P	**P**	**10 40 32.2**	**+4.0**
SONM	**Songino Array** comp=Z,0.7nm,1.1s,baz=70,slow=12,SNR=3.0	**31.68**	**290**	P	**P**	**10 40 30.0**	**-2.1**
TLY	**Talaya**	**32.52**	**298**	*e*P	**P**	**10 40 39.0**	**-0.3**
TLY				*e*		10 41 41.8	
TLY	comp=Z,9.0nm,0.9s,mb4.7			pmax	pmax		
TLY	comp=Z,216nm,15.0s,MS4.0			MLR	MLR		
XAN	**Xi'an**	**35.86**	**266**	P	**P**	**10 41 09.6**	**+1.3**
XAN				AP	pP	10 41 17.5	+2.4
XAN	comp=Z,4.0nm,1.1s,mb4.3			AMB	AMB		
COLA	**College**	**35.97**	**38**	*e*P	pP	10 41 17.3	+1.3
COLA	comp=Z,12nm,1.1s,mb4.7			pmax	pmax		
COLA	**College** comp=Z,12nm,1.1s	**35.97**	**38**	*e*P	pP	10 41 17.3	+1.3
LZH	**Lanzhou**	**38.24**	**272**	*e*P	**P**	**10 41 30.0**	**+1.4**
LZH				AP	pP	10 41 39.0	+3.7
LZH	comp=Z,30nm,1.2s,mb4.9			AMB	AMB		
LZH	comp=Z,128nm,4.1s			AMB	AMB		
LZH	**Lanzhou** comp=Z,30nm,1.2s,mb4.9	**38.24**	**272**	*e*P	**P**	**10 41 30.0**	**+1.4**
LZH				pP	pP	10 41 39.0	+3.7
LZH				sP	sP	10 41 45.5	+7.5
CD2	**Chengdu**	**41.22**	**266**	P	**P**	**10 41 52.1**	**-1.3**
CD2	comp=Z,20nm,0.9s,mb4.8			AMB	AMB		
CD2	comp=Z,30nm,6.8s			AMB	AMB		
INK	**Inuvik** comp=Z,1.0nm,0.5s,mb3.7,baz=310,slow=0.7,SNR=11	**41.51**	**32**	P	**P**	**10 41 55.6**	**-0.1**
INK	**Inuvik**	**41.51**	**32**	*e*P	**P**	**10 42 01.8**	**+6.0**
INK	comp=Z,1μm,2.0s			pmax	pmax		
INK	**Inuvik** comp=Z,1μm,2.0s	**41.51**	**32**	*e*P	**P**	**10 42 01.8**	**+6.0**
GYA	**Guiyang**	**42.04**	**258**	P	**P**	**10 42 00.9**	**+0.8**
GYA				AP	pP	10 42 04.9	-2.0
GYA				XP	sP	10 42 07.8	-1.8
GYA				PP	PP	10 43 38.9	+1.4
GYA				PCP	PcP	10 44 00.9	+6.1
GYA				SCP	ScP	10 47 49.4	+5.5
GYA				S	**S**	**10 48 13.1**	**-4.9**
GYA	comp=Z,10.0nm,0.8s,mb4.5			AMB	AMB		
GYA	comp=Z,90nm,4.5s			AMB	AMB		
GYA	comp=N,430nm,16.4s,MS4.5			LR	LR		
GYA	comp=E,340nm,17.0s,MS4.5			LR	LR		
GYA	comp=E,440nm,16.8s			LR	LR		
ZAL	**Zalesovo** comp=E,0.8nm,0.4s,mb3.8,baz=100,slow=2.9,SNR=3.5	**42.94**	**306**	P	**P**	**10 42 05.5**	**-1.9**
WMQ	**Urumqi**	**45.27**	**292**	⇑*i*P	**P**	**10 42 23.3**	**-2.8**
WMQ				PP	PP	10 44 07.5	-4.6
WMQ				PCP	PcP	10 44 09.4	+3.7
WMQ				PPP		10 44 45.0	
WMQ				S	**S**	**10 48 54.5**	**-11**
WMQ	comp=Z,9.0nm,0.6s,mb4.8			AMB	AMB		
WMQ	comp=Z,106nm,5.6s			AMB	AMB		
WMQ	comp=N,122nm,16.5s,MS4.1			LR	LR		
WMQ	comp=E,180nm,19.1s,MS4.1			LR	LR		
WMQ	comp=Z,238nm,18.4s,MS4.2			LR	LR		
KMI	**Kunming**	**45.58**	**260**	P	**P**	**10 42 30.3**	**+1.8**
KMI	comp=Z,9.0nm,1.5s,mb4.5			AMB	AMB		
KMI	**Kunming** comp=Z,9.0nm,1.5s,mb4.5	**45.58**	**260**	P	**P**	**10 42 30.2**	**+1.7**
KMI	**Kunming** comp=Z,9.0nm,1.5s,mb4.5	**45.58**	**260**	P	**P**	**10 42 30.2**	**+1.7**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.5s,mb4.2,baz=67,slow=7.8,SNR=18	**47.28**	**298**	P	**P**	**10 42 40.5**	**-1.3**
LSA	**Lhasa**	**50.62**	**274**	P	**P**	**10 43 10.0**	**+2.5**
LSA	**Lhasa**	**50.62**	**274**	*e*P	**P**	**10 43 09.3**	**+1.8**
LSA	comp=Z,6.0nm,0.8s,mb4.6			pmax	pmax		
LSA	**Lhasa** comp=Z,6.4nm,0.8s,mb4.6	**50.62**	**274**	*e*P	**P**	**10 43 09.3**	**+1.8**
CHKZ	**Chkalovo**	**50.74**	**310**	*e*P	**P**	**10 43 05.8**	**-2.6**
CHKZ	comp=Z,8.0nm,0.8s,mb4.7			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,8.2nm,0.8s,mb4.7	**50.74**	**310**	*e*P	**P**	**10 43 05.8**	**-2.6**
RES	**Resolute Bay**	**50.78**	**19**	*e*P	**P**	**10 43 09.9**	**+1.2**
BVAR	**Borovoye Array** comp=Z,2.0nm,0.4s,mb4.4,baz=56,slow=7.8,SNR=18	**51.16**	**310**	P	**P**	**10 43 10.0**	**-1.5**
BRVK	**Borovoye** comp=Z,5.0nm,0.8s,mb4.5	**51.20**	**310**	*e*P	**P**	**10 43 10.4**	**-1.5**
BRVK	comp=Z,5.0nm,0.8s,mb4.5			pmax	pmax		
BRVK	**Borovoye** comp=Z,4.9nm,0.8s,mb4.5	**51.20**	**310**	*e*P	**P**	**10 43 10.4**	**-1.5**
CHTO	**Chiang Mai**	**52.45**	**257**	*e*P	**P**	**10 43 21.7**	**+0.6**
CHTO				*e*		10 43 32.1	
CHTO	comp=Z,5.0nm,1.1s,mb4.4			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,4.6nm,1.1s,mb4.3	**52.45**	**257**	*e*P	**P**	**10 43 21.6**	**+0.5**
CHTO				*e*		10 43 32.1	
AAK	**Ala-Archa**	**54.17**	**297**	*e*P	**P**	**10 43 32.0**	**-1.8**
JIRN	**Jiri** comp=Z,56nm,1.0s,mb5.5	**55.30**	**275**	*e*P	**P**	**10 43 43.3**	**+1.3**
GUN	**Gumba** comp=Z,50nm,1.1s,mb5.5	**55.35**	**275**	*e*P	**P**	**10 43 43.8**	**+1.4**
KKN	**Kakani** comp=Z,19nm,0.6s,mb5.3	**55.84**	**276**	*e*P	**P**	**10 43 47.0**	**+1.1**
PKI	**Pulchoki** comp=Z,83nm,1.4s,mb5.6	**55.89**	**275**	*e*P	**P**	**10 43 48.1**	**+1.9**
DMN	**Daman** comp=Z,56nm,1.1s,mb5.5	**56.07**	**276**	*e*P	**P**	**10 43 49.3**	**+1.7**
EDM	**Edmonton**	**56.10**	**46**	*e*P	pP	10 43 56.4	+1.6
GKN	**Gorkha** comp=Z,50nm,0.9s,mb5.5	**56.15**	**276**	*e*P	**P**	**10 43 49.1**	**+1.0**
NEW	**Newport**	**56.93**	**53**	*e*P	pP	10 44 03.7	+3.0
NEW	comp=Z,9.0nm,1.2s			pmax	pmax		
NEW	**Newport** comp=Z,9.0nm,1.2s	**56.93**	**53**	*e*P	pP	10 44 03.7	+3.0
KOLN	**Koldanda** comp=Z,57nm,1.2s,mb5.5	**57.00**	**277**	*e*P	**P**	**10 43 55.7**	**+1.5**
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.7s,mb4.3,baz=316,slow=5.1,SNR=11	**58.02**	**341**	P	**P**	**10 44 00.8**	**-0.6**
ARCES	**ARCESS Array B**	**58.02**	**341**	P	**P**	**10 44 00.8**	**-0.6**
MOD	**Modoc**	**58.82**	**61**	*e*P	pP	10 44 17.6	+3.7
BMO	**Blue Mountains** comp=Z,8.0nm,1.4s	**58.82**	**56**	*e*P	pP	10 44 17.5	+3.5
LRM	**Limekiln Ridge**	**60.95**	**53**	*e*P	pP	10 44 32.4	+3.8
QLMT	**Earthquake Lak**	**62.13**	**53**	*e*P	pP	10 44 39.5	+2.9
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.8s,mb3.9,baz=299,slow=6.3,SNR=4.8	**62.15**	**63**	P	**P**	**10 44 29.4**	**-0.2**
MOOW	**Moose Ponds** comp=Z,8.2nm,1.3s	**63.20**	**54**	*e*P	pP	10 44 47.7	+3.9
LAO	**LASA Array** comp=Z,9.7nm,1.0s	**63.73**	**49**	*e*P	pP	10 44 50.2	+2.9
SPUT	**South Promonto**	**63.80**	**57**	*e*P	pP	10 44 51.1	+3.4
FINES	**FINESS Array B** comp=Z,3.1nm,0.4s,mb4.7,baz=39,slow=7.1,SNR=35	**64.24**	**335**	P	**P**	**10 44 42.3**	**-1.2**
DUG	**Dugway**	**64.31**	**58**	*e*P	pP	10 44 54.7	+3.6
PDAR	**Pinedale Array** comp=Z,0.8nm,0.8s,mb3.8,baz=262,slow=2.2,SNR=7.9	**64.50**	**54**	P	**P**	**10 44 45.1**	**-0.1**
JLU	**Jordanelle**	**64.84**	**57**	*e*P	pP	10 44 59.0	+4.5
SHPR	**Sheep Range**	**65.30**	**62**	*e*P	pP	10 45 00.9	+3.4
OBN	**Obninsk**	**65.56**	**326**	⇑*e*P	**P**	**10 44 51.7**	**-0.4**
OBN	comp=Z,28nm,2.1s,mb4.9			pmax	pmax		
ULM	**Lac du Bonnet** comp=Z,2.1nm,0.8s,mb4.2,baz=281,slow=9.6,SNR=3.9	**66.34**	**41**	P	**P**	**10 44 56.3**	**-0.8**
SRU	**San Rafael**	**66.36**	**58**	*e*P	pP	10 45 07.9	+3.6
PV10	**Paradox Valley**	**67.71**	**57**	P	pP	10 45 15.5	+2.5
GLA	**Glamis**	**67.79**	**65**	*e*P	pP	10 45 16.8	+3.4
NB2	**NORSAR Array B** comp=Z,7.4nm,0.7s,mb4.8,baz=30,slow=6.5	**68.40**	**341**	P	**P**	**10 45 09.5**	**-0.6**
NOA	**NORSAR Array B** comp=Z,7.2nm,0.7s,mb4.8,baz=27,slow=6.4,SNR=17	**68.40**	**341**	P	**P**	**10 45 09.8**	**-0.4**
WB2	**Warramunga Arr**	**68.57**	**199**	*e*P	**P**	**10 45 10.4**	**-0.8**
WB2				*e*	pP	10 45 18.9	+0.5
WB2	**Warramunga Arr**	**68.57**	**199**	*e*P	pP	10 45 19.1	+0.7

comp=Z,2.0nm,0.6s,mb4.2,baz=24,slow=4.9,SNR=7.2
UPC Upice 76.49 334 *e*P **P 10 45 59.3 +0.9**
DPC Dobruska-Polom 76.53 333 *e*P **P 10 45 59.3 +0.7**
MORC Moravsky Berou 76.65 332⇑*i*P **P 10 45 59.0 -0.3**
MORC Moravsky Berou 76.65 332 *e*P **P 10 45 59.1 -0.2**
comp=Z,6.9nm,0.9s,mb4.6
CLL Collm 76.66 336 *i* P **P 10 45 58.7 -0.7**
CLL pmax pmax
comp=Z,11nm,0.7s,mb4.9
CLL Collm 76.66 336 *i* P **P 10 45 58.7 -0.7**
comp=Z,11nm,0.7s,mb4.9
CLL *e*PcP PcP 10 46 08.0 -2.7
BRG Berggiesshubel 76.78 335 *e*P pP 10 46 11.2 +3.9
comp=Z,1.7nm,0.8s
KECS Kecovo 76.80 330 *e*P **P 10 45 59.7 -0.4**
PVCC Panska Ves 76.91 335 *e*P **P 10 46 03.5 +2.8**
LTX Lajitas 77.22 61 *e*P pP 10 46 12.6 +2.9
LTX pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LTX Lajitas 77.22 61 *e*P pP 10 46 12.6 +2.9
comp=Z,7.6nm,0.9s
TXAR Lajitas Array 77.22 61 P **P 10 46 02.1 -0.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=301,slow=4.0,SNR=27
TXAR Lajitas Array 77.22 61 P **P 10 46 02.1 -0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 77.31 325⇑*i*P **P 10 46 03.8 +0.8**
MLR Muntele Rosu 77.31 325 ⇑P **P 10 46 03.9 +0.8**
VYHS Vyhne 77.35 331 *e*P **P 10 46 03.6 +0.4**
VYHS *e*PCP PcP 10 46 13.5 -0.2
VRAC Vranov 77.36 333 P **P 10 46 03.5 +0.2**
comp=Z,2.0nm,0.4s,mb4.4,baz=355,slow=9.0,SNR=4.2
VOIR 77.71 326⇓*i*P **P 10 46 04.4 -0.8**
VOIR 77.71 326 ⇓P **P 10 46 04.4 -0.8**
NKC Novy Kostel 77.78 336 *e*P **P 10 46 06.0 +0.4**
KHC Kasperske Hory 78.44 334 *e*P **P 10 46 09.9 +0.6**
GZR Gura Zlata 78.61 327⇑*i*P **P 10 46 10.6 +0.4**
GZR Gura Zlata 78.61 327 ⇑P **P 10 46 10.6 +0.3**
GRA1 Grafenberg Arr 78.61 336 *e*P **P 10 46 10.5 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 78.61 336 *e*P **P 10 46 10.5 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 78.61 336 *e*P **P 10 46 10.5 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 78.61 336 *e*P **P 10 46 10.5 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GERES GERESS Array B 78.66 334 P **P 10 46 10.4 -0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=33,slow=5.1,SNR=5.6
BRTR Keskin Array B 78.67 317 P **P 10 46 10.9 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=83,slow=3.9,SNR=8.8
BZS Buzias 78.85 328⇑*i*P **P 10 46 11.6 +0.1**
BZS Buzias 78.85 328 ⇑P **P 10 46 11.6 0.0**
MEM Membach 79.12 340 P **P 10 46 14.4 +1.3**
MEM AP pP 10 46 17.4 -2.9
MEM XP sP 10 46 18.4 -4.5
SNF Seneffe 79.62 341 AP pP 10 46 18.4 -4.6
CDF Champ du Feu 80.84 338 *e*P **P 10 46 22.4 +0.1**
comp=Z,19nm,1.1s,mb4.6
CDF Champ du Feu 80.84 338 *e*P **P 10 46 22.4 +0.1**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CDF Champ du Feu 80.84 338 *e*P **P 10 46 22.4 +0.1**
comp=Z,9.4nm,1.1s,mb4.6
GRR Gorron 82.72 343 *e*P **P 10 46 32.2 -0.1**
comp=Z,86nm,1.3s,mb5.3
GRR Gorron 82.72 343 *e*P **P 10 46 32.2 -0.1**
GRR pmax pmax
comp=Z,43nm,1.3s,mb5.3
GRR Gorron 82.72 343 *e*P **P 10 46 32.2 -0.1**
comp=Z,43nm,1.3s,mb5.3
SMF Signal de Mont 83.34 340 *e*P **P 10 46 35.4 -0.1**
comp=Z,40nm,1.1s,mb5.0
SMF Signal de Mont 83.34 340 *e*P **P 10 46 35.4 -0.1**
SMF pmax pmax
comp=Z,20nm,1.1s,mb5.1
SMF Signal de Mont 83.34 340 *e*P **P 10 46 35.4 -0.1**
comp=Z,20nm,1.1s,mb5.1
LPG La Plagne 83.67 337 *e*P **P 10 46 37.7 +0.5**
comp=Z,9.0nm,0.8s,mb4.7
LPG La Plagne 83.67 337 *e*P **P 10 46 37.7 +0.5**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LPG La Plagne 83.67 337 *e*P **P 10 46 37.7 +0.5**
comp=Z,4.5nm,0.8s,mb4.7
CAF Calviac 85.38 340 *e*P **P 10 46 45.9 +0.1**
NWAO Narrogin (SRO) 85.78 210 P **P 10 46 48.5 +0.8**
comp=Z,1.6nm,0.3s,mb4.7,baz=53,slow=5.1,SNR=5.7
NWAO Narrogin (SRO) 85.78 210 P **P 10 46 48.6 +0.8**
NWAO pmax pmax
comp=Z,2.0nm,0.3s
VNA2 Neumayer--Watz 154.03 194 *e*PKPdf PKPbc 10 54 06.8 -1.3
VNA2 *e* 10 54 11.5
VNA2 *e* 10 54 16.6
VNA2 *e* 10 54 19.3
VNA2 *e* 10 54 28.8
VNA2 *e* 10 54 32.6
VNA2 *e* 10 54 49.9
VNA2 *e* 10 55 04.4
VNA3 Neumayer Olymp 154.11 192 *e*PKPdf PKPbc 10 54 06.9 -1.3
VNA3 *e* 10 54 16.4
VNA3 *e* 10 54 28.5
VNA3 *e* 10 54 32.9

IDC ***18*** *10:42:11.2±0.8, 48.35N×154.87E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/26, mbtmp3.9/15, ML3.5/1, Error ellipse: s-maj=22.6km s-min=18.5km az=113.0*
NEIC ***18*** *10:42:12.9±0.5, 48.33N×154.82E, h10km, mb3.6/1, Error ellipse: s-maj=14.4km s-min=9.3km az=135.0*
ISCJB ***18*** *10:42:15.5±1.3, 48.32N±009×154.9E±02, h43km±10km, mb3.9/14, Error ellipse: s-maj=21.6km s-min=6.8km az=79.1*
MOS ***18*** *10:42:15.8±1.5, 48.29N×154.99E, h52km, mb3.9/1, Error ellipse: s-maj=17.7km s-min=10.7km az=66.0*
ISC 18 10:42:17.6±1.1, 4836N±009×1549E±02, h47km±9km, n26, σ1°09/28, mb3.9/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.46**	**19**	*e*PN	**Pn**	**10 42 56.0**	**+0.8**
SKR				*e*S	**Sn**	**10 43 23.8**	**-0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,390nm,0.5s						
SKR				smax			
	comp=E,460nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
PET	**Petropavlovsk**	**5.25**	**26**	*e*PN	**Pn**	**10 43 32.6**	**-0.9**
KUR	**Kuril'sk**	**5.75**	**240**	PN	**Pn**	**10 43 40.0**	**-0.3**
KUR				*e*S	**Sn**	**10 44 46.5**	**+1.6**
KUR				smax			
	comp=N,430nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.31**	**265**	*e*PN	**Pn**	**10 44 20.0**	**+4.5**
YSS				*e*		10 45 55.3	
YSS	**Yuzh-Sakhalins**	**8.31**	**265**	*e*Pn	**Pn**	**10 44 12.3**	**-3.2**
ASAJ	**Asahikawa**	**9.52**	**248**	Pn	**Pn**	**10 44 34.4**	**+2.4**
	comp=N,1.0nm,0.3s,baz=129,slow=8.9,SNR=9.0						
ASAJ	**Asahikawa**	**9.52**	**248**	PN	**Pn**	**10 44 34.4**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.02**	**232**	Pn	**Pn**	**10 46 09.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=4.2						
MAJO	**Matsushiro**	**17.02**	**232**	*e*P	**Pn**	**10 46 10.5**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**17.02**	**232**	*e*Pn	**Pn**	**10 46 10.5**	**-1.6**
	comp=Z,2.8nm,0.6s						
KSRS	**Korea Array**	**22.45**	**251**	P	**P**	**10 47 11.8**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.5,baz=56,slow=10.0,SNR=6.7						
SONM	**Songino Array**	**31.96**	**288**	P	**P**	**10 48 39.4**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=39,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**47.28**	**297**	P	**P**	**10 50 46.1**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=64,slow=8.3,SNR=11						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**10 51 11.6**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.0,baz=49,slow=8.0,SNR=4.9						
PDAR	**Pinedale Array**	**62.83**	**55**	P	**P**	**10 52 40.0**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.7,baz=0.0,slow=3.0,SNR=4.1						
FINES	**FINESS Array B**	**63.09**	**335**	P	**P**	**10 52 39.4**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.4,baz=28,slow=8.6,SNR=8.3						
FINES	**FINESS Array B**	**63.09**	**335**	P	**P**	**10 52 39.4**	**-0.7**
NOA	**NORSAR Array B**	**67.09**	**342**	P	**P**	**10 53 06.6**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.9,baz=28,slow=4.5,SNR=2.8						
HFS	**Hagfors**	**67.36**	**340**	P	**P**	**10 53 06.6**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=27,slow=3.6,SNR=8.4						
WRA	**Warramunga Arr**	**70.43**	**201**	P	**P**	**10 53 26.2**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=18,slow=6.7,SNR=7.5						
ASAR	**Alice Springs**	**74.12**	**200**	P	**P**	**10 53 49.8**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=13,slow=5.4,SNR=18						
EKA	**Eskdalemuir Ar**	**75.05**	**347**	P	**P**	**10 53 54.9**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=19,slow=4.8,SNR=5.1						
CLL	**Collm**	**75.49**	**336**	*e*P	**P**	**10 53 57.0**	**+0.2**
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**10 53 57.7**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=319,slow=4.6,SNR=5.3						
GERES	**GERESS Array B**	**77.52**	**335**	P	**P**	**10 54 08.9**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=7.4,slow=3.1,SNR=6.9						
BRTR	**Keskin Array B**	**78.03**	**318**	P	**P**	**10 54 12.3**	**+1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=79,slow=6.4,SNR=6.6						

IDC ***18*** *10:50:40.0±2.0, 191S×9968E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML3.2/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/42, Error ellipse: s-maj=93.9km s-min=17.4km az=57.0*
NEIC ***18*** *10:50:43.5±7.1, 187S×9975E, h22km±44km, Error ellipse: s-maj=69.5km s-min=9.5km az=56.0*
ISCJB ***18*** *10:50:44.2±1.7, 17S±03×1000E±04, h35km, mb3.9/7, MS3.9/1, Error ellipse: s-maj=74.1km s-min=12.3km az=116.7*
ISC 18 10:50:46.0±1.7, 17S±03×999E±04, h35km, n11, σ0°53/10, mb3.9/7, MS3.9/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.59**	**348**	Pn	**Pn**	**10 51 51.9**	**-0.9**
	1.2nm,0.3s,baz=179,slow=17,SNR=2.8						
PSI	**Prapat**	**4.59**	**348**	Pn	**Pn**	**10 51 51.9**	**-0.9**
WRA	**Warramunga Arr**	**38.25**	**121**	P	**P**	**10 58 02.6**	**-0.1**
	0.7nm,0.4s,mb3.8,baz=304,slow=9.1,SNR=13						
WRA				LR	LR	11 16 06.9	
	comp=Z,209nm,20.6s,MS3.9,baz=100,slow=40						
WB2	**Warramunga Arr**	**38.27**	**121**	*e*P	**P**	**10 58 02.9**	**+0.1**
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**10 58 13.8**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=298,slow=8.1,SNR=12						
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**10 59 31.6**	**-0.8**
	1.4nm,0.9s,mb4.0,baz=306,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**10 59 35.1**	**+0.7**
	0.5nm,0.5s,mb3.8,baz=194,slow=9.6,SNR=6.2						
MKAR	**Makanchi Array**	**50.73**	**344**	P	**P**	**10 59 42.6**	**+0.4**
	0.6nm,0.3s,mb3.9,baz=147,slow=8.6,SNR=7.3						
ZAL	**Zalesovo**	**56.86**	**349**	P	**P**	**11 00 27.5**	**+0.3**
	1.1nm,0.4s,mb4.2,baz=323,slow=4.0,SNR=4.8						
FINES	**FINESS Array B**	**83.80**	**332**	P	**P**	**11 03 11.6**	**-0.1**
	1.9nm,0.9s,mb4.2,baz=131,slow=7.8,SNR=3.6						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	11 10 19.3	+0.6
	0.4nm,0.4s,baz=199,slow=0.3,SNR=8.5						

ISCJB ***18*** *10:53:13.9±0.5, 3151N±005×1385E±01, h434km±6km, mb3.1/6, Error ellipse: s-maj=14.4km s-min=7.8km az=145.7*
JMA ***18*** *10:53:14.4±0.3, 3160N×13840E, h440km, M3.5*
IDC ***18*** *10:53:15.3±0.6, 3172N×13881E, h444km±15km, mb2.8/6, mb1 2.9/9, mb1mx2.9/24, mbtmp2.9/9, Error ellipse: s-maj=50.5km s-min=12.2km az=69.0*
NEIC ***18*** *10:53:16.1±1.0, 3178N×13886E, h454km±21km, Error ellipse: s-maj=70.4km s-min=16.2km az=69.0*
ISC 18 10:53:15.5±0.6, 3163N±006×1385E±01, h431km±7km, n26, σ0°93/37, mb3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.85**	**36**	P	**P**	**10 54 13.8**	**+0.4**
	32nm,0.3s,baz=76,slow=23,SNR=14						
JHJ				S	**S**	**10 55 00.5**	**+0.2**
	19nm,0.3s,baz=68,slow=17,SNR=3.4						
JHJ2	**Mitsune**	**1.86**	**37**	P	**P**	**10 54 14.1**	**+0.6**
JWZ	**Kozaga**	**3.02**	**310**	P	**P**	**10 54 20.3**	**-0.9**
HMMJ	**Hamamatsu 2**	**3.28**	**349**	P	**P**	**10 54 24.4**	**+1.1**
HMMJ				S	**S**	**10 55 17.8**	**-0.5**
BSO3	**Boso 3**	**3.59**	**28**	P	**P**	**10 54 25.8**	**0.0**
BSO3				S	**S**	**10 55 22.1**	**-0.8**
JOD2	**Odawara 2**	**3.66**	**8**	P	**P**	**10 54 27.1**	**+0.7**
BSO1	**Boso 1**	**3.67**	**34**	P	**P**	**10 54 26.8**	**+0.3**
BSO1				*e*S	**S**	**10 55 23.5**	**-0.7**
BSO4	**Boso 4**	**3.69**	**24**	P	**P**	**10 54 27.0**	**+0.3**
JNY	**Yasuok**	**3.76**	**352**	P	**P**	**10 54 28.7**	**+1.4**
JRY	**Ryogami san**	**4.39**	**4**	P	**P**	**10 54 34.1**	**+1.1**
JRY				*e*S	**S**	**10 55 34.0**	**-2.1**
JAG	**Ashikaga**	**4.85**	**9**	P	**P**	**10 54 37.4**	**-0.1**
MJAR	**Matsushiro Arr**	**4.91**	**357**	P	**P**	**10 54 38.5**	**+0.5**
	0.8nm,0.3s,baz=172,slow=10,SNR=13						
MJAR				S	**S**	**10 55 45.7**	**+0.5**
	0.3nm,0.3s,baz=173,slow=13,SNR=4.1						
MAJO	**Matsushiro**	**4.91**	**357**	*e*P	**P**	**10 54 38.5**	**+0.5**
MAT	**Matsushiro**	**4.91**	**357**	P	**P**	**10 54 38.6**	**+0.6**
MAT				S	**S**	**10 55 44.5**	**-0.7**
MAT	**Matsushiro**	**4.91**	**357**	P	**P**	**10 54 38.6**	**+0.6**
MAT				*e*S	**S**	**10 55 44.6**	**-0.6**
JTO	**Tosashimizu**	**4.97**	**286**	P	**P**	**10 54 37.2**	**-1.5**
CBIJ	**Chichi jima**	**5.55**	**144**	P	**P**	**10 54 42.6**	**-1.8**
	5.3nm,0.3s,baz=189,slow=22,SNR=12						
CBIJ				S	**S**	**10 55 51.6**	**-5.4**
	12nm,0.3s,baz=273,slow=22,SNR=12						
CBIJ	**Chichi jima**	**5.55**	**144**	P	**P**	**10 54 43.3**	**-1.1**
CBIJ				*e*S	**S**	**10 55 51.5**	**-5.5**
JMK	**Ichinoseki**	**7.64**	**16**	P	**P**	**10 55 09.0**	**+2.3**
JMK				S	**S**	**10 56 37.0**	**-0.8**
KSRS	**Korea Array**	**10.47**	**307**	P	**P**	**10 55 38.5**	**+0.7**
	baz=123,slow=10,SNR=22						
SONM	**Songino Array**	**29.25**	**313**	P	**P**	**10 58 40.2**	**-0.3**
	0.4nm,0.6s,mb2.9,baz=127,slow=9.6,SNR=3.0						
MKAR	**Makanchi Array**	**45.16**	**306**	P	**P**	**11 00 51.9**	**0.0**
	0.4nm,0.5s,mb3.0,baz=92,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**51.43**	**185**	P	**P**	**11 01 38.7**	**-0.3**
	0.2nm,0.3s,mb2.8,baz=0.3,slow=7.7,SNR=16						
BVAR	**Borovoye Array**	**52.55**	**315**	P	**P**	**11 01 47.6**	**+0.4**
	0.4nm,0.3s,mb3.1,baz=116,slow=7.0,SNR=3.5						
ASAR	**Alice Springs**	**55.15**	**185**	P	**P**	**11 02 06.2**	**+0.5**
	0.3nm,0.7s,mb2.6,baz=13,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**72.46**	**332**	P	**P**	**11 03 54.7**	**-2.3**
	4.0nm,0.9s,mb4.0,baz=56,slow=10,SNR=8.5						

ISCJB ***18*** *10:57:24.9±0.4, 7145N±003×729W±0.1, h10km, mb4.0/16, MS4.0/1, Error ellipse: s-maj=5.2km s-min=4.3km az=109.7*
IDC ***18*** *10:57:26.9±0.6, 7173N×7243W, h0km, mb4.0/13, mb1 4.2/16, mb1mx4.1/25, mbtmp4.0/16, ML3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx2.6/43, Error ellipse: s-maj=16.1km s-min=11.8km az=115.0*
NEIC ***18*** *10:57:28.1, 7172N×7229W, h18km, mb4.3/4, MN4.6(OTT), After OTT.*
OTT ***18*** *10:57:28.7±0.4, 7172N×7226W, h18km, MN4.9/6, 187km northwest from Clyde River, Nu Baffin Island, Nu Eastern Arctic Background Seismic Zone.*
ISC 18 10:57:26.6±0.4, 7151N±003×7277W±010, h10km, n82, σ1°52/126, mb4.0/16, MS4.0/1, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINU	**Pond Inlet**	**2.01**	**309**	PN	**Pn**	**10 58 01.1**	**+0.6**
PINU				PG	**Pg**	**10 58 04.3**	**-0.7**
PINU				SN	**Sn**	**10 58 27.8**	**+2.2**
PINU				LG		10 58 33.7	
PINU				Trac		10 58 35.3	
	comp=Z,3μm,0.2s						
GIFN	**Gifford Fjord,**	**3.31**	**247**	PN	**Pn**	**10 58 22.2**	**+3.9**
GIFN				SN	**Sn**	**10 59 02.5**	**+4.8**
GIFN				SG	**Sg**	**10 59 15.0**	**+2.2**
GIFN				Trac		10 59 18.1	
	comp=Z,3μm,0.6s						
GIFN	**Gifford Fjord,**	**3.31**	**247**	Pn	**Pn**	**10 58 22.2**	**+3.9**
GIFN				Sn	**Sn**	**10 59 02.5**	**+4.8**
GIFN				Sg	**Sg**	**10 59 15.0**	**+2.2**
ILON	**Igloolik, Nuna**	**3.72**	**239**	PN	**Pn**	**10 58 28.1**	**+4.0**
ILON				SN	**Sn**	**10 59 11.9**	**+3.9**
ILON				SG	**Sg**	**10 59 30.0**	**+3.8**
ILON				Trac		10 59 31.4	
	comp=Z,1μm,0.3s						
ILON	**Igloolik, Nuna**	**3.72**	**239**	Pn	**Pn**	**10 58 28.1**	**+4.0**
ILON				Sn	**Sn**	**10 59 11.9**	**+3.9**
ILON				Sg	**Sg**	**10 59 30.0**	**+3.8**
SRLN	**Sarcpa Lake, N**	**4.68**	**236**	PN	**Pn**	**10 58 40.5**	**+3.3**
SRLN				SN	**Sn**	**10 59 38.0**	**+6.5**
SRLN				SG	**Sg**	**10 59 57.5**	**+0.7**
SRLN				Trac		11 00 04.2	
	comp=Z,1μm,0.5s						
SRLN	**Sarcpa Lake, N**	**4.68**	**236**	Pn	**Pn**	**10 58 40.5**	**+3.3**
SRLN				Sn	**Sn**	**10 59 38.0**	**+6.5**
SRLN				Sg	**Sg**	**10 59 57.5**	**+0.7**
QILN	**Qililugaq Expl**	**6.87**	**232**	PN	**Pn**	**10 59 10.1**	**+2.7**
QILN				SN	**Sn**	**11 00 24.4**	**-1.2**
QILN				LG		11 01 06.3	
QILN				Trac		11 01 10.6	
	comp=Z,634nm,0.5s						
QILN	**Qililugaq Expl**	**6.87**	**232**	Pn	**Pn**	**10 59 10.1**	**+2.7**
QILN				Sn	**Sn**	**11 00 24.4**	**-1.2**
QILN				Lg		11 01 06.3	
RES	**Resolute Bay**	**7.17**	**307**	PN	**Pn**	**10 59 11.0**	**-0.4**
RES				SN	**Sn**	**11 00 27.0**	**-5.8**
RES				LG		11 01 12.6	
RES				Trac		11 01 31.1	
	comp=Z,264nm,1.1s						
RES	**Resolute Bay**	**7.17**	**307**	*e*Pn	**Pn**	**10 59 11.9**	**+0.6**
	22nm,0.3s						
RES				*e*Sg	**Sg**	**11 01 14.6**	**-1.9**
FRB	**Frobisher Bay**	**7.96**	**166**	Pn	**Pn**	**10 59 25.1**	**+2.8**
	6.6nm,0.3s,baz=356,slow=12,SNR=100						
FRB				Sn	**Sn**	**11 00 52.0**	**-0.3**
	27nm,0.3s,baz=88,slow=13,SNR=8.2						
FRB				Lg		11 01 39.2	
	82nm,0.3s,baz=80,slow=21,SNR=15						
FRB	**Frobisher Bay**	**7.96**	**166**	PN	**Pn**	**10 59 24.5**	**+2.3**
FRB				SN	**Sn**	**11 00 49.0**	**-3.3**
FRB				LG		11 01 39.1	
FRB				Trac		11 01 48.0	
	comp=Z,1μm,0.9s						
FRB	**Frobisher Bay**	**7.96**	**166**	Sn	**Sn**	**10 59 25.1**	**+2.8**
FRB				Sn	**Sn**	**11 00 52.0**	**-0.3**
FRB				Lg		11 01 39.2	
STLN	**Stellar Camp,**	**8.24**	**249**	PN	**Pn**	**10 59 27.4**	**+1.2**
STLN				SN	**Sn**	**11 00 56.5**	**-2.9**
STLN				LG		11 01 46.0	
STLN				Trac		11 02 02.1	
	comp=Z,456nm,0.7s						
STLN	**Stellar Camp,**	**8.24**	**249**	Pn	**Pn**	**10 59 27.4**	**+1.2**
STLN				Sn	**Sn**	**11 00 46.0**	**-13**
STLN				Lg		11 01 46.0	
BULN	**Bullion Camp,**	**8.90**	**245**	PN	**Pn**	**10 59 36.8**	**+1.6**
BULN				SN	**Sn**	**11 01 14.2**	**-1.3**
BULN				LG		11 02 06.2	
BULN				Trac		11 02 11.2	
	comp=Z,629nm,1.1s						
BULN	**Bullion Camp,**	**8.90**	**245**	Pn	**Pn**	**10 59 36.8**	**+1.6**
BULN				Sn	**Sn**	**11 01 14.2**	**-1.3**
BULN				Lg		11 02 06.2	
EUNU	**Eureka**	**9.18**	**345**	PN	**Pn**	**10 59 35.1**	**-3.9**
EUNU				SN	**Sn**	**11 01 09.1**	**-13**
EUNU				Trac		11 01 18.1	
	comp=Z,6.6nm,0.3s						
IVKQ	**Ivujivik**	**9.34**	**195**	PN	**Pn**	**10 59 43.1**	**+1.9**
IVKQ				SN	**Sn**	**11 01 24.1**	**-2.3**
IVKQ				LG		11 02 22.6	
IVKQ				Trac		11 02 29.4	
	comp=Z,243nm,0.6s						
SEDN	**First Sedna Si**	**10.85**	**230**	PN	**Pn**	**11 00 02.7**	**+0.8**
SEDN				SN	**Sn**	**11 01 57.6**	**-5.7**
SEDN				LG		11 03 06.5	
SEDN				Trac		11 03 20.1	
	comp=Z,217nm,0.5s						
AKVQ	**Akulik**	**10.96**	**194**	PN	**Pn**	**11 00 04.3**	**+1.0**
AKVQ				SN	**Sn**	**11 02 01.0**	**-5.0**
AKVQ				LG		11 03 10.1	
AKVQ				Trac		11 03 19.1	
	comp=Z,187nm,0.7s						
YBKN	**Baker Lake, Hu**	**11.25**	**242**	PN	**Pn**	**11 00 08.0**	**+0.6**
YBKN				Trac		11 03 29.1	
	comp=Z,321nm,0.7s						
YRTN	**Rankin Inlet**	**11.44**	**230**	PN	**Pn**	**11 00 10.7**	**+0.6**
YRTN				SN	**Sn**	**11 02 12.6**	**-5.3**
YRTN				SN	**Sn**	**11 02 13.2**	**-4.7**
YRTN				LG		11 03 23.8	
YRTN				LG		11 03 24.3	
YRTN				Trac		11 03 46.5	
	comp=Z,375nm,0.8s						
YRTN	**Rankin Inlet**	**11.44**	**230**	Pn	**Pn**	**11 00 10.7**	**+0.6**
YRTN				Sn	**Sn**	**11 02 12.6**	**-5.3**
INUQ	**Inukjuak**	**13.29**	**192**	PN	**Pn**	**11 00 35.7**	**+0.4**
INUQ				SN	**Sn**	**11 02 55.5**	**-7.6**
INUQ				LG		11 04 19.3	
INUQ				Trac		11 04 36.5	
	comp=Z,249nm,1.0s						
KUQ	**Kuujjuuaa**	**13.57**	**170**	PN	**Pn**	**11 00 37.9**	**-1.2**
KUQ				SN	**Sn**	**11 03 02.2**	**-7.8**
KUQ				LG		11 04 31.9	
KUQ				Trac		11 04 41.4	
	comp=Z,199nm,0.7s						
KUQ	**Kuujjuuaa**	**13.57**	**170**	Pn	**Pn**	**11 00 37.9**	**-1.2**
KUQ				Sn	**Sn**	**11 03 02.2**	**-7.8**
KUQ				Lg		11 04 31.9	
GLWN	**Glow Worm Lake**	**14.99**	**261**	PN	**Pn**	**11 00 57.4**	**-1.0**
GLWN				SN	**Sn**	**11 03 35.7**	**-8.8**
GLWN				LG		11 05 10.5	
GLWN				Trac		11 05 23.2	
	comp=Z,102nm,0.6s						
GLWN	**Glow Worm Lake**	**14.99**	**261**	Pn	**Pn**	**11 00 57.4**	**-1.0**
GLWN				Sn	**Sn**	**11 03 35.7**	**-8.8**
GLWN				Lg		11 05 10.5	
SNQN	**Sanikiliuq**	**15.27**	**194**	Trac		11 05 40.7	
	comp=Z,270nm,1.2s						
FCC	**Fort Churchill**	**15.47**	**225**	PN	**Pn**	**11 01 04.2**	**-0.5**
FCC				SN	**Sn**	**11 03 49.4**	**-6.8**
FCC				LG		11 05 27.1	
FCC				Trac		11 05 36.7	
	comp=Z,214nm,0.8s						
FCC	**Fort Churchill**	**15.47**	**225**	Pn	**Pn**	**11 01 04.2**	**-0.6**
FCC				Sn	**Sn**	**11 03 49.4**	**-6.8**
FCC				Lg		11 05 36.7	
MCKN	**MacKay Lake No**	**15.63**	**261**	Trac		11 06 06.4	
	comp=Z,98nm,0.8s						
MLON	**Marlo Lake**	**15.69**	**260**	Trac		11 05 51.2	
	comp=Z,120nm,0.

SILO	**Sutton Inlier**	**17.89**	**204**	Pn	**Pn**	**11 01 34.5**	**-1.0**
SILO				Sn	**Sn**	**11 04 43.3**	**-12**
SILO				Lg		11 06 40.4	
GALN	**Gameti Lake**	**17.94**	**268**	PN	**Pn**	**11 01 34.1**	**-2.0**
GALN				SN	**Sn**	**11 04 40.4**	**-16**
GALN				LG		11 06 42.9	
GALN				Trac		11 06 56.0	
	comp=Z,92nm,0.8s						
GALN	**Gameti Lake**	**17.94**	**268**	Pn	**Pn**	**11 01 34.1**	**-2.0**
GALN				Sn	**Sn**	**11 04 40.4**	**-16**
GALN				Lg		11 06 42.9	
LG4Q	**La Grande 4**	**17.96**	**183**	PN	**Pn**	**11 01 34.2**	**-2.0**
LG4Q				SN	**Sn**	**11 04 43.0**	**-13**
LG4Q				LG		11 06 48.8	
LG4Q				Trac		11 07 06.9	
	comp=Z,113nm,0.7s						
YKW3	**Yellowknife Ar**	**18.19**	**262**	PN	**Pn**	**11 01 37.7**	**-1.5**
YKW3				SN	**Sn**	**11 04 45.7**	**-17**
YKW3				LG		11 06 47.4	
YKW3				Trac		11 07 10.4	
	comp=Z,158nm,1.1s						
YKA	**Yellowknife Ar**	**18.24**	**262**	Pn	**Pn**	**11 01 38.1**	**-1.6**
	0.4nm,0.3s,baz=42,slow=12,SNR=20						
YKA				Sn	**Sn**	**11 04 48.6**	**-15**
	0.5nm,0.3s,baz=46,slow=24,SNR=4.0						
YKA				Lg		11 06 51.9	
	1.3nm,0.3s,baz=41,slow=30,SNR=7.3						
YKA				LR	LR	11 09 36.4	
	comp=Z,77nm,18.7s,baz=110,slow=40						
YKA	**Yellowknife Ar**	**18.24**	**262**	Pn	**Pn**	**11 01 38.1**	**-1.6**
YKA				Sn	**Sn**	**11 04 48.6**	**-15**
YKA				Lg		11 06 51.9	
YKA				LR	LR	11 09 36.4	
VIMO	**Victor Mine**	**19.38**	**200**	PN	**Pn**	**11 01 52.7**	**-0.9**
VIMO				Trac		11 07 53.4	
	comp=Z,184nm,1.8s						
INK	**Inuvik**	**20.32**	**291**	P	**P**	**11 02 04.0**	**+1.2**
	2.4nm,0.4s,baz=53,slow=12,SNR=14						
INK	**Inuvik**	**20.32**	**291**	PN	**P**	**11 02 04.4**	**+1.6**
MALO	**McAlpine Lake**	**21.79**	**192**	PN	**P**	**11 02 20.9**	**+2.3**
ULM	**Lac du Bonnet**	**23.78**	**219**	P	**P**	**11 02 42.7**	**+3.3**
	5.7nm,0.6s,mb4.2,baz=359,slow=8.4,SNR=6.6						
ULM	**Lac du Bonnet**	**23.78**	**219**	*e*Pn	**P**	**11 02 41.5**	**+2.1**
ULM				*e*S	**S**	**11 07 00.5**	**+5.7**
DAWY	**Dawson**	**24.93**	**287**	*e*P	**P**	**11 02 52.4**	**+2.5**
EGAK	**Eagle**	**24.95**	**289**	*e*P	**P**	**11 02 51.8**	**+1.7**
	6.7nm,0.9s,mb4.2						
EYMN	**Ely**	**25.21**	**210**	*e*P	**P**	**11 02 53.4**	**+1.0**
	4.5nm,0.6s,mb4.2						
EDM	**Edmonton**	**25.45**	**246**	*e*P	**P**	**11 02 58.2**	**+3.6**
AGMN	**Agassiz Refuge**	**25.65**	**217**	*e*P	**P**	**11 02 60.0**	**+3.6**
	1.8nm,0.4s,mb4.0						
LONY	**Lake Ozonia**	**26.98**	**183**	*e*P	**P**	**11 03 14.4**	**+6.1**
LONY				*e*Lg		11 11 23.6	
ARCES	**ARCESS Array B**	**29.43**	**45**	P	**P**	**11 03 29.1**	**-1.1**
	7.4nm,1.1s,mb4.3,baz=328,slow=8.5,SNR=5.7						
RSSD	**Black Hills**	**31.36**	**226**	*e*P	**P**	**11 03 52.5**	**+5.2**
	3.6nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**33.97**	**232**	P	**P**	**11 04 14.6**	**+4.5**
	0.6nm,0.6s,mb3.7,baz=35,slow=6.0,SNR=7.0						
PV01	**Paradox Valley**	**38.10**	**228**	P	**P**	**11 04 50.4**	**+4.8**
NVAR	**Mina Array Bea**	**40.34**	**240**	P	**P**	**11 05 07.2**	**+2.9**
	0.3nm,0.6s,mb3.2,baz=5.7,slow=10.0,SNR=3.5						
BNM	**Barren Site**	**41.47**	**224**	*e*P	**P**	**11 05 17.9**	**+4.4**
TXAR	**Lajitas Array**	**45.49**	**219**	P	**P**	**11 05 50.4**	**+4.4**
	1.4nm,0.7s,mb3.9,baz=37,slow=6.1,SNR=17						
TXAR				LR	LR	11 25 40.0	
	comp=Z,164nm,19.1s,MS4.0,baz=175,slow=37						
TXAR	**Lajitas Array**	**45.49**	**219**	P	**P**	**11 05 50.4**	**+4.4**
TXAR				LR	LR	11 25 40.0	
ESDC	**Sonseca Array**	**46.24**	**95**	P	**P**	**11 05 52.9**	**+1.0**
	0.5nm,0.4s,mb3.8,baz=339,slow=8.7,SNR=5.1						
AKASG	**Malin Array Be**	**46.43**	**59**	P	**P**	**11 05 52.7**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=334,slow=8.3,SNR=5.1						
AKASG	**Malin Array Be**	**46.43**	**59**	P	**P**	**11 05 52.7**	**-0.7**
ZAL	**Zalesovo**	**53.85**	**16**	P	**P**	**11 06 48.9**	**-0.8**
	6.2nm,0.5s,mb4.8,baz=118,slow=7.0,SNR=22						
BRTR	**Keskin Array B**	**57.74**	**61**	P	**P**	**11 07 18.8**	**+1.1**
	2.3nm,0.7s,mb4.3,baz=341,slow=3.1,SNR=10						
MKAR	**Makanchi Array**	**60.68**	**19**	P	**P**	**11 07 37.2**	**-0.7**
	1.2nm,0.6s,mb4.2,baz=38,slow=4.6,SNR=11						
SONM	**Songino Array**	**60.97**	**1**	P	**P**	**11 07 40.1**	**+0.1**
	1.2nm,0.8s,mb4.1,baz=345,slow=5.4,SNR=9.2						
TORD	**Torodi Ar. Bea**	**72.69**	**101**	P	**P**	**11 08 55.0**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=339,slow=7.3,SNR=4.4						
ASAR	**Alice Springs**	**129.77**	**328**	PKP	PKPdf	11 16 36.0	-0.1
	0.1nm,0.6s,baz=15,slow=1.5,SNR=5.8						

STR ***18*** *11:02:03.3±0.0, 43.02N×003W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 11:02:03.3±0.1, 43.02N×001W, h4km, Md1.5/2, Ml1.5/1, Error ellipse: s-maj=1.4km s-min=0.7km az=158.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**64**	Pg	Pg	11 02 05.1	+0.3
LABF				Sg	Sg	11 02 06.5	+0.6
VIEF	**Viey**	**0.14**	**169**	Pg	Pg	11 02 06.2	+0.2
VIEF				Sg	Sg	11 02 08.4	+0.6
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	11 02 08.3	0.0
EPF				*e*Sg	Sg	11 02 12.3	+0.6
	6.2nm,0.3s						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	11 02 11.4	+0.1
ETSF				*e*Sg	Sg	11 02 17.0	+0.2
	7.5nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	11 02 34.2	-1.0
MTLF				*e*Sg	Sg	11 02 55.9	-0.9
	0.6nm,0.2s						

IDC ***18*** *11:04:12.8±1.1, 20.34N×122.14E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=44.5km s-min=20.1km az=76.0*

NEIC ***18*** *11:04:14.9±0.6, 20.42N×122.23E, h15km, mb3.9/1, Error ellipse: s-maj=22.3km s-min=9.9km az=80.0*

ISCJB ***18*** *11:04:16.8±0.9, 20.53N±005×122.50E±009, h43km±11km, mb3.4/6, Error ellipse: s-maj=14.0km s-min=6.9km az=30.3*

JMA ***18*** *11:04:16.6±0.4, 20.85N×122.32E, h0km, M4.3*

ISC 18 11:04:18.2±0.9, 20.53N±005×122.38E±010, h37km±12km, n19, σ0s98/29, mb3.4/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.86**	**191**	*e*P	**Pn**	**11 05 01.0**	**-0.4**
NACB	**Ninganchiao**	**3.70**	**349**	Pn	**Pn**	**11 05 12.7**	**-0.1**
NACB				*ep*Pn		11 05 15.6	
HATJ	**Hateruma jima**	**3.75**	**20**	P	**Pn**	**11 05 13.7**	**+0.2**
HATJ				*e*S	**Sn**	**11 05 55.7**	**-0.7**
YOJ	**Yonaguni jima**	**3.95**	**8**	P	**Pn**	**11 05 16.1**	**-0.3**
YOJ				*e*S	**Sn**	**11 06 00.7**	**-0.8**
JKRS	**Kuro-shima**	**3.98**	**22**	P	**Pn**	**11 05 17.0**	**+0.2**
JKRS				*e*S	**Sn**	**11 06 01.9**	**-0.3**
IRIF	**Iriomote-Funau**	**3.98**	**18**	P	**Pn**	**11 05 16.8**	**0.0**
IRIF				*e*S	**Sn**	**11 06 01.8**	**-0.5**
JIJ	**Ishigaki jima**	**4.15**	**23**	P	**Pn**	**11 05 18.7**	**-0.3**
JIJ				*e*S	**Sn**	**11 06 04.7**	**-1.5**
TATO	**Taipei**	**4.50**	**350**	Pn	**Pn**	**11 05 23.1**	**-0.7**
TATO				*e*Sn	**Sn**	**11 06 18.6**	**+3.7**
JTJ	**Tarama**	**4.62**	**27**	P	**Pn**	**11 05 25.9**	**+0.4**
JTJ				*e*S	**Sn**	**11 06 17.6**	**-0.2**
JOGS	**Gusukube**	**5.05**	**33**	P	**Pn**	**11 05 33.1**	**+1.7**
JOGS				*e*S	**Sn**	**11 06 29.5**	**+1.0**
JKE	**Kume jima 2**	**7.04**	**34**	P	**Pn**	**11 05 59.8**	**+1.0**
JKE				*e*S	**Sn**	**11 07 16.6**	**-1.0**
JOW	**Kunigami**	**8.27**	**40**	Pn	**Pn**	**11 06 16.7**	**+1.0**
	3.9nm,0.3s,baz=259,slow=5.2,SNR=11						
JOW				Sn	**Sn**	**11 07 43.4**	**-4.5**
	0.7nm,0.3s,baz=218,slow=17,SNR=1.9						
KSRS	**Korea Array**	**17.54**	**15**	P	**Pn**	**11 08 22.5**	**+2.7**
	baz=202,slow=12,SNR=6.1						
SONM	**Songino Array**	**30.15**	**338**	P	**P**	**11 10 26.3**	**+1.7**
	0.3nm,0.5s,mb3.3,baz=160,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**41.76**	**318**	P	**P**	**11 12 02.2**	**-1.6**
	0.2nm,0.5s,mb3.0,baz=106,slow=11,SNR=3.7						
WRAB	**Tennant Creek**	**41.89**	**163**	*e*P	**P**	**11 12 04.7**	**-0.2**
	2.5nm,1.1s,mb3.8						
WRA	**Warramunga Arr**	**41.89**	**163**	P	**P**	**11 12 04.4**	**-0.5**
	0.3nm,0.6s,mb3.1,baz=343,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**45.34**	**165**	P	**P**	**11 12 31.6**	**-1.1**
	0.3nm,0.7s,mb3.2,baz=347,slow=6.5,SNR=4.9						
HFS	**Hagfors**	**81.28**	**331**	P	**P**	**11 16 31.5**	**+0.9**
	0.8nm,0.3s,mb4.1,baz=70,slow=4.9,SNR=7.4						

GUC 18 11:08:14.5±0.8, 32.65S×71.09W, h6km±3km, MD3.5, ML2.0, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.33**	**168**	*e*P	Pg	11 08 21.6	+0.8
JACH	**Jahuel**	**0.42**	**94**	↑*i*P	Pg	11 08 23.5	+0.8
JACH				*i* S	Sg	11 08 30.2	+1.9
PEL	**Peldehue**	**0.60**	**145**	↓*i*P	Pg	11 08 26.7	+0.7
PEL				*i* S	Sg	11 08 35.6	+1.7
PEL				AML	AML	11 08 38.5	
	comp=N,131nm,0.4s						
CHNG	**Los Chungos**	**0.84**	**336**	↓*i*P	Pg	11 08 30.9	+0.3
CHNG				*i* S	Sg	11 08 42.4	+0.9
CHNG				AML	AML	11 08 44.0	
	comp=E,44nm,0.5s						
LCCH	**Las Cruces**	**0.92**	**206**	*e*P	Pg	11 08 32.2	+0.2
LCCH				*i* S	Sg	11 08 44.6	+0.7
TACH	**Talagante**	**1.01**	**173**	*i* S	Sg	11 08 48.1	+1.1
PCH	**Pirque**	**1.08**	**153**	↓*i*P	Pg	11 08 35.1	-0.2
PCH				*i* S	Sg	11 08 50.0	+0.6
CMCH	**Combarbala**	**1.47**	**3**	*e*P	Pn	11 08 40.9	-0.8
CMCH				AML	AML	11 09 04.3	
	comp=E,189nm,0.5s						
SFDO	**San Fernando**	**1.96**	**178**	*e*P	Pn	11 08 50.1	+1.8
SFDO				*i* S	Sn	11 09 16.4	+3.1

NIED ***18*** *11:08:00, 20.70N×120.30E, h20km, Mw5.1 Best double couple: M0 5.92000×10^16 NP1:φs=297.00000°, δ68.00000°, λ=115.00000°. NP2:φs=169.00000°, δ33.00000°, λ=43.00000°.*

MAN ***18*** *11:08:45.9, 20.58N×120.07E, h33km, mb4.7, ML5.4, MS6.7*

ISCJB ***18*** *11:08:46.4±0.1, 20.54N±002×120.32E±002, h29km, mb5.2/135, MS4.6/42, Error ellipse: s-maj=2.9km s-min=2.3km az=22.8*

BJI ***18*** *11:08:46.9, 20.74N×119.87E, h13km, mB5.2, mb4.8, ML4.8, Ms5.0, Msz4.8*

MOS ***18*** *11:08:47.4±0.9, 20.55N×120.24E, h33km, mb5.5/82, MS4.6/21, Error ellipse: s-maj=9.2km s-min=4.0km az=120.1*

GCMT ***18*** *11:08:48.0±0.2, 20.56N×120.01E, h17km, MW5.3/89, Moment Tensor Solution. s58,c78; s89,c170; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=1.03±.03; Mθθ=0.10±.02; Mφφ=0.93±.02; Mrθ=0.14±.05; Mrφ=-0.22±.01; Mθφ=0.12±.04; Best double couple: M0 1.02300×10^17 NP1:φs=338.00000°, δ43.00000°, λ=-102.00000°. NP2: φs=174.00000°, δ48.00000°, λ=-79.00000°. Principal axes: T 0.9890, Plg2.0000°, Azm256.0000°; N 0.0660, Plg8.0000°, Azm347.0000°; P -1.0570, Plg81.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *11:08:48.0±0.1, 20.49N×120.26E, mb5.4/74 Error ellipse: s-maj=4.4km s-min=3.2km az=83.0*

IDC ***18*** *11:08:48.1±0.4, 20.50N×120.16E, h28km±2km, mb4.7/31, mb1 4.8/35, mb1mx4.8/37, mbtmp4.7/35, ML4.5/4, MS4.4/26, Ms1 4.4/26, ms1mx4.1/42, Error ellipse: s-maj=13.0km s-min=9.6km az=67.0*

JMA ***18*** *11:08:49.1±0.3, 20.70N×120.27E, h102km, M4.7*

SZGRF ***18*** *11:09:05.1, 23.79N×119.62E, h29km, mb5.4, Taiwan region*

ISC 18 11:08:48.4±0.1, 20.53N×002×120.29E±002, h30km, h30km±.5km: pP-P, n486, σ0s94/498, mb5.2/134, MS4.6/42, 50C-22D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.22**	**172**	↑*i*P	**Pn**	**11 09 21.0**	**-2.1**
PIP				*e*S	**Sn**	**11 09 49.0**	**-0.5**
CVP	**Callao Caves**	**3.17**	**152**	↓*i*P	**Pn**	**11 09 36.0**	**-0.1**
CVP				*i* S	**Sn**	**11 10 12.0**	**-0.9**
NACB	**Ninganchiao**	**3.82**	**18**	*e*Pn	**Pn**	**11 09 43.1**	**-2.0**
PALP	**Palanan**	**4.00**	**149**	↑*i*P	**Pn**	**11 09 48.6**	**+1.0**
PALP				*i* S	**Sn**	**11 10 36.9**	**+3.4**
BCPH	**Baguio City Da**	**4.14**	**176**	↑*e*P	**Pn**	**11 09 49.4**	**-0.1**
BCPH				*e*S	**Sn**	**11 10 35.8**	**-1.0**
YHNB	**Yeheng**	**4.24**	**14**	*e*Pn	**Pn**	**11 09 49.8**	**-1.1**
TATO	**Taipei**	**4.56**	**14**	*e*Pn	**Pn**	**11 09 55.0**	**-0.3**
TATO				*e*Sn	**Sn**	**11 10 50.4**	**+3.2**
YOJ	**Yonaguni jima**	**4.65**	**32**	P	**Pn**	**11 09 56.5**	**0.0**
YOJ				*e*S	**Sn**	**11 10 48.2**	**-1.3**
QZH	**Quanzhou**	**4.66**	**341**	P	**Pn**	**11 09 51.6**	**-5.1**
QZH				S	**Sn**	**11 10 41.9**	**-7.8**
QZH				Smax			
	comp=N,930nm,0.6s						
QZH				Smax			
	comp=E,1μm,0.9s						
QZH				LR	LR		
	comp=N,9μm,9.7s						
QZH				LR	LR		
	comp=E,16μm,10.7s						
QZH				LR	LR		
	comp=Z,17μm,13.4s						
HATJ	**Hateruma jima**	**4.79**	**42**	P	**Pn**	**11 09 58.7**	**+0.3**
HATJ				*e*S	**Sn**	**11 10 51.7**	**-1.1**
IRIF	**Iriomote-Funau**	**4.95**	**39**	P	**Pn**	**11 10 00.5**	**-0.1**
IRIF				*e*S	**Sn**	**11 10 55.9**	**-0.8**
PCPH	**Palayan**	**5.00**	**171**	↑*e*P	**Pn**	**11 10 02.1**	**+0.7**
PCPH				*e*S	**Sn**	**11 11 01.7**	**+3.5**
JKRS	**Kuro-shima**	**5.04**	**42**	P	**Pn**	**11 10 02.3**	**+0.3**
JKRS				*e*S	**Sn**	**11 10 58.9**	**-0.3**
JIJ	**Ishigaki jima**	**5.22**	**42**	P	**Pn**	**11 10 04.1**	**-0.3**
JIJ				*e*S	**Sn**	**11 11 02.7**	**-0.8**
JTJ	**Tarama**	**5.78**	**44**	P	**Pn**	**11 10 12.3**	**+0.3**
JTJ				*e*S	**Sn**	**11 11 15.5**	**-1.7**
JMJ	**Miyako jima 2**	**6.29**	**46**	*e*S	**Sn**	**11 11 29.3**	**-0.5**
JOGS	**Gusukube**	**6.33**	**47**	P	**Pn**	**11 10 20.3**	**+0.7**
JOGS				*e*S	**Sn**	**11 11 31.3**	**+0.5**
TGY	**Tagaytay City**	**6.42**	**174**	Pn	**Pn**	**11 10 18.5**	**-2.5**
	comp=Z,40nm,0.3s,baz=207,slow=6.8,SNR=3.0						
TGY	**Tagaytay City**	**6.42**	**174**	P	**Pn**	**11 10 18.5**	**-2.4**
TGY				pmax	pmax		
	comp=Z,40nm,0.3s						
GQP	**Guinayangan**	**6.91**	**162**	↓*e*P	**Pn**	**11 10 30.7**	**+3.2**
GQP				*e*S	**Sn**	**11 11 44.9**	**-0.2**
GZH	**Guangzhou**	**6.93**	**293**	P	**Pn**	**11 10 22.1**	**-5.8**
GZH				S	**Sn**	**11 11 33.0**	**-13**
GZH				AMB	AMB		
	comp=Z,297nm,0.8s						
GZH				Smax			
	comp=N,941nm,0.6s						
GZH				Smax			
	comp=E,1μm,0.6s						
JKE	**Kume jima 2**	**8.30**	**45**	P	**Pn**	**11 10 46.5**	**-0.1**
JKE				*e*S	**Sn**	**11 12 18.1**	**-1.1**
JOW	**Kunigami**	**9.63**	**48**	Pn	**Pn**	**11 11 04.3**	**-0.6**
	comp=E,2.0nm,0.3s,baz=232,slow=12,SNR=5.1						
JOW				LR	LR	11 15 28.3	
	comp=E,3μm,19.6s,baz=118,slow=41						
QIZ	**Qiongzhong**	**9.95**	**263**	P	**Pn**	**11 11 03.8**	**-5.4**
QIZ				S	**Sn**	**11 12 52.3**	**-7.5**
QIZ				AMB	AMB		
	comp=Z,32nm,0.8s						
QIZ				LR	LR		
	comp=E,8μm,10.9s						
QIZ				LR	LR		
	comp=Z,9μm,11.1s						
QIZ	**Qiongzhong**	**9.95**	**263**	*e*P	**Pn**	**11 11 04.1**	**-5.1**
	comp=Z,95nm,0.8s						
SSE	**Sheshan**	**10.55**	**4**	P	**Pn**	**11 11 18.8**	**+1.3**
SSE				S	**Sn**	**11 13 16.4**	**+1.8**
SSE				AMB	AMB		
	comp=Z,46nm,0.7s						
SSE				AMB	AMB		
	comp=Z,518nm,4.3s						
SSE				LR	LR		
	comp=N,2μm,13.9s						
SSE				LR	LR		
	comp=E,4μm,13.9s						
SSE				LR	LR		
	comp=Z,4μm,11.9s						
SSE	**Sheshan**	**10.55**	**4**	P	**Pn**	**11 11 18.7**	**+1.2**
	comp=Z,46nm,0.7s						
SSE				S	**Sn**	**11 13 16.4**	**+1.8**
WHN	**Wuhan**	**11.31**	**333**	P	**Pn**	**11 11 23.5**	**-4.4**
WHN				S	**Sn**	**11 13 23.3**	**-10**
WHN				LR	LR		
	comp=Z,13μm,12.0s						
NJ2	**Nanjing**	**11.54**	**354**	*e*P	**Pn**	**11 11 35.8**	**+4.7**
NJ2				PP		11 11 44.9	
NJ2				S	**Sn**	**11 13 44.5**	**+5.6**
NJ2				AMB	AMB		
	comp=Z,880nm,4.0s						
NJ2				LR	LR		
	comp=N,10μm,11.7s						
NJ2				LR	LR		
	comp=E,8μm,12.5s						
NJ2				LR	LR		
	comp=Z,7μm,13.2s						
GYA	**Guiyang**	**13.82**	**298**	↓*i*P	**Pn**	**11 11 58.0**	**-4.1**
GYA				AP		11 12 04.8	
GYA				PP		11 12 08.9	
GYA				XP		11 12 10.4	
GYA				S	**Sn**	**11 14 35.9**	**+1.5**
GYA				PCP	PcP	11 17 26.9	+2.8
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,160nm,3.9s						
GYA				LR	LR		
	comp=N,4μm,11.4s						
GYA				LR	LR		
	comp=E,6μm,12.0s						
GYA				LR	LR		
	comp=Z,7μm,12.0s						
JNU	**Nakatsue**	**15.69**	**35**	Pn	**Pn**	**11 12 28.0**	**+0.8**
	comp=Z,5.2nm,0.3s,baz=235,slow=19,SNR=10						
JNU				LR	LR	11 18 54.8	
	comp=Z,3μm,20.2s,baz=336,slow=38						
TIA	**Tai'an**	**15.87**	**351**	*e*P	**Pn**	**11 12 29.3**	**-0.1**
TIA				LR	LR		
	comp=N,2μm,15.0s						
TIA				LR	LR		
	comp=E,4μm,12.0s						
TSM	**Tawau**	**16.31**	**189**	P	**Pn**	**11 12 40.0**	**+4.9**
XAN	**Xi'an**	**16.80**	**326**	P	**Pn**	**11 12 43.3**	**+1.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s						
XAN				LR	LR		
	comp=N,2μm,11.6s						
XAN				LR	LR		
	comp=E,3μm,10.3s						
XAN				LR	LR		
	comp=Z,5μm,10.9s						
KMI	**Kunming**	**16.81**	**289**	P	**Pn**	**11 12 42.1**	**+0.7**
KMI				PP		11 12 55.9	
KMI				PPP		11 13 04.3	
KMI				S	**Sn**	**11 15 44.4**	**-2.8**
KMI				AMB	AMB		
	comp=Z,32nm,1.1s						
KMI				AMB	AMB		
	comp=Z,183nm,3.1s						
KMI				LR	LR		
	comp=N,4μm,13.9s						
KMI				LR	LR		
	comp=E,2μm,12.6s						
KMI				LR	LR		
	comp=Z,2μm,11.6s						
KMI	**Kunming**	**16.81**	**289**	P	**Pn**	**11 12 42.1**	**+0.7**
	comp=Z,32nm,1.1s						
KMI				pP	pP	11 12 49.7	-1.7
KMI				sP	sP	11 12 54.3	-1.0
KMI				PP		11 12 55.9	
KMI				PPP		11 13 04.2	
KMI				S	**Sn**	**11 15 44.4**	**-2.8**
KMI				sS	sS	11 15 57.5	-12
KMI				SS		11 16 06.8	
KMI				SSS		11 16 18.9	
KKTK	**Khon Kaen**	**17.09**	**259**	P	**Pn**	**11 12 44.0**	**-0.9**
KS15	**Wonju Array Si**	**18.10**	**20**	*e*Pn	**Pn**	**11 12 57.6**	**+0.2**
CD2	**Chengdu**	**18.11**	**308**	↑*i*P	**Pn**	**11 12 53.9**	**-3.6**
CD2				AP	pP	11 13 02.3	-3.5
CD2				XP	sP	11 13 08.3	-1.4
CD2				PP		11 13 09.6	
CD2				S	**Sn**	**11 16 10.1**	**-8.5**
CD2				XS	sS	11 16 22.4	-14
CD2				SS		11 16 35.6	
CD2				AMB	AMB		
	comp=Z,120nm,1.3s						
CD2				AMB	AMB		
	comp=Z,410nm,10.8s						
CD2				LR	LR		
	comp=N,7μm,15.6s						
CD2				LR	LR		
	comp=E,6μm,10.8s						
CD2				LR	LR		
	comp=Z,5μm,13.2s						
KSRS	**Korea Array**	**18.12**	**20**	P	**Pn**	**11 12 57.3**	**-0.4**
	baz=202,slow=11,SNR=69						
KSRS				LR	LR	11 20 34.0	
	comp=Z,1μm,20.5s,baz=201,slow=39						
DL2	**Dalian**	**18.35**	**3**	*i* P	**Pn**	**11 13 05.8**	**+5.3**
DL2				AMB	AMB		
	comp=Z,50nm,0.8s						
DL2				AMB	AMB		
	comp=Z,430nm,5.2s						
DL2				LR	LR		
	comp=N,1μm,14.3s						
DL2				LR	LR		
	comp=E,2μm,12.8s						
DL2				LR	LR		
	comp=Z,1μm,12.8s						
BJT	**Baijiatuao**	**19.74**	**351**	*e*P	**Pn**	**11 13 15.8**	**-1.4**
BJT				pmax	pmax		
	comp=Z,149nm,1.2s						
BJT	**Baijiatuao**	**19.74**	**351**	*e*P	**Pn**	**11 13 15.8**	**-1.4**
	comp=Z,149nm,1.2s						
NST	**Nakhon Sawan**	**19.75**	**259**	P	**Pn**	**11 13 16.2**	**-1.2**
BJI	**Beijing**	**19.76**	**351**	P	**Pn**	**11 13 15.9**	**-1.6**
BJI				S	**Sn**	**11 16 55.5**	**-3.1**
BJI				AMB	AMB		
	comp=Z,40nm,0.9s						
BJI				LR	LR		
	comp=N,2μm,12.6s						
BJI				LR	LR		
	comp=E,798nm,12.6s						
BJI				LR	LR		
	comp=Z,1μm,15.8s						
BJI	**Beijing**	**19.76**	**351**	P	**Pn**	**11 13 15.9**	**-1.6**
	comp=Z,40nm,0.9s						
BJI				S	**Sn**	**11 16 55.5**	**-3.1**
CHG	**Chiang Mai**	**20.17**	**269**	↓*i*P	**P**	**11 13 19.4**	**-0.9**
	comp=Z,59nm,1.1s						
CHTO	**Chiang Mai**	**20.17**	**269**	*e*P	**P**	**11 13 19.1**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,85nm,1.3s						
CHTO	**Chiang Mai**	**20.17**	**269**	*e*P	**P**	**11 13 19.1**	**-1.3**
	comp=Z,85nm,1.3s						
BDT	**Bhumibol Dam**	**20.40**	**264**	P	**P**	**11 13 23.0**	**+0.2**
	comp=Z,13nm,1.0s						
CBIJ	**Chichi jima**	**21.06**	**68**	P	**P**	**11 13 30.8**	**+0.9**
	comp=Z

LZH PP 11 13 58.0
LZH S **S** **11 17 24.0 -0.6**
LZH sS sS 11 17 40.0 +2.3
LZH SS 11 18 01.6
LZH LR LR
comp=Z,6µm,13.8s,MS5.1
NNT Nongplab 21.21 251 P **P** **11 13 29.5 -2.0**
KSM Kuching 21.30 208 *e*P **P** **11 13 31.1 -1.4**
JHJ Hachijo jima 2 21.40 50 LR LR 11 20 50.0
comp=Z,920nm,22.0s,MS4.1,baz=244,slow=34
SNY Shenyang 21.41 7 ⇑P **P** **11 13 35.1 +1.4**
SNY S **S** **11 17 30.5 +0.9**
SNY AMB AMB
comp=Z,44nm,0.6s,mb5.0
SNY AMB AMB
comp=Z,453nm,3.3s
SNY LR LR
comp=E,3µm,13.2s
SNY LR LR
comp=Z,2µm,13.1s,MS4.8
HHC Hu-ho-hao-te 21.57 342 ⇑*i*P **P** **11 13 37.8 +2.4**
HHC AP 11 13 46.8
HHC PP 11 14 03.0
HHC S **S** **11 17 32.5 -0.3**
HHC SCP ScP 11 21 12.3 +0.7
HHC AMB AMB
comp=Z,44nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,422nm,4.9s
HHC LR LR
comp=N,4µm,12.3s,MS5.1
HHC LR LR
comp=E,3µm,13.8s,MS5.1
HHC LR LR
comp=Z,4µm,13.9s,MS4.9
BTO Baotou 21.84 339 *e*P **P** **11 13 37.0 -1.3**
BTO S **S** **11 17 31.3 -6.7**
BTO AMB AMB
comp=Z,13nm,2.5s
BTO LR LR
comp=N,348nm,6.3s
BTO LR LR
comp=E,536nm,16.5s
MAJO Matsushiro 22.35 41 *e*P **P** **11 13 43.5 -0.2**
MAJO pmax pmax
comp=Z,81nm,0.9s,mb5.2
MAJO Matsushiro 22.35 41 *e*P **P** **11 13 43.5 -0.3**
comp=Z,81nm,0.9s,mb5.2
MAJO *e*P 11 13 44.2
MAT Matsushiro 22.35 41 P **P** **11 13 43.4 -0.3**
MAT S **S** **11 17 49.0 +1.1**
MJAR Matsushiro Arr 22.35 41 P **P** **11 13 43.9 +0.2**
comp=Z,19nm,0.8s,mb4.6,baz=228,slow=9.0,SNR=34
MJAR Matsushiro Arr 22.35 41 P **P** **11 13 43.9 +0.2**
MJAR pmax pmax
comp=Z,19nm,0.8s
CN2 Changchun 23.60 9 *e*P **P** **11 13 55.8 -0.9**
CN2 *e*XP sP 11 14 09.1 0.0
CN2 *e*S **S** **11 18 06.0 -2.8**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2µm,11.0s,MS4.9
CN2 LR LR
comp=E,1µm,11.0s,MS4.9
CN2 LR LR
comp=Z,2µm,14.0s,MS4.8
KULM Kulim 24.36 234 *e*P **P** **11 14 03.0 -0.7**
GUMO Guam 24.47 102 LR LR 11 21 30.0
comp=Z,595nm,21.2s,MS4.0,baz=272,slow=31
IPM Ipoh 24.61 232 P **P** **11 14 04.4 -1.5**
KGM Kluang 24.76 224 P **P** **11 14 07.8 +0.6**
KAPI Kappang 25.39 181 P **P** **11 14 13.8 +0.8**
comp=Z,287nm,1.1s,mb5.7,SNR=11
GTA Gaotai 25.75 321 *e*P **P** **11 14 15.5 -0.7**
GTA AP pP 11 14 25.3 +0.3
GTA XP sP 11 14 29.0 +0.2
GTA PP 11 14 55.8
GTA PCP PcP 11 17 46.1 +0.5
GTA S **S** **11 18 40.3 -3.0**
GTA XS sS 11 18 52.9 -5.0
GTA SS 11 19 43.5
GTA AMB AMB
comp=Z,6.0nm,1.8s
GTA AMB AMB
comp=Z,324nm,5.4s
GTA LR LR
comp=N,2µm,12.7s,MS4.9
GTA LR LR
comp=E,1µm,13.0s,MS4.9
GTA LR LR
comp=Z,2µm,12.3s,MS4.8
SHL Shillong 26.59 286 *e*P **P** **11 14 24.0 +0.2**
PSI Prapat 27.29 233 P **P** **11 14 29.4 -0.7**
comp=Z,18nm,0.9s,mb4.6,baz=23,slow=4.0,SNR=12
PSI LR LR 11 24 37.7
comp=Z,526nm,19.1s,MS4.1,baz=355,slow=35
PSI Prapat 27.29 233 P **P** **11 14 29.4 -0.7**
PSI pmax pmax
comp=Z,18nm,0.9s,mb4.6
PSI MLR MLR
comp=Z,526nm,19.1s,MS4.1
LSA Lhasa 27.85 295 P **P** **11 14 36.0 +0.8**
LSA Lhasa 27.85 295 *e*P **P** **11 14 36.8 +1.6**
LSA pmax pmax
comp=Z,24nm,0.8s,mb4.9
LSA Lhasa 27.85 295 *e*P **P** **11 14 36.8 +1.6**
comp=Z,24nm,0.8s,mb4.9
HIA Hailar 28.67 359 ⇑*e*P **P** **11 14 41.9 -0.6**
SONM Songino Array 29.46 341 P **P** **11 14 49.7 +0.2**
comp=Z,6.1nm,0.8s,mb4.4,baz=160,slow=9.6,SNR=32
SONM PcP PcP 11 17 53.8 -0.8
comp=Z,6.1nm,1.2s,baz=141,slow=5.0,SNR=3.6
SONM LR LR 11 26 55.1
comp=Z,837nm,19.1s,MS4.4,baz=158,slow=37
SONM Songino Array 29.46 341 P **P** **11 14 49.7 +0.2**
SONM 11 17 53.8
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,1.2s
SONM MLR MLR
comp=Z,837nm,19.1s
ASAJ Asahikawa 29.96 33 P **P** **11 14 55.4 +1.5**
comp=Z,26nm,0.7s,mb5.1,baz=249,slow=15,SNR=16
ASAJ LR LR 11 29 09.1
comp=Z,599nm,18.3s,MS4.3,baz=242,slow=41
ASAJ Asahikawa 29.96 33 P **P** **11 14 55.4 +1.5**
ASAJ pmax pmax
comp=Z,26nm,0.7s
ASAJ MLR MLR
comp=Z,599nm,18.3s
KLR Kul'dur 30.07 15 *e*P **P** **11 14 51.7 -3.1**
KLR pmax pmax
comp=Z,48nm,1.4s,mb5.0
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,8µm,13.0s,MS5.6
HABR Khabarovsk 30.30 20 *e*P **P** **11 14 56.6 -0.3**
HABR *e*S **S** **11 19 56.1 +1.1**
CIT Chita 31.86 352 *e*P **P** **11 15 09.6 -1.1**
CIT *e* 11 18 01.4
CIT pmax pmax
comp=Z,73nm,3.0s
YSS Yuzh-Sakhalins 32.08 30 ⇓*e*P **P** **11 15 12.5 -0.1**
YSS *e* 11 15 27.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.1
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.3
YSS Yuzh-Sakhalins 32.08 30 *e*P **P** **11 15 12.8 +0.2**
comp=Z,50nm,1.0s,mb5.3
YSS *e*P 11 15 13.3
GUN Gumba 32.15 290 *e*P **P** **11 15 12.8 -0.4**
comp=Z,104nm,0.8s,mb5.7
PKI Pulchoki 32.53 289 *e*P **P** **11 15 16.6 0.0**
comp=Z,120nm,1.4s,mb5.6
KKN Kakani 32.67 290 *e*P **P** **11 15 16.6 -1.1**
comp=Z,73nm,0.8s,mb5.7
ZAK Zakamensk 32.69 340 *e*P **P** **11 15 16.1 -1.8**
ZAK *e* 11 18 02.2
ZAK pmax pmax
comp=Z,5.0nm,1.4s
DMN Daman 32.80 289 *e*P **P** **11 15 18.3 -0.6**
comp=Z,156nm,1.2s,mb5.8
GKN Gorkha 33.25 290 *e*P **P** **11 15 21.7 -1.1**
comp=Z,79nm,0.9s,mb5.6
TLY Talaya 33.70 341 *e*P **P** **11 15 24.1 -2.7**
TLY *e* 11 15 35.3
TLY *e*S **S** **11 20 52.1 +4.1**
TLY pmax pmax
comp=Z,20nm,1.7s,mb4.8
TLY MLR MLR
comp=Z,932nm,14.0s,MS4.7
TLY Talaya 33.70 341 *e*P **P** **11 15 26.7 -0.1**
comp=Z,18nm,1.0s,mb5.0
TLY *e*pP pP 11 15 35.9 +0.3
IRK Irkutsk 34.01 342 *e*P **P** **11 15 29.4 -0.1**
IRK pmax pmax
comp=Z,56nm,1.9s,mb5.2
KOLN Koldanda 34.15 289 *e*P **P** **11 15 28.6 -2.0**
comp=Z,106nm,0.9s,mb5.8
KAKA Kakadu 35.13 159 *e*P **P** **11 15 37.3 -1.8**
comp=Z,24nm,0.6s,mb5.3
WMQ Urumqi 35.69 318 ⇑*i*P **P** **11 15 44.3 +0.3**
WMQ AP pP 11 15 54.0 +1.1
WMQ XP sP 11 15 58.1 +1.5
WMQ PP PP 11 17 04.5 -0.8
WMQ PPP 11 17 23.3
WMQ PCP PcP 11 18 14.3 +2.5
WMQ S **S** **11 21 16.1 -2.6**
WMQ XS sS 11 21 32.1 -1.3
WMQ SCP ScP 11 21 56.3 +0.7
WMQ PCS PcS 11 22 00.0 +1.0
WMQ SS SS 11 23 35.1 -20
WMQ AMB AMB
comp=Z,15nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,451nm,4.9s
WMQ LR LR
comp=N,1µm,25.4s
WMQ LR LR
comp=E,568nm,18.6s
WMQ LR LR
comp=Z,848nm,20.0s
FITZ Fitzroy Crossi 38.75 172 *e*P **P** **11 16 08.2 -1.7**
comp=Z,35nm,0.9s,mb5.1
FITZ Fitzroy Crossi 38.75 172 P **P** **11 16 08.7 -1.2**
comp=Z,20nm,0.9s,mb4.8,baz=356,slow=5.1,SNR=17
MK31 Makanchi Array 40.46 319 P **P** **11 16 24.0 -0.2**
MK31 pmax pmax
comp=Z,111nm,1.4s,mb5.4
MKAR Makanchi Array 40.46 319 P **P** **11 16 24.0 -0.2**
comp=Z,15nm,0.8s,mb4.8,baz=112,slow=9.3,SNR=66
MKAR Makanchi Array 40.46 319 P **P** **11 16 24.0 -0.2**
MKAR pmax pmax
comp=Z,15nm,0.8s
YAK Yakutsk 41.98 7 *e*P **P** **11 16 36.3 -0.3**
YAK *i* *PP pP 11 16 41.4 -4.2
YAK *e* 11 18 22.2
YAK *e*S **S** **11 22 58.5 +5.2**
YAK *i* 11 26 33.3
YAK pmax pmax
comp=Z,29nm,1.0s,mb4.9
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,11nm,2.4s
YAK pmax pmax
comp=Z,191nm,3.1s
YAK pmax pmax
comp=N,335nm,2.7s
YAK pmax pmax
comp=E,248nm,3.0s
YAK smax
comp=N,624nm,3.5s
YAK smax
comp=Z,350nm,3.4s
YAK smax
comp=E,95nm,1.9s
YAK MLR MLR
comp=N,986nm,16.0s,MS4.8
YAK MLR MLR
comp=Z,1µm,16.0s,MS5.0
YAK MLR MLR
comp=E,518nm,15.0s,MS4.8
YAK Yakutsk 41.98 7 *e*P **P** **11 16 35.9 -0.6**
comp=E,23nm,0.6s,mb5.0
YAK *e*pP pP 11 16 45.9 +0.2
KSH Kashi 42.29 307 *e*P **P** **11 16 41.8 +2.6**
KSH *e*AP pP 11 16 49.9 +1.7
KSH *e*XP sP 11 16 53.9 +2.0
KSH *e*PP PP 11 18 24.5 +7.1
KSH *e*PCP PcP 11 18 37.9 +5.4
KSH *e*PPP 11 18 55.9
KSH *e*SCP ScP 11 22 24.3 +3.4
KSH *e*S **S** **11 23 01.9 +3.9**
KSH *e*XS sS 11 23 11.3 -1.6
KSH *e*PS 11 23 20.6
KSH *e*SCS ScS 11 26 40.9 +2.0
KSH LR LR
comp=Z,3µm,8.6s
WRAB Tennant Creek 42.51 160 P **P** **11 16 40.0 -0.9**
comp=Z,664nm,0.7s,SNR=53
WRAB Tennant Creek 42.51 160 *e*P **P** **11 16 40.7 -0.2**
WRAB *e**PP pP 11 16 50.5 +0.5
WRAB pmax pmax
comp=Z,86nm,0.8s,mb5.5
WRAB Tennant Creek 42.51 160 *e*P **P** **11 16 40.7 -0.2**
comp=Z,86nm,0.8s,mb5.5
WRAB *e*pP pP 11 16 50.5 +0.5
WRA Warramunga Arr 42.51 160 P **P** **11 16 40.6 -0.4**
comp=Z,96nm,0.9s,mb5.5,baz=342,slow=9.0,SNR=363
WRA PcP PcP 11 18 33.6 +0.4
comp=Z,11nm,0.8s,baz=338,slow=3.5,SNR=7.2
WRA Warramunga Arr 42.51 160 P **P** **11 16 40.6 -0.4**
WRA 11 18 33.6
WRA pmax pmax
comp=Z,96nm,0.9s
WRA pmax pmax
comp=Z,11nm,0.8s
WB2 Warramunga Arr 42.52 160 ⇓*i*P **P** **11 16 40.5 -0.5**
WB2 *e*PCP PcP 11 18 34.5 +1.2
WB2 *i* S **S** **11 23 04.2 +2.9**
ULHL Ulahol 42.80 311 P **P** **11 16 45.0 +1.8**
SNR=14
ZAL Zalesovo 42.91 330 P **P** **11 16 43.2 -0.9**
comp=Z,13nm,0.8s,mb4.7,baz=352,slow=7.4,SNR=65
ZAL LR LR 11 37 41.8
comp=Z,392nm,20.1s,MS4.3,baz=340,slow=40
ZAL Zalesovo 42.91 330 P **P** **11 16 43.3 -0.9**
ZAL pmax pmax
comp=Z,13nm,0.8s
ZAL MLR MLR
comp=Z,392nm,20.1s
TKM2 Tokmak 2 43.45 311 P **P** **11 16 49.4 +0.9**
SNR=8.5
KZA Kyzart 43.46 310 P **P** **11 16 49.7 +1.1**
SNR=16
UCH Uchtor 44.03 310 P **P** **11 16 54.0 +0.8**
SNR=20
FRU Bishkek 44.11 311 *e*P **P** **11 16 55.0 +1.1**
AAK Ala-Archa 44.15 311 ⇑*e*P **P** **11 16 54.6 +0.5**
AAK *e*P 11 16 57.8
NVS Novosibirsk 44.18 330 *e*P **P** **11 16 53.4 -1.0**
NVS pmax pmax
comp=Z,77nm,1.3s,mb5.3
NVS pmax pmax
comp=N,72nm,1.6s
NVS pmax pmax
comp=E,63nm,1.5s
KURK Kurchatov 44.42 323 P **P** **11 16 56.2 -0.1**
comp=E,373nm,1.4s,mb5.9,SNR=13
AML Almayashu 44.59 310 P **P** **11 16 59.2 +1.5**
SNR=17
EKS2 Erkin-Say 44.66 310 P **P** **11 16 59.1 +0.8**
SNR=6.5
AS31 Alice Springs 45.89 163 *e*P **P** **11 17 07.9 -0.1**
AS31 *e*S **S** **11 24 03.7 +13**
ASAR Alice Springs 45.89 163 P **P** **11 17 08.1 +0.1**
comp=E,16nm,0.7s,mb5.0,baz=343,slow=6.8,SNR=140
ASAR LR LR 11 35 24.5
comp=E,198nm,20.6s,MS4.0,baz=350,slow=35
ASPA Alice Springs 45.89 163 *e*P **P** **11 17 07.9 -0.1**
ASPA *e*S **S** **11 24 03.7 +13**
KK31 Karatay Array 47.10 310 *i* P **P** **11 17 17.5 0.0**
KKAR Karatay Array 47.10 310 *i* P **P** **11 17 17.4 -0.1**
KKAR pmax pmax
comp=Z,31nm,1.0s,mb5.2
SEY Seymchan 47.68 19 ⇑*e*P **P** **11 17 23.2 +1.2**
CTA Charters Tower 47.70 146 ⇓*i*P **P** **11 17 23.9 +1.7**
comp=Z,63nm,0.9s,mb5.7
CTA Charters Tower 47.70 146 ⇓*i*P **P** **11 17 23.9 +1.7**
CTA pmax pmax
comp=Z,63nm,0.9s
CTAO Charters Tower 47.70 146 *e*P **P** **11 17 24.1 +1.9**
VOSK Vostochnaya 49.58 323 P **P** **11 17 35.9 -0.7**
VOSK pmax pmax
comp=Z,45nm,1.3s,mb5.3
BVA0 Borovoye Array 50.02 323 *i* P **P** **11 17 39.7 -0.2**
BVA0 pmax pmax
comp=Z,15nm,1.5s,mb4.8
BVAR Borovoye Array 50.02 323 P **P** **11 17 39.6 -0.4**
comp=Z,8.2nm,0.6s,mb4.9,baz=109,slow=6.8,SNR=17
BVAR pP pP 11 17 49.0 -0.1
comp=Z,8.0nm,0.6s,baz=99,slow=9.2,SNR=9.1
BVAR PcP PcP 11 18 58.6 -0.9
comp=Z,11nm,0.8s,baz=108,slow=4.8,SNR=8.9
BVAR LR LR 11 39 07.3
comp=Z,524nm,18.9s,MS4.6,baz=139,slow=36
BVAR Borovoye Array 50.02 323 P **P** **11 17 39.6 -0.3**
BVAR *PP pP 11 17 49.0 -0.2
BVAR 11 18 58.6
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR pmax pmax
comp=Z,11nm,0.8s
BVAR MLR MLR
comp=Z,525nm,19.0s
BRVK Borovoye 50.09 323 P **P** **11 17 40.9 +0.4**
comp=Z,285nm,1.3s,mb6.1,SNR=15
BRVK Borovoye 50.09 323 *e*P **P** **11 17 39.0 -1.5**
BRVK pmax pmax
comp=Z,73nm,1.1s,mb5.6
BRVK Borovoye 50.09 323 *e*P **P** **11 17 39.0 -1.5**
comp=Z,73nm,1.1s,mb5.6
CHKZ Chkalovo 50.12 324 *e*P **P** **11 17 40.4 -0.4**
CHKZ pmax pmax
comp=Z,69nm,1.2s,mb5.6
CHKZ Chkalovo 50.12 324 *e*P **P** **11 17 40.4 -0.4**
comp=Z,69nm,1.2s,mb5.6
TIXI Tiksi 51.37 3 *e*P **P** **11 17 48.7 -1.4**
TIXI *e**PP pP 11 17 58.6 -0.8
TIXI pmax pmax
comp=Z,183nm,0.6s,mb6.2
TIXI Tiksi 51.37 3 *e*P **P** **11 17 48.7 -1.4**
comp=Z,183nm,0.6s,mb6.2
TIXI *e*pP pP 11 17 58.6 -0.7
FORT Forrest 51.56 171 *e*P **P** **11 17 51.4 -0.2**
comp=Z,44nm,0.9s,mb5.4
KLBR Kellerberrin 51.88 183 *e*P **P** **11 17 52.0 -2.0**
comp=Z,16nm,0.8s,mb5.0
MUN Mundaring 52.36 184 *e*P **P** **11 17 56.3 -1.2**
NWAO Narrogin (SRO) 53.24 183 *e*P **P** **11 18 03.4 -0.6**
NWAO pmax pmax
comp=Z,53nm,1.4s
NWAO Narrogin (SRO) 53.24 183 *e*P **P** **11 18 03.4 -0.6**
comp=Z,53nm,1.4s,mb5.3
BILL Bilibino 55.39 19 ⇓*e*P **P** **11 18 20.4 +0.8**
AB31 Akbulak array 55.44 316 ⇑*e*P **P** **11 18 19.5 -0.5**
STKA Stephens Creek 55.97 158 *e*P **P** **11 18 24.2 +0.4**
comp=Z,18nm,0.8s,mb5.2
STKA Stephens Creek 55.97 158 P **P** **11 18 23.9 +0.1**
comp=Z,20nm,0.8s,mb5.2,baz=335,slow=7.2,SNR=41
STKA PKKP 11 40 02.8
comp=Z,1.8nm,0.8s,baz=106,slow=8.1,SNR=3.1
AKTK Aktyubinsk 56.84 317 P **P** **11 18 29.4 -0.6**
AKTK LR LR 11 42 39.5
AKTO Aktyubinsk 56.84 317 P **P** **11 18 29.4 -0.6**
comp=Z,7.1nm,0.7s,mb4.8,baz=87,slow=6.8,SNR=24
AKTO LR LR 11 42 39.5
comp=Z,333nm,19.3s,MS4.5,baz=290,slow=36
AKTO Aktyubinsk 56.84 317 P **P** **11 18 29.5 -0.5**
AKTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AKTO MLR MLR
comp=Z,333nm,19.3s,MS4.5
ARU Arti 57.55 325 P **P** **11 18 34.0 -1.0**
comp=Z,521nm,0.5s,SNR=8.3
ARU Arti 57.55 325 ⇓*i*P **P** **11 18 34.6 -0.4**
ARU *e* 11 19 26.3
ARU *e* 11 20 40.9
ARU *e*PPP 11 21 59.2
ARU *e*S **S** **11 26 31.7 +0.9**
ARU *e*SS SS 11 30 25.9 +5.0
ARU pmax pmax
comp=Z,95nm,1.5s,mb5.6
ARU MLR MLR
comp=Z,500nm,15.0s,MS4.7
ARU MLR MLR
comp=N,300nm,16.0s,MS4.7
ARU MLR MLR
comp=E,400nm,16.0s,MS4.7
ARU Arti 57.55 325 *e*P **P** **11 18 34.5 -0.5**
comp=E,47nm,0.6s,mb5.7
ORR Orenburg 59.03 319 *e*P **P** **11 18 45.3 -0.1**
ORR *e* pP 11 18 54.3 -0.4
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.5
ORR MLR MLR
comp=Z,550nm,23.0s,MS4.6
SOKR Solikamsk 59.13 328 P **P** **11 18 54.0 +7.9**
SOKR pmax pmax
comp=Z,80nm,1.7s,mb5.5
SOKR MLR MLR
comp=Z,1µm,17.0s,MS5.1
DZM Mont Dzumac 61.84 131 P **P** **11 19 06.0 +1.5**
comp=Z,13nm,1.0s,mb5.0,baz=284,slow=17,SNR=3.9
CNB Canberra Magne 62.02 153 *e*P **P** **11 19 07.0 +1.3**
comp=Z,26nm,1.1s,mb5.3
TOO Toolangi 62.48 158 ⇑*i*P **P** **11 19 10.3 +1.5**
comp=Z,20nm,0.8s,mb5.3
TOO Toolangi 62.48 158 ⇑*i*P **P** **11 19 10.3 +1.5**
TOO pmax pmax
comp=Z,20nm,0.8s,mb5.3
GNI Garni 66.22 306 *i* P **P** **11 19 34.8 +1.5**
ZEI Tsey 66.53 309 *e*P **P** **11 19 35.0 -0.3**
ZEI *e**PP pP 11 19 44.2 -0.6
VRHR Novokhopersk 67.25 318 *e*P **P** **11 19 38.9 -1.0**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,4.0nm,1.3s
VRHR pmax pmax
comp=E,20nm,0.7s
KIV Kislovodsk 67.26 310 ⇑*i*P **P** **11 19 41.2 +1.2**
KIV *e* 11 22 12.8
KIV *e*S S 11 28 39.4 +6.5
KIV pmax pmax
comp=Z,39nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,400nm,25.0s,MS4.5
KIV Kislovodsk 67.26 310 *e*P **P** **11 19 40.4 +0.5**
comp=Z,36nm,0.9s,mb5.4
VOR Voronezh 68.69 319 *e*P **P** **11 19 48.5 -0.5**
VOR *e* pP 11 19 57.0 -1.5
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.3
VRSR Storozhevoye 68.76 318 *e*P **P** **11 19 49.4 0.0**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 69.19 323 *e*P **P** **11 19 47.3 -4.8**
MOS *i* 11 19 59.5
MOS pmax pmax
comp=Z,99nm,1.5s,mb5.5
OBN Obninsk 69.86 323 ⇓*e*P **P** **11 19 55.8 -0.4**
OBN *i* pP 11 20 05.0 -0.7
OBN *e* 11 22 35.5
OBN *e*S S 11 29 02.6 -1.2
OBN *e*SS SS 11 33 34.0 +1.2
OBN pmax pmax
comp=Z,64nm,1.1s,mb5.5
OBN Obninsk 69.86 323 *e*P **P** **11 19 55.8 -0.4**
APA Apatity 70.03 336 ⇑*i*P **P** **11 19 57.0 -0.2**
APA *i* pP 11 20 06.2 -0.6
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0

ANN Anapa 70.86 312 *e*P **P 11 20 10.3 +8.0**
ANN pmax pmax
comp=Z,80nm,1.5s,mb5.4
ANN MLR MLR
comp=Z,713nm,22.0s,MS4.9
MALT Malatya 71.36 305⇑*i*P **P 11 20 06.8 +1.5**
MALT Malatya 71.36 305 *e*P **P 11 20 06.5 +1.2**
comp=Z,27nm,1.0s,mb5.1
KDAK Kodiak Island 71.36 34 *e*P **P 11 20 04.4 -0.9**
KEV Kevo 72.05 339 *e*p **P 11 20 08.4 -1.1**
comp=Z,22nm,0.9s,mb5.1
KEV Kevo 72.05 339 *e*P **P 11 20 08.4 -1.1**
KEV pmax pmax
comp=Z,22nm,0.9s,mb5.1
COLA College 72.40 27 *i* P **P 11 20 14.9 +3.3**
PMR Palmer 72.44 30 *e*P **P 11 20 12.0 +0.2**
PMR pmax pmax
comp=Z,36nm,1.2s,mb5.2
PMR Palmer 72.44 30 *e*P **P 11 20 12.0 +0.2**
comp=Z,36nm,1.2s,mb5.2
PUL Pulkovo 72.48 328⇑*e*P **P 11 20 12.4 +0.3**
ARCES ARCESS Array B 72.61 338 P **P 11 20 12.2 -0.6**
comp=Z,8.0nm,0.9s,mb4.7,baz=86,slow=7.4,SNR=7.9
ARCES pP pP 11 20 21.9 -0.4
comp=Z,8.3nm,0.7s,baz=67,slow=9.5,SNR=5.3
ARCES LR LR 11 58 33.1
comp=Z,354nm,18.3s,MS4.7,baz=71,slow=41
ARCES ARCESS Array B 72.61 338 P **P 11 20 12.2 -0.6**
ARCES *PP pP 11 20 22.0 -0.4
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES pmax pmax
comp=Z,8.0nm,0.7s
SIM Simferopol' 73.15 312 *e*P **P 11 20 16.2 +0.2**
SIM pmax pmax
comp=Z,26nm,1.1s,mb5.1
ASF Jabal al Asfar 73.96 299 P **P 11 20 21.2 +0.4**
comp=Z,12nm,0.9s,mb4.8,baz=353,slow=1.0,SNR=15
ASF pP pP 11 20 30.6 +0.2
comp=Z,19nm,1.1s,baz=299,slow=0.7,SNR=6.1
ASF LR LR 11 56 43.6
comp=Z,131nm,19.8s,MS4.2,baz=90,slow=39
ASF Jabal al Asfar 73.96 299 P **P 11 20 21.2 +0.4**
ASF *PP pP 11 20 30.6 +0.2
ASF pmax pmax
comp=Z,12nm,0.9s
ASF pmax pmax
comp=Z,19nm,1.1s
ASF MLR MLR
comp=Z,131nm,19.8s
FINES FINESS Array B 74.17 330 P **P 11 20 21.7 -0.4**
comp=Z,24nm,0.8s,mb5.2,baz=77,slow=8.2,SNR=51
FINES pP pP 11 20 31.1 -0.6
comp=Z,23nm,0.8s,baz=52,slow=7.4,SNR=14
FINES LR LR 11 54 16.9
comp=Z,382nm,19.1s,MS4.7,baz=254,slow=37
FINES FINESS Array B 74.17 330 P **P 11 20 21.7 -0.3**
FINES *PP pP 11 20 31.1 -0.5
FINES pmax pmax
comp=Z,24nm,0.8s
FINES pmax pmax
comp=Z,23nm,0.8s
FINES MLR MLR
comp=Z,382nm,19.1s
FINES FINESS Array B 74.17 330 P **P 11 20 21.7 -0.4**
FINES pP pP 11 20 31.1 -0.5
FINES LR LR 11 54 16.9
VSU Vasula 74.57 327 *i* P **P 11 20 24.7 +0.4**
BR131 Keskin Array S 74.68 307 *e*P **P 11 20 26.0 +1.0**
BR131 *e*pP pP 11 20 34.4 -0.2
BRTR Keskin Array B 74.68 307 P **P 11 20 24.7 -0.3**
comp=Z,3.8nm,0.8s,mb4.3,baz=116,slow=7.4,SNR=17
BRTR pP pP 11 20 33.7 -0.9
comp=Z,5.1nm,0.8s,baz=109,slow=3.4,SNR=10
BRTR LR LR 11 56 11.9
comp=Z,140nm,19.3s,MS4.3,baz=296,slow=38
BRTR Keskin Array B 74.68 307 P **P 11 20 24.7 -0.3**
BRTR *PP pP 11 20 33.7 -0.9
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR MLR MLR
comp=Z,140nm,19.3s
MMAI Mount Meron Ar 74.97 300 P **P 11 20 26.6 0.0**
comp=Z,6.3nm,0.9s,mb4.5,baz=75,slow=9.6,SNR=11
MMAI pP pP 11 20 36.8 +0.5
comp=Z,7.1nm,1.0s,baz=85,slow=9.3,SNR=5.2
MMAI LR LR 11 57 37.6
comp=Z,134nm,18.3s,MS4.3,baz=90,slow=39
AFI Afiamalu 75.01 111 LR LR 11 46 59.1
comp=Z,192nm,19.8s,MS4.4,baz=285,slow=30
AKASG Malin Array Be 75.05 319 P **P 11 20 25.7 -1.4**
comp=Z,15nm,0.8s,mb5.0,baz=61,slow=5.7,SNR=25
AKASG pP pP 11 20 35.2 -1.4
comp=Z,18nm,0.9s,baz=63,slow=5.5,SNR=9.1
AKASG LR LR 11 55 36.5
comp=Z,256nm,18.8s,MS4.5,baz=55,slow=37
AKASG Malin Array Be 75.05 319 P **P 11 20 25.7 -1.4**
AKASG *PP pP 11 20 35.3 -1.4
AKASG pmax pmax
comp=Z,15nm,0.8s
AKASG pmax pmax
comp=Z,18nm,0.9s
AKASG MLR MLR
comp=Z,256nm,18.8s
AKASG Malin Array Be 75.05 319 P **P 11 20 25.7 -1.4**
AKASG pP pP 11 20 35.2 -1.4
AKASG LR LR 11 55 36.5
AKBB Malin Array Si 75.05 319 *e*P **P 11 20 25.4 -1.7**
AKBB *e**PP pP 11 20 35.3 -1.4
KIEV Kiev 75.06 319 *e*P **P 11 20 25.6 -1.6**
KIEV *e**PP pP 11 20 35.5 -1.3
KIEV pmax pmax
comp=Z,20nm,0.9s,mb5.0
KIEV Kiev 75.06 319 *e*P **P 11 20 25.6 -1.6**
comp=Z,20nm,0.9s,mb5.0
KIEV *e*pP pP 11 20 35.5 -1.3
EGAK Eagle 75.21 26 *e*P **P 11 20 28.7 +0.7**
comp=Z,9.5nm,0.8s,mb4.8
DAWY Dawson 76.15 26 *e*P **P 11 20 34.0 +0.6**
INK Inuvik 76.91 22 P **P 11 20 37.5 -0.3**
comp=Z,8.5nm,0.9s,mb4.7,baz=298,slow=7.5,SNR=13
INK Inuvik 76.91 22 *e*P **P 11 20 38.2 +0.5**
CFR Carcaliu 77.20 314⇓*i*P **P 11 20 45.3 +6.0**
CFR Carcaliu 77.20 314⇓P **P 11 20 45.4 +6.1**
TIRR Tirgusor 77.21 313⇓*i*P **P 11 20 38.5 -0.9**
TIRR Tirgusor 77.21 313 P **P 11 20 39.9 +0.5**
RAO Raoul Island 77.43 128 LR LR 11 48 51.1
comp=Z,112nm,21.2s,MS4.2,baz=53,slow=31
ISP Isparta 77.53 306 *e*P **P 11 20 40.9 -0.3**
ISP pmax pmax
comp=Z,46nm,1.3s,mb5.2
ISP Isparta 77.53 306 *e*P **P 11 20 40.9 -0.3**
comp=Z,46nm,1.3s,mb5.2
SUW Suwalki 77.70 323 *e*P **P 11 20 41.5 -0.6**
SUW *e* pP 11 20 51.0 -0.8
VRI Vrincioaia 77.95 315⇑*i*P **P 11 20 45.1 +1.6**
VRI Vrincioaia 77.95 315 P **P 11 20 45.2 +1.7**
PLOR Plostina 78.01 315⇑*i*P **P 11 20 45.5 +1.7**
BURAR Bucovina Array 78.42 317⇑*i*P **P 11 20 46.1 0.0**
BURAR Bucovina Array 78.42 317⇑P **P 11 20 46.1 -0.1**
LVV L'vov 78.49 319 *e*P **P 11 20 54.4 +7.9**
MLR Muntele Rosu 78.58 314 P **P 11 20 47.2 +0.2**
comp=Z,15nm,0.7s,mb5.0,baz=226,slow=2.4,SNR=30
MLR Muntele Rosu 78.58 314⇑*i*P **P 11 20 47.4 +0.4**
MLR Muntele Rosu 78.58 314 P **P 11 20 48.4 +1.4**
VOIR 79.20 314⇑*i*P **P 11 20 50.6 +0.2**
VOIR 79.20 314⇑P **P 11 20 50.6 +0.2**
KWP Kalwaria 79.37 319 *e*P **P 11 20 51.7 +0.4**
KWP *e* pP 11 21 01.0 0.0
KOLS Kolonicke sedl 79.87 318 *e*P **P 11 20 54.4 +0.4**
UZH Uzhgorod 79.95 318 *e*P **P 11 20 54.8 +0.3**
RDO Rodhopi 80.22 310 *e*P **P 11 20 55.9 0.0**
PRK Paraskevi 80.29 308 *e*P **P 11 20 55.9 -0.4**
DRGR 80.30 316⇓*i*P **P 11 20 57.5 +1.1**
DRGR 80.30 316⇓P **P 11 20 57.5 +1.1**
HFS Hagfors 80.33 331 P **P 11 20 55.5 -1.0**
comp=Z,18nm,0.9s,mb5.0,baz=92,slow=4.5,SNR=16
HFS pP pP 11 21 04.5 -1.7
comp=Z,24nm,0.7s,baz=93,slow=5.1,SNR=16
HFS Hagfors 80.33 331 P **P 11 20 55.5 -1.1**
HFS *PP pP 11 21 04.5 -1.7
HFS pmax pmax
comp=Z,18nm,0.9s
HFS pmax pmax
comp=Z,24nm,0.7s
HFS Hagfors 80.33 331 P **P 11 20 55.5 -1.0**
HFS pP pP 11 21 04.5 -1.7
STHS Stebnicka Huta 80.34 319 *e*P **P 11 20 57.3 +0.7**
STHS pmax pmax
comp=Z,12nm,1.2s,mb4.7
STHS Stebnicka Huta 80.34 319 *e*P **P 11 20 57.3 +0.7**
comp=Z,12nm,1.2s,mb4.7
GZR Gura Zlata 80.73 315⇓*i*P **P 11 20 59.4 +0.7**
NIE Niedzica 80.91 319 *e*P **P 11 21 00.2 +0.6**
OJC Ojcow 80.93 320 *e*P **P 11 20 59.4 -0.4**
NB2 NORSAR Subarra 81.05 332 P **P 11 20 59.4 -1.0**
comp=Z,24nm,0.9s,mb5.1,baz=64,slow=5.3
NOA NORSAR Array B 81.05 332 P **P 11 20 59.3 -1.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=65,slow=5.3,SNR=10.0
NOA pP pP 11 21 08.6 -1.5
comp=Z,13nm,0.8s,baz=64,slow=5.4,SNR=11
NOA LR LR 12 01 19.7
comp=Z,527nm,18.4s,MS4.9,baz=45,slow=39
NOA NORSAR Array B 81.05 332 P **P 11 20 59.3 -1.1**
NOA *PP pP 11 21 08.6 -1.5
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA pmax pmax
comp=Z,13nm,0.8s
NOA MLR MLR
comp=Z,527nm,18.4s
KECS Kecovo 81.13 318 *e*P **P 11 21 01.0 +0.2**
KECS *e* pP 11 21 10.3 -0.2
KECS pmax pmax
comp=Z,22nm,1.5s,mb4.9
KECS Kecovo 81.13 318 *e*P **P 11 21 01.0 +0.2**
comp=Z,22nm,1.5s,mb4.9
KECS *e* pP 11 21 10.3 -0.2
GKP Gorka Klasztor 81.28 324 *e*P **P 11 21 02.2 +0.6**
GKP *e* pP 11 21 11.1 -0.2
VTS Vitosha 81.38 312⇑*i*P **P 11 21 02.6 +0.4**
VTS Vitosha 81.38 312⇑P **P 11 21 02.6 +0.4**
PSZ Piszkesteto 81.70 318⇓*i*P **P 11 21 04.1 +0.2**
PSZ Piszkesteto 81.70 318 *e*P **P 11 21 04.2 +0.3**
PSZ pmax pmax
comp=Z,43nm,1.4s,mb5.2
PSZ Piszkesteto 81.70 318 *e*P **P 11 21 04.2 +0.3**
comp=Z,43nm,1.4s,mb5.2
PSZ Piszkesteto 81.70 318⇑*e*P **P 11 21 04.7 +0.8**
LIKS Likavka 81.78 319 *e*P **P 11 21 04.5 +0.2**
LIKS pmax pmax
comp=Z,24nm,1.2s,mb5.0
LIKS Likavka 81.78 319 *e*P **P 11 21 04.5 +0.2**
comp=Z,24nm,1.2s,mb5.0
BSD Bornholm Skovb 81.80 326 *i* P **P 11 21 04.2 -0.2**
comp=Z,45nm,1.0s,mb5.3
BSD Bornholm Skovb 81.80 326 *i* P **P 11 21 04.2 -0.2**
BSD pmax pmax
comp=Z,45nm,1.0s,mb5.3
SANT Santorini 81.83 306 *e*P **P 11 21 03.1 -1.4**
PLG Polygyros 81.97 310 *e*P **P 11 21 04.8 -0.5**
OKC Ostrava-Krasne 82.06 320 *e*P **P 11 21 06.4 +0.7**
OKC *e*pP pP 11 21 15.0 -0.4
VYHS Vyhne 82.15 319 *i* P **P 11 21 07.2 +1.0**
VYHS *e* pP 11 21 15.5 -0.4
VYHS pmax pmax
comp=Z,19nm,1.2s,mb4.9
VYHS Vyhne 82.15 319 *i* P **P 11 21 07.2 +1.0**
comp=Z,19nm,1.2s,mb4.9
VYHS *e* pP 11 21 15.5 -0.4
VAY Valandovo 82.27 311 *e*P **P 11 21 04.8 -2.0**
RES Resolute Bay 82.38 9 *e*P **P 11 21 08.1 +0.7**
RES pmax pmax
comp=Z,1µm,1.1s
RES Resolute Bay 82.38 9 *e*P **P 11 21 08.1 +0.6**
comp=Z,1µm,1.1s
BUD Budapest 82.41 318⇑*e*P **P 11 21 08.7 +1.1**
MORC Moravsky Berou 82.45 320⇑*i*P **P 11 21 07.8 0.0**
MORC Moravsky Berou 82.45 320 *e*P **P 11 21 08.0 +0.2**
GRUS Gruza 82.64 314 *i* P **P 11 21 08.8 0.0**
KSP Ksiaz 82.77 322 *e*P **P 11 21 09.9 +0.5**
KSP *e* pP 11 21 19.5 +0.4
KSP Ksiaz 82.77 322 *e*P **P 11 21 09.0 -0.4**
KSP *e*PcP PcP 11 21 13.4 -0.8
KSP *e*pP pP 11 21 19.2 +0.1
SKO Skopje 82.83 312 *e*P **P 11 21 09.1 -0.6**
DPC Dobruska-Polom 82.94 321 *e*P **P 11 21 11.1 +0.8**
DPC *e*pP pP 11 21 18.8 -1.3
DIVS Divcibare 83.04 314 *i* P **P 11 21 10.9 +0.1**
UPC Upice 83.06 321 *e*P **P 11 21 11.0 0.0**
UPC *e*pP pP 11 21 19.2 -1.5
VAM Vamos 83.11 305 *e*P **P 11 21 08.0 -3.2**
PKSM Moragy 83.14 317⇑*i*P **P 11 21 11.0 -0.3**
PKSM Moragy 83.14 317 P **P 11 21 11.9 +0.6**
VRAC Vranov 83.20 320 P **P 11 21 12.3 +0.6**
comp=Z,18nm,1.0s,mb5.0,baz=68,slow=5.2,SNR=11
VRAC pP pP 11 21 20.9 -0.5
comp=Z,26nm,1.0s,baz=209,slow=2.9,SNR=5.1
VRAC Vranov 83.20 320⇓*i*P **P 11 21 12.1 +0.4**
VRAC Vranov 83.20 320 P **P 11 21 12.3 +0.6**
VRAC *e**PP pP 11 21 20.9 -0.5
VRAC pmax pmax
comp=Z,18nm,1.0s
VRAC pmax pmax
comp=Z,26nm,1.0s
VRAC Vranov 83.20 320⇓P **P 11 21 12.1 +0.4**
ZST Bratislava 83.33 319 *e*P **P 11 21 13.4 +1.0**
ZST MLR MLR
comp=Z,300nm,17.0s,MS4.7
BBLS Bajina Basta - 83.52 314 *i* P **P 11 21 14.3 +1.0**
VLI Veliai 83.61 307 *e*P **P 11 21 06.4 -7.4**
EVR Evrytania 83.67 309 *e*P **P 11 21 21.9 +7.8**
KMBO Kilima Mbogo 83.87 267 P **P 11 21 15.9 +0.8**
comp=Z,8.2nm,1.0s,mb4.8,baz=47,slow=9.4,SNR=15
KMBO pP pP 11 21 24.9 +0.1
comp=Z,13nm,1.1s,baz=44,slow=9.6,SNR=6.9
KMBO Kilima Mbogo 83.87 267 P **P 11 21 15.9 +0.8**
KMBO *e**PP pP 11 21 24.9 +0.1
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 83.87 267 *e*P **P 11 21 16.3 +1.2**
SOP Sopron 83.87 319⇑*e*P **P 11 21 16.1 +1.0**
PVCC Panska Ves 83.89 322 *e*P **P 11 21 16.3 +1.1**
PVCC *e*pP pP 11 21 23.3 -1.6
BRG Berggiesshubel 84.11 322 *e*P **P 11 21 16.8 +0.5**
comp=Z,40nm,1.2s,mb5.4
BRG Berggiesshubel 84.11 322 *e*P **P 11 21 16.9 +0.6**
comp=Z,24nm,1.2s,mb5.2
BRG *i* pP 11 21 25.6 -0.4
comp=Z,38nm,1.3s
BRG Berggiesshubel 84.11 322 *e*P **P 11 21 16.9 +0.6**
BRG *i* pP 11 21 25.6 -0.4
BRG pmax pmax
comp=Z,24nm,1.2s,mb5.2
CONA Conrad Observa 84.20 319⇑*i*PcP PcP 11 21 18.1 -2.5
comp=Z,15nm,1.4s
CONA ⇑*i*pP pP 11 21 27.2 +0.7
comp=Z,26nm,1.5s
ITM Ithomi 84.21 307 *e*P **P 11 21 15.3 -1.5**
RLS Riolos of Patr 84.23 308 *e*P **P 11 21 16.0 -0.9**
CLL Collm 84.45 323 *e*P **P 11 21 18.0 -0.1**
CLL *i* *PP pP 11 21 26.7 -1.1
CLL pmax pmax
comp=Z,43nm,1.1s,mb5.5
CLL Collm 84.45 323 *e*P **P 11 21 18.0 -0.1**
comp=Z,43nm,1.1s,mb5.5
CLL *i* pP pP 11 21 26.7 -1.1
CLL Collm 84.45 323 *e*P **P 11 21 18.0 -0.1**
comp=Z,43nm,1.1s,mb5.5
CLL *i* pP pP 11 21 26.7 -1.1
CLL *es*P sP 11 21 32.0 +0.7
CLL LmV 12 00 00.0
comp=Z,400nm,19.1s
ARSA Arzberg 84.69 319⇑*i*P **P 11 21 20.0 +0.8**
comp=Z,8.9nm,1.0s,mb4.9
ARSA Arzberg 84.69 319⇑*i* pP 11 21 29.2 +0.2
comp=Z,26nm,1.5s
ARSA Arzberg 84.69 319⇑*i*PcP PcP 11 21 20.0 -2.7
ARSA comp=Z,8.9nm,1.0s ⇑*i*pP pP 11 21 29.2 +0.2
comp=Z,26nm,1.5s
ARSA Arzberg 84.69 319 P **P 11 21 20.1 +0.8**
ARSA *e* pP 11 21 29.2 +0.2
KEK Kerkira 84.82 310 *e*P **P 11 21 18.5 -1.4**
VLS Valsamata 84.83 309 *e*P **P 11 21 18.5 -1.5**
KHC Kasperske Hory 85.07 321 *e*P **P 11 21 21.2 0.0**
KHC *e*pP pP 11 21 30.6 -0.3
GEC2 GERESS Array S 85.12 321 *e*P **P 11 21 22.1 +0.7**
comp=Z,31nm,1.3s,mb5.3
GEC2 GERESS Array S 85.12 321 *e*P **P 11 21 22.1 +0.7**
GEC2 pmax pmax
comp=Z,31nm,1.3s,mb5.3
GERES GERESS Array B 85.12 321 P **P 11 21 21.1 -0.3**
comp=Z,7.7nm,0.8s,mb4.9,baz=69,slow=4.4,SNR=32
GERES pP pP 11 21 30.2 -1.0
comp=Z,7.3nm,0.7s,baz=69,slow=4.9,SNR=11
GERES LR LR 12 01 56.6
comp=Z,311nm,20.2s,MS4.7,baz=321,slow=38
GERES GERESS Array B 85.12 321 P **P 11 21 21.1 -0.3**
GERES *PP pP 11 21 30.2 -1.0
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES MLR MLR
comp=Z,311nm,20.2s
TANN Tannenbergstha 85.16 322 *e*P **P 11 21 22.0 +0.4**
PERS Pernice 85.20 318 *e*P **P 11 21 22.3 +0.4**
PERS *i* pP 11 21 31.4 -0.1
MOA Molln 85.21 319⇑*i* pP 11 21 32.7 +1.1
comp=Z,35nm,0.9s
MOA Molln 85.21 319⇑*i*P **P 11 21 22.4 +0.5**
comp=Z,26nm,1.0s,mb5.3
MOA ⇑*i*pP pP 11 21 32.7 +1.1
comp=Z,35nm,0.9s
MOA Molln 85.21 319 P **P 11 21 22.4 +0.5**
MOA *e* pP 11 21 32.7 +1.1
NKC Novy Kostel 85.25 322 *e*P **P 11 21 22.7 +0.6**
NKC *e*pP pP 11 21 30.5 -1.3
WET Wettzell 85.48 321 *e*P **P 11 21 23.7 +0.5**
comp=Z,41nm,1.6s,mb5.3
WET Wettzell 85.48 321 *e*P **P 11 21 23.7 +0.5**
WET pmax pmax
comp=Z,41nm,1.6s,mb5.3
NRDL Niedersach Rie 85.51 325 *e*P **P 11 21 23.2 -0.2**
MOX Moxa 85.54 323 *e*P **P 11 21 24.0 +0.5**
comp=Z,24nm,1.2s,mb5.3
MOX Moxa 85.54 323 *e*P **P 11 21 24.1 +0.6**
MOX *e* pP 11 21 32.9 -0.3
comp=Z,74nm,1.6s
MOX Moxa 85.54 323 *e*P **P 11 21 24.1 +0.6**
MOX *e* pP 11 21 32.9 -0.3
MOX pmax pmax
comp=Z,74nm,1.6s,mb5.7
MOX Moxa 85.54 323 *e*P **P 11 21 24.1 +0.6**
comp=Z,74nm,1.6s,mb5.7
MOX *e* pP 11 21 32.9 -0.3
MANZ Manzenberg 85.55 322 *e*P **P 11 21 24.3 +0.7**
BOJS Bojanci 85.59 317 *i* P **P 11 21 23.9 +0.1**
ROTZ Rotzenmuhle 85.59 322 *e*P **P 11 21 24.8 +1.0**
OBKA Obir 85.61 318⇑*i*P **P 11 21 24.0 +0.1**
comp=Z,12nm,0.8s,mb5.2
OBKA ⇑*i*pP pP 11 21 33.9 +0.3
comp=Z,19nm,0.8s
OBKA Obir 85.61 318 P **P 11 21 24.0 +0.1**
OBKA *e* pP 11 21 33.9 +0.3
CLZ Clausthal 85.68 324 *e*P **P 11 21 24.8 +0.6**
comp=Z,51nm,1.2s,mb5.6
CLZ Clausthal 85.68 324 *e*P **P 11 21 24.8 +0.6**
CLZ pmax pmax
comp=Z,51nm,1.2s,mb5.6
KBA Koelnbreinsper 86.11 319⇑*i*P **P 11 21 26.0 -0.4**
comp=Z,18nm,1.6s,mb5.1
KBA ⇑*i*pP pP 11 21 36.0 0.0
comp=Z,35nm,1.6s
KBA Koelnbreinsper 86.11 319 P **P 11 21 26.0 -0.4**
KBA *e* pP 11 21 36.0 0.0
GRA1 Grafenberg Arr 86.20 322 *e*P **P 11 21 27.7 +0.9**
comp=Z,48nm,1.5s,mb5.5
GRA1 *e*pP pP 11 21 36.2 -0.3
GRF Grafenberg Arr 86.20 322 *e*P **P 11 21 27.7 +0.9**
comp=Z,48nm,1.5s,mb5.5
GRF *e*pP pP 11 21 36.2 -0.3
GRF Grafenberg Arr 86.20 322 *e*P **P 11 21 27.7 +0.9**
GRF *e**PP pP 11 21 36.2 -0.3
GRF pmax pmax
comp=Z,48nm,1.5s,mb5.5
GRF Grafenberg Arr 86.20 322 *e*P **P 11 21 27.7 +0.9**
GRF *e**PP pP 11 21 36.2 -0.3
GRF pmax pmax
comp=Z,48nm,1.5s,mb5.5
VOY Vojsko 86.22 318 *e*P **P 11 21 26.8 -0.1**
VOY *e* pP 11 21 35.2 -1.5
UBBA Unterbreizbach 86.36 323 *e*P **P 11 21 27.8 +0.2**
ROBS Robic 86.37 318 *e*P **P 11 21 26.8 -0.8**
ROBS *e* pP 11 21 36.3 -1.1
YKW3 Yellowknife Ar 86.60 22 *e*P **P 11 21 29.7 +0.9**
YKA Yellowknife Ar 86.64 22 P **P 11 21 29.2 +0.3**
comp=Z,17nm,0.9s,mb5.3,baz=314,slow=4.7,SNR=23
YKA pP pP 11 21 38.4 -0.3
comp=Z,15nm,0.9s,baz=316,slow=4.7,SNR=8.3
YKA LR LR 12 07 44.7
comp=Z,141nm,19.0s,MS4.4,baz=235,slow=41
YKA Yellowknife Ar 86.64 22 P **P 11 21 29.3 +0.3**
YKA *PP pP 11 21 38.4 -0.3
YKA Yellowknife Ar 86.64 22 P **P 11 21 29.2 +0.3**
YKA pP pP 11 21 38.4 -0.3
YKA LR LR 12 07 44.7
IBBN Ibbenburen 86.86 325 *e*P **P 11 21 30.5 +0.4**
FUR Furstenfeldbru 86.87 321 *e*P **P 11 21 30.9 +0.8**
comp=Z,42nm,1.1s,mb5.6
FUR Furstenfeldbru 86.87 321 *e*P **P 11 21 30.9 +0.8**
FUR pmax pmax
comp=Z,42nm,1.1s,mb5.6
WTTA Wettenberg 87.07 320⇑*i*P **P 11 21 31.8 +0.8**
comp=Z,22nm,1.0s,mb5.3
WTTA Wettenberg 87.07 320⇑*i*PcP PcP 11 21 31.8 -1.3
comp=Z,22nm,1.0s
WTTA ⇑*i*pP pP 11 21 40.9 +0.1
comp=Z,27nm,0.8s
WTTA Wettenberg 87.07 320 P **P 11 21 31.9 +0.8**
WTTA *e* pP 11 21 40.9 +0.1
TIP Timpagrande 87.19 311 *e*P **P 11 21 31.8 +0.2**
SQTA Sankt Quirin 87.35 320⇑*i*P **P 11 21 32.9 +0.6**
comp=Z,14nm,1.1s,mb5.1
SQTA Sankt Quirin 87.35 320⇑*i*PcP PcP 11 21 32.9 -1.5
comp=Z,14nm,1.1s
DAVA Damuels 88.11 320⇓*i*P **P 11 21 37.2 +1.2**
comp=Z,13nm,1.6s,mb4.9
DAVA Damuels 88.11 320⇓*i*PcP PcP 11 21 37.2 -0.6
comp=Z,13nm,1.6s
DAVOX Davos 88.36 320 P **P 11 21 37.4 +0.2**
comp=Z,6.3nm,0.9s,mb4.8,baz=153,slow=2.2,SNR=6.1
DAVOX pP pP 11 21 46.9 -0.1
comp=Z,19nm,1.1s,baz=79,slow=2.1,SNR=6.5
DAVOS Davos 88.38 320 P **P 11 21 37.4 +0.1**
DAVOS *PP pP 11 21 46.9 -0.2
MEM Membach 88.67 324 P **P 11 21 39.5 +0.8**
MEM AP pP 11 21 47.4 -1.1
WLF Walferdange 89.08 324 P **P 11 21 40.4 -0.3**
WLF Walferdange 89.08 324 *e*P **P 11 21 42.1 +1.5**
CDF Champ du Feu 89.09 322 *e*P **P 11 21 40.6 -0.1**
comp=Z,91nm,1.7s,mb5.5
CDF Champ du Feu 89.09 322 *e*P **P 11 21 40.6 -0.1**
CDF pmax pmax
comp=Z,45nm,1.7s,mb5.5
CDF Champ du Feu 89.09 322 *e*P **P 11 21 40.6 -0.1**
comp=Z,46nm,1.7s,mb5.5
BCLA Clavier 89.16 325 AP pP 11 21 50.2 -0.6
GIVF Givet 89.58 324 *e*P **P 11 21 42.1 -0.9**
comp=Z,46nm,1.2s,mb5.4
GIVF Givet 89.58 324 *e*P **P 11 21 42.1 -0.9**
GIVF pmax pmax
comp=Z,23nm,1.2s,mb5.4
GIVF Givet 89.58 324 *e*P **P 11 21 42.1 -0.9**
comp=Z,23nm,1.2s,mb5.4
HINF Hinteralfeld 89.64 322 *e*P **P 11 21 43.0 -0.2**
HAU Haudompre 89.83 322 *e*P **P 11 21 44.0 -0.1**
comp=Z,41nm,1.2s,mb5.3
HAU *e*R
comp=Z,443nm,20.8s
HAU Haudompre 89.83 322 *e*P **P 11 21 44.0 -0.1**
HAU pmax pmax
comp=Z,20nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,440nm,20.8s,MS4.9
HAU Haudompre 89.83 322 *e*P **P 11 21 44.0 -0.1**
comp=Z,20nm,1.2s,mb5.3
HAU LR LR
comp=Z,440nm,20.8s,MS4.9

BAIF Baives 89.94 325 *e*P **P 11 21 45.0 +0.4**
comp=Z,32nm,1.2s,mb5.2
BAIF Baives 89.94 325 *e*P **P 11 21 45.0 +0.4**
BAIF pmax pmax
comp=Z,16nm,1.2s,mb5.2
BAIF Baives 89.94 325 *e*P **P 11 21 45.0 +0.4**
comp=Z,16nm,1.2s,mb5.2
MEZF Maizieres J'vi 90.31 323 *e*P **P 11 21 45.4 -1.0**
comp=Z,44nm,1.3s,mb5.3
MEZF Maizieres J'vi 90.31 323 *e*P **P 11 21 45.4 -1.0**
comp=Z,44nm,1.3s,mb5.6
EKA Eskdalemuir Ar 90.52 332 P **P 11 21 48.1 +0.8**
comp=Z,3.9nm,0.9s,mb4.8,baz=39,slow=5.4,SNR=3.8
EKA Eskdalemuir Ar 90.52 332 P **P 11 21 48.1 +0.8**
EKA pmax pmax
comp=Z,4.0nm,0.9s
CABF La Chapelle 90.70 321 *e*P **P 11 21 48.7 +0.5**
comp=Z,127nm,1.8s,mb5.7
CABF La Chapelle 90.70 321 *e*P **P 11 21 48.7 +0.5**
CABF pmax pmax
comp=Z,64nm,1.8s,mb5.7
CABF La Chapelle 90.70 321 *e*P **P 11 21 48.7 +0.5**
comp=Z,64nm,1.8s,mb5.7
LPG La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
comp=Z,64nm,0.8s,mb5.7
LPG La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
LPG pmax pmax
comp=Z,32nm,0.8s,mb5.7
LPG La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
comp=Z,32nm,0.8s,mb5.7
LPL La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
comp=Z,60nm,0.8s,mb5.7
LPL La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
LPL pmax pmax
comp=Z,30nm,0.8s,mb5.7
LPL La Plagne 90.88 320 *e*P **P 11 21 49.8 +0.8**
comp=Z,30nm,0.8s,mb5.7
PGF Pioggiola 90.95 316 *e*P **P 11 21 50.2 +0.9**
comp=Z,299nm,1.4s,mb6.1
PGF Pioggiola 90.95 316 *e*P **P 11 21 50.2 +0.9**
PGF pmax pmax
comp=Z,149nm,1.4s,mb6.1
PGF Pioggiola 90.95 316 *e*P **P 11 21 50.2 +0.9**
comp=Z,149nm,1.4s,mb6.1
BNI Bardonecchia 91.15 319 *e*P **P 11 21 50.7 +0.4**
BNI pmax pmax
comp=Z,34nm,1.1s,mb5.6
BNI Bardonecchia 91.15 319 *e*P **P 11 21 50.7 +0.4**
comp=Z,34nm,1.1s,mb5.6
MBDF Montbardon 91.26 319 *e*P **P 11 21 50.7 -0.1**
comp=Z,16nm,0.8s,mb5.1
MBDF Montbardon 91.26 319 *e*P **P 11 21 50.7 -0.1**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
MBDF Montbardon 91.26 319 *e*P **P 11 21 50.7 -0.1**
comp=Z,8.3nm,0.8s,mb5.1
SBF Sospel 91.29 318 *e*P **P 11 21 50.8 -0.1**
comp=Z,67nm,0.8s,mb5.7
SBF Sospel 91.29 318 *e*P **P 11 21 50.8 -0.1**
SBF pmax pmax
comp=Z,34nm,0.8s,mb5.7
SBF Sospel 91.29 318 *e*P **P 11 21 50.8 -0.1**
comp=Z,34nm,0.8s,mb5.7
LOR Lormes 91.65 322 *e*P **P 11 21 52.6 0.0**
comp=Z,80nm,1.6s,mb5.5
LOR *e*R
comp=Z,310nm,20.0s
LOR Lormes 91.65 322 *e*P **P 11 21 52.6 0.0**
LOR pmax pmax
comp=Z,40nm,1.6s,mb5.5
LOR MLR MLR
comp=Z,310nm,20.0s,MS4.8
LOR Lormes 91.65 322 *e*P **P 11 21 52.6 0.0**
comp=Z,40nm,1.6s,mb5.5
LOR LR LR
comp=Z,310nm,20.0s,MS4.8
ORIF Oris-en-Rattie 91.71 320 *e*P **P 11 21 52.8 -0.1**
comp=Z,95nm,1.3s,mb5.7
ORIF *e*R
comp=Z,664nm,21.2s
ORIF Oris-en-Rattie 91.71 320 *e*P **P 11 21 52.8 -0.1**
ORIF pmax pmax
comp=Z,47nm,1.3s,mb5.7
ORIF Oris-en-Rattie 91.71 320 *e*P **P 11 21 52.8 -0.1**
comp=Z,47nm,1.3s,mb5.7
FRF La Foret Royal 91.94 318 *e*P **P 11 21 53.9 0.0**
comp=Z,92nm,1.2s,mb5.7
FRF La Foret Royal 91.94 318 *e*P **P 11 21 53.9 0.0**
FRF pmax pmax
comp=Z,46nm,1.2s,mb5.7
FRF La Foret Royal 91.94 318 *e*P **P 11 21 53.9 0.0**
comp=Z,46nm,1.2s,mb5.7
SSF Saint Saulge 91.96 322 *e*P **P 11 21 54.2 +0.2**
comp=Z,34nm,1.3s,mb5.2
SSF Saint Saulge 91.96 322 *e*P **P 11 21 54.2 +0.2**
SSF pmax pmax
comp=Z,17nm,1.3s,mb5.2
SSF Saint Saulge 91.96 322 *e*P **P 11 21 54.2 +0.2**
comp=Z,17nm,1.3s,mb5.2
SMF Signal de Mont 92.00 322 *e*P **P 11 21 54.4 +0.2**
comp=Z,88nm,1.5s,mb5.6
SMF Signal de Mont 92.00 322 *e*P **P 11 21 54.4 +0.2**
SMF pmax pmax
comp=Z,44nm,1.5s,mb5.6
SMF Signal de Mont 92.00 322 *e*P **P 11 21 54.4 +0.2**
comp=Z,44nm,1.5s,mb5.6
LMR La Mourre 92.14 318 *e*P **P 11 21 55.5 +0.7**
comp=Z,146nm,1.4s,mb5.8
LMR La Mourre 92.14 318 *e*P **P 11 21 55.5 +0.7**
LMR pmax pmax
comp=Z,73nm,1.4s,mb5.8
LMR La Mourre 92.14 318 *e*P **P 11 21 55.5 +0.7**
comp=Z,73nm,1.4s,mb5.8
VSL Villasalto 92.17 314 *e*P **P 11 21 55.8 +0.7**
AVF Avril sur Loir 92.20 322 *e*P **P 11 21 55.3 +0.2**
comp=Z,68nm,1.5s,mb5.5
AVF Avril sur Loir 92.20 322 *e*P **P 11 21 55.3 +0.2**
AVF pmax pmax
comp=Z,34nm,1.5s,mb5.5
AVF Avril sur Loir 92.20 322 *e*P **P 11 21 55.3 +0.2**
comp=Z,34nm,1.5s,mb5.5
HYF Humbligny 92.34 323 *e*P **P 11 21 56.6 +0.8**
SMRF Simiane la Rot 92.39 319 *e*P **P 11 21 56.7 +0.7**
comp=Z,34nm,1.1s,mb5.3
SMRF Simiane la Rot 92.39 319 *e*P **P 11 21 56.7 +0.7**
comp=Z,34nm,1.1s,mb5.6
VIVF Saint-Julien-l 92.47 320 *e*P **P 11 21 56.7 +0.3**
comp=Z,38nm,1.1s,mb5.3
VIVF Saint-Julien-l 92.47 320 *e*P **P 11 21 56.7 +0.3**
VIVF pmax pmax
comp=Z,19nm,1.1s,mb5.3
VIVF Saint-Julien-l 92.47 320 *e*P **P 11 21 56.7 +0.3**
comp=Z,19nm,1.1s,mb5.3
BGF Bois d'Agland 92.62 322 *e*P **P 11 21 57.4 +0.3**
comp=Z,92nm,1.6s,mb5.7
BGF Bois d'Agland 92.62 322 *e*P **P 11 21 57.4 +0.3**
BGF pmax pmax
comp=Z,46nm,1.6s,mb5.7
BGF Bois d'Agland 92.62 322 *e*P **P 11 21 57.4 +0.3**
comp=Z,46nm,1.6s,mb5.7
LDF La Druitiere 93.11 325 *e*P **P 11 21 59.4 +0.1**
TCF Toulx Ste Croi 93.14 322 *e*P **P 11 21 59.7 +0.3**
EDM Edmonton 93.18 29 *e*P **P 11 22 01.2 +1.5**
FLN La Foliniere 93.20 325 *e*P **P 11 21 59.7 -0.1**
comp=Z,158nm,1.7s,mb5.9
FLN *e*R
comp=Z,564nm,17.5s
FLN La Foliniere 93.20 325 *e*P **P 11 21 59.7 -0.1**
FLN pmax pmax
comp=Z,79nm,1.7s,mb5.9
FLN MLR MLR
comp=Z,560nm,17.5s,MS5.1
FLN La Foliniere 93.20 325 *e*P **P 11 21 59.7 -0.1**
comp=Z,79nm,1.7s,mb5.9
FLN LR LR
comp=Z,560nm,17.5s,MS5.1
LASF Ste Croix 93.38 320 *e*P **P 11 22 00.6 0.0**
comp=Z,75nm,1.6s,mb5.6
GRR Gorron 93.62 325 *e*P **P 11 22 01.9 +0.2**
comp=Z,7.6nm,0.8s,mb4.9
GRR Gorron 93.62 325 *e*P **P 11 22 01.9 +0.2**
GRR pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
GRR Gorron 93.62 325 *e*P **P 11 22 01.9 +0.2**
comp=Z,3.8nm,0.8s,mb4.9
CAF Calviac 93.98 321 *e*P **P 11 22 02.8 -0.6**
comp=Z,58nm,1.6s,mb5.5
CAF Calviac 93.98 321 *e*P **P 11 22 02.8 -0.6**
CAF pmax pmax
comp=Z,29nm,1.6s,mb5.5
CAF Calviac 93.98 321 *e*P **P 11 22 02.8 -0.6**
comp=Z,29nm,1.6s,mb5.5
KEST Kesra 94.00 310 P **P 11 22 03.5 0.0**
comp=Z,4.6nm,1.1s,mb4.8,baz=302,slow=5.0,SNR=6.5
KEST LR LR 12 07 20.4
comp=Z,77nm,21.2s,MS4.1,baz=280,slow=37
RJF Les Rejaudoux 94.09 322 *e*P **P 11 22 04.6 +0.8**
comp=Z,175nm,1.8s,mb5.9
RJF *e*R
comp=Z,298nm,21.6s
RJF Les Rejaudoux 94.09 322 *e*P **P 11 22 04.6 +0.8**
RJF pmax pmax
comp=Z,88nm,1.8s,mb5.9
RJF MLR MLR
comp=Z,300nm,21.6s,MS4.7
RJF Les Rejaudoux 94.09 322 *e*P **P 11 22 04.6 +0.8**
comp=Z,88nm,1.8s,mb5.9
RJF LR LR
comp=Z,300nm,21.6s,MS4.7
MFF Saint Martin d 94.29 323 *e*P **P 11 22 05.1 +0.3**
SGMF Saint Gilles 94.61 326 *e*P **P 11 22 05.9 -0.3**
comp=Z,141nm,1.4s,mb5.9
SGMF Saint Gilles 94.61 326 *e*P **P 11 22 05.9 -0.3**
SGMF pmax pmax
comp=Z,71nm,1.4s,mb5.9
SGMF Saint Gilles 94.61 326 *e*P **P 11 22 05.9 -0.3**
comp=Z,71nm,1.4s,mb5.9
LFF La Frestale 94.75 322 *e*P **P 11 22 05.9 -1.0**
ROSF Rostrenen 94.94 326 *e*P **P 11 22 07.3 -0.4**
QUIF Quistinic 95.14 326 *e*P **P 11 22 08.0 -0.6**
comp=Z,328nm,1.9s,mb6.1
QUIF Quistinic 95.14 326 *e*P **P 11 22 08.0 -0.6**
QUIF pmax pmax
comp=Z,164nm,1.9s,mb6.1
QUIF Quistinic 95.14 326 *e*P **P 11 22 08.0 -0.6**
comp=Z,164nm,1.9s,mb6.1
EPF Esparros 96.08 320 *e*P **P 11 22 12.8 -0.2**
PPT Papeete 96.13 106 *e*SS SS 11 40 00.4 -1.5
comp=Z,140nm,26.8s
PPT *e*LR LR 11 53 24.4
comp=Z,522nm,26.2s
PPT Papeete 96.13 106 LR LR 11 55 53.8
comp=Z,223nm,21.0s,MS4.6,baz=269,slow=29
SJPF Ste Jean 96.97 321 *e*P **P 11 22 16.0 -1.0**
comp=Z,40nm,1.3s,mb5.4
SJPF Ste Jean 96.97 321 *e*P **P 11 22 16.0 -1.0**
SJPF pmax pmax
comp=Z,20nm,1.3s,mb5.4
SJPF Ste Jean 96.97 321 *e*P **P 11 22 16.0 -1.0**
comp=Z,20nm,1.3s,mb5.4
TBI Tubuai 98.12 112 *e*LR LR 11 54 18.3
comp=Z,408nm,36.2s
NVAR Mina Array Bea 99.66 43 P Pdif 11 22 31.1 +2.1
comp=Z,0.4nm,0.6s,baz=287,slow=3.7,SNR=4.8
VNDA Vanda 100.82 172 P Pdif 11 22 34.6 +0.4
comp=Z,0.8nm,0.9s,baz=51,slow=3.8,SNR=4.0
VNDA Vanda 100.82 172 P Pdif 11 22 34.6 +0.4
VNDA pmax pmax
comp=Z,1.0nm,0.9s
TAOE Nuku Hiva Isla 101.96 95 *e*LR LR 11 55 52.4
comp=Z,2µm,33.0s
PDAR Pinedale Array 102.07 35 P Pdif 11 22 42.2 +2.5
comp=Z,0.2nm,0.6s,baz=321,slow=1.9,SNR=3.8
RKT Rikitea 110.83 108 *e*LR LR 12 00 04.1
comp=Z,284nm,32.8s
TORD Torodi Ar. Bea 110.99 294 PKKPbc PKKPbc 11 38 15.4 -0.2
comp=Z,1.0nm,0.8s,baz=267,slow=3.3,SNR=5.3
MIV Mineville/With 114.47 11 *e*PKP PKiKP 11 27 25.5 +0.2
TXAR Lajitas Array 114.78 42 PKP PKiKP 11 27 26.4 +0.6
comp=Z,1.4nm,0.8s,baz=262,slow=1.5,SNR=11
TXAR Lajitas Array 114.78 42 PKIKP PKiKP 11 27 26.5 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
VNA2 Neumayer--Watz 121.17 198 *e*PKPdf PKPdf 11 27 36.8 -1.4
baz=74,slow=0.4
VNA2 *e* 11 27 47.8
VNA2 *e* 11 27 52.0
VNA2 *e* 11 27 55.3
VNA3 Neumayer Olymp 121.64 197 *e*PKPdf PKPdf 11 27 37.6 -1.5
VNA3 *e* 11 27 49.0
VNA3 *e* 11 27 52.3
SDV Santo Domingo 148.85 21 PKP PKPdf 11 28 30.0 +1.0
comp=Z,28nm,0.8s,baz=27,slow=2.3,SNR=10
SDV PKPbc PKPbc 11 28 33.9 +1.0
comp=Z,28nm,0.8s,baz=8.6,slow=3.2,SNR=31
SDV Santo Domingo 148.85 21 *e*PKPdf PKPdf 11 28 30.6 +1.6
ROSC El Rosal 150.97 31 PKP PKPdf 11 28 34.6 +2.3
comp=Z,7.3nm,0.4s,baz=88,slow=22,SNR=3.7
ROSC PKPbc PKPbc 11 28 41.1 +3.0
comp=Z,11nm,0.6s,baz=96,slow=22,SNR=13
CFAA Coronel Fontan 166.58 147 PKP PKPdf 11 28 51.8 +1.1
comp=Z,0.7nm,0.9s,baz=242,slow=3.5,SNR=6.6
LPAZ La Paz 170.96 64 PKP PKPdf 11 28 56.0 +2.5
comp=Z,4.4nm,1.0s,baz=40,slow=3.9,SNR=13
LVC Limon Verde 171.19 105 PKPab PKPab 11 30 15.1 +1.6
comp=Z,3.6nm,0.9s,baz=269,slow=1.0,SNR=3.7
SIV San Ignacio 175.30 16 PKP PKPdf 11 28 55.1 -0.2
comp=Z,5.5nm,0.9s,baz=118,slow=1.7,SNR=22
SIV PKPab PKPab 11 30 32.2 +0.4
comp=Z,1.4nm,0.9s,baz=35,slow=5.8,SNR=3.5

*NEIC **18** 11:22:51.0±2.5,4754N×15594E,h10km,mb4.0/2, Error ellipse: s-maj=49.9km s-min=14.8km az=128.0*
*ISCJB **18** 11:22:55.0±0.8,4814N±009×1553E±01,h10km,mb3.9/16, MS4.4/1, Error ellipse: s-maj=17.4km s-min=6.7km az=88.8*
*IDC **18** 11:22:55.4±0.8,4807N×15492E,h0km,mb4.0/15, mb1 4.1/16,mb1mx4.0/28,mbtmp4.0/16, Error ellipse: s-maj=24.3km s-min=19.1km az=104.0*
*MOS **18** 11:22:58.6±1.0,4797N×15477E,h34km,mb4.3/7, Error ellipse: s-maj=17.6km s-min=11.9km az=80.5*
ISC 18 11:22:56.5±0.8,4818N±009×1553E±01,h10km,n40,
σ1§33/41,mb3.9/16,MS4.4/1,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.57**	**12**	*e*PN	**Pb**	**11 23 41.5**	**-1.1**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PET	**Petropavlovsk**	**5.30**	**23**	*e*PN	**Pb**	**11 24 27.2**	**-2.1**
PET				pmax	pmax		
	comp=Z,36nm,0.5s						
PET	**Petropavlovsk**	**5.30**	**23**	*e*Pn	**Pn**	**11 24 17.7**	**+1.9**
	comp=Z,20nm,0.6s						
PET	**Petropavlovsk**	**5.30**	**23**	*e*Pn	**Pn**	**11 24 17.7**	**+1.9**
KUR	**Kuril'sk**	**5.89**	**243**	*e*PN	**Pn**	**11 24 20.0**	**-3.9**
KUR				*e*S	**Sn**	**11 25 34.0**	**+2.5**
KUR				pmax	pmax		
	comp=Z,µm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.57**	**266**	*i*PN	**Pn**	**11 25 03.0**	**+2.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.57**	**266**	*e*Pn	**Pn**	**11 25 02.7**	**+2.1**
	comp=Z,16nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.57**	**266**	*e*Pn	**Pn**	**11 25 02.9**	**+2.2**
ASAJ	**Asahikawa**	**9.70**	**250**	Pn	**Pn**	**11 25 17.6**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=90,slow=18,SNR=15						
ASAJ	**Asahikawa**	**9.70**	**250**	PN	**Pn**	**11 25 17.7**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**10.56**	**239**	*e*PN	**Pn**	**11 25 37.0**	**+9.2**
MAJO	**Matsushiro**	**17.12**	**234**	*e*P	**Pn**	**11 26 50.1**	**-5.8**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAJO	**Matsushiro**	**17.12**	**234**	*e*Pn	**Pn**	**11 26 50.1**	**-5.8**
	comp=Z,4.2nm,0.7s						
MJAR	**Matsushiro Arr**	**17.12**	**233**	Pn	**Pn**	**11 26 50.8**	**-5.1**
	baz=24,slow=14,SNR=5.1						
CLNS	**Chul'man**	**20.29**	**307**	*e*P	**P**	**11 27 34.3**	**+2.0**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,700nm,11.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,400nm,12.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,1µm,14.0s,MS4.5						
KSRS	**Korea Array**	**22.64**	**252**	P	**P**	**11 27 56.4**	**-1.3**
	comp=E,3.9nm,0.6s,mb4.0,baz=47,slow=10,SNR=13						
BJT	**Baijiatuao**	**29.00**	**268**	*e*P	**P**	**11 28 54.4**	**-2.0**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJT	**Baijiatuao**	**29.00**	**268**	*e*P	**P**	**11 28 54.4**	**-2.0**
	comp=Z,3.5nm,0.7s,mb4.2						
SONM	**Songino Array**	**32.28**	**288**	P	**P**	**11 29 23.3**	**-2.1**
	comp=Z,0.1nm,0.4s,mb3.0,baz=40,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**47.60**	**297**	P	**P**	**11 31 31.1**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=65,slow=7.6,SNR=22						
BVAR	**Borovoye Array**	**51.10**	**309**	P	**P**	**11 31 58.0**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=49,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**63.37**	**335**	P	**P**	**11 33 25.9**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.2,baz=40,slow=6.2,SNR=6.4						
FINES	**FINESS Array B**	**63.37**	**335**	P	**P**	**11 33 25.9**	**-0.1**
NOA	**NORSAR Array B**	**67.34**	**342**	P	**P**	**11 33 52.0**	**+0.3**
	comp=Z,1.9nm,1.0s,mb4.1,baz=27,slow=6.5,SNR=2.8						
HFS	**Hagfors**	**67.63**	**340**	P	**P**	**11 33 53.9**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.3,baz=64,slow=3.4,SNR=14						
WRA	**Warramunga Arr**	**70.36**	**201**	P	**P**	**11 34 09.8**	**-0.7**
	comp=Z,0.3nm,1.0s,mb3.2,baz=13,slow=6.4,SNR=3.9						
ASAR	**Alice Springs**	**74.04**	**200**	P	**P**	**11 34 32.0**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=13,slow=5.4,SNR=3.4						
BURAR	**Bucovina Array**	**75.20**	**328**	*i*P	**P**	**11 34 39.2**	**0.0**
EKA	**Eskdalemuir Ar**	**75.29**	**347**	P	**P**	**11 34 39.9**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=18,slow=4.8,SNR=7.2						
EKA	**Eskdalemuir Ar**	**75.29**	**347**	P	**P**	**11 34 39.9**	**+0.2**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**75.51**	**62**	P	**P**	**11 34 43.1**	**+2.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=301,slow=5.1,SNR=11						
TXAR	**Lajitas Array**	**75.51**	**62**	P	**P**	**11 34 43.1**	**+2.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**75.76**	**337**	*e*P	**P**	**11 34 43.0**	**+0.5**
MLR	**Muntele Rosu**	**76.73**	**326**	P	**P**	**11 34 48.7**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=160,slow=11,SNR=5.2						
MLR	**Muntele Rosu**	**76.73**	**326**	P	**P**	**11 34 48.7**	**+0.7**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**77.80**	**335**	P	**P**	**11 34 54.5**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=8.5,slow=11,SNR=5.8						
GERES	**GERESS Array B**	**77.80**	**335**	P	**P**	**11 34 54.5**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.35**	**318**	P	**P**	**11 34 57.0**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=83,slow=4.0,SNR=5.7						
BRTR	**Keskin Array B**	**78.35**	**318**	P	**P**	**11 34 57.0**	**0.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MMAI	**Mount Meron Ar**	**82.96**	**313**	P	**P**	**11 35 21.9**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=39,slow=5.5,SNR=3.9						

*STR **18** 11:27:08.9±0.0,4302N×003W,h2km±1km,Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 11:27:08.8±0.1,4302N×001E,h7km,Md1.6/2,Ml1.6/2,
Error ellipse: s-maj=1.8km s-min=0.8km az=163.0,
France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**59**	Pg	Pg	11 27 10.7	+0.3
LABF				Sg	Sg	11 27 12.0	+0.4
VIEF	**Viey**	**0.14**	**175**	Pg	Pg	11 27 11.9	+0.2
VIEF				Sg	Sg	11 27 14.1	+0.5
EPF	**Esparros**	**0.24**	**87**	*e*Pg	Pg	11 27 13.6	0.0
EPF				*e*Sg	Sg	11 27 17.4	+0.5
	6.7nm,0.3s						
ETSF	**Etsaut**	**0.43**	**254**	*e*Pg	Pg	11 27 17.1	-0.1
ETSF	**Etsaut**	**0.43**	**254**	*e*Pn	Pg	11 27 18.6	+1.4
ETSF				*e*Sg	Sg	11 27 23.0	+0.2
	3.1nm,0.2s						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	11 27 39.5	-0.9
MTLF				*e*Sg	Sg	11 28 01.2	-0.6
	0.7nm,0.2s						
CAF	**Calviac**	**2.42**	**37**	*e*Pg	Pg	11 27 46.5	-8.6
CAF				*e*Sg	Sg	11 28 25.1	-1.4
	0.4nm,0.2s						

*ISCJB **18** 11:28:10.3±0.6,5798N±005×1564W±01,h126km±5km, mb4.3/16, Error ellipse: s-maj=9.5km s-min=8.0km az=74.8*
*IDC **18** 11:28:10.3±2.2,5814N×15631W,h106km±16km,mb3.8/12, mb1 4.0/14,mb1mx3.7/27,mbtmp3.8/14, Error ellipse: s-maj=29.9km s-min=15.1km az=36.0*
*NEIC **18** 11:28:13.5,5779N×156.12W,h116km,mb4.6/7, After AEIC.*
ISC 18 11:28:11.4±0.6,5799N±005×1564W±01,h122km±5km,n50,
σ1§05/50,mb4.3/16,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.02**	**94**	P	**Pn**	**11 28 44.4**	**-0.8**
	23nm,0.3s,baz=266,slow=5.3,SNR=114						
KDAK				S	**Sn**	**11 29 08.6**	**-2.5**
	41nm,0.3s,baz=270,slow=9.8,SNR=15						
KDAK	**Kodiak Island**	**2.02**	**94**	P	**Pn**	**11 28 44.5**	**-0.7**
CHGN	**Chignik**	**2.03**	**214**	P	**Pn**	**11 28 44.6**	**-0.7**
AUL	**Augustine Lava**	**2.07**	**46**	P	**Pn**	**11 28 47.5**	**+1.7**
SVW2	**Sparrevohn**	**3.15**	**7**	*e*P	**Pn**	**11 29 01.7**	**+2.1**
SVW2	**Sparrevohn**	**3.15**	**7**	*e*P	**Pn**	**11 29 01.1**	**+1.5**
SDPT	**Sand Point**	**3.49**	**222**	*e*P	**Pn**	**11 29 03.4**	**-0.7**
SLKM	**Skilak Lake**	**4.04**	**49**	P	**Pn**	**11 29 12.3**	**+0.8**
SLKM				*e*P		11 29 13.8	
SEW	**Seward**	**4.15**	**56**	P	**Pn**	**11 29 13.8**	**+0.9**
RC01	**Rabbit Creek A**	**4.58**	**44**	P	**Pn**	**11 29 19.2**	**+0.4**
PMR	**Palmer**	**5.13**	**42**	*e*P	**Pn**	**11 29 25.6**	**-0.6**
	14nm,0.5s						
PMR				*e*S	**Sn**	**11 30 21.6**	**-2.7**
GHO	**Glory Hole Cre**	**5.33**	**41**	P	**Pn**	**11 29 28.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**6.01**	**60**	P	**Pn**	**11 29 37.4**	**-0.6**
KTH	**Kantishna Hill**	**6.18**	**23**	P	**Pn**	**11 29 42.0**	**+1.7**
DIV	**Divide**	**6.23**	**55**	P	**Pn**	**11 29 40.8**	**-0.1**
TRF	**Thorofare Moun**	**6.24**	**26**	P	**Pn**	**11 29 42.0**	**+1.1**
RAGM	**Ragged Mountai**	**6.46**	**63**	P	**Pn**	**11 29 44.0**	**0.0**
BMRM	**Bremner River**	**6.69**	**59**	P	**Pn**	**11 29 46.8**	**-0.3**
GCSA	**Galena City Sc**	**6.79**	**358**	P	**Pn**	**11 29 51.5**	**+3.0**
MCK	**McKinley**	**6.80**	**29**	P	**Pn**	**11 29 49.1**	**+0.5**
PAX	**Paxson**	**7.34**	**43**	P	**Pn**	**11 29 55.5**	**-0.3**
MENT	**Mentasta**	**7.97**	**46**	*e*P	**Pn**	**11 30 04.6**	**+0.2**
COLA	**College**	**8.01**	**27**	P	**Pn**	**11 30 04.5**	**-0.6**
EGAK	**Eagle**	**9.95**	**41**	*e*Pn	**Pn**	**11 30 29.7**	**-1.4**
	4.3nm,0.5s						
DAWY	**Dawson**	**10.22**	**46**	*e*Pn	**Pn**	**11 30 35.0**	**+0.3**
DLBC	**Dease Lake**	**13.86**	**77**	*e*P	**Pn**	**11 31 26.8**	**+4.3**
INK	**Inuvik**	**14.49**	**35**	P	**Pn**	**11 31 29.2**	**-1.5**
	0.8nm,0.3s,baz=230,slow=13,SNR=19						
INK	**Inuvik**	**14.49**	**35**	P	**Pn**	**11 31 29.2**	**-1.5**
YKA	**Yellowknife Ar**	**20.92**	**60**	P	**P**	**11 32 42.9**	**-1.3**
	10nm,0.3s,baz=271,slow=9.9,SNR=93						
YKA				PcP	PcP	11 36 46.3	-0.8
	1.8nm,0.6s,baz=268,slow=1.5,SNR=9.4						
EDM	**Edmonton**	**24.43**	**83**	*e*P	**P**	**11 33 19.2**	**+0.6**
FLWY	**Flagg Ranch**	**31.23**	**96**	*e*P	**P**	**11 34 20.7**	**+1.4**
	6.7nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**31.43**	**112**	P	**P**	**11 34 22.5**	**+1.5**
	1.3nm,0.7s,mb3.8,baz=302,slow=9.9,SNR=9.2						
NVAR				PcP	PcP	11 37 11.9	+0.4
	0.4nm,0.7s,baz=309,slow=5.7,SNR=3.9						
PDAR	**Pinedale Array**	**32.74**	**97**	P	**P**	**11 34 33.0**	**+0.5**
	1.7nm,0.6s,mb4.0,baz=308,slow=5.0,SNR=14						
RSSD	**Black Hills**	**34.75**	**90**	*e*P	**P**	**11 34 50.9**	**+1.0**
	3.6nm,0.6s,mb4.4						
SRU	**San Rafael**	**34.87**	**103**	*e*P	**P**	**11 34 52.0**	**+1.1**
	13nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**35.18**	**76**	P	**P**	**11 34 53.8**	**+0.2**
	5.1nm,0.6s,mb4.6,baz=306,slow=9.5,SNR=14						
TXAR	**Lajitas Array**	**46.02**	**105**	P	**P**	**11 36 23.1**	**+0.5**
	1.2nm,0.7s,mb3.7,baz=313,slow=6.7,SNR=11						
SCHQ	**Schefferville**	**46.14**	**53**	P	**P**	**11 36 23.2**	**-0.3**
	2.8nm,0.6s,mb4.2,baz=46,slow=18,SNR=8.1						
JCT	**Junction City**	**47.11**	**101**

ARCES	**ARCESS Array B**	**52.77**	**359**	P		**P**	**11 37 12.4**	**-1.4**
ARCES				PcP		PcP	11 38 20.1	-1.7
SONM	**Songino Array**	**54.54**	**305**	P		**P**	**11 37 27.0**	**+0.3**
	1.0nm,0.7s,mb4.0,baz=42,slow=6.2,SNR=9.4							
FINES	**FINESS Array B**	**60.89**	**359**	P		**P**	**11 38 10.4**	**-0.8**
	1.1nm,0.8s,mb4.0,baz=352,slow=9.6,SNR=3.9							
HFS	**Hagfors**	**61.96**	**6**	P		**P**	**11 38 16.7**	**-1.6**
	3.7nm,0.9s,mb4.4,baz=17,slow=3.8,SNR=7.4							
BVAR	**Borovoye Array**	**63.00**	**330**	P		**P**	**11 38 25.2**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=32,slow=8.7,SNR=4.7							
AKASG	**Malin Array Be**	**71.58**	**356**	P		**P**	**11 39 17.8**	**-1.5**
	0.6nm,0.5s,mb3.7,baz=5.9,slow=5.7,SNR=4.3							
AKASG	**Malin Array Be**	**71.58**	**356**	P		**P**	**11 39 17.8**	**-1.5**
LBTB	**Lobatse**	**147.02**	**357**	PKPbc		PKPbc	11 47 38.4	-1.4
	3.1nm,0.6s,baz=328,slow=2.9,SNR=8.0							
BOSA	**Boshof**	**150.62**	**357**	PKPbc		PKPbc	11 47 47.8	-1.2
	3.6nm,0.8s,baz=360,slow=12,SNR=6.7							

*IDC **18** 11:28:36.0±1.3,2050N×120.05E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.6/20,mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=43.6km s-min=22.0km az=86.0*

*ISCJB **18** 11:28:38.8±0.8,2053N±008×120.1E±02,h35km,mb3.9/6, Error ellipse: s-maj=28.2km s-min=10.9km az=179.7*

*MAN **18** 11:28:38.6,2056N×120.06E,h32km,MS7.6*

*NEIC **18** 11:28:40.0±0.6,2050N×120.03E,h30km,mb4.1/1,Error ellipse: s-maj=22.1km s-min=9.7km az=88.0*

ISC 18 11:28:40.7±0.8,2055N±008×1201E±02,h35km,n10, σ0§81/10,mb3.9/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**3.87**	**21**	*e*Pn		**Pn**	**11 29 37.4**	**-0.2**
KSRS	**Korea Array**	**18.17**	**20**	P		**Pn**	**11 32 48.7**	**-1.4**
	baz=196,slow=12,SNR=2.8							
MJAR	**Matsushiro Arr**	**22.47**	**41**	P		**P**	**11 33 38.5**	**+1.8**
	2.4nm,0.8s,mb3.7,baz=240,slow=12,SNR=7.5							
MKAR	**Makanchi Array**	**40.32**	**319**	P		**P**	**11 36 15.4**	**+0.7**
	0.3nm,0.7s,mb3.2,baz=102,slow=12,SNR=3.6							
WRAB	**Tennant Creek**	**42.59**	**160**	*e*P		**P**	**11 36 33.1**	**-0.2**
	4.3nm,1.1s,mb4.1							
WRA	**Warramunga Arr**	**42.60**	**160**	P		**P**	**11 36 33.3**	**0.0**
	2.5nm,0.6s,mb4.2,baz=342,slow=9.1,SNR=26							
WB2	**Warramunga Arr**	**42.60**	**160**	*e*P		**P**	**11 36 32.9**	**-0.5**
WB2				*e*P			11 36 33.1	
AS31	**Alice Springs**	**45.97**	**162**	*e*P		**P**	**11 36 60.0**	**-0.3**
ASAR	**Alice Springs**	**45.97**	**162**	P		**P**	**11 37 00.9**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=344,slow=6.9,SNR=8.9							
KONO	**Kongsberg**	**82.29**	**331**	P		**P**	**11 40 58.2**	**-0.4**
	7.5nm,1.0s,mb4.6							

GUC 18 11:37:28.1±0.7,3184S×7121W,h51km±4km,MD3.8, ML3.3,8C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHNG	**Los Chungos**	**0.25**	**261**	⇓*i*P		Pn	11 37 37.1	+0.2
CHNG				*i* S		Sn	11 37 43.6	+0.5
CHNG				AML		AML	11 37 44.1	
	comp=E,4μm,0.2s							
PTCH	**Petorca**	**0.48**	**151**	⇑*i*P		Pn	11 37 39.7	+0.5
PTCH				*i* S		Sn	11 37 47.9	+0.8
PTCH				AML		AML	11 37 48.1	
	comp=E,8μm,0.2s							
CMCH	**Combarbala**	**0.69**	**15**	⇑*i*P		Pn	11 37 42.0	+0.3
CMCH				*i* S		Sn	11 37 52.6	+1.0
CMCH				AML		AML	11 37 52.7	
	comp=E,4μm,0.2s							
PACH	**Papudo**	**0.72**	**196**	⇓*i*P		Pn	11 37 42.2	+0.1
PACH				*i* S		Sn	11 37 53.2	+0.9
JACH	**Jahuel**	**0.98**	**148**	⇑*i*P		Pn	11 37 46.4	+0.7
JACH				*i* S		Sn	11 38 00.0	+1.5
ROCH	**El Roble**	**1.14**	**172**	*e*P		Pn	11 37 48.5	+0.9
ROCH				*i* S		Sn	11 38 03.7	+1.5
OVCH	**Ovalle**	**1.23**	**0**	⇑*i*P		Pn	11 37 50.4	+1.5
OVCH				*i* S		Sn	11 38 06.8	+2.3
OVCH				AML		AML	11 38 07.5	
	comp=E,1μm,0.3s							
IHA	**Instituto Hidr**	**1.23**	**197**	*e*P		Pn	11 37 49.0	+0.1
PEL	**Peldehue**	**1.37**	**161**	⇑*i*P		Pn	11 37 51.4	+0.6
PEL				*i* S		Sn	11 38 09.1	+1.3
PEL				AML		AML	11 38 11.5	
	comp=E,962nm,0.3s							
CLCH	**Cerro Calan**	**1.65**	**160**	*i* P		Pn	11 37 55.5	+0.9
CLCH				*i* S		Sn	11 38 15.7	+1.1
CLCH				AML		AML	11 38 18.6	
	comp=N,468nm,0.5s							
LCCH	**Las Cruces**	**1.66**	**191**	⇑*i*P		Pn	11 37 55.3	+0.6
FCH	**Farellones**	**1.67**	**153**	⇓*i*P		Pn	11 37 56.0	+1.1
FCH				*i* S		Sn	11 38 17.2	+2.0
FCH				AML		AML	11 38 25.7	
	comp=E,217nm,0.1s							
RCDM	**Rinconada Maip**	**1.68**	**168**	⇑*i*P		Pn	11 37 55.7	+0.7
RCDM				AML		AML	11 38 18.5	
	comp=E,522nm,0.1s							
TACH	**Talagante**	**1.82**	**173**	⇑*i*P		Pn	11 37 57.8	+0.8
PCH	**Pirque**	**1.87**	**162**	*e*P		Pn	11 37 58.2	+0.6
CHCH	**Chadas Angostu**	**2.14**	**168**	*e*P		Pn	11 38 02.1	+0.8
CHCH				*i* S		Sn	11 38 28.7	+2.1
LMEL	**Las Melosas**	**2.17**	**157**	AML		AML	11 38 38.7	
	comp=N,379nm,0.2s							
CACH	**El Canelo**	**2.32**	**167**	*e*P		Pn	11 38 05.7	+1.8
CICH	**Cipreses**	**2.56**	**165**	*e*P		Pn	11 38 08.7	+1.6

*MOS **18** 11:45:34.6±1.2,3598N×7104E,h33km,mb4.2/3,Error ellipse: s-maj=23.7km s-min=7.6km az=91.9*

*IDC **18** 11:45:38.0±5.3,3608N×7135E,h45km±46km,mb3.7/9, mb1 3.9/12,mb1mx3.6/25,mbtmp3.8/12,ML4.0/3,Error ellipse: s-maj=34.1km s-min=23.6km az=17.0*

*ISCJB **18** 11:45:44.2±0.5,3641N±003×7140E±006,h117km±7km, mb3.9/9,Error ellipse: s-maj=8.5km s-min=4.0km az=155.7*

*NEIC **18** 11:45:46.8±4.7,3665N×7130E,h92km±29km,mb3.7/3, Error ellipse: s-maj=47.2km s-min=19.8km az=179.0*

*NNC **18** 11:45:50.6±6.7,3691N×7085E,h121km±87km,mb3.3, mpv4.2,Error ellipse: s-maj=71.0km s-min=33.1km az=46.0*

ISC 18 11:45:45.7±0.4,3641N±003×7143E±006,h118km±6km, n65,σ1§23/77,mb3.9/9,3C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.61**	**171**	⇓P		**Pn**	**11 46 29.3**	**+2.5**
CHCP	**Chirah Chowk**	**3.13**	**151**	P		**Pn**	**11 46 36.8**	**+3.2**
THW	**Thamme Wali**	**3.61**	**176**	P		**Pn**	**11 46 41.5**	**+1.5**
SBDP	**Sheikh Budin**	**4.13**	**187**	⇓P		**Pn**	**11 46 47.4**	**+0.5**
SARP	**Sargodha**	**4.59**	**167**	P		**Pn**	**11 46 54.1**	**+1.0**
SARP				S		**Sn**	**11 47 45.0**	**-0.5**
DRP	**Derazinda**	**4.76**	**193**	P		**Pn**	**11 46 57.3**	**+1.9**
DRP				S		**Sn**	**11 47 48.0**	**-1.6**
THN	**Thein Dam**	**5.32**	**137**	*e*P		**Pn**	**11 47 03.8**	**+1.0**
THN				*e*S		**Sn**	**11 48 03.1**	**+0.2**
DLH	**Dalhousie**	**5.38**	**135**	*e*P		**Pn**	**11 47 07.0**	**+3.3**
DLH				*e*S		**Sn**	**11 48 06.0**	**+1.6**
AML	**Almayashu**	**5.98**	**16**	P		**Pn**	**11 47 12.2**	**+0.4**
	SNR=246							
UCH	**Uchtor**	**6.28**	**21**	P		**Pn**	**11 47 16.7**	**+0.8**
	SNR=48							
KZA	**Kyzart**	**6.39**	**26**	P		**Pn**	**11 47 18.0**	**+0.7**
	SNR=38							
EKS2	**Erkin-Say**	**6.50**	**15**	P		**Pn**	**11 47 19.3**	**+0.4**
	SNR=38							
AAK	**Ala-Archa**	**6.65**	**20**	P		**Pn**	**11 47 21.8**	**+0.9**
	SNR=63							
AAK	**Ala-Archa**	**6.65**	**20**	*e*PN		**Pn**	**11 47 20.4**	**-0.5**
AAK				pmax		pmax		
	comp=Z,41nm,0.4s							
AAK	**Ala-Archa**	**6.65**	**20**	*e*Pn		**Pn**	**11 47 20.4**	**-0.5**
	comp=Z,41nm,0.4s							
SDNR	**Sundarnagar**	**6.72**	**135**	*e*P		**Pn**	**11 47 22.5**	**+0.7**
SDNR				*e*S		**Sn**	**11 48 34.0**	**-2.8**
KK31	**Karatay Array**	**6.72**	**354**	⇓P		**Pn**	**11 47 20.5**	**-1.4**
	comp=Z,81nm,0.4s,baz=176,slow=12,SNR=1558							
KK31				⇑S		**Sn**	**11 48 30.2**	**-6.8**
	comp=Z,15nm,0.5s,baz=191,slow=26,SNR=5.3							
KKAR	**Karatay Array**	**6.72**	**354**	*e*PN		**Pn**	**11 47 20.4**	**-1.5**
KKAR				pmax		pmax		
	comp=Z,21nm,0.2s							
KBK	**Karagaybulak**	**6.81**	**22**	P		**Pn**	**11 47 24.0**	**+1.0**
	SNR=10							
ULHL	**Ulahol**	**6.92**	**31**	P		**Pn**	**11 47 25.6**	**+1.1**
	SNR=6.8							
CHMS	**Chumysh**	**7.06**	**20**	P		**Pn**	**11 47 26.9**	**+0.4**
	SNR=15							
USP	**Ospenovka**	**7.25**	**18**	P		**Pn**	**11 47 28.5**	**-0.5**
	SNR=43							
TKM2	**Tokmak 2**	**7.25**	**25**	P		**Pn**	**11 47 29.8**	**+0.8**
	SNR=40							
TKM2	**Tokmak 2**	**7.25**	**25**	⇓P		**Pn**	**11 47 29.6**	**+0.5**
	comp=Z,1.2nm,0.5s							
TKM2	**Tokmak 2**	**7.25**	**25**	P		**Pn**	**11 47 29.5**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
KHET	**Khetri**	**9.10**	**155**	*e*P		**Pn**	**11 47 51.8**	**-2.2**
KHET				*e*S		**Sn**	**11 49 28.7**	**-5.8**
KHET				*e*S		**Sn**	**11 49 30.1**	**-4.4**
KHET				AML		AML	11 49 31.1	
	comp=E,22nm,0.4s							
KHET				AML		AML	11 49 31.3	
	comp=N,20nm,0.3s							
NDI	**New Delhi**	**9.12**	**146**	*e*P		**Pn**	**11 47 53.0**	**-1.3**
NDI				*e*S		**Sn**	**11 49 29.0**	**-6.0**
KUDL	**Kundal**	**9.28**	**151**	*e*P		**Pn**	**11 47 55.0**	**-1.5**
KUDL				*e*S		**Sn**	**11 49 34.6**	**-4.4**
KUDL				AML		AML	11 49 36.8	
	comp=E,13nm,0.5s							
KUDL				AML		AML	11 49 36.8	
	comp=N,8.0nm,0.2s							
MKAR	**Makanchi Array**	**13.17**	**35**	P		**Pn**	**11 48 47.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=216,slow=10,SNR=12							
KOLN	**Koldanda**	**13.43**	**126**	*e*P		**Pn**	**11 48 50.7**	**-0.8**
	comp=N,11nm,0.3s							
GKN	**Gorkha**	**13.96**	**123**	*e*P		**Pn**	**11 48 57.4**	**-1.0**
	comp=N,53nm,0.4s							
DMN	**Daman**	**14.53**	**123**	*e*P		**Pn**	**11 49 05.1**	**-0.5**
	comp=N,26nm,0.4s							
KKN	**Kakani**	**14.54**	**122**	*e*P		**Pn**	**11 49 05.5**	**-0.2**
PKI	**Pulchoki**	**14.76**	**123**	*e*P		**Pn**	**11 49 07.7**	**-0.8**
	comp=N,35nm,0.5s							
GUN	**Gumba**	**14.87**	**121**	*e*P		**Pn**	**11 49 09.2**	**-0.7**
	comp=N,15nm,0.3s							
JIRN	**Jiri**	**15.24**	**121**	*e*P		**Pn**	**11 49 12.9**	**-1.7**
	comp=N,59nm,0.4s							
AB31	**Akbulak array**	**15.33**	**330**	⇑Pn		**Pn**	**11 49 12.1**	**-3.6**
	comp=N,6.3nm,0.5s,baz=136,slow=13,SNR=191							
AB31				⇓Sn		**Sn**	**11 51 53.2**	**-12**
	comp=N,4.0nm,0.6s,baz=145,slow=24,SNR=6.1							
VOSK	**Vostochnaya**	**16.32**	**359**	⇑P		**Pn**	**11 49 24.8**	**-3.1**
	comp=N,3.5nm,0.9s							
BVA0	**Borovoye Array**	**16.63**	**358**	⇓P		**Pn**	**11 49 31.9**	**+0.2**
	comp=N,0.5nm,0.6s,baz=162,slow=13,SNR=20							
BVA0	**Borovoye Array**	**16.63**	**358**	*i* P		**Pn**	**11 49 31.9**	**+0.2**
BVAR	**Borovoye Array**	**16.63**	**358**	P		**Pn**	**11 49 30.3**	**-1.4**
	comp=N,0.9nm,0.3s,baz=164,slow=12,SNR=20							
BRVK	**Borovoye**	**16.67**	**358**	*e*P		**Pn**	**11 49 32.1**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**16.67**	**358**	*e*Pn		**Pn**	**11 49 32.1**	**-0.1**
	comp=Z,4.4nm,0.8s							
AKTK	**Aktyubinsk**	**17.03**	**330**	P		**Pn**	**11 49 35.0**	**-1.7**
AKTO	**Aktyubinsk**	**17.03**	**330**	⇓Pn		**Pn**	**11 49 34.8**	**-1.8**
	comp=Z,0.2nm,0.7s							
AKTO				⇓Sn		**Sn**	**11 52 32.7**	**-14**
	comp=Z,0.2nm,1.2s							
AKTO	**Aktyubinsk**	**17.03**	**330**	P		**Pn**	**11 49 35.0**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=128,slow=17,SNR=22							
AKTO	**Aktyubinsk**	**17.03**	**330**	P		**Pn**	**11 49 35.0**	**-1.6**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CHKZ	**Chkalovo**	**17.28**	**358**	*e*P		**Pn**	**11 49 38.6**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CHKZ	**Chkalovo**	**17.28**	**358**	*e*P		**Pn**	**11 49 38.6**	**-1.0**
	comp=Z,1.9nm,0.6s							
ORR	**Orenburg**	**19.30**	**327**	*e*P		**P**	**11 50 00.5**	**-0.8**
ORR				pmax		pmax		
	comp=Z,20nm,0.9s							
ZAL	**Zalesovo**	**19.84**	**24**	P		**P**	**11 50 07.8**	**+0.6**
	comp=Z,4.0nm,0.4s,baz=270,slow=7.5,SNR=12							
ARU	**Arti**	**21.83**	**341**	*e*P		**P**	**11 50 29.2**	**+0.7**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb3.9							
ARU	**Arti**	**21.83**	**341**	*e*P		**P**	**11 50 29.2**	**+0.7**
	comp=Z,4.4nm,0.6s,mb4.0							
AKASG	**Malin Array Be**	**33.27**	**309**	P		**P**	**11 52 12.7**	**+0.9**
	comp=Z,2.4nm,0.5s,mb4.3,baz=82,slow=7.2,SNR=6.8							
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**11 52 51.6**	**+1.5**
	comp=Z,0.7nm,0.3s,mb3.9,baz=124,slow=7.7,SNR=13							
ARCES	**ARCESS Array B**	**41.36**	**338**	P		**P**	**11 53 21.6**	**+1.5**
	comp=Z,2.4nm,0.6s,mb4.2,baz=118,slow=9.3,SNR=19							
NB2	**NORSAR Subarra**	**44.66**	**323**	P		**P**	**11 53 47.6**	**+1.0**
	comp=Z,2.2nm,0.6s,mb4.1,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.66**	**323**	P		**P**	**11 53 47.9**	**+1.3**
	comp=Z,3.8nm,0.7s,mb4.2,baz=96,slow=7.8,SNR=12							
NOA	**NORSAR Array B**	**44.66**	**323**	P		**P**	**11 53 47.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**11 56 19.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.8,baz=52,slow=5.1,SNR=8.5							
INK	**Inuvik**	**73.94**	**9**	P		**P**	**11 57 09.8**	**+1.8**
	comp=Z,0.6nm,0.6s,mb3.5,baz=338,slow=7.3							
INK	**Inuvik**	**73.94**	**9**	P		**P**	**11 57 09.9**	**+1.9**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**81.32**	**3**	P		**P**	**11 57 50.2**	**+1.2**
	comp=Z,1.2nm,0.8s,mb3.8,baz=351,slow=5.1,SNR=4.3							
YKA	**Yellowknife Ar**	**81.32**	**3**	P		**P**	**11 57 50.2**	**+1.2**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**81.65**	**122**	P		**P**	**11 57 51.3**	**+0.6**
	comp=Z,0.2nm,0.6s,mb3.1,baz=326,slow=4.9,SNR=5.2							

*ISCJB **18** 11:59:16.9±0.5,4612N±007×15481E±009,h10km, mb4.3/38,Error ellipse: s-maj=12.1km s-min=7.2km az=106.0*

*IDC **18** 11:59:17.1±0.6,4613N×15489E,h0km,mb4.1/21, mb1 4.3/23,mb1mx4.2/29,mbtmp4.1/23,ML3.6/2,Error ellipse: s-maj=17.1km s-min=14.9km az=149.0*

*NEIC **18** 11:59:18.6±0.5,4611N×15479E,h10km,mb4.4/6,Error ellipse: s-maj=12.9km s-min=9.1km az=130.0*

*MOS **18** 11:59:21.8±1.4,4618N×15466E,h35km,mb4.5/8,Error ellipse: s-maj=11.0km s-min=9.6km az=105.2*

ISC 18 11:59:18.5±0.5,4616N±007×15487E±009,h10km,n59, σ1§21/59,mb4.3/38,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.60**	**10**	*e*PN		**Pn**	**12 00 25.9**	**-2.1**
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
KUR	**Kuril'sk**	**5.00**	**262**	*e*PN		**Pn**	**12 00 31.0**	**-2.5**
KUR				pmax		pmax		
	comp=Z,150nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.72**	**255**	PN		**Pn**	**12 00 57.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**8.39**	**280**	*e*PN		**Pn**	**12 01 22.6**	**+2.5**
ASAJ	**Asahikawa**	**8.91**	**261**	Pn		**Pn**	**12 01 28.4**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=178,slow=29,SNR=5.8							
ASAJ	**Asahikawa**	**8.91**	**261**	PN		**Pn**	**12 01 28.4**	**+1.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**15.75**	**238**	*e*P		**Pn**	**12 02 59.6**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,10.0nm,1.0s							
MAJO	**Matsushiro**	**15.75**	**238**	*e*Pn		**Pn**	**12 02 59.6**	**-0.8**
	comp=Z,10nm,1.0s							
MAT	**Matsushiro**	**15.75**	**238**	P		**Pn**	**12 02 57.5**	**-2.9**
MJAR	**Matsushiro Arr**	**15.75**	**238**	Pn		**Pn**	**12 02 58.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=5.6							
KLR	**Kul'dur**	**15.85**	**290**	*e*P		**Pn**	**12 03 02.9**	**+1.2**
KSRS	**Korea Array**	**21.81**	**256**	P		**P**	**12 04 11.3**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.2,baz=70,slow=7.9,SNR=3.4							
BILL	**Bilibino**	**22.71**	**11**	*e*P		**P**	**12 04 20.8**	**+0.4**
BILL				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.3							
BILL	**Bilibino**	**22.71**	**11**	*e*P		**P**	**12 04 20.8**	**+0.5**
	comp=Z,7.8nm,0.6s,mb4.3							
BOD	**Bodaibo**	**27.30**	**310**	*e*P		**P**	**12 05 01.2**	**-2.0**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.6s,mb3.9							
TIXI	**Tiksi**	**28.38**	**343**	*e*P		**P**	**12 05 11.6**	**-1.3**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.1							
TIXI	**Tiksi**	**28.38**	**343**	*e*P		**P**	**12 05 11.6**	**-1.2**
	comp=Z,3.7nm,0.8s,mb4.1							
SONM	**Songino Array**	**32.68**	**291**	P		**P**	**12 05 50.3**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=67,slow=11,SNR=3.2							
ZAK	**Zakamensk**	**34.03**	**296**	*e*P		**P**	**12 06 00.7**	**-1.9**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
INK	**Inuvik**	**41.50**	**32**	P		**P**	**12 07 06.9**	**+1.2**
	comp=Z,5.6nm,0.7s,mb4.3,baz=295,slow=6.4,SNR=29							
ZAL	**Zalesovo**	**43.95**	**307**	P		**P**	**12 07 24.8**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.1,baz=67,slow=6.5,SNR=4.4							
MKAR	**Makanchi Array**	**48.29**	**299**	P		**P**	**12 07 59.4**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.3,baz=68,slow=7.8,SNR=19							
CHKZ	**Chkalovo**	**51.74**	**311**	*e*P		**P**	**12 08 25.4**	**-0.6**
CHKZ				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
CHKZ	**Chkalovo**	**51.74**	**311**	*e*P		**P**	**12 08 25.4**	**-0.6**
	comp=Z,7.8nm,0.7s,mb4.8							
BVAR	**Borovoye Array**	**52.17**	**310**	P		**P**	**12 08 28.7**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.3,baz=56,slow=9.1,SNR=9.4							
AAK	**Ala-Archa**	**55.18**	**298**	*e*P		**P**	**12 08 51.4**	**+0.1**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
AAK	**Ala-Archa**	**55.18**	**298**	*e*P		**P**	**12 08 51.4**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.3							
JIRN	**Jiri**	**56.21**	**276**	*e*P		**P**	**12 09 00.7**	**+2.0**
	comp=Z,17nm,0.9s,mb5.1							
ARU	**Arti**	**56.26**	**318**	*e*P		**P**	**12 08 58.7**	**-0.4**
ARU				*e*			12 09 07.3	
ARU				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
ARU	**Arti**	**56.26**	**318**	*e*P		**P**	**12 08 58.7**	**-0.4**
	comp=Z,6.9nm,0.6s,mb4.9							
ARU				*e*			12 09 07.3	
GUN	**Gumba**	**56.27**	**277**	*e*P		**P**	**12 09 03.2**	**+4.1**
	comp=Z,14nm,0.6s,mb5.2							
KKN	**Kakani**	**56.76**	**277**	*e*P		**P**	**12 09 05.0**	**+2.4**
	comp=Z,6.5nm,0.4s,mb5.0							
DMN	**Daman**	**56.99**	**277**	*e*P		**P**	**12 09 04.8**	**+0.6**
	comp=Z,12nm,0.7s,mb5.0							
GKN	**Gorkha**	**57.07**	**278**	*e*P		**P**	**12 09 08.8**	**+4.0**
	comp=Z,25nm,0.9s,mb5.2							
KOLN	**Koldanda**	**57.93**	**278**	*e*P		**P**	**12 09 12.7**	**+1.8**
	comp=Z,12nm,0.8s,mb5.0							
ARCES	**ARCESS Array B**	**58.80**	**341**	P		**P**	**12 09 16.6**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=18,slow=7.1,SNR=11							
AKTK	**Aktyubinsk**	**60.02**	**313**	P		**P**	**12 09 25.7**	**+0.3**
AKTO	**Aktyubinsk**	**60.02**	**313**	P		**P**	**12 09 25.7**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.3,baz=46,slow=6.5,SNR=6.2							
AKTO	**Aktyubinsk**	**60.02**	**313**	P		**P**	**12 09 25.7**	**+0.3**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
NVAR	**Mina Array Bea**	**61.62**	**63**	P		**P**	**12 09 36.5**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.9,baz=292,slow=7.7,SNR=7.3							
PDAR	**Pinedale Array**	**64.10**	**55**	P		**P**	**12 09 51.5**	**-1.3**
	comp=Z,1.3nm,1.0s,mb3.9,baz=325,slow=2.3,SNR=8.7							
FINES	**FINESS Array B**	**65.08**	**336**	P		**P**	**12 09 58.0**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.4,baz=72,slow=6.2,SNR=21							
FINES	**FINESS Array B**	**65.08**	**336**	P		**P**	**12 09 58.0**	**-1.2**
WRA	**Warramunga Arr**	**68.37**	**201**	P		**P**	**12 10 19.8**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=18,slow=6.8,SNR=15							
NOA	**NORSAR Array B**	**69.17**	**342**	P		**P**	**12 10 27.1**	**+2.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=27,slow=6.4,SNR=2.9							
ASAR	**Alice Springs**	**72.06**	**200**	P		**P**	**12 10 43.9**	**+1.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=17,slow=5.1,SNR=12							
AKASG	**Malin Array Be**	**72.70**	**327**	P		**P**	**12 10 46.6**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=5.8,SNR=5.3							
TXAR	**Lajitas Array**	**76.71**	**62**	P		**P**	**12 11 10.1**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=306,slow=4.7,SNR=30							
TXAR	**Lajitas Array**	**76.71**	**62**

YSS eLQ 12 09 24.0
YSS eLR LR 12 10 02.0
YSS AMS AMS 12 10 52.0
comp=Z,1μm,16.0s
YSS AMS AMS 12 10 52.0
comp=Z,1μm,14.0s
YSS AMS AMS 12 10 52.0
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 8.48 274 eP **Pn 12 07 32.7 -0.8**
comp=Z,27nm,0.5s
YSS eSn **Sn 12 09 05.6 -3.2**
UGL Uglegorsk 8.99 287 eP **Pn 12 07 44.0 +3.6**
UGL AMB AMB 12 07 46.0
comp=Z,166nm,1.1s
UGL eL 12 10 24.0
UGL AMS AMS 12 12 12.0
comp=Z,2μm,16.0s
UGL AMS AMS 12 12 12.0
comp=Z,2μm,12.0s
UGL AMS AMS 12 12 12.0
comp=Z,2μm,14.0s
UGL Uglegorsk 8.99 287 ePN **Pn 12 07 44.0 +3.6**
UGL pmax pmax
comp=Z,166nm,1.1s
UGL MLR MLR
comp=Z,2μm,14.0s
UGL MLR MLR
comp=N,2μm,12.0s
UGL MLR MLR
comp=E,2μm,16.0s
TYV Tymovskoe 9.04 299 eP **Pn 12 07 42.5 +1.4**
TYV AMB AMB 12 07 45.0
comp=E,32nm,1.0s
TYV AMB AMB 12 07 46.0
comp=E,2μm,6.0s
TYV AMB AMB 12 07 46.0
comp=E,1μm,6.0s
TYV AMB AMB 12 07 46.0
comp=E,2μm,5.0s
TYV AMS AMS 12 12 23.0
comp=E,4μm,16.0s
ASAJ Asahikawa 9.30 256 Pn **Pn 12 07 44.6 0.0**
comp=E,2.0nm,0.3s,baz=88,slow=18,SNR=17
ASAJ LR LR 12 11 43.7
comp=E,457nm,18.2s,baz=69,slow=40
ASAJ Asahikawa 9.30 256 PN **Pn 12 07 44.7 0.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,457nm,18.2s
ERM Erimo 9.96 244 ePN **Pn 12 07 52.2 -1.6**
ERM pmax pmax
comp=Z,23nm,0.4s
ERM Erimo 9.96 244 ePn **Pn 12 07 52.2 -1.6**
comp=Z,23nm,0.4s
MA2 Magadan 12.76 350 ePN **Pn 12 08 29.8 -2.2**
HABR Khabarovsk 13.59 283 PN **Pn 12 08 43.8 +0.4**
KLR Kul'dur 15.75 286 eP **Pn 12 09 08.8 -3.6**
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
MAJO Matsushiro 16.43 236 eP **Pn 12 09 21.7 +0.6**
MAJO pmax pmax
comp=Z,19nm,0.8s
MAJO Matsushiro 16.43 236 eP **Pn 12 09 21.7 +0.6**
comp=Z,19nm,0.8s
MAT Matsushiro 16.43 236 P **Pn 12 09 16.3 -4.8**
MJAR Matsushiro Arr 16.43 236 Pn **Pn 12 09 17.2 -3.9**
comp=Z,0.4nm,0.3s,baz=29,slow=14,SNR=13
JHJ Hachijo jima 2 18.21 225 LR LR 12 17 26.9
comp=Z,73nm,18.8s,baz=294,slow=40
ZEA Zeya 18.90 301 eP **Pn 12 09 45.6 -6.2**
ZEA AMB AMB 12 09 47.8
comp=Z,28nm,1.4s
YAK Yakutsk 20.81 325 eP **P 12 10 10.1 -1.8**
YAK e 12 10 26.2
YAK eS **S 12 13 56.5 -7.0**
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=Z,48nm,1.1s
YAK smax
comp=E,586nm,4.9s
YAK MLR MLR
comp=Z,320nm,17.0s,MS3.8
YAK MLR MLR
comp=N,146nm,13.0s,MS3.7
YAK MLR MLR
comp=E,210nm,17.0s,MS3.7
YAK Yakutsk 20.81 325 eP **P 12 10 10.3 -1.5**
comp=E,30nm,0.6s
CN2 Changchun 21.05 272 eP **P 12 10 13.0 -1.5**
CN2 eXP sP 12 10 20.0 -1.1
CN2 eS **S 12 14 01.8 -6.4**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,14.0s,MS4.2
CN2 LR LR
comp=E,500nm,14.0s,MS4.2
CN2 LR LR
comp=Z,800nm,15.0s,MS4.2
BILL Bilibino 21.75 11⇓ eP **P 12 10 23.7 +1.7**
BILL e 12 10 56.5
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,200nm,15.0s,MS3.6
BILL Bilibino 21.75 11 eP **P 12 10 20.4 -1.6**
comp=Z,15nm,0.8s,mb4.5
KSRS Korea Array 22.25 254 P **P 12 10 27.8 +0.5**
comp=Z,6.6nm,0.6s,mb4.2,baz=55,slow=9.6,SNR=24
SNY Shenyang 23.06 268 ⇓P **P 12 10 34.3 -1.6**
SNY AMB AMB
comp=Z,14nm,1.0s,mb4.3
SNY AMB AMB
comp=Z,168nm,4.2s
SNY LR LR
comp=E,538nm,16.8s
SNY LR LR
comp=Z,735nm,16.2s,MS4.2
INCN Inchon 23.08 256 P **P 12 10 36.3 +0.1**
comp=Z,13nm,0.6s,mb4.5
HIA Hailar 23.59 288 eP **P 12 10 40.4 -1.0**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 23.59 288 eP **P 12 10 40.4 -1.0**
comp=Z,7.8nm,0.8s,mb4.2
BOD Bodaibo 26.85 309 eP **P 12 11 08.0 -3.1**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
CIT Chita 27.15 296 eP **P 12 11 12.3 -1.5**
BJI Beijing 28.88 270 P **P 12 11 24.8 -4.4**
BJI S **S 12 16 18.3 -0.6**
BJI AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
BJI LR LR
comp=N,520nm,15.6s,MS4.3
BJI LR LR
comp=E,126nm,15.6s,MS4.3
BJI LR LR
comp=Z,329nm,16.6s,MS4.0
BJI Beijing 28.88 270 P **P 12 11 24.8 -4.4**
comp=Z,5.0nm,0.9s,mb4.2
BJI S **S 12 16 18.3 -0.6**
BJI LR LR
comp=Z,330nm,16.6s,MS4.0
BJT Baijiatuau 28.90 270 eP **P 12 11 27.4 -2.0**
BJT pmax pmax
comp=Z,12nm,0.8s
BJT Baijiatuau 28.90 270 eP **P 12 11 27.4 -1.9**
comp=Z,12nm,0.8s,mb4.7
NJ2 Nanjing 31.45 255 eP **P 12 11 51.4 -0.5**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
HHC Hu-ho-hao-te 31.67 275 eP **P 12 11 54.8 +1.0**
HHC AP pP 12 11 59.1 +0.4
HHC XP sP 12 12 02.4 +1.6
HHC PP PP 12 12 58.9 -6.5
HHC PCP PcP 12 14 46.9 +1.4
HHC S **S 12 17 02.4 -0.1**
HHC XS sS 12 17 09.1 -1.5
HHC SCP ScP 12 18 28.1 0.0
HHC SCS ScS 12 22 25.5 -0.6
HHC AMB AMB
comp=Z,8.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,145nm,5.6s
HHC LR LR
comp=N,269nm,15.5s,MS4.3
HHC LR LR
comp=E,439nm,13.6s,MS4.3
HHC LR LR
comp=Z,349nm,14.1s,MS4.2
ULN Ulaanbaatar 32.11 289⇑ eP **P 12 11 56.7 -1.0**
ULN Ulaanbaatar 32.11 289 eP **P 12 11 56.3 -1.4**
comp=Z,3.4nm,0.7s,mb4.3
SONM Songino Array 32.54 290 P **P 12 12 00.7 -0.8**
comp=Z,3.3nm,0.6s,mb4.5,baz=62,slow=8.8,SNR=27
SONM PcP PcP 12 14 46.7 -1.2
comp=Z,1.5nm,0.9s,baz=67,slow=0.9,SNR=4.6
SONM LR LR 12 26 38.4
comp=Z,274nm,18.8s,MS4.0,baz=271,slow=39
SONM Songino Array 32.54 290 P **P 12 12 00.7 -0.8**
SONM 12 14 46.7
KDAK Kodiak Island 32.78 51 P **P 12 12 01.6 -2.1**
comp=Z,16nm,0.8s,mb5.0,baz=221,slow=7.3,SNR=10
TLY Talaya 33.27 297 eP **P 12 12 06.0 -1.8**
ZAK Zakamensk 33.80 295 eP **P 12 12 10.3 -2.2**
ZAK e 12 14 50.8
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
PMR Palmer 34.37 44 eP **P 12 12 15.5 -1.9**
PMR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PMR Palmer 34.37 44 eP **P 12 12 15.5 -1.9**
comp=Z,8.6nm,1.1s,mb4.6
COLA College 34.98 39 *c* *i*P **P 12 12 22.1 -0.6**
COLA College 34.98 39 eP **P 12 12 21.9 -0.8**
comp=Z,32nm,1.3s,mb5.1
XAN Xi'an 36.94 266 P **P 12 12 40.8 +1.3**
XAN AP pP 12 12 49.5 +5.0
XAN AMB AMB
comp=Z,9.0nm,1.6s,mb4.3
EGAK Eagle 37.85 39 eP **P 12 12 45.6 -1.5**
comp=Z,14nm,0.8s,mb4.7
DAWY Dawson 38.67 40 eP **P 12 12 53.6 -0.5**
LZH Lanzhou 39.28 273 eP **P 12 13 01.5 +2.3**
LZH AP pP 12 13 05.1 +0.9
LZH XP sP 12 13 08.6 +2.4
LZH PP PP 12 14 37.1 +7.8
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.7
LZH Lanzhou 39.28 273 eP **P 12 13 01.5 +2.3**
comp=Z,19nm,1.2s,mb4.7
LZH pP pP 12 13 05.1 +0.9
LZH sP sP 12 13 08.6 +2.4
LZH PP PP 12 14 37.1 +7.8
GTA Gaotai 40.30 280 eP **P 12 13 10.4 +2.7**
GTA AP pP 12 13 13.8 +1.1
GTA XP sP 12 13 17.0 +2.3
GTA PP PP 12 14 47.8 +7.3
GTA PCP PcP 12 15 11.8 +0.7
GTA S **S 12 19 20.3 +5.7**
GTA XS sS 12 19 27.6 +4.8
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,120nm,4.2s
GTA LR LR
comp=N,223nm,15.3s,MS4.4
GTA LR LR
comp=E,327nm,15.3s,MS4.4
GTA LR LR
comp=Z,341nm,15.3s,MS4.3
INK Inuvik 40.59 33 P **P 12 13 10.3 +0.2**
comp=Z,19nm,0.5s,mb5.0,baz=296,slow=6.3,SNR=234
INK Inuvik 40.59 33 eP **P 12 13 10.1 -0.1**
INK pmax pmax
comp=Z,660nm,0.5s
INK Inuvik 40.59 33 eP **P 12 13 10.1 -0.1**
comp=Z,660nm,0.5s
CD2 Chengdu 42.31 266 eP **P 12 13 22.5 -1.7**
CD2 AP pP 12 13 27.0 -2.2
CD2 XP sP 12 13 29.5 -1.7
CD2 PP PP 12 15 03.5 +1.3
CD2 S **S 12 19 42.0 -2.4**
CD2 XS sS 12 19 48.4 -4.2
CD2 SS SS 12 22 44.3 -8.7
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,300nm,14.4s,MS4.4
CD2 LR LR
comp=E,240nm,13.2s,MS4.4
CD2 LR LR
comp=Z,320nm,15.6s,MS4.3
GYA Guiyang 43.16 259 P **P 12 13 31.0 -0.1**
GYA AP pP 12 13 35.8 -0.4
GYA XP sP 12 13 38.8 +0.7
GYA PP PP 12 15 13.4 +2.0
GYA PCP PcP 12 15 21.3 +0.7
GYA SCP ScP 12 19 11.4 +0.3
GYA S **S 12 19 56.8 -0.2**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GYA AMB AMB
comp=Z,110nm,4.8s
GYA LR LR
comp=N,380nm,16.4s,MS4.5
GYA LR LR
comp=E,370nm,16.8s,MS4.5
GYA LR LR
comp=Z,460nm,17.0s,MS4.5
ZAL Zalesovo 43.56 306 P **P 12 13 32.2 -2.1**
comp=Z,4.4nm,0.6s,mb4.4,baz=51,slow=7.6,SNR=16
ZAL LR LR 12 33 21.1
comp=Z,242nm,19.3s,MS4.1,baz=27,slow=38
ZAL Zalesovo 43.56 306 P **P 12 13 32.2 -2.2**
ZAL LR LR 12 33 21.1
NVS Novosibirsk 44.09 308 *i* P **P 12 13 36.7 -1.9**
WMQ Urumqi 46.10 292⇑ *i*P **P 12 13 54.3 -0.3**
WMQ AP pP 12 13 58.8 -0.9
WMQ XP sP 12 14 01.3 -0.3
WMQ PCP PcP 12 15 31.1 +0.5
WMQ PP PP 12 15 42.5 -0.3
WMQ PPP 12 16 26.4
WMQ S **S 12 20 38.8 -0.9**
WMQ XS sS 12 20 46.4 -1.6
WMQ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,138nm,5.3s
WMQ LR LR
comp=N,264nm,22.4s
WMQ LR LR
comp=E,44nm,17.1s
WMQ LR LR
comp=Z,268nm,17.2s
QIZ Qiongzhong 46.28 249 P **P 12 13 55.3 -0.7**
QIZ Qiongzhong 46.28 249 P **P 12 13 56.3 +0.2**
KMI Kunming 46.69 261 P **P 12 14 00.1 +0.9**
KMI S **S 12 20 48.3 +0.2**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
KMI LR LR
comp=N,225nm,12.4s,MS4.4
KMI LR LR
comp=E,110nm,12.0s,MS4.4
KMI LR LR
comp=Z,95nm,11.0s,MS4.0
KMI Kunming 46.69 261 P **P 12 14 00.1 +0.9**
comp=Z,7.0nm,0.9s,mb4.6
KMI S **S 12 20 48.3 +0.2**
KMI LR LR
comp=Z,100nm,11.0s,MS4.0
MK31 Makanchi Array 48.02 298 P **P 12 14 08.3 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MKAR Makanchi Array 48.02 298 P **P 12 14 08.3 -1.3**
comp=Z,5.0nm,0.7s,mb4.7,baz=64,slow=8.5,SNR=25
MKAR Makanchi Array 48.02 298 P **P 12 14 08.3 -1.3**
YKA Yellowknife Ar 49.79 37 P **P 12 14 22.1 -1.1**
comp=Z,4.4nm,0.6s,mb4.7,baz=294,slow=7.0,SNR=11
RES Resolute Bay 50.05 19 eP **P 12 14 24.0 -1.1**
RES pmax pmax
comp=Z,150nm,0.6s
RES Resolute Bay 50.05 19 eP **P 12 14 24.0 -1.1**
comp=Z,150nm,0.6s
CHKZ Chkalovo 51.27 311 eP **P 12 14 32.4 -2.0**
CHKZ pmax pmax
comp=Z,22nm,0.5s,mb5.3
CHKZ Chkalovo 51.27 311 eP **P 12 14 32.4 -1.9**
comp=Z,22nm,0.5s,mb5.3
LSA Lhasa 51.65 274 P **P 12 14 37.8 +0.6**
LSA Lhasa 51.65 274 eP **P 12 14 37.0 -0.2**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.65 274 eP **P 12 14 37.0 -0.2**
comp=Z,8.3nm,0.6s,mb4.8
BVAR Borovoye Array 51.71 310 P **P 12 14 36.4 -1.3**
comp=Z,5.0nm,0.4s,mb4.8,baz=58,slow=7.0,SNR=20
BVAR LR LR 12 39 16.5
comp=Z,404nm,18.2s,MS4.5,baz=139,slow=39
BRVK Borovoye 51.75 310 eP **P 12 14 37.5 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.75 310 eP **P 12 14 37.5 -0.5**
comp=Z,7.0nm,0.6s,mb4.8
CHTO Chiang Mai 53.57 258 P **P 12 14 50.9 -0.5**
CHTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CHTO Chiang Mai 53.57 258 P **P 12 14 50.9 -0.5**
comp=Z,7.0nm,0.9s,mb4.6
CM31 Chiang Mai Arr 53.82 258 P **P 12 14 53.4 +0.2**
comp=Z,2.1nm,0.4s,mb4.4
AAK Ala-Archa 54.93 297⇑ *i*P **P 12 15 01.2 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AAK MLR MLR
comp=Z,300nm,22.0s,MS4.3
AAK Ala-Archa 54.93 297 eP **P 12 15 01.1 -0.2**
comp=Z,3.8nm,0.7s,mb4.5
ARU Arti 55.69 318⇓ *i*P **P 12 15 05.8 -1.0**
ARU e 12 16 03.0
ARU e 12 17 09.0
ARU ePPP 12 18 25.1
ARU eS **S 12 22 54.7 +2.2**
ARU eSS SS 12 26 41.7 +3.9
ARU pmax pmax
comp=Z,13nm,0.7s,mb5.1
ARU Arti 55.69 318 eP **P 12 15 05.9 -0.9**
comp=Z,14nm,0.6s,mb5.2
NEW Newport 55.84 54 LR LR 12 38 29.2
comp=Z,94nm,18.2s,MS3.9,baz=226,slow=36
JIRN Jiri 56.31 276 eP **P 12 15 12.9 +1.6**
comp=Z,19nm,0.6s,mb5.3
GUN Gumba 56.37 276 eP **P 12 15 14.6 +3.0**
comp=Z,17nm,0.5s,mb5.3
HNR Honiara 56.44 174 LR LR 12 39 54.4
comp=Z,100nm,18.4s,MS3.9,baz=360,slow=37
PMG Port Moresby 56.71 189 eP **P 12 15 13.0 -1.1**
PMG pmax pmax
comp=Z,25nm,0.9s
PMG Port Moresby 56.71 189 eP **P 12 15 13.0 -1.0**
comp=Z,25nm,0.9s,mb5.2
KKN Kakani 56.85 276 eP **P 12 15 17.0 +1.9**
comp=Z,16nm,0.5s,mb5.3
PKI Pulchoki 56.90 276 eP **P 12 15 17.8 +2.4**
comp=Z,14nm,0.5s,mb5.2
KK31 Karatay Array 57.05 300 *i* P **P 12 15 16.2 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KKAR Karatay Array 57.05 300 *i* P **P 12 15 16.2 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
DMN Daman 57.08 276 eP **P 12 15 18.8 +2.1**
comp=Z,25nm,0.7s,mb5.4
GKN Gorkha 57.15 277 eP **P 12 15 19.1 +1.9**
comp=Z,27nm,0.5s,mb5.5
KEV Kevo 57.47 341 ep **P 12 15 17.9 -1.6**
ARCES ARCESS Array B 57.97 341 P **P 12 15 22.1 -0.8**
comp=Z,5.8nm,0.9s,mb4.6,baz=30,slow=7.3,SNR=15
ARCES LR LR 12 44 35.0
comp=Z,233nm,18.1s,MS4.3,baz=48,slow=40
KOLN Koldanda 58.00 278 eP **P 12 15 25.1 +1.9**
comp=Z,16nm,0.5s,mb5.3
KTK1 Kautokeino 58.88 342 eP **P 12 15 29.9 +0.6**
BOK Bokaro 59.04 272 eP **P 12 15 30.7 +0.2**
BOK AMb AMB 12 15 38.8
comp=Z,8.9nm,0.5s,mb5.0
AB31 Akbulak array 59.27 311 eP **P 12 15 31.1 -0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTK Aktyubinsk 59.53 313 P **P 12 15 33.1 -0.7**
AKTK LR LR 12 44 35.1
AKTO Aktyubinsk 59.53 313 P **P 12 15 33.1 -0.7**
comp=Z,2.6nm,0.6s,mb4.4,baz=42,slow=9.7,SNR=8.3
AKTO LR LR 12 44 35.1
comp=Z,186nm,18.5s,MS4.2,baz=246,slow=39
AKTO Aktyubinsk 59.53 313 P **P 12 15 33.1 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AKTO MLR MLR
comp=Z,186nm,18.5s,MS4.2
FCC Fort Churchill 60.19 34 eP **P 12 15 38.6 +0.3**
FCC pmax pmax
comp=Z,15nm,0.2s,mb5.7
FCC Fort Churchill 60.19 34 eP **P 12 15 38.6 +0.3**
comp=Z,15nm,0.2s,mb5.7
NVAR Mina Array Bea 61.02 64 P **P 12 15 43.8 -0.3**
comp=Z,0.5nm,0.6s,mb3.8,baz=303,slow=7.4,SNR=3.8
NDI New Delhi 61.70 283 eP **P 12 15 50.4 +1.7**
NDI AMb AMB 12 16 01.2
comp=Z,15nm,0.4s,mb5.5
KULM Kulim 62.50 246 eP **P 12 15 54.8 +0.8**
MOR8 Moi Rana 63.10 343 eP **P 12 15 56.1 -1.8**
MOR8 AMb AMB 12 16 13.1
comp=Z,50nm,2.5s,mb5.2
MOR8 Moi Rana 63.10 343 eP **P 12 15 56.2 -1.7**
PDAR Pinedale Array 63.40 55 P **P 12 15 60.0 0.0**
comp=Z,0.9nm,0.7s,mb4.0,baz=304,slow=1.8,SNR=8.4
FINES FINESS Array B 64.31 336 P **P 12 16 05.2 -0.8**
comp=Z,6.3nm,0.4s,mb5.0,baz=40,slow=7.4,SNR=124
FINES LR LR 12 45 46.9
comp=Z,102nm,19.2s,MS4.0,baz=12,slow=38
AJM Ajmer 64.87 282 eP **P 12 16 11.1 +1.4**
AJM AMb AMB 12 16 15.7
comp=Z,8.9nm,0.8s,mb4.8
BHPL Bhopal 65.17 278 eP **P 12 16 13.3 +1.8**
BHPL AMb AMB 12 16 17.8
comp=Z,18nm,0.6s,mb5.3
ULM Lac du Bonnet 65.33 42 P **P 12 16 10.9 -1.6**
comp=Z,1.3nm,0.5s,mb4.2,baz=294,slow=3.9,SNR=7.3
NGP Nagpur 65.48 275 eP **P 12 16 16.4 +2.8**
NGP AMb AMB 12 16 19.4
comp=Z,20nm,0.8s,mb5.2
OBN Obninsk 65.80 326⇓ eP **P 12 16 15.2 -0.5**
OBN e 12 18 40.3
OBN pmax pmax
comp=Z,14nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,200nm,24.0s,MS4.2
PV10 Paradox Valley 66.59 58 P **P 12 16 20.8 +0.1**
NB2 NORSAR Subarra 68.34 342 P **P 12 16 30.4 -1.4**
comp=Z,13nm,1.1s,mb4.9,baz=30,slow=6.5
NOA NORSAR Array B 68.34 342 P **P 12 16 31.1 -0.6**
comp=Z,1.3nm,0.5s,mb4.2,baz=30,slow=6.7,SNR=4.9
NOA LR LR 12 52 14.0
comp=Z,126nm,18.4s,MS4.2,baz=10.0,slow=41
HFS Hagfors 68.61 340 P **P 12 16 32.8 -0.7**
comp=Z,5.0nm,0.4s,mb4.8,baz=48,slow=6.6,SNR=54
WRAB Tennant Creek 69.31 201 *i* P **P 12 16 36.6 -1.2**
WRAB Tennant Creek 69.31 201 eP **P 12 16 36.9 -1.0**
comp=Z,41nm,1.8s,mb5.1
WRA Warramunga Arr 69.33 201 P **P 12 16 36.5 -1.4**
comp=Z,4.3nm,0.9s,mb4.4,baz=20,slow=6.8,SNR=32
DZM Mont Dzumac 69.60 169 LR LR 12 44 02.9
comp=Z,121nm,19.8s,MS4.2,baz=8.3,slow=33
SUW Suwalki 71.35 332 eP **P 12 16 48.9 -1.4**
KAD Karad 71.44 276 eP **P 12 16 53.2 +2.4**
KAD AMb AMB 12 16 57.6
comp=Z,21nm,0.8s,mb5.1
KIV Kislovodsk 71.55 315⇑ eP **P 12 16 51.3 -0.2**
KIV e 12 19 27.2
KIV pmax pmax
comp=Z,15nm,1.3s,mb4.8
KIV MLR MLR

comp=Z,200nm,17.0s,MS4.5
KIV Kislovodsk 71.55 315 *e*P **P 12 16 51.6 +0.1**
comp=Z,29nm,1.3s,mb5.0
AKASG Malin Array Be 72.02 327 P **P 12 16 53.0 -1.3**
AKASG LR LR 12 48 52.9
comp=Z,4.4nm,0.5s,mb4.7,baz=33,slow=6.3,SNR=15
AKASG comp=Z,114nm,19.6s,MS4.2,baz=80,slow=36
AS31 Alice Springs 73.01 200 *e*P **P 12 16 59.7 -0.5**
ASAR Alice Springs 73.01 200 P **P 12 16 59.8 -0.4**
comp=Z,3.7nm,0.7s,mb4.5,baz=16,slow=5.6,SNR=68
MBWA Marble Bar 75.08 214 *e*P **P 12 17 12.4 0.0**
comp=Z,1.1nm,0.5s,mb4.0
KWP Kalwaria 75.23 330 P **P 12 17 13.2 0.0**
KWP pmax pmax
comp=Z,36nm,1.1s,mb5.2
KWP Kalwaria 75.23 330 P **P 12 17 13.2 0.0**
comp=Z,36nm,1.1s,mb5.2
OJC Ojcow 75.67 332 *e*P **P 12 17 17.5 +1.7**
STHS Stebnicka Huta 75.90 331 *e*P **P 12 17 19.6 +2.6**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.90 331 *e*P **P 12 17 19.6 +2.6**
comp=Z,7.1nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.97 330 *e*P **P 12 17 19.8 +2.4**
BURAR Bucovina Array 76.05 328⇑*i*P **P 12 17 17.5 -0.4**
LTX Lajitas 76.09 62 *e*P **P 12 17 17.9 -0.2**
LTX pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LTX Lajitas 76.09 62 *e*P **P 12 17 17.9 -0.3**
comp=Z,1.8nm,0.5s,mb4.3
TXAR Lajitas Array 76.09 62 P **P 12 17 17.6 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=304,slow=4.5,SNR=38
EKA Eskdalemuir Ar 76.31 347 P **P 12 17 18.8 -0.6**
comp=Z,1.8nm,0.5s,mb4.2,baz=19,slow=5.1,SNR=7.5
OKC Ostrava-Krasne 76.53 333 *e*P **P 12 17 22.7 +2.1**
OKC *e*PCP PcP 12 17 35.6 +3.4
UPC Upice 76.58 335 *e*P **P 12 17 22.8 +1.9**
UPC *ex* x 12 17 37.1
DPC Dobruska-Polom 76.63 334 *e*P **P 12 17 20.4 -0.8**
DPC *ex* x 12 17 37.7
CLL Collm 76.71 337 *i* P **P 12 17 23.0 +1.4**
CLL pmax pmax
comp=Z,29nm,1.4s,mb5.0
CLL Collm 76.71 337 *i* P **P 12 17 23.0 +1.4**
comp=Z,29nm,1.4s,mb5.0
CLL *e*pPcP 12 17 35.0
CLL *e*(sPcP) 12 17 38.0
MORC Moravsky Berou 76.77 333⇑*i*P **P 12 17 23.4 +1.4**
MORC Moravsky Berou 76.77 333 *e*P **P 12 17 21.8 -0.2**
comp=Z,41nm,1.6s,mb5.1
BRG Berggiesshubel 76.84 336 *e*P **P 12 17 24.7 +2.3**
comp=Z,8.7nm,1.3s,mb4.5
BRG Berggiesshubel 76.84 336 *e*P **P 12 17 24.7 +2.3**
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
KECS Kecovo 76.96 331 *e*P **P 12 17 22.9 -0.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 76.96 331 *e*P **P 12 17 22.9 -0.1**
comp=Z,3.2nm,1.0s,mb4.2
PVCC Panska Ves 76.98 335 *e*P **P 12 17 25.2 +2.1**
TIRR Tirgusor 77.47 324⇓*i*P **P 12 17 26.1 +0.2**
TIRR Tirgusor 77.47 324⇓P **P 12 17 26.1 +0.3**
VRAC Vranov 77.47 334 P **P 12 17 25.7 -0.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=33,slow=9.0,SNR=5.4
VRAC Vranov 77.47 334⇓*i*P **P 12 17 29.6 +3.7**
VRAC Vranov 77.47 334 P **P 12 17 25.6 -0.3**
VRAC ⇓P pP 12 17 29.6 -1.7
VYHS Vyhne 77.49 332 *e*P **P 12 17 27.9 +1.9**
VYHS *e*PCP PcP 12 17 40.2 +3.9
MLR Muntele Rosu 77.57 326 P **P 12 17 26.8 +0.4**
comp=Z,6.7nm,0.6s,mb4.8,baz=280,slow=1.3,SNR=11
MLR Muntele Rosu 77.57 326⇑*i*P **P 12 17 29.2 +2.7**
MLR Muntele Rosu 77.57 326⇑P **P 12 17 29.2 +2.7**
PSZ Piszkesteto 77.65 331⇓*i*P **P 12 17 29.3 +2.4**
PSZ Piszkesteto 77.65 331 P **P 12 17 28.5 +1.6**
comp=Z,6.0nm,1.0s,mb4.5
NKC Novy Kostel 77.83 337 *e*P **P 12 17 29.8 +1.9**
NKC *ex* x 12 17 41.7
MALT Malatya 77.93 314 *e*P **P 12 17 28.3 -0.2**
MALT pmax pmax
comp=Z,15nm,1.2s,mb4.8
MALT Malatya 77.93 314 *e*P **P 12 17 28.2 -0.2**
comp=Z,15nm,1.2s,mb4.8
VOIR 77.95 327⇑*i*P **P 12 17 31.0 +2.4**
VOIR 77.95 327⇑P **P 12 17 31.1 +2.4**
ZST Bratislava 78.30 333 *e*P **P 12 17 33.6 +3.1**
ZST pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ZST Bratislava 78.30 333 *e*P **P 12 17 33.6 +3.1**
comp=Z,10nm,1.3s,mb4.6
KHC Kasperske Hory 78.52 335 *e*P **P 12 17 32.3 +0.6**
KHC *ex* x 12 17 46.4
GRA1 Grafenberg Arr 78.66 337 *e*P **P 12 17 34.2 +1.7**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 337 *e*P **P 12 17 34.2 +1.7**
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 337 *e*P **P 12 17 34.2 +1.7**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 337 *e*P **P 12 17 34.2 +1.7**
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 78.74 335 P **P 12 17 32.5 -0.4**
comp=Z,1.2nm,0.4s,mb4.2,baz=31,slow=5.9,SNR=10.0
GERES LR LR 12 53 38.6
comp=Z,145nm,21.2s,MS4.3,baz=21,slow=37
GZR Gura Zlata 78.83 328⇑*i*P **P 12 17 35.3 +1.9**
GZR Gura Zlata 78.83 328⇑P **P 12 17 35.3 +1.8**
CONA Conrad Observa 78.92 333⇑*i*P **P 12 17 35.6 +1.6**
comp=Z,7.6nm,1.2s,mb4.5
BZS Buzias 79.05 329⇑*i*P **P 12 17 35.7 +1.0**
BZS Buzias 79.05 329⇑P **P 12 17 35.7 +1.1**
BR131 Keskin Array S 79.08 318 *e*P **P 12 17 35.6 +0.7**
comp=Z,2.9nm,0.7s,mb4.3
BRTR Keskin Array B 79.08 318 P **P 12 17 34.8 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=57,slow=3.2,SNR=8.6
MEM Membach 79.09 341 AP pP 12 17 37.7 -2.5
STKA Stephens Creek 79.56 192 P **P 12 17 35.6 -1.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=351,slow=9.3,SNR=5.2
STKA LR LR 12 56 06.2
comp=Z,71nm,18.2s,MS4.0,baz=25,slow=38
STKA Stephens Creek 79.56 192 *e*P **P 12 17 36.4 -1.1**
RAO Raoul Island 79.79 156 LR LR 12 48 39.5
comp=Z,80nm,18.6s,MS4.1,baz=48,slow=32
LBNH Lisbon 80.01 32 P **P 12 17 40.1 +0.2**
LBNH pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LBNH Lisbon 80.01 32 P **P 12 17 40.1 +0.2**
comp=Z,1.2nm,0.5s,mb4.1
KBA Koelnbreinsper 80.44 335⇑*i*P **P 12 17 40.9 -1.3**
comp=Z,2.4nm,0.7s,mb4.3
KBA Koelnbreinsper 80.44 335⇑*i* **P 12 17 46.2 +4.1**
comp=Z,27nm,0.9s,mb5.2
KBA Koelnbreinsper 80.44 335 **P 12 17 46.2 +4.1**
comp=Z,27nm,0.9s,mb5.2
KBA Koelnbreinsper 80.44 335 P **P 12 17 40.9 -1.3**
KBA *e* pP 12 17 46.2 -1.2
WATA Walderalm 80.71 336⇑*i*P **P 12 17 46.1 +2.5**
comp=Z,7.0nm,0.4s,mb4.9
WTTA Wattenberg 80.76 336⇑*i*P **P 12 17 46.6 +2.7**
comp=Z,5.5nm,0.5s,mb4.8
MOTA Moosalm 80.83 336⇑*i*P **P 12 17 45.6 +1.3**
comp=Z,7.8nm,0.6s,mb4.8
CDF Champ du Feu 80.85 339 *e*P **P 12 17 47.4 +3.0**
comp=Z,9.4nm,0.8s,mb4.5
CDF Champ du Feu 80.85 339 *e*P **P 12 17 47.4 +3.0**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 80.85 339 *e*P **P 12 17 47.4 +3.0**
comp=Z,4.7nm,0.8s,mb4.5
SQTA Sankt Quirin 80.92 336⇓*e*P **P 12 17 47.7 +2.9**
comp=Z,5.9nm,0.6s,mb4.7
PPT Papeete 81.24 128 LR LR 12 45 03.2
comp=Z,102nm,20.6s,MS4.2,baz=280,slow=29
DAVOX Davos 81.69 337 P **P 12 17 49.0 +0.2**
comp=Z,5.6nm,0.7s,mb4.6,baz=344,slow=18,SNR=2.4
GRR Gorron 82.63 344 *e*P **P 12 17 57.4 +3.6**
comp=Z,40nm,1.2s,mb5.0
GRR Gorron 82.63 344 *e*P **P 12 17 57.4 +3.6**
GRR pmax pmax
comp=Z,20nm,1.2s,mb5.0
GRR Gorron 82.63 344 *e*P **P 12 17 57.4 +3.6**
comp=Z,20nm,1.2s,mb5.0
SMF Signal de Mont 83.31 341 *e*P **P 12 18 00.6 +3.3**
comp=Z,62nm,1.3s,mb5.2
SMF Signal de Mont 83.31 341 *e*P **P 12 18 00.6 +3.3**
SMF pmax pmax
comp=Z,31nm,1.3s,mb5.2
SMF Signal de Mont 83.31 341 *e*P **P 12 18 00.6 +3.3**
comp=Z,31nm,1.3s,mb5.2
MMAI Mount Meron Ar 83.62 313 P **P 12 17 59.6 +0.7**
comp=Z,1.8nm,0.5s,mb4.5,baz=32,slow=7.0,SNR=5.9
LPG La Plagne 83.69 338 *e*P **P 12 18 03.3 +4.0**
comp=Z,22nm,0.8s,mb5.1
LPG La Plagne 83.69 338 *e*P **P 12 18 03.3 +4.0**
LPG pmax pmax
comp=Z,11nm,0.8s,mb5.0
LPG La Plagne 83.69 338 *e*P **P 12 18 03.3 +4.0**
comp=Z,11nm,0.8s,mb5.0
CAF Calviac 85.34 341 *e*P **P 12 18 10.9 +3.3**
comp=Z,19nm,1.1s,mb4.8
CAF Calviac 85.34 341 *e*P **P 12 18 10.9 +3.3**
CAF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
CAF Calviac 85.34 341 *e*P **P 12 18 10.9 +3.3**
comp=Z,9.4nm,1.1s,mb4.8
IDI Anoyia 86.63 321 P **P 12 18 15.3 +1.3**
comp=Z,4.2nm,0.6s,mb4.9,baz=14,slow=11,SNR=6.6
NWAO Narrogin (SRO) 86.67 211 *e*P **P 12 18 13.9 -0.3**
NWAO pmax pmax
comp=Z,5.0nm,0.7s
NWAO Narrogin (SRO) 86.67 211 *e*P **P 12 18 13.9 -0.3**
comp=Z,4.9nm,0.7s,mb4.8
ESDC Sonseca Array 91.62 344 LR LR 13 06 49.7
comp=Z,89nm,19.3s,MS4.2,baz=5.0,slow=40
KEST Kesra 92.02 333 P **P 12 18 37.8 -1.5**
comp=Z,0.9nm,0.5s,mb4.4,baz=8.1,slow=7.1,SNR=3.9
KEST LR LR 13 03 37.7
comp=Z,38nm,19.0s,MS3.9,baz=326,slow=38
VNDA Vanda 124.42 178 PKP PKPdf 12 24 26.4 -3.2
comp=Z,0.6nm,0.6s,baz=1.5,slow=2.3,SNR=6.6
LPAZ La Paz 132.93 64 PKP PKPdf 12 24 45.8 0.0
comp=Z,1.6nm,0.8s,baz=348,slow=4.0,SNR=6.2
LPAZ La Paz 132.93 64 *e*PKPdf PKPdf 12 24 46.8 +1.0
MAW Mawson 133.24 212 PKP PKPdf 12 24 43.8 -2.6
comp=Z,0.6nm,0.5s,baz=23,slow=5.5,SNR=4.1
PMSA Palmer Station 152.46 144 PKPbc PKPbc 12 25 23.2 -3.4
comp=Z,6.6nm,0.9s,baz=75,slow=0.5,SNR=5.5
SNAA Sanae 153.28 195 PKPbc PKPbc 12 25 25.5 -3.0
comp=Z,0.6nm,0.5s,baz=187,slow=2.7,SNR=20
VNA2 Neumayer--Watz 154.69 193 *e*PKPdf PKPbc 12 25 28.4 -3.1
VNA2 *e* 12 25 32.4
VNA2 *e* 12 25 33.5
VNA2 *e* 12 25 43.2
VNA3 Neumayer Olymp 154.73 191 *e*PKPdf PKPbc 12 25 28.8 -2.8
VNA3 *e* 12 25 31.9
VNA3 *e* 12 25 33.7
VNA3 *e* 12 25 43.6

IDC 18 12:10:14.5±2.3, 4698N×15370E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/24, mbtmp3.9/5, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/36, Error ellipse: s-maj=68.4km s-min=31.1km az=173.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.30**	**254**	Pn		Pn	12 12 16.6	+0.5
	0.4nm,0.3s,baz=61,slow=10,SNR=3.9							
KDAK	**Kodiak Island**	**33.65**	**51**	LR		LR	12 31 37.0	
	comp=Z,148nm,19.2s,baz=311,slow=38							
MKAR	**Makanchi Array**	**47.19**	**297**	P		P	12 18 48.1	-0.8
	0.4nm,0.6s,baz=64,slow=9.8,SNR=4.1							
FINES	**FINESS Array B**	**64.01**	**335**	P		P	12 20 48.5	-1.2
	1.2nm,0.7s,baz=34,slow=7.6,SNR=4.5							
HFS	**Hagfors**	**68.39**	**340**	P		P	12 21 18.5	+0.6
	3.5nm,0.9s,baz=64,slow=6.8,SNR=5.1							
TXAR	**Lajitas Array**	**77.03**	**61**	P		P	12 22 09.4	+0.1
	0.4nm,0.7s,baz=310,slow=4.3,SNR=6.6							

*IDC **18** 12:11:28.6±2.9, 32.10S×178.52W, h0km, mb4.4/2, mb1 4.6/3, mb1mx3.9/13, mbtmp4.4/3, ML4.1/1, Error ellipse: s-maj=67.4km s-min=44.5km az=120.0*
*NEIC **18** 12:11:29.2±1.7, 32.17S×178.40W, h10km, mb4.5/1, Error ellipse: s-maj=34.6km s-min=18.1km az=98.0*
*ISCJB **18** 12:11:34.6±5.7, 32.37S×179.09W±0.2, h5km±36km, mb4.3/3, Error ellipse: s-maj=31.5km s-min=15.8km az=176.7*
ISC 18 12:11:36.0±7.0, 3231S±009×1794W±02, h9km±44km, n10, σ0§24/10, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.60**	**205**	Pn		**Pn**	**12 13 13.1**	**0.0**
	3.2nm,0.3s,baz=308,slow=4.9,SNR=11							
URZ				Sn		**Sn**	**12 14 28.4**	**0.0**
	4.3nm,0.3s,baz=126,slow=22,SNR=9.5							
AS31	**Alice Springs**	**41.88**	**270**	*e*P		**P**	**12 19 26.7**	**+0.2**
ASAR	**Alice Springs**	**41.88**	**270**	P		**P**	**12 19 26.7**	**+0.2**
	2.3nm,0.6s,mb4.0,baz=108,slow=7.6,SNR=38							
ASPA	**Alice Springs**	**41.88**	**270**	*e*P		**P**	**12 19 26.7**	**+0.2**
WB2	**Warramunga Arr**	**43.03**	**275**	*e*P		**P**	**12 19 35.7**	**-0.2**
WRAB	**Tennant Creek**	**43.04**	**275**	*e*P		**P**	**12 19 35.6**	**-0.3**
	5.0nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**43.04**	**275**	P		**P**	**12 19 36.1**	**+0.1**
	4.9nm,0.5s,mb4.5,baz=114,slow=8.0,SNR=97							
VNA3	**Neumayer Olymp**	**76.48**	**177**	*e*PKPdf		**P**	**12 23 25.8**	**-0.4**
VNA3				*e*			12 23 32.7	
VNA2	**Neumayer--Watz**	**76.90**	**177**	*e*PKPdf		**P**	**12 23 29.0**	**+0.4**
VNA2				*e*			12 23 36.9	
FINES	**FINESS Array B**	**146.50**	**338**	PKPbc	PKPdf		12 31 10.4	-5.8
	0.9nm,0.5s,baz=46,slow=5.5,SNR=8.3							

*NEIC **18** 12:13:30.5, 3492N×2557E, h20km, MD3.9(ATH), After ATH.*
*CSEM **18** 12:13:31.2±0.1, 3493N×2553E, h8km, MD3.9, Error ellipse: s-maj=3.0km s-min=2.2km az=2.0*
ATH 18 12:13:30.5, 3492N×2557E, h20km±1km, MD3.9/6, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
XRY	**Khrisi**	**0.11**	**114**	*e*PB		Pb	12 13 34.5	-0.1
NPS	**Neapolis**	**0.34**	**6**	⇑*i*PB		Pb	12 13 37.7	-0.2
NPS				*e*SB		Sb	12 13 43.1	+0.2
IDI	**Anoyia**	**0.67**	**304**	P		Pb	12 13 43.1	-0.3
GVD	**Gavdhos**	**1.22**	**267**	*e*PN		Pn	12 13 54.0	+1.6
VAM	**Vamos**	**1.22**	**294**	*e*PN		Pn	12 13 53.2	+0.8
KARP	**Karpathos**	**1.45**	**64**	*e*PN		Pn	12 13 57.7	+2.2
KARP				*e*SN		Sn	12 14 18.0	+4.1
SANT	**Santorini**	**1.45**	**356**	*e*Pn		Pn	12 13 56.6	+1.0
SANT				*e*Sg		Sn	12 14 18.8	+4.8
SANT	**Santorini**	**1.45**	**356**	*e*Pn		Pn	12 13 56.6	+1.0
SANT				*e*Sg		Sn	12 14 18.8	+4.8
APE	**Apeiranthos**	**2.15**	**359**	*e*PB		Pb	12 14 07.2	-1.4
KYTH	**Kithira**	**2.47**	**304**	*e*PN		Pn	12 14 11.5	+1.9
VLI	**Veliai**	**2.79**	**311**	*e*PN		Pn	12 14 15.8	+1.8
SMG	**Samos**	**2.96**	**20**	*e*PN		Pn	12 14 18.7	+2.3

*ISCJB **18** 12:23:56.0±1.0, 1071N±005×6140W±004, h61km±9km, Error ellipse: s-maj=9.3km s-min=5.9km az=106.9*
*FUNV **18** 12:23:57.1, 1070N×6148W, h82km, MW2.6*
*NEIC **18** 12:23:58.5, 1082N×6133W, h27km, MD2.7(TRN), After TRN.*
*TRN **18** 12:23:58.6, 1082N×6132W, h27km, MD2.7*
ISC 18 12:23:56.6±1.0, 1071N±005×6140W±004, h57km±9km, n15, σ1§17/30, 3C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.06**	**180**	⇑*i*P		**Pn**	**12 24 04.5**	**-0.7**
TRN				*e*S		Sn	12 24 09.2	-2.1
TCE	**Chacachacare**	**0.34**	**269**	⇑*e*P		**Pn**	**12 24 07.6**	**+0.8**
TCE				*e*S		**Sn**	**12 24 14.7**	**+0.6**
TPP	**Pointe-a-Pierr**	**0.39**	**187**	*e*P		**Pn**	**12 24 09.4**	**+2.2**
TPP				*e*S		**Sn**	**12 24 17.4**	**+2.5**
TPP	**Pointe-a-Pierr**	**0.39**	**187**	*e*P		**Pn**	**12 24 09.4**	**+2.2**
TPP				*e*S		**Sn**	**12 24 17.4**	**+2.5**
TBH	**Brigand Hill**	**0.40**	**124**	⇑*i*P		**Pn**	**12 24 07.4**	**+0.2**
TBH				*e*S		**Sn**	**12 24 14.3**	**-0.6**
TPR	**Prospect**	**0.78**	**52**	*e*P		**Pn**	**12 24 10.8**	**-0.8**
TPR				*e*S		**Sn**	**12 24 21.4**	**-1.3**
TPR	**Prospect**	**0.78**	**52**	*e*P		**Pn**	**12 24 10.8**	**-0.8**
TPR				*e*S		**Sn**	**12 24 21.4**	**-1.3**
GUIV	**Guiria**	**0.81**	**266**	*e*P		**Pn**	**12 24 12.6**	**+0.6**
GUIV				*e*S		**Sn**	**12 24 24.5**	**+1.1**
GRW	**Mount Saint Ca**	**1.47**	**350**	*e*P		**Pn**	**12 24 20.7**	**-0.1**
GRW				*e*S		**Sn**	**12 24 39.5**	**+0.6**
GRHS	**Sauteurs**	**1.53**	**351**	*e*P		**Pn**	**12 24 20.4**	**-1.2**
GRHS				*e*S		**Sn**	**12 24 35.0**	**-5.4**
GRIC	**Isle de Caille**	**1.58**	**354**	*e*P		**Pn**	**12 24 24.3**	**+2.0**
GRIC				*e*S		**Sn**	**12 24 42.3**	**+0.6**
GRSS	**Sisters**	**1.60**	**353**	*e*P		**Pn**	**12 24 23.6**	**+1.1**
GRSS				*e*S		**Sn**	**12 24 42.9**	**+0.8**
GUNV	**Guanoco**	**1.61**	**251**	*e*P		**Pn**	**12 24 22.6**	**-0.1**
GUNV				*e*S		**Sn**	**12 24 41.6**	**-0.8**
CRUV	**Carupano**	**1.80**	**269**	*e*P		**Pn**	**12 24 24.4**	**-1.0**
CRUV				*e*S		**Sn**	**12 24 44.1**	**-2.9**
ITEV	**Isla Los Testi**	**1.82**	**291**	*e*P		**Pn**	**12 24 25.1**	**-0.4**
ITEV				*e*S		**Sn**	**12 24 46.0**	**-1.4**

IDC 18 12:27:38.8±3.5, 4699N×15467E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=110.8km s-min=34.6km az=11.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.78**	**298**	P		P	12 36 17.4	-0.4
	0.4nm,0.8s,baz=73,slow=7.1,SNR=3.3							
ARCES	**ARCESS Array B**	**57.97**	**341**	P		P	12 37 32.0	-1.1
	4.3nm,0.9s,baz=46,slow=5.2,SNR=5.2							
FINES	**FINESS Array B**	**64.27**	**335**	P		P	12 38 15.9	0.0
	1.4nm,0.8s,baz=46,slow=8.0,SNR=4.6							
TXAR	**Lajitas Array**	**76.44**	**62**	P		P	12 39 30.5	+0.2
	0.8nm,0.7s,baz=298,slow=2.7,SNR=11							

IDC 18 12:29:13.1±2.2, 6725×12913E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.4/14, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=114.0km s-min=32.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.08**	**159**	Pn		Pn	12 32 34.8	+1.0
	0.4nm,0.3s,baz=338,slow=13,SNR=33							
WRA				Sn		Sn	12 34 55.0	-16
	1.1nm,0.3s,baz=334,slow=22,SNR=12							
ASAR	**Alice Springs**	**17.46**	**165**	P		Pn	12 33 17.6	-0.4
	0.3nm,0.3s,baz=343,slow=11,SNR=35							
ASAR				S		Sn	12 36 15.3	-18
	0.3nm,0.3s,baz=346,slow=23,SNR=6.8							
MKAR	**Makanchi Array**	**67.52**	**327**	P		P	12 40 11.2	+0.2
	0.1nm,0.4s,baz=116,slow=7.9,SNR=4.1							

IDC 18 12:40:19.5±3.9, 2181S×17938W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML4.4/1, MS4.9/2, Ms1 4.9/2, ms1mx3.1/34, Error ellipse: s-maj=74.1km s-min=58.9km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**16.67**	**190**	Pn		Pn	12 44 14.4	0.0
	1.5nm,0.3s,baz=349,slow=3.4,SNR=6.5							
URZ				Sn		Sn	12 47 09.8	-10
	1.3nm,0.3s,baz=112,slow=22,SNR=9.6							
STKA	**Stephens Creek**	**36.06**	**245**	P		P	12 47 23.5	+0.8
	0.7nm,0.4s,baz=99,slow=14,SNR=8.2							
ASAR	**Alice Springs**	**42.98**	**258**	P		P	12 48 20.4	+0.1
	1.7nm,0.6s,baz=97,slow=7.7,SNR=32							
WB2	**Warramunga Arr**	**43.15**	**264**	*e*P		P	12 48 21.6	-0.1
WRA	**Warramunga Arr**	**43.16**	**264**	P		P	12 48 21.8	-0.1
	0.9nm,0.4s,baz=102,slow=8.2,SNR=29							
GUMO	**Guam**	**49.68**	**312**	LR		LR	13 05 26.2	
	comp=Z,2μm,21.9s,baz=75,slow=30							
PFO	**Pinyon Flat Ob**	**81.41**	**40**	LR		LR	13 21 54.7	
	comp=Z,425nm,18.4s,baz=121,slow=31							
FINES	**FINESS Array B**	**136.65**	**342**	PKP		PKPdf	12 59 42.9	-0.7
	1.2nm,0.7s,baz=29,slow=3.2,SNR=3.5							

IDC 18 12:57:56.7±2.6, 2198N×14338E, h252km±21km, mb3.1/5, mb1 3.2/7, mb1mx3.0/23, mbtmp3.1/7, Error ellipse: s-maj=63.3km s-min=18.9km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.21**	**348**	P		Pn	12 59 16.6	+1.6
	1.5nm,0.3s,baz=270,slow=20,SNR=2.6							
CBIJ				S		S	13 00 16.5	-1.1
	2.8nm,0.3s,baz=287,slow=19,SNR=4.5							
MJAR	**Matsushiro Arr**	**15.19**	**344**	P		Pn	13 01 19.7	+0.6
	0.3nm,0.3s,baz=179,slow=9.3,SNR=4.6							
KSRS	**Korea Array**	**20.40**	**323**	P		P	13 02 15.4	+0.6
	1.2nm,0.6s,baz=145,slow=8.9,SNR=8.4							
SONM	**Songino Array**	**39.24**	**320**	P		P	13 05 00.7	-0.2
	0.3nm,0.5s,baz=121,slow=7.9,SNR=3.6							
WRA	**Warramunga Arr**	**42.59**	**193**	P		P	13 05 28.1	0.0
	0.2nm,0.5s,baz=8.1,slow=7.8,SNR=7.2							
ARCES	**ARCESS Array B**	**78.71**	**342**	P		P	13 09 31.2	+0.1
	4.0nm,1.0s,baz=63,slow=8.2,SNR=3.8							
FINES	**FINESS Array B**	**83.01**	**335**	P		P	13 09 52.7	-1.1
	1.3nm,0.8s,baz=67,slow=5.0,SNR=7.0							

*STR **18** 13:03:44.4±0.9, 4307N×0.13W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 13:03:47.5±0.2, 4296N×001E, h9km, Md1.9/2, Ml1.6/2, Error ellipse: s-maj=7.7km s-min=2.4km az=166.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VIEF	**Viey**	**0.08**	**175**	Pg		Pg	13 03 49.1	-0.5
VIEF				Sg		Sg	13 03 51.8	+0.6
LABF	**Labassere**	**0.10**	**27**	Pg		Pg	13 03 47.2	-2.7
LABF				Sg		Sg	13 03 50.0	-1.6
EPF	**Esparros**	**0.25**	**73**	*e*Pg		Pg	13 03 52.4	-0.1
EPF				*e*Sg		Sg	13 03 56.0	+0.1
	3.1nm,0.2s							
ETSF	**Etsaut**	**0.42**	**262**	*e*Pg		Pg	13 03 56.0	+0.2
ETSF	**Etsaut**	**0.42**	**262**	*e*Pn		Pg	13 03 57.9	+2.1
ETSF				*e*Sg		Sg	13 04 00.8	-0.6
	3.2nm,0.2s							
SJPF	**Ste Jean**	**0.92**	**280**	*e*Sg		Sg	13 04 16.0	-1.2
MTLF	**Montolieu**	**1.66**	**76**	*e*Pg		Pg	13 04 18.5	-0.8
MTLF				*e*Sg		Sg	13 04 39.7	-1.1
	1.0nm,0.3s							
RJF	**Les Rejaudoux**	**2.58**	**24**	*e*Sn		Sn	13 04 58.4	-2.5
RJF				*e*Sg		Sg	13 05 08.3	-2.1
	0.5nm,0.2s							

*IDC **18** 13:04:29.6±0.9, 1287N×144.41E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/20, mbtmp3.8/7, MS3.7/12, Ms1 3.7/12, ms1mx3.4/34, Error ellipse: s-maj=29.5km s-min=13.5km az=107.0*
*BJI **18** 13:04:33.0, 1300N×145.10E, h60km, mB5.4, mb4.6*
*ISCJB **18** 13:04:34.8±1.4, 1300N±007×145.1E±0.3, h81km±7km, mb4.0/12, Error ellipse: s-maj=43.6km s-min=11.8km az=169.5*
*NEIC **18** 13:04:35.0±1.4, 1297N×145.05E, h61km±13km, mb4.4/4, Error ellipse: s-maj=40.3km s-min=11.7km az=83.0*
**ISC 18 13:04:35.4±1.7, 1301N

MAJO	**Matsushiro**	**24.27**	**346**	P		**P**	**13 09 45.7**	**-0.3**
	7.1nm,0.7s,mb4.1							
MAJO				*e*			13 09 54.1	
MAJO				*e*			13 10 01.0	
MAT	**Matsushiro**	**24.27**	**346**	P		**P**	**13 09 45.0**	**-0.9**
MAT				*e*S		**S**	**13 13 53.0**	**-6.7**
HNR	**Honiara**	**26.64**	**146**	LR		LR	13 19 46.1	
	comp=Z,92nm,21.9s,baz=359,slow=34							
KSRS	**Korea Array**	**28.86**	**331**	P		**P**	**13 10 27.0**	**-0.1**
	1.9nm,0.7s,mb3.8,baz=143,slow=9.8,SNR=6.7							
ASAJ	**Asahikawa**	**31.08**	**356**	LR		LR	13 22 08.0	
	comp=Z,96nm,19.5s,baz=181,slow=34							
WRAB	**Tennant Creek**	**34.45**	**198**	*e*P		**P**	**13 11 15.5**	**-0.7**
	3.5nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**34.46**	**198**	P		**P**	**13 11 15.8**	**-0.5**
	0.9nm,0.8s,mb3.7,baz=22,slow=9.7,SNR=12							
WRA				LR		LR	13 24 41.1	
	comp=Z,131nm,19.2s,baz=355,slow=36							
ASAR	**Alice Springs**	**38.10**	**197**	P		**P**	**13 11 47.9**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=19,slow=11,SNR=11							
ASAR				LR		LR	13 26 46.4	
	comp=Z,177nm,19.4s,baz=16,slow=35							
LZH	**Lanzhou**	**43.68**	**309**	*e*P		**P**	**13 12 32.0**	**-1.2**
LZH				AMB		AMB		
	comp=Z,22nm,1.2s,mb4.8							
LZH	**Lanzhou**	**43.68**	**309**	*e*P		**P**	**13 12 32.0**	**-1.2**
	comp=Z,22nm,1.2s,mb4.8							
LZH				pP		pP	13 12 38.0	-13
LZH				sP		sP	13 12 42.0	-17
KULM	**Kulim**	**44.65**	**264**	*e*P		**P**	**13 12 42.0**	**+1.1**
STKA	**Stephens Creek**	**44.77**	**184**	P		**P**	**13 12 42.8**	**+0.9**
	comp=Z,2.6nm,1.1s,mb3.9,baz=358,slow=14,SNR=3.7							
STKA				LR		LR	13 30 07.3	
	comp=Z,69nm,18.3s,baz=207,slow=34							
STKA	**Stephens Creek**	**44.77**	**184**	P		**P**	**13 12 42.8**	**+0.9**
STKA				*e*			13 12 50.4	
STKA				LR		LR	13 30 07.3	
SONM	**Songino Array**	**47.42**	**325**	P		**P**	**13 13 04.1**	**+1.4**
	comp=Z,1.3nm,0.8s,mb3.7,baz=120,slow=8.5,SNR=7.0							
SONM				LR		LR	13 32 43.2	
	comp=Z,111nm,18.9s,baz=100,slow=36							
GTA	**Gaotai**	**47.84**	**312**	*e*P		**P**	**13 13 05.4**	**-0.6**
GTA				AMB		AMB		
	comp=Z,5.0nm,1.3s,mb4.2							
LSA	**Lhasa**	**52.60**	**297**	P		**P**	**13 13 41.0**	**-0.9**
	comp=Z,7.6nm,1.3s,mb4.6							
RAO	**Raoul Island**	**55.03**	**140**	LR		LR	13 33 50.9	
	comp=Z,115nm,19.0s,baz=92,slow=32							
MKAR	**Makanchi Array**	**62.17**	**316**	P		**P**	**13 14 49.3**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.9,baz=96,slow=8.1,SNR=7.6							

MEX ***18*** *13:07:25.9±0.7, 1564N×9936W, h26km±41km, MD5.1*
IDC ***18*** *13:07:29.6±0.8, 1626N×9895W, h0km, mb4.3/12, mb1 4.4/17, mb1mx4.3/27, mbtmp4.2/17, ML3.7/5, MS4.0/10, Ms1 4.0/10, ms1mx3.8/29, Error ellipse: s-maj=24.5km s-min=12.6km az=51.0*
ISCJB ***18*** *13:07:32.1±1.2, 1642N±004×9886W±002, h15km±6km, mb4.9/62, MS4.2/9, Error ellipse: s-maj=6.5km s-min=3.0km az=41.7*
MOS ***18*** *13:07:33.6±1.0, 1638N×9887W, h33km, mb5.0/21, Error ellipse: s-maj=12.3km s-min=5.2km az=97.9*
NEIC ***18*** *13:07:34.2±0.5, 1629N×9891W, h35km, mb5.0/58, MD5.0(MEX), Error ellipse: s-maj=9.6km s-min=5.3km az=204.0*
GCMT ***18*** *13:07:34.2±0.6, 1630N×9878W, h12km, MW4.9/59, Moment Tensor Solution. s13,c15; s59,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.35± .10; Mθθ -1.82± .08; Mφφ -0.53± .11; Mrθ 1.69± .29; Mrφ 0.92± .09; Mθφ -0.22± .47; Best double couple: Mo 2.87800×10^16 NP1: φs 308.00000°, δ 29.00000°, λ 109.00000°. NP2: φs 106.00000°, δ 63.00000°, λ 80.00000°. Principal axes: T 2.9520, Plg 70.0000°, Azm 355.0000°; N -0.1490, Plg 9.0000°, Azm 111.0000°; P -2.8040, Plg 180.0000°, Azm 204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***18*** *13:07:35.2, 1630N×9890W, h35km, mB5.3, Ms5.2, Msz4.9*

ISC 18 13:07:34.3±1.1, 1647N±004×9882W±003, h17km±6km, h22km±.7km: pP-P, n412, σ0 994/426, mb4.9/62, MS4.2/9, 90C-88D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.67**	**96**	*i* P		**Pg**	**13 07 47.0**	**-0.4**
PNIG				*i* S		**Sg**	**13 08 04.4**	**+8.1**
PNIG	**Pinotepa**	**0.67**	**96**	*i* P		**Pg**	**13 07 47.0**	**-0.4**
PNIG				*i* S		**Sg**	**13 08 06.0**	**+10**
ACX	**Acapulco**	**1.13**	**291**	*i* P		**Pn**	**13 07 46.5**	**-8.8**
ACX				*i* S		**Sb**	**13 08 08.0**	**-4.7**
CAIG	**El Cayaco**	**1.50**	**293**	*i* P		**Pn**	**13 07 51.3**	**-9.2**
CAIG				*i* S		**Sn**	**13 08 10.5**	**-9.1**
CAIG	**El Cayaco**	**1.50**	**293**	*i* P		**Pn**	**13 07 51.3**	**-9.2**
CAIG				*i* S		**Sn**	**13 08 14.5**	**-5.2**
MEIG	**Mezcala**	**1.64**	**332**	*i* P		**Pn**	**13 07 59.3**	**-3.0**
MEIG				*i* S		**Sn**	**13 08 25.7**	**+2.7**
UTMO	**Huajuapan**	**1.67**	**35**	*i* P		**Pn**	**13 08 03.4**	**+0.7**
UTMO				*i* S		**Sg**	**13 08 35.8**	**+7.7**
PLIG	**Platanillo**	**2.02**	**341**	*i* P		**Pn**	**13 08 06.2**	**-1.5**
PLIG				*i* S		**Sn**	**13 08 39.4**	**+6.9**
VHO	**Vista Hermosa**	**2.09**	**73**	*i* P		**Pn**	**13 08 08.4**	**-0.1**
VHO				*i* S		**Sn**	**13 08 40.7**	**+6.6**
VHO	**Vista Hermosa**	**2.09**	**73**	*i* P		**Pn**	**13 08 08.4**	**-0.1**
VHO				*i* S		**Sg**	**13 08 39.5**	**-2.0**
VHO				*i* S		Sx	13 08 51.9	
OXX	**Oaxaca**	**2.10**	**73**	*i* P		**Pn**	**13 08 10.0**	**+1.3**
OXX				*i* S		**Sg**	**13 08 43.5**	**+1.6**
OXX	**Oaxaca**	**2.10**	**73**	*i* P		**Pn**	**13 08 10.0**	**+1.3**
OXX				*i* S		**Sb**	**13 08 38.0**	**+0.3**
TPIG	**Tehuac#an**	**2.39**	**35**	*i* P		**Pn**	**13 08 13.6**	**+0.9**
TPIG				*i* S		**Sg**	**13 08 54.6**	**+3.4**
YAIG	**Yautepec**	**2.40**	**354**	*e*P		**Pn**	**13 08 12.1**	**-0.7**
YAIG				*i* S		**Sg**	**13 08 49.9**	**-1.5**
YAIG	**Yautepec**	**2.40**	**354**	*i* P		**Pb**	**13 08 16.3**	**-0.7**
YAIG				*i* S		**Sg**	**13 08 49.9**	**-1.5**
PPM	**Popocatepetl**	**2.59**	**4**	*i* P		**Pb**	**13 08 19.0**	**-1.4**
HUIG	**Huatulco**	**2.69**	**105**	*e*P		**Pn**	**13 08 12.6**	**-4.3**
HUIG				*i* S		**Sn**	**13 08 46.0**	**-3.1**
HUIG	**Huatulco**	**2.69**	**105**	*i* P		**Pn**	**13 08 14.4**	**-2.5**
HUIG				*i* S		**Sg**	**13 09 06.3**	**+5.3**
UNM	**Universidad Na**	**2.87**	**353**	*e*P		**Pn**	**13 08 18.9**	**-0.4**
UNM				*e*P			13 08 19.5	
UNM				*i* S		**Sb**	**13 09 04.2**	**+4.4**
UNM	**Universidad Na**	**2.87**	**353**	*e*P		**Pn**	**13 08 18.9**	**-0.4**
UNM				*i* S		**Sg**	**13 09 09.7**	**+3.2**
SZVM	**Salazar**	**2.89**	**349**	*e*P		**Pn**	**13 08 20.1**	**+0.5**
SZVM				*i* S		**Sb**	**13 08 59.8**	**-0.7**
IIO	**Organos**	**3.11**	**2**	*i* P		**Pb**	**13 08 30.8**	**+1.6**
IIO				*i* S		**Sg**	**13 09 16.1**	**+1.8**
CMIG	**Matias Romero**	**3.82**	**80**	Pn		**Pn**	**13 08 31.5**	**-0.8**
	5.6nm,0.3s,baz=258,slow=12,SNR=27							
CMIG				Sn		**Sn**	**13 09 19.9**	**+3.1**
	32nm,0.3s,baz=249,slow=19,SNR=5.5							
CMIG				LR		LR	13 10 03.8	
	comp=Z,2μm,18.1s,baz=251,slow=39							
CMIG	**Matias Romero**	**3.82**	**80**	*i* P		**Pn**	**13 08 31.8**	**-0.5**
CMIG				*i* S		**Sb**	**13 09 23.1**	**-4.1**
CMIG	**Matias Romero**	**3.82**	**80**	Pn		**Pn**	**13 08 31.5**	**-0.8**
CMIG				*i* P			13 08 31.8	
CMIG				*i* S		**Sn**	**13 09 19.2**	**+2.4**
CMIG				Sn		**Sn**	**13 09 19.9**	**+3.1**
CMIG				LR		LR	13 10 03.8	
MOIG	**Morelia**	**3.91**	**325**	*e*P		**Pn**	**13 08 30.0**	**-3.6**
MOIG				*i* S		**Sn**	**13 09 17.5**	**-1.6**
MOIG	**Morelia**	**3.91**	**325**	*e*P		**Pn**	**13 08 31.6**	**-2.0**
MOIG				*i* S		**Sb**	**13 09 27.2**	**-2.6**
LVIG	**Laguna Verde**	**3.96**	**35**	*i* P		**Pn**	**13 08 33.5**	**-0.8**
LVIG	**Laguna Verde**	**3.96**	**35**	*e*P		**Pn**	**13 08 32.0**	**-2.3**
TUIG	**Tuzandepetl**	**4.48**	**69**	*e*P		**Pn**	**13 08 40.5**	**-0.9**
TUIG				*i* S		**Sb**	**13 09 43.2**	**-3.1**
TUIG	**Tuzandepetl**	**4.48**	**69**	*e*P		**Pn**	**13 08 34.0**	**-7.4**
TUIG				*i* S		**Sg**	**13 09 53.7**	**-4.5**
SFJM	**Santa Fe**	**5.66**	**316**	*e*P		**Pn**	**13 08 52.5**	**-5.1**
SFJM	**Santa Fe**	**5.66**	**316**	*e*P		**Pn**	**13 08 57.5**	**-0.1**
CCIG	**Comitan**	**6.42**	**91**	*e*P		**Pn**	**13 09 06.6**	**-1.4**
CCIG				*i* S		**Sn**	**13 10 24.2**	**+3.4**
CCIG	**Comitan**	**6.42**	**91**	*i* P		**Pn**	**13 09 11.2**	**+3.2**
CCIG				*i* S		**Sn**	**13 10 30.6**	**+10**
ANIG	**Ahuacatlan**	**7.07**	**311**	*i* P		**Pn**	**13 09 11.0**	**-6.0**
ANIG				*i* S		**Sn**	**13 10 28.6**	**-8.3**
LNIG	**Linares**	**8.41**	**356**	*i* P		**Pn**	**13 09 33.4**	**-2.0**
LNIG				*i* S		**Sn**	**13 11 19.3**	**+9.4**
TEIG	**Tepich**	**10.69**	**68**	*i* P		**Pn**	**13 10 07.5**	**+1.0**
TGUH	**Tegucigalpa,Un**	**11.39**	**101**	*e*Pn		**Pn**	**13 10 17.6**	**+1.3**
	38nm,1.0s							
LPIG	**La Paz**	**13.18**	**307**	Pn		**Pn**	**13 10 39.4**	**-1.3**
	3.5nm,0.3s,baz=45,slow=17,SNR=2.6							
LPIG	**La Paz**	**13.18**	**307**	Pn		**Pn**	**13 10 39.4**	**-1.3**
TXAR	**Lajitas Array**	**13.56**	**342**	Pn		**Pn**	**13 10 46.0**	**+0.2**
	0.0nm,0.3s,baz=158,slow=17,SNR=8.5							
TXAR				Lg			13 14 48.1	
	0.0nm,0.3s,baz=147,slow=25,SNR=2.1							
TXAR				LR		LR	13 16 04.6	
	comp=Z,614nm,21.4s,baz=330,slow=38							
HKT	**Hockley**	**13.70**	**11**	*e*P		**Pn**		**+5.9**
HKT				pmax		pmax	**13 10 53.6**	
	comp=Z,25nm,1.3s							
HKT	**Hockley**	**13.70**	**11**	*e*Pn		**Pn**	**13 10 53.6**	**+5.9**
	comp=Z,25nm,1.3s							
JCT	**Junction City**	**13.98**	**356**	*e*P		**Pn**	**13 10 52.8**	**+1.2**
JTS	**JuntasAbangare**	**14.82**	**113**	Pn		**Pn**	**13 11 01.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=300,slow=16,SNR=2.4							
JTS	**JuntasAbangare**	**14.82**	**113**	*e*P		**Pn**	**13 11 06.9**	**+3.9**
JTS	**JuntasAbangare**	**14.82**	**113**	Pn		**Pn**	**13 11 01.8**	**-1.1**
JTS				*e*Pn		**Pn**	**13 11 04.9**	**+1.9**
MNTX	**Cornudas Mount**	**16.30**	**340**	*e*Pn		**Pn**	**13 11 21.3**	**-1.1**
GDL2	**Guadalupe Moun**	**16.45**	**343**	*e*Pn		**Pn**	**13 11 27.1**	**+2.8**
WMOK	**Wichita Mounta**	**18.20**	**0**	*e*P		**Pn**	**13 11 44.8**	**-1.3**
AMTX	**Amarillo**	**18.52**	**353**	*e*Pn		**Pn**	**13 11 49.4**	**-0.7**
	comp=Z,50nm,0.9s							
BNM	**Barren Site**	**18.96**	**340**	*e*Pn		**Pn**	**13 11 54.2**	**-1.1**
Y22C	**IRIS PASSCAL I**	**18.99**	**339**	P		**Pn**	**13 11 55.8**	**+0.2**
	baz=19							
LENM	**Lemitar**	**19.09**	**339**	*e*Pn		**Pn**	**13 11 56.5**	**-0.3**
LPM	**Los Pinos Moun**	**19.11**	**340**	*e*Pn		**Pn**	**13 11 58.7**	**+1.6**
UALR	**University of**	**19.14**	**16**	*e*Pn		**Pn**	**13 11 59.4**	**+2.0**
	comp=Z,43nm,1.1s							
TUC	**Tucson**	**19.15**	**328**	*e*P		**Pn**	**13 11 56.4**	**-1.2**
TUC				pmax		pmax		
	comp=Z,88nm,1.6s							
TUC	**Tucson**	**19.15**	**328**	*e*Pn		**Pn**	**13 11 56.4**	**-1.2**
	comp=Z,88nm,1.6s							
LAZ	**Ladron**	**19.36**	**339**	*e*Pn		**Pn**	**13 11 59.0**	**-1.2**
ANMO	**Albuquerque**	**19.64**	**341**	P		**Pn**	**13 12 02.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=157,slow=12,SNR=14							
ANMO				LR		LR	13 20 23.3	
	comp=Z,1μm,19.2s,baz=53,slow=39							
ANMO	**Albuquerque**	**19.64**	**341**	*c i*P		**Pn**	**13 12 02.5**	**-1.0**
ANMO	**Albuquerque**	**19.64**	**341**	*e*Pn		**Pn**	**13 12 02.0**	**-1.5**
	comp=Z,42nm,1.5s							
LRAL	**Lakeview Retre**	**19.66**	**31**	*e*P		**Pn**	**13 11 59.6**	**-4.1**
	comp=Z,28nm,1.2s							
116A	**Eloy**	**19.83**	**326**	⇓P		**Pn**	**13 12 03.9**	**-1.8**
	baz=20							
OXF	**Oxford**	**19.86**	**23**	*e*P		**Pn**	**13 12 07.2**	**+1.1**
OXF				pmax		pmax		
	comp=Z,59nm,1.1s							
OXF	**Oxford**	**19.86**	**23**	*e*P		**Pn**	**13 12 07.2**	**+1.1**
	comp=Z,59nm,1.1s							
115A	**Sonoran Desert**	**20.21**	**326**	⇓P		**P**	**13 12 08.6**	**+0.3**
	baz=20,SNR=6.9							
Z14A	**Wintersburg**	**21.11**	**325**	⇓P		**P**	**13 12 17.9**	**-0.1**
	baz=21							
Y14A	**Wickenburg**	**21.58**	**326**	⇓P		**P**	**13 12 23.0**	**0.0**
	baz=22,SNR=12							
X15A	**Humboldt**	**21.61**	**329**	⇓P		**P**	**13 12 23.5**	**+0.1**
	baz=22,SNR=24							
UTMT	**University of**	**21.68**	**22**	*e*P		**P**	**13 12 26.3**	**+2.1**
	comp=Z,242nm,1.1s,mb5.5							
GOGA	**Godfrey**	**21.83**	**37**	*e*P		**P**	**13 12 25.2**	**-0.5**
GOGA				pmax		pmax		
	comp=Z,72nm,1.3s,mb4.9							
GOGA	**Godfrey**	**21.83**	**37**	*e*P		**P**	**13 12 25.2**	**-0.5**
	comp=Z,72nm,1.3s,mb4.9							
WVT	**Waverly**	**21.89**	**24**	*e*P		**P**	**13 12 25.0**	**-1.4**
WVT				pmax		pmax		
	comp=Z,78nm,1.3s,mb5.0							
WVT	**Waverly**	**21.89**	**24**	*e*P		**P**	**13 12 24.9**	**-1.5**
	comp=Z,78nm,1.3s,mb5.0							
X14A	**Yava**	**21.93**	**327**	⇑P		**P**	**13 12 26.7**	**-0.1**
	baz=22,SNR=9.5							
GLA	**Glamis**	**21.95**	**322**	*e*P		**P**	**13 12 26.0**	**-1.1**
GLA	**Glamis**	**21.95**	**322**	P		**P**	**13 12 26.6**	**-0.4**
	baz=22,SNR=43							
SDCO	**Great Sand Dun**	**22.00**	**346**	*e*P		**P**	**13 12 27.4**	**-0.3**
	comp=Z,122nm,1.6s,mb5.1							
WUAZ	**Wupatki**	**22.04**	**332**	⇑*e*P		**P**	**13 12 28.4**	**+0.5**
	comp=Z,135nm,1.3s,mb5.2							
WUAZ	**Wupatki**	**22.04**	**332**	⇓P		**P**	**13 12 28.3**	**+0.3**
	baz=22,SNR=62							
W15A	**Williams**	**22.18**	**330**	⇓P		**P**	**13 12 30.1**	**+0.6**
	baz=22,SNR=5.3							
RCC	**Rio Carpintero**	**22.24**	**77**	*e*P		**P**	**13 12 30.3**	**+0.2**
Y12C	**Blythe**	**22.28**	**323**	⇓P		**P**	**13 12 29.8**	**-0.7**
	baz=22,SNR=9.7							
CBKS	**Cedar Bluff**	**22.28**	**358**	*e*P		**P**	**13 12 29.2**	**-1.4**
CBKS				pmax		pmax		
	comp=Z,22nm,0.7s,mb4.7							
CBKS	**Cedar Bluff**	**22.28**	**358**	*e*P		**P**	**13 12 29.2**	**-1.4**
	comp=Z,22nm,0.7s,mb4.7							
MVCO	**Mesa Verde**	**22.37**	**339**	*e*P		**P**	**13 12 31.1**	**-0.4**
	comp=Z,13nm,1.5s,mb5.3							
MVCO	**Mesa Verde**	**22.37**	**339**	P		**P**	**13 12 31.4**	**-0.2**
	baz=22,SNR=61							
DVTC	**Desert V Tower**	**22.46**	**319**	⇓P		**P**	**13 12 31.8**	**-0.7**
	baz=22							
SWSC	**Sam W. Stewart**	**22.46**	**320**	⇓P		**P**	**13 12 32.3**	**-0.2**
	baz=22,SNR=9.2							
PDMCI	**Parker Dam,Lak**	**22.47**	**325**	⇑P		**P**	**13 12 31.9**	**-0.6**
	baz=22,SNR=5.4							
X13A	**Yucca**	**22.52**	**326**	⇑P		**P**	**13 12 32.9**	**-0.2**
	baz=23,SNR=13							
W14A	**Seligman**	**22.61**	**328**	⇑P		**P**	**13 12 34.1**	**+0.1**
	baz=23							
KSU1	**Kansas State U**	**22.63**	**4**	*e*P		**P**	**13 12 34.3**	**0.0**
	comp=Z,23nm,0.7s,mb4.7							
FVM	**French Village**	**22.68**	**17**	*e*P		**P**	**13 12 35.0**	**+0.2**
FVM				pmax		pmax		
	comp=Z,61nm,1.0s,mb5.0							
FVM	**French Village**	**22.68**	**17**	*e*P		**P**	**13 12 35.0**	**+0.2**
	comp=Z,61nm,1.0s,mb5.0							
BC3	**Big Chuckw Mtn**	**22.75**	**322**	⇓P		**P**	**13 12 34.8**	**-0.7**
	baz=23							
SIUC	**Southern Illin**	**22.80**	**20**	*e*P		**P**	**13 12 36.7**	**+0.6**
	comp=Z,166nm,1.3s,mb5.3							
MONP	**Monument Peak**	**22.82**	**319**	⇑P		**P**	**13 12 35.6**	**-0.6**
	baz=23							
BAR	**Barrett**	**22.84**	**318**	*e*P		**P**	**13 12 37.0**	**+0.5**
IRM	**Iron Mountain**	**22.93**	**323**	P		**P**	**13 12 36.9**	**-0.6**
	baz=23,SNR=10							
W13A	**Hualapai Mount**	**22.93**	**327**	⇓P		**P**	**13 12 37.3**	**-0.2**
	baz=23							
NEE2	**Needles Airpor**	**23.08**	**325**	⇑P		**P**	**13 12 38.2**	**-0.8**
	baz=23							
PV01	**Paradox Valley**	**23.23**	**340**	*e*P		**P**	**13 12 40.1**	**-0.5**
109C	**Camp Elliot, M**	**23.25**	**318**	⇓P		**P**	**13 12 40.0**	**-0.9**
	baz=23							
BELC	**Belle Mtn.**	**23.31**	**322**	⇑P		**P**	**13 12 40.5**	**-1.0**
	baz=23,SNR=5.3							
PFO	**Pinyon Flat Ob**	**23.32**	**320**	P		**P**	**13 12 40.9**	**-0.7**
	comp=Z,3.9nm,0.9s,mb3.8,baz=136,slow=8.1,SNR=6.4							
PFO	**Pinyon Flat Ob**	**23.32**	**320**	P		**P**	**13 12 40.9**	**-0.7**
PFO				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb3.9							
PFO	**Pinyon Flat Ob**	**23.32**	**320**	⇓P		**P**	**13 12 41.0**	**-0.5**
	baz=23							
SLM	**Saint Louis**	**23.34**	**17**	*e*P		**P**	**13 12 40.1**	**-1.6**
SLM				pmax		pmax		
	comp=Z,37nm,0.8s,mb4.9							
SLM	**Saint Louis**	**23.34**	**17**	*e*P		**P**	**13 12 40.1**	**-1.7**
	comp=Z,37nm,0.8s,mb4.9							
TKL	**Tuckaleechee C**	**23.35**	**32**	P		**P**	**13 12 42.4**	**+0.5**
	comp=Z,11nm,0.8s,mb4.4,baz=191,slow=9.0,SNR=12							
TKL	**Tuckaleechee C**	**23.35**	**32**	P		**P**	**13 12 42.4**	**+0.5**
TKL				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.3							
USIN	**University of**	**23.56**	**22**	*e*P		**P**	**13 12 43.8**	**-0.2**
	comp=Z,312nm,1.4s,mb5.5							
PV10	**Paradox Valley**	**23.60**	**340**	*e*P		**P**	**13 12 42.8**	**-1.6**
W12A	**Cal Nev Ari**	**23.61**	**326**	⇓P		**P**	**13 12 43.7**	**-0.8**
	baz=24							
NHSC	**New Hope**	**23.62**	**42**	*e*P		**P**	**13 12 43.3**	**-1.2**
	comp=Z,315nm,1.6s,mb5.5							
SMCO	**Snowmass**	**23.73**	**344**	⇑*e*P		**P**	**13 12 36.3**	**-9.3**
	comp=Z,71nm,1.2s,mb5.0							
MURC	**Murrieta**	**23.78**	**319**	⇑P		**P**	**13 12 44.8**	**-1.2**
	baz=24							
V12A	**Nelson**	**23.92**	**326**	⇓P		**P**	**13 12 46.6**	**-0.7**
	baz=24,SNR=7.8							
ISCO	**Idaho Springs**	**23.99**	**347**	⇑*e*P		**P**	**13 12 47.5**	**-0.5**
ISCO				pmax		pmax		
	comp=Z,157nm,1.6s,mb5.2							
ISCO	**Idaho Springs**	**23.99**	**347**	⇑*e*P		**P**	**13 12 47.5**	**-0.5**
	comp=Z,157nm,1.6s,mb5.2							
BBRC	**Big Bear Sol-O**	**24.05**	**321**	⇓P		**P**	**13 12 48.2**	**-0.3**
	baz=24							
HEC	**Hector,Ludlow**	**24.09**	**323**	⇑P		**P**	**13 12 48.6**	**-0.3**
	baz=24,SNR=7.0							
LHS	**Liberty Hill**	**24.14**	**39**	*e*P		**P**	**13 12 49.8**	**+0.5**
LHS				*e*			13 12 56.9	
TZTN	**Tazewell**	**24.16**	**31**	*e*P		**P**	**13 12 49.0**	**-0.5**
	comp=Z,96nm,1.4s,mb5.0							
TZTN				*e*			13 12 56.8	
TUQ	**Turquoise Mtn.**	**24.29**	**324**	⇑P		**P**	**13 12 50.4**	**-0.3**
	baz=24,SNR=14							
U12A	**Valley of Fire**	**24.30**	**328**	⇓P		**P**	**13 12 50.6**	**-0.1**
	baz=24,SNR=5.4							
V11A	**Goodsprings**	**24.32**	**326**	⇓P		**P**	**13 12 50.4**	**-0.5**
	baz=24,SNR=7.0							
WCI	**Wyandotte Cave**	**24.32**	**25**	*e*P		**P**	**13 12 50.3**	**-0.6**
WCI				pmax		pmax		
	comp=Z,35nm,0.8s,mb4.8							
WCI	**Wyandotte Cave**	**24.32**	**25**	*e*P		**P**	**13 12 50.3**	**-0.7**
	comp=Z,35nm,0.8s,mb4.8							
BFSC	**Mount Baldy St**	**24.48**	**320**	⇓P		**P**	**13 12 52.2**	**-0.2**
	baz=24							
CCUT	**Cedar City**	**24.62**	**331**	*e*P		**P**	**13 12 52.9**	**-0.7**
CCUT				*e*			13 13 00.5	
SHPR	**Sheep Range**	**24.67**	**327**	*e*P		**P**	**13 12 55.0**	**+0.8**
GSC	**Goldstone**	**24.70**	**323**	*e*P		**P**	**13 12 54.7**	**+0.3**
GSC				*e*			13 13 01.2	
GSC	**Goldstone**	**24.70**	**323**	⇓P		**P**	**13 12 54.4**	**0.0**
	baz=25,SNR=9.8							
U11A	**Corn Creek**	**24.73**	**327**	⇑P		**P**	**13 12 55.3**	**+0.6**
	baz=25							
SRU	**San Rafael**	**24.78**	**338**	*e*P		**P**	**13 12 54.5**	**-0.6**
SRU				pmax		pmax		
	comp=Z,60nm,1.0s,mb5.1							
SRU	**San Rafael**	**24.78**	**338**	*e*P		**P**	**13 12 54.5**	**-0.6**
	comp=Z,60nm,1.0s,mb5.1							
SHOC	**Shoshone**	**24.83**	**325**	⇑P		**P**	**13 12 56.2**	**+0.6**
	baz=25							
ARUT	**Antelope Range**	**24.84**	**332**	*e*P		**P**	**13 12 55.6**	**-0.1**
ARUT				*e*			13 13 03.6	
MSU	**Marysvale**	**24.90**	**334**	*e*P		**P**	**13 12 55.6**	**-0.6**
BLO	**Bloomington**	**25.05**	**23**	*e*P		**P**	**13 12 57.3**	**-0.3**
BLO				pmax		pmax		
	comp=Z,32nm,0.8s,mb4.9							
BLO	**Bloomington**	**25.05**	**23**	*e*P		**P**	**13 12 57.3**	**-0.3**
	comp=Z,32nm,0.8s,mb4.9							
EDW2	**Edwards Air Fo**	**25.11**	**320**	⇑P		**P**	**13 12 58.6**	**+0.4**
	baz=25							
TMUT	**Trail Mountain**	**25.19**	**337**	*e*P		**P**	**13 12 58.7**	**-0.2**
U10A	**Ash Meadows, A**	**25.23**	**325**	⇑P		**P**	**13 12 59.7**	**+0.4**
	baz=25							
BLG	**Laguna Peak**	**25.29**	**318**	⇓P		**P**	**13 12 59.9**	**+0.1**
	baz=25							
LRMC	**Laurel Mountai**	**25.34**	**322**	P		**P**	**13 13 00.6**	**+0.4**
	baz=25,

baz=28
P10A **Eureka** 27.73 330 ⇓P P 13 13 22.7 +0.9
baz=28
O11A **Cowboy Ranch,** 27.75 332 ⇓P P 13 13 23.3 +1.3
baz=28
NVAR **Mina Array Bea** 27.77 326 P P 13 13 22.4 +0.2
comp=Z,5.3nm,1.1s,mb4.1,baz=152,slow=9.0,SNR=14
NVAR **Mina Array Bea** 27.77 326 P P 13 13 22.4 +0.2
BW06 **Boulder Array** 27.78 343 *e*P P 13 13 22.2 0.0
comp=Z,62nm,1.7s,mb5.0
PDAR **Pinedale Array** 27.78 343 P P 13 13 21.8 -0.4
comp=Z,4.1nm,0.8s,mb4.1,baz=138,slow=9.1,SNR=31
U04C **Hernandez Rese** 27.80 320 ⇑P P 13 13 23.1 +0.6
baz=28
Q08A **Gabbs** 27.89 327 P P 13 13 23.2 -0.1
baz=28,SNR=9.9
RSSD **Black Hills** 27.92 352 *e*P P 13 13 22.6 -0.9
RSSD pmax pmax
comp=Z,33nm,1.6s,mb4.7
RSSD **Black Hills** 27.92 352 *e*P P 13 13 22.6 -0.9
comp=Z,33nm,1.6s,mb4.7
R07C **Lee Vining** 27.94 324 ⇓P P 13 13 24.4 +0.8
baz=28
HVU **Hansel Valley** 27.94 337 *e*P P 13 13 21.7 -2.0
HVU pmax pmax
comp=Z,19nm,1.1s,mb4.6
HVU **Hansel Valley** 27.94 337 *e*P P 13 13 21.7 -1.9
comp=Z,19nm,1.1s,mb4.6
P09A **Austin** 28.01 329 ⇑P P 13 13 25.5 +1.2
baz=28
N12A **Clover Valley,** 28.06 333 ⇓P P 13 13 25.0 +0.2
baz=28
M13A **Montello** 28.12 335 P P 13 13 25.4 +0.2
baz=28,SNR=6.2
AHID **Auburn Hatcher** 28.24 341 *e*P P 13 13 27.1 +0.8
S06C **San Francisco** 28.25 323 ⇓P P 13 13 27.1 +0.7
baz=28
O10A **Cortez Mining,** 28.27 331 ⇓P P 13 13 27.3 +0.7
baz=28
HAST **UC Hastings Re** 28.30 319 ⇓P P 13 13 27.2 +0.3
baz=28
WAKR **Walker** 28.45 325 *e*P P 13 13 29.7 +1.5
R06C **Coleville** 28.47 325 ⇑P P 13 13 29.7 +1.3
baz=28
M12A **Wells** 28.48 334 ⇑P P 13 13 28.9 +0.5
baz=28
SDV **Santo Domingo** 28.48 102 P P 13 13 28.8 +0.3
comp=Z,7.8nm,1.0s,mb4.3,baz=324,slow=7.1,SNR=5.2
SDV LR LR 13 26 39.8
comp=Z,235nm,18.1s,MS3.8,baz=2.5,slow=40
SDV **Santo Domingo** 28.48 102 *e*P P 13 13 29.6 +1.1
comp=Z,24nm,1.2s,mb4.7
O09A **Fish Creek Ran** 28.51 330 ⇑P P 13 13 29.7 +0.9
baz=29
P08A **Dixie Valley** 28.59 328 ⇑P P 13 13 30.9 +1.4
baz=29
N10A **Dunphy** 28.61 331 ⇓P P 13 13 30.6 +1.0
baz=29
CMB **Columbia Colle** 28.66 323 *e*P P 13 13 36.7 +6.6
REDW **Red Top Meadow** 28.70 342 *e*P P 13 13 30.1 -0.3
comp=Z,61nm,1.6s,mb5.1
AAM **Ann Arbor** 28.84 24 *e*P P 13 13 30.7 -1.0
AAM pmax pmax
comp=Z,75nm,1.4s,mb5.2
AAM **Ann Arbor** 28.84 24 *e*P P 13 13 30.7 -1.0
comp=Z,75nm,1.4s,mb5.2
M11A **Holland Ranch,** 28.86 333 ⇓P P 13 13 32.6 +0.7
baz=29,SNR=6.8
R05C **Kirkwood Meado** 28.94 324 ⇓P P 13 13 33.6 +1.0
baz=29
DCID1 **Drake Creek** 29.01 341 *e*P P 13 13 32.4 -0.9
MOOW **Moose Ponds** 29.02 342 *e*P P 13 13 32.2 -1.1
comp=Z,45nm,1.6s,mb5.0
R04C **Big Horse Ranc** 29.13 322 ⇓P P 13 13 35.3 +1.0
baz=29
WCN **Washoe City** 29.19 325 ⇑P P 13 13 35.0 +0.2
baz=29
N09A **Rock Creek Ran** 29.20 330 ⇓P P 13 13 34.9 +0.1
baz=29
WENL **Wente Brothers** 29.21 321 ⇑P P 13 13 36.1 +1.2
baz=29
M10A **I.L. Ranch, Tu** 29.27 332 ⇑P P 13 13 36.8 +1.3
baz=29
FLWY **Flagg Ranch** 29.31 342 *e*P P 13 13 36.2 +0.4
comp=Z,46nm,1.5s,mb5.0
O07A **Toulon** 29.34 328 ⇓P P 13 13 37.3 +1.1
baz=29
LAVA **Lava Cap Winer** 29.36 323 ⇓P P 13 13 37.3 +1.0
baz=29
JRSC **Jasper Ridge** 29.36 320 ⇑P P 13 13 36.6 +0.3
baz=29
N08A **GE Springer Mi** 29.44 329 ⇑P P 13 13 37.0 0.0
baz=30
M09A **Marrel Ranch,** 29.61 331 ⇑P P 13 13 38.8 +0.4
baz=30
P05C **Yuba Gap, Truc** 29.66 324 ⇑P P 13 13 39.4 +0.4
baz=30
O06A **Flanigan** 29.84 326 P P 13 13 41.8 +1.2
baz=30,SNR=6.0
N07B **Gerlach** 29.85 328 ⇓P P 13 13 40.6 0.0
baz=30
RLMT **Red Lodge** 29.89 345 *e*P P 13 13 41.3 +0.3
comp=Z,74nm,1.7s,mb5.1
BEKR **Beckwourth** 29.92 325 ⇓P P 13 13 42.0 +0.8
baz=30,SNR=5.5
YMR **Madison River** 29.93 342 *e*P P 13 13 40.2 -1.1
comp=Z,29nm,1.3s,mb4.8
HLID **Hailey** 30.09 337 *e*P P 13 13 42.5 -0.3
HLID **Hailey** 30.09 337 ⇑P P 13 13 43.9 +1.1
baz=30
L09A **Wilkinson Ranc** 30.18 331 ⇓P P 13 13 43.9 +0.4
baz=30
OHCM **Honcut** 30.18 324 *e*P P 13 13 43.4 -0.1
OHCM *e* pP 13 13 50.0 +1.2
QLMT **Earthquake Lak** 30.21 342 *e*P P 13 13 41.1 -2.8
N06A **Buffalo Meadow** 30.27 327 P P 13 13 45.6 +1.2
baz=30,SNR=9.1
SUTB **Sutter Butte** 30.28 323 ⇑P P 13 13 43.9 -0.5
baz=30
O05C **Quincy** 30.29 325 ⇑P P 13 13 45.3 +0.7
baz=30
ORV **Oroville** 30.33 324 ⇓P P 13 13 45.6 +0.7
baz=30
L08A **Fields** 30.62 331 ⇑P P 13 13 47.5 0.0
baz=31
O04C **Chester** 30.63 325 ⇓P P 13 13 48.0 +0.4
baz=31
MCMT **McKenzie Canyo** 30.65 340 *e*P P 13 13 48.3 +0.6
K09A **Rome** 30.74 332 P P 13 13 48.9 +0.4
baz=31,SNR=15
LAO **LASA Array** 30.76 350 *e*P P 13 13 48.4 -0.3
comp=Z,70nm,1.6s,mb5.2
G15A **Dillon** 30.84 341 P P 13 13 50.3 +1.0
baz=31,SNR=7.0
ATAH **Atahualpa** 30.85 138 P P 13 13 50.5 +1.0
comp=Z,4.7nm,0.6s,mb4.5,baz=345,slow=19,SNR=2.7
M06C **Likely Place G** 30.94 327 ⇑P P 13 13 50.2 -0.1
baz=31,SNR=5.8
L07A **Adell** 30.97 329 P P 13 13 50.1 -0.4
baz=31,SNR=5.7
DLMT **Dillon** 31.05 341 *e*P P 13 13 50.5 -0.7
comp=Z,38nm,1.2s,mb5.1
DLMT *e* 13 13 58.7
K08A **Mann Creek Ran** 31.11 331 P P 13 13 51.6 -0.1
baz=31,SNR=11
HATC **Hat Creek Radi** 31.18 326 ⇓P P 13 13 53.1 +0.7
baz=31
J09A **Fry Pan Ranch,** 31.27 333 ⇑P P 13 13 53.2 +0.1
baz=31
MOD **Modoc** 31.36 328 ⇓P P 13 13 53.9 -0.1
baz=31
M05C **Lookout** 31.40 327 ⇑P P 13 13 54.5 +0.2
baz=31
LRM **Limekiln Ridge** 31.41 342 *e*P P 13 13 54.6 +0.2
K07A **Rock Creek Ran** 31.43 330 P P 13 13 55.7 +1.1
baz=32,SNR=6.3
F15A **Butte** 31.44 342 P P 13 13 55.2 +0.5
baz=32,SNR=7.6
O02C **Red Bluff** 31.48 323 ⇑P P 13 13 55.1 +0.1
baz=32
J08A **Circle Bar Ran** 31.60 332 P P 13 13 55.8 -0.2
baz=32,SNR=10
H11A **Donnelly** 31.66 336 P P 13 13 56.3 -0.4
baz=32,SNR=8.1
F14A **Wisdom** 31.69 340 ⇓P P 13 13 58.1 +1.2
baz=32
L05A **Lakeview** 31.73 328 ⇓P P 13 13 57.7 +0.5
baz=32,SNR=5.2

I09A **Lost Marbles R** 31.77 334 P P 13 13 59.0 +1.5
baz=32,SNR=9.6
MTP **Monte Pirata** 31.78 82 *e*P P 13 13 55.2 -2.5
AGMN **Agassiz Refuge** 31.84 4⇑ *e*P P 13 13 56.7 -1.5
comp=Z,55nm,1.1s,mb5.3
M03C **McCloud** 31.86 326 ⇑P P 13 13 59.1 +0.7
baz=32
F13A **Darby** 31.99 339 P P 13 13 59.2 -0.3
baz=32,SNR=10
J07A **Hines** 31.99 331 ⇓P P 13 13 59.2 -0.3
baz=32
K06A **Valley Falls** 32.00 329 ⇑P P 13 13 59.5 -0.1
baz=32
E15A **Deer Lodge** 32.01 342 ⇑P P 13 14 00.0 +0.3
baz=32
M04C **Macdoel** 32.06 327 ⇓P P 13 14 00.0 -0.2
baz=32
I08A **Drewsey** 32.07 333 ⇑P P 13 14 00.3 0.0
baz=32,SNR=5.3
DGMT **Dagmar** 32.22 353 *e*P P 13 14 00.6 -0.9
comp=Z,11nm,0.3s,mb5.2
K05A **Summer Lake** 32.26 329 ⇑P P 13 14 01.2 -0.7
baz=32
E14A **Clinton** 32.27 341 ⇓P P 13 14 02.2 +0.3
baz=32
F12A **Elk City** 32.28 338 P P 13 14 01.8 -0.3
baz=32,SNR=14
H09A **Durkee** 32.29 334 P P 13 14 01.8 -0.4
baz=32,SNR=9.4
BMO **Blue Mountains** 32.30 335 *e*P P 13 14 00.9 -1.3
G11A **Walters Elk Ra** 32.35 337 P P 13 14 02.2 -0.5
baz=32,SNR=12
L04A **Klamath Falls** 32.37 327 ⇑P P 13 14 02.7 -0.2
baz=32
YBH **Yreka Blue Hor** 32.49 326 ⇑P P 13 14 03.2 -0.8
baz=32
E13A **Victor** 32.51 340 P P 13 14 03.9 -0.3
baz=33,SNR=7.9
D15A **Lincoln** 32.54 342 ⇑P P 13 14 05.2 +0.9
baz=33
H08A **Prairie City** 32.60 333 ⇑P P 13 14 05.5 +0.6
baz=33
I07A **Izee** 32.63 332 ⇑P P 13 14 05.7 +0.6
baz=33
CHMT **Chamberlain Mo** 32.64 342 *e*P P 13 14 04.3 -0.9
F11A **Grangeville** 32.72 337 ⇑P P 13 14 05.5 -0.4
baz=33
EGMT **Eagleton** 32.73 346 *e*P P 13 14 04.2 -1.8
comp=Z,107nm,2.0s,mb5.4
EGMT **Eagleton** 32.73 346 ⇓P P 13 14 07.0 +1.0
baz=33
MSO **Missoula** 32.78 341 *e*P P 13 14 05.7 -0.7
comp=Z,5.6nm,1.0s,mb4.5
J05A **Fort Rock** 32.84 329 ⇓P P 13 14 07.2 +0.2
baz=33
I06A **Prineville** 32.84 331 ⇓P P 13 14 07.0 -0.1
baz=33
D14A **Greenough** 32.87 341 ⇑P P 13 14 06.9 -0.3
baz=33
D13A **Huson** 33.18 340 ⇓P P 13 14 09.0 -1.0
baz=33
F10A **Beach Ranch, E** 33.20 336 P P 13 14 09.7 -0.4
baz=33,SNR=12
F09A **S2 Ranch, Elgi** 33.25 335 P P 13 14 11.4 +0.9
baz=33,SNR=8.1
J04A **Umpqua Nationa** 33.25 328 ⇓P P 13 14 10.9 +0.4
baz=33
G08A **Pilot Rock** 33.34 334 ⇓P P 13 14 11.3 0.0
baz=33
H06A **Lindquist Farm** 33.51 332 ⇑P P 13 14 13.0 +0.2
baz=34
I05A **Bend** 33.51 330 ⇑P P 13 14 12.4 -0.4
baz=34
C14A **Swan Lake** 33.55 342 ⇑P P 13 14 13.1 -0.1
baz=34
G07A **Ruggs Ranch, H** 33.63 333 ⇑P P 13 14 14.1 +0.3
baz=34
C13A **Hot Springs** 33.73 341 ⇓P P 13 14 15.2 +0.5
baz=34
D11A **Klaveano Farm,** 33.77 338 ⇓P P 13 14 15.8 +0.7
baz=34
ULM **Lac du Bonnet** 33.78 3 P P 13 14 13.7 -1.5
comp=Z,8.7nm,0.9s,mb4.7,baz=194,slow=11,SNR=14
ULM LR LR 13 29 40.8
comp=Z,138nm,18.1s,MS3.7,baz=169,slow=39
ULM **Lac du Bonnet** 33.78 3 *e*P P 13 14 13.5 -1.7
comp=Z,37nm,1.2s,mb5.2
I04A **Tendick Farm,** 33.80 329 ⇑P P 13 14 15.7 +0.4
baz=34
H05A **Madras** 33.85 331 ⇑P P 13 14 15.1 -0.7
baz=34
BSMT **Bassoo Peak** 33.95 341 *e*pP pP 13 14 27.8 +5.9
E09A **Wood Farm, Sta** 34.00 336 ⇓P P 13 14 17.1 0.0
baz=34
G06A **Carlson Farm,** 34.03 332 ⇓P P 13 14 17.6 +0.2
baz=34
C12A **Trout Creek** 34.05 340 ⇑P P 13 14 17.0 -0.4
baz=34
F07A **Phinny Hill Vi** 34.23 333 ⇓P P 13 14 18.5 -0.6
baz=34
B13A **Whitefish** 34.31 341 P P 13 14 19.9 +0.1
baz=34,SNR=6.4
I03A **Eugene** 34.36 328 ⇓P P 13 14 20.6 +0.3
baz=34
F06A **Goldendale** 34.51 332 ⇓P P 13 14 22.2 +0.8
baz=34
D09A **Jones Farm, Ri** 34.52 336 ⇓P P 13 14 22.4 +0.9
baz=35
E07A **Sunnyside** 34.73 334 ⇓P P 13 14 23.6 +0.2
baz=35
B12A **Libby** 34.75 340 ⇓P P 13 14 24.0 +0.4
baz=35
D08A **Wollman Farm,** 34.75 336 ⇓P P 13 14 24.7 +1.1
baz=35
WALA **Waterton Lakes** 34.76 343 *e*P P 13 14 32.6 +8.9
C10A **Spilker Farm,** 34.78 338 ⇑P P 13 14 24.2 +0.3
baz=35
MIV **Mineville/With** 34.86 33 *e*pP pP 13 14 37.5 +7.6
F05A **White Salmon** 34.90 332 ⇓P P 13 14 26.2 +1.3
baz=35
B11A **Sandpoint** 34.98 339 ⇑P P 13 14 26.5 +1.0
baz=35
NEW **Newport** 35.09 339 *e*P P 13 14 26.0 -0.5
NEW pmax pmax
comp=Z,11nm,1.1s
NEW **Newport** 35.09 339 *e*P P 13 14 26.0 -0.5
comp=Z,11nm,1.1s,mb4.7
C09A **Chrisman Ranch** 35.12 337 ⇑P P 13 14 27.6 +0.9
baz=35
A12A **Yaak River Ran** 35.18 341 ⇑P P 13 14 27.7 +0.4
baz=35
E06A **Yakima** 35.20 333 ⇓P P 13 14 27.6 +0.2
baz=35
D07A **Quincy** 35.29 335 ⇓P P 13 14 29.0 +0.8
baz=35
G03A **Yamhill** 35.33 330 ⇓P P 13 14 29.5 +0.9
baz=35
F04A **Amboy** 35.38 331 ⇓P P 13 14 29.1 +0.1
baz=35
C08A **Higginbotham F** 35.40 336 ⇑P P 13 14 30.0 +0.8
baz=35
A11A **Hall Mountain,** 35.43 340 ⇓P P 13 14 29.2 -0.2
baz=36
E05A **Randle** 35.55 332 ⇑P P 13 14 30.9 +0.4
baz=36
B09A **Rice** 35.59 338 ⇑P P 13 14 31.1 +0.3
baz=36
C07A **Waterville** 35.72 335 P P 13 14 31.4 -0.5
baz=36,SNR=7.7
A10A **Northport** 35.85 339 ⇓P P 13 14 32.2 -0.9
baz=36
B08A **Colville Reser** 35.98 337 P P 13 14 34.4 +0.3
baz=36,SNR=5.1
A09A **Danville** 36.21 338 ⇓P P 13 14 36.1 0.0
baz=36
E03A **Lebam** 36.36 331 ⇑P P 13 14 37.5 0.0
baz=36
B07A **Winthrop** 36.37 336 ⇑P P 13 14 37.4 -0.1
baz=36
A08A **Turner Farm, O** 36.44 337 ⇑P P 13 14 38.7 +0.5
baz=36
A07A **Ashnola River,** 36.94 336 ⇓P P 13 14 43.1 +0.8
baz=37
B05A **Bryant** 37.01 334 ⇓P P 13 14 43.4 +0.4
baz=37
B04A **Port Angeles** 37.46 333 ⇑P P 13 14 48.6 +1.8
baz=38
A05A **Maple Falls** 37.58 335 ⇑P P 13 14 50.2 +2.4
baz=38

EDM **Edmonton** 38.41 346 *e*P P 13 14 53.0 -1.8
EDM *e* 13 14 59.9
SAML **Samuel** 43.37 123 *e*P P 13 15 32.2 -3.4
comp=Z,7.8nm,1.3s,mb4.3
LPAZ **La Paz** 44.44 136 P P 13 15 43.2 -1.1
comp=Z,4.5nm,1.1s,mb4.1,baz=338,slow=9.4,SNR=5.0
LPAZ LR LR 13 33 06.4
comp=Z,173nm,18.4s,MS4.0,baz=116,slow=35
LPAZ **La Paz** 44.44 136 *e*P P 13 15 43.0 -1.3
LPAZ *e* pP 13 15 49.6 -0.1
LPAZ pmax pmax
comp=Z,13nm,1.4s
LPAZ **La Paz** 44.44 136 *e*P P 13 15 43.0 -1.4
comp=Z,13nm,1.4s,mb4.5
LPAZ *e* pP 13 15 49.6 -0.1
SCHQ **Schefferville** 45.52 25 P P 13 15 52.1 -0.8
comp=Z,6.1nm,0.8s,mb4.6,baz=226,slow=11,SNR=6.7
SCHQ LR LR 13 34 53.5
comp=Z,193nm,20.7s,MS4.0,baz=193,slow=36
YKA **Yellowknife Ar** 47.30 350 P P 13 16 06.8 0.0
comp=Z,2.3nm,0.8s,mb4.2,baz=159,slow=7.1,SNR=4.2
YKA LR LR 13 37 22.6
comp=Z,310nm,20.5s,MS4.3,baz=70,slow=38
YKA **Yellowknife Ar** 47.30 350 P P 13 16 06.8 0.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA MLR MLR
comp=Z,311nm,20.5s
YKA **Yellowknife Ar** 47.30 350 P P 13 16 06.8 0.0
YKA LR LR 13 37 22.6
TAOE **Nuku Hiva Isla** 48.01 241 *e*T 14 07 25.0
comp=Z,256nm,0.3s
SIV **San Ignacio** 49.26 129 P P 13 16 18.5 -3.4
comp=Z,2.1nm,0.9s,mb4.2,baz=312,slow=9.2,SNR=7.4
RKT **Rikitea** 52.90 223 *e*LR LR 13 31 42.9
comp=Z,497nm,26.5s
RKT **Rikitea** 52.90 223 *e*T 14 13 23.7
comp=Z,8.1nm,0.3s
KKH **Kailua Kona** 54.27 283 *e*P P 13 16 56.9 -2.4
DAWY **Dawson** 55.01 340 *e*P P 13 17 04.2 -0.5
DAWY *e* pP 13 17 10.3 +0.1
EGAK **Eagle** 56.05 340 *e*P P 13 17 10.7 -1.6
comp=Z,8.5nm,0.8s,mb4.8
INK **Inuvik** 56.30 345 P P 13 17 12.4 -1.6
comp=Z,5.0nm,0.9s,mb4.6,baz=133,slow=8.8,SNR=12
INK **Inuvik** 56.30 345 P P 13 17 12.5 -1.5
INK pmax pmax
comp=Z,5.0nm,0.9s
INK **Inuvik** 56.30 345 *e*P P 13 17 12.5 -1.5
comp=Z,895nm,1.2s
INK *e* pP 13 17 18.8 -0.8
COLA **College** 58.45 338 *i*P P 13 17 29.2 +0.1
COLA **College** 58.45 338 *e*P P 13 17 28.5 -0.6
comp=Z,10.0nm,0.9s,mb4.8
PPT **Papeete** 60.36 238 *e*S S 13 25 43.7 -13
comp=Z,76nm,28.5s
PPT *e*LR LR 13 34 59.8
comp=Z,296nm,26.2s
PPT **Papeete** 60.36 238 LR LR 13 35 49.4
comp=Z,242nm,20.2s,MS4.3,baz=277,slow=28
TBI **Tubuai** 63.37 233 *e*LR LR 13 36 33.2
comp=Z,284nm,29.8s
TBI **Tubuai** 63.37 233 *e*T 14 26 22.9
comp=Z,5.9nm,0.3s
BILL **Bilibino** 76.70 337⇑ *e*P P 13 19 23.2 -1.2
BILL *e* 13 22 18.0
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
TIXI **Tiksi** 86.41 346 *e*P P 13 20 12.9 -2.9
TIXI *e* 13 20 20.2
TIXI pmax pmax
comp=Z,40nm,1.5s,mb5.4
TIXI **Tiksi** 86.41 346 *e*P P 13 20 12.9 -2.9
comp=Z,40nm,1.5s,mb5.4
TIXI *e* 13 20 20.2
HHC **Hu-ho-hao-te** 116.39 335 *e*PKP PKPdf 13 26 16.9 -0.1
HHC PP PP 13 27 27.8 +4.6
HHC PKS 13 29 53.4
HHC SKS SKSdf 13 33 24.9 -3.4
HHC SKKS SKKSac 13 34 16.6 -7.0
HHC SS SS 13 43 24.8 -1.9
HHC PP PP
comp=Z,75nm,6.0s
WMQ **Urumqi** 119.72 355 ⇓PKP PKPdf 13 26 24.1 +0.7
WMQ PP PP 13 27 52.6 +6.3
WMQ PPP 13 30 25.9
WMQ PP PP
comp=Z,214nm,6.0s
WMQ LR LR
comp=N,53nm,37.1s
WMQ LR LR
comp=E,491nm,28.8s
WMQ LR LR
comp=Z,731nm,33.0s,MS5.1
LZH **Lanzhou** 123.51 338 *e*P PKPdf 13 26 32.5 +1.9
LZH pP 13 26 41.0
LZH sP 13 26 46.1
WRA **Warramunga Arr** 129.55 258 PKP PKPdf 13 26 39.8 -2.4
comp=Z,0.6nm,0.8s,baz=89,slow=2.4,SNR=6.4
WRA **Warramunga Arr** 129.55 258 PKIKP PKPdf 13 26 39.8 -2.4
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR **Alice Springs** 130.19 253 PKP PKPdf 13 26 40.9 -2.5
comp=Z,0.3nm,0.8s,baz=90,slow=1.9,SNR=4.1
GYA **Guiyang** 130.67 329 *e*PDIF Pdif 13 23 32.3 -2.5
GYA PKP PKPdf 13 26 42.4 -1.9
GYA PP PP 13 29 00.9 +1.5
GYA PKS 13 30 17.5
GYA SKS SKSdf 13 33 47.3 -7.7
GYA SKKS SKKSac 13 35 46.8 -8.6
GYA SS SS 13 46 21.8 -5.7
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,170nm,20.8s,MS4.8
GYA LR LR
comp=E,150nm,20.4s,MS4.8
GYA LR LR
comp=Z,160nm,21.0s,MS4.7
KMI **Kunming** 133.63 333 PKP PKPdf 13 26 48.9 -1.0
KSM **Kuching** 146.17 299 *e*P PKPdf 13 27 10.4 -2.1
HYB **Hyderabad** 146.23 5 *i*PKP PKPdf 13 27 13.0 +0.3
HYB **Hyderabad** 146.23 5 *e*P PKPdf 13 27 13.0 +0.3

*IDC **18** 13:19:03.3±0.9, 46.02N×154.57E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=30.3km s-min=23.1km az=143.0*
*ISCJB **18** 13:19:04.0±5.1, 46.0N±0.1×154.5E±0.2, h16km±37km, mb3.8/6, Error ellipse: s-maj=33.7km s-min=14.4km az=80.6*
*MOS **18** 13:19:06.6±0.7, 46.02N×154.30E, h32km, mb4.0/5, Error ellipse: s-maj=33.8km s-min=20.2km az=64.6*

ISC 18 13:19:07.0±5.3, 460N±01×1545E±02, h24km±38km, n17, σ0.58/17, mb3.8/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	4.83	13	*e*P	Pn	13 20 18.5	+0.3
SKR	**Severo-Kuril's**	4.83	13	*e*PN	Pn	13 20 18.5	+0.3
ASAJ	**Asahikawa**	8.61	262	Pn	Pn	13 21 10.7	+0.6
	0.7nm,0.3s,baz=141,slow=5.7,SNR=5.4						
ASAJ	**Asahikawa**	8.61	262	P	Pn	13 21 10.7	+0.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	8.61	262	PN	Pn	13 21 10.7	+0.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	15.42	238	Pn	Pn	13 22 41.9	-0.9
	comp=Z,0.1nm,0.3s,baz=48,slow=15,SNR=3.5						
MKAR	**Makanchi Array**	48.13	299	P	P	13 27 44.5	-0.4
	comp=Z,0.9nm,0.6s,mb4.0,baz=68,slow=7.7,SNR=9.9						
MKAR	**Makanchi Array**	48.13	299	P	P	13 27 44.6	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	64.44	54	P	P	13 29 40.3	-1.0
	comp=Z,0.4nm,0.8s,mb3.5,baz=318,slow=2.0,SNR=3.9						
FINES	**FINESS Array B**	65.13	335	P	P	13 29 46.0	+0.1
	comp=Z,2.5nm,0.9s,mb4.2,baz=50,slow=6.0,SNR=5.0						
FINES	**FINESS Array B**	65.13	335	P	P	13 29 46.0	+0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	68.11	200	P	P	13 30 05.2	+0.4

comp=Z,0.6nm,0.8s,mb3.7,baz=20,slow=6.9,SNR=5.2
WRA Warramunga Arr 68.11 200 P **P 13 30 05.2 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 71.79 200 P **P 13 30 28.1 +0.6**
comp=Z,0.8nm,1.1s,mb3.6,baz=0.0,slow=5.0,SNR=5.1
ASAR Alice Springs 71.79 200 P **P 13 30 28.1 +0.6**
ASAR pmax pmax
comp=Z,1.0nm,1.1s
TXAR Lajitas Array 77.05 61 P **P 13 30 58.2 +0.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=310,slow=4.1,SNR=7.6
TXAR Lajitas Array 77.05 61 P **P 13 30 58.3 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.7s

*NEIC **18** 13:26:14.5, 1580N×9929W, h20km, MD4.4(MEX), After MEX.*
MEX 18 13:26:15.0±0.9, 1583N×9926W, h24km±18km, MD4.4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.21**	**329**	*i* P	Pn	13 26 33.0	-3.4
ACX				*i* S	Sn	13 26 48.0	-4.0
PNIG	**Pinotepa**	**1.23**	**63**	*i* P	Pn	13 26 33.4	-3.2
PNIG				*i* S	Sn	13 26 50.0	-2.5
CAIG	**El Cayaco**	**1.55**	**322**	*i* P	Pn	13 26 38.3	-2.8
CAIG				*i* S	Sn	13 26 58.2	-2.2
MEIG	**Mezcala**	**2.12**	**351**	*i* P	Pn	13 26 46.2	-2.6
MEIG				*i* S	Sn	13 27 11.8	-2.6
UTMO	**Huajuapan**	**2.43**	**35**	*i* P	Pn	13 26 50.1	-3.1
UTMO				*i* S	Sn	13 27 18.7	-3.5
PLIG	**Platanillo**	**2.56**	**355**	*i* P	Pn	13 26 53.5	-1.5
PLIG				*i* S	Sn	13 27 23.3	-2.1
VHO	**Vista Hermosa**	**2.73**	**63**	*i* P	Pn	13 26 55.6	-1.7
VHO				*i* S	Sn	13 27 26.6	-2.8
OXX	**Oaxaca**	**2.74**	**63**	*i* P	Pn	13 26 56.5	-0.9
OXX				*i* S	Sn	13 27 27.0	-2.7
YAIG	**Yautepec**	**3.02**	**4**	*i* P	Pn	13 27 00.5	-0.8
YAIG				*i* S	Sn	13 27 33.5	-3.3
HUIG	**Huatulco**	**3.04**	**91**	*i* S	Sn	13 27 32.9	-4.2
TPIG	**Tehuac#an**	**3.15**	**35**	*i* P	Pn	13 27 00.1	-3.1
TPIG				*i* S	Sn	13 27 38.0	-2.0
PPM	**Popocatepetl**	**3.28**	**11**	*i* P	Pn	13 27 02.6	-2.3
PPM				*i* S	Sn	13 27 41.0	-2.1
SZVM	**Salazar**	**3.48**	**358**	*i* P	Pn	13 27 05.4	-2.2
SZVM				*i* S	Sn	13 27 44.5	-3.5
UNM	**Universidad Na**	**3.48**	**1**	*e*P	Pn	13 27 08.5	+0.8
IIO	**Organos**	**3.78**	**8**	*i* P	Pn	13 27 09.9	-1.8
IIO				*i* S	Sn	13 27 51.5	-4.0
MOIG	**Morelia**	**4.25**	**335**	*i* S	Sn	13 28 04.3	-2.7
CMIG	**Matias Romero**	**4.39**	**73**	*i* P	Pn	13 27 16.2	-3.9
CMIG				*i* S	Sn	13 28 06.1	-4.3
MMIG	**Aquila**	**4.61**	**303**	*i* S	Sn	13 28 13.9	-2.0
TUIG	**Tuzandepetl**	**5.13**	**64**	*i* S	Sn	13 28 26.4	-2.3
SFJM	**Santa Fe**	**5.86**	**323**	*e*P	Pn	13 27 49.5	+9.1
LNIG	**Linares**	**9.03**	**359**	*i* S	Sn	13 30 04.9	+0.3
AAM	**Ann Arbor**	**29.60**	**24**	*e*P	P	13 32 12.4	-5.7
	47nm,0.5s						
BRNJ	**Basking Ridge**	**32.75**	**36**	*e*P	P	13 32 43.5	-2.4
BINY	**Binghamton**	**33.03**	**33**	*e*P	P	13 32 40.3	-8.0
	27nm,0.7s						

*ISCJB **18** 13:30:20.0±0.4, 6319N±004×1497W±0.1, h110km±5km, mb3.6/3, Error ellipse: s-maj=8.4km s-min=6.0km az=0.4*
*NEIC **18** 13:30:21.5, 6319N×14962W, h99km, MG3.5(AEIC), After AEIC.*
*IDC **18** 13:30:21.3±6.1, 6304N×15062W, h112km±70km, mb3.5/3, mb1 3.6/4, mb1mx3.2/21, mbtmp3.4/4, Error ellipse: s-maj=56.5km s-min=27.5km az=49.0*
ISC 18 13:30:21.0±0.5, 6318N±004×1497W±01, h105km±5km, n30, σ0§69/34, mb3.6/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.38**	**315**	P	**Pn**	**13 30 36.7**	**+0.1**
TRF				S	**Sn**	**13 30 48.8**	**+0.6**
MCK	**McKinley**	**0.64**	**31**	P	**Pn**	**13 30 38.2**	**-0.2**
MCK				S	**Sn**	**13 30 50.4**	**-1.0**
KTH	**Kantishna Hill**	**0.67**	**304**	P	**Pn**	**13 30 38.9**	**+0.2**
KTH				S	**Sn**	**13 30 51.5**	**-0.3**
GHO	**Glory Hole Cre**	**1.46**	**166**	P	**Pn**	**13 30 47.6**	**+0.5**
SML	**Sawmill**	**1.52**	**155**	P	**Pn**	**13 30 47.9**	**+0.2**
PMR	**Palmer**	**1.62**	**171**	P	**Pn**	**13 30 48.8**	**-0.2**
COLA	**College**	**1.88**	**25**	P	**Pn**	**13 30 52.2**	**0.0**
IL1	**Eielson Array**	**2.01**	**36**	P	**Pn**	**13 30 53.7**	**-0.3**
FIB	**Fire Island**	**2.04**	**187**	P	**Pn**	**13 30 55.4**	**+1.1**
RC01	**Rabbit Creek A**	**2.10**	**181**	P	**Pn**	**13 30 55.2**	**+0.1**
DOT	**Dot Lake**	**2.57**	**77**	P	**Pn**	**13 31 01.3**	**+0.1**
SLKM	**Skilak Lake**	**2.70**	**186**	P	**Pn**	**13 31 03.5**	**+0.6**
MENT	**Mentasta**	**2.73**	**93**	*e*P	**Pn**	**13 31 03.7**	**+0.5**
DIV	**Divide**	**2.76**	**137**	P	**Pn**	**13 31 02.7**	**-1.0**
SEW	**Seward**	**3.09**	**178**	P	**Pn**	**13 31 07.7**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.23**	**143**	P	**Pn**	**13 31 09.7**	**-0.3**
BMRM	**Bremner River**	**3.26**	**131**	P	**Pn**	**13 31 09.5**	**-0.9**
IMA2	**Indian Mountai**	**3.37**	**331**	P	**Pn**	**13 31 12.3**	**+0.5**
SVW2	**Sparrevohn**	**3.47**	**236**	*e*P	**Pn**	**13 31 13.2**	**0.0**
RAGM	**Ragged Mountai**	**3.68**	**138**	P	**Pn**	**13 31 15.5**	**-0.4**
COLD	**Coldfoot**	**4.07**	**357**	P	**Pn**	**13 31 21.7**	**+0.5**
EGAK	**Eagle**	**4.08**	**63**	P	**Pn**	**13 31 21.6**	**+0.2**
MID	**Middleton Isla**	**4.10**	**155**	*e*P	**Pn**	**13 31 21.8**	**+0.2**
DAWY	**Dawson**	**4.67**	**75**	P	**Pn**	**13 31 29.2**	**-0.1**
KDAK	**Kodiak Island**	**5.61**	**196**	P	**Pn**	**13 31 40.9**	**-1.1**
	1.1nm,0.3s,baz=160,slow=16,SNR=14						
KDAK				S	**Sn**	**13 32 38.7**	**-6.4**
	2.6nm,0.3s,baz=331,slow=7.1,SNR=11						
INK	**Inuvik**	**8.39**	**45**	*e*Pn	**Pn**	**13 32 20.7**	**+1.0**
	398nm,1.2s						
TXAR	**Lajitas Array**	**44.81**	**117**	P	**P**	**13 38 26.5**	**+2.1**
	0.4nm,0.6s,mb3.4,baz=326,slow=7.1,SNR=6.5						
TXAR	**Lajitas Array**	**44.81**	**117**	P	**P**	**13 38 26.5**	**+2.1**
ARCES	**ARCESS Array B**	**47.52**	**2**	P	**P**	**13 38 44.6**	**-1.0**
	1.7nm,0.7s,mb4.0,baz=2.5,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**62.90**	**323**	P	**P**	**13 40 34.8**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=38,slow=7.5,SNR=4.1						

*CSEM **18** 13:30:40.0±0.1, 3592N×2750E, h80km, MD3.4, Error ellipse: s-maj=3.6km s-min=2.3km az=113.0*
*ISCJB **18** 13:30:41.3±0.7, 3590N±006×2741E±008, h79km±9km, Error ellipse: s-maj=12.9km s-min=7.3km az=68.4*
*NEIC **18** 13:30:42.7, 3607N×2724E, h42km, MD3.4(ATH), After ATH.*
*HLW **18** 13:30:42.6, 3587N×2717E, h33km, Mb3.3*
*ATH **18** 13:30:42.7, 3607N×2724E, h42km±3km, MD3.4/6*
*ISK **18** 13:30:45.5, 3609N×2770E, h26km, MD2.9*
ISC 18 13:30:42.4±0.7, 3596N±005×2738E±008, h70km±10km, n14, σ0§99/20, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**204**	*e*P	**Pn**	**13 30 54.6**	**-0.1**
KARP				*e*S	**Sn**	**13 31 03.0**	**-0.7**
ARG	**Arkhangelos**	**0.66**	**66**	↓P	**Pn**	**13 30 57.8**	**+1.0**
ARG				*e*S	**Sn**	**13 31 08.8**	**+1.3**
DAT	**Datca**	**0.79**	**12**	PG	**Pn**	**13 30 58.9**	**+0.6**
DAT				SG	**Sn**	**13 31 08.8**	**-1.3**
DALT	**Dalyan (Mudla)**	**1.30**	**51**	*e*PG	**Pn**	**13 31 05.3**	**+0.6**
YER	**Yerkesik**	**1.38**	**31**	*e*PN	**Pn**	**13 31 06.5**	**+0.7**
YER				*e*SN	**Sn**	**13 31 21.0**	**-2.4**
FETY	**Fethiye**	**1.54**	**63**	*e*PN	**Pn**	**13 31 07.5**	**-0.3**
NPS	**Neapolis**	**1.60**	**245**	*e*P	**Pn**	**13 31 08.6**	**-0.1**
XRY	**Khrisi**	**1.75**	**232**	*e*P	**Pn**	**13 31 12.0**	**+1.3**
SMG	**Samos**	**1.80**	**346**	*e*P	**Pn**	**13 31 10.8**	**-0.6**
APE	**Apeiranthos**	**1.86**	**307**	*e*P	**Pn**	**13 31 12.1**	**-0.1**
GVD	**Gavdhos**	**2.91**	**248**	*e*P	**Pn**	**13 31 28.0**	**+1.6**
HMAT	**Matruh**	**4.85**	**183**	P	**Pn**	**13 31 52.2**	**-0.7**
HMAT				S	**Sn**	**13 32 43.1**	**-4.7**
SWA1		**6.82**	**192**	P	**Pn**	**13 32 19.0**	**-0.8**
SWA1				S	**Sn**	**13 33 29.6**	**-6.3**
SWA2		**6.89**	**194**	P	**Pn**	**13 32 19.9**	**-0.7**

*NIED **18** 13:31:00, 41.10N×14260E, h44km, Mw4.0 Best double couple: Mo1.06000×10^15 NP1:φ±29.00000°, δ74.00000°, λ99.00000°. NP2:φ±179.00000°, δ18.00000°, λ61.00000°.*
*MOS **18** 13:31:18.3±1.8, 4116N×14244E, h33km, mb4.2/8, Error ellipse: s-maj=13.8km s-min=8.4km az=91.2*

*ISCJB **18** 13:31:20.1±0.5, 4115N±003×14258E±006, h57km±4km, mb3.9/17, Error ellipse: s-maj=8.3km s-min=4.0km az=63.1*
*JMA **18** 13:31:20.1±0.1, 4113N×14256E, h30km, M4.1*
*NEIC **18** 13:31:21.8±0.5, 4118N×14261E, mb4.1/4, Error ellipse: s-maj=12.6km s-min=7.2km az=112.0*
*IDC **18** 13:31:21.6±0.6, 4115N×14260E, h54km±5km, mb3.7/10, mb1 3.9/13, mb1mx3.8/22, mbtmp3.8/13, MS3.0/2, Ms1 3.0/2, ms1mx2.3/45, Error ellipse: s-maj=20.9km s-min=9.1km az=94.0*
ISC 18 13:31:21.2±0.5, 4116N±003×14256E±006, h52km±4km, h56km±9km: pP-P, n49, σ0§99/58, mb3.9/17, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.96**	**27**	*e*Pn	**Pn**	**13 31 38.0**	**-0.4**
ERM				*e*Sn	**Sn**	**13 31 50.7**	**-0.4**
JEM	**Erimo**	**0.96**	**27**	P	**Pn**	**13 31 37.9**	**-0.5**
JEM				*e*S	**Sn**	**13 31 50.2**	**-0.9**
JANG	**Nango**	**1.12**	**226**	P	**Pn**	**13 31 39.4**	**-1.1**
JANG				*e*S	**Sn**	**13 31 53.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**1.12**	**7**	↓P	**Pn**	**13 31 40.8**	**+0.2**
JOT	**Ohata**	**1.16**	**281**	↓P	**Pn**	**13 31 40.4**	**-0.7**
JOT				*e*S	**Sn**	**13 31 55.1**	**-0.8**
JTM	**Tenmabayashi**	**1.19**	**252**	↓P	**Pn**	**13 31 41.3**	**-0.2**
JTM				S	**Sn**	**13 31 56.2**	**-0.4**
JKB	**Kayabe**	**1.36**	**303**	↓P	**Pn**	**13 31 43.0**	**-0.7**
JCH	**Churui**	**1.57**	**22**	P	**Pn**	**13 31 46.6**	**0.0**
JCH				*e*S	**Sn**	**13 32 06.4**	**+0.6**
JEW	**Eniwo**	**1.87**	**334**	↓P	**Pn**	**13 31 51.2**	**+0.5**
JEW				*e*S	**Sn**	**13 32 14.0**	**+0.8**
JOM	**Ohasama**	**1.95**	**210**	P	**Pn**	**13 31 51.8**	**0.0**
JOM				*e*S	**Sn**	**13 32 15.1**	**0.0**
ASAJ	**Asahikawa**	**2.95**	**0**	P	**Pn**	**13 32 07.1**	**+1.6**
	23nm,0.3s,baz=229,slow=11,SNR=94						
ASAJ				S	**Sn**	**13 32 40.6**	**+0.9**
	8.9nm,0.3s,baz=240,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**2.95**	**0**	P	**Pn**	**13 32 07.1**	**+1.6**
ASAJ				S	**Sn**	**13 32 40.7**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.76**	**39**	*e*P	**Pn**	**13 32 16.0**	**-0.7**
YUK				*i* S	**Sn**	**13 32 56.6**	**-3.1**
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,460nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
MAJO	**Matsushiro**	**5.73**	**218**	*e*P	**Pn**	**13 32 45.4**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**5.73**	**218**	*e*Pn	**Pn**	**13 32 45.4**	**+1.8**
	comp=Z,9.8nm,0.5s						
MAT	**Matsushiro**	**5.73**	**218**	P	**Pn**	**13 32 45.9**	**+2.3**
MJAR	**Matsushiro Arr**	**5.73**	**218**	P	**Pn**	**13 32 45.6**	**+1.9**
	comp=Z,2.1nm,0.3s,baz=31,slow=13,SNR=49						
MJAR				LR	LR	13 35 20.3	
	comp=Z,125nm,19.4s,baz=135,slow=42						
YSS	**Yuzh-Sakhalins**	**5.79**	**1**	*e*P	**Pn**	**13 32 46.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.79**	**1**	*e*Pn	**Pn**	**13 32 45.6**	**+1.2**
	comp=Z,17nm,0.9s						
JHJ	**Hachijo jima 2**	**8.33**	**196**	P	**Pn**	**13 33 19.2**	**-0.1**
	comp=Z,8.1nm,0.3s,baz=90,slow=20,SNR=2.6						
JHJ				S	**Sn**	**13 34 47.1**	**-4.8**
	comp=Z,5.0nm,0.3s,baz=90,slow=20,SNR=2.1						
KSRS	**Korea Array**	**11.93**	**257**	P	**Pn**	**13 34 11.9**	**+3.4**
	baz=68,slow=12,SNR=7.1						
KSRS				LR	LR	13 38 16.3	
	comp=Z,67nm,20.2s,baz=155,slow=35						
HIA	**Hailar**	**17.95**	**304**	P	**Pn**	**13 35 27.5**	**+0.5**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**17.95**	**304**	P	**Pn**	**13 35 27.5**	**+0.5**
	comp=Z,4.8nm,0.8s						
BOD	**Bodaibo**	**24.66**	**322**	*e*P	**Pn**	**13 36 35.5**	**-1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**26.02**	**297**	P	**P**	**13 36 49.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.9						
ULN	**Ulaanbaatar**	**26.02**	**297**	P	**P**	**13 36 49.3**	**-0.1**
	comp=Z,5.1nm,1.2s,mb3.9						
SONM	**Songino Array**	**26.47**	**297**	P	**P**	**13 36 54.7**	**+1.4**
	comp=Z,1.2nm,0.6s,mb3.6,baz=82,slow=8.9,SNR=8.0						
ZAL	**Zalesovo**	**39.92**	**309**	P	**P**	**13 38 50.1**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.1,baz=27,slow=8.2,SNR=14						
MK31	**Makanchi Array**	**42.81**	**299**	P	**P**	**13 39 13.9**	**+0.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
MKAR	**Makanchi Array**	**42.81**	**299**	P	**P**	**13 39 14.0**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.1,baz=84,slow=9.9,SNR=29						
KURK	**Kurchatov**	**44.19**	**305**	P	**P**	**13 39 24.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BVAO	**Borovoye Array**	**48.53**	**310**	*i* P	**P**	**13 39 59.5**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
BRVK	**Borovoye**	**48.59**	**310**	*e*P	**P**	**13 39 59.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**48.59**	**310**	*e*P	**P**	**13 39 59.1**	**-0.3**
	comp=Z,5.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**49.41**	**296**	P	**P**	**13 40 02.5**	**-3.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**49.41**	**296**	P	**P**	**13 40 02.5**	**-3.2**
	comp=Z,2.8nm,0.9s,mb4.3						
INK	**Inuvik**	**50.33**	**29**	P	**P**	**13 40 13.7**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.3,baz=284,slow=8.9,SNR=13						
AB31	**Akbulak array**	**56.02**	**308**	P	**P**	**13 40 52.3**	**-2.2**
WRA	**Warramunga Arr**	**61.27**	**189**	P	**P**	**13 41 30.5**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.9,baz=5.2,slow=6.9,SNR=14						
WRA				pP	pP	13 41 45.6	+0.3
	comp=Z,0.6nm,0.6s,baz=6.7,slow=6.8,SNR=4.5						
WRA				sP	sP	13 41 53.2	+2.0
	comp=Z,0.4nm,0.5s,baz=6.1,slow=7.0,SNR=2.5						
WRA	**Warramunga Arr**	**61.27**	**189**	P	**P**	**13 41 30.5**	**-0.5**
WRA				*PP	pP	13 41 45.6	+0.3
ASAR	**Alice Springs**	**65.00**	**189**	P	**P**	**13 41 55.8**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=4.8,slow=7.8,SNR=6.8						
ASAR				pP	pP	13 42 10.5	+0.4
	comp=Z,0.4nm,0.6s,baz=13,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**65.59**	**332**	P	**P**	**13 41 58.9**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=45,slow=8.6,SNR=7.7						
FINES				pP	pP	13 42 14.3	+0.3
	comp=Z,1.4nm,0.5s,baz=32,slow=7.9,SNR=2.5						
NB2	**NORSAR Subarra**	**70.73**	**337**	P	**P**	**13 42 31.2**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.73**	**337**	P	**P**	**13 42 31.2**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=37,slow=6.2,SNR=5.3						
AKASG	**Malin Array Be**	**71.59**	**322**	pP	pP	13 42 52.4	+0.8
	comp=Z,1.3nm,0.4s,baz=44,slow=6.0,SNR=6.1						
NVAR	**Mina Array Bea**	**71.84**	**55**	pP	pP	13 42 54.6	+1.6
	comp=Z,0.6nm,0.6s,baz=288,slow=6.9,SNR=4.3						
PDAR	**Pinedale Array**	**74.16**	**47**	P	**P**	**13 42 52.4**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=270,slow=1.8,SNR=2.9						
PDAR				pP	pP	13 43 07.3	+0.4
	comp=Z,0.6nm,0.6s,baz=257,slow=1.9,SNR=5.1						
GERES	**GERESS Array B**	**79.67**	**328**	P	**P**	**13 43 23.8**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=94,slow=4.3,SNR=4.5						
TXAR	**Lajitas Array**	**86.91**	**53**	pP	pP	13 44 18.4	+3.0
	comp=Z,0.3nm,0.8s,baz=268,slow=3.4,SNR=3.3						

*IDC **18** 13:34:20.4±1.9, 4841N×15506E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=56.7km s-min=27.0km az=157.0*
*MOS **18** 13:34:23.3±1.8, 4817N×15493E, h33km, mb4.3/2, Error ellipse: s-maj=46.8km s-min=27.5km az=74.4*
*ISCJB **18** 13:34:25.8±2.5, 483N±02×1549E±03, h54km±18km, mb3.7/5, Error ellipse: s-maj=42.7km s-min=12.8km az=83.0*
ISC 18 13:34:27.7±2.2, 483N±02×1549E±03, h58km±16km, n10, σ0§47/11, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**18**	*e*PN	**Pn**	**13 35 05.6**	**-0.5**
SKR				*e*S	**Sn**	**13 35 36.0**	**+0.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,180nm,0.4s						
SKR				smax			
	comp=E,200nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.4s						
ASAJ	**Asahikawa**	**9.51**	**249**	Pn	**Pn**	**13 36 42.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=101,slow=17,SNR=4.7						
ASAJ	**Asahikawa**	**9.51**	**249**	PN	**Pn**	**13 36 42.1**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.45**	**251**	P	**P**	**13 39 22.0**	**+0.3**
	comp=Z,1.5nm,0.6s,mb3.6,baz=48,slow=9.9,SNR=7.1						
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 42 54.7**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=73,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**47.33**	**297**	P	**P**	**13 42 54.7**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.16**	**335**	P	**P**	**13 44 49.7**	**+0.1**
	comp=Z,3.8nm,1.0s,mb4.5,baz=30,slow=6.1,SNR=4.0						
FINES	**FINESS Array B**	**63.16**	**335**	P	**P**	**13 44 49.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**13 46 06.7**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=294,slow=5.5,SNR=4.7						
GERES	**GERESS Array B**	**77.59**	**335**	P	**P**	**13 46 18.1**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.1,baz=39,slow=5.0,SNR=3.6						

*ISCJB **18** 13:39:43.5±1.7, 4466N±01×1533E±02, h37km±14km, mb3.8/8, Error ellipse: s-maj=27.6km s-min=11.9km az=78.7*
*MOS **18** 13:39:44.0±1.0, 4662N×15319E, h42km, mb4.2/6, Error ellipse: s-maj=24.8km s-min=15.1km az=60.3*
*IDC **18** 13:39:49.7±5.4, 4653N×15302E, h75km±46km, mb3.5/9, mb1 3.6/11, mb1mx3.5/24, mbtmp3.5/11, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=33.3km s-min=20.6km az=87.0*
ISC 18 13:39:45.8±1.5, 4466N±01×1532E±02, h42km±13km, n21, σ0§90/22, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**252**	PN	**Pn**	**13 40 43.0**	**-1.2**
KUR				*e*S	**Sn**	**13 41 35.0**	**+5.4**
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,120nm,0.7s						
SKR	**Severo-Kuril's**	**4.50**	**24**	*e*PN	**Pn**	**13 40 50.8**	**-0.6**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
ASAJ	**Asahikawa**	**7.88**	**255**	P	**Pn**	**13 41 40.2**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=139,slow=20,SNR=4.6						
ASAJ				LR	LR	13 44 42.1	
	comp=Z,83nm,19.6s,baz=358,slow=38						
MJAR	**Matsushiro Arr**	**15.06**	**233**	P	**Pn**	**13 43 15.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=9.3,SNR=3.4						
MAT	**Matsushiro**	**15.06**	**233**	P	**Pn**	**13 43 16.1**	**+0.5**
KSRS	**Korea Array**	**20.82**	**253**	P	**P**	**13 44 22.6**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=63,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**47.06**	**298**	P	**P**	**13 48 13.3**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=64,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**47.06**	**298**	P	**P**	**13 48 13.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.19**	**335**	P	**P**	**13 50 15.5**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=46,slow=5.5,SNR=6.1						
FINES	**FINESS Array B**	**64.19**	**335**	P	**P**	**13 50 15.5**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.38**	**341**	P	**P**	**13 50 43.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.38**	**341**	P	**P**	**13 50 43.8**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.2,baz=27,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**68.38**	**341**	P	**P**	**13 50 43.8**	**+0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**68.41**	**199**	P	**P**	**13 50 42.3**	**-0.8**
	comp=Z,1.2nm,1.0s,mb3.9,baz=16,slow=6.6,SNR=5.5						
WRA	**Warramunga Arr**	**68.41**	**199**	P	**P**	**13 50 42.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.70**	**326**	P	**P**	**13 51 03.2**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=30,slow=5.5,SNR=6.4						
AKASG	**Malin Array Be**	**71.70**	**326**	P	**P**	**13 51 03.2**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.29**	**235**	P	Pb	13 54 29.3	-0.1
JZK				*e*S	Sb	13 54 34.0	0.0
JAM	**Amami Oshima**	**0.56**	**263**	P	Pb	13 54 33.7	-0.2
JAM				*e*S	Sb	13 54 41.0	-0.6
JTK	**Tokunoshima**	**1.33**	**239**	P	Pn	13 54 45.9	+0.1
JTK				*e*S	Sn	13 55 04.0	+1.3
JNN	**Nakanoshima**	**1.39**	**347**	P	Pn	13 54 47.1	+0.5
JOW	**Kunigami**	**2.40**	**227**	P	Pn	13 54 59.7	-0.7
JIH	**Iheya**	**2.48**	**235**	P	Pn	13 55 00.9	-0.6
JAGN	**Aguni-jima**	**3.26**	**235**	P	Pn	13 55 11.9	-0.4
JKE	**Kume jima 2**	**3.75**	**236**	P	Pn	13 55 18.1	-0.9

SZGRF ***18*** *13:55:14.8, 3.85N×95.98E, h42km, mb5.9, MS5.5, Off west coast of northern Sumatera, Indonesia*
IDC ***18*** *13:55:16.3±0.3, 4.78N×94.75E, h0km, mb5.2/39, mb1 5.2/39, mb1mx5.2/40, mbtmp5.2/39, MS5.6/17, Ms1 5.6/17, ms1mx5.2/28, Error ellipse: s-maj=11.4km s-min=8.9km az=42.0*
BJI ***18*** *13:55:18.9, 4.67N×94.72E, h34km, mB6.0, mb5.5, Ms6.0, Msz5.9*
MOS ***18*** *13:55:19.8±1.0, 4.79N×94.81E, h33km, mb5.9/116, MS5.4/31, Error ellipse: s-maj=6.8km s-min=3.5km az=122.0*
NEIC ***18*** *13:55:21.1±0.1, 4.75N×94.78E, h32km, mb5.6/146, ME5.8, MS5.5/11, MW5.8, Error ellipse: s-maj=4.9km s-min=3.5km az=214.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^17Nm; Mrr 3.72; Mθθ -2.34; Mϕϕ -1.37; Mrθ 4.22; Mθϕ 1.06; Mϕr -4.52; Best double couple: M=7.00000×10^17 NP1:ϕs 135.00000°, δ 76.00000°, λ 94.00000°. NP2: ϕs 298.00000°, δ 15.00000°, λ 73.00000°. Principal axes: T 7.4300, Plg59.0000°, Azm51.0000°; N -0.8000, Plg4.0000°, Azm314.0000°; P -6.6300, Plg31.0000°, Azm221.0000°; Broadband fault plane solution: P waves. NP1:ϕs 315.00000°, δ 15.00000°, λ 90.00000°. NP2: ϕs 135.00000°, δ 75.00000°, λ 90.00000°. Principal axes: T Plg60.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm225.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Banda Aceh and [III] at Sigli.
GCMT ***18*** *13:55:21.1±0.1, 4.58N×94.57E, h36km, MW5.9/101, Moment Tensor Solution. s101,c220; s97,c287; Duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr 0.65±.01; Mθθ -0.25±.01; Mϕϕ -0.40±.01; Mrθ 0.47±.01; Mθϕ 0.40±.01; Mϕr -0.56±.01; Best double couple: M=1.01000×10^18 NP1:ϕs 321.00000°, δ 22.00000°, λ 91.00000°. NP2:ϕs 140.00000°, δ 68.00000°, λ 90.00000°. Principal axes: T 0.9670, Plg67.0000°, Azm49.0000°; N 0.0850, Plg0.0000°, Azm140.0000°; P -1.0520, Plg23.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***18*** *13:55:21.6±0.1, 4.72N±0.03×94.82E±0.02, h49km, mb5.6/233, MS5.6/66 Error ellipse: s-maj=3.7km s-min=2.8km az=52.5*
ISC 18 13:55:23.8±0.1, 4.73N±0.02×94.81E±0.02, h51km, h51km±2.0km: pP-P, n854, σ1§12/782, mb5.6/232, MS5.6/66, 83C-27D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.53**	**115**	Pn	**Pn**	**13 56 31.1**	**+1.3**
	55nm,0.3s,baz=324,slow=8.1,SNR=57						
PSI				Sn	**Sn**	**13 57 24.6**	**+3.4**
	169nm,0.3s,baz=174,slow=23,SNR=6.4						
PKT	**Phuket**	**4.73**	**45**	P	**Pn**	**13 56 36.0**	**+3.5**
KULM	**Kulim**	**5.84**	**84**	*e*Pn	**Pn**	**13 56 47.0**	**-0.8**
IPM	**Ipoh**	**6.20**	**92**	P	**Pn**	**13 56 55.0**	**+2.3**
PBA	**Port Blair**	**7.18**	**344**	*e*S	**Sn**	**13 58 21.6**	**-4.6**
KGM	**Kluang**	**8.91**	**107**	P	**Pn**	**13 57 30.2**	**+0.3**
NNT	**Nongplab**	**9.20**	**32**	P	**Pn**	**13 57 37.8**	**+4.1**
NST	**Nakhon Sawan**	**12.06**	**25**	P	**Pn**	**13 58 13.5**	**+0.6**
BDT	**Bhumibol Dam**	**13.10**	**18**	P	**Pn**	**13 58 29.0**	**+2.0**
	29nm,1.0s						
KKTK	**Khon Kaen**	**13.96**	**34**	P	**Pn**	**13 58 42.0**	**+3.3**
CM31	**Chiang Mai Arr**	**14.23**	**16**	*e*Pn	**Pn**	**13 58 42.1**	**-0.3**
CM31				*e*Sn	**Sn**	**14 01 15.7**	**-3.0**
PALK	**Pallekele**	**14.26**	**281**	Pn	**Pn**	**13 58 41.3**	**-1.4**
	708nm,1.1s,SNR=8.0						
PALK	**Pallekele**	**14.26**	**281**	*e*Pn	**Pn**	**13 58 41.3**	**-1.4**
CHG	**Chiang Mai**	**14.57**	**16**	P	**Pn**	**13 58 48.2**	**+1.4**
	150nm,1.2s						
CHTO	**Chiang Mai**	**14.57**	**16**	*e*P	**Pn**	**13 58 46.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,210nm,0.9s						
CHTO	**Chiang Mai**	**14.57**	**16**	*e*Pn	**Pn**	**13 58 46.0**	**-0.8**
	comp=Z,210nm,0.9s						
KSM	**Kuching**	**15.81**	**101**	*e*Pn	**Pn**	**13 59 02.8**	**-0.1**
MDRS	**Chennai**	**16.59**	**301**	*e*P	**Pn**	**13 59 11.8**	**-0.9**
MDRS				AMb	AMB	13 59 14.7	
	comp=Z,70nm,0.4s						
COCO	**West Island**	**16.93**	**173**	*e*Pn	**Pn**	**13 59 16.1**	**-1.0**
	comp=Z,538nm,1.2s						
VIS	**Vishakhapatnam**	**17.11**	**320**	*e*P	**Pn**	**13 59 20.0**	**+0.7**
VIS				AMb	AMB	13 59 42.6	
	comp=Z,614nm,1.6s						
VIS				*i* x	x	14 02 07.1	
BWNR	**Bhubaneshwar**	**17.78**	**331**	*e*x	x	13 58 56.0	
BWNR				*e*x	x	14 01 30.0	
TRD	**Trivandrum**	**18.12**	**283**	*e*P	**Pn**	**13 59 32.9**	**+1.2**
TRD				AMb	AMB	13 59 36.8	
	comp=Z,281nm,1.5s						
CAL	**Calcutta**	**18.78**	**341**	*i*P	**Pn**	**13 59 42.2**	**+2.6**
CAL				*e*S	**S**	**14 03 14.3**	**+4.6**
AGT	**Agartala**	**19.35**	**350**	*i* P	**Pn**	**13 59 47.0**	**+0.6**
AGT				*i* x	x	14 01 04.0	
IMP	**Imphal**	**19.95**	**358**	*e*P	**Pn**	**13 59 53.0**	**-0.6**
IMP				*e*x	x	14 02 25.0	
HYB	**Hyderabad**	**20.31**	**310**	*i* P	**P**	**13 59 57.0**	**+1.6**
	comp=Z,220nm,1.0s						
HYB				*e*S	**S**	**14 03 36.0**	**-4.2**
HYB				*e*		14 04 12.0	
HYB				LR	LR		
	comp=Z,19nm,18.0s						
HYB	**Hyderabad**	**20.31**	**310**	*e*P	**P**	**13 59 57.0**	**+1.6**
HYB				*e*S	**S**	**14 03 42.0**	**+1.8**
HYB				pmax	pmax		
	comp=Z,220nm,1.0s						
HYB	**Hyderabad**	**20.31**	**310**	*e*P	**P**	**13 59 57.0**	**+1.6**
	comp=Z,220nm,1.0s						
HYB				*e*S	**S**	**14 03 42.0**	**+1.8**
QIZ	**Qiongzhong**	**20.42**	**45**	P	**P**	**13 59 57.8**	**+1.2**
QIZ				AP		14 00 11.6	
QIZ				PPP		14 00 29.5	
QIZ				AMB	AMB		
	comp=Z,98nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,7μm,10.8s						
QIZ				LR	LR		
	comp=N,10μm,18.6s,MS5.6						
QIZ				LR	LR		
	comp=E,20μm,17.6s,MS5.6						
QIZ				LR	LR		
	comp=Z,6μm,20.0s,MS4.9						
QIZ	**Qiongzhong**	**20.42**	**45**	*e*P	**P**	**13 59 57.5**	**+0.9**
	comp=Z,340nm,1.4s						
BOK	**Bokaro**	**20.81**	**336**	*e*P	**P**	**14 00 01.5**	**+0.6**
BOK				AMb	AMB	14 00 07.5	
	comp=Z,1μm,1.6s						
BOK				*e*x	x	14 03 45.1	
SHL	**Shillong**	**20.91**	**353**	*e*P	**P**	**14 00 02.0**	**+0.2**
SHL				*e*S	**S**	**14 04 00.0**	**+8.0**
MNGI	**Mangalore**	**21.35**	**294**	*i* P	**P**	**14 00 08.8**	**+2.1**
MNGI				*e*x	x	14 00 27.3	
	comp=Z,794nm,1.5s						
MNGI				*i* S	**S**	**14 04 04.4**	**+3.6**
KMI	**Kunming**	**21.66**	**20**	⇑P	**P**	**14 00 12.6**	**+2.7**
KMI				PP		14 00 39.9	
KMI				PPP		14 00 49.8	
KMI				AMB	AMB		
	comp=Z,216nm,1.2s,mb5.5						
KMI				AMB	AMB		
	comp=Z,3μm,4.7s						
KMI				LR	LR		
	comp=N,17μm,17.5s,MS5.8						
KMI				LR	LR		
	comp=E,22μm,12.5s,MS5.8						
KMI				LR	LR		
	comp=Z,27μm,18.9s						
KMI	**Kunming**	**21.66**	**20**	⇑P	**P**	**14 00 12.6**	**+2.7**
KMI				*PP		14 00 25.8	
KMI				*SP	sP	14 00 32.7	+4.6
KMI						14 00 39.9	
KMI				S	**S**	**14 04 04.6**	**-2.1**
KMI				SS		14 04 42.7	
KMI				SSS		14 04 59.6	
KMI				pmax	pmax		
	comp=Z,216nm,1.2s,mb5.5						
KMI				MLR	MLR		
	comp=Z,27μm,18.9s,MS5.7						
KMI	**Kunming**	**21.66**	**20**	⇑P	**P**	**14 00 12.6**	**+2.7**
	comp=Z,216nm,1.2s,mb5.5						
KMI				pP		14 00 25.8	
KMI				sP	sP	14 00 32.7	+4.6
KMI				PP		14 00 39.9	
KMI				PPP		14 00 49.8	
KMI				S	**S**	**14 04 04.6**	**-2.1**
KMI				sS	sS	14 04 27.1	+1.2
KMI				SS		14 04 42.7	
KMI				SSS		14 04 59.6	
KMI				LR	LR		
	comp=Z,27μm,18.9s,MS5.7						
NGP	**Nagpur**	**22.37**	**318**	*e*P	**P**	**14 00 18.4**	**+0.9**
NGP				AMb	AMB	14 00 34.9	
	comp=Z,443nm,1.9s,mb5.6						
NGP				*ex*	x	14 04 20.7	
LATR	**Latur**	**22.43**	**309**	*ex*	**P**	**14 00 26.1**	**+8.0**
LATR				*e*S	**S**	**14 04 26.4**	**+5.0**
TSM	**Tawau**	**23.00**	**90**	P	**P**	**14 00 25.2**	**+1.1**
GTK	**Gangtok**	**23.24**	**346**	*ex*	**P**	**14 00 35.0**	**+8.4**
JBP	**Jabalpur**	**23.26**	**323**	*e*P	**P**	**14 00 29.0**	**+2.2**
JBP				*i* x	x	14 03 01.7	
KAD	**Karad**	**23.75**	**303**	*e*P	**P**	**14 00 32.7**	**+1.3**
KAD				AMb	AMB	14 01 00.1	
	comp=Z,290nm,1.6s,mb5.5						
GYA	**Guiyang**	**24.40**	**26**	⇑*i*P	**P**	**14 00 36.9**	**-0.3**
GYA				XP	sP	14 00 49.4	-6.9
GYA				PP		14 01 16.3	
GYA				PPP		14 01 27.4	
GYA				AMB	AMB		
	comp=Z,150nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,2μm,9.0s						
GYA				LR	LR		
	comp=N,32μm,17.0s,MS6.0						
GYA				LR	LR		
	comp=E,21μm,16.7s,MS6.0						
GYA				LR	LR		
	comp=Z,31μm,17.6s,MS5.8						
PKI	**Pulchoki**	**24.41**	**339**	*e*Pn	**P**	**14 00 36.1**	**-1.3**
DMN	**Daman**	**24.56**	**339**	*e*Pn	**P**	**14 00 38.1**	**-0.6**
GUN	**Gumba**	**24.57**	**341**	*e*Pn	**P**	**14 00 39.5**	**+0.7**
POO	**Poona**	**24.64**	**306**	⇓*i*P	**P**	**14 00 39.0**	**-0.5**
	comp=Z,70nm,1.0s,mb5.2						
POO				AMb	AMB	14 01 34.1	
	comp=Z,225nm,1.1s,mb5.6						
POO				*ex*	x	14 04 05.0	
POO				*i* x	x	14 05 10.0	
KKN	**Kakani**	**24.66**	**339**	*e*Pn	**P**	**14 00 39.4**	**-0.2**
KKN	**Kakani**	**24.66**	**339**	*e*Pn	**P**	**14 00 40.2**	**+0.6**
BHPL	**Bhopal**	**24.91**	**319**	*e*P	**P**	**14 00 42.8**	**+0.9**
BHPL				AMb	AMB	14 00 49.3	
	comp=Z,255nm,1.9s,mb5.4						
LSA	**Lhasa**	**25.07**	**352**	P	**P**	**14 00 43.9**	**+0.5**
LSA				XP	sP	14 01 00.9	-1.5
LSA				S	**S**	**14 05 06.3**	**+2.1**
LSA				XS	sS	14 05 19.3	-6.9
LSA				SCP	ScP	14 07 49.3	-2.2
LSA				AMB	AMB		
	comp=Z,3μm,8.3s						
LSA				LR	LR		
	comp=N,8μm,21.1s,MS5.4						
LSA				LR	LR		
	comp=E,10μm,25.7s,MS5.4						
LSA				LR	LR		
	comp=Z,18μm,23.2s,MS5.5						
LSA	**Lhasa**	**25.07**	**352**	⇑*e*P	**P**	**14 00 42.5**	**-0.9**
LSA				pmax	pmax		
	comp=Z,239nm,0.8s,mb5.8						
LSA	**Lhasa**	**25.07**	**352**	⇑*e*P	**P**	**14 00 42.5**	**-0.9**
	comp=Z,239nm,0.8s,mb5.8						
GKN	**Gorkha**	**25.09**	**338**	*e*Pn	**P**	**14 00 43.7**	**+0.2**
GKN	**Gorkha**	**25.09**	**338**	*e*Pn	**P**	**14 00 44.2**	**+0.7**
KOLN	**Koldanda**	**25.27**	**336**	*e*Pn	**P**	**14 00 45.1**	**-0.1**
DGAR	**Diego Garcia**	**25.36**	**242**	*e*P	**P**	**14 00 45.2**	**-0.8**
DGAR				pmax	pmax		
	comp=Z,2μm,1.8s,mb6.4						
DGAR	**Diego Garcia**	**25.36**	**242**	*e*P	**P**	**14 00 45.1**	**-0.9**
	comp=Z,2μm,1.8s,mb6.4						
HKC	**Hong Kong**	**25.62**	**45**	⇑*i*P	**P**	**14 00 52.0**	**+3.7**
HKC				*i* S	**S**	**14 05 20.0**	**+7.2**
BOM	**Bombay**	**25.67**	**305**	*e*P	**P**	**14 00 50.3**	**+1.5**
BOM				*ex*	x	14 01 12.2	
	comp=Z,392nm,1.7s						
BOM				*e*S	**S**	**14 05 18.7**	**+5.0**
KAPI	**Kappang**	**26.73**	**111**	P	**P**	**14 00 58.8**	**+0.5**
	comp=Z,492nm,0.5s,mb6.3,SNR=8.2						
CD2	**Chengdu**	**27.37**	**17**	⇑*i*P	**P**	**14 01 02.8**	**-1.3**
CD2				AP	pP	14 01 12.1	-5.0
CD2				XP	sP	14 01 16.1	-7.1
CD2				PP		14 01 48.6	
CD2				AMB	AMB		
	comp=Z,370nm,1.0s,mb5.9						
CD2				AMB	AMB		
	comp=Z,2μm,8.4s						
CD2				LR	LR		
	comp=N,16μm,16.8s,MS6.0						
CD2				LR	LR		
	comp=E,29μm,16.8s,MS6.0						
CD2				LR	LR		
	comp=Z,18μm,12.0s,MS5.9						
TGY	**Tagaytay City**	**27.37**	**68**	P	**P**	**14 01 05.7**	**+1.6**
	comp=Z,236nm,0.5s,baz=171,slow=3.3,SNR=10						
TGY				LR	LR	14 11 07.0	
	comp=Z,33nm,22.0s,baz=207,slow=35						
BHV	**Bhavnagar**	**27.73**	**310**	*e*P	**P**	**14 01 10.5**	**+3.2**
BCPH	**Baguio City Da**	**27.81**	**63**	⇓*e*P	**P**	**14 01 08.7**	**+0.7**
LGTI	**Lohaghat**	**28.19**	**332**	*i* P	**P**	**14 01 12.0**	**+0.6**
LGTI				*ex*	x	14 03 46.7	
PTH	**Pithoragarh**	**28.28**	**332**	*e*P	**P**	**14 01 14.8**	**+2.5**
PTH				*ex*	x	14 03 49.9	
AJM	**Ajmer**	**28.97**	**320**	*e*P	**P**	**14 01 19.3**	**+0.9**
AJM				AMb	AMB	14 01 23.9	
	comp=Z,119nm,1.2s,mb5.5						
AJM				AMb	AMB	14 01 39.3	
	comp=Z,144nm,1.5s,mb5.5						
NDI	**New Delhi**	**29.09**	**327**	*e*P	**P**	**14 01 18.4**	**-1.1**
NDI				*e*P		14 01 19.0	
NDI				AMb	AMB	14 01 38.6	
	comp=Z,160nm,1.7s,mb5.5						
CVP	**Callao Caves**	**29.41**	**62**	*e*P	**P**	**14 01 24.5**	**+2.3**
QZH	**Quanzhou**	**30.42**	**46**	⇑*i*P	**P**	**14 01 31.5**	**+0.3**
QZH				AMB	AMB		
	comp=Z,230nm,0.8s,mb6.0						
QZH				AMB	AMB		
	comp=Z,2μm,5.9s						
QZH				LR	LR		
	comp=N,9μm,14.0s,MS5.9						
QZH				LR	LR		
	comp=E,14μm,11.3s,MS5.9						
QZH				LR	LR		
	comp=Z,31μm,23.2s						
SDNR	**Sundarnagar**	**31.46**	**330**	*e*P	**P**	**14 01 40.0**	**-0.4**
WHN	**Wuhan**	**31.60**	**33**	⇑P	**P**	**14 01 41.8**	**+0.2**
WHN				AMB	AMB		
	comp=Z,214nm,1.0s,mb5.9						
WHN				LR	LR		
	comp=Z,92μm,15.0s,MS6.6						
XAN	**Xi'an**	**31.97**	**22**	P	**P**	**14 01 43.6**	**-1.3**
XAN				AP	pP	14 01 52.9	-5.1
XAN				PP	PP	14 02 50.6	-7.2
XAN				AMB	AMB		
	comp=Z,81nm,0.7s,mb5.7						
XAN				AMB	AMB		
	comp=Z,992nm,7.0s						
XAN				LR	LR		
	comp=N,13μm,15.4s,MS5.9						
XAN				LR	LR		
	comp=E,13μm,16.2s,MS5.9						
XAN				LR	LR		
	comp=Z,36μm,16.8s,MS6.1						
NACB	**Ninganchiao**	**32.22**	**51**	*e*P	**P**	**14 01 46.2**	**-0.9**
LZH	**Lanzhou**	**32.29**	**14**	P	**P**	**14 01 46.1**	**-1.6**
LZH				AP	pP	14 01 59.5	-1.3
LZH				XP	sP	14 02 04.9	-2.0
LZH				PP	PP	14 02 57.0	-4.3
LZH				AMB	AMB		
	comp=Z,210nm,1.0s,mb5.9						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=E,26μm,14.0s						
LZH				LR	LR		
	comp=Z,35μm,15.0s,MS6.2						
LZH	**Lanzhou**	**32.29**	**14**	P	**P**	**14 01 46.1**	**-1.6**
LZH				*PP	pP	14 01 59.5	-1.3
LZH						14 02 57.0	
LZH				*e*S	**S**	**14 06 59.0**	**+1.3**
LZH				*SS	sS	14 07 17.0	-2.9
LZH				*e*SS	SS	14 08 59.0	-19
LZH				pmax	pmax		
	comp=Z,210nm,1.0s,mb5.9						
LZH				MLR	MLR		
	comp=Z,35μm,15.0s,MS6.2						
LZH	**Lanzhou**	**32.29**	**14**	P	**P**	**14 01 46.1**	**-1.6**
	comp=Z,210nm,1.0s,mb5.9						
LZH				pP	pP	14 01 59.5	-1.3
LZH				sP	sP	14 02 04.9	-2.0
LZH				PP	PP	14 02 57.0	-4.3
LZH				*e*S	**S**	**14 06 59.0**	**+1.3**
LZH				sS	sS	14 07 17.0	-2.9
LZH				*e*SS	SS	14 08 59.0	-19
LZH				LR	LR		
	comp=Z,35μm,15.0s,MS6.2						
YHNB	**Yeheng**	**32.33**	**50**	*e*P	**P**	**14 01 47.8**	**-0.2**
TATO	**Taipei**	**32.58**	**49**	*e*P	**P**	**14 01 50.9**	**+0.7**
	comp=Z,149nm,1.2s,mb5.8						
DLH	**Dalhousie**	**32.80**	**330**	*e*P	**P**	**14 01 55.0**	**+2.9**
THN	**Thein Dam**	**32.84**	**329**	*e*P	**P**	**14 01 52.7**	**+0.2**
THN				*ex*	x	14 07 05.2	
GTA	**Gaotai**	**34.82**	**7**	⇑P	**P**	**14 02 08.9**	**-0.7**
GTA				AP	pP	14 02 23.6	+0.7
GTA				PP	PP	14 03 29.5	+0.3
GTA				AMB	AMB		
	comp=Z,68nm,0.8s,mb5.6						
GTA				AMB	AMB		
	comp=Z,1μm,3.8s						
GTA				LR	LR		
	comp=N,7μm,18.2s,MS5.6						
GTA				LR	LR		
	comp=E,6μm,19.4s,MS5.6						
GTA				LR	LR		
	comp=Z,9μm,19.8s,MS5.5						
NIL	**Nilore**	**35.08**	**328**	P	**P**	**14 02 11.3**	**-0.6**
	comp=Z,181nm,0.6s,mb6.2,SNR=5.4						
MBWA	**Marble Bar**	**35.49**	**137**	*e*P	**P**	**14 02 14.5**	**-0.9**
	comp=Z,37nm,0.9s,mb5.3						
SSE	**Sheshan**	**36.09**	**40**	P	**P**	**14 02 20.6**	**0.0**
SSE				PP	PP	14 03 43.1	-0.2
SSE				AMB	AMB		
	comp=Z,49nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,1μm,8.2s						
SSE				LR	LR		
	comp=N,10μm,13.9s,MS5.8						
SSE				LR	LR		
	comp=E,5μm,13.9s,MS5.8						
SSE				LR	LR		
	comp=Z,15μm,13.8s,MS5.9						
SSE	**Sheshan**	**36.09**	**40**	P	**P**	**14 02 20.6**	**0.0**
	comp=Z,49nm,0.8s,mb5.5						
SSE				PP	PP	14 03 43.1	-0.2
SSE				S	**S**	**14 07 57.0**	**+0.7**
SSE				sS	sS	14 08 19.6	+0.9
SSE				SS	SS	14 10 36.7	+1.5
SSE				LR	LR		
	comp=Z,15μm,13.8s,MS5.9						
TIA	**Tai'an**	**37.45**	**30**	⇑P	**P**	**14 02 31.8**	**-0.3**
TIA				AP	pP	14 02 47.0	+1.5
TIA				AMB	AMB		
	comp=Z,101nm,1.2s,mb5.5						
TIA				LR	LR		
	comp=N,9μm,15.0s,MS5.8						
TIA				LR	LR		
	comp=E,8μm,15.0s,MS5.8						
FITZ	**Fitzroy Crossi**	**37.94**	**128**	⇑*i*P	**P**	**14 02 35.1**	**-1.1**
	comp=E,96nm,0.8s,mb5.6						
FITZ	**Fitzroy Crossi**	**37.94**	**128**	P	**P**	**14 02 35.5**	**-0.7**
	comp=E,23nm,0.7s,mb5.0,baz=294,slow=4.2,SNR=46						
FITZ				LR	LR	14 19 47.6	
	comp=E,4μm,20.3s,MS5.2,baz=306,slow=39						
BTO	**Baotou**	**38.25**	**19**	*e*P	**P**	**14 02 37.6**	**-1.2**
BTO				AMB	AMB		
	comp=Z,21nm,1.9s						
BTO				LR	LR		
	comp=N,2μm,7.8s						
BTO				LR	LR		
	comp=E,5μm,15.7s						
KSH	**Kashi**	**38.59**	**336**	⇑P	**P**	**14 02 42.8**	**+1.1**
KSH				*e*PP	PP	14 04 16.4	+5.6
KSH				*e*PCP	PcP	14 04 53.3	0.0
KSH				AMB	AMB		
	comp=Z,11μm,5.4s						
KSH				LR	LR		
	comp=N,35μm,23.9s,MS6.3						
KSH				LR	LR		
	comp=E,32μm,20.6s,MS6.3						
KSH				LR	LR		
	comp=Z,35μm,23.9s,MS6.1						
JOW	**Kunigami**	**38.77**	**52**	P	**P**	**14 02 44.0**	**+0.8**
	comp=Z,101nm,0.5s,mb5.8,baz=252,slow=7.1,SNR=38						
JOW				LR	LR	14 20 33.3	
	comp=Z,9μm,21.0s,MS5.6,baz=311,slow=39						
HHC	**Hu-ho-hao-te**	**38.98**	**20**	⇑*i*P	**P**	**14 02 46.8**	**+1.8**
HHC				AP	pP	14 02 56.3	-2.1
HHC				XP	sP	14 03 00.6	-3.8
HHC				PP	PP	14 04 20.8	+5.8
HHC				PCP	PcP	14 04 55.9	+1.4
HHC				AMB	AMB		
	comp=Z,131nm,1.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,1μm,7.2s						
HHC				LR	LR		
	comp=N,14μm,16.2s,MS6.1						
HHC				LR	LR		
	comp=E,20μm,15.7s,MS6.1						
HHC				LR	LR		
	comp=Z,25μm,18.6s,MS6.1						
WMQ	**Urumqi**	**39.43**	**352**	⇑*i*P	**P**	**14 02 48.8**	**+0.1**
WMQ				AP	pP	14 02 58.8	-3.4
WMQ				XP	sP	14 03 02.8	-5.3
WMQ				PP	PP	14 04 23.4	+3.5
WMQ				PPP		14 04 46.9	
WMQ				PCP	PcP	14 04 58.4	+2.4
WMQ				AMB	AMB		
	comp=Z,171nm,0.9s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,2μm,3.9s						
WMQ				LR	LR		
	comp=N,7μm,25.5s,MS5.3						
WMQ				LR	LR		
	comp=E,1μm,30.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,7μm,28.0s,MS5.3						
BJT	**Baijiatuao**	**40.06**	**26**	*e*P	**P**	**14 02 54.7**	**+0.7**
BJT				pmax	pmax		
	comp=Z,411nm,1.3s						
BJT	**Baijiatuao**	**40.06**	**26**	*e*P	**P**	**14 02 54.7**	**+0.6**
	comp=Z,411nm,1.3s,mb6.0						
BJI	**Beijing**	**40.09**	**26**	P	**P**	**14 02 54.5**	**+0.3**
BJI				AMB	AMB		
	comp=Z,248nm,1.3s,mb5.8						
BJI				AMB	AMB		
	comp=Z,3μm,4.7s						
BJI				LR	LR		
	comp=N,11μm,16.7s,MS6.0						
BJI				LR	LR		
	comp=E,14μm,16.7s,MS6.0						
BJI				LR	LR		
	comp=Z,18μm,22.3s						
BJI	**Beijing**	**40.09**	**26**	P	**P**	**14 02 54.5**	**+0.3**
	comp=Z,248nm,1.3s,mb5.8						
BJI				S	**S**	**14 08 59.9**	**+3.2**
BJI				LR	LR		
	comp=Z,18μm,22.3s,MS5.9						

ULHL Ulahol 40.85 339 P **P** **14 03 01.1 +0.5**
SNR=40
KZA Kyzart 41.07 338 P **P** **14 03 02.9 +0.6**
SNR=51
KAKA Kakadu 41.21 115⇓ *i*P **P** **14 03 02.2 -1.3**
comp=Z,51nm,0.8s,mb5.2
UCH Uchtor 41.48 337 P **P** **14 03 06.3 +0.6**
SNR=107
AAA Alma-Ata 41.51 340 *e*P **P** **14 03 08.0 +2.1**
AAA *e*S **S** **14 09 21.0 +3.1**
AAA pmax pmax
comp=Z,5μm,4.0s
AAA smax
comp=N,7μm,8.0s
AAA MLR MLR
comp=Z,5μm,18.0s,MS5.4
TKM2 Tokmak 2 41.67 339 P **P** **14 03 07.5 +0.3**
SNR=46
KBK Karagaybulak 41.69 338 P **P** **14 03 08.4 +1.0**
SNR=49
AML Almayashu 41.73 336 P **P** **14 03 08.5 +0.8**
SNR=162
MUN Mundaring 41.80 152 *e*P **P** **14 03 09.4 +1.1**
DL2 Dalian 41.82 32⇑ *i*P **P** **14 03 09.3 +0.9**
DL2 PP PP 14 04 49.5 +3.6
DL2 PPP 14 05 18.9
DL2 AMB AMB
comp=Z,120nm,1.1s,mb5.4
DL2 AMB AMB
comp=Z,750nm,5.7s
DL2 LR LR
comp=N,3μm,18.7s,MS5.5
DL2 LR LR
comp=E,4μm,18.4s,MS5.5
DL2 LR LR
comp=Z,6μm,19.2s,MS5.5
AAK Ala-Archa 41.84 337 P **P** **14 03 08.0 -0.6**
comp=Z,405nm,1.2s,mb5.9,SNR=30
AAK Ala-Archa 41.84 337 P **P** **14 03 11.0 +2.4**
SNR=51
AAK Ala-Archa 41.84 337 *e*P **P** **14 03 08.2 -0.4**
AAK pmax pmax
comp=Z,276nm,1.1s,mb5.8
AAK Ala-Archa 41.84 337 *e*Pn **P** **14 03 08.2 -0.4**
comp=Z,276nm,1.1s,mb5.8
FRU Bishkek 41.96 338⇑ *i*P **P** **14 03 11.0 +1.4**
FRU *e* 14 09 29.0
FRU pmax pmax
comp=Z,2μm,3.0s
FRU MLR MLR
comp=Z,7μm,19.0s,MS5.6
CHMS Chumysh 42.05 338 P **P** **14 03 12.5 +2.1**
SNR=22
EKS2 Erkin-Say 42.14 337 P **P** **14 03 11.5 +0.4**
SNR=67
KLBR Kellerberrin 42.23 150 *e*P **P** **14 03 12.6 +0.8**
comp=Z,18nm,0.8s,mb4.7
USP Ospenovka 42.38 338 P **P** **14 03 13.2 +0.2**
SNR=17
NWAO Narrogin (SRO) 43.07 152 P **P** **14 03 18.5 -0.1**
comp=Z,10nm,0.8s,mb4.6,baz=340,slow=10,SNR=5.9
NWAO Narrogin (SRO) 43.07 152 *e*P **P** **14 03 17.4 -1.2**
NWAO pmax pmax
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 43.07 152 *e*P **P** **14 03 17.4 -1.2**
comp=Z,33nm,0.9s,mb5.1
MKAR Makanchi Array 43.28 347 P **P** **14 03 20.2 -0.1**
comp=Z,204nm,0.7s,mb6.0,baz=166,slow=8.1,SNR=515
MK31 Makanchi Array 43.28 347 P **P** **14 03 19.7 -0.6**
MK31 pmax pmax
comp=Z,203nm,0.8s,mb5.9
INCN Inchon 43.67 37 *e*P **P** **14 03 22.0 -1.4**
comp=Z,218nm,1.4s,mb5.7
KK31 Karatay Array 43.86 334 *i* P **P** **14 03 24.6 -0.3**
KK31 pmax pmax
comp=Z,93nm,0.9s,mb5.5
KK31 Karatay Array 43.86 334 *i* P **P** **14 03 24.7 -0.2**
KKAR Karatay Array 43.86 334 *e*P **P** **14 03 24.6 -0.3**
KKAR pmax pmax
comp=Z,83nm,0.9s,mb5.5
JNU Nakatsue 43.89 45 P **P** **14 03 25.9 +0.6**
comp=Z,20nm,0.5s,mb5.1,baz=201,slow=12,SNR=6.4
JNU LR LR 14 23 37.3
comp=Z,37μm,20.6s,MS6.3,baz=357,slow=39
SONM Songino Array 44.08 11 P **P** **14 03 25.9 -0.8**
comp=Z,29nm,0.8s,mb5.1,baz=189,slow=8.6,SNR=102
SONM PcP PcP 14 05 09.9 -1.4
comp=Z,11nm,0.6s,baz=185,slow=3.0,SNR=8.6
SONM LR LR 14 24 14.9
comp=Z,10μm,18.6s,MS5.7,baz=192,slow=40
SONM Songino Array 44.08 11 P **P** **14 03 25.9 -0.8**
SONM 14 05 09.9
ULN Ulaanbaatar 44.24 12⇑ *e*P **P** **14 03 26.5 -1.5**
ULN Ulaanbaatar 44.24 12 *e*P **P** **14 03 26.8 -1.2**
KS15 Wonju Array Si 44.41 38 *e*P **P** **14 03 29.1 -0.2**
KSRS Korea Array 44.44 38 P **P** **14 03 28.4 -1.2**
comp=Z,21nm,0.7s,mb5.0,baz=224,slow=8.2,SNR=68
KSRS LR LR 14 24 19.3
comp=Z,5μm,18.3s,MS5.5,baz=226,slow=39
SNY Shenyang 44.98 31⇑P **P** **14 03 34.9 +1.0**
SNY AMB AMB
comp=Z,111nm,1.4s,mb5.5
SNY AMB AMB
comp=Z,2μm,6.6s
SNY LR LR
comp=N,15μm,16.5s,MS6.1
SNY LR LR
comp=E,8μm,15.6s,MS6.1
SNY LR LR
comp=Z,15μm,18.4s,MS6.0
WRA Warramunga Arr 45.94 124 P **P** **14 03 41.7 +0.2**
comp=Z,129nm,0.7s,mb6.0,baz=302,slow=9.2,SNR=284
WRA S **S** **14 10 23.0 +0.5**
comp=Z,2.7nm,1.0s,baz=296,slow=18,SNR=3.0
WRA LR LR 14 25 14.1
comp=Z,7μm,20.8s,MS5.6,baz=300,slow=39
WRA Warramunga Arr 45.94 124 P **P** **14 03 41.7 +0.2**
WRA S **S** **14 10 23.0 +0.5**
WRAB Tennant Creek 45.95 124 P **P** **14 03 41.0 -0.5**
comp=Z,1μm,0.7s,SNR=74
WRAB Tennant Creek 45.95 124⇑ *e*P **P** **14 03 41.6 +0.1**
WRAB pmax pmax
comp=Z,165nm,0.7s,mb6.1
WRAB Tennant Creek 45.95 124⇑ *e*P **P** **14 03 41.6 +0.1**
comp=Z,165nm,0.7s,mb6.1
WB2 Warramunga Arr 45.95 124⇑ *i*P **P** **14 03 41.6 0.0**
ZAK Zakamensk 46.05 8⇑ *i*P **P** **14 03 41.2 -1.1**
ZAK *e* 14 06 15.1
ZAK pmax pmax
comp=Z,30nm,1.7s,mb5.0
ABKT Ailbek 46.99 320 P **P** **14 03 50.8 +1.1**
comp=Z,590nm,0.6s,mb6.7,SNR=20
VAN Vannovskaya 47.01 320 *e*P **P** **14 03 51.1 +1.2**
MOY Mondy 47.06 5 *e*P **P** **14 03 51.0 +0.7**
MOY pmax pmax
comp=Z,145nm,2.6s,mb5.5
CN2 Changchun 47.36 30 *e*P **P** **14 03 52.0 -0.6**
CN2 *e*AP pP 14 04 07.5 +1.2
CN2 *e*S **S** **14 10 45.9 +3.2**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,9μm,14.0s,MS6.1
CN2 LR LR
comp=E,10μm,14.0s,MS6.1
CN2 LR LR
comp=Z,12μm,16.0s,MS6.0
TLY Talaya 47.37 7 P **P** **14 03 52.1 -0.6**
comp=Z,176nm,0.7s,mb6.1,SNR=12
TLY Talaya 47.37 7*c* *i*P **P** **14 03 52.0 -0.7**
TLY *e* 14 05 15.9
TLY pmax pmax
comp=Z,120nm,2.1s,mb5.5
TLY MLR MLR
comp=Z,11μm,22.0s,MS5.8
TLY Talaya 47.37 7⇑ *e*P **P** **14 03 52.3 -0.3**
comp=Z,43nm,1.1s,mb5.3
ASPA Alice Springs 47.43 128 *e*P **P** **14 03 52.9 -0.2**
AS31 Alice Springs 47.43 128 *e*P **P** **14 03 52.9 -0.2**
ASAR Alice Springs 47.43 128 P **P** **14 03 53.0 -0.1**
comp=Z,34nm,0.7s,mb5.4,baz=301,slow=7.6,SNR=192
ASAR S **S** **14 10 43.2 -0.5**
comp=Z,1.3nm,0.9s,baz=299,slow=15,SNR=2.4
ASAR LR LR 14 26 35.8
comp=Z,6μm,21.1s,MS5.5,baz=306,slow=40
ASAR Alice Springs 47.43 128 P **P** **14 03 53.0 -0.1**
ASAR S **S** **14 10 43.2 -0.6**
ASAR Alice Springs 47.43 128 P **P** **14 03 53.0 -0.1**
ASAR S **S** **14 10 43.2 -0.5**
ASAR LR LR 14 26 35.8
FORT Forrest 47.50 140 *e*P **P** **14 03 53.5 -0.2**
comp=Z,71nm,0.6s,mb5.8
KURK Kurchatov 47.80 346 P **P** **14 03 55.8 -0.2**
comp=Z,2μm,0.8s
KURK Kurchatov 47.80 346⇑ *e*P **P** **14 03 55.9 -0.1**
IRK Irkutsk 48.00 8 *e*P **P** **14 03 58.2 +0.6**
IRK *e* pP 14 04 14.3 +3.0
IRK *e* 14 05 41.3
IRK pmax pmax
comp=Z,263nm,2.4s,mb5.8
HIA Hailar 49.16 21⇑ *e*P **P** **14 04 05.7 -0.8**
HIA pmax pmax
comp=Z,125nm,1.3s
HIA Hailar 49.16 21⇑ *e*P **P** **14 04 05.7 -0.8**
comp=Z,125nm,1.3s,mb5.8
CIT Chita 49.63 15 *e*P **P** **14 04 10.8 +0.7**
CIT pmax pmax
comp=Z,202nm,2.8s,mb5.7
ZAL Zalesovo 49.73 352 P **P** **14 04 10.0 -0.8**
comp=Z,46nm,0.4s,mb5.8,baz=294,slow=7.5,SNR=89
ZAL S **S** **14 11 15.5 -0.6**
comp=Z,2.1nm,0.8s,baz=122,slow=19,SNR=1.9
ZAL Zalesovo 49.73 352 P **P** **14 04 10.0 -0.8**
ZAL S **S** **14 11 15.5 -0.6**
GUMO Guam 50.11 76 LR LR 14 25 42.3
comp=Z,4μm,21.5s,MS5.4,baz=257,slow=36
CBIJ Chichi jima 50.30 58 P **P** **14 04 14.2 -0.9**
comp=Z,86nm,0.6s,mb6.0,baz=113,slow=19,SNR=9.1
CBIJ LR LR 14 25 07.7
comp=Z,1μm,19.4s,MS5.0,baz=181,slow=36
QRN Al-Qurain 50.41 304 *e*P **P** **14 04 16.4 +0.4**
QRN AMb AMB 14 04 19.6
comp=Z,133nm,0.6s,mb6.2
JHJ Hachijo jima 2 50.49 50 LR LR 14 28 17.5
comp=Z,3μm,19.8s,MS5.3,baz=69,slow=39
KBD Kabd 50.74 304 *e*P **P** **14 04 19.2 +0.8**
KBD AMb AMB 14 04 41.5
comp=Z,955nm,1.2s,mb6.6
RDF Al-Radifah 50.77 304 *e*P **P** **14 04 19.5 +0.7**
RDF AMb AMB 14 04 41.8
comp=Z,452nm,1.1s,mb6.3
MAT Matsushiro 50.82 46 P **P** **14 04 17.9 -1.1**
MAT S **S** **14 11 46.0 +15**
MAJO Matsushiro 50.82 46⇖ *e*P **P** **14 04 19.5 +0.5**
MAJO pmax pmax
comp=Z,146nm,1.8s,mb5.6
MAJO Matsushiro 50.82 46⇑ *e*P **P** **14 04 19.5 +0.5**
comp=Z,146nm,1.8s,mb5.6
MJAR Matsushiro Arr 50.82 46 P **P** **14 04 19.2 +0.2**
comp=Z,5.0nm,0.6s,mb4.6,baz=239,slow=6.7,SNR=29
MJAR PcP PcP 14 05 35.8 +0.5
comp=Z,6.1nm,0.6s,baz=230,slow=1.8,SNR=6.4
MJAR LR LR 14 30 08.5
comp=Z,7μm,19.5s,MS5.7,baz=255,slow=41
MJAR Matsushiro Arr 50.82 46 P **P** **14 04 19.3 +0.2**
MJAR 14 05 35.8
NVS Novosibirsk 50.83 351 *i* P **P** **14 04 18.0 -1.1**
NVS *e*S **S** **14 11 32.3 +0.9**
NVS pmax pmax
comp=N,344nm,1.8s
NVS pmax pmax
comp=Z,356nm,1.8s,mb6.0
NVS pmax pmax
comp=E,114nm,1.4s
NVS smax
comp=N,167nm,1.9s
NVS smax
comp=E,49nm,1.5s
NAY Al-Naaiem 51.13 304 *e*P **P** **14 04 21.1 -0.4**
NAY AMb AMB 14 04 44.3
comp=Z,181nm,1.1s,mb5.9
MIB Mutribah 51.24 305 *e*P **P** **14 04 22.8 +0.6**
MIB AMb AMB 14 04 40.8
comp=Z,339nm,1.2s,mb6.2
ATD Arta Tunnel 51.82 281 P **P** **14 04 27.9 +1.3**
comp=Z,11nm,0.7s,mb4.9,baz=99,slow=22,SNR=5.4
BVA0 Borovoye Array 52.16 342 *i* P **P** **14 04 28.3 -0.8**
BVA0 pmax pmax
comp=Z,20nm,1.0s,mb5.0
BVAR Borovoye Array 52.16 342 P **P** **14 04 28.2 -0.9**
comp=Z,18nm,0.5s,mb5.2,baz=142,slow=7.5,SNR=66
BVAR S **S** **14 11 53.1 +3.4**
comp=Z,3.9nm,0.9s,baz=148,slow=14,SNR=4.0
BRVK Borovoye 52.22 342 P **P** **14 04 28.8 -0.7**
comp=Z,359nm,0.7s,mb6.4,SNR=14
BRVK Borovoye 52.22 342⇑ *e*P **P** **14 04 28.4 -1.1**
BRVK pmax pmax
comp=Z,120nm,1.0s,mb5.8
BRVK Borovoye 52.22 342⇑ *e*P **P** **14 04 28.4 -1.2**
comp=Z,120nm,1.0s,mb5.8
OPO Ambohidratompo 52.32 242 P **P** **14 04 31.2 +1.0**
comp=Z,3.1nm,0.6s,baz=58,slow=5.4,SNR=8.5
CHKZ Chkalovo 52.65 342⇑ *e*P **P** **14 04 32.0 -0.7**
CHKZ *e**PP pP 14 04 44.9 -1.7
CHKZ pmax pmax
comp=Z,162nm,0.9s,mb6.0
CHKZ Chkalovo 52.65 342⇑ *e*P **P** **14 04 32.0 -0.7**
comp=Z,162nm,0.9s,mb6.0
CHKZ *e*pP pP 14 04 44.9 -1.7
AB31 Akbulak array 53.30 332⇑ *e*P **P** **14 04 36.8 -0.7**
PMG Port Moresby 54.03 105 P **P** **14 04 44.1 +1.3**
comp=Z,26nm,0.7s,mb5.3,baz=349,slow=7.9,SNR=12
PMG Port Moresby 54.03 105 *i* P **P** **14 04 43.5 +0.7**
PMG Port Moresby 54.03 105 *e*P **P** **14 04 43.8 +1.0**
comp=Z,58nm,0.8s,mb5.6
KLR Kul'dur 54.26 29 *e*P **P** **14 04 40.6 -3.9**
KLR *e*S **S** **14 12 17.0 -1.3**
KLR *e* 14 14 20.5
KLR pmax pmax
comp=E,170nm,1.8s
KLR pmax pmax
comp=Z,400nm,1.8s,mb6.0
KLR pmax pmax
comp=N,1μm,7.0s
KLR pmax pmax
comp=E,600nm,7.0s
KLR pmax pmax
comp=Z,2μm,7.0s
KLR MLR MLR
comp=Z,35μm,13.0s,MS6.6
KLR MLR MLR
comp=E,7μm,13.5s
BHD Baghdad 54.79 308 *i* x x 14 04 44.0
BHD *ex* x 14 12 04.0
BHD *ex* x 14 12 19.0
AKTK Aktyubinsk 55.01 332 P **P** **14 04 49.1 -0.8**
AKTK S **S** **14 12 29.5 +1.1**
AKTO Aktyubinsk 55.01 332 P **P** **14 04 49.1 -0.8**
comp=E,27nm,0.6s,mb5.4,baz=114,slow=8.4,SNR=58
AKTO S **S** **14 12 29.5 +1.1**
comp=E,3.5nm,0.9s,baz=329,slow=19,SNR=3.6
AKTO Aktyubinsk 55.01 332 P **P** **14 04 48.8 -1.2**
AKTO pmax pmax
comp=Z,113nm,2.4s,mb5.5
BOD Bodaibo 55.04 12⇑ *i*P **P** **14 04 48.9 -1.3**
BOD *e* pP 14 05 05.3 +1.2
BOD pmax pmax
comp=Z,56nm,1.4s,mb5.4
BOD pmax pmax
comp=Z,64nm,1.1s,mb5.6
HABR Khabarovsk 55.43 31⇑ *i*P **P** **14 04 53.7 +0.8**
HABR *e* 14 05 55.5
HABR *e*S **S** **14 12 38.5 +4.6**
HABR pmax pmax
comp=Z,110nm,1.4s,mb5.7
CTA Charters Tower 56.23 118 *e*P **P** **14 04 59.7 +1.0**
comp=Z,22nm,0.9s,mb5.2
CTA Charters Tower 56.23 118 P **P** **14 04 59.1 +0.4**
comp=Z,40nm,1.0s,mb5.4,baz=307,slow=9.7,SNR=12
CTA S **S** **14 12 45.6 +1.0**
comp=Z,3.9nm,0.9s,baz=195,slow=20,SNR=2.7
CTA LR LR 14 31 32.8
comp=Z,7μm,20.8s,MS5.7,baz=287,slow=39
CTA Charters Tower 56.23 118 *e*P **P** **14 04 59.7 +1.0**
CTA pmax pmax
comp=Z,22nm,0.9s
CTAO Charters Tower 56.23 118 *e*P **P** **14 04 59.5 +0.8**
CTAO pmax pmax
comp=Z,89nm,1.0s,mb5.8
CTAO Charters Tower 56.23 118 *e*P **P** **14 04 59.5 +0.8**
comp=Z,89nm,1.0s,mb5.8
ERM Erimo 56.75 42 *e*P **P** **14 05 02.1 -0.3**
ERM pmax pmax
comp=Z,69nm,1.1s,mb5.6
ERM Erimo 56.75 42 *e*P **P** **14 05 02.1 -0.3**
comp=Z,69nm,1.1s,mb5.6
CUKT Cukurca 56.79 312 *e*P **P** **14 05 01.7 -1.0**
MSL Mosul 56.83 311 *ex* x 14 05 03.5
MSL *ex* x 14 12 49.0
GNI Garni 57.11 316 P **P** **14 05 05.8 +0.9**
comp=Z,11nm,0.5s,mb5.1,baz=162,slow=2.9,SNR=12
GNI Garni 57.11 316*c* *i*P **P** **14 05 06.3 +1.3**
GNI pmax pmax
comp=Z,200nm,2.3s
GNI Garni 57.11 316⇑ *i*P **P** **14 05 06.0 +1.1**
comp=Z,85nm,1.0s,mb5.7
CLNS Chul'man 57.15 19 *e*P **P** **14 05 03.3 -1.9**
CLDR Caldiran 57.29 314 *e*P **P** **14 05 07.8 +1.6**
ORR Orenburg 57.34 332⇑ *i*P **P** **14 05 06.8 +0.3**
ORR *e* pP 14 05 23.4 +2.8
ORR S **S** **14 12 55.9 -3.3**
ORR pmax pmax
comp=Z,130nm,1.4s,mb5.8
ORR MLR MLR
comp=Z,4μm,22.0s,MS5.4
ASAJ Asahikawa 57.37 39 P **P** **14 05 06.8 0.0**
comp=Z,24nm,0.6s,mb5.4,baz=230,slow=14,SNR=17
ASAJ LR LR 14 32 28.5
comp=Z,7μm,18.1s,MS5.8,baz=236,slow=39
STKA Stephens Creek 57.48 133 *e*P **P** **14 05 07.1 -0.5**
comp=Z,14nm,0.6s,mb5.2
STKA Stephens Creek 57.48 133 P **P** **14 05 07.5 -0.1**
comp=Z,15nm,0.8s,mb5.1,baz=302,slow=7.5,SNR=36
KMBO Kilima Mbogo 57.80 266 P **P** **14 05 09.2 -0.6**
comp=Z,11nm,0.8s,mb4.9,baz=55,slow=11,SNR=24
KMBO LR LR 14 25 41.4
comp=Z,12μm,21.8s,MS6.0,baz=87,slow=32
KMBO Kilima Mbogo 57.80 266 P **P** **14 05 09.9 +0.1**
KMBO *e* 14 05 15.8
KMBO pmax pmax
comp=Z,230nm,1.8s
KMBO Kilima Mbogo 57.80 266 *e*P **P** **14 05 10.8 +1.1**
comp=Z,47nm,1.2s,mb5.4
ZEI Tsey 58.79 318 *e*P **P** **14 05 17.0 +0.3**
ZEI *e**PP pP 14 05 23.3 -7.5
ZEI *i* pP 14 05 34.2 +3.4
ZEI pmax pmax
comp=Z,32nm,0.6s,mb5.5
YSS Yuzh-Sakhalins 58.87 36⇑ *e*P **P** **14 05 16.7 -0.5**
YSS *e* pP 14 05 30.0 -1.3
YSS S **S** **14 13 30.0 +11**
YSS pmax pmax
comp=Z,170nm,1.1s,mb6.0
YSS MLR MLR
comp=Z,4μm,18.0s,MS5.6
YSS MLR MLR
comp=E,5μm,20.0s
YSS Yuzh-Sakhalins 58.87 36 *e*P **P** **14 05 16.3 -0.9**
comp=E,360nm,1.4s,mb6.2
ONI Oni 59.01 318 P **P** **14 05 18.8 +0.5**
ARU Arti 59.02 337 P **P** **14 05 18.8 +0.5**
comp=E,236nm,1.1s,mb6.1,SNR=8.0
ARU Arti 59.02 337⇑ *i*P **P** **14 05 18.7 +0.4**
ARU *e* 14 06 07.2
ARU *e* 14 07 28.6
ARU *e*S **S** **14 13 23.3 +2.1**
ARU *e* 14 15 01.1
ARU pmax pmax
comp=Z,139nm,1.5s,mb5.8
ARU Arti 59.02 337⇑ *e*P **P** **14 05 18.2 -0.1**
comp=Z,268nm,1.4s,mb6.1
ARU *e*pP pP 14 05 32.8 +0.4
YUK Yuzh-Kuril'sk 59.43 41 *e*P **P** **14 05 22.0 +0.9**
YUK pmax pmax
comp=Z,2μm,2.0s
KIV Kislovodsk 60.09 319 P **P** **14 05 25.6 -0.1**
comp=Z,462nm,0.9s,mb6.5,SNR=7.5
KIV Kislovodsk 60.09 319⇑ *e*P **P** **14 05 25.9 +0.2**
KIV *e* 14 07 39.5
KIV *i* S **S** **14 13 33.9 -1.1**
KIV pmax pmax
comp=Z,154nm,1.5s,mb5.8
KIV MLR MLR
comp=Z,1μm,21.0s,MS5.1
KIV Kislovodsk 60.09 319⇑ *e*P **P** **14 05 24.5 -1.2**
comp=Z,134nm,1.0s,mb5.9
URFA Urfa 60.44 311 *e*P **P** **14 05 30.1 +2.1**
PTK Pertek 60.48 312 *e*P **P** **14 05 29.7 +1.4**
MALT Malatya 61.01 312⇓ *i*P **P** **14 05 32.3 +0.4**
MALT Malatya 61.01 312⇑ *e*P **P** **14 05 33.4 +1.5**
MALT pmax pmax
comp=Z,43nm,1.1s,mb5.5
MALT Malatya 61.01 312⇑ *e*P **P** **14 05 33.4 +1.5**
comp=Z,43nm,1.1s,mb5.5
GAZ Gaziantep 61.58 310 *e*P **P** **14 05 36.0 +0.2**
KMRS Kahramanmaras 61.92 310 *e*P **P** **14 05 40.0 +2.0**
SOC Sochi 61.92 318 *e*P **P** **14 05 36.8 -1.2**
SOC *e* pP 14 05 54.4 +2.2
SOC *e*S **S** **14 13 49.7 -8.5**
SOC *e*SS SS 14 18 01.9 +0.9
SOC pmax pmax
comp=Z,129nm,1.3s,mb5.9
SOC pmax pmax
comp=Z,601nm,3.4s
SOC MLR MLR
comp=Z,2μm,22.0s,MS5.2
SOC Sochi 61.92 318 *i* P **P** **14 05 38.5 +0.5**
BHL Bhannes 61.94 306 *e*P **P** **14 05 40.4 +2.2**
SOKR Solikamsk 61.95 339 *i* P **P** **14 05 36.7 -1.6**
SOKR S **S** **14 13 50.3 -8.3**
SOKR pmax pmax
comp=Z,230nm,2.2s,mb5.9
SVSK Karacayir 62.57 313 *e*P **P** **14 05 44.3 +1.9**
CEYT Ceyhan 62.66 309 *e*P **P** **14 05 45.5 +2.4**
KOZT Kozan 62.73 310 *e*P **P** **14 05 45.5 +2.0**
YAK Yakutsk 62.76 18 *e*P **P** **14 05 42.4 -1.3**
YAK *i* *PP pP 14 05 58.5 +0.6
YAK *e*S **S** **14 14 06.6 -2.2**
YAK *i* 14 15 26.2
YAK pmax pmax
comp=Z,198nm,1.2s,mb6.1
YAK pmax pmax
comp=N,78nm,1.3s
YAK pmax pmax
comp=E,74nm,1.4s
YAK smax
comp=N,677nm,4.6s
YAK smax
comp=Z,329nm,3.3s
YAK smax
comp=E,224nm,2.6s
YAK Yakutsk 62.76 18 *e*P **P** **14 05 41.1 -2.5**
comp=E,228nm,1.0s,mb6.3
BNN Bunyan 63.10 311 *e*P **P** **14 05 44.6 -1.3**
TOO Toolangi 63.13 136 *e*P **P** **14 05 48.1 +2.0**
comp=E,15nm,0.8s,mb5.2
TOO Toolangi 63.13 136 *e*P **P** **14 05 48.1 +2.0**
TOO pmax pmax
comp=Z,15nm,0.8s,mb5.2
KARA Karaisali 63.26 309 *e*P **P** **14 05 49.0 +2.0**
MERS Mersin 63.57 309 *e*P **P** **14 05 50.9 +1.9**
KVT Kavak 63.62 314 *e*P **P** **14 05 48.2 -1.2**
VRHR Novokhopersk 63.88 326 *e*P **P** **14 05 48.3 -2.8**
VRHR pmax pmax
comp=Z,150nm,0.6s,mb6.2
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR pmax pmax
comp=E,60nm,0.6s
VRHR MLR MLR
comp=Z,950nm,23.0s,MS4.9
VRHR MLR MLR
comp=N,10.0nm,13.0s
VRHR MLR MLR
comp=E,560nm,20.0s
ANN Anapa 63.89 318 *e*P **P** **14 05 49.8 -1.4**
ANN *e*S **S** **14 14 19.6 -3.3**
ANN *e*SS SS 14 18 31.5 -0.4
ANN pmax pmax
comp=Z,642nm,7.4s
ANN MLR MLR
comp=Z,2μm,21.0s,MS5.3
CSS Prodhromos 64.05 307⇑ *e*P **P** **14 05 52.2 0.0**
comp=Z,224nm,1.4s,mb6.0
DIKM Dikmen 64.36 314 *e*P **P** **14 05 56.8 +2.6**

CORM **Corum** 64.38 313 *e*P P 14 05 55.4 +1.0
BYBT **Boyabat** 64.66 314 *e*P P 14 05 55.4 -0.8
CNB **Canberra Magne** 64.81 133 *e*P P 14 05 58.4 +1.2
comp=Z,19nm,0.8s,mb5.2
KAMT **Kaman** 64.84 311 *e*P P 14 05 58.8 +1.4
BR131 **Keskin Array S** 64.99 312 *e*P P 14 05 57.1 -1.2
comp=Z,14nm,0.6s,mb5.2
BRTR **Keskin Array B** 64.99 312 P P 14 05 57.5 -0.9
comp=Z,20nm,0.6s,mb5.3,baz=130,slow=6.4,SNR=85
BRTR LR LR 14 39 56.0
comp=Z,1μm,18.1s,MS5.2,baz=104,slow=41
TOS **Tosya** 65.07 313 *e*P P 14 05 58.2 -0.6
PECR **Pechory** 65.19 332 *e*P P 14 06 00.0 +0.4
PECR *e* 14 06 32.0
PECR *e* 14 08 30.7
PECR *i*S S 14 14 36.0 -3.0
PECR pmax pmax
comp=Z,3μm,1.6s
PECR pmax pmax
comp=Z,2μm,13.0s
PECR smax
comp=N,2μm,10.0s
PECR smax
comp=E,800nm,8.0s
PECR MLR MLR
comp=Z,5μm,18.0s
CANT **Cankiri** 65.24 313 *e*P P 14 05 59.7 -0.3
VRSR **Storozhevoye** 65.31 325*c* *i*P P 14 05 58.3 -2.1
VRSR pmax pmax
comp=Z,90nm,0.8s,mb5.8
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=E,120nm,0.9s
BZK **Bozkurt** 65.34 314 *e*P P 14 06 02.1 +1.5
KONT **Konya--Tatoy** 65.50 310 *e*P P 14 06 01.8 +0.1
VOR **Voronezh** 65.53 326 *e*P P 14 06 00.0 -1.8
VOR pmax pmax
comp=Z,270nm,1.8s,mb6.0
ANTO **Ankara** 65.66 312⇑ *i*P P 14 06 02.4 -0.2
ANTO **Ankara** 65.66 312 P P 14 06 01.7 -0.9
ANTO pmax pmax
comp=Z,58nm,1.0s,mb5.6
ANTO **Ankara** 65.66 312 *e*P P 14 06 01.8 -0.8
comp=Z,58nm,0.9s,mb5.6
SAFT **Safranbolu** 66.09 313 *e*P P 14 06 04.0 -1.5
SIM **Simferopol'** 66.16 317 *de*P P 14 06 06.1 +0.2
SIM *e*S S 14 14 49.5 -1.3
SIM pmax pmax
comp=Z,48nm,0.9s,mb5.5
SIM pmax pmax
comp=Z,320nm,16.0s
SIM **Simferopol'** 66.16 317 *e*P P 14 06 06.5 +0.6
HNR **Honiara** 66.42 102 P P 14 06 08.3 +0.8
comp=Z,71nm,0.7s,mb5.8,baz=181,slow=1.0,SNR=7.6
HNR **Honiara** 66.42 102⇑ *i*P P 14 06 08.3 +0.8
HNR pmax pmax
comp=Z,99nm,0.8s,mb5.9
HNR **Honiara** 66.42 102⇑ *i*P P 14 06 08.3 +0.8
comp=Z,99nm,0.8s,mb5.9
ISP **Isparta** 66.91 309 *e*P P 14 06 10.3 -0.4
ISP *e**PP pP 14 06 23.0 -2.0
ISP pmax pmax
comp=Z,203nm,1.3s,mb6.0
ISP **Isparta** 66.91 309 *e*P P 14 06 10.3 -0.4
comp=Z,203nm,1.3s,mb6.0
ISP *ep*P pP 14 06 23.0 -2.0
KDZE **Karadeniz Ereo** 67.02 313 *e*P P 14 06 11.8 +0.5
ESKT **Eskisehir** 67.02 311 *e*P P 14 06 10.4 -1.0
SHUT **Suhut-Afyon** 67.03 310 *e*P P 14 06 09.0 -2.5
TAU **Tasmania Unive** 67.04 141 P P 14 06 11.3 -0.2
TAU pmax pmax
comp=Z,22nm,0.9s,mb5.2
TAU **Tasmania Unive** 67.04 141 P P 14 06 11.3 -0.2
comp=Z,22nm,0.9s,mb5.2
ELL **Elmali** 67.15 308 *e*P P 14 06 11.1 -1.1
FETY **Fethiye** 67.78 308 *e*P P 14 06 16.8 +0.7
ADVT **Abdulvahap** 68.06 312 *e*P P 14 06 18.8 +0.9
MOS **Moscow** 68.10 329*c* *i*P P 14 06 16.9 -1.3
MOS *i* pP 14 06 34.1 +1.6
MOS *i* 14 06 42.6
MOS *i*S S 14 15 11.8 -2.3
MOS *e*SS SS 14 19 37.0 -0.2
MOS pmax pmax
comp=Z,437nm,1.5s,mb6.3
MOS pmax pmax
comp=Z,1μm,2.0s,mb6.6
MOS smax
comp=N,3μm,4.3s
MOS smax
comp=E,700nm,4.3s
MOS MLR MLR
comp=N,4μm,22.0s
MOS MLR MLR
comp=Z,4μm,22.0s,MS5.6
OSMT **Osmaniye** 68.13 312 *e*P P 14 06 13.3 -5.1
DALT **Dalyan (Mudla)** 68.15 308 *e*P P 14 06 18.3 -0.2
HRT **Hereke** 68.20 312 *e*P P 14 06 17.6 -1.3
YLV **Yalova** 68.36 312 *e*P P 14 06 20.2 +0.4
OBN **Obninsk** 68.38 328 P P 14 06 18.7 -1.2
comp=Z,810nm,0.8s,SNR=7.2
OBN **Obninsk** 68.38 328⇓ *e*P P 14 06 18.8 -1.1
OBN *i* pP 14 06 37.0 +2.7
OBN *e* 14 08 45.7
OBN *i*S S 14 15 12.6 -4.8
OBN pmax pmax
comp=Z,450nm,1.8s,mb6.2
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.4
OBN **Obninsk** 68.38 328 *e*P P 14 06 18.0 -1.9
comp=Z,400nm,1.3s,mb6.3
OBN *ep*P pP 14 06 35.1 +0.8
SKR **Severo-Kuril's** 68.43 37 *e*P P 14 06 19.1 -1.1
GEMT **Gemlik** 68.47 312 *e*P P 14 06 21.5 +0.9
ISK **Istanbul-Kandi** 68.71 312 *e*P P 14 06 18.3 -3.7
KLYT **Kilyos** 68.76 312 *e*P P 14 06 23.4 +1.1
LSZ **Lusaka** 68.89 252 *e*P P 14 06 22.9 -0.2
LSZ pmax pmax
comp=Z,168nm,1.4s,mb5.8
LSZ **Lusaka** 68.89 252 *e*P P 14 06 22.9 -0.2
comp=Z,168nm,1.4s,mb5.8
DAT **Datca** 68.98 307 *e*P P 14 06 20.4 -3.3
KARP **Karpathos** 69.11 306 *e*P P 14 06 25.8 +1.3
MA2 **Magadan** 69.24 27 *e*P P 14 06 24.8 -0.5
MA2 *e*S S 14 15 27.1 -0.5
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
MA2 MLR MLR
comp=Z,12μm,23.0s,MS6.1
MA2 **Magadan** 69.24 27 *e*P P 14 06 23.2 -2.0
comp=Z,245nm,1.4s,mb5.9
PSN **Preselentsi** 69.92 315 *i* P pP 14 06 40.1 -3.8
TIRR **Tirgusor** 69.94 316⇑ *i*P P 14 06 29.0 -0.6
TIRR **Tirgusor** 69.94 316 *e*P P 14 06 28.5 -1.1
TIRR pmax pmax
comp=Z,61nm,0.9s,mb5.5
TIRR **Tirgusor** 69.94 316 *e*P P 14 06 28.5 -1.1
comp=Z,61nm,0.9s,mb5.5
MFT **Murefte** 69.97 312 *e*P P 14 06 29.0 -0.7
RKY **Sarkoy-Tekirda** 70.02 312 *e*P P 14 06 29.0 -1.1
TIXI **Tiksi** 70.17 11 *e*P P 14 06 28.2 -2.8
TIXI pmax pmax
comp=Z,157nm,1.0s,mb5.9
TIXI **Tiksi** 70.17 11 *e*P P 14 06 28.2 -2.8
comp=Z,157nm,1.0s,mb5.9
XRY **Khrisi** 70.20 305 *e*P P 14 06 31.0 -0.2
KIS **Kishinev** 70.29 318 *e*P P 14 06 29.0 -2.7
KIS *e* pP 14 06 41.0 -5.1
KIS *e* pP 14 06 46.0 -0.1
KIS *e*S S 14 15 35.0 -4.9
KIS *e*PS 14 16 02.0
KIS pmax pmax
comp=Z,400nm,2.2s,mb6.0
KIS MLR MLR
comp=N,1μm,20.0s,MS5.3
KIS MLR MLR
comp=E,1μm,20.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.2
KIS **Kishinev** 70.29 318⇑ *e*P P 14 06 29.0 -2.7
comp=Z,400nm,2.2s,mb6.0
KIS **Kishinev** 70.29 318 *e*PcP PcP 14 06 46.0 -7.1
CFR **Carcaliu** 70.30 316⇓ *i*P P 14 06 39.0 +7.2
CFR **Carcaliu** 70.30 316 P P 14 06 39.1 +7.3

NPS **Neapolis** 70.32 306 *e*P P 14 06 33.3 +1.4
PRD **Provadia** 70.38 314 *i* P P 14 06 33.1 +0.8
PRK **Paraskevi** 70.44 310 *e*P P 14 06 33.2 +0.5
EDRB **Edirne** 70.57 313 *e*P P 14 06 34.7 +1.3
SANT **Santorini** 70.61 307 *e*P P 14 06 31.7 -1.9
comp=Z,233nm,1.1s,mb6.0
SANT *ep*P pP 14 06 47.6 -0.5
PET **Petropavlovsk** 70.69 35 *e*P P 14 06 33.2 -1.0
PET pmax pmax
comp=Z,65nm,0.8s,mb5.6
PET pmax pmax
comp=Z,800nm,13.9s
PET pmax pmax
comp=Z,50nm,0.8s,mb5.5
PET pmax pmax
comp=Z,300nm,12.3s
PET MLR MLR
comp=Z,5μm,21.0s,MS5.8
PET MLR MLR
comp=Z,6μm,20.0s
PET **Petropavlovsk** 70.69 35 *e*P P 14 06 32.0 -2.2
comp=Z,63nm,1.0s,mb5.5
ALN **Alexandroupoli** 70.91 312 *e*P P 14 06 35.5 0.0
AKASG **Malin Array Be** 71.02 322 P P 14 06 34.3 -1.9
comp=Z,22nm,0.6s,mb5.3,baz=91,slow=4.8,SNR=83
AKBB **Malin Array Si** 71.02 322 *e*P P 14 06 33.8 -2.4
KIEV **Kiev** 71.03 322 *e*P P 14 06 33.8 -2.4
KIEV pmax pmax
comp=Z,48nm,0.9s,mb5.4
KIEV **Kiev** 71.03 322 *e*P P 14 06 33.8 -2.5
comp=Z,48nm,0.9s,mb5.4
RDO **Rodhopi** 71.33 312 *e*P P 14 06 36.4 -1.7
VRI **Vrincioaia** 71.42 317⇑ *i*P P 14 06 40.3 +1.7
VRI **Vrincioaia** 71.42 317 P P 14 06 39.0 +0.4
PLOR **Plostina** 71.47 317⇑ *i*P P 14 06 41.0 +2.1
VAM **Vamos** 71.48 306 *e*P P 14 06 38.0 -1.0
SEY **Seymchan** 71.50 24⇑ *e*P P 14 06 39.3 +0.2
DIM **Dimitrovgrad** 71.50 313 *i* P P 14 06 39.8 +0.7
KDZ **Kurdzhali** 71.51 312 *i* P P 14 06 40.6 +1.5
BUC1 **Bucharest** 71.59 315 P P 14 06 40.7 +1.1
CASY **Casey** 71.75 173 *e*P P 14 06 38.0 -2.6
comp=Z,20nm,0.9s,mb5.0
TMCR **Tamitsa** 71.76 337 *e*P P 14 06 41.8 +1.1
TMCR pmax pmax
comp=Z,58nm,0.7s,mb5.6
PVL **Pavlikeni** 71.86 314 *i* P P 14 06 42.8 +1.6
MLR **Muntele Rosu** 71.88 316⇓ *i*P P 14 06 42.3 +0.9
MLR **Muntele Rosu** 71.88 316 P P 14 06 42.5 +1.1
ZIMR 71.92 314 P P 14 06 42.8 +1.2
RZN **Rozhen** 72.03 312 *i* P P 14 06 43.4 +1.1
PTL **Penteli** 72.11 308 *e*P P 14 06 43.0 +0.3
KVR **Kavouri** 72.15 308 *e*P P 14 06 42.0 -1.0
ATH **Athens Observa** 72.22 308 *e*P P 14 06 43.4 0.0
OUR **Ouranopolis** 72.36 311 *e*P P 14 06 43.9 -0.3
NAIG **Nisos Aigina** 72.36 308 *e*P P 14 06 46.5 +2.2
VOIR 72.48 316⇓ *i*P P 14 06 44.4 -0.6
VOIR 72.48 316 ⇓P P 14 06 44.4 -0.5
PAIG **Paliouri** 72.53 310 *e*P P 14 06 44.7 -0.5
KYTH **Kithira** 72.53 306 *e*P P 14 06 45.0 -0.3
NVR **Nevrokopi** 72.61 312 *e*P P 14 06 46.4 +0.7
VLI **Valiai** 72.67 307 *e*P P 14 06 40.0 -6.1
MMB **Musomiste** 72.75 312 *i* P P 14 06 49.6 +3.1
PLG **Polygyros** 72.77 311 *e*P P 14 06 45.6 -1.1
SRS **Serrai** 72.77 312 *e*P P 14 06 45.3 -1.4
BURAR **Bucovina Array** 72.81 318⇑ *i*P P 14 06 46.9 0.0
BURAR **Bucovina Array** 72.81 318 ⇑P P 14 06 46.9 0.0
LKR **Lokris** 72.87 309 *e*P P 14 06 41.6 -5.7
MNK **Minsk** 72.91 326 *e*P P 14 06 44.0 -3.5
SOH **Sokhos** 72.91 311 *e*P P 14 06 47.1 -0.4
HORT **Hortiatis** 73.06 311 *e*P P 14 06 47.6 -0.8
THE **Thessaloniki** 73.17 311 *e*P P 14 06 48.4 -0.7
KKB **Krupnik** 73.27 312 *i* P P 14 06 49.6 0.0
PUL **Pulkovo** 73.27 332 *e*P P 14 06 49.9 +0.3
PUL pmax pmax
comp=N,120nm,0.6s
PUL pmax pmax
comp=Z,165nm,0.6s,mb6.1
PUL pmax pmax
comp=E,130nm,0.8s
VTS **Vitosha** 73.29 313 *e*P P 14 06 49.8 +0.1
VTS **Vitosha** 73.29 313⇑ *i*P P 14 06 48.9 -0.8
VTS **Vitosha** 73.29 313 *i* P P 14 06 49.9 +0.2
KNT **Kendrikon** 73.30 311 *e*P P 14 06 49.1 -0.7
LBTB **Lobatse** 73.36 242 *e*P P 14 06 50.8 +0.7
LBTB pmax pmax
comp=Z,53nm,1.0s,mb5.4
LBTB **Lobatse** 73.36 242 *e*P P 14 06 50.8 +0.7
comp=Z,52nm,1.0s,mb5.4
AGG **Agios Georgios** 73.44 309 *e*P P 14 06 49.2 -1.4
LIT **Litokhoron** 73.46 310 *e*P P 14 06 48.8 -2.0
ITM **Ithomi** 73.53 307 *e*P P 14 06 50.5 -0.6
VAY **Valandovo** 73.57 312 *e*P P 14 06 49.8 -1.5
GRG **Griva** 73.64 311 *e*P P 14 06 50.2 -1.6
THL **Klokotos Trika** 73.75 310 *e*P P 14 06 49.3 -3.1
EVR **Evrytania** 73.83 309 *e*P P 14 06 52.8 -0.1
STIP **Stip** 73.91 312 *e*P P 14 06 51.4 -2.0
RLS **Riolos of Patr** 73.99 308 *e*P P 14 06 53.5 -0.3
KZN **Kozani** 74.03 310 *e*P P 14 06 51.7 -2.4
LVV **L'vov** 74.04 320 *d* *i*P P 14 06 54.0 -0.1
LVV *e*S S 14 16 20.0 -2.9
LVV MLR MLR
comp=Z,700nm,17.4s,MS5.0
GZR **Gura Zlata** 74.05 316 P P 14 06 55.5 +1.3
DRGR 74.33 317⇑ *i*P P 14 06 56.6 +0.7
DRGR 74.33 317 P P 14 06 57.0 +1.2
FNA **Florina** 74.39 311 *e*P P 14 06 54.7 -1.5
BOSA **Boshof** 74.51 239 P P 14 06 56.7 -0.2
comp=Z,16nm,0.8s,mb5.0,baz=87,slow=6.2,SNR=23
BOSA LR LR 14 35 15.9
comp=Z,8μm,21.6s,MS6.0,baz=68,slow=32
BOSA **Boshof** 74.51 239 *e*P P 14 06 57.0 +0.1
BOSA pmax pmax
comp=Z,278nm,1.4s,mb6.0
BOSA **Boshof** 74.51 239 *e*P P 14 06 57.0 +0.1
comp=Z,278nm,1.4s,mb6.0
VSU **Vasula** 74.61 330⇑ *e*P P 14 06 56.0 -1.5
VLS **Valsamata** 74.69 308 *e*P P 14 06 58.2 +0.3
LKD **Levkas** 74.70 309 *e*P P 14 06 57.0 -1.0
LVZ **Lovozero** 74.72 340 P P 14 06 56.5 -1.6
comp=Z,481nm,0.5s,mb6.7,SNR=18
LVZ **Lovozero** 74.72 340 *e*P P 14 06 57.6 -0.5
LVZ *e*S S 14 16 25.0 -5.5
LVZ pmax pmax
comp=Z,111nm,1.3s,mb5.6
LVZ pmax pmax
comp=N,61nm,1.6s
LVZ pmax pmax
comp=E,47nm,1.4s
LVZ smax
comp=N,1μm,11.8s
LVZ smax
comp=Z,55nm,5.8s
LVZ smax
comp=E,298nm,11.8s
LVZ MLR MLR
comp=Z,4μm,21.0s,MS5.6
LVZ **Lovozero** 74.72 340 *i* P P 14 06 58.4 +0.3
KWP **Kalwaria** 74.85 320 *e*P P 14 06 59.4 +0.6
KWP *e* 14 09 32.4
KWP **Kalwaria** 74.85 320 P P 14 06 58.6 -0.2
KWP pmax pmax
comp=Z,400nm,1.5s,mb6.1
OHR **Ohrid** 74.86 311 *e*P P 14 06 56.6 -2.3
DZM **Mont Dzumac** 74.89 114 P P 14 07 00.4 +1.3
comp=Z,12nm,0.9s,mb4.8,baz=319,slow=21,SNR=3.7
BZS **Buzias** 74.89 316 *ji*P P 14 06 59.2 +0.1
BZS **Buzias** 74.89 316 P P 14 06 59.5 +0.4
UZH **Uzhgorod** 74.93 319 ⇓*i*P P 14 07 00.2 +0.9
UZH *i* 14 07 19.8
UZH *e* 14 09 55.0
UZH *i*S S 14 16 33.0 +0.1
UZH MLR MLR
comp=Z,1μm,18.0s,MS5.2
SVIS **Svilajnac** 74.97 315 *i* P pP 14 07 12.1 -2.0
KOLS **Kolonicke sedl** 75.00 319 *e*P P 14 07 01.1 +1.4
APA **Apatity** 75.00 340 ⇓*i*P P 14 06 58.5 -1.2
APA *i* pP 14 07 14.6 +0.3
APA *e*S S 14 16 28.0 -5.7
APA pmax pmax
comp=Z,65nm,1.2s,mb5.4
APA MLR MLR
comp=Z,4μm,18.0s,MS5.8
IGT **Igoumenitsa** 75.03 310 *e*P P 14 06 59.6 -0.4

SUW **Suwalki** 75.43 325 *e*P P 14 07 01.4 -0.8
KEK **Kerkira** 75.47 310 *e*P P 14 07 00.8 -1.6
MAW **Mawson** 75.62 192 *e*P P 14 07 03.7 +0.4
comp=Z,6.9nm,0.6s,mb4.8
MAW **Mawson** 75.62 192 P P 14 07 03.6 +0.4
comp=Z,3.1nm,0.7s,mb4.3,baz=21,slow=5.4,SNR=18
MAW LR LR 14 34 24.8
comp=Z,3μm,21.4s,MS5.6,baz=19,slow=31
MAW **Mawson** 75.62 192 *e*P P 14 07 03.7 +0.4
MAW pmax pmax
comp=Z,7.0nm,0.6s
STHS **Stebnicka Huta** 75.75 320 *e*P P 14 07 05.0 +1.0
STHS pmax pmax
comp=Z,48nm,0.9s,mb5.4
STHS **Stebnicka Huta** 75.75 320 *e*P P 14 07 05.0 +1.0
comp=Z,48nm,0.9s,mb5.4
FIA1 **FINESS Array S** 75.78 332 *e*P P 14 07 02.9 -1.3
FIA1 *ep*P pP 14 07 19.6 +0.9
FINES **FINESS Array B** 75.78 332 P P 14 07 02.9 -1.4
comp=Z,22nm,0.5s,mb5.3,baz=98,slow=5.6,SNR=108
DIVS **Divcibare** 75.83 314 *i* P P 14 07 05.0 +0.5
DIVS **Divcibare** 75.83 314 *e*P P 14 07 02.2 -2.2
KECS **Kecovo** 76.09 319 *e*P P 14 07 05.9 -0.1
KECS pmax pmax
comp=Z,25nm,1.0s,mb5.1
KECS **Kecovo** 76.09 319 *e*P P 14 07 05.9 -0.1
comp=Z,25nm,1.0s,mb5.1
NIE **Niedzica** 76.35 320 *e*P P 14 07 09.0 +1.6
PSZ **Piszkesteto** 76.40 318 ⇓*i*P P 14 07 08.3 +0.6
PSZ **Piszkesteto** 76.40 318 *e*P P 14 07 06.2 -1.5
PSZ pmax pmax
comp=Z,176nm,1.4s,mb5.8
PSZ **Piszkesteto** 76.40 318 *e*P P 14 07 06.2 -1.5
comp=Z,176nm,1.4s,mb5.8
PSZ **Piszkesteto** 76.40 318⇑ *e*P P 14 07 08.9 +1.2
OJC **Ojcow** 76.80 320 *e*P P 14 07 09.9 -0.1
OJC *e*S S 14 16 51.7 -1.7
OJC L 14 49 33.3
comp=Z,7.4nm,20.6s
BUD **Budapest** 76.93 318⇑ *e*P P 14 07 11.7 +1.0
PKSM **Moragy** 77.03 316⇓ *i*P P 14 07 10.7 -0.6
PKSM **Moragy** 77.03 316 P P 14 07 11.6 +0.4
VYHS **Vyhne** 77.18 319 *e*P P 14 07 11.8 -0.3
VYHS pmax pmax
comp=Z,164nm,1.9s,mb5.6
VYHS **Vyhne** 77.18 319 *e*P P 14 07 11.8 -0.3
comp=Z,164nm,1.9s,mb5.6
TIP **Timpagrande** 77.76 309 *e*P P 14 07 13.7 -1.7
OKC **Ostrava-Krasne** 77.80 320 *e*P P 14 07 15.6 0.0
OKC *ex* x 14 07 24.7
OKC *e*S S 14 17 02.5 -1.8
OKC AMS AMS 14 50 00.0
comp=Z,1μm,17.0s
OKC **Ostrava-Krasne** 77.80 320 *e*P P 14 07 15.6 0.0
OKC *e* 14 07 24.7
OKC *e*S S 14 17 02.5 -1.8
RAC **Raciborz** 77.80 320 *e*P P 14 07 16.0 +0.4
RAC MLR MLR
comp=Z,1μm,21.6s,MS5.2
KEV **Kevo** 78.00 341 *ep* P 14 07 15.1 -1.6
comp=Z,14nm,0.5s,mb5.1
KEV **Kevo** 78.00 341 *e*P P 14 07 15.1 -1.6
KEV pmax pmax
comp=Z,14nm,0.5s,mb5.2
MORC **Moravsky Berou** 78.18 320⇓ *i*P P 14 07 18.5 +0.8
MORC **Moravsky Berou** 78.18 320 *e*P P 14 07 17.0 -0.7
MORC pmax pmax
comp=Z,167nm,1.4s,mb5.8
MORC **Moravsky Berou** 78.18 320 *e*P P 14 07 17.0 -0.6
comp=Z,167nm,1.4s,mb5.8
DRV **Dumont d'Urvil** 78.19 163 P P 14 07 21.0 +3.3
DRV **Dumont d'Urvil** 78.19 163 PP PP 14 10 14.0 -0.9
DRV S S 14 17 14.0 +5.5
ZST **Bratislava** 78.30 318 *e*P P 14 07 18.4 +0.1
ZST *ep*P pP 14 07 30.9 -2.0
ZST **Bratislava** 78.30 318 *e*P P 14 07 18.4 +0.1
ZST *e* pP 14 07 30.9 -2.0
ZST pmax pmax
comp=Z,85nm,1.0s,mb5.6
ZST MLR MLR
comp=Z,1μm,19.6s,MS5.3
ZST **Bratislava** 78.30 318 *e*P P 14 07 18.4 +0.1
comp=Z,85nm,1.0s,mb5.6
ZST *e* pP 14 07 30.9 -2.0
ZST LR LR
comp=Z,1μm,19.6s,MS5.3
ARCES **ARCESS Array B** 78.43 340 P P 14 07 18.3 -0.7
comp=Z,17nm,0.5s,mb5.2,baz=90,slow=5.2,SNR=88
ARE0 **ARCESS Array S** 78.43 340 *e*P P 14 07 17.9 -1.2
SOP **Sopron** 78.61 318⇓ *e*P P 14 07 21.1 +1.1
VRAC **Vranov** 78.75 319⇑ *i*P P 14 07 21.1 +1.1
VRAC **Vranov** 78.75 319 P P 14 07 21.6 +0.8
BILL **Bilibino** 78.75 21 ⇓*i*P P 14 07 19.7 -1.1
BILL *e*S S 14 17 19.1 +4.7
BILL pmax pmax
comp=Z,46nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,16μm,16.0s,MS6.4
BILL **Bilibino** 78.75 21 *e*P P 14 07 18.2 -2.6
comp=Z,92nm,1.4s,mb5.5
DPC **Dobruska-Polom** 79.03 320 *e*P P 14 07 22.5 +0.2
DPC *ep*P pP 14 07 34.8 -2.2
DPC *e*S S 14 17 16.3 -1.1
DPC AMS AMS 14 48 20.0
comp=Z,2μm,23.8s
KTK1 **Kautokeino** 79.05 340 *e*P P 14 07 22.6 +0.1
KSP **Ksiaz** 79.10 321 *e*P P 14 07 23.9 +1.2
KSP **Ksiaz** 79.10 321 *e*P P 14 07 23.3 +0.6
KSP *ep*P pP 14 07 37.5 +0.1
KSP *e*S S 14 17 17.5 -0.7
KSP LR LR
comp=Z,4μm,20.8s,MS5.7
CONA **Conrad Observa** 79.10 318⇑ *i*P P 14 07 23.7 +1.0
comp=Z,19nm,1.1s,mb5.0,SNR=11
SUR **Sutherland** 79.12 236 *e*P P 14 07 24.2 +1.3
comp=Z,365nm,1.4s,mb6.1
UPC **Upice** 79.24 320 *e*P P 14 07 24.6 +1.1
UPC *ep*P pP 14 07 34.6 -3.5
ARSA **Arzberg** 79.27 317⇑ *i*P P 14 07 25.0 +1.4
comp=Z,88nm,1.3s,mb5.5,SNR=18
BOJS **Bojanci** 79.32 315 *e*P P 14 07 23.5 -0.4
BOJS *i* pP 14 07 35.9 -2.7
PERS **Pernice** 79.50 316 *e*P P 14 07 24.9 0.0
PERS *e* pP 14 07 37.0 -2.6
TSUM **Tsumeb** 79.55 250 *e*P P 14 07 26.7 +1.6
comp=Z,86nm,1.4s,mb5.5
SMY **Shemya** 79.76 37 *e*P P 14 07 26.2 -0.1
SMY pmax pmax
comp=Z,210nm,1.3s,mb5.9
SMY MLR MLR
comp=Z,2μm,18.0s,MS5.4
SMY **Shemya** 79.76 37 *e*P P 14 07 26.2 -0.1
comp=Z,210nm,1.3s,mb5.9
SMY LR LR
comp=Z,2μm,18.0s,MS5.4
LJU **Ljubljana** 79.86 316 *e*P P 14 07 27.4 +0.5
LJU *e* pP 14 07 39.8 -1.7
OBKA **Obir** 79.88 316⇑ *i*P P 14 07 28.3 +1.3
comp=Z,99nm,1.9s,mb5.4,SNR=15
PVCC **Panska Ves** 80.16 320 *e*P P 14 07 28.5 0.0
PVCC *e*S S 14 17 27.7 -1.7
PVCC AMS AMS 14 48 50.0
comp=Z,2μm,21.3s
MOA **Molln** 80.16 318 *i* P P 14 07 29.3 +0.8
comp=Z,38nm,1.2s,mb5.2,SNR=15
PRA **Prague** 80.21 320 P P 14 07 29.0 +0.2
PRA *ep*P pP 14 07 41.0 -2.4
VOY **Vojsko** 80.31 316 *e*P P 14 07 28.7 -0.6
VOY *e* pP 14 07 41.8 -2.1
BSD **Bornholm Skovb** 80.36 325⇑ *i*P P 14 07 29.8 +0.3
comp=Z,323nm,1.6s,mb6.0
BSD *i* 14 10 02.1
BSD *i* 14 20 01.3
BSD
comp=Z,2μm,19.0s
BSD **Bornholm Skovb** 80.36 325⇑ *i*P P 14 07 29.8 +0.3
comp=Z,324nm,1.6s,mb6.0
BSD *i* 14 10 02.1
BSD *i* 14 20 01.3
AQU **L'Aquila** 80.48 312⇑ *i*P P 14 07 30.9 +0.7
AQU **L'Aquila** 80.48 312 *e*P P 14 07 30.2 0.0
AQU pmax pmax
comp=Z,119nm,1.0s,mb5.8
AQU **L'Aquila** 80.48 312 *e*P P 14 07 30.2 0.0

comp=Z,119nm,1.0s,mb5.8
BRG Berggiesshubel 80.58 321 *e*P **P** **14 07 31.4 +0.7**
comp=Z,494nm,2.5s,mb6.0
BRG Berggiesshubel 80.58 321 *i* P **P** **14 07 30.3 -0.4**
comp=Z,53nm,1.3s,mb5.3
BRG *i* pP pP 14 07 42.8 -2.6
comp=Z,36nm,1.4s
BRG *i* sP sP 14 07 48.5 -2.6
comp=Z,121nm,1.8s
BRG *i* PP PP 14 10 14.0 -21
BRG S S 14 17 20.0 -14
BRG
comp=N,1µm,22.8s
BRG
comp=E,758nm,19.5s
BRG
comp=Z,2µm,22.4s
BRG Berggiesshubel 80.58 321 *i* P **P** **14 07 30.3 -0.4**
BRG *i* *PP pP 14 07 42.8 -2.6
BRG pmax pmax
comp=Z,53nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,2µm,22.4s,MS5.3
BRG Berggiesshubel 80.58 321 *i* P **P** **14 07 30.3 -0.4**
comp=Z,53nm,1.3s,mb5.3
BRG *i* pP pP 14 07 42.8 -2.6
BRG *i* sP sP 14 07 48.5 -2.6
BRG *i* PP PP 14 10 14.0 -21
BRG S S 14 17 20.0 -14
BRG LR LR
comp=Z,2µm,22.4s,MS5.3
GEC2 GERESS Array S 80.60 319 *e*P **P** **14 07 31.7 +0.8**
comp=Z,496nm,2.1s,mb6.1
GEC2 GERESS Array S 80.60 319 *e*P **P** **14 07 31.7 +0.8**
GEC2 pmax pmax
comp=Z,496nm,2.1s,mb6.1
GERES GERESS Array B 80.60 319 P **P** **14 07 30.7 -0.1**
comp=Z,34nm,1.0s,mb5.2,baz=94,slow=5.6,SNR=127
TRO Tromso 80.68 340 *e*P **P** **14 07 30.8 -0.5**
TRO AMb AMB 14 07 32.7
comp=Z,123nm,1.6s,mb5.6
TRO *e*S S 14 17 28.1 -6.7
TRO AMS AMS 14 49 21.1
comp=Z,2µm,13.7s,MS5.7
TRO Tromso 80.68 340 *e*P **P** **14 07 30.8 -0.5**
TRO pmax pmax
comp=Z,123nm,1.6s,mb5.6
TRO MLR MLR
comp=Z,2µm,13.7s,MS5.7
TRO Tromso 80.68 340 *e*P **P** **14 07 30.8 -0.5**
comp=Z,123nm,1.6s,mb5.6
TRO LR LR
comp=Z,2µm,13.7s,MS5.7
KHC Kasperske Hory 80.70 319 *e*P **P** **14 07 30.5 -0.9**
KHC *e*pP pP 14 07 40.2 -5.9
KHC *e*S S 14 17 31.0 -4.1
KHC AMS AMS 14 47 50.0
comp=Z,2µm,23.1s
KHC Kasperske Hory 80.70 319⇑ *e*P **P** **14 07 31.6 +0.2**
KBA Koelnbreinsper 80.74 317 *i* P **P** **14 07 32.3 +0.7**
comp=Z,33nm,1.1s,mb5.2,SNR=10
WET Wettzell 81.16 319 *e*P **P** **14 07 34.6 +0.8**
comp=Z,265nm,2.0s,mb5.8
WET Wettzell 81.16 319 *e*P **P** **14 07 34.6 +0.8**
WET pmax pmax
comp=Z,265nm,2.0s,mb5.8
CLL Collm 81.20 321 *e*P **P** **14 07 34.2 +0.1**
comp=Z,308nm,2.4s,mb5.8
CLL Collm 81.20 321⇓ *i* P **P** **14 07 34.4 +0.3**
CLL *e* pP 14 07 52.0 +3.2
CLL *e*S S 14 17 39.0 -1.3
CLL pmax pmax
comp=Z,308nm,2.4s,mb5.8
CLL MLR MLR
comp=Z,2µm,21.6s,MS5.5
CLL Collm 81.20 321⇓ *i* P **P** **14 07 34.4 +0.3**
comp=Z,308nm,2.4s,mb5.8
CLL *e* pP 14 07 52.0 +3.2
CLL *e*S S 14 17 39.0 -1.3
CLL LR LR
comp=Z,2µm,21.6s,MS5.5
CLL Collm 81.20 321⇓ *i* P **P** **14 07 34.4 +0.3**
comp=Z,308nm,2.4s,mb5.8
CLL *e*sP sP 14 07 52.0 -2.4
CLL *e*sPcP 14 08 01.0
CLL *e*S S 14 17 39.0 -1.3
CLL LmV 14 53 00.0
comp=Z,2µm,21.6s
HFS Hagfors 81.49 330 P **P** **14 07 34.6 -1.0**
comp=Z,16nm,0.6s,mb5.1,baz=106,slow=5.3,SNR=28
NKC Novy Kostel 81.50 320 *e*P **P** **14 07 34.9 -0.7**
NKC *e*pP pP 14 07 47.6 -2.7
NKC *e*x x 14 17 28.5
NKC Novy Kostel 81.50 320 *e*P **P** **14 07 34.9 -0.7**
NKC *e* pP 14 07 47.6 -2.7
TANN Tannenbergstha 81.50 320 *e*P **P** **14 07 36.1 +0.5**
ROTZ Rotzenmuhle 81.63 319 *e*P **P** **14 07 37.4 +1.1**
MANZ Manzenberg 81.70 320 *e*P **P** **14 07 37.8 +1.1**
MOR8 Moi Rana 81.80 336 *e*P **P** **14 07 35.7 -1.5**
MOR8 AMb AMB 14 07 55.7
comp=Z,216nm,1.7s,mb5.8
MOR8 Moi Rana 81.80 336 *e*P **P** **14 07 35.7 -1.5**
comp=Z,216nm,1.7s,mb5.8
COP Copenhagen 81.81 325 *i* P **P** **14 07 43.7 +6.4**
COP Copenhagen 81.81 325 *i* S S 14 17 48.2 +1.6
COP *i* 14 20 19.7
COP
comp=Z,810nm,18.0s
COP Copenhagen 81.81 325 *e*P **P** **14 07 43.7 +6.4**
COP *i* S S 14 17 48.2 +1.6
COP MLR MLR
comp=Z,810nm,18.0s,MS5.1
COP Copenhagen 81.81 325 *e*P **P** **14 07 43.7 +6.4**
COP *i* S S 14 17 48.2 +1.6
COP *i* 14 20 19.7
COP LR LR
comp=Z,810nm,18.0s,MS5.1
WTTA Wattenberg 81.91 317 *i* P **P** **14 07 37.0 -0.8**
comp=Z,90nm,1.2s,mb5.6,SNR=19
WATA Walderalm 81.95 317 *i* P **P** **14 07 37.5 -0.5**
comp=Z,15nm,0.6s,mb5.1,SNR=6.4
MOX Moxa 82.05 320 *e*P **P** **14 07 39.0 +0.5**
comp=Z,153nm,1.8s,mb5.6
MOX Moxa 82.05 320 *e*P **P** **14 07 38.9 +0.4**
comp=Z,159nm,2.0s,mb5.6
MOX *e* pP 14 07 52.9 -0.3
comp=Z,149nm,1.8s
MOX Moxa 82.05 320 *e*P **P** **14 07 38.9 +0.4**
MOX *e* pP 14 07 52.9 -0.3
MOX pmax pmax
comp=Z,159nm,2.0s,mb5.6
FUR Furstenfeldbru 82.18 318 *e*P **P** **14 07 39.3 +0.1**
comp=Z,281nm,2.1s,mb5.8
FUR Furstenfeldbru 82.18 318 *e*P **P** **14 07 39.3 +0.1**
FUR pmax pmax
comp=Z,281nm,2.1s,mb5.8
SQTA Sankt Quirin 82.20 317⇑ *i* P **P** **14 07 38.7 -0.6**
comp=Z,24nm,0.5s,mb5.4,SNR=20
GRA1 Grafenberg Arr 82.27 319 *e*P **P** **14 07 40.6 +1.0**
comp=Z,90nm,1.2s,mb5.6
GRA1 *e*pP pP 14 07 52.7 -1.7
GRA1 *e*S S 14 17 55.7 +4.5
GRA1 LR LR
comp=Z,2µm,21.0s,MS5.5
GRF Grafenberg Arr 82.27 319 *e*P **P** **14 07 40.6 +1.0**
comp=Z,90nm,1.2s,mb5.6
GRF *e*pP pP 14 07 52.7 -1.7
GRF *e*S S 14 17 55.7 +4.5
GRF *e*L 14 50 53.5
comp=Z,2µm,21.0s
GRF Grafenberg Arr 82.27 319 *e*P **P** **14 07 40.6 +1.0**
GRF *e**PP pP 14 07 52.7 -1.7
GRF *e*S S 14 17 55.7 +4.5
GRF pmax pmax
comp=Z,90nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2µm,21.0s,MS5.5
GRF Grafenberg Arr 82.27 319 *e*P **P** **14 07 40.6 +1.0**
GRF *e**PP pP 14 07 52.7 -1.7
GRF *e*S S 14 17 55.7 +4.5
GRF pmax pmax
comp=Z,90nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2µm,21.0s,MS5.5
GRFO Grafenberg 82.27 319 *e*P **P** **14 07 39.1 -0.6**
GRFO pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRFO Grafenberg 82.27 319 *e*P **P** **14 07 39.1 -0.6**
comp=Z,41nm,0.9s,mb5.4
MOTA Moosalm 82.28 317 *i* P **P** **14 07 38.8 -0.9**
comp=Z,43nm,1.0s,mb5.3,SNR=23
LOF Lofoten 82.38 338 *e*P **P** **14 07 41.3 +1.1**
LOF AMb AMB 14 07 48.1
comp=Z,179nm,1.6s,mb5.8
LOF Lofoten 82.38 338 *e*P **P** **14 07 41.3 +1.1**
comp=Z,179nm,1.6s,mb5.8
SYO Syowa Base 82.62 197⇑ *e*P **P** **14 07 41.8 +0.3**
SYO Syowa Base 82.62 197⇓ *e*pP pP 14 07 53.8 -2.4
NSS Namsos 82.67 334 *e*P **P** **14 07 38.6 -3.1**
NB2 NORSAR Subarra 82.78 331 P **P** **14 07 40.8 -1.5**
comp=Z,190nm,1.7s,mb5.8,baz=92,slow=5.9
NOA NORSAR Array B 82.78 331 P **P** **14 07 41.1 -1.2**
comp=Z,19nm,1.0s,mb5.1,baz=94,slow=5.5,SNR=20
CLZ Clausthal 82.86 322 *e*P **P** **14 07 43.2 +0.4**
comp=Z,77nm,1.2s,mb5.6
CLZ Clausthal 82.86 322 *e*P **P** **14 07 43.2 +0.4**
CLZ pmax pmax
comp=Z,77nm,1.2s,mb5.6
SPB4 Spitsbergen Ar 83.03 348 *e*P **P** **14 07 41.3 -2.3**
NRDL Niedersach Rie 83.04 322 *e*P **P** **14 07 43.3 -0.4**
UBBA Unterbreizbach 83.08 320 *e*P **P** **14 07 44.3 +0.4**
DAVA Damuels 83.11 317⇑ *i* P **P** **14 07 45.1 +1.1**
comp=Z,54nm,1.0s,mb5.5,SNR=11
VSL Villasalto 83.49 309 *e*P **P** **14 07 44.2 -1.8**
comp=Z,148nm,1.3s,mb5.9
KONO Kongsberg 83.52 329 *e*P **P** **14 07 47.1 +1.0**
KONO Kongsberg 83.52 329 *e*P **P** **14 07 45.0 -1.1**
KONO pmax pmax
comp=Z,163nm,1.4s,mb6.0
KONO Kongsberg 83.52 329 *e*P **P** **14 07 45.0 -1.1**
comp=Z,163nm,1.4s,mb6.0
STU Stuttgart 83.58 318 *e*P **P** **14 07 46.7 +0.3**
STU Stuttgart 83.58 318 *e*P **P** **14 07 45.9 -0.5**
STU *e**PP pP 14 08 02.8 +1.6
STU pmax pmax
comp=Z,14nm,0.7s,mb5.2
STU Stuttgart 83.58 318 *e*P **P** **14 07 45.9 -0.6**
comp=Z,14nm,0.7s,mb5.2
STU *e*pP pP 14 08 02.8 +1.6
KEST Kesra 83.58 305 P **P** **14 07 47.0 +0.5**
comp=Z,9.9nm,0.9s,mb4.9,baz=301,slow=0.8,SNR=19
MUD Monsted U'grnd 83.67 326 *i* P **P** **14 07 47.7 +0.8**
comp=Z,55nm,1.0s,mb5.6
MUD *i* pP 14 08 05.9 +4.2
MUD *e* 14 10 34.0
MUD *i* S S 14 18 08.5 +3.0
MUD *i* 14 20 42.0
MUD
comp=Z,1µm,20.0s
MUD Monsted U'grnd 83.67 326 *i* P **P** **14 07 47.7 +0.8**
MUD *i* pP 14 08 05.9 +4.2
MUD *i* S S 14 18 08.5 +3.0
MUD pmax pmax
comp=Z,55nm,1.0s,mb5.6
MUD Monsted U'grnd 83.67 326 *i* P **P** **14 07 47.7 +0.8**
comp=Z,55nm,1.0s,mb5.6
MUD *i* pP 14 08 05.9 +4.2
MUD *e* 14 10 34.0
MUD *i* S S 14 18 08.5 +3.0
MUD *i* 14 20 42.0
PGF Pioggiola 83.74 312 *e*P **P** **14 07 46.8 -0.5**
comp=Z,104nm,1.1s,mb5.6
PGF Pioggiola 83.74 312 *e*P **P** **14 07 46.8 -0.5**
PGF pmax pmax
comp=Z,52nm,1.1s,mb5.6
PGF Pioggiola 83.74 312 *e*P **P** **14 07 46.8 -0.5**
comp=Z,52nm,1.1s,mb5.6
TOD Tromm 83.83 319 *e*P **P** **14 07 47.7 -0.1**
SPAK Spaichingen-Ko 83.85 318 *e*P **P** **14 07 48.6 +0.8**
KBS Kingsbay 84.01 349 *e*P **P** **14 07 48.7 0.0**
KBS AMS AMS 14 52 06.5
comp=Z,2µm,19.9s,MS5.4
KBS Kingsbay 84.01 349⇑ *e*P **P** **14 07 49.5 +0.8**
KBS Kingsbay 84.01 349⇑ *e*P **P** **14 07 49.6 +0.9**
TNS Taunus Mts 84.06 320 *e*P **P** **14 07 49.4 +0.5**
comp=Z,46nm,1.1s,mb5.5
TNS Taunus Mts 84.06 320 *e*P **P** **14 07 49.4 +0.5**
TNS pmax pmax
comp=Z,46nm,1.1s,mb5.5
BFO Black Forest 84.15 318 P **P** **14 07 49.7 +0.3**
comp=Z,112nm,1.3s,mb5.8,SNR=5.2
BFO Black Forest 84.15 318 *e*P **P** **14 07 49.3 -0.1**
comp=Z,93nm,1.1s,mb5.4
BFO Black Forest 84.15 318 P **P** **14 07 48.7 -0.7**
BFO pmax pmax
comp=Z,90nm,1.4s,mb5.7
FELD Feldberg im Sc 84.38 318 *e*P **P** **14 07 50.3 -0.2**
IBBN Ibbenburen 84.48 322 *e*P **P** **14 07 51.6 +0.6**
LANF Langenberg 84.49 319 *e*P **P** **14 07 51.4 +0.3**
LIBD Limburg 84.64 318 *e*P **P** **14 07 51.9 0.0**
ABH Alteburg 84.65 320 *e*P **P** **14 07 52.5 +0.6**
SAOF Saorge 84.77 314 *e*P **P** **14 07 54.1 +1.6**
BUG Bochum--Univer 84.80 321 *e*P **P** **14 07 53.0 +0.4**
comp=Z,99nm,1.3s,mb5.8
WLS Welschbruch 84.80 318 *e*P **P** **14 07 52.5 -0.2**
CDF Champ du Feu 84.86 318 *e*P **P** **14 07 52.3 -0.6**
comp=Z,27nm,0.9s,mb5.1
CDF Champ du Feu 84.86 318 *e*P **P** **14 07 52.3 -0.6**
CDF pmax pmax
comp=Z,14nm,0.9s,mb5.1
CDF Champ du Feu 84.86 318 *e*P **P** **14 07 52.3 -0.6**
comp=Z,14nm,0.9s,mb5.1
SBF Sospel 84.86 313 *e*P **P** **14 07 52.3 -0.6**
comp=Z,152nm,0.9s,mb5.8
SBF Sospel 84.86 313 *e*P **P** **14 07 52.3 -0.6**
SBF pmax pmax
comp=Z,76nm,0.9s,mb5.8
SBF Sospel 84.86 313 *e*P **P** **14 07 52.3 -0.6**
comp=Z,76nm,0.9s,mb5.8
AUTN L'Aution 84.86 314 *e*P **P** **14 07 54.1 +1.1**
REVF Revere 84.91 313 *e*P **P** **14 07 54.3 +1.1**
LUCF Luceram 84.92 314 *e*P **P** **14 07 54.5 +1.2**
ECH Echery 84.94 318 *e*P **P** **14 07 53.4 +0.1**
MOF Molkenrain 84.96 318 *e*P **P** **14 07 53.6 +0.1**
TOUF Mont Tournerai 84.99 314 *e*P **P** **14 07 55.0 +1.4**
MVIF Mont Vial 85.06 314 *e*P **P** **14 07 55.0 +1.0**
BLS5 Blasjo 85.12 329 *e*P **P** **14 07 54.8 +0.5**
BLS5 AMb AMB 14 07 58.5
comp=Z,66nm,1.7s,mb5.5
BLS5 Blasjo 85.12 329 *e*P **P** **14 07 54.8 +0.5**
comp=Z,66nm,1.7s,mb5.5
HINF Hinteralfeld 85.15 317 *e*P **P** **14 07 53.4 -1.0**
LOMF Lomont 85.19 317 *e*P **P** **14 07 54.7 +0.1**
LPG La Plagne 85.30 315 *e*P **P** **14 07 54.7 -0.4**
comp=Z,53nm,0.8s,mb5.4
LPG La Plagne 85.30 315 *e*P **P** **14 07 54.7 -0.4**
LPG pmax pmax
comp=Z,27nm,0.8s,mb5.4
LPG La Plagne 85.30 315 *e*P **P** **14 07 54.7 -0.4**
comp=Z,26nm,0.8s,mb5.4
LPL La Plagne 85.31 315 *e*P **P** **14 07 54.7 -0.5**
comp=Z,153nm,1.2s,mb5.7
LPL La Plagne 85.31 315 *e*P **P** **14 07 54.7 -0.5**
LPL pmax pmax
comp=Z,77nm,1.2s,mb5.7
LPL La Plagne 85.31 315 *e*P **P** **14 07 54.7 -0.5**
comp=Z,77nm,1.2s,mb5.7
MBDF Montbardon 85.31 314 *e*P **P** **14 07 54.4 -0.8**
comp=Z,41nm,1.1s,mb5.2
MBDF Montbardon 85.31 314 *e*P **P** **14 07 54.4 -0.8**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.2
MBDF Montbardon 85.31 314 *e*P **P** **14 07 54.4 -0.8**
comp=Z,20nm,1.1s,mb5.2
BNI Bardonecchia 85.36 315 *e*P **P** **14 07 54.6 -0.9**
BNI pmax pmax
comp=Z,32nm,0.9s,mb5.5
BNI Bardonecchia 85.36 315 *e*P **P** **14 07 54.6 -0.9**
comp=Z,32nm,0.9s,mb5.5
RSL Roselend 85.38 315 *e*P **P** **14 07 56.3 +0.8**
FRF La Foret Royal 85.44 313 *e*P **P** **14 07 55.2 -0.7**
comp=Z,331nm,1.4s,mb6.0
FRF La Foret Royal 85.44 313 *e*P **P** **14 07 55.2 -0.7**
FRF pmax pmax
comp=Z,166nm,1.4s,mb6.0
FRF La Foret Royal 85.44 313 *e*P **P** **14 07 55.2 -0.7**
comp=Z,166nm,1.4s,mb6.0
HAU Haudompre 85.49 318 *e*P **P** **14 07 55.2 -0.9**
comp=Z,136nm,1.3s,mb5.6
HAU Haudompre 85.49 318 *e*P **P** **14 07 55.2 -0.9**
HAU pmax pmax
comp=Z,68nm,1.3s,mb5.6
HAU Haudompre 85.49 318 *e*P **P** **14 07 55.2 -0.9**
comp=Z,68nm,1.3s,mb5.6
LMR La Mourre 85.55 313 *e*P **P** **14 07 55.9 -0.5**
comp=Z,166nm,1.2s,mb5.8
LMR La Mourre 85.55 313 *e*P **P** **14 07 55.9 -0.5**
LMR pmax pmax
comp=Z,83nm,1.2s,mb5.8
LMR La Mourre 85.55 313 *e*P **P** **14 07 55.9 -0.5**
comp=Z,83nm,1.2s,mb5.8
WLF Walferdange 85.56 319 *e*P **P** **14 07 41.8 +0.3**
WLF Walferdange 85.56 319 P **P** **14 07 56.1 -0.3**
WLF XP pP 14 08 09.2 -2.1
WLF E 14 08 20.6
WLF Walferdange 85.56 319 *e*P **P** **14 07 55.7 -0.7**
WLF *e**PP pP 14 08 09.6 -1.6
WLF pmax pmax
comp=Z,283nm,2.3s,mb6.1
WLF Walferdange 85.56 319 *e*P **P** **14 07 55.7 -0.7**
comp=Z,283nm,2.3s,mb6.1
WLF *e*pP pP 14 08 09.6 -1.7
MEM Membach 85.62 320 P **P** **14 07 55.8 -1.0**
MEM XP pP 14 08 09.5 -2.0
HGN Heimansgroeve 85.66 320 *e*S S 14 18 27.4 +2.1
CABF La Chapelle 85.72 316 *e*P **P** **14 07 56.7 -0.5**
THEF They Montfort 85.72 318 *e*P **P** **14 07 57.3 +0.1**
BEBN Eben Emael 85.82 320 XP pP 14 08 10.5 -2.0
OG25 Le Caire 85.82 314 *e*P **P** **14 07 58.2 +0.5**
ORIF Oris-en-Rattie 85.94 315 *e*P **P** **14 07 57.8 -0.5**
comp=Z,27nm,0.9s,mb5.2
ORIF Oris-en-Rattie 85.94 315 *e*P **P** **14 07 57.8 -0.5**
ORIF pmax pmax
comp=Z,13nm,0.9s,mb5.2
ORIF Oris-en-Rattie 85.94 315 *e*P **P** **14 07 57.8 -0.5**
comp=Z,13nm,0.9s,mb5.2
BCLA Clavier 86.07 320 P **P** **14 07 59.5 +0.5**
OG05 Jujurieux 86.18 316 *e*P **P** **14 08 00.0 +0.5**
SMRF Simiane la Rot 86.20 314 *e*P **P** **14 07 59.0 -0.6**
comp=Z,154nm,1.3s,mb5.8
SMRF Simiane la Rot 86.20 314 *e*P **P** **14 07 59.0 -0.6**
comp=Z,154nm,1.3s,mb6.1
MEZF Maizieres J'vi 86.33 318 *e*P **P** **14 07 59.2 -1.1**
GIVF Givet 86.40 320 *e*P **P** **14 07 59.6 -1.0**
DOU Dourbes 86.54 320 P **P** **14 08 01.8 +0.5**
DOU AP pP 14 08 09.8 -6.3
DOU XP sP 14 08 14.4 -7.4
DOU E pP 14 08 19.9 +3.8
SNF Seneffe 86.72 320 P **P** **14 08 00.2 -1.9**
SNF AP pP 14 08 10.4 -6.6
SET Setif 86.76 306 P pP 14 08 22.0 +4.8
BAIF Baives 86.80 320 *e*P **P** **14 08 01.8 -0.7**
comp=Z,88nm,1.2s,mb5.6
BAIF Baives 86.80 320 *e*P **P** **14 08 01.8 -0.7**
BAIF pmax pmax
comp=Z,44nm,1.2s,mb5.6
BAIF Baives 86.80 320 *e*P **P** **14 08 01.8 -0.7**
comp=Z,44nm,1.2s,mb5.6
VIVF Saint-Julien-l 86.80 315 *e*P **P** **14 08 01.8 -0.7**
comp=Z,132nm,1.4s,mb5.7
VIVF Saint-Julien-l 86.80 315 *e*P **P** **14 08 01.8 -0.7**
VIVF pmax pmax
comp=Z,66nm,1.4s,mb5.7
VIVF Saint-Julien-l 86.80 315 *e*P **P** **14 08 01.8 -0.7**
comp=Z,66nm,1.4s,mb5.7
URZ Urewera 86.87 129 P **P** **14 08 03.4 +0.5**
comp=Z,11nm,0.5s,mb5.4,baz=178,slow=6.4,SNR=8.1
LOR Lormes 87.21 317 *e*P **P** **14 08 03.6 -0.9**
comp=Z,111nm,1.3s,mb5.6
LOR Lormes 87.21 317 *e*P **P** **14 08 03.6 -0.9**
LOR pmax pmax
comp=Z,55nm,1.3s,mb5.6
LOR Lormes 87.21 317 *e*P **P** **14 08 03.6 -0.9**
comp=Z,55nm,1.3s,mb5.6
SMF Signal de Mont 87.26 316 *e*P **P** **14 08 04.2 -0.6**
comp=Z,78nm,1.1s,mb5.6
SMF Signal de Mont 87.26 316 *e*P **P** **14 08 04.2 -0.6**
SMF pmax pmax
comp=Z,39nm,1.1s,mb5.5
SMF Signal de Mont 87.26 316 *e*P **P** **14 08 04.2 -0.6**
comp=Z,39nm,1.1s,mb5.5
LASF Ste Croix 87.43 314 *e*P **P** **14 08 04.9 -0.7**
comp=Z,200nm,1.8s,mb5.7
PLDF La Plantade 87.46 316 *e*P **P** **14 08 06.9 +1.1**
SSF Saint Saulge 87.46 317 *e*P **P** **14 08 05.0 -0.8**
comp=Z,59nm,1.2s,mb5.4
SSF Saint Saulge 87.46 317 *e*P **P** **14 08 05.0 -0.8**
SSF pmax pmax
comp=Z,30nm,1.2s,mb5.4
SSF Saint Saulge 87.46 317 *e*P **P** **14 08 05.0 -0.8**
comp=Z,30nm,1.2s,mb5.4
AVF Avril sur Loir 87.59 317 *e*P **P** **14 08 05.6 -0.8**
comp=Z,62nm,1.1s,mb5.5
AVF Avril sur Loir 87.59 317 *e*P **P** **14 08 05.6 -0.8**
AVF pmax pmax
comp=Z,31nm,1.1s,mb5.5
AVF Avril sur Loir 87.59 317 *e*P **P** **14 08 05.6 -0.8**
comp=Z,31nm,1.1s,mb5.5
LBL Lubilhac 87.78 315 *e*P **P** **14 08 08.8 +1.5**
AGO Saint Agoulin 87.80 316 *e*P **P** **14 08 08.8 +1.4**
BGF Bois d'Agland 87.95 316 *e*P **P** **14 08 07.4 -0.7**
comp=Z,135nm,1.3s,mb5.7
BGF Bois d'Agland 87.95 316 *e*P **P** **14 08 07.4 -0.7**
BGF pmax pmax
comp=Z,68nm,1.3s,mb5.7
BGF Bois d'Agland 87.95 316 *e*P **P** **14 08 07.4 -0.7**
comp=Z,68nm,1.3s,mb5.7
TCF Toulx Ste Croi 88.41 316 *e*P **P** **14 08 09.3 -1.0**
comp=Z,90nm,1.4s,mb5.5
TCF Toulx Ste Croi 88.41 316 *e*P **P** **14 08 09.3 -1.0**
TCF pmax pmax
comp=Z,45nm,1.4s,mb5.5
TCF Toulx Ste Croi 88.41 316 *e*P **P** **14 08 09.3 -1.0**
comp=Z,45nm,1.4s,mb5.5
CAF Calviac 88.64 315 *e*P **P** **14 08 10.9 -0.4**
comp=Z,57nm,1.3s,mb5.4
CAF Calviac 88.64 315 *e*P **P** **14 08 10.9 -0.4**
CAF pmax pmax
comp=Z,28nm,1.3s,mb5.4
CAF Calviac 88.64 315 *e*P **P** **14 08 10.9 -0.4**
comp=Z,28nm,1.3s,mb5.4
MTLF Montolieu 88.67 313 *e*P **P** **14 08 10.9 -0.6**
comp=Z,81nm,1.3s,mb5.6
MTLF Montolieu 88.67 313 *e*P **P** **14 08 10.9 -0.6**
MTLF pmax pmax
comp=Z,40nm,1.3s,mb5.6
MTLF Montolieu 88.67 313 *e*P **P** **14 08 10.9 -0.6**
comp=Z,40nm,1.3s,mb5.6
EMHD Djebel Mahouad 88.74 306 P P **14 08 14.0 +2.2**
RJF Les Rejaudoux 88.99 315 *e*P **P** **14 08 12.7 -0.3**
comp=Z,105nm,1.4s,mb5.7
RJF Les Rejaudoux 88.99 315 *e*P **P** **14 08 12.7 -0.3**
RJF pmax pmax
comp=Z,53nm,1.4s,mb5.7
RJF Les Rejaudoux 88.99 315 *e*P **P** **14 08 12.7 -0.3**
comp=Z,52nm,1.4s,mb5.7
EMIR Miracle 89.32 312 P P **P** **14 08 14.4 -0.1**
comp=Z,8.7nm,0.6s,mb5.3
LFF La Frestale 89.57 315 *e*P **P** **14 08 15.0 -0.7**
comp=Z,164nm,1.4s,mb5.9
LFF La Frestale 89.57 315 *e*P **P** **14 08 15.0 -0.7**
LFF pmax pmax
comp=Z,82nm,1.4s,mb5.9
LFF La Frestale 89.57 315 *e*P **P** **14 08 15.0 -0.7**
comp=Z,82nm,1.4s,mb5.9
EPOB Poblet 89.71 311 P P **P** **14 08 17.9 +1.5**
comp=Z,13nm,0.9s,mb5.3
VNDA Vanda 89.74 168 *e*P **P** **14 08 16.7 +0.2**
VNDA pmax pmax
comp=Z,21nm,1.2s
VNDA Vanda 89.74 168 *e*P **P** **14 08 16.7 +0.2**
comp=Z,21nm,1.2s,mb5.3
LDF La Druitiere 89.75 319 *e*P **P** **14 08 15.7 -0.8**
comp=Z,118nm,1.1s,mb5.8
LDF La Druitiere 89.75 319 *e*P **P** **14 08 15.7 -0.8**
LDF pmax pmax
comp=Z,59nm,1.1s,mb5.8
LDF La Druitiere 89.75 319 *e*P **P** **14 08 15.7 -0.8**
comp=Z,59nm,1.1s,mb5.8
EBNR Beni Rached 89.87 306 P P **14 08 13.0 -4.1**
JMIC Jan Mayen 89.88 341 *e*P **P** **14 08 20.1 +2.9**
FLN La Foliniere 89.96 319 *e*P **P** **14 08 16.7 -0.9**
comp=Z,94nm,1.1s,mb5.7
FLN La Foliniere 89.96 319 *e*P **P** **14 08 16.7 -0.9**
FLN pmax pmax
comp=Z,47nm,1.1s,mb5.7

FLN	**La Foliniere**	**89.96**	**319**	*e*P		**P**		**14 08 16.7**	**-0.9**
	comp=Z,47nm,1.1s,mb5.7								
MFF	**Saint Martin d**	**90.00**	**317**	*e*P		**P**		**14 08 16.8**	**-0.9**
	comp=Z,96nm,1.3s,mb5.7								
MFF	**Saint Martin d**	**90.00**	**317**	*e*P		**P**		**14 08 16.8**	**-0.9**
MFF					pmax	pmax			
	comp=Z,48nm,1.3s,mb5.7								
MFF	**Saint Martin d**	**90.00**	**317**	*e*P		**P**		**14 08 16.8**	**-0.9**
	comp=Z,48nm,1.3s,mb5.7								
ECHA	**Ech Chlef**	**90.02**	**306**	P		**P**		**14 08 21.5**	**+3.7**
EPF	**Esparros**	**90.07**	**313**	*e*P		**P**		**14 08 17.0**	**-1.1**
ETRT	**Tiaret**	**90.15**	**305**	P		**P**		**14 08 21.0**	**+2.6**
EANR	**'Ain N'Sour**	**90.25**	**306**	P		**P**		**14 08 22.0**	**+3.1**
EBIE	**Bielsa**	**90.25**	**313**	P		**P**		**14 08 21.5**	**+2.6**
	comp=Z,5.5nm,1.0s,mb4.8								
GRR	**Gorron**	**90.26**	**318**	*e*P		**P**		**14 08 18.1**	**-0.8**
	comp=Z,104nm,1.1s,mb5.8								
GRR	**Gorron**	**90.26**	**318**	*e*P		**P**		**14 08 18.1**	**-0.8**
GRR					pmax	pmax			
	comp=Z,52nm,1.1s,mb5.8								
GRR	**Gorron**	**90.26**	**318**	*e*P		**P**		**14 08 18.1**	**-0.8**
	comp=Z,52nm,1.1s,mb5.8								
ERTA	**Horta de San J**	**90.31**	**311**	P		**P**		**14 08 18.7**	**-0.4**
	comp=Z,27nm,1.1s,mb5.5								
ETSF	**Etsaut**	**90.74**	**313**	*e*P		**P**		**14 08 20.5**	**-0.7**
	comp=Z,86nm,1.2s,mb5.7								
ETSF	**Etsaut**	**90.74**	**313**	*e*P		**P**		**14 08 20.5**	**-0.7**
ETSF					pmax	pmax			
	comp=Z,43nm,1.2s,mb5.7								
ETSF	**Etsaut**	**90.74**	**313**	*e*P		**P**		**14 08 20.5**	**-0.7**
	comp=Z,43nm,1.2s,mb5.7								
ESAC	**San Caprasio**	**90.82**	**312**	P		**P**		**14 08 21.9**	**+0.4**
	comp=Z,115nm,1.7s,mb5.9								
SBA	**Scott Base**	**90.84**	**168**	*e*P		**P**		**14 08 21.1**	**-0.5**
SBA					pmax	pmax			
	comp=Z,29nm,1.1s,mb5.5								
SBA	**Scott Base**	**90.84**	**168**	*e*P		**P**		**14 08 21.1**	**-0.5**
	comp=Z,29nm,1.1s,mb5.5								
EMOS	**Mosqueruela**	**90.99**	**310**	P		**P**		**14 08 20.4**	**-1.9**
	comp=Z,18nm,0.9s,mb5.4								
SJPF	**Ste Jean**	**91.20**	**313**	*e*P		**P**		**14 08 22.3**	**-1.0**
	comp=Z,48nm,1.0s,mb5.5								
SJPF	**Ste Jean**	**91.20**	**313**	*e*P		**P**		**14 08 22.3**	**-1.0**
SJPF					pmax	pmax			
	comp=Z,24nm,1.0s,mb5.5								
SJPF	**Ste Jean**	**91.20**	**313**	*e*P		**P**		**14 08 22.3**	**-1.0**
	comp=Z,24nm,1.0s,mb5.5								
EALK	**Alkurruntz**	**91.39**	**313**	P		**P**		**14 08 25.4**	**+1.2**
	comp=Z,12nm,1.1s,mb5.4								
SGMF	**Saint Gilles**	**91.40**	**318**	*e*P		**P**		**14 08 23.3**	**-0.9**
	comp=Z,48nm,0.9s,mb5.5								
SGMF	**Saint Gilles**	**91.40**	**318**	*e*P		**P**		**14 08 23.3**	**-0.9**
	comp=Z,24nm,0.9s,mb5.5								
QUIF	**Quistinic**	**91.86**	**318**	*e*P		**P**		**14 08 25.1**	**-1.2**
ROSF	**Rostrenen**	**91.86**	**319**	*e*P		**P**		**14 08 25.2**	**-1.2**
	comp=Z,175nm,1.3s,mb5.9								
ROSF	**Rostrenen**	**91.86**	**319**	*e*P		**P**		**14 08 25.2**	**-1.2**
	comp=Z,88nm,1.3s,mb5.9								
EMUR	**La Murta**	**91.90**	**308**	P		**P**		**14 08 23.9**	**-2.6**
	comp=Z,61nm,4.1s								
TOA0	**Torodi Ar. Sit**	**91.96**	**283**	*e*P		**P**		**14 08 28.0**	**+1.1**
TOA0					*e*pP		pP	14 08 43.2	+1.5
TORD	**Torodi Ar. Bea**	**91.96**	**283**	P		**P**		**14 08 27.8**	**+0.9**
	comp=Z,6.6nm,0.9s,mb4.9,baz=80,slow=5.1,SNR=26								
ETOB	**Tobarra**	**92.03**	**309**	P		**P**		**14 08 26.5**	**-0.7**
	comp=Z,21nm,0.9s,mb5.5								
NVL	**N'lazarevskaya**	**92.12**	**199**	*e*P		**P**		**14 08 34.6**	**+7.1**
NVL				*i* S		SKSac		14 18 52.0	-4.4
NVL				*i*				14 19 33.0	
NVL				*i*				14 20 35.0	
NVL					pmax	pmax			
	comp=Z,35nm,1.9s,mb5.4								
NVL					pmax	pmax			
	comp=E,1μm,9.6s								
ETOR	**Torete**	**92.12**	**311**	P		**P**		**14 08 28.6**	**+1.0**
ETOR					pmax	pmax			
	comp=Z,11nm,0.6s,mb5.4								
ETOR	**Torete**	**92.12**	**311**	P		**P**		**14 08 28.6**	**+1.0**
	comp=Z,10nm,0.6s,mb5.3								
ECRI	**Cripan**	**92.20**	**313**	P		**P**		**14 08 29.4**	**+1.4**
ECRI					pmax	pmax			
	comp=Z,95nm,2.2s,mb5.7								
ECRI	**Cripan**	**92.20**	**313**	P		**P**		**14 08 29.4**	**+1.5**
	comp=Z,95nm,2.2s,mb5.7								
ALE	**Alert**	**92.26**	**357**	P		**P**		**14 08 27.0**	**-1.2**
	comp=Z,148nm,0.6s,mb6.5,SNR=18								
EVIA	**Vianos**	**92.77**	**309**	P		**P**		**14 08 29.5**	**-1.1**
EVIA					pmax	pmax			
	comp=Z,13nm,0.8s,mb5.4								
EVIA	**Vianos**	**92.77**	**309**	P		**P**		**14 08 29.5**	**-1.1**
	comp=Z,13nm,0.8s,mb5.4								
ENIJ	**Nijar**	**92.78**	**307**	P		**P**		**14 08 27.5**	**-3.1**
ENIJ					pmax	pmax			
	comp=Z,1μm,4.7s								
ENIJ	**Nijar**	**92.78**	**307**	P		**P**		**14 08 27.5**	**-3.1**
	comp=Z,1μm,4.7s								
ELAN	**Lanestosa**	**92.78**	**314**	P		**P**		**14 08 33.5**	**+2.9**
	comp=Z,72nm,3.2s								
EHUE	**Huescar**	**92.96**	**308**	P		**P**		**14 08 31.6**	**+0.2**
EHUE					pmax	pmax			
	comp=Z,28nm,1.8s,mb5.4								
EHUE	**Huescar**	**92.96**	**308**	P		**P**		**14 08 31.6**	**+0.2**
	comp=Z,28nm,1.8s,mb5.4								
EBER	**Berja**	**93.33**	**307**	P		**P**		**14 08 30.8**	**-2.3**
	comp=Z,16nm,0.8s,mb5.5								
EQES	**Quesada**	**93.34**	**308**	P		**P**		**14 08 32.1**	**-1.1**
	comp=Z,7.3nm,0.8s,mb5.2								
GUD	**Guadarrama**	**93.73**	**311**	P		**P**		**14 08 36.8**	**+1.8**
	comp=Z,405nm,4.6s								
ESDC	**Sonseca Array**	**93.74**	**310**	P		**P**		**14 08 35.7**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.6,baz=62,slow=4.1,SNR=13								
ESDC	**Sonseca Array**	**93.74**	**310**	P		**P**		**14 08 36.5**	**+1.4**
	comp=Z,1.7nm,0.6s,mb4.7								
ECOG	**Cogollos-Vega**	**93.81**	**308**	P		**P**		**14 08 34.8**	**-0.5**
ECOG					pmax	pmax			
	comp=Z,14nm,2.9s,mb4.9								
ECOG	**Cogollos-Vega**	**93.81**	**308**	P		**P**		**14 08 34.8**	**-0.6**
	comp=Z,14nm,2.9s,mb4.9								
EBAN	**Banos Encina**	**93.84**	**309**	P		**P**		**14 08 34.9**	**-0.6**
EBAN					pmax	pmax			
	comp=Z,310nm,3.6s								
EBAN	**Banos Encina**	**93.84**	**309**	P		**P**		**14 08 34.9**	**-0.6**
	comp=Z,310nm,3.6s								
EGUA	**Guajares**	**93.87**	**307**	P		**P**		**14 08 34.4**	**-1.2**
EGUA					pmax	pmax			
	comp=Z,47nm,2.6s,mb5.5								
EGUA	**Guajares**	**93.87**	**307**	P		**P**		**14 08 34.4**	**-1.2**
	comp=Z,47nm,2.6s,mb5.5								
ERON	**Agron**	**94.03**	**308**	P		**P**		**14 08 34.8**	**-1.6**
	comp=Z,5.2nm,0.8s,mb5.0								
IMA2	**Indian Mountai**	**94.25**	**22**	*e*P		**P**		**14 08 38.6**	**+1.2**
ELOJ	**Sierra Loja**	**94.29**	**308**	P		**P**		**14 08 35.8**	**-1.8**
ELOJ					pmax	pmax			
	comp=Z,84nm,3.6s								
ELOJ	**Sierra Loja**	**94.29**	**308**	P		**P**		**14 08 35.8**	**-1.8**
	comp=Z,84nm,3.6s								
EADA	**Adamuz**	**94.46**	**309**	P		**P**		**14 08 37.8**	**-0.6**
	comp=Z,11nm,1.1s,mb5.2								
QSPA	**South Pole Qui**	**94.65**	**180**	*e*P		**P**		**14 08 39.1**	**-0.2**
	comp=Z,16nm,1.3s,mb5.3								
EMIJ	**Mijas**	**94.87**	**307**	P		**P**		**14 08 39.4**	**-0.8**
	comp=Z,51nm,4.4s								
EJIF	**Jimena Fronter**	**95.45**	**307**	P		**P**		**14 08 41.4**	**-1.4**
EJIF					pmax	pmax			
	comp=Z,2μm,5.7s								
EJIF	**Jimena Fronter**	**95.45**	**307**	P		**P**		**14 08 41.4**	**-1.4**
	comp=Z,2μm,5.7s								
SNAA	**Sanae**	**96.88**	**198**	*e*P		**P**		**14 08 47.3**	**-2.0**
SNAA					pmax	pmax			
	comp=Z,3.0nm,1.2s								
SNAA	**Sanae**	**96.88**	**198**	*e*P		**P**		**14 08 47.3**	**-2.1**
	comp=Z,3.5nm,1.2s,mb4.7								
KDAK	**Kodiak Island**	**97.82**	**30**	P		**P**		**14 08 52.9**	**-0.7**
	comp=Z,23nm,1.1s,mb5.6,baz=287,slow=11,SNR=2.4								
INK	**Inuvik**	**99.80**	**16**	P		Pdif		14 09 01.2	-1.3
	comp=Z,4.2nm,0.9s,baz=325,slow=4.2,SNR=10								
INK	**Inuvik**	**99.80**	**16**	*e*Pdif		Pdif		14 09 00.1	-2.3
	comp=Z,2μm,1.8s								
RES	**Resolute Bay**	**100.49**	**3**	*e*P		Pdif		14 09 05.1	-0.4
RES					pmax	pmax			
	comp=Z,610nm,1.1s								
RES	**Resolute Bay**	**100.49**	**3**	*e*Pdif		Pdif		14 09 04.3	-1.2
	comp=Z,607nm,1.1s								
SFJD	**Kangerlussuaq**	**104.31**	**347**	*i* P		PKiKP		14 13 40.7	+1.8
SFJD				*i*				14 22 29.4	
SFJD				*i* S		SS		14 28 31.6	+4.3
TBI	**Tubuai**	**115.46**	**114**	*e*PP		PP		14 14 59.8	-2.1
	comp=Z,304nm,27.8s								
TBI	**Tubuai**	**115.46**	**114**	*e*PS		PS		14 24 42.0	-0.5
	comp=Z,1μm,28.2s								
TBI	**Tubuai**	**115.46**	**114**	*e*LR		LR		14 48 44.5	
	comp=Z,3μm,28.5s								
PPT	**Papeete**	**115.82**	**107**	*e*PP		PP		14 14 57.1	-7.3
	comp=Z,348nm,26.5s								
PPT	**Papeete**	**115.82**	**107**	*e*PS		PS		14 24 42.2	-3.5
	comp=Z,2μm,26.2s								
SCHQ	**Schefferville**	**118.71**	**348**	PKP		PKPdf		14 14 05.3	-0.8
	comp=Z,2.0nm,0.5s,baz=231,slow=5.9,SNR=5.4								
NEW	**Newport**	**120.28**	**24**	*e*PKPdf		PKPdf		14 14 06.4	-2.7
HAWA	**Hanford**	**120.69**	**27**	*e*PKPdf		PKPdf		14 14 09.0	-0.9
MSO	**Missoula**	**122.71**	**23**	*e*PKPdf		PKPdf		14 14 13.0	-0.8
CHMT	**Chamberlain Mo**	**122.91**	**23**	*e*PKPdf		PKPdf		14 14 13.4	-0.7
EGMT	**Eagleton**	**123.21**	**19**	*e*PKPdf		PKPdf		14 14 14.4	-0.4
KIPM	**Iron Peak**	**123.39**	**35**	*e*PKPdf		PKPdf		14 14 16.1	+1.0
MOD	**Modoc**	**123.65**	**31**	*e*PKPdf		PKPdf		14 14 15.2	-0.4
WVOR	**Wild Horse Val**	**124.09**	**30**	*e*PKIKP		PKPdf		14 14 16.0	-0.5
DLMT	**Dillon**	**124.45**	**23**	*e*PKPdf		PKPdf		14 14 17.1	-0.1
ULM	**Lac du Bonnet**	**124.47**	**8**	PKP		PKPdf		14 14 16.4	-0.8
	comp=Z,4.1nm,0.8s,baz=28,slow=2.7,SNR=9.5								
ULM	**Lac du Bonnet**	**124.47**	**8**	*e*PKPdf		PKPdf		14 14 15.7	-1.4
NSHM	**Saint Helena R**	**124.76**	**35**	*e*PKPdf		PKPdf		14 14 16.9	-0.9
MCMT	**McKenzie Canyo**	**124.79**	**24**	*e*PKPdf		PKPdf		14 14 18.4	+0.6
HLID	**Hailey**	**125.17**	**26**	*e*PKPdf		PKPdf		14 14 18.9	+0.4
TAOE	**Nuku Hiva Isla**	**125.31**	**97**	*e*LR		LR		14 53 15.3	
	comp=Z,5μm,25.0s								
QLMT	**Earthquake Lak**	**125.35**	**23**	*e*PKPdf		PKPdf		14 14 20.1	+1.3
LAO	**LASA Array**	**125.52**	**18**	*e*PKPdf		PKPdf		14 14 19.6	+0.5
YMR	**Madison River**	**125.66**	**22**	*e*PKPdf		PKPdf		14 14 21.0	+1.5
YFT	**Old Faithful**	**125.89**	**22**	*e*PKPdf		PKPdf		14 14 21.4	+1.5
RLMT	**Red Lodge**	**125.90**	**21**	*e*PKPdf		PKPdf		14 14 20.1	+0.2
LKWY	**Lake**	**125.96**	**22**	*e*PKIKP		PKPdf		14 14 15.9	-4.1
FLWY	**Flagg Ranch**	**126.26**	**23**	*e*PKPdf		PKPdf		14 14 23.3	+2.7
REDW	**Red Top Meadow**	**126.81**	**23**	*e*PKPdf		PKPdf		14 14 21.4	-0.3
NVAR	**Mina Array Bea**	**127.22**	**33**	PKP		PKPdf		14 14 24.2	+1.8
	comp=Z,3.6nm,0.6s,baz=307,slow=3.7,SNR=21								
EYMN	**Ely**	**127.25**	**5**	*e*PKPdf		PKPdf		14 14 21.6	-0.9
PDAR	**Pinedale Array**	**127.81**	**23**	PKP		PKPdf		14 14 23.9	+0.3
	comp=Z,4.5nm,0.8s,baz=37,slow=0.7,SNR=33								
MTUM	**Tungsten Hills**	**127.86**	**34**	*e*PKPdf		PKPdf		14 14 25.3	+1.7
BGU	**Big Grassy Mou**	**127.90**	**27**	*e*PKPdf		PKPdf		14 14 23.9	+0.2
HWUT	**Hardware Ranch**	**127.98**	**25**	*e*Pdif		Pdif		14 11 02.2	-5.5
RSSD	**Black Hills**	**128.50**	**17**	*e*PKPdf		PKPdf		14 14 23.4	-1.5
DUG	**Dugway**	**128.59**	**27**	*e*PKIKP		PKPdf		14 14 25.4	+0.4
RKT	**Rikitea**	**128.64**	**116**	*e*PP		PP		14 16 29.3	-2.0
	comp=Z,312nm,26.8s								
RKT	**Rikitea**	**128.64**	**116**	*e*LR		LR		14 54 46.7	
	comp=Z,2μm,25.0s								
DAU	**Daniels Canyon**	**129.10**	**26**	*e*PKPdf		PKPdf		14 14 26.1	+0.1
NLU	**North Lily Min**	**129.11**	**27**	*e*PKPdf		PKPdf		14 14 25.1	-0.9
RWWY	**Rawlins**	**129.62**	**21**	*e*PKPdf		PKPdf		14 14 26.5	-0.5
TMUT	**Trail Mountain**	**130.04**	**26**	*e*PKPdf		PKPdf		14 14 29.5	+1.7
ARUT	**Antelope Range**	**130.21**	**29**	*e*PKPdf		PKPdf		14 14 28.4	+0.2
MSU	**Marysvale**	**130.23**	**28**	*e*PKIKP		PKPdf		14 14 29.4	+1.2
SRU	**San Rafael**	**130.49**	**26**	*e*PKPdf		PKPdf		14 14 30.0	+1.3
PHWY	**Pilot Hill**	**130.58**	**20**	*e*PKPdf		PKPdf		14 14 29.3	+0.5
ECSD	**EROS,Sioux Fal**	**130.67**	**11**	*e*PKPdf		PKPdf		14 14 29.0	0.0
PV10	**Paradox Valley**	**131.74**	**25**	*e*PKPdf		PKPdf		14 14 34.0	+3.0
ISCO	**Idaho Springs**	**131.86**	**21**	*e*PKPdf		PKPdf		14 14 32.2	+1.0
PV01	**Paradox Valley**	**132.14**	**25**	*e*PKPdf		PKPdf		14 14 31.8	0.0
JFWS	**Jewell Farm**	**132.36**	**5**	*e*PKPdf		PKPdf		14 14 32.2	0.0
MVCO	**Mesa Verde**	**132.95**	**26**	*e*PKPpre				14 14 31.3	
WUAZ	**Wupatki**	**133.02**	**29**⇓	*e*PKP		PKPdf		14 14 34.5	+1.1
GLA	**Glamis**	**133.08**	**35**	*e*PKPdf		PKPdf		14 14 35.8	+2.3
SDCO	**Great Sand Dun**	**133.71**	**22**	*e*PKPpre				14 14 25.3	
KSU1	**Kansas State U**	**135.13**	**13**	*e*PKPdf		PKPdf		14 14 37.9	+0.5
ANMO	**Albuquerque**	**135.74**	**25**⇑	*i*PKIKP		PKPdf		14 14 41.5	+3.0
ANMO	**Albuquerque**	**135.74**	**25**	*e*PKPdf		PKPdf		14 14 40.7	+2.1
TUC	**Tucson**	**135.85**	**32**	*e*PKIKP		PKPdf		14 14 38.5	-0.2
LAZ	**Ladron**	**135.91**	**26**	*e*PKPdf		PKPdf		14 14 40.8	+2.0
LENM	**Lemitar**	**136.18**	**26**	*e*PKPdf		PKPdf		14 14 39.1	-0.2
LPM	**Los Pinos Moun**	**136.21**	**26**	*e*PKPdf		PKPdf		14 14 41.3	+1.9
BNM	**Barren Site**	**136.35**	**26**	*e*PKPdf		PKPdf		14 14 42.8	+3.1
WCI	**Wyandotte Cave**	**137.25**	**1**	*e*PKPdf		PKPdf		14 14 42.2	+0.9
ELN	**Prospectdale**	**138.05**	**355**	*e*PKPdf		PKPdf		14 14 43.1	+0.3
WMOK	**Wichita Mounta**	**138.71**	**17**	*e*PKPpre				14 14 32.2	
MNTX	**Cornudas Mount**	**138.98**	**27**	*e*PKPpre				14 14 38.4	
WVT	**Waverly**	**139.28**	**3**	*e*PKHKP				14 14 34.0	
LTX	**Lajitas**	**141.76**	**27**	*e*PKIKP		PKPdf		14 14 46.4	-3.1
TXAR	**Lajitas Array**	**141.76**	**27**	PKhKP				14 14 44.3	
	comp=Z,0.7nm,0.5s,baz=164,slow=1.7,SNR=17								
GOGA	**Godfrey**	**142.03**	**358**	*e*PKPpre				14 14 46.5	
JCT	**Junction City**	**142.30**	**21**	*e*PKHKP				14 14 45.5	
LRAL	**Lakeview Retre**	**142.40**	**2**	*e*PKPdf		PKPdf		14 14 49.5	-1.1
HKT	**Hockley**	**144.04**	**16**	*e*PKIKP		PKPdf		14 14 50.6	-3.0
MAIG	**Mazatlaan**	**145.36**	**36**	*i* P		PKPbc		14 14 58.2	+2.4
KVTX	**Kingsville**	**145.65**	**20**	*e*PKPdf		PKPdf		14 14 58.0	+1.7
DWPF	**Disney**	**147.15**	**354**	*e*PKP		PKPdf		14 14 56.7	-2.2
TBG	**Guadaloupe-3**	**148.99**	**312**	*e*P				14 15 08.1	
SFJM	**Santa Fe**	**149.42**	**34**	*i* P		PKPdf		14 15 05.0	+2.4
MTP	**Monte Pirata**	**150.17**	**320**	*e*PKPdf		PKPdf		14 15 07.0	+3.2
SSV	**Crater Summit**	**150.17**	**307**	*e*P				14 15 11.3	
SVB	**Belmont**	**150.25**	**307**	*e*P		PKPdf		14 15 07.2	+3.3
CPD	**Cerro la Pandu**	**150.45**	**320**	*e*PKIKP		PKPdf		14 15 05.8	+1.6
MOIG	**Morelia**	**151.09**	**32**	*i* P				14 15 13.8	
PLIG	**Platanillo**	**153.03**	**31**	*i* P				14 15 16.7	
CCCC	**Cccc**	**153.22**	**344**	*e*P				14 15 17.9	
SIV	**San Ignacio**	**153.81**	**243**	PKP		PKPdf		14 15 11.1	+1.8
	comp=Z,2.6nm,0.9s,baz=164,slow=1.8,SNR=10								
SIV					PKPbc		PKPbc	14 15 18.6	+1.4
	comp=Z,6.2nm,1.1s,baz=199,slow=2.9,SNR=11								
SIV					PKPab		PKPab	14 15 31.5	+1.2
	comp=Z,8.4nm,1.0s,baz=123,slow=2.4,SNR=8.6								
TEIG	**Tepich**	**155.01**	**7**	*e*PKPdf		PKPdf		14 15 11.4	+0.5
CMIG	**Matias Romero**	**156.29**	**24**	*i* P		PKPdf		14 15 14.4	+1.7
LPAZ	**La Paz**	**159.70**	**234**	PKP		PKPdf		14 15 19.4	+2.6
	comp=Z,4.1nm,0.9s,baz=64,slow=4.6,SNR=15								
LPAZ					PKPab		PKPab	14 15 58.2	+2.6
	comp=Z,8.1nm,1.1s,baz=29,slow=9.1,SNR=4.0								
LPAZ	**La Paz**	**159.70**	**234**	*e*PKPdf		PKPdf		14 15 19.6	+2.8
SDV	**Santo Domingo**	**160.16**	**313**	PKPdf		PKPdf		14 15 18.4	+1.1
ROSC	**El Rosal**	**165.56**	**311**	PKP		PKPdf		14 15 24.6	+2.0
	comp=Z,9.1nm,0.7s,baz=98,slow=22,SNR=7.2								
ROSC	**El Rosal**	**165.56**	**311**	*e*PKPdf		PKPdf		14 15 23.9	+1.4
OTAV	**Otavalo**	**171.65**	**306**	*e*PKPdf		PKPdf		14 15 27.1	+0.5

BJI ***18*** *13:57:47.0, 42.1N×94.43E, h29km, mB5.9, mb5.7, Ms5.9, Msz5.8*

SZGRF ***18*** *13:57:47.1, 37.9N×95.91E, h39km, mb6.1, Off west coast of northern Sumatera, Indonesia*

MOS ***18*** *13:57:52.9±0.9, 47.8N×94.84E, h33km, mb6.0/94, MS5.6/14, Error ellipse: s-maj=7.9km s-min=4.1km az=122.6*

NEIC ***18*** *13:57:53.8±0.1, 47.4N×94.77E, h29km, mb5.9/108, ME5.9, MS5.6/2, MW5.7, Error ellipse: s-maj=5.0km s-min=3.6km az=211.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr=2.58; Mθθ=1.51; Mϕϕ=1.07; Mrθ=2.29; Mθϕ=1.07; Mϕr=2.93; Best double couple: Mo=4.50000×10^17 NP1:ϕs=140.00000°,δ73.00000°,λ95.00000°. NP2: ϕs=301.00000°,δ18.00000°,λ73.00000°. Principal axes: T 4.6000, Plg61.0000°, Azm58.0000°; N -0.2700, Plg5.0000°, Azm318.0000°; P -4.3300, Plg28.0000°, Azm225.0000°; Broadband fault plane solution: P waves. NP1:ϕs315.00000°,δ15.00000°,λ90.00000°. NP2: ϕs135.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm225.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt at Banda Aceh.

GCMT ***18*** *13:57:53.8±0.2, 46.0N×94.67E, h23km±1km, MW5.9/74, Moment Tensor Solution. s57,c82; s74,c133; Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr3.72±.22; Mθθ-0.88±.12; Mϕϕ-2.83±.16; Mrθ4.06±.42; Mθϕ1.56±.10; Mϕr-6.17±.59; Best double couple: Mo8.26400×10^17 NP1:ϕs335.00000°,δ13.00000°,λ97.00000°. NP2: ϕs147.00000°,δ77.00000°,λ88.00000°. Principal axes: T 8.2850, Plg58.0000°, Azm55.0000°; N -0.0350, Plg2.0000°, Azm148.0000°; P -8.2440, Plg32.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***18*** *13:57:53.6±0.2, 47.2N×93.80E±0.03, h40km, mb5.7/180, MS5.6/35 Error ellipse: s-maj=4.4km s-min=3.7km az=44.2*

IDC ***18*** *13:57:56.7±1.2, 47.4N×94.73E, h51km±9km, mb4.8/39, mb1 4.8/40, mb1mx4.8/40, mbtmp4.8/40, MS5.3/5, Ms1 5.4/5, ms1mx4.5/32, Error ellipse: s-maj=11.4km s-min=8.1km az=43.0*

ISC 18 13:57:55.8±0.2, 475N×93×9476E±003, h42km, h42km±1.3km: pP-P, n593, σ1§04/561, mb5.7/179, MS5.6/35, 70C-22D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**4.58**	**115**	P		**Pn**	**13 59 04.7**	**+2.1**
	113nm,0.3s,baz=303,slow=12,SNR=13							
PSI				S		**Sn**	**13 59 59.9**	**+5.4**
	129nm,0.3s,baz=252,slow=20,SNR=4.3							
PSI				LR		LR	14 00 49.5	
	comp=Z,33μm,19.9s,baz=285,slow=37							
PSI	**Prapat**	**4.58**	**115**	P		**Pn**	**13 59 04.7**	**+2.1**
PSI				S		**Sn**	**13 59 59.9**	**+5.4**
PSI	**Prapat**	**4.58**	**115**	P		**Pn**	**13 59 04.7**	**+2.1**
PSI				S		**Sn**	**13 59 59.9**	**+5.4**
PSI				LR		LR	14 00 49.5	
KULM	**Kulim**	**5.89**	**84**	*e*Pn		**Pn**	**13 59 18.7**	**-1.8**
PALK	**Pallekele**	**14.20**	**281**	Pn		**Pn**	**14 01 04.7**	**-10**
	4μm,0.9s,SNR=10							
PALK	**Pallekele**	**14.20**	**281**	Pn		**Pn**	**14 01 04.5**	**-10**
CM31	**Chiang Mai Arr**	**14.23**	**16**	*e*P		**Pn**	**14 01 21.5**	**+6.9**
	77nm,0.8s							
CHTO	**Chiang Mai**	**14.57**	**16**	*e*P		**Pn**	**14 01 25.4**	**+6.2**
CHTO					pmax	pmax		
	comp=Z,229nm,0.9s							
CHTO	**Chiang Mai**	**14.57**	**16**	*e*P		**Pn**	**14 01 25.4**	**+6.2**
	comp=Z,229nm,0.9s							
KSM	**Kuching**	**15.86**	**101**	*e*Pn		**Pn**	**14 01 34.8**	**-1.2**
MDRS	**Chennai**	**16.54**	**301**	*e*P		**Pn**	**14 01 45.4**	**+0.8**
MDRS					AMb	AMB	14 02 03.1	
	comp=Z,622nm,0.8s							
COCO	**West Island**	**16.95**	**173**	*e*Pn		**Pn**	**14 01 46.9**	**-2.9**
	comp=Z,668nm,1.6s							
VIS	**Vishakhapatnam**	**17.07**	**320**	*e*P		**Pn**	**14 01 52.9**	**+1.7**
VIS					AMb	AMB	14 02 20.6

CD2 PP 14 04 26.1
CD2 S **S** **14 08 13.6 -0.5**
CD2 XS sS 14 08 33.6 +0.6
CD2 AMB AMB
comp=Z,260nm,0.7s,mb5.9
CD2 AMB AMB
comp=Z,1μm,4.8s
CD2 LR LR
comp=N,15μm,18.0s,MS5.9
CD2 LR LR
comp=E,20μm,15.6s,MS5.9
CD2 LR LR
comp=Z,15μm,12.0s,MS5.8
TGY Tagaytay City 27.42 68 P **P** **14 03 38.6 +1.2**
comp=Z,144nm,0.4s,baz=222,slow=6.0,SNR=3.2
BCPH Baguio City Da 27.85 64⇑*eP* **P** **14 03 42.9 +1.6**
AJM Ajmer 28.93 320 *eP* **P** **14 03 48.8 -2.1**
NDI New Delhi 29.05 327 *eP* **P** **14 03 50.4 -1.5**
NDI AMb AMB 14 04 10.3
comp=Z,165nm,1.1s,mb5.7
CVP Callao Caves 29.45 62 *eP* **P** **14 03 56.0 +0.5**
QZH Quanzhou 30.45 46⇑*iP* **P** **14 04 04.8 +0.4**
QZH AMB AMB
comp=Z,250nm,1.1s,mb5.9
QZH LR LR
comp=N,16μm,13.4s,MS5.9
QZH LR LR
comp=E,12μm,13.6s,MS5.9
QZH LR LR
comp=Z,28μm,21.8s
WHN Wuhan 31.61 33⇓*iP* **P** **14 04 15.8 +1.2**
WHN AMB AMB
comp=Z,202nm,1.0s,mb5.9
XAN Xi'an 31.98 23 P **P** **14 04 17.8 0.0**
XAN AMB AMB
comp=Z,248nm,1.2s,mb5.9
NACB Ninganchiao 32.26 51⇑*eP* **P** **14 04 20.9 +0.7**
LZH Lanzhou 32.29 14 P **P** **14 04 20.5 -0.1**
LZH AP pP 14 04 32.8 +0.9
LZH XP sP 14 04 36.4 -0.5
LZH PP PP 14 05 32.0 -2.0
LZH *eS* **S** **14 09 34.0 +2.7**
LZH XS sS 14 09 54.0 +3.7
LZH *e*SS SS 14 11 35.0 -16
LZH AMB AMB
comp=Z,440nm,1.4s,mb6.1
LZH AMB AMB
comp=Z,2μm,4.6s
LZH LR LR
comp=E,26μm,15.0s
LZH LR LR
comp=Z,35μm,16.0s,MS6.2
LZH Lanzhou 32.29 14 P **P** **14 04 20.5 -0.1**
LZH *PP pP 14 04 32.7 +0.8
LZH 14 05 32.0
LZH *eS* **S** **14 09 34.0 +2.7**
LZH *SS sS 14 09 54.0 +3.7
LZH pmax pmax
comp=Z,440nm,1.4s,mb6.1
LZH MLR MLR
comp=Z,35μm,16.0s,MS6.2
LZH Lanzhou 32.29 14 P **P** **14 04 20.5 -0.1**
comp=Z,440nm,1.4s,mb6.1
LZH pP pP 14 04 32.7 +0.8
LZH sP sP 14 04 36.4 -0.5
LZH PP PP 14 05 32.0 -2.0
LZH *eS* **S** **14 09 34.0 +2.7**
LZH sS sS 14 09 54.0 +3.7
LZH *e*SS SS 14 11 35.0 -16
LZH LR LR
comp=Z,35μm,16.0s,MS6.2
YHNB Yeheng 32.36 50⇑*eP* **P** **14 04 21.6 +0.4**
TATO Taipei 32.61 49 *eP*n **P** **14 04 24.1 +0.7**
GTA Gaotai 34.81 7 P **P** **14 04 42.3 -0.2**
GTA AP pP 14 04 56.1 +2.2
GTA PP PP 14 06 03.0 +1.1
GTA S **S** **14 10 10.4 +0.1**
GTA XS sS 14 10 30.8 +1.5
GTA SS SS 14 12 29.0 -13
GTA AMB AMB
comp=Z,154nm,1.2s,mb5.8
GTA AMB AMB
comp=Z,853nm,6.9s
GTA LR LR
comp=N,7μm,20.3s,MS5.5
GTA LR LR
comp=E,4μm,17.2s,MS5.5
GTA LR LR
comp=Z,7μm,17.6s,MS5.4
MBWA Marble Bar 35.53 137 *eP* **P** **14 04 41.8 -6.9**
comp=Z,80nm,1.5s,mb5.4
SSE Sheshan 36.12 40 P **P** **14 04 51.8 -1.9**
SSE AP pP 14 05 04.9 -0.3
SSE XP sP 14 05 11.1 +1.0
SSE PP PP 14 06 15.3 -1.0
SSE S **S** **14 10 29.5 -0.8**
SSE XS sS 14 10 51.8 +2.4
SSE SS SS 14 13 07.4 -1.5
SSE AMB AMB
comp=Z,57nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,942nm,5.4s
SSE LR LR
comp=N,10μm,13.9s,MS5.8
SSE LR LR
comp=E,5μm,13.9s,MS5.8
SSE LR LR
comp=Z,15μm,13.8s,MS5.9
SSE Sheshan 36.12 40 P **P** **14 04 51.8 -1.9**
comp=Z,57nm,0.8s,mb5.5
SSE pP pP 14 05 04.9 -0.3
SSE sP sP 14 05 11.1 +1.0
SSE PP PP 14 06 15.3 -1.0
SSE S **S** **14 10 29.5 -0.8**
SSE sS sS 14 10 51.8 +2.4
SSE SS SS 14 13 07.4 -1.5
SSE LR LR
comp=Z,15μm,13.8s,MS5.9
FITZ Fitzroy Crossi 37.99 128 *eP* **P** **14 05 03.1 -6.5**
comp=Z,133nm,1.9s,mb5.3
FITZ Fitzroy Crossi 37.99 128 P **P** **14 05 09.7 +0.1**
comp=Z,13nm,0.7s,mb4.8,baz=325,slow=9.2,SNR=3.3
KSH Kashi 38.56 336 ⇑P **P** **14 05 15.5 +1.1**
KSH *e*PP PP 14 06 48.0 +4.9
KSH *e*PPP 14 07 12.3
KSH *e*PCP PcP 14 07 27.9 +1.5
KSH *e*SCP ScP 14 11 04.8 -6.2
KSH *eS* **S** **14 11 07.3 -0.1**
KSH *e*SS SS 14 13 50.4 -7.9
KSH *e*SCS ScS 14 15 18.0 -3.4
KSH AMB AMB
comp=Z,11μm,5.4s
KSH LR LR
comp=N,9μm,12.5s,MS6.2
KSH LR LR
comp=E,19μm,12.6s,MS6.2
KSH LR LR
comp=Z,35μm,23.9s
JOW Kunigami 38.80 52 P **P** **14 05 17.6 +1.2**
comp=Z,91nm,0.7s,mb5.6,baz=228,slow=8.5,SNR=11
HHC Hu-ho-hao-te 38.98 20⇑*iP* **P** **14 05 18.4 +0.4**
HHC AP pP 14 05 28.3 -1.2
HHC XP sP 14 05 32.5 -2.0
HHC PP PP 14 06 53.0 +5.2
HHC PCP PcP 14 07 27.5 -0.2
HHC S **S** **14 11 15.1 +1.2**
HHC XS sS 14 11 32.1 -1.0
HHC SS SS 14 14 02.4 -4.4
HHC SCS ScS 14 15 23.3 -0.5
HHC AMB AMB
comp=Z,182nm,1.4s,mb5.6
HHC AMB AMB
comp=Z,2μm,7.0s
HHC LR LR
comp=N,12μm,17.6s,MS5.9
HHC LR LR
comp=E,8μm,17.5s,MS5.9
HHC LR LR
comp=Z,12μm,18.8s,MS5.8
WMQ Urumqi 39.41 352⇑*iP* **P** **14 05 20.0 -1.5**
WMQ AP pP 14 05 33.5 +0.4
WMQ PP PP 14 06 55.8 +3.4
WMQ PPP 14 07 19.3
WMQ PCP PcP 14 07 26.8 -2.2
WMQ SCP ScP 14 11 11.8 -2.5
WMQ S **S** **14 11 17.5 -2.7**
WMQ XS sS 14 11 41.5 +2.0
WMQ SCS ScS 14 15 21.4 -4.9
WMQ AMB AMB
comp=Z,165nm,1.6s,mb5.5
WMQ AMB AMB
comp=Z,455nm,7.1s
WMQ LR LR
comp=N,7μm,23.8s,MS5.6
WMQ LR LR
comp=E,9μm,23.8s,MS5.6
WMQ LR LR
comp=Z,7μm,22.8s,MS5.4
BJT Baijiatuau 40.08 26⇑*iP* **P** **14 05 28.1 +1.1**
BJT pmax pmax
comp=Z,582nm,1.4s
BJT Baijiatuau 40.08 26⇑*iP* **P** **14 05 28.1 +1.1**
comp=Z,582nm,1.4s,mb6.1
BJI Beijing 40.10 26 P **P** **14 05 28.3 +1.1**
BJI S **S** **14 11 32.0 +1.5**
BJI AMB AMB
comp=Z,282nm,1.6s,mb5.8
BJI AMB AMB
comp=Z,2μm,3.9s
BJI LR LR
comp=N,9μm,17.9s,MS5.8
BJI LR LR
comp=E,6μm,17.9s,MS5.8
BJI LR LR
comp=Z,12μm,18.6s,MS5.8
BJI Beijing 40.10 26 P **P** **14 05 28.2 +1.0**
BJI S **S** **14 11 32.0 +1.5**
BJI pmax pmax
comp=Z,282nm,1.6s,mb5.8
BJI MLR MLR
comp=Z,12μm,18.6s,MS5.8
BJI Beijing 40.10 26 P **P** **14 05 28.2 +1.0**
comp=Z,282nm,1.6s,mb5.8
BJI S **S** **14 11 32.0 +1.5**
BJI LR LR
comp=Z,12μm,18.6s,MS5.8
AAA Alma-Ata 41.48 340 *eP* **P** **14 05 40.0 +1.4**
AAA *eS* **S** **14 11 53.0 +1.9**
AAA pmax pmax
comp=Z,5μm,3.5s
AAA smax
comp=N,5μm,7.0s
AAA MLR MLR
comp=Z,4μm,17.5s,MS5.3
AAK Ala-Archa 41.80 337 *i* P **P** **14 05 42.2 +0.9**
AAK pmax pmax
comp=Z,166nm,1.9s,mb5.3
AAK Ala-Archa 41.80 337 *e*Pn **P** **14 05 40.2 -1.1**
comp=Z,143nm,1.0s,mb5.5
DL2 Dalian 41.84 32⇑*iP* **P** **14 05 42.4 +0.9**
DL2 PP PP 14 07 25.5 +6.7
DL2 PPP 14 07 51.3
DL2 S **S** **14 11 58.8 +2.4**
DL2 AMB AMB
comp=Z,130nm,1.1s,mb5.5
DL2 AMB AMB
comp=Z,630nm,4.4s
DL2 LR LR
comp=N,7μm,17.2s,MS5.7
DL2 LR LR
comp=E,5μm,16.0s,MS5.7
DL2 LR LR
comp=Z,8μm,16.7s,MS5.7
MUN Mundaring 41.84 152 *eP* **P** **14 05 42.0 +0.4**
NWAO Narrogin (SRO) 43.11 152 P **P** **14 05 52.3 +0.4**
comp=Z,17nm,1.1s,mb4.7,baz=323,slow=13,SNR=3.3
NWAO Narrogin (SRO) 43.11 152 *eP* **P** **14 05 51.1 -0.8**
NWAO pmax pmax
comp=Z,59nm,1.1s
NWAO Narrogin (SRO) 43.11 152 *eP* **P** **14 05 51.1 -0.8**
comp=Z,59nm,1.1s,mb5.2
MKAR Makanchi Array 43.25 347 P **P** **14 05 53.9 +0.8**
comp=Z,179nm,0.7s,mb5.9,baz=165,slow=7.5,SNR=24
INCN Inchon 43.69 37 *eP* **P** **14 05 55.0 -1.5**
comp=Z,187nm,1.2s,mb5.7
JNU Nakatsue 43.92 45 P **P** **14 05 60.0 +1.5**
comp=Z,14nm,0.5s,mb4.9,baz=227,slow=12,SNR=3.7
SONM Songino Array 44.08 11 P **P** **14 05 59.0 -0.6**
comp=Z,34nm,0.9s,mb5.1,baz=189,slow=8.5,SNR=8.1
SONM PcP PcP 14 07 45.1 +0.7
comp=Z,10nm,0.7s,baz=204,slow=3.3,SNR=5.3
SONM ScP ScP 14 11 32.7 -0.2
comp=Z,7.2nm,1.1s,baz=213,slow=3.6,SNR=6.3
SONM Songino Array 44.08 11 P **P** **14 05 59.0 -0.7**
SONM 14 07 45.1
ULN Ulaanbaatar 44.24 12⇑*eP* **P** **14 05 59.9 -1.0**
ULN pmax pmax
comp=Z,40nm,0.9s,mb5.2
ULN Ulaanbaatar 44.24 12⇑*eP* **P** **14 05 59.9 -1.1**
comp=Z,40nm,0.9s,mb5.1
KSRS Korea Array 44.46 38 P **P** **14 06 02.4 -0.4**
comp=Z,19nm,0.6s,mb5.0,baz=226,slow=8.2,SNR=25
KSRS ScP ScP 14 11 34.2 -0.2
comp=Z,11nm,1.2s,baz=235,slow=4.4,SNR=7.8
WRA Warramunga Arr 45.99 124 P **P** **14 06 14.3 -0.6**
comp=Z,45nm,0.5s,mb5.6,baz=301,slow=9.2,SNR=12
WRA S **S** **14 12 52.5 -4.5**
comp=Z,9.1nm,1.2s,baz=296,slow=16,SNR=5.0
WRAB Tennant Creek 46.00 124 P **P** **14 06 15.0 +0.1**
comp=Z,641nm,0.5s,mb6.8,SNR=13
WRAB Tennant Creek 46.00 124⇑*iP* **P** **14 06 14.2 -0.7**
WRAB pmax pmax
comp=Z,149nm,0.8s,mb6.0
WRAB Tennant Creek 46.00 124⇑*iP* **P** **14 06 14.2 -0.7**
comp=Z,149nm,0.8s,mb6.0
WB2 Warramunga Arr 46.00 124 *eP* **P** **14 06 15.1 +0.1**
TLY Talaya 47.36 8 P **P** **14 06 26.0 +0.4**
comp=Z,282nm,1.3s,mb6.0,SNR=5.2
TLY Talaya 47.36 8 *eP* **P** **14 06 24.6 -1.0**
TLY pmax pmax
comp=Z,172nm,2.3s,mb5.6
TLY Talaya 47.36 8⇑*iP* **P** **14 06 25.2 -0.4**
comp=Z,56nm,1.0s,mb5.4
ASPA Alice Springs 47.48 128 *eP* **P** **14 06 26.9 +0.4**
AS31 Alice Springs 47.48 128 *eP* **P** **14 06 26.9 +0.4**
ASAR Alice Springs 47.48 128 P **P** **14 06 26.3 -0.2**
comp=Z,15nm,0.6s,mb5.1,baz=297,slow=7.5,SNR=6.5
ASAR PKP2bc 14 37 58.7
comp=Z,2.5nm,1.2s,baz=106,slow=2.2,SNR=4.8
ASAR Alice Springs 47.48 128 P **P** **14 06 26.3 -0.2**
ASAR ⇑*e* 14 37 58.7
KURK Kurchatov 47.77 346 P **P** **14 06 29.9 +1.1**
comp=Z,1μm,0.9s,SNR=8.4
IRK Irkutsk 47.99 8 *eP* **P** **14 06 30.8 +0.3**
IRK *e* 14 06 46.2
IRK pmax pmax
comp=Z,339nm,1.9s,mb6.0
HIA Hailar 49.17 21⇑*iP* **P** **14 06 38.9 -0.6**
HIA pmax pmax
comp=Z,41nm,0.6s
HIA Hailar 49.17 21⇑*iP* **P** **14 06 38.9 -0.6**
comp=Z,41nm,0.6s,mb5.6
ZAL Zalesovo 49.71 352 P **P** **14 06 43.9 +0.2**
comp=Z,65nm,0.8s,mb5.7,baz=302,slow=7.4,SNR=12
ZAL S **S** **14 13 48.3 -1.3**
comp=Z,1.7nm,0.6s,baz=170,slow=18,SNR=3.5
ZAL LR LR 14 33 16.8
comp=Z,4μm,18.7s,MS5.4,baz=297,slow=43
ZAL Zalesovo 49.71 352 P **P** **14 06 43.9 +0.3**
ZAL S **S** **14 13 48.3 -1.3**
ZAL Zalesovo 49.71 352 P **P** **14 06 43.9 +0.2**
ZAL S **S** **14 13 48.3 -1.3**
ZAL LR LR 14 33 16.8
CBIJ Chichi jima 50.33 59 P **P** **14 06 48.0 -0.4**
comp=Z,70nm,0.5s,mb6.0,baz=302,slow=14,SNR=8.3
MAJO Matsushiro 50.85 46⇑*eP* **P** **14 06 51.5 -0.7**
MAJO pmax pmax
comp=Z,318nm,1.8s,mb6.0
MAJO Matsushiro 50.85 46⇑*eP* **P** **14 06 51.5 -0.7**
comp=Z,318nm,1.8s,mb6.0
MAT Matsushiro 50.85 46 P **P** **14 06 49.9 -2.3**
MJAR Matsushiro Arr 50.85 46 P **P** **14 06 52.3 +0.1**
comp=Z,3.9nm,0.5s,baz=310,slow=8.9,SNR=10.0
MJAR PcP PcP 14 08 09.1 +0.6
comp=Z,14nm,0.9s,baz=249,slow=4.3,SNR=5.5
MJAR ScP ScP 14 12 00.1 -1.3
comp=Z,8.4nm,1.2s,baz=235,slow=3.9,SNR=8.5
MJAR Matsushiro Arr 50.85 46 P **P** **14 06 52.3 0.0**
MJAR 14 08 09.1
ATD Arta Tunnel 51.77 281 P **P** **14 06 58.4 -0.7**
comp=Z,30nm,1.1s,mb5.1,baz=79,slow=10,SNR=2.6
ATD Arta Tunnel 51.77 281 P **P** **14 06 58.4 -0.7**
BVAR Borovoye Array 52.13 342 P **P** **14 07 02.1 +0.3**
comp=Z,31nm,0.9s,mb5.3,baz=132,slow=10,SNR=6.3
BVAR S **S** **14 14 23.1 0.0**
comp=Z,3.8nm,0.9s,baz=146,slow=14,SNR=3.9
BRVK Borovoye 52.19 342⇑*iP* **P** **14 07 01.8 -0.5**
BRVK pmax pmax
comp=Z,114nm,1.0s,mb5.8
BRVK Borovoye 52.19 342⇑*iP* **P** **14 07 01.8 -0.5**
comp=Z,114nm,1.0s,mb5.8
OPO Ambohidratompo 52.28 242 P **P** **14 07 03.9 +1.0**
comp=Z,5.7nm,0.9s,baz=90,slow=9.1,SNR=3.8
CHKZ Chkalovo 52.62 342⇑*iP* **P** **14 07 05.4 -0.1**
CHKZ *e**PP pP 14 07 17.3 -0.1
CHKZ pmax pmax
comp=Z,238nm,1.1s,mb6.0
CHKZ Chkalovo 52.62 342⇑*iP* **P** **14 07 05.4 0.0**
comp=Z,238nm,1.1s,mb6.0
CHKZ *ep*P pP 14 07 17.3 -0.1
PMG Port Moresby 54.08 105 P **P** **14 07 17.1 +0.9**
comp=Z,15nm,0.5s,mb5.2,baz=17,slow=11,SNR=5.7
PMG LR LR 14 30 25.7
comp=Z,2μm,21.6s,MS5.2,baz=23,slow=36
PMG Port Moresby 54.08 105⇑*eP* **P** **14 07 15.4 -0.8**
PMG pmax pmax
comp=Z,29nm,0.7s
PMG Port Moresby 54.08 105⇑*eP* **P** **14 07 15.4 -0.8**
comp=Z,29nm,0.7s,mb5.3
KLR Kul'dur 54.27 29 *eP* **P** **14 07 12.7 -4.9**
KLR pmax pmax
comp=N,110nm,2.0s
KLR pmax pmax
comp=E,280nm,2.0s
KLR pmax pmax
comp=Z,730nm,2.0s,mb6.3
BHD Baghdad 54.73 308 *i* x x 14 07 26.0
BHD *ex* x 14 14 29.0
BHD *ex* x 14 14 53.0
AKTK Aktyubinsk 54.98 332 P **P** **14 07 22.4 -0.3**
AKTK S **S** **14 15 01.0 -0.6**
AKTK LR LR 14 34 05.2
AKTO Aktyubinsk 54.98 332 P **P** **14 07 22.4 -0.3**
comp=Z,16nm,0.5s,mb5.3,baz=139,slow=8.2,SNR=6.4
AKTO S **S** **14 15 01.0 -0.6**
comp=Z,8.7nm,1.2s,baz=225,slow=20,SNR=4.7
AKTO LR LR 14 34 05.1
comp=Z,2μm,21.2s,MS5.2,baz=141,slow=40
BOD Bodaibo 55.04 12 *eP* **P** **14 07 22.4 -0.8**
BOD *e* 14 07 40.2
BOD pmax pmax
comp=Z,82nm,2.0s,mb5.4
BOD pmax pmax
comp=Z,74nm,1.3s,mb5.6
HABR Khabarovsk 55.44 32⇑*iP* **P** **14 07 25.9 -0.2**
HABR *e* 14 08 25.0
HABR *e* 14 09 29.2
HABR *eS* **S** **14 15 07.3 -0.6**
HABR *e* 14 17 11.3
HABR pmax pmax
comp=Z,217nm,2.2s,mb5.8
CTA Charters Tower 56.28 118 *eP* **P** **14 07 26.0 -6.1**
comp=Z,40nm,1.4s,mb5.2
CTA Charters Tower 56.28 118 P **P** **14 07 31.2 -0.9**
comp=Z,36nm,1.1s,mb5.3,baz=310,slow=5.4,SNR=5.8
CTA Charters Tower 56.28 118 P **P** **14 07 31.2 -0.9**
CTA pmax pmax
comp=Z,40nm,1.4s
CTAO Charters Tower 56.28 118 *eP* **P** **14 07 31.1 -1.0**
CTAO pmax pmax
comp=Z,194nm,1.5s,mb5.9
CTAO Charters Tower 56.28 118 *eP* **P** **14 07 31.1 -1.0**
comp=Z,194nm,1.5s,mb5.9
MSL Mosul 56.78 311 *ex* x 14 07 27.0
MSL *ex* x 14 14 49.0
GNI Garni 57.07 316 P **P** **14 07 35.4 -2.2**
GNI pmax pmax
comp=Z,218nm,1.5s
GNI Garni 57.07 316 P **P** **14 07 35.4 -2.3**
comp=Z,218nm,1.5s,mb6.0
ASAJ Asahikawa 57.40 39 P **P** **14 07 40.4 +0.4**
comp=Z,20nm,0.7s,mb5.2,baz=264,slow=14,SNR=5.7
STKA Stephens Creek 57.53 133 *eP* **P** **14 07 41.9 +1.0**
comp=Z,8.6nm,0.6s,mb5.0
STKA Stephens Creek 57.53 133 P **P** **14 07 40.5 -0.5**
comp=Z,6.2nm,0.6s,mb4.8,baz=356,slow=9.9,SNR=3.7
KMBO Kilima Mbogo 57.74 266 P **P** **14 07 43.9 +1.5**
comp=Z,9.9nm,1.0s,mb4.8,baz=49,slow=10,SNR=4.0
KMBO Kilima Mbogo 57.74 266 *eP* **P** **14 07 44.3 +1.9**
KMBO pmax pmax
comp=Z,103nm,1.3s
KMBO Kilima Mbogo 57.74 266 *eP* **P** **14 07 44.3 +1.9**
comp=Z,103nm,1.3s,mb5.7
ZEI Tsey 58.74 318 *eP* **P** **14 07 50.3 +0.9**
ZEI *e**PP pP 14 08 01.2 -0.3
ZEI *e* 14 08 39.4
ZEI pmax pmax
comp=Z,28nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 58.89 36*α iP* **P** **14 07 50.0 -0.4**
YSS *e* 14 08 06.7
YSS *e* 14 08 34.0
YSS pmax pmax
comp=Z,810nm,1.8s,mb6.5
YSS pmax pmax
comp=N,110nm,1.6s
YSS pmax pmax
comp=E,150nm,1.6s
YSS MLR MLR
comp=Z,6μm,17.0s,MS5.8
YSS MLR MLR
comp=N,4μm,15.0s
YSS Yuzh-Sakhalins 58.89 36⇑*eP* **P** **14 07 49.8 -0.6**
comp=N,507nm,1.4s,mb6.4
ARU Arti 58.99 337⇑*iP* **P** **14 07 50.7 -0.4**
ARU *eS* **S** **14 15 55.5 +0.9**
ARU pmax pmax
comp=Z,144nm,1.7s,mb5.7
ARU MLR MLR
comp=N,2μm,19.0s,MS5.5
ARU MLR MLR
comp=E,2μm,19.0s,MS5.5
ARU MLR MLR
comp=Z,4μm,19.0s,MS5.5
ARU Arti 58.99 337⇑*eP* **P** **14 07 50.4 -0.7**
comp=Z,288nm,1.6s,mb6.1
ARU *ep*P pP 14 08 04.8 +1.5
YUK Yuzh-Kuril'sk 59.45 41 *eP* **P** **14 07 54.0 -0.3**
YUK pmax pmax
comp=Z,3μm,2.0s
YUK MLR MLR
comp=Z,10μm,15.0s,MS6.1
YUK MLR MLR
comp=N,5μm,14.0s,MS6.2
YUK MLR MLR
comp=E,12μm,17.0s,MS6.2
KIV Kislovodsk 60.05 319⇓*eP* **P** **14 07 58.7 +0.3**
KIV *e* 14 10 18.8
KIV *eS* **S** **14 16 08.6 +0.4**
KIV *e*SS SS 14 20 06.4 +1.1
KIV pmax pmax
comp=Z,202nm,2.3s,mb5.7
KIV MLR MLR
comp=Z,2μm,21.0s,MS5.2
KIV Kislovodsk 60.05 319 *eP* **P** **14 07 57.5 -0.9**
comp=Z,286nm,1.6s,mb6.0
MALT Malatya 60.96 312⇑*iP* **P** **14 07 56.5 -8.1**
MALT Malatya 60.96 312⇑*eP* **P** **14 08 04.7 +0.1**
MALT pmax pmax
comp=Z,116nm,1.5s,mb5.8
MALT Malatya 60.96 312⇑*eP* **P** **14 08 04.7 +0.1**
comp=Z,116nm,1.5s,mb5.8
SOC Sochi 61.87 318 *eP* **P** **14 08 09.2 -1.6**
SOC *e**PP pP 14 08 19.6 -3.3
SOC *e**SP sP 14 08 24.0 -3.7
SOC pmax pmax
comp=Z,107nm,1.5s,mb5.8
YAK Yakutsk 62.76 18*c iP* **P** **14 08 15.1 -1.6**
YAK *i* *PP pP 14 08 24.2 -4.7
YAK *eS* **S** **14 16 40.4 -2.2**
YAK pmax pmax
comp=Z,204nm,1.1s,mb6.2
YAK pmax pmax
comp=N,72nm,1.2s
YAK pmax pmax
comp=E,93nm,1.3s
YAK smax

YAK smax
comp=E,468nm,2.9s
YAK MLR MLR
comp=E,217nm,2.1s
YAK MLR MLR
comp=Z,14µm,21.0s,MS6.1
YAK MLR MLR
comp=N,12µm,23.0s
YAK MLR MLR
comp=E,6µm,16.0s
YAK Yakutsk 62.76 18 *e*P **P 14 08 14.1 -2.6**
comp=E,436nm,1.2s,mb6.5
TOO Toolangi 63.17 136 *e*P **P 14 08 20.1 +0.6**
comp=E,11nm,0.7s,mb5.1
TOO Toolangi 63.17 136 *e*P **P 14 08 20.1 +0.6**
TOO pmax pmax
comp=Z,11nm,0.7s,mb5.1
VRHR Novokhopersk 63.84 326 *e*P **P 14 08 22.9 -1.0**
VRHR pmax pmax
comp=Z,100nm,0.6s,mb6.0
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.4s
VRHR MLR MLR
comp=Z,1µm,15.0s,MS5.2
VRHR MLR MLR
comp=N,6.0nm,17.0s,MS5.2
VRHR MLR MLR
comp=E,1µm,19.0s,MS5.2
ANN Anapa 63.85 318 *e*P **P 14 08 22.1 -1.8**
ANN *e* 14 10 45.3
ANN *e*S **S 14 16 54.8 -1.4**
ANN *e*SS SS 14 21 10.5 +5.7
ANN *e*SSS 14 23 58.3
ANN pmax pmax
comp=Z,686nm,7.0s
ANN MLR MLR
comp=Z,2µm,18.0s,MS5.4
CSS Prodhromos 64.00 307⇑ *e*P **P 14 08 25.2 +0.3**
comp=Z,440nm,1.6s,mb6.2
CNB Canberra Magne 64.86 133 *e*P **P 14 08 30.7 +0.1**
comp=Z,95nm,1.5s,mb5.6
BR131 Keskin Array S 64.94 312 *e*P **P 14 08 29.8 -1.2**
comp=Z,16nm,0.6s,mb5.2
BRTR Keskin Array B 64.94 312 P **P 14 08 31.0 -0.1**
comp=Z,14nm,0.7s,mb5.1,baz=133,slow=6.7,SNR=9.5
VRSR Storozhevoye 65.27 325 *e*P **P 14 08 31.9 -1.3**
VRSR pmax pmax
comp=Z,80nm,0.9s,mb5.8
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,80nm,1.0s
VOR Voronezh 65.48 326 P **P 14 08 32.0 -2.6**
VOR *e* 14 17 21.5
VOR pmax pmax
comp=Z,330nm,2.0s,mb6.0
VOR pmax pmax
comp=N,150nm,1.7s
VOR pmax pmax
comp=E,160nm,1.7s
ANTO Ankara 65.61 312⇓ *i*P **P 14 08 31.2 -4.2**
ANTO Ankara 65.61 312 *e*P **P 14 08 34.8 -0.6**
ANTO pmax pmax
comp=Z,92nm,1.2s,mb5.7
ANTO Ankara 65.61 312⇓ P **P 14 08 31.2 -4.1**
ANTO *e*P 14 08 34.8
SIM Simferopol' 66.12 317 *ce*P **P 14 08 38.3 -0.4**
SIM *e*S S 14 17 20.7 -3.4
SIM pmax pmax
comp=Z,51nm,1.1s,mb5.5
SIM pmax pmax
comp=Z,340nm,15.0s
HNR Honiara 66.47 102 P **P 14 08 42.3 +1.4**
comp=Z,60nm,0.7s,mb5.8,baz=114,slow=1.0,SNR=3.7
HNR Honiara 66.47 102 *e*P **P 14 08 38.8 -2.1**
HNR pmax pmax
comp=Z,77nm,0.8s,mb5.8
HNR Honiara 66.47 102 *e*P **P 14 08 38.8 -2.1**
comp=Z,77nm,0.8s,mb5.8
ISP Isparta 66.86 309 *e*P **P 14 08 44.4 +1.0**
ISP pmax pmax
comp=Z,340nm,1.4s,mb6.2
ISP Isparta 66.86 309 *e*P **P 14 08 44.4 +1.0**
comp=Z,340nm,1.4s,mb6.2
TAU Tasmania Unive 67.09 141 P **P 14 08 46.4 +1.6**
TAU pmax pmax
comp=Z,16nm,0.9s,mb5.0
TAU Tasmania Unive 67.09 141 P **P 14 08 46.4 +1.5**
comp=Z,16nm,0.9s,mb5.0
MOS Moscow 68.06 329 *i* P **P 14 08 49.5 -1.5**
OBN Obninsk 68.34 328 P **P 14 08 52.4 -0.3**
comp=Z,884nm,1.1s,mb6.7,SNR=6.2
OBN Obninsk 68.34 328⇓ *e*P **P 14 08 52.4 -0.3**
OBN *i* S S 14 17 48.6 -2.2
OBN pmax pmax
comp=Z,485nm,2.0s,mb6.2
OBN MLR MLR
comp=Z,2µm,18.0s,MS5.5
OBN Obninsk 68.34 328⇑ *i*P **P 14 08 50.9 -1.9**
comp=Z,188nm,1.0s,mb6.1
OBN *ep*P pP 14 09 06.3 +1.3
ARG Arkhangelos 68.41 307 *e*P **P 14 08 51.5 -1.6**
SKR Severo-Kuril's 68.45 37 *e*P **P 14 08 52.9 -0.5**
SKR *e* pP 14 09 02.9 -2.8
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.9
SKR MLR MLR
comp=N,3µm,16.0s,MS6.0
SKR MLR MLR
comp=E,6µm,16.0s,MS6.0
SKR MLR MLR
comp=Z,9µm,16.0s,MS6.1
LSZ Lusaka 68.84 252⇓ *e*P **P 14 08 56.7 +0.8**
LSZ pmax pmax
comp=Z,78nm,1.4s,mb5.5
LSZ Lusaka 68.84 252⇓ *e*P **P 14 08 56.7 +0.8**
comp=Z,78nm,1.4s,mb5.4
MA2 Magadan 69.25 27⇑ *e*P **P 14 08 58.3 -0.1**
MA2 pmax pmax
comp=Z,149nm,1.2s,mb5.8
MA2 Magadan 69.25 27 *e*P **P 14 08 57.2 -1.1**
comp=Z,139nm,1.1s,mb5.8
TIRR Tirgusor 69.89 316⇑ *i*P **P 14 09 02.2 -0.2**
TIRR Tirgusor 69.89 316 *e*P **P 14 09 01.7 -0.7**
TIRR pmax pmax
comp=Z,271nm,1.6s,mb5.9
TIRR Tirgusor 69.89 316 *e*P **P 14 09 01.6 -0.7**
comp=Z,271nm,1.6s,mb5.9
XRY Khrisi 70.15 305 *e*P **P 14 09 05.5 +1.6**
KIS Kishinev 70.24 318 *e*P **P 14 09 02.0 -2.5**
KIS *i* pP 14 09 12.0 -4.8
KIS *e* 14 09 18.0
KIS *i* 14 09 27.0
KIS *e*S S 14 18 08.0 -5.2
KIS pmax pmax
comp=Z,300nm,2.0s,mb5.9
KIS Kishinev 70.24 318 *e*P **P 14 09 02.0 -2.5**
comp=Z,300nm,2.0s,mb5.9
KIS *e*S S 14 18 08.0 -5.2
CFR Carcaliu 70.26 316⇑ *i*P **P 14 09 12.6 +8.0**
CFR Carcaliu 70.26 316 ⇑P **P 14 09 12.6 +8.0**
NPS Neapolis 70.27 306 *e*P **P 14 09 04.6 -0.1**
PRK Paraskevi 70.39 310 *e*P **P 14 09 04.4 -1.0**
SANT Santorini 70.56 307 *e*P **P 14 09 04.7 -1.7**
comp=Z,440nm,1.5s,mb6.2
SANT *ep*P pP 14 09 20.9 +2.1
PET Petropavlovsk 70.71 35*d i*P **P 14 09 06.6 -0.7**
PET pmax pmax
comp=Z,35nm,0.8s,mb5.3
PET Petropavlovsk 70.71 35 *e*P **P 14 09 05.7 -1.6**
comp=Z,18nm,0.6s,mb5.2
AKASG Malin Array Be 70.98 322 P **P 14 09 07.7 -1.3**
comp=Z,18nm,0.7s,mb5.1,baz=90,slow=5.1,SNR=9.9
AKBB Malin Array Si 70.98 322 *e*P **P 14 09 07.0 -2.0**
KIEV Kiev 70.99 322 *e*P **P 14 09 06.9 -2.1**
KIEV pmax pmax
comp=Z,43nm,0.9s,mb5.4
KIEV Kiev 70.99 322 *e*P **P 14 09 06.9 -2.1**
comp=Z,43nm,0.9s,mb5.4
RDO Rodhopi 71.28 312 *e*P **P 14 09 05.0 -5.8**
VRI Vrincioaia 71.38 317⇓ *i*P **P 14 09 10.1 -1.3**
VAM Vamos 71.43 306 *e*P **P 14 09 10.5 -1.2**
GVD Gavdhos 71.45 305 *e*P PcP 14 09 27.0 -4.2
SEY Seymchan 71.50 24⇑ *e*P **P 14 09 10.7 -1.5**
TMCR Tamitsa 71.73 337 *e*P **P 14 09 13.7 +0.2**
TMCR *e**PP pP 14 09 24.3 -1.6
TMCR *e**SP sP 14 09 27.9 -2.8
TMCR pmax pmax
comp=Z,305nm,2.0s,mb5.9
MLR Muntele Rosu 71.83 316⇑ *i*P **P 14 09 13.7 -0.4**
MLR Muntele Rosu 71.83 316 ⇑P **P 14 09 13.7 -0.4**
PTL Penteli 72.06 308 *e*P **P 14 09 15.0 -0.5**
KVR Kavouri 72.10 308 *e*P **P 14 09 14.0 -1.8**
ATH Athens Observa 72.17 308 *e*P pP 14 09 25.7 -2.8
NAIG Nisos Aigina 72.31 308 *e*P **P 14 09 16.0 -1.0**
VOIR 72.44 316⇓ *i*P **P 14 09 17.6 -0.2**
VOIR 72.44 316⇓ P **P 14 09 17.6 -0.1**
KYTH Kithira 72.48 306 *e*P **P 14 09 19.0 +1.0**
NVR Nevrokopi 72.56 312 *e*P **P 14 09 17.1 -1.4**
PLG Polygyros 72.72 311 *e*P **P 14 09 17.3 -2.2**
BURAR Bucovina Array 72.77 318⇑ *i*P **P 14 09 20.2 +0.5**
BURAR Bucovina Array 72.77 318 ⇑P **P 14 09 20.2 +0.5**
LKR Lokris 72.82 309 *e*P **P 14 09 15.5 -4.5**
PUL Pulkovo 73.23 332⇑ *e*P **P 14 09 23.2 +0.7**
VTS Vitosha 73.24 313⇑ *i*P **P 14 09 21.6 -0.9**
VTS Vitosha 73.24 313 ⇑P **P 14 09 21.6 -0.9**
LBTB Lobatse 73.31 242 *e*P **P 14 09 24.3 +1.3**
LBTB pmax pmax
comp=Z,108nm,1.0s,mb5.7
LBTB Lobatse 73.31 242 *e*P **P 14 09 24.3 +1.3**
comp=Z,108nm,1.0s,mb5.7
ITM Ithomi 73.47 307 *e*P **P 14 09 21.5 -2.4**
VAY Valandovo 73.52 312 *e*P **P 14 09 20.9 -3.2**
THL Klokotos Trika 73.70 310 *e*P **P 14 09 22.3 -2.9**
EVR Evrytania 73.78 309 *e*P **P 14 09 23.0 -2.7**
RLS Riolos of Patr 73.94 308 *e*P **P 14 09 24.3 -2.3**
LVV L'vov 74.00 320 *e*P **P 14 09 26.6 -0.4**
LVV *e*S S 14 18 53.0 -3.3
LVV MLR MLR
comp=Z,600nm,18.0s,MS4.9
DRGR 74.29 317⇓ *i*P **P 14 09 29.0 +0.3**
DRGR 74.29 317⇓ P **P 14 09 29.0 +0.4**
BIA Bitola 74.41 311 *e*P **P 14 09 26.4 -2.9**
SKO Skopje 74.45 312 *e*P **P 14 09 25.5 -4.1**
BOSA Boshof 74.47 239 P **P 14 09 30.4 +0.7**
comp=Z,31nm,1.1s,mb5.2,baz=78,slow=6.7,SNR=4.3
BOSA Boshof 74.47 239 *e*P **P 14 09 29.7 0.0**
BOSA *e**PP pP 14 09 47.3 +5.1
BOSA pmax pmax
comp=Z,103nm,1.2s,mb5.6
BOSA Boshof 74.47 239 *e*P **P 14 09 29.7 0.0**
comp=Z,103nm,1.2s,mb5.6
BOSA *ep*P pP 14 09 47.3 +5.2
VSU Vasula 74.58 330⇑ *e*P **P 14 09 29.7 -0.6**
VSU Vasula 74.58 330⇑ *e*P **P 14 09 29.8 -0.5**
VLS Valsamata 74.64 308 *e*P **P 14 09 27.4 -3.3**
LVZ Lovozero 74.69 340 P **P 14 09 31.6 +0.6**
comp=Z,318nm,0.5s,mb6.5,SNR=8.0
LVZ Lovozero 74.69 340 *e*P sP 14 09 44.9 -3.3
LVZ pmax pmax
comp=Z,115nm,1.5s,mb5.6
LVZ pmax pmax
comp=N,54nm,1.9s
LVZ pmax pmax
comp=E,52nm,1.5s
KWP Kalwaria 74.80 320 *e*P **P 14 09 31.4 -0.2**
KWP pmax pmax
comp=Z,406nm,1.5s,mb6.1
KWP Kalwaria 74.80 320 *e*P **P 14 09 31.4 -0.2**
comp=Z,406nm,1.5s,mb6.1
OHR Ohrid 74.81 311 *e*P **P 14 09 27.9 -3.8**
BZS Buzias 74.85 316⇑ *i*P **P 14 09 31.7 -0.2**
UZH Uzhgorod 74.89 319⇓ *i*P **P 14 09 32.2 +0.1**
UZH *e*S S 14 18 58.8 -7.4
DZM Mont Dzumac 74.94 114 P **P 14 09 33.7 +1.2**
comp=Z,13nm,1.0s,mb4.8,baz=53,slow=20,SNR=3.3
KOLS Kolonicke sedl 74.95 319 *e*P **P 14 09 33.5 +1.0**
KOLS Kolonicke sedl 74.95 319 *e* **P 14 09 33.5 +1.0**
APA Apatity 74.97 340⇑ *i*P pP 14 09 45.4 +0.3
APA *i* 14 09 56.4
APA pmax pmax
comp=Z,150nm,1.2s,mb5.8
SUW Suwalki 75.39 325 *e*P **P 14 09 34.1 -0.9**
SUW *e**PP pP 14 09 49.8 +2.3
SUW pmax pmax
comp=Z,310nm,1.0s,mb6.2
SUW Suwalki 75.39 325 *e*P **P 14 09 34.1 -0.9**
comp=Z,310nm,1.0s,mb6.2
SUW *ep*P pP 14 09 49.8 +2.4
SUW Suwalki 75.39 325 *e* **P 14 09 34.7 -0.3**
KEK Kerkira 75.42 310 *e*P **P 14 09 31.5 -3.7**
MAW Mawson 75.62 192 *e*P **P 14 09 35.7 -0.6**
comp=Z,6.6nm,1.4s
MAW Mawson 75.62 192 P **P 14 09 35.9 -0.4**
comp=Z,2.0nm,0.6s,baz=18,slow=9.5,SNR=5.0
MAW Mawson 75.62 192 P **P 14 09 35.9 -0.4**
MAW pmax pmax
comp=Z,54nm,1.6s
STHS Stebnicka Huta 75.70 320 *e*P **P 14 09 37.5 +0.7**
STHS *ep*P pP 14 09 50.2 +0.9
STHS Stebnicka Huta 75.70 320 *e* pP 14 09 50.2 +0.9
STHS *e* pP 14 09 50.2 +0.9
STHS Stebnicka Huta 75.70 320 *e* **P 14 09 37.5 +0.7**
FIA1 FINESS Array S 75.75 332 *e*P **P 14 09 35.8 -1.2**
FINES FINESS Array B 75.75 332 P **P 14 09 36.6 -0.5**
comp=Z,12nm,0.5s,mb5.1,baz=112,slow=5.7,SNR=17
KECS Kecovo 76.05 319 *e*P **P 14 09 39.0 +0.2**
KECS *ep*P pP 14 09 50.8 -0.4
KECS *e* pP 14 09 50.8 -0.4
KECS Kecovo 76.05 319 *e* **P 14 09 39.0 +0.2**
KECS Kecovo 76.05 319 *e* pP 14 09 50.8 -0.4
NIE Niedzica 76.30 320 *e*P **P 14 09 41.0 +0.8**
PSZ Piszkesteto 76.36 318⇑ *i*P **P 14 09 40.8 +0.3**
PSZ Piszkesteto 76.36 318 *e*P **P 14 09 40.1 -0.4**
PSZ pmax pmax
comp=Z,333nm,1.6s,mb6.0
PSZ Piszkesteto 76.36 318 *e*P **P 14 09 40.1 -0.5**
comp=Z,333nm,1.6s,mb6.0
OJC Ojcow 76.75 320 *e*P **P 14 09 42.9 +0.1**
PKSM Moragy 76.98 316⇑ *i*P **P 14 09 43.5 -0.6**
PKSM Moragy 76.98 316 ⇑P **P 14 09 43.5 -0.6**
VYHS Vyhne 77.14 319 *e*P **P 14 09 45.4 +0.5**
VYHS *ep*P pP 14 09 57.1 -0.3
VYHS *e* pP 14 09 57.1 -0.3
VYHS Vyhne 77.14 319 *e* **P 14 09 45.4 +0.5**
TIP Timpagrande 77.71 309 *e*P **P 14 09 48.3 +0.1**
OKC Ostrava-Krasne 77.76 320 *e*P **P 14 09 48.9 +0.5**
OKC *ep*P pP 14 10 00.6 -0.3
OKC *e*S S 14 19 35.9 -1.8
RAC Raciborz 77.76 320 *e*P **P 14 09 47.2 -1.2**
KEV Kevo 77.97 341 *ep* **P 14 09 48.9 -0.7**
comp=Z,7.1nm,0.5s,mb4.8
KEV Kevo 77.97 341 *e*P **P 14 09 48.9 -0.7**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SMOL Smolenice 78.07 318 *e*P **P 14 09 50.7 +0.6**
MORC Moravsky Berou 78.14 320⇑ *i*P **P 14 09 51.0 +0.5**
MORC Moravsky Berou 78.14 320 *e*P **P 14 09 50.1 -0.4**
comp=Z,375nm,1.8s,mb6.0
ZST Bratislava 78.25 318 *e*P **P 14 09 52.1 +1.0**
ZST *ep*P pP 14 10 03.8 +0.2
ZST *e* pP 14 10 03.9 +0.3
ZST Bratislava 78.25 318 *e* **P 14 09 52.1 +1.0**
ARCES ARCESS Array B 78.40 340 P **P 14 09 51.8 -0.2**
comp=Z,25nm,0.9s,mb5.2,baz=97,slow=6.6,SNR=17
ARCES LR LR 14 50 38.6
comp=Z,4µm,20.9s,MS5.7,baz=115,slow=40
ARE0 ARCESS Array S 78.40 340 *e*P **P 14 09 49.6 -2.3**
BILL Bilibino 78.75 21*c i*P **P 14 09 52.4 -1.5**
BILL pmax pmax
comp=Z,120nm,2.3s,mb5.4
BILL MLR MLR
comp=Z,10µm,17.0s,MS6.2
BILL Bilibino 78.75 21 *e*P **P 14 09 51.8 -2.1**
comp=Z,82nm,1.3s,mb5.5
DPC Dobruska-Polom 78.98 320 *e*P **P 14 09 56.3 +1.1**
DPC *ep*P pP 14 10 07.7 0.0
DPC *e*S S 14 19 49.6 -1.2
KTK1 Kautokeino 79.02 340 *e*P **P 14 09 57.2 +1.8**
CONA Conrad Observa 79.05 318⇓ *i*P **P 14 09 56.3 +0.8**
comp=Z,55nm,1.4s,mb5.3
KSP Ksiaz 79.05 321 *e*P **P 14 09 56.4 +0.9**
KSP *e**PP pP 14 10 07.8 -0.3
KSP *e*S S 14 19 48.0 -3.6
KSP Ksiaz 79.05 321 *e* **P 14 09 56.9 +1.4**
SUR Sutherland 79.08 236 *e*P **P 14 09 56.8 +1.1**
comp=Z,162nm,1.4s,mb5.8
UPC Upice 79.19 320 *e*P **P 14 09 57.2 +0.9**
UPC *ep*P pP 14 10 07.3 -1.5
ARSA Arzberg 79.22 317⇓ *i*P **P 14 09 57.6 +1.2**
comp=Z,100nm,1.7s,mb5.5,SNR=14
ARSA Arzberg 79.22 317⇓ *i* pP 14 10 09.9 +0.9
comp=Z,195nm,1.5s
ARSA Arzberg 79.22 317 pP 14 10 09.9 +0.9
comp=Z,195nm,1.5s
ARSA Arzberg 79.22 317 P **P 14 09 57.6 +1.2**
ARSA *e* pP 14 10 09.9 +0.9
BOJS Bojanci 79.28 315 *i* P **P 14 09 56.7 -0.1**
BOJS *i* pP 14 10 08.3 -1.0
PERS Pernice 79.45 316 *e*P **P 14 09 58.0 +0.3**
PERS *i* pP 14 10 09.1 -1.2
TSUM Tsumeb 79.50 250 *e*P **P 14 09 59.5 +1.5**
comp=Z,97nm,1.4s,mb5.5
LJU Ljubljana 79.82 316 *i* P **P 14 10 00.1 +0.4**
LJU *i* pP 14 10 11.7 -0.6
OBKA Obir 79.83 316⇓ *i*P **P 14 10 01.0 +1.2**
comp=Z,91nm,1.7s,mb5.4
OBKA Obir 79.83 316⇑ *i* pP 14 10 12.7 +0.4
comp=Z,202nm,1.6s
OBKA Obir 79.83 316 pP 14 10 12.7 +0.4
comp=Z,202nm,1.6s
OBKA Obir 79.83 316 P **P 14 10 01.0 +1.2**
OBKA *e* pP 14 10 12.7 +0.4
PVCC Panska Ves 80.11 320 *e*P **P 14 10 01.6 +0.3**
PVCC *ep*P pP 14 10 13.7 -0.2
MOA Molln 80.12 318⇓ *i*P **P 14 10 01.8 +0.5**
comp=Z,64nm,1.4s,mb5.4
PRA Prague 80.17 320 P **P 14 10 02.0 +0.4**
PRA pP pP 14 10 12.0 -2.1
VOY Vojsko 80.26 316 *e*P pP 14 10 13.2 -1.4
AQU L'Aquila 80.43 312 *e*P **P 14 10 00.4 -2.6**
AQU pmax pmax
comp=Z,615nm,1.6s,mb6.3
AQU L'Aquila 80.43 312 *e*P **P 14 10 00.4 -2.6**
comp=Z,615nm,1.6s,mb6.3
BRG Berggiesshubel 80.54 321 *e*P **P 14 10 03.7 +0.1**
comp=Z,293nm,1.9s,mb5.9
GEC2 GERESS Array S 80.56 319 *e*P **P 14 10 04.0 +0.3**
comp=Z,564nm,2.0s,mb6.2
GEC2 GERESS Array S 80.56 319 *e*P **P 14 10 03.6 -0.1**
GERES GERESS Array B 80.56 319 P **P 14 10 04.0 +0.3**
comp=Z,12nm,0.9s,mb4.8,baz=117,slow=3.9,SNR=7.7
TRO Tromso 80.65 340 *e*P **P 14 10 03.2 -1.0**
TRO *e* 14 17 26.2
TRO AMS AMS 14 49 19.6
comp=Z,2µm,15.7s,MS5.6
KHC Kasperske Hory 80.66 319 *e*P **P 14 10 03.5 -0.7**
KHC *ep*P pP 14 10 15.4 -1.4
KHC *e*S S 14 20 08.7 +0.2
KBA Koelnbreinsper 80.69 317⇑ *i*P **P 14 10 05.5 +1.1**
comp=Z,53nm,1.3s,mb5.3
WET Wettzell 81.11 319 *e*P **P 14 10 06.9 +0.2**
comp=Z,346nm,2.1s,mb5.9
WET Wettzell 81.11 319 *e*P **P 14 10 06.9 +0.2**
WET pmax pmax
comp=Z,346nm,2.1s,mb5.9
CLL Collm 81.16 321 *e*P **P 14 10 06.6 -0.3**
comp=Z,250nm,2.1s,mb5.8
CLL Collm 81.16 321 *i* P **P 14 10 06.5 -0.4**
CLL *e**PP pP 14 10 19.0 -0.5
CLL *e*S S 14 20 12.0 -1.7
CLL pmax pmax
comp=Z,250nm,2.1s,mb5.8
CLL Collm 81.16 321 *i* P **P 14 10 06.5 -0.4**
comp=Z,250nm,2.1s,mb5.8
CLL *ep*P pP 14 10 19.0 -0.5
CLL *e*S S 14 20 12.0 -1.7
CLL Collm 81.16 321 *i* P **P 14 10 06.5 -0.4**
comp=Z,250nm,2.1s,mb5.8
CLL *es*P sP 14 10 19.0 -5.2
CLL *e*S S 14 20 12.0 -1.7
CLL *e*SKSac SKSac 14 20 20.0 -2.6
HFS Hagfors 81.45 330 P **P 14 10 07.9 -0.5**
comp=Z,9.0nm,0.5s,mb5.0,baz=103,slow=4.8,SNR=9.3
NKC Novy Kostel 81.45 320 *e*P **P 14 10 08.4 -0.1**
NKC *ep*P pP 14 10 20.0 -1.0
NKC *e*S S 14 20 15.9 -0.9
TANN Tannenbergstha 81.45 320 *e*P **P 14 10 08.5 0.0**
ROTZ Rotzenmuhle 81.58 319 *e*P **P 14 10 09.8 +0.6**
MANZ Manzenberg 81.66 320 *e*P **P 14 10 10.2 +0.7**
MOR8 Moi Rana 81.77 336 *e*P **P 14 10 09.3 -0.8**
MOR8 AMb AMB 14 10 27.4
comp=Z,165nm,1.6s,mb5.7
MOR8 Moi Rana 81.77 336 *e*P **P 14 10 10.4 +0.2**
comp=Z,165nm,1.6s,mb5.7
WTTA Wattenberg 81.87 317⇓ *i*P **P 14 10 11.0 +0.3**
comp=Z,114nm,1.2s,mb5.7,SNR=6.1
WATA Walderalm 81.91 317⇑ *i*P **P 14 10 11.6 +0.7**
comp=Z,15nm,0.6s,mb5.1
MOX Moxa 82.00 320 *e*P **P 14 10 11.4 0.0**
comp=Z,264nm,2.1s,mb5.8
MOX Moxa 82.00 320 *e*P **P 14 10 11.6 +0.2**
comp=Z,225nm,2.1s,mb5.7
MOX
comp=Z,2µm,20.0s
MOX Moxa 82.00 320 *e*P **P 14 10 11.6 +0.2**
MOX pmax pmax
comp=Z,225nm,2.1s,mb5.7
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.4
FUR Furstenfeldbru 82.14 318 *e*P **P 14 10 11.6 -0.5**
comp=Z,200nm,1.7s,mb5.8
FUR Furstenfeldbru 82.14 318 *e*P **P 14 10 11.6 -0.5**
FUR pmax pmax
comp=Z,200nm,1.7s,mb5.8
SQTA Sankt Quirin 82.16 317⇑ *i*P **P 14 10 12.2 +0.1**
SNR=5.9
GRA1 Grafenberg Arr 82.22 319 *e*P **P 14 10 12.9 +0.4**
comp=Z,407nm,2.2s,mb6.0
GRA1 *ep*P pP 14 10 24.3 -0.8
GRF Grafenberg Arr 82.22 319 *e*P **P 14 10 12.9 +0.4**
comp=Z,407nm,2.2s,mb6.0
GRF *ep*P pP 14 10 24.3 -0.8
GRF Grafenberg Arr 82.22 319 *e*P **P 14 10 12.9 +0.4**
GRF *e**PP pP 14 10 24.3 -0.8
GRF pmax pmax
comp=Z,407nm,2.2s,mb6.0
GRF Grafenberg Arr 82.22 319 *e*P **P 14 10 12.9 +0.4**
GRF *e**PP pP 14 10 24.3 -0.8
GRF pmax pmax
comp=Z,407nm,2.2s,mb6.0
GRFO Grafenberg 82.22 319 P **P 14 10 02.8 -10**
GRFO pmax pmax
comp=Z,186nm,1.7s,mb5.7
GRFO Grafenberg 82.22 319 P **P 14 10 02.8 -10**
comp=Z,186nm,1.7s,mb5.7
MOTA Moosalm 82.23 317⇑ *i*P **P 14 10 13.4 +0.9**
comp=Z,65nm,1.0s,mb5.5,SNR=6.9
LOF Lofoten 82.34 338 *e*P **P 14 10 15.1 +2.0**
SYO Syowa Base 82.62 197⇑ *e*P **P 14 10 13.0 -1.6**
SYO Syowa Base 82.62 197⇑ *e*PcP PcP 14 10 19.8 +0.3
NSS Namsos 82.63 334 *e*P **P 14 10 13.2 -1.4**
NSS AMb AMB 14 10 30.9
comp=Z,224nm,4.5s
NSS AMS AMS 14 49 48.9
comp=Z,3µm,20.3s,MS5.6
NSS Namsos 82.63 334 *e*P **P 14 10 12.3 -2.4**
comp=Z,224nm,4.4s
NB2 NORSAR Subarra 82.74 331 P **P 14 10 14.1 -1.1**
comp=Z,120nm,1.7s,mb5.7,baz=93,slow=5.9
NOA NORSAR Array B 82.74 331 P **P 14 10 14.2 -1.0**
comp=Z,13nm,0.9s,mb5.0,baz=94,slow=5.5,SNR=4.7
CLZ Clausthal 82.82 322 *e*P **P 14 10 15.6 0.0**
comp=Z,285nm,2.0s,mb6.0
CLZ Clausthal 82.82 322 *e*P **P 14 10 15.6 0.0**
CLZ pmax pmax
comp=Z,285nm,2.0s,mb6.0
NRDL Niedersach Rie 83.00 322 *e*P **P 14 10 15.7 -0.9**
SPB4 Spitsbergen Ar 83.01 348 P **P 14 10 15.2 -1.4**
UBBA Unterbreizbach 83.03 320 *e*P **P 14 10 16.9 +0.2**
DAVA Damuels 83.06 317⇓ *i*P **P 14 10 17.7 +0.8**
comp=Z,135nm,1.6s,mb5.7
DAVA Damuels 83.06 317 P **P 14 10 17.7 +0.8**
VSL Villasalto 83.44 309 *e*P **P 14 10 22.8 +3.9**
comp=Z,214nm,1.6s,mb5.9
KONO Kongsberg 83.48 329 *e*P **P 14 10 19.1 +0.1**
KONO Kongsberg 83.48 329 *i* P **P 14 10 17.7 -1.3**
KONO Kongsberg 83.48 329 *i* P **P 14 10 17.8 -1.2**
KEST Kesra 83.53 305 P **P 14 10 20.9 +1.6**
comp=Z,2.7nm,0.5s,baz=125,slow=1.4,SNR=5.0
STU Stuttgart 83.53 318 *e*P **P 14 10 19.0 -0.3**
STU Stuttgart 83.53 318 *e*P **P 14 10 18.2 -1.1**
STU *e**PP pP 14 10 31.5 -0.4

STU pmax pmax
comp=Z,199nm,1.7s,mb6.0
STU Stuttgart 83.53 318 *e*P **P 14 10 18.2 -1.1**
comp=Z,199nm,1.7s,mb6.0
STU *e*pP pP 14 10 31.4 -0.4
PGF Pioggiola 83.69 312 *e*P **P 14 10 20.6 +0.5**
comp=Z,439nm,1.6s,mb6.0
PGF Pioggiola 83.69 312 *e*P **P 14 10 20.6 +0.5**
PGF pmax pmax
comp=Z,220nm,1.6s,mb6.0
PGF Pioggiola 83.69 312 *e*P **P 14 10 20.6 +0.5**
comp=Z,220nm,1.6s,mb6.0
TOD Tromm 83.79 319 *e*P **P 14 10 21.3 +0.7**
SPAK Spaichingen-Ko 83.80 318 *e*P **P 14 10 21.7 +1.0**
KBS Kingsbay 83.99 349 AMS AMS 14 52 07.8
comp=Z,2µm,17.2s,MS5.5
KBS Kingsbay 83.99 349‖ *e*P **P 14 10 22.2 +0.6**
TNS Taunus Mts 84.02 320 *e*P **P 14 10 21.8 0.0**
comp=Z,254nm,2.2s,mb6.0
TNS Taunus Mts 84.02 320 *e*P **P 14 10 21.8 0.0**
TNS pmax pmax
comp=Z,254nm,2.2s,mb6.0
BFO Black Forest 84.11 318 *e*P **P 14 10 21.6 -0.6**
comp=Z,73nm,1.6s,mb5.6
BFO Black Forest 84.11 318 *e*P **P 14 10 21.6 -0.6**
BFO pmax pmax
comp=Z,73nm,1.6s,mb5.6
BFO Black Forest 84.11 318 *e*P **P 14 10 19.7 -2.5**
FELD Feldberg im Sc 84.33 318 *e*P **P 14 10 24.1 +0.7**
IBBN Ibbenburen 84.44 322 *e*P **P 14 10 23.9 0.0**
comp=Z,345nm,2.0s,mb6.1
LANF Langenberg 84.45 319 *e*P **P 14 10 24.7 +0.7**
LIBD Limburg 84.60 318 *e*P **P 14 10 25.4 +0.7**
ABH Alteburg 84.60 320 *e*P **P 14 10 25.8 +1.1**
BBS Basel-Blauen 84.67 317 *e*P **P 14 10 25.6 +0.5**
SAOF Saorge 84.72 314 *e*P **P 14 10 26.1 +0.8**
BUG Bochum--Univer 84.75 321 *e*P **P 14 10 25.4 -0.1**
comp=Z,358nm,2.2s,mb6.1
WLS Welschbruch 84.76 318 *e*P **P 14 10 25.8 +0.3**
CDF Champ du Feu 84.81 318 *e*P **P 14 10 25.7 -0.1**
comp=Z,168nm,1.6s,mb5.6
CDF Champ du Feu 84.81 318 *e*P **P 14 10 25.7 -0.1**
CDF pmax pmax
comp=Z,84nm,1.6s,mb5.6
CDF Champ du Feu 84.81 318 *e*P **P 14 10 25.7 -0.1**
comp=Z,84nm,1.6s,mb5.6
SBF Sospel 84.81 313 *e*P **P 14 10 26.0 +0.2**
comp=Z,197nm,1.1s,mb5.8
SBF Sospel 84.81 313 *e*P **P 14 10 26.0 +0.2**
SBF pmax pmax
comp=Z,98nm,1.1s,mb5.8
SBF Sospel 84.81 313 *e*P **P 14 10 26.0 +0.2**
comp=Z,98nm,1.1s,mb5.8
AUTN L'Aution 84.81 314 *e*P **P 14 10 27.1 +1.3**
REVF Revere 84.86 313 *e*P **P 14 10 26.9 +0.8**
LUCF Luceram 84.88 314 *e*P **P 14 10 24.2 -1.9**
ECH Echery 84.89 318 *e*P **P 14 10 26.7 +0.5**
MOF Molkenrain 84.92 317 *e*P **P 14 10 26.7 +0.4**
TOUF Mont Tournerai 84.94 314 *e*P **P 14 10 27.7 +1.2**
MVIF Mont Vial 85.01 314 *e*P **P 14 10 28.1 +1.3**
WTSB Winterswijk 85.03 322 *e*P **P 14 10 26.4 -0.5**
comp=Z,95nm,2.1s,mb5.5
WIT Witteveen 85.09 322 *e*P **P 14 10 27.1 -0.1**
HINF Hinteralfeld 85.11 317 *e*P **P 14 10 26.8 -0.5**
comp=Z,52nm,1.1s,mb5.3
HINF Hinteralfeld 85.11 317 *e*P **P 14 10 26.8 -0.5**
HINF pmax pmax
comp=Z,26nm,1.1s,mb5.3
HINF Hinteralfeld 85.11 317 *e*P **P 14 10 26.8 -0.5**
comp=Z,26nm,1.1s,mb5.3
LOMF Lomont 85.14 317 *e*P **P 14 10 27.3 -0.1**
LPG La Plagne 85.25 315 *e*P **P 14 10 28.7 +0.7**
comp=Z,344nm,1.5s,mb6.0
LPG La Plagne 85.25 315 *e*P **P 14 10 28.7 +0.7**
LPG pmax pmax
comp=Z,172nm,1.5s,mb6.0
LPG La Plagne 85.25 315 *e*P **P 14 10 28.7 +0.7**
comp=Z,172nm,1.5s,mb6.0
MBDF Montbardon 85.26 314 *e*P **P 14 10 28.3 +0.2**
LPL La Plagne 85.26 315 *e*P **P 14 10 28.5 +0.4**
comp=Z,146nm,1.1s,mb5.7
LPL La Plagne 85.26 315 *e*P **P 14 10 28.5 +0.4**
LPL pmax pmax
comp=Z,73nm,1.1s,mb5.7
LPL La Plagne 85.26 315 *e*P **P 14 10 28.5 +0.4**
comp=Z,73nm,1.1s,mb5.7
OG01 Vacheresse 85.27 316 *e*P **P 14 10 29.0 +0.9**
RSL Roselend 85.33 315 *e*P **P 14 10 29.2 +0.8**
FRF La Foret Royal 85.39 313 *e*P **P 14 10 28.5 -0.2**
comp=Z,378nm,1.5s,mb6.0
FRF La Foret Royal 85.39 313 *e*P **P 14 10 28.5 -0.2**
FRF pmax pmax
comp=Z,189nm,1.5s,mb6.0
FRF La Foret Royal 85.39 313 *e*P **P 14 10 28.5 -0.2**
comp=Z,189nm,1.5s,mb6.0
HAU Haudompre 85.44 318 *e*P **P 14 10 28.7 -0.3**
comp=Z,121nm,1.1s,mb5.7
HAU Haudompre 85.44 318 *e*P **P 14 10 28.7 -0.3**
HAU pmax pmax
comp=Z,60nm,1.1s,mb5.6
HAU Haudompre 85.44 318 *e*P **P 14 10 28.7 -0.3**
comp=Z,60nm,1.1s,mb5.6
LMR La Mourre 85.50 313 *e*P **P 14 10 29.5 +0.2**
comp=Z,221nm,1.6s,mb5.8
LMR La Mourre 85.50 313 *e*P **P 14 10 29.5 +0.2**
LMR pmax pmax
comp=Z,110nm,1.6s,mb5.8
LMR La Mourre 85.50 313 *e*P **P 14 10 29.5 +0.2**
comp=Z,110nm,1.6s,mb5.8
WLF Walferdange 85.51 319 *e*P **P 14 10 29.6 +0.3**
WLF Walferdange 85.51 319 P **P 14 10 30.2 +0.9**
WLF AP pP 14 10 39.1 -2.9
WLF E 14 10 48.5
WLF Walferdange 85.51 319 *e*P **P 14 10 29.5 +0.2**
WLF pmax pmax
comp=Z,155nm,1.7s,mb6.0
WLF Walferdange 85.51 319 *e*P **P 14 10 29.4 +0.1**
comp=Z,155nm,1.7s,mb6.0
MEM Membach 85.57 320 P **P 14 10 29.8 +0.2**
MEM E pP 14 10 44.1 +1.8
HGN Heimansgroeve 85.61 320 *e*P **P 14 10 28.2 -1.6**
comp=Z,11nm,2.1s,mb4.7
BER Bergen 85.62 330 AMS AMS 14 49 45.4
comp=Z,2µm,22.1s,MS5.4
CABF La Chapelle 85.67 316 *e*P **P 14 10 30.5 +0.4**
comp=Z,370nm,1.6s,mb6.0
CABF La Chapelle 85.67 316 *e*P **P 14 10 30.5 +0.4**
CABF pmax pmax
comp=Z,185nm,1.6s,mb6.1
CABF La Chapelle 85.67 316 *e*P **P 14 10 30.5 +0.4**
comp=Z,185nm,1.6s,mb6.1
THEF They Montfort 85.67 318 *e*P **P 14 10 30.1 0.0**
OG25 Le Caire 85.77 314 *e*P **P 14 10 31.5 +0.9**
BEBN Eben Emael 85.78 320 P **P 14 10 30.4 -0.2**
ORIF Oris-en-Rattie 85.89 315 *e*P **P 14 10 31.4 +0.2**
comp=Z,298nm,1.5s,mb6.0
ORIF Oris-en-Rattie 85.89 315 *e*P **P 14 10 31.4 +0.2**
ORIF pmax pmax
comp=Z,149nm,1.5s,mb6.0
ORIF Oris-en-Rattie 85.89 315 *e*P **P 14 10 31.4 +0.2**
comp=Z,149nm,1.5s,mb6.0
BCLA Clavier 86.03 320 P **P 14 10 32.3 +0.5**
BCLA AP pP 14 10 42.8 -1.8
OG05 Jujurieux 86.13 316 *e*P **P 14 10 33.1 +0.7**
SMRF Simiane la Rot 86.15 314 *e*P **P 14 10 33.5 +1.0**
comp=Z,332nm,1.6s,mb6.0
SMRF Simiane la Rot 86.15 314 *e*P **P 14 10 33.5 +1.0**
comp=Z,332nm,1.6s,mb6.3
MEZF Maizieres J'vi 86.28 318 *e*P **P 14 10 33.1 0.0**
GIVF Givet 86.35 320 *e*P **P 14 10 33.6 +0.1**
DOU Dourbes 86.50 320 P **P 14 10 34.9 +0.8**
DOU E pP 14 10 45.4 -1.4
DOU E pP 14 10 49.1 +2.2
SNF Seneffe 86.67 320 P **P 14 10 33.9 -1.1**
SNF AP pP 14 10 45.2 -2.5
SNF E 14 10 53.8
VIVF Saint-Julien-l 86.75 315 *e*P **P 14 10 35.6 +0.2**
comp=Z,134nm,1.3s,mb5.7
VIVF Saint-Julien-l 86.75 315 *e*P **P 14 10 35.6 +0.2**
VIVF pmax pmax
comp=Z,67nm,1.3s,mb5.7
VIVF Saint-Julien-l 86.75 315 *e*P **P 14 10 35.6 +0.2**
comp=Z,67nm,1.3s,mb5.7
BAIF Baives 86.75 320 *e*P **P 14 10 35.4 0.0**
comp=Z,396nm,1.9s,mb6.0
BAIF Baives 86.75 320 *e*P **P 14 10 35.4 0.0**
BAIF pmax pmax
comp=Z,198nm,1.9s,mb6.0
BAIF Baives 86.75 320 *e*P **P 14 10 35.4 0.0**
comp=Z,198nm,1.9s,mb6.0
URZ Urewera 86.92 129 P **P 14 10 34.8 -1.5**
comp=Z,8.1nm,0.7s,mb5.1,baz=268,slow=14,SNR=4.4
LOR Lormes 87.16 317 *e*P **P 14 10 37.3 -0.1**
comp=Z,167nm,1.4s,mb5.8
LOR Lormes 87.16 317 *e*P **P 14 10 37.3 -0.1**
LOR pmax pmax
comp=Z,84nm,1.4s,mb5.8
LOR Lormes 87.16 317 *e*P **P 14 10 37.3 -0.1**
comp=Z,84nm,1.4s,mb5.8
SMF Signal de Mont 87.21 316 *e*P **P 14 10 37.5 -0.2**
comp=Z,232nm,1.6s,mb5.9
SMF Signal de Mont 87.21 316 *e*P **P 14 10 37.5 -0.2**
SMF pmax pmax
comp=Z,116nm,1.6s,mb5.9
SMF Signal de Mont 87.21 316 *e*P **P 14 10 37.5 -0.2**
comp=Z,116nm,1.6s,mb5.9
LASF Ste Croix 87.38 314 *e*P **P 14 10 39.0 +0.5**
comp=Z,194nm,1.6s,mb5.8
PLDF La Plantade 87.41 316 *e*P **P 14 10 39.8 +1.2**
SSF Saint Saulge 87.41 317 *e*P **P 14 10 38.9 +0.3**
comp=Z,115nm,1.5s,mb5.6
SSF Saint Saulge 87.41 317 *e*P **P 14 10 38.9 +0.3**
SSF pmax pmax
comp=Z,58nm,1.5s,mb5.6
SSF Saint Saulge 87.41 317 *e*P **P 14 10 38.9 +0.3**
comp=Z,58nm,1.5s,mb5.6
AVF Avril sur Loir 87.54 317 *e*P **P 14 10 39.2 0.0**
comp=Z,68nm,1.1s,mb5.5
AVF Avril sur Loir 87.54 317 *e*P **P 14 10 39.2 0.0**
AVF pmax pmax
comp=Z,34nm,1.1s,mb5.5
AVF Avril sur Loir 87.54 317 *e*P **P 14 10 39.2 0.0**
comp=Z,34nm,1.1s,mb6.1
LBL Lubilhac 87.73 315 *e*P **P 14 10 41.3 +1.1**
AGO Saint Agoulin 87.75 316 *e*P **P 14 10 40.5 +0.3**
PYM Petit Puy Mans 87.86 316 *e*P **P 14 10 40.1 -0.7**
BGF Bois d'Agland 87.91 316 *e*P **P 14 10 41.3 +0.3**
comp=Z,240nm,1.6s,mb5.9
BGF Bois d'Agland 87.91 316 *e*P **P 14 10 41.3 +0.3**
BGF pmax pmax
comp=Z,120nm,1.6s,mb5.9
BGF Bois d'Agland 87.91 316 *e*P **P 14 10 41.3 +0.3**
comp=Z,120nm,1.6s,mb5.9
TCF Toulx Ste Croi 88.37 316 *e*P **P 14 10 43.2 0.0**
comp=Z,252nm,1.8s,mb5.8
TCF Toulx Ste Croi 88.37 316 *e*P **P 14 10 43.2 0.0**
TCF pmax pmax
comp=Z,126nm,1.8s,mb5.8
TCF Toulx Ste Croi 88.37 316 *e*P **P 14 10 43.2 0.0**
comp=Z,126nm,1.8s,mb5.8
CAF Calviac 88.59 315 *e*P **P 14 10 44.9 +0.7**
comp=Z,194nm,1.8s,mb5.8
CAF Calviac 88.59 315 *e*P **P 14 10 44.9 +0.7**
CAF pmax pmax
comp=Z,97nm,1.8s,mb5.8
CAF Calviac 88.59 315 *e*P **P 14 10 44.9 +0.7**
comp=Z,97nm,1.8s,mb5.8
MTLF Montolieu 88.62 313 *e*P **P 14 10 45.1 +0.7**
comp=Z,155nm,1.6s,mb5.8
MTLF Montolieu 88.62 313 *e*P **P 14 10 45.1 +0.7**
MTLF pmax pmax
comp=Z,78nm,1.6s,mb5.8
MTLF Montolieu 88.62 313 *e*P **P 14 10 45.1 +0.7**
comp=Z,78nm,1.6s,mb5.8
RJF Les Rejaudoux 88.94 315 *e*P **P 14 10 46.2 +0.3**
comp=Z,301nm,1.6s,mb6.1
RJF Les Rejaudoux 88.94 315 *e*P **P 14 10 46.2 +0.3**
RJF pmax pmax
comp=Z,150nm,1.6s,mb6.1
RJF Les Rejaudoux 88.94 315 *e*P **P 14 10 46.2 +0.3**
comp=Z,150nm,1.6s,mb6.1
LFF La Frestale 89.53 315 *e*P **P 14 10 49.5 +0.9**
comp=Z,234nm,1.7s,mb6.0
LFF La Frestale 89.53 315 *e*P **P 14 10 49.5 +0.9**
LFF pmax pmax
comp=Z,117nm,1.7s,mb5.9
LFF La Frestale 89.53 315 *e*P **P 14 10 49.5 +0.9**
comp=Z,117nm,1.7s,mb5.9
LDF La Druitiere 89.70 319 *e*P **P 14 10 49.5 +0.1**
comp=Z,194nm,1.4s,mb5.9
LDF La Druitiere 89.70 319 *e*P **P 14 10 49.5 +0.1**
LDF pmax pmax
comp=Z,97nm,1.4s,mb5.9
LDF La Druitiere 89.70 319 *e*P **P 14 10 49.5 +0.1**
comp=Z,97nm,1.4s,mb5.9
VNDA Vanda 89.76 168 P **P 14 10 49.7 0.0**
comp=Z,1.4nm,0.7s,baz=333,slow=6.2,SNR=3.4
VNDA Vanda 89.76 168 *e*P **P 14 10 50.1 +0.4**
VNDA pmax pmax
comp=Z,29nm,1.4s
VNDA Vanda 89.76 168 *e*P **P 14 10 50.1 +0.4**
comp=Z,29nm,1.4s,mb5.4
FLN La Foliniere 89.92 319 *e*P **P 14 10 50.7 +0.2**
comp=Z,217nm,1.5s,mb6.0
FLN La Foliniere 89.92 319 *e*P **P 14 10 50.7 +0.2**
FLN pmax pmax
comp=Z,108nm,1.5s,mb6.0
FLN La Foliniere 89.92 319 *e*P **P 14 10 50.7 +0.2**
comp=Z,108nm,1.5s,mb6.0
MFF Saint Martin d 89.95 317 *e*P **P 14 10 50.7 +0.1**
comp=Z,262nm,1.5s,mb6.0
MFF Saint Martin d 89.95 317 *e*P **P 14 10 50.7 +0.1**
MFF pmax pmax
comp=Z,131nm,1.5s,mb6.0
MFF Saint Martin d 89.95 317 *e*P **P 14 10 50.7 +0.1**
comp=Z,131nm,1.5s,mb6.0
EPF Esparros 90.02 313 *e*P **P 14 10 50.9 0.0**
comp=Z,65nm,1.5s,mb5.4
EPF Esparros 90.02 313 *e*P **P 14 10 50.9 0.0**
EPF pmax pmax
comp=Z,33nm,1.5s,mb5.4
EPF Esparros 90.02 313 *e*P **P 14 10 50.9 0.0**
comp=Z,33nm,1.5s,mb5.4
RESF Ens 90.05 313 *e*P **P 14 11 00.7 +10**
GRR Gorron 90.21 318 *e*P **P 14 10 52.2 +0.4**
comp=Z,336nm,1.8s,mb6.1
GRR Gorron 90.21 318 *e*P **P 14 10 52.2 +0.4**
GRR pmax pmax
comp=Z,168nm,1.8s,mb6.1
GRR Gorron 90.21 318 *e*P **P 14 10 52.2 +0.4**
comp=Z,168nm,1.8s,mb6.1
DAG Danmarks Havn 90.64 348 *i* P **P 14 10 52.0 -1.8**
comp=Z,60nm,1.4s,mb5.7
DAG Danmarks Havn 90.64 348 *e*P **P 14 10 52.0 -1.8**
DAG pmax pmax
comp=Z,60nm,1.4s,mb5.7
DAG Danmarks Havn 90.64 348 *e*P **P 14 10 52.0 -1.8**
comp=Z,60nm,1.4s,mb5.7
ETSF Etsaut 90.69 313 *e*P **P 14 10 55.2 +1.1**
comp=Z,60nm,1.1s,mb5.5
ETSF Etsaut 90.69 313 *e*P **P 14 10 55.2 +1.1**
ETSF pmax pmax
comp=Z,30nm,1.1s,mb5.5
ETSF Etsaut 90.69 313 *e*P **P 14 10 55.2 +1.1**
comp=Z,30nm,1.1s,mb5.5
SBA Scott Base 90.86 168 *e*P **P 14 10 55.0 +0.1**
SBA *e**PP pP 14 11 08.6 +1.0
SBA pmax pmax
comp=Z,90nm,1.6s,mb5.8
SBA Scott Base 90.86 168 *e*P **P 14 10 55.0 +0.1**
comp=Z,90nm,1.6s,mb5.8
SBA *e*pP pP 14 11 08.6 +1.1
SJPF Ste Jean 91.15 313 *e*P **P 14 10 57.4 +1.2**
comp=Z,146nm,1.6s,mb5.8
SJPF Ste Jean 91.15 313 *e*P **P 14 10 57.4 +1.2**
SJPF pmax pmax
comp=Z,73nm,1.6s,mb5.8
SJPF Ste Jean 91.15 313 *e*P **P 14 10 57.4 +1.2**
comp=Z,73nm,1.6s,mb5.8
SGMF Saint Gilles 91.36 318 *e*P **P 14 10 57.5 +0.4**
comp=Z,388nm,1.7s,mb6.2
SGMF Saint Gilles 91.36 318 *e*P **P 14 10 57.5 +0.4**
SGMF pmax pmax
comp=Z,194nm,1.7s,mb6.2
SGMF Saint Gilles 91.36 318 *e*P **P 14 10 57.5 +0.4**
comp=Z,194nm,1.7s,mb6.2
QUIF Quistinic 91.81 318 *e*P **P 14 10 59.2 0.0**
comp=Z,264nm,1.6s,mb6.0
QUIF Quistinic 91.81 318 *e*P **P 14 10 59.2 0.0**
QUIF pmax pmax
comp=Z,132nm,1.6s,mb6.0
QUIF Quistinic 91.81 318 *e*P **P 14 10 59.2 0.0**
comp=Z,132nm,1.6s,mb6.0
ROSF Rostrenen 91.81 319 *e*P **P 14 10 59.4 +0.1**
comp=Z,352nm,1.7s,mb6.1
ROSF Rostrenen 91.81 319 *e*P **P 14 10 59.4 +0.1**
ROSF pmax pmax
comp=Z,176nm,1.7s,mb6.1
ROSF Rostrenen 91.81 319 *e*P **P 14 10 59.4 +0.1**
comp=Z,176nm,1.7s,mb6.1
TOA0 Torodi Ar. Sit 91.91 283 *e*P **P 14 10 57.9 -1.8**
TORD Torodi Ar. Bea 91.91 283 P **P 14 11 01.1 +1.5**
comp=Z,4.3nm,1.0s,mb4.7,baz=96,slow=4.3,SNR=4.6
NVL N'lazarevskaya 92.11 199 *e*P pP 14 11 12.9 -0.5
NVL *i* S SKSac 14 21 28.1 -2.3
NVL *i* 14 22 04.6
NVL pmax pmax
comp=Z,18nm,1.1s,mb5.3
NVL pmax pmax
comp=N,414nm,4.5s
ALE Alert 92.24 357 P **P 14 11 01.0 -0.2**
comp=N,180nm,1.3s,mb6.2,SNR=7.4
ESDC Sonseca Array 93.69 310 P **P 14 11 07.8 -0.1**
comp=N,1.2nm,0.6s,baz=60,slow=4.4,SNR=4.1
KDAK Kodiak Island 97.83 30 P **P 14 11 28.4 +1.7**
comp=N,9.5nm,0.8s,mb5.4,baz=243,slow=6.8,SNR=3.0
INK Inuvik 99.81 16 P Pdif 14 11 34.3 -1.3
comp=N,3.8nm,0.8s,baz=258,slow=5.7,SNR=7.5
INK Inuvik 99.81 16 *e*P Pdif 14 11 34.1 -1.5
INK pmax pmax
comp=Z,990nm,1.3s
INK Inuvik 99.81 16 *e*Pdif Pdif 14 11 34.1 -1.5
comp=Z,990nm,1.3s
RES Resolute Bay 100.48 3 *e*P Pdif 14 11 37.7 -0.9
RES pmax pmax
comp=Z,428nm,1.0s
RES Resolute Bay 100.48 3 *e*P Pdif 14 11 37.7 -0.9
comp=Z,428nm,1.0s
HAWA Hanford 120.70 27 *e*PKPdf PKPdf 14 16 43.5 +0.3
HAWA *ep*PKPdf pPKPdf 14 16 59.0 +2.7
MSO Missoula 122.72 23 *e*PKPdf PKPdf 14 16 43.9 -3.1
EGMT Eagleton 123.22 19 *e*PKPdf PKPdf 14 16 47.5 -0.4
MOD Modoc 123.66 31 *e*PKPdf PKPdf 14 16 49.5 +0.7
WVOR Wild Horse Val 124.11 29 *e*PKIKP PKPdf 14 16 50.7 +1.1
ULM Lac du Bonnet 124.46 8 PKP PKPdf 14 16 49.0 -1.4
comp=Z,7.1nm,0.9s,baz=4.4,slow=1.7,SNR=3.8
QLMT Earthquake Lak 125.35 23 *e*PKPdf PKPdf 14 16 53.5 +1.5
LAO LASA Array 125.52 18 *e*PKPdf PKPdf 14 16 54.0 +1.7
LAO *ep*PKPdf pPKPdf 14 17 09.2 +3.8
YMR Madison River 125.67 22 *e*PKPdf PKPdf 14 16 53.1 +0.5
YFT Old Faithful 125.90 22 *e*PKPdf PKPdf 14 16 51.8 -1.3
LKWY Lake 125.97 22 *e*PKIKP PKPdf 14 16 51.2 -2.0
ELK Elko 127.04 28 *e*PKIKP PKPdf 14 16 54.4 -0.9
NVAR Mina Array Bea 127.24 33 PKP PKPdf 14 16 57.3 +1.7
comp=Z,2.6nm,0.6s,baz=310,slow=3.4,SNR=7.8
PDAR Pinedale Array 127.82 23 PKP PKPdf 14 16 56.7 0.0
comp=Z,3.8nm,0.8s,baz=55,slow=1.6,SNR=5.9
PDAR SKP 14 20 30.1
comp=Z,4.3nm,1.2s,baz=92,slow=5.4,SNR=4.3
MTUM Tungsten Hills 127.88 34 *e*PKPdf PKPdf 14 16 58.6 +1.7
BGU Big Grassy Mou 127.91 27 *e*PKPdf PKPdf 14 16 57.0 0.0
DUG Dugway 128.60 27 *e*PKIKP PKPdf 14 16 58.4 +0.2
DUG *e* 14 17 14.5
TRCR Troy Canyon 128.72 31 *e*PKPdf PKPdf 14 16 58.7 +0.3
TRCR *ep*PKPdf pPKPdf 14 17 14.4 +2.9
RWWY Rawlins 129.63 21 *e*PKPdf PKPdf 14 17 00.3 +0.2
RWWY *ep*PKPdf pPKPdf 14 17 16.4 +3.1
MSU Marysvale 130.25 28 *e*PKIKP PKPdf 14 16 58.5 -2.9
PHWY Pilot Hill 130.59 20 *e*PKPdf PKPdf 14 17 01.7 -0.3
ECSD EROS,Sioux Fal 130.66 11 *e*PKPdf PKPdf 14 17 02.8 +0.6
PV10 Paradox Valley 131.75 25 *e*PKPdf PKPdf 14 17 05.8 +1.6
SDCO Great Sand Dun 133.71 22 *e*PKPpre 14 16 57.9
SSPA Standing Stone 134.34 352 *e*PKPdf PKPdf 14 17 06.1 -3.0
KSU1 Kansas State U 135.12 13 *e*PKPdf PKPdf 14 17 10.6 +0.1
ANMO Albuquerque 135.75 25 PKP PKPdf 14 17 12.2 +0.4
comp=Z,5.9nm,1.0s,baz=187,slow=1.1,SNR=7.2
ANMO SKP 14 20 42.0
comp=Z,6.2nm,1.0s,baz=346,slow=5.4,SNR=5.2
ANMO Albuquerque 135.75 25 *e*PKPdf PKPdf 14 17 11.6 -0.1
TUC Tucson 135.87 32 *e*PKIKP PKPdf 14 17 13.3 +1.4
LAZ Ladron 135.92 26 *e*PKPdf PKPdf 14 17 08.4 -3.7
LENM Lemitar 136.19 26 *e*PKPdf PKPdf 14 17 14.6 +2.0
LPM Los Pinos Moun 136.22 26 *e*PKPdf PKPdf 14 17 13.6 +1.0
BNM Barren Site 136.36 26 *e*PKPdf PKPdf 14 17 15.7 +2.9
WVT Waverly 139.27 3 *e*PKHKP 14 17 10.6
TKL Tuckaleechee C 139.79 358 PKP PKPdf 14 17 19.6 +0.5
comp=Z,2.3nm,0.5s,baz=2.5,slow=3.2,SNR=4.0
LTX Lajitas 141.77 26 *e*PKIKP PKPdf 14 17 23.2 +0.5
TXAR Lajitas Array 141.77 26 PKhKP 14 17 18.9
comp=Z,1.5nm,0.6s,baz=228,slow=1.9,SNR=8.8
TXAR SKPbc SKPbc 14 20 58.4 +1.7
comp=Z,5.9nm,0.9s,baz=240,slow=1.8,SNR=5.6
JCT Junction City 142.30 21 *e*PKHKP 14 17 18.7
HKT Hockley 144.04 16 *e*PKIKP PKPdf 14 17 24.8 -1.9
KVTX Kingsville 145.65 20 *e*PKPdf PKPdf 14 17 31.2 +1.6
KVTX *ep*PKPdf pPKPdf 14 17 46.4 +3.8
MGG Marie-Galante 148.66 311 *e*P pPKPdf 14 17 48.7 +1.0
TBG Guadaloupe-3 148.94 312 *e*P pPKPdf 14 17 51.0 +2.8
MTP Monte Pirata 150.13 320 *e*PKPbc PKPbc 14 17 43.2 +1.2
CPD Cerro la Pandu 150.40 320 *e*PKIKP PKPbc 14 17 43.9 +1.3
LPAZ La Paz 159.66 234 PKPab PKPab 14 18 30.3 +1.7
comp=Z,2.8nm,0.7s,baz=54,slow=7.5,SNR=4.4
SDV Santo Domingo 160.11 313 *e*PKPdf PKPdf 14 17 50.7 +0.3

NEIC ***18*** *14:09:36.2±1.7, 6.16S×151.68E, h10km, Error ellipse: s-maj=48.7km s-min=22.0km az=114.0*
ISCJB ***18*** *14:09:45.1±5.0, 6.2S±0.2×151.1E±0.3, h75km±36km, mb3.7/5, Error ellipse: s-maj=56.6km s-min=30.9km az=31.7*
IDC ***18*** *14:09:46.2±7.2, 6.25S×151.19E, h71km±54km, mb3.7/5, mb1 3.9/6, mb1mx3.6/15, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=60.3km s-min=29.9km az=96.0*

ISC 18 14:09:46.9±4.8, 6.2S±0.2×151.1E±0.3, h73km±35km, n9, σθ52/10, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**231**	P		P	**Pn**	**14 10 59.9**	**0.0**
	6.3nm,0.3s,baz=354,slow=15,SNR=18								
PMG				S		S	**Sn**	**14 11 57.7**	**+0.8**
	4.5nm,0.3s,baz=174,slow=10,SNR=3.4								
PMG	**Port Moresby**	**5.04**	**231**	P		**Pn**		**14 10 60.0**	**0.0**
PMG				*e*Sn		**Sn**		**14 11 53.4**	**-3.5**
WRA	**Warramunga Arr**	**21.26**	**229**	P		P		**14 14 27.0**	**-0.1**
	3.4nm,0.9s,mb3.7,baz=56,slow=10,SNR=8.0								
ASAR	**Alice Springs**	**23.98**	**222**	P		P		**14 14 54.9**	**+0.3**
	5.8nm,0.8s,mb3.9,baz=54,slow=9.0,SNR=20								
STKA	**Stephens Creek**	**27.03**	**198**	P		P		**14 15 22.4**	**+0.3**
	2.5nm,0.9s,mb3.8,baz=22,slow=11,SNR=3.2								
STKA	**Stephens Creek**	**27.03**	**198**	P		P		**14 15 21.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P		P		**14 15 26.3**	**-0.2**
	1.7nm,0.8s,mb3.6,baz=71,slow=8.3,SNR=5.7								
SONM	**Songino Array**	**66.66**	**329**	P		P		**14 20 29.9**	**+0.1**
	0.7nm,0.9s,mb3.5,baz=114,slow=5.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc		PKPbc		14 29 26.8	0.0
	1.4nm,0.8s,baz=91,slow=2.5,SNR=5.3								

IDC 18 14:10:31.2±3.3, 4597N×15438E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/23, mbtmp3.8/4, MS4.3/1, Ms1 4.3/1, ms1mx2.6/42, Error ellipse: s-maj=99.6km s-min=33.8km az=0.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**41.85**	**32**	P		P		14 18 22.1	-0.7
	1.5nm,1.0s,baz=271,slow=4.9,SNR=4.5								
INK				LR		LR		14 35 36.4	
	comp=Z,395nm,21.2s,baz=161,slow=36								
MKAR	**Makanchi Array**	**48.08**	**299**	P		P		14 19 12.1	-0.4
	0.2nm,0.6s,baz=71,slow=8.5,SNR=3.0								
FINES	**FINESS Array B**	**65.12**	**335**	P		P		14 21 13.4	-0.3
	2.1nm,0.9s,baz=32,slow=8.2,SNR=3.5								
TXAR	**Lajitas Array**	**77.11**	**61**	P		P		14 22 26.6	+0.2
	1.0nm,0.5s,baz=306,slow=4.2,SNR=7.1								

BJI ***18*** *14:11:59.3, 48.37N×155.21E, h10km, mB4.5, mb4.4, Ms5.0, Msz4.8*
NEIC ***18*** *14:12:05.3±0.4, 48.12N×154.50E, h10km, mb4.6/12, Error ellipse: s-maj=11.4km s-min=7.0km az=125.0*
ISCJB ***18*** *14:12:07.9±1.0, 48.14N±0.07×154.6E±0.1, h41km±8km, mb4.3/27, Error ellipse: s-maj=14.7km s-min=6.5km*

az=83.7
*MOS **18** 14:12:08.2±1.3,48.15N×154.55E,h46km,mb4.9/6,Error ellipse: s-maj=12.7km s-min=8.1km az=81.1*
*IDC **18** 14:12:13.4±4.0,48.12N×154.42E,h75km±36km, mb3.7/14, mb1 3.8/16,mb1mx3.7/26,mbtmp3.7/16,ML3.5/2,Error ellipse: s-maj=20.2km s-min=17.3km az=126.0*
ISC 18 14:12:09.8±0.9,4817N±007×1546E±01,h43km±7km,n68, σ1§16/73,mb4.3/27,5C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.71**	**21**	*e*PN	**Pn**	**14 12 51.4**	**+0.6**
SKR				*e*S	**Sn**	**14 13 23.0**	**+0.6**
SKR				pmax	pmax		
	comp=Z,130nm,0.4s						
SKR				smax			
	comp=N,370nm,0.7s						
SKR				smax			
	comp=E,480nm,0.7s						
SKR				smax			
	comp=Z,450nm,1.0s						
KUR	**Kuril'sk**	**5.46**	**240**	*e*PN	**Pn**	**14 13 28.5**	**-0.1**
KUR				*e*S	**Sn**	**14 14 35.0**	**+4.9**
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
KUR				smax			
	comp=E,8μm,14.0s						
KUR				smax			
	comp=Z,11μm,14.0s						
PET	**Petropavlovsk**	**5.51**	**27**	*e*PN	**Pn**	**14 13 29.2**	**-0.1**
PET				pmax	pmax		
	comp=Z,49nm,0.6s						
PET	**Petropavlovsk**	**5.51**	**27**	*e*Pn	**Pn**	**14 13 27.6**	**-1.6**
	comp=Z,28nm,0.4s						
PET				*e*Sn	**Sn**	**14 14 25.0**	**-6.4**
YSS	**Yuzh-Sakhalins**	**8.08**	**266**	*e*PN	**Pn**	**14 14 08.0**	**+3.5**
YSS				S	**Sn**	**14 15 42.0**	**+7.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.08**	**266**	*e*P	**Pn**	**14 14 05.9**	**+1.4**
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**9.24**	**248**	P	**Pn**	**14 14 23.9**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=95,slow=16,SNR=5.5						
ASAJ	**Asahikawa**	**9.24**	**248**	PN	**Pn**	**14 14 23.9**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**11.64**	**350**	PN	**Pn**	**14 14 52.0**	**-1.3**
MA2				pmax	pmax		
	comp=Z,74nm,1.1s						
MA2	**Magadan**	**11.64**	**350**	Pn	**Pn**	**14 14 52.0**	**-1.3**
	comp=Z,74nm,1.1s						
KLR	**Kul'dur**	**15.09**	**283**	*e*P	**Pn**	**14 15 46.6**	**+6.6**
MAJO	**Matsushiro**	**16.73**	**232**	P	**Pn**	**14 15 58.5**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAJO	**Matsushiro**	**16.73**	**232**	P	**Pn**	**14 15 58.5**	**-2.4**
	comp=Z,4.0nm,0.9s						
MJAR	**Matsushiro Arr**	**16.73**	**232**	P	**Pn**	**14 15 59.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=3.9						
YAK	**Yakutsk**	**19.70**	**324**	P	**Pn**	**14 16 35.8**	**-1.3**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK	**Yakutsk**	**19.70**	**324**	P	**Pn**	**14 16 35.8**	**-1.3**
	comp=Z,26nm,0.9s						
CN2	**Changchun**	**20.63**	**269**	*e*P	**P**	**14 16 48.0**	**+2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KSRS	**Korea Array**	**22.18**	**251**	P	**P**	**14 17 02.6**	**+0.6**
	comp=Z,4.1nm,0.9s,mb3.9,baz=52,slow=10,SNR=11						
HHC	**Hu-ho-hao-te**	**31.19**	**273**	*e*P	**P**	**14 18 25.4**	**+0.6**
HHC				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
COLA	**College**	**34.41**	**40**	*e*P	**P**	**14 18 53.0**	**+0.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
COLA	**College**	**34.41**	**40**	*e*P	**P**	**14 18 53.0**	**+0.1**
	comp=Z,3.5nm,0.9s,mb4.3						
INK	**Inuvik**	**39.93**	**33**	P	**P**	**14 19 40.4**	**+0.8**
	comp=Z,0.9nm,0.4s,mb3.9,baz=258,slow=6.4,SNR=9.2						
INK	**Inuvik**	**39.93**	**33**	*e*P	**P**	**14 19 39.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,39nm,0.5s						
INK	**Inuvik**	**39.93**	**33**	*e*P	**P**	**14 19 39.9**	**+0.2**
	comp=Z,39nm,0.5s,mb5.4						
ZAL	**Zalesovo**	**42.61**	**305**	P	**P**	**14 20 00.2**	**-1.4**
	comp=Z,1.6nm,0.4s,mb4.1,baz=37,slow=3.2,SNR=3.7						
WMQ	**Urumqi**	**45.34**	**291**	P	**P**	**14 20 23.4**	**-0.1**
WMQ				AP	pP	14 20 27.9	-7.7
WMQ				XP	sP	14 20 30.4	-10
WMQ				PCP	PcP	14 22 03.6	+1.1
WMQ				PP	PP	14 22 10.1	0.0
WMQ				PPP		14 22 51.4	
WMQ				*e*S	**S**	**14 27 02.8**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,63nm,7.9s						
KMI	**Kunming**	**46.47**	**259**	P	**P**	**14 20 30.9**	**-1.6**
KMI				AP	pP	14 20 36.0	-8.5
KMI				XP	sP	14 20 38.1	-11
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
KMI	**Kunming**	**46.47**	**259**	P	**P**	**14 20 30.9**	**-1.6**
	comp=Z,9.0nm,1.2s,mb4.6						
KMI				pP	pP	14 20 36.0	-8.5
KMI				sP	sP	14 20 38.1	-11
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	**14 20 37.6**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=65,slow=7.5,SNR=6.7						
RES	**Resolute Bay**	**49.17**	**19**	*e*P	**P**	**14 20 54.4**	**+1.0**
RES				pmax	pmax		
	comp=Z,113nm,0.5s						
RES	**Resolute Bay**	**49.17**	**19**	*e*P	**P**	**14 20 54.4**	**+0.9**
	comp=Z,113nm,0.5s						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**	**14 21 00.7**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.2						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**	**14 21 00.7**	**-1.1**
	comp=Z,9.5nm,0.4s,mb5.2						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**14 21 04.8**	**-0.4**
	comp=Z,5.8nm,0.4s,mb4.9,baz=60,slow=7.6,SNR=38						
BVAR				PcP	PcP	14 22 21.5	-0.3
	comp=Z,0.9nm,0.6s,baz=62,slow=6.0,SNR=3.0						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	**P**	**14 21 04.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	**P**	**14 21 04.6**	**-0.8**
	comp=Z,5.7nm,0.5s,mb4.8						
LSA	**Lhasa**	**51.18**	**273**	P	**P**	**14 21 10.8**	**+2.2**
AAK	**Ala-Archa**	**54.09**	**296**	P	**P**	**14 21 29.1**	**-1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**54.09**	**296**	P	**P**	**14 21 29.1**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9						
ARU	**Arti**	**54.63**	**317**	P	**P**	**14 21 30.8**	**-3.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	**Arti**	**54.63**	**317**	P	**P**	**14 21 30.8**	**-3.3**
	comp=Z,4.0nm,0.7s,mb4.6						
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**14 22 34.4**	**+1.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=196,slow=2.8,SNR=3.5						
FINES	**FINESS Array B**	**63.17**	**335**	P	**P**	**14 22 31.8**	**-1.5**
	comp=Z,2.4nm,1.0s,mb4.3,baz=36,slow=8.3,SNR=6.6						
FINES	**FINESS Array B**	**63.17**	**335**	P	**P**	**14 22 31.8**	**-1.5**
NOA	**NORSAR Array B**	**67.20**	**342**	P	**P**	**14 22 59.7**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=80,slow=6.2,SNR=3.3						
BORG	**Borgarnes**	**67.38**	**358**	P	**P**	**14 23 00.6**	**0.0**
	comp=Z,24nm,1.0s,mb5.2,baz=321,slow=3.7,SNR=3.5						
WRAB	**Tennant Creek**	**70.17**	**200**	P	**P**	**14 23 17.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
WRAB	**Tennant Creek**	**70.17**	**200**	P	**P**	**14 23 17.8**	**-0.1**
	comp=Z,7.1nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**70.18**	**200**	P	**P**	**14 23 16.4**	**-1.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=16,slow=6.4,SNR=5.4						
AKASG	**Malin Array Be**	**70.91**	**327**	P	**P**	**14 23 21.0**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=33,slow=5.9,SNR=5.4						
ASAR	**Alice Springs**	**73.87**	**200**	P	**P**	**14 23 40.3**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=12,slow=5.4,SNR=3.7						
BURAR	**Bucovina Array**	**74.94**	**327**	⇑*i*P	**P**	**14 23 46.5**	**+0.3**
BURAR	**Bucovina Array**	**74.94**	**327**	⇑P	**P**	**14 23 46.5**	**+0.2**
CLL	**Collm**	**75.57**	**336**	*i* P	**P**	**14 23 50.0**	**+0.1**
	comp=Z,8.0nm,1.0s,mb4.6						
MORC	**Moravsky Berou**	**75.64**	**333**	⇑*i*P	**P**	**14 23 49.9**	**-0.3**
MORC	**Moravsky Berou**	**75.64**	**333**	*e*P	**P**	**14 23 48.9**	**-1.3**
	comp=Z,4.2nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**75.95**	**62**	P	**P**	**14 23 51.9**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=318,slow=6.2,SNR=4.5						
VRAC	**Vranov**	**76.34**	**333**	⇓*i*P	**P**	**14 23 54.9**	**+0.7**
VRAC	**Vranov**	**76.34**	**333**	⇓P	**P**	**14 23 54.9**	**+0.7**
MLR	**Muntele Rosu**	**76.46**	**326**	⇓*i*P	**P**	**14 23 55.9**	**+1.0**
MLR	**Muntele Rosu**	**76.46**	**326**	⇓P	**P**	**14 23 55.9**	**+1.0**
VOIR		**76.84**	**326**	⇑*i*P	**P**	**14 23 58.3**	**+1.2**
VOIR		**76.84**	**326**	⇑P	**P**	**14 23 58.3**	**+1.2**
MALT	**Malatya**	**76.90**	**314**	*e*P	**P**	**14 23 58.7**	**+1.3**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MALT	**Malatya**	**76.90**	**314**	*e*P	**P**	**14 23 58.7**	**+1.3**
	comp=Z,3.4nm,0.7s,mb4.4						
GERES	**GERESS Array B**	**77.60**	**335**	P	**P**	**14 24 01.8**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=28,slow=6.0,SNR=9.8						
BR131	**Keskin Array S**	**78.02**	**317**	*e*P	**P**	**14 24 03.9**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**78.02**	**317**	P	**P**	**14 24 04.5**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.3,baz=69,slow=3.8,SNR=15						

*STR **18** 14:14:53.0±0.2,4302N×002W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 14:14:53.1±0.3,4297N×000E,h2km,Md1.7/2,Ml1.7/1, Error ellipse: s-maj=148.3km s-min=1.3km az=168.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIEF	**Viey**	**0.09**	**170**	Pg	Pg	14 14 55.9	+1.1
VIEF				Sg	Sg	14 14 57.9	+1.9
LABF	**Labassere**	**0.09**	**34**	Pg	Pg	14 14 54.7	-0.2
LABF				Sg	Sg	14 14 56.0	-0.1
EPF	**Esparros**	**0.26**	**76**	*e*Pg	Pg	14 14 57.9	-0.1
EPF				*e*Sg	Sg	14 15 01.5	+0.2
	7.6nm,0.2s						
ETSF	**Etsaut**	**0.42**	**260**	*e*Pg	Pg	14 15 01.1	0.0
ETSF				*e*Sg	Sg	14 15 07.0	+0.4
	2.1nm,0.2s						
MTLF	**Montolieu**	**1.66**	**76**	*e*Pg	Pg	14 15 24.1	-0.9
MTLF				*e*Sg	Sg	14 15 45.5	-1.0
	0.9nm,0.3s						

IDC 18 14:16:22.7±25.0,4780N×15544E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.5/23,mbtmp3.8/4,Error ellipse: s-maj=549.1km s-min=94.5km az=154.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**43.30**	**306**	P	P	14 24 25.6	-0.5
	0.6nm,0.4s,baz=341,slow=8.7,SNR=2.7						
MKAR	**Makanchi Array**	**47.86**	**298**	P	P	14 25 02.0	-0.3
	0.6nm,0.8s,baz=73,slow=9.0,SNR=4.7						
BVAR	**Borovoye Array**	**51.41**	**310**	P	P	14 25 29.0	-0.4
	1.0nm,0.5s,baz=78,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**63.76**	**336**	P	P	14 26 55.7	-0.6
	0.8nm,0.7s,baz=38,slow=9.6,SNR=4.3						

IDC 18 14:18:41.2±2.1,4679N×15514E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/23,mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=65.1km s-min=28.3km az=162.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.21**	**258**	Pn	Pn	14 20 55.4	+0.1
	0.3nm,0.3s,baz=195,slow=34,SNR=2.6						
KSRS	**Korea Array**	**22.14**	**255**	P	P	14 23 39.2	+0.7
	0.8nm,0.7s,baz=53,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**48.15**	**298**	P	P	14 27 21.8	-1.2
	0.3nm,0.6s,baz=66,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**64.59**	**336**	P	P	14 29 20.4	+0.1
	1.3nm,0.8s,baz=36,slow=6.2,SNR=6.7						
TXAR	**Lajitas Array**	**76.25**	**62**	P	P	14 30 31.6	0.0
	0.3nm,0.6s,baz=306,slow=6.1,SNR=3.8						

IDC 18 14:23:35.4±1.3,4765N×15381E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/22,mbtmp3.5/4,Error ellipse: s-maj=43.8km s-min=37.8km az=79.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.95**	**297**	P	P	14 32 06.3	-1.6
	0.1nm,0.4s,baz=60,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**63.43**	**335**	P	P	14 34 07.5	+0.6
	1.4nm,0.8s,baz=60,slow=8.2,SNR=3.8						
ASAR	**Alice Springs**	**73.21**	**199**	P	P	14 35 08.3	+0.2
	0.3nm,0.5s,baz=13,slow=5.7,SNR=5.3						
TXAR	**Lajitas Array**	**76.64**	**61**	P	P	14 35 27.5	-0.4
	0.2nm,0.6s,baz=268,slow=2.6,SNR=3.1						

IDC 18 14:27:33.4±6.3,569N×9507E,h74km±44km,mb3.3/5, mb1 3.4/6,mb1mx3.2/22,mbtmp3.3/6,ML3.1/1,Error ellipse: s-maj=107.3km s-min=18.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.80**	**127**	P	Pn	14 28 45.5	+2.4
	0.9nm,0.3s,baz=305,slow=16,SNR=3.7						
PSI				S	Sn	14 29 39.1	+1.8
	0.5nm,0.3s,baz=286,slow=15,SNR=2.2						
MKAR	**Makanchi Array**	**42.41**	**347**	P	P	14 35 20.4	-0.2
	1.1nm,0.6s,baz=165,slow=8.8,SNR=14						
SONM	**Songino Array**	**43.10**	**11**	P	P	14 35 27.3	+1.1
	0.7nm,0.8s,baz=189,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**46.26**	**124**	P	P	14 35 52.1	+0.8
	0.3nm,0.5s,baz=304,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**47.82**	**129**	P	P	14 36 03.7	+0.2
	0.3nm,0.6s,baz=303,slow=7.9,SNR=5.0						
ZAL	**Zalesovo**	**48.83**	**352**	P	P	14 36 10.3	-0.9
	0.9nm,0.4s,baz=155,slow=5.0,SNR=3.0						

*LDG **18** 14:29:33.9±0.2,4286N×007W,h2km,Md1.5/2,Ml1.5/2, Error ellipse: s-maj=9.0km s-min=1.0km az=172.0*
STR 18 14:29:34.0±0.1,4300N×007W,h7km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.12**	**66**	Pg	Pg	14 29 37.0	+0.5
LABF				Sg	Sg	14 29 39.4	+1.2
VIEF	**Viey**	**0.14**	**149**	Pg	Pg	14 29 37.5	+0.6
VIEF				Sg	Sg	14 29 40.0	+1.2
EPF	**Esparros**	**0.30**	**84**	*e*Pg	Pg	14 29 40.5	+0.6
EPF				*e*Sg	Sg	14 29 45.2	+1.3
	8.8nm,0.2s						
ETSF	**Etsaut**	**0.37**	**254**	*e*Pg	Pg	14 29 40.8	-0.5
ETSF				*e*Sg	Sg	14 29 45.4	-0.8
	8.9nm,0.3s						
ATE	**Arette**	**0.47**	**281**	Pg	Pg	14 29 43.1	0.0
SJPF	**Ste Jean**	**0.85**	**278**	*e*Pg	Pg	14 29 50.6	+0.2
SJPF				*e*Sg	Sg	14 30 01.7	+0.2
	1.3nm,0.2s						
MTLF	**Montolieu**	**1.71**	**78**	*e*Sn	Sn	14 30 25.1	-1.1
MTLF				*e*Sg	Sg	14 30 28.9	0.0
	0.6nm,0.3s						

*STR **18** 14:31:14.5±0.0,4302N×003W,h2km±1km,Ml1.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 14:31:14.4±0.2,4300N×002W,h10km±2km,Md1.6/2, Ml1.5/2,Error ellipse: s-maj=9.6km s-min=2.3km az=165.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.09**	**53**	Pg	Pg	14 31 16.4	-0.4
LABF				Sg	Sg	14 31 17.8	-0.7
VIEF	**Viey**	**0.12**	**165**	Pg	Pg	14 31 17.6	+0.4
VIEF				Sg	Sg	14 31 19.8	+0.6
EPF	**Esparros**	**0.27**	**83**	*e*Pg	Pg	14 31 19.6	-0.2
EPF				*e*Sg	Sg	14 31 23.5	+0.1
	2.5nm,0.2s						
ETSF	**Etsaut**	**0.41**	**256**	*e*Pg	Pg	14 31 22.4	0.0
ETSF				*e*Sg	Sg	14 31 28.4	+0.5
	4.2nm,0.4s						
MTLF	**Montolieu**	**1.67**	**77**	*e*Pg	Pg	14 31 46.0	-0.5
MTLF				*e*Sg	Sg	14 32 07.3	-0.9
	0.4nm,0.2s						
CAF	**Calviac**	**2.45**	**37**	*e*Pn	Pn	14 31 52.5	-1.8
CAF				*e*Sg	Sg	14 32 31.5	-1.5
	0.5nm,0.3s						

*ISCJB **18** 14:35:45.6±2.1,472N±02×1528E±03,h94km±20km, mb3.4/4, Error ellipse: s-maj=47.4km s-min=17.5km az=93.7*
*MOS **18** 14:35:46.1±1.0,4722N×15262E,h99km,mb4.0/2,Error ellipse: s-maj=61.2km s-min=25.6km az=65.0*
*IDC **18** 14:35:52.4±9.6,4684N×15276E,h157km±103km,mb3.1/4, mb1 3.3/5,mb1mx3.0/24,mbtmp3.0/5,Error ellipse: s-maj=63.0km s-min=32.5km az=177.0*
ISC 18 14:35:46.7±1.9,471N±02×1528E±03,h93km±19km,n8, σ0§59/8,mb3.4/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.18**	**31**	*e*PN	**Pn**	**14 36 48.1**	**-0.1**
SKR				*e*		14 37 34.5	
MJAR	**Matsushiro Arr**	**15.13**	**231**	P	**Pn**	**14 39 15.4**	**+0.1**
	0.0nm,0.3s,baz=31,slow=8.3,SNR=4.5						
INK	**Inuvik**	**41.46**	**33**	P	**P**	**14 43 25.1**	**+0.8**
	0.8nm,1.0s,mb3.5,baz=248,slow=11,SNR=4.1						
INK	**Inuvik**	**41.46**	**33**	P	**P**	**14 43 25.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**46.56**	**297**	P	**P**	**14 44 05.1**	**0.0**
	comp=Z,0.1nm,0.5s,mb2.8,baz=62,slow=7.5,SNR=2.8						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**14 46 07.3**	**-0.3**
	comp=Z,2.4nm,1.1s,mb4.0,baz=20,slow=6.1,SNR=5.2						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**14 46 07.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**14 47 31.7**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.2,baz=306,slow=5.4,SNR=4.2						

*IDC **18** 14:40:30.9±0.8,756S×12844E,h0km,mb4.1/8, mb1 4.3/11,mb1mx4.2/18,mbtmp4.2/11,ML4.7/3,Error ellipse: s-maj=36.4km s-min=15.9km az=77.0*
*ISCJB **18** 14:40:32.4±4.4,760S±008×12860E±010,h28km±34km, mb4.1/14,Error ellipse: s-maj=18.8km s-min=9.5km az=111.9*
*NEIC **18** 14:40:34.2±4.5,757S×12861E,h26km±34km,mb4.4/7, Error ellipse: s-maj=17.9km s-min=12.0km az=65.0*
ISC 18 14:40:35.9±1.7,760S±008×12860E±010,h37km±19km, n31,σ1§16/34,mb4.1/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.33**	**144**	*e*P	**Pn**	**14 42 11.7**	**+5.1**
	86nm,0.6s						
KAKA				*e*S	**Sn**	**14 43 17.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.83**	**195**	*e*P	**Pn**	**14 43 09.7**	**+1.4**
	17nm,0.3s						
FITZ				*e*S	**Sn**	**14 45 00.9**	**-7.3**
FITZ	**Fitzroy Crossi**	**10.83**	**195**	Pn	**Pn**	**14 43 08.7**	**+0.4**
	3.8nm,0.3s,baz=36,slow=12,SNR=68						
FITZ				Sn	**Sn**	**14 44 57.9**	**-10**
	1.3nm,0.3s,baz=86,slow=21,SNR=3.6						
WRAB	**Tennant Creek**	**13.47**	**156**	*e*Pn	**Pn**	**14 43 44.4**	**0.0**
	17nm,0.5s						
WRAB				*e*Sn	Sx	14 46 03.9	
WRA	**Warramunga Arr**	**13.47**	**156**	Pn	**Pn**	**14 43 44.6**	**+0.2**
	6.5nm,0.3s,baz=330,slow=13,SNR=135						
WRA				Sn	Sx	14 46 02.3	
	6.5nm,0.3s,baz=345,slow=20,SNR=11						
WB2	**Warramunga Arr**	**13.48**	**156**	*e*P	**Pn**	**14 43 44.1**	**-0.4**
WB2				*e*S	Sx	14 46 03.8	
WB2	**Warramunga Arr**	**13.48**	**156**	*e*Pn	**Pn**	**14 43 44.0**	**-0.5**
WB2				*e*Sn	Sx	14 46 01.7	
MBWA	**Marble Bar**	**15.98**	**212**	*e*Pn	**Pn**	**14 44 14.7**	**-3.0**
	17nm,1.0s						
MBWA				*e*Sn	Sx	14 47 01.8	
AS31	**Alice Springs**	**16.77**	**163**	*e*Pn	**Pn**	**14 44 26.9**	**-0.9**
AS31				*e*Sn	Sx	14 47 22.4	
ASAR	**Alice Springs**	**16.77**	**163**	Pn	**Pn**	**14 44 27.7**	**0.0**
	1.8nm,0.3s,baz=328,slow=9.8,SNR=89						
ASAR				Sn	Sx	14 47 23.9	
	1.5nm,0.3s,baz=316,slow=16,SNR=7.2						
ASAR	**Alice Springs**	**16.77**	**163**	Pn	**Pn**	**14 44 27.7**	**0.0**
ASAR				Sn	**Sn**	**14 47 23.9**	**-9.0**
KSM	**Kuching**	**20.35**	**296**	*e*P	**P**	**14 45 09.9**	**+0.8**
FORT	**Forrest**	**23.07**	**181**	*e*P	**P**	**14 45 39.2**	**+1.2**
	12nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**25.93**	**202**	*e*P	**P**	**14 46 06.8**	**+2.3**
	8.1nm,0.8s,mb4.3						
MUN	**Mundaring**	**26.86**	**204**	*e*P	**P**	**14 46 16.7**	**+3.7**
STKA	**Stephens Creek**	**27.02**	**155**	*e*P	**P**	**14 46 15.9**	**+1.6**
	2.2nm,0.4s,mb4.0						
STKA				*e*		14 46 34.5	
STKA	**Stephens Creek**	**27.02**	**155**	P	**P**	**14 46 16.0**	**+1.7**
	2.9nm,0.5s,mb4.1,baz=329,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**27.02**	**155**	*e*P	**P**	**14 46 15.4**	**+1.0**
STKA				*e*		14 46 34.5	
STKA				*e*		14 46 34.5	
NWAO	**Narrogin (SRO)**	**27.32**	**201**	P	**P**	**14 46 17.4**	**+0.3**
	5.4nm,0.7s,mb4.2,baz=6.3,slow=9.2,SNR=2.9						
PSI	**Prapat**	**31.36**	**288**	P	**P**	**14 46 52.0**	**-0.9**
	4.0nm,0.8s,mb4.3,baz=135,slow=8.6,SNR=3.7						
PSI	**Prapat**	**31.36**	**288**	P	**P**	**14 46 52.0**	**-0.9**
KSRS	**Korea Array**	**44.82**	**359**	P	**P**	**14 48 47.1**	**+1.0**
	0.7nm,0.5s,mb3.8,baz=182,slow=9.5,SNR

GKN	**Gorkha**	**50.71**	**20**	*eP*	**P**		**14 55 11.0**	**+0.4**
	30nm,1.1s,mb5.1							
KKN	**Kakani**	**50.73**	**21**	*eP*	**P**		**14 55 10.9**	**+0.2**
	24nm,1.1s,mb5.0							
GUN	**Gumba**	**51.04**	**21**	*eP*	**P**		**14 55 13.9**	**+0.8**
	18nm,0.7s,mb5.2							
CASY	**Casey**	**53.85**	**160**	P	**P**		**14 55 31.1**	**-2.8**
	19nm,0.9s,mb5.0							
LSA	**Lhasa**	**54.62**	**26**	P	**P**		**14 55 40.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**54.92**	**98**	P	**P**		**14 55 40.8**	**-0.9**
	4.8nm,1.0s,mb4.5,baz=238,slow=8.9,SNR=3.6							
FITZ				LR	LR		15 17 55.9	
	comp=Z,260nm,18.2s,MS4.3,baz=70,slow=35							
KMI	**Kunming**	**56.67**	**39**	P	**P**		**14 55 56.3**	**+2.0**
KMI				AP	pP		14 56 01.0	+3.5
KMI				XP	sP		14 56 03.3	+4.6
KMI				AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.5							
KMI	**Kunming**	**56.67**	**39**	P	**P**		**14 55 56.3**	**+2.0**
	comp=Z,5.0nm,1.0s,mb4.5							
KMI				pP	pP		14 56 01.0	+3.5
KMI				sP	sP		14 56 03.2	+4.5
ASAR	**Alice Springs**	**61.40**	**107**	P	**P**		**14 56 26.3**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=258,slow=5.7,SNR=14							
ASAR				LR	LR		15 18 39.8	
	comp=Z,440nm,18.4s,MS4.7,baz=331,slow=32							
WRA	**Warramunga Arr**	**62.56**	**103**	P	**P**		**14 56 34.4**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.6,baz=258,slow=5.9,SNR=8.7							
TGY	**Tagaytay City**	**62.77**	**61**	LR	LR		15 20 43.9	
	comp=Z,1.3nm,18.2s,baz=200,slow=33							
AAK	**Ala-Archa**	**62.81**	**6**	*eP*	**P**		**14 56 35.3**	**-1.2**
	comp=Z,4.3nm,1.1s,mb4.5							
SNAA	**Sanae**	**64.81**	**199**	P	**P**		**14 56 48.5**	**-1.2**
	comp=Z,0.7nm,1.1s,mb3.6,baz=100,slow=6.1,SNR=3.7							
VNA2	**Neumayer--Watz**	**66.12**	**200**	*e*	**P**		**14 56 55.0**	**-3.2**
	baz=85,slow=5.7							
VNA2				*e*			14 57 07.1	
WMQ	**Urumqi**	**66.34**	**16**	P	**P**		**14 56 59.6**	**0.0**
WMQ				AP	pP		14 57 04.1	+1.2
WMQ				XP	sP		14 57 06.6	+2.5
WMQ				PCP	PcP		14 57 30.1	+0.6
WMQ				PP	PP		14 59 27.6	+2.0
WMQ				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,164nm,6.8s							
WMQ				LR	LR			
	comp=N,291nm,23.4s,MS4.6							
WMQ				LR	LR			
	comp=E,209nm,18.6s,MS4.6							
WMQ				LR	LR			
	comp=Z,139nm,21.5s,MS4.1							
GTA	**Gaotai**	**66.58**	**27**	*eP*	**P**		**14 57 01.6**	**+0.4**
GTA				AP	pP		14 57 08.3	+3.8
GTA				XP	sP		14 57 11.0	+5.3
GTA				AMB	AMB			
	comp=Z,5.0nm,1.2s,mb4.4							
STKA	**Stephens Creek**	**66.66**	**117**	P	**P**		**14 57 02.0**	**+0.3**
	comp=Z,1.1nm,0.9s,mb3.9,baz=288,slow=13,SNR=2.1							
STKA	**Stephens Creek**	**66.66**	**117**	P	**P**		**14 57 03.4**	**+1.8**
VNA3	**Neumayer Olymp**	**66.89**	**200**	*e*	**P**		**14 57 04.4**	**+1.2**
VNA3				*e*			14 57 16.0	
BRTR	**Keskin Array B**	**67.34**	**332**	P	**P**		**14 57 06.7**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=121,slow=5.6,SNR=3.7							
MKAR	**Makanchi Array**	**67.98**	**11**	P	**P**		**14 57 09.0**	**-1.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=212,slow=6.3,SNR=8.7							
QSPA	**South Pole Qui**	**69.97**	**180**	*eP*	**P**		**14 57 24.1**	**+1.6**
	comp=Z,11nm,1.0s,mb4.8							
AKTK	**Aktyubinsk**	**70.74**	**354**	P	**P**		**14 57 25.8**	**-1.3**
AKTO	**Aktyubinsk**	**70.74**	**354**	P	**P**		**14 57 25.8**	**-1.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=192,slow=8.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**72.50**	**292**	P	**P**		**14 57 37.5**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=126,slow=2.0,SNR=3.4							
TORD				LR	LR		15 29 56.6	
	comp=Z,391nm,20.7s,MS4.7,baz=340,slow=36							
BVAR	**Borovoye Array**	**72.90**	**2**	P	**P**		**14 57 39.2**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=169,slow=8.4,SNR=6.2							
HHC	**Hu-ho-hao-te**	**73.30**	**34**	*eP*	**P**		**14 57 44.8**	**+2.3**
HHC				AP	pP		14 57 49.5	+3.8
HHC				PCP	PcP		14 58 01.0	+2.2
HHC				PP	PP		15 00 30.4	+4.7
HHC				S	S		15 07 12.5	+1.5
HHC				XS	sS		15 07 22.3	+5.9
HHC				SKS			15 07 46.0	
HHC				SS	SS		15 11 56.0	+3.2
HHC				AMB	AMB			
	comp=Z,11nm,1.2s,mb4.7							
HHC				AMB	AMB			
	comp=Z,221nm,10.9s							
HHC				LR	LR			
	comp=N,241nm,21.0s,MS4.7							
HHC				LR	LR			
	comp=E,311nm,18.6s,MS4.7							
HHC				LR	LR			
	comp=Z,236nm,18.1s,MS4.5							
ZAL	**Zalesovo**	**75.30**	**11**	P	**P**		**14 57 52.6**	**-1.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=141,slow=3.1,SNR=3.1							
SONM	**Songino Array**	**76.21**	**26**	P	**P**		**14 57 59.4**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.1,baz=245,slow=5.9,SNR=12							
ULN	**Ulaanbaatar**	**76.50**	**26**	*eP*	**P**		**14 58 00.1**	**-0.9**
	comp=Z,4.0nm,1.2s,mb4.2							
AKASG	**Malin Array Be**	**78.10**	**336**	P	**P**		**14 58 09.1**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=144,slow=4.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**87.45**	**50**	P	**P**		**14 58 58.3**	**-0.2**
	comp=Z,2.5nm,1.0s,mb4.4,baz=226,slow=5.5,SNR=7.1							
UCC	**Uccle**	**89.61**	**326**	AP	pP		14 59 13.7	+1.6
TXAR	**Lajitas Array**	**167.71**	**320**	PKPab	PKPab		15 07 24.9	+1.2
	comp=Z,0.3nm,0.9s,baz=54,slow=6.4,SNR=3.9							

*IDC **18** 14:47:31.2±1.9, 43.08S×172.31E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/10, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=44.5km s-min=14.0km az=136.0*

*ISCJB **18** 14:47:33.1±0.4, 43.01S±3.003×172.11E±0.05, h25km±5km, mb3.6/2, Error ellipse: s-maj=6.4km s-min=3.6km az=70.1*

*NEIC **18** 14:47:33.2, 42.99S×172.11E, h7km, ML4.3(WEL), After WEL.*

NEIC Felt in parts of central South Island north of Christchurch.

*WEL **18** 14:47:33.0±0.1, 42.99S×172.10E, h5km, ML4.2/34, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0*

WEL Felt from West Coast to Canterbury, maximum reported intensity MM 4.

ISC 18 14:47:32.9±0.5, 43.00S±0.002×172.09E±0.004, h14km±4km, n72, σ0.97/79, mb3.6/2, 4C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.26**	**32**	⇓P		**Pg**	**14 47 37.9**	**-0.5**
LTZ				S		**Sg**	**14 47 41.6**	**-0.6**
LTZ	**Lake Taylor**	**0.26**	**32**	⇑Pg		**Pg**	**14 47 37.8**	**-0.6**
LTZ				SG		**Sg**	**14 47 41.6**	**-0.6**
CRLZ	**Canterbury Las**	**0.70**	**146**	P		**Pg**	**14 47 46.6**	**+0.1**
CRLZ				S		**Sg**	**14 47 57.2**	**+1.5**
CRLZ	**Canterbury Las**	**0.70**	**146**	⇑P*		**Pb**	**14 47 46.6**	**-0.2**
CRLZ				S*		**Sb**	**14 47 57.2**	**+1.0**
MQZ	**McQueen's Vall**	**0.82**	**150**	P		**Pg**	**14 47 48.7**	**-0.1**
MQZ				S		**Sg**	**14 48 00.1**	**+0.5**
MQZ	**McQueen's Vall**	**0.82**	**150**	⇑P*		**Pb**	**14 47 48.6**	**-0.3**
MQZ				S*		**Sb**	**14 48 00.1**	**+0.4**
WVZ	**Waitaha Valley**	**0.99**	**265**	⇓P*		**Pb**	**14 47 51.9**	**+0.1**
RPZ	**Rata Peaks**	**1.04**	**226**	Pg		**Pg**	**14 47 53.3**	**+0.3**
	624nm,0.3s,baz=13,slow=0.6,SNR=1098							
RPZ				Lg			14 48 07.0	
	461nm,0.3s,baz=21,slow=20,SNR=11							
RPZ	**Rata Peaks**	**1.04**	**226**	P		**Pb**	**14 47 52.9**	**+0.3**
RPZ	**Rata Peaks**	**1.04**	**226**	P*		**Pb**	**14 47 52.7**	**0.0**
RPZ				S*		**Sb**	**14 48 07.2**	**+1.1**
KHZ	**Kahutara**	**1.22**	**62**	*eP*		**Pn**	**14 47 55.1**	**-0.4**
KHZ	**Kahutara**	**1.22**	**62**	P*		**Pb**	**14 47 55.1**	**-0.6**
DSZ	**Denniston Nort**	**1.27**	**350**	P		**Pn**	**14 47 56.7**	**+0.5**
DSZ	**Denniston Nort**	**1.27**	**350**	⇑P*		**Pb**	**14 47 56.7**	**+0.1**
THZ	**Tophouse**	**1.38**	**26**	P		**Pn**	**14 47 57.8**	**+0.1**
THZ	**Tophouse**	**1.38**	**26**	PN		**Pn**	**14 47 57.7**	**+0.1**
FOZ	**Fox Glacier**	**1.84**	**251**	*eP*		**Pn**	**14 48 03.9**	**-0.1**
FOZ	**Fox Glacier**	**1.84**	**251**	PN		**Pn**	**14 48 03.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.85**	**47**	P		**Pn**	**14 48 04.5**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.85**	**47**	PN		**Pn**	**14 48 04.4**	**+0.3**
LBZ	**Lake Benmore**	**1.96**	**224**	*eP*		**Pn**	**14 48 05.7**	**+0.1**
LBZ	**Lake Benmore**	**1.96**	**224**	PN		**Pn**	**14 48 05.6**	**0.0**
CMWZ	**Cape Campbell**	**2.01**	**52**	P		**Pn**	**14 48 06.8**	**+0.4**
CMWZ	**Cape Campbell**	**2.01**	**52**	*eP*N		**Pn**	**14 48 06.8**	**+0.5**
NNZ	**Nelson**	**2.02**	**29**	P		**Pn**	**14 48 07.6**	**+1.0**
NNZ	**Nelson**	**2.02**	**29**	PN		**Pn**	**14 48 07.3**	**+0.8**
QRZ	**Quartz Range**	**2.20**	**9**	P		**Pn**	**14 48 09.6**	**+0.7**
QRZ	**Quartz Range**	**2.20**	**9**	PN		**Pn**	**14 48 09.6**	**+0.6**
ODZ	**Otahua Downs**	**2.29**	**206**	*eP*		**Pn**	**14 48 09.5**	**-0.8**
ODZ	**Otahua Downs**	**2.29**	**206**	PN		**Pn**	**14 48 09.5**	**-0.7**
TCW	**Tory Channel**	**2.42**	**43**	P		**Pn**	**14 48 11.7**	**-0.3**
TCW	**Tory Channel**	**2.42**	**43**	PN		**Pn**	**14 48 11.6**	**-0.3**
SNZO	**South Karori**	**2.58**	**50**	*eP*		**Pn**	**14 48 13.5**	**-0.7**
SNZO	**South Karori**	**2.58**	**50**	PN		**Pn**	**14 48 13.5**	**-0.6**
BHW	**Baring Head**	**2.61**	**53**	P		**Pn**	**14 48 13.6**	**-1.0**
BHW	**Baring Head**	**2.61**	**53**	PN		**Pn**	**14 48 13.6**	**-1.0**
MRW	**Makara Radio**	**2.63**	**49**	P		**Pn**	**14 48 14.3**	**-0.6**
MRW	**Makara Radio**	**2.63**	**49**	PN		**Pn**	**14 48 14.3**	**-0.6**
JCZ	**Jackson Bay**	**2.65**	**245**	*eP*		**Pn**	**14 48 15.5**	**+0.4**
JCZ	**Jackson Bay**	**2.65**	**245**	PN		**Pn**	**14 48 15.4**	**+0.3**
MSWZ	**Moikau Station**	**2.83**	**57**	P		**Pn**	**14 48 16.4**	**-1.3**
MSWZ	**Moikau Station**	**2.83**	**57**	*e*PN		**Pn**	**14 48 16.0**	**-1.7**
WKZ	**Wanaka**	**2.87**	**229**	*eP*		**Pn**	**14 48 17.6**	**-0.6**
WKZ	**Wanaka**	**2.87**	**229**	PN		**Pn**	**14 48 17.3**	**-0.9**
EAZ	**Earnscleugh**	**3.00**	**221**	*eP*		**Pn**	**14 48 19.6**	**-0.3**
EAZ	**Earnscleugh**	**3.00**	**221**	*e*PN		**Pn**	**14 48 18.9**	**-1.0**
KIW	**Kapiti Island**	**3.00**	**46**	P		**Pn**	**14 48 19.9**	**-0.1**
KIW	**Kapiti Island**	**3.00**	**46**	*e*PN		**Pn**	**14 48 19.0**	**-1.0**
HHSZ	**Highcliff Hill**	**3.08**	**200**	*e*PN		**Pn**	**14 48 19.6**	**-1.4**
MTW	**Mount Morrison**	**3.14**	**55**	P		**Pn**	**14 48 20.7**	**-1.2**
MTW	**Mount Morrison**	**3.14**	**55**	*e*PN		**Pn**	**14 48 20.0**	**-1.9**
TUZ	**Tuapeka**	**3.44**	**210**	*eP*		**Pn**	**14 48 25.4**	**-0.6**
TUZ	**Tuapeka**	**3.44**	**210**	PN		**Pn**	**14 48 25.4**	**-0.6**
MRZ	**Mangatainoka R**	**3.50**	**49**	*eP*		**Pn**	**14 48 25.3**	**-1.6**
MRZ	**Mangatainoka R**	**3.50**	**49**	PN		**Pn**	**14 48 25.2**	**-1.7**
WAZ	**Wanganui**	**3.91**	**35**	*eP*		**Pn**	**14 48 33.4**	**+1.0**
NRZ	**Ngariki Road**	**3.92**	**21**	*eP*		**Pn**	**14 48 35.0**	**+2.4**
NWEZ	**Newall Road**	**3.96**	**20**	P		**Pn**	**14 48 35.6**	**+2.5**
NEZ	**North Egmont**	**4.02**	**23**	P		**Pn**	**14 48 37.6**	**+3.6**
RAEZ	**Rainy Point**	**4.10**	**26**	P		**Pn**	**14 48 37.6**	**+2.5**
SYZ	**Scrubby Hill**	**4.11**	**210**	*e*PN		**Pn**	**14 48 34.6**	**-0.7**
WHZ	**Wether Hill Ro**	**4.14**	**224**	*eP*		**Pn**	**14 48 34.6**	**-1.1**
WHZ	**Wether Hill Ro**	**4.14**	**224**	*e*PN		**Pn**	**14 48 33.9**	**-1.8**
VRZ	**Vera Road**	**4.37**	**28**	*eP*		**Pn**	**14 48 39.8**	**+1.0**
VRZ	**Vera Road**	**4.37**	**28**	*e*PN		**Pn**	**14 48 39.7**	**+0.9**
WNVZ	**Wahianoa**	**4.53**	**37**	P		**Pn**	**14 48 41.2**	**+0.2**
HIZ	**Hauiti**	**4.95**	**26**	*eP*		**Pn**	**14 48 48.0**	**+1.2**
HIZ	**Hauiti**	**4.95**	**26**	*e*PN		**Pn**	**14 48 46.9**	**+0.1**
URZ	**Urewera**	**6.08**	**41**	Pn		**Pn**	**14 49 00.7**	**-1.7**
	0.7nm,0.3s,baz=90,slow=6.4,SNR=5.3							
URZ				Sn		**Sn**	**14 50 06.7**	**-5.1**
	4.7nm,0.3s,baz=110,slow=21,SNR=7.9							
ASAR	**Alice Springs**	**36.87**	**289**	P		**P**	**14 54 41.5**	**+0.7**
	0.6nm,0.6s,mb3.6,baz=128,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**39.09**	**294**	P		**P**	**14 55 03.1**	**+3.6**
	0.5nm,0.5s,mb3.5,baz=137,slow=7.5,SNR=12							
TORD	**Torodi Ar. Bea**	**149.12**	**198**	PKPbc	PKPbc		15 07 21.4	+0.7
	1.2nm,1.0s,baz=163,slow=1.3,SNR=6.3							

*ISCJB **18** 14:47:43.2±0.5, 46.30N±0.008×154.25E±0.10, h10km, mb4.2/32, Error ellipse: s-maj=13.9km s-min=6.9km az=110.6*

*NEIC **18** 14:47:45.0±0.6, 46.40N×154.30E, h10km, mb4.3/9, Error ellipse: s-maj=15.2km s-min=9.5km az=148.0*

*MOS **18** 14:47:46.8±1.0, 46.28N×154.08E, h39km, mb4.6/10, Error ellipse: s-maj=13.9km s-min=11.1km az=87.0*

*BJI **18** 14:47:47.3, 46.60N×153.80E, h10km, mB5.2, mb4.3*

*IDC **18** 14:47:49.8±3.4, 46.28N×154.27E, h46km±32km, mb3.8/18, mb1 3.9/20, mb1mx3.9/28, mbtmp3.8/20, ML3.6/2, Error ellipse: s-maj=17.1km s-min=13.7km az=144.0*

ISC 18 14:47:45.0±4.1, 46.34N±0.009×154.35E±0.01, h10km±26km, n63, σ0.97/60, mb4.2/32, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.52**	**15**	*e*PN		**Pn**	**14 48 53.5**	**+0.1**
KUR	**Kuril'sk**	**4.61**	**258**	*e*PN		**Pn**	**14 48 52.5**	**-2.2**
KUR				pmax	pmax			
	comp=Z,230nm,0.6s							
PET	**Petropavlovsk**	**7.27**	**21**	Pn		**Pn**	**14 49 26.7**	**-4.5**
PET				*e*Sn		**Sn**	**14 50 47.1**	**-6.7**
ASAJ	**Asahikawa**	**8.53**	**259**	P		**Pn**	**14 49 49.8**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=160,slow=14,SNR=8.0							
ASAJ	**Asahikawa**	**8.53**	**259**	PN		**Pn**	**14 49 49.8**	**+1.3**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.49**	**237**	P		**Pn**	**14 51 25.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=266,slow=20,SNR=3.8							
MAJO	**Matsushiro**	**15.49**	**237**	P		**Pn**	**14 51 20.3**	**-3.1**
MAJO				pmax	pmax			
	comp=Z,14nm,1.2s							
MAJO	**Matsushiro**	**15.49**	**237**	Pn		**Pn**	**14 51 20.3**	**-3.1**
	comp=Z,14nm,1.2s							
MAT	**Matsushiro**	**15.49**	**237**	P		**Pn**	**14 51 22.5**	**-0.9**
KSRS	**Korea Array**	**21.45**	**255**	P		**P**	**14 52 34.5**	**+1.3**
	comp=Z,2.1nm,0.8s,mb3.5,baz=58,slow=10,SNR=7.1							
ULN	**Ulaanbaatar**	**31.79**	**290**	P		**P**	**14 54 09.3**	**-0.2**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.1							
ULN	**Ulaanbaatar**	**31.79**	**290**	P		**P**	**14 54 09.3**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.1							
SONM	**Songino Array**	**32.23**	**290**	P		**P**	**14 54 13.6**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.5,baz=75,slow=9.0,SNR=3.9							
KDAK	**Kodiak Island**	**33.75**	**50**	P		**P**	**14 54 26.1**	**-0.6**
	comp=Z,7.0nm,0.7s,mb4.7,baz=206,slow=15,SNR=3.1							
COLA	**College**	**35.97**	**38**	*eP*		**P**	**14 54 46.4**	**+0.6**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
COLA	**College**	**35.97**	**38**	*eP*		**P**	**14 54 46.4**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.4							
LZH	**Lanzhou**	**38.70**	**273**	*eP*		**P**	**14 55 11.5**	**+2.5**
LZH				AP	pP		14 55 16.4	+4.3
LZH				XP	sP		14 55 18.3	+4.9
LZH				AMB	AMB			
	comp=Z,18nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.70**	**273**	*eP*		**P**	**14 55 11.5**	**+2.5**
LZH				*SP	sP		14 55 18.2	+4.8
LZH				pmax	pmax			
	comp=Z,18nm,1.2s,mb4.7							
LZH	**Lanzhou**	**38.70**	**273**	*eP*		**P**	**14 55 11.5**	**+2.5**
	comp=Z,18nm,1.2s,mb4.7							
LZH				pP	pP		14 55 16.4	+4.3
LZH				sP	sP		14 55 18.2	+4.8
GTA	**Gaotai**	**39.83**	**280**	*eP*		**P**	**14 55 20.5**	**+2.1**
GTA				AP	pP		14 55 24.4	+2.9
GTA				XP	sP		14 55 27.0	+4.2
GTA				AMB	AMB			
	comp=Z,2.0nm,0.7s,mb4.0							
INK	**Inuvik**	**41.58**	**32**	P		**P**	**14 55 33.4**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.1,baz=299,slow=6.4,SNR=29							
MKAR	**Makanchi Array**	**47.84**	**298**	P		**P**	**14 56 22.2**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.2,baz=69,slow=8.0,SNR=17							
RES	**Resolute Bay**	**50.98**	**19**	*eP*		**P**	**14 56 46.9**	**+0.2**
RES				pmax	pmax			
	comp=Z,161nm,1.1s							
RES	**Resolute Bay**	**50.98**	**19**	*eP*		**P**	**14 56 46.9**	**+0.1**
	comp=Z,161nm,1.1s							
LSA	**Lhasa**	**51.10**	**274**	P		**P**	**14 56 46.3**	**-1.3**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
LSA	**Lhasa**	**51.10**	**274**	P		**P**	**14 56 46.3**	**-1.4**
	comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**51.31**	**311**	*eP*		**P**	**14 56 47.9**	**-1.3**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
CHKZ	**Chkalovo**	**51.31**	**311**	*eP*		**P**	**14 56 47.9**	**-1.3**
	comp=Z,4.5nm,0.7s,mb4.5							
BVAR	**Borovoye Array**	**51.74**	**310**	P		**P**	**14 56 52.6**	**+0.2**
	comp=Z,1.8nm,0.4s,mb4.3,baz=61,slow=7.4,SNR=14							
BRVK	**Borovoye**	**51.78**	**310**	*eP*		**P**	**14 56 52.1**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.78**	**310**	*eP*		**P**	**14 56 52.0**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.3							
AAK	**Ala-Archa**	**54.73**	**297**	*eP*		**P**	**14 57 14.7**	**+0.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
AAK	**Ala-Archa**	**54.73**	**297**	*eP*		**P**	**14 57 14.7**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.3							
ARU	**Arti**	**55.85**	**318**	*eP*		**P**	**14 57 22.0**	**-0.6**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8							
ARU	**Arti**	**55.85**	**318**	*eP*		**P**	**14 57 21.9**	**-0.6**
	comp=Z,5.8nm,0.6s,mb4.8							
KEV	**Kevo**	**58.00**	**341**	*ep*		**P**	**14 57 33.6**	**-4.2**
ARCES	**ARCESS Array B**	**58.50**	**341**	P		**P**	**14 57 40.8**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.3,baz=28,slow=6.4,SNR=11							
AKTK	**Aktyubinsk**	**59.60**	**313**	P		**P**	**14 57 48.9**	**0.0**
AKTO	**Aktyubinsk**	**59.60**	**313**	P		**P**	**14 57 48.9**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3,baz=67,slow=9.2,SNR=6.7							
AKTO	**Aktyubinsk**	**59.60**	**313**	P		**P**	**14 57 48.9**	**0.0**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
NVAR	**Mina Array Bea**	**61.92**	**63**	P		**P**	**14 58 05.2**	**+0.5**
	comp=Z,0.9nm,0.7s,mb4.0,baz=286,slow=10,SNR=8.2							
PDAR	**Pinedale Array**	**64.34**	**54**	P		**P**	**14 58 21.1**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=3.0,SNR=8.7							
FINES	**FINESS Array B**	**64.75**	**335**	P		**P**	**14 58 22.6**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.2,baz=38,slow=6.5,SNR=15							
ULM	**Lac du Bonnet**	**66.31**	**41**	P		**P**	**14 58 32.6**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=326,slow=7.3,SNR=3.2							
WRA	**Warramunga Arr**	**68.39**	**200**	P		**P**	**14 58 45.7**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=18,slow=6.8,SNR=6.2							
NB2	**NORSAR Subarra**	**68.88**	**342**	P		**P**	**14 58 48.9**	**-0.9**
	comp=Z,3.2nm,0.9s,mb4.2,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.88**	**342**	P		**P**	**14 58 50.1**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=3.2							
ASAR	**Alice Springs**	**72.08**	**200**	P		**P**	**14 59 09.2**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=9.9,slow=5.3,SNR=14							
AKASG	**Malin Array Be**	**72.33**	**327**	P		**P**	**14 59 10.1**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=33,slow=5.8,SNR=4.9							
TXAR	**Lajitas Array**	**77.00**	**61**	P		**P**	**14 59 38.0**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=299,slow=4.1,SNR=34							
TXAR	**Lajitas Array**	**77.00**	**61**	P		**P**	**14 59 38.0**	**+0.1**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**77.00**	**61**	P		**P**	**14 59 38.0**	**+0.1**
CLL	**Collm**	**77.17**	**336**	*eP*		**P**	**14 59 38.0**	**-0.9**
GERES	**GERESS Array B**	**79.17**	**335**	P		**P**	**14 59 50.0**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=20,slow=6.3,SNR=2.4							
CDF	**Champ du Feu**	**81.34**	**338**	*eP*		**P**	**15 00 02.1**	**+0.5**
	comp=Z,2.8nm,0.5s,mb4.1							
GRR	**Gorron**	**83.19**	**344**	*eP*		**P**	**15 00 11.7**	**+0.3**
	comp=Z,66nm,1.3s,mb5.2							
SMF	**Signal de Mont**	**83.83**	**340**	*eP*		**P**	**15 00 15.3**	**+0.7**
	comp=Z,29nm,1.2s,mb5.0							
LPG	**La Plagne**	**84.17**	**338**	*eP*		**P**	**15 00 18.0**	**+1.6**
	comp=Z,2.8nm,0.5s,mb4.3							
CAF	**Calviac**	**85.87**	**341**	*eP*		**P**	**15 00 25.6**	**+0.7**
	comp=Z,4.6nm,0.5s,mb4.7							
SIV	**San Ignacio**	**137.82**	**56**	PKP	PKPdf		15 07 09.8	+

	comp=Z,3.0nm,1.2s,mb3.9						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**15 20 40.7**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=234,slow=5.7,SNR=11						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**15 20 40.7**	**+0.1**
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**15 21 29.6**	**-1.7**
	comp=Z,1.4nm,0.9s,mb4.0,baz=68,slow=7.3,SNR=11						
ARCES	**ARCESS Array B**	**58.66**	**341**	P	**P**	**15 22 48.9**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.4,baz=20,slow=8.0,SNR=4.0						
PDAR	**Pinedale Array**	**64.33**	**54**	P	**P**	**15 23 28.4**	**+0.3**
	comp=Z,0.4nm,0.9s,mb3.4,baz=316,slow=6.2,SNR=5.3						
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**15 23 30.7**	**-1.2**
	comp=Z,0.6nm,0.4s,mb4.0,baz=42,slow=6.2,SNR=6.1						
ASAR	**Alice Springs**	**71.99**	**200**	P	**P**	**15 24 16.9**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=2.7,slow=7.8,SNR=4.1						
TXAR	**Lajitas Array**	**76.97**	**61**	P	**P**	**15 24 44.9**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.7,baz=302,slow=3.8,SNR=8.9						

IDC 18 15:18:42.8±4.0, 722S×12953E, h119km±30km, mb3.2/1, mb1 3.7/4, mb1mx3.3/15, mbtmp3.5/4, Error ellipse: s-maj=77.7km s-min=27.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**11.46**	**199**	P		Pn	15 21 23.5	+0.7
	1.6nm,0.3s,baz=30,slow=11,SNR=63							
FITZ				S		Sn	15 23 24.6	-4.3
	2.3nm,0.3s,baz=94,slow=22,SNR=8.1							
WRA	**Warramunga Arr**	**13.48**	**160**	P		Pn	15 21 47.9	-1.2
	0.9nm,0.3s,baz=341,slow=13,SNR=42							
WRA				S		Sn	15 24 10.2	-7.6
	1.9nm,0.3s,baz=326,slow=22,SNR=12							
ASAR	**Alice Springs**	**16.88**	**166**	P		Pn	15 22 32.6	+0.8
	0.5nm,0.3s,baz=341,slow=9.7,SNR=47							
ASAR				S		S	15 25 30.1	-10
	0.1nm,0.3s,baz=350,slow=22,SNR=3.5							
ASAR				ScP		ScP	15 30 35.8	+0.3
	0.0nm,0.3s,baz=353,slow=2.3,SNR=5.3							
MKAR	**Makanchi Array**	**68.15**	**327**	P		P	15 29 30.2	+0.2
	0.3nm,0.4s,baz=110,slow=6.4,SNR=7.3							

*ISCJB **18** 15:25:04.2±0.9, 4687N±007×15288E±009, h48km±7km, mb4.5/39, MS3.9/1, Error ellipse: s-maj=14.5km s-min=5.8km az=93.2*
*MOS **18** 15:25:04.8±1.4, 4685N×15285E, h57km, mb4.5/9, Error ellipse: s-maj=10.9km s-min=7.5km az=73.2*
*NEIC **18** 15:25:06.9±1.0, 4683N×15274E, h60km±8km, mb4.4/12, Error ellipse: s-maj=10.8km s-min=6.7km az=131.0*
*BJI **18** 15:25:06.0, 4704N×15251E, h43km, mB4.8, mb4.4, Ms4.5, Msz4.3*
*IDC **18** 15:25:10.5±3.5, 4689N×15271E, h89km±31km, mb3.8/18, mb1 4.0/19, mb1mx3.9/23, mbtmp3.8/19, Error ellipse: s-maj=15.9km s-min=13.4km az=134.0*

ISC 18 15:25:06.9±0.8, 4689N±007×15291E±010, h58km±6km, n95, σ1§12/94, mb4.5/39, MS3.9/1, 5C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.88**	**247**	PN		**Pn**	**15 26 00.5**	**-3.6**
KUR				*e*S		**Sn**	**15 26 44.0**	**-4.4**
KUR				smax				
	comp=N,380nm,0.5s							
KUR				smax				
	comp=E,380nm,0.5s							
SKR	**Severo-Kuril's**	**4.35**	**28**	*e*PN		**Pn**	**15 26 10.2**	**-0.2**
SKR				*e*S		**Sn**	**15 26 58.4**	**-1.4**
SKR				pmax	pmax			
	comp=Z,40nm,0.5s							
SKR				smax				
	comp=N,90nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.72**	**243**	*e*PN		**Pn**	**15 26 29.5**	**+0.3**
YUK				*e*S		**Sn**	**15 27 38.0**	**+4.5**
YUK				pmax	pmax			
	comp=Z,360nm,0.5s							
YUK				smax				
	comp=N,460nm,0.5s							
YUK				smax				
	comp=E,170nm,0.5s							
YUK				smax				
	comp=N,2μm,2.0s							
YUK				smax				
	comp=E,2μm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.96**	**274**	*e*PN		**Pn**	**15 26 48.0**	**+1.8**
YSS				*e*			15 28 05.0	
YSS				pmax	pmax			
	comp=Z,40nm,0.3s							
YSS	**Yuzh-Sakhalins**	**6.96**	**274**	*e*Pn		**Pn**	**15 26 47.9**	**+1.7**
	comp=Z,22nm,0.3s							
PET	**Petropavlovsk**	**7.17**	**29**	*e*Pn		**Pn**	**15 26 50.3**	**+1.2**
PET				*e*Sn		**Sn**	**15 28 03.2**	**-5.9**
ASAJ	**Asahikawa**	**7.76**	**253**	P		**Pn**	**15 26 58.8**	**+1.6**
	comp=Z,2.6nm,0.3s,baz=77,slow=17,SNR=23							
ASAJ	**Asahikawa**	**7.76**	**253**	PN		**Pn**	**15 26 58.8**	**+1.7**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ERM	**Erimo**	**8.51**	**239**	*e*PN		**Pn**	**15 27 05.8**	**-1.6**
ERM				pmax	pmax			
	comp=Z,57nm,0.6s							
ERM	**Erimo**	**8.51**	**239**	*e*Pn		**Pn**	**15 27 05.8**	**-1.6**
	comp=Z,57nm,0.6s							
MA2	**Magadan**	**12.77**	**355**	*e*PN		**Pn**	**15 28 07.2**	**+1.5**
MA2				pmax	pmax			
	comp=Z,71nm,1.1s							
MA2	**Magadan**	**12.77**	**355**	*e*Pn		**Pn**	**15 28 07.2**	**+1.5**
	comp=Z,71nm,1.1s							
MAJO	**Matsushiro**	**15.05**	**232**	*e*P		**Pn**	**15 28 32.5**	**-3.6**
MAJO				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MAJO	**Matsushiro**	**15.05**	**232**	*e*Pn		**Pn**	**15 28 32.5**	**-3.6**
	comp=Z,7.5nm,0.6s							
MAT	**Matsushiro**	**15.05**	**232**	P		**Pn**	**15 28 35.1**	**-1.0**
MJAR	**Matsushiro Arr**	**15.05**	**232**	P		**Pn**	**15 28 34.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=31,slow=10,SNR=6.2							
YAK	**Yakutsk**	**20.13**	**327**	*e*P		**P**	**15 29 37.3**	**+1.2**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
YAK	**Yakutsk**	**20.13**	**327**	*e*P		**P**	**15 29 35.4**	**-0.7**
	comp=Z,12nm,0.6s							
KSRS	**Korea Array**	**20.71**	**252**	P		**P**	**15 29 42.7**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=62,slow=8.6,SNR=19							
HHC	**Hu-ho-hao-te**	**30.14**	**274**	*e*P		**P**	**15 31 11.8**	**+0.5**
HHC				XP		sP	15 31 32.9	+0.4
HHC				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.5							
HHC				AMB		AMB		
	comp=Z,191nm,8.3s							
ULN	**Ulaanbaatar**	**30.72**	**289**	P		**P**	**15 31 17.7**	**+1.3**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1							
ULN	**Ulaanbaatar**	**30.72**	**289**	P		**P**	**15 31 17.7**	**+1.4**
	comp=Z,2.5nm,0.9s,mb4.0							
SONM	**Songino Array**	**31.16**	**289**	P		**P**	**15 31 20.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=79,slow=7.5,SNR=3.1							
TLY	**Talaya**	**31.99**	**297**	*e*P		**P**	**15 31 21.5**	**-6.0**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.5							
TLY	**Talaya**	**31.99**	**297**	*e*P		**P**	**15 31 21.5**	**-6.0**
	comp=Z,6.5nm,0.9s,mb4.5							
COLA	**College**	**36.11**	**38**	*i* P		**P**	**15 32 04.4**	**+1.2**
COLA	**College**	**36.11**	**38**	*e*P		**P**	**15 32 04.2**	**+1.0**
	comp=Z,4.3nm,0.6s,mb4.6							
CD2	**Chengdu**	**40.75**	**265**	*e*P		**P**	**15 32 41.6**	**-0.6**
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.8							
INK	**Inuvik**	**41.61**	**32**	P		**P**	**15 32 50.2**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.1,baz=286,slow=7.1,SNR=22							
INK	**Inuvik**	**41.61**	**32**	*e*P		**P**	**15 32 49.7**	**+0.5**
INK				pmax	pmax			
	comp=Z,89nm,0.7s							
INK	**Inuvik**	**41.61**	**32**	*e*P		**P**	**15 32 49.7**	**+0.5**
	comp=Z,89nm,0.7s,mb5.5							
ZAL	**Zalesovo**	**42.43**	**306**	PcP		PcP	15 34 47.3	-0.7
	comp=Z,0.9nm,0.6s,baz=56,slow=3.1,SNR=5.1							
WMQ	**Urumqi**	**44.75**	**291**	*i* P		**P**	**15 33 15.8**	**+1.3**
WMQ				PCP		PcP	15 34 58.8	+2.9
WMQ				PP		PP	15 35 01.3	+1.5
WMQ				PPP			15 35 40.8	
WMQ				S		**S**	**15 39 51.0**	**+3.8**
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.5s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,139nm,4.4s							
WMQ				LR		LR		
	comp=N,111nm,20.7s,MS3.9							
WMQ				LR		LR		
	comp=E,111nm,20.0s,MS3.9							
WMQ				LR		LR		
	comp=Z,126nm,20.7s,MS3.8							
KMI	**Kunming**	**45.13**	**259**	P		**P**	**15 33 19.9**	**+2.3**
KMI				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.3							
KMI	**Kunming**	**45.13**	**259**	P		**P**	**15 33 19.9**	**+2.3**
	comp=Z,5.0nm,1.0s,mb4.3							
KMI				pP		pP	15 33 23.5	-9.1
MKAR	**Makanchi Array**	**46.75**	**297**	P		**P**	**15 33 28.8**	**-1.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=69,slow=8.1,SNR=11							
MKAR				PcP		PcP	15 35 02.7	-0.2
	comp=Z,0.9nm,0.6s,baz=72,slow=2.1,SNR=6.9							
MKAR	**Makanchi Array**	**46.75**	**297**	P		**P**	**15 33 28.8**	**-1.5**
MKAR				PcP		PcP	15 35 02.7	-0.2
LSA	**Lhasa**	**50.13**	**273**	*e*P		**P**	**15 33 57.8**	**+1.5**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.13**	**273**	*e*P		**P**	**15 33 57.8**	**+1.5**
	comp=Z,3.3nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.23**	**310**	*e*P		**P**	**15 33 54.7**	**-2.4**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.23**	**310**	*e*P		**P**	**15 33 54.7**	**-2.4**
	comp=Z,2.5nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**50.66**	**309**	P		**P**	**15 33 59.1**	**-1.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=9.3,SNR=7.8							
BVAR				PcP		PcP	15 35 16.7	-0.3
	comp=Z,1.0nm,0.5s,baz=68,slow=1.9,SNR=6.5							
BRVK	**Borovoye**	**50.70**	**309**	*e*P		**P**	**15 33 59.0**	**-1.6**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**50.70**	**309**	*e*P		**P**	**15 33 59.0**	**-1.7**
	comp=Z,1.6nm,0.6s,mb4.1							
RES	**Resolute Bay**	**50.75**	**19**	*e*P		**P**	**15 33 58.1**	**-2.9**
RES				pmax		pmax		
	comp=Z,167nm,1.1s							
RES	**Resolute Bay**	**50.75**	**19**	*e*P		**P**	**15 33 58.0**	**-2.9**
	comp=Z,168nm,1.1s							
YKA	**Yellowknife Ar**	**50.90**	**37**	PcP		PcP	15 35 17.7	-0.1
	comp=Z,0.7nm,0.5s,baz=305,slow=3.9,SNR=4.7							
JIRN	**Jiri**	**54.80**	**274**	*e*P		**P**	**15 34 31.5**	**+0.7**
	comp=Z,14nm,0.5s,mb5.3							
GUN	**Gumba**	**54.85**	**275**	*e*P		**P**	**15 34 32.0**	**+0.8**
	comp=Z,12nm,0.4s,mb5.2							
KKN	**Kakani**	**55.34**	**275**	*e*P		**P**	**15 34 35.5**	**+0.8**
	comp=Z,10nm,0.4s,mb5.2							
PKI	**Pulchoki**	**55.39**	**275**	*e*P		**P**	**15 34 35.2**	**+0.1**
	comp=Z,9.0nm,0.5s,mb5.0							
DMN	**Daman**	**55.57**	**275**	*e*P		**P**	**15 34 37.2**	**+0.8**
	comp=Z,12nm,0.5s,mb5.2							
GKN	**Gorkha**	**55.64**	**276**	*e*P		**P**	**15 34 37.3**	**+0.4**
	comp=Z,9.5nm,0.5s,mb5.1							
KOLN	**Koldanda**	**56.49**	**276**	*e*P		**P**	**15 34 43.5**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.9							
KEV	**Kevo**	**57.16**	**340**	*e*p		**P**	**15 34 45.2**	**-2.5**
	comp=Z,4.5nm,0.8s,mb4.5							
KEV	**Kevo**	**57.16**	**340**	*e*P		**P**	**15 34 45.2**	**-2.5**
KEV				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ARCES	**ARCESS Array B**	**57.68**	**341**	P		**P**	**15 34 49.4**	**-2.0**
	comp=Z,3.9nm,0.9s,mb4.4,baz=29,slow=7.3,SNR=7.9							
FCC	**Fort Churchill**	**61.22**	**33**	*e*P		**P**	**15 35 16.0**	**+0.2**
NVAR	**Mina Array Bea**	**62.49**	**62**	P		**P**	**15 35 25.6**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=291,slow=7.9,SNR=6.0							
NVAR	**Mina Array Bea**	**62.49**	**62**	P		**P**	**15 35 25.6**	**+1.3**
FINES	**FINESS Array B**	**63.85**	**335**	P		**P**	**15 35 32.2**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.8,baz=38,slow=6.4,SNR=61							
FINES	**FINESS Array B**	**63.85**	**335**	*e*P		**P**	**15 35 32.4**	**-0.9**
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**15 35 40.4**	**+1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=299,slow=2.0,SNR=11							
ULM	**Lac du Bonnet**	**66.51**	**41**	P		**P**	**15 35 50.2**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.1,baz=308,slow=12,SNR=3.0							
ULM	**Lac du Bonnet**	**66.51**	**41**	P		**P**	**15 35 50.2**	**-0.3**
NB2	**NORSAR Suburra**	**68.05**	**341**	P		**P**	**15 35 59.7**	**-0.6**
	comp=Z,7.2nm,0.6s,mb4.9,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.05**	**341**	P		**P**	**15 35 59.7**	**-0.6**
	comp=Z,4.4nm,0.6s,mb4.7,baz=27,slow=6.3,SNR=15							
WRA	**Warramunga Arr**	**68.60**	**199**	P		**P**	**15 36 02.8**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=16,slow=6.7,SNR=10							
AKASG	**Malin Array Be**	**71.35**	**326**	P		**P**	**15 36 19.5**	**-1.1**
	comp=Z,6.9nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=28							
ASAR	**Alice Springs**	**72.30**	**198**	P		**P**	**15 36 26.4**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=13,slow=5.2,SNR=26							
SCHQ	**Schefferville**	**73.23**	**23**	P		**P**	**15 36 32.1**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=207,slow=15,SNR=3.3							
BURAR	**Bucovina Array**	**75.40**	**326**	⇓*i*P		**P**	**15 36 44.1**	**-0.3**
BURAR	**Bucovina Array**	**75.40**	**326**	⇓P		**P**	**15 36 44.1**	**-0.3**
MORC	**Moravsky Berou**	**76.25**	**332**	⇑*i*P		**P**	**15 36 49.2**	**0.0**
MORC	**Moravsky Berou**	**76.25**	**332**	*e*P		**P**	**15 36 48.7**	**-0.5**
	comp=Z,3.6nm,0.9s,mb4.3							
CLL	**Collm**	**76.28**	**335**	*e*P		**P**	**15 36 49.0**	**-0.4**
MLR	**Muntele Rosu**	**76.87**	**325**	⇓*i*P		**P**	**15 36 52.4**	**-0.3**
MLR	**Muntele Rosu**	**76.87**	**325**	⇓P		**P**	**15 36 52.4**	**-0.3**
MALT	**Malatya**	**76.96**	**313**	*e*P		**P**	**15 36 53.5**	**+0.3**
MALT				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
MALT	**Malatya**	**76.96**	**313**	*e*P		**P**	**15 36 53.5**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.3							
VRAC	**Vranov**	**76.96**	**332**	⇓*i*P		**P**	**15 36 53.2**	**-0.1**
VRAC	**Vranov**	**76.96**	**332**	⇓P		**P**	**15 36 53.2**	**0.0**
VOIR		**77.27**	**325**	⇑*i*P		**P**	**15 36 55.8**	**+0.8**
VOIR		**77.27**	**325**	⇑P		**P**	**15 36 55.8**	**+0.8**
TXAR	**Lajitas Array**	**77.55**	**60**	P		**P**	**15 36 57.5**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=298,slow=5.2,SNR=19							
BR131	**Keskin Array S**	**78.19**	**317**	P		**P**	**15 36 59.4**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**78.19**	**317**	P		**P**	**15 37 00.5**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=59,slow=4.8,SNR=6.5							
GERES	**GERESS Array B**	**78.27**	**334**	P		**P**	**15 37 00.1**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=46,slow=5.8,SNR=8.0							
MIB	**Mutribah**	**78.47**	**301**	*e*P		**P**	**15 37 01.6**	**0.0**
MIB				AMb		AMB	15 37 02.6	
	comp=Z,24nm,0.6s,mb5.3							
NAY	**Al-Naaiem**	**78.94**	**301**	*e*P		**P**	**15 37 04.2**	**-0.1**
NAY				AMb		AMB	15 37 05.1	
	comp=Z,12nm,1.1s,mb4.7							
RDF	**Al-Radifah**	**78.99**	**301**	*e*P		**P**	**15 37 04.6**	**+0.1**
RDF				AMb		AMB	15 37 06.0	
	comp=Z,16nm,0.5s,mb5.2							
VNDA	**Vanda**	**124.26**	**178**	PKP		PKPdf	15 43 57.4	-1.7
	comp=Z,0.4nm,0.7s,baz=47,slow=5.1,SNR=2.7							
VNDA	**Vanda**	**124.26**	**178**	PKP		PKPdf	15 43 57.4	-1.7
CFAA	**Coronel Fontan**	**145.10**	**79**	PKPbc		PKPbc	15 44 36.9	-0.4
	comp=Z,0.2nm,0.4s,baz=17,slow=5.1,SNR=3.4							
SNAA	**Sanae**	**152.65**	**196**	PKPbc		PKPbc	15 44 53.9	-3.1
	comp=Z,0.3nm,0.7s,baz=279,slow=7.6,SNR=5.6							

CASC 18 15:29:45.1±1.5, 842N×8284W, h1km±5km, MD3.6, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DVD	**David**	**0.39**	**87**	⇓*i*P		Pg	15 29 53.3	+0.8
DVD				*e*S		Sg	15 30 00.5	+3.0
BRU	**Baru**	**0.48**	**35**	*e*P		Pg	15 29 56.9	+2.6
CNI	**Changuinola**	**1.04**	**18**	*e*P		Pg	15 30 05.8	+0.7
LAJ	**Bijagual**	**1.92**	**319**	*e*P		Pn	15 30 21.9	+3.1
PRS1	**Puriscal**	**2.13**	**317**	*e*P		Pn	15 30 22.1	+0.4
PRS1				*e*S		Sn	15 30 50.1	+1.2
PTP	**Ponta Puerca**	**19.38**	**58**	⇓*e*P			15 29 50.3	

IDC 18 15:36:23.8±1.5, 1275S×1462W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, Error ellipse: s-maj=102.7km s-min=18.8km az=100.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TORD	**Torodi Ar. Bea**	**30.39**	**33**	P		P	15 42 38.0	+0.4
	0.8nm,0.9s,baz=217,slow=9.5,SNR=3.3							
KEST	**Kesra**	**53.28**	**24**	P		P	15 45 45.1	+0.8
	2.0nm,0.8s,baz=198,slow=9.6,SNR=5.7							
SNAA	**Sanae**	**59.32**	**176**	P		P	15 46 27.2	-0.3
	1.0nm,0.8s,baz=352,slow=7.6,SNR=7.1							
GERES	**GERESS Array B**	**66.25**	**20**	P		P	15 47 13.8	+0.2
	0.5nm,0.6s,baz=194,slow=5.0,SNR=5.7							
BRTR	**Keskin Array B**	**68.81**	**38**	P		P	15 47 30.8	+0.9
	0.9nm,0.6s,baz=218,slow=5.8,SNR=6.1							
MAW	**Mawson**	**73.53**	**157**	P		P	15 47 58.5	0.0
	1.9nm,0.8s,baz=303,slow=12,SNR=4.8							
AKASG	**Malin Array Be**	**73.84**	**27**	P		P	15 47 59.5	-0.8
	2.2nm,0.7s,baz=224,slow=6.7,SNR=12							
NOA	**NORSAR Array B**	**76.36**	**13**	P		P	15 48 15.1	+0.3
	3.0nm,0.9s,baz=207,slow=5.9,SNR=4.5							
FINES	**FINESS Array B**	**80.61**	**19**	P		P	15 48 38.6	+0.3
	1.5nm,0.8s,baz=208,slow=5.7,SNR=3.9							
VNDA	**Vanda**	**89.88**	**179**	P		P	15 49 24.7	+0.1
	1.7nm,0.9s,baz=193,slow=6.3,SNR=6.6							
ASAR	**Alice Springs**	**132.49**	**140**	PKP		PKPdf	15 55 40.4	+0.2
	0.3nm,0.7s,baz=214,slow=1.7,SNR=5.3							
MJAR	**Matsushiro Arr**	**146.00**	**41**	PKPbc		PKPbc	15 56 03.3	-2.1
	0.3nm,0.4s,baz=329,slow=2.8,SNR=4.3							

*BJI **18** 15:37:31.7, 4658N×15329E, h20km, mB4.8, mb4.3, Ms4.3, Msz4.1*
*ISCJB **18** 15:37:32.6±0.6, 4632N±007×15296E±0.10, h10km, mb4.3/31, MS3.9/1, Error ellipse: s-maj=13.4km s-min=5.7km az=97.1*
*NEIC **18** 15:37:34.1±0.7, 4635N×15292E, h10km, mb4.4/9, Error ellipse: s-maj=16.7km s-min=10.5km az=146.0*
*MOS **18** 15:37:35.2±1.5, 4628N×15307E, h35km, mb4.6/9, Error ellipse: s-maj=12.0km s-min=8.7km az=86.3*
*IDC **18** 15:37:42.0±4.2, 4620N×15282E, h73km±38km, mb3.6/15, mb1 3.8/16, mb1mx3.7/24, mbtmp3.6/16, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/43, Error ellipse: s-maj=19.1km s-min=17.0km az=131.0*

ISC 18 15:37:34.4±0.6, 4634N±008×1530E±01, h10km, (h16km±3km: pP-P), n71, σ1§22/74, mb4.3/31, MS3.9/1, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**4.82**	**25**	*e*PN		**Pn**	**15 38 47.5**	**+0.5**
SKR				*e*S		**Sn**	**15 39 44.0**	**+1.2**
SKR				smax				
	comp=E,90nm,0.5s							
SKR				smax				
	comp=N,100nm,0.4s							
SKR				smax				
	comp=E,80nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.53**	**248**	PN		**Pn**	**15 38 57.0**	**+0.2**
YUK				S		**Sn**	**15 40 04.5**	**+4.1**
YUK				smax				
	comp=N,1μm,0.9s							
YUK				smax				
	comp=E,380nm,0.5s							
YUK				smax				
	comp=N,1μm,1.5s							
YSS	**Yuzh-Sakhalins**	**7.06**	**279**	*e*PN		**Pn**	**15 39 23.0**	**+5.2**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.06**	**279**	*e*Pn		**Pn**	**15 39 22.2**	**+4.4**
PET	**Petropavlovsk**	**7.63**	**27**	PN		**Pn**	**15 39 23.0**	**-2.6**
ASAJ	**Asahikawa**	**7.66**	**257**	P		**Pn**	**15 39 28.2**	**+2.3**
	comp=Z,3.5nm,0.3s,baz=112,slow=9.4,SNR=15							
ASAJ				LR		LR	15 42 24.0	
	comp=Z,300nm,18.0s,baz=341,slow=38							
ASAJ	**Asahikawa**	**7.66**	**257**	PN		**Pn**	**15 39 28.3**	**+2.3**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,300nm,18.0s							
ERM	**Erimo**	**8.28**	**242**	*e*PN		**Pn**	**15 39 33.5**	**-0.9**
ERM				pmax	pmax			
	comp=Z,19nm,0.4s							
ERM	**Erimo**	**8.28**	**242**	*e*Pn		**Pn**	**15 39 33.5**	**-1.0**
	comp=Z,19nm,0.4s							
MA2	**Magadan**	**13.32**	**355**	PN		**Pn**	**15 40 47.3**	**+3.8**
MA2				pmax	pmax			
	comp=Z,43nm,0.9s							
MA2	**Magadan**	**13.32**	**355**	Pn		**Pn**	**15 40 47.3**	**+3.8**
	comp=Z,43nm,0.9s							
MAJO	**Matsushiro**	**14.76**	**234**	P		**Pn**	**15 40 55.0**	**-8.1**
MAJO				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MAJO	**Matsushiro**	**14.76**	**234**	P		**Pn**	**15 40 55.0**	**-8.2**
	comp=Z,6.3nm,0.6s							
MAT	**Matsushiro**	**14.76**	**234**	P		**Pn**	**15 40 58.8**	**-4.3**
MJAR	**Matsushiro Arr**	**14.76**	**234**	P		**Pn**	**15 40 57.4**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=

comp=Z,2.3nm,0.5s,mb4.4
RES Resolute Bay 51.25 18 *e*P P 15 46 38.4 +0.1
RES pmax pmax
comp=Z,141nm,1.1s
RES Resolute Bay 51.25 18 *e*P P 15 46 38.4 +0.2
comp=Z,142nm,1.1s
AAK Ala-Archa 53.93 297 *e*P P 15 46 57.0 -1.1
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.93 297 *e*P P 15 46 57.0 -1.1
comp=Z,3.0nm,0.8s,mb4.3
GUN Gumba 54.94 275 *e*P P 15 47 06.5 +1.0
comp=Z,6.7nm,0.3s,mb5.1
ARU Arti 55.25 318 *e*P P 15 47 05.4 -2.3
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARU Arti 55.25 318 *e*P P 15 47 05.4 -2.3
comp=Z,4.7nm,0.8s,mb4.6
KKN Kakani 55.43 275 *e*P P 15 47 10.1 +1.1
comp=Z,10.0nm,0.8s,mb4.9
DMN Daman 55.67 275 *e*P P 15 47 11.8 +1.1
comp=Z,17nm,0.9s,mb5.1
GKN Gorkha 55.74 276 *e*P P 15 47 12.1 +0.9
comp=Z,13nm,0.8s,mb5.0
KOLN Koldanda 56.60 277 *e*P P 15 47 18.4 +1.0
comp=Z,13nm,0.8s,mb5.0
KEV Kevo 57.70 341 *e*p P 15 47 21.6 -3.5
ARCES ARCESS Array B 58.21 341 P P 15 47 28.3 -0.4
comp=Z,5.0nm,1.1s,mb4.5,baz=26,slow=6.7,SNR=9.7
NVAR Mina Array Bea 62.71 62 P P 15 48 00.2 +0.7
comp=Z,1.3nm,0.9s,mb4.0,baz=293,slow=9.6,SNR=4.6
NVAR Mina Array Bea 62.71 62 P P 15 48 00.2 +0.7
FINES FINESS Array B 64.37 335 P P 15 48 09.8 -0.7
comp=Z,1.1nm,0.4s,mb4.2,baz=42,slow=5.8,SNR=10
PDAR Pinedale Array 65.06 54 P P 15 48 16.8 +1.8
comp=Z,0.7nm,0.6s,mb3.9,baz=321,slow=1.2,SNR=8.2
WRA Warramunga Arr 68.09 199 P P 15 48 32.2 -2.1
comp=Z,0.5nm,0.9s,mb3.5,baz=14,slow=6.6,SNR=3.3
NB2 NORSAR Subarra 68.58 341 P P 15 48 36.7 -0.7
comp=Z,2.5nm,0.6s,mb4.3,baz=29,slow=6.5
NOA NORSAR Array B 68.58 341 P P 15 48 37.4 0.0
comp=Z,1.4nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=4.8
ASAR Alice Springs 71.79 198 P P 15 48 56.1 -0.9
comp=Z,0.3nm,0.8s,mb3.3,baz=12,slow=6.4,SNR=9.2
AKASG Malin Array Be 71.83 326 P P 15 48 56.8 -0.5
comp=Z,4.2nm,0.6s,mb4.6,baz=34,slow=6.1,SNR=16
BURAR Bucovina Array 75.88 327⇑P P 15 49 21.3 +0.3
BURAR Bucovina Array 75.88 327⇑P P 15 49 21.2 +0.3
MLR Muntele Rosu 77.35 325⇓iP P 15 49 26.9 -2.4
MLR Muntele Rosu 77.35 325 ⇓P P 15 49 26.9 -2.4
TXAR Lajitas Array 77.78 60 P P 15 49 32.1 +0.4
comp=Z,0.6nm,0.6s,mb3.7,baz=307,slow=4.2,SNR=7.3
BRTR Keskin Array B 78.62 317 P P 15 49 36.8 +0.4
comp=Z,1.0nm,0.7s,mb3.9,baz=67,slow=3.2,SNR=5.1
BRTR Keskin Array B 78.62 317 P P 15 49 36.8 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.78 334 P P 15 49 37.1 -0.2
comp=Z,0.5nm,0.7s,mb3.6,baz=29,slow=3.0,SNR=5.9
GERES GERESS Array B 78.78 334 P P 15 49 37.1 -0.2
GERES pmax pmax
comp=Z,1.0nm,0.7s

IDC 18 15:49:45.5±0.9, 4732N×15389E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.5/7, Error ellipse: s-maj=29.2km s-min=23.7km az=1.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.65**	**289**	P	P	15 56 12.0	+1.6
	0.1nm,0.5s,baz=86,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**47.16**	**297**	P	P	15 58 17.5	-2.1
	0.3nm,0.5s,baz=61,slow=6.0,SNR=5.7						
BVAR	**Borovoye Array**	**50.91**	**309**	P	P	15 58 48.1	-0.3
	0.6nm,0.5s,baz=67,slow=6.7,SNR=6.6						
NVAR	**Mina Array Bea**	**61.70**	**63**	P	P	16 00 06.4	+1.0
	0.4nm,0.7s,baz=303,slow=8.5,SNR=3.6						
WRA	**Warramunga Arr**	**69.22**	**200**	P	P	16 00 53.4	-0.7
	0.1nm,0.7s,baz=20,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**72.91**	**199**	P	P	16 01 16.9	+0.4
	0.6nm,0.8s,baz=17,slow=6.2,SNR=6.8						
TXAR	**Lajitas Array**	**76.75**	**61**	P	P	16 01 38.0	-0.7
	0.5nm,0.5s,baz=298,slow=3.6,SNR=4.8						

*STR **18** 15:55:48.2±0.1, 4301N×001W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 15:55:48.1±0.1, 4298N×000W, h2km, Md1.9/2, Ml1.6/2, Error ellipse: s-maj=9.0km s-min=1.0km az=171.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**39**	Pg	Pg	15 55 49.9	+0.1
LABF				Sg	Sg	15 55 51.2	+0.2
VIEF	**Viey**	**0.10**	**169**	Pg	Pg	15 55 51.0	+1.0
VIEF				Sg	Sg	15 55 53.0	+1.7
EPF	**Esparros**	**0.26**	**78**	*e*Pg	Pg	15 55 53.1	+0.1
EPF				*e*Sg	Sg	15 55 56.7	+0.4
	7.1nm,0.2s						
ETSF	**Etsaut**	**0.42**	**259**	*e*Pg	Pg	15 55 56.2	+0.1
ETSF				*e*Sg	Sg	15 56 01.8	+0.3
	7.1nm,0.4s						
SJPF	**Ste Jean**	**0.91**	**279**	*e*Sg	Sg	15 56 16.9	-0.3
	1.9nm,0.4s						
MTLF	**Montolieu**	**1.66**	**77**	*e*Pg	Pg	15 56 19.1	-0.9
MTLF				*e*Sg	Sg	15 56 40.9	-0.6
	1.6nm,0.4s						

*NIED **18** 16:04:00, 4190N×14230E, h50km, Mw3.9 Best double couple: M0 7.40000×10^14 NP1:φs0.00000°, δ79.00000°, λ75.00000°. NP2:φs235.00000°, δ19.00000°, λ143.00000°.*
*MOS **18** 16:04:50.7±1.0, 4191N×14239E, h80km, mb4.0/5, Error ellipse: s-maj=15.9km s-min=9.6km az=86.9*
*ISCJB **18** 16:04:50.7±0.3, 4192N±003×14233E±004, h73km±3km, mb4.1/20, Error ellipse: s-maj=5.5km s-min=3.7km az=81.5*
*JMA **18** 16:04:51.1±0.2, 4192N×14231E, h69km±3km, M3.7 Broadband fault plane solution: P waves. NP1: φs195.00000°, δ23.00000°, λ73.00000°. NP2:φs33.00000°, δ68.00000°, λ97.00000°. Principal axes: T Plg66.0000°, Azm315.0000°; N Plg6.0000°, Azm211.0000°; P Plg23.0000°, Azm118.0000°;*
JMA Felt I J1.
*IDC **18** 16:04:52.8±1.6, 4198N×14236E, h79km±14km, mb3.6/10, mb1 3.7/13, mb1mx3.6/25, mbtmp3.6/13 Error ellipse: s-maj=22.2km s-min=12.0km az=98.0*
*NEIC **18** 16:04:52.3±0.7, 4195N×14233E, h72km±8km, mb4.1/5, Error ellipse: s-maj=14.2km s-min=9.1km az=120.0*
ISC 18 16:04:51.7±0.3, 4193N±003×14232E±004, h66km±3km, n51, σ0§79/68, mb4.1/20, 4C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.48**	**42**	⇑P	Pn	16 05 03.1	-0.9
JNBK				*e*S	Sn	16 05 12.8	-0.1
ERM	**Erimo**	**0.63**	**82**	*e*Pn	Pn	16 05 05.5	-0.1
ERM				*e*Sn	Sn	16 05 14.4	-1.3
JEM	**Erimo**	**0.63**	**82**	⇑P	Pn	16 05 05.5	-0.1
JEM				*e*S	Sn	16 05 15.8	+0.1
JBT2	**Biratori 2**	**0.85**	**2**	⇓P	Pn	16 05 07.7	-0.4
JBT2				*e*S	Sn	16 05 20.4	+0.1
JKB	**Kayabe**	**0.96**	**268**	⇓P	Pn	16 05 09.0	-0.5
JKB				*e*S	Sn	16 05 22.1	-0.5
JCH	**Churui**	**1.04**	**48**	⇑P	Pn	16 05 10.5	+0.1
JCH				*e*S	Sn	16 05 25.3	+0.9
JNB	**Noboribetsu**	**1.09**	**300**	⇓P	Pn	16 05 10.3	-0.9
JNB				*e*S	Sn	16 05 24.7	-1.0
JOT	**Ohata**	**1.09**	**241**	⇓P	Pn	16 05 10.9	-0.3
JOT				*e*S	Sn	16 05 25.4	-0.3
JEW	**Eniwo**	**1.12**	**325**	⇓P	Pn	16 05 11.5	0.0
JEW				*e*S	Sn	16 05 26.2	0.0
JFR	**Furan**	**1.25**	**9**	⇓P	Pn	16 05 12.9	-0.3
JFR				*e*S	Sn	16 05 28.9	-0.5
JYM2	**Yakumo 2**	**1.46**	**278**	⇓P	Pn	16 05 15.5	-0.5
JTM	**Tenmabayashi**	**1.48**	**220**	⇓P	Pn	16 05 16.3	+0.1
JTM				*e*S	Sn	16 05 35.0	+0.3
JANG	**Nango**	**1.67**	**202**	⇑P	Pn	16 05 18.9	+0.2
JANG				*e*S	Sn	16 05 39.5	+0.3
JAR	**Ashorobuto**	**1.74**	**38**	⇓P	Pn	16 05 19.9	+0.2
JAR				*e*S	Sn	16 05 41.0	0.0
JHR	**Hokuryu**	**1.87**	**347**	⇓P	Pn	16 05 22.2	+0.8
JHR				*e*S	Sn	16 05 45.8	+1.8
ASAJ	**Asahikawa**	**2.20**	**5**	P	Pn	16 05 26.6	+0.7
	13nm,0.3s,baz=204,slow=9.0,SNR=150						
ASAJ				S	Sn	16 05 52.7	+0.6
	17nm,0.3s,baz=341,slow=23,SNR=8.9						
ASAJ	**Asahikawa**	**2.20**	**5**	P	Pn	16 05 26.7	+0.8
ASAJ				S	Sn	16 05 52.7	+0.6
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				smax			
	comp=N,17nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**50**	⇓iP	Pn	16 05 42.3	+0.7
YUK				*i* S	Sn	16 06 19.5	-0.6
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,190nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.04**	**3**	*e*P	Pn	16 06 06.0	+1.4
MAJO	**Matsushiro**	**6.25**	**212**	*e*P	Pn	16 06 21.1	-0.1
MAT	**Matsushiro**	**6.25**	**212**	P	Pn	16 06 22.0	+0.8
MJAR	**Matsushiro Arr**	**6.25**	**212**	P	Pn	16 06 23.9	+2.6
	comp=E,0.6nm,0.3s,baz=21,slow=15,SNR=16						
KSRS	**Korea Array**	**11.95**	**253**	P	Pn	16 07 42.6	+3.5
	baz=64,slow=14,SNR=8.3						
ULN	**Ulaanbaatar**	**25.52**	**296**	*e*P	P	16 10 15.3	+1.4
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
ULN	**Ulaanbaatar**	**25.52**	**296**	*e*P	P	16 10 15.3	+1.3
	comp=Z,2.9nm,1.2s,mb3.6						
SONM	**Songino Array**	**25.96**	**295**	P	P	16 10 17.7	-0.2
	comp=Z,0.8nm,0.5s,mb3.4,baz=78,slow=8.3,SNR=12						
TLY	**Talaya**	**27.91**	**304**	*e*P	P	16 10 35.8	+0.4
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
TLY	**Talaya**	**27.91**	**304**	*e*P	P	16 10 35.8	+0.3
	comp=Z,3.1nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**39.30**	**308**	P	P	16 12 13.6	-0.5
	comp=Z,1.1nm,0.5s,mb3.9,baz=33,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**42.28**	**298**	P	P	16 12 38.5	-0.1
	comp=Z,1.2nm,0.7s,mb3.7,baz=76,slow=8.7,SNR=9.9						
GUN	**Gumba**	**47.54**	**272**	*e*P	P	16 13 21.5	+1.1
	comp=Z,14nm,0.6s,mb5.0						
BRVK	**Borovoye**	**47.96**	**309**	*e*P	P	16 13 22.3	-1.3
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
BRVK	**Borovoye**	**47.96**	**309**	*e*P	P	16 13 22.3	-1.3
	comp=Z,1.1nm,0.5s,mb3.9						
KKN	**Kakani**	**48.05**	**272**	*e*P	P	16 13 25.3	+1.0
	comp=Z,10nm,0.8s,mb4.7						
DMN	**Daman**	**48.28**	**272**	*e*P	P	16 13 26.9	+0.8
GKN	**Gorkha**	**48.42**	**273**	*e*P	P	16 13 26.6	-0.5
	comp=Z,5.2nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**48.73**	**310**	*e*P	P	16 13 29.2	-0.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**48.73**	**310**	*e*P	P	16 13 29.1	-0.4
	comp=Z,1.6nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**48.92**	**295**	*e*P	P	16 13 29.8	-1.2
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**48.92**	**295**	*e*P	P	16 13 29.8	-1.2
	comp=Z,1.2nm,0.5s,mb4.1						
KOLN	**Koldanda**	**49.31**	**273**	*e*P	P	16 13 34.1	+0.1
	comp=Z,3.8nm,0.5s,mb4.6						
INK	**Inuvik**	**49.75**	**29**	*e*P	P	16 13 36.7	-0.6
INK				pmax	pmax		
	comp=Z,27nm,0.7s						
INK	**Inuvik**	**49.75**	**29**	*e*P	P	16 13 36.7	-0.6
	comp=Z,27nm,0.7s,mb5.3						
WRA	**Warramunga Arr**	**61.99**	**189**	P	P	16 15 04.7	-0.2
	comp=Z,0.3nm,0.5s,mb3.6,baz=6.5,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**64.83**	**332**	P	P	16 15 22.6	-1.0
	comp=Z,1.3nm,0.4s,mb4.1,baz=59,slow=7.0,SNR=32						
AS31	**Alice Springs**	**65.72**	**188**	P	P	16 15 38.0	+8.7
ASAR	**Alice Springs**	**65.72**	**188**	P	P	16 15 30.0	+0.7
	comp=Z,0.2nm,0.6s,mb3.1,baz=4.4,slow=8.1,SNR=4.8						
HFS	**Hagfors**	**69.93**	**335**	P	P	16 15 54.6	-1.2
	comp=Z,1.4nm,0.3s,mb4.2,baz=35,slow=6.0,SNR=15						
NOA	**NORSAR Array B**	**69.95**	**337**	P	P	16 15 55.1	-0.8
	comp=Z,0.3nm,0.4s,mb3.5,baz=36,slow=6.0,SNR=3.4						
STKA	**Stephens Creek**	**73.44**	**181**	P	P	16 16 15.4	-1.5
	comp=Z,2.0nm,0.5s,mb4.2,baz=11,slow=9.8,SNR=6.2						
PDAR	**Pinedale Array**	**73.78**	**47**	P	P	16 16 19.8	+1.0
	comp=Z,0.5nm,0.6s,mb3.4,baz=232,slow=1.7,SNR=5.2						

IDC 18 16:10:34.6±6.6, 660S×15102E, h80km±51km, mb3.6/5, mb1 3.8/6, mb1mx3.5/15, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=57.0km s-min=26.2km az=98.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73**	**234**	P	Pn	16 11 42.6	-0.8
	2.2nm,0.3s,baz=24,slow=9.5,SNR=8.4						
PMG				S	Sn	16 12 38.8	+1.7
	4.9nm,0.3s,baz=193,slow=23,SNR=6.8						
WB2	**Warramunga Arr**	**20.93**	**229**	*e*P	P	16 15 09.9	-0.7
WRA	**Warramunga Arr**	**20.93**	**229**	P	P	16 15 10.4	-0.3
	1.3nm,0.4s,baz=52,slow=9.9,SNR=19						
ASAR	**Alice Springs**	**23.64**	**222**	P	P	16 15 38.2	-0.1
	1.6nm,0.6s,baz=56,slow=9.3,SNR=19						
ASPA	**Alice Springs**	**23.64**	**222**	*e*P	P	16 15 38.7	+0.3
STKA	**Stephens Creek**	**26.64**	**198**	*e*P	P	16 16 06.5	+0.8
	1.5nm,0.4s						
STKA	**Stephens Creek**	**26.64**	**198**	P	P	16 16 06.2	+0.5
	1.7nm,0.4s,baz=22,slow=6.8,SNR=5.1						
FITZ	**Fitzroy Crossi**	**27.26**	**243**	*e*P	P	16 16 11.7	+0.5
	3.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.26**	**243**	P	P	16 16 11.7	+0.5
	1.8nm,0.5s,baz=50,slow=8.9,SNR=15						
KSRS	**Korea Array**	**48.85**	**336**	P	P	16 19 12.3	+0.4
	0.9nm,0.7s,baz=73,slow=9.3,SNR=7.4						

*BUC **18** 16:14:06.3±0.7, 4564N×2659E, h152km±6km, MD4.4/2, Error ellipse: s-maj=5.7km s-min=4.2km az=340.0*
*IDC **18** 16:14:06.9±1.5, 4574N×2660E, h135km±6km, mb3.1/3, mb1 3.1/6, mb1mx2.9/20, mbtmp3.0/6, Error ellipse: s-maj=36.9km s-min=13.6km az=117.0*
*NEIC **18** 16:14:06.9, 4557N×2661E, h143km, MD3.0(SOF), After BUC.*
*ISCJB **18** 16:14:06.3±0.4, 4563N±003×2662E±004, h146km±3km, mb3.4/3, Error ellipse: s-maj=5.1km s-min=4.5km az=44.0*
*SOF **18** 16:14:06.1, 4566N×2651E, h150km, MD3.0*
*CSEM **18** 16:14:06.1±0.1, 4567N×2658E, h147km±1km, MD4.5/2, Error ellipse: s-maj=2.2km s-min=1.8km az=136.0*
ISC 18 16:14:07.0±0.4, 4562N±003×2663E±004, h145km±3km, n60, σ0§83/87, mb3.4/3, 19C-10D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**4**	⇑iP	Pn	16 14 26.9	+0.1
PLOR				*i* S	Sn	16 14 41.7	-0.1
VRI	**Vrincioaia**	**0.25**	**16**	⇑P	Pn	16 14 27.2	+0.4
VRI				S	Sn	16 14 42.4	+0.5
PETR		**0.43**	**77**	⇑iP	Pn	16 14 28.3	+0.8
PETR				*i* S	Sn	16 14 43.8	+0.7
MLR	**Muntele Rosu**	**0.50**	**255**	P	Pn	16 14 28.0	+0.2
	73nm,0.3s,baz=318,slow=2.5,SNR=798						
MLR				S	Sn	16 14 43.1	-0.5
	407nm,0.3s,baz=272,slow=12,SNR=68						
MLR	**Muntele Rosu**	**0.50**	**255**	S	Sn	16 14 43.6	0.0
MLR	**Muntele Rosu**	**0.50**	**255**	⇑iP	Pn	16 14 28.0	+0.2
MLR				*i* S	Sn	16 14 43.6	0.0
MLR	**Muntele Rosu**	**0.50**	**255**	P	Pn	16 14 28.3	+0.5
MLR	**Muntele Rosu**	**0.50**	**255**	P	Pn	16 14 28.3	+0.5
GHRR		**0.70**	**51**	⇑iP	Pn	16 14 29.7	+0.7
GHRR				*i* S	Sn	16 14 46.2	+0.5
SECR		**0.71**	**214**	⇑iP	Pn	16 14 29.6	+0.6
SECR				*i* S	Sn	16 14 46.2	+0.4
TUDR		**0.73**	**92**	⇑iP	Pn	16 14 29.3	+0.1
TUDR				*i* S	Sn	16 14 46.0	-0.1
SNX	**Sinaia**	**0.83**	**251**	⇓iP	Pn	16 14 30.4	+0.5
TESR		**0.89**	**1**	⇑iP	Pn	16 14 30.3	-0.1
TESR				*i* S	Sn	16 14 47.0	-1.2
VARR		**0.90**	**73**	⇑iP	Pn	16 14 31.0	+0.5
VARR				*i* S	Sn	16 14 48.2	-0.1
SULR		**0.98**	**196**	⇑iP	Pn	16 14 31.5	+0.3
SULR				*i* S	Sn	16 14 50.0	+0.4
VOIR		**1.12**	**261**	⇓iP	Pn	16 14 32.1	-0.3
VOIR				*i* S	Sn	16 14 51.3	-0.5
VOIR		**1.12**	**261**	⇓P	Pn	16 14 32.1	-0.4
VOIR				S	Sn	16 14 51.3	-0.5
CFR	**Carcaliu**	**1.15**	**112**	⇑iP	Pn	16 14 32.9	+0.2
CFR				*i* S	Sn	16 14 51.9	-0.4
CFR	**Carcaliu**	**1.15**	**112**	P	Pn	16 14 27.2	-5.5
MTUR	**Matau**	**1.17**	**251**	⇓iP	Pn	16 14 33.0	+0.1
MTUR	**Matau**	**1.17**	**251**	⇑P	Pn	16 14 33.0	+0.1
HARR	**Harsova**	**1.31**	**135**	⇓iP	Pn	16 14 28.4	-5.8
HARR	**Harsova**	**1.31**	**135**	P	Pn	16 14 28.4	-5.8
BUC1	**Bucharest**	**1.34**	**199**	⇑iP	Pn	16 14 34.7	+0.1
BUC1				*i* S	Sn	16 14 54.5	-1.1
BUC1	**Bucharest**	**1.34**	**199**	⇑P	Pn	16 14 34.7	+0.1
BUC1				S	Sn	16 14 54.5	-1.2
LEOM	**Leova**	**1.41**	**52**	*i* P	Pn	16 14 35.3	0.0
IAS	**Iasi**	**1.70**	**22**	*i* S	Sn	16 15 01.5	-0.9
TIRR	**Tirgusor**	**1.72**	**132**	⇑iP	Pn	16 14 38.9	+0.3
TIRR				*i* S	Sn	16 15 01.3	-1.5
TIRR	**Tirgusor**	**1.72**	**132**	⇑P	Pn	16 14 38.9	+0.3
TIRR				S	Sn	16 15 01.2	-1.6
KIS	**Kishinev**	**2.05**	**47**	⇓iP	Pn	16 14 41.6	-0.8
	300nm,0.6s						
KIS				*i* S	Sn	16 15 07.6	-2.0
	2µm,0.5s						
BURAR	**Bucovina Array**	**2.22**	**334**	⇓iP	Pn	16 14 46.0	+1.6
BURAR				*i* S	Sn	16 15 14.9	+1.7
BURAR	**Bucovina Array**	**2.22**	**334**	⇓P	Pn	16 14 46.0	+1.6
BURAR				S	Sn	16 15 14.9	+1.7
PSN	**Preselentsi**	**2.24**	**150**	*i* P	Pn	16 14 45.8	+1.2
PSN				S	Sn	16 15 13.4	-0.2
PSN	**Preselentsi**	**2.24**	**150**	P	Pn	16 14 45.3	+0.7
CRAR	**CRAIOVA**	**2.39**	**238**	⇑iP	Pn	16 14 45.5	-1.0
CRAR				*i* S	Sn	16 15 14.1	-2.8
SZH	**Strazhica**	**2.41**	**192**	*i* P	Pn	16 14 47.5	+0.8
PRD	**Provadia**	**2.48**	**167**	*i* P	Pn	16 14 48.6	+0.9
PVL	**Pavlikeni**	**2.58**	**202**	*i* P	Pn	16 14 50.6	+1.8
PVL				S	Sn	16 15 17.9	-3.2
PVL	**Pavlikeni**	**2.58**	**202**	P	Pn	16 14 50.2	+1.4
GZR	**Gura Zlata**	**2.72**	**267**	⇑iP	Pn	16 14 50.5	-0.1
GZR				*i* S	Sn	16 15 24.0	-0.2
GZR	**Gura Zlata**	**2.72**	**267**	⇑P	Pn	16 14 50.5	-0.1
GZR				S	Sn	16 15 24.0	-0.2
DRGR		**2.96**	**295**	⇓iP	Pn	16 14 52.9	-0.7
JMB	**Yambol**	**3.16**	**181**	*i* P	Pn	16 14 55.7	-0.5
JMB	**Yambol**	**3.16**	**181**	P	Pn	16 14 56.1	-0.1
BZS	**Buzias**	**3.52**	**272**	⇓iP	Pn	16 15 00.0	-0.8
BZS	**Buzias**	**3.52**	**272**	P	Pn	16 15 00.0	-0.7
BZS	**Buzias**	**3.52**	**272**	P	Pn	16 15 00.1	-0.7
PGB	**Panagyurishte**	**3.55**	**211**	*i* P	Pn	16 15 01.8	+0.6
VTS	**Vitosha**	**3.91**	**220**	*i* P	Pn	16 15 06.0	+0.1
VTS	**Vitosha**	**3.91**	**220**	P	Pn	16 15 06.1	+0.2
KOLS	**Kolonicke sedl**	**4.44**	**320**	*e*PN	Pn	16 15 13.8	+0.9
GRUS	**Gruza**	**4.55**	**250**	P	Pn	16 15 13.2	-1.2
KECS	**Kecovo**	**5.08**	**306**	*e*PN	Pn	16 15 21.2	-0.2
STHS	**Stebnicka Huta**	**5.26**	**318**	*e*PN	Pn	16 15 25.0	+1.2
AKASG	**Malin Array Be**	**5.37**	**18**	P	Pn	16 15 25.1	-0.1
	2.5nm,0.3s,baz=199,slow=11,SNR=14						
AKASG				S	Sn	16 16 22.1	-4.1
	3.6nm,0.3s,baz=199,slow=21,SNR=9.3						
GERES	**GERESS Array B**	**9.37**	**295**	P	Pn	16 16 18.1	-0.5
	0.1nm,0.3s,baz=115,slow=9.6,SNR=4.0						
FINES	**FINESS Array B**	**15.85**	**359**	P	Pn	16 17 40.6	-1.5
	0.1nm,0.3s,baz=166,slow=13,SNR=4.8						
EKA	**Eskdalemuir Ar**	**21.15**	**308**	P	P	16 18 40.2	-0.2
	1.6nm,0.8s,mb3.4,baz=94,slow=12,SNR=4.4						
ARCES	**ARCESS Array B**	**23.98**	**359**	P	P	16 19 08.1	+0.1
	1.4nm,0.9s,mb3.5,baz=181,slow=10,SNR=5.5						
TORD	**Torodi Ar. Bea**	**38.66**	**221**	P	P	16 21 16.9	+0.6
	0.5nm,0.6s,mb3.3,baz=29,slow=8.3,SNR=4.2						

IDC 18 16:16:45.9±2.6, 8455S×14791E, h163km±16km, mb3.0/3, mb1 3.1/4, mb1mx2.9/13, mbtmp2.9/4, Error ellipse: s-maj=49.7km s-min=34.3km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.21**	**218**	P	Pn	16 17 13.5	-0.1
	0.8nm,0.3s,baz=56,slow=3.6,SNR=3.4						
WRA	**Warramunga Arr**	**17.41**	**228**	P	Pn	16 20 39.6	+0.8
	0.1nm,0.3s,baz=54,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**20.22**	**220**	P	P	16 21 08.8	+0.7
	0.5nm,0.6s,baz=55,slow=9.1,SNR=8.8						
FITZ	**Fitzroy Crossi**	**23.68**	**244**	P	P	16 21 41.7	-0.8
	1.0nm,0.5s,baz=64,slow=8.9,SNR=6.1						
STKA	**Stephens Creek**	**24.04**	**193**	P	P	16 21 45.6	-0.1
	1.3nm,0.8s,baz=20,slow=12,SNR=2.7						
EKA	**Eskdalemuir Ar**	**127.92**	**339**	PKP	PKPdf	16 35 32.1	0.0
	0.8nm,0.3s,baz=14,slow=2.4,SNR=9.2						

*ISCJB **18** 16:19:42.5±0.7, 4703N±009×1549E±0.1, h10km, mb4.0/22, Error ellipse: s-maj=16.8km s-min=8.4km az=90.1*
*NEIC **18** 16:19:43.9±0.7, 4694N×15483E, h10km, mb4.3/10, Error ellipse: s-maj=18.3km s-min=9.7km az=132.0*
*IDC **18** 16:19:43.1±0.8, 4692N×15496E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.9/26, mbtmp3.9/14, ML3.3/1, Error ellipse: s-maj=23.0km s-min=18.9km az=125.0*
*MOS **18** 16:19:45.7±1.9, 4700N×15484E, h33km, mb4.5/8, Error ellipse

comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 55.65 318 *e*P **P 16 29 20.3 -0.1**
comp=Z,4.3nm,0.6s,mb4.7
KRMB Red Mountain 55.88 64 P **P 16 29 18.0 -4.0**
FINES FINESS Array B 64.31 335 P **P 16 30 20.1 +0.2**
comp=Z,1.2nm,0.5s,mb4.2,baz=39,slow=7.6,SNR=18
NOA NORSAR Array B 68.35 342 P **P 16 30 47.9 +2.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=55,slow=18,SNR=2.6
HFS Hagfors 68.62 340 P **P 16 30 49.2 +1.8**
comp=Z,1.4nm,0.6s,mb4.1,baz=76,slow=6.1,SNR=9.5
WRA Warramunga Arr 69.22 201 P **P 16 30 50.4 -0.7**
comp=Z,0.7nm,0.9s,mb3.6,baz=20,slow=6.8,SNR=4.2
AKASG Malin Array Be 72.00 327 P **P 16 31 08.1 0.0**
comp=Z,1.2nm,0.5s,mb4.1,baz=32,slow=6.1,SNR=7.6
ASAR Alice Springs 72.90 200 P **P 16 31 13.7 +0.2**
comp=Z,0.5nm,0.8s,mb3.5,baz=20,slow=6.7,SNR=5.3
TXAR Lajitas Array 76.24 62 P **P 16 31 33.4 +0.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=293,slow=4.0,SNR=12
CLL Collm 76.71 337 *e*pP pP 16 31 39.0 +0.1
MORC Moravsky Berou 76.76 333 *e*P **P 16 31 36.9 +1.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 76.76 333 *e*P **P 16 31 36.9 +1.1**
comp=Z,2.8nm,0.9s,mb4.2
GERES GERESS Array B 78.74 335 P **P 16 31 49.7 +2.8**
comp=Z,0.5nm,0.6s,mb3.7,baz=39,slow=5.8,SNR=5.2

STR ***18*** *16:28:03.0±0.1, 4301N×001W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 16:28:03.1±0.1, 4299N×001W, h4km, Md1.6/2, Ml1.8/1, Error ellipse: s-maj=3.8km s-min=0.9km az=164.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LABF	**Labassere**	**0.09**	**44**	Pg		Pg	16 28 04.7	-0.2
LABF				Sg		Sg	16 28 05.9	-0.1
VIEF	**Viey**	**0.10**	**168**	Pg		Pg	16 28 05.7	+0.5
VIEF				Sg		Sg	16 28 07.8	+1.1
EPF	**Esparros**	**0.26**	**80**	*e*Pg		Pg	16 28 08.2	+0.1
EPF				*e*Sg		Sg	16 28 11.6	+0.1
	1.5nm,0.2s							
ETSF	**Etsaut**	**0.42**	**258**	*e*Pg		Pg	16 28 11.2	+0.1
ETSF				*e*Sg		Sg	16 28 16.7	+0.2
	1.0nm,0.2s							
MTLF	**Montolieu**	**1.67**	**77**	*e*Pn		Pn	16 28 31.2	-1.8
MTLF				*e*Sg		Sg	16 28 55.9	-0.7
CAF	**Calviac**	**2.45**	**37**	*e*Sg		Sg	16 29 20.1	-1.7
	0.6nm,0.2s							

IDC ***18*** *16:32:10.9±1.1, 1458N×14437E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=44.2km s-min=13.0km az=72.0*
ISCJB ***18*** *16:32:15.8±1.8, 1455N±009×1445E±04, h52km±26km, mb4.0/12, Error ellipse: s-maj=59.2km s-min=13.5km az=168.8*
NEIC ***18*** *16:32:16.3±1.4, 1458N×14457E, h43km±19km, mb4.4/4, Error ellipse: s-maj=37.8km s-min=8.0km az=85.0*
ISC 18 16:32:12.2±2.2, 1459N±009×1445E±02, h8km±14km, n18, σ0§67/21, mb4.0/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.07**	**158**	Pn		**Pn**	**16 32 34.0**	**+0.5**
	111nm,0.3s,baz=293,slow=4.5,SNR=65							
GUMO				Sn		**Sn**	**16 32 48.9**	**+0.2**
	174nm,0.3s,baz=88,slow=18,SNR=24							
GUMO	**Guam**	**1.07**	**158**	Pn		**Pn**	**16 32 34.0**	**+0.5**
GUMO				*e*Sg		**Sg**	**16 32 46.5**	**-0.2**
GUMO				Sn		**Sn**	**16 32 48.9**	**+0.3**
MJAR	**Matsushiro Arr**	**22.56**	**347**	P		**P**	**16 37 13.5**	**+0.7**
	1.9nm,0.8s,mb3.6,baz=174,slow=9.5,SNR=5.9							
WB2	**Warramunga Arr**	**35.73**	**196**	*e*P		**P**	**16 39 11.8**	**+0.5**
WRA	**Warramunga Arr**	**35.73**	**196**	P		**P**	**16 39 11.9**	**+0.5**
	3.6nm,0.7s,mb4.4,baz=14,slow=9.5,SNR=49							
FITZ	**Fitzroy Crossi**	**37.41**	**210**	*e*P		**P**	**16 39 24.6**	**-1.1**
	8.9nm,1.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**37.41**	**210**	P		**P**	**16 39 24.7**	**-1.0**
	1.6nm,0.6s,mb4.1,baz=15,slow=16,SNR=6.6							
ASAR	**Alice Springs**	**39.40**	**195**	P		**P**	**16 39 42.4**	**0.0**
	0.4nm,0.7s,mb3.3,baz=7.6,slow=11,SNR=5.2							
MBWA	**Marble Bar**	**43.03**	**215**	P		**P**	**16 40 12.1**	**-0.2**
	7.4nm,0.9s,mb4.4							
ULN	**Ulaanbaatar**	**45.34**	**325**	P		**P**	**16 40 31.2**	**+0.4**
	1.5nm,0.8s,mb3.9							
SONM	**Songino Array**	**45.69**	**325**	P		**P**	**16 40 33.3**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=141,slow=8.8,SNR=7.5							
STKA	**Stephens Creek**	**46.28**	**183**	*e*P		**P**	**16 40 38.4**	**+0.2**
	1.6nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**46.28**	**183**	P		**P**	**16 40 37.9**	**-0.4**
	2.3nm,0.7s,mb4.2,baz=0.8,slow=8.3,SNR=8.8							
STKA	**Stephens Creek**	**46.28**	**183**	*e*P		**P**	**16 40 37.6**	**-0.7**
LSA	**Lhasa**	**51.19**	**296**	*e*P		**P**	**16 41 17.1**	**+1.1**
	3.7nm,0.7s,mb4.4							
MKAR	**Makanchi Array**	**60.50**	**316**	P		**P**	**16 42 22.9**	**+0.2**
	0.9nm,0.7s,mb3.9,baz=91,slow=8.4,SNR=8.8							
BVAR	**Borovoye Array**	**68.90**	**321**	P		**P**	**16 43 16.6**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=99,slow=9.2,SNR=5.7							
FINES	**FINESS Array B**	**90.09**	**335**	P		**P**	**16 45 11.2**	**-1.6**
	3.9nm,1.2s,mb4.6,baz=54,slow=9.7,SNR=3.5							

IDC ***18*** *16:35:37.0±1.1, 4695N×15496E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/24, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=35.4km s-min=25.7km az=145.0*
ISCJB ***18*** *16:35:40.3±1.1, 4704N±02×1548E±02, h33km, mb3.7/5, Error ellipse: s-maj=32.6km s-min=17.1km az=119.1*
ISC 18 16:35:42.9±4.0, 4719N±02×1549E±03, h39km±38km, n7, σ1§12/7, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.10**	**255**	Pn		**Pn**	**16 37 50.8**	**-1.0**
	0.2nm,0.3s,baz=219,slow=3.8,SNR=3.4							
MAT	**Matsushiro**	**16.26**	**236**	P		**Pn**	**16 39 30.0**	**+1.6**
INK	**Inuvik**	**40.71**	**33**	P		**P**	**16 43 19.9**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=312,slow=30,SNR=4.7							
MKAR	**Makanchi Array**	**47.85**	**298**	P		**P**	**16 44 16.7**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=60,slow=7.2,SNR=4.1							
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**	**16 46 14.1**	**+0.2**
	1.1nm,0.7s,mb4.0,baz=35,slow=7.0,SNR=6.1							
ASAR	**Alice Springs**	**72.93**	**200**	P		**P**	**16 47 07.2**	**-0.9**
	0.5nm,0.8s,mb3.5,baz=11,slow=4.6,SNR=6.3							
TXAR	**Lajitas Array**	**76.27**	**62**	P		**P**	**16 47 27.6**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=295,slow=4.0,SNR=8.9							

BJI ***18*** *16:52:33.9, 4760N×15533E, h10km, mB5.0, mb4.5, Ms4.3, Msz4.1*
IDC ***18*** *16:52:34.7±0.7, 4735N×15529E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.5/31, mbtmp4.4/26, ML4.0/1, MS3.8/6, Ms1 3.8/6, ms1mx3.0/43, Error ellipse: s-maj=19.7km s-min=13.6km az=164.0*
NEIC ***18*** *16:52:36.4±0.4, 4741N×15528E, h10km, mb4.8/26, Error ellipse: s-maj=9.6km s-min=5.6km az=150.0*
SKHL ***18*** *16:52:36.7±0.3, 4750N×15540E, h51km±25km, mb4.6/2*
ISCJB ***18*** *16:52:39.6±0.4, 4745N±006×15520E±006, h44km, mb4.6/64, MS3.9/15, Error ellipse: s-maj=8.9km s-min=4.6km az=138.4*
MOS ***18*** *16:52:41.5±1.4, 4757N×15509E, h55km, mb4.9/19, Error ellipse: s-maj=9.3km s-min=6.6km az=105.5*
ISC 18 16:52:41.5±0.4, 4751N±005×15523E±006, h46km, h46km±4.3km:pP-P, n151, σ1§17/162, mb4.6/64, MS3.9/15, 9C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.23**	**10**	*e*P		**Pn**	**16 53 26.8**	**-2.8**
SKR				AMB		AMB	16 53 27.0	
	40nm,0.3s							
SKR				*e*S		**Sn**	**16 54 04.6**	**-2.1**
SKR				A			16 54 10.7	
	120nm,0.5s							
SKR				A			16 54 10.7	
	880nm,0.2s							
SKR				A			16 54 10.7	
	590nm,0.2s							
KUR	**Kuril'sk**	**5.58**	**249**	*e*P		**Pn**	**16 54 02.0**	**+0.1**
KUR				*e*S		**Sn**	**16 54 58.0**	**-6.8**
KUR				A			16 55 01.0	
	215nm,0.8s							
PET	**Petropavlovsk**	**5.94**	**20**	*e*P		**Pn**	**16 54 04.4**	**-2.4**
PET	**Petropavlovsk**	**5.94**	**20**	*e*PN		**Pn**	**16 54 04.9**	**-1.9**
PET				pmax		pmax		
	comp=Z,39nm,0.7s							
PET				MLR		MLR		
	comp=Z,300nm,16.0s							
PET	**Petropavlovsk**	**5.94**	**20**	*e*Pn		**Pn**	**16 54 04.4**	**-2.4**
	comp=Z,48nm,0.9s							
YSS	**Yuzh-Sakhalins**	**8.51**	**271**	*e*P		**Pn**	**16 54 42.7**	**+0.6**
YSS				AMB		AMB	16 54 44.0	
	comp=Z,20nm,0.4s							
YSS				*e*S		**Sn**	**16 56 17.0**	**+0.3**
YSS				A			16 56 19.0	
	comp=Z,20nm,0.7s							
YSS				*e*LQ			16 56 36.0	
YSS				*e*LR		LR	16 57 44.0	
YSS				AMS		AMS	16 58 36.0	
	comp=Z,600nm,16.0s							
YSS				AMS		AMS	16 58 36.0	
	comp=Z,500nm,15.0s							
YSS				AMS		AMS	16 58 36.0	
	comp=Z,500nm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.51**	**271**	*e*PN		**Pn**	**16 54 42.7**	**+0.6**
YSS				pmax		pmax		
	comp=Z,20nm,0.4s							
YSS				MLR		MLR		
	comp=Z,600nm,16.0s							
YSS				MLR		MLR		
	comp=N,500nm,14.0s							
YSS				MLR		MLR		
	comp=E,500nm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.51**	**271**	*e*Pn		**Pn**	**16 54 42.8**	**+0.7**
	comp=E,13nm,0.4s							
ASAJ	**Asahikawa**	**9.45**	**254**	Pn		**Pn**	**16 54 53.8**	**-1.2**
	comp=E,1.5nm,0.3s,baz=113,slow=12,SNR=12							
ASAJ				LR		LR	16 59 22.8	
	comp=E,201nm,18.1s,baz=267,slow=43							
ASAJ	**Asahikawa**	**9.45**	**254**	PN		**Pn**	**16 54 53.8**	**-1.2**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,201nm,18.1s							
ERM	**Erimo**	**10.19**	**242**	*i* PN		**Pn**	**16 55 01.9**	**-3.2**
HABR	**Khabarovsk**	**13.55**	**282**	*e*PN		**Pn**	**16 55 46.8**	**-4.2**
HABR				S		**Sn**	**16 58 21.0**	**+1.0**
KLR	**Kul'dur**	**15.69**	**285**	*e*P		**Pn**	**16 56 20.2**	**+0.9**
MAJO	**Matsushiro**	**16.70**	**235**	*e*P		**Pn**	**16 56 30.4**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,14nm,1.0s							
MAJO	**Matsushiro**	**16.70**	**235**	*e*Pn		**Pn**	**16 56 30.4**	**-1.7**
	comp=Z,14nm,1.0s							
MAT	**Matsushiro**	**16.70**	**235**	P		**Pn**	**16 56 27.3**	**-4.8**
MJAR	**Matsushiro Arr**	**16.70**	**235**	Pn		**Pn**	**16 56 31.1**	**-1.0**
	baz=36,slow=10,SNR=9.4							
ZEA	**Zeya**	**18.73**	**300**	*e*P		**Pn**	**16 56 54.8**	**-2.3**
ZEA				AMB		AMB	16 56 56.9	
	comp=Z,64nm,1.8s							
YAK	**Yakutsk**	**20.50**	**325**	*e*P		**P**	**16 57 14.1**	**-1.5**
YAK				*e*S		**S**	**17 01 00.0**	**-2.4**
YAK				*i* SS			17 01 20.2	
YAK				*i* SSS			17 01 48.4	
YAK				pmax		pmax		
	comp=Z,16nm,1.0s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.5s							
YAK				pmax		pmax		
	comp=E,4.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,176nm,3.4s							
YAK				pmax		pmax		
	comp=N,282nm,6.4s							
YAK				pmax		pmax		
	comp=E,113nm,2.8s							
YAK				smax				
	comp=N,527nm,3.3s							
YAK				smax				
	comp=Z,190nm,3.3s							
YAK				smax				
	comp=E,272nm,3.2s							
YAK				MLR		MLR		
	comp=Z,157nm,19.0s,MS3.4							
YAK				MLR		MLR		
	comp=N,96nm,16.0s,MS3.4							
YAK				MLR		MLR		
	comp=E,89nm,16.0s,MS3.4							
YAK	**Yakutsk**	**20.50**	**325**	*e*P		**P**	**16 57 14.8**	**-0.8**
	comp=E,22nm,0.8s							
YAK				*e*			16 57 26.4	
CLNS	**Chul'man**	**20.65**	**308**	*e*P		**P**	**16 57 16.8**	**-0.4**
CLNS				pmax		pmax		
	comp=N,6.0nm,1.0s							
CLNS				pmax		pmax		
	comp=Z,17nm,1.0s							
CLNS				pmax		pmax		
	comp=E,10.0nm,0.8s							
CN2	**Changchun**	**21.08**	**271**	*e*P		**P**	**16 57 19.5**	**-2.4**
CN2				*e*XP		sP	16 57 26.5	-12
CN2				*e*S		**S**	**17 01 08.3**	**-5.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.2							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,400nm,14.0s,MS4.0							
CN2				LR		LR		
	comp=E,300nm,14.0s,MS4.0							
CN2				LR		LR		
	comp=Z,300nm,15.0s,MS3.8							
BILL	**Bilibino**	**21.34**	**11**	*e*P		**P**	**16 57 23.6**	**-1.0**
BILL				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.3							
BILL				MLR		MLR		
	comp=Z,100nm,15.0s,MS3.3							
BILL	**Bilibino**	**21.34**	**11**	*e*P		**P**	**16 57 24.1**	**-0.5**
	comp=Z,46nm,1.1s,mb4.7							
KSRS	**Korea Array**	**22.40**	**253**	P		**P**	**16 57 36.4**	**+0.4**
	comp=Z,4.4nm,1.0s,mb3.9,baz=52,slow=9.9,SNR=11							
KSRS				LR		LR	17 06 56.4	
	comp=Z,116nm,18.9s,MS3.3,baz=323,slow=38							
INCN	**Inchon**	**23.23**	**255**	P		**P**	**16 57 43.0**	**-1.7**
	comp=Z,32nm,0.9s,mb4.8							
HIA	**Hailar**	**23.50**	**288**	P		**P**	**16 57 45.8**	**-1.5**
BOD	**Bodaibo**	**26.64**	**308**	*e*P		**P**	**16 58 13.4**	**-2.3**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.9s,mb3.8							
BJT	**Baijiatuan**	**28.95**	**270**	P		**P**	**16 58 38.8**	**+2.4**
HHC	**Hu-ho-hao-te**	**31.68**	**274**	*e*P		**P**	**16 58 59.0**	**-1.5**
HHC				XP		sP	16 59 06.3	-12
HHC				PP		PP	17 00 03.3	-9.3
HHC				PCP		PcP	17 01 52.4	+0.9
HHC				S		**S**	**17 04 07.6**	**+0.8**
HHC				SCP		ScP	17 05 32.8	+1.8
HHC				SS		SS	17 05 55.8	-28
HHC				SCS		ScS	17 09 28.9	-0.2
HHC				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.5							
HHC				AMB		AMB		
	comp=Z,249nm,5.1s							
HHC				LR		LR		
	comp=N,272nm,14.7s,MS4.2							
HHC				LR		LR		
	comp=E,242nm,14.9s,MS4.2							
HHC				LR		LR		
	comp=Z,232nm,13.7s,MS4.0							
ULN	**Ulaanbaatar**	**32.02**	**289**	*e*P		**P**	**16 59 02.8**	**-0.7**
ULN	**Ulaanbaatar**	**32.02**	**289**	*e*P		**P**	**16 59 02.3**	**-1.2**
	comp=Z,6.2nm,1.0s,mb4.4							
SONM	**Songino Array**	**32.45**	**289**	P		**P**	**16 59 06.5**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.0,baz=63,slow=8.1,SNR=11							
SONM				LR		LR	17 11 32.2	
	comp=Z,191nm,19.5s,MS3.8,baz=334,slow=35							
TLY	**Talaya**	**33.12**	**297**	*i* P		**P**	**16 59 11.2**	**-1.9**
COLA	**College**	**34.64**	**39**	*i* P		**P**	**16 59 26.4**	**+0.1**
COLA	**College**	**34.64**	**39**	*e*P		**P**	**16 59 19.4**	**-6.9**
	comp=Z,16nm,0.8s,mb5.0							
XAN	**Xi'an**	**37.02**	**266**	P		**P**	**16 59 46.3**	**-0.4**
XAN				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.1							
LZH	**Lanzhou**	**39.30**	**272**	*e*P		**P**	**17 00 06.5**	**+0.6**
LZH				AP		pP	17 00 14.5	-3.8
LZH				XP		sP	17 00 19.0	-4.6
LZH				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.8							
LZH				AMB		AMB		
	comp=Z,124nm,4.1s							
LZH	**Lanzhou**	**39.30**	**272**	*e*P		**P**	**17 00 06.5**	**+0.6**
	comp=Z,30nm,1.5s,mb4.8							
LZH				pP		pP	17 00 14.5	-3.8
LZH				sP		sP	17 00 19.0	-4.6
INK	**Inuvik**	**40.23**	**33**	P		**P**	**17 00 14.1**	**+0.5**
	comp=Z,9.9nm,1.0s,mb4.5,baz=270,slow=6.8,SNR=19							
INK	**Inuvik**	**40.23**	**33**	*e*P		**P**	**17 00 14.1**	**+0.5**
INK				pmax		pmax		
	comp=Z,420nm,1.2s							
INK	**Inuvik**	**40.23**	**33**	*e*P		**P**	**17 00 14.1**	**+0.5**
	comp=Z,420nm,1.2s							
GTA	**Gaotai**	**40.27**	**279**	*e*P		**P**	**17 00 15.1**	**+1.1**
GTA				AP		pP	17 00 18.6	-7.7
GTA				XP		sP	17 00 21.3	-10
GTA				PP		PP	17 01 52.5	+5.2
GTA				PCP		PcP	17 02 17.8	+0.8
GTA				S		**S**	**17 06 24.4**	**+6.2**
GTA				XS		sS	17 06 30.9	-7.9
GTA				SS		SS	17 09 18.3	+0.5
GTA				AMB		AMB		
	comp=Z,2.0nm,1.2s,mb3.7							
GTA				AMB		AMB		
	comp=Z,141nm,4.2s							
GTA				LR		LR		
	comp=N,162nm,14.5s,MS4.2							
GTA				LR		LR		
	comp=E,162nm,12.5s,MS4.2							
GTA				LR		LR		
	comp=Z,235nm,15.2s,MS4.2							
CD2	**Chengdu**	**42.38**	**266**	⇑ *i*P		**P**	**17 00 31.3**	**0.0**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.4							
CD2				AMB		AMB		
	comp=Z,30nm,5.8s							
GYA	**Guiyang**	**43.29**	**259**	P		**P**	**17 00 38.4**	**-0.2**
GYA				AP		pP	17 00 42.6	-8.4
GYA				XP		sP	17 00 45.4	-11
GYA				PP		PP	17 02 21.9	+2.1
GYA				PCP		PcP	17 02 28.8	+1.9
GYA				S		**S**	**17 07 05.9**	**+3.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
GYA				AMB		AMB		
	comp=Z,110nm,4.6s							
GYA				LR		LR		
	comp=N,340nm,15.9s,MS4.5							
GYA				LR		LR		
	comp=E,410nm,16.0s,MS4.5							
GYA				LR		LR		
	comp=Z,430nm,16.4s,MS4.4							
ZAL	**Zalesovo**	**43.35**	**306**	P		**P**	**17 00 39.1**	**-0.1**
	comp=Z,3.6nm,0.4s,mb4.4,baz=56,slow=6.5,SNR=10							
ZAL				LR		LR	17 19 38.3	
	comp=Z,179nm,18.2s,MS4.0,baz=30,slow=37							
NVS	**Novosibirsk**	**43.87**	**307**	*i* P		**P**	**17 00 43.2**	**-0.1**
NVS				pmax		pmax		
	comp=N,7.0nm,1.7s							
NVS				pmax		pmax		
	comp=E,20nm,1.7s							
NVS				pmax		pmax		
	comp=Z,24nm,1.7s,mb4.7							
WMQ	**Urumqi**	**45.99**	**292**	⇓ *i*P		**P**	**17 01 01.6**	**+1.4**
WMQ				AP		pP	17 01 06.1	-6.6
WMQ				XP		sP	17 01 08.6	-9.4
WMQ				PCP		PcP	17 02 38.4	+2.2
WMQ				PP		PP	17 02 49.8	+1.2
WMQ				PPP			17 03 33.8	
WMQ				S		**S**	**17 07 46.1**	**+4.1**
WMQ				XS		sS	17 07 53.8	-9.1
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,126nm,4.8s							
WMQ				LR		LR		
	comp=N,186nm,21.8s,MS4.0							
WMQ				LR		LR		
	comp=E,94nm,20.8s,MS4.0							
WMQ				LR		LR		
	comp=Z,177nm,17.2s,MS4.1							
KMI	**Kunming**	**46.80**	**261**	P		**P**	**17 01 06.8**	**+0.3**
KMI				AP		pP	17 01 10.3	-8.7
KMI				XP		sP	17 01 11.4	-13
KMI				PP		PP	17 02 58.1	+1.1
KMI				S		**S**	**17 07 59.3**	**+5.8**
KMI				SS		SS	17 11 15.6	-4.7
KMI				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb4.6							
KMI				AMB		AMB		
	comp=Z,46nm,3.6s							
KMI				LR		LR		
	comp=N,155nm,16.2s							
KMI				LR		LR		
	comp=E,89nm,10.6s							
KMI				LR		LR		
	comp=Z,131nm,14.6s,MS4.0							
KMI	**Kunming**	**46.80**	**261**	P		**P**	**17 01 06.8**	**+0.3**
KMI							17 02 58.1	
KMI				S		**S**	**17 07 59.2**	**+5.7**
KMI				*SS		sS	17 08 01.2	-13
KMI				SS		SS	17 11 15.6	-4.7
KMI				SSS			17 12 23.5	
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
KMI				MLR		MLR		
	comp=Z,130nm,14.6s,MS4.0							
KMI	**Kunming**	**46.80**	**261**	P		**P**	**17 01 06.8**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.6							
KMI				pP		pP	17 01 10.3	-8.7
KMI				sP		sP	17 01 11.4	-13
KMI				PP		PP	17 02 58.1	+1.1
KMI				S		**S**	**17 07 59.2**	**+5.7**
KMI				sS		sS	17 08 01.2	-13
KMI				SS		SS	17 11 15.6	-4.7
KMI				SSS			17 12 23.5	
KMI				LR		LR		
	comp=Z,130nm,14.6s,MS4.0							
MK31	**Makanchi Array**	**47.87**	**298**	P		**P**	**17 01 14.2**	**-0.6**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
MKAR	**Makanchi Array**	**47.87**	**298**	P		**P**	**17 01 13.6**	**-1.3**
	comp=Z,5.6nm,0.9s,mb4.6,baz=69,slow=7.9,SNR=8.8							
YKA	**Yellowknife Ar**	**49.44**	**38**	P		**P**	**17 01 26.3**	**-0.6**
	comp=Z,5.5nm,0.8s,mb4.6,baz=298,slow=7.3,SNR=6.6							
YKA	**Yellowknife Ar**	**49.44**	**38**	P		**P**	**17 01 26.3**	**-0.6**
RES	**Resolute Bay**	**49.65**	**19**	P		**P**	**17 01 29.3**	**+0.8**
RES				pmax		pmax		
	comp=Z,159nm,1.0s							
RES	**Resolute Bay**	**49.65**	**19**	P		**P**	**17 01 29.3**	**+0.9**
	comp=Z,159nm,1.0s							
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P		**P**	**17 01 37.9**	**-1.1**
CHKZ				*e*		pP	17 01 50.8	-0.9
CHKZ				pmax		pmax		
	comp=Z,10.0nm,0.4s,mb5.1							
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P		**P**	**17 01 37.9**	**-1.1**
	comp=Z,10nm,0.4s,mb5.1							
CHKZ				*e*		pP	17 01 50.8	-0.9
BVA0	**Borovoye Array**	**51.49**	**310**	*e*P		**P**	**17 01 42.3**	**0.0**
BVAR	**Borovoye Array**	**51.49**	**310**	P		**P**	**17 01 42.5**	**+0.1**
	comp=Z,4.4nm,0.3s,mb4.8,baz=57,slow=7.9,SNR=98							
BVAR				LR		LR	17 26 47.7	
	comp=

ARU *e* 17 04 12.0
ARU *eS* **S** **17 09 59.0 +6.4**
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 55.42 318 *eP* **P** **17 02 11.1 -0.1**
comp=Z,10nm,0.7s,mb5.0
ARU *e* pP 17 02 23.6 -0.4
KSH Kashi 55.69 293 *eP* **P** **17 02 11.1 -2.0**
KSH *eAP* pP 17 02 16.4 -10
KSH *eXP* sP 17 02 18.9 -12
KSH *eS* **S** **17 09 52.0 -4.2**
KSH AMB AMB
comp=Z,881nm,3.4s
JIRN Jiri 56.32 276 *eP* **P** **17 02 18.5 +0.9**
comp=Z,16nm,0.7s,mb5.2
GUN Gumba 56.37 276 *eP* **P** **17 02 19.0 +1.0**
comp=Z,17nm,0.5s,mb5.3
KKN Kakani 56.85 276 *eP* **P** **17 02 22.5 +1.1**
DMN Daman 57.08 276 *eP* **P** **17 02 23.5 +0.5**
comp=Z,25nm,0.8s,mb5.3
KEV Kevo 57.10 341 *ep* **P** **17 02 17.4 -5.8**
GKN Gorkha 57.14 277 *eP* **P** **17 02 24.6 +1.1**
comp=Z,19nm,0.5s,mb5.4
ARCES ARCESS Array B 57.60 341 P **P** **17 02 26.6 -0.1**
comp=Z,7.1nm,1.0s,mb4.7,baz=27,slow=7.3,SNR=10
KOLN Koldanda 57.99 277 *eP* **P** **17 02 30.1 +0.7**
comp=Z,20nm,0.9s,mb5.1
AKTO Aktyubinsk 59.29 312 LR LR 17 31 12.0
comp=Z,128nm,18.2s,MS4.1,baz=285,slow=39
FCC Fort Churchill 59.83 34 *eP* **P** **17 02 42.5 +0.4**
FCC pmax pmax
comp=Z,43nm,1.2s,mb5.3
FCC Fort Churchill 59.83 34 *eP* **P** **17 02 42.5 +0.3**
comp=Z,43nm,1.2s,mb5.3
QLMT Earthquake Lak 60.76 54 *eP* **P** **17 02 48.6 0.0**
NVAR Mina Array Bea 60.80 64 P **P** **17 02 49.2 +0.4**
comp=Z,1.2nm,0.7s,mb4.1,baz=288,slow=12,SNR=8.8
PDAR Pinedale Array 63.13 55 P **P** **17 03 04.9 +0.5**
comp=Z,2.8nm,0.8s,mb4.4,baz=280,slow=3.0,SNR=21
FINES FINESS Array B 63.96 335 P **P** **17 03 10.4 +0.5**
comp=Z,5.3nm,0.7s,mb4.7,baz=40,slow=6.9,SNR=36
MOS Moscow 64.62 326 *eP* **P** **17 03 10.4 -3.8**
ULM Lac du Bonnet 64.99 42 P **P** **17 03 16.7 0.0**
comp=Z,2.9nm,0.7s,mb4.4,baz=315,slow=5.2,SNR=6.0
OBN Obninsk 65.49 326‖ *eP* **P** **17 03 20.0 +0.1**
OBN pmax pmax
comp=Z,46nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
OBN Obninsk 65.49 326 P **P** **17 03 19.1 -0.8**
PV10 Paradox Valley 66.34 59 *eP* **P** **17 03 23.3 -2.1**
AGMN Agassiz Refuge 66.39 44 *eP* **P** **17 03 25.1 -0.6**
comp=Z,15nm,1.1s,mb4.9
ISCO Idaho Springs 67.32 56 *eP* **P** **17 03 27.1 -4.5**
ISCO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ISCO Idaho Springs 67.32 56 *eP* **P** **17 03 27.1 -4.5**
comp=Z,2.9nm,0.9s,mb4.3
NB2 NORSAR Subarra 67.96 342 P **P** **17 03 36.5 +0.9**
comp=Z,10nm,1.2s,mb4.7,baz=27,slow=6.5
NOA NORSAR Array B 67.96 342 P **P** **17 03 36.4 +0.7**
comp=Z,3.5nm,0.8s,mb4.5,baz=26,slow=6.5,SNR=7.6
KIV Kislovodsk 71.29 315⇑ *eP* **P** **17 03 58.2 +2.1**
KIV *eS* sS 17 13 34.6 +2.2
KIV pmax pmax
comp=Z,33nm,2.1s,mb4.9
AKASG Malin Array Be 71.70 327 P **P** **17 03 58.0 -0.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=38,slow=7.2,SNR=8.3
ASAR Alice Springs 73.41 200 P **P** **17 04 07.1 -1.7**
comp=Z,1.2nm,0.9s,mb3.8,baz=8.7,slow=6.2,SNR=9.0
KWP Kalwaria 74.89 330 *eP* **P** **17 04 18.8 +1.4**
STHS Stebnicka Huta 75.57 331 *eP* **P** **17 04 21.4 +0.1**
BURAR Bucovina Array 75.73 328‖ *iP* **P** **17 04 22.8 +0.6**
BURAR Bucovina Array 75.73 328‖ *iP* **P** **17 04 22.8 +0.5**
TXAR Lajitas Array 75.86 62 P **P** **17 04 23.1 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=304,slow=4.4,SNR=28
OKC Ostrava-Krasne 76.18 333 *eP* **P** **17 04 28.1 +3.3**
UPC Upice 76.23 335 *eP* **P** **17 04 26.2 +1.1**
DPC Dobruska-Polom 76.28 334 *eP* **P** **17 04 26.0 +0.6**
DPC *e*PCP PcP 17 04 40.6 +3.5
CLL Collm 76.35 337 *eP* **P** **17 04 26.0 +0.2**
CLL *e* pP 17 04 41.0 +1.9
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.7
CLL Collm 76.35 337 *eP* **P** **17 04 26.0 +0.2**
comp=Z,13nm,1.4s,mb4.7
CLL *es*PcP pP 17 04 41.0 +1.9
comp=Z,13nm,1.0s
MORC Moravsky Berou 76.42 333 *eP* **P** **17 04 27.1 +0.9**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 76.42 333 *eP* **P** **17 04 27.1 +1.0**
comp=Z,7.2nm,1.0s,mb4.6
BRG Berggiesshubel 76.49 336 *eP* PcP 17 04 40.1 +2.1
comp=Z,3.4nm,1.1s
VRAC Vranov 77.13 334 *eP* **P** **17 04 31.3 +1.2**
comp=Z,1.0nm,0.3s,mb4.2,baz=42,slow=6.7,SNR=3.9
VYHS Vyhne 77.15 332 *eP* **P** **17 04 34.1 +3.8**
MLR Muntele Rosu 77.26 326 P **P** **17 04 32.2 +1.4**
comp=Z,4.2nm,0.5s,mb4.6,baz=294,slow=5.9,SNR=13
PSZ Piszkesteto 77.31 331 P **P** **17 04 32.0 +0.8**
PSZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
PSZ Piszkesteto 77.31 331 P **P** **17 04 32.0 +0.8**
comp=Z,7.6nm,1.1s,mb4.5
MALT Malatya 77.68 314 *eP* **P** **17 04 35.2 +2.0**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 77.68 314 *eP* **P** **17 04 35.2 +2.0**
comp=Z,3.3nm,0.9s,mb4.3
KHC Kasperske Hory 78.16 335 *eP* **P** **17 04 36.6 +0.7**
KHC *ex* x 17 04 52.0
GERES GERESS Array B 78.39 335 P **P** **17 04 38.0 +0.8**
comp=Z,0.7nm,0.4s,mb3.9,baz=36,slow=5.6,SNR=10
GZR Gura Zlata 78.51 328⇑ *iP* **P** **17 04 41.5 +3.7**
BZS Buzias 78.73 329⇑ *iP* **P** **17 04 39.2 +0.2**
BZS Buzias 78.73 329⇑ *iP* **P** **17 04 39.2 +0.2**
BR131 Keskin Array S 78.81 318 *eP* **P** **17 04 40.5 +1.1**
comp=Z,5.7nm,1.0s,mb4.5
BRTR Keskin Array B 78.81 318 P **P** **17 04 39.5 0.0**
comp=Z,2.5nm,0.9s,mb4.1,baz=54,slow=3.2,SNR=9.5
STKA Stephens Creek 79.97 192 P **P** **17 04 44.2 -1.6**
comp=Z,1.1nm,0.9s,mb3.8,baz=322,slow=9.3,SNR=3.6
STKA Stephens Creek 79.97 192 *eP* **P** **17 04 43.6 -2.2**
CDF Champ du Feu 80.48 339 *eP* **P** **17 04 49.0 +0.5**
comp=Z,15nm,1.2s,mb4.5
CDF Champ du Feu 80.48 339 *eP* **P** **17 04 49.0 +0.5**
CDF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CDF Champ du Feu 80.48 339 *eP* **P** **17 04 49.0 +0.5**
comp=Z,7.4nm,1.2s,mb4.5
VTS Vitosha 80.76 326⇑ *iP* **P** **17 04 48.4 -1.6**
VTS Vitosha 80.76 326⇑⇑ *P* **P** **17 04 48.4 -1.7**
DAVOX Davos 81.33 337 P **P** **17 04 53.6 +0.5**
comp=Z,2.1nm,0.5s,mb4.3,baz=6.4,slow=17,SNR=4.8
GRR Gorron 82.25 344 *eP* **P** **17 04 58.3 +0.4**
comp=Z,143nm,1.8s,mb5.3
GRR Gorron 82.25 344 *eP* **P** **17 04 58.3 +0.4**
GRR pmax pmax
comp=Z,71nm,1.8s,mb5.3
GRR Gorron 82.25 344 *eP* **P** **17 04 58.3 +0.4**
comp=Z,71nm,1.8s,mb5.3
SMF Signal de Mont 82.94 341 *eP* **P** **17 05 02.1 +0.6**
comp=Z,68nm,1.4s,mb5.2
SMF Signal de Mont 82.94 341 *eP* **P** **17 05 02.1 +0.6**
SMF pmax pmax
comp=Z,34nm,1.4s,mb5.2
SMF Signal de Mont 82.94 341 *eP* **P** **17 05 02.1 +0.6**
comp=Z,34nm,1.4s,mb5.2
ASF Jabal al Asfar 83.30 311 P **P** **17 05 04.9 +1.5**
comp=Z,1.6nm,0.5s,mb4.3
LPG La Plagne 83.33 338 *eP* **P** **17 05 04.8 +1.3**
comp=Z,19nm,1.1s,mb4.8
LPG La Plagne 83.33 338 *eP* **P** **17 05 04.8 +1.3**
LPG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPG La Plagne 83.33 338 *eP* **P** **17 05 04.8 +1.3**
comp=Z,9.4nm,1.0s,mb4.8
CAF Calviac 84.97 341 *eP* **P** **17 05 12.4 +0.6**
comp=Z,16nm,1.1s,mb4.8
CAF Calviac 84.97 341 *eP* **P** **17 05 12.4 +0.6**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CAF Calviac 84.97 341 *eP* **P** **17 05 12.4 +0.6**
comp=Z,7.8nm,1.0s,mb4.8
IDI Anoyia 86.34 321 P **P** **17 05 21.1 +2.5**
comp=Z,5.3nm,0.8s,mb4.8,baz=174,slow=5.3,SNR=3.0
VNA2 Neumayer--Watz 155.09 193 *e*PKPdf PKPdf 17 12 31.5 +2.1
VNA2 *e* 17 12 35.9
VNA2 *e* 17 12 44.2
VNA2 *e* 17 12 52.5
VNA3 Neumayer Olymp 155.14 192 *e*PKPdf PKPdf 17 12 31.0 +1.5
VNA3 *e* 17 12 35.4
VNA3 *e* 17 12 43.9
VNA3 *e* 17 12 51.6

IDC 18 16:57:10.1±4.7, 496S×12965E, h154km±41km, mb3.3/1, mb1 3.6/4, mb1mx3.2/15, mbtmp3.4/4, Error ellipse: s-maj=91.2km s-min=14.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.63**	**196**	P	Pn	17 00 17.4	+0.6
	0.4nm,0.3s,baz=198,slow=21,SNR=11						
FITZ				S	Sn	17 02 39.2	-8.9
	0.1nm,0.3s,baz=278,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**15.58**	**163**	P	Pn	17 00 40.1	-1.2
	0.4nm,0.3s,baz=345,slow=12,SNR=30						
WRA				S	S	17 03 23.1	-12
	0.4nm,0.3s,baz=333,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**19.04**	**168**	P	P	17 01 21.1	+0.7
	0.9nm,0.3s,baz=344,slow=11,SNR=159						
ASAR				S	S	17 04 49.3	+1.1
	0.1nm,0.3s,baz=347,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**66.34**	**327**	P	P	17 07 42.2	+0.1
	0.3nm,0.4s,baz=114,slow=7.9,SNR=9.2						

*STR **18** 17:01:48.4±0.0, 43.02N×0.04W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 17:01:48.1±0.1, 43.07N×0.02W, h2km, Md1.4/2, Ml1.1/2, Error ellipse: s-maj=5.7km s-min=0.9km az=173.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**106**	Pg	Pg	17 01 50.3	+0.8
LABF				Sg	Sg	17 01 51.7	+1.2
VIEF	**Viey**	**0.19**	**170**	Pg	Pg	17 01 51.4	-0.3
VIEF				Sg	Sg	17 01 53.7	-0.5
EPF	**Esparros**	**0.27**	**98**	*e*Pg	Pg	17 01 53.4	+0.1
EPF				*e*Sg	Sg	17 01 57.4	+0.7
	2.3nm,0.2s						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	Pg	17 01 56.5	+0.2
ETSF				*e*Sg	Sg	17 02 02.1	+0.2
	2.2nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**273**	*e*Sg	Sg	17 02 16.2	-0.3
	0.5nm,0.2s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Sg	Sg	17 02 40.5	-1.0
	0.2nm,0.2s						

IDC 18 17:08:06.4±26.0, 2250S×17316W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=491.7km s-min=151.6km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.65**	**9**	LR	LR	17 12 20.4	
	comp=Z,70nm,19.3s,baz=160,slow=29						
CTA	**Charters Tower**	**37.81**	**266**	P	P	17 15 25.3	+0.8
	3.5nm,0.4s,baz=128,slow=12,SNR=14						
STKA	**Stephens Creek**	**41.06**	**247**	P	P	17 15 50.9	-0.7
	1.0nm,0.5s,baz=96,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**48.47**	**258**	P	P	17 16 51.1	+0.4
	0.4nm,0.5s,baz=91,slow=6.7,SNR=14						
WRA	**Warramunga Arr**	**48.80**	**263**	P	P	17 16 53.8	+0.6
	1.3nm,0.5s,baz=100,slow=8.2,SNR=28						

IDC 18 17:14:08.2±4.7, 4652N×15465E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=162.9km s-min=41.3km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.99**	**298**	P	P	17 22 48.5	-0.3
	0.3nm,0.7s,baz=72,slow=7.7,SNR=4.9						
FINES	**FINESS Array B**	**64.70**	**335**	P	P	17 24 47.5	-0.5
	1.1nm,0.8s,baz=28,slow=8.6,SNR=4.8						
TXAR	**Lajitas Array**	**76.68**	**61**	P	P	17 26 01.3	+0.2
	0.3nm,0.7s,baz=309,slow=5.0,SNR=3.7						

*NEIC **18** 17:15:48.9±0.8, 6.12N×126.15E, h139km±7km, mb4.6/10, Error ellipse: s-maj=13.6km s-min=5.7km az=80.0*
*ISCJB **18** 17:15:49.4±0.7, 609N±006×1262E±0.1, h161km±6km, mb4.3/18, Error ellipse: s-maj=21.0km s-min=8.2km az=156.6*
*MAN **18** 17:15:51.4, 621N×12633E, h149km, mb3.8, ML4.9, MS4.3*
*IDC **18** 17:15:52.8±2.6, 603N×12604E, h175km±22km, mb3.8/11, mb1 4.0/11, mb1mx3.7/22, mbtmp3.8/11, Error ellipse: s-maj=51.9km s-min=9.3km az=71.0*

ISC 18 17:15:51.2±0.7, 611N±006×1262E±0.1, h161km±6km, n34, σ0.8/37, mb4.3/18, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.12**	**328**	*e*Pn	**Pn**	**17 16 13.0**	**-5.0**
DAV				*e*Sn	**Sn**	**17 16 36.5**	**-2.0**
KCP	**Kidapawan**	**1.39**	**310**⇑	*e*P	**Pn**	**17 16 22.3**	**+1.7**
KCP				*i* S	**Sn**	**17 16 44.3**	**+1.3**
CGP	**Cagayan de Oro**	**2.75**	**328**‖	*e*P	**Pn**	**17 16 33.7**	**-2.1**
CGP				*i* S	**Sn**	**17 17 16.5**	**+6.1**
KSM	**Kuching**	**16.48**	**254**	*e*P	**Pn**	**17 19 34.0**	**+0.9**
KAKA	**Kakadu**	**19.71**	**162**	*e*P	**P**	**17 20 08.6**	**+0.5**
	8.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.07**	**181**	*e*P	**P**	**17 20 51.5**	**0.0**
	11nm,1.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.07**	**181**	P	**P**	**17 20 51.7**	**+0.2**
	2.8nm,0.4s,mb4.1,baz=1.8,slow=8.2,SNR=16						
WRAB	**Tennant Creek**	**27.11**	**163**	*e*P	**P**	**17 21 18.8**	**-0.1**
	2.5nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**27.11**	**163**	P	**P**	**17 21 18.6**	**-0.3**
	2.0nm,0.6s,mb3.9,baz=332,slow=11,SNR=18						
WRA				S	**S**	**17 25 43.3**	**-1.8**
	0.2nm,0.5s,baz=349,slow=15,SNR=3.2						
WB2	**Warramunga Arr**	**27.11**	**163**	*e*P	**P**	**17 21 18.8**	**-0.2**
MBWA	**Marble Bar**	**27.83**	**193**	*e*P	**P**	**17 21 24.8**	**-0.5**
	8.6nm,0.7s,mb4.6						
AS31	**Alice Springs**	**30.55**	**166**	*e*P	**P**	**17 21 49.5**	**+0.1**
ASAR	**Alice Springs**	**30.55**	**166**	P	**P**	**17 21 49.6**	**+0.3**
	3.5nm,0.4s,mb4.4,baz=342,slow=7.2,SNR=94						
ASAR				PcP	PcP	17 24 45.1	+1.0
	0.9nm,0.6s,baz=349,slow=2.5,SNR=7.6						
ASPA	**Alice Springs**	**30.55**	**166**	*e*P	**P**	**17 21 49.6**	**+0.3**
FORT	**Forrest**	**36.73**	**177**	*e*P	**P**	**17 22 43.1**	**+0.4**
	16nm,0.5s,mb4.9						
KLBR	**Kellerberrin**	**38.34**	**192**	*e*P	**P**	**17 22 56.1**	**-0.2**
	12nm,0.4s,mb4.9						
MUN	**Mundaring**	**39.05**	**193**	*e*P	**P**	**17 23 01.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.74**	**192**	P	**P**	**17 23 07.4**	**-0.5**
	14nm,0.4s,mb4.9,baz=18,slow=7.8,SNR=42						
STKA	**Stephens Creek**	**40.54**	**160**	*e*P	**P**	**17 23 15.3**	**+0.8**
	4.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**40.54**	**160**	P	**P**	**17 23 15.2**	**+0.7**
	6.9nm,0.7s,mb4.4,baz=336,slow=8.4,SNR=20						
SONM	**Songino Array**	**44.88**	**341**	P	**P**	**17 23 48.5**	**-0.9**
	0.1nm,0.3s,baz=97,slow=4.0,SNR=2.3						
SONM				PcP	PcP	17 25 29.7	+1.5
	0.3nm,0.6s,baz=153,slow=3.0,SNR=4.4						
PET	**Petropavlovsk**	**53.77**	**24**	*e*P	**P**	**17 24 58.1**	**+1.2**
	22nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**55.30**	**325**	P	**P**	**17 25 08.1**	**+0.2**
	1.0nm,0.5s,mb3.9,baz=118,slow=7.8,SNR=24						
MKAR				PcP	PcP	17 26 06.8	+0.2
	0.6nm,0.7s,baz=121,slow=4.4,SNR=6.1						
MKAR				ScP	ScP	17 29 50.3	+0.4
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.6						
YAK	**Yakutsk**	**55.86**	**2**	P	**P**	**17 25 12.3**	**+0.5**
BVAR	**Borovoye Array**	**65.03**	**327**	P	**P**	**17 26 14.5**	**+0.5**
	0.8nm,0.5s,mb3.8,baz=270,slow=40,SNR=3.9						
AKTK	**Aktyubinsk**	**71.46**	**321**	P	**P**	**17 26 53.7**	**-0.3**
AKTO	**Aktyubinsk**	**71.46**	**321**	P	**P**	**17 26 53.7**	**-0.3**
	1.3nm,0.6s,mb3.9,baz=97,slow=8.1,SNR=6.3						
COLA	**College**	**82.80**	**25**	P	**P**	**17 27 57.6**	**+0.5**
	8.7nm,1.2s,mb4.4						
VNDA	**Vanda**	**85.84**	**173**	P	**P**	**17 28 12.5**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=304,slow=5.0,SNR=5.0						
ARCES	**ARCESS Array B**	**88.03**	**340**	P	**P**	**17 28 22.8**	**-0.3**
	3.9nm,1.1s,mb4.2,baz=77,slow=6.7,SNR=8.9						
ARCES	**ARCESS Array B**	**88.03**	**340**	P	**P**	**17 28 22.8**	**-0.3**
INK	**Inuvik**	**88.17**	**21**	P	**P**	**17 28 24.4**	**+0.7**
	25nm,0.7s,mb5.2						
FINES	**FINESS Array B**	**89.48**	**332**	P	**P**	**17 28 29.0**	**-0.8**
	3.0nm,1.0s,mb4.2,baz=60,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**121.63**	**289**	PKP	PKPdf	17 34 26.6	+1.1
	0.8nm,0.5s,baz=78,slow=1.6,SNR=6.3						

IDC 18 17:23:29.3±1.9, 039N×9661E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=59.3km s-min=23.2km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.33**	**44**	Pn	Pn	17 24 22.7	0.0
	1.1nm,0.3s,baz=11,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**42.12**	**121**	P	P	17 31 23.3	+0.1
	0.3nm,0.5s,baz=303,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**43.39**	**126**	P	P	17 31 34.0	+0.5
	0.4nm,0.5s,baz=296,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**47.88**	**347**	P	P	17 32 09.3	+0.3
	0.4nm,0.5s,baz=164,slow=8.6,SNR=12						
ZAL	**Zalesovo**	**54.25**	**351**	P	P	17 32 56.4	-0.6
	1.1nm,0.4s,baz=341,slow=8.0,SNR=4.0						

IDC 18 17:24:44.2±1.6, 4685N×15562E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/25, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=44.6km s-min=27.0km az=100.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.54**	**258**	Pn	Pn	17 27 02.5	-0.4
	0.4nm,0.3s,baz=315,slow=1.4,SNR=5.1						
MAT	**Matsushiro**	**16.55**	**238**	P	Pn	17 28 33.6	-4.0
MJAR	**Matsushiro Arr**	**16.55**	**238**	Pn	Pn	17 28 34.3	-3.3
	0.1nm,0.3s,baz=22,slow=15,SNR=3.4						
KSRS	**Korea Array**	**22.48**	**255**	P	P	17 29 45.6	+0.6
	0.8nm,0.6s,baz=56,slow=11,SNR=4.7						
BVAR	**Borovoye Array**	**52.12**	**310**	P	P	17 33 55.6	-0.6
	0.7nm,0.3s,baz=60,slow=8.2,SNR=9.4						
FINES	**FINESS Array B**	**64.57**	**336**	P	P	17 35 23.5	-0.4
	0.5nm,0.4s,baz=40,slow=8.9,SNR=8.8						
HFS	**Hagfors**	**68.95**	**341**	P	P	17 35 50.6	-0.5
	0.9nm,0.5s,baz=94,slow=5.9,SNR=6.3						
ASAR	**Alice Springs**	**72.87**	**201**	P	P	17 36 14.8	-0.1
	0.4nm,0.6s,baz=16,slow=6.0,SNR=12						

*NEIC **18** 17:31:27.0, 1645N×9849W, h20km, MD3.8(MEX), After MEX.*

MEX 18 17:31:26.8±0.7, 1645N×9849W, h24km±18km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**99**	*i* P	Pb	17 31 33.2	-1.3
PNIG				*i* S	Sb	17 31 38.3	-1.4
ACX	**Acapulco**	**1.43**	**287**	*i* P	Pn	17 31 49.0	-2.2
UTMO	**Huajuapan**	**1.52**	**25**	*i* P	Pn	17 31 49.6	-2.9
UTMO				*i* S	Sn	17 32 08.6	-2.9
VHO	**Vista Hermosa**	**1.79**	**69**	*i* P	Pn	17 31 54.6	-1.6
VHO				*i* S	Sn	17 32 16.1	-2.0
VHO	**Vista Hermosa**	**1.79**	**69**	*i* P	Pn	17 31 56.6	+0.4
VHO				*i* S	Sn	17 32 16.1	-2.0
OXX	**Oaxaca**	**1.81**	**69**	*eP*	Pn	17 31 56.0	-0.3
CAIG	**El Cayaco**	**1.81**	**290**	*i* P	Pn	17 31 53.1	-3.2
CAIG				*i* S	Sn	17 32 14.2	-4.3
CAIG	**El Cayaco**	**1.81**	**290**	*i* P	Pn	17 31 51.6	-4.7
CAIG				*i* S	Sn	17 32 14.2	-4.3
MEIG	**Mezcala**	**1.83**	**324**	*i* P	Pn	17 31 56.1	-0.6
MEIG				*i* S	Sn	17 32 14.7	-4.3
PLIG	**Platanillo**	**2.16**	**334**	*i* P	Pn	17 31 59.5	-1.7
PLIG				*i* S	Sn	17 32 24.2	-3.1
PLIG	**Platanillo**	**2.16**	**334**	*i* P	Pn	17 32 01.8	+0.5
PLIG				*i* S	Sn	17 32 24.2	-3.1
TPIG	**Tehuac#an**	**2.24**	**29**	*i* P	Pn	17 32 00.1	-2.2
TPIG				*i* S	Sn	17 32 26.1	-3.0
PPM	**Popocatepetl**	**2.61**	**357**	*eP*	Pn	17 32 09.5	+2.1
IIO	**Organos**	**3.13**	**356**	*i* P	Pn	17 32 13.8	-0.8
IIO				*i* S	Sn	17 32 48.1	-3.2
CMIG	**Matias Romero**	**3.51**	**79**	*i* P	Pn	17 32 17.7	-2.1
CMIG				*i* S	Sn	17 32 57.1	-3.5
CMIG	**Matias Romero**	**3.51**	**79**	*i* P	Pn	17 32 18.1	-1.8
CMIG				*i* S	Sn	17 32 56.1	-4.5

IDC 18 17:38:54.8±5.2, 2980S×17843W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, Error ellipse: s-maj=298.7km s-min=73.6km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**9.21**	**202**	Sn	Sn	17 42 47.7	-5.5
	1.1nm,0.3s,baz=229,slow=20,SNR=2.1						
ASAR	**Alice Springs**	**42.77**	**266**	P	P	17 46 54.4	+0.4
	0.3nm,0.8s,baz=103,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**43.71**	**272**	P	P	17 47 01.6	+0.1
	0.2nm,0.3s,baz=110,slow=8.1,SNR=8.8						
FINES	**FINESS Array B**	**144.46**	**340**	PKP	PKPdf	17 58 31.8	-1.3
	1.1nm,0.4s,baz=66,slow=4.2,SNR=17						

*ISCJB **18** 17:46:02.0±3.4, 47.1N±02×1529E±02, h81km±32km, mb3.6/9, Error ellipse: s-maj=29.9km s-min=22.8km az=101.9*
*MOS **18** 17:46:02.6±1.6, 4869N×15346E, h33km, mb4.4/4, Error ellipse: s-maj=49.0km s-min=26.8km az=83.8*
*IDC **18** 17:46:03.2±4.5, 4705N×15288E, h80km±41km, mb3.5/10, mb1 3.7/11, mb1mx3.5/24, mbtmp3.5/11, ML3.5/1, Error ellipse: s-maj=25.8km s-min=22.0km az=138.0*

ISC 18 17:46:03.6±2.9, 471N±02×1529E±02, h81km±27km, n18, σ0.7/18, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.79**	**251**	P	**Pn**	**17 47 53.5**	**-0.7**
	0.7nm,0.3s,baz=290,slow=15,SNR=7.9						
MJAR	**Matsushiro Arr**	**15.17**	**231**	P	**Pn**	**17 49 34.6**	**+1.3**
	0.2nm,0.3s,baz=36,slow=9.6,SNR=7.2						
KSRS	**Korea Array**	**20.74**	**251**	P	**P**	**17 50 36.9**	**-0.7**
	0.8nm,0.6s,baz=55,slow=10.0,SNR=5.1						
INK	**Inuvik**	**41.43**	**33**	P	**P**	**17 53 42.5**	**+0.5**
	0.4nm,0.4s,mb3.6,baz=324,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**46.61**	**297**	P	**P**	**17 54 25.0**	**+1.6**

IDC 18 17:53:14.2±3.8, 636S×15091E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=117.9km s-min=51.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.00**	**228**	P	P	17 57 58.7	-0.5
	1.5nm,0.7s,baz=53,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**23.73**	**222**	P	P	17 58 27.9	-0.2
	0.8nm,0.7s,baz=56,slow=8.9,SNR=15						
FITZ	**Fitzroy Crossi**	**27.27**	**242**	P	P	17 59 01.3	+1.1
	1.5nm,0.5s,baz=58,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**148.94**	**285**	PKPbc	PKPbc	18 13 04.7	+0.7
	0.3nm,0.7s,baz=69,slow=4.2,SNR=2.4						

*ISCJB **18** 17:54:31.9±0.6, 4580N±007×1542E±0.1, h10km, mb4.2/27, MS3.2/2, Error ellipse: s-maj=11.7km s-min=7.9km az=87.0*
*IDC **18** 17:54:32.1±0.8, 4579N×154.18E, h0km, mb3.9/14, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/35, Error ellipse: s-maj=21.6km s-min=17.7km az=116.0*
*NEIC **18** 17:54:33.5±0.6, 4589N×15425E, h10km, mb4.4/12, Error ellipse: s-maj=15.7km s-min=10.0km az=112.0*
*BJI **18** 17:54:34.3, 4646N×15408E, h10km, mB4.8, mb4.3, Ms4.4, Msz4.1*
*MOS **18** 17:54:35.4±0.9, 4583N×154.12E, h35km, mb4.7/8, Error ellipse: s-maj=13.6km s-min=9.9km az=103.3*

ISC 18 17:54:33.4±0.6, 4586N±007×15428E±010, h10km, (h14km±1.2km: pP-P), n57, σ1°17/60, mb4.2/27, MS3.2/2, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.55**	**264**	*e*P	**Pn**	**17 55 38.0**	**-4.2**
KUR				*e*S	**Sn**	**17 56 30.0**	**-5.1**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR	**Severo-Kuril's**	**4.98**	**14**	*e*P	**Pn**	**17 55 49.0**	**+0.8**
SKR				*e*		17 56 39.0	
PET	**Petropavlovsk**	**7.71**	**20**	*e*Pn	**Pn**	**17 56 23.1**	**-2.7**
PET				*e*Sn	**Sn**	**17 57 45.9**	**-7.3**
YSS	**Yuzh-Sakhalins**	**8.04**	**282**	*e*P	**Pn**	**17 56 31.1**	**+0.9**
ASAJ	**Asahikawa**	**8.46**	**262**	Pn	**Pn**	**17 56 36.7**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=48,slow=18,SNR=18						
ASAJ				LR	LR	18 00 13.8	
	comp=Z,52nm,18.3s,baz=194,slow=41						
ASAJ	**Asahikawa**	**8.46**	**262**	P	**Pn**	**17 56 36.7**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,52nm,18.3s						
MJAR	**Matsushiro Arr**	**15.24**	**238**	Pn	**Pn**	**17 58 09.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=3.1						
MAJO	**Matsushiro**	**15.24**	**238**	*e*P	**Pn**	**17 58 12.7**	**+4.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	**15.24**	**238**	*e*P	**Pn**	**17 58 12.7**	**+4.1**
	comp=Z,9.3nm,0.8s						
MAT	**Matsushiro**	**15.24**	**238**	P	**Pn**	**17 58 07.2**	**-1.4**
KLR	**Kul'dur**	**15.57**	**291**	*e*P	**Pn**	**17 58 11.7**	**-1.2**
CN2	**Changchun**	**20.50**	**275**	*e*P	**P**	**17 59 11.4**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KSRS	**Korea Array**	**21.33**	**256**	P	**P**	**17 59 18.4**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=37,slow=9.4,SNR=3.1						
KSRS				LR	LR	18 06 34.5	
	comp=Z,35nm,18.6s,baz=339,slow=34						
YAK	**Yakutsk**	**21.50**	**328**	*e*P	**P**	**17 59 19.3**	**-3.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.6						
YAK	**Yakutsk**	**21.50**	**328**	*e*P	**P**	**17 59 19.3**	**-3.1**
	comp=Z,16nm,0.7s,mb4.6						
BILL	**Bilibino**	**23.09**	**11**	*e*P	**P**	**17 59 39.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
BILL	**Bilibino**	**23.09**	**11**	*e*P	**P**	**17 59 39.3**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.0						
BJT	**Baijiatuan**	**28.31**	**272**	P	**P**	**18 00 23.8**	**-3.3**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJT	**Baijiatuan**	**28.31**	**272**	P	**P**	**18 00 23.8**	**-3.3**
	comp=Z,7.8nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**31.18**	**276**	*e*P	**P**	**18 00 54.3**	**+1.8**
HHC				AP	pP	18 00 58.6	+3.0
HHC				XP	sP	18 01 01.0	+4.2
HHC				PP	PP	18 01 56.4	-6.5
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,85nm,5.1s						
ULN	**Ulaanbaatar**	**31.96**	**291**	P	**P**	**18 00 59.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**31.96**	**291**	P	**P**	**18 00 59.1**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.9						
SONM	**Songino Array**	**32.40**	**291**	P	**P**	**18 01 03.6**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=72,slow=8.2,SNR=4.0						
SONM				LR	LR	18 16 34.0	
	comp=Z,38nm,18.0s,MS3.1,baz=171,slow=41						
GUMO	**Guam**	**33.14**	**197**	P	**P**	**18 01 08.2**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,200nm,1.3s						
GUMO	**Guam**	**33.14**	**197**	P	**P**	**18 01 08.2**	**-1.5**
	comp=Z,200nm,1.3s						
GTA	**Gaotai**	**39.92**	**281**	*e*P	**P**	**18 02 09.6**	**+2.0**
GTA				AP	pP	18 02 13.1	+2.4
GTA				XP	sP	18 02 15.8	+3.9
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
INK	**Inuvik**	**41.98**	**32**	P	**P**	**18 02 24.9**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.6,baz=259,slow=15,SNR=4.4						
INK	**Inuvik**	**41.98**	**32**	*e*P	**P**	**18 02 24.2**	**-0.3**
INK				pmax	pmax		
	comp=Z,41nm,0.7s						
INK	**Inuvik**	**41.98**	**32**	*e*P	**P**	**18 02 24.2**	**-0.3**
	comp=Z,41nm,0.7s,mb5.2						
ZAL	**Zalesovo**	**43.80**	**307**	P	**P**	**18 02 37.4**	**-2.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=44,slow=6.1,SNR=5.7						
KMI	**Kunming**	**45.89**	**261**	P	**P**	**18 02 58.3**	**+2.3**
KMI				AP	pP	18 03 01.3	+2.2
KMI				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.9						
WMQ	**Urumqi**	**46.01**	**293**	↑*i*P	**P**	**18 02 57.8**	**+0.9**
WMQ				AP	pP	18 03 02.3	+2.3
WMQ				XP	sP	18 03 04.8	+3.5
WMQ				PCP	PcP	18 04 34.6	+1.2
WMQ				PP	PP	18 04 46.0	+1.3
WMQ				*e*S	**S**	**18 09 42.3**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,72nm,4.5s						
WMQ				LR	LR		
	comp=N,51nm,18.5s						
WMQ				LR	LR		
	comp=Z,25nm,17.6s,MS3.2						
MKAR	**Makanchi Array**	**48.07**	**299**	P	**P**	**18 03 13.2**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=69,slow=7.8,SNR=14						
BRVK	**Borovoye**	**52.09**	**310**	*e*P	**P**	**18 03 44.1**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**52.09**	**310**	*e*P	**P**	**18 03 44.1**	**+0.6**
	comp=Z,3.4nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**52.82**	**311**	*e*P	**P**	**18 03 49.1**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**52.82**	**311**	*e*P	**P**	**18 03 49.0**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.5						
AAK	**Ala-Archa**	**54.96**	**297**	*e*P	**P**	**18 04 03.3**	**-1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.96**	**297**	*e*P	**P**	**18 04 03.3**	**-1.2**
	comp=Z,1.9nm,0.7s,mb4.2						
ARU	**Arti**	**56.21**	**318**	*e*P	**P**	**18 04 13.1**	**-0.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	**Arti**	**56.21**	**318**	*e*P	**P**	**18 04 13.1**	**-0.5**
	comp=Z,6.1nm,0.6s,mb4.8						
KEV	**Kevo**	**58.45**	**341**	*e*p	**P**	**18 04 28.9**	**-0.5**
ARCES	**ARCESS Array B**	**58.96**	**341**	P	**P**	**18 04 34.0**	**+1.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=38,slow=7.2,SNR=5.2						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**18 05 14.4**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.3,baz=36,slow=10.0,SNR=20						
WRAB	**Tennant Creek**	**67.93**	**200**	P	**P**	**18 05 33.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**67.93**	**200**	P	**P**	**18 05 33.0**	**+0.7**
	comp=Z,2.3nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**67.94**	**200**	P	**P**	**18 05 31.5**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.1,baz=19,slow=6.8,SNR=12						
NB2	**NORSAR Subarra**	**69.33**	**342**	P	**P**	**18 05 39.9**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.33**	**342**	P	**P**	**18 05 42.4**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=6.3,SNR=3.1						
NOA	**NORSAR Array B**	**69.33**	**342**	P	**P**	**18 05 42.4**	**+1.4**
ASAR	**Alice Springs**	**71.63**	**200**	P	**P**	**18 05 55.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.8,baz=18,slow=5.3,SNR=16						
AKASG	**Malin Array Be**	**72.73**	**327**	P	**P**	**18 06 00.9**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.3,baz=33,slow=6.2,SNR=6.5						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**18 06 28.5**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=306,slow=3.8,SNR=16						
MORC	**Moravsky Berou**	**77.60**	**333**	*e*P	**P**	**18 06 30.5**	**+0.8**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**77.60**	**333**	*e*P	**P**	**18 06 30.4**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**79.59**	**318**	P	**P**	**18 06 41.4**	**+0.7**
	comp=Z,1.4nm,0.9s,mb3.9,baz=74,slow=5.3,SNR=4.9						
GERES	**GERESS Array B**	**79.61**	**335**	P	**P**	**18 06 41.3**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=35,slow=4.9,SNR=5.0						

GUC 18 18:02:08.5±0.7, 3432S×7011W, h4km±2km, MD3.6, ML2.9, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.26**	**269**	↓*i*P	Pg	18 02 14.2	+0.7
CACH	**El Canelo**	**0.45**	**296**	↑*i*P	Pg	18 02 17.6	+0.4
CACH				*i* S	Sg	18 02 24.4	+1.3
LMEL	**Las Melosas**	**0.47**	**350**	↑*i*P	Pg	18 02 18.5	+0.8
LMEL				*i* S	Sg	18 02 25.8	+2.0
LMEL				AML	AML	18 02 28.1	
	comp=N,1μm,0.2s						
CHCH	**Chadas Angostu**	**0.59**	**310**	↓*i*P	Pg	18 02 20.6	+0.7
CHCH				*i* S	Sg	18 02 29.6	+2.1
ANTU	**Antumapu**	**0.86**	**329**	*e*P	Pg	18 02 25.8	+0.7
ANTU				*i* S	Sg	18 02 38.2	+1.9
ANTU				AML	AML	18 02 39.2	
	comp=N,852nm,0.5s						
CLCH	**Cerro Calan**	**0.98**	**339**	↑*i*P	Pg	18 02 27.8	+0.4
CLCH				*i* S	Sg	18 02 42.2	+2.0
CLCH				AML	AML	18 02 44.2	
	comp=E,908nm,0.5s						
CLCH				AML	AML	18 02 44.8	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.00**	**351**	↑*i*P	Pg	18 02 27.9	+0.3
FCH				*i* S	Sg	18 02 42.7	+2.1
FCH				AML	AML	18 02 43.3	
	comp=E,266nm,0.1s						
RCDM	**Rinconada Maip**	**1.01**	**325**	↓*i*P	Pg	18 02 28.0	+0.2
RCDM				*i* S	Sg	18 02 42.5	+1.5
RCDM				AML	AML	18 02 42.7	
	comp=E,1μm,0.2s						
LNV	**Longovilo**	**1.14**	**288**	↑*i*P	Pg	18 02 29.5	-0.8
LNV				*i* S	Sg	18 02 45.1	0.0
NICH	**Los Niches**	**1.15**	**233**	↓*i*P	Pg	18 02 29.7	-0.8
NICH				*i* S	Sg	18 02 44.9	-0.5
PEL	**Peldehue**	**1.27**	**337**	↓*i*P	Pg	18 02 32.6	-0.2
PEL				*i* S	Sg	18 02 50.6	+1.4
PEL				AML	AML	18 02 52.6	
	comp=E,602nm,0.8s						
PACH	**Papudo**	**2.09**	**328**	*e*P	Pn	18 02 46.0	+1.6
PACH				*i* S	Sn	18 03 13.7	+2.8

IDC 18 18:07:29.4±1.2, 4650N×15486E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.8/5, ML3.4/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/25, Error ellipse: s-maj=36.9km s-min=32.0km az=159.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.97**	**259**	Pn	Pn	18 09 41.3	+1.1
	0.5nm,0.3s,baz=354,slow=21,SNR=4.7						
ASAJ				LR	LR	18 13 00.4	
	comp=Z,32nm,19.2s,baz=308,slow=37						
BVAR	**Borovoye Array**	**51.94**	**310**	P	P	18 16 38.4	-1.7
	0.3nm,0.4s,baz=56,slow=3.7,SNR=4.7						
FINES	**FINESS Array B**	**64.77**	**336**	P	P	18 18 10.2	+0.5
	1.2nm,0.8s,baz=44,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**72.37**	**200**	P	P	18 18 57.0	-0.2
	0.3nm,0.7s,baz=7.7,slow=4.7,SNR=4.8						
TXAR	**Lajitas Array**	**76.56**	**62**	P	P	18 19 21.8	+0.2
	0.5nm,0.7s,baz=301,slow=3.3,SNR=7.8						

*IDC **18** 18:09:24.9±0.8, 4649N×15368E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.9/26, mbtmp3.8/15, ML3.6/2, Error ellipse: s-maj=25.4km s-min=16.5km az=159.0*
*NEIC **18** 18:09:25.8±1.2, 4632N×15381E, h10km, mb4.2/3, Error ellipse: s-maj=29.5km s-min=12.5km az=143.0*
*ISCJB **18** 18:09:26.5±3.9, 464N±0.1×1536E±0.1, h23km±28km, mb3.8/15, Error ellipse: s-maj=22.2km s-min=11.3km az=135.3*
*MOS **18** 18:09:28.2±1.2, 4643N×15356E, h38km, mb4.3/6, Error ellipse: s-maj=18.5km s-min=13.6km az=146.8*

ISC 18 18:09:29.7±3.9, 464N±01×1536E±01, h33km±29km, n29, σ1°04/30, mb3.8/15, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.18**	**256**	↑*i*PN	**Pn**	**18 10 29.0**	**-2.1**
KUR				*e*S	**Sn**	**18 11 18.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,100nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.49**	**278**	PN	**Pn**	**18 11 17.7**	**+1.2**
ASAJ	**Asahikawa**	**8.10**	**257**	Pn	**Pn**	**18 11 26.1**	**+1.2**
	comp=E,1.1nm,0.3s,baz=360,slow=4.7,SNR=7.2						
ASAJ	**Asahikawa**	**8.10**	**257**	PN	**Pn**	**18 11 26.2**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.16**	**235**	P	**Pn**	**18 13 00.2**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAJO	**Matsushiro**	**15.16**	**235**	Pn	**Pn**	**18 13 00.2**	**-1.0**
	comp=Z,4.1nm,0.7s						
MJAR	**Matsushiro Arr**	**15.16**	**235**	Pn	**Pn**	**18 13 00.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=3.6						
KSRS	**Korea Array**	**21.03**	**254**	P	**P**	**18 14 11.9**	**+1.4**
	comp=Z,1.3nm,0.7s,mb3.3,baz=60,slow=9.2,SNR=5.3						
SONM	**Songino Array**	**31.77**	**290**	P	**P**	**18 15 52.8**	**+2.0**
	comp=Z,0.2nm,0.5s,mb3.2,baz=73,slow=8.6,SNR=2.5						
COLA	**College**	**36.19**	**38**	P	**P**	**18 16 29.3**	**+0.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
COLA	**College**	**36.19**	**38**	P	**P**	**18 16 29.3**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.3						
INK	**Inuvik**	**41.75**	**32**	P	**P**	**18 17 13.9**	**-1.8**
	comp=Z,1.2nm,1.0s,mb3.5,baz=214,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**47.40**	**298**	P	**P**	**18 17 60.0**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=61,slow=7.6,SNR=5.8						
LSA	**Lhasa**	**50.63**	**274**	P	**P**	**18 18 27.1**	**+1.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
LSA	**Lhasa**	**50.63**	**274**	P	**P**	**18 18 27.1**	**+1.6**
	comp=Z,5.8nm,1.5s,mb4.3						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**18 18 30.1**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=54,slow=7.8,SNR=3.6						
NVAR	**Mina Array Bea**	**62.29**	**62**	P	**P**	**18 19 48.5**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.6,baz=290,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**18 20 02.4**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=40,slow=8.2,SNR=10						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**18 20 02.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.67**	**54**	P	**P**	**18 20 04.7**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=318,slow=2.0,SNR=6.3						
ULM	**Lac du Bonnet**	**66.55**	**41**	P	**P**	**18 20 16.6**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.1,baz=21,slow=7.9,SNR=3.0						
NB2	**NORSAR Subarra**	**68.66**	**341**	P	**P**	**18 20 29.3**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**18 20 29.1**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=28,slow=6.2,SNR=4.4						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**18 20 29.2**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**72.00**	**199**	P	**P**	**18 20 50.4**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=12,slow=5.4,SNR=15						
ASAR	**Alice Springs**	**72.00**	**199**	P	**P**	**18 20 50.4**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.02**	**327**	P	**P**	**18 20 49.5**	**-0.6**
	comp=Z,0.1nm,0.3s,mb3.3,baz=30,slow=5.4,SNR=4.1						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**18 21 21.5**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=303,slow=4.2,SNR=18						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**18 21 21.5**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*BJI **18** 18:15:12.0, 2690N×5670E, h10km, mB4.8, mb4.5, Ms4.0, Msz3.7*
*IDC **18** 18:15:12.4±0.9, 2703N×5666E, h0km, mb3.9/17, mb1 4.0/20, mb1mx4.0/29, mbtmp3.9/20, ML4.3/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/36, Error ellipse: s-maj=22.8km s-min=14.7km az=4.0*
*NEIC **18** 18:15:13.5±0.5, 2692N×5669E, h10km, mb4.4/25, ML4.1(THR), MN4.1(TEH), Error ellipse: s-maj=8.9km s-min=6.1km az=188.0*
*ISCJB **18** 18:15:14.6±1.1, 27.18N±003×5688E±004, h7km±7km, mb4.2/43, MS3.3/3, Error ellipse: s-maj=6.9km s-min=4.2km az=151.0*
*CSEM **18** 18:15:16.8±0.1, 2708N×5655E, h30km, mb4.0/4, Error ellipse: s-maj=4.8km s-min=1.5km az=63.0*
*THR **18** 18:15:18.0±0.6, 2707N×5660E, h40km±4km, ML4.1*
*MOS **18** 18:15:18.0±0.3, 27.17N×57.13E, h33km, mb4.5/23, Error ellipse: s-maj=13.3km s-min=7.0km az=130.7*
*TEH **18** 18:15:19.2, 2722N×5643E, h5km, Mn4.1*
*SZGRF **18** 18:15:38.2, 2852N×5609E, h33km, mb4.3, Southern Iran*

ISC 18 18:15:16.3±1.2, 2713N±003×5683E±004, h7km±7km, h19km±2.9km: pP-P, n161, σ1°56/183, mb4.2/43, MS3.3/3, 3C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.64**	**295**	*e*Pg	**Pg**	**18 15 29.3**	**+0.6**
BNDS				AML	AML	18 15 40.8	
	comp=N,14μm,0.2s						
BNDS				AML	AML	18 15 42.8	
	comp=E,13μm,0.3s						
BANOM	**Banah**	**1.29**	**202**	⇑P	**Pn**	**18 15 39.6**	**-1.1**
BANOM	SNR=61			⇓S	**Sb**	**18 15 56.6**	**-1.0**
HATD	**Hatta, Dubai**	**2.38**	**195**	⇑P	**Pn**	**18 15 56.7**	**+1.1**
	SNR=6.4						
ASHO	**Ashiyah**	**2.53**	**196**	⇓P	**Pn**	**18 15 57.4**	**-0.3**
	SNR=53						
KRBR	**Kerman**	**2.84**	**359**	*e*Pn	**Pn**	**18 16 03.9**	**+1.8**
KRBR				AML	AML	18 16 40.8	
	comp=E,672nm,0.4s						
KRBR	**Kerman**	**2.84**	**359**	Pn	**Pn**	**18 16 03.0**	**+0.9**
HOQ	**Hoqain**	**3.56**	**173**	P	**Pn**	**18 16 11.2**	**-0.6**
	SNR=9.8						
GHIR	**Ghir-Karzin**	**3.59**	**290**	*e*Pn	**Pn**	**18 16 10.7**	**-1.6**
GHIR				AML	AML	18 17 28.0	
	comp=N,327nm,1.0s						
GHIR				AML	AML	18 17 31.2	
	comp=E,356nm,0.6s						
GHIR	**Ghir-Karzin**	**3.59**	**290**	Pn	**Pn**	**18 16 10.0**	**-2.3**
BIDO	**Bidbid**	**3.78**	**162**	P	**Pn**	**18 16 13.9**	**-1.0**
	SNR=29						
IMOK	**Mook**	**4.10**	**299**	*e*Pn	**Pn**	**18 16 17.4**	**-2.0**
IMOK				*e*Sn	**Sn**	**18 17 00.7**	**-6.9**
IMOK	**Mook**	**4.10**	**299**	Pn	**Pn**	**18 16 17.3**	**-2.1**
IMOK				Sn	**Sn**	**18 17 00.6**	**-7.0**
SMDO	**Samad**	**4.20**	**164**	P	**Pn**	**18 16 20.7**	**+0.1**
	SNR=16						
ZHSF	**Zahedan**	**4.27**	**54**	*e*Pn	**Pn**	**18 16 25.1**	**+3.5**
ZHSF	**Zahedan**	**4.27**	**54**	Pn	**Pn**	**18 16 25.0**	**+3.3**
IPAR	**Pars**	**4.29**	**310**	*e*Pn	**Pn**	**18 16 21.0**	**-0.9**
IPAR				*e*Sn	**Sn**	**18 17 06.3**	**-5.8**
IPAR	**Pars**	**4.29**	**310**	Pn	**Pn**	**18 16 20.9**	**-1.0**
IPAR				Sn	**Sn**	**18 17 06.2**	**-5.9**
BSY	**Bisya**	**4.38**	**175**	P	**Pn**	**18 16 23.9**	**+0.8**
	SNR=12						
BSYO	**Bisya**	**4.39**	**175**	P	**Pn**	**18 16 23.9**	**+0.6**
	SNR=12						
IBAF	**Bafgh**	**4.58**	**346**	*e*Pn	**Pn**	**18 16 25.5**	**-0.4**
IBAF				*e*Sn	**Sn**	**18 17 16.5**	**-2.9**
IBAF	**Bafgh**	**4.58**	**346**	Pn	**Pn**	**18 16 25.4**	**-0.5**
IBAF				Sn	**Sn**	**18 17 16.5**	**-2.9**
IMEH	**Mehriz**	**4.67**	**336**	*e*Pn	**Pn**	**18 16 27.0**	**-0.1**
JMDO	**Jabal Madar**	**4.88**	**166**	P	**Pn**	**18 16 30.7**	**+0.7**
	SNR=26						
WBK	**Wadi Bani Khal**	**4.90**	**156**	P	**Pn**	**18 16 30.1**	**-0.2**
	SNR=21						
WBK				⇓S	**Sn**	**18 17 24.1**	**-3.1**
IKAZ	**Kazeroon**	**5.12**	**302**	*e*Pn	**Pn**	**18 16 31.4**	**-2.0**
ISAD	**Sadrabad**	**5.50**	**331**	*e*Pn	**Pn**	**18 16 39.7**	**+1.2**
ISAD				*e*Sn	**Sn**	**18 17 36.4**	**-5.6**
ISAD	**Sadrabad**	**5.50**	**331**

AKTK	**Aktyubinsk**	**23.29**	**2**	P		**P**	**18 20 23.4**	**-1.3**
	comp=Z,3.0nm,0.5s,mb4.0								
AKTO	**Aktyubinsk**	**23.29**	**2**	P		**P**	**18 20 23.4**	**-1.3**
	comp=Z,2.5nm,0.5s,mb3.9,baz=184,slow=7.8,SNR=8.6								
AKTO	**Aktyubinsk**	**23.29**	**2**	P		**P**	**18 20 23.4**	**-1.3**
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.0								
BVAR	**Borovoye Array**	**27.77**	**18**	P		**P**	**18 21 04.5**	**-1.2**
	comp=Z,1.5nm,0.6s,mb3.8,baz=201,slow=7.8,SNR=13								
BVAR				LR	LR		18 34 03.3		
	comp=Z,106nm,18.0s,MS3.5,baz=54,slow=40								
BRVK	**Borovoye**	**27.78**	**18**	*e*P		**P**	**18 21 03.6**	**-2.1**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb3.8								
BRVK	**Borovoye**	**27.78**	**18**	*e*P		**P**	**18 21 03.6**	**-2.1**
	comp=Z,2.0nm,0.8s,mb3.8								
MKAR	**Makanchi Array**	**28.07**	**39**	P		**P**	**18 21 07.9**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=222,slow=7.3,SNR=15								
IDI	**Anoyia**	**28.41**	**295**	P		**P**	**18 21 09.1**	**-2.2**
	comp=Z,3.8nm,0.6s,mb4.2,baz=78,slow=9.3,SNR=6.8								
WMQ	**Urumqi**	**29.93**	**48**	⇑*i*P		**P**	**18 21 25.0**	**+0.2**
WMQ				AP	pP		18 21 29.1	+2.0	
WMQ				XP	sP		18 21 32.0	+4.0	
WMQ				PP	PP		18 22 23.8	-8.5	
WMQ				PPP			18 22 38.0		
WMQ				PCP	PcP		18 24 26.0	-1.4	
WMQ				S	**S**		**18 26 22.8**	**+0.4**	
WMQ				AMB	AMB				
	comp=Z,4.0nm,0.6s,mb4.3								
WMQ				AMB	AMB				
	comp=Z,71nm,4.2s								
WMQ				LR	LR				
	comp=N,51nm,17.6s								
WMQ				LR	LR				
	comp=Z,25nm,16.6s,MS2.9								
AKASG	**Malin Array Be**	**31.54**	**326**	P		**P**	**18 21 36.0**	**-3.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=134,slow=8.7,SNR=6.0								
NVS	**Novosibirsk**	**33.73**	**28**	*i* P		**P**	**18 21 56.8**	**-1.4**
ZAL	**Zalesovo**	**33.78**	**30**	P		**P**	**18 21 57.0**	**-1.6**
	comp=Z,2.9nm,0.3s,mb4.6,baz=228,slow=7.8,SNR=10								
TIP	**Timpagrande**	**35.36**	**300**	*e*P		**P**	**18 22 09.0**	**-3.3**
TIP	**Timpagrande**	**35.36**	**300**	*e*P		**P**	**18 22 09.0**	**-3.4**
GERES	**GERESS Array B**	**39.63**	**315**	P		**P**	**18 22 45.7**	**-2.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=99,slow=8.2,SNR=4.9								
KHC	**Kasperske Hory**	**39.79**	**315**	*e*P		**P**	**18 22 47.6**	**-2.2**
KHC				*e*pP		pP	18 22 54.8	+2.7	
FINES	**FINESS Array B**	**40.02**	**338**	P		**P**	**18 22 48.4**	**-3.4**
	comp=Z,1.8nm,0.9s,mb3.8,baz=155,slow=5.5,SNR=4.9								
GRA1	**Grafenberg Arr**	**41.43**	**315**	*e*P		**P**	**18 23 09.5**	**+6.2**
	comp=Z,6.0nm,0.8s,mb4.3								
GRF	**Grafenberg Arr**	**41.43**	**315**	*e*P		**P**	**18 23 09.5**	**+6.2**
	comp=Z,6.0nm,0.8s,mb4.3								
GRF	**Grafenberg Arr**	**41.43**	**315**	*e*P		**P**	**18 23 09.5**	**+6.2**
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.3								
GRF	**Grafenberg Arr**	**41.43**	**315**	*e*P		**P**	**18 23 09.5**	**+6.2**
GRF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.3								
PGF	**Pioggiola**	**41.60**	**304**	*e*P		**P**	**18 23 06.0**	**+1.2**
SBF	**Sospel**	**42.88**	**306**	*e*P		**P**	**18 23 16.6**	**+1.4**
FRF	**La Foret Royal**	**43.42**	**306**	*e*P		**P**	**18 23 20.6**	**+1.0**
	comp=Z,6.2nm,0.8s,mb4.1								
FRF	**La Foret Royal**	**43.42**	**306**	*e*P		**P**	**18 23 20.6**	**+1.0**
FRF				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.1								
FRF	**La Foret Royal**	**43.42**	**306**	*e*P		**P**	**18 23 20.6**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.1								
MBDF	**Montbardon**	**43.45**	**307**	*e*P		**P**	**18 23 21.2**	**+1.4**
	comp=Z,9.5nm,0.9s,mb4.2								
MBDF	**Montbardon**	**43.45**	**307**	*e*P		**P**	**18 23 21.2**	**+1.4**
MBDF				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.2								
MBDF	**Montbardon**	**43.45**	**307**	*e*P		**P**	**18 23 21.2**	**+1.4**
	comp=Z,4.8nm,0.9s,mb4.2								
LMR	**La Mourre**	**43.50**	**305**	*e*P		**P**	**18 23 20.9**	**+0.7**
LPG	**La Plagne**	**43.56**	**308**	*e*P		**P**	**18 23 22.2**	**+1.5**
	comp=Z,6.8nm,0.9s,mb4.1								
LPG	**La Plagne**	**43.56**	**308**	*e*P		**P**	**18 23 22.2**	**+1.5**
LPG				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.0								
LPG	**La Plagne**	**43.56**	**308**	*e*P		**P**	**18 23 22.2**	**+1.5**
	comp=Z,3.4nm,0.9s,mb4.1								
SONM	**Songino Array**	**43.57**	**48**	P		**P**	**18 23 19.5**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.4,baz=261,slow=8.8,SNR=7.4								
SONM				LR	LR		18 43 04.2		
	comp=Z,46nm,20.1s,MS3.4,baz=54,slow=38								
LPL	**La Plagne**	**43.57**	**309**	*e*P		**P**	**18 23 22.1**	**+1.3**
	comp=Z,5.6nm,0.8s,mb4.0								
LPL	**La Plagne**	**43.57**	**309**	*e*P		**P**	**18 23 22.1**	**+1.3**
LPL				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.1								
LPL	**La Plagne**	**43.57**	**309**	*e*P		**P**	**18 23 22.1**	**+1.3**
	comp=Z,2.8nm,0.8s,mb4.0								
CDF	**Champ du Feu**	**43.66**	**313**	*e*P		**P**	**18 23 22.9**	**+1.4**
HINF	**Hinteralfeld**	**43.83**	**312**	*e*P		**P**	**18 23 24.1**	**+1.2**
	comp=Z,4.1nm,0.7s,mb4.0								
HINF	**Hinteralfeld**	**43.83**	**312**	*e*P		**P**	**18 23 24.1**	**+1.2**
HINF				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.0								
HINF	**Hinteralfeld**	**43.83**	**312**	*e*P		**P**	**18 23 24.1**	**+1.2**
	comp=Z,2.0nm,0.7s,mb4.0								
ORIF	**Oris-en-Rattie**	**44.10**	**308**	*e*P		**P**	**18 23 26.2**	**+1.2**
CABF	**La Chapelle**	**44.16**	**310**	*e*P		**P**	**18 23 26.9**	**+1.4**
HAU	**Haudompre**	**44.20**	**312**	*e*P		**P**	**18 23 27.3**	**+1.5**
SMRF	**Simiane la Rot**	**44.23**	**306**	*e*P		**P**	**18 23 27.0**	**+0.9**
MEZF	**Maizieres J'vi**	**45.13**	**313**	*e*P		**P**	**18 23 34.5**	**+1.2**
LASF	**Ste Croix**	**45.47**	**306**	*e*P		**P**	**18 23 37.1**	**+1.1**
GIVF	**Givet**	**45.55**	**315**	*e*P		**P**	**18 23 37.8**	**+1.2**
NB2	**NORSAR Subarra**	**45.60**	**331**	P		**P**	**18 23 32.7**	**-4.3**
	comp=Z,6.4nm,1.2s,mb4.4,baz=117,slow=7.9								
NOA	**NORSAR Array B**	**45.60**	**331**	P		**P**	**18 23 33.2**	**-3.9**
	comp=Z,1.4nm,1.0s,mb3.9,baz=128,slow=9.7,SNR=2.7								
SMF	**Signal de Mont**	**45.70**	**310**	*e*P		**P**	**18 23 39.0**	**+1.2**
	comp=Z,8.1nm,0.8s,mb4.4								
SMF	**Signal de Mont**	**45.70**	**310**	*e*P		**P**	**18 23 39.0**	**+1.2**
SMF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4								
SMF	**Signal de Mont**	**45.70**	**310**	*e*P		**P**	**18 23 39.0**	**+1.2**
	comp=Z,4.1nm,0.8s,mb4.4								
LOR	**Lormes**	**45.76**	**311**	*e*P		**P**	**18 23 39.8**	**+1.5**
	comp=Z,5.4nm,0.7s,mb4.3								
LOR	**Lormes**	**45.76**	**311**	*e*P		**P**	**18 23 39.8**	**+1.5**
LOR				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
LOR	**Lormes**	**45.76**	**311**	*e*P		**P**	**18 23 39.8**	**+1.5**
	comp=Z,2.7nm,0.7s,mb4.3								
BAIF	**Baives**	**45.93**	**315**	*e*P		**P**	**18 23 40.8**	**+1.2**
	comp=Z,13nm,0.9s,mb4.6								
BAIF	**Baives**	**45.93**	**315**	*e*P		**P**	**18 23 40.8**	**+1.2**
BAIF				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
BAIF	**Baives**	**45.93**	**315**	*e*P		**P**	**18 23 40.8**	**+1.2**
	comp=Z,6.4nm,0.9s,mb4.6								
SSF	**Saint Saulge**	**45.98**	**310**	*e*P		**P**	**18 23 41.2**	**+1.2**
	comp=Z,12nm,0.9s,mb4.5								
SSF	**Saint Saulge**	**45.98**	**310**	*e*P		**P**	**18 23 41.2**	**+1.2**
SSF				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
SSF	**Saint Saulge**	**45.98**	**310**	*e*P		**P**	**18 23 41.2**	**+1.2**
	comp=Z,6.1nm,0.9s,mb4.5								
AVF	**Avril sur Loir**	**46.05**	**310**	*e*P		**P**	**18 23 41.5**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.2								
AVF	**Avril sur Loir**	**46.05**	**310**	*e*P		**P**	**18 23 41.5**	**+0.9**
AVF				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2								
AVF	**Avril sur Loir**	**46.05**	**310**	*e*P		**P**	**18 23 41.5**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.2								
ARCES	**ARCESS Array B**	**46.19**	**345**	P		**P**	**18 23 38.5**	**-3.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=138,slow=7.4,SNR=5.9								
BGF	**Bois d'Agland**	**46.38**	**310**	*e*P		**P**	**18 23 44.3**	**+1.2**
	comp=Z,9.0nm,0.7s,mb4.5								
BGF	**Bois d'Agland**	**46.38**	**310**	*e*P		**P**	**18 23 44.3**	**+1.2**
BGF				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.5								
BGF	**Bois d'Agland**	**46.38**	**310**	*e*P		**P**	**18 23 44.3**	**+1.2**
	comp=Z,4.5nm,0.7s,mb4.5								
MTLF	**Montolieu**	**46.62**	**305**	*e*P		**P**	**18 23 46.4**	**+1.3**
	comp=Z,5.3nm,0.8s,mb4.2								
MTLF	**Montolieu**	**46.62**	**305**	*e*P		**P**	**18 23 46.4**	**+1.3**
MTLF				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
MTLF	**Montolieu**	**46.62**	**305**	*e*P		**P**	**18 23 46.4**	**+1.3**
	comp=Z,2.7nm,0.8s,mb4.2								
HHC	**Hu-ho-hao-te**	**46.70**	**58**	*e*P		**P**	**18 23 45.4**	**-0.3**
HHC				AP	pP		18 23 50.0	+2.0	
HHC				XP	sP		18 23 52.4	+3.5	
HHC				PP	PP		18 25 33.8	-1.5	
HHC				AMB	AMB				
	comp=Z,11nm,1.0s,mb4.7								
HHC				AMB	AMB				
	comp=Z,79nm,5.6s								
TCF	**Toulx Ste Croi**	**46.79**	**309**	*e*P		**P**	**18 23 47.8**	**+1.4**
	comp=Z,12nm,0.9s,mb4.5								
TCF	**Toulx Ste Croi**	**46.79**	**309**	*e*P		**P**	**18 23 47.8**	**+1.4**
TCF				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
TCF	**Toulx Ste Croi**	**46.79**	**309**	*e*P		**P**	**18 23 47.8**	**+1.4**
	comp=Z,6.2nm,0.9s,mb4.5								
CAF	**Calviac**	**46.80**	**307**	*e*P		**P**	**18 23 47.8**	**+1.3**
	comp=Z,19nm,1.2s,mb4.6								
CAF	**Calviac**	**46.80**	**307**	*e*P		**P**	**18 23 47.8**	**+1.3**
CAF				pmax	pmax				
	comp=Z,10.0nm,1.2s,mb4.6								
CAF	**Calviac**	**46.80**	**307**	*e*P		**P**	**18 23 47.8**	**+1.3**
	comp=Z,9.7nm,1.2s,mb4.6								
RJF	**Les Rejaudoux**	**47.21**	**308**	*e*P		**P**	**18 23 51.2**	**+1.5**
EPF	**Esparros**	**47.99**	**305**	*e*P		**P**	**18 23 57.1**	**+1.4**
	comp=Z,16nm,1.0s,mb4.7								
EPF	**Esparros**	**47.99**	**305**	*e*P		**P**	**18 23 57.1**	**+1.4**
EPF				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.7								
EPF	**Esparros**	**47.99**	**305**	*e*P		**P**	**18 23 57.1**	**+1.4**
	comp=Z,7.9nm,1.0s,mb4.7								
MFF	**Saint Martin d**	**48.44**	**309**	*e*P		**P**	**18 24 00.6**	**+1.4**
LDF	**La Druitiere**	**48.56**	**312**	*e*P		**P**	**18 24 01.6**	**+1.5**
ETSF	**Etsaut**	**48.65**	**304**	*e*P		**P**	**18 24 02.2**	**+1.4**
	comp=Z,11nm,0.8s,mb4.6								
ETSF	**Etsaut**	**48.65**	**304**	*e*P		**P**	**18 24 02.2**	**+1.4**
ETSF				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.7								
ETSF	**Etsaut**	**48.65**	**304**	*e*P		**P**	**18 24 02.2**	**+1.4**
	comp=Z,5.6nm,0.8s,mb4.6								
FLN	**La Foliniere**	**48.81**	**312**	*e*P		**P**	**18 24 03.3**	**+1.3**
GRR	**Gorron**	**49.03**	**312**	*e*P		**P**	**18 24 04.7**	**+1.0**
	comp=Z,44nm,1.2s,mb5.1								
GRR	**Gorron**	**49.03**	**312**	*e*P		**P**	**18 24 04.7**	**+1.0**
GRR				pmax	pmax				
	comp=Z,22nm,1.2s,mb5.1								
GRR	**Gorron**	**49.03**	**312**	*e*P		**P**	**18 24 04.7**	**+1.0**
	comp=Z,22nm,1.2s,mb5.1								
SJPF	**Ste Jean**	**49.14**	**305**	*e*P		**P**	**18 24 05.7**	**+1.1**
	comp=Z,9.0nm,0.7s,mb4.6								
SJPF	**Ste Jean**	**49.14**	**305**	*e*P		**P**	**18 24 05.7**	**+1.1**
SJPF				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
SJPF	**Ste Jean**	**49.14**	**305**	*e*P		**P**	**18 24 05.7**	**+1.1**
	comp=Z,4.5nm,0.7s,mb4.6								
BOD	**Bodaibo**	**50.09**	**36**	*e*P		**P**	**18 24 10.0**	**-1.8**
BOD				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb4.4								
QUIF	**Quistinic**	**50.55**	**311**	*e*P		**P**	**18 24 16.8**	**+1.5**
ESDC	**Sonseca Array**	**51.38**	**300**	P		**P**	**18 24 18.5**	**-3.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=70,slow=7.2,SNR=3.5								
TORD	**Torodi Ar. Bea**	**53.21**	**266**	P		**P**	**18 24 31.5**	**-3.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=62,slow=7.4,SNR=25								
KSRS	**Korea Array**	**59.71**	**61**	P		**P**	**18 25 19.2**	**-2.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=284,slow=6.9,SNR=6.1								
WRA	**Warramunga Arr**	**88.42**	**113**	P		**P**	**18 28 07.4**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.3,baz=312,slow=4.1,SNR=13								
ASAR	**Alice Springs**	**89.90**	**117**	P		**P**	**18 28 14.2**	**-1.8**
	comp=Z,0.3nm,0.6s,mb3.8,baz=309,slow=4.8,SNR=8.2								

*ISCJB **18** 18:43:47.5±0.8, 2437S±005×671W±0.1, h176km±12km, mb3.9/4, Error ellipse: s-maj=16.3km s-min=8.1km az=28.8*
*IDC **18** 18:43:47.2±1.4, 2441S×6696W, h150km±18km, mb3.5/2, mb1 3.6/5, mb1mx3.4/18, mbtmp3.6/5, Error ellipse: s-maj=26.5km s-min=12.8km az=88.0*
*NEIC **18** 18:43:48.3±0.7, 2438S×6691W, h165km±9km, mb4.1/5, Error ellipse: s-maj=18.4km s-min=8.0km az=95.0*
*GUC **18** 18:43:50.4±0.3, 2450S×6760W, h200km, MD3.6, ML4.2*

ISC 18 18:43:48.3±0.8, 2438S±006×671W±01, h167km±13km, n21, σ1§13/29, mb3.9/4, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**316**	P		**Pn**	**18 44 31.0**	**+1.7**
	32nm,0.3s,baz=90,slow=4.1,SNR=221							
LVC				S		**Sn**	**18 45 01.6**	**+0.7**
	163nm,0.3s,baz=270,slow=22,SNR=132							
LVC	**Limon Verde**	**2.42**	**316**	P		**Pn**	**18 44 31.0**	**+1.7**
LVC					*e*Sn	**Sn**	**18 45 00.8**	**-0.1**
CEN1	**Los Morros**	**3.00**	**288**	⇓*i*P		**Pn**	**18 44 37.7**	**+1.4**
CEN1				*i* S		**Sn**	**18 45 13.6**	**0.0**
CEN1				AML	AML		18 45 15.3	
	comp=N,666nm,0.6s							
CPN1	**Ceppo Paranal**	**3.02**	**265**	⇓*i*P		**Pn**	**18 44 36.9**	**+0.3**
CPN1				*i* S		**Sn**	**18 45 12.5**	**-1.4**
CPN1				AML	AML		18 45 13.8	
	comp=E,393nm,0.4s							
ANCH	**Antofagasta**	**3.10**	**282**	⇑*i*P		**Pn**	**18 44 39.2**	**+1.6**
ANCH				*i* S		**Sn**	**18 45 15.2**	**-0.6**
CDCH	**Caldera**	**4.30**	**231**	*i* P		**Pn**	**18 44 51.1**	**-1.7**
CDCH				*i* S		**Sn**	**18 45 38.6**	**-4.6**
CFAA	**Coronel Fontan**	**7.27**	**188**	P		**Pn**	**18 45 31.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=358,slow=12,SNR=9.3							
CFAA				S		**Sn**	**18 46 48.5**	**-5.0**
	comp=E,0.3nm,0.3s,baz=108,slow=21,SNR=9.8							
LPAZ	**La Paz**	**8.10**	**353**	P		**Pn**	**18 45 44.7**	**+1.7**
	comp=E,2.4nm,0.3s,baz=154,slow=8.6,SNR=48							
LPAZ				S		**Sn**	**18 47 11.2**	**-2.2**
	comp=E,0.2nm,0.3s,baz=346,slow=19,SNR=4.5							
LPAZ	**La Paz**	**8.10**	**353**	P		**Pn**	**18 45 44.7**	**+1.7**
LPAZ				S		**Sn**	**18 47 11.2**	**-2.2**
SIV	**San Ignacio**	**10.08**	**35**	P		**Pn**	**18 46 08.2**	**-0.8**
	comp=E,0.7nm,0.3s,baz=220,slow=14,SNR=26							
SIV				S		**Sn**	**18 47 49.2**	**-12**
	comp=E,0.1nm,0.3s,baz=238,slow=17,SNR=4.1							
TRQA	**Tornquist**	**14.32**	**163**	*e*P		**Pn**	**18 47 03.1**	**-0.4**
	comp=E,16nm,0.9s							
SAML	**Samuel**	**15.79**	**14**	*e*P		**Pn**	**18 47 20.7**	**-0.9**
	comp=E,5.8nm,1.2s							
VNA3	**Neumayer Olymp**	**56.83**	**161**	*e*		**P**	**18 53 16.2**	**+0.9**
VNA3				*e*			18 53 22.4	
VNA2	**Neumayer--Watz**	**57.40**	**160**	*e*		**P**	**18 53 19.4**	**+0.1**
	baz=290,slow=6.2							
VNA2				*e*			18 53 25.9	
SNAA	**Sanae**	**59.03**	**161**	P		**P**	**18 53 31.3**	**+0.7**
	comp=E,0.5nm,0.7s,mb3.4,baz=284,slow=7.0,SNR=8.2							
SNAA	**Sanae**	**59.03**	**161**	*e*P		**P**	**18 53 30.7**	**+0.1**
	comp=E,4.2nm,1.2s,mb4.1							
QSPA	**South Pole Qui**	**65.83**	**180**	*e*P		**P**	**18 54 16.6**	**+0.9**
	comp=E,2.5nm,0.6s,mb4.2							
TORD	**Torodi Ar. Bea**	**76.79**	**69**	P		**P**	**18 55 21.6**	**+0.1**
	comp=E,1.3nm,0.5s,mb3.8,baz=260,slow=5.7,SNR=29							
MAW	**Mawson**	**81.11**	**163**	*e*P		**P**	**18 55 43.0**	**-1.9**
	comp=E,1.5nm,0.7s,mb3.7							
ASAR	**Alice Springs**	**128.08**	**205**	PKP	PKPdf		19 02 35.3	+0.9
	comp=E,0.3nm,0.7s,baz=138,slow=1.4,SNR=5.8							
WRA	**Warramunga Arr**	**131.25**	**207**	PKP	PKPdf		19 02 42.2	+1.7
	comp=E,0.3nm,0.6s,baz=160,slow=1.7,SNR=6.9							

*SKHL **18** 18:54:35.4±1.5, 4607N×15362E, h52km±26km, mb5.5/3, mbh5.3/2, Ms4.7/4, msh5.3/1*
*IDC **18** 18:54:36.5±0.5, 4635N×153.10E, h0km, mb4.5/22, mb1 4.7/23, mb1mx4.6/26, mbtmp4.5/23, ML3.9/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/38, Error ellipse: s-maj=15.2km s-min=13.2km az=149.0*
*BJI **18** 18:54:36.7, 4642N×15324E, h16km, mB5.0, mb4.9, Ms4.5, Msz4.4*
*NEIC **18** 18:54:38.0±0.3, 4634N×153.15E, h10km, mb5.0/54, Error ellipse: s-maj=7.2km s-min=4.7km az=151.0*
*GCMT **18** 18:54:38.0±0.6, 4633N×15358E, h20km±1km, MW4.8/52, Moment Tensor Solution. s15,c15; s52,c74; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr1.81±.17; Mθθ-0.69±.11; Mϕϕ-1.12±.10; Mrθ0.47±.22; Mϕθ-0.87±.07; Mϕr1.04±.18; Best double couple: Mo2.13500×10^16 NP1:ϕs225.00000°, δ30.00000°, λ102.00000°. NP2: ϕs31.00000°, δ61.00000°, λ83.00000°. Principal axes: T 2.1550, Plg73.0000°, Azm284.0000°; N -0.0440, Plg6.0000°, Azm34.0000°; P -2.1160, Plg16.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **18** 18:54:40.4±0.3, 4625N×004×153.13E×004, h39km, mb4.9/120, MS4.3/33 Error ellipse: s-maj=6.6km s-min=3.4km az=126.2*
*MOS **18** 18:54:41.5±1.2, 4638N×15304E, h41km, mb5.1/43, MS4.2/13, Error ellipse: s-maj=7.9km s-min=4.8km az=111.5*
*SZGRF **18** 18:54:45.2, 47.19N×15472E, h33km, mb5.4, Kuril Islands, Russia*

ISC 18 18:54:38.4±0.3, 4632N±004×15321E±005, h13km, h13km±1.3km:pP-P,n325, σ1§16/346, mb4.9/120, MS4.3/33, 28C-18D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**256**	⇓*i*P		**Pn**	**18 55 37.5**	**-0.4**
KUR					AMB	AMB	18 55 38.0	
	4μm,1.0s							
KUR				*e*S		**Sn**	**18 56 23.0**	**-0.5**
KUR				A			18 56 34.0	
	2μm,4.0s							
KUR				A			18 56 34.0	
	5μm,4.0s							
KUR				A			18 56 36.0	
	950nm,0.6s							
KUR				A			18 56 36.0	
	798nm,0.6s							
KUR	**Kuril'sk**	**3.90**	**256**	⇓*i*PN		**Pn**	**18 55 37.5**	**-0.4**
KUR				*e*S		**Sn**	**18 56 23.0**	**-0.5**
KUR				pmax	pmax			
	comp=N,490nm,0.5s							
KUR				pmax	pmax			
	comp=E,300nm,0.5s							
KUR				pmax	pmax			
	comp=Z,2μm,0.5s							
KUR				pmax	pmax			
	comp=Z,4μm,1.0s							
KUR				smax				
	comp=N,2μm,4.0s							
KUR				smax				
	comp=E,5μm,4.0s							
KUR				smax				
	comp=N,950nm,0.6s							
KUR				smax				
	comp=E,800nm,0.6s							
SKR	**Severo-Kuril's**	**4.78**	**23**	*e*P		**Pn**	**18 55 50.5**	**+0.4**
SKR				AMB	AMB		18 55 51.5	
	comp=E,30nm,0.5s							
SKR				AMB	AMB		18 55 51.5	
	comp=E,90nm,0.5s							
SKR				*e*S		**Sn**	**18 56 40.5**	**-4.8**
SKR				A			18 57 05.0	
	comp=E,1μm,1.0s							
SKR				A			18 57 05.0	
	comp=E,720nm,1.0s							
SKR				A			18 57 05.0	
	comp=E,450nm,1.0s							
SKR				AMS	AMS		18 58 04.0	
	comp=E,3μm,14.0s							
SKR				AMS	AMS		18 58 04.0	
	comp=E,3μm,14.0s							
SKR				AMS	AMS		18 58 04.0	
	comp=E,5μm,14.0s							
SKR				AMS	AMS		18 58 04.0	
	comp=E,5μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.23**	**279**	*e*P		**Pn**	**18 56 28.0**	**+4.3**
YSS				AMB	AMB		18 56 31.0	
	comp=E,160nm,1.0s							
YSS				AMB	AMB		18 56 31.0	
	comp=E,110nm,1.1s							
YSS				*e*S		**Sn**	**18 57 53.6**	**+7.9**
YSS				A			18 57 55.0	
	comp=E,50nm,0.9s							
YSS				*e*LQ			18 58 18.0	
YSS				*e*LR	LR		18 58 42.0	
YSS				AMS	AMS		18 59 14.0	
	comp=E,2μm,15.0s							
YSS				AMS	AMS		18 59 14.0	
	comp=E,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.23**	**279**	*e*PN		**Pn**	**18 56 28.0**	**+4.3**
YSS				*e*S		**Sn**	**18 57 53.6**	**+7.9**
YSS				pmax	pmax			
	comp=Z,110nm,1.1s							
YSS				pmax	pmax			
	comp=E,160nm,1.0s							
YSS				smax				
	comp=E,50nm,0.9s							
YSS				MLR	MLR			
	comp=E,2μm,15.0s							
YSS				MLR	MLR			
	comp=Z,2μm,15.0s		

TEY AMB AMB 18 57 30.0
comp=Z,900nm,4.0s
TEY AMS AMS 19 02 09.0
comp=Z,900nm,14.0s
TEY AMS AMS 19 02 09.0
comp=Z,1μm,14.0s
TEY AMS AMS 19 02 09.0
comp=Z,2μm,17.0s
JMM Marumori 12.49 232 P **Pn 18 57 33.0 -2.8**
JMM *eS* **Sn 18 59 42.2 -13**
HABR Khabarovsk 12.50 287⇓*i* PN **Pn 18 57 42.3 +6.4**
HABR *eS* **Sn 19 00 05.3 +10**
HABR pmax pmax
comp=Z,35nm,1.3s
JYA Atsumi 12.60 237 P **Pn 18 57 35.1 -2.1**
JYA *eS* **Sn 18 59 43.6 -14**
MA2 Magadan 13.36 355 *i* PN **Pn 18 57 51.0 +3.3**
MA2 Magadan 13.36 355 *e*Pn **Pn 18 57 48.2 +0.5**
JSD Sado 13.82 239 P **Pn 18 57 50.8 -3.1**
JYT Yasato 14.03 229 *eS* **Sn 19 00 13.4 -19**
KLR Kul'dur 14.72 289 *eP* **Pn 18 58 06.2 0.0**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
KLR MLR MLR
comp=N,700nm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s
JRY Ryogami san 14.88 231 P **Pn 18 58 05.6 -2.8**
JRY *eS* **Sn 19 00 40.6 -12**
MJAR Matsushiro Arr 14.88 234 Pn **Pn 18 58 06.3 -2.0**
comp=Z,0.5nm,0.3s,baz=27,slow=12,SNR=21
MAJO Matsushiro 14.88 234 *eP* **Pn 18 58 05.6 -2.8**
MAJO pmax pmax
comp=Z,31nm,0.7s
MAJO Matsushiro 14.88 234 *e*Pn **Pn 18 58 05.6 -2.8**
comp=Z,30nm,0.7s
MAJO *e* 18 58 15.3
MAT Matsushiro 14.88 234 P **Pn 18 58 05.3 -3.1**
MAT *eS* **Sn 19 01 03.0 +10**
MAT Matsushiro 14.88 234 P **Pn 18 58 03.9 -4.5**
JOD2 Odawara 2 15.35 229 P **Pn 18 58 09.2 -5.4**
JOD2 *eS* **Sn 19 00 50.7 -14**
SEY Seymchan 16.66 359 *i P* **Pn 18 58 37.3 +5.8**
ZEA Zeya 18.19 304 *eP* **Pn 18 58 48.1 -2.5**
ZEA AMB AMB 18 58 49.7
comp=Z,46nm,1.4s
ZEA AMB AMB 18 58 54.0
comp=Z,400nm,6.0s
ZEA AMB AMB 18 58 54.0
comp=Z,600nm,7.0s
CN2 Changchun 19.74 273 *eP* **Pn 18 59 06.0 -3.3**
CN2 *eS* **Sn 19 02 40.8 -10**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,800nm,15.0s
CN2 LR LR
comp=Z,900nm,16.0s
CLNS Chul'man 20.36 311 *eP* **P 18 59 13.7 -0.8**
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=Z,28nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS MLR MLR
comp=Z,2μm,15.0s,MS4.5
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.5
CLNS MLR MLR
comp=E,1μm,12.0s,MS4.5
YAK Yakutsk 20.73 328 *eP* **P 18 59 19.1 +0.6**
YAK *eS* **S 19 03 06.6 -3.1**
YAK *i* SS 19 03 28.2
YAK *i* SSS 19 03 40.4
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,13nm,1.5s
YAK smax
comp=E,287nm,3.2s
YAK smax
comp=Z,266nm,3.7s
YAK smax
comp=N,725nm,4.0s
YAK MLR MLR
comp=Z,524nm,20.0s,MS3.9
YAK MLR MLR
comp=N,406nm,16.0s,MS4.0
YAK MLR MLR
comp=E,414nm,17.0s,MS4.0
YAK Yakutsk 20.73 328 *e*Pn **P 18 59 17.3 -1.3**
comp=E,35nm,0.6s
KSRS Korea Array 20.74 254 P **P 18 59 19.1 +0.4**
comp=E,14nm,0.7s,baz=58,slow=10,SNR=71
KSRS LR LR 19 06 17.5
comp=E,363nm,20.9s,MS3.7,baz=62,slow=34
JNU Nakatsue 21.56 240 P **P 18 59 28.1 +0.6**
comp=E,23nm,0.8s,mb4.6,baz=247,slow=12,SNR=3.9
JNU LR LR 19 07 12.2
comp=E,950nm,20.6s,MS4.2,baz=74,slow=35
JNU Nakatsue 21.56 240 P **P 18 59 28.1 +0.6**
JNU LR LR 19 07 12.2
INCN Inchon 21.58 255 *e*Pn **P 18 59 28.1 +0.3**
comp=E,35nm,0.9s,mb4.8
SNY Shenyang 21.69 269 ⇓P **P 18 59 29.3 +0.3**
SNY AMB AMB
comp=Z,19nm,0.8s,mb4.6
SNY AMB AMB
comp=Z,227nm,10.5s
SNY LR LR
comp=N,219nm,12.6s,MS4.1
SNY LR LR
comp=E,545nm,16.2s,MS4.1
SNY LR LR
comp=Z,726nm,14.1s,MS4.2
HIA Hailar 22.57 290 P **P 18 59 35.1 -3.3**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 22.57 290 P **P 18 59 35.1 -3.3**
comp=Z,8.6nm,0.7s,mb4.3
BILL Bilibino 22.80 13⇑*eP* **P 18 59 40.0 -0.8**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.0
BILL Bilibino 22.80 13 *eP* **P 18 59 38.5 -2.3**
comp=Z,11nm,0.6s,mb4.5
CIT Chita 26.30 297 *eP* **P 19 00 12.0 -1.7**
BOD Bodaibo 26.32 310⇑*iP* **P 19 00 11.6 -2.2**
BOD pmax pmax
comp=Z,12nm,1.3s,mb4.3
BJI Beijing 27.55 270 P **P 19 00 23.9 -1.0**
BJI AMB AMB
comp=Z,21nm,1.1s,mb4.7
BJI LR LR
comp=N,729nm,15.6s,MS4.4
BJI LR LR
comp=E,192nm,15.6s,MS4.4
BJI LR LR
comp=Z,543nm,16.7s,MS4.2
BJI Beijing 27.55 270 P **P 19 00 23.9 -1.0**
comp=Z,21nm,1.1s,mb4.7
BJI S **S 19 05 15.1 +9.5**
BJI LR LR
comp=Z,540nm,16.7s,MS4.2
BJT Baijiatuan 27.56 270 *eP* **P 19 00 24.7 -0.3**
BJT pmax pmax
comp=Z,32nm,0.9s
BJT Baijiatuan 27.56 270 *eP* **P 19 00 24.7 -0.3**
comp=Z,32nm,0.9s,mb5.0
TIXI Tiksi 27.90 344 *eP* **P 19 00 25.4 -2.7**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
TIXI Tiksi 27.90 344 *eP* **P 19 00 25.4 -2.7**
comp=Z,9.1nm,1.1s,mb4.3
SSE Sheshan 29.01 250 P **P 19 00 35.1 -2.8**
SSE S **S 19 05 27.8 -0.9**
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,214nm,4.5s
SSE LR LR
comp=N,135nm,26.4s,MS3.5
SSE LR LR
comp=E,105nm,26.4s,MS3.5
SSE LR LR
comp=Z,182nm,22.0s,MS3.6
SSE Sheshan 29.01 250 P **P 19 00 35.1 -2.8**
comp=Z,44nm,0.7s,mb5.3
SSE sP sP 19 00 39.4 -4.2
SSE S **S 19 05 27.7 -1.0**
SSE sS sS 19 05 32.9 -2.4
SSE LR LR
comp=Z,180nm,22.0s,MS3.6
HHC Hu-ho-hao-te 30.40 275 *eP* **P 19 00 49.9 -0.3**
HHC AP pP 19 00 54.3 +0.1
HHC XP sP 19 00 56.8 +1.0
HHC PP PP 19 01 47.1 -12
HHC PCP PcP 19 03 50.1 +0.3
HHC AMB AMB
comp=Z,42nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,205nm,6.7s
HHC LR LR
comp=N,561nm,13.3s,MS4.5
HHC LR LR
comp=E,533nm,14.1s,MS4.5
HHC LR LR
comp=Z,699nm,14.1s,MS4.5
ULN Ulaanbaatar 31.11 290⇓*eP* **P 19 00 56.0 -0.5**
ULN Ulaanbaatar 31.11 290 *eP* **P 19 00 55.6 -0.9**
comp=Z,7.6nm,1.0s,mb4.5
SONM Songino Array 31.55 290 P **P 19 00 59.7 -0.6**
comp=Z,2.8nm,0.8s,mb4.1,baz=73,slow=8.6,SNR=21
SONM PcP PcP 19 03 52.2 -0.6
comp=Z,1.4nm,0.8s,baz=122,slow=2.5,SNR=5.2
SONM LR 19 14 43.9
comp=Z,640nm,18.1s,MS4.3,baz=52,slow=38
SONM Songino Array 31.55 290 P **P 19 00 59.7 -0.6**
SONM 19 03 52.2
TLY Talaya 32.44 298 *eP* **P 19 01 07.4 -0.8**
TLY *e* 19 02 20.2
TLY *eSS* SS 19 08 39.7 -2.1
TLY pmax pmax
comp=Z,14nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,979nm,16.0s,MS4.6
TLY Talaya 32.44 298 *eP* **P 19 01 07.0 -1.2**
comp=Z,12nm,0.8s,mb4.8
ZAK Zakamensk 32.93 296 *eP* **P 19 01 07.2 -5.2**
ZAK *e* 19 03 56.4
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WHN Wuhan 33.89 256 *eP* **P 19 01 21.0 +0.1**
XAN Xi'an 35.55 266 P **P 19 01 35.5 +0.3**
XAN AP pP 19 01 46.1 +6.9
XAN S **S 19 07 12.4 +1.9**
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.7
XAN LR LR
comp=N,126nm,12.8s,MS4.1
XAN LR LR
comp=E,209nm,14.7s,MS4.1
XAN LR LR
comp=Z,311nm,16.9s,MS4.1
COLA College 36.44 38 *i* P **P 19 01 43.5 +0.7**
COLA College 36.44 38 *eP* **P 19 01 42.9 +0.1**
comp=Z,11nm,0.9s,mb4.8
LZH Lanzhou 37.97 272⇑P **P 19 01 57.3 +1.5**
LZH PP PP 19 03 27.0 +4.4
LZH AMB AMB
comp=Z,90nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,320nm,5.0s
LZH LR LR
comp=N,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.4s,MS5.0
LZH Lanzhou 37.97 272⇑P **P 19 01 57.3 +1.5**
LZH *PP pP 19 02 09.1 +9.2
LZH *SP sP 19 02 13.9 +12
LZH 19 03 27.0
LZH *eS* **S 19 07 42.0 -5.5**
LZH *SS sS 19 08 03.0 +8.9
LZH *eSS SS 19 10 20.0 -14
LZH pmax pmax
comp=Z,90nm,1.4s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.4s,MS5.0
LZH Lanzhou 37.97 272⇑P **P 19 01 57.3 +1.5**
comp=Z,90nm,1.4s,mb5.3
LZH pP pP 19 02 09.1 +9.2
LZH sP sP 19 02 13.9 +12
LZH PP PP 19 03 27.0 +4.4
LZH *eS* **S 19 07 42.0 -5.5**
LZH sS sS 19 08 03.0 +8.9
LZH *eSS SS 19 10 20.0 -14
LZH LR LR
comp=Z,2μm,15.4s,MS5.0
GTA Gaotai 39.11 280⇓P **P 19 02 07.3 +1.9**
GTA AP pP 19 02 10.8 +1.4
GTA XP sP 19 02 13.5 +2.4
GTA PP PP 19 03 42.1 +7.1
GTA PCP PcP 19 04 16.4 +1.4
GTA AMB AMB
comp=Z,32nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,164nm,6.1s
GTA LR LR
comp=N,271nm,14.1s,MS4.4
GTA LR LR
comp=E,275nm,14.8s,MS4.4
GTA LR LR
comp=Z,420nm,13.7s,MS4.4
EGAK Eagle 39.30 38 *eP* **P 19 02 06.3 -0.6**
comp=Z,14nm,1.0s,mb4.6
CD2 Chengdu 40.91 266⇑*iP* **P 19 02 21.3 +0.9**
CD2 AP pP 19 02 25.8 +1.4
CD2 XP sP 19 02 28.5 +2.4
CD2 PP PP 19 03 58.8 +4.1
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,220nm,13.0s,MS4.3
CD2 LR LR
comp=E,250nm,16.8s,MS4.3
CD2 LR LR
comp=Z,290nm,14.4s,MS4.3
GYA Guiyang 41.69 258⇑*iP* **P 19 02 27.6 +0.9**
GYA AP pP 19 02 30.8 0.0
GYA PP PP 19 04 06.9 +3.8
GYA PCP PcP 19 04 25.4 +2.1
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,540nm,16.7s,MS4.6
GYA LR LR
comp=E,460nm,16.9s,MS4.6
GYA LR LR
comp=Z,480nm,17.2s,MS4.4
INK Inuvik 41.98 32 P **P 19 02 29.2 +0.1**
comp=Z,11nm,0.8s,mb4.5,baz=293,slow=6.7,SNR=44
INK Inuvik 41.98 32 *eP* **P 19 02 29.5 +0.4**
comp=Z,344nm,0.9s,mb6.0
ZAL Zalesovo 42.94 306 P **P 19 02 35.0 -1.9**
comp=Z,3.0nm,0.8s,mb4.1,baz=46,slow=7.7,SNR=19
ZAL PcP PcP 19 04 26.8 -0.6
comp=Z,2.3nm,0.8s,baz=38,slow=3.1,SNR=6.6
ZAL LR LR 19 21 11.0
comp=Z,282nm,20.2s,MS4.2,baz=37,slow=37
ZAL Zalesovo 42.94 306 P **P 19 02 35.0 -1.9**
ZAL 19 04 26.8
NVS Novosibirsk 43.51 308 *i* P **P 19 02 40.0 -1.5**
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=Z,22nm,1.8s,mb4.6
NVS pmax pmax
comp=E,17nm,1.5s
QIZ Qiongzhong 44.74 247 P **P 19 02 50.8 -0.6**
QIZ LR LR
comp=N,206nm,16.7s
QIZ LR LR
comp=Z,212nm,19.1s,MS4.1
WMQ Urumqi 45.15 292⇑*iP* **P 19 02 54.0 -0.7**
WMQ AP pP 19 02 58.5 -0.3
WMQ XP sP 19 03 01.0 +0.6
WMQ PCP PcP 19 04 35.4 +0.5
WMQ PP PP 19 04 40.1 -0.1
WMQ PPP 19 05 20.3
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,135nm,4.8s
WMQ LR LR
comp=N,321nm,19.4s,MS4.3
WMQ LR LR
comp=E,180nm,21.4s,MS4.3
WMQ LR LR
comp=Z,330nm,16.0s
KMI Kunming 45.23 260 P **P 19 02 56.5 +1.2**
KMI AP pP 19 02 58.9 -0.5
KMI PP PP 19 04 43.1 +2.0
KMI PPP 19 05 23.5
KMI AMB AMB
comp=Z,23nm,0.8s,mb5.1
KMI AMB AMB
comp=Z,119nm,3.1s
KMI LR LR
comp=N,219nm,16.0s,MS4.3
KMI LR LR
comp=E,228nm,16.0s,MS4.3
KMI LR LR
comp=Z,205nm,16.0s,MS4.2
KMI Kunming 45.23 260 P **P 19 02 56.5 +1.2**
KMI 19 04 43.1
KMI PPP 19 05 23.5
KMI S **S 19 09 34.7 -0.3**
KMI *SS sS 19 09 39.7 -2.1
KMI SS SS 19 12 48.1 -10
KMI 19 12 50.8
KMI SSS 19 13 47.0
KMI pmax pmax
comp=Z,23nm,0.8s,mb5.1
KMI MLR MLR
comp=Z,210nm,16.0s,MS4.2
KMI Kunming 45.23 260 P **P 19 02 56.5 +1.2**
comp=Z,23nm,0.8s,mb5.1
KMI pP pP 19 02 58.9 -0.5
KMI sP sP 19 03 00.3 -0.7
KMI PP PP 19 04 43.1 +2.0
KMI PPP 19 05 23.5
KMI S **S 19 09 34.7 -0.3**
KMI sS sS 19 09 39.7 -2.1
KMI SS SS 19 12 48.1 -10
KMI ScS ScS 19 12 50.8 -1.2
KMI SSS 19 13 47.0
KMI LR LR
comp=Z,210nm,16.0s,MS4.2
MK31 Makanchi Array 47.20 298 P **P 19 03 09.5 -1.3**
MK31 pmax pmax
comp=Z,35nm,1.1s,mb5.2
MKAR Makanchi Array 47.20 298 P **P 19 03 10.3 -0.5**
comp=Z,16nm,0.8s,mb5.0,baz=67,slow=7.9,SNR=95
MKAR Makanchi Array 47.20 298 P **P 19 03 10.3 -0.5**
ALE Alert 50.17 6 P **P 19 03 32.5 -1.1**
comp=Z,79nm,1.0s,mb5.7,SNR=7.8
LSA Lhasa 50.37 274 P **P 19 03 38.3 +3.2**
LSA Lhasa 50.37 274 *eP* **P 19 03 38.0 +2.9**
LSA pmax pmax
comp=Z,11nm,0.4s,mb5.2
LSA Lhasa 50.37 274 *eP* **P 19 03 38.0 +2.9**
comp=Z,11nm,0.4s,mb5.2
VOSK Vostochnaya 51.01 309 P **P 19 03 38.3 -1.7**
VOSK pmax pmax
comp=Z,28nm,1.3s,mb5.0
BVA0 Borovoye Array 51.19 310 *i* P **P 19 03 39.9 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BVAR Borovoye Array 51.19 310 P **P 19 03 39.7 -1.6**
comp=Z,4.0nm,0.4s,mb4.7,baz=53,slow=7.3,SNR=56
BVAR PcP PcP 19 04 56.3 -0.4
comp=Z,2.5nm,0.7s,baz=113,slow=3.4,SNR=4.8
RES Resolute Bay 51.23 18 *eP* **P 19 03 41.1 -0.5**
comp=Z,346nm,1.0s
BRVK Borovoye 51.23 310 *eP* **P 19 03 39.9 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.23 310 *eP* **P 19 03 39.9 -1.7**
comp=Z,4.3nm,0.6s,mb4.6
YKA Yellowknife Ar 51.23 37 P **P 19 03 41.6 0.0**
comp=Z,5.8nm,0.9s,mb4.5,baz=298,slow=7.3,SNR=6.8
ZRNK Zerenda 51.96 310 *eP* **P 19 03 45.5 -1.6**
ZRNK pmax pmax
comp=Z,16nm,1.2s,mb4.8
ZRNK Zerenda 51.96 310 *eP* **P 19 03 45.5 -1.6**
comp=Z,16nm,1.2s,mb4.8
CHTO Chiang Mai 52.09 257 *eP* **P 19 03 49.0 +1.0**
CHTO *e* 19 04 01.0
CHTO pmax pmax
comp=Z,35nm,1.4s,mb5.1
CHTO Chiang Mai 52.09 257 *eP* **P 19 03 49.0 +1.0**
comp=Z,35nm,1.4s,mb5.1
CHTO *e* 19 04 00.9
TKM2 Tokmak 2 53.25 296 P **P 19 03 57.5 +0.8**
SNR=9.1
USP Ospenovka 53.74 297 P **P 19 04 00.2 -0.1**
SNR=42
KBK Karagaybulak 53.80 296 P **P 19 04 01.0 +0.4**
SNR=11
FRU Bishkek 53.91 297 *eP* **P 19 04 02.0 +0.5**
KZA Kyzart 53.92 296 P **P 19 04 03.4 +1.8**
SNR=16
AAK Ala-Archa 54.09 297 P **P 19 04 02.9 +0.1**
SNR=18
AAK Ala-Archa 54.09 297⇓*eP* **P 19 04 01.4 -1.4**
AAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
AAK Ala-Archa 54.09 297 *eP* **P 19 04 01.7 -1.1**
comp=Z,14nm,0.8s,mb4.9
EKS2 Erkin-Say 54.52 297 P **P 19 04 06.2 +0.3**
SNR=19
AML Almayashu 54.86 297 P **P 19 04 09.4 +0.9**
SNR=8.5
KSH Kashi 54.88 293 *eP* **P 19 04 10.8 +2.2**
KSH *eAP* pP 19 04 16.0 +3.3
KSH *eXP* sP 19 04 19.1 +4.8
KSH *ePCP* PcP 19 05 11.4 +0.8
KSH *ePPP* PP 19 06 17.1 +5.7
KSH *eSCP* ScP 19 09 08.1 -0.7
KSH *eS* **S 19 11 50.4 +0.8**
KSH *eXS* sS 19 11 59.8 +3.3
KSH *ePS* 19 12 10.9
KSH *eSCS* ScS 19 13 55.3 -2.3
KSH *eSS* SS 19 15 33.5 +0.6
KSH LR LR
comp=Z,981nm,6.4s
JIRN Jiri 55.05 275 *eP* **P 19 04 11.7 +1.9**
comp=Z,58nm,0.8s,mb5.7
GUN Gumba 55.11 275 *eP* **P 19 04 12.0 +1.8**
comp=Z,29nm,0.4s,mb5.6
ARU Arti 55.38 318⇓*iP* **P 19 04 10.6 -1.5**
ARU *eS* **S 19 11 52.6 -3.6**
ARU *eSS* SS 19 15 37.6 -3.1
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU Arti 55.38 318 *eP* **P 19 04 10.3 -1.9**
comp=Z,25nm,1.3s,mb5.1
KKN Kakani 55.60 276 *eP* **P 19 04 15.2 +1.5**
comp=Z,44nm,0.6s,mb5.7
PKI Pulchoki 55.65 275 *eP* **P 19 04 15.5 +1.4**
comp=Z,41nm,1.0s,mb5.4
DMN Daman 55.83 276 *eP* **P 19 04 17.3 +1.9**
comp=Z,74nm,0.9s,mb5.7
GKN Gorkha 55.91 276 *eP* **P 19 04 17.4 +1.5**
comp=Z,75nm,0.7s,mb5.8
KKAR Karatay Array 56.27 299 *i* P **P 19 04 18.4 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
EDM Edmonton 56.57 46 *eP* **P 19 04 19.7 -0.9**
KOLN Koldanda 56.77 277 *eP* **P 19 04 23.7 +1.6**
comp=Z,62nm,0.8s,mb5.7
BOK Bokaro 57.73 272 *eP* **P 19 04 29.2 +0.4**

BOK AMb AMB 19 04 31.2
comp=Z,21nm,2.3s,mb4.8
KEV Kevo 57.78 341 *e*p **P** **19 04 26.9 -2.3**
LGTI Lohaghat 58.02 281 *e*P **P** **19 04 32.5 +1.6**
ARCES ARCESS Array B 58.29 341 P **P** **19 04 32.1 -0.7**
comp=Z,2.2nm,0.4s,mb4.5,baz=24,slow=7.2,SNR=26
ARCES LR LR 19 32 23.8
comp=Z,278nm,18.2s,MS4.4,baz=192,slow=39
AB31 Akbulak array 58.76 310 *e*P **P** **19 04 35.0 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AKTK Aktyubinsk 59.07 312 P **P** **19 04 37.3 -0.9**
AKTO Aktyubinsk 59.07 312 P **P** **19 04 37.3 -0.9**
comp=Z,3.3nm,0.5s,mb4.6,baz=59,slow=8.5,SNR=13
AKTO Aktyubinsk 59.07 312 P **P** **19 04 37.3 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
THN Thein Dam 59.23 286 *e*P **P** **19 04 38.9 -0.4**
NSHM Saint Helena R 59.85 64 P **P** **19 04 42.9 -0.8**
WVOR Wild Horse Val 59.92 59 *e*P **P** **19 04 45.4 +1.3**
WVOR *e* 19 04 55.9
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WVOR Wild Horse Val 59.92 59 *e*P **P** **19 04 45.4 +1.2**
comp=Z,6.7nm,0.9s,mb4.7
WVOR *e* 19 04 55.9
CHMT Chamberlain Mo 60.30 52 *e*P **P** **19 04 46.6 -0.1**
NDI New Delhi 60.56 282 *e*P **P** **19 04 49.5 +1.0**
NDI AMb AMB 19 04 50.6
comp=Z,49nm,1.2s,mb5.5
CMB Columbia Colle 61.53 64 *e*P **P** **19 04 56.7 +1.6**
CMB *e* 19 05 08.9
CMB pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
CMB Columbia Colle 61.53 64 *e*P **P** **19 04 56.6 +1.6**
comp=Z,7.8nm,1.3s,mb4.7
CMB *e* 19 05 08.9
MCMT McKenzie Canyo 61.80 54 *e*P **P** **19 04 55.1 -1.8**
NVAR Mina Array Bea 62.58 62 P **P** **19 05 03.1 +1.0**
comp=Z,2.8nm,0.9s,mb4.4,baz=289,slow=9.7,SNR=12
QLMT Earthquake Lak 62.59 53 *e*P **P** **19 05 02.5 +0.3**
QLMT *e* 19 05 16.0
AJM Ajmer 63.72 282 *e*P **P** **19 05 09.7 +0.1**
AJM AMb AMB 19 05 13.4
comp=Z,28nm,1.2s,mb5.2
REDW Red Top Meadow 63.84 54 *e*P **P** **19 05 10.6 +0.2**
comp=Z,12nm,1.0s,mb4.9
BHPL Bhopal 63.94 277 *e*P **P** **19 05 11.5 +0.3**
BHPL AMb AMB 19 05 13.2
comp=Z,52nm,1.1s,mb5.5
NGP Nagpur 64.21 274 *e*P **P** **19 05 12.8 -0.1**
NGP AMb AMB 19 05 14.2
comp=Z,26nm,0.7s,mb5.4
FIA1 FINESS Array S 64.46 335 *e*P **P** **19 05 13.6 -1.0**
FINES FINESS Array B 64.46 335 P **P** **19 05 13.9 -0.6**
comp=Z,7.2nm,0.4s,mb5.0,baz=37,slow=7.6,SNR=104
FINES LR LR 19 36 09.9
comp=Z,181nm,20.0s,MS4.3,baz=154,slow=39
DUG Dugway 64.75 58 *e*P **P** **19 05 17.5 +1.1**
DUG *e* 19 05 30.0
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DUG Dugway 64.75 58 *e*P **P** **19 05 17.5 +1.1**
comp=Z,5.9nm,1.0s,mb4.6
DUG *e* 19 05 30.0
PDAR Pinedale Array 64.95 54 P **P** **19 05 18.4 +0.6**
comp=Z,3.6nm,0.9s,mb4.4,baz=262,slow=2.0,SNR=22
DAU Daniels Canyon 65.51 57 *e*P **P** **19 05 21.4 0.0**
OBN Obninsk 65.71 326⇑ *e*P **P** **19 05 22.1 -0.6**
OBN *e* 19 07 47.6
OBN *e*SS SS 19 18 15.4 -7.2
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
CTA Charters Tower 66.39 187 LR LR 19 32 22.5
comp=Z,108nm,21.3s,MS4.0,baz=39,slow=34
SRU San Rafael 66.79 57 P **P** **19 05 26.4 -3.2**
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU San Rafael 66.79 57 P **P** **19 05 26.4 -3.2**
comp=Z,8.7nm,0.8s,mb4.8
ULM Lac du Bonnet 66.81 41 P **P** **19 05 28.7 -1.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=128,slow=2.4,SNR=4.5
RSSD Black Hills 67.05 50 *e*P **P** **19 05 30.8 -0.5**
RSSD *e* 19 05 44.4
RSSD pmax pmax
comp=Z,15nm,1.3s,mb4.9
RSSD Black Hills 67.05 50 *e*P **P** **19 05 30.8 -0.4**
comp=Z,15nm,1.3s,mb4.9
RSSD *e* 19 05 44.4
HYB Hyderabad 67.08 272 *i* P **P** **19 05 32.5 +1.1**
HYB Hyderabad 67.08 272 *e*P **P** **19 05 32.5 +1.1**
WB2 Warramunga Arr 68.12 199 *e*P **P** **19 05 42.1 +4.1**
WRA Warramunga Arr 68.12 199 P **P** **19 05 37.4 -0.6**
comp=Z,1.5nm,0.9s,mb4.0,baz=19,slow=6.7,SNR=7.9
PV10 Paradox Valley 68.15 57 *e*P **P** **19 05 38.4 +0.3**
PV10 *e* 19 05 50.4
PV01 Paradox Valley 68.58 57 *e*P **P** **19 05 40.8 -0.1**
PV01 *e* 19 05 51.0
NB2 NORSAR Subarra 68.66 341 P **P** **19 05 40.8 -0.6**
comp=Z,59nm,1.4s,mb5.3,baz=28,slow=6.2
NOA NORSAR Array B 68.66 341 P **P** **19 05 41.2 -0.2**
comp=Z,8.3nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=27
NOA LR LR 19 41 48.4
comp=Z,150nm,18.1s,MS4.3,baz=40,slow=41
NAO01 NORSAR Array S 68.91 341 *e*P **P** **19 05 40.7 -2.2**
comp=Z,5.9nm,0.6s,mb4.7
KAD Karad 70.18 275 *e*P **P** **19 05 52.0 +1.3**
KAD AMb AMB 19 05 54.2
comp=Z,29nm,1.5s,mb5.0
ECSD EROS,Sioux Fal 71.14 46 *e*P **P** **19 05 55.0 -1.6**
comp=Z,4.6nm,0.8s,mb4.5
KIV Kislovodsk 71.15 314⇓ *e*P **P** **19 05 58.5 +1.8**
KIV *e* 19 08 30.2
KIV pmax pmax
comp=Z,38nm,1.9s,mb5.0
KIV MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIV Kislovodsk 71.15 314 P **P** **19 05 55.4 -1.3**
comp=Z,12nm,0.7s,mb4.9
ZEI Tsey 71.40 313 *e*P **P** **19 05 58.9 +0.7**
ZEI *e**PP pP 19 06 09.2 +6.7
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SUW Suwalki 71.41 332 *e*P **P** **19 05 56.7 -1.6**
SUW pmax pmax
comp=Z,24nm,1.0s,mb5.1
SUW Suwalki 71.41 332 *e*P **P** **19 05 56.7 -1.6**
comp=Z,24nm,1.0s,mb5.1
ASAR Alice Springs 71.82 199 P **P** **19 06 01.1 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=13,slow=6.3,SNR=23
ASAR LR LR 19 37 04.8
comp=Z,78nm,19.3s,MS4.0,baz=266,slow=36
AKASG Malin Array Be 71.95 326 P **P** **19 06 00.2 -1.3**
comp=Z,18nm,0.5s,mb5.3,baz=34,slow=6.3,SNR=102
AKASG LR LR 19 39 26.8
comp=Z,223nm,19.9s,MS4.4,baz=30,slow=37
AKBB Malin Array Si 71.95 326 *e*P **P** **19 06 00.4 -1.1**
KIEV Kiev 71.96 326 *e*P **P** **19 06 00.4 -1.2**
KIEV pmax pmax
comp=Z,54nm,1.0s,mb5.4
KIEV Kiev 71.96 326 *e*P **P** **19 06 00.4 -1.2**
comp=Z,54nm,1.0s,mb5.4
ANMO Albuquerque 72.00 58⇓ *e*P **P** **19 06 02.8 +1.0**
GNI Garni 72.86 310 *c i*P **P** **19 06 09.0 +2.0**
GNI pmax pmax
comp=Z,30nm,1.4s
GNI Garni 72.86 310 *e*P **P** **19 06 08.6 +1.6**
comp=Z,76nm,1.5s,mb5.4
SIM Simferopol' 74.44 320 *e*P **P** **19 06 17.4 +1.1**
SIM pmax pmax
comp=Z,15nm,0.9s,mb4.9
SIM MLR MLR
comp=Z,360nm,19.0s,MS4.7
LVV L'vov 74.60 329 *e*P **P** **19 06 17.2 0.0**
KWP Kalwaria 75.23 329 *e*P **P** **19 06 21.3 +0.5**
OJC Ojcow 75.73 331 *e*P **P** **19 06 23.8 +0.1**
STHS Stebnicka Huta 75.93 330 *e*P **P** **19 06 25.2 +0.4**
STHS *e* 19 06 36.0
STHS pmax pmax
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 75.93 330 *e*P **P** **19 06 25.2 +0.4**
comp=Z,14nm,1.1s,mb4.8
STHS *e* 19 06 36.0

KOLS Kolonicke sedl 75.97 329 *e*P **P** **19 06 24.8 -0.3**
BURAR Bucovina Array 75.99 327⇓ *i*P **P** **19 06 25.3 +0.1**
BURAR Bucovina Array 75.99 327 ⇓P **P** **19 06 25.3 +0.2**
UZH Uzhgorod 76.22 329 *e*P **P** **19 06 26.0 -0.5**
NIE Niedzica 76.25 330 *e*P **P** **19 06 27.5 +0.9**
KSP Ksiaz 76.32 334 *e*P **P** **19 06 26.8 -0.2**
OKC Ostrava-Krasne 76.61 332 *e*P **P** **19 06 29.8 +1.1**
UPC Upice 76.70 334 *e*P **P** **19 06 28.8 -0.4**
DPC Dobruska-Polom 76.74 333 *e*P **P** **19 06 29.8 +0.4**
CFR Carcaliu 76.83 324⇑ *i*P **P** **19 06 31.0 +1.1**
CFR Carcaliu 76.83 324 *i* P **P** **19 06 32.4 +2.5**
VRI Vrincioaia 76.84 325⇑ *i*P **P** **19 06 32.7 +2.7**
VRI Vrincioaia 76.84 325 ⇑P **P** **19 06 32.7 +2.8**
MORC Moravsky Berou 76.86 332⇑ *i*P **P** **19 06 30.0 -0.1**
MORC Moravsky Berou 76.86 332 *e*P **P** **19 06 30.0 -0.1**
MORC pmax pmax
comp=Z,15nm,0.9s,mb4.9
MORC Moravsky Berou 76.86 332 *e*P **P** **19 06 30.0 -0.1**
comp=Z,15nm,0.9s,mb4.9
PLOR Plostina 76.88 325⇑ *i*P **P** **19 06 30.0 -0.2**
CLL Collm 76.89 336 *e*P **P** **19 06 30.0 -0.3**
CLL pmax pmax
comp=Z,21nm,0.6s,mb5.2
CLL Collm 76.89 336 *e*P **P** **19 06 30.0 -0.3**
comp=Z,21nm,0.6s,mb5.2
CLL Collm 76.89 336⇓ *i*P **P** **19 06 30.1 -0.2**
comp=Z,21nm,0.6s,mb5.2
CLL *e*pP pP 19 06 33.0 -1.6
CLL *e*PcP PcP 19 06 42.0 +0.6
CLL LmV 19 43 00.0
comp=Z,200nm,21.0s
KECS Kecovo 76.98 330 *e*P **P** **19 06 30.4 -0.4**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 76.98 330 *e*P **P** **19 06 30.4 -0.4**
comp=Z,4.2nm,0.8s,mb4.4
BRG Berggiesshubel 77.00 335 *e*P **P** **19 06 30.4 -0.5**
comp=Z,1.6nm,0.8s,mb4.0
BRG *e* pP 19 06 34.9 -0.3
comp=Z,10nm,1.4s
BRG Berggiesshubel 77.00 335 *e*P **P** **19 06 30.4 -0.5**
BRG *e* pP 19 06 34.9 -0.3
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PVCC Panska Ves 77.12 334 *e*P **P** **19 06 30.9 -0.7**
MLR Muntele Rosu 77.46 325⇓ *i*P **P** **19 06 34.4 +0.9**
MLR Muntele Rosu 77.46 325 P **P** **19 06 35.1 +1.6**
MALT Malatya 77.50 313⇓ *i*P **P** **19 06 35.8 +2.1**
MALT Malatya 77.50 313 *e*P **P** **19 06 35.1 +1.4**
comp=Z,23nm,1.3s,mb4.9
VYHS Vyhne 77.54 331 *e*P **P** **19 06 34.2 +0.3**
VYHS pmax pmax
comp=Z,33nm,1.8s,mb5.0
VYHS Vyhne 77.54 331 *e*P **P** **19 06 34.2 +0.3**
comp=Z,33nm,1.8s,mb5.0
VRAC Vranov 77.57 333⇑ *i*P **P** **19 06 34.3 +0.2**
VRAC Vranov 77.57 333 P **P** **19 06 34.9 +0.8**
DRGR 77.62 328⇑ *i*P **P** **19 06 35.0 +0.7**
DRGR 77.62 328 P **P** **19 06 35.2 +0.8**
LTX Lajitas 77.65 61 *e*P **P** **19 06 34.0 -0.5**
LTX pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LTX Lajitas 77.65 61 *e*P **P** **19 06 34.0 -0.5**
comp=Z,8.7nm,0.8s,mb4.7
TXAR Lajitas Array 77.65 61 P **P** **19 06 35.0 +0.5**
comp=Z,5.2nm,0.7s,mb4.6,baz=304,slow=3.9,SNR=80
PSZ Piszkesteto 77.67 330⇓ *i*P **P** **19 06 35.3 +0.7**
PSZ Piszkesteto 77.67 330 *e*P **P** **19 06 34.6 0.0**
comp=Z,11nm,0.9s,mb4.8
VOIR 77.86 326⇑ *i*P **P** **19 06 36.9 +1.2**
MOX Moxa 77.88 336 *e*P **P** **19 06 35.9 +0.1**
comp=Z,36nm,1.7s,mb5.0
MOX Moxa 77.88 336 *e*P **P** **19 06 35.9 +0.1**
MOX pmax pmax
comp=Z,36nm,1.7s,mb5.0
WTSB Winterswijk 77.93 340 *e*P **P** **19 06 36.3 +0.2**
comp=Z,26nm,0.7s,mb5.2
NKC Novy Kostel 78.01 335 *e*P **P** **19 06 36.6 +0.1**
ZST Bratislava 78.38 332 *e*P **P** **19 06 39.5 +0.9**
ZST pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZST MLR MLR
comp=Z,200nm,20.1s,MS4.4
ZST Bratislava 78.38 332 *e*P **P** **19 06 39.5 +0.9**
comp=Z,9.2nm,0.9s,mb4.7
ZST LR LR
comp=Z,200nm,20.1s,MS4.4
STKA Stephens Creek 78.53 190 P **P** **19 06 40.3 +0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=311,slow=17,SNR=4.0
KHC Kasperske Hory 78.66 334 *e*P **P** **19 06 39.9 -0.2**
KHC Kasperske Hory 78.66 334⇑ *e*P **P** **19 06 40.4 +0.3**
BR131 Keskin Array S 78.75 317 *e*P **P** **19 06 40.7 0.0**
comp=Z,5.8nm,0.9s,mb4.5
BRTR Keskin Array B 78.75 317 P **P** **19 06 41.3 +0.7**
comp=Z,3.2nm,0.8s,mb4.3,baz=66,slow=3.1,SNR=18
GZR Gura Zlata 78.77 327⇑ *i*P **P** **19 06 41.0 +0.3**
GZR Gura Zlata 78.77 327 ⇑P **P** **19 06 41.0 +0.3**
GRA1 Grafenberg Arr 78.84 336 *e*P **P** **19 06 41.3 +0.2**
comp=Z,28nm,0.8s,mb5.2
GRF Grafenberg Arr 78.84 336 *e*P **P** **19 06 41.3 +0.2**
comp=Z,28nm,0.8s,mb5.2
GRF Grafenberg Arr 78.84 336 *e*P **P** **19 06 41.3 +0.2**
GRF pmax pmax
comp=Z,28nm,0.8s,mb5.2
GRF Grafenberg Arr 78.84 336 *e*P **P** **19 06 41.3 +0.2**
GRF pmax pmax
comp=Z,28nm,0.8s,mb5.2
GRFO Grafenberg 78.85 336 *e*P **P** **19 06 41.7 +0.6**
GRFO pmax pmax
comp=Z,23nm,0.9s,mb5.1
GRFO Grafenberg 78.85 336 *e*P **P** **19 06 41.7 +0.5**
comp=Z,24nm,0.9s,mb5.1
GERES GERESS Array B 78.88 334 P **P** **19 06 41.5 +0.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=38,slow=5.0,SNR=34
MIB Mutribah 78.95 302 *e*P **P** **19 06 42.3 +0.5**
MIB AMb AMB 19 06 44.3
comp=Z,71nm,0.6s,mb5.8
CONA Conrad Observa 79.01 332⇑ *i*P **P** **19 06 42.7 +0.6**
comp=Z,13nm,1.2s,mb4.7,SNR=11
BZS Buzias 79.02 328⇑ *i*P **P** **19 06 42.1 0.0**
BZS Buzias 79.02 328 P **P** **19 06 42.4 +0.3**
KBD Kabd 79.20 301 *e*P **P** **19 06 43.7 +0.6**
KBD AMb AMB 19 06 45.9
comp=Z,137nm,0.9s,mb5.9
ZIMR 79.21 324 P **P** **19 06 43.9 +0.8**
HGN Heimansgroeve 79.25 340 *e*P **P** **19 06 41.4 -2.0**
comp=Z,3.7nm,1.5s,mb4.1
HGN *e*P 19 11 25.9
comp=Z,21nm,0.3s
MEM Membach 79.38 339 P **P** **19 06 40.9 -3.2**
MEM AP pP 19 06 43.5 -4.9
MEM E 19 06 56.9
NAY Al-Naaiem 79.41 301 *e*P **P** **19 06 44.6 +0.3**
NAY AMb AMB 19 06 46.9
comp=Z,27nm,0.8s,mb5.2
RDF Al-Radifah 79.47 301 *e*P **P** **19 06 45.3 +0.8**
RDF AMb AMB 19 06 47.4
comp=Z,67nm,0.5s,mb5.8
PKSM Moragy 79.58 330⇓ *i*P **P** **19 06 44.8 -0.3**
PKSM Moragy 79.58 330 P **P** **19 06 44.9 -0.2**
TOD Tromm 79.59 337 *e*P **P** **19 06 46.1 +0.9**
MOA Molln 79.59 333⇑ *i*P **P** **19 06 45.2 0.0**
comp=Z,7.2nm,0.9s,mb4.6
RAO Raoul Island 79.63 155 LR LR 19 37 13.4
comp=Z,168nm,21.2s,MS4.3,baz=14,slow=32
ABH Altenburg 79.66 338 *e*P **P** **19 06 46.1 +0.5**
ARSA Arzberg 79.72 332⇑ *i*P **P** **19 06 46.1 +0.2**
comp=Z,5.7nm,0.6s,mb4.7
BCLA Clavier 79.72 340 P **P** **19 06 44.3 -1.7**
BCLA AP pP 19 06 47.6 -2.6
BCLA E 19 06 51.1
FORT Forrest 80.04 202 *e*P **P** **19 06 47.6 -0.1**
comp=Z,12nm,0.8s,mb4.9
DOU Dourbes 80.19 340 AP pP 19 06 49.9 -2.9
DOU E 19 07 14.1
WLF Walferdange 80.22 339 AP pP 19 06 50.5 -2.4
WLF E 19 07 03.7
STU Stuttgart 80.24 337 *e*P **P** **19 06 48.3 -0.4**
KBA Koelnbreinsper 80.56 333⇓ *i*P **P** **19 06 51.5 +1.1**
comp=Z,25nm,0.6s,mb5.3,SNR=8.1
WATA Walderalm 80.86 335⇑ *i*P **P** **19 06 53.2 +1.1**
comp=Z,12nm,0.6s,mb5.0,SNR=5.3
BFO Black Forest 80.88 337 *e*P **P** **19 06 51.2 -1.0**
BFO pmax pmax
comp=Z,12nm,1.0s,mb4.8
BFO Black Forest 80.88 337 *e*P **P** **19 06 51.2 -1.0**
comp=Z,12nm,1.0s,mb4.8
WTTA Wattenberg 80.91 335 *i* P **P** **19 06 53.3 +1.0**
comp=Z,25nm,0.6s,mb5.3,SNR=17
MOTA Moosalm 81.00 335⇑ *i*P **P** **19 06 53.8 +1.0**
comp=Z,34nm,1.1s,mb5.2,SNR=15
WLS Welschbruch 81.08 338 *e*P **P** **19 06 53.5 +0.4**
SQTA Sankt Quirin 81.08 335 *i* P **P** **19 06 54.4 +1.2**
comp=Z,22nm,1.1s,mb5.0,SNR=8.4
CDF Champ du Feu 81.08 338 *e*P **P** **19 06 53.0 -0.3**
comp=Z,37nm,1.1s,mb4.9
CDF Champ du Feu 81.08 338 *e*P **P** **19 06 53.0 -0.3**
CDF pmax pmax
comp=Z,19nm,1.1s,mb4.9
CDF Champ du Feu 81.08 338 *e*P **P** **19 06 53.0 -0.3**
comp=Z,18nm,1.1s,mb4.9
ECH Echery 81.30 338 *e*P **P** **19 06 54.4 0.0**
FELD Feldberg im Sc 81.38 337 *e*P **P** **19 06 54.6 -0.2**
DAVA Damuels 81.40 336⇑ *i*P **P** **19 06 56.0 +1.1**
comp=Z,15nm,1.4s,mb4.7
THEF They Montfort 81.59 339 *e*P **P** **19 06 55.8 -0.1**
MOF Molkenrain 81.64 338 *e*P **P** **19 06 56.0 -0.2**
PPT Papeete 81.85 126 LR LR 19 38 37.5
comp=Z,176nm,18.4s,MS4.5,baz=70,slow=32
VAY Valandovo 82.29 325 *e*P **P** **19 06 58.1 -1.5**
GRR Gorron 83.00 343 *e*P **P** **19 07 02.5 -0.8**
comp=Z,54nm,1.1s,mb5.2
GRR Gorron 83.00 343 *e*P **P** **19 07 02.5 -0.8**
GRR pmax pmax
comp=Z,27nm,1.1s,mb5.2
GRR Gorron 83.00 343 *e*P **P** **19 07 02.5 -0.8**
comp=Z,27nm,1.1s,mb5.2
SMF Signal de Mont 83.59 339 *e*P **P** **19 07 06.2 -0.2**
comp=Z,77nm,1.2s,mb5.4
SMF Signal de Mont 83.59 339 *e*P **P** **19 07 06.2 -0.2**
SMF pmax pmax
comp=Z,38nm,1.2s,mb5.4
SMF Signal de Mont 83.59 339 *e*P **P** **19 07 06.2 -0.2**
comp=Z,38nm,1.2s,mb5.4
LPG La Plagne 83.91 337 *e*P **P** **19 07 09.0 +1.0**
comp=Z,32nm,1.1s,mb5.1
LPG La Plagne 83.91 337 *e*P **P** **19 07 09.0 +1.0**
LPG pmax pmax
comp=Z,16nm,1.1s,mb5.1
LPG La Plagne 83.91 337 *e*P **P** **19 07 09.0 +1.0**
comp=Z,16nm,1.1s,mb5.1
PLDF La Plantade 84.28 339 *e*P **P** **19 07 10.7 +0.8**
AGO Saint Agoulin 84.32 340 *e*P **P** **19 07 10.2 +0.1**
CAF Calviac 85.64 340 *e*P **P** **19 07 16.5 -0.2**
comp=Z,14nm,0.9s,mb4.9
CAF Calviac 85.64 340 *e*P **P** **19 07 16.5 -0.2**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
CAF Calviac 85.64 340 *e*P **P** **19 07 16.5 -0.2**
comp=Z,7.3nm,0.9s,mb4.9
TIP Timpagrande 86.39 328 *e*P **P** **19 07 19.4 -1.0**
KEST Kesra 92.08 331 P **P** **19 07 50.6 +3.3**
comp=Z,2.0nm,0.8s,mb4.5,baz=257,slow=1.3,SNR=6.4
KEST LR LR 19 52 00.6
comp=Z,66nm,20.6s,MS4.1,baz=284,slow=37
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 19 13 19.6 -0.4
comp=Z,0.4nm,0.6s,baz=7.7,slow=2.3,SNR=5.8
TORD PP PP 19 14 20.6 -1.1
comp=Z,1.9nm,1.1s,baz=12,slow=8.3,SNR=4.8
VNDA Vanda 123.68 178 PKP PKPdf 19 13 35.0 -0.7
comp=Z,1.4nm,0.5s,baz=297,slow=2.3,SNR=7.1
LPAZ La Paz 134.48 63 PKP PKPdf 19 13 58.0 +1.7
comp=Z,0.3nm,0.6s,baz=304,slow=7.6,SNR=4.0
CFAA Coronel Fontan 145.00 80 PKPbc PKPbc 19 14 14.2 -0.4
comp=Z,0.2nm,0.4s,baz=236,slow=5.9,SNR=4.4
SNAA Sanae 152.16 196 PKPbc PKPbc 19 14 30.9 -2.7
comp=Z,0.7nm,0.7s,baz=195,slow=2.9,SNR=10.0
VNA2 Neumayer--Watz 153.60 194 *e*PKPdf PKPbc 19 14 34.7 -2.1
VNA2 *e* 19 14 47.7
VNA2 *e* 19 15 00.1
VNA3 Neumayer Olymp 153.68 192 *e*PKPdf PKPbc 19 14 34.0 -3.0
VNA3 *e* 19 14 47.7
VNA3 *e* 19 15 00.7

BJI ***18*** *18:59:24.2, 4724N×153.41E, h10km, mB4.9, mb4.7, Ms4.5, Msz4.2*
ISCJB ***18*** *18:59:25.1±0.2, 4728N±004×15339E±004, h13km, mb4.6/93, MS4.1/8, Error ellipse: s-maj=5.9km s-min=3.2km az=111.7*
NEIC ***18*** *18:59:26.5±0.2, 4737N×15325E, h10km, mb4.8/44, Error ellipse: s-maj=6.6km s-min=4.4km az=141.0*
MOS ***18*** *18:59:28.9±1.1, 4726N×15331E, h40km, mb5.0/25, Error ellipse: s-maj=8.9km s-min=5.5km az=95.0*
SKHL ***18*** *18:59:29.2±2.6, 4712N×15354E, h62km±26km, mb6.0/1*
SZGRF ***18*** *18:59:30.2, 4735N×15430E, h33km, mb5.4, Kuril Islands, Russia*
IDC ***18*** *18:59:35.5±4.9, 4737N×153.13E, h82km±43km, mb4.1/25, mb1 4.2/25, mb1mx4.2/27, mbtmp4.1/25, Error ellipse: s-maj=14.3km s-min=11.2km az=138.0*

ISC 18 18:59:27.2±0.2, 4741N±004×15332E±005, h14km, h14km±1.6km: pP-P, n242, σ1§03/254, mb4.6/93, MS4.1/8, 32C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.76**	**28**	*e*P		**Pn**	**19 00 29.5**	**+4.7**
KUR	**Kuril'sk**	**4.36**	**242**	⇑ *i*P		**Pn**	**19 00 34.5**	**+1.5**
KUR				AMB	AMB		19 00 35.2	
	532nm,0.5s							
KUR				AMB	AMB		19 00 39.0	
	2μm,4.0s							
KUR				*e*S		**Sn**	**19 01 23.0**	**-0.5**
KUR				A			19 01 25.2	
	2μm,2.0s							
KUR				A			19 01 25.2	
	4μm,2.0s							
KUR				A			19 01 41.0	
	2μm,0.8s							
KUR	**Kuril'sk**	**4.36**	**242**	⇑ *i*PN		**Pn**	**19 00 34.5**	**+1.5**
KUR				*e*S		**Sn**	**19 01 23.0**	**-0.5**
KUR				pmax	pmax			
	comp=Z,530nm,0.5s							
KUR				pmax	pmax			
	comp=Z,2μm,4.0s							
KUR				smax				
	comp=E,2μm,2.0s							
KUR				smax				
	comp=N,2μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.21**	**240**	⇓ *i*P		**Pn**	**19 01 01.9**	**+3.4**
YUK				AMB	AMB		19 01 03.0	
	comp=N,380nm,0.5s							
YUK				AMB	AMB		19 02 16.0	
	comp=N,460nm,0.5s							
YUK				A			19 02 31.0	
	comp=N,2μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**6.21**	**240**	⇓ *i*PN		**Pn**	**19 01 01.9**	**+3.4**
YUK				*i* S		**Sn**	**19 02 21.3**	**+12**
YUK				pmax	pmax			
	comp=Z,380nm,0.5s							
YUK				smax				
	comp=N,2μm,1.0s							
YUK				smax				
	comp=E,2μm,2.0s							
PET	**Petropavlovsk**	**6.58**	**29**	*e*PN		**Pn**	**19 01 08.8**	**+5.3**
PET				pmax	pmax			
	comp=Z,38nm,0.6s							
PET				MLR	MLR			
	comp=Z,800nm,14.0s							
PET	**Petropavlovsk**	**6.58**	**29**	*e*Pn		**Pn**	**19 01 03.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.21**	**270**	⇑ *e*P		**Pn**	**19 01 18.6**	**+6.4**
YSS				AMB	AMB		19 01 19.8	
	comp=Z,140nm,0.7s							
YSS				AMB	AMB		19 01 19.8	
	comp=Z,180nm,0.7s							
YSS				AMB	AMB		19 01 19.8	
	comp=Z,200nm,0.7s							
YSS				*e*S		**Sn**	**19 02 39.0**	**+5.1**
YSS				A			19 02 42.0	
	comp=Z,70nm,0.5s							
YSS				A			19 02 42.0	
	comp=Z,110nm,0.5s							
YSS				*e*rx		rx	19 06 37.9	
YSS	**Yuzh-Sakhalins**	**7.21**	**270**	*e*Pn		**Pn**	**19 01 18.6**	**+6.4**
UGL	**Uglegorsk**	**7.70**	**287**	*e*P		**Pn**	**19 01 25.0**	**+6.2**
UGL				AMB	AMB		19 01 27.0	
	comp=Z,111nm,0.6s							
JMP	**Maruseppu**	**7.75**	**248**	P		**Pn**	**19 01 24.8**	**+5.2**
JMP				*e*S		**Sn**	**19 02 49.9**	**+2.7**

TYV Tymovskoe 7.80 300 *e*P **Pn** **19 01 25.0 +4.7**
TYV AMB AMB 19 01 30.0
comp=Z,115nm,1.0s
TYV AMB AMB 19 01 30.0
comp=Z,88nm,1.2s
TYV *e*S **Sn** **19 02 54.0 +5.6**
TYV A 19 02 56.0
comp=Z,48nm,1.0s
JWK2 Keihoku 8.17 259 P **Pn** **19 01 33.6 +8.2**
ASAJ Asahikawa 8.19 250 P **Pn** **19 01 31.8 +6.3**
comp=Z,6.7nm,0.3s,baz=64,slow=13,SNR=23
ASAJ Asahikawa 8.19 250 P **Pn** **19 01 31.7 +6.2**
ASAJ Asahikawa 8.19 250 PN **Pn** **19 01 31.8 +6.3**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
JEM Erimo 9.02 237 P **Pn** **19 01 38.8 +1.8**
JEM *e*S **Sn** **19 03 14.3 -4.0**
ERM Erimo 9.02 237 *i* PN **Pn** **19 01 38.7 +1.7**
ERM Erimo 9.02 237 *e*Pn **Pn** **19 01 38.5 +1.6**
JEW Eniwo 9.55 246 P **Pn** **19 01 47.5 +3.3**
JEW *e*S **Sn** **19 03 31.8 +0.5**
JSH Shimam 10.53 248 P **Pn** **19 02 01.1 +3.4**
JOT Ohata 10.64 240 P **Pn** **19 01 58.5 -0.7**
JOT *e*S **Sn** **19 03 47.2 -11**
JTM Tenmabayashi 11.01 238 P **Pn** **19 02 03.4 -0.9**
JTM *e*S **Sn** **19 03 56.7 -10**
JOM Ohasama 11.79 232 P **Pn** **19 02 12.8 -2.1**
JOM *e*S **Sn** **19 04 13.9 -12**
MA2 Magadan 12.28 354 *e*PN **Pn** **19 02 27.2 +5.5**
JYA Atsumi 13.28 233 P **Pn** **19 02 32.8 -2.4**
JYA *e*S **Sn** **19 04 56.3 -6.4**
KLR Kul'dur 14.46 285 *e*P **Pn** **19 02 55.3 +3.9**
JYT Yasato 14.83 226 *e*S **Sn** **19 05 26.0 -14**
MJAR Matsushiro Arr 15.59 231 P **Pn** **19 03 04.9 -1.6**
comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=9.1
MAJO Matsushiro 15.60 231 *e*P **Pn** **19 03 04.8 -1.7**
MAJO pmax pmax
comp=Z,45nm,0.9s
MAJO Matsushiro 15.60 231 *e*Pn **Pn** **19 03 04.8 -1.8**
comp=Z,45nm,0.9s
MAJO *e* 19 03 12.3
MAT Matsushiro 15.60 231 P **Pn** **19 03 04.5 -2.0**
MAT Matsushiro 15.60 231 P **Pn** **19 03 03.9 -2.6**
JOD2 Odawara 2 16.14 226 P **Pn** **19 03 15.4 +1.9**
JGF Kuroka 16.76 231 P **Pn** **19 03 25.2 +3.8**
ZEA Zeya 17.67 301 *e*P **Pn** **19 03 33.8 +1.0**
ZEA AMB AMB 19 03 34.6
comp=Z,12nm,1.0s
ZEA AMS AMS 19 06 18.0
comp=Z,1μm,15.0s
ZEA AMS AMS 19 06 18.0
comp=Z,500nm,15.0s
ZEA AMS AMS 19 06 18.0
comp=Z,800nm,15.0s
JWT Wachi 18.05 234 P **Pn** **19 03 38.1 +0.5**
CLNS Chul'man 19.70 309 *e*P **Pn** **19 04 00.3 +2.7**
CLNS pmax pmax
comp=Z,28nm,0.8s
CLNS pmax pmax
comp=N,13nm,0.7s
CLNS pmax pmax
comp=E,22nm,0.9s
CN2 Changchun 19.78 270 *e*P **Pn** **19 03 57.3 -1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
YAK Yakutsk 19.85 326 *e*P **Pn** **19 04 01.1 +1.8**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,13nm,1.2s
YAK Yakutsk 19.85 326 *e*P **Pn** **19 04 00.4 +1.1**
comp=E,34nm,0.9s
KSRS Korea Array 21.14 251 P **P** **19 04 12.1 +0.4**
comp=E,10nm,0.8s,mb4.2,baz=56,slow=11,SNR=21
BILL Bilibino 21.72 13‖ *e*P **P** **19 04 21.8 +3.9**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb3.9
BILL Bilibino 21.72 13 P **P** **19 04 17.8 -0.1**
INCN Inchon 21.95 253 *e*P **P** **19 04 21.6 +1.2**
comp=Z,26nm,0.8s,mb4.7
JNU Nakatsue 22.18 238 P **P** **19 04 25.9 +3.0**
comp=Z,22nm,1.0s,mb4.5,baz=270,slow=24,SNR=3.3
HIA Hailar 22.30 287 P **P** **19 04 23.3 -0.8**
BOD Bodaibo 25.68 309 *e*P **P** **19 04 57.8 +1.1**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
JOW Kunigami 28.43 233 P **P** **19 05 21.4 0.0**
comp=Z,19nm,1.0s,mb4.7,baz=90,slow=11,SNR=4.6
HHC Hu-ho-hao-te 30.39 273 *e*P **P** **19 05 38.8 0.0**
HHC AP pP 19 05 43.5 +0.4
HHC XP sP 19 05 46.4 +1.6
HHC PP PP 19 06 37.0 -10
HHC PCP PcP 19 08 39.1 +0.7
HHC S **S** **19 10 36.6 -2.4**
HHC SS SS 19 12 14.3 -34
HHC SCP ScP 19 12 20.0 -0.4
HHC SCS ScS 19 16 13.4 -3.0
HHC AMB AMB
comp=Z,15nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,109nm,5.7s
HHC LR LR
comp=N,254nm,13.1s,MS4.3
HHC LR LR
comp=E,337nm,12.7s,MS4.3
HHC LR LR
comp=Z,284nm,15.6s,MS4.0
SONM Songino Array 31.25 288 P **P** **19 05 46.8 +0.4**
comp=Z,0.6nm,0.5s,mb3.6,baz=71,slow=7.5,SNR=6.3
SONM PcP PcP 19 08 38.8 -1.9
comp=Z,1.3nm,0.9s,baz=119,slow=5.0,SNR=3.9
KDAK Kodiak Island 33.58 52 P **P** **19 06 07.6 +0.8**
comp=Z,11nm,0.7s,mb4.9,baz=357,slow=15,SNR=7.8
COLA College 35.54 39*d* *i*P **P** **19 06 25.8 +2.1**
COLA College 35.54 39 *e*P **P** **19 06 25.2 +1.5**
comp=Z,13nm,0.6s,mb5.0
LZH Lanzhou 38.01 271 *e*P **P** **19 06 45.1 +0.3**
LZH AP pP 19 06 50.3 +1.2
LZH XP sP 19 06 52.0 +1.2
LZH AMB AMB
comp=Z,17nm,1.1s,mb4.7
LZH Lanzhou 38.01 271 *e*P **P** **19 06 45.1 +0.3**
LZH *SP sP 19 06 52.0 +1.2
LZH 19 08 21.1
LZH pmax pmax
comp=Z,17nm,1.1s,mb4.7
LZH Lanzhou 38.01 271 *e*P **P** **19 06 45.1 +0.3**
comp=Z,17nm,1.1s,mb4.7
LZH pP pP 19 06 50.2 +1.1
LZH sP sP 19 06 52.0 +1.2
LZH PP PP 19 08 21.1 +9.4
EGAK Eagle 38.40 39 *e*P **P** **19 06 48.6 +0.6**
comp=Z,7.1nm,0.9s,mb4.4
GTA Gaotai 39.01 278 *e*P **P** **19 06 55.9 +2.7**
GTA AP pP 19 06 59.8 +2.3
GTA XP sP 19 07 02.6 +3.4
GTA PP PP 19 08 31.8 +9.2
GTA PCP PcP 19 09 03.9 +0.6
GTA S **S** **19 12 57.3 +5.6**
GTA XS sS 19 13 04.6 +5.8
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,104nm,5.0s
GTA LR LR
comp=N,164nm,13.8s,MS4.2
GTA LR LR
comp=E,207nm,15.3s,MS4.2
GTA LR LR
comp=Z,222nm,15.3s,MS4.1
INK Inuvik 41.02 33 P **P** **19 07 11.9 +2.0**
comp=Z,4.8nm,0.5s,mb4.4,baz=309,slow=6.9,SNR=39
INK Inuvik 41.02 33 *e*P **P** **19 07 11.5 +1.6**
CD2 Chengdu 41.08 265 P **P** **19 07 09.8 -0.6**
CD2 XP sP 19 07 16.8 +0.4
CD2 PP PP 19 08 47.8 +2.7
CD2 S **S** **19 13 21.3 -1.3**
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.6
CD2 LR LR
comp=N,210nm,15.6s
CD2 LR LR
comp=Z,160nm,14.4s,MS4.0
GYA Guiyang 42.00 257⇑ *i*P **P** **19 07 18.3 +0.4**
GYA AP pP 19 07 22.4 +0.2
GYA XP sP 19 07 25.6 +1.6
GYA PP PP 19 08 58.8 +3.7
GYA PCP PcP 19 09 15.3 +2.4
GYA SCP ScP 19 13 04.5 +1.6
GYA S **S** **19 13 36.8 +0.5**
GYA SCS ScS 19 17 20.0 -0.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,110nm,4.5s
GYA LR LR
comp=N,390nm,16.4s,MS4.5
GYA LR LR
comp=E,370nm,16.8s,MS4.5
GYA LR LR
comp=Z,410nm,17.0s,MS4.4
ZAL Zalesovo 42.36 305 P **P** **19 07 19.4 -1.4**
comp=Z,0.8nm,0.6s,mb3.5,baz=46,slow=7.7,SNR=3.1
ZAL PcP PcP 19 09 13.1 -1.0
comp=Z,1.0nm,0.4s,baz=73,slow=3.2,SNR=3.8
ZAL Zalesovo 42.36 305 P **P** **19 07 19.4 -1.4**
ZAL PcP PcP 19 09 13.1 -1.0
WMQ Urumqi 44.82 291 P **P** **19 07 41.4 +0.7**
WMQ AP pP 19 07 45.9 +0.8
WMQ XP sP 19 07 48.4 +1.6
WMQ PCP PcP 19 09 23.6 +1.1
WMQ PP PP 19 09 26.9 +1.5
WMQ PPP 19 10 06.9
WMQ S **S** **19 14 17.4 -0.2**
WMQ AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,145nm,4.5s
WMQ LR LR
comp=N,64nm,15.5s,MS3.9
WMQ LR LR
comp=E,98nm,14.8s,MS3.9
WMQ LR LR
comp=Z,103nm,16.3s,MS3.8
QIZ Qiongzhong 45.24 246 P **P** **19 07 44.3 +0.3**
QIZ S **S** **19 14 22.6 -1.0**
QIZ LR LR
comp=Z,178nm,16.5s,MS4.1
KMI Kunming 45.50 259⇑ P **P** **19 07 46.9 +0.8**
KMI AP pP 19 07 50.1 -0.4
KMI XP sP 19 07 51.3 -0.9
KMI PPP 19 10 15.5
KMI S **S** **19 14 27.5 0.0**
KMI SS SS 19 17 41.1 -10
KMI SSS 19 18 40.8
KMI AMB AMB
comp=Z,12nm,0.9s,mb4.8
KMI LR LR
comp=N,210nm,15.6s,MS4.4
KMI LR LR
comp=E,228nm,14.5s,MS4.4
KMI LR LR
comp=Z,205nm,17.8s,MS4.1
KMI Kunming 45.50 259⇑ P **P** **19 07 46.9 +0.8**
KMI PPP 19 10 15.5
KMI S **S** **19 14 27.5 0.0**
KMI *SS sS 19 14 32.5 -2.2
KMI SS SS 19 17 41.1 -10
KMI SSS 19 18 40.8
KMI pmax pmax
comp=Z,12nm,0.9s,mb4.8
KMI MLR MLR
comp=Z,210nm,17.8s,MS4.1
KMI Kunming 45.50 259⇑ P **P** **19 07 46.9 +0.8**
comp=Z,12nm,0.9s,mb4.8
KMI pP pP 19 07 50.1 -0.4
KMI sP sP 19 07 51.3 -0.9
KMI PPP 19 10 15.5
KMI S **S** **19 14 27.5 0.0**
KMI sS sS 19 14 32.5 -2.2
KMI SS SS 19 17 41.1 -10
KMI SSS 19 18 40.8
KMI LR LR
comp=Z,210nm,17.8s,MS4.1
MKAR Makanchi Array 46.77 297 P **P** **19 07 55.5 -0.6**
comp=Z,1.4nm,0.6s,mb4.0,baz=60,slow=6.6,SNR=6.3
MKAR PcP PcP 19 09 28.1 -1.1
comp=Z,1.2nm,0.6s,baz=57,slow=4.5,SNR=4.8
RES Resolute Bay 50.17 19 *e*P **P** **19 08 21.3 -1.0**
comp=Z,103nm,0.7s
YKA Yellowknife Ar 50.31 37 P **P** **19 08 23.8 +0.5**
comp=Z,2.4nm,0.4s,mb4.6,baz=298,slow=7.0,SNR=18
YKA Yellowknife Ar 50.31 37 P **P** **19 08 23.8 +0.5**
LSA Lhasa 50.38 273 P **P** **19 08 27.0 +3.1**
LSA Lhasa 50.38 273 *e*P **P** **19 08 25.5 +1.6**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 50.38 273 *e*P **P** **19 08 25.5 +1.7**
comp=Z,11nm,0.6s,mb5.0
BVAR Borovoye Array 50.55 309 P **P** **19 08 24.3 -0.8**
comp=Z,1.6nm,0.5s,mb4.2,baz=57,slow=7.3,SNR=13
BVAR PcP PcP 19 09 42.0 -0.9
comp=Z,1.3nm,0.4s,baz=33,slow=1.3,SNR=6.9
BRVK Borovoye 50.59 309 *e*P **P** **19 08 23.8 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 50.59 309 *e*P **P** **19 08 23.8 -1.7**
comp=Z,3.7nm,0.8s,mb4.4
ZRNK Zerenda 51.31 310 *e*P **P** **19 08 29.6 -1.3**
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 51.31 310 *e*P **P** **19 08 29.6 -1.3**
comp=Z,7.4nm,1.0s,mb4.6
CHTO Chiang Mai 52.41 256 *e*P **P** **19 08 39.8 +0.7**
CHTO pmax pmax
comp=Z,18nm,0.8s,mb5.0
CHTO Chiang Mai 52.41 256 *e*P **P** **19 08 39.8 +0.7**
comp=Z,18nm,0.8s,mb5.0
CM31 Chiang Mai Arr 52.66 256 *e*P **P** **19 08 41.4 +0.5**
comp=Z,8.9nm,0.7s,mb4.8
AAK Ala-Archa 53.67 296 *i* P **P** **19 08 46.9 -1.5**
AAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
AAK Ala-Archa 53.67 296 *e*P **P** **19 08 46.5 -1.9**
comp=Z,2.8nm,0.9s,mb4.2
ARU Arti 54.62 317⇓ *i*P **P** **19 08 54.2 -1.1**
ARU *e* 19 10 58.6
ARU *e*PPP 19 12 07.2
ARU *e*S **S** **19 16 31.4 -3.2**
ARU *e*SS SS 19 20 13.5 -3.9
ARU pmax pmax
comp=Z,11nm,1.4s,mb4.7
ARU Arti 54.62 317 *e*P **P** **19 08 52.9 -2.4**
comp=Z,12nm,1.0s,mb4.9
JIRN Jiri 55.03 274 *e*P **P** **19 08 59.3 +1.0**
comp=Z,17nm,0.5s,mb5.3
GUN Gumba 55.08 275 *e*P **P** **19 08 59.2 +0.5**
comp=Z,8.2nm,0.4s,mb5.1
KKN Kakani 55.57 275 *e*P **P** **19 09 03.2 +1.1**
comp=Z,9.2nm,0.5s,mb5.1
PKI Pulchoki 55.62 275 *e*P **P** **19 09 03.4 +0.9**
comp=Z,8.6nm,0.4s,mb5.1
EDM Edmonton 55.76 47 *e*P **P** **19 09 04.2 +0.7**
DMN Daman 55.80 275 *e*P **P** **19 09 04.6 +0.8**
comp=Z,29nm,0.8s,mb5.3
GKN Gorkha 55.87 276 *e*P **P** **19 09 04.9 +0.6**
comp=Z,22nm,0.6s,mb5.4
KOLN Koldanda 56.72 276 *e*P **P** **19 09 11.0 +0.6**
comp=Z,13nm,0.7s,mb5.1
KEV Kevo 56.77 340 *ep* **P** **19 09 09.4 -1.3**
ARCES ARCESS Array B 57.28 341 P **P** **19 09 13.6 -0.8**
comp=Z,4.0nm,0.7s,mb4.6,baz=16,slow=7.0,SNR=14
ARCES ARCESS Array B 57.28 341 P **P** **19 09 13.6 -0.8**
AKTK Aktyubinsk 58.39 312 P **P** **19 09 21.6 -0.6**
AKTO Aktyubinsk 58.39 312 P **P** **19 09 21.6 -0.6**
comp=Z,1.0nm,0.5s,mb4.1,baz=68,slow=12,SNR=4.7
AKTO Aktyubinsk 58.39 312 P **P** **19 09 21.6 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BMO Blue Mountains 58.59 56 *e*P **P** **19 09 24.5 +0.9**
comp=Z,3.3nm,0.8s,mb4.4
MOD Modoc 58.65 61 P **P** **19 09 21.7 -2.2**
comp=Z,2.4nm,0.6s,mb4.4
FCC Fort Churchill 60.64 34 P **P** **19 09 36.1 -1.6**
KULM Kulim 61.48 244 P **P** **19 09 42.4 -1.0**
NVAR Mina Array Bea 62.01 63 P **P** **19 09 48.4 +1.5**
comp=Z,0.9nm,0.6s,mb4.1,baz=301,slow=9.4,SNR=6.6
NVAR Mina Array Bea 62.01 63 P **P** **19 09 48.4 +1.5**
KAKA Kakadu 62.69 203 *e*P **P** **19 09 50.7 -0.8**
comp=Z,8.3nm,0.6s,mb5.0
REDW Red Top Meadow 63.14 54 *e*P **P** **19 09 56.1 +1.6**
comp=Z,13nm,1.4s,mb4.9
FINES FINESS Array B 63.51 335 P **P** **19 09 55.9 -1.0**
comp=Z,4.3nm,0.3s,mb4.9,baz=38,slow=6.5,SNR=76
DUG Dugway 64.11 58 P **P** **19 10 01.0 +0.1**
DUG *e* 19 10 17.9
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DUG Dugway 64.11 58 P **P** **19 10 01.0 +0.1**
comp=Z,3.2nm,0.8s,mb4.4
DUG *e* 19 10 17.9
PDAR Pinedale Array 64.25 54 P **P** **19 10 03.0 +1.2**
comp=Z,1.7nm,0.7s,mb4.2,baz=291,slow=2.1,SNR=14
OBN Obninsk 64.85 325‖ *e*P **P** **19 10 05.0 -0.7**
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ULM Lac du Bonnet 65.93 41 P **P** **19 10 12.3 -0.5**
comp=Z,1.7nm,0.5s,mb4.3,baz=326,slow=7.1,SNR=3.9
RSSD Black Hills 66.29 50 *e*P **P** **19 10 15.2 +0.1**
RSSD *e* 19 10 30.6
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RSSD Black Hills 66.29 50 *e*P **P** **19 10 15.2 +0.1**
comp=Z,7.2nm,1.0s,mb4.7
RSSD *e* 19 10 30.6
HYB Hyderabad 67.12 271 *e*P **P** **19 10 21.0 +0.6**
PV10 Paradox Valley 67.50 57 *e*P **P** **19 10 24.1 +1.4**
PV10 *e* 19 10 40.0
NB2 NORSAR Subarra 67.65 341 P **P** **19 10 23.4 -0.3**
comp=Z,6.3nm,0.7s,mb4.8,baz=26,slow=6.5
NOA NORSAR Array B 67.65 341 P **P** **19 10 23.8 0.0**
comp=Z,9.7nm,0.8s,mb4.9,baz=26,slow=6.3,SNR=24
WRAB Tennant Creek 69.17 199 P **P** **19 10 32.1 -1.1**
WRAB pmax pmax
comp=Z,11nm,1.2s,mb4.7
WRAB Tennant Creek 69.17 199 P **P** **19 10 32.1 -1.1**
comp=Z,11nm,1.2s,mb4.7
WB2 Warramunga Arr 69.18 199 P **P** **19 10 32.3 -0.9**
WRA Warramunga Arr 69.18 199 P **P** **19 10 32.2 -1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=17,slow=6.9,SNR=24
FITZ Fitzroy Crossi 69.79 208 *e*P **P** **19 10 36.8 -0.2**
comp=Z,4.8nm,0.6s,mb4.6
ECSD EROS,Sioux Fal 70.33 46 *e*P **P** **19 10 40.3 -0.1**
comp=Z,13nm,0.9s,mb4.9
ECSD *e* 19 10 55.3
KIV Kislovodsk 70.44 314⇑ *e*P **P** **19 10 43.8 +2.8**
KIV *e* 19 13 12.7
KIV *e*S S 19 19 47.1 -6.4
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.9
KIV Kislovodsk 70.44 314 P **P** **19 10 39.6 -1.4**
comp=Z,24nm,1.2s,mb5.0
AKASG Malin Array Be 71.08 326 P **P** **19 10 44.0 -0.9**
comp=Z,5.0nm,0.4s,mb4.8,baz=34,slow=6.4,SNR=26
ANMO Albuquerque 71.37 59 *i* P **P** **19 10 52.6 +5.9**
SCHQ Schefferville 72.65 23 P **P** **19 10 54.6 +0.3**
comp=Z,5.0nm,0.7s,mb4.5,baz=285,slow=8.4,SNR=5.7
AS31 Alice Springs 72.87 199 *e*P **P** **19 10 55.8 +0.1**
ASAR Alice Springs 72.88 199 P **P** **19 10 55.8 +0.1**
comp=Z,6.2nm,0.7s,mb4.6,baz=11,slow=5.9,SNR=80
ASPA Alice Springs 72.88 199 *e*P **P** **19 10 55.8 +0.1**
OJC Ojcow 74.81 331 *e*P **P** **19 11 06.8 -0.2**
STHS Stebnicka Huta 75.02 330 *e*P **P** **19 11 08.2 0.0**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.02 330 *e*P **P** **19 11 08.2 0.0**
comp=Z,6.4nm,0.8s,mb4.6
KOLS Kolonicke sedl 75.07 329 *e*P **P** **19 11 07.9 -0.7**
BURAR Bucovina Array 75.12 327⇑ *i*P **P** **19 11 08.8 0.0**
BURAR Bucovina Array 75.12 327⇑ P **P** **19 11 08.8 0.0**
NIE Niedzica 75.33 330 *e*P **P** **19 11 10.6 +0.6**
OKC Ostrava-Krasne 75.68 332 *e*P **P** **19 11 11.9 -0.1**
UPC Upice 75.76 333 *e*P **P** **19 11 12.6 +0.1**
DPC Dobruska-Polom 75.80 333 *e*P **P** **19 11 13.0 +0.3**
MORC Moravsky Berou 75.92 332⇑ *i*P **P** **19 11 13.2 -0.2**
MORC Moravsky Berou 75.92 332 *e*P **P** **19 11 12.5 -1.0**
comp=Z,11nm,0.9s,mb4.8
CLL Collm 75.92 336⇑ *i*P **P** **19 11 12.8 -0.6**
CLL pmax pmax
comp=Z,19nm,0.8s,mb5.1
CLL Collm 75.92 336⇑ *i*P **P** **19 11 12.8 -0.6**
comp=Z,19nm,0.8s,mb5.1
PLOR Plostina 76.03 325⇑ *i*P **P** **19 11 17.8 +3.8**
BRG Berggiesshubel 76.05 335 *e*P **P** **19 11 14.2 +0.1**
comp=Z,4.1nm,1.2s,mb4.2
BRG Berggiesshubel 76.05 335 *e*P **P** **19 11 14.3 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS Kecovo 76.08 330 *e*P **P** **19 11 14.0 -0.3**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 76.08 330 *e*P **P** **19 11 14.0 -0.3**
comp=Z,3.7nm,1.0s,mb4.3
PVCC Panska Ves 76.17 334 *e*P **P** **19 11 12.3 -2.5**
MLR Muntele Rosu 76.61 325⇓ *i*P **P** **19 11 17.5 +0.2**
MLR Muntele Rosu 76.61 325⇓ P **P** **19 11 17.4 +0.1**
VYHS Vyhne 76.62 331 *e*P **P** **19 11 16.6 -0.8**
VRAC Vranov 76.63 333⇑ *i*P **P** **19 11 17.8 +0.3**
VRAC Vranov 76.63 333⇑ P **P** **19 11 17.8 +0.3**
PSZ Piszkesteto 76.76 330⇓ *i*P **P** **19 11 18.5 +0.3**
PSZ Piszkesteto 76.76 330 *e*P **P** **19 11 17.4 -0.8**
comp=Z,7.3nm,0.9s,mb4.6
MALT Malatya 76.81 313⇓ *i*P **P** **19 11 19.9 +1.5**
MALT Malatya 76.81 313 *e*P **P** **19 11 19.3 +0.8**
comp=Z,5.0nm,0.9s,mb4.4
MOX Moxa 76.91 336 *e*P **P** **19 11 18.6 -0.4**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 76.91 336 *e*P **P** **19 11 18.6 -0.4**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.7
VOIR 77.00 325⇑ *i*P **P** **19 11 20.0 +0.5**
VOIR 77.00 325⇑ P **P** **19 11 20.0 +0.5**
NKC Novy Kostel 77.05 335 *e*P **P** **19 11 20.0 +0.2**
LTX Lajitas 77.05 61 *e*P **P** **19 11 20.1 +0.3**
LTX pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LTX Lajitas 77.05 61 *e*P **P** **19 11 20.1 +0.3**
comp=Z,1.4nm,0.5s,mb4.2
TXAR Lajitas Array 77.05 61 P **P** **19 11 20.5 +0.7**
comp=Z,1.8nm,0.6s,mb4.2,baz=299,slow=4.1,SNR=27
TXAR Lajitas Array 77.05 61 P **P** **19 11 20.5 +0.7**
ZST Bratislava 77.45 332 *e*P **P** **19 11 22.7 +0.7**
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZST MLR MLR
comp=Z,100nm,23.6s,MS4.1
ZST Bratislava 77.45 332 *e*P **P** **19 11 22.7 +0.7**
comp=Z,7.0nm,0.9s,mb4.6
ZST LR LR
comp=Z,100nm,23.6s,MS4.1
KHC Kasperske Hory 77.71 334 *e*P **P** **19 11 23.6 +0.1**
KHC Kasperske Hory 77.71 334⇑ *e*P **P** **19 11 23.7 +0.2**
GRA1 Grafenberg Arr 77.88 336 *e*P **P** **19 11 24.9 +0.5**
comp=Z,29nm,0.9s,mb5.2
GRF Grafenberg Arr 77.88 336 *e*P **P** **19 11 24.9 +0.5**
comp=Z,29nm,0.9s,mb5.2
GRF Grafenberg Arr 77.88 336 *e*P **P** **19 11 24.9 +0.5**
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.2
GRF Grafenberg Arr 77.88 336 *e*P **P** **19 11 24.9 +0.5**
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.2
GRFO Grafenberg 77.88 336 *e*P **P** **19 11 24.6 +0.2**
GRFO pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRFO Grafenberg 77.88 336 *e*P **P** **19 11 24.6 +0.1**
comp=Z,12nm,0.9s,mb4.8
GZR Gura Zlata 77.90 327⇑ *i*P **P** **19 11 24.0 -0.5**
GZR Gura Zlata 77.90 327⇑ P **P** **19 11 24.1 -0.5**
GERES GERESS Array B 77.93 334 P **P** **19 11 24.5 -0.2**
comp=Z,1.4nm,0.4s,mb4.3,baz=40,slow=5.5,SNR=23
BR131 Keskin Array S 78.01 317 *e*P **P** **19 11 25.1 -0.1**
comp=Z,2.5nm,0.8s,mb4.2
BRTR Keskin Array B 78.01 317 P **P** **19 11 25.8 +0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=64,slow=2.0,SNR=12
CONA Conrad Observa 78.08 332⇑ *i*P **P** **19 11 26.1 +0.5**
comp=Z,5.2nm,0.9s,mb4.5
BZS Buzias 78.13 328⇓ *i*P **P** **19 11 25.5 -0.4**
BZS Buzias 78.13 328⇓ P **P** **19 11 25.6 -0.3**
MEM Membach 78.38 339 P **P** **19 11 27.1 -0.1**
MIB Mutribah 78.44 301 *e*P **P** **19 11 27.3 -0.3**
MIB AMb AMB 19 11 28.5

comp=Z,53nm,0.7s,mb5.6

JCT	**Junction City**	**78.46**	**57**	*e*P	**P**	**19 11 27.1**	**-0.5**
JCT				pmax	pmax		

comp=Z,7.0nm,0.9s,mb4.6

JCT	**Junction City**	**78.46**	**57**	*e*P	**P**	**19 11 27.1**	**-0.5**

comp=Z,7.1nm,0.9s,mb4.6

MOA	**Molln**	**78.64**	**333**⇑	*i*P	**P**	**19 11 28.6**	**0.0**

comp=Z,4.9nm,0.8s,mb4.5

PKSM	**Moragy**	**78.67**	**330**⇓	*i*P	**P**	**19 11 27.9**	**-0.9**
PKSM	**Moragy**	**78.67**	**330**	⇓P	**P**	**19 11 27.9**	**-1.0**
BCLA	**Clavier**	**78.72**	**340**	P	**P**	**19 11 28.6**	**-0.5**
BCLA				AP	pP	19 11 30.8	-2.9
ARSA	**Arzberg**	**78.79**	**332**⇑	*i*P	**P**	**19 11 29.7**	**+0.3**

comp=Z,4.0nm,0.7s,mb4.4

SNF	**Seneffe**	**78.88**	**340**	AP	pP	19 11 32.4	-2.2
NAY	**Al-Naaiem**	**78.91**	**301**	*e*P	**P**	**19 11 29.9**	**-0.2**
NAY				AMb	AMB	19 11 31.0	

comp=Z,16nm,0.8s,mb5.0

RDF	**Al-Radifah**	**78.97**	**301**	*e*P	**P**	**19 11 30.5**	**0.0**
RDF				AMb	AMB	19 11 31.4	

comp=Z,26nm,0.4s,mb5.6

DOU	**Dourbes**	**79.19**	**340**	P	**P**	**19 11 32.0**	**+0.4**
WLF	**Walferdange**	**79.22**	**339**	AP	pP	19 11 33.3	-3.1
STU	**Stuttgart**	**79.27**	**337**	*e*P	**P**	**19 11 31.5**	**-0.6**
STU				pmax	pmax		

comp=Z,14nm,0.9s,mb4.9

STU	**Stuttgart**	**79.27**	**337**	*e*P	**P**	**19 11 31.5**	**-0.6**

comp=Z,14nm,0.9s,mb4.9

KBA	**Koelnbreinsper**	**79.61**	**333**⇓	*i*P	**P**	**19 11 34.9**	**+0.9**

comp=Z,23nm,0.9s,mb5.1

STKA	**Stephens Creek**	**79.62**	**190**	P	**P**	**19 11 33.5**	**-0.6**

comp=Z,1.6nm,1.0s,mb3.9,baz=24,slow=5.2,SNR=3.0

STKA	**Stephens Creek**	**79.62**	**190**	P	**P**	**19 11 33.5**	**-0.6**
WATA	**Walderalm**	**79.91**	**335**⇑	*i*P	**P**	**19 11 36.0**	**+0.4**

comp=Z,11nm,0.9s,mb4.8

WTTA	**Wattenberg**	**79.96**	**335**⇑	*i*P	**P**	**19 11 36.5**	**+0.7**

comp=Z,22nm,1.0s,mb5.0

MOTA	**Moosalm**	**80.04**	**335**⇑	*i*P	**P**	**19 11 36.3**	**0.0**

comp=Z,11nm,0.8s,mb4.8

CDF	**Champ du Feu**	**80.10**	**338**	*e*P	**P**	**19 11 36.0**	**-0.6**

comp=Z,28nm,1.0s,mb4.8

CDF	**Champ du Feu**	**80.10**	**338**	*e*P	**P**	**19 11 36.0**	**-0.6**
CDF				pmax	pmax		

comp=Z,14nm,1.0s,mb4.8

CDF	**Champ du Feu**	**80.10**	**338**	*e*P	**P**	**19 11 36.0**	**-0.6**

comp=Z,14nm,1.0s,mb4.8

VTS	**Vitosha**	**80.11**	**325**⇑	*i*P	**P**	**19 11 36.7**	**0.0**
VTS	**Vitosha**	**80.11**	**325**	⇑P	**P**	**19 11 36.7**	**0.0**
SQTA	**Sankt Quirin**	**80.12**	**335**	*i* P	**P**	**19 11 37.3**	**+0.5**

comp=Z,7.4nm,0.8s,mb4.7

DAVA	**Damuels**	**80.44**	**336**⇑	*i*P	**P**	**19 11 38.8**	**+0.3**

comp=Z,14nm,0.9s,mb4.9

FORT	**Forrest**	**81.08**	**202**	*e*P	sP	19 11 56.6	+8.4

comp=Z,16nm,0.7s

GRR	**Gorron**	**81.98**	**343**	*e*P	**P**	**19 11 45.8**	**-0.8**

comp=Z,6.1nm,0.6s,mb4.4

GRR	**Gorron**	**81.98**	**343**	*e*P	**P**	**19 11 45.8**	**-0.8**
GRR				pmax	pmax		

comp=Z,3.0nm,0.6s,mb4.4

GRR	**Gorron**	**81.98**	**343**	*e*P	**P**	**19 11 45.8**	**-0.8**

comp=Z,3.0nm,0.6s,mb4.4

SMF	**Signal de Mont**	**82.60**	**339**	*e*P	**P**	**19 11 49.2**	**-0.7**

comp=Z,46nm,1.2s,mb5.1

SMF	**Signal de Mont**	**82.60**	**339**	*e*P	**P**	**19 11 49.2**	**-0.7**
SMF				pmax	pmax		

comp=Z,23nm,1.2s,mb5.1

SMF	**Signal de Mont**	**82.60**	**339**	*e*P	**P**	**19 11 49.2**	**-0.7**

comp=Z,23nm,1.2s,mb5.1

LPG	**La Plagne**	**82.93**	**337**	*e*P	**P**	**19 11 51.8**	**+0.2**

comp=Z,26nm,1.2s,mb4.8

LPG	**La Plagne**	**82.93**	**337**	*e*P	**P**	**19 11 51.8**	**+0.2**
LPG				pmax	pmax		

comp=Z,13nm,1.2s,mb4.8

LPG	**La Plagne**	**82.93**	**337**	*e*P	**P**	**19 11 51.8**	**+0.2**

comp=Z,13nm,1.2s,mb4.8

CAF	**Calviac**	**84.64**	**340**	*e*P	**P**	**19 11 59.0**	**-1.3**
TIP	**Timpagrande**	**85.50**	**328**	*e*P	**P**	**19 12 02.9**	**-1.8**
ESDC	**Sonseca Array**	**90.97**	**343**	P	**P**	**19 12 29.3**	**-1.4**

comp=Z,0.7nm,0.7s,mb4.1,baz=2.1,slow=5.4,SNR=4.4

BARC	**Barichara**	**112.34**	**51**⇑	*i*P	Pdif	19 14 06.8	0.0
TORD	**Torodi Ar. Bea**	**114.60**	**329**	PKP	PKiKP	19 18 04.7	-2.2

comp=Z,0.1nm,0.3s,baz=18,slow=1.9,SNR=5.8

TORD	**Torodi Ar. Bea**	**114.60**	**329**	PKP	PKiKP	19 18 04.7	-2.2
CFAA	**Coronel Fontan**	**144.73**	**79**	PKP	PKPdf	19 19 01.4	-2.1

comp=Z,0.7nm,0.6s,baz=263,slow=4.3,SNR=10

SNAA	**Sanae**	**153.22**	**196**	PKPbc	PKPbc	19 19 21.6	-3.0

comp=Z,0.8nm,0.7s,baz=180,slow=3.2,SNR=14

SNAA				PKPab	PKPab	19 19 33.7	-2.7

comp=Z,0.7nm,0.7s,baz=177,slow=4.2,SNR=6.5

VNA2	**Neumayer--Watz**	**154.67**	**195**	*e*PKPdf	PKPbc	19 19 24.9	-2.8
VNA2				*e*		19 19 40.3	
VNA2				*e*		19 19 56.9	
VNA3	**Neumayer Olymp**	**154.76**	**193**	*e*PKPdf	PKPbc	19 19 25.6	-2.3
VNA3				*e*		19 19 40.4	
VNA3				*e*		19 19 56.8	

*IDC **18** 19:06:42.9±1.2, 47.19N×152.95E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=40.1km s-min=29.1km az=103.0*

*MOS **18** 19:06:45.6±1.3, 47.12N×152.29E, h33km, mb4.4/3, Error ellipse: s-maj=50.2km s-min=22.7km az=66.7*

*ISCJB **18** 19:06:46.9±1.0, 472N×02×1529E±02, h35km, mb3.8/5, Error ellipse: s-maj=30.8km s-min=14.1km az=87.7*

ISC 18 19:06:49.1±1.0, 473N±02×1529E±03, h35km, n14, σ1§41/14, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**31**	*e*PN	**Pn**	**19 07 50.1**	**+2.1**
KUR	**Kuril'sk**	**4.05**	**242**	PN	**Pn**	**19 07 39.0**	**-10**
KUR				pmax	pmax		

comp=Z,80nm,0.5s

ASAJ	**Asahikawa**	**7.88**	**250**	Pn	**Pn**	**19 08 44.5**	**+3.3**

comp=Z,0.8nm,0.3s,baz=95,slow=11,SNR=7.4

ASAJ				LR	LR	19 12 22.7	

comp=Z,128nm,18.2s,baz=146,slow=43

ASAJ	**Asahikawa**	**7.88**	**250**	PN	**Pn**	**19 08 44.5**	**+3.3**
ASAJ				pmax	pmax		

comp=Z,1.0nm,0.3s

ASAJ				MLR	MLR		

comp=Z,128nm,18.2s

MJAR	**Matsushiro Arr**	**15.30**	**231**	Pn	**Pn**	**19 10 24.8**	**+2.5**

comp=Z,0.2nm,0.3s,baz=31,slow=9.7,SNR=11

KSRS	**Korea Array**	**20.83**	**251**	P	**P**	**19 11 27.6**	**0.0**

comp=Z,1.0nm,0.9s,baz=64,slow=11,SNR=3.1

FINES	**FINESS Array B**	**63.51**	**335**	P	**P**	**19 17 15.0**	**-0.7**

comp=Z,4.0nm,1.1s,mb4.4,baz=32,slow=8.3,SNR=9.6

FINES	**FINESS Array B**	**63.51**	**335**	P	**P**	**19 17 15.0**	**-0.7**
FINES				pmax	pmax		

comp=Z,4.0nm,1.1s

NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**19 17 42.1**	**-0.6**

comp=Z,1.1nm,0.8s,mb3.9,baz=38,slow=6.6,SNR=2.7

NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**19 17 42.1**	**-0.6**
NOA				pmax	pmax		

comp=Z,1.0nm,0.8s

AKASG	**Malin Array Be**	**71.04**	**326**	P	**P**	**19 18 02.1**	**-1.3**

comp=Z,0.7nm,0.3s,mb4.0,baz=34,slow=6.1,SNR=4.2

AKASG	**Malin Array Be**	**71.04**	**326**	P	**P**	**19 18 02.1**	**-1.3**
AKASG				pmax	pmax		

comp=Z,1.0nm,0.3s

ASAR	**Alice Springs**	**72.66**	**198**	P	**P**	**19 18 11.4**	**-1.7**

comp=Z,0.3nm,0.5s,mb3.5,baz=15,slow=5.3,SNR=5.7

TXAR	**Lajitas Array**	**77.35**	**61**	P	**P**	**19 18 40.4**	**+0.2**

comp=Z,0.2nm,0.6s,mb3.2,baz=309,slow=5.7,SNR=3.2

*IDC **18** 19:13:50.8±3.3, 9.74N×84.14W, h20km±23km, mb3.9/8, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML4.2/4, MS4.1/15, Ms1 4.1/15, ms1mx3.9/24, Error ellipse: s-maj=40.3km s-min=13.4km az=33.0*

*ISCJB **18** 19:13:51.5±0.5, 967N×005×84.12W±004, h40km±4km, mb4.2/20, MS4.1/13, Error ellipse: s-maj=9.6km s-min=4.1km az=57.3*

*CASC **18** 19:13:51.3±2.7, 962N×84.14W, h18km±7km, MD4.4, ML3.8, mb4.5(NEIC)*

*NEIC **18** 19:13:51.2±0.9, 963N×84.16W, h29km±5km, mb4.5/12, Error ellipse: s-maj=11.9km s-min=6.4km az=200.0*

NEIC Felt in the Valle Central.

ISC 18 19:13:52.2±0.7, 968N±005×8411W±003, h30km±4km, n79, σ1§33/72, mb4.2/20, MS4.1/13, 11C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.18**	**357**⇓	*e*P	**Pb**	**19 13 59.8**	**+1.6**
SJS	**Escuela Geolog**	**0.26**	**13**⇓	*e*P	**Pb**	**19 13 58.6**	**-0.5**
SJS				*e*S	**Sb**	19 14 04.1	+0.2
PRS1	**Puriscal**	**0.36**	**327**⇑	*i*P	**Pb**	**19 13 58.6**	**-1.9**
CGA2	**Cerro Gallo 2**	**0.48**	**314**⇑	*e*P	**Pb**	**19 14 01.1**	**-1.1**
CGA2	**Cerro Gallo 2**	**0.48**	**314**⇑	*e*P	**Pb**	**19 14 01.0**	**-1.2**
FORC	**Fortuna**	**0.96**	**325**	*i* P	**Pn**	**19 14 09.6**	**+0.1**
FORC				*i* S	**Sn**	**19 14 23.2**	**+1.1**
TRTC	**Tortuguero**	**0.97**	**24**	*e*P	**Pn**	**19 14 08.7**	**-1.0**
JCR	**Jicaral**	**1.00**	**280**⇑	*e*P	**Pn**	**19 14 08.3**	**-1.8**
JTS	**JuntasAbangare**	**1.02**	**306**	Pg	**Pn**	**19 14 08.1**	**-2.3**

2µm,0.3s,baz=108,slow=8.7,SNR=1080

JTS				Lg		19 14 22.6	

2µm,0.3s,baz=302,slow=20,SNR=26

JTS	**JuntasAbangare**	**1.02**	**306**	*e*Pg	**Pn**	**19 14 07.8**	**-2.6**
JTS				*e*Sg	**Sn**	**19 14 22.2**	**-1.5**
LIO	**Limon**	**1.11**	**73**⇑	*e*P	**Pn**	**19 14 11.0**	**-0.6**
LIO				*e*S	**Sn**	**19 14 25.3**	**-0.6**
LIO	**Limon**	**1.11**	**73**⇑	*e*P	**Pn**	**19 14 11.0**	**-0.6**
LIO				*e*S	**Sn**	**19 14 29.4**	**+3.5**
ACR	**Cerro Adams**	**1.38**	**138**	*e*P	**Pn**	**19 14 13.4**	**-2.0**
LIM1	**Limonal**	**1.51**	**312**	*i* P	**Pn**	**19 14 17.4**	**+0.3**
LIM1				*i* S	**Sn**	**19 14 37.9**	**+2.1**
VCR	**Vista de Mar**	**1.56**	**287**⇑	*e*P	**Pn**	**19 14 17.1**	**-0.7**
DVD	**David**	**2.06**	**127**⇑	*e*P	**Pn**	**19 14 24.9**	**+0.2**
MOMJ	**Momotombo**	**3.61**	**319**	*e*P	**Pn**	**19 14 46.9**	**+1.0**
MIRN	**Miramar**	**3.74**	**317**	*e*P	**Pn**	**19 14 49.9**	**+2.1**
AZU	**Azuero**	**4.23**	**116**⇑	*e*P	**Pn**	**19 14 56.3**	**+1.8**
ACH	**Altos**	**4.25**	**103**⇑	*e*P	**Pn**	**19 14 56.1**	**+1.3**
ACH				*e*S	**Sb**	**19 16 01.7**	**+4.6**
UPA	**Univ. de Panam**	**4.57**	**98**⇑	*i*P	**Pn**	**19 15 00.2**	**+1.0**
UPA				*e*S	**Sn**	**19 15 49.8**	**-1.5**
TGUH	**Tegucigalpa,Un**	**5.33**	**325**	*e*Pn	**Pn**	**19 15 09.1**	**-0.7**

346nm,0.8s

TGUH				*e*Sn	**Sb**	**19 16 34.2**	**+6.0**
BLLM	**Bellamira**	**5.50**	**313**	*e*P	x	19 15 23.9	
BLLM				*e*S	x	19 16 24.6	
VSM	**San Miguel**	**5.52**	**313**	*e*P	x	19 15 24.9	
VSM				*e*S	x	19 16 25.3	
SNVI	**San Vicente**	**6.06**	**311**	*e*P	x	19 15 30.8	
SNVI				*e*S	x	19 16 36.2	
LCBS	**La Ceiba**	**6.19**	**310**	*e*P	x	19 15 32.3	
LCBS				*e*S	x	19 16 37.6	
LFRS	**El Faro**	**6.23**	**309**	*e*P	x	19 15 32.6	
LBRS	**Las Brisas**	**6.29**	**310**	*e*P	x	19 15 33.5	
SNET	**Serv Nac Est T**	**6.40**	**309**	*e*P	x	19 15 26.9	
SNET				*e*S	x	19 16 34.9	
BOQS	**Boqueron**	**6.47**	**309**	*e*P	x	19 15 36.5	
SBLS	**San Blas**	**6.79**	**308**	*e*P	x	19 15 40.5	
SBLS				*e*S	x	19 16 51.3	
SNJE	**San Jose**	**6.80**	**308**	*e*P	x	19 15 40.5	
SNJE				*e*S	x	19 16 51.5	
RTR	**El Retiro**	**6.85**	**308**	*e*P	x	19 15 41.5	
RTR				*e*S	x	19 16 52.3	
TP2	**Tecpan 2**	**8.44**	**308**	*e*P	**Pn**	**19 15 57.0**	**+4.6**
TP2				*e*S	**Sn**	**19 17 29.2**	**+2.6**
ROSC	**El Rosal**	**10.82**	**116**	Pn	**Pn**	**19 16 27.8**	**+2.9**

0.7nm,0.3s,baz=261,slow=22,SNR=7.3

ROSC				LR	LR	19 20 19.9	

comp=Z,299nm,19.7s,baz=144,slow=36

ROSC	**El Rosal**	**10.82**	**116**	*e*Pn	**Pn**	**19 16 29.6**	**+4.6**
TEIG	**Tepich**	**11.23**	**339**	*e*Pn	**Pn**	**19 16 33.1**	**+2.6**

81nm,1.4s

CMIG	**Matias Romero**	**12.80**	**306**	Pn	**Pn**	**19 16 53.1**	**+1.1**

1.9nm,0.3s,baz=134,slow=11,SNR=8.4

CMIG				Sn	**Sn**	**19 19 12.3**	**-1.2**

0.3nm,0.3s,baz=256,slow=22,SNR=3.0

SDV	**Santo Domingo**	**13.33**	**92**	Pn	**Pn**	**19 17 01.2**	**+2.0**

1.0nm,0.3s,baz=284,slow=8.6,SNR=15

SDV				Sn	**Sn**	**19 19 24.5**	**-1.8**

2.0nm,0.3s,baz=324,slow=17,SNR=5.8

SDV	**Santo Domingo**	**13.33**	**92**	*e*Pn	**Pn**	**19 17 00.2**	**+1.0**

25nm,0.8s

SDV				*e*Sn	**Sn**	**19 19 14.1**	**-12**
HLGC	**Holguin**	**13.58**	**34**	*e*P	**Pn**	**19 17 06.3**	**+3.7**
MOAC	**Moa**	**14.03**	**38**	*e*P	**Pn**	**19 17 13.7**	**+4.9**
ATAH	**Atahualpa**	**17.52**	**161**	P	**Pn**	**19 17 57.2**	**+3.1**

0.4nm,0.3s,baz=22,slow=8.6,SNR=5.2

ATAH				LR	LR	19 24 00.0	

comp=Z,865nm,19.6s,baz=185,slow=34

PCRV	**Puerto La Cruz**	**19.19**	**87**	P	**Pn**	**19 18 15.6**	**+1.2**

1.0nm,0.3s,baz=289,slow=8.5,SNR=4.6

CPD	**Cerro la Pandu**	**19.51**	**63**	*e*P	**Pn**	**19 18 15.7**	**-2.6**
MTP	**Monte Pirata**	**19.85**	**63**	*e*P	**Pn**	**19 18 21.6**	**-0.7**
NNA	**Nana**	**22.71**	**161**	*e*P	**P**	**19 18 56.8**	**+5.5**

75nm,1.4s,mb4.9

LRAL	**Lakeview Retre**	**23.39**	**354**	*e*P	**P**	**19 19 00.1**	**+1.6**

18nm,1.0s,mb4.4

GOGA	**Godfrey**	**23.62**	**1**	*e*P	**P**	**19 19 01.4**	**+0.7**

19nm,1.1s,mb4.4

OXF	**Oxford**	**25.18**	**350**	P	**P**	**19 19 18.6**	**+3.7**

18nm,0.9s,mb4.6

JCT	**Junction City**	**25.34**	**327**	*e*P	**P**	**19 19 16.0**	**-0.3**

8.1nm,0.9s,mb4.2

TKL	**Tuckaleechee C**	**25.86**	**1**	LR	LR	19 29 50.7	

comp=Z,452nm,18.9s,MS4.0,baz=251,slow=37

WVT	**Waverly**	**26.54**	**353**	*e*P	**P**	**19 19 25.8**	**-1.4**

15nm,1.3s,mb4.3

LTX	**Lajitas**	**26.79**	**320**	*e*P	**P**	**19 19 29.8**	**+0.4**

5.0nm,1.0s,mb4.0

TXAR	**Lajitas Array**	**26.79**	**320**	P	**P**	**19 19 30.9**	**+1.5**

0.4nm,0.4s,mb3.3,baz=149,slow=8.2,SNR=12

TXAR	**Lajitas Array**	**26.79**	**320**	P	**P**	**19 19 30.9**	**+1.5**
BBSR	**BB Station**	**28.85**	**36**	P	**P**	**19 19 46.7**	**-1.1**
LPAZ	**La Paz**	**30.27**	**148**	P	**P**	**19 20 00.2**	**-0.1**

4.1nm,1.3s,mb4.0

ECSD	**EROS,Sioux Fal**	**35.62**	**344**	*e*P	**P**	**19 20 45.4**	**-1.7**

5.1nm,0.8s,mb4.5

PDAR	**Pinedale Array**	**39.77**	**330**	LR	LR	19 40 20.9	

comp=Z,130nm,19.1s,MS3.8,baz=142,slow=40

HWUT	**Hardware Ranch**	**39.95**	**327**	*e*P	**P**	**19 21 23.0**	**-0.6**

2.4nm,0.8s,mb4.0

ULM	**Lac du Bonnet**	**41.60**	**349**	P	**P**	**19 21 35.3**	**-2.0**

2.2nm,0.7s,mb3.9,baz=160,slow=11,SNR=4.1

ULM				LR	LR	19 39 35.5	

comp=Z,164nm,21.2s,MS3.9,baz=32,slow=37

NVAR	**Mina Array Bea**	**41.93**	**319**	P	**P**	**19 21 39.0**	**-1.0**

0.1nm,0.3s,mb2.9,baz=72,slow=42,SNR=2.8

SCHQ	**Schefferville**	**47.08**	**14**	P	**P**	**19 22 21.1**	**0.0**

2.7nm,0.7s,mb4.3,baz=226,slow=9.7,SNR=3.3

SCHQ				LR	LR	19 42 54.0	

comp=Z,296nm,18.7s,MS4.3,baz=150,slow=37

YKA	**Yellowknife Ar**	**57.15**	**344**	P	**P**	**19 23 36.3**	**+0.3**

1.4nm,0.7s,mb4.1,baz=138,slow=7.1,SNR=4.1

YKA				LR	LR	19 50 14.9	

comp=Z,95nm,18.2s,MS3.9,baz=110,slow=38

YKA	**Yellowknife Ar**	**57.15**	**344**	P	**P**	**19 23 36.3**	**+0.3**
YKA				LR	LR	19 50 14.9	
PPT	**Papeete**	**70.10**	**247**	LR	LR	19 49 25.4	

comp=Z,111nm,19.6s,MS4.1,baz=52,slow=30

KDAK	**Kodiak Island**	**70.43**	**328**	LR	LR	19 55 23.0	

comp=Z,169nm,20.2s,MS4.3,baz=5.5,slow=35

ESDC	**Sonseca Array**	**76.32**	**52**	P	**P**	**19 25 38.7**	**+0.6**

3.8nm,0.8s,mb4.4,baz=281,slow=5.7,SNR=14

ESDC				LR	LR	19 54 19.0	

comp=Z,80nm,18.6s,MS4.1,baz=180,slow=32

TORD	**Torodi Ar. Bea**	**83.80**	**78**	P	**P**	**19 26 17.9**	**-0.6**

2.9nm,1.2s,mb4.3,baz=292,slow=6.1,SNR=6.8

TORD				LR	LR	19 59 29.4	

comp=Z,122nm,20.3s,MS4.3,baz=135,slow=33

TORD	**Torodi Ar. Bea**	**83.80**	**78**	P	**P**	**19 26 17.9**	**-0.6**
TORD				LR	LR	19 59 29.4	
NOA	**NORSAR Array B**	**84.18**	**29**	LR	LR	20 01 00.8	

comp=Z,70nm,18.3s,MS4.1,baz=205,slow=34

CLL	**Collm**	**86.94**	**39**	*e*P	**P**	**19 26 34.0**	**-0.2**

comp=Z,11nm,1.2s,mb5.0

BRG	**Berggieshubel**	**87.61**	**39**	*e*P	**P**	**19 26 37.7**	**+0.3**

comp=Z,3.0nm,1.3s,mb4.4

GERES	**GERESS Array B**	**87.89**	**41**	P	**P**	**19 26 38.6**	**-0.1**

comp=Z,1.3nm,1.0s,mb4.1,baz=242,slow=2.9,SNR=7.8

GERES				LR	LR	20 02 23.5	

comp=Z,126nm,18.9s,MS4.3,baz=187,slow=33

FINES	**FINESS Array B**	**90.97**	**27**	LR	LR	20 07 17.1	

comp=Z,105nm,18.7s,MS4.3,baz=294,slow=35

AKASG	**Malin Array Be**	**96.86**	**36**	LR	LR	20 08 15.1	

comp=Z,113nm,19.0s,MS4.4,baz=35,slow=34

ASAR	**Alice Springs**	**141.16**	**244**	PKP	PKPdf	19 33 21.5	+1.9

comp=Z,0.6nm,0.7s,baz=103,slow=3.2,SNR=10

WRA	**Warramunga Arr**	**141.54**	**250**	PKP	PKPdf	19 33 18.9	-1.4

comp=Z,0.4nm,0.7s,baz=104,slow=2.5,SNR=6.3

*STR **18** 19:19:39.8±0.1, 4301N×001W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 19:19:39.8±0.2, 4294N×002E, h2km, Md1.6/2, Ml1.5/1, Error ellipse: s-maj=26.8km s-min=1.7km az=168.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.05**	**177**	Pg	Pg	19 19 42.5	+1.7
VIEF				Sg	Sg	19 19 44.5	+3.0
LABF	**Labassere**	**0.12**	**19**	Pg	Pg	19 19 41.5	-0.6
LABF				Sg	Sg	19 19 42.7	-1.0
EPF	**Esparros**	**0.25**	**68**	*e*Pg	Pg	19 19 44.6	-0.1
EPF				*e*Sg	Sg	19 19 48.6	+0.6

3.6nm,0.2s

ETSF	**Etsaut**	**0.43**	**265**	*e*Pg	Pg	19 19 48.1	+0.1
ETSF				*e*Sg	Sg	19 19 53.8	+0.3

1.0nm,0.2s

MTLF	**Montolieu**	**1.66**	**75**	*e*Pg	Pg	19 20 10.8	-0.8
MTLF				*e*Sg	Sg	19 20 32.2	-0.9

0.5nm,0.2s

*STR **18** 19:41:52.4±0.0, 4302N×003W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=

IDC ***18*** *20:01:30.8±1.2,4699N×15391E,h0km,mb3.6/6, mb1 3.9/6,mb1mx3.5/23,mbtmp3.6/6,Error ellipse: s-maj=34.0km s-min=30.6km az=142.0*
MOS ***18*** *20:01:34.9±0.8,4714N×15373E,h41km,mb4.1/4,Error ellipse: s-maj=58.7km s-min=23.5km az=80.0*
ISC 18 20:01:32.3±1.0,471N±02×1539E±03,h10km,n11, σ0§23/11,mb3.6/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.93**	**21**	*e*Pn	**Pn**	**20 02 32.5**	**-0.2**
SKR				e		20 03 16.0	
INK	**Inuvik**	**41.12**	**33**	P	**P**	**20 09 16.8**	**+0.3**
	1.2nm,0.9s,mb3.5,baz=290,slow=3.4,SNR=4.2						
INK	**Inuvik**	**41.12**	**33**	P	**P**	**20 09 16.8**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**20 10 05.7**	**0.0**
	comp=Z,0.1nm,0.5s,mb3.0,baz=58,slow=9.3,SNR=2.4						
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**20 12 05.5**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=38,slow=7.2,SNR=5.3						
FINES	**FINESS Array B**	**63.99**	**335**	P	**P**	**20 12 05.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.11**	**341**	P	**P**	**20 12 32.7**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=29,slow=6.3,SNR=3.4						
NOA	**NORSAR Array B**	**68.11**	**341**	P	**P**	**20 12 32.7**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.66**	**199**	P	**P**	**20 13 00.1**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=6.4,slow=5.4,SNR=4.5						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**20 13 24.5**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=299,slow=4.0,SNR=9.6						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**20 13 24.5**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC ***18*** *20:03:19.7±1.4,2647N×12754E,h0km,mb3.3/3, mb1 3.4/3,mb1mx3.2/20,mbtmp3.3/3,Error ellipse: s-maj=28.2km s-min=10.8km az=158.0*
ISCJB ***18*** *20:03:24.1±0.6,2659N±006×12782E±006,h55km±5km, mb3.1/3,Error ellipse: s-maj=11.6km s-min=6.2km az=93.6*
JMA ***18*** *20:03:25.0±0.2,2663N×12777E,h49km±3km,M3.0*
ISC 18 20:03:25.0±0.6,2659N±005×12781E±006,h47km±6km, n13,σ0§74/19,mb3.1/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAH1	**Naha**	**0.40**	**196**	P	**Pn**	**20 03 35.2**	**+0.3**
NAH1				*e*S	**Sn**	**20 03 42.2**	**+0.3**
JJT2	**Tamagusuku 2**	**0.46**	**187**	P	**Pn**	**20 03 36.3**	**+0.8**
JIH	**Iheya**	**0.46**	**18**	P	**Pn**	**20 03 35.5**	**-0.1**
JIH				S	**Sn**	**20 03 43.1**	**0.0**
JOW	**Kunigami**	**0.48**	**60**	Pg	**Pn**	**20 03 36.0**	**+0.2**
	91nm,0.3s,baz=226,slow=9.9,SNR=498						
JOW				Lg		20 03 43.5	
	265nm,0.3s,baz=135,slow=20,SNR=131						
JOW	**Kunigami**	**0.48**	**60**	P	**Pn**	**20 03 35.9**	**+0.1**
JOW				S	**Sn**	**20 03 43.7**	**+0.3**
JAGN	**Aguni-jima**	**0.51**	**270**	P	**Pn**	**20 03 35.8**	**-0.3**
JAGN				S	**Sn**	**20 03 43.7**	**-0.4**
JKE	**Kume jima 2**	**0.96**	**254**	P	**Pn**	**20 03 41.6**	**-0.4**
JTK	**Tokunoshima**	**1.56**	**40**	P	**Pn**	**20 03 50.3**	**0.0**
JTK				*e*S	**Sn**	**20 04 08.7**	**-0.6**
JAM	**Amami Oshima**	**2.41**	**41**	P	**Pn**	**20 04 02.6**	**+0.7**
JAM				*e*S	**Sn**	**20 04 30.5**	**+0.3**
JMZ	**Minamidaito 2**	**3.16**	**103**	P	**Pn**	**20 04 10.2**	**-2.0**
SONM	**Songino Array**	**27.05**	**327**	P	**P**	**20 09 04.6**	**+1.8**
	0.2nm,0.4s,mb3.0,baz=136,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**41.01**	**312**	P	**P**	**20 11 02.4**	**-1.1**
	0.2nm,0.4s,mb3.1,baz=106,slow=9.6,SNR=6.9						
WRA	**Warramunga Arr**	**46.69**	**172**	P	**P**	**20 11 49.2**	**+0.2**
	0.3nm,0.9s,mb3.2,baz=352,slow=8.6,SNR=4.6						

ISCJB ***18*** *20:34:17.0±0.2,4317N±001×004E±001,h11km±2km, Error ellipse: s-maj=2.0km s-min=1.6km az=108.3*
STR ***18*** *20:34:19.6±0.3,4308N×002E,h5km±1km,Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***18*** *20:34:19.6±0.0,4301N×000E,h2km,ML3.4/42,Error ellipse: s-maj=0.9km s-min=0.7km az=156.0*
LDG ***18*** *20:34:20.1±0.1,4301N×003W,h10km,Md3.3/2,Ml3.6/33, Error ellipse: s-maj=2.2km s-min=1.7km az=162.0*
NEIC ***18*** *20:34:20.1,4301N×003W,h10km,ML3.3(STR), ML3.6(LDG),MN2.9(MDD),After LDG.*
MDD ***18*** *20:34:20.0±0.1,4301N×001E,h0km,mbLg2.9/31,Error ellipse: s-maj=1.6km s-min=1.1km az=5.0,PRXIMO*
ISC 18 20:34:18.7±0.2,4308N±001×001E±001,h7km±2km,n226, σ1§19/438,2C,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**126**	Pg	**Pg**	**20 34 21.4**	**+1.1**
LABF				Lg		20 34 22.6	
VIEF	**Viey**	**0.20**	**177**	Pg	**Pg**	**20 34 22.4**	**-0.3**
VIEF	**Viey**	**0.20**	**177**	Pg	**Pg**	**20 34 22.4**	**-0.2**
VIEF				Lg		20 34 24.4	
EPF	**Esparros**	**0.24**	**102**	*e*Pg	**Pg**	**20 34 24.4**	**+0.8**
EPF				*e*Sg	**Sg**	**20 34 28.0**	**+1.1**
	1μm,0.2s						
EPF	**Esparros**	**0.24**	**102**	*e*Pg	**Pg**	**20 34 24.4**	**+0.8**
EPF				*e*Sg	**Sg**	**20 34 28.0**	**+1.1**
	624nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**268**	Pg	**Pg**	**20 34 25.0**	**+0.5**
REYF				Sg	**Sg**	**20 34 29.3**	**+0.8**
REYF	**Montagne du Re**	**0.30**	**268**	Pg	**Pg**	**20 34 25.2**	**+0.6**
REYF				Lg		20 34 29.4	
RESF	**Ens**	**0.36**	**139**	Pg	**Pg**	**20 34 25.7**	**-0.1**
RESF				Sg	**Sg**	**20 34 28.0**	**-2.6**
RESF	**Ens**	**0.36**	**139**	Pg	**Pg**	**20 34 25.8**	**0.0**
RESF				Lg		20 34 30.6	
EBIE	**Bielsa**	**0.41**	**166**	⇑Pg	**Pg**	**20 34 26.2**	**-0.4**
	313nm,0.3s,SNR=18						
EBIE				Lg		20 34 30.7	
	498nm,0.3s,SNR=5.0						
EBIE	**Bielsa**	**0.41**	**166**	Pg	**Pg**	**20 34 26.2**	**-0.4**
	313nm,0.3s,SNR=18						
EBIE				Lg		20 34 30.7	
	498nm,0.3s,SNR=5.0						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	**20 34 27.8**	**+0.2**
ETSF				*e*Sg	**Sg**	**20 34 33.6**	**+0.1**
	1μm,0.2s						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	**20 34 27.8**	**+0.2**
ETSF				*e*Sg	**Sg**	**20 34 33.6**	**+0.1**
	630nm,0.2s						
FDAF	**Les Forges d'A**	**0.50**	**239**	Pg	**Pg**	**20 34 28.4**	**+0.1**
FDAF				Lg		20 34 34.9	
ATE	**Arette**	**0.52**	**271**	Pg	**Pg**	**20 34 29.0**	**+0.2**
ATE				Sg	**Sg**	**20 34 36.9**	**+1.3**
ATE	**Arette**	**0.52**	**271**	Pg	**Pg**	**20 34 29.3**	**+0.5**
ATE				Lg		20 34 36.8	
MELF	**Melles**	**0.59**	**110**	Pg	**Pg**	**20 34 30.0**	**0.0**
MELF				Lg		20 34 38.2	
ORDF	**Ordiarp**	**0.71**	**281**	Pg	**Pg**	**20 34 33.3**	**+1.0**
ORDF				Sg	**Sg**	**20 34 43.6**	**+2.1**
ORDF	**Ordiarp**	**0.71**	**281**	Pg	**Pg**	**20 34 33.2**	**+0.8**
ORDF				Lg		20 34 43.3	
LARF	**Larrau**	**0.73**	**267**	Pg	**Pg**	**20 34 33.2**	**+0.3**
LARF				Sg	**Sg**	**20 34 43.6**	**+1.2**
LARF	**Larrau**	**0.73**	**267**	Pg	**Pg**	**20 34 33.4**	**+0.5**
LARF				Lg		20 34 44.1	
MLS	**Moulis**	**0.80**	**98**	Pg	**Pg**	**20 34 33.4**	**-0.8**
MLS				Sg	**Sg**	**20 34 46.8**	**+2.2**
MLS	**Moulis**	**0.80**	**98**	Pg	**Pg**	**20 34 33.4**	**-0.8**
MLS				Lg		20 34 45.9	
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**20 34 36.2**	**0.0**
SJPF				*e*Sg	**Sg**	**20 34 46.6**	**-1.3**
	232nm,0.6s						
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**20 34 36.2**	**0.0**
SJPF				*e*Sg	**Sg**	**20 34 46.6**	**-1.3**
	116nm,0.6s						
SALF	**Salau**	**0.92**	**110**	Pg	**Pg**	**20 34 35.7**	**-0.8**
SALF				Lg		20 34 48.4	
OSSF	**Osses**	**0.95**	**281**	Pg	**Pg**	**20 34 37.2**	**+0.2**
OSSF				Sg	**Sg**	**20 34 50.5**	**+1.2**
OSSF	**Osses**	**0.95**	**281**	Pg	**Pg**	**20 34 37.3**	**+0.3**
OSSF				Lg		20 34 50.6	
IPRE	**Itoiz**	**1.04**	**255**	⇑Pg	**Pg**	**20 34 39.1**	**+0.3**
	13nm,0.3s,SNR=18						
IPRE				Lg		20 34 53.4	
	73nm,0.3s,SNR=25						
IPRE	**Itoiz**	**1.04**	**255**	Pg	**Pg**	**20 34 39.1**	**+0.4**
	13nm,0.3s,SNR=18						
EALK	**Alkurruntz**	**1.12**	**278**	Pg	**Pg**	**20 34 37.5**	**-2.7**
EALK				Pg	**Pg**	**20 34 41.0**	**+0.8**
EALK				Lg		20 34 57.0	
EALK	**Alkurruntz**	**1.12**	**278**	Pg	**Pg**	**20 34 41.0**	**+0.8**
	28nm,0.4s,SNR=13						
EALK				Lg		20 34 57.0	
	92nm,0.4s,SNR=5.0						
ELIZ	**Elizondo**	**1.13**	**275**	Pg	**Pg**	**20 34 41.0**	**+0.5**
	11nm,0.2s,SNR=7.9						
ELIZ				Lg		20 34 57.1	
	56nm,0.2s,SNR=7.9						
GRBF	**Gourbit**	**1.14**	**102**	Pg	**Pg**	**20 34 40.7**	**0.0**
IUSE	**Utxeti**	**1.15**	**264**	Pg	**Pg**	**20 34 41.2**	**+0.4**
	15nm,0.3s,SNR=18						
IUSE				Lg		20 34 56.4	
	44nm,0.3s,SNR=12						
IUSE	**Utxeti**	**1.15**	**264**	Pg	**Pg**	**20 34 41.2**	**+0.4**
	15nm,0.3s,SNR=18						
LPEF	**Le Peyrat**	**1.40**	**95**	Pg	**Pg**	**20 34 46.9**	**+1.3**
LPEF				Lg		20 35 04.9	
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	**20 34 45.2**	**-0.5**
	227nm,0.3s,SNR=110						
ESAC				Lg		20 35 02.1	
	487nm,0.2s,SNR=31						
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	**20 34 45.2**	**-0.5**
	227nm,0.3s,SNR=110						
CARF	**Carcanieres**	**1.58**	**103**	Pn	**Pn**	**20 34 48.9**	**+1.7**
CARF				Sg	**Sg**	**20 35 10.1**	**+0.5**
CARF	**Carcanieres**	**1.58**	**103**	Pg	**Pg**	**20 34 49.0**	**0.0**
CARF				Lg		20 35 10.0	
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**20 34 49.1**	**-0.6**
	35nm,0.2s,SNR=59						
EMIR				Lg		20 35 10.6	
	330nm,0.7s,SNR=5.0						
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**20 34 49.1**	**-0.6**
	35nm,0.2s,SNR=59						
VALF	**Valcebollere**	**1.62**	**114**	Pn	**Pn**	**20 34 49.8**	**+2.0**
VALF				Sg	**Sg**	**20 35 12.0**	**+1.0**
VALF	**Valcebollere**	**1.62**	**114**	Pg	**Pg**	**20 34 49.8**	**-0.1**
VALF				Lg		20 35 12.0	
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**20 34 50.4**	**+0.3**
MTLF				*e*Sg	**Sg**	**20 35 11.9**	**+0.7**
	166nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pn	**Pn**	**20 34 47.5**	**-0.4**
MTLF				*e*Pg	**Pg**	**20 34 50.4**	**+0.3**
MTLF				*e*Sg	**Sg**	**20 35 11.9**	**+0.7**
MTLF	**Montolieu**	**1.63**	**80**	Pn	**Pn**	**20 34 47.5**	**-0.4**
MTLF				Pg	**Pg**	**20 34 50.4**	**+0.3**
MTLF				Lg		20 35 11.9	
	83nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**20 34 50.4**	**+0.3**
MTLF				*e*Sg	**Sg**	**20 35 11.9**	**+0.7**
	83nm,0.3s						
LRDF	**Laroque-de-Fa**	**1.86**	**94**	Pn	**Pn**	**20 34 54.2**	**+3.2**
LRDF				Sg	**Sg**	**20 35 18.9**	**+0.4**
LRDF	**Laroque-de-Fa**	**1.86**	**94**	Pg	**Pg**	**20 34 54.4**	**0.0**
LRDF				Lg		20 35 18.8	
EPOB	**Poblet**	**1.90**	**155**	Pg	**Pg**	**20 34 53.1**	**-2.0**
	53nm,0.6s,SNR=71						
EPOB				Sn	**Sn**	**20 35 15.6**	**-0.2**
	16nm,0.2s,SNR=7.9						
EPOB				Lg		20 35 18.4	
	262nm,0.8s,SNR=49						
EPOB	**Poblet**	**1.90**	**155**	Pg	**Pg**	**20 34 53.1**	**-2.1**
	53nm,0.6s,SNR=71						
EPOB				Sn	**Sn**	**20 35 15.6**	**-0.2**
	16nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.91**	**257**	Pn	**Pn**	**20 34 54.1**	**+2.3**
	2.0nm,0.1s,SNR=7.9						
ECRI				Pg	**Pg**	**20 34 55.2**	**-0.3**
	18nm,0.2s,SNR=7.9						
ECRI				Lg		20 35 21.4	
	23nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.93**	**16**	*e*Pg	**Pg**	**20 34 56.9**	**+1.1**
LFF				*e*Sg	**Sg**	**20 35 23.6**	**+2.8**
	234nm,0.5s						
LFF	**La Frestale**	**1.93**	**16**	*e*Pn	**Pn**	**20 34 52.4**	**+0.4**
LFF				*e*Pg	**Pg**	**20 34 56.9**	**+1.1**
LFF				*e*Sg	**Sg**	**20 35 23.6**	**+2.8**
LFF	**La Frestale**	**1.93**	**16**	Pn	**Pn**	**20 34 52.4**	**+0.4**
LFF				Pg	**Pg**	**20 34 56.9**	**+1.1**
LFF				Lg		20 35 23.6	
	117nm,0.5s						
LFF	**La Frestale**	**1.93**	**16**	*e*Pg	**Pg**	**20 34 56.9**	**+1.1**
LFF				*e*Sg	**Sg**	**20 35 23.6**	**+2.8**
	117nm,0.5s						
FILF	**Fillols**	**1.95**	**105**	Pn	**Pn**	**20 34 54.0**	**+1.8**
FILF				Sg	**Sg**	**20 35 19.2**	**-2.1**
FILF	**Fillols**	**1.95**	**105**	Pg	**Pg**	**20 34 54.2**	**-1.9**
FILF				Lg		20 35 18.8	
ERTA	**Horta de San J**	**2.13**	**173**	Pg	**Pg**	**20 34 58.3**	**-1.4**
	23nm,0.5s,SNR=39						
ERTA				Lg		20 35 25.0	
	161nm,0.5s,SNR=21						
ERTA	**Horta de San J**	**2.13**	**173**	Pg	**Pg**	**20 34 58.3**	**-1.4**
	23nm,0.5s,SNR=39						
SJAF	**Saint Jean de**	**2.19**	**105**	Pn	**Pn**	**20 34 58.2**	**+2.6**
SJAF	**Saint Jean de**	**2.19**	**105**	Pg	**Pg**	**20 34 58.5**	**-2.4**
SJAF				Lg		20 35 28.2	
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**20 34 58.3**	**+2.5**
	6.2nm,0.3s,SNR=16						
EJON				Pg	**Pg**	**20 35 00.6**	**-0.5**
	8.3nm,0.4s,SNR=7.9						
EJON				Lg		20 35 30.1	
	54nm,0.6s,SNR=14						
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**20 34 58.3**	**+2.4**
	6.2nm,0.3s,SNR=16						
EJON	**La Jonquera**	**2.21**	**106**	Pg	**Pg**	**20 35 00.6**	**-0.5**
	8.3nm,0.4s,SNR=7.9						
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**20 35 04.1**	**0.0**
CAF				*e*Sg	**Sg**	**20 35 35.8**	**+1.0**
	82nm,0.3s						
CAF	**Calviac**	**2.37**	**38**	*e*Pn	**Pn**	**20 34 57.7**	**-0.3**
CAF				*e*Pg	**Pg**	**20 35 04.1**	**0.0**
CAF				*e*Sg	**Sg**	**20 35 35.8**	**+1.0**
CAF	**Calviac**	**2.37**	**38**	Pn	**Pn**	**20 34 57.7**	**-0.3**
CAF				Pg	**Pg**	**20 35 04.1**	**0.0**
CAF				Lg		20 35 35.8	
	41nm,0.3s						
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**20 35 04.1**	**0.0**
CAF				*e*Sg	**Sg**	**20 35 35.8**	**+1.0**
	41nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**20 35 06.7**	**+0.6**
RJF				*e*Sn	**Sn**	**20 35 29.6**	**-0.3**
RJF				*e*Sg	**Sg**	**20 35 39.3**	**+1.1**
	39nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**20 34 59.1**	**-0.4**
RJF				*e*Pg	**Pg**	**20 35 06.7**	**+0.6**
RJF				*e*Sn	**Sn**	**20 35 29.6**	**-0.3**
RJF				*e*Sg	**Sg**	**20 35 39.3**	**+1.1**
RJF	**Les Rejaudoux**	**2.47**	**25**	Pn	**Pn**	**20 34 59.1**	**-0.4**
RJF				Pg	**Pg**	**20 35 06.7**	**+0.6**
RJF				Sn	**Sn**	**20 35 29.6**	**-0.3**
RJF				Lg		20 35 39.3	
	20nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pn	**Pn**	**20 34 59.1**	**-0.4**
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	**20 35 06.7**	**+0.6**
RJF				*e*Sn	**Sn**	**20 35 29.6**	**-0.3**
RJF				*e*Sg	**Sg**	**20 35 39.3**	**+1.1**
	20nm,0.2s						
ELAN	**Lanestosa**	**2.53**	**275**	Pn	**Pn**	**20 35 02.6**	**+2.4**
	2.9nm,0.3s,SNR=7.2						
ELAN				Pg	**Pg**	**20 35 05.5**	**-1.7**
	1.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**20 35 31.6**	**+0.4**
	8.6nm,0.4s,SNR=5.1						
ELAN				Lg		20 35 39.9	
	5.4nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.53**	**275**	Pn	**Pn**	**20 35 02.6**	**+2.4**
	2.9nm,0.3s,SNR=7.2						
ELAN	**Lanestosa**	**2.53**	**275**	Pg	**Pg**	**20 35 05.5**	**-1.7**
	1.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**20 35 31.6**	**+0.4**
	8.6nm,0.4s,SNR=5.1						
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	**20 35 03.9**	**+0.8**
ETOR				Pg	**Pg**	**20 35 09.8**	**-1.3**
ETOR				Sn	**Sn**	**20 35 35.5**	**-0.9**
ETOR				Lg		20 35 44.7	
	11nm,0.3s,SNR=39						
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	**20 35 03.9**	**+0.8**
	11nm,0.3s,SNR=39						
ETOR				Pg	**Pg**	**20 35 09.8**	**-1.3**
	30nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**20 35 35.5**	**-0.8**
	56nm,0.4s,SNR=7.9						
ETOR				Lg		20 35 44.7	
	84nm,0.4s,SNR=7.6						
ETOR	**Torete**	**2.73**	**215**	Pg	**Pg**	**20 35 09.9**	**-1.3**
	30nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**20 35 35.5**	**-0.9**
	56nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.74**	**188**	Pn	**Pn**	**20 35 04.8**	**+1.7**
	8.9nm,0.6s,SNR=19						
EMOS				Pg	**Pg**	**20 35 08.5**	**-2.7**
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**20 35 36.6**	**+0.1**
	4.8nm,0.2s,SNR=7.9						
EMOS				Lg		20 35 43.2	
	30nm,0.5s,SNR=6.8						
EMOS	**Mosqueruela**	**2.74**	**188**	Pn	**Pn**	**20 35 04.8**	**+1.7**
	8.9nm,0.6s,SNR=19						
EMOS	**Mosqueruela**	**2.74**	**188**	Pg	**Pg**	**20 35 08.5**	**-2.7**
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**20 35 36.6**	**+0.1**
	4.8nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.97**	**69**	*e*Pg	**Pg**	**20 35 16.4**	**+0.8**
LASF				*e*Sg	**Sg**	**20 35 53.3**	**-0.7**
	42nm,0.2s						
LASF	**Ste Croix**	**2.97**	**69**	*e*Pn	**Pn**	**20 35 06.2**	**0.0**
LASF				*e*Pg	**Pg**	**20 35 16.4**	**+0.8**
LASF				*e*Sg	**Sg**	**20 35 53.3**	**-0.7**
LASF	**Ste Croix**	**2.97**	**69**	Pn	**Pn**	**20 35 06.2**	**0.0**
LASF				Pg	**Pg**	**20 35 16.4**	**+0.8**
LASF				Lg		20 35 53.3	
	21nm,0.2s						
LASF	**Ste Croix**	**2.97**	**69**	*e*Pg	**Pg**	**20 35 16.4**	**+0.8**
LASF				*e*Sg	**Sg**	**20 35 53.3**	**-0.7**
	21nm,0.2s						
LBL	**Lubilhac**	**3.17**	**46**	Pn	**Pn**	**20 35 10.8**	**+1.7**
LBL				Sg	**Sg**	**20 36 01.2**	**+0.6**
PYM	**Petit Puy Mans**	**3.42**	**38**	Pn	**Pn**	**20 35 15.2**	**+2.8**
PYM				Sg	**Sg**	**20 36 09.4**	**+0.6**
MFF	**Saint Martin d**	**3.52**	**358**	*e*Pg	**Pg**	**20 35 26.0**	**-0.3**
MFF				*e*Sg	**Sg**	**20 36 11.9**	**0.0**
	44nm,0.4s						
MFF	**Saint Martin d**	**3.52**	**358**	*e*Pn	**Pn**	**20 35 14.1**	**+0.2**
MFF				*e*Pg	**Pg**	**20 35 26.0**	**-0.3**
MFF				*e*Sg	**Sg**	**20 36 11.9**	**0.0**
MFF	**Saint Martin d**	**3.52**	**358**	Pn	**Pn**	**20 35 14.1**	**+0.2**
MFF				Pg	**Pg**	**20 35 26.0**	**-0.3**
MFF				Lg		20 36 11.9	
	22nm,0.4s						
MFF	**Saint Martin d**	**3.52**	**358**	*e*Pg	**Pg**	**20 35 26.0**	**-0.3**
MFF				*e*Sg	**Sg**	**20 36 11.9**	**0.0**
	22nm,0.4s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg	**Pg**	**20 35 27.2**	**+0.1**
TCF				*e*Sg	**Sg**	**20 36 13.2**	**-0.2**
	43nm,0.4s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pn	**Pn**	**20 35 13.5**	**-1.1**
TCF				*e*Pg	**Pg**	**20 35 27.2**	**+0.1**
TCF				*e*Sg	**Sg**	**20 36 13.2**	**-0.2**
TCF	**Toulx Ste Croi**	**3.57**	**25**	Pn	**Pn**	**20 35 13.5**	**-1.1**
TCF				Pg	**Pg**	**20 35 27.2**	**+0.1**
TCF				Lg		20 36 13.2	
	22nm,0.4s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg	**Pg**	**20 35 27.2**	**+0.1**
TCF				*e*Sg	**Sg**	**20 36 13.2**	**-0.2**
	22nm,0.4s						
AGO	**Saint Agoulin**	**3.71**	**36**	Pn	**Pn**	**20 35 17.9**	**+1.4**
AGO				Sg	**Sg**	**20 36 18.6**	**+0.6**
VIVF	**Saint-Julien-l**	**3.80**	**61**	*e*Pg	**Pg**	**20 35 31.5**	**-0.1**
VIVF				*e*Sg	**Sg**	**20 36 18.9**	**-2.0**
	53nm,0.6s						
VIVF	**Saint-Julien-l**	**3.80**	**61**	*e*Pn	**Pn**	**20 35 20.6**	**+2.8**
VIVF				*e*Pg	**Pg**	**20 35 31.5**	**-0.1**
VIVF				*e*Sg	**Sg**	**20 36 18.9**	**-2.0**
VIVF	**Saint-Julien-l**	**3.80**	**61**	Pn	**Pn**	**20 35 20.6**	**+2.8**
VIVF				Pg	**Pg**	**20 35 31.5**	**-0.1**
VIVF				Lg		20 36 18.9	
	26nm,0.6s						
VIVF	**Saint-Julien-l**	**3.80**	**61**	*e*Pg	**Pg**	**20 35 31.5**	**-0.1**
VIVF				*e*Sg	**Sg**	**20 36 18.9**	**-2.0**
	26nm,0.6s						
EARI	**Arriondas**	**3.83**	**275**	Pn	**Pn**	**20 35 20.1**	**+2.0**
	5.9nm,0.6s,SNR=10						
EARI				Sn	**Sn**	**20 36 03.4**	**+0.1**
	34nm,1.1s,SNR=5.0						
EARI	**Arriondas**	**3.83**	**275**	Pn	**Pn**	**20 35 20.1**	**+2.0**
	5.9nm,0.6s,SNR=10						
EARI				Sn	**Sn**	**20 36 03.4**	**+0.1**
	34nm,1.1s,SNR=5.0						
PLDF	**La Plantade**	**3.87**	**41**	Pn	**Pn**	**20 35 23.1**	**+4.4**
PLDF				Sg	**Sg**	**20 36 25.1**	**+1.9**
ETOS	**Mallorca**	**3.92**	**147**	Pn	**Pn**	**20 35 19.6**	**+0.2**
	10nm,0.7s,SNR=

	24nm,0.7s									
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pg	**Pg**	**20 35 44.2**	**-0.5**
SMF				*e*Sg	**Sg**	**20 36 41.9**	**-0.9**
	28nm,0.6s						
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pn	**Pn**	**20 35 27.0**	**-0.1**
SMF				*e*Pg	**Pg**	**20 35 44.2**	**-0.5**
SMF				*e*Sg	**Sg**	**20 36 41.9**	**-0.9**
SMF	**Signal de Mont**	**4.49**	**36**	Pn	**Pn**	**20 35 27.0**	**-0.1**
SMF				Pg	**Pg**	**20 35 44.2**	**-0.5**
SMF				Lg		20 36 41.9	
	14nm,0.6s						
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pg	**Pg**	**20 35 44.2**	**-0.5**
SMF				*e*Sg	**Sg**	**20 36 41.9**	**-0.9**
	14nm,0.6s						
ESDC	**Sonseca Array**	**4.53**	**223**	Pn	**Pn**	**20 35 27.8**	**+0.1**
	1.1nm,0.2s,baz=42,slow=14,SNR=28						
ESDC				Sn	**Sn**	**20 36 17.0**	**-3.7**
	6.1nm,0.2s,baz=44,slow=24,SNR=5.3						
ESDC				Lg		20 36 39.9	
	11nm,0.8s,baz=42,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**4.53**	**223**	Pn	**Pn**	**20 35 27.8**	**+0.1**
	1.1nm,0.2s,SNR=28						
ESDC				Sn	**Sn**	**20 36 17.0**	**-3.7**
	6.1nm,0.2s,SNR=5.3						
HYF	**Humbligny**	**4.58**	**23**	*e*Pn	**Pn**	**20 35 29.5**	**+1.0**
HYF				*e*Pg	**Pg**	**20 35 46.2**	**-0.3**
HYF				*e*Sg	**Sg**	**20 36 46.7**	**+0.8**
ETOB	**Tobarra**	**4.59**	**195**	Pn	**Pn**	**20 35 29.0**	**+0.5**
	2.0nm,0.5s,SNR=12						
ETOB				Sn	**Sn**	**20 36 18.6**	**-3.4**
	8.7nm,0.6s,SNR=5.0						
ETOB				Lg		20 36 43.9	
	1.0nm,0.2s,SNR=5.4						
ETOB	**Tobarra**	**4.59**	**195**	Pn	**Pn**	**20 35 29.0**	**+0.5**
	2.0nm,0.5s,SNR=12						
ETOB				Sn	**Sn**	**20 36 18.6**	**-3.5**
	8.7nm,0.6s,SNR=5.0						
ORIF	**Oris-en-Rattie**	**4.62**	**65**	*e*Sg	**Sg**	**20 36 46.5**	**-0.4**
	16nm,0.7s						
ORIF	**Oris-en-Rattie**	**4.62**	**65**	*e*Sg	**Sg**	**20 36 46.5**	**-0.4**
	7.9nm,0.7s						
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pg	**Pg**	**20 35 48.1**	**-0.4**
SSF				*e*Sg	**Sg**	**20 36 49.1**	**-0.2**
	35nm,0.6s						
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pn	**Pn**	**20 35 29.4**	**-0.5**
SSF				*e*Pg	**Pg**	**20 35 48.1**	**-0.4**
SSF				*e*Sg	**Sg**	**20 36 49.1**	**-0.2**
SSF	**Saint Saulge**	**4.69**	**31**	Pn	**Pn**	**20 35 29.4**	**-0.5**
SSF				Pg	**Pg**	**20 35 48.1**	**-0.4**
SSF				Lg		20 36 49.1	
	17nm,0.6s						
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pg	**Pg**	**20 35 48.1**	**-0.4**
SSF				*e*Sg	**Sg**	**20 36 49.1**	**-0.2**
	17nm,0.6s						
LMR	**La Mourre**	**4.76**	**85**	*e*Pn	**Pn**	**20 35 32.4**	**+1.5**
LMR				*e*Pg	**Pg**	**20 35 48.1**	**-1.8**
FRF	**La Foret Royal**	**4.87**	**82**	*e*Pg	**Pg**	**20 35 50.7**	**-1.2**
FRF				*e*Sg	**Sg**	**20 36 51.5**	**-3.5**
	17nm,0.6s						
FRF	**La Foret Royal**	**4.87**	**82**	*e*Pn	**Pn**	**20 35 36.1**	**+3.8**
FRF				*e*Pg	**Pg**	**20 35 50.7**	**-1.2**
FRF				*e*Sg	**Sg**	**20 36 51.5**	**-3.5**
FRF	**La Foret Royal**	**4.87**	**82**	Pn	**Pn**	**20 35 36.1**	**+3.8**
FRF				Pg	**Pg**	**20 35 50.7**	**-1.2**
FRF				Lg		20 36 51.5	
	8.4nm,0.6s						
FRF	**La Foret Royal**	**4.87**	**82**	*e*Pg	**Pg**	**20 35 50.7**	**-1.2**
FRF				*e*Sg	**Sg**	**20 36 51.5**	**-3.5**
	8.4nm,0.6s						
LOR	**Lormes**	**4.99**	**32**	*e*Pg	**Pg**	**20 35 53.8**	**-0.6**
LOR				*e*Sg	**Sg**	**20 36 58.3**	**-0.8**
	19nm,0.3s						
LOR	**Lormes**	**4.99**	**32**	*e*Pn	**Pn**	**20 35 34.3**	**+0.2**
LOR				*e*Pg	**Pg**	**20 35 53.8**	**-0.6**
LOR				*e*Sg	**Sg**	**20 36 58.3**	**-0.8**
LOR	**Lormes**	**4.99**	**32**	Pn	**Pn**	**20 35 34.3**	**+0.2**
LOR				Pg	**Pg**	**20 35 53.8**	**-0.6**
LOR				Lg		20 36 58.3	
	9.6nm,0.3s						
LOR	**Lormes**	**4.99**	**32**	*e*Pg	**Pg**	**20 35 53.8**	**-0.6**
LOR				*e*Sg	**Sg**	**20 36 58.3**	**-0.8**
	9.6nm,0.3s						
ECAL	**Calabor**	**5.12**	**259**	Pn	**Pn**	**20 35 37.1**	**+1.3**
	9.8nm,0.3s,SNR=5.2						
ECAL				Sn	**Sn**	**20 36 33.2**	**-1.9**
	4.2nm,0.3s,SNR=7.9						
ECAL				Lg		20 37 03.1	
	2.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.12**	**259**	Pn	**Pn**	**20 35 37.1**	**+1.3**
	9.8nm,0.3s,SNR=5.2						
ECAL				Sn	**Sn**	**20 36 33.2**	**-1.9**
	4.2nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.16**	**258**	*e*Pn	**Pn**	**20 35 38.2**	**+1.8**
PBRG				*e*Sn	**Sn**	**20 36 35.5**	**-0.6**
PBRG							
	4.4nm,0.4s						
PBRG	**Braganca**	**5.16**	**258**	*e*Pn	**Pn**	**20 35 38.2**	**+1.8**
PBRG				*e*Sn	**Sn**	**20 36 35.5**	**-0.6**
	4.4nm,0.4s						
EPON	**Pontenova**	**5.24**	**275**	Pn	**Pn**	**20 35 38.4**	**+0.9**
	0.5nm,0.1s,SNR=5.8						
EPON				Sn	**Sn**	**20 36 37.5**	**-0.7**
	2.1nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**5.24**	**275**	Pn	**Pn**	**20 35 38.4**	**+0.9**
	0.5nm,0.1s,SNR=5.8						
EPON				Sn	**Sn**	**20 36 37.5**	**-0.7**
	2.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.32**	**191**	Pn	**Pn**	**20 35 38.5**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**5.32**	**191**	Pn	**Pn**	**20 35 38.5**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
QUIF	**Quistinic**	**5.33**	**336**	*e*Pg	**Pg**	**20 35 58.9**	**-1.9**
QUIF				*e*Sn	**Sn**	**20 36 37.0**	**-3.3**
QUIF				*e*Sg	**Sg**	**20 37 09.4**	**-0.4**
	10nm,0.4s						
QUIF	**Quistinic**	**5.33**	**336**	*e*Pn	**Pn**	**20 35 37.5**	**-1.2**
QUIF				*e*Pg	**Pg**	**20 35 58.9**	**-1.9**
QUIF				*e*Sn	**Sn**	**20 36 37.0**	**-3.3**
QUIF				*e*Sg	**Sg**	**20 37 09.4**	**-0.4**
QUIF	**Quistinic**	**5.33**	**336**	Pn	**Pn**	**20 35 37.5**	**-1.2**
QUIF				Pg	**Pg**	**20 35 58.9**	**-1.9**
QUIF				Sn	**Sn**	**20 36 37.0**	**-3.3**
QUIF				Lg		20 37 09.4	
	5.2nm,0.4s						
QUIF	**Quistinic**	**5.33**	**336**	*e*Pn	**Pn**	**20 35 37.5**	**-1.2**
QUIF	**Quistinic**	**5.33**	**336**	*e*Pg	**Pg**	**20 35 58.9**	**-1.9**
QUIF				*e*Sn	**Sn**	**20 36 37.0**	**-3.3**
QUIF				*e*Sg	**Sg**	**20 37 09.4**	**-0.4**
	5.2nm,0.4s						
GRR	**Gorron**	**5.34**	**354**	*e*Pg	**Pg**	**20 35 59.3**	**-1.8**
GRR				*e*Sn	**Sn**	**20 36 37.0**	**-3.7**
GRR				*e*Sg	**Sg**	**20 37 10.8**	**+0.5**
	22nm,0.5s						
GRR	**Gorron**	**5.34**	**354**	*e*Pn	**Pn**	**20 35 39.0**	**+0.1**
GRR				*e*Pg	**Pg**	**20 35 59.3**	**-1.8**
GRR				*e*Sn	**Sn**	**20 36 37.0**	**-3.7**
GRR				*e*Sg	**Sg**	**20 37 10.8**	**+0.5**
GRR	**Gorron**	**5.34**	**354**	Pn	**Pn**	**20 35 39.0**	**+0.1**
GRR				Pg	**Pg**	**20 35 59.3**	**-1.8**
GRR				Sn	**Sn**	**20 36 37.0**	**-3.7**
GRR				Lg		20 37 10.8	
	11nm,0.5s						
GRR	**Gorron**	**5.34**	**354**	*e*Pn	**Pn**	**20 35 39.0**	**+0.1**
GRR	**Gorron**	**5.34**	**354**	*e*Pg	**Pg**	**20 35 59.3**	**-1.8**
GRR				*e*Sn	**Sn**	**20 36 37.0**	**-3.7**
GRR				*e*Sg	**Sg**	**20 37 10.8**	**+0.5**
	11nm,0.5s						
LPL	**La Plagne**	**5.40**	**61**	*e*Pg	**Pg**	**20 36 02.3**	**+0.1**
LPL				*e*Sg	**Sg**	**20 37 10.1**	**-2.1**
	7.0nm,0.6s						
LPL	**La Plagne**	**5.40**	**61**	*e*Pn	**Pn**	**20 35 45.7**	**+6.0**
LPL				*e*Pg	**Pg**	**20 36 02.3**	**+0.1**
LPL				*e*Sg	**Sg**	**20 37 10.1**	**-2.1**
LPL	**La Plagne**	**5.40**	**61**	Pn	**Pn**	**20 35 45.7**	**+6.0**
LPL				Pg	**Pg**	**20 36 02.3**	**+0.1**
LPL				Lg		20 37 10.1	
	3.5nm,0.6s						
LPL	**La Plagne**	**5.40**	**61**	*e*Sg	**Sg**	**20 37 10.1**	**-2.1**
	3.5nm,0.6s						
LPG	**La Plagne**	**5.41**	**61**	*e*Pg	**Pg**	**20 36 02.3**	**0.0**
LPG				*e*Sg	**Sg**	**20 37 12.3**	**-0.1**
	23nm,0.9s						
LPG	**La Plagne**	**5.41**	**61**	*e*Pn	**Pn**	**20 35 42.2**	**+2.4**
LPG				*e*Pg	**Pg**	**20 36 02.3**	**0.0**
LPG				*e*Sg	**Sg**	**20 37 12.3**	**-0.1**
LPG	**La Plagne**	**5.41**	**61**	Pn	**Pn**	**20 35 42.2**	**+2.4**
LPG				Pg	**Pg**	**20 36 02.3**	**0.0**
LPG				Lg		20 37 12.3	
	12nm,0.9s						
LPG	**La Plagne**	**5.41**	**61**	*e*Pn	**Pn**	**20 35 42.2**	**+2.4**
LPG				*e*Sg	**Sg**	**20 37 12.3**	**-0.1**
	12nm,0.9s						
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pg	**Pg**	**20 36 01.6**	**-2.1**
SGMF				*e*Sn	**Sn**	**20 36 42.6**	**-1.5**
SGMF				*e*Sg	**Sg**	**20 37 13.1**	**-1.6**
	22nm,0.5s						
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pn	**Pn**	**20 35 40.7**	**-0.1**
SGMF				*e*Pg	**Pg**	**20 36 01.6**	**-2.1**
SGMF				*e*Sn	**Sn**	**20 36 42.6**	**-1.5**
SGMF				*e*Sg	**Sg**	**20 37 13.1**	**-1.6**
SGMF	**Saint Gilles**	**5.48**	**342**	Pn	**Pn**	**20 35 40.7**	**-0.1**
SGMF				Pg	**Pg**	**20 36 01.6**	**-2.1**
SGMF				Sn	**Sn**	**20 36 42.6**	**-1.5**
SGMF				Lg		20 37 13.1	
	11nm,0.5s						
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pn	**Pn**	**20 35 40.7**	**-0.1**
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pg	**Pg**	**20 36 01.6**	**-2.1**
SGMF				*e*Sn	**Sn**	**20 36 42.6**	**-1.5**
SGMF				*e*Sg	**Sg**	**20 37 13.1**	**-1.6**
	11nm,0.5s						
LDF	**La Druitiere**	**5.51**	**359**	*e*Pg	**Pg**	**20 36 02.9**	**-1.5**
LDF				*e*Sn	**Sn**	**20 36 41.1**	**-3.9**
LDF				*e*Sg	**Sg**	**20 37 16.2**	**+0.4**
	17nm,0.5s						
LDF	**La Druitiere**	**5.51**	**359**	*e*Pn	**Pn**	**20 35 39.9**	**-1.4**
LDF				*e*Pg	**Pg**	**20 36 02.9**	**-1.5**
LDF				*e*Sn	**Sn**	**20 36 41.1**	**-3.9**
LDF				*e*Sg	**Sg**	**20 37 16.2**	**+0.4**
LDF	**La Druitiere**	**5.51**	**359**	*e*Pg	**Pg**	**20 36 02.9**	**-1.5**
LDF				*e*Sn	**Sn**	**20 36 41.1**	**-3.9**
LDF				*e*Sg	**Sg**	**20 37 16.2**	**+0.4**
	8.4nm,0.5s						
CABF	**La Chapelle**	**5.58**	**49**	*e*Pg	**Pg**	**20 36 04.9**	**-0.7**
CABF				*e*Sg	**Sg**	**20 37 18.0**	**+0.2**
	29nm,0.6s						
CABF	**La Chapelle**	**5.58**	**49**	*e*Pg	**Pg**	**20 36 04.9**	**-0.7**
CABF				*e*Sg	**Sg**	**20 37 18.0**	**+0.2**
	15nm,0.6s						
FLN	**La Foliniere**	**5.69**	**357**	*e*Pg	**Pg**	**20 36 07.2**	**-0.6**
FLN				*e*Sn	**Sn**	**20 36 45.0**	**-4.4**
FLN				*e*Sg	**Sg**	**20 37 20.1**	**-1.5**
	10nm,0.3s						
FLN	**La Foliniere**	**5.69**	**357**	*e*Pn	**Pn**	**20 35 42.3**	**-1.4**
FLN				*e*Pg	**Pg**	**20 36 07.2**	**-0.6**
FLN				*e*Sn	**Sn**	**20 36 45.0**	**-4.4**
FLN				*e*Sg	**Sg**	**20 37 20.1**	**-1.5**
FLN	**La Foliniere**	**5.69**	**357**	Pn	**Pn**	**20 35 42.3**	**-1.4**
FLN				Pg	**Pg**	**20 36 07.2**	**-0.6**
FLN				Sn	**Sn**	**20 36 45.0**	**-4.4**
FLN				Lg		20 37 20.1	
	5.2nm,0.3s						
FLN	**La Foliniere**	**5.69**	**357**	*e*Pn	**Pn**	**20 35 42.3**	**-1.4**
FLN	**La Foliniere**	**5.69**	**357**	*e*Pg	**Pg**	**20 36 07.2**	**-0.6**
FLN				*e*Sn	**Sn**	**20 36 45.0**	**-4.4**
FLN				*e*Sg	**Sg**	**20 37 20.1**	**-1.5**
	5.2nm,0.3s						
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pg	**Pg**	**20 36 06.2**	**-2.4**
ROSF				*e*Sn	**Sn**	**20 36 45.9**	**-4.5**
ROSF				*e*Sg	**Sg**	**20 37 22.1**	**-0.9**
	9.9nm,0.5s						
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pn	**Pn**	**20 35 43.9**	**-0.4**
ROSF				*e*Pg	**Pg**	**20 36 06.2**	**-2.4**
ROSF				*e*Sn	**Sn**	**20 36 45.9**	**-4.5**
ROSF				*e*Sg	**Sg**	**20 37 22.1**	**-0.9**
ROSF	**Rostrenen**	**5.74**	**338**	Pn	**Pn**	**20 35 43.9**	**-0.4**
ROSF				Pg	**Pg**	**20 36 06.2**	**-2.4**
ROSF				Sn	**Sn**	**20 36 45.9**	**-4.5**
ROSF				Lg		20 37 22.1	
	4.9nm,0.5s						
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pn	**Pn**	**20 35 43.9**	**-0.4**
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pg	**Pg**	**20 36 06.2**	**-2.4**
ROSF				*e*Sn	**Sn**	**20 36 45.9**	**-4.5**
ROSF				*e*Sg	**Sg**	**20 37 22.1**	**-0.9**
	4.9nm,0.5s						
PVRL	**Vila Real**	**6.02**	**255**	*e*Sn	**Sn**	**20 36 56.0**	**-1.4**
PVRL							
	3.2nm,0.1s						
PVRL	**Vila Real**	**6.02**	**255**	Sn	**Sn**	**20 36 56.0**	**-1.4**
	1.6nm,0.1s						
EADA	**Adamuz**	**6.02**	**217**	Pn	**Pn**	**20 35 49.0**	**+0.8**
	1.0nm,0.3s,SNR=5.8						
EADA				Sn	**Sn**	**20 36 53.4**	**-4.1**
	0.5nm,0.2s,SNR=7.9						
EADA				Lg		20 37 30.1	
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.02**	**217**	Pn	**Pn**	**20 35 49.0**	**+0.8**
	1.0nm,0.3s,SNR=5.8						
EADA				Sn	**Sn**	**20 36 53.4**	**-4.0**
	0.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**6.36**	**251**	*e*Sn	**Sn**	**20 37 01.2**	**-4.5**
EQUE	**Quentar**	**6.44**	**205**	Pn	**Pn**	**20 35 57.4**	**+3.4**
	0.6nm,0.3s,SNR=7.9						
EQUE				Sn	**Sn**	**20 37 03.8**	**-3.9**
	1.2nm,0.4s,SNR=7.9						
EQUE				Lg		20 37 42.3	
	7.5nm,0.7s,SNR=7.9						
MEZF	**Maizieres J'vi**	**6.46**	**31**	*e*Sg	**Sg**	**20 37 47.0**	**+0.7**
	26nm,0.6s						
MEZF	**Maizieres J'vi**	**6.46**	**31**	Lg		20 37 47.0	
	26nm,0.6s						
PCBR	**Castelo Branco**	**6.49**	**243**	*e*Pn	**Pn**	**20 35 55.6**	**+0.9**
PCBR				*e*Sn	**Sn**	**20 37 05.3**	**-3.7**
PCBR							
	3.1nm,0.6s						
EMAZ	**Mazaricos**	**6.59**	**272**	Pn	**Pn**	**20 35 57.2**	**+1.2**
	0.7nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.59**	**272**	Pn	**Pn**	**20 35 57.2**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
PGF	**Pioggiola**	**6.63**	**92**	*e*Pn	**Pn**	**20 35 58.1**	**+1.5**
PGF				*e*Sn	**Sn**	**20 37 06.6**	**-5.9**
	2.4nm,0.3s						
PGF	**Pioggiola**	**6.63**	**92**	*e*Pn	**Pn**	**20 35 58.1**	**+1.5**
PGF				*e*Sn	**Sn**	**20 37 06.6**	**-5.9**
	1.2nm,0.3s						
HAU	**Haudompre**	**6.64**	**40**	*e*Sg	**Sg**	**20 37 52.5**	**+0.7**
	15nm,0.7s						
HAU	**Haudompre**	**6.64**	**40**	Lg		20 37 52.5	
	7.7nm,0.7s						
HINF	**Hinteralfeld**	**6.75**	**43**	*e*Sg	**Sg**	**20 37 54.4**	**-1.0**
	10nm,0.6s						
HINF	**Hinteralfeld**	**6.75**	**43**	*e*Sg	**Sg**	**20 37 54.4**	**-1.0**
	5.1nm,0.6s						
EBAD	**Badajoz**	**6.85**	**233**	Pn	**Pn**	**20 35 59.2**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**20 37 13.0**	**-4.9**
	2.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.85**	**233**	Pn	**Pn**	**20 35 59.2**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**20 37 13.0**	**-4.9**
	2.2nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**7.13**	**236**	*e*Pn	**Pn**	**20 36 03.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**20 37 20.3**	**-4.3**
PESTR							
	3.4nm,0.6s						
PESTR	**Estremoz**	**7.13**	**236**	*e*Pn	**Pn**	**20 36 03.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**20 37 20.3**	**-4.3**
	3.4nm,0.6s						
EMIN	**Mina Concepcio**	**7.36**	**226**	Pn	**Pn**	**20 36 07.9**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**20 37 24.2**	**-6.1**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.36**	**226**	Pn	**Pn**	**20 36 07.9**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
CDF	**Champ du Feu**	**7.36**	**41**	*e*Sg	**Sg**	**20 38 16.1**	**+1.0**
	9.7nm,0.7s						
CDF	**Champ du Feu**	**7.36**	**41**	Lg		20 38 16.1	
	4.8nm,0.7s						
EMIJ	**Mijas**	**7.47**	**211**	Pn	**Pn**	**20 36 09.5**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
EVO	**Evora**	**7.59**	**236**	*e*Pn	**Pn**	**20 36 10.9**	**+1.1**
EVO				*e*Sn	**Sn**	**20 37 30.9**	**-5.3**
MOE	**Montemor**	**7.81**	**237**	*e*Pn	**Pn**	**20 36 12.8**	**+0.1**
MOE				*e*Sn	**Sn**	**20 37 37.3**	**-4.1**
PBEJ	**Beja**	**7.84**	**233**	*e*Sn	**Sn**	**20 37 36.9**	**-5.2**

*IDC **18** 20:39:24.8±0.5, 46.74N×155.05E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML3.7/1, MS3.7/10, Ms1 3.7/10, ms1mx3.2/44, Error ellipse: s-maj=15.4km s-min=13.1km az=125.0*

*ISCJB **18** 20:39:25.2±0.4, 4679N×006×155.18E×007, h10km, mb4.5/63, MS3.8/15, Error ellipse: s-maj=8.8km s-min=5.9km az=108.5*

*NEIC **18** 20:39:27.0±0.4, 4681N×155.15E, h10km, mb4.6/24, Error ellipse: s-maj=11.6km s-min=8.4km az=136.0*

*MOS **18** 20:39:29.8±1.6, 4680N×15502E, h41km, mb4.7/19, Error ellipse: s-maj=10.6km s-min=6.4km az=106.9*

*BJI **18** 20:39:30.4, 4723N×154.33E, h10km, mB5.0, mb4.5, Ms4.1, Msz3.7*

*SZGRF **18** 20:39:37.4, 4772N×154.54E, h33km, mb4.9, Kuril Islands, Russia*

ISC 18 20:39:27.8±2.3, 4685N±006×15519E±007, h16km±13km, h15km±2.3km:pP-P,n141,σ1§26/136,mb4.5/63,MS3.8/15, 9C-6D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**9**	*e*PN	**Pn**	**20 40 26.0**	**-0.8**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
PET	**Petropavlovsk**	**6.57**	**19**	*e*PN	**Pn**	**20 41 03.9**	**+0.2**
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**6.57**	**19**	*e*Pn	**Pn**	**20 41 02.2**	**-1.5**
	comp=Z,17nm,0.4s						
PET				*e*Sn	**Sn**	**20 42 14.9**	**-3.4**
YSS	**Yuzh-Sakhalins**	**8.52**	**275**	*e*PN	**Pn**	**20 41 31.7**	**+1.2**
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
ASAJ	**Asahikawa**	**9.26**	**257**	Pn	**Pn**	**20 41 39.6**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=92,slow=14,SNR=8.1						
ASAJ				LR	LR	20 45 47.7	
	comp=Z,167nm,18.0s,baz=177,slow=42						
ASAJ	**Asahikawa**	**9.26**	**257**	PN	**Pn**	**20 41 39.6**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,167nm,18.0s						
ERM	**Erimo**	**9.87**	**245**	*e*PN	**Pn**	**20 41 47.4**	**-1.6**
ERM				pmax	pmax		
	comp=Z,18nm,0.6s						
ERM	**Erimo**	**9.87**	**245**	*e*Pn	**Pn**	**20 41 47.4**	**-1.6**
	comp=Z,18nm,0.6s						
ERM				*e*Sn	**Sn**	**20 43 28.2**	**-11**
KLR	**Kul'dur**	**15.85**	**287**	*e*P	**Pn**	**20 43 11.2**	**+1.0**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MAJO	**Matsushiro**	**16.31**	**237**	*e*P	**Pn**	**20 43 11.0**	**-5.1**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s						
MAJO	**Matsushiro**	**16.31**	**237**	*e*Pn	**Pn**	**20 43 11.0**	**-5.1**
	comp=Z,20nm,0.9s						
MAT	**Matsushiro**	**16.31**	**237**	P	**Pn**	**20 43 11.7**	**-4.4**
MJAR	**Matsushiro Arr**	**16.31**	**237**	Pn	**Pn**	**20 43 11.8**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=7.9						
YAK	**Yakutsk**	**21.03**	**326**	*e*P	**P**	**20 44 11.1**	**+0.3**
YAK				*e*S	**S**	**20 47 56.5**	**-7.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.4						
YAK				pmax	pmax		
	comp=N,11nm,1.4s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
YAK				smax			
	comp=E,15nm,1.2s						
YAK				smax			
	comp=N,19nm,0.9s						
YAK				MLR	MLR		
	comp=Z,124nm,16.0s,MS3.4						
YAK				MLR	MLR		
	comp=N,80nm,14.0s,MS3.4						
YAK				MLR	MLR		
	comp=E,90nm,17.0s,MS3.4						
YAK	**Yakutsk**	**21.03**	**326**	*e*P	**P**	**20 44 10.3**	**-0.5**
	comp=E,21nm,0.8s,mb4.5						
CLNS	**Chul'man**	**21.05**	**309**	*e*P	**P**	**20 44 13.4**	**+2.4**
CLNS				*e*		20 44 29.0	
CLNS				*e*PPP		20 44 33.9	
CLNS				*e*S	**S**	**20 48 04.4**	**-0.4**
CLNS				*e*		20 48 14.3	
CLNS				*e*SS		20 48 39.4	
CLNS				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.4						
CLNS				pmax	pmax		
	comp=N,15nm,1.2s						
CLNS				pmax	pmax		
	comp=E,19nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,1.1s						
CLNS				smax			
	comp=N,16nm,1.0s						
CLNS				smax			
	comp=Z,5.0nm,0.8s						
CLNS				smax			
	comp=E,9.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.6						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s,MS4.6						
CN2	**Changchun**	**21.07**	**273**	*e*P	**P**	**20 44 06.8**	**-4.5**
CN2				AMB	AMB		
	comp=

LZH sP sP 20 47 05.0 +2.0
GTA Gaotai 40.36 280 *e*P **P** **20 47 06.0 +1.2**
GTA AP pP 20 47 09.3 -0.5
GTA XP sP 20 47 12.5 +0.7
GTA PCP PcP 20 49 08.3 +0.4
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.0
INK Inuvik 40.80 33 P **P** **20 47 09.1 +0.7**
comp=Z,2.4nm,0.6s,mb4.0,baz=290,slow=4.6,SNR=11
INK PCP PcP 20 49 08.1 -1.2
comp=Z,2.2nm,0.6s,baz=313,slow=5.2,SNR=4.9
CD2 Chengdu 42.31 267 P **P** **20 47 26.4 +5.6**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA Guiyang 43.13 259⇓ *i*P **P** **20 47 27.1 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
ZAL Zalesovo 43.72 306 P **P** **20 47 30.2 -1.9**
comp=Z,1.9nm,0.5s,mb4.1,baz=36,slow=9.8,SNR=7.8
ZAL LR LR 21 07 27.7
comp=Z,145nm,20.8s,MS3.9,baz=42,slow=38
NVS Novosibirsk 44.26 308 *e*P **P** **20 47 35.3 -1.2**
KMI Kunming 46.67 261 P **P** **20 47 56.0 +0.4**
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
KMI Kunming 46.67 261 P **P** **20 47 56.0 +0.4**
comp=Z,6.0nm,1.3s,mb4.4
MKAR Makanchi Array 48.16 298 P **P** **20 48 07.0 -0.2**
comp=Z,2.9nm,0.8s,mb4.4,baz=71,slow=6.1,SNR=13
MKAR PcP PcP 20 49 33.9 -0.6
comp=Z,0.7nm,0.6s,baz=60,slow=4.1,SNR=2.4
RES Resolute Bay 50.28 19 *e*P **P** **20 48 28.8 +5.4**
RES pmax pmax
comp=Z,369nm,1.3s
RES Resolute Bay 50.28 19 *e*P **P** **20 48 28.8 +5.4**
comp=Z,369nm,1.3s
CHKZ Chkalovo 51.45 311 *e*P **P** **20 48 30.5 -1.7**
CHKZ pmax pmax
comp=Z,13nm,0.5s,mb5.1
CHKZ Chkalovo 51.45 311 *e*P **P** **20 48 30.5 -1.8**
comp=Z,13nm,0.5s,mb5.1
LSA Lhasa 51.69 274 P **P** **20 48 37.0 +3.0**
LSA Lhasa 51.69 274 *e*P **P** **20 48 37.0 +3.0**
LSA pmax pmax
comp=Z,29nm,0.7s,mb5.3
LSA Lhasa 51.69 274 *e*P **P** **20 48 37.0 +2.9**
comp=Z,29nm,0.7s,mb5.3
BVAR Borovoye Array 51.89 310 P **P** **20 48 34.8 -0.8**
comp=Z,3.9nm,0.4s,mb4.7,baz=54,slow=7.6,SNR=24
BVAR PcP PcP 20 49 47.5 -0.7
comp=Z,2.9nm,0.8s,baz=66,slow=1.8,SNR=4.5
BVAR LR LR 21 13 57.6
comp=Z,108nm,18.8s,MS3.9,baz=316,slow=40
BVAR Borovoye Array 51.89 310 P **P** **20 48 34.8 -0.7**
BVAR 20 49 47.5
BRVK Borovoye 51.93 310 *e*P **P** **20 48 34.8 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 51.93 310 *e*P **P** **20 48 34.8 -1.1**
comp=Z,5.9nm,0.6s,mb4.7
AAK Ala-Archa 55.06 297 *i*P **P** **20 48 58.2 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
AAK MLR MLR
comp=Z,100nm,20.0s,MS3.9
AAK Ala-Archa 55.06 297 *e*P **P** **20 48 57.7 -1.1**
comp=Z,3.2nm,0.7s,mb4.5
ARU Arti 55.90 318⇓ *i*P **P** **20 49 04.2 -0.6**
ARU *e* 20 51 06.8
ARU *e*PPP 20 52 22.8
ARU *e*S **S** **20 56 50.6 -1.2**
ARU *e*SS SS 21 00 37.1 -0.4
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 55.90 318 *e*P **P** **20 49 03.6 -1.2**
comp=Z,7.7nm,0.5s,mb5.0
JIRN Jiri 56.36 276 *e*P **P** **20 49 10.2 +2.1**
comp=Z,23nm,0.8s,mb5.2
KKN Kakani 56.90 277 *e*P **P** **20 49 14.5 +2.6**
comp=Z,13nm,0.8s,mb5.0
DMN Daman 57.13 277 *e*P **P** **20 49 16.1 +2.5**
comp=Z,39nm,0.9s,mb5.5
GKN Gorkha 57.20 277 *e*P **P** **20 49 15.6 +1.5**
comp=Z,31nm,0.8s,mb5.4
KEV Kevo 57.72 341 *e*p **P** **20 49 15.1 -2.6**
comp=Z,6.2nm,0.7s,mb4.8
KEV Kevo 57.72 341 *e*P **P** **20 49 15.1 -2.6**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KOLN Koldanda 58.05 278 *e*P **P** **20 49 22.7 +2.6**
comp=Z,17nm,0.9s,mb5.1
ARCES ARCESS Array B 58.22 341 P **P** **20 49 20.8 -0.5**
comp=Z,3.5nm,0.8s,mb4.4,baz=39,slow=7.8,SNR=8.6
ARCES LR LR 21 17 28.2
comp=Z,91nm,18.4s,MS3.9,baz=34,slow=39
ARCES ARCESS Array B 58.22 341 P **P** **20 49 20.8 -0.5**
ARCES LR LR 21 17 28.2
NVAR Mina Array Bea 61.12 64 P **P** **20 49 42.4 +1.2**
comp=Z,0.8nm,0.6s,mb4.0,baz=304,slow=8.1,SNR=8.6
NVAR Mina Array Bea 61.12 64 P **P** **20 49 42.4 +1.2**
PDAR Pinedale Array 63.53 55 P **P** **20 49 58.4 +1.1**
comp=Z,1.9nm,0.8s,mb4.2,baz=294,slow=3.7,SNR=14
PDAR PP PP 20 52 16.9 -0.2
comp=Z,1.1nm,1.0s,baz=302,slow=2.8,SNR=3.6
FINES FINESS Array B 64.55 336 P **P** **20 50 03.4 -0.7**
comp=Z,7.4nm,0.6s,mb4.9,baz=36,slow=7.9,SNR=20
ULM Lac du Bonnet 65.50 42 P **P** **20 50 10.3 0.0**
comp=Z,1.8nm,0.6s,mb4.3,baz=357,slow=5.2,SNR=3.6
OBN Obninsk 66.02 326⇓ *e*P **P** **20 50 13.3 -0.3**
OBN *e*S S 20 58 59.4 -1.5
OBN pmax pmax
comp=Z,14nm,0.7s,mb5.1
NB2 NORSAR Subarra 68.58 342 P **P** **20 50 28.9 -0.9**
comp=Z,5.4nm,0.7s,mb4.6,baz=30,slow=6.5
NOA NORSAR Array B 68.58 342 P **P** **20 50 29.6 -0.2**
comp=Z,5.2nm,0.7s,mb4.6,baz=26,slow=6.4,SNR=11
NOA LR LR 21 28 18.8
comp=Z,50nm,18.3s,MS3.8,baz=40,slow=43
WRA Warramunga Arr 69.09 201 P **P** **20 50 31.4 -1.7**
comp=Z,2.3nm,0.8s,mb4.2,baz=20,slow=6.8,SNR=13
ECSD EROS,Sioux Fal 69.78 47 *e*P **P** **20 50 36.9 -0.3**
comp=Z,3.8nm,1.0s,mb4.3
FITZ Fitzroy Crossi 69.92 210 P **P** **20 50 37.6 -0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=27,slow=12,SNR=4.7
ANMO Albuquerque 70.56 60⇑ *e*P **P** **20 50 42.6 +0.6**
GOF Gofitskoye 70.76 316 *e*P **P** **20 50 52.6 +9.4**
KIV Kislovodsk 71.74 315 P **P** **20 50 51.8 +2.6**
KIV *e* 20 53 23.5
KIV *e*S S 21 00 11.8 +3.2
KIV pmax pmax
comp=Z,12nm,1.7s,mb4.5
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
AKASG Malin Array Be 72.25 327 P **P** **20 50 51.0 -1.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=33,slow=6.2,SNR=13
SCHQ Schefferville 72.65 24 LR LR 21 24 07.4
comp=Z,65nm,20.4s,MS3.9,baz=106,slow=37
AS31 Alice Springs 72.78 200 *e*P **P** **20 50 54.8 -0.6**
ASAR Alice Springs 72.78 200 P **P** **20 50 54.8 -0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=16,slow=5.3,SNR=29
GNI Garni 73.54 312 LR LR 21 28 06.3
comp=Z,49nm,18.2s,MS3.8,baz=326,slow=40
STHS Stebnicka Huta 76.13 331 *e*P **P** **20 51 17.7 +2.8**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.13 331 *e*P **P** **20 51 17.7 +2.8**
comp=Z,5.7nm,0.8s,mb4.5
LTX Lajitas 76.19 62 *e*P **P** **20 51 15.9 +0.7**
LTX *e* 20 51 27.7
LTX pmax pmax
comp=Z,22nm,1.3s,mb4.9
LTX Lajitas 76.19 62 *e*P **P** **20 51 15.9 +0.6**
comp=Z,22nm,1.3s,mb4.9
LTX *e*PcP PcP 20 51 27.7 +0.4
TXAR Lajitas Array 76.19 62 P **P** **20 51 16.1 +0.8**
comp=Z,9.6nm,0.7s,mb4.9,baz=302,slow=4.4,SNR=139
KOLS Kolonicke sedl 76.20 330 *e*P **P** **20 51 16.4 +1.1**
BURAR Bucovina Array 76.28 328⇑ *i*P **P** **20 51 15.4 -0.3**
OKC Ostrava-Krasne 76.76 333 *e*P **P** **20 51 22.9 +4.4**
UPC Upice 76.82 335 *e*P **P** **20 51 19.5 +0.7**
DPC Dobruska-Polom 76.86 334 *e*P **P** **20 51 19.2 +0.1**
DPC *e*pP pP 20 51 24.1 -0.3
CLL Collm 76.95 337 *e*P **P** **20 51 22.0 +2.5**
CLL pmax pmax
comp=Z,17nm,0.9s,mb5.0
CLL Collm 76.95 337 *e*P **P** **20 51 22.0 +2.5**
comp=Z,17nm,0.9s,mb5.0
CLL Collm 76.95 337 *e*P **P** **20 51 19.0 -0.5**
CLL *e*(pP) pP 20 51 22.0 -2.8
CLL *i* sP sP 20 51 24.3 -2.5
comp=Z,16nm,0.9s
MORC Moravsky Berou 77.00 333⇓ *i*P **P** **20 51 19.8 0.0**
MORC Moravsky Berou 77.00 333 ⇓P **P** **20 51 19.8 -0.1**
BRG Berggiesshubel 77.08 336 *e*P **P** **20 51 19.4 -0.9**
comp=Z,7.0nm,1.8s,mb4.3
BRG Berggiesshubel 77.08 336 *e*P **P** **20 51 19.4 -0.9**
BRG pmax pmax
comp=Z,7.0nm,1.8s,mb4.3
KECS Kecovo 77.19 331 *e*P **P** **20 51 23.1 +2.2**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 77.19 331 *e*P **P** **20 51 23.1 +2.2**
comp=Z,3.3nm,1.0s,mb4.2
PVCC Panska Ves 77.22 335 *e*P **P** **20 51 23.8 +2.8**
VYHS Vyhne 77.72 332 *e*P **P** **20 51 23.9 0.0**
MLR Muntele Rosu 77.79 326⇑ *i*P **P** **20 51 24.8 +0.6**
MLR Muntele Rosu 77.79 326⇑P **P** **20 51 24.8 +0.5**
NKC Novy Kostel 78.07 337 *e*P **P** **20 51 28.6 +2.8**
KHC Kasperske Hory 78.75 335 *e*P **P** **20 51 29.7 +0.1**
KHC *e*pP pP 20 51 34.8 -0.1
GRA1 Grafenberg Arr 78.90 337 *e*P **P** **20 51 30.6 +0.2**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.90 337 *e*P **P** **20 51 30.6 +0.2**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.90 337 *e*P **P** **20 51 30.6 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.90 337 *e*P **P** **20 51 30.6 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 78.98 335 P **P** **20 51 30.7 -0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=34,slow=5.0,SNR=12
CONA Conrad Observa 79.16 333⇑ *i*P **P** **20 51 29.3 -2.5**
comp=Z,4.3nm,1.0s,mb4.3
BZS Buzias 79.28 329⇑ *i*P **P** **20 51 32.3 -0.2**
BR131 Keskin Array S 79.28 318 *e*P **P** **20 51 32.4 -0.1**
comp=Z,2.5nm,0.9s,mb4.1
BRTR Keskin Array B 79.28 318 P **P** **20 51 32.6 +0.2**
comp=Z,1.6nm,1.0s,mb3.9,baz=3.7,slow=3.8,SNR=5.5
STKA Stephens Creek 79.32 192 P **P** **20 51 31.6 -1.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=334,slow=11,SNR=3.7
WATA Walderalm 80.95 336⇑ *i*P **P** **20 51 42.8 +1.3**
comp=Z,4.0nm,0.7s,mb4.4
MOTA Moosalm 81.07 336⇑ *i*P **P** **20 51 35.7 -6.4**
comp=Z,1.3nm,0.5s,mb4.1
MOTA Moosalm 81.07 336⇑ *i*P **P** **20 51 42.7 +0.6**
comp=Z,1.3nm,0.5s,mb4.1
GRR Gorron 82.88 344 *e*P **P** **20 51 51.1 -0.5**
comp=Z,55nm,1.4s,mb5.1
SMF Signal de Mont 83.56 341 *e*P **P** **20 51 54.4 -0.7**
comp=Z,57nm,1.3s,mb5.2
LPG La Plagne 83.94 338 *e*P **P** **20 51 57.0 -0.1**
comp=Z,16nm,0.8s,mb4.9
CAF Calviac 85.59 341 *e*P **P** **20 52 04.5 -0.9**
comp=Z,23nm,1.2s,mb5.0
NWAO Narrogin (SRO) 86.46 211 P **P** **20 52 08.0 -1.7**
comp=Z,4.2nm,0.7s,mb4.8,baz=41,slow=9.3,SNR=3.6
NWAO Narrogin (SRO) 86.46 211 P **P** **20 52 08.0 -1.7**
ESDC Sonseca Array 91.87 344 P **P** **20 52 34.2 -1.0**
comp=Z,0.6nm,0.6s,mb4.1,baz=9.0,slow=3.2,SNR=4.9
KEST Kesra 92.25 333 LR LR 21 40 54.2
comp=Z,35nm,18.2s,MS3.8,baz=180,slow=40
TORD Torodi Ar. Bea 115.72 331 PP PP 20 59 10.6 -1.6
comp=Z,0.9nm,1.0s,baz=351,slow=9.9,SNR=3.5
VNDA Vanda 124.16 178 PKP PKPdf 20 58 21.2 -4.4
comp=Z,0.4nm,0.7s,baz=281,slow=5.2,SNR=2.2
MAW Mawson 133.03 212 PKP PKPdf 20 58 40.5 -2.0
comp=Z,1.3nm,0.8s,baz=47,slow=3.5,SNR=4.0
MAW Mawson 133.03 212 PKIKP PKPdf 20 58 40.5 -2.0
MAW pmax pmax
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 143.57 81 PKP PKPdf 20 58 58.5 -3.2
comp=Z,0.4nm,0.7s,baz=289,slow=4.1,SNR=5.1
SNAA Sanae 153.04 195 PKPbc PKPbc 20 59 21.6 -2.9
comp=Z,0.6nm,0.7s,baz=187,slow=5.5,SNR=10
SNAA PKPab PKPab 20 59 32.3 -3.5
comp=Z,2.3nm,1.1s,baz=145,slow=4.5,SNR=9.2
SNAA Sanae 153.04 195 PKIKP PKPdf 20 59 21.6 +4.4
SNAA 20 59 32.3
SNAA pmax pmax
comp=Z,1.0nm,0.7s
SNAA pmax pmax
comp=Z,2.0nm,1.1s
VNA2 Neumayer--Watz 154.44 193 *e*PKPdf PKPdf 20 59 16.4 -2.8
VNA2 *e* 20 59 25.1
VNA2 *e* 20 59 38.8
VNA3 Neumayer Olymp 154.49 191 *e*PKPdf PKPdf 20 59 16.2 -3.0
VNA3 *e* 20 59 25.0
VNA3 *e* 20 59 38.3

BJI ***18*** *20:39:29.2, 1.77N×9642E, h45km, mb4.5*
NEIC ***18*** *20:39:33.0±0.6, 220N×9621E, h30km, mb4.4/1, Error ellipse: s-maj=13.8km s-min=8.9km az=221.0*
IDC ***18*** *20:39:35.8±11.0, 228N×9635E, h51km±88km, mb3.7/7, mb1 3.8/8, mb1mx3.5/22, mbtmp3.7/8, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.1/37, Error ellipse: s-maj=128.0km s-min=17.9km az=60.0*
ISCJB ***18*** *20:39:37.0±3.9, 24N±02×965E±02, h74km±30km, mb4.2/16, Error ellipse: s-maj=48.6km s-min=13.3km az=107.7*
ISC 18 20:39:39.0±3.7,**24N**±02×**966E**±02,**h71**km±29km,**n20, σ0 36/20, mb4.2**/16,**1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.38**	**80**	P	**Pn**	**20 40 15.6**	**-0.2**
	2.4nm,0.3s,baz=270,slow=5.6,SNR=18						
PSI				LR	LR	20 41 07.2	
	comp=Z,234nm,20.1s,baz=339,slow=35						
KULM	**Kulim**	**4.98**	**55**	*i*Pn	**Pn**	**20 40 51.2**	**0.0**
JIRN	**Jiri**	**27.02**	**339**	*e*P	**P**	**20 45 13.9**	**-0.3**
	25nm,0.9s,mb4.8						
PKI	**Pulchoki**	**27.22**	**338**	*e*P	**P**	**20 45 16.6**	**+0.6**
	7.7nm,0.5s,mb4.5						
GUN	**Gumba**	**27.35**	**339**	*e*P	**P**	**20 45 17.3**	**0.0**
	20nm,0.8s,mb4.7						
KKN	**Kakani**	**27.46**	**338**	*e*P	**P**	**20 45 18.3**	**+0.1**
	12nm,0.9s,mb4.4						
LSA	**Lhasa**	**27.64**	**350**	P	**P**	**20 45 20.1**	**+0.3**
LSA	**Lhasa**	**27.64**	**350**	*e*Pn	**P**	**20 45 19.9**	**+0.1**
	7.2nm,0.9s,mb4.2						
GKN	**Gorkha**	**27.90**	**337**	*e*P	**P**	**20 45 22.5**	**+0.3**
	14nm,0.9s,mb4.5						
KOLN	**Koldanda**	**28.12**	**335**	*e*P	**P**	**20 45 24.3**	**+0.2**
	8.0nm,0.8s,mb4.3						
XAN	**Xi'an**	**33.53**	**19**	P	**P**	**20 46 11.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
GTA	**Gaotai**	**36.96**	**4**	*e*P	**P**	**20 46 41.5**	**+0.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**43.20**	**123**	P	**P**	**20 47 32.8**	**0.0**
	comp=Z,1.5nm,0.9s,mb3.7,baz=303,slow=8.8,SNR=7.9						
ASAR	**Alice Springs**	**44.61**	**128**	P	**P**	**20 47 44.2**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.4,baz=299,slow=7.7,SNR=8.5						
ASAR				LR	LR	21 06 57.3	
	comp=Z,34nm,19.1s,baz=174,slow=37						
MKAR	**Makanchi Array**	**45.94**	**346**	P	**P**	**20 47 54.0**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.1,baz=161,slow=7.8,SNR=26						
SONM	**Songino Array**	**46.05**	**9**	P	**P**	**20 47 55.9**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.8,baz=189,slow=8.9,SNR=9.2						
ZAL	**Zalesovo**	**52.28**	**351**	P	**P**	**20 48 42.5**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=291,slow=4.4,SNR=5.8						
STKA	**Stephens Creek**	**54.62**	**132**	P	**P**	**20 49 00.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=292,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**54.62**	**132**	P	**P**	**20 49 00.5**	**+0.3**
ARCES	**ARCESS Array B**	**81.21**	**340**	P	**P**	**20 51 46.1**	**-0.8**
	comp=Z,6.8nm,1.1s,mb4.4,baz=97,slow=5.6,SNR=3.7						

CASC 18 20:44:18.1±2.4,**959N**×**8417W, h17**km±5km,**MD3.6, ML3.2, 3C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAJ	**Bijagual**	**0.28**	**9**⇓ *i*P		Pg	20 44 26.9	+2.7
LAJ				*e*S	Sg	20 44 33.7	+5.4
SJS	**Escuela Geolog**	**0.37**	**18**⇓ *i*P		Pg	20 44 25.7	0.0
SJS				*e*S	Sg	20 44 32.0	+1.2
PRS1	**Puriscal**	**0.42**	**340**⇓ *i*P		Pg	20 44 25.6	-1.1
CGA2	**Cerro Gallo 2**	**0.52**	**326**⇓ *e*P		Pg	20 44 28.1	-0.3
CGA2				*e*S	Sg	20 44 37.5	+2.1
JCR	**Jicaral**	**0.97**	**286**⇑ *e*P		Pb	20 44 35.3	-1.1
JCR				*e*S	Sb	20 44 49.9	+1.0
FORC	**Fortuna**	**1.01**	**331** *i*P		Pb	20 44 36.1	-1.0
FORC				*i* S	Sb	20 44 50.0	-0.1
LIO	**Limon**	**1.19**	**69**⇑ *e*P		Pn	20 44 38.1	-1.9
LIO				*e*S	Sb	20 44 53.3	-2.0
ACR	**Cerro Adams**	**1.35**	**133** *e*P		Pn	20 44 42.0	-0.3
ACR				*e*S	Sn	20 44 59.9	+0.1
LIM1	**Limonal**	**1.54**	**316** *i*P		Pn	20 44 44.8	0.0
LIM1				*i* S	Sn	20 45 04.9	+0.5
VCR	**Vista de Mar**	**1.54**	**291** *e*P		Pn	20 44 44.4	-0.4
VCR				*e*S	Sn	20 45 05.8	+1.4
CNI	**Changuinola**	**1.64**	**96**⇑ *i*P		Pn	20 44 45.5	-0.6
CNI				*e*S	Sn	20 45 07.3	+0.5
BRU	**Baru**	**1.77**	**116** *e*P		Pn	20 44 48.5	+0.6
BRU				*e*S	Sn	20 45 13.1	+3.1
DVD	**David**	**2.04**	**124** *e*P		Pn	20 44 49.5	-2.2
DVD				*e*S	Sn	20 45 16.6	-0.3
PTP	**Ponta Puerca**	**19.94**	**62** *e*P			20 44 49.8	
PTP				*e*S		20 45 16.2	

STR ***18*** *20:46:45.7±0.1, 4301N×000E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 20:46:45.5±0.1,**4306N×003W, h8**km,**Md1.7**/2,**Ml1.4**/2, **Error ellipse: s-maj=11.7km s-min=1.9km az=169.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**97**	Pg	Pg	20 46 47.3	-0.2
LABF				Sg	Sg	20 46 48.5	-0.4
VIEF	**Viey**	**0.18**	**168**	Pg	Pg	20 46 48.3	-0.9
VIEF				Sg	Sg	20 46 50.2	-1.4
EPF	**Esparros**	**0.27**	**95**	*e*Pg	Pg	20 46 50.3	-0.6
EPF				*e*Sg	Sg	20 46 54.1	-0.4
ETSF	**Etsaut**	**0.42**	**248**	*e*Pg	Pg	20 46 53.8	+0.1
ETSF	**Etsaut**	**0.42**	**248**	*e*Pn	Pg	20 46 55.1	+1.4
ETSF				*e*Sg	Sg	20 46 59.5	+0.3
	4.7nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Sg	Sg	20 47 13.0	-0.8
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	20 47 16.7	-0.8
MTLF				*e*Sg	Sg	20 47 38.1	-1.0
	0.5nm,0.2s						

STR ***18*** *20:49:18.0±2.0, 4302N×0.12W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 20:49:19.8±0.1,**4305N×001W, h2**km,**Md1.5**/2,**Ml1.5**/1, **Error ellipse: s-maj=5.6km s-min=2.1km az=168.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**93**	Pg	Pg	20 49 21.6	+0.5
LABF				Sg	Sg	20 49 22.8	+0.8
VIEF	**Viey**	**0.17**	**170**	Pg	Pg	20 49 20.8	-2.3
VIEF				Sg	Sg	20 49 24.4	-0.9
EPF	**Esparros**	**0.26**	**94**	*e*Pg	Pg	20 49 24.8	0.0
EPF				*e*Sg	Sg	20 49 28.3	+0.1
	4.0nm,0.2s						
ETSF	**Etsaut**	**0.43**	**249**	*e*Pg	Pg	20 49 28.1	+0.1
ETSF				*e*Sg	Sg	20 49 33.9	+0.3
	2.2nm,0.2s						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pg	20 49 51.0	-0.6
MTLF				*e*Sg	Sg	20 50 12.4	-0.7
	0.5nm,0.2s						
LFF	**La Frestale**	**1.96**	**16**	*e*Pn	Pn	20 49 52.2	-1.9
CAF	**Calviac**	**2.40**	**38**	*e*Pn	Pn	20 49 57.4	-2.7

MAN 18 20:54:57.2, 918N×12638E, h20km,**mb3.1, ML4.4, MS4.2, Mindanao**

ISCJB ***18*** *20:57:16.8±0.5, 4309N±003×001E±003, h2km, Error ellipse: s-maj=3.7km s-min=3.0km az=154.6*
LDG ***18*** *20:57:17.6±0.2, 4299N×001W, h9km, Ml1.9/7, Error ellipse: s-maj=4.9km s-min=2.3km az=164.0*
STR ***18*** *20:57:18.2±0.2, 4299N×001E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 20:57:17.3±0.7,**4303N**±003×**001E**±003,**h11**km±7km,**n13, σ0 85/22, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.05**	**72**	Pg	**Pg**	**20 57 19.7**	**+0.3**
LABF				Sg	**Sg**	**20 57 20.9**	**0.0**
VIEF	**Viey**	**0.15**	**176**	Pg	**Pg**	**20 57 20.7**	**0.0**
VIEF				Sg	**Sg**	**20 57 21.9**	**-1.2**
EPF	**Esparros**	**0.24**	**90**	*e*Pg	**Pg**	**20 57 22.7**	**+0.4**
EPF				*e*Sg	**Sg**	**20 57 26.1**	**+0.4**
	22nm,0.2s						
RESF	**Ens**	**0.33**	**133**	Pg	**Pg**	**20 57 24.0**	**+0.1**
RESF				Sg	**Sg**	**20 57 28.7**	**+0.4**
ETSF	**Etsaut**	**0.44**	**252**	*e*Pg	**Pg**	**20 57 26.2**	**+0.3**
ETSF				*e*Sg	**Sg**	**20 57 31.9**	**+0.1**
	18nm,0.2s						
ATE	**Arette**	**0.52**	**276**	Pg	**Pg**	**20 57 29.3**	**+1.8**
ATE				Sg	**Sg**	**20 57 35.1**	**+0.7**
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	**Pg**	**20 57 34.2**	**-0.6**
SJPF				*e*Sg	**Sg**	**20 57 45.5**	**-1.2**
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg	**Pg**	**20 57 49.1**	**+0.2**
MTLF				*e*Sg	**Sg**	**20 58 10.3**	**+0.1**
	2.4nm,0.3s						
LFF	**La Frestale**	**1.98**	**15**	*e*Sg	**Sg**	**20 58 22.4**	**+1.5**
	2.7nm,0.3s						
CAF	**Calviac**	**2.41**	**37**	*e*Pg	**Pg**	**20 58 03.2**	**-0.2**
CAF				*e*Sg	**Sg**	**20 58 34.2**	**-0.4**
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Sg	**Sg**	**20 58 38.9**	**+0.7**
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.98**	**68**	*e*Sg	**Sg**	**20 58 51.9**	**-1.3**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.57**	**358**	*e*Sg	**Sg**	**20 59 09.7**	**-2.3**
	0.4nm,0.2s						

STR ***18*** *20:57:37.7±0.0, 4301N×000E, h2km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 20:57:37.6±0.1,**4298N×001E, h2**km,**Md1.6**/2,**Ml1.8**/3, **Error ellipse: s-maj=5.7km s-min=2.0km az=161.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**33**	Pg	Pg	20 57 39.3	+0.1
LABF				Sg	Sg	20 57 40.5	+0.2
VIEF	**Viey**	**0.10**	**175**	Pg	Pg	20 57 40.3	+0.8
VIEF				Sg	Sg	20 57 42.2	+1.5
EPF	**Esparros**	**0.25**	**78**	*e*Pg	Pg	20 57 42.5	+0.2
EPF				*e*Sg	Sg	20 57 45.7	+0.2
	12nm,0.2s						
ETSF	**Etsaut**	**0.43**	**259**	*e*Pg	Pg	20 57 45.9	+0.1
ETSF				*e*Sg	Sg	20 57 51.6	+0.2
	7.0nm,0.2s						
MTLF	**Montolieu**	**1.65**	**77**	*e*Sg	Sg	20 58 30.1	-0.6
	1.3nm,0.2s						
CAF	**Calviac**	**2.45**	**37**	*e*Sg	Sg	20 58 53.9	-2.3
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**24**	*e*Sg	Sg	20 58 58.7	-1.3
	0.7nm,0.2s						

IDC 18 21:04:30.1±1.4,**4624N×15481E, h0**km,**mb3.7**/5, **mb1 3.8**/5,**mb1mx3.5**/24,**mbtmp3.7**/5,**Error ellipse: s-maj=42.6km s-min=31.1km az=102.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.45**	**32**	P	P	21 12 18.2	-0.3
	1.1nm,0.5s,baz=321,slow=3.2,SNR=5.0						
MKAR	**Makanchi Array**	**48.22**	**298**	P	P	21 13

2.0nm,0.9s,baz=34,slow=7.1,SNR=5.2
ASAR Alice Springs 72.12 200 P P 21 15 56.2 -0.1
0.2nm,0.7s,baz=20,slow=6.3,SNR=6.4

*STR **18** 21:04:59.9±0.1, 4301N×000E, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 21:04:59.7±0.1, 4305N×002W, h2km, Md1.5/2, Ml1.5/2, Error ellipse: s-maj=11.1km s-min=2.0km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**91**	Pg	Pg	21 05 01.5	+0.4
LABF				Sg	Sg	21 05 02.7	+0.7
VIEF	**Viey**	**0.17**	**169**	Pg	Pg	21 05 02.5	-0.4
VIEF				Sg	Sg	21 05 04.4	-0.7
EPF	**Esparros**	**0.27**	**94**	*e*Pg	Pg	21 05 04.5	-0.3
EPF				*e*Sg	Sg	21 05 08.3	0.0
	4.9nm,0.2s						
ETSF	**Etsaut**	**0.42**	**249**	*e*Pg	Pg	21 05 08.0	+0.2
ETSF				*e*Sg	Sg	21 05 13.7	+0.4
	2.5nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**275**	*e*Pg	Pg	21 05 16.3	-0.3
SJPF				*e*Sg	Sg	21 05 27.4	-0.7
	1.3nm,0.3s						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pg	21 05 31.0	-0.6
MTLF				*e*Sg	Sg	21 05 52.5	-0.7
	0.7nm,0.2s						

*NEIC **18** 21:04:52.1±4.3, 3726N×7346E, h10km, Error ellipse: s-maj=57.3km s-min=20.9km az=164.0*
*IDC **18** 21:05:07.4±8.9, 3818N×7381E, h105km±87km, mb3.5/2, mb1 3.5/6, mb1mx3.1/25, mbtmp3.4/6, ML3.7/4, Error ellipse: s-maj=63.8km s-min=60.3km az=9.0*
*ISCJB **18** 21:05:08.6±0.6, 3827N±003×738E±0.1, h143km±11km, mb3.6/2, Error ellipse: s-maj=14.7km s-min=4.7km az=152.4*
*NNC **18** 21:05:14.8±3.6, 3872N×7365E, h161km±48km, mb2.3, mpv2.9, Error ellipse: s-maj=43.5km s-min=23.3km az=177.0*
ISC 18 21:05:09.7±0.5, 3828N±003×738E±01, h140km±10km, n30, σ1§16/37, mb3.6/2, 2C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.85**	**358**	P	**Pn**	**21 06 07.7**	**0.0**
	SNR=24						
KZA	**Kyzart**	**3.94**	**15**	P	**Pn**	**21 06 09.2**	**+0.2**
	SNR=11						
UCH	**Uchtor**	**3.98**	**7**	P	**Pn**	**21 06 09.9**	**+0.5**
	SNR=44						
ULHL	**Ulahol**	**4.37**	**24**	P	**Pn**	**21 06 15.3**	**+0.8**
	SNR=6.9						
AAK	**Ala-Archa**	**4.38**	**6**	P	**Pn**	**21 06 15.2**	**+0.5**
	SNR=5.2						
AAK	**Ala-Archa**	**4.38**	**6**	*e*Pn	**Pn**	**21 06 13.7**	**-1.0**
	22nm,0.8s						
AAK				*e*Sn	**Sn**	**21 07 04.7**	**-0.4**
EKS2	**Erkin-Say**	**4.38**	**359**	P	**Pn**	**21 06 15.1**	**+0.5**
	SNR=26						
KBK	**Karagaybulak**	**4.45**	**11**	P	**Pn**	**21 06 16.3**	**+0.6**
	SNR=7.8						
CHMS	**Chumysh**	**4.76**	**8**	P	**Pn**	**21 06 20.2**	**+0.4**
	SNR=6.0						
TKM2	**Tokmak 2**	**4.83**	**15**	P	**Pn**	**21 06 21.2**	**+0.6**
	SNR=8.2						
TKM2	**Tokmak 2**	**4.83**	**15**	⇑Pn	**Pn**	**21 06 20.7**	**+0.1**
TKM2	0.1nm,0.3s			⇓Sn	**Sn**	**21 07 14.4**	**-1.4**
	2.7nm,1.0s						
USP	**Ospenovka**	**5.01**	**5**	P	**Pn**	**21 06 24.1**	**+1.0**
	SNR=5.0						
KK31	**Karatay Array**	**5.44**	**333**	P	**Pn**	**21 06 28.3**	**-0.6**
	3.5nm,0.2s,baz=154,slow=13,SNR=205						
KK31				S	**Sn**	**21 07 25.4**	**-5.2**
	33nm,0.7s,baz=146,slow=22,SNR=14						
DLH	**Dalhousie**	**5.98**	**163**	*e*P	**Pn**	**21 06 40.0**	**+4.0**
DLH				*e*S	**Sn**	**21 07 45.0**	**+1.6**
THN	**Thein Dam**	**6.03**	**165**	*e*P	**Pn**	**21 06 37.6**	**+0.9**
THN				*e*S	**Sn**	**21 07 43.9**	**-0.7**
KUDL	**Kundal**	**10.35**	**167**	*e*P	**Pn**	**21 07 33.7**	**-0.7**
KUDL				*e*S	**Sn**	**21 09 21.7**	**-7.0**
KUDL				AML	AML	21 09 27.9	
	comp=E,7.2nm,0.6s						
KUDL				AML	AML	21 09 31.3	
	comp=N,3.0nm,0.4s						
SONA	**Sohna**	**10.36**	**164**	*e*S	**Sn**	**21 09 25.3**	**-3.8**
SONA				AML	AML	21 09 27.4	
	comp=N,5.7nm,0.2s						
MKAR	**Makanchi Array**	**10.54**	**33**	P	**Pn**	**21 07 37.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=206,slow=13,SNR=6.2						
KOLN	**Koldanda**	**13.29**	**139**	*e*P	**Pn**	**21 08 11.1**	**-1.8**
	comp=N,4.7nm,0.3s						
GKN	**Gorkha**	**13.65**	**135**	*e*P	**Pn**	**21 08 15.9**	**-1.7**
	comp=N,6.7nm,0.3s						
KKN	**Kakani**	**14.18**	**134**	*e*P	**Pn**	**21 08 22.4**	**-1.8**
	comp=N,5.8nm,0.5s						
GUN	**Gumba**	**14.43**	**132**	*e*P	**Pn**	**21 08 30.4**	**+3.0**
	comp=N,4.6nm,0.3s						
JIRN	**Jiri**	**14.80**	**132**	*e*P	**Pn**	**21 08 33.2**	**+1.2**
AB31	**Akbulak array**	**14.85**	**322**	Pn	**Pn**	**21 08 31.2**	**-1.4**
	comp=N,1.2nm,0.5s,baz=112,slow=7.7,SNR=16						
AB31				⇑Sn	**Sn**	**21 11 00.6**	**-17**
	comp=N,1.6nm,0.9s,baz=126,slow=38,SNR=4.4						
BVAR	**Borovoye Array**	**14.94**	**352**	P	**Pn**	**21 08 35.5**	**+1.7**
	comp=N,1.1nm,0.3s,baz=155,slow=9.0,SNR=12						
AKTK	**Aktyubinsk**	**16.56**	**322**	P	**Pn**	**21 08 52.5**	**-1.3**
AKTO	**Aktyubinsk**	**16.56**	**322**	P	**Pn**	**21 08 52.5**	**-1.3**
	comp=N,0.4nm,0.3s,baz=120,slow=16,SNR=6.1						
ZAL	**Zalesovo**	**17.37**	**22**	P	**Pn**	**21 09 02.9**	**-0.6**
	comp=N,0.9nm,0.3s,baz=226,slow=6.1,SNR=7.8						
FINES	**FINESS Array B**	**37.32**	**324**	P	**P**	**21 12 09.7**	**+1.3**
	comp=N,0.6nm,0.5s,mb3.5,baz=118,slow=8.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**68.01**	**270**	P	**P**	**21 15 55.5**	**+1.6**
	comp=N,0.5nm,0.3s,mb3.7,baz=50,slow=5.6,SNR=11						

*STR **18** 21:09:09.0±0.6, 4300N×005E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 21:09:06.5±0.2, 4308N×002W, h10km, Md1.6/2, Ml1.9/1, Error ellipse: s-maj=12.0km s-min=2.5km az=175.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**116**	Pg	Pg	21 09 10.1	+1.4
LABF				Sg	Sg	21 09 11.3	+0.9
VIEF	**Viey**	**0.20**	**171**	Pg	Pg	21 09 11.7	+1.0
VIEF				Sg	Sg	21 09 13.2	-0.3
EPF	**Esparros**	**0.27**	**100**	*e*Pg	Pg	21 09 11.7	-0.2
EPF				*e*Sg	Sg	21 09 16.2	+0.7
	3.2nm,0.2s						
ETSF	**Etsaut**	**0.44**	**246**	*e*Pg	Pg	21 09 15.2	+0.2
ETSF				*e*Sg	Sg	21 09 21.0	+0.2
	2.6nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**273**	*e*Pg	Pg	21 09 23.1	-0.4
MTLF	**Montolieu**	**1.66**	**80**	*e*Sg	Sg	21 09 59.2	-0.5
	2.3nm,0.4s						

*ISCJB **18** 21:10:17.6±0.8, 476N±0.1×1548E±02, h10km, mb3.7/12, Error ellipse: s-maj=20.5km s-min=13.1km az=128.7*
*IDC **18** 21:10:17.1±1.0, 4736N×15493E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/25, mbtmp3.7/11, Error ellipse: s-maj=29.2km s-min=19.5km az=169.0*
*MOS **18** 21:10:21.9±1.5, 4761N×15485E, h45km, mb4.5/2, Error ellipse: s-maj=31.2km s-min=17.8km az=98.7*
*NEIC **18** 21:10:21.0±2.8, 4770N×15459E, h10km, mb4.2/1, Error ellipse: s-maj=82.4km s-min=15.7km az=173.0*
ISC 18 21:10:19.3±0.8, 476N±01×1548E±02, h10km, n19, σ1§01/19, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.22**	**15**	*e*PN	**Pn**	**21 11 08.2**	**-1.7**
SKR				*e*		21 11 49.4	
KSRS	**Korea Array**	**22.16**	**253**	P	**P**	**21 15 16.1**	**+0.8**
	1.6nm,0.9s,mb3.5,baz=61,slow=9.3,SNR=4.2						
SONM	**Songino Array**	**32.16**	**289**	P	**P**	**21 16 47.2**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=62,slow=9.1,SNR=4.8						
INK	**Inuvik**	**40.32**	**33**	P	**P**	**21 17 58.0**	**+1.1**
	0.7nm,0.5s,mb3.6,baz=319,slow=5.3,SNR=5.2						
INK	**Inuvik**	**40.32**	**33**	P	**P**	**21 17 58.0**	**+1.1**
ZAL	**Zalesovo**	**43.09**	**306**	P	**P**	**21 18 18.9**	**-0.6**
	0.7nm,0.4s,mb3.7,baz=12,slow=9.1,SNR=3.0						
ZAL	**Zalesovo**	**43.09**	**306**	P	**P**	**21 18 18.9**	**-0.6**
MKAR	**Makanchi Array**	**47.60**	**297**	P	**P**	**21 18 55.2**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=70,slow=6.7,SNR=7.0						
MKAR	**Makanchi Array**	**47.60**	**297**	P	**P**	**21 18 55.2**	**-0.1**
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**	**21 19 19.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**	**21 19 19.3**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**51.23**	**310**	P	**P**	**21 19 23.6**	**+0.6**
	comp=Z,2.1nm,0.4s,mb4.4,baz=60,slow=7.5,SNR=25						
AKTO	**Aktyubinsk**	**59.04**	**312**	P	**P**	**21 20 19.8**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=76,slow=10.0,SNR=5.3						
MCMT	**McKenzie Canyo**	**60.16**	**55**	P	**P**	**21 20 29.4**	**+2.2**
PDAR	**Pinedale Array**	**63.31**	**55**	P	**P**	**21 20 48.5**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.5,baz=292,slow=2.8,SNR=4.4						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**21 20 52.1**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.3,baz=38,slow=7.1,SNR=27						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**21 20 52.1**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.38**	**200**	P	**P**	**21 21 49.6**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=6.0,SNR=5.0						
TXAR	**Lajitas Array**	**76.07**	**62**	P	**P**	**21 22 06.1**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=317,slow=3.7,SNR=4.1						

*IDC **18** 21:13:28.3±1.3, 6895×15547E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/16, mbtmp3.8/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=53.5km s-min=24.8km az=120.0*
*ISCJB **18** 21:13:32.6±1.0, 695S±02×1554E±02, h35km, mb3.8/8, Error ellipse: s-maj=35.2km s-min=18.7km az=62.9*
*NEIC **18** 21:13:33.7±0.8, 693S×15547E, h35km, mb4.1/1, Error ellipse: s-maj=27.8km s-min=14.9km az=120.0*
ISC 18 21:13:33.7±1.0, 70S±02×1555E±02, h35km, n12, σ0§42/10, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.86**	**214**	LR	LR	21 21 15.9	
	comp=Z,34nm,20.4s,baz=230,slow=29						
WB2	**Warramunga Arr**	**24.27**	**236**	*e*P	**P**	**21 18 47.8**	**+0.2**
WRA	**Warramunga Arr**	**24.28**	**236**	P	**P**	**21 18 48.1**	**+0.5**
	1.2nm,0.5s,mb3.6,baz=60,slow=9.5,SNR=31						
WRA				PcP	PcP	21 22 27.9	+0.9
	0.3nm,0.4s,baz=59,slow=2.4,SNR=7.9						
ASAR	**Alice Springs**	**26.60**	**229**	P	**P**	**21 19 08.6**	**-0.1**
	0.5nm,0.5s,mb3.3,baz=62,slow=9.3,SNR=16						
ASAR				PcP	PcP	21 22 32.8	+0.6
	0.3nm,0.5s,baz=74,slow=2.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**31.16**	**246**	P	**P**	**21 19 48.5**	**-0.7**
	1.1nm,0.7s,mb3.8,baz=63,slow=4.5,SNR=4.4						
SONM	**Songino Array**	**69.58**	**327**	P	**P**	**21 24 39.9**	**+0.7**
	0.3nm,0.4s,mb3.6,baz=145,slow=6.1,SNR=4.8						
QSPA	**South Pole Qui**	**83.03**	**180**	*e*P	**P**	**21 25 55.4**	**0.0**
	0.8nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**83.72**	**319**	P	**P**	**21 25 58.5**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=69,slow=7.9,SNR=3.2						
MAW	**Mawson**	**84.64**	**203**	P	**P**	**21 26 03.8**	**+0.1**
	0.7nm,0.5s,mb4.0,baz=101,slow=5.2,SNR=5.0						
INK	**Inuvik**	**89.49**	**21**	P	**P**	**21 26 27.0**	**-0.2**
	0.7nm,0.5s,mb4.3,baz=280,slow=5.7,SNR=6.2						
INK	**Inuvik**	**89.49**	**21**	P	**P**	**21 26 27.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**153.53**	**286**	PKPbc	PKPbc	21 33 28.6	+0.1
	0.6nm,0.8s,baz=61,slow=2.7,SNR=5.9						
TORD				PKPab	PKPab	21 33 40.4	-0.6
	0.5nm,0.7s,baz=91,slow=4.9,SNR=4.7						

IDC 18 21:44:51.5±3.0, 2314S×17561W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, Error ellipse: s-maj=65.7km s-min=43.9km az=46.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.80**	**86**	Pn	Pn	21 48 24.3	+2.3
	6.8nm,0.3s,baz=270,slow=11,SNR=9.3						
RAR				Sn	Sx	21 50 50.5	
	2.0nm,0.3s,baz=90,slow=19,SNR=5.2						
URZ	**Urewera**	**16.31**	**201**	Sn	Sx	21 51 21.6	
	1.3nm,0.3s,baz=249,slow=19,SNR=9.0						
CTA	**Charters Tower**	**35.52**	**267**	*e*P	P	21 51 52.5	+2.5
	4.3nm,0.3s						
CTA	**Charters Tower**	**35.52**	**267**	P	P	21 51 52.3	+2.3
	5.3nm,0.3s,baz=94,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**38.73**	**247**	P	P	21 52 16.0	-1.3
	0.6nm,0.4s,baz=101,slow=14,SNR=3.5						
ASAR	**Alice Springs**	**46.13**	**259**	P	P	21 53 17.1	-0.4
	1.9nm,0.5s,baz=94,slow=7.8,SNR=33						
WB2	**Warramunga Arr**	**46.47**	**264**	*e*P	P	21 53 20.2	0.0
WRA	**Warramunga Arr**	**46.48**	**264**	P	P	21 53 20.5	+0.2
	2.7nm,0.5s,baz=97,slow=8.0,SNR=50						
KAKA	**Kakadu**	**50.28**	**273**	*e*P	P	21 53 51.7	+2.1
	3.1nm,0.3s						
KAKA				*e*		21 54 02.9	
FITZ	**Fitzroy Crossi**	**54.91**	**264**	*e*P	P	21 54 24.4	+0.5
	5.0nm,0.9s						
FITZ				*e*		21 54 37.7	
VNDA	**Vanda**	**55.50**	**186**	P	P	21 54 28.0	-0.2
	0.8nm,0.9s,baz=53,slow=10,SNR=2.9						
SONM	**Songino Array**	**99.19**	**318**	P	P	21 58 34.7	-0.2
	0.3nm,0.8s,baz=104,slow=6.1,SNR=2.2						

*IDC **18** 21:45:04.5±0.5, 2347S×17543W, h0km, mb4.7/15, mb1 4.8/17, mb1mx4.8/19, mbtmp4.7/17, ML4.5/2, Error ellipse: s-maj=20.2km s-min=16.2km az=144.0*
*ISCJB **18** 21:45:09.7±0.3, 2358S±006×17554W±006, h42km, mb5.0/45, MS4.7/12, Error ellipse: s-maj=9.8km s-min=7.1km az=113.5*
*BJI **18** 21:45:09.6, 2299S×17526W, h30km, mB5.5, mb5.3, Ms4.9, Msz4.6*
*MOS **18** 21:45:10.1±2.2, 2343S×17562W, h33km, mb5.0/19, Error ellipse: s-maj=12.8km s-min=12.3km az=122.1*
*NEIC **18** 21:45:11.2±0.3, 2350S×17555W, mb5.0/23, MS4.5/1, Error ellipse: s-maj=13.0km s-min=7.4km az=155.0*
*GCMT **18** 21:45:11.2±0.4, 2366S×17480W, h17km, MW5.0/65, Moment Tensor Solution. s37,c51; s65,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.88±.19; $M_{\theta\theta}$-1.09±.13; $M_{\phi\phi}$-2.78±.13; $M_{r\theta}$0.81±.34; $M_{\theta\phi}$-1.42±.09; $M_{\phi r}$2.30±.34; Best double couple: M_o4.45800×10^{16} NP1:ϕ$_s$214.00000°, δ29.00000°, λ99.00000°. NP2: ϕ$_s$24.00000°, δ62.00000°, λ85.00000°. Principal axes: T 4.6200, Plg73.0000°, Azm283.0000°; N -0.3140, Plg4.0000°, Azm27.0000°; P -4.2960, Plg16.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **18** 21:45:19.0, 1936S×17476W, h33km, Tonga Islands*
ISC 18 21:45:11.5±0.3, 2359S±006×17549W±006, h44km±1.5km: pP-P, n219, σ1§09/109, mb5.0/44, MS4.7/12, 23C-13D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.25**	**21**	Pn	**Pn**	**21 47 25.1**	**-11**
	10nm,0.3s,baz=191,slow=11,SNR=8.9						
AFI				Sn	**Sn**	**21 49 16.1**	**-13**
	5.6nm,0.3s,baz=73,slow=19,SNR=5.3						
URZ	**Urewera**	**15.93**	**202**	Pn	**Pn**	**21 48 51.9**	**-0.6**
	10nm,0.3s,baz=14,slow=1.8,SNR=38						
DZM	**Mont Dzumac**	**16.72**	**272**	Pn	**Pn**	**21 49 00.8**	**-1.7**
	0.3nm,0.3s,baz=112,slow=19,SNR=3.4						
TBI	**Tubuai**	**23.87**	**95**	*e*LR	LR	21 55 33.5	
	2μm,22.2s,baz=265						
PPT	**Papeete**	**24.97**	**81**	*e*LQ		21 55 08.3	
	1μm,24.0s						
PPT				*e*LR	LR	21 56 02.6	
	2μm,22.0s,baz=250						
CTA	**Charters Tower**	**35.61**	**268**	P	**P**	**21 52 05.1**	**+0.2**
	7.7nm,0.5s,mb4.9,baz=82,slow=12,SNR=8.6						
CTA	**Charters Tower**	**35.61**	**268**	P	**P**	**21 52 05.1**	**+0.2**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CTA	**Charters Tower**	**35.61**	**268**	P	**P**	**21 52 05.1**	**+0.2**
CTA				*e*	pP	21 52 18.7	+2.0
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**21 52 05.3**	**+0.4**
CTAO				*e**PP	pP	21 52 18.0	+1.3
CTAO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**21 52 05.3**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0						
CTAO				*e*pP	pP	21 52 18.0	+1.4
TAOE	**Nuku Hiva Isla**	**36.83**	**72**	*e*LR	LR	22 01 54.3	
	comp=Z,2μm,22.0s,baz=255						
RKT	**Rikitea**	**37.12**	**98**	*e*LR	LR	22 01 42.6	
	comp=Z,948nm,22.5s						
PMG	**Port Moresby**	**38.35**	**285**	P	**P**	**21 52 27.7**	**-0.4**
	comp=Z,56nm,0.9s,mb5.3,baz=123,slow=9.7,SNR=6.3						
PMG	**Port Moresby**	**38.35**	**285**	*e*P	**P**	**21 52 27.3**	**-0.8**
PMG				*e**PP	pP	21 52 40.0	0.0
PMG				*e**PP	pP	21 52 40.4	+0.4
PMG				pmax	pmax		
	comp=Z,78nm,1.0s						
PMG	**Port Moresby**	**38.35**	**285**	*e*P	**P**	**21 52 27.3**	**-0.8**
	comp=Z,78nm,1.0s,mb5.4						
PMG				*e*pP	pP	21 52 40.0	0.0
PMG				*e*pP	pP	21 52 40.4	+0.4
PMG				*e*sP	sP	21 52 44.0	-1.2
STKA	**Stephens Creek**	**38.67**	**248**	*e*P	**P**	**21 52 31.2**	**+0.4**
	comp=Z,4.3nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**38.67**	**248**	P	**P**	**21 52 30.4**	**-0.4**
	comp=Z,5.4nm,0.9s,mb4.3,baz=102,slow=7.9,SNR=7.2						
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**21 53 31.6**	**-0.1**
	comp=Z,8.6nm,0.9s,mb4.7,baz=94,slow=8.0,SNR=32						
ASAR				S	**S**	**22 00 16.1**	**+1.5**
	comp=Z,1.9nm,1.1s,baz=98,slow=14,SNR=6.8						
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**21 53 31.6**	**0.0**
ASAR				S	**S**	**22 00 16.1**	**+1.5**
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASAR				smax			
	comp=N,2.0nm,1.1s						
WB2	**Warramunga Arr**	**46.54**	**264**	*e*P	**P**	**21 53 33.7**	**-1.0**
WB2				*e*	pP	21 53 46.2	-0.6
WB2				*e*pP	pP	21 53 46.6	-0.1
WRAB	**Tennant Creek**	**46.54**	**264**	*i* P	**P**	**21 53 33.9**	**-0.8**
WRA	**Warramunga Arr**	**46.55**	**264**	P	**P**	**21 53 33.8**	**-0.9**
	comp=N,7.8nm,0.6s,mb4.8,baz=102,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**46.55**	**264**	P	**P**	**21 53 33.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FORT	**Forrest**	**50.28**	**249**	*e*P	**P**	**21 54 02.0**	**-1.5**
	comp=Z,14nm,0.7s,mb5.1						
SBA	**Scott Base**	**54.97**	**185**	*e*P	**P**	**21 54 39.9**	**+1.7**
SBA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SBA	**Scott Base**	**54.97**	**185**	*e*P	**P**	**21 54 39.9**	**+1.7**
	comp=Z,7.2nm,1.0s,mb4.7						
VNDA	**Vanda**	**55.07**	**186**	P	**P**	**21 54 39.0**	**+0.2**
	comp=Z,3.1nm,1.0s,mb4.3,baz=6.5,slow=8.5,SNR=8.0						
VNDA				PcP	PcP	21 55 39.0	-0.9
	comp=Z,3.6nm,1.0s,baz=15,slow=5.5,SNR=5.4						
VNDA	**Vanda**	**55.07**	**186**	P	**P**	**21 54 39.0**	**+0.1**
VNDA						21 55 39.0	
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLBR	**Kellerberrin**	**58.91**	**246**	*e*P	**P**	**21 55 05.3**	**-0.7**
	comp=Z,33nm,1.2s,mb5.2						
MBWA	**Marble Bar**	**59.49**	**259**	*e*P	**P**	**21 55 09.2**	**-0.8**
	comp=Z,30nm,1.1s,mb5.2						
MBWA				*e*pP	pP	21 55 21.5	-1.0
QSPA	**South Pole Qui**	**66.50**	**180**	*e*P	**P**	**21 55 57.6**	**+1.0**
	comp=Z,27nm,1.5s,mb5.1						
MJAR	**Matsushiro Arr**	**74.06**	**323**	P	**P**	**21 56 41.5**	**-1.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=157,slow=5.5,SNR=10.0						
MJAR	**Matsushiro Arr**	**74.06**	**323**	P	**P**	**21 56 41.5**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAJO	**Matsushiro**	**74.06**	**323**	*e*P	**P**	**21 56 42.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**74.06**	**323**	*e*P	**P**	**21 56 42.1**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4						
MAT	**Matsushiro**	**74.06**	**323**	P	**P**	**21 56 41.0**	**-1.8**
ASAJ	**Asahikawa**	**77.54**	**330**	P	**P**	**21 57 03.4**	**+0.7**
	comp=Z,49nm,0.9s,mb5.4,baz=233,slow=12,SNR=14						
ASAJ	**Asahikawa**	**77.54**	**330**	P	**P**	**21 57 03.4**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,49nm,1.0s						
MAW	**Mawson**	**79.45**	**199**	*e*P	**P**	**21 57 14.2**	**+1.0**
	comp=Z,6.6nm,1.0s,mb4.5						
MAW	**Mawson**	**79.45**	**199**	P	**P**	**21 57 14.3**	**+1.1**
	comp=Z,9.4nm,1.0s,mb4.7,baz=127,slow=5.5,SNR=13						
MAW	**Mawson**	**79.45**	**199**	*e*P	**P**	**21 57 14.2**	**+1.0**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.69**	**332**	⇑*e*P	**P**	**21 57 14.3**	**-0.2**
YSS				*e*	pP	21 57 27.4	0.0
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**79.69**	**332**	*e*P	**P**	**21 57 14.7**	**+0.2**
YSS				*e*pP	pP	21 57 27.7	+0.3
ISA	**Isabella**	**79.88**	**44**	*e*P	**P**	**21 57 15.5**	**0.0**
ISA				*e**PP	pP	21 57 27.6	-0.8
CMB	**Columbia Colle**	**80.20**	**41**	*e*P	**P**	**21 57 16.7**	**-0.5**
CMB				*e**PP	pP	21 57 29.2	-1.0
CMB	**Columbia Colle**	**80.20**	**41**	*e*P	**P**	**21 57 16.7**	**

CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.7
CN2 LR LR
comp=E,200nm,18.0s,MS4.7
CN2 LR LR
comp=Z,200nm,16.0s,MS4.6
KLR Kul'dur 86.36 328 *e*P **P 21 57 45.8 -3.2**
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.5
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.6
MNTX Cornudas Mount 86.68 53 *e*P **P 21 57 50.1 -0.4**
comp=Z,7.0nm,1.2s,mb4.8
TMUT Trail Mountain 86.68 44 *e*P **P 21 57 50.6 +0.1**
TMUT *ep*P pP 21 58 02.4 -1.2
LTX Lajitas 86.79 56 *e*P **P 21 57 51.6 +0.5**
LTX *e**PP pP 21 58 03.5 -0.7
LTX pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
LTX Lajitas 86.79 56 *e*P **P 21 57 51.6 +0.5**
comp=Z,7.0nm,1.1s,mb4.8
LTX *ep*P pP 21 58 03.5 -0.6
TXAR Lajitas Array 86.79 56 P **P 21 57 50.7 -0.4**
comp=Z,1.9nm,1.0s,mb4.3,baz=210,slow=7.2,SNR=14
TXAR Lajitas Array 86.79 56 P **P 21 57 50.7 -0.4**
TXAR pmax pmax
comp=Z,2.0nm,1.0s
BNM Barren Site 87.02 51 *e*P **P 21 57 52.4 +0.2**
SPUT South Promonto 87.04 42 *e*P **P 21 57 49.3 -3.0**
TIA Tai'an 87.06 312 ⇓P **P 21 57 52.8 +0.4**
LPM Los Pinos Moun 87.10 51 *e*P **P 21 57 53.0 +0.4**
LPM *ep*P pP 21 58 04.9 -0.8
ANMO Albuquerque 87.55 50 *e*P **P 21 57 54.9 +0.2**
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 87.55 50 *e*P **P 21 57 54.9 +0.2**
comp=Z,8.3nm,1.4s,mb4.8
NEW Newport 88.54 35 *e*P **P 21 58 00.5 +1.0**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 88.54 35 *e*P **P 21 58 00.5 +1.0**
comp=Z,9.7nm,1.0s,mb5.1
KKTK Khon Kaen 89.07 288 P **P 21 58 04.0 +2.0**
REDW Red Top Meadow 89.18 41 *e*P **P 21 58 04.8 +2.4**
comp=Z,12nm,1.5s,mb5.0
PDAR Pinedale Array 89.64 42 P **P 21 58 03.3 -1.3**
comp=Z,1.2nm,0.8s,mb4.2,baz=214,slow=3.4,SNR=9.6
BJI Beijing 89.71 314 P **P 21 58 05.5 +0.6**
BJI AMB AMB
comp=Z,23nm,1.8s,mb5.2
BJI AMB AMB
comp=Z,290nm,3.1s
BJI LR LR
comp=N,229nm,14.5s,MS4.8
BJI LR LR
comp=E,100nm,14.5s,MS4.8
BJI LR LR
comp=Z,137nm,16.3s,MS4.5
GYA Guiyang 90.18 299 ⇑*i*P **P 21 58 08.6 +1.5**
GYA AP pP 21 58 22.5 +2.3
GYA XP sP 21 58 27.3 +2.2
GYA PP PP 22 01 45.8 +4.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,190nm,5.4s
GYA LR LR
comp=N,280nm,18.9s,MS4.9
GYA LR LR
comp=E,340nm,19.4s,MS4.9
GYA LR LR
comp=Z,380nm,19.0s,MS4.8
COLA College 90.73 11 *i* P **P 21 58 08.4 -1.3**
DAWY Dawson 91.80 15 *e*P **P 21 58 14.2 -0.5**
XAN Xi'an 91.84 306 P **P 21 58 16.0 +1.2**
XAN AP pP 21 58 27.1 -0.8
XAN AMB AMB
comp=Z,33nm,1.2s,mb5.5
NANT Nan 91.93 290 ⇓P **P 21 58 15.0 -0.3**
comp=Z,206nm,1.0s
BILL Bilibino 92.35 353 ⇑*e*P **P 21 58 15.4 -1.8**
BILL *e* 22 01 59.9
BILL *e*PS PS 22 10 25.2 -8.1
BILL pmax pmax
comp=Z,11nm,1.4s,mb5.0
BDT Bhumibol Dam 92.78 287 P **P 21 58 22.0 +2.8**
KMI Kunming 92.80 296 ⇑P **P 21 58 21.6 +2.3**
KMI AP pP 21 58 33.6 +1.2
KMI XP sP 21 58 39.5 +2.2
KMI PP PP 22 02 06.8 +5.0
KMI PPP 22 04 09.3
KMI AMB AMB
comp=Z,24nm,1.5s,mb5.4
KMI AMB AMB
comp=Z,145nm,3.1s
KMI LR LR
comp=N,125nm,15.2s,MS4.6
KMI LR LR
comp=E,142nm,18.8s,MS4.6
KMI LR LR
comp=Z,156nm,18.8s,MS4.5
KMI Kunming 92.80 296 ⇑P **P 21 58 21.6 +2.3**
KMI *PP pP 21 58 33.6 +1.2
KMI *SP sP 21 58 39.5 +2.2
KMI 22 02 06.8
KMI PPP 22 04 09.3
KMI 22 08 50.0
KMI S S 22 09 21.2 -0.1
KMI PS PS 22 10 43.0 +4.7
KMI SS SS 22 15 37.5 +2.5
KMI SSS 22 19 19.4
KMI pmax pmax
comp=Z,24nm,1.5s,mb5.4
KMI MLR MLR
comp=Z,160nm,18.8s,MS4.5
KMI Kunming 92.80 296 ⇑P **P 21 58 21.6 +2.3**
comp=Z,24nm,1.5s,mb5.4
KMI pP pP 21 58 33.6 +1.2
KMI sP sP 21 58 39.5 +2.2
KMI PP PP 22 02 06.8 +5.0
KMI PPP 22 04 09.3
KMI SKS 22 08 50.0
KMI S S 22 09 21.2 -0.1
KMI sS sS 22 09 42.5 -0.9
KMI PS PS 22 10 43.0 +4.7
KMI SS SS 22 15 37.5 +2.5
KMI SSS 22 19 19.4
KMI LR LR
comp=Z,160nm,18.8s,MS4.5
HHC Hu-ho-hao-te 93.16 313 ⇑P **P 21 58 21.6 +0.7**
HHC AP pP 21 58 35.0 +0.9
HHC XP sP 21 58 40.4 +1.5
HHC PP PP 22 02 08.9 +4.3
HHC AMB AMB
comp=Z,18nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,125nm,6.5s
HHC LR LR
comp=N,136nm,19.0s,MS4.6
HHC LR LR
comp=E,181nm,22.1s,MS4.6
HHC LR LR
comp=Z,236nm,18.6s,MS4.7
CHG Chiang Mai 93.46 289 ⇑P **P 21 58 24.5 +2.2**
comp=Z,30nm,1.0s,mb5.7
CHTO Chiang Mai 93.46 289 *e*P **P 21 58 24.8 +2.5**
CHTO *e**PP pP 21 58 36.1 +0.7
CHTO pmax pmax
comp=Z,37nm,1.1s,mb5.7
CHTO Chiang Mai 93.46 289 *e*P **P 21 58 24.8 +2.5**
comp=Z,36nm,1.1s,mb5.7
CHTO *ep*P pP 21 58 36.1 +0.7
LAO LASA Array 93.73 40 *e*P **P 21 58 19.8 -3.7**
comp=Z,7.1nm,0.7s,mb5.2
BTO Baotou 94.08 313 *e*P **P 21 58 24.3 -0.9**
CD2 Chengdu 94.39 302 *e*P **P 21 58 26.8 +0.2**
CD2 AP pP 21 58 40.3 +0.6
CD2 XP sP 21 58 45.4 +0.8
CD2 PP PP 22 02 17.0 +2.8
CD2 AMB AMB
comp=Z,20nm,1.3s,mb5.4
CD2 AMB AMB
comp=Z,40nm,6.8s
CD2 LR LR
comp=E,850nm,22.8s
CD2 LR LR
comp=Z,250nm,22.8s,MS4.6
YAK Yakutsk 95.84 337 *e*P **P 21 58 33.4 +0.2**
YAK pmax pmax
comp=Z,12nm,1.2s,mb5.2
YAK MLR MLR
comp=Z,100nm,16.0s,MS4.4
LZH Lanzhou 96.47 306 *e*P **P 21 58 38.0 +1.9**
LZH AP pP 21 58 47.5 -1.7
LZH XP sP 21 58 56.8 +2.7
LZH PP PP 22 02 35.1 +4.7
LZH AMB AMB
comp=Z,19nm,1.2s,mb5.4
LZH Lanzhou 96.47 306 *e*P **P 21 58 38.0 +1.9**
LZH *PP pP 21 58 47.5 -1.7
LZH *SP sP 21 58 56.7 +2.6
LZH 22 02 35.1
LZH pmax pmax
comp=Z,19nm,1.2s,mb5.4
LZH Lanzhou 96.47 306 *e*P **P 21 58 38.0 +1.9**
comp=Z,19nm,1.2s,mb5.4
LZH pP pP 21 58 47.5 -1.7
LZH sP sP 21 58 56.7 +2.6
LZH PP PP 22 02 35.1 +4.7
YKA Yellowknife Ar 98.35 24 P **P 21 58 41.9 -2.6**
comp=Z,1.3nm,0.8s,mb4.5,baz=262,slow=4.3,SNR=3.8
YKA Yellowknife Ar 98.35 24 P **P 21 58 41.9 -2.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 99.21 318 ⇑*e*P **P 21 58 49.1 +0.7**
ULN Ulaanbaatar 99.21 318 *e*P **P 21 58 49.2 +0.8**
comp=Z,4.8nm,1.1s,mb4.9
SONM Songino Array 99.60 318 P Pdif 21 58 49.6 -0.5
comp=Z,0.5nm,0.5s,baz=116,slow=3.5,SNR=8.3
SONM Songino Array 99.60 318 P Pdif 21 58 49.6 -0.5
SONM pmax pmax
comp=Z,1.0nm,0.5s
GTA Gaotai 100.71 308 *e*P Pdif 21 58 55.9 +0.8
GTA AP 21 59 08.5
GTA XP 21 59 14.3
GTA PP PP 22 03 02.8 +0.1
GTA AMB AMB
comp=Z,3.0nm,1.1s
GTA AMB AMB
comp=Z,95nm,5.4s
GTA LR LR
comp=N,100nm,18.3s,MS4.5
GTA LR LR
comp=E,127nm,21.4s,MS4.5
GTA LR LR
comp=Z,152nm,21.4s,MS4.5
LHS Liberty Hill 106.63 59 *e*P Pdif 21 59 25.4 +4.0
WMQ Urumqi 110.69 310 ⇓PKP PKiKP 22 03 39.8 +0.4
WMQ PP PP 22 04 21.3 +4.9
WMQ PP PP
comp=Z,80nm,5.1s
WMQ LR LR
comp=N,142nm,23.4s,MS4.5
WMQ LR LR
comp=E,87nm,22.6s,MS4.5
WMQ LR LR
comp=Z,196nm,25.2s,MS4.6
ZAL Zalesovo 114.36 320 PKP PKiKP 22 03 44.7 -1.7
comp=Z,0.7nm,0.5s,baz=193,slow=5.4,SNR=3.1
ZAL Zalesovo 114.36 320 PKIKP PKiKP 22 03 44.7 -1.7
ZAL pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 114.99 312 PKP PKiKP 22 03 46.3 -1.3
comp=Z,1.3nm,0.8s,baz=107,slow=2.5,SNR=7.7
MKAR Makanchi Array 114.99 312 PKIKP PKiKP 22 03 46.3 -1.3
MKAR pmax pmax
comp=Z,1.0nm,0.8s
NVS Novosibirsk 115.36 321 *e*PKIKP PKPdf 22 03 40.7 -7.6
AAK Ala-Archa 120.02 307 ⇓*i*PKIKP PKPdf 22 03 56.0 -1.2
ARU Arti 129.05 325 *i* PKIKP PKPdf 22 04 14.0 -0.5
ARU *e* 22 06 22.7
ARU *e*SS SS 22 23 42.8 +3.9
ARU Arti 129.05 325 *e*PKPdf PKPdf 22 04 13.9 -0.7
AKTK Aktyubinsk 130.91 317 PKP PKPdf 22 04 16.5 -1.6
AKTO Aktyubinsk 130.91 317 PKP PKPdf 22 04 16.5 -1.6
comp=Z,1.9nm,0.8s,baz=23,slow=6.8,SNR=6.1
AKTO Aktyubinsk 130.91 317 PKIKP PKPdf 22 04 16.5 -1.6
AKTO pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 139.37 344 PKP PKPdf 22 04 32.7 -1.2
comp=Z,1.8nm,1.0s,baz=53,slow=7.1,SNR=3.8
FINES FINESS Array B 139.37 344 PKIKP PKPdf 22 04 32.7 -1.1
FINES pmax pmax
comp=Z,2.0nm,1.0s
HFS Hagfors 142.92 352 PKP PKPdf 22 04 41.8 +1.5
comp=Z,2.1nm,0.4s,baz=65,slow=3.9,SNR=22
HFS Hagfors 142.92 352 PKIKP PKPdf 22 04 41.8 +1.6
HFS pmax pmax
comp=Z,2.0nm,0.4s
SUW Suwalki 146.53 340 *e*P PKPdf 22 04 47.2 +0.7
SUW *e*PKP PKPdf 22 04 47.3 +0.8
SUW Suwalki 146.53 340 *e*PKP2 PKPab 22 04 47.3 -1.7
AKASG Malin Array Be 146.83 331 PKPbc PKPbc 22 04 47.1 -1.7
comp=Z,26nm,1.0s,baz=37,slow=3.6,SNR=48
AKASG Malin Array Be 146.83 331 PKIKP PKPdf 22 04 47.1 +0.1
AKASG pmax pmax
comp=Z,26nm,1.0s
AKBB Malin Array Si 146.83 331 *e*PKIKP PKPdf 22 04 47.3 +0.3
AKBB *e* 22 05 00.6
KIEV Kiev 146.84 331 *e*PKIKP PKPdf 22 04 47.1 +0.1
MALT Malatya 147.62 305 ⇓*i*P PKPbc 22 04 52.7 +1.7
MALT Malatya 147.62 305 ⇓P PKPbc 22 04 52.6 +1.6
EKA Eskdalemuir Ar 147.79 8 PKPbc PKPbc 22 04 49.5 -2.0
comp=Z,3.7nm,0.9s,baz=348,slow=3.0,SNR=4.3
EKA Eskdalemuir Ar 147.79 8 PKIKP PKPdf 22 04 49.5 +0.9
EKA pmax pmax
comp=Z,4.0nm,0.9s
SIM Simferopol' 147.84 319 PKP2 PKPab 22 04 51.4 -2.8
SIM pmax pmax
comp=Z,35nm,1.0s
KIS Kishinev 149.58 326 *e*PKHKP PKPbc 22 04 54.0 -2.1
KIS Kishinev 149.58 326 *e*UNK PKPbc 22 04 54.0 -2.1
LVV L'vov 149.68 335 *e*PKHKP PKPbc 22 04 55.4 -0.9
ASF Jabal al Asfar 150.21 294 PKPbc PKPbc 22 04 58.6 +1.0
comp=Z,7.8nm,1.0s,baz=19,slow=1.3,SNR=11
ASF Jabal al Asfar 150.21 294 PKIKP PKPbc 22 04 58.6 +1.0
ASF pmax pmax
comp=Z,8.0nm,1.0s
KWP Kalwaria 150.34 336 *e*P PKPbc 22 04 57.5 -0.4
KWP *e*PKP PKPdf 22 04 57.8 +5.1
BRTR Keskin Array B 150.61 310 PKPbc PKPbc 22 04 58.1 -0.4
comp=Z,9.8nm,1.0s,baz=118,slow=2.4,SNR=28
BRTR Keskin Array B 150.61 310 PKIKP PKPbc 22 04 58.2 -0.4
BRTR pmax pmax
comp=Z,10.0nm,1.0s
NRDL Niedersach Rie 150.82 353 *e*PKPbc PKPbc 22 04 57.2 -1.9
OJC Ojcow 150.86 340 *e*PKP PKPbc 22 04 58.4 -0.8
BURAR Bucovina Array 150.88 331 ⇓*i*P PKPbc 22 05 00.0 +0.8
BURAR Bucovina Array 150.88 331 ⇓P PKPbc 22 04 60.0 +0.8
BHL Bhannes 150.92 298 *e*P PKPbc 22 04 59.9 +0.6
STHS Stebnicka Huta 151.06 337 *e*PKP PKPbc 22 04 59.8 +0.2
KOLS Kolonicke sedl 151.08 335 *e*PKP PKPbc 22 04 59.6 -0.1
KOLS *e* 22 05 10.9
CFR Carcaliu 151.14 324 ⇓*i*P PKPbc 22 05 00.7 +0.9
ANTO Ankara 151.14 311 ⇑*i*P PKPbc 22 05 00.6 +0.8
IBBN Ibbenburen 151.22 356 *e*PKPbc PKPbc 22 04 59.4 -0.6
KSP Ksiaz 151.29 344 *e*PKP PKPbc 22 05 00.4 +0.2
KSP Ksiaz 151.29 344 *e*P PKPbc 22 05 00.5 +0.3
KSP Ksiaz 151.29 344 *e*PKP PKPbc 22 05 00.1 -0.1
MMAI Mount Meron Ar 151.31 296 PKPbc PKPbc 22 04 59.1 -1.1
comp=Z,27nm,1.0s,baz=50,slow=5.5,SNR=27
UZH Uzhgorod 151.32 335 ⇓*i*PKIKP PKPbc 22 04 59.6 -0.6
UZH *e* 22 05 12.4
NIE Niedzica 151.38 338 *e*PKP PKPbc 22 05 00.4 0.0
VRI Vrincioaia 151.41 326 ⇑*i*P PKPbc 22 05 00.4 0.0
CLZ Clausthal 151.44 352 *e*PKPbc PKPbc 22 04 59.9 -0.6
TIRR Tirgusor 151.44 323 ⇑*i*P PKPbc 22 05 00.2 -0.3
PLOR Plostina 151.46 327 ⇑*i*P PKPbc 22 04 59.5 -1.1
PLOR Plostina 151.46 327 ⇑PKIKP PKPbc 22 04 59.6 -1.0
CLL Collm 151.56 349 *e*PKIKP PKPbc 22 05 00.0 -0.8
CLL *i* 22 05 13.3
CLL Collm 151.56 349 *i* PKPbc PKPbc 22 05 00.1 -0.7
comp=Z,29nm,1.2s
CLL *i* pPKPbc pPKPbc 22 05 13.3 -1.0
UPC Upice 151.67 344 *e*PKPbc PKPbc 22 05 00.5 -0.5
UPC *e*PKPab PKPab 22 05 10.0 +0.1
OKC Ostrava-Krasne 151.70 341 *e*PKPbc PKPbc 22 05 00.3 -0.8
OKC *e*PKPab PKPab 22 05 07.6 -2.4
OKC *ep*PKP pPKPdf 22 05 14.0 +5.7
DPC Dobruska-Polom 151.74 344 *e*PKPbc PKPbc 22 05 01.0 -0.2
DPC *e*PKPab PKPab 22 05 09.9 -0.3
BRG Berggiesshubel 151.79 347 *e*PKPbc PKPbc 22 05 01.0 -0.3
BRG Berggiesshubel 151.79 347 *e*P PKPdf 22 04 54.8 -0.1
comp=Z,3.9nm,1.2s
BRG *e* 22 05 00.5
comp=Z,13nm,1.1s
BRG *e* 22 05 14.1
comp=Z,8.7nm,1.0s
BRG *e* 22 09 27.1
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 151.79 347 *e*PKIKP PKPdf 22 04 54.8 -0.1
BRG *e* 22 05 00.5
MORC Moravsky Berou 151.93 342 ⇑*i*P PKPbc 22 05 01.8 +0.2
MORC Moravsky Berou 151.93 342 *e*PKPdf PKPbc 22 05 01.1 -0.5
PVCC Panska Ves 151.99 346 *e*PKPbc PKPbc 22 05 01.4 -0.4
PVCC *e*PKPab PKPab 22 05 10.2 -1.0
MLR Muntele Rosu 152.07 327 PKPbc PKPbc 22 05 01.6 -0.4
comp=Z,8.0nm,1.0s,baz=26,slow=2.3,SNR=7.8
MLR Muntele Rosu 152.07 327 ⇑*i*P PKPbc 22 05 01.5 -0.4
KECS Kecovo 152.11 337 *e*PKP PKPbc 22 05 02.5 +0.5
DRGR 152.61 332 ⇓*i*P PKPbc 22 05 03.0 -0.2
VRAC Vranov 152.62 343 PKPbc PKPbc 22 05 03.1 -0.1
comp=Z,3.7nm,0.8s,baz=8.4,slow=2.3,SNR=4.1
VRAC Vranov 152.62 343 PKIKP PKPbc 22 05 03.1 -0.1
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 152.67 339 *e*PKP PKPbc 22 05 03.0 -0.3
VYHS *e* 22 05 14.4
NKC Novy Kostel 152.69 349 *e*PKPbc PKPbc 22 05 02.8 -0.5
NKC *e*PKPab PKPab 22 05 16.0 +1.9
PSZ Piszkesteto 152.80 337 *e*PKIKP PKPbc 22 05 03.4 -0.2
PSZ *e* 22 05 14.4
PSZ Piszkesteto 152.80 337 *es*PKP/F PKPab 22 05 12.4 -2.2
TNS Taunus Mts 153.24 354 *e*PKPbc PKPbc 22 05 04.0 -0.5
GRA1 Grafenberg Arr 153.42 350 *e*PKPbc PKPbc 22 05 04.2 -0.7
GRF Grafenberg Arr 153.42 350 *e*PKPbc PKPbc 22 05 04.2 -0.7
KHC Kasperske Hory 153.52 347 *e*PKPbc PKPbc 22 05 04.8 -0.4
KHC *e*PKPab PKPab 22 05 17.5 -0.1
KHC *ep*PKP pPKPab 22 05 29.4 -1.5
KHC Kasperske Hory 153.52 347 *e*PKIKP PKPbc 22 05 04.8 -0.4
KHC *e* 22 05 17.5
GIVF Givet 153.53 360 *e*PKIKP PKPab 22 05 14.9 -2.8
DOU Dourbes 153.54 360 PKPbc PKPbc 22 05 06.1 +0.9
BAIF Baives 153.58 0 *e*PKIKP PKPab 22 05 15.2 -2.7
GERES GERESS Array B 153.77 346 PKP PKPdf 22 04 57.0 -0.8
comp=Z,0.7nm,0.9s,baz=349,slow=2.9,SNR=5.8
GERES PKPbc PKPbc 22 05 05.3 -0.4
comp=Z,2.6nm,1.0s,baz=48,slow=2.0,SNR=11
GERES GERESS Array B 153.77 346 PKIKP PKPdf 22 04 57.0 -0.8
GERES 22 05 05.3
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,1.0s
BZS Buzias 154.01 332 ⇑*i*P PKPdf 22 04 56.8 -1.3
BZS Buzias 154.01 332 ⇑P PKPdf 22 04 56.8 -1.4
PKSM Moragy 154.71 337 ⇑*i*P PKPdf 22 04 58.5 -0.6
PKSM Moragy 154.71 337 ⇑P PKPdf 22 04 58.5 -0.6
SRS Serrai 156.31 322 *e*P PKPab 22 05 30.0 +0.5
DAVOS Davos 156.41 351 PKIKP PKPdf 22 05 01.5 +0.1
DAVOX Davos 156.46 351 PKP PKPdf 22 05 01.5 0.0
comp=Z,4.4nm,1.0s,baz=9.5,slow=6.1,SNR=4.0
SOH Sokhos 156.64 322 *e*P PKPab 22 05 31.6 +0.7
KNT Kendrikon 156.67 323 *e*P PKPab 22 05 31.9 +0.8
PLG Polygyros 156.88 321 *e*P PKPab 22 05 31.6 -0.4
PAIG Palíouri 157.03 320 *e*P PKPab 22 05 32.9 +0.2
LIT Litokhoron 157.61 322 *e*P PKPab 22 05 35.1 0.0
XOR Xorichti 157.68 319 *e*P PKPab 22 05 35.5 +0.1
LKD Levkas 159.60 321 *e*P PKPab 22 05 43.4 -0.4
ESDC Sonseca Array 162.43 22 PKP PKPdf 22 05 08.9 +0.5
comp=Z,0.1nm,0.3s,baz=332,slow=4.5,SNR=5.7
MDT Midelt 167.79 39 PKP PKPdf 22 05 14.5 +1.6
comp=Z,2.9nm,0.9s,baz=207,slow=2.3,SNR=6.3
TORD Torodi Ar. Bea 169.28 165 PKP PKPdf 22 05 13.1 -0.8
comp=Z,2.0nm,1.0s,baz=132,slow=2.1,SNR=6.4
TORD PKPab PKPab 22 06 25.8 -0.6
comp=Z,2.6nm,1.1s,baz=211,slow=1.1,SNR=4.5

ISCJB ***18*** *21:57:22.8±0.4, 3894N±001×2298E±002, h1km±3km, mb3.7/3, Error ellipse: s-maj=3.1km s-min=2.5km az=179.6*
ATH ***18*** *21:57:22.7, 3894N×2296E, h8km±1km, MD3.7/22, ML3.6*
NEIC ***18*** *21:57:22.7, 3894N×2296E, h8km, ML3.0(ATH), ML3.2(THE), After ATH.*
IDC ***18*** *21:57:22.4±1.3, 3893N×2271E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML3.6/3, Error ellipse: s-maj=26.4km s-min=19.1km az=109.0*
SKO ***18*** *21:57:23.7, 3897N×2320E, h9km*
CSEM ***18*** *21:57:23.1±0.1, 3894N×2296E, h2km±1km, ML3.6, Error ellipse: s-maj=1.6km s-min=1.2km az=72.0*
THE ***18*** *21:57:25.0, 3902N×2296E, h3km, ML3.2*
SOF ***18*** *21:57:29.7, 3945N×2335E, h2km, MD2.9*
ISC 18 21:57:23.7±0.4, 3893N±002×2297E±002, h4km±3km, n90, σ1°09/121, mb3.6/3, 12C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.28**	**174**	*e*PG		**Pg**		**21 57 28.8**	**-0.2**
LKR				*e*SG		**Sg**		**21 57 32.9**	**+0.3**
XOR	**Xorichti**	**0.47**	**22**	*e*Pg		**Pg**		**21 57 33.6**	**+0.9**
AGG	**Agios Georgios**	**0.50**	**281**	*e*Pg		**Pg**		**21 57 32.6**	**-0.7**
AGG				*e*Sg		**Sg**		**21 57 40.1**	**+0.2**
AOS	**Alonnisos**	**0.75**	**71**	*e*Pg		**Pg**		**21 57 38.7**	**+0.6**
AOS				*e*Sg		**Sg**		**21 57 49.2**	**+1.4**
EVR	**Evrytania**	**0.90**	**270**	*e*PB		**Pg**		**21 57 40.3**	**-0.6**
EVR				*e*SB		**Sg**		**21 57 52.3**	**-0.3**
EVR	**Evrytania**	**0.90**	**270**	P		**Pg**		**21 57 41.1**	**+0.2**
EVR				*e*Sb		**Sg**		**21 57 52.3**	**-0.3**
THL	**Klokotos Trika**	**0.98**	**311**	*e*PG		**Pg**		**21 57 40.7**	**-1.7**
MPAR	**Parnis Oros**	**0.98**	**142**	*e*PG		**Pg**		**21 57 41.0**	**-1.5**
ATH	**Athens Observa**	**1.12**	**148**	*e*PG		**Pg**		**21 57 44.0**	**-1.1**
ATH				*e*SB		**Sg**		**21 57 59.6**	**-0.1**
ATH	**Athens Observa**	**1.12**	**148**	P		**Pg**		**21 57 46.4**	**+1.3**
ATH				*e*Sb		**Sg**		**21 57 59.6**	**-0.1**
PTL	**Penteli**	**1.12**	**141**	*e*PN		**Pn**		**21 57 44.5**	**-1.7**
PAIG	**Palíouri**	**1.14**	**29**	*e*Pg		**Pg**		**21 57 45.5**	**-0.1**
PAIG				*e*Sg		**Sg**		**21 58 01.3**	**+0.9**
LIT	**Litokhoron**	**1.23**	**343**	*e*Pg		**Pg**		**21 57 46.3**	**-0.9**
LIT				*e*Sg		**Sg**		**21 58 03.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.24**	**160**	*e*PG		**Pg**		**21 57 46.0**	**-1.4**
KVR	**Kavouri**	**1.27**	**150**	*e*PB		**Pb**		**21 57 47.5**	**-0.6**
RLS	**Riolos of Patr**	**1.46**	**234**	⇓*i*PG		**Pn**		**21 57 49.7**	**-1.1**
RLS				*e*SB		**Sb**		**21 58 10.9**	**+0.5**
RLS	**Riolos of Patr**	**1.46**	**234**	P		**Pn**		**21 57 50.4**	**-0.4**
PLG	**Polygyros**	**1.49**	**14**	*e*Pg		**Pn**		**21 57 50.3**	**-1.0**
PLG				*e*Sg		**Sn**		**21 58 10.9**	**-0.4**
PLG	**Polygyros**	**1.49**	**14**	⇑*i*PG		**Pn**		**21 57 50.2**	**-1.1**
PLG				*e*SB		**Sn**		**21 58 09.8**	**-1.4**
PLG	**Polygyros**	**1.49**	**14**	*e*Pg		**Pn**		**21 57 50.3**	**-1.0**
PLG				*e*Sb		**Sn**		**21 58 09.8**	**-1.4**
PLG				*e*Sg		**Sg**		**21 58 10.9**	**-0.7**
MEV	**Metsovon**	**1.60**	**303**	*e*Pg		**Pn**		**21 57 52.6**	**-0.1**
OUR	**Ouranopolis**	**1.61**	**29**	*e*Pg		**Pn**		**21 57 52.0**	**-0.9**
KZN	**Kozani**	**1.66**	**327**	*e*PB		**Pn**		**21 57 53.5**	**-0.1**
KZN				*e*SB		**Sn**		**21 58 16.2**	**+0.9**
KZN	**Kozani**	**1.66**	**327**	P		**Pg**		**21 57 56.4**	**+0.9**
HORT	**Hortiatis**	**1.67**	**4**	*e*Pg		**Pn**		**21 57 52.9**	**-0.9**
HORT				*e*Sg		**Sn**		**21 58 13.8**	**-1.9**
HORT	**Hortiatis**	**1.67**	**4**	*e*Pg		**Pn**		**21 57 52.8**	**-1.0**
HORT				*e*Sg		**Sn**		**21 58 13.8**	**-1.9**
THE	**Thessaloniki**	**1.70**	**0**	*e*Pg		**Pn**		**21 57 53.2**	**-0.9**
THE	**Thessaloniki**	**1.70**	**0**	*e*Pg		**Pn**		**21 57 53.2**	**-1.0**
JAN	**Janina**	**1.79**	**295**	*e*PG		**Pg**		**21 57 56.4**	**-1.7**
LKD	**Levkas**	**1.82**	**264**	*e*Pb		**Pb**		**21 57 57.2**	**-0.3**
SOH	**Sokhos**	**1.92**	**9**	*e*Pb		**Pn**		**21 57 57.0**	**-0.1**
SOH				*e*Sb		**Sn**		**21 58 21.6**	**-0.1**
LOS	**Limnos**	**1.92**	**58**	*e*Pb		**Pn**		**21 57 56.4**	**-0.8**
ITM	**Ithomi**	**1.93**	**205**	*e*PN		**Pn**		**21 57 58.3**	**+1.1**
ITM	**Ithomi**	**1.93**	**205**	P		**Pb**		**21 58 00.0**	**+0.6**
LIA	**Limnos Island**	**1.97**	**60**	P		**Pn**		**21 57 57.9**	**0.0**
VLS	**Valsamata**	**2.01**	**249**	*e*PN		**Pn**		**21 57 59.0**	**+0.7**
GRG	**Griva**	**2.07**	**348**	*e*Pn		**Pn**		**21 57 58.5**	**-0.8**
GRG				*e*Sn		**Sn**		**21 58 25.2**	**-0.4**
IGT	**Igoumenitsa**	**2.13**	**287**	*e*Pn		**Pn**		**21 58 01.7**	**+1.6**

IGT					*e*Sn	**Sn**	**21 58 29.7 +2.6**
VLI	**Veliai**	**2.20**	**181**		*e*PN	**Pn**	**21 58 01.4 +0.3**
VLI	**Veliai**	**2.20**	**181**	P		**Pn**	**21 58 01.0 -0.1**
VLI	**Veliai**	**2.20**	**181**		*e*Pn	**Pn**	**21 58 01.4 +0.3**
FNA	**Florina**	**2.22**	**327**		*e*Pn	**Pn**	**21 58 01.7 +0.4**
KNT	**Kendrikon**	**2.23**	**359**		*e*Pn	**Pn**	**21 58 01.4 -0.1**
KNT					*e*Sn	**Sn**	**21 58 27.8 -1.7**
SRS	**Serrai**	**2.24**	**12**		*e*Pn	**Pn**	**21 58 01.1 -0.4**
SRS					*e*Sn	**Sn**	**21 58 28.1 -1.6**
SRS	**Serrai**	**2.24**	**12**		*e*Pn	**Pn**	**21 58 01.1 -0.5**
SRS					*e*Sn	**Sn**	**21 58 28.1 -1.6**
VAY	**Valandovo**	**2.41**	**353**		*e*Pn	**Pn**	**21 58 03.3 -0.6**
VAY					*e*Sn	**Sn**	**21 58 32.6 -1.3**
VAY	**Valandovo**	**2.41**	**353**		*e*Pn	**Pn**	**21 58 03.3 -0.6**
VAY					*e*Sn	**Sn**	**21 58 32.5 -1.4**
BIA	**Bitola**	**2.44**	**329**		*e*Pn	**Pn**	**21 58 05.5 +1.2**
BIA					*e*Sn	**Sn**	**21 58 35.2 +0.6**
BIA	**Bitola**	**2.44**	**329**		*e*Pn	**Pn**	**21 58 05.5 +1.2**
BIA					*e*Sn	**Sn**	**21 58 35.2 +0.5**
NVR	**Nevrokopi**	**2.52**	**16**		*e*PN	**Pn**	**21 58 06.4 +1.0**
NVR	**Nevrokopi**	**2.52**	**16**	P		**Pn**	**21 58 07.2 +1.8**
KEK	**Kerkira**	**2.58**	**289**		*e*PN	**Pn**	**21 58 07.4 +1.2**
PRK	**Paraskevi**	**2.59**	**82**		*e*PN	**Pn**	**21 58 07.8 +1.4**
KYTH	**Kithira**	**2.64**	**179**		*e*PB	**Pn**	**21 58 07.5 +0.4**
MMB	**Musomiste**	**2.72**	**12**		*i* P	**Pn**	**21 58 08.2 0.0**
MMB					Sg	**Sn**	**21 58 42.2 +0.6**
OHR	**Ohrid**	**2.74**	**323**		*e*Sn	**Sn**	**21 58 44.0 +1.8**
OHR	**Ohrid**	**2.74**	**323**		*e*Sn	**Sn**	**21 58 43.9 +1.8**
APE	**Apeiranthos**	**2.75**	**132**	⇓	*i* P	**Pg**	**21 58 16.7 +0.4**
APE	**Apeiranthos**	**2.75**	**132**		*e*Pb	**Pn**	**21 58 08.8 +0.3**
APE				⇓	P		21 58 16.7
KKB	**Krupnik**	**2.94**	**2**		*i* P	**Pn**	**21 58 11.6 +0.4**
KKB					Sg	**Sn**	**21 58 45.8 -1.1**
RDO	**Rodhopi**	**2.97**	**41**		*e*PN	**Pn**	**21 58 11.9 +0.3**
RZN	**Rozhen**	**3.07**	**25**		*i* P	**Pn**	**21 58 13.0 +0.1**
RZN					Sg	**Sn**	**21 58 51.5 +1.4**
SMG	**Samos**	**3.28**	**111**		P	**Pn**	**21 58 16.6 +0.8**
KDZ	**Kurdzhali**	**3.31**	**34**		*i* P	**Pn**	**21 58 15.0 -1.2**
PLD	**Plovdiv**	**3.44**	**22**		*e*Pn	**Pn**	**21 58 19.2 +1.1**
VAM	**Vamos**	**3.65**	**164**		*e*PN	**Pn**	**21 58 22.0 +1.1**
VAM	**Vamos**	**3.65**	**164**		P	**Pn**	**21 58 22.2 +1.3**
VTS	**Vitosha**	**3.67**	**3**	⇑	*i*P	**Pn**	**21 58 22.2 +1.0**
VTS	**Vitosha**	**3.67**	**3**	⇑	P	**Pn**	**21 58 22.2 +1.0**
IDI	**Anoyia**	**3.94**	**156**		Pn	**Pn**	**21 58 25.0 0.0**
	2.4nm,0.3s,baz=292,slow=16,SNR=16						
IDI					Sn	**Sn**	**21 59 09.5 -2.2**
	1.2nm,0.3s,baz=300,slow=20,SNR=2.9						
TIP	**Timpagrande**	**4.84**	**275**		P	**Pn**	**21 58 37.9 +0.6**
DIVS	**Divcibare**	**5.63**	**338**		*i* Pn	**Pn**	**21 58 48.1 0.0**
CUC	**Castrocucco**	**5.63**	**283**		P	**Pn**	**21 58 50.7 +2.5**
VOIR		**6.69**	**13**	⇑	*i*P	**Pn**	**21 59 03.4 +0.7**
VOIR		**6.69**	**13**	⇑	P	**Pn**	**21 59 03.4 +0.7**
MLR	**Muntele Rosu**	**6.92**	**18**		Pn	**Pn**	**21 59 07.6 +1.7**
	1.3nm,0.3s,baz=185,slow=12,SNR=17						
MLR	**Muntele Rosu**	**6.92**	**18**	⇑	*i*P	**Pn**	**21 59 07.8 +1.9**
MLR	**Muntele Rosu**	**6.92**	**18**	⇑	P	**Pn**	**21 59 07.8 +1.8**
CFR	**Carcaliu**	**7.34**	**30**	⇓	*i*P	**Pn**	**21 59 15.6 +4.0**
CFR	**Carcaliu**	**7.34**	**30**	⇓	P	**Pn**	**21 59 15.6 +4.0**
PLOR	**Plostina**	**7.44**	**20**	⇑	*i*P	**Pn**	**21 59 15.2 +2.2**
VRI	**Vrincioaia**	**7.47**	**21**	⇑	*i*P	**Pn**	**21 59 15.4 +1.9**
VRI	**Vrincioaia**	**7.47**	**21**	⇑	P	**Pn**	**21 59 15.4 +1.9**
PKSM	**Moragy**	**7.95**	**338**	⇑	*i*P	**Pn**	**21 59 20.3 +0.3**
PKSM	**Moragy**	**7.95**	**338**	⇑	P	**Pn**	**21 59 20.3 +0.3**
BRTR	**Keskin Array B**	**8.31**	**81**		Pn	**Pn**	**21 59 25.6 +0.7**
	0.1nm,0.3s,baz=260,slow=13,SNR=4.2						
ESDC	**Sonseca Array**	**20.83**	**281**		P	**P**	**22 02 04.0 -2.3**
	0.3nm,0.5s,baz=82,slow=11,SNR=4.6						
HFS	**Hagfors**	**22.02**	**348**		P	**P**	**22 02 16.5 -2.6**
	2.6nm,0.9s,mb3.6,baz=170,slow=17,SNR=3.0						
EKA	**Eskdalemuir Ar**	**23.98**	**322**		P	**P**	**22 02 36.4 -2.8**
	3.0nm,1.1s,mb3.6,baz=120,slow=9.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**31.84**	**222**		P	**P**	**22 03 48.4 -1.2**
	0.6nm,0.6s,mb3.6,baz=33,slow=9.2,SNR=5.7						

NIED ***18*** *21:57:00.4 720N×154 70E, h20km, Mw4.3 Best double couple: M0 3.56000×10^15 NP1:φs 187.00000°, δ63.00000°, λ -108.00000°. NP2:φs 42.00000°, δ32.00000°, λ -59.00000°.*

IDC ***18*** *21:57:29.9± 0.5, 46.83N×154.75E, h0km, mb4.4/28, mb1 4.6/29, mb1mx4.5/32, mbtmp4.4/29, ML3.9/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/38, Error ellipse: s-maj=15.2km s-min=13.2km az=132.0*

ISCJB ***18*** *21:57:31.2± 1.0, 46.73N± 0.05×154.62E± 0.04, h18km± 7km, mb4.6/83, MS3.8/17, Error ellipse: s-maj=9.1km s-min=3.9km az=136.2*

SKHL ***18*** *21:57:31.8± 1.5, 46.87N×154.88E, h63km± 24km, Ms4.5/1, msh5.7/1*

MOS ***18*** *21:57:33.4± 1.3, 46.87N×154.59E, h32km, mb4.9/29, Error ellipse: s-maj=8.4km s-min=6.3km az=104.6*

BJI ***18*** *21:57:34.3, 47.13N×154.53E, h29km, mB4.8, mb4.6, Ms4.3, Msz4.0*

NEIC ***18*** *21:57:36.6± 0.3, 46.77N×154.66E, mb4.6/38, Error ellipse: s-maj=10.4km s-min=6.2km az=162.0*

SZGRF ***18*** *21:57:38.8, 48.15N×158.22E, h33km, mb5.1, East of Kuril Islands, Russia*

ISC 18 21:57:34.7± 1.0, 4677N± 0.05×15462E± 0.04, h30km± 7km, h44km± 1.6km:pP-P, n234, σ1s 42/256, mb4.6/83, MS3.8/17, 25C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.04**	**14**	*e*P	**Pn**	**21 58 29.5**	**-5.0**
SKR				*e*S	**Sn**	**21 59 11.5**	**-9.3**
SKR				A		21 59 15.5	
	100nm,0.5s						
SKR				A		21 59 15.5	
	170nm,0.5s						
SKR				A		21 59 15.5	
	80nm,0.5s						
SKR				AMS	AMS	22 00 08.0	
	5μm,12.0s						
SKR				AMS	AMS	22 00 08.0	
	5μm,12.0s						
KUR	**Kuril'sk**	**4.95**	**254**	⇑ *i*P	**Pn**	**21 58 46.0**	**-1.0**
KUR				AMB	AMB	21 58 47.0	
	152nm,0.5s						
KUR				*e*S	**Sn**	**21 59 42.0**	**-1.3**
KUR				A		21 59 44.0	
	407nm,0.4s						
KUR				A		21 59 44.0	
	244nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.75**	**249**	*e*P	**Pn**	**21 59 12.5**	**+0.8**
YUK				AMB	AMB	21 59 12.9	
	120nm,0.4s						
YUK				*e*S	**Sn**	**22 00 28.9**	**+1.4**
YUK				A		22 00 31.6	
	350nm,0.4s						
YUK				A		22 00 31.6	
	170nm,0.5s						
YUK				A		22 00 36.9	
	2μm,3.0s						
YUK				A		22 00 36.9	
	2μm,3.0s						
PET	**Petropavlovsk**	**6.78**	**21**	*e*PN	**Pn**	**21 59 06.7**	**-5.4**
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
PET	**Petropavlovsk**	**6.78**	**21**	*e*Pn	**Pn**	**21 59 06.1**	**-6.0**
NEM2	**Nemuro 2**	**7.15**	**245**	P	**Pn**	**21 59 16.2**	**-1.0**
NEM2				*e*S	**Sn**	**22 00 33.5**	**-3.9**
JRA	**Rausu**	**7.27**	**251**	P	**Pn**	**21 59 20.8**	**+2.0**
JNK	**Nakash**	**7.69**	**249**	P	**Pn**	**21 59 25.6**	**+1.0**
JNK				*e*S	**Sn**	**22 00 49.9**	**-0.8**
JAK	**Akkeshi**	**7.99**	**245**	P	**Pn**	**21 59 28.4**	**-0.4**
JAK				*e*S	**Sn**	**22 00 53.8**	**-4.4**
JTKR	**Abashiri--Tokyo**	**8.05**	**254**	P	**Pn**	**21 59 31.0**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.14**	**276**	*e*P	**Pn**	**21 59 33.8**	**+3.0**
YSS				*e*LQ		22 01 45.0	
YSS				AMS	AMS	22 02 56.0	
	comp=Z,800nm,12.0s						
YSS				AMS	AMS	22 02 56.0	
	comp=Z,800nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.14**	**276**	*e*PN	**Pn**	**21 59 31.7**	**+0.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.14**	**276**	*e*Pn	**Pn**	**21 59 31.7**	**+0.9**
	comp=Z,20nm,0.8s						
YSS				*e*Sn	**Sn**	**22 01 03.5**	**+1.7**
JMP	**Maruseppu**	**8.39**	**255**	P	**Pn**	**21 59 36.7**	**+2.4**
JAR	**Ashorobuto**	**8.43**	**250**	P	**Pn**	**21 59 35.9**	**+1.1**
JAR				*e*S	**Sn**	**22 01 08.5**	**-0.5**
JOB	**Onbets**	**8.58**	**247**	P	**Pn**	**21 59 37.0**	**+0.1**
JOB				*e*S	**Sn**	**22 01 09.6**	**-3.1**
UGL	**Uglegorsk**	**8.74**	**290**	*e*L		22 02 18.0	
JKK2	**Kamakawa 2**	**8.85**	**255**	P	**Pn**	**21 59 42.8**	**+2.2**
ASAJ	**Asahikawa**	**8.86**	**257**	Pn	**Pn**	**21 59 43.5**	**+2.8**
	comp=Z,2.2nm,0.3s,baz=76,slow=18,SNR=12						
ASAJ				LR	LR	22 03 39.9	
	comp=Z,181nm,18.6s,baz=158,slow=41						
ASAJ	**Asahikawa**	**8.86**	**257**	P	**Pn**	**21 59 43.4**	**+2.7**
ASAJ	**Asahikawa**	**8.86**	**257**	PN	**Pn**	**21 59 43.5**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,181nm,18.6s						
JCH	**Churui**	**9.03**	**247**	P	**Pn**	**21 59 43.0**	**0.0**
JCH				*e*S	**Sn**	**22 01 19.4**	**-4.3**
JFR	**Furan**	**9.26**	**251**	P	**Pn**	**21 59 48.1**	**+2.0**
JAB	**Ashibetsu**	**9.35**	**254**	P	**Pn**	**21 59 51.3**	**+3.9**
ERM	**Erimo**	**9.48**	**244**	*e*PN	**Pn**	**21 59 49.7**	**+0.5**
ERM				pmax	pmax		
	comp=Z,20nm,0.5s						
ERM	**Erimo**	**9.48**	**244**	*e*Pn	**Pn**	**21 59 49.7**	**+0.5**
	comp=Z,20nm,0.5s						
ERM				*e*Sn	**Sn**	**22 01 29.0**	**-5.8**
JEM	**Erimo**	**9.48**	**244**	P	**Pn**	**21 59 49.9**	**+0.7**
JEM				*e*S	**Sn**	**22 01 29.6**	**-5.1**
JBT2	**Biratori 2**	**9.59**	**250**	P	**Pn**	**21 59 51.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**9.59**	**246**	P	**Pn**	**21 59 50.0**	**-0.7**
JNBK				*e*S	**Sn**	**22 01 31.4**	**-6.0**
JEW	**Eniwo**	**10.15**	**252**	P	**Pn**	**22 00 00.4**	**+2.0**
JNB	**Noboribetsu**	**10.59**	**251**	P	**Pn**	**22 00 04.4**	**0.0**
JNB				*e*S	**Sn**	**22 01 58.4**	**-3.6**
JKB	**Kayabe**	**10.89**	**248**	P	**Pn**	**22 00 07.1**	**-1.4**
JKB				*e*S	**Sn**	**22 02 01.9**	**-7.3**
JYM2	**Yakumo 2**	**11.20**	**251**	P	**Pn**	**22 00 12.3**	**-0.4**
JANG	**Nango**	**11.45**	**241**	P	**Pn**	**22 00 12.9**	**-3.3**
JANG				*e*S	**Sn**	**22 02 13.2**	**-10**
JTM	**Tenmabayashi**	**11.47**	**243**	P	**Pn**	**22 00 14.3**	**-2.2**
JTM				*e*S	**Sn**	**22 02 14.3**	**-9.3**
JTH	**Tanohata**	**11.52**	**238**	P	**Pn**	**22 00 13.6**	**-3.5**
JTH				*e*S	**Sn**	**22 02 14.1**	**-11**
OFUJ	**Ofunato**	**12.20**	**236**	P	**Pn**	**22 00 23.8**	**-2.7**
OFUJ				*e*S	**Sn**	**22 02 31.8**	**-10**
JRG	**Rokugo**	**12.59**	**239**	P	**Pn**	**22 00 29.5**	**-2.3**
JRG				*e*S	**Sn**	**22 02 43.2**	**-7.8**
JIO	**Ouri**	**12.82**	**234**	P	**Pn**	**22 00 31.9**	**-3.0**
JIO				*e*S	**Sn**	**22 02 46.3**	**-10**
HABR	**Khabarovsk**	**13.31**	**285**	*e*PN	**Pn**	**22 00 43.4**	**+1.8**
JFY	**Yanaizu**	**14.48**	**235**	P	**Pn**	**22 00 56.0**	**-1.5**
MJAR	**Matsushiro Arr**	**15.94**	**236**	Pn	**Pn**	**22 01 14.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=16						
MAJO	**Matsushiro**	**15.94**	**236**	*e*P	**Pn**	**22 01 15.6**	**-1.1**
MAT	**Matsushiro**	**15.94**	**236**	P	**Pn**	**22 01 14.5**	**-2.2**
ZEA	**Zeya**	**18.76**	**302**	*e*P	**Pn**	**22 01 48.2**	**-3.7**
ZEA				AMB	AMB	22 01 50.4	
	comp=Z,25nm,0.7s						
CN2	**Changchun**	**20.69**	**272**	*e*P	**P**	**22 02 10.0**	**-2.3**
CN2				*e*XP	sP	22 02 26.8	+2.7
CN2				*e*S	**S**	**22 05 52.8**	**-9.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS3.8						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS3.8						
CN2				LR	LR		
	comp=Z,300nm,14.0s,MS3.8						
CLNS	**Chul'man**	**20.80**	**310**	*e*P	**P**	**22 02 13.1**	**-0.4**
CLNS				*e*		22 02 25.8	
CLNS				*e*PPP		22 02 30.9	
CLNS				*e*SS		22 06 22.0	
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,21nm,1.1s						
CLNS				pmax	pmax		
	comp=N,17nm,0.8s						
CLNS				pmax	pmax		
	comp=E,20nm,1.0s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=Z,200nm,13.0s,MS3.7						
CLNS				MLR	MLR		
	comp=E,700nm,12.0s,MS4.2						
YAK	**Yakutsk**	**20.88**	**326**	⇑ *e*P	**P**	**22 02 12.2**	**-2.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
YAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.1						
YAK	**Yakutsk**	**20.88**	**326**	*e*P	**P**	**22 02 12.1**	**-2.2**
	comp=Z,16nm,0.6s						
KSRS	**Korea Array**	**21.80**	**254**	P	**P**	**22 02 24.4**	**+0.2**
	comp=Z,2.2nm,0.7s,mb3.7,baz=57,slow=12,SNR=10						
BILL	**Bilibino**	**22.15**	**12**	⇓ *e*P	**P**	**22 02 25.9**	**-2.1**
BILL				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
BILL	**Bilibino**	**22.15**	**12**	*e*P	**P**	**22 02 24.0**	**-4.0**
	comp=Z,20nm,0.8s,mb4.6						
JNU	**Nakatsue**	**22.63**	**241**	LR	LR	22 11 44.6	
	comp=Z,93nm,21.1s,MS3.2,baz=254,slow=38						
SNY	**Shenyang**	**22.68**	**269**	⇑ P	**P**	**22 02 34.1**	**+0.5**
SNY				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.6						
SNY				AMB	AMB		
	comp=Z,107nm,3.6s						
SNY				LR	LR		
	comp=N,243nm,12.0s						
SNY				LR	LR		
	comp=E,265nm,17.4s						
SNY				LR	LR		
	comp=Z,266nm,15.0s,MS3.8						
HIA	**Hailar**	**23.34**	**289**	*e*P	**P**	**22 02 37.5**	**-3.1**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**23.34**	**289**	*e*P	**P**	**22 02 37.5**	**-3.1**
	comp=Z,5.5nm,0.6s,mb4.2						
BOD	**Bodaibo**	**26.78**	**309**	*e*P	**P**	**22 03 09.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.0						
TIXI	**Tiksi**	**27.75**	**343**	*e*P	**P**	**22 03 17.2**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
TIXI	**Tiksi**	**27.75**	**343**	*e*P	**P**	**22 03 17.2**	**-3.4**
	comp=Z,17nm,1.0s,mb4.6						
HHC	**Hu-ho-hao-te**	**31.33**	**275**	*e*P	**P**	**22 03 53.5**	**+1.1**
HHC				PP	PP	22 04 55.4	-7.9
HHC				PCP	PcP	22 06 48.3	+2.4
HHC				S	**S**	**22 08 59.0**	**+1.5**
HHC				SCP	ScP	22 10 30.6	+3.8
HHC				SS	SS	22 10 44.1	-28
HHC				SCS	ScS	22 14 25.3	+1.1
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,59nm,6.3s						
HHC				LR	LR		
	comp=N,176nm,15.3s,MS4.1						
HHC				LR	LR		
	comp=E,213nm,12.9s,MS4.1						
HHC				LR	LR		
	comp=Z,203nm,13.0s,MS4.0						
ULN	**Ulaanbaatar**	**31.87**	**290**	*e*P	**P**	**22 03 55.9**	**-1.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**31.87**	**290**	*e*P	**P**	**22 03 55.9**	**-1.3**
	comp=Z,2.2nm,0.8s,mb4.0						
SONM	**Songino Array**	**32.30**	**290**	P	**P**	**22 04 00.2**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.1,baz=62,slow=8.6,SNR=16						
SONM				PcP	PcP	22 06 48.4	-0.1
	comp=Z,0.5nm,0.9s,baz=82,slow=3.5,SNR=3.7						
SONM				LR	LR	22 18 36.5	
	comp=Z,152nm,18.0s,MS3.7,baz=193,slow=39						
SONM	**Songino Array**	**32.30**	**290**	P	**P**	**22 04 00.2**	**-0.8**
SONM						22 06 48.4	
TLY	**Talaya**	**33.09**	**298**	*e*P	**P**	**22 04 07.4**	**-0.4**
TLY				*e*		22 05 16.0	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
TLY				MLR	MLR		
	comp=Z,155nm,15.0s,MS3.8						
TLY	**Talaya**	**33.09**	**298**	*e*P	**P**	**22 04 06.8**	**-1.1**
ZAK	**Zakamensk**	**33.61**	**295**	*e*P	**P**	**22 04 11.7**	**-0.7**
COLA	**College**	**35.48**	**38**	*e*P	**P**	**22 04 26.9**	**-1.6**
COLA				*e*	pP	22 04 34.4	-2.9
COLA				*e*PP	pP	22 04 39.5	+2.2
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA	**College**	**35.48**	**38**	*e*P	**P**	**22 04 26.9**	**-1.7**
	comp=Z,4.5nm,0.8s,mb4.5						
COLA				*e*	pP	22 04 34.4	-2.9
COLA				*e*pP	pP	22 04 39.5	+2.2
XAN	**Xi'an**	**36.55**	**266**	P	**P**	**22 04 38.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
EGAK	**Eagle**	**38.34**	**38**	*e*P	**P**	**22 04 50.6**	**-2.3**
	comp=Z,8.0nm,1.0s,mb4.4						
EGAK				*e*		22 05 03.4	
LZH	**Lanzhou**	**38.92**	**273**	*e*P	**P**	**22 05 00.5**	**+2.7**
LZH				AP	pP	22 05 12.5	+5.9
LZH				XP	sP	22 05 15.1	+4.9
LZH				PP	PP	22 06 34.1	+6.9
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.92**	**273**	*e*P	**P**	**22 05 00.5**	**+2.7**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	22 05 12.5	+5.9
LZH				sP	sP	22 05 15.1	+4.9
LZH				PP	PP	22 06 34.1	+6.9
GTA	**Gaotai**	**39.99**	**280**	*e*P	**P**	**22 05 08.3**	**+1.7**
GTA				AP	pP	22 05 20.6	+5.1
GTA				XP	sP	22 05 26.1	+7.0
GTA				PP	PP	22 06 45.3	+6.5
GTA				PCP	PcP	22 07 12.5	+1.1
GTA				S	**S**	**22 11 12.3**	**+2.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.3						
GTA				LR	LR		
	comp=N,114nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=E,229nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=Z,183nm,16.4s,MS4.0						
INK	**Inuvik**	**41.08**	**33**	P	**P**	**22 05 14.6**	**-1.1**
	comp=Z,7.5nm,0.8s,mb4.4,baz=290,slow=6.9,SNR=22						
INK	**Inuvik**	**41.08**	**33**	*e*P	**P**	**22 05 14.8**	**-0.8**
INK				*e*PP	pP	22 05 27.0	+2.5
INK				pmax	pmax		
	comp=Z,248nm,0.8s						
INK	**Inuvik**	**41.08**	**33**	*e*P	**P**	**22 05 14.8**	**-0.9**
	comp=Z,248nm,0.8s						
INK				*e*pP	pP	22 05 27.0	+2.5
CD2	**Chengdu**	**41.92**	**266**	*e*P	**P**	**22 05 23.1**	**+0.6**
CD2				XP	sP	22 05 40.8	+5.9
CD2				PP	PP	22 07 03.8	+4.1
CD2				S	**S**	**22 11 37.3**	**-1.6**
CD2				XS	sS	22 11 57.9	+4.4
CD2				SS	SS	22 14 39.0	-7.0
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,150nm,14.4s						
CD2				LR	LR		
	comp=Z,170nm,14.4s,MS4.1						
GYA	**Guiyang**	**42.73**	**259**	⇑ *i*P	**P**	**22 05 31.3**	**+2.1**
GYA				AP	pP	22 05 43.5	+5.5
GYA				XP	sP	22 05 48.5	+6.9
GYA				PP	PP	22 07 12.6	+4.1
GYA				PCP	PcP	22 07 22.5	+2.1
GYA				S	**S**	**22 11 50.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,240nm,16.0s,MS4.4						
GYA				LR	LR		
	comp=E,290nm,16.4s,MS4.4						
GYA				LR	LR		
	comp=Z,240nm,15.8s,MS4.2						
ZAL	**Zalesovo**	**43.46**	**306**	P	**P**	**22 05 33.4**	**-1.6**
	comp=Z,4.6nm,0.5s,mb4.5,baz=52,slow=7.9,SNR=21						
ZAL				PcP	PcP	22 07 22.4	-0.4
	comp=Z,1.2nm,0.8s,baz=164,slow=5.0,SNR=3.7						
ZAL				LR	LR	22 25 18.3	
	comp=Z,115nm,18.4s,MS3.8,baz=78,slow=38						
ZAL	**Zalesovo**	**43.46**	**306**	P	**P**	**22 05 33.4**	**-1.6**
ZAL						22 07 22.4	
ZAL	**Zalesovo**	**43.46**	**306**	P	**P**	**22 05 33.4**	**-1.6**
ZAL				PcP	PcP	22 07 22.4	-0.4
ZAL				LR	LR	22 25 18.3	
NVS	**Novosibirsk**	**44.00**	**308**	*i* P	**P**	**22 05 37.8**	**-1.6**
WMQ	**Urumqi**	**45.88**	**292**	⇑ *i*P	**P**	**22 05 55.8**	**+1.4**
WMQ				AP	pP	22 06 08.3	+5.0
WMQ				PCP	PcP	22 07 33.6	+2.4
WMQ				PP	PP	22 07 43.4	+1.3
WMQ				PPP		22 08 26.8	
WMQ				S	**S**	**22 12 35.0**	**-1.7**
WMQ				XS	sS	22 12 55.4	+4.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,62nm,4.4s						
WMQ				LR	LR		
	comp=N,84nm,18.5s,MS3.9						
WMQ				LR	LR		
	comp=E,72nm,

KSH Kashi 55.60 293 *e*P P **22 07 09.8 +2.2**
KSH *e*AP pP 22 07 13.5 -3.2
KSH *e*PCP PcP 22 08 10.3 +3.3
KSH *e*PP PP 22 09 15.9 +4.1
KSH *e*SCP ScP 22 12 07.9 +4.1
KSH *e*S **S** **22 14 49.4 -2.1**
KSH *e*PS 22 15 07.5
KSH *e*SCS ScS 22 16 55.0 +0.4
KSH *e*SS SS 22 18 33.3 -3.4
ARU Arti 55.70 318⇓ *i*P P **22 07 07.7 -0.6**
ARU *e* 22 09 09.6
ARU *e*PPP 22 10 22.9
ARU *e*S **S** **22 14 50.9 -1.8**
ARU *e*SS SS 22 18 39.5 +1.3
ARU pmax pmax
comp=Z,11nm,0.6s,mb5.1
ARU Arti 55.70 318 *e*P P **22 07 07.2 -1.0**
ARU *e*pP pP 22 07 19.5 +2.2
ARU *e*sP sP 22 07 24.2 +3.4
JIRN Jiri 55.98 276 *e*P P **22 07 12.3 +2.0**
comp=Z,23nm,0.6s,mb5.4
GUN Gumba 56.03 276 *e*P P **22 07 12.0 +1.3**
comp=Z,14nm,0.6s,mb5.2
KKN Kakani 56.52 276 *e*P P **22 07 16.4 +2.3**
comp=Z,21nm,0.6s,mb5.3
PKI Pulchoki 56.57 276 *e*P P **22 07 17.1 +2.6**
comp=Z,13nm,0.5s,mb5.2
DMN Daman 56.75 276 *e*P P **22 07 18.2 +2.4**
comp=Z,46nm,0.9s,mb5.5
GKN Gorkha 56.82 277 *e*P P **22 07 18.2 +1.9**
comp=Z,86nm,1.2s,mb5.6
KEV Kevo 57.67 341 *e*p P **22 07 20.2 -2.1**
KOLN Koldanda 57.68 277 *e*P P **22 07 24.1 +1.8**
comp=Z,21nm,0.8s,mb5.2
ARCES ARCESS Array B 58.17 341 P P **22 07 24.9 -0.9**
comp=Z,8.0nm,0.8s,mb4.8,baz=51,slow=9.6,SNR=8.2
TMCR Tamitsa 58.80 333 P P **22 07 29.9 -0.3**
TMCR pmax pmax
comp=Z,27nm,0.8s,mb5.3
AKTK Aktyubinsk 59.48 312 P P **22 07 34.5 -0.4**
AKTO Aktyubinsk 59.48 312 P P **22 07 34.5 -0.4**
comp=Z,1.8nm,0.5s,mb4.4,baz=70,slow=8.4,SNR=7.5
AKTO Aktyubinsk 59.48 312 P P **22 07 34.6 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
LRM Limekiln Ridge 60.35 53 *e*P P **22 07 40.5 -0.4**
HLID Hailey 60.64 57 *e*P P **22 07 41.8 -1.0**
comp=Z,1.9nm,0.9s,mb4.2
NVAR Mina Array Bea 61.50 63 P P **22 07 47.4 -1.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=294,slow=10,SNR=9.8
QLMT Earthquake Lak 61.53 54 *e*P P **22 07 49.0 +0.1**
YFT Old Faithful 62.10 54 *e*P P **22 07 55.2 +2.5**
IMW Indian Meadow 62.40 54 *e*P P **22 07 55.2 +0.5**
comp=Z,7.4nm,1.2s,mb4.7
FLWY Flagg Ranch 62.41 54 *e*P P **22 07 55.4 +0.6**
comp=Z,7.6nm,1.2s,mb4.7
MOOW Moose Ponds 62.60 54 *e*P P **22 07 56.4 +0.4**
comp=Z,6.2nm,1.3s,mb4.6
SNOW Snow King Moun 62.77 55 *e*P P **22 07 58.1 +0.9**
REDW Red Top Meadow 62.78 55 *e*P P **22 07 57.7 +0.5**
comp=Z,7.2nm,0.9s,mb4.8
LAO LASA Array 63.16 50 *e*P P **22 07 59.9 +0.1**
DUG Dugway 63.68 59 *e*P P **22 08 03.2 0.0**
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DUG Dugway 63.68 59 *e*P P **22 08 03.2 0.0**
comp=Z,5.1nm,1.0s,mb4.5
BW06 Boulder Array 63.89 55 *e*P P **22 08 04.3 -0.4**
comp=Z,5.1nm,1.0s,mb4.5
BW06 *e*pP pP 22 08 17.2 +3.3
PDAR Pinedale Array 63.89 55 P P **22 08 03.8 -0.8**
comp=Z,3.5nm,0.9s,mb4.4,baz=297,slow=2.2,SNR=26
NLU North Lily Min 64.27 58 *e*P P **22 08 07.5 +0.4**
FIA1 FINESS Array S 64.46 335 *e*P P **22 08 07.2 -1.1**
FIA1 *e*pP pP 22 08 20.0 +2.4
FINES FINESS Array B 64.46 335 P P **22 08 07.4 -0.9**
comp=Z,5.0nm,0.4s,mb4.9,baz=39,slow=7.3,SNR=119
SRU San Rafael 65.73 58 *e*P P **22 08 16.3 -0.3**
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SRU San Rafael 65.73 58 *e*P P **22 08 16.3 -0.3**
comp=Z,6.1nm,0.9s,mb4.6
ULM Lac du Bonnet 65.82 42 P P **22 08 14.3 -2.9**
comp=Z,1.1nm,0.5s,mb4.1,baz=333,slow=5.8,SNR=3.7
ULM Lac du Bonnet 65.82 42 P P **22 08 14.3 -2.9**
OBN Obninsk 65.88 326⇓ *e*P P **22 08 16.2 -1.3**
OBN *i* 22 08 28.7
OBN *e*S S 22 16 57.7 -4.9
OBN pmax pmax
comp=Z,30nm,1.4s,mb5.1
PV10 Paradox Valley 67.08 58 *e*P P **22 08 25.1 -0.2**
AGMN Agassiz Refuge 67.21 43 *e*P P **22 08 24.4 -1.6**
comp=Z,2.2nm,0.6s,mb4.4
ISCO Idaho Springs 68.08 55 *e*P P **22 08 31.8 +0.2**
ISCO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ISCO Idaho Springs 68.08 55 *e*P P **22 08 31.8 +0.2**
comp=Z,5.5nm,0.9s,mb4.6
NB2 NORSAR Subarra 68.54 342 P P **22 08 33.3 -1.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=27,slow=6.5
NOA NORSAR Array B 68.54 342 P P **22 08 33.5 -0.9**
comp=Z,3.6nm,0.7s,mb4.4,baz=26,slow=6.4,SNR=9.4
HFS Hagfors 68.80 340 P P **22 08 35.0 -1.0**
comp=Z,10nm,0.6s,mb5.0,baz=46,slow=4.3,SNR=24
WRAB Tennant Creek 68.87 200 *i* P P **22 08 37.0 +0.5**
WB2 Warramunga Arr 68.88 200 *e*P P **22 08 36.6 +0.1**
WRA Warramunga Arr 68.88 200 P P **22 08 36.8 +0.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=20,slow=6.8,SNR=17
FITZ Fitzroy Crossi 69.66 209 *e*P P **22 08 43.7 +2.3**
comp=Z,5.2nm,0.7s,mb4.6
FITZ Fitzroy Crossi 69.66 209 P P **22 08 42.5 +1.1**
comp=Z,4.0nm,0.9s,mb4.3,baz=15,slow=1.5,SNR=6.2
ANMO Albuquerque 70.93 59 *e*P P **22 08 49.3 +0.1**
KIV Kislovodsk 71.53 315⇑ *e*P P **22 08 54.3 +1.6**
KIV *e*S S 22 18 04.8 -4.8
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
AKASG Malin Array Be 72.10 327 P P **22 08 54.9 -1.3**
comp=Z,3.4nm,0.5s,mb4.5,baz=33,slow=6.1,SNR=16
AKASG Malin Array Be 72.10 327 P P **22 08 54.9 -1.3**
KIEV Kiev 72.11 327 *e*P P **22 08 54.7 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIEV Kiev 72.11 327 *e*P P **22 08 54.7 -1.6**
comp=Z,4.2nm,0.6s,mb4.5
AS31 Alice Springs 72.56 200 *e*P P **22 08 54.8 -4.2**
ASAR Alice Springs 72.57 200 P P **22 08 60.0 +1.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=16,slow=5.1,SNR=45
GNI Garni 73.31 311 P P **22 09 05.0 +1.7**
comp=Z,2.4nm,0.5s,mb4.4,baz=79,slow=5.2,SNR=2.9
OJC Ojcow 75.80 332 *e*P P **22 09 19.7 +1.9**
STHS Stebnicka Huta 76.01 331 *e*P P **22 09 19.3 +0.3**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 76.01 331 *e*P P **22 09 19.3 +0.3**
comp=Z,5.8nm,0.9s,mb4.5
KOLS Kolonicke sedl 76.08 330 *e*P P **22 09 19.2 -0.2**
BURAR Bucovina Array 76.14 327⇑ *i*P P **22 09 19.5 -0.3**
BURAR Bucovina Array 76.14 327⇑ *e*P P **22 09 19.5 -0.3**
EKA Eskdalemuir Ar 76.56 347 P P **22 09 22.5 +0.4**
comp=Z,3.3nm,0.5s,mb4.5,baz=15,slow=4.8,SNR=24
LTX Lajitas 76.58 62 *e*P P **22 09 21.8 -0.4**
LTX *e**PP pP 22 09 34.3 +2.7
LTX pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LTX Lajitas 76.58 62 *e*P P **22 09 21.8 -0.5**
comp=Z,9.0nm,0.6s,mb4.9
LTX *e*pP pP 22 09 34.2 +2.6
TXAR Lajitas Array 76.58 62 P P **22 09 21.9 -0.4**
comp=Z,10nm,0.7s,mb4.9,baz=300,slow=4.4,SNR=121
OKC Ostrava-Krasne 76.66 333 *e*P P **22 09 24.7 +2.0**
UPC Upice 76.72 334 *e*P P **22 09 25.3 +2.2**
UPC *e*pP pP 22 09 40.6 +8.1
DPC Dobruska-Polom 76.77 334 *e*P P **22 09 25.6 +2.3**
DPC *e*pP pP 22 09 37.7 +5.0
CLL Collm 76.87 336 *e*P P **22 09 23.0 -0.9**
CLL *e**PP pP 22 09 38.0 +4.7
CLL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLL Collm 76.87 336 *e*P P **22 09 23.0 -0.9**
comp=Z,5.0nm,0.9s,mb4.4
CLL *e*pP pP 22 09 38.0 +4.7
CLL Collm 76.87 336 *e*P P **22 09 23.0 -0.9**
comp=Z,5.0nm,0.9s,mb4.4
CLL *i* Pmax 22 09 25.7
comp=Z,17nm,1.0s
CLL *i* pP pP 22 09 38.0 +4.7
CLL *e*sP sP 22 09 42.0 +5.2
MORC Moravsky Berou 76.90 333⇑ *i*P P **22 09 23.8 -0.3**
MORC Moravsky Berou 76.90 333⇑ P P **22 09 23.8 -0.2**
VRI Vrincioaia 77.02 326⇑ *i*P P **22 09 28.2 +3.4**
VRI Vrincioaia 77.02 326⇑ P P **22 09 28.2 +3.4**
KECS Kecovo 77.07 331 *e*P P **22 09 24.5 -0.5**
KECS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
KECS Kecovo 77.07 331 *e*P P **22 09 24.5 -0.5**
comp=Z,2.8nm,1.2s,mb4.1
PVCC Panska Ves 77.13 335 *e*P P **22 09 27.6 +2.3**
PVCC *e*pP pP 22 09 40.5 +5.7
VRAC Vranov 77.61 333 P P **22 09 27.3 -0.7**
comp=Z,4.3nm,0.5s,mb4.6,baz=42,slow=4.4,SNR=7.3
VRAC Vranov 77.61 333⇑ *i*P P **22 09 29.9 +1.9**
VRAC Vranov 77.61 333⇑ P P **22 09 29.9 +1.9**
VYHS Vyhne 77.61 332 *i* P P **22 09 27.8 -0.2**
MLR Muntele Rosu 77.64 326⇑ *i*P P **22 09 28.1 -0.1**
MLR Muntele Rosu 77.64 326⇑ P P **22 09 28.1 -0.1**
DRGR 77.75 328⇑ *i*P P **22 09 28.0 -0.8**
NKC Novy Kostel 77.99 336 *e*P P **22 09 32.0 +1.8**
VOIR 78.03 326⇑ *i*P P **22 09 31.3 +0.9**
VOIR 78.03 326⇑ P P **22 09 31.2 +0.9**
JCT Junction City 78.04 58 *e*P P **22 09 29.6 -0.8**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
JCT Junction City 78.04 58 *e*P P **22 09 29.6 -0.8**
comp=Z,4.6nm,0.6s,mb4.6
KHC Kasperske Hory 78.67 335 *e*P P **22 09 33.9 0.0**
GRA1 Grafenberg Arr 78.82 337 *e*P P **22 09 34.9 +0.2**
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 78.82 337 *e*P P **22 09 34.9 +0.2**
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 78.82 337 *e*P P **22 09 34.9 +0.2**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRF Grafenberg Arr 78.82 337 *e*P P **22 09 34.9 +0.2**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRFO Grafenberg 78.82 337 *e*P P **22 09 34.7 -0.1**
GRFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRFO Grafenberg 78.82 337 *e*P P **22 09 34.7 -0.1**
comp=Z,8.2nm,0.8s,mb4.7
GERES GERESS Array B 78.89 335 P P **22 09 34.8 -0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=36,slow=5.3,SNR=13
BRTR Keskin Array B 79.08 318 P P **22 09 36.7 +0.5**
comp=Z,1.4nm,0.8s,mb4.0,baz=66,slow=5.2,SNR=5.7
BZS Buzias 79.15 328⇑ *i*P P **22 09 36.6 +0.1**
BZS Buzias 79.15 328⇑ P P **22 09 36.6 +0.1**
PKSM Moragy 79.67 331⇑ *i*P P **22 09 36.8 -2.6**
PKSM Moragy 79.67 331⇑ P P **22 09 36.8 -2.6**
CDF Champ du Feu 81.03 339 *e*P P **22 09 49.5 +2.8**
comp=Z,9.9nm,0.8s,mb4.5
CDF Champ du Feu 81.03 339 *e*P P **22 09 49.5 +2.8**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 81.03 339 *e*P P **22 09 49.5 +2.8**
comp=Z,4.9nm,0.8s,mb4.5
VTS Vitosha 81.14 326⇑ *i*P P **22 09 47.1 -0.2**
VTS Vitosha 81.14 326⇑ P P **22 09 47.1 -0.2**
DAVOX Davos 81.84 336 P P **22 09 51.6 +0.6**
comp=Z,8.7nm,0.8s,mb4.7,baz=359,slow=4.8,SNR=8.8
GRR Gorron 82.85 344 *e*P P **22 09 59.2 +3.0**
comp=Z,14nm,0.8s,mb4.7
GRR Gorron 82.85 344 *e*P P **22 09 59.2 +3.0**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GRR Gorron 82.85 344 *e*P P **22 09 59.2 +3.0**
comp=Z,6.8nm,0.8s,mb4.7
SMF Signal de Mont 83.51 340 *e*P P **22 10 02.4 +2.7**
comp=Z,28nm,0.9s,mb5.1
SMF Signal de Mont 83.51 340 *e*P P **22 10 02.4 +2.7**
SMF pmax pmax
comp=Z,14nm,0.9s,mb5.1
SMF Signal de Mont 83.51 340 *e*P P **22 10 02.4 +2.7**
comp=Z,14nm,0.9s,mb5.1
MMAI Mount Meron Ar 83.57 312 P P **22 10 00.8 +0.8**
comp=Z,2.5nm,0.7s,mb4.5,baz=36,slow=7.4,SNR=9.1
LPG La Plagne 83.87 338 *e*P P **22 10 05.2 +3.7**
comp=Z,11nm,0.6s,mb4.9
LPG La Plagne 83.87 338 *e*P P **22 10 05.2 +3.7**
LPG pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
LPG La Plagne 83.87 338 *e*P P **22 10 05.2 +3.7**
comp=Z,5.5nm,0.6s,mb4.9
CAF Calviac 85.54 341 *e*P P **22 10 13.2 +3.3**
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 85.54 341 *e*P P **22 10 13.2 +3.3**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
CAF Calviac 85.54 341 *e*P P **22 10 13.2 +3.3**
comp=Z,5.7nm,0.8s,mb4.8
ESDC Sonseca Array 91.84 344 P P **22 10 38.9 -1.0**
comp=Z,0.3nm,0.7s,mb3.7,baz=43,slow=4.0,SNR=3.1
KEST Kesra 92.14 332 P P **22 10 41.9 +0.6**
comp=Z,0.8nm,0.9s,mb4.0,baz=0.0,slow=1.0,SNR=2.3
TORD Torodi Ar. Bea 115.60 331 PKP PKPdf 22 16 13.3 -0.5
comp=Z,0.4nm,0.4s,baz=8.9,slow=2.6,SNR=8.2
TORD PP PP 22 17 12.3 -3.9
comp=Z,1.2nm,0.8s,baz=9.4,slow=8.2,SNR=7.3
TORD Torodi Ar. Bea 115.60 331 PKP PKPdf 22 16 13.3 -0.5
TORD PP PP 22 17 12.3 -3.9
CFAA Coronel Fontan 143.97 81 PKP PKPdf 22 17 04.0 -3.2
comp=Z,0.4nm,0.8s,baz=281,slow=2.9,SNR=3.9
SNAA Sanae 152.85 195 PKPbc PKPbc 22 17 27.1 -1.7
comp=Z,0.8nm,0.5s,baz=221,slow=3.0,SNR=21
SNAA PKPab PKPab 22 17 38.3 -1.6
comp=Z,1.3nm,1.0s,baz=130,slow=5.5,SNR=5.6
VNA2 Neumayer--Watz 154.27 194 *e*PKPdf PKPbc 22 17 30.2 -1.7
VNA2 *e* 22 17 35.6
VNA2 *e* 22 17 44.1
VNA3 Neumayer Olymp 154.33 192 *e*PKPdf PKPbc 22 17 29.8 -2.2
VNA3 *e* 22 17 44.8

*ISCJB **18** 22:03:15.9±0.5, 3021N±005×1389E±0.1, h449km±6km, mb3.3/8, Error ellipse: s-maj=18.3km s-min=6.8km az=147.8*
*JMA **18** 22:03:15.6±0.2, 3023N×13897E, h461km, M3.7*
*IDC **18** 22:03:16.8±0.8, 3023N×13894E, h441km±14km, mb3.0/8, mb1 3.1/12, mb1mx3.0/25, mbtmp3.1/12, Error ellipse: s-maj=43.1km s-min=10.4km az=74.0*
*NEIC **18** 22:03:17.2±1.1, 3026N×13857E, h438km±15km, mb4.1/1, Error ellipse: s-maj=56.3km s-min=14.1km az=80.0*
ISC 18 22:03:16.8±0.5,**3025N**±005×**1391E**±01,**h448**km±6km,**n24,**
σ1§**02**/32,**mb3.3**/8,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.93**	**13**	P	**P**	**22 04 24.3**	**+1.2**
JHJ2				*e*S	**S**	**22 05 17.3**	**+0.4**
JHJ	**Hachijo jima 2**	**2.93**	**12**	P	**P**	**22 04 24.5**	**+1.4**
	22nm,0.3s,baz=220,slow=13,SNR=11						
JHJ				S	**S**	**22 05 17.4**	**+0.4**
	24nm,0.3s,baz=70,slow=16,SNR=4.1						
CBIJ	**Chichi jima**	**4.17**	**138**	P	**P**	**22 04 33.5**	**+0.2**
	3.8nm,0.3s,baz=244,slow=16,SNR=5.2						
CBIJ				S	**S**	**22 05 34.5**	**-1.0**
	35nm,0.3s,baz=287,slow=19,SNR=20						
CBIJ	**Chichi jima**	**4.17**	**138**	P	**P**	**22 04 33.6**	**+0.3**
JWZ	**Kozaga**	**4.34**	**320**	P	**P**	**22 04 34.4**	**-0.4**
JHHJ	**Haha-jima-NKT**	**4.53**	**142**	*e*S	**S**	**22 05 40.1**	**-1.4**
JIE	**Ise**	**4.59**	**335**	P	**P**	**22 04 37.8**	**+0.7**
BSO1	**Boso 1**	**4.68**	**20**	P	**P**	**22 04 38.8**	**+0.8**
BSO1				*e*S	**S**	**22 05 43.7**	**-0.4**
JOD2	**Odawara 2**	**5.00**	**0**	P	**P**	**22 04 41.7**	**+0.7**
JOD2				*e*S	**S**	**22 05 48.9**	**-0.8**
JRY	**Ryogami san**	**5.76**	**359**	P	**P**	**22 04 49.1**	**+0.6**
JRY				*e*S	**S**	**22 06 01.7**	**-1.7**
MJAR	**Matsushiro Arr**	**6.32**	**354**	P	**P**	**22 04 54.0**	**-0.3**
	1.0nm,0.3s,baz=168,slow=10,SNR=10.0						
MAJO	**Matsushiro**	**6.32**	**354**	*e*Pn	**P**	**22 04 53.6**	**-0.6**
	12nm,0.8s						
MAT	**Matsushiro**	**6.32**	**354**	P	**P**	**22 04 53.9**	**-0.4**
MAT				S	**S**	**22 06 16.0**	**+2.0**
JHS	**Saijyo**	**6.90**	**315**	P	**P**	**22 04 59.8**	**-0.5**
JMK	**Ichinoseki**	**8.86**	**11**	P	**P**	**22 05 23.7**	**+2.2**
JMK				*e*S	**S**	**22 07 02.2**	**-1.8**
KSRS	**Korea Array**	**11.71**	**311**	P	**P**	**22 05 51.4**	**-1.1**
	baz=126,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**46.37**	**307**	P	**P**	**22 10 59.6**	**-1.6**
	0.2nm,0.6s,mb2.8,baz=82,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**50.10**	**186**	P	**P**	**22 11 29.7**	**+0.4**
	0.4nm,0.4s,mb3.1,baz=2.4,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**53.83**	**186**	P	**P**	**22 11 58.1**	**+1.9**
	0.3nm,0.5s,mb2.9,baz=17,slow=13,SNR=5.8						
ARCES	**ARCESS Array B**	**69.66**	**340**	P	**P**	**22 13 40.8**	**+0.7**
	3.5nm,0.9s,mb3.9,baz=71,slow=8.8,SNR=9.3						
FINES	**FINESS Array B**	**73.91**	**333**	P	**P**	**22 14 04.5**	**-0.4**
	0.6nm,0.5s,mb3.4,baz=76,slow=4.1,SNR=8.7						
HFS	**Hagfors**	**79.44**	**335**	P	**P**	**22 14 34.9**	**-0.6**
	0.6nm,0.5s,mb3.4,baz=71,slow=6.4,SNR=5.1						
NOA	**NORSAR Array B**	**79.66**	**337**	P	**P**	**22 14 36.4**	**-0.3**
	0.9nm,0.8s,mb3.3,baz=45,slow=5.6,SNR=2.6						
BRTR	**Keskin Array B**	**81.86**	**311**	P	**P**	**22 14 48.3**	**+0.2**
	1.5nm,1.0s,mb3.5,baz=57,slow=5.3,SNR=3.5						

*ISCJB **18** 22:05:59.7±0.8, 469N±0.1×1548E±02, h10km, mb3.9/16, Error ellipse: s-maj=22.5km s-min=11.6km az=115.2*
*IDC **18** 22:05:59.9±0.9, 4687N×15479E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/25, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=25.9km s-min=21.8km az=163.0*
*NEIC **18** 22:06:01.7±0.8, 4706N×15491E, h10km, mb4.2/3, Error ellipse: s-maj=25.5km s-min=13.5km az=144.0*
ISC 18 22:06:04.4±6.6,**470N**±02×**1548E**±02,**h26**km±48km,**n23,**
σ1§**29**/23,**mb3.9**/16,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.05**	**256**	Pn	**Pn**	**22 08 12.8**	**-0.5**
	0.8nm,0.3s,baz=162,slow=16,SNR=7.6						
ERM	**Erimo**	**9.71**	**243**	*e*Pn	**Pn**	**22 08 21.1**	**-1.3**
	9.5nm,0.6s						
ERM				*e*Sn	Sx	22 09 58.4	
MAT	**Matsushiro**	**16.19**	**236**	P	**Pn**	**22 09 43.9**	**-6.1**
MJAR	**Matsushiro Arr**	**16.19**	**236**	Pn	**Pn**	**22 09 52.0**	**+2.0**
	baz=35,slow=12,SNR=4.1						
KSRS	**Korea Array**	**21.99**	**254**	P	**P**	**22 10 59.0**	**+2.6**
	1.1nm,0.6s,mb3.4,baz=59,slow=8.8,SNR=4.5						
INK	**Inuvik**	**40.79**	**33**	P	**P**	**22 13 44.1**	**+0.7**
	1.0nm,0.6s,mb3.6,baz=267,slow=8.3,SNR=5.5						
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**22 14 03.1**	**-1.6**
	1.0nm,0.4s,mb3.9,baz=88,slow=7.1,SNR=4.6						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**22 14 39.2**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=74,slow=6.8,SNR=6.4						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**22 14 39.2**	**-0.5**
LSA	**Lhasa**	**51.41**	**274**	*e*P	**P**	**22 15 09.8**	**+2.8**
	1.9nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.33**	**310**	*e*P	**P**	**22 15 12.6**	**-1.2**
	1.1nm,0.4s,mb4.1						
PDAR	**Pinedale Array**	**63.64**	**55**	P	**P**	**22 16 32.8**	**-0.3**
	0.3nm,0.6s,mb3.5,baz=328,slow=5.3,SNR=3.5						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**22 16 37.0**	**-0.3**
	1.1nm,0.4s,mb4.3,baz=39,slow=7.7,SNR=24						
NB2	**NORSAR Subarra**	**68.33**	**342**	P	**P**	**22 17 04.9**	**+1.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=24,slow=6.2						
NOA	**NORSAR Array B**	**68.33**	**342**	P	**P**	**22 17 05.2**	**+2.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=26,slow=6.5,SNR=2.6						
HFS	**Hagfors**	**68.59**	**340**	P	**P**	**22 17 05.5**	**+0.6**
	comp=Z,1.4nm,0.4s,mb4.2,baz=58,slow=3.7,SNR=8.6						
ECSD	**EROS,Sioux Fal**	**69.85**	**47**	*e*P	**P**	**22 17 09.6**	**-3.1**
	comp=Z,2.4nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**71.95**	**327**	P	**P**	**22 17 24.8**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=33,slow=6.1,SNR=4.0						
ASAR	**Alice Springs**	**72.86**	**200**	P	**P**	**22 17 29.8**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=16,slow=5.7,SNR=9.6						
EKA	**Eskdalemuir Ar**	**76.33**	**347**	P	**P**	**22 17 53.0**	**+2.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=22,slow=5.1,SNR=4.8						
TXAR	**Lajitas Array**	**76.34**	**62**	P	**P**	**22 17 51.2**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=299,slow=4.1,SNR=20						
CLL	**Collm**	**76.68**	**336**	*e*P	**P**	**22 17 53.0**	**0.0**
GERES	**GERESS Array B**	**78.70**	**335**	P	**P**	**22 18 03.4**	**-0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=298,slow=4.3,SNR=2.9						

*ISCJB **18** 22:14:15.3±0.5, 4622N±008×15449E±009, h10km, mb4.4/36, MS3.8/2, Error ellipse: s-maj=12.3km s-min=6.5km az=113.8*
*NEIC **18** 22:14:17.0±0.4, 4621N×15445E, h10km, mb4.5/8, Error ellipse: s-maj=12.9km s-min=7.6km az=145.0*
*BJI **18** 22:14:16.5, 4662N×15431E, h10km, mB4.6, mb4.5, Ms4.1, Msz3.8*
*MOS **18** 22:14:18.8±1.3, 4623N×15437E, h36km, mb4.6/7, Error ellipse: s-maj=12.9km s-min=10.5km az=68.5*
*IDC **18** 22:14:20.8±7.7, 4632N×15450E, h33km±58km, mb3.8/18, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, ML4.1/1, Error ellipse: s-maj=18.0km s-min=14.8km az=127.0*
ISC 18 22:14:17.3±0.5,**4628N**±008×**15453E**±009,**h10**km,**n58,**
σ1§**08**/60,**mb4.4**/36,**MS3.8**/2,**1C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.53**	**13**	*e*PN	**Pn**	**22 15 26.0**	**+0.1**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
KUR	**Kuril'sk**	**4.78**	**260**⇓	*i*PN	**Pn**	**22 15 21.5**	**-7.8**
KUR				pmax	pmax		
	comp=Z,640nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.14**	**279**	*e*PN	**Pn**	**22 16 15.0**	**-0.5**
ASAJ	**Asahikawa**	**8.70**	**260**	Pn	**Pn**	**22 16 24.4**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=107,slow=15,SNR=16						
ASAJ	**Asahikawa**	**8.70**	**260**	PN	**Pn**	**22 16 24.4**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**9.22**	**247**	*e*PN	**Pn**	**22 16 29.8**	**-0.5**
ERM				pmax	pmax		
	comp=Z,18nm,0.6s						
ERM	**Erimo**	**9.22**	**247**	*e*Pn	**Pn**	**22 16 29.8**	**-0.5**
	comp=Z,18nm,0.6s						
ERM				*e*Sn	**Sn**	**22 18 09.0**	**-5.1**
MJAR	**Matsushiro Arr**	**15.61**	**237**	Pn	**Pn**	**22 17 53.9**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=35,slow=10,SNR=6.4						
MAJO	**Matsushiro**	**15.61**	**237**	*e*P	**Pn**	**22 17 54.1**	**-3.3**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
MAJO	**Matsushiro**	**15.61**	**237**	*e*Pn	**Pn**	**22 17 54.1**	**-3.3**
	comp=Z,12nm,1.0s						
MAT	**Matsushiro**	**15.61**	**237**	P	**Pn**	**22 17 54.1**	**-3.3**
CN2	**Changchun**	**20.65**	**274**	*e*P	**P**	**22 18 54.4**	**-2.6**
KSRS	**Korea Array**	**21.61**	**255**	P	**P**	**22 19 09.6**	**+2.2**
	comp=Z,6.6nm,0.7s,mb4.2,baz=56,slow=12,SNR=19						
SNY	**Shenyang**	**22.61**	**270**	⇑P	**P**	**22 19 17.8**	**-0.2**
SNY				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.7						
BILL	**Bilibino**	**22.65**	**11**	*e*P	**P**	**22 19 19.2**	**+0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**22.65**	**11**	*e*P	**P**	**22 19 19.2**	**+0.8**
	comp=Z,7.9nm,0.9s,mb4.1						
BOD	**Bodaibo**	**27.04**	**310**	*e*P	**P**	**22 19 54.3**	**-5.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
BJI	**Beijing**	**28.46**	**271**	P	**P**	**22 20 13.3**	**+0.9**
BJI				AMB	AMB

GTA LR LR
comp=N,118nm,16.0s,MS4.0
GTA LR LR
comp=E,139nm,14.1s,MS4.0
GTA LR LR
comp=Z,155nm,18.0s,MS3.9
INK Inuvik 41.53 32 P **P** **22 22 03.8 -0.9**
comp=Z,2.2nm,0.7s,mb3.9,baz=273,slow=8.7,SNR=10
CD2 Chengdu 41.82 267 *e*P **P** **22 22 06.5 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA Guiyang 42.58 259 P **P** **22 22 13.9 +0.5**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
ZAL Zalesovo 43.70 307 P **P** **22 22 20.6 -1.8**
comp=Z,1.3nm,0.5s,mb4.0,baz=18,slow=7.3,SNR=5.2
MKAR Makanchi Array 48.03 298 P **P** **22 22 55.2 -1.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=64,slow=7.7,SNR=27
MKAR PcP PcP 22 24 24.1 -0.4
comp=Z,0.9nm,0.7s,baz=65,slow=4.8,SNR=3.7
YKA Yellowknife Ar 50.72 37 P **P** **22 23 16.4 -0.7**
comp=Z,1.0nm,0.5s,mb4.0,baz=294,slow=6.9,SNR=5.4
YKA Yellowknife Ar 50.72 37 P **P** **22 23 16.4 -0.7**
LSA Lhasa 51.28 274 P **P** **22 23 21.3 -0.1**
BVAR Borovoye Array 51.91 310 P **P** **22 23 26.2 +0.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=50,slow=9.9,SNR=7.8
AAK Ala-Archa 54.92 297 *e*P **P** **22 23 47.9 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK Ala-Archa 54.92 297 *e*P **P** **22 23 47.9 -0.3**
comp=Z,4.3nm,0.9s,mb4.5
JIRN Jiri 55.96 276 *e*P **P** **22 23 57.1 +1.4**
comp=Z,26nm,1.0s,mb5.2
ARU Arti 56.02 318 *e*P **P** **22 23 55.2 -0.9**
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU Arti 56.02 318 *e*P **P** **22 23 55.2 -0.9**
comp=Z,5.9nm,0.6s,mb4.8
GUN Gumba 56.02 276 *e*P **P** **22 23 57.5 +1.4**
comp=Z,14nm,0.6s,mb5.1
KKN Kakani 56.51 277 *e*P **P** **22 24 00.9 +1.3**
comp=Z,20nm,0.7s,mb5.3
DMN Daman 56.74 277 *e*P **P** **22 24 02.7 +1.4**
comp=Z,30nm,0.9s,mb5.3
GKN Gorkha 56.82 277 *e*P **P** **22 24 02.9 +1.1**
comp=Z,23nm,0.9s,mb5.2
KOLN Koldanda 57.68 278 *e*P **P** **22 24 09.1 +1.2**
comp=Z,17nm,0.8s,mb5.1
ARCES ARCESS Array B 58.62 341 P **P** **22 24 15.1 +0.7**
comp=Z,7.0nm,1.0s,mb4.6,baz=41,slow=8.4,SNR=3.7
AKTK Aktyubinsk 59.77 313 P **P** **22 24 22.7 +0.3**
AKTO Aktyubinsk 59.77 313 P **P** **22 24 22.7 +0.3**
comp=Z,2.9nm,0.5s,mb4.6,baz=79,slow=4.9,SNR=6.4
AKTO Aktyubinsk 59.77 313 P **P** **22 24 22.7 +0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
NVAR Mina Array Bea 61.78 63 P **P** **22 24 36.9 +0.8**
comp=Z,0.4nm,0.7s,mb3.7,baz=281,slow=5.3,SNR=3.3
MOOW Moose Ponds 62.94 54 *e*P **P** **22 24 44.1 +0.3**
comp=Z,18nm,2.1s,mb4.8
REDW Red Top Meadow 63.12 55 *e*P **P** **22 24 45.4 +0.3**
comp=Z,8.2nm,1.4s,mb4.7
PDAR Pinedale Array 64.23 54 P **P** **22 24 52.5 +0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=336,slow=3.3,SNR=4.6
FINES FINESS Array B 64.88 335 P **P** **22 24 55.7 -1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=35,slow=7.0,SNR=9.2
FINES FINESS Array B 64.88 335 P **P** **22 24 55.7 -1.0**
WRA Warramunga Ar 66.40 200 P **P** **22 25 19.0 -0.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=20,slow=6.9,SNR=18
NOA NORSAR Array B 68.99 342 P **P** **22 25 21.8 -1.0**
comp=Z,0.8nm,0.7s,mb3.8,baz=25,slow=6.2,SNR=2.9
ASAR Alice Springs 72.08 200 P **P** **22 25 42.0 +0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=14,slow=6.1,SNR=17
TXAR Lajitas Array 76.87 61 P **P** **22 26 09.2 -0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=303,slow=4.3,SNR=31
STKA Stephens Creek 78.67 191 P **P** **22 26 18.9 -0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=336,slow=6.7,SNR=5.0
GERES GERESS Array B 79.31 335 P **P** **22 26 22.1 -0.9**
comp=Z,0.2nm,0.3s,mb3.5,baz=59,slow=5.9,SNR=6.6

NEIC ***18*** *22:16:19.9, 1600N×9924W, h19km, MD4.1(MEX), After MEX.*

MEX 18 22:16:19.3±0.9, 1598N×9926W, h20km±47km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.09**	**324**	*i*	P		Pn	22 16 36.5	-3.0
ACX				*i*	S		Sb	22 16 48.5	-4.8
ACX	**Acapulco**	**1.09**	**324**	*i*	P		Pn	22 16 36.5	-3.0
ACX				*i*	S		Sb	22 16 47.5	-5.8
PNIG	**Pinotepa**	**1.16**	**69**	*i*	P		Pn	22 16 36.8	-3.6
PNIG				*i*	S		Sb	22 16 50.6	-4.7
CAIG	**El Cayaco**	**1.44**	**318**	*i*	P		Pn	22 16 41.0	-3.3
CAIG				*i*	S		Sn	22 16 58.2	-4.4
MEIG	**Mezcala**	**1.97**	**350**	*i*	P		Pn	22 16 49.3	-2.2
MEIG				*i*	S		Sn	22 17 12.4	-3.3
UTMO	**Huajuapan**	**2.31**	**37**	*i*	P		Pn	22 16 54.1	-2.1
UTMO				*i*	S		Sn	22 17 20.9	-3.2
PLIG	**Platanillo**	**2.42**	**354**	*i*	P		Pn	22 16 55.6	-2.0
PLIG				*i*	S		Sn	22 17 24.6	-2.0
VHO	**Vista Hermosa**	**2.65**	**65**	*i*	P		Pn	22 16 59.9	-1.1
VHO				*i*	S		Sn	22 17 30.4	-2.2
OXX	**Oaxaca**	**2.67**	**65**	*e*	P		Pn	22 16 57.5	-3.6
TPIG	**Tehuac#an**	**3.03**	**36**	*i*	P		Pn	22 17 03.0	-3.2
TPIG				*i*	S		Sn	22 17 40.3	-1.6
PPM	**Popocatepetl**	**3.13**	**11**	*e*	P		Pn	22 17 07.0	-0.5
PPM	**Popocatepetl**	**3.13**	**11**	*e*	P		Pn	22 17 13.0	+5.5
PTVM	**Pico Tres Padr**	**3.60**	**2**	*i*	P		Pn	22 17 10.7	-3.3
PTVM				*i*	S		Sn	22 17 52.1	-3.8
IIO	**Organos**	**3.63**	**8**	*i*	P		Pn	22 17 13.7	-0.7
IIO				*i*	S		Sn	22 17 53.5	-3.2

ISCJB ***18*** *22:17:26.0±0.2, 4316N±001×004E±002, h9km±2km, Error ellipse: s-maj=2.4km s-min=1.7km az=114.8*
STR ***18*** *22:17:28.1±0.4, 4306N×002E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***18*** *22:17:28.9±0.1, 4305N×000W, h12km, ML3.3/38, Error ellipse: s-maj=1.8km s-min=1.3km az=134.0*
MDD ***18*** *22:17:28.6±0.1, 4302N×001E, h5km±2km, mbLg2.7/28, Error ellipse: s-maj=1.7km s-min=1.2km az=8.0, PRXIMO*
NEIC ***18*** *22:17:28.2, 4301N×002W, h7km, ML3.1(STR), ML3.3(LDG), MN2.7(MDD), After LDG.*
LDG ***18*** *22:17:28.2±0.2, 4301N×002W, h7km, Md3.1/3, Ml3.3/34, Error ellipse: s-maj=3.2km s-min=2.3km az=7.0*

ISC 18 22:17:27.3±0.2, 4308N±001×001E±001, h13km±1km, n215, σ1§31/398, 1C, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**124**		Pg		**Pg**	**22 17 30.1**	**+0.4**
LABF	**Labassere**	**0.05**	**124**		Pg		**Pg**	**22 17 30.2**	**+0.5**
LABF					Lg			22 17 31.4	
VIEF	**Viey**	**0.19**	**178**		Pg		**Pg**	**22 17 31.1**	**-0.5**
VIEF	**Viey**	**0.19**	**178**		Pg		**Pg**	**22 17 31.2**	**-0.4**
VIEF					Lg			22 17 33.1	
EPF	**Esparros**	**0.24**	**101**	*e*	Pg		**Pg**	**22 17 33.0**	**+0.6**
EPF				*e*	Sg		**Sg**	**22 17 36.0**	**+0.1**
	488nm,0.2s								
EPF	**Esparros**	**0.24**	**101**	*e*	Pg		**Pg**	**22 17 33.0**	**+0.6**
EPF				*e*	Sg		**Sg**	**22 17 36.0**	**+0.1**
	244nm,0.2s								
REYF	**Montagne du Re**	**0.30**	**269**		Pg		**Pg**	**22 17 33.8**	**+0.4**
REYF					Sg		**Sg**	**22 17 38.3**	**+0.8**
REYF	**Montagne du Re**	**0.30**	**269**		Pg		**Pg**	**22 17 33.9**	**+0.5**
REYF					Lg			22 17 38.2	
RESF	**Ens**	**0.36**	**138**		Pg		**Pg**	**22 17 34.5**	**0.0**
RESF					Sg		**Sg**	**22 17 36.5**	**-2.9**
RESF	**Ens**	**0.36**	**138**		Pg		**Pg**	**22 17 34.5**	**0.0**
RESF					Lg			22 17 39.1	
EBIE	**Bielsa**	**0.40**	**166**		⇑Pg		**Pg**	**22 17 34.9**	**-0.4**
	318nm,0.4s,SNR=18								
EBIE					Lg			22 17 39.4	
	543nm,0.1s								
EBIE	**Bielsa**	**0.40**	**166**		Pg		**Pg**	**22 17 34.9**	**-0.4**
	318nm,0.4s,SNR=18								
EBIE					Lg			22 17 39.4	
	543nm,0.1s								
ETSF	**Etsaut**	**0.46**	**247**	*e*	Pg		**Pg**	**22 17 36.5**	**+0.2**
ETSF				*e*	Sg		**Sg**	**22 17 42.1**	**-0.3**
	425nm,0.2s								
ETSF	**Etsaut**	**0.46**	**247**	*e*	Pg		**Pg**	**22 17 36.5**	**+0.2**
ETSF				*e*	Sg		**Sg**	**22 17 42.1**	**-0.3**
	212nm,0.2s								
FDAF	**Les Forges d'A**	**0.50**	**239**		Pg		**Pg**	**22 17 37.2**	**+0.1**
FDAF					Lg			22 17 43.4	
ATE	**Arette**	**0.52**	**271**		Pg		**Pg**	**22 17 37.8**	**+0.3**
ATE					Sg		**Sg**	**22 17 45.5**	**+1.0**
ATE	**Arette**	**0.52**	**271**		Pg		**Pg**	**22 17 38.0**	**+0.5**
ATE					Lg			22 17 45.6	
MELF	**Melles**	**0.58**	**110**		Pg		**Pg**	**22 17 38.8**	**+0.2**
MELF					Lg			22 17 46.8	
ORDF	**Ordiarp**	**0.71**	**281**		Pn		**Pn**	**22 17 41.7**	**-1.3**
ORDF	**Ordiarp**	**0.71**	**281**		Pg		**Pg**	**22 17 41.8**	**+0.8**
ORDF					Lg			22 17 51.7	
LARF	**Larrau**	**0.73**	**267**		Pg		**Pg**	**22 17 42.0**	**+0.5**
LARF					Sg		**Sg**	**22 17 52.5**	**+1.3**
LARF	**Larrau**	**0.73**	**267**		Pg		**Pg**	**22 17 42.2**	**+0.7**
LARF					Lg			22 17 52.4	
MLS	**Moulis**	**0.80**	**98**		Pn		**Pn**	**22 17 42.9**	**-1.4**
MLS	**Moulis**	**0.80**	**98**		Pg		**Pg**	**22 17 43.0**	**+0.2**
MLS					Lg			22 17 53.9	
SJPF	**Ste Jean**	**0.91**	**273**	*e*	Pg		**Pg**	**22 17 45.2**	**+0.4**
SJPF				*e*	Sg		**Sg**	**22 17 55.0**	**-1.7**
	45nm,0.2s								
SJPF	**Ste Jean**	**0.91**	**273**	*e*	Pg		**Pg**	**22 17 45.2**	**+0.4**
SJPF				*e*	Sg		**Sg**	**22 17 55.0**	**-1.7**
	22nm,0.2s								
SALF	**Salau**	**0.92**	**110**		Pg		**Pg**	**22 17 44.3**	**-0.7**
SALF					Lg			22 17 56.9	
OSSF	**Osses**	**0.95**	**281**		Pg		**Pg**	**22 17 45.8**	**+0.2**
OSSF					Lg			22 17 59.3	
IPRE	**Itoiz**	**1.04**	**255**		Pg		**Pg**	**22 17 47.7**	**+0.3**
	7.3nm,0.3s,SNR=18								
IPRE					Lg			22 18 00.5	
	9.5nm,0.2s,SNR=15								
IPRE	**Itoiz**	**1.04**	**255**		Pg		**Pg**	**22 17 47.7**	**+0.3**
	7.3nm,0.3s,SNR=18								
EALK	**Alkurruntz**	**1.12**	**278**		Pg		**Pg**	**22 17 50.2**	**+1.3**
	15nm,0.3s,SNR=12								
EALK					Lg			22 18 04.3	
	24nm,0.2s								
ELIZ	**Elizondo**	**1.13**	**275**		Pg		**Pg**	**22 17 49.5**	**+0.5**
	16nm,0.2s,SNR=12								
ELIZ					Lg			22 18 05.7	
	16nm,0.2s,SNR=7.1								
GRBF	**Gourbit**	**1.14**	**101**		Pg		**Pg**	**22 17 48.7**	**-0.5**
IUSE	**Utxeti**	**1.15**	**264**		Pg		**Pg**	**22 17 50.1**	**+0.7**
	9.9nm,0.3s,SNR=23								
IUSE					Lg			22 18 05.2	
	16nm,0.2s,SNR=11								
IUSE	**Utxeti**	**1.15**	**264**		Pg		**Pg**	**22 17 50.1**	**+0.6**
	9.9nm,0.3s,SNR=23								
LPEF	**Le Peyrat**	**1.40**	**95**		Pg		**Pg**	**22 17 55.7**	**+1.6**
LPEF					Lg			22 18 13.5	
ESAC	**San Caprasio**	**1.40**	**195**		Pg		**Pg**	**22 17 54.1**	**0.0**
	142nm,0.3s,SNR=91								
ESAC					Lg			22 18 13.4	
	1μm,0.4s,SNR=5.0								
ESAC	**San Caprasio**	**1.40**	**195**		Pg		**Pg**	**22 17 54.1**	**-0.1**
	142nm,0.3s,SNR=91								
CARF	**Carcanieres**	**1.58**	**103**		Pn		**Pn**	**22 17 57.6**	**+2.6**
CARF					Sg		**Sg**	**22 18 19.1**	**+1.0**
CARF	**Carcanieres**	**1.58**	**103**		Pg		**Pg**	**22 17 57.7**	**+0.1**
CARF					Lg			22 18 19.3	
EMIR	**Miracle**	**1.61**	**136**		Pg		**Pg**	**22 17 58.1**	**-0.2**
	21nm,0.2s,SNR=44								
EMIR					Lg			22 18 19.5	
	151nm,0.3s,SNR=19								
EMIR	**Miracle**	**1.61**	**136**		Pg		**Pg**	**22 17 58.1**	**-0.1**
	21nm,0.2s,SNR=44								
VALF	**Valcebollere**	**1.62**	**114**		Pn		**Pn**	**22 17 58.5**	**+2.9**
VALF					Sg		**Sg**	**22 18 20.8**	**+1.3**
VALF	**Valcebollere**	**1.62**	**114**		Pg		**Pg**	**22 17 59.8**	**+1.3**
VALF					Lg			22 18 20.7	
MTLF	**Montolieu**	**1.63**	**80**	*e*	Pg		**Pg**	**22 17 59.3**	**+0.7**
MTLF				*e*	Sg		**Sg**	**22 18 20.2**	**+0.4**
	114nm,0.3s								
MTLF	**Montolieu**	**1.63**	**80**	*e*	Pn		**Pn**	**22 17 56.0**	**+0.2**
MTLF				*e*	Pg		**Pg**	**22 17 59.3**	**+0.7**
MTLF				*e*	Sg		**Sg**	**22 18 20.2**	**+0.4**
MTLF	**Montolieu**	**1.63**	**80**		Pn		**Pn**	**22 17 56.0**	**+0.2**
MTLF					Pg		**Pg**	**22 17 59.3**	**+0.7**
MTLF					Lg			22 18 20.2	
	57nm,0.3s								
MTLF	**Montolieu**	**1.63**	**80**	*e*	Pg		**Pg**	**22 17 59.3**	**+0.7**
MTLF				*e*	Sg		**Sg**	**22 18 20.2**	**+0.4**
	57nm,0.3s								
LRDF	**Laroque-de-Fa**	**1.86**	**93**		Lg			22 18 27.2	
EPOB	**Poblet**	**1.90**	**155**		Pg		**Pg**	**22 18 02.1**	**-1.6**
EPOB					Lg			22 18 24.3	
EPOB	**Poblet**	**1.90**	**155**		Pg		**Pg**	**22 18 02.1**	**-1.6**
	14nm,0.4s,SNR=51								
EPOB					Sn		**Sn**	**22 18 24.5**	**+1.3**
	SNR=7.9								
EPOB					Lg			22 18 26.7	
	40nm,0.1s,SNR=25								
EPOB	**Poblet**	**1.90**	**155**		Pg		**Pg**	**22 18 02.1**	**-1.6**
	14nm,0.4s,SNR=51								
ECRI	**Cripan**	**1.91**	**257**		Pg		**Pg**	**22 18 03.2**	**-0.8**
ECRI					Sn		**Sn**	**22 18 23.5**	**-0.1**
ECRI					Lg			22 18 26.8	
ECRI	**Cripan**	**1.91**	**257**		Pg		**Pg**	**22 18 03.2**	**-0.8**
	SNR=7.9								
ECRI					Sn		**Sn**	**22 18 23.5**	**-0.1**
	SNR=7.9								
ECRI					Lg			22 18 29.5	
	5.7nm,0.2s,SNR=7.9								
ECRI	**Cripan**	**1.91**	**257**		Pg		**Pg**	**22 18 03.2**	**-0.8**
	SNR=7.9								
ECRI					Sn		**Sn**	**22 18 23.5**	**-0.1**
	SNR=7.9								
LFF	**La Frestale**	**1.93**	**15**	*e*	Pg		**Pg**	**22 18 05.7**	**+1.3**
LFF				*e*	Sg		**Sg**	**22 18 32.6**	**+3.1**
	91nm,0.3s								
LFF	**La Frestale**	**1.93**	**15**	*e*	Pn		**Pn**	**22 18 02.2**	**+2.3**
LFF				*e*	Pg		**Pg**	**22 18 05.7**	**+1.3**
LFF				*e*	Sg		**Sg**	**22 18 32.6**	**+3.1**
LFF	**La Frestale**	**1.93**	**15**		Pn		**Pn**	**22 18 02.2**	**+2.3**
LFF					Pg		**Pg**	**22 18 05.7**	**+1.3**
LFF					Lg			22 18 32.6	
	45nm,0.3s								
LFF	**La Frestale**	**1.93**	**15**	*e*	Pg		**Pg**	**22 18 05.7**	**+1.3**
LFF				*e*	Sg		**Sg**	**22 18 32.6**	**+3.1**
	45nm,0.3s								
FILF	**Fillols**	**1.94**	**105**		Pn		**Pn**	**22 18 02.6**	**+2.6**
FILF					Sg		**Sg**	**22 18 27.5**	**-2.3**
FILF	**Fillols**	**1.94**	**105**		Pg		**Pg**	**22 18 02.8**	**-1.8**
FILF					Lg			22 18 27.7	
ERTA	**Horta de San J**	**2.13**	**173**		Pg		**Pg**	**22 18 06.6**	**-1.6**
ERTA					Sn		**Sn**	**22 18 26.9**	**-2.1**
ERTA					Lg			22 18 31.8	
ERTA	**Horta de San J**	**2.13**	**173**		Pg		**Pg**	**22 18 06.6**	**-1.6**
	13nm,0.8s,SNR=31								
ERTA					Sn		**Sn**	**22 18 26.9**	**-2.1**
	SNR=7.9								
ERTA					Lg			22 18 34.4	
	40nm,0.2s,SNR=21								
ERTA	**Horta de San J**	**2.13**	**173**		Pg		**Pg**	**22 18 06.6**	**-1.6**
	13nm,0.8s,SNR=31								
ERTA					Sn		**Sn**	**22 18 26.9**	**-2.1**
	SNR=7.9								
SJAF	**Saint Jean de**	**2.19**	**105**		Pg		**Pg**	**22 18 09.0**	**-0.4**
SJAF					Lg			22 18 36.9	
EJON	**La Jonquera**	**2.21**	**106**		Pg		**Pg**	**22 18 07.5**	**-2.2**
	4.4nm,0.2s,SNR=15								
EJON					Lg			22 18 39.5	
	46nm,0.3s,SNR=15								
EJON	**La Jonquera**	**2.21**	**106**		Pn		**Pn**	**22 18 07.5**	**+3.8**
	4.4nm,0.2s,SNR=15								
CAF	**Calviac**	**2.37**	**38**	*e*	Pg		**Pg**	**22 18 12.8**	**+0.1**
CAF				*e*	Sg		**Sg**	**22 18 43.9**	**+0.5**
	41nm,0.2s								
CAF	**Calviac**	**2.37**	**38**	*e*	Pn		**Pn**	**22 18 06.5**	**+0.6**
CAF				*e*	Pg		**Pg**	**22 18 12.8**	**+0.1**
CAF				*e*	Sg		**Sg**	**22 18 43.9**	**+0.5**
CAF	**Calviac**	**2.37**	**38**		Pn		**Pn**	**22 18 06.5**	**+0.6**
CAF					Pg		**Pg**	**22 18 12.8**	**+0.1**
CAF					Lg			22 18 43.9	
	20nm,0.2s								
CAF	**Calviac**	**2.37**	**38**	*e*	Pg		**Pg**	**22 18 12.8**	**+0.1**
CAF				*e*	Sg		**Sg**	**22 18 43.9**	**+0.5**
	20nm,0.2s								
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*	Pg		**Pg**	**22 18 15.2**	**+0.5**
RJF				*e*	Sg		**Sg**	**22 18 47.2**	**+0.4**
	34nm,0.2s								
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*	Pn		**Pn**	**22 18 07.1**	**-0.2**
RJF				*e*	Pg		**Pg**	**22 18 15.2**	**+0.5**
RJF				*e*	Sg		**Sg**	**22 18 47.2**	**+0.4**
RJF	**Les Rejaudoux**	**2.48**	**25**		Pn		**Pn**	**22 18 07.1**	**-0.2**
RJF					Pg		**Pg**	**22 18 15.2**	**+0.5**
RJF					Lg			22 18 47.2	
	17nm,0.2s								
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*	Pg		**Pg**	**22 18 15.2**	**+0.5**
RJF				*e*	Sg		**Sg**	**22 18 47.2**	**+0.4**
	17nm,0.2s								
ELAN	**Lanestosa**	**2.53**	**275**		Pn		**Pn**	**22 18 10.5**	**+2.4**
	9.8nm,1.1s,SNR=5.9								
ELAN					Sn		**Sn**	**22 18 40.2**	**+1.5**
	4.2nm,0.4s,SNR=5.0								
ELAN	**Lanestosa**	**2.53**	**275**		Pn		**Pn**	**22 18 10.5**	**+2.5**
	9.8nm,1.1s,SNR=5.9								
ELAN					Sn		**Sn**	**22 18 40.2**	**+1.5**
	4.2nm,0.4s,SNR=5.0								
ETOR	**Torete**	**2.73**	**215**		Pn		**Pn**	**22 18 12.9**	**+2.1**
	7.5nm,0.3s,SNR=29								
ETOR					Sn		**Sn**	**22 18 44.7**	**+0.9**
	SNR=7.9								
ETOR					Lg			22 18 53.7	
	31nm,0.2s,SNR=5.7								
ETOR	**Torete**	**2.73**	**215**		Pn		**Pn**	**22 18 12.9**	**+2.0**
	7.5nm,0.3s,SNR=29								
ETOR					Sn		**Sn**	**22 18 44.7**	**+0.9**
	SNR=7.9								
EMOS	**Mosqueruela**	**2.73**	**188**		Pg		**Pg**	**22 18 15.8**	**-3.9**
EMOS					Lg			22 18 50.3	
EMOS	**Mosqueruela**	**2.73**	**188**		Pg		**Pg**	**22 18 15.8**	**-3.9**
	5.7nm,0.7s,SNR=14								
EMOS					Lg			22 18 51.9	
	18nm,0.3s,SNR=6.5								
EMOS	**Mosqueruela**	**2.73**	**188**		Pg		**Pg**	**22 18 15.8**	**-3.9**
	5.7nm,0.7s,SNR=14								
LASF	**Ste Croix**	**2.97**	**69**	*e*	Pg		**Pg**	**22 18 25.4**	**+1.3**
LASF				*e*	Sg		**Sg**	**22 19 01.5**	**-1.1**
	44nm,0.4s								
LASF	**Ste Croix**	**2.97**	**69**	*e*	Pn		**Pn**	**22 18 14.5**	**+0.4**
LASF				*e*	Pg		**Pg**	**22 18 25.4**	**+1.3**
LASF				*e*	Sg		**Sg**	**22 19 01.5**	**-1.1**
LASF	**Ste Croix**	**2.97**	**69**		Pn		**Pn**	**22 18 14.5**	**+0.4**
LASF					Pg		**Pg**	**22 18 25.4**	**+1.3**
LASF					Lg			22 19 01.5	
	22nm,0.4s								
LASF	**Ste Croix**	**2.97**	**69**	*e*	Pg		**Pg**	**22 18 25.4**	**+1.3**
LASF				*e*	Sg		**Sg**	**22 19 01.5**	**-1.1**
	22nm,0.4s								
LBL	**Lubilhac**	**3.17**	**46**		Pn		**Pn**	**22 18 19.0**	**+2.1**
PYM	**Petit Puy Mans**	**3.43**	**38**		Pn		**Pn**	**22 18 23.9**	**+3.5**
PYM					Sg		**Sg**	**22 19 19.4**	**+2.0**
MFF	**Saint Martin d**	**3.53**	**358**	*e*	Pg		**Pg**	**22 18 34.0**	**-0.8**
MFF				*e*	Sg		**Sg**	**22 19 20.0**	**-0.5**
	27nm,0.4s								
MFF	**Saint Martin d**	**3.53**	**358**	*e*	Pn		**Pn**	**22 18 22.4**	**+0.6**
MFF				*e*	Pg		**Pg**	**22 18 34.0**	**-0.8**
MFF				*e*	Sg		**Sg**	**22 19 20.0**	**-0.5**
MFF	**Saint Martin d**	**3.53**	**358**		Pn		**Pn**	**22 18 22.4**	**+0.6**
MFF					Pg		**Pg**	**22 18 34.0**	**-0.8**
MFF					Lg			22 19 20.0	
	13nm,0.4s								
MFF	**Saint Martin d**	**3.53**	**358**	*e*	Pg		**Pg**	**22 18 34.0**	**-0.8**
MFF				*e*	Sg		**Sg**	**22 19 20.0**	**-0.5**
	13nm,0.4s								
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*	Pg		**Pg**	**22 18 35.7**	**0.0**
TCF				*e*	Sg		**Sg**	**22 19 22.2**	**+0.2**
	24nm,0.3s								
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*	Pn		**Pn**	**22 18 22.2**	**-0.2**
TCF				*e*	Pg		**Pg**	**22 18 35.7**	**0.0**
TCF				*e*	Sg		**Sg**	**22 19 22.2**	**+0.2**
TCF	**Toulx Ste Croi**	**3.57**	**25**		Pn		**Pn**	**22 18 22.2**	**-0.2**
TCF					Pg		**Pg**	**22 18 35.7**	**0.0**
TCF					Lg			22 19 22.2	
	12nm,0.3s								
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*	Pg		**Pg**	**22 18 35.7**	**0.0**
TCF				*e*	Sg		**Sg**	**22 19 22.2**	**+0.2**
	12nm,0.3s								
AGO	**Saint Agoulin**	**3.72**	**36**		Pn		**Pn**	**22 18 26.9**	**+2.5**
AGO					Sg		**Sg**	**22 19 27.4**	**+0.8**
VIVF	**Saint-Julien-l**	**3.81**	**61**	*e*	Pg		**Pg**	**22 18 40.0**	**-0.2**
VIVF				*e*	Sg		**Sg**	**22 19 28.3**	**-1.2**
	18nm,0.3s								
VIVF	**Saint-Julien-l**	**3.81**	**61**	*e*	Pn		**Pn**	**22 18 30.2**	**+4.6**
VIVF				*e*	Pg		**Pg**	**22 18 40.0**	**-0.2**
VIVF				*e*	Sg		**Sg**	**22 19 28.3**	**-1.2**
VIVF	**Saint-Julien-l**	**3.81**	**61**		Pn		**Pn**	**22 18 30.2**	**+4.6**
VIVF					Pg		**Pg**	**22 18 40.0**	**-0.2**
VIVF					Lg			22 19 28.3	
	8.8nm,0.3s								
VIVF	**Saint-Julien-l**	**3.81**	**61**	*e*	Pg		**Pg**	**22 18 40.0**	**-0.2**
VIVF				*e*

EBEN					Sn		**Sn**	**22 19 22.5**	**-1.7**
	1.2nm,0.2s									
EBEN	**Beniarda**	**4.37**	**182**		Pn		**Pn**	**22 18 34.6**	**+1.2**
	7.4nm,0.7s,SNR=7.3									
EBEN					Sn		**Sn**	**22 19 22.5**	**-1.8**
	1.2nm,0.2s									
AVF	**Avril sur Loir**	**4.41**	**31**	*e*Pg			**Pg**	**22 18 51.3**	**-0.4**
AVF				*e*Sg			**Sg**	**22 19 47.5**	**-1.2**
	15nm,0.5s									
AVF	**Avril sur Loir**	**4.41**	**31**	*e*Pn			**Pn**	**22 18 31.9**	**-2.0**
AVF				*e*Pg			**Pg**	**22 18 51.3**	**-0.4**
AVF				*e*Sg			**Sg**	**22 19 47.5**	**-1.2**
AVF	**Avril sur Loir**	**4.41**	**31**	Pn			**Pn**	**22 18 31.9**	**-2.0**
AVF				Pg			**Pg**	**22 18 51.3**	**-0.4**
AVF				Lg				22 19 47.5	
	7.5nm,0.5s									
AVF	**Avril sur Loir**	**4.41**	**31**	*e*Pg			**Pg**	**22 18 51.3**	**-0.4**
AVF				*e*Sg			**Sg**	**22 19 47.5**	**-1.2**
	7.5nm,0.5s									
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pg			**Pg**	**22 18 52.0**	**-1.2**
SMF				*e*Sg			**Sg**	**22 19 50.0**	**-1.3**
	9.6nm,0.4s									
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pn			**Pn**	**22 18 35.6**	**+0.6**
SMF				*e*Pg			**Pg**	**22 18 52.0**	**-1.2**
SMF				*e*Sg			**Sg**	**22 19 50.0**	**-1.3**
SMF	**Signal de Mont**	**4.49**	**36**	Pn			**Pn**	**22 18 35.6**	**+0.6**
SMF				Pg			**Pg**	**22 18 52.0**	**-1.2**
SMF				Lg				22 19 50.0	
	4.8nm,0.4s									
SMF	**Signal de Mont**	**4.49**	**36**	*e*Pg			**Pg**	**22 18 52.0**	**-1.2**
SMF				*e*Sg			**Sg**	**22 19 50.0**	**-1.3**
	4.8nm,0.4s									
ESBB	**Sonseca Array**	**4.53**	**223**	Pn			**Pn**	**22 18 36.7**	**+1.1**
ESBB				Sn			**Sn**	**22 19 25.5**	**-2.6**
ESBB	**Sonseca Array**	**4.53**	**223**	Pn			**Pn**	**22 18 36.7**	**+1.2**
ESBB				Sn			**Sn**	**22 19 25.5**	**-2.5**
ESDC	**Sonseca Array**	**4.53**	**223**	Pn			**Pn**	**22 18 36.5**	**+0.9**
	0.6nm,0.2s,baz=42,slow=13,SNR=19									
ESDC					Sn		**Sn**	**22 19 25.2**	**-2.9**
	2.1nm,0.3s,baz=44,slow=24,SNR=13									
ESDC					Lg			22 19 48.1		
	2.7nm,0.6s,baz=41,slow=30,SNR=7.9									
ESDC	**Sonseca Array**	**4.53**	**223**	Pn			**Pn**	**22 18 36.5**	**+0.9**
	0.6nm,0.2s,SNR=19									
ESDC					Sn		**Sn**	**22 19 25.2**	**-2.9**
	2.1nm,0.3s,SNR=13									
ETOB	**Tobarra**	**4.58**	**195**	Pn			**Pn**	**22 18 38.1**	**+1.8**
	1.2nm,0.2s,SNR=10									
ETOB					Sn		**Sn**	**22 19 27.2**	**-2.2**
	7.9nm,0.8s									
ETOB					Lg			22 19 53.1		
	2.8nm,0.4s,SNR=7.9									
ETOB	**Tobarra**	**4.58**	**195**	Pn			**Pn**	**22 18 38.1**	**+1.8**
	1.2nm,0.2s,SNR=10									
ETOB					Sn		**Sn**	**22 19 27.2**	**-2.2**
	7.9nm,0.8s									
HYF	**Humbligny**	**4.58**	**23**	*e*Pn			**Pn**	**22 18 36.4**	**+0.1**
HYF				*e*Pg			**Pg**	**22 18 55.0**	**-0.1**
HYF				*e*Sg			**Sg**	**22 19 54.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**4.62**	**64**	*e*Pn			**Pn**	**22 18 38.9**	**+2.1**
ORIF				*e*Sg			**Sg**	**22 19 55.4**	**-0.1**
	14nm,0.8s									
ORIF	**Oris-en-Rattie**	**4.62**	**64**	*e*Pn			**Pn**	**22 18 38.9**	**+2.1**
ORIF				*e*Sg			**Sg**	**22 19 55.4**	**-0.1**
	6.9nm,0.8s									
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pg			**Pg**	**22 18 56.5**	**-0.6**
SSF				*e*Sg			**Sg**	**22 19 58.3**	**+0.5**
	8.9nm,0.3s									
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pn			**Pn**	**22 18 36.8**	**-1.0**
SSF				*e*Pg			**Pg**	**22 18 56.5**	**-0.6**
SSF				*e*Sg			**Sg**	**22 19 58.3**	**+0.5**
SSF	**Saint Saulge**	**4.69**	**31**	Pn			**Pn**	**22 18 36.8**	**-1.0**
SSF				Pg			**Pg**	**22 18 56.5**	**-0.6**
SSF				Lg				22 19 58.3	
	4.4nm,0.3s									
SSF	**Saint Saulge**	**4.69**	**31**	*e*Pg			**Pg**	**22 18 56.5**	**-0.6**
SSF				*e*Sg			**Sg**	**22 19 58.3**	**+0.5**
	4.4nm,0.3s									
LMR	**La Mourre**	**4.76**	**85**	*e*Pn			**Pn**	**22 18 39.7**	**+1.0**
LMR				*e*Sg			**Sg**	**22 19 57.0**	**-3.0**
	4.3nm,0.4s									
LMR	**La Mourre**	**4.76**	**85**	*e*Pn			**Pn**	**22 18 39.7**	**+1.0**
LMR				*e*Sg			**Sg**	**22 19 57.0**	**-3.0**
	2.2nm,0.4s									
FRF	**La Foret Royal**	**4.86**	**82**	*e*Pn			**Pn**	**22 18 40.2**	**0.0**
FRF				*e*Sg			**Sg**	**22 19 59.5**	**-3.9**
	6.3nm,0.4s									
FRF	**La Foret Royal**	**4.86**	**82**	Pn			**Pn**	**22 18 40.2**	**0.0**
FRF				Lg				22 19 59.5	
	3.2nm,0.4s									
LOR	**Lormes**	**5.00**	**32**	*e*Pg			**Pg**	**22 19 01.4**	**-1.5**
LOR				*e*Sg			**Sg**	**22 20 07.7**	**+0.1**
	10nm,0.3s									
LOR	**Lormes**	**5.00**	**32**	*e*Pn			**Pn**	**22 18 42.5**	**+0.5**
LOR				*e*Pg			**Pg**	**22 19 01.4**	**-1.5**
LOR				*e*Sg			**Sg**	**22 20 07.7**	**+0.1**
LOR	**Lormes**	**5.00**	**32**	Pn			**Pn**	**22 18 42.5**	**+0.5**
LOR				Pg			**Pg**	**22 19 01.4**	**-1.5**
LOR				Lg				22 20 07.7	
	5.2nm,0.3s									
LOR	**Lormes**	**5.00**	**32**	*e*Pg			**Pg**	**22 19 01.4**	**-1.5**
LOR				*e*Sg			**Sg**	**22 20 07.7**	**+0.1**
	5.2nm,0.3s									
ECAL	**Calabor**	**5.12**	**259**	Pn			**Pn**	**22 18 45.9**	**+2.3**
	SNR=7.9									
ECAL					Sn		**Sn**	**22 19 40.6**	**-2.0**
	6.6nm,0.3s,SNR=7.9									
ECAL	**Calabor**	**5.12**	**259**	Pn			**Pn**	**22 18 45.9**	**+2.2**
	SNR=7.9									
ECAL					Sn		**Sn**	**22 19 40.6**	**-2.0**
	6.6nm,0.3s,SNR=7.9									
EPON	**Pontenova**	**5.24**	**275**	Pn			**Pn**	**22 18 47.6**	**+2.2**
	SNR=7.9									
EPON					Sn		**Sn**	**22 19 45.8**	**+0.2**
	2.6nm,0.3s,SNR=7.9									
EPON	**Pontenova**	**5.24**	**275**	Pn			**Pn**	**22 18 47.6**	**+2.2**
	SNR=7.9									
EPON					Sn		**Sn**	**22 19 45.8**	**+0.1**
	2.6nm,0.3s,SNR=7.9									
ERUA	**La Rua**	**5.32**	**265**	Pn			**Pn**	**22 18 49.4**	**+3.0**
	1.7nm,0.2s,SNR=7.9									
ERUA					Sn		**Sn**	**22 19 47.6**	**+0.1**
	2.0nm,0.2s,SNR=4.0									
EMUR	**La Murta**	**5.32**	**191**	Pn			**Pn**	**22 18 47.9**	**+1.5**
EMUR				Sn			**Sn**	**22 19 40.8**	**-6.8**
EMUR				Lg				22 20 09.1	
EMUR	**La Murta**	**5.32**	**191**	Pn			**Pn**	**22 18 47.9**	**+1.5**
	1.0nm,0.4s,SNR=9.9									
EMUR					Sn		**Sn**	**22 19 40.7**	**-6.8**
	1.5nm,0.5s									
EMUR	**La Murta**	**5.32**	**191**	Pn			**Pn**	**22 18 47.9**	**+1.5**
	1.0nm,0.4s,SNR=9.9									
QUIF	**Quistinic**	**5.33**	**336**	*e*Pg			**Pg**	**22 19 07.2**	**-2.1**
QUIF				*e*Sg			**Sg**	**22 20 15.7**	**-2.7**
	9.5nm,0.5s									
QUIF	**Quistinic**	**5.33**	**336**	*e*Pn			**Pn**	**22 18 47.2**	**+0.6**
QUIF				*e*Pg			**Pg**	**22 19 07.2**	**-2.1**
QUIF				*e*Sg			**Sg**	**22 20 15.7**	**-2.7**
QUIF	**Quistinic**	**5.33**	**336**	Pn			**Pn**	**22 18 47.2**	**+0.6**
QUIF				Pg			**Pg**	**22 19 07.2**	**-2.1**
QUIF				Lg				22 20 15.7	
	4.8nm,0.5s									
QUIF	**Quistinic**	**5.33**	**336**	*e*Pg			**Pg**	**22 19 07.2**	**-2.1**
QUIF				*e*Sg			**Sg**	**22 20 15.7**	**-2.7**
	4.8nm,0.5s									
GRR	**Gorron**	**5.35**	**354**	*e*Pg			**Pg**	**22 19 08.8**	**-0.9**
GRR				*e*Sn			**Sn**	**22 19 47.1**	**-1.2**
GRR				*e*Sg			**Sg**	**22 20 18.2**	**-0.7**
	8.5nm,0.4s									
GRR	**Gorron**	**5.35**	**354**	*e*Pn			**Pn**	**22 18 46.0**	**-0.8**
GRR				*e*Pg			**Pg**	**22 19 08.8**	**-0.9**
GRR				*e*Sn			**Sn**	**22 19 47.1**	**-1.2**
GRR				*e*Sg			**Sg**	**22 20 18.2**	**-0.7**
GRR	**Gorron**	**5.35**	**354**	Pn			**Pn**	**22 18 46.0**	**-0.8**
GRR				Pg			**Pg**	**22 19 08.8**	**-0.9**
GRR				Sn			**Sn**	**22 19 47.1**	**-1.2**
GRR				Lg				22 20 18.2	
	4.2nm,0.4s									
GRR	**Gorron**	**5.35**	**354**	*e*Pn			**Pn**	**22 18 46.0**	**-0.8**
GRR	**Gorron**	**5.35**	**354**	*e*Pg			**Pg**	**22 19 08.8**	**-0.9**
GRR				*e*Sn			**Sn**	**22 19 47.1**	**-1.2**
GRR				*e*Sg			**Sg**	**22 20 18.2**	**-0.7**
	4.2nm,0.4s									
LPL	**La Plagne**	**5.40**	**61**	*e*Pn			**Pn**	**22 18 49.5**	**+1.9**
LPL				*e*Sg			**Sg**	**22 20 15.7**	**-5.0**
	7.6nm,0.9s									
LPL	**La Plagne**	**5.40**	**61**	Pn			**Pn**	**22 18 49.5**	**+1.9**
LPL				Lg				22 20 15.7	
	3.8nm,0.9s									
LPG	**La Plagne**	**5.41**	**61**	*e*Sg			**Sg**	**22 20 20.6**	**-0.3**
	9.5nm,0.8s									
LPG	**La Plagne**	**5.41**	**61**	*e*Sg			**Sg**	**22 20 20.6**	**-0.3**
	4.8nm,0.8s									
SBF	**Sospel**	**5.46**	**79**	*e*Sg			**Sg**	**22 20 18.7**	**-3.8**
	14nm,0.6s									
SBF	**Sospel**	**5.46**	**79**	*e*Sg			**Sg**	**22 20 18.7**	**-3.8**
	6.9nm,0.6s									
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pg			**Pg**	**22 19 10.1**	**-2.1**
SGMF				*e*Sn			**Sn**	**22 19 49.9**	**-1.7**
SGMF				*e*Sg			**Sg**	**22 20 20.2**	**-3.0**
	7.9nm,0.4s									
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pn			**Pn**	**22 18 49.5**	**+0.8**
SGMF				*e*Pg			**Pg**	**22 19 10.1**	**-2.1**
SGMF				*e*Sn			**Sn**	**22 19 49.9**	**-1.7**
SGMF				*e*Sg			**Sg**	**22 20 20.2**	**-3.0**
SGMF	**Saint Gilles**	**5.48**	**342**	Pn			**Pn**	**22 18 49.5**	**+0.8**
SGMF				Pg			**Pg**	**22 19 10.1**	**-2.1**
SGMF				Sn			**Sn**	**22 19 49.9**	**-1.7**
SGMF				Lg				22 20 20.2	
	4.0nm,0.4s									
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pn			**Pn**	**22 18 49.5**	**+0.8**
SGMF	**Saint Gilles**	**5.48**	**342**	*e*Pg			**Pg**	**22 19 10.1**	**-2.1**
SGMF				*e*Sn			**Sn**	**22 19 49.9**	**-1.7**
SGMF				*e*Sg			**Sg**	**22 20 20.2**	**-3.0**
	4.0nm,0.4s									
LDF	**La Druitiere**	**5.52**	**359**	*e*Pg			**Pg**	**22 19 11.2**	**-1.7**
LDF				*e*Sn			**Sn**	**22 19 51.3**	**-1.2**
LDF				*e*Sg			**Sg**	**22 20 20.9**	**-3.5**
	6.8nm,0.4s									
LDF	**La Druitiere**	**5.52**	**359**	*e*Pn			**Pn**	**22 18 48.8**	**-0.4**
LDF				*e*Pg			**Pg**	**22 19 11.2**	**-1.7**
LDF				*e*Sn			**Sn**	**22 19 51.3**	**-1.2**
LDF				*e*Sg			**Sg**	**22 20 20.9**	**-3.5**
LDF	**La Druitiere**	**5.52**	**359**	*e*Pg			**Pg**	**22 19 11.2**	**-1.7**
LDF				*e*Sn			**Sn**	**22 19 51.3**	**-1.2**
LDF				*e*Sg			**Sg**	**22 20 20.9**	**-3.5**
	3.4nm,0.4s									
CABF	**La Chapelle**	**5.58**	**49**	*e*Pg			**Pg**	**22 19 14.9**	**+0.8**
CABF				*e*Sg			**Sg**	**22 20 25.8**	**-0.6**
	27nm,1.0s									
CABF	**La Chapelle**	**5.58**	**49**	*e*Pn			**Pn**	**22 18 52.2**	**+2.2**
CABF				*e*Pg			**Pg**	**22 19 14.9**	**+0.8**
CABF				*e*Sg			**Sg**	**22 20 25.8**	**-0.6**
CABF	**La Chapelle**	**5.58**	**49**	Pn			**Pn**	**22 18 52.2**	**+2.2**
CABF				Pg			**Pg**	**22 19 14.9**	**+0.8**
CABF				Lg				22 20 25.8	
	13nm,1.0s									
CABF	**La Chapelle**	**5.58**	**49**	*e*Pg			**Pg**	**22 19 14.9**	**+0.8**
CABF				*e*Sg			**Sg**	**22 20 25.8**	**-0.6**
	13nm,1.0s									
FLN	**La Foliniere**	**5.70**	**357**	*e*Pg			**Pg**	**22 19 15.4**	**-1.0**
FLN				*e*Sg			**Sg**	**22 20 27.0**	**-3.1**
	22nm,0.7s									
FLN	**La Foliniere**	**5.70**	**357**	*e*Pn			**Pn**	**22 18 50.6**	**-1.0**
FLN				*e*Pg			**Pg**	**22 19 15.4**	**-1.0**
FLN				*e*Sg			**Sg**	**22 20 27.0**	**-3.1**
FLN	**La Foliniere**	**5.70**	**357**	Pn			**Pn**	**22 18 50.6**	**-1.0**
FLN				Pg			**Pg**	**22 19 15.4**	**-1.0**
FLN				Lg				22 20 27.0	
	11nm,0.7s									
FLN	**La Foliniere**	**5.70**	**357**	*e*Pg			**Pg**	**22 19 15.4**	**-1.0**
FLN				*e*Sg			**Sg**	**22 20 27.0**	**-3.1**
	11nm,0.7s									
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pn			**Pn**	**22 18 53.2**	**+1.0**
ROSF				*e*Sn			**Sn**	**22 19 53.1**	**-4.9**
ROSF				*e*Sg			**Sg**	**22 20 30.3**	**-1.2**
	9.9nm,0.5s									
ROSF	**Rostrenen**	**5.74**	**338**	Pn			**Pn**	**22 18 53.2**	**+1.0**
ROSF				Sn			**Sn**	**22 19 53.1**	**-4.9**
ROSF				Lg				22 20 30.3	
	4.9nm,0.5s									
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pn			**Pn**	**22 18 53.2**	**+1.0**
ROSF				*e*Sg			**Sg**	**22 20 30.3**	**-1.2**
	4.9nm,0.5s									
EQES	**Quesada**	**5.77**	**205**	Pn			**Pn**	**22 18 53.5**	**+0.9**
	SNR=7.9									
EQES					Sn		**Sn**	**22 19 53.9**	**-4.8**
	0.5nm,0.2s,SNR=7.9									
EQES					Lg			22 20 27.8		
	3.0nm,0.5s,SNR=7.9									
EQES	**Quesada**	**5.77**	**205**	Pn			**Pn**	**22 18 53.5**	**+0.9**
	SNR=7.9									
PVRL	**Vila Real**	**6.02**	**255**	*e*Sn			**Sn**	**22 20 03.4**	**-1.4**
EADA	**Adamuz**	**6.02**	**217**	Pn			**Pn**	**22 18 57.0**	**+0.9**
	1.0nm,0.5s,SNR=4.0									
EADA					Sn		**Sn**	**22 20 00.5**	**-4.3**
	1.5nm,0.4s,SNR=7.9									
EADA					Lg			22 20 35.2		
	2.3nm,0.4s,SNR=7.9									
EADA	**Adamuz**	**6.02**	**217**	Pn			**Pn**	**22 18 57.0**	**+0.9**
EADA					Sn		**Sn**	**22 20 00.6**	**-4.3**
PVIS	**Viseu**	**6.36**	**251**	*e*Sn			**Sn**	**22 20 10.7**	**-2.4**
PVIS										
	1.9nm,0.3s									
PVIS	**Viseu**	**6.36**	**251**	*e*Sn			**Sn**	**22 20 10.7**	**-2.4**
	1.9nm,0.3s									
MEZF	**Maizieres J'vi**	**6.47**	**31**	*e*Sg			**Sg**	**22 20 55.3**	**+0.5**
	8.7nm,0.5s									
MEZF	**Maizieres J'vi**	**6.47**	**31**	Lg				22 20 55.3		
	8.7nm,0.5s									
PCBR	**Castelo Branco**	**6.49**	**243**	*e*Pn			**Pn**	**22 19 03.1**	**+0.6**
PCBR				*e*Sn			**Sn**	**22 20 14.8**	**-1.6**
PCBR										
	1.5nm,0.5s									
PGF	**Pioggiola**	**6.63**	**92**	*e*Pn			**Pn**	**22 19 03.3**	**-1.1**
PGF				*e*Sn			**Sn**	**22 20 13.8**	**-6.1**
	86nm,1.4s									
PGF	**Pioggiola**	**6.63**	**92**	*e*Pn			**Pn**	**22 19 03.3**	**-1.1**
PGF				*e*Sn			**Sn**	**22 20 13.8**	**-6.1**
	43nm,1.4s									
HAU	**Haudompre**	**6.64**	**40**	*e*Sg			**Sg**	**22 20 59.0**	**-1.3**
	3.4nm,0.3s									
HAU	**Haudompre**	**6.64**	**40**	*e*Sg			**Sg**	**22 20 59.0**	**-1.3**
	1.7nm,0.3s									
HINF	**Hinteralfeld**	**6.75**	**43**	*e*Pn			**Pn**	**22 19 06.2**	**+0.1**
HINF				*e*Sg			**Sg**	**22 21 02.7**	**-1.2**
	7.1nm,0.7s									
HINF	**Hinteralfeld**	**6.75**	**43**	*e*Pn			**Pn**	**22 19 06.2**	**+0.1**
HINF				*e*Sg			**Sg**	**22 21 02.7**	**-1.2**
	3.5nm,0.7s									
EBAD	**Badajoz**	**6.85**	**233**	Pn			**Pn**	**22 19 08.8**	**+1.4**
	SNR=4.0									
EBAD					Sn		**Sn**	**22 20 21.5**	**-3.8**
	1.6nm,0.2s,SNR=7.9									
EBAD	**Badajoz**	**6.85**	**233**	Pn			**Pn**	**22 19 08.8**	**+1.3**
EBAD					Sn		**Sn**	**22 20 21.5**	**-3.8**
PESTR	**Estremoz**	**7.12**	**236**	*e*Pn			**Pn**	**22 19 12.4**	**+1.2**
PESTR				*e*Sn			**Sn**	**22 20 29.2**	**-2.9**
PESTR										
	2.0nm,0.6s									
EMIN	**Mina Concepcio**	**7.36**	**226**	Sn			**Sn**	**22 20 31.7**	**-6.1**
	0.9nm,0.4s,SNR=7.9									
EGRO	**El Granado**	**7.96**	**228**	Sn			**Sn**	**22 20 46.6**	**-6.1**
	0.5nm,0.2s,SNR=7.9									

*ISCJB **18** 22:21:55.9±0.6, 4724N×007×1555E±0.1, h10km, mb4.1/20, Error ellipse: s-maj=14.3km s-min=7.8km az=77.2*
*IDC **18** 22:21:56.1±0.8, 4731N×15556E, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, ML3.2/1, Error ellipse: s-maj=22.1km s-min=17.9km az=154.0*
*NEIC **18** 22:21:58.2±8.1, 4727N×15547E, h12km±51km, mb4.3/4, Error ellipse: s-maj=15.9km s-min=11.7km az=137.0*
*MOS **18** 22:21:59.8±1.6, 4742N×15542E, h36km, mb4.5/3, Error ellipse: s-maj=16.7km s-min=10.5km az=79.4*

ISC 18 22:21:57.7±0.6, 4731N±009×1555E±01, h10km, n31, σ1°19/32, mb4.1/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.40**	**6**	*e*PN		**Pn**	**22 22 47.4**	**-3.4**
SKR				*e*S		**Sn**	**22 23 34.7**	**+3.6**
SKR				smax				
	comp=N,160nm,0.9s							
SKR				smax				
	comp=E,300nm,0.9s							
SKR				smax				
	comp=Z,100nm,0.6s							
KUR	**Kuril'sk**	**5.70**	**251**	PN		**Pn**	**22 23 21.0**	**-1.3**
KUR				pmax		pmax		
	comp=Z,180nm,0.9s							
PET	**Petropavlovsk**	**6.06**	**18**	*e*PN		**Pn**	**22 23 25.3**	**-2.1**
PET				MLR		MLR		
	comp=Z,400nm,16.0s							
ASAJ	**Asahikawa**	**9.59**	**255**	Pn		**Pn**	**22 24 18.5**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=99,slow=22,SNR=5.8							
ASAJ	**Asahikawa**	**9.59**	**255**	PN		**Pn**	**22 24 18.5**	**+2.8**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.75**	**236**	Pn		**Pn**	**22 25 51.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=26,slow=16,SNR=4.1							
BILL	**Bilibino**	**21.50**	**11**	*e*P		**P**	**22 26 48.1**	**+1.5**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb3.9							
BILL	**Bilibino**	**21.50**	**11**	*e*P		**P**	**22 26 48.1**	**+1.5**
	comp=Z,6.4nm,1.2s,mb3.9							
KSRS	**Korea Array**	**22.53**	**254**	P		**P**	**22 26 58.9**	**+1.3**
	comp=Z,1.3nm,0.7s,mb3.5,baz=48,slow=11,SNR=4.2							
SONM	**Songino Array**	**32.70**	**289**	P		**P**	**22 28 29.3**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=91,slow=7.9,SNR=4.1							
INK	**Inuvik**	**40.29**	**33**	P		**P**	**22 29 34.7**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=299,slow=5.2,SNR=11							
ZAL	**Zalesovo**	**43.63**	**306**	P		**P**	**22 30 02.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.8,baz=66,slow=6.7,SNR=5.9							
MKAR	**Makanchi Array**	**48.14**	**298**	P		**P**	**22 30 37.4**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.4,baz=72,slow=7.8,SNR=21							
BVAR	**Borovoye Array**	**51.77**	**310**	P		**P**	**22 31 05.5**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.1,baz=52,slow=9.3,SNR=6.5							
LSA	**Lhasa**	**51.88**	**274**	*e*P		**P**	**22 31 09.0**	**+2.7**
LSA				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
LSA	**Lhasa**	**51.88**	**274**	*e*P		**P**	**22 31 09.0**	**+2.8**
	comp=Z,1.3nm,0.4s,mb4.2							
ARU	**Arti**	**55.70**	**318**	*e*P		**P**	**22 31 34.0**	**-0.3**
ARU				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.6							
ARU	**Arti**	**55.70**	**318**	*e*P		**P**	**22 31 34.0**	**-0.3**
	comp=Z,1.8nm,0.3s,mb4.6							
ARCES	**ARCESS Array B**	**57.86**	**341**	P		**P**	**22 31 48.7**	**-0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=5.6,slow=10,SNR=2.4							
NVAR	**Mina Array Bea**	**60.71**	**64**	P		**P**	**22 32 08.5**	**-0.8**
	comp=Z,0.5nm,0.3s,mb4.1,baz=286,slow=6.5,SNR=4.1							
IMW	**Indian Meadow**	**61.58**	**55**	*e*P		**P**	**22 32 22.7**	**+7.5**
	comp=Z,4.3nm,0.6s,mb4.8							
LAO	**LASA Array**	**62.34**	**50**	*e*P		**P**	**22 32 22.6**	**+2.3**
	comp=Z,23nm,0.6s,mb5.5							
FINES	**FINESS Array B**	**64.22**	**336**	P		**P**	**22 32 33.0**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=43,slow=8.3,SNR=13							
FINES	**FINESS Array B**	**64.22**	**336**	P		**P**	**22 32 33.0**	**+0.2**
NB2	**NORSAR Subarra**	**68.21**	**342**	P		**P**	**22 32 57.7**	**-0.7**
	comp=Z,4.7nm,1.0s,mb4.5,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.21**	**342**	P		**P**	**22 32 58.2**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=26,slow=6.5,SNR=4.3							
WRA	**Warramunga Arr**	**69.60**	**201**	P		**P**	**22 33 07.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=22,slow=7.1,SNR=4.0							
ASAR	**Alice Springs**	**73.29**	**201**	P		**P**	**22 33 29.7**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=19,slow=6.5,SNR=5.0							
TXAR	**Lajitas Array**	**75.78**	**62**	P		**P**	**22 33 43.8**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=298,slow=4.1,SNR=32							
GERES	**GERESS Array B**	**78.65**	**335**	P		**P**	**22 33 59.9**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.3,SNR=6.1							
BRTR	**Keskin Array B**	**79.09**	**

EPOB	**Poblet**	**1.87**	**155**	Pg	**Pg**	**22 43 48.7**	**-1.6**
	SNR=7.9							
EPOB				Lg		22 44 12.4		
	0.6nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**22 43 52.9**	**+0.8**
LFF				*e*Sg	**Sg**	**22 44 19.7**	**+2.1**
	4.6nm,0.3s							
LFF	**La Frestale**	**1.96**	**15**	Pg	**Pg**	**22 43 52.9**	**+0.8**
LFF				Lg		22 44 19.7		
	2.3nm,0.3s							
ERTA	**Horta de San J**	**2.10**	**173**	Pg	**Pg**	**22 43 53.8**	**-0.9**
	SNR=7.9							
ERTA				Lg		22 44 20.3		
	2.3nm,0.3s,SNR=7.9							
CAF	**Calviac**	**2.39**	**37**	*e*Pn	**Pn**	**22 43 53.3**	**+0.3**
CAF	**Calviac**	**2.39**	**37**	*e*Pg	**Pg**	**22 44 00.6**	**+0.3**
CAF				*e*Sg	**Sg**	**22 44 31.5**	**+0.2**
	2.1nm,0.2s							
CAF	**Calviac**	**2.39**	**37**	Pn	**Pn**	**22 43 53.3**	**+0.3**
CAF				Pg	**Pg**	**22 44 00.6**	**+0.3**
CAF				Lg		22 44 31.5		
	1.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Pg	**Pg**	**22 44 03.0**	**+0.6**
RJF				*e*Sg	**Sg**	**22 44 33.6**	**-1.3**
	4.8nm,0.4s							
RJF	**Les Rejaudoux**	**2.50**	**25**	Pg	**Pg**	**22 44 03.0**	**+0.6**
RJF				Lg		22 44 33.6		
	2.4nm,0.4s							
LASF	**Ste Croix**	**2.98**	**68**	*e*Pg	**Pg**	**22 44 12.8**	**+1.3**
LASF				*e*Sg	**Sg**	**22 44 49.4**	**-0.7**
	1.0nm,0.3s							
LASF	**Ste Croix**	**2.98**	**68**	Pg	**Pg**	**22 44 12.8**	**+1.3**
LASF				Lg		22 44 49.4		
	0.0nm,0.3s							
MFF	**Saint Martin d**	**3.56**	**358**	*e*Pn	**Pn**	**22 44 08.5**	**-0.6**
MFF	**Saint Martin d**	**3.56**	**358**	*e*Pg	**Pg**	**22 44 20.5**	**-2.1**
MFF				*e*Sg	**Sg**	**22 45 07.5**	**-1.2**
	0.6nm,0.2s							
MFF	**Saint Martin d**	**3.56**	**358**	Pn	**Pn**	**22 44 08.5**	**-0.6**
MFF				Pg	**Pg**	**22 44 20.5**	**-2.1**
MFF				Lg		22 45 07.5		
	0.3nm,0.2s							
TCF	**Toulx Ste Croi**	**3.60**	**25**	*e*Sg	**Sg**	**22 45 09.4**	**-0.7**
	0.9nm,0.3s							
TCF	**Toulx Ste Croi**	**3.60**	**25**	Lg		22 45 09.4		
	0.4nm,0.3s							
BGF	**Bois d'Agland**	**4.05**	**29**	*e*Sg	**Sg**	**22 45 23.3**	**-1.1**
	4.4nm,0.5s							
BGF	**Bois d'Agland**	**4.05**	**29**	Lg		22 45 23.3		
	2.2nm,0.5s							
AVF	**Avril sur Loir**	**4.43**	**31**	*e*Sg	**Sg**	**22 45 37.2**	**+0.5**
	0.4nm,0.3s							
AVF	**Avril sur Loir**	**4.43**	**31**	Lg		22 45 37.2		
	0.2nm,0.3s							

*ISCJB **18** 22:54:00.9±0.7, 4757N±008×1551E±01, h10km, mb4.3/24, Error ellipse: s-maj=15.5km s-min=7.9km az=71.2*
*IDC **18** 22:54:00.8±0.8, 4748N×155.12E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/26, mbtmp4.0/15, ML3.7/1, Error ellipse: s-maj=21.1km s-min=16.9km az=148.0*
*NEIC **18** 22:54:02.5±0.7, 4751N×15505E, h10km, mb4.5/4, Error ellipse: s-maj=17.2km s-min=14.8km az=172.0*
*MOS **18** 22:54:03.6±1.0, 4755N×154.95E, h30km, mb4.8/4, Error ellipse: s-maj=20.5km s-min=13.8km az=97.9*

ISC 18 22:54:02.7±0.7, 4760N±008×1551E±01, h10km, n35, σ0°97/36, mb4.3/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.16**	**11**	*e*PN	**Pn**	**22 54 53.5**	**+1.1**
SKR				*e*S	**Sn**	**22 55 29.4**	**-0.7**
SKR				pmax	pmax		
	comp=Z,70nm,0.9s						
SKR				smax			
	comp=N,310nm,0.3s						
SKR				smax			
	comp=E,150nm,0.4s						
SKR				smax			
	comp=Z,70nm,0.4s						
ASAJ	**Asahikawa**	**9.41**	**253**	Pn	**Pn**	**22 56 18.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=88,slow=21,SNR=5.1						
ASAJ	**Asahikawa**	**9.41**	**253**	PN	**Pn**	**22 56 18.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.36**	**253**	P	**P**	**22 59 00.4**	**-0.5**
	comp=Z,3.6nm,0.9s,mb3.8,baz=45,slow=10,SNR=7.9						
SONM	**Songino Array**	**32.36**	**289**	P	**P**	**23 00 30.9**	**-1.3**
	comp=Z,0.5nm,0.8s,mb3.4,baz=64,slow=7.6,SNR=4.3						
INK	**Inuvik**	**40.20**	**33**	P	**P**	**23 01 39.7**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.0,baz=314,slow=6.1,SNR=17						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**23 02 38.7**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=72,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**23 02 38.7**	**-1.3**
CHKZ	**Chkalovo**	**50.94**	**310**	*e*P	**P**	**23 03 02.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**50.94**	**310**	*e*P	**P**	**23 03 02.5**	**-1.7**
	comp=Z,18nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**51.38**	**310**	P	**P**	**23 03 06.8**	**-0.8**
	comp=Z,4.0nm,0.4s,mb4.7,baz=56,slow=7.4,SNR=51						
BRVK	**Borovoye**	**51.42**	**310**	*e*P	**P**	**23 03 06.7**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.42**	**310**	*e*P	**P**	**23 03 06.7**	**-1.1**
	comp=Z,3.7nm,0.6s,mb4.5						
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**	**23 03 10.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**	**23 03 10.4**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.14**	**310**	*e*P	**P**	**23 03 12.1**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**52.14**	**310**	*e*P	**P**	**23 03 12.1**	**-1.1**
	comp=Z,2.9nm,0.4s,mb4.6						
JIRN	**Jiri**	**56.25**	**275**	*e*P	**P**	**23 03 43.9**	**+0.8**
	comp=Z,5.7nm,0.4s,mb4.9						
GUN	**Gumba**	**56.29**	**276**	*e*P	**P**	**23 03 44.0**	**+0.5**
	comp=Z,6.3nm,0.4s,mb5.0						
KKN	**Kakani**	**56.77**	**276**	*e*P	**P**	**23 03 47.7**	**+0.8**
	comp=Z,6.6nm,0.5s,mb4.9						
DMN	**Daman**	**57.01**	**276**	*e*P	**P**	**23 03 49.4**	**+0.8**
	comp=Z,6.7nm,0.4s,mb5.0						
GKN	**Gorkha**	**57.07**	**277**	*e*P	**P**	**23 03 49.5**	**+0.5**
	comp=Z,9.2nm,0.5s,mb5.1						
ARCES	**ARCESS Array B**	**57.50**	**341**	P	**P**	**23 03 51.6**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.5,baz=41,slow=9.8,SNR=4.2						
KOLN	**Koldanda**	**57.92**	**277**	*e*P	**P**	**23 03 55.5**	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.6						
AKTK	**Aktyubinsk**	**59.18**	**312**	P	**P**	**23 04 05.2**	**+1.4**
AKTO	**Aktyubinsk**	**59.18**	**312**	P	**P**	**23 04 05.2**	**+1.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=61,slow=9.7,SNR=4.4						
AKTO	**Aktyubinsk**	**59.18**	**312**	P	**P**	**23 04 05.2**	**+1.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.13**	**55**	P	**P**	**23 04 30.6**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=302,slow=2.0,SNR=3.6						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**23 04 35.1**	**-0.3**
	comp=Z,3.0nm,0.4s,mb4.7,baz=39,slow=7.8,SNR=52						
NB2	**NORSAR Subarra**	**67.86**	**342**	P	**P**	**23 05 00.9**	**-0.3**
	comp=Z,3.8nm,1.0s,mb4.4,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.86**	**342**	P	**P**	**23 05 01.1**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**69.78**	**201**	P	**P**	**23 05 11.6**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=21,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**73.46**	**200**	P	**P**	**23 05 34.6**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=15,slow=5.5,SNR=13						
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**23 05 49.2**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=301,slow=4.4,SNR=23						
BRTR	**Keskin Array B**	**78.70**	**318**	P	**P**	**23 06 07.2**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=12,slow=7.8,SNR=4.4						

IDC 18 22:56:46.4±4.7, 4659N×15479E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=173.6km s-min=33.6km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.04**	**298**	P	P	23 05 26.9	-0.4
	0.3nm,0.7s,baz=55,slow=5.5,SNR=3.0						
BVAR	**Borovoye Array**	**51.85**	**310**	P	P	23 05 55.9	-0.4
	0.3nm,0.3s,baz=60,slow=9.9,SNR=4.8						
FINES	**FINESS Array B**	**64.68**	**335**	P	P	23 07 25.6	-0.4
	1.4nm,0.9s,baz=32,slow=4.7,SNR=3.4						
TXAR	**Lajitas Array**	**76.56**	**62**	P	P	23 08 38.7	+0.2
	0.7nm,0.6s,baz=304,slow=4.5,SNR=10						

IDC 18 23:02:55.5±2.9, 4559N×15476E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=87.9km s-min=26.2km az=2.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**42.03**	**32**	P	P	23 10 47.8	-0.9
	1.3nm,0.5s,baz=288,slow=7.3,SNR=15						
MKAR	**Makanchi Array**	**48.50**	**299**	P	P	23 11 39.1	-0.9
	0.9nm,0.8s,baz=70,slow=7.0,SNR=5.5						
BVAR	**Borovoye Array**	**52.48**	**311**	P	P	23 12 10.1	-0.1
	0.3nm,0.4s,baz=51,slow=5.7,SNR=3.6						
AKTO	**Aktyubinsk**	**60.35**	**313**	P	P	23 13 10.5	+4.2
	0.3nm,0.4s,baz=41,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**64.50**	**54**	P	P	23 13 34.6	+0.5
	0.1nm,0.4s,baz=5.7,slow=3.6,SNR=3.6						
FINES	**FINESS Array B**	**65.57**	**336**	P	P	23 13 40.9	-0.1
	2.0nm,0.9s,baz=41,slow=7.4,SNR=4.3						
TXAR	**Lajitas Array**	**77.06**	**61**	P	P	23 14 50.6	+0.1
	0.8nm,0.7s,baz=298,slow=4.7,SNR=13						

*ISCJB **18** 23:07:09.0±2.1, 473N±02×1532E±03, h47km±19km, mb3.6/5, Error ellipse: s-maj=42.3km s-min=12.9km az=72.8*
*MOS **18** 23:07:11.0±2.0, 4716N×15356E, h67km, mb4.1/2, Error ellipse: s-maj=43.1km s-min=19.0km az=62.2*
*IDC **18** 23:07:13.6±8.7, 4716N×15320E, h75km±80km, mb3.4/5, mb1 3.6/6, mb1mx3.2/24, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=38.1km s-min=25.7km az=111.0*

ISC 18 23:07:10.7±1.8, 473N±02×1532E±03, h48km±17km, n12, σ0°39/13, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.93**	**28**	*e*PN	**Pn**	**23 08 08.7**	**+0.1**
SKR				*e*S	**Sn**	**23 08 53.1**	**-0.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,200nm,0.9s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,160nm,0.9s						
PET	**Petropavlovsk**	**6.75**	**29**	*e*PN	**Pn**	**23 09 01.2**	**+14**
ASAJ	**Asahikawa**	**8.07**	**251**	P	**Pn**	**23 09 13.2**	**+7.9**
	comp=Z,0.5nm,0.3s,baz=85,slow=12,SNR=3.6						
ASAJ	**Asahikawa**	**8.07**	**251**	PN	**Pn**	**23 09 13.2**	**+7.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.44**	**232**	P	**Pn**	**23 10 45.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=39,slow=9.0,SNR=3.7						
INK	**Inuvik**	**41.20**	**33**	P	**P**	**23 14 51.5**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.4,baz=284,slow=4.2,SNR=4.6						
INK	**Inuvik**	**41.20**	**33**	P	**P**	**23 14 51.5**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**23 17 36.8**	**+0.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=43,slow=6.3,SNR=8.2						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**23 17 36.8**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**23 18 24.1**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=29,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**72.70**	**199**	P	**P**	**23 18 33.2**	**-0.4**
	comp=Z,0.3nm,0.9s,mb3.2,baz=9.8,slow=5.7,SNR=6.4						
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**23 18 59.2**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=290,slow=3.6,SNR=4.6						

*ISCJB **18** 23:08:46.8±0.4, 3903N±003×22.17E±003, h19km±5km, Error ellipse: s-maj=5.2km s-min=4.2km az=119.1*
*NEIC **18** 23:08:46.5, 3900N×2218E, h6km±1km, MD3.1(ATH), After ATH.*
*ATH **18** 23:08:46.5, 3900N×22.18E, h6km±1km, MD3.1/5*
*CSEM **18** 23:08:47.9±0.1, 3900N×2225E, h20km, ML2.6, Error ellipse: s-maj=3.3km s-min=2.5km az=139.0*
*THE **18** 23:08:48.4, 3907N×2227E, h15km, ML2.6*

ISC 18 23:08:46.6±0.4, 3903N±003×2217E±003, h19km±3km, n19, σ0°75/32, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGG	**Agios Georgios**	**0.13**	**91**	*e*Pg	**Pg**	**23 08 50.5**	**-0.2**
AGG				*e*Sg	**Sg**	**23 08 53.6**	**+0.2**
EVR	**Evrytania**	**0.30**	**249**	*e*PB	**Pg**	**23 08 52.6**	**-0.6**
EVR				*e*SB	**Sg**	**23 08 56.9**	**-0.7**
THL	**Klokotos Trika**	**0.55**	**348**	*i*PB	**Pg**	**23 08 57.4**	**-0.3**
LKR	**Lokris**	**0.75**	**120**	*e*PB	**Pb**	**23 09 00.6**	**-0.5**
LKR				*e*SB	**Sb**	**23 09 10.4**	**-0.6**
XOR	**Xorichti**	**0.87**	**67**	*e*Pg	**Pg**	**23 09 04.0**	**+0.4**
XOR				*e*Sg	**Sg**	**23 09 16.0**	**+1.0**
LIT	**Litokhoron**	**1.10**	**13**	*e*Pg	**Pg**	**23 09 07.7**	**-0.3**
LIT				*e*Sg	**Sg**	**23 09 23.3**	**+0.8**
RLS	**Riolos of Patr**	**1.11**	**210**	*e*PB	**Pb**	**23 09 07.2**	**0.0**
RLS				*e*SB	**Sb**	**23 09 22.3**	**+1.0**
LKD	**Levkas**	**1.23**	**255**	*e*Pg	**Pg**	**23 09 10.5**	**+0.2**
LKD				*e*Sg	**Sg**	**23 09 30.4**	**+4.0**
AOS	**Alonnisos**	**1.34**	**83**	*e*Pg	**Pn**	**23 09 10.7**	**+0.3**
AOS				*e*Sg	**Sn**	**23 09 27.3**	**-0.4**
AOS	**Alonnisos**	**1.34**	**83**	*e*Pg	**Pn**	**23 09 10.6**	**+0.3**
AOS				*e*Sg	**Sn**	**23 09 27.3**	**-0.4**
PAIG	**Paliouri**	**1.48**	**52**	*e*Pg	**Pn**	**23 09 12.4**	**+0.1**
PAIG				*e*Sg	**Sn**	**23 09 31.1**	**+0.1**
VLS	**Valsamata**	**1.50**	**236**	*e*PB	**Pb**	**23 09 14.8**	**+1.0**
PLG	**Polygyros**	**1.67**	**36**	*e*Pg	**Pn**	**23 09 15.0**	**+0.2**
PLG				*e*Sg	**Sn**	**23 09 34.8**	**-0.9**
FNA	**Florina**	**1.86**	**341**	*e*Pb	**Pb**	**23 09 18.9**	**-1.1**
FNA				*e*Sb	**Sb**	**23 09 42.1**	**-0.8**
OUR	**Ouranopolis**	**1.92**	**46**	*e*Pb	**Pn**	**23 09 18.4**	**+0.1**
GRG	**Griva**	**1.94**	**5**	*e*Pb	**Pb**	**23 09 19.7**	**-1.6**
KEK	**Kerkira**	**1.96**	**291**	*e*PN	**Pb**	**23 09 22.7**	**+1.0**
KNT	**Kendrikon**	**2.21**	**15**	*e*Pn	**Pn**	**23 09 23.6**	**+1.4**
KNT				*e*Sn	**Sn**	**23 09 49.9**	**+0.8**
VLI	**Veliai**	**2.38**	**165**	*e*PN	**Pb**	**23 09 27.9**	**-1.0**

IDC 18 23:29:17.2±1.1, 4657N×15462E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=31.4km s-min=27.8km az=31.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**32.37**	**290**	P	P	23 35 47.9	-0.4
	0.2nm,0.5s,baz=71,slow=10.0,SNR=2.6						
ZAL	**Zalesovo**	**43.57**	**306**	P	P	23 37 21.5	-1.3
	0.8nm,0.3s,baz=135,slow=5.7,SNR=2.7						
MKAR	**Makanchi Array**	**47.94**	**298**	P	P	23 37 56.7	-0.7
	0.5nm,0.6s,baz=68,slow=6.9,SNR=5.6						
ARCES	**ARCESS Array B**	**58.36**	**341**	P	P	23 39 13.9	-0.2
	1.9nm,0.8s,baz=34,slow=9.8,SNR=3.3						
FINES	**FINESS Array B**	**64.54**	**335**	P	P	23 39 56.0	-0.6
	2.8nm,1.1s,baz=38,slow=7.8,SNR=11						
NOA	**NORSAR Array B**	**68.73**	**342**	P	P	23 40 23.7	+0.9
	1.0nm,0.9s,baz=27,slow=6.5,SNR=2.4						
ASAR	**Alice Springs**	**72.38**	**200**	P	P	23 40 45.5	+0.5
	0.4nm,0.7s,baz=21,slow=5.1,SNR=5.3						
TXAR	**Lajitas Array**	**76.67**	**61**	P	P	23 41 09.4	-0.6
	0.6nm,0.7s,baz=312,slow=4.3,SNR=8.7						

PGC 18 23:35:24.0±2.4, 5434N×13757W, h20km, ML3.7/6, 333km southwest of Sitka, Ak West Of Vancouver Island, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDB	**Naden**	**2.75**	**96**	Trac			
NDB	**Naden**	**2.75**	**96**	Pn	Pn	23 36 06.9	0.0
NDB				Sn	Sn	23 36 38.2	-1.3
VIB	**Van Inlet**	**3.17**	**108**	Trac			
VIB	**Van Inlet**	**3.17**	**108**	Pn	Pn	23 36 12.1	-0.7
VIB				Sn	Sn	23 36 48.9	-1.2
DIB	**Dawson Inlet,**	**3.23**	**109**	Trac			
DIB	**Dawson Inlet,**	**3.23**	**109**	Pn	Pn	23 36 12.6	-0.9
DIB				Sn	Sn	23 36 49.0	-2.4
MOBC	**Moresby Island**	**3.55**	**106**	Trac			
MOBC	**Moresby Island**	**3.55**	**106**	Pn	Pn	23 36 17.6	-0.4
MOBC				Sn	Sn	23 36 57.7	-1.7
RUBB	**Prince Rupert**	**4.28**	**87**	Trac			
RUBB	**Prince Rupert**	**4.28**	**87**	Pn	Pn	23 36 28.0	0.0
RUBB				Sn	Sn	23 37 14.6	-2.7
PLBC	**Pleasant Camp**	**5.18**	**7**	Trac			
PLBC	**Pleasant Camp**	**5.18**	**7**	Pn	Pn	23 36 39.6	-0.7
DLBC	**Dease Lake**	**5.87**	**42**	Pn	Pn	23 36 50.3	+0.5
DLBC				Sn	Sn	23 37 52.1	-4.3
WHY	**Whitehorse**	**6.50**	**12**	Pn	Pn	23 36 58.4	-0.1
WHY				Sn	Sn	23 38 05.0	-7.1
HYT	**Haines Junctio**	**6.51**	**0**	Pn	Pn	23 36 58.7	+0.1
HYT				Sn	Sn	23 38 05.3	-6.9

*NEIC **18** 23:40:46.7±1.3, 1800S×7185W, h35km, Error ellipse: s-maj=19.6km s-min=14.8km az=46.0*
*ISCJB **18** 23:40:48.1±1.1, 1796S±006×713W±0.1, h38km±15km, mb3.8/2, MS3.0/3, Error ellipse: s-maj=22.9km s-min=8.0km az=152.4*
*IDC **18** 23:40:53.2±1.7, 1818S×7133W, h75km±17km, mb3.5/2, mb1 3.7/7, mb1mx3.5/19, mbtmp3.7/7, MS3.1/4, Ms1 3.1/4, ms1mx2.8/21, Error ellipse: s-maj=27.9km s-min=14.1km az=62.0*

ISC 18 23:40:49.0±1.3, 1795S±006×716W±02, h40km±14km, n16, σ1°37/17, mb3.8/2, MS3.0/3, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.49**	**3**	*i*P	**Pn**	**23 41 12.0**	**-1.2**
ARE				*i* S	**Sn**	**23 41 31.0**	**-0.4**
LPAZ	**La Paz**	**3.69**	**64**	P	**Pn**	**23 41 48.5**	**+5.0**
	3.9nm,0.3s,baz=243,slow=10,SNR=73						
LPAZ	**La Paz**	**3.69**	**64**	*e*Pn	**Pn**	**23 41 47.0**	**+3.6**
LVC	**Limon Verde**	**5.27**	**152**	P	**Pn**	**23 42 04.7**	**-0.4**
	2.6nm,0.3s,baz=270,slow=4.9,SNR=25						
LVC				S	**Sn**	**23 43 02.4**	**-2.1**
	8.4nm,0.3s,baz=90,slow=18,SNR=9.6						
LVC				LR	LR	23 44 08.5	
	comp=Z,146nm,20.9s,baz=270,slow=39						
LVC	**Limon Verde**	**5.27**	**152**	*e*Pn	**Pn**	**23 42 04.4**	**-0.8**
LVC				*e*Sn	**Sn**	**23 43 05.3**	**+0.8**
LVC				LR	LR	23 44 08.5	
NNA	**Nana**	**7.81**	**319**	P	**Pn**	**23 42 46.9**	**+6.8**
	1.1nm,0.3s,baz=184,slow=15,SNR=3.1						
NNA				S	**Sn**	**23 44 20.5**	**+13**
	3.0nm,0.3s,baz=204,slow=18,SNR=3.0						
NNA	**Nana**	**7.81**	**319**	*e*Pn	**Pn**	**23 42 36.3**	**-3.8**
	22nm,0.6s						
NNA				*e*Sn	**Sn**	**23 44 20.6**	**+13**
SIV	**San Ignacio**	**10.24**	**81**	P	**Pn**	**23 43 14.2**	**+0.9**
	1.1nm,0.3s,baz=262,slow=12,SNR=29						
SAML	**Samuel**	**12.11**	**43**	*e*Pn	**Pn**	**23 43 38.6**	**-0.2**
	2.7nm,0.9s						
CFAA	**Coronel Fontan**	**13.92**	**168**	P	**Pn**	**23 44 04.6**	**+1.0**
	0.1nm,0.3s,baz=337,slow=13,SNR=6.5						
ROSC	**El Rosal**	**22.83**	**353**	LR	LR	23 55 23.2	
	comp=Z,46nm,20.4s,MS2.9,baz=165,slow=38						
SDV	**Santo Domingo**	**26.68**	**2**	LR	LR	23 58 10.0	
	comp=Z,49nm,21.1s,MS3.0,baz=37,slow=38						
PCRV	**Puerto La Cruz**	**28.78**	**14**	LR	LR	23 57 44.9	
	comp=Z,43nm,21.2s,MS3.0,baz=117,slow=35						
TORD	**Torodi Ar. Bea**	**78.60**	**72**	P	**P**	**23 52 45.4**	**-1.0**
	0.6nm,0.6s,mb3.7,baz=251,slow=5.7,SNR=12						
ESDC	**Sonseca Array**	**85.12**	**46**	P	**P**	**23 53 21.6**	**+0.8**
	0.4nm,0.6s,mb3.8,baz=246,slow=5.7,SNR=5.3						
SONM	**Songino Array**	**150.15**	**3**	PKPbc	PKPbc	00 00 36.5	+1.1
	0.4nm,0.7s,baz=357,slow=1.0,SNR=3.4						
SONM				PKPab	PKPab	00 00 43.1	+1.6
	0.6nm,0.8s,baz=339,slow=1.4,SNR=4.9						

*ISCJB **18** 23:47:32.5±0.6, 4751N±007×1555E±01, h10km, mb4.1/23, MS3.6/7, Error ellipse: s-maj=12.6km s-min=6.9km az=86.1*
*NEIC **18** 23:47:34.0±0.4, 4741N×15550E, h10km, mb4.5/5, Error ellipse: s-maj=11.6km s-min=6.8km az=153.0*
*MOS **18** 23:47:36.1±1.5, 4747N×15539E, h38km, mb4.8/4, Error ellipse: s-maj=13.0km s-min=9.9km az=78.5*
*IDC **18** 23:47:38.4±4.8, 4742N×15552E, h39km±45km, mb3.8/17, mb1 4.0/19, mb1mx3.9/26, mbtmp3.8/19, ML3.8/2, MS3.5/8, Ms1 3.6/8, ms1mx3.1/41, Error ellipse: s-maj=25.0km s-min=16.0km az=174.0*

ISC 18 23:47:34.2±0.6, 4752N±007×1555E±01, h10km, n41, σ0°89/40, mb4.1/23, MS3.6/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.19**	**7**	*e*PN	**Pn**	**23 48 23.2**	**-1.2**
SKR				*e*S	**Sn**	**23 49 02.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR

comp=Z,6.0nm,0.5s,mb4.9
ARU Arti 55.54 318 *e*P **P 23 57 09.6 +0.1**
comp=Z,5.6nm,0.5s,mb4.8
ARU *e* 23 57 19.6
ARCES ARCESS Array B 57.66 341 P **P 23 57 24.9 +0.3**
comp=Z,4.8nm,1.0s,mb4.5,baz=33,slow=10,SNR=5.8
ARCES LR LR 00 27 24.8
comp=Z,149nm,18.1s,MS4.1,baz=56,slow=41
AB31 Akbulak array 59.18 311 *i* P **P 23 57 35.9 +0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
NVAR Mina Array Bea 60.63 64 P **P 23 57 45.6 +0.4**
comp=Z,0.7nm,0.5s,mb4.0,baz=302,slow=8.4,SNR=8.9
PDAR Pinedale Array 62.97 55 P **P 23 58 01.3 +0.3**
comp=Z,0.7nm,0.6s,mb4.0,baz=281,slow=2.6,SNR=6.8
FINES FINESS Array B 64.03 336 P **P 23 58 08.3 +0.3**
comp=Z,1.6nm,0.5s,mb4.3,baz=41,slow=7.5,SNR=38
FINES FINESS Array B 64.03 336 P **P 23 58 08.3 +0.3**
CTA Charters Tower 67.80 189 LR LR 00 22 26.3
comp=Z,60nm,20.4s,MS3.8,baz=51,slow=31
NB2 NORSAR Subarra 68.01 342 P **P 23 58 34.5 +0.9**
comp=Z,3.0nm,0.8s,mb4.4,baz=29,slow=6.5
NOA NORSAR Array B 68.01 342 P **P 23 58 33.8 +0.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.3,SNR=4.4
NOA LR LR 00 30 26.7
comp=Z,39nm,18.7s,MS3.7,baz=25,slow=38
ECSD EROS,Sioux Fal 69.17 48 *e*P **P 23 58 39.9 -0.9**
comp=Z,1.9nm,0.6s,mb4.2
AKASG Malin Array Be 71.80 327 P **P 23 58 56.3 -0.6**
comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.5,SNR=4.9
ASAR Alice Springs 73.48 201 P **P 23 59 06.2 -0.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=16,slow=6.1,SNR=4.4
TXAR Lajitas Array 75.69 62 P **P 23 59 19.5 -0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=303,slow=4.2,SNR=30
CLL Collm 76.42 337 *e*pP pP 23 59 28.0 +0.8
GERES GERESS Array B 78.46 335 P **P 23 59 35.9 +0.6**
comp=Z,0.4nm,0.6s,mb3.5,baz=34,slow=6.0,SNR=5.9
BRTR Keskin Array B 78.93 318 P **P 23 59 38.8 +0.9**
comp=Z,1.4nm,1.0s,mb3.9,baz=0.3,slow=2.7,SNR=5.2
STKA Stephens Creek 80.02 192 LR LR 00 30 58.5
comp=Z,82nm,19.4s,MS4.1,baz=24,slow=32

*ISCJB **18** 23:57:13.8±0.6, 45.88N±0.008×15.43E±0.1, h10km, mb4.0/22, Error ellipse: s-maj=13.0km s-min=8.4km az=100.8*
*IDC **18** 23:57:14.1±0.7, 45.87N×154.30E, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=18.5km s-min=16.1km az=131.0*
*NEIC **18** 23:57:15.6±0.4, 45.86N×154.26E, h10km, mb4.3/2, Error ellipse: s-maj=11.2km s-min=10.5km az=96.0*
*BJI **18** 23:57:15.3, 46.63N×154.34E, h16km, mB4.6, mb4.4*
*MOS **18** 23:57:17.9±1.2, 45.87N×154.16E, h39km, mb4.6/4, Error ellipse: s-maj=14.7km s-min=10.1km az=102.6*
ISC 18 23:57:14.3±4.0, 4590N±0.008×1544E±0.1, h2km±24km, n41, σ0s78/42, mb4.0/22, 7C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.61**	**264**	*e*P		**Pn**	**23 58 15.7**	**-9.3**
KUR				*e*S		**Sn**	**23 59 12.0**	**-7.2**
KUR				pmax	pmax			
	comp=Z,110nm,0.7s							
KUR				smax				
	comp=N,220nm,0.8s							
KUR				smax				
	comp=E,110nm,0.8s							
SKR	**Severo-Kuril's**	**4.92**	**13**	*e*P		**Pn**	**23 58 29.5**	**+0.2**
SKR				*e*			23 59 19.9	
PET	**Petropavlovsk**	**7.65**	**20↑**	*e*P		**Pn**	**23 59 06.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**8.09**	**282**	*e*P		**Pn**	**23 59 13.0**	**+0.2**
ASAJ	**Asahikawa**	**8.53**	**262**	Pn		**Pn**	**23 59 18.8**	**-0.1**
	comp=E,0.7nm,0.3s,baz=86,slow=13,SNR=5.6							
ASAJ				LR		LR	00 02 28.6	
	comp=E,73nm,18.3s,baz=152,slow=37							
ASAJ	**Asahikawa**	**8.53**	**262**	P		**Pn**	**23 59 18.8**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,73nm,18.3s							
ERM	**Erimo**	**8.97**	**248**	*i* P		**Pn**	**23 59 24.8**	**0.0**
KSRS	**Korea Array**	**21.41**	**256**	P		**P**	**00 02 04.4**	**+1.0**
	comp=Z,2.3nm,1.0s,mb3.5,baz=351,slow=9.9,SNR=4.6							
YAK	**Yakutsk**	**21.50**	**328**	*i* P		**P**	**00 02 04.5**	**+0.1**
ULN	**Ulaanbaatar**	**32.01**	**291↑**	*e*P		**P**	**00 03 46.6**	**+4.6**
SONM	**Songino Array**	**32.44**	**291**	P		**P**	**00 03 44.8**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=69,slow=7.9,SNR=2.8							
GTA	**Gaotai**	**39.97**	**281**	*e*P		**P**	**00 04 51.1**	**+0.9**
GTA				AP			00 04 57.8	
GTA				XP		sP	00 05 01.4	+10
GTA				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb4.4							
INK	**Inuvik**	**41.91**	**32**	P		**P**	**00 05 06.4**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.5,baz=307,slow=4.2,SNR=3.7							
MKAR	**Makanchi Array**	**48.11**	**299**	P		**P**	**00 05 54.8**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.1,baz=73,slow=7.5,SNR=11							
YKA	**Yellowknife Ar**	**51.09**	**37**	P		**P**	**00 06 18.0**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=297,slow=7.0,SNR=4.1							
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P		**P**	**00 06 21.8**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P		**P**	**00 06 21.8**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**52.07**	**310**	P		**P**	**00 06 25.2**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=57,slow=7.1,SNR=8.7							
ZRNK	**Zerenda**	**52.84**	**311**	*e*P		**P**	**00 06 31.0**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**52.84**	**311**	*e*P		**P**	**00 06 31.0**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2							
PMG	**Port Moresby**	**55.43**	**189**	P		**P**	**00 06 49.1**	**-1.1**
	comp=Z,18nm,0.9s,mb5.1,baz=0.0,slow=3.0,SNR=3.2							
ARU	**Arti**	**56.22**	**318↑**	*e*P		**P**	**00 06 56.5**	**+0.6**
LVZ	**Lovozero**	**57.89**	**337↑**	*e*P		**P**	**00 07 06.3**	**-1.4**
ARCES	**ARCESS Array B**	**58.94**	**341**	P		**P**	**00 07 14.4**	**-0.6**
	comp=Z,9.5nm,1.1s,mb4.7,baz=26,slow=6.7,SNR=3.5							
AKTK	**Aktyubinsk**	**59.94**	**313**	P		**P**	**00 07 22.3**	**+0.3**
AKTO	**Aktyubinsk**	**59.94**	**313**	P		**P**	**00 07 22.3**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=79,slow=2.7,SNR=4.9							
AKTO	**Aktyubinsk**	**59.94**	**313**	P		**P**	**00 07 22.3**	**+0.4**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
PDAR	**Pinedale Array**	**64.54**	**54**	P		**P**	**00 07 53.7**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=336,slow=6.3,SNR=3.2							
FINES	**FINESS Array B**	**64.63**	**335**	P		**P**	**00 07 57.9**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=39,slow=7.4,SNR=12							
OBN	**Obninsk**	**66.50**	**326↑**	*e*P		**P**	**00 08 06.9**	**+1.4**
OBN				pmax	pmax			
	comp=Z,11nm,1.3s,mb4.7							
WRA	**Warramunga Ar**	**68.01**	**200**	P		**P**	**00 08 14.5**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=19,slow=7.0,SNR=9.7							
NOA	**NORSAR Array B**	**69.31**	**342**	P		**P**	**00 08 22.5**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=26,slow=6.4,SNR=3.3							
NOA	**NORSAR Array B**	**69.31**	**342**	P		**P**	**00 08 22.5**	**-0.6**
ASAR	**Alice Springs**	**71.69**	**200**	P		**P**	**00 08 38.2**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=24,slow=5.1,SNR=11							
KIV	**Kislovodsk**	**72.01**	**315↑**	*e*P		**P**	**00 08 42.5**	**+2.9**
AKASG	**Malin Array Be**	**72.73**	**327**	P		**P**	**00 08 43.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=33,slow=5.9,SNR=7.5							
BURAR	**Bucovina Array**	**76.77**	**327**	*i*P		**P**	**00 09 07.1**	**-0.2**
TXAR	**Lajitas Array**	**77.15**	**61**	P		**P**	**00 09 09.9**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=309,slow=3.6,SNR=14							
KHC	**Kasperske Hory**	**79.38**	**335↑**	*e*P		**P**	**00 09 22.7**	**+0.9**
GERES	**GERESS Array B**	**79.60**	**335**	P		**P**	**00 09 22.1**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=17,slow=5.9,SNR=4.9							
BRTR	**Keskin Array B**	**79.80**	**318**	P		**P**	**00 09 22.2**	**-0.8**
	comp=Z,0.9nm,1.0s,mb3.6,baz=30,slow=12,SNR=3.4							

*NIED **18** 23:59:00, 36.30N×141.30E, h47km, Mw3.8 Best double couple: M0=4.94000×10^14 NP1:φ=34.00000°, δ=58.00000°, λ=79.00000°. NP2:φ=234.00000°, δ=34.00000°, λ=107.00000°.*
*ISCJB **18** 23:59:17.6±0.8, 36.22N±0.004×141.49E±0.009, h61km±8km, mb3.6/3, Error ellipse: s-maj=11.7km s-min=6.9km az=168.7*
*IDC **18** 23:59:18.4±2.3, 36.27N×141.62E, h47km±23km, mb3.4/3, mb1 3.8/7, mb1mx3.5/25, mbtmp3.9/7, ML3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/35, Error ellipse: s-maj=25.1km s-min=17.6km az=44.0*
*NEIC **18** 23:59:20.1, 36.26N×141.27E, h62km, MG4.1(JMA), After JMA.*
*JMA **18** 23:59:20.1±0.1, 36.26N×141.27E, h62km±2km, M4.1*
JMA Felt I J1.
ISC 18 23:59:18.7±0.8, 3625N±0.004×14150E±0.008, h47km±11km, n15, σ1s01/25, mb3.6/3, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.75**	**224**	⇑P		**Pn**	**23 59 34.1**	**+1.1**
CHOJ				*e*S		**Sn**	**23 59 44.3**	**+1.0**
JHO	**Hitachi**	**0.84**	**296**	⇓P		**Pn**	**23 59 33.9**	**-0.2**
JHO				*e*S		**Sn**	**23 59 44.2**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.02**	**327**	⇓P		**Pn**	**23 59 36.8**	**+0.2**
JYT	**Yasato**	**1.06**	**269**	⇓P		**Pn**	**23 59 36.7**	**-0.4**
JYT				*e*S		**Sn**	**23 59 48.4**	**-2.3**
JFK	**Kawauchi**	**1.23**	**336**	⇓P		**Pn**	**23 59 39.9**	**+0.5**
JFT	**Otama**	**1.58**	**324**	⇓P		**Pn**	**23 59 45.4**	**+1.2**
JFT				*e*S		**Sn**	**00 00 03.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.67**	**277**	P		**Pn**	**23 59 59.4**	**+0.2**
	12nm,0.3s,baz=102,slow=8.5,SNR=96							
MJAR				S		**Sn**	**00 00 32.2**	**+1.8**
	12nm,0.3s,baz=199,slow=4.5,SNR=6.6							
MJAR	**Matsushiro Arr**	**2.67**	**277**	P		**Pn**	**23 59 59.4**	**+0.2**
MJAR				S		**Sn**	**00 00 32.2**	**+1.8**
MAT	**Matsushiro**	**2.67**	**277**	P		**Pn**	**23 59 59.6**	**+0.4**
MAT				*e*S		**Sn**	**00 00 29.8**	**-0.6**
JHJ	**Hachijo jima 2**	**3.42**	**205**	P		**Pn**	**00 00 10.5**	**+1.0**
	33nm,0.3s,baz=82,slow=12,SNR=13							
JHJ				S		**Sn**	**00 00 47.0**	**-1.9**
	107nm,0.3s,baz=65,slow=22,SNR=12							
ASAJ	**Asahikawa**	**7.91**	**6**	P		**Pn**	**00 01 10.4**	**-0.6**
	2.2nm,0.3s,baz=201,slow=25,SNR=13							
ASAJ				S		**Sn**	**00 02 35.8**	**-3.4**
	0.2nm,0.3s,baz=232,slow=19,SNR=2.7							
CBIJ	**Chichi jima**	**9.14**	**176**	P		**Pn**	**00 01 27.2**	**-0.7**
	4.7nm,0.3s,baz=285,slow=20,SNR=5.1							
CBIJ				S		**Sn**	**00 03 01.0**	**-8.4**
	7.5nm,0.3s,baz=287,slow=19,SNR=4.8							
CBIJ				LR		LR	00 04 12.4	
	comp=Z,247nm,19.5s,baz=159,slow=32							
SONM	**Songino Array**	**28.29**	**305**	P		**P**	**00 05 07.9**	**+0.2**
	1.0nm,0.7s,mb3.5,baz=109,slow=9.6,SNR=6.2							
WRA	**Warramunga Arr**	**56.29**	**188**	P		**P**	**00 08 54.5**	**0.0**
	0.6nm,0.5s,mb3.9,baz=7.3,slow=7.6,SNR=6.3							
ASAR	**Alice Springs**	**60.02**	**188**	P		**P**	**00 09 20.6**	**+0.1**
	0.3nm,0.7s,mb3.4,baz=8.7,slow=6.7,SNR=4.2							

IDC 19 00:00:32.3±3.2, 4667N×15566E, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx2.6/42, Error ellipse: s-maj=97.5km s-min=32.4km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
INK	**Inuvik**	**40.78**	**33**	P		P	00 08 14.6	-0.6
	0.8nm,0.8s,baz=277,slow=3.1,SNR=2.0							
BVAR	**Borovoye Array**	**52.26**	**310**	P		P	00 09 44.9	-0.4
	0.4nm,0.4s,baz=64,slow=6.6,SNR=2.5							
NVAR	**Mina Array Bea**	**60.91**	**64**	P		P	00 10 47.2	+0.4
	0.4nm,0.6s,baz=300,slow=9.2,SNR=2.6							
PDAR	**Pinedale Array**	**63.37**	**55**	P		P	00 11 03.3	0.0
	0.4nm,0.8s,baz=294,slow=2.9,SNR=3.2							
ANMO	**Albuquerque**	**70.37**	**60**	LR		LR	00 39 31.2	
	comp=Z,92nm,20.1s,baz=18,slow=33							
TXAR	**Lajitas Array**	**75.99**	**62**	P		P	00 12 21.3	+0.1
	0.9nm,0.6s,baz=301,slow=4.1,SNR=12							
TXAR	**Lajitas Array**	**75.99**	**62**	P		P	00 12 21.3	+0.1

*BJI **19** 00:03:36.9, 1290N×14430E, h10km, mb4.5, Ms4.1, Msz3.9*
*IDC **19** 00:03:36.7±0.8, 1296N×14423E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, MS3.7/12, Ms1 3.7/12, ms1mx3.4/34, Error ellipse: s-maj=25.7km s-min=15.9km az=99.0*
*NEIC **19** 00:03:37.9±0.6, 1293N×14427E, h10km, mb4.2/1, Error ellipse: s-maj=21.8km s-min=11.0km az=100.0*
*ISCJB **19** 00:03:39.5±0.7, 1289N±0.008×1443E±0.02, h35km, mb4.0/12, MS3.6/12, Error ellipse: s-maj=22.5km s-min=10.8km az=11.7*
ISC 19 00:03:41.2±0.7, 1293N±0.008×1445E±0.02, h35km, n26, σ0s87/16, mb4.0/12, MS3.6/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**0.77**	**31**	Pn		**Pn**	**00 03 55.7**	**+0.3**
	212nm,0.3s,baz=206,slow=7.7,SNR=68							
JOW	**Kunigami**	**20.54**	**315**	LR		LR	00 14 14.5	
	comp=Z,140nm,19.7s,MS3.3,baz=219,slow=31							
MJAR	**Matsushiro Arr**	**24.18**	**348**	P		**P**	**00 08 53.6**	**-0.5**
	2.3nm,0.8s,mb3.6,baz=155,slow=8.0,SNR=4.1							
MJAR				LR		LR	00 17 30.2	
	comp=Z,102nm,18.3s,MS3.3,baz=160,slow=35							
MJAR	**Matsushiro Arr**	**24.18**	**348**	P		**P**	**00 08 53.6**	**-0.5**
MJAR				LR		LR	00 17 30.2	
KSRS	**Korea Array**	**28.55**	**332**	P		**P**	**00 09 32.4**	**-1.2**
	1.3nm,0.7s,mb3.8,baz=139,slow=9.9,SNR=3.9							
KSRS				LR		LR	00 19 55.0	
	comp=Z,70nm,18.8s,MS3.3,baz=246,slow=34							
ASAJ	**Asahikawa**	**31.12**	**357**	LR		LR	00 20 28.9	
	comp=Z,81nm,19.4s,MS3.4,baz=360,slow=33							
WRAB	**Tennant Creek**	**34.14**	**197**	*e*P		**P**	**00 10 21.9**	**-0.8**
	2.3nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**34.15**	**197**	P		**P**	**00 10 22.3**	**-0.5**
	1.3nm,0.9s,mb3.9,baz=21,slow=9.8,SNR=6.9							
WRA				LR		LR	00 23 46.6	
	comp=Z,85nm,18.4s,MS3.5,baz=355,slow=36							
ASAR	**Alice Springs**	**37.81**	**196**	P		**P**	**00 10 55.1**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=21,slow=12,SNR=8.3							
ASAR				LR		LR	00 26 03.1	
	comp=Z,99nm,18.2s,MS3.7,baz=352,slow=36							
ASAR	**Alice Springs**	**37.81**	**196**	P		**P**	**00 10 55.1**	**+1.0**
ASAR				LR		LR	00 26 03.1	
CD2	**Chengdu**	**41.51**	**302**	P		**P**	**00 11 29.0**	**+4.1**
CD2				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.9							
LZH	**Lanzhou**	**43.13**	**310**	*e*P		**P**	**00 11 43.5**	**+5.4**
LZH				AP		pP	00 11 49.5	+1.1
LZH				XP		sP	00 11 52.5	-0.1
LZH				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.7							
STKA	**Stephens Creek**	**44.63**	**183**	P		**P**	**00 11 50.2**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=358,slow=9.5,SNR=3.8							
STKA	**Stephens Creek**	**44.63**	**183**	P		**P**	**00 11 50.2**	**+0.1**
SONM	**Songino Array**	**47.05**	**325**	P		**P**	**00 12 08.9**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=147,slow=8.5,SNR=5.1							
SONM				LR		LR	00 32 03.8	
	comp=Z,64nm,18.5s,MS3.6,baz=155,slow=36							
GTA	**Gaotai**	**47.32**	**312**	*e*P		**P**	**00 12 12.8**	**+1.4**
GTA				AP		pP	00 12 15.5	-6.3
GTA				XP		sP	00 12 18.5	-7.4
GTA				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.3							
MKAR	**Makanchi Array**	**61.70**	**316**	P		**P**	**00 13 55.0**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.9,baz=95,slow=9.1,SNR=4.9							
ZAL	**Zalesovo**	**61.94**	**325**	LR		LR	00 42 15.6	
	comp=Z,69nm,19.1s,MS3.8,baz=130,slow=38							
BVAR	**Borovoye Array**	**70.20**	**322**	P		**P**	**00 14 51.4**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=99,slow=9.2,SNR=3.5							
YKA	**Yellowknife Ar**	**83.62**	**27**	LR		LR	00 49 56.0	
	comp=Z,37nm,19.8s,MS3.8,baz=275,slow=33							
PDAR	**Pinedale Array**	**92.71**	**45**	LR		LR	00 49 52.8	
	comp=Z,75nm,20.8s,MS4.1,baz=77,slow=30							
AKASG	**Malin Array Be**	**95.33**	**325**	LR		LR	01 03 59.7	
	comp=Z,44nm,18.7s,MS4.0,baz=245,slow=38							
MAW	**Mawson**	**98.67**	**203**	LR		LR	00 58 35.0	
	comp=Z,36nm,18.9s,MS3.9,baz=84,slow=33							
VNA2	**Neumayer--Watz**	**119.51**	**190**	*e*		PKPdf	00 22 34.2	+7.2
	baz=301,slow=1.6							
VNA2				*e*			00 22 42.7	
VNA3	**Neumayer Olymp**	**119.61**	**189**	*e*		PKPdf	00 22 34.7	+7.5
VNA3				*e*			00 22 43.3	
LPAZ	**La Paz**	**148.30**	**100**	PKPbc		PKPbc	00 23 28.4	+4.8
	comp=Z,0.4nm,0.4s,baz=18,slow=3.2,SNR=2.1							

IDC 19 00:04:35.3±1.4, 4752N×15125E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.8/3, Error ellipse: s-maj=58.4km s-min=38.4km az=97.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**62.80**	**334**	P		P	00 15 02.0	-0.6
	2.1nm,1.0s,baz=49,slow=5.8,SNR=4.7							
ASAR	**Alice Springs**	**72.56**	**197**	P		P	00 16 04.0	-0.1
	0.6nm,0.8s,baz=8.9,slow=5.0,SNR=4.8							
TXAR	**Lajitas Array**	**78.21**	**59**	P		P	00 16 36.9	+0.2
	0.4nm,0.7s,baz=305,slow=4.4,SNR=4.0							

GUC 19 00:11:03.4±0.9, 2826S×7127W, h32km±8km, MD3.6, ML3.8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.55**	**125**	⇑*i*P		Pb	00 11 14.8	0.0
VACH				*i* S		Sb	00 11 22.5	0.0
VACH				AML		AML	00 11 23.6	
	comp=N,7μm,0.1s							
CPCH	**Copiapo**	**1.21**	**42**	⇓*i*P		Pn	00 11 24.9	+0.9
CPCH				*i* S		Sn	00 11 40.9	+1.6
CPCH				AML		AML	00 11 43.6	
	comp=E,3μm,0.1s							
CDCH	**Caldera**	**1.24**	**18**	⇑*i*P		Pn	00 11 24.7	+0.2
CDCH				*i* S		Sn	00 11 41.3	+1.2
LSCH	**La Serena**	**1.65**	**179**	⇓*i*P		Pn	00 11 31.5	+1.4
LSCH				*i* S		Sn	00 11 53.1	+3.0
TLL	**Tololo Astrono**	**1.95**	**168**	⇑*i*P		Pn	00 11 36.0	+1.8
TLL				*i* S		Sn	00 12 01.0	+3.5
CMCH	**Combarbala**	**2.92**	**175**	AML		AML	00 12 39.8	
	comp=E,443nm,0.5s							

*ISCJB **19** 00:14:14.7±1.0, 47.1N±0.2×155.8E±0.1, h10km, mb4.0/11, Error ellipse: s-maj=24.6km s-min=12.3km az=143.6*
*NEIC **19** 00:14:16.5±0.9, 47.16N×155.71E, h10km, mb4.4/1, Error ellipse: s-maj=23.5km s-min=11.4km az=171.0*
*IDC **19** 00:14:16.5±1.4, 47.49N×155.78E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, ML3.5/1, Error ellipse: s-maj=47.4km s-min=16.7km az=168.0*
*MOS **19** 00:14:20.7±1.9, 47.37N×155.39E, h51km, mb4.5/2, Error ellipse: s-maj=20.7km s-min=14.6km az=79.5*
ISC 19 00:14:16.9±1.0, 472N±0.02×1558E±0.1, h10km, n18, σ0s94/18, mb4.0/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.47**	**4**	*e*PN		**Pn**	**00 15 12.5**	**+1.6**
SKR				*e*			00 15 50.5	
YSS	**Yuzh-Sakhalins**	**8.89**	**273**	*e*PN		**Pn**	**00 16 21.0**	**-4.5**
ASAJ	**Asahikawa**	**9.74**	**256**	Pn		**Pn**	**00 16 38.6**	**+1.6**
	0.5nm,0.3s,baz=94,slow=28,SNR=4.0							
ASAJ	**Asahikawa**	**9.74**	**256**	PN		**Pn**	**00 16 38.7**	**+1.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**22.68**	**255**	P		**P**	**00 19 22.4**	**+4.0**
	comp=Z,1.4nm,0.6s,mb3.5,baz=61,slow=12,SNR=5.0							
SONM	**Songino Array**	**32.90**	**290**	P		**P**	**00 20 50.6**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=64,slow=6.7,SNR=3.2							
INK	**Inuvik**	**40.27**	**33**	P		**P**	**00 21 53.9**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.1,baz=294,slow=6.7,SNR=13							
ZAL	**Zalesovo**	**43.83**	**306**	P		**P**	**00 22 20.9**	**-2.1**
	comp=Z,0.8nm,0.4s,mb3.8,baz=82,slow=6.1,SNR=3.7							
MKAR	**Makanchi Array**	**48.34**	**298**	P		**P**	**00 22 58.7**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=67,slow=8.0,SNR=7.9							
YKA	**Yellowknife Ar**	**49.44**	**38**	P		**P**	**00 23 07.0**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=293,slow=7.1,SNR=4.8							
YKA	**Yellowknife Ar**	**49.44**	**38**	P		**P**	**00 23 07.0**	**-0.1**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	**51.52**	**311**	*e*P		**P**	**00 23 22.6**	**-0.1**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
CHKZ	**Chkalovo**	**51.52**	**311**	*e*P		**P**	**00 23 22.6**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.4							
NVAR	**Mina Array Bea**	**60.59**	**64**	P		**P**	**00 24 27.6**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=303,slow=8.1,SNR=5.5							
PDAR	**Pinedale Array**	**62.98**	**55**	P		**P**	**00 24 44.1**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=322,slow=4.1,SNR=6.1							
FINES	**FINESS Array B**	**64.37**	**336**	P		**P**	**00 24 52.2**	**-0.7**
	comp=Z,6.0nm,1.1s,mb4.5,baz=46,slow=8.8,SNR=5.6							
FINES	**FINESS Array B**	**64.37**	**336**	P		**P**	**00 24 52.2**	**-0.8**
TXAR	**Lajitas Array

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.56**	**165**	Pn	Pn	00 23 48.8	-1.4
	0.0nm,0.3s,baz=16,slow=17,SNR=2.9						
FITZ				LR	LR	00 30 32.8	
	comp=Z,142nm,18.7s,baz=87,slow=42						
WRAB	**Tennant Creek**	**20.05**	**143**	*e*P	P	00 24 55.8	-1.0
	7.1nm,1.1s						
WRA	**Warramunga Arr**	**20.05**	**143**	P	P	00 24 56.2	-0.6
	2.5nm,1.0s,baz=316,slow=12,SNR=11						
WRA				LR	LR	00 33 33.5	
	comp=Z,59nm,18.8s,baz=305,slow=39						
WB2	**Warramunga Arr**	**20.06**	**143**	*e*P	P	00 24 57.3	+0.4
AS31	**Alice Springs**	**22.82**	**150**	*e*P	P	00 25 26.9	+0.4
ASAR	**Alice Springs**	**22.82**	**150**	P	P	00 25 27.8	+1.3
	0.9nm,0.7s,baz=328,slow=9.8,SNR=13						
PSI	**Prapat**	**23.83**	**286**	P	P	00 25 36.7	+0.2
	16nm,0.9s,baz=144,slow=3.1,SNR=11						
JOW	**Kunigami**	**31.23**	**11**	LR	LR	00 37 44.8	
	comp=Z,33nm,22.0s,baz=307,slow=34						
STKA	**Stephens Creek**	**33.43**	**148**	P	P	00 27 03.8	+1.7
	2.5nm,0.8s,baz=287,slow=12,SNR=4.9						
KSRS	**Korea Array**	**41.58**	**7**	LR	LR	00 47 16.7	
	comp=Z,22nm,19.7s,baz=205,slow=39						
MJAR	**Matsushiro Arr**	**43.09**	**19**	P	P	00 28 24.4	+1.0
	1.3nm,0.8s,baz=191,slow=8.0,SNR=5.8						
LSA	**Lhasa**	**44.52**	**321**	P	P	00 28 36.1	+1.3
	2.0nm,0.5s						
ULN	**Ulaanbaatar**	**53.19**	**348**	*e*P	P	00 29 40.9	-0.5
SONM	**Songino Array**	**53.31**	**347**	P	P	00 29 42.4	+0.2
	1.1nm,0.7s,baz=164,slow=8.8,SNR=9.9						
MKAR	**Makanchi Array**	**61.37**	**330**	P	P	00 30 39.2	+0.1
	0.9nm,0.7s,baz=131,slow=7.9,SNR=7.1						
MKAR	**Makanchi Array**	**61.37**	**330**	P	P	00 30 39.2	+0.1
ZAL	**Zalesovo**	**65.42**	**337**	P	P	00 31 04.2	-1.7
	0.6nm,0.7s,baz=13,slow=6.8,SNR=4.9						
VNDA	**Vanda**	**76.54**	**172**	P	P	00 32 15.4	+2.1
	0.7nm,0.8s,baz=43,slow=5.5,SNR=3.0						

IDC 19 00:20:52.0±2.5, 4645N×15513E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=85.4km s-min=31.7km az=175.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.14**	**260**	Pn	Pn	00 23 05.0	-0.2
	0.5nm,0.3s,baz=22,slow=19,SNR=3.8						
MKAR	**Makanchi Array**	**48.31**	**298**	P	P	00 29 34.9	-0.2
	0.3nm,0.7s,baz=75,slow=8.4,SNR=4.3						
FINES	**FINESS Array B**	**64.90**	**336**	P	P	00 31 32.5	-0.6
	1.1nm,0.7s,baz=57,slow=7.0,SNR=4.9						
TXAR	**Lajitas Array**	**76.42**	**62**	P	P	00 32 43.5	+0.2
	0.5nm,0.6s,baz=314,slow=4.7,SNR=6.6						

*ISCJB **19** 00:21:12.6±0.7, 108S±0.1×413E±0.1, h10km, mb3.9/11, MS3.3/7, Error ellipse: s-maj=21.5km s-min=14.1km az=66.1*
*IDC **19** 00:21:12.8±0.8, 1089S×4136E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/21, mbtmp3.9/12, MS3.4/9, Ms1 3.4/9, ms1mx3.2/32, Error ellipse: s-maj=25.8km s-min=19.8km az=121.0*
*NEIC **19** 00:21:13.7±0.5, 1095S×4148E, h10km, Error ellipse: s-maj=14.2km s-min=11.6km az=88.0*
ISC 19 00:21:14.0±0.6, 1093S±009×415E±01, h10km, n21, σ1§15/18, mb3.9/11, MS3.3/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**9.39**	**145**	Pn	**Pn**	**00 23 27.7**	**-1.7**
	4.6nm,0.3s,baz=308,slow=12,SNR=36						
OPO				Sn	**Sn**	**00 25 08.7**	**-6.4**
	4.8nm,0.3s,baz=232,slow=18,SNR=6.2						
KMBO	**Kilima Mbogo**	**10.60**	**336**	Pn	**Pn**	**00 23 41.4**	**-4.6**
	0.8nm,0.3s,baz=156,slow=19,SNR=5.3						
KMBO				Sn	**Sn**	**00 25 40.0**	**-4.8**
	2.2nm,0.3s,baz=42,slow=23,SNR=3.0						
KMBO				LR	LR	00 27 32.1	
	comp=Z,92nm,20.1s,baz=100,slow=36						
LSZ	**Lusaka**	**13.64**	**250**	Pn	**Pn**	**00 24 22.1**	**-5.3**
	4.2nm,0.3s,baz=74,slow=12,SNR=63						
LSZ				Sn	Sx	00 26 44.5	
	3.4nm,0.3s,baz=168,slow=23,SNR=8.0						
LSZ				LR	LR	00 30 23.0	
	comp=Z,171nm,22.0s,baz=120,slow=41						
LBTB	**Lobatse**	**20.52**	**225**	P	**P**	**00 25 53.0**	**+0.2**
	4.7nm,0.9s,baz=47,slow=12,SNR=4.8						
LBTB				LR	LR	00 33 39.5	
	comp=Z,228nm,18.1s,MS3.6,baz=238,slow=36						
LBTB	**Lobatse**	**20.56**	**225**	P	**P**	**00 25 53.0**	**+0.1**
LBTB				LR	LR	00 33 39.5	
ATD	**Arta Tunnel**	**22.35**	**4**	LR	LR	00 34 26.6	
	comp=Z,62nm,21.0s,MS3.0,baz=41,slow=36						
BOSA	**Boshof**	**23.24**	**218**	P	**P**	**00 26 21.9**	**+0.5**
	2.4nm,0.7s,mb3.7,baz=57,slow=6.6,SNR=6.1						
BOSA				LR	LR	00 34 30.0	
	comp=Z,124nm,18.9s,MS3.4,baz=226,slow=34						
TSUM	**Tsumeb**	**24.46**	**248**	P	**P**	**00 26 32.9**	**-0.1**
	4.6nm,0.9s,mb3.9,baz=64,slow=16,SNR=3.2						
TSUM				LR	LR	00 35 35.2	
	comp=Z,88nm,20.1s,MS3.2,baz=320,slow=35						
SUR	**Sutherland**	**28.60**	**219**	LR	LR	00 38 22.3	
	comp=Z,112nm,20.1s,MS3.5,baz=36,slow=36						
TORD	**Torodi Ar. Bea**	**46.16**	**300**	P	**P**	**00 29 38.2**	**-0.5**
	0.7nm,0.9s,mb3.6,baz=122,slow=9.0,SNR=4.2						
BRTR	**Keskin Array B**	**50.92**	**352**	P	**P**	**00 30 15.5**	**+0.1**
	1.0nm,1.1s,mb3.6,baz=1.3,slow=16,SNR=3.8						
KEST	**Kesra**	**55.44**	**328**	LR	LR	00 58 56.8	
	comp=Z,34nm,18.6s,MS3.5,baz=220,slow=41						
GERES	**GERESS Array B**	**64.36**	**340**	P	**P**	**00 31 50.7**	**+0.7**
	0.6nm,0.8s,mb3.7,baz=140,slow=4.5,SNR=6.6						
SNAA	**Sanae**	**66.36**	**194**	LR	LR	00 59 29.6	
	comp=Z,9.1nm,19.0s,MS3.0,baz=205,slow=35						
FINES	**FINESS Array B**	**73.16**	**352**	P	**P**	**00 32 44.8**	**-0.1**
	2.0nm,1.0s,mb4.0,baz=150,slow=8.1,SNR=4.0						
ZAL	**Zalesovo**	**74.31**	**25**	P	**P**	**00 32 50.5**	**-1.1**
	0.4nm,0.3s,mb3.8,baz=252,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**81.04**	**354**	P	**P**	**00 33 27.1**	**-2.0**
	1.2nm,0.6s,mb4.0,baz=31,slow=5.9,SNR=3.9						
SONM	**Songino Array**	**81.88**	**38**	P	**P**	**00 33 36.5**	**+2.9**
	1.5nm,1.0s,mb3.9,baz=236,slow=5.5,SNR=7.5						
ASAR	**Alice Springs**	**87.88**	**114**	P	**P**	**00 34 05.3**	**+1.5**
	0.6nm,0.6s,mb4.0,baz=269,slow=4.4,SNR=12						
WRA	**Warramunga Arr**	**88.99**	**110**	P	**P**	**00 34 10.4**	**+1.4**
	1.1nm,0.8s,mb4.3,baz=267,slow=2.9,SNR=11						
NVAR	**Mina Array Bea**	**147.18**	**330**	PKPbc	PKPbc	00 40 58.9	+1.5
	1.1nm,0.9s,baz=305,slow=1.5,SNR=7.0						

*CSEM **19** 00:23:26.2, 6785N×2020E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **19** 00:23:26.2, 6785N×2020E, h0km, ML2.7, Mining explosion.*
HEL 19 00:23:26.8±0.0, 6785N×2020E, h0km, ML1.8, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**27**	*i* P	Pg	00 23 28.7	-0.3
KUA				*i* S	Sg	00 23 30.5	0.0
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	00 23 34.7	-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	00 23 39.5	-0.8
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 23 39.5	-0.8
	baz=302						
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 23 40.0	-1.1
DUNU	**Dundret**	**0.75**	**169**	P	Pg	00 23 40.0	-1.2
	baz=73						
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 23 41.2	-0.9
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	00 23 41.3	-0.9
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	00 23 48.6	-0.8
KIF				*e*S	Sg	00 24 04.2	-0.4
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 23 51.7	-1.9
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	00 23 57.4	-0.6
HARU	**Harads**	**1.73**	**169**	P	Pn	00 23 57.4	-0.7
	baz=342						
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 24 07.9	+0.3
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pb	00 24 09.3	-2.5
SGF				*e*SG	Sg	00 24 41.8	-3.8
SGF				MSG		00 24 44.8	
	comp=Z,4.9nm,0.2s						
KEV	**Kevo**	**3.12**	**49**	*e*P	Pn	00 24 17.5	+0.2
KEV				*e*S	Sn	00 24 55.1	-0.2
OUL	**Oulu**	**3.60**	**138**	*e*SB	Sb	00 25 14.1	-1.4
OUL				MSG		00 25 15.7	
	comp=Z,1.7nm,0.2s						
KU4	**Liikasenvaara**	**3.96**	**108**	*e*P	Pn	00 24 28.5	-0.3
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	00 24 29.5	+0.2
MSF				*e*S	Sn	00 25 15.9	-0.8
MSF				MSG		00 25 31.1	
	comp=Z,1.1nm,0.2s						

*ISCJB **19** 00:35:44.0±1.0, 1854S±005×6894W±007, h116km±10km, mb4.1/15, Error ellipse: s-maj=10.6km s-min=8.8km az=15.7*
*NEIC **19** 00:35:47.7±0.4, 1862S×6885W, mb4.3/3, Error ellipse: s-maj=13.3km s-min=9.2km az=75.0*
*IDC **19** 00:35:47.6±0.5, 1866S×6886W, h139km±4km, mb3.9/14, mb1 4.1/17, mb1mx4.0/22, mbtmp3.9/17, MS3.0/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=13.7km s-min=7.6km az=95.0*
ISC 19 00:35:48.0±0.7, 1864S±004×6885W±008, h138km±6km, h143km±1.5km:pP-P, n36, σ1§11/36, mb4.0/15, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.43**	**17**	P	**Pn**	**00 36 29.3**	**+1.6**
	34nm,0.3s,baz=183,slow=6.4,SNR=1010						
LPAZ				S	**Sn**	**00 36 59.6**	**+1.4**
	23nm,0.3s,baz=16,slow=24,SNR=21						
LPAZ				LR	LR	00 37 28.1	
	comp=Z,275nm,19.0s,baz=289,slow=41						
LVC	**Limon Verde**	**3.96**	**181**	P	**Pn**	**00 36 47.0**	**-0.3**
	13nm,0.3s,baz=270,slow=3.0,SNR=128						
LVC				S	**Sn**	**00 37 30.7**	**-2.6**
	41nm,0.3s,baz=90,slow=21,SNR=15						
SIV	**San Ignacio**	**7.88**	**72**	P	**Pn**	**00 37 39.0**	**-0.8**
	13nm,0.3s,baz=267,slow=10,SNR=207						
SIV				S	**Sn**	**00 39 06.5**	**-1.0**
	0.6nm,0.3s,baz=337,slow=19,SNR=6.6						
NNA	**Nana**	**10.15**	**309**	P	**Pn**	**00 38 05.0**	**-5.1**
	1.9nm,0.3s,baz=134,slow=13,SNR=3.4						
NNA				S	**Sn**	**00 39 51.6**	**-11**
	3.5nm,0.3s,baz=232,slow=22,SNR=7.6						
CFAA	**Coronel Fontan**	**12.93**	**178**	P	**Pn**	**00 38 42.5**	**-4.1**
	0.1nm,0.3s,baz=24,slow=16,SNR=8.2						
CFAA				S	**Sn**	**00 41 11.0**	**+1.8**
	0.1nm,0.3s,baz=203,slow=15,SNR=2.4						
CFAA	**Coronel Fontan**	**12.93**	**178**	P	**Pn**	**00 38 42.5**	**-4.1**
CFAA				S	**Sn**	**00 41 11.0**	**+1.8**
OTAV	**Otavalo**	**20.99**	**332**	*e*P	**P**	**00 40 20.3**	**0.0**
	2.4nm,0.6s						
SDV	**Santo Domingo**	**27.40**	**356**	P	**P**	**00 41 18.8**	**-1.7**
	6.1nm,0.6s,mb4.4,baz=245,slow=1.6,SNR=14						
SDV	**Santo Domingo**	**27.40**	**356**	*e*P	**P**	**00 41 18.7**	**-1.8**
	4.2nm,0.5s,mb4.3						
ELN	**Prospectdale**	**56.68**	**349**	*e*P	**P**	**00 45 16.5**	**-0.4**
TXAR	**Lajitas Array**	**58.33**	**324**	P	**P**	**00 45 27.9**	**-0.6**
	0.7nm,0.6s,mb3.7,baz=157,slow=9.4,SNR=12						
VNA3	**Neumayer Olymp**	**62.76**	**162**	*e*	**P**	**00 46 01.9**	**+3.4**
VNA3				*e*		00 46 18.6	
VNA3				*e*	pP	00 46 37.1	+5.6
VNA2	**Neumayer--Watz**	**63.33**	**161**	*e*	**P**	**00 46 03.8**	**+1.5**
	baz=291,slow=6.5						
VNA2				*e*		00 46 20.3	
VNA2				*e*	pP	00 46 38.4	+3.1
ANMO	**Albuquerque**	**64.15**	**326**	P	**P**	**00 46 07.8**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=140,slow=7.2,SNR=5.3						
SNAA	**Sanae**	**64.96**	**161**	P	**P**	**00 46 12.6**	**-0.3**
	0.5nm,0.8s,mb3.4,baz=268,slow=6.7,SNR=7.0						
EYMN	**Ely**	**69.31**	**344**	*e*P	**P**	**00 46 39.3**	**-1.1**
MSU	**Marysvale**	**69.87**	**325**	*e*P	**P**	**00 46 44.5**	**+0.8**
QSPA	**South Pole Qui**	**71.54**	**180**	*e*P	**P**	**00 46 54.7**	**+0.7**
	4.5nm,0.4s,mb4.5						
PDAR	**Pinedale Array**	**71.67**	**330**	P	**P**	**00 46 54.2**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=124,slow=7.1,SNR=4.5						
ULM	**Lac du Bonnet**	**72.62**	**342**	P	**P**	**00 46 59.0**	**-1.3**
	2.7nm,0.6s,mb4.2,baz=151,slow=6.2,SNR=10						
ULM				pP	pP	00 47 34.0	-0.1
	3.0nm,0.6s,baz=155,slow=6.9,SNR=3.7						
SCHQ	**Schefferville**	**73.19**	**1**	P	**P**	**00 47 02.7**	**-1.0**
	5.7nm,0.8s,mb4.3,baz=256,slow=6.8,SNR=4.3						
NVAR	**Mina Array Bea**	**73.29**	**321**	P	**P**	**00 47 05.4**	**+1.1**
	0.9nm,0.6s,mb3.7,baz=174,slow=3.4,SNR=7.2						
NVAR				pP	pP	00 47 38.8	+0.7
	0.7nm,0.8s,baz=157,slow=5.3,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**76.36**	**71**	*e*P	**P**	**00 47 21.8**	**-0.1**
TOA0				*e*pP	pP	00 47 56.3	+0.3
TORD	**Torodi Ar. Bea**	**76.36**	**71**	P	**P**	**00 47 21.9**	**0.0**
	12nm,0.7s,mb4.7,baz=253,slow=5.1,SNR=207						
TORD				pP	pP	00 47 57.4	+1.3
	3.5nm,0.8s,baz=257,slow=6.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.36**	**71**	P	**P**	**00 47 21.9**	**0.0**
TORD				pP	pP	00 47 57.4	+1.3
TSUM	**Tsumeb**	**80.82**	**107**	P	**P**	**00 47 47.6**	**+1.2**
	3.0nm,0.8s,mb4.0,baz=219,slow=6.9,SNR=3.8						
ESDC	**Sonseca Array**	**83.77**	**45**	P	**P**	**00 48 02.9**	**+1.2**
	3.0nm,0.7s,mb4.2,baz=254,slow=5.6,SNR=21						
BOSA	**Boshof**	**84.75**	**118**	P	**P**	**00 48 06.5**	**-0.1**
	2.1nm,0.7s,mb4.0,baz=160,slow=11,SNR=7.1						
YKA	**Yellowknife Ar**	**88.52**	**341**	P	**P**	**00 48 24.3**	**-0.6**
	2.3nm,0.5s,mb4.4,baz=131,slow=4.7,SNR=28						
YKA				pP	pP	00 49 00.5	+0.6
	4.8nm,0.6s,baz=134,slow=4.8,SNR=12						
KEST	**Kesra**	**91.54**	**53**	P	**P**	**00 48 39.4**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=326,slow=3.6,SNR=4.0						
ASAR	**Alice Springs**	**132.45**	**209**	PKP	PKPdf	00 54 46.5	+0.6
	0.4nm,0.5s,baz=139,slow=1.8,SNR=11						
ASAR				pPKP	pPKPdf	00 55 22.9	+0.2
	0.6nm,0.9s,baz=144,slow=2.0,SNR=3.3						
WRA	**Warramunga Arr**	**135.42**	**212**	PKP	PKPdf	00 54 52.3	+0.8
	0.8nm,0.5s,baz=149,slow=1.7,SNR=12						
ZAL	**Zalesovo**	**139.34**	**24**	PKP	PKPdf	00 54 58.8	+0.1
	0.8nm,0.8s,baz=164,slow=5.4,SNR=6.0						
MKAR	**Makanchi Array**	**143.26**	**34**	PKP	PKPdf	00 55 02.6	-3.2
	0.5nm,0.6s,baz=320,slow=1.7,SNR=7.2						
MJAR	**Matsushiro Arr**	**150.26**	**312**	PKPbc	PKPbc	00 55 21.1	-1.7
	1.4nm,0.6s,baz=32,slow=8.4,SNR=6.1						
MJAR				pPKPbc	pPKPbc	00 55 59.5	+0.3
	3.8nm,0.9s,baz=78,slow=0.8,SNR=5.5						
SONM	**Songino Array**	**150.62**	**7**	PKPbc	PKPbc	00 55 24.6	+1.0
	2.9nm,0.7s,baz=316,slow=1.8,SNR=23						
SONM				pPKPbc	pPKPbc	00 56 01.1	+1.0
	1.6nm,0.6s,baz=303,slow=1.4,SNR=3.8						

*STR **19** 00:36:59.3±0.1, 4301N×000E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 00:36:58.6±0.1, 4307N×002W, h10km, Md1.7/3, Ml1.3/2, Error ellipse: s-maj=11.5km s-min=2.3km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**104**	Pg	Pg	00 37 00.8	0.0
LABF				Sg	Sg	00 37 02.0	-0.5
VIEF	**Viey**	**0.18**	**169**	Pg	Pg	00 37 02.0	-0.5
VIEF				Sg	Sg	00 37 04.0	-1.2
EPF	**Esparros**	**0.27**	**97**	*e*Pg	Pg	00 37 03.8	-0.2
EPF				*e*Sg	Sg	00 37 07.5	-0.2
	6.4nm,0.2s						
ETSF	**Etsaut**	**0.43**	**247**	*e*Pg	Pg	00 37 07.2	+0.2
ETSF				*e*Sg	Sg	00 37 12.9	+0.3
	2.8nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	00 37 15.2	-0.4
SJPF				*e*Sg	Sg	00 37 26.3	-0.8
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.66**	**80**	*e*Pg	Pg	00 37 30.0	-0.5
MTLF				*e*Sg	Sg	00 37 51.1	-0.9
	0.6nm,0.3s						

IDC 19 00:38:55.5±1.3, 016N×12554E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=120.3km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**157**	P	P	00 43 48.0	-0.7
	0.5nm,0.5s,baz=336,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**25.04**	**162**	P	P	00 44 22.2	+1.0
	0.1nm,0.2s,baz=345,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**59.84**	**327**	P	P	00 49 02.8	0.0
	0.2nm,0.3s,baz=121,slow=7.8,SNR=6.7						
TXAR	**Lajitas Array**	**124.69**	**54**	PKP	PKPdf	00 57 57.9	+0.9
	0.1nm,0.7s,baz=297,slow=4.0,SNR=4.9						

*ISCJB **19** 00:40:29.1±0.5, 1042N±004×6259W±003, h84km±7km, Error ellipse: s-maj=6.8km s-min=4.0km az=102.7*
*FUNV **19** 00:40:30.1, 1048N×6250W, h83km, MW3.5*
*NEIC **19** 00:40:31.8, 1045N×6251W, h63km, MD3.4(TRN), After TRN.*
*TRN **19** 00:40:31.6, 1046N×6256W, h55km, MD3.4*
ISC 19 00:40:29.9±0.6, 1043N±004×6259W±003, h79km±8km, n17, σ1§15/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.42**	**59**	*e*P	**Pn**	**00 40 43.1**	**+0.1**
GUIV				*e*S	**Sn**	**00 40 51.6**	**-0.9**
GUNV	**Guanoco**	**0.44**	**233**	*e*P	**Pn**	**00 40 45.1**	**+2.0**
GUNV				*e*S	**Sn**	**00 40 55.1**	**+2.4**
TCE	**Chacachacare**	**0.86**	**72**	*e*P	**Pn**	**00 40 48.3**	**+1.0**
TCE				*e*S	**Sn**	**00 40 58.6**	**-1.6**
ITEV	**Isla Los Testi**	**1.06**	**330**	*e*P	**Pn**	**00 40 49.7**	**0.0**
ITEV				*e*S	**Sn**	**00 41 03.5**	**-1.0**
TRN	**Trinidad (W)**	**1.19**	**79**	*e*P	**Pn**	**00 40 51.8**	**+0.6**
TRN				*e*S	**Sn**	**00 41 05.8**	**-1.4**
TBH	**Brigand Hill**	**1.50**	**88**	*e*P	**Pn**	**00 40 56.5**	**+1.4**
TBH				*e*S	**Sn**	**00 41 12.0**	**-2.2**
ORIV	**Oritupano**	**1.57**	**211**	*e*P	**Pn**	**00 40 58.0**	**+1.9**
ORIV				*e*S	**Sn**	**00 41 16.7**	**+0.7**
TPR	**Prospect**	**1.93**	**67**	*e*P	**Pn**	**00 41 01.1**	**+0.3**
TPR				*e*S	**Sn**	**00 41 24.5**	**0.0**
GRW	**Mount Saint Ca**	**1.95**	**28**	*e*P	**Pn**	**00 41 01.3**	**+0.2**
GRW				*e*S	**Sn**	**00 41 17.8**	**-7.0**
GRHS	**Sauteurs**	**2.01**	**27**	*e*P	**Pn**	**00 41 02.7**	**+0.8**
GRHS				*e*S	**Sn**	**00 41 25.2**	**-1.1**
PCRV	**Puerto La Cruz**	**2.03**	**263**	*e*P	**Pn**	**00 41 03.0**	**+0.8**
PCRV				*e*S	**Sn**	**00 41 26.1**	**-0.6**
GRSS	**Sisters**	**2.09**	**27**	*e*P	**Pn**	**00 41 04.3**	**+1.3**
GRSS				*e*S	**Sn**	**00 41 28.4**	**+0.2**
GRIC	**Isle de Caille**	**2.09**	**28**	*e*P	**Pn**	**00 41 04.0**	**+1.0**
GRIC				*e*S	**Sn**	**00 41 28.4**	**+0.1**
GURV	**El Guri**	**2.70**	**191**	*e*P	**Pn**	**00 41 11.4**	**+0.2**
GURV				*e*S	**Sn**	**00 41 41.4**	**-1.5**
BIRV	**Birongo**	**3.62**	**271**	*e*P	**Pn**	**00 41 24.9**	**+1.2**
BIRV				*e*S	**Sn**	**00 42 03.8**	**-1.5**
CAOV	**Caicara del Or**	**4.81**	**230**	*e*P	**Pn**	**00 41 39.4**	**-0.5**
CAOV				*e*S	**Sn**	**00 42 32.7**	**-1.5**
BAUV	**El Baul**	**5.58**	**255**	*e*P	**Pn**	**00 41 49.8**	**-0.5**
BAUV				*e*S	**Sn**	**00 42 50.1**	**-2.8**

*STR **19** 00:46:39.3±0.1, 4301N×001W, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 00:46:38.7±0.2, 4306N×002W, h10km, Md1.6/3, Ml1.5/2, Error ellipse: s-maj=14.8km s-min=2.8km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**98**	Pg	Pg	00 46 41.0	+0.1
LABF				Sg	Sg	00 46 42.3	-0.2
VIEF	**Viey**	**0.18**	**169**	Pg	Pg	00 46 42.0	-0.5
VIEF				Sg	Sg	00 46 43.9	-1.2
EPF	**Esparros**	**0.27**	**96**	*e*Pg	Pg	00 46 43.9	-0.2
EPF				*e*Sg	Sg	00 46 46.9	-0.8
	2.9nm,0.2s						
ETSF	**Etsaut**	**0.42**	**248**	*e*Pg	Pg	00 46 47.3	+0.3
ETSF				*e*Sg	Sg	00 46 52.9	+0.2
	2.0nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	00 46 55.2	-0.5
SJPF				*e*Sg	Sg	00 47 06.4	-0.8
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pg	00 47 10.2	-0.4
MTLF				*e*Sg	Sg	00 47 31.4	-0.8
	0.9nm,0.3s						

*IDC **19** 00:51:24.0±0.8, 4718N×15397E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, Error ellipse: s-maj=27.8km s-min=19.5km az=117.0*
*ISCJB **19** 00:51:29.2±1.6, 473N±0.1×154.1E±0.2, h48km±12km, mb3.6/10, Error ellipse: s-maj=26.4km s-min=7.5km az=90.1*
*MOS **19** 00:51:29.0±2.1, 4717N×154.13E, h54km, mb4.0/7, Error ellipse: s-maj=20.6km s-min=12.1km az=62.4*
ISC 19 00:51:31.6±1.4, 473N±01×1540E±02, h55km±11km, n26, σ1§18/26, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.62**	**21**	*e*PN	**Pn**	**00 52 23.5**	**-1.6**
SKR				*e*S	**Sn**	**00 53 05.5**	**-1.0**
SKR				smax			
	comp=E,180nm,0.3s						
SKR				smax			
	comp

mb4.6/50,MS3.6/5,Error ellipse: s-maj=19.9km s-min=7.0km az=109.4
*NEIC **19** 00:53:46.5±0.6,4673N×15279E,h10km,mb4.7/15,Error ellipse: s-maj=14.7km s-min=9.2km az=143.0*
*BJI **19** 00:53:48.7,4620N×15251E,h10km,mB4.9,mb4.5,Ms4.1,Ms3.8*
*MOS **19** 00:53:48.1±1.4,4654N×15284E,h39km,mb4.9/14,Error ellipse: s-maj=11.0km s-min=7.7km az=97.8*
*IDC **19** 00:53:54.9±3.6,4644N×15275E,h90km±33km,mb3.8/19,mb1 4.0/21,mb1mx3.9/27,mbtmp3.8/21,MS3.5/5,Ms1 3.6/5,ms1mx3.0/38,Error ellipse: s-maj=16.3km s-min=15.1km az=144.0*

ISC 19 00:53:50.5±1.1,4674N±009×1528E±01,h37km±9km,h19km±2.5km:pP-P,n108,σ1§01/110,mb4.6/50,MS3.6/5,5C-11D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.76**	**248**	*i*P	**Pn**	**00 54 42.6**	**-3.4**
KUR				AMB	AMB	00 54 44.8	
	99nm,0.6s						
KUR				AMB	AMB	00 54 44.8	
	76nm,0.6s						
KUR				AMB	AMB	00 54 44.8	
	357nm,0.6s						
KUR				*i* S	**Sn**	**00 55 28.0**	**-1.0**
KUR				A		00 55 32.8	
	989nm,0.7s						
KUR				A		00 55 32.8	
	258nm,0.7s						
KUR	**Kuril'sk**	**3.76**	**248**	*i*PN	**Pn**	**00 54 42.6**	**-3.4**
KUR				*i* S	**Sn**	**00 55 28.0**	**-1.0**
KUR				pmax	pmax		
	comp=N,100nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,360nm,0.6s						
KUR				smax			
	comp=N,990nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.51**	**28**	*e*P	**Pn**	**00 54 56.0**	**-0.4**
SKR				AMB	AMB	00 54 58.5	
	comp=E,90nm,0.5s						
SKR				A		00 55 32.5	
	comp=E,310nm,0.2s						
SKR				A		00 55 32.5	
	comp=E,150nm,0.4s						
SKR				A		00 55 32.5	
	comp=E,70nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**244**	*e*P	**Pn**	**00 55 10.0**	**-1.2**
YUK				*i* S	**Sn**	**00 56 15.0**	**+0.8**
YUK				A		00 56 19.4	
	comp=E,620nm,0.5s						
YUK				A		00 56 19.4	
	comp=E,460nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**244**	*e*PN	**Pn**	**00 55 10.0**	**-1.2**
YUK				*i* S	**Sn**	**00 56 15.0**	**+0.8**
YUK				pmax	pmax		
	comp=Z,340nm,0.5s						
YUK				smax			
	comp=N,620nm,0.5s						
YUK				smax			
	comp=E,460nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**6.90**	**275**	*e*P	**Pn**	**00 55 35.0**	**+5.8**
YSS				*e*S	**Sn**	**00 56 53.0**	**+6.6**
YSS				A		00 56 55.0	
	comp=E,30nm,0.7s						
YSS				AMS	AMS	00 58 00.0	
	comp=E,600nm,18.0s						
PET	**Petropavlovsk**	**7.34**	**29**	*e*PN	**Pn**	**00 55 43.4**	**+8.3**
PET				pmax	pmax		
	comp=Z,54nm,0.9s						
ASAJ	**Asahikawa**	**7.65**	**254**	P	**Pn**	**00 55 42.0**	**+2.5**
	comp=Z,2.9nm,0.3s,baz=90,slow=17,SNR=12						
ASAJ				LR	LR	00 58 29.4	
	comp=Z,247nm,20.2s,baz=56,slow=36						
ERM	**Erimo**	**8.37**	**239**	*e*PN	**Pn**	**00 55 48.8**	**-0.5**
ERM				pmax	pmax		
	comp=Z,44nm,0.6s						
ERM	**Erimo**	**8.37**	**239**	*e*P	**Pn**	**00 55 48.8**	**-0.5**
	comp=Z,44nm,0.6s						
KLR	**Kul'dur**	**14.32**	**288**	*e*P	**Pn**	**00 57 11.9**	**+1.2**
MJAR	**Matsushiro Arr**	**14.91**	**232**	P	**Pn**	**00 57 18.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=46,slow=9.6,SNR=11						
MAT	**Matsushiro**	**14.91**	**232**	P	**Pn**	**00 57 22.7**	**+4.1**
KSRS	**Korea Array**	**20.60**	**252**	P	**P**	**00 58 26.5**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=58,slow=12,SNR=6.7						
KSRS				LR	LR	01 05 09.9	
	comp=Z,75nm,20.7s,MS3.0,baz=2.1,slow=33						
BILL	**Bilibino**	**22.45**	**13**	*i* P	**P**	**00 58 49.2**	**+2.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**31.14**	**289**	P	**P**	**01 00 04.8**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=74,slow=8.7,SNR=7.2						
SONM				LR	LR	01 13 46.1	
	comp=Z,125nm,19.0s,MS3.6,baz=350,slow=38						
XAN	**Xi'an**	**35.31**	**265**	P	**P**	**01 00 45.9**	**+3.9**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
GYA	**Guiyang**	**41.51**	**257**	P	**P**	**01 01 33.8**	**-0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
INK	**Inuvik**	**41.77**	**32**	P	**P**	**01 01 36.5**	**+0.2**
	comp=Z,1.6nm,0.5s,mb3.9,baz=279,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**01 02 15.3**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.1,baz=67,slow=7.0,SNR=30						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**	**01 02 41.9**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**	**01 02 41.9**	**-1.3**
	comp=Z,5.6nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**01 02 45.9**	**-0.6**
	comp=Z,1.8nm,0.4s,mb4.3,baz=49,slow=7.6,SNR=23						
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**01 02 45.1**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**01 02 45.1**	**-1.7**
	comp=Z,2.1nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**51.48**	**310**	*e*P	**P**	**01 02 51.2**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**51.48**	**310**	*e*P	**P**	**01 02 51.2**	**-1.0**
	comp=Z,2.6nm,0.4s,mb4.5						
AAK	**Ala-Archa**	**53.66**	**296**	*i*P	**P**	**01 03 07.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
AAK	**Ala-Archa**	**53.66**	**296**	*e*P	**P**	**01 03 06.4**	**-1.9**
	comp=Z,1.7nm,0.8s,mb4.0						
JIRN	**Jiri**	**54.74**	**274**	*e*P	**P**	**01 03 17.0**	**+0.7**
	comp=Z,13nm,0.4s,mb5.3						
GUN	**Gumba**	**54.80**	**275**	*e*P	**P**	**01 03 17.8**	**+1.1**
	comp=Z,12nm,0.4s,mb5.3						
ARU	**Arti**	**54.88**	**317**	*e*P	**P**	**01 03 15.8**	**-1.5**
ARU	**Arti**	**54.88**	**317**	*e*P	**P**	**01 03 15.6**	**-1.7**
	comp=Z,4.3nm,0.4s,mb4.8						
KKN	**Kakani**	**55.28**	**275**	*e*P	**P**	**01 03 21.3**	**+1.1**
	comp=Z,12nm,0.5s,mb5.2						
DMN	**Daman**	**55.52**	**275**	*e*P	**P**	**01 03 23.1**	**+1.2**
	comp=Z,11nm,0.5s,mb5.1						
GKN	**Gorkha**	**55.59**	**276**	*e*P	**P**	**01 03 23.0**	**+0.6**
	comp=Z,19nm,0.4s,mb5.5						
KOLN	**Koldanda**	**56.45**	**276**	*e*P	**P**	**01 03 29.3**	**+0.8**
	comp=Z,7.8nm,0.6s,mb4.9						
KEV	**Kevo**	**57.29**	**340**	*e*p	**P**	**01 03 32.7**	**-1.8**
	comp=Z,1.7nm,0.4s,mb4.4						
KEV	**Kevo**	**57.29**	**340**	*e*P	**P**	**01 03 32.7**	**-1.8**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ARCES	**ARCESS Array B**	**57.80**	**341**	P	**P**	**01 03 37.8**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.4,baz=27,slow=7.2,SNR=22						
AKTK	**Aktyubinsk**	**58.58**	**312**	P	**P**	**01 03 42.3**	**-1.2**
AKTO	**Aktyubinsk**	**58.58**	**312**	P	**P**	**01 03 42.3**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=74,slow=5.3,SNR=6.4						
NVAR	**Mina Array Bea**	**62.62**	**62**	P	**P**	**01 04 12.4**	**+1.3**
	comp=Z,0.9nm,0.6s,mb4.1,baz=296,slow=7.6,SNR=7.2						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**01 04 19.1**	**-0.9**
	comp=Z,1.2nm,0.3s,mb4.4,baz=40,slow=6.0,SNR=29						
PDAR	**Pinedale Array**	**64.92**	**54**	P	**P**	**01 04 25.4**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.8,baz=302,slow=2.9,SNR=6.1						
NB2	**NORSAR Subarra**	**68.17**	**341**	P	**P**	**01 04 46.3**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.7,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**01 04 46.6**	**-0.4**
	comp=Z,4.2nm,0.4s,mb4.8,baz=28,slow=6.5,SNR=15						
NOA				LR	LR	01 38 06.8	
	comp=Z,39nm,20.0s,MS3.6,baz=15,slow=39						
WRA	**Warramunga Arr**	**68.43**	**199**	P	**P**	**01 04 44.2**	**-4.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=17,slow=6.7,SNR=7.8						
AKASG	**Malin Array Be**	**71.44**	**326**	P	**P**	**01 05 06.1**	**-1.0**
	comp=Z,4.3nm,0.4s,mb4.8,baz=35,slow=6.2,SNR=33						
KIEV	**Kiev**	**71.46**	**326**	*e*P	**P**	**01 05 05.8**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KIEV	**Kiev**	**71.46**	**326**	*e*P	**P**	**01 05 05.8**	**-1.4**
	comp=Z,3.0nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**72.13**	**198**	P	**P**	**01 05 08.1**	**-3.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=11,slow=5.4,SNR=16						
GNI	**Garni**	**72.38**	**310**	P	**P**	**01 05 13.6**	**+0.8**
	comp=Z,2.7nm,0.5s,mb4.5,baz=315,slow=1.4,SNR=4.1						
SCHQ	**Schefferville**	**73.40**	**23**	P	**P**	**01 05 19.9**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=256,slow=19,SNR=3.2						
SCHQ	**Schefferville**	**73.40**	**23**	P	**P**	**01 05 19.9**	**+1.1**
KWP	**Kalwaria**	**74.73**	**329**	*e*P	**P**	**01 05 26.0**	**-0.5**
KWP				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
KWP	**Kalwaria**	**74.73**	**329**	*e*P	**P**	**01 05 26.0**	**-0.5**
	comp=Z,23nm,1.1s,mb5.0						
OJC	**Ojcow**	**75.23**	**331**	*e*P	**P**	**01 05 28.6**	**-0.8**
STHS	**Stebnicka Huta**	**75.42**	**330**	*e*P	**P**	**01 05 31.1**	**+0.6**
STHS				*e*		01 05 37.4	
STHS				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
STHS	**Stebnicka Huta**	**75.42**	**330**	*e*P	**P**	**01 05 31.1**	**+0.6**
	comp=Z,6.3nm,1.3s,mb4.4						
STHS				*e*		01 05 37.4	
KOLS	**Kolonicke sedl**	**75.47**	**329**	*e*P	**P**	**01 05 30.4**	**-0.4**
BURAR	**Bucovina Array**	**75.49**	**326**	*i*P	**P**	**01 05 31.0**	**+0.1**
DPC	**Dobruska-Polom**	**76.24**	**333**	*e*P	**P**	**01 05 35.9**	**+0.7**
MORC	**Moravsky Berou**	**76.36**	**332**	*i*P	**P**	**01 05 36.1**	**+0.3**
CLL	**Collm**	**76.39**	**335**	*e*P	**P**	**01 05 36.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CLL	**Collm**	**76.39**	**335**	*e*P	**P**	**01 05 36.0**	**0.0**
	comp=Z,9.0nm,0.6s,mb4.9						
CLL	**Collm**	**76.39**	**335**	*i* P	**P**	**01 05 36.0**	**0.0**
	comp=Z,9.0nm,0.6s,mb4.9						
KECS	**Kecovo**	**76.48**	**330**	*e*P	**P**	**01 05 36.0**	**-0.5**
MLR	**Muntele Rosu**	**76.96**	**325**	*i*P	**P**	**01 05 40.0**	**+0.8**
VYHS	**Vyhne**	**77.04**	**331**	*i* P	**P**	**01 05 39.8**	**+0.1**
VYHS				*e*pP	pP	01 05 46.2	-4.9
VYHS	**Vyhne**	**77.04**	**331**	*i* P	**P**	**01 05 39.9**	**+0.2**
VYHS				*e*		01 05 46.2	
DRGR		**77.12**	**327**	*i*P	**P**	**01 05 40.2**	**+0.1**
VOIR		**77.36**	**325**	*i*P	**P**	**01 05 42.5**	**+1.0**
TXAR	**Lajitas Array**	**77.68**	**60**	P	**P**	**01 05 42.1**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=298,slow=3.3,SNR=8.1						
ZST	**Bratislava**	**77.88**	**331**	*e*P	**P**	**01 05 45.8**	**+1.4**
ZST				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ZST	**Bratislava**	**77.88**	**331**	*e*P	**P**	**01 05 45.8**	**+1.4**
	comp=Z,5.0nm,1.1s,mb4.4						
ZST				*e*PP	PP	01 08 34.2	-6.1
KHC	**Kasperske Hory**	**78.16**	**334**	*e*P	**P**	**01 05 45.7**	**-0.3**
BRTR	**Keskin Array B**	**78.26**	**317**	P	**P**	**01 05 46.9**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=75,slow=5.1,SNR=9.9						
GRA1	**Grafenberg Arr**	**78.35**	**336**	*e*P	**P**	**01 05 47.3**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.8						
GRA1				*e*pP	pP	01 05 53.8	-4.6
GRF	**Grafenberg Arr**	**78.35**	**336**	*e*P	**P**	**01 05 47.3**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.8						
GRF				*e*pP	pP	01 05 53.8	-4.6
GRF	**Grafenberg Arr**	**78.35**	**336**	*e*P	**P**	**01 05 47.3**	**+0.3**
GRF				*e**PP	pP	01 05 53.8	-4.6
GRF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
GERES	**GERESS Array B**	**78.38**	**334**	P	**P**	**01 05 46.8**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=38,slow=5.9,SNR=18						
UMR	**Umm Al-Rimmam**	**78.46**	**301**	*e*P	**P**	**01 05 48.0**	**+0.5**
UMR				AMb	AMB	01 05 48.6	
	comp=Z,23nm,0.5s,mb5.4						
MIB	**Mutribah**	**78.50**	**301**	*e*P	**P**	**01 05 48.5**	**+0.7**
MIB				AMb	AMB	01 05 49.3	
	comp=Z,28nm,0.5s,mb5.5						
QRN	**Al-Qurain**	**78.93**	**300**	*e*P	**P**	**01 05 51.2**	**+1.0**
RDF	**Al-Radifah**	**79.02**	**301**	*e*P	**P**	**01 05 51.5**	**+0.9**
RDF				AMb	AMB	01 05 53.7	
	comp=Z,36nm,0.7s,mb5.4						
PKSM	**Moragy**	**79.08**	**330**	*i*P	**P**	**01 05 50.8**	**-0.2**
KBA	**Koelnbreinsper**	**80.06**	**333**	*i*P	**P**	**01 05 57.4**	**+1.0**
	comp=Z,6.9nm,0.5s,mb4.9						
WATA	**Walderalm**	**80.37**	**334**	*i*P	**P**	**01 05 59.3**	**+1.3**
	comp=Z,5.1nm,0.5s,mb4.7						
WATA	**Walderalm**	**80.37**	**334**	P	**P**	**01 05 59.3**	**+1.3**
WTTA	**Wattenberg**	**80.41**	**334**	*i*P	**P**	**01 05 58.9**	**+0.6**
	comp=Z,8.8nm,0.5s,mb5.0						
VTS	**Vitosha**	**80.46**	**325**	*i*P	**P**	**01 05 59.2**	**+0.7**
MOTA	**Moosalm**	**80.50**	**335**	*i*P	**P**	**01 05 59.8**	**+1.2**
	comp=Z,3.6nm,0.5s,mb4.6						
SQTA	**Sankt Quirin**	**80.58**	**335**	*i* P	**P**	**01 06 00.4**	**+1.3**
	comp=Z,3.7nm,0.6s,mb4.5						
CDF	**Champ du Feu**	**80.59**	**338**	*e*P	**P**	**01 05 58.7**	**-0.5**
	comp=Z,9.2nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**80.59**	**338**	*e*P	**P**	**01 05 58.7**	**-0.5**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**80.59**	**338**	*e*P	**P**	**01 05 58.7**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.5						
GRR	**Gorron**	**82.52**	**343**	*e*P	**P**	**01 06 08.8**	**-0.6**
MMAI	**Mount Meron Ar**	**82.67**	**311**	LR	LR	01 48 45.1	
	comp=Z,60nm,19.1s,MS4.0,baz=120,slow=40						
SMF	**Signal de Mont**	**83.11**	**339**	*e*P	**P**	**01 06 11.9**	**-0.5**
	comp=Z,44nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**83.11**	**339**	*e*P	**P**	**01 06 11.9**	**-0.5**
SMF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**83.11**	**339**	*e*P	**P**	**01 06 11.9**	**-0.5**
	comp=Z,22nm,1.2s,mb5.1						
LPG	**La Plagne**	**83.42**	**337**	*e*P	**P**	**01 06 14.4**	**+0.4**
	comp=Z,16nm,1.1s,mb4.6						
LPG	**La Plagne**	**83.42**	**337**	*e*P	**P**	**01 06 14.4**	**+0.4**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
LPG	**La Plagne**	**83.42**	**337**	*e*P	**P**	**01 06 14.4**	**+0.4**
	comp=Z,7.9nm,1.1s,mb4.7						
CAF	**Calviac**	**85.15**	**340**	*e*P	**P**	**01 06 22.1**	**-0.7**
VNA2	**Neumayer--Watz**	**153.94**	**195**	*e*PKPdf	PKPbc	01 13 49.1	+3.2
	baz=59,slow=15						
VNA2				*e*		01 13 55.2	
VNA2				*e*		01 13 58.0	
VNA2				*e*		01 14 08.5	
VNA3	**Neumayer Olymp**	**154.03**	**193**	*e*PKPdf	PKPbc	01 13 48.8	+2.6
VNA3				*e*		01 13 55.2	
VNA3				*e*		01 13 58.1	
VNA3				*e*		01 14 08.2	

*ISCJB **19** 01:22:29.0±0.7,475N±0.1×1552E±0.1,h10km,mb3.8/11,Error ellipse: s-maj=18.0km s-min=11.0km az=102.2*
*IDC **19** 01:22:29.6±1.5,4747N×15523E,h0km,mb3.7/9,mb1 3.9/10,mb1mx3.8/23,mbtmp3.7/10,ML3.5/1,Error ellipse: s-maj=47.3km s-min=18.6km az=166.0*
*NEIC **19** 01:22:30.3±0.6,4731N×155.12E,h10km,mb4.2/2,Error ellipse: s-maj=18.7km s-min=12.6km az=179.0*
*MOS **19** 01:22:31.6±2.9,4700N×155.10E,h33km,mb4.2/2,Error ellipse: s-maj=27.8km s-min=18.3km az=86.0*

ISC 19 01:22:32.4±3.0,475N±01×1552E±02,h19km±17km,n17,σ0§81/17,mb3.8/11,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.23**	**10**	*e*PN	**Pg**	**01 23 34.0**	**-0.3**
ASAJ	**Asahikawa**	**9.44**	**254**	Pn	**Pn**	**01 24 48.6**	**+1.3**
	0.6nm,0.3s,baz=86,slow=17,SNR=4.3						
ASAJ	**Asahikawa**	**9.44**	**254**	PN	**Pn**	**01 24 48.6**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.39**	**253**	P	**P**	**01 27 30.1**	**+0.6**
	comp=Z,3.8nm,1.0s,mb3.8,baz=50,slow=11,SNR=5.5						
SONM	**Songino Array**	**32.44**	**289**	P	**P**	**01 29 00.3**	**-0.9**
	comp=Z,0.3nm,0.8s,mb3.2,baz=78,slow=9.0,SNR=2.6						
INK	**Inuvik**	**40.24**	**33**	P	**P**	**01 30 08.4**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.7,baz=273,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**01 31 08.8**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=62,slow=7.4,SNR=4.3						
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P	**P**	**01 31 32.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**51.04**	**310**	*e*P	**P**	**01 31 32.1**	**-1.1**
	comp=Z,0.9nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**60.81**	**64**	P	**P**	**01 32 43.8**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.7,baz=294,slow=8.8,SNR=3.4						
PDAR	**Pinedale Array**	**63.14**	**55**	P	**P**	**01 32 59.1**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.6,baz=317,slow=6.3,SNR=3.9						
FINES	**FINESS Array B**	**63.95**	**335**	P	**P**	**01 33 04.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=40,slow=6.9,SNR=10						
CTAO	**Charters Tower**	**67.76**	**189**	*e*P	**P**	**01 33 27.0**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**67.76**	**189**	*e*P	**P**	**01 33 27.0**	**-1.8**
	comp=Z,1.8nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**67.96**	**342**	P	**P**	**01 33 30.9**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.1,baz=8.5,slow=9.9,SNR=2.4						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**01 34 17.7**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=300,slow=4.2,SNR=7.4						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**01 34 17.7**	**+0.2**

*LDG **19** 01:22:55.3±0.1,4300N×002W,h10km,Md1.6/3,Ml1.6/5,Error ellipse: s-maj=4.3km s-min=1.8km az=164.0*
*STR **19** 01:22:56.1±0.2,4301N×000E,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 01:22:55.9±0.4,4302N×002W,h7km±5km,mbLg1.1/9,1D,Error ellipse: s-maj=2.6km s-min=2.3km az=171.0,PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	01 22 57.7	-0.1
LABF				Sg	Sg	01 22 59.0	0.0
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	01 22 57.7	0.0
LABF				Lg		01 22 59.1	
VIEF	**Viey**	**0.14**	**167**	Pg	Pg	01 22 58.8	0.0
VIEF				Sg	Sg	01 23 00.9	+0.2
VIEF	**Viey**	**0.14**	**167**	Pg	Pg	01 22 58.8	0.0
VIEF				Lg		01 23 00.8	
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	01 23 00.8	-0.3
EPF				*e*Sg	Sg	01 23 04.7	+0.1
	6.1nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	Pg	Pg	01 23 00.8	-0.3
EPF				Lg		01 23 04.7	
	3.0nm,0.2s						
RESF	**Ens**	**0.34**	**129**	Pg	Pg	01 23 02.2	-0.3
RESF				Sg	Sg	01 23 06.9	0.0
RESF	**Ens**	**0.34**	**129**	Pg	Pg	01 23 02.2	-0.3
RESF				Lg		01 23 06.9	
EBIE	**Bielsa**	**0.35**	**160**	⇓Pg	Pg	01 23 02.6	-0.2
	3.3nm,0.3s,SNR=18						
EBIE				Lg		01 23 07.2	
	9.5nm,0.1s,SNR=6.8						
ETSF	**Etsaut**	**0.41**	**253**	*e*Pg	Pg	01 23 03.8	-0.2
ETSF				*e*Sg	Sg	01 23 09.4	0.0
	8.3nm,0.2s						
ETSF	**Etsaut**	**0.41**	**253**	Pg	Pg	01 23 03.8	-0.2
ETSF				Lg		01 23 09.4	
	4.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	01 23 11.7	-1.3
SJPF				*e*Sg	Sg	01 23 23.0	-1.5
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	01 23 11.7	-1.3
SJPF				Lg		01 23 23.0	
	0.6nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**195**	Pg	Pg	01 23 21.1	-0.4
	SNR=7.9						
ESAC				Lg		01 23 41.1	
	18nm,0.2s,SNR=13						
EMIR	**Miracle**	**1.59**	**133**	Lg		01 23 46.6	
	1.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	01 23 26.6	-1.3
MTLF				*e*Sg	Sg	01 23 48.3	-1.2
	1.5nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	Pg	Pg	01 23 26.6	-1.3
MTLF				Lg		01 23 48.3	
	0.8nm,0.3s						
EPOB	**Poblet**	**1.85**	**154**	Lg		01 23 53.9	
	0.8nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	01 23 32.9	-1.3
LFF				*e*Sg	Sg	01 23 59.6	-0.5
	0.7nm,0.2s						
LFF	**La Frestale**	**2.00**	**16**	Pg	Pg	01 23 32.9	-1.3
LFF				Lg		01 23 59.6	
	0.3nm,0.2s						
ERTA	**Horta de San J**	**2.08**	**173**	Lg		01 24 01.5	
	2.0nm,0.2s,SNR=7.9		

comp=Z,18nm,1.3s,mb4.6
LZH Lanzhou 40.13 331 eP P 01 34 52.1 -3.9
comp=Z,18nm,1.3s,mb4.6
LZH pP pP 01 34 57.2 -13
LZH sP sP 01 34 59.0 -18
LSA Lhasa 43.63 313 P P 01 35 25.3 +0.7
LSA Lhasa 43.63 313 eP P 01 35 24.8 +0.2
comp=Z,9.4nm,0.5s,mb4.8
ASAJ Asahikawa 44.54 17 P P 01 35 33.4 +1.5
comp=Z,10nm,0.9s,mb4.7,baz=61,slow=13,SNR=4.0
GTA Gaotai 44.71 330 eP P 01 35 36.1 +2.8
GTA AP pP 01 35 43.6 -4.2
GTA XP sP 01 35 47.3 -6.9
GTA PCP PcP 01 37 16.3 +1.5
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
ULN Ulaanbaatar 48.95 343 eP P 01 36 06.2 -0.1
comp=Z,3.7nm,0.8s,mb4.5
SONM Songino Array 49.12 342 P P 01 36 07.9 +0.2
comp=Z,3.0nm,0.6s,mb4.5,baz=154,slow=8.8,SNR=22
MKAR Makanchi Array 59.08 326 P P 01 37 19.6 -0.6
comp=Z,5.0nm,0.5s,mb4.8,baz=121,slow=8.4,SNR=156
URZ Urewera 61.24 136 LR LR 01 59 59.9
comp=Z,80nm,21.0s,MS3.9,baz=0.0,slow=32
BVAR Borovoye Array 68.88 327 P P 01 38 23.9 -0.7
comp=Z,2.8nm,0.6s,mb4.4,baz=143,slow=8.7,SNR=20
BRVK Borovoye 68.95 327 eP P 01 38 23.9 -1.1
comp=Z,6.3nm,0.7s,mb4.7
CHKZ Chkalovo 69.06 328 eP P 01 38 23.9 -1.7
comp=Z,3.6nm,0.8s,mb4.3
AKTK Aktyubinsk 75.10 322 P P 01 39 01.6 -0.2
AKTO Aktyubinsk 75.10 322 P P 01 39 01.6 -0.2
comp=Z,2.3nm,0.5s,mb4.4,baz=93,slow=6.5,SNR=16
ARU Arti 76.51 328 eP P 01 39 08.6 -1.2
comp=Z,9.6nm,0.9s,mb4.7
VNDA Vanda 81.48 173 P P 01 39 37.3 +0.3
comp=Z,2.2nm,0.5s,mb4.3,baz=306,slow=6.2,SNR=15
MAW Mawson 81.83 200 P P 01 39 39.7 +0.9
comp=Z,2.1nm,0.7s,mb4.2,baz=94,slow=15,SNR=3.1
ASF Jabal al Asfar 88.78 302 P P 01 40 15.2 +1.8
comp=Z,6.7nm,0.9s,mb5.0,baz=18,slow=0.5,SNR=11
KMBO Kilima Mbogo 89.32 269 P P 01 40 18.4 +2.4
comp=Z,2.0nm,0.6s,mb4.6,baz=59,slow=23,SNR=4.9
BRTR Keskin Array B 91.14 310 P P 01 40 23.3 -1.1
comp=Z,1.0nm,0.9s,mb4.1,baz=145,slow=4.5,SNR=3.8
QSPA South Pole Qui 91.66 180 eP P 01 40 27.6 +0.8
comp=Z,1.2nm,0.6s,mb4.4
ARCES ARCESS Array B 92.24 340 P P 01 40 28.6 -1.0
comp=Z,9.3nm,1.0s,mb5.1,baz=0.7,slow=9.8,SNR=4.4
FINES FINESS Array B 93.49 332 P P 01 40 35.1 -0.2
comp=Z,0.6nm,0.5s,mb4.3,baz=49,slow=5.8,SNR=6.6
SCHQ Schefferville 122.55 9 PKP PKPdf 01 46 13.3 -1.6
comp=Z,0.7nm,0.3s,baz=243,slow=9.0,SNR=5.6
TORD Torodi Ar. Bea 123.33 287 PKP PKPdf 01 46 16.9 +0.5
comp=Z,0.7nm,0.6s,baz=74,slow=1.9,SNR=7.8

*IDC **19** 01:35:43.1±1.1, 37.13N×7039E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.7/3, MS3.9/2, Ms1 3.9/2, ms1mx2.8/36, Error ellipse: s-maj=24.5km s-min=19.3km az=174.0*
*ISCJB **19** 01:35:45.4±2.1, 3727N±004×7022E±007, h23km±17km, mb3.6/10, MS3.9/2, Error ellipse: s-maj=10.4km s-min=4.8km az=131.1*
*MOS **19** 01:35:48.0±1.1, 3741N×7024E, h39km, mb4.2/1, Error ellipse: s-maj=18.7km s-min=9.3km az=85.0*
*BJI **19** 01:35:50.3, 38.16N×7000E, h56km, mb3.7, ML4.2*
*NEIC **19** 01:35:51.8±1.6, 3769N×7027E, h35km, Error ellipse: s-maj=26.7km s-min=11.8km az=169.0*

ISC 19 01:35:48.6±2.2, 3732N±004×7011E±007, h27km±17km, n49, σ1§24/54, mb3.6/10, MS3.9/2, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEP	**Cherat**	**3.78**	**157**	P		**Pn**	**01 36 48.6**	**+3.6**
CHCP	**Chirah Chowk**	**4.47**	**144**	P		**Pn**	**01 36 59.8**	**+5.4**
KSH	**Kashi**	**5.11**	**63**	*e*P		**Pn**	**01 37 05.1**	**+1.9**
KSH				Smax				
	comp=N,1μm,1.4s							
KSH				Smax				
	comp=E,1μm,1.5s							
AML	**Almayashu**	**5.55**	**29**	P		**Pn**	**01 37 09.3**	**0.0**
	SNR=36							
DRP	**Derazinda**	**5.56**	**179**	P		**Pn**	**01 37 13.4**	**+4.0**
KKAR	**Karatay Array**	**5.79**	**3**	*e*PN		**Pn**	**01 37 11.6**	**-1.0**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
UCH	**Uchtor**	**5.97**	**33**	P		**Pn**	**01 37 15.4**	**+0.3**
	SNR=22							
EKS2	**Erkin-Say**	**6.04**	**27**	P		**Pn**	**01 37 16.5**	**+0.5**
	SNR=14							
KZA	**Kyzart**	**6.19**	**38**	P		**Pn**	**01 37 18.2**	**0.0**
	SNR=14							
AAK	**Ala-Archa**	**6.29**	**31**	P		**Pn**	**01 37 19.8**	**+0.3**
	SNR=21							
AAK	**Ala-Archa**	**6.29**	**31**	*e*PN		**Pn**	**01 37 18.2**	**-1.3**
AAK				*e*			01 38 31.4	
AAK				pmax	pmax			
	comp=Z,23nm,0.7s							
AAK	**Ala-Archa**	**6.29**	**31**	*e*Pn		**Pn**	**01 37 18.2**	**-1.3**
	comp=Z,23nm,0.7s							
AAK				*e*Sn		**Sn**	**01 38 31.4**	**+1.0**
KBK	**Karagaybulak**	**6.50**	**33**	P		**Pn**	**01 37 23.1**	**+0.7**
	SNR=8.1							
FRU	**Bishkek**	**6.51**	**31**	*e*PN		**Pn**	**01 37 24.0**	**+1.5**
FRU				pmax	pmax			
	comp=Z,70nm,1.6s							
CHMS	**Chumysh**	**6.70**	**31**	P		**Pn**	**01 37 24.6**	**-0.5**
	SNR=9.9							
THN	**Thein Dam**	**6.71**	**135**	*e*P		**Pn**	**01 37 26.8**	**+1.6**
USP	**Ospenovka**	**6.83**	**28**	P		**Pn**	**01 37 26.6**	**-0.2**
	SNR=9.5							
TKM2	**Tokmak 2**	**7.00**	**35**	P		**Pn**	**01 37 29.3**	**0.0**
	SNR=15							
TKM2	**Tokmak 2**	**7.00**	**35**	PN		**Pn**	**01 37 29.7**	**+0.4**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
SDNR	**Sundarnagar**	**8.11**	**134**	*e*P		**Pn**	**01 37 50.0**	**+5.5**
SDNR				*e*S		**Sn**	**01 39 20.4**	**+5.2**
KHET	**Khetri**	**10.39**	**151**	*e*P		**Pn**	**01 38 17.1**	**+1.4**
KHET				*e*S		**Sn**	**01 40 10.7**	**-0.4**
KHET				AML	AML		01 40 13.1	
	comp=E,12nm,0.5s							
KHET				AML	AML		01 40 16.4	
	comp=N,7.7nm,0.7s							
NDI	**New Delhi**	**10.47**	**143**	*e*P		**Pn**	**01 38 07.5**	**-9.3**
NDI				*e*S		**Sn**	**01 40 14.0**	**+0.8**
KUDL	**Kundal**	**10.60**	**148**	*e*P		**Pn**	**01 38 19.0**	**+0.4**
KUDL				*e*S		**Sn**	**01 40 15.2**	**-1.3**
KUDL				*e*S		**Sn**	**01 40 16.7**	**+0.2**
KUDL				AML	AML		01 40 21.5	
	comp=E,12nm,0.5s							
KUDL				AML	AML		01 40 24.3	
	comp=N,7.2nm,0.7s							
MKAR	**Makanchi Array**	**13.09**	**40**	Pn		**Pn**	**01 38 49.6**	**-3.0**
	comp=N,0.1nm,0.3s,baz=226,slow=13,SNR=12							
KOLN	**Koldanda**	**14.82**	**126**	*e*P		**Pn**	**01 39 14.0**	**-2.2**
	comp=N,9.3nm,0.5s							
GKN	**Gorkha**	**15.35**	**123**	*e*P		**Pn**	**01 39 19.7**	**-3.5**
	comp=N,21nm,0.5s							
BVAR	**Borovoye Array**	**15.71**	**1**	Pn		**Pn**	**01 39 24.5**	**-3.4**
	comp=N,0.7nm,0.3s,baz=170,slow=9.6,SNR=6.3							
AKTK	**Aktyubinsk**	**15.72**	**330**	Pn		**Pn**	**01 39 27.2**	**-0.8**
AKTO	**Aktyubinsk**	**15.72**	**330**	Pn		**Pn**	**01 39 27.2**	**-0.8**
	comp=N,0.6nm,0.3s,baz=99,slow=10,SNR=6.3							
KKN	**Kakani**	**15.92**	**122**	*e*P		**Pn**	**01 39 26.8**	**-3.8**
DMN	**Daman**	**15.92**	**123**	*e*P		**Pn**	**01 39 26.7**	**-3.9**
PKI	**Pulchoki**	**16.14**	**123**	*e*P		**Pn**	**01 39 30.9**	**-2.6**
	comp=N,12nm,0.5s							
GUN	**Gumba**	**16.25**	**121**	*e*P		**Pn**	**01 39 30.5**	**-4.3**
	comp=N,30nm,0.7s							
JIRN	**Jiri**	**16.62**	**121**	*e*P		**Pn**	**01 39 34.5**	**-5.0**
	comp=N,20nm,0.5s							
ORR	**Orenburg**	**17.96**	**328**	*e*P		**Pn**	**01 39 56.2**	**0.0**
GTA	**Gaotai**	**23.34**	**76**	*e*P		**P**	**01 40 56.3**	**+1.5**
GTA				AMB	AMB			
	comp=Z,4.0nm,1.1s,mb3.8							
SONM	**Songino Array**	**28.48**	**57**	P		**P**	**01 41 40.5**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.2,baz=259,slow=9.5,SNR=3.8							
SONM				LR	LR		01 55 13.0	
	comp=Z,65nm,20.4s,MS3.2,baz=174,slow=41							
AKASG	**Malin Array Be**	**31.88**	**308**	P		**P**	**01 42 11.9**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=80,slow=7.7,SNR=3.5							
AKASG	**Malin Array Be**	**31.88**	**308**	P		**P**	**01 42 11.9**	**+0.5**
FINES	**FINESS Array B**	**36.41**	**326**	P		**P**	**01 42 50.8**	**+0.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=96,slow=9.8,SNR=3.6							
GERES	**GERESS Array B**	**41.88**	**304**	P		**P**	**01 43 38.0**	**+1.7**
	comp=Z,0.2nm,0.5s,mb3.0,baz=52,slow=12,SNR=3.7							
NB2	**NORSAR Subarra**	**43.30**	**323**	P		**P**	**01 43 47.8**	**-0.1**
	comp=Z,5.6nm,1.0s,mb4.2,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**43.30**	**323**	P		**P**	**01 43 48.0**	**+0.1**
	comp=Z,1.7nm,0.6s,mb3.9,baz=97,slow=8.1,SNR=6.1							
ESDC	**Sonseca Array**	**56.45**	**297**	P		**P**	**01 45 27.8**	**0.0**
	comp=Z,0.1nm,0.3s,mb3.3,baz=60,slow=7.4,SNR=5.7							
TORD	**Torodi Ar. Bea**	**65.03**	**268**	P		**P**	**01 46 27.4**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=42,slow=6.4,SNR=3.9							
YKA	**Yellowknife Ar**	**80.46**	**2**	P		**P**	**01 47 56.9**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=351,slow=5.2,SNR=5.0							
YKA	**Yellowknife Ar**	**80.46**	**2**	P		**P**	**01 47 56.9**	**-1.0**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**85.31**	**124**	P		**P**	**01 48 20.6**	**-2.4**
	comp=Z,0.4nm,0.7s,mb3.7,baz=309,slow=5.0,SNR=6.5							
HNR	**Honiara**	**95.51**	**98**	LR		LR	02 37 04.3	
	comp=Z,154nm,18.3s,MS4.5,baz=2.2,slow=39							

*IDC **19** 01:53:55.3±1.0, 4645N×15551E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.7/24, mbtmp3.7/9, Error ellipse: s-maj=29.8km s-min=21.5km az=179.0*
*NEIC **19** 01:53:56.8±0.7, 4647N×15547E, h10km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=13.1km az=181.0*
*MOS **19** 01:53:59.6±0.6, 4649N×15532E, h42km, mb4.2/1, Error ellipse: s-maj=37.9km s-min=19.9km az=92.2*
*ISCJB **19** 01:54:00.0±4.3, 465N±02×1554E±02, h47km±35km, mb3.8/10, Error ellipse: s-maj=35.6km s-min=20.6km az=176.1*

ISC 19 01:54:03.1±3.7, 465N±02×1554E±02, h58km±30km, n14, σ0§42/14, mb3.8/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PET	**Petropavlovsk**	**6.83**	**17**	*e*PN		**Pn**	**01 55 40.6**	**0.0**
INK	**Inuvik**	**40.99**	**32**	P		**P**	**02 01 40.1**	**-0.1**
	0.6nm,0.7s,mb3.3,baz=300,slow=8.5,SNR=3.9							
ZAL	**Zalesovo**	**44.03**	**307**	P		**P**	**02 02 04.8**	**-0.1**
	0.7nm,0.2s,mb4.0,baz=126,slow=11,SNR=2.8							
ZAL	**Zalesovo**	**44.03**	**307**	P		**P**	**02 02 04.8**	**-0.1**
MKAR	**Makanchi Array**	**48.44**	**299**	P		**P**	**02 02 39.5**	**0.0**
	0.3nm,0.6s,mb3.5,baz=71,slow=8.8,SNR=4.8							
CHKZ	**Chkalovo**	**51.77**	**311**	*e*P		**P**	**02 03 04.0**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**51.77**	**311**	*e*P		**P**	**02 03 04.0**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.1							
BVAR	**Borovoye Array**	**52.21**	**310**	P		**P**	**02 03 08.7**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=58,slow=7.6,SNR=5.9							
NVAR	**Mina Array Bea**	**61.12**	**64**	P		**P**	**02 04 11.6**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.8,baz=292,slow=8.6,SNR=5.1							
PDAR	**Pinedale Array**	**63.59**	**55**	P		**P**	**02 04 27.0**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=208,slow=3.7,SNR=3.6							
FINES	**FINESS Array B**	**64.90**	**336**	P		**P**	**02 04 36.5**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.1,baz=57,slow=7.0,SNR=8.4							
GOF	**Gofitskoye**	**71.09**	**316**	*e*P		**P**	**02 05 20.9**	**+5.8**
ASAR	**Alice Springs**	**72.53**	**201**	P		**P**	**02 05 23.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=15,slow=6.1,SNR=7.8							
TXAR	**Lajitas Array**	**76.21**	**62**	P		**P**	**02 05 45.5**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=303,slow=4.3,SNR=14							

*IDC **19** 01:55:03.8±0.4, 5557S×2482W, h0km, mb4.9/12, mb1 4.9/13, mb1mx4.9/14, mbtmp4.8/13, ML4.5/1, MS5.2/16, Ms1 5.2/16, ms1mx5.2/16, Error ellipse: s-maj=17.3km s-min=16.3km az=52.0*
*ISCJB **19** 01:55:04.2±0.2, 5563S±004×2496W±008, h10km, mb5.5/33, MS5.2/177, Error ellipse: s-maj=7.8km s-min=5.0km az=106.6*
*NEIC **19** 01:55:05.3±0.2, 5558S×2487W, h10km, mb5.8/28, MS5.3/161, MW5.7, Error ellipse: s-maj=7.7km s-min=6.9km az=202.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17 Nm; Mrr-2.83; Mθθ3.62; Mϕϕ-0.79; Mrθ-3.31; Mθϕ-1.85; Mϕr-0.98; Best double couple: Mo5.10000×10^17 NP1:ϕs83.00000°, δ70.00000°, λ-118.00000°. NP2:ϕs320.00000°, δ34.00000°, λ-38.00000°. Principal axes: T 5.3200, Plg20.0000°, Azm194.0000°; N -0.4200, Plg26.0000°, Azm93.0000°; P -4.9000, Plg56.0000°, Azm317.0000°;*
*BJI **19** 01:55:05.2, 5560S×2490W, h10km, mB5.7, Ms5.7, Msz5.5*
*GCMT **19** 01:55:05.3±0.1, 5574S×2447W, h14km, MW5.7/96, Moment Tensor Solution. s86,c156; s96,c258; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr-1.25±.04; Mθθ2.45±.04; Mϕϕ-1.20±.04; Mrθ-1.51±.12; Mθϕ-3.31±.04; Mϕr-0.53±.08; Best double couple: Mo4.18700×10^17 NP1:ϕs343.00000°, δ63.00000°, λ-13.00000°. NP2:ϕs79.00000°, δ79.00000°, λ-153.00000°. Principal axes: T 4.5920, Plg10.0000°, Azm209.0000°; N -0.8120, Plg61.0000°, Azm100.0000°; P -3.7810, Plg27.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **19** 01:55:07.9±1.1, 5560S×2457W, h33km, mb5.9/13, MS5.2/29 Error ellipse: s-maj=25.5km s-min=11.5km az=100.3*

ISC 19 01:55:05.4±0.2, 5564S±004×2484W±008, h10km, n579, σ1§09/104, mb5.5/33, MS5.2/177, 76C-68D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**6.84**	**277**	*e*Pn		**Pn**	**01 56 45.2**	**-0.5**
HOPE				*e*Sn		**Sn**	**01 57 48.8**	**-15**
VNA1	**Neumayer--Stat**	**16.71**	**161**	⇑*i*Pn		**Pn**	**01 59 00.8**	**+1.3**
VNA1				*e*			01 59 04.0	
VNA1				*e*			01 59 07.0	
VNA1				*e*			01 59 11.9	
VNA1				*e*			01 59 19.7	
VNA1				*e*			01 59 40.0	
VNA1				*e*			02 00 03.1	
VNA1				*e*			02 00 13.3	
VNA1				*e*			02 02 05.4	
VNA3	**Neumayer Olymp**	**16.97**	**163**	⇑*i*Pn		**Pn**	**01 59 01.4**	**-1.4**
VNA3				*e*			01 59 05.4	
VNA3				*e*			01 59 08.0	
VNA3				*e*			01 59 12.6	
VNA3				*e*			01 59 21.2	
VNA3				*e*			01 59 27.2	
VNA3				*e*			01 59 41.3	
VNA3				*e*			01 59 46.4	
VNA3				*e*			02 00 03.4	
VNA3				*e*			02 00 13.9	
VNA3				*e*			02 00 24.2	
VNA3				*e*			02 00 52.1	
VNA3				*e*			02 02 02.2	
VNA3				*e*			02 02 06.6	
VNA3				*e*			02 03 48.3	
VNA3				*e*			02 04 00.6	
VNA3				*e*			02 07 34.2	
VNA3				*e*			02 07 43.8	
VNA2	**Neumayer--Watz**	**17.10**	**160**	⇑*i*Pn		**Pn**	**01 59 03.5**	**-1.0**
	baz=323,slow=16							
VNA2				*e*			01 59 07.1	
VNA2				*e*			01 59 09.8	
VNA2				*e*			01 59 15.3	
VNA2				*e*			01 59 22.6	
VNA2				*e*			01 59 28.6	
VNA2				*e*			01 59 42.0	
VNA2				*e*			01 59 47.4	
VNA2				*e*			02 00 04.7	
VNA2				*e*			02 00 14.8	
VNA2				*e*			02 00 26.6	
VNA2				*e*			02 00 40.3	
VNA2				*e*			02 00 53.2	
VNA2				*e*			02 02 03.3	
VNA2				*e*			02 02 08.5	
VNA2				*e*			02 03 49.1	
VNA2				*e*			02 04 01.0	
VNA2				*e*			02 07 35.9	
VNA2				*e*			02 07 44.3	
SNAA	**Sanae**	**18.60**	**158**	P		**Pn**	**01 59 22.3**	**-0.7**
	1.3nm,0.3s,baz=336,slow=12,SNR=140							
SNAA				LR	LR		02 04 41.3	
SNAA	**Sanae**	**18.60**	**158**	P		**Pn**	**01 59 22.3**	**-0.7**
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SNAA				MLR	MLR			
	comp=Z,5μm,19.9s							
EFI	**East Falkland**	**19.97**	**268**	*e*P		**Pn**	**01 59 36.5**	**-2.9**
TRIS	**Tristan da Cun**	**20.43**	**30**	*e*P		**P**	**01 59 41.0**	**-1.7**
	comp=Z,2μm,1.7s							
TRIS				LR	LR			
	comp=Z,3μm,19.0s,MS4.7							
PMSA	**Palmer Station**	**21.16**	**229**	P		**P**	**01 59 51.2**	**+0.6**
	comp=Z,54nm,0.8s,mb4.9,baz=73,slow=9.1,SNR=18							
PMSA				LR	LR		02 06 43.2	
	comp=Z,6μm,21.8s,MS4.9,baz=80,slow=33							
PMSA	**Palmer Station**	**21.16**	**229**	⇑*i*P		**P**	**01 59 50.3**	**-0.3**
	comp=Z,137nm,0.8s,mb5.3							
PMSA				LR	LR			
	comp=Z,6μm,20.0s,MS5.0							
NVL	**N'lazarevskaya**	**21.89**	**148**	*c*P		**P**	**01 59 56.4**	**-2.1**
NVL				*e*			02 00 36.5	
NVL				*i*S		**S**	**02 03 57.4**	**-2.8**
NVL				pmax	pmax			
	comp=Z,684nm,1.9s,mb5.8							
NVL				MLR	MLR			
	comp=Z,7μm,18.0s,MS5.1							
USHA	**Ushuaia**	**24.57**	**254**	P		**P**	**02 00 25.1**	**-0.2**
	comp=Z,13nm,0.7s,mb4.5,baz=54,slow=6.2,SNR=6.7							
TRQA	**Tornquist**	**30.41**	**290**	*e*P		**P**	**02 01 17.2**	**-0.5**
	comp=Z,330nm,1.9s,mb5.7							
TRQA				LR	LR			
	comp=Z,4μm,20.0s,MS5.0							
LPA	**La Plata**	**30.72**	**299**	*c*eP		**P**	**02 01 21.0**	**+0.5**
LPA				*e*PP		PP	02 02 25.0	-4.8
LPA				*e*S		**S**	**02 06 23.0**	**-0.3**
LPA				*e*SS		SS	02 08 36.0	+1.7
SYO	**Syowa Base**	**31.07**	**141**	⇓*e*P		**P**	**02 01 21.5**	**-2.0**
SYO	**Syowa Base**	**31.07**	**141**	⇓*i*P		**P**	**02 01 33.0**	**+9.5**
QSPA	**South Pole Qui**	**34.61**	**180**	*e*P		**P**	**02 01 55.0**	**+0.5**
	comp=Z,514nm,1.3s,mb6.3							
QSPA				LR	LR			
	comp=Z,6μm,20.0s,MS5.3							
CAM4	**Nova Friburgo**	**35.76**	**331**	⇑*i*P		**P**	**02 02 05.7**	**+1.2**
CAM4				*i*			02 02 06.2	
CAM4				*i*		pP	02 02 10.4	+2.8
CAM3	**Guarapari**	**36.80**	**335**	⇑*i*P		**P**	**02 02 14.3**	**+1.0**
CAM3				*i*		pP	02 02 16.5	+0.1
CAM3				*i*			02 02 19.4	
CAM3				*i*			02 02 39.5	
FCH	**Farellones**	**38.42**	**286**	⇓*i*P		**P**	**02 02 26.2**	**-0.8**
CLCH	**Cerro Calan**	**38.50**	**286**	*i*P		**P**	**02 02 27.4**	**-0.4**
CFAA	**Coronel Fontan**	**38.64**	**290**	LR		LR	02 16 06.4	
	comp=Z,522nm,20.9s,MS4.3,baz=225,slow=33							
SUR	**Sutherland**	**39.25**	**73**	*e*P		**P**	**02 02 37.6**	**+3.6**
SUR				LR	LR			
	comp=Z,942nm,19.0s,MS4.6							
MAW	**Mawson**	**39.69**	**143**	*e*P		**P**	**02 02 36.9**	**-0.7**
	comp=Z,73nm,1.2s,mb5.3							
MAW				*e*S		**S**	**02 08 42.2**	**+1.2**
MAW	**Mawson**	**39.69**	**143**	P		**P**	**02 02 37.4**	**-0.2**
	comp=Z,47nm,0.9s,mb5.2,baz=233,slow=8.2,SNR=93							
MAW				LR	LR		02 17 25.5	
	comp=Z,5μm,18.3s,MS5.3,baz=250,slow=34							
MAW	**Mawson**	**39.69**	**143**	*e*P		**P**	**02 02 36.9**	**-0.7**
MAW				*e*S		**S**	**02 08 42.2**	**+1.2**
MAW				pmax	pmax			
	comp=Z,73nm,1.2s							
MAW				MLR	MLR			
	comp=Z,7μm,19.0s							
MAW	**Mawson**	**39.69**	**143**	*e*P		**P**	**02 02 36.9**	**-0.7**
	comp=Z,73nm,1.2s,mb5.3							
MAW				*e*S		**S**	**02 08 42.2**	**+1.2**
MAW				LR	LR			
	comp=Z,7μm,19.0s,MS5.5							
TLL	**Tololo Astrono**	**41.13**	**289**	⇓*i*P		**P**	**02 02 49.7**	**+0.1**
SHEL	**Horse Pasture**	**42.23**	**28**	PFAKE			02 03 10.0	+11
SHEL				LR	LR			
	comp=Z,1μm,22.0s,MS4.8							
BOSA	**Boshof**	**44.59**	**74**	P		**P**	**02 03 16.5**	**-1.1**
	comp=Z,17nm,0.9s,mb4.9,baz=219,slow=7.6,SNR=17							
BOSA				LR	LR		02 18 27.5	
	comp=Z,5μm,18.3s,MS5.5,baz=222,slow=32							
BOSA	**Boshof**	**44.59**	**74**	*e*P		**P**	**02 03 16.4**	**-1.2**
BOSA				pmax	pmax			
	comp=Z,184nm,1.6s,mb5.7							
BOSA				MLR	MLR			
	comp=Z,5μm,19.0s,MS5.4							
BOSA	**Boshof**	**44.59**	**74**	*e*P		**P**	**02 03 16.4**	**-1.2**
	comp=Z,184nm,1.6s,mb5.7							
BOSA				LR	LR			
	comp=Z,5μm,19.0s,MS5.4							
LVC	**Limon Verde**	**46.27**	**297**	*e*P		**P**	**02 03 32.0**	**+1.1**
	comp=Z,68nm,0.7s,mb5.7							
LVC				LR	LR			
	comp=Z,2μm,22.0s,MS5.0							
SBA	**Scott Base**	**46.57**	**183**	*e*P		**P**	**02 03 34.5**	**+1.2**
SBA				MLR	MLR			
	comp=Z,1μm,21.0s,MS4.9							
VNDA	**Vanda**	**47.04**	**182**	P		**P**	**02 03 37.0**	**+0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=185,slow=7.3,SNR=54							
VNDA				LR	LR		02 22 15.5	
	comp=Z,3μm,19.7s,MS5.2,baz=175,slow=35							
VNDA	**Vanda**	**47.04**	**182**	⇑*i*P		**P**	**02 03 36.9**	**-0.1**
VNDA				*e*			02 05 24.8	
VNDA				pmax	pmax			
	comp=Z,86nm,1.3s							
VNDA				MLR	MLR			
	comp=Z,3μm,21.0s							
VNDA	**Vanda**	**47.04**	**182**	⇑*i*P		**P**	**02 03 36.9**	**-0.1**
	comp=Z,86nm,1.3s,mb5.5							
VNDA				*e*			02 05 24.8	
VNDA				LR	LR			
	comp=Z,3μm,21.0s,MS5.2							
LBTB	**Lobatse**	**47.62**	**71**	*e*P		**P**	**02 03 40.2**	**-1.3**
LBTB				pmax	pmax			
	comp=Z,165nm,1.3s,mb5.9							
LBTB				MLR	MLR			
	comp=Z,2μm,22.0s,MS5.1							
LBTB	**Lobatse**	**47.62**	**71**	*e*P		**P**	**02 03 40.1**	**-1.4**
	comp=

LSZ Lusaka 56.99 67 *e*P **P** **02 04 50.3 -0.9**
comp=Z,138nm,1.4s,mb5.8
LSZ LR LR
comp=Z,2μm,20.0s,MS5.1
DRV Dumont d'Urvil 57.48 173 P **P** **02 04 52.0 -2.6**
DRV S **S** **02 12 55.0 +3.1**
NNA Nana 59.23 296 *e*P **P** **02 05 06.9 +0.1**
NNA LR LR
comp=Z,333nm,22.0s,MS4.4
RPN Rapa Nui 65.03 258 PFAKE 02 06 00.0 +14
RPN LR LR
comp=Z,390nm,22.0s,MS4.6
OTAV Otavalo 70.55 301 *e*P **P** **02 06 20.9 +0.3**
OTAV
comp=Z,113nm,1.5s,mb5.6
OTAV LR LR
comp=Z,1μm,20.0s,MS5.1
TOA0 Torodi Ar. Sit 72.07 27 ⇓*i*P **P** **02 06 28.8 -0.9**
TORD Torodi Ar. Bea 72.07 27 P **P** **02 06 28.6 -1.1**
comp=Z,182nm,0.7s,mb6.1,baz=198,slow=6.9,SNR=845
TORD LR LR 02 31 18.7
comp=Z,2μm,21.5s,MS5.2,baz=175,slow=30
ROSC El Rosal 72.68 307 P **P** **02 06 33.7 +0.3**
comp=Z,13nm,0.8s,mb4.9,baz=112,slow=5.3,SNR=21
ROSC LR LR 02 39 09.6
comp=Z,1μm,18.1s,MS5.3,baz=183,slow=36
KMBO Kilima Mbogo 73.66 67 P **P** **02 06 40.7 +1.6**
comp=Z,0.7nm,0.3s,baz=220,slow=21,SNR=8.7
KMBO LR LR 02 35 10.7
comp=Z,1μm,20.7s,MS5.2,baz=37,slow=33
KMBO Kilima Mbogo 73.66 67 *e*P **P** **02 06 42.0 +2.9**
comp=Z,115nm,2.2s,mb5.4
KMBO LR LR
comp=Z,1μm,21.0s,MS5.2
BBGH Gun Hill 74.46 325 PFAKE 02 06 50.0 +6.2
BBGH LR LR
comp=Z,3μm,22.0s,MS5.5
SDV Santo Domingo 74.68 313 *e*P **P** **02 06 44.7 -0.4**
SDV LR LR
comp=Z,1μm,20.0s,MS5.1
PAYG Puerto Ayora 75.81 290 PFAKE 02 07 00.0 +8.4
PAYG LR LR
comp=Z,1μm,20.0s,MS5.3
MGG Marie-Galante 77.64 324 *e*P **P** **02 07 01.6 -0.3**
TBG Guadaloupe-3 77.69 324 *e*P **P** **02 07 01.7 -0.5**
SCG Saint Claude 77.86 324 *e*P **P** **02 07 04.2 +1.1**
LZG Guadaloupe-1 78.00 324 *e*P **P** **02 07 04.3 +0.4**
MSEY Mahe Island 80.70 85 PFAKE 02 07 30.0 +11
MSEY LR LR
comp=Z,318nm,20.0s,MS4.7
MTP Monte Pirata 81.12 321 *e*P **P** **02 07 20.4 -0.4**
CPD Cerro la Pandu 81.19 321 *e*P **P** **02 07 20.0 -1.3**
HUMP Col San Antoni 81.26 321 *e*P **P** **02 07 20.8 -0.9**
CBYP Canovanas 81.39 321 *e*P **P** **02 07 21.5 -0.8**
TAU Tasmania Unive 81.59 174 *e*P **P** **02 07 23.1 -0.3**
TAU pmax pmax
comp=Z,104nm,1.4s,mb5.6
TAU MLR MLR
comp=Z,949nm,19.0s,MS5.2
TAU Tasmania Unive 81.59 174 *e*P **P** **02 07 23.1 -0.4**
comp=Z,104nm,1.4s,mb5.6
TAU LR LR
comp=Z,949nm,19.0s,MS5.2
RKT Rikitea 81.84 241 *e*S S 02 17 34.8 -3.3
comp=Z,246nm,26.8s
RKT *e*SS SS 02 22 54.8 -1.3
comp=Z,278nm,29.5s
RKT *e*LQ 02 29 36.9
comp=Z,2μm,31.8s
RKT *e*LR LR 02 33 09.9
comp=Z,1μm,30.5s,baz=148
SNZO South Karori 82.00 195 PFAKE 02 07 40.0 +14
SNZO LR LR
comp=Z,1μm,19.0s,MS5.3
JTS JuntasAbangare 82.42 301 *e*P **P** **02 07 26.8 -1.0**
JTS pmax pmax
comp=Z,153nm,1.4s
JTS MLR MLR
comp=Z,221nm,19.0s
JTS JuntasAbangare 82.42 301 *e*P **P** **02 07 26.8 -1.0**
comp=Z,153nm,1.4s,mb5.7
JTS LR LR
comp=Z,221nm,19.0s,MS4.5
NWAO Narrogin (SRO) 86.01 149 LR LR 02 41 53.9
comp=Z,961nm,20.3s,MS5.2,baz=95,slow=33
NWAO Narrogin (SRO) 86.01 149 PFAKE 02 08 00.0 +14
NWAO LR LR
comp=Z,806nm,20.0s,MS5.1
MUN Mundaring 86.59 148 *e*P **P** **02 07 50.7 +1.8**
TGUH Tegucigalpa,Un 86.80 301 *e*P **P** **02 07 49.2 -0.7**
comp=Z,16nm,0.8s,mb5.3
TGUH LR LR
comp=Z,804nm,22.0s,MS5.1
KLBR Kellerberrin 87.42 149 *e*P **P** **02 07 53.7 +0.8**
comp=Z,35nm,1.2s,mb5.5
HLGC Holguin 87.70 313 *e*P **P** **02 07 54.4 +0.2**
DGAR Diego Garcia 88.04 100 PFAKE 02 08 10.0 +14
DGAR LR LR
comp=Z,553nm,19.0s,MS5.0
TBI Tubuai 88.36 229 *e*S S 02 18 37.4 -5.3
comp=Z,840nm,25.8s
TBI *e*LQ 02 32 28.1
comp=Z,1μm,30.5s
TBI *e*LR LR 02 36 19.1
comp=Z,4μm,30.2s,baz=159
CCCC Cccc 88.69 312 *e*P **P** **02 07 54.8 -4.1**
CNB Canberra Magne 89.27 175 *e*P **P** **02 08 02.8 +1.1**
comp=Z,55nm,1.5s,mb5.7
FORT Forrest 90.86 157 *e*P **P** **02 08 12.4 +3.3**
comp=Z,15nm,0.7s,mb5.4
STKA Stephens Creek 92.06 168 *e*P **P** **02 08 15.5 +0.8**
comp=Z,6.7nm,0.8s,mb5.0
STKA Stephens Creek 92.06 168 P **P** **02 08 15.4 +0.7**
comp=Z,1.3nm,0.5s,mb4.5,baz=155,slow=8.3,SNR=6.4
STKA LR LR 02 48 19.8
comp=Z,4μm,18.5s,MS5.9,baz=187,slow=35
RAO Raoul Island 92.36 203 PFAKE 02 08 30.0 +14
RAO LR LR
comp=Z,926nm,19.0s,MS5.2
TEIG Tepich 92.58 303 *e*P **P** **02 08 17.3 +0.2**
comp=Z,23nm,0.6s,mb5.8
TEIG LR LR
comp=Z,670nm,22.0s,MS5.0
EJIF Jimena Fronter 93.21 16 P **P** **02 08 19.9 -0.1**
EJIF pmax pmax
comp=Z,101nm,1.4s,mb6.1
EJIF Jimena Fronter 93.21 16 P **P** **02 08 19.9 -0.1**
comp=Z,101nm,1.4s,mb6.1
EMIJ Mijas 93.43 16 P **P** **02 08 21.2 +0.2**
comp=Z,120nm,1.8s,mb6.0
PPT Papeete 93.50 232 *e*S S 02 19 23.7 -5.9
comp=Z,773nm,25.8s
PPT *e*LR LR 02 38 45.0
comp=Z,5μm,29.5s,baz=159
PPT Papeete 93.50 232 LR LR 02 44 47.3
comp=Z,780nm,18.4s,MS5.2,baz=184,slow=32
ESPR Espera 93.56 15 P **P** **02 08 22.4 +0.8**
comp=Z,159nm,2.1s,mb6.1
EGRO El Granado 93.99 14 P **P** **02 08 24.5 +1.0**
comp=Z,179nm,1.8s,mb6.2
ERON Agron 94.03 17 P **P** **02 08 25.1 +1.3**
comp=Z,5.4nm,0.8s,mb5.0
ELOJ Sierra Loja 94.10 16 P **P** **02 08 21.7 -2.4**
EMIN Mina Concepcio 94.33 14 P **P** **02 08 26.2 +1.0**
comp=Z,454nm,4.2s
ELUQ Luque 94.49 16 P **P** **02 08 25.5 -0.3**
ELUQ pmax pmax
comp=Z,61nm,1.7s,mb5.8
ELUQ Luque 94.49 16 P **P** **02 08 25.5 -0.3**
comp=Z,61nm,1.7s,mb5.8
EBAD Badajoz 95.25 14 P **P** **02 08 30.5 +1.2**
comp=Z,692nm,3.7s
EMUR La Murta 95.28 19 P **P** **02 08 32.2 +2.8**
comp=Z,122nm,3.0s
KEST Kesra 95.59 27 P **P** **02 08 31.7 +0.8**
comp=Z,2.4nm,0.8s,mb4.7,baz=154,slow=1.7,SNR=8.5
KEST LR LR 02 48 56.9
comp=Z,630nm,18.0s,MS5.1,baz=35,slow=34
DWPF Disney 96.33 312 PFAKE 02 08 40.0 +5.7
DWPF LR LR
comp=Z,1μm,22.0s,MS5.4
PAB San Pablo 96.42 16 PFAKE 02 08 40.0 +5.4
PAB LR LR
comp=Z,1μm,19.0s,MS5.4
ESDC Sonseca Array 96.60 16 P **P** **02 08 35.8 +0.3**
comp=Z,1.9nm,0.7s,mb4.6,baz=182,slow=4.2,SNR=11
ESDC LR LR 02 48 59.3
comp=Z,1μm,18.1s,MS5.4,baz=165,slow=34

ESDC Sonseca Array 96.60 16 P **P** **02 08 34.1 -1.3**
comp=Z,1.4nm,0.7s,mb4.5
ESLA Sonseca Array 96.60 16 PFAKE 02 08 50.0 +15
ESLA LR LR
comp=Z,7μm,19.0s,MS6.2
COCO West Island 96.79 123 PFAKE 02 08 50.0 +14
COCO LR LR
comp=Z,499nm,19.0s,MS5.0
MBWA Marble Bar 97.79 147 PFAKE 02 08 50.0 +9.1
MBWA LR LR
comp=Z,2μm,19.0s,MS5.6
ASAR Alice Springs 98.95 160 P **P** **02 08 46.3 +0.2**
comp=Z,0.6nm,0.6s,baz=186,slow=3.9,SNR=9.2
ASAR PP PP 02 12 43.6 -4.2
comp=Z,2.4nm,0.9s,baz=192,slow=6.4,SNR=6.2
ASAR LR LR 02 51 26.6
comp=Z,1μm,19.0s,MS5.4,baz=102,slow=34
NHSC New Hope 100.20 315 PFAKE 02 09 00.0 +8.4
NHSC LR LR
comp=Z,749nm,22.0s,MS5.2
CNNC Cliffs of the 101.20 318 PFAKE 02 09 10.0 +14
CNNC LR LR
comp=Z,625nm,19.0s,MS5.2
BRAL Brewton 101.27 309 PFAKE 02 09 10.0 +14
BRAL LR LR
comp=Z,820nm,20.0s,MS5.2
GOGA Godfrey 101.81 313 PFAKE 02 09 10.0 +11
GOGA LR LR
comp=Z,1μm,20.0s,MS5.3
WRA Warramunga Arr 102.66 160 P Pdif 02 09 03.1 +0.6
comp=Z,0.5nm,0.7s,baz=194,slow=4.1,SNR=3.0
WRA PP PP 02 13 14.1 -1.8
comp=Z,5.1nm,1.2s,baz=196,slow=6.8,SNR=5.7
WRA Warramunga Arr 102.66 160 P Pdif 02 09 03.1 +0.5
WRA 02 13 14.1
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA pmax pmax
comp=Z,5.0nm,1.2s
WRAB Tennant Creek 102.67 160 PFAKE 02 09 10.0 +7.4
WRAB LR LR
comp=Z,200nm,22.0s,MS4.6
LRAL Lakeview Retre 102.97 310 PFAKE 02 09 10.0 +6.0
LRAL LR LR
comp=Z,1μm,20.0s,MS5.5
KVTX Kingsville 103.43 299 PFAKE 02 09 20.0 +14
KVTX LR LR
comp=Z,835nm,22.0s,MS5.2
CBN Corbin 103.63 320 PFAKE 02 09 20.0 +13
CBN LR LR
comp=Z,920nm,22.0s,MS5.3
BLA Blacksburg 103.90 317 PFAKE 02 09 20.0 +12
BLA LR LR
comp=Z,820nm,20.0s,MS5.3
CTAO Charters Tower 104.19 171 PFAKE 02 09 20.0 +11
CTAO LR LR
comp=Z,2μm,19.0s,MS5.8
HKT Hockley 104.41 302 PFAKE 02 09 20.0 +10
HKT LR LR
comp=Z,750nm,19.0s,MS5.2
TZTN Tazewell 104.55 315 PFAKE 02 09 20.0 +9.0
TZTN LR LR
comp=Z,673nm,19.0s,MS5.2
PALK Pallekele 104.73 99 PFAKE 02 09 20.0 +8.2
PALK LR LR
comp=Z,196nm,20.0s,MS4.6
PLAL Pickwick Lake 105.10 311 PFAKE 02 13 40.0 +12
PLAL LR LR
comp=Z,1μm,20.0s,MS5.5
OXF Oxford 105.28 309 PFAKE 02 13 40.0 +12
OXF LR LR
comp=Z,799nm,22.0s,MS5.2
WES Weston 105.31 326 PFAKE 02 13 40.0 +12
WES LR LR
comp=Z,1μm,22.0s,MS5.3
AFI Afiamalu 105.34 213 PFAKE 02 13 40.0 +12
AFI LR LR
comp=Z,963nm,19.0s,MS5.4
HRV Harvard--Oak R 105.49 326 PFAKE 02 13 40.0 +11
HRV LR LR
comp=Z,1μm,20.0s,MS5.4
MCWV Mont Chateau 105.82 319 PFAKE 02 13 40.0 +11
MCWV LR LR
comp=Z,965nm,21.0s,MS5.3
SSPA Standing Stone 105.96 321 PFAKE 02 13 40.0 +10
SSPA LR LR
comp=Z,812nm,20.0s,MS5.3
WVT Waverly 105.97 311 PFAKE 02 13 40.0 +10
WVT LR LR
comp=Z,1μm,22.0s,MS5.4
BINY Binghamton 106.68 323 PFAKE 02 13 40.0 +9.2
BINY LR LR
comp=Z,923nm,20.0s,MS5.3
JCT Junction City 106.78 299 PFAKE 02 13 40.0 +9.0
JCT LR LR
comp=Z,415nm,20.0s,MS5.0
ANTO Ankara 107.00 43 PFAKE 02 13 40.0 +8.6
ANTO LR LR
comp=Z,439nm,21.0s,MS5.0
WCI Wyandotte Cave 107.11 314 PFAKE 02 13 40.0 +8.4
WCI LR LR
comp=Z,784nm,19.0s,MS5.3
BRTR Keskin Array B 107.20 43 PP PP 02 13 44.5 -5.1
comp=Z,0.9nm,0.8s,baz=193,slow=4.4,SNR=4.2
BR131 Keskin Array S 107.20 43 PFAKE 02 13 40.0 +8.2
BR131 LR LR
comp=Z,377nm,19.0s,MS5.0
BFO Black Forest 107.27 22 PFAKE 02 13 40.0 +8.1
BFO LR LR
comp=Z,309nm,19.0s,MS4.9
PKME Peaks-Kenny Pk 107.30 329 PFAKE 02 13 40.0 +8.0
PKME LR LR
comp=Z,865nm,20.0s,MS5.3
NCB Newcomb 107.66 325 PFAKE 02 13 40.0 +7.3
NCB LR LR
comp=Z,989nm,21.0s,MS5.3
LTX Lajitas 107.79 296 PFAKE 02 13 40.0 +7.1
LTX LR LR
comp=Z,596nm,20.0s,MS5.2
TXAR Lajitas Array 107.79 296 PKiKP PKiKP 02 13 32.6 -0.3
comp=Z,0.9nm,0.9s,baz=164,slow=5.1,SNR=5.3
LONY Lake Ozonia 108.36 325 PFAKE 02 13 40.0 +6.0
LONY LR LR
comp=Z,885nm,20.0s,MS5.3
CCM Cathedral Cave 109.06 310 PFAKE 02 13 50.0 +15
CCM LR LR
comp=Z,19.0s,MS5.6
GRFO Grafenberg 109.19 24 PFAKE 02 13 50.0 +14
GRFO LR LR
comp=Z,777nm,20.0s,MS5.3
KHC Kasperske Hory 109.23 26 *ex* x 02 13 50.4
KHC *e*SP SP 02 23 25.7 -4.0
KHC *e*SS SS 02 29 35.4 +11
KHC AMS AMS 02 51 50.0
comp=Z,1μm,24.9s
ZST Bratislava 109.27 28 *e*PP PP 02 13 59.3 -5.4
AAM Ann Arbor 109.55 318 PFAKE 02 13 50.0 +14
AAM LR LR
comp=Z,1μm,22.0s,MS5.5
WMOK Wichita Mounta 109.76 303 PFAKE 02 13 50.0 +13
WMOK LR LR
comp=Z,607nm,20.0s,MS5.2
NKC Novy Kostel 109.98 24 *e*SP SP 02 23 41.6 +4.2
NKC *ex* x 02 29 50.3
VYHS Vyhne 110.02 29 *e*PP PP 02 14 06.7 -3.4
KECS Kecovo 110.47 30 PDIF Pdif 02 09 44.7 +7.4
KECS Kecovo 110.47 30 *e*Pdif Pdif 02 09 44.7 +7.4
MNTX Cornudas Mount 110.57 296 PFAKE 02 13 50.0 +12
MNTX LR LR
comp=Z,592nm,21.0s,MS5.1
PVCC Panska Ves 110.77 26 AMS AMS 02 52 30.0
comp=Z,1μm,22.0s
DPC Dobruska-Polom 111.04 27 *e*SS SS 02 29 48.9 -0.2
DPC AMS AMS 02 55 30.0
comp=Z,1μm,16.7s
CLL Collm 111.11 24 P Pdif 02 09 49.0 +8.9
CLL *e*PS PS 02 23 48.0 -1.1
CLL Collm 111.11 24 *e*(Pdif) 02 09 41.0
comp=Z,38nm,2.3s
CLL *e*PP PP 02 14 24.0 +6.0
CLL *e*PS PS 02 23 53.0 +3.9
CLL *e*PPS 02 24 51.0
CLL *e*SS SS 02 29 54.0 +4.0
CLL LmV 03 00 00.0
comp=Z,400nm,18.1s

AMTX Amarillo 111.28 301 PFAKE 02 13 50.0 +11
AMTX LR LR
comp=Z,584nm,21.0s,MS5.1
STHS Stebnicka Huta 111.53 30 PDIF Pdif 02 09 51.3 +9.3
STHS *e* 02 14 06.5
STHS Stebnicka Huta 111.53 30 *e*Pdif Pdif 02 09 51.3 +9.3
STHS *e* 02 14 06.5
ESK Eskdalemuir 112.00 13 PFAKE 02 13 50.0 +9.2
ESK LR LR
comp=Z,410nm,20.0s,MS5.0
GNI Garni 112.18 51 PFAKE 02 13 50.0 +8.8
GNI LR LR
comp=Z,777nm,21.0s,MS5.3
KSU1 Kansas State U 112.30 307 PFAKE 02 13 50.0 +8.6
KSU1 LR LR
comp=Z,824nm,22.0s,MS5.3
JFWS Jewell Farm 112.68 314 PFAKE 02 13 50.0 +7.9
JFWS LR LR
comp=Z,678nm,20.0s,MS5.2
ANN Anapa 113.00 43 *i* PKiKP PKiKP 02 13 53.9 +11
ANN *e* 02 20 44.4
ANN pmax pmax
comp=Z,68nm,1.3s
SCIA State Center 113.09 311 PFAKE 02 13 50.0 +7.1
SCIA LR LR
comp=Z,946nm,21.0s,MS5.4
CBKS Cedar Bluff 113.50 305 PFAKE 02 13 50.0 +6.3
CBKS LR LR
comp=Z,791nm,20.0s,MS5.3
ANMO Albuquerque 113.70 297 ⇑*i* PKiKP PKiKP 02 13 43.3 -0.8
ANMO Albuquerque 113.70 297 PFAKE 02 14 00.0 +16
ANMO LR LR
comp=Z,766nm,21.0s,MS5.3
TUC Tucson 113.84 293 PFAKE 02 14 00.0 +16
TUC LR LR
comp=Z,551nm,20.0s,MS5.2
KIV Kislovodsk 114.41 47 PFAKE 02 14 00.0 +15
KIV LR LR
comp=Z,136nm,20.0s,MS4.5
116A Eloy 114.52 292 ⇓P PKiKP 02 13 45.4 -0.3
baz=115
PMG Port Moresby 114.85 171 PFAKE 02 14 00.0 +14
PMG LR LR
comp=Z,2μm,19.0s,MS5.7
115A Sonoran Desert 114.91 292 ⇑P PKiKP 02 13 46.4 0.0
baz=115
HNR Honiara 115.04 185 PFAKE 02 14 00.0 +13
HNR LR LR
comp=Z,814nm,19.0s,MS5.3
KIEV Kiev 115.09 35 PFAKE 02 14 00.0 +13
KIEV LR LR
comp=Z,558nm,22.0s,MS5.1
AKASG Malin Array Be 115.10 35 PKiKP PKiKP 02 13 43.9 -2.9
comp=Z,0.3nm,0.4s,baz=236,slow=1.6,SNR=4.0
AKASG Malin Array Be 115.10 35 *i* PKiKP PKiKP 02 13 43.9 -2.9
SCHQ Schefferville 115.35 335 PFAKE 02 14 00.0 +13
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.6
SDCO Great Sand Dun 115.42 300 PFAKE 02 14 00.0 +13
SDCO LR LR
comp=Z,948nm,21.0s,MS5.4
Z14A Wintersburg 115.80 292 ⇓P PKPdf 02 13 47.3 -0.8
baz=116
ECSD EROS,Sioux Fal 116.03 310 PFAKE 02 14 00.0 +11
ECSD LR LR
comp=Z,1μm,22.0s,MS5.5
Y14A Wickenburg 116.27 292 P PKPdf 02 13 48.1 -0.9
baz=116,SNR=5.5
X15A Humboldt 116.30 293 ⇑P PKPdf 02 13 48.6 -0.4
baz=116
MVCO Mesa Verde 116.49 298 PFAKE 02 14 00.0 +11
MVCO LR LR
comp=Z,797nm,21.0s,MS5.3
MVCO Mesa Verde 116.49 298 ⇓P PKPdf 02 13 48.8 -0.7
baz=117
GLA Glamis 116.55 290 ⇑P PKPdf 02 13 49.0 -0.6
baz=117
X14A Yava 116.62 293 ⇓P PKPdf 02 13 49.1 -0.5
baz=117
WUAZ Wupatki 116.64 294 PFAKE 02 14 00.0 +10
WUAZ LR LR
comp=Z,1μm,22.0s,MS5.4
WUAZ Wupatki 116.64 294 ⇓P PKPdf 02 13 49.4 -0.3
baz=117
Y12C Blythe 116.93 291 ⇑P PKPdf 02 13 49.9 -0.4
baz=117
DVTC Desert V Tower 116.93 289 ⇓P PKPdf 02 13 49.6 -0.7
baz=117
SWSC Sam W. Stewart 116.98 289 ⇑P PKPdf 02 13 49.9 -0.4
baz=117
ISCO Idaho Springs 117.07 301 PFAKE 02 14 00.0 +9.4
ISCO LR LR
comp=Z,592nm,20.0s,MS5.2
PDMCI Parker Dam,Lak 117.15 292 P PKPdf 02 13 50.2 -0.5
baz=117,SNR=7.4
X13A Yucca 117.21 292 ⇑P PKPdf 02 13 50.5 -0.3
baz=117
W14A Seligman 117.30 293 P PKPdf 02 13 51.2 +0.2
baz=118,SNR=6.6
EYMN Ely 117.31 316 PFAKE 02 14 00.0 +9.0
EYMN LR LR
comp=Z,890nm,20.0s,MS5.4
BC3 Big Chuckw Mtn 117.35 290 ⇑P PKPdf 02 13 50.9 -0.2
baz=118
IRM Iron Mountain 117.58 291 ⇓P PKPdf 02 13 51.3 -0.2
baz=118
W13A Hualapai Mount 117.63 292 P PKPdf 02 13 51.8 +0.1
baz=118,SNR=7.1
PFO Pinyon Flat Ob 117.85 289 PFAKE 02 14 00.0 +8.0
PFO LR LR
comp=Z,154nm,20.0s,MS4.6
BELC Belle Mtn. 117.91 290 ⇓P PKPdf 02 13 52.2 +0.1
baz=118
MURC Murrieta 118.24 289 ⇓P PKPdf 02 13 52.3 -0.5
baz=118
W12A Cal Nev Ari 118.30 292 ⇓P PKPdf 02 13 52.5 -0.4
baz=118
V12A Nelson 118.62 292 ⇓P PKPdf 02 13 53.3 -0.2
baz=119
TUQ Turquoise Mtn. 118.96 291 ⇑P PKPdf 02 13 54.0 -0.2
baz=119
SRU San Rafael 118.97 298 *e*PKiKP PKPdf 02 13 53.0 -1.2
BFSC Mount Baldy St 118.97 289 ⇑P PKPdf 02 13 53.9 -0.3
baz=119
U12A Valley of Fire 118.99 293 ⇓P PKPdf 02 13 53.9 -0.3
baz=119
GSC Goldstone 119.33 290 P PKPdf 02 13 55.0 +0.1
baz=120,SNR=6.2
DECC Green Verdugo 119.34 288 ⇓P PKPdf 02 13 54.9 -0.1
baz=120
AGMN Agassiz Refuge 119.34 314 *e*PKPdf PKPdf 02 13 52.3 -2.6
AGMN LR LR
comp=Z,966nm,20.0s,MS5.4
MSU Marysvale 119.35 296 *e*PKiKP PKPdf 02 13 54.8 -0.1
MVU Marysvale 119.36 296 PFAKE 02 14 10.0 +15
MVU LR LR
comp=Z,563nm,21.0s,MS5.2
TMUT Trail Mountain 119.45 297 *e*PKPdf PKPdf 02 13 54.4 -0.7
SHOC Shoshone 119.50 291 ⇑P PKPdf 02 13 55.4 +0.2
baz=120
EDW2 Edwards Air Fo 119.64 289 P PKPdf 02 13 55.1 -0.4
baz=120,SNR=13
RSSD Black Hills 119.67 305 *e*PKiKP PKPdf 02 13 53.8 -1.7
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.5
OSI Osito Adit 119.83 288 ⇑P PKPdf 02 13 55.8 -0.1
baz=120
BSC Santa Cruz Isl 119.85 287 ⇑P PKPdf 02 13 55.4 -0.5
baz=120
U10A Ash Meadows, A 119.92 292 P PKPdf 02 13 56.3 +0.2
baz=120,SNR=6.9
LRMC Laurel Mountai 119.93 290 P PKPdf 02 13 56.0 0.0
baz=120,SNR=5.7
BORG Borgarnes 120.09 2 PFAKE 02 14 10.0 +14
BORG LR LR
comp=Z,519nm,20.0s,MS5.2
MPU Maple Canyon 120.21 297 PFAKE 02 14 10.0 +13
MPU LR LR
comp=Z,1μm,19.0s,MS5.6
FURC Furnace Creek, 120.24 291 ⇓P PKPdf 02 13 57.1 +0.4
baz=120
MPMC Manual Prospec 120.26 290 P PKPdf 02 13 56.7 0.0
baz=120,SNR=6.5
DAU Daniels Canyon 120.32 298 *e*PKiKP PKPdf 02 13 56.7 -0.1
DAC Darwin (Calif) 120.48 291 PFAKE 02 14 10.0 +13
DAC LR LR

comp=Z,573nm,19.0s,MS5.2
ISA Isabella 120.49 289 PFAKE 02 14 10.0 +13
ISA LR LR
comp=Z,116nm,19.0s,MS4.5
ISA Isabella 120.49 289 ⇓P PKPdf 02 13 57.2 0.0
baz=121,SNR=6.9
JLU Jordanelle 120.56 298 *e*PKPdf PKPdf 02 13 56.3 -1.0
PKM Peak Mountain 120.63 288 ⇑P PKPdf 02 13 57.4 0.0
baz=121
CWC Cottonwood Cre 120.86 290 ⇓P PKPdf 02 13 58.0 +0.2
baz=121
ULM Lac du Bonnet 120.88 315 PKP PKPdf 02 13 54.8 -3.1
comp=Z,3.6nm,0.7s,baz=181,slow=1.3,SNR=8.7
ULM Lac du Bonnet 120.88 315 PKP PKPdf 02 13 54.8 -3.1
ULM LR LR
comp=Z,930nm,20.0s,MS5.4
GRAC Grapevine Rang 120.91 291 ⇑P PKPdf 02 13 58.1 +0.2
baz=121
DUG Dugway 120.94 297 *e*PKIKP PKPdf 02 13 57.0 -1.0
DUG MLR MLR
comp=Z,740nm,19.0s,MS5.3
DUG Dugway 120.94 297 P PKPdf 02 13 57.6 -0.3
baz=121,SNR=17
VES Vestal, Richgr 120.95 289 ⇑P PKPdf 02 13 57.5 -0.5
baz=121
SMMC Simmler 121.04 288 ⇑P PKPdf 02 13 58.5 +0.3
baz=121
Q12A Willow Creek R 121.11 295 P PKPdf 02 13 58.3 0.0
baz=121,SNR=12
OBN Obninsk 121.22 36 *i* PKIKP PKPdf 02 14 06.8 +8.3
OBN *e* 02 15 30.5
OBN pmax pmax
comp=Z,33nm,1.6s
OBN MLR MLR
comp=Z,300nm,15.0s,MS5.1
OBN Obninsk 121.22 36 PFAKE 02 14 10.0 +11
OBN LR LR
comp=Z,128nm,20.0s,MS4.6
BW06 Boulder Array 121.26 301 *e*PKPdf PKPdf 02 13 56.6 -1.9
BW06 LR LR
comp=Z,597nm,19.0s,MS5.3
PDAR Pinedale Array 121.26 301 PKP PKPdf 02 13 56.6 -1.9
comp=Z,2.8nm,0.5s,baz=141,slow=5.0,SNR=30
R10A Warm Springs 121.31 293 P PKPdf 02 13 59.0 +0.2
baz=122,SNR=5.5
S09A Goldfield 121.37 292 P PKPdf 02 13 58.8 -0.1
baz=122,SNR=13
HWUT Hardware Ranch 121.37 299 *e*PKPdf PKPdf 02 13 57.5 -1.4
HWUT LR LR
comp=Z,617nm,21.0s,MS5.2
Q11A Duckwater 121.39 294 P PKPdf 02 13 58.9 0.0
baz=122,SNR=6.6
P12A McGill 121.47 295 P PKPdf 02 13 58.8 -0.2
baz=122,SNR=5.5
HELL Mitchell Peak, 121.55 290 P PKPdf 02 13 58.6 -0.6
baz=122,SNR=5.9
SPUT South Promonto 121.59 298 *e*PKPdf PKPdf 02 13 55.4 -3.9
BGU Big Grassy Mou 121.60 297 *e*PKPdf PKPdf 02 13 58.3 -1.0
TPH Tonopah 121.63 292 PFAKE 02 14 10.0 +11
TPH LR LR
comp=Z,371nm,20.0s,MS5.0
R09A Tonopah 121.68 292 P PKPdf 02 13 59.5 +0.1
baz=122,SNR=9.2
S08C White Mtn Res 121.70 291 P PKPdf 02 13 59.4 -0.1
baz=122,SNR=6.3
O12A Currie 121.98 296 P PKPdf 02 13 59.6 -0.3
baz=122,SNR=9.2
AHID Auburn Hatcher 122.01 300 PFAKE 02 14 10.0 +10
AHID LR LR
comp=Z,596nm,20.0s,MS5.2
N13A Wendover, West 122.14 296 ⇑P PKPdf 02 14 00.5 +0.2
baz=122
MLAC Mammoth Lakes 122.15 291 ⇑P PKPdf 02 14 00.6 +0.3
baz=122
T06C Millerton Lake 122.15 290 P PKPdf 02 14 00.2 -0.1
baz=122,SNR=10
Q09A Carvers 122.17 293 ⇓P PKPdf 02 14 00.7 +0.3
baz=122
KCC Kaiser Creek 122.18 290 ⇑P PKPdf 02 14 00.1 -0.2
baz=122
U04C Hernandez Rese 122.25 288 ⇓P PKPdf 02 14 01.3 +0.8
baz=122
R08A Mina 122.30 292 ⇓P PKPdf 02 14 00.8 +0.2
baz=122
O11A Cowboy Ranch, 122.35 295 P PKPdf 02 14 00.3 -0.4
baz=122,SNR=12
P10A Eureka 122.39 294 ⇑P PKPdf 02 14 00.9 +0.2
baz=122
NVAR Mina Array Bea 122.46 292 PKP PKPdf 02 14 01.0 +0.1
comp=Z,2.1nm,0.5s,baz=292,slow=21,SNR=25
NVAR Mina Array Bea 122.46 292 PKP PKPdf 02 14 01.0 +0.1
M13A Montello 122.50 297 P PKPdf 02 14 01.0 0.0
baz=123,SNR=9.2
N12A Clover Valley, 122.56 296 P PKPdf 02 14 01.3 +0.2
baz=123,SNR=8.8
MOOW Moose Ponds 122.57 301 *e*PKPdf PKPdf 02 13 59.7 -1.4
ELK Elko 122.59 296 *e*PKIKP PKPdf 02 14 00.4 -0.8
ELK MLR MLR
comp=Z,925nm,20.0s
Q08A Gabbs 122.59 292 P PKPdf 02 14 01.2 +0.1
baz=123,SNR=7.4
R07C Lee Vining 122.61 291 ⇑P PKPdf 02 14 01.6 +0.4
baz=123
LAO LASA Array 122.62 306 *e*PKPdf PKPdf 02 13 59.1 -2.1
LAO LR LR
comp=Z,956nm,19.0s,MS5.5
HAST UC Hastings Re 122.69 288 ⇑P PKPdf 02 14 01.9 +0.5
baz=123
KOLN Koldanda 122.73 88 *e*P PKPdf 02 13 59.7 -1.7
comp=Z,17nm,0.9s
S05C Merced 122.74 289 ⇑P PKPdf 02 14 01.8 +0.4
baz=123
IMW Indian Meadow 122.77 301 *e*PKPdf PKPdf 02 14 00.6 -0.9
FLWY Flagg Ranch 122.79 301 *e*PKPdf PKPdf 02 14 00.6 -0.9
RLMT Red Lodge 122.87 303 PFAKE 02 14 10.0 +8.3
RLMT LR LR
comp=Z,1μm,20.0s,MS5.5
S06C San Francisco 122.88 290 P PKPdf 02 14 02.0 +0.3
baz=123,SNR=5.7
O10A Cortez Mining, 122.90 294 ⇓P PKPdf 02 14 01.9 +0.2
baz=123
M12A Wells 122.92 296 P PKPdf 02 14 01.9 +0.1
baz=123,SNR=13
PACP Pacheco Peak 123.00 288 ⇓P PKPdf 02 14 02.5 +0.5
baz=123,SNR=7.0
LKWY Lake 123.00 302 PFAKE 02 14 10.0 +8.0
LKWY LR LR
comp=Z,867nm,20.0s,MS5.4
DGMT Dagmar 123.03 309 *e*PKPdf PKPdf 02 13 58.1 -4.0
DGMT LR LR
comp=Z,1μm,22.0s,MS5.5
R06C Coleville 123.14 291 P PKPdf 02 14 03.2 +1.0
baz=123,SNR=5.8
O09A Fish Creek Ran 123.17 294 P PKPdf 02 14 01.7 -0.5
baz=123,SNR=8.0
N10A Dunphy 123.22 295 ⇑P PKPdf 02 14 02.3 -0.1
baz=123
CMB Columbia Colle 123.28 290 *e*PKIKP PKPdf 02 14 01.4 -1.1
CMB MLR MLR
comp=Z,515nm,20.0s,MS5.2
CMB Columbia Colle 123.28 290 P PKPdf 02 14 02.5 0.0
baz=123,SNR=6.8
P08A Dixie Valley 123.28 293 ⇑P PKPdf 02 14 02.1 -0.4
baz=123
YMR Madison River 123.35 302 PFAKE 02 14 10.0 +7.4
YMR LR LR
comp=Z,2μm,22.0s,MS5.6
M11A Holland Ranch, 123.37 296 P PKPdf 02 14 03.1 +0.4
baz=124,SNR=5.9
BMN Battle Mountai 123.38 294 *e*PKIKP PKPdf 02 14 01.5 -1.2
BMN MLR MLR
comp=Z,646nm,20.0s,MS5.3
S04C Ingram Canyon, 123.39 289 ⇑P PKPdf 02 14 03.0 +0.3
baz=124
FINES FINESS Array B 123.41 27 PKP PKPdf 02 14 00.5 -2.3
comp=Z,2.4nm,0.6s,baz=112,slow=2.1,SNR=11
FINES FINESS Array B 123.41 27 PKIKP PKPdf 02 14 00.5 -2.2
FINES pmax pmax
comp=Z,2.0nm,0.6s
DMN Daman 123.46 89 *e*P PKPdf 02 14 01.3 -1.5
GKN Gorkha 123.50 88 *e*P PKPdf 02 14 00.8 -2.1
BNLO Ben Lomond (Sa 123.57 288 ⇓P PKPdf 02 14 03.3 +0.3
baz=124
P07A Fallon 123.59 292 ⇑P PKPdf 02 14 03.6 +0.5
baz=124
R05C Kirkwood Meado 123.60 291 P PKPdf 02 14 03.9 +0.8
baz=124,SNR=10

PKI Pulchoki 123.61 89 *e*P PKPdf 02 14 00.5 -2.6
KKN Kakani 123.70 89 *e*P PKPdf 02 14 01.7 -1.6
WENL Wente Brothers 123.71 289 ⇑P PKPdf 02 14 03.8 +0.5
baz=124
O08A Rochester Mine 123.76 293 ⇑P PKPdf 02 14 03.9 +0.5
baz=124
JRSC Jasper Ridge 123.81 288 ⇑P PKPdf 02 14 03.4 -0.1
baz=124
M10A I.L. Ranch, Tu 123.82 295 ⇓P PKPdf 02 14 03.8 +0.3
baz=124
SFJD Kangerlussuaq 123.84 348 PFAKE 02 14 10.0 +6.5
SFJD LR LR
comp=Z,1μm,19.0s,MS5.7
N09A Rock Creek Ran 123.84 294 P PKPdf 02 14 03.9 +0.3
baz=124,SNR=12
WCN Washoe City 123.87 291 ⇓P PKPdf 02 14 03.8 +0.1
baz=124
LAVA Lava Cap Winer 123.99 290 P PKPdf 02 14 04.0 +0.1
baz=124,SNR=6.2
BDM Black Diamond 124.01 289 ⇑P PKPdf 02 14 04.4 +0.5
baz=124
O07A Toulon 124.04 293 P PKPdf 02 14 04.8 +0.8
baz=124,SNR=18
N08A GE Springer Mi 124.10 294 P PKPdf 02 14 04.3 +0.2
baz=124,SNR=12
JIRN Jiri 124.11 90 *e*P PKPdf 02 14 02.9 -1.2
comp=Z,17nm,0.7s
GUN Gumba 124.13 90 *e*P PKPdf 02 14 02.9 -1.2
M09A Marrel Ranch, 124.22 295 ⇑P PKPdf 02 14 04.4 +0.1
baz=124
HLID Hailey 124.24 298 *e*PKPdf PKPdf 02 14 03.4 -0.9
HLID LR LR
comp=Z,484nm,22.0s,MS5.1
HLID Hailey 124.24 298 ⇑P PKPdf 02 14 04.2 -0.1
baz=124,SNR=6.6
CHG Chiang Mai 124.24 108 P PKPdf 02 14 14.7 +10
CHTO Chiang Mai 124.24 108 *e*PKPdf PKPdf 02 14 02.9 -1.4
CHTO LR LR
comp=Z,589nm,21.0s,MS5.2
P05C Yuba Gap, Truc 124.32 291 P PKPdf 02 14 05.1 +0.6
baz=124,SNR=7.1
MCMT McKenzie Canyo 124.38 300 *e*PKPdf PKPdf 02 14 04.1 -0.5
Q04C Lincoln 124.39 290 ⇓P PKPdf 02 14 05.4 +0.8
baz=124
FARB Farallon Islan 124.43 288 ⇓P PKPdf 02 14 04.6 -0.1
baz=125
G15A Dillon 124.45 301 ⇓P PKPdf 02 14 04.6 -0.1
baz=125,SNR=9.7
N07B Gerlach 124.54 293 P PKPdf 02 14 05.5 +0.6
baz=125,SNR=11
O06A Flanigan 124.54 292 P PKPdf 02 14 05.3 +0.4
baz=125,SNR=11
Q03C Winters 124.58 289 ⇓P PKPdf 02 14 05.5 +0.5
baz=125
BEKR Beckwourth 124.60 291 P PKPdf 02 14 05.3 +0.3
baz=125,SNR=9.3
CVS Carmenet Viney 124.61 289 ⇑P PKPdf 02 14 05.4 +0.4
baz=125,SNR=7.4
OHCM Honcut 124.81 290 *e*PKPdf PKPdf 02 14 05.5 +0.1
NSHM Saint Helena R 124.82 289 *e*PKPdf PKPdf 02 14 05.8 +0.3
SUTB Sutter Butte 124.90 290 ⇓P PKPdf 02 14 05.3 -0.3
baz=125
F15A Butte 124.94 302 P PKPdf 02 14 05.7 0.0
baz=125,SNR=7.6
N06A Buffalo Meadow 124.97 293 P PKPdf 02 14 06.0 +0.3
baz=125,SNR=12
O05C Quincy 124.97 291 P PKPdf 02 14 06.0 +0.3
baz=125,SNR=9.5
ORV Oroville 124.98 290 ⇑P PKPdf 02 14 05.9 +0.1
baz=125
MNRC McLaughlin Nat 124.99 289 ⇑P PKPdf 02 14 06.1 +0.4
baz=125,SNR=5.1
M07A Soldier Meadow 125.08 294 ⇑P PKPdf 02 14 06.3 +0.4
baz=125
NANT Nan 125.17 109 P PKPdf 02 14 05.0 -1.1
EGMT Eagleton 125.23 305 *e*PKPdf PKPdf 02 14 04.6 -1.7
EGMT LR LR
comp=Z,648nm,20.0s,MS5.3
EGMT Eagleton 125.23 305 P PKPdf 02 14 05.5 -0.7
baz=125,SNR=6.6
L08A Fields 125.23 295 P PKPdf 02 14 06.8 +0.6
baz=125,SNR=15
K09A Rome 125.28 296 P PKPdf 02 14 06.5 +0.2
baz=125,SNR=10
O04C Chester 125.31 291 P PKPdf 02 14 06.6 +0.2
baz=126,SNR=15
ELFS Eagle Lake Fie 125.34 292 ⇑P PKPdf 02 14 06.3 -0.1
baz=126
F14A Wisdom 125.35 301 ⇑P PKPdf 02 14 06.3 -0.1
baz=126
HOPS Hopland 125.41 289 ⇓P PKPdf 02 14 07.3 +0.7
baz=126
E15A Deer Lodge 125.44 302 ⇑P PKPdf 02 14 06.0 -0.6
baz=126
ORR Orenburg 125.47 49 *e*PKIKP PKPdf 02 14 04.7 -2.0
ORR *e* 02 15 58.6
ORR pmax pmax
comp=Z,10.0nm,1.2s
WVOR Wild Horse Val 125.56 295 *e*PKIKP PKPdf 02 14 06.5 -0.4
WVOR MLR MLR
comp=Z,523nm,22.0s,MS5.2
O03C Acorn Hollow, 125.58 290 ⇓P PKPdf 02 14 06.6 -0.3
baz=126
L07A Adell 125.62 294 P PKPdf 02 14 07.8 +0.9
baz=126,SNR=11
M06C Likely Place G 125.63 292 P PKPdf 02 14 07.7 +0.7
baz=126,SNR=6.5
K08A Mann Creek Ran 125.70 295 P PKPdf 02 14 07.5 +0.4
baz=126,SNR=7.1
GASB Alder Springs 125.70 290 P PKPdf 02 14 08.6 +1.5
baz=126,SNR=11
SHL Shillong 125.72 96 *e*PKP PKPdf 02 14 06.0 -1.2
SHL *e*PP PP 02 16 06.0 +6.9
J09A Fry Pan Ranch, 125.76 296 P PKPdf 02 14 07.5 +0.2
baz=126,SNR=12
F13A Darby 125.80 300 P PKPdf 02 14 06.7 -0.7
baz=126,SNR=14
D15A Lincoln 125.82 303 P PKPdf 02 14 07.0 -0.4
baz=126,SNR=10
E14A Clinton 125.84 301 P PKPdf 02 14 07.2 -0.2
baz=126,SNR=10
H11A Donnelly 125.86 298 P PKPdf 02 14 07.2 -0.2
baz=126,SNR=15
HATC Hat Creek Radi 125.87 292 P PKPdf 02 14 07.8 +0.3
baz=126,SNR=9.2
P01C Double 8 Ranch 125.90 289 ⇑P PKPdf 02 14 08.0 +0.5
baz=126
AKTK Aktyubinsk 126.03 52 PKP PKPdf 02 14 05.9 -1.9
AKTO Aktyubinsk 126.03 52 PKP PKPdf 02 14 05.9 -1.9
comp=Z,3.5nm,0.9s,baz=195,slow=2.5,SNR=6.6
AKTO Aktyubinsk 126.03 52 PKIKP PKPdf 02 14 05.9 -1.9
AKTO pmax pmax
comp=Z,4.0nm,0.9s
MOD Modoc 126.04 293 *e*PKPdf PKPdf 02 14 06.6 -1.2
MOD LR LR
comp=Z,273nm,20.0s,MS4.9
MOD Modoc 126.04 293 P PKPdf 02 14 08.1 +0.3
baz=126,SNR=11
K07A Rock Creek Ran 126.06 295 P PKPdf 02 14 07.8 0.0
baz=126,SNR=8.8
CHMT Chamberlain Mo 126.08 302 *e*PKPdf PKPdf 02 14 06.4 -1.4
M05C Lookout 126.09 292 P PKPdf 02 14 08.1 +0.3
baz=126,SNR=11
O02C Red Bluff 126.11 290 P PKPdf 02 14 08.7 +0.7
baz=126,SNR=5.2
J08A Circle Bar Ran 126.14 296 P PKPdf 02 14 08.1 +0.1
baz=126,SNR=11
DAV Davao City (W) 126.16 143 PFAKE 02 14 20.0 +12
DAV LR LR
comp=Z,455nm,20.0s,MS5.1
E13A Victor 126.20 301 P PKPdf 02 14 07.5 -0.6
baz=126,SNR=20
I09A Lost Marbles R 126.20 297 ⇑P PKPdf 02 14 08.2 +0.1
baz=126
F12A Elk City 126.23 300 ⇑P PKPdf 02 14 07.4 -0.8
baz=126
WDC Whiskeytown Da 126.27 291 PFAKE 02 14 20.0 +12
WDC LR LR
comp=Z,393nm,19.0s,MS5.1
WDC Whiskeytown Da 126.27 291 P PKPdf 02 14 07.7 -0.5
baz=126,SNR=7.4
D14A Greenough 126.32 302 P PKPdf 02 14 07.3 -1.0
baz=126,SNR=9.2
MSO Missoula 126.35 302 *e*PKPdf PKPdf 02 14 07.0 -1.4
MSO LR LR
comp=Z,588nm,19.0s,MS5.3
L05A Lakeview 126.42 293 ⇑P PKPdf 02 14 08.9 +0.4

baz=127,SNR=6.5
G11A Walters Elk Ra 126.48 299 P PKPdf 02 14 07.7 -1.0
baz=127,SNR=20
M03C McCloud 126.55 291 ⇑P PKPdf 02 14 08.7 0.0
baz=127
J07A Hines 126.58 295 P PKPdf 02 14 09.0 +0.2
baz=127,SNR=6.9
I08A Drewsey 126.58 296 ⇑P PKPdf 02 14 08.7 -0.1
baz=127
BMO Blue Mountains 126.61 298 *e*PKIKP PKPdf 02 14 07.3 -1.6
BMO MLR MLR
comp=Z,677nm,22.0s,MS5.3
K06A Valley Falls 126.65 294 P PKPdf 02 14 09.0 +0.1
baz=127,SNR=11
H09A Durkee 126.66 297 ⇑P PKPdf 02 14 08.4 -0.5
baz=127
M04C Macdael 126.76 292 P PKPdf 02 14 09.4 +0.3
baz=127,SNR=6.1
F11A Grangeville 126.77 299 P PKPdf 02 14 07.9 -1.2
baz=127,SNR=9.4
D13A Huson 126.79 301 P PKPdf 02 14 08.1 -1.1
baz=127,SNR=13
N02C Big Bar 126.85 290 ⇓P PKPdf 02 14 09.4 +0.1
baz=127
C14A Swan Lake 126.92 302 P PKPdf 02 14 08.3 -1.1
baz=127,SNR=12
K05A Summer Lake 126.94 294 P PKPdf 02 14 10.1 +0.6
baz=127,SNR=6.8
M02C Callahan 127.02 291 ⇓P PKPdf 02 14 09.5 -0.2
baz=127,SNR=10
H08A Prairie City 127.06 297 ⇓P PKPdf 02 14 09.1 -0.7
baz=127
L04A Klamath Falls 127.07 292 ⇑P PKPdf 02 14 09.6 -0.2
baz=127,SNR=5.6
I07A Izee 127.18 296 P PKPdf 02 14 10.1 +0.1
baz=127,SNR=9.6
YBH Yreka Blue Hor 127.18 291 PFAKE 02 14 20.0 +10
YBH LR LR
comp=Z,471nm,19.0s,MS5.2
YBH Yreka Blue Hor 127.18 291 ⇓P PKPdf 02 14 09.4 -0.6
baz=127
C13A Hot Springs 127.26 302 P PKPdf 02 14 08.8 -1.3
baz=127,SNR=6.1
F10A Beach Ranch, E 127.36 299 P PKPdf 02 14 09.3 -1.0
baz=128,SNR=7.5
I06A Prineville 127.44 295 P PKPdf 02 14 11.3 +0.8
baz=128,SNR=6.7
J05A Fort Rock 127.51 294 P PKPdf 02 14 10.8 +0.2
baz=128,SNR=9.5
E10A Myers Farm, Un 127.66 299 P PKPdf 02 14 10.2 -0.7
baz=128,SNR=6.2
KTRM Thompson Ridge 127.66 291 P PKPdf 02 14 11.8 +0.9
D11A Klaveano Farm, 127.67 300 P PKPdf 02 14 09.1 -1.8
baz=128,SNR=8.8
B13A Whitefish 127.69 303 P PKPdf 02 14 10.2 -0.8
baz=128,SNR=6.7
C12A Trout Creek 127.71 301 P PKPdf 02 14 09.7 -1.3
baz=128,SNR=5.3
G08A Pilot Rock 127.75 297 P PKPdf 02 14 11.5 +0.4
baz=128,SNR=18
AML Almayashu 127.82 69 P PKPdf 02 14 10.6 -0.5
SNR=6.9
HUMO Hull Mountain 127.93 292 PFAKE 02 14 20.0 +8.6
HUMO LR LR
comp=Z,602nm,20.0s,MS5.3
J04A Umpqua Nationa 127.93 293 ⇓P PKPdf 02 14 11.6 +0.2
baz=128
L02A Cave Junction 127.95 291 ⇑P PKPdf 02 14 11.2 -0.2
baz=128
F08A Pendleton 128.01 298 ⇓P PKPdf 02 14 11.2 -0.3
baz=128
H06A Lindquist Farm 128.06 296 P PKPdf 02 14 12.0 +0.3
baz=128,SNR=6.8
G07A Ruggs Ranch, H 128.09 297 P PKPdf 02 14 11.2 -0.5
baz=128,SNR=8.1
I05A Bend 128.14 295 ⇑P PKPdf 02 14 12.0 +0.2
baz=128
E09A Wood Farm, Sta 128.19 299 P PKPdf 02 14 10.9 -1.0
baz=128,SNR=10
EKS2 Erkin-Say 128.23 68 P PKPdf 02 14 10.8 -1.1
SNR=6.0
B12A Libby 128.30 302 ⇓P PKPdf 02 14 11.0 -1.1
baz=128
UCH Uchtor 128.32 69 P PKPdf 02 14 11.5 -0.6
SNR=9.0
K02A Glendale 128.32 292 ⇑P PKPdf 02 14 12.1 -0.1
baz=128
H05A Madras 128.46 295 ⇑P PKPdf 02 14 12.3 -0.1
baz=129
J03A Ideyld Park 128.47 293 ⇓P PKPdf 02 14 12.5 +0.1
baz=129
I04A Tendick Farm, 128.47 294 ⇓P PKPdf 02 14 12.0 -0.4
baz=129
LSA Lhasa 128.48 93 PFAKE 02 14 20.0 +7.6
LSA LR LR
comp=Z,836nm,22.0s,MS5.4
G06A Carlson Farm, 128.56 296 P PKPdf 02 14 12.9 +0.3
baz=129,SNR=6.0
AAK Ala-Archa 128.59 69 P PKPdf 02 14 11.7 -0.9
SNR=7.2
AAK Ala-Archa 128.59 69 *e*PKPdf PKPdf 02 14 10.4 -2.2
AAK LR LR
comp=Z,185nm,21.0s,MS4.8
KZA Kyzart 128.60 70 P PKPdf 02 14 10.1 -2.5
SNR=7.5
E08A Dider Farm, El 128.63 298 ⇓P PKPdf 02 14 12.5 -0.2
baz=129
A12A Yaak River Ran 128.65 302 ⇓P PKPdf 02 14 11.8 -0.9
baz=129
B11A Sandpoint 128.65 302 ⇓P PKPdf 02 14 11.6 -1.2
baz=129
D09A Jones Farm, Ri 128.65 299 ⇑P PKPdf 02 14 12.1 -0.7
baz=129
F07A Phinny Hill Vi 128.66 297 ⇓P PKPdf 02 14 12.3 -0.4
baz=129
C10A Spilker Farm, 128.68 300 ⇓P PKPdf 02 14 11.7 -1.1
baz=129
FRU Bishkek 128.80 69 *e*PKIKP PKPdf 02 14 11.0 -2.0
FRU pmax pmax
comp=Z,75nm,2.1s
HAWA Hanford 128.80 298 PFAKE 02 14 20.0 +7.0
HAWA LR LR
comp=Z,489nm,21.0s,MS5.2
K01A Sixes 128.87 291 ⇓P PKPdf 02 14 11.7 -1.5
baz=129
NEW Newport 128.90 301 PFAKE 02 14 20.0 +6.8
NEW LR LR
comp=Z,916nm,20.0s,MS5.5
GBL Gable Mountain 128.91 298 PKIKP PKPdf 02 14 13.3 +0.1
D08A Wollman Farm, 128.96 299 P PKPdf 02 14 13.2 -0.1
baz=129,SNR=7.2
B10A Chitwood Farm, 128.97 301 ⇓P PKPdf 02 14 12.7 -0.7
baz=129
H04A Detroit Lake 128.97 294 ⇑P PKPdf 02 14 12.5 -0.8
baz=129
A11A Hall Mountain, 129.01 302 ⇑P PKPdf 02 14 12.6 -0.8
baz=129
USP Ospenovka 129.04 68 P PKPdf 02 14 12.0 -1.5
SNR=5.6
E07A Sunnyside 129.08 298 P PKPdf 02 14 13.9 +0.3
baz=129,SNR=9.7
OD2 Odessa Site #2 129.08 299 P PKPdf 02 14 13.0 -0.6
C09A Chrisman Ranch 129.14 300 ⇓P PKPdf 02 14 12.7 -1.0
baz=129
MXC Moxie City 129.31 297 P PKPdf 02 14 14.3 +0.3
F05A White Salmon 129.43 296 ⇑P PKPdf 02 14 14.2 -0.1
baz=130
COR Corvallis 129.49 294 PFAKE 02 14 20.0 +5.7
COR LR LR
comp=Z,691nm,21.0s,MS5.3
B09A Rice 129.51 300 ⇑P PKPdf 02 14 13.3 -1.1
baz=130
C08A Higginbotham F 129.51 299 ⇓P PKPdf 02 14 13.6 -0.8
baz=130
H03A Soap Creek Ran 129.54 294 ⇓P PKPdf 02 14 13.9 -0.6
baz=130
D07A Quincy 129.57 298 P PKPdf 02 14 13.7 -0.8
baz=130,SNR=5.7
A10A Northport 129.60 301 ⇓P PKPdf 02 14 13.6 -1.0
baz=130
E06A Yakima 129.63 297 ⇓P PKPdf 02 14 14.3 -0.3
baz=130
F04A Amboy 129.95 296 ⇓P PKPdf 02 14 14.5 -0.7
baz=130
C07A Waterville 129.95 299 ⇑P PKPdf 02 14 14.3 -1.0
baz=130
E05A Randle 130.04 297 ⇑P PKPdf 02 14 14.4 -1.0
baz=130

B08A	**Colville Reser**	**130.04**	**300**	P	PKPdf	02 14 14.3	-1.1		
	baz=130,SNR=9.3								
ARCES	**ARCESS Array B**	**130.08**	**21**	PKP	PKPdf	02 14 12.7	-2.8		
	comp=Z,5.1nm,0.9s,baz=229,slow=1.3,SNR=6.4								
ARCES	**ARCESS Array B**	**130.08**	**21**	PKIKP	PKPdf	02 14 12.7	-2.8		
ARCES				pmax	pmax				
	comp=Z,5.0nm,0.9s								
A09A	**Danville**	**130.09**	**301**	⇑P	PKPdf	02 14 14.7	-0.8		
	baz=130,SNR=7.6								
QIZ	**Qiongzhong**	**130.10**	**118**	PKP	PKPdf	02 14 16.6	+1.1		
QIZ				PP	PP	02 16 35.3	+7.3		
QIZ				LR	LR				
	comp=N,769nm,19.5s								
QIZ				LR	LR				
	comp=Z,1μm,20.5s,MS5.5								
QIZ	**Qiongzhong**	**130.10**	**118**	PFAKE		02 14 30.0	+14		
QIZ				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
APA	**Apatity**	**130.25**	**25**	⇓*i*PKIKP	PKPdf	02 14 27.0	+11		
APA				pmax	pmax				
	comp=Z,54nm,1.4s								
A08A	**Turner Farm, O**	**130.41**	**300**	P	PKPdf	02 14 15.4	-0.7		
	baz=131,SNR=8.1								
ARU	**Arti**	**130.45**	**46**	*i* PKIKP	PKPdf	02 14 13.5	-2.7		
ARU				*e*		02 16 25.6			
ARU				*e*SS	SS	02 33 47.5	-10		
ARU				MLR	MLR				
	comp=Z,600nm,20.0s,MS5.3								
ARU				MLR	MLR				
	comp=N,400nm,19.0s,MS5.2								
ARU				MLR	MLR				
	comp=E,200nm,17.0s,MS5.2								
ARU	**Arti**	**130.45**	**46**	PFAKE		02 14 30.0	+14		
ARU				LR	LR				
	comp=Z,216nm,22.0s,MS4.8								
EDM	**Edmonton**	**130.49**	**308**	*e*PKIKP	PKPdf	02 14 14.1	-2.1		
B07A	**Winthrop**	**130.50**	**299**	⇓P	PKPdf	02 14 15.0	-1.2		
	baz=131								
KEV	**Kevo**	**130.57**	**21**	PFAKE		02 14 30.0	+14		
KEV				LR	LR				
	comp=Z,1μm,19.0s,MS5.6								
D05A	**Enumclaw**	**130.58**	**297**	⇓P	PKPdf	02 14 16.3	-0.1		
	baz=131								
C05A	**Tolt Reservoir**	**130.77**	**298**	⇑P	PKPdf	02 14 16.3	-0.5		
	baz=131								
A07A	**Ashnola River,**	**131.02**	**300**	⇑P	PKPdf	02 14 17.0	-0.2		
	baz=131								
B06A	**Marblemount**	**131.22**	**299**	⇑P	PKPdf	02 14 17.1	-0.5		
	baz=131								
B05A	**Bryant**	**131.35**	**298**	P	PKPdf	02 14 17.6	-0.3		
	baz=132,SNR=8.0								
KMI	**Kunming**	**131.40**	**107**	PKP	PKPdf	02 14 18.3	+0.3		
KMI				XPKP		02 14 22.9			
KMI				PP	PP	02 16 42.3	+6.0		
KMI				PKS		02 17 51.1			
KMI				SKKS	SKKSac	02 23 31.5	-1.5		
KMI				PP	PP				
	comp=Z,50nm,4.2s								
KMI				LR	LR				
	comp=N,469nm,20.0s,MS5.4								
KMI				LR	LR				
	comp=E,572nm,18.8s,MS5.4								
KMI				LR	LR				
	comp=Z,483nm,18.5s,MS5.2								
KMI	**Kunming**	**131.40**	**107**	PKIKP	PKPdf	02 14 18.2	+0.2		
KMI						02 14 22.9			
KMI						02 16 42.2			
KMI				SS	SS	02 34 11.7	+2.3		
KMI				SSS		02 39 05.9			
KMI				MLR	MLR				
	comp=Z,480nm,18.5s,MS5.2								
KMI	**Kunming**	**131.40**	**107**	PKP	PKPdf	02 14 18.2	+0.2		
KMI				sPKP		02 14 22.9			
KMI				PP	PP	02 16 42.2	+5.9		
KMI				PKS		02 17 51.1			
KMI				SKKS	SKKSac	02 23 31.5	-1.5		
KMI				SS	SS	02 34 11.7	+2.3		
KMI				SSS		02 39 05.9			
KMI				LR	LR				
	comp=Z,480nm,18.5s,MS5.2								
C04A	**Brinnon**	**131.43**	**297**	⇓P	PKPdf	02 14 18.2	+0.1		
	baz=132								
A05A	**Maple Falls**	**131.83**	**299**	⇓P	PKPdf	02 14 18.5	-0.2		
	baz=132								
BRVK	**Borovoye**	**133.42**	**56**	*e*PKPdf	PKPdf	02 14 20.3	-1.5		
BRVK				LR	LR				
	comp=Z,164nm,21.0s,MS4.7								
BVAR	**Borovoye Array**	**133.45**	**56**	PKP	PKPdf	02 14 20.5	-1.4		
	comp=Z,3.4nm,0.8s,baz=258,slow=1.9,SNR=17								
GYA	**Guiyang**	**134.58**	**110**	⇑PDIF	Pdif	02 11 24.6	+0.2		
GYA				PKP	PKPdf	02 14 24.3	+0.3		
GYA				XPKP		02 14 28.8			
GYA				PP	PP	02 17 01.3	+4.6		
GYA				PKS		02 17 59.0			
GYA				SKS	SKSdf	02 21 32.5	-2.6		
GYA				SKKS	SKKSac	02 23 51.3	-1.1		
GYA				PP	PP				
	comp=Z,380nm,7.9s								
GYA				LR	LR				
	comp=N,2μm,20.4s,MS6.0								
GYA				LR	LR				
	comp=E,2μm,20.8s,MS6.0								
GYA				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
MKAR	**Makanchi Array**	**135.50**	**70**	PKhKP		02 14 20.3			
	comp=Z,2.8nm,1.1s,baz=224,slow=5.1,SNR=7.8								
MKAR	**Makanchi Array**	**135.50**	**70**	*i* PKIKP	PKPdf	02 14 20.3	-5.4		
CD2	**Chengdu**	**136.47**	**103**	*e*PKP	PKPdf	02 14 26.5	-1.0		
CD2				XPKP		02 14 33.5			
CD2				PP	PP	02 17 12.3	+3.6		
CD2				PKS		02 18 01.3			
CD2				SKS	SKSdf	02 21 31.9	-6.5		
CD2				SKKS	SKKSac	02 23 59.1	-4.7		
CD2				PP	PP				
	comp=Z,220nm,10.2s								
CD2				LR	LR				
	comp=N,480nm,20.4s,MS5.5								
CD2				LR	LR				
	comp=E,820nm,18.0s,MS5.5								
CD2				LR	LR				
	comp=Z,520nm,19.2s,MS5.3								
WMQ	**Urumqi**	**136.52**	**76**	⇑PKP	PKPdf	02 14 27.8	+0.2		
WMQ				PP	PP	02 17 12.9	+3.9		
WMQ				PP	PP				
	comp=Z,159nm,5.5s								
WMQ				LR	LR				
	comp=N,724nm,37.0s,MS5.2								
WMQ				LR	LR				
	comp=E,246nm,34.6s,MS5.2								
WMQ				LR	LR				
	comp=Z,570nm,30.6s,MS5.1								
YKA	**Yellowknife Ar**	**136.76**	**317**	PKP	PKPdf	02 14 25.0	-3.0		
	comp=Z,6.0nm,0.7s,baz=123,slow=2.2,SNR=20								
YKA				PP	PP	02 17 09.0	-1.5		
	comp=Z,4.5nm,0.9s,baz=120,slow=6.4,SNR=7.7								
YKA	**Yellowknife Ar**	**136.76**	**317**	PKP	PKPdf	02 14 25.1	-3.0		
YKA				PP	PP	02 17 09.0	-1.5		
GUMO	**Guam**	**137.28**	**165**	PFAKE		02 14 40.0	+11		
GUMO				LR	LR				
	comp=Z,682nm,20.0s,MS5.4								
RES	**Resolute Bay**	**137.97**	**338**	*e*PKIKP	PKPdf	02 14 28.1	-2.1		
LZH	**Lanzhou**	**140.36**	**98**	PKP	PKPdf	02 14 31.0	-3.6		
LZH				PP	PP	02 17 32.1	-0.7		
LZH				PP	PP				
	comp=Z,340nm,6.2s								
LZH				LR	LR				
	comp=E,1μm,18.0s								
LZH				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
LZH	**Lanzhou**	**140.36**	**98**	PKIKP	PKPdf	02 14 31.0	-3.6		
LZH						02 14 45.4			
LZH						02 17 32.1			
LZH						02 21 36.0			
LZH				SS	SS	02 35 50.0	-6.7		
LZH				MLR	MLR				
	comp=Z,2μm,20.0s,MS5.8								
LZH	**Lanzhou**	**140.36**	**98**	PKP	PKPdf	02 14 31.0	-3.6		
LZH				sPKP		02 14 45.4			
LZH				PP	PP	02 17 32.1	-0.7		
LZH				SKS	SKSdf	02 21 36.0	-8.9		
LZH				SKKS	SKKSac	02 24 18.0	-8.7		
LZH				SS	SS	02 35 50.0	-6.7		
LZH				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
GTA	**Gaotai**	**140.41**	**90**	PKP	PKPdf	02 14 32.4	-2.3		
GTA				PP	PP	02 17 33.3	+0.2		
GTA				SKS	SKSdf	02 21 38.8	-6.2		
GTA				PP	PP				
	comp=Z,101nm,10.3s								
GTA				LR	LR				
	comp=N,380nm,18.6s,MS5.2								
GTA				LR	LR				
	comp=E,299nm,22.1s,MS5.2								
GTA				LR	LR				
	comp=Z,556nm,18.6s,MS5.3								
NVS	**Novosibirsk**	**140.69**	**60**	*e*PKHKP		02 14 26.7			
NVS				*i*		02 17 29.9			
NVS				pmax	pmax				
	comp=Z,31nm,1.8s								
NVS				pmax	pmax				
	comp=N,8.0nm,1.4s								
NVS				pmax	pmax				
	comp=E,12nm,1.9s								
TATO	**Taipei**	**140.72**	**127**	PFAKE		02 14 50.0	+15		
TATO				LR	LR				
	comp=Z,452nm,21.0s,MS5.2								
ZAL	**Zalesovo**	**140.99**	**62**	PKP	PKPdf	02 14 31.8	-4.0		
	comp=Z,1.3nm,0.5s,baz=263,slow=5.8,SNR=5.2								
ZAL	**Zalesovo**	**140.99**	**62**	PKIKP	PKPdf	02 14 31.8	-4.0		
ZAL				pmax	pmax				
	comp=Z,10.0nm,0.5s								
WRAK	**Wrangell Islan**	**141.23**	**302**	PFAKE		02 14 50.0	+14		
WRAK				LR	LR				
	comp=Z,1μm,20.0s,MS5.7								
XAN	**Xi'an**	**141.68**	**105**	PKP	PKPdf	02 14 35.1	-1.9		
SIT	**Sitka**	**142.97**	**302**	PFAKE		02 14 50.0	+11		
SIT				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
SKAG	**Skagway**	**144.06**	**305**	*e*P	PKPdf	02 14 37.5	-3.7		
SKAG				*e*PKPdf	PKPdf	02 14 38.1	-3.1		
JOW	**Kunigami**	**145.25**	**135**	PKPbc	PKPbc	02 14 42.5	-0.5		
	comp=Z,27nm,0.9s,baz=223,slow=6.0,SNR=6.4								
NJ2	**Nanjing**	**145.39**	**118**	*e*PKP	PKPdf	02 14 42.5	-1.0		
NJ2				PKP2	PKPab	02 14 44.6	+1.0		
NJ2				PP	PP	02 18 06.5	+3.4		
NJ2				PKS		02 18 16.0			
NJ2				PP	PP				
	comp=Z,650nm,6.0s								
NJ2				LR	LR				
	comp=N,3μm,31.0s,MS6.0								
NJ2				LR	LR				
	comp=E,3μm,27.5s,MS6.0								
NJ2				LR	LR				
	comp=Z,2μm,33.5s								
SSE	**Sheshan**	**145.76**	**122**	*e*PKP	PKPdf	02 14 46.1	+2.0		
SSE				PP	PP	02 18 08.0	+2.7		
SSE				PP	PP				
	comp=Z,339nm,3.9s								
SSE				LR	LR				
	comp=N,928nm,18.6s,MS5.7								
SSE				LR	LR				
	comp=E,892nm,18.6s,MS5.7								
SSE				LR	LR				
	comp=Z,2μm,18.7s,MS5.8								
INK	**Inuvik**	**146.33**	**321**	PKPbc	PKPbc	02 14 43.8	-2.5		
	comp=Z,96nm,1.0s,baz=86,slow=3.5,SNR=230								
INK	**Inuvik**	**146.33**	**321**	PKP2	PKPab	02 14 43.8	-3.3		
INK				pmax	pmax				
	comp=Z,96nm,1.0s								
BTO	**Baotou**	**146.99**	**98**	*e*PKP	PKPdf	02 14 44.6	-1.6		
DAWY	**Dawson**	**147.50**	**312**	*e*PKPdf	PKPdf	02 14 47.0	-0.1		
TIA	**Tai'an**	**147.74**	**111**	⇓PKP	PKPdf	02 14 48.5	+1.0		
HHC	**Hu-ho-hao-te**	**148.02**	**99**	⇓PKP	PKPdf	02 14 48.8	+0.9		
HHC				PKS		02 18 22.5			
HHC				SKS	SKSdf	02 21 55.0	-1.5		
HHC				SKKS	SKKSac	02 25 12.3	+1.8		
HHC				LR	LR				
	comp=N,290nm,21.4s,MS5.3								
HHC				LR	LR				
	comp=E,440nm,18.8s,MS5.3								
HHC				LR	LR				
	comp=Z,403nm,19.2s,MS5.2								
MOY	**Mondy**	**148.34**	**74**	*e*PKIKP	PKPdf	02 14 46.7	-1.8		
MOY				pmax	pmax				
	comp=Z,134nm,2.4s								
EGAK	**Eagle**	**148.43**	**313**	*e*PKPbc	PKPbc	02 14 49.4	-2.7		
EGAK				LR	LR				
	comp=Z,759nm,19.0s,MS5.5								
ZAK	**Zakamensk**	**148.97**	**78**	*e*PKHKP		02 14 46.6			
ZAK				*e*		02 14 51.5			
ZAK				pmax	pmax				
	comp=Z,15nm,1.1s								
MENT	**Mentasta**	**149.07**	**309**	*e*P	PKPdf	02 14 52.4	+2.8		
EYAK	**Cordova Ski Ar**	**149.32**	**304**	*e*PKPbc	PKPbc	02 14 52.9	-1.5		
SONM	**Songino Array**	**149.37**	**84**	PKP	PKPdf	02 14 48.4	-1.7		
	comp=Z,8.5nm,0.9s,baz=244,slow=2.7,SNR=38								
SONM				PKPbc	PKPbc	02 14 52.7	-1.8		
	comp=Z,8.6nm,0.9s,baz=217,slow=2.2,SNR=40								
DIV	**Divide**	**149.50**	**305**	*e*PKPbc	PKPbc	02 14 53.5	-1.4		
DIV				LR	LR				
	comp=Z,3μm,19.0s,MS6.0								
ULN	**Ulaanbaatar**	**149.76**	**84**	PFAKE		02 15 00.0	+9.2		
ULN				LR	LR				
	comp=Z,671nm,21.0s,MS5.4								
TLY	**Talaya**	**149.80**	**76**	*e*PKHKP		02 14 50.2			
TLY				pmax	pmax				
	comp=Z,33nm,1.4s								
TLY				MLR	MLR				
	comp=Z,569nm,19.0s,MS5.4								
TLY	**Talaya**	**149.80**	**76**	*e*PKPbc	PKPbc	02 14 53.3	-2.3		
TLY				LR	LR				
	comp=Z,150nm,19.0s,MS4.8								
BJT	**Baijiatuan**	**150.00**	**105**	*e*PKP2	PKPab	02 14 54.6	-7.2		
BJT				MLR	MLR				
	comp=Z,589nm,20.0s								
BJI	**Beijing**	**150.02**	**105**	PKP	PKPdf	02 14 52.5	+1.3		
BJI				PP	PP	02 18 36.6	+6.3		
BJI				PP	PP				
	comp=Z,268nm,5.1s								
BJI				LR	LR				
	comp=N,507nm,18.6s,MS5.4								
BJI				LR	LR				
	comp=E,260nm,20.0s,MS5.4								
BJI				LR	LR				
	comp=Z,422nm,21.3s,MS5.2								
IRK	**Irkutsk**	**150.41**	**75**	*e*PKIKP	PKPdf	02 14 54.8	+3.0		
IRK				pmax	pmax				
	comp=Z,103nm,1.8s								
SML	**Sawmill**	**150.87**	**306**	*e*PKIKP	PKPdf	02 14 56.2	+3.7		
PMR	**Palmer**	**151.19**	**305**	*e*PKIKP	PKPdf	02 14 57.0	+4.0		
PMR				MLR	MLR				
	comp=Z,716nm,19.0s,MS5.5								
COLA	**College**	**151.25**	**312**	*i* PKIKP	PKPdf	02 14 53.6	+0.5		
COLA	**College**	**151.25**	**312**	*e*PKPbc	PKPbc	02 14 56.2	-2.8		
COLA				LR	LR				
	comp=Z,974nm,21.0s,MS5.6								
SLKM	**Skilak Lake**	**151.43**	**302**	*e*PKIKP	PKPdf	02 14 57.7	+4.4		
MCK	**McKinley**	**151.54**	**309**	*e*PKIKP	PKPdf	02 14 57.6	+4.1		
MCK				MLR	MLR				
	comp=Z,421nm,20.0s,MS5.2								
KDAK	**Kodiak Island**	**151.82**	**296**	PKPbc	PKPbc	02 14 59.0	-1.3		
	comp=Z,40nm,0.6s,baz=151,slow=2.9,SNR=30								
KDAK	**Kodiak Island**	**151.82**	**296**	PFAKE		02 15 00.0	+6.1		
KDAK				LR	LR				
	comp=Z,213nm,22.0s,MS4.9								
JNU	**Nakatsue**	**151.84**	**133**	PKPbc	PKPbc	02 14 59.4	-1.0		
	comp=Z,18nm,0.8s,baz=231,slow=19,SNR=4.7								
DL2	**Dalian**	**152.13**	**113**	PKP	PKPdf	02 14 57.8	+3.4		
DL2				PKP2	PKPab	02 15 11.0	+0.4		
DL2				PP	PP	02 18 40.3	-2.1		
DL2				PP	PP				
	comp=Z,150nm,8.1s								
DL2				LR	LR				
	comp=N,170nm,17.2s,MS5.1								
DL2				LR	LR				
	comp=E,220nm,19.3s,MS5.1								
DL2				LR	LR				
	comp=Z,280nm,17.8s,MS5.1								
INCN	**Inchon**	**153.56**	**121**	PFAKE		02 15 10.0	+14		
INCN				LR	LR				
	comp=Z,1μm,20.0s,MS5.7								
IMA2	**Indian Mountai**	**153.79**	**314**	*e*PKPdf	PKPdf	02 14 51.9	-5.0		
KSRS	**Korea Array**	**154.16**	**123**	PKPbc	PKPbc	02 15 04.2	-1.3		
	comp=Z,3.0nm,0.8s,baz=213,slow=2.4,SNR=7.5								
CIT	**Chita**	**155.45**	**81**	*e*PKIKP	PKPdf	02 14 51.1	-8.0		
CIT				*e*		02 15 23.2			
BOD	**Bodaibo**	**157.56**	**67**	*e*PKIKP	PKPdf	02 14 57.5	-4.4		
BOD				*e*		02 15 29.2			
BOD				pmax	pmax				
	comp=Z,8.0nm,1.5s								
CN2	**Changchun**	**157.62**	**109**	*e*PKP	PKPdf	02 15 03.3	+1.4		
CN2				PP	PP	02 19 18.8	+5.7		
CN2				PP	PP				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,500nm,19.0s,MS5.5								
CN2				LR	LR				
	comp=E,500nm,19.0s,MS5.5								
CN2				LR	LR				
	comp=Z,400nm,19.0s,MS5.3								
HIA	**Hailar**	**157.68**	**92**	PFAKE		02 15 10.0	+8.0		
HIA				LR	LR				
	comp=Z,732nm,20.0s,MS5.5								
MAJO	**Matsushiro**	**157.68**	**142**	PFAKE		02 15 10.0	+8.0		
MAJO				LR	LR				
	comp=Z,537nm,20.0s,MS5.4								
MAT	**Matsushiro**	**157.68**	**142**	PKP	PKPdf	02 14 59.6	-2.4		
MJAR	**Matsushiro Arr**	**157.68**	**142**	PKPab	PKPab	02 15 34.0	-0.3		
	comp=Z,2.1nm,1.0s,baz=217,slow=3.5,SNR=3.4								
MJAR	**Matsushiro Arr**	**157.68**	**142**	PKP2	PKPab	02 15 34.0	-0.3		
MJAR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
UNV	**Unalaska Valle**	**157.98**	**281**	PFAKE		02 15 10.0	+7.6		
UNV				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
TNA	**Tin City**	**159.66**	**314**	PFAKE		02 15 10.0	+5.6		
TNA				LR	LR				
	comp=Z,552nm,21.0s,MS5.4								
TIXI	**Tiksi**	**160.45**	**25**	PFAKE		02 15 10.0	+4.7		
TIXI				LR	LR				
	comp=Z,767nm,22.0s								
CLNS	**Chul'man**	**163.20**	**73**	*e*PKIKP	PKPdf	02 15 14.7	+6.6		
CLNS				pmax	pmax				
	comp=Z,17nm,1.1s								
CLNS				pmax	pmax				
	comp=N,4.0nm,0.9s								
ERM	**Erimo**	**164.27**	**145**	PFAKE		02 15 20.0	+11		
ERM				LR	LR				
	comp=Z,165nm,21.0s								
YAK	**Yakutsk**	**165.41**	**54**	PFAKE		02 15 20.0	+10		
YAK				LR	LR				
	comp=Z,928nm,21.0s								
BILL	**Bilibino**	**166.54**	**342**	*e*PKIKP	PKPdf	02 15 12.8	+1.8		
BILL				*e*		02 19 57.4			
BILL				pmax	pmax				
	comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**166.54**	**342**	PFAKE		02 15 20.0	+9.0		
BILL				LR	LR				
	comp=Z,615nm,21.0s								
YSS	**Yuzh-Sakhalins**	**168.36**	**133**	PFAKE		02 15 20.0	+7.7		
YSS				LR	LR				
	comp=Z,898nm,22.0s								
SMY	**Shemya**	**168.53**	**263**	PFAKE		02 15 20.0	+7.6		
SMY				LR	LR				
	comp=Z,802nm,22.0s								
PET	**Petropavlovsk**	**176.67**	**219**	PFAKE		02 15 20.0	+4.1		
PET				LR	LR				
	comp=Z,873nm,20.0s								

SZGRF ***19*** *01:58:01.3, 45.08N×153.87E, h33km, mb4.5, East of Kuril Islands, Russia*
NEIC ***19*** *01:58:06.6±0.8, 46.87N×152.99E, h10km, mb4.5/4, Error ellipse: s-maj=21.7km s-min=9.7km az=175.0*
IDC ***19*** *01:58:06.0±1.6, 47.06N×152.95E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/25, mbtmp4.1/14, MS2.4/1, Ms1 2.4/1, ms1mx1.6/41, Error ellipse: s-maj=47.6km s-min=18.5km az=2.0*
ISCJB ***19*** *01:58:12.9±1.2, 47.3N±0.1×153.1E±0.1, h53km±9km, mb4.2/19, Error ellipse: s-maj=22.4km s-min=7.3km az=106.4*
MOS ***19*** *01:58:13.0±1.1, 47.37N×152.93E, h52km, mb4.6/3, Error ellipse: s-maj=20.9km s-min=10.9km az=81.7*

ISC 19 01:58:15.2±1.1, 47.4N±0.1×153.0E±0.1, h59km±8km, n43, σ0 s76/43, mb4.2/19, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**3.90**	**30**	*e*PN	**Pn**	**01**	**59**	**11.9**	**-0.6**
SKR				*e*S	**Sn**	**01**	**59**	**57.0**	**+0.1**
SKR				pmax	pmax				
	comp=N,90nm,0.5s								
SKR				pmax	pmax				
	comp=E,150nm,0.5s								
SKR				pmax	pmax				
	comp=Z,170nm,0.5s								
SKR				smax					
	comp=N,380nm,0.6s								
SKR				smax					
	comp=E,400nm,0.6s								
SKR				smax					
	comp=Z,160nm,0.6s								
KUR	**Kuril'sk**	**4.17**	**241**	⇑*i*PN	**Pn**	**01**	**59**	**15.2**	**-1.0**
KUR				*e*S	**Sn**	**02**	**00**	**04.5**	**+0.9**
KUR				pmax	pmax				
	comp=Z,190nm,0.7s								
KUR				smax					
	comp=N,280nm,0.7s								
KUR				smax					
	comp=E,170nm,0.7s								
PET	**Petropavlovsk**	**6.72**	**30**	*e*PN	**Pn**	**01**	**59**	**52.1**	**+1.0**
PET				pmax	pmax				
	comp=Z,34nm,1.2s								
PET	**Petropavlovsk**	**6.72**	**30**	*e*Pn	**Pn**	**01**	**59**	**52.0**	**+0.9**
	comp=Z,20nm,0.4s								
YSS	**Yuzh-Sakhalins**	**7.03**	**270**	*e*PN	**Pn**	**02**	**00**	**03.3**	**+7.9**
JNU	**Nakatsue**	**22.00**	**238**	LR	LR	02	11	59.3	
	comp=Z,9.2nm,18.5s,baz=80,slow=38								
KDAK	**Kodiak Island**	**33.76**	**52**	P	**P**	**02**	**04**	**50.3**	**-0.9**
	comp=Z,6.3nm,0.9s,mb4.6,baz=290,slow=14,SNR=4.3								
COLA	**College**	**35.69**	**39**	*e*P	**P**	**02**	**05**	**06.9**	**-0.9**
COLA				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.7								
COLA	**College**	**35.69**	**39**	*e*P	**P**	**02**	**05**	**06.9**	**-0.9**
	comp=Z,9.3nm,1.0s,mb4.7								
INK	**Inuvik**	**41.17**	**33**	P	**P**	**02**	**05**	**54.6**	**+0.9**
	comp=Z,5.2nm,0.5s,mb4.4,baz=294,slow=6.9,SNR=50								
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**02**	**06**	**36.3**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=68,slow=9.5,SNR=3.1								
MKAR				PcP	PcP	02	08	10.4	-0.1
	comp=Z,0.5nm,0.5s,baz=74,slow=2.0,SNR=5.3								
CHKZ	**Chkalovo**	**50.00**	**310**	*e*P	**P**	**02**	**07**	**04.0**	**+0.5**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb4.0								
CHKZ	**Chkalovo**	**50.00**	**310**	*e*P	**P**	**02**	**07**	**04.0**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1								
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**02**	**07**	**06.0**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.

comp=Z,5.0nm,0.8s,mb4.5
GRF **Grafenberg Arr** **77.84 336** *e*P **P** **02 10 06.8 +0.5**
comp=Z,5.0nm,0.8s,mb4.5
GRF **Grafenberg Arr** **77.84 336** *e*P **P** **02 10 06.8 +0.5**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GERES **GERESS Array B** **77.89 334** P **P** **02 10 06.7 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=38,slow=5.2,SNR=12
BRTR **Keskin Array B** **77.91 317** P **P** **02 10 08.0 +1.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=29,slow=29,SNR=5.4
BZS **Buzias** **78.07 327**⇑ *i*P **P** **02 10 07.4 -0.2**
CFAA **Coronel Fontan** **144.92 78** PKPbc PKPdf 02 17 43.1 -2.4
comp=Z,0.3nm,1.1s,baz=255,slow=7.7,SNR=3.8

*ISCJB **19** 02:20:56.7±0.7, 4704N×009×1553E±0.1, h10km, mb4.3/28, Error ellipse: s-maj=17.0km s-min=7.1km az=90.0*
*IDC **19** 02:20:56.3±0.9, 4694N×15538E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/27, mbtmp4.1/16, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=24.1km s-min=18.2km az=149.0*
*NEIC **19** 02:20:57.2±3.4, 4706N×15535E, h2km±22km, mb4.5/12, Error ellipse: s-maj=13.9km s-min=6.6km az=136.0*
*BJI **19** 02:20:59.3, 4725N×15487E, h5km, mB4.6, mb4.5, Ms4.5, Msz4.3*
*MOS **19** 02:21:00.6±1.0, 4708N×15529E, h40km, mb4.9/5, Error ellipse: s-maj=14.5km s-min=8.8km az=87.1*
ISC 19 02:20:58.7±3.6, **4707N**±009×**1554E**±01, **h13**km±22km, **n58, σ0°77/58, mb4.3/28, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.66**	**8**	*e*PN	**Pn**	**02 21 56.0**	**+1.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PET	**Petropavlovsk**	**6.33**	**18**	*e*PN	**Pn**	**02 22 30.7**	**-1.0**
PET				pmax	pmax		
	comp=Z,26nm,0.5s						
PET	**Petropavlovsk**	**6.33**	**18**	*e*Pn	**Pn**	**02 22 30.4**	**-1.3**
PET				*e*Sn	**Sn**	**02 23 40.5**	**-3.3**
ASAJ	**Asahikawa**	**9.42**	**256**	Pn	**Pn**	**02 23 13.8**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=90,slow=14,SNR=9.8						
ASAJ	**Asahikawa**	**9.42**	**256**	PN	**Pn**	**02 23 13.8**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**10.07**	**244**	*e*PN	**Pn**	**02 23 21.4**	**-1.5**
MAJO	**Matsushiro**	**16.52**	**237**	*e*P	**Pn**	**02 24 51.9**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**16.52**	**237**	*e*Pn	**Pn**	**02 24 51.9**	**+1.8**
	comp=Z,6.7nm,0.8s						
MAT	**Matsushiro**	**16.52**	**237**	P	**Pn**	**02 24 46.5**	**-3.6**
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn	**Pn**	**02 24 49.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=33,slow=9.4,SNR=8.6						
MJAR				LR	LR	02 29 59.8	
	comp=Z,166nm,20.5s,baz=235,slow=33						
BILL	**Bilibino**	**21.76**	**11**	*e*P	**P**	**02 25 51.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**21.76**	**11**	*e*P	**P**	**02 25 51.2**	**+1.2**
	comp=Z,4.3nm,0.6s,mb4.1						
KSRS	**Korea Array**	**22.36**	**255**	P	**P**	**02 25 56.2**	**-0.2**
	comp=Z,2.7nm,0.7s,mb3.8,baz=60,slow=9.6,SNR=8.0						
TIXI	**Tiksi**	**27.62**	**342**	*e*P	**P**	**02 26 45.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
TIXI	**Tiksi**	**27.62**	**342**	*e*P	**P**	**02 26 45.6**	**-0.2**
	comp=Z,4.2nm,1.0s,mb4.0						
SONM	**Songino Array**	**32.68**	**290**	P	**P**	**02 27 29.6**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=52,slow=8.9,SNR=6.3						
COLA	**College**	**34.93**	**39**	*e*P	**P**	**02 27 50.5**	**+0.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
COLA	**College**	**34.93**	**39**	*e*P	**P**	**02 27 50.5**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.4						
EGAK	**Eagle**	**37.79**	**39**	*e*P	**P**	**02 28 14.2**	**-0.4**
	comp=Z,6.2nm,1.0s,mb4.3						
GTA	**Gaotai**	**40.44**	**280**	*e*P	**P**	**02 28 38.3**	**+1.6**
GTA				AP	pP	02 28 43.9	+3.0
GTA				XP	sP	02 28 47.6	+5.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
INK	**Inuvik**	**40.56**	**33**	P	**P**	**02 28 38.3**	**+0.6**
	comp=Z,1.7nm,0.6s,mb3.9,baz=278,slow=6.6,SNR=12						
INK	**Inuvik**	**40.56**	**33**	*e*P	**P**	**02 28 38.2**	**+0.6**
	comp=Z,73nm,0.8s,mb5.4						
GYA	**Guiyang**	**43.29**	**259**⇑	*i*P	**P**	**02 29 00.6**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**43.69**	**306**	P	**P**	**02 29 03.0**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=37,slow=7.6,SNR=7.2						
KMI	**Kunming**	**46.81**	**261**	P	**P**	**02 29 29.5**	**+1.4**
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
KMI	**Kunming**	**46.81**	**261**	P	**P**	**02 29 29.5**	**+1.4**
	comp=Z,11nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**48.16**	**298**	P	**P**	**02 29 38.4**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=69,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**48.16**	**298**	P	**P**	**02 29 38.4**	**-0.1**
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**02 30 02.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**51.40**	**311**	*e*P	**P**	**02 30 02.7**	**-0.5**
	comp=Z,17nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**02 30 07.0**	**+0.5**
	comp=Z,5.5nm,0.5s,mb4.7,baz=55,slow=7.6,SNR=41						
BRVK	**Borovoye**	**51.88**	**310**	*e*P	**P**	**02 30 06.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**51.88**	**310**	*e*P	**P**	**02 30 06.9**	**+0.1**
	comp=Z,9.7nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**52.60**	**311**	*e*P	**P**	**02 30 11.8**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**52.60**	**311**	*e*P	**P**	**02 30 11.8**	**-0.3**
	comp=Z,3.6nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**55.07**	**297**	*e*P	**P**	**02 30 29.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**55.07**	**297**	*e*P	**P**	**02 30 29.8**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1						
ARU	**Arti**	**55.81**	**318**	*e*P	**P**	**02 30 34.9**	**-0.6**
ARU	**Arti**	**55.81**	**318**	*e*P	**P**	**02 30 35.4**	**-0.1**
	comp=Z,8.5nm,0.8s,mb4.8						
KEV	**Kevo**	**57.55**	**341**	*e*p	**P**	**02 30 47.4**	**-0.5**
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**02 30 51.8**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.5,baz=16,slow=9.0,SNR=3.6						
AKTK	**Aktyubinsk**	**59.66**	**313**	P	**P**	**02 31 02.7**	**+0.2**
AKTO	**Aktyubinsk**	**59.66**	**313**	P	**P**	**02 31 02.7**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=58,slow=13,SNR=6.7						
FIA1	**FINESS Array S**	**64.40**	**336**	*e*P	**P**	**02 31 34.9**	**+0.5**
FINES	**FINESS Array B**	**64.40**	**336**	P	**P**	**02 31 34.1**	**-0.3**
	comp=Z,2.1nm,0.4s,mb4.5,baz=36,slow=7.7,SNR=22						
NB2	**NORSAR Subarra**	**68.41**	**342**	P	**P**	**02 32 00.0**	**-0.1**
	comp=Z,4.8nm,1.2s,mb4.4,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**02 32 00.1**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=25,slow=6.3,SNR=2.9						
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**02 32 27.1**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=15,slow=5.8,SNR=15						
TXAR	**Lajitas Array**	**75.99**	**62**	P	**P**	**02 32 45.5**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=304,slow=4.5,SNR=12						
TXAR	**Lajitas Array**	**75.99**	**62**	P	**P**	**02 32 45.5**	**0.0**
CLL	**Collm**	**76.80**	**337**	*e*pP	pP	02 32 54.0	-0.4
GERES	**GERESS Array B**	**78.83**	**335**	P	**P**	**02 33 01.4**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=34,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**79.20**	**318**	P	**P**	**02 33 04.0**	**+0.7**
	comp=Z,1.0nm,0.9s,mb3.8,baz=56,slow=4.6,SNR=4.3						
CDF	**Champ du Feu**	**80.93**	**339**	*e*P	**P**	**02 33 12.3**	**-0.4**
GRR	**Gorron**	**82.70**	**344**	*e*P	**P**	**02 33 21.8**	**-0.2**
SMF	**Signal de Mont**	**83.40**	**341**	*e*P	**P**	**02 33 25.3**	**-0.3**
LPG	**La Plagne**	**83.78**	**338**	*e*P	**P**	**02 33 28.2**	**+0.6**
	comp=Z,7.5nm,0.6s,mb4.7						
CAF	**Calviac**	**85.42**	**341**	*e*P	**P**	**02 33 35.6**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.5						

*ISCJB **19** 02:23:41.8±1.6, 470N±02×1549E±03, h10km, mb4.0/16, Error ellipse: s-maj=35.8km s-min=9.7km az=89.3*
*NEIC **19** 02:23:43.1±1.3, 4695N×15494E, h10km, mb4.3/5, Error ellipse: s-maj=31.6km s-min=11.6km az=135.0*
*IDC **19** 02:23:44.6±3.2, 4742N×15474E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/26, mbtmp4.0/12, ML3.8/1, Error ellipse: s-maj=78.2km s-min=23.1km az=150.0*

*MOS **19** 02:23:47.3±1.8, 4709N×15474E, h51km, mb4.4/4, Error ellipse: s-maj=16.0km s-min=12.4km az=85.6*
ISC 19 02:23:43.1±1.6, **470N**±02×**1550E**±03, **h10**km, **n26, σ1°03/26, mb4.0/16, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.73**	**11**	*e*PN	**Pn**	**02 24 40.0**	**-0.7**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
KUR	**Kuril'sk**	**5.27**	**253**	*e*PN	**Pn**	**02 25 00.5**	**-1.4**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
ASAJ	**Asahikawa**	**9.17**	**256**	Pn	**Pn**	**02 25 57.1**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=87,slow=21,SNR=4.8						
ASAJ	**Asahikawa**	**9.17**	**256**	PN	**Pn**	**02 25 57.1**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.29**	**236**	Pn	**Pn**	**02 27 30.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=4.3						
BILL	**Bilibino**	**21.85**	**11**	*e*P	**P**	**02 28 35.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
BILL	**Bilibino**	**21.85**	**11**	*e*P	**P**	**02 28 35.5**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.1						
KSRS	**Korea Array**	**22.12**	**254**	P	**P**	**02 28 41.4**	**+2.8**
	comp=Z,1.8nm,0.6s,mb3.7,baz=50,slow=11,SNR=5.5						
SONM	**Songino Array**	**32.46**	**290**	P	**P**	**02 30 12.7**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.6,baz=59,slow=5.7,SNR=5.3						
INK	**Inuvik**	**40.72**	**33**	P	**P**	**02 31 23.8**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.0,baz=263,slow=5.3,SNR=13						
ZAL	**Zalesovo**	**43.51**	**306**	P	**P**	**02 31 45.5**	**-1.2**
	comp=Z,0.9nm,0.4s,mb3.9,baz=30,slow=10.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**02 32 22.1**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=69,slow=7.1,SNR=5.6						
CHKZ	**Chkalovo**	**51.24**	**311**	*e*P	**P**	**02 32 46.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
CHKZ	**Chkalovo**	**51.24**	**311**	*e*P	**P**	**02 32 46.1**	**-0.7**
	comp=Z,3.0nm,0.4s,mb4.6						
BVAR	**Borovoye Array**	**51.68**	**310**	P	**P**	**02 32 50.2**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=55,slow=8.6,SNR=6.8						
BRVK	**Borovoye**	**51.72**	**310**	*e*P	**P**	**02 32 49.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**51.72**	**310**	*e*P	**P**	**02 32 49.9**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3						
CM31	**Chiang Mai Arr**	**53.69**	**258**	*e*P	**P**	**02 33 04.5**	**-0.6**
	comp=Z,7.5nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**54.87**	**297**	*e*P	**P**	**02 33 15.5**	**+1.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**54.87**	**297**	*e*P	**P**	**02 33 15.5**	**+1.9**
	comp=Z,1.4nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**02 34 18.9**	**0.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=40,slow=7.4,SNR=17						
NOA	**NORSAR Array B**	**68.37**	**342**	P	**P**	**02 34 45.3**	**+0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=28,slow=6.5,SNR=2.6						
NOA	**NORSAR Array B**	**68.37**	**342**	P	**P**	**02 34 45.3**	**+0.5**
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**02 35 07.2**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=31,slow=5.9,SNR=6.0						
MLR	**Muntele Rosu**	**77.57**	**326**	P	**P**	**02 35 40.9**	**+1.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=225,slow=3.1,SNR=5.8						
GERES	**GERESS Array B**	**78.76**	**335**	P	**P**	**02 35 46.5**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=30,slow=6.2,SNR=4.5						

*IDC **19** 02:24:15.1±3.6, 4639N×15526E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/24, mbtmp3.9/5, Error ellipse: s-maj=100.6km s-min=31.4km az=179.0*
*ISCJB **19** 02:24:16.3±1.1, 467N±02×1552E±03, h10km, mb3.9/6, Error ellipse: s-maj=27.9km s-min=17.9km az=73.8*
*NEIC **19** 02:24:16.8±2.7, 4645N×15522E, h10km, mb4.0/1, Error ellipse: s-maj=78.3km s-min=22.5km az=179.0*
*MOS **19** 02:24:21.6±1.0, 4693N×155.10E, h43km, mb4.2/1, Error ellipse: s-maj=49.4km s-min=23.5km az=92.8*
ISC 19 02:24:17.9±1.1, **468N**×**1552E**±03, **h10**km, **n9, σ0°67/9, mb3.9/6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.98**	**8**	*e*PN	**Pn**	**02 25 18.5**	**-0.5**
INK	**Inuvik**	**40.88**	**33**	P	**P**	**02 32 00.9**	**+0.9**
	4.2nm,0.9s,mb4.0,baz=275,slow=7.9,SNR=7.2						
DAV	**Davao City (W)**	**47.00**	**222**	*e*P	**P**	**02 32 49.0**	**-0.2**
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**02 32 59.8**	**+1.2**
	0.6nm,0.7s,mb3.6,baz=65,slow=7.9,SNR=4.0						
CHKZ	**Chkalovo**	**51.52**	**311**	*e*P	**P**	**02 33 23.0**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
CHKZ	**Chkalovo**	**51.52**	**311**	*e*P	**P**	**02 33 23.0**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.1						
BVAR	**Borovoye Array**	**51.96**	**310**	P	**P**	**02 33 26.7**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=58,slow=9.3,SNR=3.7						
FINES	**FINESS Array B**	**64.64**	**336**	P	**P**	**02 34 56.0**	**+0.3**
	comp=Z,0.9nm,0.4s,mb4.2,baz=38,slow=6.9,SNR=6.2						
TXAR	**Lajitas Array**	**76.23**	**62**	P	**P**	**02 36 06.1**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=286,slow=6.0,SNR=3.8						

*IDC **19** 02:25:27.9±3.8, 4697N×15488E, h0km, mb4.0/6, mb1 3.9/7, mb1mx3.7/26, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=89.6km s-min=30.8km az=153.0*
*ISCJB **19** 02:25:28.1±1.8, 470N±02×1548E±03, h10km, mb4.0/8, Error ellipse: s-maj=42.2km s-min=17.8km az=91.9*
*NEIC **19** 02:25:29.2±1.4, 4695N×15486E, h10km, mb4.2/2, Error ellipse: s-maj=32.7km s-min=13.5km az=136.0*
*MOS **19** 02:25:30.6±0.8, 4696N×15480E, h33km, mb4.2/2, Error ellipse: s-maj=33.3km s-min=26.6km az=111.5*
ISC 19 02:25:29.2±1.9, **470N**±02×**1549E**±03, **h10**km, **n14, σ0°78/14, mb4.0/8, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.81**	**12**	*e*PN	**Pn**	**02 26 23.0**	**-4.9**
MJAR	**Matsushiro Arr**	**16.18**	**236**	Pn	**Pn**	**02 29 16.5**	**-0.1**
	0.2nm,0.3s,baz=28,slow=15,SNR=4.2						
MJAR	**Matsushiro Arr**	**16.18**	**236**	Pn	**Pn**	**02 29 16.5**	**-0.1**
SONM	**Songino Array**	**32.39**	**290**	P	**P**	**02 31 59.6**	**+0.6**
	0.7nm,0.9s,mb3.5,baz=55,slow=12,SNR=3.6						
INK	**Inuvik**	**40.82**	**33**	P	**P**	**02 33 10.4**	**-0.5**
	1.5nm,0.6s,mb3.8,baz=303,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**02 34 06.8**	**-0.7**
	1.3nm,0.9s,mb4.0,baz=61,slow=9.9,SNR=4.4						
CHKZ	**Chkalovo**	**51.20**	**311**	*e*P	**P**	**02 34 32.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.20**	**311**	*e*P	**P**	**02 34 32.0**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.64**	**310**	P	**P**	**02 34 36.2**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=56,slow=7.7,SNR=3.7						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	**P**	**02 34 35.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	**P**	**02 34 35.9**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**64.34**	**335**	P	**P**	**02 36 04.7**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=49,slow=7.0,SNR=4.8						
HFS	**Hagfors**	**68.66**	**340**	P	**P**	**02 36 32.9**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=74,slow=6.3,SNR=4.5						
CLL	**Collm**	**76.75**	**337**	*e*P	**P**	**02 37 23.0**	**+2.2**
CLL				LmV		02 10 00.0	
	comp=Z,200nm,20.3s						

CASC 19 02:25:38.2±1.8, **1486N**×**9224W, h78**km±16km, **MD3.6, 2C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.79**	**132**⇑	*e*P	Pn	02 25 55.3	+0.5
JAT				*e*S	Sn	02 26 07.4	+0.4
TP2	**Tecpan 2**	**1.18**	**93**	*e*P	Pn	02 26 00.3	+0.9
TP2				*e*S	Sn	02 26 18.8	+3.6
FUG	**Fuego 3**	**1.42**	**107**	*e*P	Pn	02 26 03.3	+1.0
TER	**Terranova**	**1.61**	**110**	*e*P	Pn	02 26 05.6	+0.8
TER				*e*S	Sn	02 26 25.9	+0.9
MRL	**Marmol**	**2.47**	**85**⇑	*e*P	Pn	02 26 16.8	+0.4
MRL				*e*S	Sn	02 26 46.7	+1.1
RBDL	**Robledal**	**2.58**	**106**	*e*P	x	02 26 27.2	
RTR	**El Retiro**	**2.69**	**110**	*e*P	x	02 26 29.3	
SBLS	**San Blas**	**2.73**	**111**	*e*P	x	02 26 31.0	
SBLS				*e*S	x	02 27 05.0	

*BJI **19** 02:26:46.7, 290N×12688E, h74km, mB5.1, mb5.0, Ms4.7, Msz4.5*
*MOS **19** 02:26:47.7±1.0, 359N×12661E, h33km, mb5.2/39, Error ellipse: s-maj=14.3km s-min=6.4km az=113.6*
*ISCJB **19** 02:26:51.5±0.2, 349N±003×126711E±005, h70km, mb5.0/78, Error ellipse: s-maj=7.8km s-min=3.9km az=142.4*
*IDC **19** 02:26:52.5±3.0, 360N×12675E, h64km±27km, mb4.5/25, mb1 4.6/25, mb1mx4.5/27, mbtmp4.5/25, MS3.7/3, Ms1 3.7/3, ms1mx3.0/28, Error ellipse: s-maj=21.2km s-min=9.8km az=80.0*
*NEIC **19** 02:26:53.5±1.1, 350N×12673E, h74km±9km, mb5.1/31, Error ellipse: s-maj=9.0km s-min=4.5km az=75.0*
ISC 19 02:26:53.5±0.2, **351N**±003×**12676E**±005, **h72**km, **h72**km±2.5km**:pP-P, n210, σ1°04/207, mb5.0/78, 10C-13D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**3.13**	**325**⇑	*e*P	**Pn**	**02 27 40.0**	**-0.5**
DAV	**Davao City (W)**	**3.73**	**342**	P	**Pn**	**02 27 49.0**	**+0.5**
	SNR=10						
DAV	**Davao City (W)**	**3.73**	**342**	*e*Pn	**Pn**	**02 27 49.0**	**+0.5**
KCP	**Kidapawan**	**3.85**	**334**⇓	*e*P	**Pn**	**02 27 53.1**	**+2.9**
KCP				*e*S	**Sn**	**02 28 43.2**	**+8.9**
CTBH	**Cotabato--PC H**	**4.46**	**326**⇑	*e*P	**Pn**	**02 27 58.1**	**-0.4**
CTBH				*e*S	**Sn**	**02 28 51.6**	**+2.5**
CGP	**Cagayan de Oro**	**5.33**	**337**	*e*P	**Pn**	**02 28 11.8**	**+1.5**
CGP				*e*S	**Sn**	**02 29 13.4**	**+3.1**
SCPH	**Surigao**	**6.36**	**349**⇓	*e*P	**Pn**	**02 28 24.3**	**-0.1**
TSM	**Tawau**	**8.90**	**275**	P	**Pn**	**02 29 03.6**	**+4.3**
JAY	**Jayapura**	**15.17**	**113**	P	**Pn**	**02 30 26.4**	**+3.0**
	113nm,0.9s						
KSM	**Kuching**	**16.56**	**263**	*e*P	**Pn**	**02 30 42.4**	**+1.4**
KAKA	**Kakadu**	**17.07**	**161**	*e*P	**Pn**	**02 30 44.4**	**-3.0**
	55nm,0.7s						
GUMO	**Guam**	**20.49**	**60**	LR	LR	02 37 58.4	
	comp=Z,140nm,20.9s,baz=234,slow=32						
FITZ	**Fitzroy Crossi**	**21.50**	**183**	*e*P	**P**	**02 31 35.3**	**-1.0**
	28nm,0.3s,mb5.1						
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P	**P**	**02 31 35.7**	**-0.6**
	14nm,0.4s,mb4.7,baz=15,slow=8.5,SNR=46						
YHNB	**Yeheng**	**21.67**	**347**	*e*P	**P**	**02 31 35.5**	**-2.6**
QIZ	**Qiongzhong**	**22.61**	**314**	P	**P**	**02 31 47.3**	**-0.8**
QIZ				AP		02 32 00.1	
QIZ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,129nm,5.4s						
JOW	**Kunigami**	**23.23**	**3**	P	**P**	**02 31 54.1**	**-0.2**
	comp=Z,12nm,0.5s,mb4.5,baz=201,slow=5.1,SNR=8.0						
KGM	**Kluang**	**23.46**	**267**	P	**P**	**02 31 57.2**	**+0.7**
PMG	**Port Moresby**	**24.04**	**122**	LR	LR	02 41 48.6	
	comp=Z,240nm,19.2s,baz=199,slow=37						
WRAB	**Tennant Creek**	**24.46**	**163**	P	**P**	**02 32 06.0**	**+0.4**
	comp=Z,375nm,0.7s,mb5.8,SNR=15						
WRAB	**Tennant Creek**	**24.46**	**163**	*e*P	**P**	**02 32 05.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,54nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**24.46**	**163**	*e*P	**P**	**02 32 05.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,54nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**24.46**	**163**	*e*P	**P**	**02 32 05.6**	**+0.1**
	comp=Z,54nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**02 32 05.0**	**-0.7**
	comp=Z,46nm,0.8s,mb4.9,baz=343,slow=10,SNR=108						
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**02 32 05.0**	**-0.6**
WRA				pmax	pmax		
	comp=Z,47nm,0.8s						
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**02 32 05.0**	**-0.6**
WRA				pmax	pmax		
	comp=Z,47nm,0.8s						
WB2	**Warramunga Arr**	**24.47**	**163**	*e*P	**P**	**02 32 05.0**	**-0.6**
WB2				*e*		02 32 15.2	
MBWA	**Marble Bar**	**25.47**	**195**	*e*P	**P**	**02 32 15.5**	**+0.8**
	comp=Z

KMI SSS 02 40 32.0
KMI LR LR
comp=Z,610nm,23.9s
KSRS Korea Array 33.80 2 P P 02 33 27.9 -0.5
comp=Z,2.9nm,0.6s,mb4.3,baz=183,slow=9.5,SNR=9.8
KSRS S S **02 38 45.4 -1.7**
comp=Z,3.6nm,0.5s,baz=180,slow=27,SNR=7.4
FORT Forrest 34.12 178 *e*P P **02 33 31.6 +0.3**
comp=Z,25nm,0.5s,mb5.3
MJAR Matsushiro Arr 34.52 16 P P **02 33 33.8 -1.0**
comp=Z,1.0nm,0.6s,baz=207,slow=7.1,SNR=3.3
MJAR LR LR 02 45 44.9
comp=Z,163nm,21.5s,baz=220,slow=33
CD2 Chengdu 34.84 324 ⇓*i*P P **02 33 37.3 -0.2**
CD2 AP pP 02 33 55.3 +0.6
CD2 XP sP 02 34 04.3 +1.2
CD2 PP PP 02 34 57.5 -0.1
CD2 S S **02 39 02.9 -0.3**
CD2 XS sS 02 39 33.9 +1.2
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,60nm,6.2s
CD2 LR LR
comp=N,260nm,14.4s
CD2 LR LR
comp=E,140nm,18.0s
CD2 LR LR
comp=Z,190nm,13.2s
DL2 Dalian 35.54 353 P P **02 33 45.0 +1.5**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
KLBR Kellerberrin 35.95 193 ⇑*i*P P **02 33 47.6 +0.6**
comp=Z,13nm,0.3s,mb5.3
MUN Mundaring 36.69 195 ⇑*i*P P **02 33 54.2 +0.9**
NWAO Narrogin (SRO) 37.35 193 P P **02 34 00.0 +1.1**
comp=Z,11nm,0.4s,mb5.1,baz=26,slow=8.3,SNR=36
NWAO Narrogin (SRO) 37.35 193 *e*P P **02 33 59.9 +1.0**
NWAO pmax pmax
comp=Z,5.0nm,0.3s
NWAO Narrogin (SRO) 37.35 193 *e*P P **02 33 59.9 +1.0**
comp=Z,5.1nm,0.3s,mb4.9
BJT Baijiatuan 37.59 347 *e*P P **02 34 01.1 +0.2**
BJT pmax pmax
comp=Z,97nm,1.1s
BJT Baijiatuan 37.59 347 *e*P P **02 34 01.1 +0.2**
comp=Z,97nm,1.1s,mb5.5
BJI Beijing 37.60 347 P P **02 34 01.4 +0.3**
BJI AMB AMB
comp=Z,69nm,1.1s,mb5.4
BJI Beijing 37.60 347 P P **02 34 01.4 +0.3**
comp=Z,69nm,1.1s,mb5.4
STKA Stephens Creek 37.91 159 *e*P P **02 34 04.0 +0.3**
comp=Z,18nm,0.7s,mb5.0
STKA Stephens Creek 37.91 159 P P **02 34 04.3 +0.6**
comp=Z,14nm,0.5s,mb5.0,baz=332,slow=8.1,SNR=41
SNY Shenyang 38.26 356 ⇓P P **02 34 06.8 +0.3**
SNY AMB AMB
comp=Z,41nm,0.5s,mb5.5
LZH Lanzhou 38.71 330 P P **02 34 10.8 +0.5**
LZH AP pP 02 34 29.5 +1.7
LZH XP sP 02 34 37.4 +1.3
LZH PP PP 02 35 46.0 +5.8
LZH *e*S S **02 40 03.0 +1.0**
LZH XS sS 02 40 34.0 +2.2
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,250nm,4.0s
LZH LR LR
comp=E,1μm,14.4s
LZH LR LR
comp=Z,2μm,16.1s
LZH Lanzhou 38.71 330 P P **02 34 10.8 +0.5**
LZH *PP pP 02 34 29.5 +1.7
LZH 02 35 46.0
LZH *e*S S **02 40 03.0 +1.0**
LZH *e*SS SS 02 42 50.0 -5.0
LZH pmax pmax
comp=Z,60nm,1.2s,mb5.3
LZH MLR MLR
comp=Z,2μm,16.1s
LZH Lanzhou 38.71 330 P P **02 34 10.8 +0.5**
comp=Z,60nm,1.2s,mb5.3
LZH pP pP 02 34 29.5 +1.7
LZH sP sP 02 34 37.4 +1.3
LZH PP PP 02 35 46.0 +5.8
LZH *e*S S **02 40 03.0 +1.0**
LZH sS sS 02 40 34.0 +2.2
LZH *e*SS SS 02 42 50.0 -5.0
LZH LR LR
comp=Z,2μm,16.1s
HHC Hu-ho-hao-te 39.61 342 ⇓P P **02 34 18.6 +0.7**
HHC AP pP 02 34 37.1 +1.7
HHC XP sP 02 34 46.1 +2.4
HHC PP PP 02 35 55.1 +5.0
HHC PCP PcP 02 36 23.4 -0.3
HHC SCP ScP 02 40 04.9 -1.2
HHC S S **02 40 15.8 +0.2**
HHC XS sS 02 40 49.4 +3.9
HHC SCS ScS 02 44 16.4 -2.3
HHC AMB AMB
comp=Z,22nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,98nm,7.4s
HHC LR LR
comp=N,178nm,15.7s
HHC LR LR
comp=E,285nm,12.6s
HHC LR LR
comp=Z,162nm,14.8s
CN2 Changchun 40.14 359 *e*P P **02 34 22.9 +0.7**
ARMA Armidale 41.27 147 *e*P P **02 34 32.3 +0.8**
LSA Lhasa 42.61 312 P P **02 34 44.0 +1.5**
LSA Lhasa 42.61 312 *e*P P **02 34 43.2 +0.7**
LSA pmax pmax
comp=Z,21nm,0.6s,mb5.0
LSA Lhasa 42.61 312 *e*P P **02 34 43.2 +0.8**
comp=Z,22nm,0.6s,mb5.0
GTA Gaotai 43.30 329 *e*P P **02 34 47.6 -0.5**
GTA AP pP 02 35 05.5 -0.3
GTA XP sP 02 35 14.4 +0.4
GTA PP PP 02 36 30.9 +1.0
GTA PPP 02 37 07.8
GTA S S **02 41 08.5 -1.7**
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,60nm,3.8s
GTA LR LR
comp=N,318nm,20.5s
GTA LR LR
comp=E,277nm,20.9s
GTA LR LR
comp=Z,397nm,23.6s
JIRN Jiri 45.53 306 *e*P P **02 35 05.7 -0.1**
comp=Z,69nm,0.6s,mb5.6
GUN Gumba 45.88 306 *e*P P **02 35 08.8 +0.2**
comp=Z,102nm,0.6s,mb5.8
HIA Hailar 45.98 354 ⇓*e*P P **02 35 11.3 +1.9**
HIA Hailar 45.98 354 *e*P P **02 35 10.9 +1.5**
comp=Z,9.1nm,0.6s,mb4.7
PKI Pulchoki 46.12 306 *e*P P **02 35 10.4 -0.1**
comp=Z,26nm,0.5s,mb5.2
KKN Kakani 46.31 306 *e*P P **02 35 11.8 -0.2**
comp=Z,52nm,0.7s,mb5.4
DMN Daman 46.38 305 *e*P P **02 35 12.6 +0.1**
comp=Z,52nm,0.8s,mb5.3
GKN Gorkha 46.92 306 *e*P P **02 35 16.1 -0.7**
comp=Z,39nm,0.8s,mb5.2
SONM Songino Array 47.51 341 P P **02 35 21.7 +0.3**
comp=Z,10nm,0.6s,mb4.8,baz=158,slow=8.1,SNR=80
SONM PcP PcP 02 36 50.9 +0.5
comp=Z,3.0nm,0.7s,baz=171,slow=2.6,SNR=4.3
SONM Songino Array 47.51 341 P P **02 35 21.7 +0.3**
SONM 02 36 50.9
SONM pmax pmax
comp=Z,10.0nm,0.6s
KOLN Koldanda 47.67 305 *e*P P **02 35 22.5 -0.1**
comp=Z,139nm,0.7s,mb5.9
HYB Hyderabad 49.22 290 *i*P P **02 35 35.0 +0.5**
HYB Hyderabad 49.22 290 *e*P P **02 35 35.0 +0.5**
ZAK Zakamensk 50.74 341 *e*P P **02 35 45.2 -0.8**
ZAK *e* 02 37 02.9
TLY Talaya 51.74 342 P P **02 35 54.6 +1.1**
comp=Z,149nm,0.8s,SNR=5.1
TLY Talaya 51.74 342 *e*P P **02 35 53.6 +0.1**
TLY *e* 02 43 27.6
TLY pmax pmax
comp=Z,21nm,0.8s,mb5.2
TLY Talaya 51.74 342 *e*P P **02 35 53.7 +0.2**
comp=Z,17nm,0.7s,mb5.2
WMQ Urumqi 52.92 325 ⇓*i*P P **02 36 02.5 +0.3**
WMQ AP pP 02 36 21.0 +0.6
WMQ XP sP 02 36 28.5 -0.1
WMQ PCP PcP 02 37 10.8 +0.5
WMQ PP PP 02 38 04.5 +2.2
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,129nm,5.4s
WMQ LR LR
comp=N,331nm,31.0s
WMQ LR LR
comp=E,164nm,29.0s
WMQ LR LR
comp=Z,143nm,27.0s
CLNS Chul'man 53.19 359 *e*P P **02 36 04.4 +0.2**
CLNS pmax pmax
comp=Z,14nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.9s
NDI New Delhi 53.27 303 *e*P P **02 36 02.5 -2.3**
POO Poona 53.82 290 ⇓*i*P P **02 36 04.5 -4.3**
comp=N,35nm,1.0s,mb5.3
BOD Bodaibo 55.08 352 *e*P P **02 36 17.1 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MK31 Makanchi Array 57.75 325 P P **02 36 36.2 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MKAR Makanchi Array 57.75 325 P P **02 36 36.3 -0.6**
comp=Z,10nm,0.4s,mb5.2,baz=121,slow=8.0,SNR=139
MKAR Makanchi Array 57.75 325 P P **02 36 36.3 -0.6**
MKAR pmax pmax
comp=Z,10.0nm,0.4s
KSH Kashi 58.22 315 *e*P P **02 36 38.8 -1.4**
KSH *e*AP pP 02 36 58.1 -0.6
KSH *e*XP sP 02 37 09.4 +2.7
KSH *e*PCP PcP 02 37 31.1 +0.3
KSH *e*PP PP 02 38 48.5 -1.2
KSH *e*PPP 02 40 12.0
KSH *e*SCP ScP 02 41 21.8 -2.8
KSH *e*PCS PcS 02 41 32.6 +0.2
KSH *e*S S **02 44 28.9 -7.7**
KSH LR LR
comp=N,848nm,6.6s
KSH LR LR
comp=E,662nm,3.8s
KSH LR LR
comp=Z,981nm,6.4s
YAK Yakutsk 58.42 2 *e*P P **02 36 48.4 +6.8**
YAK pmax pmax
comp=Z,45nm,0.8s,mb5.5
YAK pmax pmax
comp=N,12nm,1.2s
YAK Yakutsk 58.42 2 *e*P P **02 36 42.2 +0.6**
comp=N,56nm,0.8s,mb5.7
KZA Kyzart 59.80 318 P P **02 36 51.5 +0.4**
SNR=14
TKM2 Tokmak 2 59.93 319 P P **02 36 51.9 -0.1**
SNR=9.8
UCH Uchtor 60.36 317 P P **02 36 55.8 +0.8**
SNR=16
AAK Ala-Archa 60.54 318 P P **02 36 55.9 -0.3**
comp=N,36nm,0.6s,mb5.6,SNR=5.3
AAK Ala-Archa 60.54 318 P P **02 36 55.2 -1.0**
SNR=6.4
AAK Ala-Archa 60.54 318 *e*P P **02 36 55.4 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AAK Ala-Archa 60.54 318 *e*P P **02 36 55.4 -0.8**
comp=Z,3.3nm,0.6s,mb4.5
ZAL Zalesovo 60.80 333 P P **02 36 56.5 -1.4**
comp=Z,3.9nm,0.5s,mb4.7,baz=351,slow=7.9,SNR=12
ZAL Zalesovo 60.80 333 P P **02 36 56.6 -1.3**
ZAL pmax pmax
comp=Z,4.0nm,0.5s
USP Ospenovka 60.80 319 P P **02 36 57.3 -0.7**
SNR=20
AML Almayashu 60.87 317 P P **02 36 59.1 +0.7**
SNR=13
EKS2 Erkin-Say 61.03 318 P P **02 36 59.8 +0.2**
SNR=9.0
KURK Kurchatov 61.94 328 P P **02 37 04.8 -0.8**
comp=Z,266nm,0.6s,SNR=34
KURK Kurchatov 61.94 328 *i*P P **02 37 04.9 -0.7**
NVS Novosibirsk 62.08 333 *i*P P **02 37 05.2 -1.4**
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KK31 Karatay Array 63.41 317 *i*P P **02 37 14.6 -0.8**
KKAR Karatay Array 63.41 317 *i*P P **02 37 14.6 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BVA0 Borovoye Array 67.52 327 *i*P P **02 37 41.1 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 67.52 327 P P **02 37 41.2 -0.7**
comp=Z,13nm,0.7s,mb4.9,baz=134,slow=9.7,SNR=82
BVAR Borovoye Array 67.52 327 P P **02 37 41.2 -0.7**
BVAR pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 67.59 327 P P **02 37 41.0 -1.4**
comp=Z,228nm,0.5s,SNR=20
BRVK Borovoye 67.59 327 P P **02 37 42.2 -0.2**
SNR=6.0
BRVK Borovoye 67.59 327 *e*P P **02 37 41.8 -0.6**
BRVK pmax pmax
comp=Z,23nm,0.6s,mb5.2
BRVK Borovoye 67.59 327 *e*P P **02 37 41.8 -0.6**
comp=Z,23nm,0.6s,mb5.2
CHKZ Chkalovo 67.69 328 *e*P P **02 37 42.0 -1.0**
CHKZ pmax pmax
comp=Z,11nm,0.6s,mb4.9
CHKZ Chkalovo 67.69 328 *e*P P **02 37 42.0 -1.0**
comp=Z,11nm,0.6s,mb4.9
TIXI Tiksi 68.06 1 *e*P P **02 37 44.3 -1.0**
TIXI pmax pmax
comp=Z,16nm,0.6s,mb5.0
TIXI Tiksi 68.06 1 *e*P P **02 37 44.3 -1.0**
comp=Z,157nm,0.6s,mb6.0
AB31 Akbulak array 72.34 321 *i*P P **02 38 10.8 -0.7**
AKTK Aktyubinsk 73.85 322 P P **02 38 20.0 -0.4**
AKTO Aktyubinsk 73.85 322 P P **02 38 20.0 -0.4**
comp=Z,14nm,0.6s,mb4.9,baz=104,slow=8.4,SNR=80
AKTO Aktyubinsk 73.85 322 P P **02 38 20.0 -0.4**
AKTO pmax pmax
comp=Z,14nm,0.6s,mb4.9
ARU Arti 75.14 328 P P **02 38 26.8 -1.0**
comp=Z,166nm,0.7s,mb5.9,SNR=8.9
ARU Arti 75.14 328 ⇑*i*P P **02 38 26.7 -1.1**
ARU *e* pP 02 38 42.3 -4.8
ARU *e*S S 02 48 00.7 0.0
ARU *e*SS SS 02 52 45.7 -5.4
ARU pmax pmax
comp=Z,26nm,0.9s,mb5.0
ARU Arti 75.14 328 *e*P P **02 38 25.7 -2.1**
comp=Z,23nm,0.8s,mb5.0
ORR Orenburg 76.13 322 *e*P P **02 38 32.2 -1.3**
ORR pmax pmax
comp=Z,50nm,1.6s,mb5.0
GNI Garni 81.65 310 P P **02 39 08.8 +5.1**
comp=Z,3.2nm,0.5s,mb4.4,baz=288,slow=5.7,SNR=3.6
GNI Garni 81.65 310 P P **02 39 08.8 +5.1**
GNI pmax pmax
comp=Z,3.0nm,0.5s
KDAK Kodiak Island 82.06 32 P P **02 39 06.4 +0.6**
comp=Z,11nm,0.5s,mb5.0,baz=249,slow=2.3,SNR=9.8
ZEI Tsey 82.39 313 *e*P P **02 39 07.6 0.0**
ZEI *e**PP pP 02 39 24.8 -2.3
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.6
IMA2 Indian Mountai 82.56 24 *e*P P **02 39 09.7 +1.2**
VNDA Vanda 83.21 173 P P **02 39 12.2 +0.4**
comp=Z,3.3nm,0.8s,mb4.2,baz=304,slow=5.0,SNR=12
VNDA Vanda 83.21 173 P P **02 39 12.3 +0.5**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 83.21 173 *e*P P **02 39 11.9 +0.1**
comp=Z,3.9nm,0.9s,mb4.2
MAW Mawson 83.56 200 *e*P P **02 39 14.4 +0.7**
comp=Z,1.9nm,0.6s,mb4.1
MAW Mawson 83.56 200 P P **02 39 14.9 +1.3**
comp=Z,3.2nm,0.8s,mb4.2,baz=52,slow=4.0,SNR=10
MAW Mawson 83.56 200 P P **02 39 14.9 +1.2**
MAW pmax pmax
comp=Z,3.0nm,0.8s
PMR Palmer 84.12 29 *e*P P **02 39 16.3 -0.2**
PMR pmax pmax
comp=Z,22nm,1.2s,mb4.9
PMR Palmer 84.12 29 *e*P P **02 39 16.3 -0.2**
comp=Z,22nm,1.2s,mb4.8
MCK McKinley 84.34 26 *e*P P **02 39 18.5 +0.9**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
MCK McKinley 84.34 26 *e*P P **02 39 18.5 +0.9**
comp=Z,4.1nm,0.7s,mb4.4
SML Sawmill 84.51 28 *e*P P **02 39 19.3 +0.8**
COLA College 84.88 25 *i*P P **02 39 22.0 +1.7**
COLA College 84.88 25 *e*P P **02 39 20.9 +0.6**
comp=Z,3.4nm,0.8s,mb4.3
DIV Divide 85.72 29 *e*P P **02 39 25.9 +1.3**
comp=Z,72nm,0.9s,mb5.6
VOR Voronezh 85.75 321 *e*P P **02 39 23.5 -1.2**
VOR pmax pmax
comp=Z,50nm,1.2s,mb5.3
VRSR Storozhevoye 85.76 321 *e*P P **02 39 24.5 -0.2**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.2
MALT Malatya 86.54 308 ⇑*i*P P **02 39 29.7 +1.1**
MALT Malatya 86.54 308 *e*P P **02 39 29.5 +0.9**
MALT pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MALT Malatya 86.54 308 *e*P P **02 39 29.5 +0.9**
comp=Z,8.1nm,0.9s,mb4.7
ANN Anapa 87.08 315 *e*P P **02 39 21.4 -10**
ANN *e**PP pP 02 39 38.3 -13
ANN pmax pmax
comp=Z,55nm,1.1s,mb5.4
OBN Obninsk 87.26 325 *i*P P **02 39 31.6 -0.4**
OBN pmax pmax
comp=Z,38nm,1.0s,mb5.3
OBN Obninsk 87.26 325 *e*P P **02 39 31.7 -0.4**
comp=Z,40nm,0.9s,mb5.3
KMBO Kilima Mbogo 89.58 269 P P **02 39 45.3 +2.3**
comp=Z,3.5nm,0.7s,mb4.6,baz=56,slow=7.3,SNR=8.6
KMBO Kilima Mbogo 89.58 269 P P **02 39 45.3 +2.3**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 89.58 269 *e*P P **02 39 44.7 +1.7**
comp=Z,3.7nm,0.8s,mb4.6
KEV Kevo 90.11 340 *e*p P **02 39 43.4 -2.1**
BRTR Keskin Array B 90.19 310 P P **02 39 45.8 -0.1**
comp=Z,4.8nm,0.9s,mb4.6,baz=124,slow=5.1,SNR=18
BRTR Keskin Array B 90.19 310 P P **02 39 45.8 0.0**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 90.35 21 *e*P P **02 39 48.1 +1.5**
ARCES ARCESS Array B 90.66 340 P P **02 39 46.9 -1.2**
comp=Z,8.8nm,0.8s,mb4.9,baz=78,slow=6.7,SNR=24
ARCES ARCESS Array B 90.66 340 P P **02 39 46.9 -1.2**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 92.04 332 P P **02 39 53.4 -1.1**
comp=Z,2.5nm,0.8s,mb4.5,baz=45,slow=4.3,SNR=12
FINES FINESS Array B 92.04 332 P P **02 39 53.4 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 92.08 321 P P **02 39 53.4 -1.3**
comp=Z,3.8nm,0.6s,mb4.8,baz=67,slow=4.7,SNR=18
AKASG Malin Array Be 92.08 321 P P **02 39 53.4 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
SYO Syowa Base 92.23 201 ⇓*e*P P **02 39 55.6 +0.3**
CFR Carcaliu 93.61 316 ⇑*i*P P **02 40 06.1 +4.4**
VRI Vrincioaia 94.47 316 ⇓*i*P P **02 40 05.4 -0.3**
MLR Muntele Rosu 95.08 316 P P **02 40 07.0 -1.4**
comp=Z,4.1nm,0.6s,mb5.0,baz=227,slow=5.2,SNR=11
MLR Muntele Rosu 95.08 316 ⇑*i*P P **02 40 06.3 -2.1**
MLR Muntele Rosu 95.08 316 P P **02 40 07.0 -1.4**
MLR pmax pmax
comp=Z,4.0nm,0.6s
SUW Suwalki 95.12 325 *e*P P **02 40 08.7 +0.1**
BURAR Bucovina Array 95.19 318 ⇓*i*P P **02 40 09.5 +0.6**
DRGR 97.03 318 ⇑*i*P P **02 40 17.0 -0.3**
HFS Hagfors 98.23 332 P P **02 40 20.9 -1.7**
comp=Z,1.4nm,0.6s,mb4.7,baz=100,slow=4.5,SNR=6.6
HFS Hagfors 98.23 332 P P **02 40 20.9 -1.8**
HFS pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 99.00 334 P P **02 40 24.5 -1.6**
comp=Z,1.5nm,0.7s,mb4.6,baz=66,slow=4.8
NOA NORSAR Array B 99.00 334 P P **02 40 24.5 -1.6**
comp=Z,2.0nm,0.7s,mb4.7,baz=67,slow=4.6,SNR=5.1
NOA NORSAR Array B 99.00 334 P P **02 40 24.5 -1.6**
NOA pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 102.28 322 P Pdif 02 40 40.4 -0.3
comp=Z,0.5nm,0.7s,baz=90,slow=5.3,SNR=5.0
GERES GERESS Array B 102.28 322 P Pdif 02 40 40.4 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
DAU Daniels Canyon 111.37 44 *e*PKIKP PKiKP 02 45 18.8 -0.4
TXAR Lajitas Array 121.70 52 PKP PKPdf 02 45 40.7 +1.7
comp=Z,0.3nm,0.7s,baz=173,slow=2.8,SNR=5.5
WMOK Wichita Mounta 122.77 44 *e*PKIKP PKPdf 02 45 41.2 +0.2
TOA0 Torodi Ar. Sit 123.02 288 *e*PKPdf PKPdf 02 45 42.8 +1.3
TORD Torodi Ar. Bea 123.02 288 PKP PKPdf 02 45 42.5 +1.0
comp=Z,3.5nm,0.6s,baz=81,slow=1.7,SNR=47
JCT Junction City 124.18 49 *e*PKIKP PKPdf 02 45 45.1 +1.4
WVT Waverly 129.01 36 *e*PKIKP PKPdf 02 45 53.6 +0.6
TRQA Tornquist 144.70 168 *e*PKPdf PKPdf 02 46 22.2 +0.4
JTS JuntasAbangare 145.57 66 *e*PKP2 PKPab 02 46 24.9 +0.9
CFAA Coronel Fontan 148.69 155 PKPbc PKPbc 02 46 33.9 +1.5
comp=Z,1.0nm,0.7s,baz=232,slow=4.9,SNR=12
CFAA Coronel Fontan 148.69 155 PKPbc PKPbc 02 46 33.9 +1.5
OTAV Otavalo 154.53 82 *e*PKPdf PKPdf 02 46 39.5 +2.2
LPAZ La Paz 160.62 132 PKPab PKPab 02 47 27.5 +0.6
comp=Z,1.1nm,0.9s,baz=217,slow=5.1,SNR=4.0
LPAZ La Paz 160.62 132 *e*PKIKP PKPdf 02 46 45.9 +1.0
LPAZ *e* 02 47 27.8

ISCJB ***19*** *02:28:56.6±3.5, 355N±006×1268E±0.1, h58km±32km, mb4.7/31, MS4.1/2, Error ellipse: s-maj=17.9km s-min=8.1km az=139.4*
IDC ***19*** *02:28:59.9±7.4, 352N×12678E, h73km±71km, mb4.3/13, mb1 4.4/13, mb1mx4.2/24, mbtmp4.3/13, MS3.7/1, Ms1 3.7/1, ms1mx2.4/25, Error ellipse: s-maj=39.5km s-min=15.0km az=84.0*
BJI ***19*** *02:29:00.8, 344N×12669E, h109km, mB5.1, mb4.7*
NEIC ***19*** *02:29:03.1±2.7, 351N×12669E, h104km±25km, mb4.8/20, Error ellipse: s-maj=13.7km s-min=5.2km az=65.0*
ISC 19 02:29:02.5±3.3, 352N±006×1268E±01, h97km±31km, n48, σ0s74/46, mb4.6/31, 3C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSM	**Kuching**	**16.55**	**263**	*e*P		**Pn**	**02 32 49.1**	**+0.5**
KAKA	**Kakadu**	**17.09**	**161**	*e*S		**Pn**	**02 32 50.7**	**-4.6**
FITZ	**Fitzroy Crossi** 22nm,0.3s,mb5.0	**21.52**	**183**	⇓*i*P		**P**	**02 33 42.8**	**-0.8**
FITZ	**Fitzroy Crossi** 12nm,0.4s,mb4.6,baz=9,slow=10,SNR=8.3	**21.52**	**183**	P		**P**	**02 33 42.6**	**-1.0**
WRAB	**Tennant Creek** 43nm,0.8s,mb4.8	**24.48**	**163**	*e*P		**P**	**02 34 11.4**	**-1.0**
WRA	**Warramunga Arr** 38nm,0.7s,mb4.8,baz=343,slow=10,SNR=10	**24.48**	**163**	P		**P**	**02 34 12.0**	**-0.5**
WB2	**Warramunga Arr**	**24.49**	**163**	*e*P		**P**	**02 34 12.0**	**-0.5**
MBWA	**Marble Bar** 11nm,0.6s,mb4.5	**25.48**	**195**	*e*P		**P**	**02 34 21.7**	**+0.3**
KULM	**Kulim**	**26.08**	**275**	P		**P**	**02 34 26.4**	**-0.5**
AS31	**Alice Springs**	**27.91**	**166**	*e*P		**P**	**02 34 44.1**	**+0.8**
ASAR	**Alice Springs** 4.0nm,0.3s,mb4.5,baz=347,slow=12,SNR=5.7	**27.91**	**166**	P		**P**	**02 34 44.5**	**+1.2**
CHTO	**Chiang Mai** 4.3nm,0.5s,mb4.4	**31.14**	**301**	*e*P		**P**	**02 35 12.4**	**+0.5**

KMI	**Kunming**	**31.54**	**315**	P		**P**	**02 35 14.8**	**-0.6**
KMI				AMB		AMB		
	comp=Z,13nm,0.6s,mb4.8							
KMI	**Kunming**	**31.54**	**315**	P		**P**	**02 35 14.7**	**-0.7**
	comp=Z,13nm,0.6s,mb4.8							
KSRS	**Korea Array**	**33.78**	**2**	P		**P**	**02 35 34.4**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=176,slow=11,SNR=4.6							
KSRS				LR		LR	02 48 46.7	
	comp=Z,127nm,21.1s,baz=286,slow=35							
FORT	**Forrest**	**34.13**	**178**	*e*P		**P**	**02 35 37.3**	**-0.7**
	comp=Z,26nm,0.7s,mb5.2							
KLBR	**Kellerberrin**	**35.95**	**193**	⇑*i*P		**P**	**02 35 53.7**	**0.0**
	comp=Z,11nm,0.3s,mb5.3							
MUN	**Mundaring**	**36.70**	**195**	⇑*i*P		**P**	**02 36 00.3**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.36**	**193**	P		**P**	**02 36 05.3**	**-0.2**
	comp=Z,9.1nm,0.3s,mb5.1,baz=29,slow=8.8,SNR=11							
NWAO	**Narrogin (SRO)**	**37.36**	**193**	*e*P		**P**	**02 36 05.8**	**+0.3**
	comp=Z,7.4nm,0.5s,mb4.9							
BJT	**Baijiatuan**	**37.57**	**347**	*e*P		**P**	**02 36 07.8**	**+0.4**
	comp=Z,22nm,1.0s,mb4.9							
BJI	**Beijing**	**37.59**	**347**	*e*P		**P**	**02 36 07.9**	**+0.4**
BJI				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
BJI	**Beijing**	**37.59**	**347**	*e*P		**P**	**02 36 07.9**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8							
STKA	**Stephens Creek**	**37.93**	**159**	*e*P		**P**	**02 36 10.1**	**-0.3**
	comp=Z,10nm,0.5s,mb4.9							
STKA	**Stephens Creek**	**37.93**	**159**	P		**P**	**02 36 09.9**	**-0.5**
	comp=Z,10nm,0.5s,mb4.9,baz=330,slow=8.8,SNR=6.5							
ARMA	**Armidale**	**41.29**	**147**	*e*P		**P**	**02 36 40.8**	**+2.6**
LSA	**Lhasa**	**42.59**	**312**	*e*P		**P**	**02 36 49.0**	**+0.2**
	comp=Z,7.0nm,0.7s,mb4.5							
ASAJ	**Asahikawa**	**42.78**	**17**	P		**P**	**02 36 50.4**	**0.0**
	comp=Z,9.5nm,0.6s,mb4.7,baz=237,slow=11,SNR=5.1							
SONM	**Songino Array**	**47.50**	**341**	P		**P**	**02 37 28.2**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.1,baz=165,slow=7.8,SNR=5.7							
WMQ	**Urumqi**	**52.90**	**325**	⇓*i*P		**P**	**02 38 09.3**	**+0.8**
WMQ				AP		pP	02 38 33.9	+1.9
WMQ				XP		sP	02 38 45.9	+3.0
WMQ				PCP		PcP	02 39 16.8	+0.5
WMQ				PP		PP	02 40 12.1	+3.2
WMQ				PPP			02 41 19.8	
WMQ				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,119nm,5.2s							
WMQ				LR		LR		
	comp=N,724nm,36.5s							
WMQ				LR		LR		
	comp=E,246nm,32.5s							
WMQ				LR		LR		
	comp=Z,541nm,24.3s							
MKAR	**Makanchi Array**	**57.73**	**325**	P		**P**	**02 38 43.0**	**-0.1**
	comp=Z,2.4nm,0.4s,mb4.6,baz=121,slow=7.9,SNR=5.0							
YAK	**Yakutsk**	**58.41**	**2**	*e*P		**P**	**02 38 47.3**	**-0.6**
	comp=Z,22nm,0.6s,mb5.4							
BVAR	**Borovoye Array**	**67.50**	**327**	P		**P**	**02 39 48.7**	**+0.7**
	comp=Z,1.2nm,0.3s,mb4.2,baz=139,slow=9.0,SNR=6.2							
BRVK	**Borovoye**	**67.57**	**327**	*e*P		**P**	**02 39 47.9**	**-0.6**
	comp=Z,7.0nm,0.7s,mb4.6							
CHKZ	**Chkalovo**	**67.67**	**328**	*e*P		**P**	**02 39 48.0**	**-1.0**
	comp=Z,4.9nm,0.9s,mb4.3							
ZRNK	**Zerenda**	**68.22**	**327**	*e*P		**P**	**02 39 52.0**	**-0.6**
	comp=Z,8.5nm,0.6s,mb4.8							
AKTK	**Aktyubinsk**	**73.83**	**322**	P		**P**	**02 40 26.6**	**+0.1**
AKTO	**Aktyubinsk**	**73.83**	**322**	P		**P**	**02 40 26.6**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.2,baz=94,slow=8.6,SNR=4.4							
ARU	**Arti**	**75.12**	**328**	*e*P		**P**	**02 40 32.3**	**-1.6**
	comp=Z,4.9nm,0.7s,mb4.3							
IMA2	**Indian Mountai**	**82.56**	**24**	*e*P		**P**	**02 41 15.4**	**+0.8**
VNDA	**Vanda**	**83.22**	**173**	*e*P		**P**	**02 41 17.6**	**-0.5**
	comp=Z,1.4nm,0.9s,mb3.8							
MCK	**McKinley**	**84.34**	**26**	*e*P		**P**	**02 41 23.3**	**-0.4**
	comp=Z,5.6nm,0.9s,mb4.4							
DIV	**Divide**	**85.72**	**29**	*e*P		**P**	**02 41 31.9**	**+1.3**
	comp=Z,82nm,0.9s,mb5.7							
BRTR	**Keskin Array B**	**90.16**	**310**	P		**P**	**02 41 52.7**	**+0.9**
	comp=Z,1.4nm,0.9s,mb4.1,baz=124,slow=6.2,SNR=4.0							
INK	**Inuvik**	**90.35**	**21**	P		**P**	**02 41 51.8**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.2,baz=212,slow=3.3,SNR=4.1							
SYO	**Syowa Base**	**92.24**	**201**	⇑*e*P		**P**	**02 42 02.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP		PKPdf	02 47 49.1	+1.7
	comp=Z,0.5nm,0.7s,baz=73,slow=1.7,SNR=5.8							
JTS	**JuntasAbangare**	**145.58**	**66**	*e*PKPbc		PKPbc	02 48 30.4	+0.8

*ISCJB **19** 02:46:56.1±2.0, 459N±04×1527E±03, h10km, mb4.0/4, Error ellipse: s-maj=60.8km s-min=20.1km az=144.8*
*IDC **19** 02:46:59.0±4.3, 4660N×15307E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/22, mbtmp4.0/4, Error ellipse: s-maj=150.8km s-min=34.6km az=9.0*
*MOS **19** 02:47:00.1±1.4, 4570N×15258E, h45km, mb4.2/4, Error ellipse: s-maj=64.9km s-min=47.8km az=14.8*

ISC 19 02:46:57.5±2.0, 459N±04×1527E±03, h10km, n9, σ1§00/9, mb4.0/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.47**	**262**	*e*PN		**Pn**	**02 47 51.0**	**-0.5**
MKAR	**Makanchi Array**	**47.12**	**298**	P		**P**	**02 55 31.3**	**+1.5**
	1.1nm,0.8s,mb3.9,baz=60,slow=8.5,SNR=9.2							
MKAR	**Makanchi Array**	**47.12**	**298**	P		**P**	**02 55 31.3**	**+1.6**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**64.74**	**335**	P		**P**	**02 57 34.4**	**-1.5**
	comp=Z,3.1nm,1.0s,mb4.3,baz=46,slow=6.0,SNR=3.9							
FINES	**FINESS Array B**	**64.74**	**335**	P		**P**	**02 57 34.4**	**-1.6**
FINES				pmax		pmax		
	comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**72.15**	**326**	P		**P**	**02 58 22.6**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=6.1,SNR=8.4							
AKASG	**Malin Array Be**	**72.15**	**326**	P		**P**	**02 58 22.7**	**+0.4**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TXAR	**Lajitas Array**	**78.17**	**60**	P		**P**	**02 58 57.1**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=306,slow=4.1,SNR=8.8							
TXAR	**Lajitas Array**	**78.17**	**60**	P		**P**	**02 58 57.1**	**+0.1**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							

MAN 19 02:58:05.2, 1868N×12072E, h19km, mb2.7, ML4.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PIP	**Pasuquin**	**0.36**	**196**	⇓*i*P		Pg	02 58 13.8	+0.9
PIP				*e*S		Sg	02 58 23.0	+4.9

*IDC **19** 03:00:29.4±1.7, 4736N×15309E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=49.4km s-min=28.5km az=161.0*
*MOS **19** 03:00:32.6±3.1, 4692N×15319E, h33km, mb4.2/4, Error ellipse: s-maj=33.7km s-min=20.5km az=61.2*
*ISCJB **19** 03:00:35.5±1.8, 472N±02×1529E±03, h64km±16km, mb3.8/5, Error ellipse: s-maj=40.0km s-min=10.6km az=89.4*

ISC 19 03:00:37.6±1.6, 472N±02×1528E±03, h69km±14km, n12, σ0§70/13, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.11**	**31**	*e*PN		**Pn**	**03 01 39.0**	**+1.1**
SKR				*e*S		**Sn**	**03 02 24.0**	**-0.7**
SKR				smax				
	comp=N,50nm,0.3s							
SKR				smax				
	comp=E,220nm,0.3s							
ASAJ	**Asahikawa**	**7.78**	**250**	Pn		**Pn**	**03 02 27.5**	**-0.6**
	comp=E,0.6nm,0.3s,baz=101,slow=16,SNR=3.8							
ASAJ	**Asahikawa**	**7.78**	**250**	PN		**Pn**	**03 02 27.5**	**-0.6**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.19**	**231**	Pn		**Pn**	**03 04 08.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=42,slow=8.5,SNR=4.1							
TKM2	**Tokmak 2**	**52.60**	**296**	P		**P**	**03 09 51.9**	**+7.7**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
KKAR	**Karatay Array**	**55.59**	**298**	*e*P		**P**	**03 10 10.1**	**+4.1**
FINES	**FINESS Array B**	**63.53**	**335**	P		**P**	**03 11 00.6**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=42,slow=4.9,SNR=9.6							
FINES	**FINESS Array B**	**63.53**	**335**	P		**P**	**03 11 00.6**	**0.0**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							

PDAR	**Pinedale Array**	**64.66**	**54**	P		**P**	**03 11 07.8**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.2,baz=90,slow=1.5,SNR=3.7							
NOA	**NORSAR Array B**	**67.72**	**341**	P		**P**	**03 11 27.7**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=29,slow=6.4,SNR=3.3							
NOA	**NORSAR Array B**	**67.72**	**341**	P		**P**	**03 11 27.7**	**+0.1**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**77.46**	**60**	P		**P**	**03 12 25.1**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=293,slow=4.5,SNR=5.7							

*NEIC **19** 03:02:03.5±0.6, 454N×9483E, h30km, mb4.6/9, Error ellipse: s-maj=18.8km s-min=8.4km az=224.0*
*BJI **19** 03:02:03.4, 450N×9480E, h30km, mB4.6, mb4.6, Ms4.4, Msz4.1*
*IDC **19** 03:02:05.9±3.3, 462N×9493E, h48km±31km, mb4.0/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, ML3.9/1, Error ellipse: s-maj=31.2km s-min=16.6km az=49.0*
*ISCJB **19** 03:02:10.6±1.8, 458N±009×951E±01, h106km±16km, mb4.5/28, Error ellipse: s-maj=22.0km s-min=8.1km az=109.0*

ISC 19 03:02:11.8±1.7, 460N±009×951E±01, h99km±15km, n59, σ1§11/59, mb4.5/28, 4C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**4.21**	**115**	P		**Pn**	**03 03 11.8**	**-1.9**
	6.3nm,0.3s,baz=312,slow=12,SNR=22							
PSI				S		**Sn**	**03 04 01.4**	**-0.3**
	4.6nm,0.3s,baz=279,slow=19,SNR=7.1							
KULM	**Kulim**	**5.57**	**83**	*e*Pn		**Pn**	**03 03 27.6**	**-4.6**
PBA	**Port Blair**	**7.39**	**342**	*e*P		x	03 04 37.6	
PBA				*e*S		x	03 04 49.2	
PBA				*ex*		x	03 04 50.7	
	comp=N,274nm,0.5s							
PBA				*ex*		x	03 04 50.7	
	comp=E,485nm,0.5s							
CM31	**Chiang Mai Arr**	**14.28**	**15**	*e*Pn		**Pn**	**03 05 31.6**	**+2.3**
	comp=E,7.0nm,0.4s							
CHTO	**Chiang Mai**	**14.62**	**15**	*e*Pn		**Pn**	**03 05 35.3**	**+1.6**
	comp=E,8.8nm,0.7s							
KSM	**Kuching**	**15.50**	**101**	*e*P		**Pn**	**03 05 47.7**	**+2.9**
KMI	**Kunming**	**21.69**	**19**	P		**P**	**03 06 59.3**	**+4.8**
KMI				AMB		AMB		
	comp=Z,11nm,0.5s,mb4.4							
KMI	**Kunming**	**21.69**	**19**	P		**P**	**03 06 59.2**	**+4.7**
	comp=Z,11nm,0.5s,mb4.4							
JIRN	**Jiri**	**24.46**	**341**	*e*P		**P**	**03 07 21.0**	**-0.4**
	comp=Z,12nm,0.5s,mb4.5							
GUN	**Gumba**	**24.79**	**340**	*e*P		**P**	**03 07 23.7**	**-0.7**
	comp=Z,24nm,0.6s,mb4.8							
LSA	**Lhasa**	**25.25**	**352**	*e*P		**P**	**03 07 28.9**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.3							
GKN	**Gorkha**	**25.32**	**338**	*e*P		**P**	**03 07 28.7**	**-0.5**
	comp=Z,7.2nm,0.3s,mb4.6							
KOLN	**Koldanda**	**25.52**	**336**	*e*P		**P**	**03 07 30.5**	**-0.5**
	comp=Z,23nm,0.5s,mb4.8							
XAN	**Xi'an**	**31.99**	**22**	P		**P**	**03 08 26.6**	**-1.9**
XAN				AMB		AMB		
	comp=Z,19nm,0.6s,mb5.0							
GTA	**Gaotai**	**34.92**	**6**	*e*P		**P**	**03 08 52.6**	**-1.3**
GTA				AP		pP	03 09 02.5	-14
GTA				XP		sP	03 09 07.1	-21
GTA				AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**37.63**	**128**	*e*P		**P**	**03 09 16.4**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.2							
JOW	**Kunigami**	**38.62**	**52**	P		**P**	**03 09 26.1**	**+0.8**
	comp=Z,4.7nm,0.4s,mb4.7,baz=191,slow=10,SNR=5.4							
WMQ	**Urumqi**	**39.61**	**352**	⇓*i*P		**P**	**03 09 33.6**	**+0.1**
WMQ				AP		pP	03 09 43.6	-13
WMQ				XP		sP	03 09 47.1	-21
WMQ				PP		PP	03 11 10.8	+4.5
WMQ				PPP			03 11 37.0	
WMQ				PCP		PcP	03 11 38.1	-0.7
WMQ				S		**S**	**03 15 38.6**	**+10**
WMQ				XS		sS	03 15 55.3	-13
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,28nm,6.3s							
WMQ				LR		LR		
	comp=N,185nm,20.0s							
WMQ				LR		LR		
	comp=E,353nm,20.0s							
WMQ				LR		LR		
	comp=Z,283nm,20.0s							
BJT	**Baijiatuan**	**40.06**	**25**	*e*P		**P**	**03 09 37.9**	**+0.6**
	comp=Z,11nm,0.7s,mb4.8							
BJI	**Beijing**	**40.08**	**25**	*e*P		**P**	**03 09 38.1**	**+0.6**
BJI				AMB		AMB		
	comp=Z,17nm,0.8s,mb4.9							
BJI	**Beijing**	**40.08**	**25**	*e*P		**P**	**03 09 38.1**	**+0.6**
	comp=Z,17nm,0.8s,mb4.9							
ULHL	**Ulahol**	**41.08**	**339**	P		**P**	**03 09 45.6**	**-0.1**
	SNR=6.5							
KZA	**Kyzart**	**41.31**	**337**	P		**P**	**03 09 48.3**	**+0.7**
	SNR=6.1							
UCH	**Uchtor**	**41.72**	**337**	P		**P**	**03 09 51.6**	**+0.7**
	SNR=11							
TKM2	**Tokmak 2**	**41.91**	**338**	P		**P**	**03 09 52.7**	**+0.3**
	SNR=7.1							
KBK	**Karagaybulak**	**41.92**	**338**	P		**P**	**03 09 53.7**	**+1.2**
	SNR=12							
AML	**Almayashu**	**41.97**	**336**	P		**P**	**03 09 53.9**	**+1.0**
	SNR=9.4							
AAK	**Ala-Archa**	**42.07**	**337**	P		**P**	**03 09 55.7**	**+1.9**
	SNR=7.2							
AAK	**Ala-Archa**	**42.07**	**337**	*e*P		**P**	**03 09 54.2**	**+0.4**
	comp=Z,6.1nm,0.7s,mb4.4							
EKS2	**Erkin-Say**	**42.38**	**337**	P		**P**	**03 09 57.1**	**+0.9**
	SNR=7.8							
USP	**Osenovka**	**42.61**	**338**	P		**P**	**03 09 58.4**	**+0.3**
	SNR=24							
MKAR	**Makanchi Array**	**43.47**	**347**	P		**P**	**03 10 04.0**	**-1.1**
	comp=Z,3.5nm,0.6s,mb4.3,baz=166,slow=8.5,SNR=42							
SONM	**Songino Array**	**44.16**	**11**	P		**P**	**03 10 08.9**	**-1.6**
	comp=Z,0.4nm,0.3s,mb3.6,baz=187,slow=9.2,SNR=4.8							
SONM				PcP		PcP	03 11 54.8	+1.0
	comp=Z,1.6nm,0.7s,baz=198,slow=3.5,SNR=7.6							
KSRS	**Korea Array**	**44.37**	**38**	P		**P**	**03 10 11.8**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.9,baz=219,slow=8.2,SNR=6.5							
WRA	**Warramunga Arr**	**45.62**	**124**	P		**P**	**03 10 22.8**	**+0.6**
	comp=Z,8.0nm,0.6s,mb4.6,baz=302,slow=9.2,SNR=60							
WB2	**Warramunga Arr**	**45.63**	**124**	*e*P		**P**	**03 10 22.8**	**+0.5**
ASPA	**Alice Springs**	**47.12**	**128**	*e*P		**P**	**03 10 34.6**	**+0.8**
AS31	**Alice Springs**	**47.12**	**128**	*e*P		**P**	**03 10 34.6**	**+0.7**
ASAR	**Alice Springs**	**47.12**	**128**	P		**P**	**03 10 34.5**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=298,slow=7.8,SNR=34							
ZAL	**Zalesovo**	**49.90**	**352**	P		**P**	**03 10 54.0**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=301,slow=4.3,SNR=11							
BRVK	**Borovoye**	**52.44**	**341**	*e*P		**P**	**03 11 13.2**	**-1.0**
	comp=Z,8.8nm,0.6s,mb5.0							
CHKZ	**Chkalovo**	**52.86**	**342**	*e*P		**P**	**03 11 16.8**	**-0.5**
	comp=Z,18nm,0.7s,mb5.2							
BRTR	**Keskin Array B**	**65.30**	**312**	P		**P**	**03 12 41.0**	**-2.1**
	comp=Z,2.3nm,0.7s,mb4.1,baz=142,slow=5.8,SNR=15							
TIXI	**Tiksi**	**70.25**	**11**	*e*P		**P**	**03 13 12.0**	**-2.2**
	comp=Z,4.7nm,0.7s,mb4.4							
CFR	**Carcaliu**	**70.60**	**316**	⇑*i*P		**P**	**03 13 23.9**	**+7.6**
CFR	**Carcaliu**	**70.60**	**316**	⇑P		**P**	**03 13 23.9**	**+7.6**
AKASG	**Malin Array Be**	**71.31**	**322**	P		**P**	**03 13 19.4**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.3,baz=92,slow=5.2,SNR=11							
AKASG	**Malin Array Be**	**71.31**	**322**	P		**P**	**03 13 19.4**	**-1.2**
VRI	**Vrincioaia**	**71.72**	**317**	⇓*i*P		**P**	**03 13 24.1**	**+1.0**
VRI	**Vrincioaia**	**71.72**	**317**	⇓P		**P**	**03 13 24.1**	**+1.0**
MLR	**Muntele Rosu**	**72.18**	**316**	⇓*i*P		**P**	**03 13 27.1**	**+1.3**
MLR	**Muntele Rosu**	**72.18**	**316**	⇓P		**P**	**03 13 27.1**	**+1.3**
BURAR	**Bucovina Array**	**73.11**	**318**	⇑*i*P		**P**	**03 13 32.7**	**+1.4**
BURAR	**Bucovina Array**	**73.11**	**318**	⇑P		**P**	**03 13 32.7**	**+1.4**
FINES	**FINESS Array B**	**76.04**	**332**	P		**P**	**03 13 47.8**	**-0.5**
	comp=Z,1.6nm,0.3s,mb4.2,baz=117,slow=5.9,SNR=44							
KEV	**Kevo**	**78.22**	**341**	*e*p		**P**	**03 13 58.0**	**-2.5**
ARCES	**ARCESS Array B**	**78.65**	**340**	P		**P**	**03 14 02.7**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.3,baz=94,slow=6.0,SNR=28							
GERES	**GERESS Array B**	**80.89**	**319**	P		P	**03 14 15.9**	**+1.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=123,slow=5.7,SNR=15							
PDAR	**Pinedale Array**	**127.83**	**23**	PKP		PKPdf	03 21 06.3	+0.6
	comp=Z,0.4nm,0.8s,baz=50,slow=2.3,SNR=3.4							

*LDG **19** 03:09:02.7±0.1, 4302N×001W, h6km, Md2.2/3, Ml2.0/6, Error ellipse: s-maj=1.4km s-min=0.9km az=170.0*
*STR **19** 03:09:03.1±0.1, 4301N×001W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 03:09:03.4±0.2, 4301N×000W, h0km, mbLg1.6/13, 1C, Error ellipse: s-maj=1.7km s-min=1.4km az=28.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**58**	Pg		Pg	03 09 04.7	+0.1
LABF				Sg		Sg	03 09 06.0	+0.5
LABF	**Labassere**	**0.07**	**58**	Pg		Pg	03 09 04.8	+0.1
LABF				Lg			03 09 06.1	
VIEF	**Viey**	**0.13**	**171**	Pg		Pg	03 09 05.9	+0.1
VIEF				Sg		Sg	03 09 08.0	+0.5
VIEF	**Viey**	**0.13**	**171**	Pg		Pg	03 09 05.9	+0.1
VIEF				Lg			03 09 08.1	
EPF	**Esparros**	**0.25**	**86**	*e*Pg		Pg	03 09 07.7	-0.5
EPF				*e*Sg		Sg	03 09 11.3	-0.2
	38nm,0.2s							
EPF	**Esparros**	**0.25**	**86**	Pg		Pg	03 09 07.7	-0.5
EPF				Lg			03 09 11.3	
	19nm,0.2s							
REYF	**Montagne du Re**	**0.29**	**281**	Pg		Pg	03 09 08.3	-0.6
REYF				Sg		Sg	03 09 12.7	0.0
REYF	**Montagne du Re**	**0.29**	**281**	Pg		Pg	03 09 08.4	-0.5
REYF				Lg			03 09 12.7	
RESF	**Ens**	**0.32**	**129**	Pg		Pg	03 09 09.2	-0.4
RESF				Sg		Sg	03 09 14.0	+0.2
RESF	**Ens**	**0.32**	**129**	Pg		Pg	03 09 09.2	-0.4
RESF				Lg			03 09 14.0	
EBIE	**Bielsa**	**0.34**	**162**	⇑Pg		Pg	03 09 09.6	-0.3
	11nm,0.3s,SNR=18							
EBIE				Lg			03 09 14.4	
	24nm,0.1s,SNR=33							
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg		Pg	03 09 10.9	-0.6
ETSF				*e*Sg		Sg	03 09 16.3	-0.7
	48nm,0.4s							
ETSF	**Etsaut**	**0.42**	**255**	Pg		Pg	03 09 10.9	-0.6
ETSF				Lg			03 09 16.3	
	24nm,0.4s							
ATE	**Arette**	**0.52**	**278**	Pg		Pg	03 09 12.9	-0.3
ATE				Sg		Sg	03 09 20.1	+0.2
ATE	**Arette**	**0.52**	**278**	Pg		Pg	03 09 13.1	-0.2
ATE				Lg			03 09 20.1	
MELF	**Melles**	**0.58**	**104**	Pg		Pg	03 09 13.9	-0.6
MELF				Lg			03 09 21.5	
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg		Pg	03 09 19.2	-1.4
SJPF				*e*Sg		Sg	03 09 31.0	-1.3
	3.2nm,0.2s							
SJPF	**Ste Jean**	**0.90**	**277**	Pg		Pg	03 09 19.2	-1.4
SJPF				Lg			03 09 31.0	
	1.6nm,0.2s							
SALF	**Salau**	**0.91**	**106**	Pg		Pg	03 09 20.7	-0.1
SALF	**Salau**	**0.91**	**106**	Pg		Pg	03 09 20.4	-0.4
SALF				Lg			03 09 31.8	
IPRE	**Itoiz**	**1.01**	**259**	Lg			03 09 37.5	
	1.7nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**1.12**	**281**	Lg			03 09 42.7	
	8.4nm,0.1s,SNR=5.4							
ELIZ	**Elizondo**	**1.13**	**278**	Pg		Pg	03 09 26.7	+1.7
	0.4nm,0.2s,SNR=7.9							
ELIZ				Lg			03 09 43.4	
	2.1nm,0.2s,SNR=8.2							
IUSE	**Utxeti**	**1.14**	**267**	Pg		Pg	03 09 27.2	+2.1
	1.3nm,0.2s,SNR=7.9							
IUSE				Lg			03 09 43.4	
	1.7nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.33**	**195**	Pg		Pg	03 09 29.4	+0.5
	4.6nm,0.3s,SNR=8.0							
ESAC				Lg			03 09 48.0	
	18nm,0.1s,SNR=20							
EMIR	**Miracle**	**1.58**	**134**	Pg		Pg	03 09 32.1	-1.5
	SNR=7.9							
EMIR				Lg			03 09 54.1	
	1.7nm,0.1s,SNR=6.2							
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg		Pg	03 09 33.8	-1.3
MTLF				*e*Sg		Sg	03 09 55.0	-1.6
	3.8nm,0.3s							
MTLF	**Montolieu**	**1.66**	**78**	Pg		Pg	03 09 33.8	-1.3
MTLF				Lg			03 09 55.0	
	1.9nm,0.3s							
EPOB	**Poblet**	**1.84**	**154**	Pg		Pg	03 09 36.6	-2.1
	0.3nm,0.1s,SNR=7.9							

SNR=4.5
SPB4 Spitsbergen Ar 2.41 317 *e*Pn **Pn** 03 43 50.1 **+1.3**
SPB4 *e*Pg **Pg** 03 43 56.6 **+0.8**
SPB4 *e*Sg **Sg** 03 44 26.7 **-0.5**
SPB4 Spitsbergen Ar 2.41 317 *e*Pn **Pn** 03 43 50.1 **+1.3**
SPB4 Spitsbergen Ar 2.41 317 *e*Pg **Pg** 03 43 56.6 **+0.7**
BJO Bjornoya 2.42 215 *e*P **Pn** 03 43 51.5 **+2.6**
BJO *e*S **Sn** 03 44 18.7 **+0.3**
BJO AML AML 03 44 21.8
comp=Z,182nm,0.5s
BJO1 Bjornoya 2.45 216 *e*P **Pn** 03 43 51.5 **+2.2**
BJO1 *e*S **Sn** 03 44 18.7 **-0.4**
BJO1 Bjornoya 2.45 216 *e*P **Pn** 03 43 51.5 **+2.2**
KBS Kingsbay 3.57 318 Pn **Pn** 03 44 05.1 **+0.4**
KBS Pg **Pg** 03 44 16.4 **-1.5**
KBS Sn **Sn** 03 44 45.3 **-1.5**
KBS Lg 03 45 01.0
KBS Kingsbay 3.57 318 *e*P **Pn** 03 44 05.3 **+0.6**
KBS *e*S **Sn** 03 44 45.3 **-1.5**
KBS AML AML 03 45 12.6
comp=Z,135nm,0.3s
KBS Kingsbay 3.57 318 Pg **Pg** 03 44 16.4 **-1.6**
KBS Sn **Sn** 03 44 45.3 **-1.5**
KEV Kevo 6.86 172 *e*p **Pn** 03 44 50.4 **+0.5**
ARA0 ARCESS Array S 7.05 177 Pn **Pn** 03 44 50.7 **-1.8**
baz=348,slow=12
ARA0 Sn **Sn** 03 46 02.1 **-10**
baz=5.9,slow=22
TRO Tromso 7.11 196 *e*P **Pn** 03 44 49.5 **-3.9**
TRO AML AML 03 46 15.0
comp=Z,4.9nm,0.5s
KTK1 Kautokeino 7.57 183 *e*P **Pn** 03 44 59.9 **+0.2**
KTK1 *e*S **Sn** 03 46 19.4 **-6.1**
FIA0 FINESS Array S 15.18 177 Pn **Pn** 03 46 38.7 **-5.0**
baz=1.9,slow=12

LDG ***19*** *03:46:58.3±0.1, 4300N×000W, h2km, Md2.1/3, Ml1.9/6, Error ellipse: s-maj=1.1km s-min=0.9km az=169.0*
STR ***19*** *03:46:58.4±0.1, 4301N×001E, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 03:46:58.8±0.2, 4300N×000E, h0km, mbLg1.4/12, 1C, Error ellipse: s-maj=1.6km s-min=1.3km az=37.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**48**	Pg	Pg	03 47 00.0	-0.2
LABF				Sg	Sg	03 47 01.3	+0.2
LABF	**Labassere**	**0.07**	**48**	Pg	Pg	03 47 00.1	-0.1
LABF				Lg		03 47 01.3	
VIEF	**Viey**	**0.12**	**172**	Pg	Pg	03 47 01.1	+0.1
VIEF				Sg	Sg	03 47 03.0	+0.4
VIEF	**Viey**	**0.12**	**172**	Pg	Pg	03 47 01.1	+0.1
VIEF				Lg		03 47 03.0	
EPF	**Esparros**	**0.25**	**83**	*e*Pg	Pg	03 47 03.1	-0.5
EPF				*e*Sg	Sg	03 47 06.8	0.0
	19nm,0.2s						
EPF	**Esparros**	**0.25**	**83**	Pg	Pg	03 47 03.1	-0.5
EPF				Lg		03 47 06.8	
	9.5nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**284**	Pg	Pg	03 47 03.8	-0.7
REYF				Sg	Sg	03 47 08.3	0.0
REYF	**Montagne du Re**	**0.30**	**284**	Pg	Pg	03 47 03.9	-0.6
REYF				Lg		03 47 08.3	
RESF	**Ens**	**0.31**	**128**	Pg	Pg	03 47 04.4	-0.4
RESF				Sg	Sg	03 47 09.1	+0.2
RESF	**Ens**	**0.31**	**128**	Pg	Pg	03 47 04.4	-0.4
RESF				Lg		03 47 09.1	
EBIE	**Bielsa**	**0.33**	**162**	⇑Pg	Pg	03 47 04.9	-0.3
	12nm,0.3s,SNR=18						
EBIE				Lg		03 47 09.4	
	21nm,0.1s,SNR=50						
ETSF	**Etsaut**	**0.42**	**256**	*e*Pg	Pg	03 47 06.6	-0.3
ETSF				*e*Sg	Sg	03 47 12.0	-0.4
	7.1nm,0.3s						
ETSF	**Etsaut**	**0.42**	**256**	Pg	Pg	03 47 06.6	-0.3
ETSF				Lg		03 47 12.0	
	3.5nm,0.3s						
ATE	**Arette**	**0.52**	**280**	Pg	Pg	03 47 08.4	-0.4
ATE				Sg	Sg	03 47 16.1	+0.6
ATE	**Arette**	**0.52**	**280**	Pg	Pg	03 47 08.2	-0.5
ATE				Lg		03 47 15.5	
MELF	**Melles**	**0.57**	**103**	Pg	Pg	03 47 10.1	+0.4
MELF				Lg		03 47 16.9	
SALF	**Salau**	**0.91**	**105**	Pg	Pg	03 47 15.7	-0.5
SALF				Sg	Sg	03 47 27.3	-0.6
SALF	**Salau**	**0.91**	**105**	Pg	Pg	03 47 15.1	-1.1
SALF				Lg		03 47 27.0	
SJPF	**Ste Jean**	**0.91**	**278**	*e*Pg	Pg	03 47 14.5	-1.7
SJPF				*e*Sg	Sg	03 47 25.9	-2.0
	1.8nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**278**	Pg	Pg	03 47 14.5	-1.7
SJPF				Lg		03 47 25.9	
	0.9nm,0.2s						
IPRE	**Itoiz**	**1.02**	**259**	Lg		03 47 33.0	
	0.2nm,0.0s,SNR=7.9						
ELIZ	**Elizondo**	**1.13**	**279**	Pg	Pg	03 47 21.5	+1.0
	SNR=7.9						
ELIZ				Lg		03 47 36.0	
	0.6nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.14**	**268**	Lg		03 47 38.3	
	1.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.32**	**195**	Pg	Pg	03 47 24.7	+0.6
	4.7nm,0.3s,SNR=5.7						
ESAC				Lg		03 47 43.2	
	7.6nm,0.1s,SNR=14						
EMIR	**Miracle**	**1.56**	**133**	Pg	Pg	03 47 28.5	-0.3
	4.3nm,0.6s,SNR=6.4						
EMIR				Lg		03 47 48.9	
	0.9nm,0.1s						
MTLF	**Montolieu**	**1.66**	**77**	*e*Pg	Pg	03 47 29.4	-1.2
MTLF				*e*Sg	Sg	03 47 51.0	-1.0
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.66**	**77**	Pg	Pg	03 47 29.4	-1.2
MTLF				Lg		03 47 51.0	
	0.9nm,0.2s						
EPOB	**Poblet**	**1.83**	**154**	Pg	Pg	03 47 32.3	-1.6
	1.6nm,0.4s,SNR=8.0						
EPOB				Sn	Sn	03 47 52.7	-2.7
	SNR=7.9						
EPOB				Lg		03 47 56.3	
	1.8nm,0.1s						
LFF	**La Frestale**	**2.01**	**15**	*e*Pg	Pg	03 47 35.6	-1.7
LFF				*e*Sg	Sg	03 48 02.3	-1.1
	4.3nm,0.5s						
LFF	**La Frestale**	**2.01**	**15**	Pg	Pg	03 47 35.6	-1.7
LFF				Lg		03 48 02.3	
	2.2nm,0.5s						
ERTA	**Horta de San J**	**2.06**	**173**	Pg	Pg	03 47 37.3	-0.9
	7.1nm,1.0s,SNR=5.6						
ERTA				Sn	Sn	03 47 59.7	-1.3
	SNR=4.0						
ERTA				Lg		03 48 03.8	
	1.0nm,0.2s						
EJON	**La Jonquera**	**2.20**	**104**	Lg		03 48 08.9	
	1.0nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	03 47 43.5	-2.0
CAF				*e*Sg	Sg	03 48 14.6	-2.4
	1.4nm,0.4s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	03 47 43.5	-2.0
CAF				Lg		03 48 14.6	
	0.7nm,0.4s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Pg	Pg	03 47 45.8	-1.9
RJF				*e*Sg	Sg	03 48 18.9	-1.8
	1.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**25**	Pg	Pg	03 47 45.8	-1.9
RJF				Lg		03 48 18.9	
	0.8nm,0.2s						
EMOS	**Mosqueruela**	**2.66**	**188**	Lg		03 48 23.8	
	0.6nm,0.2s,SNR=4.0						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	03 47 53.8	-2.6
LASF				*e*Sg	Sg	03 48 32.4	-2.9
	0.5nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	Pg	Pg	03 47 53.8	-2.6
LASF				Lg		03 48 32.4	
	0.2nm,0.2s						

IDC ***19*** *03:52:31.2±1.0, 4690N×154.15E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=29.3km s-min=20.5km az=150.0*
ISCJB ***19*** *03:52:32.1±3.4, 470N±0.1×154.1E±0.2, h15km±24km, mb3.7/8, Error ellipse: s-maj=26.9km s-min=9.2km az=75.5*
MOS ***19*** *03:52:35.5±1.5, 4704N×15398E, h45km, mb4.1/4, Error ellipse: s-maj=28.3km s-min=14.3km az=72.1*
ISC 19 03:52:35.4±3.5, 470N±01×1541E±02, h26km±25km, n17, σ0s75/18, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.92**	**19**	*e*PN	**Pn**	**03 53 34.0**	**+0.2**
SKR				*e*S	**Sn**	**03 54 18.9**	**-0.1**
SKR				smax			
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,100nm,0.4s						
PET	**Petropavlovsk**	**6.71**	**24**	*e*PN	**Pn**	**03 54 11.8**	**-0.3**
ASAJ	**Asahikawa**	**8.55**	**254**	Pn	**Pn**	**03 54 37.5**	**0.0**
	comp=E,0.4nm,0.3s,baz=79,slow=13,SNR=3.8						
MJAR	**Matsushiro Arr**	**15.76**	**234**	Pn	**Pn**	**03 56 15.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=32,slow=11,SNR=3.5						
KSRS	**Korea Array**	**21.50**	**253**	P	**P**	**03 57 22.9**	**+0.8**
	comp=E,1.3nm,0.8s,mb3.3,baz=70,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**47.41**	**298**	P	**P**	**04 01 07.0**	**-0.4**
	comp=E,0.3nm,0.7s,mb3.3,baz=63,slow=8.7,SNR=3.5						
KEV	**Kevo**	**57.32**	**341**	*e*p	**P**	**04 02 20.0**	**-1.0**
ARCES	**ARCESS Array B**	**57.82**	**341**	P	**P**	**04 02 24.2**	**-0.3**
	comp=E,1.7nm,0.7s,mb4.2,baz=48,slow=9.8,SNR=3.2						
ARCES	**ARCESS Array B**	**57.82**	**341**	P	**P**	**04 02 24.2**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**64.06**	**54**	P	**P**	**04 03 07.6**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=323,slow=3.6,SNR=6.3						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**04 03 06.9**	**-0.2**
	comp=Z,0.6nm,0.4s,mb4.0,baz=36,slow=7.1,SNR=13						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**04 03 06.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.66**	**199**	P	**P**	**04 03 59.2**	**-1.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=16,slow=5.1,SNR=6.4						
TXAR	**Lajitas Array**	**76.79**	**61**	P	**P**	**04 04 25.3**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=300,slow=4.6,SNR=8.4						
TXAR	**Lajitas Array**	**76.79**	**61**	P	**P**	**04 04 25.3**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**04 04 36.7**	**+1.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=93,slow=2.5,SNR=3.8						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**04 04 36.7**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***19*** *03:54:35.8±0.7, 465N±0.1×155.1E±0.1, h10km, mb3.8/12, MS3.4/1, Error ellipse: s-maj=19.1km s-min=10.1km az=110.5*
IDC ***19*** *03:54:35.9±0.9, 4642N×15506E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/23, mbtmp3.7/11, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.2/34, Error ellipse: s-maj=28.4km s-min=19.2km az=155.0*
NEIC ***19*** *03:54:37.6±0.8, 4650N×15498E, h10km, mb4.3/2, Error ellipse: s-maj=24.7km s-min=15.5km az=153.0*
MOS ***19*** *03:54:40.7±1.1, 4663N×15483E, h50km, mb4.3/2, Error ellipse: s-maj=26.5km s-min=16.6km az=69.0*
ISC 19 03:54:37.6±0.7, 465N±01×1550E±01, h10km, n24, σ1s21/23, mb3.8/12, MS3.4/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.23**	**9**	*e*PN	**Pn**	**03 55 42.5**	**+0.4**
ASAJ	**Asahikawa**	**9.09**	**259**	Pn	**Pn**	**03 56 51.2**	**+2.3**
	0.8nm,0.3s,baz=357,slow=24,SNR=3.7						
ASAJ	**Asahikawa**	**9.09**	**259**	PN	**Pn**	**03 56 51.3**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.04**	**238**	Pn	**Pn**	**03 58 23.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=49,slow=8.4,SNR=4.0						
KSRS	**Korea Array**	**22.01**	**255**	P	**P**	**03 59 31.8**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.4,baz=51,slow=11,SNR=2.8						
KDAK	**Kodiak Island**	**33.22**	**51**	LR	LR	04 13 37.1	
	comp=Z,67nm,19.1s,MS3.4,baz=283,slow=34						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**04 03 16.5**	**-2.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=70,slow=8.4,SNR=3.5						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**04 03 33.0**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=298,slow=7.1,SNR=4.7						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**04 03 33.0**	**-1.4**
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**04 03 41.4**	**-2.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.59**	**311**	*e*P	**P**	**04 03 41.4**	**-2.7**
	comp=Z,2.9nm,0.5s,mb4.5						
NVAR	**Mina Array Bea**	**61.36**	**63**	P	**P**	**04 04 54.4**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.9,baz=297,slow=8.1,SNR=6.4						
DUG	**Dugway**	**63.57**	**59**	*e*P	**P**	**04 05 08.8**	**+0.4**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
DUG	**Dugway**	**63.57**	**59**	*e*P	**P**	**04 05 08.8**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**63.80**	**55**	P	**P**	**04 05 09.9**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=318,slow=2.0,SNR=6.0						
FIA1	**FINESS Array S**	**64.81**	**336**	*e*P	**P**	**04 05 16.9**	**+0.3**
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**04 05 15.5**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=39,slow=8.6,SNR=11						
NB2	**NORSAR Subarra**	**68.87**	**342**	P	**P**	**04 05 43.4**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.87**	**342**	P	**P**	**04 05 44.0**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=27,slow=6.5,SNR=2.8						
NOA	**NORSAR Array B**	**68.87**	**342**	P	**P**	**04 05 44.0**	**+1.6**
ASAR	**Alice Springs**	**72.43**	**200**	P	**P**	**04 06 03.3**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=5.5,SNR=7.9						
TXAR	**Lajitas Array**	**76.44**	**62**	P	**P**	**04 06 27.7**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=302,slow=4.1,SNR=14						
TXAR	**Lajitas Array**	**76.44**	**62**	P	**P**	**04 06 27.7**	**+0.2**
GERES	**GERESS Array B**	**79.24**	**335**	P	**P**	**04 06 45.1**	**+2.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=43,slow=6.0,SNR=5.2						

ISCJB ***19*** *04:09:49.4±1.6, 463N±02×1549E±03, h10km, mb4.0/6, Error ellipse: s-maj=34.7km s-min=20.8km az=110.4*
IDC ***19*** *04:09:52.9±4.4, 4686N×15518E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.5/23, mbtmp3.9/4, Error ellipse: s-maj=115.6km s-min=41.1km az=19.0*
MOS ***19*** *04:09:55.4±1.8, 4649N×15487E, h49km, mb4.2/1, Error ellipse: s-maj=49.8km s-min=23.4km az=87.7*
NEIC ***19*** *04:09:55.1±2.9, 4695N×15526E, h10km, mb3.9/1, Error ellipse: s-maj=75.9km s-min=26.6km az=186.0*
ISC 19 04:09:51.0±1.6, 463N±02×1549E±03, h10km, n11, σ1s28/11, mb4.0/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.47**	**10**	*e*PN	**Pn**	**04 10 58.9**	**+0.1**
LZH	**Lanzhou**	**39.16**	**274**	*e*P	**P**	**04 17 17.5**	**-1.3**
LZH				*SP	sP	04 17 30.0	+6.9
LZH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
LZH	**Lanzhou**	**39.16**	**274**	*e*P	**P**	**04 17 17.5**	**-1.3**
	comp=Z,20nm,1.2s,mb4.7						
LZH				pP	pP	04 17 24.0	+2.1
LZH				sP	sP	04 17 30.0	+6.9
INK	**Inuvik**	**41.38**	**32**	P	**P**	**04 17 35.2**	**-2.0**
	comp=Z,0.5nm,0.4s,mb3.5,baz=271,slow=3.4,SNR=4.7						
INK	**Inuvik**	**41.38**	**32**	P	**P**	**04 17 35.2**	**-2.0**
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**04 19 00.1**	**+2.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**51.68**	**311**	*e*P	**P**	**04 19 00.1**	**+2.0**
	comp=Z,1.2nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**58.70**	**341**	P	**P**	**04 19 48.9**	**+0.2**
	comp=Z,4.9nm,1.0s,mb4.5,baz=29,slow=7.5,SNR=5.1						
FINES	**FINESS Array B**	**64.98**	**336**	P	**P**	**04 20 30.6**	**-0.5**
	comp=Z,1.5nm,0.9s,mb4.0,baz=32,slow=8.2,SNR=2.7						
TXAR	**Lajitas Array**	**76.62**	**62**	P	**P**	**04 21 43.2**	**+1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=298,slow=4.3,SNR=9.9						
TXAR	**Lajitas Array**	**76.62**	**62**	P	**P**	**04 21 43.2**	**+1.4**

NIED ***19*** *04:29:00, 3330N×13250E, h41km, Mw4.2 Best double couple: M0 2.03000×10^15 NP1:ϕs333.00000°, δ54.00000°, λ-117.00000°. NP2:ϕs194.00000°, δ44.00000°, λ-58.00000°.*
ISCJB ***19*** *04:29:01.1±0.3, 3335N±003×13245E±0.04, h53km±3km, mb4.0/15, Error ellipse: s-maj=6.0km s-min=5.6km az=100.8*
JMA ***19*** *04:29:02.1, 3335N×13244E, h41km, M4.2 Broadband fault plane solution: P waves. NP1:ϕs193.00000°, δ45.00000°, λ-41.00000°. NP2:ϕs314.00000°, δ62.00000°, λ-127.00000°. Principal axes: T Plg10.0000°, Azm70.0000°; N Plg32.0000°, Azm334.0000°; P Plg56.0000°, Azm175.0000°.*
JMA Felt III J1.
NEIC ***19*** *04:29:03.7±0.7, 3342N×13237E, h59km±7km, mb4.4/4 Error ellipse: s-maj=8.4km s-min=6.8km az=120.0*
NEIC Recorded [3 JMA] in Ehime and Kochi Prefectures. Recorded [1 JMA] in Miyazaki and Oita Prefectures, Kyushu and in Hiroshima and Yamaguchi Prefectures, Honshu.
IDC ***19*** *04:29:04.4±1.7, 3340N×13235E, h66km±14km, mb3.7/11, mb1 3.9/14, mb1mx3.7/27, mbtmp3.7/14, MS3.1/4, Ms1 3.1/4, ms1mx2.7/43, Error ellipse: s-maj=16.7km s-min=12.6km az=81.0*
ISC 19 04:29:02.1±0.3, 3335N±003×13245E±004, h46km±3km, n36, σ0s91/43, mb4.0/15, 3C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWA2	**Uwa jima 2**	**0.20**	**132**	⇓P	**Pn**	**04 29 09.2**	**-0.8**
UWA2				S	**Sn**	**04 29 14.5**	**-1.0**
JNA	**Nagahama**	**0.21**	**6**	⇓P	**Pn**	**04 29 09.5**	**-0.6**
JNA				S	**Sn**	**04 29 14.8**	**-0.9**
JKU	**Kubokawa**	**0.52**	**94**	⇑P	**Pn**	**04 29 13.0**	**-0.3**
JKU				S	**Sn**	**04 29 21.4**	**+0.1**
JTO	**Tosashimizu**	**0.57**	**149**	⇓P	**Pn**	**04 29 13.8**	**-0.2**
JTO				S	**Sn**	**04 29 22.6**	**+0.1**
JUS	**Usuki**	**0.65**	**245**	⇑P	**Pn**	**04 29 14.7**	**-0.4**
JUS				S	**Sn**	**04 29 24.0**	**-0.3**
JET	**Tanbara**	**0.66**	**49**	⇑P	**Pn**	**04 29 14.9**	**-0.3**
JET				S	**Sn**	**04 29 24.6**	**+0.1**
JHM	**Kurahashi**	**0.79**	**5**	⇓P	**Pn**	**04 29 16.8**	**-0.2**
JHM				*e*S	**Sn**	**04 29 28.2**	**+0.5**
JNU	**Nakatsue**	**1.34**	**261**	P	**Pn**	**04 29 25.2**	**+0.9**
	282nm,0.3s,baz=270,slow=24,SNR=1999						
JNU				S	**Sn**	**04 29 42.5**	**+1.6**
	562nm,0.3s,baz=208,slow=20,SNR=28						
KSRS	**Korea Array**	**5.52**	**319**	P	**Pn**	**04 30 23.3**	**+1.6**
	baz=141,slow=14,SNR=4.9						
KSRS				S	**Sn**	**04 31 24.6**	**+0.7**
	baz=136,slow=25,SNR=6.9						
KSRS				LR	LR	04 32 36.3	
	comp=Z,138nm,21.7s,baz=164,slow=39						
MAJO	**Matsushiro**	**5.70**	**54**	*e*Pn	**Pn**	**04 30 25.4**	**+1.1**
	20nm,0.4s						
MAT	**Matsushiro**	**5.70**	**54**	P	**Pn**	**04 30 25.4**	**+1.2**
MJAR	**Matsushiro Arr**	**5.70**	**54**	P	**Pn**	**04 30 25.8**	**+1.6**
	7.5nm,0.3s,baz=243,slow=14,SNR=145						
JHJ	**Hachijo jima 2**	**6.15**	**90**	LR	LR	04 33 01.5	
	comp=Z,149nm,18.8s,baz=297,slow=38						
JOW	**Kunigami**	**7.43**	**210**	P	**Pn**	**04 30 51.3**	**+3.3**
	2.9nm,0.3s,baz=104,slow=23,SNR=14						
JOW				S	**Sn**	**04 32 06.3**	**-4.6**
	3.0nm,0.3s,baz=55,slow=27,SNR=6.2						
ASAJ	**Asahikawa**	**13.34**	**33**	LR	LR	04 36 51.5	
	comp=Z,93nm,19.5s,baz=132,slow=35						
ULN	**Ulaanbaatar**	**23.98**	**315**	*e*P	**P**	**04 34 12.6**	**+0.3**
	4.4nm,1.1s,mb3.8						
SONM	**Songino Array**	**24.36**	**314**	P	**P**	**04 34 15.3**	**-0.5**
	1.9nm,0.6s,mb3.7,baz=131,slow=9.8,SNR=15						
ZAL	**Zalesovo**	**39.23**	**316**	LR	LR	04 54 20.0	
	comp=Z,46nm,18.9s,baz=117,slow=39						
MKAR	**Makanchi Array**	**40.01**	**305**	P	**P**	**04 36 31.2**	**-1.3**
	0.3nm,0.5s,mb3.3,baz=97,slow=10,SNR=3.5						
MKAR				PcP	PcP	04 38 34.1	-2.7
	0.6nm,0.7s,baz=5.2,slow=1.3,SNR=4.0						
CHKZ	**Chkalovo**	**47.56**	**315**	*e*P	**P**	**04 37 31.4**	**-1.7**
	2.8nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**47.71**	**314**	P	**P**	**04 37 33.6**	**-0.6**
	2.1nm,0.6s,mb4.4,baz=106,slow=9.2,SNR=12						
BVAR				PcP	PcP	04 39 02.5	-0.5
	1.1nm,0.6s,baz=108,slow=4.8,SNR=3.6						
BRVK	**Borovoye**	**47.77**	**314**	*e*P	**P**	**04 37 33.8**	**-0.9**
	2.6nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.57**	**188**	*e*P	**P**	**04 38 04.1**	**+0.5**
	5.1nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**53.02**	**178**	*e*P	**P**	**04 38 14.5**	**+0.1**
WRA	**Warramunga Arr**	**53.02**	**178**	P	**P**	**04 38 14.5**	**+0.1**
	6.1nm,0.7s,mb4.6,baz=354,slow=8.1,SNR=59						
AS31	**Alice Springs**	**56.71**	**178**	*e*P	**P**	**04 38 41.4**	**+0.3**
ASAR	**Alice Springs**	**56.71**	**178**	P	**P**	**04 38 41.7**	**+0.6**
	3.4nm,0.6s,mb4.5,baz=11,slow=13,SNR=66						
INK	**Inuvik**	**60.92**	**25**	P	**P**	**04 39 09.7**	**-0.6**
	0.6nm,0.6s,mb3.9,baz=301,slow=12,SNR=5.4						
KEV	**Kevo**	**64.19**	**338**	*e*p	**P**	**04 39 30.1**	**-2.0**
RES	**Resolute Bay**	**67.87**	**12**	*e*P	**P**	**04 39 55.6**	**-0.1**
	45nm,0.6s						
RES				*e*pP	pP	04 40 07.8	-1.0
FINES	**FINESS Array B**	**68.50**	**330**	P	**P**	**04 39 58.8**	**-0.9**
	0.8nm,0.3s,mb4.1,baz=60,slow=5.1,SNR=13						
NB2	**NORSAR Subarra**	**74.53**	**334**	P	**P**	**04 40 34.8**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=46,slow=5.9						
NOA	**NORSAR Array B**	**74.53**	**334**	P	**P**	**04 40 35.1**	**-0.9**
	comp=Z,2.6nm,0.6s,mb4.3,baz=48,slow=5.7,SNR=8.2						
GERES	**GERESS Array B**	**81.67**	**324**	P	**P**	**04 41 15.5**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.3,baz=32,slow=3.5,SNR=3.8						
PDAR	**Pinedale Array**	**85.36**	**41**	P	**P**	**04 41 36.4**	**+1.9**
	comp=Z,0.2nm,0.7s,mb3.4,baz=1.4,slow=7.3,SNR=2.1						
ULM	**Lac du Bonnet**	**86.44**	**29**	P	**P**	**04 41 40.5**	**+0.7**
	comp=Z,0.5nm,0.5s,mb4.0,baz=336,slow=9.

FINES	**FINESS Array B**	**65.23**	**336**	P		**P**	**04 51 38.2**	**-1.4**
	1.5nm,0.9s,mb4.0,baz=12,slow=7.1,SNR=5.4							
FINES	**FINESS Array B**	**65.23**	**336**	P		**P**	**04 51 38.2**	**-1.4**
WRA	**Warramunga Arr**	**68.24**	**201**	P		**P**	**04 51 58.3**	**-0.5**
	1.1nm,0.6s,mb4.0,baz=20,slow=6.8,SNR=9.8							
ASAR	**Alice Springs**	**71.92**	**200**	P		**P**	**04 52 21.5**	**0.0**
	0.7nm,0.7s,mb3.7,baz=16,slow=5.8,SNR=7.4							
TXAR	**Lajitas Array**	**76.77**	**62**	P		**P**	**04 52 49.9**	**+0.2**
	0.3nm,0.6s,mb3.4,baz=280,slow=3.6,SNR=4.3							
TXAR	**Lajitas Array**	**76.77**	**62**	P		**P**	**04 52 49.9**	**+0.2**

STR ***19*** *04:56:10.1±0.2, 4299N×009E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 19 04:56:09.7±0.1, 4301N×002W, h3km, Md1.6/3, Ml1.4/3, Error ellipse: s-maj=2.9km s-min=1.7km az=167.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**62**	Pg	Pg	04 56 11.6	+0.4
LABF				Sg	Sg	04 56 12.6	+0.3
VIEF	**Viey**	**0.13**	**167**	Pg	Pg	04 56 12.6	+0.3
VIEF				Sg	Sg	04 56 14.6	+0.6
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	04 56 14.7	-0.1
EPF				*e*Sg	Sg	04 56 18.6	+0.4
	5.2nm,0.2s						
ETSF	**Etsaut**	**0.41**	**254**	*e*Pg	Pg	04 56 18.1	+0.4
ETSF				*e*Sg	Sg	04 56 24.2	+1.2
	2.0nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	04 56 26.2	-0.6
SJPF				*e*Sg	Sg	04 56 37.1	-1.2
	0.8nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	04 56 41.0	-0.7
MTLF				*e*Sg	Sg	04 57 02.3	-1.0
	0.5nm,0.2s						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	04 56 47.2	-0.9
LFF				*e*Sg	Sg	04 57 14.2	+0.2
	0.6nm,0.3s						

ISCJB ***19*** *04:56:35.5±0.4, 3080N×003×5674E×003, h10km, Error ellipse: s-maj=5.0km s-min=3.7km az=56.1*
THR ***19*** *04:56:36.7±0.6, 3075N×5691E, h18km±4km, ML3.2*
CSEM ***19*** *04:56:38.0±0.1, 3096N×5688E, h20km, ML3.2, Error ellipse: s-maj=2.8km s-min=1.5km az=164.0*
TEH ***19*** *04:56:39.5, 3096N×5691E, h14km, Mn3.7*

ISC 19 04:56:37.0±0.4, 3079N×003×5681E×004, h10km, n25, σ1§38/42, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.81**	**183**	*e*Pg	**Pg**	**04 56 51.4**	**-1.1**
KRBR				*e*Sg	**Sg**	**04 57 02.6**	**-0.5**
KRBR				AML	AML	04 57 04.5	
	comp=N,854nm,0.1s						
KRBR				AML	AML	04 57 05.1	
	comp=E,2μm,0.2s						
KRBR	**Kerman**	**0.81**	**183**	*e*Pg	**Pg**	**04 56 51.4**	**-1.2**
	SNR=94						
KRBR				*e*Sg	**Sg**	**04 57 02.6**	**-0.5**
	comp=E,2μm,0.2s,SNR=94						
IBAF	**Bafgh**	**1.33**	**307**	*e*Pn	**Pn**	**04 57 01.6**	**-0.1**
IBAF				*e*Sn	**Sn**	**04 57 20.9**	**+1.5**
IMEH	**Mehriz**	**1.98**	**288**	*e*Pn	**Pg**	**04 57 12.4**	**-2.6**
IMEH				*e*Sn	**Sg**	**04 57 38.0**	**-2.6**
IKOO		**2.48**	**48**	*e*Pn	**Pn**	**04 57 17.0**	**-0.5**
ICHK	**Chekchek**	**2.51**	**306**	*e*Pn	**Pn**	**04 57 19.9**	**+2.0**
ICHK				*e*Sn	**Sn**	**04 57 49.2**	**+0.6**
ITEG		**2.67**	**38**	*e*Pn	**Pn**	**04 57 19.3**	**-0.8**
IDAH		**3.25**	**52**	*e*Pn	**Pn**	**04 57 27.9**	**-0.1**
IPAR	**Pars**	**3.39**	**255**	*e*Pn	**Pb**	**04 57 33.3**	**-3.8**
IPAR				*e*Sn	**Sb**	**04 58 13.8**	**-4.6**
IMON		**3.41**	**45**	*e*Pn	**Pn**	**04 57 29.6**	**-0.7**
BNDS	**Bandar-Abbas**	**3.42**	**190**	*e*Pn	**Pn**	**04 57 31.1**	**+0.6**
BNDS				AML	AML	04 58 27.6	
	comp=N,52nm,0.4s						
BNDS				AML	AML	04 58 30.2	
	comp=E,70nm,0.5s						
ISRV	**Sarvestan**	**3.50**	**247**	*e*Pn	**Pn**	**04 57 34.3**	**+2.8**
ISRV				*e*Sn	**Sn**	**04 58 17.0**	**+4.1**
ZHSF	**Zahedan**	**3.63**	**108**	*e*Pn	**Pn**	**04 57 32.7**	**-0.5**
ZHSF				*e*Pg	**Pb**	**04 57 40.5**	**-0.7**
ZHSF				AML	AML	04 58 32.2	
	comp=N,28nm,0.4s						
NASN	**Na'in**	**3.95**	**301**	*e*Pn	**Pn**	**04 57 40.4**	**+2.6**
NASN				*e*Sg	**Sg**	**04 58 42.4**	**-1.6**
NASN				AML	AML	04 58 46.4	
	comp=N,39nm,0.6s						
NASN				AML	AML	04 58 51.5	
	comp=E,36nm,0.4s						
NASN	**Na'in**	**3.95**	**301**	*e*Pn	**Pn**	**04 57 40.3**	**+2.6**
	SNR=52						
IMOK	**Mook**	**3.96**	**245**	*e*Pn	**Pn**	**04 57 41.2**	**+3.4**
IZEF	**Zefreh**	**4.35**	**300**	*e*Pn	**Pn**	**04 57 45.1**	**+1.9**
IZEF				*e*Sn	**Sn**	**04 58 33.1**	**-0.9**
IKLH	**Kalahroud**	**5.11**	**301**	*e*Pn	**Pn**	**04 57 55.0**	**+1.4**
IKLH				*e*Sn	**Sn**	**04 58 50.8**	**-1.8**
ISFB	**Sefidab**	**5.25**	**314**	*e*Pn	**Pn**	**04 57 57.6**	**+2.1**
IANJ	**Anjiloo**	**5.26**	**333**	*e*Pn	**Pn**	**04 57 54.5**	**-1.2**
IANJ				*e*Sn	**Sn**	**04 58 51.7**	**-4.7**
IPIR	**Pirpir**	**5.38**	**292**	*e*Pn	**Pn**	**04 57 59.2**	**+1.8**
IPIR				*e*Sn	**Sn**	**04 58 58.7**	**-0.7**
IFIR	**Firoozkooh**	**5.91**	**326**	*e*Pn	**Pn**	**04 58 04.5**	**-0.2**
IFIR				*e*Sn	**Sn**	**04 59 08.1**	**-4.4**
IPAY	**Payeh**	**5.93**	**17**	*e*Pn	**Pn**	**04 58 05.0**	**+0.1**
IPAY				*e*Sn	**Sn**	**04 59 06.6**	**-6.3**
IDMV	**Damavand**	**6.23**	**321**	*e*Pn	**Pn**	**04 58 09.5**	**+0.5**
IDMV				*e*Sn	**Sn**	**04 59 15.7**	**-4.6**
IAFJ	**Afjeh**	**6.61**	**321**	*e*Pn	**Pn**	**04 58 15.2**	**+0.9**
IAFJ				*e*Sn	**Sn**	**04 59 25.2**	**-4.5**

IDC 19 04:59:35.1±4.0, 2044S×7025W, h0km, mb3.8/1, mb1 3.7/2, mb1mx3.5/15, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=140.7km s-min=64.4km az=103.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.59**	**26**	Pn	Pn	05 00 46.5	+0.6
	1.2nm,0.3s,baz=230,slow=7.9,SNR=24						
TORD	**Torodi Ar. Bea**	**78.19**	**71**	P	P	05 11 37.1	+0.7
	0.6nm,0.8s,baz=253,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**145.49**	**34**	PKPbc	PKPbc	05 19 14.4	-0.7
	0.7nm,0.6s,baz=319,slow=3.8,SNR=5.5						

IDC ***19*** *05:01:06.6±0.8, 4788N×1545.3E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/26, mbtmp3.8/13, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.1/45, Error ellipse: s-maj=24.2km s-min=19.5km az=107.0*
NEIC ***19*** *05:01:08.0±0.5, 4786N×1544.6E, h10km, mb3.9/1, Error ellipse: s-maj=13.7km s-min=8.4km az=128.0*
ISCJB ***19*** *05:01:09.8±0.7, 4786N±009×1545E±02, h35km, mb3.8/13, MS3.3/1, Error ellipse: s-maj=18.2km s-min=7.8km az=70.2*
MOS ***19*** *05:01:10.1±1.1, 4791N×1545.0E, h38km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=11.9km az=76.3*

ISC 19 05:01:11.6±0.7, 4788N±009×1545E±02, h35km, n24, σ0§94/24, mb3.8/13, MS3.3/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.00**	**20**	*e*PN	**Pn**	**05 01 55.6**	**-1.0**
SKR				*e*S	**Sn**	**05 02 33.0**	**+1.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,230nm,0.6s						
SKR				smax			
	comp=E,160nm,0.6s						
PET	**Petropavlovsk**	**5.79**	**26**	*e*PN	**Pn**	**05 02 34.3**	**-0.7**
PET				pmax	pmax		
	comp=Z,30nm,0.5s						
PET	**Petropavlovsk**	**5.79**	**26**	*e*Pn	**Pn**	**05 02 34.1**	**-0.9**
	comp=Z,20nm,0.4s						
ASAJ	**Asahikawa**	**9.10**	**250**	Pn	**Pn**	**05 03 23.5**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=55,slow=4.9,SNR=2.4						
MJAR	**Matsushiro Arr**	**16.52**	**233**	Pn	**Pn**	**05 04 57.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=3.8						
JNU	**Nakatsue**	**23.11**	**239**	LR	LR	05 16 44.2	

	comp=Z,110nm,18.3s,MS3.3,baz=229,slow=40							
INK	**Inuvik**	**40.19**	**33**	P		**P**	**05 08 43.7**	**-0.7**
	comp=Z,1.7nm,0.8s,mb3.8,baz=289,slow=4.2,SNR=6.7							
INK	**Inuvik**	**40.19**	**33**	P		**P**	**05 08 43.7**	**-0.7**
MKAR	**Makanchi Array**	**47.27**	**297**	P		**P**	**05 09 41.8**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=54,slow=7.3,SNR=2.0							
BVAR	**Borovoye Array**	**50.88**	**309**	P		**P**	**05 10 09.2**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=42,slow=8.8,SNR=3.4							
ZRNK	**Zerenda**	**51.63**	**310**	*e*P		**P**	**05 10 14.2**	**-0.5**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
ZRNK	**Zerenda**	**51.63**	**310**	*e*P		**P**	**05 10 14.2**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.9							
PDAR	**Pinedale Array**	**63.32**	**55**	P		**P**	**05 11 37.5**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=316,slow=4.1,SNR=4.9							
FIA1	**FINESS Array S**	**63.42**	**335**	*e*P		**P**	**05 11 36.7**	**-0.9**
FINES	**FINESS Array B**	**63.42**	**335**	P		**P**	**05 11 37.4**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.3,baz=35,slow=7.3,SNR=22							
NB2	**NORSAR Subarra**	**67.46**	**342**	P		**P**	**05 12 03.7**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**67.46**	**342**	P		**P**	**05 12 03.8**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=25,slow=6.4,SNR=5.6							
HFS	**Hagfors**	**67.73**	**340**	P		**P**	**05 12 05.5**	**+0.1**
	comp=Z,2.0nm,0.5s,mb4.5,baz=46,slow=4.3,SNR=14							
WRA	**Warramunga Arr**	**69.89**	**200**	P		**P**	**05 12 19.8**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=17,slow=6.2,SNR=3.9							
AKASG	**Malin Array Be**	**71.13**	**327**	P		**P**	**05 12 25.9**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.8,baz=33,slow=5.5,SNR=5.2							
ASAR	**Alice Springs**	**73.58**	**200**	P		**P**	**05 12 41.3**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=16,slow=6.2,SNR=8.3							
TXAR	**Lajitas Array**	**76.12**	**62**	P		**P**	**05 12 56.2**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=295,slow=4.9,SNR=4.9							
TXAR	**Lajitas Array**	**76.12**	**62**	P		**P**	**05 12 56.2**	**+0.4**
GERES	**GERESS Array B**	**77.85**	**335**	P		**P**	**05 13 05.8**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=35,slow=4.9,SNR=5.6							

ISCJB ***19*** *05:02:38.7±0.5, 4686N±008×1558E±0.1, h10km, mb4.0/19, Error ellipse: s-maj=13.5km s-min=9.1km az=93.2*
IDC ***19*** *05:02:39.1±0.7, 4691N×1559.7E, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.0/27, mbtmp3.9/15, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/43, Error ellipse: s-maj=24.0km s-min=15.6km az=150.0*
NEIC ***19*** *05:02:40.5±0.4, 4689N×1557.2E, h10km, mb4.3/6, Error ellipse: s-maj=10.8km s-min=7.9km az=149.0*
MOS ***19*** *05:02:43.5±0.9, 4688N×1556.1E, h46km, mb4.5/7, Error ellipse: s-maj=19.2km s-min=15.4km az=79.8*

ISC 19 05:02:40.5±0.5, 4685N±008×1558E±01, h10km, n33, σ0§87/32, mb4.0/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.84**	**3**	*e*PN	**Pn**	**05 03 56.0**	**+1.9**
KUR	**Kuril'sk**	**5.74**	**257**	*e*PN	**Pn**	**05 04 12.0**	**+6.2**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
ASAJ	**Asahikawa**	**9.66**	**258**	Pn	**Pn**	**05 05 01.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=64,slow=16,SNR=4.1						
ASAJ				LR	LR	05 08 27.1	
	comp=Z,68nm,20.1s,baz=200,slow=36						
MJAR	**Matsushiro Arr**	**16.65**	**238**	Pn	**Pn**	**05 06 32.8**	**-1.0**
	baz=28,slow=14,SNR=3.3						
KSRS	**Korea Array**	**22.59**	**256**	P	**P**	**05 07 42.3**	**+1.2**
	comp=Z,0.7nm,0.3s,mb3.5,baz=48,slow=9.7,SNR=4.0						
KDAK	**Kodiak Island**	**32.61**	**51**	LR	LR	05 20 18.4	
	comp=Z,157nm,21.5s,baz=194,slow=32						
INK	**Inuvik**	**40.58**	**33**	P	**P**	**05 10 19.7**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.2,baz=291,slow=6.9,SNR=18						
INK	**Inuvik**	**40.58**	**33**	P	**P**	**05 10 19.7**	**-0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**40.58**	**33**	*e*P	**P**	**05 10 19.3**	**-0.8**
	comp=Z,119nm,0.7s						
MKAR	**Makanchi Array**	**48.52**	**298**	P	**P**	**05 11 23.1**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=60,slow=7.2,SNR=4.6						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**05 11 32.0**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=296,slow=7.2,SNR=4.5						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**05 11 32.0**	**-0.8**
CHKZ	**Chkalovo**	**51.76**	**311**	*e*P	**P**	**05 11 47.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**51.76**	**311**	*e*P	**P**	**05 11 47.3**	**-0.8**
	comp=Z,6.4nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**52.20**	**310**	P	**P**	**05 11 51.4**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=52,slow=9.6,SNR=6.9						
BRVK	**Borovoye**	**52.24**	**310**	*e*P	**P**	**05 11 51.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**52.24**	**310**	*e*P	**P**	**05 11 51.3**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.96**	**311**	*e*P	**P**	**05 11 56.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.96**	**311**	*e*P	**P**	**05 11 56.5**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**55.42**	**298**	*e*P	**P**	**05 12 14.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.42**	**298**	*e*P	**P**	**05 12 14.8**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**05 12 52.4**	**0.0**
	comp=Z,0.6nm,0.5s,mb4.0,baz=287,slow=7.8,SNR=6.1						
DUG	**Dugway**	**62.96**	**59**	*e*P	**P**	**05 13 07.8**	**+0.6**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
DUG	**Dugway**	**62.96**	**59**	*e*P	**P**	**05 13 07.8**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**63.19**	**55**	P	**P**	**05 13 09.1**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=284,slow=2.9,SNR=8.9						
FINES	**FINESS Array B**	**64.72**	**336**	P	**P**	**05 13 16.8**	**-2.0**
	comp=Z,1.5nm,0.9s,mb4.0,baz=42,slow=8.9,SNR=5.1						
WRAB	**Tennant Creek**	**69.23**	**202**	*e*P	**P**	**05 13 47.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**69.23**	**202**	*e*P	**P**	**05 13 47.5**	**+0.1**
	comp=Z,5.7nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**69.24**	**202**	P	**P**	**05 13 47.1**	**-0.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=22,slow=6.3,SNR=6.3						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**05 14 11.2**	**+1.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=28,slow=5.5,SNR=5.0						
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**05 14 27.4**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=289,slow=3.7,SNR=13						
MLR	**Muntele Rosu**	**78.02**	**326**	P	**P**	**05 14 39.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=126,slow=16,SNR=1.5						
GERES	**GERESS Array B**	**79.15**	**336**	P	**P**	**05 14 45.6**	**+0.2**
	comp=Z,0.1nm,0.3s,mb3.3,baz=26,slow=7.1,SNR=2.4						

ISCJB ***19*** *05:10:28.8±0.2, 4316N±001×006E±001, h12km±1km, Error ellipse: s-maj=2.2km s-min=1.5km az=108.8*
STR ***19*** *05:10:30.7±0.3, 4305N×002E, h10km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***19*** *05:10:31.1±0.1, 4303N×004W, h9km, Md3.0/3, Ml3.0/33, Error ellipse: s-maj=1.3km s-min=1.0km az=9.0*
NEIC ***19*** *05:10:31.1, 4303N×004W, h9km, ML3.0(STR), ML3.0(LDG), MN2.6(MDD), After LDG.*
MDD ***19*** *05:10:31.2±0.2, 4303N×000E, h8km±1km, mbLg2.4/30, Error ellipse: s-maj=1.7km s-min=1.2km az=8.0, PRXIMO*

ISC 19 05:10:30.2±0.2, 4312N±001×003E±001, h12km±1km, n164, σ1§14/351, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**154**	Pg	**Pg**	**05 10 32.9**	**+0.1**
LABF	**Labassere**	**0.08**	**154**	Pg	**Pg**	**05 10 33.0**	**+0.2**
LABF				Lg		05 10 34.3	
VIEF	**Viey**	**0.23**	**180**	Pg	**Pg**	**05 10 34.0**	**-1.2**
VIEF	**Viey**	**0.23**	**180**	Pg	**Pg**	**05 10 34.1**	**-1.0**
VIEF				Lg		05 10 36.3	
EPF	**Esparros**	**0.25**	**111**	*e*Pg	**Pg**	**05 10 35.8**	**+0.4**
EPF				*e*Sg	**Sg**	**05 10 39.8**	**+1.0**
	366nm,0.2s						
EPF	**Esparros**	**0.25**	**111**	Pg	**Pg**	**05 10 35.8**	**+0.4**
EPF				Lg		05 10 39.8	
	183nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**261**	Pg	**Pg**	**05 10 36.5**	**0.0**
REYF				Sg	**Sg**	**05 10 40.7**	**0.0**
REYF	**Montagne du Re**	**0.31**	**261**	Pg	**Pg**	**05 10 36.5**	**0.0**
REYF				Lg		05 10 40.8	
RESF	**Ens**	**0.39**	**143**	Pg	**Pg**	**05 10 37.4**	**-0.5**
RESF				Sg	**Sg**	**05 10 42.1**	**-1.0**
RESF	**Ens**	**0.39**	**143**	Pg	**Pg**	**05 10 37.4**	**-0.5**
RESF				Lg		05 10 42.2	
EBIE	**Bielsa**	**0.44**	**169**	⇑Pg	**Pg**	**05 10 37.8**	**-1.1**
	SNR=18						
EBIE				Lg		05 10 42.5	
	324nm,0.1s						
ETSF	**Etsaut**	**0.48**	**243**	*e*Pg	**Pg**	**05 10 39.2**	**-0.5**
ETSF				*e*Sg	**Sg**	**05 10 44.5**	**-1.6**
	228nm,0.2s						
ETSF	**Etsaut**	**0.48**	**243**	Pg	**Pg**	**05 10 39.2**	**-0.5**
ETSF				Lg		05 10 44.5	
	114nm,0.2s						
FDAF	**Les Forges d'A**	**0.53**	**236**	Pg	**Pg**	**05 10 39.8**	**-0.8**
FDAF				Lg		05 10 46.1	
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**05 10 40.7**	**+0.1**
ATE				Sg	**Sg**	**05 10 48.8**	**+1.1**
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**05 10 40.6**	**0.0**
ATE				Lg		05 10 48.3	
MELF	**Melles**	**0.59**	**114**	Pg	**Pg**	**05 10 41.8**	**0.0**
MELF				Lg		05 10 50.2	
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**05 10 44.5**	**+0.5**
ORDF				Sg	**Sg**	**05 10 55.5**	**+2.2**
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**05 10 44.4**	**+0.5**
ORDF				Lg		05 10 53.6	
LARF	**Larrau**	**0.75**	**264**	Pg	**Pg**	**05 10 44.3**	**-0.4**
LARF				Sg	**Sg**	**05 10 55.1**	**+0.6**
LARF	**Larrau**	**0.75**	**264**	Pg	**Pg**	**05 10 44.5**	**-0.2**
LARF				Lg		05 10 54.1	
MLS	**Moulis**	**0.80**	**101**	Pg	**Pg**	**05 10 46.3**	**+0.6**
MLS	**Moulis**	**0.80**	**101**	Pg	**Pg**	**05 10 45.9**	**+0.2**
MLS				Lg		05 10 57.6	
SJPF	**Ste Jean**	**0.92**	**270**	*e*Pg	**Pg**	**05 10 47.9**	**0.0**
SJPF				*e*Sg	**Sg**	**05 10 59.1**	**-0.7**
	33nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**270**	Pg	**Pg**	**05 10 47.9**	**0.0**
SJPF				Lg		05 10 59.1	
	16nm,0.2s						
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**05 10 48.2**	**+0.1**
SALF				Sg	**Sg**	**05 11 00.2**	**0.0**
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**05 10 47.9**	**-0.2**
SALF				Lg		05 11 00.3	
OSSF	**Osses**	**0.95**	**279**	Pg	**Pg**	**05 10 48.7**	**+0.1**
OSSF				Sg	**Sg**	**05 11 02.8**	**+1.8**
OSSF	**Osses**	**0.95**	**279**	Pg	**Pg**	**05 10 48.0**	**-0.6**
OSSF				Lg		05 11 01.1	
IPRE	**Itoiz**	**1.06**	**253**	Pg	**Pg**	**05 10 50.3**	**-0.3**
	6.8nm,0.3s,SNR=17						
IPRE				Lg		05 11 05.0	
	3.1nm,0.1s,SNR=12						
EALK	**Alkurruntz**	**1.13**	**276**	Pg	**Pg**	**05 10 52.1**	**+0.2**
	6.9nm,0.3s,SNR=9.4						
EALK				Lg		05 11 08.8	
	14nm,0.1s,SNR=24						
ELIZ	**Elizondo**	**1.14**	**273**	Pg	**Pg**	**05 10 52.5**	**+0.4**
	7.7nm,0.3s,SNR=17						
ELIZ				Lg		05 11 09.1	
	18nm,0.2s,SNR=17						
GRBF	**Gourbit**	**1.14**	**104**	Pg	**Pg**	**05 10 52.5**	**+0.3**
IUSE	**Utxeti**	**1.17**	**262**	Pg	**Pg**	**05 10 52.5**	**-0.2**
	7.0nm,0.3s,SNR=20						
IUSE				Lg		05 11 09.3	
	11nm,0.1s,SNR=9.5						
PAND	**Andorre**	**1.27**	**118**	Pg	**Pg**	**05 10 54.7**	**+0.2**
PAND				Lg		05 11 10.3	
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**05 10 57.0**	**-0.9**
	128nm,0.3s,SNR=149						
ESAC				Lg		05 11 15.4	
	110nm,0.1s,SNR=23						
CARF	**Carcanieres**	**1.58**	**104**	Pg	**Pg**	**05 11 00.4**	**-0.1**
CARF				Sg	**Sg**	**05 11 22.1**	**+1.1**
CARF	**Carcanieres**	**1.58**	**104**	Pg	**Pg**	**05 11 00.7**	**+0.1**
CARF				Lg		05 11 22.3	
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**05 11 02.0**	**+0.8**
MTLF				*e*Sg	**Sg**	**05 11 23.1**	**+0.9**
	57nm,0.3s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pn	**Pn**	**05 10 59.3**	**+0.8**
MTLF				*e*Pg	**Pg**	**05 11 02.0**	**+0.8**
MTLF				*e*Sg	**Sg**	**05 11 23.1**	**+0.9**
MTLF	**Montolieu**	**1.62**	**81**	Pn	**Pn**	**05 10 59.3**	**+0.8**
MTLF				Pg	**Pg**	**05 11 02.0**	**+0.8**
MTLF				Lg		05 11 23.1	
	28nm,0.3s						
VALF	**Valcebollere**	**1.63**	**115**	Pg	**Pg**	**05 11 02.2**	**+0.7**
VALF	**Valcebollere**	**1.63**	**115**	Pg	**Pg**	**05 11 01.1**	**-0.4**
VALF				L

EMOS					Sn	**Sn**	**05 11 48.6**	**+0.6**	
EMOS					Lg		05 11 54.8		
EMOS	**Mosqueruela**	**2.78**	**188**		Pn	**Pn**	**05 11 15.5**	**+1.0**	
	0.6nm,0.1s,SNR=14								
EMOS					Pg	**Pg**	**05 11 20.0**	**-3.4**	
	4.1nm,0.2s,SNR=7.9								
EMOS					Sn	**Sn**	**05 11 46.5**	**-1.4**	
	8.8nm,0.3s,SNR=4.0								
EMOS					Lg		05 11 54.8		
	19nm,0.4s,SNR=7.9								
LASF	**Ste Croix**	**2.94**	**70**	*e*Pg		**Pg**	**05 11 27.9**	**+1.3**	
LASF				*e*Sg		**Sg**	**05 12 05.6**	**+0.9**	
	27nm,0.4s								
LASF	**Ste Croix**	**2.94**	**70**	*e*Pn		**Pn**	**05 11 17.1**	**+0.3**	
LASF				*e*Pg		**Pg**	**05 11 27.9**	**+1.3**	
LASF				*e*Sg		**Sg**	**05 12 05.6**	**+0.9**	
LASF	**Ste Croix**	**2.94**	**70**	Pn		**Pn**	**05 11 17.1**	**+0.3**	
LASF				Pg		**Pg**	**05 11 27.9**	**+1.3**	
LASF				Lg			05 12 05.6		
	13nm,0.4s								
LBL	**Lubilhac**	**3.14**	**47**	Pn		**Pn**	**05 11 19.5**	**+0.1**	
LBL				Sg		**Sg**	**05 12 13.6**	**+2.7**	
LBL	**Lubilhac**	**3.14**	**47**	Pn		**Pn**	**05 11 19.7**	**+0.3**	
LBL				Sg		**Sg**	**05 12 13.6**	**+2.7**	
PYM	**Petit Puy Mans**	**3.39**	**38**	Pn		**Pn**	**05 11 26.1**	**+3.2**	
PYM				Sg		**Sg**	**05 12 22.2**	**+3.1**	
PYM	**Petit Puy Mans**	**3.39**	**38**	Pn		**Pn**	**05 11 31.9**	**+9.0**	
PYM				Sg		**Sg**	**05 12 22.2**	**+3.1**	
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pg		**Pg**	**05 11 36.6**	**-0.4**	
MFF				*e*Sn		**Sn**	**05 12 04.7**	**-0.7**	
MFF				*e*Sg		**Sg**	**05 12 22.2**	**0.0**	
	12nm,0.3s								
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pn		**Pn**	**05 11 24.8**	**+0.6**	
MFF				*e*Pg		**Pg**	**05 11 36.6**	**-0.4**	
MFF				*e*Sn		**Sn**	**05 12 04.7**	**-0.7**	
MFF				*e*Sg		**Sg**	**05 12 22.2**	**0.0**	
MFF	**Saint Martin d**	**3.49**	**358**	Pn		**Pn**	**05 11 24.8**	**+0.6**	
MFF				Pg		**Pg**	**05 11 36.6**	**-0.4**	
MFF				Sn		**Sn**	**05 12 04.7**	**-0.7**	
MFF				Lg			05 12 22.2		
	6.2nm,0.3s								
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pg		**Pg**	**05 11 38.6**	**+0.7**	
TCF				*e*Sn		**Sn**	**05 12 05.8**	**-0.7**	
TCF				*e*Sg		**Sg**	**05 12 24.6**	**+1.0**	
	13nm,0.3s								
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pn		**Pn**	**05 11 26.2**	**+1.4**	
TCF				*e*Pg		**Pg**	**05 11 38.6**	**+0.7**	
TCF				*e*Sn		**Sn**	**05 12 05.8**	**-0.7**	
TCF				*e*Sg		**Sg**	**05 12 24.6**	**+1.0**	
TCF	**Toulx Ste Croi**	**3.53**	**25**	Pn		**Pn**	**05 11 26.2**	**+1.4**	
TCF				Pg		**Pg**	**05 11 38.6**	**+0.7**	
TCF				Sn		**Sn**	**05 12 05.8**	**-0.7**	
TCF				Lg			05 12 24.6		
	6.4nm,0.3s								
AGO	**Saint Agoulin**	**3.68**	**36**	Pn		**Pn**	**05 11 30.6**	**+3.7**	
AGO				Sg		**Sg**	**05 12 30.4**	**+2.1**	
AGO	**Saint Agoulin**	**3.68**	**36**	Pn		**Pn**	**05 11 32.6**	**+5.7**	
AGO				Sg		**Sg**	**05 12 30.4**	**+2.1**	
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pg		**Pg**	**05 11 42.6**	**0.0**	
VIVF				*e*Sn		**Sn**	**05 12 11.7**	**-0.9**	
VIVF				*e*Sg		**Sg**	**05 12 32.0**	**+0.5**	
	8.2nm,0.3s								
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pn		**Pn**	**05 11 28.9**	**+0.7**	
VIVF				*e*Pg		**Pg**	**05 11 42.6**	**0.0**	
VIVF				*e*Sn		**Sn**	**05 12 11.7**	**-0.9**	
VIVF				*e*Sg		**Sg**	**05 12 32.0**	**+0.5**	
VIVF	**Saint-Julien-l**	**3.78**	**61**	Pn		**Pn**	**05 11 28.9**	**+0.7**	
VIVF				Pg		**Pg**	**05 11 42.6**	**0.0**	
VIVF				Sn		**Sn**	**05 12 11.7**	**-0.9**	
VIVF				Lg			05 12 32.0		
	4.1nm,0.3s								
EARI	**Arriondas**	**3.83**	**275**	Pn		**Pn**	**05 11 30.8**	**+1.8**	
	9.3nm,0.9s,SNR=7.5								
EARI				Sn		**Sn**	**05 12 15.0**	**+1.0**	
	1.5nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.95**	**147**	Pn		**Pn**	**05 11 31.6**	**+1.0**	
	SNR=7.9								
ETOS				Sn		**Sn**	**05 12 15.2**	**-1.6**	
	1.6nm,0.2s,SNR=7.9								
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pg		**Pg**	**05 11 47.1**	**+0.6**	
BGF				*e*Sn		**Sn**	**05 12 16.7**	**-0.9**	
BGF				*e*Sg		**Sg**	**05 12 38.7**	**+0.7**	
	57nm,0.5s								
BGF	**Bois d'Agland**	**3.98**	**29**	Pg		**Pg**	**05 11 47.1**	**+0.6**	
BGF				Sn		**Sn**	**05 12 16.7**	**-0.9**	
BGF				Lg			05 12 38.7		
	28nm,0.5s								
GUD	**Guadarrama**	**3.98**	**233**	Pn		**Pn**	**05 11 32.3**	**+1.3**	
	SNR=7.9								
GUD				Sn		**Sn**	**05 12 17.2**	**-0.5**	
	SNR=7.9								
GUD				Lg			05 12 34.7		
	2.7nm,0.3s,SNR=7.9								
SMRF	**Simiane la Rot**	**4.12**	**76**	*e*Pg		**Pg**	**05 11 48.6**	**-0.6**	
SMRF				*e*Sg		**Sg**	**05 12 42.9**	**+0.3**	
	9.6nm,0.6s								
SMRF	**Simiane la Rot**	**4.12**	**76**	*e*Pn		**Pn**	**05 11 33.4**	**+0.4**	
SMRF				*e*Pg		**Pg**	**05 11 48.6**	**-0.6**	
SMRF				*e*Sg		**Sg**	**05 12 42.9**	**+0.3**	
SMRF	**Simiane la Rot**	**4.12**	**76**	Pn		**Pn**	**05 11 33.4**	**+0.4**	
SMRF				Pg		**Pg**	**05 11 48.6**	**-0.6**	
SMRF				Lg			05 12 42.9		
	9.6nm,0.6s								
EIBI	**Ibiza**	**4.21**	**166**	Pn		**Pn**	**05 11 34.7**	**+0.6**	
	SNR=7.9								
EIBI				Sn		**Sn**	**05 12 18.8**	**-4.4**	
	3.7nm,0.4s,SNR=7.9								
AVF	**Avril sur Loir**	**4.37**	**32**	*e*Pg		**Pg**	**05 11 54.1**	**+0.3**	
AVF				*e*Sn		**Sn**	**05 12 25.7**	**-1.4**	
AVF				*e*Sg		**Sg**	**05 12 51.0**	**+0.6**	
	4.4nm,0.3s								
AVF	**Avril sur Loir**	**4.37**	**32**	*e*Pn		**Pn**	**05 11 37.0**	**+0.7**	
AVF				*e*Pg		**Pg**	**05 11 54.1**	**+0.3**	
AVF				*e*Sn		**Sn**	**05 12 25.7**	**-1.4**	
AVF				*e*Sg		**Sg**	**05 12 51.0**	**+0.6**	
AVF	**Avril sur Loir**	**4.37**	**32**	Pn		**Pn**	**05 11 37.0**	**+0.7**	
AVF				Pg		**Pg**	**05 11 54.1**	**+0.3**	
AVF				Sn		**Sn**	**05 12 25.7**	**-1.4**	
AVF				Lg			05 12 51.0		
	2.2nm,0.3s								
EBEN	**Beniarda**	**4.41**	**183**	Pn		**Pn**	**05 11 37.0**	**0.0**	
	SNR=7.9								
EBEN				Sn		**Sn**	**05 12 25.8**	**-2.5**	
	1.6nm,0.4s,SNR=7.9								
SMF	**Signal de Mont**	**4.45**	**36**	*e*Pg		**Pg**	**05 11 55.2**	**-0.2**	
SMF				*e*Sn		**Sn**	**05 12 27.6**	**-1.5**	
SMF				*e*Sg		**Sg**	**05 12 53.5**	**+0.5**	
	4.2nm,0.3s								
SMF	**Signal de Mont**	**4.45**	**36**	*e*Pn		**Pn**	**05 11 38.1**	**+0.7**	
SMF				*e*Pg		**Pg**	**05 11 55.2**	**-0.2**	
SMF				*e*Sn		**Sn**	**05 12 27.6**	**-1.5**	
SMF				*e*Sg		**Sg**	**05 12 53.5**	**+0.5**	
SMF	**Signal de Mont**	**4.45**	**36**	Pn		**Pn**	**05 11 38.1**	**+0.7**	
SMF				Pg		**Pg**	**05 11 55.2**	**-0.2**	
SMF				Sn		**Sn**	**05 12 27.6**	**-1.5**	
SMF				Lg			05 12 53.5		
	2.1nm,0.3s								
HYF	**Humbligny**	**4.54**	**23**	*e*Pn		**Pn**	**05 11 39.3**	**+0.6**	
HYF				*e*Pg		**Pg**	**05 11 57.7**	**+0.5**	
HYF				*e*Sn		**Sn**	**05 12 29.8**	**-1.7**	
HYF				*e*Sg		**Sg**	**05 12 56.9**	**+0.9**	
ESBB	**Sonseca Array**	**4.56**	**222**	Pn		**Pn**	**05 11 40.8**	**+1.7**	
ESBB				Sn		**Sn**	**05 12 28.9**	**-3.1**	
ESDC	**Sonseca Array**	**4.56**	**222**	Pn		**Pn**	**05 11 39.3**	**+0.3**	
	0.3nm,0.2s,baz=43,slow=14,SNR=7.4								
ESDC				Sn		**Sn**	**05 12 29.1**	**-3.0**	
	0.7nm,0.3s,baz=44,slow=24,SNR=6.4								
ESDC				Lg			05 12 50.6		
	1.9nm,0.3s,baz=45,slow=30,SNR=7.9								
ORIF	**Oris-en-Rattie**	**4.59**	**65**	*e*Pg		**Pg**	**05 11 59.6**	**+1.5**	
ORIF				*e*Sg		**Sg**	**05 12 57.6**	**0.0**	
	1.4nm,0.3s								
ORIF	**Oris-en-Rattie**	**4.59**	**65**	*e*Pn		**Pn**	**05 11 40.0**	**+0.6**	
ORIF				*e*Pg		**Pg**	**05 11 59.6**	**+1.5**	
ORIF				*e*Sg		**Sg**	**05 12 57.6**	**0.0**	
ORIF	**Oris-en-Rattie**	**4.59**	**65**	Pn		**Pn**	**05 11 40.0**	**+0.6**	
ORIF				Pg		**Pg**	**05 11 59.6**	**+1.5**	
ORIF				Lg			05 12 57.6		
	0.7nm,0.3s								
ETOB	**Tobarra**	**4.63**	**195**	Pn		**Pn**	**05 11 40.4**	**+0.5**	
	2.0nm,0.7s,SNR=5.8								
ETOB				Sn		**Sn**	**05 12 29.5**	**-4.0**	
	31nm,1.5s,SNR=5.0								
ETOB				Lg			05 12 55.2		
	0.1nm,0.1s,SNR=7.9								
SSF	**Saint Saulge**	**4.65**	**31**	*e*Pg		**Pg**	**05 11 59.0**	**-0.2**	
SSF				*e*Sn		**Sn**	**05 12 32.7**	**-1.4**	
SSF				*e*Sg		**Sg**	**05 12 59.0**	**-0.5**	
	4.3nm,0.3s								
SSF	**Saint Saulge**	**4.65**	**31**	*e*Pn		**Pn**	**05 11 40.9**	**+0.7**	
SSF				*e*Pg		**Pg**	**05 11 59.0**	**-0.2**	
SSF				*e*Sn		**Sn**	**05 12 32.7**	**-1.4**	
SSF				*e*Sg		**Sg**	**05 12 59.0**	**-0.5**	
SSF	**Saint Saulge**	**4.65**	**31**	Pn		**Pn**	**05 11 40.9**	**+0.7**	
SSF				Pg		**Pg**	**05 11 59.0**	**-0.2**	
SSF				Sn		**Sn**	**05 12 32.7**	**-1.4**	
SSF				Lg			05 12 59.0		
	2.2nm,0.3s								
LMR	**La Mourre**	**4.74**	**85**	*e*Pg		**Pg**	**05 11 59.4**	**-1.6**	
LMR				*e*Sg		**Sg**	**05 13 02.0**	**-0.5**	
	2.0nm,0.3s								
LMR	**La Mourre**	**4.74**	**85**	Pg		**Pg**	**05 11 59.4**	**-1.6**	
LMR				Lg			05 13 02.0		
	1.0nm,0.3s								
FRF	**La Foret Royal**	**4.85**	**83**	*e*Pg		**Pg**	**05 12 02.4**	**-0.7**	
FRF				*e*Sg		**Sg**	**05 13 05.1**	**-0.8**	
	5.1nm,0.4s								
FRF	**La Foret Royal**	**4.85**	**83**	*e*Pn		**Pn**	**05 11 42.8**	**-0.2**	
FRF				*e*Pg		**Pg**	**05 12 02.4**	**-0.7**	
FRF				*e*Sg		**Sg**	**05 13 05.1**	**-0.8**	
FRF	**La Foret Royal**	**4.85**	**83**	Pn		**Pn**	**05 11 42.8**	**-0.2**	
FRF				Pg		**Pg**	**05 12 02.4**	**-0.7**	
FRF				Lg			05 13 05.1		
	2.5nm,0.4s								
EVIA	**Vianos**	**4.87**	**204**	Pn		**Pn**	**05 11 45.3**	**+2.1**	
EVIA				Lg			05 13 03.0		
LOR	**Lormes**	**4.96**	**32**	*e*Pg		**Pg**	**05 12 05.3**	**+0.2**	
LOR				*e*Sn		**Sn**	**05 12 40.3**	**-1.3**	
LOR				*e*Sg		**Sg**	**05 13 09.5**	**+0.2**	
	7.2nm,0.4s								
LOR	**Lormes**	**4.96**	**32**	*e*Pn		**Pn**	**05 11 45.0**	**+0.6**	
LOR				*e*Pg		**Pg**	**05 12 05.3**	**+0.2**	
LOR				*e*Sn		**Sn**	**05 12 40.3**	**-1.3**	
LOR				*e*Sg		**Sg**	**05 13 09.5**	**+0.2**	
LOR	**Lormes**	**4.96**	**32**	Pn		**Pn**	**05 11 45.0**	**+0.6**	
LOR				Pg		**Pg**	**05 12 05.3**	**+0.2**	
LOR				Sn		**Sn**	**05 12 40.3**	**-1.3**	
LOR				Lg			05 13 09.5		
	3.6nm,0.4s								
ECAL	**Calabor**	**5.13**	**259**	Pn		**Pn**	**05 11 47.5**	**+0.6**	
ECAL				Sn		**Sn**	**05 12 43.7**	**-2.3**	
PBRG	**Braganca**	**5.17**	**258**	*e*Pn		**Pn**	**05 11 48.9**	**+1.5**	
PBRG				*e*Sn		**Sn**	**05 12 44.8**	**-2.3**	
EPON	**Pontenova**	**5.25**	**275**	Pn		**Pn**	**05 11 51.4**	**+3.0**	
EPON				Sn		**Sn**	**05 12 49.4**	**+0.5**	
QUIF	**Quistinic**	**5.30**	**336**	*e*Pg		**Pg**	**05 12 10.2**	**-1.4**	
QUIF				*e*Sn		**Sn**	**05 12 47.0**	**-3.1**	
QUIF				*e*Sg		**Sg**	**05 13 18.8**	**-1.4**	
	5.1nm,0.4s								
QUIF	**Quistinic**	**5.30**	**336**	*e*Pn		**Pn**	**05 11 48.8**	**-0.3**	
QUIF				*e*Pg		**Pg**	**05 12 10.2**	**-1.4**	
QUIF				*e*Sn		**Sn**	**05 12 47.0**	**-3.1**	
QUIF				*e*Sg		**Sg**	**05 13 18.8**	**-1.4**	
QUIF	**Quistinic**	**5.30**	**336**	Pn		**Pn**	**05 11 48.8**	**-0.3**	
QUIF				Pg		**Pg**	**05 12 10.2**	**-1.4**	
QUIF				Sn		**Sn**	**05 12 47.0**	**-3.1**	
QUIF				Lg			05 13 18.8		
	2.5nm,0.4s								
GRR	**Gorron**	**5.31**	**354**	*e*Pg		**Pg**	**05 12 10.9**	**-0.9**	
GRR				*e*Sn		**Sn**	**05 12 47.6**	**-2.7**	
GRR				*e*Sg		**Sg**	**05 13 19.5**	**-1.1**	
	4.0nm,0.3s								
GRR	**Gorron**	**5.31**	**354**	*e*Pn		**Pn**	**05 11 49.5**	**+0.2**	
GRR				*e*Pg		**Pg**	**05 12 10.9**	**-0.9**	
GRR				*e*Sn		**Sn**	**05 12 47.6**	**-2.7**	
GRR				*e*Sg		**Sg**	**05 13 19.5**	**-1.1**	
GRR	**Gorron**	**5.31**	**354**	Pn		**Pn**	**05 11 49.5**	**+0.2**	
GRR				Pg		**Pg**	**05 12 10.9**	**-0.9**	
GRR				Sn		**Sn**	**05 12 47.6**	**-2.7**	
GRR				Lg			05 13 19.5		
	2.0nm,0.3s								
ERUA	**La Rua**	**5.33**	**265**	Pn		**Pn**	**05 11 52.0**	**+2.5**	
	SNR=7.9								
ERUA				Sn		**Sn**	**05 12 50.5**	**-0.3**	
	SNR=7.9								
EMUR	**La Murta**	**5.36**	**191**	Pn		**Pn**	**05 11 50.8**	**+0.9**	
	0.8nm,0.4s,SNR=7.1								
EMUR				Sn		**Sn**	**05 12 47.2**	**-4.4**	
	40nm,1.8s,SNR=5.0								
LPL	**La Plagne**	**5.38**	**61**	*e*Pg		**Pg**	**05 12 12.5**	**-0.6**	
LPL				*e*Sg		**Sg**	**05 13 22.4**	**-0.4**	
	0.8nm,0.3s								
LPL	**La Plagne**	**5.38**	**61**	Pg		**Pg**	**05 12 12.5**	**-0.6**	
LPL				Lg			05 13 22.4		
	0.4nm,0.3s								
LPG	**La Plagne**	**5.38**	**61**	*e*Pg		**Pg**	**05 12 12.6**	**-0.6**	
LPG				*e*Sg		**Sg**	**05 13 22.9**	**0.0**	
	0.9nm,0.2s								
LPG	**La Plagne**	**5.38**	**61**	Pg		**Pg**	**05 12 12.6**	**-0.6**	
LPG				Lg			05 13 22.9		
	0.4nm,0.2s								
SBF	**Sospel**	**5.44**	**80**	*e*Pg		**Pg**	**05 12 13.6**	**-0.8**	
SBF				*e*Sg		**Sg**	**05 13 23.8**	**-1.1**	
	7.9nm,0.6s								
SBF	**Sospel**	**5.44**	**80**	Pg		**Pg**	**05 12 13.6**	**-0.8**	
SBF				Lg			05 13 23.8		
	4.0nm,0.6s								
SGMF	**Saint Gilles**	**5.45**	**341**	*e*Pg		**Pg**	**05 12 12.5**	**-2.0**	
SGMF				*e*Sn		**Sn**	**05 12 50.3**	**-3.4**	
SGMF				*e*Sg		**Sg**	**05 13 23.2**	**-1.8**	
	3.1nm,0.3s								
SGMF	**Saint Gilles**	**5.45**	**341**	*e*Pn		**Pn**	**05 11 51.3**	**+0.1**	
SGMF				*e*Pg		**Pg**	**05 12 12.5**	**-2.0**	
SGMF				*e*Sn		**Sn**	**05 12 50.3**	**-3.4**	
SGMF				*e*Sg		**Sg**	**05 13 23.2**	**-1.8**	
SGMF	**Saint Gilles**	**5.45**	**341**	Pn		**Pn**	**05 11 51.3**	**+0.1**	
SGMF				Pg		**Pg**	**05 12 12.5**	**-2.0**	
SGMF				Sn		**Sn**	**05 12 50.3**	**-3.4**	
SGMF				Lg			05 13 23.2		
	1.6nm,0.3s								
CABF	**La Chapelle**	**5.54**	**49**	*e*Pg		**Pg**	**05 12 15.4**	**-1.0**	
CABF				*e*Sg		**Sg**	**05 13 27.9**	**-0.3**	
	16nm,0.7s								
CABF	**La Chapelle**	**5.54**	**49**	*e*Pn		**Pn**	**05 11 53.3**	**+0.8**	
CABF				*e*Pg		**Pg**	**05 12 15.4**	**-1.0**	
CABF				*e*Sg		**Sg**	**05 13 27.9**	**-0.3**	
CABF	**La Chapelle**	**5.54**	**49**	Pn		**Pn**	**05 11 53.3**	**+0.8**	
CABF				Pg		**Pg**	**05 12 15.4**	**-1.0**	
CABF				Lg			05 13 27.9		
	8.1nm,0.7s								
FLN	**La Foliniere**	**5.66**	**357**	*e*Pg		**Pg**	**05 12 17.4**	**-1.1**	
FLN				*e*Sn		**Sn**	**05 12 56.4**	**-2.5**	
FLN				*e*Sg		**Sg**	**05 13 30.5**	**-1.3**	
	8.5nm,0.6s								
FLN	**La Foliniere**	**5.66**	**357**	*e*Pn		**Pn**	**05 11 54.3**	**+0.2**	
FLN				*e*Pg		**Pg**	**05 12 17.4**	**-1.1**	
FLN				*e*Sn		**Sn**	**05 12 56.4**	**-2.5**	
FLN				*e*Sg		**Sg**	**05 13 30.5**	**-1.3**	
FLN	**La Foliniere**	**5.66**	**357**	Pn		**Pn**	**05 11 54.3**	**+0.2**	
FLN				Pg		**Pg**	**05 12 17.4**	**-1.1**	
FLN				Sn		**Sn**	**05 12 56.4**	**-2.5**	
FLN				Lg			05 13 30.5		
	4.2nm,0.6s								
ROSF	**Rostrenen**	**5.71**	**337**	*e*Pg		**Pg**	**05 12 17.4**	**-2.1**	
ROSF				*e*Sn		**Sn**	**05 12 56.7**	**-3.5**	
ROSF				*e*Sg		**Sg**	**05 13 31.5**	**-1.9**	
	2.3nm,0.3s								
ROSF	**Rostrenen**	**5.71**	**337**	Pg		**Pg**	**05 12 17.4**	**-2.1**	
ROSF				Sn		**Sn**	**05 12 56.7**	**-3.5**	
ROSF				Lg			05 13 31.5		
	1.1nm,0.3s								
EQES	**Quesada**	**5.81**	**205**	Pn		**Pn**	**05 11 56.7**	**+0.6**	
	SNR=7.9								
EQES				Sn		**Sn**	**05 12 58.6**	**-4.1**	
	SNR=7.9								
EQES				Lg			05 13 33.7		
	0.2nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.06**	**217**	Pn		**Pn**	**05 11 60.0**	**+0.4**	
	SNR=7.9								
EADA				Sn		**Sn**	**05 13 03.2**	**-5.6**	
	SNR=7.9								
EADA				Lg			05 13 40.7		
	0.1nm,0.1s,SNR=7.9								
MEZF	**Maizieres J'vi**	**6.43**	**31**	*e*Pg		**Pg**	**05 12 32.0**	**-1.3**	
MEZF				*e*Sg		**Sg**	**05 13 55.6**	**-0.9**	
	4.5nm,0.5s								
MEZF	**Maizieres J'vi**	**6.43**	**31**	*e*Pn		**Pn**	**05 12 05.3**	**+0.7**	
MEZF				*e*Pg		**Pg**	**05 12 32.0**	**-1.3**	
MEZF				*e*Sg		**Sg**	**05 13 55.6**	**-0.9**	
MEZF	**Maizieres J'vi**	**6.43**	**31**	Pn		**Pn**	**05 12 05.3**	**+0.7**	
MEZF				Pg		**Pg**	**05 12 32.0**	**-1.3**	
MEZF				Lg			05 13 55.6		
	4.5nm,0.5s								
PCBR	**Castelo Branco**	**6.52**	**242**	*e*Sn		**Sn**	**05 13 16.6**	**-3.5**	
PCBR									
	1.7nm,0.8s								
PCBR	**Castelo Branco**	**6.52**	**242**	Sn		**Sn**	**05 13 16.6**	**-3.5**	
	0.9nm,0.8s								
HAU	**Haudompre**	**6.60**	**40**	*e*Pn		**Pn**	**05 12 07.6**	**+0.6**	
HAU				*e*Sg		**Sg**	**05 14 00.7**	**-1.3**	
	3.3nm,0.4s								
HAU	**Haudompre**	**6.60**	**40**	Pn		**Pn**	**05 12 07.6**	**+0.6**	
HAU				Lg			05 14 00.7		
	1.6nm,0.4s								
HINF	**Hinteralfeld**	**6.71**	**43**	*e*Pg		**Pg**	**05 12 37.4**	**-1.4**	
HINF				*e*Sg		**Sg**	**05 14 04.7**	**-1.0**	
	1.0nm,0.3s								
HINF	**Hinteralfeld**	**6.71**	**43**	*e*Pn		**Pn**	**05 12 09.1**	**+0.5**	
HINF				*e*Pg		**Pg**	**05 12 37.4**	**-1.4**	
HINF				*e*Sg		**Sg**	**05 14 04.7**	**-1.0**	
HINF	**Hinteralfeld**	**6.71**	**43**	Pn		**Pn**	**05 12 09.1**	**+0.5**	
HINF				Pg		**Pg**	**05 12 37.4**	**-1.4**	
HINF				Lg			05 14 04.7		
	0.5nm,0.3s								
PESTR	**Estremoz**	**7.16**	**236**	*e*Pn		**Pn**	**05 12 14.6**	**-0.1**	
CDF	**Champ du Feu**	**7.33**	**41**	*e*Pg		**Pg**	**05 12 48.8**	**-1.7**	
CDF				*e*Sg		**Sg**	**05 14 23.9**	**-1.4**	
	0.8nm,0.3s								
CDF	**Champ du Feu**	**7.33**	**41**	*e*Pn		**Pn**	**05 12 17.6**	**+0.6**	
CDF				*e*Pg		**Pg**	**05 12 48.8**	**-1.7**	
CDF				*e*Sg		**Sg**	**05 14 23.9**	**-1.4**	
CDF	**Champ du Feu**	**7.33**	**41**	Pn		**Pn**	**05 12 17.6**	**+0.6**	
CDF				Pg		**Pg**	**05 12 48.8**	**-1.7**	
CDF				Lg			05 14 23.9		
	0.4nm,0.3s								
BAIF	**Baives**	**7.51**	**21**	*e*Pn		**Pn**	**05 12 19.8**	**+0.2**	
GIVF	**Givet**	**7.72**	**24**	*e*Pn		**Pn**	**05 12 22.9**	**+0.4**	

*LDG **19** 05:13:20.1±0.1,4299N×001W,h10km,Md1.9/3,Ml1.5/5, Error ellipse: s-maj=3.2km s-min=1.5km az=162.0*
MDD 19 05:13:20.5±0.3,4302N×001W,h10km±4km,mbLg1.1/10, 1C,Error ellipse: s-maj=3.1km s-min=2.4km az=178.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	05 13 25.5	-0.2
EPF				*e*Sg	Sg	05 13 29.1	-0.1
	8.9nm,0.2s						
EPF	**Esparros**	**0.26**	**86**	Pg	Pg	05 13 25.5	-0.2
EPF				Lg		05 13 29.1	
	4.4nm,0.2s						
EBIE	**Bielsa**	**0.35**	**161**	⇑Pg	Pg	05 13 27.2	-0.2
	1.0nm,0.1s,SNR=18						
EBIE				Lg		05 13 32.1	
	7.5nm,0.1s,SNR=10.0						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	05 13 28.6	-0.2
ETSF				*e*Sg	Sg	05 13 34.1	-0.3
	8.6nm,0.3s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	05 13 28.6	-0.2
ETSF				Lg		05 13 34.1	
	4.3nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg	Pg	05 13 36.8	-1.0
SJPF				*e*Sg	Sg	05 13 48.1	-1.4
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**277**	Pg	Pg	05 13 36.8	-1.0
SJPF				Lg		05 13 48.1	
	0.2nm,0.2s						
ELIZ	**Elizondo**	**1.12**	**278**	Pg	Pg	05 13 41.5	-0.7
	0.2nm,0.1s,SNR=7.9						
ELIZ				Lg		05 13 57.5	
	0.9nm,0.2s,SNR

EPF	**Esparros**	**0.24**	**93**	Pg		**Pg**	**05 27 49.1**	**+0.3**
EPF				Lg			05 27 52.8	
	5.8nm,0.0s,SNR=18							
EBIE	**Bielsa**	**0.37**	**164**	⇑Pg		**Pg**	**05 27 51.2**	**+0.2**
EBIE	0.4nm,0.0s,SNR=18			Lg			05 27 55.9	
	4.8nm,0.1s,SNR=15							
ETSF	**Etsaut**	**0.44**	**251**	*e*Pg		**Pg**	**05 27 52.6**	**+0.3**
ETSF				*e*Sg		**Sg**	**05 27 58.1**	**-0.1**
	5.8nm,0.3s							
ETSF	**Etsaut**	**0.44**	**251**	Pg		**Pg**	**05 27 52.6**	**+0.3**
ETSF				Lg			05 27 58.1	
	2.9nm,0.3s							
SJPF	**Ste Jean**	**0.91**	**275**	*e*Pg		**Pg**	**05 28 00.5**	**-0.5**
SJPF				*e*Sg		**Sg**	**05 28 12.5**	**-0.4**
	0.9nm,0.3s							
SJPF	**Ste Jean**	**0.91**	**275**	Pg		**Pg**	**05 28 00.5**	**-0.5**
SJPF				Lg			05 28 12.5	
	0.4nm,0.3s							
ELIZ	**Elizondo**	**1.13**	**277**	Lg			05 28 23.8	
	0.8nm,0.2s,SNR=4.0							
ESAC	**San Caprasio**	**1.37**	**195**	Pg		**Pg**	**05 28 10.9**	**+1.1**
	2.5nm,0.2s,SNR=7.9							
ESAC				Lg			05 28 29.5	
	6.7nm,0.2s,SNR=10							
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg		**Pg**	**05 28 15.3**	**+0.2**
MTLF				*e*Sg		**Sg**	**05 28 36.4**	**-0.1**
	0.5nm,0.2s							
MTLF	**Montolieu**	**1.64**	**79**	Pg		**Pg**	**05 28 15.3**	**+0.2**
MTLF				Lg			05 28 36.4	
	0.2nm,0.2s							
EPOB	**Poblet**	**1.87**	**154**	Pg		**Pg**	**05 28 18.8**	**-0.6**
	0.2nm,0.2s,SNR=7.9							
EPOB				Lg			05 28 42.6	
	0.1nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**1.97**	**15**	*e*Pg		**Pg**	**05 28 21.5**	**+0.2**
LFF				*e*Sg		**Sg**	**05 28 47.4**	**+0.6**
	3.5nm,0.4s							
LFF	**La Frestale**	**1.97**	**15**	Pg		**Pg**	**05 28 21.5**	**+0.2**
LFF				Lg			05 28 47.4	
	1.8nm,0.4s							
ERTA	**Horta de San J**	**2.10**	**173**	Lg			05 28 49.7	
	0.8nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.40**	**38**	*e*Pg		**Pg**	**05 28 29.4**	**-0.1**
CAF				*e*Sg		**Sg**	**05 29 00.6**	**0.0**
	0.3nm,0.2s							
CAF	**Calviac**	**2.40**	**38**	Pg		**Pg**	**05 28 29.4**	**-0.1**
CAF				Lg			05 29 00.6	
	0.2nm,0.2s							
ETOR	**Torete**	**2.70**	**215**	Sn		**Sn**	**05 28 59.1**	**-0.1**
	0.5nm,0.1s,SNR=7.9							
ETOR				Lg			05 29 10.1	
	0.4nm,0.3s,SNR=7.9							
LASF	**Ste Croix**	**2.98**	**68**	*e*Sg		**Sg**	**05 29 18.3**	**-1.1**
	0.3nm,0.2s							
LASF	**Ste Croix**	**2.98**	**68**	Lg			05 29 18.3	
	0.2nm,0.2s							

*HLW **19** 05:34:39.7, 3498N×2778E, h33km, Mb3.7*
*CSEM **19** 05:34:40.7±0.1, 3470N×2780E, h30km, Mw3.4, Error ellipse: s-maj=2.0km s-min=1.4km az=85.0*
*ISCJB **19** 05:34:41.5±0.3, 3471N±003×2777E±003, h47km±7km, mb3.7/9, Error ellipse: s-maj=4.3km s-min=4.1km az=6.7*
*NEIC **19** 05:34:43.2±0.7, 3481N×2768E, h38km±8km, mb3.7/3, MD3.7(ATH), Error ellipse: s-maj=10.6km s-min=5.9km az=186.0*
*NIC **19** 05:34:44.2±0.3, 3458N×2783E, h25km, ML3.3, MW3.4*
*IDC **19** 05:34:46.1±2.6, 3507N×2746E, h57km±23km, mb3.6/7, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, ML3.3/5, Error ellipse: s-maj=30.1km s-min=13.7km az=152.0*
*ATH **19** 05:34:49.6, 3573N×2715E, h26km, MD3.7/4*

ISC 19 05:34:43.3±0.3, 3474N±003×2775E±003, h42km±7km, n77, σ1§10/90, mb3.7/9, 4C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAP	**Karpathos**	**0.94**	**330**	*e*PB	**Pn**	**05 34 55.2**	**-4.8**
KARP	**Karpathos**	**0.94**	**329**	P	**Pn**	**05 34 56.3**	**-3.7**
ARG	**Arkhangelos**	**1.50**	**12**	⇑*i*PN	**Pn**	**05 35 07.7**	**-0.1**
NPS	**Neapolis**	**1.83**	**287**	*e*PN	**Pn**	**05 35 14.4**	**+2.1**
DAT	**Datca**	**1.99**	**356**	*e*PN	**Pn**	**05 35 13.4**	**-1.0**
DALT	**Dalyan (Mudla)**	**2.15**	**19**	*e*PN	**Pn**	**05 35 15.8**	**-0.8**
FETY	**Fethiye**	**2.18**	**29**	*e*PN	**Pn**	**05 35 16.4**	**-0.6**
BDRM	**Kayabasi**	**2.33**	**354**	*i* P	**Pn**	**05 35 19.2**	**+0.1**
BDRM				*i* S	**Sn**	**05 35 52.4**	**+5.9**
IDI	**Anoyia**	**2.41**	**284**	P	**Pn**	**05 35 19.9**	**-0.4**
	5.0nm,0.3s,baz=102,slow=12,SNR=52						
YER	**Yerkesik**	**2.43**	**10**	*e*PN	**Pn**	**05 35 19.8**	**-0.6**
SIVA	**Sivas**	**2.44**	**277**	P	**Pn**	**05 35 22.8**	**+2.2**
SANT	**Santorini**	**2.48**	**312**	*e*Pn	**Pn**	**05 35 23.6**	**+2.4**
GOLH	**Golhisar**	**2.89**	**30**	*i* P	**Pn**	**05 35 27.8**	**+1.0**
GOLH				*i* S	**Sn**	**05 36 06.0**	**+5.7**
APE	**Apeiranthos**	**2.94**	**323**	P	**Pn**	**05 35 28.1**	**+0.6**
GVD	**Gavdhos**	**3.02**	**273**	*e*Pn	**Pn**	**05 35 28.4**	**-0.2**
GVD	**Gavdhos**	**3.02**	**273**	*e*Pn	**Pn**	**05 35 28.4**	**-0.2**
SMG	**Samos**	**3.05**	**346**	P	**Pn**	**05 35 28.9**	**-0.1**
DNZL	**Cakiroluk**	**3.12**	**19**	*i* P	**Pn**	**05 35 36.0**	**+6.0**
HMAT	**Matruh**	**3.68**	**189**	P	**Pn**	**05 35 38.0**	**+0.4**
HMAT	**Matruh**	**3.68**	**189**	P	**Pn**	**05 35 38.0**	**+0.3**
AKMC	**Akamas**	**3.77**	**84**	P	**Pn**	**05 35 39.2**	**+0.3**
AKMC				S	**Sn**	**05 36 20.6**	**-1.5**
PPCY	**Paphos**	**3.78**	**87**	P	**Pn**	**05 35 39.3**	**+0.3**
PPCY				S	**Sn**	**05 36 21.7**	**-0.5**
TKTP	**Tekketepe**	**3.89**	**31**	*i* P	**Pn**	**05 35 40.8**	**+0.3**
ALFC	**Alevga**	**4.00**	**83**	⇑P	**Pn**	**05 35 42.1**	**0.0**
	2.8nm,0.2s						
ALFC				S	**Sn**	**05 36 28.6**	**+0.9**
ALFC	**Alevga**	**4.00**	**83**	⇑*e*P	**Pn**	**05 35 42.1**	**0.0**
ALFC				S	**Sn**	**05 36 28.6**	**+0.9**
ALFC	**Alevga**	**4.00**	**83**	⇑*e*P	**Pn**	**05 35 42.1**	**0.0**
	2.8nm,0.2s						
SZAC	**Souni-Zanaja**	**4.22**	**88**	P	**Pn**	**05 35 45.7**	**+0.6**
VLI	**Veliai**	**4.39**	**298**	*e*PN	**Pn**	**05 35 45.3**	**-2.1**
MAMC	**Mammari**	**4.51**	**83**	P	**Pn**	**05 35 49.4**	**+0.4**
CSS	**Prodhromos**	**4.59**	**86**	P	**Pn**	**05 35 50.6**	**+0.4**
	1.0nm,0.3s						
CSS				S	**Sn**	**05 36 44.1**	**+1.9**
CSS	**Prodhromos**	**4.59**	**86**	*e*Pn	**Pn**	**05 35 50.3**	**+0.2**
CSS				*e*Sn	**Sn**	**05 36 44.5**	**+2.3**
CSS	**Prodhromos**	**4.59**	**86**	*e*Pn	**Pn**	**05 35 50.3**	**+0.1**
CSS	**Prodhromos**	**4.59**	**86**	P	**Pn**	**05 35 50.6**	**+0.4**
	1.0nm,0.3s						
KONT	**Konya--Tatoy**	**4.90**	**48**	*e*PN	**Pn**	**05 35 55.1**	**+0.6**
IKL	**Isikli**	**5.06**	**71**	*e*PN	**Pn**	**05 35 56.5**	**-0.1**
ITM	**Ithomi**	**5.32**	**299**	P	**Pn**	**05 36 00.6**	**+0.5**
HNAT	**Natroun**	**5.64**	**154**	P	**Pn**	**05 36 04.3**	**-0.3**
SWA1		**5.73**	**198**	⇓P	**Pn**	**05 36 06.4**	**+0.5**
SWA1				S	**Sn**	**05 37 09.1**	**-1.2**
SWA2		**5.82**	**200**	P	**Pn**	**05 36 07.5**	**+0.4**
MERS	**Mersin**	**5.89**	**67**	*e*PN	**Pn**	**05 36 07.3**	**-0.8**
KOT	**Kottamia**	**5.91**	**143**	P	**Pn**	**05 36 07.5**	**-0.8**
GLL	**Jalalah**	**6.14**	**146**	P	**Pn**	**05 36 11.0**	**-0.5**
AMAG	**Maghara**	**6.15**	**130**	P	**Pn**	**05 36 10.6**	**-1.0**
AWBH		**6.48**	**171**	P	**Pn**	**05 36 16.2**	**+0.1**
SUZ		**6.51**	**137**	P	**Pn**	**05 36 15.8**	**-0.6**
KAMT	**Kaman**	**6.63**	**44**	*e*P	**Pn**	**05 36 18.8**	**+0.6**
BR131	**Keskin Array S**	**6.84**	**42**	*e*Pn	**Pn**	**05 36 21.1**	**0.0**
	2.1nm,0.6s						
BR131				*e*Sn	**Sn**	**05 37 36.9**	**-0.6**
BR131	**Keskin Array S**	**6.84**	**42**	*e*Pn	**Pn**	**05 36 21.1**	**+0.1**
BR131				*e*Sn	**Sn**	**05 37 36.9**	**-0.7**
BRTR	**Keskin Array B**	**6.84**	**42**	P	**Pn**	**05 36 21.5**	**+0.5**
	0.5nm,0.3s,baz=221,slow=14,SNR=20						
BRTR				S	**Sn**	**05 37 39.0**	**+1.4**
	0.6nm,0.3s,baz=218,slow=28,SNR=12						
HNKL	**Nakhl**	**7.12**	**131**	P	**Pn**	**05 36 24.9**	**-0.1**
HNKL				S	**Sn**	**05 37 41.0**	**-3.6**
HFRF	**Wahat Farafira**	**7.58**	**176**	P	**Pn**	**05 36 31.3**	**+0.1**
ASUT		**8.02**	**155**	P	**Pn**	**05 36 36.8**	**-0.4**
MALT	**Malatya**	**9.30**	**64**	*e*Pn	**Pn**	**05 36 54.5**	**-0.3**
MALT	**Malatya**	**9.30**	**64**	*e*Pn	**Pn**	**05 36 54.5**	**-0.3**
TIP	**Timpagrande**	**9.85**	**300**	*e*Pn	**Pn**	**05 36 58.2**	**-4.1**
TIP	**Timpagrande**	**9.85**	**300**	*e*Pn	**Pn**	**05 36 58.2**	**-4.1**
KEST	**Kesra**	**15.08**	**279**	P	**Pn**	**05 38 13.9**	**+0.5**
	0.0nm,0.3s,baz=310,slow=22,SNR=2.8						
AKASG	**Malin Array Be**	**15.99**	**3**	P	**Pn**	**05 38 24.2**	**-1.0**
	0.6nm,0.3s,baz=195,slow=12,SNR=5.5						
AKASG	**Malin Array Be**	**15.99**	**3**	P	**Pn**	**05 38 24.2**	**-1.0**
AKBB	**Malin Array Si**	**15.99**	**3**	*e*P	**Pn**	**05 38 26.1**	**+0.9**
AKBB	**Malin Array Si**	**15.99**	**3**	*e*P	**Pn**	**05 38 26.1**	**+0.9**
MORC	**Moravsky Berou**	**16.79**	**337**	*e*P	**Pn**	**05 38 36.1**	**+0.8**
	1.2nm,0.7s						
MORC	**Moravsky Berou**	**16.79**	**337**	*e*P	**Pn**	**05 38 36.2**	**+0.9**
GERES	**GERESS Array B**	**17.52**	**328**	P	**Pn**	**05 38 41.5**	**-2.8**
	0.1nm,0.3s,baz=129,slow=12,SNR=9.0						
CLL	**Collm**	**19.70**	**332**	*e*P	**Pn**	**05 39 08.0**	**-2.7**
ESDC	**Sonseca Array**	**25.66**	**290**	P	**P**	**05 40 06.4**	**-2.7**
	0.1nm,0.3s,mb2.8,baz=86,slow=9.7,SNR=5.0						
FINES	**FINESS Array B**	**26.74**	**358**	P	**P**	**05 40 16.8**	**-2.1**
	1.3nm,0.7s,mb3.6,baz=176,slow=10,SNR=9.5						
HFS	**Hagfors**	**27.01**	**344**	P	**P**	**05 40 19.1**	**-2.2**
	1.5nm,0.8s,mb3.6,baz=142,slow=12,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**31.91**	**234**	*e*P	**P**	**05 41 06.2**	**+1.5**
TOA0	**Torodi Ar. Sit**	**31.91**	**234**	*e*P	**P**	**05 41 06.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**31.91**	**234**	P	**P**	**05 41 05.9**	**+1.1**
	0.6nm,0.8s,mb3.5,baz=42,slow=7.1,SNR=7.3						
ARCES	**ARCESS Array B**	**34.87**	**359**	P	**P**	**05 41 28.7**	**-1.9**
	4.9nm,0.7s,mb4.5,baz=170,slow=6.5,SNR=12						
ARCES	**ARCESS Array B**	**34.87**	**359**	P	**P**	**05 41 28.7**	**-1.9**
CHKZ	**Chkalovo**	**35.40**	**44**	*e*P	**P**	**05 41 36.2**	**+1.1**
	0.7nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**36.94**	**63**	*e*P	**P**	**05 41 49.6**	**+1.4**
	1.3nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	**42.23**	**56**	P	**P**	**05 42 34.2**	**+1.9**
	2.4nm,0.5s,mb4.0,baz=277,slow=7.1,SNR=22						
ZAL	**Zalesovo**	**43.75**	**46**	P	**P**	**05 42 45.4**	**+0.8**
	0.9nm,0.6s,mb3.7,baz=209,slow=6.7,SNR=4.6						

*LDG **19** 05:36:39.9±0.1, 4301N×002W, h3km, Md1.7/3, Ml1.5/4, Error ellipse: s-maj=2.3km s-min=1.4km az=161.0*
*STR **19** 05:36:39.9±0.0, 4302N×004W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 05:36:40.1±0.5, 4301N×001W, h7km±5km, mbLg0.8/8, Error ellipse: s-maj=2.7km s-min=2.4km az=138.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**60**	Pg	Pg	05 36 41.8	-0.1
LABF				Sg	Sg	05 36 43.2	+0.1
LABF	**Labassere**	**0.07**	**60**	Pg	Pg	05 36 41.8	0.0
LABF				Lg		05 36 43.1	
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	05 36 42.9	0.0
VIEF				Sg	Sg	05 36 45.1	+0.3
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	05 36 43.0	0.0
VIEF				Lg		05 36 45.1	
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	05 36 44.8	-0.4
EPF				*e*Sg	Sg	05 36 48.3	-0.3
	3.7nm,0.2s						
EPF	**Esparros**	**0.26**	**86**	Pg	Pg	05 36 44.8	-0.4
EPF				Lg		05 36 48.3	
	1.9nm,0.2s						
EBIE	**Bielsa**	**0.34**	**161**	Pg	Pg	05 36 46.6	-0.2
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		05 36 51.4	
	4.9nm,0.1s,SNR=11						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	05 36 48.0	-0.3
ETSF				*e*Sg	Sg	05 36 53.7	-0.1
	1.8nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	05 36 48.0	-0.3
ETSF				Lg		05 36 53.7	
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg	Pg	05 36 56.3	-1.1
SJPF				*e*Sg	Sg	05 37 07.5	-1.5
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**277**	Pg	Pg	05 36 56.3	-1.1
SJPF				Lg		05 37 07.5	
	0.2nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**195**	Pg	Pg	05 37 04.8	-1.0
	0.7nm,0.1s,SNR=4.0						
ESAC				Lg		05 37 23.5	
	4.2nm,0.2s,SNR=5.8						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	05 37 11.1	-0.9
MTLF				*e*Sg	Sg	05 37 32.4	-1.1
	1.6nm,0.4s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	05 37 11.1	-0.9
MTLF				Lg		05 37 32.4	
	0.8nm,0.4s						
EPOB	**Poblet**	**1.85**	**154**	Lg		05 37 38.5	
	0.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	05 37 17.5	-1.0
LFF				*e*Sg	Sg	05 37 44.3	-0.1
	1.3nm,0.3s						
LFF	**La Frestale**	**2.00**	**15**	Pg	Pg	05 37 17.5	-1.0
LFF				Lg		05 37 44.3	
	0.6nm,0.3s						
ERTA	**Horta de San J**	**2.07**	**173**	Lg		05 37 45.6	
	0.3nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	05 37 25.4	-1.2
CAF				*e*Sg	Sg	05 37 56.4	-1.7
	0.5nm,0.3s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	05 37 25.4	-1.2
CAF				Lg		05 37 56.4	
	0.2nm,0.3s						

*NIED **19** 05:36:00, 4630N×15350E, h17km, Mw4.4 Best double couple: M0 3.78000×10^15 NP1:φs226.00000°, δ88.00000°, λ-168.00000°. NP2:φs136.00000°, δ78.00000°, λ-2.00000°.*
*BJI **19** 05:36:53.1, 4662N×15357E, h19km, mB4.8, mb4.8, Ms4.3, Msz3.9*
*IDC **19** 05:36:53.4±0.5, 4641N×15320E, h0km, mb4.5/27, mb1 4.7/28, mb1mx4.6/31, mbtmp4.5/28, ML3.8/1, MS3.6/8, Ms1 3.6/8, ms1mx3.0/41, Error ellipse: s-maj=15.2km s-min=13.5km az=138.0*
*ISCJB **19** 05:36:54.1±0.2, 4642N±004×15322E±004, h13km, mb4.8/14, MS3.9/14, Error ellipse: s-maj=6.4km s-min=2.4km az=121.5*
*SKHL **19** 05:36:54.0±1.3, 4618N×15369E, h50km±28km, Ms3.9/2*
*SZGRF **19** 05:36:55.4, 4579N×15435E, h33km, mb5.1, East of Kuril Islands, Russia*
*NEIC **19** 05:36:55.5±2.6, 4652N×15318E, h10km±16km, mb4.8/55, Error ellipse: s-maj=6.2km s-min=4.0km az=162.0*
*JMA **19** 05:36:56.0±0.8, 4633N×15353E, h30km, M5.0*
*MOS **19** 05:36:57.8±1.1, 4650N×15313E, h37km, mb5.0/39, Error ellipse: s-maj=8.1km s-min=5.1km az=101.9*
*VIE **19** 05:37:04.5±1.1, 4735N×15153E, h10km, Error ellipse: s-maj=54.1km s-min=30.0km az=69.0, 929 km NE of Sapporo*

ISC 19 05:36:56.2±0.2, 4653N±004×15319E±004, h14km, h14km±3.2km:pP-P, n318, σ1§14/344, mb4.8/114, MS3.9/14, 25C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.94**	**253**	⇑*i*P	**Pn**	**05 37 54.6**	**-1.6**
KUR				AMB	AMB	05 37 56.3	
	684nm,0.6s						
KUR				AMB	AMB	05 37 56.3	
	380nm,0.6s						
KUR				AMB	AMB	05 37 56.3	
	2μm,0.6s						
KUR				*i* S	**Sn**	**05 38 41.0**	**-1.2**
KUR				A		05 38 54.0	
	456nm,0.6s						
KUR				A		05 38 54.0	
	1μm,0.6s						
KUR	**Kuril'sk**	**3.94**	**253**	⇑*i*PN	**Pn**	**05 37 54.6**	**-1.6**
KUR				*i* S	**Sn**	**05 38 41.0**	**-1.2**
KUR				pmax	pmax		
	comp=N,680nm,0.6s						
KUR				pmax	pmax		
	comp=E,380nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				smax			
	comp=N,460nm,0.6s						
KUR				smax			
	comp=E,1μm,0.6s						
SKR	**Severo-Kuril's**	**4.59**	**24**	*e*P	**Pn**	**05 38 05.0**	**-0.2**
SKR				*e*S	**Sn**	**05 38 57.3**	**-1.0**
SKR				A		05 39 17.3	
	comp=E,1μm,0.5s						
SKR				A		05 39 17.3	
	comp=E,460nm,0.5s						
SKR				A		05 39 17.3	
	comp=E,250nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.74**	**247**	*e*P	**Pn**	**05 38 25.0**	**+4.0**
YUK				AMB	AMB	05 38 28.5	
	comp=E,1μm,1.0s						
YUK				*e*S	**Sn**	**05 39 27.1**	**+0.4**
YUK				A		05 39 39.0	
	comp=E,2μm,0.8s						
YUK				A		05 39 39.0	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**6.16**	**242**	P	**Pn**	**05 38 25.5**	**-1.2**
NEM2				*e*S	**Sn**	**05 39 32.6**	**-4.4**
JRA	**Rausu**	**6.26**	**248**	P	**Pn**	**05 38 29.9**	**+1.8**
JRA				*e*S	**Sn**	**05 39 40.8**	**+1.4**
JNK	**Nakash**	**6.68**	**247**	P	**Pn**	**05 38 35.1**	**+1.2**
JNK				*e*S	**Sn**	**05 39 48.9**	**-1.0**
JAK	**Akkeshi**	**7.00**	**243**	P	**Pn**	**05 38 37.2**	**-1.1**
JAK				*e*S	**Sn**	**05 39 53.0**	**-4.7**
JTKR	**Abashiri--Toko**	**7.03**	**252**	P	**Pn**	**05 38 40.9**	**+2.2**
YSS	**Yuzh-Sakhalins**	**7.18**	**277**	⇓*e*P	**Pn**	**05 38 48.0**	**+7.2**
YSS				AMB	AMB	05 38 49.0	
	comp=E,70nm,0.8s						
YSS				AMB	AMB	05 38 49.0	
	comp=E,50nm,0.8s						
YSS				AMB	AMB	05 38 49.0	
	comp=E,60nm,0.9s						
YSS				*e*S	**Sn**	**05 40 12.0**	**+10**
YSS				AMS	AMS	05 41 32.0	
	comp=E,900nm,16.0s						
YSS				AMS	AMS	05 41 32.0	
	comp=E,90nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**277**	⇓*e*PN	**Pn**	**05 38 48.0**	**+7.2**
YSS				*e*S	**Sn**	**05 40 12.0**	**+10**
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,60nm,0.9s						
YSS				MLR	MLR		
	comp=E,900nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**277**	*e*Pn	**Pn**	**05 38 46.2**	**+5.4**
JMP	**Maruseppu**	**7.38**	**254**	P	**Pn**	**05 38 45.9**	**+2.4**
PET	**Petropavlovsk**	**7.40**	**27**	*e*PN	**Pn**	**05 38 46.1**	**+2.3**
PET				pmax	pmax		
	comp=Z,27nm,0.8s						
PET	**Petropavlovsk**	**7.40**	**27**	*e*Pn	**Pn**	**05 38 43.6**	**-0.2**
PET				*e*Sn	**Sn**	**05 40 07.8**	**+0.3**
JAR	**Ashorobuto**	**7.42**	**248**	P	**Pn**	**05 38 45.4**	**+1.3**
JAR				*e*S	**Sn**	**05 40 06.8**	**-1.4**
JOB	**Onbets**	**7.58**	**245**	P	**Pn**	**05 38 46.1**	**-0.2**
JOB				*e*S	**Sn**	**05 40 09.0**	**-3.1**
JSE	**Soyaes**	**7.58**	**262**	P	**Pn**	**05 38 51.1**	**+4.8**
JKK2	**Kamakawa 2**	**7.84**	**254**	P	**Pn**	**05 38 52.4**	**+2.6**
ASAJ	**Asahikawa**	**7.84**	**256**	Pn	**Pn**	**05 38 53.3**	**+3.4**
	comp=Z,8.7nm,0.3s,baz=92,slow=15,SNR=36						
ASAJ				LR	LR	05 41 44.4	
	comp=Z,336nm,18.3s,baz=352,slow=37						
ASAJ	**Asahikawa**	**7.84**	**256**	P	**Pn**	**05 38 53.2**	**+3.3**
UGL	**Uglegorsk**	**7.91**	**293**	*e*P	**Pn**	**05 38 56.5**	**+5.7**
UGL				AMB	AMB	05 38 58.0	
	comp=Z,55nm,0.6s						
UGL				AMS	AMS	05 42 16.0	
	comp=Z,400nm,16.0s						
UGL				AMS	AMS	05 42 16.0	
	comp=Z,1μm,16.0s						
UGL				AMS	AMS	05 42 16.0	
	comp=Z,1μm,16.0s						
JWK2	**Keihoku**	**7.97**	**265**	P	**Pn**	**05 38 58.4**	**+6.8**
JCH	**Churui**	**8.03**	**244**	P	**Pn**	**05 38 52.2**	**-0.3**
JCH				*e*S	**Sn**	**05 40 17.5**	**-5.6**
TYV	**Tymovskoe**	**8.20**	**306**	*e*P	**Pn**	**05 38 58.5**	**+3.7**
TYV				AMB	AMB	05 39 13.0	
	comp=Z,55nm,0.8s						
TYV				AMB	AMB	05 39 13.0	
	comp=Z,84nm,0.8s						
TYV				*e*S	**Sn**	**05 40 35.8**	**+8.5**
TYV				A		05 40 37.0	
	comp=Z,13nm,0.8s						
TYV				AMS	AMS	05 42 34.0	
	comp=Z,1μm,10.0s						
TYV				AMS	AMS	05 42 34.0	
	comp=Z,1μm,14.0s						
TYV				AMS	AMS	05 42 34.0	
	comp=Z,2μm,14.0s						
JFR	**Furan**	**8.24**	**250**	*e*S	**Sn**	**05 40 29.6**	**+1.3**
JAB	**Ashibetsu**	**8.34**	**253**	P	**Pn**	**05 38 59.5**	**+2.9**
JEM	**Erimo**	**8.49**	**242**	P	**Pn**	**05 38 59.7**	**+0.9**
JEM				*e*S	**Sn**	**05 40 30.2**	**-4.2**
ERM	**Erimo**	**8.49**	**241**	*e*PN	**Pn**	**05 38 58.1**	**-0.7**
ERM				pmax	pmax		
	comp=Z,84nm,0.6s						
ERM	**Erimo**	**8.49**	**241**	*e*Pn	**Pn**	**05 38 58.1**	**-0.7**
	comp=Z,84nm,0.6s						
ERM				*e*Sn	**Sn**	**05 40 29.5**	**-4.9**
JHR	**Hokuryu**	**8.57**	**255**	P	**Pn**	**05 39 03.5**	**+3.7**
JBT2	**Biratori 2**	**8.58**	**248**	P	**Pn**	**05 39 00.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**8.59**	**244**	P	**Pn**	**05 38 59.0**	**-1.1**
JNBK				*e*S	**Sn**	**05 40 31.2**	**-5.7**
JNB	**Noboribetsu**	**9.58**	**249**	P	**Pn**	**05 39 14.6**	**+0.9**
JNB				*e*S	**Sn**	**05 40 58.1**	**-3.1**
JKB	**Kayabe**	**9.88**	**246**	P	**Pn**	**05 39 16.9**	**-0.9**
JKB				*e*S	**Sn**	**05 41 01.2**	**-7.4**
JSH	**Shimam**	**10.15**	**252**	P	**Pn**	**05 39 23.2**	**+1.7**
JYM2	**Yakumo 2**	**10.19**	**249**	P	**Pn**	**05 39 22.1**	**

YAK Yakutsk 20.53 328 *e*P **P** 05 41 35.3 +1.1
YAK pmax pmax
comp=Z,23nm,1.1s
KSRS Korea Array 20.78 253 P **P** 05 41 36.6 -0.2
comp=Z,14nm,0.8s,baz=58,slow=10,SNR=35
KSRS LR LR 05 48 13.9
comp=Z,99nm,21.2s,MS3.2,baz=2.0,slow=33
KS15 Wonju Array Si 20.81 253 *e*P **P** 05 41 38.3 +1.1
INCN Inchon 21.62 255 *e*P **P** 05 41 47.0 +1.1
JNU Nakatsue 21.65 240 LR LR 05 50 19.4
comp=Z,270nm,19.3s,MS3.7,baz=74,slow=37
SNY Shenyang 21.68 268 ⇑P **P** 05 41 47.3 +0.8
SNY AP 05 41 50.6
SNY XP sP 05 41 53.9 +1.7
SNY AMB AMB
comp=Z,25nm,0.9s,mb4.6
SNY AMB AMB
comp=Z,90nm,6.1s
SNY LR LR
comp=E,323nm,13.2s
SNY LR LR
comp=Z,228nm,19.3s
BILL Bilibino 22.59 13 *e*P **P** 05 41 55.5 -0.8
BILL *e* 05 42 23.0
BILL pmax pmax
comp=Z,30nm,0.5s,mb5.0
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.4
BILL Bilibino 22.59 13 *e*P **P** 05 41 54.2 -2.1
comp=Z,11nm,0.6s,mb4.5
DL2 Dalian 24.29 263 P **P** 05 42 15.1 +2.0
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.6
BOD Bodaibo 26.17 310 *e*P **P** 05 42 28.6 -1.6
BOD pmax pmax
comp=Z,50nm,1.5s,mb4.8
BJI Beijing 27.53 270 *e*P **P** 05 42 46.3 +3.9
BJI AMB AMB
comp=Z,24nm,0.8s,mb4.9
BJI LR LR
comp=N,121nm,16.7s,MS3.9
BJI LR LR
comp=E,238nm,15.8s,MS3.9
BJI LR LR
comp=Z,183nm,17.4s,MS3.7
BJI Beijing 27.53 270 *e*P **P** 05 42 46.2 +3.8
BJI pmax pmax
comp=Z,24nm,0.8s,mb4.9
BJI MLR MLR
comp=Z,180nm,17.4s,MS3.7
BJI Beijing 27.53 270 *e*P **P** 05 42 46.2 +3.8
comp=Z,24nm,0.8s,mb4.9
BJI S **S** 05 47 40.8 +18
BJI LR LR
comp=Z,180nm,17.4s,MS3.7
BJT Baijiatuan 27.54 270 *e*P **P** 05 42 45.5 +3.0
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuan 27.54 270 *e*P **P** 05 42 45.5 +2.9
comp=Z,23nm,0.8s,mb4.9
TIXI Tiksi 27.69 344 *e*P **P** 05 42 42.4 -1.5
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
TIXI Tiksi 27.69 344 *e*P **P** 05 42 42.4 -1.5
comp=Z,4.2nm,0.8s,mb4.1
NJ2 Nanjing 29.98 253 *e*P **P** 05 43 05.4 +1.2
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
HHC Hu-ho-hao-te 30.36 274 ⇓P **P** 05 43 09.1 +1.5
HHC AP pP 05 43 13.6 +1.9
HHC XP sP 05 43 16.3 +2.9
HHC PP PP 05 44 07.8 -8.3
HHC PCP PcP 05 46 09.8 +2.4
HHC S **S** 05 48 06.9 -0.7
HHC SS SS 05 49 44.3 -33
HHC SCP ScP 05 49 50.3 +0.9
HHC SCS ScS 05 53 45.8 +0.5
HHC AMB AMB
comp=Z,34nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,101nm,4.3s
HHC LR LR
comp=N,226nm,14.2s,MS4.1
HHC LR LR
comp=E,246nm,14.6s,MS4.1
HHC LR LR
comp=Z,186nm,14.5s,MS3.9
ULN Ulaanbaatar 31.02 290 *e*P **P** 05 43 16.7 +3.3
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
ULN Ulaanbaatar 31.02 290 *e*P **P** 05 43 16.7 +3.3
comp=Z,8.9nm,0.9s,mb4.6
SONM Songino Array 31.45 290 P **P** 05 43 17.2 0.0
comp=Z,1.5nm,0.6s,mb4.0,baz=67,slow=8.6,SNR=15
SONM PcP PcP 05 46 09.7 -0.6
comp=Z,1.4nm,0.8s,baz=142,slow=1.5,SNR=6.0
SONM LR LR 05 57 10.5
comp=Z,220nm,18.4s,MS3.9,baz=217,slow=39
SONM Songino Array 31.45 290 P **P** 05 43 17.2 0.0
SONM 05 46 09.7
TLY Talaya 32.33 298 *e*P **P** 05 43 24.4 -0.5
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,316nm,16.0s,MS4.1
TLY Talaya 32.33 298 *e*P **P** 05 43 22.8 -2.1
comp=Z,7.0nm,0.8s,mb4.5
ZAK Zakamensk 32.82 295 *e*P **P** 05 43 28.8 -0.4
ZAK *e* 05 46 13.7
XAN Xi'an 35.55 266 P **P** 05 43 53.5 +0.6
XAN AP pP 05 44 03.4 +6.4
XAN AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
MCK McKinley 35.79 40 *e*P **P** 05 43 54.3 -0.6
comp=Z,3.9nm,1.1s,mb4.2
SML Sawmill 36.09 43 *e*P **P** 05 43 57.5 -0.1
COLA College 36.28 38 *e*P **P** 05 43 58.8 -0.3
COLA pmax pmax
comp=Z,20nm,1.3s,mb4.9
COLA College 36.28 38 *e*P **P** 05 43 58.8 -0.3
comp=Z,20nm,1.3s,mb4.9
LZH Lanzhou 37.95 272 *e*P **P** 05 44 15.0 +1.7
LZH AP pP 05 44 20.0 +2.5
LZH XP sP 05 44 24.0 +4.8
LZH AMB AMB
comp=Z,50nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,218nm,4.2s
LZH Lanzhou 37.95 272 *e*P **P** 05 44 15.0 +1.7
comp=Z,50nm,1.0s,mb5.2
LZH pP pP 05 44 20.0 +2.5
LZH sP sP 05 44 24.0 +4.8
GTA Gaotai 39.05 279 *e*P **P** 05 44 24.5 +1.9
GTA AP pP 05 44 30.8 +4.0
GTA XP sP 05 44 34.3 +5.8
GTA PP PP 05 45 59.4 +7.2
GTA PPP 05 46 21.9
GTA PCP PcP 05 46 33.1 +0.6
GTA S **S** 05 50 23.8 +2.3
GTA XS sS 05 50 35.1 +6.7
GTA AMB AMB
comp=Z,16nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,82nm,4.9s
GTA LR LR
comp=N,128nm,14.4s,MS4.1
GTA LR LR
comp=E,184nm,15.2s,MS4.1
GTA LR LR
comp=Z,158nm,15.2s,MS4.0
EGAK Eagle 39.14 38 *e*P **P** 05 44 22.7 -0.7
comp=Z,7.0nm,0.9s,mb4.4
DAWY Dawson 39.98 39 *e*P **P** 05 44 29.7 -0.7
CD2 Chengdu 40.91 265 P **P** 05 44 37.1 -0.9
CD2 XP sP 05 44 44.1 +0.2
CD2 PP PP 05 46 14.8 +2.4
CD2 S **S** 05 50 47.4 -1.9
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 LR LR
comp=E,170nm,15.6s
CD2 LR LR
comp=Z,100nm,15.6s,MS3.8
GYA Guiyang 41.72 258 ⇑*i*P **P** 05 44 45.4 +0.7
GYA AP pP 05 44 49.3 +0.4
GYA XP sP 05 44 52.6 +2.0
GYA PP PP 05 46 24.9 +3.8
GYA PCP PcP 05 46 43.3 +2.2
GYA SCP ScP 05 50 32.6 +1.7
GYA S **S** **05 51 02.1 +0.9**
GYA SCS ScS 05 54 47.6 0.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,70nm,4.8s
GYA LR LR
comp=N,420nm,15.4s,MS4.5
GYA LR LR
comp=E,390nm,16.0s,MS4.5
GYA LR LR
comp=Z,430nm,16.8s,MS4.4
INK Inuvik 41.81 32 P **P** 05 44 45.5 +0.1
comp=Z,4.9nm,0.9s,mb4.2,baz=283,slow=6.6,SNR=19
INK Inuvik 41.81 32 *e*P **P** 05 44 45.8 +0.4
ZAL Zalesovo 42.80 306 P **P** 05 44 51.9 -1.6
comp=Z,1.8nm,0.6s,mb4.0,baz=48,slow=6.7,SNR=6.8
ZAL PcP PcP 05 46 44.2 -0.5
comp=Z,2.1nm,0.5s,baz=31,slow=5.4,SNR=7.6
ZAL Zalesovo 42.80 306 P **P** 05 44 51.9 -1.6
ZAL PcP PcP 05 46 44.2 -0.5
KMI Kunming 45.25 260 P **P** 05 45 14.1 +0.9
KMI AMB AMB
comp=Z,19nm,0.7s,mb5.0
KMI Kunming 45.25 260 P **P** 05 45 14.1 +0.9
comp=Z,19nm,0.7s,mb5.0
MK31 Makanchi Array 47.09 298 P **P** 05 45 26.8 -0.8
MK31 pmax pmax
comp=Z,27nm,1.1s,mb5.1
MKAR Makanchi Array 47.09 298 P **P** 05 45 27.1 -0.5
comp=Z,13nm,0.8s,mb4.9,baz=64,slow=8.2,SNR=53
MKAR PcP PcP 05 46 59.1 -0.4
comp=Z,2.2nm,0.7s,baz=74,slow=5.2,SNR=3.6
KURK Kurchatov 47.53 304 P **P** 05 45 29.4 -1.7
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSA Lhasa 50.34 273 P **P** 05 45 55.0 +2.4
LSA Lhasa 50.34 273 *e*P **P** 05 45 55.0 +2.4
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 50.34 273 *e*P **P** 05 45 55.0 +2.4
comp=Z,11nm,0.6s,mb5.1
CHKZ Chkalovo 50.61 310 *e*P **P** 05 45 53.4 -1.3
CHKZ pmax pmax
comp=Z,19nm,0.7s,mb5.1
CHKZ Chkalovo 50.61 310 *e*P **P** 05 45 53.4 -1.3
comp=Z,19nm,0.7s,mb5.1
NANT Nan 50.95 255 ⇓P **P** 05 45 56.0 -1.2
comp=Z,112nm,1.0s,mb5.8
RES Resolute Bay 51.03 18 *e*P **P** 05 45 55.9 -2.0
comp=Z,176nm,0.8s
BVA0 Borovoye Array 51.04 310 *i*P **P** 05 45 56.9 -1.0
BVAR Borovoye Array 51.04 310 LR LR 06 09 19.6
comp=Z,122nm,18.4s,MS4.0,baz=139,slow=38
YKA Yellowknife Ar 51.07 37 P **P** 05 45 57.7 -0.4
comp=Z,3.1nm,0.6s,mb4.4,baz=297,slow=7.1,SNR=19
YKA Yellowknife Ar 51.07 37 P **P** 05 45 57.7 -0.4
BRVK Borovoye 51.08 310 *e*P **P** 05 45 57.6 -0.6
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BRVK Borovoye 51.08 310 *e*P **P** 05 45 57.6 -0.6
comp=Z,9.2nm,0.6s,mb4.9
ZRNK Zerenda 51.81 310 *e*P **P** 05 46 02.6 -1.1
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZRNK Zerenda 51.81 310 *e*P **P** 05 46 02.5 -1.1
comp=Z,7.6nm,0.6s,mb4.8
CHG Chiang Mai 52.12 257 ⇓P **P** 05 46 06.4 +0.4
comp=Z,24nm,0.9s,mb5.1
CHTO Chiang Mai 52.12 257 *e*P **P** 05 46 07.0 +1.0
CHTO pmax pmax
comp=Z,21nm,0.9s,mb5.1
CHTO Chiang Mai 52.12 257 *e*P **P** 05 46 07.0 +1.1
comp=Z,21nm,0.9s,mb5.1
ULHL Ulahol 53.10 295 P **P** 05 46 13.9 +0.6
SNR=9.8
TKM2 Tokmak 2 53.14 296 P **P** 05 46 13.7 +0.2
SNR=7.2
TKM2 Tokmak 2 53.14 296 P **P** 05 46 13.8 +0.3
TKM2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
USP Ospenovka 53.63 297 P **P** 05 46 17.3 +0.1
SNR=21
KZA Kyzart 53.81 296 P **P** 05 46 20.2 +1.8
SNR=7.2
AAK Ala-Archa 53.98 297 P **P** 05 46 20.3 +0.6
SNR=9.5
AAK Ala-Archa 53.98 297 ⇓*e*P **P** 05 46 19.2 -0.5
AAK Ala-Archa 53.98 297 *e*P **P** 05 46 18.6 -1.1
comp=Z,15nm,0.9s,mb4.9
EKS2 Erkin-Say 54.41 297 P **P** 05 46 23.5 +0.7
SNR=7.4
AML Almayashu 54.75 296 P **P** 05 46 26.3 +1.0
SNR=8.8
JIRN Jiri 55.02 275 *e*P **P** 05 46 29.1 +1.9
comp=Z,50nm,0.6s,mb5.7
GUN Gumba 55.07 275 *e*P **P** 05 46 29.1 +1.5
comp=Z,19nm,0.3s,mb5.6
ARU Arti 55.21 318 ⇑*i*P **P** 05 46 27.3 -1.3
ARU *e* 05 48 29.6
ARU *e*S **S** **05 54 12.4 +0.8**
ARU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU Arti 55.21 318 *e*P **P** 05 46 26.7 -1.9
comp=Z,11nm,0.6s,mb5.1
KKN Kakani 55.56 276 *e*P **P** 05 46 32.9 +1.8
comp=Z,49nm,0.6s,mb5.7
PKI Pulkovo 55.61 275 *e*P **P** 05 46 33.0 +1.5
comp=Z,28nm,0.7s,mb5.4
DMN Daman 55.79 275 *e*P **P** 05 46 34.4 +1.6
comp=Z,40nm,0.6s,mb5.7
GKN Gorkha 55.87 276 *e*P **P** 05 46 34.8 +1.5
comp=Z,57nm,0.5s,mb5.8
KKAR Karatay Array 56.15 299 *i*P **P** 05 46 34.8 -0.6
EDM Edmonton 56.43 46 *e*P **P** 05 46 37.0 -0.4
KOLN Koldanda 56.73 277 *e*P **P** 05 46 41.2 +1.7
KEV Kevo 57.57 341 *e*p **P** 05 46 43.8 -1.6
ARCES ARCESS Array B 58.08 341 P **P** 05 46 48.1 -0.9
comp=Z,4.0nm,0.8s,mb4.5,baz=17,slow=6.7,SNR=29
AB31 Akbulak array 58.61 310 P **P** 05 46 51.2 -1.5
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTK Aktyubinsk 58.91 312 P **P** 05 46 53.9 -0.9
AKTO Aktyubinsk 58.91 312 P **P** 05 46 53.9 -0.9
comp=Z,2.1nm,0.4s,mb4.5,baz=61,slow=8.0,SNR=12
KTK1 Kautokeino 58.99 341 *e*P **P** 05 46 55.9 +0.5
BMO Blue Mountains 59.16 56 *e*P **P** 05 46 57.6 +1.1
comp=Z,4.9nm,1.1s,mb4.5
TRO Tromso 59.41 343 *e*P **P** 05 46 56.4 -1.8
WVOR Wild Horse Val 59.83 59 *e*P **P** 05 47 01.4 +0.2
WVOR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
WVOR Wild Horse Val 59.83 59 *e*P **P** 05 47 01.4 +0.2
comp=Z,2.4nm,0.9s,mb4.2
CHMT Chamberlain Mo 60.18 52 *e*P **P** 05 47 03.8 +0.2
LRM Limekiln Ridge 61.29 53 *e*P **P** 05 47 11.4 +0.2
CMB Columbia Colle 61.46 64 *e*P **P** 05 47 11.8 -0.5
CMB pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
CMB Columbia Colle 61.46 64 *e*P **P** 05 47 11.8 -0.5
comp=Z,2.7nm,1.0s,mb4.3
HLID Hailey 61.59 56 *e*P **P** 05 47 13.6 +0.5
comp=Z,1.9nm,0.8s,mb4.3
QLMT Earthquake Lak 62.47 53 *e*P **P** 05 47 19.2 +0.1
NVAR Mina Array Bea 62.49 62 P **P** 05 47 19.9 +0.7
comp=Z,1.0nm,0.7s,mb4.1,baz=283,slow=9.6,SNR=6.5
GCMT Greycliff 62.82 51 *e*P **P** 05 47 22.0 +0.6
MOR8 Moi Rana 63.25 343 *e*P **P** 05 47 22.3 -2.0
IMW Indian Meadow 63.34 54 *e*P **P** 05 47 26.4 +1.6
MOOW Moose Ponds 63.54 54 *e*P **P** 05 47 27.2 +1.0
comp=Z,4.5nm,1.2s,mb4.4
SNOW Snow King Moun 63.72 54 *e*P **P** 05 47 28.0 +0.7
comp=Z,4.4nm,0.8s,mb4.5
REDW Red Top Meadow 63.73 54 *e*P **P** 05 47 28.2 +0.8
comp=Z,14nm,1.3s,mb4.8
LAO LASA Array 64.06 49 *e*P **P** 05 47 30.6 +0.9
comp=Z,11nm,1.1s,mb4.8
FIA1 FINESS Array S 64.26 335 *e*P **P** 05 47 29.8 -1.2
FINES FINESS Array B 64.26 335 P **P** 05 47 30.1 -0.8
comp=Z,6.6nm,0.4s,mb5.0,baz=38,slow=6.3,SNR=96
DUG Dugway 64.65 58 *e*P **P** 05 47 34.3 +0.8
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
DUG Dugway 64.65 58 *e*P **P** 05 47 34.2 +0.8
comp=Z,6.6nm,1.1s,mb4.6
BW06 Boulder Array 64.84 54 *e*P **P** 05 47 35.1 +0.4
comp=Z,4.7nm,1.0s,mb4.5
PDAR Pinedale Array 64.84 54 P **P** 05 47 35.0 +0.3
comp=Z,2.1nm,0.9s,mb4.2,baz=299,slow=2.5,SNR=18
NSS Namsos 65.19 343 *e*P **P** 05 47 35.5 -1.5
NSS AMb AMB 05 47 40.8
comp=Z,78nm,1.7s,mb5.5
DAU Daniels Canyon 65.41 57 *e*P **P** 05 47 40.5 +2.1
MPU Maple Canyon 65.45 57 *e*P **P** 05 47 39.4 +0.7
comp=Z,4.4nm,0.8s,mb4.5
CTA Charters Tower 66.60 187 LR LR 06 11 57.6
comp=Z,50nm,19.6s,MS3.7,baz=229,slow=32
ULM Lac du Bonnet 66.66 41 P **P** 05 47 45.3 -1.1
comp=Z,2.4nm,0.8s,mb4.3,baz=308,slow=5.4,SNR=4.3
SRU San Rafael 66.69 57 *e*P **P** 05 47 47.1 +0.4
RSSD Black Hills 66.93 50 *e*P **P** 05 47 47.5 -0.7
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RSSD Black Hills 66.93 50 *e*P **P** 05 47 47.5 -0.7
comp=Z,2.6nm,0.7s,mb4.4
WB2 Warramunga Arr 68.32 199 *e*P **P** 05 47 56.4 -0.5
WRA Warramunga Arr 68.32 199 P **P** 05 47 55.3 -1.7
comp=Z,0.4nm,0.6s,baz=283,slow=30,SNR=15
NB2 NORSAR Subarra 68.45 341 P **P** 05 47 57.1 -0.7
comp=Z,11nm,0.6s,mb5.1,baz=28,slow=6.2
NOA NORSAR Array B 68.45 341 P **P** 05 47 57.3 -0.5
comp=Z,8.5nm,0.5s,mb5.0,baz=28,slow=6.4,SNR=40
HFS Hagfors 68.68 340 P **P** 05 47 58.4 -0.8
comp=Z,20nm,0.4s,mb5.4,baz=57,slow=5.7,SNR=155
NAO01 NORSAR Array S 68.70 341 *e*P **P** 05 47 59.0 -0.4
comp=Z,9.1nm,0.7s,mb4.8
ISCO Idaho Springs 69.03 54 *e*P **P** 05 48 01.6 +0.2
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ISCO Idaho Springs 69.03 54 *e*P **P** 05 48 01.6 +0.2
comp=Z,1.9nm,0.8s,mb4.1
MVCO Mesa Verde 69.15 58 *e*P **P** 05 48 02.7 +0.5
POO Poona 69.53 276 *e*P **P** 05 48 02.0 -2.5
ODD1 Odda 70.45 343 *e*P **P** 05 48 10.1 -0.1
SUW Suwalki 71.22 331 *e*P **P** 05 48 13.9 -0.9
AKASG Malin Array Be 71.76 326 P **P** 05 48 17.3 -0.8
comp=Z,13nm,0.4s,mb5.2,baz=34,slow=6.2,SNR=87
AKASG Malin Array Be 71.76 326 P **P** 05 48 17.3 -0.8
AKBB Malin Array Si 71.76 326 *e*P **P** 05 48 16.9 -1.2
KIEV Kiev 71.77 326 *e*P **P** 05 48 16.9 -1.2
KIEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIEV Kiev 71.77 326 *e*P **P** 05 48 16.9 -1.3
comp=Z,7.3nm,0.6s,mb4.8
ANMO Albuquerque 71.90 58 *e*P **P** 05 48 20.2 +1.3
AS31 Alice Springs 72.01 199 *e*P **P** 05 48 18.8 -0.8
ASAR Alice Springs 72.02 199 P **P** 05 48 19.0 -0.6
comp=Z,2.9nm,0.8s,mb4.2,baz=12,slow=5.3,SNR=30
SCIA State Center 74.03 45 *e*P **P** 05 48 30.7 -0.9
LVV L'vov 74.41 329 *e*P **P** 05 48 33.2 -0.6
MNTX Cornudas Mount 74.83 60 *e*P **P** 05 48 36.4 +0.2
KWP Kalwaria 75.04 329 *e*P **P** 05 48 38.1 +0.7
OJC Ojcow 75.54 331 *e*P **P** 05 48 40.1 -0.2
STHS Stebnicka Huta 75.73 330 *e*P **P** 05 48 41.9 +0.5
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
STHS Stebnicka Huta 75.73 330 *e*P **P** 05 48 41.9 +0.5
comp=Z,5.5nm,0.7s,mb4.6
KOLS Kolonicke sedl 75.78 329 *e*P **P** 05 48 41.0 -0.7
BURAR Bucovina Array 75.80 327 ⇑*i*P **P** 05 48 42.0 +0.2
NIE Niedzica 76.05 330 *e*P **P** 05 48 43.9 +0.7
OKC Ostrava-Krasne 76.41 332 *e*P **P** 05 48 45.3 +0.1
UPC Upice 76.50 333 *e*P **P** 05 48 45.8 0.0
UPC *e*PCP PcP 05 48 58.7 +1.3
DPC Dobruska-Polom 76.54 333 *e*P **P** 05 48 46.2 +0.2
DPC *e*PCP PcP 05 48 57.4 -0.2
EKA Eskdalemuir Ar 76.57 346 P **P** 05 48 45.5 -0.6
comp=Z,1.5nm,0.5s,mb4.2,baz=27,slow=5.0,SNR=12
MORC Moravsky Berou 76.66 332 ⇑*i*P **P** 05 48 46.9 +0.2
MORC Moravsky Berou 76.66 332 *e*P **P** 05 48 46.5 -0.2
comp=Z,10nm,0.8s,mb4.8
CLL Collm 76.69 336 *e*P **P** 05 48 46.0 -0.8
CLL pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLL Collm 76.69 336 *e*P **P** 05 48 46.0 -0.8
comp=Z,22nm,0.9s,mb5.1
CLL Collm 76.69 336 *i*P **P** 05 48 46.3 -0.5
comp=Z,22nm,0.9s,mb5.1
KECS Kecovo 76.79 330 *e*P **P** 05 48 46.8 -0.6
KECS *e* 05 48 56.6
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.79 330 *e*P **P** 05 48 46.8 -0.6
comp=Z,3.2nm,0.9s,mb4.2
KECS *e* 05 48 56.6
BRG Berggiesshubel 76.80 335 *e*P **P** 05 48 46.9 -0.6
comp=Z,2.4nm,0.8s,mb4.2
BRG Berggiesshubel 76.80 335 *e*P **P** 05 48 46.9 -0.6
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PVCC Panska Ves 76.92 334 *e*P **P** 05 48 49.0 +0.9
MLR Muntele Rosu 77.28 325 P **P** 05 48 50.7 +0.5
comp=Z,13nm,0.5s,mb5.1,baz=190,slow=2.0,SNR=47
MLR Muntele Rosu 77.28 325 ⇑*i*P **P** 05 48 50.9 +0.8
MLR Muntele Rosu 77.28 325 P **P** 05 48 51.3 +1.2
MALT Malatya 77.34 313 ⇑*i*P **P** 05 48 50.0 -0.5
MALT Malatya 77.34 313 *e*P **P** 05 48 51.8 +1.3
MALT pmax pmax
comp=Z,13nm,0.9s,mb4.9
MALT Malatya 77.34 313 *e*P **P** 05 48 51.8 +1.3
comp=Z,14nm,0.9s,mb4.9
VYHS Vyhne 77.34 331 *e*P **P** 05 48 50.4 -0.1
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 77.34 331 *e*P **P** 05 48 50.4 -0.1
comp=Z,3.8nm,0.9s,mb4.3
VRAC Vranov 77.37 333 P **P** 05 48 51.3 +0.7
comp=Z,6.7nm,0.5s,mb4.9,baz=42,slow=4.0,SNR=13
DRGR 77.43 328 ⇑*i*P **P** 05 48 51.0 0.0
DRGR 77.43 328 P **P** 05 48 51.0 0.0
PSZ Piszkesteto 77.48 330 *e*P **P** 05 48 51.6 +0.3
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PSZ Piszkesteto 77.48 330 *e*P **P** 05 48 51.6 +0.3
comp=Z,7.4nm,0.9s,mb4.6
LTX Lajitas 77.56 61 *e*P **P** 05 48 51.5 -0.2
LTX pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LTX Lajitas 77.56 61 *e*P **P** 05 48 51.5 -0.2
comp=Z,4.8nm,0.7s,mb4.5
SNX Sinaia 77.56 325 ⇑*i*P **P** 05 48 51.2 -0.5
SNX Sinaia 77.56 325 ⇑P **P** 05 48 51.2 -0.5
TXAR Lajitas Array 77.56 61 P **P** 05 48 51.4 -0.3
comp=Z,4.0nm,0.6s,mb4.5,baz=301,slow=4.0,SNR=39
VOIR 77.67 325 ⇑*i*P **P** 05 48 52.8 +0.5
VOIR 77.67 325 ⇑P **P** 05 48 52.8 +0.5
MOX Moxa 77.67 336 *e*P **P** 05 48 52.0 -0.3
comp=Z,8.0nm,0.9s,mb4.7
MOX Moxa 77.67 336 *e*P **P** 05 48 52.0 -0.3
MOX pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SMOL Smolenice 77.79 332 *e*P **P** 05 48 53.7 +0.7
NKC Novy Kostel 77.81 335 *e*P **P** 05 48 52.5 -0.6
ZST Bratislava 78.18 332 *e*P **P** 05 48 54.7 -0.5
ZST pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZST Bratislava 78.18 332 *e*P **P** 05 48 54.7 -0.5
comp=Z,7.5nm,0.7s,mb4.7
KHC Kasperske Hory 78.46 334 *e*P **P** 05 48 56.9 +0.2
GZR Gura Zlata 78.58 327 ⇑*i*P **P** 05 48 57.4 0.0
GZR Gura Zlata 78.58 327 P **P** 05 48 57.6 +0.2
BR131 Keskin Array S 78.58 317 *e*P **P** 05 48 58.0 +0.6
comp=Z,3.1nm,0.8s,mb4.3
BRTR Keskin Array B 78.58 317 P **P** 05 48 58.4 +0.9
comp=Z,3.9nm,0.9s,mb4.3,baz=68,slow=3.3,SNR=12
GRA1 Grafenberg Arr 78.64 336 *e*P **P** 05 48 58.1 +0.4
comp=Z,18nm,0.7s,mb5.1
GRF Grafenberg Arr 78.64 336 *e*P **P** 05 48 58.1 +0.4
comp=Z,18nm,0.7s,mb5.1
GRF Grafenberg Arr 78.64 336 *e*P **P** 05 48 58.1 +0.4
GRF pmax pmax
comp=Z,18nm,0.7s,mb5.1
GERES GERESS Array B 78.68 334 P **P** 05 48 57.7 -0.2
comp=Z,5.0nm,0.8s,mb4.5,baz=34,slow=5.5,SNR=36
STKA Stephens Creek 78.74 190 P **P** 05 48 56.8 -1.5
comp=Z,1.3nm,0.9s,mb3.8,baz=299,slow=18,SNR=3.3
STKA LR LR 06 20 13.1

comp=Z,37nm,19.0s,MS3.7,baz=25,slow=33
UMR Umm Al-Rimmam 78.78 301 *e*P **P** **05 48 59.7 +1.2**
UMR AMb AMB 05 49 00.8
comp=E,54nm,0.7s,mb5.6
CONA Conrad Observa 78.81 332⇑ *i*P **P** **05 48 59.3 +0.6**
comp=E,4.5nm,0.6s,mb4.6
CONA Conrad Observa 78.81 332⇑ *i*P **P** **05 48 59.3 +0.6**
comp=Z,4.5nm,0.6s,mb4.6
MIB Mutribah 78.82 302 *e*P **P** **05 48 59.8 +1.1**
MIB AMb AMB 05 49 01.0
comp=E,68nm,0.7s,mb5.7
BZS Buzias 78.83 328⇑ *i*P **P** **05 48 59.1 +0.4**
BZS Buzias 78.83 328 P **P** **05 48 58.6 -0.1**
ANTO Ankara 78.87 317 *e*P **P** **05 48 59.5 +0.5**
ANTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ANTO Ankara 78.87 317 *e*P **P** **05 48 59.5 +0.5**
comp=Z,6.9nm,0.6s,mb4.8
JCT Junction City 79.00 57 *e*P **P** **05 48 57.9 -1.8**
JCT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
JCT Junction City 79.00 57 *e*P **P** **05 48 57.9 -1.8**
comp=Z,7.9nm,1.1s,mb4.6
MEM Membach 79.17 339 P **P** **05 49 00.5 -0.1**
MEM AP pP 05 49 02.1 -3.0
NAY Al-Naaiem 79.29 301 *e*P **P** **05 49 02.3 +1.0**
NAY AMb AMB 05 49 03.6
comp=Z,22nm,0.7s,mb5.2
RDF Al-Radifah 79.34 301 *e*P **P** **05 49 02.9 +1.4**
RDF AMb AMB 05 49 05.0
comp=Z,55nm,0.6s,mb5.7
PKSM Moragy 79.38 330⇑ *i*P **P** **05 49 01.0 -0.8**
PKSM Moragy 79.38 330 P **P** **05 49 01.0 -0.8**
MOA Molln 79.39 333⇑ *i*P **P** **05 49 02.0 +0.1**
comp=Z,5.8nm,0.7s,mb4.6,SNR=9.4
BCLA Clavier 79.52 340 P **P** **05 49 01.5 -1.0**
BCLA AP pP 05 49 02.9 -4.1
BCLA XP sP 05 49 04.5 -4.0
ARSA Arzberg 79.52 332⇑ *i*P **P** **05 49 02.7 +0.1**
comp=Z,3.7nm,0.6s,mb4.5
SNF Seneffe 79.67 340 AP pP 05 49 05.0 -2.9
STU Stuttgart 80.04 337 *e*P **P** **05 49 05.5 +0.2**
STU pmax pmax
comp=Z,14nm,1.0s,mb4.8
STU Stuttgart 80.04 337 *e*P **P** **05 49 05.5 +0.2**
comp=Z,14nm,1.0s,mb4.8
KBA Koelnbreinsper 80.36 333⇑ *i*P **P** **05 49 07.9 +0.8**
comp=Z,24nm,0.9s,mb5.1,SNR=23
GRUS Gruza 80.64 327 *i* P **P** **05 49 07.9 -0.7**
WATA Walderalm 80.66 335 *i* P **P** **05 49 09.4 +0.7**
comp=Z,8.7nm,0.6s,mb4.9,SNR=10
BFO Black Forest 80.68 337 *e*P **P** **05 49 08.2 -0.6**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 80.68 337 *e*P **P** **05 49 08.2 -0.5**
comp=Z,12nm,1.1s,mb4.8
WTTA Wattenberg 80.71 335⇑ *i*P **P** **05 49 09.6 +0.7**
comp=Z,24nm,0.9s,mb5.1,SNR=16
DIVS Divcibare 80.72 328 *i* P **P** **05 49 08.7 -0.3**
VTS Vitosha 80.78 325⇓ *i*P **P** **05 49 09.8 +0.5**
MOTA Moosalm 80.79 335 *i* P **P** **05 49 09.9 +0.5**
comp=Z,26nm,1.1s,mb5.1,SNR=12
SQTA Sankt Quirin 80.88 335⇑ *i*P **P** **05 49 10.9 +1.0**
comp=Z,11nm,0.9s,mb4.8,SNR=6.3
CDF Champ du Feu 80.88 338 *e*P **P** **05 49 09.8 -0.1**
comp=Z,32nm,1.2s,mb4.8
CDF Champ du Feu 80.88 338 *e*P **P** **05 49 09.8 -0.1**
CDF pmax pmax
comp=Z,16nm,1.2s,mb4.8
CDF Champ du Feu 80.88 338 *e*P **P** **05 49 09.8 -0.1**
comp=Z,16nm,1.2s,mb4.8
DAVA Damuels 81.20 336⇑ *i*P **P** **05 49 12.4 +0.9**
comp=Z,12nm,1.2s,mb4.7
DAVOX Davos 81.66 335 P **P** **05 49 13.9 -0.1**
comp=Z,4.7nm,0.8s,mb4.5,baz=331,slow=6.8,SNR=6.7
STIP Stip 81.94 325 *e*P **P** **05 49 06.3 -9.2**
VAY Valandovo 82.11 325 *e*P **P** **05 49 09.7 -6.7**
KRUS Krusevo 82.59 326 *e*P **P** **05 49 16.3 -2.6**
GRR Gorron 82.79 343 *e*P **P** **05 49 19.7 -0.2**
comp=Z,30nm,0.9s,mb5.0
GRR Gorron 82.79 343 *e*P **P** **05 49 19.7 -0.2**
GRR pmax pmax
comp=Z,15nm,0.9s,mb5.0
GRR Gorron 82.79 343 *e*P **P** **05 49 19.7 -0.2**
comp=Z,15nm,0.9s,mb5.0
ASF Jabal al Asfar 82.88 310 P **P** **05 49 22.1 +1.7**
comp=Z,4.4nm,0.8s,mb4.5,baz=17,slow=3.4,SNR=6.7
SMF Signal de Mont 83.39 339 *e*P **P** **05 49 23.0 0.0**
comp=Z,63nm,1.1s,mb5.2
SMF Signal de Mont 83.39 339 *e*P **P** **05 49 23.0 0.0**
SMF pmax pmax
comp=Z,31nm,1.1s,mb5.2
SMF Signal de Mont 83.39 339 *e*P **P** **05 49 23.0 0.0**
comp=Z,32nm,1.1s,mb5.3
TKL Tuckaleechee C 83.50 43 P **P** **05 49 22.6 -1.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=102,slow=1.8,SNR=4.3
LPG La Plagne 83.71 337 *e*P **P** **05 49 25.6 +0.9**
comp=Z,14nm,0.9s,mb4.8
LPG La Plagne 83.71 337 *e*P **P** **05 49 25.6 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LPG La Plagne 83.71 337 *e*P **P** **05 49 25.6 +0.9**
comp=Z,7.1nm,0.9s,mb4.8
CAF Calviac 85.43 340 *e*P **P** **05 49 33.2 -0.2**
comp=Z,7.9nm,0.8s,mb4.6
CAF Calviac 85.43 340 *e*P **P** **05 49 33.2 -0.2**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CAF Calviac 85.43 340 *e*P **P** **05 49 33.2 -0.2**
comp=Z,4.0nm,0.8s,mb4.6
ESDC Sonseca Array 91.78 343 P **P** **05 50 02.4 -1.1**
comp=Z,0.6nm,0.7s,mb4.1,baz=62,slow=3.5,SNR=4.9
TORD Torodi Ar. Bea 115.31 329 PKP PKPdf 05 55 36.4 -1.0
comp=Z,0.5nm,0.5s,baz=27,slow=1.7,SNR=14
MAW Mawson 132.04 211 PKP PKPdf 05 56 05.1 -4.3
comp=Z,0.7nm,0.8s,baz=315,slow=5.3,SNR=3.5
SNAA Sanae 152.36 196 PKPbc PKPbc 05 56 48.6 -3.1
comp=Z,0.6nm,0.6s,baz=262,slow=2.0,SNR=16
VNA2 Neumayer--Watz 153.80 194 *e*PKPdf PKPdf 05 56 47.2 +0.2
VNA2 *e* 05 57 07.0
VNA2 *e* 05 57 08.8
VNA2 *e* 05 57 12.1
VNA2 *e* 05 57 16.9
VNA3 Neumayer Olymp 153.89 193 *e*PKPdf PKPdf 05 56 47.7 +0.5
VNA3 *e* 05 56 52.1
VNA3 *e* 05 57 07.1
VNA3 *e* 05 57 08.8
VNA3 *e* 05 57 11.8
VNA3 *e* 05 57 16.2
VNA1 Neumayer--Stat 154.19 194 *e*PKPdf PKPdf 05 56 48.4 +0.8
VNA1 *e* 05 56 53.3
VNA1 *e* 05 57 07.5
VNA1 *e* 05 57 10.3
VNA1 *e* 05 57 13.4
VNA1 *e* 05 57 17.8

STR ***19*** *05:37:14.9±0.0, 4302N×003W, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***19*** *05:37:14.6±0.1, 4302N×002W, h6km, Md1.9/3, Ml1.4/4, Error ellipse: s-maj=2.1km s-min=1.3km az=162.0*
MDD ***19*** *05:37:15.1±0.5, 4302N×002W, h8km±5km, mbLg0.8/8, Error ellipse: s-maj=2.7km s-min=2.4km az=141.0, PRXIMO*

ISC 19 05:37:14.0±0.8, 4303N±004×001W±004, h13km±8km, n20, σ0§46/25, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**77**	Pg	**Pg**		**05 37 16.8**	**+0.2**
LABF				Sg	**Sg**		**05 37 18.1**	**-0.3**
LABF	**Labassere**	**0.07**	**77**	Pg	**Pg**		**05 37 16.8**	**+0.2**
LABF				Lg			05 37 18.1	
VIEF	**Viey**	**0.15**	**170**	Pg	**Pg**		**05 37 17.9**	**+0.2**
VIEF				Sg	**Sg**		**05 37 20.0**	**-0.3**
VIEF	**Viey**	**0.15**	**170**	Pg	**Pg**		**05 37 17.9**	**+0.3**
VIEF				Lg			05 37 20.0	
EPF	**Esparros**	**0.26**	**90**	*e*Pg	**Pg**		**05 37 19.6**	**+0.1**
EPF				*e*Sg	**Sg**		**05 37 23.5**	**+0.4**
	3.9nm,0.2s							
EPF	**Esparros**	**0.26**	**90**	Pg	**Pg**		**05 37 19.6**	**+0.1**
EPF				Lg			05 37 23.5	
	1.9nm,0.2s							
EBIE	**Bielsa**	**0.36**	**162**	Pg	**Pg**		**05 37 21.7**	**+0.3**
	0.8nm,0.1s,SNR=7.9							
EBIE				Lg			05 37 26.4	
	2.6nm,0.1s,SNR=11							
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg	**Pg**		**05 37 22.9**	**+0.5**
ETSF				*e*Sg	**Sg**		**05 37 28.4**	**+0.3**
	6.5nm,0.4s							
ETSF	**Etsaut**	**0.42**	**252**	Pg	**Pg**		**05 37 22.9**	**+0.5**
ETSF				Lg			05 37 28.4	
	3.2nm,0.4s							
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	**Pg**		**05 37 31.0**	**-0.3**
SJPF				*e*Sg	**Sg**		**05 37 42.2**	**-0.7**
	0.6nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**276**	Pg	**Pg**		**05 37 31.0**	**-0.3**
SJPF				Lg			05 37 42.2	
	0.3nm,0.2s							
ESAC	**San Caprasio**	**1.35**	**195**	Lg			05 37 59.8	
	2.6nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	**Pg**		**05 37 45.8**	**-0.1**
MTLF				*e*Sg	**Sg**		**05 38 06.9**	**-0.5**
	0.6nm,0.3s							
MTLF	**Montolieu**	**1.66**	**79**	Pg	**Pg**		**05 37 45.8**	**-0.1**
MTLF				Lg			05 38 06.9	
	0.3nm,0.3s							
EPOB	**Poblet**	**1.86**	**154**	Lg			05 38 13.2	
	0.9nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**1.98**	**16**	*e*Pg	**Pg**		**05 37 51.9**	**-0.2**
LFF				*e*Sg	**Sg**		**05 38 19.0**	**+1.2**
	0.9nm,0.3s							
LFF	**La Frestale**	**1.98**	**16**	Pg	**Pg**		**05 37 51.9**	**-0.2**
LFF				Lg			05 38 19.0	
	0.4nm,0.3s							
ERTA	**Horta de San J**	**2.09**	**173**	Lg			05 38 21.1	
	SNR=7.9							
CAF	**Calviac**	**2.41**	**38**	*e*Pg	**Pg**		**05 38 00.0**	**-0.3**
CAF				*e*Sg	**Sg**		**05 38 31.1**	**-0.5**
	0.5nm,0.3s							
CAF	**Calviac**	**2.41**	**38**	Pg	**Pg**		**05 38 00.0**	**-0.3**
CAF				Lg			05 38 31.1	
	0.2nm,0.3s							

ISCJB ***19*** *05:51:36.2±2.2, 70S×02×1212E±02, h334km±19km, mb4.4/2, Error ellipse: s-maj=33.4km s-min=22.1km az=123.8*
NEIC ***19*** *05:51:44.0±4.8, 763S×12138E, h344km±38km, mb4.3/4, Error ellipse: s-maj=47.0km s-min=34.3km az=124.0*
IDC ***19*** *05:51:46.1±2.9, 753S×12173E, h344km±26km, mb3.9/1, mb1 3.4/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=80.9km s-min=25.5km az=56.0*

ISC 19 05:51:41.5±2.1, 74S±02×1213E±02, h344km±17km, n11, σ0§85/14, mb4.4/2, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.48**	**159**	*e*P		**Pn**	**05 54 17.3**	**+0.2**
	8.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**11.48**	**159**	P		**Pn**	**05 54 16.7**	**-0.4**
	0.8nm,0.3s,baz=358,slow=9.2,SNR=23							
FITZ				S		**S**	**05 56 25.4**	**+0.2**
	0.3nm,0.3s,baz=153,slow=8.5,SNR=3.7							
KAKA	**Kakadu**	**12.17**	**117**	*e*P		**Pn**	**05 54 24.6**	**-0.7**
	4.4nm,0.5s							
WRA	**Warramunga Arr**	**17.77**	**136**	P		**P**	**05 55 26.1**	**-0.2**
	0.5nm,0.3s,baz=315,slow=12,SNR=24							
WRA				S		**S**	**05 58 32.6**	**-0.1**
	0.1nm,0.3s,baz=313,slow=19,SNR=5.4							
WRAB	**Tennant Creek**	**17.78**	**136**	*e*P		**P**	**05 55 26.1**	**-0.3**
	2.2nm,0.5s							
WB2	**Warramunga Ar**	**17.78**	**136**	*e*P		**P**	**05 55 26.0**	**-0.4**
AS31	**Alice Springs**	**20.22**	**145**	*e*P		**P**	**05 55 52.7**	**+0.9**
ASAR	**Alice Springs**	**20.22**	**145**	P		**P**	**05 55 53.0**	**+1.1**
	0.2nm,0.3s,baz=319,slow=8.2,SNR=18							
ASAR				S		**S**	**05 59 15.9**	**-1.0**
	0.1nm,0.3s,baz=331,slow=22,SNR=5.6							
ASAR				PcP		PcP	05 59 54.1	+4.4
	0.1nm,0.3s,baz=350,slow=1.5,SNR=4.6							
STKA	**Stephens Creek**	**30.86**	**145**	P		**P**	**05 57 28.6**	**+1.8**
	3.0nm,0.3s,mb4.0,baz=318,slow=8.9,SNR=11							
STKA	**Stephens Creek**	**30.86**	**145**	*e*P		**P**	**05 57 28.5**	**+1.6**
CASY	**Casey**	**59.31**	**185**	*e*P		**P**	**06 01 06.6**	**-1.5**
	21nm,0.5s,mb4.8							

IDC 19 05:55:41.6±1.6, 425N×12715E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=168.1km s-min=21.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**3.25**	**330**	*e*P		Pn	05 56 45.6	+12
WRA	**Warramunga Arr**	**25.06**	**164**	P		P	06 01 06.9	-0.6
	0.9nm,0.7s,baz=344,slow=9.4,SNR=5.0							
ASAR	**Alice Springs**	**28.52**	**167**	P		P	06 01 40.1	+1.4
	0.2nm,0.8s,baz=345,slow=12,SNR=2.5							
SONM	**Songino Array**	**46.94**	**341**	P		P	06 04 14.6	+0.6
	0.3nm,0.3s,baz=159,slow=8.7,SNR=3.4							
MKAR	**Makanchi Array**	**57.37**	**325**	P		P	06 05 31.1	-0.4
	0.5nm,0.4s,baz=119,slow=7.2,SNR=6.5							

ISCJB ***19*** *05:59:04.0±0.9, 4684N±008×1553E±02, h10km, mb4.0/10, Error ellipse: s-maj=21.2km s-min=8.3km az=51.8*
NEIC ***19*** *05:59:05.4±1.0, 4702N×15564E, h10km, mb4.4/2, Error ellipse: s-maj=28.5km s-min=17.2km az=111.0*
IDC ***19*** *05:59:07.5±1.0, 4669N×15427E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/23, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=34.1km s-min=21.7km az=87.0*
MOS ***19*** *05:59:09.0±1.0, 4696N×15522E, h47km, mb4.5/2, Error ellipse: s-maj=27.7km s-min=16.8km az=91.2*

ISC 19 05:59:05.6±0.9, 4684N±008×1554E±02, h10km, n23, σ0§98/23, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**7**	*e*PN		**Pn**	**06 00 04.5**	**-0.7**
SKR				*e*S		**Sn**	**06 00 51.0**	**+0.2**
SKR				smax				
	comp=E,110nm,0.3s							
SKR				smax				
	comp=N,150nm,0.5s							
PET	**Petropavlovsk**	**6.54**	**18**	*e*PN		**Pn**	**06 00 36.5**	**-5.4**
PET	**Petropavlovsk**	**6.54**	**18**	*e*Pn		**Pn**	**06 00 36.4**	**-5.5**
ASAJ	**Asahikawa**	**9.36**	**258**	Pn		**Pn**	**06 01 22.0**	**+1.4**
	comp=N,1.2nm,0.3s,baz=89,slow=18,SNR=8.2							
ASAJ	**Asahikawa**	**9.36**	**258**	LR		LR	06 06 10.1	
	comp=N,39nm,19.1s,baz=354,slow=42							
ASAJ	**Asahikawa**	**9.36**	**258**	PN		**Pn**	**06 01 22.0**	**+1.4**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.39**	**237**	Pn		**Pn**	**06 02 50.9**	**-4.8**
	comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=9.5							
MAT	**Matsushiro**	**16.39**	**237**	P		**Pn**	**06 02 52.9**	**-2.8**
KSRS	**Korea Array**	**22.30**	**255**	P		**P**	**06 04 01.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=64,slow=10,SNR=2.4							
INK	**Inuvik**	**40.75**	**33**	*e*P		**P**	**06 06 45.8**	**-0.9**
MKAR	**Makanchi Array**	**48.26**	**298**	P		**P**	**06 07 46.8**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=75,slow=8.7,SNR=4.7							
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P		**P**	**06 08 11.1**	**-0.5**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P		**P**	**06 08 11.1**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.4							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**06 08 15.3**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=58,slow=7.8,SNR=12							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**06 08 15.1**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**06 08 15.1**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**64.60**	**336**	P		**P**	**06 09 43.1**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=36,slow=6.9,SNR=11							
FINES	**FINESS Array B**	**64.60**	**336**	P		**P**	**06 09 43.1**	**-0.1**
NOA	**NORSAR Array B**	**68.62**	**342**	P		**P**	**06 10 10.1**	**+1.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=27,slow=6.0,SNR=3.3							
WRA	**Warramunga Arr**	**69.13**	**201**	P		**P**	**06 10 12.3**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=20,slow=6.5,SNR=6.9							
ASAR	**Alice Springs**	**72.81**	**201**	P		**P**	**06 10 35.3**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=16,slow=5.5,SNR=16							
TXAR	**Lajitas Array**	**76.10**	**62**	P		**P**	**06 11 02.7**	**+9.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=311,slow=5.7,SNR=4.5							
GERES	**GERESS Array B**	**79.03**	**335**	P		**P**	**06 11 13.6**	**+3.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=18,slow=5.6,SNR=4.8							

IDC ***19*** *05:59:27.1±1.3, 4709N×15569E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, ML3.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.5/52, Error ellipse: s-maj=40.5km s-min=16.6km az=167.0*
NEIC ***19*** *05:59:28.3±0.8, 4709N×15563E, h10km, mb4.4/3, Error ellipse: s-maj=21.0km s-min=11.0km az=154.0*
MOS ***19*** *05:59:32.0±1.9, 4719N×15558E, h55km, mb4.5/4, Error ellipse: s-maj=23.5km s-min=13.0km az=87.2*
ISCJB ***19*** *05:59:33.7±0.9, 474N±02×1556E±0.1, h55km, mb4.2/15, MS3.3/3, Error ellipse: s-maj=22.7km s-min=12.1km az=146.9*

ISC 19 05:59:35.5±0.9, 474N±02×1556E±01, h55km, n24, σ0§65/24, mb4.2/15, MS3.3/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.30**	**6**	*e*PN		**Pn**	**06 00 24.9**	**+0.2**
PET	**Petropavlovsk**	**5.96**	**18**	*e*PN		**Pn**	**06 00 58.4**	**-2.7**
PET	**Petropavlovsk**	**5.96**	**18**	*e*Pn		**Pn**	**06 00 58.1**	**-3.0**
MJAR	**Matsushiro Arr**	**16.84**	**236**	Pn		**Pn**	**06 03 20.4**	**-7.1**
	0.1nm,0.3s,baz=30,slow=13,SNR=8.5							
KSRS	**Korea Array**	**22.61**	**254**	P		**P**	**06 04 31.1**	**-0.4**
	2.5nm,0.8s,mb3.7,baz=62,slow=9.2,SNR=5.3							
KSRS				LR		LR	06 12 13.8	
	comp=Z,25nm,20.6s,MS2.6,baz=140,slow=34							
SONM	**Songino Array**	**32.72**	**289**	P		**P**	**06 06 02.4**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=72,slow=8.9,SNR=4.3							
INK	**Inuvik**	**40.19**	**33**	P		**P**	**06 07 06.6**	**+0.3**
	2.7nm,0.6s,mb4.2,baz=293,slow=6.5,SNR=16							
INK	**Inuvik**	**40.19**	**33**	*e*P		**P**	**06 07 06.6**	**+0.3**
	90nm,0.6s,mb5.7							
MKAR	**Makanchi Array**	**48.15**	**298**	P		**P**	**06 08 09.9**	**-0.1**
	1.1nm,0.8s,mb4.0,baz=63,slow=8.5,SNR=5.4							
MKAR				PcP		PcP	06 09 35.9	-0.9
	0.5nm,0.6s,baz=80,slow=3.1,SNR=4.1							
YKA	**Yellowknife Ar**	**49.38**	**38**	P		**P**	**06 08 19.5**	**+0.1**
	1.4nm,0.5s,mb4.3,baz=292,slow=7.1,SNR=10							
YKA	**Yellowknife Ar**	**49.38**	**38**	P		**P**	**06 08 19.5**	**0.0**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P		**P**	**06 08 33.7**	**-0.3**
CHKZ				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**51.30**	**311**	*e*P		**P**	**06 08 33.7**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**51.75**	**310**	P		**P**	**06 08 38.3**	**+1.0**
	comp=Z,2.0nm,0.4s,mb4.4,baz=61,slow=7.1,SNR=7.4							
BVAR				LR		LR	06 32 01.9	
	comp=Z,57nm,21.1s,MS3.6,baz=129,slow=38							
BRVK	**Borovoye**	**51.79**	**310**	*e*P		**P**	**06 08 38.5**	**+0.9**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**51.79**	**310**	*e*P		**P**	**06 08 38.5**	**+0.9**
	comp=Z,2.0nm,0.5s,mb4.3							
AAK	**Ala-Archa**	**55.06**	**297**	*e*P		**P**	**06 09 00.9**	**-0.7**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**55.06**	**297**	*e*P		**P**	**06 09 00.9**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2							
ARCES	**ARCESS Array B**	**57.79**	**341**	P		**P**	**06 09 21.3**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.5,baz=23,slow=6.6,SNR=5.7							
NVAR	**Mina Array Bea**	**60.62**	**64**	P		**P**	**06 09 41.3**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.7,baz=299,slow=8.0,SNR=5.0							
PDAR	**Pinedale Array**	**62.98**	**55**	P		**P**	**06 09 56.2**	**-0.3**
	comp=Z,0.8nm,0.9s,mb3.9,baz=292,slow=3.0,SNR=5.6							
FINES	**FINESS Array B**	**64.16**	**336**	P		**P**	**06 10 04.5**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=51,slow=7.4,SNR=5.8							
FINES				LR		LR	06 39 59.0	
	comp=Z,60nm,18.4s,MS3.8,baz=323,slow=38							
ULM	**Lac du Bonnet**	**64.91**	**42**	P		**P**	**06 10 09.1**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.3,baz=324,slow=5.0,SNR=3.6							
TXAR	**Lajitas Array**	**75.69**	**62**	P		**P**	**06 11 14.5**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=285,slow=4.6,SNR=4.7							

IDC 19 06:02:45.7±4.8, 4459N×15422E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=173.0km s-min=34.0km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.66**	**300**	P		P	06 11 31.5	+0.1
	0.3nm,0.5s,baz=62,slow=7.7,SNR=5.5							
BVAR	**Borovoye Array**	**52.85**	**311**	P		P	06 12 02.0	-1.0
	0.4nm,0.4s,baz=47,slow=6.2,SNR=4.9							
FINES	**FINESS Array B**	**66.33**	**336**	P		P	06 13 35.9	-0.2
	3.1nm,1.1s,baz=28,slow=4.5,SNR=4.7							
TXAR	**Lajitas Array**	**77.88**	**61**	P		P	06 14 45.4	+0.2
	0.3nm,0.6s,baz=325,slow=4.4,SNR=3.6							

IDC 19 06:06:09.6±2.6, 4598N×15485E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=79.2km s-min=28.2km az=169.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.88**	**262**	Pn		Pn	06 08 19.4	+0.3
	0.4nm,0.3s,baz=275,slow=31,SNR=2.4							
INK	**Inuvik**	**41.66**	**32**	P		P	06 13 59.5	-0.2
	1.3nm,0.7s,baz=292,slow=5.5,SNR=7.5							
MKAR	**Makanchi Array**	**48.37**	**299**	P		P	06 14 52.9	-0.2
	0.3nm,0.5s,baz=72,slow=7.8,SNR=4.3							
FINES	**FINESS Array B**	**65.24**	**336**	P		P	06 16 52.0	-0.9
	1.6nm,0.9s,baz=32,slow=8.2,SNR=3.6							
TXAR	**Lajitas Array**	**76.81**	**62**	P		P	06 18 03.3	+0.1
	0.3nm,0.5s,baz=302,slow=5.0,SNR=6.1							

IDC ***19*** *06:13:01.7±2.5, 4709N×15282E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/24, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=64.3km s-min=33.4km az=162.0*
MOS ***19*** *06:13:04.5±1.6, 4697N×15263E, h33km, mb4.2/4, Error ellipse: s-maj=45.5km s-min=22.5km az=67.9*
ISCJB ***19*** *06:13:06.7±2.3, 470N±03×1526E±03, h55km±17km, mb3.8/5, Error ellipse: s-maj=54.3km s-min=17.2km az=110.6*

ISC 19 06:13:08.8±2.1, 470N±03×1526E±03, h60km±16km, n12, σ0§29/12, mb3.8/5, Kuril Islands

| Code | Station Name |

*NEIC **19** 06:22:54.6, 4183N×2004E, h11km, ML3.3(PDG), After PDG.*
*SKO **19** 06:22:56.7, 4175N×2019E, h15km*
ISC 19 06:22:53.7±0.3, 4175N±002×2006E±002, h7km±3km, n82, σ1§18/111, 18C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	**Kukesi**	**0.42**	**39**	*i* Pg	**Pg**	**06 23 01.8**	**0.0**
KKS				*i* Sg	**Sg**	**06 23 07.5**	**+0.2**
ULC	**Ulcinj**	**0.64**	**290**	⇑*i* Pg	**Pg**	**06 23 05.9**	**-0.1**
ULC				*e*Sg	**Sg**	**06 23 15.6**	**+1.2**
OHR	**Ohrid**	**0.85**	**139**	*e*Pg	**Pg**	**06 23 10.5**	**+0.5**
OHR				*e*Sg	**Sg**	**06 23 23.4**	**+2.5**
OHR	**Ohrid**	**0.85**	**139**	*e*Pg	**Pg**	**06 23 10.4**	**+0.5**
OHR				*e*Sg	**Sg**	**06 23 23.4**	**+2.5**
PVY	**Plav**	**0.85**	**356**	⇓*i* Pg	**Pg**	**06 23 08.7**	**-1.3**
PVY				*e*Sg	**Sg**	**06 23 20.9**	**-0.1**
TTG	**Podgorica**	**0.90**	**319**	⇑*i* Pg	**Pg**	**06 23 09.5**	**-1.5**
TTG				*e*Sg	**Sg**	**06 23 23.3**	**+0.5**
KRUS	**Krusevo**	**0.97**	**113**	*e*Pg	**Pg**	**06 23 12.9**	**+0.7**
KRUS				*e*Sg	**Sg**	**06 23 26.1**	**+1.2**
KRUS	**Krusevo**	**0.97**	**113**	*e*Pg	**Pg**	**06 23 12.9**	**+0.6**
KRUS				*e*Sg	**Sg**	**06 23 26.0**	**+1.1**
BUM	**Brajici-Budva**	**1.03**	**303**	⇑*i* Pg	**Pg**	**06 23 12.6**	**-0.8**
BUM				*e*Sg	**Sg**	**06 23 28.3**	**+1.6**
SKO	**Skopje**	**1.05**	**77**	*e*Pg	**Pg**	**06 23 14.8**	**+0.9**
SKO				*e*Sg	**Sg**	**06 23 27.5**	**-0.1**
SKO	**Skopje**	**1.05**	**77**	*e*Pg	**Pg**	**06 23 14.7**	**+0.8**
SKO				*e*Sg	**Sg**	**06 23 27.5**	**-0.1**
IVA	**Berane**	**1.13**	**354**	⇑*i* Pg	**Pg**	**06 23 14.1**	**-1.2**
IVA				*e*Sg	**Sg**	**06 23 31.0**	**+1.1**
BIA	**Bitola**	**1.20**	**127**	*e*Pg	**Pg**	**06 23 16.1**	**-0.6**
BIA				*e*Sg	**Sg**	**06 23 32.4**	**+0.2**
BIA	**Bitola**	**1.20**	**127**	*e*Pg	**Pg**	**06 23 16.0**	**-0.7**
BIA				*e*Sg	**Sg**	**06 23 32.4**	**+0.2**
NKY	**Niksic**	**1.32**	**324**	⇑*i* Pg	**Pg**	**06 23 17.9**	**-1.1**
NKY				*e*Sg	**Sg**	**06 23 37.1**	**+0.9**
HCY	**Herceg Novi**	**1.35**	**301**	⇑*i* Pg	**Pg**	**06 23 18.2**	**-1.5**
HCY				*e*Sg	**Sg**	**06 23 38.5**	**+1.3**
SJES	**Sjenica**	**1.52**	**357**	Pn	**Pn**	**06 23 21.6**	**+0.4**
STIP	**Stip**	**1.59**	**91**	*e*Pg	**Pg**	**06 23 22.7**	**-1.5**
STIP				*e*Sg	**Sg**	**06 23 43.2**	**-1.7**
STIP	**Stip**	**1.59**	**91**	*e*Pg	**Pg**	**06 23 22.7**	**-1.5**
STIP				*e*Sg	**Sg**	**06 23 43.1**	**-1.8**
BRY	**Bratogost**	**1.61**	**316**	⇑*i* Pg	**Pg**	**06 23 22.7**	**-1.8**
BRY				*e*Sg	**Sg**	**06 23 46.4**	**+1.0**
PLE	**Pljevlja**	**1.65**	**343**	⇑*i* Pg	**Pg**	**06 23 24.5**	**-0.9**
PLE				*e*Sg	**Sg**	**06 23 46.0**	**-0.8**
UPM	**Unac-Piva**	**1.68**	**330**	⇑*i* Pn	**Pn**	**06 23 24.1**	**+0.7**
UPM				*e*Sn	**Sn**	**06 23 47.2**	**+2.0**
UPM	**Unac-Piva**	**1.68**	**330**	⇑*i* Pn	**Pn**	**06 23 24.1**	**+0.6**
UPM				*e*Sn	**Sn**	**06 23 47.2**	**+1.9**
BARS	**Barje**	**1.69**	**50**	*i* Pn	**Pn**	**06 23 23.1**	**-0.5**
VAY	**Valandovo**	**1.93**	**102**	*e*Pn	**Pn**	**06 23 28.3**	**+1.4**
VAY				*e*Sg	**Sg**	**06 23 54.3**	**-1.4**
VAY	**Valandovo**	**1.93**	**102**	*e*Pn	**Pn**	**06 23 28.2**	**+1.3**
VAY				*e*Sg	**Sg**	**06 23 54.3**	**-1.5**
KZN	**Kozani**	**1.94**	**138**	*e*P	**Pb**	**06 23 30.5**	**+1.2**
LCI	**Lecce**	**2.04**	**227**	*e*Pn	**Pn**	**06 23 27.2**	**-1.2**
KEK	**Kerkira**	**2.04**	**186**	*e*P	**Pb**	**06 23 36.0**	**+3.1**
STON	**Ston**	**2.08**	**303**	*i* Pn	**Pn**	**06 23 28.3**	**-0.6**
STON				*i* Sn	**Sg**	**06 24 01.4**	**+1.0**
STON	**Ston**	**2.08**	**303**	*i* Pn	**Pn**	**06 23 28.2**	**-0.7**
JAN	**Janina**	**2.18**	**164**	*e*P	**Pn**	**06 23 34.5**	**+4.3**
DIVS	**Divcibare**	**2.35**	**359**	*i* Pn	**Pn**	**06 23 33.0**	**+0.4**
SG1	**Sgolgore (BA)**	**2.71**	**251**	*e*Pn	**Pn**	**06 23 37.6**	**+0.1**
CDT	**Castel del Mon**	**2.92**	**258**	*e*Pn	**Pn**	**06 23 39.6**	**-1.0**
EVR	**Evrytania**	**3.13**	**154**	*e*P	**Pn**	**06 23 46.0**	**+2.6**
RGNG	**Rignano Grg**	**3.35**	**270**	*e*Pn	**Pn**	**06 23 45.8**	**-0.6**
VLS	**Valsamata**	**3.59**	**173**	*e*P	**Pb**	**06 23 55.5**	**-2.0**
TIP	**Timpagrande**	**3.60**	**226**	*e*Pn	**Pn**	**06 23 48.2**	**-1.6**
TIP	**Timpagrande**	**3.60**	**226**	*e*Pn	**Pn**	**06 23 48.2**	**-1.6**
SLCN	**Sala Consilina**	**3.61**	**249**	*e*Pn	**Pn**	**06 23 50.9**	**+0.9**
CUC	**Castrocucco**	**3.67**	**243**	*e*Pn	**Pn**	**06 23 50.9**	**+0.2**
SGG	**Gregorio Mates**	**4.28**	**267**	*e*Pn	**Pn**	**06 24 00.2**	**+1.0**
PKSM	**Moragy**	**4.58**	**348**	⇓*e*P	**Pn**	**06 24 03.2**	**-0.1**
RFI	**Roccamonfina**	**4.58**	**266**	*e*Pn	**Pn**	**06 24 04.7**	**+1.2**
NVLJ	**Novalja**	**4.72**	**308**	*i* Pn	**Pn**	**06 24 04.7**	**-0.6**
BOJS	**Bojanci**	**5.12**	**319**	*i* Pn	**Pn**	**06 24 11.3**	**+0.5**
BOJS	comp=Z,8.0nm,0.2s						
BOJS	**Bojanci**	**5.12**	**319**	*i* Pn	**Pn**	**06 24 11.3**	**+0.5**
CRES	**Cresnjev**	**5.26**	**322**	*e*Pn	**Pn**	**06 24 12.7**	**0.0**
CRES	comp=Z,11nm,0.2s						
CRES	**Cresnjev**	**5.26**	**322**	*e*Pn	**Pn**	**06 24 12.7**	**0.0**
CING	**Cingoli**	**5.32**	**290**	*e*Pn	**Pn**	**06 24 13.2**	**-0.3**
VISS	**Visnje**	**5.54**	**319**	*e*Pn	**Pn**	**06 24 16.7**	**+0.2**
VISS	comp=Z,9.0nm,0.2s						
FSSB	**Fossombrone**	**5.71**	**292**	*e*Pn	**Pn**	**06 24 18.2**	**-0.6**
BUD	**Budapest**	**5.78**	**353**	⇑*e*Pn	**Pn**	**06 24 20.3**	**+0.5**
PERS	**Pernice**	**6.04**	**326**	*i* Pn	**Pn**	**06 24 23.2**	**-0.1**
PSZ	**Piszkesteto**	**6.17**	**359**	*e*Pn	**Pn**	**06 24 25.2**	**0.0**
PSZ	**Piszkesteto**	**6.17**	**359**	*e*Pn	**Pn**	**06 24 25.2**	**+0.1**
PSZ	comp=Z,3.1nm,0.4s						
PSZ	**Piszkesteto**	**6.17**	**359**	⇑*e*P	**Pn**	**06 24 25.7**	**+0.6**
VOY	**Vojsko**	**6.18**	**316**	*e*Pn	**Pn**	**06 24 25.4**	**+0.1**
OBKA	**Obir**	**6.19**	**322**	⇑*i* Pn	**Pn**	**06 24 26.0**	**+0.6**
ARSA	**Arzberg**	**6.38**	**331**	⇓*i* Pn	**Pn**	**06 24 29.0**	**+0.9**
KECS	**Kecovo**	**6.74**	**2**	*e*PN	**Pn**	**06 24 34.1**	**+1.1**
VYHS	**Vyhne**	**6.80**	**353**	*e*PN	**Pn**	**06 24 33.9**	**+0.1**
KBA	**Koelnbreinsper**	**7.17**	**320**	⇓*i* Pn	**Pn**	**06 24 39.2**	**+0.3**
MOA	**Molln**	**7.36**	**328**	⇑*i* Pn	**Pn**	**06 24 42.9**	**+1.4**
WTTA	**Wattenberg**	**8.16**	**315**	⇓*i* Pn	**Pn**	**06 24 53.0**	**+0.6**
WTTA	comp=Z,3.6nm,0.3s			⇑*i* Sn	**Sn**	**06 26 21.4**	**-3.5**
WTTA	**Wattenberg**	**8.16**	**315**	Pn	**Pn**	**06 24 53.0**	**+0.6**
WATA	**Walderalm**	**8.24**	**316**	⇓*i* Pn	**Pn**	**06 24 54.2**	**+0.6**
PGF	**Pioggiola**	**8.26**	**279**	*e*Pn	**Pn**	**06 24 51.1**	**-2.7**
SQTA	**Sankt Quirin**	**8.36**	**314**	⇑*i* Pn	**Pn**	**06 24 55.7**	**+0.5**
SQTA	comp=Z,4.0nm,0.4s			⇑*i* Sn	**Sn**	**06 26 26.2**	**-3.7**
SQTA	**Sankt Quirin**	**8.36**	**314**	Pn	**Pn**	**06 24 55.7**	**+0.5**
MOTA	**Moosalm**	**8.49**	**314**	⇑*i* Pn	**Pn**	**06 24 57.3**	**+0.2**
SBF	**Sospel**	**9.52**	**287**	*e*Sn	**Sn**	**06 26 47.9**	**-10**
FRF	**La Foret Royal**	**10.05**	**285**	*e*Pn	**Pn**	**06 25 14.7**	**-3.7**
MBDF	**Montbardon**	**10.14**	**292**	*e*Pn	**Pn**	**06 25 16.1**	**-3.6**
MBDF	comp=Z,1.9nm,0.6s			*e*Sn	**Sn**	**06 26 59.7**	**-14**
LPG	**La Plagne**	**10.35**	**296**	*e*Pn	**Pn**	**06 25 19.0**	**-3.5**
LPL	**La Plagne**	**10.37**	**296**	*e*Pn	**Pn**	**06 25 19.2**	**-3.5**
LPL	comp=Z,1.1nm,0.3s			*e*Sn	**Sn**	**06 27 08.1**	**-11**
ORIF	**Oris-en-Rattie**	**10.80**	**292**	*e*Pn	**Pn**	**06 25 25.0**	**-3.7**
CABF	**La Chapelle**	**11.14**	**301**	*e*Pn	**Pn**	**06 25 29.5**	**-3.9**
HINF	**Hinteralfeld**	**11.17**	**307**	*e*Pn	**Pn**	**06 25 29.9**	**-3.8**
SMF	**Signal de Mont**	**12.62**	**298**	*e*Pn	**Pn**	**06 25 49.5**	**-4.1**
AVF	**Avril sur Loir**	**12.98**	**298**	*e*Pn	**Pn**	**06 25 54.3**	**-4.2**

*ISCJB **19** 06:23:44.5±0.2, 4175N±002×1998E±002, h10km, Error ellipse: s-maj=3.5km s-min=1.7km az=78.8*
*TIR **19** 06:23:45.6, 4179N×2001E, h5km, Ml3.0*
*PDG **19** 06:23:47.0±0.3, 4181N×2000E, h9km±1km*
*NEIC **19** 06:23:47.0, 4181N×2000E, h9km, ML3.5(PDG), After PDG.*
*THE **19** 06:23:47.0, 4182N×2018E, h1km, ML4.0*
*CSEM **19** 06:23:46.1±0.1, 4180N×2005E, h12km, ML3.7/3, Error ellipse: s-maj=1.8km s-min=1.1km az=43.0*
*SKO **19** 06:23:46.8, 4181N×2005E, h8km*
*LDG **19** 06:23:47.6±0.3, 4198N×2014E, h10km, Ml3.5/6, Error ellipse: s-maj=9.2km s-min=6.3km az=38.0*
*PRU **19** 06:23:47.3, 4186N×1998E, h0km*
ISC 19 06:23:46.3±0.3, 4176N±002×2004E±002, h10km±2km, n93, σ1§28/157, 12C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.30**	**338**	*i* Pg	**Pg**	**06 23 52.5**	**+0.1**
PUK				*i* Sg	**Sg**	**06 23 57.2**	**+0.8**
KKS	**Kukesi**	**0.42**	**41**	*i* Pg	**Pg**	**06 23 54.2**	**-0.3**
KKS				*i* Sg	**Sg**	**06 24 00.2**	**+0.1**
TIR	**Tirane**	**0.43**	**198**	*e*Pg	**Pg**	**06 23 55.9**	**+1.0**
TIR				*e*Sg	**Sg**	**06 24 04.2**	**+3.6**
BCI	**Bajram Curri**	**0.60**	**2**	*i* Pg	**Pg**	**06 23 57.0**	**-1.0**
BCI				*i* Sg	**Sg**	**06 24 06.7**	**+0.7**
ULC	**Ulcinj**	**0.62**	**289**	⇑*i* Pg	**Pg**	**06 23 57.9**	**-0.5**
ULC				*e*Sg	**Sg**	**06 24 07.6**	**+1.0**
PVY	**Plav**	**0.83**	**357**	⇓*i* Pg	**Pg**	**06 24 00.8**	**-1.6**
PVY				*e*Sg	**Sg**	**06 24 13.5**	**+0.2**
OHR	**Ohrid**	**0.86**	**139**	*e*Pg	**Pg**	**06 24 02.9**	**-0.1**
OHR				*e*Sg	**Sg**	**06 24 15.9**	**+1.6**
OHR	**Ohrid**	**0.86**	**139**	*e*Pg	**Pg**	**06 24 02.7**	**-0.3**
OHR				*e*Sg	**Sg**	**06 24 15.9**	**+1.6**
TTG	**Podgorica**	**0.89**	**319**	⇑*i* Pg	**Pg**	**06 24 01.6**	**-1.7**
TTG				*e*Sg	**Sg**	**06 24 15.7**	**+0.8**
TTG	**Podgorica**	**0.89**	**319**	⇑*i* Pg	**Pg**	**06 24 01.6**	**-1.8**
TTG				*e*Sg	**Sg**	**06 24 15.7**	**+0.8**
KRUS	**Krusevo**	**0.99**	**113**	*e*Pg	**Pg**	**06 24 04.9**	**-0.4**
KRUS				*e*Sg	**Sg**	**06 24 18.7**	**+0.5**
KRUS	**Krusevo**	**0.99**	**113**	*e*Pg	**Pg**	**06 24 04.9**	**-0.4**
KRUS				*e*Sg	**Sg**	**06 24 18.6**	**+0.4**
BUM	**Brajici-Budva**	**1.01**	**303**	⇓*i* Pg	**Pg**	**06 24 04.8**	**-0.9**
BUM				*e*Sg	**Sg**	**06 24 20.2**	**+1.4**
SKO	**Skopje**	**1.06**	**78**	*e*Pg	**Pg**	**06 24 06.2**	**-0.6**
SKO				*e*Sg	**Sg**	**06 24 20.4**	**-0.2**
SKO	**Skopje**	**1.06**	**78**	*e*Pg	**Pg**	**06 24 06.3**	**-0.5**
SKO				*e*Sg	**Sg**	**06 24 20.0**	**-0.6**
IVA	**Berane**	**1.11**	**355**	⇓*i* Pg	**Pg**	**06 24 06.0**	**-1.7**
IVA				*e*Sg	**Sg**	**06 24 23.6**	**+1.4**
BIA	**Bitola**	**1.22**	**127**	*e*Pg	**Pg**	**06 24 08.2**	**-1.5**
BIA				*e*Sg	**Sg**	**06 24 26.5**	**+1.0**
BIA	**Bitola**	**1.22**	**127**	*e*Pg	**Pg**	**06 24 08.2**	**-1.5**
BIA				*e*Sg	**Sg**	**06 24 26.4**	**+0.9**
KBN	**Korca**	**1.27**	**153**	*i* Pg	**Pg**	**06 24 11.4**	**+0.7**
KBN				*i* Sg	**Sg**	**06 24 33.6**	**+6.4**
NKY	**Niksic**	**1.30**	**324**	⇑*i* Pg	**Pg**	**06 24 10.3**	**-1.1**
NKY				*e*Sg	**Sg**	**06 24 29.8**	**+1.5**
HCY	**Herceg Novi**	**1.34**	**301**	⇓*i* Pg	**Pg**	**06 24 10.2**	**-1.8**
HCY				*e*Sg	**Sg**	**06 24 31.4**	**+2.1**
HCY	**Herceg Novi**	**1.34**	**301**	⇓*i* Pg	**Pg**	**06 24 10.2**	**-1.8**
HCY				*e*Sg	**Sg**	**06 24 31.4**	**+2.0**
FNA	**Florina**	**1.40**	**134**	*e*Pg	**Pg**	**06 24 12.6**	**-0.6**
FNA				*e*Sg	**Sg**	**06 24 32.1**	**+0.7**
BRY	**Bratogost**	**1.59**	**316**	⇑*i* Pg	**Pg**	**06 24 15.5**	**-1.3**
BRY				*e*Sg	**Sg**	**06 24 38.5**	**+1.0**
STIP	**Stip**	**1.61**	**92**	*e*Pg	**Pg**	**06 24 14.8**	**-2.4**
STIP				*e*Sg	**Sg**	**06 24 36.3**	**-1.7**
STIP	**Stip**	**1.61**	**92**	*e*Pn	**Pn**	**06 24 14.9**	**+0.3**
STIP				*e*Sg	**Sg**	**06 24 33.3**	**-4.7**
STIP	**Stip**	**1.61**	**92**	*e*Pg	**Pg**	**06 24 14.8**	**-2.3**
STIP				*e*Sg	**Sg**	**06 24 33.3**	**-4.7**
PLE	**Pljevlja**	**1.64**	**343**	⇓*i* Pn	**Pn**	**06 24 16.6**	**+1.4**
PLE				*e*Sn	**Sn**	**06 24 39.6**	**+3.4**
PLE	**Pljevlja**	**1.64**	**343**	⇓*i* Pn	**Pn**	**06 24 16.5**	**+1.4**
PLE				*e*Sn	**Sn**	**06 24 39.6**	**+3.4**
UPM	**Unac-Piva**	**1.67**	**330**	⇓*i* Pn	**Pn**	**06 24 17.1**	**+1.6**
UPM				*e*Sn	**Sn**	**06 24 40.2**	**+3.3**
LSK	**Leskovik**	**1.67**	**165**	*i* Pn	**Pn**	**06 24 19.0**	**+3.5**
SRN	**Sarande**	**1.88**	**181**	*i* Pn	**Pn**	**06 24 24.6**	**+6.1**
VAY	**Valandovo**	**1.95**	**102**	*e*Pb	**Pb**	**06 24 20.0**	**-1.8**
VAY				*e*Sb	**Sb**	**06 24 43.0**	**-3.1**
VAY	**Valandovo**	**1.95**	**102**	*e*Pn	**Pn**	**06 24 20.6**	**+1.2**
VAY				*e*Sg	**Sg**	**06 24 41.9**	**-7.0**
GRG	**Griva**	**1.95**	**114**	*e*Pb	**Pb**	**06 24 18.7**	**-3.2**
GRG				*e*Sb	**Sb**	**06 24 43.9**	**-2.3**
STON	**Ston**	**2.06**	**303**	*i* (Pn)	**Pn**	**06 24 20.0**	**-0.9**
STON				*i* Sn	**Sn**	**06 24 53.2**	**+6.5**
KNT	**Kendrikon**	**2.23**	**105**	*e*Pn	**Pn**	**06 24 23.2**	**-0.1**
IGT	**Igoumenitsa**	**2.24**	**174**	*e*Pn	**Pn**	**06 24 25.1**	**+1.7**
DIVS	**Divcibare**	**2.33**	**359**	*e*Pn	**Pn**	**06 24 25.5**	**+0.8**
DIVS				*e*Sn	**Sn**	**06 24 54.9**	**+1.5**
LIT	**Litokhoron**	**2.49**	**131**	*e*Pn	**Pn**	**06 24 27.6**	**+0.8**
LIT				*e*Sn	**Sn**	**06 25 00.4**	**+3.2**
HORT	**Hortiatis**	**2.58**	**116**	*e*Pn	**Pn**	**06 24 28.4**	**+0.3**
HORT				*e*Sn	**Sn**	**06 24 59.4**	**-0.1**
SRS	**Serrai**	**2.75**	**102**	*e*Pn	**Pn**	**06 24 31.0**	**+0.6**
SRS				*e*Sn	**Sn**	**06 25 05.0**	**+1.4**
PLG	**Polygyros**	**2.92**	**117**	*e*Pn	**Pn**	**06 24 33.7**	**+0.9**
PLG				*e*Sn	**Sn**	**06 25 08.5**	**+0.6**
RHK3	**Tenkes**	**4.32**	**343**	⇓*e*P	**Pn**	**06 24 52.3**	**+0.3**
NVLJ	**Novalja**	**4.71**	**308**	*i* Sn	**Pn**	**06 24 57.2**	**-0.1**
BOJS	**Bojanci**	**5.11**	**319**	*e*Sn	**Pn**	**06 25 03.2**	**+0.4**
BOJS	**Bojanci**	**5.11**	**319**	*e*Sn	**Pn**	**06 25 03.1**	**+0.3**
CRES	**Cresnjev**	**5.25**	**322**	*e*Sn	**Pn**	**06 25 04.9**	**+0.2**
CRES	**Cresnjev**	**5.25**	**322**	*e*Sn	**Pn**	**06 25 04.9**	**+0.2**
VISS	**Visnje**	**5.52**	**319**	*e*Sn	**Pn**	**06 25 09.3**	**+0.7**
PKSG		**5.75**	**349**	⇑*i*P	**Pn**	**06 25 12.1**	**+0.4**
PERS	**Pernice**	**6.02**	**326**	*i* Sn	**Pn**	**06 25 15.7**	**+0.3**
PSZ	**Piszkesteto**	**6.16**	**359**	*e*Pn	**Pn**	**06 25 17.1**	**-0.1**
PSZ	9.1nm,0.4s			*e*Sn	**Sn**	**06 26 26.1**	**-1.5**
PSZ	**Piszkesteto**	**6.16**	**359**	*e*Pn	**Pn**	**06 25 17.1**	**-0.1**
PSZ	9.1nm,0.4s			*e*Sn	**Sn**	**06 26 26.1**	**-1.6**
VOY				*e*	**Sn**	**06 26 23.6**	**-4.1**
VOY				*e*		06 26 27.0	
VOY	**Vojsko**	**6.16**	**316**	*e*Sn	**Pn**	**06 25 17.6**	**+0.3**
OBKA	**Obir**	**6.17**	**322**	⇑*i* Pn	**Pn**	**06 25 19.1**	**+1.6**
OBKA	**Obir**	**6.17**	**322**	Pn	**Pn**	**06 25 19.1**	**+1.6**
OBKA	**Obir**	**6.17**	**322**	Pn	**Pn**	**06 25 19.0**	**+1.5**
ARSA	**Arzberg**	**6.37**	**331**	⇑*i* Pn	**Pn**	**06 25 21.1**	**+0.9**
ARSA	4.6nm,0.3s			⇓*i* Sn	**Sn**	**06 26 33.5**	**+0.7**
KECS	**Kecovo**	**6.73**	**3**	*e*PN	**Pn**	**06 25 26.5**	**+1.4**
KECS				*e*SN	**Sn**	**06 26 38.6**	**-3.1**
KECS	**Kecovo**	**6.73**	**3**	*e*Pn	**Pn**	**06 25 26.5**	**+1.4**
KECS				*e*Sn	**Sn**	**06 26 38.6**	**-3.1**
ZST	**Bratislava**	**6.76**	**343**	*e*SN	**Sn**	**06 26 41.9**	**-0.7**
VYHS	**Vyhne**	**6.79**	**353**	*e*PN	**Pn**	**06 25 26.5**	**+0.6**
VYHS				*e*SN	**Sn**	**06 26 39.7**	**-3.4**
KBA	**Koelnbreinsper**	**7.16**	**320**	⇓*i* Pn	**Pn**	**06 25 31.3**	**+0.4**
KBA	comp=Z,8.1nm,0.3s			⇑*i* Sn	**Pn**	**06 25 31.4**	**+0.4**
KOLS	**Kolonicke sedl**	**7.34**	**12**	*e*PN	**Pn**	**06 25 35.8**	**+2.3**
MOA	**Molln**	**7.34**	**328**	⇓*i* Pn	**Pn**	**06 25 34.7**	**+1.2**
MOA	2.1nm,0.2s			⇓*i* Sn	**Sn**	**06 26 57.1**	**+0.3**
MOA	3.8nm,0.4s			⇑*i* Sn	**Sn**	**06 27 26.0**	**+1.3**
STHS	**Stebnicka Huta**	**7.70**	**6**	*e*PN	**Pn**	**06 25 40.4**	**+2.0**
WTTA	**Wattenberg**	**8.14**	**315**	⇑*i* Pn	**Pn**	**06 25 44.7**	**+0.2**
WTTA	5.7nm,0.2s			⇓*i* Sn	**Sn**	**06 27 16.6**	**+0.1**
WATA	**Walderalm**	**8.22**	**316**	⇑*i* Pn	**Pn**	**06 25 46.0**	**+0.5**
WATA	8.2nm,0.6s 5.7nm,0.2s,SNR=11			⇓*i* Sn	**Sn**	**06 27 19.5**	**+1.1**
PGF	**Pioggiola**	**8.24**	**279**	*e*Pn	**Pn**	**06 25 45.6**	**-0.3**
SQTA	**Sankt Quirin**	**8.34**	**314**	⇓*i* Pn	**Pn**	**06 25 48.2**	**+0.9**
SQTA	1.7nm,0.3s 7.9nm,0.4s,SNR=8.5			⇓*i* Sn	**Sn**	**06 27 19.2**	**-2.3**
MOTA	**Moosalm**	**8.47**	**314**	⇓*i* Pn	**Pn**	**06 25 49.6**	**+0.6**
MOTA	2.0nm,0.3s 6.3nm,0.4s,SNR=9.3			⇑*i* Sn	**Sn**	**06 27 26.0**	**+1.3**
KHC	**Kasperske Hory**	**8.65**	**331**	*e*PN	**Pn**	**06 25 52.1**	**+0.6**
KHC	2.8nm,0.5s			*e*SN	**Sn**	**06 27 25.9**	**-3.2**
DAVA	**Damuels**	**9.12**	**311**	⇓*i* Pn	**Pn**	**06 25 58.8**	**+0.9**
SBF	**Sospel**	**9.50**	**287**	*e*Pn	**Pn**	**06 26 02.0**	**-1.1**
SBF	2.7nm,0.3s			*e*Sn	**Sn**	**06 27 42.5**	**-7.4**
SBF	**Sospel**	**9.50**	**287**	*e*Pn	**Pn**	**06 26 02.0**	**-1.1**
SBF	1.4nm,0.3s			*e*Sn	**Sn**	**06 27 42.5**	**-7.4**
FRF	**La Foret Royal**	**10.03**	**285**	*e*Pn	**Pn**	**06 26 09.9**	**-0.5**
LMR	**La Mourre**	**10.11**	**283**	*e*Pn	**Pn**	**06 26 10.3**	**-1.2**
MBDF	**Montbardon**	**10.13**	**291**	*e*Pn	**Pn**	**06 26 09.6**	**-2.1**
MBDF	1.0nm,0.4s			*e*Sn	**Sn**	**06 27 57.2**	**-8.1**
LPG	**La Plagne**	**10.33**	**296**	*e*Pn	**Pn**	**06 26 13.3**	**-1.2**
LPL	**La Plagne**	**10.35**	**296**	*e*Pn	**Pn**	**06 26 13.5**	**-1.3**
LPL	2.4nm,0.4s			*e*Sn	**Sn**	**06 28 02.8**	**-8.0**
LPL	**La Plagne**	**10.35**	**296**	*e*Pn	**Pn**	**06 26 13.5**	**-1.3**
LPL	1.2nm,0.4s			*e*Sn	**Sn**	**06 28 02.8**	**-8.0**
ORIF	**Oris-en-Rattie**	**10.79**	**292**	*e*Pn	**Pn**	**06 26 19.7**	**-1.0**
SMRF	**Simiane la Rot**	**10.85**	**287**	*e*Pn	**Pn**	**06 26 20.3**	**-1.3**
CABF	**La Chapelle**	**11.13**	**301**	*e*Pn	**Pn**	**06 26 23.0**	**-2.4**
HINF	**Hinteralfeld**	**11.15**	**307**	*e*Pn	**Pn**	**06 26 24.0**	**-1.7**
HINF	1.0nm,0.3s			*e*Sn	**Sn**	**06 28 20.4**	**-10**
HINF	**Hinteralfeld**	**11.15**	**307**	*e*Pn	**Pn**	**06 26 24.0**	**-1.7**
HINF	0.5nm,0.3s			*e*Sn	**Sn**	**06 28 20.4**	**-10**
CDF	**Champ du Feu**	**11.20**	**311**	*e*Pn	**Pn**	**06 26 23.6**	**-2.8**
HAU	**Haudompre**	**11.54**	**307**	*e*Pn	**Pn**	**06 26 29.1**	**-1.9**
HAU	1.7nm,0.3s			*e*Sn	**Sn**	**06 28 29.8**	**-10**
HAU	**Haudompre**	**11.54**	**307**	*e*Pn	**Pn**	**06 26 29.1**	**-1.9**
HAU	0.9nm,0.3s			*e*Sn	**Sn**	**06 28 29.8**	**-10**
SMF	**Signal de Mont**	**12.60**	**298**	*e*Pn	**Pn**	**06 26 42.4**	**-3.2**
SMF	1.2nm,0.3s			*e*Sn	**Sn**	**06 28 55.9**	**-10**
SMF	**Signal de Mont**	**12.60**	**298**	*e*Pn	**Pn**	**06 26 42.4**	**-3.2**
SMF	0.6nm,0.3s			*e*Sn	**Sn**	**06 28 55.9**	**-10**
LOR	**Lormes**	**12.79**	**301**	*e*Pn	**Pn**	**06 26 44.8**	**-3.3**

*NEIC **19** 06:27:40.0, 1589N×9888W, h21km, MD4.2(MEX), After MEX.*
MEX 19 06:27:41.0±0.6, 1598N×9888W, h24km±17km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**60**	*i* P	**Pn**	**06 27 54.9**	**-1.9**
PNIG				*i* S	Sb	**06 28 04.2**	**-3.4**
PNIG	**Pinotepa**	**0.83**	**60**	*i* P	Pb	**06 27 54.3**	**-2.5**
PNIG				*i* S	Sb	**06 28 04.7**	**-2.8**
ACX	**Acapulco**	**1.33**	**312**	*i* P	Pn	**06 28 01.0**	**-3.0**
ACX				*i* S	Sn	**06 28 20.0**	**-1.0**
ACX	**Acapulco**	**1.33**	**312**	*i* P	Pn	**06 28 01.0**	**-3.0**
ACX				*i* S	Sn	**06 28 21.0**	**0.0**
CAIG	**El Cayaco**	**1.70**	**309**	*e*P	Pn	**06 28 04.9**	**-4.3**
CAIG				*i* S	Sn	**06 28 26.8**	**-3.4**
CAIG	**El Cayaco**	**1.70**	**309**	*i* P	Pn	**06 28 06.0**	**-3.2**
CAIG				*i* S	Sn	**06 28 31.2**	**+1.0**
MEIG	**Mezcala**	**2.06**	**340**	*e*P	Pn	**06 28 11.7**	**-2.4**
MEIG				*i* S	Sn	**06 28 36.3**	**-2.7**
UTMO	**Huajuapan**	**2.11**	**29**	*e*P	Pn	**06 28 12.7**	**-2.1**
UTMO				*i* S	Sn	**06 28 36.9**	**-3.4**
VHO	**Vista Hermosa**	**2.33**	**62**	*e*P	Pn	**06 28 15.3**	**-2.5**
VHO				*i

ellipse: s-maj=1.9km s-min=1.5km az=40.0
NEIC ***19*** *06:45:28.9, 5148N×16.12E, h1km, ML3.0(SZGRF), After SZGRF.*
CSEM ***19*** *06:45:28.3±0.1, 5149N×1613E, h1km, ML3.2/7, Error ellipse: s-maj=3.0km s-min=1.4km az=21.0*
WAR ***19*** *06:45:29.6, 5146N×1608E, ML2.8, Mining Induced*
IDC ***19*** *06:45:29.0±0.9, 5143N×16.15E, h0km, mb1 3.5/4, mb1mx3.2/20, mbtmp3.3/4, ML2.6/4, Error ellipse: s-maj=18.9km s-min=7.9km az=112.0*
PRU ***19*** *06:45:30.0, 5142N×1605E, h0km*
ISC 19 06:45:27.2±0.5, 5151N±003×1612E±003, h0km, n33, σ0998/66, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg		**Pg**	**06 45 41.1**	**+0.9**
KSP				*e*Sg		**Sg**	**06 45 49.6**	**+0.6**
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg		**Pg**	**06 45 40.9**	**+0.7**
KSP				*e*Sg		**Sg**	**06 45 49.0**	**0.0**
UPC	**Upice**	**1.01**	**184**	*e*Pg		**Pg**	**06 45 47.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg		**Pg**	**06 45 49.9**	**+0.2**
DPC				*e*Sg		**Sg**	**06 46 04.3**	**-0.5**
	44nm,0.4s							
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pg		**Pg**	**06 45 54.2**	**+0.3**
PVCC				*e*Sg		**Sg**	**06 46 12.0**	**+0.1**
	137nm,0.2s							
BRG	**Berggiesshubel**	**1.52**	**246**	PN		**Pn**	**06 45 55.8**	**+0.3**
BRG				PG		**Pg**	**06 45 56.6**	**+0.4**
BRG				SG		**Sg**	**06 46 16.7**	**+0.8**
	39nm,0.7s							
RAC	**Raciborz**	**1.94**	**137**	*e*Pg		**Pg**	**06 46 05.0**	**+0.5**
RAC				*e*Sg		**Sg**	**06 46 30.2**	**+0.6**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn		**Pn**	**06 46 02.2**	**+0.6**
MORC				*e*Sn		**Sn**	**06 46 26.3**	**-0.7**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn		**Pn**	**06 46 01.9**	**+0.2**
MORC				*e*Sg		**Sg**	**06 46 28.8**	**-1.4**
	18nm,0.3s							
CLL	**Collm**	**1.96**	**265**	*e*Pn		**Pn**	**06 46 02.0**	**+0.3**
CLL				*e*Pg		**Pg**	**06 46 05.0**	**+0.1**
CLL				*e*Sg		**Sg**	**06 46 31.0**	**+0.6**
CLL	**Collm**	**1.96**	**265**	*e*Pn		**Pn**	**06 46 02.0**	**+0.3**
CLL				*e*Pg		**Pg**	**06 46 05.0**	**+0.1**
CLL				*ex*		x	06 46 06.0	
CLL				*e*Sg		**Sg**	**06 46 31.0**	**+0.6**
	comp=Z,25nm,0.4s							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG		**Pg**	**06 46 07.2**	**-0.5**
OKC				*e*SG		**Sg**	**06 46 33.9**	**-1.3**
	comp=Z,30nm,0.5s							
VRAC	**Vranov**	**2.23**	**172**	Pn		**Pn**	**06 46 06.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=346,slow=13,SNR=12							
VRAC				Lg			06 46 34.9	
	comp=Z,4.0nm,0.3s,baz=85,slow=18,SNR=12							
VRAC	**Vranov**	**2.23**	**172**	Pn		**Pn**	**06 46 06.2**	**+0.8**
VRAC				*e*Sg		**Sg**	**06 46 37.5**	**-1.3**
	comp=Z,11nm,0.2s							
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn		**Pn**	**06 46 09.1**	**+0.5**
KRUC				*e*Sg		**Sg**	**06 46 44.8**	**-1.5**
	comp=Z,9.4nm,0.2s							
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN		**Pn**	**06 46 12.2**	**+0.9**
NKC				*e*PG		**Pg**	**06 46 18.1**	**-0.1**
NKC				*e*SG		**Sg**	**06 46 52.5**	**-0.1**
	comp=Z,47nm,0.4s							
OJC	**Ojcow**	**2.66**	**118**	*e*Pg		**Pg**	**06 46 18.1**	**-0.2**
OJC				*e*Sg		**Sg**	**06 46 54.0**	**+1.2**
WERN	**Wernitzgruen**	**2.67**	**244**	*e*Pn		**Pn**	**06 46 12.5**	**+1.0**
JAVC	**Velka Javorina**	**2.84**	**159**	*e*Pn		**Pn**	**06 46 15.1**	**+1.4**
JAVC				*e*Sg		**Sg**	**06 46 58.5**	**+0.1**
	comp=Z,7.9nm,0.5s							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		**Pn**	**06 46 14.9**	**+0.4**
KHC				*e*PG		**Pg**	**06 46 20.7**	**-1.9**
KHC				*e*SN		**Sn**	**06 46 48.5**	**-1.4**
KHC				*e*SG		**Sg**	**06 46 57.6**	**-2.5**
	comp=Z,9.9nm,0.3s							
MOX	**Moxa**	**2.97**	**255**	*e*PG		**Pg**	**06 46 24.3**	**+0.1**
MOX				*e*SG		**Sg**	**06 47 03.9**	**+1.2**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn		**Pn**	**06 46 18.5**	**+1.3**
GEC2				*e*Sg		**Sg**	**06 47 06.0**	**-0.5**
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**06 46 18.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=12,SNR=20							
GERES				Pg		**Pg**	**06 46 24.8**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=30,slow=17,SNR=51							
GERES				Sn		**Sn**	**06 46 54.6**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=32,slow=22,SNR=6.4							
GERES				Lg			06 47 04.3	
	comp=Z,4.8nm,0.3s,baz=31,slow=26,SNR=12							
GERES	**GERESS Array B**	**3.09**	**211**	Pg		**Pg**	**06 46 24.8**	**-1.7**
SMOL	**Smolenice**	**3.12**	**164**	*e*SG		**Sg**	**06 47 09.2**	**+1.8**
NIE	**Niedzica**	**3.40**	**126**	*e*P		**Pg**	**06 46 31.7**	**-0.7**
NIE				*e*S		**Sg**	**06 47 16.4**	**0.0**
VYHS	**Vyhne**	**3.49**	**149**	*e*PG		**Pg**	**06 46 34.7**	**+0.6**
VYHS				*e*SG		**Sg**	**06 47 20.0**	**+0.6**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P		**Pn**	**06 46 25.3**	**0.0**
BSD				*i*			06 46 26.0	
BSD				*e*S		**Sn**	**06 47 06.6**	**-2.8**
BSD				*i*			06 47 08.4	
BSD								
	comp=Z,750nm,21.0s							
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P		**Pn**	**06 46 25.3**	**0.0**
BSD				*e*S		**Sn**	**06 47 06.6**	**-2.8**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PG		**Pg**	**06 46 42.6**	**+0.9**
STHS				*e*SG		**Sg**	**06 47 38.7**	**+6.6**
KECS	**Kecovo**	**4.14**	**135**	*e*		**Sg**	**06 47 40.6**	**+0.5**
FINES	**FINESS Array B**	**11.36**	**25**	Pn		**Pn**	**06 48 08.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=6.3							
FINES				Sn		**Sn**	**06 50 12.3**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=215,slow=21,SNR=3.6							
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**Pn**	**06 49 42.8**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=193,slow=14,SNR=6.8							

MEX 19 06:53:56.0±0.8, 1595N×9760W, h17km±92km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**311**	*i* P		Pg	06 54 07.0	-2.2
PNIG				*i* S		Sg	06 54 15.2	-2.8
VHO	**Vista Hermosa**	**1.39**	**37**	*i* P		Pn	06 54 17.1	-3.5
VHO				*i* S		Sn	06 54 33.6	-5.0
OXX	**Oaxaca**	**1.41**	**37**	*i* P		Pn	06 54 18.0	-2.8
OXX				*i* S		Sn	06 54 35.0	-3.9
UTMO	**Huajuapan**	**1.88**	**354**	*i* P		Pn	06 54 24.1	-3.2
UTMO				*i* S		Sn	06 54 46.9	-3.7

BJI ***19*** *06:59:02.6, 1841N×10476W, h21km, mB6.0, mb5.7, Ms5.6, Msz5.2*
MEX ***19*** *06:59:03.4±4.4, 1833N×10436W, h13km±32km, MD5.6*
ISCJB ***19*** *06:59:05.2±0.2, 1886N±003×10392W±002, h25km, mb5.6/246, MS5.0/179, Error ellipse: s-maj=4.2km s-min=1.6km az=57.2*
MOS ***19*** *06:59:05.1±1.0, 1883N×10395W, h26km, mb5.8/83, MS5.1/50, Error ellipse: s-maj=6.4km s-min=3.7km az=84.6*
NEIC ***19*** *06:59:07.5, 1846N×104.49W, h18km, mb5.6/186, MS4.9/144, MW5.4, MD5.6(MEX), Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁷Nm; Mrr 1.36; Mθθ -0.21; Mφφ -1.15; Mrθ 0.34; Mrφ 0.44; Mθφ -0.39; Best double couple: M₀1.40000×10¹⁷ NP1:φs152.00000°, δ55.00000°, λ82.00000°. NP2:φs345.00000°, δ35.00000°, λ101.00000°. Principal axes: T 1.4700, Plg78.0000°, Azm35.0000°; N -0.0600, Plg6.0000°, Azm156.0000°; P -1.4100, Plg10.0000°, Azm247.0000°; After MEX.*
NEIC *Felt [IV] at Colima, Manzanillo and Puerto Vallarta; [III] at Tecoman. Also felt at Casimiro Castillo, Cihuatlan, Comala, Coquimatlan, Guadalajara, Las Jarretaderas, Mexico City, Queseria, San Patricio, Tamazula, Tapalpa, Tlajomulco, Xalisco, Zacoalco de Torres and Zapopan.*
GCMT ***19*** *06:59:07.5±0.2, 1865N×104.17W, h21km, MW5.5/90, Moment Tensor Solution. s83,c141; s90,c194; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr 1.77±.04; Mθθ -1.08±.03; Mφφ -0.69±.03; Mrθ 1.31±.06; Mθφ 1.07±.02; Mφr -1.32±.07; Best double couple: M₀2.63900×10¹⁷ NP1:φs305.00000°, δ23.00000°, λ82.00000°. NP2:φs134.00000°, δ67.00000°, λ93.00000°. Principal axes: T 2.5420, Plg67.0000°, Azm50.0000°; N 0.1910, Plg3.0000°, Azm313.0000°; P -2.7360, Plg22.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***19*** *06:59:10.1±1.0, 1889N×10394W, h60km±8km, mb5.0/22, mb1 5.1/27, mb1mx5.1/28, mbtmp5.0/27, MS5.1/19, Ms1 5.1/19, ms1mx4.9/26 Error ellipse: s-maj=11.9km s-min=6.0km az=51.0*
BGS ***19*** *06:59:13.1, 1963N×10254W, h18km, mb5.9, MS5.1*
SZGRF ***19*** *06:59:13.4, 2107N×10451W, h28km, mb5.7, MS5.4, Central Mexico*
ISC 19 06:59:07.0±0.2, 1885N±003×10388W±002, h27km, h27km±1.3km:pP-P, n1160, σ0987/1034, mb5.6/245, MS5.0/179, 242C-124D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.27**	**301**	*i* P		**Pn**	**06 59 24.2**	**-4.9**
CJM				*i* S		**Sn**	**06 59 40.8**	**-4.5**
SFJM	**Santa Fe**	**1.81**	**26**	*i* P		**Pn**	**06 59 39.0**	**+2.5**
ZIIG	**Zihuatanejo**	**2.61**	**118**	*e*P		**Pn**	**06 59 46.1**	**-1.3**
ZIIG				*i* S		**Sn**	**07 00 19.7**	**+1.6**
ZIIG	**Zihuatanejo**	**2.61**	**118**	*i* P		**Pn**	**06 59 52.5**	**+5.2**
ZIIG				*e*S		**Sn**	**07 00 26.9**	**+8.7**
MOIG	**Morelia**	**2.67**	**72**	*i* P		**Pn**	**06 59 51.9**	**+3.6**
MOIG				*i* S		**Sb**	**07 00 30.9**	**+4.3**
MOIG	**Morelia**	**2.67**	**72**	*i* P		**Pn**	**06 59 56.4**	**+8.0**
MOIG				*e*S		**Sb**	**07 00 34.5**	**+7.9**
CAIG	**El Cayaco**	**3.88**	**117**	*e*P		**Pn**	**07 00 04.4**	**-0.4**
CAIG				*i* S		**Sn**	**07 00 48.8**	**-0.8**
CAIG	**El Cayaco**	**3.88**	**117**	*i* P		**Pn**	**07 00 06.5**	**+1.6**
CAIG				*i* S		**Sn**	**07 00 57.9**	**+8.4**
ZAIG	**Zacatecas**	**4.09**	**17**	*i* P		**Pn**	**07 00 15.5**	**+7.7**
ZAIG				*e*S		**Sb**	**07 01 07.8**	**+0.5**
MEIG	**Mezcala**	**4.15**	**102**	*i* P		**Pn**	**07 00 08.1**	**-0.5**
MEIG				*i* S		**Sn**	**07 01 00.6**	**+4.4**
PLIG	**Platanillo**	**4.18**	**96**	*e*P		**Pn**	**07 00 11.3**	**+2.4**
PLIG				*i* S		**Sn**	**07 01 00.2**	**+3.3**
PLIG	**Platanillo**	**4.18**	**96**	*i* P		**Pn**	**07 00 16.2**	**+7.3**
PLIG				*i* S		**Sb**	**07 01 07.9**	**-1.9**
ACX	**Acapulco**	**4.26**	**117**	*i* P		**Pn**	**07 00 12.0**	**+1.9**
SZVM	**Salazar**	**4.28**	**83**	*e*P		**Pn**	**07 00 14.6**	**+4.1**
SZVM				*i* S		**Sn**	**07 01 08.8**	**+9.3**
UNM	**Universidad Na**	**4.47**	**83**	*e*P		**Pn**	**07 00 18.0**	**+4.9**
UNM				*e*P			07 00 21.4	
UNM				*e*S		**Sb**	**07 01 18.5**	**+0.1**
UNM	**Universidad Na**	**4.47**	**83**	*e*P		**Pn**	**07 00 21.4**	**+8.4**
UNM				*e*S		**Sb**	**07 01 18.5**	**+0.1**
YAIG	**Yautepec**	**4.56**	**89**	*i* P		**Pn**	**07 00 19.5**	**+5.3**
YAIG				*i* S		**Sb**	**07 01 19.2**	**-1.6**
PTVM	**Pico Tres Padr**	**4.57**	**80**	*i* P		**Pn**	**07 00 18.9**	**+4.6**
PTVM				*i* S		**Sb**	**07 01 20.9**	**-0.1**
MAIG	**Mazatlaan**	**4.93**	**332**	*e*P		**Pn**	**07 00 22.0**	**+2.7**
MAIG				*i* S		**Sn**	**07 01 17.3**	**+1.9**
IIO	**Organos**	**4.93**	**81**	*i* P		**Pn**	**07 00 25.5**	**+6.1**
IIO				*i* S		**Sb**	**07 01 30.9**	**-0.6**
PPM	**Popocatepetl**	**4.98**	**87**	*e*P		**Pn**	**07 00 25.0**	**+5.0**
PPM				*i* P			07 00 28.9	
PPM				*i* S		**Sb**	**07 01 30.4**	**-2.4**
PPM	**Popocatepetl**	**4.98**	**87**	*i* P		**Pn**	**07 00 28.9**	**+9.0**
PPM				*i* S		**Sb**	**07 01 30.4**	**-2.4**
UTMO	**Huajuapan**	**5.86**	**99**	*i* P		**Pn**	**07 00 37.5**	**+5.3**
UTMO				*i* S		**Sb**	**07 01 48.9**	**-9.3**
TPIG	**Tehuac#an**	**6.20**	**93**	*e*P		**Pn**	**07 00 44.1**	**+7.4**
TPIG				*e*S		**Sb**	**07 02 00.9**	**-6.9**
OXX	**Oaxaca**	**7.04**	**103**	*i* P		**Pn**	**07 00 52.0**	**+3.8**
OXX	**Oaxaca**	**7.04**	**103**	*i* P		**Pn**	**07 00 51.0**	**+2.8**
LVIG	**Laguna Verde**	**7.10**	**82**	*e*S		**Sb**	**07 02 23.6**	**-10**
LPIG	**La Paz**	**7.95**	**312**	P		**Pn**	**07 01 00.2**	**-0.5**
	2.0nm,0.3s,baz=127,slow=1.7,SNR=17							
LPIG				S		**Sn**	**07 02 31.7**	**+2.0**
	0.4nm,0.3s,baz=158,slow=16,SNR=1.4							
LPIG				Lg			07 03 08.1	
	1.2nm,0.3s,baz=306,slow=20,SNR=2.0							
HUIG	**Huatulco**	**8.03**	**111**	*i* P		**Pn**	**07 01 05.1**	**+3.2**
HUIG				*i* S		**Sn**	**07 02 44.3**	**+13**
CMIG	**Matias Romero**	**8.74**	**100**	P		**Pn**	**07 01 14.2**	**+2.6**
	1.4nm,0.3s,baz=273,slow=9.9,SNR=50							
CMIG				S		**Sn**	**07 02 51.7**	**+2.5**
	1.1nm,0.3s,baz=210,slow=23,SNR=3.0							
CMIG				Lg			07 03 31.6	
	7.5nm,0.3s,baz=281,slow=11,SNR=6.4							
CMIG				LR		LR	07 05 02.2	
	comp=Z,16μm,18.7s,baz=272,slow=40							
CMIG	**Matias Romero**	**8.74**	**100**	*i* P		**Pn**	**07 01 15.2**	**+3.6**
CMIG				*i* S		**Sn**	**07 03 03.8**	**+15**
CMIG	**Matias Romero**	**8.74**	**100**	*i* P		**Pn**	**07 01 15.2**	**+3.6**
CMIG				S		**Sn**	**07 02 51.7**	**+2.5**
CMIG				*i* S		**Sn**	**07 03 03.8**	**+15**
CMIG				Lg			07 03 31.6	
CMIG				LR		LR	07 05 02.2	
KVTX	**Kingsville**	**10.26**	**31**	*e*Pn		**Pn**	**07 01 40.0**	**+7.6**
	238nm,1.1s							
LTX	**Lajitas**	**10.44**	**1**	*e*P		**Pn**	**07 01 39.6**	**+4.7**
TXAR	**Lajitas Array**	**10.44**	**1**	P		**Pn**	**07 01 38.2**	**+3.2**
	2.1nm,0.3s,baz=186,slow=9.3,SNR=297							
TXAR				S		**Sn**	**07 03 32.7**	**+1.7**
	baz=189,slow=37,SNR=2.5							
TXAR				Lg			07 04 33.6	
	0.6nm,0.3s,baz=126,slow=17,SNR=3.1							
TXAR				LR		LR	07 06 13.9	
	comp=Z,14μm,19.1s,baz=90,slow=41							
TXAR	**Lajitas Array**	**10.44**	**1**	P		**Pn**	**07 01 38.1**	**+3.2**
TXAR				S		**Sn**	**07 03 32.7**	**+1.7**
TXAR				Lg			07 04 33.6	
TXAR				LR		LR	07 06 13.9	
JCT	**Junction City**	**12.16**	**17**	*e*P		**Pn**	**07 02 04.3**	**+5.9**
MNTX	**Cornudas Mount**	**12.87**	**354**	*e*Pn		**Pn**	**07 02 11.5**	**+3.4**
TUC	**Tucson**	**14.77**	**336**	*e*P		**Pn**	**07 02 36.1**	**+2.0**
TUC				pmax		pmax		
	comp=Z,86nm,1.0s							
TUC	**Tucson**	**14.77**	**336**	*e*Pn		**Pn**	**07 02 36.1**	**+2.0**
	comp=Z,86nm,1.0s							
TEIG	**Tepich**	**14.78**	**82**	*i* P		**Pn**	**07 02 35.1**	**+1.0**
TEIG	**Tepich**	**14.78**	**82**	*e*Pn		**Pn**	**07 02 35.2**	**+1.0**
116A	**Eloy**	**15.36**	**334**	⇓P		**Pn**	**07 02 43.1**	**+1.2**
	baz=15,SNR=92							
Y22C	**IRIS PASSCAL I**	**15.41**	**350**	⇑P		**Pn**	**07 02 45.0**	**+2.5**
	baz=16							
115A	**Sonoran Desert**	**15.70**	**333**	⇓P		**Pn**	**07 02 48.2**	**+1.9**
	baz=16,SNR=119							
AMTX	**Amarillo**	**16.09**	**7**	*e*P		**Pn**	**07 02 52.5**	**+1.1**
ANMO	**Albuquerque**	**16.20**	**352**	Pn		**Pn**	**07 02 55.1**	**+2.3**
ANMO	**Albuquerque**	**16.20**	**352**	P		**Pn**	**07 02 54.8**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=170,slow=12,SNR=130							
ANMO				S		**Sn**	**07 05 54.9**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=123,slow=9.3,SNR=2.4							
ANMO				Lg			07 07 32.3	
	comp=Z,0.1nm,0.3s,baz=359,slow=16,SNR=2.3							
ANMO				LR		LR	07 09 57.6	
	comp=Z,11μm,18.6s,baz=175,slow=40							
ANMO	**Albuquerque**	**16.20**	**352**	*e*P		**Pn**	**07 02 55.6**	**+2.9**
	comp=Z,258nm,1.0s							
WMOK	**Wichita Mounta**	**16.46**	**15**	*e*P		**Pn**	**07 02 57.2**	**+1.1**
	comp=Z,305nm,1.2s							
WMOK	**Wichita Mounta**	**16.46**	**15**	*e*P		**Pn**	**07 02 57.2**	**+1.1**
	comp=Z,305nm,1.2s							
Z14A	**Wintersburg**	**16.58**	**332**	⇑P		**Pn**	**07 02 58.3**	**+0.8**
	baz=17,SNR=17							
TGUH	**Tegucigalpa,Un**	**16.62**	**104**	*e*P		**Pn**	**07 03 00.3**	**+2.2**
	comp=Z,538nm,1.1s							
Y14A	**Wickenburg**	**17.09**	**333**	⇓P		**Pn**	**07 03 04.4**	**+0.4**
	baz=17,SNR=111							
GLA	**Glamis**	**17.21**	**327**	*e*P		**Pn**	**07 03 07.0**	**+1.5**
GLA	**Glamis**	**17.21**	**327**	*e*P		**Pn**	**07 03 07.2**	**+1.7**
GLA	**Glamis**	**17.21**	**327**	⇓P		**Pn**	**07 03 06.7**	**+1.2**
	baz=17,SNR=58							
X15A	**Humboldt**	**17.26**	**336**	⇑P		**Pn**	**07 03 07.3**	**+1.2**
	baz=17,SNR=49							
X14A	**Yava**	**17.50**	**335**	⇑P		**Pn**	**07 03 10.3**	**+1.2**
	baz=18,SNR=78							
DVTC	**Desert V Tower**	**17.59**	**324**	⇓P		**Pn**	**07 03 11.5**	**+1.3**
	baz=18,SNR=51							
Y12C	**Blythe**	**17.62**	**329**	⇓P		**Pn**	**07 03 11.7**	**+1.1**
	baz=18,SNR=56							
SWSC	**Sam W. Stewart**	**17.64**	**325**	⇓P		**Pn**	**07 03 12.0**	**+1.2**
	baz=18,SNR=49							
WUAZ	**Wupatki**	**17.88**	**340**	*e*P		**Pn**	**07 03 15.5**	**+1.8**
	comp=Z,148nm,1.0s							
WUAZ				*e*			07 03 29.3	
WUAZ	**Wupatki**	**17.88**	**340**	P		**Pn**	**07 03 16.0**	**+2.2**
	baz=18,SNR=72							
W15A	**Williams**	**17.89**	**337**	⇓P		**Pn**	**07 03 15.7**	**+1.9**
	baz=18,SNR=66							
PDMCI	**Parker Dam,Lak**	**17.90**	**331**	⇑P		**Pn**	**07 03 14.8**	**+0.9**
	baz=18,SNR=70							
BAR	**Barrett**	**17.93**	**323**	*e*P		**Pn**	**07 03 15.6**	**+1.2**
MONP	**Monument Peak**	**17.94**	**324**	P		**Pn**	**07 03 15.8**	**+1.3**
	baz=18,SNR=117							
X13A	**Yucca**	**18.01**	**333**	P		**Pn**	**07 03 16.4**	**+1.1**
	baz=18,SNR=119							
BC3	**Big Chuckw Mtn**	**18.01**	**327**	P		**Pn**	**07 03 16.5**	**+1.1**
	baz=18,SNR=83							
W14A	**Seligman**	**18.23**	**335**	⇑P		**Pn**	**07 03 19.4**	**+1.4**
	baz=18,SNR=145							
IRM	**Iron Mountain**	**18.26**	**329**	P		**Pn**	**07 03 19.3**	**+0.9**
	baz=18,SNR=110							
109C	**Camp Elliot, M**	**18.33**	**322**	⇓P		**Pn**	**07 03 19.9**	**+0.6**
	baz=18,SNR=27							
W13A	**Hualapai Mount**	**18.46**	**333**	⇑P		**Pn**	**07 03 21.9**	**+1.0**
	baz=18,SNR=39							
PFO	**Pinyon Flat Ob**	**18.50**	**325**	Pn		**Pn**	**07 03 22.0**	**+0.6**
	comp=Z,1μm,1.0s							
PFO	**Pinyon Flat Ob**	**18.50**	**325**	P		**Pn**	**07 03 22.4**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=135,slow=7.8,SNR=152							
PFO				S		**Sn**	**07 06 49.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=190,slow=10,SNR=1.5							
PFO				Lg			07 08 55.7	
	comp=Z,0.3nm,0.3s,baz=260,slow=14,SNR=2.3							
PFO	**Pinyon Flat Ob**	**18.50**	**325**	*e*P		**Pn**	**07 03 22.1**	**+0.8**
	comp=Z,218nm,1.0s							
PFO	**Pinyon Flat Ob**	**18.50**	**325**	P		**Pn**	**07 03 22.3**	**+0.9**
	baz=19,SNR=160							
NEE2	**Needles Airpor**	**18.50**	**331**	⇓P		**Pn**	**07 03 21.8**	**+0.4**
	baz=19							
BELC	**Belle Mtn.**	**18.56**	**327**	⇓P		**Pn**	**07 03 22.8**	**+0.7**
	baz=19,SNR=75							
MVCO	**Mesa Verde**	**18.74**	**348**	*e*P		**Pn**	**07 03 24.3**	**+0.1**
	comp=Z,2μm,1.0s							
MVCO	**Mesa Verde**	**18.74**	**348**	P		**Pn**	**07 03 24.9**	**+0.6**
	baz=19,SNR=57							
SDCO	**Great Sand Dun**	**18.88**	**356**	*e*P		**Pn**	**07 03 26.9**	**+0.9**
	comp=Z,224nm,1.5s							
UALR	**University of**	**18.89**	**31**	*e*P		**Pn**	**07 03 25.4**	**-0.6**
	comp=Z,154nm,1.1s							
MURC	**Murrieta**	**18.91**	**324**	⇓P		**Pn**	**07 03 26.6**	**+0.3**
	baz=19,SNR=49							
W12A	**Cal Nev Ari**	**19.06**	**331**	⇓P		**Pn**	**07 03 28.3**	**+0.2**
	baz=19,SNR=30							
BBRC	**Big Bear Sol-O**	**19.25**	**325**	⇓P		**Pn**	**07 03 30.9**	**+0.5**
	baz=19,SNR=22							
SCI	**San Clemente I**	**19.26**	**320**	⇓P		**Pn**	**07 03 30.1**	**-0.4**
	baz=19,SNR=12							
HEC	**Hector,Ludlow**	**19.38**	**328**	P		**Pn**	**07 03 31.9**	**-0.1**
	baz=19,SNR=68							
V12A	**Nelson**	**19.41**	**332**	⇑P		**Pn**	**07 03 32.3**	**0.0**
	baz=20,SNR=97							
BRAL	**Brewton**	**19.45**	**48**	*e*P		**Pn**	**07 03 33.5**	**+0.7**
	comp=Z,640nm,1.4s							
BRAL				*e*Sn		**Sn**	**07 07 10.7**	**+0.5**
BRAL				LR		LR		
	comp=Z,2μm,21.0s							
CIS	**Catalina Islan**	**19.46**	**321**	⇑P		**Pn**	**07 03 31.9**	**-1.0**
	baz=20,SNR=20							
FMP	**Fort Macarthur**	**19.61**	**322**	⇓P		**Pn**	**07 03 33.6**	**-1.2**
	baz=20							
BFSC	**Mount Baldy St**	**19.64**	**324**	P		**Pn**	**07 03 34.4**	**-0.6**
	baz=20,SNR=96							
PV01	**Paradox Valley**	**19.65**	**349**	*e*P		**Pn**	**07 03 34.4**	**-0.8**
TUQ	**Turquoise Mtn.**	**19.66**	**330**	⇓P		**Pn**	**07 03 34.9**	**-0.5**
	baz=20,SNR=138							
V11A	**Goodsprings**	**19.76**	**331**	P		**Pn**	**07 03 36.0**	**-0.5**
	baz=20,SNR=109							
RRX	**Edison Barstow**	**19.76**	**327**	⇑P		**Pn**	**07 03 35.8**	**-0.8**
	baz=20,SNR=10							
MWC	**Mount Wilson**	**19.85**	**323**	*e*P		**Pn**	**07 03 36.6**	**-0.9**
U12A	**Valley of Fire**	**19.87**	**334**	⇓P		**Pn**	**07 03 37.1**	**-0.7**
	baz=20,SNR=113							
SOR	**Soroa**	**19.90**	**75**	*e*P		**Pn**	**07 03 38.4**	**+0.2**
PV10	**Paradox Valley**	**19.97**	**348**	*e*P		**Pn**	**07 03 37.3**	**-1.7**
GSC	**Goldstone**	**19.99**	**328**	*e*

SRU **San Rafael** 21.00 345 eP P 07 03 48.8 +0.5
SRU pmax pmax
comp=Z,43nm,0.7s
SRU San Rafael 21.00 345 eP P 07 03 48.8 +0.5
comp=Z,43nm,0.7s
ISA Isabella 21.14 325 eP P 07 03 50.6 +0.7
comp=Z,0.3nm,0.9s
ISA LR LR
comp=Z,378nm,19.0s
ISA Isabella 21.14 325 P P 07 03 50.7 +0.9
baz=21,SNR=286
KSU1 Kansas State U 21.14 16 eP P 07 03 50.0 +0.1
comp=Z,351nm,1.1s,mb5.6
KSU1 LR LR
comp=Z,4µm,20.0s,MS4.8
DAC Darwin (Calif) 21.15 328 eP P 07 03 50.6 +0.6
DAC e*PP 07 03 58.7
DAC pmax pmax
comp=Z,252nm,1.1s,mb5.5
DAC MLR MLR
comp=Z,3µm,19.0s,MS4.8
DAC Darwin (Calif) 21.15 328 eP P 07 03 50.6 +0.7
comp=Z,252nm,1.1s,mb5.5
DAC epP 07 03 58.6
DAC LR LR
comp=Z,3µm,19.0s,MS4.8
PLAL Pickwick Lake 21.33 38 eP P 07 03 50.9 -1.0
comp=Z,122nm,1.2s,mb5.1
PLAL LR LR
comp=Z,4µm,20.0s,MS4.8
TMUT Trail Mountain 21.34 344 eP P 07 03 53.0 +1.0
PKM Peak Mountain 21.34 322 ⇓P P 07 03 52.0 0.0
baz=21,SNR=42
CWC Cottonwood Cre 21.53 327 ⇓P P 07 03 54.3 +0.3
baz=22,SNR=24
VES Vestal, Richgr 21.60 325 P P 07 03 55.6 +0.9
baz=22,SNR=125
GRAC Grapevine Rang 21.61 330 ⇓P P 07 03 55.9 +1.0
baz=22,SNR=122
SMMC Simmler 21.74 322 ⇑P P 07 03 56.5 +0.2
baz=22,SNR=53
UTMT University of 21.88 34 eP P 07 03 56.1 -1.7
TRCR Troy Canyon 21.94 335 eP P 07 03 58.8 +0.4
RCTC Rector, Farmer 22.04 325 ⇑P P 07 04 00.2 +0.7
baz=22,SNR=151
TIN Tinemaha 22.08 328 ⇑P P 07 04 00.7 +0.8
baz=22,SNR=40
V05C Boulder Hill, 22.08 323 ⇓P P 07 04 00.8 +0.9
baz=22,SNR=28
CCM Cathedral Cave 22.09 27 PFAKE 07 04 20.0 +20
CCM LR LR
comp=Z,2µm,22.0s,MS4.6
PTRM Twissleman Ran 22.10 323 eP P 07 04 00.5 +0.4
S09A Goldfield 22.13 331 P P 07 04 00.9 +0.5
baz=22,SNR=212
MPU Maple Canyon 22.13 344 eP P 07 04 00.9 +0.5
comp=Z,199nm,1.4s,mb5.3
MPU LR LR
comp=Z,2µm,20.0s,MS4.5
R10A Warm Springs 22.19 333 ⇑P P 07 04 01.7 +0.6
baz=22,SNR=99
NLU North Lily Min 22.19 343 eP P 07 04 01.9 +0.8
HELL Mitchell Peak, 22.20 326 P P 07 04 02.2 +1.0
baz=22,SNR=955
Q12A Willow Creek R 22.25 337 ⇓P P 07 04 01.7 0.0
baz=22,SNR=76
WVT Waverly 22.29 36 P P 07 04 00.6 -1.5
WVT pmax pmax
comp=Z,180nm,1.3s,mb5.3
WVT Waverly 22.29 36 eP P 07 04 00.5 -1.6
WVT LR LR
comp=Z,2µm,21.0s,MS4.6
FVM French Village 22.39 29 eP P 07 04 02.8 -0.4
FVM pmax pmax
comp=Z,83nm,0.9s,mb5.2
FVM French Village 22.39 29 eP P 07 04 02.8 -0.5
comp=Z,82nm,0.9s,mb5.2
Q11A Duckwater 22.40 335 P P 07 04 03.8 +0.5
baz=22,SNR=145
S08C White Mtn Res 22.40 329 ⇑P P 07 04 03.5 +0.3
baz=22,SNR=333
DAU Daniels Canyon 22.41 345 eP P 07 04 03.8 +0.4
TPH Tonopah 22.41 331 eP P 07 04 04.8 +1.3
TPH pmax pmax
comp=Z,395nm,1.2s,mb5.7
TPH MLR MLR
comp=Z,3µm,21.0s,MS4.6
TPH Tonopah 22.41 331 eP P 07 04 04.8 +1.3
comp=Z,395nm,1.2s,mb5.7
TPH LR LR
comp=Z,3µm,21.0s,MS4.6
PHWY Pilot Hill 22.42 357 eP P 07 04 04.1 +0.5
V04C Ramage Ranch, 22.48 321 ⇓P P 07 04 04.0 -0.1
baz=22,SNR=61
MTUM Tungsten Hills 22.48 328 eP P 07 04 05.0 +0.9
R09A Tonopah 22.48 332 ⇑P P 07 04 04.3 +0.2
baz=23,SNR=279
PKD Parkfield 22.50 323 ⇓P P 07 04 04.3 -0.1
baz=23,SNR=104
DWPF Disney 22.53 62 eP P 07 04 04.5 -0.2
comp=Z,270nm,1.1s,mb5.6
DWPF LR LR
comp=Z,4µm,22.0s,MS4.8
U05C Westside ANR, 22.54 324 ⇑P P 07 04 05.1 +0.3
baz=23,SNR=11
DUG Dugway 22.62 342 eP P 07 04 05.8 +0.1
DUG pmax pmax
comp=Z,128nm,1.2s,mb5.2
DUG MLR MLR
comp=Z,5µm,20.0s,MS5.0
DUG Dugway 22.62 342 eP P 07 04 05.8 +0.2
comp=Z,128nm,1.2s,mb5.2
DUG LR LR
comp=Z,5µm,20.0s,MS5.0
DUG Dugway 22.62 342 P P 07 04 05.8 +0.2
baz=23,SNR=80
JLU Jordanelle 22.64 345 eP P 07 04 05.9 +0.1
P12A McGill 22.66 337 P P 07 04 06.2 +0.1
baz=23,SNR=79
SIUC Southern Illin 22.75 31 eP P 07 04 06.5 -0.5
comp=Z,102nm,1.1s,mb5.2
CTU Camp Tracy 22.80 344 eP P 07 04 07.8 +0.3
comp=Z,44nm,0.9s,mb4.9
T06C Millerton Lake 22.81 326 P P 07 04 07.0 -0.6
baz=23,SNR=202
MLAC Mammoth Lakes 22.83 328 ⇑P P 07 04 08.4 +0.5
baz=23,SNR=106
KCC Kaiser Creek 22.84 327 ⇑P P 07 04 08.1 +0.1
baz=23,SNR=202
NOQ North Oquirrh 22.86 344 eP P 07 04 08.7 +0.6
comp=Z,55nm,0.9s,mb5.0
U04C Hernandez Rese 22.93 323 ⇓P P 07 04 08.8 -0.1
baz=23,SNR=57
RWWY Rawlins 22.94 354 eP P 07 04 09.6 +0.6
comp=Z,211nm,1.4s,mb5.4
V03C Hunter Liggett 22.96 322 ⇑P P 07 04 09.0 -0.2
baz=23,SNR=20
SLM Saint Louis 23.01 28 eP P 07 04 09.0 -0.8
SLM pmax pmax
comp=Z,134nm,1.1s,mb5.3
SLM Saint Louis 23.01 28 eP P 07 04 09.0 -0.8
comp=Z,134nm,1.1s,mb5.3
Q09A Carvers 23.02 333 ⇓P P 07 04 10.1 +0.2
baz=23,SNR=34
R08A Mina 23.04 330 ⇓P P 07 04 10.7 +0.5
baz=23,SNR=185
P11A Circle Ranch, 23.05 336 ⇑P P 07 04 10.0 -0.1
baz=23,SNR=29
LRV Little Rabbit 23.11 323 eP P 07 04 11.3 +0.5
NVAR Mina Array Bea 23.20 330 P P 07 04 12.2 +0.5
comp=Z,270nm,1.2s,mb5.6,baz=156,slow=7.1,SNR=364
NVAR PcP PcP 07 07 58.9 -0.3
comp=Z,12nm,1.0s,baz=165,slow=1.4,SNR=5.8
NVAR Lg 07 11 28.4
comp=Z,0.1nm,0.3s,baz=190,slow=7.5,SNR=2.7
NVAR Mina Array Bea 23.20 330 P P 07 04 12.2 +0.5
NVAR PcP PcP 07 07 58.9 -0.3
NVAR Lg 07 11 28.4
T05C Eagle Field, D 23.25 324 ⇑P P 07 04 11.4 -0.9
baz=23,SNR=8.7
R07C Lee Vining 23.29 329 ⇓P P 07 04 13.3 +0.6
baz=23,SNR=207
O12A Currie 23.31 339 P P 07 04 13.1 +0.2
baz=23,SNR=58
GOGA Godfrey 23.31 48 eP P 07 04 11.3 -1.6
GOGA pmax pmax
comp=Z,61nm,0.9s,mb5.0
GOGA MLR MLR
comp=Z,4µm,19.0s,MS4.9
GOGA Godfrey 23.31 48 eP P 07 04 11.3 -1.6
comp=Z,61nm,0.9s,mb5.0
GOGA LR LR
comp=Z,4µm,19.0s,MS4.9
BGU Big Grassy Mou 23.36 342 eP P 07 04 12.9 -0.6
Q08A Gabbs 23.38 331 ⇓P P 07 04 13.5 -0.1
baz=24,SNR=541
P10A Eureka 23.38 335 ⇑P P 07 04 13.8 +0.1
baz=24,SNR=54
S05C Merced 23.39 325 P P 07 04 13.2 -0.5
baz=23,SNR=82
HAST UC Hastings Re 23.39 322 ⇑P P 07 04 13.1 -0.7
baz=23,SNR=39
O11A Cowboy Ranch, 23.51 337 ⇓P P 07 04 14.6 -0.4
baz=24,SNR=58
S06C San Francisco 23.54 327 ⇑P P 07 04 14.7 -0.5
baz=24,SNR=72
SPUT South Promonto 23.56 344 eP P 07 04 12.2 -3.1
SAO San Andreas Ge 23.59 323 eP P 07 04 14.9 -0.8
SAO pmax pmax
comp=Z,80nm,1.1s,mb5.1
SAO MLR MLR
comp=Z,3µm,19.0s,MS4.8
SAO San Andreas Ge 23.59 323 eP P 07 04 14.9 -0.8
comp=Z,80nm,1.1s,mb5.1
SAO LR LR
comp=Z,3µm,19.0s,MS4.8
P09A Austin 23.60 334 ⇑P P 07 04 15.9 +0.2
baz=24,SNR=28
HWUT Hardware Ranch 23.61 346 eP P 07 04 15.0 -0.9
comp=Z,72nm,1.0s,mb5.1
HWUT LR LR
comp=Z,3µm,20.0s,MS4.8
N13A Wendover, West 23.66 340 ⇓P P 07 04 16.1 -0.2
baz=24,SNR=12
PACP Pacheco Peak 23.67 323 ⇓P P 07 04 16.0 -0.4
baz=24,SNR=55
USIN University of 23.73 33 eP P 07 04 16.8 -0.1
comp=Z,92nm,0.8s,mb5.3
WAKR Walker 23.81 329 eP P 07 04 18.6 +1.0
R06C Coleville 23.83 329 ⇑P P 07 04 18.8 +1.0
baz=24,SNR=261
Q07A Schurz 23.84 330 ⇓P P 07 04 18.2 +0.3
baz=24,SNR=5.6
ELK Elko 23.90 338 eP P 07 04 19.1 +0.6
ELK pmax pmax
comp=Z,25nm,0.8s
ELK MLR MLR
comp=Z,5µm,19.0s
ELK Elko 23.90 338 eP P 07 04 19.1 +0.6
comp=Z,25nm,0.8s,mb4.7
ELK LR LR
comp=Z,5µm,19.0s,MS5.0
N12A Clover Valley, 23.93 339 ⇑P P 07 04 18.8 +0.1
baz=24,SNR=38
CMB Columbia Colle 23.93 326 eP P 07 04 18.3 -0.5
CMB pmax pmax
comp=Z,191nm,1.4s,mb5.3
CMB MLR MLR
comp=Z,2µm,20.0s,MS4.5
CMB Columbia Colle 23.93 326 eP P 07 04 18.3 -0.5
comp=Z,191nm,1.4s,mb5.3
CMB LR LR
comp=Z,2µm,20.0s,MS4.5
CMB Columbia Colle 23.93 326 P P 07 04 18.3 -0.5
baz=24,SNR=94
O10A Cortez Mining, 23.97 336 ⇓P P 07 04 19.3 +0.2
baz=24,SNR=21
S04C Ingram Canyon, 24.05 324 P P 07 04 19.7 -0.1
baz=24,SNR=47
HVU Hansel Valley 24.08 344 eP P 07 04 24.9 +4.7
HVU Hansel Valley 24.08 344 eP P 07 04 19.9 -0.3
comp=Z,94nm,1.0s,mb5.2
M13A Montello 24.10 341 ⇑P P 07 04 20.2 -0.1
baz=24,SNR=29
P08A Dixie Valley 24.12 332 ⇑P P 07 04 20.4 -0.1
baz=24,SNR=25
N11A Elko Archery C 24.14 338 ⇓P P 07 04 21.1 +0.3
baz=24,SNR=12
O09A Fish Creek Ran 24.14 334 P P 07 04 21.2 +0.5
baz=24,SNR=66
BNLO Ben Lomond (Sa 24.27 322 P P 07 04 21.7 -0.2
baz=24,SNR=7.0
R05C Kirkwood Meado 24.28 328 ⇓P P 07 04 22.6 +0.6
baz=24,SNR=122
BW06 Boulder Array 24.32 350 eP P 07 04 21.4 -0.9
comp=Z,44nm,1.0s,mb4.8
BW06 e 07 04 46.2
BW06 LR LR
comp=Z,5µm,21.0s,MS5.0
PDAR Pinedale Array 24.32 350 P P 07 04 21.2 -1.2
comp=Z,34nm,0.9s,mb4.8,baz=159,slow=8.6,SNR=75
PDAR PcP PcP 07 08 00.9 -0.7
comp=Z,9.5nm,1.0s,baz=165,slow=3.4,SNR=6.8
PDAR S S 07 08 36.4 -3.5
comp=Z,0.1nm,0.3s,baz=317,slow=46,SNR=2.3
PDAR Lg 07 12 07.0
comp=Z,0.4nm,0.8s,baz=12,slow=41,SNR=2.7
PDAR Pinedale Array 24.32 350 P P 07 04 21.2 -1.2
PDAR PcP PcP 07 08 00.9 -0.7
PDAR S S 07 08 36.4 -3.5
PDAR Lg 07 12 07.0
N10A Dunphy 24.34 336 ⇓P P 07 04 22.6 +0.1
baz=24
P07A Fallon 24.36 331 ⇓P P 07 04 23.2 +0.5
baz=24,SNR=17
WENL Wente Brothers 24.37 324 ⇑P P 07 04 23.2 +0.4
baz=24,SNR=57
BMN Battle Mountai 24.38 335 eP P 07 04 23.3 +0.4
BMN pmax pmax
comp=Z,152nm,1.0s,mb5.4
BMN MLR MLR
comp=Z,2µm,21.0s,MS4.6
BMN Battle Mountai 24.38 335 eP P 07 04 23.3 +0.5
comp=Z,152nm,1.0s,mb5.4
BMN LR LR
comp=Z,2µm,21.0s,MS4.6
R04C Big Horse Ranc 24.39 326 ⇑P P 07 04 23.2 +0.2
baz=24,SNR=34
M12A Wells 24.39 340 ⇓P P 07 04 23.0 0.0
baz=24,SNR=59
TKL Tuckaleechee C 24.41 43 P P 07 04 21.8 -1.4
comp=Z,21nm,0.8s,mb4.6,baz=218,slow=8.8,SNR=20
TKL S S 07 08 39.3 -2.1
comp=Z,3.2nm,0.9s,baz=159,slow=13,SNR=1.3
TKL LR LR 07 16 37.0
comp=Z,3µm,18.1s,MS4.9,baz=299,slow=43
TKL Tuckaleechee C 24.41 43 P P 07 04 21.8 -1.4
TKL S S 07 08 39.3 -2.1
TKL pmax pmax
comp=Z,21nm,0.8s,mb4.6
TKL smax
comp=N,3.0nm,0.9s
TKL MLR MLR
comp=Z,3µm,18.1s,MS4.9
TKL Tuckaleechee C 24.41 43 P P 07 04 21.8 -1.4
TKL S S 07 08 39.3 -2.1
TKL LR LR 07 16 37.0
JRSC Jasper Ridge 24.49 323 ⇓P P 07 04 23.6 -0.3
baz=24,SNR=21
WCN Washoe City 24.58 329 P P 07 04 25.7 +1.0
baz=25,SNR=307
AHID Auburn Hatcher 24.61 347 eP P 07 04 24.7 -0.3
comp=Z,21nm,0.8s,mb4.7
AHID ePcP PcP 07 08 01.8 -0.5
AHID LR LR
comp=Z,4µm,19.0s,MS5.0
O08A Rochester Mine 24.65 333 ⇓P P 07 04 25.5 +0.2
baz=25
WCI Wyandotte Cave 24.65 35 P P 07 04 24.6 -0.8
WCI pmax pmax
comp=Z,110nm,1.1s,mb5.3
WCI Wyandotte Cave 24.65 35 eP P 07 04 23.9 -1.5
comp=Z,115nm,1.1s,mb5.3
WCI LR LR
comp=Z,3µm,22.0s,MS4.8
LAVA Lava Cap Winer 24.65 327 ⇑P P 07 04 25.2 -0.2
baz=25,SNR=206
BDM Black Diamond 24.67 324 ⇑P P 07 04 25.9 +0.4
baz=25,SNR=31
M11A Holland Ranch, 24.70 338 ⇑P P 07 04 26.4 +0.6
baz=25,SNR=56
SCIA State Center 24.72 19 eP P 07 04 25.4 -0.5
comp=Z,92nm,0.9s,mb5.3
SCIA LR LR
comp=Z,3µm,21.0s,MS4.7
SAC San Andreas 24.72 323 eP P 07 04 26.4 +0.4
SAC San Andreas 24.72 323 eP P 07 04 25.8 -0.1
N09A Rock Creek Ran 24.86 335 ⇓P P 07 04 27.3 +0.1
baz=25,SNR=54
O07A Toulon 24.86 332 P P 07 04 27.7 +0.5
baz=25,SNR=301
MCJ Malvern 24.87 88 ⇓iP sP 07 04 43.5 +4.9
CVJ Coleyville 24.98 87 ⇓iP sP 07 04 44.5 +5.0
P05C Yuba Gap, Truc 25.00 328 ⇓P P 07 04 29.5 +1.0
baz=25,SNR=161
Q04C Lincoln 25.05 326 ⇑P P 07 04 29.9 +1.0
baz=25,SNR=50
M10A I.L. Ranch, Tu 25.05 337 ⇑P P 07 04 29.2 +0.2
baz=25,SNR=23
TZTN Tazewell 25.11 41 eP P 07 04 29.1 -0.4
comp=Z,71nm,1.1s,mb5.1
TZTN ePcP PcP 07 08 01.9 -1.4
FARB Farallon Islan 25.13 322 ⇑P P 07 04 29.0 -0.8
baz=25,SNR=9.1
REDW Red Top Meadow 25.14 348 eP P 07 04 29.3 -0.5
comp=Z,78nm,0.9s,mb5.2
RSSD Black Hills 25.20 360 eP P 07 04 30.0 -0.3
RSSD e 07 08 02.9
RSSD pmax pmax
comp=Z,32nm,0.9s,mb4.8
RSSD Black Hills 25.20 360 eP P 07 04 30.0 -0.3
comp=Z,32nm,0.9s,mb4.8
RSSD ePcP PcP 07 08 02.9 -0.6
SNOW Snow King Moun 25.21 348 eP P 07 04 30.4 0.0
comp=Z,108nm,0.8s,mb5.4
BBJ Bamboo Saint A 25.22 87 ⇓iP sP 07 04 46.7 +5.0
BLO Bloomington 25.23 33 eP P 07 04 29.5 -1.1
BLO e 07 04 46.5
Q03C Winters 25.24 325 ⇑P P 07 04 30.4 -0.3
baz=25,SNR=29
COW Cow Castle Cre 25.27 50 eP P 07 04 30.6 -0.5
CVS Carmenet Viney 25.28 324 P P 07 04 31.0 0.0
baz=25,SNR=80
O06A Flanigan 25.30 330 ⇓P P 07 04 32.0 +0.8
baz=25,SNR=105
M09A Marrel Ranch, 25.31 336 ⇑P P 07 04 31.9 +0.5
baz=25,SNR=40
BEKR Beckwourth 25.31 329 P P 07 04 32.3 +1.0
baz=25,SNR=441
JSC Jenkinsville 25.33 48 P P 07 04 33.6 +2.1
JSC Jenkinsville 25.33 48 eP P 07 04 31.6 +0.1
JSC ePcP PcP 07 08 03.7 -0.2
LMGC Las Mercedes 25.36 83 eP P 07 04 34.4 +2.6
baz=260
LMGC e
comp=E,96nm,12.9s
N07B Gerlach 25.40 333 P P 07 04 32.4 +0.2
baz=26,SNR=281
DCID1 Drake Creek 25.43 348 eP P 07 04 33.7 +1.3
OHCM Honcut 25.47 327 eP P 07 04 33.1 +0.3
OHCM ePcP PcP 07 08 04.5 +0.3
NSHM Saint Helena R 25.48 324 eP P 07 04 32.7 -0.2
MOOW Moose Ponds 25.49 348 eP P 07 04 32.1 -0.8
comp=E,79nm,1.3s,mb5.1
MOOW ePcP PcP 07 08 04.2 0.0
BNJ Bonny Gate 25.53 87 ⇓iP sP 07 04 49.4 +4.9
NHSC New Hope 25.53 52 eP P 07 04 32.5 -0.8
comp=E,254nm,1.0s,mb5.7
NHSC LR LR
comp=Z,3µm,21.0s,MS4.7
SUTB Sutter Butte 25.55 326 P P 07 04 34.0 +0.4
baz=26,SNR=56
ECSD EROS,Sioux Fal 25.55 12 eP P 07 04 32.4 -1.2
comp=Z,75nm,1.2s,mb5.1
ECSD LR LR
comp=Z,2µm,22.0s,MS4.7
ORV Oroville 25.64 327 P P 07 04 34.9 +0.6
baz=26,SNR=180
MNRC McLaughlin Nat 25.65 325 P P 07 04 34.9 +0.5
baz=26,SNR=52
O05C Quincy 25.66 329 ⇓P P 07 04 35.6 +1.1
baz=26,SNR=84
IMW Indian Meadow 25.67 348 eP P 07 04 34.1 -0.5
comp=Z,34nm,0.8s,mb4.9
LHS Liberty Hill 25.75 48 eP P 07 04 36.3 +1.0
N06A Buffalo Meadow 25.76 331 P P 07 04 36.1 +0.7
baz=26,SNR=480
FLWY Flagg Ranch 25.80 349 eP P 07 04 35.9 +0.1
comp=Z,91nm,1.3s,mb5.2
L09A Wilkinson Ranc 25.91 336 ⇑P P 07 04 36.2 -0.5
baz=26,SNR=23
M07A Soldier Meadow 25.99 333 ⇑P P 07 04 38.0 +0.5
baz=26
O04C Chester 26.02 329 P P 07 04 38.8 +1.1
baz=26,SNR=327
HOPS Hopland 26.07 324 eP P 07 04 39.0 +0.8
comp=Z,184nm,1.2s,mb5.5
HOPS LR LR
comp=Z,3µm,20.0s,MS4.8
HOPS Hopland 26.07 324 ⇑P P 07 04 38.8 +0.6
baz=26,SNR=48
ELFS Eagle Lake Fie 26.08 330 ⇑P P 07 04 39.5 +1.2
baz=26,SNR=149
CMJ Castle Mountai 26.09 87 ⇓eP sP 07 04 53.9 +4.3
YFT Old Faithful 26.18 349 eP P 07 04 40.3 +1.0
YFT ePcP PcP 07 08 08.4 +2.6
HLID Hailey 26.19 342 eP P 07 04 38.8 -0.5
comp=Z,37nm,0.9s,mb4.9
HLID Hailey 26.19 342 P P 07 04 39.5 +0.2
baz=26,SNR=81
LKWY Lake 26.22 349 P P 07 04 48.2 +8.6
LKWY pmax pmax
comp=Z,23nm,1.1s,mb4.6
LKWY Lake 26.22 349 eP P 07 04 39.2 -0.4
comp=Z,23nm,1.1s,mb4.6
LKWY LR LR
comp=Z,10µm,19.0s,MS5.4
HLGC Holguin 26.23 81 eP P 07 04 38.6 -1.1
O03C Acorn Hollow, 26.25 327 ⇑P P 07 04 39.9 +0.1
baz=26,SNR=35
L08A Fields 26.32 335 P P 07 04 40.3 -0.1
baz=26,SNR=35
GASB Alder Springs 26.35 326 ⇑P P 07 04 41.6 +0.9
baz=26,SNR=58
YNR Norris Junctio 26.41 349 eP P 07 04 42.2 +0.9
YMR Madison River 26.42 349 eP P 07 04 41.5 +0.1
comp=Z,107nm,1.4s,mb5.2
YMR LR LR
comp=Z,6µm,21.0s,MS5.1
M06C Likely Place G 26.42 331 P P 07 04 42.0 +0.6
baz=26,SNR=221
K09A Rome 26.51 337 P P 07 04 42.4 +0.2
baz=27,SNR=144
P01C Double 8 Ranch 26.55 325 ⇓P P 07 04 42.8 +0.2
baz=27,SNR=48
L07A Adell 26.58 334 P P 07 04 43.5 +0.6
baz=27,SNR=109
RLMT Red Lodge 26.58 351 eP P 07 04 41.4 -1.4
comp=Z,15nm,0.6s,mb4.7
HATC Hat Creek Radi 26.58 329 ⇓P P 07 04 43.1 +0.2
baz=27,SNR=41
JFWS Jewell Farm 26.62 23 eP P 07 04 43.1 -0.1
JFWS pmax pmax
comp=Z,87nm,0.9s,mb5.3
JFWS MLR MLR
comp=Z,4µm,20.0s,MS4.9
JFWS Jewell Farm 26.62 23 eP P 07 04 43.1 -0.1
comp=Z,86nm,0.9s,mb5.3
JFWS LR LR
comp=Z,4µm,20.0s,MS4.9
WVOR Wild Horse Val 26.64 335 eP P 07 04 43.0 -0.4
WVOR pmax pmax
comp=Z,75nm,1.0s,mb5.2
WVOR Wild Horse Val 26.64 335 eP P 07 04 43.0 -0.4
comp=Z,75nm,1.0s,mb5.2
QLMT Earthquake Lak 26.66 348 eP P 07 04 44.4 +0.8
QLMT ePcP PcP 07 08 08.9 +2.0
O02C Red Bluff 26.77 327 P P 07 04 44.3 -0.3
baz=27,SNR=27
K08A Mann Creek Ran 26.83 336 P P 07 04 45.2 +0.1
baz=27,SNR=51
KCPM Cahto Peak 26.84 325 eP P 07 04 46.6 +1.5
M05C Lookout 26.85 330 P P 07 04 45.8 +0.5
baz=27,SNR=87
KIPM Iron Peak 26.87 325 eP P 07 04 46.5 +1.0
MOD Modoc 26.90 332 eP P 07 04 46.0 +0.3
comp=Z,116nm,1.2s,mb5.3
MOD LR LR
comp=Z,2µm,19.0s,MS4.6
MOD Modoc 26.90 332 P P 07 04 46.1 +0.4
baz=27,SNR=96

WDC	**Whiskeytown Da**	**26.94**	**327**	*e*P		**P**	**07 04 44.5**	**-1.6**
WDC	comp=Z,126nm,1.1s,mb5.4			pmax		pmax			
WDC	comp=Z,2µm,21.0s,MS4.7			MLR		MLR			
WDC	**Whiskeytown Da**	**26.94**	**327**	*e*P		**P**	**07 04 44.5**	**-1.6**
WDC	comp=Z,126nm,1.1s,mb5.4			LR		LR			
WDC	comp=Z,2µm,21.0s,MS4.7 **Whiskeytown Da**	**26.94**	**327**	⇑P		**P**	**07 04 44.6**	**-1.5**
MCMT	baz=27,SNR=58 **McKenzie Canyo**	**26.96**	**346**	*e*P		**P**	**07 04 47.2**	**+0.9**
J09A	**Fry Pan Ranch,** baz=27,SNR=155	**27.08**	**337**	⇓P		**P**	**07 04 47.6**	**+0.3**
K07A	**Rock Creek Ran** baz=27,SNR=116	**27.10**	**335**	P		**P**	**07 04 47.8**	**+0.3**
G15A	**Dillon** baz=27,SNR=45	**27.20**	**347**	P		**P**	**07 04 48.5**	**+0.1**
L05A	**Lakeview** baz=27,SNR=91	**27.25**	**332**	P		**P**	**07 04 49.8**	**+0.9**
M03C	**McCloud** baz=27,SNR=27	**27.25**	**329**	⇓P		**P**	**07 04 48.2**	**-0.7**
O01C	**Eel River Cons** baz=27,SNR=12	**27.29**	**325**	⇓P		**P**	**07 04 50.1**	**+0.8**
GCMT	**Greycliff**	**27.29**	**351**	*e*P		**P**	**07 04 48.0**	**-1.2**
ELN	**Prospectdale**	**27.30**	**43**	*e*P		**P**	**07 04 49.5**	**+0.1**
J08A	**Circle Bar Ran** baz=27,SNR=77	**27.36**	**336**	P		**P**	**07 04 50.0**	**+0.1**
DLMT	**Dillon** comp=Z,69nm,1.0s,mb5.1	**27.41**	**347**	*e*P		**P**	**07 04 50.8**	**+0.5**
FWV	**Forest Hill**	**27.47**	**42**	*e*P		**P**	**07 04 51.7**	**+0.8**
M04C	**Macdoel** baz=28,SNR=68	**27.51**	**330**	⇑P		**P**	**07 04 51.4**	**+0.2**
BLA	**Blacksburg**	**27.51**	**43**	P		**P**	**07 04 52.1**	**+0.9**
BLA	comp=Z,140nm,1.4s,mb5.4			pmax		pmax			
BLA	**Blacksburg**	**27.51**	**43**	*e*P		**P**	**07 04 51.1**	**0.0**
BLA	comp=Z,141nm,1.4s,mb5.4			LR		LR			
N02C	comp=Z,2µm,21.0s,MS4.7 **Big Bar**	**27.51**	**327**	⇓P		**P**	**07 04 50.7**	**-0.5**
K06A	baz=28,SNR=45 **Valley Falls**	**27.61**	**333**	⇑P		**P**	**07 04 51.9**	**-0.2**
I09A	baz=28,SNR=42 **Lost Marbles R**	**27.62**	**338**	⇑P		**P**	**07 04 51.8**	**-0.4**
J07A	baz=28,SNR=36 **Hines**	**27.70**	**335**	⇓P		**P**	**07 04 52.1**	**-0.7**
H11A	baz=28,SNR=9.5 **Donnelly**	**27.70**	**341**	P		**P**	**07 04 52.6**	**-0.3**
M02C	baz=28,SNR=60 **Callahan**	**27.70**	**328**	P		**P**	**07 04 51.8**	**-1.1**
KHMM	baz=28,SNR=15 **Horse Mountain**	**27.77**	**326**	*e*P		**P**	**07 04 54.1**	**+0.6**
KHMM				*e*PcP		PcP	07 08 10.5	+0.9
LRM	**Limekiln Ridge**	**27.82**	**347**	*e*P		**P**	**07 04 53.7**	**-0.3**
LRM				*e*PcP		PcP	07 08 10.5	+0.8
K05A	**Summer Lake** baz=28,SNR=20	**27.82**	**332**	P		**P**	**07 04 54.5**	**+0.5**
LAO	**LASA Array**	**27.83**	**357**	*e*P		**P**	**07 04 52.2**	**-1.8**
LAO	comp=Z,2µm,21.0s,MS4.6			LR		LR			
L04A	**Klamath Falls** baz=28,SNR=22	**27.84**	**331**	⇑P		**P**	**07 04 54.0**	**-0.1**
F15A	**Butte** baz=28,SNR=68	**27.85**	**347**	⇑P		**P**	**07 04 53.9**	**-0.3**
I08A	**Drewsey** baz=28,SNR=27	**27.87**	**337**	⇑P		**P**	**07 04 53.8**	**-0.6**
JCC	**Jacoby Creek** baz=28,SNR=11	**27.89**	**326**	⇑P		**P**	**07 04 54.2**	**-0.4**
YBH	**Yreka Blue Hor**	**27.89**	**329**	*e*P		**P**	**07 04 52.8**	**-1.8**
YBH	comp=Z,63nm,1.1s			pmax		pmax			
YBH	comp=Z,1µm,22.0s			MLR		MLR			
YBH	**Yreka Blue Hor** comp=Z,63nm,1.1s,mb5.2	**27.89**	**329**	*e*P		**P**	**07 04 52.8**	**-1.8**
YBH	comp=Z,1µm,22.0s,MS4.4			LR		LR			
YBH	**Yreka Blue Hor** baz=28,SNR=38	**27.89**	**329**	P		**P**	**07 04 53.7**	**-0.9**
MASC	**Masc**	**27.96**	**82**	*e*P		**P**	**07 04 57.5**	**+2.2**
F14A	**Wisdom** baz=28,SNR=10.0	**28.02**	**346**	⇓P		**P**	**07 04 55.5**	**-0.2**
K04A	**Chilquin** baz=28,SNR=14	**28.11**	**331**	⇓P		**P**	**07 04 56.3**	**-0.2**
H09A	**Durkee** baz=28,SNR=58	**28.20**	**339**	P		**P**	**07 04 57.0**	**-0.4**
CNNC	**Cliffs of the**	**28.21**	**49**	PFAKE			07 05 20.0	+23
CNNC	comp=Z,3µm,20.0s,MS4.9			LR		LR			
F13A	**Darby** baz=28	**28.23**	**344**	⇑P		**P**	**07 04 57.3**	**-0.3**
BMO	**Blue Mountains** comp=Z,64nm,1.0s,mb5.2	**28.25**	**340**	*e*P		**P**	**07 04 56.8**	**-1.0**
BMO				*e*PcP		PcP	07 08 09.4	-1.3
BMO	comp=Z,3µm,19.0s,MS4.9			LR		LR			
KRMB	**Red Mountain**	**28.33**	**327**	*e*P		**P**	**07 04 58.8**	**+0.2**
I07A	**Izee** baz=28,SNR=6.8	**28.37**	**336**	⇑P		**P**	**07 04 58.3**	**-0.6**
G11A	**Walters Elk Ra** baz=28,SNR=84	**28.41**	**341**	P		**P**	**07 04 58.7**	**-0.5**
J05A	**Fort Rock** baz=28,SNR=75	**28.42**	**333**	⇑P		**P**	**07 04 59.0**	**-0.3**
H08A	**Prairie City** baz=28,SNR=22	**28.43**	**337**	⇑P		**P**	**07 04 58.4**	**-0.9**
E15A	**Deer Lodge** baz=28,SNR=25	**28.44**	**347**	⇓P		**P**	**07 04 58.9**	**-0.6**
F12A	**Elk City** baz=28,SNR=112	**28.44**	**343**	P		**P**	**07 04 59.1**	**-0.4**
I06A	**Prineville** baz=29	**28.53**	**335**	⇑P		**P**	**07 04 59.9**	**-0.4**
HRY	**Holter Researc**	**28.55**	**349**	*e*P		**P**	**07 04 59.2**	**-1.3**
E14A	**Clinton** baz=29,SNR=57	**28.61**	**346**	P		**P**	**07 05 00.6**	**-0.5**
L02A	**Cave Junction** baz=29,SNR=8.1	**28.65**	**328**	⇑P		**P**	**07 05 01.0**	**-0.3**
HUMO	**Hull Mountain**	**28.67**	**330**	PFAKE			07 05 20.0	+18
HUMO	comp=Z,2µm,19.0s,MS4.6			LR		LR			
M01C	**Crescent City** baz=29,SNR=13	**28.68**	**327**	⇓P		**P**	**07 05 01.5**	**-0.1**
BBOR	**Butler Butte**	**28.76**	**331**	P		**P**	**07 05 01.2**	**-1.1**
J04A	**Umpqua Nationa** baz=29,SNR=39	**28.77**	**332**	⇑P		**P**	**07 05 02.0**	**-0.5**
E13A	**Victor** baz=29,SNR=74	**28.80**	**345**	⇓P		**P**	**07 05 02.3**	**-0.4**
F11A	**Grangeville** baz=29,SNR=43	**28.82**	**342**	⇓P		**P**	**07 05 01.7**	**-1.1**
KBO	**Bosley Butte**	**29.00**	**328**	*e*P		**P**	**07 05 05.2**	**+0.8**
D15A	**Lincoln** baz=29,SNR=15	**29.00**	**348**	⇑P		**P**	**07 05 03.5**	**-1.0**
AAM	**Ann Arbor**	**29.00**	**32**	*e*P		**P**	**07 05 03.8**	**-0.7**
AAM	comp=Z,107nm,1.2s,mb5.5			pmax		pmax			
AAM	comp=Z,2µm,21.0s,MS4.7			MLR		MLR			
AAM	**Ann Arbor** comp=Z,107nm,1.2s,mb5.5	**29.00**	**32**	*e*P		**P**	**07 05 03.8**	**-0.7**
AAM	comp=Z,2µm,21.0s,MS4.7			LR		LR			
CHMT	**Chamberlain Mo**	**29.03**	**347**	*e*P		**P**	**07 05 04.1**	**-0.7**
CHMT				*e*PcP		PcP	07 08 13.1	+0.4
K02A	**Glendale** baz=29,SNR=7.9	**29.05**	**329**	⇓P		**P**	**07 05 04.4**	**-0.5**
MSO	**Missoula**	**29.11**	**346**	*e*P		**P**	**07 05 04.8**	**-0.6**
MSO	comp=Z,3µm,20.0s,MS4.9			LR		LR			
I05A	**Bend** baz=29,SNR=74	**29.14**	**334**	⇓P		**P**	**07 05 05.6**	**-0.1**
G08A	**Pilot Rock** baz=29,SNR=85	**29.20**	**338**	P		**P**	**07 05 05.7**	**-0.6**
F09A	**S2 Ranch, Elgi** baz=29,SNR=39	**29.20**	**340**	⇓P		**P**	**07 05 05.3**	**-1.0**
F10A	**Beach Ranch, E** baz=29,SNR=105	**29.22**	**341**	P		**P**	**07 05 05.7**	**-0.7**
H06A	**Lindquist Farm** baz=29,SNR=9.7	**29.24**	**336**	⇓P		**P**	**07 05 06.1**	**-0.5**
D14A	**Greenough** baz=29,SNR=47	**29.25**	**346**	P		**P**	**07 05 06.3**	**-0.3**
J03A	**Ideyld Park** baz=29,SNR=11	**29.26**	**331**	⇓P		**P**	**07 05 05.8**	**-1.1**
MCWV	**Mont Chateau** comp=Z,17nm,0.8s,mb4.8	**29.33**	**40**	*e*P		**P**	**07 05 06.4**	**-1.1**
MCWV	comp=Z,3µm,19.0s,MS4.9			LR		LR			
HBO	**Huckleberry Mo**	**29.34**	**332**	P		**P**	**07 05 07.1**	**-0.4**
I04A	**Tendick Farm,** baz=29,SNR=12	**29.34**	**332**	⇓P		**P**	**07 05 06.5**	**-1.0**
G07A	**Ruggs Ranch, H** baz=30,SNR=16	**29.43**	**337**	⇑P		**P**	**07 05 07.6**	**-0.7**
D13A	**Huson** baz=30	**29.48**	**345**	⇓P		**P**	**07 05 07.7**	**-1.1**
EGMT	**Eagleton** comp=Z,118nm,1.1s,mb5.5	**29.49**	**352**	*e*P		**P**	**07 05 08.2**	**-0.7**
EGMT	comp=Z,1µm,21.0s,MS4.4			LR		LR			
EGMT	**Eagleton** baz=30,SNR=40	**29.49**	**352**	P		**P**	**07 05 08.2**	**-0.6**
H05A	**Madras** baz=30,SNR=11	**29.52**	**334**	⇓P		**P**	**07 05 08.5**	**-0.6**
FRIS	**Frissel Point**	**29.54**	**333**	P		**P**	**07 05 09.7**	**+0.5**
KEBM	**Edson Butte**	**29.54**	**329**	*e*P		**P**	**07 05 10.4**	**+1.1**
J02A	**Umpqua** baz=30,SNR=8.0	**29.54**	**330**	⇓P		**P**	**07 05 09.2**	**-0.1**
DGMT	**Dagmar**	**29.55**	**360**	*e*P		**P**	**07 05 08.6**	**-0.8**
DGMT	comp=Z,3µm,20.0s,MS4.9			LR		LR			
K01A	**Sixes** baz=30,SNR=7.8	**29.56**	**328**	⇓P		**P**	**07 05 09.9**	**+0.5**
F08A	**Pendleton** baz=30,SNR=30	**29.57**	**339**	⇑P		**P**	**07 05 07.9**	**-1.6**
E10A	**Myers Farm, Un** baz=30,SNR=25	**29.64**	**341**	⇑P		**P**	**07 05 08.3**	**-1.9**
G06A	**Carlson Farm,** baz=30,SNR=7.3	**29.77**	**336**	⇓P		**P**	**07 05 10.4**	**-1.0**
I03A	**Eugene** baz=30,SNR=50	**29.87**	**331**	⇓P		**P**	**07 05 11.9**	**-0.3**
D11A	**Klaveano Farm,** baz=30,SNR=57	**29.93**	**343**	⇓P		**P**	**07 05 11.3**	**-1.3**
C14A	**Swan Lake** baz=30,SNR=11	**29.95**	**347**	⇓P		**P**	**07 05 12.2**	**-0.7**
H04A	**Detroit Lake** baz=30,SNR=14	**29.95**	**333**	P		**P**	**07 05 12.5**	**-0.5**
E09A	**Wood Farm, Sta** baz=30,SNR=26	**29.99**	**340**	⇑P		**P**	**07 05 11.4**	**-1.8**
G05A	**Wamic** baz=30,SNR=16	**30.05**	**335**	⇑P		**P**	**07 05 13.4**	**-0.3**
C13A	**Hot Springs** baz=30,SNR=9.3	**30.05**	**346**	P		**P**	**07 05 13.5**	**-0.3**
F07A	**Phinny Hill Vi** baz=30,SNR=20	**30.07**	**337**	⇑P		**P**	**07 05 13.4**	**-0.5**
CBN	**Corbin**	**30.07**	**45**	PFAKE			07 05 30.0	+16
CBN	comp=Z,1µm,21.0s,MS4.5			LR		LR			
AGMN	**Agassiz Refuge** comp=Z,98nm,1.0s,mb5.5	**30.09**	**11**	*e*P		**P**	**07 05 13.2**	**-1.0**
AGMN				*e*PcP		PcP	07 08 14.2	-1.2
AGMN	comp=Z,4µm,22.0s,MS5.0			LR		LR			
I02A	**Mapleton** baz=30,SNR=6.2	**30.15**	**331**	⇑P		**P**	**07 05 14.7**	**0.0**
HOOD	**Mount Hood Mea**	**30.25**	**335**	*e*P		**P**	**07 05 16.0**	**+0.5**
BSMT	**Bassett Peak**	**30.27**	**345**	*e*P		**P**	**07 05 15.3**	**-0.4**
E08A	**Dider Farm, El** baz=30	**30.27**	**339**	⇑P		**P**	**07 05 13.8**	**-1.9**
F06A	**Goldendale** baz=30,SNR=25	**30.27**	**336**	⇓P		**P**	**07 05 15.1**	**-0.7**
C12A	**Trout Creek** baz=30,SNR=13	**30.30**	**344**	⇓P		**P**	**07 05 14.7**	**-1.3**
HAWA	**Hanford** comp=Z,19nm,0.9s,mb4.8	**30.35**	**338**	*e*P		**P**	**07 05 15.2**	**-1.2**
COR	**Corvallis**	**30.36**	**332**	P		**P**	**07 05 16.5**	**0.0**
COR	**Corvallis** comp=Z,135nm,0.9s,mb5.7	**30.36**	**332**	*e*P		**P**	**07 05 16.3**	**-0.2**
COR	comp=Z,3µm,19.0s,MS5.0			LR		LR			
ALLY	**Alegheny Colle**	**30.42**	**37**	*e*P		**P**	**07 05 15.3**	**-1.8**
H03A	**Soap Creek Ran** baz=30,SNR=29	**30.43**	**332**	⇓P		**P**	**07 05 17.0**	**-0.1**
G04A	**Mulino** baz=31,SNR=9.3	**30.50**	**334**	⇑P		**P**	**07 05 16.9**	**-0.8**
D09A	**Jones Farm, Ri** baz=31,SNR=26	**30.53**	**340**	⇓P		**P**	**07 05 16.5**	**-1.5**
E07A	**Sunnyside** baz=31,SNR=34	**30.61**	**338**	⇑P		**P**	**07 05 17.5**	**-1.2**
F05A	**White Salmon** baz=31,SNR=64	**30.64**	**336**	⇑P		**P**	**07 05 18.9**	**-0.1**
B13A	**Whitefish** baz=31,SNR=30	**30.68**	**346**	⇓P		**P**	**07 05 18.4**	**-1.0**
D08A	**Wollman Farm,** baz=31,SNR=10	**30.72**	**340**	P		**P**	**07 05 18.8**	**-0.9**
EYMN	**Ely**	**30.73**	**16**	*e*P		**P**	**07 05 18.4**	**-1.4**
EYMN	comp=Z,4µm,20.0s,MS5.0			LR		LR			
H02A	**Toledo** baz=31	**30.75**	**331**	⇓P		**P**	**07 05 20.2**	**+0.3**
C10A	**Spilker Farm,** baz=31,SNR=11	**30.90**	**342**	⇓P		**P**	**07 05 20.8**	**-0.5**
G03A	**Yamhill** baz=31,SNR=17	**30.93**	**333**	⇑P		**P**	**07 05 21.3**	**-0.2**
E06A	**Yakima** baz=31,SNR=57	**31.00**	**337**	P		**P**	**07 05 22.7**	**+0.5**
B12A	**Libby** baz=31	**31.04**	**345**	⇓P		**P**	**07 05 22.9**	**+0.4**
F04A	**Amboy** baz=31,SNR=17	**31.06**	**335**	P		**P**	**07 05 22.1**	**-0.6**
OTAV	**Otavalo** comp=Z,95nm,1.4s,mb5.4	**31.06**	**124**	*e*P		**P**	**07 05 24.6**	**+1.9**
OTAV	comp=Z,2µm,21.0s,MS4.8			LR		LR			
SSPA	**Standing Stone** comp=Z,19nm,1.1s,mb4.8	**31.12**	**40**	*e*P		**P**	**07 05 22.0**	**-1.2**
SSPA	comp=Z,2µm,19.0s,MS4.8			LR		LR			
EBG	**Ellensburg**	**31.16**	**338**	P		**P**	**07 05 24.1**	**+0.5**
C09A	**Chrisman Ranch** baz=31,SNR=12	**31.17**	**341**	P		**P**	**07 05 23.6**	**-0.1**
D07A	**Quincy** baz=31,SNR=8.5	**31.20**	**339**	⇑P		**P**	**07 05 23.5**	**-0.4**
B11A	**Sandpoint** baz=31	**31.21**	**344**	⇑P		**P**	**07 05 23.7**	**-0.3**
WALA	**Waterton Lakes** comp=Z,58nm,1.3s,mb5.2	**31.21**	**347**	*e*P		**P**	**07 05 24.9**	**+0.9**
NEW	**Newport**	**31.25**	**343**	P		**P**	**07 05 23.8**	**-0.6**
NEW				PcP		PcP	07 08 17.5	-1.0
NEW	comp=Z,26nm,0.9s,baz=141,slow=2.2,SNR=12			S		**S**	**07 10 28.1**	**-1.1**
NEW	comp=Z,1.0nm,0.7s,baz=35,slow=21,SNR=2.0			Lg			07 15 45.0	
NEW	comp=Z,0.5nm,0.4s,baz=126,slow=23,SNR=2.0			LR		LR	07 17 54.7	
NEW	comp=Z,2µm,19.9s,MS4.8,baz=342,slow=36 **Newport**	**31.25**	**343**	*e*P		**P**	**07 05 24.5**	**+0.1**
NEW				*e*			07 08 17.3	
NEW	comp=Z,46nm,1.1s			pmax		pmax			
NEW	comp=Z,2µm,20.0s			MLR		MLR			
NEW	**Newport** comp=Z,46nm,1.1s,mb5.2	**31.25**	**343**	*e*P		**P**	**07 05 24.5**	**+0.1**
NEW				*e*PcP		PcP	07 08 17.2	-1.2
NEW	comp=Z,2µm,20.0s,MS4.9			LR		LR			
E05A	**Randle** baz=31,SNR=38	**31.31**	**336**	⇓P		**P**	**07 05 24.7**	**-0.2**
B10A	**Chitwood Farm,** baz=31,SNR=7.0	**31.31**	**343**	⇓P		**P**	**07 05 24.0**	**-0.9**
TBM	**Table Mountain**	**31.39**	**338**	P		**P**	**07 05 25.8**	**+0.2**
C08A	**Higginbotham F** baz=32,SNR=9.9	**31.40**	**340**	⇓P		**P**	**07 05 24.8**	**-0.9**
A12A	**Yaak River Ran** baz=32,SNR=8.8	**31.48**	**345**	⇑P		**P**	**07 05 26.1**	**-0.3**
D06A	**Cle Elum** baz=32,SNR=60	**31.50**	**338**	⇑P		**P**	**07 05 26.6**	**0.0**
F03A	**Seaside** baz=32,SNR=5.4	**31.53**	**333**	⇓P		**P**	**07 05 27.1**	**+0.3**
WTV	**Waterville**	**31.62**	**339**	P		**P**	**07 05 28.0**	**+0.3**
C07A	**Waterville** baz=32,SNR=64	**31.65**	**339**	⇓P		**P**	**07 05 27.4**	**-0.5**
A11A	**Hall Mountain,** baz=32	**31.68**	**344**	⇓P		**P**	**07 05 27.8**	**-0.4**
B09A	**Rice** baz=32,SNR=22	**31.69**	**342**	P		**P**	**07 05 27.9**	**-0.4**
E04A	**Onalaska** baz=32,SNR=25	**31.72**	**335**	⇑P		**P**	**07 05 28.7**	**+0.2**
CBSW	**Chelan Butte S**	**31.75**	**339**	P		**P**	**07 05 29.1**	**+0.4**
D05A	**Enumclaw** baz=32,SNR=13	**31.92**	**336**	⇓P		**P**	**07 05 30.4**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,17nm,0.8s,mb4.9,baz=200,slow=9.3,SNR=32	**31.98**	**10**	P		**P**	**07 05 28.8**	**-2.0**
ULM				PcP		PcP	07 08 17.8	-2.6
ULM	comp=Z,22nm,1.1s,baz=260,slow=3.7,SNR=4.2			S		**S**	**07 10 34.1**	**-6.5**
ULM	comp=Z,4.3nm,1.1s,baz=21,slow=11,SNR=1.9			Lg			07 15 49.8	
ULM	comp=Z,1.1nm,0.6s,baz=295,slow=22,SNR=2.8			LR		LR	07 18 24.6	
ULM	comp=Z,3µm,18.2s,MS5.0,baz=23,slow=36 **Lac du Bonnet**	**31.98**	**10**	*e*P		**P**	**07 05 29.0**	**-1.8**
ULM	comp=Z,42nm,1.2s,mb5.1			LR		LR			
B08A	comp=Z,4µm,20.0s,MS5.1 **Colville Reser**	**32.00**	**340**	⇓P		**P**	**07 05 30.6**	**-0.3**
ROSC	baz=32,SNR=100 **El Rosal**	**32.01**	**112**	P		**P**	**07 05 33.9**	**+2.8**
ROSC	comp=Z,17nm,1.1s,mb4.8,baz=93,slow=19,SNR=2.1			S		**S**	**07 10 43.2**	**+2.0**
ROSC	comp=Z,1.9nm,0.4s,baz=105,slow=23,SNR=1.7 **El Rosal**	**32.01**	**112**	*e*P		**P**	**07 05 35.0**	**+3.9**
E03A	**Lebam** baz=32,SNR=28	**32.02**	**334**	⇓P		**P**	**07 05 31.3**	**+0.1**
A10A	**Northport** baz=32,SNR=33	**32.03**	**343**	⇓P		**P**	**07 05 30.1**	**-1.1**
D04A	**Dobbs Creek Ra** baz=32,SNR=5.3	**32.17**	**335**	⇑P		**P**	**07 05 32.1**	**-0.4**
C05A	**Tolt Reservoir** baz=32,SNR=6.0	**32.23**	**337**	⇑P		**P**	**07 05 32.3**	**-0.7**
A09A	**Danville** baz=32,SNR=49	**32.31**	**342**	⇑P		**P**	**07 05 33.0**	**-0.8**
B07A	**Winthrop** baz=32,SNR=14	**32.34**	**340**	⇑P		**P**	**07 05 33.3**	**-0.7**
A08A	**Turner Farm, O** baz=33	**32.50**	**341**	⇓P		**P**	**07 05 34.5**	**-0.9**
GNW	**Green Mountain**	**32.55**	**336**	*e*P		**P**	**07 05 35.1**	**-0.7**
GNW				*e*PcP		PcP	07 08 22.0	0.0
D03A	**Wishkah Elem.** baz=33	**32.57**	**334**	⇓P		**P**	**07 05 35.4**	**-0.5**
LUPA	**Lehigh Univers**	**32.67**	**42**	*e*P		**P**	**07 05 37.6**	**+0.8**
LUPA				*e*			07 05 53.7	
LUPA				*e*PcP		PcP	07 08 21.0	-1.2
C04A	**Brinnon** baz=33,SNR=7.0	**32.73**	**336**	⇑P		**P**	**07 05 36.7**	**-0.7**
B06A	**Marblemount** baz=33,SNR=15	**32.86**	**338**	⇑P		**P**	**07 05 37.7**	**-0.8**
B05A	**Bryant** baz=33,SNR=26	**32.86**	**337**	P		**P**	**07 05 37.7**	**-0.8**
A07A	**Ashnola River,** baz=33,SNR=13	**32.94**	**340**	⇑P		**P**	**07 05 38.3**	**-0.9**
BINY	**Binghamton** comp=Z,29nm,1.0s,mb5.2	**33.19**	**39**	*e*P		**P**	**07 05 40.7**	**-0.7**
BINY				*e*			07 05 56.5	
BINY				*e*PcP		PcP	07 08 22.7	-1.0
BINY	comp=Z,6µm,19.0s,MS5.3			LR		LR			
B04A	**Port Angeles** baz=33,SNR=5.9	**33.22**	**336**	⇑P		**P**	**07 05 41.0**	**-0.7**
A06A	**Chilliwack** baz=33	**33.35**	**339**	⇓P		**P**	**07 05 41.9**	**-0.8**
A04A	**Legoe Bay, Lum** baz=34,SNR=6.9	**33.46**	**337**	⇑P		**P**	**07 05 43.2**	**-0.6**
A05A	**Maple Falls** baz=34,SNR=31	**33.47**	**338**	P		**P**	**07 05 43.5**	**-0.4**
VDB	**Vedder Mountai**	**33.50**	**338**	P		**P**	**07 05 43.3**	**-0.9**
C03A	**Quillayute Air** baz=34	**33.55**	**335**	⇑P		**P**	**07 05 44.9**	**+0.3**
PGC	**Sidney**	**33.68**	**336**	*e*P		**P**	**07 05 46.0**	**+0.3**
SDV	**Santo Domingo** comp=Z,103nm,1.1s,mb5.7	**33.71**	**102**	*e*P		**P**	**07 05 47.6**	**+1.7**
SDV				*e*PcP		PcP	07 08 25.4	+0.2
SDV	comp=Z,893nm,22.0s,MS4.4			LR		LR			
MPR	**Mayaguez**	**34.80**	**85**	*e*P		**P**	**07 05 56.3**	**+0.9**
EDM	**Edmonton**	**35.09**	**350**	*e*P		**P**	**07 05 56.3**	**-1.5**
NCB	**Newcomb** comp=Z,7.8nm,0.5s,mb4.9	**35.28**	**38**	*e*P		**P**	**07 05 58.5**	**-1.0**
NCB	comp=Z,2µm,19.0s,MS4.8			LR		LR			
LONY	**Lake Ozonia**	**35.45**	**37**	PFAKE			07 06 20.0	+19
LONY	comp=Z,2µm,20.0s,MS4.9			LR		LR			
FFC	**Flin Flon** comp=Z,294nm,0.8s,mb6.3,SNR=15	**35.84**	**2**	P		**P**	**07 06 02.3**	**-2.0**
CPD	**Cerro la Pandu**	**35.98**	**85**	*e*P		**P**	**07 06 07.2**	**+1.7**
CPD	**Cerro la Pandu**	**35.98**	**85**	*e*P		**P**	**07 06 05.7**	**+0.2**
CBYP	**Canovanas**	**36.01**	**85**	*e*P		**P**	**07 06 09.0**	**+3.2**
HUMP	**Col San Antoni**	**36.03**	**85**	*e*P		**P**	**07 06 06.4**	**+0.5**
HUMP				*e*PcP		PcP	07 08 31.8	-0.2
HRV	**Harvard--Oak R**	**36.10**	**42**	PFAKE			07 06 30.0	+23
HRV	comp=Z,1µm,22.0s,MS4.7			LR		LR			
WES	**Weston**	**36.19**	**42**	PFAKE			07 06 30.0	+23
WES	comp=Z,2µm,20.0s,MS4.9			LR		LR			
MTP	**Monte Pirata**	**36.32**	**85**	*e*P		**P**	**07 06 09.2**	**+0.8**
BBSR	**BB Station**	**37.60**	**61**	*e*P		**P**	**07 06 19.2**	**-0.1**
BBSR	comp=Z,1µm,20.0s,MS4.8			LR		LR			
SABT	**Saba**	**38.56**	**85**	*e*P		**P**	**07 06 28.8**	**+1.4**
PKME	**Peaks-Kenny Pk**	**38.93**	**40**	PFAKE			07 06 50.0	+20
PKME	comp=Z,2µm,21.0s,MS4.8			LR		LR			
CPB	**Codrington**	**39.89**	**85**	*e*P		**P**	**07 06 39.7**	**+1.2**
BPA	**Boggy Peak**	**39.96**	**86**	*e*P		**P**	**07 06 39.5**	**+0.5**
LZG	**Guadaloupe-1**	**40.18**	**87**	*e*P		**P**	**07 06 41.4**	**+0.5**
TBG	**Guadaloupe-3**	**40.36**	**87**	*e*P		**P**	**07 06 42.9**	**+0.5**
FCC	**Fort Churchill**	**40.50**	**8**	*e*P		**P**	**07 06 41.9**	**-1.7**
FCC	comp=Z,83nm,1.1s,mb5.4			pmax		pmax			
FCC	**Fort Churchill** comp=Z,83nm,1.1s,mb5.4	**40.50**	**8**	*e*P		**P**	**07 06 41.9**	**-1.6**
NNA	**Nana**	**40.62**	**137**	*e*P		**P**	**07 06 44.6**	**+0.1**
NNA	comp=Z,246nm,22.0s,MS4.0			LR		LR			
MGG	**Marie-Galante**	**40.66**	**87**	*e*P		**P**	**07 06 45.5**	**+0.7**
DEG	**La Desirade**	**40.83**	**87**	*e*P		**P**	**07 06 45.8**	**-0.5**
BBGH	**Gun Hill**	**42.90**	**91**	PFAKE			07 07 20.0	+17
BBGH	comp=Z,3µm,20.0s,MS5.2			LR		LR			
DLBC	**Dease Lake**	**43.92**	**340**	*e*P		**P**	**07 07 11.8**	**+0.4**
YKA	**Yellowknife Ar** comp=Z,30nm,1.0s,mb5.0,baz=160,slow=7.9,SNR=53	**44.24**	**353**	P		**P**	**07 07 11.5**	**-2.4**
YKA	comp=Z,13nm,0.9s,baz=158,slow=3.3,SNR=11			PcP		PcP	07 08 57.3	-0.9
YKA	comp=Z,1.1nm,0.8s,baz=196,slow=36,SNR=2.8			S		**S**	**07 13 44.1**	**-1.8**
YKA	comp=Z,3µm,18.1s,MS5.3,baz=170,slow=36			LR		LR	07 25 22.3	
YKA	**Yellowknife Ar**	**44.24**	**353**	P		**P**	**07 07 11.6**	**-2.4**
YKA							07 08 57.3	
YKA				S		**S**	**07 13 44.1**	**-1.8**
YKA	**Yellowknife Ar**	**44.24**	**353**	P		**P**	**07 07 11.6**	**-2.4**
YKA				PcP		PcP	07 08 57.3	-0.9
YKA				S		**S**	**07 13 44.1**	**-1.8**
YKA				LR		LR	07 25 22.3	
YKW3	**Yellowknife Ar**	**44.31**	**353**	*e*P		**P**	**07 07 12.7**	**-1.8**
SIT	**Sitka**	**44.73**	**336**	*e*P		**P**	**07

LPAZ LR LR
comp=Z,875nm,19.0s,MS4.8
PTCN Pitcairn Islan 50.56 211 PFAKE 07 08 10.0 +6.8
PTCN LR LR
comp=Z,3µm,19.0s,MS5.3
EYAK Cordova Ski Ar 51.12 335 *e*P **P** **07 08 07.1 -0.2**
DAWY Dawson 51.14 341 *e*P **P** **07 08 07.0 -0.5**
DIV Divide 51.47 336 *e*P **P** **07 08 09.8 -0.2**
comp=Z,171nm,0.9s,mb6.0
DIV *e*pP pP 07 08 22.1 +3.8
DIV LR LR
comp=Z,3µm,19.0s,MS5.3
RKT Rikitea 51.59 217 *e*S **S** **07 15 18.3 -12**
comp=Z,1µm,27.5s
RKT *e*SS SS 07 19 04.0 -2.3
comp=Z,301nm,28.8s
RKT *e*LR LR 07 22 45.0
comp=Z,4µm,27.0s,baz=34
MENT Mentasta 51.82 338 *e*P **P** **07 08 12.9 +0.3**
EGAK Eagle 52.19 341 *e*P **P** **07 08 14.2 -1.2**
comp=Z,140nm,1.1s,mb5.8
KDAK Kodiak Island 52.70 330 P **P** **07 08 19.3 +0.1**
comp=Z,20nm,0.6s,mb5.2,baz=163,slow=4.6,SNR=22
KDAK S **S** **07 15 41.1 -4.2**
comp=Z,6.6nm,0.9s,baz=125,slow=20,SNR=2.0
KDAK Kodiak Island 52.70 330 P **P** **07 08 19.3 +0.1**
KDAK S **S** **07 15 41.1 -4.2**
INK Inuvik 52.84 347 P **P** **07 08 19.1 -1.1**
comp=Z,118nm,0.8s,mb5.9,baz=144,slow=8.9,SNR=420
INK S **S** **07 15 43.6 -3.5**
comp=Z,2.9nm,1.2s,baz=7.2,slow=4.6,SNR=1.9
INK Inuvik 52.84 347 P **P** **07 08 19.1 -1.0**
INK S **S** **07 15 43.6 -3.5**
INK smax
comp=N,3.0nm,1.2s
SML Sawmill 52.87 335 *e*P **P** **07 08 20.2 -0.2**
SLKM Skilak Lake 52.95 333 P **P** **07 08 20.6 -0.4**
SLKM Skilak Lake 52.95 333 *e*P **P** **07 08 20.3 -0.6**
PMR Palmer 53.07 335 *e*P **P** **07 08 21.3 -0.6**
PMR pP 07 08 28.4 -1.7
PMR Palmer 53.07 335 *e*P **P** **07 08 21.1 -0.8**
comp=N,107nm,0.9s,mb5.8
PMR LR LR
comp=Z,700nm,17.0s,MS4.8
LVC Limon Verde 53.53 139 *e*P **P** **07 08 26.4 +1.1**
LVC LR LR
comp=Z,748nm,20.0s,MS4.7
MCK McKinley 54.18 337 *e*P **P** **07 08 29.3 -0.7**
MCK pmax pmax
comp=Z,99nm,1.0s,mb5.7
MCK McKinley 54.18 337 *e*P **P** **07 08 29.1 -0.9**
comp=Z,100nm,1.1s,mb5.7
MCK LR LR
comp=Z,545nm,22.0s,MS4.6
COLA College 54.45 339*c i*P **P** **07 08 30.8 -1.2**
COLA College 54.45 339 *e*P **P** **07 08 30.4 -1.6**
comp=Z,77nm,1.1s,mb5.5
COLA *e*PcP PcP 07 09 35.0 -0.3
COLA LR LR
comp=Z,1µm,20.0s,MS5.0
SVW2 Sparrevohn 55.54 332 *e*P **P** **07 08 38.6 -1.3**
RES Resolute Bay 56.07 3 *e*P **P** **07 08 41.8 -1.9**
RES Resolute Bay 56.07 3 *e*P **P** **07 08 40.9 -2.8**
comp=Z,324nm,0.7s,mb6.5
IMA2 Indian Mountai 57.15 338 *e*P **P** **07 08 49.5 -1.8**
FALS False Pass 57.34 324 *e*P **P** **07 08 51.6 -1.0**
PPT Papeete 57.68 234 *e*PP PP 07 10 55.1 -7.9
comp=Z,71nm,25.0s
PPT Papeete 57.68 234 *e*S **S** **07 16 44.1 -7.7**
comp=Z,1µm,26.0s
PPT *e*SS SS 07 20 34.0 -8.3
comp=Z,585nm,26.2s
PPT *e*LR LR 07 25 37.5
comp=Z,3µm,25.5s,baz=51
PPT Papeete 57.68 234 LR LR 07 27 18.2
comp=Z,1µm,18.3s,MS5.0,baz=54,slow=29
SFJD Kangerlussuaq 58.81 22 *i* P **P** **07 09 08.6 +5.7**
SFJD Kangerlussuaq 58.81 22 *e*P **P** **07 09 08.6 +5.7**
SFJD LR LR
comp=Z,2µm,20.0s,MS5.3
UNV Unalaska Valle 58.89 322 *e*P **P** **07 09 02.7 -0.8**
comp=Z,432nm,1.1s,mb6.4
TBI Tubuai 61.14 229 *e*S **S** **07 17 28.6 -8.0**
comp=Z,1µm,29.8s
TBI *e*SS SS 07 21 29.8 -6.8
comp=Z,412nm,31.8s
TBI *e*LR LR 07 27 09.6
comp=Z,3µm,27.8s,baz=46
TNA Tin City 62.33 335 *e*P **P** **07 09 25.8 -1.1**
comp=Z,85nm,1.2s,mb5.8
TNA *e*pP pP 07 09 35.1 -0.2
TNA LR LR
comp=Z,573nm,22.0s,MS4.7
ALE Alert 65.70 5 P **P** **07 09 47.0 -2.1**
comp=Z,383nm,1.0s,mb6.4,SNR=39
RAR Rarotonga 67.67 237 S S 07 18 54.7 -2.5
comp=Z,78nm,1.2s,baz=89,slow=1.7,SNR=1.7
TRQA Tornquist 68.94 146 *e*P **P** **07 10 08.5 -1.2**
comp=Z,62nm,1.6s,mb5.3
TRQA LR LR
comp=Z,526nm,19.0s,MS4.8
BORG Borgarnes 69.96 27 PFAKE 07 10 30.0 +14
BORG LR LR
comp=Z,683nm,20.0s,MS4.9
SMY Shemya 70.44 320 PFAKE 07 10 30.0 +11
SMY LR LR
comp=Z,303nm,19.0s,MS4.6
DAG Danmarks Havn 70.69 14⇓*i*P **P** **07 10 19.1 -1.3**
comp=Z,498nm,1.3s,mb6.3
RCBR Riachuelo 71.28 103 *e*P **P** **07 10 25.1 +1.1**
comp=Z,117nm,1.2s,mb5.7
RCBR LR LR
comp=Z,1µm,20.0s,MS5.2
BILL Bilibino 72.63 337⇑*i*P **P** **07 10 31.2 -0.9**
BILL *i* pP 07 10 39.0 -1.7
BILL *i* 07 10 48.2
BILL *e*S S 07 19 57.9 +2.5
BILL pmax pmax
comp=Z,79nm,1.9s,mb5.3
BILL MLR MLR
comp=Z,1µm,15.0s,MS5.2
BILL Bilibino 72.63 337 *e*P **P** **07 10 30.9 -1.2**
comp=Z,68nm,1.3s,mb5.4
BILL *e* 07 10 48.8
BILL LR LR
comp=Z,854nm,21.0s,MS5.0
JMIC Jan Mayen 74.08 20 AMS AMS 07 44 42.2
comp=Z,1µm,17.7s,MS5.3
AFI Afiamalu 74.37 249 S S 07 20 14.5 -0.5
comp=Z,31nm,1.0s,baz=212,slow=21,SNR=1.9
AFI Afiamalu 74.37 249 PFAKE 07 10 50.0 +7.7
AFI LR LR
comp=Z,2µm,19.0s,MS5.4
KBS Kingsbay 76.39 10 *e*P **P** **07 10 58.1 +4.2**
KBS AMS AMS 07 46 47.1
comp=Z,1µm,17.7s,MS5.3
KBS Kingsbay 76.39 10 P **P** **07 10 55.3 +1.4**
KBS pmax pmax
comp=Z,220nm,1.4s,mb5.9
KBS Kingsbay 76.39 10 *e*P **P** **07 10 54.6 +0.7**
comp=Z,222nm,1.4s,mb5.9
KBS LR LR
comp=Z,1µm,17.7s,MS5.3
SPB4 Spitsbergen Ar 77.53 11 *e*P **P** **07 10 59.9 -0.5**
EGOM La Gomera 78.51 64⇑P **P** **07 11 06.7 +0.9**
comp=Z,277nm,1.4s,mb6.0
KPL Plockton 78.68 33 P **P** **07 11 06.9 +0.2**
KPL AMb AMB 07 11 08.3
comp=Z,215nm,1.5s,mb5.9
KPL Plockton 78.68 33 *e*P **P** **07 11 06.9 +0.2**
KPL AMb AMB 07 11 08.3
comp=Z,215nm,1.5s,mb5.9
KPL AMS AMS 07 45 38.0
comp=Z,736nm,20.4s,MS5.0
KAC Achnashellach 78.82 33 *e*P **P** **07 11 07.4 0.0**
KSB Sheil Bridge 78.84 33⇑*e*P **P** **07 11 07.4 -0.1**
DCN Croghan 78.95 37⇑*i*P **P** **07 11 08.2 0.0**
CCAN Las Canadas 79.00 64⇓P **P** **07 11 10.5 +2.0**
comp=Z,192nm,1.6s,mb5.8
GMK Mull of Kintyr 79.31 35 *e*P **P** **07 11 10.2 +0.1**
MDO Dochfour 79.31 33⇑*e*P **P** **07 11 10.4 +0.2**
DLF Lyons Farm 79.39 37⇑*i*P **P** **07 11 10.6 0.0**
GMM Mts of Mourne 79.44 36⇑*e*P **P** **07 11 10.9 +0.1**
SEY Seymchan 79.47 333⇑*e*P **P** **07 11 10.5 -0.6**
DSB Dublin 79.50 37 *e*P **P** **07 11 11.4 +0.2**
comp=Z,70nm,1.1s,mb5.5

PET Petropavlovsk 79.54 322 *e*P **P** **07 11 10.6 -0.8**
PET *e* pP 07 11 19.4 -0.6
PET *e*S S 07 21 13.8 +2.5
PET *e*SPP 07 22 10.6
PET pmax pmax
comp=Z,51nm,1.2s,mb5.3
PET pmax pmax
comp=Z,200nm,13.2s
PET smax
comp=N,700nm,17.7s
PET MLR MLR
comp=Z,400nm,17.0s,MS4.8
PET Petropavlovsk 79.54 322 *e*P **P** **07 11 11.1 -0.4**
comp=Z,137nm,1.4s,mb5.7
MLA1 Latheron 79.55 32⇑*e*P **P** **07 11 11.6 +0.1**
PMSU Muirshiel 79.61 34 *e*P **P** **07 11 11.8 0.0**
EAB Aberfoyle 79.72 34⇑*e*P **P** **07 11 12.2 -0.2**
WAL1 Walls 79.75 30 *e*P **P** **07 11 12.3 -0.2**
PGBU Glenifferbraes 79.76 34 P **P** **07 11 12.8 +0.2**
PGBU AMb AMB 07 11 15.1
comp=Z,135nm,1.2s,mb5.8
PGBU Glenifferbraes 79.76 34⇑*e*P **P** **07 11 12.8 +0.2**
PGBU AMb AMB 07 11 15.1
comp=Z,135nm,1.2s,mb5.8
PGBU AMS AMS 07 49 24.3
comp=Z,382nm,18.0s,MS4.8
MCD Coleburn Disti 79.84 33⇑*e*P **P** **07 11 13.6 +0.5**
GAL1 Galloway 79.94 35 P **P** **07 11 13.7 +0.1**
GAL1 AMb AMB 07 11 16.0
comp=Z,216nm,1.3s,mb5.9
GAL1 Galloway 79.94 35 *e*P **P** **07 11 13.7 +0.1**
GAL1 ⇑*e*P 07 11 13.7
GAL1 AMb AMB 07 11 16.0
comp=Z,216nm,1.3s,mb5.9
GAL1 AMS AMS 07 47 00.6
comp=Z,1µm,17.7s,MS5.2
LRW Lerwick 79.99 30 P **P** **07 11 14.9 +1.0**
LRW AMb AMB 07 11 17.5
comp=Z,127nm,1.3s,mb5.7
LRW Lerwick 79.99 30⇑*e*P **P** **07 11 14.9 +1.0**
LRW AMb AMB 07 11 17.5
comp=Z,127nm,1.3s,mb5.7
LRW AMS AMS 07 49 52.8
comp=Z,367nm,18.1s,MS4.8
MME1 Meikle Cairn 80.07 33⇑*e*P **P** **07 11 14.4 +0.1**
WIM Isle of Man 80.18 36 *e*P **P** **07 11 15.3 +0.4**
BJO Bjornoya 80.19 13 AMS AMS 07 48 31.3
comp=Z,3µm,17.4s,MS5.7
EAU Auchinoon 80.31 34⇑*e*P **P** **07 11 15.8 +0.3**
GCD Castle Douglas 80.36 35 *e*P **P** **07 11 16.0 +0.2**
EDI Edinburgh 80.42 34 P **P** **07 11 16.5 +0.4**
EDI AMb AMB 07 11 18.7
comp=Z,442nm,1.2s,mb6.3
EDI Edinburgh 80.42 34⇑*e*P **P** **07 11 16.5 +0.4**
EDI AMb AMB 07 11 18.7
comp=Z,442nm,1.2s,mb6.3
EDI AMS AMS 07 49 51.8
comp=Z,1µm,17.9s,MS5.2
WCB1 Church Bay 80.50 37 *e*P **P** **07 11 16.7 +0.1**
YRC Rhoscolyn 80.53 37 *e*P **P** **07 11 16.8 0.0**
EBL Broad Law 80.54 34⇑*e*P **P** **07 11 17.2 +0.3**
ESK Eskdalemuir 80.61 35 P **P** **07 11 17.1 -0.1**
comp=Z,821nm,1.2s,mb6.5,SNR=11
ESK Eskdalemuir 80.61 35 P **P** **07 11 17.4 +0.2**
ESK AMb AMB 07 11 19.6
comp=Z,266nm,1.3s,mb6.0
ESK Eskdalemuir 80.61 35⇑*e*P **P** **07 11 17.4 +0.2**
ESK AMb AMB 07 11 19.6
comp=Z,266nm,1.3s,mb6.0
ESK AMS AMS 07 47 01.3
comp=Z,843nm,18.2s,MS5.1
ESK Eskdalemuir 80.61 35 *e*P **P** **07 11 17.6 +0.4**
ESK pmax pmax
comp=Z,216nm,1.2s,mb6.0
ESK MLR MLR
comp=Z,338nm,19.0s,MS4.7
ESK Eskdalemuir 80.61 35 *e*P **P** **07 11 17.6 +0.4**
comp=Z,216nm,1.2s,mb6.0
ESK LR LR
comp=Z,338nm,19.0s,MS4.7
ECK Cauldkaine Hil 80.70 35⇑*e*P **P** **07 11 16.9 -0.7**
YRE Yr Eifl 80.70 37⇑*e*P **P** **07 11 17.6 -0.1**
ESY Stoneypath 80.72 34⇑*e*P **P** **07 11 18.3 +0.5**
EFI East Falkland 80.81 153 PFAKE 07 11 30.0 +12
EFI LR LR
comp=Z,178nm,20.0s,MS4.4
EMAZ Mazaricos 80.88 48 P **P** **07 11 19.5 +0.9**
comp=Z,396nm,1.5s,mb6.0
XSO Sourhope Farm 81.06 34⇑*e*P **P** **07 11 19.6 +0.1**
CFTV Fuerteventura 81.09 63⇑P **P** **07 11 20.8 +1.1**
comp=Z,52nm,1.0s,mb5.4
STS Santiago 81.20 48⇓P **P** **07 11 21.0 +0.7**
STS pmax pmax
comp=Z,174nm,1.3s,mb5.8
STS Santiago 81.20 48⇓P **P** **07 11 21.0 +0.7**
comp=Z,174nm,1.3s,mb5.8
XAL Allendale 81.30 35⇑*e*P **P** **07 11 21.4 +0.5**
HTL Hartland 81.31 39 P **P** **07 11 21.7 +0.8**
HTL AMb AMB 07 11 22.9
comp=Z,150nm,1.3s,mb5.8
HTL Hartland 81.31 39 *e*P **P** **07 11 21.7 +0.8**
HTL AMb AMB 07 11 22.9
comp=Z,150nm,1.3s,mb5.8
HTL AMS AMS 07 47 26.0
comp=Z,770nm,19.3s,MS5.1
SBD1 Bryn Du 81.39 37⇑*e*P **P** **07 11 21.2 -0.1**
MA2 Magadan 81.44 330⇓*i*P **P** **07 11 20.7 -0.9**
MA2 MLR MLR
comp=Z,532nm,19.0s,MS4.9
HEX Exmoor 81.69 39⇑*e*P **P** **07 11 22.9 -0.1**
HLM1 Long Mynd 81.74 37⇑*e*P **P** **07 11 23.3 +0.1**
DYA Yadsworthy 81.83 40⇑*e*P **P** **07 11 23.5 -0.2**
PMAFR Mafra 81.85 52 *e*P **P** **07 11 24.4 +0.7**
comp=Z,255nm,1.2s,mb6.0
MCH1 Michaelchurch 81.85 38 P **P** **07 11 23.8 0.0**
MCH1 AMb AMB 07 11 25.6
comp=Z,78nm,1.1s,mb5.5
MCH1 Michaelchurch 81.85 38⇑*e*P **P** **07 11 23.8 0.0**
MCH1 ⇑*e*P 07 11 23.8
MCH1 AMb AMB 07 11 25.6
comp=Z,78nm,1.1s,mb5.5
MCH1 AMS AMS 07 48 31.8
comp=Z,1µm,17.2s,MS5.4
PLOU Loures 81.96 52 *e*P **P** **07 11 25.1 +0.7**
comp=Z,307nm,1.3s,mb6.1
EPON Pontenova 82.04 47 P **P** **07 11 25.0 +0.3**
comp=Z,305nm,1.6s,mb6.0
HGH Gray Hill 82.08 38⇑*e*P **P** **07 11 24.9 -0.1**
KWE Weaver Farm 82.15 37⇑*e*P **P** **07 11 25.8 +0.4**
KBI1 Birley Grange 82.25 36 *e*P **P** **07 11 26.6 +0.7**
PVRL Vila Real 82.28 49 *e*P **P** **07 11 26.9 +0.9**
comp=Z,196nm,1.3s,mb5.9
ALMR Almeirim 82.31 51 *e*P **P** **07 11 26.8 +0.6**
PVIS Viseu 82.33 50 *e*P **P** **07 11 26.5 +0.2**
comp=Z,219nm,1.0s,mb6.0
ERUA La Rua 82.34 48⇓P **P** **07 11 27.4 +1.1**
ERUA pmax pmax
comp=Z,107nm,1.1s,mb5.7
ERUA La Rua 82.34 48⇓P **P** **07 11 27.4 +1.0**
comp=Z,107nm,1.1s,mb5.7
MOE Montemor 82.67 52 *e*P **P** **07 11 29.8 +1.7**
PTEO Sao Teotonio 82.69 53 *i* P **P** **07 11 29.0 +0.8**
comp=Z,300nm,1.4s,mb6.1
SWN1 Swindon 82.72 38 *e*P **P** **07 11 29.2 +0.9**
SWN1 AMb AMB 07 11 31.4
comp=Z,319nm,1.3s,mb6.2
ECAL Calabor 82.77 48 P **P** **07 11 29.6 +1.0**
comp=Z,96nm,1.2s,mb5.7
PBRG Braganca 82.81 48 *e*P **P** **07 11 29.2 +0.4**
comp=Z,67nm,1.2s,mb5.5
BER Bergen 82.89 28 *e*P **P** **07 11 30.5 +1.3**
PCBR Castelo Branco 82.90 50 *e*P **P** **07 11 29.6 +0.3**
comp=Z,212nm,1.2s,mb6.0
EVO Evora 82.92 52⇑*i*P **P** **07 11 29.6 +0.2**
comp=Z,510nm,1.0s,mb6.2
TIXI Tiksi 82.94 345 PFAKE 07 11 40.0 +11
TIXI LR LR
comp=Z,1µm,21.0s,MS5.3
ROSF Rostrenen 82.94 41⇑*i*P **P** **07 11 29.8 +0.3**
comp=Z,312nm,1.3s,mb5.9
TRO Tromso 83.04 17 *e*P **P** **07 11 29.1 -0.9**
TRO AMS AMS 07 48 58.1
comp=Z,960nm,14.6s,MS5.3
PESTR Estremoz 83.13 51 *e*P **P** **07 11 30.9 +0.5**
comp=Z,141nm,1.3s,mb5.8

QUIF Quistinic 83.16 42⇑*i*P **P** **07 11 31.1 +0.5**
comp=Z,276nm,1.4s,mb5.8
QUIF Quistinic 83.16 42⇑*i*P **P** **07 11 31.1 +0.5**
QUIF pmax pmax
comp=Z,138nm,1.4s,mb5.8
QUIF Quistinic 83.16 42⇑*i*P **P** **07 11 31.1 +0.5**
comp=Z,138nm,1.4s,mb5.8
PBEJ Beja 83.19 52 *e*P **P** **07 11 31.4 +0.6**
comp=Z,111nm,1.3s,mb5.7
EARI Arriondas 83.39 47 P **P** **07 11 32.5 +0.7**
comp=Z,224nm,1.8s,mb5.9
SGMF Saint Gilles 83.42 41⇑*i*P **P** **07 11 32.2 +0.3**
comp=Z,473nm,1.3s,mb6.1
EBAD Badajoz 83.59 51⇑P **P** **07 11 33.2 +0.4**
comp=Z,34nm,0.9s,mb5.5
NSS Namsos 83.63 23 *e*P **P** **07 11 32.5 -0.5**
NSS AMb AMB 07 11 35.0
comp=Z,129nm,1.9s,mb5.7
NSS AMS AMS 07 49 09.0
comp=Z,2µm,22.0s,MS5.4
EGRO El Granado 83.63 53⇑P **P** **07 11 34.0 +0.9**
comp=Z,229nm,1.7s,mb6.0
ABA1 Baconsthorpe 83.88 36 *e*P **P** **07 11 34.9 +0.6**
AEU East Anglia Un 84.03 36⇑*e*P **P** **07 11 35.2 +0.1**
EMIN Mina Concepcio 84.17 52⇑P **P** **07 11 36.7 +1.0**
comp=Z,794nm,2.8s,mb6.3
GRR Gorron 84.43 41⇑*i*P **P** **07 11 37.7 +0.6**
comp=Z,761nm,1.2s,mb6.4
GRR Gorron 84.43 41⇑*i*P **P** **07 11 37.7 +0.6**
GRR pmax pmax
comp=Z,381nm,1.2s,mb6.4
GRR Gorron 84.43 41⇑*i*P **P** **07 11 37.7 +0.6**
comp=Z,381nm,1.2s,mb6.4
FLN La Foliniere 84.52 40⇑*i*P **P** **07 11 38.3 +0.8**
comp=Z,1µm,1.1s,mb6.6
FLN *e*R
comp=Z,3µm,18.0s
FLN La Foliniere 84.52 40⇑*i*P **P** **07 11 38.3 +0.8**
FLN pmax pmax
comp=Z,512nm,1.1s,mb6.6
FLN MLR MLR
comp=Z,3µm,18.0s,MS5.7
FLN La Foliniere 84.52 40⇑*i*P **P** **07 11 38.3 +0.8**
comp=Z,512nm,1.1s,mb6.6
FLN LR LR
comp=Z,3µm,18.0s,MS5.7
ELAN Lanestosa 84.63 46 P **P** **07 11 38.6 +0.5**
comp=Z,156nm,1.1s,mb6.0
ARCES ARCESS Array B 84.88 16 P **P** **07 11 37.1 -2.3**
comp=Z,111nm,1.1s,mb5.9,baz=314,slow=4.4,SNR=45
ARCES LR LR 07 50 18.3
comp=Z,1µm,19.1s,MS5.3,baz=320,slow=36
ARCES ARCESS Array B 84.88 16 P **P** **07 11 37.1 -2.3**
ARCES pmax pmax
comp=Z,111nm,1.1s
ARCES MLR MLR
comp=Z,1µm,19.1s
ARE0 ARCESS Array S 84.88 16 *e*P **P** **07 11 39.2 -0.2**
SFS San Fernando 84.95 53 *e*P **P** **07 11 42.1 +2.4**
SFS pmax pmax
comp=Z,511nm,1.2s,mb6.5
SFS San Fernando 84.95 53 *e*P **P** **07 11 42.1 +2.4**
comp=Z,511nm,1.2s,mb6.5
GUD Guadarrama 85.03 49⇑P **P** **07 11 41.4 +1.3**
GUD pmax pmax
comp=Z,241nm,1.1s,mb6.2
GUD Guadarrama 85.03 49⇑P **P** **07 11 41.4 +1.2**
comp=Z,241nm,1.1s,mb6.2
ESPR Espera 85.08 53⇑P **P** **07 11 41.7 +1.3**
comp=Z,473nm,1.3s,mb6.5
KEV Kevo 85.11 15 *e*p **P** **07 11 39.9 -0.6**
NB2 NORSAR Subarra 85.12 26 P **P** **07 11 39.9 -0.7**
comp=Z,1.7nm,0.8s,baz=306,slow=4.6
NOA NORSAR Array B 85.12 26 P **P** **07 11 40.2 -0.4**
comp=Z,36nm,1.0s,mb5.5,baz=303,slow=4.8,SNR=31
NOA S S 07 21 59.0 -10
comp=Z,1.3nm,1.0s,baz=114,slow=20,SNR=3.1
NOA LR LR 07 49 50.9
comp=Z,973nm,21.0s,MS5.2,baz=310,slow=36
NOA NORSAR Array B 85.12 26 P **P** **07 11 40.2 -0.4**
NOA S S 07 21 59.0 -10
NOA pmax pmax
comp=Z,36nm,1.0s
NOA smax
comp=N,1.0nm,1.0s
NOA MLR MLR
comp=Z,973nm,21.0s
KONO Kongsberg 85.12 28 *e*P **P** **07 11 41.0 +0.4**
KONO Kongsberg 85.12 28 *e*P **P** **07 11 40.7 +0.1**
KONO pmax pmax
comp=Z,151nm,1.0s,mb6.1
KONO Kongsberg 85.12 28 *e*P **P** **07 11 40.7 +0.1**
comp=Z,151nm,1.0s,mb6.1
PAB San Pablo 85.28 50 P **P** **07 11 42.2 +0.9**
PAB San Pablo 85.28 50 *e*P **P** **07 11 42.0 +0.6**
PAB *e* pP 07 11 51.0 +0.9
PAB pmax pmax
comp=Z,306nm,1.3s,mb6.3
PAB MLR MLR
comp=Z,892nm,19.0s,MS5.2
PAB San Pablo 85.28 50 *e*P **P** **07 11 42.0 +0.6**
comp=Z,306nm,1.3s,mb6.3
PAB *e* pP 07 11 51.0 +1.0
PAB LR LR
comp=Z,892nm,19.0s,MS5.2
ECRI Cripan 85.48 47⇑P **P** **07 11 43.5 +1.1**
ECRI pmax pmax
comp=Z,163nm,1.1s,mb6.1
ECRI Cripan 85.48 47⇑P **P** **07 11 43.5 +1.1**
comp=Z,163nm,1.1s,mb6.1
ESDC Sonseca Array 85.51 50 P **P** **07 11 43.1 +0.6**
comp=Z,66nm,1.0s,mb5.8,baz=305,slow=5.1,SNR=165
ESDC S S 07 22 03.0 -9.4
comp=Z,0.2nm,0.4s,baz=103,slow=37,SNR=4.0
ESDC LR LR 07 51 35.0
comp=Z,934nm,18.4s,MS5.2,baz=300,slow=37
ESDC Sonseca Array 85.51 50⇑P **P** **07 11 43.1 +0.5**
comp=Z,48nm,0.9s,mb5.7
ESLA Sonseca Array 85.51 50 *e*P **P** **07 11 42.6 +0.1**
comp=Z,43nm,1.2s,mb5.6
ESLA LR LR
comp=Z,7µm,19.0s,MS6.1
EJIF Jimena Fronter 85.51 53⇑P **P** **07 11 44.3 +1.8**
EJIF pmax pmax
comp=Z,328nm,1.2s,mb6.4
EJIF Jimena Fronter 85.51 53⇑P **P** **07 11 44.2 +1.7**
comp=Z,328nm,1.2s,mb6.4
MFF Saint Martin d 85.56 42⇑*i*P **P** **07 11 43.2 +0.5**
comp=Z,298nm,1.3s,mb6.1
MFF Saint Martin d 85.56 42⇑*i*P **P** **07 11 43.2 +0.5**
MFF pmax pmax
comp=Z,149nm,1.3s,mb6.1
MFF Saint Martin d 85.56 42⇑*i*P **P** **07 11 43.2 +0.5**
comp=Z,149nm,1.3s,mb6.1
EADA Adamuz 85.59 51⇑P **P** **07 11 43.7 +0.8**
comp=Z,570nm,1.3s,mb6.6
EALK Alkurruntz 85.94 46 P **P** **07 11 45.8 +1.1**
comp=Z,45nm,1.0s,mb5.7
ELIZ Elizondo 85.95 46 P **P** **07 11 45.8 +1.1**
EMIJ Mijas 86.00 53⇑P **P** **07 11 45.8 +0.8**
comp=Z,291nm,1.5s,mb6.3
ELUQ Luque 86.03 52⇑P **P** **07 11 46.1 +1.0**
ELUQ pmax pmax
comp=Z,95nm,1.1s,mb5.9
ELUQ Luque 86.03 52⇑P **P** **07 11 46.0 +0.9**
comp=Z,95nm,1.1s,mb5.9
EBAN Banos Encina 86.17 51⇓P **P** **07 11 47.0 +1.2**
EBAN pmax pmax
comp=Z,146nm,1.2s,mb6.1
EBAN Banos Encina 86.17 51⇓P **P** **07 11 47.0 +1.1**
comp=Z,146nm,1.2s,mb6.1
SJPF Ste Jean 86.18 46 *e*P **P** **07 11 46.4 +0.6**
comp=Z,339nm,1.7s,mb6.0
SJPF Ste Jean 86.18 46 *e*P **P** **07 11 46.4 +0.6**
SJPF pmax pmax
comp=Z,169nm,1.7s,mb6.0
SJPF Ste Jean 86.18 46 *e*P **P** **07 11 46.4 +0.6**
comp=Z,169nm,1.7s,mb6.0
ELOJ Sierra Loja 86.26 52⇑P **P** **07 11 47.5 +1.3**
ELOJ pmax pmax
comp=Z,225nm,1.2s,mb6.3
ELOJ Sierra Loja 86.26 52⇑P **P** **07 11 47.5 +1.2**
comp=Z,224nm,1.2s,mb6.3
LARF Larrau 86.36 46 *e*P **P** **07 11 47.2 +0.5**
ETOR Torete 86.46 48⇓P **P** **07 11 48.8 +1.6**
ETOR pmax pmax
comp=Z,125nm,1.2s,mb6.0

ETOR Torete 86.46 48 ⇓P **P 07 11 48.8 +1.6**
comp=Z,125nm,1.2s,mb6.0
MUD Monsted U'grnd 86.49 31 *i* P **P 07 11 47.6 +0.2**
comp=Z,61nm,1.1s,mb5.8
MUD *e* 07 22 22.1
MUD *i* 07 22 46.7
MUD
comp=Z,560nm,18.0s
MUD Monsted U'grnd 86.49 31 *i* P **P 07 11 47.6 +0.2**
MUD *e* 07 22 22.1
MUD pmax pmax
comp=Z,61nm,1.1s,mb5.7
MUD Monsted U'grnd 86.49 31 *i* P **P 07 11 47.6 +0.2**
comp=Z,61nm,1.1s,mb5.8
MUD *e* 07 22 22.1
MUD *i* 07 22 46.7
UCC Uccle 86.56 37 P **P 07 11 47.2 -0.5**
ERON Agron 86.57 52 P **P 07 11 48.9 +1.2**
comp=Z,47nm,0.9s,mb5.7
SNF Seneffe 86.64 37 P **P 07 11 47.7 -0.4**
comp=Z,5.2nm,0.9s,mb4.8
SNF XP sP 07 11 58.1 -1.9
HFS Hagfors 86.64 26 P **P 07 11 46.0 -2.1**
comp=Z,19nm,1.0s,mb5.3,baz=270,slow=3.0,SNR=12
HFS Hagfors 86.64 26 P **P 07 11 46.0 -2.1**
HFS pmax pmax
comp=Z,19nm,1.0s
ECOG Cogollos-Vega 86.65 52 ⇓P **P 07 11 49.4 +1.2**
ETSF Etsaut 86.71 46⇑*i*P **P 07 11 48.4 0.0**
comp=Z,241nm,1.2s,mb6.0
LFF La Frestale 86.78 43 *e*P **P 07 11 48.3 -0.5**
comp=Z,262nm,1.1s,mb6.1
LFF La Frestale 86.78 43 *e*P **P 07 11 48.3 -0.5**
LFF pmax pmax
comp=Z,131nm,1.1s,mb6.1
LFF La Frestale 86.78 43 *e*P **P 07 11 48.3 -0.5**
comp=Z,131nm,1.1s,mb6.1
BAIF Baives 86.79 38⇑*i*P **P 07 11 48.4 -0.4**
comp=Z,128nm,1.1s,mb5.8
EQES Quesada 86.83 51 P **P 07 11 49.9 +0.9**
comp=Z,425nm,1.9s,mb6.3
WIT Witteveen 86.94 35 *e*P **P 07 11 50.3 +0.7**
EVIA Vianos 86.94 50⇑P **P 07 11 50.4 +0.8**
EVIA pmax pmax
comp=Z,38nm,0.9s,mb5.6
EVIA Vianos 86.94 50⇑P **P 07 11 50.4 +0.8**
comp=Z,38nm,0.9s,mb5.6
DOU Dourbes 87.00 38 P **P 07 11 49.9 0.0**
comp=Z,8.3nm,1.0s,mb4.9
HYF Humbligny 87.04 41 *e*P **P 07 11 49.4 -0.6**
LABF Labassere 87.08 45 *e*P **P 07 11 50.7 +0.5**
LABF Labassere 87.08 45 *e*P **P 07 11 50.5 +0.3**
LABF Labassere 87.08 45 *e*P **P 07 11 50.5 +0.3**
VIEF Viey 87.11 46 *e*P **P 07 11 51.2 +0.8**
GIVF Givet 87.13 38 *e*P **P 07 11 50.1 -0.4**
comp=Z,116nm,1.2s,mb5.7
RJF Les Rejaudoux 87.13 43⇑*i*P **P 07 11 49.8 -0.7**
comp=Z,250nm,1.2s,mb6.0
RJF *e*R
comp=Z,1μm,18.8s
RJF Les Rejaudoux 87.13 43⇑*i*P **P 07 11 49.8 -0.7**
RJF pmax pmax
comp=Z,125nm,1.2s,mb6.0
RJF MLR MLR
comp=Z,2μm,18.8s,MS5.4
RJF Les Rejaudoux 87.13 43⇑*i*P **P 07 11 49.8 -0.7**
comp=Z,125nm,1.2s,mb6.0
RJF LR LR
comp=Z,2μm,18.8s,MS5.4
TCF Toulx Ste Croi 87.17 42⇑*i*P **P 07 11 49.7 -1.0**
comp=Z,163nm,1.3s,mb5.8
TCF Toulx Ste Croi 87.17 42⇑*i*P **P 07 11 49.7 -1.0**
TCF pmax pmax
comp=Z,81nm,1.3s,mb5.8
TCF Toulx Ste Croi 87.17 42⇑*i*P **P 07 11 49.7 -1.0**
comp=Z,81nm,1.3s,mb5.8
EHUE Huescar 87.18 51⇑P **P 07 11 51.7 +1.0**
EHUE pmax pmax
comp=Z,57nm,1.0s,mb5.8
EHUE Huescar 87.18 51⇑P **P 07 11 51.7 +0.9**
comp=Z,57nm,1.0s,mb5.8
ESAC San Caprasio 87.22 47 P **P 07 11 51.7 +0.8**
comp=Z,331nm,1.1s,mb6.5
EPF Esparros 87.27 45⇑*i*P **P 07 11 50.7 -0.4**
comp=Z,295nm,1.3s,mb6.1
EPF Esparros 87.27 45⇑*i*P **P 07 11 50.7 -0.4**
EPF pmax pmax
comp=Z,147nm,1.3s,mb6.0
EPF Esparros 87.27 45⇑*i*P **P 07 11 50.7 -0.4**
comp=Z,147nm,1.3s,mb6.0
EBIE Bielsa 87.27 46⇑P **P 07 11 51.6 +0.4**
comp=Z,84nm,1.0s,mb5.8
EBER Berja 87.30 52 P **P 07 11 53.2 +1.9**
comp=Z,56nm,0.9s,mb5.8
RESF Ens 87.35 46 *e*P **P 07 11 52.4 +0.8**
WTSB Winterswijk 87.40 35⇑*e*P **P 07 11 51.6 -0.2**
comp=Z,18nm,1.2s,mb5.2
MDT Midelt 87.44 56 P **P 07 11 51.7 -0.2**
comp=Z,64nm,1.1s,mb5.8,baz=289,slow=4.4,SNR=50
BGF Bois d'Agland 87.46 41⇑*i*P **P 07 11 51.1 -1.0**
comp=Z,117nm,1.2s,mb5.7
BGF Bois d'Agland 87.46 41⇑*i*P **P 07 11 51.1 -1.0**
BGF pmax pmax
comp=Z,58nm,1.2s,mb5.7
BGF Bois d'Agland 87.46 41⇑*i*P **P 07 11 51.1 -1.0**
comp=Z,58nm,1.2s,mb5.7
HGN Heimansgroeve 87.47 37⇑*e*P **P 07 11 51.7 -0.4**
comp=Z,84nm,1.1s,mb5.9
HGN Heimansgroeve 87.47 37 *e*S S 07 22 34.7 +3.3
MEM Membach 87.58 37 P **P 07 11 51.3 -1.4**
ETOB Tobarra 87.64 50 P **P 07 11 53.7 +0.7**
comp=Z,35nm,0.9s,mb5.6
CAF Calviac 87.64 43⇑*i*P **P 07 11 52.3 -0.7**
comp=Z,79nm,1.3s,mb5.5
CAF Calviac 87.64 43⇑*i*P **P 07 11 52.3 -0.7**
CAF pmax pmax
comp=Z,39nm,1.3s,mb5.5
CAF Calviac 87.64 43⇑*i*P **P 07 11 52.3 -0.7**
comp=Z,39nm,1.3s,mb5.5
SSF Saint Saulge 87.66 41⇑*i*P **P 07 11 51.9 -1.1**
comp=Z,149nm,1.3s,mb5.8
SSF Saint Saulge 87.66 41⇑*i*P **P 07 11 51.9 -1.1**
SSF pmax pmax
comp=Z,74nm,1.3s,mb5.8
SSF Saint Saulge 87.66 41⇑*i*P **P 07 11 51.9 -1.1**
comp=Z,74nm,1.3s,mb5.8
AVF Avril sur Loir 87.68 41⇑*i*P **P 07 11 51.7 -1.4**
comp=Z,81nm,1.3s,mb5.5
AVF Avril sur Loir 87.68 41⇑*i*P **P 07 11 51.7 -1.4**
AVF pmax pmax
comp=Z,41nm,1.3s,mb5.5
AVF Avril sur Loir 87.68 41⇑*i*P **P 07 11 51.7 -1.4**
comp=Z,41nm,1.3s,mb5.5
EMOS Mosqueruela 87.75 48 P **P 07 11 54.2 +0.8**
comp=Z,71nm,0.9s,mb5.9
IBBN Ibbenburen 87.76 35 *e*P **P 07 11 53.4 -0.1**
FRNF Fournols 87.77 43 *e*P **P 07 11 53.6 0.0**
ENIJ Nijar 87.78 52 P **P 07 11 53.9 +0.3**
ENIJ pmax pmax
comp=Z,21nm,0.9s,mb5.4
ENIJ Nijar 87.78 52 P **P 07 11 53.9 +0.3**
comp=Z,21nm,0.9s,mb5.4
LOR Lormes 87.79 40⇑*i*P **P 07 11 52.9 -0.8**
comp=Z,158nm,1.3s,mb5.8
LOR *e*R
comp=Z,2μm,18.5s
LOR Lormes 87.79 40⇑*i*P **P 07 11 52.9 -0.8**
LOR pmax pmax
comp=Z,79nm,1.3s,mb5.8
LOR MLR MLR
comp=Z,2μm,18.5s,MS5.5
LOR Lormes 87.79 40⇑*i*P **P 07 11 52.9 -0.8**
comp=Z,79nm,1.3s,mb5.8
LOR LR LR
comp=Z,2μm,18.5s,MS5.5
MLS Moulis 87.80 45 *e*P **P 07 11 53.8 +0.1**
PYM Petit Puy Mans 87.90 42 *e*P **P 07 11 53.4 -0.8**
BUG Bochum-Univer 87.91 36 *e*P **P 07 11 54.0 -0.2**
comp=Z,67nm,1.3s,mb5.7
SALF Salau 87.95 45 *e*P **P 07 11 55.0 +0.6**
MEZF Maizieres J'vi 87.97 39 *e*P **P 07 11 53.8 -0.7**
comp=Z,148nm,1.2s,mb5.8
MEZF Maizieres J'vi 87.97 39 *e*P **P 07 11 53.8 -0.7**
comp=Z,148nm,1.2s,mb6.1
SMF Signal de Mont 88.05 41⇑*i*P **P 07 11 53.6 -1.3**
comp=Z,41nm,1.3s,mb5.2

ERTA Horta de San J 88.08 47 P **P 07 11 55.5 +0.4**
comp=Z,68nm,1.1s,mb5.8
WLF Walferdange 88.09 38 P **P 07 11 55.1 0.0**
comp=Z,23nm,1.2s,mb5.3
WLF Walferdange 88.09 38 *e*P **P 07 11 55.2 +0.1**
WLF pmax pmax
comp=Z,85nm,1.3s,mb5.8
WLF Walferdange 88.09 38 *e*P **P 07 11 55.2 +0.1**
comp=Z,85nm,1.3s,mb5.8
EMUR La Murta 88.16 51 P **P 07 11 56.0 +0.6**
comp=Z,60nm,0.9s,mb5.8
PLDF La Plantade 88.20 42 *e*P **P 07 11 55.1 -0.5**
LBL Lubilhac 88.28 42 *e*P **P 07 11 55.6 -0.4**
APA Apatity 88.31 15⇑*i*P **P 07 11 57.0 +0.9**
APA *i* 07 12 10.3
APA pmax pmax
comp=Z,23nm,1.0s,mb5.4
APA MLR MLR
comp=Z,2μm,18.0s,MS5.7
LVZ Lovozero 88.36 15 *e*P **P 07 11 54.3 -2.1**
LVZ pmax pmax
comp=Z,43nm,1.5s,mb5.5
LVZ pmax pmax
comp=N,19nm,1.8s
LVZ pmax pmax
comp=E,16nm,1.3s
LVZ MLR MLR
comp=Z,1μm,19.0s,MS5.3
LVZ MLR MLR
comp=N,582nm,17.0s,MS5.2
LVZ MLR MLR
comp=E,427nm,16.0s,MS5.2
LVZ Lovozero 88.36 15⇑*e*P **P 07 11 54.7 -1.7**
MTLF Montolieu 88.40 45⇑*i*P **P 07 11 55.9 -0.6**
comp=E,113nm,1.3s,mb5.6
MTLF Montolieu 88.40 45⇑*i*P **P 07 11 55.9 -0.6**
MTLF pmax pmax
comp=Z,57nm,1.3s,mb5.6
MTLF Montolieu 88.40 45⇑*i*P **P 07 11 55.9 -0.6**
comp=Z,56nm,1.3s,mb5.6
CART Cartagena 88.44 51 *e*P **P 07 11 56.0 -0.7**
comp=Z,72nm,1.2s,mb5.8
EPOB Poblet 88.44 47 P **P 07 11 56.8 +0.1**
comp=Z,55nm,1.2s,mb5.7
COP Copenhagen 88.46 31 *i* P **P 07 11 54.5 -2.3**
comp=Z,35nm,0.8s,mb5.6
COP
comp=Z,480nm,19.0s
COP Copenhagen 88.46 31 *e*P **P 07 11 54.5 -2.3**
COP pmax pmax
comp=Z,35nm,0.8s,mb5.6
COP MLR MLR
comp=Z,480nm,19.0s,MS4.9
COP Copenhagen 88.46 31 *e*P **P 07 11 54.5 -2.3**
comp=Z,35nm,0.8s,mb5.6
COP LR LR
comp=Z,480nm,19.0s,MS4.9
EMIR Miracle 88.52 46 P **P 07 11 57.3 +0.2**
comp=Z,45nm,1.0s,mb5.8
EBEN Beniarda 88.57 50 P **P 07 11 58.6 +1.3**
comp=Z,68nm,1.1s,mb5.9
CARF Carcanieres 88.58 45 *e*P **P 07 11 57.1 -0.3**
RUP Ruppelstein 88.60 37 *e*P **P 07 11 58.1 +0.6**
THEF They Montfort 88.65 39 *e*P **P 07 11 57.9 +0.2**
ABH Alteburg 88.80 37 *e*P **P 07 11 59.0 +0.6**
NRDL Niedersach Rie 88.93 34 *e*P **P 07 11 57.6 -1.5**
HAU Haudompre 88.97 39⇑*i*P **P 07 11 58.4 -0.8**
comp=Z,117nm,1.3s,mb5.8
HAU *e*R
comp=Z,3μm,17.2s
HAU Haudompre 88.97 39⇑*i*P **P 07 11 58.4 -0.8**
HAU pmax pmax
comp=Z,59nm,1.3s,mb5.8
HAU MLR MLR
comp=Z,3μm,17.3s,MS5.7
HAU Haudompre 88.97 39⇑*i*P **P 07 11 58.4 -0.8**
comp=Z,58nm,1.3s,mb5.8
HAU LR LR
comp=Z,3μm,17.3s,MS5.7
YAK Yakutsk 88.97 338 *e*P **P 07 11 58.5 -0.7**
YAK *e* 07 22 47.4
YAK pmax pmax
comp=Z,189nm,1.1s,mb6.3
YAK pmax pmax
comp=N,31nm,1.4s
YAK pmax pmax
comp=E,52nm,1.4s
YAK Yakutsk 88.97 338 *e*P **P 07 11 58.2 -1.0**
comp=E,175nm,0.9s,mb6.4
YAK LR LR
comp=Z,741nm,21.0s,MS5.1
TNS Taunus Mts 89.14 36 *e*P **P 07 12 00.0 -0.1**
comp=Z,104nm,1.2s,mb6.0
TNS Taunus Mts 89.14 36 *e*P **P 07 12 00.0 -0.1**
TNS pmax pmax
comp=Z,104nm,1.2s,mb6.0
LASF Ste Croix 89.16 43⇑*i*P **P 07 11 59.7 -0.4**
comp=Z,160nm,1.5s,mb5.8
EJON La Lonquera 89.22 45 P **P 07 12 00.8 +0.4**
comp=Z,32nm,1.1s,mb5.6
CDF Champ du Feu 89.33 38⇑*i*P **P 07 12 00.1 -0.8**
comp=Z,70nm,1.3s,mb5.5
CDF Champ du Feu 89.33 38⇑*i*P **P 07 12 00.1 -0.8**
CDF pmax pmax
comp=Z,35nm,1.3s,mb5.5
CDF Champ du Feu 89.33 38⇑*i*P **P 07 12 00.1 -0.8**
comp=Z,35nm,1.3s,mb5.5
GTTG Gvttingen 89.33 35⇑*i*P **P 07 12 00.9 0.0**
VIVF Saint-Julien-l 89.35 42⇑*i*P **P 07 12 00.4 -0.6**
comp=Z,113nm,1.6s,mb5.7
VIVF Saint-Julien-l 89.35 42⇑*i*P **P 07 12 00.4 -0.6**
VIVF pmax pmax
comp=Z,57nm,1.6s,mb5.7
VIVF Saint-Julien-l 89.35 42⇑*i*P **P 07 12 00.4 -0.6**
comp=Z,56nm,1.6s,mb5.7
ECH Echery 89.35 39 *e*P **P 07 12 00.9 -0.1**
HINF Hinteralfeld 89.36 39⇑*i*P **P 07 12 00.1 -1.0**
comp=Z,77nm,1.5s,mb5.5
LANF Langenberg 89.37 38 *e*P **P 07 12 01.4 +0.3**
WLS Welschbruch 89.38 38 *e*P **P 07 12 01.2 +0.1**
CLZ Clausthal 89.40 34 *e*P **P 07 12 01.4 +0.1**
comp=Z,115nm,1.2s,mb6.1
CLZ Clausthal 89.40 34 *e*P **P 07 12 01.4 +0.1**
CLZ pmax pmax
comp=Z,115nm,1.2s,mb6.1
CABF La Chapelle 89.45 40⇑*i*P **P 07 12 00.7 -0.8**
comp=Z,85nm,1.4s,mb5.6
CABF La Chapelle 89.45 40⇑*i*P **P 07 12 00.7 -0.8**
CABF pmax pmax
comp=Z,43nm,1.4s,mb5.6
CABF La Chapelle 89.45 40⇑*i*P **P 07 12 00.7 -0.8**
comp=Z,43nm,1.4s,mb5.6
MOF Molkenrain 89.51 39 *e*P **P 07 12 01.6 -0.2**
STR Strasbourg 89.54 38 *e*P **P 07 12 02.5 +0.6**
LOMF Lomont 89.56 39 *e*P **P 07 12 01.8 -0.2**
EIBI Ibiza 89.56 49 P **P 07 12 02.4 +0.3**
TOD Tromm 89.64 37 *e*P **P 07 12 02.7 +0.3**
BFO Black Forest 89.99 38 *e*P **P 07 12 03.3 -0.7**
BFO pmax pmax
comp=Z,35nm,1.4s,mb5.5
BFO MLR MLR
comp=Z,332nm,19.0s,MS4.8
BFO Black Forest 89.99 38 *e*P **P 07 12 03.3 -0.7**
comp=Z,35nm,1.4s,mb5.5
BFO LR LR
comp=Z,332nm,19.0s,MS4.8
FELD Feldberg im Sc 90.01 39⇑*e*P **P 07 12 03.2 -0.9**
ORIF Oris-en-Rattie 90.09 42⇑*i*P **P 07 12 03.8 -0.7**
comp=Z,40nm,1.1s,mb5.3
ORIF *e*R
comp=Z,2μm,18.8s
RSL Roselend 90.20 41 *e*P **P 07 12 05.2 +0.2**
STU Stuttgart 90.28 37 *e*P **P 07 12 05.0 -0.3**
STU Stuttgart 90.28 37 *e*P **P 07 12 04.9 -0.4**
STU pmax pmax
comp=Z,33nm,1.1s,mb5.6
STU Stuttgart 90.28 37 *e*P **P 07 12 04.9 -0.5**
comp=Z,33nm,1.1s,mb5.6
LPL La Plagne 90.35 41⇑*i*P **P 07 12 05.7 0.0**
comp=Z,39nm,1.2s,mb5.3
LPG La Plagne 90.37 41⇑*i*P **P 07 12 05.9 +0.1**
comp=Z,77nm,1.3s,mb5.6
BNI Bardonecchia 90.53 42 *e*P **P 07 12 06.1 -0.4**
BNI pmax pmax
comp=Z,31nm,1.2s,mb5.5
BNI Bardonecchia 90.53 42 *e*P **P 07 12 06.1 -0.5**
comp=Z,31nm,1.2s,mb5.5
FIA1 FINESS Array S 90.61 22 *e*P **P 07 12 04.8 -2.1**
FINES FINESS Array B 90.61 22 P **P 07 12 04.9 -2.0**
comp=Z,12nm,1.0s,mb5.2,baz=24,slow=5.2,SNR=15
FINES LR LR 07 52 53.5
comp=Z,942nm,20.5s,MS5.2,baz=125,slow=36
FINES FINESS Array B 90.61 22 P **P 07 12 04.9 -2.0**
FINES pmax pmax
comp=Z,12nm,1.0s
FINES MLR MLR
comp=Z,942nm,20.5s
MOX Moxa 90.69 35 *e*P **P 07 12 06.6 -0.7**
comp=Z,43nm,1.3s,mb5.6
MOX Moxa 90.69 35 *e*P **P 07 12 07.3 0.0**
comp=Z,61nm,1.6s,mb5.7
MOX
comp=Z,1μm,18.0s
MOX Moxa 90.69 35 *e*P **P 07 12 07.3 0.0**
MOX pmax pmax
comp=Z,61nm,1.6s,mb5.7
MOX MLR MLR
comp=Z,1μm,18.0s,MS5.3
MBDF Montbardon 90.74 42⇑*i*P **P 07 12 07.1 -0.4**
comp=Z,46nm,1.1s,mb5.4
RUE Ruedersdorf 90.85 33 *e*P **P 07 12 07.1 -0.9**
GRA1 Grafenberg Arr 90.96 36 *e*P **P 07 12 08.9 +0.4**
comp=Z,153nm,1.4s,mb6.1
GRA1 *e*pP pP 07 12 17.0 -0.3
GRA1 *e*PP PP 07 15 39.3 -5.5
GRA1 *e*S S 07 22 46.7 -17
GRA1 *e*L LR
comp=Z,1μm,18.2s,MS5.4
GRF Grafenberg Arr 90.96 36 *e*P **P 07 12 08.9 +0.4**
comp=Z,153nm,1.4s,mb6.1
GRF *e*pP pP 07 12 17.0 -0.3
GRF *e*PP PP 07 15 39.3 -5.5
GRF *e*S S 07 22 46.7 -17
GRF *e*L 07 54 14.6
comp=Z,1μm,18.2s
GRF Grafenberg Arr 90.96 36 *e*P **P 07 12 08.9 +0.4**
GRF *e**PP pP 07 12 17.0 -0.3
GRF pmax pmax
comp=Z,153nm,1.4s,mb6.1
GRF MLR MLR
comp=Z,1μm,18.2s,MS5.4
GRFO Grafenberg 90.96 36 *e*P **P 07 12 08.9 +0.4**
GRFO pmax pmax
comp=Z,133nm,1.4s,mb6.1
GRFO MLR MLR
comp=Z,1μm,19.0s,MS5.4
GRFO Grafenberg 90.96 36 *e*P **P 07 12 08.9 +0.4**
comp=Z,133nm,1.4s,mb6.1
GRFO LR LR
comp=Z,1μm,19.0s,MS5.4
CLL Collm 91.08 34 *e*P **P 07 12 08.3 -0.8**
comp=Z,39nm,1.2s,mb5.6
CLL Collm 91.08 34⇑*i*P **P 07 12 08.2 -0.9**
CLL pmax pmax
comp=Z,39nm,1.2s,mb5.6
CLL MLR MLR
comp=Z,1μm,18.5s,MS5.4
CLL Collm 91.08 34⇑*i*P **P 07 12 08.2 -0.9**
comp=Z,39nm,1.2s,mb5.6
CLL LR LR
comp=Z,1μm,18.5s,MS5.4
CLL Collm 91.08 34⇑*i*P **P 07 12 08.2 -0.9**
comp=Z,39nm,1.2s,mb5.6
CLL *e*sP sP 07 12 17.0 -4.0
CLL *e*PP PP 07 15 48.0 +2.3
CLL *e*(S) S 07 23 30.0 +25
CLL *e*PS PS 07 24 30.0 +14
CLL *e*(PPS) 07 25 30.0
CLL *e*(SS) 07 30 00.0
CLL *e*x x 07 30 42.0
CLL *e*(SSS) 07 33 42.0
CLL *e*x x 07 39 30.0
WERD Werda 91.16 35 *e*P **P 07 12 09.3 -0.2**
FRF La Foret Royal 91.20 43⇑*i*P **P 07 12 08.8 -0.8**
comp=Z,88nm,1.4s,mb5.6
LMR La Mourre 91.22 43⇑*i*P **P 07 12 08.8 -0.9**
comp=Z,77nm,1.2s,mb5.6
GUNZ Gunzen 91.22 35 *e*P **P 07 12 09.7 0.0**
TANN Tannenbergstha 91.27 35 *e*P **P 07 12 09.9 -0.1**
WERN Wernitzgruen 91.29 35 *e*P **P 07 12 10.2 +0.2**
MANZ Manzenberg 91.30 35 *e*P **P 07 12 10.2 +0.1**
YSS Yuzh-Sakhalins 91.34 321⇑*e*P **P 07 12 09.1 -1.2**
YSS MLR MLR
comp=Z,620nm,19.0s,MS5.1
NKC Novy Kostel 91.35 35 *e*P **P 07 12 10.2 -0.2**
NKC AMS AMS 07 54 00.0
comp=Z,1μm,20.4s
NKC Novy Kostel 91.35 35 *e*P **P 07 12 10.2 -0.2**
MVIF Mont Vial 91.37 42 *e*P **P 07 12 10.2 -0.2**
TOUF Mont Tournerai 91.38 42 *e*P **P 07 12 10.7 +0.2**
DAVA Damuels 91.41 39⇑*i*P **P 07 12 10.8 +0.2**
comp=Z,38nm,1.2s,mb5.6,SNR=12
ROTZ Rotzenmuhle 91.47 36 *e*P **P 07 12 11.1 +0.2**
FBE Freiberg 91.47 34 *e*P **P 07 12 10.5 -0.4**
LUCF Luceram 91.49 42 *e*P **P 07 12 11.1 +0.1**
SBF Sospel 91.56 42⇑*i*P **P 07 12 10.3 -1.0**
comp=Z,88nm,1.2s,mb5.7
REVF Revere 91.58 43 *e*P **P 07 12 11.1 -0.3**
SAOF Saorge 91.58 42 *e*P **P 07 12 11.3 -0.1**
FUR Furstenfeldbru 91.78 37 *e*P **P 07 12 12.2 -0.1**
BRG Berggiesshubel 91.81 34 *e*P **P 07 12 12.0 -0.5**
comp=Z,46nm,1.4s,mb5.6
BRG Berggiesshubel 91.81 34 *e*P **P 07 12 11.6 -0.9**
comp=Z,28nm,1.4s,mb5.4
BRG *e* pP 07 12 20.1 -1.2
comp=Z,17nm,1.3s
BRG
comp=N,380nm,15.3s
BRG
comp=E,383nm,15.6s
BRG
comp=Z,780nm,13.6s
MOTA Moosalm 92.10 38⇓*i*P **P 07 12 14.2 +0.4**
comp=Z,55nm,1.1s,mb5.5,SNR=11
WET Wettzell 92.17 36 *e*P **P 07 12 14.4 +0.3**
comp=Z,75nm,1.4s,mb5.8
WET Wettzell 92.17 36 *e*P **P 07 12 14.4 +0.3**
WET pmax pmax
comp=Z,75nm,1.4s,mb5.8
TMCR Tamitsa 92.18 16 *e*P **P 07 12 13.0 -1.2**
TMCR pmax pmax
comp=Z,64nm,1.5s,mb5.7
SQTA Sankt Quirin 92.22 38⇓*i*P **P 07 12 14.8 +0.4**
comp=Z,30nm,1.1s,mb5.5,SNR=15
PVCC Panska Ves 92.34 34 *e*P **P 07 12 14.5 -0.4**
WATA Walderalm 92.38 38⇑*i*P **P 07 12 16.1 +1.0**
comp=Z,35nm,1.4s,mb5.5
WTTA Wattenberg 92.45 38⇓*i*P **P 07 12 16.0 +0.6**
comp=Z,36nm,1.6s,mb5.5
PRA Prague 92.52 35 P **P 07 12 14.0 -1.7**
KHC Kasperske Hory 92.56 36 *e*P **P 07 12 15.8 -0.2**
KHC *e*pP pP 07 12 24.4 -0.3
KHC AMS AMS 07 54 50.0
comp=Z,2μm,16.6s
KHC Kasperske Hory 92.56 36 *e*P **P 07 12 15.8 -0.2**
KHC *e*pP pP 07 12 24.4 -0.3
KHC LR LR
comp=Z,2μm,16.6s,MS5.5
GEC2 GERESS Array S 92.79 36 *e*P **P 07 12 16.9 -0.1**
comp=Z,58nm,1.3s,mb5.8
GEC2 GERESS Array S 92.79 36 *e*P **P 07 12 16.9 -0.1**
GEC2 pmax pmax
comp=Z,58nm,1.3s,mb5.8
GERES GERESS Array B 92.79 36 P **P 07 12 16.2 -0.8**
comp=Z,15nm,1.0s,mb5.4,baz=321,slow=3.4,SNR=87
GERES S SKSac 07 22 42.3 -6.6
comp=Z,1.9nm,1.3s,baz=297,slow=15,SNR=2.2
GERES LR LR 07 55 39.6
comp=Z,987nm,18.4s,MS5.3,baz=301,slow=36
GERES GERESS Array B 92.79 36 P **P 07 12 16.2 -0.8**
GERES S SKSac 07 22 42.3 -6.6
GERES pmax pmax
comp=Z,15nm,1.0s
GERES MLR MLR
comp=Z,987nm,18.4s
ASAJ Asahikawa 92.84 319 P **P 07 12 16.3 -0.9**
comp=Z,24nm,1.0s,mb5.6,baz=170,slow=7.3,SNR=5.7
ASAJ Asahikawa 92.84 319 P **P 07 12 16.3 -0.9**
ASAJ pmax pmax
comp=Z,24nm,1.0s
KSP Ksiaz 93.07 33 *e*P **P 07 12 17.9 -0.4**

KSP e*PP pP 07 12 25.9 -1.1
KSP e 07 16 03.0
KSP e 07 22 51.0
KSP eSP SP 07 24 35.0 +0.1
KSP eSS SS 07 29 38.0 +0.3
KSP MLR MLR
comp=Z,3µm,20.6s,MS5.7
UPC Upice 93.11 34 eP **P 07 12 18.3 -0.2**
UPC epP pP 07 12 23.5 -3.7
PGF Pioggiola 93.20 43⇑i/P **P 07 12 17.8 -1.1**
comp=Z,84nm,1.1s,mb5.8
DPC Dobruska-Polom 93.36 34 eP **P 07 12 19.3 -0.3**
DPC epP pP 07 12 26.0 -2.4
DPC AMS AMS 07 58 40.0
comp=Z,900nm,13.5s
ERM Erimo 93.51 317 P **P 07 12 20.2 -0.1**
comp=Z,440nm,1.0s,SNR=5.2
ERM Erimo 93.51 317 eP **P 07 12 20.2 -0.1**
ERM pmax pmax
comp=Z,77nm,1.0s,mb6.1
ERM MLR MLR
comp=Z,95nm,19.0s,MS4.3
ERM Erimo 93.51 317 eP **P 07 12 20.2 -0.1**
comp=Z,77nm,1.0s,mb6.1
ERM LR LR
comp=Z,95nm,19.0s,MS4.3
KBA Koelnbreinsper 93.54 38⇑i/P **P 07 12 20.6 +0.2**
comp=Z,37nm,1.3s,mb5.7,SNR=11
ZCCA Zocca 93.55 41 eP **P 07 12 21.2 +0.7**
MOA Molln 93.65 37⇑i/P **P 07 12 20.9 0.0**
comp=Z,81nm,1.2s,mb6.0,SNR=36
VRAC Vranov 94.11 34 P **P 07 12 23.2 +0.1**
CADS Cadrg 94.22 38 eP **P 07 12 22.9 -0.7**
MORC Moravsky Berou 94.34 34⇓i/P **P 07 12 24.1 0.0**
MORC Moravsky Berou 94.34 34 P **P 07 12 24.7 +0.6**
MORC Moravsky Berou 94.34 34 eP **P 07 12 23.4 -0.8**
comp=Z,42nm,1.4s,mb5.7
SUW Suwalki 94.45 28 eP **P 07 12 23.7 -1.0**
CONA Conrad Observa 94.50 36⇑i/P **P 07 12 25.1 +0.3**
comp=Z,36nm,1.3s,mb5.6,SNR=20
OBKA Obir 94.54 38⇓i/P **P 07 12 24.8 -0.2**
comp=Z,53nm,1.4s,mb5.8,SNR=17
OKC Ostrava-Krasne 94.62 33 eP **P 07 12 24.8 -0.6**
OKC epP pP 07 12 31.8 -2.4
OKC AMS AMS 07 56 30.0
comp=Z,1µm,18.5s
OKC Ostrava-Krasne 94.62 33 eP **P 07 12 24.8 -0.6**
OKC epP pP 07 12 31.8 -2.4
ARSA Arzberg 94.69 37⇑i/P **P 07 12 25.5 -0.3**
comp=Z,28nm,1.2s,mb5.6,SNR=14
LJU Ljubljana 94.79 38 eP **P 07 12 25.9 -0.2**
PERS Pernice 94.80 37 eP **P 07 12 25.7 -0.6**
HABR Khabarovsk 94.91 325 eP **P 07 12 25.1 -1.6**
SMOL Smolenice 95.02 35 eP **P 07 12 27.8 +0.6**
SOP Sopron 95.02 36⇑eP **P 07 12 27.2 -0.1**
ZST Bratislava 95.02 35 i P **P 07 12 27.6 +0.3**
ZST esP sP 07 12 36.2 -2.9
ZST Bratislava 95.02 35 i P **P 07 12 27.6 +0.3**
ZST e pP 07 12 36.2 +0.2
ZST pmax pmax
comp=Z,73nm,1.1s,mb6.0
ZST MLR MLR
comp=Z,1µm,17.4s,MS5.5
ZST Bratislava 95.02 35 i P **P 07 12 27.6 +0.3**
comp=Z,73nm,1.1s,mb6.0
ZST e pP 07 12 36.2 +0.2
ZST LR LR
comp=Z,1µm,17.4s,MS5.5
CRES Cresnjev 95.45 38 eP **P 07 12 29.0 -0.2**
BOJS Bojanci 95.51 38 eP **P 07 12 29.5 0.0**
KOGS Kog 95.55 37 eP **P 07 12 29.2 -0.5**
VYHS Vyhne 95.78 34 eP **P 07 12 30.6 -0.1**
VYHS esP sP 07 12 37.7 -4.9
VYHS Vyhne 95.78 34 eP **P 07 12 30.6 -0.1**
VYHS pmax pmax
comp=Z,32nm,1.3s,mb5.6
VYHS Vyhne 95.78 34 eP **P 07 12 30.6 -0.1**
comp=Z,32nm,1.3s,mb5.6
SNZO South Karori 96.01 229 PFAKE 07 12 40.0 +8.3
SNZO LR LR
comp=Z,1µm,19.0s,MS5.3
LIC Lamto 96.33 81⇑i/P **P 07 12 33.0 -0.2**
comp=Z,80nm,1.1s,mb5.8,baz=267
LIC eR
comp=Z,646nm,22.0s
STHS Stebnicka Huta 96.47 33 eP **P 07 12 33.4 -0.5**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
STHS Stebnicka Huta 96.47 33 eP **P 07 12 33.4 -0.5**
comp=Z,6.7nm,1.1s,mb5.0
BUD Budapest 96.49 35⇑eP **P 07 12 34.4 +0.5**
KECS Kecovo 96.66 34 eP **P 07 12 34.7 0.0**
KECS pmax pmax
comp=Z,12nm,1.3s,mb5.2
KECS Kecovo 96.66 34 eP **P 07 12 34.7 0.0**
comp=Z,12nm,1.3s,mb5.2
PSZ Piszkesteto 96.69 34 P **P 07 12 35.6 +0.7**
PSZ Piszkesteto 96.69 34 eP **P 07 12 35.5 +0.6**
comp=Z,91nm,1.3s,mb6.0
PSZ Piszkesteto 96.69 34⇑eP **P 07 12 35.3 +0.4**
KEST Kesra 96.73 49 P **P 07 12 34.9 -0.2**
comp=Z,9.5nm,1.1s,mb5.2,baz=258,slow=2.8,SNR=12
KEST LR LR 07 58 19.6
comp=Z,304nm,18.6s,MS4.8,baz=303,slow=37
PKSM Moragy 97.04 36⇑i/P **P 07 12 36.2 -0.2**
PKSM Moragy 97.04 36 P **P 07 12 35.9 -0.5**
KOLS Kolonicke sedl 97.30 32 eP **P 07 12 37.8 +0.2**
KOLS ePP PP 07 16 27.9 -6.4
KOLS Kolonicke sedl 97.30 32 eP **P 07 12 37.8 +0.2**
KOLS ePP PP 07 16 28.0 -6.3
BOD Bodaibo 97.40 341 eP **P 07 12 36.1 -2.0**
BOD pmax pmax
comp=Z,11nm,1.4s,mb5.1
UZH Uzhgorod 97.50 33 eP **P 07 12 33.0 -5.5**
UZH e 07 12 38.0
LVV L'vov 97.60 31 eP **P 07 12 37.8 -1.2**
HNR Honiara 98.78 263 LR LR 07 48 51.8
comp=Z,730nm,18.6s,MS5.2,baz=1.9,slow=30
HNR Honiara 98.78 263 PFAKE 07 13 00.0 +16
HNR LR LR
comp=Z,1µm,19.0s,MS5.3
BBLS Bajina Basta - 98.87 38 i P **P 07 12 44.7 0.0**
BEO Belgrade 98.89 36 i P **P 07 12 44.7 -0.1**
DRGR 98.89 34⇓i/P **P 07 12 44.3 -0.5**
OBN Obninsk 99.02 22 eP **P 07 12 44.0 -1.3**
OBN i PS PS 07 25 37.9 -5.6
OBN eSS SS 07 30 55.4 -6.6
OBN pmax pmax
comp=Z,41nm,1.4s,mb5.8
OBN MLR MLR
comp=Z,1µm,17.0s,MS5.5
BZS Buzias 99.05 35⇓i/P **P 07 12 45.7 +0.2**
BZS Buzias 99.05 35 P **P 07 12 45.4 -0.1**
DIVS Divcibare 99.07 37 i P **P 07 12 45.6 +0.1**
KIEV Kiev 99.42 28 eP **P 07 12 45.1 -2.0**
KIEV pmax pmax
comp=Z,12nm,1.1s,mb5.3
KIEV MLR MLR
comp=Z,1µm,20.0s,MS5.3
KIEV Kiev 99.42 28 eP **P 07 12 45.1 -2.0**
comp=Z,12nm,1.1s,mb5.3
KIEV LR LR
comp=Z,1µm,20.0s,MS5.3
AKASG Malin Array Be 99.42 28 P **P 07 12 45.2 -1.9**
comp=Z,6.5nm,0.9s,mb5.2,baz=304,slow=3.8,SNR=24
AKASG LR LR 08 01 18.6
comp=Z,775nm,18.5s,MS5.2,baz=315,slow=38
AKASG Malin Array Be 99.42 28 P **P 07 12 45.2 -1.9**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG MLR MLR
comp=Z,775nm,18.5s
AKASG Malin Array Be 99.42 28 P **P 07 12 45.2 -1.9**
AKASG LR LR 08 01 18.6
AKBB Malin Array Si 99.42 28 eP **P 07 12 45.0 -2.1**
MJAR Matsushiro Arr 99.59 314 P Pdif 07 12 45.1 -2.8
comp=Z,3.6nm,1.0s,baz=36,slow=4.7,SNR=5.9
MJAR LR LR 07 50 56.4
comp=Z,349nm,20.8s,MS4.8,baz=85,slow=31
MAJO Matsushiro 99.59 314 PFAKE 07 13 00.0 +12
MAJO LR LR
comp=Z,485nm,20.0s,MS5.0
GRUS Gruza 99.61 37 i P Pdif 07 12 47.9 0.0
SVIS Svilajnac 99.65 37 i P Pdif 07 12 48.0 -0.1

BURAR Bucovina Array 99.65 32⇑i/P Pdif 07 12 48.2 +0.1
BURAR Bucovina Array 99.65 32⇑P Pdif 07 12 48.2 0.0
TORD Torodi Ar. Bea 100.09 72 P Pdif 07 12 49.1 -1.0
comp=Z,5.2nm,1.1s,baz=288,slow=4.1,SNR=13
TORD PP PP 07 16 55.9 +0.3
comp=Z,4.7nm,1.2s,baz=300,slow=6.5,SNR=5.3
TORD PKKPbc PKKPbc 07 29 07.2 -0.9
comp=Z,1.8nm,1.1s,baz=74,slow=1.0,SNR=4.5
TORD Torodi Ar. Bea 100.09 72 P Pdif 07 12 49.1 -1.0
TORD PP PP 07 16 55.9 +0.3
TORD PKKPbc PKKPbc 07 29 07.2 -0.9
MLR Muntele Rosu 101.45 33⇓i/P Pdif 07 12 56.5 +0.4
MLR Muntele Rosu 101.45 33 P Pdif 07 12 56.3 +0.2
KIS Kishinev 101.86 31 eP Pdif 07 12 48.0 -10
KIS eS Sdif 07 24 20.0 -18
KIS Kishinev 101.86 31 ePS PS 07 25 50.0 -24
KIS LRM 08 02 40.0
comp=Z,2µm,16.0s
HIA Hailar 101.92 332 PFAKE 07 13 10.0 +12
HIA LR LR
comp=Z,890nm,19.0s,MS5.3
CN2 Changchun 103.03 326 eP Pdif 07 13 00.9 -2.3
CN2 eXP 07 13 14.9
CN2 eS Sdif 07 24 34.3 -14
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,20.0s,MS5.1
CN2 LR LR
comp=E,400nm,20.0s,MS5.1
CN2 LR LR
comp=Z,200nm,17.0s,MS4.7
VRSR Storozhevoye 103.09 23 eP Pdif 07 13 02.7 -0.7
VRSR pmax pmax
comp=Z,20nm,1.1s
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
ARU Arti 103.57 10 PFAKE 07 13 20.0 +14
ARU LR LR
comp=Z,324nm,19.0s,MS4.9
GUMO Guam 105.00 290 PFAKE 07 13 20.0 +8.1
GUMO LR LR
comp=Z,506nm,20.0s,MS5.1
KSRS Korea Array 105.76 319 PKiKP PKiKP 07 17 25.0 -3.0
comp=Z,1.8nm,0.9s,baz=48,slow=1.8,SNR=4.8
TLY Talaya 105.76 343 eP Pdif 07 13 27.3 +12
TLY e 07 23 51.1
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,370nm,18.0s,MS5.0
TLY Talaya 105.76 343 PFAKE 07 17 40.0 +12
TLY LR LR
comp=Z,126nm,20.0s,MS4.5
INCN Inchon 106.53 320 PFAKE 07 17 40.0 +11
INCN LR LR
comp=Z,551nm,19.0s,MS5.1
ZAL Zalesovo 107.13 355 Pdiff Pdif 07 13 20.4 -1.0
comp=Z,0.7nm,0.4s,baz=190,slow=2.3,SNR=4.2
ZAL PP PP 07 17 44.8 -3.3
comp=Z,1.6nm,0.5s,baz=137,slow=6.7,SNR=7.5
ZAL Zalesovo 107.13 355 P Pdif 07 13 20.4 -1.0
ZAL 07 17 44.8
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL Zalesovo 107.13 355 Pdif Pdif 07 13 20.4 -1.0
ZAL PP PP 07 17 44.8 -3.3
CHKZ Chkalovo 107.62 3 eP Pdif 07 13 23.1 -0.5
CHKZ pmax pmax
comp=Z,6.0nm,1.5s
CHKZ Chkalovo 107.62 3 ePdif Pdif 07 13 23.1 -0.5
comp=Z,6.2nm,1.5s
ULN Ulaanbaatar 108.03 339 PFAKE 07 17 50.0 +18
ULN LR LR
comp=Z,966nm,22.0s,MS5.3
SBA Scott Base 108.15 193 PFAKE 07 17 40.0 +7.5
SBA LR LR
comp=Z,239nm,19.0s,MS4.8
BRVK Borovoye 108.22 4 PFAKE 07 17 50.0 +17
BRVK LR LR
comp=Z,377nm,20.0s,MS5.0
BVAR Borovoye Array 108.26 4 Pdiff Pdif 07 13 25.1 -1.3
comp=Z,0.6nm,0.5s,baz=274,slow=40,SNR=3.1
BVAR PP PP 07 17 53.0 -3.4
comp=Z,1.3nm,0.4s,baz=46,slow=4.3,SNR=6.2
BVAR Borovoye Array 108.26 4 P Pdif 07 13 25.1 -1.3
BVAR 07 17 53.0
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 108.29 339 Pdiff Pdif 07 13 25.3 -1.2
comp=Z,0.2nm,0.6s,baz=28,slow=6.7,SNR=2.5
SONM PKiKP PKiKP 07 17 32.0 -0.7
comp=Z,1.4nm,0.9s,baz=348,slow=3.0,SNR=5.6
SONM PP PP 07 17 56.8 +0.2
comp=Z,2.3nm,1.0s,baz=69,slow=1.9,SNR=7.1
SONM Songino Array 108.29 339 P Pdif 07 13 25.3 -1.2
SONM 07 17 56.8
SONM pmax pmax
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 108.76 180 PFAKE 07 17 50.0 +16
QSPA LR LR
comp=Z,585nm,21.0s,MS5.1
ANTO Ankara 108.98 34 PFAKE 07 17 50.0 +16
ANTO LR LR
comp=Z,549nm,19.0s,MS5.1
VNDA Vanda 109.19 193 PFAKE 07 17 50.0 +16
VNDA LR LR
comp=Z,295nm,20.0s,MS4.8
AKTO Aktyubinsk 109.20 12 PP PP 07 17 59.4 -3.8
comp=Z,5.7nm,0.9s,baz=303,slow=8.8,SNR=6.2
AKTO PKKPab PKKPab 07 28 56.8 +3.9
comp=Z,1.9nm,0.9s,baz=177,slow=2.9,SNR=4.9
BR131 Keskin Array S 109.53 34 PFAKE 07 17 50.0 +15
BR131 LR LR
comp=Z,338nm,19.0s,MS4.9
BRTR Keskin Array B 109.53 34 PKiKP PKiKP 07 17 34.1 -1.0
comp=Z,3.2nm,0.9s,baz=146,slow=3.3,SNR=8.5
KIV Kislovodsk 110.41 25 i PKiKP PKiKP 07 17 35.7 -1.0
KIV e 07 18 08.5
KIV e 07 24 05.6
KIV ePS PS 07 27 42.2 +0.3
KIV eSS SS 07 33 36.0 -2.0
KIV pmax pmax
comp=Z,12nm,1.2s
KIV MLR MLR
comp=Z,725nm,18.0s,MS5.3
KIV Kislovodsk 110.41 25 PFAKE 07 17 50.0 +13
KIV LR LR
comp=Z,193nm,20.0s,MS4.7
BJI Beijing 110.53 328 PDIF Pdif 07 13 34.8 -1.7
BJI PP PP 07 18 13.5 +0.6
BJI PP PP
comp=Z,202nm,5.1s
BJI LR LR
comp=N,340nm,22.0s,MS5.3
BJI LR LR
comp=E,747nm,20.2s,MS5.3
BJI LR LR
comp=Z,586nm,20.0s,MS5.2
BJT Baijiatuau 110.55 328 PFAKE 07 17 50.0 +13
BJT LR LR
comp=Z,924nm,19.0s,MS5.4
PMG Port Moresby 110.84 267 PFAKE 07 17 50.0 +12
PMG LR LR
comp=Z,878nm,21.0s,MS5.3
HHC Hu-ho-hao-te 112.09 332 ePKP PKiKP 07 17 35.5 -4.4
HHC PP PP 07 18 23.9 -0.2
HHC PKS 07 21 10.6
HHC PP PP
comp=Z,181nm,6.6s
HHC LR LR
comp=N,552nm,20.6s,MS5.3
HHC LR LR
comp=E,502nm,18.5s,MS5.3
HHC LR LR
comp=Z,791nm,17.4s,MS5.4
SSE Sheshan 114.13 318 ePKP PKiKP 07 17 41.5 -2.3

SSE PP PP 07 18 41.8 +3.2
SSE SS SS 07 34 19.5 -7.9
SSE PP PP
comp=Z,311nm,4.2s
SSE LR LR
comp=N,96nm,25.4s,MS4.8
SSE LR LR
comp=E,278nm,25.4s,MS4.8
SSE LR LR
comp=Z,286nm,21.0s,MS4.8
CTAO Charters Tower 114.34 256 PFAKE 07 18 00.0 +16
CTAO LR LR
comp=Z,533nm,21.0s,MS5.1
GNI Garni 114.43 26 PFAKE 07 18 00.0 +16
GNI LR LR
comp=Z,920nm,19.0s,MS5.4
MKAR Makanchi Array 114.43 355 Pdiff Pdif 07 13 52.7 -1.2
comp=Z,0.2nm,0.6s,baz=272,slow=40,SNR=2.8
MKAR PKP PKiKP 07 17 42.4 -2.0
comp=Z,5.4nm,1.0s,baz=8.5,slow=2.9,SNR=20
MKAR PKKPbc PKKPbc 07 28 20.7 -2.6
comp=Z,1.3nm,0.9s,baz=180,slow=2.9,SNR=6.7
MKAR Makanchi Array 114.43 355 Pdif Pdif 07 13 52.7 -1.2
MKAR PKP PKiKP 07 17 42.4 -2.0
MKAR PKKPbc PKKPbc 07 28 20.7 -2.6
TAU Tasmania Unive 116.23 231 PFAKE 07 18 00.0 +12
TAU LR LR
comp=Z,215nm,20.0s,MS4.8
WMQ Urumqi 116.74 351⇑PKP PKPdf 07 17 47.8 -1.0
WMQ PP PP 07 19 00.9 +3.9
WMQ PPP 07 21 29.8
WMQ PP PP
comp=Z,270nm,4.5s
WMQ LR LR
comp=N,643nm,24.4s,MS5.4
WMQ LR LR
comp=E,813nm,21.2s,MS5.4
WMQ LR LR
comp=Z,800nm,22.4s,MS5.3
GTA Gaotai 117.96 339 PKP PKPdf 07 17 50.4 -0.7
GTA PP PP 07 19 06.5 +1.1
GTA PKS 07 21 26.8
GTA PPP 07 21 38.3
GTA SKS SKSdf 07 24 51.3 -10
GTA SKKS SKKSac 07 25 51.4 -13
GTA SS SS 07 35 14.1 -3.4
GTA PP PP
comp=Z,179nm,9.1s
GTA LR LR
comp=N,571nm,15.2s,MS5.4
GTA LR LR
comp=E,440nm,14.4s,MS5.4
GTA LR LR
comp=Z,767nm,16.7s,MS5.4
USP Ospenovka 118.18 1 P PKPdf 07 17 51.2 -0.4
SNR=15
TKM2 Tokmak 2 118.54 0 P PKPdf 07 17 52.1 -0.2
SNR=12
FRU Bishkek 118.61 1 ePKIKP PKPdf 07 17 51.0 -1.4
EKS2 Erkin-Say 118.76 2 P PKPdf 07 17 52.7 0.0
SNR=12
AAK Ala-Archa 118.81 1 P PKPdf 07 17 52.8 0.0
SNR=6.7
AAK Ala-Archa 118.81 1⇑i/PKIKP PKPdf 07 17 51.8 -1.0
AAK Ala-Archa 118.81 1 ePKPdf PKPdf 07 17 51.4 -1.4
AAK LR LR
comp=Z,468nm,19.0s,MS5.1
XAN Xi'an 118.82 329 PKP PKPdf 07 17 51.3 -1.5
UCH Uchtor 119.22 1 P PKPdf 07 17 54.0 +0.4
SNR=20
ULHL Ulahol 119.22 360 P PKPdf 07 17 54.0 +0.4
SNR=18
AML Almayashu 119.29 2 P PKPdf 07 17 54.3 +0.6
SNR=12
LZH Lanzhou 119.39 334 ePKP PKPdf 07 17 53.4 -0.5
LZH PP PP 07 19 14.1 -1.2
LZH SKS SKSdf 07 24 55.0 -9.1
LZH PP PP
comp=Z,340nm,6.1s
LZH LR LR
comp=E,1µm,19.0s
LZH LR LR
comp=Z,2µm,20.0s,MS5.7
LZH Lanzhou 119.39 334 ePKIKP PKPdf 07 17 53.4 -0.5
LZH 07 18 01.0
LZH 07 18 07.0
LZH 07 19 14.1
LZH 07 24 55.0
LZH MLR MLR
comp=Z,2µm,20.0s,MS5.7
LZH Lanzhou 119.39 334 ePKP PKPdf 07 17 53.4 -0.5
LZH pPKP pPKPdf 07 18 01.0 -1.9
LZH sPKP 07 18 07.0
LZH PP PP 07 19 14.1 -1.2
LZH SKS SKSdf 07 24 55.0 -9.1
LZH SKKS SKKSac 07 25 56.0 -18
LZH SS SS 07 35 20.1 -16
LZH LR LR
comp=Z,2µm,20.0s,MS5.7
STKA Stephens Creek 120.21 244 eP PKPdf 07 17 53.7 -1.8
comp=Z,5.6nm,0.9s
STKA Stephens Creek 120.21 244 PKP PKPdf 07 17 53.4 -2.1
comp=Z,7.5nm,0.9s,baz=26,slow=1.6,SNR=12
STKA PKKPbc PKKPbc 07 28 01.8 -0.9
comp=Z,3.7nm,1.0s,baz=83,slow=14,SNR=5.3
KSH Kashi 121.94 0 ePKP PKPdf 07 18 00.0 +1.2
KSH ePKS 07 21 35.1
KSH ePPP 07 21 45.4
KSH eSKS SKSdf 07 25 00.4 -8.5
KSH PP PP
comp=Z,801nm,5.0s
KSH LR LR
comp=N,1µm,8.0s
KSH LR LR
comp=E,884nm,4.1s
KSH LR LR
comp=Z,2µm,8.1s
CD2 Chengdu 123.85 331 ePKP PKPdf 07 17 59.6 -2.9
CD2 PP PP 07 19 47.5 +1.8
CD2 PKS 07 21 35.1
CD2 PP PP
comp=Z,120nm,8.8s
CD2 LR LR
comp=N,480nm,20.4s,MS5.3
CD2 LR LR
comp=E,500nm,19.2s,MS5.3
CD2 LR LR
comp=Z,650nm,20.4s,MS5.3
DAV Davao City (W) 124.87 293 PFAKE 07 18 20.0 +16
DAV LR LR
comp=Z,338nm,20.0s,MS5.0
TSUM Tsumeb 124.90 101 ePKPdf PKPdf 07 18 04.1 -0.4
TSUM LR LR
comp=Z,340nm,20.0s,MS5.0
WB2 Warramunga Arr 125.30 259 eP PKPdf 07 18 03.6 -1.7
WRAB Tennant Creek 125.30 259 ePKIKP PKPdf 07 18 03.4 -1.9
WRAB MLR MLR
comp=Z,181nm,19.0s,MS4.8
WRA Warramunga Arr 125.31 259 PKP PKPdf 07 18 03.7 -1.6
comp=Z,7.8nm,1.1s,baz=80,slow=2.5,SNR=9.9
WRA PKKPbc 07 27 42.9
comp=Z,2.2nm,1.0s,baz=267,slow=1.9,SNR=7.4
WRA SKKPbc 07 31 24.3
comp=Z,1.0nm,1.0s,baz=273,slow=2.9,SNR=2.9
WRA Warramunga Arr 125.31 259 PKIKP PKPdf 07 18 03.7 -1.6
WRA 07 31 24.3
WRA pmax pmax
comp=Z,8.0nm,1.1s
AS31 Alice Springs 126.23 254 eP PKPdf 07 18 05.3 -1.7
ASAR Alice Springs 126.23 254 PKhKP 07 17 53.4
comp=Z,0.7nm,0.7s,baz=95,slow=2.9,SNR=6.2
ASAR PKP PKPdf 07 18 04.8 -2.2
comp=Z,11nm,0.9s,baz=98,slow=2.9,SNR=5.4
ASAR PKKPbc 07 27 39.5
comp=Z,0.9nm,1.0s,baz=235,slow=3.3,SNR=4.1
ASAR SKKPbc 07 31 21.9
comp=Z,1.0nm,1.0s,baz=255,slow=2.8,SNR=3.4
ASAR Alice Springs 126.23 254 PKP PKPdf 07 18 04.8 -2.2
ASAR PKKPbc 07 27 39.5
ASAR SKKPbc 07 31 21.9
ASPA Alice Springs 126.23 254 eP PKPdf 07 18 05.3 -1.7
CASY Casey 127.57 197 PFAKE 07 18 20.0 +10
CASY LR LR
comp=Z,495nm,22.0s,MS5.2
SUR Sutherland 128.85 117 ePKPdf PKPdf 07 18 12.8 +0.8

SUR				LR	LR			
	comp=Z,168nm,19.0s,MS4.8							
THN	**Thein Dam**	**129.01**	**0**	*e*P	PKPdf	07 18 12.0	-0.3	
KMI	**Kunming**	**129.19**	**328**	PKP	PKPdf	07 18 11.9	-0.8	
KMI				PP	PP	07 20 23.3	+2.2	
KMI				PKS		07 21 47.0		
KMI				PPP		07 23 10.6		
KMI				SKS	SKSdf	07 25 14.8	-7.7	
KMI				SKKS	SKKSac	07 27 04.9	-12	
KMI				SS	SS	07 37 33.0	-6.7	
KMI				SSS		07 42 19.3		
KMI				PP	PP			
	comp=Z,112nm,4.9s							
KMI				LR	LR			
	comp=N,489nm,19.6s,MS5.4							
KMI				LR	LR			
	comp=E,480nm,17.9s,MS5.4							
KMI				LR	LR			
	comp=Z,380nm,19.3s,MS5.1							
KMI	**Kunming**	**129.19**	**328**	PKIKP	PKPdf	07 18 11.9	-0.8	
KMI						07 20 23.2		
KMI				PPP		07 23 10.6		
KMI						07 25 14.7		
KMI				SS	SS	07 37 33.0	-6.7	
KMI				MLR	MLR			
	comp=Z,380nm,19.3s,MS5.1							
KMI	**Kunming**	**129.19**	**328**	PKP	PKPdf	07 18 11.9	-0.8	
KMI				sPKP		07 18 42.4		
KMI				PP	PP	07 20 23.2	+2.1	
KMI				PKS		07 21 47.0		
KMI				PPP		07 23 10.6		
KMI				SKS	SKSdf	07 25 14.7	-7.8	
KMI				SKKS	SKKSac	07 27 04.9	-12	
KMI				SS	SS	07 37 33.0	-6.7	
KMI				SSS		07 42 19.2		
KMI				LR	LR			
	comp=Z,380nm,19.3s,MS5.1							
LSA	**Lhasa**	**129.61**	**343**	*e*PKIKP	PKPdf	07 18 14.3	+0.8	
LSA				MLR	MLR			
	comp=Z,494nm,21.0s,MS5.2							
KLP	**Kalpa**	**129.87**	**358**	*e*P	PKPdf	07 18 14.6	+0.6	
QIZ	**Qiongzhong**	**129.87**	**317**	PFAKE		07 18 30.0	+16	
QIZ				LR	LR			
	comp=Z,249nm,19.0s,MS4.9							
MAW	**Mawson**	**130.53**	**173**	*e*P	PKPdf	07 18 11.6	-3.6	
	comp=Z,9.9nm,1.0s							
MAW	**Mawson**	**130.53**	**173**	PKP	PKPdf	07 18 13.8	-1.5	
	comp=Z,14nm,1.0s,baz=244,slow=3.3,SNR=25							
MAW	**Mawson**	**130.53**	**173**	PKIKP	PKPdf	07 18 13.8	-1.4	
MAW				pmax	pmax			
	comp=Z,14nm,1.0s							
MAW	**Mawson**	**130.53**	**173**	*e*P	PKPdf	07 18 11.6	-3.6	
MAW				LR	LR			
	comp=Z,528nm,20.0s,MS5.2							
KKR	**Kurukshetra**	**131.47**	**359**	*e*P	PKPdf	07 18 16.9	-0.1	
GUN	**Gumba**	**132.57**	**348**	*e*P	PKPdf	07 18 19.1	0.0	
	comp=Z,123nm,1.2s							
GKN	**Gorkha**	**132.70**	**350**	*e*P	PKPdf	07 18 19.1	-0.2	
	comp=Z,67nm,1.1s							
BOSA	**Boshof**	**132.73**	**112**	PKP	PKPdf	07 18 19.6	+0.2	
	comp=Z,6.3nm,0.9s,baz=306,slow=5.5,SNR=5.3							
BOSA				PP	PP	07 20 43.5	-0.4	
	comp=Z,13nm,1.2s,baz=292,slow=9.0,SNR=3.6							
BOSA	**Boshof**	**132.73**	**112**	PKIKP	PKPdf	07 18 19.6	+0.2	
BOSA						07 20 43.6		
BOSA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BOSA				pmax	pmax			
	comp=Z,13nm,1.2s							
NDI	**New Delhi**	**132.74**	**359**	*e*P	PKPdf	07 18 18.0	-1.4	
NDI				*e*P		07 18 21.1		
NDI				*ex*	x	07 21 46.0		
JIRN	**Jiri**	**132.75**	**348**	*e*P	PKPdf	07 18 18.2	-1.2	
	comp=Z,28nm,1.0s							
KKN	**Kakani**	**132.80**	**349**	*e*P	PKPdf	07 18 19.2	-0.3	
AYAN	**Aya Nagar**	**132.94**	**359**	*e*P	PKPdf	07 18 19.6	-0.1	
LBTB	**Lobatse**	**132.95**	**107**	PFAKE		07 18 40.0	+20	
LBTB				LR	LR			
	comp=Z,550nm,19.0s,MS5.3							
PKI	**Pulchoki**	**132.99**	**349**	*e*P	PKPdf	07 18 19.4	-0.5	
DMN	**Daman**	**133.01**	**349**	*e*P	PKPdf	07 18 19.6	-0.3	
	comp=Z,41nm,1.0s							
KOLN	**Koldanda**	**133.10**	**351**	*e*P	PKPdf	07 18 18.2	-1.9	
	comp=Z,48nm,1.3s							
FITZ	**Fitzroy Crossi**	**133.15**	**263**	*e*P	PKPdf	07 18 20.0	-0.2	
	comp=Z,10.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**133.15**	**263**	PKP	PKPdf	07 18 19.5	-0.7	
	comp=Z,5.6nm,0.9s,baz=238,slow=2.1,SNR=6.5							
SONA	**Sohna**	**133.17**	**359**	*e*P	PKPdf	07 18 20.0	-0.2	
SHL	**Shillong**	**133.27**	**340**	*e*P	PKPdf	07 18 19.0	-1.4	
SHL				*ex*	x	07 21 48.0		
KUDL	**Kundal**	**133.29**	**360**	*e*P	PKPdf	07 18 20.4	0.0	
KHET	**Khetri**	**133.36**	**0**	*e*P	PKPdf	07 18 19.8	-0.8	
LSZ	**Lusaka**	**134.15**	**93**	PFAKE		07 18 40.0	+18	
LSZ				LR	LR			
	comp=Z,468nm,19.0s,MS5.2							
AGRA	**Agra**	**134.16**	**358**	*e*P	PKPdf	07 18 21.7	-0.3	
AJM	**Ajmer**	**134.92**	**2**	*e*P	PKPdf	07 18 22.6	-0.9	
NANT	**Nan**	**135.48**	**326**	⇓P	PKPdf	07 18 22.0	-2.5	
	comp=Z,86nm,1.0s							
CHG	**Chiang Mai**	**136.38**	**328**	⇑P	PKPdf	07 18 25.2	-1.0	
	comp=Z,18nm,1.0s							
CHTO	**Chiang Mai**	**136.38**	**328**	*e*PKIKP	PKPdf	07 18 25.6	-0.6	
CHTO				MLR	MLR			
	comp=Z,406nm,21.0s,MS5.1							
BOK	**Bokaro**	**136.56**	**347**	*e*P	PKPdf	07 18 26.9	+0.4	
CM31	**Chiang Mai Arr**	**136.68**	**328**	PFAKE		07 18 40.0	+13	
CM31				LR	LR			
	comp=Z,174nm,20.0s,MS4.8							
KMBO	**Kilima Mbogo**	**138.03**	**70**	PKP	PKPdf	07 18 31.4	+2.2	
	comp=Z,4.7nm,1.0s,baz=28,slow=7.6,SNR=8.8							
KMBO	**Kilima Mbogo**	**138.03**	**70**	PKIKP	PKPdf	07 18 31.5	+2.2	
KMBO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KMBO	**Kilima Mbogo**	**138.03**	**70**	*e*PKPdf	PKPdf	07 18 31.1	+1.9	
KMBO				LR	LR			
	comp=Z,671nm,20.0s,MS5.4							
BHPL	**Bhopal**	**138.15**	**358**	*e*P	PKPdf	07 18 28.0	-1.5	
MBWA	**Marble Bar**	**139.04**	**259**	PFAKE		07 18 40.0	+8.9	
MBWA				LR	LR			
	comp=Z,606nm,20.0s,MS5.3							
NGP	**Nagpur**	**140.15**	**356**	*e*P	PKPdf	07 18 32.8	-0.3	
NWAO	**Narrogin (SRO)**	**140.69**	**241**	PKP	PKPdf	07 18 32.5	-1.6	
	comp=Z,8.6nm,0.9s,baz=144,slow=3.8,SNR=4.5							
NWAO	**Narrogin (SRO)**	**140.69**	**241**	PKP	PKPdf	07 18 32.5	-1.6	
NWAO				LR	LR			
	comp=Z,640nm,22.0s,MS5.3							
KSM	**Kuching**	**140.80**	**297**	*e*PKPdf	PKPdf	07 18 31.5	-2.8	
POO	**Poona**	**142.79**	**4**	*ex*	PKPdf	07 18 29.0	-8.9	
VIS	**Vishakhapatnam**	**142.98**	**349**	*e*P	PKPdf	07 18 36.6	-1.5	
HYB	**Hyderabad**	**143.88**	**356**	*i* PKP	PKPdf	07 18 36.5	-3.3	
HYB	**Hyderabad**	**143.88**	**356**	*e*PKP	PKPdf	07 18 36.5	-3.3	
HYB				*e*		07 18 45.0		
KAD	**Karad**	**144.02**	**3**	*e*P	PKPdf	07 18 39.8	-0.2	
PBA	**Port Blair**	**145.54**	**330**	*ex*	x	07 18 32.0		
KULM	**Kulim**	**145.95**	**312**	*e*PKPdf	PKPdf	07 18 43.2	-0.2	
KGM	**Kluang**	**146.16**	**305**	P	PKPdf	07 18 45.0	+1.2	
IPM	**Ipoh**	**146.25**	**311**	P	PKPdf	07 18 44.8	+1.0	
MNGI	**Mangalore**	**148.39**	**2**	*ex*	x	07 18 29.1		
MNGI				AMb	AMB	07 18 34.8		
	comp=Z,106nm,1.1s							
OPO	**Ambohidratompo** baz=265,slow=1.7	**152.61**	**94**	PKPbc	PKPbc	07 19 01.3	+0.3	
TRD	**Trivandrum**	**152.81**	**358**	*ex*	PKPdf	07 19 01.8	+7.5	
PALK	**Pallekele**	**153.66**	**350**	*e*PKPdf	PKPdf	07 18 55.4	-0.1	
PALK				*e*PKPbc	PKPbc	07 19 03.2	-0.1	
PALK				LR	LR			
	comp=Z,228nm,20.0s,MS5.0							
MSEY	**Mahe Island**	**155.41**	**58**	PFAKE		07 19 10.0	+12	
MSEY				LR	LR			
	comp=Z,127nm,20.0s,MS4.7							
COCO	**West Island**	**158.98**	**285**	PFAKE		07 19 20.0	+18	
COCO				LR	LR			
	comp=Z,97nm,19.0s,MS4.7							
DGAR	**Diego Garcia**	**168.09**	**18**	PFAKE		07 19 20.0	+9.0	
DGAR				LR	LR			
	comp=Z,144nm,20.0s							

IDC 19 07:01:35.5±1.3, 4652N×15482E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/40, Error ellipse: s-maj=34.5km s-min=27.5km az=157.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.94**	**259**	Pn	Pn	07 03 45.5	-0.4
	0.4nm,0.3s,baz=96,slow=21,SNR=3.5						
ASAJ				LR	LR	07 06 35.2	
	comp=Z,42nm,19.8s,baz=44,slow=34						
KSRS	**Korea Array**	**21.86**	**255**	P	P	07 06 31.4	+1.6
	1.6nm,0.8s,baz=72,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	07 10 15.6	-1.3
	0.7nm,0.8s,baz=66,slow=9.4,SNR=6.3						
BVAR	**Borovoye Array**	**51.91**	**310**	P	P	07 10 45.8	-0.1
	0.6nm,0.4s,baz=44,slow=7.0,SNR=4.4						
NOA	**NORSAR Array B**	**68.82**	**342**	P	P	07 12 41.3	-0.3
	3.0nm,0.8s,baz=36,slow=6.0,SNR=3.4						
ASAR	**Alice Springs**	**72.38**	**200**	P	P	07 13 02.9	-0.5
	0.6nm,0.8s,baz=14,slow=5.2,SNR=5.3						
TXAR	**Lajitas Array**	**76.57**	**62**	P	P	07 13 28.2	+0.5
	1.2nm,0.8s,baz=305,slow=5.1,SNR=4.0						

IDC 19 07:08:50.3±30.0, 4782N×15248E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.5/23, mbtmp4.0/4, Error ellipse: s-maj=697.2km s-min=224.7km az=145.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**62.89**	**334**	P	P	07 19 17.8	-0.5
	2.2nm,1.0s,baz=39,slow=9.1,SNR=4.5						
FINES	**FINESS Array B**	**62.89**	**334**	P	P	07 19 17.8	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NB2	**NORSAR Subarra**	**67.08**	**341**	P	P	07 19 45.4	-0.1
	comp=Z,1.0nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.08**	**341**	P	P	07 19 45.0	-0.4
	comp=Z,1.2nm,0.6s,baz=28,slow=6.4,SNR=4.6						
NOA	**NORSAR Array B**	**67.08**	**341**	P	P	07 19 45.1	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**67.31**	**339**	P	P	07 19 46.4	-0.6
	comp=Z,1.7nm,0.5s,baz=49,slow=6.7,SNR=8.7						
HFS	**Hagfors**	**67.31**	**339**	P	P	07 19 46.4	-0.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**70.42**	**326**	P	P	07 20 06.0	-0.3
	comp=Z,0.6nm,0.5s,baz=30,slow=5.8,SNR=2.5						

*ISCJB **19** 07:09:09.0±2.1, 467N±02×1536E±02, h42km±17km, mb4.0/9, Error ellipse: s-maj=32.4km s-min=15.7km az=89.1*
*MOS **19** 07:09:09.4±0.8, 4674N×15365E, h44km, mb4.3/8, Error ellipse: s-maj=29.4km s-min=16.2km az=74.3*
*IDC **19** 07:09:12.9±6.0, 4668N×15347E, h60km±52km, mb3.7/9, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=37.6km s-min=24.2km az=81.0*
ISC 19 07:09:11.6±1.9, 468N±02×1536E±02, h50km±14km, n22, σ0s90/22, mb4.0/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.26**	**22**	*e*PN	**Pn**	**07 10 13.3**	**-0.6**
SKR	**Severo-Kuril's**	**4.26**	**22**	*e*PN	**Pn**	**07 10 13.3**	**-0.6**
ASAJ	**Asahikawa**	**8.17**	**255**	P	**Pn**	**07 11 08.3**	**+0.8**
	0.9nm,0.3s,baz=96,slow=21,SNR=6.9						
ASAJ	**Asahikawa**	**8.17**	**255**	PN	**Pn**	**07 11 08.4**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**07 17 37.4**	**-2.1**
	comp=Z,5.2nm,1.0s,mb4.4,baz=69,slow=5.7,SNR=8.9						
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**07 17 37.4**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NST	**Nakhon Sawan**	**53.90**	**253**	P	**P**	**07 18 29.0**	**-0.8**
ARCES	**ARCESS Array B**	**57.94**	**341**	P	**P**	**07 18 58.5**	**-0.2**
	comp=Z,2.7nm,1.0s,mb4.2,baz=24,slow=8.9,SNR=3.1						
ARCES	**ARCESS Array B**	**57.94**	**341**	P	**P**	**07 18 58.5**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**07 19 40.8**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=41,slow=6.7,SNR=9.9						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**07 19 40.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.32**	**341**	P	**P**	**07 20 08.4**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.4,SNR=5.8						
NOA	**NORSAR Array B**	**68.32**	**341**	P	**P**	**07 20 08.4**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.56**	**340**	P	**P**	**07 20 08.9**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=46,slow=4.3,SNR=13						
HFS	**Hagfors**	**68.56**	**340**	P	**P**	**07 20 08.9**	**0.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**07 20 28.3**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=6.1,SNR=4.0						
ASAR	**Alice Springs**	**72.33**	**199**	P	**P**	**07 20 31.6**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=12,slow=5.2,SNR=9.5						
ASAR	**Alice Springs**	**72.33**	**199**	P	**P**	**07 20 31.6**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.20**	**61**	P	**P**	**07 21 00.4**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=303,slow=4.1,SNR=6.2						
TXAR	**Lajitas Array**	**77.20**	**61**	P	**P**	**07 21 00.4**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**78.58**	**334**	P	**P**	**07 21 09.7**	**+1.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=27,slow=7.5,SNR=6.0						
GERES	**GERESS Array B**	**78.58**	**334**	P	**P**	**07 21 09.7**	**+1.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **19** 07:12:52.5, 3648N×1105W, h0km, MG3.9(MDD), After MDD.*
*INMG **19** 07:12:53.6±0.6, 3650N×11.16W, h10km, ML1.8, Error ellipse: s-maj=4.8km s-min=3.5km az=82.0*
MDD 19 07:12:52.6±2.5, 3655N×1108W, h0km, mbLg2.2/6, Error ellipse: s-maj=21.0km s-min=18.0km az=64.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.13**	**62**	*e*Pn	Pn	07 13 28.3	-1.1
PTEO				*e*Sn	Sn	07 13 54.8	-1.8
PLOU	**Loures**	**2.79**	**33**	*e*Pn	Pn	07 13 37.1	-1.4
PLOU				*e*Sn	Sn	07 14 10.2	-2.6
PMAFR	**Mafra**	**2.79**	**30**	*e*Sn	Sn	07 14 10.0	-2.9
PMAFR							
	8.8nm,0.2s						
PMAFR	**Mafra**	**2.79**	**30**	S	Sn	07 14 10.0	-2.9
	4.4nm,0.2s						
PBEJ	**Beja**	**2.96**	**59**	*e*Sn	Sn	07 14 14.7	-2.3
EGRO	**El Granado**	**3.04**	**70**	P	Pn	07 13 40.8	-1.1
	0.8nm,0.1s,SNR=14						
EGRO				S	Sn	07 14 15.7	-3.4
	1.2nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.61**	**49**	*e*Pn	Pn	07 13 48.7	-1.0
PESTR				*e*Sn	Sn	07 14 30.2	-2.8
EMIN	**Mina Concepcio**	**3.73**	**70**	P	Pn	07 13 49.8	-1.6
	1.3nm,0.1s,SNR=15						
EMIN				S	Sn	07 14 32.4	-3.5
	1.4nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**3.91**	**54**	P	Pn	07 13 52.9	-0.9
	0.8nm,0.1s,SNR=7.1						
EBAD				S	Sn	07 14 37.7	-2.7
	1.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.21**	**84**	P	Pn	07 13 56.6	-1.4
	1.7nm,0.1s,SNR=7.0						
ESPR				S	Sn	07 14 43.6	-4.3
	7.7nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**4.34**	**40**	*e*Pn	Pn	07 13 58.6	-1.2
PCBR				*e*Sn	Sn	07 14 47.2	-3.9
PVIS	**Viseu**	**4.85**	**30**	*e*Pn	Pn	07 14 05.7	-1.1
PVIS				*e*Sn	Sn	07 14 59.3	-4.4
PVIS							
	1.6nm,0.2s						
EADA	**Adamuz**	**5.43**	**71**	P	Pn	07 14 13.6	-1.1
	0.9nm,0.2s,SNR=7.5						
EADA				S	Sn	07 15 13.8	-4.1
	0.3nm,0.2s,SNR=4.0						

*ISCJB **19** 07:44:57.9±1.9, 463N±0.1×1542E±0.2, h60km±18km, mb3.9/13, Error ellipse: s-maj=24.4km s-min=11.6km az=95.0*
*MOS **19** 07:44:58.9±0.8, 4639N×154.02E, h69km, mb4.2/10, Error ellipse: s-maj=24.9km s-min=14.6km az=69.6*
*IDC **19** 07:44:58.8±3.8, 4632N×154.35E, h49km±38km, mb3.7/12, mb1 3.9/14, mb1mx3.7/26, mbtmp3.7/14, ML3.6/2, Error ellipse: s-maj=24.3km s-min=16.0km az=137.0*
ISC 19 07:44:60.0±1.7, 464N±01×1542E±02, h63km±16km, n26, σ0s88/26, mb3.9/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.51**	**16**	*e*PN	**Pn**	**07 46 06.2**	**+0.5**
ASAJ	**Asahikawa**	**8.48**	**259**	P	**Pn**	**07 47 00.2**	**+0.1**
	1.4nm,0.3s,baz=89,slow=21,SNR=6.4						
ASAJ	**Asahikawa**	**8.48**	**259**	PN	**Pn**	**07 47 00.2**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.46**	**236**	P	**Pn**	**07 48 32.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=3.0						
KSRS	**Korea Array**	**21.40**	**255**	P	**P**	**07 49 44.7**	**+2.2**
	comp=Z,1.7nm,0.6s,mb3.5,baz=56,slow=10,SNR=3.7						
BOD	**Bodaibo**	**26.81**	**310**	*e*P	**P**	**07 50 31.5**	**-2.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.8						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**07 52 41.2**	**-0.4**
	comp=Z,1.5nm,0.6s,mb3.8,baz=283,slow=4.0,SNR=10						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**07 52 41.2**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**07 53 31.1**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=69,slow=8.6,SNR=8.3						
MKAR				PcP	PcP	07 54 59.3	+0.2
	comp=Z,0.3nm,0.6s,baz=46,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**47.78**	**298**	P	**P**	**07 53 31.1**	**+0.2**
MKAR						07 54 59.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.79**	**37**	P	**P**	**07 53 53.6**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=297,slow=7.2,SNR=4.4						
YKA	**Yellowknife Ar**	**50.79**	**37**	P	**P**	**07 53 53.6**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.46**	**341**	P	**P**	**07 54 50.1**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.3,baz=41,slow=7.2,SNR=3.3						
ARCES	**ARCESS Array B**	**58.46**	**341**	P	**P**	**07 54 50.1**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**61.95**	**63**	P	**P**	**07 55 13.4**	**+0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=286,slow=8.6,SNR=6.5						
PDAR	**Pinedale Array**	**64.37**	**54**	P	**P**	**07 55 29.0**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=318,slow=2.0,SNR=10						
FINES	**FINESS Array B**	**64.70**	**335**	P	**P**	**07 55 31.5**	**+0.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=35,slow=7.0,SNR=4.8						
FINES	**FINESS Array B**	**64.70**	**335**	P	**P**	**07 55 31.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.40**	**200**	P	**P**	**07 55 55.0**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=18,slow=6.6,SNR=5.5						
WRA	**Warramunga Arr**	**68.40**	**200**	P	**P**	**07 55 55.0**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	**Albuquerque**	**71.40**	**59**	P	**P**	**07 56 13.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=339,slow=6.3,SNR=4.7						
ANMO	**Albuquerque**	**71.40**	**59**	P	**P**	**07 56 13.4**	**0.0**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.08**	**200**	P	**P**	**07 56 18.1**	**+0.5**
	comp=Z,1.5nm,1.0s,mb3.9,baz=9.1,slow=7.2,SNR=9.9						
ASAR	**Alice Springs**	**72.08**	**200**	P	**P**	**07 56 18.1**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**07 56 46.1**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=299,slow=4.2,SNR=41						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**07 56 46.1**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*ISCJB **19** 08:03:30.3±2.9, 464N±0.1×1532E±0.1, h15km±20km, mb4.2/19, Error ellipse: s-maj=19.8km s-min=8.7km az=111.2*
*MOS **19** 08:03:33.0±1.3, 4637N×153.30E, h41km, mb4.2/12, Error ellipse: s-maj=15.3km s-min=12.1km az=71.7*
*IDC **19** 08:03:38.3±4.2, 4647N×153.12E, h66km±37km, mb3.6/16, mb1 3.8/17, mb1mx3.8/25, mbtmp3.7/17, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/33, Error ellipse: s-maj=19.5km s-min=16.9km az=132.0*
ISC 19 08:03:35.0±3.3, 465N±01×1532E±01, h33km±22km, n53, σ0s95/54, mb4.2/19, 7C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**253**	⇓*i* PN	**Pn**	**08 04 31.7**	**-1.6**
KUR				*i* S	**Sn**	**08 05 17.0**	**-1.5**
KUR				pmax	pmax		
	comp=N,170nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,280nm,0.7s						
KUR				smax			
	comp=N,410nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
SKR	**Severo-Kuril's**	**4.61**	**24**	*e*PN	**Pn**	**08 04 42.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
YSS	**Yuzh-Sakhalins

FINES				pmax	pmax				
	comp=Z,2.0nm,0.4s								
PDAR	**Pinedale Array**	**64.83**	**54**	P	**P**	**08 14 11.7**	**+1.1**		
	comp=Z,0.3nm,0.7s,mb3.4,baz=357,slow=3.2,SNR=2.3								
WRA	**Warramunga Arr**	**68.30**	**199**	P	**P**	**08 14 31.3**	**-1.4**		
	comp=Z,0.7nm,0.8s,mb3.8,baz=16,slow=6.7,SNR=4.7								
WRA	**Warramunga Arr**	**68.30**	**199**	P	**P**	**08 14 31.3**	**-1.4**		
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
NB2	**NORSAR Subarra**	**68.49**	**341**	P	**P**	**08 14 32.8**	**-1.1**		
	comp=Z,1.5nm,0.5s,mb4.3,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**08 14 33.4**	**-0.5**		
	comp=Z,1.6nm,0.6s,mb4.3,baz=28,slow=6.3,SNR=9.1								
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**08 14 33.4**	**-0.5**		
NOA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**08 14 53.1**	**-1.0**		
	comp=Z,3.6nm,0.5s,mb4.6,baz=33,slow=6.0,SNR=14								
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**08 14 53.1**	**-1.1**		
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ASAR	**Alice Springs**	**71.99**	**199**	P	**P**	**08 14 54.8**	**-0.6**		
	comp=Z,0.7nm,0.7s,mb3.7,baz=15,slow=5.5,SNR=12								
ASAR	**Alice Springs**	**71.99**	**199**	P	**P**	**08 14 54.8**	**-0.5**		
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
STHS	**Stebnicka Huta**	**75.77**	**330**	*e*	**P**	**08 15 17.0**	**-0.5**		
BURAR	**Bucovina Array**	**75.84**	**327**	⇑*iP*	**P**	**08 15 17.4**	**-0.4**		
CFR	**Carculiu**	**76.69**	**324**	⇑*iP*	**P**	**08 15 23.5**	**+0.8**		
MORC	**Moravsky Berou**	**76.70**	**332**	⇑*iP*	**P**	**08 15 23.1**	**+0.4**		
MLR	**Muntele Rosu**	**77.32**	**325**	⇑*iP*	**P**	**08 15 26.7**	**+0.5**		
VYHS	**Vyhne**	**77.39**	**331**	*e*	**P**	**08 15 26.7**	**+0.1**		
VRAC	**Vranov**	**77.41**	**333**	⇑*iP*	**P**	**08 15 27.6**	**+0.9**		
DRGR		**77.47**	**328**	⇑*iP*	**P**	**08 15 26.6**	**-0.4**		
TXAR	**Lajitas Array**	**77.55**	**61**	P	**P**	**08 15 27.2**	**-0.3**		
	comp=Z,0.6nm,0.6s,mb3.7,baz=305,slow=3.5,SNR=8.9								
TXAR	**Lajitas Array**	**77.55**	**61**	P	**P**	**08 15 27.2**	**-0.3**		
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
GZR	**Gura Zlata**	**78.62**	**327**	⇑*iP*	**P**	**08 15 34.3**	**+0.9**		
BRTR	**Keskin Array B**	**78.63**	**317**	P	**P**	**08 15 33.0**	**-0.5**		
	comp=Z,0.6nm,0.6s,mb3.7,baz=50,slow=6.6,SNR=3.7								
BRTR	**Keskin Array B**	**78.63**	**317**	P	**P**	**08 15 33.0**	**-0.5**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**78.72**	**334**	P	**P**	**08 15 33.8**	**-0.1**		
	comp=Z,0.7nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=10								
GERES	**GERESS Array B**	**78.72**	**334**	P	**P**	**08 15 33.8**	**-0.2**		
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BZS	**Buzias**	**78.87**	**328**	⇑*iP*	**P**	**08 15 35.0**	**+0.2**		

IDC 19 08:12:02.3±1.2, 4712N×15321E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=46.6km s-min=29.9km az=113.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.30**	**33**	P	P	08 19 49.8	+0.2
	0.9nm,0.5s,baz=270,slow=4.7,SNR=10						
FINES	**FINESS Array B**	**63.73**	**335**	P	P	08 22 35.0	-0.8
	0.5nm,0.4s,baz=40,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**72.58**	**199**	P	P	08 23 31.6	+0.2
	0.2nm,0.5s,baz=11,slow=6.5,SNR=5.9						
TXAR	**Lajitas Array**	**77.25**	**61**	P	P	08 23 57.9	-0.5
	0.4nm,0.6s,baz=295,slow=4.3,SNR=8.2						

MAN 19 08:12:17.2, 1343N×12133E, h7km, mb2.0, ML3.7, MS1.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.77**	**330**	*eP*	Pg	08 12 27.8	-4.2

ISCJB 19 08:13:25.6±0.8, 3168S×005×6723W×008, h145km±8km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=7.5km az=39.8
IDC 19 08:13:25.6±1.2, 3178S×67.10W, h132km±11km, mb3.4/5, mb1 3.7/8, mb1mx3.5/17, mbtmp3.5/8, Error ellipse: s-maj=30.7km s-min=17.5km az=84.0
GUC 19 08:13:26.1±0.5, 3170S×6727W, h150km, ML4.4
ISC 19 08:13:26.6±0.8, 3169S×005×6721W×009, h140km±8km, n25, σ0s65/29, mb3.5/5, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.88**	**275**	P	**Pn**	**08 13 49.1**	**-0.2**
	24nm,0.3s,baz=90,slow=9.0,SNR=3106						
CFAA				S	**Sn**	**08 14 06.4**	**-0.2**
	87nm,0.3s,baz=192,slow=20,SNR=127						
FCH	**Farellones**	**3.07**	**237**	⇑*iP*	**Pn**	**08 14 15.1**	**+0.7**
FCH				*i* S	**Sn**	**08 14 52.3**	**+0.9**
FCH				AML	AML	08 14 56.5	
	comp=N,503nm,0.6s						
PTCH	**Petorca**	**3.21**	**259**	⇑*iP*	**Pn**	**08 14 16.4**	**+0.1**
PTCH				*e*S	**Sn**	**08 14 54.4**	**-0.2**
PTCH				AML	AML	08 14 56.6	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**3.28**	**243**	⇓*iP*	**Pn**	**08 14 17.2**	**+0.1**
PEL				*i* S	**Sn**	**08 14 55.9**	**-0.2**
PEL				AML	AML	08 15 00.3	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**3.28**	**238**	⇑*iP*	**Pn**	**08 14 17.4**	**+0.2**
CLCH				*i* S	**Sn**	**08 14 56.2**	**-0.1**
CLCH				AML	AML	08 15 00.8	
	comp=E,802nm,0.7s						
LMEL	**Las Melosas**	**3.31**	**229**	⇑*iP*	**Pn**	**08 14 18.0**	**+0.5**
LMEL				AML	AML	08 14 54.0	
	comp=N,176nm,0.4s						
LMEL				*i* S	**Sn**	**08 14 57.1**	**+0.1**
ANTU	**Antumapu**	**3.44**	**236**	*i* P	**Pn**	**08 14 19.4**	**+0.2**
ANTU				*i* S	**Sn**	**08 14 60.0**	**0.0**
ANTU				AML	AML	08 15 03.8	
	comp=E,334nm,0.6s						
RCDM	**Rinconada Maip**	**3.52**	**238**	⇓*iP*	**Pn**	**08 14 20.6**	**+0.2**
RCDM				*i* S	**Sn**	**08 15 01.5**	**-0.4**
OVCH	**Ovalle**	**3.58**	**286**	*i* S	**Sn**	**08 15 02.6**	**-0.7**
CHCH	**Chadas Angostu**	**3.66**	**231**	⇓*iP*	**Pn**	**08 14 21.9**	**-0.1**
CACH	**El Canelo**	**3.74**	**229**	⇑*iP*	**Pn**	**08 14 23.4**	**+0.3**
CICH	**Cipreses**	**3.76**	**225**	*i* P	**Pn**	**08 14 23.6**	**+0.2**
LSCH	**La Serena**	**3.90**	**296**	*i* S	**Sn**	**08 15 09.9**	**-0.8**
LVC	**Limon Verde**	**9.16**	**350**	P	**Pn**	**08 15 35.4**	**-0.2**
	comp=E,1.7nm,0.3s,baz=89,slow=0.7,SNR=16						
LPAZ	**La Paz**	**15.35**	**357**	P	**Pn**	**08 16 57.4**	**+1.7**
	comp=E,0.4nm,0.3s,baz=151,slow=8.4,SNR=11						
SIV	**San Ignacio**	**16.60**	**21**	P	**Pn**	**08 17 10.2**	**-0.8**
	comp=E,1.0nm,0.3s,baz=213,slow=12,SNR=49						
SNAA	**Sanae**	**52.23**	**159**	P	**P**	**08 22 21.4**	**-1.8**
	comp=E,0.7nm,0.9s,mb3.3,baz=288,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**69.88**	**326**	P	**P**	**08 24 23.4**	**+1.2**
	comp=E,0.4nm,0.7s,mb3.3,baz=156,slow=8.6,SNR=7.8						
MAW	**Mawson**	**74.19**	**162**	P	**P**	**08 24 46.8**	**-1.0**
	comp=E,0.6nm,0.5s,mb3.6,baz=220,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**79.59**	**68**	P	**P**	**08 25 18.3**	**+0.2**
	comp=E,1.9nm,0.7s,mb3.8,baz=260,slow=5.2,SNR=12						
PDAR	**Pinedale Array**	**83.67**	**330**	P	**P**	**08 25 39.9**	**+0.4**
	comp=E,0.5nm,0.7s,mb3.3,baz=131,slow=4.1,SNR=3.8						
ASAR	**Alice Springs**	**121.37**	**203**	PKP	PKPdf	08 32 02.7	-0.4
	comp=E,0.3nm,0.4s,baz=158,slow=1.3,SNR=4.7						
WRA	**Warramunga Arr**	**124.66**	**205**	PKP	PKPdf	08 32 09.6	+0.1
	comp=E,1.2nm,0.5s,baz=164,slow=1.6,SNR=18						
ZAL	**Zalesovo**	**150.07**	**34**	PKPbc	PKPbc	08 33 00.4	-0.3
	comp=E,1.6nm,0.6s,baz=194,slow=3.0,SNR=8.4						
MKAR	**Makanchi Array**	**152.19**	**48**	PKPbc	PKPbc	08 33 05.3	-0.2
	comp=E,1.4nm,0.6s,baz=282,slow=2.0,SNR=8.4						

IDC 19 08:17:39.2±2.3, 2484N×12236E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=361.8km s-min=26.3km az=70.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**26.20**	**335**	P	P	08 23 15.6	+0.1
	1.9nm,1.0s,baz=149,slow=9.0,SNR=7.0						
WRA	**Warramunga Arr**	**46.02**	**164**	P	P	08 26 04.2	-0.1
	0.8nm,0.5s,baz=346,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	**49.50**	**166**	P	P	08 26 31.9	+0.5
	0.4nm,0.8s,baz=343,slow=8.9,SNR=4.3						

ISCJB 19 08:24:50.8±0.3, 4308N×002×002E×002, h6km, Error ellipse: s-maj=3.1km s-min=2.6km az=147.8
LDG 19 08:24:51.9±0.1, 4302N×001W, h6km, Md2.3/3, Ml2.0/5, Error ellipse: s-maj=1.8km s-min=1.2km az=170.0
STR 19 08:24:52.4±0.1, 4301N×000E, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 19 08:24:52.7±0.2, 4301N×001E, h0km, mbLg1.4/16, Error ellipse: s-maj=1.9km s-min=1.4km az=10.0, PRXIMO
ISC 19 08:24:51.6±0.4, 4303N±002×001E±003, h11km±4km, n42, σ0s75/52, 1C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.05**	**74**	Pg	**Pg**	**08 24 53.9**	**+0.1**
LABF	**Labassere**	**0.05**	**74**	Pg	**Pg**	**08 24 53.9**	**+0.1**
LABF				Sg	**Sg**	**08 24 55.2**	**-0.2**
LABF				Sg	**Sg**	**08 24 55.2**	**-0.2**
LABF	**Labassere**	**0.05**	**74**	Pg	**Pg**	**08 24 54.0**	**+0.2**
LABF				Lg		08 24 55.2	
VIEF	**Viey**	**0.15**	**176**	Pg	**Pg**	**08 24 55.1**	**0.0**
VIEF	**Viey**	**0.15**	**176**	Pg	**Pg**	**08 24 55.1**	**0.0**
VIEF				Sg	**Sg**	**08 24 57.1**	**-0.5**
VIEF				Sg	**Sg**	**08 24 57.1**	**-0.5**
VIEF	**Viey**	**0.15**	**176**	Pg	**Pg**	**08 24 55.2**	**+0.1**
VIEF				Lg		08 24 57.2	
EPF	**Esparros**	**0.24**	**91**	*e*Pg	**Pg**	**08 24 56.9**	**+0.2**
EPF				*e*Sg	**Sg**	**08 25 00.7**	**+0.6**
	35nm,0.2s						
EPF	**Esparros**	**0.24**	**91**	Pg	**Pg**	**08 24 56.9**	**+0.2**
EPF				Lg		08 25 00.7	
	17nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**277**	Pg	**Pg**	**08 24 57.8**	**+0.1**
REYF				Sg	**Sg**	**08 25 02.3**	**+0.6**
REYF	**Montagne du Re**	**0.30**	**277**	Pg	**Pg**	**08 24 58.3**	**+0.6**
REYF				Lg		08 25 02.2	
RESF	**Ens**	**0.33**	**133**	Pg	**Pg**	**08 24 58.5**	**+0.2**
RESF				Sg	**Sg**	**08 25 03.2**	**+0.5**
RESF	**Ens**	**0.33**	**133**	Pg	**Pg**	**08 24 58.6**	**+0.3**
RESF				Lg		08 25 03.0	
EBIE	**Bielsa**	**0.36**	**164**	⇑Pg	**Pg**	**08 24 58.9**	**0.0**
	0.5nm,0.0s,SNR=18						
EBIE				Lg		08 25 03.5	
	12nm,0.1s,SNR=6.8						
ETSF	**Etsaut**	**0.44**	**252**	*e*Pg	**Pg**	**08 25 00.4**	**+0.1**
ETSF				*e*Sg	**Sg**	**08 25 06.2**	**+0.1**
	17nm,0.2s						
ETSF	**Etsaut**	**0.44**	**252**	Pg	**Pg**	**08 25 00.4**	**+0.1**
ETSF				Lg		08 25 06.2	
	8.4nm,0.2s						
ATE	**Arette**	**0.52**	**276**	Pg	**Pg**	**08 25 02.1**	**+0.2**
ATE				Lg		08 25 09.3	
MELF	**Melles**	**0.57**	**106**	Pg	**Pg**	**08 25 03.6**	**+0.8**
MELF				Lg		08 25 10.8	
SJPF	**Ste Jean**	**0.91**	**275**	*e*Pg	**Pg**	**08 25 08.4**	**-0.8**
SJPF				*e*Sg	**Sg**	**08 25 19.6**	**-1.4**
	2.5nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**275**	Pg	**Pg**	**08 25 08.4**	**-0.8**
SJPF				Lg		08 25 19.6	
	1.2nm,0.3s						
SALF	**Salau**	**0.91**	**107**	Pg	**Pg**	**08 25 10.1**	**+0.9**
SALF				Sg	**Sg**	**08 25 21.3**	**+0.3**
SALF	**Salau**	**0.91**	**107**	Lg		08 25 21.1	
IPRE	**Itoiz**	**1.03**	**258**	Lg		08 25 26.2	
	1.5nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**1.13**	**280**	Lg		08 25 30.5	
	3.7nm,0.2s,SNR=6.7						
ELIZ	**Elizondo**	**1.13**	**277**	Pg	**Pg**	**08 25 15.3**	**+1.8**
	0.5nm,0.1s,SNR=7.9						
ELIZ				Lg		08 25 29.5	
	2.0nm,0.2s,SNR=5.0						
IUSE	**Utxeti**	**1.15**	**266**	Lg		08 25 30.8	
	1.4nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.36**	**195**	⇓Pg	**Pg**	**08 25 18.7**	**+1.0**
	8.9nm,0.3s,SNR=18						
ESAC				Lg		08 25 35.9	
	29nm,0.2s,SNR=17						
EMIR	**Miracle**	**1.58**	**134**	Pn	**Pn**	**08 25 20.2**	**+0.6**
	0.3nm,0.1s,SNR=4.0						
EMIR				Pg	**Pg**	**08 25 22.4**	**+0.4**
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg		08 25 43.1	
	1.3nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg	**Pg**	**08 25 23.1**	**-0.1**
MTLF				*e*Sg	**Sg**	**08 25 44.3**	**-0.2**
	5.7nm,0.2s						
MTLF	**Montolieu**	**1.64**	**78**	Pg	**Pg**	**08 25 23.1**	**-0.1**
MTLF				Lg		08 25 44.3	
	2.8nm,0.2s						
EPOB	**Poblet**	**1.86**	**154**	Pg	**Pg**	**08 25 26.4**	**-0.9**
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		08 25 50.5	
	0.9nm,0.1s,SNR=7.1						
ECRI	**Cripan**	**1.90**	**258**	Lg		08 25 54.3	
	1.6nm,0.3s,SNR=4.0						
LFF	**La Frestale**	**1.98**	**15**	*e*Pg	**Pg**	**08 25 29.3**	**-0.2**
LFF				*e*Sg	**Sg**	**08 25 56.5**	**+1.3**
	4.5nm,0.3s						
LFF	**La Frestale**	**1.98**	**15**	Pg	**Pg**	**08 25 29.3**	**-0.2**
LFF				Lg		08 25 56.5	
	2.2nm,0.3s						
ERTA	**Horta de San J**	**2.09**	**173**	Pg	**Pg**	**08 25 30.4**	**-1.3**
	0.5nm,0.2s,SNR=4.0						
ERTA				Lg		08 25 57.3	
	2.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.20**	**104**	Lg		08 26 04.2	
	0.6nm,0.3s,SNR=4.0						
CAF	**Calviac**	**2.40**	**37**	*e*Pg	**Pg**	**08 25 36.7**	**-1.0**
CAF				*e*Sg	**Sg**	**08 26 08.2**	**-0.7**
	1.7nm,0.3s						
CAF	**Calviac**	**2.40**	**37**	Pg	**Pg**	**08 25 36.7**	**-1.0**
CAF				Lg		08 26 08.2	
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Pg	**Pg**	**08 25 38.9**	**-1.0**
RJF				*e*Sg	**Sg**	**08 26 13.0**	**+0.5**
	1.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**25**	Pg	**Pg**	**08 25 38.9**	**-1.0**
RJF				Lg		08 26 13.0	
	0.6nm,0.2s						
ELAN	**Lanestosa**	**2.53**	**276**	Lg		08 26 14.5	
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.69**	**188**	Pg	**Pg**	**08 25 41.8**	**-1.4**
	0.2nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**08 26 07.6**	**+0.3**
	0.3nm,0.3s,SNR=7.9						
EMOS				Lg		08 26 16.1	
	1.2nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.98**	**68**	*e*Pg	**Pg**	**08 25 48.7**	**-0.1**
LASF				*e*Sg	**Sg**	**08 26 26.2**	**-1.3**

ISCJB 19 08:32:50.1±0.7, 4679N×009×1549E×01, h10km, mb4.2/21, Error ellipse: s-maj=15.8km s-min=7.3km az=100.7
NEIC 19 08:32:50.9±0.7, 4686N×155.12E, h10km, mb4.5/6, Error ellipse: s-maj=15.7km s-min=9.6km az=127.0
MOS 19 08:32:53.1±1.1, 4684N×15500E, h39km, mb4.5/3, Error ellipse: s-maj=14.7km s-min=13.0km az=48.4
IDC 19 08:32:55.9±4.7, 4691N×155.16E, h44km±43km, mb3.8/13, mb1 3.9/14, mb1mx3.8/25, mbtmp3.8/14, ML4.0/1, Error ellipse: s-maj=24.5km s-min=18.2km az=95.0
ISC 19 08:32:52.6±0.7, 4676N±009×1549E±01, h10km, n49, σ1s60/51, mb4.2/21, 3C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.01**	**11**	*e*PN	**Pn**	**08 33 47.0**	**-7.1**
KUR	**Kuril'sk**	**5.14**	**255**	⇑*i*PN	**Pn**	**08 34 09.3**	**-0.3**
KUR				*i* S	**Sn**	**08 35 10.0**	**+1.1**
KUR				smax			
	comp=N,220nm,0.8s						
ASAJ	**Asahikawa**	**9.05**	**257**	P	**Pn**	**08 35 07.0**	**+3.7**
	comp=N,1.6nm,0.3s,baz=98,slow=14,SNR=14						
ASAJ	**Asahikawa**	**9.05**	**257**	PN	**Pn**	**08 35 07.0**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**9.65**	**245**	*e*PN	**Pn**	**08 35 13.2**	**+1.6**
ERM				pmax	pmax		
	comp=Z,18nm,0.6s						
ERM	**Erimo**	**9.65**	**245**	*e*Pn	**Pn**	**08 35 13.2**	**+1.7**
	comp=Z,18nm,0.6s						
ERM				*e*Sn	**Sn**	**08 36 59.6**	**-0.4**
MAJO	**Matsushiro**	**16.09**	**237**	*e*P	**Pn**	**08 36 38.2**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**16.09**	**237**	*e*P	**Pn**	**08 36 38.2**	**-0.7**
	comp=Z,9.5nm,0.8s						
MAT	**Matsushiro**	**16.09**	**237**	P	**Pn**	**08 36 38.4**	**-0.5**
MJAR	**Matsushiro Arr**	**16.09**	**237**	P	**Pn**	**08 36 38.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=14,SNR=17						
KSRS	**Korea Array**	**21.98**	**255**	P	P	**08 37 49.5**	**+2.8**
	comp=Z,4.2nm,0.7s,mb4.0,baz=56,slow=11,SNR=13						
SONM	**Songino Array**	**32.49**	**290**	P	P	**08 39 21.6**	**-1.7**
	comp=Z,0.4nm,0.8s,mb3.3,baz=54,slow=7.4,SNR=3.1						
INK	**Inuvik**	**40.98**	**33**	P	P	**08 40 31.5**	**-4.2**
	comp=Z,1.2nm,0.8s,mb3.6,baz=252,slow=9.2,SNR=5.4						
INK	**Inuvik**	**40.98**	**33**	*e*P	P	**08 40 31.0**	**-4.6**
	comp=Z,87nm,0.9s,mb5.4						
ZAL	**Zalesovo**	**43.62**	**306**	P	P	**08 40 55.2**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.0,baz=48,slow=2.9,SNR=4.0						
MKAR	**Makanchi Array**	**48.03**	**298**	P	P	**08 41 31.1**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=72,slow=7.9,SNR=5.1						
CHKZ	**Chkalovo**	**51.36**	**311**	*e*P	P	**08 41 55.6**	**-1.7**
	comp=Z,7.8nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**51.80**	**310**	P	P	**08 41 60.0**	**-0.6**
	comp=Z,4.1nm,0.6s,mb4.6,baz=59,slow=7.9,SNR=24						
BRVK	**Borovoye**	**51.84**	**310**	*e*P	P	**08 41 59.7**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.84**	**310**	*e*P	P	**08 41 59.7**	**-1.1**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.56**	**311**	*e*P	P	**08 42 05.1**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**52.56**	**311**	*e*P	P	**08 42 05.1**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.1						
ARU	**Arti**	**55.83**	**318**	*e*P	P	**08 42 27.7**	**-2.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**55.83**	**318**	*e*P	P	**08 42 27.7**	**-2.4**
	comp=Z,3.9nm,0.6s,mb4.6						
AKTK	**Aktyubinsk**	**59.63**	**313**	P	P	**08 42 56.2**	**-0.6**
AKTO	**Aktyubinsk**	**59.63**	**313**	P	P	**08 42 56.2**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.1,baz=76,slow=16,SNR=3.5						
FINES	**FINESS Array B**	**64.55**	**336**	P	P	**08 43 27.6**	**-2.3**
	comp=Z,3.6nm,1.0s,mb4.3,baz=34,slow=6.4,SNR=15						
NB2	**NORSAR Subarra**	**68.61**	**342**	P	P	**08 43 51.9**	**-3.9**
	comp=Z,4.1nm,1.0s,mb4.3,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.61**	**342**	P	P	**08 43 52.9**	**-2.9**
	comp=Z,3.3nm,1.1s,mb4.2,baz=26,slow=6.4,SNR=3.4						
NOA	**NORSAR Array B**	**68.61**	**342**	P	P	**08 43 52.9**	**-2.9**
WRA	**Warramunga Arr**	**68.94**	**201**	P	P	**08 43 56.5**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=20,slow=7.1,SNR=11						
AKASG	**Malin Array Be**	**72.22**	**327**	P	P	**08 44 14.1**	**-3.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=6.1,SNR=6.8						
AKASG	**Malin Array Be**	**72.22**	**327**	P	P	**08 44 14.1**	**-3.8**
ASAR	**Alice Springs**	**72.62**	**200**	P	P	**08 44 20.3**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=16,slow=5.5,SNR=19						
STHS	**Stebnicka Huta**	**76.11**	**331**	*e*P	P	**08 44 42.1**	**+1.5**
BURAR	**Bucovina Array**	**76.25**	**328**	⇑*i*P	P	**08 44 41.2**	**-0.2**
TXAR	**Lajitas Array**	**76.41**	**62**	P	P	**08 44 40.5**	**-1.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=286,slow=7.3,SNR=5.1						
CLL	**Collm**	**76.96**	**337**	P	P	**08 44 47.0**	**+1.6**
KECS	**Kecovo**	**77.17**	**331**	*e*P	P	**08 44 39.7**	**-6.9**
MLR	**Muntele Rosu**	**77.75**	**326**	⇓*i*P	P	**08 44 52.6**	**+2.8**
DRGR		**77.86**	**329**	⇑*i*P	P	**08 44 52.3**	**+1.9**
KHC	**Kasperske Hory**	**78.75**	**335**	*e*P	P	**08 44 57.2**	**+1.8**
GERES	**GERESS Array B**	**78.98**	**335**	P	P	**08 44 58.3**	**+1.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=32,slow=5.3,SNR=6.6						
BZS	**Buzias**	**79.25**	**329**	⇓*i*P	P	**08 45 00.1**	**+2.0**
CDF	**Champ du Feu**	**81.10**	**339**	*e*P	P	**08 45 09.9**	**+1.8**
	comp=Z,2.4nm,0.5s,mb4.1						
GRR	**Gorron**	**82.91**	**344**	*e*P	P	**08 45 20.1**	**+2.5**
SMF	**Signal de Mont**	**83.58**	**340**	*e*P	P	**08 45 23.4**	**+2.4**
	comp=Z,8.4nm,0.8s,mb4.6						
LPG	**La Plagne**	**83.94**	**338**	*e*P	P	**08 45 26.3**	**+3.4**
	comp=Z,12nm,0.9s,mb4.7						
CAF	**Calviac**	**85.61**	**341**	*e*P	P	**08 45 33.6**	**+2.3**

LDG 19 08:35:23.6±0.1, 4301N×002W, h5km, Md2.2/3, Ml2.0/8, Error ellipse: s-maj=1.2km s-min=0.9km az=171.0
*STR 19 08:35:23.8±0.1, 4301N×001W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	08 36 01.2	-1.4
LFF				*e*Sg	Sg	08 36 26.9	-1.6
	6.9nm,0.5s						
LFF	**La Frestale**	**2.00**	**15**	Pg	Pg	08 36 01.2	-1.4
LFF				Lg		08 36 26.9	
	3.5nm,0.5s						
ERTA	**Horta de San J**	**2.07**	**173**	Pn	Pn	08 35 59.1	-1.1
	0.3nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	08 36 02.7	-1.2
	1.1nm,0.2s,SNR=7.9						
ERTA				Lg		08 36 29.8	
	1.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**104**	Lg		08 36 35.2	
	0.9nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	08 36 08.8	-2.0
CAF				*e*Sg	Sg	08 36 39.8	-2.4
	1.2nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	08 36 08.8	-2.0
CAF				Lg		08 36 39.8	
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	08 36 11.2	-1.7
RJF				*e*Sg	Sg	08 36 43.9	-2.0
	1.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Pg	Pg	08 36 11.2	-1.7
RJF				Lg		08 36 43.9	
	0.9nm,0.2s						
EMOS	**Mosqueruela**	**2.67**	**188**	Pn	Pn	08 36 07.2	-1.3
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		08 36 47.3	
	0.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.67**	**216**	Pn	Pn	08 36 07.3	-1.2
	1.9nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	08 36 38.9	-2.7
	0.6nm,0.1s,SNR=7.9						
ETOR				Lg		08 36 49.0	
	2.2nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	08 36 19.4	-2.4
LASF				*e*Sg	Sg	08 36 58.3	-2.4
	0.8nm,0.3s						
LASF	**Ste Croix**	**3.00**	**68**	Pg	Pg	08 36 19.4	-2.4
LASF				Lg		08 36 58.3	
	0.4nm,0.3s						
MFF	**Saint Martin d**	**3.59**	**358**	*e*Sg	Sg	08 37 16.7	-2.9
	0.6nm,0.2s						
MFF	**Saint Martin d**	**3.59**	**358**	Lg		08 37 16.7	
	0.3nm,0.2s						

IDC 19 08:58:56.6±13.0, 2020S×17766W, h602km±157km, mb3.1/4, mb1 3.3/5, mb1mx2.9/16, mbtmp3.2/5, Error ellipse: s-maj=115.4km s-min=36.5km az=30.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.55**	**193**	P	P	09 02 37.0	-0.1
	1.3nm,0.3s,baz=300,slow=2.7,SNR=6.5						
CTA	**Charters Tower**	**33.84**	**264**	P	P	09 04 51.3	+0.7
	2.6nm,0.4s,baz=83,slow=14						
ASAR	**Alice Springs**	**44.90**	**256**	P	P	09 06 18.6	-0.3
	2.5nm,0.7s,baz=88,slow=8.0,SNR=42						
WB2	**Warramunga Arr**	**44.95**	**262**	*e*P	P	09 06 19.5	+0.1
WRA	**Warramunga Arr**	**44.96**	**262**	P	P	09 06 19.5	0.0
	0.8nm,0.3s,baz=97,slow=7.5,SNR=34						
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	P	09 07 22.3	+1.1
	1.1nm,0.5s,baz=98,slow=7.1,SNR=4.9						
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc	PKPbc	09 17 39.9	-0.2
	0.1nm,0.3s,baz=26,slow=6.5,SNR=3.5						

*ISCJB **19** 09:03:54.8±2.2, 47.1N±0.1×1550E±0.2, h38km±17km, mb3.9/8, MS3.8/1, Error ellipse: s-maj=34.0km s-min=13.5km az=77.6*
*MOS **19** 09:03:56.0±0.6, 47.17N×154.78E, h42km, mb4.2/6, Error ellipse: s-maj=27.9km s-min=18.4km az=77.1*
*IDC **19** 09:03:56.9±1.5, 4702N×15500E, h41km±8km, mb3.7/8, mb1 3.8/10, mb1mx3.5/26, mbtmp3.7/10, ML3.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.2/55, Error ellipse: s-maj=31.0km s-min=19.8km az=127.0*

ISC 19 09:03:56.7±2.0, 471N±01×1550E±02, h42km±16km, h43km±1.1km:pP-P, n18, σ0.38/17, mb3.9/8, MS3.8/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**11**	*e*PN	**Pn**	**09 04 51.0**	**-0.1**
ASAJ	**Asahikawa**	**9.20**	**256**	P	**Pn**	**09 06 06.8**	**0.0**
	0.3nm,0.3s,baz=39,slow=13,SNR=3.8						
MJAR	**Matsushiro Arr**	**16.34**	**236**	P	**Pn**	**09 07 42.9**	**0.0**
	0.1nm,0.3s,baz=31,slow=15,SNR=3.3						
KSRS	**Korea Array**	**22.15**	**254**	P	**P**	**09 08 49.3**	**+0.6**
	0.9nm,0.6s,mb3.4,baz=46,slow=11,SNR=4.1						
JOW	**Kunigami**	**29.18**	**236**	LR	LR	09 21 11.4	
	comp=Z,246nm,21.7s,MS3.8,baz=247,slow=36						
INK	**Inuvik**	**40.67**	**33**	P	**P**	**09 11 33.1**	**+0.2**
	1.1nm,0.5s,mb3.8,baz=255,slow=7.9,SNR=14						
INK	**Inuvik**	**40.67**	**33**	P	**P**	**09 11 33.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**09 11 55.1**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=58,slow=14,SNR=4.1						
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**09 11 55.1**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**09 12 31.0**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=60,slow=7.4,SNR=3.2						
MKAR				pP	pP	09 12 42.9	0.0
	comp=Z,0.9nm,0.7s,baz=79,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**09 12 31.0**	**-0.1**
MKAR				*PP	pP	09 12 42.9	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**09 12 59.5**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=60,slow=8.8,SNR=7.0						
BVAR				pP	pP	09 13 11.0	-0.1
	comp=Z,0.9nm,0.5s,baz=50,slow=7.6,SNR=4.0						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**09 12 59.5**	**+0.3**
BVAR				*PP	pP	09 13 11.0	-0.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	**P**	**09 13 44.6**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=38,slow=8.0,SNR=3.6						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	**P**	**09 13 44.6**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**09 14 28.3**	**+0.5**
	comp=Z,0.9nm,0.4s,mb4.2,baz=38,slow=6.7,SNR=19						
FINES				pP	pP	09 14 40.0	0.0
	comp=Z,1.0nm,0.4s,baz=36,slow=6.7,SNR=2.9						
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**09 14 28.3**	**+0.5**
FINES				*PP	pP	09 14 40.0	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.95**	**200**	P	**P**	**09 15 21.4**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=15,slow=5.6,SNR=7.7						

*ISCJB **19** 09:14:17.2±0.2, 4324N±001×004E±002, h13km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=106.5*
*LDG **19** 09:14:19.8±0.1, 4303N×000W, h10km, Md2.8/3, Ml2.8/23, Error ellipse: s-maj=1.1km s-min=0.7km az=164.0*
*NEIC **19** 09:14:20.0, 4302N×001W, h5km, ML2.7(STR), ML2.8(LDG), MN2.4(MDD), After STR.*
*CSEM **19** 09:14:20.5±0.1, 4306N×001E, h12km, ML2.8/28, Error ellipse: s-maj=1.3km s-min=0.9km az=159.0*
*STR **19** 09:14:20.0±0.1, 4302N×001W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 09:14:20.5±0.2, 4302N×000E, h0km, mbLg2.4/20, Error ellipse: s-maj=1.9km s-min=1.1km az=21.0, PRXIMO*

ISC 19 09:14:19.0±0.2, 4312N±001×002E±002, h6km±3km, n113, σ1.9±10/183, 2C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**152**	Pg	**Pg**	**09 14 22.0**	**+1.2**
VIEF	**Viey**	**0.23**	**180**	**Pg**	**Pg**	**09 14 23.2**	**-0.4**
VIEF	**Viey**	**0.23**	**180**	**Pg**	**Pg**	**09 14 23.3**	**-0.3**
VIEF				Lg		09 14 25.7	
EPF	**Esparros**	**0.25**	**110**	*e*Pg	**Pg**	**09 14 24.8**	**+1.0**
EPF				*e*Sg	**Sg**	**09 14 28.2**	**+1.1**
	347nm,0.2s						
EPF	**Esparros**	**0.25**	**110**	*e*Pg	**Pg**	**09 14 24.8**	**+1.0**
EPF				*e*Sg	**Sg**	**09 14 28.2**	**+1.1**
	174nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**261**	Pg	**Pg**	**09 14 25.6**	**+0.6**
REYF				Lg		09 14 30.0	
RESF	**Ens**	**0.39**	**143**	Pg	**Pg**	**09 14 26.5**	**0.0**
RESF				Lg		09 14 31.3	
EBIE	**Bielsa**	**0.44**	**169**	⇑Pg	**Pg**	**09 14 27.0**	**-0.5**
	16nm,0.1s,SNR=18						
EBIE				Lg		09 14 31.7	
	106nm,0.1s,SNR=14						
EBIE	**Bielsa**	**0.44**	**169**	Pg	**Pg**	**09 14 27.0**	**-0.5**
	16nm,0.1s,SNR=18						
EBIE				Lg		09 14 31.7	
	106nm,0.1s,SNR=14						
ETSF	**Etsaut**	**0.48**	**243**	*e*Pg	**Pg**	**09 14 28.3**	**0.0**
ETSF				*e*Sg	**Sg**	**09 14 33.6**	**-0.9**
	385nm,0.3s						
ETSF	**Etsaut**	**0.48**	**243**	*e*Pg	**Pg**	**09 14 28.3**	**0.0**
ETSF				*e*Sg	**Sg**	**09 14 33.6**	**-0.9**
	192nm,0.3s						
FDAF	**Les Forges d'A**	**0.53**	**236**	Pg	**Pg**	**09 14 28.9**	**-0.2**
FDAF				Lg		09 14 35.3	
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**09 14 29.8**	**+0.6**
ATE				Sg	**Sg**	**09 14 37.2**	**+1.0**
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**09 14 29.7**	**+0.4**
ATE				Lg		09 14 36.9	
MELF	**Melles**	**0.59**	**114**	Pg	**Pg**	**09 14 30.5**	**+0.1**
MELF				Lg		09 14 39.1	
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**09 14 33.7**	**+1.1**
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**09 14 33.8**	**+1.1**
ORDF				Lg		09 14 43.0	
LARF	**Larrau**	**0.75**	**264**	Pg	**Pg**	**09 14 33.5**	**+0.2**
LARF				Sg	**Sg**	**09 14 43.8**	**+0.8**
LARF	**Larrau**	**0.75**	**264**	Pg	**Pg**	**09 14 33.5**	**+0.2**
LARF				Lg		09 14 43.4	
MLS	**Moulis**	**0.80**	**101**	Pg	**Pg**	**09 14 35.3**	**+0.9**
MLS				Sg	**Sg**	**09 14 47.0**	**+2.2**
MLS	**Moulis**	**0.80**	**101**	Pg	**Pg**	**09 14 35.1**	**+0.7**
MLS				Lg		09 14 46.5	
SJPF	**Ste Jean**	**0.92**	**270**	*e*Pg	**Pg**	**09 14 37.1**	**+0.5**
SJPF				*e*Sg	**Sg**	**09 14 48.7**	**+0.3**
	35nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**270**	*e*Pg	**Pg**	**09 14 37.1**	**+0.5**
SJPF				*e*Sg	**Sg**	**09 14 48.7**	**+0.3**
	18nm,0.2s						
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**09 14 36.9**	**+0.1**
SALF				Lg		09 14 49.1	
OSSF	**Osses**	**0.95**	**279**	Pg	**Pg**	**09 14 37.5**	**+0.2**
OSSF	**Osses**	**0.95**	**279**	Pg	**Pg**	**09 14 37.9**	**+0.7**
OSSF				Lg		09 14 50.6	
IPRE	**Itoiz**	**1.06**	**253**	⇓Pg	**Pg**	**09 14 39.5**	**+0.2**
	5.4nm,0.2s,SNR=18						
IPRE				Lg		09 14 53.3	
	23nm,0.3s,SNR=14						
IPRE	**Itoiz**	**1.06**	**253**	Pg	**Pg**	**09 14 39.5**	**+0.2**
	5.4nm,0.2s,SNR=18						
EALK	**Alkurruntz**	**1.12**	**276**	Pg	**Pg**	**09 14 41.6**	**+1.0**
	9.8nm,0.2s,SNR=5.0						
EALK				Lg		09 14 55.7	
	69nm,0.3s,SNR=8.8						
ELIZ	**Elizondo**	**1.14**	**273**	Pg	**Pg**	**09 14 41.6**	**+0.8**
	9.2nm,0.2s,SNR=16						
ELIZ				Lg		09 14 57.2	
	41nm,0.3s,SNR=9.5						
GRBF	**Gourbit**	**1.14**	**103**	Pg	**Pg**	**09 14 41.3**	**+0.3**
IUSE	**Utxeti**	**1.17**	**262**	Pg	**Pg**	**09 14 41.0**	**-0.4**
	10nm,0.2s,SNR=23						
IUSE				Lg		09 14 57.6	
	32nm,0.2s,SNR=8.1						
IUSE	**Utxeti**	**1.17**	**262**	Pg	**Pg**	**09 14 41.0**	**-0.4**
	10nm,0.2s,SNR=23						
ESAC	**San Caprasio**	**1.44**	**195**	⇑Pg	**Pg**	**09 14 46.4**	**-0.2**
	103nm,0.3s,SNR=18						
ESAC				Lg		09 15 05.1	
	310nm,0.3s,SNR=19						
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**09 14 46.4**	**-0.2**
	103nm,0.3s,SNR=18						
CARF	**Carcanieres**	**1.58**	**104**	Lg		09 15 11.1	
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**09 14 50.8**	**+0.8**
MTLF				*e*Sg	**Sg**	**09 15 11.9**	**+0.9**
	19nm,0.2s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**09 14 50.8**	**+0.8**
MTLF				*e*Sg	**Sg**	**09 15 11.9**	**+0.9**
	9.6nm,0.2s						
VALF	**Valcebollere**	**1.63**	**115**	Pg	**Pg**	**09 14 51.4**	**+1.1**
VALF				Lg		09 15 11.9	
EMIR	**Miracle**	**1.64**	**137**	Pg	**Pg**	**09 14 49.9**	**-0.5**
	8.6nm,0.1s,SNR=11						
EMIR				Lg		09 15 11.8	
	19nm,0.1s,SNR=8.9						
EMIR	**Miracle**	**1.64**	**137**	Pg	**Pg**	**09 14 49.9**	**-0.5**
	8.6nm,0.1s,SNR=11						
LFF	**La Frestale**	**1.89**	**16**	*e*Pg	**Pg**	**09 14 57.0**	**+1.7**
LFF				*e*Sg	**Sg**	**09 15 22.2**	**+2.3**
	40nm,0.3s						
LFF	**La Frestale**	**1.89**	**16**	*e*Pg	**Pg**	**09 14 57.0**	**+1.7**
LFF				*e*Sg	**Sg**	**09 15 22.2**	**+2.3**
	20nm,0.3s						
EPOB	**Poblet**	**1.93**	**156**	Pg	**Pg**	**09 14 54.1**	**-1.9**
	2.0nm,0.2s,SNR=18						
EPOB				Lg		09 15 18.7	
	18nm,0.2s,SNR=10						
EPOB	**Poblet**	**1.93**	**156**	Pg	**Pg**	**09 14 54.1**	**-1.9**
	2.0nm,0.2s,SNR=18						
ECRI	**Cripan**	**1.93**	**256**	Pn	**Pn**	**09 14 54.4**	**+2.0**
	2.6nm,0.1s,SNR=7.9						
ECRI				Sn	**Sn**	**09 15 18.5**	**+1.5**
	2.9nm,0.1s,SNR=7.9						
ECRI				Lg		09 15 21.8	
	13nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.93**	**256**	Pn	**Pn**	**09 14 54.4**	**+2.0**
	2.6nm,0.1s,SNR=7.9						
ECRI				Sn	**Sn**	**09 15 18.5**	**+1.5**
	2.9nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.17**	**174**	Pg	**Pg**	**09 14 58.3**	**-2.3**
	3.2nm,0.2s,SNR=7.1						
ERTA				Sn	**Sn**	**09 15 21.6**	**-1.3**
	3.1nm,0.2s,SNR=7.9						
ERTA				Lg		09 15 25.6	
	9.4nm,0.2s,SNR=5.0						
ERTA	**Horta de San J**	**2.17**	**174**	Pg	**Pg**	**09 14 58.3**	**-2.3**
	3.2nm,0.2s,SNR=7.1						
ERTA				Sn	**Sn**	**09 15 21.6**	**-1.3**
	3.1nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**09 15 01.4**	**0.0**
	1.7nm,0.2s,SNR=6.4						
EJON				Lg		09 15 31.3	
	11nm,0.2s,SNR=9.1						
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**09 15 01.4**	**0.0**
	1.7nm,0.2s,SNR=6.4						
CAF	**Calviac**	**2.33**	**38**	*e*Pg	**Pg**	**09 15 04.9**	**+1.2**
CAF				*e*Sg	**Sg**	**09 15 36.1**	**+2.2**
	9.2nm,0.3s						
CAF	**Calviac**	**2.33**	**38**	*e*Pg	**Pg**	**09 15 04.9**	**+1.2**
CAF				*e*Sg	**Sg**	**09 15 36.1**	**+2.2**
	4.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.44**	**26**	*e*Pg	**Pg**	**09 15 06.7**	**+1.0**
RJF				*e*Sg	**Sg**	**09 15 39.2**	**+1.9**
	22nm,0.2s						
RJF	**Les Rejaudoux**	**2.44**	**26**	*e*Pg	**Pg**	**09 15 06.7**	**+1.0**
RJF				*e*Sg	**Sg**	**09 15 39.2**	**+1.9**
	11nm,0.2s						
ELAN	**Lanestosa**	**2.53**	**274**	Pg	**Pg**	**09 15 06.0**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**09 15 34.2**	**+2.4**
	1.9nm,0.2s,SNR=7.9						
ELAN				Lg		09 15 42.2	
	4.5nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**2.53**	**274**	Pg	**Pg**	**09 15 06.0**	**-1.5**
	0.7nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**09 15 34.2**	**+2.4**
	1.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.77**	**215**	Pn	**Pn**	**09 15 04.5**	**+0.6**
	5.0nm,0.1s,SNR=8.9						
ETOR				Pg	**Pg**	**09 15 10.9**	**-1.2**
	12nm,0.3s,SNR=4.0						
ETOR				Sn	**Sn**	**09 15 36.3**	**-1.5**
	18nm,0.3s,SNR=6.7						
ETOR				Lg		09 15 45.4	
	24nm,0.5s,SNR=5.0						
ETOR	**Torete**	**2.77**	**215**	Pg	**Pg**	**09 15 10.9**	**-1.2**
	12nm,0.3s,SNR=4.0						
ETOR				Sn	**Sn**	**09 15 36.3**	**-1.4**
	18nm,0.3s,SNR=6.7						
EMOS	**Mosqueruela**	**2.78**	**188**	Pn	**Pn**	**09 15 04.6**	**+0.6**
	0.3nm,0.1s,SNR=4.0						
EMOS				Pg	**Pg**	**09 15 10.1**	**-2.1**
	3.7nm,0.4s,SNR=12						
EMOS				Lg		09 15 43.6	
	4.2nm,0.2s,SNR=6.9						
EMOS	**Mosqueruela**	**2.78**	**188**	Pn	**Pn**	**09 15 04.6**	**+0.6**
	0.3nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**2.78**	**188**	Pg	**Pg**	**09 15 10.1**	**-2.1**
	3.7nm,0.4s,SNR=12						
LASF	**Ste Croix**	**2.94**	**70**	*e*Pg	**Pg**	**09 15 16.2**	**+0.8**
LASF				*e*Sg	**Sg**	**09 15 53.7**	**+0.1**
	12nm,0.3s						
LASF	**Ste Croix**	**2.94**	**70**	*e*Pn	**Pn**	**09 15 05.1**	**-1.2**
LASF				*e*Pg	**Pg**	**09 15 16.2**	**+0.8**
LASF				*e*Sg	**Sg**	**09 15 53.7**	**+0.1**
LASF	**Ste Croix**	**2.94**	**70**	Pn	**Pn**	**09 15 05.1**	**-1.2**
LASF				Pg	**Pg**	**09 15 16.2**	**+0.8**
LASF				Lg		09 15 53.7	
	5.9nm,0.3s						
LASF	**Ste Croix**	**2.94**	**70**	*e*Pg	**Pg**	**09 15 16.2**	**+0.8**
LASF				*e*Sg	**Sg**	**09 15 53.7**	**+0.1**
	5.9nm,0.3s						
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pg	**Pg**	**09 15 25.2**	**-0.6**
MFF				*e*Sg	**Sg**	**09 16 10.9**	**-0.1**
	5.6nm,0.2s						
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pg	**Pg**	**09 15 25.2**	**-0.6**
MFF				*e*Sg	**Sg**	**09 16 10.9**	**-0.1**
	2.8nm,0.2s						
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pg	**Pg**	**09 15 27.0**	**+0.3**
TCF				*e*Sg	**Sg**	**09 16 13.1**	**+0.6**
	5.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.53**	**25**	*e*Pg	**Pg**	**09 15 27.0**	**+0.3**
TCF				*e*Sg	**Sg**	**09 16 13.1**	**+0.6**
	2.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pg	**Pg**	**09 15 31.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**09 16 20.1**	**-0.3**
	4.1nm,0.3s						
VIVF	**Saint-Julien-l**	**3.78**	**61**	*e*Pg	**Pg**	**09 15 31.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**09 16 20.1**	**-0.3**
	2.0nm,0.3s						
EARI	**Arriondas**	**3.83**	**275**	Pn	**Pn**	**09 15 20.6**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**09 16 04.4**	**+0.5**
	0.5nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.83**	**275**	Pn	**Pn**	**09 15 20.6**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**09 16 04.4**	**+0.5**
	0.5nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.95**	**147**	Pn	**Pn**	**09 15 21.2**	**+1.1**
	0.1nm,0.1s,SNR=4.0						
ETOS	**Mallorca**	**3.95**	**147**	Pn	**Pn**	**09 15 21.2**	**+1.1**
	0.1nm,0.1s,SNR=4.0						
GUD	**Guadarrama**	**3.98**	**233**	Pn	**Pn**	**09 15 21.6**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**09 16 06.7**	**-0.9**
	2.1nm,0.4s,SNR=7.9						
GUD				Lg		09 16 23.5	
	1.8nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.98**	**233**	Pn	**Pn**	**09 15 21.6**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**09 16 06.7**	**-0.9**
	2.1nm,0.4s,SNR=7.9						
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pg	**Pg**	**09 15 35.3**	**0.0**
BGF				*e*Sg	**Sg**	**09 16 28.3**	**+1.4**
	25nm,0.4s						
BGF	**Bois d'Agland**	**3.98**	**29**	*e*Pg	**Pg**	**09 15 35.3**	**0.0**
BGF				*e*Sg	**Sg**	**09 16 28.3**	**+1.4**
	12nm,0.4s						
SMRF	**Simiane la Rot**	**4.13**	**76**	*e*Pg	**Pg**	**09 15 36.9**	**-1.2**
SMRF				*e*Sg	**Sg**	**09 16 30.7**	**-0.8**
	2.8nm,0.3s						
SMRF	**Simiane la Rot**	**4.13**	**76**	*e*Pg	**Pg**	**09 15 36.9**	**-1.2**
SMRF				*e*Sg	**Sg**	**09 16 30.7**	**-0.8**
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**4.37**	**32**	*e*Pg	**Pg**	**09 15 41.9**	**-0.8**
AVF				*e*Sg	**Sg**	**09 16 39.5**	**+0.2**
	4.2nm,0.5s						
AVF	**Avril sur Loir**	**4.37**	**32**	*e*Pg	**Pg**	**09 15 41.9**	**-0.8**
AVF				*e*Sg	**Sg**	**09 16 39.5**	**+0.2**
	2.1nm,0.5s						
HYF	**Humbligny**	**4.54**	**23**	*e*Pg	**Pg**	**09 15 45.5**	**-0.6**
HYF				*e*Sg	**Sg**	**09 16 45.1**	**+0.1**
ESDC	**Sonseca Array**	**4.56**	**222**	Sn	**Sn**	**09 16 18.5**	**-3.5**
	3.7nm,0.2s,baz=43,slow=25,SNR=4.0						
ESDC				Lg		09 16 40.5	
	0.5nm,0.2s,baz=32,slow=28,SNR=4.0						
ESDC	**Sonseca Array**	**4.56**	**222**	Sn	**Sn**	**09 16 18.5**	**-3.4**
	3.7nm,0.2s,SNR=4.0						
ORIF	**Oris-en-Rattie**	**4.59**	**65**	*e*Pg	**Pg**	**09 15 46.0**	**-1.0**
ORIF				*e*Sg	**Sg**	**09 16 45.5**	**-1.0**
	0.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.59**	**65**	*e*Pg	**Pg**	**09 15 46.0**	**-1.0**
ORIF				*e*Sg	**Sg**	**09 16 45.5**	**-1.0**
	0.2nm,0.3s						
SSF	**Saint Saulge**	**4.65**	**31**	*e*Pg	**Pg**	**09 15 48.3**	**+0.2**
SSF				*e*Sg	**Sg**	**09 16 47.7**	**-0.7**
	2.0nm,0.3s						
SSF	**Saint Saulge**	**4.65**	**31**	*e*Pg	**Pg**	**09 15 48.3**	**+0.2**
SSF				*e*Sg	**Sg**	**09 16 47.7**	**-0.7**
	1.0nm,0.3s						
LOR	**Lormes**	**4.96**	**32**	*e*Pg	**Pg**	**09 15 53.5**	**-0.5**
LOR				*e

az=102.1

MOS ***19*** *09:16:05.5±1.0, 4842N×15486E, h43km, mb4.2/8, Error ellipse: s-maj=22.5km s-min=12.5km az=68.5*

IDC ***19*** *09:16:08.9±4.8, 4811N×15496E, h70km±52km, mb3.5/11, mb1 3.7/13, mb1mx3.6/27, mbtmp3.6/13, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/46, Error ellipse: s-maj=42.8km s-min=19.8km az=175.0*

ISC 19 09:16:06.9±1.4, 484N±01×1550E±02, h43km±11km, n24, σ0§59/25, mb3.9/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.43**	**17**	*e*Pn		**Pn**	**09 16 43.5**	**-0.6**
PET	**Petropavlovsk**	**5.21**	**25**	*e*Pn		**Pn**	**09 17 22.2**	**-0.1**
PET				*e*S		**Sn**	**09 18 27.3**	**+6.2**
PET				pmax		pmax		
	comp=Z,20nm,0.5s							
PET				smax				
	comp=N,89nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.38**	**265**	PN		**Pn**	**09 18 07.0**	**+1.3**
ASAJ	**Asahikawa**	**9.58**	**248**	P		**Pn**	**09 18 21.9**	**-0.2**
	comp=N,1.3nm,0.3s,baz=170,slow=18,SNR=7.8							
ASAJ				LR		LR	09 21 44.2	
	comp=N,75nm,20.8s,baz=199,slow=35							
MJAR	**Matsushiro Arr**	**17.07**	**232**	P		**Pn**	**09 20 02.4**	**+0.1**
	comp=N,0.4nm,0.3s,baz=36,slow=9.1,SNR=5.0							
KSRS	**Korea Array**	**22.51**	**251**	P		**P**	**09 21 01.9**	**-0.9**
	comp=N,1.7nm,0.8s,mb3.5,baz=49,slow=11,SNR=5.0							
INK	**Inuvik**	**39.60**	**34**	P		**P**	**09 23 34.9**	**+0.7**
	comp=N,0.7nm,0.4s,mb3.7,baz=289,slow=7.2,SNR=8.4							
INK	**Inuvik**	**39.60**	**34**	P		**P**	**09 23 34.9**	**+0.8**
INK				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**47.33**	**297**	P		**P**	**09 24 35.5**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.7,baz=68,slow=7.4,SNR=7.1							
MKAR	**Makanchi Array**	**47.33**	**297**	P		**P**	**09 24 35.5**	**-0.8**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**48.87**	**38**	P		**P**	**09 24 48.5**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=296,slow=7.2,SNR=5.4							
YKA	**Yellowknife Ar**	**48.87**	**38**	P		**P**	**09 24 48.5**	**+0.3**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**50.81**	**309**	P		**P**	**09 25 02.5**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=68,slow=7.6,SNR=5.6							
BVAR	**Borovoye Array**	**50.81**	**309**	P		**P**	**09 25 02.5**	**-0.5**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PDAR	**Pinedale Array**	**62.78**	**56**	P		**P**	**09 26 27.6**	**-0.2**
	comp=Z,0.7nm,1.0s,mb3.7,baz=15,slow=6.2,SNR=5.0							
FINES	**FINESS Array B**	**63.11**	**335**	P		**P**	**09 26 29.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=15,slow=7.9,SNR=4.5							
FINES	**FINESS Array B**	**63.11**	**335**	P		**P**	**09 26 29.7**	**-0.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**67.09**	**342**	P		**P**	**09 26 55.8**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=28,slow=6.5,SNR=2.9							
NOA	**NORSAR Array B**	**67.09**	**342**	P		**P**	**09 26 55.8**	**-0.1**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**67.37**	**340**	P		**P**	**09 26 58.4**	**+0.8**
	comp=Z,0.9nm,0.3s,mb4.2,baz=62,slow=3.5,SNR=11							
HFS	**Hagfors**	**67.37**	**340**	P		**P**	**09 26 58.4**	**+0.8**
HFS				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**75.60**	**62**	P		**P**	**09 27 47.0**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=301,slow=4.3,SNR=33							
TXAR	**Lajitas Array**	**75.60**	**62**	P		**P**	**09 27 47.0**	**-0.2**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**77.54**	**335**	P		**P**	**09 27 58.8**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=18,slow=4.8,SNR=3.7							

BJI ***19*** *09:19:37.5, 6675×152.17E, h45km, mB5.2, mb4.8, Ms5.1, Msz4.9*

NEIC ***19*** *09:19:39.0±0.2, 6345×15149E, h10km, mb5.2/28, MS5.2/2, Error ellipse: s-maj=8.7km s-min=6.6km az=116.0*

GCMT ***19*** *09:19:39.0±0.1, 6495×15167E, h12km, MW5.3/95, Moment Tensor Solution. s63,c106; s95,c180; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-1.23±.02; Mθθ 0.75±.02; Mφφ 0.47±.02; Mrθ-0.25±.05; Mθφ 0.71±.01; Mφr-0.14±.05; Best double couple: Mo 1.31400×10^17 NP1 φ§228.00000°, δ§39.00000°, λ-94.00000°. NP2 φ§53.00000°, δ§51.00000°, λ-87.00000°. Principal axes: T 1.3660, Plg6.0000°, Azm141.0000°; N -0.1040, Plg2.0000°, Azm231.0000°; P -1.2620, Plg83.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***19*** *09:19:41.1±1.1, 6355×15146E, h33km, mb5.0/23, MS5.0/11 Error ellipse: s-maj=10.3km s-min=8.1km az=84.4*

IDC ***19*** *09:19:42.8±3.5, 6375×15144E, h33km±26km, mb4.5/19, mb1 4.7/22, mb1mx4.7/23, mbtmp4.6/22, ML4.1/3, MS4.7/25, Ms1 4.7/25, ms1mx4.6/28, Error ellipse: s-maj=14.9km s-min=10.7km az=110.0*

ISCJB ***19*** *09:19:43.3±0.1, 6395±004×15136E±003, h46km, mb4.9/58, MS4.8/44, Error ellipse: s-maj=5.2km s-min=4.2km az=156.5*

ISC 19 09:19:45.2±0.1, 640S±003×15142E±003, h48km, h48km±4.6km:pP-P, n347, σ0§90/324, mb4.9/58, MS4.8/44, 68C-68D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**234**	Pn		**Pn**	**09 21 00.3**	**+0.3**
	22nm,0.3s,baz=52,slow=8.0,SNR=43							
PMG				Sn		**Sn**	**09 22 02.8**	**+4.5**
	42nm,0.3s,baz=179,slow=23,SNR=8.7							
PMG				LR		LR	09 22 40.2	
	comp=Z,2μm,21.8s,baz=289,slow=34							
PMG	**Port Moresby**	**5.17**	**234**	P		**Pn**	**09 21 00.3**	**+0.3**
PMG							09 22 02.8	
PMG				pmax		pmax		
	comp=Z,22nm,0.3s							
PMG				smax				
	comp=N,42nm,0.3s							
PMG	**Port Moresby**	**5.17**	**234**	*e*Pn		**Pn**	**09 21 00.3**	**+0.3**
HNR	**Honiara**	**8.97**	**110**	Pn		**Pn**	**09 21 50.2**	**-1.8**
	comp=N,34nm,0.3s,baz=258,slow=3.7,SNR=9.6							
HNR	**Honiara**	**8.97**	**110**	*e*P		**Pn**	**09 21 49.9**	**-2.1**
HNR				pmax		pmax		
	comp=Z,379nm,1.1s							
HNR	**Honiara**	**8.97**	**110**	*e*Pn		**Pn**	**09 21 49.9**	**-2.1**
	comp=Z,379nm,1.1s							
CTA	**Charters Tower**	**14.50**	**200**	*e*P		**Pn**	**09 23 15.4**	**+7.9**
	comp=Z,12nm,0.9s							
CTA	**Charters Tower**	**14.50**	**200**	Pn		**Pn**	**09 23 04.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=47,slow=18,SNR=2.5							
CTA				LR		LR	09 28 19.5	
	comp=Z,4μm,18.4s,baz=20,slow=36							
CTAO	**Charters Tower**	**14.50**	**200**	*e*P		**Pn**	**09 23 11.5**	**+4.0**
KAKA	**Kakadu**	**19.73**	**250**	*e*P		**Pn**	**09 24 08.1**	**-4.5**
	comp=Z,61nm,0.6s							
GUMO	**Guam**	**20.90**	**342**	P		**P**	**09 24 22.7**	**-0.7**
	comp=Z,262nm,1.3s,baz=178,slow=16,SNR=5.7							
GUMO				LR		LR	09 31 19.9	
	comp=Z,895nm,19.0s,MS4.2,baz=160,slow=33							
GUMO	**Guam**	**20.90**	**342**	*e*P		**P**	**09 24 22.6**	**-0.8**
GUMO				pmax		pmax		
	comp=Z,377nm,1.4s							
GUMO	**Guam**	**20.90**	**342**	*e*P		**P**	**09 24 22.6**	**-0.8**
	comp=Z,377nm,1.4s							
DZM	**Mont Dzumac**	**21.29**	**139**	P		**P**	**09 24 26.1**	**-1.6**
	comp=Z,19nm,0.8s,mb4.4,baz=1.3,slow=11,SNR=6.9							
DZM				LR		LR	09 31 28.7	
	comp=Z,9μm,20.4s,MS5.2,baz=312,slow=33							
WRAB	**Tennant Creek**	**21.35**	**229**	P		**P**	**09 24 28.9**	**+0.6**
	comp=Z,235nm,1.1s,mb5.4,SNR=16							
WRAB	**Tennant Creek**	**21.35**	**229**	P		**P**	**09 24 28.4**	**+0.1**
WB2	**Warramunga Arr**	**21.36**	**229**	iP		**P**	**09 24 28.9**	**+0.5**
WB2				*e*S		**S**	**09 28 25.6**	**+2.9**
WRA	**Warramunga Arr**	**21.36**	**229**	P		**P**	**09 24 27.6**	**-0.9**
	comp=Z,28nm,0.9s,mb4.6,baz=53,slow=11,SNR=68							
WRA				S		**S**	**09 28 24.4**	**+1.5**
	comp=Z,4.7nm,1.1s,baz=52,slow=18,SNR=6.1							
WRA				pScP			09 32 16.4	
	comp=Z,4.3nm,0.9s,baz=50,slow=2.6,SNR=8.6							
WRA	**Warramunga Arr**	**21.36**	**229**	P		**P**	**09 24 27.6**	**-0.9**
WRA				S		**S**	**09 28 24.4**	**+1.5**
WRA				pmax		pmax		
	comp=Z,29nm,0.9s							
WRA				smax				
	comp=N,5.0nm,1.1s							
ARMA	**Armidale**	**23.89**	**180**	*e*P		**P**	**09 24 53.5**	**-0.9**
ARMA				*e*S		**S**	**09 29 14.3**	**+7.0**
AS31	**Alice Springs**	**24.05**	**223**	*e*P		**P**	**09 24 56.0**	**+0.2**
AS31				*e*S		**S**	**09 29 18.3**	**+8.5**
ASAR	**Alice Springs**	**24.05**	**223**	P		**P**	**09 24 56.0**	**+0.1**
	comp=N,36nm,0.8s,mb4.9,baz=54,slow=8.9,SNR=145							
ASAR				pScP			09 32 24.1	
	comp=N,3.0nm,0.8s,baz=46,slow=4.1,SNR=7.8							
ASAR				LR		LR	09 34 46.1	
	comp=N,1μm,18.5s,MS4.4,baz=153,slow=38							
ASPA	**Alice Springs**	**24.05**	**223**	*e*P		**P**	**09 24 56.0**	**+0.2**
ASPA				*e*S		**S**	**09 29 18.3**	**+8.5**
STKA	**Stephens Creek**	**26.96**	**199**	*e*P		**P**	**09 25 21.5**	**-0.7**
	comp=N,33nm,1.1s,mb4.8							
STKA				*e*S		sS	09 30 15.6	-1.4
STKA	**Stephens Creek**	**26.96**	**199**	P		**P**	**09 25 21.5**	**-0.6**
	comp=N,41nm,0.9s,mb5.0,baz=2.8,slow=9.0,SNR=21							
STKA				LR		LR	09 37 13.7	
	comp=N,2μm,18.4s,MS4.7,baz=20,slow=39							
FITZ	**Fitzroy Crossi**	**27.70**	**243**	iP		**P**	**09 25 29.4**	**+0.6**
	comp=N,58nm,0.6s,mb5.4							
FITZ	**Fitzroy Crossi**	**27.70**	**243**	P		**P**	**09 25 29.3**	**+0.4**
	comp=N,10nm,0.4s,mb4.8,baz=45,slow=9.9,SNR=76							
FORT	**Forrest**	**32.69**	**219**	*e*P		**P**	**09 26 13.0**	**+0.1**
	comp=N,32nm,0.5s,mb5.5							
MBWA	**Marble Bar**	**33.99**	**241**	*e*P		**P**	**09 26 25.2**	**+1.0**
	comp=N,17nm,0.6s,mb5.2							
CBIJ	**Chichi jima**	**34.48**	**345**	LR		LR	09 39 29.3	
	comp=N,2μm,20.5s,MS4.7,baz=166,slow=34							
TGY	**Tagaytay City**	**36.47**	**304**	LR		LR	09 39 25.0	
	comp=N,6.3nm,20.3s,baz=118,slow=32							
RAO	**Raoul Island**	**36.78**	**132**	LR		LR	09 39 34.5	
	comp=N,2μm,18.9s,MS4.8,baz=104,slow=32							
AFI	**Afiamalu**	**36.95**	**105**	LR		LR	09 40 06.9	
	comp=N,1μm,18.2s,MS4.7,baz=43,slow=33							
URZ	**Urewera**	**39.35**	**147**	P		**P**	**09 27 08.3**	**-1.5**
	comp=N,6.6nm,0.5s,mb4.6,baz=246,slow=6.2,SNR=7.7							
URZ				LR		LR	09 42 03.9	
	comp=N,2μm,18.6s,MS5.0,baz=320,slow=34							
JOW	**Kunigami**	**39.93**	**327**	LR		LR	09 40 35.4	
	comp=N,2μm,21.7s,MS4.8,baz=133,slow=31							
KLBR	**Kellerberrin**	**40.22**	**227**	*e*P		**P**	**09 27 16.2**	**-0.8**
	comp=N,8.5nm,0.6s,mb4.7							
JHJ	**Hachijo jima 2**	**40.83**	**345**	LR		LR	09 41 25.6	
	comp=N,1μm,20.1s,MS4.8,baz=77,slow=32							
RPZ	**Rata Peaks**	**40.98**	**158**	LR		LR	09 41 45.2	
	comp=N,5μm,21.4s,MS5.3,baz=322,slow=32							
MUN	**Mundaring**	**41.55**	**228**	*e*P		**P**	**09 27 27.9**	**-0.1**
KSM	**Kuching**	**41.78**	**279**	*e*P		**P**	**09 27 31.1**	**+1.2**
NACB	**Ninganchiao**	**42.06**	**317**	*e*P		**P**	**09 27 30.8**	**-1.4**
YHNB	**Yeheng**	**42.54**	**318**	*e*P		**P**	**09 27 36.0**	**-0.1**
JNU	**Nakatsue**	**43.88**	**335**	LR		LR	09 42 30.9	
	comp=N,3μm,20.6s,MS5.1,baz=276,slow=31							
MJAR	**Matsushiro Arr**	**44.47**	**345**	P		**P**	**09 27 49.9**	**-1.7**
	comp=N,3.3nm,1.2s,mb4.0,baz=168,slow=5.5,SNR=4.0							
MJAR				PcP		PcP	09 29 34.6	+0.2
	comp=N,2.8nm,0.8s,baz=184,slow=3.3,SNR=6.4							
MJAR				LR		LR	09 45 00.7	
	comp=N,544nm,19.4s,MS4.5,baz=165,slow=34							
MJAR	**Matsushiro Arr**	**44.47**	**345**	P		**P**	**09 27 49.9**	**-1.7**
MJAR							09 29 34.6	
MAT	**Matsushiro**	**44.48**	**345**	P		**P**	**09 27 48.9**	**-2.7**
MAT				S		**S**	**09 34 20.0**	**-3.4**
QZH	**Quanzhou**	**44.62**	**316**	iP		**P**	**09 27 53.0**	**+0.2**
QZH				S		**S**	**09 34 27.0**	**+1.5**
QZH				AMB		AMB		
	comp=Z,100nm,1.2s,mb5.5							
QZH				LR		LR		
	comp=N,3μm,20.0s,MS5.3							
QZH				LR		LR		
	comp=E,2μm,19.8s,MS5.3							
QZH				LR		LR		
	comp=Z,5μm,30.0s							
SSE	**Sheshan**	**47.18**	**324**	*e*P		**P**	**09 28 13.3**	**+0.3**
SSE				AP		pP	09 28 29.1	+3.1
SSE				PCP		PcP	09 29 38.3	-5.6
SSE				S		**S**	**09 35 07.8**	**+5.6**
SSE				AMB		AMB		
	comp=Z,27nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,283nm,5.8s							
SSE				LR		LR		
	comp=N,981nm,24.1s,MS4.9							
SSE				LR		LR		
	comp=E,1μm,24.1s,MS4.9							
SSE				LR		LR		
	comp=Z,2μm,26.1s,MS4.9							
SSE	**Sheshan**	**47.18**	**324**	*e*P		**P**	**09 28 13.3**	**+0.3**
	comp=Z,27nm,0.7s,mb5.3							
SSE				pP		pP	09 28 29.1	+3.1
SSE				sP		sP	09 28 37.8	+6.3
SSE				PcP		PcP	09 29 38.3	-5.6
SSE				S		**S**	**09 35 07.7**	**+5.5**
SSE				sS		sS	09 35 32.1	+8.1
SSE				LR		LR		
	comp=Z,2μm,26.1s,MS4.9							
QIZ	**Qiongzhong**	**48.13**	**303**	P		**P**	**09 28 20.8**	**+0.5**
QIZ				AP		pP	09 28 32.3	-1.1
QIZ				PP		PP	09 30 11.6	-1.2
QIZ				S		**S**	**09 35 16.3**	**+0.6**
QIZ				XS		sS	09 35 40.5	+3.0
QIZ				AMB		AMB		
	comp=Z,8.0nm,1.3s,mb4.6							
QIZ				AMB		AMB		
	comp=Z,208nm,9.5s							
QIZ				LR		LR		
	comp=E,1μm,24.7s							
QIZ				LR		LR		
	comp=Z,2μm,24.3s,MS5.1							
KSRS	**Korea Array**	**48.83**	**335**	P		**P**	**09 28 24.4**	**-1.4**
	comp=Z,4.0nm,1.0s,mb4.4,baz=156,slow=7.5,SNR=8.3							
KSRS				PcP		PcP	09 29 49.8	-0.1
	comp=Z,4.9nm,1.0s,baz=155,slow=4.9,SNR=9.5							
KSRS				LR		LR	09 46 02.7	
	comp=Z,648nm,22.0s,MS4.6,baz=143,slow=32							
NJ2	**Nanjing**	**49.25**	**323**	*e*P		**P**	**09 28 30.8**	**+1.9**
NJ2				AP		pP	09 28 42.8	+0.8
NJ2				XP		sP	09 28 46.3	-1.2
NJ2				PP		PP	09 30 23.4	+0.4
NJ2				S		**S**	**09 35 32.0**	**+0.5**
NJ2				AMB		AMB		
	comp=Z,50nm,1.2s,mb5.4							
NJ2				AMB		AMB		
	comp=Z,810nm,9.4s							
NJ2				LR		LR		
	comp=N,3μm,23.7s							
NJ2				LR		LR		
	comp=E,3μm,33.4s							
NJ2				LR		LR		
	comp=Z,3μm,18.6s							
RAR	**Rarotonga**	**49.42**	**112**	LR		LR	09 45 11.6	
	comp=Z,585nm,18.9s,MS4.6,baz=269,slow=31							
ASAJ	**Asahikawa**	**50.91**	**352**	LR		LR	09 47 50.8	
	comp=Z,517nm,20.4s,MS4.5,baz=187,slow=33							
WHN	**Wuhan**	**51.09**	**318**	P		**P**	**09 28 42.6**	**-0.2**
WHN				S		**S**	**09 36 07.0**	**+10**
WHN				LR		LR		
	comp=Z,4μm,26.0s,MS5.3							
KULM	**Kulim**	**51.99**	**282**	*e*P		**P**	**09 28 49.7**	**+0.1**
DL2	**Dalian**	**52.86**	**331**	P		**P**	**09 29 00.8**	**+4.7**
DL2				S		**S**	**09 36 28.8**	**+7.4**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
DL2				AMB		AMB		
	comp=Z,130nm,6.1s							
DL2				LR		LR		
	comp=N,290nm,20.6s,MS4.4							
DL2				LR		LR		
	comp=E,290nm,22.0s,MS4.4							
DL2				LR		LR		
	comp=Z,610nm,24.5s,MS4.6							
PSI	**Prapat**	**53.20**	**278**	P		**P**	**09 28 58.5**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.5,baz=151,slow=8.3,SNR=3.5							
PSI	**Prapat**	**53.20**	**278**	P		**P**	**09 28 58.5**	**-0.1**
PSI				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
GYA	**Guiyang**	**54.30**	**309**	P		**P**	**09 29 08.6**	**+2.1**
GYA				PCP		PcP	09 30 12.3	+2.1
GYA				PP		PP	09 31 12.8	+4.1
GYA				SCP		ScP	09 34 03.8	-0.6
GYA				S		**S**	**09 36 40.6**	**-0.2**
GYA				XS		sS	09 37 07.8	+4.9
GYA				SS		SS	09 40 23.1	-0.1
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
GYA				AMB		AMB		
	comp=Z,140nm,5.4s							
GYA				LR		LR		
	comp=N,540nm,18.4s,MS4.8							
GYA				LR		LR		
	comp=E,430nm,18.0s,MS4.8							
GYA				LR		LR		
	comp=Z,460nm,19.4s,MS4.5							
CN2	**Changchun**	**55.21**	**337**	*e*P		**P**	**09 29 12.4**	**-0.8**
CN2				*e*S		**S**	**09 36 50.8**	**-2.3**
CN2				SS		SS	09 40 37.5	-0.1
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.7							
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,500nm,20.0s,MS4.7							
CN2				LR		LR		
	comp=E,500nm,20.0s,MS4.7							
CN2				LR		LR		
	comp=Z,700nm,22.0s,MS4.7							
BJI	**Beijing**	**56.48**	**328**	*e*P		**P**	**09 29 24.4**	**+2.1**
BJI				S		**S**	**09 37 11.6**	**+1.6**
BJI				AMB		AMB		
	comp=Z,5.0nm,0.7s,mb4.7							
BJI				AMB		AMB		
	comp=Z,350nm,5.0s							
BJI				LR		LR		
	comp=N,647nm,22.0s,MS4.7							
BJI				LR		LR		
	comp=E,348nm,20.7s,MS4.7							
BJI				LR		LR		
	comp=Z,907nm,22.3s,MS4.8							
BJI	**Beijing**	**56.48**	**328**	*e*P		**P**	**09 29 24.4**	**+2.1**
	comp=Z,5.0nm,0.7s,mb4.7							
BJI				sP		sP	09 29 48.1	+7.1
BJI				S		**S**	**09 37 11.6**	**+1.6**
BJI				sS		sS	09 37 46.0	+14
BJI				SS		SS	09 41 09.0	+11
BJI				LR		LR		
	comp=Z,910nm,22.3s,MS4.8							
HABR	**Khabarovsk**	**56.50**	**347**	*e*P		**P**	**09 29 20.1**	**-2.3**
HABR				*e*S		**S**	**09 37 07.2**	**-3.0**
KMI	**Kunming**	**56.76**	**306**	P		**P**	**09 29 26.3**	**+2.0**
KMI				PCP		PcP	09 30 21.6	+1.9
KMI				PP		PP	09 31 35.1	+4.3
KMI				PPP			09 32 54.0	
KMI				S		**S**	**09 37 12.4**	**-1.3**
KMI				XS		sS	09 37 40.5	+4.5
KMI				SSS			09 43 18.0	
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.8							
KMI				AMB		AMB		
	comp=Z,198nm,6.0s							
KMI				LR		LR		
	comp=N,557nm,24.3s,MS4.8							
KMI				LR		LR		
	comp=E,677nm,21.2s,MS4.8							
KMI				LR		LR		
	comp=Z,1μm,25.7s,MS5.0							
KMI	**Kunming**	**56.76**	**306**	P		**P**	**09 29 26.2**	**+1.9**
KMI				*PP		pP	09 29 42.8	+5.2
KMI							09 30 21.6	
KMI							09 31 35.1	
KMI				PPP			09 32 54.0	
KMI				S		**S**	**09 37 12.4**	**-1.3**
KMI				SS		SS	09 41 02.5	+0.4
KMI				SSS			09 43 18.0	
KMI				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
KMI	**Kunming**	**56.76**	**306**	P		**P**	**09 29 26.2**	**+1.9**
	comp=Z,10.0nm,1.1s,mb4.8							
KMI				pP		pP	09 29 42.8	+5.2
KMI				sP		sP	09 29 49.1	+6.1
KMI				PcP		PcP	09 30 21.6	+1.9
KMI				PP		PP	09 31 35.1	+4.3
KMI				PPP			09 32 54.0	
KMI				S		**S**	**09 37 12.4**	**-1.3**
KMI				sS		sS	09 37 40.5	+4.5
KMI				SS		SS	09 41 02.5	+0.4
KMI				SSS			09 43 18.0	
KMI				LR		LR		
	comp=Z,1μm,25.7s,MS5.0							
XAN	**Xi'an**	**56.85**	**318**	P		**P**	**09 29 24.4**	**-0.5**
XAN				AP		pP	09 29 36.3	-1.9
XAN				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.9							
XAN				LR		LR		
	comp=N,297nm,21.3s,MS4.6							
XAN				LR		LR		
	comp=E,415nm,17.7s,MS4.6							
XAN				LR		LR		
	comp=Z,1μm,19.7s,MS5.0							
KLR	**Kul'dur**	**58.00**	**345**	*e*P		**P**	**09 29 28.0**	**-5.0**
PPT	**Papeete**	**58.57**	**107**	*e*S		**S**	**09 37 38.6**	**+1.2**
	comp=Z,680nm,24.2s							
PPT				*e*LQ			09 44 23.6	
	comp=Z,2μm,29.2s							
PPT				*e*LR		LR	09 46 43.4	
	comp=Z,758nm,26.2s							
PPT	**Papeete**	**58.57**	**107**	LR		LR	09 48 58.8	
	comp=Z,361nm,18.9s,MS4.5,baz=270,slow=30							
CD2	**Chengdu**	**58.75**	**312**	P		**P**	**09 29 39.3**	**+1.1**
CD2				AP		pP	09 29 55.4	+3.8
CD2				PP		PP	09 31 51.8	+3.3
CD2				S		**S**	**09 37 38.4**	**-1.4**
CD2				XS		sS	09 38 05.8	+3.7
CD2				SS		SS	09 41 34.1	+0.7
CD2				AMB		AMB		
	comp=Z,30nm,0.5s,mb5.6							
CD2				AMB		AMB		
	comp=Z,270nm,8.4s							
CD2				LR		LR		
	comp=N,1μm,22.8s,MS5.2							
CD2				LR		LR		
	comp=E,1μm,22.8s,MS5.2							
CD2				LR		LR		
	comp=Z,2μm,22.2s,MS5.2							
TBI	**Tubuai**	**59.17**	**113**	*e*S		**S**	**09 37 46.1**	**+0.9**
	comp=Z,927nm,29.0s							
TBI				*e*SS		SS	09 41 47.5	+7.5
	comp=Z,276nm,27.0s							
TBI				*e*LR		LR	09 47 21.9	
	comp=Z,3μm,35.5s,baz=284							
PET	**Petropavlovsk**	**59.51**	**5**	*e*P		**P**	**09 29 52.5**	**+9.0**
PET	

comp=Z,2µm,16.7s,MS5.4
LZH Lanzhou 61.43 317 P **P** **09 29 57.3 +0.7**
LZH *PP pP 09 30 10.2 +0.2
LZH 09 32 15.0
LZH S **S** **09 38 10.0 -4.2**
LZH PS 09 38 29.0
LZH *SS sS 09 38 38.0 +1.4
LZH SS SS 09 42 15.0 -0.5
LZH pmax pmax
comp=Z,80nm,1.3s,mb5.7
LZH MLR MLR
comp=Z,2µm,16.7s,MS5.4
LZH Lanzhou 61.43 317 P **P** **09 29 57.3 +0.7**
comp=Z,80nm,1.3s,mb5.7
LZH pP pP 09 30 10.2 +0.2
LZH sP sP 09 30 19.2 +3.7
LZH PP PP 09 32 15.0 +2.8
LZH S **S** **09 38 10.0 -4.2**
LZH PS 09 38 29.0
LZH sS sS 09 38 38.0 +1.4
LZH SS SS 09 42 15.0 -0.5
LZH LR LR
comp=Z,2µm,16.7s,MS5.4
HIA Hailar 61.94 337 *eP* **P** **09 29 58.8 -1.2**
HIA pmax pmax
comp=Z,22nm,1.1s
HIA Hailar 61.94 337 *eP* **P** **09 29 58.8 -1.2**
comp=Z,22nm,1.1s,mb5.2
MA2 Magadan 65.76 360 *eP* **P** **09 30 28.8 +3.7**
MA2 MLR MLR
comp=N,600nm,17.6s
GTA Gaotai 65.91 318 P **P** **09 30 26.0 -0.1**
GTA AP pP 09 30 42.1 +2.5
GTA PP PP 09 32 54.1 +2.6
GTA PPP 09 34 30.3
GTA S S 09 39 09.3 -0.5
GTA XS sS 09 39 36.8 +4.3
GTA PS 09 39 39.0
GTA SS SS 09 43 26.4 +1.1
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,221nm,6.1s
GTA LR LR
comp=N,262nm,22.1s,MS4.8
GTA LR LR
comp=E,544nm,22.8s,MS4.8
GTA LR LR
comp=Z,748nm,18.6s,MS4.9
SONM Songino Array 66.95 329 P **P** **09 30 32.6 -0.2**
comp=Z,3.3nm,0.6s,mb4.5,baz=140,slow=6.0,SNR=19
SONM LR LR 09 59 52.9
comp=Z,612nm,20.1s,MS4.8,baz=138,slow=36
SONM Songino Array 66.95 329 P **P** **09 30 32.6 -0.1**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,612nm,20.1s
TAOE Nuku Hiva Isla 67.79 97 *e*LR LR 09 51 01.1
comp=Z,1µm,25.1s
ZAK Zakamensk 70.15 330 *eP* **P** **09 30 45.1 -7.6**
ZAK *e* 09 30 51.6
YAK Yakutsk 70.27 349 *eP* **P** **09 30 53.5 +0.1**
YAK *eS* S 09 39 59.5 -2.3
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
YAK pmax pmax
comp=N,11nm,1.3s
YAK smax
comp=N,218nm,10.9s
YAK smax
comp=E,101nm,10.9s
TLY Talaya 70.78 331 *eP* **P** **09 30 56.2 -0.3**
TLY *eS* S 09 40 01.7 -6.0
TLY *e*SSS 09 47 42.9
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOD Bodaibo 70.80 340 *eP* **P** **09 30 54.9 -1.7**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VNDA Vanda 71.30 178 P **P** **09 30 59.5 -0.2**
comp=Z,6.7nm,0.9s,mb4.5,baz=328,slow=6.8,SNR=27
VNDA LR LR 10 01 04.3
comp=Z,487nm,18.4s,MS4.8,baz=352,slow=35
VNDA Vanda 71.30 178 *eP* **P** **09 30 58.8 -0.9**
VNDA *e* pP 09 31 08.2 -5.1
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 71.30 178 *eP* **P** **09 30 58.8 -0.9**
comp=Z,6.6nm,0.9s,mb4.6
VNDA *e* pP 09 31 08.2 -5.1
JIRN Jiri 71.44 302 *eP* **P** **09 31 00.5 0.0**
GUN Gumba 71.78 302 *eP* **P** **09 31 02.6 0.0**
SBA Scott Base 71.87 177 *eP* **P** **09 31 03.3 +0.2**
SBA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SBA Scott Base 71.87 177 *eP* **P** **09 31 03.3 +0.2**
comp=Z,8.7nm,1.0s,mb4.6
MIR Mirnyy 71.95 201 *d iP* **P** **09 31 04.0 +0.4**
MIR *i* pP 09 31 15.0 -2.3
MIR pmax pmax
comp=Z,20nm,1.5s,mb4.8
MIR MLR MLR
comp=N,500nm,17.0s,MS5.0
MIR MLR MLR
comp=E,500nm,17.0s,MS5.0
MIR MLR MLR
comp=Z,2µm,17.0s,MS5.3
PKI Pulchoki 72.08 302 *eP* **P** **09 31 04.1 -0.3**
DMN Daman 72.35 301 *eP* **P** **09 31 05.3 -0.7**
RKT Rikitea 72.45 112 *eS* S 09 40 30.2 +3.2
comp=Z,301nm,27.0s
RKT *e*SS SS 09 45 01.7 -4.5
comp=Z,263nm,31.8s
RKT *e*LR LR 09 53 22.2
comp=Z,2µm,34.2s
GKN Gorkha 72.86 302 *eP* **P** **09 31 08.9 -0.1**
comp=Z,52nm,1.1s,mb5.4
KOLN Koldanda 73.67 301 *eP* **P** **09 31 13.3 -0.5**
comp=Z,35nm,1.2s,mb5.2
BILL Bilibino 75.00 6 *d iP* **P** **09 31 20.7 -0.8**
BILL *e* pP 09 31 30.8 -4.5
BILL pmax pmax
comp=Z,61nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
BILL Bilibino 75.00 6 *eP* **P** **09 31 20.9 -0.6**
comp=Z,44nm,0.9s,mb5.4
WMQ Urumqi 75.99 318 P **P** **09 31 27.0 -0.2**
WMQ PCP PcP 09 31 42.3 +2.9
WMQ PP PP 09 34 22.4 +4.3
WMQ *e*S S 09 41 06.1 -0.6
WMQ SKS 09 41 29.6
WMQ SCS ScS 09 41 35.3 -2.6
WMQ PS 09 41 52.1
WMQ AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,254nm,4.0s
WMQ LR LR
comp=N,309nm,26.2s,MS4.7
WMQ LR LR
comp=E,334nm,23.6s,MS4.7
WMQ LR LR
comp=Z,415nm,25.0s,MS4.6
POO Poona 80.33 290 *eP* **P** **09 31 48.5 -2.7**
MKAR Makanchi Array 80.63 319 P **P** **09 31 52.4 -0.4**
comp=Z,6.5nm,1.1s,mb4.5,baz=100,slow=6.3,SNR=22
MKAR Makanchi Array 80.63 319 P **P** **09 31 52.4 -0.4**
MKAR pmax pmax
comp=Z,7.0nm,1.1s
SLKM Skilak Lake 80.69 25 *eP* **P** **09 31 52.3 -0.8**
PMR Palmer 81.70 25 *eP* **P** **09 31 57.0 -1.5**
PMR pmax pmax
comp=Z,47nm,1.3s,mb5.3
PMR Palmer 81.70 25 *eP* **P** **09 31 57.0 -1.5**
comp=Z,47nm,1.3s,mb5.3
ZAL Zalesovo 81.73 327 P **P** **09 31 56.2 -2.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=15,slow=7.3,SNR=13
ZAL LR LR 10 07 57.5
comp=Z,691nm,20.3s,MS5.0,baz=359,slow=35
ZAL Zalesovo 81.73 327 P **P** **09 31 56.2 -2.4**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL MLR MLR
comp=Z,691nm,20.3s
ZAL Zalesovo 81.73 327 P **P** **09 31 56.2 -2.5**
ZAL LR LR 10 07 57.5
MCK McKinley 82.86 23 *eP* **P** **09 32 03.1 -1.4**
MCK pmax pmax
comp=Z,25nm,0.9s,mb5.2
MCK McKinley 82.86 23 *eP* **P** **09 32 03.1 -1.4**
comp=Z,25nm,0.9s,mb5.2
DIV Divide 82.90 26 *eP* **P** **09 32 04.3 -0.4**
comp=Z,106nm,1.1s,mb5.8
NVS Novosibirsk 82.92 327 *eP* **P** **09 32 03.2 -1.6**
KSH Kashi 82.93 311 ⇑P **P** **09 32 06.3 +1.4**
KSH *e*PP PP 09 35 17.8 +1.9
KSH *e*S S 09 42 17.3 -2.9
KSH *e*XS sS 09 42 46.6 +3.0
QSPA South Pole Qui 83.57 180 *eP* **P** **09 32 06.7 -1.5**
comp=Z,14nm,0.9s,mb5.1
MAW Mawson 83.58 203 *eP* **P** **09 32 07.4 -0.8**
comp=Z,6.4nm,1.5s,mb4.5
MAW Mawson 83.58 203 P **P** **09 32 06.9 -1.4**
comp=Z,2.7nm,0.5s,mb4.6,baz=86,slow=4.6,SNR=17
MAW LR LR 10 06 43.6
comp=Z,975nm,20.7s,MS5.2,baz=83,slow=34
COLA College 83.84 22 *d iP* **P** **09 32 07.0 -2.6**
COLA College 83.84 22 *eP* **P** **09 32 07.3 -2.3**
comp=Z,22nm,0.8s,mb5.3
TKM2 Tokmak 2 84.05 314 P **P** **09 32 11.6 +0.9**
SNR=6.2
KZA Kyzart 84.09 313 P **P** **09 32 12.3 +1.4**
SNR=22
MENT Mentasta 84.57 25 *eP* **P** **09 32 13.7 +0.4**
UCH Uchtor 84.66 313 P **P** **09 32 15.7 +2.0**
SNR=15
CHMS Chumysh 84.67 314 P **P** **09 32 14.5 +0.7**
SNR=5.8
FRU Bishkek 84.73 314 *eP* **P** **09 32 14.8 +0.7**
AAK Ala-Archa 84.77 314 P **P** **09 32 13.5 -0.8**
comp=Z,77nm,0.9s,mb5.8,SNR=9.7
AAK Ala-Archa 84.77 314 P **P** **09 32 14.9 +0.6**
SNR=11
AAK Ala-Archa 84.77 314 *eP* **P** **09 32 13.5 -0.8**
AAK pmax pmax
comp=Z,15nm,1.0s,mb5.1
AAK Ala-Archa 84.77 314 *eP* **P** **09 32 13.5 -0.8**
comp=Z,15nm,1.0s,mb5.1
USP Ospenovka 84.91 314 P **P** **09 32 15.2 +0.2**
SNR=17
AML Almayashu 85.23 313 P **P** **09 32 17.7 +1.1**
SNR=12
EKS2 Erkin-Say 85.29 314 P **P** **09 32 17.7 +0.8**
SNR=14
EGAK Eagle 86.36 23 *eP* **P** **09 32 21.4 -0.8**
comp=Z,23nm,1.0s,mb5.4
DLBC Dease Lake 89.45 31 *eP* **P** **09 32 36.8 -0.2**
CHKZ Chkalovo 89.68 324 *eP* **P** **09 32 35.7 -2.4**
CHKZ pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
CHKZ Chkalovo 89.68 324 *eP* **P** **09 32 35.7 -2.3**
comp=Z,7.6nm,1.1s,mb4.9
BVAR Borovoye Array 89.69 323 P **P** **09 32 36.7 -1.4**
comp=Z,2.1nm,0.8s,mb4.5,baz=97,slow=6.1,SNR=12
BVAR Borovoye Array 89.69 323 P **P** **09 32 36.7 -1.4**
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 89.76 323 *eP* **P** **09 32 37.4 -1.0**
BRVK pmax pmax
comp=Z,20nm,1.7s,mb5.2
BRVK Borovoye 89.76 323 *eP* **P** **09 32 37.4 -1.0**
comp=Z,20nm,1.7s,mb5.2
INK Inuvik 90.43 21 P **P** **09 32 40.3 -1.2**
comp=Z,11nm,1.1s,mb5.1,baz=264,slow=3.2,SNR=19
INK Inuvik 90.43 21 P **P** **09 32 40.3 -1.2**
INK pmax pmax
comp=Z,11nm,1.1s
C03A Quillayute Air 90.70 42 ⇑P **P** **09 32 42.3 -0.5**
baz=91
K02A Glendale 90.70 47 ⇑P **P** **09 32 43.0 +0.2**
baz=91
GASB Alder Springs 90.86 50 ⇑P **P** **09 32 43.7 +0.2**
baz=91
O02C Red Bluff 90.88 50 ⇓P **P** **09 32 44.1 +0.5**
baz=91
MNRC McLaughlin Nat 90.97 51 ⇑P **P** **09 32 44.2 +0.2**
baz=91
M02C Callahan 90.98 49 ⇓P **P** **09 32 44.6 +0.5**
baz=91
F03A Seaside 91.09 44 ⇑P **P** **09 32 45.8 +1.2**
baz=91
H03A Soap Creek Ran 91.11 45 ⇑P **P** **09 32 43.8 -0.9**
baz=91
WDC Whiskeytown Da 91.11 49 ⇓P **P** **09 32 45.6 +0.9**
baz=91
YBH Yreka Blue Hor 91.14 48 ⇑P **P** **09 32 45.0 +0.2**
baz=91
J03A Ideyld Park 91.17 47 ⇓P **P** **09 32 45.5 +0.5**
baz=91
E03A Lebam 91.18 43 ⇓P **P** **09 32 45.5 +0.5**
baz=91
O03C Acorn Hollow, 91.43 50 ⇓P **P** **09 32 46.3 +0.2**
baz=91
M03C McCloud 91.52 49 ⇑P **P** **09 32 46.4 -0.2**
baz=92
SUTB Sutter Butte 91.52 51 ⇑P **P** **09 32 47.1 +0.5**
baz=92
I04A Tendick Farm, 91.62 46 ⇓P **P** **09 32 46.2 -0.9**
baz=92
PACP Pacheco Peak 91.65 53 ⇓P **P** **09 32 47.4 +0.2**
baz=92
S04C Ingram Canyon, 91.67 53 ⇓P **P** **09 32 47.8 +0.5**
baz=92
SYO Syowa Base 91.71 200 ⇑*eP* **P** **09 32 46.0 -1.5**
SYO Syowa Base 91.71 200 ⇑*e*PcP PcP 09 32 48.2 -0.1
ORV Oroville 91.78 51 P **P** **09 32 47.8 0.0**
baz=92,SNR=6.2
M04C Macdoel 91.79 48 ⇑P **P** **09 32 48.0 +0.2**
baz=92
K04A Chilquin 91.97 48 ⇑P **P** **09 32 48.5 -0.2**
baz=92
U04C Hernandez Rese 91.98 54 ⇓P **P** **09 32 48.9 +0.2**
baz=92
PKD Parkfield 92.13 54 ⇑P **P** **09 32 49.2 -0.2**
baz=92
O04C Chester 92.19 50 P **P** **09 32 50.3 +0.6**
baz=92,SNR=6.7
M05C Lookout 92.26 49 ⇑P **P** **09 32 50.5 +0.5**
baz=92
O05C Quincy 92.27 50 ⇑P **P** **09 32 49.6 -0.5**
baz=92
LAVA Lava Cap Winer 92.28 51 P **P** **09 32 50.5 +0.4**
baz=92,SNR=6.0
J05A Fort Rock 92.41 47 ⇑P **P** **09 32 50.8 +0.1**
baz=92
P05C Yuba Gap, Truc 92.44 51 P **P** **09 32 51.7 +0.8**
baz=92,SNR=6.5
S05C Merced 92.45 53 ⇓P **P** **09 32 50.4 -0.5**
baz=92
CMB Columbia Colle 92.47 52 P **P** **09 32 51.3 +0.3**
baz=92,SNR=9.2
I05A Bend 92.48 46 ⇓P **P** **09 32 50.2 -0.9**
baz=92
ELFS Eagle Lake Fie 92.49 50 ⇑P **P** **09 32 51.9 +0.8**
baz=92
SMMC Simmler 92.50 55 ⇓P **P** **09 32 51.6 +0.5**
baz=92
L05A Lakeview 92.57 48 ⇓P **P** **09 32 52.6 +1.2**
baz=92
K05A Summer Lake 92.59 47 ⇓P **P** **09 32 51.7 +0.1**
baz=93
BEKR Beckwourth 92.69 50 P **P** **09 32 52.5 +0.5**
baz=93,SNR=7.6
R05C Kirkwood Meado 92.79 52 P **P** **09 32 53.2 +0.8**
baz=93,SNR=6.5
S06C San Francisco 92.88 52 P **P** **09 32 53.4 +0.5**
baz=93,SNR=16
T06C Millerton Lake 92.91 53 P **P** **09 32 53.4 +0.4**
baz=93,SNR=7.4
MOD Modoc 92.94 48 ⇑P **P** **09 32 52.6 -0.6**
baz=93
F06A Goldendale 93.00 44 ⇑P **P** **09 32 53.2 -0.2**
baz=93
K06A Valley Falls 93.07 47 ⇑P **P** **09 32 54.2 +0.5**
baz=93
WCN Washoe City 93.10 51 P **P** **09 32 55.0 +1.1**
baz=93,SNR=5.2
O06A Flanigan 93.13 50 ⇓P **P** **09 32 54.2 +0.1**
baz=93
N06A Buffalo Meadow 93.18 50 ⇓P **P** **09 32 54.4 +0.1**
baz=93
J06A Christmas Vall 93.19 47 ⇑P **P** **09 32 53.7 -0.6**
baz=93
H06A Lindquist Farm 93.21 46 ⇓P **P** **09 32 53.8 -0.6**
baz=93
I06A Prineville 93.22 46 ⇑P **P** **09 32 55.2 +0.8**
baz=93
KCC Kaiser Creek 93.25 53 P **P** **09 32 55.2 +0.6**
baz=93,SNR=5.8
R06C Coleville 93.26 52 P **P** **09 32 55.6 +1.0**
baz=93,SNR=8.5
VES Vestal, Richgr 93.30 54 ⇓P **P** **09 32 53.9 -0.9**
baz=93
HELL Mitchell Peak, 93.42 54 P **P** **09 32 55.8 +0.4**
baz=93,SNR=7.5
ARVC Arvin 93.43 55 ⇑P **P** **09 32 55.6 +0.1**
baz=93
SCI San Clemente I 93.47 57 ⇓P **P** **09 32 57.1 +1.5**
baz=93
OSI Osito Adit 93.47 56 ⇓P **P** **09 32 57.5 +1.9**
baz=93
R07C Lee Vining 93.53 52 P **P** **09 32 56.9 +1.0**
baz=94,SNR=8.1
F07A Phinny Hill Vi 93.61 44 ⇓P **P** **09 32 54.6 -1.6**
baz=94
CIS Catalina Islan 93.63 57 ⇑P **P** **09 32 56.8 +0.4**
baz=94
MLAC Mammoth Lakes 93.66 53 ⇑P **P** **09 32 57.3 +0.8**
baz=94
L07A Adell 93.67 48 ⇓P **P** **09 32 56.3 -0.2**
baz=94
D07A Quincy 93.70 43 ⇓P **P** **09 32 56.4 -0.3**
baz=94
E07A Sunnyside 93.72 44 ⇑P **P** **09 32 56.2 -0.6**
baz=94
G07A Ruggs Ranch, H 93.73 45 ⇓P **P** **09 32 56.5 -0.3**
baz=94
I07A Izee 93.74 46 ⇓P **P** **09 32 56.2 -0.6**
baz=94
M07A Soldier Meadow 93.74 49 ⇓P **P** **09 32 57.6 +0.8**
baz=94
ISA Isabella 93.77 55 *eP* **P** **09 32 57.4 +0.4**
ISA Isabella 93.77 55 ⇑P **P** **09 32 57.8 +0.8**
baz=94
P07A Fallon 93.79 51 ⇓P **P** **09 32 57.9 +0.8**
baz=94
K07A Rock Creek Ran 93.80 48 ⇑P **P** **09 32 57.9 +0.8**
baz=94
J07A Hines 93.81 47 ⇓P **P** **09 32 57.6 +0.4**
baz=94
O07A Toulon 93.85 50 P **P** **09 32 57.9 +0.5**
baz=94,SNR=5.8
EDW2 Edwards Air Fo 94.10 56 ⇓P **P** **09 32 59.6 +1.1**
baz=94
NVAR Mina Array Bea 94.15 52 P **P** **09 32 59.5 +0.8**
comp=Z,6.3nm,0.8s,mb5.1,baz=266,slow=8.2,SNR=33
NVAR Mina Array Bea 94.15 52 P **P** **09 32 59.5 +0.8**
S08C White Mtn Res 94.17 53 P **P** **09 33 00.2 +1.4**
baz=94,SNR=6.9
WVOR Wild Horse Val 94.23 48 *eP* **P** **09 32 58.5 -0.6**
WVOR pmax pmax
comp=Z,9.0nm,1.5s,mb5.0
WVOR Wild Horse Val 94.23 48 *eP* **P** **09 32 58.5 -0.6**
comp=Z,9.3nm,1.5s,mb5.0
B08A Colville Reser 94.23 42 ⇑P **P** **09 32 58.1 -1.0**
baz=94
G08A Pilot Rock 94.23 45 ⇑P **P** **09 32 58.8 -0.3**
baz=94
E08A Dider Farm, El 94.26 44 ⇓P **P** **09 32 59.3 +0.1**
baz=94
R08A Mina 94.29 52 ⇑P **P** **09 32 59.8 +0.4**
baz=94
BFSC Mount Baldy St 94.31 56 ⇑P **P** **09 32 58.9 -0.6**
baz=94
K08A Mann Creek Ran 94.36 48 ⇑P **P** **09 32 58.4 -1.3**
baz=94
H08A Prairie City 94.37 46 ⇓P **P** **09 32 58.8 -1.0**
baz=94
C08A Higginbotham F 94.38 43 ⇓P **P** **09 32 59.5 -0.3**
baz=94
LRMC Laurel Mountai 94.39 55 P **P** **09 33 01.0 +1.2**
baz=94,SNR=12
I08A Drewsey 94.40 46 ⇑P **P** **09 33 00.6 +0.8**
baz=94
F08A Pendleton 94.40 45 ⇑P **P** **09 32 59.9 +0.1**
baz=94
D08A Wollman Farm, 94.40 43 ⇑P **P** **09 33 00.6 +0.7**
baz=94
J08A Circle Bar Ran 94.42 47 ⇓P **P** **09 33 00.4 +0.4**
baz=94
L08A Fields 94.42 48 ⇑P **P** **09 32 58.7 -1.3**
baz=94
P08A Dixie Valley 94.42 51 ⇓P **P** **09 33 00.1 +0.1**
baz=94
Q08A Gabbs 94.47 52 P **P** **09 33 00.9 +0.7**
baz=94,SNR=8.2
MPMC Manual Prospec 94.60 54 P **P** **09 33 01.9 +1.1**
baz=95,SNR=7.5
109C Camp Elliot, M 94.67 58 ⇑P **P** **09 33 01.6 +0.5**
baz=95
A09A Danville 94.77 41 ⇓P **P** **09 33 02.3 +0.7**
baz=95
E09A Wood Farm, Sta 94.89 44 ⇑P **P** **09 33 01.5 -0.6**
baz=95
N09A Rock Creek Ran 94.94 50 ⇓P **P** **09 33 02.7 +0.4**
baz=95
S09A Goldfield 94.94 53 P **P** **09 33 03.2 +0.8**
baz=95,SNR=22
J09A Fry Pan Ranch, 94.94 47 ⇑P **P** **09 33 03.1 +0.7**
baz=95
I09A Lost Marbles R 95.00 46 ⇑P **P** **09 33 02.3 -0.3**
baz=95
F09A S2 Ranch, Elgi 95.00 45 ⇑P **P** **09 33 02.3 -0.3**
baz=95
M09A Marrel Ranch, 95.03 49 ⇑P **P** **09 33 03.9 +1.1**
baz=95
R09A Tonopah 95.10 52 P **P** **09 33 03.2 +0.1**
baz=95,SNR=5.8
GSC Goldstone 95.10 55 ⇓P **P** **09 33 02.8 -0.3**
baz=95
P09A Austin 95.14 51 ⇓P **P** **09 33 03.3 +0.1**
baz=95
FURC Furnace Creek, 95.14 54 P **P** **09 33 04.1 +0.8**
baz=95,SNR=7.5
O09A Fish Creek Ran 95.14 50 ⇓P **P** **09 33 03.7 +0.4**
baz=95
MONP Monument Peak 95.24 58 ⇓P **P** **09 33 04.8 +1.1**
baz=95
PFO Pinyon Flat Ob 95.26 57 ⇑P **P** **09 33 03.9 +0.1**
baz=95
BMO Blue Mountains 95.37 46 *eP* **P** **09 33 04.0 -0.3**
BMO pmax pmax
comp=Z,15nm,1.6s,mb5.2
BMO Blue Mountains 95.37 46 *eP* **P** **09 33 04.0 -0.3**
comp=Z,15nm,1.6s,mb5.2
HEC Hector,Ludlow 95.45 56 ⇑P **P** **09 33 04.4 -0.3**
baz=95
F10A Beach Ranch, E 95.49 44 ⇓P **P** **09 33 04.2 -0.7**
baz=95
U10A Ash Meadows, A 95.56 54 ⇓P **P** **09 33 05.6 +0.4**
baz=96
SHOC Shoshone 95.57 55 ⇑P **P** **09 33 05.6 +0.4**
baz=96
P10A Eureka 95.66 51 ⇑P **P** **09 33 05.0 -0.6**
baz=96
BELC Belle Mtn. 95.67 57 ⇑P **P** **09 33 05.4 -0.3**
baz=96
O10A Cortez Mining, 95.68 50 ⇓P **P** **09 33 06.1 +0.4**
baz=96
I10A Payette 95.68 46 ⇓P **P** **09 33 04.4 -1.4**
baz=96
R10A Warm Springs 95.70 52 ⇓P **P** **09 33 05.2 -0.6**
baz=96
TUQ Turquoise Mtn. 95.83 55 ⇓P **P** **09 33 07.1 +0.7**
baz=96
BC3 Big Chuckw Mtn 96.10 57 ⇑P **P** **09 33 08.0 +0.4**
baz=96
G11A Walters Elk Ra 96.13 45 ⇓P **P** **09 33 07.8 0.0**
baz=96
D11A Klaveano Farm, 96.17 43 ⇓P **P** **09 33 07.2 -0.7**
baz=96
P11A Circle Ranch, 96.21 51 ⇓P **P** **09 33 08.1 0.0**
baz=96
A11A Hall Mountain, 96.23 41 ⇓P **P** **09 33 09.6 +1.3**
baz=96
F11A Grangeville 96.23 45 ⇓P **P** **09 33 07.5 -0.7**
baz=96
Q11A Duckwater 96.25 52 ⇑P **P** **09 33 08.7 +0.4**

baz=96
V11A **Goodsprings** 96.25 55 ⇑P P 09 33 08.4 0.0
baz=96
M11A **Holland Ranch,** 96.28 49 ⇓P P 09 33 06.4 -2.1
baz=96
H11A **Donnelly** 96.28 46 ⇑P P 09 33 07.8 -0.7
baz=96
O11A **Cowboy Ranch,** 96.31 50 ⇑P P 09 33 09.0 +0.3
baz=96
IRM **Iron Mountain** 96.38 56 ⇑P P 09 33 09.0 +0.1
baz=96
A12A **Yaak River Ran** 96.70 42 ⇑P P 09 33 10.0 -0.4
baz=97
V12A **Nelson** 96.72 55 ⇓P P 09 33 10.8 +0.4
baz=97
N12A **Clover Valley,** 96.82 50 ⇓P P 09 33 11.2 +0.3
baz=97
P12A **McGill** 96.86 51 ⇓P P 09 33 11.7 +0.7
baz=97
Y12C **Blythe** 96.88 57 ⇑P P 09 33 11.4 +0.3
baz=97
Q12A **Willow Creek R** 96.90 52 ⇑P P 09 33 11.2 -0.1
baz=97
U12A **Valley of Fire** 97.00 54 ⇓P P 09 33 11.7 -0.1
baz=97
O12A **Currie** 97.02 50 ⇑P P 09 33 11.9 +0.1
baz=97
HLID **Hailey** 97.38 47 *e*P P 09 33 13.3 -0.2
comp=Z,9.7nm,1.8s,mb4.9
HLID **Hailey** 97.38 47 ⇑P P 09 33 12.8 -0.7
baz=97
B13A **Whitefish** 97.47 42 ⇓P P 09 33 13.3 -0.6
baz=97
YKA **Yellowknife Ar** 97.47 28 P P 09 33 13.1 -0.7
comp=Z,1.6nm,0.8s,mb4.5,baz=269,slow=4.6,SNR=7.1
YKA LR LR 10 13 48.1
comp=Z,228nm,21.3s,MS4.6,baz=280,slow=33
W13A **Hualapai Mount** 97.47 56 ⇑P P 09 33 14.1 +0.2
baz=97
X13A **Yucca** 97.50 56 ⇑P P 09 33 14.6 +0.7
baz=97
F13A **Darby** 97.50 45 ⇓P P 09 33 13.4 -0.6
baz=98
D14A **Greenough** 98.10 43 ⇓P P 09 33 15.5 -1.2
baz=98
W14A **Seligman** 98.14 55 ⇓P P 09 33 17.1 +0.2
baz=98
Y14A **Wickenburg** 98.15 57 ⇓P P 09 33 16.2 -0.7
baz=98
EDM **Edmonton** 98.22 37 *e*P P 09 33 16.7 -0.5
E15A **Deer Lodge** 98.69 44 ⇓P P 09 33 18.5 -0.8
baz=99
115A **Sonoran Desert** 98.76 58 ⇑P P 09 33 20.2 +0.6
baz=99
D15A **Lincoln** 98.77 43 ⇓P P 09 33 20.9 +1.2
baz=99
X15A **Humboldt** 98.81 56 ⇑P P 09 33 21.1 +1.3
baz=99
WUAZ **Wupatki** 99.54 55 ⇑P Pdif 09 33 23.3 +0.2
baz=100
PDAR **Pinedale Array** 100.93 48 P Pdif 09 33 28.6 -0.7
comp=Z,1.3nm,0.8s,baz=242,slow=1.9,SNR=11
MVCO **Mesa Verde** 101.86 53 ⇓P Pdif 09 33 34.0 +0.5
baz=102
SOC **Sochi** 110.07 314 *i* PKIKP PKiKP 09 38 09.0 -2.4
SOC *e* 09 38 42.4
SOC *e*SS SS 09 54 13.4 +6.0
SOC pmax pmax
comp=Z,59nm,1.2s
SOC MLR MLR
comp=Z,827nm,21.0s,MS5.3
KOLS **Kolonicke sedl** 119.80 324 *e*PKP PKPdf 09 38 28.8 -1.3
STHS **Stebnicka Huta** 120.17 325 *e*PKP PKPdf 09 38 32.5 +1.7
VYHS **Vyhne** 122.01 325 *e*PKP PKPdf 09 38 33.7 -0.6
DPC **Dobruska-Polom** 122.41 328 *e*PKPdf PKPdf 09 38 36.9 +1.8
BRG **Berggiesshubel** 123.35 329 *e*PKP PKPdf 09 38 36.6 -0.2
comp=Z,11nm,1.5s
BRG *e* 09 38 51.7
comp=Z,20nm,1.9s
BRG
comp=N,369nm,24.1s
BRG
comp=E,238nm,24.1s
BRG
comp=Z,456nm,32.3s
BRG **Berggiesshubel** 123.35 329 *e*PKP PKPdf 09 38 36.6 -0.2
BRG *e* 09 38 51.7
BRG LR LR
comp=Z,460nm,32.3s,MS4.9
DIVS **Divcibare** 123.41 320 *i* P PKPdf 09 38 36.9 -0.1
CLL **Collm** 123.56 330 *e*PKiKP PKiKP 09 38 38.0 +0.5
CLL LmV 10 34 00.0
comp=Z,400nm,20.8s
KHC **Kasperske Hory** 124.57 328 *e*PKPdf PKPdf 09 38 38.9 -0.3
GERES **GERESS Array B** 124.67 327 PKP PKPdf 09 38 39.6 +0.2
comp=Z,14nm,0.6s,baz=90,slow=1.3,SNR=14
GERES **GERESS Array B** 124.67 327 PKIKP PKPdf 09 38 39.6 +0.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
CFAA **Coronel Fontan** 126.52 137 PKP PKPdf 09 38 42.7 -0.2
comp=Z,1.4nm,0.8s,baz=245,slow=2.6,SNR=23
CFAA **Coronel Fontan** 126.52 137 PKP PKPdf 09 38 42.7 -0.2
DAVOX **Davos** 127.97 327 PKP PKPdf 09 38 45.7 0.0
comp=Z,2.5nm,0.5s,baz=218,slow=6.5,SNR=6.6
CDF **Champ du Feu** 128.26 330 *e*PKIKP PKPdf 09 38 44.0 -2.3
comp=Z,39nm,1.7s
BAIF **Baives** 128.55 333 *e*PKIKP PKPdf 09 38 42.1 -4.7
comp=Z,34nm,1.4s
HINF **Hinteralfeld** 128.87 330 *e*PKIKP PKPdf 09 38 45.1 -2.3
comp=Z,31nm,1.4s
HAU **Haudompre** 128.99 330 *e*PKIKP PKPdf 09 38 45.2 -2.5
HAU *e*R
comp=Z,508nm,20.8s
HAU **Haudompre** 128.99 330 *e*PKPdf PKPdf 09 38 45.2 -2.5
HAU LR LR
comp=Z,510nm,20.8s,MS5.2
MEZF **Maizieres J'vi** 129.27 332 *e*PKIKP PKPdf 09 38 46.2 -2.0
CABF **La Chapelle** 130.07 329 *e*PKIKP PKPdf 09 38 46.9 -2.8
SSF **Saint Saulge** 131.03 331 *e*PKIKP PKPdf 09 38 48.3 -3.2
SBF **Sospel** 131.14 326 *e*PKIKP PKPdf 09 38 49.5 -2.2
comp=Z,118nm,1.6s
SMF **Signal de Mont** 131.16 331 *e*PKIKP PKPdf 09 38 48.4 -3.4
AVF **Avril sur Loir** 131.30 331 *e*PKIKP PKPdf 09 38 48.5 -3.5
FLN **La Foliniere** 131.54 335 *e*PKIKP PKPdf 09 38 49.4 -3.1
FLN *e*R
comp=Z,444nm,21.5s
FLN **La Foliniere** 131.54 335 *e*PKPdf PKPdf 09 38 49.4 -3.1
FLN LR LR
comp=Z,440nm,21.5s,MS5.1
TCF **Toulx Ste Croi** 132.21 331 *e*PKIKP PKPdf 09 38 50.8 -2.9
LPAZ **La Paz** 134.84 120 PKP PKPdf 09 39 01.2 +2.5
comp=Z,4.8nm,0.8s,baz=165,slow=1.6,SNR=18
LPAZ **La Paz** 134.84 120 *e*PKPdf PKPdf 09 39 00.2 +1.5
SDV **Santo Domingo** 138.26 84 *e*PKPdf PKPdf 09 39 06.0 +1.0
EVO **Evora** 142.99 333 *e*PKIKP PKPdf 09 39 09.7 -3.9
comp=Z,18nm,1.1s
EVO *e*R
comp=Z,448nm,22.2s
TBG **Guadaloupe-3** 146.27 71 *e*P PKPdf 09 39 21.0 +1.7
TOA0 **Torodi Ar. Sit** 149.44 285 *e*PKPbc PKPbc 09 39 29.4 +0.4
TORD **Torodi Ar. Bea** 149.44 285 PKPbc PKPbc 09 39 29.1 +0.2
comp=Z,17nm,0.9s,baz=26,slow=1.2,SNR=58

STR ***19*** *09:20:55.6±0.1, 4301N×001W, h2km±1km, MI1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 09:20:55.0±0.1, 4303N×002W, h7km, Md1.7/3, MI1.1/2, Error ellipse: s-maj=3.8km s-min=1.7km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**76**	Pg	Pg	09 20 57.3	+0.5
LABF				Sg	Sg	09 20 58.5	+0.4
VIEF	**Viey**	**0.15**	**168**	Pg	Pg	09 20 58.3	+0.2
VIEF				Sg	Sg	09 21 00.4	+0.2
EPF	**Esparros**	**0.26**	**90**	*e*Pg	Pg	09 21 00.0	-0.2
EPF				*e*Sg	Sg	09 21 03.7	0.0
	6.1nm,0.2s						
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg	Pg	09 21 03.5	+0.4
ETSF				*e*Sg	Sg	09 21 09.4	+0.8
	2.4nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	09 21 11.4	-0.6
SJPF				*e*Sg	Sg	09 21 22.6	-1.0
	0.7nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	09 21 26.3	-0.6
MTLF				*e*Sg	Sg	09 21 47.5	-1.0
	0.2nm,0.2s						

IDC ***19*** *09:21:30.0±5.1, 47.82N×153.80E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/26, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=119.3km s-min=27.3km az=130.0*
ISCJB ***19*** *09:21:33.6±2.5, 47.6N±0.3×154.0E±0.5, h53km±14km, mb4.0/6, Error ellipse: s-maj=72.0km s-min=9.4km az=76.3*
MOS ***19*** *09:21:34.1±1.1, 47.81N×153.80E, h50km, mb4.3/5, Error ellipse: s-maj=29.8km s-min=17.3km az=61.5*
ISC 19 09:21:34.4±2.7, 47.5N±0.3×154.2E±0.5, h57km±12km, n18, σ0§88/19, mb4.0/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.41**	**21**	*e*PN	**Pn**	**09 22 23.4**	**-1.6**
SKR				*e*S	**Sn**	**09 23 05.0**	**+0.8**
SKR				smax			
	comp=E,80nm,0.6s						
KUR	**Kuril'sk**	**4.96**	**245**	⇓*i*PN	**Pn**	**09 22 48.0**	**+1.7**
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
ASAJ	**Asahikawa**	**8.80**	**252**	Pn	**Pn**	**09 23 38.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=114,slow=30,SNR=4.8						
ASAJ	**Asahikawa**	**8.80**	**252**	PN	**Pn**	**09 23 38.2**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.15**	**233**	Pn	**Pn**	**09 25 17.6**	**+0.1**
	baz=53,slow=16,SNR=4.0						
MJAR	**Matsushiro Arr**	**16.15**	**233**	P	**Pn**	**09 25 17.6**	**0.0**
KSRS	**Korea Array**	**21.75**	**252**	P	**P**	**09 26 20.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.2,baz=60,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**09 30 01.0**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=73,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**09 30 01.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.96**	**309**	P	**P**	**09 30 29.9**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=54,slow=7.8,SNR=8.1						
BVAR	**Borovoye Array**	**50.96**	**309**	P	**P**	**09 30 29.9**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**09 31 59.9**	**+0.2**
	comp=Z,0.7nm,0.4s,mb4.1,baz=41,slow=7.3,SNR=14						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**09 31 59.9**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.75**	**342**	P	**P**	**09 32 26.4**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.75**	**342**	P	**P**	**09 32 26.6**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=26,slow=6.3,SNR=4.2						
NOA	**NORSAR Array B**	**67.75**	**342**	P	**P**	**09 32 26.6**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.00**	**340**	P	**P**	**09 32 28.3**	**+0.7**
	comp=Z,2.0nm,0.3s,mb4.6,baz=58,slow=5.6,SNR=21						
HFS	**Hagfors**	**68.00**	**340**	P	**P**	**09 32 28.3**	**+0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						

CSEM ***19*** *09:23:32.0±0.9, 38.33N×26.72W, h6km±5km, ML2.6, Error ellipse: s-maj=3.6km s-min=2.1km az=37.0, After PDA*
PDA ***19*** *09:23:32.0±0.9, 38.33N×26.72W, h6km±5km, MD2.9, ML2.6, Error ellipse: s-maj=3.6km s-min=2.1km az=37.0*
SVSA 19 09:23:32.0±0.9, 3833N×2672W, h6km±5km, MD2.9, ML2.6, Error ellipse: s-maj=3.6km s-min=2.1km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.48**	**323**	*e*P	Pg	09 23 40.1	-1.1
PFAV				*i* S	Sg	09 23 46.7	-0.7
PFAV							
	71nm,0.1s						
PFAV	**Pico das Favas**	**0.48**	**323**	*e*P	Pg	09 23 40.1	-1.1
PFAV				*i* S	Sg	09 23 46.7	-0.7
RIB2	**Ribeirinha**	**0.49**	**314**	*e*P	Pg	09 23 40.4	-1.1
RIB2				*e*S	Sg	09 23 47.4	-0.5
RIB2							
	178nm,0.1s						
RIB2	**Ribeirinha**	**0.49**	**314**	*e*P	Pg	09 23 40.4	-1.1
RIB2				*e*S	Sg	09 23 47.4	-0.5
PVNV	**Vila Nova**	**0.55**	**322**	*e*P	Pg	09 23 41.2	-1.4
PVNV				*e*S	Sg	09 23 48.6	-1.1
PVNV							
	99nm,0.1s						
PVNV	**Vila Nova**	**0.55**	**322**	*e*P	Pg	09 23 41.2	-1.4
PVNV				*e*S	Sg	09 23 48.6	-1.1
ASBA	**Santa Barbara**	**0.61**	**310**	*e*P	Pg	09 23 42.4	-1.4
ASBA				*e*S	Sg	09 23 50.9	-0.9
ASBA							
	120nm,0.1s						
ASBA	**Santa Barbara**	**0.61**	**310**	*e*P	Pg	09 23 42.4	-1.4
ASBA				*e*S	Sg	09 23 50.9	-0.9
SET4	**Mosteiros**	**0.86**	**122**	*e*P	Pg	09 23 45.7	-2.8
SET4				*e*S	Sg	09 23 55.9	-3.7
SET2	**Ginetes**	**0.87**	**124**	*e*P	Pg	09 23 46.0	-2.7
SET2				*e*S	Sg	09 23 56.4	-3.6
PFET	**Feteiras**	**0.90**	**125**	*e*S	Sg	09 23 56.9	-3.9
FAC	**Faja de Cima**	**1.01**	**123**	*e*S	Sg	09 24 00.0	-4.5
CML	**Cha da Macela**	**1.08**	**121**	*e*S	Sg	09 24 01.5	-5.3
PVER	**Pico Vermelho**	**1.09**	**119**	*e*S	Sg	09 24 01.9	-5.2
PVER							
	33nm,0.2s						
PID	**Ribeirinha**	**1.10**	**276**	*e*P	Pg	09 23 49.5	-3.7
PID				*e*S	Sg	09 24 02.2	-5.3
PMAT	**Coroa da Mata**	**1.11**	**117**	*e*S	Sg	09 24 02.4	-5.4
PMAN	**Manadas**	**1.11**	**286**	*e*P	Pg	09 23 49.2	-4.2
PMAN				*e*S	Sg	09 24 02.0	-5.9
PMAN							
	65nm,0.1s						
PMAN	**Manadas**	**1.11**	**286**	*e*P	Pg	09 23 49.2	-4.2
PMAN				*e*S	Sg	09 24 02.0	-5.9
LFA	**Lagoa do Fogo**	**1.12**	**119**	*e*P	Pg	09 23 49.4	-4.2
MESC	**Monte Escuro**	**1.14**	**118**	*e*S	Sg	09 24 03.2	-5.5
PRCH	**Ribeira Ch**	**1.15**	**121**	*e*S	Sg	09 24 03.3	-5.7
PRCH							
	63nm,0.2s						
VIF	**Vila Franca**	**1.17**	**120**	*e*P	Pg	09 24 04.5	+10
PFAD	**Fenais da Ajud**	**1.21**	**114**	*e*S	Sg	09 24 04.5	-6.3
PGRA	**Graciosa**	**1.21**	**306**	*e*P	Pg	09 23 50.1	-5.1
PGRA				*e*S	Sg	09 24 04.4	-6.5
PGRA							
	37nm,0.3s						
PGRA	**Graciosa**	**1.21**	**306**	*e*P	Pg	09 23 50.1	-5.1
PGRA				*e*S	Sg	09 24 04.4	-6.5
SRBC	**Serra Branca**	**1.25**	**305**	*e*S	Sg	09 24 05.3	-6.9
ROSA	**Rosais**	**1.25**	**289**	*e*P	Pg	09 23 51.0	-5.1
ROSA				*e*S	Sg	09 24 05.3	-7.0
MIRA	**Miradouro**	**1.26**	**115**	*e*S	Sg	09 24 05.7	-6.9
PICO	**Pico**	**1.35**	**278**	*e*P	Pn	09 23 53.1	-4.3
PICO				*e*S	Sb	09 24 08.0	-7.2
CALA	**Caldeira**	**1.57**	**280**	*e*P	Pn	09 23 56.0	-4.5
CALA				*e*S	Sn	09 24 13.9	-7.3
PCED	**Cedros**	**1.58**	**281**	*e*S	Sn	09 24 13.7	-7.7
PCED							
	90nm,0.3s						

IDC ***19*** *09:24:49.4±0.7, 6.50S×151.87E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/17, mbtmp4.2/11, ML2.9/1, Error ellipse: s-maj=24.8km s-min=19.2km az=108.0*
ISCJB ***19*** *09:24:57.6±4.0, 6.5S±0.1×151.5E±0.2, h64km±34km, mb4.0/9, Error ellipse: s-maj=35.0km s-min=22.5km az=45.3*
ISC 19 09:24:58.5±3.7, 6.5S±0.1×151.6E±0.2, h58km±31km, n15, σ0§44/12, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.24**	**236**	Pn	**Pn**	**09 26 14.4**	**+0.2**
	2.6nm,0.3s,baz=63,slow=4.5,SNR=3.3						
PMG				Sn	**Sn**	**09 27 13.0**	**-0.2**
	2.6nm,0.3s,baz=9.0,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**21.41**	**230**	P	**P**	**09 29 40.9**	**-0.5**
	2.6nm,0.6s,mb3.8,baz=54,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**24.08**	**223**	P	**P**	**09 30 08.2**	**-0.2**
	4.7nm,0.8s,mb4.0,baz=59,slow=9.1,SNR=6.7						
STKA	**Stephens Creek**	**26.93**	**199**	P	**P**	**09 30 34.6**	**+0.4**
	3.5nm,0.8s,mb4.0,baz=7.0,slow=9.1,SNR=5.8						
FITZ	**Fitzroy Crossi**	**27.78**	**243**	*e*P	**P**	**09 30 42.1**	**+0.2**
	15nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.78**	**243**	P	**P**	**09 30 42.1**	**+0.2**
	6.1nm,0.9s,mb4.2,baz=52,slow=12,SNR=7.6						
SONM	**Songino Array**	**67.09**	**329**	P	**P**	**09 35 45.4**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=149,slow=5.3,SNR=4.2						
VNDA	**Vanda**	**71.21**	**178**	P	**P**	**09 36 11.2**	**0.0**
	0.7nm,0.7s,mb3.7,baz=294,slow=3.9,SNR=3.8						
MKAR	**Makanchi Array**	**80.77**	**319**	P	**P**	**09 37 06.6**	**+0.9**
	0.6nm,0.8s,mb3.6,baz=118,slow=8.6,SNR=4.1						
INK	**Inuvik**	**90.45**	**21**	P	**P**	**09 37 53.0**	**-0.7**
	1.4nm,0.8s,mb4.4,baz=230,slow=6.5,SNR=3.7						
NVAR	**Mina Array Bea**	**94.09**	**52**	P	**P**	**09 38 10.7**	**+0.1**
	1.0nm,0.8s,mb4.3,baz=256,slow=6.4,SNR=4.6						
GERES	**GERESS Array B**	**124.81**	**327**	PKP	PKPdf	09 43 50.4	-1.3
	0.2nm,0.6s,baz=48,slow=2.0,SNR=3.7						
CFAA	**Coronel Fontan**	**126.38**	**137**	PKP	PKPdf	09 43 55.1	+0.5
	0.3nm,0.9s,baz=145,slow=4.6,SNR=5.2						
LPAZ	**La Paz**	**134.69**	**120**	PKP	PKPdf	09 44 09.5	-0.9
	0.4nm,0.5s,baz=233,slow=10,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc	PKPbc	09 44 42.0	+0.7
	3.0nm,0.7s,baz=51,slow=3.0,SNR=11						

LDG ***19*** *09:26:26.2±0.1, 4301N×000E, h5km, Md2.0/3, MI1.9/6, Error ellipse: s-maj=1.2km s-min=0.9km az=148.0*
STR ***19*** *09:26:26.8±0.1, 4300N×002E, h2km±1km, MI2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 09:26:26.5±0.4, 4302N×001W, h6km±5km, mbLg1.4/12, 1C, Error ellipse: s-maj=2.4km s-min=1.9km az=3.0, PRXIMO SIN SOLUCIN, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**63**	Pg	Pg	09 26 28.0	-0.2
LABF				Sg	Sg	09 26 29.4	+0.1
LABF	**Labassere**	**0.07**	**63**	Pg	Pg	09 26 28.1	-0.1
LABF				Lg		09 26 29.5	
VIEF	**Viey**	**0.14**	**170**	Pg	Pg	09 26 29.2	-0.1
VIEF				Sg	Sg	09 26 31.3	+0.1
VIEF	**Viey**	**0.14**	**170**	Pg	Pg	09 26 29.2	-0.1
VIEF				Lg		09 26 31.3	
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	09 26 31.1	-0.4
EPF				*e*Sg	Sg	09 26 34.9	0.0
	14nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	Pg	Pg	09 26 31.1	-0.4
EPF				Lg		09 26 34.9	
	6.8nm,0.2s						
RESF	**Ens**	**0.33**	**129**	Pg	Pg	09 26 32.5	-0.4
RESF				Sg	Sg	09 26 37.3	+0.1
RESF	**Ens**	**0.33**	**129**	Pg	Pg	09 26 32.8	-0.2
RESF				Lg		09 26 37.3	
EBIE	**Bielsa**	**0.35**	**162**	⇑Pg	Pg	09 26 33.0	-0.3
	12nm,0.3s,SNR=18						
EBIE				Lg		09 26 37.8	
	17nm,0.1s,SNR=5.6						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	09 26 34.4	-0.3
ETSF				*e*Sg	Sg	09 26 39.9	-0.3
	13nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	09 26 34.4	-0.3
ETSF				Lg		09 26 39.9	
	6.6nm,0.2s						
ATE	**Arette**	**0.51**	**278**	Pg	Pg	09 26 37.6	+1.2
ATE				Sg	Sg	09 26 44.0	+0.9
ATE	**Arette**	**0.51**	**278**	Lg		09 26 43.2	
MELF	**Melles**	**0.58**	**104**	Lg		09 26 45.2	
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg	Pg	09 26 42.4	-1.3
SJPF				*e*Sg	Sg	09 26 54.6	-0.8
	2.9nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	Pg	Pg	09 26 42.4	-1.3
SJPF				Lg		09 26 54.6	
	1.4nm,0.3s						
SALF	**Salau**	**0.92**	**106**	Lg		09 26 55.4	
ESAC	**San Caprasio**	**1.34**	**195**	Pg	Pg	09 26 52.6	+0.4
	7.8nm,0.3s,SNR=5.2						
ESAC				Lg		09 27 11.4	
	20nm,0.2s,SNR=11						
EMIR	**Miracle**	**1.58**	**134**	Lg		09 27 17.9	
	1.9nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	09 26 57.1	-1.2
MTLF				*e*Sg	Sg	09 27 18.2	-1.6
	1.8nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	09 26 57.1	-1.2
MTLF				Lg		09 27 18.2	
	0.9nm,0.2s						
EPOB	**Poblet**	**1.85**	**154**	Pg	Pg	09 27 01.1	-0.9
	SNR=4.0						
EPOB				Lg		09 27 24.8	
	2.0nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	09 27 03.3	-1.5
LFF				*e*Sg	Sg	09 27 29.5	-1.1
	2.5nm,0.3s						
LFF	**La Frestale**	**2.00**	**15**	Pg	Pg	09 27 03.3	-1.5
LFF				Lg		09 27 29.5	
	1.2nm,0.3s						
ERTA	**Horta de San J**	**2.08**	**173**	Lg		09 27 32.9	
	1.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.42**	**37**	*e*Pg	Pg	09 27 11.2	-1.8
CAF				*e*Sg	Sg	09 27 42.7	-1.7
	1.3nm,0.3s						
CAF	**Calviac**	**2.42**	**37**	Pg	Pg	09 27 11.2	-1.8
CAF				Lg		09 27 42.7	
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	09 27 13.4	-1.7
RJF				*e*Sg	Sg	09 27 46.4	-1.6
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Pg	Pg	09 27 13.4	-1.7
RJF				Lg		09 27 46.4	
	0.4nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	09 27 23.1	-0.9
LASF				*e*Sg	Sg	09 28 00.4	-2.5
	1.9nm,0.3s						
LASF	**Ste Croix**	**3.00**	**68**	Pg	Pg	09 27 23.1	-0.9
LASF				Lg		09 28 00.4	
	0.9nm,0.3s						

CSEM ***19*** *09:31:09.1, 3573N×2195E, h19km, MD3.6/5, After ATH*
NEIC ***19*** *09:31:09.1, 3573N×2195E, h19km, MD3.6(ATH), After ATH.*
ATH 19 09:31:09.1, 3573N×2195E, h19km±9km, MD3.6/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.04**	**58**	*e*PN	Pn	09 31 28.8	+0.2
VLI	**Veliai**	**1.27**	**39**	*e*PN	Pn	09 31 32.8	+1.0
VLI				*e*SN	Sn	09 31 51.0	+2.7
ITM	**Ithomi**	**1.45**	**359**	*e*PN	Pn	09 31 36.5	+2.3
VAM	**Vamos**	**1.86**	**99**	*e*PN	Pn	09 31 42.0	+2.0
GVD	**Gavdhos**	**1.96**	**116**	*e*PN	Pn	09 31 44.0	+2.7

MOS ***19*** *09:32:58.2±1.3, 4570N×1569.8E, h33km, mb4.3/4, Error ellipse: s-maj=36.9km s-min=23.5km az=104.1*
ISCJB ***19*** *09:33:04.5±1.9, 472N±0.2×156.1E±0.3, h10km, mb3.9/6, Error ellipse: s-maj=36.6km s-min=14.5km az=77.2*
IDC ***19*** *09:33:05.0±3.6, 4728N×1562.0E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=89.0km s-min=25.8km az=149.0*
ISC 19 09:33:05.5±6.3, 471N±0.3×156.3E±0.4, h11km±27km, n12, σ0§93/12, mb3.9/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.54**	**358**	*e*P	**Pg**	**09 34 13.6**	**+0.2**
ASAJ	**Asahikawa**	**10.05**	**257**	Pn	**Pn**	**09 35 28.5**	**-1.4**
	0.3nm,0.3s,baz=120,slow=17,SNR=6.1						
KSRS	**Korea Array**	**22.99**	**255**	P	**P**	**09 38 12.2**	**+1.9**
	1.1nm,0.6s,mb3.5,baz=55,slow=10.0,S

comp=Z,0.9nm,0.5s,mb4.0,baz=95,slow=7.1,SNR=4.0
AKTO Aktyubinsk 60.06 313 P **P** **09 43 13.5 +0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
FINES FINESS Array B 64.59 336 P **P** **09 43 43.0 +0.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=39,slow=9.8,SNR=6.4
FINES FINESS Array B 64.59 336 P **P** **09 43 43.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s

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*BJI **19** 09:34:07.2, 696S×152.12E, h10km, mB5.3, mb4.7, Ms4.6, Msz4.3*
*NEIC **19** 09:34:15.8±0.4, 622S×151.41E, h10km, mb4.9/11, Error ellipse: s-maj=15.4km s-min=7.8km az=122.0*
*GCMT **19** 09:34:15.8±0.4, 658S×151.58E, h15km±1km, MW4.9/64, Moment Tensor Solution. s12,c13; s64,c83; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.50±.21; Mθθ 1.15±.13; Mϕϕ 1.35±.14; Mrθ-1.17±.33; Mϕθ 0.87±.07; Mϕr-0.56±.25; Best double couple: Mo 2.64400×10^16 NP1:ϕs 215.00000°, δ32.00000°, λ-104.00000°. NP2: ϕs 51.00000°, δ59.00000°, λ-81.00000°. Principal axes: T 2.4230, Plg14.0000°, Azm135.0000°; N 0.4420, Plg7.0000°, Azm227.0000°; P -2.8650, Plg74.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **19** 09:34:17.7±1.1, 620S×151.33E, h33km, mb4.6/16 Error ellipse: s-maj=16.0km s-min=11.9km az=72.1*
*ISCJB **19** 09:34:21.2±2.6, 629S±007×1513E±01, h63km±22km, mb4.5/31, Error ellipse: s-maj=17.5km s-min=11.7km az=16.9*
*IDC **19** 09:34:22.7±4.5, 636S×151.39E, h65km±37km, mb4.1/15, mb1 4.3/16, mb1mx4.3/18, mbtmp4.1/16, ML3.4/1, MS4.3/7, Ms1 4.3/7, ms1mx3.6/29, Error ellipse: s-maj=28.6km s-min=16.0km az=88.0*

ISC 19 09:34:22.0±2.3, 634S±007×1515E±01, h59km±20km, n93, σ0§96/81, mb4.5/31, MS4.3/7, 4C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.24**	**234**	P		**Pn**	**09 35 37.8**	**+0.1**
	9.5nm,0.3s,baz=50,slow=7.3,SNR=20							
PMG				S		**Sn**	**09 36 37.5**	**+0.7**
	25nm,0.3s,baz=176,slow=22,SNR=7.9							
PMG	**Port Moresby**	**5.24**	**234**	P		**Pn**	**09 36 37.8**	**0.0**
PMG				S		**Sn**	**09 36 37.5**	**+0.7**
PMG				pmax	pmax			
	comp=Z,10.0nm,0.3s							
PMG				smax				
	comp=N,25nm,0.3s							
PMG	**Port Moresby**	**5.24**	**234**	*e*Pn		**Pn**	**09 35 37.2**	**-0.5**
HNR	**Honiara**	**8.95**	**111**	LR		LR	09 39 24.4	
	comp=N,1μm,19.1s,baz=357,slow=34							
DZM	**Mont Dzumac**	**21.30**	**139**	LR		LR	09 45 57.5	
	comp=N,1μm,18.2s,MS4.3,baz=25,slow=33							
WB2	**Warramunga Arr**	**21.42**	**229**	*e*P		**P**	**09 39 04.3**	**-0.7**
WRA	**Warramunga Arr**	**21.43**	**229**	P		**P**	**09 39 04.5**	**-0.7**
	comp=N,15nm,0.8s,mb4.4,baz=54,slow=11,SNR=55							
WRA				PcP		PcP	09 43 08.0	+1.5
	comp=N,2.1nm,0.9s,baz=42,slow=1.7,SNR=4.9							
WRA	**Warramunga Arr**	**21.43**	**229**	P		**P**	**09 39 04.5**	**-0.6**
WRA							09 43 08.0	
WRA				pmax	pmax			
	comp=Z,15nm,0.8s							
AS31	**Alice Springs**	**24.12**	**223**	*e*P		**P**	**09 39 32.3**	**+0.1**
ASAR	**Alice Springs**	**24.12**	**223**	P		**P**	**09 39 32.2**	**0.0**
	comp=Z,16nm,0.8s,mb4.5,baz=53,slow=8.8,SNR=83							
ASAR				S		**S**	**09 43 54.6**	**+8.8**
	comp=Z,1.0nm,0.8s,baz=51,slow=22,SNR=5.5							
ASAR	**Alice Springs**	**24.12**	**223**	P		**P**	**09 39 32.2**	**0.0**
ASAR				S		**S**	**09 43 54.6**	**+8.8**
ASAR				pmax	pmax			
	comp=Z,16nm,0.8s							
ASAR				smax				
	comp=N,1.0nm,0.9s							
STKA	**Stephens Creek**	**27.02**	**199**	P		**P**	**09 39 58.3**	**-0.2**
	comp=N,9.9nm,0.8s,mb4.4,baz=3.0,slow=9.8,SNR=21							
STKA				LR		LR	09 49 02.4	
	comp=N,411nm,20.4s,MS4.0,baz=191,slow=33							
STKA	**Stephens Creek**	**27.02**	**199**	*e*P		**P**	**09 40 00.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**27.77**	**243**	P		**P**	**09 40 05.4**	**+0.3**
	comp=N,5.3nm,0.4s,mb4.5,baz=63,slow=7.3,SNR=39							
MBWA	**Marble Bar**	**34.06**	**241**	*e*P		**P**	**09 41 00.8**	**+0.3**
	comp=N,27nm,0.7s,mb5.3							
AFI	**Afiamalu**	**36.92**	**105**	LR		LR	09 54 46.8	
	comp=N,180nm,18.4s,MS3.9,baz=84,slow=33							
RPZ	**Rata Peaks**	**41.01**	**158**	LR		LR	09 55 59.0	
	comp=N,913nm,18.9s,MS4.7,baz=338,slow=32							
YHNB	**Yeheng**	**42.53**	**318**	*e*P		**P**	**09 42 10.8**	**-1.0**
JNU	**Nakatsue**	**43.85**	**335**	LR		LR	09 57 21.6	
	comp=N,921nm,20.7s,MS4.7,baz=282,slow=32							
KSRS	**Korea Array**	**48.80**	**335**	P		**P**	**09 43 01.2**	**+0.1**
	comp=N,3.2nm,0.9s,mb4.4,baz=156,slow=9.1,SNR=9.6							
KSRS				PcP		PcP	09 44 26.4	+1.2
	comp=N,2.0nm,0.7s,baz=186,slow=3.4,SNR=7.4							
RAR	**Rarotonga**	**49.40**	**112**	LR		LR	09 59 38.8	
	comp=N,216nm,18.8s,MS4.2,baz=269,slow=31							
WHN	**Wuhan**	**51.07**	**318**	P		**P**	**09 43 22.1**	**+3.7**
PSI	**Prapat**	**53.24**	**278**	P		**P**	**09 43 33.6**	**-0.8**
	comp=N,1.9nm,0.4s,mb4.4,baz=185,slow=5.3,SNR=4.2							
PSI	**Prapat**	**53.24**	**278**	P		**P**	**09 43 33.6**	**-0.9**
PSI				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4							
HABR	**Khabarovsk**	**56.46**	**347**	*e*P		**P**	**09 43 56.0**	**-1.7**
XAN	**Xi'an**	**56.84**	**318**	P		**P**	**09 44 00.0**	**-0.4**
XAN				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.7							
KLR	**Kul'dur**	**57.96**	**345**	*e*P		**P**	**09 44 03.0**	**-5.3**
LZH	**Lanzhou**	**61.42**	**317**	*e*P		**P**	**09 44 32.0**	**-0.1**
LZH				AMB		AMB		
	comp=Z,43nm,1.5s,mb5.4							
LZH				AMB		AMB		
	comp=Z,178nm,4.2s							
LZH	**Lanzhou**	**61.42**	**317**	*e*P		**P**	**09 44 32.0**	**-0.1**
	comp=Z,43nm,1.5s,mb5.4							
LZH				pP		PcP	09 45 16.0	+2.3
GTA	**Gaotai**	**65.90**	**318**	*e*P		**P**	**09 45 01.0**	**-0.6**
GTA				AMB		AMB		
	comp=Z,5.0nm,1.8s,mb4.2							
ULN	**Ulaanbaatar**	**66.61**	**329**	*e*P		**P**	**09 45 06.7**	**+0.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**66.61**	**329**	*e*P		**P**	**09 45 06.7**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2							
SONM	**Songino Array**	**66.93**	**329**	P		**P**	**09 45 08.6**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.3,baz=148,slow=4.9,SNR=12							
SONM	**Songino Array**	**66.93**	**329**	P		**P**	**09 45 08.6**	**+0.4**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZAK	**Zakamensk**	**70.12**	**330**	*e*P		**P**	**09 45 28.1**	**0.0**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
BOD	**Bodaibo**	**70.76**	**340**	*e*P		**P**	**09 45 30.1**	**-1.9**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.8s,mb4.2							
VNDA	**Vanda**	**71.35**	**178**	P		**P**	**09 45 34.5**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=324,slow=6.2,SNR=11							
VNDA	**Vanda**	**71.35**	**178**	P		**P**	**09 45 34.6**	**-0.9**
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
VNDA	**Vanda**	**71.35**	**178**	*e*P		**P**	**09 45 35.6**	**+0.1**
	comp=Z,6.9nm,1.3s,mb4.4							
JIRN	**Jiri**	**71.45**	**302**	*e*P		**P**	**09 45 36.6**	**+0.4**
GUN	**Gumba**	**71.79**	**302**	*e*P		**P**	**09 45 38.6**	**+0.4**
PKI	**Pulchoki**	**72.09**	**302**	*e*P		**P**	**09 45 39.9**	**-0.1**
KKN	**Kakani**	**72.26**	**302**	*e*P		**P**	**09 45 41.1**	**+0.1**
DMN	**Daman**	**72.35**	**301**	*e*P		**P**	**09 45 41.9**	**+0.3**
GKN	**Gorkha**	**72.87**	**302**	*e*P		**P**	**09 45 44.5**	**-0.1**
KOLN	**Koldanda**	**73.68**	**301**	*e*P		**P**	**09 45 49.3**	**-0.1**
	comp=Z,20nm,0.9s,mb5.0							
BILL	**Bilibino**	**74.94**	**6**	*i*P		**P**	**09 45 57.3**	**+0.6**
BILL				*i*		pP	09 46 09.0	-4.1
BILL				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.0							
BILL	**Bilibino**	**74.94**	**6**	*e*P		**P**	**09 45 57.2**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0							
WMQ	**Urumqi**	**75.98**	**318**	*i*P		**P**	**09 46 03.5**	**+0.8**
WMQ				PCP		PcP	09 46 16.3	+1.5
WMQ				PP		PP	09 48 56.4	+2.7
WMQ				*e*S		S	09 55 38.3	-2.8
WMQ				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,165nm,5.6s							
WMQ				LR		LR		
	comp=N,132nm,19.5s,MS4.4							
WMQ				LR		LR		
	comp=E,98nm,16.6s,MS4.4							
WMQ				LR		LR		
	comp=Z,130nm,18.0s,MS4.3							
MKAR	**Makanchi Array**	**80.61**	**319**	P		**P**	**09 46 28.3**	**0.0**
	comp=Z,1.7nm,0.9s,mb4.0,baz=107,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**80.61**	**319**	P		**P**	**09 46 28.3**	**0.0**
MKAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MKAR	**Makanchi Array**	**80.61**	**319**	P		**P**	**09 46 28.3**	**0.0**
PMR	**Palmer**	**81.63**	**25**	*e*P		**P**	**09 46 34.8**	**+1.1**
PMR				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9							
PMR	**Palmer**	**81.63**	**25**	*e*P		**P**	**09 46 34.8**	**+1.1**
	comp=Z,13nm,0.9s,mb4.9							
ZAL	**Zalesovo**	**81.70**	**327**	P		**P**	**09 46 32.6**	**-1.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=347,slow=7.6,SNR=6.2							
ZAL	**Zalesovo**	**81.70**	**327**	P		**P**	**09 46 32.6**	**-1.5**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SML	**Sawmill**	**82.07**	**25**	*e*P		**P**	**09 46 36.2**	**+0.2**
MCK	**McKinley**	**82.79**	**23**	*e*P		**P**	**09 46 39.2**	**-0.5**
	comp=Z,9μm,1.2s							
QSPA	**South Pole Qui**	**83.63**	**180**	*e*P		**P**	**09 46 45.1**	**+1.1**
	comp=Z,5.8nm,0.8s,mb4.8							
MAW	**Mawson**	**83.64**	**203**	P		**P**	**09 46 42.6**	**-1.5**
	comp=Z,1.3nm,0.7s,mb4.2,baz=1.1,slow=0.6,SNR=6.9							
MAW	**Mawson**	**83.64**	**203**	P		**P**	**09 46 42.6**	**-1.5**
MAW				pmax	pmax			
	comp=Z,1.0nm,0.7s							
COLA	**College**	**83.77**	**22**	*e*P		**P**	**09 46 43.1**	**-1.7**
COLA				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.1							
COLA	**College**	**83.77**	**22**	*e*P		**P**	**09 46 43.0**	**-1.7**
	comp=Z,13nm,0.8s,mb5.1							
KZA	**Kyzart**	**84.08**	**313**	P		**P**	**09 46 48.7**	**+2.3**
	SNR=5.1							
UCH	**Uchtor**	**84.65**	**313**	P		**P**	**09 46 51.0**	**+1.8**
	SNR=7.8							
AAK	**Ala-Archa**	**84.76**	**314**	*e*P		**P**	**09 46 49.7**	**-0.1**
AAK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.8							
AAK	**Ala-Archa**	**84.76**	**314**	*e*P		**P**	**09 46 49.5**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.6							
USP	**Ospenovka**	**84.90**	**314**	P		**P**	**09 46 51.3**	**+0.8**
	SNR=14							
AML	**Almayashu**	**85.22**	**313**	P		**P**	**09 46 53.4**	**+1.3**
	SNR=10							
EKS2	**Erkin-Say**	**85.28**	**314**	P		**P**	**09 46 53.6**	**+1.2**
	SNR=10							
EGAK	**Eagle**	**86.29**	**23**	*e*P		**P**	**09 46 58.1**	**+0.7**
	comp=Z,14nm,0.9s,mb5.2							
DAWY	**Dawson**	**86.73**	**24**	*e*P		**P**	**09 47 00.2**	**+0.7**
CHKZ	**Chkalovo**	**89.67**	**324**	*e*P		**P**	**09 47 11.7**	**-1.8**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.6							
CHKZ	**Chkalovo**	**89.67**	**324**	*e*P		**P**	**09 47 11.7**	**-1.8**
	comp=Z,3.8nm,1.3s,mb4.6							
BVAR	**Borovoye Array**	**89.67**	**323**	P		**P**	**09 47 12.5**	**-1.0**
	comp=Z,0.5nm,0.3s,mb4.2,baz=95,slow=4.8,SNR=5.2							
BVAR	**Borovoye Array**	**89.67**	**323**	P		**P**	**09 47 12.5**	**-1.0**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**90.36**	**21**	P		**P**	**09 47 15.4**	**-1.3**
	comp=Z,4.4nm,0.9s,mb4.8,baz=267,slow=4.4,SNR=12							
INK	**Inuvik**	**90.36**	**21**	*e*P		**P**	**09 47 15.5**	**-1.3**
SYO	**Syowa Base**	**91.78**	**200**	*e*P		**P**	**09 47 22.0**	**-1.3**
SYO	**Syowa Base**	**91.78**	**200**	*e*pP		pP	09 47 43.2	+3.1
NVAR	**Mina Array Bea**	**94.08**	**52**	P		**P**	**09 47 34.9**	**+1.0**
	comp=Z,1.8nm,0.9s,mb4.5,baz=266,slow=8.7,SNR=10							
YKA	**Yellowknife Ar**	**97.40**	**28**	P		**P**	**09 47 50.7**	**+1.6**
	comp=Z,1.3nm,0.8s,mb4.4,baz=266,slow=4.4,SNR=5.8							
YKA	**Yellowknife Ar**	**97.40**	**28**	P		**P**	**09 47 50.7**	**+1.7**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**97.40**	**28**	P		**P**	**09 47 50.7**	**+1.6**
GERES	**GERESS Array B**	**124.65**	**327**	PKP		PKPdf	09 53 15.1	+0.3
	comp=Z,1.5nm,0.8s,baz=50,slow=2.1,SNR=10							
GERES	**GERESS Array B**	**124.65**	**327**	PKIKP		PKPdf	09 53 15.1	+0.3
GERES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CFAA	**Coronel Fontan**	**126.53**	**137**	PKP		PKPdf	09 53 19.0	+0.6
	comp=Z,0.4nm,0.7s,baz=261,slow=3.5,SNR=8.9							
CFAA	**Coronel Fontan**	**126.53**	**137**	PKP		PKPdf	09 53 19.0	+0.6
LPAZ	**La Paz**	**134.83**	**120**	PKP		PKPdf	09 53 36.5	+2.4
	comp=Z,2.0nm,0.8s,baz=256,slow=4.2,SNR=6.7							
LPAZ	**La Paz**	**134.83**	**120**	PKIKP		PKPdf	09 53 36.5	+2.4
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SDV	**Santo Domingo**	**138.22**	**84**	*e*PKPdf		PKPdf	09 53 42.6	+2.2
TOA0	**Torodi Ar. Sit**	**149.47**	**285**	*e*PKPbc		PKPbc	09 54 05.2	+0.7
TORD	**Torodi Ar. Bea**	**149.47**	**285**	PKP		PKPdf	09 54 01.3	+1.4
	comp=Z,7.0nm,0.9s,baz=64,slow=3.4,SNR=3.7							
TORD				PKPbc		PKPbc	09 54 05.5	+1.0
	comp=Z,8.6nm,0.7s,baz=65,slow=2.4,SNR=38							

IDC 19 09:46:08.2±0.8, 631S×151.46E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, ML2.7/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/22, Error ellipse: s-maj=30.7km s-min=16.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**234**	P		Pn	09 47 27.7	-0.2
	1.8nm,0.3s,baz=226,slow=12,SNR=6.8							
PMG				S		Sn	09 48 30.0	+0.9
	5.2nm,0.3s,baz=16,slow=21,SNR=4.8							
HNR	**Honiara**	**8.97**	**111**	LR		LR	09 50 27.6	
	comp=Z,442nm,19.3s,baz=358,slow=29							
WRA	**Warramunga Arr**	**21.45**	**229**	P		P	09 50 58.9	+0.9
	15nm,0.9s,baz=54,slow=11,SNR=54							
ASAR	**Alice Springs**	**24.14**	**223**	P		P	09 51 26.5	+0.7
	21nm,0.9s,baz=54,slow=8.9,SNR=83							
STKA	**Stephens Creek**	**27.06**	**199**	P		P	09 51 51.8	-0.4
	10nm,0.9s,baz=12,slow=8.4,SNR=19							
FITZ	**Fitzroy Crossi**	**27.78**	**243**	P		P	09 51 59.2	+0.6
	4.4nm,0.4s,baz=48,slow=9.5,SNR=39							
JNU	**Nakatsue**	**43.81**	**335**	LR		LR	10 11 39.3	
	comp=Z,207nm,18.5s,baz=267,slow=35							
SONM	**Songino Array**	**66.89**	**329**	P		P	09 57 02.7	+0.6
	1.2nm,0.6s,baz=147,slow=4.7,SNR=10							
SONM				PcP		PcP	09 57 31.3	+0.5
	0.5nm,0.5s,baz=152,slow=2.6,SNR=4.5							
VNDA	**Vanda**	**71.39**	**178**	P		P	09 57 29.9	-0.1
	1.2nm,0.9s,baz=336,slow=5.5,SNR=5.3							
MKAR	**Makanchi Array**	**80.58**	**319**	P		P	09 58 22.5	0.0
	1.1nm,1.1s,baz=104,slow=10,SNR=5.5							
ZAL	**Zalesovo**	**81.67**	**327**	P		P	09 58 27.3	-0.9
	0.8nm,0.4s,baz=286,slow=2.3,SNR=4.4							
INK	**Inuvik**	**90.33**	**21**	P		P	09 59 10.7	-0.4
	3.5nm,1.0s,baz=223,slow=5.3,SNR=4.9							
NVAR	**Mina Array Bea**	**94.06**	**52**	P		P	09 59 29.8	+1.4
	0.7nm,0.7s,baz=269,slow=8.0,SNR=5.1							
YKA	**Yellowknife Ar**	**97.37**	**28**	P		P	09 59 43.1	-0.3
	0.4nm,0.7s,baz=270,slow=4.6,SNR=4.8							
GERES	**GERESS Array B**	**124.61**	**327**	PKP		PKPdf	10 05 09.3	-0.2
	0.6nm,0.7s,baz=0.0,slow=1.3,SNR=6.1							
LPAZ	**La Paz**	**134.85**	**120**	PKP		PKPdf	10 05 29.6	+0.6
	0.9nm,0.7s,baz=235,slow=5.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**149.45**	**285**	PKPbc		PKPbc	10 05 60.0	+0.8
	4.5nm,0.7s,baz=70,slow=2.5,SNR=29							

IDC 19 09:46:22.9±1.8, 4732N×15342E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML3.1/1, MS4.3/6, Ms1 4.3/6, ms1mx3.6/43, Error ellipse: s-maj=50.9km s-min=25.2km az=151.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.22**	**251**	Pn		Pn	09 48 29.2	+5.8
	1.0nm,0.3s,baz=76,slow=23,SNR=7.7							
MJAR	**Matsushiro Arr**	**15.59**	**232**	Pn		Pn	09 50 04.5	+0.5
	0.1nm,0.3s,baz=31,slow=10,SNR=4.0							
KSRS	**Korea Array**	**21.17**	**252**	P		P	09 51 10.7	+0.9
	1.6nm,0.8s,baz=59,slow=10,SNR=6.4							
KSRS				LR		LR	09 59 28.2	
	comp=Z,169nm,19.7s,baz=150,slow=37							
INK	**Inuvik**	**41.06**	**33**	P		P	09 54 08.7	+0.6
	0.7nm,0.5s,baz=277,slow=8.3,SNR=5.2							
YKA	**Yellowknife Ar**	**50.35**	**37**	P		P	09 55 21.8	+0.2
	0.8nm,0.7s,baz=296,slow=7.2,SNR=3.8							
ARCES	**ARCESS Array B**	**57.39**	**341**	LR		LR	10 24 55.2	
	comp=Z,496nm,18.4s,baz=64,slow=40							
FINES	**FINESS Array B**	**63.62**	**335**	P		P	09 56 54.8	-0.9
	1.1nm,0.8s,baz=32,slow=8.4,SNR=8.6							
NB2	**NORSAR Subarra**	**67.76**	**341**	P		P	09 57 21.4	-1.0
	comp=Z,0.1nm,0.6s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**67.76**	**341**	P		P	09 57 21.9	-0.6
	comp=Z,1.4nm,0.8s,baz=26,slow=6.4,SNR=4.0							
NOA				LR		LR	10 35 12.1	
	comp=Z,172nm,19.0s,baz=80,slow=43							
HFS	**Hagfors**	**68.00**	**340**	P		P	09 57 23.1	-0.8
	comp=Z,2.0nm,0.5s,baz=55,slow=6.2,SNR=11							
TXAR	**Lajitas Array**	**77.03**	**61**	P		P	09 58 16.8	-1.0
	comp=Z,0.2nm,0.6s,baz=303,slow=3.6,SNR=3.6							
ESDC	**Sonseca Array**	**91.08**	**343**	LR		LR	10 44 01.9	
	comp=Z,228nm,20.0s,baz=115,slow=38							
KEST	**Kesra**	**91.27**	**331**	LR		LR	10 41 40.7	
	comp=Z,124nm,21.5s,baz=277,slow=36							
MDT	**Midelt**	**97.82**	**341**	LR		LR	10 49 08.6	
	comp=Z,154nm,20.4s,baz=14,slow=38							

PRE 19 09:49:08.5±0.9, 2079S×3285E, h5km, ML4.3, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLR	**Silverton**	**6.47**	**220**	*e*S		Sn	09 51 56.2	-2.4
SLR				AML		AML	09 52 38.4	
	comp=Z,49nm,0.5s							
LBTB	**Lobatse**	**7.90**	**236**	*e*P		Pn	09 51 05.7	+1.7
LBTB				*e*S		Sn	09 52 30.1	-3.7
LBTB				AML		AML	09 53 29.9	
	comp=Z,26nm,0.5s							
PRYS	**Parys**	**7.91**	**218**	*e*P		Pn	09 51 05.0	+0.8
PRYS				*e*S		Sn	09 52 31.2	-2.8
PRYS				AML		AML	09 53 25.7	
	comp=Z,23nm,0.5s							
BOSA	**Boshof**	**10.41**	**220**	*e*P		Pn	09 51 39.8	+1.4
BOSA				*e*S		Sn	09 53 30.3	-5.1
BOSA				AML		AML	09 54 44.5	
	comp=Z,12nm,0.6s							

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*ISCJB **19** 09:50:47.7±1.2, 472N±0.1×1528E±02, h72km±9km, mb3.8/12, Error ellipse: s-maj=26.4km s-min=7.0km az=93.1*
*MOS **19** 09:50:48.2±1.2, 4721N×15279E, h83km, mb4.3/5, Error ellipse: s-maj=21.4km s-min=12.1km az=60.4*
*IDC **19** 09:50:49.7±4.2, 4695N×15279E, h86km±38km, mb3.7/12, mb1 3.8/13, mb1mx3.6/26, mbtmp3.7/13, MS3.7/1, Ms1 3.7/1, ms1mx2.2/44, Error ellipse: s-maj=25.3km s-min=20.3km az=159.0*

ISC 19 09:50:49.3±1.1, 472N±01×1529E±02, h77km±8km, n29, σ0§89/29, mb3.8/12, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.98**	**242**	*e*PN		**Pn**	**09 51 49.5**	**+1.7**
SKR	**Severo-Kuril's**	**4.11**	**30**	*e*PN		**Pn**	**09 51 49.0**	**-0.6**
SKR				*e*S		**Sn**	**09 52 35.5**	**-0.9**
SKR				smax				
	comp=N,140nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
YSS	**Yuzh-Sakhalins**	**6.91**	**272**	*e*PN		**Pn**	**09 52 28.0**	**+0.2**
PET	**Petropavlovsk**	**6.93**	**30**	*e*PN		**Pn**	**09 52 28.8**	**+0.7**
PET				*e*S		**Sn**	**09 53 45.6**	**+0.1**
PET				smax				
	comp=N,47nm,0.6s							
ASAJ	**Asahikawa**	**7.82**	**251**	P		**Pn**	**09 52 39.0**	**-1.2**
	comp=N,0.9nm,0.3s,baz=63,slow=15,SNR=7.8							
ASAJ	**Asahikawa**	**7.82**	**251**	PN		**Pn**	**09 52 39.1**	**-1.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.21**	**231**	P		**Pn**	**09 54 20.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.8,SNR=5.7							
KSRS	**Korea Array**	**20.77**	**251**	P		**P**	**09 55 22.3**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=54,slow=11,SNR=4.4							
SONM	**Songino Array**	**31.03**	**289**	LR		LR	10 08 25.7	
	comp=Z,132nm,20.4s,baz=164,slow=34							
ZAK	**Zakamensk**	**32.34**	**294**	*e*P		**P**	**09 57 21.5**	**+10**
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.9							
INK	**Inuvik**	**41.38**	**33**	P		**P**	**09 58 29.2**	**+1.4**
	comp=Z,2.4nm,0.8s,mb4.1,baz=303,slow=3.5,SNR=10		

INK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**46.68**	**297**		P	**P**	**10 08 11.0**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.1,baz=60,slow=8.7,SNR=4.0								
YKA	**Yellowknife Ar**	**50.29**	**37**		P	**P**	**10 08 41.1**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=297,slow=6.9,SNR=5.0								
YKA	**Yellowknife Ar**	**50.29**	**37**		P	**P**	**10 08 41.1**	**+0.9**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**57.19**	**341**		P	**P**	**10 09 30.7**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.4,baz=17,slow=10,SNR=3.2								
ARCES	**ARCESS Array B**	**57.19**	**341**		P	**P**	**10 09 30.7**	**+0.1**
ARCES					pmax	pmax			
	comp=Z,5.0nm,1.0s								
FINES	**FINESS Array B**	**63.41**	**335**		P	**P**	**10 10 11.9**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=40,slow=7.4,SNR=16								
FINES	**FINESS Array B**	**63.41**	**335**		P	**P**	**10 10 11.9**	**-1.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
PDAR	**Pinedale Array**	**64.25**	**54**		P	**P**	**10 10 19.6**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=293,slow=1.1,SNR=4.0								
WRA	**Warramunga Arr**	**69.23**	**199**		P	**P**	**10 10 48.6**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=19,slow=6.5,SNR=4.7								
ASAR	**Alice Springs**	**72.93**	**199**		P	**P**	**10 11 12.1**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.6,baz=13,slow=5.4,SNR=12								
ASAR	**Alice Springs**	**72.93**	**199**		P	**P**	**10 11 12.1**	**-0.4**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**77.06**	**61**		P	**P**	**10 11 37.4**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=297,slow=4.7,SNR=8.9								
GERES	**GERESS Array B**	**77.83**	**334**		P	**P**	**10 11 40.5**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.2,baz=26,slow=5.4,SNR=4.2								

ISCJB ***19*** *10:20:49.6±4.2, 466N±02×1533E±02, h22km±30km, mb3.5/5, Error ellipse: s-maj=34.9km s-min=10.5km az=113.5*

MOS ***19*** *10:20:54.9±3.0, 4674N×15307E, h80km, mb3.9/2, Error ellipse: s-maj=43.3km s-min=24.8km az=53.7*

IDC ***19*** *10:20:55.2±5.3, 4657N×15334E, h53km±49km, mb3.3/5, mb1 3.5/6, mb1mx3.3/24, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=34.1km s-min=27.2km az=136.0*

ISC 19 10:20:52.6±4.4, 467N±02×1533E±02, h31km±31km, n10, σ0.669/11, mb3.5/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.08**	**252**	⇓*i* PN	**Pn**	**10 21 51.8**	**-0.9**
KUR				*i* S	**Sn**	**10 22 39.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
KUR				smax			
	comp=N,230nm,0.9s						
KUR				smax			
	comp=E,140nm,0.9s						
SKR	**Severo-Kuril's**	**4.43**	**23**	*e*PN	**Pn**	**10 21 57.0**	**-0.6**
ASAJ	**Asahikawa**	**7.98**	**255**	P	**Pn**	**10 22 48.0**	**+1.6**
	comp=E,0.3nm,0.3s,baz=117,slow=9.0,SNR=3.2						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**10 28 38.6**	**+0.7**
	comp=E,0.9nm,0.9s,mb3.4,baz=292,slow=5.4,SNR=2.6						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**10 28 38.6**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**10 29 21.7**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=64,slow=6.6,SNR=2.4						
FINES	**FINESS Array B**	**64.19**	**335**	P	**P**	**10 31 24.4**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=41,slow=6.9,SNR=9.4						
FINES	**FINESS Array B**	**64.19**	**335**	P	**P**	**10 31 24.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.17**	**199**	P	**P**	**10 32 14.0**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=11,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**77.40**	**61**	P	**P**	**10 32 44.4**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=303,slow=4.4,SNR=8.8						

IDC 19 10:27:24.8±6.9, 642S×15149E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, ML2.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/16, Error ellipse: s-maj=121.1km s-min=58.2km az=176.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**235**	Pn	Pn	10 28 45.7	+1.7
	1.5nm,0.3s,baz=356,slow=13,SNR=5.1						
PMG				Sn	Sn	10 29 47.1	+2.2
	1.4nm,0.3s,baz=44,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**21.41**	**229**	P	P	10 32 13.1	-1.0
	0.6nm,0.8s,baz=55,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**24.08**	**223**	P	P	10 32 42.6	+0.8
	0.6nm,0.6s,baz=52,slow=9.2,SNR=6.6						
STKA	**Stephens Creek**	**26.96**	**199**	P	P	10 33 08.0	+0.1
	0.8nm,0.6s,baz=27,slow=13,SNR=4.2						
ASAJ	**Asahikawa**	**50.94**	**352**	LR	LR	10 57 32.0	
	comp=Z,59nm,18.1s,baz=162,slow=36						

GUC 19 10:27:25.3±0.6, 2863S×7132W, h62km±18km, MD3.5, ML3.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.50**	**84**	⇓*i* P	Pn	10 27 38.1	+0.7
VACH				*i* S	Sn	10 27 46.9	+0.7
VACH				AML	AML	10 27 47.8	
	comp=N,8μm,0.1s						
LSCH	**La Serena**	**1.27**	**177**	*i* P	Pn	10 27 47.5	+0.6
LSCH				*i* S	Sn	10 28 03.9	+0.7
CPCH	**Copiapo**	**1.53**	**34**	AML	AML	10 28 20.1	
	comp=N,3μm,0.1s						
TLL	**Tololo Astrono**	**1.59**	**164**	*e*P	Pn	10 27 53.5	+2.2
TLL				*i* S	Sn	10 28 14.1	+3.2
TLL				AML	AML	10 28 19.4	
	comp=N,419nm,0.4s						
CDCH	**Caldera**	**1.61**	**16**	*i* P	Pn	10 27 51.9	+0.4
CDCH				*i* S	Sn	10 28 12.0	+0.7
OVCH	**Ovalle**	**1.97**	**177**	AML	AML	10 28 32.7	
	comp=E,352nm,0.5s						
CMCH	**Combarbala**	**2.55**	**174**	⇑*i* P	Pn	10 28 04.9	+0.7
CMCH				*i* S	Sn	10 28 35.1	+1.0
CMCH				AML	AML	10 28 49.4	
	comp=E,859nm,0.8s						

ISCJB ***19*** *10:28:06.3±0.7, 0.11N±0.03×123.76E±0.04, h140km±6km, mb4.8/86, Error ellipse: s-maj=6.8km s-min=5.1km az=112.9*

MOS ***19*** *10:28:08.4±1.1, 0.19N×12365E, h160km, mb4.8/42, Error ellipse: s-maj=12.9km s-min=6.8km az=106.3*

BJI ***19*** *10:28:08.7, 0.00N×12360E, h164km, mB4.9, mb4.8*

IDC ***19*** *10:28:08.1±2.0, 0.12N×12363E, h142km±17km, mb4.6/29, mb1 4.6/30, mb1mx4.6/31, mbtmp4.6/30, MS3.5/3, Ms1 3.5/3, ms1mx3.1/25, Error ellipse: s-maj=13.7km s-min=7.3km az=69.0*

GCMT ***19*** *10:28:10.8±0.3, 0.18N×12392E, h110km±3km, MW4.9/62, Moment Tensor Solution. s25,c28; s62,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.29±.09; Mθθ-1.40±.14; Mϕϕ-0.88±.18; Mrθ0.43±.09; Mθϕ-1.26±.11; Mϕr-0.11±.12; Best double couple: Mo2.40300×10^16 NP1:ϕs222.00000°, δ43.00000°, λ77.00000°. NP2: ϕs60.00000°, δ49.00000°, λ102.00000°. Principal axes: T 2.3600, Plg80.0000°, Azm32.0000°; N 0.0860, Plg9.0000°, Azm232.0000°; P -2.4450, Plg3.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *10:28:10.8±1.2, 005N×12359E, h165km±11km, mb4.7/19 Error ellipse: s-maj=10.0km s-min=6.3km az=73.0*

NEIC Felt [II] at Luwuk.

ISC 19 10:28:07.9±0.7, 009N±003×12379E±004, h140km±6km, h167km±6.0km: pP-P, n218, σ1918/188, mb4.8/85, 10C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**4.07**	**256**	P	**Pn**	**10 29 04.9**	**-3.9**
	1μm,0.9s						
AAI	**Ambon**	**5.79**	**130**	P	**Pn**	**10 29 30.5**	**-1.1**
	3μm,0.6s						
TARAI	**Tarakan**	**7.00**	**297**	P	**Pn**	**10 29 45.5**	**-2.4**
	3μm,0.6s						
DAV	**Davao City (W)**	**7.16**	**14**	*e*Pn	**Pn**	**10 29 54.8**	**+4.7**
TSM	**Tawau**	**7.24**	**305**	P	**Pn**	**10 29 50.3**	**-0.7**
SWI	**Sorong**	**7.53**	**97**	P	**Pn**	**10 29 54.0**	**-1.0**
	674nm,0.7s						
BAKI	**Biak**	**12.38**	**96**	P	**Pn**	**10 30 59.6**	**+0.2**
	71nm,0.9s						
KSM	**Kuching**	**13.55**	**276**	*e*P	**Pn**	**10 31 15.7**	**+1.3**
KRKI	**Karangkates**	**13.96**	**234**	P	**Pn**	**10 31 24.0**	**+4.4**
	374nm,1.0s						
TGY	**Tagaytay City**	**14.20**	**349**	P	**Pn**	**10 31 27.2**	**+4.5**
	20nm,0.3s,baz=136,slow=14,SNR=7.3						
TGY	**Tagaytay City**	**14.20**	**349**	P	**Pn**	**10 31 27.2**	**+4.5**
TGY				pmax	pmax		
	comp=Z,20nm,0.3s						
BJII	**Banjamegara**	**15.86**	**242**	P	**Pn**	**10 31 44.1**	**+0.8**
	comp=Z,144nm,1.8s						
LEM	**Lembang**	**17.54**	**247**	P	**Pn**	**10 32 03.4**	**-0.3**
	comp=Z,156nm,1.2s						
CVP	**Callao Caves**	**17.61**	**354**	*e*P	**Pn**	**10 32 06.0**	**+1.5**
	comp=Z,14μm,0.5s						
FITZ	**Fitzroy Crossi**	**18.17**	**174**	P	**P**	**10 32 09.6**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=8.8,slow=8.3,SNR=37						
KGM	**Kluang**	**20.55**	**275**	P	**P**	**10 32 37.0**	**+1.6**
MBWA	**Marble Bar**	**21.49**	**190**	*e*P	**P**	**10 32 44.4**	**-1.0**
WRA	**Warramunga Arr**	**22.43**	**153**	P	**P**	**10 32 54.8**	**-0.4**
	comp=Z,21nm,0.5s,mb4.8,baz=337,slow=10,SNR=84						
WRA				PcP	PcP	10 36 45.5	+1.1
	comp=Z,4.3nm,0.5s,baz=326,slow=2.2,SNR=8.2						
WRA				S	**S**	**10 36 50.2**	**-0.8**
	comp=Z,9.0nm,0.9s,baz=335,slow=17,SNR=5.6						
WRA				ScP	ScP	10 40 10.5	+1.6
	comp=Z,1.1nm,0.7s,baz=325,slow=2.9,SNR=5.5						
WRA				PKiKP	PKiKP	10 44 29.4	-0.2
	comp=Z,0.3nm,0.6s,baz=312,slow=1.4,SNR=7.5						
WRA	**Warramunga Arr**	**22.43**	**153**	P	**P**	**10 32 54.8**	**-0.4**
WRA				PcP	PcP	10 36 45.5	+1.1
WRA				S	**S**	**10 36 50.2**	**-0.8**
WRA				ScP	ScP	10 40 10.5	+1.6
WB2	**Warramunga Arr**	**22.44**	**153**	*e*P	**P**	**10 32 54.8**	**-0.5**
IPM	**Ipoh**	**23.15**	**281**	P	**P**	**10 33 02.7**	**+0.9**
QIZ	**Qiongzhong**	**23.27**	**325**	P	**P**	**10 33 04.3**	**+1.4**
QIZ				S	**S**	**10 37 06.0**	**+1.4**
QIZ				XS	sS	10 37 54.8	+1.3
QIZ				AMB	AMB		
	comp=Z,54nm,1.2s,mb4.8						
QIZ	**Qiongzhong**	**23.27**	**325**	*e*P	**P**	**10 33 04.0**	**+1.1**
	comp=Z,80nm,1.3s,mb5.0						
KULM	**Kulim**	**23.67**	**283**	*e*P	**P**	**10 33 06.3**	**-0.3**
SNG	**Songkhla**	**24.16**	**287**	P	**P**	**10 33 13.5**	**+2.5**
	comp=Z,140nm,0.9s,mb5.5						
PSI	**Prapat**	**25.00**	**276**	P	**P**	**10 33 18.0**	**-0.7**
	comp=Z,24nm,0.8s,mb4.8,baz=97,slow=8.1,SNR=7.8						
PSI				PcP	PcP	10 36 50.4	+0.5
	comp=Z,1.4nm,0.6s,baz=180,slow=2.0,SNR=3.5						
PSI	**Prapat**	**25.00**	**276**	P	**P**	**10 33 18.0**	**-0.6**
PSI						10 36 50.4	
PSI				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.8						
PSI	**Prapat**	**25.00**	**276**	P	**P**	**10 33 18.0**	**-0.7**
PSI				PcP	PcP	10 36 50.4	+0.5
GZH	**Guangzhou**	**25.01**	**337**	P	**P**	**10 33 23.6**	**+4.8**
QZH	**Quanzhou**	**25.21**	**349**	P	**P**	**10 33 22.1**	**+1.5**
QZH				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.2						
AS31	**Alice Springs**	**25.58**	**158**	*e*P	**P**	**10 33 25.5**	**+1.6**
ASAR	**Alice Springs**	**25.58**	**158**	P	**P**	**10 33 25.4**	**+1.6**
	comp=Z,12nm,0.4s,mb4.8,baz=338,slow=7.9,SNR=91						
ASAR				PcP	PcP	10 36 52.5	+1.3
	comp=Z,11nm,0.6s,baz=345,slow=2.1,SNR=17						
ASAR				S	**S**	**10 37 42.7**	**+1.4**
	comp=Z,3.6nm,1.0s,baz=351,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**25.58**	**158**	P	**P**	**10 33 25.5**	**+1.6**
ASAR						10 36 52.6	
ASAR				S	**S**	**10 37 42.7**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,12nm,0.4s						
ASAR				smax			
	comp=N,4.0nm,1.0s						
KKTK	**Khon Kaen**	**26.23**	**309**	⇓P	**P**	**10 33 30.0**	**+0.2**
	comp=N,309nm,0.6s,mb6.1						
NST	**Nakhon Sawan**	**28.02**	**305**	P	**P**	**10 33 46.0**	**+0.3**
	comp=N,42nm,0.8s,mb5.2						
NANT	**Nan**	**29.32**	**311**	⇑P	**P**	**10 33 53.5**	**-3.7**
	comp=N,198nm,1.0s,mb5.8						
BDT	**Bhumibol Dam**	**29.77**	**306**	P	**P**	**10 34 04.0**	**+2.8**
CTA	**Charters Tower**	**29.77**	**134**	P	**P**	**10 34 03.1**	**+1.9**
	comp=N,7.4nm,0.9s,mb4.4,baz=32,slow=7.2,SNR=3.0						
CTA				LR	LR	10 45 29.8	
	comp=N,65nm,19.3s,baz=235,slow=35						
CTA	**Charters Tower**	**29.77**	**134**	P	**P**	**10 34 03.1**	**+1.9**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTA				MLR	MLR		
	comp=Z,65nm,19.3s						
CHG	**Chiang Mai**	**30.68**	**309**	⇑P	**P**	**10 34 10.0**	**+0.8**
	comp=Z,32nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**30.68**	**309**	*e*P	**P**	**10 34 09.8**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**30.68**	**309**	*e*P	**P**	**10 34 09.8**	**+0.6**
	comp=Z,26nm,0.9s,mb5.0						
GYA	**Guiyang**	**30.97**	**329**	⇓*i* P	**P**	**10 34 14.4**	**+2.6**
GYA				AP	pP	10 34 49.8	+8.0
GYA				XP	sP	10 35 06.9	+9.0
GYA				PP	PP	10 35 23.5	-0.9
GYA				PCP	PcP	10 37 07.0	+2.4
GYA				S	**S**	**10 39 07.3**	**+1.2**
GYA				XS	sS	10 40 06.0	+7.5
GYA				SCP	ScP	10 40 33.9	-0.4
GYA				PCS	PcS	10 40 50.0	+1.2
GYA				SCS	ScS	10 44 29.8	-1.7
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,370nm,18.6s						
GYA				LR	LR		
	comp=E,340nm,17.5s						
GYA				LR	LR		
	comp=Z,380nm,17.8s						
WHN	**Wuhan**	**31.59**	**344**	⇑P	**P**	**10 34 20.0**	**+2.8**
KMI	**Kunming**	**32.15**	**322**	P	**P**	**10 34 25.3**	**+3.2**
KMI				AP	pP	10 34 57.6	+5.5
KMI				S	**S**	**10 39 26.6**	**+2.2**
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,90nm,38.6s						
KMI	**Kunming**	**32.15**	**322**	P	**P**	**10 34 25.2**	**+3.1**
KMI				*PP	pP	10 34 57.6	+5.5
KMI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
KMI	**Kunming**	**32.15**	**322**	P	**P**	**10 34 25.2**	**+3.1**
	comp=Z,12nm,1.1s,mb4.5						
KMI				pP	pP	10 34 57.6	+5.5
KMI				S	**S**	**10 39 26.6**	**+2.2**
KMI				LR	LR		
	comp=Z,90nm,38.6s						
CBIJ	**Chichi jima**	**32.15**	**32**	P	**P**	**10 34 22.1**	**-0.1**
	comp=Z,94nm,0.7s,mb5.7,baz=279,slow=7.1,SNR=8.1						
NWAO	**Narrogin (SRO)**	**33.42**	**190**	P	**P**	**10 34 32.9**	**-0.3**
	comp=Z,14nm,0.7s,mb4.8,baz=16,slow=6.6,SNR=16						
NWAO	**Narrogin (SRO)**	**33.42**	**190**	P	**P**	**10 34 32.9**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,14nm,0.7s						
NWAO	**Narrogin (SRO)**	**33.42**	**190**	*e*P	**P**	**10 34 32.4**	**-0.7**
	comp=Z,16nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.98**	**154**	P	**P**	**10 34 56.4**	**+1.2**
	comp=Z,21nm,0.6s,mb4.9,baz=327,slow=8.7,SNR=89						
STKA				PcP	PcP	10 37 19.6	+0.9
	comp=Z,9.8nm,0.5s,baz=331,slow=3.5,SNR=6.5						
STKA				LR	LR	10 50 35.7	
	comp=Z,85nm,18.2s,baz=219,slow=37						
STKA	**Stephens Creek**	**35.98**	**154**	*e*P	**P**	**10 34 56.3**	**+1.1**
CD2	**Chengdu**	**36.07**	**330**	⇓*i* P	**P**	**10 34 57.1**	**+1.2**
CD2				AP	pP	10 35 31.8	+5.4
CD2				XP	sP	10 35 50.3	+8.0
CD2				PP	PP	10 36 24.8	+4.1
CD2				S	**S**	**10 40 24.0**	**-0.7**
CD2				XS	sS	10 41 24.3	+6.5
CD2				SS	SS	10 42 59.4	-7.3
CD2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,5.0s						
XAN	**Xi'an**	**36.54**	**339**	P	**P**	**10 35 00.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.3						
HNR	**Honiara**	**37.22**	**106**	P	**P**	**10 35 07.0**	**+1.3**
	comp=Z,64nm,0.6s,mb5.4,baz=268,slow=2.1,SNR=5.7						
HNR	**Honiara**	**37.22**	**106**	*e*P	**P**	**10 35 07.1**	**+1.4**
KSRS	**Korea Array**	**37.37**	**5**	P	**P**	**10 35 06.8**	**-0.2**
	comp=Z,4.8nm,0.8s,mb4.2,baz=181,slow=10.0,SNR=16						
KSRS				PcP	PcP	10 37 23.9	+0.9
	comp=Z,2.5nm,0.9s,baz=227,slow=2.3,SNR=5.1						
KSRS				LR	LR	10 49 48.3	
	comp=Z,78nm,21.0s,baz=334,slow=35						
MJAR	**Matsushiro Arr**	**38.66**	**19**	P	**P**	**10 35 17.3**	**-0.4**
	comp=Z,23nm,0.8s,mb4.9,baz=193,slow=8.4,SNR=63						
MJAR				PcP	PcP	10 37 28.1	+1.2
	comp=Z,2.8nm,0.7s,baz=184,slow=3.3,SNR=5.4						
MJAR	**Matsushiro Arr**	**38.66**	**19**	P	**P**	**10 35 17.3**	**-0.4**
MJAR						10 37 28.1	
MJAR				pmax	pmax		
	comp=Z,23nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAJO	**Matsushiro**	**38.66**	**19**	*e*P	**P**	**10 35 17.3**	**-0.4**
MAJO				*e*		10 37 28.1	
MAJO				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**38.66**	**19**	*e*P	**P**	**10 35 17.3**	**-0.5**
	comp=Z,27nm,0.8s,mb4.9						
MAJO				*ePcP	PcP	10 37 28.1	+1.1
MAT	**Matsushiro**	**38.66**	**19**	P	**P**	**10 35 17.0**	**-0.7**
DL2	**Dalian**	**38.68**	**357**	P	**P**	**10 35 19.8**	**+1.9**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
LZH	**Lanzhou**	**40.33**	**335**	*e*P	**P**	**10 35 32.5**	**+0.9**
LZH				AP	pP	10 36 12.0	+9.5
LZH				XP	sP	10 36 28.5	+10
LZH				PP	PP	10 37 11.5	+4.3
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,173nm,4.1s						
LZH	**Lanzhou**	**40.33**	**335**	*e*P	**P**	**10 35 32.5**	**+0.9**
LZH				*PP	pP	10 36 12.0	+9.5
LZH				*SP	sP	10 36 28.5	+10
LZH						10 37 11.5	
LZH				pmax	pmax		
	comp=Z,43nm,1.5s,mb4.9						
LZH	**Lanzhou**	**40.33**	**335**	*e*P	**P**	**10 35 32.5**	**+0.9**
	comp=Z,43nm,1.5s,mb4.9						
LZH				pP	pP	10 36 12.0	+9.5
LZH				sP	sP	10 36 28.5	+10
LZH				PP	PP	10 37 11.5	+4.3
BJT	**Baijiatuau**	**40.34**	**351**	*e*P	**P**	**10 35 33.3**	**+1.6**
BJT				pmax	pmax		
	comp=Z,12nm,0.8s						
BJT	**Baijiatuau**	**40.34**	**351**	*e*P	**P**	**10 35 33.3**	**+1.6**
	comp=Z,12nm,0.8s,mb4.6						
BJI	**Beijing**	**40.36**	**351**	*e*P	**P**	**10 35 32.1**	**+0.2**
BJI				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=Z,85nm,22.2s						
BJI	**Beijing**	**40.36**	**351**	*e*P	**P**	**10 35 32.1**	**+0.2**
	comp=Z,27nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=Z,90nm,22.2s						
SNY	**Shenyang**	**41.55**	**360**	⇑P	**P**	**10 35 40.5**	**-1.0**
SNY				AP	pP	10 36 19.3	+6.7
SNY				XP	sP	10 36 34.8	+6.4
SNY				AMB	AMB		
	comp=Z,10.0nm,2.5s,mb4.0						
HHC	**Hu-ho-hao-te**	**42.06**	**346**	*e*P	**P**	**10 35 47.3**	**+1.6**
HHC				AP	pP	10 36 22.6	+5.7
HHC				XP	sP	10 36 41.0	+8.3
HHC				PP	PP	10 37 30.4	+4.5
HHC				PCP	PcP	10 37 38.8	+0.9
HHC				SCP	ScP	10 41 12.8	-2.5
HHC				PCS	PcS	10 41 30.5	+0.7
HHC				S	**S**	**10 41 54.6**	**+0.2**
HHC				XS	sS	10 42 57.1	+8.6
HHC				SS	SS	10 45 01.8	-5.4
HHC				SCS	ScS	10 45 29.4	-3.8
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,167nm,5.4s						
HHC				LR	LR		
	comp=N,151nm,15.2s						
HHC				LR	LR		
	comp=E,161nm,14.1s						
HHC				LR	LR		
	comp=Z,122nm,15.5s						
LSA	**Lhasa**	**42.82**	**316**	*e*P	**P**	**10 35 54.0**	**+2.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**42.82**	**316**	*e*P	**P**	**10 35 54.0**	**+2.1**
	comp=Z,6.9nm,0.6s,mb4.5						
VIS	**Vishakhapatnam**	**43.47**	**296**	*e*P	**P**	**10 35 57.8**	**+0.6**
VIS				AMb	AMB	10 36 00.7	
	comp=Z,24nm,2.2s,mb4.4						
BOK	**Bokaro**	**43.66**	**305**	*e*P	**P**	**10 35 57.0**	**-1.7**
BOK				AMb	AMB	10 36 12.5	
	comp=Z,13nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**44.63**	**6**	P	**P**	**10 36 07.4**	**+1.1**
MDJ				S	**S**	**10 42 32.5**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,76nm,4.5s						
MDJ				LR	LR		
	comp=N,62nm,32.0s						
MDJ				LR	LR		
	comp=E,23nm,21.3s						
MDJ				LR	LR		
	comp=Z,84nm,35.1s						
GTA	**Gaotai**	**44.86**	**333**	*e*P	**P**	**10 36 09.3**	**+1.2**
GTA				PCP	PcP	10 37 48.3	+0.9
GTA				PP	PP	10 37 56.8	+1.2
GTA				PPP		10 38 40.9	
GTA				S	**S**	**10 42 34.4**	**-0.7**
GTA				SS	SS	10 45 50.3	-9.2
GTA				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
GTA				AMB	AMB		
	comp=Z,83nm,6.5s						
GTA				LR

comp=Z,2.6nm,0.7s,baz=147,slow=4.0,SNR=4.5
SONM Songino Array 49.90 345 P **P** 10 36 46.8 -0.3
SONM 10 38 05.6
SONM pmax pmax
comp=Z,7.0nm,0.8s
MNGI Mangalore 50.18 287 *ex* x 10 35 18.2
BHPL Bhopal 50.55 300 *eP* **P** **10 36 52.1 +0.1**
BHPL AMb AMB 10 36 53.4
comp=Z,50nm,1.0s,mb5.1
AGRA Agra 51.61 305 *eP* **P** **10 36 59.5 -0.4**
AGRA AMb AMB 10 37 00.4
comp=Z,61nm,0.4s,mb5.6
KAD Karad 51.72 292 *eP* **P** **10 37 00.1 -0.6**
KAD AMb AMB 10 37 01.9
comp=Z,34nm,1.0s,mb4.9
SONA Sohna 52.72 306 *eP* **P** **10 37 06.7 -1.4**
SONA AMb AMB 10 37 08.4
comp=Z,27nm,0.6s,mb5.2
AYAN Aya Nagar 52.78 306 *eP* **P** **10 37 06.7 -1.9**
AYAN AMb AMB 10 37 09.3
comp=Z,27nm,0.9s,mb5.0
ZAK Zakamensk 53.07 344 *eP* **P** **10 37 10.1 -0.6**
ZAK *e* 10 38 16.5
KUDL Kundal 53.16 306 *eP* **P** **10 37 09.1 -2.3**
KUDL AMb AMB 10 37 10.9
comp=Z,27nm,0.5s,mb5.3
KLP Kalpa 53.21 310 *ex* x 10 37 08.5
KLP *eP* 10 37 12.1
KLP AMb AMB 10 37 14.4
comp=Z,30nm,1.0s,mb5.0
KLP AMb AMB 10 37 17.4
comp=Z,32nm,0.9s,mb5.1
KHET Khetri 53.69 305 *eP* **P** **10 37 14.0 -1.1**
KHET AMb AMB 10 37 15.9
comp=Z,33nm,0.7s,mb5.2
KHET AMb AMB 10 37 16.2
comp=Z,34nm,1.0s,mb5.0
WMQ Urumqi 54.13 328⇑ *iP* **P** **10 37 18.3 -0.1**
WMQ AP pP 10 37 55.3 +4.4
WMQ XP sP 10 38 13.3 +6.9
WMQ PCP PcP 10 38 21.3 0.0
WMQ PP PP 10 39 23.3 +2.0
WMQ PPP 10 40 37.1
WMQ SCP ScP 10 42 02.5 -3.7
WMQ S **S** **10 44 39.8 -4.4**
WMQ AMB AMB
comp=Z,21nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,474nm,4.3s
WMQ LR LR
comp=N,55nm,18.0s
WMQ LR LR
comp=E,47nm,18.0s
WMQ LR LR
comp=Z,57nm,17.8s
TLY Talaya 54.14 345 *eP* **P** **10 37 18.4 -0.1**
TLY *e* 10 37 56.2
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
JASL Jaisalmer 57.35 302 *ex* x 10 37 36.8
BOD Bodaibo 58.08 354 *eP* **P** **10 37 45.2 -1.3**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.6
MKAR Makanchi Array 58.95 328 P **P** **10 37 52.1 -0.4**
comp=Z,13nm,0.6s,mb5.0,baz=122,slow=8.7,SNR=58
MKAR PcP PcP 10 38 39.3 -0.8
comp=Z,9.4nm,0.6s,baz=165,slow=3.3,SNR=14
MKAR Makanchi Array 58.95 328 P **P** **10 37 52.1 -0.4**
MKAR 10 38 39.3
MKAR pmax pmax
comp=Z,13nm,0.6s
PET Petropavlovsk 60.20 23 *eP* **P** **10 38 02.2 +1.1**
PET pmax pmax
comp=Z,52nm,1.2s,mb5.2
PET Petropavlovsk 60.20 23 *eP* **P** **10 38 02.6 +1.5**
AAK Ala-Archa 61.16 320⇑ *eP* **P** **10 38 06.6 -0.9**
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
AAK Ala-Archa 61.16 320 *eP* **P** **10 38 06.4 -1.1**
YAK Yakutsk 61.94 3 *eP* **P** **10 38 12.2 -0.6**
ZAL Zalesovo 62.56 335 P **P** **10 38 16.2 -0.7**
comp=Z,4.7nm,0.8s,mb4.4,baz=360,slow=6.8,SNR=5.0
ZAL Zalesovo 62.56 335 P **P** **10 38 16.2 -0.7**
ZAL pmax pmax
comp=Z,5.0nm,0.8s
MA2 Magadan 62.94 15 *d iP* **P** **10 38 20.6 +1.2**
MA2 pmax pmax
comp=Z,100nm,0.8s,mb5.7
MA2 Magadan 62.94 15 *eP* **P** **10 38 20.4 +1.0**
NVS Novosibirsk 63.84 335 *i* P **P** **10 38 23.4 -2.0**
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=Z,13nm,0.8s,mb4.8
NVS pmax pmax
comp=E,3.0nm,0.3s
CASY Casey 66.90 186 *eP* **P** **10 38 44.9 -0.1**
BVAR Borovoye Array 68.81 329 P **P** **10 38 55.7 -1.2**
comp=E,7.6nm,0.8s,mb4.5,baz=134,slow=8.4,SNR=19
BVAR PcP PcP 10 39 19.0 -1.6
comp=E,1.4nm,0.5s,baz=126,slow=7.5,SNR=3.9
BVAR Borovoye Array 68.81 329 P **P** **10 38 55.7 -1.3**
BVAR 10 39 19.0
BVAR pmax pmax
comp=Z,8.0nm,0.8s
CHKZ Chkalovo 69.03 329 *eP* **P** **10 38 57.0 -1.3**
MIR Mirnyy 69.98 193 *d iP* **P** **10 39 06.0 +1.9**
MIR pmax pmax
comp=Z,30nm,1.5s,mb4.8
TIXI Tiksi 71.52 2 *eP* **P** **10 39 11.9 -1.6**
TIXI pmax pmax
comp=Z,37nm,0.8s,mb5.2
TIXI Tiksi 71.52 2 *eP* **P** **10 39 11.9 -1.5**
comp=Z,372nm,0.8s,mb6.2
BILL Bilibino 73.81 15 *eP* **P** **10 39 27.1 +0.1**
BILL *e*SS SS 10 53 27.4 -6.2
BILL pmax pmax
comp=Z,23nm,2.5s,mb4.5
ARU Arti 76.46 329⇑ *iP* **P** **10 39 40.2 -2.0**
ARU *e* 10 42 35.2
ARU *e*PPP 10 44 18.9
ARU eS S 10 49 04.6 -12
ARU *e*SS SS 10 54 13.3 -0.4
ARU pmax pmax
comp=Z,17nm,1.0s,mb4.6
ARU Arti 76.46 329 *eP* **P** **10 39 40.1 -2.1**
comp=Z,12nm,0.8s,mb4.6
ORR Orenburg 77.04 323 *eP* **P** **10 39 44.6 -0.8**
ORR pmax pmax
comp=Z,30nm,1.2s,mb4.8
MAW Mawson 79.35 200 P **P** **10 39 58.4 +0.2**
comp=Z,13nm,0.6s,mb4.7,baz=68,slow=5.4,SNR=58
MAW Mawson 79.35 200 P **P** **10 39 58.4 +0.3**
MAW pmax pmax
comp=Z,13nm,0.6s
MAW Mawson 79.35 200 *eP* **P** **10 39 58.4 +0.2**
comp=Z,28nm,1.0s,mb4.8
VNDA Vanda 80.23 172 P **P** **10 40 03.1 +0.2**
comp=Z,14nm,0.8s,mb4.7,baz=317,slow=6.0,SNR=68
VNDA Vanda 80.23 172 P **P** **10 40 03.1 +0.2**
VNDA pmax pmax
comp=Z,14nm,0.8s
VNDA Vanda 80.23 172 *eP* **P** **10 40 03.1 +0.2**
comp=Z,12nm,0.7s,mb4.7
SBA Scott Base 81.17 172 *eP* **P** **10 40 08.1 +0.2**
SBA pmax pmax
comp=Z,18nm,1.1s,mb4.6
SBA Scott Base 81.17 172 *eP* **P** **10 40 08.1 +0.2**
comp=Z,18nm,1.1s,mb4.6
MALT Malatya 86.30 308 *eP* **P** **10 40 34.2 +0.2**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MALT Malatya 86.30 308 *eP* **P** **10 40 34.2 +0.3**
comp=Z,8.5nm,0.9s,mb4.5
KMBO Kilima Mbogo 86.54 269 P **P** **10 40 35.9 +0.7**
comp=Z,2.8nm,0.6s,mb4.3,baz=55,slow=7.7,SNR=9.7
KMBO Kilima Mbogo 86.54 269 P **P** **10 40 35.9 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
IMA2 Indian Mountai 86.88 24 *eP* **P** **10 40 37.3 +0.5**
ASF Jabal al Asfar 87.31 302 P **P** **10 40 39.1 +0.2**
comp=Z,7.6nm,0.9s,mb4.5,baz=33,slow=2.1,SNR=7.7
ASF Jabal al Asfar 87.31 302 P **P** **10 40 39.1 +0.2**
ASF pmax pmax
comp=Z,8.0nm,0.9s
SYO Syowa Base 88.00 201⇓ *eP* **P** **10 40 41.4 -0.7**
OBN Obninsk 88.33 325 *eP* **P** **10 40 41.9 -1.8**
OBN *e* 10 41 36.5
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
MMAI Mount Meron Ar 88.59 303 P **P** **10 40 44.6 -0.3**
comp=Z,3.1nm,0.5s,mb4.5,baz=100,slow=8.5,SNR=6.1
MCK McKinley 88.71 26 *eP* **P** **10 40 45.2 -0.3**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 88.71 26 *eP* **P** **10 40 45.2 -0.3**
comp=Z,7.0nm,1.0s,mb4.5
QSPA South Pole Qui 90.02 180 *eP* **P** **10 40 52.3 +0.7**
comp=Z,24nm,1.0s,mb5.1
BR131 Keskin Array S 90.06 310 *eP* **P** **10 40 50.0 -1.8**
comp=Z,2.4nm,0.4s,mb4.5
BRTR Keskin Array B 90.06 310 P **P** **10 40 50.0 -1.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=131,slow=5.7,SNR=9.6
BRTR Keskin Array B 90.06 310 P **P** **10 40 50.1 -1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 92.27 340 *ep* **P** **10 40 59.5 -2.5**
ARCES ARCESS Array B 92.82 340 P **P** **10 41 02.4 -2.2**
comp=Z,4.8nm,0.6s,mb4.8,baz=81,slow=7.7,SNR=17
ARCES PKKPbc PKKPbc 10 58 15.2 +0.6
comp=Z,2.8nm,0.8s,baz=270,slow=1.4,SNR=5.7
ARCES ARCESS Array B 92.82 340 P **P** **10 41 02.4 -2.2**
ARCES 10 58 15.2
ARCES pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 92.83 321 P **P** **10 41 02.3 -2.3**
comp=Z,1.5nm,0.4s,mb4.5,baz=71,slow=4.5,SNR=6.5
AKASG Malin Array Be 92.83 321 P **P** **10 41 02.3 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
DAWY Dawson 92.91 26 *eP* **P** **10 41 06.0 +1.0**
FINES FINESS Array B 93.62 332 P **P** **10 41 05.8 -2.4**
comp=Z,1.4nm,0.6s,mb4.3,baz=49,slow=5.8,SNR=13
FINES FINESS Array B 93.62 332 P **P** **10 41 05.8 -2.4**
FINES pmax pmax
comp=Z,1.0nm,0.6s
CFR Carcaliu 93.93 315⇑ *iP* **P** **10 41 13.0 +3.3**
INK Inuvik 94.60 21 P **P** **10 41 12.4 -0.4**
comp=Z,5.7nm,0.8s,mb4.8,baz=287,slow=3.8,SNR=28
INK PKKPbc PKKPbc 10 58 09.9 0.0
comp=Z,1.2nm,0.7s,baz=116,slow=1.6,SNR=4.8
MATP Matopo 94.99 250 P **P** **10 41 14.3 -0.2**
comp=Z,5.8nm,0.5s,mb5.1,baz=119,slow=3.4,SNR=41
LSZ Lusaka 95.43 255 P **P** **10 41 16.6 +0.1**
comp=Z,23nm,0.8s,mb5.5,baz=87,slow=4.0,SNR=46
LSZ Lusaka 95.43 255 P **P** **10 41 16.6 +0.1**
LSZ pmax pmax
comp=Z,23nm,0.8s,mb5.5
LSZ Lusaka 95.43 255 *eP* **P** **10 41 16.5 0.0**
MLR Muntele Rosu 95.44 316 P **P** **10 41 15.3 -1.3**
comp=Z,3.2nm,0.7s,mb4.7,baz=285,slow=1.8,SNR=5.5
MLR Muntele Rosu 95.44 316 P **P** **10 41 15.3 -1.3**
MLR pmax pmax
comp=Z,3.0nm,0.7s
BURAR Bucovina Array 95.72 318⇑ *iP* **P** **10 41 16.8 -1.1**
DRGR 97.52 317⇓ *iP* **P** **10 41 24.4 -1.6**
BOSA Boshof 97.54 241 P **P** **10 41 25.9 -0.2**
comp=Z,2.2nm,0.6s,mb4.7,baz=132,slow=12,SNR=7.2
BOSA Boshof 97.54 241 P **P** **10 41 25.9 -0.2**
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
HFS Hagfors 99.82 332 P Pdif 10 41 33.7 -2.5
comp=Z,2.3nm,0.5s,baz=104,slow=6.3,SNR=17
HFS Hagfors 99.82 332 P Pdif 10 41 33.7 -2.6
HFS pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 100.69 333 P Pdif 10 41 37.6 -2.6
comp=Z,1.5nm,0.9s,baz=100,slow=3.7,SNR=4.1
NOA NORSAR Array B 100.69 333 P Pdif 10 41 37.6 -2.5
NOA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 100.97 195 *eP* Pdif 10 41 41.7 +0.3
GERES GERESS Array B 103.04 320 P Pdif 10 41 49.7 -0.9
comp=Z,0.3nm,0.5s,baz=63,slow=5.0,SNR=3.0
GERES PKiKP PKiKP 10 46 09.9 +0.1
comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=3.8
GERES GERESS Array B 103.04 320 P Pdif 10 41 49.7 -0.9
GERES *i* 10 46 09.9
NVAR Mina Array Bea 111.51 48 PKiKP PKiKP 10 46 27.7 +2.2
comp=Z,0.9nm,0.6s,baz=260,slow=2.7,SNR=5.9
NVAR PKKPbc PKKPbc 10 57 26.9 +6.8
comp=Z,0.3nm,0.3s,baz=57,slow=6.6,SNR=4.4
HLID Hailey 112.46 42 *e*PKiKP PKiKP 10 46 29.9 +2.6
REDW Red Top Meadow 114.90 41 *e*PKiKP PKiKP 10 46 34.0 +2.0
SNOW Snow King Moun 114.92 41 *e*PKiKP PKiKP 10 46 34.4 +2.3
PDAR Pinedale Array 116.01 41 PKP PKPdf 10 46 35.5 +1.3
comp=Z,0.5nm,0.7s,baz=329,slow=1.7,SNR=5.1
PDAR PKKPbc PKKPbc 10 57 10.1 +5.2
comp=Z,1.4nm,0.6s,baz=117,slow=6.7,SNR=14
TMUT Trail Mountain 116.37 45 *e*PKiKP PKiKP 10 46 37.2 +2.4
SRU San Rafael 116.93 45 *e*PKiKP PKPdf 10 46 37.9 +2.0
WUAZ Wupatki 117.72 49 *e*PKPdf PKPdf 10 46 39.9 +2.4
ESDC Sonseca Array 118.13 316 PKP PKPdf 10 46 38.9 +0.6
comp=Z,0.5nm,0.8s,baz=21,slow=2.2,SNR=4.4
PV10 Paradox Valley 118.29 45 *e*PKPdf PKPdf 10 46 40.9 +2.3
PV01 Paradox Valley 118.73 45 *e*PKPdf PKPdf 10 46 41.7 +2.3
ULM Lac du Bonnet 119.54 28 PKP PKPdf 10 46 40.6 -0.3
comp=Z,1.9nm,0.5s,baz=300,slow=6.7,SNR=7.4
TORD Torodi Ar. Bea 121.14 285 PKP PKPdf 10 46 44.6 +0.5
comp=Z,7.1nm,0.7s,baz=67,slow=1.7,SNR=48
TORD PKKPbc PKKPbc 10 56 49.5 +3.2
comp=Z,2.2nm,0.8s,baz=281,slow=4.1,SNR=11
MDT Midelt 121.48 309 PKP PKPdf 10 46 45.7 +1.1
comp=Z,2.1nm,0.5s,baz=101,slow=1.6,SNR=13
ANMO Albuquerque 121.63 48 *e*PKiKP PKPdf 10 46 47.4 +2.4
MNTX Cornudas Mount 123.81 51 *e*PKPdf PKPdf 10 46 51.1 +1.9
SCHQ Schefferville 124.57 7 PKP PKPdf 10 46 51.0 +0.3
comp=Z,5.6nm,0.8s,baz=202,slow=0.7,SNR=7.4
TXAR Lajitas Array 126.13 53 PKP PKPdf 10 46 55.1 +1.5
comp=Z,1.2nm,0.8s,baz=218,slow=1.4,SNR=12
TXAR Lajitas Array 126.13 53 PKiKP PKPdf 10 46 55.1 +1.5
TXAR pmax pmax
comp=Z,1.0nm,0.8s
KSU1 Kansas State U 126.27 39 *e*PKPdf PKPdf 10 46 55.5 +1.7
JCT Junction City 128.65 50 *e*PKiKP PKPdf 10 47 00.1 +1.7
LRAL Lakeview Retre 136.12 38 *e*PKPdf PKPdf 10 47 13.6 +1.1
TGUH Tegucigalpa,Un 146.19 64 *e*PKPdf PKPbc 10 47 34.6 +2.8
JTS JuntasAbangare 149.61 69 *e*PKP2 PKPbc 10 47 42.2 +1.3
LMGC Las Mercedes 151.44 44 *e*P PKPbc 10 47 48.8 +3.6
LVC Limon Verde 154.43 152 PKPbc PKPbc 10 47 54.5 +2.7
comp=Z,6.6nm,0.6s,baz=270,slow=4.1,SNR=12
LVC PKPab PKPab 10 48 08.0 +1.4
comp=Z,3.6nm,0.7s,baz=270,slow=3.3,SNR=3.6
OTAV Otavalo 157.76 89 *e*PKPdf PKPdf 10 47 50.7 +3.1
OTAV *e*PKPab PKPab 10 48 25.7 +4.8
LPAZ La Paz 160.07 144 PKP PKPdf 10 47 54.0 +3.6
comp=Z,3.1nm,0.8s,baz=347,slow=1.8,SNR=13
LPAZ PKPab PKPab 10 48 34.1 +3.1
comp=Z,4.9nm,0.7s,baz=199,slow=4.7,SNR=9.1
LPAZ La Paz 160.07 144 PKIKP PKPdf 10 47 54.0 +3.6
LPAZ 10 48 34.1
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 160.07 144 *e*PKPdf PKPdf 10 47 53.8 +3.4
ROSC El Rosal 161.25 75 PKP PKPdf 10 47 54.7 +3.1
comp=Z,3.4nm,0.4s,baz=5.2,slow=1.2,SNR=4.6
ROSC PKPab PKPab 10 48 39.9 +3.8
comp=Z,5.2nm,0.6s,baz=268,slow=3.5,SNR=3.1
SDV Santo Domingo 163.09 58 *e*PKPdf PKPdf 10 47 55.2 +1.7

STR ***19*** *10:37:52.8±0.1,4301N×001W,h2km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 19 10:37:52.5±0.1,4301N×002W,h4km,Mdl1.8/3,Ml1.8/5, Error ellipse: s-maj=2.1km s-min=1.4km az=157.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**60**	Pg	Pg	10 37 54.5	+0.4
LABF				Sg	Sg	10 37 55.6	+0.4
VIEF	**Viey**	**0.13**	**167**	Pg	Pg	10 37 55.5	+0.4
VIEF				Sg	Sg	10 37 57.6	+0.8
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	10 37 57.4	-0.2
EPF				*e*Sg	Sg	10 38 01.4	+0.4
	16nm,0.3s						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	10 38 00.9	+0.4
ETSF				*e*Sg	Sg	10 38 06.6	+0.8
	5.3nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	10 38 09.0	-0.6
SJPF				*e*Sg	Sg	10 38 20.1	-1.1
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	10 38 23.7	-0.8
MTLF				*e*Sg	Sg	10 38 45.0	-1.1
	1.2nm,0.3s						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	10 38 30.0	-0.9
LFF				*e*Sg	Sg	10 38 56.9	0.0
	5.0nm,0.5s						
CAF	**Calviac**	**2.44**	**37**	*e*Pg	Pg	10 38 37.7	-1.5
CAF				*e*Sg	Sg	10 39 09.0	-1.7
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Sg	Sg	10 39 13.3	-1.0
	0.9nm,0.2s						

NEIC ***19*** *10:42:35.9,19.13N×64.62W,h13km,MD3.5(RSPR),After RSPR.*

RSPR 19 10:42:35.9,1913N×6462W,h13km±15km,MD3.5/8, MD3.5/8,9C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.35**	**221**⇑	*e*P	Pn	10 42 57.7	-2.9
MTP				*e*S	Sb	10 43 14.1	-4.3
CBYP	**Canovanas**	**1.45**	**234**⇑	*e*P	Pn	10 42 59.0	-2.8
CBYP				*e*S	Sn	10 43 16.6	-4.1
HUMP	**Col San Antoni**	**1.52**	**230**⇑	*e*P	Pn	10 42 59.7	-3.1
HUMP				*e*S	Sn	10 43 18.7	-3.9
CPD	**Cerro la Pandu**	**1.64**	**229**⇑	*e*P	Pn	10 43 01.6	-2.9
CPD				*e*S	Sn	10 43 21.9	-3.5
SJG	**San Juan**	**1.77**	**235**⇑	*e*P	Pn	10 43 03.4	-2.8
SJG				*e*S	Sn	10 43 24.7	-3.9
CELP	**Cerrillos**	**2.13**	**241**⇑	*e*P	Pn	10 43 08.2	-3.0
CELP				*e*S	Sn	10 43 33.7	-3.9
AOPR	**Arecibo Observ**	**2.16**	**249**⇑	*e*P	Pn	10 43 09.0	-2.7
AOPR				*e*S	Sn	10 43 35.1	-3.3
ICM	**Isla Caja Muer**	**2.18**	**236**⇑	*e*P	Pn	10 43 09.6	-2.3
ICM				*e*S	Sn	10 43 35.5	-3.3
CRPR	**Cabo Rojo, PR**	**2.61**	**245**⇑	*e*P	Pn	10 43 15.0	-2.8
CRPR				*e*S	Sn	10 43 45.6	-3.8

MAN 19 10:45:22.9,1127N×12535E,h15km,mb2.2,ML3.8,MS4.3, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.38**	**254**	*e*P	Pg	10 45 32.2	+1.5
PLP				*e*S	Sg	10 45 41.1	+5.4

NEIC ***19*** *10:47:23.9±0.7,4742N×15381E,h10km,mb4.1/1,Error ellipse: s-maj=18.6km s-min=15.9km az=182.0*
ISCJB ***19*** *10:47:29.1±1.6,475N±0.1×1539E±0.1,h62km±13km, mb4.0/19,Error ellipse: s-maj=22.4km s-min=11.5km az=111.4*
MOS ***19*** *10:47:29.1±1.4,4746N×15392E,h69km,mb4.3/1,Error ellipse: s-maj=19.0km s-min=14.4km az=98.5*
IDC ***19*** *10:47:33.3±4.6,4746N×15368E,h83km±41km,mb3.6/15, mb1 3.7/16,mb1mx3.6/27,mbtmp3.6/16,Error ellipse: s-maj=24.1km s-min=20.8km az=105.0*

ISC 19 10:47:31.2±1.5,476N±01×1540E±01,h64km±11km,n30, σ1§13/30,mb4.0/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.41**	**24**	*e*PN	**Pn**	**10 48 21.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.65**	**269**	PN	**Pn**	**10 49 21.5**	**+1.6**
ASAJ	**Asahikawa**	**8.66**	**251**	P	**Pn**	**10 49 32.9**	**-0.8**
	0.7nm,0.3s,baz=12,slow=21,SNR=5.6						
ASAJ	**Asahikawa**	**8.66**	**251**	PN	**Pn**	**10 49 32.9**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.61**	**252**	P	**P**	**10 52 15.2**	**-0.6**
	comp=Z,1.6nm,0.8s,mb3.5,baz=54,slow=11,SNR=5.3						
SONM	**Songino Array**	**31.61**	**288**	P	**P**	**10 53 45.9**	**-2.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=65,slow=7.8,SNR=4.7						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**10 55 06.4**	**+1.6**
	comp=Z,0.8nm,0.8s,mb3.4,baz=304,slow=3.0,SNR=3.2						
ZAL	**Zalesovo**	**42.61**	**305**	P	**P**	**10 55 19.8**	**-1.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=43,slow=6.6,SNR=6.0						
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**10 55 55.5**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=65,slow=7.6,SNR=12						
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**10 56 20.5**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**10 56 20.5**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**50.78**	**309**	P	**P**	**10 56 24.3**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=59,slow=7.9,SNR=9.7						
JIRN	**Jiri**	**55.46**	**275**	*e*P	**P**	**10 57 00.4**	**+1.2**
	comp=Z,12nm,0.7s,mb5.1						
GUN	**Gumba**	**55.51**	**275**	*e*P	**P**	**10 57 00.4**	**+0.9**
KKN	**Kakani**	**55.99**	**275**	*e*P	**P**	**10 57 04.2**	**+1.2**
DMN	**Daman**	**56.22**	**275**	*e*P	**P**	**10 57 05.8**	**+1.1**
GKN	**Gorkha**	**56.28**	**276**	*e*P	**P**	**10 57 05.7**	**+0.6**
	comp=Z,19nm,0.7s,mb5.2						
KOLN	**Koldanda**	**57.13**	**276**	*e*P	**P**	**10 57 11.9**	**+0.8**
	comp=Z,12nm,0.9s,mb4.9						
TRCR	**Troy Canyon**	**63.22**	**62**	*e*P	**P**	**10 57 51.4**	**-1.3**
FINES	**FINESS Array B**	**63.53**	**335**	P	**P**	**10 57 54.4**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=40,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**63.53**	**335**	P	**P**	**10 57 54.4**	**-0.4**
PDAR	**Pinedale Array**	**63.79**	**55**	P	**P**	**10 57 58.5**	**+2.0**
	comp=Z,0.3nm,0.8s,mb3.4,baz=116,slow=2.1,SNR=3.8						
NB2	**NORSAR Subarra**	**67.62**	**341**	P	**P**	**10 58 20.7**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**10 58 21.1**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=27,slow=6.4,SNR=8.3						
HFS	**Hagfors**	**67.88**	**340**	P	**P**	**10 58 22.6**	**-0.1**
	comp=Z,3.7nm,0.4s,mb4.7,baz=57,slow=5.5,SNR=24						
AKASG	**Malin Array Be**	**71.17**	**326**	P	**P**	**10 58 42.4**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=29,slow=5.9,SNR=5.0						
ASAR	**Alice Springs**	**73.18**	**199**	P	**P**	**10 58 52.5**	**-2.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=11,slow=7.0,SNR=4.2						
EKA	**Eskdalemuir Ar**	**75.66**	**347**	P	**P**	**10 59 08.6**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.9,baz=16,slow=5.0,SNR=5.1						
BRTR	**Keskin Array B**	**78.18**	**317**	P	**P**	**10 59 25.4**	**+1.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=56,slow=5.9,SNR=3.5						
STKA	**Stephens Creek**	**79.87**	**191**	P	**P**	**10 59 32.8**	**0.0**
	comp=Z,1.0nm,1.0s,mb3.7,baz=12,slow=9.3,SNR=3.0						

IDC 19 10:48:27.2±1.3,3389N×13778E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.3/22,mbtmp3.5/2,ML2.8/1,Error ellipse: s-maj=30.2km s-min=21.6km az=89.0,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.84**	**114**	Pn	Pn	10 48 59.1	-0.9
	35nm,0.3s,baz=285,slow=20,SNR=10						
JHJ					Sn	10 49 27.0	+3.0
	45nm,0.3s,baz=306,slow=22,SNR=8.2						
MJAR	**Matsushiro Arr**	**2.67**	**7**	Pn	Pn	10 49 09.7	-1.8
	1.7nm,0.3s,baz=192,slow=9.8,SNR=18						
MJAR					Sn	10 49 46.0	+1.4
	2.5nm,0.3s,baz=344,slow=25,SNR=5.6						
MAT	**Matsushiro**	**2.67**	**7**	P	Pn	10 49 08.5	-3.1
MAT					S	10 49 40.5	-4.2
WRA	**Warramunga Arr**	**53.63**	**184**	P	P	10 57 50.1	-0.2
	0.4nm,0.3s,baz=1.9,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**57.35**	**184**	P	P	10 58 17.0	-0.1
	0.1nm,0.3s,baz=359,slow=6.6,SNR=4.2						
LPAZ	**La Paz**	**150.84**	**59**	PKPbc	PKPbc	11 08 24.3	+2.6

ISC 19 10:35:27.5±1.0,4061N±006×3299E±007,h10km±8km,n7, σ0§75/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.35**	**110**	*i* P	**Pg**	**10 35 34.5**	**+0.1**
ELDT				*i* S	**Sg**	**10 35 39.1**	**0.0**
SGKT	**Sivrigoynuk**	**0.71**	**267**	*i* P	**Pg**	**10 35 41.6**	**+0.3**
SGKT				*i* S	**Sg**	**10 35 57.7**	**+7.1**
BALT	**Daday**	**0.97**	**18**	*i* P	**Pg**	**10 35 44.5**	**-1.7**
BALT				*i* S	**Sg**	**10 35 59.7**	**+0.9**
CORM	**Corum**	**1.32**	**108**	*e*PN	**Pn**	**10 35 50.7**	**-1.3**
CORM				*e*SN	**Sn**	**10 36 09.3**	**-0.3**
KAMT	**Kaman**	**1.36**	**156**	*e*PN	**Pn**	**10 35 52.8**	**+0.3**
CTKT	**Corum**	**1.37**	**89**	*i* P	**Pn**	**10 35 53.1**	**+0.5**
CTKT				*i* S	**Sb**	**10 36 11.2**	**+0.4**
YOZ	**Yozgat**	**2.03**	**118**	*e*PN	**Pn**	**10 36 02.4**	**+0.6**

0.8nm,0.3s,baz=250,slow=2.1,SNR=6.9

*NEIC **19** 10:57:19.2±1.0, 4706N×15501E, h10km, mb4.4/1, Error ellipse: s-maj=25.2km s-min=21.9km az=114.0*
*ISCJB **19** 10:57:22.0±5.4, 4711N×0.02×1550E±0.04, h44km±46km, mb3.9/6, Error ellipse: s-maj=42.8km s-min=32.8km az=53.6*
*IDC **19** 10:57:24.7±5.4, 4708N×15502E, h52km±49km, mb3.6/5, mb1 3.7/6, mb1mx3.3/25, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=37.0km s-min=26.8km az=119.0*
ISC 19 10:57:24.3±4.0, 471N±02×1550E±03, h51km±34km, n7, σ0§09/7, mb3.9/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ASAJ	**Asahikawa**	**9.22**	**256**	P		**Pn**	**10 59 34.5**	**0.0**
	0.2nm,0.3s,baz=77,slow=14,SNR=3.3							
INK	**Inuvik**	**40.63**	**33**	P		**P**	**11 04 59.3**	**0.0**
	5.1nm,1.2s,mb4.0,baz=277,slow=6.0,SNR=11							
MKAR	**Makanchi Array**	**47.94**	**298**	P		**P**	**11 05 57.8**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=64,slow=8.2,SNR=4.1							
CHKZ	**Chkalovo**	**51.20**	**311**	*e*P		**P**	**11 06 22.4**	**-0.1**
	2.1nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**51.64**	**310**	P		**P**	**11 06 25.8**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=65,slow=7.4,SNR=6.6							
FINES	**FINESS Array B**	**64.27**	**335**	P		**P**	**11 07 54.1**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=46,slow=8.2,SNR=11							
ASAR	**Alice Springs**	**72.99**	**200**	P		**P**	**11 08 48.5**	**0.0**
	0.3nm,0.6s,mb3.4,baz=18,slow=5.6,SNR=5.5							

*STR **19** 10:57:49.5±0.1, 4299N×0.13E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 10:57:48.9±0.1, 4303N×002W, h6km, Md1.7/3, Ml1.3/2, Error ellipse: s-maj=3.1km s-min=1.4km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LABF	**Labassere**	**0.07**	**77**	Pg		Pg	10 57 51.1	+0.5
LABF				Sg		Sg	10 57 52.3	+0.5
VIEF	**Viey**	**0.15**	**168**	Pg		Pg	10 57 52.3	+0.3
VIEF				Sg		Sg	10 57 54.3	+0.2
EPF	**Esparros**	**0.26**	**90**	*e*Pg		Pg	10 57 54.0	0.0
EPF				*e*Sg		Sg	10 57 58.0	+0.5
	3.8nm,0.2s							
ETSF	**Etsaut**	**0.42**	**252**	*e*Pg		Pg	10 57 57.4	+0.4
ETSF				*e*Sg		Sg	10 58 03.3	+0.8
	2.9nm,0.3s							
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg		Pg	10 58 05.4	-0.5
SJPF				*e*Sg		Sg	10 58 16.6	-0.9
	0.4nm,0.2s							
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg		Pg	10 58 20.1	-0.7
MTLF				*e*Sg		Sg	10 58 41.5	-0.9
	0.9nm,0.3s							

*NEIC **19** 11:11:13.7±1.0, 4637N×15284E, h10km, mb4.2/1, Error ellipse: s-maj=27.5km s-min=17.6km az=122.0*
*ISCJB **19** 11:11:16.6±1.8, 463N±0.1×1527E±02, h44km±15km, mb3.7/7, MS3.3/1, Error ellipse: s-maj=28.1km s-min=11.3km az=103.9*
*MOS **19** 11:11:17.3±1.5, 4637N×15264E, h51km, mb4.4/1, Error ellipse: s-maj=24.7km s-min=16.2km az=56.7*
*IDC **19** 11:11:22.9±5.3, 4620N×15254E, h86km±47km, mb3.3/7, mb1 3.5/9, mb1mx3.4/24, mbtmp3.3/9, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/17, Error ellipse: s-maj=33.9km s-min=27.7km az=85.0*
ISC 19 11:11:18.4±1.6, 463N±01×1526E±02, h45km±14km, n16, σ0§81/16, mb3.7/7, MS3.3/1, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**3.51**	**254**	⇓*i*Pn		**Pn**	**11 12 09.2**	**-1.2**
KUR				*i* S		**Sn**	**11 12 51.0**	**+0.4**
KUR				pmax		pmax		
	comp=Z,150nm,0.5s							
KUR				smax				
	comp=N,150nm,0.6s							
KUR				smax				
	comp=E,150nm,0.6s							
SKR	**Severo-Kuril's**	**4.94**	**27**	*e*PN		**Pn**	**11 12 30.0**	**0.0**
SKR				*e*			11 13 23.5	
ASAJ	**Asahikawa**	**7.42**	**256**	P		**Pn**	**11 13 08.1**	**+4.0**
	comp=E,1.2nm,0.3s,baz=77,slow=16,SNR=9.5							
ASAJ				LR		LR	11 15 43.7	
	comp=E,146nm,18.3s,baz=181,slow=36							
MJAR	**Matsushiro Arr**	**14.56**	**233**	P		**P**	**11 14 42.8**	**+1.2**
	comp=E,0.0nm,0.3s,baz=36,slow=10,SNR=4.1							
KSRS	**Korea Array**	**20.35**	**253**	P		**P**	**11 15 50.4**	**-0.6**
	comp=E,1.1nm,1.0s,baz=58,slow=9.3,SNR=3.4							
SONM	**Songino Array**	**31.16**	**290**	LR		LR	11 31 21.8	
	comp=E,59nm,18.2s,MS3.3,baz=15,slow=38							
MKAR	**Makanchi Array**	**46.84**	**298**	P		**P**	**11 19 43.3**	**-0.5**
	comp=E,0.3nm,0.6s,mb3.4,baz=66,slow=7.1,SNR=3.7							
CHKZ	**Chkalovo**	**50.45**	**310**	*e*P		**P**	**11 20 11.6**	**0.0**
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**50.45**	**310**	*e*P		**P**	**11 20 11.6**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2							
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**11 21 48.0**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=46,slow=5.5,SNR=5.1							
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**11 21 48.0**	**-1.1**
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**11 22 17.2**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=29,slow=6.5,SNR=3.0							
ASAR	**Alice Springs**	**71.70**	**198**	P		**P**	**11 22 35.0**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=14,slow=6.5,SNR=5.0							
TXAR	**Lajitas Array**	**77.99**	**60**	P		**P**	**11 23 12.0**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=302,slow=4.3,SNR=7.8							
TXAR	**Lajitas Array**	**77.99**	**60**	P		**P**	**11 23 12.0**	**0.0**
GERES	**GERESS Array B**	**78.69**	**334**	P		**P**	**11 23 16.8**	**+1.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=33,slow=7.5,SNR=3.8							

ROM 19 11:14:53.1±0.2, 4285N×1268E, h6km±2km, Md2.8/20, Ml2.5/17, Error ellipse: s-maj=2.1km s-min=1.6km az=119.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ASS	**Assisi**	**0.21**	**354**	Pg		Pg	11 14 58.2	+0.9
ASS				Sg		Sg	11 15 01.8	+1.7
	20nm,0.2s							
LNSS	**Leonessa**	**0.36**	**133**	Pg		Pg	11 15 00.9	+0.8
LNSS				Sg		Sg	11 15 07.8	+2.9
	2µm,0.2s							
MURB	**Monte Urbino**	**0.43**	**345**	Pg		Pg	11 15 02.0	+0.7
MURB				Sg		Sg	11 15 09.3	+2.4
	1µm,0.3s							
SNTG	**Esanatoglia**	**0.45**	**25**	Pg		Pg	11 15 02.4	+0.7
SNTG				Sg		Sg	11 15 09.3	+1.8
	110nm,0.2s							
SACS	**San Casciano d**	**0.57**	**270**	Pg		Pg	11 15 04.3	+0.3
SACS				Sg		Sg	11 15 13.4	+2.0
	180nm,0.5s							
CING	**Cingoli**	**0.65**	**36**	Pg		Pg	11 15 06.1	+0.6
CING				Sg		Sg	11 15 16.8	+2.9
	199nm,0.4s							
FIAM	**Fiamignano**	**0.67**	**151**	Pg		Pg	11 15 05.9	0.0
FIAM				Sg		Sg	11 15 16.6	+2.0
	144nm,0.3s							
LATE	**Laterza**	**0.69**	**250**	Pg		Pg	11 15 06.9	+0.6
LATE				Sg		Sg	11 15 17.3	+2.0
	34nm,0.4s							
TERO	**Teramo**	**0.72**	**108**	Pg		Pg	11 15 06.9	0.0
TERO				Sg		Sg	11 15 18.5	+2.3
	172nm,0.3s							
AQU	**L'Aquila**	**0.73**	**133**	Pg		Pg	11 15 07.6	+0.5
AQU				Sg		Sg	11 15 16.8	+0.2
	76nm,0.2s							
MTCE	**Montecelio**	**0.83**	**177**	Pg		Pg	11 15 09.2	+0.2
	54nm,0.4s							
FSSB	**Fossombrone**	**0.84**	**5**	Pg		Pg	11 15 09.3	0.0
	195nm,0.4s							
ARCI	**Arcidosso**	**0.89**	**270**	Pg		Pg	11 15 10.6	+0.5
	31nm,0.7s							
FAGN	**Fagnano**	**0.89**	**131**	Pg		Pg	11 15 11.1	+0.9
	268nm,0.4s							
CERT	**Cerreto**	**0.93**	**166**	Pg		Pg	11 15 10.3	-0.6
CERT				Sg		Sg	11 15 24.9	+1.9
	107nm,0.6s							
CRE	**Caprese Michel**	**0.93**	**325**	Pg		Pg	11 15 11.3	+0.3
	32nm,0.4s							
TOLF	**Tolfa**	**0.93**	**213**	Pg		Pg	11 15 11.7	+0.7
	75nm,0.5s							
AOI	**Ancona**	**0.97**	**44**	Pg		Pg	11 15 12.2	+0.5
	94nm,0.4s							
VCEL	**Villa Celiera**	**0.97**	**118**	Pg		Pg	11 15 11.9	+0.2
VCEL				Sg		Sg	11 15 27.3	+3.0
	185nm,0.3s							
CSNT	**Castellina Chi**	**1.19**	**302**	Pg		Pg	11 15 16.3	+0.4
	24nm,0.5s							
VVLD	**Villa Vallelon**	**1.20**	**144**	Pg		Pg	11 15 17.7	+1.5
	79nm,0.5s							
SFI	**Santa Sofia**	**1.22**	**330**	Pg		Pg	11 15 16.6	+0.2
	18nm,0.3s							
INTR	**Introdacqua**	**1.24**	**132**	Pg		Pg	11 15 15.0	-1.8
	65nm,0.5s							
SDI	**San Donato**	**1.42**	**143**	Pg		Pg	11 15 21.0	+0.7
	14nm,0.3s							

*ISCJB **19** 11:19:49.3±0.7, 459N±0.1×1544E±0.1, h10km, mb3.7/12, Error ellipse: s-maj=20.7km s-min=12.8km az=133.8*
*IDC **19** 11:19:49.5±0.8, 4599N×15435E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.9/22, mbtmp3.8/11, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=25.9km s-min=19.5km az=141.0*
*NEIC **19** 11:19:51.8±0.8, 4583N×15489E, h10km, Error ellipse: s-maj=27.0km s-min=15.7km az=137.0*
*MOS **19** 11:19:53.5±2.8, 4599N×154.19E, h33km, mb3.9/1, Error ellipse: s-maj=19.5km s-min=16.3km az=161.7*
ISC 19 11:19:51.1±0.7, 460N±01×1544E±02, h10km, n21, σ1§03/19, mb3.7/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**4.64**	**263**	P		**Pn**	**11 20 55.0**	**-6.2**
KUR				*i* S		**Sn**	**11 21 46.0**	**-9.1**
KUR				pmax		pmax		
	comp=Z,90nm,0.7s							
KUR				smax				
	comp=N,220nm,0.8s							
KUR				smax				
	comp=E,160nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.09**	**281**	*e*P		**Pn**	**11 21 52.0**	**+3.4**
ASAJ	**Asahikawa**	**8.56**	**262**	Pn		**Pn**	**11 21 54.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=62,slow=19,SNR=4.6							
ASAJ				LR		LR	11 25 02.8	
	comp=E,63nm,18.4s,baz=157,slow=37							
MJAR	**Matsushiro Arr**	**15.37**	**238**	Pn		**Pn**	**11 23 32.4**	**+4.4**
	comp=E,0.2nm,0.3s,baz=37,slow=7.4,SNR=7.8							
KSRS	**Korea Array**	**21.44**	**256**	P		**P**	**11 24 40.3**	**+1.0**
	comp=E,1.2nm,0.9s,mb3.2,baz=61,slow=9.9,SNR=4.2							
SONM	**Songino Array**	**32.43**	**291**	P		**P**	**11 26 25.6**	**+4.5**
	comp=E,0.3nm,0.6s,mb3.3,baz=94,slow=7.9,SNR=3.1							
SONM	**Songino Array**	**32.43**	**291**	P		**P**	**11 26 25.6**	**+4.4**
INK	**Inuvik**	**41.83**	**32**	P		**P**	**11 27 41.5**	**+0.6**
	comp=E,0.6nm,0.6s,mb3.4,baz=286,slow=6.2,SNR=4.5							
MKAR	**Makanchi Array**	**48.08**	**299**	P		**P**	**11 28 29.7**	**-1.1**
	comp=E,0.7nm,0.7s,mb3.8,baz=72,slow=6.2,SNR=8.4							
PDAR	**Pinedale Array**	**64.48**	**54**	P		**P**	**11 30 26.7**	**-1.1**
	comp=E,0.3nm,0.6s,mb3.5,baz=336,slow=3.3,SNR=3.5							
FINES	**FINESS Array B**	**65.11**	**335**	P		**P**	**11 30 31.6**	**-0.3**
	comp=E,1.6nm,0.8s,mb4.1,baz=33,slow=7.7,SNR=7.2							
WRA	**Warramunga Arr**	**68.09**	**200**	P		**P**	**11 30 50.4**	**-0.6**
	comp=E,1.6nm,0.8s,mb4.1,baz=20,slow=6.8,SNR=6.8							
NOA	**NORSAR Array B**	**69.23**	**342**	P		**P**	**11 31 00.9**	**+2.8**
	comp=E,1.4nm,0.9s,mb3.9,baz=40,slow=6.4,SNR=2.7							
ASAR	**Alice Springs**	**71.78**	**200**	P		**P**	**11 31 14.0**	**+0.4**
	comp=E,0.7nm,0.7s,mb3.7,baz=16,slow=6.3,SNR=4.8							
AKASG	**Malin Array Be**	**72.67**	**327**	P		**P**	**11 31 18.0**	**-1.0**
	comp=E,0.8nm,0.5s,mb3.9,baz=35,slow=6.5,SNR=5.7							
AKASG	**Malin Array Be**	**72.67**	**327**	P		**P**	**11 31 18.0**	**-1.0**
TXAR	**Lajitas Array**	**77.09**	**61**	P		**P**	**11 31 45.5**	**+0.9**
	comp=E,1.0nm,0.6s,mb3.9,baz=303,slow=4.1,SNR=14							
GERES	**GERESS Array B**	**79.53**	**335**	P		**P**	**11 31 57.8**	**-0.2**
	comp=E,0.2nm,0.6s,mb3.2,baz=37,slow=7.5,SNR=4.2							
VNA2	**Neumayer--Watz**	**153.47**	**193**	*e*		PKPbc	11 39 47.9	-1.8
	baz=336,slow=2.0							
VNA2				*e*			11 39 54.5	
VNA2				*e*			11 40 00.6	
VNA3	**Neumayer Olymp**	**153.53**	**192**	*e*		PKPbc	11 39 47.8	-2.0
VNA3				*e*			11 39 54.1	
VNA1	**Neumayer--Stat**	**153.85**	**193**	*e*		PKPdf	11 39 45.1	+2.5

*ISCJB **19** 11:50:33.2±1.9, 466N±0.1×1532E±02, h74km±15km, mb3.6/10, Error ellipse: s-maj=29.0km s-min=10.5km az=84.2*
*MOS **19** 11:50:33.1±1.9, 4671N×15337E, h75km, mb4.1/5, Error ellipse: s-maj=20.2km s-min=15.3km az=69.9*
*IDC **19** 11:50:33.5±5.0, 4663N×15324E, h62km±45km, mb3.4/11, mb1 3.6/12, mb1mx3.5/24, mbtmp3.5/12, ML3.3/1, Error ellipse: s-maj=28.0km s-min=25.3km az=141.0*
ISC 19 11:50:34.8±1.6, 467N±01×1532E±02, h74km±12km, n21, σ1§17/22, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**4.46**	**25**	*e*PN		**Pn**	**11 51 37.4**	**-2.5**
SKR				*e*S		**Sn**	**11 52 32.9**	**+2.4**
SKR				smax				
	comp=N,140nm,0.5s							
SKR				smax				
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=E,270nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.18**	**276**	*e*PN		**Pn**	**11 52 22.5**	**+5.4**
ASAJ	**Asahikawa**	**7.89**	**255**	P		**Pn**	**11 52 25.8**	**-1.0**
	comp=E,0.4nm,0.3s,baz=130,slow=19,SNR=4.9							
MJAR	**Matsushiro Arr**	**15.08**	**233**	P		**Pn**	**11 54 05.7**	**+2.1**
	comp=E,0.1nm,0.3s,baz=33,slow=11,SNR=3.9							
KSRS	**Korea Array**	**20.84**	**253**	P		**P**	**11 55 10.9**	**+0.6**
	comp=E,1.7nm,0.8s,baz=64,slow=11,SNR=4.8							
MKAR	**Makanchi Array**	**47.04**	**297**	P		**P**	**11 58 58.5**	**-0.3**
	comp=E,0.7nm,0.7s,mb3.5,baz=64,slow=8.2,SNR=8.3							
MKAR	**Makanchi Array**	**47.04**	**297**	P		**P**	**11 58 58.5**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**50.95**	**37**	P		**P**	**11 59 28.6**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=300,slow=7.3,SNR=3.5							
YKA	**Yellowknife Ar**	**50.95**	**37**	P		**P**	**11 59 28.6**	**-0.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**50.97**	**310**	P		**P**	**11 59 27.0**	**-1.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=39,slow=9.3,SNR=4.4							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**12 01 01.1**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.8,baz=56,slow=4.8,SNR=6.1							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**12 01 01.1**	**-0.2**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.33**	**341**	P		**P**	**12 01 28.1**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.3,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**12 01 28.3**	**+0.2**
	comp=Z,1.3nm,0.9s,mb3.8,baz=171,slow=18,SNR=3.6							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**12 01 28.3**	**+0.2**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**71.66**	**326**	P		**P**	**12 01 48.3**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.9,baz=33,slow=6.1,SNR=5.6							
AKASG	**Malin Array Be**	**71.66**	**326**	P		**P**	**12 01 48.3**	**-0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.14**	**199**	P		**P**	**12 01 51.0**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.3,baz=13,slow=5.6,SNR=5.2							
TXAR	**Lajitas Array**	**77.48**	**61**	P		**P**	**12 02 21.8**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.3,baz=299,slow=4.4,SNR=3.8							
BRTR	**Keskin Array B**	**78.50**	**317**	P		**P**	**12 02 29.5**	**+1.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=36,slow=11,SNR=3.0							
GERES	**GERESS Array B**	**78.56**	**334**	P		**P**	**12 02 28.3**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=23,slow=5.3,SNR=2.7							

*BJI **19** 11:54:16.7, 4681N×15338E, h10km, mB4.8, mb4.4, Ms4.1, Msz3.8*
*IDC **19** 11:54:20.9±0.7, 4676N×15245E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.0/17, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=20.3km s-min=15.6km az=162.0*
*NEIC **19** 11:54:23.1±0.3, 4680N×15250E, h10km, mb4.5/19, Error ellipse: s-maj=9.6km s-min=5.0km az=157.0*
*ISCJB **19** 11:54:23.9±0.3, 4657N±005×15266E±005, h31km, mb4.3/44, MS3.8/4, Error ellipse: s-maj=7.8km s-min=3.2km az=124.9*

*MOS **19** 11:54:24.6±1.4, 4665N×15260E, h33km, mb4.6/15, Error ellipse: s-maj=11.7km s-min=8.9km az=56.1*
*SKHL **19** 11:54:25.1±1.5, 4667N×15270E, h54km±34km, msh5.6/1*
ISC 19 11:54:26.1±0.3, 4662N±005×15266E±004, h33km, h33km±4.2km:pP-P, n148, σ1§37/142, mb4.3/44, MS3.8/4, 5C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**3.62**	**249**	⇑*i*P		**Pn**	**11 55 19.0**	**-0.8**
KUR				AMB		AMB	11 55 20.5	
	260nm,0.7s							
KUR				*e*S		**Sn**	**11 55 59.0**	**-2.4**
KUR				A			11 56 03.0	
	5µm,2.0s							
KUR				A			11 56 07.8	
	520nm,0.7s							
KUR				A			11 56 07.8	
	280nm,0.7s							
SKR	**Severo-Kuril's**	**4.67**	**28**	*e*P		**Pn**	**11 55 35.5**	**+1.2**
SKR				*e*S		**Sn**	**11 56 27.5**	**+0.2**
SKR				A			11 56 48.5	
	240nm,0.5s							
SKR				A			11 56 48.5	
	320nm,0.5s							
SKR				A			11 56 48.5	
	170nm,0.5s							
SKR	**Severo-Kuril's**	**4.67**	**28**	*e*PN		**Pn**	**11 55 35.5**	**+1.2**
SKR				*e*S		**Sn**	**11 56 27.5**	**+0.2**
SKR				smax				
	comp=E,240nm,0.4s							
SKR				smax				
	comp=E,320nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.44**	**244**	*e*P		**Pn**	**11 55 47.5**	**+2.6**
YUK				AMB		AMB	11 55 47.6	
	comp=E,190nm,0.5s							
YUK				*i* S		**Sn**	**11 56 51.0**	**+4.6**
YUK				A			11 56 51.5	
	comp=E,180nm,0.5s							
YUK				A			11 56 51.5	
	comp=E,210nm,0.5s							
YUK				A			11 56 57.0	
	comp=E,2µm,2.0s							
YUK				A			11 56 57.0	
	comp=E,2µm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.44**	**244**	*e*PN		**Pn**	**11 55 47.5**	**+2.6**
YUK				*e*S		**Sn**	**11 56 51.0**	**+4.6**
YUK				pmax		pmax		
	comp=Z,190nm,0.5s							
YUK				smax				
	comp=E,210nm,0.5s							
YUK				smax				
	comp=N,180nm,0.5s							
YUK				smax				
	comp=N,2µm,2.0s							
YUK				smax				
	comp=E,2µm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.81**	**276**	⇑*e*P		**Pn**	**11 56 06.5**	**+2.8**
YSS				AMB		AMB	11 56 09.0	
	comp=E,70nm,1.0s							
YSS				AMB		AMB	11 56 09.0	
	comp=E,50nm,1.0s							
YSS				*e*S		**Sn**	**11 57 22.0**	**+2.0**
YSS				AMS		AMS	11 58 34.0	
	comp=E,900nm,16.0s							
YSS				AMS		AMS	11 58 34.0	
	comp=E,900nm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.81**	**276**	⇑*e*PN		**Pn**	**11 56 06.5**	**+2.8**
YSS				pmax		pmax		
	comp=E,70nm,1.0s							
YSS				pmax		pmax		
	comp=Z,50nm,1.0s							
YSS				MLR		MLR		
	comp=E,900nm,16.0s							
YSS				MLR		MLR		
	comp=Z,900nm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.81**	**276**	*e*Pn		**Pn**	**11 56 02.9**	**-0.7**
	comp=Z,54nm,0.9s							
JMP	**Maruseppu**	**7.06**	**252**	P		**Pn**	**11 56 10.3**	**+3.3**
PET	**Petropavlovsk**	**7.49**	**29**	*e*PN		**Pn**	**11 56 20.5**	**+7.5**
PET				MLR		MLR		
	comp=Z,1µm,15.0s							
PET	**Petropavlovsk**	**7.49**	**29**	*e*Pn		**Pn**	**11 56 11.2**	**-1.9**
	comp=Z,24nm,0.6s							
PET				*e*Sn		**Sn**	**11 57 35.5**	**-1.3**
ASAJ	**Asahikawa**	**7.51**	**254**	Pn		**Pn**	**11 56 17.7**	**+4.4**
	comp=Z,3.1nm,0.3s,baz=54,slow=6.8,SNR=12							
ASAJ	**Asahikawa**	**7.51**	**254**	P		**Pn**	**11 56 17.6**	**+4.3**
ASAJ	**Asahikawa**	**7.51**	**254**	PN		**Pn**	**11 56 17.7**	**+4.4**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
JWK2	**Keihoku**	**7.61**	**264**	P		**Pn**	**11 56 20.4**	**+5.7**
TYV	**Tymovskoe**	**7.86**	**306**	*e*P		**Pn**	**11 56 20.5**	**+2.5**
TYV				AMB		AMB	11 56 44.5	
	comp=Z,15nm,0.8s							
TYV				AMB		AMB	11 56 44.5	
	comp=Z,51nm,0.8s							
JEM	**Erimo**	**8.22**	**239**	P		**Pn**	**11 56 24.3**	**+1.3**
JEM				*e*S		**Sn**	**11 57 50.2**	**-4.4**
ERM	**Erimo**	**8.22**	**239**	*e*Pn		**Pn**	**11 56 24.9**	**+1.9**
ERM				*e*Sn		**Sn**	**11 57 55.0**	**+0.3**
JEW	**Eniwo**	**8.83**	**249**	P		**Pn**	**11 56 33.3**	**+2.0**
JEW				*e*S		**Sn**	**11 58 13.7**	**+4.1**
JSH	**Shimam**	**9.83**	**251**	P		**Pn**	**11 56 46.9**	**+1.8**
JOT	**Ohata**	**9.86**	**242**	P		**Pn**	**11 56 43.9**	**-1.6**
JOT				*e*S		**Sn**	**11 58 26.4**	**-8.7**
JTM	**Tenmabayashi**	**10.21**	**239**	P		**Pn**	**11 56 48.8**	**-1.5**
JTM				*e*S		**Sn**	**11 58 35.9**	**-7.7**
JOM	**Ohasama**	**10.95**	**233**	P		**Pn**	**11 56 58.6**	**-1.9**
JOM				*e*S		**Sn**	**11 58 51.8**	**-10**
HABR	**Khabarovsk**	**12.04**	**285**	*e*PN		**Pn**	**11 57 20.8**	**+5.4**
JMM	**Marumori**	**12.39**	**229**	P		**Pn**	**11 57 17.8**	**

SNY					AMB	AMB					
	comp=Z,11nm,2.5s,mb3.7										
SNY					AMB	AMB					
	comp=Z,86nm,6.8s										
SNY					LR	LR					
	comp=E,332nm,14.4s										
SNY					LR	LR					
	comp=Z,297nm,20.4s										
HIA	**Hailar**	**22.11**	**289**	*e*P	**P**		**11 59 17.1**	**-1.5**			
HIA				pmax	pmax						
	comp=Z,19nm,1.2s										
HIA	**Hailar**	**22.11**	**289**	*e*P	**P**		**11 59 17.1**	**-1.5**			
	comp=Z,19nm,1.2s,mb4.4										
BILL	**Bilibino**	**22.59**	**13**	*e*P	**P**		**11 59 25.3**	**+1.6**			
BILL				pmax	pmax						
	comp=Z,4.0nm,0.8s,mb3.9										
BILL	**Bilibino**	**22.59**	**13**	*e*P	**P**		**11 59 21.4**	**-2.3**			
	comp=Z,4.2nm,0.8s,mb3.9										
BOD	**Bodaibo**	**25.83**	**310**	*e*P	**P**		**11 59 53.1**	**-1.3**			
BOD				pmax	pmax						
	comp=Z,7.0nm,2.1s,mb3.8										
HHC	**Hu-ho-hao-te**	**29.99**	**274**	*e*P	**P**		**12 00 33.4**	**+1.9**			
HHC				AP	pP		12 00 38.1	-3.0			
HHC				XP	sP		12 00 40.6	-4.5			
HHC				PP	PP		12 01 32.1	-7.4			
HHC				PCP	PcP		12 03 35.5	+2.2			
HHC				S	**S**		**12 05 30.4**	**+3.2**			
HHC				XS	sS		12 05 38.1	-4.9			
HHC				SS	SS		12 07 06.6	-29			
HHC				SCP	ScP		12 07 15.9	+3.0			
HHC				SCS	ScS		12 11 10.1	+1.8			
HHC				AMB	AMB						
	comp=Z,13nm,1.3s,mb4.5										
HHC				AMB	AMB						
	comp=Z,113nm,4.8s										
HHC				LR	LR						
	comp=N,193nm,13.2s,MS4.0										
HHC				LR	LR						
	comp=E,179nm,14.2s,MS4.0										
HHC				LR	LR						
	comp=Z,153nm,14.6s,MS3.8										
ULN	**Ulaanbaatar**	**30.65**	**289**	*e*P	**P**		**12 00 37.4**	**+0.1**			
ULN				pmax	pmax						
	comp=Z,4.0nm,0.9s,mb4.2										
ULN	**Ulaanbaatar**	**30.65**	**289**	*e*P	**P**		**12 00 37.4**	**0.0**			
	comp=Z,4.4nm,0.9s,mb4.3										
SONM	**Songino Array**	**31.08**	**289**	P	**P**		**12 00 40.0**	**-1.1**			
	comp=Z,0.9nm,0.8s,mb3.6,baz=75,slow=7.6,SNR=2.9										
XAN	**Xi'an**	**35.19**	**265**	P	**P**		**12 01 16.0**	**-1.0**			
XAN				AMB	AMB						
	comp=Z,4.0nm,0.9s,mb4.3										
COLA	**College**	**36.44**	**38**	*e*P	**P**		**12 01 27.2**	**-0.5**			
COLA				pmax	pmax						
	comp=Z,13nm,1.0s,mb4.8										
COLA	**College**	**36.44**	**38**	*e*P	**P**		**12 01 27.2**	**-0.5**			
	comp=Z,13nm,1.0s,mb4.8										
LZH	**Lanzhou**	**37.58**	**272**	*e*P	**P**		**12 01 40.1**	**+2.7**			
LZH				AP	pP		12 01 45.3	-1.8			
LZH				XP	sP		12 01 47.0	-4.1			
LZH				AMB	AMB						
	comp=Z,16nm,1.1s,mb4.7										
LZH	**Lanzhou**	**37.58**	**272**	*e*P	**P**		**12 01 40.1**	**+2.7**			
	comp=Z,16nm,1.1s,mb4.7										
LZH				pP	pP		12 01 45.2	-1.9			
LZH				sP	sP		12 01 47.0	-4.1			
GTA	**Gaotai**	**38.68**	**279**	*e*P	**P**		**12 01 47.3**	**+0.6**			
GTA				PP	PP		12 03 23.0	+7.5			
GTA				PPP			12 03 45.5				
GTA				PCP	PcP		12 03 58.3	+0.1			
GTA				S	**S**		**12 07 47.8**	**+6.6**			
GTA				XS	sS		12 08 00.6	+3.3			
GTA				AMB	AMB						
	comp=Z,5.0nm,1.2s,mb4.1										
GTA				AMB	AMB						
	comp=Z,48nm,4.6s										
GTA				LR	LR						
	comp=N,139nm,14.8s,MS4.0										
GTA				LR	LR						
	comp=E,117nm,13.7s,MS4.0										
GTA				LR	LR						
	comp=Z,149nm,16.4s,MS3.9										
CD2	**Chengdu**	**40.56**	**265**	*e*P	**P**		**12 02 03.5**	**+1.2**			
CD2				AMB	AMB						
	comp=Z,10.0nm,0.8s,mb4.5										
CD2				AMB	AMB						
	comp=Z,30nm,4.8s										
GYA	**Guiyang**	**41.38**	**257**	P	**P**		**12 02 08.9**	**-0.2**			
GYA				AMB	AMB						
	comp=Z,10.0nm,0.7s,mb4.5										
INK	**Inuvik**	**41.93**	**32**	P	**P**		**12 02 12.4**	**-1.2**			
	comp=Z,3.2nm,0.8s,mb4.0,baz=273,slow=8.0,SNR=9.8										
INK	**Inuvik**	**41.93**	**32**	P	pP		12 02 23.8	+0.4			
	comp=Z,4.0nm,0.9s,baz=292,slow=5.9,SNR=9.4										
INK	**Inuvik**	**41.93**	**32**	P	**P**		**12 02 12.4**	**-1.2**			
INK				pmax	pmax						
	comp=Z,3.0nm,0.8s										
INK	**Inuvik**	**41.93**	**32**	*e*P	**P**		**12 02 13.5**	**-0.1**			
	comp=Z,137nm,0.7s,mb5.7										
WMQ	**Urumqi**	**44.68**	**291**	⇑*i*P	**P**		**12 02 37.6**	**+1.8**			
WMQ				AP	pP		12 02 42.1	-3.5			
WMQ				XP	sP		12 02 44.6	-5.0			
WMQ				PCP	PcP		12 04 19.9	+2.0			
WMQ				PP	PP		12 04 22.9	+2.5			
WMQ				PPP			12 05 02.3				
WMQ				SCP	ScP		12 08 11.3	+3.7			
WMQ				*e*S	**S**		**12 09 12.6**	**+2.6**			
WMQ				AMB	AMB						
	comp=Z,6.0nm,0.4s,mb4.8										
WMQ				AMB	AMB						
	comp=Z,163nm,4.0s										
WMQ				LR	LR						
	comp=N,96nm,22.5s,MS3.9										
WMQ				LR	LR						
	comp=E,140nm,20.5s,MS3.9										
WMQ				LR	LR						
	comp=Z,108nm,19.5s,MS3.8										
KMI	**Kunming**	**44.91**	**259**	P	**P**		**12 02 38.4**	**+0.8**			
KMI				AMB	AMB						
	comp=Z,7.0nm,1.6s,mb4.2										
KMI	**Kunming**	**44.91**	**259**	P	**P**		**12 02 38.4**	**+0.8**			
	comp=Z,7.0nm,1.6s,mb4.2										
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**		**12 02 50.1**	**-1.8**			
	comp=Z,1.1nm,0.6s,mb4.0,baz=65,slow=7.5,SNR=12										
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**		**12 03 17.8**	**-1.5**			
CHKZ				pmax	pmax						
	comp=Z,3.0nm,0.5s,mb4.6										
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	**P**		**12 03 17.8**	**-1.5**			
	comp=Z,2.6nm,0.5s,mb4.5										
BVAR	**Borovoye Array**	**50.70**	**309**	P	**P**		**12 03 21.0**	**-1.5**			
	comp=Z,0.6nm,0.4s,mb3.9,baz=28,slow=5.2,SNR=4.7										
BVAR	**Borovoye Array**	**50.70**	**309**	P	sP		12 03 35.8	-0.6			
	comp=Z,0.6nm,0.5s,baz=69,slow=7.9,SNR=3.6										
YKA	**Yellowknife Ar**	**51.22**	**37**	P	sP		12 03 37.0	-3.2			
	comp=Z,2.6nm,0.8s,baz=296,slow=7.0,SNR=5.7										
YKA	**Yellowknife Ar**	**51.22**	**37**	P	pP		12 03 37.0	+0.7			
YKA				pmax	pmax						
	comp=Z,3.0nm,0.8s										
JIRN	**Jiri**	**54.64**	**274**	*e*P	**P**		**12 03 51.4**	**-0.2**			
	comp=Z,32nm,1.0s,mb5.3										
GUN	**Gumba**	**54.70**	**275**	*e*P	**P**		**12 03 52.4**	**+0.4**			
KKN	**Kakani**	**55.19**	**275**	*e*P	**P**		**12 03 55.6**	**+0.1**			
PKI	**Pulchoki**	**55.24**	**275**	*e*P	**P**		**12 03 55.7**	**-0.2**			
DMN	**Daman**	**55.42**	**275**	*e*P	**P**		**12 03 57.6**	**+0.4**			
	comp=Z,34nm,1.0s,mb5.3										
GKN	**Gorkha**	**55.49**	**276**	*e*P	**P**		**12 03 57.5**	**-0.2**			
KOLN	**Koldanda**	**56.35**	**276**	*e*P	**P**		**12 04 03.4**	**-0.5**			
	comp=Z,24nm,1.0s,mb5.2										
EDM	**Edmonton**	**56.63**	**46**	*e*P	**P**		**12 04 06.3**	**+0.4**			
HOOD	**Mount Hood Mea**	**56.64**	**57**	*e*P	**P**		**12 04 04.9**	**-1.0**			
KEV	**Kevo**	**57.36**	**340**	*e*p	pP		12 04 20.0	-1.2			
ARCES	**ARCESS Array B**	**57.88**	**341**	P	sP		12 04 27.0	-1.7			
	comp=Z,3.4nm,0.9s,baz=36,slow=6.7,SNR=3.0										
WALA	**Waterton Lakes**	**58.77**	**50**	*e*P	**P**		**12 04 20.6**	**-0.3**			
	comp=Z,6.1nm,0.8s,mb4.7										
BMO	**Blue Mountains**	**59.41**	**56**	*e*P	**P**		**12 04 25.4**	**+0.1**			
MSO	**Missoula**	**60.09**	**52**	*e*P	**P**		**12 04 30.3**	**+0.2**			
	comp=Z,4.7nm,1.1s,mb4.4										
LRM	**Limekiln Ridge**	**61.53**	**52**	*e*P	**P**		**12 04 41.2**	**+1.4**			
LRM				*e*pP	pP		12 04 51.3	+1.4			
CMB	**Columbia Colle**	**61.74**	**64**	*e*P	**P**		**12 04 42.3**	**+1.0**			
CMB				*e**PP	pP		12 04 59.3	+7.9			
CMB				pmax	pmax						
	comp=Z,8.0nm,1.5s,mb4.6										
CMB	**Columbia Colle**	**61.74**	**64**	*e*P	**P**		**12 04 42.3**	**+1.1**			
	comp=Z,8.0nm,1.5s,mb4.6										
CMB				*e*pP	pP		12 04 59.3	+7.9			
MCMT	**McKenzie Canyo**	**61.93**	**54**	*e*P	**P**		**12 04 42.6**	**+0.1**			
NVAR	**Mina Array Bea**	**62.77**	**62**	P	**P**		**12 04 49.0**	**+0.8**			
	comp=Z,1.0nm,0.8s,mb4.0,baz=283,slow=8.6,SNR=6.1										
NVAR	**Mina Array Bea**	**62.77**	**62**	P	pP		12 05 00.1	+1.7			
	comp=Z,1.6nm,0.8s,baz=299,slow=8.1,SNR=8.1										
NVAR	**Mina Array Bea**	**62.77**	**62**	P	**P**		**12 04 49.0**	**+0.8**			
IMW	**Indian Meadow**	**63.58**	**53**	*e*P	**P**		**12 04 55.2**	**+1.7**			
IMW				*e*pP	pP		12 05 07.3	+3.6			
MOOW	**Moose Ponds**	**63.78**	**53**	*e*P	**P**		**12 04 55.7**	**+0.9**			
	comp=Z,4.5nm,1.3s,mb4.3										
SNOW	**Snow King Moun**	**63.96**	**54**	*e*P	**P**		**12 04 55.9**	**-0.1**			
REDW	**Red Top Meadow**	**63.97**	**54**	*e*P	**P**		**12 04 55.1**	**-1.0**			
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**		**12 04 54.0**	**-2.5**			
	comp=Z,1.2nm,0.3s,mb4.3,baz=46,slow=5.4,SNR=28										
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**		**12 04 54.0**	**-2.5**			
LAO	**LASA Array**	**64.28**	**49**	*e*P	**P**		**12 04 58.3**	**+0.2**			
DUG	**Dugway**	**64.91**	**57**	*e*P	**P**		**12 05 03.4**	**+1.2**			
DUG				*e**PP	pP		12 05 14.3	+1.8			
DUG				pmax	pmax						
	comp=Z,6.0nm,1.1s,mb4.5										
DUG	**Dugway**	**64.91**	**57**	*e*P	**P**		**12 05 03.4**	**+1.2**			
	comp=Z,5.7nm,1.1s,mb4.5										
DUG				*e*pP	pP		12 05 14.3	+1.9			
BW06	**Boulder Array**	**65.08**	**54**	*e*P	**P**		**12 05 03.8**	**+0.5**			
	comp=Z,4.9nm,1.1s,mb4.5										
BW06				*e*pP	pP		12 05 14.9	+1.4			
PDAR	**Pinedale Array**	**65.08**	**54**	P	**P**		**12 05 03.9**	**+0.6**			
	comp=Z,2.6nm,0.9s,mb4.2,baz=287,slow=2.1,SNR=17										
PDAR	**Pinedale Array**	**65.08**	**54**	P	pP		12 05 14.5	+1.0			
	comp=Z,2.5nm,0.8s,baz=295,slow=2.6,SNR=13										
SRU	**San Rafael**	**66.95**	**57**	*e*P	**P**		**12 05 16.2**	**+0.9**			
RSSD	**Black Hills**	**67.15**	**50**	*e*P	**P**		**12 05 15.7**	**-0.9**			
RSSD				pmax	pmax						
	comp=Z,4.0nm,0.9s,mb4.5										
RSSD	**Black Hills**	**67.15**	**50**	*e*P	**P**		**12 05 15.7**	**-0.9**			
	comp=Z,4.4nm,0.9s,mb4.5										
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**		**12 05 21.3**	**-2.2**			
	comp=Z,4.9nm,0.9s,mb4.5,baz=29,slow=6.5										
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**		**12 05 21.3**	**-2.2**			
	comp=Z,1.2nm,0.4s,mb4.3,baz=28,slow=6.4,SNR=6.6										
WRA	**Warramunga Arr**	**68.28**	**199**	P	**P**		**12 05 23.2**	**-0.6**			
	comp=Z,1.1nm,0.9s,mb3.9,baz=8.8,slow=6.5,SNR=6.4										
WRA	**Warramunga Arr**	**68.28**	**199**	P	sP		12 05 38.9	+1.0			
	comp=Z,2.9nm,0.7s,baz=19,slow=6.9,SNR=5.9										
PV10	**Paradox Valley**	**68.31**	**57**	*e*P	**P**		**12 05 25.0**	**+1.1**			
FITZ	**Fitzroy Crossi**	**68.88**	**208**	P	sP		12 05 43.7	+2.1			
	comp=Z,0.9nm,0.7s,baz=34,slow=3.9,SNR=4.7										
SMCO	**Snowmass**	**68.94**	**55**	*e*P	**P**		**12 05 30.1**	**+2.3**			
	comp=Z,3.5nm,1.0s,mb4.2										
ISCO	**Idaho Springs**	**69.27**	**54**	*e*P	**P**		**12 05 30.9**	**+1.0**			
ISCO				pmax	pmax						
	comp=Z,3.0nm,1.0s,mb4.2										
ISCO	**Idaho Springs**	**69.27**	**54**	*e*P	**P**		**12 05 30.9**	**+1.0**			
	comp=Z,2.6nm,1.0s,mb4.1										
SDCO	**Great Sand Dun**	**70.76**	**55**	P	**P**		**12 05 39.8**	**+0.8**			
	comp=Z,0.6nm,0.6s,mb3.7										
AKASG	**Malin Array Be**	**71.48**	**326**	P	**P**		**12 05 41.0**	**-2.5**			
	comp=Z,1.1nm,0.3s,mb4.2,baz=35,slow=6.3,SNR=7.4										
AKASG	**Malin Array Be**	**71.48**	**326**	P	sP		12 05 57.1	-0.5			
	comp=Z,1.2nm,0.4s,baz=33,slow=6.2,SNR=3.0										
AKASG	**Malin Array Be**	**71.48**	**326**	P	sP		12 05 57.1	-0.5			
AKASG				pmax	pmax						
	comp=Z,1.0nm,0.4s										
ASAR	**Alice Springs**	**71.98**	**198**	P	**P**		**12 05 47.0**	**+0.5**			
	comp=Z,0.7nm,0.7s,mb3.7,baz=12,slow=6.7,SNR=7.4										
ASAR	**Alice Springs**	**71.98**	**198**	P	sP		12 06 02.5	+1.9			
	comp=Z,2.3nm,0.6s,baz=13,slow=5.3,SNR=18										
ANMO	**Albuquerque**	**72.17**	**58**	P	**P**		**12 05 48.2**	**+0.7**			
	comp=Z,0.9nm,0.7s,mb3.8,baz=310,slow=9.1,SNR=3.9										
STHS	**Stebnicka Huta**	**75.47**	**330**	*e*P	**P**		**12 06 06.1**	**-0.8**			
STHS				*e*PCP	PcP		12 06 25.5	+5.7			
BUAR	**Bucovina Array**	**75.53**	**326**	⇑*i*P	**P**		**12 06 05.5**	**-1.7**			
DPC	**Dobruska-Polom**	**76.30**	**333**	*e*P	**P**		**12 06 10.2**	**-1.4**			
MORC	**Moravsky Berou**	**76.41**	**332**	⇓*i*P	**P**		**12 06 11.5**	**-0.7**			
CLL	**Collm**	**76.46**	**335**	*e*P	**P**		**12 06 11.0**	**-1.5**			
LTX	**Lajitas**	**77.83**	**60**	*e*P	**P**		**12 06 21.2**	**+1.0**			
LTX				*e**PP	pP		12 06 32.4	+1.8			
LTX				pmax	pmax						
	comp=Z,3.0nm,0.6s,mb4.4										
LTX	**Lajitas**	**77.83**	**60**	*e*P	**P**		**12 06 21.2**	**+1.0**			
	comp=Z,2.8nm,0.6s,mb4.4										
LTX				*e*pP	pP		12 06 32.4	+1.8			
TXAR	**Lajitas Array**	**77.83**	**60**	P	**P**		**12 06 21.2**	**+1.0**			
	comp=Z,1.8nm,0.8s,mb4.1,baz=294,slow=4.5,SNR=18										
TXAR	**Lajitas Array**	**77.83**	**60**	P	sP		12 06 32.9	-1.6			
	comp=Z,1.9nm,0.6s,baz=297,slow=5.5,SNR=14										
TXAR	**Lajitas Array**	**77.83**	**60**	P	**P**		**12 06 21.2**	**+1.0**			
KHC	**Kasperske Hory**	**78.22**	**334**	*e*P	**P**		**12 06 20.8**	**-1.6**			
BRTR	**Keskin Array B**	**78.27**	**316**	P	**P**		**12 06 21.8**	**-0.9**			
	comp=Z,1.5nm,0.9s,mb3.9,baz=83,slow=4.2,SNR=5.3										
GERES	**GERESS Array B**	**78.44**	**334**	P	**P**		**12 06 21.7**	**-1.8**			
	comp=Z,0.5nm,0.7s,mb3.6,baz=35,slow=4.9,SNR=5.3										
GERES	**GERESS Array B**	**78.44**	**334**	P	pP		12 06 35.4	+1.4			
	comp=Z,0.3nm,0.5s,baz=46,slow=7.6,SNR=4.2										
PMOR	**Pomariorio Ree**	**81.24**	**123**	*e*T			13 36 18.6				
	comp=Z,18nm,0.2s										
PPT	**Papeete**	**82.33**	**125**	*e*LR	LR		12 32 19.0				
	comp=Z,176nm,25.0s										
PPT	**Papeete**	**82.33**	**125**	*e*T			13 37 40.5				
	comp=Z,2.7nm,0.3s										
TIP	**Timpagrande**	**85.92**	**327**	*e*P	**P**		**12 07 01.5**	**-1.3**			
TBI	**Tubuai**	**87.06**	**129**	*e*T			13 43 34.2				
	comp=Z,11nm,0.2s										
RKT	**Rikitea**	**95.20**	**118**	*e*LR	LR		12 37 50.2				
	comp=Z,113nm,32.2s										
VNDA	**Vanda**	**123.99**	**178**	PKP	pPKPdf		12 13 34.5	+2.7			
	comp=Z,1.3nm,1.0s,baz=297,slow=2.3,SNR=4.0										
NNA	**Nana**	**125.98**	**67**	*e*PKPdf	PKPdf		12 13 28.2	+3.5			
CFAA	**Coronel Fontan**	**145.33**	**79**	PKPbc	PKPbc		12 13 59.4	-0.9			
	comp=Z,0.9nm,1.0s,baz=321,slow=4.3,SNR=8.4										
CFAA	**Coronel Fontan**	**145.33**	**79**	PKPbc	pPKPbc		12 14 11.1	0.0			
	comp=Z,1.1nm,1.0s,baz=247,slow=2.6,SNR=7.4										
VNA2	**Neumayer--Watz**	**153.79**	**195**	*e*PKPdf	PKPbc		12 14 19.5	-2.2			
VNA2				*e*			12 14 30.7				
VNA2				*e*			12 14 36.7				
VNA2				*e*			12 14 42.1				
VNA2				*e*			12 14 49.0				
VNA3	**Neumayer Olymp**	**153.89**	**193**	*e*PKPdf	PKPbc		12 14 20.3	-1.7			
VNA3				*e*			12 14 31.6				
VNA3				*e*			12 14 37.3				
VNA3				*e*			12 14 43.8				
VNA3				*e*			12 14 49.8				

*ISCJB **19** 12:22:13.0±0.3, 43.13N±002×006E±002, h13km±3km, Error ellipse: s-maj=3.1km s-min=2.3km az=124.1*
*LDG **19** 12:22:14.9±0.0, 4301N×001E, h9km, Md2.6/3, Ml2.6/14, Error ellipse: s-maj=0.9km s-min=0.7km az=166.0*
*NEIC **19** 12:22:14.9, 4301N×001E, h9km, ML2.6(STR), ML2.6(LDG), MN2.2(MDD), After LDG.*
*STR **19** 12:22:15.1±0.1, 4301N×000E, h2km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **19** 12:22:15.3±0.1, 4303N×001E, h2km, ML2.6/16, Error ellipse: s-maj=1.0km s-min=0.8km az=162.0*
*MDD **19** 12:22:15.5±0.2, 4301N×001W, h0km, mbLg2.1/19, Error ellipse: s-maj=1.9km s-min=1.2km az=8.0, PRXIMO*

ISC 19 12:22:14.4±0.2, 4307N±002×003E±002, h8km±3km, n80, σ0̸93/118, 1C-1D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**128**	Pg	**Pg**	**12 22 16.8**	**+0.9**
LABF				Sg	**Sg**	**12 22 18.2**	**+1.2**
LABF	**Labassere**	**0.04**	**128**	Pg	**Pg**	**12 22 16.9**	**+1.0**
LABF				Lg		12 22 18.3	
VIEF	**Viey**	**0.19**	**181**	Pg	**Pg**	**12 22 17.9**	**-0.3**
VIEF	**Viey**	**0.19**	**181**	Pg	**Pg**	**12 22 18.0**	**-0.2**
VIEF				Lg		12 22 20.2	
EPF	**Esparros**	**0.23**	**100**	*e*Pg	**Pg**	**12 22 19.9**	**+0.9**
EPF				*e*Sg	**Sg**	**12 22 23.5**	**+1.4**
	136nm,0.2s						
EPF	**Esparros**	**0.23**	**100**	*e*Pg	**Pg**	**12 22 19.9**	**+0.9**
EPF				*e*Sg	**Sg**	**12 22 23.5**	**+1.4**
	68nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**270**	Pg	**Pg**	**12 22 20.3**	**-0.1**
REYF				Sg	**Sg**	**12 22 24.9**	**+0.3**
REYF	**Montagne du Re**	**0.31**	**270**	Pg	**Pg**	**12 22 20.4**	**-0.1**
REYF				Lg		12 22 24.9	
RESF	**Ens**	**0.35**	**139**	Pg	**Pg**	**12 22 21.4**	**+0.2**
RESF				Sg	**Sg**	**12 22 26.2**	**+0.4**
RESF	**Ens**	**0.35**	**139**	Pg	**Pg**	**12 22 21.4**	**+0.3**
RESF				Lg		12 22 26.2	

EBIE	**Bielsa**	**0.40**	**168**	⇑Pg	**Pg**		**12 22 21.7**	**-0.3**			
	5.8nm,0.0s,SNR=18										
EBIE				Lg			12 22 26.3				
	90nm,0.1s,SNR=4.6										
EBIE	**Bielsa**	**0.40**	**168**	Pg	**Pg**		**12 22 21.7**	**-0.4**			
	5.8nm,0.0s,SNR=18										
EBIE				Lg			12 22 26.3				
	90nm,0.1s,SNR=4.6										
ETSF	**Etsaut**	**0.47**	**248**	*e*Pg	**Pg**		**12 22 23.1**	**-0.3**			
ETSF				*e*Sg	**Sg**		**12 22 28.7**	**-0.8**			
	178nm,0.4s										
ETSF	**Etsaut**	**0.47**	**248**	*e*Pg	**Pg**		**12 22 23.1**	**-0.3**			
ETSF				*e*Sg	**Sg**		**12 22 28.7**	**-0.8**			
	89nm,0.4s										
FDAF	**Les Forges d'A**	**0.51**	**240**	Pg	**Pg**		**12 22 23.7**	**-0.4**			
FDAF				Lg			12 22 30.1				
ATE	**Arette**	**0.54**	**272**	Lg			12 22 31.7				
MELF	**Melles**	**0.57**	**110**	Pg	**Pg**		**12 22 25.8**	**+0.4**			
MELF				Lg			12 22 33.7				
ORDF	**Ordiarp**	**0.72**	**282**	Pg	**Pg**		**12 22 28.7**	**+0.5**			
ORDF				Sg	**Sg**		**12 22 38.9**	**+1.3**			
ORDF	**Ordiarp**	**0.72**	**282**	Pg	**Pg**		**12 22 28.3**	**+0.1**			
ORDF				Lg			12 22 38.4				
LARF	**Larrau**	**0.75**	**268**	Pg	**Pg**		**12 22 28.4**	**-0.3**			
LARF				Sg	**Sg**		**12 22 39.0**	**+0.6**			
LARF	**Larrau**	**0.75**	**268**	Pg	**Pg**		**12 22 28.5**	**-0.3**			
LARF				Lg			12 22 37.9				
MLS	**Moulis**	**0.79**	**98**	Lg			12 22 41.6				
SALF	**Salau**	**0.91**	**110**	Pg	**Pg**		**12 22 31.8**	**0.0**			
SALF				Sg	**Sg**		**12 22 44.3**	**+0.7**			
SALF	**Salau**	**0.91**	**110**	Pg	**Pg**		**12 22 31.8**	**0.0**			
SALF				Lg			12 22 43.9				
SJPF	**Ste Jean**	**0.92**	**273**	*e*Pg	**Pg**		**12 22 32.3**	**+0.3**			
SJPF				*e*Sg	**Sg**		**12 22 44.0**	**0.0**			
	12nm,0.3s										
SJPF	**Ste Jean**	**0.92**	**273**	*e*Pg	**Pg**		**12 22 32.3**	**+0.3**			
SJPF				*e*Sg	**Sg**		**12 22 44.0**	**0.0**			
	6.2nm,0.3s										
IPRE	**Itoiz**	**1.05**	**256**	Pg	**Pg**		**12 22 34.3**	**-0.3**			
	4.1nm,0.2s,SNR=13										
IPRE				Lg			12 22 47.7				
	5.3nm,0.2s,SNR=6.9										
IPRE	**Itoiz**	**1.05**	**256**	Pg	**Pg**		**12 22 34.3**	**-0.3**			
	4.1nm,0.2s,SNR=13										
GRBF	**Gourbit**	**1.13**	**101**	Pg	**Pg**		**12 22 36.6**	**+0.5**			
EALK	**Alkurruntz**	**1.14**	**278**	Pg	**Pg**		**12 22 35.8**	**-0.3**	

MFF					Lg			12 24 06.9		
	1.6nm,0.3s									
MFF	**Saint Martin d**	**3.53**	**358**		*e*Pg		**Pg**	**12 23 21.4**	**-0.6**
MFF					*e*Sg		**Sg**	**12 24 06.9**	**-0.9**
	1.6nm,0.3s									
TCF	**Toulx Ste Croi**	**3.57**	**25**		*e*Pg		**Pg**	**12 23 22.2**	**-0.6**
TCF					*e*Sg		**Sg**	**12 24 09.0**	**-0.1**
	1.9nm,0.2s									
TCF	**Toulx Ste Croi**	**3.57**	**25**		*e*Pg		**Pg**	**12 23 22.2**	**-0.6**
TCF					*e*Sg		**Sg**	**12 24 09.0**	**-0.1**
	0.9nm,0.2s									
VIVF	**Saint-Julien-l**	**3.80**	**60**		*e*Pg		**Pg**	**12 23 26.1**	**-1.0**
VIVF					*e*Sg		**Sg**	**12 24 15.3**	**-1.0**
	1.9nm,0.3s									
VIVF	**Saint-Julien-l**	**3.80**	**60**		*e*Pg		**Pg**	**12 23 26.1**	**-1.0**
VIVF					*e*Sg		**Sg**	**12 24 15.3**	**-1.0**
	0.9nm,0.3s									
EARI	**Arriondas**	**3.84**	**275**		Pn		**Pn**	**12 23 15.5**	**+1.8**
	0.2nm,0.2s,SNR=7.9									
EARI					Sn		**Sn**	**12 23 59.1**	**0.0**
	0.3nm,0.3s,SNR=7.9									
EARI	**Arriondas**	**3.84**	**275**		Pn		**Pn**	**12 23 15.5**	**+1.7**
	0.2nm,0.2s,SNR=7.9									
EARI					Sn		**Sn**	**12 23 59.1**	**0.0**
BGF	**Bois d'Agland**	**4.02**	**29**		*e*Sg		**Sg**	**12 24 23.1**	**-0.4**
	11nm,0.3s									
BGF	**Bois d'Agland**	**4.02**	**29**		*e*Sg		**Sg**	**12 24 23.1**	**-0.4**
	5.6nm,0.3s									
AVF	**Avril sur Loir**	**4.40**	**31**		*e*Sg		**Sg**	**12 24 34.9**	**-0.9**
	1.8nm,0.4s									
AVF	**Avril sur Loir**	**4.40**	**31**		*e*Sg		**Sg**	**12 24 34.9**	**-0.9**
	0.9nm,0.4s									
SMF	**Signal de Mont**	**4.48**	**36**		*e*Sg		**Sg**	**12 24 37.5**	**-0.8**
	1.5nm,0.3s									
SMF	**Signal de Mont**	**4.48**	**36**		*e*Sg		**Sg**	**12 24 37.5**	**-0.8**
	0.8nm,0.3s									
QUIF	**Quistinic**	**5.34**	**336**		*e*Sg		**Sg**	**12 25 03.7**	**-2.1**
	0.3nm,0.2s									
QUIF	**Quistinic**	**5.34**	**336**		*e*Sg		**Sg**	**12 25 03.7**	**-2.1**
	0.2nm,0.2s									

*NEIC **19** 12:23:04.2±0.8, 4742N×15397E, h10km, mb4.2/2, Error ellipse: s-maj=21.9km s-min=9.1km az=128.0*
*ISCJB **19** 12:23:05.9±1.4, 4729N±010×154.1E±02, h39km±11km, mb4.3/14, Error ellipse: s-maj=24.9km s-min=6.9km az=77.1*
*MOS **19** 12:23:06.7±1.5, 4736N×15403E, h50km, mb4.4/2, Error ellipse: s-maj=19.5km s-min=11.8km az=60.6*
*IDC **19** 12:23:11.3±5.9, 4739N×15386E, h65km±52km, mb3.5/7, mb1 3.6/8, mb1mx3.4/23, mbtmp3.5/8, ML3.5/1, Error ellipse: s-maj=34.0km s-min=26.0km az=86.0*
ISC 19 12:23:08.0±1.2, 4725N±010×1542E±02, h43km±9km, n26, σ1§22/28, mb4.3/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.66**	**20**	*e*PN	**Pn**	**12 24 02.6**	**+0.5**
SKR				*e*S	**Sn**	**12 24 45.0**	**+1.0**
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,100nm,0.6s						
SKR				smax			
	comp=Z,160nm,0.9s						
PET	**Petropavlovsk**	**6.45**	**25**	*e*Pn	**Pn**	**12 24 38.2**	**-2.2**
PET				*e*S	**Sn**	**12 25 52.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**7.81**	**272**	*e*PN	**Pn**	**12 25 01.2**	**+2.3**
ASAJ	**Asahikawa**	**8.70**	**253**	P	**Pn**	**12 25 12.2**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=79,slow=16,SNR=6.5						
ASAJ	**Asahikawa**	**8.70**	**253**	PN	**Pn**	**12 25 12.2**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.44**	**240**	*e*PN	**Pn**	**12 25 21.6**	**+0.3**
MJAR	**Matsushiro Arr**	**15.97**	**234**	P	**Pn**	**12 26 47.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=35,slow=10,SNR=4.1						
MAJO	**Matsushiro**	**15.97**	**234**	*e*P	**Pn**	**12 26 48.7**	**-0.8**
MAT	**Matsushiro**	**15.97**	**234**	P	**Pn**	**12 26 48.0**	**-1.5**
KSRS	**Korea Array**	**21.65**	**253**	P	**P**	**12 27 54.4**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.5,baz=61,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**47.36**	**297**	P	**P**	**12 31 35.8**	**-1.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=63,slow=8.1,SNR=9.1						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**12 32 01.0**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**12 32 01.0**	**-2.0**
	comp=Z,3.5nm,0.9s,mb4.3						
BRVK	**Borovoye**	**51.15**	**310**	*e*P	**P**	**12 32 05.3**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.15**	**310**	*e*P	**P**	**12 32 05.3**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.1						
JIRN	**Jiri**	**55.63**	**275**	*e*P	**P**	**12 32 40.6**	**+1.1**
	comp=Z,14nm,0.7s,mb5.1						
GUN	**Gumba**	**55.69**	**275**	*e*P	**P**	**12 32 40.7**	**+0.8**
KKN	**Kakani**	**56.17**	**276**	*e*P	**P**	**12 32 44.3**	**+1.0**
	comp=Z,8.0nm,0.6s,mb4.9						
DMN	**Daman**	**56.40**	**276**	*e*P	**P**	**12 32 46.1**	**+1.1**
	comp=Z,17nm,0.7s,mb5.2						
GKN	**Gorkha**	**56.47**	**276**	*e*P	**P**	**12 32 46.3**	**+0.8**
	comp=Z,18nm,0.6s,mb5.2						
KOLN	**Koldanda**	**57.32**	**277**	*e*P	**P**	**12 32 52.5**	**+1.0**
	comp=Z,12nm,0.8s,mb4.9						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**12 33 35.3**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=38,slow=6.5,SNR=12						
NOA	**NORSAR Array B**	**67.99**	**342**	P	**P**	**12 34 02.3**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=4.0						
AKASG	**Malin Array Be**	**71.53**	**327**	P	**P**	**12 34 23.5**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=33,slow=6.1,SNR=5.0						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**12 34 33.9**	**+1.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=12,slow=5.0,SNR=9.2						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	**12 34 55.4**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=295,slow=3.4,SNR=7.4						

*ISCJB **19** 12:31:19.8±1.7, 466N±03×1509E±03, h10km, mb3.9/6, Error ellipse: s-maj=45.6km s-min=16.8km az=126.2*
*IDC **19** 12:31:20.3±2.4, 4665N×15096E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=60.9km s-min=25.7km az=163.0*
*NEIC **19** 12:31:23.1±2.3, 4691N×15095E, h10km, Error ellipse: s-maj=64.6km s-min=21.0km az=173.0*
ISC 19 12:31:21.5±1.7, 466N±03×1509E±03, h10km, n10, σ1§02/10, mb4.0/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**6.37**	**250**	Pn	**Pn**	**12 32 54.5**	**-0.8**
	0.5nm,0.3s,baz=63,slow=14,SNR=4.4						
SONM	**Songino Array**	**29.94**	**289**	P	**P**	**12 37 30.3**	**+0.7**
	0.6nm,0.8s,mb3.4,baz=94,slow=6.4,SNR=5.0						
INK	**Inuvik**	**42.56**	**32**	P	**P**	**12 39 15.3**	**-2.1**
	1.7nm,0.9s,mb3.8,baz=280,slow=9.7,SNR=4.2						
INK	**Inuvik**	**42.56**	**32**	*e*P	**P**	**12 39 15.4**	**-2.0**
	69nm,0.9s,mb5.4						
MKAR	**Makanchi Array**	**45.64**	**297**	P	**P**	**12 39 42.6**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=69,slow=7.9,SNR=6.2						
ARCES	**ARCESS Array B**	**57.45**	**340**	P	**P**	**12 41 10.8**	**+0.3**
	4.2nm,0.9s,mb4.5,baz=30,slow=5.6,SNR=25						
ARCES	**ARCESS Array B**	**57.45**	**340**	P	**P**	**12 41 10.8**	**+0.3**
FINES	**FINESS Array B**	**63.49**	**334**	P	**P**	**12 41 51.5**	**-0.2**
	1.6nm,0.7s,mb4.3,baz=46,slow=5.3,SNR=9.7						
FINES	**FINESS Array B**	**63.49**	**334**	P	**P**	**12 41 51.5**	**-0.2**
TXAR	**Lajitas Array**	**78.86**	**59**	P	**P**	**12 43 26.2**	**+1.4**
	0.3nm,0.6s,mb3.4,baz=305,slow=4.4,SNR=3.4						

*MDD **19** 13:06:47.5±1.1, 3736N×849W, h0km, mbLg1.7/4, Error ellipse: s-maj=10.7km s-min=3.3km az=15.0, PRXIMO*
INMG 19 13:06:47.5±1.1, 3737N×851W, h11km±5km, ML1.6, Error ellipse: s-maj=4.7km s-min=3.1km az=33.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**0.25**	**316**	*i* Pg	Pg	13 06 52.2	-0.5
PTEO				*e*Sg	Sg	13 06 56.2	+0.1
PTEO							
	32nm,0.1s						
EGRO	**El Granado**	**0.83**	**78**	Pg	Pg	13 07 02.6	-1.0
	1.2nm,0.1s,SNR=14						
EGRO				Lg		13 07 14.1	
	12nm,0.1s,SNR=22						
PBEJ	**Beja**	**0.83**	**37**	*e*P	Pg	13 07 02.9	-0.7
PBEJ				*e*S	Sg	13 07 14.0	-0.4
PBEJ							
	7.2nm,0.2s						
MOE	**Montemor**	**1.16**	**6**	*e*S	Sb	13 07 24.2	-0.4
EMIN	**Mina Concepcio**	**1.51**	**74**	Pg	Pg	13 07 14.1	-2.4
	1.0nm,0.2s,SNR=9.2						
EMIN				Lg		13 07 34.0	
	1.2nm,0.1s						
PESTR	**Estremoz**	**1.67**	**25**	*e*Sg	Sg	13 07 38.6	-2.4
PESTR							
	1.6nm,0.2s						
EBAD	**Badajoz**	**1.82**	**40**	Pg	Pg	13 07 21.2	-1.3
	1.2nm,0.1s,SNR=8.9						
EBAD				Lg		13 07 43.1	
	7.0nm,0.3s						
EADA	**Adamuz**	**3.21**	**74**	Sn	Sn	13 08 12.1	-4.1
	0.6nm,0.1s,SNR=7.9						
EADA				Lg		13 08 27.7	
	0.7nm,0.1s,SNR=7.9						

*ISCJB **19** 13:14:15.0±0.6, 4726N±009×1560E±0.1, h10km, mb4.0/15, Error ellipse: s-maj=14.9km s-min=9.2km az=105.6*
*IDC **19** 13:14:15.6±0.7, 4730N×15600E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/33, Error ellipse: s-maj=23.2km s-min=18.4km az=153.0*
*NEIC **19** 13:14:17.1±0.5, 4730N×15601E, h10km, mb4.2/4, Error ellipse: s-maj=13.2km s-min=8.2km az=148.0*
*MOS **19** 13:14:19.4±1.0, 4735N×15598E, h40km, mb4.4/4, Error ellipse: s-maj=19.2km s-min=11.8km az=89.6*
ISC 19 13:14:17.2±4.8, 4731N±010×1560E±01, h11km±29km, n30, σ0§74/30, mb4.0/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.38**	**2**	*e*PN	**Pn**	**13 15 10.6**	**+0.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PET	**Petropavlovsk**	**5.98**	**16**	*e*PN	**Pn**	**13 15 44.8**	**-0.8**
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET	**Petropavlovsk**	**5.98**	**16**	*e*Pn	**Pn**	**13 15 43.8**	**-1.8**
YSS	**Yuzh-Sakhalins**	**9.03**	**273**	*e*PN	**Pn**	**13 16 32.0**	**+4.6**
YSS	**Yuzh-Sakhalins**	**9.03**	**273**	Pn	**Pn**	**13 16 29.2**	**+1.8**
ASAJ	**Asahikawa**	**9.89**	**256**	Pn	**Pn**	**13 16 40.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=62,slow=17,SNR=6.3						
ASAJ	**Asahikawa**	**9.89**	**256**	PN	**Pn**	**13 16 40.1**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.55**	**245**	*e*PN	**Pn**	**13 16 46.8**	**-1.5**
BILL	**Bilibino**	**21.45**	**11**	*e*P	**P**	**13 19 05.8**	**+0.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
BILL	**Bilibino**	**21.45**	**11**	*e*P	**P**	**13 19 05.8**	**+0.4**
	comp=Z,3.3nm,0.4s,mb4.0						
INK	**Inuvik**	**40.13**	**33**	P	**P**	**13 21 52.4**	**-0.6**
	comp=Z,1.5nm,0.6s,mb3.9,baz=278,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**13 22 59.7**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=68,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**13 22 59.7**	**+0.4**
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**13 23 22.2**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**13 23 22.2**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	**13 23 26.4**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=55,slow=8.1,SNR=9.3						
BRVK	**Borovoye**	**52.05**	**310**	*e*P	**P**	**13 23 27.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.05**	**310**	*e*P	**P**	**13 23 27.5**	**+0.7**
	comp=Z,1.9nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**55.33**	**297**	*e*P	**P**	**13 23 50.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**55.33**	**297**	*e*P	**P**	**13 23 50.9**	**0.0**
	comp=Z,3.8nm,1.2s,mb4.3						
NVAR	**Mina Array Bea**	**60.43**	**64**	P	**P**	**13 24 26.8**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=291,slow=10.0,SNR=6.2						
BW06	**Boulder Array**	**62.83**	**56**	*e*P	**P**	**13 24 43.3**	**+0.4**
PDAR	**Pinedale Array**	**62.83**	**56**	P	**P**	**13 24 43.5**	**+0.6**
	comp=Z,1.1nm,0.9s,mb4.0,baz=310,slow=1.8,SNR=7.7						
FINES	**FINESS Array B**	**64.36**	**336**	P	**P**	**13 24 52.9**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=55,slow=7.7,SNR=7.9						
FINES	**FINESS Array B**	**64.36**	**336**	P	**P**	**13 24 52.9**	**0.0**
WRA	**Warramunga Arr**	**69.71**	**202**	P	**P**	**13 25 26.3**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.4,baz=23,slow=6.6,SNR=4.7						
AKASG	**Malin Array Be**	**72.15**	**328**	P	**P**	**13 25 41.4**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=32,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**73.39**	**201**	P	**P**	**13 25 49.8**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=17,slow=5.4,SNR=11						
TXAR	**Lajitas Array**	**75.51**	**63**	P	**P**	**13 26 02.0**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.3,baz=302,slow=4.5,SNR=42						
GERES	**GERESS Array B**	**78.79**	**336**	P	**P**	**13 26 19.2**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=42,slow=6.1,SNR=4.4						

*ISCJB **19** 13:16:10.6±0.2, 4317N±001×005E±002, h15km±2km, Error ellipse: s-maj=2.3km s-min=1.6km az=108.1*
*STR **19** 13:16:12.7±0.2, 4309N×004E, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **19** 13:16:13.2±0.0, 4302N×001W, h5km, ML3.5/35, Error ellipse: s-maj=0.6km s-min=0.5km az=149.0*
*LDG **19** 13:16:13.0±0.1, 4300N×001W, h10km, Md3.6/3, Ml3.5/34, Error ellipse: s-maj=1.0km s-min=0.7km az=1.0*
*NEIC **19** 13:16:13.0, 4300N×001W, h10km, ML3.3(STR), ML3.5(LDG), MN2.9(MDD), After LDG.*
*MDD **19** 13:16:13.5±0.2, 4303N×000E, h7km±2km, mbLg2.9/27, Error ellipse: s-maj=1.7km s-min=1.1km az=7.0, PRXIMO*
*INMG **19** 13:16:14.8±1.2, 4295N×0.10W, h0km±3km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.1km az=60.0*
ISC 19 13:16:12.1±0.2, 4310N±001×003E±001, h13km±1km, n222, σ1§18/424, 2C-2D, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**151**	Pg	**Pg**	**13 16 15.1**	**+0.4**
LABF	**Labassere**	**0.06**	**151**	Pg	**Pg**	**13 16 15.2**	**+0.5**
LABF				Lg		13 16 16.5	
VIEF	**Viey**	**0.22**	**181**	Pg	**Pg**	**13 16 16.2**	**-0.7**
VIEF	**Viey**	**0.22**	**181**	Pg	**Pg**	**13 16 16.3**	**-0.6**
VIEF				Lg		13 16 18.5	
EPF	**Esparros**	**0.24**	**108**	*e*Pg	**Pg**	**13 16 18.1**	**+0.9**
EPF				*e*Sg	**Sg**	**13 16 22.1**	**+1.5**
	1μm,0.2s						
EPF	**Esparros**	**0.24**	**108**	*e*Pg	**Pg**	**13 16 18.1**	**+0.9**
EPF				*e*Sg	**Sg**	**13 16 22.1**	**+1.5**
	534nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**264**	Pg	**Pg**	**13 16 18.7**	**+0.2**
REYF				Sg	**Sg**	**13 16 22.3**	**-0.5**
REYF	**Montagne du Re**	**0.31**	**264**	Pg	**Pg**	**13 16 18.6**	**+0.1**
REYF				Lg		13 16 23.1	
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**13 16 19.5**	**-0.1**
RESF	**Ens**	**0.37**	**142**	Pg	**Pg**	**13 16 19.6**	**0.0**
RESF				Lg		13 16 24.4	
EBIE	**Bielsa**	**0.42**	**169**	⇑Pg	**Pg**	**13 16 20.0**	**-0.5**
	SNR=18						
EBIE				Lg		13 16 24.8	
	1μm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.42**	**169**	Pg	**Pg**	**13 16 20.0**	**-0.5**
	SNR=18						
EBIE				Lg		13 16 24.8	
	1μm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.48**	**245**	*e*Pg	**Pg**	**13 16 21.4**	**-0.1**
ETSF				*e*Sg	**Sg**	**13 16 26.8**	**-1.1**
	863nm,0.2s						
ETSF	**Etsaut**	**0.48**	**245**	*e*Pg	**Pg**	**13 16 21.4**	**-0.1**
ETSF				*e*Sg	**Sg**	**13 16 26.8**	**-1.1**
	431nm,0.2s						
FDAF	**Les Forges d'A**	**0.52**	**237**	Pg	**Pg**	**13 16 21.9**	**-0.4**
FDAF				Lg		13 16 28.3	
ATE	**Arette**	**0.54**	**268**	Pg	**Pg**	**13 16 22.2**	**-0.4**
ATE				Sg	**Sg**	**13 16 30.5**	**+0.8**
ATE	**Arette**	**0.54**	**268**	Pg	**Pg**	**13 16 22.7**	**+0.1**
ATE				Lg		13 16 30.1	
MELF	**Melles**	**0.58**	**113**	Pg	**Pg**	**13 16 23.7**	**+0.2**
MELF				Lg		13 16 31.6	
ORDF	**Ordiarp**	**0.72**	**279**	Pg	**Pg**	**13 16 26.7**	**+0.7**
ORDF				Sg	**Sg**	**13 16 37.5**	**+2.1**
ORDF	**Ordiarp**	**0.72**	**279**	Pg	**Pg**	**13 16 26.6**	**+0.6**
ORDF				Lg		13 16 36.9	
LARF	**Larrau**	**0.75**	**265**	Pg	**Pg**	**13 16 26.7**	**+0.1**
LARF				Sg	**Sg**	**13 16 36.8**	**+0.3**
LARF	**Larrau**	**0.75**	**265**	Pg	**Pg**	**13 16 26.9**	**+0.2**
LARF				Lg		13 16 37.0	
MLS	**Moulis**	**0.79**	**100**	Pg	**Pg**	**13 16 27.6**	**+0.1**
MLS	**Moulis**	**0.79**	**100**	Pg	**Pg**	**13 16 27.7**	**+0.2**
MLS				Lg		13 16 39.6	
SALF	**Salau**	**0.92**	**112**	Pg	**Pg**	**13 16 30.1**	**+0.3**
SALF				Sg	**Sg**	**13 16 42.0**	**+0.2**
SALF	**Salau**	**0.92**	**112**	Pg	**Pg**	**13 16 29.9**	**0.0**
SALF				Lg		13 16 42.1	
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**13 16 29.7**	**-0.2**
SJPF				*e*Sg	**Sg**	**13 16 41.7**	**-0.2**
	99nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**271**	*e*Pg	**Pg**	**13 16 29.7**	**-0.2**
SJPF				*e*Sg	**Sg**	**13 16 41.7**	**-0.2**
	50nm,0.2s						
OSSF	**Osses**	**0.96**	**280**	Pg	**Pg**	**13 16 30.7**	**+0.1**
OSSF	**Osses**	**0.96**	**280**	Pg	**Pg**	**13 16 30.5**	**-0.1**
OSSF				Lg		13 16 43.6	
IPRE	**Itoiz**	**1.06**	**254**	⇑Pg	**Pg**	**13 16 32.6**	**0.0**
	21nm,0.4s,SNR=18						
IPRE				Lg		13 16 46.6	
	26nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**1.06**	**254**	Pg	**Pg**	**13 16 32.6**	**0.0**
	21nm,0.4s,SNR=18						
EALK	**Alkurruntz**	**1.13**	**276**	Pg	**Pg**	**13 16 34.3**	**+0.4**
	14nm,0.3s,SNR=38						
EALK				Lg		13 16 50.2	
	62nm,0.2s,SNR=7.9						
GRBF	**Gourbit**	**1.14**	**103**	Pg	**Pg**	**13 16 34.7**	**+0.8**
ELIZ	**Elizondo**	**1.14**	**274**	Pg	**Pg**	**13 16 34.0**	**-0.1**
	24nm,0.2s,SNR=37						
ELIZ				Lg		13 16 51.5	
	42nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**13 16 34.3**	**-0.3**
	19nm,0.3s,SNR=35						
IUSE				Lg		13 16 51.3	
	10.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.17**	**263**	Pg	**Pg**	**13 16 34.3**	**-0.3**
	19nm,0.3s,SNR=35						
PAND	**Andorre**	**1.26**	**117**	Pg	**Pg**	**13 16 37.1**	**+0.8**
PAND				Lg		13 16 52.5	
LPEF	**Le Peyrat**	**1.39**	**96**	Pg	**Pg**	**13 16 40.7**	**+1.9**
LPEF				Lg		13 16 59.0	
ESAC	**San Caprasio**	**1.43**	**195**	⇓Pg	**Pg**	**13 16 39.1**	**-0.5**
	308nm,0.3s,SNR=18						
ESAC				Lg		13 16 57.9	
	308nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.43**	**195**	Pg	**Pg**	**13 16 39.1**	**-0.5**
	308nm,0.3s,SNR=18						
CARF	**Carcanieres**	**1.57**	**104**	Pg	**Pg**	**13 16 42.9**	**+0.6**
CARF				Sg	**Sg**	**13 17 04.1**	**+1.4**
CARF	**Carcanieres**	**1.57**	**104**	Pg	**Pg**	**13 16 43.0**	**+0.6**
CARF				Lg		13 17 04.4	
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**13 16 43.7**	**+0.6**
MTLF				*e*Sg	**Sg**	**13 17 05.4**	**+1.3**
	154nm,0.2s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**13 16 43.7**	**+0.6**
MTLF				*e*Sg	**Sg**	**13 17 05.4**	**+1.3**
	77nm,0.2s						
EMIR	**Miracle**	**1.62**	**137**	Pn	**Pn**	**13 16 42.8**	**+2.4**
	28nm,0.3s,SNR=29						
EMIR				Lg		13 17 04.5	
	116nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.62**	**137**	Pn	**Pn**	**13 16 42.8**	**+2.4**
	28nm,0.3s,SNR=29						
VALF	**Valcebollere**	**1.62**	**115**	Pg	**Pg**	**13 16 43.6**	**+0.3**
VALF	**Valcebollere**	**1.62**	**115**	Pg	**Pg**	**13 16 43.1**	**-0.2**
VALF				Lg		13 17 04.6	
LRDF	**Laroque-de-Fa**	**1.85**	**94**	Pg	**Pg**	**13 16 48.3**	**+0.8**
LRDF				Sg	**Sg**	**13 17 12.1**	**+0.6**
LRDF	**Laroque-de-Fa**	**1.85**	**94**	Pg	**Pg**	**13 16 48.3**	**+0.7**
LRDF				Lg		13 17 12.0	
LFF	**La Frestale**	**1.91**	**15**	*e*Pg	**Pg**	**13 16 50.3**	**+1.6**
LFF				*e*Sg	**Sg**	**13 17 16.2**	**+2.8**
	140nm,0.3s						
LFF	**La Frestale**	**1.91**	**15**	*e*Pn	Pn	**13 16 45.8**	**+1.5**
LFF				*e*Pg	**Pg**	**13 16 50.3**	**+1.6**
LFF				*e*Sg	**Sg**	**13 17 16.2**	**+2.8**
LFF	**La Frestale**	**1.91**	**15**	Pn	**Pn**	**13 16 45.8**	**+1.5**
LFF				Pg	**Pg**	**13 16 50.3**	**+1.6**
LFF				Lg		13 17 16.2	
	70nm,0.3s						
LFF	**La Frestale**	**1.91**	**15**	*e*Pg	**Pg**	**13 16 50.3**	**+1.6**
LFF				*e*Sg	**Sg**	**13 17 16.2**	**+2.8**

EMOS Sn **Sn** **13 17 28.0 -1.3**
EMOS Lg 13 17 37.5
EMOS Mosqueruela 2.76 188 Pn **Pn** **13 16 59.0 +2.9**
3.6nm,0.3s,SNR=22
EMOS Pg **Pg** **13 17 03.7 -1.3**
23nm,0.4s,SNR=7.9
EMOS Sn **Sn** **13 17 28.0 -1.3**
29nm,0.3s,SNR=7.6
EMOS Lg 13 17 37.5
13nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.76 188 Pn **Pn** **13 16 59.0 +2.9**
3.6nm,0.3s,SNR=22
EMOS Mosqueruela 2.76 188 Pg **Pg** **13 17 03.7 -1.4**
23nm,0.4s,SNR=7.9
EMOS Sn **Sn** **13 17 28.0 -1.3**
29nm,0.3s,SNR=7.6
LASF Ste Croix 2.94 69 *e*Pg **Pg** **13 17 08.8 +0.2**
LASF *e*Sg **Sg** **13 17 47.3 +0.6**
77nm,0.3s
LASF Ste Croix 2.94 69 *e*Pn **Pn** **13 16 58.9 +0.3**
LASF *e*Pg **Pg** **13 17 08.8 +0.2**
LASF *e*Sg **Sg** **13 17 47.3 +0.6**
LASF Ste Croix 2.94 69 Pn **Pn** **13 16 58.9 +0.3**
LASF Pg **Pg** **13 17 08.8 +0.2**
LASF Lg 13 17 47.3
38nm,0.3s
LASF Ste Croix 2.94 69 *e*Pg **Pg** **13 17 08.8 +0.2**
LASF *e*Sg **Sg** **13 17 47.3 +0.6**
38nm,0.3s
OLEF Ile d'Oleron 3.01 341 Pg **Pg** **13 17 10.0 +0.3**
LBL Lubilhac 3.14 46 Pn **Pn** **13 17 02.3 +1.0**
LBL Sg **Sg** **13 17 55.0 +1.9**
PYM Petit Puy Mans 3.40 38 Pn **Pn** **13 17 07.9 +3.1**
PYM Sg **Sg** **13 18 02.4 +1.1**
MFF Saint Martin d 3.50 358 *e*Pg **Pg** **13 17 18.9 -0.3**
MFF *e*Sg **Sg** **13 18 05.5 +0.9**
36nm,0.4s
MFF Saint Martin d 3.50 358 *e*Pn **Pn** **13 17 07.1 +0.9**
MFF *e*Pg **Pg** **13 17 18.9 -0.3**
MFF *e*Sg **Sg** **13 18 05.5 +0.9**
MFF Saint Martin d 3.50 358 Pn **Pn** **13 17 07.1 +0.9**
MFF Pg **Pg** **13 17 18.9 -0.3**
MFF Lg 13 18 05.5
18nm,0.4s
MFF Saint Martin d 3.50 358 *e*Pg **Pg** **13 17 18.9 -0.3**
MFF *e*Sg **Sg** **13 18 05.5 +0.9**
18nm,0.4s
TCF Toulx Ste Croi 3.54 25 *e*Pg **Pg** **13 17 21.0 +1.0**
28nm,0.2s
TCF *e*Sn **Sn** **13 17 48.2 -0.4**
TCF *e*Sg **Sg** **13 18 07.0 +1.1**
TCF Toulx Ste Croi 3.54 25 *e*Pn **Pn** **13 17 06.5 -0.3**
TCF *e*Pg **Pg** **13 17 21.0 +1.0**
TCF *e*Sn **Sn** **13 17 48.2 -0.4**
TCF *e*Sg **Sg** **13 18 07.0 +1.1**
TCF Toulx Ste Croi 3.54 25 Pn **Pn** **13 17 06.5 -0.3**
TCF Pg **Pg** **13 17 21.0 +1.0**
14nm,0.2s
TCF Sn **Sn** **13 17 48.2 -0.4**
TCF Lg 13 18 07.0
TCF Toulx Ste Croi 3.54 25 *e*Pn **Pn** **13 17 06.5 -0.3**
TCF Toulx Ste Croi 3.54 25 *e*Pg **Pg** **13 17 21.0 +1.0**
14nm,0.2s
TCF *e*Sn **Sn** **13 17 48.2 -0.4**
TCF *e*Sg **Sg** **13 18 07.0 +1.1**
AGO Saint Agoulin 3.69 36 Pn **Pn** **13 17 11.2 +2.4**
AGO Sg **Sg** **13 18 11.8 +1.3**
VIVF Saint-Julien-l 3.78 61 *e*Pg **Pg** **13 17 24.4 -0.1**
VIVF *e*Sg **Sg** **13 18 13.7 +0.2**
18nm,0.2s
VIVF Saint-Julien-l 3.78 61 *e*Pn **Pn** **13 17 10.6 +0.5**
VIVF *e*Pg **Pg** **13 17 24.4 -0.1**
VIVF *e*Sg **Sg** **13 18 13.7 +0.2**
VIVF Saint-Julien-l 3.78 61 Pn **Pn** **13 17 10.6 +0.5**
VIVF Pg **Pg** **13 17 24.4 -0.1**
VIVF Lg 13 18 13.7
9.0nm,0.2s
VIVF Saint-Julien-l 3.78 61 *e*Pg **Pg** **13 17 24.4 -0.1**
VIVF *e*Sg **Sg** **13 18 13.7 +0.2**
9.0nm,0.2s
EARI Arriondas 3.84 275 Pn **Pn** **13 17 14.1 +3.3**
3.4nm,0.6s,SNR=4.0
EARI Sn **Sn** **13 17 56.7 +0.9**
7.3nm,0.4s,SNR=7.9
EARI Arriondas 3.84 275 Pn **Pn** **13 17 14.1 +3.2**
3.4nm,0.6s,SNR=4.0
EARI Sn **Sn** **13 17 56.7 +0.9**
7.3nm,0.4s,SNR=7.9
PLDF La Plantade 3.85 41 Pn **Pn** **13 17 07.8 -3.2**
ETOS Mallorca 3.94 147 Pn **Pn** **13 17 14.0 +1.8**
9.9nm,1.0s,SNR=7.2
ETOS Sn **Sn** **13 17 57.0 -1.2**
1.9nm,0.2s,SNR=7.9
ETOS Mallorca 3.94 147 Pn **Pn** **13 17 14.0 +1.8**
9.9nm,1.0s,SNR=7.2
ETOS Sn **Sn** **13 17 57.0 -1.2**
1.9nm,0.2s,SNR=7.9
GUD Guadarrama 3.98 233 Pn **Pn** **13 17 14.5 +1.8**
GUD Sn **Sn** **13 17 59.6 +0.3**
GUD Lg 13 18 17.9
GUD Guadarrama 3.98 233 Pn **Pn** **13 17 14.5 +1.8**
SNR=7.9
GUD Sn **Sn** **13 17 59.6 +0.3**
9.2nm,0.4s,SNR=7.9
GUD Lg 13 18 17.9
8.8nm,0.3s,SNR=7.9
GUD Guadarrama 3.98 233 Pn **Pn** **13 17 14.5 +1.7**
SNR=7.9
GUD Sn **Sn** **13 17 59.6 +0.4**
9.2nm,0.4s,SNR=7.9
BGF Bois d'Agland 3.99 29 *e*Pg **Pg** **13 17 29.0 +0.4**
BGF *e*Sg **Sg** **13 18 21.0 +0.7**
96nm,0.3s
BGF Bois d'Agland 3.99 29 *e*Pn **Pn** **13 17 13.5 +0.5**
BGF *e*Pg **Pg** **13 17 29.0 +0.4**
BGF *e*Sg **Sg** **13 18 21.0 +0.7**
BGF Bois d'Agland 3.99 29 Pn **Pn** **13 17 13.5 +0.5**
BGF Pg **Pg** **13 17 29.0 +0.4**
BGF Lg 13 18 21.0
48nm,0.3s
BGF Bois d'Agland 3.99 29 *e*Pg **Pg** **13 17 29.0 +0.4**
BGF *e*Sg **Sg** **13 18 21.0 +0.7**
48nm,0.3s
SMRF Simiane la Rot 4.12 76 *e*Pg **Pg** **13 17 30.5 -0.6**
SMRF *e*Sg **Sg** **13 18 24.1 -0.4**
23nm,0.4s
SMRF Simiane la Rot 4.12 76 *e*Pn **Pn** **13 17 14.9 +0.1**
SMRF *e*Pg **Pg** **13 17 30.5 -0.6**
SMRF *e*Sg **Sg** **13 18 24.1 -0.4**
SMRF Simiane la Rot 4.12 76 Pn **Pn** **13 17 14.9 +0.1**
SMRF Pg **Pg** **13 17 30.5 -0.6**
SMRF Lg 13 18 24.1
23nm,0.4s
SMRF Simiane la Rot 4.12 76 *e*Pg **Pg** **13 17 30.5 -0.6**
SMRF *e*Sg **Sg** **13 18 24.1 -0.4**
12nm,0.4s
EIBI Ibiza 4.19 166 Pn **Pn** **13 17 16.6 +0.9**
0.4nm,0.1s,SNR=7.9
EIBI Sn **Sn** **13 18 01.7 -2.9**
SNR=7.9
EIBI Ibiza 4.19 166 Pn **Pn** **13 17 16.6 +0.9**
0.4nm,0.1s,SNR=7.9
EIBI Sn **Sn** **13 18 01.7 -2.9**
SNR=7.9
AVF Avril sur Loir 4.38 31 *e*Pg **Pg** **13 17 35.8 -0.1**
AVF *e*Sg **Sg** **13 18 33.1 +0.5**
25nm,0.4s
AVF Avril sur Loir 4.38 31 *e*Pn **Pn** **13 17 18.4 +0.1**
AVF *e*Pg **Pg** **13 17 35.8 -0.1**
AVF *e*Sg **Sg** **13 18 33.1 +0.5**
AVF Avril sur Loir 4.38 31 Pn **Pn** **13 17 18.4 +0.1**
AVF Pg **Pg** **13 17 35.8 -0.1**
AVF Lg 13 18 33.1
12nm,0.4s
AVF Avril sur Loir 4.38 31 *e*Pg **Pg** **13 17 35.8 -0.1**
AVF *e*Sg **Sg** **13 18 33.1 +0.5**
12nm,0.4s
EBEN Beniarda 4.40 183 Pn **Pn** **13 17 19.5 +0.9**
EBEN Sn **Sn** **13 18 08.1 -1.6**
EBEN Beniarda 4.40 183 Pn **Pn** **13 17 19.5 +0.9**
0.5nm,0.1s,SNR=7.9
EBEN Sn **Sn** **13 18 08.1 -1.6**
2.8nm,0.3s,SNR=7.9
EBEN Beniarda 4.40 183 Pn **Pn** **13 17 19.5 +0.9**
0.5nm,0.1s,SNR=7.9
EBEN Sn **Sn** **13 18 08.1 -1.6**
2.8nm,0.3s,SNR=7.9
SMF Signal de Mont 4.46 36 *e*Pg **Pg** **13 17 37.4 -0.1**
SMF *e*Sg **Sg** **13 18 35.7 +0.5**
12nm,0.3s
SMF Signal de Mont 4.46 36 *e*Pn **Pn** **13 17 20.5 +1.1**
SMF *e*Pg **Pg** **13 17 37.4 -0.1**
SMF *e*Sg **Sg** **13 18 35.7 +0.5**
SMF Signal de Mont 4.46 36 Pn **Pn** **13 17 20.5 +1.1**
SMF Pg **Pg** **13 17 37.4 -0.1**
SMF Lg 13 18 35.7
6.1nm,0.3s
SMF Signal de Mont 4.46 36 *e*Pg **Pg** **13 17 37.4 -0.1**
SMF *e*Sg **Sg** **13 18 35.7 +0.5**
6.1nm,0.3s
HYF Humbligny 4.55 23 *e*Pn **Pn** **13 17 21.3 +0.6**
HYF *e*Pg **Pg** **13 17 40.5 +1.1**
HYF *e*Sg **Sg** **13 18 38.9 +0.5**
ESDC Sonseca Array 4.56 223 Pn **Pn** **13 17 21.5 +0.7**
3.5nm,0.1s,baz=43,slow=14,SNR=18
ESDC Sn **Sn** **13 18 09.7 -3.8**
4.7nm,0.2s,baz=43,slow=25,SNR=7.9
ESDC Lg 13 18 34.2
5.4nm,0.4s,baz=44,slow=30,SNR=7.9
ESDC Sonseca Array 4.56 223 Pn **Pn** **13 17 21.5 +0.8**
3.5nm,0.1s,SNR=18
ESDC Sn **Sn** **13 18 09.8 -3.8**
ESLA Sonseca Array 4.56 223 *e*Pn **Pn** **13 17 20.5 -0.2**
ESLA Sonseca Array 4.56 223 *e*Pn **Pn** **13 17 20.5 -0.2**
ORIF Oris-en-Rattie 4.59 65 *e*Pg **Pg** **13 17 38.8 -1.3**
ORIF *e*Sg **Sg** **13 18 39.2 -0.4**
9.0nm,0.5s
ORIF Oris-en-Rattie 4.59 65 *e*Pg **Pg** **13 17 38.8 -1.3**
ORIF *e*Sg **Sg** **13 18 39.2 -0.4**
4.5nm,0.5s
ETOB Tobarra 4.61 196 Pn **Pn** **13 17 23.3 +1.8**
3.1nm,0.6s,SNR=9.3
ETOB Sn **Sn** **13 18 12.7 -2.3**
3.3nm,0.3s,SNR=4.6
ETOB Lg 13 18 37.0
3.2nm,0.2s,SNR=7.9
ETOB Tobarra 4.61 196 Pn **Pn** **13 17 23.3 +1.8**
3.1nm,0.6s,SNR=9.3
ETOB Sn **Sn** **13 18 12.7 -2.2**
3.3nm,0.3s,SNR=4.6
SSF Saint Saulge 4.66 31 *e*Pg **Pg** **13 17 41.5 +0.1**
SSF *e*Sg **Sg** **13 18 41.9 +0.2**
22nm,0.5s
SSF Saint Saulge 4.66 31 *e*Pn **Pn** **13 17 21.9 -0.3**
SSF *e*Pg **Pg** **13 17 41.5 +0.1**
SSF *e*Sg **Sg** **13 18 41.9 +0.2**
SSF Saint Saulge 4.66 31 Pn **Pn** **13 17 21.9 -0.3**
SSF Pg **Pg** **13 17 41.5 +0.1**
SSF Lg 13 18 41.9
11nm,0.5s
SSF Saint Saulge 4.66 31 *e*Pg **Pg** **13 17 41.5 +0.1**
SSF *e*Sg **Sg** **13 18 41.9 +0.2**
11nm,0.5s
LMR La Mourre 4.74 85 *e*Pn **Pn** **13 17 22.7 -0.6**
LMR *e*Sg **Sg** **13 18 42.1 -2.2**
8.7nm,0.3s
LMR La Mourre 4.74 85 *e*Pn **Pn** **13 17 22.7 -0.6**
LMR *e*Sg **Sg** **13 18 42.1 -2.2**
4.3nm,0.3s
FRF La Foret Royal 4.85 82 *e*Pg **Pg** **13 17 43.6 -1.4**
FRF *e*Sg **Sg** **13 18 45.3 -2.5**
12nm,0.4s
FRF La Foret Royal 4.85 82 *e*Pn **Pn** **13 17 24.7 -0.1**
FRF *e*Pg **Pg** **13 17 43.6 -1.4**
FRF *e*Sg **Sg** **13 18 45.3 -2.5**
FRF La Foret Royal 4.85 82 Pn **Pn** **13 17 24.7 -0.1**
FRF Pg **Pg** **13 17 43.6 -1.4**
FRF Lg 13 18 45.3
6.2nm,0.4s
FRF La Foret Royal 4.85 82 *e*Pg **Pg** **13 17 43.6 -1.4**
FRF *e*Sg **Sg** **13 18 45.3 -2.5**
6.2nm,0.4s
EVIA Vianos 4.86 204 Pn **Pn** **13 17 26.6 +1.7**
0.7nm,0.2s,SNR=4.0
EVIA Lg 13 18 46.0
10nm,0.6s,SNR=7.9
LOR Lormes 4.97 32 *e*Pg **Pg** **13 17 47.4 +0.2**
LOR *e*Sn **Sn** **13 18 21.1 -2.6**
LOR *e*Sg **Sg** **13 18 51.9 +0.4**
21nm,0.4s
LOR Lormes 4.97 32 *e*Pn **Pn** **13 17 26.7 +0.3**
LOR *e*Pg **Pg** **13 17 47.4 +0.2**
LOR *e*Sn **Sn** **13 18 21.1 -2.6**
LOR *e*Sg **Sg** **13 18 51.9 +0.4**
LOR Lormes 4.97 32 Pn **Pn** **13 17 26.7 +0.3**
LOR Pg **Pg** **13 17 47.4 +0.2**
LOR Sn **Sn** **13 18 21.1 -2.6**
LOR Lg 13 18 51.9
10nm,0.4s
LOR Lormes 4.97 32 *e*Pn **Pn** **13 17 26.7 +0.3**
LOR Lormes 4.97 32 *e*Pg **Pg** **13 17 47.4 +0.2**
LOR *e*Sn **Sn** **13 18 21.1 -2.6**
LOR *e*Sg **Sg** **13 18 51.9 +0.4**
10nm,0.4s
MBDF Montbardon 5.13 69 *e*Pg **Pg** **13 17 49.6 -0.8**
MBDF *e*Sg **Sg** **13 18 56.0 -0.9**
7.3nm,0.6s
MBDF Montbardon 5.13 69 *e*Pn **Pn** **13 17 28.8 +0.1**
MBDF *e*Pg **Pg** **13 17 49.6 -0.8**
MBDF *e*Sg **Sg** **13 18 56.0 -0.9**
MBDF Montbardon 5.13 69 Pn **Pn** **13 17 28.8 +0.1**
MBDF Pg **Pg** **13 17 49.6 -0.8**
MBDF Lg 13 18 56.0
3.7nm,0.6s
MBDF Montbardon 5.13 69 *e*Pg **Pg** **13 17 49.6 -0.8**
MBDF *e*Sg **Sg** **13 18 56.0 -0.9**
3.7nm,0.6s
ECAL Calabor 5.13 259 Pn **Pn** **13 17 30.8 +2.1**
SNR=7.9
ECAL Sn **Sn** **13 18 28.5 +0.7**
8.0nm,0.3s,SNR=7.9
ECAL Calabor 5.13 259 Pn **Pn** **13 17 30.8 +2.1**
SNR=7.9
ECAL Sn **Sn** **13 18 28.5 +0.7**
8.0nm,0.3s,SNR=7.9
PBRG Braganca 5.17 258 *e*Pn **Pn** **13 17 31.1 +1.8**
PBRG *e*Sn **Sn** **13 18 27.4 -1.4**
PBRG
5.8nm,0.5s
PBRG Braganca 5.17 258 *e*Pn **Pn** **13 17 31.1 +1.8**
PBRG *e*Sn **Sn** **13 18 27.4 -1.4**
5.8nm,0.5s
EPON Pontenova 5.25 275 Pn **Pn** **13 17 34.5 +4.2**
10nm,1.0s,SNR=7.0
EPON Sn **Sn** **13 18 31.1 +0.4**
4.7nm,0.3s,SNR=7.9
EPON Pontenova 5.25 275 Pn **Pn** **13 17 34.5 +4.2**
10nm,1.0s,SNR=7.0
EPON Sn **Sn** **13 18 31.1 +0.4**
4.7nm,0.3s,SNR=7.9
QUIF Quistinic 5.31 336 *e*Pg **Pg** **13 17 51.4 -2.4**
QUIF *e*Sn **Sn** **13 18 29.6 -2.6**
QUIF *e*Sg **Sg** **13 19 01.5 -1.1**
8.8nm,0.3s
QUIF Quistinic 5.31 336 *e*Pn **Pn** **13 17 31.2 +0.1**
QUIF *e*Pg **Pg** **13 17 51.4 -2.4**
QUIF *e*Sn **Sn** **13 18 29.6 -2.6**
QUIF *e*Sg **Sg** **13 19 01.5 -1.1**
QUIF Quistinic 5.31 336 Pn **Pn** **13 17 31.2 +0.1**
QUIF Pg **Pg** **13 17 51.4 -2.4**
QUIF Sn **Sn** **13 18 29.6 -2.6**
QUIF Lg 13 19 01.5
4.4nm,0.3s
QUIF Quistinic 5.31 336 *e*Pn **Pn** **13 17 31.2 +0.1**
QUIF Quistinic 5.31 336 *e*Pg **Pg** **13 17 51.4 -2.4**
QUIF *e*Sn **Sn** **13 18 29.6 -2.6**
QUIF *e*Sg **Sg** **13 19 01.5 -1.1**
4.4nm,0.3s
GRR Gorron 5.32 354 *e*Pg **Pg** **13 17 53.3 -0.7**
GRR *e*Sn **Sn** **13 18 30.3 -2.1**
GRR *e*Sg **Sg** **13 19 02.4 -0.6**
16nm,0.3s
GRR Gorron 5.32 354 *e*Pn **Pn** **13 17 31.4 +0.1**
GRR *e*Pg **Pg** **13 17 53.3 -0.7**
GRR *e*Sn **Sn** **13 18 30.3 -2.1**
GRR *e*Sg **Sg** **13 19 02.4 -0.6**
GRR Gorron 5.32 354 Pn **Pn** **13 17 31.4 +0.1**
GRR Pg **Pg** **13 17 53.3 -0.7**
GRR Sn **Sn** **13 18 30.3 -2.1**
GRR Lg 13 19 02.4
7.9nm,0.3s
GRR Gorron 5.32 354 *e*Pn **Pn** **13 17 31.4 +0.1**
GRR Gorron 5.32 354 *e*Pg **Pg** **13 17 53.3 -0.7**
GRR *e*Sn **Sn** **13 18 30.3 -2.1**
GRR *e*Sg **Sg** **13 19 02.4 -0.6**
7.9nm,0.3s
EMUR La Murta 5.34 191 Pn **Pn** **13 17 32.9 +1.3**
1.3nm,0.4s,SNR=9.7
EMUR Sn **Sn** **13 18 29.8 -3.2**
2.4nm,0.3s,SNR=7.9
EMUR La Murta 5.34 191 Pn **Pn** **13 17 32.9 +1.3**
1.3nm,0.4s,SNR=9.7
EMUR Sn **Sn** **13 18 29.8 -3.2**
2.4nm,0.3s,SNR=7.9
LPL La Plagne 5.38 61 *e*Pg **Pg** **13 17 54.1 -1.0**
LPL *e*Sg **Sg** **13 19 04.1 -0.7**
7.2nm,0.5s
LPL La Plagne 5.38 61 *e*Pg **Pg** **13 17 54.1 -1.0**
LPL *e*Sg **Sg** **13 19 04.1 -0.7**
3.6nm,0.5s
LPG La Plagne 5.38 61 *e*Pg **Pg** **13 17 54.0 -1.2**
LPG *e*Sg **Sg** **13 19 04.4 -0.6**
10nm,0.6s
LPG La Plagne 5.38 61 *e*Pg **Pg** **13 17 54.0 -1.2**
LPG *e*Sg **Sg** **13 19 04.4 -0.6**
5.1nm,0.6s
SBF Sospel 5.44 79 *e*Pg **Pg** **13 17 54.4 -1.9**
SBF *e*Sg **Sg** **13 19 05.2 -1.6**
6.2nm,0.4s
SBF Sospel 5.44 79 *e*Pg **Pg** **13 17 54.4 -1.9**
SBF *e*Sg **Sg** **13 19 05.2 -1.6**
3.1nm,0.4s
SGMF Saint Gilles 5.46 342 *e*Pg **Pg** **13 17 54.5 -2.2**
SGMF *e*Sg **Sg** **13 19 06.3 -1.1**
20nm,0.5s
SGMF Saint Gilles 5.46 342 *e*Pn **Pn** **13 17 33.4 +0.2**
SGMF *e*Pg **Pg** **13 17 54.5 -2.2**
SGMF *e*Sg **Sg** **13 19 06.3 -1.1**
SGMF Saint Gilles 5.46 342 Pn **Pn** **13 17 33.4 +0.2**
SGMF Pg **Pg** **13 17 54.5 -2.2**
SGMF Lg 13 19 06.3
10nm,0.5s
SGMF Saint Gilles 5.46 342 *e*Pg **Pg** **13 17 54.5 -2.2**
SGMF *e*Sg **Sg** **13 19 06.3 -1.1**
10nm,0.5s
CABF La Chapelle 5.55 49 *e*Pg **Pg** **13 17 57.5 -0.9**
CABF *e*Sg **Sg** **13 19 09.8 -0.5**
28nm,0.6s
CABF La Chapelle 5.55 49 *e*Pn **Pn** **13 17 34.9 +0.5**
CABF *e*Pg **Pg** **13 17 57.5 -0.9**
CABF *e*Sg **Sg** **13 19 09.8 -0.5**
CABF La Chapelle 5.55 49 Pn **Pn** **13 17 34.9 +0.5**
CABF Pg **Pg** **13 17 57.5 -0.9**
CABF Lg 13 19 09.8
14nm,0.6s
CABF La Chapelle 5.55 49 *e*Pg **Pg** **13 17 57.5 -0.9**
CABF *e*Sg **Sg** **13 19 09.8 -0.5**
14nm,0.6s
FLN La Foliniere 5.67 357 *e*Pg **Pg** **13 17 59.6 -1.1**
FLN *e*Sn **Sn** **13 18 39.0 -2.1**
FLN *e*Sg **Sg** **13 19 13.0 -1.2**
16nm,0.4s
FLN La Foliniere 5.67 357 *e*Pn **Pn** **13 17 36.5 +0.4**
FLN *e*Pg **Pg** **13 17 59.6 -1.1**
FLN *e*Sn **Sn** **13 18 39.0 -2.1**
FLN *e*Sg **Sg** **13 19 13.0 -1.2**
FLN La Foliniere 5.67 357 Pn **Pn** **13 17 36.5 +0.4**
FLN Pg **Pg** **13 17 59.6 -1.1**
FLN Sn **Sn** **13 18 39.0 -2.1**
FLN Lg 13 19 13.0
7.8nm,0.4s
FLN La Foliniere 5.67 357 *e*Pn **Pn** **13 17 36.5 +0.4**
FLN La Foliniere 5.67 357 *e*Pg **Pg** **13 17 59.6 -1.1**
FLN *e*Sn **Sn** **13 18 39.0 -2.1**
FLN *e*Sg **Sg** **13 19 13.0 -1.2**
7.8nm,0.4s
ROSF Rostrenen 5.72 337 *e*Pg **Pg** **13 18 00.2 -1.5**
ROSF *e*Sg **Sg** **13 19 14.5 -1.3**
6.3nm,0.3s
ROSF Rostrenen 5.72 337 *e*Pn **Pn** **13 17 36.8 0.0**
ROSF *e*Pg **Pg** **13 18 00.2 -1.5**
ROSF *e*Sg **Sg** **13 19 14.5 -1.3**
ROSF Rostrenen 5.72 337 Pn **Pn** **13 17 36.8 0.0**
ROSF Pg **Pg** **13 18 00.2 -1.5**
ROSF Lg 13 19 14.5
3.2nm,0.3s
ROSF Rostrenen 5.72 337 *e*Pg **Pg** **13 18 00.2 -1.5**
ROSF *e*Sg **Sg** **13 19 14.5 -1.3**
3.2nm,0.3s
EQES Quesada 5.80 205 Lg 13 19 14.0
2.7nm,0.3s,SNR=7.9
PVRL Vila Real 6.04 255 *e*Sn **Sn** **13 18 49.1 -1.0**
EADA Adamuz 6.05 217 Pn **Pn** **13 17 42.8 +1.5**
0.8nm,0.2s,SNR=7.9
EADA Sn **Sn** **13 18 46.2 -4.2**
0.6nm,0.2s,SNR=7.9
EADA Lg 13 19 22.8
2.4nm,0.2s,SNR=7.9
EADA Adamuz 6.05 217 Pn **Pn** **13 17 42.8 +1.6**
0.8nm,0.2s,SNR=7.9
EADA Sn **Sn** **13 18 46.2 -4.1**
0.6nm,0.2s,SNR=7.9
SFTF Sexfontaines 6.19 33 *e*Pg **Pg** **13 18 09.2 -1.5**
SFTF *e*Sg **Sg** **13 19 29.8 -1.0**
16nm,0.5s
SFTF Sexfontaines 6.19 33 *e*Pg **Pg** **13 18 09.2 -1.5**
SFTF *e*Sg **Sg** **13 19 29.8 -1.0**
8.0nm,0.5s
PVIS Viseu 6.38 251 *e*Sn **Sn** **13 18 56.1 -2.3**
MEZF Maizieres J'vi 6.44 31 *e*Pg **Pg** **13 18 14.1 -1.3**
MEZF *e*Sg **Sg** **13 19 37.7 -1.0**
11nm,0.5s
MEZF Maizieres J'vi 6.44 31 *e*Pg **Pg** **13 18 14.1 -1.3**
MEZF *e*Sg **Sg** **13 19 37.7 -1.0**
5.7nm,0.5s
EQUE Quentar 6.46 205 Pn **Pn** **13 17 47.4 +0.5**
0.6nm,0.3s,SNR=4.0
EQUE Lg 13 19 36.2
2.4nm,0.4s,SNR=7.9
PCBR Castelo Branco 6.51 242 *e*Pn **Pn** **13 17 48.8 +1.2**
PCBR *e*Sn **Sn** **13 18 58.3 -3.5**
PCBR
2.4nm,0.4s
HAU Haudompre 6.61 40 *e*Pg **Pg** **13 18 17.3 -1.3**
HAU *e*Sg **Sg** **13 19 43.0 -1.2**
4.7nm,0.4s
HAU Haudompre 6.61 40 *e*Pg **Pg** **13 18 17.3 -1.3**
HAU *e*Sg **Sg** **13 19 43.0 -1.2**
2.3nm,0.4s
HINF Hinteralfeld 6.72 43 *e*Pg **Pg** **13 18 19.2 -1.6**
HINF *e*Sg **Sg** **13 19 46.3 -1.6**
2.6nm,0.4s
HINF Hinteralfeld 6.72 43 *e*Pg **Pg** **13 18 19.2 -1.6**
HINF *e*Sg **Sg** **13 19 46.3 -1.6**
1.3nm,0.4s
EBAD Badajoz 6.88 233 Pn **Pn** **13 17 53.1 +0.5**
0.7nm,0.2s,SNR=4.0
EBAD Sn **Sn** **13 19 06.8 -3.9**
1.6nm,0.2s,SNR=7.9
EBAD Badajoz 6.88 233 Pn **Pn** **13 17 53.1 +0.5**
EBAD Sn **Sn** **13 19 06.8 -3.9**
PESTR Estremoz 7.15 236 *e*Pn **Pn** **13 17 57.0 +0.6**
PESTR *e*Sn **Sn** **13 19 14.0 -3.5**
PESTR
2.7nm,0.5s

*NEIC **19** 13:28:17.8≈1.0, 5035N×1883E, h5km, ML2.4(BRA), ML2.9(BUC), ML3.1(SZGRF), Error ellipse: s-maj=14.8km s-min=5.9km az=11.0*
*MOS **19** 13:28:17.6≈2.8, 5030N×1898E, h8km, mb3.7/1, Error ellipse: s-maj=9.4km s-min=7.2km az=108.5*
*IPEC **19** 13:28:17.9≈0.2, 5028N×1884E, h1km±1km, ML2.6/4, Error ellipse: s-maj=2.3km s-min=0.8km az=167.0*
*CSEM **19** 13:28:18.5≈0.3, 5031N×1882E, h2km, ML3.4/4, Error ellipse: s-maj=7.3km s-min=3.0km az=12.0*
*PRU **19** 13:28:18.6, 5031N×1880E, h0km*
*BGR **19** 13:28:34.6≈1.2, 5009N×1793E, h1km, ML3.1, Error ellipse: s-maj=13.3km s-min=11.1km az=44.0*
WAR 19 13:28:18.2, 5024N×1889E, ML2.9, 4C-6D, Mining

Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**251**	*e*Pg	Pg	13 28 28.0	+0.7
RAC				*e*Sg	Sg	13 28 35.2	+1.8
OJC	**Ojcow**	**0.58**	**91**	*i* Pg	Pg	13 28 29.7	+0.3
OJC				*i* Sg	Sg	13 28 38.1	+1.1
OJC	**Ojcow**	**0.58**	**91**	*i* Pg	Pg	13 28 29.7	+0.3
OJC				*e*Sg	Sg	13 28 37.6	+0.6
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*PG	Pg	13 28 30.3	+0.1
OKC				*e*SG	Sg	13 28 38.9	+0.6
	173nm,1.0s						
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*Pg	Pg	13 28 30.1	-0.1
OKC				*e*Sg	Sg	13 28 37.8	-0.5
MORC	**Moravsky Berou**	**0.98**	**243**	⇑*i*P	Pg	13 28 36.8	-0.3
MORC	**Moravsky Berou**	**0.98**	**243**	⇑P	Pg	13 28 36.8	-0.2
MORC	**Moravsky Berou**	**0.98**	**243**	*e*Pg	Pg	13 28 36.6	-0.5
MORC				*e*Sg	Sg	13 28 48.7	-1.1
	60nm,0.3s						
LIKS	**Likavka**	**1.20**	**173**	*e*PN	Pn	13 28 42.3	+0.1
LIKS				*e*SN	Sn	13 28 59.3	+0.2
NIE	**Niedzica**	**1.23**	**131**	*e*Pg	Pg	13 28 41.6	-0.3
NIE				*e*Sg	Sg	13 28 59.5	+1.6
JAVC	**Velka Javorina**	**1.59**	**210**	*e*Pn	Pn	13 28 47.7	+0.1
JAVC				*e*Sg	Sg	13 29 10.4	+1.0
	45nm,0.6s						
DPC	**Dobruska-Polom**	**1.65**	**275**	*e*PG	Pg	13 28 47.3	-2.5
DPC				*e*SG	Sg	13 29 08.9	-2.3
STHS	**Stebnicka Huta**	**1.73**	**117**	*e*PN	Pn	13 28 49.5	0.0
STHS				*e*SN	Sn	13 29 16.6	+4.3
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	Pn	13 28 48.8	-0.9
VYHS				*e*SN	Sn	13 29 13.2	+0.5
VRAC	**Vranov**	**1.75**	**239**	⇓*i*P	Pn	13 28 49.4	-0.5
VRAC	**Vranov**	**1.75**	**239**	*e*Pn	Pn	13 28 49.4	-0.5
VRAC				*e*Sg	Sg	13 29 12.6	-2.0
	65nm,0.6s						
KSP	**Ksiaz**	**1.76**	**291**	*e*Pn	Pn	13 28 49.8	-0.2
KSP				*e*Pg	Pg	13 28 50.7	-1.3
KSP				*e*Sg	Sg	13 29 13.6	-1.3
KSP	**Ksiaz**	**1.76**	**291**	*e*Pg	Pg	13 28 50.7	-1.3
KSP				*e*Sg	Sg	13 29 13.6	-1.3
UPC	**Upice**	**1.86**	**279**	*e*PG	Pg	13 28 51.4	-2.5
KRUC	**Moravsky**	**2.00**	**235**	*e*Pn	Pn	13 28 52.9	-0.4
KRUC				*e*Sn	Sn	13 29 19.6	+0.6
	40nm,0.7s						
KECS	**Kecovo**	**2.04**	**149**	*e*PN	Pn	13 28 53.4	-0.4
KECS				*e*PG	Pg	13 28 56.4	-1.0
KECS				*e*SN	Sn	13 29 21.4	+1.4
ZST	**Bratislava**	**2.36**	**210**	*e*SN	Sn	13 29 26.1	-1.6
PSZ	**Piszkesteto**	**2.41**	**164**	P	Pn	13 29 03.8	+4.9
PSZ	**Piszkesteto**	**2.41**	**164**	⇓*e*PB	Pb	13 29 05.5	+3.0
PSZ				*e*SB	Sb	13 29 34.9	+2.1
KOLS	**Kolonicke sedl**	**2.56**	**119**	*e*PN	Pn	13 29 00.7	-0.2
KOLS				*e*PG	Pg	13 29 07.5	+0.2
UZH	**Uzhgorod**	**2.74**	**125**	*e*P	Pn	13 28 57.0	-6.4
UZH				*e*S	Sn	13 29 28.0	-9.3
UZH				MLR	MLR		
	comp=Z,40nm,1.2s						
PVCC	**Panska Ves**	**2.78**	**278**	*e*SG	Sg	13 29 46.1	-1.4
	comp=Z,34nm,0.5s						
BRG	**Berggiesshubel**	**3.22**	**283**	*e*Pn	Pn	13 29 16.9	+7.0
BRG				*e*Sg	Sg	13 29 59.6	-2.0
FBE	**Freiberg**	**3.59**	**283**	*e*Sg	Sg	13 30 11.8	-1.9
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	Pn	13 29 14.2	-1.3
KHC				*e*PG	Pg	13 29 21.3	-6.3
KHC				*e*SG	Sg	13 30 11.8	-2.8
	comp=Z,18nm,0.7s						
GEC2	**GERESS Array S**	**3.66**	**250**	*e*Pn	Pg	13 29 25.3	-3.0
GEC2				*e*Sg	Sg	13 30 10.2	-5.4
GEC2	**GERESS Array S**	**3.66**	**250**	*e*Pn	Pg	13 29 25.3	-3.0
GEC2				*e*Sg	Sg	13 30 10.2	-5.4
CLL	**Collm**	**3.89**	**288**	*e*SG	Sg	13 30 23.0	-1.1
CLL	**Collm**	**3.89**	**288**	*e*SG	Sg	13 30 23.0	-0.1
TANN	**Tannenbergstha**	**4.12**	**275**	*e*SG	Sg	13 30 25.3	-5.3
NKC	**Novy Kostel**	**4.13**	**272**	*e*SG	Sg	13 30 26.9	-4.2
	comp=Z,18nm,0.7s						
GUNZ	**Gunzen**	**4.21**	**274**	*e*Sg	Sg	13 30 29.3	-4.1
DRGR		**4.28**	**142**	⇓*i*P	Pn	13 29 25.3	+0.7
DRGR		**4.28**	**142**	⇓P	Pn	13 29 25.3	+0.7
ROTZ	**Rotzenmuhle**	**4.34**	**266**	*e*Sg	Sg	13 30 32.3	-5.3
BURAR	**Bucovina Array**	**4.93**	**120**	⇑*i*P	Pn	13 29 34.6	+1.1
BURAR	**Bucovina Array**	**4.93**	**120**	⇑P	Pn	13 29 34.6	+1.1
BZS	**Buzias**	**4.97**	**157**	⇓*i*P	Pn	13 29 35.0	+0.9
BZS	**Buzias**	**4.97**	**157**	⇓P	Pn	13 29 35.0	+0.9
GRA1	**Grafenberg Arr**	**4.98**	**267**	Sg	Sg	13 30 53.5	-4.7
GRF	**Grafenberg Arr**	**4.98**	**267**	*e*Sg	Sg	13 30 53.5	-4.6

IDC 19 13:31:08.3±6.6, 298S×10341E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=252.0km s-min=28.0km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.58**	**122**	P	P	13 37 59.0	+0.3
	0.2nm,0.3s,baz=309,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**35.95**	**128**	P	P	13 38 11.3	+0.9
	0.7nm,0.5s,baz=299,slow=7.8,SNR=33						
STKA	**Stephens Creek**	**45.98**	**133**	P	P	13 39 32.8	-0.4
	0.9nm,0.3s,baz=311,slow=13,SNR=7.3						
SONM	**Songino Array**	**50.66**	**3**	P	P	13 40 09.5	+0.2
	0.8nm,0.7s,baz=187,slow=9.5,SNR=6.2						

IDC 19 13:49:12.2±75.0, 1717S×17996W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=1351.0km s-min=155.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.53**	**194**	LR	LR	14 04 02.8	
	comp=Z,66nm,18.4s,baz=170,slow=32						
STKA	**Stephens Creek**	**37.70**	**240**	P	P	13 56 29.6	+0.3
	1.6nm,0.8s,baz=72,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**43.31**	**259**	P	P	13 57 16.0	+0.1
	0.3nm,0.7s,baz=94,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**43.57**	**254**	P	P	13 57 18.4	+0.5
	1.2nm,0.4s,baz=89,slow=7.9,SNR=58						

IDC ***19*** *13:59:45.5±0.9, 5145N×160.35E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/24, mbtmp3.7/8, Error ellipse: s-maj=38.5km s-min=20.9km az=142.0*
MOS ***19*** *13:59:45.1±1.0, 51.37N×160.52E, h11km, mb4.2/1, Error ellipse: s-maj=24.0km s-min=8.8km az=97.0*
NEIC ***19*** *13:59:47.1±0.5, 5147N×160.32E, h10km, mb4.1/1, Error ellipse: s-maj=13.1km s-min=11.8km az=208.0*
KRSC ***19*** *13:59:48.8±0.6, 5165N×160.52E, h10km±10km, ML4.2*
ISCJB ***19*** *13:59:49.9±1.1, 5152N±006×160.62E±009, h41km±11km, mb3.7/9, Error ellipse: s-maj=10.2km s-min=8.4km az=113.8*

ISC 19 13:59:50.8±1.1, 5147N±006×16050E±009, h36km±11km, n55, σ0s97/84, mb3.7/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.56**	**309**	P	**Pn**	**14 00 15.2**	**-0.9**
RUS				S	**Sn**	**14 00 34.9**	**-0.2**
RUS	**Russkaya**	**1.56**	**309**	*e*P	**Pn**	**14 00 15.2**	**-0.9**
RUS				*i* S	**Sn**	**14 00 34.9**	**-0.2**
RUS	**Russkaya**	**1.56**	**309**	*e*P	**Pn**	**14 00 15.2**	**-0.9**
RUS				*i* S	**Sn**	**14 00 34.9**	**-0.2**
SPN	**Mys Shipunski**	**1.66**	**350**	P	**Pn**	**14 00 16.3**	**-1.1**
SPN				S	**Sn**	**14 00 36.0**	**-1.4**
SPN	**Mys Shipunski**	**1.66**	**350**	*e*P	**Pn**	**14 00 16.3**	**-1.1**
SPN				*i* S	**Sn**	**14 00 36.0**	**-1.4**
SPN	**Mys Shipunski**	**1.66**	**350**	*e*P	**Pn**	**14 00 16.3**	**-1.1**
SPN				*i* S	**Sn**	**14 00 36.0**	**-1.4**
NLC	**Nalytchevo**	**1.84**	**338**	P	**Pn**	**14 00 20.1**	**+0.1**
NLC				S	**Sn**	**14 00 42.6**	**+0.5**
NLC	**Nalytchevo**	**1.84**	**338**	*e*P	**Pn**	**14 00 20.1**	**+0.1**
NLC				*i* S	**Sn**	**14 00 42.6**	**+0.5**
NLC	**Nalytchevo**	**1.84**	**338**	*e*P	**Pn**	**14 00 20.1**	**+0.1**
NLC				*i* S	**Sn**	**14 00 42.6**	**+0.5**
GRL	**Gorelyy**	**1.85**	**307**	*e*P	**Pn**	**14 00 20.4**	**+0.4**
GRL				*i* S	**Sn**	**14 00 43.3**	**+1.1**
GRL	**Gorelyy**	**1.85**	**307**	*e*P	**Pn**	**14 00 20.4**	**+0.4**
GRL				*i* S	**Sn**	**14 00 43.3**	**+1.1**
PET	**Petropavlovsk**	**1.93**	**325**	P	**Pn**	**14 00 20.8**	**-0.3**
PET				S	**Sn**	**14 00 44.4**	**+0.3**
PET	**Petropavlovsk**	**1.93**	**325**	*e*PN	**Pn**	**14 00 21.0**	**-0.1**
PET				*e*S	**Sn**	**14 00 45.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,32nm,0.4s						
PET				smax			
	comp=N,154nm,0.6s						
PET	**Petropavlovsk**	**1.93**	**325**	*e*Pn	**Pn**	**14 00 19.1**	**-2.0**
PET	**Petropavlovsk**	**1.93**	**325**	*e*P	**Pn**	**14 00 20.8**	**-0.3**
PET				*i* S	**Sn**	**14 00 44.4**	**+0.3**
PET	**Petropavlovsk**	**1.93**	**325**	*e*P	**Pn**	**14 00 20.8**	**-0.3**
PET				*i* S	**Sn**	**14 00 44.4**	**+0.3**
AVH	**Avacha**	**2.10**	**330**	*e*P	**Pn**	**14 00 24.4**	**+1.0**
AVH				*e*S	**Sn**	**14 00 49.7**	**+1.4**
AVH	**Avacha**	**2.10**	**330**	*e*P	**Pn**	**14 00 24.4**	**+1.0**
AVH				*e*S	**Sn**	**14 00 49.7**	**+1.4**
SKR	**Severo-Kuril's**	**2.87**	**256**	*e*PN	**Pn**	**14 00 32.0**	**-2.1**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MKZ	**Mys Kozlova**	**3.18**	**13**	P	**Pn**	**14 00 36.6**	**-1.7**
MKZ				S	**Sn**	**14 01 11.0**	**-4.0**
MKZ	**Mys Kozlova**	**3.18**	**13**	*e*P	**Pn**	**14 00 36.6**	**-1.7**
MKZ				*i* S	**Sn**	**14 01 11.0**	**-4.0**
MKZ	**Mys Kozlova**	**3.18**	**13**	*e*P	**Pn**	**14 00 36.6**	**-1.7**
MKZ				*i* S	**Sn**	**14 01 11.0**	**-4.0**
TUMR	**Tumrok**	**3.83**	**357**	P	**Pn**	**14 00 48.1**	**+0.9**
TUMR				*i* S	**Sn**	**14 01 31.1**	**+0.1**
TUMR	**Tumrok**	**3.83**	**357**	P	**Pn**	**14 00 48.1**	**+0.9**
TUMR				*i* S	**Sn**	**14 01 31.1**	**+0.1**
KMNR	**Kamenistaya**	**4.30**	**358**	*e*P	**Pn**	**14 00 55.0**	**+1.3**
KMNR	**Kamenistaya**	**4.30**	**358**	*e*P	**Pn**	**14 00 55.0**	**+1.3**
KPT	**Kopyto**	**4.51**	**358**	P	**Pn**	**14 00 57.1**	**+0.5**
KPT	**Kopyto**	**4.51**	**358**	P	**Pn**	**14 00 57.1**	**+0.5**
ZLN	**Zelenaya**	**4.56**	**2**	P	**Pn**	**14 00 58.5**	**+1.2**
ZLN				*i* S	**Sn**	**14 01 48.7**	**-0.3**
ZLN	**Zelenaya**	**4.56**	**2**	P	**Pn**	**14 00 58.5**	**+1.2**
ZLN				*i* S	**Sn**	**14 01 48.7**	**-0.3**
KOZ	**Kozyrevsk**	**4.61**	**356**	P	**Pn**	**14 00 58.0**	**0.0**
KOZ	**Kozyrevsk**	**4.61**	**356**	P	**Pn**	**14 00 58.0**	**0.0**
KOZ	**Kozyrevsk**	**4.61**	**356**	P	**Pn**	**14 00 58.0**	**0.0**
KOZR	**Kozyr**	**4.62**	**356**	PN	**Pn**	**14 00 58.0**	**-0.1**
KRSR	**Krestovskiy**	**4.76**	**0**	P	**Pn**	**14 01 01.1**	**+1.1**
KRSR	**Krestovskiy**	**4.76**	**0**	P	**Pn**	**14 01 01.1**	**+1.1**
KLY	**Klyuchi**	**4.85**	**1**	P	**Pn**	**14 01 01.9**	**+0.6**
KLY				S	**Sn**	**14 01 55.2**	**-1.1**
KLY	**Klyuchi**	**4.85**	**1**	*e*P	**Pn**	**14 01 01.9**	**+0.6**
KLY				*e*S	**Sn**	**14 01 55.2**	**-1.1**
KLY	**Klyuchi**	**4.85**	**1**	*e*P	**Pn**	**14 01 01.9**	**+0.6**
KLY				*e*S	**Sn**	**14 01 55.2**	**-1.1**
SRDR	**Sredinnyy**	**4.88**	**355**	P	**Pn**	**14 01 02.0**	**+0.3**
SRDR	**Sredinnyy**	**4.88**	**355**	P	**Pn**	**14 01 02.0**	**+0.3**
SRKR	**Sorokina**	**5.21**	**4**	P	**Pn**	**14 01 06.2**	**0.0**
SRKR				*i* S	**Sn**	**14 02 02.6**	**-2.5**
SRKR	**Sorokina**	**5.21**	**4**	P	**Pn**	**14 01 06.2**	**0.0**
SRKR				*i* S	**Sn**	**14 02 02.6**	**-2.5**
TIXI	**Tiksi**	**24.67**	**337**	*e*P	**P**	**14 05 07.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
TIXI	**Tiksi**	**24.67**	**337**	*e*P	**P**	**14 05 07.1**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.0						
INK	**Inuvik**	**35.02**	**36**	P	**P**	**14 06 39.4**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=303,slow=8.5,SNR=7.1						
INK	**Inuvik**	**35.02**	**36**	*e*P	**P**	**14 06 39.9**	**-0.1**
MKAR	**Makanchi Array**	**49.10**	**297**	P	**P**	**14 08 34.0**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=58,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**49.10**	**297**	P	**P**	**14 08 34.0**	**-0.7**
NVAR	**Mina Array Bea**	**56.08**	**69**	P	**P**	**14 09 27.9**	**+1.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=309,slow=6.2,SNR=3.9						
PDAR	**Pinedale Array**	**58.11**	**60**	P	**P**	**14 09 41.3**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=308,slow=2.7,SNR=5.9						
ULM	**Lac du Bonnet**	**59.76**	**46**	P	**P**	**14 09 52.1**	**0.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=122,slow=14,SNR=4.0						
TXAR	**Lajitas Array**	**71.05**	**67**	P	**P**	**14 11 05.9**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=295,slow=5.2,SNR=8.4						
WRA	**Warramunga Arr**	**74.71**	**205**	P	**P**	**14 11 26.0**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=25,slow=6.3,SNR=4.7						
ASAR	**Alice Springs**	**78.38**	**205**	P	**P**	**14 11 47.9**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=5.0,SNR=6.3						

IDC 19 14:05:16.9±10.0, 2553S×17781E, h613km±79km, mb3.1/3, mb1 3.3/4, mb1mx3.0/13, mbtmp3.1/4, Error ellipse: s-maj=131.1km s-min=55.0km az=123.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.96**	**286**	P	P	14 07 45.9	+0.6
	0.6nm,0.3s,baz=81,slow=21,SNR=5.3						
CTA	**Charters Tower**	**29.54**	**274**	*e*P	P	14 10 36.4	+2.5
	6.9nm,0.9s						
STKA	**Stephens Creek**	**32.28**	**250**	*e*P	P	14 10 56.4	-0.8
	0.6nm,0.2s						
STKA	**Stephens Creek**	**32.28**	**250**	P	P	14 10 56.3	-0.9
	0.8nm,0.3s,baz=83,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**39.83**	**263**	P	P	14 11 59.5	+0.5
	1.7nm,0.4s,baz=94,slow=7.8,SNR=98						
ASPA	**Alice Springs**	**39.83**	**263**	*e*P	P	14 11 59.6	+0.5
WB2	**Warramunga Arr**	**40.33**	**269**	*e*P	P	14 12 03.5	+0.4
WRA	**Warramunga Arr**	**40.34**	**269**	P	P	14 12 03.9	+0.7
	1.1nm,0.4s,baz=100,slow=7.6,SNR=63						
KAKA	**Kakadu**	**44.51**	**278**	*e*P	P	14 12 36.4	+0.8
	8.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**48.74**	**268**	*e*P	P	14 13 07.4	+0.1
	5.1nm,1.4s						
NOA	**NORSAR Array B**	**143.34**	**349**	PKhKP		14 23 33.2	
	1.4nm,0.8s,baz=21,slow=3.8,SNR=3.8						
BRTR	**Keskin Array B**	**146.91**	**304**	PKPbc	PKPbc	14 23 51.4	-0.3
	0.8nm,0.7s,baz=72,slow=4.7,SNR=3.1						

ISCJB ***19*** *14:16:53.9±0.6, 4745N±008×1552E±01, h10km, mb4.5/34, MS3.6/13, Error ellipse: s-maj=14.1km s-min=7.1km az=96.2*
IDC ***19*** *14:16:53.7±0.9, 4741N×155.25E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/25, mbtmp4.2/16, ML3.7/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/35, Error ellipse: s-maj=24.8km s-min=16.4km az=160.0*
BJI ***19*** *14:16:54.6, 4779N×155.08E, h7km, mB4.7, mb4.3, Ms4.6, Ms4.1*
NEIC ***19*** *14:16:55.2±0.7, 4742N×155.22E, h10km, mb4.5/9, Error ellipse: s-maj=17.9km s-min=9.2km az=136.0*
MOS ***19*** *14:16:57.8±1.6, 4743N×155.11E, h42km, mb4.6/11, Error ellipse: s-maj=11.3km s-min=8.8km az=90.4*
SZGRF ***19*** *14:17:20.1, 4851N×155.31E, h33km, mb4.6, Kuril Islands, Russia*

ISC 19 14:16:55.8±0.6, 4746N±008×1552E±01, h10km, (h19km±1.9km: pP-P), n72, σ1s36/66, mb4.5/34, MS3.6/13, 2C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.28**	**10**	*e*PN	**Pn**	**14 17 47.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PET	**Petropavlovsk**	**5.99**	**20**	*e*PN	**Pn**	**14 18 23.3**	**-1.2**
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**5.99**	**20**	*e*P	**Pn**	**14 18 22.0**	**-2.5**
YSS	**Yuzh-Sakhalins**	**8.48**	**271**	PN	**Pn**	**14 19 03.3**	**+4.6**
YSS	**Yuzh-Sakhalins**	**8.48**	**271**	*e*P	**Pn**	**14 19 03.4**	**+4.7**
ASAJ	**Asahikawa**	**9.41**	**254**	Pn	**Pn**	**14 19 12.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=106,slow=13,SNR=12						
ASAJ				LR	LR	14 23 05.8	
	comp=Z,108nm,19.0s,baz=357,slow=39						
ERM	**Erimo**	**10.14**	**242**	*e*PN	**Pn**	**14 19 20.0**	**-1.4**
KLR	**Kul'dur**	**15.67**	**285**	*e*P	**Pn**	**14 20 36.0**	**-0.7**
MAJO	**Matsushiro**	**16.65**	**235**	P	**Pn**	**14 20 46.9**	**-2.3**
MJAR	**Matsushiro Arr**	**16.65**	**235**	Pn	**Pn**	**14 20 47.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=5.5						
YAK	**Yakutsk**	**20.52**	**325**	*e*P	**P**	**14 21 34.4**	**+0.2**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK	**Yakutsk**	**20.52**	**325**	*e*P	**P**	**14 21 34.4**	**+0.2**
	comp=Z,9.3nm,0.6s						
CLNS	**Chul'man**	**20.66**	**308**	*e*P	**P**	**14 21 35.5**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.6						
CLNS				MLR	MLR		
	comp=N,100nm,12.0s						
BILL	**Bilibino**	**21.39**	**11**	*e*P	**P**	**14 21 46.8**	**+3.2**
BILL				*e*		14 21 59.0	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
BILL	**Bilibino**	**21.39**	**11**	*e*P	**P**	**14 21 42.9**	**-0.7**
	comp=Z,10nm,1.1s,mb4.1						
KSRS	**Korea Array**	**22.36**	**253**	P	**P**	**14 21 54.5**	**+0.5**
	comp=Z,3.1nm,0.9s,mb3.7,baz=46,slow=9.8,SNR=7.7						
JNU	**Nakatsue**	**23.30**	**241**	LR	LR	14 29 51.3	
	comp=Z,37nm,20.0s,MS2.8,baz=258,slow=33						
BOD	**Bodaibo**	**26.64**	**308**	*e*P	**P**	**14 22 31.8**	**-2.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.7						
SONM	**Songino Array**	**32.44**	**289**	P	**P**	**14 23 25.1**	**-0.9**
	comp=Z,1.2nm,0.8s,mb3.8,baz=67,slow=7.9,SNR=7.3						
SONM				LR	LR	14 37 57.6	
	comp=Z,92nm,18.1s,MS3.5,baz=36,slow=39						
LZH	**Lanzhou**	**39.28**	**272**	*e*P	**P**	**14 24 26.5**	**+1.8**
LZH				AP	pP	14 24 31.6	+3.8
LZH				XP	sP	14 24 33.4	+4.4
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**39.28**	**272**	*e*P	**P**	**14 24 26.5**	**+1.8**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	14 24 31.6	+3.8
LZH				sP	sP	14 24 33.4	+4.4
INK	**Inuvik**	**40.29**	**33**	P	**P**	**14 24 32.3**	**-0.7**
	comp=Z,1.9nm,0.8s,mb3.9,baz=278,slow=6.9,SNR=14						
INK	**Inuvik**	**40.29**	**33**	P	**P**	**14 24 32.3**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**40.29**	**33**	*e*P	**P**	**14 24 32.8**	**-0.2**
	comp=Z,303nm,1.5s,mb5.8						
CD2	**Chengdu**	**42.35**	**266**	*e*P	**P**	**14 24 49.4**	**-0.6**
ZAL	**Zalesovo**	**43.36**	**306**	P	**P**	**14 24 56.2**	**-2.0**
	comp=Z,1.3nm,0.3s,mb4.2,baz=40,slow=8.4,SNR=7.5						
ZAL				LR	LR	14 44 30.0	
	comp=Z,72nm,18.8s,MS3.6,baz=188,slow=38						
ZAL	**Zalesovo**	**43.36**	**306**	P	**P**	**14 24 56.2**	**-2.0**
ZAL				LR	LR	14 44 29.9	
TGY	**Tagaytay City**	**43.78**	**232**	LR	LR	14 42 18.0	
	comp=Z,2.4nm,21.3s,baz=223,slow=35						
WMQ	**Urumqi**	**45.99**	**292**	⇑P	**P**	**14 25 17.3**	**-1.8**
WMQ				AP	pP	14 25 21.8	-0.5
WMQ				XP	sP	14 25 24.3	+0.8
WMQ				PCP	PcP	14 26 54.1	-1.7
WMQ				PP	PP	14 27 05.5	-1.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,127nm,4.1s						
WMQ				LR	LR		
	comp=N,68nm,15.1s,MS4.3						
WMQ				LR	LR		
	comp=E,257nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,71nm,18.0s,MS3.7						
KMI	**Kunming**	**46.76**	**261**	P	**P**	**14 25 26.6**	**+1.4**
KMI				AP	pP	14 25 32.8	+4.4
KMI				XP	sP	14 25 35.1	+5.5
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
KMI	**Kunming**	**46.76**	**261**	P	**P**	**14 25 26.6**	**+1.4**
	comp=Z,4.0nm,0.7s,mb4.5						
KMI				pP	pP	14 25 32.8	+4.4
KMI				sP	sP	14 25 35.1	+5.5
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**14 25 32.8**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.3,baz=66,slow=6.5,SNR=20						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**14 26 00.7**	**-0.8**
	comp=Z,4.9nm,0.5s,mb4.7,baz=57,slow=7.2,SNR=23						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**14 26 00.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**14 26 00.6**	**-1.2**
	comp=Z,6.8nm,0.6s,mb4.8						
LSA	**Lhasa**	**51.64**	**274**	P	**P**	**14 26 05.0**	**+2.4**
AAK	**Ala-Archa**	**54.78**	**297**	⇑*e*P	**P**

LPG	**La Plagne**	**83.37**	**338**	*e*P		**P**		**14 29 26.7**	**+3.6**
	comp=Z,19nm,1.1s,mb4.7								
CAF	**Calviac**	**85.01**	**341**	*e*P		**P**		**14 29 34.1**	**+2.6**

ISCJB ***19*** *14:25:10.1±3.4, 4755N±007×1553E±0.1, h6km±21km, mb4.1/19, Error ellipse: s-maj=16.0km s-min=8.5km az=85.9*

NEIC ***19*** *14:25:12.4±4.3, 4758N×15527E, h9km±27km, mb4.9/2, Error ellipse: s-maj=15.7km s-min=8.9km az=146.0*

MOS ***19*** *14:25:15.5±1.6, 4761N×155.14E, h50km, mb4.4/1, Error ellipse: s-maj=16.5km s-min=11.0km az=71.4*

IDC ***19*** *14:25:16.9±4.2, 4752N×15520E, h42km±41km, mb3.7/16, mb1 3.9/18, mb1mx3.8/26, mbtmp3.7/18, ML3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/36, Error ellipse: s-maj=24.0km s-min=16.5km az=172.0*

ISC 19 14:25:12.9±3.7, 4757N±007×1553E±01, h12km±23km, n36, σ0§88/36, mb4.1/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.16**	**9**	*e*PN			**Pn**	**14 26 03.5**	**+1.0**
SKR				*e*S			**Sn**	**14 26 40.5**	**+0.4**
SKR	comp=N,80nm,0.5s			smax					
SKR	comp=E,90nm,0.5s			smax					
SKR	comp=Z,80nm,0.5s			smax					
PET	**Petropavlovsk**	**5.87**	**20**	*e*PN			**Pn**	**14 26 38.2**	**-1.4**
PET	comp=Z,1μm,12.0s			MLR			MLR		
PET	**Petropavlovsk**	**5.87**	**20**	*e*Pn			**Pn**	**14 26 38.4**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.57**	**271**	*e*PN			**Pn**	**14 27 19.2**	**+2.4**
YSS	**Yuzh-Sakhalins**	**8.57**	**271**	*e*P			**Pn**	**14 27 17.8**	**+1.0**
ASAJ	**Asahikawa**	**9.53**	**253**	P			**Pn**	**14 27 30.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=217,slow=33,SNR=6.2								
ASAJ	**Asahikawa**	**9.53**	**253**	PN			**Pn**	**14 27 30.6**	**+0.7**
ASAJ	comp=Z,1.0nm,0.3s			pmax			pmax		
ERM	**Erimo**	**10.27**	**242**	PN			**Pn**	**14 27 38.5**	**-1.5**
MJAR	**Matsushiro Arr**	**16.78**	**235**	P			**Pn**	**14 29 08.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=325,slow=41,SNR=3.1								
JHJ	**Hachijo jima 2**	**18.62**	**225**	LR			LR	14 35 09.8	
	comp=Z,330nm,20.7s,baz=86,slow=32								
KSRS	**Korea Array**	**22.48**	**253**	P			**P**	**14 30 12.2**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.5,baz=46,slow=9.6,SNR=5.8								
SONM	**Songino Array**	**32.49**	**289**	P			**P**	**14 31 42.0**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=72,slow=7.4,SNR=5.7								
INK	**Inuvik**	**40.15**	**33**	P			**P**	**14 32 49.0**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.0,baz=291,slow=5.5,SNR=19								
INK	**Inuvik**	**40.15**	**33**	P			**P**	**14 32 49.1**	**+0.4**
INK	comp=Z,2.0nm,0.5s			pmax			pmax		
INK	**Inuvik**	**40.15**	**33**	*e*P			**P**	**14 32 49.9**	**+1.2**
	comp=Z,52nm,0.5s,mb5.5								
ZAL	**Zalesovo**	**43.38**	**306**	P			**P**	**14 33 13.0**	**-2.1**
	comp=Z,1.4nm,0.4s,mb4.0,baz=60,slow=7.7,SNR=5.0								
MKAR	**Makanchi Array**	**47.90**	**298**	P			**P**	**14 33 49.5**	**-1.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=70,slow=7.7,SNR=12								
YKA	**Yellowknife Ar**	**49.36**	**38**	P			**P**	**14 34 00.7**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=131,slow=8.0,SNR=3.6								
BVAR	**Borovoye Array**	**51.50**	**310**	P			**P**	**14 34 17.3**	**-1.0**
	comp=Z,2.3nm,0.4s,mb4.5,baz=56,slow=7.5,SNR=15								
JIRN	**Jiri**	**56.38**	**276**	*e*P			**P**	**14 34 54.5**	**+0.6**
	comp=Z,9.6nm,0.6s,mb5.0								
KKN	**Kakani**	**56.91**	**276**	*e*P			**P**	**14 34 58.4**	**+0.7**
PKI	**Pulchoki**	**56.96**	**276**	*e*P			**P**	**14 34 58.4**	**+0.3**
DMN	**Daman**	**57.14**	**276**	*e*P			**P**	**14 35 00.1**	**+0.8**
GKN	**Gorkha**	**57.20**	**277**	*e*P			**P**	**14 35 00.2**	**+0.4**
	comp=Z,13nm,0.9s,mb5.0								
ARCES	**ARCESS Array B**	**57.57**	**341**	P			**P**	**14 35 02.3**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=36,slow=16,SNR=4.6								
KOLN	**Koldanda**	**58.05**	**277**	*e*P			**P**	**14 35 06.3**	**+0.6**
NVAR	**Mina Array Bea**	**60.72**	**64**	P			**P**	**14 35 24.6**	**+0.4**
	comp=Z,1.1nm,1.0s,mb4.0,baz=297,slow=5.7,SNR=5.3								
BW06	**Boulder Array**	**63.04**	**55**	*e*P			**P**	**14 35 40.2**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.2								
PDAR	**Pinedale Array**	**63.04**	**55**	P			**P**	**14 35 40.3**	**+0.5**
	comp=Z,1.5nm,0.9s,mb4.1,baz=318,slow=2.0,SNR=8.2								
FINES	**FINESS Array B**	**63.94**	**336**	P			**P**	**14 35 45.0**	**-0.7**
	comp=Z,5.7nm,0.8s,mb4.7,baz=39,slow=7.6,SNR=16								
NB2	**NORSAR Subarra**	**67.93**	**342**	P			**P**	**14 36 12.3**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.93**	**342**	P			**P**	**14 36 11.7**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=6.3,SNR=3.3								
ASAR	**Alice Springs**	**73.48**	**200**	P			**P**	**14 36 44.5**	**-0.8**
	comp=Z,0.4nm,0.9s,mb3.4,baz=4.8,slow=4.8,SNR=5.9								
TXAR	**Lajitas Array**	**75.78**	**62**	P			**P**	**14 36 58.9**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.1,baz=302,slow=4.4,SNR=21								
GERES	**GERESS Array B**	**78.37**	**335**	P			**P**	**14 37 13.4**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=19,slow=5.7,SNR=3.6								
BRTR	**Keskin Array B**	**78.81**	**318**	P			**P**	**14 37 15.9**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=38,slow=6.3,SNR=3.9								

NEIC ***19*** *14:45:22.4, 1534N×9566W, h24km, MD3.9(MEX), After MEX.*

MEX 19 14:45:24.2±0.7, 1553N×9565W, h29km±21km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**298**	*i* P			Pb	14 45 32.8	-1.9
HUIG				*i* S			Sb	14 45 39.7	-2.0
HUIG	**Huatulco**	**0.50**	**298**	*i* P			Pb	14 45 32.8	-1.9
HUIG				*i* S			Sb	14 45 39.9	-1.9
CMIG	**Matias Romero**	**1.72**	**25**	*i* P			Pn	14 45 50.8	-1.3
CMIG				*i* S			Sn	14 46 10.2	-2.9
CMIG	**Matias Romero**	**1.72**	**25**	*i* P			Pn	14 45 51.4	-0.7
CMIG				*i* S			Sn	14 46 15.4	+2.4
VHO	**Vista Hermosa**	**1.85**	**326**	*e*P			Pn	14 45 53.0	-1.0
VHO				*i* S			Sn	14 46 13.6	-2.9
VHO	**Vista Hermosa**	**1.85**	**326**	*e*P			Pn	14 45 53.0	-1.0
VHO				*i* S			Sn	14 46 16.4	-0.1
OXX	**Oaxaca**	**1.86**	**326**	*e*P			Pn	14 45 51.0	-3.0
UTMO	**Huajuapan**	**3.08**	**318**	*e*P			Pn	14 46 08.6	-2.3
UTMO				*i* S			Sn	14 46 44.5	-2.2
TPIG	**Tehuac#an**	**3.31**	**331**	*i* S			Sn	14 46 51.9	-0.4
CCIG	**Comitan**	**3.46**	**77**	*i* P			Pn	14 46 12.8	-3.3
IIO	**Organos**	**4.99**	**324**	*i* P			Pn	14 46 34.1	-3.0
IIO				*i* S			Sn	14 47 35.3	+1.5

IDC ***19*** *15:09:12.2±1.4, 1002N×12667E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=159.2km s-min=20.0km az=70.0*

ISCJB ***19*** *15:09:13.2±0.7, 899N±006×12657E±006, h35km, mb3.8/9, Error ellipse: s-maj=9.5km s-min=6.3km az=85.9*

MAN ***19*** *15:09:17.5, 908N×12636E, h38km, mb3.9, ML4.9, MS4.3*

ISC 19 15:09:14.5±0.7, 909N±007×12661E±006, h35km, n17, σ1§51/20, mb3.8/9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.30**	**302**	*e*P			**Pn**	**15 09 37.0**	**+0.9**
SCPH				*e*S			**Sn**	**15 09 51.4**	**-0.9**
CGP	**Cagayan de Oro**	**1.99**	**252**	*e*P			**Pn**	**15 09 45.4**	**-0.3**
CGP				*i* S			**Sn**	**15 10 05.8**	**-3.5**
PLP	**Palo**	**2.61**	**322**	*e*P			**Pn**	**15 09 56.5**	**+2.4**
PLP				*e*S			**Sn**	**15 10 27.0**	**+2.3**
LLP	**Lapu-Lapu**	**2.88**	**295**	*e*P			**Pn**	**15 09 59.7**	**+1.9**
LLP				*e*S			**Sn**	**15 10 31.3**	**+0.2**
DCPH	**Dipolog City**	**3.25**	**261**	*e*P			**Pn**	**15 10 03.7**	**+0.7**
DCPH				*e*S			**Sn**	**15 10 38.7**	**-1.8**
RCP	**Roxas**	**4.52**	**303**	*e*P			**Pn**	**15 10 23.2**	**+2.8**
FITZ	**Fitzroy Crossi**	**27.03**	**182**	P			**P**	**15 14 54.1**	**+0.8**
	0.8nm,0.7s,mb3.4,baz=15,slow=9.2,SNR=3.1								
WRA	**Warramunga Arr**	**29.83**	**165**	P			**P**	**15 15 19.4**	**+1.1**
	0.3nm,0.6s,mb3.2,baz=346,slow=9.2,SNR=3.2								
WRA	**Warramunga Arr**	**29.83**	**165**	P			pP	15 15 29.1	+0.8
	0.3nm,0.4s,baz=352,slow=10,SNR=5.1								
ASAR	**Alice Springs**	**33.33**	**168**	P			**P**	**15 15 49.4**	**+0.4**
	0.2nm,0.3s,mb3.5,baz=348,slow=7.4,SNR=9.7								
ASAR	**Alice Springs**	**33.33**	**168**	P			pP	15 16 00.6	+1.5
	0.2nm,0.5s,baz=359,slow=8.4,SNR=4.7								
SONM	**Songino Array**	**42.24**	**340**	P			**P**	**15 17 02.1**	**-2.1**
	0.2nm,0.4s,mb3.1,baz=161,slow=11,SNR=4.3								
STKA	**Stephens Creek**	**43.18**	**161**	P			**P**	**15 17 12.8**	**+0.9**
	0.9nm,0.8s,mb3.6,baz=354,slow=9.8,SNR=4.9								
MKAR	**Makanchi Array**	**53.16**	**323**	P			**P**	**15 18 27.5**	**-1.4**
	2.1nm,0.5s,mb4.3,baz=120,slow=7.9,SNR=31								
MKAR				PcP			PcP	15 19 35.7	-1.0
	0.3nm,0.5s,baz=116,slow=3.2,SNR=2.8								
BVAR	**Borovoye Array**	**62.82**	**326**	P			**P**	**15 19 34.6**	**-2.0**
	0.9nm,0.6s,mb4.0,baz=132,slow=8.2,SNR=6.6								
ARCES	**ARCESS Array B**	**85.41**	**340**	P			**P**	**15 21 46.9**	**-1.4**
	3.0nm,0.8s,mb4.5,baz=81,slow=6.8,SNR=9.3								
FINES	**FINESS Array B**	**87.08**	**332**	P			**P**	**15 21 54.1**	**-2.5**
	1.6nm,0.8s,mb4.3,baz=90,slow=5.7,SNR=7.5								

MOS ***19*** *15:12:24.1±0.9, 4625N×15269E, h65km, mb4.2/3, Error ellipse: s-maj=35.4km s-min=15.8km az=62.9*

IDC 19 15:12:26.8±4.8, 4617N×15274E, h73km±44km, mb3.3/5, mb1 3.5/7, mb1mx3.3/25, mbtmp3.4/7, ML3.6/2, Error ellipse: s-maj=36.4km s-min=24.7km az=120.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.46**	**258**	P			Pn	15 14 13.1	+0.2
	1.0nm,0.3s,baz=53,slow=15,SNR=9.3								
ASAJ	**Asahikawa**	**7.46**	**258**	PN			Pn	15 14 13.1	+0.2
ASAJ	comp=Z,1.0nm,0.3s			pmax			pmax		
MJAR	**Matsushiro Arr**	**14.52**	**234**	P			Pn	15 15 47.3	-1.2
	comp=Z,0.4nm,0.3s,baz=108,slow=19,SNR=6.2								
INK	**Inuvik**	**42.28**	**32**	P			P	15 20 12.9	-0.2
	comp=Z,0.7nm,0.6s,baz=194,slow=14,SNR=8.0								
INK	**Inuvik**	**42.28**	**32**	P			P	15 20 12.9	-0.1
INK	comp=Z,1.0nm,0.6s			pmax			pmax		
MKAR	**Makanchi Array**	**46.98**	**298**	P			P	15 20 50.1	-0.4
	comp=Z,0.2nm,0.5s,baz=63,slow=8.1,SNR=4.6								
FINES	**FINESS Array B**	**64.46**	**335**	P			P	15 22 54.9	-0.6
	comp=Z,0.8nm,0.5s,baz=46,slow=5.5,SNR=4.2								
FINES	**FINESS Array B**	**64.46**	**335**	P			P	15 22 54.9	-0.6
FINES	comp=Z,1.0nm,0.5s			pmax			pmax		
ASAR	**Alice Springs**	**71.57**	**198**	P			P	15 23 40.4	+0.3
	comp=Z,0.2nm,0.5s,baz=9.7,slow=6.1,SNR=7.4								
TXAR	**Lajitas Array**	**78.01**	**60**	P			P	15 24 16.8	-0.4
	comp=Z,0.3nm,0.6s,baz=319,slow=5.5,SNR=4.3								

ISCJB ***19*** *15:12:45.9±0.8, 4724N±008×1557E±0.2, h10km, mb4.0/8, Error ellipse: s-maj=18.2km s-min=9.4km az=53.0*

IDC ***19*** *15:12:45.5±1.1, 4704N×15569E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/25, mbtmp4.0/7, Error ellipse: s-maj=35.4km s-min=22.2km az=164.0*

NEIC ***19*** *15:12:47.5±0.8, 4719N×15575E, h10km, mb4.1/1, Error ellipse: s-maj=23.6km s-min=12.3km az=136.0*

MOS ***19*** *15:12:50.2±2.5, 4740N×15547E, h38km, mb4.4/1, Error ellipse: s-maj=32.6km s-min=14.4km az=78.5*

ISC 19 15:12:47.6±0.8, 4724N±008×1557E±02, h10km, n18, σ1§08/19, mb4.0/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.46**	**4**	*e*PN			**Pn**	**15 13 36.0**	**-5.5**
SKR				pmax			pmax		
SKR	**Severo-Kuril's**	**3.46**	**4**	*e*PN			**Pn**	**15 13 36.0**	**-5.5**
SKR				*e*S			**Sn**	**15 14 21.7**	**-0.9**
SKR	comp=Z,80nm,0.5s			pmax			pmax		
SKR	comp=N,90nm,0.5s			smax					
SKR	comp=Z,80nm,0.5s			smax					
SKR	comp=E,120nm,0.2s			smax					
PET	**Petropavlovsk**	**6.10**	**17**	*e*PN			**Pn**	**15 14 18.9**	**+1.2**
PET	**Petropavlovsk**	**6.10**	**17**	*e*PN			**Pn**	**15 14 18.9**	**+1.2**
PET	**Petropavlovsk**	**6.10**	**17**	*e*P			**Pn**	**15 14 17.0**	**-0.7**
MAJO	**Matsushiro**	**16.81**	**237**	*e*P			**Pn**	**15 16 44.0**	**+1.0**
BILL	**Bilibino**	**21.55**	**11**	*e*P			**P**	**15 17 38.3**	**+1.3**
BILL	comp=Z,7.0nm,0.8s,mb4.1			pmax			pmax		
BILL	**Bilibino**	**21.55**	**11**	*e*P			**P**	**15 17 39.8**	**+2.8**
BILL	comp=Z,10.0nm,1.0s,mb4.2			pmax			pmax		
BILL	**Bilibino**	**21.55**	**11**	*e*P			**P**	**15 17 38.2**	**+1.2**
	comp=Z,7.2nm,0.8s,mb4.2								
KDAK	**Kodiak Island**	**32.42**	**52**	P			**P**	**15 19 16.3**	**-1.3**
	comp=Z,5.9nm,0.8s,mb4.5,baz=274,slow=16,SNR=4.8								
KDAK	**Kodiak Island**	**32.42**	**52**	P			**P**	**15 19 16.3**	**-1.4**
SONM	**Songino Array**	**32.84**	**290**	P			**P**	**15 19 20.1**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=65,slow=9.1,SNR=4.0								
INK	**Inuvik**	**40.29**	**33**	P			**P**	**15 20 25.9**	**+1.1**
	comp=Z,3.8nm,0.6s,mb4.3,baz=296,slow=6.2,SNR=28								
INK	**Inuvik**	**40.29**	**33**	*e*P			**P**	**15 20 25.9**	**+1.1**
MKAR	**Makanchi Array**	**48.28**	**298**	P			**P**	**15 21 29.5**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.9,baz=58,slow=9.0,SNR=5.1								
BVAR	**Borovoye Array**	**51.91**	**310**	P			**P**	**15 21 56.2**	**-0.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=62,slow=8.6,SNR=4.7								
ASAR	**Alice Springs**	**73.26**	**201**	P			**P**	**15 24 17.4**	**-1.5**
	comp=Z,0.8nm,1.2s,mb3.5,baz=6.9,slow=5.6,SNR=4.4								
TXAR	**Lajitas Array**	**75.70**	**62**	P			**P**	**15 24 33.6**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=295,slow=4.2,SNR=14								

NIED ***19*** *15:16:00, 4730N×15470E, h26km, Mw5.2 Best double couple: M0 6.71000×10^16 NP1:ϕs165.00000°, δ58.00000°, λ-131.00000°. NP2:ϕs44.00000°, δ50.00000°, λ-43.00000°.*

ISCJB ***19*** *15:16:50.2±0.1, 4676N±003×15488E±002, h10km, mb5.5/304, MS4.9/79, Error ellipse: s-maj=3.8km s-min=1.6km az=156.3*

IDC ***19*** *15:16:50.1±0.4, 4685N×15490E, h0km, mb5.1/33, mb1 5.1/35, mb1mx5.1/36, mbtmp5.1/35, ML4.6/2, MS4.7/21, Ms1 4.8/21, ms1mx4.5/31, Error ellipse: s-maj=13.1km s-min=9.8km az=141.0*

SKHL ***19*** *15:16:51.9±1.9, 4701N×15483E, h54km±29km, mb6.0/5, mbh5.9/3, Ms5.2/4, msh5.6/4*

GCMT ***19*** *15:16:52.2±0.2, 4694N×15508E, h12km, MW5.3/99, Moment Tensor Solution. s63,c120; s99,c228; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-1.09±.01; Mθθ 0.54±.01; Mϕϕ 0.54±.01; Mrθ 0.19±.04; Mrϕ 0.67±.01; Mθϕ 0.18±.04; Best double couple: M0 1.18200×10^17 NP1:ϕs44.00000°, δ39.00000°, λ-91.00000°. NP2:ϕs225.00000°, δ51.00000°, λ-89.00000°. Principal axes: T 1.2440, Plg6.0000°, Azm315.0000°; N -0.1280, Plg1.0000°, Azm45.0000°; P -1.1200, Plg84.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***19*** *15:16:52.2±0.1, 4690N×15489E, h10km, mb5.6/213, MS4.9/23, MW5.5 Error ellipse: s-maj=4.2km s-min=2.7km az=171.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17 Nm; Mrr-1.75; Mθθ 0.87, Mϕϕ 0.88; Mrθ 0.88; Mrϕ 0.80; Mθϕ 0.64; Best double couple: M0 2.00000×10^17 NP1:ϕs229.00000°, δ61.00000°, λ-86.00000°. NP2: ϕs41.00000°, δ29.00000°, λ-98.00000°. Principal axes: T 1.9800, Plg16.0000°, Azm316.0000°; N 0.0900, Plg4.0000°, Azm47.0000°; P -2.0700, Plg73.0000°, Azm150.0000°;*

BJI ***19*** *15:16:52.6, 4709N×15445E, h10km, mB5.5, mb5.2, Ms5.2, Msz5.0*

JMA ***19*** *15:16:52.7±0.9, 4731N×15465E, h30km, M5.5*

MOS ***19*** *15:16:55.7±1.0, 4688N×15484E, h48km, mb5.8/117, MS4.9/42, Error ellipse: s-maj=6.7km s-min=3.9km az=106.4*

BGS ***19*** *15:16:57.7, 4720N×15526E, h10km, mb5.5*

SZGRF ***19*** *15:16:59.8, 4813N×15760E, h43km, mb6.1, MS5.0, East of Kuril Islands, Russia*

ISC 19 15:16:50.9±0.8, 4692N±003×15481E±002, h1km±5km, n1176, σ1§01/1196, mb5.6/304, MS4.9/79, 69C-82D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.87**	**12**	*e*P			**Pn**	**15 17 48.4**	**-3.0**
SKR				AMB		AMB	AMB	15 17 53.7	
	3μm,4.0s								
SKR				AMB		AMB	AMB	15 17 53.7	
	3μm,4.0s								
SKR				AMB		AMB	AMB	15 17 53.7	
	3μm,2.0s								
SKR				AMB		AMB	AMB	15 17 53.7	
	4μm,4.0s								
SKR				AMB		AMB	AMB	15 17 53.7	
	4μm,4.0s								
SKR				AMB		AMB	AMB	15 17 53.7	
	790nm,0.9s								
SKR				AMB		AMB	AMB	15 17 53.7	
	490nm,0.9s								
SKR				AMB		AMB	AMB	15 17 53.7	
	560nm,0.6s								
SKR				*e*S			**Sn**	**15 18 31.5**	**-6.0**
SKR				A				15 18 34.0	
	10μm,10.0s								
SKR				A				15 18 34.0	
	12μm,6.0s								
SKR				A				15 18 34.0	
	7μm,6.0s								
SKR				A				15 18 34.0	
	10μm,10.0s								
SKR				A				15 18 34.0	
	12μm,6.0s								
SKR				A				15 18 34.0	
	8μm,6.0s								
SKR				A				15 18 34.0	
	2μm,0.5s								
SKR				A				15 18 34.0	
	1μm,0.5s								
SKR				A				15 18 34.0	
	1μm,0.2s								
SKR				AMS		AMS	AMS	15 19 26.0	
	18μm,12.0s								
SKR				AMS		AMS	AMS	15 19 26.0	
	8μm,12.0s								
SKR				AMS		AMS	AMS	15 19 26.0	
	30μm,12.0s								
SKR				AMS		AMS	AMS	15 19 26.0	
	19μm,12.0s								
SKR				AMS		AMS	AMS	15 19 26.0	
	8μm,12.0s								
SKR				AMS		AMS	AMS	15 19 26.0	
	34μm,12.0s								
KUR	**Kuril'sk**	**5.12**	**253**	*i* P			**Pn**	**15 18 06.5**	**-2.2**
KUR				AMB		AMB	AMB	15 18 09.0	
	430nm,0.8s								
KUR				AMB		AMB	AMB	15 18 09.0	
	537nm,0.8s								
KUR				AMB		AMB	AMB	15 18 09.0	
	2μm,0.8s								
KUR				AMB		AMB	AMB	15 18 09.0	
	5μm,1.6s								
KUR				AMB		AMB	AMB	15 18 10.0	
	5μm,1.6s								
KUR				A				15 19 12.0	
	18μm,4.0s								
KUR				A				15 19 12.0	
	10μm,4.0s								
KUR				A				15 19 23.0	
	699nm,0.8s								
KUR				A				15 19 23.0	
	720nm,0.8s								
KUR				AMS		AMS	AMS	15 20 29.0	
	14μm,15.0s								
KUR				AMS		AMS	AMS	15 20 29.0	
	16μm,15.0s								
PET	**Petropavlovsk**	**6.59**	**21**	*i*PN			**Pn**	**15 18 27.0**	**-1.9**
PET				pmax			pmax		
	comp=Z,169nm,0.4s								
PET				pmax			pmax		
	comp=Z,700nm,3.2s								
PET				MLR			MLR		
	comp=Z,6μm,19.0s								
PET				MLR			MLR		
	comp=Z,6μm,17.0s								
PET	**Petropavlovsk**	**6.59**	**21**	*e*Pn			**Pn**	**15 18 26.5**	**-2.5**
	comp=Z,105nm,0.4s								
PET				*e*Sn			**Sn**	**15 19 36.1**	**-8.7**
YUK	**Yuzh-Kuril'sk**	**6.92**	**249**	*e*P			**Pn**	**15 18 33.9**	**+0.5**
YUK				AMB		AMB	AMB	15 18 37.0	
	comp=Z,470nm,0.2s								
YUK				AMB		AMB	AMB	15 18 37.0	
	comp=Z,340nm,0.4s								
YUK				AMB		AMB	AMB	15 18 37.0	
	comp=Z,140nm,0.4s								
YUK				AMB		AMB	AMB	15 18 43.7	
	comp=Z,3μm,2.0s								
YUK				*e*S			**Sn**	**15 19 50.3**	**-2.5**
YUK				A				15 19 50.3	
	comp=Z,1μm,0.5s								
YUK				A				15 19 50.3	
	comp=Z,880nm,0.5s								
YUK				A				15 19 57.0	
	comp=Z,3μm,2.0s								
YUK				A				15 19 57.0	
	comp=Z,7μm,3.0s								
YUK	**Yuzh-Kuril'sk**	**6.92**	**249**	*e*PN			**Pn**	**15 18 33.9**	**+0.5**
YUK				pmax			pmax		
	comp=Z,470nm,0.2s								
YUK				pmax			pmax		
	comp=N,340nm,0.4s								
YUK				pmax			pmax		
	comp=E,140nm,0.4s								
YUK				pmax			pmax		
	comp=Z,3μm,2.0s								
NEM2	**Nemuro 2**	**7.33**	**244**	P			**Pn**	**15 18 37.4**	**-1.7**
NEM2				*e*S			**Sn**	**15 19 55.2**	**-7.7**
JRA	**Rausu**	**7.44**	**250**	P			**Pn**	**15 18 42.2**	**+1.6**
JRA				*e*S			**Sn**	**15 20 03.9**	**-1.7**
JNK	**Nakash**	**7.86**	**249**	P			**Pn**	**15 18 46.4**	**0.0**
JNK				*e*S			**Sn**	**15 20 10.9**	**-5.1**
JAK	**Akkeshi**	**8.18**	**245**	P			**Pn**	**15 18 48.8**	**-1.8**
JAK				*e*S			**Sn**	**15 20 16.3**	**-7.4**
JTKR	**Abashiri--Toko**	**8.21**	**253**	P			**Pn**	**15 18 52.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**8.26**	**275**	*i* P			**Pn**	**15 18 55.8**	**+4.1**
YSS				AMB		AMB	AMB	15 18 58.0	
	comp=Z,50nm,0.9s								
YSS				AMB		AMB	AMB	15 18 58.0	
	comp=Z,120nm,1.0s								
YSS				AMB		AMB	AMB	15 18 58.0	
	comp=

TYV eS Sn 15 20 39.5 -2.7
TYV A 15 20 45.5
comp=E,66nm,0.8s
TYV AMS AMS 15 23 50.0
comp=E,5μm,12.0s
TYV AMS AMS 15 23 50.0
comp=E,5μm,13.0s
TYV AMS AMS 15 23 50.0
comp=E,10μm,13.0s
JKK2 Kamakawa 2 9.02 255 P Pn 15 19 03.5 +1.3
ASAJ Asahikawa 9.02 256 Pn Pn 15 19 04.0 +1.7
comp=E,7.5nm,0.3s,baz=80,slow=17,SNR=35
ASAJ LR LR 15 23 01.8
comp=E,4μm,18.3s,baz=75,slow=41
ASAJ Asahikawa 9.02 256 P Pn 15 19 03.9 +1.6
ASAJ Asahikawa 9.02 256 PN Pn 15 19 04.0 +1.7
ASAJ pmax pmax
comp=Z,8.0nm,0.3s
ASAJ MLR MLR
comp=Z,4μm,18.3s
JWK2 Keihoku 9.12 265 P Pn 15 19 09.4 +5.9
JCH Churui 9.21 246 P Pn 15 19 04.1 -0.7
JCH eS Sn 15 20 40.8 -8.3
JFR Furan 9.43 251 P Pn 15 19 09.5 +1.7
JAB Ashibetsu 9.52 254 P Pn 15 19 11.0 +1.9
JEM Erimo 9.66 244 P Pn 15 19 10.0 -1.1
JEM eS Sn 15 20 52.3 -8.0
ERM Erimo 9.66 244 Pn Pn 15 19 11.4 +0.3
comp=Z,934nm,0.5s,SNR=29
ERM Erimo 9.66 244 ePN Pn 15 19 10.5 -0.6
ERM pmax pmax
comp=Z,156nm,0.8s
ERM Erimo 9.66 244 ePn Pn 15 19 10.5 -0.6
comp=Z,156nm,0.8s
ERM eSn Sn 15 20 48.8 -11
JBT2 Biratori 2 9.76 249 P Pn 15 19 12.1 -0.3
JNBK Urakawa-nobuka 9.77 246 P Pn 15 19 11.0 -1.5
JNBK eS Sn 15 20 54.2 -8.7
OKH Okha 10.09 315 eP Pn 15 19 16.0 -0.9
OKH eP 15 19 17.6
OKH AMB AMB 15 19 18.5
comp=Z,400nm,0.8s
OKH AMB AMB 15 19 22.0
comp=Z,3μm,5.0s
OKH eS Sn 15 21 06.0 -4.8
OKH eLQ 15 22 02.4
OKH AMS AMS 15 24 50.0
comp=Z,8μm,12.0s
OKH AMS AMS 15 24 50.0
comp=Z,5μm,12.0s
OKH AMS AMS 15 24 50.0
comp=Z,11μm,12.0s
OKH Okha 10.09 315 ePN Pn 15 19 17.6 +0.7
OKH pmax pmax
comp=Z,3μm,5.0s
JEW Eniwo 10.32 252 P Pn 15 19 21.1 +1.0
JNB Noboribetsu 10.77 251 P Pn 15 19 25.0 -1.2
JNB eS Sn 15 21 20.0 -7.3
JKB Kayabe 11.06 248 P Pn 15 19 28.3 -1.9
JKB eS Sn 15 21 24.0 -11
JSH Shimam 11.33 253 P Pn 15 19 34.4 +0.5
JYM2 Yakumo 2 11.37 250 P Pn 15 19 32.9 -1.5
JANG Nango 11.64 241 P Pn 15 19 34.1 -4.0
JANG eS Sn 15 21 34.5 -14
JSR Shiriuchi 11.64 248 P Pn 15 19 36.9 -1.3
JTM Tenmabayashi 11.66 243 P Pn 15 19 35.1 -3.2
JTM eS Sn 15 21 36.1 -13
JTH Tanohata 11.71 238 P Pn 15 19 34.3 -4.8
JTH eS Sn 15 21 35.6 -15
JOSM Okushiri--Mats 11.97 252 P Pn 15 19 41.2 -1.4
OFUJ Ofunato 12.40 236 P Pn 15 19 44.4 -4.0
OFUJ eS Sn 15 21 53.7 -14
JRG Rokugo 12.78 239 P Pn 15 19 49.8 -3.9
JRG eS Sn 15 22 04.5 -12
TEY Ternei 12.81 268 eP Pn 15 19 55.0 +0.9
TEY AMB AMB 15 19 59.0
comp=Z,60nm,1.0s
TEY sP 15 20 16.0
TEY AMS AMS 15 25 40.0
comp=Z,7μm,15.0s
TEY AMS AMS 15 25 40.0
comp=Z,4μm,14.0s
MA2 Magadan 12.91 351 *d i* PN Pn 15 19 55.3 -0.1
MA2 pmax pmax
comp=Z,100nm,0.8s
MA2 MLR MLR
comp=Z,21μm,17.1s
MA2 Magadan 12.91 351 ePn Pn 15 19 55.7 +0.3
comp=Z,50nm,0.6s
JIO Ouri 13.01 234 P Pn 15 19 52.1 -4.8
JIO eS Sn 15 22 07.0 -15
HABR Khabarovsk 13.40 284 ⇑ *i* PN Pn 15 20 05.2 +3.0
HABR eS Sn 15 22 36.0 +4.2
HABR pmax pmax
comp=Z,84nm,1.3s
HABR MLR MLR
comp=Z,6μm,18.8s
SMY Shemya 13.72 58 eP Pn 15 20 03.6 -3.0
SMY pmax pmax
comp=Z,112nm,0.6s
SMY Shemya 13.72 58 ePn Pn 15 20 03.6 -3.0
comp=Z,112nm,0.6s
JYA Atsumi 13.85 239 P Pn 15 20 05.0 -3.3
JFK Kawauchi 14.05 232 P Pn 15 20 07.5 -3.6
JFK eS Sn 15 22 32.6 -15
JFY Yanaizu 14.67 235 P Pn 15 20 16.6 -2.9
KLR Kul'dur 15.58 287 eP Pn 15 20 31.5 -0.1
KLR eS Sn 15 23 31.0 +6.2
KLR pmax pmax
comp=E,900nm,8.0s
KLR pmax pmax
comp=Z,1μm,8.0s
KLR MLR MLR
comp=N,3μm,13.0s
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=Z,11μm,13.0s
SEY Seymchan 16.11 356 eP Pn 15 20 36.2 -2.3
MJAR Matsushiro Arr 16.13 236 Pn Pn 15 20 36.2 -2.6
comp=Z,1.4nm,0.3s,baz=31,slow=13,SNR=49
MJAR Sn Sn 15 23 29.9 -8.3
comp=Z,0.1nm,0.3s,baz=225,slow=55,SNR=2.3
MAJO Matsushiro 16.13 236 eP Pn 15 20 35.8 -3.0
MAJO pmax pmax
comp=Z,211nm,0.9s
MAJO Matsushiro 16.13 236 eP Pn 15 20 35.8 -2.9
comp=Z,211nm,0.9s
MAT Matsushiro 16.13 236 P Pn 15 20 35.6 -3.2
MAT S Sn 15 23 38.0 -0.2
AMKA Amchitka 16.60 65 P Pn 15 20 44.3 -0.5
MDJ Mudanjiang 17.73 272 P Pn 15 20 58.4 -0.6
MDJ S Sn 15 24 16.4 -0.6
MDJ AMB AMB
comp=Z,21nm,0.8s
MDJ AMB AMB
comp=Z,218nm,6.5s
MDJ LR LR
comp=N,2μm,15.0s
MDJ LR LR
comp=E,3μm,16.4s
MDJ LR LR
comp=Z,4μm,17.3s
ZEA Zeya 18.79 301 eP Pn 15 21 07.0 -5.0
ZEA AMB AMB 15 21 14.1
comp=Z,50nm,0.7s
ZEA AMB AMB 15 21 14.1
comp=Z,42nm,0.8s
ZEA AMB AMB 15 21 14.1
comp=Z,77nm,0.8s
ZEA AMB AMB 15 21 16.0
comp=Z,400nm,5.0s
ZEA AMB AMB 15 21 16.0
comp=Z,900nm,5.0s
ZEA AMB AMB 15 21 16.0
comp=Z,1μm,5.0s
ZEA eS Sn 15 24 38.0 -4.8
ZEA A 15 24 44.0
comp=Z,300nm,8.0s
ZEA A 15 24 44.0
comp=Z,600nm,9.0s
CLNS Chul'man 20.81 309 *c i* P P 15 21 33.8 +0.2
CLNS *e* 15 21 46.9
CLNS *e* PPP 15 21 53.5
CLNS *e* S S 15 25 24.7 -1.8
CLNS *e* 15 25 41.4
CLNS *e* SS 15 25 56.7
CLNS pmax pmax
comp=Z,189nm,0.8s
CLNS pmax pmax
comp=N,86nm,1.0s
CLNS pmax pmax
comp=E,102nm,0.9s
CLNS smax
comp=N,277nm,1.6s
CLNS smax
comp=E,61nm,1.4s
CLNS MLR MLR
comp=E,2μm,14.0s,MS4.8
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.0
CLNS MLR MLR
comp=N,2μm,12.0s,MS4.8
CN2 Changchun 20.81 272 eP P 15 21 31.8 -1.9
CN2 eXP sP 15 21 38.8 +4.7
CN2 eS S 15 25 18.6 -8.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,18.0s,MS4.8
CN2 LR LR
comp=E,3μm,18.0s,MS4.8
CN2 LR LR
comp=Z,3μm,16.0s,MS4.8
YAK Yakutsk 20.83 326 eP P 15 21 33.3 -0.5
YAK *e* 15 21 47.4
YAK eS S 15 25 15.1 -12
YAK *e* 15 25 48.4
YAK *e* 15 32 51.5
YAK pmax pmax
comp=Z,61nm,0.9s
YAK smax
comp=E,1μm,2.3s
YAK smax
comp=N,1μm,2.5s
YAK smax
comp=Z,765nm,2.5s
YAK MLR MLR
comp=E,2μm,16.0s,MS4.8
YAK MLR MLR
comp=Z,3μm,16.0s,MS4.8
YAK MLR MLR
comp=N,2μm,15.0s,MS4.8
YAK Yakutsk 20.83 326 eP P 15 21 31.6 -2.2
comp=N,134nm,0.5s
NRGR Nerungri 20.85 309 eP P 15 21 34.2 +0.1
KSRS Korea Array 21.96 254 P P 15 21 47.5 +1.4
comp=N,91nm,1.1s,mb5.1,baz=56,slow=9.5,SNR=47
KSRS PcP PcP 15 25 43.0 -1.9
comp=N,3.3nm,0.8s,baz=58,slow=9.6,SNR=5.4
KSRS LR LR 15 29 54.1
comp=N,2μm,18.3s,MS4.5,baz=60,slow=36
BILL Bilibino 21.98 12 *d i* P P 15 21 44.0 -2.2
BILL *i* 15 21 59.2
BILL *i* 15 22 13.9
BILL *i* S S 15 25 44.1 -5.5
BILL pmax pmax
comp=Z,131nm,1.0s,mb5.3
BILL MLR MLR
comp=Z,3μm,16.0s,MS4.7
BILL Bilibino 21.98 12 eP P 15 21 44.1 -2.1
comp=Z,233nm,1.0s,mb5.6
INCN Inchon 22.80 256 eP P 15 21 55.9 +1.0
comp=Z,73nm,0.8s,mb5.3
SNY Shenyang 22.81 269 ⇑ P P 15 21 54.8 -0.3
SNY AP 15 21 59.3
SNY XP sP 15 22 02.3 +6.8
SNY S S 15 26 00.4 -5.0
SNY XS sS 15 26 05.3 -0.6
SNY SS 15 26 40.4
SNY AMB AMB
comp=Z,47nm,0.8s,mb5.1
SNY AMB AMB
comp=Z,356nm,12.0s
SNY LR LR
comp=E,5μm,15.3s
SNY LR LR
comp=Z,5μm,16.7s,MS5.0
JNU Nakatsue 22.82 241 P P 15 21 55.6 +0.5
comp=Z,25nm,0.9s,mb4.8,baz=256,slow=13,SNR=2.9
JNU LR LR 15 29 56.1
comp=Z,2μm,20.8s,MS4.6,baz=72,slow=34
HIA Hailar 23.42 289 eP P 15 21 58.5 -3.0
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 23.42 289 eP P 15 21 58.5 -3.0
comp=Z,24nm,0.8s,mb4.8
DL2 Dalian 25.44 264 ⇑ *i* P P 15 22 23.0 +2.8
DL2 S S 15 26 49.6 +1.6
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,330nm,4.7s
DL2 LR LR
comp=N,920nm,14.4s,MS4.5
DL2 LR LR
comp=E,460nm,14.3s,MS4.5
DL2 LR LR
comp=Z,540nm,16.0s,MS4.2
BOD Bodaibo 26.79 309 eP P 15 22 30.0 -2.3
BOD *e* 15 22 43.3
BOD *e* 15 27 13.2
BOD pmax pmax
comp=Z,47nm,1.3s,mb5.1
CIT Chita 27.02 296 eP P 15 22 33.5 -1.0
CIT *e* 15 22 43.4
CIT *e* 15 22 53.7
CIT pmax pmax
comp=Z,100nm,2.7s,mb5.1
TNA Tin City 27.25 33 eP P 15 22 36.2 -0.3
comp=Z,41nm,1.0s,mb5.1
BJI Beijing 28.64 270 eP P 15 22 52.4 +3.4
BJI XP sP 15 22 56.6 +7.2
BJI S S 15 27 39.6 +1.1
BJI XS sS 15 27 49.1 +10
BJI AMB AMB
comp=Z,37nm,0.9s,mb5.2
BJI AMB AMB
comp=Z,415nm,2.7s,mb5.8
BJI LR LR
comp=N,1μm,15.3s,MS5.1
BJI LR LR
comp=E,4μm,17.9s,MS5.1
BJI LR LR
comp=Z,3μm,17.4s,MS4.9
BJI Beijing 28.64 270 eP P 15 22 52.4 +3.4
comp=Z,37nm,0.9s,mb5.2
BJI sP sP 15 22 56.6 +7.2
BJI S S 15 27 39.6 +1.1
BJI sS sS 15 27 49.1 +10
BJI LR LR
comp=Z,3μm,17.4s,MS4.9
BJT Baijiatuau 28.66 270 eP P 15 22 50.4 +1.3
BJT pmax pmax
comp=Z,59nm,0.8s
BJT MLR MLR
comp=Z,3μm,19.0s
BJT Baijiatuau 28.66 270 eP P 15 22 50.4 +1.3
comp=Z,59nm,0.8s,mb5.5
BJT LR LR
comp=Z,3μm,19.0s,MS4.9
JOW Kunigami 28.97 236 P P 15 22 50.9 -1.0
comp=Z,22nm,1.0s,mb5.0,baz=302,slow=9.5,SNR=2.2
TIA Tai'an 29.89 263 eP P 15 23 01.0 +0.9
TIA S S 15 27 55.0 -3.1
TIA LR LR
comp=N,302nm,11.0s,MS4.6
TIA LR LR
comp=E,904nm,14.0s,MS4.6
SSE Sheshan 30.25 251 eP P 15 23 04.3 +1.1
SSE S S 15 28 05.1 +1.4
SSE XS sS 15 28 10.0 +5.8
SSE AMB AMB
comp=Z,59nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,252nm,3.6s
SSE LR LR
comp=N,476nm,19.6s,MS4.5
SSE LR LR
comp=E,952nm,19.6s,MS4.5
SSE LR LR
comp=Z,2μm,19.1s,MS4.7
SSE Sheshan 30.25 251 eP P 15 23 04.2 +1.0
comp=Z,59nm,0.8s,mb5.5
SSE S S 15 28 05.1 +1.4
SSE sS sS 15 28 10.0 +5.8
SSE LR LR
comp=Z,2μm,19.1s,MS4.7
NJ2 Nanjing 31.16 254 eP P 15 23 13.1 +1.8
NJ2 AP 15 23 17.8
NJ2 XP sP 15 23 20.8 +9.1
NJ2 PP PP 15 24 16.6 -4.9
NJ2 S S 15 28 17.5 -0.5
NJ2 XS sS 15 28 26.5 +8.0
NJ2 AMB AMB
comp=Z,100nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,960nm,6.6s
NJ2 LR LR
comp=N,4μm,17.4s,MS5.2
NJ2 LR LR
comp=E,2μm,17.8s,MS5.2
NJ2 LR LR
comp=Z,3μm,17.6s,MS5.0
HHC Hu-ho-hao-te 31.45 275 eP P 15 23 14.8 +1.0
HHC AP 15 23 20.3
HHC XP sP 15 23 21.6 +7.4
HHC PP PP 15 24 17.9 -6.7
HHC PCP PcP 15 26 08.3 +1.2
HHC S S 15 28 21.0 -1.4
HHC XS sS 15 28 26.9 +4.0
HHC SCP ScP 15 29 50.3 -1.0
HHC PCS PcS 15 29 52.9 +1.5
HHC SS SS 15 30 08.3 -28
HHC SCS ScS 15 33 48.6 -0.3
HHC AMB AMB
comp=Z,51nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,326nm,4.0s
HHC LR LR
comp=N,2μm,15.1s,MS5.1
HHC LR LR
comp=E,2μm,15.0s,MS5.1
HHC LR LR
comp=Z,3μm,15.1s,MS5.0
ULN Ulaanbaatar 31.94 290 P P 15 23 18.0 -0.1
SNR=11
ULN Ulaanbaatar 31.94 290 eP P 15 23 17.1 -1.1
ULN pmax pmax
comp=Z,62nm,1.4s,mb5.3
ULN MLR MLR
comp=Z,2μm,19.0s,MS4.9
ULN Ulaanbaatar 31.94 290 eP P 15 23 17.1 -1.1
comp=Z,62nm,1.4s,mb5.3
ULN LR LR
comp=Z,2μm,19.0s,MS4.9
SONM Songino Array 32.38 290 P P 15 23 21.4 -0.6
comp=Z,12nm,0.8s,mb4.9,baz=62,slow=9.0,SNR=38
SONM PcP PcP 15 26 08.6 -1.0
comp=Z,1.8nm,0.7s,baz=90,slow=2.9,SNR=3.0
SONM LR LR 15 37 58.4
comp=Z,3μm,18.1s,MS5.0,baz=195,slow=39
SONM Songino Array 32.38 290 P P 15 23 21.4 -0.6
SONM 15 26 08.6
BTO Baotou 32.60 275 eP P 15 23 23.8 -0.2
IRK Irkutsk 32.64 298 eP P 15 23 23.9 -0.4
IRK *e* 15 23 34.7
IRK pmax pmax
comp=Z,52nm,2.0s,mb5.1
IMA2 Indian Mountai 32.98 36 eP P 15 23 27.1 -0.2
KDAK Kodiak Island 33.09 51 P P 15 23 27.0 -1.2
comp=Z,23nm,0.7s,mb5.2,baz=293,slow=8.2,SNR=9.4
KDAK LR LR 15 35 40.4
comp=Z,911nm,20.5s,MS4.5,baz=140,slow=34
TLY Talaya 33.14 297 P P 15 23 29.4 +0.8
SNR=11
TLY Talaya 33.14 297 eP P 15 23 29.1 +0.5
TLY *e* 15 23 40.7
TLY eS S 15 28 42.6 -6.2
TLY eSS SS 15 31 15.8 +4.5
TLY pmax pmax
comp=Z,44nm,0.9s,mb5.4
TLY MLR MLR
comp=Z,3μm,15.0s,MS5.2
TLY Talaya 33.14 297 eP P 15 23 28.6 0.0
comp=Z,16nm,0.9s,mb5.0
TLY *e* 15 23 40.3
ZAK Zakamensk 33.66 295 ⇓ *i* P P 15 23 33.4 +0.2
ZAK *e* 15 23 45.2
SLKM Skilak Lake 34.17 46 eP P 15 23 36.3 -1.3
GUMO Guam 34.26 197 LR LR 15 38 56.3
comp=Z,271nm,18.2s,MS4.0,baz=6.2,slow=39
PMR Palmer 34.67 44 eP P 15 23 40.6 -1.3
PMR pmax pmax
comp=Z,27nm,1.1s,mb5.1
PMR MLR MLR
comp=Z,1μm,20.0s,MS4.7
PMR Palmer 34.67 44 eP P 15 23 40.6 -1.3
comp=Z,28nm,1.1s,mb5.1
PMR LR LR
comp=Z,1μm,20.0s,MS4.7
MOY Mondy 34.75 298 eP P 15 23 42.0 -0.6
MOY pmax pmax
comp=Z,53nm,2.5s,mb5.0
MCK McKinley 34.77 40 eP P 15 23 41.8 -1.0
MCK pmax pmax
comp=Z,28nm,0.6s,mb5.4
MCK McKinley 34.77 40 eP P 15 23 41.8 -1.0
comp=Z,28nm,0.6s,mb5.4
SML Sawmill 35.04 44 eP P 15 23 43.5 -1.7
WHN Wuhan 35.10 257 ⇑ *i* P P 15 23 46.8 +1.1
WHN S S 15 29 24.3 +5.1
WHN LR LR
comp=Z,4μm,17.9s,MS5.2
COLA College 35.28 38 eP P 15 23 46.5 -0.7
COLA pmax pmax
comp=Z,92nm,1.0s,mb5.7
COLA MLR MLR
comp=Z,2μm,19.0s,MS4.8
COLA College 35.28 38 eP P 15 23 46.5 -0.7
comp=Z,92nm,1.0s,mb5.7
COLA LR LR
comp=Z,2μm,19.0s,MS4.8
QZH Quanzhou 36.16 245 P P 15 23 56.3 +1.5
QZH S S 15 29 38.6 +3.2
QZH AMB AMB
comp=Z,230nm,1.5s,mb5.8
QZH LR LR
comp=N,880nm,11.1s,MS5.0
QZH LR LR
comp=E,1μm,10.1s,MS5.0
QZH LR LR
comp=Z,1μm,22.1s
DIV Divide 36.31 45 eP P 15 23 55.1 -0.9
comp=Z,75nm,0.7s,mb5.6
XAN Xi'an 36.69 266 P P 15 23 59.6 +0.3
XAN S S 15 29 34.6 -8.9
XAN SS SS 15 32 08.5 -15
XAN AMB AMB
comp=Z,13nm,1.3s
XAN AMB AMB
comp=Z,245nm,5.2s
XAN LR LR
comp=N,981nm,15.6s,MS4.8
XAN LR LR
comp=E,732nm,14.9s,MS4.8
XAN LR LR
comp=Z,2μm,17.2s,MS5.0
MENT Mentasta 37.13 42 eP P 15 24 03.8 +0.7
EGAK Eagle 38.14 39 eP P 15 24 10.7 -0.9
comp=Z,54nm,0.8s,mb5.3
DAWY Dawson 38.97 40 eP P 15 24 17.9 -0.7
LZH Lanzhou 39.05 273 P P 15 24 20.8 +1.6
LZH PP PP 15 25 50.0 +1.5
LZH S S 15 30 11.3 -8.0
LZH AMB AMB
comp=Z,400nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,1μm,4.6s
LZH LR LR
comp=E,4μm,14.4s
LZH LR LR
comp=Z,4μm,15.0s,MS5.4
LZH Lanzhou 39.05 273 P P 15 24 20.8 +1.6

LZH *PP 15 24 32.5
LZH *SP sP 15 24 38.5 +19
LZH 15 25 50.0
LZH S **S** **15 30 11.3 -8.0**
LZH pmax pmax
comp=Z,400nm,1.4s,mb5.9
LZH MLR MLR
comp=Z,4µm,15.0s,MS5.4
LZH Lanzhou 39.05 273 P **P** **15 24 20.8 +1.6**
comp=Z,400nm,1.4s,mb5.9
LZH pP 15 24 32.5
LZH sP sP 15 24 38.5 +19
LZH PP PP 15 25 50.0 +1.5
LZH S **S** **15 30 11.3 -8.0**
LZH sS sS 15 30 22.0 +2.2
LZH *e*SS SS 15 32 50.0 -21
LZH LR LR
comp=Z,4µm,15.0s,MS5.4
GTA Gaotai 40.09 280 P **P** **15 24 28.9 +1.0**
GTA AP 15 24 32.3
GTA XP sP 15 24 34.1 +5.7
GTA PP PP 15 26 06.5 +6.5
GTA PPP 15 26 31.3
GTA PCP PcP 15 26 33.1 +0.5
GTA S **S** **15 30 35.8 +0.8**
GTA AMB AMB
comp=Z,13nm,1.0s
GTA AMB AMB
comp=Z,316nm,5.7s
GTA LR LR
comp=N,2µm,14.5s,MS5.2
GTA LR LR
comp=E,3µm,17.5s,MS5.2
GTA LR LR
comp=Z,3µm,16.7s,MS5.1
INK Inuvik 40.88 33 P **P** **15 24 34.5 +0.1**
comp=Z,44nm,0.8s,mb5.2,baz=278,slow=6.9,SNR=185
INK LR LR 15 44 16.8
comp=Z,655nm,19.1s,MS4.5,baz=286,slow=40
INK Inuvik 40.88 33 P **P** **15 24 34.5 0.0**
INK pmax pmax
comp=Z,44nm,0.8s
INK MLR MLR
comp=Z,655nm,19.1s
INK Inuvik 40.88 33 *e*P **P** **15 24 34.2 -0.3**
comp=Z,2µm,0.9s
SKAG Skagway 41.71 46 *e*P **P** **15 24 41.4 +0.1**
comp=Z,55nm,1.2s,mb5.2
CD2 Chengdu 42.06 266 P **P** **15 24 45.4 +1.3**
CD2 AP 15 24 48.1
CD2 XP sP 15 24 50.9 +6.4
CD2 PP PP 15 26 24.6 +3.3
CD2 S **S** **15 31 02.3 -1.9**
CD2 XS sS 15 31 09.5 +4.9
CD2 SS SS 15 34 03.5 -7.6
CD2 AMB AMB
comp=Z,200nm,0.9s,mb5.8
CD2 AMB AMB
comp=Z,600nm,5.7s
CD2 LR LR
comp=N,2µm,18.0s,MS5.1
CD2 LR LR
comp=E,1µm,16.8s,MS5.1
CD2 LR LR
comp=Z,2µm,17.4s,MS5.1
GYA Guiyang 42.89 259 ⇓*i*P **P** **15 24 51.6 +0.7**
GYA AP 15 24 55.6
GYA XP sP 15 24 58.4 +7.1
GYA PP PP 15 26 34.3 +4.0
GYA PCP PcP 15 26 43.6 +1.8
GYA SCP ScP 15 30 33.5 -0.4
GYA S **S** **15 31 16.6 +0.1**
GYA SS SS 15 34 21.3 -6.3
GYA SCS ScS 15 34 51.0 -2.1
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,340nm,5.0s
GYA LR LR
comp=N,1µm,15.9s,MS5.0
GYA LR LR
comp=E,1µm,16.4s,MS5.0
GYA LR LR
comp=Z,1µm,16.0s,MS4.9
TGY Tagaytay City 43.24 232 P **P** **15 24 52.8 -0.9**
comp=Z,40nm,0.3s,baz=191,slow=21,SNR=3.2
ZAL Zalesovo 43.47 306 P **P** **15 24 54.5 -1.1**
comp=Z,11nm,0.5s,mb4.9,baz=46,slow=8.0,SNR=37
ZAL LR LR 15 45 42.4
comp=Z,3µm,18.2s,MS5.2,baz=39,slow=40
NVS Novosibirsk 44.01 308 *e*P **P** **15 24 58.3 -1.6**
NVS *e* 15 26 40.8
NVS *e*S **S** **15 31 23.5 -9.4**
NVS pmax pmax
comp=N,135nm,2.2s
NVS pmax pmax
comp=E,245nm,2.2s
NVS pmax pmax
comp=Z,226nm,2.2s,mb5.5
NVS pmax pmax
comp=E,50nm,1.2s
NVS pmax pmax
comp=Z,47nm,1.2s,mb5.1
NVS pmax pmax
comp=N,23nm,1.5s
NVS smax
comp=N,50nm,1.2s
DLBC Dease Lake 44.64 46 *e*P **P** **15 25 05.9 +0.9**
WMQ Urumqi 45.95 292 P **P** **15 25 16.0 +0.6**
WMQ AP 15 25 20.5
WMQ XP sP 15 25 23.0 +7.2
WMQ PCP PcP 15 26 52.8 +0.5
WMQ PP PP 15 27 04.3 +1.4
WMQ PPP 15 27 48.1
WMQ AMB AMB
comp=Z,20nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,453nm,4.5s
WMQ LR LR
comp=N,3µm,20.3s,MS5.2
WMQ LR LR
comp=E,496nm,20.3s,MS5.2
WMQ LR LR
comp=Z,2µm,18.0s,MS5.0
QIZ Qiongzhong 45.99 248 P **P** **15 25 15.9 +0.2**
QIZ S **S** **15 32 01.3 -0.3**
QIZ XS sS 15 32 07.3 +5.2
QIZ SS SS 15 35 20.5 -5.8
QIZ AMB AMB
comp=Z,39nm,1.5s,mb5.2
QIZ AMB AMB
comp=Z,256nm,5.6s
QIZ LR LR
comp=E,760nm,17.0s
QIZ LR LR
comp=Z,1µm,16.6s,MS4.8
KMI Kunming 46.42 261 ⇑P **P** **15 25 20.8 +1.7**
KMI AP 15 25 23.3
KMI PCP PcP 15 26 55.3 +1.4
KMI PP PP 15 27 09.8 +1.9
KMI PPP 15 27 53.9
KMI PCS PcS 15 30 48.9 +0.4
KMI AMB AMB
comp=Z,38nm,1.2s,mb5.3
KMI AMB AMB
comp=Z,440nm,4.2s
KMI LR LR
comp=N,612nm,16.8s,MS4.9
KMI LR LR
comp=E,809nm,15.2s,MS4.9
KMI LR LR
comp=Z,616nm,16.0s,MS4.7
KMI Kunming 46.42 261 ⇑P **P** **15 25 20.7 +1.6**
KMI 15 26 55.3
KMI 15 27 09.8
KMI PPP 15 27 53.9
KMI S **S** **15 32 07.8 +0.1**
KMI *SS sS 15 32 12.8 +4.6
KMI 15 35 13.2
KMI SS SS 15 35 25.4 -7.9
KMI SSS 15 36 30.5
KMI pmax pmax
comp=Z,38nm,1.2s,mb5.3
KMI MLR MLR
comp=Z,620nm,16.0s,MS4.7
KMI Kunming 46.42 261 ⇑P **P** **15 25 20.7 +1.6**
comp=Z,38nm,1.2s,mb5.3
KMI pP 15 25 23.3
KMI sP sP 15 25 24.6 +5.1
KMI PcP PcP 15 26 55.3 +1.4
KMI PP PP 15 27 09.8 +1.9
KMI PPP 15 27 53.9
KMI PcS PcS 15 30 48.9 +0.4
KMI S **S** **15 32 07.8 +0.1**
KMI sS sS 15 32 12.8 +4.6
KMI ScS ScS 15 35 13.2 -2.4
KMI SS SS 15 35 25.4 -7.9
KMI SSS 15 36 30.5
KMI LR LR
comp=Z,620nm,16.0s,MS4.7
MKAR Makanchi Array 47.90 298 P **P** **15 25 29.9 -0.6**
comp=Z,21nm,0.9s,mb5.3,baz=68,slow=7.3,SNR=83
KURK Kurchatov 48.24 304 P **P** **15 25 32.1 -1.1**
comp=Z,499nm,0.8s,mb6.7,SNR=44
POHA Pohakuloa 48.50 107 *e*P **P** **15 25 35.2 -0.1**
comp=Z,110nm,0.8s,mb6.0
KHU Kahuku 48.81 107 P **P** **15 25 37.0 -0.6**
KHU *e* 15 25 50.1
ALE Alert 49.46 6 P **P** **15 25 42.0 -0.6**
comp=Z,353nm,0.7s,mb6.5,SNR=19
YKA Yellowknife Ar 50.09 37 P **P** **15 25 46.6 -0.8**
comp=Z,10nm,0.7s,mb4.8,baz=294,slow=7.1,SNR=20
YKA PcP PcP 15 27 05.8 -1.2
comp=Z,10nm,1.0s,baz=301,slow=3.5,SNR=7.6
YKA LR LR 15 48 33.0
comp=Z,463nm,20.7s,MS4.5,baz=195,slow=38
YKA Yellowknife Ar 50.09 37 P **P** **15 25 46.6 -0.8**
YKA 15 27 05.8
YKA Yellowknife Ar 50.09 37 P **P** **15 25 46.6 -0.8**
YKA PcP PcP 15 27 05.8 -1.2
YKA LR LR 15 48 33.0
RES Resolute Bay 50.30 19 P **P** **15 25 49.0 0.0**
RES Resolute Bay 50.30 19 *e*P **P** **15 25 48.9 -0.1**
comp=Z,1µm,0.9s
LSA Lhasa 51.43 274 P **P** **15 26 00.0 +2.5**
LSA Lhasa 51.43 274 *e*P **P** **15 25 59.6 +2.1**
LSA pmax pmax
comp=Z,75nm,0.8s,mb5.7
LSA MLR MLR
comp=Z,1µm,19.0s,MS4.9
LSA Lhasa 51.43 274 *e*P **P** **15 25 59.6 +2.1**
comp=Z,75nm,0.8s,mb5.7
LSA LR LR
comp=Z,1µm,19.0s,MS4.9
BVAR Borovoye Array 51.65 310 P **P** **15 25 58.3 -0.8**
comp=Z,31nm,0.4s,mb5.6,baz=57,slow=8.3,SNR=208
BRVK Borovoye 51.69 310 P **P** **15 25 59.7 +0.2**
comp=Z,453nm,0.5s,mb6.7,SNR=51
BRVK Borovoye 51.69 310 ⇑P **P** **15 25 59.5 +0.1**
SNR=35
BRVK Borovoye 51.69 310 *e*P **P** **15 25 58.5 -1.0**
BRVK pmax pmax
comp=Z,111nm,1.0s,mb5.8
BRVK MLR MLR
comp=Z,526nm,19.0s,MS4.6
BRVK Borovoye 51.69 310 *e*P **P** **15 25 58.5 -1.0**
comp=Z,111nm,1.0s,mb5.8
BRVK LR LR
comp=Z,526nm,19.0s,MS4.6
NANT Nan 52.13 256 ⇓P **P** **15 26 02.0 -0.7**
comp=Z,275nm,1.0s,mb6.1
KKTK Khon Kaen 52.50 252 ⇑P **P** **15 26 07.0 +1.5**
comp=Z,309nm,0.6s,mb6.4
KBS Kingsbay 52.51 352 *e*P **P** **15 26 05.7 +0.1**
KBS AMS AMS 15 52 46.2
comp=Z,318nm,12.7s,MS4.5
KBS Kingsbay 52.51 352 *e*P **P** **15 26 05.0 -0.5**
KBS pmax pmax
comp=Z,66nm,0.8s,mb5.6
KBS Kingsbay 52.51 352 *e*P **P** **15 26 05.0 -0.5**
comp=Z,66nm,0.8s,mb5.6
SPB4 Spitsbergen Ar 52.65 350 *e*P **P** **15 26 06.2 -0.5**
AAA Alma-Ata 52.95 297 *i*P **P** **15 26 09.1 +0.3**
AAA *i*S **S** **15 33 37.4 -1.7**
AAA pmax pmax
comp=Z,323nm,3.5s
AAA smax
comp=N,532nm,12.4s
AAA MLR MLR
comp=Z,4µm,16.3s,MS5.5
CHG Chiang Mai 53.29 258 ⇓P **P** **15 26 12.8 +1.4**
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 53.29 258 ⇑P **P** **15 26 13.2 +1.8**
SNR=35
CHTO Chiang Mai 53.29 258 *e*P **P** **15 26 12.6 +1.2**
CHTO pmax pmax
comp=Z,83nm,1.2s,mb5.5
CHTO Chiang Mai 53.29 258 *e*P **P** **15 26 12.6 +1.2**
comp=Z,83nm,1.2s,mb5.5
B05A Bryant 53.36 56 ⇓P **P** **15 26 11.4 -0.4**
baz=53
C05A Tolt Reservoir 53.90 56 ⇑P **P** **15 26 15.7 -0.1**
baz=54
E04A Onalaska 53.90 58 ⇓P **P** **15 26 15.4 -0.4**
baz=54
A07A Ashnola River, 53.90 54 ⇑P **P** **15 26 15.7 -0.1**
baz=54
D05A Enumclaw 54.00 57 ⇑P **P** **15 26 15.8 -0.7**
baz=54
BDT Bhumibol Dam 54.37 257 P **P** **15 26 21.0 +1.8**
B07A Winthrop 54.37 55 ⇓P **P** **15 26 18.8 -0.4**
baz=54
A08A Turner Farm, O 54.57 54 P **P** **15 26 20.4 -0.3**
baz=54,SNR=7.6
FRU Bishkek 54.62 297 *e*P **P** **15 26 22.0 +1.0**
FRU pmax pmax
comp=Z,270nm,3.2s
D06A Cle Elum 54.65 56 ⇑P **P** **15 26 20.2 -1.1**
baz=54
SOKR Solikamsk 54.69 322 *i*P **P** **15 26 21.5 -0.1**
SOKR *e* 15 26 33.1
SOKR S **S** **15 33 53.4 -9.2**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,950nm,17.0s,MS4.9
NST Nakhon Sawan 54.74 254 P **P** **15 26 23.0 +1.0**
AAK Ala-Archa 54.80 297 P **P** **15 26 21.8 -0.6**
comp=Z,207nm,0.6s,mb6.3,SNR=23
AAK Ala-Archa 54.80 297 ⇑P **P** **15 26 22.7 +0.3**
SNR=12
AAK Ala-Archa 54.80 297 *d i*P **P** **15 26 21.7 -0.7**
AAK pmax pmax
comp=Z,26nm,1.0s,mb5.2
AAK Ala-Archa 54.80 297 *e*P **P** **15 26 21.9 -0.5**
comp=Z,255nm,0.4s,mb6.6
AAK LR LR
comp=Z,357nm,19.0s,MS4.5
C07A Waterville 54.82 55 P **P** **15 26 21.7 -0.8**
baz=55,SNR=6.4
B08A Colville Reser 54.86 54 P **P** **15 26 22.4 -0.4**
baz=55,SNR=9.4
E06A Yakima 54.93 57 ⇓P **P** **15 26 23.2 -0.1**
baz=55
A09A Danville 54.94 53 P **P** **15 26 23.3 -0.1**
baz=55,SNR=15
I03A Eugene 55.01 61 ⇓P **P** **15 26 23.8 -0.1**
baz=55
F05A White Salmon 55.02 58 ⇓P **P** **15 26 22.3 -1.7**
baz=55
D07A Quincy 55.15 56 ⇓P **P** **15 26 24.7 -0.1**
baz=55
J02A Umpqua 55.17 62 ⇓P **P** **15 26 25.3 +0.3**
baz=55
H04A Detroit Lake 55.26 59 ⇓P **P** **15 26 26.3 +0.6**
baz=55
BJO Bjornoya 55.28 347 AMS AMS 15 53 45.8
comp=Z,699nm,19.3s,MS4.8
C08A Higginbotham F 55.34 55 ⇓P **P** **15 26 25.2 -1.1**
baz=55
EDM Edmonton 55.35 47 P **P** **15 26 26.0 -0.4**
EDM Edmonton 55.35 47 *e*P **P** **15 26 25.8 -0.5**
G05A Wamic 55.46 59 ⇑P **P** **15 26 27.7 +0.6**
baz=55
F06A Goldendale 55.48 58 ⇓P **P** **15 26 26.8 -0.4**
baz=55
B09A Rice 55.48 54 P **P** **15 26 27.1 -0.2**
baz=55,SNR=8.8
A10A Northport 55.50 53 P **P** **15 26 27.1 -0.3**
baz=55,SNR=6.7
J03A Ideyld Park 55.54 61 ⇓P **P** **15 26 28.3 +0.6**
baz=55
K02A Glendale 55.56 62 ⇓P **P** **15 26 28.2 +0.3**
baz=55
E07A Sunnyside 55.57 56 P **P** **15 26 27.9 0.0**
baz=55,SNR=6.0
I04A Tendick Farm, 55.63 61 P **P** **15 26 28.8 +0.4**
baz=55,SNR=8.3
KSH Kashi 55.66 293 *e*P **P** **15 26 30.8 +2.2**
KSH *e*AP 15 26 36.3
KSH *e*XP sP 15 26 39.8 +11
KSH *e*PCP PcP 15 27 30.0 +1.9
KSH *e*PP PP 15 28 36.9 +4.2
KSH *e*PPP 15 29 50.4
KSH *e*SCP ScP 15 31 28.3 +0.1
KSH *e*S **S** **15 34 14.6 -1.1**
KSH *e*XS sS 15 34 24.3 +8.1
KSH *e*PS 15 34 34.8
KSH *e*SCS ScS 15 36 14.8 -4.2
KSH *e*SS SS 15 37 58.0 -2.7
KSH AMB AMB
comp=Z,2µm,4.0s
KSH LR LR
comp=Z,6µm,18.4s,MS5.7
ARU Arti 55.67 318 P **P** **15 26 28.4 -0.3**
comp=Z,1µm,0.5s,SNR=51
ARU Arti 55.67 318 ⇑*i*P **P** **15 26 27.4 -1.3**
ARU *e* 15 26 40.0
ARU *e* 15 27 27.5
ARU *e* 15 28 31.5
ARU *e*S **S** **15 34 12.1 -3.7**
ARU *e*SS SS 15 38 00.3 -0.6
ARU pmax pmax
comp=Z,114nm,0.8s,mb6.0
ARU MLR MLR
comp=Z,1µm,17.0s,MS5.0
ARU MLR MLR
comp=N,600nm,16.0s,MS4.9
ARU MLR MLR
comp=E,700nm,18.0s,MS4.9
ARU Arti 55.67 318 *e*P **P** **15 26 27.6 -1.1**
comp=E,197nm,0.7s,mb6.2
ARU *e* 15 26 40.9
C09A Chrisman Ranch 55.76 55 ⇓P **P** **15 26 28.2 -1.1**
baz=56
D08A Wollman Farm, 55.82 56 ⇑P **P** **15 26 29.0 -0.7**
baz=56
L02A Cave Junction 55.84 63 ⇑P **P** **15 26 29.9 0.0**
baz=56
H05A Madras 55.85 59 ⇓P **P** **15 26 30.2 +0.2**
baz=56
G06A Carlson Farm, 55.86 58 ⇓P **P** **15 26 29.9 -0.1**
baz=56
F07A Phinny Hill Vi 55.90 57 ⇓P **P** **15 26 30.5 +0.2**
baz=56
E08A Dider Farm, El 56.06 56 ⇓P **P** **15 26 30.4 -1.1**
baz=56
B10A Chitwood Farm, 56.06 54 ⇓P **P** **15 26 30.4 -1.1**
baz=56
JIRN Jiri 56.09 276 *e*P **P** **15 26 33.0 +1.3**
comp=E,58nm,0.5s,mb5.9
I05A Bend 56.10 60 ⇑P **P** **15 26 31.0 -0.7**
baz=56
J04A Umpqua Nationa 56.13 61 ⇓P **P** **15 26 31.9 0.0**
baz=56
GUN Gumba 56.15 276 *e*P **P** **15 26 33.9 +1.8**
D09A Jones Farm, Ri 56.16 55 ⇑P **P** **15 26 31.4 -0.8**
baz=56
A11A Hall Mountain, 56.16 52 P **P** **15 26 32.3 +0.1**
baz=56,SNR=9.1
VIPM Ingram Point 56.28 59 P **P** **15 26 33.4 +0.4**
C10A Spilker Farm, 56.29 54 ⇑P **P** **15 26 33.0 -0.1**
baz=56
H06A Lindquist Farm 56.32 59 P **P** **15 26 32.8 -0.5**
baz=56,SNR=10.0
JCC Jacoby Creek 56.35 64 ⇓P **P** **15 26 33.5 0.0**
baz=56
G07A Ruggs Ranch, H 56.41 58 ⇓P **P** **15 26 34.1 +0.2**
baz=56
B11A Sandpoint 56.46 53 P **P** **15 26 34.2 0.0**
baz=56,SNR=5.7
DAG Danmarks Havn 56.52 358 ⇓*i*P **P** **15 26 34.0 -0.7**
comp=E,39nm,0.9s,mb5.4
DAG Danmarks Havn 56.52 358 ⇓*i*P **P** **15 26 34.0 -0.7**
DAG pmax pmax
comp=Z,39nm,0.9s,mb5.4
A12A Yaak River Ran 56.56 52 ⇑P **P** **15 26 33.9 -1.1**
baz=56
E09A Wood Farm, Sta 56.56 56 P **P** **15 26 34.8 -0.3**
baz=56,SNR=8.8
BUOR Burton Butte 56.60 62 P **P** **15 26 36.0 +0.7**
F08A Pendleton 56.62 57 P **P** **15 26 37.1 +1.7**
baz=56,SNR=6.2
J05A Fort Rock 56.62 60 P **P** **15 26 36.6 +1.1**
baz=56,SNR=11
KKN Kakani 56.63 276 *e*P **P** **15 26 36.7 +1.2**
comp=Z,83nm,0.7s,mb5.8
YBH Yreka Blue Hor 56.63 63 P **P** **15 26 36.7 +1.2**
baz=56,SNR=8.2
PKI Pulchoki 56.68 276 *e*P **P** **15 26 36.9 +1.0**
comp=Z,60nm,0.8s,mb5.7
K04A Chilquin 56.72 61 ⇓P **P** **15 26 36.7 +0.6**
baz=56
M02C Callahan 56.74 63 P **P** **15 26 37.5 +1.1**
baz=56,SNR=8.2
N02C Big Bar 56.80 64 ⇑P **P** **15 26 36.7 0.0**
baz=57
G08A Pilot Rock 56.80 57 P **P** **15 26 36.8 0.0**
baz=56,SNR=8.4
I06A Prineville 56.85 59 P **P** **15 26 37.8 +0.7**
baz=57,SNR=9.4
B12A Libby 56.87 53 ⇑P **P** **15 26 38.0 +0.8**
baz=57
DMN Daman 56.87 276 *e*P **P** **15 26 38.5 +1.3**
L04A Klamath Falls 56.87 62 P **P** **15 26 38.1 +0.9**
baz=57,SNR=9.0
O01C Eel River Cons 56.88 65 ⇑P **P** **15 26 38.6 +1.3**
baz=57
GKN Gorkha 56.93 277 *e*P **P** **15 26 38.7 +1.0**
comp=Z,81nm,0.5s,mb6.0
LHEM Herd Peak 56.99 63 P **P** **15 26 38.7 +0.7**
LVZ Lovozero 57.07 337 P **P** **15 26 38.6 0.0**
comp=Z,321nm,0.8s,mb6.4,SNR=11
LVZ Lovozero 57.07 337 *e*P **P** **15 26 37.9 -0.7**
LVZ pmax pmax
comp=Z,128nm,1.1s,mb5.9
LVZ pmax pmax
comp=N,57nm,1.3s
LVZ pmax pmax
comp=E,48nm,1.2s
LVZ MLR MLR
comp=Z,858nm,16.0s,MS5.0
LVZ MLR MLR
comp=N,529nm,17.0s,MS5.0
LVZ MLR MLR
comp=E,992nm,18.0s,MS5.0
LVZ Lovozero 57.07 337 *i*P **P** **15 26 38.1 -0.5**
M04C Macdoel 57.13 62 P **P** **15 26 40.0 +1.0**
baz=57,SNR=9.0
K05A Summer Lake 57.15 61 P **P** **15 26 40.4 +1.2**
baz=57,SNR=10
F09A S2 Ranch, Elgi 57.16 56 ⇓P **P** **15 26 38.5 -0.7**
baz=57
E10A Myers Farm, Un 57.17 55 P **P** **15 26 39.0 -0.3**
baz=57,SNR=6.3
I07A Izee 57.18 59 P **P** **15 26 40.0 +0.5**
baz=57,SNR=9.3
M03C McCloud 57.26 63 P **P** **15 26 40.6 +0.7**
baz=57,SNR=6.1
NNT Nongplab 57.26 252 P **P** **15 26 43.0 +3.0**
D11A Klaveano Farm, 57.27 54 P **P** **15 26 39.4 -0.6**
baz=57,SNR=10
C12A Trout Creek 57.37 53 P **P** **15 26 40.3 -0.4**
baz=57,SNR=11
F10A Beach Ranch, E 57.40 56 ⇓P **P** **15 26 40.5 -0.4**
baz=57
WDC Whiskeytown Da 57.41 64 *e*P **P** **15 26 41.1 +0.1**
WDC pmax pmax
comp=Z,37nm,1.4s,mb5.2
WDC Whiskeytown Da 57.41 64 *e*P **P** **15 26 41.1 0.0**
comp=Z,37nm,1.4s,mb5.2
WDC Whiskeytown Da 57.41 64 P **P** **15 26 41.5 +0.4**
baz=57,SNR=7.9
H08A Prairie City 57.42 58 P **P** **15 26 41.1 +0.1**
baz=57,SNR=13
WALA Waterton Lakes 57.43 51 *e*P **P** **15 26 41.0 -0.2**
comp=Z,57nm,1.4s,mb5.4
WALA *e*PcP PcP 15 27 34.9 -0.1

K06A **Valley Falls** 57.49 60 P P 15 26 42.6 +1.0
baz=57,SNR=14
O02C **Red Bluff** 57.50 64 P P 15 26 42.7 +1.0
baz=57,SNR=12
B13A **Whitefish** 57.53 52 P P 15 26 41.9 0.0
baz=57,SNR=30
KEV **Kevo** 57.57 341 *e*p P 15 26 40.6 -1.6
comp=Z,11nm,0.7s,mb5.0
KEV **Kevo** 57.57 341 *e*P P 15 26 40.6 -1.6
KEV pmax pmax
comp=Z,11nm,0.7s,mb5.0
P01C **Double 8 Ranch** 57.58 65 P P 15 26 42.6 +0.4
baz=57,SNR=5.7
L05A **Lakeview** 57.59 61 P P 15 26 43.5 +1.2
baz=57,SNR=11
APA **Apatity** 57.64 337 ⇓ *i*P P 15 26 42.0 -0.7
APA *i* 15 26 55.0
APA pmax pmax
comp=Z,120nm,1.6s,mb5.7
APA MLR MLR
comp=Z,2μm,17.0s,MS5.2
BSMT **Bassoo Peak** 57.66 53 P P 15 26 43.0 +0.2
J07A **Hines** 57.71 59 P P 15 26 44.0 +0.9
baz=58,SNR=7.2
KOLN **Koldanda** 57.79 277 *e*P P 15 26 44.7 +1.0
comp=Z,102nm,0.9s,mb5.9
M05C **Lookout** 57.80 62 P P 15 26 44.1 +0.4
baz=58,SNR=5.8
GASB **Alder Springs** 57.85 65 P P 15 26 45.3 +1.2
baz=58,SNR=12
C13A **Hot Springs** 57.88 53 P P 15 26 44.5 +0.2
baz=58,SNR=6.8
H09A **Durkee** 57.91 57 P P 15 26 45.3 +0.8
baz=58,SNR=7.5
HATC **Hat Creek Radi** 57.93 63 ⇓P P 15 26 44.7 0.0
baz=58
LBCM **Butte Creek Ri** 57.99 63 P P 15 26 45.5 +0.4
MOD **Modoc** 57.99 61 *e*P P 15 26 45.1 0.0
comp=Z,26nm,1.3s,mb5.1
MOD *e*PcP PcP 15 27 37.5 +0.3
MOD **Modoc** 57.99 61 P P 15 26 45.6 +0.5
baz=58,SNR=13
BMO **Blue Mountains** 58.01 57 *e*P P 15 26 45.0 -0.2
comp=Z,58nm,1.5s,mb5.4
BMO *e*PcP PcP 15 27 36.9 -0.3
BMO LR LR
comp=Z,418nm,21.0s,MS4.5
HOPS **Hopland** 58.02 66 ⇓P P 15 26 45.1 -0.3
baz=58
F11A **Grangeville** 58.05 55 P P 15 26 45.3 -0.3
baz=58,SNR=20
ARCES **ARCESS Array B** 58.07 341 P P 15 26 44.9 -0.8
comp=Z,15nm,0.8s,mb5.1,baz=39,slow=6.8,SNR=24
ARCES LR LR 15 57 36.4
comp=Z,1μm,18.6s,MS5.0,baz=32,slow=42
K07A **Rock Creek Ran** 58.15 60 P P 15 26 47.0 +0.7
baz=58,SNR=14
J08A **Circle Bar Ran** 58.21 59 P P 15 26 47.3 +0.6
baz=58,SNR=12
C14A **Swan Lake** 58.28 52 P P 15 26 47.3 +0.2
baz=58,SNR=11
G11A **Walters Elk Ra** 58.28 56 ⇓P P 15 26 47.4 +0.2
baz=58
D13A **Huson** 58.29 53 P P 15 26 47.0 -0.2
baz=58,SNR=8.8
M06C **Likely Place G** 58.30 62 P P 15 26 48.1 +0.8
baz=58,SNR=6.5
O04C **Chester** 58.46 63 P P 15 26 49.1 +0.7
baz=58,SNR=21
MNRC **McLaughlin Nat** 58.49 65 P P 15 26 49.5 +0.9
baz=58,SNR=11
L07A **Adell** 58.50 61 P P 15 26 49.5 +0.9
baz=58,SNR=12
K08A **Mann Creek Ran** 58.58 60 P P 15 26 49.9 +0.6
baz=58,SNR=14
NSHM **Saint Helena R** 58.60 66 *e*P P 15 26 49.0 -0.4
F12A **Elk City** 58.64 55 P P 15 26 49.5 -0.1
baz=58,SNR=27
J09A **Fry Pan Ranch,** 58.64 59 P P 15 26 50.5 +0.9
baz=58,SNR=12
ORV **Oroville** 58.66 64 P P 15 26 49.5 -0.4
baz=58,SNR=23
WVOR **Wild Horse Val** 58.67 60 *e*P P 15 26 49.9 0.0
WVOR pmax pmax
comp=Z,50nm,1.4s,mb5.3
WVOR **Wild Horse Val** 58.67 60 *e*P P 15 26 49.9 +0.1
comp=Z,50nm,1.4s,mb5.3
SUTB **Sutter Butte** 58.68 65 P P 15 26 49.5 -0.4
baz=58,SNR=7.5
MSO **Missoula** 58.73 53 *e*P P 15 26 50.0 -0.2
comp=Z,54nm,1.4s,mb5.4
O05C **Quincy** 58.78 63 P P 15 26 51.0 +0.3
baz=58,SNR=9.5
CVS **Carmenet Viney** 58.80 66 P P 15 26 50.8 0.0
baz=59,SNR=7.1
OHCM **Honcut** 58.80 64 *e*P P 15 26 50.2 -0.6
BOK **Bokaro** 58.81 272 *i* P P 15 26 50.9 0.0
BOK *e*P 15 26 52.1
BOK AMb AMB 15 26 54.2
comp=Z,37nm,1.1s,mb5.3
BOK *i* x x 15 30 10.9
D14A **Greenough** 58.82 53 P P 15 26 50.2 -0.7
baz=58,SNR=31
E13A **Victor** 58.82 54 ⇓P P 15 26 50.5 -0.4
baz=58
H11A **Donnelly** 58.84 56 P P 15 26 50.5 -0.5
baz=59,SNR=31
FARB **Farallon Islan** 58.85 67 ⇓P P 15 26 50.9 -0.2
baz=59
Q03C **Winters** 58.90 65 ⇓P P 15 26 50.9 -0.6
baz=59
N06A **Buffalo Meadow** 58.96 62 P P 15 26 52.4 +0.5
baz=59,SNR=18
M07A **Soldier Meadow** 58.98 61 P P 15 26 52.8 +0.8
baz=59,SNR=25
KTK1 **Kautokeino** 58.98 342 *e*P P 15 26 52.8 +0.8
KTK1 AMb AMB 15 26 57.1
comp=Z,119nm,1.7s,mb5.6
KTK1 **Kautokeino** 58.98 342 *e*P P 15 26 52.8 +0.8
comp=Z,119nm,1.7s,mb5.7
LGTI **Lohaghat** 58.99 281 *i* P P 15 26 53.5 +1.4
L08A **Fields** 58.99 60 P P 15 26 52.7 +0.6
baz=59,SNR=11
CHMT **Chamberlain Mo** 59.06 53 *e*P P 15 26 52.2 -0.4
F13A **Darby** 59.14 55 P P 15 26 53.0 -0.1
baz=59,SNR=22
Q04C **Lincoln** 59.17 65 ⇑P P 15 26 53.7 +0.4
baz=59
BEKR **Beckwourth** 59.18 63 P P 15 26 53.0 -0.4
baz=59,SNR=34
E14A **Clinton** 59.22 54 P P 15 26 53.8 +0.1
baz=59,SNR=15
O06A **Flanigan** 59.32 63 P P 15 26 54.9 +0.5
baz=59,SNR=9.9
TRO **Tromso** 59.36 344 *e*P P 15 26 52.7 -1.9
TRO *e*P 15 26 52.9
TRO *e*S S 15 35 07.1 +2.9
TRO AMS AMS 16 00 36.2
comp=Z,658nm,15.2s,MS4.9
TRO **Tromso** 59.36 344 *e*P P 15 26 52.9 -1.8
TRO LR LR
comp=Z,660nm,15.2s,MS4.9
P05C **Yuba Gap, Truc** 59.37 64 ⇓P P 15 26 54.4 -0.3
baz=59
D15A **Lincoln** 59.38 53 P P 15 26 55.0 +0.2
baz=59,SNR=5.9
N07B **Gerlach** 59.47 62 P P 15 26 55.9 +0.5
baz=59,SNR=13
AKTK **Aktyubinsk** 59.48 313 P P 15 26 55.4 -0.1
AKTO **Aktyubinsk** 59.48 313 P P 15 26 55.4 -0.1
comp=Z,8.1nm,0.5s,mb5.0,baz=70,slow=8.5,SNR=28
L09A **Wilkinson Ranc** 59.49 60 ⇓P P 15 26 56.5 +0.9
baz=59
JRSC **Jasper Ridge** 59.51 67 ⇑P P 15 26 55.1 -0.6
baz=59
LAVA **Lava Cap Winer** 59.62 64 P P 15 26 56.5 +0.1
baz=59,SNR=22
F14A **Wisdom** 59.66 54 ⇑P P 15 26 56.3 -0.4
baz=59
WENL **Wente Brothers** 59.68 66 ⇓P P 15 26 56.9 +0.1
baz=59
E15A **Deer Lodge** 59.69 53 P P 15 26 57.0 +0.1
baz=59,SNR=21
BNLO **Ben Lomond (Sa** 59.72 67 P P 15 26 57.0 -0.1
baz=60,SNR=6.9
R04C **Big Horse Ranc** 59.80 65 ⇑P P 15 26 56.5 -1.2
baz=60

FFC **Flin Flon** 59.85 41 P P 15 26 57.2 -0.9
comp=Z,260nm,1.0s,mb6.2,SNR=9.1
FFC **Flin Flon** 59.85 41 P P 15 26 57.7 -0.4
SDNR **Sundarnagar** 59.88 285 *e*P P 15 26 59.5 +1.3
SDNR *ex* x 15 29 22.0
DLH **Dalhousie** 59.88 287 *e*P P 15 27 00.0 +1.7
DLH *ex* x 15 29 05.0
WCN **Washoe City** 59.89 63 P P 15 26 58.9 +0.6
baz=60,SNR=19
O07A **Toulon** 59.90 62 P P 15 26 59.0 +0.6
baz=60,SNR=20
M09A **Marrel Ranch,** 59.98 60 ⇓P P 15 26 58.6 -0.3
baz=60
S04C **Ingram Canyon,** 60.02 66 ⇓P P 15 26 59.9 +0.7
baz=60
R05C **Kirkwood Meado** 60.06 64 P P 15 26 59.9 +0.4
baz=60,SNR=17
F15A **Butte** 60.13 54 P P 15 27 00.2 +0.3
baz=60,SNR=38
EGMT **Eagleton** 60.26 50 *e*P P 15 27 00.6 -0.3
comp=Z,110nm,1.3s,mb5.7
EGMT **Eagleton** 60.26 50 P P 15 27 00.9 +0.1
baz=60,SNR=20
CMB **Columbia Colle** 60.28 65 *e*P P 15 27 01.0 0.0
CMB *e* 15 27 46.0
CMB pmax pmax
comp=Z,43nm,1.3s,mb5.3
CMB MLR MLR
comp=Z,379nm,19.0s,MS4.5
CMB **Columbia Colle** 60.28 65 *e*P P 15 27 00.9 0.0
comp=Z,43nm,1.3s,mb5.3
CMB *e*PcP PcP 15 27 46.0 -0.3
CMB LR LR
comp=Z,379nm,19.0s,MS4.5
CMB **Columbia Colle** 60.28 65 P P 15 27 01.2 +0.3
baz=60,SNR=30
N09A **Rock Creek Ran** 60.29 61 P P 15 27 01.7 +0.6
baz=60,SNR=13
PACP **Pacheco Peak** 60.35 66 P P 15 27 01.9 +0.4
baz=60,SNR=12
ORR **Orenburg** 60.36 315 *e*P P 15 27 01.6 +0.1
ORR *e* 15 27 13.0
ORR pmax pmax
comp=Z,30nm,0.6s,mb5.5
ORR MLR MLR
comp=Z,2μm,14.0s,MS5.4
HLID **Hailey** 60.45 57 *e*P P 15 27 02.1 0.0
comp=Z,20nm,1.0s,mb5.1
HLID *e*PcP PcP 15 27 47.8 +0.8
HLID **Hailey** 60.45 57 P P 15 27 02.6 +0.5
baz=60,SNR=29
M10A **I.L. Ranch, Tu** 60.46 60 P P 15 27 02.7 +0.5
baz=60,SNR=19
LCCM **Lewis and Clar** 60.47 53 P P 15 27 02.4 +0.2
FCC **Fort Churchill** 60.48 34 *e*P P 15 27 02.0 -0.3
G15A **Dillon** 60.54 54 P P 15 27 02.9 +0.1
baz=60,SNR=26
MCMT **McKenzie Canyo** 60.55 55 *e*P P 15 27 02.5 -0.3
R06C **Coleville** 60.56 64 P P 15 27 03.6 +0.8
baz=60,SNR=31
HAST **UC Hastings Re** 60.57 67 P P 15 27 03.1 +0.2
baz=60,SNR=7.3
P08A **Dixie Valley** 60.67 62 ⇓P P 15 27 04.3 +0.7
baz=60
S06C **San Francisco** 60.71 65 P P 15 27 04.1 +0.2
baz=60,SNR=30
S05C **Merced** 60.74 65 ⇓P P 15 27 03.9 -0.2
baz=60
LRV **Little Rabbit** 60.88 67 *e*P P 15 27 03.2 -1.9
O09A **Fish Creek Ran** 60.91 61 P P 15 27 06.2 +0.9
baz=61,SNR=16
NIL **Nilore** 60.96 289 P P 15 27 07.6 +2.0
comp=Z,594nm,0.6s,SNR=6.4
M11A **Holland Ranch,** 60.96 59 P P 15 27 06.7 +1.1
baz=61,SNR=17
V03C **Hunter Liggett** 61.00 67 ⇓P P 15 27 06.0 +0.1
baz=61
U04C **Hernandez Rese** 61.07 67 ⇑P P 15 27 06.8 +0.4
baz=61
R07C **Lee Vining** 61.07 64 P P 15 27 07.3 +0.9
baz=61,SNR=19
O10A **Cortez Mining,** 61.25 61 P P 15 27 08.6 +1.0
baz=61,SNR=8.1
Q08A **Gabbs** 61.28 63 P P 15 27 07.8 +0.1
baz=61,SNR=13
NVAR **Mina Array Bea** 61.32 63 P P 15 27 07.8 -0.3
comp=Z,7.6nm,0.7s,mb5.0,baz=292,slow=9.8,SNR=49
NVAR PcP PcP 15 27 50.6 +0.1
comp=Z,12nm,0.9s,baz=293,slow=4.2,SNR=9.8
P09A **Austin** 61.33 62 ⇑P P 15 27 09.1 +1.0
baz=61
T06C **Millerton Lake** 61.34 65 P P 15 27 07.5 -0.7
baz=61,SNR=11
QLMT **Earthquake Lak** 61.34 54 *e*P P 15 27 08.7 +0.4
N11A **Elko Archery C** 61.38 60 ⇑P P 15 27 08.1 -0.3
baz=61
KCC **Kaiser Creek** 61.38 65 P P 15 27 08.7 +0.2
baz=61,SNR=13
V04C **Ramage Ranch,** 61.47 67 ⇓P P 15 27 09.5 +0.5
baz=61
PKD **Parkfield** 61.48 67 P P 15 27 09.3 +0.2
baz=61,SNR=5.4
M12A **Wells** 61.49 59 P P 15 27 09.8 +0.6
baz=61,SNR=31
R08A **Mina** 61.49 63 P P 15 27 09.8 +0.6
baz=61,SNR=8.1
MLAC **Mammoth Lakes** 61.49 64 P P 15 27 10.3 +1.1
baz=61,SNR=6.7
NDI **New Delhi** 61.51 282 *e*P P 15 27 08.8 -0.5
NDI *ex* x 15 30 35.0
P10A **Eureka** 61.69 61 ⇓P P 15 27 10.3 -0.3
baz=61
YMR **Madison River** 61.70 54 *e*P P 15 27 11.2 +0.6
comp=Z,86nm,1.3s,mb5.8
GCMT **Greycliff** 61.70 52 *e*P P 15 27 11.1 +0.5
Q09A **Carvers** 61.75 62 ⇑P P 15 27 10.7 -0.3
baz=62
N12A **Clover Valley,** 61.77 59 P P 15 27 11.9 +0.8
baz=62,SNR=11
YNR **Norris Junctio** 61.83 54 *e*P P 15 27 12.4 +0.9
MTUM **Tungsten Hills** 61.83 64 *e*P P 15 27 11.9 +0.4
O11A **Cowboy Ranch,** 61.85 60 P P 15 27 12.3 +0.7
baz=62,SNR=11
PTRM **Twissleman Ran** 61.88 67 *e*P P 15 27 12.0 +0.1
YFT **Old Faithful** 61.91 54 *e*P P 15 27 13.8 +1.8
V05C **Boulder Hill,** 61.94 67 ⇓P P 15 27 12.0 -0.2
baz=62
M13A **Montello** 61.96 59 P P 15 27 13.1 +0.7
baz=62,SNR=12
HELL **Mitchell Peak,** 61.97 65 P P 15 27 11.7 -0.8
baz=62,SNR=35
S08C **White Mtn Res** 61.98 64 P P 15 27 13.4 +0.9
baz=62,SNR=16
RCTC **Rector, Farmer** 62.07 66 ⇑P P 15 27 12.9 -0.2
baz=62
LKWY **Lake** 62.08 54 *e*P P 15 27 15.2 +2.0
LKWY pmax pmax
comp=Z,22nm,1.0s,mb5.3
LKWY **Lake** 62.08 54 *e*P P 15 27 15.2 +2.0
comp=Z,22nm,1.0s,mb5.3
P11A **Circle Ranch,** 62.16 61 P P 15 27 14.4 +0.7
baz=62,SNR=5.7
R09A **Tonopah** 62.19 63 P P 15 27 14.2 +0.3
baz=62,SNR=21
IMW **Indian Meadow** 62.20 55 *e*P P 15 27 14.5 +0.5
comp=Z,61nm,1.2s,mb5.7
KULM **Kulim** 62.20 246 *e*P P 15 27 15.6 +1.6
TPH **Tonopah** 62.20 63 *e*P P 15 27 14.0 0.0
TPH pmax pmax
comp=Z,54nm,1.3s,mb5.6
TPH **Tonopah** 62.20 63 *e*P P 15 27 14.0 0.0
comp=Z,54nm,1.3s,mb5.6
FLWY **Flagg Ranch** 62.22 54 *e*P P 15 27 14.8 +0.7
comp=Z,53nm,1.2s,mb5.7
SMMC **Simmler** 62.23 67 ⇓P P 15 27 14.3 +0.1
baz=62
TIN **Tinemaha** 62.23 65 ⇑P P 15 27 14.3 +0.1
baz=62
N13A **Wendover, West** 62.26 59 P P 15 27 15.1 +0.7
baz=62,SNR=9.8
DCID1 **Drake Creek** 62.26 55 *e*P P 15 27 14.1 -0.3
O12A **Currie** 62.31 60 P P 15 27 15.3 +0.5
baz=62,SNR=32
RLMT **Red Lodge** 62.35 53 *e*P P 15 27 15.7 +0.7
comp=Z,87nm,1.3s,mb5.8
MOOW **Moose Ponds** 62.41 55 *e*P P 15 27 16.1 +0.7
comp=Z,47nm,1.3s,mb5.6

S09A **Goldfield** 62.42 63 P P 15 27 15.8 +0.4
baz=62,SNR=16
VES **Vestal, Richgr** 62.47 66 P P 15 27 15.2 -0.6
baz=62,SNR=19
SNOW **Snow King Moun** 62.58 55 *e*P P 15 27 17.3 +0.8
comp=Z,90nm,1.2s,mb5.8
REDW **Red Top Meadow** 62.59 55 *e*P P 15 27 17.1 +0.5
comp=Z,134nm,1.3s,mb5.9
PKM **Peak Mountain** 62.60 67 P P 15 27 17.5 +0.8
baz=62,SNR=7.7
R10A **Warm Springs** 62.63 62 P P 15 27 17.2 +0.3
baz=62,SNR=9.5
KAKA **Kakadu** 62.65 205 *e*P P 15 27 16.2 -0.8
comp=Z,39nm,0.9s,mb5.5
KAKA *e* 15 27 29.6
Q11A **Duckwater** 62.67 62 P P 15 27 16.8 -0.3
baz=62,SNR=8.3
CWC **Cottonwood Cre** 62.71 65 ⇓P P 15 27 17.2 -0.2
baz=62
P12A **McGill** 62.72 61 P P 15 27 17.9 +0.5
baz=62,SNR=13
GRAC **Grapevine Rang** 62.79 64 ⇑P P 15 27 17.8 -0.2
baz=62
AHID **Auburn Hatcher** 62.83 56 P P 15 27 18.3 +0.1
comp=Z,36nm,1.4s,mb5.3
DGMT **Dagmar** 62.84 47 *e*P P 15 27 17.8 -0.5
comp=Z,157nm,1.3s,mb6.0
ISA **Isabella** 62.96 66 P P 15 27 18.4 -0.7
baz=63,SNR=18
LAO **LASA Array** 62.96 50 *e*P P 15 27 19.2 +0.2
comp=Z,115nm,1.2s,mb5.9
SPUT **South Promonto** 62.99 58 *e*P P 15 27 16.3 -3.0
TRCR **Troy Canyon** 63.02 62 *e*P P 15 27 19.4 -0.1
Q12A **Willow Creek R** 63.04 61 P P 15 27 20.1 +0.6
baz=63,SNR=11
ARVC **Arvin** 63.08 67 P P 15 27 19.5 -0.4
baz=63,SNR=7.8
DAC **Darwin (Calif)** 63.12 65 *e*P P 15 27 19.7 -0.4
DAC *e* 15 27 57.4
DAC pmax pmax
comp=Z,24nm,1.2s,mb5.2
DAC **Darwin (Calif)** 63.12 65 *e*P P 15 27 19.7 -0.5
comp=Z,24nm,1.2s,mb5.2
DAC *e*PcP PcP 15 27 57.4 -0.4
MOR8 **Moi Rana** 63.21 343 *e*P P 15 27 19.0 -1.8
MOR8 AMb AMB 15 27 23.4
comp=Z,140nm,1.4s,mb5.9
MOR8 **Moi Rana** 63.21 343 *e*P P 15 27 19.0 -1.8
comp=Z,140nm,1.4s,mb5.9
HWUT **Hardware Ranch** 63.31 57 *e*P P 15 27 21.5 +0.1
comp=Z,39nm,1.3s,mb5.4
MPMC **Manual Prospec** 63.32 65 P P 15 27 21.8 +0.3
baz=63,SNR=38
FURC **Furnace Creek,** 63.45 64 P P 15 27 22.7 +0.4
baz=63,SNR=17
OSI **Osito Adit** 63.48 67 P P 15 27 22.9 +0.4
baz=63,SNR=5.7
DUG **Dugway** 63.49 59 P P 15 27 22.6 0.0
DUG pmax pmax
comp=Z,55nm,1.2s,mb5.6
DUG **Dugway** 63.49 59 *e*P P 15 27 22.8 +0.2
comp=Z,55nm,1.2s,mb5.6
DUG LR LR
comp=Z,336nm,19.0s,MS4.5
DUG **Dugway** 63.49 59 P P 15 27 22.7 +0.1
baz=63,SNR=46
LRMC **Laurel Mountai** 63.57 66 P P 15 27 22.6 -0.6
baz=63,SNR=22
BLG **Laguna Peak** 63.59 68 ⇑P P 15 27 23.1 -0.1
baz=63
NOQ **North Oquirrh** 63.60 58 *e*P P 15 27 23.5 +0.2
comp=Z,19nm,0.8s,mb5.4
PDAR **Pinedale Array** 63.70 55 P P 15 27 23.5 -0.5
comp=Z,31nm,1.0s,mb5.5,baz=270,slow=1.5,SNR=125
PDAR PKPPKP 15 56 17.5
comp=Z,0.1nm,0.3s,baz=259,slow=3.0,SNR=4.1
EDW2 **Edwards Air Fo** 63.77 66 P P 15 27 24.2 -0.2
baz=64,SNR=44
CTU **Camp Tracy** 63.79 58 *e*P P 15 27 24.2 -0.4
comp=Z,25nm,1.1s,mb5.3
U10A **Ash Meadows, A** 63.81 64 P P 15 27 25.3 +0.6
baz=64,SNR=15
DECC **Green Verdugo** 63.96 67 ⇓P P 15 27 25.8 +0.1
baz=64
JLU **Jordanelle** 64.03 58 *e*P P 15 27 26.1 -0.1
NLU **North Lily Min** 64.08 59 *e*P P 15 27 26.7 +0.2
SHOC **Shoshone** 64.17 64 P P 15 27 27.2 +0.1
baz=64,SNR=8.1
GSC **Goldstone** 64.23 65 *e*P P 15 27 26.9 -0.6
GSC **Goldstone** 64.23 65 P P 15 27 27.0 -0.5
baz=64,SNR=16
MPU **Maple Canyon** 64.30 58 *e*P P 15 27 28.1 +0.2
comp=Z,42nm,1.2s,mb5.5
FMP **Fort Macarthur** 64.33 67 ⇓P P 15 27 27.7 -0.5
baz=64
FIA1 **FINESS Array S** 64.38 335 *e*P P 15 27 27.9 -0.6
FINES **FINESS Array B** 64.38 335 P P 15 27 27.7 -0.8
comp=Z,79nm,0.6s,mb6.2,baz=30,slow=7.8,SNR=121
FINES LR LR 15 58 31.5
comp=Z,853nm,18.7s,MS5.0,baz=34,slow=39
FINES **FINESS Array B** 64.38 335 P P 15 27 27.7 -0.8
FINES LR LR 15 58 31.6
U11A **Corn Creek** 64.39 63 ⇑P P 15 27 28.6 +0.1
baz=64
BFSC **Mount Baldy St** 64.39 67 P P 15 27 28.5 0.0
baz=64,SNR=20
PUL **Pulkovo** 64.44 332 *e*P P 15 27 31.1 +2.3
PUL pmax pmax
comp=Z,414nm,0.9s,mb6.7
PUL MLR MLR
comp=Z,1μm,21.0s,MS5.0
PUL MLR MLR
comp=N,974nm,20.0s,MS5.1
PUL MLR MLR
comp=E,596nm,19.0s,MS5.1
CIS **Catalina Islan** 64.46 68 P P 15 27 28.8 -0.2
baz=64,SNR=7.2
SCI **San Clemente I** 64.64 68 ⇓P P 15 27 30.4 +0.2
baz=64
AJM **Ajmer** 64.67 282 *i* P P 15 27 30.0 -0.4
AJM *e*P 15 27 30.6
AJM AMb AMB 15 27 46.6
comp=Z,66nm,1.1s,mb5.8
VIS **Vishakhapatnam** 64.68 269 *e*P P 15 27 29.7 -0.7
VIS AMb AMB 15 27 33.7
comp=Z,40nm,1.3s,mb5.5
ARUT **Antelope Range** 64.68 61 P P 15 27 30.7 +0.3
ARUT **Antelope Range** 64.68 61 *e*P P 15 27 30.6 +0.2
TUQ **Turquoise Mtn.** 64.69 65 P P 15 27 30.9 +0.4
baz=64,SNR=12
V11A **Goodsprings** 64.74 64 P P 15 27 31.2 +0.4
baz=64,SNR=25
SFJD **Kangerlussuaq** 64.78 11 *i* P P 15 27 30.4 -0.6
SFJD *i* 15 27 36.5
BBRC **Big Bear Sol-O** 64.84 66 P P 15 27 31.7 +0.3
baz=65,SNR=8.9
HEC **Hector,Ludlow** 64.84 65 P P 15 27 31.7 +0.2
baz=65,SNR=20
CCUT **Cedar City** 64.88 61 *e*P P 15 27 31.8 0.0
U12A **Valley of Fire** 64.90 63 P P 15 27 32.5 +0.6
baz=65,SNR=5.3
BHPL **Bhopal** 64.95 278 *e*P P 15 27 32.5 +0.3
BHPL AMb AMB 15 27 38.8
MOS **Moscow** 64.96 326 *e*P P 15 27 31.1 -1.1
MOS *i* 15 27 43.1
MOS *e* 15 28 02.9
MOS *e*S S 15 36 09.4 -5.5
MOS pmax pmax
comp=Z,215nm,1.6s,mb6.1
MSU **Marysvale** 64.96 60 P P 15 27 32.3 +0.1
MSU **Marysvale** 64.96 60 *e*P P 15 27 32.5 +0.2
TMUT **Trail Mountain** 65.02 59 *e*P P 15 27 32.8 +0.1
MURC **Murrieta** 65.09 67 P P 15 27 33.1 0.0
baz=65,SNR=14
NSS **Namsos** 65.15 343 *e*P P 15 27 32.9 -0.6
NSS *e*P 15 27 33.0
NSS AMS AMS 16 03 41.4
comp=Z,1μm,17.9s,MS5.1
NSS **Namsos** 65.15 343 *e*P P 15 27 33.0 -0.5
NSS LR LR
comp=Z,1μm,17.9s,MS5.1
V12A **Nelson** 65.17 64 P P 15 27 34.0 +0.5
baz=65,SNR=23
PSI **Prapat** 65.21 246 P P 15 27 34.3 +0.5
comp=Z,5.8nm,0.4s,mb5.1,baz=110,slow=0.6,SNR=10
NGP **Nagpur** 65.26 275 *e*P P 15 27 33.6 -0.6

NGP AMb AMB 15 27 49.6
comp=Z,131nm,1.1s,mb6.1

W12A Cal Nev Ari 65.43 64 ⇓P **P 15 27 35.5 +0.1**
baz=65

SRU San Rafael 65.54 58 *eP* **P 15 27 35.7 -0.3**
SRU pmax pmax
comp=Z,62nm,1.1s,mb5.8

SRU San Rafael 65.54 58 *eP* **P 15 27 35.7 -0.3**
comp=Z,62nm,1.1s,mb5.8

PFO Pinyon Flat Ob 65.56 66 P **P 15 27 35.3 -0.8**
comp=Z,84nm,1.4s,mb5.8,SNR=6.4

PFO Pinyon Flat Ob 65.56 66 *eP* **P 15 27 35.3 -0.8**
PFO *e* 15 28 07.8
PFO pmax pmax
comp=Z,32nm,1.4s,mb5.4

PFO Pinyon Flat Ob 65.56 66 *eP* **P 15 27 35.3 -0.8**
comp=Z,32nm,1.4s,mb5.4

PFO *ePcP* PcP 15 28 07.8 0.0
PFO Pinyon Flat Ob 65.56 66 P **P 15 27 35.5 -0.6**
baz=65,SNR=8.8

BELC Belle Mtn. 65.59 66 P **P 15 27 35.5 -0.8**
baz=65,SNR=18

109C Camp Elliot, M 65.62 67 P **P 15 27 36.5 0.0**
baz=65,SNR=7.8

ULM Lac du Bonnet 65.63 42 P **P 15 27 35.5 -1.1**
comp=Z,16nm,1.0s,mb5.2,baz=319,slow=8.5,SNR=14

ULM Lac du Bonnet 65.63 42 *eP* **P 15 27 35.8 -0.8**
comp=Z,22nm,1.1s,mb5.3

RWWY Rawlins 65.72 54 *eP* **P 15 27 36.8 -0.3**
comp=Z,44nm,1.1s,mb5.6

RSSD Black Hills 65.82 51 *eP* **P 15 27 37.2 -0.6**
RSSD pmax pmax
comp=Z,76nm,1.1s,mb5.8

RSSD Black Hills 65.82 51 *eP* **P 15 27 37.2 -0.6**
comp=Z,76nm,1.1s,mb5.8

OBN Obninsk 65.83 326 P **P 15 27 37.4 -0.4**
comp=Z,601nm,0.8s,SNR=5.8

OBN Obninsk 65.83 326 *d iP* **P 15 27 36.3 -1.5**
OBN *i* 15 27 49.4
OBN *i* 15 28 11.2
OBN *i* 15 30 08.2
OBN *i* S S 15 36 21.7 -3.8
OBN *i* SS SS 15 40 36.7 -3.3
OBN pmax pmax
comp=Z,236nm,1.7s,mb6.1

OBN MLR MLR
comp=Z,600nm,17.0s,MS4.9

OBN Obninsk 65.83 326 *eP* **P 15 27 36.8 -1.0**
comp=Z,402nm,1.3s,mb6.5

IRM Iron Mountain 66.01 65 P **P 15 27 39.2 +0.2**
baz=66,SNR=50

MONP Monument Peak 66.05 67 P **P 15 27 39.3 0.0**
baz=66,SNR=12

BC3 Big Chuckw Mtn 66.16 66 P **P 15 27 39.9 -0.1**
baz=66,SNR=14

W13A Hualapai Mount 66.17 64 P **P 15 27 40.5 +0.4**
baz=66,SNR=17

DVTC Desert V Tower 66.41 67 ⇓P **P 15 27 41.2 -0.4**
baz=66

SWSC Sam W. Stewart 66.41 67 P **P 15 27 41.2 -0.4**
baz=66,SNR=6.9

X13A Yucca 66.54 64 P **P 15 27 42.7 +0.2**
baz=66,SNR=38

PDMCI Parker Dam,Lak 66.55 64 P **P 15 27 42.1 -0.4**
baz=66,SNR=29

W14A Seligman 66.59 63 P **P 15 27 42.9 +0.2**
baz=66,SNR=39

VSU Vasula 66.60 333 ⇑*iP* **P 15 27 42.2 -0.6**
Y12C Blythe 66.67 65 P **P 15 27 43.3 0.0**
baz=66,SNR=13

VRHR Novokhopersk 66.74 321 *eP* **P 15 27 43.0 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.3

VRHR pmax pmax
comp=E,20nm,0.7s

PV10 Paradox Valley 66.89 58 *eP* **P 15 27 45.1 +0.4**
GLA Glamis 66.95 66 *eP* **P 15 27 45.0 0.0**
GLA Glamis 66.95 66 P **P 15 27 45.3 +0.3**
baz=67,SNR=14

PHWY Pilot Hill 66.96 54 *eP* **P 15 27 44.4 -0.7**
AGMN Agassiz Refuge 67.02 43 *eP* **P 15 27 44.5 -1.0**
comp=E,82nm,1.2s,mb5.8

W15A Williams 67.11 63 P **P 15 27 47.2 +1.1**
baz=67,SNR=15

X14A Yava 67.20 64 P **P 15 27 47.5 +0.8**
baz=67,SNR=27

VOR Voronezh 67.31 323 *eP* **P 15 27 46.0 -1.3**
VOR *e* 15 27 59.0
VOR pmax pmax
comp=E,50nm,1.9s

VOR pmax pmax
comp=Z,170nm,1.9s,mb6.0

VOR pmax pmax
comp=N,110nm,1.8s

PV01 Paradox Valley 67.33 58 *eP* **P 15 27 47.4 -0.1**
WUAZ Wupatki 67.42 62 *eP* **P 15 27 48.3 +0.2**
comp=N,45nm,1.3s,mb5.5

WUAZ Wupatki 67.42 62 P **P 15 27 48.8 +0.7**
baz=67,SNR=21

Y14A Wickenburg 67.49 64 P **P 15 27 48.6 +0.2**
baz=67,SNR=33

ABKT Ailbek 67.51 302 P **P 15 27 49.0 +0.4**
comp=N,186nm,0.8s,mb6.4,SNR=9.6

X15A Humboldt 67.59 63 P **P 15 27 49.5 +0.4**
baz=67,SNR=49

VRSR Storozhevoye 67.69 322 *d iP* **P 15 27 48.9 -0.9**
VRSR *e**SP sP 15 28 02.8 +13
VRSR *eS* S 15 36 46.9 -1.2
VRSR pmax pmax
comp=E,90nm,1.6s

VRSR pmax pmax
comp=Z,190nm,1.6s,mb6.1

VRSR pmax pmax
comp=N,140nm,1.7s

VRSR smax
comp=N,40nm,1.3s

VRSR smax
comp=Z,10.0nm,1.6s

VRSR smax
comp=E,10.0nm,0.9s

VRSR MLR MLR
comp=E,900nm,17.0s,MS5.1

VRSR MLR MLR
comp=Z,890nm,17.0s,MS5.1

VRSR MLR MLR
comp=N,560nm,19.0s,MS5.1

ISCO Idaho Springs 67.89 55 P **P 15 27 51.0 0.0**
ISCO pmax pmax
comp=Z,62nm,1.2s,mb5.7

ISCO Idaho Springs 67.89 55 *eP* **P 15 27 51.1 +0.1**
comp=Z,62nm,1.2s,mb5.7

Z14A Wintersburg 67.91 64 P **P 15 27 51.3 +0.2**
baz=68,SNR=7.3

DOMB Dombas 67.97 343 *eP* **P 15 27 53.3 +1.8**
DOMB AMb AMB 15 27 56.0
comp=Z,134nm,1.7s,mb5.9

DOMB Dombas 67.97 343 *eP* **P 15 27 53.3 +1.8**
comp=Z,134nm,1.7s,mb5.9

MVCO Mesa Verde 68.00 59 *eP* **P 15 27 51.2 -0.5**
comp=Z,50nm,1.2s,mb5.6

MVCO Mesa Verde 68.00 59 P **P 15 27 52.1 +0.4**
baz=68,SNR=28

NB2 NORSAR Subarra 68.44 342 P **P 15 27 53.9 -0.6**
comp=Z,96nm,0.7s,mb6.1,baz=25,slow=6.5

NOA NORSAR Array B 68.44 342 P **P 15 27 53.8 -0.6**
comp=Z,72nm,0.9s,mb5.9,baz=26,slow=6.4,SNR=49

NOA LR LR 16 03 10.9
comp=Z,892nm,18.6s,MS5.0,baz=25,slow=41

NAO01 NORSAR Array S 68.69 342 P **P 15 27 55.0 -1.0**
comp=Z,56nm,0.9s,mb5.8

115A Sonoran Desert 68.80 65 P **P 15 27 57.4 +0.7**
baz=68,SNR=19

WRAB Tennant Creek 69.05 201 P **P 15 27 56.2 -2.1**
comp=Z,147nm,1.1s,mb6.1,SNR=9.6

WRAB Tennant Creek 69.05 201 P **P 15 27 56.8 -1.5**
WB2 Warramunga Arr 69.06 201 *eP* **P 15 27 57.2 -1.1**
WB2 *e* 15 28 10.6
WRA Warramunga Arr 69.06 201 P **P 15 27 56.8 -1.5**
comp=Z,13nm,0.9s,mb5.2,baz=20,slow=6.5,SNR=46

WRA PKP2bc 15 56 06.4
comp=Z,1.7nm,1.1s,baz=189,slow=2.4,SNR=6.2

WRA Warramunga Arr 69.06 201 P **P 15 27 56.8 -1.5**
WRA ⇑*e* 15 56 06.4
116A Eloy 69.22 64 ⇑P **P 15 27 59.8 +0.5**
baz=69

EYMN Ely 69.28 41 *eP* **P 15 27 57.6 -2.1**
comp=Z,30nm,1.1s,mb5.4

HYA Hoyanger 69.33 344 *eP* **P 15 28 02.9 +2.9**
HYA AMb AMB 15 28 06.2
comp=Z,126nm,1.7s,mb5.9

HYA Hoyanger 69.33 344 *eP* **P 15 28 02.9 +2.9**
comp=Z,126nm,1.7s,mb5.9

SDCO Great Sand Dun 69.37 57 *eP* **P 15 28 00.1 -0.1**
comp=Z,47nm,1.3s,mb5.6

MNK Minsk 69.46 330 ⇑*eP* **P 15 27 56.0 -4.8**
OSL Oslo 69.54 342 *eP* **P 15 28 03.4 +2.1**
MAK Makhachkala 69.84 312 *i* P **P 15 28 03.3 +0.2**
MAK *i* S S 15 37 11.8 -1.8
MAK *i* S 15 37 42.8
MAK *e*SS SS 15 41 37.8 -4.3
MAK pmax pmax
comp=Z,319nm,1.9s,mb6.1

MAK MLR MLR
comp=Z,3μm,17.0s,MS5.6

FITZ Fitzroy Crossi 69.85 210 *eP* **P 15 28 03.1 -0.1**
comp=Z,19nm,0.9s,mb5.2

FITZ *e* 15 28 16.6
FITZ Fitzroy Crossi 69.85 210 P **P 15 28 03.1 -0.2**
comp=Z,14nm,1.0s,mb5.1,baz=1.1,slow=8.8,SNR=16

ECSD EROS,Sioux Fal 69.92 47 *eP* **P 15 28 02.3 -1.4**
comp=Z,96nm,1.3s,mb5.8

TUC Tucson 69.96 64 P **P 15 28 03.5 -0.4**
TUC pmax pmax
comp=Z,28nm,1.2s,mb5.3

TUC Tucson 69.96 64 *eP* **P 15 28 03.6 -0.3**
comp=Z,28nm,1.3s,mb5.2

MDRS Chennai 70.04 268 *ex* x 15 23 35.5
MDRS *ex* x 15 28 14.5
KONO Kongsberg 70.05 342 *eP* **P 15 28 06.5 +2.1**
KONO Kongsberg 70.05 342 *eP* **P 15 28 06.4 +2.0**
KONO pmax pmax
comp=Z,72nm,0.8s,mb5.8

KONO Kongsberg 70.05 342 *eP* **P 15 28 06.4 +2.0**
comp=Z,72nm,0.8s,mb5.8

POO Poona 70.60 277 ⇓*iP* **P 15 28 08.0 +0.2**
comp=Z,120nm,1.0s,mb6.0

ANMO Albuquerque 70.75 59 *eP* **P 15 28 08.1 -0.6**
ANMO pmax pmax
comp=Z,23nm,1.1s

ANMO Albuquerque 70.75 59 *eP* **P 15 28 08.1 -0.6**
comp=Z,23nm,1.1s,mb5.2

BLS5 Blasjo 70.89 344 *eP* **P 15 28 12.2 +2.7**
BLS5 AMb AMB 15 28 15.6
comp=Z,57nm,1.1s,mb5.6

BLS5 Blasjo 70.89 344 *eP* **P 15 28 12.2 +2.7**
comp=Z,57nm,1.1s,mb5.6

KAD Karad 71.22 275 *eP* **P 15 28 11.2 -0.4**
KAD AMb AMB 15 28 17.7
comp=Z,77nm,1.4s,mb5.6

SUW Suwalki 71.40 332 *eP* **P 15 28 11.2 -1.5**
SUW *ePcP* PcP 15 28 26.2 -6.1
SUW *eS* S 15 37 28.2 -3.6
SUW L 15 58 06.9
comp=Z,0.9nm,27.8s

SUW Suwalki 71.40 332 *eP* **P 15 28 11.2 -1.5**
SUW *ePcP* PcP 15 28 26.2 -6.1
SUW *eS* S 15 37 28.2 -3.6
KIV Kislovodsk 71.51 315 P **P 15 28 14.7 +1.4**
comp=Z,450nm,1.0s,mb6.5,SNR=13

KIV Kislovodsk 71.51 315 ⇑P **P 15 28 15.6 +2.3**
SNR=17

KIV Kislovodsk 71.51 315 *eP* **P 15 28 13.8 +0.5**
KIV *e* 15 28 28.7
KIV *e* 15 30 53.3
KIV *eS* S 15 37 29.2 -3.9
KIV pmax pmax
comp=Z,553nm,2.6s,mb6.2

KIV pmax pmax
comp=Z,105nm,1.1s,mb5.9

KIV Kislovodsk 71.51 315 *eP* **P 15 28 12.2 -1.1**
comp=Z,114nm,1.0s,mb6.0

SNART Snartemo 71.75 343 *eP* **P 15 28 17.2 +2.5**
SNART AMb AMB 15 28 21.5
comp=Z,169nm,1.4s,mb6.0

ZEI Tsey 71.80 314 *eP* **P 15 28 15.2 +0.2**
ZEI *e**PP 15 28 27.0
ZEI pmax pmax
comp=Z,29nm,0.9s,mb5.4

CBKS Cedar Bluff 71.83 52 *eP* **P 15 28 14.0 -1.3**
CBKS pmax pmax
comp=Z,59nm,1.2s,mb5.6

CBKS Cedar Bluff 71.83 52 *eP* **P 15 28 14.0 -1.2**
comp=Z,59nm,1.2s,mb5.6

AKASG Malin Array Be 72.05 327 P **P 15 28 15.4 -1.1**
comp=Z,24nm,0.6s,mb5.5,baz=34,slow=6.4,SNR=36

AKASG LR LR 16 05 14.6
comp=Z,705nm,18.1s,MS5.0,baz=25,slow=40

AKBB Malin Array Si 72.05 327 *eP* **P 15 28 15.4 -1.2**
KIEV Kiev 72.06 327 *eP* **P 15 28 15.4 -1.2**
KIEV pmax pmax
comp=Z,185nm,1.2s,mb6.1

KIEV Kiev 72.06 327 *eP* **P 15 28 15.3 -1.3**
comp=Z,185nm,1.2s,mb6.1

SCHQ Schefferville 72.69 24 P **P 15 28 19.5 -0.9**
comp=Z,6.9nm,0.8s,mb4.8,baz=326,slow=6.9,SNR=6.6

SCHQ LR LR 16 05 19.3
comp=Z,423nm,18.5s,MS4.8,baz=189,slow=40

SCHQ Schefferville 72.69 24 *eP* **P 15 28 19.7 -0.8**
comp=Z,11nm,0.7s,mb5.1

AS31 Alice Springs 72.75 200 *eP* **P 15 28 20.4 -0.3**
AS31 *e* 15 28 33.6
ASAR Alice Springs 72.75 200 P **P 15 28 20.2 -0.5**
comp=Z,18nm,0.8s,mb5.2,baz=15,slow=5.0,SNR=105

ASAR LR LR 16 00 40.5
comp=Z,276nm,19.3s,MS4.5,baz=23,slow=36

ASPA Alice Springs 72.75 200 *eP* **P 15 28 20.4 -0.4**
ASPA *e* 15 28 33.6
BSD Bornholm Skovb 72.86 337 ⇓*iP* **P 15 28 23.0 +1.6**
comp=Z,130nm,1.3s,mb5.9

BSD *i* 15 28 35.2
BSD
comp=Z,830nm,18.0s

BSD Bornholm Skovb 72.86 337 ⇓*iP* **P 15 28 23.0 +1.6**
comp=Z,130nm,1.3s,mb5.9

BSD *i* 15 28 35.2
SCIA State Center 72.96 46 *eP* **P 15 28 21.4 -0.6**
comp=Z,159nm,1.0s,mb6.1

COP Copenhagen 72.99 339 ⇓*iP* **P 15 28 24.4 +2.2**
comp=Z,79nm,0.9s,mb5.8

COP *i* 15 28 36.8
COP
comp=Z,420nm,18.0s

COP Copenhagen 72.99 339 ⇓*iP* **P 15 28 24.4 +2.2**
COP *i* 15 28 36.8
COP pmax pmax
comp=Z,79nm,0.9s,mb5.8

COP MLR MLR
comp=Z,420nm,18.0s,MS4.8

MUD Monsted U'grnd 73.06 341 ⇓*iP* **P 15 28 25.1 +2.5**
comp=Z,72nm,1.5s,mb5.6

MUD *i* 15 28 37.9
MUD
comp=Z,830nm,18.0s

MUD Monsted U'grnd 73.06 341 ⇓*iP* **P 15 28 25.1 +2.5**
comp=Z,72nm,1.5s,mb5.6

MUD *i* 15 28 37.9
SOC Sochi 73.21 317 *eP* **P 15 28 26.0 +2.5**
SOC *e* 15 28 37.5
SOC *ePPP* 15 32 47.2
SOC *eS* S 15 37 52.5 -0.1
SOC *e* 15 38 35.1
SOC *eSS* SS 15 42 39.1 +5.3
SOC *eSSS* 15 45 42.8
SOC pmax pmax
comp=Z,565nm,3.0s

SOC pmax pmax
comp=Z,42nm,0.7s,mb5.7

KSU1 Kansas State U 73.30 50 *eP* **P 15 28 22.3 -1.7**
comp=Z,11nm,0.6s,mb5.2

GNI Garni 73.31 311 P **P 15 28 25.7 +1.6**
comp=Z,16nm,0.7s,mb5.3,baz=293,slow=2.7,SNR=7.7

GNI Garni 73.31 311 P **P 15 28 25.7 +1.7**
GNI pmax pmax
comp=Z,16nm,0.7s

GNI Garni 73.31 311 *eP* **P 15 28 25.8 +1.8**
comp=Z,198nm,1.3s,mb6.1

ANN Anapa 73.33 319 *eP* **P 15 28 19.5 -4.7**
ANN *e**PP 15 28 31.2
ANN *e* 15 28 36.0
ANN *eS* S 15 37 44.2 -10
ANN pmax pmax
comp=Z,96nm,1.4s,mb5.7

AMTX Amarillo 73.57 56 *eP* **P 15 28 25.2 -0.3**
comp=Z,66nm,1.0s,mb5.6

WAR Warsaw 73.59 332 *eP* **P 15 28 29.2 +3.5**
WAR *ePcP* PcP 15 28 40.8 -0.9
WAR L 16 00 17.3
comp=Z,1.1nm,29.9s

WAR Warsaw 73.59 332 *eP* **P 15 28 29.2 +3.5**
WAR *e* 15 28 40.8
JFWS Jewell Farm 73.64 44 *eP* **P 15 28 24.6 -1.4**
JFWS pmax pmax
comp=Z,55nm,1.3s,mb5.4

JFWS Jewell Farm 73.64 44 *eP* **P 15 28 24.6 -1.5**
comp=Z,55nm,1.3s,mb5.4

MNTX Cornudas Mount 73.67 61 *eP* **P 15 28 25.6 -0.6**
comp=Z,109nm,1.7s,mb5.6

RGN Rugen 73.79 338 *eP* **P 15 28 29.1 +2.2**
comp=Z,306nm,1.2s,mb6.2

RGN *ePcP* PcP 15 28 42.0 -0.5
GKP Gorka Klasztor 73.85 335 *eP* **P 15 28 28.6 +1.4**
GKP *ePcP* PcP 15 28 41.2 -1.6
PALK Pallekele 73.88 263 *eP* **P 15 28 28.1 +0.7**
comp=Z,73nm,1.4s,mb5.5

BCA Borcka 73.91 314 *eP* **P 15 28 25.7 -1.9**
CLDR Caldiran 74.48 311 *eP* **P 15 28 31.4 +0.5**
MDO Dochfour 74.58 348 *eP* **P 15 28 34.3 +2.8**
LVV L'vov 74.65 329 *eP* **P 15 28 31.2 -0.7**
LVV *i* 15 28 47.0
LVV MLR MLR
comp=N,500nm,18.0s,MS4.9

LVV MLR MLR
comp=E,300nm,18.0s,MS4.9

LVV MLR MLR
comp=Z,700nm,18.0s,MS5.0

KPL Plockton 74.85 349 *eP* **P 15 28 35.9 +2.9**
KPL AMb AMB 15 28 37.7
comp=Z,155nm,1.7s,mb5.8

KSB Sheil Bridge 74.94 349 *eP* **P 15 28 36.6 +3.0**
EZM Erzurum 75.20 313 *eP* **P 15 28 36.5 +1.4**
KIS Kishinev 75.23 325 *eP* **P 15 28 34.0 -1.2**
KIS *eS* S 15 38 14.0 -1.2
KWP Kalwaria 75.27 330 *eP* **P 15 28 34.7 -0.8**
KWP *epP* 15 28 39.8
KWP *ePcP* PcP 15 28 50.6 +1.7
KWP *eS* S 15 38 07.0 -8.7
KWP L 15 58 13.5
comp=Z,0.7nm,31.2s

KWP Kalwaria 75.27 330 *eP* **P 15 28 34.7 -0.8**
KWP *epP* 15 28 39.8
KWP *ePcP* PcP 15 28 50.6 +1.7
KWP *eS* S 15 38 07.0 -8.7
KAR1 Arisaig 75.28 349 *eP* **P 15 28 40.7 +5.1**
WMOK Wichita Mounta 75.31 55 P **P 15 28 34.7 -1.0**
WMOK pmax pmax
comp=Z,48nm,1.1s,mb5.4

WMOK Wichita Mounta 75.31 55 *eP* **P 15 28 34.8 -1.0**
comp=Z,48nm,1.1s,mb5.4

TRD Trivandrum 75.54 267 *eP* **P 15 28 36.3 -0.7**
TRD AMb AMB 15 28 39.6
comp=Z,68nm,1.3s,mb5.6

OJC Ojcow 75.73 332 *eP* **P 15 28 37.9 -0.2**
OJC *ePcP* PcP 15 28 53.0 +2.1
EAB Aberfoyle 75.79 348 *eP* **P 15 28 40.9 +2.5**
EDI Edinburgh 75.88 347 *eP* **P 15 28 43.8 +4.8**
EDI AMb AMB 15 28 49.2
comp=Z,85nm,1.6s,mb5.6

STHS Stebnicka Huta 75.95 331 *eP* **P 15 28 39.7 +0.3**
STHS *e* 15 28 55.2
STHS pmax pmax
comp=Z,100nm,0.8s,mb6.0

STHS Stebnicka Huta 75.95 331 *eP* **P 15 28 39.7 +0.3**
comp=Z,100nm,0.8s,mb6.0

STHS *e* 15 28 42.3
STHS *e* 15 28 55.2
EAU Auchinoon 75.99 348 *eP* **P 15 28 43.8 +4.1**
KOLS Kolonicke sedl 76.01 330 *eP* **P 15 28 39.6 -0.2**
KOLS *ePCP* PcP 15 28 56.1 +4.0
BURAR Bucovina Array 76.08 328 ⇑*iP* **P 15 28 40.2 0.0**
BURAR Bucovina Array 76.08 328 P **P 15 28 40.3 +0.1**
PGBU Glenifferbraes 76.17 348 *eP* **P 15 28 44.0 +3.4**
PGBU AMb AMB 15 28 47.7
comp=Z,81nm,1.2s,mb5.7

NIE Niedzica 76.25 331 *eP* **P 15 28 41.5 +0.4**
NIE *ePcP* PcP 15 28 56.5 +3.4
KSP Ksiaz 76.27 334 *eP* **P 15 28 43.5 +2.3**
KSP *ePcP* PcP 15 28 55.9 +2.7
KSP *eS* S 15 38 21.9 -4.8
KSP L 16 06 09.8
comp=Z,2.7nm,18.8s

KSP Ksiaz 76.27 334 *eP* **P 15 28 40.7 -0.5**
KSP *epP* 15 28 43.5
KSP *e* 15 28 56.0
KSP LR LR
comp=Z,3μm,18.8s,MS5.6

UZH Uzhgorod 76.27 330 *eP* **P 15 28 40.0 -1.2**
UZH *e* 15 28 55.0
UZH *eS* S 15 38 25.0 -1.7
UZH *e* 15 39 08.0
LTX Lajitas 76.39 62 *eP* **P 15 28 41.5 -0.4**
LTX pmax pmax
comp=Z,98nm,0.8s,mb6.0

LTX Lajitas 76.39 62 *eP* **P 15 28 41.5 -0.4**
comp=Z,98nm,0.8s,mb6.0

TXAR Lajitas Array 76.39 62 P **P 15 28 41.2 -0.7**
comp=Z,63nm,0.7s,mb5.9,baz=303,slow=4.8,SNR=468

TXAR Lajitas Array 76.39 62 P **P 15 28 41.2 -0.7**
BINT Bingol 76.43 313 *eP* **P 15 28 43.0 +0.9**
ESK Eskdalemuir 76.47 347 P **P 15 28 45.4 +3.1**
comp=Z,220nm,0.6s,mb6.5,SNR=7.3

ESK Eskdalemuir 76.47 347 *eP* **P 15 28 45.7 +3.4**
ESK AMb AMB 15 28 48.0
comp=Z,83nm,1.5s,mb5.6

ESK Eskdalemuir 76.47 347 *eP* **P 15 28 44.5 +2.2**
ESK pmax pmax
comp=Z,26nm,0.8s,mb5.4

ESK Eskdalemuir 76.47 347 *eP* **P 15 28 44.5 +2.2**
comp=Z,26nm,0.8s,mb5.4

ECK Cauldkaine Hil 76.59 347 *eP* **P 15 28 46.8 +3.8**
OKC Ostrava-Krasne 76.59 333 *eP* **P 15 28 42.8 -0.2**
OKC *ePCP* PcP 15 28 58.1 +3.5
OKC AMS AMS 16 07 10.0
comp=Z,900nm,15.0s

OKC Ostrava-Krasne 76.59 333 *eP* **P 15 28 42.8 -0.2**
OKC *e* 15 28 58.1
UPC Upice 76.65 334 *eP* **P 15 28 43.2 -0.1**
DPC Dobruska-Polom 76.69 334 *eP* **P 15 28 43.8 +0.2**
DPC *ePCP* PcP 15 28 58.6 +3.6
XAL Allendale 76.75 347 *eP* **P 15 28 46.1 +2.2**
CLL Collm 76.79 337 *eP* **P 15 28 43.0 -1.1**
CLL *i* 15 28 58.7
CLL *eS* S 15 38 31.0 -1.4
CLL pmax pmax
comp=Z,41nm,1.3s,mb5.4

CLL MLR MLR
comp=Z,600nm,20.1s,MS4.9

CLL Collm 76.79 337 *eP* **P 15 28 43.0 -1.1**
comp=Z,41nm,1.3s,mb5.4

CLL *i* pP 15 28 46.3
comp=Z,115nm,0.9s

CLL *i* sPcP 15 28 58.7
comp=Z,258nm,0.9s

CLL *eS* S 15 38 31.0 -1.4
CLL LmV 16 06 00.0
comp=Z,600nm,20.1s

MORC Moravsky Berou 76.83 333 ⇓*iP* **P 15 28 44.3 -0.1**
MORC Moravsky Berou 76.83 333 *eP* **P 15 28 44.3 -0.1**
MORC pmax pmax
comp=Z,109nm,0.8s,mb6.0

MORC Moravsky Berou 76.83 333 *eP* **P 15 28 44.3 -0.1**
comp=Z,109nm,0.8s,mb6.0

KVT Kavak 76.87 317 *eP* **P 15 28 43.4 -1.2**
BRG Berggiesshubel 76.92 336 *i* P **P 15 28 44.5 -0.4**
comp=Z,11nm,1.4s,mb4.8

BRG *i* 15 28 59.2
comp=Z,65nm,1.1s

BRG *ePP* PP 15 31 34.8 -3.0
comp=Z,9.4nm,1.6s

BRG S S 15 38 34.0 +0.2
BRG *e* 15 51 57.1
comp=Z,2.7nm,1.0s

BRG
comp=N,456nm,14.1s

BRG
comp=E,339nm,17.6s

BRG

comp=Z,584nm,19.1s
BRG Berggiesshubel 76.92 336 *i* P **P 15 28 44.5 -0.4**
BRG *i* 15 28 59.2
BRG *e* 15 31 34.8
BRG S S 15 38 34.0 +0.2
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.8
BRG MLR MLR
comp=Z,580nm,19.1s,MS4.9
BRG Berggiesshubel 76.92 336 *i* P **P 15 28 44.5 -0.4**
comp=Z,11nm,1.4s,mb4.8
BRG *i* 15 28 59.2
BRG *e*PP PP 15 31 34.8 -3.0
BRG S S 15 38 34.0 +0.2
BRG *e* 15 51 57.1
BRG LR LR
comp=Z,580nm,19.1s,MS4.9
SLM Saint Louis 76.92 47 *e*P **P 15 28 44.2 -0.7**
SLM pmax pmax
comp=Z,19nm,0.4s,mb5.6
SLM Saint Louis 76.92 47 *e*P **P 15 28 44.2 -0.8**
comp=Z,19nm,0.4s,mb5.6
PTK Pertek 76.96 314 *e*P **P 15 28 47.3 +2.2**
LIKS Likavka 76.97 332 *e*P **P 15 28 48.2 +3.0**
LIKS *e*PCP PcP 15 29 00.5 +4.3
VRI Vrincioaia 76.97 326⇑ *i*P **P 15 28 46.8 +1.6**
VRI Vrincioaia 76.97 326 P **P 15 28 46.1 +0.9**
WIT Witteveen 76.99 341 *e*P **P 15 28 47.3 +2.0**
CFR Carcaliu 76.99 324⇓ *i*P **P 15 28 46.9 +1.6**
CFR Carcaliu 76.99 324 P **P 15 28 46.4 +1.1**
CLZ Clausthal 77.00 338 *e*P **P 15 28 45.4 +0.1**
comp=Z,219nm,1.2s,mb6.2
CLZ Clausthal 77.00 338 *e*P **P 15 28 45.4 +0.1**
CLZ pmax pmax
comp=Z,219nm,1.2s,mb6.2
KECS Kecovo 77.01 331 *e*P **P 15 28 45.2 -0.2**
KECS *e* 15 29 00.3
KECS pmax pmax
comp=Z,42nm,1.0s,mb5.5
KECS Kecovo 77.01 331 *e*P **P 15 28 45.2 -0.2**
comp=Z,42nm,1.0s,mb5.5
KECS *e* 15 28 47.8
KECS *e* 15 29 00.3
PLOR Plostina 77.02 326⇑ P **P 15 28 46.9 +1.5**
ARMA Armidale 77.03 183 *e*P **P 15 28 45.9 +0.4**
ARMA *e* 15 28 59.8
PVC Panska Ves 77.05 335 *e*P **P 15 28 45.5 -0.1**
PVCC *e*PCP PcP 15 29 00.5 +3.9
PVCC AMS AMS 16 05 50.0
comp=Z,1μm,16.5s
MSL Mosul 77.05 310 *i* x x 15 28 47.0
MSL *i* x x 15 29 02.0
MSL *ex* x 15 38 36.0
GAL1 Galloway 77.12 348 *e*P **P 15 28 49.3 +3.2**
GAL1 AMb AMB 15 28 51.2
comp=Z,127nm,2.0s,mb5.7
BOYT Boyabat 77.13 318 *i* P **P 15 28 47.3 +1.2**
BYBT Boyabat 77.15 318 *e*P **P 15 28 47.0 +0.8**
AAM Ann Arbor 77.16 40 *e*P **P 15 28 45.8 -0.4**
AAM pmax pmax
comp=Z,101nm,1.6s,mb5.7
AAM Ann Arbor 77.16 40 *e*P **P 15 28 45.8 -0.5**
comp=Z,101nm,1.6s,mb5.7
FVM French Village 77.33 47 *e*P **P 15 28 45.9 -1.3**
FVM pmax pmax
comp=Z,89nm,1.4s,mb5.7
FVM French Village 77.33 47 *e*P **P 15 28 45.9 -1.3**
comp=Z,89nm,1.4s,mb5.7
SVSK Karacayir 77.33 316 *e*P **P 15 28 45.5 -1.7**
MARD Mardin 77.48 312 *i* P **P 15 28 48.9 +0.9**
TIRR Tirgusor 77.48 324⇓ *i*P **P 15 28 48.1 +0.1**
TIRR Tirgusor 77.48 324 *e*P **P 15 28 47.5 -0.5**
TIRR pmax pmax
comp=Z,101nm,1.0s,mb5.9
TIRR Tirgusor 77.48 324 *e*P **P 15 28 47.5 -0.5**
comp=Z,101nm,1.0s,mb5.9
HARR Harsova 77.48 324⇑ *i*P **P 15 28 50.1 +2.1**
HARR Harsova 77.48 324 P **P 15 28 48.0 0.0**
VRAC Vranov 77.53 333⇑ *i*P **P 15 28 48.8 +0.5**
VRAC Vranov 77.53 333 P **P 15 28 49.1 +0.8**
VYHS Vyhne 77.54 332 *e*P **P 15 28 48.6 +0.2**
VYHS *e* 15 29 03.6
VYHS pmax pmax
comp=Z,69nm,1.3s,mb5.6
VYHS Vyhne 77.54 332 *e*P **P 15 28 48.6 +0.2**
comp=Z,69nm,1.3s,mb5.6
VYHS *e* 15 28 51.2
VYHS *e* 15 29 03.6
MLR Muntele Rosu 77.59 326⇓ *i*P **P 15 28 48.5 -0.2**
MLR Muntele Rosu 77.59 326 P **P 15 28 49.3 +0.7**
DRGR 77.69 329⇑ *i*P **P 15 28 49.4 +0.2**
DRGR 77.69 329 P **P 15 28 48.9 -0.3**
PSZ Piszkesteto 77.69 331⇑ *i*P **P 15 28 50.0 +0.8**
PSZ Piszkesteto 77.69 331 *e*P **P 15 28 49.4 +0.2**
PSZ pmax pmax
comp=Z,152nm,1.4s,mb5.9
PSZ Piszkesteto 77.69 331 *e*P **P 15 28 49.4 +0.2**
comp=Z,152nm,1.4s,mb5.9
PSZ Piszkesteto 77.69 331⇑ *e*P **P 15 28 49.7 +0.5**
WTSB Winterswijk 77.75 340 *e*P **P 15 28 49.3 -0.2**
comp=Z,13nm,0.8s,mb5.1
MOX Moxa 77.76 337 *e*P **P 15 28 49.1 -0.5**
comp=Z,113nm,0.9s,mb6.0
MOX Moxa 77.76 337 *e*P **P 15 28 49.4 -0.2**
comp=Z,85nm,1.3s,mb5.7
MOX *e* 15 29 04.7
MOX
comp=Z,500nm,20.0s
MOX Moxa 77.76 337 *e*P **P 15 28 49.4 -0.2**
MOX *e* 15 29 04.7
MOX pmax pmax
comp=Z,85nm,1.3s,mb5.7
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.8
TOS Tosya 77.84 318 *e*P **P 15 28 51.2 +1.2**
JCT Junction City 77.85 58 *e*P **P 15 28 49.2 -0.9**
JCT pmax pmax
comp=Z,132nm,1.3s,mb5.9
JCT Junction City 77.85 58 *e*P **P 15 28 49.1 -1.0**
comp=Z,132nm,1.3s,mb5.9
HATD Hatta, Dubai 77.88 293 P P **P 15 28 50.3 +0.1**
SNR=11
MALT Malatya 77.89 314⇑ *i*P **P 15 28 51.6 +1.3**
MALT Malatya 77.89 314 *e*P **P 15 28 51.4 +1.1**
MALT pmax pmax
comp=Z,64nm,1.0s,mb5.7
MALT Malatya 77.89 314 *e*P **P 15 28 51.4 +1.1**
comp=Z,64nm,1.0s,mb5.7
NKC Novy Kostel 77.91 336 *e*P **P 15 28 50.3 -0.1**
NKC *ex* x 15 29 05.4
SMOL Smolenice 77.97 333 *e*P **P 15 28 51.3 +0.5**
SMOL *e*pP 15 28 54.1
SMOL *e*PCP PcP 15 29 06.6 +6.0
VOIR 77.98 326⇓ *i*P **P 15 28 51.1 +0.3**
VOIR 77.98 326⇓ P **P 15 28 51.1 +0.3**
ASHO Ashiyiah 78.03 293 P P **P 15 28 51.3 +0.2**
SNR=11
SIUC Southern Illin 78.14 47 *e*P **P 15 28 51.1 -0.6**
comp=Z,128nm,1.3s,mb5.9
MTUR Matau 78.15 326⇓ *i*P **P 15 28 53.6 +1.8**
MTUR Matau 78.15 326⇓ P **P 15 28 53.6 +1.9**
KBI1 Birley Grange 78.19 346 *e*P **P 15 28 55.2 +3.2**
CORM Corum 78.24 317 *e*P **P 15 28 52.4 +0.1**
SAFT Safranbolu 78.28 319 *e*P **P 15 28 53.1 +0.6**
BLO Bloomington 78.32 44 *e*P **P 15 28 52.1 -0.6**
BLO pmax pmax
comp=Z,18nm,0.6s,mb5.4
BLO Bloomington 78.32 44 *e*P **P 15 28 52.1 -0.6**
comp=Z,18nm,0.6s,mb5.4
ZST Bratislava 78.36 333 *e*P **P 15 28 53.6 +0.7**
ZST *e*pP 15 28 56.4
ZST *e*PCP PcP 15 29 08.3 +6.1
ZST Bratislava 78.36 333 *e*P **P 15 28 53.6 +0.7**
ZST *e* 15 28 56.4
ZST *e* 15 29 08.3
ZST pmax pmax
comp=Z,77nm,1.0s,mb5.8
ZST MLR MLR
comp=Z,1μm,18.1s,MS5.3
ZST Bratislava 78.36 333 *e*P **P 15 28 53.6 +0.7**
comp=Z,76nm,1.0s,mb5.8
ZST *e* 15 28 56.4
ZST *e* 15 29 08.3
ZST LR LR
comp=Z,1μm,18.1s,MS5.3
BUD Budapest 78.36 331⇓ *e*P **P 15 28 56.1 +3.1**
URFA Urfa 78.37 313 *e*P **P 15 28 54.2 +1.2**
KWE Weaver Farm 78.47 346 *e*P **P 15 28 58.5 +5.0**
BUC1 Bucharest 78.52 325 P **P 15 28 54.5 +0.7**
ELDT Eldivan 78.54 318 *i* P **P 15 28 54.7 +0.8**
MSNY Massena 78.56 33 *e*P **P 15 28 52.8 -1.3**
KHC Kasperske Hory 78.59 335 *e*P **P 15 28 54.4 +0.2**
KHC *ex* x 15 29 09.8
KHC AMS AMS 16 07 20.0
comp=Z,1μm,20.1s
BHD Baghdad 78.64 307 *ex* x 15 28 49.0
BHD *ex* x 15 29 02.5
BHD *ex* x 15 38 45.0
BSY Bisya 78.69 291 P **P 15 28 55.7 +0.9**
SNR=16
USIN University of 78.72 46 *e*P **P 15 28 54.4 -0.5**
comp=Z,24nm,0.6s,mb5.4
BNN Bunyan 78.72 316 *e*P **P 15 28 53.9 -1.0**
GRA1 Grafenberg Arr 78.73 337 *e*P **P 15 28 55.0 0.0**
comp=Z,239nm,0.8s,mb6.3
GRA1 *e*pP 15 29 07.6
GRA1 LR LR
comp=Z,600nm,19.4s,MS4.9
GRF Grafenberg Arr 78.73 337 *e*P **P 15 28 55.0 0.0**
comp=Z,239nm,0.8s,mb6.3
GRF *e*pP 15 29 07.6
GRF *e*L 16 07 36.4
comp=Z,649nm,19.4s
GRF Grafenberg Arr 78.73 337 *e*P **P 15 28 55.0 0.0**
GRF *e*PP 15 29 07.6
GRF pmax pmax
comp=Z,239nm,0.8s,mb6.3
GRF MLR MLR
comp=Z,600nm,19.4s,MS4.9
GRFO Grafenberg 78.74 337 *e*P **P 15 28 55.4 +0.4**
GRFO pmax pmax
comp=Z,260nm,1.0s,mb6.2
GRFO Grafenberg 78.74 337 *e*P **P 15 28 55.4 +0.4**
comp=Z,260nm,1.0s,mb6.2
WET Wettzell 78.78 336 *e*P **P 15 28 55.0 -0.2**
comp=Z,207nm,1.3s,mb6.0
WET Wettzell 78.78 336 *e*P **P 15 28 55.0 -0.2**
WET pmax pmax
comp=Z,207nm,1.3s,mb6.0
CDAG Cicekdag 78.80 317 *i* P **P 15 28 55.5 +0.2**
GEC2 GERESS Array S 78.81 335 *e*P **P 15 28 54.9 -0.5**
GERES GERESS Array B 78.81 335 P **P 15 28 55.1 -0.3**
comp=Z,12nm,0.6s,mb5.1,baz=34,slow=5.4,SNR=52
GERES LR LR 16 08 36.1
comp=Z,1μm,18.1s,MS5.3,baz=15,slow=39
GZR Gura Zlata 78.86 328⇓ *i*P **P 15 28 55.3 -0.4**
GZR Gura Zlata 78.86 328 P **P 15 28 55.6 -0.1**
DLF Lyons Farm 78.91 349 *e*P PcP 15 29 11.9 +7.3
DLF Lyons Farm 78.91 349 *e*P **P 15 28 59.4 +3.5**
DLF *e*P 15 29 11.9
DCN Croghan 78.96 349 *e*P PcP 15 29 12.1 +7.3
DCN Croghan 78.96 349 *e*P **P 15 28 59.7 +3.5**
DCN *e*P 15 29 12.1
TNS Taunus Mts 78.97 339 *e*P **P 15 28 56.0 -0.3**
comp=Z,84nm,0.8s,mb5.8
TNS Taunus Mts 78.97 339 *e*P **P 15 28 56.0 -0.3**
TNS pmax pmax
comp=Z,84nm,0.8s,mb5.8
CONA Conrad Observa 78.98 333⇑ *i*P **P 15 28 57.1 +0.7**
comp=Z,50nm,1.5s,mb5.3,SNR=11
CONA Conrad Observa 78.98 333 PcP 15 29 12.5 +7.6
comp=Z,104nm,1.5s
SOP Sopron 78.98 333⇑ *e*P **P 15 28 57.3 +0.9**
BR131 Keskin Array S 79.06 318 *e*P **P 15 28 57.0 +0.2**
comp=Z,29nm,0.9s,mb5.3
BRTR Keskin Array B 79.06 318 P **P 15 28 57.2 +0.5**
comp=Z,5.4nm,0.7s,mb4.7,baz=70,slow=4.1,SNR=22
BRTR LR LR 16 12 13.8
comp=Z,698nm,18.2s,MS5.0,baz=125,slow=42
HGN Heimansgroeve 79.06 340 *e*P **P 15 28 55.7 -1.2**
comp=Z,52nm,1.1s,mb5.5
HGN *ex* x 15 29 11.9
HGN Heimansgroeve 79.06 340 *e*S SKSac 15 39 12.7 -1.1
BZS Buzias 79.09 329⇑ *i*P **P 15 28 56.0 -1.0**
BZS Buzias 79.09 329 P **P 15 28 56.5 -0.4**
SGKT Sivrigoynuk 79.10 319 *i* P **P 15 28 58.0 +1.0**
HLM1 Long Mynd 79.12 346 *e*P **P 15 28 59.0 +1.9**
WCI Wyandotte Cave 79.17 45 P **P 15 28 55.9 -1.5**
WCI pmax pmax
comp=Z,110nm,1.0s,mb5.8
WCI Wyandotte Cave 79.17 45 *e*P **P 15 28 56.8 -0.7**
comp=Z,105nm,1.0s,mb5.8
MEM Membach 79.19 340 P **P 15 28 56.9 -0.6**
MEM AP 15 29 00.9
MEM E 15 29 13.4
MEM E 15 29 18.4
ALLY Alegheny Colle 79.22 39 *e*P **P 15 28 57.3 -0.4**
KMRS Kahramanmaras 79.27 314 *e*P **P 15 28 58.1 +0.2**
KAMT Kaman 79.31 318 *e*P **P 15 28 57.8 -0.3**
STKA Stephens Creek 79.33 191 *e*P **P 15 28 57.2 -1.1**
comp=Z,9.3nm,1.0s,mb4.8
STKA *e* 15 29 11.0
STKA Stephens Creek 79.33 191 P **P 15 28 57.0 -1.3**
comp=Z,9.0nm,0.9s,mb4.8,baz=2.7,slow=5.0,SNR=13
STKA LR LR 16 04 26.4
comp=Z,309nm,19.3s,MS4.7,baz=23,slow=36
ANTO Ankara 79.33 318 P **P 15 28 59.0 +0.7**
SNR=12
ANTO Ankara 79.33 318⇓ *i*P **P 15 28 59.1 +0.8**
ANTO Ankara 79.33 318 *e*P **P 15 28 58.5 +0.2**
ANTO pmax pmax
comp=Z,45nm,0.8s,mb5.5
ANTO Ankara 79.33 318 *e*P **P 15 28 58.5 +0.2**
comp=Z,45nm,0.8s,mb5.5
ZIMR 79.36 325 P **P 15 28 58.6 +0.2**
UCC Uccle 79.39 341 P **P 15 29 01.2 +2.6**
UCC E 15 29 03.6
UCC E 15 29 14.4
UTMT University of 79.39 47 *e*P **P 15 28 58.3 -0.3**
comp=Z,199nm,1.1s,mb6.1
TOD Tromm 79.45 338 *e*P **P 15 28 59.2 +0.3**
ABH Alteburg 79.50 339 *e*P **P 15 28 57.3 -1.9**
BCLA Clavier 79.53 341 AP pP 15 29 01.9 +2.2
BCLA E 15 29 04.3
BCLA E 15 29 15.2
MOA Molln 79.54 334⇑ *i*P **P 15 28 56.0 -3.4**
comp=Z,15nm,0.9s,mb4.9,SNR=8.7
PKSM Moragy 79.60 331⇑ *i*P **P 15 28 58.7 -1.1**
PKSM Moragy 79.60 331 P **P 15 28 59.3 -0.4**
MCH1 Michaelchurch 79.64 346 *e*P **P 15 29 03.7 +3.8**
MCH1 AMb AMB 15 29 07.3
comp=Z,40nm,1.3s,mb5.2
NCB Newcomb 79.67 34 *e*P **P 15 28 59.1 -1.0**
comp=Z,48nm,1.5s,mb5.2
SNF Seneffe 79.67 341 AP pP 15 29 03.4 +3.0
SNF E 15 29 05.4
SNF E 15 29 16.3
ARSA Arzberg 79.69 333⇑ *i*P **P 15 29 00.6 +0.4**
comp=Z,32nm,1.3s,mb5.1,SNR=7.4
ARSA Arzberg 79.69 333⇑ *i* PcP 15 29 16.5 +8.4
comp=Z,76nm,1.2s
ARSA Arzberg 79.69 333 PcP 15 29 16.5 +8.4
comp=Z,76nm,1.2s
ARSA Arzberg 79.69 333 P **P 15 29 00.6 +0.4**
ARSA *e* 15 29 16.4
PVL Pavlikeni 79.74 325 P **P 15 29 03.0 +2.5**
KOZT Kozan 79.81 315 *e*P **P 15 28 55.7 -5.2**
JMB Yambol 79.87 324 *e*P **P 15 29 03.9 +2.7**
GIVF Givet 79.94 341 *e*P **P 15 29 00.6 -1.0**
comp=Z,157nm,1.0s,mb5.6
GIVF Givet 79.94 341 *e*P **P 15 29 00.6 -1.0**
GIVF pmax pmax
comp=Z,79nm,1.0s,mb5.6
GIVF Givet 79.94 341 *e*P **P 15 29 00.6 -1.0**
comp=Z,78nm,1.0s,mb5.6
TAOE Nuku Hiva Isla 79.95 115 *e*LR LR 15 53 44.8
comp=Z,3μm,30.2s,baz=320
HGH Gray Hill 79.96 346 *e*P **P 15 29 06.4 +4.7**
WLF Walferdange 80.04 340 E 15 29 04.1
WLF E 15 29 17.4
WLF Walferdange 80.04 340 *e*P **P 15 29 02.0 -0.1**
WLF pmax pmax
comp=Z,39nm,1.1s,mb5.2
WLF Walferdange 80.04 340 *e*P **P 15 29 02.0 -0.2**
comp=Z,39nm,1.1s,mb5.2
WVT Waverly 80.07 47 *e*P **P 15 29 01.2 -1.1**
WVT pmax pmax
comp=Z,32nm,0.9s,mb5.2
WVT Waverly 80.07 47 *e*P **P 15 29 01.2 -1.1**
comp=Z,32nm,0.9s,mb5.2
BAIF Baives 80.11 341 *e*P **P 15 29 01.8 -0.7**
comp=Z,111nm,0.9s,mb5.5
BAIF Baives 80.11 341 *e*P **P 15 29 01.8 -0.7**
BAIF pmax pmax
comp=Z,56nm,0.9s,mb5.5
BAIF Baives 80.11 341 *e*P **P 15 29 01.8 -0.7**
comp=Z,56nm,0.9s,mb5.5
STU Stuttgart 80.11 338 P **P 15 29 02.0 -0.5**
STU pmax pmax
comp=Z,143nm,1.1s,mb5.8
STU Stuttgart 80.11 338 P **P 15 29 01.9 -0.6**
comp=Z,143nm,1.1s,mb5.8
ADVT Abdulvahap 80.23 321 *e*P **P 15 28 59.3 -3.8**
LANF Langenberg 80.28 339 *e*P **P 15 29 02.4 -1.0**
YLV Yalova 80.28 321 *e*P **P 15 29 02.0 -1.4**
KARA Karaisali 80.36 315 *e*P **P 15 29 03.2 -0.6**
COBT Iskenderun 80.36 314 *i* P **P 15 29 05.2 +1.3**
PERS Pernice 80.36 333 *e*P **P 15 29 06.4 +2.6**
PERS epP 15 29 19.8
ESKT Eskisehir 80.49 319 *e*P **P 15 29 04.1 -0.4**
ESKT Eskisehir 80.49 319 *i* P **P 15 29 04.4 -0.2**
KBA Koelnbreinsper 80.50 334 *i* P **P 15 29 05.5 +0.8**
comp=Z,97nm,0.8s,mb5.9,SNR=44
HKT Hockley 80.53 56 *e*P **P 15 29 04.4 -0.4**
HKT pmax pmax
comp=Z,42nm,1.5s,mb5.2
HKT Hockley 80.53 56 *e*P **P 15 29 04.4 -0.4**
comp=Z,42nm,1.5s,mb5.2
OXF Oxford 80.53 49 *e*P **P 15 29 04.0 -0.8**
OXF pmax pmax
comp=Z,148nm,1.1s,mb5.9
OXF Oxford 80.53 49 *e*P **P 15 29 04.0 -0.8**
comp=Z,148nm,1.1s,mb5.9
OBKA Obir 80.65 333⇑ *i*P **P 15 29 07.1 +1.6**
comp=Z,20nm,0.7s,mb5.2,SNR=10
ULDT Uludag 80.73 321 *i* P **P 15 29 05.6 -0.2**
BFO Black Forest 80.75 338 *e*P **P 15 29 05.3 -0.6**
comp=Z,128nm,1.4s,mb5.8
BFO Black Forest 80.75 338 *e*P **P 15 29 05.4 -0.5**
BFO pmax pmax
comp=Z,128nm,1.4s,mb5.8
BFO Black Forest 80.75 338 *e*P **P 15 29 05.4 -0.5**
comp=Z,128nm,1.4s,mb5.8
PGB Panagyurishte 80.76 325 P **P 15 29 06.0 0.0**
WATA Walderalm 80.78 336⇑ *i*P **P 15 29 06.8 +0.6**
comp=Z,28nm,0.6s,mb5.5,SNR=11
WTTA Wattenberg 80.83 336⇑ *i*P **P 15 29 07.2 +0.8**
comp=Z,81nm,0.7s,mb5.9,SNR=53
WTTA Wattenberg 80.83 336⇑ *i* **P 15 29 10.9 +4.5**
comp=Z,126nm,1.1s,mb5.9
WTTA Wattenberg 80.83 336 **P 15 29 10.9 +4.5**
comp=Z,126nm,1.1s,mb5.9
WTTA 15 29 23.7
comp=Z,140nm,0.8s
WTTA Wattenberg 80.83 336 P **P 15 29 07.2 +0.8**
WTTA *e* 15 29 10.9
WTTA *e* 15 29 23.7
SPAK Spaichingen-Ko 80.84 338 *e*P **P 15 29 06.7 +0.3**
PLAL Pickwick Lake 80.85 48 *e*P **P 15 29 05.2 -1.3**
comp=Z,15nm,1.1s,mb4.9
GRUS Gruza 80.91 328 *i* P **P 15 29 09.1 +2.3**
MOTA Moosalm 80.91 336 *i* P **P 15 29 07.3 +0.5**
comp=Z,118nm,1.1s,mb5.8,SNR=32
WLS Welschbruch 80.91 339 *e*P **P 15 29 07.1 +0.3**
PLD Plovdiv 80.93 325 *e*P **P 15 29 07.4 +0.5**
MERS Mersin 80.93 315 *e*P **P 15 29 07.2 +0.2**
CDF Champ du Feu 80.93 339 *e*P **P 15 29 06.3 -0.6**
comp=Z,166nm,1.0s,mb5.7
CDF Champ du Feu 80.93 339 *e*P **P 15 29 06.3 -0.6**
CDF pmax pmax
comp=Z,83nm,1.0s,mb5.7
CDF Champ du Feu 80.93 339 *e*P **P 15 29 06.3 -0.6**
comp=Z,83nm,1.0s,mb5.7
DIVS Divcibare 80.98 329 *i* P **P 15 29 05.9 -1.3**
DIVS Divcibare 80.98 329 *e*P **P 15 29 06.5 -0.6**
MCWV Mont Chateau 80.98 40 *e*P **P 15 29 06.7 -0.5**
comp=Z,154nm,1.5s,mb5.8
SQTA Sankt Quirin 80.99 336⇑ *i*P **P 15 29 07.9 +0.7**
comp=Z,25nm,0.7s,mb5.3,SNR=8.9
SSPA Standing Stone 81.01 38 *e*P **P 15 29 06.9 -0.5**
comp=Z,113nm,1.4s,mb5.7
FORT Forrest 81.02 203 *e*P **P 15 29 07.1 -0.3**
comp=Z,20nm,0.8s,mb5.2
FORT *e* 15 29 21.6
LJU Ljubljana 81.08 333 *e*P **P 15 29 09.2 +1.5**
LJU *e*pP 15 29 22.9
KONT Konya--Tatoy 81.08 318 *e*P **P 15 29 07.8 0.0**
VTS Vitosha 81.09 326 *e*P **P 15 29 07.6 -0.1**
VTS Vitosha 81.09 326⇑ *i*P **P 15 29 08.1 +0.3**
VTS Vitosha 81.09 326 P **P 15 29 07.5 -0.3**
LIBD Limburg 81.10 338 *e*P **P 15 29 06.7 -1.1**
FVI Forni Avoltri 81.11 335 P **P 15 29 09.6 +1.8**
PTCC Patocco-Chiusa 81.11 334 P **P 15 29 09.1 +1.2**
KVTX Kingsville 81.14 59 *e*P **P 15 29 09.4 +1.3**
comp=Z,50nm,0.7s,mb5.7
ECH Echery 81.15 339 *e*P **P 15 29 06.7 -1.4**
CADS Cadrg 81.15 334 *e*P **P 15 29 09.0 +0.9**
CADS *e*pP 15 29 22.8
VISS Visnje 81.19 333 *e*P **P 15 29 10.1 +1.8**
VISS *e*pP 15 29 23.6
FELD Feldberg im Sc 81.25 338 *e*P **P 15 29 08.5 -0.1**
GMNA Gemona 81.26 334 P **P 15 29 10.1 +1.4**
RZN Rozhen 81.28 325 P **P 15 29 11.0 +2.3**
VOY Vojsko 81.28 334 *e*P **P 15 29 09.6 +0.8**
VOY *e*pP 15 29 23.7
VOY *e* 15 29 47.6
DAVA Damuels 81.30 337⇑ *i*P **P 15 29 09.4 +0.5**
comp=Z,21nm,1.6s,mb4.9,SNR=15
DAVA Damuels 81.30 337 P **P 15 29 09.4 +0.5**
DYA Yadsworthy 81.31 346 *e*P **P 15 29 12.2 +3.3**
PPT Papeete 81.32 127 *e*S S 15 39 12.0 -8.7
comp=Z,916nm,32.0s
PPT *e*LR LR 15 54 25.5
comp=Z,1μm,26.5s,baz=325
PPT Papeete 81.32 127 LR LR 15 57 27.2
comp=Z,406nm,19.6s,MS4.8,baz=319,slow=30
MEZF Maizieres J'vi 81.39 340 *e*P **P 15 29 08.8 -0.5**
comp=Z,191nm,0.8s,mb5.9
MEZF Maizieres J'vi 81.39 340 *e*P **P 15 29 08.8 -0.5**
comp=Z,191nm,0.8s,mb6.2
BBLS Bajina Basta - 81.39 329 *i* P **P 15 29 09.7 +0.4**
RDO Rodhopi 81.40 324 *e*P **P 15 29 12.5 +3.1**
ALN Alexandroupoli 81.41 323 *e*P **P 15 29 08.5 -0.9**
SHUT Suhut-Afyon 81.41 319 *e*P **P 15 29 09.2 -0.2**
THEF They Montfort 81.42 340 *e*P **P 15 29 09.7 +0.2**
MOF Molkenrain 81.49 339 *e*P **P 15 29 09.5 -0.4**
HAU Haudompre 81.54 339 *e*P **P 15 29 09.3 -0.9**
comp=Z,113nm,1.1s,mb5.6
HAU *e*R
comp=Z,683nm,22.5s
HAU Haudompre 81.54 339 *e*P **P 15 29 09.3 -0.9**
HAU pmax pmax
comp=Z,56nm,1.0s,mb5.7
HAU MLR MLR
comp=Z,680nm,22.5s,MS5.0
HAU Haudompre 81.54 339 *e*P **P 15 29 09.3 -0.9**
comp=Z,56nm,1.0s,mb5.7
HAU LR LR
comp=Z,680nm,22.5s,MS5.0
HINF Hinteralfeld 81.59 339 *e*P **P 15 29 09.4 -1.0**
comp=Z,75nm,1.0s,mb5.5
HINF Hinteralfeld 81.59 339 *e*P **P 15 29 09.4 -1.0**
HINF pmax pmax
comp=Z,37nm,1.0s,mb5.5
HINF Hinteralfeld 81.59 339 *e*P **P 15 29 09.4 -1.0**
comp=Z,38nm,1.0s,mb5.5
APPI Appiano 81.66 336 P **P 15 29 13.4 +2.6**
MMB Musomiste 81.75 325 P **P 15 29 14.0 +2.7**
BBS Basel-Blauen 81.76 338 *e*P **P 15 29 11.4 +0.1**
KKB Krupnik 81.76 326 P **P 15 29 10.0 -1.3**
TZTN Tazewell 81.83 44 *e*P **P 15 29 11.0 -0.7**
comp=Z,54nm,1.2s,mb5.5
ZAIG Zacatecas 81.84 65 *i* P **P 15 29 12.4 +0.7**
HRV Harvard--Oak R 81.93 33 *e*P **P 15 29 11.6 -0.6**
HRV pmax pmax
comp=Z,39nm,1.1s,mb5.5
HRV Harvard--Oak R 81.93 33 *e*P **P 15 29 11.6 -0.6**
comp=Z,40nm,1.1s,mb5.5
TKTP Tekketepe 81.94 319 *i* P **P 15 29 12.7 +0.4**
LOMF Lomont 82.03 339 *e*P **P 15 29 12.3 -0.4**
LUPA Lehigh Univers 82.08 36 *e*P **P 15 29 12.4 -0.6**
MVL Millersville 82.19 37 *e*P **P 15 29 12.8 -0.8**

TUE Stuetta 82.19 337 P **P** **15 29 17.7 +4.1**
SRS Serrai 82.20 325 *e*P **P** **15 29 12.4 -1.3**
STIP Stip 82.25 326 *e*P **P** **15 29 12.2 -1.8**
FWV Forest Hill 82.26 41 *e*P **P** **15 29 12.9 -1.0**
SKO Skopje 82.30 327 *e*P **P** **15 29 13.6 -0.6**
FLN La Foliniere 82.31 344 *e*P **P** **15 29 13.4 -0.8**
comp=Z,148nm,1.0s,mb5.8
FLN *e*R
comp=Z,696nm,18.8s
FLN La Foliniere 82.31 344 *e*P **P** **15 29 13.4 -0.8**
FLN pmax pmax
comp=Z,74nm,1.0s,mb5.8
FLN MLR MLR
comp=Z,700nm,18.8s,MS5.0
FLN La Foliniere 82.31 344 *e*P **P** **15 29 13.4 -0.8**
comp=Z,74nm,1.0s,mb5.8
FLN LR LR
comp=Z,700nm,18.8s,MS5.0
PAL Palisades 82.32 35 *e*P **P** **15 29 13.4 -0.9**
PAL pmax pmax
comp=Z,74nm,1.3s,mb5.7
PAL Palisades 82.32 35 *e*P **P** **15 29 13.4 -0.8**
comp=Z,74nm,1.3s,mb5.7
VAY Valandovo 82.43 326 *e*P **P** **15 29 13.7 -1.2**
VAY Valandovo 82.43 326 *e*P **P** **15 29 13.4 -1.4**
KNT Kendrikon 82.44 325 *e*P **P** **15 29 14.4 -0.5**
CPNY Central Park 82.48 35 *e*P **P** **15 29 14.5 -0.6**
ELN Prospectdale 82.58 42 *e*P **P** **15 29 14.7 -0.9**
OUR Ouranopolis 82.72 324 *e*P **P** **15 29 18.4 +2.0**
BLA Blacksburg 82.74 41 *e*P **P** **15 29 15.6 -0.9**
BLA pmax pmax
comp=Z,81nm,1.1s,mb5.9
BLA Blacksburg 82.74 41 *e*P **P** **15 29 15.6 -0.8**
comp=Z,81nm,1.1s,mb5.9
GRR Gorron 82.74 344 *e*P **P** **15 29 15.8 -0.6**
comp=Z,183nm,0.9s,mb6.0
GRR Gorron 82.74 344 *e*P **P** **15 29 15.8 -0.6**
GRR pmax pmax
comp=Z,92nm,0.9s,mb6.0
GRR Gorron 82.74 344 *e*P **P** **15 29 15.8 -0.6**
comp=Z,92nm,0.9s,mb6.0
GRG Griva 82.81 326 *e*P **P** **15 29 15.8 -0.9**
LOR Lormes 82.82 341 *e*P **P** **15 29 15.9 -1.0**
comp=Z,190nm,0.8s,mb6.1
LOR *e*R
comp=Z,801nm,19.5s
LOR Lormes 82.82 341 *e*P **P** **15 29 15.9 -1.0**
LOR pmax pmax
comp=Z,95nm,0.8s,mb6.1
LOR MLR MLR
comp=Z,800nm,19.5s,MS5.1
LOR Lormes 82.82 341 *e*P **P** **15 29 15.9 -1.0**
comp=Z,95nm,0.8s,mb6.1
LOR LR LR
comp=Z,800nm,19.5s,MS5.1
HORT Hortiatis 82.84 325 *e*P **P** **15 29 16.4 -0.5**
STON Ston 82.86 330 *i* P **P** **15 29 17.8 +0.7**
KRUS Krusevo 82.89 327 *e*P **P** **15 29 15.6 -1.7**
PLG Polygyros 82.90 325 *e*P **P** **15 29 16.4 -0.8**
PLG Polygyros 82.90 325 *e*P **P** **15 29 17.0 -0.3**
CABF La Chapelle 82.91 339 *e*P **P** **15 29 16.6 -0.7**
comp=Z,115nm,0.9s,mb5.8
CABF La Chapelle 82.91 339 *e*P **P** **15 29 16.6 -0.7**
CABF pmax pmax
comp=Z,57nm,0.9s,mb5.8
CABF La Chapelle 82.91 339 *e*P **P** **15 29 16.6 -0.7**
comp=Z,58nm,0.9s,mb5.8
LRAL Lakeview Retre 82.93 48 *e*P **P** **15 29 16.4 -1.1**
comp=Z,26nm,1.1s,mb5.4
CSS Prodhromos 83.03 315 *e*P **P** **15 29 17.9 -0.1**
CSS Prodhromos 83.03 315 *e*P **P** **15 29 18.6 +0.6**
comp=Z,92nm,1.0s,mb6.0
HYF Humbligny 83.09 341 *e*P **P** **15 29 17.9 -0.4**
SSF Saint Saulge 83.09 341 *e*P **P** **15 29 17.5 -0.8**
comp=Z,114nm,0.8s,mb5.8
SSF Saint Saulge 83.09 341 *e*P **P** **15 29 17.5 -0.8**
SSF pmax pmax
comp=Z,57nm,0.8s,mb5.8
SSF Saint Saulge 83.09 341 *e*P **P** **15 29 17.5 -0.8**
comp=Z,57nm,0.8s,mb5.8
BIA Bitola 83.16 326 *e*P **P** **15 29 18.2 -0.4**
SGMF Saint Gilles 83.18 345 *e*P **P** **15 29 18.2 -0.5**
comp=Z,166nm,0.7s,mb6.1
SGMF Saint Gilles 83.18 345 *e*P **P** **15 29 18.2 -0.5**
SGMF pmax pmax
comp=Z,83nm,0.7s,mb6.1
SGMF Saint Gilles 83.18 345 *e*P **P** **15 29 18.2 -0.5**
comp=Z,83nm,0.7s,mb6.1
PAIG Pallouri 83.19 324 *e*P **P** **15 29 17.3 -1.5**
ROSF Rostrenen 83.23 345 *e*P **P** **15 29 18.4 -0.6**
comp=Z,221nm,0.8s,mb6.1
ROSF Rostrenen 83.23 345 *e*P **P** **15 29 18.4 -0.6**
ROSF pmax pmax
comp=Z,110nm,0.8s,mb6.1
ROSF Rostrenen 83.23 345 *e*P **P** **15 29 18.4 -0.6**
comp=Z,110nm,0.8s,mb6.1
CBN Corbin 83.26 39 *e*P **P** **15 29 18.8 -0.3**
comp=Z,73nm,1.3s,mb5.8
OHR Ohrid 83.28 327 *e*P **P** **15 29 20.0 +0.7**
OHR Ohrid 83.28 327 *e*P **P** **15 29 19.1 -0.2**
FNA Florina 83.35 326 *e*P **P** **15 29 17.9 -1.7**
AVF Avril sur Loir 83.39 341 *e*P **P** **15 29 19.2 -0.6**
comp=Z,178nm,0.7s,mb6.1
AVF Avril sur Loir 83.39 341 *e*P **P** **15 29 19.2 -0.6**
AVF pmax pmax
comp=Z,89nm,0.7s,mb6.1
AVF Avril sur Loir 83.39 341 *e*P **P** **15 29 19.2 -0.6**
comp=Z,89nm,0.7s,mb6.1
SMF Signal de Mont 83.41 340 *e*P **P** **15 29 19.3 -0.6**
comp=Z,433nm,1.1s,mb6.3
SMF Signal de Mont 83.41 340 *e*P **P** **15 29 19.3 -0.6**
SMF pmax pmax
comp=Z,216nm,1.1s,mb6.3
SMF Signal de Mont 83.41 340 *e*P **P** **15 29 19.3 -0.6**
comp=Z,216nm,1.1s,mb6.3
ASF Jabal al Asfar 83.48 311 P **P** **15 29 20.5 +0.3**
comp=Z,9.0nm,0.8s,mb5.8,baz=136,slow=1.4,SNR=16
MMAI Mount Meron Ar 83.57 313 P **P** **15 29 21.2 +0.5**
comp=Z,18nm,0.6s,mb5.5,baz=36,slow=7.2,SNR=17
QUIF Quistinic 83.61 345 *e*P **P** **15 29 20.2 -0.8**
comp=Z,58nm,0.7s,mb5.6
QUIF Quistinic 83.61 345 *e*P **P** **15 29 20.2 -0.8**
QUIF pmax pmax
comp=Z,29nm,0.7s,mb5.6
QUIF Quistinic 83.61 345 *e*P **P** **15 29 20.2 -0.8**
comp=Z,29nm,0.7s,mb5.6
RSL Roselend 83.63 338 *e*P **P** **15 29 25.2 +4.1**
ZCCA Zocca 83.68 335 P **P** **15 29 24.6 +3.3**
MLSB Milas 83.69 320 *e*P **P** **15 29 19.2 -2.2**
BGF Bois d'Agland 83.72 341 *e*P **P** **15 29 20.9 -0.6**
comp=Z,92nm,0.6s,mb5.9
BGF Bois d'Agland 83.72 341 *e*P **P** **15 29 20.9 -0.6**
BGF pmax pmax
comp=Z,46nm,0.6s,mb5.9
BGF Bois d'Agland 83.72 341 *e*P **P** **15 29 20.9 -0.6**
comp=Z,46nm,0.6s,mb5.9
LPL La Plagne 83.77 338 *e*P **P** **15 29 22.0 +0.3**
comp=Z,139nm,0.7s,mb6.0
LPL La Plagne 83.77 338 *e*P **P** **15 29 22.0 +0.3**
LPL pmax pmax
comp=Z,70nm,0.7s,mb6.0
LPL La Plagne 83.77 338 *e*P **P** **15 29 22.0 +0.3**
comp=Z,70nm,0.7s,mb6.0
ERBM Eremo 83.78 335 P **P** **15 29 24.5 +2.7**
LPG La Plagne 83.78 338 *e*P **P** **15 29 22.3 +0.5**
comp=Z,220nm,0.9s,mb6.1
LPG La Plagne 83.78 338 *e*P **P** **15 29 22.3 +0.5**
LPG pmax pmax
comp=Z,110nm,0.9s,mb6.1
LPG La Plagne 83.78 338 *e*P **P** **15 29 22.3 +0.5**
comp=Z,110nm,0.9s,mb6.1
SEI Scarperia 83.83 334 P **P** **15 29 24.6 +2.5**
BDRM Kayabasi 84.02 320 *i* P **P** **15 29 25.9 +2.8**
VLC Villacollemand 84.02 335 P **P** **15 29 24.0 +0.9**
comp=Z,23nm,0.6s,mb5.6
CRE Caprese Michel 84.05 334 P **P** **15 29 26.3 +3.1**
SNTG Esanatoglia 84.08 333 P **P** **15 29 26.5 +3.2**
PLDF La Plantade 84.10 340 *e*P **P** **15 29 24.0 +0.6**
TCF Toulx Ste Croi 84.12 341 *e*P **P** **15 29 23.0 -0.5**
comp=Z,144nm,0.8s,mb6.0
TCF Toulx Ste Croi 84.12 341 *e*P **P** **15 29 23.0 -0.5**
TCF pmax pmax
comp=Z,72nm,0.8s,mb6.0
TCF Toulx Ste Croi 84.12 341 *e*P **P** **15 29 23.0 -0.5**
comp=Z,72nm,0.8s,mb6.0
AGO Saint Agoulin 84.13 341 *e*P **P** **15 29 23.4 -0.2**

BNI Bardonecchia 84.21 338 *e*P **P** **15 29 24.4 +0.4**
BNI pmax pmax
comp=Z,76nm,1.1s,mb5.8
BNI Bardonecchia 84.21 338 *e*P **P** **15 29 24.4 +0.4**
comp=Z,76nm,1.1s,mb5.8
MEV Metsovon 84.27 326 *e*P **P** **15 29 23.9 -0.4**
MFF Saint Martin d 84.31 343 *e*P **P** **15 29 23.7 -0.8**
comp=Z,127nm,0.8s,mb5.9
MFF Saint Martin d 84.31 343 *e*P **P** **15 29 23.7 -0.8**
MFF pmax pmax
comp=Z,63nm,0.8s,mb5.9
MFF Saint Martin d 84.31 343 *e*P **P** **15 29 23.7 -0.8**
comp=Z,63nm,0.8s,mb5.9
LCHF La Chataignera 84.37 343 *e*P **P** **15 29 30.1 +5.3**
CSNT Castellina Chi 84.39 334 P **P** **15 29 25.6 +0.7**
WHFO Wadi Hawf 84.40 290 P **P** **15 29 24.7 -0.3**
SNR=7.6
GOGA Godfrey 84.40 46 *e*P **P** **15 29 24.3 -0.7**
GOGA pmax pmax
comp=Z,74nm,1.5s,mb5.7
GOGA Godfrey 84.40 46 *e*P **P** **15 29 24.3 -0.7**
comp=Z,74nm,1.5s,mb5.7
ARG Arkhangelos 84.43 319 *e*P **P** **15 29 29.0 +3.9**
PYM Petit Puy Mans 84.45 341 *e*P **P** **15 29 29.7 +4.5**
MBDF Montbardon 84.49 338 *e*P **P** **15 29 25.0 -0.4**
comp=Z,158nm,1.1s,mb5.8
MBDF Montbardon 84.49 338 *e*P **P** **15 29 25.0 -0.4**
MBDF pmax pmax
comp=Z,79nm,1.1s,mb5.9
MBDF Montbardon 84.49 338 *e*P **P** **15 29 25.0 -0.4**
comp=Z,79nm,1.1s,mb5.9
AGG Agios Georgios 84.50 325 *e*P **P** **15 29 26.9 +1.5**
BRAL Brewton 84.50 50 *e*P **P** **15 29 25.3 -0.2**
comp=Z,154nm,1.0s,mb6.2
JAN Janina 84.53 326 *e*P **P** **15 29 25.5 -0.1**
ORIF Oris-en-Rattie 84.54 338 *e*P **P** **15 29 25.6 -0.1**
comp=Z,154nm,1.0s,mb5.9
ORIF *e*R
comp=Z,671nm,23.0s
ORIF Oris-en-Rattie 84.54 338 *e*P **P** **15 29 25.6 -0.1**
comp=Z,77nm,1.0s,mb5.9
VERF Vernugheol 84.57 341 *e*P **P** **15 29 32.8 +7.0**
FIN Finale Ligure 84.59 337 P **P** **15 29 29.2 +3.3**
RGNG Rignano Grg 84.64 331 P **P** **15 29 28.9 +2.7**
AQU L'Aquila 84.75 332 *i*/P **P** **15 29 28.0 +1.3**
AQU L'Aquila 84.75 332 *e*P **P** **15 29 26.2 -0.5**
AQU pmax pmax
comp=Z,76nm,0.9s,mb5.9
AQU L'Aquila 84.75 332 *e*P **P** **15 29 26.2 -0.6**
comp=Z,76nm,0.9s,mb5.9
EVR Evrytania 84.79 325 *e*P **P** **15 29 30.0 +3.0**
LHS Liberty Hill 84.81 43 *e*P **P** **15 29 26.6 -0.4**
IGT Igoumenitsa 84.83 326 *e*P **P** **15 29 27.3 +0.2**
LBL Lubilhac 84.88 340 *e*P **P** **15 29 28.1 +0.7**
FRNF Fournols 84.89 341 *e*P **P** **15 29 32.7 +5.2**
VIVF Saint-Julien-l 84.90 339 *e*P **P** **15 29 27.3 -0.2**
comp=Z,154nm,0.9s,mb5.9
VIVF Saint-Julien-l 84.90 339 *e*P **P** **15 29 27.3 -0.2**
VIVF pmax pmax
comp=Z,77nm,0.9s,mb5.9
VIVF Saint-Julien-l 84.90 339 *e*P **P** **15 29 27.3 -0.2**
comp=Z,77nm,0.9s,mb5.9
LCI Lecce 84.95 328 P **P** **15 29 31.1 +3.3**
IMI Imperia 84.95 337 P **P** **15 29 27.7 -0.1**
SAOF Saorge 84.97 337 *e*P **P** **15 29 27.5 -0.4**
MOIG Morelia 84.98 67 *i* P **P** **15 29 28.9 +0.9**
KLBR Kelseerrin 84.99 211 *e*P **P** **15 29 27.2 -0.8**
comp=Z,16nm,0.9s,mb5.2
KLBR *e* 15 29 40.9
TOUF Mont Tournerai 85.03 337 *e*P **P** **15 29 28.4 +0.3**
FG5 Orsara di Pugl 85.10 331 P **P** **15 29 32.2 +3.7**
LUCF Luceram 85.11 337 *e*P **P** **15 29 27.7 -0.9**
SBF Sospel 85.12 337 *e*P **P** **15 29 27.7 -0.9**
comp=Z,154nm,0.9s,mb6.0
SBF Sospel 85.12 337 *e*P **P** **15 29 27.7 -0.9**
SBF pmax pmax
comp=Z,77nm,0.9s,mb5.9
SBF Sospel 85.12 337 *e*P **P** **15 29 27.7 -0.9**
comp=Z,77nm,0.9s,mb5.9
MVIF Mont Vial 85.16 337 *e*P **P** **15 29 25.4 -3.4**
RJF Les Rejaudoux 85.20 341 *e*P **P** **15 29 28.0 -1.0**
comp=Z,231nm,1.0s,mb6.0
RJF *e*R
comp=Z,773nm,18.2s
RJF Les Rejaudoux 85.20 341 *e*P **P** **15 29 28.0 -1.0**
RJF pmax pmax
comp=Z,115nm,1.0s,mb6.1
RJF MLR MLR
comp=Z,770nm,18.3s,MS5.1
RJF Les Rejaudoux 85.20 341 *e*P **P** **15 29 28.0 -1.0**
comp=Z,115nm,1.0s,mb6.1
RJF LR LR
comp=Z,770nm,18.3s,MS5.1
REVF Revere 85.25 337 *e*P **P** **15 29 29.3 0.0**
CAF Calviac 85.44 341 *e*P **P** **15 29 29.3 -0.9**
comp=Z,211nm,0.9s,mb6.1
CAF Calviac 85.44 341 *e*P **P** **15 29 29.3 -0.9**
comp=Z,105nm,0.9s,mb6.1
SMRF Simiane la Rot 85.50 338 *e*P **P** **15 29 30.2 -0.3**
RFI Roccamonfina 85.51 331 P **P** **15 29 31.7 +1.1**
CNNC Cliffs of the 85.52 41 *e*P **P** **15 29 30.6 0.0**
comp=Z,24nm,0.8s,mb5.4
CSSN Cassano Irpino 85.56 331 P **P** **15 29 30.9 +0.1**
FRF La Foret Royal 85.61 337 *e*P **P** **15 29 30.0 -1.0**
comp=Z,37nm,0.8s,mb5.3
FRF La Foret Royal 85.61 337 *e*P **P** **15 29 30.0 -1.0**
FRF pmax pmax
comp=Z,18nm,0.8s,mb5.2
FRF La Foret Royal 85.61 337 *e*P **P** **15 29 30.0 -1.0**
comp=Z,18nm,0.8s,mb5.3
LFF La Frestale 85.72 342 *e*P **P** **15 29 30.5 -1.1**
comp=Z,232nm,0.9s,mb6.0
LFF La Frestale 85.72 342 *e*P **P** **15 29 30.5 -1.1**
LFF pmax pmax
comp=Z,116nm,0.9s,mb6.0
LFF La Frestale 85.72 342 *e*P **P** **15 29 30.5 -1.1**
comp=Z,116nm,0.9s,mb6.0
SGO Sicignano 85.73 330 P **P** **15 29 31.7 0.0**
LASF Ste Croix 85.83 339 *e*P **P** **15 29 31.5 -0.6**
comp=Z,148nm,1.0s,mb5.8
LMR La Mourre 85.86 337 *e*P **P** **15 29 31.8 -0.5**
comp=Z,152nm,1.0s,mb5.8
LMR La Mourre 85.86 337 *e*P **P** **15 29 31.8 -0.5**
LMR pmax pmax
comp=Z,76nm,1.0s,mb5.8
LMR La Mourre 85.86 337 *e*P **P** **15 29 31.8 -0.5**
comp=Z,76nm,1.0s,mb5.8
PGF Pioggiola 85.90 335 *e*P **P** **15 29 31.4 -1.1**
comp=Z,114nm,1.1s,mb5.6
PGF Pioggiola 85.90 335 *e*P **P** **15 29 31.4 -1.1**
PGF pmax pmax
comp=Z,57nm,1.1s,mb5.6
PGF Pioggiola 85.90 335 *e*P **P** **15 29 31.4 -1.1**
comp=Z,57nm,1.1s,mb5.6
VLS Valsamata 85.91 326 *e*P **P** **15 29 31.5 -1.0**
TBI Tubuai 86.11 130 *e*LR LR 15 56 28.7
comp=Z,1μm,31.5s,baz=321
TDS Terranova Siba 86.18 329 P **P** **15 29 31.7 -2.2**
ZKR Zakros 86.20 320 *e*P **P** **15 29 32.3 -1.7**
VLI Veliai 86.23 323 *e*P **P** **15 29 25.0 -9.1**
NHSC New Hope 86.23 44 *e*P **P** **15 29 34.3 +0.1**
comp=Z,148nm,1.3s,mb6.0
NWAO Narrogin (SRO) 86.39 211 P **P** **15 29 34.4 -0.5**
NWAO pmax pmax
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 86.39 211 *e*P **P** **15 29 34.2 -0.7**
comp=Z,20nm,0.9s,mb5.2
TIP Timpagrande 86.46 329 *e*P **P** **15 29 34.4 -0.8**
EIL Elat 86.47 311 *e*P **P** **15 29 33.9 -1.4**
comp=Z,1μm,0.8s
XRY Khrisi 86.63 320 *e*P **P** **15 29 36.5 +0.4**
VAM Vamos 86.82 322 *e*P **P** **15 29 40.5 +3.5**
SIVA Sivas 86.89 321 *e*P **P** **15 29 34.2 -3.1**
MTLF Montolieu 86.91 340 *e*P **P** **15 29 36.2 -1.3**
comp=Z,51nm,0.8s,mb5.5
MTLF Montolieu 86.91 340 *e*P **P** **15 29 36.2 -1.3**
MTLF pmax pmax
comp=Z,25nm,0.8s,mb5.5
MTLF Montolieu 86.91 340 *e*P **P** **15 29 36.2 -1.3**
comp=Z,25nm,0.8s,mb5.5
KARN Karanos 86.95 322 *e*P **P** **15 29 35.1 -2.5**
MLS Moulis 87.53 341 *e*P **P** **15 29 45.4 +4.9**
SJAF Saint Jean de 87.56 340 *e*P **P** **15 29 45.8 +5.2**
EJON La Jonquera 87.60 340 P **P** **15 29 49.2 +8.5**
comp=Z,35nm,1.1s,mb5.6

EPF Esparros 87.62 342 *e*P **P** **15 29 38.8 -2.1**
comp=Z,29nm,0.6s,mb5.5
EPF Esparros 87.62 342 *e*P **P** **15 29 38.8 -2.1**
EPF pmax pmax
comp=Z,15nm,0.6s,mb5.5
EPF Esparros 87.62 342 *e*P **P** **15 29 38.8 -2.1**
comp=Z,15nm,0.6s,mb5.5
EALK Alkurruntz 87.83 343 P **P** **15 29 48.1 +6.2**
comp=Z,17nm,0.6s,mb5.6
RESF Ens 87.84 341 *e*P **P** **15 29 50.1 +8.2**
SJPF Ste Jean 87.88 343 *e*P **P** **15 29 40.3 -1.8**
comp=Z,15nm,0.8s,mb5.1
SJPF Ste Jean 87.88 343 *e*P **P** **15 29 40.3 -1.8**
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
SJPF Ste Jean 87.88 343 *e*P **P** **15 29 40.3 -1.8**
comp=Z,7.5nm,0.8s,mb5.1
ELIZ Elizondo 87.89 343 P **P** **15 29 48.8 +6.6**
comp=Z,9.3nm,0.8s,mb5.2
ETSF Etsaut 87.94 342 *e*P **P** **15 29 41.3 -1.1**
comp=Z,42nm,0.6s,mb5.7
ETSF Etsaut 87.94 342 *e*P **P** **15 29 41.3 -1.1**
ETSF pmax pmax
comp=Z,21nm,0.6s,mb5.6
ETSF Etsaut 87.94 342 *e*P **P** **15 29 41.3 -1.1**
comp=Z,21nm,0.6s,mb5.6
EBIE Bielsa 88.00 342 P **P** **15 29 50.2 +7.6**
comp=Z,16nm,0.7s,mb5.5
ELAN Lanestosa 88.19 344 P **P** **15 29 49.1 +5.5**
comp=Z,20nm,0.9s,mb5.5
EMIR Miracle 88.42 340 P **P** **15 29 50.2 +5.5**
comp=Z,25nm,0.9s,mb5.5
EARI Arriondas 88.44 346 P **P** **15 29 50.5 +5.7**
comp=Z,12nm,0.9s,mb5.2
VSL Villasalto 88.60 334 P **P** **15 29 48.3 +2.7**
comp=Z,55nm,1.0s,mb5.7
EPON Pontenova 88.73 347 P **P** **15 29 44.8 -1.3**
comp=Z,21nm,0.7s,mb5.5
ESAC San Caprasio 89.05 342 P **P** **15 29 56.0 +8.4**
comp=Z,16nm,0.5s,mb5.5
EPOB Poblet 89.06 341 P **P** **15 29 53.7 +6.0**
comp=Z,15nm,0.9s,mb5.2
ERTA Horta de San J 89.61 341 P **P** **15 29 57.0 +6.7**
comp=Z,51nm,3.1s
ETOS Mallorca 90.15 339 P **P** **15 30 00.8 +7.9**
comp=Z,24nm,0.7s,mb5.5
PBRG Braganca 90.15 346 *e*P **P** **15 29 51.9 -0.9**
PBRG *es*P sP 15 29 59.5 +6.2
ETOR Torete 90.25 343 P **P** **15 29 59.5 +6.3**
comp=Z,9.6nm,0.6s,mb5.2
EMOS Mosqueruela 90.35 341 P **P** **15 30 01.7 +8.0**
comp=Z,787nm,4.8s
PVRL Vila Real 90.83 347 *e*P **P** **15 29 55.1 -0.9**
PVRL *es*P sP 15 30 02.9 +6.5
PVRL *i* P 15 30 13.9
GUD Guadarrama 90.83 344 P **P** **15 30 00.6 +4.6**
comp=Z,5.7nm,1.3s,mb4.7
CMIG Matias Romero 90.85 64 P **P** **15 29 55.1 -1.0**
comp=Z,25nm,1.0s,mb5.5,baz=296,slow=2.0,SNR=14
PVIS Viseu 91.40 347 *e*P **P** **15 29 57.9 -0.7**
PVIS *es*P sP 15 30 05.5 +6.4
PVIS *i* P 15 30 16.3
ESDC Sonseca Array 91.73 344 P **P** **15 29 59.0 -1.2**
comp=Z,0.3nm,0.3s,baz=17,slow=5.9,SNR=9.8
ESDC LR LR 16 19 59.5
comp=Z,414nm,18.3s,baz=30,slow=41
ESDC Sonseca Array 91.73 344 P **P** **15 29 57.0 -3.1**
comp=Z,1.0nm,0.6s
ESLA Sonseca Array 91.73 344 *e*P **P** **15 29 58.5 -1.6**
comp=Z,2.8nm,0.9s,mb4.6
PAB San Pablo 91.93 344 P **P** **15 29 59.7 -1.4**
PAB pmax pmax
comp=Z,12nm,0.9s,mb5.2
PAB San Pablo 91.93 344 *e*P **P** **15 29 59.5 -1.6**
comp=Z,12nm,0.9s,mb5.2
KEST Kesra 92.07 333 P **P** **15 30 01.9 +0.2**
comp=Z,1.8nm,0.6s,mb4.6,baz=172,slow=2.3,SNR=8.6
KEST LR LR 16 16 34.0
comp=Z,258nm,19.1s,MS4.7,baz=169,slow=39
PCBR Castelo Branco 92.19 346 *e*P **P** **15 30 01.0 -1.3**
PCBR *es*P sP 15 30 08.8 +6.1
PCBR *i* P 15 30 19.9
ETOB Tobarra 92.23 342 P **P** **15 30 08.1 +5.6**
comp=Z,998nm,6.3s
EVIA Vianos 92.44 342 P **P** **15 30 09.0 +5.5**
comp=Z,6.8nm,0.7s,mb5.1
PESTR Estremoz 93.16 346 *e*P **P** **15 30 05.6 -1.2**
PESTR *es*P sP 15 30 13.3 +6.1
PESTR *i* P 15 30 24.2
EADA Adamuz 93.31 344 P **P** **15 30 12.8 +5.3**
comp=Z,42nm,0.7s,mb5.0
EQES Quesada 93.36 343 P **P** **15 30 13.8 +6.1**
comp=Z,4.7nm,0.7s,mb5.0
EVO Evora 93.55 347 *e*P **P** **15 30 07.6 -1.0**
comp=Z,141nm,1.9s,mb5.7
EVO *e*R
comp=Z,809nm,18.8s
PBEJ Beja 94.03 346 *es*P sP 15 30 18.0 +6.8
PBEJ *i* P 15 30 28.7
RKT Rikitea 94.05 120 *e*PS PS 15 42 32.0 -4.6
comp=Z,248nm,27.8s
RKT Rikitea 94.05 120 *e*SS SS 15 47 37.5 -4.6
comp=Z,238nm,26.0s
RKT *e*LR LR 15 59 59.6
comp=Z,947nm,33.5s,baz=326
EMIN Mina Concepcio 94.08 345 P **P** **15 30 17.7 +6.7**
comp=Z,8.0nm,0.8s,mb5.1
ELOJ Sierra Loja 94.21 343 P **P** **15 30 17.1 +5.5**
comp=Z,3.1nm,0.8s,mb4.7
ERON Agron 94.27 343 P **P** **15 30 17.1 +5.2**
comp=Z,2.4nm,0.4s,mb4.9
EGRO El Granado 94.44 346 P **P** **15 30 18.1 +5.5**
comp=Z,4.4nm,0.6s,mb5.0
ESPR Espera 94.81 345 P **P** **15 30 18.7 +4.4**
comp=Z,12nm,1.0s,mb5.3
EMIJ Mijas 94.90 344 P **P** **15 30 22.1 +7.4**
comp=Z,7.9nm,0.8s,mb5.2
EJIF Jimena Fronter 95.14 344 P **P** **15 30 19.8 +3.9**
comp=Z,62nm,1.6s,mb5.8
TORD Torodi Ar. Bea 115.53 331 PKP PKPdf 15 35 33.5 -1.2
comp=Z,1.2nm,0.5s,baz=31,slow=1.4,SNR=9.8
TORD PP PP 15 36 25.4 -11
comp=Z,4.7nm,1.0s,baz=7.0,slow=6.2,SNR=8.1
VNDA Vanda 124.24 178 PKP PKPdf 15 35 50.0 -1.4
comp=Z,1.2nm,0.8s,baz=306,slow=4.3,SNR=3.3
MAW Mawson 132.95 212 *e*P PKPdf 15 36 07.1 -0.9
comp=Z,4.6nm,1.4s
MAW *e* 15 36 21.0
MAW Mawson 132.95 212 PKP PKPdf 15 36 05.6 -2.4
comp=Z,2.9nm,0.6s,baz=73,slow=2.5,SNR=10
MAW Mawson 132.95 212 PKIKP PKPdf 15 36 05.6 -2.4
MAW pmax pmax
comp=Z,3.0nm,0.6s
LPAZ La Paz 133.22 64 PKP PKPdf 15 36 08.8 +0.3
comp=Z,8.0nm,1.2s,baz=3.7,slow=5.5,SNR=17
LPAZ La Paz 133.22 64 PKIKP PKPdf 15 36 08.8 +0.3
LPAZ pmax pmax
comp=Z,8.0nm,1.2s
LPAZ La Paz 133.22 64 *e*P PKPdf 15 36 09.3 +0.8
LPAZ LR LR
comp=Z,178nm,19.0s,MS4.8
QSPA South Pole Qui 136.65 180 P PKPdf 15 36 11.5 -3.4
BOSA Boshof 136.94 277 PKP PKPdf 15 36 12.2 -3.2
comp=Z,2.9nm,0.7s,baz=123,slow=5.7,SNR=3.1
SYO Syowa Base 141.67 212 *e*PKPdf PKPdf 15 36 24.2 +0.2
CFAA Coronel Fontan 143.81 81 PKP PKPdf 15 36 24.0 -3.8
comp=Z,2.9nm,1.0s,baz=294,slow=2.8,SNR=28
CFAA Coronel Fontan 143.81 81 PKP PKPdf 15 36 24.0 -3.8
CAM3 Guarapari 151.04 31 (P) PKPbc 15 36 45.0 -0.6
CAM3 *i* 15 36 52.8
TRQA Tornquist 151.68 85 *e*PKPbc PKPbc 15 36 45.4 -1.7
CAM4 Nova Friburgo 151.76 36 (P) PKPbc 15 36 45.2 -2.1
CAM4 *i* 15 36 55.9
CAM4 *i* 15 37 19.2
USHA Ushuaia 151.97 122 PKPbc PKPbc 15 36 45.5 -2.2
comp=Z,27nm,0.9s,baz=172,slow=3.2,SNR=4.9
SNAA Sanae 153.03 195 PKPbc PKPbc 15 36 47.1 -3.0
comp=Z,2.6nm,0.7s,baz=175,slow=2.2,SNR=38
SNAA Sanae 153.03 195 PKIKP PKPbc 15 36 47.1 -3.0
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 153.03 195 *e*PKPbc PKPbc 15 36 46.9 -3.2
VNA2 Neumayer--Watz 154.45 193 *e*PKPdf PKPdf 15 36 41.9 -2.9
VNA2 *e* 15 36 50.1
VNA2 *e* 15 37 04.2
VNA2 *e* 15 37 18.8

VNA2					*e*			15 37 27.7		
VNA3	**Neumayer Olymp**	**154.50**	**192**	*e*	PKPdf	PKPdf		15 36 41.3	-3.6	
VNA3					*e*			15 36 49.9		
VNA3					*e*			15 37 04.3		
VNA3					*e*			15 37 18.4		
VNA3					*e*			15 37 27.1		
VNA1	**Neumayer--Stat**	**154.83**	**193**	*e*	PKPdf	PKPdf		15 36 43.0	-2.3	
VNA1					*e*			15 36 52.5		
VNA1					*e*			15 37 06.9		
VNA1					*e*			15 37 21.0		
VNA1					*e*			15 37 31.9		

GUC 19 15:22:29.9±0.7, 3109S×7169W, h23km±2km, MD4.0, ML4.0, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.60**	**98**	⇑	*i*	P	Pb	15 22 41.5	-0.2
CMCH					*i*	S	Sb	15 22 50.3	+0.6
CMCH						AML	AML	15 22 52.5	
	comp=E,9μm,0.6s								
OVCH	**Ovalle**	**0.64**	**41**	⇓	*i*	P	Pb	15 22 42.2	-0.2
OVCH					*i*	S	Sb	15 22 51.0	+0.1
CHNG	**Los Chungos**	**0.81**	**168**	*i*		P	Pb	15 22 44.7	-0.6
CHNG					*i*	S	Sb	15 22 55.4	-0.4
CHNG						AML	AML	15 22 57.4	
	comp=N,5μm,0.3s								
TLL	**Tololo Astrono**	**1.20**	**40**	⇓	*i*	P	Pn	15 22 51.2	+0.1
TLL					*i*	S	Sn	15 23 07.3	+0.6
LSCH	**La Serena**	**1.24**	**18**	⇑	*i*	P	Pn	15 22 51.6	-0.2
LSCH					*i*	S	Sn	15 23 07.6	-0.1
PTCH	**Petorca**	**1.34**	**151**	⇓	*i*	P	Pn	15 22 53.3	+0.1
PTCH					*i*	S	Sn	15 23 10.3	0.0
PTCH						AML	AML	15 23 13.3	
	comp=N,8μm,0.2s								
PACH	**Papudo**	**1.46**	**172**	⇑	*i*	P	Pn	15 22 54.9	+0.1
PACH					*i*	S	Sn	15 23 14.1	+0.9
IHA	**Instituto Hidr**	**1.93**	**179**	*e*		P	Pn	15 23 02.2	+0.9
IHA					*i*	S	Sn	15 23 27.2	+2.3
PEL	**Peldehue**	**2.22**	**158**	⇓	*i*	P	Pn	15 23 06.5	+1.3
PEL					*i*	S	Sn	15 23 34.8	+2.9
PEL						AML	AML	15 23 42.8	
	comp=E,2μm,0.6s								
CLCH	**Cerro Calan**	**2.50**	**157**	⇑	*i*	P	Pn	15 23 10.7	+1.6
CLCH					*i*	S	Sn	15 23 41.7	+2.8
CLCH						AML	AML	15 23 57.9	
	comp=E,1μm,0.7s								
RCDM	**Rinconada Maip**	**2.51**	**163**			AML	AML	15 23 50.7	
	comp=E,596nm,0.2s								
FCH	**Farellones**	**2.53**	**152**	*e*		P	Pn	15 23 10.7	+1.1
FCH					*i*	S	Sn	15 23 42.0	+2.4
FCH						AML	AML	15 23 54.8	
	comp=E,435nm,0.1s								
ANTU	**Antumapu**	**2.63**	**160**			AML	AML	15 23 56.4	
	comp=N,631nm,0.5s								
VACH	**Vallenar**	**2.63**	**18**			AML	AML	15 23 55.5	
	comp=N,1μm,0.3s								
LNV	**Longovilo**	**2.87**	**175**	*i*		P	Pn	15 23 15.4	+1.2
LNV					*i*	S	Sn	15 23 50.1	+2.1
CHCH	**Chadas Angostu**	**2.97**	**163**	*i*		P	Pn	15 23 16.5	+0.9
CHCH					*i*	S	Sn	15 23 52.3	+1.8
LMEL	**Las Melosas**	**3.02**	**156**	*i*		P	Pn	15 23 18.0	+1.7
LMEL					*i*	S	Sn	15 23 54.6	+2.7
LMEL						AML	AML	15 24 06.8	
	comp=N,461nm,0.2s								

IDC ***19*** *15:25:42.3±0.7, 3891N×7142E, h0km, mb4.3/14, mb1 4.5/18, mb1mx4.3/26, mbtmp4.4/18, ML4.4/4, MS4.5/2, Ms1 4.5/2, ms1mx3.3/32, Error ellipse: s-maj=15.3km s-min=12.2km az=45.0*

MOS ***19*** *15:25:45.8±1.1, 3904N×7135E, h33km, mb4.8/7, Error ellipse: s-maj=10.6km s-min=7.5km az=96.3*

ISCJB ***19*** *15:25:46.1±1.0, 3888N±005×7130E±006, h42km±9km, mb4.3/24, MS4.4/2, Error ellipse: s-maj=9.9km s-min=5.5km az=94.3*

NEIC ***19*** *15:25:46.0±3.1, 3902N×7132E, h22km±21km, mb4.5/7, Error ellipse: s-maj=12.4km s-min=5.9km az=197.0*

BJI ***19*** *15:25:47.1, 3930N×7136E, h45km, mB5.0, mb4.7, ML4.1, Ms4.2, Ms23.6*

ISC 19 15:25:48.1±0.8, 3888N±005×7132E±007, h44km±8km, n85, σ1§12/88, mb4.3/24, MS4.4/2, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.71**	**28**			P	**Pn**	**15 26 43.1**	**+0.2**
	SNR=253								
UCH	**Uchtor**	**4.13**	**35**			P	**Pn**	**15 26 49.6**	**+1.0**
	SNR=242								
EKS2	**Erkin-Say**	**4.21**	**25**			P	**Pn**	**15 26 50.1**	**+0.4**
	SNR=250								
KK31	**Karatay Array**	**4.26**	**352**	⇑		Pn	**Pn**	**15 26 49.9**	**-0.5**
	68nm,0.4s,baz=175,slow=13,SNR=7.0								
KK31				⇓		Sn	**Sn**	**15 27 41.4**	**+2.5**
	218nm,0.5s,baz=176,slow=22,SNR=5.7								
KK31				⇑		Lg		15 27 50.9	
	484nm,0.7s,baz=170,slow=29,SNR=3.6								
KKAR	**Karatay Array**	**4.26**	**352**			PN	**Pn**	**15 26 49.9**	**-0.5**
KKAR					*e*			15 27 41.3	
KKAR						pmax	pmax		
	comp=Z,13nm,0.2s								
KKAR						smax			
	comp=Z,34nm,0.3s								
KZA	**Kyzart**	**4.38**	**42**			P	**Pn**	**15 26 54.0**	**+2.0**
	SNR=112								
AAK	**Ala-Archa**	**4.45**	**32**			P	**Pn**	**15 26 53.9**	**+0.8**
	SNR=179								
AAK	**Ala-Archa**	**4.45**	**32**	*c*	*i*	PN	**Pn**	**15 26 52.7**	**-0.3**
AAK	**Ala-Archa**	**4.45**	**32**	*e*		P	**Pn**	**15 26 52.8**	**-0.3**
KBK	**Karagaybulak**	**4.67**	**35**			P	**Pn**	**15 26 58.4**	**+2.4**
	SNR=9.6								
FRU	**Bishkek**	**4.67**	**31**	⇑	*i*	PN	**Pn**	**15 26 57.0**	**+1.0**
FRU					*i*			15 27 07.0	
FRU					*e*	S	**Sn**	**15 27 52.0**	**+3.1**
FRU						pmax	pmax		
	comp=Z,410nm,1.8s								
FRU						smax			
	comp=N,2μm,1.9s								
CHMS	**Chumysh**	**4.86**	**31**			P	**Pn**	**15 26 59.3**	**+0.6**
	SNR=57								
USP	**Ospenovka**	**4.99**	**28**			P	**Pn**	**15 27 00.4**	**0.0**
	SNR=243								
ULHL	**Ulahol**	**5.03**	**47**			P	**Pn**	**15 27 02.4**	**+1.4**
	SNR=11								
TKM2	**Tokmak 2**	**5.17**	**37**			P	**Pn**	**15 27 04.1**	**+1.2**
	SNR=14								
MK31	**Makanchi Array**	**11.28**	**42**			P	**Pn**	**15 28 23.5**	**-3.0**
MK31						pmax	pmax		
	comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**11.28**	**42**			Pn	**Pn**	**15 28 25.0**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=222,slow=14,SNR=8.3								
WMQ	**Urumqi**	**13.25**	**63**			P	**Pn**	**15 28 52.3**	**-1.2**
WMQ						AP		15 29 02.3	
WMQ						XP		15 29 12.3	
WMQ						S	**Sn**	**15 31 15.3**	**-4.0**
WMQ						XS		15 31 31.0	
WMQ						AMB	AMB		
	comp=Z,8.0nm,0.8s								
WMQ						AMB	AMB		
	comp=Z,165nm,6.0s								
WMQ						LR	LR		
	comp=N,237nm,23.7s								
WMQ						LR	LR		
	comp=E,342nm,25.6s								
WMQ						LR	LR		
	comp=Z,122nm,22.0s								
BVAR	**Borovoye Array**	**14.16**	**358**			Pn	**Pn**	**15 29 01.4**	**-4.5**
	comp=Z,2.0nm,0.3s,baz=162,slow=10,SNR=12								
BVAR						Sn	**Sn**	**15 31 32.6**	**-9.0**
	comp=Z,1.1nm,0.3s,baz=167,slow=21,SNR=8.0								
BRVK	**Borovoye**	**14.20**	**357**	*e*		P	**Pn**	**15 29 04.4**	**-2.0**
AKTK	**Aktyubinsk**	**14.91**	**325**			Pn	**Pn**	**15 29 12.7**	**-3.2**
AKTK						Sn	**Sn**	**15 31 52.6**	**-7.1**
AKTO	**Aktyubinsk**	**14.91**	**325**			Pn	**Pn**	**15 29 12.7**	**-3.2**
	comp=Z,1.2nm,0.3s,baz=122,slow=14,SNR=9.0								
AKTO						Sn	**Sn**	**15 31 52.6**	**-7.1**
	comp=Z,3.0nm,0.3s,baz=347,slow=23,SNR=13								
KOLN	**Koldanda**	**15.09**	**134**	*e*		P	**Pn**	**15 29 18.1**	**-0.1**
GKN	**Gorkha**	**15.51**	**130**	*e*		P	**Pn**	**15 29 22.3**	**-1.4**
KKN	**Kakani**	**16.05**	**129**	*e*		P	**Pn**	**15 29 30.0**	**-0.7**
DMN	**Daman**	**16.08**	**130**	*e*		P	**Pn**	**15 29 31.1**	**+0.1**
PKI	**Pulchoki**	**16.29**	**130**	*e*		P	**Pn**	**15 29 33.8**	**+0.1**
	comp=Z,45nm,0.7s								
GUN	**Gumba**	**16.33**	**128**	*e*		P	**Pn**	**15 29 33.5**	**-0.7**
	comp=Z,70nm,0.9s								
JIRN	**Jiri**	**16.70**	**128**	*e*		P	**Pn**	**15 29 38.4**	**-0.5**
	comp=Z,45nm,0.6s								
ZAL	**Zalesovo**	**17.64**	**27**			P	**Pn**	**15 29 48.0**	**-2.6**
	comp=Z,6.9nm,0.3s,baz=246,slow=7.3,SNR=30								
LSA	**Lhasa**	**18.74**	**113**	*e*		P	**Pn**	**15 30 05.7**	**+1.8**
LSA						pmax	pmax		
	comp=Z,8.0nm,0.6s								
LSA	**Lhasa**	**18.74**	**113**	*e*		P	**Pn**	**15 30 05.7**	**+1.8**
	comp=Z,7.7nm,0.6s								
GNI	**Garni**	**20.52**	**282**			LR	LR	15 38 39.6	
	comp=Z,151nm,18.3s,MS3.4,baz=133,slow=38								
GNI	**Garni**	**20.52**	**282**	*e*		P	**P**	**15 30 28.0**	**+5.4**
KIV	**Kislovodsk**	**22.01**	**293**	*e*		P	**P**	**15 30 46.1**	**+7.6**
KIV						pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7								
KIV	**Kislovodsk**	**22.01**	**293**	*e*		P	**P**	**15 30 42.5**	**+4.0**
	comp=Z,42nm,1.0s,mb4.8								
GTA	**Gaotai**	**22.07**	**80**	*e*		P	**P**	**15 30 37.1**	**-2.1**
SONM	**Songino Array**	**26.83**	**59**			P	**P**	**15 31 23.1**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.0,baz=267,slow=8.3,SNR=7.7								
ULN	**Ulaanbaatar**	**27.27**	**59**	*e*		P	**P**	**15 31 28.2**	**0.0**
ULN						pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0								
ULN	**Ulaanbaatar**	**27.27**	**59**	*e*		P	**P**	**15 31 28.2**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.0								
BRTR	**Keskin Array B**	**29.04**	**284**			P	**P**	**15 31 42.4**	**-1.5**
	comp=Z,1.9nm,0.9s,mb3.8,baz=48,slow=8.9,SNR=3.0								
KMI	**Kunming**	**29.80**	**108**			P	**P**	**15 31 52.0**	**+1.3**
KMI						AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5								
KMI	**Kunming**	**29.80**	**108**			P	**P**	**15 31 52.0**	**+1.3**
	comp=Z,6.0nm,0.6s,mb4.5								
AKASG	**Malin Array Be**	**31.71**	**306**			P	**P**	**15 32 07.8**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=81,slow=7.4,SNR=3.4								
BOD	**Bodaibo**	**33.37**	**41**	⇑	*i*	P	**P**	**15 32 21.3**	**-0.7**
BOD						pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1								
FIA1	**FINESS Array S**	**35.68**	**324**	*e*		P	**P**	**15 32 42.1**	**+0.1**
FINES	**FINESS Array B**	**35.68**	**324**			P	**P**	**15 32 41.5**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=119,slow=9.0,SNR=6.5								
ARCES	**ARCESS Array B**	**39.05**	**336**			P	**P**	**15 33 10.1**	**-0.6**
	comp=Z,3.6nm,0.7s,mb4.2,baz=113,slow=8.2,SNR=21								
GERES	**GERESS Array B**	**41.80**	**303**			P	**P**	**15 33 33.7**	**+0.4**
	comp=Z,0.8nm,0.7s,mb3.5,baz=82,slow=7.6,SNR=4.1								
NOA	**NORSAR Array B**	**42.66**	**321**			P	**P**	**15 33 39.5**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.0,baz=93,slow=8.0,SNR=3.6								
HINF	**Hinteralfeld**	**46.48**	**303**	*e*		P	**P**	**15 34 10.4**	**-0.4**
LPG	**La Plagne**	**47.15**	**300**	*e*		P	**P**	**15 34 16.7**	**+0.7**
LPL	**La Plagne**	**47.16**	**300**	*e*		P	**P**	**15 34 16.6**	**+0.6**
	comp=Z,4.8nm,0.6s,mb4.3								
LPL	**La Plagne**	**47.16**	**300**	*e*		P	**P**	**15 34 16.6**	**+0.6**
LPL						pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2								
LPL	**La Plagne**	**47.16**	**300**	*e*		P	**P**	**15 34 16.6**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.3								
CABF	**La Chapelle**	**47.29**	**302**	*e*		P	**P**	**15 34 18.4**	**+1.3**
SMF	**Signal de Mont**	**48.77**	**302**	*e*		P	**P**	**15 34 28.6**	**+0.1**
SSF	**Saint Saulge**	**48.88**	**303**	*e*		P	**P**	**15 34 31.4**	**+2.1**
AVF	**Avril sur Loir**	**49.05**	**303**	*e*		P	**P**	**15 34 30.7**	**0.0**
	comp=Z,7.6nm,0.7s,mb4.5								
AVF	**Avril sur Loir**	**49.05**	**303**	*e*		P	**P**	**15 34 30.7**	**0.0**
AVF						pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6								
AVF	**Avril sur Loir**	**49.05**	**303**	*e*		P	**P**	**15 34 30.7**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.5								
TCF	**Toulx Ste Croi**	**49.95**	**302**	*e*		P	**P**	**15 34 37.7**	**+0.1**
MJAR	**Matsuno Arr**	**51.88**	**70**			P	**P**	**15 34 51.2**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=282,slow=9.0,SNR=4.2								
SGMF	**Saint Gilles**	**52.42**	**306**	*e*		P	**P**	**15 34 56.1**	**+0.1**
ROSF	**Rostrenen**	**52.84**	**306**	*e*		P	**P**	**15 34 59.1**	**-0.1**
QUIF	**Quistinic**	**52.92**	**306**	*e*		P	**P**	**15 34 59.5**	**-0.2**
JHJ	**Hachijo jima 2**	**54.52**	**73**			LR	LR	15 59 19.1	
	comp=Z,3μm,21.5s,MS5.3,baz=355,slow=37								
BILL	**Bilibino**	**56.36**	**27**	*e*		P	**P**	**15 35 23.3**	**-1.4**
BILL						pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5								
ESDC	**Sonseca Array**	**56.60**	**297**			P	**P**	**15 35 26.5**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=58,slow=7.0,SNR=8.6								
TOA0	**Torodi Ar. Sit**	**66.05**	**268**	*e*		P	**P**	**15 36 23.5**	**-6.8**
TORD	**Torodi Ar. Bea**	**66.05**	**268**			P	**P**	**15 36 31.1**	**+0.9**
	comp=Z,5.9nm,0.8s,mb4.7,baz=35,slow=5.2,SNR=11								
IMA2	**Indian Mountai**	**69.78**	**18**	*e*		P	**P**	**15 36 52.8**	**-0.9**
INK	**Inuvik**	**71.52**	**9**	*e*		P	**P**	**15 37 04.3**	**+0.1**
	comp=Z,6.7nm,0.6s,mb4.8,baz=2.0,slow=7.2,SNR=63								
INK	**Inuvik**	**71.52**	**9**	*e*		P	**P**	**15 37 03.8**	**-0.4**
	comp=Z,236nm,0.6s								
COLA	**College**	**72.12**	**16**	*e*		P	**P**	**15 37 08.1**	**+0.2**
COLA						pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6								
COLA	**College**	**72.12**	**16**	*e*		P	**P**	**15 37 08.1**	**+0.2**
	comp=Z,6.1nm,0.8s,mb4.6								
FITZ	**Fitzroy Crossi**	**76.12**	**127**			P	**P**	**15 37 32.6**	**+1.4**
	comp=Z,2.7nm,0.9s,mb4.2,baz=321,slow=1.2,SNR=4.0								
KDAK	**Kodiak Island**	**76.90**	**22**			P	**P**	**15 37 35.9**	**+0.2**
	comp=Z,28nm,1.1s,mb5.1,baz=156,slow=23,SNR=4.5								
YKA	**Yellowknife Ar**	**78.86**	**3**			P	**P**	**15 37 46.2**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.2,baz=350,slow=5.4,SNR=12								
YKA	**Yellowknife Ar**	**78.86**	**3**			P	**P**	**15 37 46.2**	**-0.3**
WRA	**Warramunga Arr**	**83.04**	**122**			P	**P**	**15 38 09.8**	**+1.0**
	comp=Z,2.8nm,0.7s,mb4.4,baz=323,slow=5.0,SNR=36								
WB2	**Warramunga Ar**	**83.05**	**122**	*e*		P	**P**	**15 38 09.8**	**+1.0**
ASAR	**Alice Springs**	**85.41**	**125**			P	**P**	**15 38 22.0**	**+1.2**
	comp=Z,1.4nm,0.7s,mb4.2,baz=314,slow=5.1,SNR=22								
CHMT	**Chamberlain Mo**	**94.49**	**3**	*e*		P	**P**	**15 39 03.8**	**+0.2**
CFAA	**Coronel Fontan**	**146.40**	**270**			PKPbc	PKPbc	15 45 27.1	+3.0
	comp=Z,0.1nm,0.5s,baz=148,slow=4.9,SNR=3.5								

CSEM ***19*** *15:38:02.9±0.6, 3872N×2878W, h5km±15km, ML1.6, Error ellipse: s-maj=9.5km s-min=6.4km az=30.0, After PDA*

PDA ***19*** *15:38:02.9±0.6, 3872N×2878W, h5km±15km, MD3.0, ML1.6, Error ellipse: s-maj=9.5km s-min=6.4km az=30.0*

SVSA 19 15:38:02.9±0.6, 3872N×2878W, h5km±15km, MD3.0, ML1.6, Error ellipse: s-maj=9.5km s-min=6.4km az=30.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.11**	**148**	*e*		P	Pg	15 38 05.0	-0.2
PCED					*e*	S	Sg	15 38 06.9	+0.1
PCED									
	120nm,0.3s								
PCED	**Cedros**	**0.11**	**148**	*e*		P	Pg	15 38 05.0	-0.2
PCED					*e*	S	Sg	15 38 06.9	+0.1
CALA	**Caldeira**	**0.15**	**157**	*i*		P	Pg	15 38 05.9	-0.1
CALA					*e*	S	Sg	15 38 08.2	+0.2
CALA	**Caldeira**	**0.15**	**157**	*e*		S	Sg	15 38 08.2	+0.2
PICO	**Pico**	**0.35**	**129**	*e*		P	Pg	15 38 09.6	-0.1
PICO					*e*	S	Sg	15 38 14.1	-0.3
ROSA	**Rosais**	**0.42**	**90**	*e*		P	Pg	15 38 10.2	-0.8
PID	**Ribeirinha**	**0.59**	**118**	*e*		P	Pg	15 38 06.4	-7.8

IDC ***19*** *15:39:59.5±0.5, 4698N×15557E, h0km, mb4.4/23, mb1 4.6/25, mb1mx4.6/27, mbtmp4.4/25, ML4.1/2, MS3.6/3, Ms1 3.6/3, ms1mx3.4/26, Error ellipse: s-maj=16.2km s-min=12.4km az=148.0*

BJI ***19*** *15:40:00.5, 4731N×15544E, h6km, mB5.2, mb4.6, Ms4.7, Msz4.4*

ISCJB ***19*** *15:40:00.8±0.2, 4697N±005×15566E±003, h18km, mb4.6/71, MS4.3/8, Error ellipse: s-maj=7.6km s-min=2.9km az=160.9*

SKHL ***19*** *15:40:00.8±1.5, 4720N×15550E, h47km±19km, mb4.8/5*

NEIC ***19*** *15:40:01.2±0.2, 4697N×15557E, h10km, mb4.8/29, Error ellipse: s-maj=8.1km s-min=4.9km az=146.0*

MOS ***19*** *15:40:04.1±1.3, 4693N×15546E, h43km, mb4.9/28, Error ellipse: s-maj=9.2km s-min=7.5km az=94.4*

SZGRF ***19*** *15:40:09.1, 4734N×15525E, h33km, mb4.7, East of Kuril Islands, Russia*

ISC 19 15:40:03.0±0.2, 4704N±005×15560E±003, h20km, h20km±3.2km: pP-P, n300, σ0§92/309, mb4.6/71, MS4.3/8, 69C-72D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.67**	**5**	*e*		P	**Pn**	**15 40 54.5**	**-4.1**
SKR						AMB	AMB	15 40 57.7	
	60nm,0.5s								
SKR						AMB	AMB	15 40 57.7	
	90nm,0.5s								
SKR					*e*	S	**Sn**	**15 41 35.5**	**-5.8**
SKR						A		15 41 37.5	
	620nm,0.4s								
SKR						A		15 41 37.5	
	830nm,0.5s								
SKR						A		15 41 37.5	
	150nm,0.5s								
KUR	**Kuril'sk**	**5.67**	**254**	⇓	*i*	P	**Pn**	**15 41 23.0**	**-3.2**
KUR						AMB	AMB	15 41 24.8	
	76nm,0.6s								
KUR						AMB	AMB	15 41 24.8	
	243nm,0.6s								
KUR					*i*	S	**Sn**	**15 42 25.0**	**-5.7**
KUR						A		15 42 26.5	
	464nm,0.7s								
KUR						A		15 42 26.5	
	361nm,0.7s								
KUR	**Kuril'sk**	**5.67**	**254**	⇓	*i*	PN	**Pn**	**15 41 23.0**	**-3.2**
KUR						pmax	pmax		
	comp=N,80nm,0.6s								
KUR						pmax	pmax		
	comp=E,80nm,0.6s								
KUR						pmax	pmax		
	comp=Z,240nm,0.6s								
PET	**Petropavlovsk**	**6.31**	**17**	⇓	*i*	PN	**Pn**	**15 41 32.2**	**-2.7**
PET						pmax	pmax		
	comp=Z,67nm,0.3s								
PET	**Petropavlovsk**	**6.31**	**17**	*e*		Pn	**Pn**	**15 41 31.7**	**-3.2**
	comp=Z,54nm,0.4s								
PET					*e*	Sn	**Sn**	**15 42 36.5**	**-10**
YUK	**Yuzh-Kuril'sk**	**7.47**	**250**	*e*		P	**Pn**	**15 41 50.0**	**-0.9**
YUK						AMB	AMB	15 41 51.0	
	comp=Z,120nm,0.5s								
YUK					*i*	S	**Sn**	**15 43 12.6**	**-2.4**
YUK						A		15 43 28.5	
	comp=Z,2μm,1.0s								
YUK						A		15 43 28.5	
	comp=Z,2μm,2.0s								
YSS	**Yuzh-Sakhalins**	**8.79**	**274**	*e*		P	**Pn**	**15 42 11.0**	**+2.1**
YSS						AMB	AMB	15 42 12.3	
	comp=Z,20nm,0.7s								
YSS					*e*	S	**Sn**	**15 43 47.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.79**	**274**	*e*		PN	**Pn**	**15 42 11.0**	**+2.1**
YSS						pmax	pmax		
	comp=Z,20nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.79**	**274**	*e*		Pn	**Pn**	**15 42 11.2**	**+2.3**
	comp=Z,26nm,0.6s								
TYV	**Tymovskoe**	**9.34**	**299**	*e*		P	**Pn**	**15 42 17.0**	**+0.5**
TYV						AMB	AMB	15 42 19.2	
	comp=Z,11nm,0.8s								
TYV						AMB	AMB	15 42 19.2	
	comp=Z,19nm,0.8s								
ASAJ	**Asahikawa**	**9.58**	**257**			Pn	**Pn**	**15 42 19.9**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=97,slow=10,SNR=19								
ASAJ						LR	LR	15 45 56.0	
	comp=Z,161nm,20.5s,baz=149,slow=37								
ERM	**Erimo**	**10.20**	**245**	*e*		PN	**Pn**	**15 42 26.7**	**-1.6**
ERM						pmax	pmax		
	comp=Z,36nm,0.5s								
ERM	**Erimo**	**10.20**	**245**	*e*		Pn	**Pn**	**15 42 26.7**	**-1.7**
	comp=Z,36nm,0.5s								
KLR	**Kul'dur**	**16.06**	**287**	*e*		P	**Pn**	**15 43 48.2**	**+0.5**
MAJO	**Matsushiro**	**16.64**	**237**	*e*		P	**Pn**	**15 43 51.9**	**-3.2**
MAJO						pmax	pmax		
	comp=Z,22nm,0.8s								
MAJO	**Matsushiro**	**16.64**	**237**	*e*		Pn	**Pn**	**15 43 51.9**	**-3.2**
	comp=Z,22nm,0.8s								
MJAR	**Matsushiro Arr**	**16.64**	**237**			Pn	**Pn**	**15 43 51.9**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=18								
MAT	**Matsushiro**	**16.64**	**237**			P	**Pn**	**15 43 52.0**	**-3.1**
ZEA	**Zeya**	**19.20**	**301**	*e*		P	**Pn**	**15 44 20.8**	**-5.7**
ZEA						AMB	AMB	15 44 25.8	
	comp=Z,15nm,0.8s								
YAK	**Yakutsk**	**21.04**	**325**	*e*		P	**P**	**15 44 44.4**	**-1.2**
YAK				*e*		*PP		15 45 03.3	
YAK				*e*		S	**S**	**15 48 31.3**	**-7.6**
YAK				*e*				15 48 48.4	
YAK				*e*		*SS	sS	15 49 03.3	+15
YAK						pmax	pmax		
	comp=Z,22nm,1.0s,mb4.4								
YAK						pmax	pmax		
	comp=N,9.0nm,1.5s								
YAK						pmax	pmax		
	comp=E,20nm,1.3s								
YAK						smax			
	comp=E,44nm,1.5s								
YAK						smax			
	comp=N,27nm,1.0s								
YAK	**Yakutsk**	**21.04**	**325**	*e*		P	**P**	**15 44 43.1**	**-2.5**
	comp=N,24nm,0.6s,mb4.7		

EGAK Eagle 37.71 39 *e*P P 15 47 16.8 -0.5
comp=Z,27nm,0.8s,mb5.0
DAWY Dawson 38.53 40 *e*P P 15 47 23.6 -0.6
LZH Lanzhou 39.58 273 *e*P P 15 47 35.3 +2.4
LZH AP pP 15 47 44.3 +5.3
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,219nm,4.3s
LZH Lanzhou 39.58 273 *e*P P 15 47 35.3 +2.4
comp=Z,50nm,1.2s,mb5.1
LZH pP pP 15 47 44.3 +5.3
LZH sP sP 15 47 48.0 +6.6
INK Inuvik 40.49 33 P P 15 47 41.0 +0.5
comp=Z,12nm,0.5s,mb4.9,baz=290,slow=6.8,SNR=113
INK Inuvik 40.49 33 *e*P P 15 47 40.6 +0.1
comp=Z,744nm,0.9s
GTA Gaotai 40.61 280 *e*P P 15 47 42.8 +1.4
GTA AP pP 15 47 48.8 +1.3
GTA XP sP 15 47 51.8 +1.9
GTA PP PP 15 49 20.9 +5.9
GTA PCP PcP 15 49 44.3 +1.0
GTA PPP 15 49 49.4
GTA S **S** **15 53 51.9 +1.9**
GTA XS sS 15 54 04.6 +4.6
GTA SS SS 15 56 48.4 -1.8
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,390nm,5.3s
GTA LR LR
comp=N,264nm,14.4s,MS4.5
GTA LR LR
comp=E,409nm,13.3s,MS4.5
GTA LR LR
comp=Z,277nm,11.4s,MS4.4
CD2 Chengdu 42.60 267 P P 15 47 57.9 +0.1
CD2 XP sP 15 48 03.9 -2.4
CD2 PP PP 15 49 38.4 +1.8
CD2 S **S** **15 54 18.4 -1.2**
CD2 XS sS 15 54 25.9 -3.7
CD2 SS SS 15 57 22.9 -6.9
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CD2 LR LR
comp=N,300nm,16.8s,MS4.6
CD2 LR LR
comp=E,450nm,12.0s,MS4.6
CD2 LR LR
comp=Z,390nm,16.8s,MS4.4
GYA Guiyang 43.44 259 ⇓ *i*P P 15 48 05.8 +1.2
GYA AP pP 15 48 09.8 -0.9
GYA XP sP 15 48 12.4 -0.7
GYA PP PP 15 49 49.3 +3.6
GYA PCP PcP 15 49 55.3 +2.7
GYA SCP ScP 15 53 45.3 +2.3
GYA S **S** **15 54 33.9 +2.0**
GYA SS SS 15 57 40.5 -5.8
GYA SCS ScS 15 58 04.3 +0.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,420nm,16.4s,MS4.6
GYA LR LR
comp=E,410nm,16.8s,MS4.6
GYA LR LR
comp=Z,450nm,17.0s,MS4.4
ZAL Zalesovo 43.84 306 P P 15 48 06.9 -0.9
comp=Z,3.5nm,0.6s,mb4.2,baz=41,slow=8.4,SNR=13
ZAL PcP PcP 15 49 53.0 -1.0
comp=Z,2.7nm,0.8s,baz=323,slow=3.2,SNR=8.0
DLBC Dease Lake 44.16 47 *e*P P 15 48 11.8 +1.5
NVS Novosibirsk 44.37 308 *e*P P 15 48 11.7 -0.3
NVS *e* 15 49 54.8
NVS *e*S **S** **15 54 34.9 -10**
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS smax
comp=N,15nm,2.1s
NVS smax
comp=E,16nm,2.1s
WMQ Urumqi 46.41 292 ⇑P P 15 48 28.6 +0.4
WMQ AP pP 15 48 33.1 -1.2
WMQ XP sP 15 48 35.6 -1.1
WMQ PCP PcP 15 50 03.8 +0.9
WMQ PP PP 15 50 17.8 +0.6
WMQ S **S** **15 55 15.1 +0.2**
WMQ XS sS 15 55 22.8 -2.2
WMQ AMB AMB
comp=Z,458nm,5.6s
WMQ LR LR
comp=N,197nm,16.7s,MS4.3
WMQ LR LR
comp=E,171nm,14.0s,MS4.3
WMQ LR LR
comp=Z,213nm,16.6s,MS4.2
KMI Kunming 46.97 261 P P 15 48 32.5 -0.1
KMI AP pP 15 48 36.4 -2.4
KMI XP sP 15 48 37.9 -3.3
KMI S **S** **15 55 23.4 +0.4**
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
KMI LR LR
comp=N,550nm,15.8s,MS4.8
KMI LR LR
comp=E,667nm,17.1s,MS4.8
KMI LR LR
comp=Z,859nm,15.8s,MS4.8
KMI Kunming 46.97 261 P P 15 48 32.5 -0.1
comp=Z,8.0nm,0.9s,mb4.7
KMI pP pP 15 48 36.4 -2.4
KMI sP sP 15 48 37.9 -3.3
KMI S **S** **15 55 23.4 +0.4**
KMI LR LR
comp=Z,860nm,15.8s,MS4.8
MK31 Makanchi Array 48.32 298 P P 15 48 43.0 -0.1
MK31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MKAR Makanchi Array 48.32 298 P P 15 48 42.4 -0.6
comp=Z,3.2nm,0.6s,mb4.5,baz=68,slow=7.6,SNR=25
MKAR PcP PcP 15 50 09.6 0.0
comp=Z,2.0nm,0.6s,baz=64,slow=3.2,SNR=5.0
MKAR Makanchi Array 48.32 298 P P 15 48 42.4 -0.6
MKAR PcP PcP 15 50 09.6 0.0
KURK Kurchatov 48.62 304 P P 15 48 44.3 -1.1
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.0
YKA Yellowknife Ar 49.67 38 P P 15 48 52.7 -0.7
comp=Z,5.0nm,0.6s,mb4.7,baz=293,slow=7.1,SNR=14
YKA Yellowknife Ar 49.67 38 P P 15 48 52.7 -0.7
RES Resolute Bay 50.02 19 *e*P P 15 48 56.5 +0.5
comp=Z,349nm,1.0s
LSA Lhasa 51.96 275 P P 15 49 13.1 +2.4
LSA Lhasa 51.96 275 *e*P P 15 49 12.3 +1.6
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 51.96 275 *e*P P 15 49 12.3 +1.6
comp=Z,4.5nm,0.6s,mb4.6
BVA0 Borovoye Array 51.99 310 *i*P P 15 49 10.7 -0.2
BRVK Borovoye 52.03 310 *e*P P 15 49 11.4 +0.2
BRVK pmax pmax
comp=Z,16nm,0.6s,mb5.1
BRVK Borovoye 52.03 310 *e*P P 15 49 11.4 +0.3
comp=Z,16nm,0.6s,mb5.1
CHTO Chiang Mai 53.85 259 *e*P P 15 49 25.7 +1.1
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CHTO Chiang Mai 53.85 259 *e*P P 15 49 25.7 +1.1
comp=Z,9.9nm,1.0s,mb4.7
E05A Randle 53.95 58 ⇓P P 15 49 24.0 -1.4
baz=54
B08A Colville Reser 54.35 55 ⇑P P 15 49 27.5 -0.8
baz=54
E06A Yakima 54.41 57 ⇑P P 15 49 27.7 -1.1
baz=54
A09A Danville 54.43 54 ⇑P P 15 49 28.7 -0.2
baz=54
D07A Quincy 54.63 56 ⇑P P 15 49 27.7 -2.6
baz=54
J02A Umpqua 54.64 62 ⇓P P 15 49 31.3 +0.9
baz=54
C08A Higginbotham F 54.83 55 ⇓P P 15 49 30.1 -1.7
baz=55
EDM Edmonton 54.88 47 *e*P P 15 49 31.8 -0.3
B09A Rice 54.98 54 ⇑P P 15 49 32.7 -0.2
baz=55
A10A Northport 55.00 53 ⇓P P 15 49 32.2 -0.8
baz=55
J03A Ideyld Park 55.01 62 ⇑P P 15 49 32.7 -0.4
baz=55
E07A Sunnyside 55.05 57 ⇓P P 15 49 33.2 -0.1
baz=55
AAK Ala-Archa 55.23 297 *e*P P 15 49 34.6 0.0
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AAK Ala-Archa 55.23 297 *e*P P 15 49 34.6 0.0
comp=Z,6.5nm,0.7s,mb4.8
C09A Chrisman Ranch 55.25 55 ⇓P P 15 49 33.7 -1.1
baz=55
G06A Carlson Farm, 55.34 59 ⇓P P 15 49 35.0 -0.4
baz=55
F07A Phinny Hill Vi 55.38 58 ⇓P P 15 49 35.0 -0.7
baz=55
J04A Umpqua Nationa 55.60 61 ⇑P P 15 49 37.2 -0.1
baz=55
ARU Arti 55.95 318 ⇓ *i*P P 15 49 39.5 -0.3
ARU *e* 15 50 37.7
ARU *e*S **S** **15 57 24.0 -2.7**
ARU pmax pmax
comp=Z,26nm,0.7s,mb5.4
ARU Arti 55.95 318 *e*P P 15 49 39.1 -0.7
comp=Z,26nm,0.7s,mb5.4
B11A Sandpoint 55.95 53 ⇑P P 15 49 39.1 -0.8
baz=56
E09A Wood Farm, Sta 56.05 56 ⇑P P 15 49 39.8 -0.8
baz=56
J05A Fort Rock 56.09 61 ⇓P P 15 49 42.0 +1.2
baz=56
YBH Yreka Blue Hor 56.10 63 ⇓P P 15 49 41.8 +0.9
baz=56
KSH Kashi 56.11 294 *e*P P 15 49 39.3 -1.7
KSH *e*AP pP 15 49 44.8 -2.4
KSH *e*XP sP 15 49 48.3 -1.3
KSH *e*S **S** **15 57 22.9 -6.0**
KSH AMB AMB
comp=Z,506nm,4.0s
M02C Callahan 56.21 64 ⇓P P 15 49 42.0 +0.3
baz=56
N02C Big Bar 56.26 64 ⇓P P 15 49 42.7 +0.6
baz=56
L04A Klamath Falls 56.34 62 ⇑P P 15 49 42.6 0.0
baz=56
M04C Macdoel 56.60 63 ⇓P P 15 49 45.1 +0.6
baz=56
JIRN Jiri 56.62 276 *e*P P 15 49 47.9 +3.3
comp=Z,18nm,0.7s,mb5.2
K05A Summer Lake 56.62 61 ⇓P P 15 49 44.9 +0.3
baz=56
E10A Myers Farm, Un 56.66 56 ⇑P P 15 49 44.4 -0.5
baz=56
GUN Gumba 56.67 277 *e*P P 15 49 48.5 +3.5
M03C McCloud 56.72 63 ⇑P P 15 49 45.0 -0.3
baz=56
J06A Christmas Vall 56.76 60 ⇓P P 15 49 45.8 +0.2
baz=57
D11A Klaveano Farm, 56.77 55 ⇓P P 15 49 44.3 -1.4
baz=56
C12A Trout Creek 56.86 54 ⇑P P 15 49 46.7 +0.4
baz=57
WDC Whiskeytown Da 56.87 64 ⇑P P 15 49 46.7 +0.3
baz=57
H08A Prairie City 56.90 58 ⇓P P 15 49 46.2 -0.4
baz=57
O02C Red Bluff 56.96 65 ⇑P P 15 49 47.7 +0.6
baz=57
K06A Valley Falls 56.96 61 ⇑P P 15 49 47.6 +0.6
baz=57
B13A Whitefish 57.03 53 P P 15 49 48.1 +0.6
baz=57,SNR=5.3
P01C Double 8 Ranch 57.04 66 ⇑P P 15 49 48.2 +0.7
baz=57
L05A Lakeview 57.05 62 ⇑P P 15 49 48.6 +0.9
baz=57
KKN Kakani 57.16 277 *e*P P 15 49 51.5 +3.1
comp=Z,9.9nm,0.6s,mb5.0
J07A Hines 57.19 60 ⇑P P 15 49 48.9 +0.2
baz=57
M05C Lookout 57.27 63 ⇑P P 15 49 48.9 -0.3
baz=57
I08A Drewsey 57.31 59 ⇑P P 15 49 50.3 +0.8
baz=57
GASB Alder Springs 57.31 65 ⇓P P 15 49 50.2 +0.7
baz=57
KKAR Karatay Array 57.35 300 *i*P P 15 49 50.0 +0.2
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
DMN Daman 57.39 277 *e*P P 15 49 51.4 +1.4
comp=Z,22nm,0.8s,mb5.2
H09A Durkee 57.39 58 ⇓P P 15 49 50.9 +0.8
baz=57
GKN Gorkha 57.45 277 *e*P P 15 49 53.8 +3.3
comp=Z,16nm,0.5s,mb5.3
MOD Modoc 57.46 62 ⇑P P 15 49 51.4 +0.9
baz=57
F11A Grangeville 57.54 56 ⇓P P 15 49 51.0 -0.1
baz=57
K07A Rock Creek Ran 57.63 60 ⇓P P 15 49 51.4 -0.4
baz=57
KEV Kevo 57.63 341 *e*p P 15 49 50.5 -1.3
comp=Z,3.3nm,0.6s,mb4.5
KEV Kevo 57.63 341 *e*P P 15 49 50.5 -1.3
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
G11A Walters Elk Ra 57.76 56 ⇑P P 15 49 52.0 -0.7
baz=58
C14A Swan Lake 57.77 53 ⇑P P 15 49 52.6 -0.2
baz=58
D13A Huson 57.78 54 ⇑P P 15 49 51.1 -1.7
baz=58
O04C Chester 57.92 64 ⇑P P 15 49 54.1 +0.3
baz=58
MNRC McLaughlin Nat 57.95 66 ⇑P P 15 49 55.6 +1.6
baz=58
L07A Adell 57.97 61 ⇓P P 15 49 54.4 +0.3
baz=58
K08A Mann Creek Ran 58.05 60 ⇑P P 15 49 54.7 -0.1
baz=58
J09A Fry Pan Ranch, 58.12 59 ⇑P P 15 49 55.7 +0.5
baz=58
ORV Oroville 58.12 65 P P 15 49 55.6 +0.4
baz=58,SNR=5.0
F12A Elk City 58.13 56 ⇑P P 15 49 55.4 +0.2
baz=58
ARCES ARCESS Array B 58.13 342 P P 15 49 54.1 -1.2
comp=Z,6.7nm,0.8s,mb4.7,baz=31,slow=7.2,SNR=10
I10A Payette 58.23 58 ⇑P P 15 49 56.5 +0.5
baz=58
O05C Quincy 58.24 64 ⇑P P 15 49 56.4 +0.3
baz=58
CVS Carmenet Viney 58.26 66 ⇑P P 15 49 55.3 -0.8
baz=58
OHCM Honcut 58.27 65 *e*P P 15 49 56.5 +0.3
KOLN Koldanda 58.31 278 *e*P P 15 49 57.6 +1.1
comp=Z,13nm,0.8s,mb5.0
D14A Greenough 58.31 53 P P 15 49 57.0 +0.5
baz=58,SNR=5.2
E13A Victor 58.32 54 ⇓P P 15 49 57.0 +0.4
baz=58
H11A Donnelly 58.32 57 P P 15 49 57.4 +0.7
baz=58,SNR=5.8
N06A Buffalo Meadow 58.43 63 ⇓P P 15 49 57.4 0.0
baz=58
M07A Soldier Meadow 58.45 62 ⇓P P 15 49 58.7 +1.2
baz=58
L08A Fields 58.46 60 ⇑P P 15 49 58.7 +1.2
baz=58
CHMT Chamberlain Mo 58.55 53 *e*P P 15 49 57.8 -0.5
F13A Darby 58.63 55 ⇑P P 15 49 58.3 -0.5
baz=58
BEKR Beckwourth 58.64 64 ⇑P P 15 49 58.2 -0.6
baz=58
E14A Clinton 58.72 54 ⇑P P 15 49 59.8 +0.4
baz=58
O06A Flanigan 58.78 63 ⇑P P 15 49 59.9 0.0
baz=59
P05C Yuba Gap, Truc 58.83 64 ⇓P P 15 49 59.9 -0.3
baz=59
N07B Gerlach 58.93 62 ⇓P P 15 50 00.6 -0.3
baz=59
LAVA Lava Cap Winer 59.08 65 P P 15 50 02.5 +0.6
baz=59,SNR=5.8
E15A Deer Lodge 59.18 54 ⇓P P 15 50 02.4 -0.2
baz=59
WCN Washoe City 59.35 64 ⇓P P 15 50 03.2 -0.6
baz=59
O07A Toulon 59.37 63 ⇓P P 15 50 04.8 +0.9
baz=59
M09A Marrel Ranch, 59.46 61 ⇓P P 15 50 05.1 +0.6
baz=59
R05C Kirkwood Meado 59.52 65 ⇓P P 15 50 04.7 -0.2
baz=59
F15A Butte 59.62 54 ⇑P P 15 50 06.1 +0.5
baz=59
CMB Columbia Colle 59.74 65 P P 15 50 07.4 +1.0
baz=60,SNR=5.4
N09A Rock Creek Ran 59.76 61 ⇑P P 15 50 07.2 +0.6
baz=60
EGMT Eagleton 59.77 51 ⇓P P 15 50 07.3 +0.7
baz=60
PACP Pacheco Peak 59.81 67 ⇑P P 15 50 08.0 +1.0
baz=60
HLID Hailey 59.93 57 ⇓P P 15 50 07.6 -0.1
baz=60
M10A I.L. Ranch, Tu 59.94 60 ⇓P P 15 50 08.1 +0.3
baz=60
R06C Coleville 60.02 64 P P 15 50 09.9 +1.5
baz=60,SNR=6.2
HAST UC Hastings Re 60.03 68 ⇓P P 15 50 08.9 +0.5
baz=60
G15A Dillon 60.04 55 ⇓P P 15 50 07.7 -0.7
baz=60
S06C San Francisco 60.17 65 P P 15 50 10.3 +0.9
baz=60,SNR=5.3
S05C Merced 60.20 66 ⇓P P 15 50 10.0 +0.4
baz=60
O09A Fish Creek Ran 60.38 62 ⇑P P 15 50 12.1 +1.2
baz=60
M11A Holland Ranch, 60.44 60 ⇑P P 15 50 11.5 +0.3
baz=60
U04C Hernandez Rese 60.53 67 ⇑P P 15 50 12.6 +0.8
baz=60
R07C Lee Vining 60.54 65 P P 15 50 13.3 +1.4
baz=60,SNR=5.3
ORR Orenburg 60.65 315 *e*P P 15 50 12.9 +0.2
ORR pmax pmax
comp=Z,20nm,1.0s,mb5.2
O10A Cortez Mining, 60.72 61 ⇓P P 15 50 14.1 +0.9
baz=60
Q08A Gabbs 60.74 63 ⇓P P 15 50 13.7 +0.4
baz=60
NVAR Mina Array Bea 60.78 64 P P 15 50 14.1 +0.5
comp=Z,2.1nm,0.8s,mb4.3,baz=301,slow=9.4,SNR=11
NVAR Mina Array Bea 60.78 64 P P 15 50 14.1 +0.5
KCC Kaiser Creek 60.84 65 ⇓P P 15 50 13.8 -0.2
baz=61
PKD Parkfield 60.94 67 ⇓P P 15 50 14.8 +0.2
baz=61
M12A Wells 60.96 59 ⇓P P 15 50 15.1 +0.3
baz=61
N12A Clover Valley, 61.24 60 ⇑P P 15 50 17.0 +0.3
baz=61
O11A Cowboy Ranch, 61.33 61 ⇓P P 15 50 16.0 -1.2
baz=61
HELL Mitchell Peak, 61.43 66 ⇑P P 15 50 18.1 +0.1
baz=61
M13A Montello 61.44 59 ⇑P P 15 50 18.0 0.0
baz=61
R09A Tonopah 61.66 63 ⇑P P 15 50 19.6 +0.1
baz=62,SNR=5.6
O12A Currie 61.78 60 ⇓P P 15 50 20.7 +0.3
baz=62
S09A Goldfield 61.89 64 ⇑P P 15 50 20.2 -0.8
baz=62
VES Vestal, Richgr 61.93 67 ⇑P P 15 50 19.3 -2.0
baz=62
PKM Peak Mountain 62.06 68 ⇑P P 15 50 20.6 -1.6
baz=62
REDW Red Top Meadow 62.08 55 *e*P P 15 50 23.6 +1.2
comp=Z,7.1nm,1.0s,mb4.8
Q11A Duckwater 62.13 62 ⇓P P 15 50 21.6 -1.2
baz=62
CWC Cottonwood Cre 62.17 66 ⇓P P 15 50 21.9 -1.1
baz=62
P12A McGill 62.19 61 ⇑P P 15 50 23.4 +0.3
baz=62
Q12A Willow Creek R 62.51 61 ⇓P P 15 50 25.0 -0.3
baz=62
MPMC Manual Prospec 62.78 65 P P 15 50 27.6 +0.5
baz=63,SNR=5.8
FURC Furnace Creek, 62.91 65 ⇑P P 15 50 28.0 +0.1
baz=63
DUG Dugway 62.97 59 ⇓P P 15 50 28.0 -0.3
baz=63
KAKA Kakadu 62.99 206 *e*P P 15 50 27.6 -0.8
comp=Z,12nm,0.6s,mb5.2
LRMC Laurel Mountai 63.03 66 ⇑P P 15 50 28.0 -0.7
baz=63
PDAR Pinedale Array 63.19 55 P P 15 50 30.1 +0.4
comp=Z,3.4nm,0.8s,mb4.5,baz=294,slow=2.3,SNR=24
EDW2 Edwards Air Fo 63.22 67 P P 15 50 30.9 +0.9
baz=63,SNR=7.3
U10A Ash Meadows, A 63.27 65 ⇓P P 15 50 30.4 +0.1
baz=63
GSC Goldstone 63.69 66 ⇑P P 15 50 32.0 -1.0
baz=64
BFSC Mount Baldy St 63.85 67 ⇓P P 15 50 33.7 -0.4
baz=64
TUQ Turquoise Mtn. 64.16 65 ⇑P P 15 50 35.1 -1.0
baz=64
V11A Goodsprings 64.20 64 ⇓P P 15 50 35.7 -0.8
baz=64
FINES FINESS Array B 64.50 336 P P 15 50 37.3 -1.0
comp=Z,1.9nm,0.4s,mb4.5,baz=40,slow=6.4,SNR=20
MURC Murrieta 64.55 67 ⇑P P 15 50 38.1 -0.6
baz=64
V12A Nelson 64.63 64 ⇑P P 15 50 39.7 +0.5
baz=64
PFO Pinyon Flat Ob 65.02 67 ⇓P P 15 50 40.7 -1.0
baz=65
SRU San Rafael 65.02 59 *e*P P 15 50 42.4 +0.7
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
SRU San Rafael 65.02 59 *e*P P 15 50 42.4 +0.7
comp=Z,3.1nm,0.8s,mb4.4
BELC Belle Mtn. 65.05 66 ⇓P P 15 50 40.9 -1.0
baz=65
ULM Lac du Bonnet 65.18 42 P P 15 50 42.1 -0.7
comp=Z,1.9nm,0.6s,mb4.3,baz=322,slow=9.8,SNR=5.0
RSSD Black Hills 65.33 51 *e*P P 15 50 43.9 +0.2
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RSSD Black Hills 65.33 51 *e*P P 15 50 43.9 +0.1
comp=Z,9.0nm,1.0s,mb4.8
IRM Iron Mountain 65.47 66 ⇓P P 15 50 44.9 +0.3
baz=65
W13A Hualapai Mount 65.64 64 ⇓P P 15 50 45.6 -0.1
baz=65
X13A Yucca 66.00 65 ⇓P P 15 50 47.4 -0.7
baz=66
PDMCI Parker Dam,Lak 66.01 65 ⇑P P 15 50 47.1 -1.0
baz=66
OBN Obninsk 66.03 327 *e*P P 15 50 48.6 +0.3
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
W14A Seligman 66.05 64 ⇑P P 15 50 48.0 -0.4
baz=66
PV10 Paradox Valley 66.37 59 *e*P P 15 50 50.9 +0.5
GLA Glamis 66.41 66 ⇓P P 15 50 50.0 -0.6
baz=66
W15A Williams 66.58 63 ⇓P P 15 50 51.7 -0.1
baz=66
X14A Yava 66.67 64 ⇓P P 15 50 52.3 -0.1
baz=66
WUAZ Wupatki 66.89 62 ⇓P P 15 50 54.0 +0.2
baz=67
Y14A Wickenburg 66.95 65 ⇓P P 15 50 54.4 +0.2
baz=67
X15A Humboldt 67.06 64 ⇑P P 15 50 54.7 -0.1
baz=67
MVCO Mesa Verde 67.47 59 ⇑P P 15 50 56.4 -1.1
baz=67
115A Sonoran Desert 68.26 65 ⇓P P 15 51 01.8 -0.6
baz=68
NB2 NORSAR Subarra 68.49 342 P P 15 51 03.2 -0.7
comp=Z,4.3nm,0.7s,mb4.6,baz=25,slow=6.5

NOA	**NORSAR Array B**	**68.49**	**342**	P	**P**	**15 51 03.6**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.6,baz=25,slow=6.5,SNR=12						
WB2	**Warramunga Arr**	**69.37**	**201**	*e*P	**P**	**15 51 08.6**	**-0.7**
WRA	**Warramunga Arr**	**69.37**	**201**	P	**P**	**15 51 08.4**	**-1.0**
	comp=Z,6.7nm,0.8s,mb4.6,baz=21,slow=6.9,SNR=35						
ANMO	**Albuquerque**	**70.22**	**60**⇑	*e*P	**P**	**15 51 16.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**70.22**	**210**	*e*P	**P**	**15 51 14.9**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.6						
MDRS	**Chennai**	**70.59**	**268**	*ex*	x	15 50 08.5	
MDRS				*ex*	x	15 54 14.5	
KIV	**Kislovodsk**	**71.81**	**316**	*e*P	**P**	**15 51 24.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ZEI	**Tsey**	**72.10**	**314**	*e*P	**P**	**15 51 25.1**	**-0.9**
ZEI				*e**PP	pP	15 51 34.9	+2.5
AKASG	**Malin Array Be**	**72.24**	**327**	P	**P**	**15 51 25.9**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.5,baz=33,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**72.24**	**327**	P	**P**	**15 51 25.9**	**-0.9**
AKBB	**Malin Array Si**	**72.24**	**327**	P	**P**	**15 51 28.1**	**+1.3**
ASAR	**Alice Springs**	**73.05**	**201**	P	**P**	**15 51 31.2**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.4,baz=14,slow=5.7,SNR=51						
ANN	**Anapa**	**73.60**	**319**	*e*P	**P**	**15 51 33.6**	**-1.3**
ANN				*e*		15 51 48.7	
ANN				*e*S	S	16 01 00.4	-3.7
ANN				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
LTX	**Lajitas**	**75.86**	**62**	*e*P	**P**	**15 51 48.2**	**+0.2**
LTX				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LTX	**Lajitas**	**75.86**	**62**	*e*P	**P**	**15 51 48.2**	**+0.3**
	comp=Z,8.9nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**75.86**	**62**	P	**P**	**15 51 47.9**	**-0.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=304,slow=4.9,SNR=58						
STHS	**Stebnicka Huta**	**76.11**	**331**	*e*P	**P**	**15 51 52.2**	**+2.8**
STHS				*e*		15 54 39.0	
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
STHS	**Stebnicka Huta**	**76.11**	**331**	*e*P	**P**	**15 51 52.2**	**+2.8**
	comp=Z,3.3nm,0.8s,mb4.3						
STHS				*e*PP	PP	15 54 39.0	-1.2
KOLS	**Kolonicke sedl**	**76.18**	**330**	*e*P	**P**	**15 51 50.7**	**+0.9**
BURAR	**Bucovina Array**	**76.27**	**328**⇑	*i*P	**P**	**15 51 50.4**	**+0.1**
CLL	**Collm**	**76.89**	**337**	*e*P	**P**	**15 51 54.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
CLL	**Collm**	**76.89**	**337**	*e*P	**P**	**15 51 54.0**	**+0.2**
	comp=Z,9.0nm,1.2s,mb4.6						
MORC	**Moravsky Berou**	**76.96**	**334**⇑	*i*P	**P**	**15 51 54.5**	**+0.3**
MORC	**Moravsky Berou**	**76.96**	**334**	*e*P	**P**	**15 51 54.1**	**-0.1**
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
MORC	**Moravsky Berou**	**76.96**	**334**	*e*P	**P**	**15 51 54.1**	**-0.1**
	comp=Z,9.3nm,1.2s,mb4.6						
KECS	**Kecovo**	**77.17**	**331**	*e*P	**P**	**15 51 59.3**	**+3.9**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
KECS	**Kecovo**	**77.17**	**331**	*e*P	**P**	**15 51 59.3**	**+3.9**
	comp=Z,2.6nm,1.2s,mb4.0						
KECS				*e*PP	PP	15 54 40.9	-8.3
VYHS	**Vyhne**	**77.69**	**332**	*e*P	**P**	**15 52 02.6**	**+4.3**
TIRR	**Tirgusor**	**77.70**	**324**⇓	*i*P	**P**	**15 52 00.5**	**+2.2**
MLR	**Muntele Rosu**	**77.79**	**326**⇑	*i*P	**P**	**15 51 59.3**	**+0.4**
VOIR		**78.18**	**327**⇑	*i*P	**P**	**15 52 01.6**	**+0.6**
MALT	**Malatya**	**78.19**	**314**⇑	*i*P	**P**	**15 52 01.2**	**+0.1**
MALT	**Malatya**	**78.19**	**314**	*e*P	**P**	**15 52 02.7**	**+1.6**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MALT	**Malatya**	**78.19**	**314**	*e*P	**P**	**15 52 02.7**	**+1.6**
	comp=Z,8.2nm,1.0s,mb4.6						
GRA1	**Grafenberg Arr**	**78.84**	**337**	*e*P	**P**	**15 52 05.2**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**78.84**	**337**	*e*P	**P**	**15 52 05.2**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**78.84**	**337**	*e*P	**P**	**15 52 05.2**	**+0.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GERES	**GERESS Array B**	**78.93**	**335**	P	**P**	**15 52 05.1**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=38,slow=5.2,SNR=9.7						
GZR	**Gura Zlata**	**79.05**	**328**⇓	*i*P	**P**	**15 52 01.6**	**-4.2**
BZS	**Buzias**	**79.27**	**329**⇓	*i*P	**P**	**15 52 02.1**	**-4.9**
BRTR	**Keskin Array B**	**79.33**	**318**	P	**P**	**15 52 08.1**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.1,baz=46,slow=5.3,SNR=5.6						
STKA	**Stephens Creek**	**79.56**	**192**	P	**P**	**15 52 07.5**	**-1.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=297,slow=22,SNR=3.5						
CDF	**Champ du Feu**	**81.02**	**339**	*e*P	**P**	**15 52 16.7**	**+0.3**
GRR	**Gorron**	**82.77**	**344**	*e*P	**P**	**15 52 26.2**	**+0.5**
SMF	**Signal de Mont**	**83.48**	**341**	*e*P	**P**	**15 52 29.7**	**+0.4**
	comp=Z,25nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**83.48**	**341**	*e*P	**P**	**15 52 29.7**	**+0.4**
SMF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**83.48**	**341**	*e*P	**P**	**15 52 29.7**	**+0.4**
	comp=Z,13nm,1.0s,mb4.9						
LPG	**La Plagne**	**83.87**	**339**	*e*P	**P**	**15 52 32.7**	**+1.4**
	comp=Z,9.8nm,0.6s,mb4.8						
LPG	**La Plagne**	**83.87**	**339**	*e*P	**P**	**15 52 32.7**	**+1.4**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
LPG	**La Plagne**	**83.87**	**339**	*e*P	**P**	**15 52 32.7**	**+1.4**
	comp=Z,4.9nm,0.6s,mb4.8						
MMAI	**Mount Meron Ar**	**83.89**	**313**	P	**P**	**15 52 32.6**	**+1.2**
	comp=Z,3.9nm,0.5s,mb4.8,baz=40,slow=7.9,SNR=11						
CAF	**Calviac**	**85.50**	**341**	*e*P	**P**	**15 52 40.3**	**+0.7**
ESDC	**Sonseca Array**	**91.77**	**344**	P	**P**	**15 53 08.1**	**-1.3**
	comp=Z,0.7nm,0.7s,mb4.1,baz=13,slow=3.3,SNR=4.5						
KEST	**Kesra**	**92.21**	**333**	P	**P**	**15 53 11.7**	**+0.2**
	comp=Z,0.5nm,0.6s,mb4.0,baz=271,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**115.69**	**332**	PKP	PKPdf	15 58 43.1	-0.8
	comp=Z,0.3nm,0.6s,baz=11,slow=2.4,SNR=5.0						
VNDA	**Vanda**	**124.34**	**178**	PKP	PKPdf	15 58 57.8	-2.8
	comp=Z,1.1nm,0.7s,baz=181,slow=0.7,SNR=4.4						
LPAZ	**La Paz**	**132.69**	**65**	PKP	PKPdf	15 59 16.9	+0.4
	comp=Z,1.3nm,0.9s,baz=25,slow=5.2,SNR=4.9						
MAW	**Mawson**	**133.34**	**212**	PKP	PKPdf	15 59 16.5	-1.1
	comp=Z,2.1nm,0.6s,baz=217,slow=5.4,SNR=8.2						
CFAA	**Coronel Fontan**	**143.26**	**81**	PKhKP		15 59 31.6	
SNAA	**Sanae**	**153.29**	**195**	PKPbc	PKPbc	15 59 57.2	-2.5
	baz=0.0,slow=0.0						

IDC ***19*** *16:17:31.0±1.0, 46.67N×154.48E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/25, mbtmp3.6/8, ML3.3/2, Error ellipse: s-maj=59.5km s-min=20.0km az=136.0*
MOS ***19*** *16:17:34.3±1.3, 46.65N×154.19E, h33km, mb3.8/1, Error ellipse: s-maj=49.8km s-min=20.3km az=60.3*
ISCJB ***19*** *16:17:37.6±4.1, 46.9N×04.0×1538E±0.6, h70km±43km, mb3.4/6, Error ellipse: s-maj=92.3km s-min=13.6km az=88.3*

ISC 19 16:17:38.7±4.2, 469N±04×1539E±07, h65km±47km, n10, σ1°03/10, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.08**	**20**	*e*PN	**Pn**	**16 18 39.0**	**+0.5**
ASAJ	**Asahikawa**	**8.41**	**255**	Pn	**Pn**	**16 19 37.4**	**-0.5**
	0.4nm,0.3s,baz=63,slow=14,SNR=4.2						
ASAJ	**Asahikawa**	**8.41**	**255**	PN	**Pn**	**16 19 37.4**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.60**	**234**	Pn	**Pn**	**16 21 14.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=9.3,SNR=5.8						
INK	**Inuvik**	**41.25**	**33**	P	**P**	**16 25 17.4**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=334,slow=16,SNR=5.1						
NVAR	**Mina Array Bea**	**61.89**	**63**	P	**P**	**16 27 48.8**	**-2.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=300,slow=7.8,SNR=4.4						
PDAR	**Pinedale Array**	**64.23**	**54**	P	**P**	**16 28 07.7**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=330,slow=3.2,SNR=5.5						
WRA	**Warramunga Arr**	**68.82**	**200**	P	**P**	**16 28 35.5**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.4,baz=14,slow=7.0,SNR=2.5						
ASAR	**Alice Springs**	**72.51**	**199**	P	**P**	**16 29 00.4**	**+1.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=12,slow=5.8,SNR=6.8						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**16 29 23.8**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=281,slow=4.8,SNR=4.9						

ISCJB ***19*** *16:19:43.5±0.5, 4669N±007×1550E±0.1, h10km, mb4.4/34, Error ellipse: s-maj=12.6km s-min=7.2km az=74.4*
BJI ***19*** *16:19:43.2, 4746N×155.17E, h17km, mB4.7, mb4.2*
NEIC ***19*** *16:19:44.2±0.6, 4680N×15494E, h10km, mb4.4/10, Error ellipse: s-maj=17.2km s-min=10.2km az=123.0*
MOS ***19*** *16:19:46.7±1.1, 4677N×154.85E, h45km, mb4.6/10, Error ellipse: s-maj=14.4km s-min=9.7km az=83.2*
IDC ***19*** *16:19:49.6±4.3, 4681N×155.01E, h48km±40km, mb3.8/15, mb1 4.0/16, mb1mx3.8/25, mbtmp3.9/16, ML3.8/1, Error ellipse: s-maj=21.8km s-min=15.7km az=98.0*
SZGRF ***19*** *16:20:00.5, 4839N×15538E, h33km, mb4.7, Kuril Islands, Russia*

ISC 19 16:19:45.0±0.5, 4674N±007×1551E±01, h10km, n75, σ1°58/74, mb4.4/34, 5C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.00**	**9**	*e*PN	**Pn**	**16 20 46.5**	**+0.3**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ASAJ	**Asahikawa**	**9.20**	**258**	P	**Pn**	**16 21 58.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=69,slow=18,SNR=9.2						
ASAJ	**Asahikawa**	**9.20**	**258**	PN	**Pn**	**16 21 58.1**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.78**	**245**	*e*PN	**Pn**	**16 22 04.2**	**-1.5**
MAJO	**Matsushiro**	**16.21**	**237**	*e*P	**Pn**	**16 23 29.1**	**-3.7**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
MAJO	**Matsushiro**	**16.21**	**237**	*e*P	**Pn**	**16 23 29.1**	**-3.7**
	comp=Z,14nm,1.0s						
MAT	**Matsushiro**	**16.21**	**237**	P	**Pn**	**16 23 29.8**	**-3.0**
MJAR	**Matsushiro Arr**	**16.21**	**237**	P	**Pn**	**16 23 29.6**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=7.6						
CN2	**Changchun**	**21.04**	**273**	*e*P	**P**	**16 24 27.9**	**-1.0**
BILL	**Bilibino**	**22.11**	**11**	*e*P	**P**	**16 24 38.7**	**-1.7**
BILL				*e*		16 25 02.2	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.9						
BILL	**Bilibino**	**22.11**	**11**	P	**P**	**16 24 36.2**	**-4.2**
	comp=Z,16nm,1.4s,mb4.3						
KSRS	**Korea Array**	**22.12**	**255**	P	**P**	**16 24 42.2**	**+1.7**
	comp=Z,1.3nm,0.6s,mb3.5,baz=58,slow=10,SNR=6.3						
TIXI	**Tiksi**	**27.88**	**343**	*e*P	**P**	**16 25 31.0**	**-3.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
TIXI	**Tiksi**	**27.88**	**343**	*e*P	**P**	**16 25 30.9**	**-3.9**
	comp=Z,5.0nm,0.9s,mb4.1						
SONM	**Songino Array**	**32.64**	**290**	P	**P**	**16 26 14.5**	**-2.4**
	comp=Z,0.9nm,0.9s,mb3.7,baz=66,slow=8.2,SNR=6.4						
COLA	**College**	**35.28**	**38**	*e*P	**P**	**16 26 38.1**	**-1.8**
LZH	**Lanzhou**	**39.27**	**273**	*e*P	**P**	**16 27 16.1**	**+2.3**
LZH				AP	pP	16 27 20.3	+3.4
LZH				XP	sP	16 27 22.0	+3.9
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**39.27**	**273**	*e*P	**P**	**16 27 16.1**	**+2.3**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	16 27 20.3	+3.4
LZH				sP	sP	16 27 22.0	+3.9
INK	**Inuvik**	**40.91**	**33**	P	**P**	**16 27 26.2**	**-1.2**
	comp=Z,1.2nm,0.5s,mb3.8,baz=283,slow=7.6,SNR=18						
INK	**Inuvik**	**40.91**	**33**	P	**P**	**16 27 26.2**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**40.91**	**33**	*e*P	**P**	**16 27 26.0**	**-1.4**
	comp=Z,49nm,0.4s,mb5.5						
ZAL	**Zalesovo**	**43.75**	**306**	P	**P**	**16 27 49.3**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=22,slow=11,SNR=4.1						
NVS	**Novosibirsk**	**44.29**	**308**	*e*P	**P**	**16 27 52.0**	**-2.8**
NVS				pmax	pmax		
	comp=N,4.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**16 28 23.9**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=65,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**16 28 23.9**	**-1.4**
LSA	**Lhasa**	**51.66**	**275**	*e*P	**P**	**16 28 53.8**	**+2.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**51.66**	**275**	*e*P	**P**	**16 28 53.8**	**+1.9**
	comp=Z,2.0nm,0.4s,mb4.4						
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**16 28 51.8**	**-2.1**
	comp=Z,2.7nm,0.6s,mb4.4,baz=57,slow=11,SNR=14						
BRVK	**Borovoye**	**51.97**	**310**	*e*P	**P**	**16 28 52.4**	**-1.8**
AAK	**Ala-Archa**	**55.07**	**297**	*e*P	**P**	**16 29 14.7**	**-2.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**55.07**	**297**	*e*P	**P**	**16 29 14.7**	**-2.2**
	comp=Z,2.8nm,0.8s,mb4.3						
ARU	**Arti**	**55.95**	**318**⇑	*i*P	**P**	**16 29 21.6**	**-1.6**
ARU				*e*		16 30 19.4	
ARU				*e*PPP		16 32 40.3	
ARU				*e*S	**S**	**16 37 07.6**	**-3.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**55.95**	**318**	*e*P	**P**	**16 29 21.3**	**-2.0**
	comp=Z,5.3nm,0.5s,mb4.8						
JIRN	**Jiri**	**56.33**	**276**	*e*P	**P**	**16 29 27.9**	**+1.9**
GUN	**Gumba**	**56.38**	**276**	*e*P	**P**	**16 29 28.6**	**+2.3**
	comp=Z,5.5nm,0.4s,mb5.0						
KKN	**Kakani**	**56.87**	**277**	*e*P	**P**	**16 29 32.0**	**+2.2**
	comp=Z,5.3nm,0.6s,mb4.8						
PKI	**Pulchoki**	**56.92**	**276**	*e*P	**P**	**16 29 31.1**	**+0.9**
DMN	**Daman**	**57.10**	**277**	*e*P	**P**	**16 29 32.9**	**+1.4**
GKN	**Gorkha**	**57.17**	**277**	*e*P	**P**	**16 29 32.9**	**+0.9**
	comp=Z,12nm,0.9s,mb4.9						
KEV	**Kevo**	**57.80**	**341**	*e*p	**P**	**16 29 33.5**	**-2.9**
	comp=Z,2.9nm,0.6s,mb4.5						
KEV	**Kevo**	**57.80**	**341**	*e*P	**P**	**16 29 33.5**	**-2.9**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KOLN	**Koldanda**	**58.02**	**278**	*e*P	**P**	**16 29 39.2**	**+1.2**
	comp=Z,12nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**16 29 38.8**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=28,slow=8.2,SNR=3.1						
FINES	**FINESS Array B**	**64.63**	**336**	P	**P**	**16 30 21.0**	**-1.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=36,slow=5.4,SNR=19						
NB2	**NORSAR Subarra**	**68.57**	**342**	P	**P**	**16 30 48.9**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.67**	**342**	P	**P**	**16 30 48.9**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=26,slow=6.3,SNR=5.1						
WRA	**Warramunga Arr**	**68.98**	**201**	P	**P**	**16 30 49.4**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=19,slow=6.9,SNR=13						
AKASG	**Malin Array Be**	**72.31**	**327**	P	**P**	**16 31 08.6**	**-2.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.5,SNR=6.6						
AS31	**Alice Springs**	**72.66**	**200**	*e*P	**P**	**16 31 12.8**	**0.0**
ASAR	**Alice Springs**	**72.66**	**200**	P	**P**	**16 31 13.1**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=17,slow=5.1,SNR=42						
ASPA	**Alice Springs**	**72.66**	**200**	*e*P	**P**	**16 31 12.8**	**0.0**
TXAR	**Lajitas Array**	**76.28**	**62**	P	**P**	**16 31 33.5**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=294,slow=4.1,SNR=22						
BURAR	**Bucovina Array**	**76.35**	**328**⇓	*i*P	**P**	**16 31 35.4**	**+1.2**
DPC	**Dobruska-Polom**	**76.94**	**334**	*e*P	**P**	**16 31 39.5**	**+1.9**
CLL	**Collm**	**77.03**	**337**	*e*P	**P**	**16 31 39.0**	**+0.9**
	comp=Z,6.0nm,0.7s,mb4.6						
CLL				*e*PcP	PcP	16 31 50.0	+1.0
CLL				*es*PcP		16 31 55.0	
MORC	**Moravsky Berou**	**77.08**	**333**⇑	*i*P	**P**	**16 31 38.5**	**+0.1**
MORC	**Moravsky Berou**	**77.08**	**333**	*e*P	**P**	**16 31 39.5**	**+1.1**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MORC	**Moravsky Berou**	**77.08**	**333**	*e*P	**P**	**16 31 39.5**	**+1.1**
	comp=Z,6.0nm,1.1s,mb4.4						
VRAC	**Vranov**	**77.78**	**334**⇑	*i*P	**P**	**16 31 43.5**	**+1.2**
MLR	**Muntele Rosu**	**77.86**	**326**⇑	*i*P	**P**	**16 31 45.5**	**+2.8**
KHC	**Kasperske Hory**	**78.83**	**335**	*e*P	**P**	**16 31 49.3**	**+1.2**
KHC				*ex*	x	16 32 00.6	
GRA1	**Grafenberg Arr**	**78.98**	**337**	*e*P	**P**	**16 31 51.4**	**+2.5**
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**78.98**	**337**	*e*P	**P**	**16 31 51.4**	**+2.5**
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**78.98**	**337**	*e*P	**P**	**16 31 51.4**	**+2.5**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
GERES	**GERESS Array B**	**79.06**	**335**	P	**P**	**16 31 47.7**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=37,slow=5.8,SNR=11						
GZR	**Gura Zlata**	**79.12**	**328**⇑	*i*P	**P**	**16 31 49.2**	**-0.5**
STKA	**Stephens Creek**	**79.20**	**192**	P	**P**	**16 31 49.1**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=12,slow=9.3,SNR=4.4						
CDF	**Champ du Feu**	**81.17**	**339**	*e*P	**P**	**16 32 01.9**	**+1.1**
	comp=Z,24nm,1.4s,mb4.7						
VTS	**Vitosha**	**81.36**	**326**⇓	*i*P	**P**	**16 32 02.6**	**+0.8**
GRR	**Gorron**	**82.97**	**344**	*e*P	**P**	**16 32 11.4**	**+1.2**
	comp=Z,158nm,1.7s,mb5.5						
SMF	**Signal de Mont**	**83.65**	**341**	*e*P	**P**	**16 32 15.0**	**+1.3**
	comp=Z,50nm,1.4s,mb5.2						
LPG	**La Plagne**	**84.02**	**338**	*e*P	**P**	**16 32 17.8**	**+2.2**
	comp=Z,29nm,1.3s,mb5.0						
CAF	**Calviac**	**85.68**	**341**	*e*P	**P**	**16 32 25.4**	**+1.5**
VNA2	**Neumayer--Watz**	**154.33**	**193**	*e*PKPdf	PKPdf	16 39 33.7	-3.5
VNA2				*e*		16 39 42.0	
VNA2				*e*		16 39 54.4	
VNA2				*e*		16 39 59.0	
VNA3	**Neumayer Olymp**	**154.37**	**191**	*e*PKPdf	PKPdf	16 39 32.8	-4.4
VNA3				*e*		16 39 42.3	
VNA3				*e*		16 39 55.1	
VNA3				*e*		16 40 07.8	

NEIC 19 16:19:56.9, 5198N×17997E, h159km, MG2.8(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.73**	**215**	P	Pn	16 20 19.8	-0.8
AMKA				S	Sn	16 20 37.7	-1.0
ATKA	**Atka Island**	**3.61**	**84**	P	Pn	16 20 50.2	-2.1
UNV	**Unalaska Valle**	**8.39**	**72**	*e*P	Pn	16 21 53.9	-1.4

IDC ***19*** *16:29:09.7±2.3, 4747N×15584E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=75.1km s-min=29.3km az=177.0*
ISCJB ***19*** *16:29:10.5±6.0, 474N±02×1557E±03, h18km±40km, mb3.8/4, Error ellipse: s-maj=47.6km s-min=20.3km az=96.7*
MOS ***19*** *16:29:12.7±0.7, 4743N×15564E, h34km, mb4.2/3, Error ellipse: s-maj=41.8km s-min=28.2km az=87.5*

ISC 19 16:29:14.2±6.2, 475N±02×1557E±03, h29km±41km, n9, σ0°13/9, mb3.8/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.20**	**4**	*e*PN	**Pn**	**16 30 02.5**	**0.0**
ASAJ	**Asahikawa**	**9.77**	**255**	Pn	**Pn**	**16 31 32.8**	**0.0**
	0.1nm,0.3s,baz=137,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**48.18**	**298**	P	**P**	**16 37 51.6**	**-0.3**
	0.7nm,0.7s,mb3.8,baz=66,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**48.18**	**298**	P	**P**	**16 37 51.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**16 38 19.1**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=58,slow=8.9,SNR=6.7						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**16 38 19.1**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**16 39 45.8**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=54,slow=9.7,SNR=3.3						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**16 39 45.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**75.57**	**62**	P	**P**	**16 40 56.0**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=319,slow=5.4,SNR=2.8						

ISCJB ***19*** *16:33:17.4±0.7, 468N±0.1×1549E±0.1, h10km, mb4.2/21, Error ellipse: s-maj=17.8km s-min=8.8km az=104.3*
IDC ***19*** *16:33:17.2±1.0, 4678N×15491E, h0km, mb4.0/13, mb1 4.2/15, mb1mx4.0/26, mbtmp4.0/15, ML3.6/2, Error ellipse: s-maj=27.4km s-min=16.8km az=163.0*
NEIC ***19*** *16:33:18.8±0.8, 4677N×15480E, h10km, mb4.3/4, Error ellipse: s-maj=20.7km s-min=12.2km az=139.0

nsta2 refers to surface waves, cutoff=50s.
*NEIC **19** 16:34:25.9±0.3, 6.26S×151.43E, h10km, mb5.0/14 Error ellipse: s-maj=8.8km s-min=6.8km az=127.0*
*MOS **19** 16:34:27.8±0.9, 6.23S×151.37E, h33km, mb4.7/18, Error ellipse: s-maj=19.2km s-min=13.8km az=95.5*
*BJI **19** 16:34:28.1, 6.40S×151.84E, h65km, mB5.2, mb4.6, Ms4.5, Msz4.3*
*ISCJB **19** 16:34:30.1±0.3, 6.38S±0.05×151.49E±0.05, h57km, mb4.6/36, MS4.2/26, Error ellipse: s-maj=7.9km s-min=6.3km az=58.0*
ISC 19 16:34:32.1±0.3, 6.38S±0.04×151.54E±0.05, h59km, h59km±2.9km: pP-P, n107, σ0§94/103, mb4.6/36, MS4.2/26, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**5.28**	**235**	Pn		**Pn**		**16 35 47.2**	**-1.2**
	12nm,0.3s,baz=25,slow=5.4,SNR=42								
PMG				Sn		**Sn**		**16 36 49.3**	**+1.4**
	25nm,0.3s,baz=114,slow=20,SNR=12								
PMG				LR		LR		16 37 51.5	
	comp=Z,753nm,20.3s,baz=270,slow=40								
PMG	**Port Moresby**	**5.28**	**235**	*e*P		**Pn**		**16 35 47.1**	**-1.3**
PMG				*e*S		**Sn**		**16 36 48.7**	**+0.8**
PMG				pmax		pmax			
	comp=Z,88nm,0.8s								
PMG	**Port Moresby**	**5.28**	**235**	*e*P		**Pn**		**16 35 47.1**	**-1.3**
	comp=Z,88nm,0.8s								
PMG				*e*S		**Sn**		**16 36 48.7**	**+0.8**
HNR	**Honiara**	**8.86**	**111**	Pn		**Pn**		**16 36 37.1**	**-0.3**
	comp=Z,4.0nm,0.3s,baz=112,slow=1.2,SNR=5.5								
HNR	**Honiara**	**8.86**	**111**	P		**Pn**		**16 36 37.1**	**-0.3**
HNR				pmax		pmax			
	comp=Z,4.0nm,0.3s								
HNR	**Honiara**	**8.86**	**111**	*e*Pn		**Pn**		**16 36 38.1**	**+0.7**
CTA	**Charters Tower**	**14.56**	**200**	LR		LR		16 43 05.7	
	comp=Z,870nm,18.6s,baz=18,slow=36								
KAKA	**Kakadu**	**19.85**	**250**	*e*P		**Pn**		**16 38 57.5**	**-2.7**
	comp=Z,70nm,1.2s								
GUMO	**Guam**	**20.91**	**342**	LR		LR		16 45 32.9	
	comp=Z,460nm,19.9s,MS3.9,baz=109,slow=32								
DZM	**Mont Dzumac**	**21.23**	**139**	P		**P**		**16 39 14.8**	**+1.8**
	comp=Z,9.4nm,0.9s,mb4.1,baz=330,slow=20,SNR=3.2								
DZM				LR		LR		16 46 24.0	
	comp=Z,1μm,19.5s,MS4.3,baz=116,slow=34								
DZM	**Mont Dzumac**	**21.23**	**139**	P		**P**		**16 39 14.8**	**+1.8**
DZM				LR		LR		16 46 24.0	
WB2	**Warramunga Arr**	**21.46**	**229**	⇑*i*P		**P**		**16 39 14.6**	**-0.9**
WB2				*e*S		**S**		**16 43 12.3**	**+2.1**
WRA	**Warramunga Arr**	**21.47**	**229**	P		**P**		**16 39 14.7**	**-0.9**
	comp=Z,31nm,1.1s,mb4.6,baz=54,slow=11,SNR=52								
WRA				S		**S**		**16 43 11.6**	**+1.3**
	comp=Z,1.9nm,1.1s,baz=53,slow=17,SNR=5.5								
WRA				ScP		ScP		16 47 02.9	+14
	comp=Z,1.9nm,0.9s,baz=53,slow=2.7,SNR=6.2								
WRA				LR		LR		16 47 04.3	
	comp=Z,262nm,19.5s,MS3.6,baz=60,slow=36								
WRA	**Warramunga Arr**	**21.47**	**229**	P		**P**		**16 39 14.7**	**-0.9**
WRA				S		**S**		**16 43 11.6**	**+1.2**
WRA				pmax		pmax			
	comp=Z,31nm,1.1s								
WRA				smax					
	comp=N,2.0nm,1.1s								
WRA				MLR		MLR			
	comp=Z,263nm,19.5s								
AS31	**Alice Springs**	**24.15**	**223**	*e*P		**P**		**16 39 42.2**	**-0.3**
ASAR	**Alice Springs**	**24.15**	**223**	P		**P**		**16 39 42.5**	**-0.1**
	comp=Z,31nm,0.9s,mb4.7,baz=55,slow=8.3,SNR=125								
ASAR				S		**S**		**16 44 03.4**	**+7.0**
	comp=Z,2.2nm,1.1s,baz=37,slow=19,SNR=5.9								
ASAR				ScP		ScP		16 47 09.7	+14
	comp=Z,1.4nm,1.0s,baz=48,slow=3.8,SNR=6.4								
ASAR				LR		LR		16 48 49.0	
	comp=Z,247nm,18.8s,MS3.7,baz=62,slow=36								
ASAR	**Alice Springs**	**24.15**	**223**	P		**P**		**16 39 42.5**	**-0.1**
ASAR				S		**S**		**16 44 03.4**	**+7.0**
ASAR				pmax		pmax			
	comp=Z,31nm,0.9s								
ASAR				smax					
	comp=N,2.0nm,1.1s								
ASAR				MLR		MLR			
	comp=Z,247nm,18.8s								
ASAR	**Alice Springs**	**24.15**	**223**	P		**P**		**16 39 42.5**	**-0.1**
ASAR				S		**S**		**16 44 03.4**	**+7.0**
ASAR				ScP		ScP		16 47 09.7	+14
ASAR				LR		LR		16 48 49.0	
STKA	**Stephens Creek**	**27.02**	**199**	*e*P		**P**		**16 40 07.4**	**-1.1**
	comp=Z,13nm,0.9s,mb4.5								
STKA	**Stephens Creek**	**27.02**	**199**	P		**P**		**16 40 08.1**	**-0.5**
	comp=Z,15nm,0.9s,mb4.5,baz=16,slow=11,SNR=27								
STKA				LR		LR		16 51 16.7	
	comp=Z,416nm,18.3s,MS4.0,baz=24,slow=37								
FITZ	**Fitzroy Crossi**	**27.82**	**243**	*e*P		**P**		**16 40 15.9**	**+0.2**
	comp=Z,21nm,0.3s,mb5.2								
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P		**P**		**16 40 15.9**	**+0.2**
	comp=Z,4.0nm,0.4s,mb4.4,baz=42,slow=11,SNR=54								
FITZ				LR		LR		16 51 49.8	
	comp=Z,182nm,19.0s,MS3.7,baz=64,slow=38								
FORT	**Forrest**	**32.78**	**219**	*e*P		**P**		**16 40 58.8**	**-0.7**
	comp=Z,19nm,0.7s,mb5.1								
URZ	**Urewera**	**39.30**	**148**	LR		LR		16 56 40.3	
	comp=Z,359nm,19.0s,MS4.2,baz=0.4,slow=34								
RPZ	**Rata Peaks**	**40.95**	**158**	LR		LR		16 56 51.5	
	comp=Z,766nm,19.2s,MS4.6,baz=357,slow=33								
NWAO	**Narrogin (SRO)**	**41.40**	**226**	LR		LR		16 58 56.9	
	comp=Z,235nm,20.1s,MS4.0,baz=266,slow=36								
MJAR	**Matsushiro Arr**	**44.49**	**345**	PcP		PcP		16 44 20.7	+0.7
	comp=Z,2.1nm,0.8s,baz=160,slow=3.5,SNR=5.2								
MJAR				LR		LR		17 00 04.3	
	comp=Z,248nm,19.4s,MS4.1,baz=150,slow=35								
SSE	**Sheshan**	**47.23**	**324**	*e*P		**P**		**16 42 59.5**	**+0.3**
SSE				AP		pP		16 43 14.4	0.0
SSE				XP		sP		16 43 22.5	+1.3
SSE				PCP		PcP		16 44 29.8	+0.2
SSE				S		**S**		**16 49 49.9**	**+2.0**
SSE				XS		sS		16 50 14.8	+1.1
SSE				AMB		AMB			
	comp=Z,22nm,0.6s,mb5.3								
SSE				AMB		AMB			
	comp=Z,295nm,4.2s								
SSE				LR		LR			
	comp=N,134nm,25.9s,MS4.0								
SSE				LR		LR			
	comp=E,146nm,25.9s,MS4.0								
SSE				LR		LR			
	comp=Z,230nm,28.5s,MS4.0								
SSE	**Sheshan**	**47.23**	**324**	*e*P		**P**		**16 42 59.5**	**+0.3**
	comp=Z,22nm,0.6s,mb5.3								
SSE				pP		pP		16 43 14.4	0.0
SSE				sP		sP		16 43 22.5	+1.3
SSE				PcP		PcP		16 44 29.7	+0.1
SSE				S		**S**		**16 49 49.9**	**+2.0**
SSE				sS		sS		16 50 14.7	+1.0
SSE				LR		LR			
	comp=Z,230nm,28.5s,MS4.0								
KSRS	**Korea Array**	**48.86**	**335**	P		**P**		**16 43 11.4**	**-0.3**
	comp=Z,2.6nm,1.0s,mb4.2,baz=153,slow=10,SNR=6.1								
KSRS				PcP		PcP		16 44 36.2	+0.7
	comp=Z,1.0nm,0.8s,baz=180,slow=2.5,SNR=6.7								
KSRS				LR		LR		16 59 55.1	
	comp=Z,120nm,21.3s,MS3.9,baz=154,slow=31								
NJ2	**Nanjing**	**49.30**	**323**	*e*P		**P**		**16 43 14.8**	**-0.3**
NJ2				AP		pP		16 43 30.1	-0.3
NJ2				XP		sP		16 43 36.3	-0.9
NJ2				PP		PP		16 45 10.9	+1.5
NJ2				S		**S**		**16 50 15.5**	**-1.6**
NJ2				AMB		AMB			
	comp=Z,370nm,4.8s								
NJ2				LR		LR			
	comp=N,1μm,19.1s,MS5.1								
NJ2				LR		LR			
	comp=E,2μm,19.6s,MS5.1								
NJ2				LR		LR			
	comp=Z,1μm,18.8s,MS5.0								
RAR	**Rarotonga**	**49.31**	**112**	LR		LR		17 00 33.4	
	comp=Z,78nm,18.8s,MS3.7,baz=271,slow=32								
GYA	**Guiyang**	**54.38**	**309**	P		**P**		**16 43 53.4**	**+0.5**
GYA				AP		pP		16 44 09.8	+1.4
GYA				XP		sP		16 44 15.8	+0.7
GYA				PCP		PcP		16 44 57.9	+1.8
GYA				PP		PP		16 45 58.6	+3.3
GYA				S		**S**		**16 51 27.0**	**+0.2**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
GYA				AMB		AMB			
	comp=Z,110nm,5.0s								
GYA				LR		LR			
	comp=N,340nm,18.4s,MS4.6								
GYA				LR		LR			
	comp=E,390nm,18.6s,MS4.6								
GYA				LR		LR			
	comp=Z,410nm,19.0s,MS4.5								
KMI	**Kunming**	**56.85**	**305**	P		**P**		**16 44 11.1**	**+0.5**
KMI				AP		pP		16 44 29.3	+3.1
KMI				XP		sP		16 44 36.9	+4.0
KMI				S		**S**		**16 51 59.9**	**+0.2**
KMI				AMB		AMB			
	comp=Z,5.0nm,1.4s,mb4.3								
KMI				AMB		AMB			
	comp=Z,65nm,5.9s								
KMI				LR		LR			
	comp=N,159nm,16.7s								
KMI				LR		LR			
	comp=E,141nm,22.5s								
KMI				LR		LR			
	comp=Z,248nm,24.5s								
KMI	**Kunming**	**56.85**	**305**	P		**P**		**16 44 11.1**	**+0.5**
	comp=Z,5.0nm,1.4s,mb4.3								
KMI				pP		pP		16 44 29.2	+3.0
KMI				sP		sP		16 44 36.9	+4.0
KMI				S		**S**		**16 51 59.9**	**+0.2**
KMI				LR		LR			
	comp=Z,250nm,24.5s,MS4.2								
XAN	**Xi'an**	**56.92**	**318**	P		**P**		**16 44 10.1**	**-1.0**
XAN				AMB		AMB			
	comp=Z,9.0nm,1.2s,mb4.7								
PPT	**Papeete**	**58.46**	**107**	*e*LR		LR		17 01 57.1	
	comp=Z,112nm,27.0s								
CD2	**Chengdu**	**58.83**	**312**	*e*P		**P**		**16 44 24.4**	**-0.1**
CD2				XP		sP		16 44 47.4	+0.6
CD2				PP		PP		16 46 36.8	+1.8
CD2				S		**S**		**16 52 23.4**	**-2.2**
CD2				XS		sS		16 52 50.8	-1.3
CD2				SS		SS		16 56 19.1	-0.5
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
CD2				AMB		AMB			
	comp=Z,230nm,6.8s								
CD2				LR		LR			
	comp=N,340nm,19.2s,MS4.6								
CD2				LR		LR			
	comp=E,290nm,20.2s,MS4.6								
CD2				LR		LR			
	comp=Z,470nm,21.6s,MS4.6								
TBI	**Tubuai**	**59.07**	**113**	*e*S				16 52 45.7	
	comp=Z,105nm,38.8s								
TBI				*e*LR		LR		17 02 13.5	
	comp=Z,334nm,34.0s								
HHC	**Hu-ho-hao-te**	**59.61**	**326**	*e*P		**P**		**16 44 31.8**	**+1.9**
HHC				AP		pP		16 44 47.8	+2.2
HHC				XP		sP		16 44 54.9	+2.7
HHC				PCP		PcP		16 45 17.8	+1.3
HHC				PP		PP		16 46 45.8	+3.9
HHC				S		**S**		**16 52 37.5**	**+1.8**
HHC				SCS		ScS		16 54 13.6	-1.3
HHC				SS		SS		16 56 35.5	+3.6
HHC				AMB		AMB			
	comp=Z,9.0nm,1.3s,mb4.6								
HHC				AMB		AMB			
	comp=Z,106nm,4.9s								
HHC				LR		LR			
	comp=N,249nm,17.5s,MS4.5								
HHC				LR		LR			
	comp=E,170nm,18.8s,MS4.5								
HHC				LR		LR			
	comp=Z,200nm,16.3s,MS4.3								
LZH	**Lanzhou**	**61.50**	**317**	*e*P		**P**		**16 44 43.0**	**+0.3**
LZH				AMB		AMB			
	comp=Z,30nm,1.1s,mb5.3								
LZH				AMB		AMB			
	comp=Z,125nm,4.2s								
LZH	**Lanzhou**	**61.50**	**317**	*e*P		**P**		**16 44 43.0**	**+0.3**
	comp=Z,30nm,1.1s,mb5.3								
LZH				pP		pP		16 45 10.0	+11
LZH				sP		sP		16 45 25.0	+20
GTA	**Gaotai**	**65.97**	**318**	*e*P		**P**		**16 45 12.5**	**+0.3**
GTA				AP		pP		16 45 26.3	-1.8
GTA				PP		PP		16 47 42.5	+4.6
GTA				PPP				16 49 18.3	
GTA				S		S		16 53 57.8	+2.5
GTA				XS		sS		16 54 19.8	-2.5
GTA				SS		SS		16 58 14.8	+3.5
GTA				AMB		AMB			
	comp=Z,5.0nm,1.0s,mb4.5								
GTA				AMB		AMB			
	comp=Z,22nm,4.3s								
GTA				LR		LR			
	comp=N,75nm,17.5s,MS4.3								
GTA				LR		LR			
	comp=E,157nm,16.0s,MS4.3								
GTA				LR		LR			
	comp=Z,177nm,15.6s,MS4.4								
ULN	**Ulaanbaatar**	**66.68**	**329**	*e*P		**P**		**16 45 15.4**	**-1.3**
SONM	**Songino Array**	**67.00**	**329**	P		**P**		**16 45 18.3**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.4,baz=148,slow=5.4,SNR=23								
SONM				LR		LR		17 14 36.5	
	comp=Z,113nm,19.4s,MS4.1,baz=356,slow=36								
SONM	**Songino Array**	**67.00**	**329**	P		**P**		**16 45 18.3**	**-0.4**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.5s								
SONM				MLR		MLR			
	comp=Z,113nm,19.5s								
LSA	**Lhasa**	**68.11**	**305**	P		**P**		**16 45 27.0**	**+1.3**
LSA	**Lhasa**	**68.11**	**305**	*e*P		**P**		**16 45 26.4**	**+0.7**
LSA				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**68.11**	**305**	*e*P		**P**		**16 45 26.4**	**+0.7**
	comp=Z,3.6nm,0.8s,mb4.5								
ZAK	**Zakamensk**	**70.19**	**329**	*e*P		**P**		**16 45 38.0**	**-0.6**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.3								
YAK	**Yakutsk**	**70.27**	**349**	*e*P		**P**		**16 45 38.3**	**-0.8**
YAK				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.7								
BOD	**Bodaibo**	**70.82**	**340**	*e*P		**P**		**16 45 38.8**	**-3.6**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.3s,mb4.4								
VNDA	**Vanda**	**71.31**	**178**	P		**P**		**16 45 44.7**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.3,baz=328,slow=5.4,SNR=8.1								
VNDA				LR		LR		17 15 41.4	
	comp=Z,91nm,19.4s,MS4.0,baz=184,slow=35								
VNDA	**Vanda**	**71.31**	**178**	P		**P**		**16 45 44.7**	**-0.7**
VNDA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
VNDA				MLR		MLR			
	comp=Z,91nm,19.4s								
VNDA	**Vanda**	**71.31**	**178**	*e*P		**P**		**16 45 44.8**	**-0.6**
	comp=Z,3.3nm,1.0s,mb4.2								
JIRN	**Jiri**	**71.54**	**302**	*e*P		**P**		**16 45 47.3**	**+0.5**
GUN	**Gumba**	**71.88**	**302**	*e*P		**P**		**16 45 49.2**	**+0.4**
	comp=Z,9.6nm,0.4s,mb5.1								
PKI	**Pulchoki**	**72.17**	**301**	*e*P		**P**		**16 45 50.5**	**-0.1**
KKN	**Kakani**	**72.34**	**302**	*e*P		**P**		**16 45 51.6**	**0.0**
RKT	**Rikitea**	**72.35**	**112**	*e*LR		LR		17 08 38.6	
	comp=Z,246nm,33.2s								
DMN	**Daman**	**72.44**	**301**	*e*P		**P**		**16 45 52.5**	**+0.3**
GKN	**Gorkha**	**72.95**	**302**	*e*P		**P**		**16 45 55.1**	**-0.1**
KOLN	**Koldanda**	**73.76**	**301**	*e*P		**P**		**16 45 59.9**	**-0.1**
	comp=Z,41nm,1.5s,mb5.1								
BILL	**Bilibino**	**74.97**	**6**	*e*P		**P**		**16 46 05.1**	**-1.9**
BILL				*e*		pP		16 46 19.7	-3.6
BILL				pmax		pmax			
	comp=Z,21nm,1.0s,mb5.0								
BILL	**Bilibino**	**74.97**	**6**	*e*P		**P**		**16 46 06.7**	**-0.3**
	comp=Z,20nm,1.0s,mb5.0								
WMQ	**Urumqi**	**76.06**	**318**	⇑*i*P		**P**		**16 46 13.8**	**+0.6**
WMQ				PCP		PcP		16 46 26.3	+1.1
WMQ				AP		pP		16 46 28.4	-1.1
WMQ				XP		sP		16 46 34.5	-1.5
WMQ				PP		PP		16 49 06.3	+1.8
WMQ				*e*S		S		16 55 51.4	-0.7
WMQ				SKS				16 56 13.3	
WMQ				XS		sS		16 56 18.4	-1.2
WMQ				SCS		ScS		16 56 19.6	-3.4
WMQ				PS				16 56 36.4	
WMQ				AMB		AMB			
	comp=Z,8.0nm,1.3s,mb4.5								
WMQ				AMB		AMB			
	comp=Z,71nm,5.0s								
WMQ				LR		LR			
	comp=N,93nm,20.0s,MS4.1								
WMQ				LR		LR			
	comp=E,56nm,23.8s,MS4.1								
WMQ				LR		LR			
	comp=Z,60nm,23.8s,MS3.8								
SLKM	**Skilak Lake**	**80.62**	**25**	*e*P		**P**		**16 46 38.0**	**-0.4**
MKAR	**Makanchi Array**	**80.69**	**319**	P		**P**		**16 46 38.6**	**-0.1**
	comp=Z,2.3nm,1.0s,mb4.1,baz=99,slow=7.5,SNR=12								
MKAR	**Makanchi Array**	**80.69**	**319**	P		**P**		**16 46 38.6**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ZAL	**Zalesovo**	**81.78**	**327**	P		**P**		**16 46 43.2**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=346,slow=4.2,SNR=8.4								
ZAL				LR		LR		17 22 31.5	
	comp=Z,127nm,19.9s,MS4.3,baz=171,slow=35								
ZAL	**Zalesovo**	**81.78**	**327**	P		**P**		**16 46 43.2**	**-1.3**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ZAL				MLR		MLR			
	comp=Z,127nm,19.9s								
SML	**Sawmill**	**82.07**	**25**	*e*P		**P**		**16 46 45.9**	**-0.2**
IMA2	**Indian Mountai**	**82.35**	**20**	*e*P		**P**		**16 46 47.6**	**+0.1**
MCK	**McKinley**	**82.79**	**23**	*e*P		**P**		**16 46 48.9**	**-0.9**
MCK				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.0								
MCK	**McKinley**	**82.79**	**23**	*e*P		**P**		**16 46 48.9**	**-1.0**
	comp=Z,17nm,1.0s,mb5.0								
QSPA	**South Pole Qui**	**83.59**	**180**	⇑*i*P		**P**		**16 46 54.4**	**+0.5**
	comp=Z,24nm,1.3s,mb5.2								
MAW	**Mawson**	**83.64**	**203**	P		**P**		**16 46 54.0**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.1,baz=86,slow=8.3,SNR=6.9								
MAW				LR		LR		17 20 02.5	
	comp=Z,189nm,21.6s,MS4.4,baz=316,slow=33								
MAW	**Mawson**	**83.64**	**203**	P		**P**		**16 46 54.0**	**-0.2**
MAW				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MAW				MLR		MLR			
	comp=Z,189nm,21.6s								
KZA	**Kyzart**	**84.17**	**313**	P		**P**		**16 46 58.7**	**+1.8**
	SNR=9.3								
UCH	**Uchtor**	**84.73**	**313**	P		**P**		**16 47 01.1**	**+1.4**
	SNR=9.9								
AAK	**Ala-Archa**	**84.84**	**314**	P		**P**		**16 47 01.7**	**+1.5**
	SNR=6.7								
AAK	**Ala-Archa**	**84.84**	**314**	*e*P		**P**		**16 46 58.2**	**-2.1**
AAK				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.5								
AAK	**Ala-Archa**	**84.84**	**314**	*e*P		**P**		**16 46 59.7**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.5								
USP	**Ospenovka**	**84.98**	**314**	P		**P**		**16 47 01.5**	**+0.5**
	SNR=6.3								
AML	**Almayashu**	**85.30**	**313**	P		**P**		**16 47 04.7**	**+2.1**
	SNR=7.0								
EKS2	**Erkin-Say**	**85.36**	**314**	P		**P**		**16 47 02.7**	**-0.2**
	SNR=12								
EGAK	**Eagle**	**86.29**	**23**	*e*P		**P**		**16 47 07.7**	**+0.2**
	comp=Z,13nm,0.9s,mb5.2								
DAWY	**Dawson**	**86.73**	**24**	*e*P		**P**		**16 47 09.9**	**+0.3**
BVAR	**Borovoye Array**	**89.75**	**323**	P		**P**		**16 47 23.1**	**-0.9**
	comp=Z,1.0nm,0.7s,mb4.3,baz=96,slow=6.1,SNR=5.9								
BVAR	**Borovoye Array**	**89.75**	**323**	P		**P**		**16 47 23.1**	**-0.9**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**90.37**	**21**	P		**P**		**16 47 25.9**	**-0.9**
	comp=Z,5.4nm,1.0s,mb4.8,baz=229,slow=6.7,SNR=17								
INK				LR		LR		17 23 48.6	
	comp=Z,75nm,19.2s,MS4.1,baz=231,slow=33								
INK	**Inuvik**	**90.37**	**21**	P		**P**		**16 47 25.9**	**-1.0**
INK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
INK				MLR		MLR			
	comp=Z,75nm,19.3s								
INK	**Inuvik**	**90.37**	**21**	*e*P		**P**		**16 47 25.9**	**-0.9**
	comp=Z,3μm,2.0s								
NVAR	**Mina Array Bea**	**94.04**	**52**	P		**P**		**16 47 45.1**	**+1.3**
	comp=Z,2.7nm,0.8s,mb4.7,baz=265,slow=5.1,SNR=15								
YKA	**Yellowknife Ar**	**97.40**	**28**	P		**P**		**16 47 59.4**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.5,baz=273,slow=4.6,SNR=4.1								
YKA				LR		LR		17 28 09.6	
	comp=Z,48nm,18.1s,MS4.0,baz=355,slow=33								
YKA	**Yellowknife Ar**	**97.40**	**28**	P		**P**		**16 47 59.4**	**+0.3**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
YKA				MLR		MLR			
	comp=Z,48nm,18.1s								
PDAR	**Pinedale Array**	**100.83**	**48**	P		Pdif		16 48 15.0	+0.6
	comp=Z,0.6nm,0.7s,baz=262,slow=3.1,SNR=5.8								
DPC	**Dobruska-Polom**	**122.46**	**328**	*e*PKPdf		PKPdf		16 53 23.5	+2.8
CLL	**Collm**	**123.60**	**330**	*e*pPKPdf		pPKPdf		16 53 30.0	-10
KHC	**Kasperske Hory**	**124.62**	**328**	*e*PKPdf		PKPdf		16 53 25.9	+1.1
GERES	**GERESS Array B**	**124.72**	**327**	PKP		PKPdf		16 53 24.3	-0.7
	comp=Z,1.0nm,0.7s,baz=90,slow=1.3,SNR=8.5								
GERES	**GERESS Array B**	**124.72**	**327**	PKIKP		PKPdf		16 53 24.3	-0.7
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
LPAZ	**La Paz**	**134.74**	**120**	PKP		PKPdf		16 53 47.3	+3.2
	comp=Z,1.9nm,0.8s,baz=182,slow=4.7,SNR=7.2								
LPAZ	**La Paz**	**134.74**	**120**	PKIKP		PKPdf		16 53 47.3	+3.3
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SDV	**Santo Domingo**	**138.14**	**84**	*e*PKPdf		PKPdf		16 53 52.6	+2.3
TOA0	**Torodi Ar. Sit**	**149.56**	**285**	*e*PKPbc		PKPbc		16 54 15.3	+0.6
TORD	**Torodi Ar. Bea**	**149.56**	**285**	PKPbc		PKPbc		16 54 15.4	+0.6
	comp=Z,8.5nm,0.7s,baz=36,slow=2.9,SNR=40								

*IDC **19** 16:46:42.6±1.2, 8.94N×93.55E, h0km, mb3.6

19nm,0.3s,baz=60,slow=20,SNR=2.7
MJAR Matsushiro Arr 7.34 347 Pn **Pn 16 57 20.4 -2.1**
0.3nm,0.3s,baz=150,slow=12,SNR=4.7
MJAR Sn **Sn 16 58 48.1 +3.6**
0.4nm,0.3s,baz=108,slow=11,SNR=2.8
MAT Matsushiro 7.34 347 P **Pn 16 57 28.7 +6.2**
MAT S **Sn 16 58 49.3 +4.7**
ASAJ Asahikawa 14.80 6 Pn **Pn 16 58 59.5 -5.1**
0.4nm,0.3s,baz=231,slow=13,SNR=3.7
YSS Yuzh-Sakhalins 17.63 5 *e*P **Pn 16 59 40.4 -0.2**
KLR Kul'dur 20.86 344 *e*P **P 17 00 12.4 -4.2**
XAN Xi'an 27.05 288 P **P 17 01 17.3 +0.5**
XAN AP pP 17 01 27.0 +0.2
XAN AMB AMB
comp=Z,5.0nm,1.1s,mb4.0
SONM Songino Array 31.93 315 P **P 17 01 59.7 -0.4**
comp=Z,0.6nm,0.8s,mb3.5,baz=148,slow=6.5,SNR=4.9
TIXI Tiksi 42.77 355 *e*P **P 17 03 30.6 -1.2**
TIXI pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
TIXI Tiksi 42.77 355 *e*P **P 17 03 30.6 -1.3**
comp=Z,1.4nm,0.5s,mb4.0
ZAL Zalesovo 46.70 318 P **P 17 04 02.4 -0.7**
comp=Z,0.7nm,0.3s,mb4.1,baz=343,slow=8.9,SNR=3.3
ZAL PcP PcP 17 05 34.9 -1.4
comp=Z,0.7nm,0.6s,baz=51,slow=3.8,SNR=5.1
ZAL Zalesovo 46.70 318 P **P 17 04 02.4 -0.7**
ZAL PcP PcP 17 05 34.9 -1.4
JIRN Jiri 47.24 282 *e*P **P 17 04 09.0 +1.7**
comp=Z,20nm,0.8s,mb5.1
GUN Gumba 47.44 282 *e*P **P 17 04 10.6 +1.7**
comp=Z,41nm,1.1s,mb5.3
MKAR Makanchi Array 47.76 308 P **P 17 04 10.0 -1.4**
comp=Z,0.6nm,0.9s,mb3.6,baz=86,slow=16,SNR=3.6
MKAR PcP PcP 17 05 37.5 -2.6
comp=Z,0.5nm,0.7s,baz=91,slow=4.9,SNR=3.6
MKAR Makanchi Array 47.76 308 P **P 17 04 10.0 -1.4**
MKAR PcP PcP 17 05 37.5 -2.6
KKN Kakani 47.98 282 *e*P **P 17 04 14.2 +1.1**
DMN Daman 48.18 282 *e*P **P 17 04 15.4 +0.8**
GKN Gorkha 48.47 283 *e*P **P 17 04 17.8 +0.9**
FITZ Fitzroy Crossi 49.30 199 P **P 17 04 24.6 +1.3**
comp=Z,5.4nm,1.1s,mb4.5,baz=91,slow=8.6,SNR=4.2
WRAB Tennant Creek 49.38 187 *e*P **P 17 04 23.4 -0.5**
comp=Z,22nm,1.6s,mb4.9
WB2 Warramunga Arr 49.39 187 *e*P **P 17 04 24.1 +0.2**
WRA Warramunga Arr 49.39 187 P **P 17 04 23.7 -0.2**
comp=Z,3.4nm,0.6s,mb4.5,baz=4.3,slow=7.8,SNR=45
KOLN Koldanda 49.42 283 *e*P **P 17 04 25.3 +1.2**
comp=Z,24nm,0.9s,mb5.2
AS31 Alice Springs 53.12 187 *e*P **P 17 04 51.8 -0.1**
ASAR Alice Springs 53.12 187 P **P 17 04 52.1 +0.2**
comp=Z,2.7nm,1.0s,mb4.1,baz=0.1,slow=5.9,SNR=14
ASPA Alice Springs 53.12 187 *e*P **P 17 04 52.0 +0.1**
BVAR Borovoye Array 55.25 316 P **P 17 05 06.5 -0.9**
comp=Z,1.2nm,0.7s,mb4.1,baz=99,slow=9.2,SNR=8.9
BRVK Borovoye 55.31 316 *e*P **P 17 05 07.2 -0.7**
STKA Stephens Creek 60.95 179 P **P 17 05 46.8 -0.5**
comp=Z,2.1nm,0.9s,mb4.2,baz=34,slow=4.7,SNR=4.0
INK Inuvik 61.63 25 P **P 17 05 52.0 0.0**
comp=Z,1.0nm,0.7s,mb4.1,baz=289,slow=3.9,SNR=7.6
INK Inuvik 61.63 25 P **P 17 05 52.0 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 61.63 25 *e*P **P 17 05 51.8 -0.1**
AKTK Aktyubinsk 63.25 315 P **P 17 06 00.3 -2.4**
AKTO Aktyubinsk 63.25 315 P **P 17 06 00.3 -2.4**
comp=Z,1.5nm,0.9s,mb4.1,baz=93,slow=17,SNR=5.2
ARCES ARCESS Array B 70.83 340 P **P 17 06 50.1 -0.8**
comp=Z,8.2nm,1.0s,mb4.6,baz=37,slow=6.2,SNR=5.8
YKA Yellowknife Ar 70.90 28 P **P 17 06 51.3 0.0**
comp=Z,2.7nm,0.7s,mb4.3,baz=294,slow=6.5,SNR=5.2
YKA Yellowknife Ar 70.90 28 P **P 17 06 51.3 0.0**
FINES FINESS Array B 75.16 333 P **P 17 07 15.7 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=57,slow=7.0,SNR=9.3
EDM Edmonton 75.95 37 *e*P **P 17 07 21.7 +0.7**
AKASG Malin Array Be 79.80 323 P **P 17 07 41.1 -1.3**
AKASG LR LR 17 41 41.8
comp=Z,78nm,18.6s,MS4.1,baz=50,slow=35
NVAR Mina Array Bea 80.38 51 P **P 17 07 46.7 +1.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=281,slow=10,SNR=8.7
NOA NORSAR Array B 80.87 338 P **P 17 07 46.8 -1.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=48,slow=4.8,SNR=3.3
NOA LR LR 17 46 05.3
comp=Z,36nm,19.2s,MS3.7,baz=215,slow=38
BRTR Keskin Array B 83.25 312 P **P 17 08 00.5 -0.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=82,slow=4.6,SNR=7.6
BW06 Boulder Array 83.72 44 *e*P **P 17 08 04.0 +0.9**
comp=Z,0.9nm,0.6s,mb4.1
PDAR Pinedale Array 83.72 44 P **P 17 08 04.1 +1.0**
comp=Z,1.4nm,0.9s,mb4.1,baz=292,slow=4.7,SNR=9.2
JLU Jordanelle 83.75 47 *e*P **P 17 08 05.0 +1.8**
FRB Frobisher Bay 84.40 12 P **P 17 08 05.2 -1.3**
comp=Z,9.0nm,0.9s,mb4.9,baz=15,slow=12,SNR=4.2
PV10 Paradox Valley 86.55 47 *e*P **P 17 08 19.1 +1.8**
PV01 Paradox Valley 86.99 47 *e*P **P 17 08 20.8 +1.4**
GERES GERESS Array B 88.70 328 LR LR 17 48 18.1
comp=Z,114nm,21.9s,MS4.2,baz=206,slow=36
ANMO Albuquerque 90.23 49 P **P 17 08 36.5 +1.7**
comp=Z,0.9nm,0.6s,mb4.3,baz=1.8,slow=2.3,SNR=4.4
TXAR Lajitas Array 95.51 52 P **P 17 09 00.9 +1.8**
comp=Z,1.4nm,0.6s,mb4.6,baz=312,slow=2.8,SNR=18
LPAZ La Paz 150.80 70 PKPbc PKPbc 17 15 28.6 +2.2
comp=Z,6.9nm,0.8s,baz=329,slow=3.4,SNR=26

*ISCJB **19** 16:59:39.1±1.3,458N±02×1545E±02,h10km,mb3.9/6, Error ellipse: s-maj=31.9km s-min=13.9km az=132.1*
*IDC **19** 16:59:39.3±2.1,4579N×15451E,h0km,mb3.8/6, mb1 3.8/8,mb1mx3.6/26,mbtmp3.7/8,ML3.3/2,Error ellipse: s-maj=59.7km s-min=23.7km az=166.0*
*NEIC **19** 16:59:40.5±1.2, 4573N×15466E,h10km,Error ellipse: s-maj=30.1km s-min=14.4km az=157.0*
ISC 19 16:59:44.6±3.0,457N±02×1545E±03,h42km±29km,n12, σ0s91/12,mb3.9/6,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.23**	**283**	*e*P	**Pn**	**17 01 42.4**	**+1.1**
ASAJ	**Asahikawa**	**8.60**	**264**	Pn	**Pn**	**17 01 44.9**	**-1.4**
	0.5nm,0.3s,baz=273,slow=17,SNR=6.4						
MJAR	**Matsushiro Arr**	**15.28**	**239**	Pn	**Pn**	**17 03 17.5**	**+0.2**
	0.1nm,0.3s,baz=60,slow=14,SNR=2.5						
MJAR	**Matsushiro Arr**	**15.28**	**239**	Pn	**Pn**	**17 03 17.5**	**+0.2**
SONM	**Songino Array**	**32.61**	**291**	P	**P**	**17 06 13.6**	**+1.5**
	0.9nm,0.9s,mb3.7,baz=87,slow=8.2,SNR=5.0						
INK	**Inuvik**	**42.04**	**32**	P	**P**	**17 07 32.3**	**+0.4**
	0.9nm,0.7s,mb3.5,baz=204,slow=12,SNR=4.9						
INK	**Inuvik**	**42.04**	**32**	*e*P	**P**	**17 07 31.6**	**-0.3**
	30nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**48.29**	**299**	P	**P**	**17 08 21.6**	**0.0**
	1.6nm,0.8s,mb4.1,baz=68,slow=7.4,SNR=11						
BVAR	**Borovoye Array**	**52.28**	**311**	P	**P**	**17 08 50.7**	**-1.0**
	0.4nm,0.3s,mb3.8,baz=46,slow=8.3,SNR=4.5						
FINES	**FINESS Array B**	**65.41**	**336**	P	**P**	**17 10 22.0**	**-0.8**
	0.6nm,0.4s,mb3.9,baz=28,slow=6.3,SNR=8.4						
FINES	**FINESS Array B**	**65.41**	**336**	P	**P**	**17 10 22.0**	**-0.8**
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**17 11 34.3**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=282,slow=2.9,SNR=4.5						

*IDC **19** 17:05:53.1±2.0,2257S×17996W,h0km,mb4.1/4, mb1 4.4/4,mb1mx3.9/13,mbtmp4.1/4,MS2.9/1,Ms1 2.9/1, ms1mx2.4/25,Error ellipse: s-maj=132.1km s-min=30.7km az=157.0*
*ISCJB **19** 17:06:02.7±1.6,241S±07×1796W±03,h100km,mb4.3/7, Error ellipse: s-maj=107.4km s-min=24.2km az=143.4*
ISC 19 17:06:04.7±1.6,239S±08×1797W±03,h100km,n12, σ0s92/10,mb4.3/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.92**	**275**	LR	LR	17 11 53.7	
	comp=Z,56nm,21.1s,baz=238,slow=29						
CTA	**Charters Tower**	**31.78**	**270**	*e*P	**P**	**17 12 23.5**	**+4.1**
	8.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**34.99**	**248**	*e*P	**P**	**17 12 48.9**	**+1.6**
	1.7nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**17 12 48.9**	**+1.6**
	2.8nm,0.5s,mb4.3,baz=87,slow=8.9,SNR=15						
ASAR	**Alice Springs**	**42.33**	**261**	P	**P**	**17 13 48.8**	**+0.2**
	1.0nm,0.5s,mb3.8,baz=94,slow=6.7,SNR=40						
ASPA	**Alice Springs**	**42.33**	**261**	*e*P	**P**	**17 13 48.8**	**+0.2**
WB2	**Warramunga Arr**	**42.70**	**266**	*e*P	**P**	**17 13 51.6**	**0.0**
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**17 13 51.7**	**0.0**
	3.1nm,0.5s,mb4.3,baz=100,slow=8.3,SNR=63						
FORT	**Forrest**	**46.59**	**250**	*e*P	**P**	**17 14 20.5**	**-2.0**
	7.0nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.13**	**266**	*e*P	**P**	**17 14 56.7**	**-0.5**
	4.5nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**90.19**	**58**	P	**P**	**17 18 53.9**	**+0.1**
	0.3nm,0.7s,mb3.5,baz=201,slow=6.7,SNR=4.5						
BRTR	**Keskin Array B**	**147.84**	**307**	PKPbc	PKPbc	17 25 36.0	-1.9
	0.7nm,0.7s,baz=96,slow=4.3,SNR=4.1						

*ISCJB **19** 17:16:26.2±0.6, 167S±01×17370W±0.10,h10km,mb4.1/8, MS3.0/1,Error ellipse: s-maj=22.3km s-min=10.5km az=130.5*
*IDC **19** 17:16:26.3±1.0, 1662S×17369W,h0km,mb4.0/6, mb1 4.4/8,mb1mx4.2/17,mbtmp4.2/8,ML3.5/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/32,Error ellipse: s-maj=54.5km s-min=18.2km az=151.0*
*NEIC **19** 17:16:27.8±0.4, 1656S×17371W,h10km,mb4.4/1,Error ellipse: s-maj=15.7km s-min=7.9km az=157.0*
ISC 19 17:16:27.6±6.5,166S±02×1737W±01,h6km±41km,n23, σ0s56/17,mb4.1/8,MS3.0/1,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.23**	**35**	Pn	**Pn**	**17 17 18.9**	**+0.1**
	13nm,0.3s,baz=85,slow=3.9,SNR=16						
AFI				Sn	**Sn**	**17 17 49.9**	**-7.7**
	84nm,0.3s,baz=41,slow=23,SNR=26						
AFI	**Afiamalu**	**3.23**	**35**	*e*Pn	**Pn**	**17 17 18.5**	**-0.3**
AFI				*e*Sn	**Sn**	**17 17 50.2**	**-7.4**
RAR	**Rarotonga**	**13.97**	**111**	Pn	**Pn**	**17 19 46.2**	**+0.1**
	5.7nm,0.3s,baz=270,slow=12,SNR=7.5						
RAR				LR	LR	17 22 58.2	
	comp=Z,88nm,21.9s,baz=270,slow=28						
PAE	**Paea**	**23.08**	**96**	*e*T		17 44 58.8	
	11nm,0.4s						
PPT	**Papeete**	**23.09**	**96**	*e*LR	LR	17 26 51.3	
	12.1nm,29.5s						
PPT	**Papeete**	**23.09**	**96**	LR	LR	17 28 52.5	
	comp=Z,53nm,18.8s,MS3.0,baz=264,slow=32						
TBI	**Tubuai**	**23.75**	**110**	*e*T		17 45 42.6	
	6.0nm,0.4s						
PMOR	**Pomariorio Ree**	**24.88**	**90**	*e*T		17 47 19.2	
	2.2nm,0.3s						
STKA	**Stephens Creek**	**43.21**	**241**	P	**P**	**17 24 27.9**	**-1.5**
	2.4nm,0.8s,mb4.0,baz=63,slow=8.2,SNR=5.4						
WB2	**Warramunga Arr**	**49.29**	**258**	*e*P	**P**	**17 25 17.7**	**+0.4**
WRA	**Warramunga Arr**	**49.30**	**258**	P	**P**	**17 25 17.6**	**+0.3**
	0.8nm,0.9s,mb3.8,baz=93,slow=7.7,SNR=19						
AS31	**Alice Springs**	**49.48**	**253**	*e*P	**P**	**17 25 19.1**	**+0.4**
ASAR	**Alice Springs**	**49.48**	**253**	P	**P**	**17 25 18.9**	**+0.2**
	5.2nm,0.8s,mb4.6,baz=88,slow=8.4,SNR=56						
ASPA	**Alice Springs**	**49.48**	**253**	*e*P	**P**	**17 25 18.9**	**+0.2**
NVAR	**Mina Array Bea**	**75.39**	**42**	P	**P**	**17 28 12.6**	**+0.5**
	0.3nm,0.3s,mb3.7,baz=240,slow=10,SNR=5.0						
NVAR	**Mina Array Bea**	**75.39**	**42**	P	**P**	**17 28 12.6**	**+0.5**
TXAR	**Lajitas Array**	**81.50**	**56**	P	**P**	**17 28 46.1**	**+0.3**
	1.0nm,1.0s,mb3.7,baz=248,slow=6.2,SNR=5.5						
BW06	**Boulder Array**	**83.32**	**42**	*e*P	**P**	**17 28 54.6**	**-0.8**
	1.9nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**83.32**	**42**	P	**P**	**17 28 55.0**	**-0.4**
	2.1nm,0.7s,mb4.3,baz=205,slow=3.0,SNR=18						
SDCO	**Great Sand Dun**	**83.71**	**48**	*e*P	**P**	**17 28 57.6**	**+0.3**
	17nm,1.9s,mb4.8						
KMBO	**Kilima Mbogo**	**144.76**	**243**	PKP	PKPdf	17 36 07.1	+1.7
	0.3nm,0.3s,baz=55,slow=22,SNR=3.7						
KMBO	**Kilima Mbogo**	**144.76**	**243**	PKP	PKPdf	17 36 07.1	+1.7
BRTR	**Keskin Array B**	**146.86**	**320**	PKPbc	PKPbc	17 36 11.1	+0.3
	1.8nm,0.9s,baz=90,slow=2.9,SNR=5.1						

CASC 19 17:21:20.7±1.3,838N×8290W,h6km±7km,MD3.6,2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.38**	**315**	↑*e*P	Pg	17 21 28.2	+0.1
ACR				*e*S	Sg	17 21 35.1	+2.0
DVD	**David**	**0.44**	**83**	*e*P	Pg	17 21 29.3	0.0
BRU	**Baru**	**0.54**	**38**	*e*P	Pg	17 21 32.6	+1.6
CNI	**Changuinola**	**1.09**	**20**	*e*P	Pg	17 21 40.1	-1.6
LAJ	**Bijagual**	**1.91**	**321**	*e*P	Pn	17 21 56.9	+3.2
LAJ				*e*S	Sn	17 22 23.8	+5.8
PRS1	**Puriscal**	**2.12**	**319**	*e*P	Pn	17 21 56.5	-0.1
PRS1				*e*S	Sn	17 22 22.7	-0.5
JCR	**Jicaral**	**2.63**	**304**	*e*P	Pn	17 22 04.2	+0.5
AZU	**Azuero**	**2.66**	**103**	*e*P	Pn	17 22 04.4	+0.3
PTP	**Ponta Puerca**	**19.44**	**58**	↑*i*P		17 21 24.2	

*BJI **19** 17:22:21.0,4792N×155.17E,h10km,mB4.9,mb4.6,Ms4.4, Msz4.1*
*SKHL **19** 17:22:25.0±2.0, 4743N×15506E,h47km±27km,msh4.7/1*
*ISCJB **19** 17:22:26.7±0.2, 4784N×15453E±003,h17km, mb4.6/64,MS4.0/15,Error ellipse: s-maj=5.7km s-min=2.5km az=152.1*
*NEIC **19** 17:22:27.5±0.2, 4790N×15442E,h10km,mb4.8/26,Error ellipse: s-maj=6.9km s-min=3.7km az=155.0*
*MOS **19** 17:22:30.1±1.1, 4781N×15450E,h46km,mb4.8/18,Error ellipse: s-maj=9.6km s-min=6.2km az=92.5*
*SZGRF **19** 17:22:31.8, 4764N×15428E,h33km,mb5.1,Kuril Islands, Russia*
*IDC **19** 17:22:33.5±3.4, 4789N×15438E,h60km±31km,mb4.0/22, mb1 4.2/24,mb1mx4.1/29,mbtmp4.0/24,ML4.1/2,MS3.8/7, Ms1 3.8/7,ms1mx3.4/37,Error ellipse: s-maj=16.9km s-min=12.4km az=157.0*
ISC 19 17:22:29.0±0.2,4792N±004×15447E±003,h18km, h18km±2.7km:pP-P,n324,σ0s75/345,mb4.6/64,MS4.0/15, 92C-65D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.97**	**21**	*e*P	**Pn**	**17 23 15.0**	**-0.1**
SKR				AMB	AMB	17 23 19.0	
	2μm,1.0s						
SKR				AMB	AMB	17 23 21.1	
	280nm,0.4s						
SKR				AMB	AMB	17 23 21.1	
	170nm,0.5s						
SKR				AMB	AMB	17 23 21.1	
	150nm,0.5s						
SKR				*e*S	**Sn**	**17 23 51.0**	**+0.7**
SKR				A		17 23 53.0	
	540nm,0.6s						
SKR				A		17 23 53.0	
	890nm,0.6s						
SKR				A		17 23 53.0	
	110nm,0.6s						
SKR				A		17 24 12.0	
	2μm,6.0s						
SKR	**Severo-Kuril's**	**2.97**	**21**	*e*PN	**Pn**	**17 23 15.0**	**-0.1**
SKR				*e*S	**Sn**	**17 23 51.0**	**+0.7**
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				pmax	pmax		
	comp=Z,280nm,0.4s						
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=E,890nm,0.7s						
KUR	**Kuril'sk**	**5.29**	**242**	↓*i*P	**Pn**	**17 23 40.5**	**-6.5**
KUR				AMB	AMB	17 23 42.5	
	comp=E,155nm,0.7s						
KUR				AMB	AMB	17 23 42.5	
	comp=E,112nm,0.7s						
KUR				AMB	AMB	17 23 42.5	
	comp=E,344nm,0.7s						
KUR				*i* S	**Sn**	**17 24 47.5**	**+0.1**
KUR				A		17 24 51.0	
	comp=E,323nm,0.8s						
KUR				A		17 24 51.0	
	comp=E,269nm,0.8s						
KUR	**Kuril'sk**	**5.29**	**242**	↓*i*PN	**Pn**	**17 23 40.5**	**-6.5**
KUR				*i* S	**Sn**	**17 24 47.5**	**+0.1**
KUR				pmax	pmax		
	comp=N,150nm,0.7s						
KUR				pmax	pmax		
	comp=E,110nm,0.7s						
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=E,320nm,0.8s						
PET	**Petropavlovsk**	**5.77**	**26**	*e*PN	**Pn**	**17 23 53.9**	**+0.3**
PET				pmax	pmax		
	comp=Z,45nm,0.6s						
PET	**Petropavlovsk**	**5.77**	**26**	*e*P	**Pn**	**17 23 53.8**	**+0.2**
	comp=Z,34nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.15**	**240**	*e*P	**Pn**	**17 24 13.0**	**+0.5**
YUK				AMB	AMB	17 24 14.4	
	comp=Z,180nm,0.5s						
YUK				*e*S	**Sn**	**17 25 35.5**	**+2.3**
YUK				A		17 25 36.1	
	comp=Z,190nm,0.6s						
YUK				A		17 25 39.0	
	comp=Z,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**7.15**	**240**	PN	**Pn**	**17 24 13.0**	**+0.5**
YUK				S	**Sn**	**17 25 35.5**	**+2.3**
YUK				pmax	pmax		
	comp=Z,180nm,0.5s						
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.01**	**267**	↓*e*P	**Pn**	**17 24 27.5**	**+3.2**
YSS				AMB	AMB	17 24 28.5	
	comp=E,70nm,0.9s						
YSS				AMB	AMB	17 24 28.5	
	comp=E,70nm,0.8s						
YSS				*e*S	**Sn**	**17 25 52.9**	**-1.5**
YSS				AMS	AMS	17 27 18.0	
	comp=E,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.01**	**267**	*e*P	**Pn**	**17 24 27.5**	**+3.2**
	comp=E,55nm,0.8s						
TYV	**Tymovskoe**	**8.26**	**295**	*e*P	**Pn**	**17 24 30.5**	**+2.8**
TYV				AMB	AMB	17 24 31.2	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	17 24 31.2	
	comp=E,24nm,0.8s						
TYV				*e*S	**Sn**	**17 26 02.0**	**+1.5**
TYV				A		17 26 05.0	
	comp=E,22nm,1.0s						
UGL	**Uglegorsk**	**8.32**	**283**	*e*PN	**Pn**	**17 24 32.5**	**+3.8**
UGL				pmax	pmax		
	comp=Z,56nm,0.7s						
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
UGL				MLR	MLR		
	comp=N,900nm,14.0s						
UGL				MLR	MLR		
	comp=E,2μm,18.0s						
ASAJ	**Asahikawa**	**9.10**	**250**	P	**Pn**	**17 24 42.8**	**+3.5**
	comp=E,1.8nm,0.3s,baz=73,slow=17,SNR=13						
ASAJ				LR	LR	17 27 51.4	
	comp=E,519nm,20.8s,baz=57,slow=35						
ASAJ	**Asahikawa**	**9.10**	**250**	PN	**Pn**	**17 24 42.8**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,519nm,20.8s						
ERM	**Erimo**	**9.95**	**238**	PN	**Pn**	**17 24 51.2**	**+0.2**
MA2	**Magadan**	**11.88**	**351**	*e*PN	**Pn**	**17 25 20.8**	**+3.4**
HABR	**Khabarovsk**	**12.97**	**280**	*e*PN	**Pn**	**17 25 39.0**	**+6.7**
HABR				S	**Sn**	**17 28 11.2**	**+15**
HABR				pmax	pmax		
	comp=Z,37nm,1.2s						
KLR	**Kul'dur**	**15.09**	**283**	*e*P	**Pn**	**17 26 02.0**	**+0.8**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MAJO	**Matsushiro**	**16.52**	**232**	*e*P	**Pn**	**17 26 17.3**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,23nm,1.1s						
MAJO	**Matsushiro**	**16.52**	**232**	*e*P	**Pn**	**17 26 17.3**	**-2.4**
	comp=Z,23nm,1.1s						
MAT	**Matsushiro**	**16.52**	**232**	P	**Pn**	**17 26 17.4**	**-2.3**
MJAR	**Matsushiro Arr**	**16.52**	**232**	P	**Pn**	**17 26 22.3**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=19,slow=12,SNR=19						
MJAR				LR	LR	17 33 52.6	
	comp=Z,222nm,18.1s,baz=40,slow=41						
MDJ	**Mudanjiang**	**17.50**	**268**	P	**Pn**	**17 26 33.4**	**+1.5**
MDJ				AP	pP	17 26 37.3	-0.8
MDJ				S	**Sn**	**17 29 51.1**	**+4.9**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,74nm,6.1s						
MDJ				LR	LR		
	comp=N,147nm,17.6s						
MDJ				LR	LR		
	comp=E,128nm,19.7s						
MDJ				LR	LR		
	comp=Z,214nm,17.6s						
ZEA	**Zeya**	**18.09**	**299**	*e*P	**Pn**	**17 26 39.5**	**+0.3**
YAK	**Yakutsk**	**19.87**	**324**	*e*P	**Pn**	**17 27 02.2**	**+1.5**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=E,29nm,1.2s						
YAK	**Yakutsk**	**19.87**	**324**	*e*P	**Pn**	**17 27 02.2**	**+1.5**
	comp=E,31nm,0.8s						
CLNS	**Chul'man**	**20.00**	**308**	*e*P	**P**	**17 26 54.5**	**-6.0**
CLNS				pmax	pmax		
	comp=N,18nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,1.0s						
CLNS				MLR	MLR		
	comp=N,50nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,13.0s,MS3.6						
CLNS				MLR	MLR		
	comp=Z,2μm,17.0s						
CN2	**Changchun**	**20.57**	**269**	*e*P	**P**	**17 27 03.0**	**-3.6**
CN2				*e*S	**S**	**17 30 47.9**	**-8.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS3.9						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS3.9						
CN2				LR	LR		
	comp=Z,300nm,15.0s,MS3.8						
BILL	**Bilibino**	**21.05**	**12**	*d i*P	**P**	**17 27 12.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
BILL	**Bilibino**	**21.05**	**12**	*e*P	**P**	**17 27 10.7**	**-1.1**
	comp=Z,2.8nm,0.5s,mb3.9						
KSRS	**Korea Array**	**22.04**	**251**	P	**P**	**17 27 22.2**	**-0.3**
	comp=Z,14nm,0.8s,mb4.5,baz=56,slow=9.9,SNR=38						
SNY	**Shenyang**	**22.63**	**266**	↑P	**P**	**17 27 27.3**	**-1.4**
SNY				AP		17 27 32.1	
SNY				XP	sP	17 27 34.6	-1.8
SNY				S	**S**	**17 31 38.1**	**+1.9**
SNY				AMB	AMB		
	comp=Z,8.0nm,1.4s,

HHC XS sS 17 33 59.9 -0.8
HHC SCP ScP 17 35 24.1 +0.7
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,87nm,4.3s
HHC LR LR
comp=N,162nm,15.7s,MS4.0
HHC LR LR
comp=E,184nm,15.7s,MS4.0
HHC LR LR
comp=Z,149nm,15.9s,MS3.8
NJ2 Nanjing 31.23 253 *e*P **P 17 28 50.8 +3.5**
NJ2 AP pP 17 28 54.1 +1.2
NJ2 XP sP 17 28 57.3 +2.1
NJ2 PP PP 17 29 53.9 -3.9
NJ2 S **S 17 33 56.5 +3.8**
NJ2 XS sS 17 34 04.5 +2.5
NJ2 AMB AMB
comp=Z,340nm,4.4s
NJ2 LR LR
comp=N,1μm,15.1s,MS4.9
NJ2 LR LR
comp=E,1μm,14.3s,MS4.9
NJ2 LR LR
comp=Z,2μm,13.4s,MS4.8
SONM Songino Array 31.84 288 P **P 17 28 51.8 -0.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=88,slow=8.7,SNR=4.6
SONM PcP PcP 17 31 40.5 -2.8
comp=Z,0.5nm,0.8s,baz=111,slow=3.6,SNR=3.5
SONM LR LR 17 42 35.6
comp=Z,119nm,19.0s,MS3.6,baz=48,slow=38
SONM Songino Array 31.84 288 P **P 17 28 51.8 -0.8**
SONM 17 31 40.5
IMA2 Indian Mountai 32.32 37 *e*P **P 17 28 56.8 0.0**
KDAK Kodiak Island 32.65 52 P **P 17 28 58.1 -1.7**
comp=Z,12nm,0.7s,mb5.0,baz=280,slow=5.1,SNR=7.9
MCK McKinley 34.16 41 *e*P **P 17 29 12.5 -0.5**
COLA College 34.65 39 *e*P **P 17 29 17.2 +0.1**
EGAK Eagle 37.51 39 *e*P **P 17 29 41.1 -0.5**
comp=Z,19nm,0.8s,mb4.9
DAWY Dawson 38.35 40 *e*P **P 17 29 48.8 +0.1**
LZH Lanzhou 38.78 271 *e*P **P 17 29 51.8 -0.6**
LZH AP pP 17 29 59.1 +1.0
LZH XP sP 17 30 04.4 +4.1
LZH AMB AMB
comp=Z,60nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,258nm,4.2s
LZH Lanzhou 38.78 271 *e*P **P 17 29 51.7 -0.7**
LZH *SP sP 17 30 04.4 +4.1
LZH pmax pmax
comp=Z,60nm,1.3s,mb5.2
LZH Lanzhou 38.78 271 *e*P **P 17 29 51.7 -0.7**
comp=Z,60nm,1.3s,mb5.2
LZH pP pP 17 29 59.1 +1.0
LZH sP sP 17 30 04.4 +4.1
GTA Gaotai 39.71 278 *e*P **P 17 29 59.4 -0.7**
GTA AP pP 17 30 07.8 +2.0
GTA XP sP 17 30 11.3 +3.2
GTA PP PP 17 31 36.9 +5.5
GTA PPP 17 32 00.8
GTA S **S 17 36 03.4 +0.6**
GTA XS sS 17 36 18.6 +6.4
GTA SS SS 17 38 55.6 -2.9
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
GTA AMB AMB
comp=Z,35nm,6.5s
GTA LR LR
comp=N,87nm,14.4s,MS4.0
GTA LR LR
comp=E,148nm,17.1s,MS4.0
GTA LR LR
comp=Z,181nm,12.2s,MS4.1
INK Inuvik 40.17 33 P **P 17 30 03.6 -0.4**
comp=Z,3.3nm,0.7s,mb4.2,baz=273,slow=6.7,SNR=11
INK Inuvik 40.17 33 P **P 17 30 03.6 -0.3**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 40.17 33 *e*P **P 17 30 04.3 +0.4**
comp=Z,472nm,1.4s
CD2 Chengdu 41.90 265 P **P 17 30 18.3 +0.1**
CD2 AP pP 17 30 23.4 -0.5
CD2 XP sP 17 30 25.9 -0.3
CD2 PP PP 17 31 59.6 +4.4
CD2 S **S 17 36 37.1 +1.6**
CD2 XS sS 17 36 44.5 -0.4
CD2 SS SS 17 39 38.5 -3.7
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CD2 LR LR
comp=E,350nm,13.2s
CD2 LR LR
comp=Z,240nm,15.6s,MS4.2
ZAL Zalesovo 42.70 305 P **P 17 30 23.1 -1.6**
comp=Z,1.0nm,0.5s,mb3.8,baz=93,slow=3.2,SNR=3.6
ZAL PcP PcP 17 32 14.9 -1.3
comp=Z,1.2nm,0.8s,baz=49,slow=3.1,SNR=7.7
ZAL LR LR 17 49 52.0
comp=Z,123nm,18.8s,MS3.8,baz=51,slow=38
ZAL Zalesovo 42.70 305 P **P 17 30 23.1 -1.6**
ZAL 17 32 15.0
GYA Guiyang 42.87 257⇑ *i*P **P 17 30 25.3 -0.8**
GYA AP pP 17 30 29.4 -2.4
GYA XP sP 17 30 32.8 -1.3
GYA PP PP 17 32 10.6 +5.0
GYA S **S 17 36 53.0 +3.2**
GYA SS SS 17 39 57.6 -3.7
GYA SCS ScS 17 40 27.3 +1.2
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,490nm,16.4s,MS4.6
GYA LR LR
comp=E,510nm,16.9s,MS4.6
GYA LR LR
comp=Z,540nm,17.2s,MS4.5
KMI Kunming 46.37 260 P **P 17 30 54.6 +0.6**
KMI AP pP 17 30 57.8 -1.9
KMI XP sP 17 30 59.3 -2.7
KMI PP PP 17 32 45.3 +2.4
KMI S **S 17 37 43.0 +2.5**
KMI SS SS 17 41 01.4 -4.7
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,33nm,3.1s
KMI LR LR
comp=N,159nm,14.4s,MS4.2
KMI LR LR
comp=E,131nm,12.7s,MS4.2
KMI LR LR
comp=Z,97nm,14.7s,MS3.9
KMI Kunming 46.37 260 P **P 17 30 54.6 +0.6**
KMI 17 32 45.3
KMI S **S 17 37 43.0 +2.5**
KMI *SS sS 17 37 47.5 -2.5
KMI SS SS 17 41 01.4 -4.7
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KMI MLR MLR
comp=Z,100nm,14.7s,MS3.9
KMI Kunming 46.37 260 P **P 17 30 54.6 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
KMI pP pP 17 30 57.8 -1.9
KMI sP sP 17 30 59.2 -2.8
KMI PP PP 17 32 45.3 +2.4
KMI S **S 17 37 43.0 +2.5**
KMI sS sS 17 37 47.5 -2.5
KMI SS SS 17 41 01.4 -4.7
KMI LR LR
comp=Z,100nm,14.7s,MS3.9
MKAR Makanchi Array 47.23 297 P **P 17 30 59.3 -1.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=60,slow=7.2,SNR=11
YKA Yellowknife Ar 49.44 38 P **P 17 31 17.2 -0.5**
comp=Z,1.9nm,0.6s,mb4.3,baz=297,slow=7.2,SNR=4.1
YKA Yellowknife Ar 49.44 38 P **P 17 31 17.2 -0.6**
YKA pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 50.84 309 P **P 17 31 26.7 -1.7**
comp=Z,1.7nm,0.5s,mb4.2,baz=60,slow=7.5,SNR=13
BVAR PcP PcP 17 32 44.1 -0.9
comp=Z,1.6nm,0.7s,baz=68,slow=4.0,SNR=4.4
BVAR LR LR 17 54 57.4
comp=Z,120nm,18.9s,MS3.9,baz=140,slow=38
BVAR Borovoye Array 50.84 309 P **P 17 31 26.7 -1.7**
BVAR 17 32 44.1
LSA Lhasa 51.13 273 P **P 17 31 26.0 -4.6**
NANT Nan 52.15 255 P **P 17 31 36.0 -2.2**
CHG Chiang Mai 53.29 257⇑ P **P 17 31 46.8 +0.2**
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 53.29 257 *e*P **P 17 31 46.5 -0.1**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb4.8
CHTO Chiang Mai 53.29 257 *e*P **P 17 31 46.5 -0.1**
comp=Z,14nm,1.1s,mb4.8
A07A Ashnola River, 53.51 55⇑ P **P 17 31 47.6 -0.7**
baz=53
E04A Onalaska 53.56 58⇑ P **P 17 31 47.0 -1.7**
baz=53
B07A Winthrop 53.98 55⇑ P **P 17 31 51.3 -0.4**
baz=54
AAK Ala-Archa 54.15 296 *e*P **P 17 31 50.7 -2.2**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
A08A Turner Farm, O 54.17 54⇓ P **P 17 31 52.7 -0.4**
baz=54
B08A Colville Reser 54.47 55⇑ P **P 17 31 54.6 -0.7**
baz=54
A09A Danville 54.53 54⇑ P **P 17 31 55.0 -0.7**
baz=54,SNR=6.4
ARU Arti 54.78 317⇑ *i*P **P 17 31 55.8 -1.7**
ARU *e* 17 33 58.3
ARU *eS* **S 17 39 38.0 +0.7**
ARU *eSS* SS 17 43 20.0 -0.5
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
J02A Umpqua 54.91 62⇑ P **P 17 31 57.6 -0.8**
baz=55
KSH Kashi 55.06 292 *e*P **P 17 32 02.9 +3.3**
KSH *e*AP pP 17 32 08.9 +3.5
KSH *e*XP sP 17 32 12.3 +4.6
KSH *eS* **S 17 39 47.3 +6.1**
KSH *eXS* sS 17 39 57.4 +6.6
KSH AMB AMB
comp=Z,539nm,3.6s
A10A Northport 55.09 53⇑ P **P 17 31 59.4 -0.4**
baz=55
B09A Rice 55.09 54⇓ P **P 17 31 59.3 -0.4**
baz=55
E07A Sunnyside 55.21 57⇑ P **P 17 32 00.2 -0.4**
baz=55
C09A Chrisman Ranch 55.37 55⇓ P **P 17 32 01.1 -0.7**
baz=55
D08A Wollman Farm, 55.45 56⇓ P **P 17 32 01.6 -0.7**
baz=55
F07A Phinny Hill Vi 55.55 58⇑ P **P 17 32 02.7 -0.4**
baz=55
B10A Chitwood Farm, 55.66 54⇓ P **P 17 32 02.6 -1.3**
baz=55
E08A Dider Farm, El 55.70 57⇑ P **P 17 32 03.4 -0.7**
baz=56
A11A Hall Mountain, 55.74 53⇓ P **P 17 32 03.5 -1.0**
baz=56
JIRN Jiri 55.77 275 *e*P **P 17 32 05.0 +0.3**
comp=Z,8.1nm,0.3s,mb5.2
GUN Gumba 55.82 275 *e*P **P 17 32 04.9 -0.1**
B11A Sandpoint 56.04 53⇓ P **P 17 32 06.0 -0.7**
baz=56
A12A Yaak River Ran 56.14 53⇓ P **P 17 32 07.2 0.0**
baz=56
E09A Wood Farm, Sta 56.20 56⇑ P **P 17 32 07.6 -0.1**
baz=56
KKN Kakani 56.30 275 *e*P **P 17 32 08.8 +0.4**
J05A Fort Rock 56.33 61⇓ P **P 17 32 08.9 +0.2**
baz=56
YBH Yreka Blue Hor 56.38 63⇓ P **P 17 32 08.9 -0.2**
baz=56
DMN Daman 56.53 275 *e*P **P 17 32 10.5 +0.4**
KEV Kevo 56.55 341 *e*p **P 17 32 12.6 +2.4**
GKN Gorkha 56.59 276 *e*P **P 17 32 10.4 -0.1**
comp=Z,12nm,0.4s,mb5.3
L04A Klamath Falls 56.61 62⇓ P **P 17 32 09.6 -1.1**
baz=56
E10A Myers Farm, Un 56.79 56⇓ P **P 17 32 11.2 -0.7**
baz=57
I07A Izee 56.87 59⇓ P **P 17 32 12.8 +0.3**
baz=57
K05A Summer Lake 56.87 61⇑ P **P 17 32 13.3 +0.8**
baz=57
M04C Macdoel 56.87 63⇓ P **P 17 32 12.6 0.0**
baz=57
D11A Klaveano Farm, 56.88 55⇓ P **P 17 32 12.4 -0.2**
baz=57
C12A Trout Creek 56.96 54⇓ P **P 17 32 13.0 -0.1**
baz=57
J06A Christmas Vall 56.99 60⇓ P **P 17 32 13.7 +0.4**
baz=57
F10A Beach Ranch, E 57.03 56⇑ P **P 17 32 13.7 +0.1**
baz=57
ARCES ARCESS Array B 57.05 341 P **P 17 32 12.0 -1.8**
comp=Z,5.5nm,1.0s,mb4.5,baz=57,slow=9.8,SNR=3.2
ARCES LR LR 18 00 41.2
comp=Z,114nm,19.4s,MS4.0,baz=325,slow=40
H08A Prairie City 57.08 58⇑ P **P 17 32 14.2 +0.2**
baz=57
B13A Whitefish 57.10 53 P **P 17 32 14.4 +0.3**
baz=57,SNR=6.4
WDC Whiskeytown Da 57.18 64⇑ P **P 17 32 14.6 -0.1**
baz=57
K06A Valley Falls 57.20 61⇑ P **P 17 32 15.5 +0.6**
baz=57
O02C Red Bluff 57.27 65⇓ P **P 17 32 15.8 +0.4**
baz=57
L05A Lakeview 57.31 62⇑ P **P 17 32 16.0 +0.4**
baz=57
KOLN Koldanda 57.44 277 *e*P **P 17 32 16.5 0.0**
C13A Hot Springs 57.46 53⇓ P **P 17 32 16.9 -0.2**
baz=57
I08A Drewsey 57.51 59⇑ P **P 17 32 17.5 +0.5**
baz=57
M05C Lookout 57.54 63⇓ P **P 17 32 17.9 +0.6**
baz=57
H09A Durkee 57.57 58⇓ P **P 17 32 18.0 +0.6**
baz=57
F11A Grangeville 57.68 56⇑ P **P 17 32 18.4 +0.2**
baz=57
MOD Modoc 57.72 62⇑ P **P 17 32 18.6 +0.1**
baz=58
C14A Swan Lake 57.85 53⇑ P **P 17 32 19.5 0.0**
baz=58
K07A Rock Creek Ran 57.86 60⇓ P **P 17 32 19.8 +0.3**
baz=58
D13A Huson 57.88 54⇑ P **P 17 32 19.6 0.0**
baz=58
J08A Circle Bar Ran 57.90 59⇑ P **P 17 32 20.4 +0.6**
baz=58
G11A Walters Elk Ra 57.91 56⇑ P **P 17 32 19.9 0.0**
baz=58
M06C Likely Place G 58.04 62⇑ P **P 17 32 20.9 +0.1**
baz=58
L07A Adell 58.21 61⇓ P **P 17 32 22.2 +0.2**
baz=58
O04C Chester 58.22 64⇑ P **P 17 32 22.0 0.0**
baz=58
F12A Elk City 58.26 55 P **P 17 32 22.9 +0.6**
baz=58,SNR=5.3
K08A Mann Creek Ran 58.27 60⇓ P **P 17 32 22.6 +0.2**
baz=58
MNRC McLaughlin Nat 58.28 66⇑ P **P 17 32 23.0 +0.5**
baz=58
J09A Fry Pan Ranch, 58.32 59⇑ P **P 17 32 23.0 +0.3**
baz=58
D14A Greenough 58.40 53 P **P 17 32 23.4 +0.1**
baz=58,SNR=10
I10A Payette 58.41 58⇑ P **P 17 32 23.4 0.0**
baz=58
E13A Victor 58.42 54⇓ P **P 17 32 23.2 -0.2**
baz=58
ORV Oroville 58.44 64⇑ P **P 17 32 23.1 -0.5**
baz=58
H11A Donnelly 58.48 57 P **P 17 32 24.0 +0.2**
baz=58,SNR=14
O05C Quincy 58.54 64⇑ P **P 17 32 24.1 -0.1**
baz=58
BOK Bokaro 58.55 272 *e*P **P 17 32 23.4 -0.9**
BOK AMb AMB 17 32 25.4
comp=Z,8.5nm,0.7s,mb4.9
AKTK Aktyubinsk 58.64 312 P **P 17 32 23.6 -1.4**
AKTO Aktyubinsk 58.64 312 P **P 17 32 23.6 -1.4**
comp=Z,0.4nm,0.4s,mb3.8,baz=31,slow=5.9,SNR=2.7
L08A Fields 58.69 60⇑ P **P 17 32 25.3 0.0**
baz=58
M07A Soldier Meadow 58.70 62 P **P 17 32 26.3 +1.0**
baz=58,SNR=7.0
N06A Buffalo Meadow 58.70 62⇓ P **P 17 32 25.7 +0.3**
baz=58
F13A Darby 58.75 55⇓ P **P 17 32 26.0 +0.3**
baz=58
E14A Clinton 58.82 54⇓ P **P 17 32 26.4 +0.2**
baz=59
P05C Yuba Gap, Truc 59.13 64⇓ P **P 17 32 28.3 -0.1**
baz=59
L09A Wilkinson Ranc 59.19 60⇓ P **P 17 32 29.1 +0.3**
baz=59
N07B Gerlach 59.20 62⇓ P **P 17 32 28.9 +0.1**
baz=59
F14A Wisdom 59.26 54⇓ P **P 17 32 29.4 +0.1**
baz=59
E15A Deer Lodge 59.28 53⇓ P **P 17 32 29.4 +0.1**
baz=59
LAVA Lava Cap Winer 59.40 65⇑ P **P 17 32 30.1 -0.1**
baz=59
O07A Toulon 59.64 62 P **P 17 32 32.4 +0.5**
baz=59,SNR=5.5
WCN Washoe City 59.65 64⇓ P **P 17 32 32.2 +0.2**
baz=59
F15A Butte 59.72 54 P **P 17 32 33.0 +0.6**
baz=60,SNR=6.8
EGMT Eagleton 59.80 51⇑ P **P 17 32 33.0 0.0**
baz=60
S04C Ingram Canyon, 59.83 66⇓ P **P 17 32 33.1 0.0**
baz=60
R05C Kirkwood Meado 59.83 64⇑ P **P 17 32 32.9 -0.3**
baz=60
N09A Rock Creek Ran 60.01 61⇑ P **P 17 32 34.7 +0.3**
baz=60
CMB Columbia Colle 60.07 65⇑ P **P 17 32 35.0 +0.2**
baz=60
HLID Hailey 60.09 57 P **P 17 32 35.5 +0.5**
baz=60,SNR=6.7
G15A Dillon 60.15 55 P **P 17 32 35.8 +0.4**
baz=60,SNR=5.3
M10A I.L. Ranch, Tu 60.16 60 P **P 17 32 36.6 +1.2**
baz=60,SNR=5.1
PACP Pacheco Peak 60.16 67⇓ P **P 17 32 35.7 +0.2**
baz=60
R06C Coleville 60.33 64 P **P 17 32 37.2 +0.6**
baz=60,SNR=5.5
HAST UC Hastings Re 60.40 67⇑ P **P 17 32 37.0 -0.1**
baz=60
S06C San Francisco 60.49 65 P **P 17 32 37.6 -0.1**
baz=60,SNR=5.8
S05C Merced 60.54 66⇑ P **P 17 32 37.9 -0.1**
baz=60
O09A Fish Creek Ran 60.63 62⇑ P **P 17 32 39.3 +0.6**
baz=60,SNR=5.8
M11A Holland Ranch, 60.65 60⇑ P **P 17 32 39.3 +0.5**
baz=60
N10A Dunphy 60.69 61⇓ P **P 17 32 39.2 +0.2**
baz=60
R07C Lee Vining 60.85 64 P **P 17 32 40.9 +0.7**
baz=61,SNR=5.6
QLMT Earthquake Lak 60.94 54 *e*P **P 17 32 41.3 +0.5**
Q08A Gabbs 61.03 63 P **P 17 32 41.6 +0.2**
baz=61,SNR=6.8
NVAR Mina Array Bea 61.08 64 P **P 17 32 41.8 +0.1**
comp=Z,4.7nm,0.7s,mb4.8,baz=300,slow=7.6,SNR=32
T06C Millerton Lake 61.14 66⇑ P **P 17 32 41.9 -0.2**
baz=61
M12A Wells 61.17 59⇓ P **P 17 32 42.9 +0.5**
baz=61,SNR=6.8
KCC Kaiser Creek 61.17 65⇑ P **P 17 32 42.4 0.0**
baz=61
GCMT Greycliff 61.28 53 *e*P **P 17 32 43.6 +0.6**
N12A Clover Valley, 61.46 60⇑ P **P 17 32 44.6 +0.3**
baz=61
O11A Cowboy Ranch, 61.56 61 P **P 17 32 45.8 +0.8**
baz=61,SNR=6.7
M13A Montello 61.64 59⇑ P **P 17 32 46.0 +0.5**
baz=61
S08C White Mtn Res 61.76 64⇓ P **P 17 32 46.7 +0.4**
baz=62
P11A Circle Ranch, 61.88 61⇑ P **P 17 32 47.2 +0.1**
baz=62
N13A Wendover, West 61.94 59⇓ P **P 17 32 48.1 +0.6**
baz=62
R09A Tonopah 61.94 63 P **P 17 32 47.6 +0.1**
baz=62,SNR=13
O12A Currie 62.01 60 P **P 17 32 48.6 +0.6**
baz=62,SNR=12
S09A Goldfield 62.18 64⇑ P **P 17 32 49.4 +0.2**
baz=62
SNOW Snow King Moun 62.20 55 *e*P **P 17 32 50.8 +1.6**
comp=Z,16nm,1.1s,mb5.1
REDW Red Top Meadow 62.21 55 *e*P **P 17 32 50.4 +1.1**
comp=Z,21nm,1.2s,mb5.1
R10A Warm Springs 62.37 63⇓ P **P 17 32 50.7 +0.3**
baz=62
Q11A Duckwater 62.40 62⇑ P **P 17 32 50.6 +0.1**
baz=62
P12A McGill 62.43 61⇑ P **P 17 32 51.0 +0.2**
baz=62
PKM Peak Mountain 62.43 68⇓ P **P 17 32 51.1 +0.3**
baz=62
CWC Cottonwood Cre 62.50 65⇑ P **P 17 32 51.4 +0.1**
baz=62
GRAC Grapevine Rang 62.57 64⇑ P **P 17 32 52.0 +0.2**
baz=62
Q12A Willow Creek R 62.76 61 P **P 17 32 53.5 +0.5**
baz=62,SNR=5.0
ISA Isabella 62.77 66⇑ P **P 17 32 52.4 -0.6**
baz=62
HWUT Hardware Ranch 62.96 57 *e*P **P 17 32 54.6 +0.2**
comp=Z,5.0nm,0.6s,mb4.8
MPMC Manual Prospec 63.11 65 P **P 17 32 55.2 -0.1**
baz=63,SNR=5.0
DUG Dugway 63.17 59 *e*P **P 17 32 56.0 +0.2**
DUG pmax pmax
comp=Z,15nm,1.0s,mb5.1
DUG Dugway 63.17 59 *e*P **P 17 32 56.0 +0.3**
comp=Z,15nm,1.0s,mb5.1
DUG Dugway 63.17 59 P **P 17 32 56.3 +0.5**
baz=63,SNR=11
FURC Furnace Creek, 63.22 65⇑ P **P 17 32 56.2 +0.2**
baz=63
OSI Osito Adit 63.30 67⇑ P **P 17 32 56.3 -0.3**
baz=63
PDAR Pinedale Array 63.31 55 P **P 17 32 56.9 +0.1**
comp=Z,6.2nm,0.8s,mb4.8,baz=291,slow=2.4,SNR=46
LRMC Laurel Mountai 63.37 66⇓ P **P 17 32 56.8 -0.2**
baz=63
FINES FINESS Array B 63.38 335 P **P 17 32 55.5 -1.6**
comp=Z,1.9nm,0.3s,mb4.7,baz=36,slow=7.1,SNR=37
EDW2 Edwards Air Fo 63.58 67 P **P 17 32 58.2 -0.2**
baz=63,SNR=6.6
U10A Ash Meadows, A 63.58 64⇓ P **P 17 32 58.9 +0.4**
baz=63
NLU North Lily Min 63.76 59 *e*P **P 17 32 59.8 +0.2**
DECC Green Verdugo 63.78 67⇓ P **P 17 32 59.8 0.0**
baz=64
SHOC Shoshone 63.95 65⇑ P **P 17 33 00.9 0.0**
baz=64
GSC Goldstone 64.03 65⇓ P **P 17 33 01.2 -0.2**
baz=64
U11A Corn Creek 64.15 64⇓ P **P 17 33 02.5 +0.3**
baz=64
BFSC Mount Baldy St 64.21 67⇑ P **P 17 33 02.7 +0.1**
baz=64
AJM Ajmer 64.24 282 *e*P **P 17 33 02.6 -0.2**
AJM AMb AMB 17 33 04.2
comp=Z,14nm,0.6s,mb5.2
ARUT Antelope Range 64.40 61 *e*P **P 17 33 03.8 -0.1**
VIS Vishakhapatnam 64.47 268 *e*P **P 17 33 04.4 +0.1**
VIS AMb AMB 17 33 06.6
comp=Z,31nm,1.2s,mb5.2
TUQ Turquoise Mtn. 64.48 65⇓ P **P 17 33 04.6 +0.3**
baz=64
BHPL Bhopal 64.60 277 *e*P **P 17 33 04.8 -0.4**
BHPL AMb AMB 17 33 05.8
comp=Z,18nm,0.8s,mb5.1
CCUT Cedar City 64.61 62 *e*P **P 17 33 05.5 +0.3**
HEC Hector,Ludlow 64.63 66 P **P 17 33 05.5 +0.1**
baz=64,SNR=6.0
U12A Valley of Fire 64.65 63⇑ P **P 17 33 05.0 -0.5**
baz=64
MURC Murrieta 64.92 67⇓ P **P 17 33 06.8 -0.4**

baz=65
V12A Nelson 64.93 64 ⇑P P 17 33 07.4 +0.1
baz=65
W12A Cal Nev Ari 65.21 64 ⇓P P 17 33 08.8 -0.3
baz=65
SRU San Rafael 65.21 59 eP P 17 33 08.8 -0.3
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.2
SRU San Rafael 65.21 59 eP P 17 33 08.8 -0.4
comp=Z,18nm,0.8s,mb5.2
PFO Pinyon Flat Ob 65.37 67 ⇑P P 17 33 09.8 -0.4
baz=65
BELC Belle Mtn. 65.39 66 ⇓P P 17 33 09.9 -0.4
baz=65
IRM Iron Mountain 65.80 65 P P 17 33 12.9 -0.1
baz=66,SNR=7.5
MONP Monument Peak 65.88 67 ⇓P P 17 33 13.1 -0.4
baz=66
W13A Hualapai Mount 65.94 64 ⇑P P 17 33 13.8 0.0
baz=66
BC3 Big Chuckw Mtn 65.96 66 ⇑P P 17 33 13.8 -0.2
baz=66
DVTC Desert V Tower 66.23 67 ⇓P P 17 33 14.9 -0.8
baz=66
X13A Yucca 66.31 64 ⇑P P 17 33 15.9 -0.3
baz=66
PDMCI Parker Dam,Lak 66.32 65 ⇓P P 17 33 16.0 -0.3
baz=66
W14A Seligman 66.34 63 P P 17 33 17.0 +0.6
baz=66,SNR=9.9
Y12C Blythe 66.46 65 ⇑P P 17 33 16.9 -0.3
baz=66
PV10 Paradox Valley 66.56 58 eP P 17 33 18.6 +0.7
GLA Glamis 66.75 66 ⇓P P 17 33 18.9 -0.2
baz=66
W15A Williams 66.86 63 ⇓P P 17 33 20.6 +0.9
baz=67
X14A Yava 66.97 64 ⇑P P 17 33 20.7 +0.3
baz=67
PV01 Paradox Valley 67.00 58 eP P 17 33 20.4 -0.2
WUAZ Wupatki 67.16 62 ⇑P P 17 33 21.8 +0.2
baz=67
Y14A Wickenburg 67.26 64 ⇓P P 17 33 22.6 +0.3
baz=67
X15A Humboldt 67.35 63 P P 17 33 23.8 +0.9
baz=67,SNR=5.9
NB2 NORSAR Subarra 67.42 342 P P 17 33 22.5 -0.8
comp=Z,2.2nm,0.7s,mb4.3,baz=26,slow=6.5
NOA NORSAR Array B 67.42 342 P P 17 33 22.6 -0.6
comp=Z,3.4nm,0.8s,mb4.5,baz=26,slow=6.3,SNR=9.9
ISCO Idaho Springs 67.51 55 eP P 17 33 24.6 +0.7
ISCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ISCO Idaho Springs 67.51 55 eP P 17 33 24.6 +0.7
comp=Z,4.2nm,1.0s,mb4.4
MVCO Mesa Verde 67.68 59 eP P 17 33 25.2 +0.3
comp=Z,4.6nm,0.8s,mb4.6
MVCO Mesa Verde 67.68 59 ⇑P P 17 33 25.3 +0.3
baz=67
115A Sonoran Desert 68.58 65 ⇑P P 17 33 30.9 +0.3
baz=68
116A Eloy 68.99 64 ⇓P P 17 33 33.5 +0.4
baz=69
MDRS Chennai 69.85 267 ex x 17 33 33.6
WB2 Warramunga Arr 69.92 200 eP P 17 33 26.1 -13
WRA Warramunga Arr 69.92 200 P P 17 33 37.0 -1.9
comp=Z,1.5nm,0.9s,mb3.9,baz=14,slow=6.3,SNR=7.0
KAD Karad 70.90 275 eP P 17 33 44.8 -0.1
KAD AMb AMB 17 33 46.2
comp=Z,17nm,1.1s,mb4.9
AKASG Malin Array Be 71.09 327 P P 17 33 44.6 -1.4
comp=Z,1.3nm,0.4s,mb4.2,baz=33,slow=6.3,SNR=13
SCHQ Schefferville 71.87 24 P P 17 33 51.1 +0.4
comp=Z,1.6nm,0.6s,mb4.1,baz=284,slow=8.3,SNR=3.2
SCIA State Center 72.44 46 eP P 17 33 53.8 -0.3
comp=Z,13nm,0.6s,mb5.0
ASAR Alice Springs 73.61 200 P P 17 34 00.1 -0.9
comp=Z,0.7nm,0.8s,mb3.7,baz=16,slow=6.2,SNR=9.6
OJC Ojcow 74.74 332 eP P 17 34 07.2 -0.4
STHS Stebnicka Huta 74.96 330 eP P 17 34 09.4 +0.4
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 74.96 330 eP P 17 34 09.4 +0.4
comp=Z,5.8nm,1.0s,mb4.5
STHS e 17 34 11.9
KOLS Kolonicke sedl 75.03 330 eP P 17 34 09.1 -0.3
BURAR Bucovina Array 75.12 327⇑iP P 17 34 08.6 -1.2
OKC Ostrava-Krasne 75.59 333 eP P 17 34 13.0 +0.4
UPC Upice 75.64 334 eP P 17 34 12.5 -0.4
DPC Dobruska-Polom 75.69 334 eP P 17 34 13.1 0.0
CLL Collm 75.78 336⇑iP P 17 34 12.7 -0.9
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CLL Collm 75.78 336⇑iP P 17 34 12.7 -0.9
comp=Z,9.0nm,0.7s,mb4.8
CLL eS S 17 44 01.0 +6.3
CLL Collm 75.78 336⇑iP P 17 34 12.7 -0.9
comp=Z,9.0nm,0.7s,mb4.8
MORC Moravsky Berou 75.83 333⇓iP P 17 34 13.7 -0.2
MORC Moravsky Berou 75.83 333 eP P 17 34 13.5 -0.4
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 75.83 333 eP P 17 34 13.4 -0.5
comp=Z,6.4nm,0.9s,mb4.5
BRG Berggiesshubel 75.91 335 eP P 17 34 09.9 -4.5
comp=Z,4.9nm,1.3s,mb4.3
BRG Berggiesshubel 75.91 335 eP P 17 34 09.9 -4.5
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 76.02 330 eP P 17 34 14.3 -0.7
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 76.02 330 eP P 17 34 14.3 -0.7
comp=Z,2.5nm,1.0s,mb4.1
TXAR Lajitas Array 76.12 62 P P 17 34 15.6 0.0
comp=Z,5.1nm,0.6s,mb4.6,baz=301,slow=4.5,SNR=55
PRU Pruhonice 76.54 335 eP P 17 34 17.5 -0.4
VRAC Vranov 76.54 333⇑iP P 17 34 17.4 -0.5
VRAC Vranov 76.54 333⇑P P 17 34 17.4 -0.5
VYHS Vyhne 76.55 331 eP P 17 34 17.8 -0.2
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 76.55 331 eP P 17 34 17.8 -0.2
comp=Z,4.3nm,1.1s,mb4.3
MLR Muntele Rosu 76.64 326⇑iP P 17 34 19.3 +0.8
MLR Muntele Rosu 76.64 326⇑P P 17 34 19.3 +0.8
DRGR 76.72 328⇑iP P 17 34 17.8 -1.2
DRGR 76.72 328⇑P P 17 34 17.8 -1.1
NKC Novy Kostel 76.90 336 eP P 17 34 20.3 +0.3
VOIR 77.02 326⇓iP P 17 34 20.5 -0.2
VOIR 77.02 326⇓P P 17 34 20.5 -0.1
MALT Malatya 77.03 314⇑iP P 17 34 20.9 +0.2
MALT Malatya 77.03 314⇑P P 17 34 20.9 +0.1
KHC Kasperske Hory 77.58 335 eP P 17 34 23.8 0.0
GRA1 Grafenberg Arr 77.73 337 eP P 17 34 25.0 +0.4
comp=Z,11nm,0.7s,mb4.9
GRF Grafenberg Arr 77.73 337 eP P 17 34 25.0 +0.4
comp=Z,11nm,0.7s,mb4.9
GRF Grafenberg Arr 77.73 337 eP P 17 34 25.0 +0.4
GRF pmax pmax
comp=Z,11nm,0.7s,mb4.9
GERES GERESS Array B 77.81 335 P P 17 34 24.6 -0.5
comp=Z,1.2nm,0.5s,mb4.1,baz=36,slow=5.9,SNR=17
BZS Buzias 78.12 328⇑iP P 17 34 26.4 -0.4
BRTR Keskin Array B 78.17 317 P P 17 34 27.7 +0.6
comp=Z,4.2nm,0.9s,mb4.3,baz=55,slow=2.9,SNR=15
PKSM Moragy 78.62 330⇑iP P 17 34 29.3 -0.3
PKSM Moragy 78.62 330⇑P P 17 34 29.3 -0.3
KBA Koelnbreinsper 79.50 334⇑iP P 17 34 34.9 +0.5
comp=Z,7.2nm,0.6s,mb4.8
WTTA Wattenberg 79.83 335⇑iP P 17 34 36.7 +0.5
comp=Z,8.8nm,0.6s,mb4.8
MOTA Moosalm 79.90 336⇑iP P 17 34 36.5 -0.1
comp=Z,6.1nm,0.7s,mb4.7
CDF Champ du Feu 79.92 338 eP P 17 34 36.4 -0.3
comp=Z,10nm,1.0s,mb4.4
CDF Champ du Feu 79.92 338 eP P 17 34 36.4 -0.3
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CDF Champ du Feu 79.92 338 eP P 17 34 36.4 -0.3
comp=Z,5.2nm,1.0s,mb4.4
SQTA Sankt Quirin 79.98 336⇑iP P 17 34 37.0 0.0
comp=Z,4.8nm,0.8s,mb4.5
VTS Vitosha 80.14 326⇑iP P 17 34 37.4 -0.5
VTS Vitosha 80.14 326⇑P P 17 34 37.4 -0.4
GRR Gorron 81.72 344 eP P 17 34 46.2 -0.1
SMF Signal de Mont 82.39 340 eP P 17 34 49.5 -0.3
comp=Z,17nm,1.1s,mb4.6
SMF Signal de Mont 82.39 340 eP P 17 34 49.5 -0.3
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SMF Signal de Mont 82.39 340 eP P 17 34 49.5 -0.3
comp=Z,8.6nm,1.1s,mb4.6
LPG La Plagne 82.76 338 eP P 17 34 52.4 +0.6
comp=Z,11nm,1.0s,mb4.6
LPG La Plagne 82.76 338 eP P 17 34 52.4 +0.6
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LPG La Plagne 82.76 338 eP P 17 34 52.4 +0.6
comp=Z,5.6nm,1.0s,mb4.5
CAF Calviac 84.42 341 eP P 17 34 59.7 -0.6

*IDC **19** 17:35:37.3±0.6, 1872S×17598E, h0km, mb4.5/12, mb1 4.7/14, mb1mx4.7/16, mbtmp4.5/14, ML3.5/2, MS4.1/21, Ms1 4.1/21, ms1mx4.0/27, Error ellipse: s-maj=24.4km s-min=17.2km az=140.0*

*ISCJB **19** 17:35:38.1±3.3, 1878S±007×17594E±008, h13km±19km, mb4.8/27, MS4.2/20, Error ellipse: s-maj=13.4km s-min=11.3km az=46.7*

*LDG **19** 17:35:38.3±0.2, 1893S×175.13E, h10km, Mb4.9/1, Ms4.3/8, Error ellipse: s-maj=20.7km s-min=3.7km az=146.0*

*BJI **19** 17:35:39.8, 1880S×17600E, h25km, mB5.4, mb4.9, Ms4.6, Msz4.6*

*NEIC **19** 17:35:42.8±0.2, 1875S×17596E, h35km, mb5.0/15, MS4.5/2, Error ellipse: s-maj=10.7km s-min=6.4km az=142.0*

*GCMT **19** 17:35:42.8±0.2, 1859S×176.10E, h13km, MW5.1/89, Moment Tensor Solution. s48,c73; s89,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.77±.16; Mθθ0.61±.10; Mϕϕ4.15±.12; Mrθ-0.15±.27; Mθϕ1.43±.08; Mϕr-0.69±.26; Best double couple: M₀4.76500×10¹⁶ NP1:ϕs201.00000°, δ41.00000°, λ-88.00000°. NP2: ϕs18.00000°, δ49.00000°, λ-91.00000°. Principal axes: T 4.7070, Plg4.0000°, Azm109.0000°; N 0.1110, Plg1.0000°, Azm19.0000°; P -4.8230, Plg86.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **19** 17:35:42.9, 1841S×17671E, h33km, Fiji Islands region*

*MOS **19** 17:35:46.8±2.2, 1758S×17483E, h33km, mb5.0/4, Error ellipse: s-maj=22.7km s-min=19.8km az=38.0*

ISC 19 17:35:40.0±3.7, 1878S±007×17598E±008, h15km±22km, h20km±4.6km:pP-P,n161,σ0s99/57, mb4.8/27, MS4.2/20, 9C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.52	248	Pn		Pn		17 37 57.8	+1.1
	0.1nm,0.3s,baz=195,slow=19,SNR=3.3								
DZM					LR	LR		17 40 26.1	
	comp=Z,224nm,18.1s,baz=303,slow=30								
RAO	Raoul Island	11.81	153	LR		LR		17 41 59.9	
	comp=Z,2μm,21.4s,baz=334,slow=32								
AFI	Afiamalu	12.71	69	LR		LR		17 42 50.7	
	comp=Z,506nm,20.0s,baz=237,slow=34								
HNR	Honiara	18.11	299	LR		LR		17 45 45.4	
	comp=Z,751nm,20.2s,baz=178,slow=34								
URZ	Urewera	19.43	177	Pn		Pn		17 40 08.0	+0.9
	0.5nm,0.3s,baz=35,slow=9.5,SNR=3.6								
URZ					LR	LR		17 46 32.8	
	comp=Z,218nm,19.0s,baz=144,slow=34								
RAR	Rarotonga	22.91	100	LR		LR		17 47 40.1	
	comp=Z,590nm,18.8s,MS4.0,baz=268,slow=32								
ARMA	Armidale	24.93	238	eP		P		17 41 04.9	+2.3
RPZ	Rata Peaks	25.20	188	LR		LR		17 50 11.7	
	comp=Z,345nm,18.2s,MS3.9,baz=156,slow=35								
CTA	Charters Tower	28.05	262	LR		LR		17 51 14.3	
	comp=Z,646nm,20.5s,MS4.2,baz=82,slow=33								
TBI	Tubuai	32.52	104	eS		S		17 47 24.6	-0.3
	282nm,28.2s								
TBI					eLR	LR		17 50 48.6	
	2μm,30.2s,baz=271								
PPT	Papeete	32.72	93	eS		S		17 47 29.2	+1.2
	318nm,26.8s								
PPT					eLR	LR		17 49 37.5	
	531nm,29.0s								
PPT					eLR	LR		17 50 53.9	
	2μm,26.0s,baz=261								
PPT	Papeete	32.72	93	LR		LR		17 52 10.4	
	comp=Z,417nm,18.2s,MS4.2,baz=263,slow=30								
STKA	Stephens Creek	33.55	240	eP		P		17 42 20.9	+1.6
	9.1nm,0.9s,mb4.7								
STKA	Stephens Creek	33.55	240	P		P		17 42 20.7	+1.4
	12nm,0.9s,mb4.8,baz=81,slow=7.0,SNR=19								
STKA					LR	LR		17 54 35.9	
	comp=Z,327nm,21.4s,MS4.0,baz=59,slow=34								
WB2	Warramunga Arr	39.22	261	eP		P		17 43 07.0	-0.7
WRAB	Tennant Creek	39.23	261	eP		P		17 43 07.1	-0.6
WRA	Warramunga Arr	39.23	261	P		P		17 43 07.2	-0.6
	4.0nm,0.9s,mb4.1,baz=91,slow=9.0,SNR=16								
WRA					PcP	PcP		17 45 15.7	-1.0
	1.1nm,0.9s,baz=84,slow=3.8,SNR=4.0								
AS31	Alice Springs	39.42	255	eP		P		17 43 08.9	-0.5
ASAR	Alice Springs	39.42	255	P		P		17 43 09.2	-0.2
	7.0nm,0.7s,mb4.5,baz=85,slow=8.8,SNR=69								
ASAR					PcP	PcP		17 45 16.4	-0.9
	2.2nm,1.0s,baz=117,slow=3.3,SNR=6.7								
ASAR					LR	LR		17 58 39.8	
	comp=Z,498nm,19.8s,MS4.3,baz=98,slow=35								
ASAR	Alice Springs	39.42	255	P		P		17 43 09.2	-0.2
ASAR								17 45 16.5	
TAOE	Nuku Hiva Isla	43.62	83	eLR		LR		17 55 53.8	
	1μm,29.6s								
GUMO	Guam	44.44	314	LR		LR		18 00 14.8	
	comp=Z,321nm,21.0s,MS4.2,baz=111,slow=33								
FORT	Forrest	44.82	245	eP		P		17 43 54.0	+0.6
	21nm,0.7s,mb5.1								
RKT	Rikitea	45.84	104	eS		S		17 50 46.2	+1.2
	242nm,29.0s								
RKT					eLR	LR		17 56 59.0	
	1μm,33.0s								
FITZ	Fitzroy Crossi	47.63	262	eP		P		17 44 16.5	+1.0
	27nm,0.8s,mb5.3								
FITZ	Fitzroy Crossi	47.63	262	P		P		17 44 16.5	+1.0
	19nm,1.0s,mb5.1,baz=96,slow=8.0,SNR=19								
KLBR	Kellerberrin	53.66	244	eP		P		17 45 00.9	-0.2
	29nm,1.2s,mb5.1								
VNDA	Vanda	59.19	184	P		P		17 45 40.2	-0.2
	1.9nm,0.8s,mb4.2,baz=348,slow=7.2,SNR=4.8								
VNDA					LR	LR		18 07 22.2	
	comp=Z,84nm,19.0s,MS3.9,baz=286,slow=32								
VNDA	Vanda	59.19	184	eP		P		17 45 39.9	-0.5
VNDA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
VNDA	Vanda	59.19	184	eP		P		17 45 39.9	-0.5
	comp=Z,3.4nm,1.0s,mb4.3								
CASY	Casey	63.13	204	eP		P		17 46 06.5	-0.7
	comp=Z,10nm,1.1s,mb4.9								
JOW	Kunigami	64.79	313	LR		LR		18 10 26.2	
	comp=Z,144nm,19.2s,MS4.2,baz=102,slow=32								
MJAR	Matsushiro Arr	65.58	327	P		P		17 46 22.3	-0.9
	comp=Z,2.0nm,0.8s,mb4.2,baz=161,slow=6.4,SNR=7.6								
QSPA	South Pole Qui	71.27	180	eP		P		17 46 58.2	-0.6
	comp=Z,30nm,1.1s,mb5.1								
KSRS	Korea Array	71.94	321	P		P		17 47 03.1	+0.3
	comp=Z,3.2nm,1.0s,mb4.2,baz=148,slow=6.3,SNR=7.2								
QIZ	Qiongzhong	75.00	296	eP		P		17 47 18.1	-2.8
QIZ					S	S		17 56 55.3	-2.9
QIZ					LR	LR			
	comp=E,125nm,26.6s								
QIZ					LR	LR			
	comp=Z,225nm,27.2s,MS4.3								
HABR	Khabarovsk	76.27	333	eP		P		17 47 28.1	0.0
WHN	Wuhan	76.91	309	⇑P		P		17 47 32.0	+0.3
CN2	Changchun	77.57	325	eP		P		17 47 34.9	-0.6
CN2					AMB	AMB			
	comp=Z,20nm,1.2s,mb4.9								
KLR	Kul'dur	78.27	332	eP		P		17 47 36.0	-3.3
KDAK	Kodiak Island	80.63	16	LR		LR		18 15 17.1	
	comp=Z,123nm,21.8s,MS4.2,baz=298,slow=30								
MAW	Mawson	81.19	201	P		P		17 47 54.6	-0.7
	comp=Z,5.2nm,1.0s,mb4.4,baz=110,slow=5.7,SNR=6.3								
MAW	Mawson	81.19	201	eP		P		17 47 54.7	-0.5
	comp=Z,8.9nm,1.1s,mb4.6								
XAN	Xi'an	82.63	310	P		P		17 48 03.1	+0.3
XAN					AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.7								
PFO	Pinyon Flat Ob	82.79	51	LR		LR		18 15 44.2	
	comp=Z,72nm,20.7s,MS4.0,baz=238,slow=29								
MTUM	Tungsten Hills	83.09	47	eP		P		17 48 05.8	+0.6
GSC	Goldstone	83.34	49	eP		P		17 48 06.0	-0.5
LPIG	La Paz	83.52	62	LR		LR		18 15 48.6	
	comp=Z,120nm,18.8s,MS4.3,baz=215,slow=29								
KMI	Kunming	83.54	299	P		P		17 48 08.8	+1.3
KMI				AP		pP		17 48 19.9	+7.6
KMI				XP		sP		17 48 23.0	+8.9
KMI				PP		PP		17 51 25.4	+5.6
KMI				S		S		17 58 29.1	+0.2
KMI				XS		sS		17 58 44.4	+7.5
KMI				SS		SS		18 03 58.0	+3.1
KMI				SSS				18 07 24.6	
KMI				AMB		AMB			
	comp=Z,9.0nm,1.4s,mb4.7								
KMI				AMB		AMB			
	comp=Z,77nm,3.9s								
KMI				LR		LR			
	comp=N,146nm,20.0s,MS4.4								
KMI				LR		LR			
	comp=E,122nm,24.5s,MS4.4								
KMI				LR		LR			
	comp=Z,153nm,20.0s,MS4.4								
KMI	Kunming	83.54	299	P		P		17 48 08.8	+1.3
	comp=Z,9.0nm,1.4s,mb4.7								
KMI				pP		pP		17 48 19.9	+7.6
KMI				sP		sP		17 48 23.0	+8.9
KMI				PP		PP		17 51 25.4	+5.6
KMI				S		S		17 58 29.1	+0.2
KMI				sS		sS		17 58 44.4	+7.5
KMI				SS		SS		18 03 58.0	+3.1
KMI				SSS				18 07 24.6	
KMI				LR		LR			
	comp=Z,150nm,20.0s,MS4.4								
NVAR	Mina Array Bea	83.80	46	P		P		17 48 09.4	+0.6
	comp=Z,3.3nm,0.8s,mb4.5,baz=246,slow=11,SNR=20								
CHTO	Chiang Mai	84.34	292	eP		P		17 48 12.3	+0.8
	comp=Z,22nm,1.8s,mb5.0								
CD2	Chengdu	85.12	305	P		P		17 48 16.4	+0.9
BILL	Bilibino	86.86	356	eP		P		17 48 21.4	-2.7
BILL				pmax		pmax			
	comp=Z,15nm,1.6s,mb5.0								
ELK	Elko	86.99	45	P		P		17 48 24.7	-0.1
	comp=Z,3.5nm,0.3s,mb5.1								
SYO	Syowa Base	87.06	194⇓	eP		P		17 48 23.0	-2.1
LZH	Lanzhou	87.27	309	eP		P		17 48 27.6	+1.5
LZH				AP		pP		17 48 31.0	+0.1
LZH				XP		sP		17 48 34.8	+2.1
LZH				AMB		AMB			
	comp=Z,40nm,1.0s,mb5.6								
LZH				AMB		AMB			
	comp=Z,168nm,4.2s								
LZH	Lanzhou	87.27	309	eP		P		17 48 27.6	+1.5
	comp=Z,40nm,1.0s,mb5.6								
LZH				pP		pP		17 48 31.0	+0.1
LZH				sP		sP		17 48 34.7	+2.0
MSU	Marysvale	88.10	48	eP		P		17 48 30.4	+0.4
JLU	Jordanelle	89.50	47	eP		P		17 48 36.9	+0.2
HWUT	Hardwee Ranch	89.86	46	eP		P		17 48 38.0	-0.3
	comp=Z,16nm,1.6s,mb5.1								
VNA3	Neumayer Olymp	90.12	178	eP		P		17 48 38.0	-1.6
VNA3				e		pP		17 48 44.4	0.0
VNA3				e				17 48 54.5	
ULN	Ulaanbaatar	90.42	321	eP		P		17 48 40.4	-0.5
	comp=Z,3.9nm,1.0s,mb4.7								
MNTX	Cornudas Mount	90.47	57	eP		P		17 48 41.6	+0.4
	comp=Z,14nm,1.7s,mb5.0								
VNA2	Neumayer--Watz	90.50	179	eP		P		17 48 39.9	-1.4
VNA2				e		pP		17 48 45.5	-0.7
VNA2				e				17 48 55.6	
PV01	Paradox Valley	90.52	50	eP		P		17 48 41.7	+0.3
SONM	Songino Array	90.80	321	P		P		17 48 42.0	-0.7
	comp=Z,1.4nm,1.0s,mb4.3,baz=138,slow=3.9,SNR=8.2								
ANMO	Albuquerque	90.85	53	LR		LR		18 21 09.6	
	comp=Z,96nm,19.9s,MS4.2,baz=104,slow=30								
TXAR	Lajitas Array	90.99	59	P		P		17 48 45.0	+1.4
	comp=Z,2.9nm,0.8s,mb4.7,baz=220,slow=5.8,SNR=26								
GTA	Gaotai	91.54	311	eP		P		17 48 46.8	+0.6
GTA				AP		pP		17 48 54.0	+3.0
GTA				XP		sP		17 48 57.3	+4.5
GTA				AMB		AMB			
	comp=Z,7.0nm,1.1s,mb4.9								
PDAR	Pinedale Array	91.70	45	P		P		17 48 46.6	-0.3
	comp=Z,1.5nm,1.0s,mb4.3,baz=200,slow=2.7,SNR=5.9								
PDAR				LR		LR		18 24 20.0	
	comp=Z,57nm,20.1s,MS4.0,baz=169,slow=32								
INK	Inuvik	94.19	17	LR		LR		18 28 49.4	
	comp=Z,84nm,18.4s,MS4.2,baz=212,slow=34								
YKA	Yellowknife Ar	97.40	26	LR		LR		18 26 48.7	
	comp=Z,56nm,18.7s,MS4.1,baz=235,slow=32								
BVAR	Borovoye Array	114.14	320	PKiKP		PKiKP		17 54 16.4	-2.4
	comp=Z,0.8nm,0.8s,baz=80,slow=2.3,SNR=5.1								
AKTK	Aktyubinsk	122.02	318	PKP		PKPdf		17 54 32.4	-1.6
AKTO	Aktyubinsk	122.02	318	PKP		PKPdf		17 54 32.4	-1.6
	comp=Z,1.1nm,0.5s,baz=11,slow=15,SNR=6.3								
AKASG	Malin Array Be	138.67	328	PKP		PKPdf		17 55 05.9	+0.5
	comp=Z,0.4nm,0.5s,baz=49,slow=2.6,SNR=4.1								
BRTR	Keskin Array B	141.46	311	PKhKP				17 55 06.9	
	comp=Z,1.1nm,0.9s,baz=33,slow=3.4,SNR=4.3								
KOLS	Kolonicke sedl	143.20	331	ePKP		PKPdf		17 55 13.5	-0.1
STHS	Stebnicka Huta	143.32	332	ePKP		PKPdf		17 55 12.3	-1.5
MLR	Muntele Rosu	143.60	324⇑iP			PKPdf		17 55 11.8	-2.5
KSP	Ksiaz	144.18	338	ePKHKP		PKPdf		17 55 13.1	-2.2
KECS	Kecovo	144.34	332	iPKP		PKPdf		17 55 14.0	-1.6
DRGR		144.48	328⇑iP			PKPdf		17 55 14.1	-1.7
DRGR		144.48	328	P		PKPdf		17 55 14.6	-1.3
UPC	Upice	144.56	338	ePKP		PKPdf		17 55 14.4	-1.6
DPC	Dobruska-Polom	144.57	337	ePKP		PKPdf		17 55 14.7	-1.3
MORC	Moravsky Berou	144.58	336⇑iP			PKPdf		17 55 14.7	-1.3
CLL	Collm	144.86	341	ePKPbc		PKPdf		17 55 14.9	-1.6
CLL	Collm	144.86	341	ePKHKP		PKPdf		17 55 14.0	-2.5
CLL				pmax		pmax			
	comp=Z,28nm,1.1s								
CLL	Collm	144.86	341	iPKPdf		PKPdf		17 55 14.7	-1.8
	comp=Z,28nm,1.1s								
BRG	Berggiesshubel	144.95	340	ePKPbc		PKPdf		17 55 15.6	-1.0
BRG	Berggiesshubel	144.95	340	iP		PKPdf		17 55 15.3	-1.3
	comp=Z,16nm,1.1s								
BRG	Berggiesshubel	144.95	340	iPKIKP		PKPdf		17 55 15.3	-1.3
BRG				pmax		pmax			
	comp=Z,16nm,1.1s								
ZIMR		145.02	322⇑iP			PKPbc		17 55 17.1	+1.0
ZIMR		145.02	322	P		PKPbc		17 55 16.5	+0.4
PSZ	Piszkesteto	145.03	332⇑iP			PKPbc		17 55 15.6	-0.5
PSZ	Piszkesteto	145.03	332	PKIKP		PKPdf		17 55 16.2	-0.6
PSZ	Piszkesteto	145.03	332	ePKP		PKPdf		17 55 15.2	-1.5
PVCC	Panska Ves	145.04	339	ePKP		PKPdf		17 55 16.0	-0.8
VYHS	Vyhne	145.06	333	iPKP		PKPdf		17 55 16.1	-0.7
CLZ	Clausthal	145.12	344	ePKPbc		PKPdf		17 55 16.0	-0.4
IBBN	Ibbenbueren	145.29	347	ePKPbc		PKPdf		17 55 16.1	-0.9
VRAC	Vranov	145.32	336⇑iP			PKPbc		17 55 16.7	-0.4
VRAC	Vranov	145.32	336	P		PKPbc		17 55 17.1	0.0
GZR	Gura Zlata	145.39	326⇓iP			PKPbc		17 55 15.9	-1.4
GZR	Gura Zlata	145.39	326	P		PKPbc		17 55 17.1	-0.2
PRU	Pruhonice	145.51	339	ePKP		PKPdf		17 55 17.3	-0.3
PRU				epPKP		pPKPdf		17 55 32.6	+10
SMOL	Smolenice	145.63	334	iPKP		PKPdf		17 55 18.4	+0.6
TANN	Tannenbergstha	145.81	341	ePKPbc		PKPbc		17 55 18.1	-0.5
BZS	Buzias	145.84	327⇑iP			PKPdf		17 55 15.0	-3.2
BZS	Buzias	145.84	327

DOU				PKPab	PKPab	17 55 26.2	-1.4	
VAY	**Valandovo**	**148.07 320**	*e*PKP	PKPdf		17 55 20.6	-1.3	
VAY			*e*PKP	PKPdf		17 55 23.1	+1.2	
STIP	**Stip**	**148.07 321**	*e*PKP	PKPdf		17 55 20.8	-1.1	
BAIF	**Baives**	**148.11 350**	*e*PKP1	PKPbc		17 55 24.0	-1.2	
	comp=Z,31nm,1.2s							
WLF	**Walferdange**	**148.13 347**	*e*PKPbc	PKPbc		17 55 25.4	+0.2	
WLF	**Walferdange**	**148.13 347**	PKPbc	PKPbc		17 55 24.6	-0.7	
WLF			APKP			17 55 31.4		
WLF			APKPbc			17 55 33.6		
STU	**Stuttgart**	**148.23 343**	*e*PKPbc	PKPbc		17 55 24.9	-0.6	
SKO	**Skopje**	**148.34 322**	*e*PKP	PKPdf		17 55 21.1	-1.2	
CRES	**Cresnjev**	**148.58 322**	*e*PKPbc	PKPbc		17 55 25.8	-0.6	
LJU	**Ljubljana**	**148.79 335**	*e*PKPbc	PKPbc		17 55 25.9	-1.1	
BFO	**Black Forest**	**148.87 344**	*e*PKPbc	PKPbc		17 55 26.6	-0.5	
BOJS	**Bojanci**	**148.92 333**	*e*PKPbc	PKPbc		17 55 26.6	-0.7	
BIA	**Bitola**	**149.00 321**	*e*PKP	PKPdf		17 55 22.2	-1.2	
CDF	**Champ du Feu**	**149.06 345**	*e*PKP1	PKPbc		17 55 26.3	-1.3	
	comp=Z,35nm,1.3s							
OHR	**Ohrid**	**149.25 322**	*e*PKP	PKPdf		17 55 22.4	-1.4	
OHR			*e*PKP	PKPdf		17 55 25.9	+2.1	
MEZF	**Maizieres J'vi**	**149.46 348**	*e*PKP1	PKPbc		17 55 27.6	-1.0	
HAU	**Haudompre**	**149.65 346**	*e*PKP1	PKPbc		17 55 27.7	-1.4	
	comp=Z,25nm,1.2s							
HAU			*e*R					
	comp=Z,121nm,19.0s							
HAU	**Haudompre**	**149.65 346**	*e*PKP	PKPdf		17 55 27.7	+3.2	
HAU			LR	LR				
	comp=Z,120nm,19.0s,MS4.7							
HINF	**Hinteralfeld**	**149.71 345**	*e*PKP1	PKPbc		17 55 27.8	-1.5	
LOR	**Lormes**	**150.87 349**	*e*PKP1	PKPbc		17 55 30.8	-1.2	
	comp=Z,39nm,1.3s							
LOR			*e*R					
	comp=Z,114nm,17.8s							
LOR	**Lormes**	**150.87 349**	*e*PKP	PKPbc		17 55 30.8	-1.2	
LOR			LR	LR				
	comp=Z,110nm,17.8s,MS4.7							
CABF	**La Chapelle**	**151.03 346**	*e*PKP1	PKPbc		17 55 31.5	-0.9	
SSF	**Saint Saulge**	**151.13 349**	*e*PKP1	PKPbc		17 55 31.3	-1.3	
	comp=Z,22nm,1.0s							
AVF	**Avril sur Loir**	**151.42 349**	*e*PKP1	PKPbc		17 55 31.6	-1.7	
	comp=Z,15nm,1.1s							
SMF	**Signal de Mont**	**151.47 349**	*e*PKP1	PKPbc		17 55 32.1	-1.3	
BGF	**Bois d'Agland**	**151.73 350**	*e*PKP1	PKPbc		17 55 32.6	-1.4	
LPL	**La Plagne**	**151.89 344**	*e*PKP1	PKPbc		17 55 33.7	-0.7	
	comp=Z,5.4nm,0.8s							
LPG	**La Plagne**	**151.90 344**	*e*PKP1	PKPbc		17 55 33.9	-0.5	
MBDF	**Montbardon**	**152.61 343**	*e*PKP1	PKPbc		17 55 34.6	-1.4	
	comp=Z,8.2nm,0.9s							
ORIF	**Oris-en-Rattie**	**152.66 345**	*e*PKP1	PKPbc		17 55 34.9	-1.2	
	comp=Z,14nm,1.0s							
ORIF			*e*R					
	comp=Z,88nm,19.8s							
LASF	**Ste Croix**	**153.93 347**	*e*PKP1	PKPbc		17 55 38.0	-0.9	
TORD	**Torodi Ar. Bea**	**172.15 225**	PKP	PKPdf		17 55 47.8	-0.5	
	comp=Z,1.7nm,1.0s,baz=356,slow=1.0,SNR=6.0							
TORD			PKPab	PKPab		17 57 11.7	-0.1	
	comp=Z,1.8nm,0.9s,baz=114,slow=4.6,SNR=7.5							

NEIC ***19*** *17:37:58.5±0.6, 4726N×15285E, h10km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=9.9km az=140.0*
BJI ***19*** *17:37:59.8, 4730N×15290E, h10km, mB4.6, mb4.1*
ISCJB ***19*** *17:38:03.9±1.0, 47.15N±008×1530E±0.1, h69km±8km, mb4.2/27, Error ellipse: s-maj=16.5km s-min=5.9km az=96.0*
MOS ***19*** *17:38:04.2±1.3, 47.13N×15289E, h75km, mb4.7/3, Error ellipse: s-maj=13.7km s-min=9.3km az=68.9*
IDC ***19*** *17:38:08.5±3.4, 47.17N×15270E, h95km±30km, mb3.8/17, mb1 4.0/19, mb1mx3.9/25, mbtmp3.8/19, Error ellipse: s-maj=16.8km s-min=13.7km az=129.0*

ISC 19 17:38:06.1±0.8, 4721N±008×1530E±01, h72km±7km, n59, σ1°§18/58, mb4.2/27, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.05**	**30**	*e*PN	**Pn**	**17 39 06.7**	**+1.1**
SKR				*e*S	**Sn**	**17 39 50.5**	**-1.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,170nm,0.5s						
SKR				smax			
	comp=Z,100nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.90**	**240**	*e*PN	**Pn**	**17 39 29.7**	**-1.2**
YUK				S	**Sn**	**17 40 39.0**	**+2.0**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,250nm,0.5s						
PET	**Petropavlovsk**	**6.88**	**30**	PN	**Pn**	**17 39 43.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.97**	**272**	*e*PN	**Pn**	**17 39 47.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,18nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.97**	**272**	*e*P	**Pn**	**17 39 47.0**	**+1.5**
	comp=Z,18nm,0.4s						
ASAJ	**Asahikawa**	**7.89**	**251**	P	**Pn**	**17 39 58.8**	**+0.8**
	comp=Z,19nm,0.3s,baz=81,slow=17,SNR=17						
ASAJ	**Asahikawa**	**7.89**	**251**	PN	**Pn**	**17 39 58.8**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**8.70**	**237**	*e*PN	**Pn**	**17 40 06.2**	**-2.9**
MAJO	**Matsushiro**	**15.28**	**231**	*e*P	**Pn**	**17 41 40.2**	**+2.7**
MAT	**Matsushiro**	**15.28**	**231**	P	**Pn**	**17 41 35.0**	**-2.5**
MJAR	**Matsushiro Arr**	**15.28**	**231**	P	**Pn**	**17 41 35.3**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=53,slow=6.4,SNR=15						
MDJ	**Mudanjiang**	**16.45**	**270**	P	**Pn**	**17 41 53.8**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,59nm,7.9s						
YAK	**Yakutsk**	**19.88**	**327**	*e*P	**Pn**	**17 42 33.9**	**+0.2**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
YAK	**Yakutsk**	**19.88**	**327**	*e*P	**Pn**	**17 42 33.9**	**+0.3**
	comp=Z,8.7nm,0.6s						
KSRS	**Korea Array**	**20.84**	**251**	P	**P**	**17 42 41.3**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=55,slow=11,SNR=12						
SONM	**Songino Array**	**31.08**	**289**	P	**P**	**17 44 15.3**	**-2.0**
	comp=Z,0.3nm,0.6s,mb3.2,baz=72,slow=9.6,SNR=4.5						
IMA2	**Indian Mountai**	**33.50**	**36**	*e*P	**P**	**17 44 39.5**	**+1.0**
GTA	**Gaotai**	**38.80**	**278**	*e*P	**P**	**17 45 25.1**	**+1.5**
GTA				AP	pP	17 45 32.3	-8.9
GTA				XP	sP	17 45 34.8	-15
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.9						
CD2	**Chengdu**	**40.81**	**265**	*i*P	**P**	**17 45 40.3**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
INK	**Inuvik**	**41.33**	**33**	P	**P**	**17 45 46.0**	**+1.4**
	comp=Z,4.2nm,0.7s,mb4.4,baz=290,slow=5.6,SNR=18						
ZAL	**Zalesovo**	**42.27**	**305**	PcP	PcP	17 47 44.2	-0.7
	comp=Z,2.1nm,0.7s,baz=40,slow=5.0,SNR=12						
MKAR	**Makanchi Array**	**46.64**	**297**	P	**P**	**17 46 25.8**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=67,slow=7.8,SNR=7.3						
MKAR				PcP	PcP	17 47 59.6	-0.3
	comp=Z,1.2nm,0.3s,baz=66,slow=3.5,SNR=22						
LSA	**Lhasa**	**50.14**	**273**	*e*P	**P**	**17 46 55.7**	**+1.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**50.14**	**273**	*e*P	**P**	**17 46 55.7**	**+1.6**
	comp=Z,2.3nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**50.49**	**309**	P	**P**	**17 46 55.6**	**-1.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=55,slow=8.0,SNR=10						
BVAR				PcP	PcP	17 48 13.4	-0.4
	comp=Z,2.1nm,0.4s,baz=86,slow=2.7,SNR=17						
YKA	**Yellowknife Ar**	**50.62**	**37**	P	**P**	**17 46 58.5**	**+0.9**
	comp=Z,1.5nm,0.6s,mb4.2,baz=298,slow=7.1,SNR=7.7						
YKA	**Yellowknife Ar**	**50.62**	**37**	P	**P**	**17 46 58.5**	**+0.9**
CHTO	**Chiang Mai**	**52.12**	**256**	*e*P	**P**	**17 47 08.6**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**52.12**	**256**	*e*P	**P**	**17 47 08.6**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.5						
CM31	**Chiang Mai Arr**	**52.38**	**256**	*e*P	**P**	**17 47 10.2**	**-0.5**
JIRN	**Jiri**	**54.80**	**274**	*e*P	**P**	**17 47 29.0**	**+0.5**
	comp=Z,10.0nm,0.5s,mb5.1						
GUN	**Gumba**	**54.86**	**275**	*e*P	**P**	**17 47 29.3**	**+0.4**
KKN	**Kakani**	**55.34**	**275**	*e*P	**P**	**17 47 33.0**	**+0.6**
	comp=Z,9.8nm,0.7s,mb5.0						
DMN	**Daman**	**55.57**	**275**	*e*P	**P**	**17 47 34.5**	**+0.4**
	comp=Z,19nm,0.8s,mb5.2						
GKN	**Gorkha**	**55.64**	**276**	*e*P	**P**	**17 47 34.9**	**+0.4**
	comp=Z,11nm,0.5s,mb5.1						
KOLN	**Koldanda**	**56.49**	**276**	*e*P	**P**	**17 47 41.1**	**+0.5**
	comp=Z,12nm,0.9s,mb4.9						
ARCES	**ARCESS Array B**	**57.39**	**341**	P	**P**	**17 47 45.8**	**-1.1**
	comp=Z,5.4nm,1.1s,mb4.5,baz=29,slow=7.7,SNR=3.2						
FINES	**FINESS Array B**	**63.58**	**335**	P	**P**	**17 48 27.8**	**-1.3**
	comp=Z,2.0nm,0.4s,mb4.3,baz=36,slow=7.1,SNR=26						
BW06	**Boulder Array**	**64.56**	**54**	*e*P	**P**	**17 48 36.7**	**+1.2**
	comp=Z,2.1nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**64.56**	**54**	P	**P**	**17 48 36.7**	**+1.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=294,slow=1.6,SNR=13						
NB2	**NORSAR Subarra**	**67.76**	**341**	P	**P**	**17 48 55.6**	**-0.4**
	comp=Z,6.3nm,0.9s,mb4.5,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**17 48 55.7**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.2,baz=26,slow=6.2,SNR=6.7						
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**17 48 55.7**	**-0.3**
WRA	**Warramunga Arr**	**68.91**	**199**	P	**P**	**17 49 01.9**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=16,slow=6.6,SNR=14						
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**17 49 15.2**	**-1.4**
	comp=Z,1.3nm,0.3s,mb4.2,baz=33,slow=6.2,SNR=11						
ASAR	**Alice Springs**	**72.61**	**198**	P	**P**	**17 49 25.4**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=14,slow=6.3,SNR=27						
SCHQ	**Schefferville**	**72.93**	**23**	P	**P**	**17 49 27.1**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.0,baz=274,slow=13,SNR=4.2						
BURAR	**Bucovina Array**	**75.15**	**326**	*i*P	**P**	**17 49 40.2**	**-0.3**
DPC	**Dobruska-Polom**	**75.87**	**333**	*e*P	**P**	**17 49 45.4**	**+0.8**
CLL	**Collm**	**76.01**	**335**	*i*P	**P**	**17 49 44.3**	**-1.1**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
CLL	**Collm**	**76.01**	**335**	*i*P	**P**	**17 49 44.3**	**-1.1**
	comp=Z,10.0nm,1.3s,mb4.4						
MLR	**Muntele Rosu**	**76.63**	**325**	*i*P	**P**	**17 49 50.3**	**+1.4**
PRU	**Pruhonice**	**76.73**	**344**	*e*P	**P**	**17 49 46.8**	**-2.7**
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**17 49 53.9**	**+0.9**
	comp=Z,3.1nm,0.6s,mb4.2,baz=299,slow=4.9,SNR=31						
KHC	**Kasperske Hory**	**77.78**	**334**	*e*P	**P**	**17 49 55.1**	**-0.2**
BRTR	**Keskin Array B**	**77.98**	**317**	P	**P**	**17 49 57.2**	**+0.7**
	comp=Z,1.6nm,0.9s,mb3.8,baz=70,slow=4.9,SNR=7.3						
GERES	**GERESS Array B**	**78.00**	**334**	P	**P**	**17 49 56.3**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.8,baz=36,slow=6.0,SNR=16						
TORD	**Torodi Ar. Bea**	**114.65**	**329**	PKP	PKiKP	17 56 36.9	-1.1
	comp=Z,0.2nm,0.4s,baz=9.6,slow=2.4,SNR=6.8						
CFAA	**Coronel Fontan**	**145.01**	**79**	PKPbc	PKPbc	17 57 33.9	-0.5
	comp=Z,0.2nm,0.5s,baz=298,slow=2.9,SNR=4.4						

IDC 19 17:45:03.3±5.0, 625S×15145E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML2.4/1, Error ellipse: s-maj=84.1km s-min=59.6km az=177.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.28**	**233**	Pn	Pn	17 46 24.9	+1.4
	0.8nm,0.3s,baz=52,slow=19,SNR=5.8						
PMG				Sn	Sn	17 47 24.4	-0.7
	0.7nm,0.3s,baz=298,slow=17,SNR=2.5						
WB2	**Warramunga Arr**	**21.48**	**229**	*e*P	P	17 49 54.1	+0.7
WRA	**Warramunga Arr**	**21.49**	**229**	P	P	17 49 53.8	+0.3
	0.8nm,0.4s,baz=48,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**24.18**	**222**	P	P	17 50 21.3	0.0
	1.0nm,0.5s,baz=55,slow=9.2,SNR=29						
STKA	**Stephens Creek**	**27.11**	**199**	P	P	17 50 46.4	-1.5
	2.2nm,0.9s,baz=43,slow=13,SNR=3.4						
FITZ	**Fitzroy Crossi**	**27.80**	**243**	P	P	17 50 55.9	+1.9
	0.9nm,0.5s,baz=38,slow=9.7,SNR=7.0						

IDC ***19*** *17:48:21.5±2.2, 6.12S×15159E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML2.3/1, Error ellipse: s-maj=47.9km s-min=31.2km az=170.0*

NEIC 19 17:48:22.3±1.4, 603S×15158E, h10km, Error ellipse: s-maj=29.2km s-min=15.2km az=175.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.52**	**232**	Pn	Pn	17 49 45.6	+1.2
	0.6nm,0.3s,baz=32,slow=17,SNR=6.1						
PMG				Sn	Sn	17 50 47.4	-0.5
	3.6nm,0.3s,baz=195,slow=19,SNR=5.8						
PMG	**Port Moresby**	**5.52**	**232**	*e*P	Pn	17 49 44.4	0.0
PMG				Sn	Sn	17 50 47.4	-0.5
DZM	**Mont Dzumac**	**21.46**	**139**	P	P	17 53 11.1	+0.3
	4.3nm,0.8s,baz=301,slow=19,SNR=3.7						
WB2	**Warramunga Arr**	**21.71**	**229**	*e*P	P	17 53 13.7	+0.2
WRA	**Warramunga Arr**	**21.72**	**229**	P	P	17 53 13.7	+0.1
	0.5nm,0.7s,baz=55,slow=10,SNR=5.0						
AS31	**Alice Springs**	**24.43**	**222**	*e*P	P	17 53 41.7	+0.7
ASAR	**Alice Springs**	**24.43**	**222**	P	P	17 53 41.6	+0.6
	0.5nm,0.5s,baz=56,slow=9.3,SNR=14						
TORD	**Torodi Ar. Bea**	**149.50**	**286**	PKPbc	PKPbc	18 08 13.2	+1.5
	0.3nm,0.5s,baz=100,slow=2.8,SNR=5.2						

BJI ***19*** *17:49:18.7, 4658N×15404E, h10km, mB4.7, mb4.3, Ms3.9, Msz3.8*
NEIC ***19*** *17:49:25.7±0.8, 4646N×15308E, h10km, mb4.6/2, Error ellipse: s-maj=21.5km s-min=13.6km az=143.0*
ISCJB ***19*** *17:49:26.4±2.8, 464N±0.1×1532E±0.1, h24km±19km, mb4.2/19, MS3.7/3, Error ellipse: s-maj=21.8km s-min=8.9km az=111.1*
MOS ***19*** *17:49:28.3±1.5, 4645N×153.18E, h47km, mb4.6/1, Error ellipse: s-maj=14.6km s-min=12.6km az=65.9*
IDC ***19*** *17:49:32.6±4.3, 4640N×15306E, h65km±40km, mb3.7/14, mb1 3.8/16, mb1mx3.7/26, mbtmp3.7/16, ML3.6/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/34, Error ellipse: s-maj=25.2km s-min=19.8km az=173.0*

ISC 19 17:49:29.5±3.0, 465N±01×1532E±01, h32km±21km, n44, σ1°§13/45, mb4.2/19, MS3.7/3, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**253**	*i*PN	**Pn**	**17 50 20.0**	**-7.8**
KUR				*i* S	**Sn**	**17 51 11.0**	**-2.0**
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,320nm,0.7s						
KUR				smax			
	comp=E,220nm,0.7s						
SKR	**Severo-Kuril's**	**4.62**	**23**	*e*PN	**Pn**	**17 50 36.5**	**-0.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.75**	**247**	PN	**Pn**	**17 50 52.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	PN	**Pn**	**17 51 16.0**	**+3.4**
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*P	**Pn**	**17 51 15.1**	**+2.5**
	comp=Z,28nm,1.0s						
ASAJ	**Asahikawa**	**7.86**	**256**	P	**Pn**	**17 51 22.8**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=109,slow=14,SNR=12						
ASAJ				LR	LR	17 54 04.9	
	comp=Z,106nm,18.4s,baz=178,slow=35						
MJAR	**Matsushiro Arr**	**14.99**	**234**	P	**Pn**	**17 52 56.8**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=3.5						
KSRS	**Korea Array**	**20.80**	**253**	P	**P**	**17 54 08.7**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=62,slow=10,SNR=6.5						
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**17 55 47.3**	**-1.0**
	comp=Z,1.0nm,1.0s,mb3.6,baz=79,slow=7.4,SNR=5.0						
SONM				LR	LR	18 08 57.8	
	comp=Z,57nm,19.8s,MS3.2,baz=204,slow=37						
LZH	**Lanzhou**	**37.98**	**272**	*e*P	**P**	**17 56 40.1**	**-4.1**
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**37.98**	**272**	*e*P	**P**	**17 56 40.1**	**-4.1**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	17 56 45.0	-8.7
GTA	**Gaotai**	**39.09**	**279**	*e*P	**P**	**17 56 54.5**	**+0.9**
GTA				AP	pP	17 57 01.5	-1.6
GTA				XP	sP	17 57 04.4	-2.6
GTA				PP	PP	17 58 32.1	+8.7
GTA				PPP		17 58 56.1	
GTA				S	**S**	**18 02 58.5**	**+7.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,74nm,4.9s						
GTA				LR	LR		
	comp=N,85nm,17.5s,MS3.8						
GTA				LR	LR		
	comp=E,72nm,14.8s,MS3.8						
GTA				LR	LR		

	comp=Z,101nm,14.5s,MS3.8							
INK	**Inuvik**	**41.83**	**32**	P	**P**	**17 57 16.9**	**+0.6**
	comp=Z,1.4nm,0.5s,mb3.8,baz=303,slow=5.6,SNR=10							
INK	**Inuvik**	**41.83**	**32**	*e*P	**P**	**17 57 16.4**	**+0.1**
	comp=Z,36nm,0.5s,mb5.3							
ZAL	**Zalesovo**	**42.84**	**306**	P	**P**	**17 57 21.7**	**-2.8**
	comp=Z,0.7nm,0.5s,mb3.6,baz=53,slow=5.1,SNR=3.0							
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**17 57 57.5**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=64,slow=7.5,SNR=15							
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**17 57 57.5**	**-1.1**
LSA	**Lhasa**	**50.37**	**273**	P	**P**	**17 58 25.3**	**+1.9**
LSA	**Lhasa**	**50.37**	**273**	*e*P	**P**	**17 58 25.4**	**+2.0**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
LSA	**Lhasa**	**50.37**	**273**	*e*P	**P**	**17 58 25.4**	**+2.0**
	comp=Z,2.4nm,0.5s,mb4.5							
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**17 58 27.8**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=48,slow=8.2,SNR=7.6							
JIRN	**Jiri**	**55.05**	**275**	*e*P	**P**	**17 58 59.2**	**+1.2**
GUN	**Gumba**	**55.10**	**275**	*e*P	**P**	**17 58 59.4**	**+1.0**
KKN	**Kakani**	**55.59**	**276**	*e*P	**P**	**17 59 02.8**	**+0.9**
	comp=Z,8.5nm,0.6s,mb5.0							
DMN	**Daman**	**55.82**	**276**	*e*P	**P**	**17 59 04.7**	**+1.1**
GKN	**Gorkha**	**55.90**	**276**	*e*P	**P**	**17 59 05.1**	**+1.0**
	comp=Z,11nm,0.5s,mb5.1							
KOLN	**Koldanda**	**56.76**	**277**	*e*P	**P**	**17 59 11.4**	**+1.2**
	comp=Z,11nm,0.8s,mb4.9							
KEV	**Kevo**	**57.62**	**341**	*e*p	**P**	**17 59 13.8**	**-2.5**
ARCES	**ARCESS Array B**	**58.13**	**341**	P	**P**	**17 59 19.1**	**-0.8**
	comp=Z,3.8nm,0.9s,mb4.4,baz=26,slow=6.8,SNR=5.4							
FINES	**FINESS Array B**	**64.31**	**335**	P	**P**	**18 00 01.0**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.4,baz=39,slow=8.0,SNR=16							
PDAR	**Pinedale Array**	**64.84**	**54**	P	**P**	**18 00 05.5**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.6,baz=101,slow=1.5,SNR=5.0							
ULM	**Lac du Bonnet**	**66.67**	**41**	LR	LR	18 30 07.4		
	comp=Z,75nm,18.4s,MS3.9,baz=321,slow=36							
NB2	**NORSAR Subarra**	**68.50**	**341**	P	**P**	**18 00 27.5**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**18 00 28.3**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=6.7							
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**18 00 48.0**	**-0.8**
	comp=Z,3.4nm,0.5s,mb4.6,baz=34,slow=6.3,SNR=17							
ASAR	**Alice Springs**	**71.98**	**199**	P	**P**	**18 00 48.5**	**-1.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=17,slow=6.1,SNR=4.2							
BURAR	**Bucovina Array**	**75.85**	**327**	*i*P	**P**	**18 01 12.6**	**+0.1**
MORC	**Moravsky Berou**	**76.71**	**332**	*i*P	**P**	**18 01 18.1**	**+0.7**
CLL	**Collm**	**76.74**	**336**	*e*P	**P**	**18 01 18.0**	**+0.5**
MLR	**Muntele Rosu**	**77.33**	**325**	*i*P	**P**	**18 01 21.6**	**+0.8**
VRAC	**Vranov**	**77.42**	**333**	*i*P	**P**	**18 01 21.1**	**-0.3**
DRGR		**77.48**	**328**	*i*P	**P**	**18 01 22.0**	**+0.3**
TXAR	**Lajitas Array**	**77.55**	**61**	P	**P**	**18 01 22.1**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=304,slow=3.5,SNR=8.4							
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**18 01 28.7**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=34,slow=5.5,SNR=7.8							

IDC ***19*** *17:51:07.8±1.9, 623S×15170E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, ML2.9/1, Error ellipse: s-maj=57.5km s-min=21.5km az=111.0*
NEIC ***19*** *17:51:09.0±1.4, 6.19S×15174E, h10km, mb4.8/1, Error ellipse: s-maj=42.3km s-min=16.0km az=113.0*
ISCJB ***19*** *17:51:13.7±4.8, 6.3S±02×1515E±03, h53km±37km, mb3.9/6, Error ellipse: s-maj=46.5km s-min=24.6km az=37.5*

ISC 19 17:51:15.0±4.6, 63S±02×1516E±03, h50km±35km, n15, σ0°§62/15, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.40**	**234**	Pn	**Pn**	**17 52 32.5**	**-0.5**
	2.3nm,0.

IDC 19 18:11:22.0±1.1, 5510N×16124E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/23, mbtmp3.9/5, MS3.8/4, Ms1 3.8/4, ms1mx3.1/33, Error ellipse: s-maj=44.7km s-min=29.5km az=132.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**28.62**	**246**	P	P	18 17 19.2	-0.8
	1.2nm,0.9s,baz=51,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**51.59**	**342**	LR	LR	18 48 39.6	
	comp=Z,157nm,18.1s,baz=58,slow=43						
JMIC	**Jan Mayen**	**54.00**	**356**	LR	LR	18 43 14.6	
	comp=Z,29nm,21.9s,baz=101,slow=35						
FINES	**FINESS Array B**	**58.55**	**337**	P	P	18 21 19.9	-0.4
	2.1nm,1.0s,baz=31,slow=8.9,SNR=3.5						
NOA	**NORSAR Array B**	**61.80**	**344**	LR	LR	18 54 13.3	
	comp=Z,44nm,18.3s,baz=55,slow=42						
TXAR	**Lajitas Array**	**69.25**	**68**	P	P	18 22 30.3	-0.5
	0.5nm,0.6s,baz=312,slow=5.4,SNR=4.4						
GERES	**GERESS Array B**	**72.91**	**338**	LR	LR	18 58 57.7	
	comp=Z,129nm,20.7s,baz=199,slow=39						
WRA	**Warramunga Arr**	**78.18**	**206**	P	P	18 23 21.7	-1.5
	0.8nm,0.8s,baz=22,slow=6.7,SNR=5.2						
ASAR	**Alice Springs**	**81.86**	**205**	P	P	18 23 44.8	+1.6
	0.5nm,0.7s,baz=18,slow=6.0,SNR=9.0						

*ISCJB **19** 18:12:28.7±1.3, 485N±02×1532E±02, h10km, mb3.7/8, Error ellipse: s-maj=31.9km s-min=13.3km az=127.5*

*IDC **19** 18:12:29.5±1.9, 4844N×153.18E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=58.2km s-min=23.4km az=177.0*

*MOS **19** 18:12:30.8±1.4, 4833N×15333E, h33km, mb3.8/1, Error ellipse: s-maj=27.7km s-min=18.1km az=78.3*

*NEIC **19** 18:12:31.4±1.5, 4852N×15320E, h10km, mb3.6/1, Error ellipse: s-maj=38.0km s-min=16.9km az=176.0*

ISC 19 18:12:30.6±1.2, 485N±02×1532E±02, h10km, n13, σ1§00/13, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.91**	**39**	*e*PN	**Pn**	**18 13 14.3**	**-2.6**
SKR				*e*		18 13 50.2	
ASAJ	**Asahikawa**	**8.54**	**243**	Pn	**Pn**	**18 14 33.1**	**-1.1**
	0.3nm,0.3s,baz=106,slow=24,SNR=3.0						
BILL	**Bilibino**	**20.70**	**14**	*e*P	**P**	**18 17 11.2**	**+0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**20.70**	**14**	*e*P	**P**	**18 17 11.2**	**+0.4**
	comp=Z,2.1nm,0.6s						
ZAL	**Zalesovo**	**41.70**	**304**	P	**P**	**18 20 20.1**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=150,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**46.23**	**296**	P	**P**	**18 20 56.7**	**+0.9**
	comp=Z,0.6nm,0.9s,mb3.5,baz=68,slow=5.3,SNR=2.8						
BVAR	**Borovoye Array**	**49.83**	**308**	P	**P**	**18 21 24.3**	**+0.6**
	comp=Z,0.7nm,0.3s,mb4.1,baz=54,slow=7.5,SNR=7.3						
AKTK	**Aktyubinsk**	**57.64**	**311**	P	**P**	**18 22 20.9**	**0.0**
AKTO	**Aktyubinsk**	**57.64**	**311**	P	**P**	**18 22 20.9**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=59,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**62.52**	**334**	P	**P**	**18 22 53.1**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.3,baz=39,slow=9.1,SNR=3.3						
PDAR	**Pinedale Array**	**63.68**	**55**	P	**P**	**18 23 03.9**	**+1.8**
	comp=Z,0.1nm,0.4s,mb3.2,baz=312,slow=5.9,SNR=3.1						
TXAR	**Lajitas Array**	**76.59**	**61**	P	**P**	**18 24 21.4**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=308,slow=4.2,SNR=4.2						
GERES	**GERESS Array B**	**76.94**	**334**	P	**P**	**18 24 22.9**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=36,slow=5.1,SNR=3.1						

*IDC **19** 18:26:30.1±3.3, 4742N×15483E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/24, mbtmp3.8/10, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx1.6/38, Error ellipse: s-maj=82.1km s-min=23.3km az=149.0*

*ISCJB **19** 18:26:31.8±4.5, 475N±02×1547E±03, h18km±30km, mb3.7/10, Error ellipse: s-maj=44.2km s-min=10.9km az=77.7*

*NEIC **19** 18:26:32.8±6.5, 4758N×15473E, h10km, mb4.8/2, Error ellipse: s-maj=162.0km s-min=21.7km az=163.0*

*MOS **19** 18:26:34.1±1.2, 4746N×15471E, h39km, mb4.4/2, Error ellipse: s-maj=26.0km s-min=17.4km az=94.4*

ISC 19 18:26:34.4±4.6, 475N±02×1548E±03, h28km±31km, n16, σ0§72/17, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.31**	**15**	*e*PN	**Pn**	**18 27 24.8**	**+0.4**
SKR				*e*S	**Sn**	**18 28 02.5**	**-0.4**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,50nm,0.5s						
SKR				smax			
	comp=E,50nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
ASAJ	**Asahikawa**	**9.16**	**253**	Pn	**Pn**	**18 28 45.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=82,slow=14,SNR=4.6						
ASAJ				LR	LR	18 32 46.4	
	comp=Z,38nm,19.1s,baz=350,slow=41						
KSRS	**Korea Array**	**22.12**	**253**	P	**P**	**18 31 26.5**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.3,baz=57,slow=12,SNR=3.0						
SONM	**Songino Array**	**32.18**	**289**	P	**P**	**18 32 59.6**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=44,slow=6.8,SNR=3.9						
INK	**Inuvik**	**40.41**	**33**	P	**P**	**18 34 09.3**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.0,baz=274,slow=5.1,SNR=12						
INK	**Inuvik**	**40.41**	**33**	P	**P**	**18 34 09.3**	**-0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**40.41**	**33**	*e*P	**P**	**18 34 09.4**	**-0.7**
	comp=Z,51nm,0.5s						
ZAL	**Zalesovo**	**43.13**	**306**	P	**P**	**18 34 31.8**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.5,baz=41,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**47.62**	**297**	P	**P**	**18 35 08.0**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=66,slow=6.6,SNR=7.4						
BRVK	**Borovoye**	**51.32**	**310**	*e*P	**P**	**18 35 36.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.32**	**310**	*e*P	**P**	**18 35 36.5**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**18 37 04.2**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.2,baz=44,slow=6.5,SNR=14						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**18 37 04.2**	**-0.2**
NOA	**NORSAR Array B**	**67.90**	**342**	P	**P**	**18 37 30.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=25,slow=6.4,SNR=3.3						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**18 37 53.0**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=32,slow=5.8,SNR=4.3						
GERES	**GERESS Array B**	**78.29**	**335**	P	**P**	**18 38 34.0**	**+2.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=37,slow=6.9,SNR=3.8						

*ISCJB **19** 18:42:36.7±0.4, 4155N±002×274E±003, h11km, Error ellipse: s-maj=3.2km s-min=2.6km az=105.8*

*LDG **19** 18:42:38.2±0.1, 4148N×255E, h5km, Md2.8/3, Ml2.6/20, Error ellipse: s-maj=1.6km s-min=1.1km az=3.0*

*CSEM **19** 18:42:39.6±0.1, 4153N×268E, h10km, ML2.5/19, Error ellipse: s-maj=2.6km s-min=1.6km az=126.0*

*NEIC **19** 18:42:40.2, 4147N×267E, h4km, ML2.1(MRB), ML2.5(STR), ML2.6(LDG), MN2.4(MDD), After MDD.*

*MDD **19** 18:42:40.6±0.5, 4153N×265E, h11km, mbLg2.1/29, Error ellipse: s-maj=3.6km s-min=3.2km az=121.0, PRXIMO*

*STR **19** 18:42:42.7±0.5, 4163N×258E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 18:42:37.7±0.5, 4153N±002×275E±003, h5km±3km, n99, σ1§51/163, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFON	**Fontmartina**	**0.33**	**314**	P	**Pg**	**18 42 46.3**	**+2.2**
CFON				S	**Sg**	**18 42 49.7**	**+1.3**
CFON	**Fontmartina**	**0.33**	**314**	Pg	**Pg**	**18 42 46.3**	**+2.2**
CFON				Lg		18 42 49.7	
	353nm,0.2s						
CFON	**Fontmartina**	**0.33**	**314**	P	**Pg**	**18 42 46.3**	**+2.2**
CBRU	**Bruguera**	**0.87**	**331**	P	**Pg**	**18 42 56.1**	**+1.8**
CBRU				S	**Sg**	**18 43 07.3**	**+1.7**
CBRU	**Bruguera**	**0.87**	**331**	P	**Pg**	**18 42 56.2**	**+1.9**
EJON	**La Jonquera**	**0.92**	**6**	Pg	**Pg**	**18 42 58.8**	**+3.3**
	4.5nm,0.1s,SNR=7.9						
EJON				Lg		18 43 10.9	
	21nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**0.92**	**6**	Pg	**Pg**	**18 42 58.8**	**+3.4**
	4.5nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**0.96**	**6**	Pg	**Pg**	**18 42 59.2**	**+3.1**
SJAF				Sg	**Sg**	**18 43 11.5**	**+3.0**
EMIR	**Miracle**	**0.99**	**293**	Pg	**Pg**	**18 42 58.4**	**+1.6**
	9.7nm,0.1s,SNR=7.9						
EMIR				Lg		18 43 10.0	
	22nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.99**	**293**	Pg	**Pg**	**18 42 58.4**	**+1.6**
	9.7nm,0.1s,SNR=7.9						
VALF	**Valcebollere**	**1.03**	**328**	Pg	**Pg**	**18 42 59.0**	**+1.6**
VALF				Sg	**Sg**	**18 43 12.1**	**+1.3**
FILF	**Fillols**	**1.04**	**352**	Pg	**Pg**	**18 43 00.2**	**+2.6**
FILF				Sg	**Sg**	**18 43 13.7**	**+2.6**
CLLI	**Llivia**	**1.11**	**329**	P	**Pg**	**18 43 00.6**	**+1.5**
CLLI				S	**Sg**	**18 43 14.1**	**+0.6**
CLLI	**Llivia**	**1.11**	**329**	Pg	**Pg**	**18 43 00.5**	**+1.5**
CLLI				Lg		18 43 14.0	
	6.2nm,0.1s						
CLLI	**Llivia**	**1.11**	**329**	P	**Pg**	**18 43 00.6**	**+1.6**
CGAR	**Garraf**	**1.24**	**260**	P	**Pg**	**18 42 53.1**	**-8.4**
CGAR				S	**Sg**	**18 43 01.1**	**-16**
EPOB	**Poblet**	**1.27**	**262**	Pg	**Pg**	**18 43 02.5**	**+0.4**
	3.9nm,0.1s,SNR=7.9						
EPOB				Lg		18 43 19.0	
	18nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.27**	**262**	Pg	**Pg**	**18 43 02.5**	**+0.4**
	3.9nm,0.1s,SNR=7.9						
CARF	**Carcanieres**	**1.28**	**338**	Pn	**Pn**	**18 43 03.9**	**+1.7**
CARF				Sg	**Sg**	**18 43 20.1**	**+1.3**
CORG	**Organya**	**1.28**	**304**	P	**Pn**	**18 43 03.4**	**+1.2**
CORG				S	**Sg**	**18 43 19.1**	**+0.3**
CORG	**Organya**	**1.28**	**304**	P	**Pn**	**18 43 03.4**	**+1.2**
PAND	**Andorre**	**1.34**	**318**	Lg		18 43 21.6	
LRDF	**Laroque-de-Fa**	**1.41**	**354**	Lg		18 43 23.7	
CSOR	**Sort**	**1.47**	**306**	P	**Pn**	**18 43 06.8**	**+1.9**
CSOR				S	**Sn**	**18 43 24.2**	**-0.2**
CSOR	**Sort**	**1.47**	**306**	Pg	**Pg**	**18 43 06.7**	**+0.7**
CSOR				Lg		18 43 24.2	
	28nm,0.2s						
CSOR	**Sort**	**1.47**	**306**	P	**Pn**	**18 43 06.8**	**+2.0**
CAVN	**Les Avellanes**	**1.54**	**284**	P	**Pn**	**18 43 07.9**	**+2.2**
CAVN				S	**Sn**	**18 43 26.7**	**+0.7**
CAVN	**Les Avellanes**	**1.54**	**284**	P	**Pn**	**18 43 07.9**	**+2.2**
GRBF	**Gourbit**	**1.59**	**326**	Pg	**Pg**	**18 43 08.8**	**+0.6**
SALF	**Salau**	**1.69**	**317**	Pn	**Pn**	**18 43 10.1**	**+2.3**
SALF				Sg	**Sg**	**18 43 31.8**	**-0.2**
ETOS	**Mallorca**	**1.76**	**178**	Pg	**Pg**	**18 43 10.6**	**-0.9**
	0.0nm,0.0s,SNR=8.4						
ETOS				Sn	**Sn**	**18 43 31.0**	**-0.6**
	0.9nm,0.1s						
ETOS	**Mallorca**	**1.76**	**178**	Pg	**Pg**	**18 43 10.6**	**-0.9**
	SNR=8.4						
ETOS				Sn	**Sn**	**18 43 31.0**	**-0.6**
	0.9nm,0.1s						
MTLF	**Montolieu**	**1.85**	**348**	*e*Pg	**Pg**	**18 43 13.3**	**+0.1**
MTLF				*e*Sg	**Sg**	**18 43 37.2**	**0.0**
	10nm,0.2s						
MTLF	**Montolieu**	**1.85**	**348**	*e*Pg	**Pg**	**18 43 13.3**	**+0.1**
MTLF				*e*Sg	**Sg**	**18 43 37.2**	**0.0**
	5.1nm,0.2s						
MLS	**Moulis**	**1.88**	**320**	Lg		18 43 36.2	
ERTA	**Horta de San J**	**1.91**	**253**	Pn	**Pn**	**18 43 10.4**	**-0.5**
	0.1nm,0.0s,SNR=21						
ERTA				Pg	**Pg**	**18 43 13.4**	**-0.9**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**18 43 34.4**	**-0.9**
	2.4nm,0.1s,SNR=7.9						
ERTA				Lg		18 43 39.8	
	2.3nm,0.1s						
ERTA	**Horta de San J**	**1.91**	**253**	Pn	**Pn**	**18 43 10.4**	**-0.5**
	0.1nm,0.0s,SNR=21						
ERTA	**Horta de San J**	**1.91**	**253**	Pg	**Pg**	**18 43 13.4**	**-1.0**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**18 43 34.4**	**-0.9**
	2.4nm,0.1s,SNR=7.9						
MELF	**Melles**	**2.00**	**313**	Lg		18 43 41.1	
RESF	**Ens**	**2.20**	**306**	Lg		18 43 46.9	
EBIE	**Bielsa**	**2.26**	**302**	Pg	**Pg**	**18 43 20.9**	**-0.1**
	0.3nm,0.1s,SNR=7.3						
EBIE				Lg		18 43 48.7	
	6.2nm,0.1s						
EBIE	**Bielsa**	**2.26**	**302**	Pg	**Pg**	**18 43 20.9**	**-0.1**
	0.3nm,0.1s,SNR=7.3						
EPF	**Esparros**	**2.33**	**311**	*e*Pg	**Pg**	**18 43 19.7**	**-2.8**
EPF				*e*Sg	**Sg**	**18 43 49.6**	**-3.1**
	14nm,0.2s						
EPF	**Esparros**	**2.33**	**311**	*e*Pn	**Pn**	**18 43 14.2**	**-2.5**
EPF				*e*Pg	**Pg**	**18 43 19.7**	**-2.8**
EPF				*e*Sg	**Sg**	**18 43 49.6**	**-3.1**
EPF	**Esparros**	**2.33**	**311**	Pn	**Pn**	**18 43 14.2**	**-2.5**
EPF				Pg	**Pg**	**18 43 19.7**	**-2.8**
EPF				Lg		18 43 49.6	
	7.2nm,0.2s						
EPF	**Esparros**	**2.33**	**311**	*e*Pg	**Pg**	**18 43 19.7**	**-2.8**
EPF				*e*Sg	**Sg**	**18 43 49.6**	**-3.1**
	7.2nm,0.2s						
ESAC	**San Caprasio**	**2.42**	**276**	Pg	**Pg**	**18 43 23.2**	**-0.9**
	7.6nm,0.2s,SNR=10.0						
ESAC				Lg		18 43 54.1	
	30nm,0.2s						
ESAC	**San Caprasio**	**2.42**	**276**	Pg	**Pg**	**18 43 23.2**	**-0.9**
	7.6nm,0.2s,SNR=10.0						
VIEF	**Viey**	**2.44**	**305**	Lg		18 43 53.8	
LABF	**Labassere**	**2.50**	**308**	Lg		18 43 56.2	
LASF	**Ste Croix**	**2.67**	**17**	*e*Pg	**Pg**	**18 43 29.6**	**+0.7**
LASF				*e*Sn	**Sn**	**18 43 53.5**	**-0.5**
LASF				*e*Sg	**Sg**	**18 44 05.1**	**+1.6**
	4.6nm,0.3s						
LASF	**Ste Croix**	**2.67**	**17**	*e*Pg	**Pg**	**18 43 29.6**	**+0.7**
LASF				*e*Sn	**Sn**	**18 43 53.5**	**-0.5**
LASF				*e*Sg	**Sg**	**18 44 05.1**	**+1.6**
	2.3nm,0.3s						
EMOS	**Mosqueruela**	**2.71**	**246**	Pg	**Pg**	**18 43 30.9**	**+1.3**
	1.4nm,0.3s,SNR=10						
EMOS				Lg		18 44 05.1	
	3.2nm,0.3s						
EMOS	**Mosqueruela**	**2.71**	**246**	Pg	**Pg**	**18 43 30.9**	**+1.3**
	1.4nm,0.3s,SNR=10						
EIBI	**Ibiza**	**2.72**	**204**	Pn	**Pn**	**18 43 24.2**	**+2.2**
	0.5nm,0.1s,SNR=4.0						
EIBI				Sn	**Sn**	**18 43 52.7**	**-2.6**
	3.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.72**	**204**	Pn	**Pn**	**18 43 24.2**	**+2.1**
	0.5nm,0.1s,SNR=4.0						
EIBI				Sn	**Sn**	**18 43 52.7**	**-2.6**
	3.2nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.81**	**300**	*e*Pg	**Pg**	**18 43 28.5**	**-3.1**
ETSF				*e*Sn	**Sn**	**18 43 51.7**	**-5.8**
ETSF				*e*Sg	**Sg**	**18 44 03.8**	**-4.3**
	8.6nm,0.3s						
ETSF	**Etsaut**	**2.81**	**300**	*e*Pn	**Pn**	**18 43 20.7**	**-2.6**
ETSF				*e*Pg	**Pg**	**18 43 28.5**	**-3.1**
ETSF				*e*Sn	**Sn**	**18 43 51.7**	**-5.8**
ETSF				*e*Sg	**Sg**	**18 44 03.8**	**-4.3**
ETSF	**Etsaut**	**2.81**	**300**	Pn	**Pn**	**18 43 20.7**	**-2.6**
ETSF				Pg	**Pg**	**18 43 28.5**	**-3.1**
ETSF				Sn	**Sn**	**18 43 51.7**	**-5.8**
ETSF				Lg		18 44 03.8	
	4.3nm,0.3s						
ETSF	**Etsaut**	**2.81**	**300**	*e*Pn	**Pn**	**18 43 20.7**	**-2.6**
ETSF	**Etsaut**	**2.81**	**300**	*e*Pg	**Pg**	**18 43 28.5**	**-3.1**
ETSF				*e*Sg	**Sg**	**18 44 03.8**	**-4.3**
	4.3nm,0.3s						
SMRF	**Simiane la Rot**	**3.21**	**39**	*e*Pn	**Pn**	**18 43 29.5**	**+0.8**
SMRF				*e*Sg	**Sg**	**18 44 23.1**	**+2.3**
	2.9nm,0.3s						
SMRF	**Simiane la Rot**	**3.21**	**39**	*e*Pn	**Pn**	**18 43 29.5**	**+0.8**
SMRF				*e*Sg	**Sg**	**18 44 23.1**	**+2.3**
	1.5nm,0.3s						
IPRE	**Itoiz**	**3.31**	**294**	Lg		18 44 22.3	
	0.4nm,0.1s,SNR=7.9						
LMR	**La Mourre**	**3.31**	**56**	*e*Pn	**Pn**	**18 43 30.7**	**+0.5**
LMR				*e*Sn	**Sn**	**18 44 10.2**	**+0.3**
	1.3nm,0.3s						
LMR	**La Mourre**	**3.31**	**56**	*e*Pn	**Pn**	**18 43 30.7**	**+0.5**
LMR				*e*Sn	**Sn**	**18 44 10.2**	**+0.3**
	0.6nm,0.3s						
SJPF	**Ste Jean**	**3.34**	**300**	*e*Pg	**Pg**	**18 43 38.0**	**-3.8**
SJPF				*e*Sg	**Sg**	**18 44 20.5**	**-4.7**
	9.8nm,0.4s						
SJPF	**Ste Jean**	**3.34**	**300**	Pg	**Pg**	**18 43 38.0**	**-3.8**
SJPF				Lg		18 44 20.5	
	4.9nm,0.4s						
CAF	**Calviac**	**3.43**	**352**	*e*Pg	**Pg**	**18 43 42.3**	**-1.2**
CAF				*e*Sg	**Sg**	**18 44 26.6**	**-1.3**
	3.2nm,0.2s						
CAF	**Calviac**	**3.43**	**352**	*e*Pn	**Pn**	**18 43 31.0**	**-0.8**
CAF				*e*Pg	**Pg**	**18 43 42.3**	**-1.2**
CAF				*e*Sg	**Sg**	**18 44 26.6**	**-1.3**
CAF	**Calviac**	**3.43**	**352**	Pn	**Pn**	**18 43 31.0**	**-0.8**
CAF				Pg	**Pg**	**18 43 42.3**	**-1.2**
CAF				Lg		18 44 26.6	
	1.6nm,0.2s						
CAF	**Calviac**	**3.43**	**352**	*e*Pg	**Pg**	**18 43 42.3**	**-1.2**
CAF				*e*Sg	**Sg**	**18 44 26.6**	**-1.3**
	1.6nm,0.2s						
IUSE	**Utxeti**	**3.49**	**295**	Lg		18 44 28.4	
	0.4nm,0.1s,SNR=7.9						
FRF	**La Foret Royal**	**3.52**	**54**	*e*Pn	**Pn**	**18 43 34.0**	**+1.0**
FRF				*e*Sn	**Sn**	**18 44 14.8**	**-0.2**
	1.8nm,0.3s						
FRF	**La Foret Royal**	**3.52**	**54**	*e*Pn	**Pn**	**18 43 34.0**	**+1.0**
FRF				*e*Sn	**Sn**	**18 44 14.8**	**-0.2**
	0.9nm,0.3s						
ELIZ	**Elizondo**	**3.57**	**299**	Pn	**Pn**	**18 43 34.7**	**+1.0**
	0.2nm,0.1s,SNR=7.9						
ELIZ				Pg	**Pg**	**18 43 47.4**	**+1.3**
	0.9nm,0.2s,SNR=7.9						
ELIZ				Lg		18 44 30.0	
	1.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**3.58**	**300**	Pn	**Pn**	**18 43 35.7**	**+1.9**
	0.0nm,0.0s,SNR=7.9						
EALK				Pg	**Pg**	**18 43 45.5**	**-0.8**
	0.2nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**18 44 16.2**	**-0.2**
	3.2nm,0.3s,SNR=4.0						
EALK				Lg		18 44 29.3	
	5.7nm,0.4s,SNR=7.9						
VIVF	**Saint-Julien-l**	**3.61**	**22**	*e*Pg	**Pg**	**18 43 46.7**	**-0.2**
VIVF				*e*Sg	**Sg**	**18 44 34.6**	**+1.0**
	2.8nm,0.4s						
VIVF	**Saint-Julien-l**	**3.61**	**22**	*e*Pg	**Pg**	**18 43 46.7**	**-0.2**
VIVF				*e*Sg	**Sg**	**18 44 34.6**	**+1.0**
	1.4nm,0.4s						
ETOR	**Torete**	**3.70**	**260**	Pg	**Pg**	**18 43 45.9**	**-2.7**
	1.4nm,0.1s,SNR=4.0						
ETOR				Sn	**Sn**	**18 44 22.7**	**+3.3**
	1.8nm,0.2s,SNR=7.9						
ETOR				Lg		18 44 34.0	
	2.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**3.71**	**337**	*e*Pg	**Pg**	**18 43 47.1**	**-1.7**
LFF				*e*Sg	**Sg**	**18 44 34.5**	**-2.4**
	4.8nm,0.3s						
LFF	**La Frestale**	**3.71**	**337**	*e*Pg	**Pg**	**18 43 47.1**	**-1.7**
LFF				*e*Sg	**Sg**	**18 44 34.5**	**-2.4**
	2.4nm,0.3s						
RJF	**Les Rejaudoux**	**3.88**	**347**	*e*Pg	**Pg**	**18 43 50.5**	**-1.5**
RJF				*e*Sg	**Sg**	**18 44 40.1**	**-2.2**
	3.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.88**	**347**	*e*Pg	**Pg**	**18 43 50.5**	**-1.5**
RJF				*e*Sg	**Sg**	**18 44 40.1**	**-2.2**
	1.5nm,0.3s						
ECRI	**Cripan**	**4.06**	**287**	Lg		18 44 47.4	
	1.6nm,0.2s,SNR=7.9						
SBF	**Sospel**	**4.17**	**54**	*e*Pn	**Pn**	**18 43 42.6**	**+0.7**
SBF				*e*Sn	**Sn**	**18 44 30.5**	**-0.4**
	1.6nm,0.2s						
SBF	**Sospel**	**4.17**	**54**	*e*Pn	**Pn**	**18 43 42.6**	**+0.7**
SBF				*e*Sn	**Sn**	**18 44 30.5**	**-0.4**
	0.8nm,0.2s						
PGF	**Pioggiola**	**4.76**	**76**	*e*Pn	**Pn**	**18 43 50.8**	**+0.7**
PGF				*e*Sn	**Sn**	**18 44 44.9**	**-0.8**
	2.1nm,0.3s						
PGF	**Pioggiola**	**4.76**	**76**	*e*Pn	**Pn**	**18 43 50.8**	**+0.7**
PGF				*e*Sn	**Sn**	**18 44 44.9**	**-0.8**
	1.0nm,0.3s						
TCF	**Toulx Ste Croi**	**4.77**	**355**	*e*Pg	**Pg**	**18 44 07.5**	**-1.6**
TCF				*e*Sg	**Sg**	**18 45 09.2**	**-1.8**
	1.6nm,0.3s						
TCF	**Toulx Ste Croi**	**4.77**	**355**	*e*Pg	**Pg**	**18 44 07.5**	**-1.6**
TCF				*e*Sg	**Sg**	**18 45 09.2**	**-1.8**
	0.8nm,0.3s						
BGF	**Bois d'Agland**	**5.03**	**1**	*e*Pg	**Pg**	**18 44 12.5**	**-1.5**
BGF				*e*Sg	**Sg**	**18 45 17.8**	**-1.3**
	7.7nm,0.5s						
BGF	**Bois d'Agland**	**5.03**	**1**	*e*Pg	**Pg**	**18 44 12.5**	**-1.5**
BGF				*e*Sg	**Sg**	**18 45 17.8**	**-1.3**
	3.8nm,0.5s						
AVF	**Avril sur Loir**	**5.28**	**4**	*e*Pg	**Pg**	**18 44 17.0**	**-1.8**
AVF				*e*Sg	**Sg**	**18 45 25.2**	**-2.0**
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**5.28**	**4**	*e*Pg	**Pg**	**18 44 17.0**	**-1.8**
AVF				*e*Sg	**Sg**	**18 45 25.2**	**-2.0**
	0.3nm,0.2s						
SSF	**Saint Saulge**	**5.56**	**5**	*e*Pg	**Pg**	**18 44 22.6**	**-1.6**
SSF				*e*Sg	**Sg**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.09**	**217**	*eP*	Pg	18 55 57.9	-0.1
HOR				*eS*	Sg	18 55 59.3	+0.1
CALA	**Caldeira**	**0.11**	**262**	*i* P	Pg	18 55 58.8	+0.4
CALA				*eS*	Sg	18 56 00.3	+0.4
CALA	**Caldeira**	**0.11**	**262**	*eS*	Sg	18 56 00.3	+0.4
PCED	**Cedros**	**0.11**	**287**	*eP*	Pg	18 55 58.2	-0.2
PCED				*eS*	Sg	18 55 59.9	-0.1
PCED	102nm,0.3s						
PCED	**Cedros**	**0.11**	**287**	*eP*	Pg	18 55 58.2	-0.2
PCED				*eS*	Sg	18 55 59.9	-0.1
PICO	**Pico**	**0.14**	**131**	*eP*	Pg	18 55 58.9	-0.1
PICO				*eS*	Sg	18 56 01.1	+0.2
ROSA	**Rosais**	**0.28**	**64**	*eP*	Pg	18 56 01.3	-0.3
ROSA				*eS*	Sg	18 56 05.1	-0.2
PID	**Ribeirinha**	**0.38**	**114**	*eP*	Pg	18 56 03.0	-0.5

IDC ***19*** *18:57:31.2±0.7, 462S×105.13W, h0km, mb4.7/17, mb1 4.8/17, mb1mx4.8/18, mbtmp4.7/17, MS5.7/22, Ms1 5.7/22, ms1mx5.7/23, Error ellipse: s-maj=21.5km s-min=13.6km az=53.0*

ISCJB ***19*** *18:57:32.3±0.3, 455S±004×10470W±005, h10km, mb5.1/89, MS5.8/185, Error ellipse: s-maj=7.8km s-min=5.3km az=99.7*

BJI ***19*** *18:57:33.5, 450S×10480W, h10km, mB5.8, Ms6.2, Msz6.0*

GCMT ***19*** *18:57:33.6±0.1, 454S×10485W, h17km, MW6.1/109, Moment Tensor Solution. s101,c230; s109,c382; Duration: 2s6 Moment tensor: Scale 1018Nm; Mrr=0.12±.01; Mθθ=0.47±.01; Mϕϕ=0.34±.01; Mrθ=0.15±.03; Mθϕ=1.46±.01; Mϕr=0.03±.03; Best double couple: M0=1.52300×1018 NP1:ϕs=8.00000°, δ85.00000°, λ179.00000°. NP2:ϕs=98.00000°, δ89.00000°, λ5.00000°. Principal axes: T 1.5880, Plg5.0000°, Azm323.0000°; N -0.1300, Plg85.0000°, Azm113.0000°; P -1.4580, Plg3.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***19*** *18:57:33.6±0.3, 452S×10483W, h10km, mb5.3/79, MS5.7/158, MW6.0 Error ellipse: s-maj=9.5km s-min=6.0km az=58.0, Moment Tensor Solution. s35 Moment tensor: Scale 1018Nm; Mrr=0.11; Mθθ=0.06; Mϕϕ=0.18; Mrθ=0.08; Mθϕ=1.11; Mϕr=0.54; Best double couple: M0=1.20000×1018 NP1:ϕs=183.00000°, δ90.00000°, λ-154.00000°. NP2:ϕs=92.00000°, δ64.00000°, λ0.00000°. Principal axes: T 1.1600, Plg18.0000°, Azm315.0000°; N 0.1600, Plg64.0000°, Azm183.0000°; P -1.3200, Plg18.0000°, Azm50.0000°;*

MOS ***19*** *18:57:33.3±1.3, 435S×10477W, h10km, mb5.3/34, MS5.6/34 Error ellipse: s-maj=16.1km s-min=6.0km az=92.8*

ISC 19 18:57:33.8±0.3, 461S±004×10469W±005, h10km, (h9km±2.5km:pP-P), n578, σ0s98/410, mb5.2/89, MS5.8/185, 98C-102D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**14.90**	**75**	*eP*	**Pn**	**19 01 07.2**	**+2.6**
	526nm,1.6s						
PNIG	**Pinotepa**	**21.85**	**17**	*i* P	**P**	**19 02 30.8**	**+4.2**
CAIG	**El Cayaco**	**21.96**	**11**	*i* P	**P**	**19 02 34.6**	**+6.9**
RPN	**Rapa Nui**	**22.82**	**191**	LR	LR	19 09 08.6	
	comp=Z,16μm,19.1s,MS5.5,baz=5.7,slow=31						
VHO	**Vista Hermosa**	**22.93**	**20**	*i* P	**P**	**19 02 42.1**	**+4.1**
OXX	**Oaxaca**	**22.95**	**20**	*eP*	**P**	**19 02 40.0**	**+1.9**
PLIG	**Platanillo**	**23.42**	**12**	*i* P	**P**	**19 02 47.1**	**+4.0**
CMIG	**Matias Romero**	**23.64**	**24**	P	**P**	**19 02 46.0**	**+0.7**
	20nm,1.0s,mb4.5,baz=195,slow=7.3,SNR=4.8						
CMIG				LR	LR	19 09 57.0	
	comp=Z,29μm,21.8s,MS5.7,baz=195,slow=31						
CCIG	**Comitan**	**24.19**	**31**	*i* P	**P**	**19 02 53.7**	**+3.4**
MOIG	**Morelia**	**24.38**	**8**	*i* P	**P**	**19 02 56.1**	**+4.0**
JTS	**JuntasAbangare**	**24.60**	**53**	P	**P**	**19 02 56.1**	**+1.9**
	18nm,1.1s,mb4.5,baz=299,slow=7.5,SNR=6.6						
JTS				LR	LR	19 10 01.6	
	comp=Z,69μm,20.1s,MS6.1,baz=285,slow=30						
JTS	**JuntasAbangare**	**24.60**	**53**	*eP*	**P**	**19 02 55.2**	**+1.1**
JTS				pmax	pmax		
	comp=Z,77nm,1.2s						
JTS				MLR	MLR		
	comp=Z,19μm,22.0s						
JTS	**JuntasAbangare**	**24.60**	**53**	*eP*	**P**	**19 02 55.1**	**+1.0**
	comp=Z,76nm,1.2s,mb5.1						
JTS				LR	LR		
	comp=Z,19μm,22.0s,MS5.5						
TUIG	**Tuzandepeti**	**24.67**	**24**	*i* P	**P**	**19 02 59.6**	**+4.9**
TGUH	**Tegucigalpa,Un**	**25.35**	**43**	*eP*	**P**	**19 03 00.7**	**-0.2**
	comp=Z,419nm,1.6s,mb5.7						
TGUH				LR	LR		
	comp=Z,22μm,20.0s,MS5.7						
ATAH	**Atahualpa**	**26.26**	**96**	P	**P**	**19 03 13.5**	**+4.4**
	comp=Z,29nm,0.8s,mb4.8,baz=296,slow=6.0,SNR=17						
ATAH				LR	LR	19 11 13.4	
	comp=Z,24μm,19.5s,MS5.8,baz=276,slow=31						
OTAV	**Otavalo**	**26.65**	**80**	PFAKE		19 03 30.0	+17
OTAV				LR	LR		
	comp=Z,13μm,19.0s,MS5.5						
ZAIG	**Zacatecas**	**27.29**	**4**	*i* P	**P**	**19 03 22.8**	**+4.3**
NNA	**Nana**	**28.49**	**107**	P	**P**	**19 03 31.0**	**+1.8**
	comp=Z,23nm,1.0s,mb4.8,baz=262,slow=9.3,SNR=4.1						
NNA				LR	LR	19 11 48.1	
	comp=Z,29μm,20.5s,MS5.9,baz=280,slow=30						
NNA	**Nana**	**28.49**	**107**	*eP*	**P**	**19 03 28.4**	**-0.8**
	comp=Z,45nm,1.2s,mb5.0						
NNA				LR	LR		
	comp=Z,10μm,21.0s,MS5.4						
LPIG	**La Paz**	**29.06**	**349**	LR	LR	19 12 10.1	
	comp=Z,25μm,21.1s,MS5.8,baz=170,slow=30						
TEIG	**Tepich**	**29.48**	**33**	PFAKE		19 03 50.0	+12
TEIG				LR	LR		
	comp=Z,32μm,20.0s,MS5.9						
ROSC	**El Rosal**	**31.75**	**73**	P	**P**	**19 04 01.9**	**+4.0**
	comp=Z,4.0nm,0.5s,mb4.5,baz=274,slow=23,SNR=6.3						
ROSC				LR	LR	19 14 29.7	
	comp=Z,14μm,19.2s,MS5.7,baz=228,slow=32						
ROSC	**El Rosal**	**31.75**	**73**	*eP*	**P**	**19 04 02.4**	**+4.4**
LTX	**Lajitas**	**33.76**	**2**	PFAKE		19 04 30.0	+14
LTX				LR	LR		
	comp=Z,13μm,20.0s,MS5.7						
TXAR	**Lajitas Array**	**33.76**	**2**	P	**P**	**19 04 15.1**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.3,baz=187,slow=9.8,SNR=20						
TXAR				PcP	PcP	19 06 54.9	0.0
	comp=Z,0.7nm,0.8s,baz=201,slow=4.7,SNR=3.0						
TXAR				LR	LR	19 15 49.2	
	comp=Z,9μm,18.3s,MS5.5,baz=60,slow=32						
TXAR	**Lajitas Array**	**33.76**	**2**	P	**P**	**19 04 15.1**	**-0.5**
TXAR				PcP	PcP	19 06 54.9	0.0
TXAR				LR	LR	19 15 49.2	
RKT	**Rikitea**	**34.55**	**235**	*eS*	**S**	**19 09 49.9**	**-1.5**
	comp=Z,5μm,28.0s						
RKT				*e*LR	LR	19 13 40.3	
	comp=Z,42μm,27.8s,baz=54						
ARE	**Arequipa**	**34.63**	**112**	*eP*	**P**	**19 04 27.0**	**+3.9**
JCT	**Junction City**	**35.20**	**7**	*eP*	**P**	**19 04 28.1**	**0.0**
JCT				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
JCT				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.3						
JCT	**Junction City**	**35.20**	**7**	*eP*	**P**	**19 04 28.1**	**0.0**
	comp=Z,38nm,1.3s,mb5.2						
JCT				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
HKT	**Hockley**	**35.40**	**13**	PFAKE		19 04 40.0	+10
HKT				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
TAOE	**Nuku Hiva Isla**	**35.46**	**261**	*eS*	**S**	**19 10 00.6**	**-4.7**
	comp=Z,15μm,26.9s						
TAOE				*e*LR	LR	19 13 47.8	
	comp=Z,65μm,26.1s						
MNTX	**Cornudas Mount**	**36.11**	**359**	*eP*	**P**	**19 04 34.6**	**-1.3**
	comp=Z,64nm,1.6s,mb5.3						
MNTX				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
SDV	**Santo Domingo**	**36.50**	**68**	*eP*	**P**	**19 04 40.6**	**+1.3**
	comp=Z,37nm,0.9s,mb5.2						
SDV				LR	LR		
	comp=Z,11μm,21.0s,MS5.6						
TUC	**Tucson**	**37.17**	**351**	*eP*	**P**	**19 04 42.0**	**-2.9**
TUC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
TUC				MLR	MLR		
	comp=Z,14μm,20.0s,MS5.8						
TUC	**Tucson**	**37.17**	**351**	*eP*	**P**	**19 04 42.0**	**-3.0**
	comp=Z,11nm,1.1s,mb4.6						
TUC				LR	LR		
	comp=Z,14μm,20.0s,MS5.8						
116A	**Eloy**	**37.56**	**350**	⇑P	**P**	**19 04 48.8**	**+0.6**
	baz=38						
LPAZ	**La Paz**	**37.70**	**111**	P	**P**	**19 04 54.5**	**+5.2**
	comp=Z,14nm,1.1s,mb4.6,baz=278,slow=7.9,SNR=16						
LPAZ				LR	LR	19 17 35.3	
	comp=Z,8μm,19.8s,MS5.5,baz=39,slow=32						
LPAZ	**La Paz**	**37.70**	**111**	*eP*	**P**	**19 04 51.2**	**+1.8**
LPAZ				pmax	pmax		
	comp=Z,30nm,1.4s						
LPAZ	**La Paz**	**37.70**	**111**	*eP*	**P**	**19 04 51.2**	**+1.8**
	comp=Z,30nm,1.4s,mb4.8						
LPAZ				LR	LR	19 17 35.3	
115A	**Sonoran Desert**	**37.79**	**350**	⇑P	**P**	**19 04 50.9**	**+0.7**
	baz=38						
Y22C	**IRIS PASSCAL I**	**38.53**	**357**	⇓P	**P**	**19 04 57.2**	**+0.8**
	baz=39						
Z14A	**Wintersburg**	**38.57**	**349**	⇓P	**P**	**19 04 57.1**	**+0.4**
	baz=39						
DVTC	**Desert V Tower**	**38.62**	**344**	⇑P	**P**	**19 04 57.8**	**+0.7**
	baz=39,SNR=5.3						
GLA	**Glamis**	**38.67**	**346**	*eP*	**P**	**19 04 59.2**	**+1.6**
GLA	**Glamis**	**38.67**	**346**	⇑P	**P**	**19 04 57.9**	**+0.3**
	baz=39						
SWSC	**Sam W. Stewart**	**38.80**	**345**	⇓P	**P**	**19 04 59.7**	**+1.0**
	baz=39						
MONP	**Monument Peak**	**38.92**	**344**	⇓P	**P**	**19 05 00.5**	**+0.8**
	baz=39						
LVC	**Limon Verde**	**38.94**	**121**	P	**P**	**19 05 03.1**	**+3.2**
	comp=Z,16nm,0.9s,mb4.8,baz=270,slow=7.3,SNR=16						
LVC				LR	LR	19 15 38.6	
	comp=Z,2μm,19.5s,MS5.0,baz=266,slow=28						
LVC	**Limon Verde**	**38.94**	**121**	*eP*	**P**	**19 05 03.6**	**+3.7**
	comp=Z,245nm,1.8s,mb5.6						
LVC				LR	LR		
	comp=Z,14μm,21.0s,MS5.8						
109C	**Camp Elliot, M**	**39.11**	**343**	⇓P	**P**	**19 05 02.1**	**+0.8**
	baz=39						
Y14A	**Wickenburg**	**39.14**	**349**	P	**P**	**19 05 02.2**	**+0.7**
	baz=39,SNR=20						
BRAL	**Brewton**	**39.22**	**24**	PFAKE		19 05 10.0	+7.8
BRAL				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
Y12C	**Blythe**	**39.27**	**347**	⇓P	**P**	**19 05 03.4**	**+0.8**
	baz=39						
AMTX	**Amarillo**	**39.38**	**4**	*eP*	**P**	**19 05 03.4**	**-0.1**
	comp=Z,143nm,1.6s,mb5.5						
AMTX				LR	LR		
	comp=Z,22μm,22.0s,MS5.9						
ANMO	**Albuquerque**	**39.38**	**358**	*eP*	**P**	**19 05 03.4**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,18nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,4μm,19.0s						
ANMO	**Albuquerque**	**39.38**	**358**	*eP*	**P**	**19 05 03.4**	**-0.2**
	comp=Z,18nm,1.1s,mb4.7						
ANMO				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
BC3	**Big Chuckw Mtn**	**39.40**	**346**	⇑P	**P**	**19 05 04.7**	**+1.0**
	baz=40,SNR=12						
DWPF	**Disney**	**39.50**	**33**	PFAKE		19 05 20.0	+15
DWPF				LR	LR		
	comp=Z,19μm,22.0s,MS5.9						
WMOK	**Wichita Mounta**	**39.53**	**8**	*eP*	**P**	**19 05 03.3**	**-1.5**
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
WMOK				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
WMOK	**Wichita Mounta**	**39.53**	**8**	*eP*	**P**	**19 05 03.3**	**-1.5**
	comp=Z,8.9nm,1.0s,mb4.5						
WMOK				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
X15A	**Humboldt**	**39.53**	**350**	P	**P**	**19 05 05.6**	**+0.8**
	baz=40,SNR=18						
PFO	**Pinyon Flat Ob**	**39.61**	**345**	LR	LR	19 17 48.7	
	comp=Z,21μm,18.9s,MS6.0,baz=126,slow=31						
PFO	**Pinyon Flat Ob**	**39.61**	**345**	*eP*	**P**	**19 05 04.0**	**-1.5**
PFO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
PFO				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.4						
PFO	**Pinyon Flat Ob**	**39.61**	**345**	*eP*	**P**	**19 05 04.0**	**-1.5**
	comp=Z,25nm,1.1s,mb4.8						
PFO				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
PFO	**Pinyon Flat Ob**	**39.61**	**345**	⇑P	**P**	**19 05 06.5**	**+1.0**
	baz=40,SNR=8.1						
X14A	**Yava**	**39.63**	**349**	P	**P**	**19 05 06.5**	**+0.8**
	baz=40,SNR=18						
PDMCI	**Parker Dam,Lak**	**39.72**	**348**	⇓P	**P**	**19 05 06.7**	**+0.4**
	baz=40						
MURC	**Murrieta**	**39.81**	**344**	⇑P	**P**	**19 05 07.7**	**+0.6**
	baz=40						
IRM	**Iron Mountain**	**39.81**	**346**	⇑P	**P**	**19 05 08.0**	**+0.9**
	baz=40,SNR=14						
BELC	**Belle Mtn.**	**39.86**	**345**	P	**P**	**19 05 07.9**	**+0.3**
	baz=40,SNR=7.4						
X13A	**Yucca**	**39.94**	**348**	⇑P	**P**	**19 05 08.5**	**+0.4**
	baz=40,SNR=20						
SNCC	**San Nicolas Is**	**40.19**	**341**	PFAKE		19 05 20.0	+10
SNCC				LR	LR		
	comp=Z,31μm,22.0s,MS6.1						
W15A	**Williams**	**40.22**	**350**	⇓P	**P**	**19 05 11.4**	**+0.9**
	baz=40						
NEE2	**Needles Airpor**	**40.27**	**347**	⇑P	**P**	**19 05 11.7**	**+0.8**
	baz=40						
BBRC	**Big Bear Sol-O**	**40.35**	**344**	⇓P	**P**	**19 05 12.4**	**+0.8**
	baz=40						
W14A	**Seligman**	**40.39**	**349**	⇑P	**P**	**19 05 12.8**	**+0.9**
	baz=40,SNR=13						
WUAZ	**Wupatki**	**40.41**	**352**	*eP*	**P**	**19 05 12.5**	**+0.4**
	comp=Z,42nm,1.1s,mb5.1						
WUAZ				LR	LR		
	comp=Z,11μm,19.0s,MS5.7						
WUAZ	**Wupatki**	**40.41**	**352**	⇑P	**P**	**19 05 13.3**	**+1.2**
	baz=40,SNR=19						
W13A	**Hualapai Mount**	**40.44**	**348**	⇓P	**P**	**19 05 13.1**	**+0.8**
	baz=40,SNR=5.7						
BFSC	**Mount Baldy St**	**40.53**	**343**	⇓P	**P**	**19 05 13.2**	**0.0**
	baz=41						
HEC	**Hector,Ludlow**	**40.73**	**345**	⇑P	**P**	**19 05 15.4**	**+0.6**
	baz=41,SNR=5.2						
DECC	**Green Verdugo**	**40.74**	**343**	⇑P	**P**	**19 05 15.3**	**+0.5**
	baz=41						
BLG	**Laguna Peak**	**40.84**	**342**	⇓P	**P**	**19 05 15.6**	**0.0**
	baz=41						
W12A	**Cal Nev Ari**	**40.84**	**347**	⇓P	**P**	**19 05 16.9**	**+1.2**
	baz=41						
LRAL	**Lakeview Retre**	**41.02**	**23**	*eP*	**P**	**19 05 16.6**	**-0.6**
	comp=Z,59nm,1.6s,mb5.0						
LRAL				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
OSI	**Osito Adit**	**41.20**	**342**	⇓P	**P**	**19 05 19.8**	**+1.2**
	baz=41						
TUQ	**Turquoise Mtn.**	**41.21**	**346**	⇑P	**P**	**19 05 19.4**	**+0.7**
	baz=41,SNR=5.3						
EDW2	**Edwards Air Fo**	**41.23**	**343**	⇑P	**P**	**19 05 19.1**	**+0.2**
	baz=41,SNR=16						
V12A	**Nelson**	**41.24**	**347**	P	**P**	**19 05 19.4**	**+0.4**
	baz=41,SNR=6.0						
GSC	**Goldstone**	**41.30**	**345**	*eP*	**P**	**19 05 18.5**	**-1.0**
GSC	**Goldstone**	**41.30**	**345**	P	**P**	**19 05 20.0**	**+0.6**
	baz=41,SNR=6.2						
V11A	**Goodsprings**	**41.48**	**347**	P	**P**	**19 05 21.7**	**+0.8**
	baz=42,SNR=7.9						
OXF	**Oxford**	**41.49**	**19**	*eP*	**P**	**19 05 22.6**	**+1.6**
OXF				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.0						
OXF				MLR	MLR		
	comp=Z,5μm,22.0s,MS5.3						
OXF	**Oxford**	**41.49**	**19**	*eP*	**P**	**19 05 22.6**	**+1.6**
	comp=Z,35nm,0.9s,mb5.0						
OXF				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
LRMC	**Laurel Mountai**	**41.71**	**344**	P	**P**	**19 05 23.1**	**+0.3**
	baz=42,SNR=15						
SHOC	**Shoshone**	**41.74**	**346**	⇑P	**P**	**19 05 23.8**	**+0.7**
	baz=42						
MVCO	**Mesa Verde**	**41.76**	**355**	*eP*	**P**	**19 05 22.3**	**-0.9**
	comp=Z,101nm,1.3s,mb5.3						
MVCO				LR	LR		
	comp=Z,8μm,19.0s,MS5.6						
MVCO	**Mesa Verde**	**41.76**	**355**	P	**P**	**19 05 23.6**	**+0.4**
	baz=42,SNR=28						
PKM	**Peak Mountain**	**41.80**	**341**	⇑P	**P**	**19 05 23.9**	**+0.3**
	baz=42						
U12A	**Valley of Fire**	**41.86**	**348**	⇓P	**P**	**19 05 25.1**	**+1.1**
	baz=42						
ISA	**Isabella**	**42.10**	**343**	*eP*	**P**	**19 05 25.8**	**-0.2**
	comp=Z,0.1nm,1.3s						
ISA				LR	LR		
	comp=Z,3μm,19.0s						
ISA	**Isabella**	**42.10**	**343**	⇓P	**P**	**19 05 26.6**	**+0.6**
	baz=42,SNR=7.5						
SDCO	**Great Sand Dun**	**42.15**	**359**	*eP*	**P**	**19 05 27.8**	**+1.4**
	comp=Z,96nm,1.7s,mb5.2						
SDCO				LR	LR		
	comp=Z,6μm,20.0s,MS5.5						
MPMC	**Manual Prospec**	**42.20**	**344**	P	**P**	**19 05 27.4**	**+0.6**
	baz=42,SNR=17						
SMMC	**Simmler**	**42.24**	**341**	⇑P	**P**	**19 05 28.0**	**+0.9**
	baz=42						
U10A	**Ash Meadows, A**	**42.25**	**346**	⇓P	**P**	**19 05 27.8**	**+0.6**
	baz=42,SNR=7.7						
PLAL	**Pickwick Lake**	**42.37**	**20**	*eP*	**P**	**19 05 27.1**	**-1.1**
	comp=Z,218nm,1.6s,mb5.5						
PLAL				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
FURC	**Furnace Creek,**	**42.42**	**345**	⇑P	**P**	**19 05 29.3**	**+0.7**
	baz=42						
DAC	**Darwin (Calif)**	**42.43**	**344**	*eP*	**P**	**19 05 26.1**	**-2.6**
DAC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
DAC				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.7						
DAC	**Darwin (Calif)**	**42.43**	**344**	*eP*	**P**	**19 05 26.1**	**-2.6**
	comp=Z,12nm,1.0s,mb4.5						
DAC				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
VES	**Vestal, Richgr**	**42.44**	**343**	⇓P	**P**	**19 05 29.0**	**+0.2**
	baz=42,SNR=5.5						
PCRV	**Puerto La Cruz**	**42.51**	**70**	P	**P**	**19 05 33.0**	**+3.7**
	comp=Z,20nm,1.0s,mb4.8,baz=276,slow=6.0,SNR=4.5						
PV01	**Paradox Valley**	**42.68**	**355**	*eP*	**P**	**19 05 30.8**	**+0.1**
CCUT	**Cedar City**	**42.72**	**350**	*eP*	**P**	**19 05 31.2**	**+0.2**
CWC	**Cottonwood Cre**	**42.72**	**344**	⇓P	**P**	**19 05 31.5**	**+0.5**
	baz=43						
GOGA	**Godfrey**	**42.82**	**26**	*eP*	**P**	**19 05 30.5**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,44nm,1.3s,mb5.0						
GOGA				MLR	MLR		
	comp=Z,8μm,19.0s,MS5.6						
GOGA	**Godfrey**	**42.82**	**26**	*eP*	**P**	**19 05 30.5**	**-1.3**
	comp=Z,44nm,1.3s,mb5.0						
GOGA				LR	LR		
	comp=Z,8μm,19.0s,MS5.6						
V04C	**Ramage Ranch,**	**42.82**	**340**	⇓P	**P**	**19 05 32.5**	**+0.7**
	baz=43						
RCTC	**Rector, Farmer**	**42.93**	**343**	⇓P	**P**	**19 05 33.3**	**+0.6**
	baz=43						
PV10	**Paradox Valley**	**42.96**	**355**	*eP*	**P**	**19 05 32.1**	**-0.9**
ARUT	**Antelope Range**	**42.96**	**350**	*eP*	**P**	**19 05 32.9**	**-0.1**
PKD	**Parkfield**	**42.99**	**341**	⇓P	**P**	**19 05 33.4**	**+0.1**
	baz=43,SNR=8.2						
GRAC	**Grapevine Rang**	**43.06**	**345**	⇓P	**P**	**19 05 34.3**	**+0.5**
	baz=43						
HELL	**Mitchell Peak,**	**43.21**	**343**	⇑P	**P**	**19 05 35.6**	**+0.6**
	baz=43						
V03C	**Hunter Liggett**	**43.29**	**340**	⇑P	**P**	**19 05 36.1**	**+0.4**
	baz=43						
CBKS	**Cedar Bluff**	**43.45**	**6**	*eP*	**P**	**19 05 37.3**	**+0.4**
CBKS				pmax	pmax		
	comp=Z,96nm,1.3s,mb5.4						
CBKS				MLR	MLR		
	comp=Z,24μm,20.0s,MS6.1						
CBKS	**Cedar Bluff**	**43.45**	**6**	*eP*	**P**	**19 05 37.3**	**+0.4**
	comp=Z,96nm,1.3s,mb5.4						
CBKS				LR	LR		
	comp=Z,24μm,20.0s,MS6.1						
U04C	**Hernandez Rese**	**43.45**	**341**	⇑P	**P**	**19 05 37.4**	**+0.4**
	baz=44,SNR=8.5						
MVU	**Marysvale**	**43.46**	**351**	PFAKE		19 05 50.0	+13
MVU				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
CFAA	**Coronel Fontan**	**43.46**	**133**	P	**P**	**19 05 37.8**	**+0.8**
	comp=Z,8.1nm,0.9s,mb4.5,baz=299,slow=6.9,SNR=38						
MSU	**Marysvale**	**43.46**	**351**	*eP*	**P**	**19 05 35.8**	**-1.3**
WVT	**Waverly**	**43.49**	**20**	*eP*	**P**	**19 05 35.8**	**-1.5**
WVT				pmax	pmax		
	comp=Z,114nm,1.6s,mb5.3						
WVT				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
WVT	**Waverly**	**43.49**	**20**	*eP*	**P**	**19 05 35.8**	**-1.5**
	comp=Z,114nm,1.6s,mb5.3						
WVT				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
LRV	**Little Rabbit**	**43.59**	**341**	*eP*	**P**	**19 05 39.4**	**+1.3**
S09A	**Goldfield**	**43.70**	**346**	⇑P	**P**	**19 05 39.3**	**+0.3**
	baz=44,SNR=15						
MTUM	**Tungsten Hills**	**43.71**	**344**	*eP*	**P**	**19 05 38.1**	**-0.9**
T06C	**Millerton Lake**	**43.71**	**343**	⇓P	**P**	**19 05 39.7**	**+0.6**
	baz=44,SNR=7.6						
HAST	**UC Hastings Re**	**43.73**	**340**	⇑P	**P**	**19 05 39.6**	**+0.4**
	baz=44,SNR=6.0						
S08C	**White Mtn Res**	**43.74**	**344**	⇑P	**P**	**19 05 39.8**	**+0.5**
	baz=44						
SRU	**San Rafael**	**43.84**	**353**	*eP*	**P**	**19 05 38.2**	**-1.9**
SRU				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.3						
SRU	**San Rafael**	**43.84**	**353**	*eP*	**P**	**19 05 38.1**	**-1.9**
	comp=Z,88nm,1.4s,mb5.3						
KCC	**Kaiser Creek**	**43.89**	**343**	⇑P	**P**	**19 05 41.0**	**+0.5**
	baz=44						
TRCR	**Troy Canyon**	**43.92**	**348**	*eP*	**P**	**19 05 41.6**	**+0.8**
R10A	**Warm Springs**	**44.02**	**347**	⇑P	**P**	**19 05 42.0**	**+0.5**
	baz=44,SNR=6.9						
TPH	**Tonopah**	**44.04**	**346**	*eP*	**P**	**19 05 42.0**	**+0.3**
TPH				pmax	pmax		
	comp=Z,88nm,1.7s,mb5.2						
TPH	

baz=45,SNR=8.0
JSC Jenkinsville 44.55 28 eP P 19 05 45.7 -0.1
S06C San Francisco 44.56 343 ⇑P P 19 05 46.8 +0.9
baz=45
BNLO Ben Lomond (Sa 44.62 340 ⇑P P 19 05 47.0 +0.7
baz=45
NVAR Mina Array Bea 44.65 345 P P 19 05 45.7 -0.8
comp=Z,6.5nm,1.0s,mb4.4,baz=170,slow=7.8,SNR=12
NVAR Mina Array Bea 44.65 345 P P 19 05 45.7 -0.8
S04C Ingram Canyon, 44.67 341 ⇓P P 19 05 47.8 +1.0
baz=45
MTP Monte Pirata 44.70 59 eP P 19 05 47.2 +0.2
Q09A Carvers 44.75 346 ⇓P P 19 05 48.4 +1.1
baz=45
MPU Maple Canyon 44.87 352 eP P 19 05 47.5 -0.8
comp=Z,87nm,1.3s,mb5.4
MPU LR LR
comp=Z,14µm,22.0s,MS5.8
NLU North Lily Min 44.87 352 eP P 19 05 48.5 +0.3
CMB Columbia Colle 44.87 342 eP P 19 05 46.6 -1.7
CMB pmax pmax
comp=Z,17nm,1.0s,mb4.8
CMB MLR MLR
comp=Z,23µm,19.0s,MS6.1
CMB Columbia Colle 44.87 342 eP P 19 05 46.6 -1.7
comp=Z,17nm,1.0s,mb4.8
CMB LR LR
comp=Z,23µm,19.0s,MS6.1
CMB Columbia Colle 44.87 342 ⇓P P 19 05 49.1 +0.8
baz=45
P12A McGill 44.87 349 ⇑P P 19 05 49.2 +0.9
baz=45,SNR=6.8
WENL Wente Brothers 44.92 341 ⇓P P 19 05 49.9 +1.2
baz=45
Q08A Gabbs 44.96 345 ⇓P P 19 05 50.1 +1.0
baz=45
R06C Coleville 45.05 344 P P 19 05 50.9 +1.1
baz=45,SNR=13
P11A Circle Ranch, 45.12 348 ⇑P P 19 05 51.4 +1.1
baz=45
DAU Daniels Canyon 45.21 353 eP P 19 05 49.6 -1.4
DUG Dugway 45.21 351 eP P 19 05 50.2 -0.8
DUG pmax pmax
comp=Z,44nm,1.2s,mb5.2
DUG MLR MLR
comp=Z,8µm,21.0s,MS5.6
DUG Dugway 45.21 351 eP P 19 05 50.2 -0.8
comp=Z,44nm,1.2s,mb5.2
DUG LR LR
comp=Z,8µm,21.0s,MS5.6
DUG Dugway 45.21 351 ⇓P P 19 05 51.7 +0.6
baz=45,SNR=28
R04C Big Horse Ranc 45.24 342 ⇑P P 19 05 52.0 +0.8
baz=45
P10A Eureka 45.33 347 ⇓P P 19 05 53.1 +1.1
baz=45
R05C Kirkwood Meado 45.39 343 P P 19 05 53.3 +0.8
baz=46,SNR=21
JLU Jordanelle 45.42 353 eP P 19 05 51.5 -1.1
P09A Austin 45.42 346 ⇑P P 19 05 53.6 +0.9
baz=46
TZTN Tazewell 45.46 24 eP P 19 05 51.8 -1.2
comp=Z,37nm,1.0s,mb5.2
TZTN LR LR
comp=Z,6µm,19.0s,MS5.5
CTU Camp Tracy 45.55 352 eP P 19 05 52.1 -1.6
comp=Z,15nm,0.9s,mb4.9
NOQ North Oquirrh 45.56 352 eP P 19 05 53.6 -0.2
comp=Z,90nm,1.4s,mb5.5
O12A Currie 45.61 349 ⇑P P 19 05 54.4 +0.3
baz=46,SNR=18
LAVA Lava Cap Winer 45.64 342 ⇑P P 19 05 55.0 +0.6
baz=46
O11A Cowboy Ranch, 45.65 348 ⇓P P 19 05 54.8 +0.2
baz=46
PHWY Pilot Hill 45.70 359 eP P 19 05 54.7 -0.2
PPT Papeete 45.76 250 eS S 19 12 35.7 -3.2
comp=Z,4µm,25.8s
PPT eLQ 19 16 40.2
comp=Z,20µm,31.0s
PPT eLR LR 19 18 43.8
comp=Z,31µm,26.8s,baz=76
PPT Papeete 45.76 250 LR LR 19 19 47.5
comp=Z,8µm,20.1s,MS5.7,baz=83,slow=30
P08A Dixie Valley 45.78 346 ⇓P P 19 05 55.9 +0.3
baz=46
CVS Carmenet Viney 45.81 340 ⇑P P 19 05 56.3 +0.5
baz=46,SNR=6.6
P07A Fallon 45.84 345 ⇓P P 19 05 57.1 +1.0
baz=46
WCN Washoe City 45.86 344 ⇑P P 19 05 57.4 +1.3
baz=46,SNR=6.7
Q04C Lincoln 45.91 342 ⇑P P 19 05 57.8 +1.2
baz=46
WCI Wyandotte Cave 45.91 20 PFAKE 19 06 10.0 +13
WCI LR LR
comp=Z,3µm,19.0s,MS5.2
Q03C Winters 45.92 341 ⇓P P 19 05 57.1 +0.4
baz=46
BGU Big Grassy Mou 45.96 351 eP P 19 05 56.1 -0.8
O10A Cortez Mining, 45.98 347 ⇓P P 19 05 58.3 +1.1
baz=46
NSHM Saint Helena R 46.02 340 P P 19 05 57.3 -0.1
O09A Fish Creek Ran 46.02 347 ⇑P P 19 05 58.4 +0.9
baz=46
N13A Wendover, West 46.08 350 ⇓P P 19 05 58.2 +0.3
baz=46
P05C Yuba Gap, Truc 46.10 343 ⇑P P 19 05 58.9 +0.8
baz=46,SNR=5.2
RWWY Rawlins 46.13 357 P P 19 05 57.4 -1.0
comp=Z,20nm,0.7s,mb5.2
ELK Elko 46.16 349 eP P 19 06 00.2 +1.6
ELK pmax pmax
comp=Z,16nm,1.0s
ELK MLR MLR
comp=Z,18µm,19.0s
ELK Elko 46.16 349 eP P 19 06 00.2 +1.7
comp=Z,16nm,1.0s,mb4.9
ELK LR LR
comp=Z,18µm,19.0s,MS6.0
N12A Clover Valley, 46.23 349 ⇓P P 19 05 59.8 +0.7
baz=46
SPUT South Promonto 46.25 352 P P 19 05 56.3 -2.9
BMN Battle Mountai 46.28 347 eP P 19 06 00.7 +1.2
BMN pmax pmax
comp=Z,15nm,0.9s,mb4.9
BMN MLR MLR
comp=Z,18µm,20.0s,MS6.0
BMN Battle Mountai 46.28 347 eP P 19 06 00.7 +1.2
comp=Z,15nm,0.9s,mb4.9
BMN LR LR
comp=Z,18µm,20.0s,MS6.0
MNRC McLaughlin Nat 46.29 341 ⇑P P 19 06 00.4 +0.9
baz=46,SNR=5.9
N11A Elko Archery C 46.33 348 ⇑P P 19 06 00.4 +0.5
baz=46
N10A Dunphy 46.39 348 ⇓P P 19 06 01.2 +0.8
baz=46
SUTB Sutter Butte 46.39 342 ⇑P P 19 06 01.4 +1.0
baz=46
OHCM Honcut 46.40 342 eP P 19 05 58.5 -1.9
HWUT Hardware Ranch 46.42 353 eP P 19 05 58.9 -1.8
comp=Z,38nm,1.1s,mb5.2
HWUT LR LR
comp=Z,11µm,19.0s,MS5.8
O07A Toulon 46.42 345 P P 19 06 01.4 +0.7
baz=46,SNR=6.8
BEKR Beckwourth 46.55 343 ⇑P P 19 06 02.3 +0.7
baz=47
M13A Montello 46.56 350 ⇑P P 19 06 01.7 0.0
baz=47,SNR=21
HOPS Hopland 46.60 340 P P 19 06 02.3 +0.3
comp=Z,65nm,1.4s,mb5.4
HOPS LR LR
comp=Z,21µm,19.0s,MS6.1
HOPS Hopland 46.60 340 ⇓P P 19 06 02.7 +0.7
baz=47
ORV Oroville 46.60 342 ⇑P P 19 06 02.0 0.0
baz=47,SNR=20
O06A Flanigan 46.68 344 ⇓P P 19 06 02.9 +0.2
baz=47
N09A Rock Creek Ran 46.75 347 ⇓P P 19 06 03.0 -0.1
baz=47,SNR=6.0
M12A Wells 46.75 349 ⇓P P 19 06 03.5 +0.3
baz=47,SNR=19
HVU Hansel Valley 46.76 352 eP P 19 06 03.0 -0.2
HVU pmax pmax
comp=Z,84nm,1.5s,mb5.5
HVU Hansel Valley 46.76 352 eP P 19 06 03.0 -0.3
comp=Z,84nm,1.5s,mb5.5
O05C Quincy 46.80 343 ⇓P P 19 06 03.8 +0.2
baz=47
M11A Holland Ranch, 46.93 349 ⇑P P 19 06 05.4 +0.8
baz=47,SNR=20
CNNC Cliffs of the 46.96 30 PFAKE 19 06 20.0 +15
CNNC LR LR
comp=Z,19µm,22.0s,MS6.0
TBI Tubuai 47.02 242 eS S 19 12 56.3 -0.5
comp=Z,5µm,27.0s
TBI eLQ 19 17 16.1
comp=Z,8µm,35.5s
TBI eLR LR 19 19 17.1
comp=Z,24µm,28.8s,baz=71
N07B Gerlach 47.03 345 ⇓P P 19 06 05.5 +0.1
baz=47
GASB Alder Springs 47.08 341 ⇑P P 19 06 06.3 +0.6
baz=47,SNR=18
HDIL Hopedale 47.11 16 PFAKE 19 06 20.0 +14
HDIL LR LR
comp=Z,6µm,21.0s,MS5.5
P01C Double 8 Ranch 47.12 340 ⇓P P 19 06 06.4 +0.4
baz=47
M10A I.L. Ranch, Tu 47.17 348 ⇓P P 19 06 07.0 +0.5
baz=47
O04C Chester 47.18 343 P P 19 06 07.3 +0.7
baz=47,SNR=29
ELN Prospectdale 47.23 26 eP P 19 06 05.8 -1.1
N06A Buffalo Meadow 47.23 344 ⇑P P 19 06 07.3 +0.4
baz=47,SNR=8.4
M09A Marrel Ranch, 47.27 347 ⇓P P 19 06 07.3 0.0
baz=47
ELFS Eagle Lake Fie 47.35 343 ⇑P P 19 06 08.6 +0.7
baz=47
BLA Blacksburg 47.36 26 eP P 19 06 09.1 +1.2
BLA pmax pmax
comp=Z,116nm,1.8s,mb5.5
BLA MLR MLR
comp=Z,9µm,20.0s,MS5.8
BLA Blacksburg 47.36 26 eP P 19 06 09.1 +1.1
comp=Z,116nm,1.8s,mb5.5
BLA LR LR
comp=Z,9µm,20.0s,MS5.8
BW06 Boulder Array 47.36 355 PFAKE 19 06 20.0 +12
BW06 LR LR
comp=Z,10µm,19.0s,MS5.8
PDAR Pinedale Array 47.36 355 P P 19 06 05.7 -2.3
comp=Z,4.9nm,0.7s,mb4.6,baz=172,slow=6.5,SNR=33
PDAR LR LR 19 23 43.9
comp=Z,9µm,18.4s,MS5.8,baz=185,slow=33
SCIA State Center 47.46 12 PFAKE 19 06 20.0 +11
SCIA LR LR
comp=Z,5µm,21.0s,MS5.5
KIPM Iron Peak 47.47 340 eP P 19 06 08.7 -0.2
AHID Auburn Hatcher 47.51 354 eP P 19 06 08.2 -0.9
comp=Z,13nm,0.8s,mb5.0
AHID LR LR
comp=Z,10µm,20.0s,MS5.8
O02C Red Bluff 47.58 341 ⇓P P 19 06 10.5 +0.9
baz=48
M07A Soldier Meadow 47.65 345 ⇓P P 19 06 10.8 +0.6
baz=48,SNR=6.8
HATC Hat Creek Radi 47.75 343 ⇑P P 19 06 11.5 +0.5
baz=48
M06C Likely Place G 47.83 344 ⇓P P 19 06 12.4 +0.8
baz=48,SNR=7.2
WDC Whiskeytown Da 47.86 342 eP P 19 06 12.9 +1.1
WDC pmax pmax
comp=Z,16nm,0.9s,mb5.0
WDC MLR MLR
comp=Z,11µm,20.0s,MS5.8
WDC Whiskeytown Da 47.86 342 eP P 19 06 12.9 +1.0
comp=Z,16nm,0.9s,mb5.0
WDC LR LR
comp=Z,11µm,20.0s,MS5.8
WDC Whiskeytown Da 47.86 342 ⇑P P 19 06 12.3 +0.4
baz=48
L09A Wilkinson Ranc 47.89 347 ⇓P P 19 06 12.9 +0.8
baz=48
REDW Red Top Meadow 48.08 354 eP P 19 06 11.9 -1.6
comp=Z,52nm,1.1s,mb5.5
RRI2 Red Ridge 48.11 353 eP P 19 06 12.0 -1.8
comp=Z,37nm,0.8s,mb5.5
BBGH Gun Hill 48.16 68 PFAKE 19 06 30.0 +16
BBGH LR LR
comp=Z,16µm,20.0s,MS6.0
M05C Lookout 48.16 343 ⇑P P 19 06 14.2 +0.1
baz=48,SNR=8.1
SNOW Snow King Moun 48.16 354 eP P 19 06 13.4 -0.8
comp=Z,149nm,1.7s,mb5.7
L08A Fields 48.21 346 ⇑P P 19 06 14.9 +0.3
baz=48,SNR=23
L07A Adell 48.29 345 P P 19 06 16.1 +0.9
baz=48,SNR=16
LOHW Long Hollow 48.30 354 eP P 19 06 12.1 -3.1
comp=Z,139nm,1.7s,mb5.7
N02C Big Bar 48.33 341 ⇑P P 19 06 16.2 +0.7
baz=48
DCID1 Drake Creek 48.34 354 P P 19 06 13.5 -2.0
M03C McCloud 48.37 342 ⇓P P 19 06 16.4 +0.6
baz=48,SNR=5.6
MOD Modoc 48.43 344 eP P 19 06 16.6 +0.4
comp=Z,38nm,1.3s,mb5.3
MOD LR LR
comp=Z,5µm,19.0s,MS5.5
MOD Modoc 48.43 344 ⇑P P 19 06 17.2 +1.0
baz=48,SNR=17
MOOW Moose Ponds 48.45 354 eP P 19 06 14.7 -1.7
comp=Z,58nm,1.4s,mb5.4
WVOR Wild Horse Val 48.51 346 eP P 19 06 16.6 -0.2
WVOR pmax pmax
comp=Z,92nm,1.9s,mb5.5
WVOR MLR MLR
comp=Z,11µm,21.0s,MS5.8
WVOR Wild Horse Val 48.51 346 eP P 19 06 16.6 -0.2
comp=Z,92nm,1.9s,mb5.5
WVOR LR LR
comp=Z,11µm,21.0s,MS5.8
RSSD Black Hills 48.51 1 PFAKE 19 06 30.0 +13
RSSD LR LR
comp=Z,3µm,19.0s,MS5.3
K09A Rome 48.55 347 ⇓P P 19 06 17.7 +0.5
baz=49
JCC Jacoby Creek 48.56 340 ⇑P P 19 06 18.8 +1.6
baz=49
IMW Indian Meadow 48.61 354 eP P 19 06 15.6 -2.1
comp=Z,89nm,1.2s,mb5.7
ECSD EROS,Sioux Fal 48.67 8 eP P 19 06 16.7 -1.4
comp=Z,52nm,1.4s,mb5.4
ECSD LR LR
comp=Z,10µm,19.0s,MS5.8
M02C Callahan 48.70 342 ⇓P P 19 06 18.3 0.0
baz=49
L05A Lakeview 48.71 344 ⇑P P 19 06 19.1 +0.7
baz=49,SNR=9.9
HLID Hailey 48.75 351 eP P 19 06 17.2 -1.5
comp=Z,29nm,1.0s,mb5.3
HLID LR LR
comp=Z,11µm,20.0s,MS5.8
HLID Hailey 48.75 351 ⇓P P 19 06 18.9 +0.2
baz=49,SNR=42
M04C Macdoel 48.75 343 ⇑P P 19 06 19.5 +0.8
baz=49
K08A Mann Creek Ran 48.76 346 ⇑P P 19 06 19.2 +0.5
baz=49,SNR=7.7
FLWY Flagg Ranch 48.77 354 eP P 19 06 17.2 -1.7
comp=Z,123nm,1.2s,mb5.8
K07A Rock Creek Ran 48.90 346 ⇑P P 19 06 20.6 +0.7
baz=49
YBH Yreka Blue Hor 48.97 342 eP P 19 06 18.3 -2.0
YBH pmax pmax
comp=Z,11nm,0.8s
YBH MLR MLR
comp=Z,10µm,22.0s
YBH Yreka Blue Hor 48.97 342 eP P 19 06 18.3 -2.0
comp=Z,11nm,0.8s,mb5.0
YBH LR LR
comp=Z,10µm,22.0s,MS5.8
YBH Yreka Blue Hor 48.97 342 ⇑P P 19 06 20.1 -0.3
baz=49
JFWS Jewell Farm 49.08 14 P P 19 06 19.3 -1.9
JFWS pmax pmax
comp=Z,20nm,0.8s,mb5.2
JFWS MLR MLR
comp=Z,3µm,20.0s,MS5.3
JFWS Jewell Farm 49.08 14 P P 19 06 19.3 -1.9
comp=Z,20nm,0.8s,mb5.2
JFWS LR LR
comp=Z,3µm,20.0s,MS5.3
L04A Klamath Falls 49.13 343 ⇓P P 19 06 21.6 +0.1
baz=49
YFT Old Faithful 49.15 354 eP P 19 06 21.3 -0.5
J09A Fry Pan Ranch, 49.18 347 ⇑P P 19 06 22.5 +0.5
baz=49
LKWY Lake 49.22 355 P P 19 06 22.1 -0.2
LKWY pmax pmax
comp=Z,38nm,1.2s,mb5.3
LKWY MLR MLR
comp=Z,10µm,21.0s,MS5.8
LKWY Lake 49.22 355 P P 19 06 22.1 -0.2
comp=Z,38nm,1.2s,mb5.3
LKWY LR LR
comp=Z,10µm,21.0s,MS5.8
K06A Valley Falls 49.26 345 ⇓P P 19 06 23.0 +0.4
baz=49,SNR=5.4
J08A Circle Bar Ran 49.35 347 ⇓P P 19 06 23.9 +0.6
baz=49,SNR=5.1
K05A Summer Lake 49.36 344 ⇑P P 19 06 22.8 -0.5
baz=49
YMR Madison River 49.38 354 eP P 19 06 22.8 -0.7
comp=Z,98nm,1.4s,mb5.6
YMR LR LR
comp=Z,9µm,19.0s,MS5.8
K04A Chilguin 49.48 343 ⇓P P 19 06 24.5 +0.2
baz=50
J07A Hines 49.56 346 ⇓P P 19 06 25.2 +0.3
baz=50
CBN Corbin 49.56 28 eP P 19 06 25.4 +0.5
CBN LR LR
comp=Z,18µm,21.0s,MS6.0
QLMT Earthquake Lak 49.59 354 eP P 19 06 24.6 -0.5
L02A Cave Junction 49.63 342 ⇑P P 19 06 25.6 +0.1
baz=50
MCWV Mont Chateau 49.64 25 eP P 19 06 24.2 -1.3
comp=Z,43nm,1.1s,mb5.4
MCWV LR LR
comp=Z,7µm,19.0s,MS5.7
J06A Christmas Vall 49.65 345 ⇓P P 19 06 25.7 +0.1
baz=50
RLMT Red Lodge 49.68 356 eP P 19 06 24.0 -1.8
comp=Z,54nm,1.3s,mb5.4
RLMT LR LR
comp=Z,7µm,19.0s,MS5.7
MCMT McKenzie Canyo 49.76 352 eP P 19 06 25.2 -1.2
I08A Drewsey 49.89 347 ⇑P P 19 06 27.6 +0.2
baz=50
J05A Fort Rock 49.97 344 ⇓P P 19 06 27.8 -0.2
baz=50,SNR=7.1
G15A Dillon 50.04 353 ⇓P P 19 06 28.6 +0.1
baz=50,SNR=6.9
H11A Donnelly 50.13 349 ⇑P P 19 06 29.4 +0.1
baz=50,SNR=6.2
K02A Glendale 50.15 342 ⇓P P 19 06 30.0 +0.6
baz=50
I07A Izee 50.27 346 ⇑P P 19 06 30.8 +0.5
baz=50,SNR=7.1
I06A Prineville 50.32 345 ⇑P P 19 06 31.2 +0.6
baz=50,SNR=5.8
GCMT Greycliff 50.38 355 eP P 19 06 28.8 -2.3
H09A Durkee 50.42 348 ⇓P P 19 06 32.1 +0.7
baz=50
AAM Ann Arbor 50.45 20 P P 19 06 33.2 +1.5
AAM pmax pmax
comp=Z,33nm,1.1s,mb5.3
AAM MLR MLR
comp=Z,4µm,21.0s,MS5.4
AAM Ann Arbor 50.45 20 P P 19 06 33.2 +1.6
comp=Z,33nm,1.1s,mb5.3
AAM LR LR
comp=Z,4µm,21.0s,MS5.4
H08A Prairie City 50.49 347 ⇑P P 19 06 32.3 +0.3
baz=51
BMO Blue Mountains 50.52 348 PFAKE 19 06 40.0 +7.8
BMO LR LR
comp=Z,17µm,20.0s,MS6.1
F15A Butte 50.71 353 ⇑P P 19 06 34.0 +0.4
baz=51,SNR=5.3
I04A Tendick Farm, 50.77 343 ⇓P P 19 06 34.4 +0.4
baz=51
F14A Wisdom 50.79 352 ⇓P P 19 06 33.7 -0.5
baz=51
I05A Bend 50.79 345 P P 19 06 34.9 +0.7
baz=51
G11A Walters Elk Ra 50.85 349 P P 19 06 33.7 -1.0
baz=51,SNR=10.0
F13A Darby 50.91 351 ⇓P P 19 06 34.7 -0.4
baz=51,SNR=16
F12A Elk City 51.02 350 P P 19 06 35.5 -0.4
baz=51,SNR=21
H06A Lindquist Farm 51.09 346 ⇓P P 19 06 36.2 -0.3
baz=51
LAO LASA Array 51.09 359 eP P 19 06 35.0 -1.6
comp=Z,659nm,2.3s,mb6.2
LAO LR LR
comp=Z,8µm,20.0s,MS5.7
TRQA Tornquist 51.15 137 eP P 19 06 36.2 -0.7
comp=Z,30nm,1.0s,mb5.2
TRQA LR LR
comp=Z,20µm,19.0s,MS6.2
H05A Madras 51.23 345 ⇑P P 19 06 38.0 +0.4
baz=51
G08A Pilot Rock 51.29 347 ⇑P P 19 06 38.5 +0.5
baz=51
SSPA Standing Stone 51.29 26 PFAKE 19 06 50.0 +12
SSPA LR LR
comp=Z,10µm,19.0s,MS5.8
E15A Deer Lodge 51.30 353 ⇑P P 19 06 38.3 +0.2
baz=51
F11A Grangeville 51.30 350 ⇑P P 19 06 38.4 +0.3
baz=51
E14A Clinton 51.40 352 ⇑P P 19 06 37.8 -1.0
baz=52,SNR=24
G07A Ruggs Ranch, H 51.43 346 ⇓P P 19 06 38.3 -0.7
baz=52,SNR=5.1
F09A S2 Ranch, Elgi 51.47 348 ⇓P P 19 06 38.9 -0.4
baz=52
H04A Detroit Lake 51.52 344 ⇓P P 19 06 39.4 -0.4
baz=52
E13A Victor 51.53 352 ⇓P P 19 06 39.2 -0.6
baz=52
VTHM Trough 51.56 346 P P 19 06 43.4 +3.4
F10A Beach Ranch, E 51.59 349 ⇓P P 19 06 39.5 -0.7
baz=52
G06A Carlson Farm, 51.63 346 ⇓P P 19 06 40.2 -0.3
baz=52,SNR=6.7
F08A Pendleton 51.73 347 ⇓P P 19 06 40.6 -0.7
baz=52
COR Corvallis 51.75 343 PFAKE 19 06 50.0 +8.6
COR LR LR
comp=Z,14µm,21.0s,MS6.0
CHMT Chamberlain Mo 51.86 353 eP P 19 06 42.9 +0.7
MSO Missoula 51.87 352 eP P 19 06 43.0 +0.7
comp=Z,5.8nm,1.0s,mb4.5
MSO LR LR
comp=Z,4µm,19.0s,MS5.5
D15A Lincoln 51.90 353 ⇑P P 19 06 42.4 -0.1
baz=52
VFP Flag Point 51.92 345 P P 19 06 45.5 +2.8
E10A Myers Farm, Un 52.05 349 ⇓P P 19 06 42.7 -0.9
baz=52
D14A Greenough 52.06 352 P P 19 06 42.6 -1.1
baz=52,SNR=6.4
F07A Phinny Hill Vi 52.08 347 ⇑P P 19 06 43.0 -0.9
baz=52
G04A Mulino 52.09 344 ⇑P P 19 06 42.5 -1.4
baz=52
F06A Goldendale 52.17 346 ⇓P P 19 06 43.3 -1.2
baz=52
D13A Huson 52.20 352 ⇓P P 19 06 43.9 -0.9
baz=52
E09A Wood Farm, Sta 52.28 348 ⇓P P 19 06 44.3 -1.1
baz=52
F05A White Salmon 52.45 345 ⇑P P 19 06 46.1 -0.5
baz=52
E08A Dider Farm, El 52.45 348 ⇑P P 19 06 45.7 -1.0
baz=52
D11A Klaveano Farm, 52.46 350 P P 19 06 45.9 -0.8
baz=52,SNR=30
EGMT Eagleton 52.60 356 eP P 19 06 47.6 -0.2
comp=Z,80nm,1.5s,mb5.4
EGMT LR LR
comp=Z,7µm,21.0s,MS5.7
EGMT Eagleton 52.60 356 ⇓P P 19 06 47.0 -0.8
baz=53
GBB Gable Butte 52.69 347 P P 19 06 47.8 -0.6

E07A Sunnyside 52.69 347 ⇑P **P 19 06 47.4 -1.0**
baz=53
C14A Swan Lake 52.76 352 P **P 19 06 47.3 -1.6**
baz=53,SNR=30
C13A Hot Springs 52.79 352 ⇓P **P 19 06 47.5 -1.6**
baz=53
D09A Jones Farm, Ri 52.84 348 ⇓P **P 19 06 48.5 -1.0**
baz=53
DGMT Dagmar 52.86 0 *e*P **P 19 06 49.0 -0.7**
comp=Z,179nm,1.4s,mb5.8
DGMT LR LR
comp=Z,7μm,22.0s,MS5.7
BBSR BB Station 52.86 43 PFAKE 19 07 00.0 +10
BBSR LR LR
comp=Z,7μm,22.0s,MS5.7
C12A Trout Creek 52.95 351 ⇓P **P 19 06 49.0 -1.4**
baz=53
D08A Wollman Farm, 52.96 348 ⇑P **P 19 06 48.7 -1.7**
baz=53
AGMN Agassiz Refuge 53.25 7 *e*P **P 19 06 50.2 -2.3**
comp=Z,44nm,1.0s,mb5.3
AGMN LR LR
comp=Z,14μm,20.0s,MS6.0
D07A Quincy 53.32 347 ⇑P **P 19 06 52.3 -0.7**
baz=53
BINY Binghamton 53.40 26 *e*P **P 19 06 51.1 -2.5**
comp=Z,28nm,1.0s,mb5.1
BINY LR LR
comp=Z,11μm,20.0s,MS5.9
B13A Whitefish 53.45 352 ⇓P **P 19 06 53.6 -0.4**
baz=54
D06A Cle Elum 53.52 346 ⇑P **P 19 06 54.4 -0.2**
baz=54
C09A Chrisman Ranch 53.54 349 ⇓P **P 19 06 54.8 +0.1**
baz=54
EYMN Ely 53.60 11 PFAKE 19 07 10.0 +15
EYMN LR LR
comp=Z,5μm,19.0s,MS5.6
B12A Libby 53.71 351 ⇑P **P 19 06 55.8 -0.2**
baz=54
NEW Newport 53.77 350 *e*P **P 19 06 54.0 -2.4**
NEW pmax pmax
comp=Z,33nm,0.9s
NEW MLR MLR
comp=Z,15μm,20.0s
NEW Newport 53.77 350 *e*P **P 19 06 54.0 -2.3**
comp=Z,33nm,0.9s,mb5.3
NEW LR LR
comp=Z,15μm,20.0s,MS6.0
D05A Enumclaw 53.79 345 ⇓P **P 19 06 56.2 -0.3**
baz=54
B11A Sandpoint 53.81 350 ⇑P **P 19 06 56.5 -0.2**
baz=54
C07A Waterville 53.81 347 ⇑P **P 19 06 56.1 -0.6**
baz=54
B10A Chitwood Farm, 53.82 350 ⇓P **P 19 06 56.5 -0.2**
baz=54
WALA Waterton Lakes 54.05 353 *e*P **P 19 06 57.8 -0.7**
comp=Z,39nm,1.1s,mb5.2
B09A Rice 54.11 349 P **P 19 06 58.3 -0.6**
baz=54,SNR=7.7
WRW Wenatchee Ridg 54.15 347 P **P 19 06 58.5 -0.7**
A12A Yaak River Ran 54.18 351 ⇑P **P 19 06 59.2 -0.2**
baz=54
C05A Tolt Reservoir 54.19 346 ⇑P **P 19 06 59.0 -0.5**
baz=54
B08A Colville Reser 54.29 348 ⇓P **P 19 06 59.9 -0.3**
baz=54
A11A Hall Mountain, 54.31 351 ⇑P **P 19 06 59.7 -0.6**
baz=54
C04A Brinnon 54.53 345 ⇓P **P 19 07 00.2 -1.7**
baz=55
A10A Northport 54.54 350 ⇑P **P 19 07 00.4 -1.6**
baz=55
B07A Winthrop 54.55 347 ⇓P **P 19 07 01.5 -0.6**
baz=55
A09A Danville 54.73 349 ⇓P **P 19 07 02.3 -1.0**
baz=55
B05A Bryant 54.82 346 ⇑P **P 19 07 03.1 -0.9**
baz=55
A08A Turner Farm, O 54.84 348 ⇓P **P 19 07 03.0 -1.2**
baz=55
A07A Ashnola River, 55.16 347 ⇑P **P 19 07 05.6 -0.9**
baz=55
ULM Lac du Bonnet 55.17 7 P **P 19 07 04.7 -1.8**
comp=Z,26nm,0.9s,mb5.2,baz=188,slow=7.0,SNR=12
ULM LR LR 19 29 30.0
comp=Z,11μm,18.0s,MS6.0,baz=190,slow=35
ULM Lac du Bonnet 55.17 7 *e*P **P 19 07 06.3 -0.2**
comp=Z,58nm,1.1s,mb5.5
ULM LR LR
comp=Z,16μm,19.0s,MS6.1
A05A Maple Falls 55.50 346 ⇑P **P 19 07 08.6 -0.3**
baz=56
POHA Pohakuloa 55.53 298 PFAKE 19 07 20.0 +11
POHA LR LR
comp=Z,8μm,22.0s,MS5.8
NCB Newcomb 55.59 26 PFAKE 19 07 20.0 +10
NCB LR LR
comp=Z,12μm,20.0s,MS6.0
HRV Harvard--Oak R 55.70 29 PFAKE 19 07 20.0 +10
HRV LR LR
comp=Z,12μm,21.0s,MS5.9
WES Weston 55.72 30 PFAKE 19 07 20.0 +9.5
WES LR LR
comp=Z,11μm,21.0s,MS5.9
RAR Rarotonga 55.87 248 LR LR 19 24 46.2
comp=Z,3μm,20.6s,MS5.4,baz=90,slow=30
LONY Lake Ozonia 55.95 26 PFAKE 19 07 20.0 +7.9
LONY LR LR
comp=Z,11μm,19.0s,MS5.9
EDM Edmonton 58.08 354 *e*P **P 19 07 25.2 -2.0**
PKME Peaks-Kenny Pk 58.85 29 PFAKE 19 07 40.0 +7.4
PKME LR LR
comp=Z,12μm,21.0s,MS6.0
EFI East Falkland 60.74 149 PFAKE 19 08 00.0 +14
EFI LR LR
comp=Z,6μm,19.0s,MS5.8
WRAK Wrangell Islan 64.90 343 PFAKE 19 08 20.0 +6.7
WRAK LR LR
comp=Z,7μm,19.0s,MS5.9
DLBC Dease Lake 66.05 346 *e*P **P 19 08 20.8 0.0**
SIT Sitka 66.31 342 PFAKE 19 08 30.0 +7.5
SIT LR LR
comp=Z,8μm,22.0s,MS5.9
PMSA Palmer Station 66.65 162 PFAKE 19 08 40.0 +15
PMSA LR LR
comp=Z,17μm,20.0s,MS6.2
AFI Afiamalu 66.68 257 LR LR 19 29 24.1
comp=Z,3μm,21.3s,MS5.5,baz=93,slow=29
AFI Afiamalu 66.68 257 PFAKE 19 08 40.0 +15
AFI LR LR
comp=Z,3μm,22.0s,MS5.5
SCHQ Schefferville 67.03 23 P **P 19 08 28.4 +1.4**
comp=Z,10.0nm,1.0s,mb4.8,baz=267,slow=4.1,SNR=5.3
SCHQ LR LR 19 37 04.9
comp=Z,9μm,19.3s,MS6.0,baz=220,slow=35
SCHQ Schefferville 67.03 23 *e*P **P 19 08 27.6 +0.6**
comp=Z,19nm,1.1s,mb5.0
SCHQ LR LR
comp=Z,13μm,20.0s,MS6.2
YKA Yellowknife Ar 67.35 355 P **P 19 08 27.3 -1.7**
comp=Z,5.7nm,0.9s,mb4.6,baz=162,slow=6.6,SNR=7.2
YKA LR LR 19 36 56.8
comp=Z,3μm,18.5s,MS5.6,baz=265,slow=35
YKA Yellowknife Ar 67.35 355 P **P 19 08 27.3 -1.7**
YKA MLR MLR
comp=Z,3μm,18.5s
YKA Yellowknife Ar 67.35 355 P **P 19 08 27.3 -1.7**
YKA LR LR 19 36 56.8
DIV Divide 72.85 341 PFAKE 19 09 10.0 +7.2
DIV LR LR
comp=Z,19μm,21.0s,MS6.3
KDAK Kodiak Island 73.11 335 PFAKE 19 09 10.0 +5.7
KDAK LR LR
comp=Z,3μm,20.0s,MS5.5
RAO Raoul Island 73.14 241 PFAKE 19 09 20.0 +15
RAO LR LR
comp=Z,3μm,22.0s,MS5.6
DAWY Dawson 73.22 345 *e*P **P 19 09 04.6 -0.4**
HOPE Hope Point 73.63 145 PFAKE 19 09 20.0 +13
HOPE LR LR
comp=Z,4μm,20.0s,MS5.7
EGAK Eagle 74.26 345 *e*P **P 19 09 09.4 -1.7**
comp=Z,37nm,1.0s,mb5.3
EGAK LR LR
comp=Z,5μm,19.0s,MS5.8

PMR Palmer 74.33 340 PFAKE 19 09 20.0 +8.5
PMR LR LR
comp=Z,4μm,19.0s,MS5.8
INK Inuvik 75.49 349 LR LR 19 40 23.3
comp=Z,11μm,18.9s,MS6.2,baz=144,slow=34
INK Inuvik 75.49 349 *e*P **P 19 09 17.1 -1.1**
comp=Z,674nm,1.0s
FUNA Funafuti 75.62 262 PFAKE 19 09 30.0 +11
FUNA LR LR
comp=Z,4μm,20.0s,MS5.8
MCK McKinley 75.75 341 PFAKE 19 09 30.0 +10
MCK LR LR
comp=Z,3μm,21.0s,MS5.6
COLA College 76.22 342 PFAKE 19 09 30.0 +7.6
COLA LR LR
comp=Z,3μm,21.0s,MS5.6
MIDW Midway 77.04 300 PFAKE 19 09 40.0 +13
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
UNV Unalaska Valle 77.61 328 PFAKE 19 09 40.0 +10
UNV LR LR
comp=Z,20μm,20.0s,MS6.4
IMA2 Indian Mountai 78.82 342 *e*P **P 19 09 35.6 -1.4**
RES Resolute Bay 79.39 3 *e*P **P 19 09 37.7 -2.4**
comp=Z,595nm,1.0s
SNZO South Karori 79.92 229 PFAKE 19 09 50.0 +7.1
SNZO LR LR
comp=Z,5μm,22.0s,MS5.8
SFJD Kangerlussuaq 81.00 19 PFAKE 19 10 00.0 +11
SFJD LR LR
comp=Z,9μm,20.0s,MS6.1
TNA Tin City 83.45 338 PFAKE 19 10 10.0 +8.4
TNA LR LR
comp=Z,3μm,22.0s,MS5.7
SBA Scott Base 85.22 192 PFAKE 19 10 20.0 +9.5
SBA LR LR
comp=Z,2μm,21.0s,MS5.4
QSPA South Pole Qui 85.44 180 *e*P **P 19 10 13.3 +1.6**
comp=Z,72nm,1.1s,mb5.7
VNDA Vanda 86.28 193 P **P 19 10 14.7 -1.1**
comp=Z,2.7nm,1.1s,mb4.4,baz=110,slow=5.8,SNR=4.2
VNDA LR LR 19 40 52.6
comp=Z,2μm,18.8s,MS5.5,baz=95,slow=30
VNDA Vanda 86.28 193 *e*P **P 19 10 17.9 +2.1**
VNDA pmax pmax
comp=Z,14nm,1.2s
VNDA MLR MLR
comp=Z,2μm,20.0s
DZM Mont Dzumac 87.25 248 LR LR 19 43 29.3
comp=Z,2μm,18.8s,MS5.5,baz=105,slow=32
VNA3 Neumayer Olymp 87.28 161 *e*P **P 19 10 20.5 -0.2**
VNA3 *e* pP 19 10 21.8 -2.3
VNA3 *e* pP 19 10 24.0 -0.1
VNA3 *e* 19 10 26.1
VNA3 *e* 19 10 28.8
VNA3 *e* 19 10 32.2
VNA3 *e* 19 10 40.8
VNA1 Neumayer--Stat 87.81 161 *e*P **P 19 10 23.4 +0.1**
VNA1 *e* pP 19 10 26.2 -0.4
VNA1 *e* 19 10 31.3
VNA2 Neumayer--Watz 88.06 161 *e*P **P 19 10 23.0 -1.4**
VNA2 *e* pP 19 10 25.4 -2.4
VNA2 *e* pP 19 10 27.1 -0.7
VNA2 *e* 19 10 28.9
VNA2 *e* 19 10 32.2
VNA2 *e* 19 10 36.1
VNA2 *e* 19 10 42.8
SMY Shemya 88.33 323 PFAKE 19 10 40.0 +14
SMY LR LR
comp=Z,8μm,22.0s,MS6.1
TRIS Tristan da Cun 89.14 127 PFAKE 19 10 40.0 +10
TRIS LR LR
comp=Z,6μm,20.0s,MS6.0
SNAA Sanae 89.37 162 *e*P **P 19 10 31.0 +0.4**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
SNAA Sanae 89.37 162 *e*P **P 19 10 31.0 +0.4**
comp=Z,6.9nm,1.0s,mb4.9
ASCN Ascension 89.69 98 PFAKE 19 10 40.0 +7.9
ASCN LR LR
comp=Z,1μm,20.0s,MS5.4
BILL Bilibino 93.88 338 *e*P **P 19 10 51.4 -0.1**
BILL *e* 19 14 38.7
BILL *i* SS SS 19 28 15.9 -4.4
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
BILL Bilibino 93.88 338 P **P 19 10 50.2 -1.3**
comp=Z,11nm,1.4s,mb5.1
BILL LR LR
comp=Z,6μm,20.0s,MS6.0
HNR Honiara 94.53 260 LR LR 19 47 20.7
comp=Z,2μm,18.6s,MS5.6,baz=0.7,slow=32
HNR Honiara 94.53 260 PFAKE 19 11 10.0 +15
HNR LR LR
comp=Z,3μm,22.0s,MS5.7
DRV Dumont d'Urvil 95.54 201 PP PP 19 14 47.0 -3.0
DRV S S 19 22 12.0 -3.9
DRV SP SP 19 23 32.0 -1.3
DRV SS SS 19 28 44.0 +0.1
DRV L 19 37 00.0
SHEL Horse Pasture 97.31 107 PFAKE 19 11 20.0 +13
SHEL LR LR
comp=Z,1μm,20.0s,MS5.3
PET Petropavlovsk 97.67 323 PFAKE 19 11 20.0 +11
PET LR LR
comp=Z,5μm,22.0s,MS6.0
KBS Kingsbay 99.48 10 PFAKE 19 11 30.0 +13
KBS LR LR
comp=Z,7μm,19.0s,MS6.2
TAU Tasmania Unive 99.91 225 PFAKE 19 11 30.0 +11
TAU LR LR
comp=Z,830nm,22.0s,MS5.2
ESK Eskdalemuir 100.31 35 PFAKE 19 11 30.0 +9.4
ESK LR LR
comp=Z,1μm,21.0s,MS5.3
PAB San Pablo 100.89 51 PFAKE 19 11 40.0 +17
PAB LR LR
comp=Z,5μm,22.0s,MS6.0
ESLA Sonseca Array 101.18 51 PFAKE 19 11 40.0 +16
ESLA LR LR
comp=Z,29μm,22.0s,MS6.8
MA2 Magadan 101.31 330 PFAKE 19 11 40.0 +15
MA2 LR LR
comp=Z,2μm,19.0s,MS5.7
CASY Casey 104.86 194 PFAKE 19 11 50.0 +9.2
CASY LR LR
comp=Z,2μm,20.0s,MS5.6
KONO Kongsberg 106.08 29 PFAKE 19 16 10.0 +12
KONO LR LR
comp=Z,2μm,20.0s,MS5.8
CTAO Charters Tower 106.18 248 PFAKE 19 16 10.0 +12
CTAO LR LR
comp=Z,2μm,21.0s,MS5.6
NAO01 NORSAR Array S 106.28 27 PFAKE 19 16 10.0 +11
NAO01 LR LR
comp=Z,4μm,20.0s,MS5.9
PMG Port Moresby 107.07 259 PFAKE 19 16 10.0 +10
PMG LR LR
comp=Z,3μm,21.0s,MS5.8
MAW Mawson 107.41 175 PFAKE 19 16 10.0 +9.3
MAW LR LR
comp=Z,9μm,21.0s,MS6.3
KEV Kevo 107.80 16 PFAKE 19 16 10.0 +8.6
KEV LR LR
comp=Z,5μm,21.0s,MS6.0
BFO Black Forest 108.64 40 PFAKE 19 16 10.0 +7.1
BFO LR LR
comp=Z,872nm,19.0s,MS5.3
YSS Yuzh-Sakhalins 108.67 318 PFAKE 19 16 10.0 +7.0
YSS LR LR
comp=Z,5μm,22.0s,MS6.0
ERM Erimo 109.48 313 PFAKE 19 16 20.0 +15
ERM LR LR
comp=Z,870nm,19.0s,MS5.3
GRFO Grafenberg 110.09 38 PFAKE 19 16 20.0 +14
GRFO LR LR
comp=Z,3μm,21.0s,MS5.8
GRF Grafenberg Arr 110.09 38 *e*PP PP 19 16 33.8 -5.3
GRF *e*SKSac SKSac 19 22 54.8 +11
GRF *e*PS PS 19 26 01.3 -6.9
GRF *e*SS 19 30 46.5
GRF *e*L 19 56 19.4
comp=Z,3μm,21.3s
YAK Yakutsk 110.14 336 PFAKE 19 16 20.0 +14
YAK LR LR
comp=Z,4μm,20.0s,MS6.0
CLL Collm 110.67 36 *e*PP PP 19 16 42.0 -1.2
CLL *e*PPP 19 19 06.0
CLL *e*PS PS 19 26 09.0 -4.4
CLL *e*SPP 19 27 12.0
CLL *e*SS SS 19 32 12.0 -0.5
CLL LmV 19 59 00.0
comp=Z,2μm,21.4s
NKC Novy Kostel 110.68 38 *e*PS PS 19 26 09.3 -4.3
NKC *ex* x 19 32 39.7
NKC AMS AMS 20 02 00.0
comp=Z,2μm,17.0s
GUMO Guam 110.93 283 PFAKE 19 16 20.0 +13
GUMO LR LR
comp=Z,1μm,19.0s,MS5.5
KHC Kasperske Hory 111.73 39 *e*PS PS 19 26 28.0 +4.7
KHC *ex* x 19 32 58.4
KHC AMS AMS 19 56 40.0
comp=Z,3μm,19.9s
PVCC Panska Ves 111.86 37 AMS AMS 19 58 40.0
comp=Z,2μm,18.3s
PRU Pruhonice 112.03 37 *e*PS PS 19 26 29.6 +3.5
PRU *ex* x 19 33 03.5
PRU AMS AMS 20 03 00.0
comp=Z,2μm,17.6s
DPC Dobruska-Polom 112.97 37 *e*PS PS 19 26 35.7 +1.0
DPC AMS AMS 19 59 20.0
comp=Z,3μm,20.6s
OKC Ostrava-Krasne 114.25 37 *e*PS PS 19 26 51.0 +4.5
OKC AMS AMS 20 01 50.0
comp=Z,2μm,16.8s
MAJO Matsushiro 114.40 308 PFAKE 19 16 30.0 +16
MAJO LR LR
comp=Z,6μm,21.0s,MS6.1
MAT Matsushiro 114.40 308 PS PS 19 26 46.0 -1.8
ASAR Alice Springs 116.39 241 PKP PKPdf 19 16 15.9 -1.7
comp=Z,0.6nm,0.9s,baz=105,slow=2.4,SNR=6.2
ASAR Alice Springs 116.39 241 PKIKP PKPdf 19 16 16.0 -1.7
ASAR pmax pmax
comp=Z,10.0nm,0.9s
SUR Sutherland 116.56 130 PFAKE 19 16 30.0 +12
SUR LR LR
comp=Z,2μm,20.0s,MS5.7
WRAB Tennant Creek 117.09 245 PFAKE 19 16 30.0 +11
WRAB LR LR
comp=Z,697nm,20.0s,MS5.3
WRA Warramunga Arr 117.10 245 PKP PKPdf 19 16 16.1 -3.0
comp=Z,0.8nm,0.8s,baz=108,slow=2.3,SNR=5.8
WRA Warramunga Arr 117.10 245 PKIKP PKPdf 19 16 16.1 -3.0
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 117.10 245 PKP PKPdf 19 16 16.1 -3.0
TSUM Tsumeb 118.48 115 PFAKE 19 16 30.0 +8.3
TSUM LR LR
comp=Z,6μm,19.0s,MS6.2
KIEV Kiev 120.08 32 PFAKE 19 16 40.0 +15
KIEV LR LR
comp=Z,2μm,19.0s,MS5.7
OBN Obninsk 120.80 25 *i* PKIKP PKPdf 19 16 25.2 -1.0
OBN *i* 19 17 54.6
OBN *e* 19 23 25.9
OBN *e*PS PS 19 27 41.0 -4.7
OBN *i* SS SS 19 34 33.9 +8.7
OBN pmax pmax
comp=Z,16nm,1.6s
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.7
OBN Obninsk 120.80 25 PFAKE 19 16 40.0 +14
OBN LR LR
comp=Z,519nm,20.0s,MS5.2
CN2 Changchun 121.18 319 *e*PKP PKPdf 19 16 28.8 +1.9
CN2 PP PP 19 18 02.0 +5.0
CN2 SS SS 19 34 32.0 +1.9
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,900nm,15.0s,MS5.9
CN2 LR LR
comp=E,2μm,15.0s,MS5.9
CN2 LR LR
comp=Z,2μm,19.0s,MS5.8
BOSA Boshof 121.64 128 PFAKE 19 16 40.0 +12
BOSA LR LR
comp=Z,5μm,21.0s,MS6.1
KIS Kishinev 121.86 36 *e*PP PP 19 18 07.0 +5.4
KIS LRM 20 02 54.0
comp=Z,2μm,24.0s
INCN Inchon 122.96 312 PFAKE 19 16 40.0 +10
INCN LR LR
comp=Z,4μm,22.0s,MS6.0
SNY Shenyang 123.30 318 *e*PKP PKPdf 19 16 31.9 +0.9
SNY LR LR
comp=N,1μm,26.0s,MS5.8
SNY LR LR
comp=E,2μm,23.0s,MS5.8
SNY LR LR
comp=Z,4μm,24.0s,MS6.0
LBTB Lobatse 123.45 124 PFAKE 19 16 40.0 +8.7
LBTB LR LR
comp=Z,6μm,21.0s,MS6.2
NWAO Narrogin (SRO) 125.49 224 PFAKE 19 16 50.0 +15
NWAO LR LR
comp=Z,2μm,19.0s,MS5.8
FITZ Fitzroy Crossi 125.50 244 PKP PKPdf 19 16 35.2 0.0
comp=Z,3.4nm,0.9s,baz=229,slow=4.2,SNR=4.0
ARU Arti 126.63 12 *i* PKIKP PKPdf 19 16 37.3 -0.1
ARU *e* 19 23 42.0
ARU Arti 126.63 12 PFAKE 19 16 50.0 +13
ARU LR LR
comp=Z,687nm,21.0s,MS5.3
TLY Talaya 127.50 338 PFAKE 19 16 50.0 +11
TLY LR LR
comp=Z,762nm,22.0s,MS5.3
ANTO Ankara 128.06 41 PFAKE 19 16 50.0 +10
ANTO LR LR
comp=Z,1μm,22.0s,MS5.5
ZAK Zakamensk 128.68 337 *e*PKIKP PKPdf 19 16 44.7 +3.4
BR131 Keskin Array S 128.69 41 PKPdf PKPdf 19 16 42.1 +0.8
ULN Ulaanbaatar 129.04 333 PFAKE 19 16 50.0 +8.0
ULN LR LR
comp=Z,2μm,22.0s,MS5.8
BJI Beijing 129.05 320 PKP PKPdf 19 16 43.4 +1.4
BJI PP PP
comp=Z,362nm,9.0s
BJI LR LR
comp=N,1μm,19.9s,MS6.0
BJI LR LR
comp=E,3μm,23.1s,MS6.0
BJI LR LR
comp=Z,5μm,23.6s,MS6.1
LSZ Lusaka 129.32 114 PFAKE 19 17 00.0 +18
LSZ LR LR
comp=Z,5μm,21.0s,MS6.2
SONM Songino Array 129.36 333 PKP PKPdf 19 16 42.1 -0.5
comp=Z,1.3nm,1.0s,baz=225,slow=0.4,SNR=6.8
MBWA Marble Bar 129.49 238 PFAKE 19 17 00.0 +17
MBWA LR LR
comp=Z,3μm,22.0s,MS6.0
NVS Novosibirsk 129.51 354 *e*PKIKP PKPdf 19 16 48.4 +5.5
SSE Sheshan 129.53 307 *e*PKP PKPdf 19 16 43.5 +0.6
SSE PP PP 19 18 53.3 +0.6
SSE SS SS 19 36 15.0 +0.1
SSE PP PP
comp=Z,262nm,4.0s
SSE LR LR
comp=N,946nm,23.7s,MS5.9
SSE LR LR
comp=E,3μm,23.7s,MS5.9
SSE LR LR
comp=Z,4μm,25.8s,MS6.0
DAV Davao City (W) 129.96 275 PFAKE 19 17 00.0 +16
DAV LR LR
comp=Z,1μm,22.0s,MS5.5
SOC Sochi 130.08 34 *i* PKIKP PKPdf 19 16 41.6 -2.3
SOC *e* 19 18 52.9
ORR Orenburg 130.12 17 *e*PKIKP PKPdf 19 16 44.8 +0.8
ORR pmax pmax
comp=Z,10.0nm,1.1s
ZAL Zalesovo 130.22 353 PKP PKPdf 19 16 44.1 -0.1
comp=Z,1.1nm,0.6s,baz=200,slow=3.9,SNR=4.8
ZAL Zalesovo 130.22 353 PKIKP PKPdf 19 16 44.1 -0.1
ZAL pmax pmax
comp=Z,1.0nm,0.6s
NJ2 Nanjing 130.98 309 *e*PKP PKPdf 19 16 45.6 0.0
NJ2 PP PP 19 19 06.0 +3.9

NJ2					PKS			19 20 21.5	
NJ2					PPP			19 21 54.0	
NJ2					PP	PP			
	comp=Z,530nm,5.9s								
NJ2					LR	LR			
	comp=N,2μm,27.5s,MS5.9								
NJ2					LR	LR			
	comp=E,3μm,32.4s,MS5.9								
NJ2					LR	LR			
	comp=Z,2μm,30.2s,MS5.6								
TATO	**Taipei**		**131.30**	**299**	PFAKE			19 17 00.0	+14
TATO					LR	LR			
	comp=Z,2μm,21.0s,MS5.8								
KIV	**Kislovodsk**		**131.42**	**31**	*i* PKHKP			19 16 36.6	
KIV					*e*PS	PS		19 29 09.7	-9.1
KIV					pmax	pmax			
	comp=Z,9.0nm,1.2s								
KIV					MLR	MLR			
	comp=Z,1μm,20.0s,MS5.6								
KIV	**Kislovodsk**		**131.42**	**31**	PFAKE			19 17 00.0	+14
KIV					LR	LR			
	comp=Z,381nm,22.0s,MS5.1								
HHC	**Hu-ho-hao-te**		**131.44**	**323**	*e*PKP	PKPdf		19 16 48.4	+1.9
HHC					PP	PP		19 19 10.4	+5.3
HHC					PKS			19 20 24.8	
HHC					SKS	SKSdf		19 23 58.8	+0.8
HHC					SKKS	SKKSac		19 26 01.3	-0.4
HHC					PP	PP			
	comp=Z,170nm,11.0s								
HHC					LR	LR			
	comp=N,2μm,18.6s,MS5.9								
HHC					LR	LR			
	comp=E,2μm,19.1s,MS5.9								
HHC					LR	LR			
	comp=Z,2μm,20.8s,MS5.8								
BRVK	**Borovoye**		**131.53**	**4**	PFAKE			19 17 00.0	+13
BRVK					LR	LR			
	comp=Z,1μm,22.0s,MS5.5								
BVAR	**Borovoye Array**		**131.57**	**4**	PKP	PKPdf		19 16 47.0	+0.3
	comp=Z,1.3nm,0.6s,baz=53,slow=0.7,SNR=5.7								
BVAR	**Borovoye Array**		**131.57**	**4**	PKIKP	PKPdf		19 16 47.0	+0.2
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKTK	**Aktyubinsk**		**132.07**	**15**	PKP	PKPdf		19 16 47.5	-0.2
AKTO	**Aktyubinsk**		**132.07**	**15**	PKP	PKPdf		19 16 47.5	-0.2
	comp=Z,1.0nm,0.7s,baz=54,slow=3.4,SNR=3.8								
AKTO	**Aktyubinsk**		**132.07**	**15**	PKIKP	PKPdf		19 16 47.5	-0.2
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MALT	**Malatya**		**132.57**	**40**	*e*PKIKP	PKPdf		19 16 49.7	+1.1
AB31	**Akbulak array**		**133.64**	**14**	*e*PKIKP	PKPdf		19 16 46.1	-4.5
AB31								19 19 19.4	
AB31					pmax	pmax			
	comp=Z,2.0nm,0.4s								
GNI	**Garni**		**135.16**	**34**	PFAKE			19 17 10.0	+16
GNI					LR	LR			
	comp=Z,1μm,21.0s,MS5.6								
XAN	**Xi'an**		**137.21**	**317**	PKP	PKPdf		19 16 57.9	+0.6
XAN					PP	PP			
	comp=Z,145nm,6.2s								
XAN					LR	LR			
	comp=N,1μm,21.8s,MS5.7								
XAN					LR	LR			
	comp=E,1μm,21.2s,MS5.7								
XAN					LR	LR			
	comp=Z,2μm,23.1s,MS5.9								
MK31	**Makanchi Array**		**137.55**	**353**	PKHKP			19 16 35.2	
MK31					pmax	pmax			
	comp=Z,9.0nm,1.1s								
GTA	**Gaotai**		**138.87**	**331**	PKP	PKPdf		19 16 55.8	-4.6
GTA					XPKP			19 17 04.5	
GTA					PKS			19 20 31.1	
GTA					PP	PP			
	comp=Z,180nm,9.1s								
GTA					LR	LR			
	comp=N,2μm,17.1s,MS6.0								
GTA					LR	LR			
	comp=E,2μm,21.3s,MS6.0								
GTA					LR	LR			
	comp=Z,3μm,20.2s,MS6.0								
WMQ	**Urumqi**		**139.45**	**346**	⇑PKP	PKPdf		19 16 58.0	-3.4
WMQ					PP	PP			
	comp=Z,337nm,6.4s								
WMQ					LR	LR			
	comp=N,3μm,25.0s,MS6.0								
WMQ					LR	LR			
	comp=E,2μm,23.7s,MS6.0								
WMQ					LR	LR			
	comp=Z,3μm,21.1s,MS6.0								
KMBO	**Kilima Mbogo**		**141.55**	**98**	PKP	PKPdf		19 17 07.8	+2.6
	comp=Z,0.6nm,0.3s,baz=90,slow=4.0,SNR=2.6								
KMBO	**Kilima Mbogo**		**141.55**	**98**	PKP	PKPdf		19 17 07.8	+2.6
KMBO					LR	LR			
	comp=Z,6μm,22.0s,MS6.3								
AAK	**Ala-Archa**		**142.13**	**1**	*i* PKIKP	PKPdf		19 17 07.6	+1.3
AAK	**Ala-Archa**		**142.13**	**1**	PFAKE			19 17 20.0	+14
AAK					LR	LR			
	comp=Z,665nm,20.0s,MS5.4								
CD2	**Chengdu**		**142.58**	**318**	*e*PKP	PKPdf		19 17 05.8	-1.3
CD2					XPKP			19 17 11.6	
CD2					PP	PP		19 20 16.0	+1.3
CD2					PKS			19 20 39.3	
CD2					SKS	SKSdf		19 24 09.4	-7.5
CD2					SKKS	SKKSac		19 27 01.9	-6.2
CD2					PP	PP			
	comp=Z,490nm,10.8s								
CD2					LR	LR			
	comp=N,1μm,22.2s,MS5.7								
CD2					LR	LR			
	comp=E,480nm,21.6s,MS5.7								
CD2					LR	LR			
	comp=Z,4μm,21.0s,MS6.1								
GYA	**Guiyang**		**142.99**	**309**	PKP	PKPdf		19 17 07.8	0.0
GYA					APKP			19 17 11.3	
GYA					XPKP			19 17 13.8	
GYA					PP	PP		19 20 20.3	+3.1
GYA					PKS			19 20 42.3	
GYA					SKS	SKSdf		19 24 14.8	-2.8
GYA					SKKS	SKKSac		19 27 08.8	-1.6
GYA					SS	SS		19 38 55.3	-0.4
GYA					PP	PP			
	comp=Z,2μm,9.4s								
GYA					LR	LR			
	comp=N,2μm,20.9s,MS6.0								
GYA					LR	LR			
	comp=E,2μm,21.4s,MS6.0								
GYA					LR	LR			
	comp=Z,2μm,21.8s,MS5.8								
QIZ	**Qiongzhong**		**143.40**	**296**	PKP	PKPdf		19 17 02.1	-6.4
QIZ					SKKS	SKKSac		19 27 08.4	-4.4
QIZ					LR	LR			
	comp=N,819nm,20.6s,MS5.5								
QIZ					LR	LR			
	comp=E,532nm,22.1s,MS5.5								
QIZ					LR	LR			
	comp=Z,1μm,20.2s,MS5.7								
KSM	**Kuching**		**144.92**	**266**	*e*PKPdf	PKPdf		19 17 12.5	+1.3
KMI	**Kunming**		**146.70**	**311**	PKP	PKPdf		19 17 15.1	+0.9
KMI					PP	PP		19 20 43.3	+4.0
KMI					PKS			19 20 47.9	
KMI					PPP			19 23 59.5	
KMI					SKS	SKSdf		19 24 20.3	-2.8
KMI					SKKS	SKKSac		19 27 34.5	+3.0
KMI					SS	SS		19 39 39.8	+1.7
KMI					SSS			19 45 10.0	
KMI					PP	PP			
	comp=Z,204nm,6.3s								
KMI					LR	LR			
	comp=N,1μm,19.5s,MS6.0								
KMI					LR	LR			
	comp=E,2μm,22.3s,MS6.0								
KMI					LR	LR			
	comp=Z,4μm,23.2s,MS6.1								
KMI	**Kunming**		**146.70**	**311**	PKIKP	PKPdf		19 17 15.1	+0.9
KMI								19 17 17.9	
KMI								19 17 18.5	
KMI								19 17 18.8	
KMI								19 20 43.3	
KMI					PPP			19 23 59.5	
KMI								19 24 20.3	
KMI					SS	SS		19 39 39.7	+1.6
KMI					SSS			19 45 10.0	
KMI					MLR	MLR			
	comp=Z,4μm,23.2s,MS6.1								
KMI	**Kunming**		**146.70**	**311**	PKP	PKPdf		19 17 15.1	+0.9
KMI								19 17 17.9	
KMI								19 17 18.5	
KMI								19 17 18.8	
KMI								19 20 43.3	
KMI					PPP			19 23 59.5	
KMI								19 24 20.3	
KMI					SS	SS		19 39 39.7	+1.6
KMI					SSS			19 45 10.0	
KMI					MLR	MLR			
	comp=Z,4μm,23.2s,MS6.1								
KMI	**Kunming**		**146.70**	**311**	PKP	PKPdf		19 17 15.1	+0.9
KMI								19 17 17.9	
KMI								19 17 18.5	
KMI								19 17 18.8	
KMI								19 20 43.3	
KMI					pPKP	PKiKP		19 17 17.9	-0.7
KMI					PKP	PKPdf		19 17 18.5	+4.3
KMI					sPKP			19 17 18.8	
KMI					PP	PP		19 20 43.3	+4.0
KMI					PKS			19 20 47.9	
KMI					PPP			19 23 59.5	
KMI					SKS	SKSdf		19 24 20.3	-2.8
KMI					SKKS	SKKSac		19 27 34.5	+3.0
KMI					SS	SS		19 39 39.7	+1.6
KMI					SSS			19 45 10.0	
KMI					LR	LR			
	comp=Z,4μm,23.2s,MS6.1								
KKTK	**Khon Kaen**		**150.60**	**295**	⇓P	PKPbc		19 17 26.0	+0.1
	comp=Z,370nm,0.5s								
LSA	**Lhasa**		**150.90**	**331**	*e*PKIKP	PKPdf		19 17 22.9	+1.9
NANT	**Nan**		**151.49**	**302**	⇓P	PKPdf		19 17 25.0	+3.1
	comp=Z,171nm,1.0s								
COCO	**West Island**		**152.86**	**232**	PFAKE			19 17 40.0	+16
COCO					LR	LR			
	comp=Z,474nm,21.5s,MS5.3								
CHTO	**Chiang Mai**		**152.96**	**303**	*e*PKIKP	PKPdf		19 17 23.7	-0.4
CHTO					MLR	MLR			
	comp=Z,2μm,22.0s,MS5.8								
CM31	**Chiang Mai Arr**		**153.12**	**303**	PKPdf	PKPdf		19 17 26.1	+1.8
CM31					LR	LR			
	comp=Z,1μm,19.0s,MS5.7								
NST	**Nakhon Sawan**		**153.25**	**296**	P	PKPbc		19 17 32.0	0.0
HYB	**Hyderabad**		**166.88**	**346**	*i* PKP	PKPdf		19 17 40.0	+0.3
HYB	**Hyderabad**		**166.88**	**346**	*e*P	PKPdf		19 17 48.5	+8.8
DGAR	**Diego Garcia**		**167.72**	**167**	PFAKE			19 17 50.0	+10
DGAR					LR	LR			
	comp=Z,780nm,19.0s								
PALK	**Pallekele**		**174.03**	**297**	PFAKE			19 18 00.0	+16
PALK					LR	LR			
	comp=Z,623nm,20.0s								

GUC 19 18:57:42.9±0.5, 3053S×7159W, h30km±2km, MD3.5, ML3.3, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
OVCH	**Ovalle**	**0.35**	**104**	*e*P		Pb	18 57 50.9		-0.1
OVCH				*i* S		Sb	18 57 56.9		+0.5
OVCH				AML		AML	18 57 57.5		
	comp=N,3μm,0.3s								
LSCH	**La Serena**	**0.69**	**26**	⇑*i* P		Pb	18 57 55.8		-0.5
LSCH				*i* S		Sb	18 58 05.4		-0.1
TLL	**Tololo Astrono**	**0.77**	**62**	⇑*i* P		Pn	18 57 57.8		+0.1
TLL				*i* S		Sb	18 58 08.6		+0.7
CMCH	**Combarbala**	**0.82**	**142**	⇑*i* P		Pn	18 57 58.0		-0.4
CMCH				*i* S		Sb	18 58 09.6		+0.2
CMCH				AML		AML	18 58 10.7		
	comp=E,3μm,0.4s								
CHNG	**Los Chungos**	**1.35**	**177**	⇑*i* P		Pn	18 58 06.1		+0.4
CHNG				*i* S		Sn	18 58 23.8		+1.0
PTCH	**Petorca**	**1.82**	**162**	*i* P		Pn	18 58 13.4		+1.2
PTCH				*i* S		Sn	18 58 36.7		+2.5
PTCH				AML		AML	18 58 46.3		
	comp=N,608nm,0.8s								
PEL	**Peldehue**	**2.72**	**164**	AML		AML	18 59 07.9		
	comp=E,148nm,0.2s								
FCH	**Farellones**	**3.00**	**159**	AML		AML	18 59 23.7		
	comp=E,45nm,0.3s								

*IDC **19** 19:13:22.1±0.8, 3659N×7001E, h0km, mb4.1/15, mb1 4.3/18, mb1mx4.2/25, mbtmp4.2/18, ML4.3/3, MS5.4/1, Ms1 5.5/1, ms1mx3.3/33, Error ellipse: s-maj=19.2km s-min=15.3km az=11.0*
*NEIC **19** 19:13:23.8±0.4, 3670N×6999E, h10km, mb4.6/4, Error ellipse: s-maj=8.4km s-min=7.3km az=193.0*
*BJI **19** 19:13:26.7, 3667N×6973E, h51km, mB5.2, mb4.7, ML4.2*
*MOS **19** 19:13:26.0±1.0, 3682N×6990E, h33km, mb4.6/5, Error ellipse: s-maj=12.8km s-min=6.7km az=87.0*
*ISCJB **19** 19:13:28.8±0.7, 3680N±003×7015E±006, h67km±7km, mb4.1/17, Error ellipse: s-maj=7.9km s-min=3.8km az=145.2*

ISC 19 19:13:30.9±0.5, 3680N±003×7013E±006, h70km±6km, n83, σ1§43/94, mb4.1/17, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CEP	**Cherat**	**3.31**	**153**	⇑P		**Pn**	**19 14 23.5**		**+3.2**
CHCP	**Chirah Chowk**	**4.05**	**140**	P		**Pn**	**19 14 34.2**		**+3.8**
THW	**Thamme Wali**	**4.21**	**161**	P		**Pn**	**19 14 34.5**		**+1.9**
SBDP	**Sheikh Budin**	**4.53**	**173**	P		**Pn**	**19 14 37.8**		**+0.9**
DRP	**Derazinda**	**5.05**	**179**	P		**Pn**	**19 14 46.2**		**+2.2**
SARP	**Sargodha**	**5.30**	**156**	P		**Pn**	**19 14 49.0**		**+1.5**
SARP				S		**Sn**	**19 15 53.0**		**+5.8**
KSH	**Kashi**	**5.34**	**58**	P		**Pn**	**19 14 52.0**		**+3.9**
KSH				S		**Sn**	**19 15 46.9**		**-1.3**
KSH				Smax					
	comp=N,527nm,0.5s								
KSH				Smax					
	comp=E,775nm,0.9s								
AML	**Almayashu**	**5.99**	**26**	P		**Pn**	**19 14 57.9**		**+1.0**
	SNR=20								
KKAR	**Karatay Array**	**6.30**	**3**	PN		**Pn**	**19 14 59.9**		**-1.2**
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.2s								
UCH	**Uchtor**	**6.39**	**31**	P		**Pn**	**19 15 03.2**		**+0.9**
	SNR=66								
DLH	**Dalhousie**	**6.42**	**130**	*e*P		**Pn**	**19 15 07.0**		**+4.3**
DLH				*ex*		x	19 16 23.0		
EKS2	**Erkin-Say**	**6.49**	**25**	P		**Pn**	**19 15 04.2**		**+0.4**
	SNR=29								
KZA	**Kyzart**	**6.59**	**35**	P		**Pn**	**19 15 06.0**		**+0.9**
	SNR=18								
AAK	**Ala-Archa**	**6.72**	**29**	P		**Pn**	**19 15 07.9**		**+1.0**
	SNR=80								
AAK	**Ala-Archa**	**6.72**	**29**	*e*PN		**Pn**	**19 15 06.7**		**-0.2**
AAK				pmax	pmax				
	comp=Z,43nm,0.6s								
AAK	**Ala-Archa**	**6.72**	**29**	*e*P		**Pn**	**19 15 06.7**		**-0.2**
	comp=Z,43nm,0.6s								
KBK	**Karagaybulak**	**6.93**	**31**	P		**Pn**	**19 15 11.0**		**+1.3**
	SNR=49								
FRU	**Bishkek**	**6.94**	**28**	⇑*e*PN		**Pn**	**19 15 11.0**		**+1.1**
FRU				pmax	pmax				
	comp=Z,90nm,1.6s								
FRU				MLR	MLR				
	comp=N,3μm,18.0s								
FRU				MLR	MLR				
	comp=Z,3μm,18.0s								
CHMS	**Chumysh**	**7.13**	**28**	P		**Pn**	**19 15 13.3**		**+0.7**
	SNR=100								
ULHL	**Ulahol**	**7.20**	**39**	P		**Pn**	**19 15 14.7**		**+1.3**
	SNR=14								
USP	**Ospenovka**	**7.28**	**26**	P		**Pn**	**19 15 14.7**		**+0.3**
	SNR=13								
TKM2	**Tokmak 2**	**7.42**	**33**	P		**Pn**	**19 15 17.4**		**+1.1**
	SNR=44								
TKM2	**Tokmak 2**	**7.42**	**33**	P		**Pn**	**19 15 16.9**		**+0.5**
TKM2				pmax	pmax				
	comp=Z,44nm,1.0s								
SDNR	**Sundarnagar**	**7.75**	**131**	*e*P		**Pn**	**19 15 24.0**		**+3.0**
SDNR				*e*S		**Sn**	**19 16 49.0**		**+1.7**
KLP	**Kalpa**	**8.54**	**126**	*e*P		**Pn**	**19 15 35.9**		**+4.2**
RTK	**Rohtak**	**9.38**	**144**	*e*P		**Pn**	**19 15 44.9**		**+1.8**
RTK				*e*S		**Sn**	**19 17 25.4**		**-1.5**
JASL	**Jaisalmer**	**9.87**	**176**	*e*P		**Pn**	**19 15 42.8**		**-7.1**
KHET	**Khetri**	**9.94**	**150**	*e*P		**Pn**	**19 15 50.2**		**-0.6**
KHET				AMb		AMB	19 15 57.4		
	comp=Z,14nm,0.6s								
KHET				*e*S		**Sn**	**19 17 38.3**		**-2.3**
NDI	**New Delhi**	**10.06**	**142**	*e*P		**Pn**	**19 15 54.0**		**+1.6**
NDI				*e*S		**Sn**	**19 17 44.0**		**+0.5**
AYAN	**Aya Nagar**	**10.18**	**143**	*e*P		**Pn**	**19 15 55.0**		**+0.9**
AYAN				*e*S		**Sn**	**19 17 46.8**		**+0.3**
SONA	**Sohna**	**10.35**	**144**	*e*P		**Pn**	**19 15 56.4**		**0.0**
SONA				AMb		AMB	19 16 04.7		
	comp=Z,19nm,0.6s								
SONA				*e*S		**Sn**	**19 17 48.7**		**-2.0**
AJM	**Ajmer**	**10.99**	**158**	*e*P		**Pn**	**19 16 03.6**		**-1.5**
AJM				AMb		AMB	19 16 13.2		
	comp=Z,13nm,0.6s								
AJM				*e*S		**Sn**	**19 17 59.5**		**-6.7**
AGRA	**Agra**	**11.62**	**143**	*e*P		**Pn**	**19 16 13.4**		**-0.3**
AGRA				AMb		AMB	19 16 20.9		
	comp=Z,60nm,0.2s								
AGRA				*e*S		**Sn**	**19 18 17.4**		**-4.2**
MKAR	**Makanchi Array**	**13.47**	**38**	Pn		**Pn**	**19 16 37.2**		**-1.7**
	comp=Z,0.2nm,0.3s,baz=224,slow=16,SNR=16								
KOLN	**Koldanda**	**14.51**	**125**	*e*P		**Pn**	**19 16 49.7**		**-2.8**
	comp=Z,14nm,0.4s								
BHPL	**Bhopal**	**14.91**	**153**	*e*P		**Pn**	**19 16 56.0**		**-1.7**
BHPL				AMb		AMB	19 17 03.3		
	comp=Z,23nm,1.0s								
BHPL				*ex*		x	19 19 36.5		
GKN	**Gorkha**	**15.06**	**121**	*e*P		**Pn**	**19 16 57.2**		**-2.4**
	comp=Z,51nm,0.6s								
WMQ	**Urumqi**	**15.11**	**57**	P		**Pn**	**19 17 04.6**		**+4.4**
DMN	**Daman**	**15.63**	**122**	*e*P		**Pn**	**19 17 04.8**		**-2.1**
	comp=Z,37nm,0.6s								
KKN	**Kakani**	**15.63**	**121**	*e*P		**Pn**	**19 17 04.4**		**-2.5**
	comp=Z,41nm,0.6s								
PKI	**Pulchoki**	**15.86**	**121**	*e*P		**Pn**	**19 17 07.8**		**-2.0**
	comp=Z,49nm,0.6s								
VOSK	**Vostochnaya**	**15.93**	**2**	P		**Pn**	**19 17 03.3**		**-7.4**
VOSK				pmax	pmax				
	comp=Z,18nm,1.1s								
GUN	**Gumba**	**15.98**	**119**	*e*P		**Pn**	**19 17 09.8**		**-1.4**
AKTK	**Aktyubinsk**	**16.17**	**331**	Pn		**Pn**	**19 17 09.9**		**-3.8**
AKTK				Sn		**Sn**	**19 20 00.2**		**-12**
AKTO	**Aktyubinsk**	**16.17**	**331**	Pn		**Pn**	**19 17 09.9**		**-3.8**
	comp=Z,3.3nm,0.3s,baz=141,slow=15,SNR=43								
AKTO				Sn		**Sn**	**19 20 00.2**		**-12**
	comp=Z,0.3nm,0.3s,baz=351,slow=19,SNR=3.4								
BVA0	**Borovoye Array**	**16.22**	**1**	*i* P		**Pn**	**19 17 12.4**		**-1.9**
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**16.22**	**1**	Pn		**Pn**	**19 17 11.5**		**-2.9**
	comp=Z,2.3nm,0.3s,baz=161,slow=11,SNR=35								
BRVK	**Borovoye**	**16.25**	**0**	*e*P		**Pn**	**19 17 12.3**		**-2.4**
BRVK				pmax	pmax				
	comp=Z,19nm,0.5s								
BRVK	**Borovoye**	**16.25**	**0**	*e*P		**Pn**	**19 17 12.3**		**-2.4**
	comp=Z,19nm,0.5s								
JIRN	**Jiri**	**16.35**	**119**	*e*P		**Pn**	**19 17 13.0**		**-2.9**
	comp=Z,43nm,0.4s								
ORR	**Orenburg**	**18.40**	**328**	*e*P		**Pn**	**19 17 37.1**		**-4.0**
ZAL	**Zalesovo**	**19.93**	**26**	P		**Pn**	**19 17 56.7**		**-2.4**
	comp=Z,10nm,0.5s,baz=253,slow=8.6,SNR=27								
ZAL	**Zalesovo**	**19.93**	**26**	P		**Pn**	**19 17 56.7**		**-2.4**
GNI	**Garni**	**20.13**	**287**	P		**P**	**19 17 57.4**		**-1.8**
	comp=Z,2.6nm,0.5s,baz=338,slow=19,SNR=3.0								
NVS	**Novosibirsk**	**20.16**	**22**	*e*P		**P**	**19 17 58.8**		**-0.6**
NVS				pmax	pmax				
	comp=N,7.0nm,0.7s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.7s								
NVS				pmax	pmax				
	comp=Z,7.0nm,0.7s								
ARU	**Arti**	**21.12**	**342**	*e*P		**P**	**19 18 09.4**		**-0.4**
ARU				pmax	pmax				
	comp=Z,13nm,0.8s,mb4.3								
ARU	**Arti**	**21.12**	**342**	*e*P		**P**	**19 18 09.4**		**-0.4**
	comp=Z,12nm,0.8s,mb4.3								
KIV	**Kislovodsk**	**22.02**	**297**	*e*P		**P**	**19 18 18.0**		**-1.4**
KIV	**Kislovodsk**	**22.02**	**297**	*e*P		**P**	**19 18 17.9**		**-1.5**
ZAK	**Zakamensk**	**27.33**	**50**	*e*P		**P**	**19 19 11.9**		**+2.9**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.1s,mb3.7								
BRTR	**Keskin Array B**	**28.67**	**287**	P		**P**	**19 19 21.0**		**-0.1**
	comp=Z,1.1nm,0.8s,mb3.5,baz=116,slow=8.7,SNR=7.7								
SONM	**Songino Array**	**28.75**	**56**	P		**P**	**19 19 23.1**		**+1.5**
	comp=Z,0.8nm,0.6s,mb3.5,baz=265,slow=5.4,SNR=4.9								
AKASG	**Malin Array Be**	**32.21**	**309**	P		**P**	**19 19 52.1**		**-0.1**
	comp=Z,4.7nm,0.6s,mb4.4,baz=82,slow=7.5,SNR=24								
PBA	**Port Blair**	**32.27**	**135**	*e*P		x	19 20 35.1		
PBA				*e*S		x	19 20 57.3		
PBA				*ex*		x	19 20 59.1		
	comp=N,1μm,0.6s								
PBA				*ex*		x	19 20 59.3		
	comp=E,2μm,0.4s								
FIA1	**FINESS Array S**	**36.84**	**326**	*e*P		**P**	**19 20 32.6**		**+0.4**
FINES	**FINESS Array B**	**36.84**	**326**	P		**P**	**19 20 32.7**		**+0.5**
	comp=E,3.4nm,0.6s,mb4.5,baz=117,slow=9.4,SNR=15								
ARCES	**ARCESS Array B**	**40.60**	**338**	P		**P**	**19 21 04.4**		**+0.7**
	comp=E,2.0nm,0.6s,mb4.1,baz=104,slow=5.1,SNR=8.8								
GERES	**GERESS Array B**	**42.18**	**305**	P		**P**	**19 21 16.8**		**+0.2**
	comp=E,0.5nm,0.8s,mb3.3,baz=93,slow=8.0,SNR=4.2								
NB2	**NORSAR Subarra**	**43.72**	**323**	P		**P**	**19 21 28.7**		**-0.3**
	comp=Z,2.5nm,0.6s,mb4.1,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**43.72**	**323**	P		**P**	**19 21 29.4**		**+0.3**
	comp=Z,4.4nm,0.7s,mb4.3,baz=97,slow=8.1,SNR=12								
TIXI	**Tiksi**	**45.76**	**22**	*e*P		**P**	**19 21 45.9**		**+0.7**
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.6								
TIXI	**Tiksi**	**45.76**	**22**	*e*P		**P**	**19 21 45.9**		**+0.7**
	comp=Z,8.3nm,0.6s,mb4.6								
KEST	**Kesra**	**48.27**	**288**	P		**P**	**19 22 05.5**		**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=357,slow=14,SNR=7.4								
ESDC	**Sonseca Array**	**56.70**	**297**	P		**P**	**19 23 07.8**		**+0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=62,slow=7.7,SNR=12								
ESDC				LR		LR	19 49 30.8		
	comp=Z,3μm,21.8s,baz=275,slow=38								
TORD	**Torodi Ar. Bea**	**65.02**	**268**	P		**P**	**19 24 02.9**		**-0.7**
	comp=Z,1.4nm,0.5s,mb4.0,baz=51,slow=6.4,SNR=22								
YKA	**Yellowknife Ar**	**80.97**	**2**	P		**P**	**19 25 39.1

GOGA	**Godfrey**	**20.05**	**24**	*eP*	**P**	**19 28 30.8**	**+0.1**
	12nm,0.9s								
AMTX	**Amarillo**	**21.15**	**340**	*eP*	**P**	**19 28 42.3**	**-0.3**
	8.4nm,0.6s,mb4.2								
ANMO	**Albuquerque**	**23.16**	**331**	*eP*	**P**	**19 29 04.5**	**+1.1**

ISCJB **19** 19:31:56.0±0.6, 3890N±004×9.13W±004, h18km, Error ellipse: s-maj=6.0km s-min=4.9km az=13.0
INMG **19** 19:31:56.2±1.1, 3889N×9.11W, h18km±4km, MD2.0, ML1.6, Error ellipse: s-maj=4.1km s-min=2.2km az=86.0
IGIL **19** 19:31:56.5, 3890N×9.13W, h2km, ML1.6
MDD **19** 19:31:57.3±0.3, 3891N×903W, h0km, mbLg1.7/3, Error ellipse: s-maj=3.1km s-min=2.0km az=170.0, PRXIMO

ISC 19 19:31:56.5±0.6, **3888N**±003×**905W**±005, **h10**km±5km, **n13,** σ1§**15/25, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.08**	**273**	*i* Pg	**Pg**	**19 31 59.2**	**+0.4**
PLOU				*e*Sg	**Sg**	**19 32 02.0**	**+1.4**
PLOU							
	133nm,0.2s						
INMG	**Instituto de M**	**0.12**	**211**	*i* Pg	**Pg**	**19 32 00.0**	**+0.6**
INMG				*e*Sg	**Sg**	**19 32 02.7**	**+1.2**
PMAFR	**Mafra**	**0.20**	**292**	*i* Pg	**Pg**	**19 31 59.9**	**-0.8**
PMAFR				*e*Sg	**Sg**	**19 32 03.0**	**-0.5**
PMAFR							
	239nm,0.1s						
ALMR	**Almeirim**	**0.46**	**53**	*e*P	**Pg**	**19 32 05.5**	**+0.1**
ALMR				*e*S	**Sg**	**19 32 12.1**	**+0.7**
ALMR				*e*S	**Sg**	**19 32 12.2**	**+0.7**
ALMR				AML	AML	19 32 14.1	
	comp=N,36nm,0.1s						
ALMR	**Almeirim**	**0.46**	**53**	*e*P	**Pg**	**19 32 05.5**	**+0.1**
ALMR				*e*S	**Sg**	**19 32 12.1**	**+0.7**
MOE	**Montemor**	**0.65**	**123**	*e*P	**Pg**	**19 32 08.8**	**-0.3**
MOE				*e*S	**Sg**	**19 32 18.5**	**+0.9**
PESTR	**Estremoz**	**1.14**	**90**	*e*P	**Pb**	**19 32 16.9**	**-1.3**
PESTR				*e*S	**Sb**	**19 32 33.1**	**+0.1**
PESTR							
	comp=N,4.0nm,0.1s						
PBEJ	**Beja**	**1.26**	**132**	*e*Pg	**Pg**	**19 32 18.9**	**-1.7**
PBEJ				*e*Sg	**Sg**	**19 32 36.8**	**-0.2**
PTEO	**Sao Teotonio**	**1.36**	**169**	*e*Pg	**Pg**	**19 32 20.8**	**-1.7**
PTEO				*e*Sg	**Sg**	**19 32 38.1**	**-2.0**
PTEO							
	comp=N,5.6nm,0.3s						
EBAD	**Badajoz**	**1.59**	**94**	Pn	**Pn**	**19 32 25.3**	**+0.7**
	comp=N,1.4nm,0.8s,SNR=5.6						
EBAD				Sn	**Sn**	**19 32 46.8**	**+1.5**
	comp=N,2.2nm,0.3s,SNR=15						
EGRO	**El Granado**	**1.82**	**137**	Pn	**Pn**	**19 32 28.2**	**+0.4**
	comp=N,3.3nm,1.0s,SNR=6.5						
EGRO				Lg		19 32 55.1	
	comp=N,1.3nm,0.3s,SNR=7.7						
PVIS	**Viseu**	**2.04**	**25**	*e*Sg	**Sg**	**19 33 00.0**	**-1.9**
EMIN	**Mina Concepcio**	**2.17**	**120**	Pn	**Pn**	**19 32 35.1**	**+2.4**
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**19 33 04.3**	**+4.8**
	comp=N,1.2nm,0.3s,SNR=7.9						

ISCJB **19** 19:46:26.4±2.8, 210S±04×1792W±02, h560km±43km, mb3.8/9, Error ellipse: s-maj=60.1km s-min=15.9km az=149.9
IDC **19** 19:46:27.6±2.5, 2105S×17909W, h562km±33km, mb3.3/8, mb1 3.6/8, mb1mx3.3/15, mbtmp3.3/8, Error ellipse: s-maj=54.5km s-min=13.7km az=162.0
NEIC **19** 19:46:29.5±2.4, 2136S×17904W, h593km±33km, mb3.9/1, Error ellipse: s-maj=53.7km s-min=11.4km az=173.0

ISC 19 19:46:27.4±2.8, **210S**±04×**1791W**±02, **h556**km±41km, **n33,** σ0§**55/16, mb3.8/9, 2C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.28**	**173**	P	**P**	**19 48 28.4**	**+0.5**
	92nm,0.3s,baz=41,slow=20,SNR=4.1						
RAO	**Raoul Island**	**8.28**	**173**	*e*P	**P**	**19 48 27.8**	**-0.2**
CTA	**Charters Tower**	**32.42**	**265**	P	**P**	**19 52 12.8**	**+0.8**
	3.4nm,0.6s,mb4.0,baz=98,slow=14,SNR=6.4						
CTAO	**Charters Tower**	**32.42**	**265**	*e*P	**P**	**19 52 13.2**	**+1.1**
STKA	**Stephens Creek**	**36.65**	**245**	*e*P	**P**	**19 52 46.5**	**-0.7**
	2.5nm,1.0s,mb3.7						
STKA	**Stephens Creek**	**36.65**	**245**	P	**P**	**19 52 46.7**	**-0.5**
	2.4nm,0.6s,mb3.9,baz=85,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**36.65**	**245**	*e*P	**P**	**19 52 46.4**	**-0.8**
ASAR	**Alice Springs**	**43.41**	**257**	P	**P**	**19 53 41.1**	**-0.1**
	5.9nm,0.8s,mb4.2,baz=97,slow=8.0,SNR=73						
ASAR				PcP	PcP	19 55 17.1	+0.1
	1.2nm,0.6s,baz=108,slow=3.6,SNR=12						
ASAR				S	**S**	**19 59 29.7**	**+0.4**
	0.7nm,0.9s,baz=92,slow=16,SNR=4.8						
WB2	**Warramunga Arr**	**43.50**	**263**	*e*P	**P**	**19 53 41.4**	**-0.6**
WRAB	**Tennant Creek**	**43.51**	**263**	*e*P	**P**	**19 53 42.0**	**0.0**
	3.2nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**43.52**	**263**	P	**P**	**19 53 41.6**	**-0.5**
	1.9nm,0.4s,mb4.0,baz=97,slow=7.3,SNR=35						
FITZ	**Fitzroy Crossi**	**51.94**	**263**	P	**P**	**19 54 45.5**	**+0.5**
	1.4nm,0.3s,mb3.7,baz=264,slow=3.8,SNR=8.3						
NVAR	**Mina Array Bea**	**82.10**	**44**	P	**P**	**19 57 49.2**	**-0.8**
	0.8nm,0.6s,mb3.3,baz=233,slow=10,SNR=5.9						
TXAR	**Lajitas Array**	**88.19**	**59**	P	**P**	**19 58 20.0**	**+0.5**
	0.9nm,1.0s,mb3.5,baz=262,slow=3.5,SNR=4.2						
PDAR	**Pinedale Array**	**90.03**	**44**	P	**P**	**19 58 28.4**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=222,slow=2.2,SNR=6.2						
ARCES	**ARCESS Array B**	**129.22**	**349**	PKP	PKPdf	20 04 31.9	-0.8
	4.1nm,0.9s,baz=45,slow=2.6,SNR=11						
FINES	**FINESS Array B**	**135.96**	**343**	PKP	PKPdf	20 04 43.4	-1.9
	1.8nm,1.0s,baz=207,slow=1.3,SNR=3.9						
FINES	**FINESS Array B**	**135.96**	**343**	PKP	PKPdf	20 04 43.4	-1.9
AKASG	**Malin Array Be**	**142.94**	**330**	PKP	PKPdf	20 04 55.4	-2.6
	2.0nm,0.3s,baz=42,slow=4.2,SNR=31						
BR131	**Keskin Array S**	**146.41**	**311**	*e*PKPbc	PKPbc	20 05 06.2	-0.1
BRTR	**Keskin Array B**	**146.41**	**311**	PKPbc	PKPbc	20 05 06.6	+0.3
	1.9nm,0.7s,baz=139,slow=3.9,SNR=12						
ANTO	**Ankara**	**146.94**	**312**	*i* P	PKPbc	20 05 08.6	+0.9
BURAR	**Bucovina Array**	**146.98**	**329**	*i* P	PKPbc	20 05 08.6	+0.8
CFR	**Carcaliu**	**147.09**	**323**	*i* P	PKPbc	20 05 09.3	+1.2
DPC	**Dobruska-Polom**	**148.28**	**341**	*e*PKPbc	PKPbc	20 05 11.8	+0.6
DPC				*e*PKPab	PKPab	20 05 18.5	+2.1
CLL	**Collm**	**148.31**	**345**	*i* P	PKPbc	20 05 11.2	0.0
CLL	**Collm**	**148.31**	**345**	*i* PKPbc	PKPbc	20 05 11.2	0.0
	comp=Z,6.0nm,0.7s						
PVCC	**Panska Ves**	**148.63**	**343**	*e*PKPbc	PKPbc	20 05 13.2	+1.2
DRGR		**148.75**	**331**	*i* P	PKPbc	20 05 12.5	+0.2
PRU	**Pruhonice**	**149.12**	**343**	*e*PKPbc	PKPbc	20 05 13.6	+0.4
BZS	**Buzias**	**150.14**	**330**	*i* P	PKPbc	20 05 15.8	+0.2
KHC	**Kasperske Hory**	**150.16**	**343**	*e*PKPbc	PKPbc	20 05 15.9	+0.2
GERES	**GERESS Array B**	**150.39**	**343**	PKPbc	PKPbc	20 05 16.3	+0.1
	comp=Z,1.1nm,0.6s,baz=18,slow=1.7,SNR=11						

ISCJB **19** 20:07:14.9±0.3, 3182S±002×6957W±005, h121km±2km, mb4.5/34, Error ellipse: s-maj=6.5km s-min=3.7km az=167.7
GUC **19** 20:07:15.2±0.7, 3184S×6973W, h137km±7km, ML5.0
NEIC **19** 20:07:15.2, 3184S×6973W, h137km, mb4.5/26, After GUC.
NEIC Felt [II] at Santiago, Chile.
IDC **19** 20:07:17.0±0.6, 3176S×6934W, h126km±4km, mb4.2/11, mb1 4.3/14, mb1mx4.2/18, mbtmp4.1/14, Error ellipse: s-maj=13.7km s-min=11.0km az=50.0

ISC 19 20:07:15.9±0.3, **3183S**±002×**6957W**±004, **h115**km±2km, **h126**km±1.5km:**pP-P, n108,** σ0§**87/120, mb4.5/34, 12C-15D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.15**	**79**	P	**Pn**	**20 07 39.5**	**+0.4**
	260nm,0.3s,baz=254,slow=8.5						
CFAA				S	**Sn**	**20 07 56.2**	**-0.4**
	296nm,0.3s,baz=243,slow=15,SNR=88						
PTCH	**Petorca**	**1.24**	**249**	*e*P	**Pn**	**20 07 39.9**	**-0.1**
PTCH				*i* S	**Sn**	**20 07 58.7**	**+0.5**
PTCH				AML	AML	20 07 59.5	
	comp=E,32μm,0.2s						
PTCH	**Petorca**	**1.24**	**249**	*e*P	**Pn**	**20 07 39.9**	**-0.1**
PTCH				*i* S	**Sn**	**20 07 58.7**	**+0.5**
CMCH	**Combarbala**	**1.39**	**298**	⇓*i* P	**Pn**	**20 07 42.1**	**+0.4**
CMCH				*i* S	**Sn**	**20 08 01.9**	**+0.6**
CMCH				AML	AML	20 08 04.8	
	comp=E,50μm,0.6s						
CMCH	**Combarbala**	**1.39**	**298**	⇓*i* P	**Pn**	**20 07 42.1**	**+0.4**
CMCH				*i* S	**Sn**	**20 08 01.9**	**+0.6**
FCH	**Farellones**	**1.61**	**202**	⇑*i* P	**Pn**	**20 07 45.7**	**+1.3**
FCH				*i* S	**Sn**	**20 08 08.5**	**+2.4**
PEL	**Peldehue**	**1.62**	**216**	⇓*i* P	**Pn**	**20 07 44.5**	**+0.1**
PEL				*i* S	**Sn**	**20 08 06.6**	**+0.5**
PEL				AML	AML	20 08 08.1	
	comp=N,24μm,0.5s						
PEL	**Peldehue**	**1.62**	**216**	⇓*i* P	**Pn**	**20 07 44.5**	**+0.1**
PEL				*i* S	**Sn**	**20 08 06.6**	**+0.5**
CHNG	**Los Chungos**	**1.65**	**268**	⇑*i* P	**Pn**	**20 07 44.1**	**-0.6**
CHNG				*i* S	**Sn**	**20 08 05.9**	**-0.8**
PACH	**Papudo**	**1.74**	**246**	⇑*i* P	**Pn**	**20 07 45.1**	**-0.7**
CLCH	**Cerro Calan**	**1.76**	**207**	⇑*i* P	**Pn**	**20 07 46.6**	**+0.5**
CLCH				*i* S	**Sn**	**20 08 10.3**	**+1.0**
CLCH				AML	AML	20 08 12.2	
	comp=N,12μm,0.7s						
DSCH	**Colegio Aleman**	**1.78**	**208**	*e*P	**Pn**	**20 07 46.0**	**-0.3**
DSCH				*i* S	**Sn**	**20 08 09.8**	**+0.2**
LACH	**Colegio Las Am**	**1.81**	**206**	⇑*e*P	**Pn**	**20 07 46.5**	**-0.3**
LACH				*i* S	**Sn**	**20 08 11.0**	**+0.7**
STL	**Santa Lucia**	**1.84**	**209**	*e*P	**Pn**	**20 07 46.6**	**-0.5**
STL				*i* S	**Sn**	**20 08 10.7**	**-0.2**
OVCH	**Ovalle**	**1.86**	**311**	*e*P	**Pn**	**20 07 47.3**	**0.0**
OVCH				*i* S	**Sn**	**20 08 10.9**	**-0.4**
SAN	**Santiago**	**1.86**	**209**	*e*P	**Pn**	**20 07 47.4**	**+0.1**
SAN				*i* S	**Sn**	**20 08 11.8**	**+0.3**
SAN				AML	AML	20 08 13.6	
	comp=E,8μm,0.5s						
SAN	**Santiago**	**1.86**	**209**	*e*P	**Pn**	**20 07 47.4**	**+0.1**
SAN				*i* S	**Sn**	**20 08 11.8**	**+0.3**
YECH	**El Yeso**	**1.88**	**193**	*e*P	**Pn**	**20 07 48.9**	**+1.3**
ANTU	**Antumapu**	**1.95**	**207**	*e*P	**Pn**	**20 07 48.7**	**+0.2**
ANTU				*i* S	**Sn**	**20 08 14.1**	**+0.6**
ANTU				AML	AML	20 08 15.2	
	comp=N,10μm,0.4s						
ANTU	**Antumapu**	**1.95**	**207**	*e*P	**Pn**	**20 07 48.7**	**+0.2**
ANTU				*i* S	**Sn**	**20 08 14.1**	**+0.6**
PCH	**Pirque**	**1.96**	**204**	⇓*i* P	**Pn**	**20 07 48.7**	**+0.2**
PCH				*i* S	**Sn**	**20 08 14.1**	**+0.6**
RCDM	**Rinconada Maip**	**1.96**	**212**	*e*P	**Pn**	**20 07 48.5**	**-0.1**
RCDM				*i* S	**Sn**	**20 08 13.8**	**+0.3**
RCDM				AML	AML	20 08 14.5	
	comp=N,14μm,0.4s						
RCDM	**Rinconada Maip**	**1.96**	**212**	*e*P	**Pn**	**20 07 48.5**	**-0.1**
RCDM				*i* S	**Sn**	**20 08 13.8**	**+0.3**
TLL	**Tololo Astrono**	**1.97**	**327**	⇑*i* P	**Pn**	**20 07 49.5**	**+0.8**
TLL				*i* S	**Sn**	**20 08 14.7**	**+0.9**
TLL				AML	AML	20 08 18.2	
	comp=E,7μm,0.7s						
TLL	**Tololo Astrono**	**1.97**	**327**	⇑*i* P	**Pn**	**20 07 49.5**	**+0.8**
TLL				*i* S	**Sn**	**20 08 14.7**	**+0.9**
IHA	**Instituto Hidr**	**2.12**	**235**	⇑*i* P	**Pn**	**20 07 49.1**	**-1.5**
IHA				*i* S	**Sn**	**20 08 15.5**	**-1.7**
TACH	**Talagante**	**2.15**	**212**	⇓*i* P	**Pn**	**20 07 50.4**	**-0.6**
CHCH	**Chadas Angostu**	**2.29**	**203**	⇓*i* P	**Pn**	**20 07 52.7**	**0.0**
LSCH	**La Serena**	**2.40**	**323**	*e*P	**Pn**	**20 07 53.8**	**-0.3**
LSCH				*i* S	**Sn**	**20 08 22.0**	**-1.6**
CACH	**El Canelo**	**2.44**	**201**	⇑*i* P	**Pn**	**20 07 55.1**	**+0.4**
CICH	**Cipreses**	**2.58**	**196**	⇓*i* P	**Pn**	**20 07 57.0**	**+0.5**
LNV	**Longovilo**	**2.63**	**216**	⇑*i* P	**Pn**	**20 07 55.4**	**-1.7**
SFDO	**San Fernando**	**3.03**	**203**	*i* P	**Pn**	**20 08 01.1**	**-1.2**
VACH	**Vallenar**	**3.40**	**342**	⇑*i* P	**Pn**	**20 08 07.2**	**-0.1**
NICH	**Los Niches**	**3.46**	**203**	*i* P	**Pn**	**20 08 06.4**	**-1.7**
COCH	**Cobquecura**	**5.06**	**211**	*e*P	**Pn**	**20 08 25.5**	**-4.0**
TRQA	**Tornquist**	**8.79**	**137**	*e*Pn	**Pn**	**20 09 18.5**	**-1.5**
	comp=E,174nm,1.0s						
TRQA				*e*Sn	**Sn**	**20 10 53.4**	**-3.9**
LVC	**Limon Verde**	**9.20**	**4**	P	**Pn**	**20 09 24.7**	**-0.9**
	comp=E,1.0nm,0.3s,baz=90,slow=0.7,SNR=8.3						
LPAZ	**La Paz**	**15.53**	**5**	P	**Pn**	**20 10 50.5**	**+2.1**
	comp=E,0.6nm,0.3s,baz=185,slow=7.7,SNR=30						
LPAZ	**La Paz**	**15.53**	**5**	*e*Pn	**Pn**	**20 10 50.5**	**+2.1**
	comp=E,5.4nm,0.6s						
LPAZ				*e*S	**S**	**20 13 50.5**	**+2.7**
SIV	**San Ignacio**	**17.56**	**28**	P	**Pn**	**20 11 12.8**	**-0.5**
	comp=E,1.3nm,0.3s,baz=208,slow=10,SNR=60						
USHA	**Ushuaia**	**23.01**	**178**	P	**P**	**20 12 10.9**	**+0.2**
	comp=E,31nm,0.9s,mb4.7,baz=325,slow=7.0,SNR=8.4						
OTAV	**Otavalo**	**32.98**	**344**	*e*P	**P**	**20 13 42.1**	**+2.4**
	comp=E,1.8nm,0.5s,mb4.2						
SDV	**Santo Domingo**	**40.50**	**358**	*e*P	**P**	**20 14 42.7**	**-0.7**
	comp=E,1.9nm,0.6s,mb4.1						
JTS	**JuntasAbangare**	**44.40**	**338**	*e*P	**P**	**20 15 13.8**	**-1.1**
	comp=E,4.0nm,0.4s,mb4.5						
VNA3	**Neumayer Olymp**	**50.60**	**159**	⇓*i*	**P**	**20 16 02.8**	**-0.1**
VNA3				*e*		20 16 05.0	
VNA3				*e*		20 16 10.6	
VNA3				*e*		20 16 45.0	
VNA3				*e*		20 17 02.8	
VNA1	**Neumayer--Stat**	**50.87**	**158**	⇓*i*	**P**	**20 16 05.0**	**+0.1**
VNA1				*e*		20 16 07.3	
VNA1				*e*		20 16 13.3	
VNA1				*e*		20 16 48.6	
VNA2	**Neumayer--Watz**	**51.22**	**158**	⇓*i*	**P**	**20 16 06.3**	**-1.2**
VNA2				*e*		20 16 09.2	
VNA2				*e*		20 16 15.5	
VNA2				*e*	pP	20 16 29.5	-5.2
VNA2				*e*		20 16 38.8	
VNA2				*e*		20 16 49.6	
VNA2				*e*		20 16 57.4	
SNAA	**Sanae**	**52.82**	**159**	P	**P**	**20 16 19.0**	**-0.4**
	comp=E,6.3nm,0.9s,mb4.7,baz=281,slow=6.5,SNR=56						
SNAA				pP	pP	20 16 48.5	+1.8
	comp=E,1.0nm,0.8s,baz=304,slow=8.4,SNR=2.2						
TEIG	**Tepich**	**54.78**	**338**	*e*P	**P**	**20 16 33.9**	**+0.3**
	comp=E,26nm,0.4s,mb5.6						
QSPA	**South Pole Qui**	**58.40**	**180**	⇓*i* P	**P**	**20 16 59.6**	**+0.4**
	comp=E,16nm,0.6s,mb5.2						
BBSR	**BB Station**	**64.02**	**5**	P	**P**	**20 17 36.4**	**-0.7**
VNDA	**Vanda**	**66.62**	**191**	P	**P**	**20 17 54.6**	**+0.8**
	comp=E,1.0nm,0.6s,mb3.9,baz=113,slow=7.3,SNR=6.3						
VNDA	**Vanda**	**66.62**	**191**	*e*P	**P**	**20 17 54.6**	**+0.7**
	comp=E,1.4nm,0.6s,mb4.0						
SYO	**Syowa Base**	**67.11**	**158**	⇓*e*P	**P**	**20 17 55.6**	**-1.4**
SYO	**Syowa Base**	**67.11**	**158**	⇓*e*P	PcP	20 18 27.2	+2.9
JCT	**Junction City**	**68.28**	**332**	*e*P	**P**	**20 18 04.9**	**+0.5**
	comp=E,13nm,0.8s,mb4.8						
OXF	**Oxford**	**68.58**	**342**	*e*P	**P**	**20 18 04.4**	**-1.8**
	comp=E,20nm,0.4s,mb5.3						
PLAL	**Pickwick Lake**	**68.70**	**344**	*e*P	**P**	**20 18 06.0**	**-0.9**
	comp=E,5.2nm,0.8s,mb4.4						
LTX	**Lajitas**	**68.92**	**328**	*e*P	**P**	**20 18 08.1**	**-0.2**
	comp=E,1.9nm,0.5s,mb4.2						
LTX				*e*pP	pP	20 18 38.9	+2.0
TXAR	**Lajitas Array**	**68.92**	**328**	P	**P**	**20 18 08.8**	**+0.4**
	comp=E,2.5nm,0.5s,mb4.3,baz=161,slow=9.2,SNR=30						
TXAR				pP	pP	20 18 40.2	+3.3
	comp=E,0.9nm,0.7s,baz=153,slow=8.4,SNR=3.1						
TXAR	**Lajitas Array**	**68.92**	**328**	P	**P**	**20 18 08.8**	**+0.4**
TXAR				pP	pP	20 18 40.2	+3.3
WVT	**Waverly**	**69.74**	**344**	*e*P	**P**	**20 18 12.9**	**-0.5**
	comp=E,42nm,0.6s,mb5.4						
WVT				*e*pP	pP	20 18 43.7	+1.7
AMTX	**Amarillo**	**72.91**	**333**	*e*P	**P**	**20 18 32.5**	**+0.1**
	comp=E,5.5nm,0.8s,mb4.5						
SUR	**Sutherland**	**74.04**	**118**	P	**P**	**20 18 39.5**	**+0.5**
BNM	**Barren Site**	**74.33**	**329**	*e*P	**P**	**20 18 42.1**	**+1.4**
LPM	**Los Pinos Moun**	**74.47**	**329**	*e*P	**P**	**20 18 42.9**	**+1.4**
MAW	**Mawson**	**74.65**	**163**	⇓*i* P	**P**	**20 18 42.1**	**-0.5**
	comp=E,6.9nm,0.9s,mb4.4						
MAW	**Mawson**	**74.65**	**163**	P	**P**	**20 18 42.2**	**-0.4**
	comp=E,6.3nm,0.6s,mb4.5,baz=214,slow=6.5,SNR=18						
KSU1	**Kansas State U**	**74.92**	**339**	*e*P	**P**	**20 18 43.3**	**-0.8**
	comp=E,9.3nm,0.5s,mb4.8						
ANMO	**Albuquerque**	**74.94**	**329**	*e*P	**P**	**20 18 45.0**	**+0.8**
	comp=E,4.1nm,0.7s,mb4.3						
SDCO	**Great Sand Dun**	**76.91**	**331**	*e*P	**P**	**20 18 56.4**	**+0.9**
	comp=E,5.1nm,0.7s,mb4.4						
TSUM	**Tsumeb**	**77.78**	**105**	*e*P	**P**	**20 19 01.0**	**+0.7**
	comp=E,3.6nm,1.0s,mb4.1						
PV01	**Paradox Valley**	**78.53**	**330**	*e*P	**P**	**20 19 04.4**	**0.0**
SMCO	**Snowmass**	**78.74**	**331**	P	**P**	**20 18 57.6**	**-8.0**
	comp=E,12nm,1.0s,mb4.7						
PV10	**Paradox Valley**	**78.93**	**329**	*e*P	**P**	**20 19 06.9**	**+0.3**
ECSD	**EROS,Sioux Fal**	**79.16**	**340**	*e*P	**P**	**20 19 07.4**	**-0.5**
	comp=E,15nm,0.8s,mb4.9						
ECSD				*e*pP	pP	20 19 39.1	+1.9
BOSA	**Boshof**	**79.21**	**117**	P	**P**	**20 19 07.7**	**-0.4**
	comp=E,4.4nm,0.7s,mb4.4,baz=226,slow=6.1,SNR=12						
SRU	**San Rafael**	**80.19**	**329**	*e*P	**P**	**20 19 13.4**	**0.0**
	comp=E,6.0nm,0.9s,mb4.4						
MSU	**Marysvale**	**80.44**	**327**	*e*P	**P**	**20 19 16.0**	**+1.2**
MSU				*e*pP	pP	20 19 45.8	+1.6
LBTB	**Lobatse**	**81.30**	**114**	*e*P	**P**	**20 19 19.4**	**0.0**
	comp=E,8.3nm,0.4s,mb4.9						
ISA	**Isabella**	**81.32**	**322**	*e*P	**P**	**20 19 20.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**81.50**	**69**	*e*P	**P**	**20 19 20.4**	**0.0**
TOA0				*e*PcP	PcP	20 19 26.3	+0.2
TOA0				*e*pP	pP	20 19 52.0	+2.2
TORD	**Torodi Ar. Bea**	**81.50**	**69**	P	**P**	**20 19 20.1**	**-0.3**
	comp=E,8.2nm,0.6s,mb4.7,baz=280,slow=6.7,SNR=149						
TORD				pP	pP	20 19 52.2	+2.4
	comp=E,2.8nm,0.7s,baz=276,slow=7.6,SNR=2.4						
RSSD	**Black Hills**	**81.88**	**336**	*e*P	**P**	**20 19 22.6**	**+0.2**
	comp=E,5.2nm,0.7s,mb4.5						
CASY	**Casey**	**82.21**	**180**	⇓*i* P	**P**	**20 19 23.5**	**-0.6**
CASY	**Casey**	**82.21**	**180**	*e*P	**P**	**20 19 23.9**	**-0.1**
	comp=E,6.6nm,0.8s,mb4.5						
HWUT	**Hardware Ranch**	**82.69**	**330**	*e*P	**P**	**20 19 26.2**	**-0.4**
	comp=E,3.6nm,0.8s,mb4.2						
HWUT				*e*PcP	PcP	20 19 29.8	-1.5
HWUT				*e*pP	pP	20 19 58.2	+2.1
PDAR	**Pinedale Array**	**82.81**	**332**	P	**P**	**20 19 27.1**	**-0.1**
	comp=E,1.8nm,0.7s,mb4.0,baz=138,slow=5.5,SNR=15						
NVAR	**Mina Array Bea**	**83.34**	**324**	P	**P**	**20 19 30.1**	**+0.2**
	comp=E,2.0nm,0.8s,mb4.0,baz=157,slow=5.4,SNR=10						
NVAR				pP	pP	20 20 02.9	+3.4
	comp=E,0.9nm,0.8s,baz=168,slow=5.6,SNR=2.7						
CMB	**Columbia Colle**	**84.11**	**322**	*e*P	**P**	**20 19 34.3**	**+0.4**
ULM	**Lac du Bonnet**	**84.98**	**343**	P	**P**	**20 19 37.0**	**-1.2**
	comp=E,5.6nm,0.8s,mb4.6,baz=159,slow=4.4,SNR=7.2						
ULM				pP	pP	20 20 09.7	+1.8
	comp=E,2.3nm,0.7s,baz=325,slow=22,SNR=2.4						
SCHQ	**Schefferville**	**86.34**	**2**	P	**P**	**20 19 43.9**	**-1.1**
	comp=E,5.4nm,1.0s,mb4.5,baz=214,slow=3.2,SNR=5.1						
LSZ	**Lusaka**	**88.48**	**107**	*e*P	**P**	**20 19 56.7**	**+1.5**
	comp=E,2.9nm,0.6s,mb4.5						
LSZ				*e*pP	pP	20 20 26.8	+1.7
AKASG	**Malin Array Be**	**119.19**	**46**	PKP	PKPdf	20 25 49.1	-2.1
	comp=E,0.5nm,0.7s,baz=253,slow=3.1,SNR=4.4						
FINES	**FINESS Array B**	**120.03**	**34**	PKP	PKPdf	20 25 51.5	-1.4
	comp=E,0.4nm,0.4s,baz=252,slow=0.6,SNR=7.5						
ARCES	**ARCESS Array B**	**121.18**	**24**	PKP	PKPdf	20 25 53.6	-1.5
	comp=E,1.8nm,0.8s,baz=267,slow=2.4,SNR=5.7						
WRA	**Warramunga Arr**	**123.65**	**207**	PKP	PKPdf	20 25 59.1	-0.7
	comp=E,1.6nm,0.3s,baz=154,slow=1.9,SNR=22						
ARU	**Arti**	**136.75**	**40**	*e*PKPdf	PKPdf	20 26 24.0	-0.6
BVAR	**Borovoye Array**	**144.28**	**42**	PKP	PKPdf	20 26 36.6	-1.6
	comp=E,2.4nm,0.6s,baz=281,slow=2.8,SNR=17						
YAK	**Yakutsk**	**147.32**	**343**	*e*PKP	PKPdf	20 26 44.2	+0.9
AAK	**Ala-Archa**	**149.63**	**59**	*e*PKPdf	PKPdf	20 26 46.5	-0.7
AAK				*e*PKPbc	PKPbc	20 26 51.3	-0.6
AAK				*e*PKPab	PKPab	20 26 56.3	-1.0
ZAL	**Zalesovo**	**151.28**	**32**	*e*PKPbc	PKPbc	20 26 54.7	-1.1
	comp=E,16nm,0.5s,baz=150,slow=2.1,SNR=12						
ZAL				pPKPbc	pPKPbc	20 27 28.4	+1.5
	comp=E,4.2nm,0.6s,baz=186,slow=3.

KSRS	**Korea Array**	**21.87**	**254**	P	**P**	**20 28 01.1**	**+0.5**
	comp=Z,2.2nm,0.6s,mb3.8,baz=52,slow=11,SNR=10						
BILL	**Bilibino**	**21.94**	**12**	P	**P**	**20 28 00.4**	**-1.0**
BILL	**Bilibino**	**21.94**	**12**	P	**P**	**20 28 00.4**	**-1.0**
BOD	**Bodaibo**	**26.65**	**309**	*e*P	**P**	**20 28 44.0**	**-2.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb3.7						
TIXI	**Tiksi**	**27.55**	**343**	*e*P	**P**	**20 28 52.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TIXI	**Tiksi**	**27.55**	**343**	*e*P	**P**	**20 28 52.8**	**-1.6**
	comp=Z,1.8nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**31.81**	**289**	P	**P**	**20 29 29.7**	**-2.4**
TLY	**Talaya**	**33.00**	**297**	*e*P	**P**	**20 29 41.9**	**-0.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
TLY	**Talaya**	**33.00**	**297**	*e*P	**P**	**20 29 41.9**	**-0.7**
	comp=Z,3.1nm,0.5s,mb4.5						
ENH	**Enshi**	**38.44**	**261**	P	**P**	**20 30 27.9**	**-1.2**
ZAL	**Zalesovo**	**43.34**	**306**	P	**P**	**20 31 07.8**	**-1.6**
	comp=Z,1.8nm,0.4s,mb4.2,baz=61,slow=5.7,SNR=6.0						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**20 31 43.5**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=69,slow=6.6,SNR=11						
LSA	**Lhasa**	**51.30**	**274**	*e*P	**P**	**20 32 12.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**51.30**	**274**	*e*P	**P**	**20 32 12.9**	**+1.4**
	comp=Z,1.9nm,0.4s,mb4.4						
BVAR	**Borovoye Array**	**51.52**	**310**	P	**P**	**20 32 12.8**	**-0.2**
	comp=Z,2.8nm,0.4s,mb4.6,baz=56,slow=7.6,SNR=50						
AAK	**Ala-Archa**	**54.66**	**297**	*e*P	**P**	**20 32 35.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.66**	**297**	*e*P	**P**	**20 32 35.7**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.1						
ARU	**Arti**	**55.54**	**318**	*e*P	**P**	**20 32 42.1**	**-0.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
ARU	**Arti**	**55.54**	**318**	*e*P	**P**	**20 32 42.1**	**-0.5**
	comp=Z,6.2nm,0.4s,mb5.0						
JIRN	**Jiri**	**55.97**	**275**	*e*P	**P**	**20 32 46.8**	**+1.2**
GUN	**Gumba**	**56.02**	**276**	*e*P	**P**	**20 32 47.8**	**+1.8**
KKN	**Kakani**	**56.50**	**276**	*e*P	**P**	**20 32 50.7**	**+1.3**
DMN	**Daman**	**56.74**	**276**	*e*P	**P**	**20 32 51.5**	**+0.4**
GKN	**Gorkha**	**56.81**	**277**	*e*P	**P**	**20 32 52.6**	**+1.0**
	comp=Z,7.0nm,0.6s,mb4.9						
KEV	**Kevo**	**57.47**	**341**	*e*p	**P**	**20 32 55.5**	**-0.8**
KOLN	**Koldanda**	**57.66**	**277**	*e*P	**P**	**20 32 58.5**	**+0.9**
	comp=Z,4.8nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**57.97**	**341**	P	**P**	**20 32 59.8**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=13,slow=6.4,SNR=6.3						
AKTK	**Aktyubinsk**	**59.34**	**312**	P	**P**	**20 33 09.6**	**+0.3**
AKTO	**Aktyubinsk**	**59.34**	**312**	P	**P**	**20 33 09.6**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=78,slow=7.3,SNR=6.2						
PDAR	**Pinedale Array**	**63.76**	**55**	P	**P**	**20 33 38.5**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=271,slow=2.7,SNR=4.3						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**20 33 42.3**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=35,slow=7.6,SNR=19						
NB2	**NORSAR Subarra**	**68.34**	**342**	P	**P**	**20 34 10.2**	**+1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.34**	**342**	P	**P**	**20 34 10.2**	**+1.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=26,slow=6.4,SNR=4.5						
ASAR	**Alice Springs**	**72.77**	**200**	P	**P**	**20 34 32.7**	**-2.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=16,slow=5.1,SNR=22						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**20 34 56.1**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4,baz=304,slow=4.5,SNR=33						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**20 34 56.1**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**76.68**	**336**	*i* pP	**P**	**20 35 02.7**	**+4.5**
GERES	**GERESS Array B**	**78.70**	**335**	P	**P**	**20 35 11.9**	**+2.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=5.8,SNR=8.6						
MMAI	**Mount Meron Ar**	**83.44**	**312**	P	**P**	**20 35 36.9**	**+2.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=68,slow=3.1,SNR=4.9						

IDC ***19*** *20:23:38.8±2.7,3177N×4720E,h0km, mb3.6/5,mb1 3.7/5, mb1mx3.4/23,mbtmp3.6/5,Error ellipse: s-maj=111.8km s-min=26.3km az=145.0*

KISR ***19*** *20:23:41.3±1.4,3245N×4799E,h19km±999km, ML3.4*

ISCJB ***19*** *20:23:42.1±0.9,3241N±003×4709E±005,h3km±6km, mb3.6/4,Error ellipse: s-maj=6.8km s-min=4.5km az=167.2*

THR ***19*** *20:23:43.2±0.5,3225N×4691E,h42km±4km, ML3.8*

CSEM ***19*** *20:23:45.0±0.2,3244N×4715E,h25km, ML3.7,Error ellipse: s-maj=5.4km s-min=2.5km az=23.0*

TEH ***19*** *20:23:45.2,3251N×4715E,h3km, Mn3.7*

NEIC ***19*** *20:23:45.2,3250N×4710E,h3km, ML3.8(THR), MN3.7(TEH), After TEH.*

ISC 19 20:23:43.7±1.0,3242N±003×4708E±005,h6km±6km,n42,
σ1§07/60,mb3.6/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.49**	**102**	*e*Pg	**Pg**	**20 24 12.4**	**+0.1**
SHGR				*e*Sg	**Sg**	**20 24 33.8**	**+2.1**
SHGR				AML	AML	20 24 36.1	
	comp=N,2μm,0.4s						
SHGR				AML	AML	20 24 36.7	
	comp=E,2μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.49**	**102**	*e*Pg	**Pg**	**20 24 12.0**	**-0.3**
SHGR				*e*Sg	**Sg**	**20 24 33.0**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.49**	**102**	*e*Pg	**Pg**	**20 24 12.4**	**+0.1**
	SNR=100						
SHGR				*e*Sg	**Sg**	**20 24 33.0**	**+1.4**
IKOM	**Komasi**	**1.79**	**12**	Pn	**Pn**	**20 24 14.3**	**-0.8**
IKOM				Pg	**Pg**	**20 24 14.7**	**-3.3**
IKOM				Sg	**Sg**	**20 24 41.0**	**-0.2**
IKOM	**Komasi**	**1.79**	**12**	*e*Pn	**Pn**	**20 24 14.4**	**-0.7**
IKOM	**Komasi**	**1.79**	**12**	*e*Pg	**Pg**	**20 24 14.7**	**-3.3**
IGHG	**Ghaleghazi**	**1.95**	**347**	*e*Pn	**Pn**	**20 24 18.6**	**+1.2**
IVIS	**Veys**	**2.11**	**355**	Pn	**Pn**	**20 24 19.8**	**+0.3**
IVIS				Lg		20 24 48.0	
IVIS				Sg	**Sg**	**20 24 48.2**	**-3.2**
IVIS	**Veys**	**2.11**	**355**	*e*Pn	**Pn**	**20 24 19.8**	**+0.3**
BHD	**Baghdad**	**2.42**	**291**	*ex*	x	20 24 25.0	
BHD				*ex*	x	20 24 31.0	
BHD				*ex*	x	20 24 58.0	
BHD				*ex*	x	20 25 03.0	
SNGE	**Sanandaj**	**2.67**	**5**	*e*Pn	**Pn**	**20 24 28.1**	**+0.8**
SNGE				*e*Pg	**Pg**	**20 24 33.8**	**-1.2**
SNGE				*e*Sg	**Sg**	**20 25 10.8**	**+1.1**
SNGE				AML	AML	20 25 12.1	
	comp=E,165nm,0.6s						
SNGE	**Sanandaj**	**2.67**	**5**	*e*Pn	**Pn**	**20 24 28.0**	**+0.7**
SNGE				*e*Sg	**Sg**	**20 25 10.0**	**+0.4**
SNGE	**Sanandaj**	**2.67**	**5**	*e*Pn	**Pn**	**20 24 28.1**	**+0.8**
	SNR=54						
IPIR	**Pirpir**	**3.23**	**84**	Pn	**Pn**	**20 24 35.6**	**+0.6**
IPIR				Sg	**Sn**	**20 25 20.5**	**+6.8**
IPIR	**Pirpir**	**3.23**	**84**	*e*Pn	**Pn**	**20 24 35.6**	**+0.6**
ASAO	**Ashtian**	**3.25**	**48**	*e*Pn	**Pn**	**20 24 36.6**	**+1.3**
ASAO				AML	AML	20 25 30.8	
	comp=N,109nm,0.6s						
ASAO	**Ashtian**	**3.25**	**48**	*e*Pn	**Pn**	**20 24 36.0**	**+0.8**
KBD	**Kabd**	**3.28**	**171**	*e*P	**Pn**	**20 24 35.8**	**+0.2**
KBD				AML	AML	20 25 21.9	
	comp=Z,96nm,0.3s						
RDF	**Al-Radifah**	**3.51**	**173**	*e*P	**Pn**	**20 24 38.0**	**-0.7**
RDF				*e*S	**Sn**	**20 25 21.8**	**+1.2**
QRN	**Al-Qurain**	**3.73**	**169**	*e*P	**Pn**	**20 24 40.8**	**-1.1**
QRN				AML	AML	20 25 14.6	
	comp=Z,54nm,0.3s						
QRN				*e*S	**Sn**	**20 25 25.6**	**-0.6**
IRAZ	**Razeghan**	**3.80**	**38**	Pn	**Pn**	**20 24 44.9**	**+2.0**
IRAZ				Sg	**Sn**	**20 25 31.3**	**+3.4**
IRAZ	**Razeghan**	**3.80**	**38**	*e*Pn	**Pn**	**20 24 43.3**	**+0.4**
IKLH	**Kalahroud**	**3.89**	**75**	Pn	**Pn**	**20 24 44.7**	**+0.7**
IKLH				Sg	**Sn**	**20 25 30.4**	**+0.4**
IKLH	**Kalahroud**	**3.89**	**75**	*e*Pn	**Pn**	**20 24 44.3**	**+0.3**
IGAR	**Garneh**	**4.33**	**91**	*e*Pn	**Pn**	**20 24 49.2**	**-1.0**
IGAR				*e*Sg	**Sn**	**20 25 38.5**	**-2.5**
IZEF	**Zefreh**	**4.45**	**82**	Pn	**Pn**	**20 24 52.3**	**+0.5**
IZEF				Sg	**Sn**	**20 25 43.6**	**-0.3**
IZEF	**Zefreh**	**4.45**	**82**	*e*Pn	**Pn**	**20 24 52.1**	**+0.3**
NASN	**Na'in**	**4.85**	**84**	*e*Pn	**Pn**	**20 24 57.4**	**+0.2**
NASN	**Na'in**	**4.85**	**84**	*e*Pn	**Pn**	**20 24 58.0**	**+0.8**
IFIR	**Firoozkooh**	**5.70**	**54**	Pn	**Pn**	**20 25 09.3**	**+0.4**
IFIR				Sg	**Sb**	**20 26 31.2**	**-1.0**
IFIR	**Firoozkooh**	**5.70**	**54**	*e*Pn	**Pn**	**20 25 09.3**	**+0.4**
IPAR	**Pars**	**5.73**	**115**	Pn	**Pn**	**20 25 10.2**	**+0.9**
IPAR				Sg	**Sn**	**20 26 13.0**	**-2.3**
IPAR	**Pars**	**5.73**	**115**	*e*Pn	**Pn**	**20 25 09.8**	**+0.5**
IPAR				*e*Sn	**Sn**	**20 26 13.2**	**-2.1**
IMOK	**Mook**	**5.90**	**123**	Pn	**Pn**	**20 25 12.8**	**+1.1**
IMOK				Sg	**Sn**	**20 26 19.4**	**-0.2**
IMOK	**Mook**	**5.90**	**123**	*e*Pn	**Pn**	**20 25 12.2**	**+0.5**
ASF	**Jabal al Asfar**	**8.62**	**271**	Pg	Px	20 26 23.4	
	comp=Z,0.1nm,0.3s,baz=74,slow=19,SNR=2.9						
ASF				Lg		20 28 20.2	
	comp=Z,0.2nm,0.3s,baz=93,slow=23,SNR=3.9						
AKTK	**Aktyubinsk**	**19.74**	**21**	P	**Pn**	**20 28 15.5**	**-0.1**
AKTO	**Aktyubinsk**	**19.74**	**21**	P	**Pn**	**20 28 15.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=207,slow=16,SNR=3.5						
BVAR	**Borovoye Array**	**26.57**	**32**	P	**P**	**20 29 23.3**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.3,baz=239,slow=8.4,SNR=4.4						
MKAR	**Makanchi Array**	**30.41**	**52**	P	**P**	**20 29 55.0**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.7,baz=246,slow=7.6,SNR=5.6						
ZAL	**Zalesovo**	**34.32**	**40**	P	**P**	**20 30 31.2**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=175,slow=9.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**45.63**	**256**	P	**P**	**20 32 00.7**	**-4.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=62,slow=7.6,SNR=5.0						

ISCJB ***19*** *20:29:20.5±1.5,40N±0.1×1229E±0.2,h627km±23km, mb4.0/20,Error ellipse: s-maj=26.4km s-min=8.2km az=118.0*

BJI ***19*** *20:29:20.1,400N×12280E,h612km, mb4.5*

IDC ***19*** *20:29:20.8±1.5,399N×12284E,h605km±18km, mb3.3/11, mb1 3.4/11,mb1mx3.2/23,mbtmp3.3/11,Error ellipse: s-maj=62.5km s-min=7.8km az=65.0*

NEIC ***19*** *20:29:21.2±1.2,397N×12279E,h612km±17km, mb4.2/11, Error ellipse: s-maj=19.6km s-min=6.5km az=56.0*

ISC 19 20:29:21.8±1.5,396N±010×1228E±02,h618km±21km,n38,
σ0§84/39,mb4.0/20,3C,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**12.71**	**259**	*e*P	**P**	**20 32 07.0**	**-0.5**
KAKA	**Kakadu**	**19.13**	**150**	*e*P	**P**	**20 33 04.4**	**-2.4**
	16nm,0.5s						
IPM	**Ipoh**	**21.71**	**272**	P	**P**	**20 33 19.8**	**-10**
FITZ	**Fitzroy Crossi**	**22.10**	**173**	*e*P	**P**	**20 33 33.2**	**-0.2**
	5.7nm,1.1s,mb4.1						
FITZ	**Fitzroy Crossi**	**22.10**	**173**	P	**P**	**20 33 33.4**	**0.0**
	1.2nm,0.4s,mb3.9,baz=5.2,slow=3.9,SNR=10						
MBWA	**Marble Bar**	**25.14**	**187**	*e*P	**P**	**20 33 59.9**	**-0.4**
	7.5nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**26.32**	**155**	*e*P	**P**	**20 34 10.5**	**-0.1**
	11nm,0.3s,mb5.0						
WRA	**Warramunga Arr**	**26.32**	**155**	P	**P**	**20 34 10.4**	**-0.2**
	7.6nm,0.3s,mb4.8,baz=336,slow=9.6,SNR=266						
WRA				S	**S**	**20 38 00.1**	**-1.7**
	0.5nm,0.7s,baz=336,slow=15,SNR=3.4						
WRA				ScP	ScP	20 40 00.4	+3.3
	0.9nm,0.5s,baz=338,slow=2.9,SNR=16						
WB2	**Warramunga Arr**	**26.33**	**155**	⇑*i*P	**P**	**20 34 10.4**	**-0.3**
WB2	**Warramunga Arr**	**26.33**	**155**	⇑*i*P	**P**	**20 34 10.4**	**-0.3**
PMG	**Port Moresby**	**27.68**	**119**	*e*P	**P**	**20 34 23.0**	**+0.5**
	14nm,0.8s,mb4.7						
ENH	**Enshi**	**29.04**	**336**	P	**P**	**20 34 34.7**	**+0.5**
AS31	**Alice Springs**	**29.52**	**159**	*e*P	**P**	**20 34 38.7**	**+0.4**
ASAR	**Alice Springs**	**29.52**	**159**	P	**P**	**20 34 39.0**	**+0.7**
	3.8nm,0.5s,mb4.3,baz=339,slow=7.8,SNR=84						
ASAR				S	**S**	**20 38 52.1**	**+0.9**
	0.8nm,0.6s,baz=328,slow=14,SNR=11						
ASAR				ScP	ScP	20 40 10.7	+3.6
	1.0nm,0.6s,baz=342,slow=2.8,SNR=15						
ASAR	**Alice Springs**	**29.52**	**159**	P	**P**	**20 34 39.0**	**+0.7**
ASAR				S	**S**	**20 38 52.1**	**+0.9**
ASAR				ScP	ScP	20 40 10.7	+3.6
PBA	**Port Blair**	**30.71**	**286**	*e*P	x	20 35 39.9	
PBA				*e*S	x	20 35 52.3	
PBA				*ex*	x	20 35 53.6	
	comp=N,77nm,0.3s						
PBA				*ex*	x	20 35 53.8	
	comp=E,50nm,0.3s						
FORT	**Forrest**	**34.90**	**172**	*e*P	**P**	**20 35 24.4**	**+0.7**
	comp=E,12nm,0.6s,mb4.7						
LSA	**Lhasa**	**39.40**	**314**	P	**P**	**20 36 01.4**	**+1.2**
LSA	**Lhasa**	**39.40**	**314**	*e*P	**P**	**20 36 01.4**	**+1.2**
	comp=E,2.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**39.88**	**155**	⇑*i*P	**P**	**20 36 05.3**	**+1.3**
	comp=E,3.2nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**39.88**	**155**	P	**P**	**20 36 05.4**	**+1.4**
	comp=E,2.6nm,0.4s,mb4.2,baz=327,slow=7.5,SNR=15						
GTA	**Gaotai**	**40.98**	**333**	*e*P	**P**	**20 36 13.5**	**+0.7**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.3						
SONM	**Songino Array**	**45.93**	**345**	P	**P**	**20 36 51.2**	**+0.3**
	comp=Z,1.4nm,0.7s,mb3.6,baz=160,slow=9.5,SNR=8.6						
TAU	**Tasmania Unive**	**51.66**	**157**	P	**P**	**20 37 33.2**	**+0.2**
MKAR	**Makanchi Array**	**55.18**	**327**	P	**P**	**20 37 58.0**	**+0.2**
	comp=Z,2.6nm,0.5s,mb3.9,baz=123,slow=7.9,SNR=59						
MKAR				PcP	PcP	20 38 49.2	0.0
	comp=Z,0.9nm,0.5s,baz=140,slow=3.2,SNR=8.7						
MKAR	**Makanchi Array**	**55.18**	**327**	P	**P**	**20 37 58.0**	**+0.2**
MKAR				PcP	PcP	20 38 49.2	0.0
AAK	**Ala-Archa**	**57.58**	**319**	*e*P	**P**	**20 38 14.3**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.1						
ZAL	**Zalesovo**	**58.66**	**335**	P	**P**	**20 38 19.4**	**-2.0**
	comp=Z,0.8nm,0.5s,mb3.1,baz=360,slow=3.0,SNR=4.8						
ZAL	**Zalesovo**	**58.66**	**335**	P	**P**	**20 38 19.4**	**-2.0**
BVAR	**Borovoye Array**	**65.02**	**328**	P	**P**	**20 39 02.2**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.4,baz=126,slow=7.5,SNR=6.2						
BRVK	**Borovoye**	**65.09**	**328**	*e*P	**P**	**20 39 02.6**	**-0.4**
	comp=Z,1.8nm,0.5s,mb3.8						
AKTK	**Aktyubinsk**	**71.06**	**322**	P	**P**	**20 39 39.1**	**+0.1**
AKTO	**Aktyubinsk**	**71.06**	**322**	P	**P**	**20 39 39.1**	**+0.1**
	comp=Z,2.1nm,0.7s,mb3.8,baz=95,slow=8.0,SNR=9.0						
ARU	**Arti**	**72.66**	**328**	P	**P**	**20 39 47.1**	**-1.2**
	comp=Z,1.4nm,0.6s,mb3.7						
GNI	**Garni**	**78.32**	**310**	P	**P**	**20 40 19.5**	**0.0**
ASF	**Jabal al Asfar**	**84.44**	**302**	P	**P**	**20 40 52.1**	**+1.4**
	comp=Z,2.1nm,1.0s,mb3.6,baz=256,slow=9.5,SNR=4.1						
FINES	**FINESS Array B**	**89.77**	**331**	P	**P**	**20 41 14.7**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=76,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**119.10**	**287**	PKP	PKPdf	20 47 02.8	+1.2
	comp=Z,0.4nm,0.6s,baz=119,slow=1.4,SNR=8.1						

KISR ***19*** *20:31:04.5±1.0,3265N×4916E,h34km, ML2.6*

ISCJB ***19*** *20:31:12.8±0.9,3241N±004×4701E±008,h10km, Error ellipse: s-maj=9.4km s-min=5.3km az=179.9*

THR ***19*** *20:31:13.6±0.4,3226N×4689E,h41km±4km, ML3.1*

CSEM ***19*** *20:31:13.6,3226N×4689E,h41km, ML3.1,After THR*

ISC 19 20:31:14.3±0.9,3239N±004×4700E±008,h10km,n9,
σ1§07/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.55**	**100**	*e*Pg	**Pg**	**20 31 43.0**	**-1.1**
SHGR				*e*Sg	**Sg**	**20 32 04.7**	**+0.3**
SHGR				AML	AML	20 32 06.6	
	comp=N,335nm,0.3s						
SHGR				AML	AML	20 32 07.1	
	comp=E,289nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.55**	**100**	*e*Pg	**Pg**	**20 31 43.0**	**-1.1**
	SNR=99						
SHGR				*e*Sg	**Sg**	**20 32 04.7**	**+0.4**
	comp=E,289nm,0.4s,SNR=99						
SNGE	**Sanandaj**	**2.71**	**6**	*e*Pn	**Pn**	**20 31 58.6**	**+0.7**
SNGE				*e*Sg	**Sg**	**20 32 41.0**	**-0.4**
SNGE				AML	AML	20 32 42.3	
	comp=E,53nm,0.6s						
SNGE				AML	AML	20 32 45.1	
	comp=N,46nm,0.6s						
SNGE	**Sanandaj**	**2.71**	**6**	*e*Pn	**Pn**	**20 31 58.6**	**+0.7**
	SNR=54						
SNGE				*e*Sg	**Sg**	**20 32 41.0**	**-0.3**
	comp=N,46nm,0.6s,SNR=95						
NAY	**Al-Naaiem**	**3.14**	**176**	*e*P	**Pn**	**20 32 03.9**	**0.0**
NAY				*e*S	**Sn**	**20 32 48.5**	**+7.1**
NAY				AML	AML	20 32 55.3	
	comp=Z,4.2nm,0.4s						
ASAO	**Ashtian**	**3.32**	**49**	*e*Pn	**Pn**	**20 32 07.1**	**+0.8**
RDF	**Al-Radifah**	**3.49**	**172**	*e*P	**Pn**	**20 32 06.4**	**-2.2**
RDF				*e*S	**Sn**	**20 32 52.2**	**+2.3**
RDF				AML	AML	20 32 58.5	
	comp=Z,9.1nm,0.3s						
QRN	**Al-Qurain**	**3.72**	**167**	*e*P	**Pn**	**20 32 07.4**	**-4.4**
QRN				*e*S	**Sn**	**20 32 55.3**	**-0.5**
QRN				AML	AML	20 32 56.9	
	comp=Z,22nm,0.2s						
NASN	**Na'in**	**4.92**	**84**	*e*Pn	**Pn**	**20 32 28.4**	**+0.1**

IDC ***19*** *20:32:12.6±2.3,273N×9737E,h0km, mb3.9/7,mb1 4.0/7, mb1mx3.7/21,mbtmp3.9/7,Error ellipse: s-maj=144.6km s-min=18.6km az=54.0*

ISCJB ***19*** *20:32:13.5±4.8,256N±009×972E±0.1,h20km±34km, mb3.8/8,Error ellipse: s-maj=21.8km s-min=14.3km az=139.2*

NEIC ***19*** *20:32:15.4±3.2,258N×9724E,h20km±23km,mb3.8/1, Error ellipse: s-maj=12.9km s-min=8.8km az=69.0*

ISC 19 20:32:14.5±6.5,260N±009×972E±01,h12km±41km,n16,
σ0§64/17,mb3.8/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.34**	**52**	*e*Pn	**Pn**	**20 33 20.7**	**+0.5**
KULM				*e*Sn	**Sn**	**20 34 02.2**	**-8.5**
COCO	**West Island**	**14.69**	**181**	*e*Pn	**Pn**	**20 35 41.7**	**-0.4**
WRA	**Warramunga Arr**	**42.77**	**123**	P	**P**	**20 40 11.3**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=304,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**42.77**	**123**	*e*P	**P**	**20 40 11.4**	**-0.3**
	0.9nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**42.77**	**123**	*e*P	**P**	**20 40 11.5**	**-0.2**
ASAR	**Alice Springs**	**44.23**	**128**	P	**P**	**20 40 24.0**	**+0.6**
	0.1nm,0.3s,mb3.0,baz=303,slow=7.6,SNR=5.8						
MKAR	**Makanchi Array**	**45.90**	**346**	P	**P**	**20 40 37.1**	**+0.3**
	0.5nm,0.4s,mb3.8,baz=157,slow=8.4,SNR=14						
ZAL	**Zalesovo**	**52.18**	**351**	P	**P**	**20 41 23.5**	**-1.4**
	1.5nm,0.4s,mb4.2,baz=329,slow=8.0,SNR=6.3						
STKA	**Stephens Creek**	**54.28**	**133**	P	**P**	**20 41 40.9**	**+0.6**
	1.1nm,0.5s,mb4.0,baz=319,slow=8.3,SNR=5.4						
STKA	**Stephens Creek**	**54.28**	**133**	P	**P**	**20 41 40.9**	**+0.6**
HNR	**Honiara**	**63.62**	**102**	P	**P**	**20 42 45.0**	**-0.2**
EIL	**Elat**	**64.74**	**302**	P	**P**	**20 42 53.5**	**+1.0**
FINES	**FINESS Array B**	**78.78**	**332**	P	**P**	**20 44 16.7**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=92,slow=4.6,SNR=4.6						
ARCES	**ARCESS Array B**	**81.24**	**340**	P	**P**	**20 44 29.4**	**-0.8**
	1.3nm,0.7s,mb4.0,baz=98,slow=5.0,SNR=4.9						
ARCES	**ARCESS Array B**	**81.24**	**340**	P	**P**	**20 44 29.4**	**-0.8**
ESLA	**Sonseca Array**	**96.95**	**310**	P	**P**	**20 45 46.6**	**+0.9**

STR ***19*** *20:33:23.1±0.0,4302N×003W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 19 20:33:22.8±0.1,4303N×003W,h5km,Md1.6/3,Ml1.2/2,
Error ellipse: s-maj=2.2km s-min=1.0km az=172.0,
Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**75**	Pg	Pg	**20 33 24.9**	**+0.4**
LABF				Sg	Sg	20 33 26.3	+0.6
VIEF	**Viey**	**0.15**	**166**	Pg	Pg	20 33 26.1	+0.3
VIEF				Sg	Sg	20 33 28.2	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	20 33 28.0	0.0
EPF				*e*Sg	Sg	20 33 31.9	+0.3
	3.8nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	20 33 31.0	+0.3
ETSF				*e*Sg	Sg	20 33 36.7	+0.6
	4.8nm,0.4s						
SJPF	**Ste Jean**	**0.88**	**276**	*e*Pg	Pg	20 33 39.3	-0.4
SJPF				*e*Sg	Sg	20 33 50.5	-0.7
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	20 33 54.2	-0.6
MTLF				*e*Sg	Sg	20 34 15.5	-1.0
	0.2nm,0.2s						

BJI ***19*** *20:38:14.3,4753N×15479E,h10km, m

JIRN	**Jiri**	**55.43**	**275**	*e*P		**P**	**20 47 56.7**	**+1.6**
	comp=Z,21nm,0.8s,mb5.2							
GUN	**Gumba**	**55.48**	**275**	*e*P		**P**	**20 47 57.9**	**+2.4**
KKN	**Kakani**	**55.96**	**276**	*e*P		**P**	**20 48 00.5**	**+1.6**
	comp=Z,14nm,0.7s,mb5.1							
PKI	**Pulchoki**	**56.02**	**275**	*e*P		**P**	**20 48 00.6**	**+1.3**
DMN	**Daman**	**56.20**	**275**	*e*P		**P**	**20 48 02.2**	**+1.6**
	comp=Z,29nm,0.8s,mb5.3							
GKN	**Gorkha**	**56.26**	**276**	*e*P		**P**	**20 48 02.2**	**+1.1**
	comp=Z,22nm,0.6s,mb5.3							
KEV	**Kevo**	**57.09**	**341**	*e*p		**P**	**20 48 04.8**	**-2.2**
KOLN	**Koldanda**	**57.12**	**277**	*e*P		**P**	**20 48 08.4**	**+1.3**
	comp=Z,18nm,0.8s,mb5.1							
ARCES	**ARCESS Array B**	**57.60**	**341**	P		**P**	**20 48 09.1**	**-1.5**
	comp=Z,8.2nm,1.1s,mb4.7,baz=29,slow=8.3,SNR=3.7							
ARCES	**ARCESS Array B**	**57.60**	**341**	P		**P**	**20 48 09.1**	**-1.5**
AKTK	**Aktyubinsk**	**58.81**	**312**	P		**P**	**20 48 18.5**	**-0.6**
AKTO	**Aktyubinsk**	**58.81**	**312**	P		**P**	**20 48 18.5**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=73,slow=11,SNR=3.9							
FINES	**FINESS Array B**	**63.85**	**335**	P		**P**	**20 48 52.0**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=38,slow=7.0,SNR=35							
FINES	**FINESS Array B**	**63.85**	**335**	P		**P**	**20 48 52.0**	**-1.2**
NB2	**NORSAR Subarra**	**67.97**	**341**	P		**P**	**20 49 18.9**	**-0.8**
	comp=Z,3.6nm,0.7s,mb4.5,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.97**	**341**	P		**P**	**20 49 19.2**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.7,baz=26,slow=6.3,SNR=14							
NOA	**NORSAR Array B**	**67.97**	**341**	P		**P**	**20 49 19.2**	**-0.5**
HFS	**Hagfors**	**68.22**	**340**	P		**P**	**20 49 20.5**	**-0.7**
	comp=Z,10.0nm,0.7s,mb5.0,baz=64,slow=6.6,SNR=9.6							
KIV	**Kislovodsk**	**70.86**	**315**	P		**P**	**20 49 37.0**	**-0.5**
KIV	**Kislovodsk**	**70.86**	**315**	P		**P**	**20 49 37.0**	**-0.6**
AKASG	**Malin Array Be**	**71.46**	**327**	P		**P**	**20 49 40.0**	**-1.2**
	comp=Z,2.1nm,0.4s,mb4.4,baz=33,slow=6.2,SNR=12							
ASAR	**Alice Springs**	**72.80**	**199**	P		**P**	**20 49 49.2**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=10,slow=5.4,SNR=9.9							
STHS	**Stebnicka Huta**	**75.39**	**330**	*e*P		**P**	**20 50 05.1**	**+0.8**
KOLS	**Kolonicke sedl**	**75.45**	**329**	*e*P		**P**	**20 50 07.2**	**+2.5**
KOLS	**Kolonicke sedl**	**75.45**	**329**	*e*P		**P**	**20 50 07.3**	**+2.6**
DPC	**Dobruska-Polom**	**76.16**	**334**	*e*P		**P**	**20 50 09.7**	**+1.0**
CLL	**Collm**	**76.27**	**336**	⇓*i*P		**P**	**20 50 09.1**	**-0.3**
CLL					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
CLL	**Collm**	**76.27**	**336**	⇓*i*P		**P**	**20 50 09.1**	**-0.3**
	comp=Z,10.0nm,1.1s,mb4.7							
KECS	**Kecovo**	**76.45**	**330**	*e*P		**P**	**20 50 10.0**	**-0.4**
TXAR	**Lajitas Array**	**76.82**	**61**	P		**P**	**20 50 12.0**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=270,slow=2.5,SNR=6.6							
VRAC	**Vranov**	**76.99**	**333**	P		**P**	**20 50 13.9**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=49,slow=6.1,SNR=5.2							
MLR	**Muntele Rosu**	**77.00**	**325**	P		**P**	**20 50 14.1**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.5,baz=124,slow=1.7,SNR=15							
PRU	**Pruhonice**	**77.01**	**334**	*e*P		**P**	**20 50 14.3**	**+0.7**
KHC	**Kasperske Hory**	**78.06**	**335**	*e*P		**P**	**20 50 19.9**	**+0.5**
GRA1	**Grafenberg Arr**	**78.22**	**336**	*e*P		**P**	**20 50 21.2**	**+0.9**
	comp=Z,6.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	**78.22**	**336**	*e*P		**P**	**20 50 21.2**	**+0.9**
	comp=Z,6.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	**78.22**	**336**	*e*P		**P**	**20 50 21.2**	**+0.9**
GRF					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
GERES	**GERESS Array B**	**78.28**	**334**	P		**P**	**20 50 20.9**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=32,slow=5.3,SNR=11							
BR131	**Keskin Array S**	**78.42**	**317**	*e*P		**P**	**20 50 21.4**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1							
BRTR	**Keskin Array B**	**78.42**	**317**	P		**P**	**20 50 20.7**	**-0.7**
	comp=Z,2.1nm,0.9s,mb4.1,baz=51,slow=3.1,SNR=9.1							
BRTR	**Keskin Array B**	**78.42**	**317**	P		**P**	**20 50 20.7**	**-0.7**
ASF	**Jabal al Asfar**	**82.81**	**310**	P		**P**	**20 50 46.7**	**+1.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=257,slow=4.9,SNR=4.0							
MMAI	**Mount Meron Ar**	**82.91**	**312**	P		**P**	**20 50 45.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=44,slow=7.3,SNR=6.8							
CFAA	**Coronel Fontan**	**144.40**	**79**	PKP		PKPdf	20 57 54.5	-2.5
	comp=Z,0.1nm,0.4s,baz=286,slow=0.6,SNR=4.1							
CFAA	**Coronel Fontan**	**144.40**	**79**	PKP		PKPdf	20 57 54.5	-2.5

IDC ***19*** *20:47:37.8≈3.2, 47.27N×152.85E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.6/27, mbtmp3.9/8, ML3.3/2, Error ellipse: s-maj=81.0km s-min=27.5km az=145.0*
ISCJB ***19*** *20:47:41.4≈1.9, 47.1N≈03×1527E≈04, h41km±16km, mb4.2/9, Error ellipse: s-maj=59.4km s-min=12.8km az=94.4*
MOS ***19*** *20:47:42.0≈0.7, 47.17N×15266E, h47km, mb4.1/5, Error ellipse: s-maj=36.3km s-min=19.3km az=63.4*

ISC 19 20:47:42.9±1.9, 471N≈03×1529E≈04, h46km±14km, n20, σ0§50/20, mb4.2/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.20**	**29**	*e*PN	**Pn**	**20 48 45.0**	**+0.5**
SKR				*e*		20 49 35.5	
ASAJ	**Asahikawa**	**7.80**	**252**	Pn	**Pn**	**20 49 33.4**	**-0.5**
	0.4nm,0.3s,baz=335,slow=17,SNR=3.9						
MJAR	**Matsushiro Arr**	**15.15**	**231**	Pn	**Pn**	**20 51 14.0**	**+0.1**
	0.2nm,0.3s,baz=106,slow=36,SNR=3.5						
INK	**Inuvik**	**41.47**	**33**	P	**P**	**20 55 24.4**	**-0.9**
	0.8nm,0.7s,mb3.4,baz=278,slow=6.8,SNR=3.5						
INK	**Inuvik**	**41.47**	**33**	P	**P**	**20 55 24.5**	**-0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**20 56 06.7**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=70,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**20 56 06.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JIRN	**Jiri**	**54.78**	**274**	*e*P	**P**	**20 57 08.7**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.7						
KKN	**Kakani**	**55.32**	**275**	*e*P	**P**	**20 57 11.8**	**-0.1**
PKI	**Pulchoki**	**55.37**	**275**	*e*P	**P**	**20 57 12.0**	**-0.3**
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**20 57 13.9**	**+0.3**
GKN	**Gorkha**	**55.62**	**276**	*e*P	**P**	**20 57 14.1**	**0.0**
	comp=Z,7.4nm,0.6s,mb4.9						
KOLN	**Koldanda**	**56.47**	**276**	*e*P	**P**	**20 57 20.3**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**20 58 09.4**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=45,slow=8.4,SNR=6.2						
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**20 58 09.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.12**	**339**	P	**P**	**20 58 37.9**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.4,baz=25,slow=4.9,SNR=5.4						
HFS	**Hagfors**	**68.12**	**339**	P	**P**	**20 58 37.9**	**-0.2**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**20 58 56.6**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=40,slow=6.8,SNR=4.1						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**20 58 56.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**82.50**	**311**	P	**P**	**21 00 01.9**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=20,slow=4.6,SNR=4.2						

IDC ***19*** *20:48:10.8≈1.2, 077N×97.18E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML2.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/34, Error ellipse: s-maj=22.3km s-min=18.9km az=104.0*
ISCJB ***19*** *20:48:14.6≈1.0, 09N≈01×973E≈02, h35km, mb3.8/8, Error ellipse: s-maj=23.8km s-min=13.9km az=141.4*
NEIC ***19*** *20:48:15.8≈0.7, 084N×9733E, h30km, mb3.9/1, Error ellipse: s-maj=16.5km s-min=10.3km az=72.0*

ISC 19 20:48:17.0±1.0, 09N≈01×974E≈02, h35km, n12, σ0§66/13, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.46**	**39**	Pn	**Pn**	**20 48 54.0**	**-0.6**
	2.5nm,0.3s,baz=286,slow=6.2,SNR=7.3						
PSI				Pg	**Pn**	**20 48 59.0**	**+4.5**
	3.4nm,0.3s,baz=203,slow=13,SNR=13						
PSI				Lg		20 49 32.6	
	4.3nm,0.3s,baz=148,slow=20,SNR=7.3						
PSI				LR	LR	20 50 09.2	
	comp=Z,1μm,19.6s,baz=295,slow=46						
KULM	**Kulim**	**5.47**	**37**	*e*Pn	**Pn**	**20 49 35.5**	**-0.5**
LSA	**Lhasa**	**29.26**	**349**	*e*P	**P**	**20 54 16.8**	**+1.0**
	2.0nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**20 56 03.2**	**+0.7**
	0.3nm,0.6s,mb3.1,baz=303,slow=8.8,SNR=4.8						
BJT	**Baijiatuan**	**42.55**	**21**	P	**P**	**20 56 10.0**	**+0.8**
	16nm,0.3s						
ASAR	**Alice Springs**	**43.07**	**127**	P	**P**	**20 56 13.1**	**-0.4**
	0.2nm,0.7s,mb3.0,baz=301,slow=7.5,SNR=3.3						
KSRS	**Korea Array**	**46.01**	**34**	P	**P**	**20 56 37.5**	**+0.6**
	1.4nm,0.8s,mb3.9,baz=220,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**47.42**	**8**	P	**P**	**20 56 47.9**	**-0.1**
	0.8nm,0.5s,mb3.9,baz=190,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**47.59**	**346**	P	**P**	**20 56 49.6**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=156,slow=8.7,SNR=16						
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**20 57 35.9**	**-0.9**
	2.1nm,0.5s,mb4.4,baz=320,slow=7.6,SNR=8.5						
BVAR	**Borovoye Array**	**56.60**	**341**	P	**P**	**20 57 55.4**	**-0.9**
	1.2nm,0.6s,mb4.1,baz=142,slow=7.5,SNR=5.3						
TAU	**Tasmania Unive**	**62.46**	**141**	P	**P**	**20 58 36.4**	**-0.3**

THE ***19*** *20:51:09.2, 4582N×2665E, h154km, ML4.1*
CSEM ***19*** *20:51:12.9≈0.1, 4569N×2658E, h152km±1km, mb4.0, Error ellipse: s-maj=1.6km s-min=1.4km az=155.0*
ISCJB ***19*** *20:51:13.0≈0.2, 4568N≈002×2659E≈003, h152km±2km, mb3.6/5, Error ellipse: s-maj=3.4km s-min=3.3km az=95.1*
BUC ***19*** *20:51:12.9≈0.5, 4569N×2657E, h160km±5km, MD4.6/2, Error ellipse: s-maj=4.0km s-min=3.4km az=333.0*
NEIC ***19*** *20:51:13.9, 4565N×2658E, h150km, MD4.0(BUC), After BUC.*
MOS ***19*** *20:51:13.0≈0.6, 4570N×2660E, h152km, mb4.0/1, Error ellipse: s-maj=7.8km s-min=5.4km az=103.5*
IDC ***19*** *20:51:14.0≈0.6, 4572N×2650E, h136km±6km, mb3.4/5, mb1 3.3/9, mb1mx3.2/21, mbtmp3.2/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=19.6km s-min=16.1km az=130.0*
SOF ***19*** *20:51:14.0, 4549N×2657E, h10km, MD3.3*
SKO ***19*** *20:51:32.1, 4434N×2559E, h18km*

ISC 19 20:51:13.8±0.3, 4568N≈002×2660E±003, h150km±2km, n110, σ0§93/154, mb3.6/5, 26C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.18**	**12**	⇑*i*P	**Pn**	**20 51 34.1**	**+0.1**
PLOR				*i* S	**Sn**	**20 51 50.1**	**+0.8**
VRI	**Vrincioaia**	**0.21**	**26**	⇑P	**Pn**	**20 51 34.3**	**+0.2**
VRI				S	**Sn**	**20 51 49.2**	**-0.3**
VRI	**Vrincioaia**	**0.21**	**26**	P	**Pn**	**20 51 34.4**	**+0.3**
VRI	**Vrincioaia**	**0.21**	**26**	P	**Pn**	**20 51 34.4**	**+0.3**
GRER		**0.40**	**138**	⇑*i*P	**Pn**	**20 51 36.0**	**+1.3**
GRER				*i* S	**Sn**	**20 51 52.8**	**+2.3**
PETR		**0.45**	**84**	⇑*i*P	**Pn**	**20 51 35.6**	**+0.7**
PETR				*i* S	**Sn**	**20 51 51.5**	**+0.6**
MLR	**Muntele Rosu**	**0.49**	**248**	P	**Pn**	**20 51 35.5**	**+0.4**
MLR				S	**Sn**	**20 51 49.7**	**-1.5**
MLR	**Muntele Rosu**	**0.49**	**248**	⇑*i*P	**Pn**	**20 51 35.4**	**+0.3**
MLR				*i* S	**Sn**	**20 51 50.6**	**-0.7**
MLR	**Muntele Rosu**	**0.49**	**248**	⇑P	**Pn**	**20 51 35.3**	**+0.2**
MLR				S	**Sn**	**20 51 51.1**	**-0.2**
MLR	**Muntele Rosu**	**0.49**	**248**	P	**Pn**	**20 51 35.4**	**+0.3**
GHRR		**0.68**	**56**	⇑*i*P	**Pn**	**20 51 36.8**	**+0.6**
GHRR				*i* S	**Sn**	**20 51 53.7**	**+0.5**
SECR		**0.74**	**210**	⇑*i*P	**Pn**	**20 51 37.3**	**+0.7**
SECR				*i* S	**Sn**	**20 51 54.6**	**+0.7**
TUDR		**0.76**	**96**	⇑*i*P	**Pn**	**20 51 36.8**	**+0.1**
TUDR				*i* S	**Sn**	**20 51 54.8**	**+0.7**
FULR		**0.80**	**188**	⇑*i*P	**Pn**	**20 51 37.7**	**+0.8**
FULR				*i* S	**Sn**	**20 51 55.5**	**+0.9**
SNX	**Sinaia**	**0.83**	**247**	⇑*i*P	**Pn**	**20 51 37.8**	**+0.7**
SNX	**Sinaia**	**0.83**	**247**	⇑P	**Pn**	**20 51 37.8**	**+0.7**
TESR		**0.83**	**3**	⇑*i*P	**Pn**	**20 51 37.0**	**-0.2**
TESR				*i* S	**Sn**	**20 51 53.9**	**-1.1**
VARR		**0.91**	**77**	⇑*i*P	**Pn**	**20 51 38.2**	**+0.4**
VARR				*i* S	**Sn**	**20 51 56.1**	**+0.1**
SULR		**1.03**	**194**	⇑*i*P	**Pn**	**20 51 39.4**	**+0.6**
SULR				*i* S	**Sn**	**20 51 58.7**	**+0.8**
VOIR		**1.11**	**258**	⇑*i*P	**Pn**	**20 51 39.3**	**-0.2**
VOIR				*i* S	**Sn**	**20 51 57.7**	**-1.5**
VOIR		**1.11**	**258**	⇑P	**Pn**	**20 51 39.4**	**-0.1**
VOIR				S	**Sn**	**20 51 59.0**	**-0.1**
KGL	**Cahul**	**1.15**	**78**	*i* P	**Pn**	**20 51 40.0**	**+0.2**
	660nm,1.0s						
MTUR	**Matau**	**1.17**	**248**	⇑*i*P	**Pn**	**20 51 40.4**	**+0.4**
MTUR	**Matau**	**1.17**	**248**	⇑P	**Pn**	**20 51 40.4**	**+0.4**
AMRR		**1.19**	**154**	⇓*i*P	**Pn**	**20 51 40.9**	**+0.7**
AMRR				*i* S	**Sn**	**20 52 00.5**	**+0.1**
CFR	**Carcaliu**	**1.20**	**114**	⇓*i*P	**Pn**	**20 51 40.5**	**+0.2**
CFR				*i* S	**Sn**	**20 52 00.0**	**-0.5**
BUC1	**Bucharest**	**1.39**	**197**	⇑*i*P	**Pn**	**20 51 42.6**	**+0.4**
BUC1				*i* S	**Sn**	**20 52 03.7**	**-0.2**
BUC1	**Bucharest**	**1.39**	**197**	P	**Pn**	**20 51 42.6**	**+0.4**
BUC1				S	**Sn**	**20 52 03.3**	**-0.6**
BUC1	**Bucharest**	**1.39**	**197**	P	**Pn**	**20 51 42.5**	**+0.3**
LEOM	**Leova**	**1.40**	**55**	⇓*i*P	**Pn**	**20 51 42.0**	**-0.3**
	1μm,0.2s						
TLCR		**1.64**	**107**	⇓*i*P	**Pn**	**20 51 44.8**	**0.0**
TLCR				*i* S	**Sn**	**20 52 08.3**	**-0.3**
IAS	**Iasi**	**1.66**	**23**	⇑*i*P	**Pn**	**20 51 45.2**	**+0.2**
IAS				*i* S	**Sn**	**20 52 07.7**	**-1.2**
IAS	**Iasi**	**1.66**	**23**	P	**Pn**	**20 51 45.3**	**+0.3**
TIRR	**Tirgusor**	**1.77**	**133**	⇑*i*P	**Pn**	**20 51 46.8**	**+0.5**
TIRR				*i* S	**Sn**	**20 52 10.0**	**-1.3**
TIRR	**Tirgusor**	**1.77**	**133**	P	**Pn**	**20 51 46.9**	**+0.6**
TIRR				S	**Sn**	**20 52 10.7**	**-0.6**
TIRR	**Tirgusor**	**1.77**	**133**	P	**Pn**	**20 51 46.7**	**+0.4**
TIRR				S	**Sn**	**20 52 10.7**	**-0.6**
TIRR	**Tirgusor**	**1.77**	**133**	P	**Pn**	**20 51 46.6**	**+0.3**
KIS	**Kishinev**	**2.03**	**49**	*e*P	**Pn**	**20 51 49.0**	**-0.2**
KIS				*e*S	**Sn**	**20 52 14.0**	**-2.4**
KIS	**Kishinev**	**2.03**	**49**	*e*P	**Pn**	**20 51 48.0**	**-1.2**
	200nm,0.7s						
KIS				*i* S	**Sn**	**20 52 14.0**	**-2.4**
	4μm,0.5s						
KIS	**Kishinev**	**2.03**	**49**	*e*P	**Pn**	**20 51 49.0**	**-0.2**
	210nm,0.7s						
BURAR	**Bucovina Array**	**2.16**	**334**	⇓*i*P	**Pn**	**20 51 52.1**	**+1.4**
BURAR	**Bucovina Array**	**2.16**	**334**	⇑P	**Pn**	**20 51 51.7**	**+1.0**
BURAR				S	**Sn**	**20 52 22.4**	**+3.3**
BURAR	**Bucovina Array**	**2.16**	**334**	P	**Pn**	**20 51 51.6**	**+0.9**
ZIMR		**2.20**	**204**	⇑*i*P	**Pn**	**20 51 51.3**	**0.0**
ZIMR				*i* S	**Sn**	**20 52 18.5**	**-1.7**
ZIMR		**2.20**	**204**	P	**Pn**	**20 51 51.3**	**0.0**
ZIMR				S	**Sn**	**20 52 19.3**	**-0.9**
PSN	**Preselentsi**	**2.30**	**150**	*i* P	**Pn**	**20 51 51.2**	**-1.2**
PSN				*i* S	**Sn**	**20 52 21.0**	**-1.1**
PSN	**Preselentsi**	**2.30**	**150**	P	**Pn**	**20 51 53.1**	**+0.7**
CRAR	**CRAIOVA**	**2.40**	**237**	⇑*i*P	**Pn**	**20 51 53.4**	**-0.3**
CRAR				*i* S	**Sn**	**20 52 22.9**	**-1.5**
SZH	**Strazhica**	**2.46**	**191**	*i* P	**Pn**	**20 51 54.7**	**+0.3**
SZH				*i* S	**Sn**	**20 52 23.6**	**-2.0**
PRD	**Provadia**	**2.54**	**167**	*i* P	**Pn**	**20 51 55.6**	**+0.2**
PRD				*i* S	**Sn**	**20 52 25.0**	**-2.5**
PVL	**Pavlikeni**	**2.62**	**201**	*i* P	**Pn**	**20 51 58.0**	**+1.6**
PVL				*i* S	**Sn**	**20 52 29.0**	**-0.3**
PVL	**Pavlikeni**	**2.62**	**201**	P	**Pn**	**20 51 57.7**	**+1.3**
GZR	**Gura Zlata**	**2.70**	**265**	⇑*i*P	**Pn**	**20 51 57.4**	**+0.1**
GZR				*i* S	**Sn**	**20 52 31.4**	**+0.4**
GZR	**Gura Zlata**	**2.70**	**265**	P	**Pn**	**20 51 57.5**	**+0.1**
DRGR		**2.92**	**294**	⇓*i*P	**Pn**	**20 51 59.4**	**-0.7**
DRGR		**2.92**	**294**	P	**Pn**	**20 51 59.6**	**-0.5**
JMB	**Yambol**	**3.21**	**180**	*i* P	**Pn**	**20 52 03.0**	**-0.8**
JMB				*i* S	**Sn**	**20 52 39.8**	**-2.8**
JMB	**Yambol**	**3.21**	**180**	*e*Pn	**Pn**	**20 52 03.8**	**0.0**
JMB	**Yambol**	**3.21**	**180**	P	**Pn**	**20 52 04.0**	**+0.2**
BZS	**Buzias**	**3.49**	**271**	⇓*i*P	**Pn**	**20 52 07.0**	**-0.4**
BZS	**Buzias**	**3.49**	**271**	P	**Pn**	**20 52 07.0**	**-0.4**
BZS	**Buzias**	**3.49**	**271**	P	**Pn**	**20 52 07.1**	**-0.3**
PGB	**Panagyurishte**	**3.58**	**210**	*i* P	**Pn**	**20 52 08.9**	**+0.3**
PGB				*i* S	**Sn**	**20 52 50.5**	**-0.6**
PLD	**Plovdiv**	**3.83**	**202**	*e*Pn	**Pn**	**20 52 11.8**	**0.0**
VTS	**Vitosha**	**3.93**	**219**	*e*Pn	**Pn**	**20 52 14.3**	**+1.1**
VTS	**Vitosha**	**3.93**	**219**	*i* P	**Pn**	**20 52 14.0**	**+0.8**
VTS	**Vitosha**	**3.93**	**219**	P	**Pn**	**20 52 13.6**	**+0.4**
VTS	**Vitosha**	**3.93**	**219**	*e*Pn	**Pn**	**20 52 14.3**	**+1.1**
UZH	**Uzhgorod**	**4.16**	**317**	*i* P	**Pn**	**20 52 16.0**	**-0.2**
UZH				*e*S	**Sn**	**20 53 03.0**	**-1.6**
UZH				MLR	MLR		
	comp=Z,400nm,5.0s						
RZN	**Rozhen**	**4.22**	**200**	P	**Pn**	**20 52 17.8**	**+0.9**
KOLS	**Kolonicke sedl**	**4.39**	**319**	*e*PN	**Pn**	**20 52 19.3**	**+0.2**
KKB	**Krupnik**	**4.58**	**215**	P	**Pn**	**20 52 23.9**	**+2.2**
ALN	**Alexandroupoli**	**4.80**	**185**	*e*Pn	**Pn**	**20 52 25.3**	**+0.8**
ISK	**Istanbul-Kandi**	**4.95**	**158**	*e*Pn	**Pn**	**20 52 26.9**	**+0.4**
DIVS	**Divcibare**	**4.95**	**254**	*e*Pn	**Pn**	**20 52 26.0**	**-0.5**
KECS	**Kecovo**	**5.03**	**306**	*e*PN	**Pn**	**20 52 27.3**	**-0.2**
STIP	**Stip**	**5.11**	**220**	*e*Pn	**Pn**	**20 52 26.6**	**-2.0**
STIP				*e*Sn	**Sn**	**20 53 07.5**	**-19**
PSZ	**Piszkesteto**	**5.12**	**298**	P	**Pn**	**20 52 28.4**	**-0.3**
SEV	**Sevastopol'**	**5.13**	**100**	⇓*i*P	**Pn**	**20 52 28.2**	**-0.7**
SEV				*e*S	**Sn**	**20 53 27.0**	**-0.6**
SEV				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SEV				smax			
	comp=N,36nm,0.7s						
SEV				smax			
	comp=E,4.0nm,0.7s						
SEV	**Sevastopol'**	**5.13**	**100**	*i* P	**Pn**	**20 52 28.2**	**-0.7**
	comp=E,10.0nm,0.3s						
STHS	**Stebnicka Huta**	**5.21**	**318**	*e*PN	**Pn**	**20 52 30.9**	**+1.0**
VAY	**Valandovo**	**5.25**	**215**	*e*Pn	**Pn**	**20 52 30.1**	**-0.4**
VAY				*e*Sn	**Sn**	**20 53 12.8**	**-18**
VAY	**Valandovo**	**5.25**	**215**	*e*Pn	**Pn**	**20 52 30.0**	**-0.5**
AKASG	**Malin Array Be**	**5.32**	**18**	P	**Pn**	**20 52 31.1**	**-0.3**
	comp=E,2.3nm,0.3s,baz=204,slow=11,SNR=5.6						
SIM	**Simferopol'**	**5.36**	**95**	*e*P	**Pn**	**20 52 31.9**	**0.0**
SIM				*e*S	**Sn**	**20 53 32.2**	**-0.6**
SIM				pmax	pmax		
	comp=Z,40nm,0.4s						
SIM				smax			
	comp=N,20nm,1.0s						
SIM				smax			
	comp=E,70nm,1.0s						
SIM	**Simferopol'**	**5.36**	**95**	*e*P	**Pn**	**20 52 31.9**	**0.0**
	comp=E,40nm,0.4s						
SOH	**Sokhos**	**5.40**	**207**	*e*Pn	**Pn**	**20 52 32.6**	**+0.1**
YAL	**Yalta**	**5.48**	**100**	*e*P	**Pn**	**20 52 34.0**	**+0.4**
YAL				pmax	pmax		
	comp=Z,16nm,0.2s						
YAL	**Yalta**	**5.48**	**100**	*e*P	**Pn**	**20 52 34.0**	**+0.4**
	comp=Z,16nm,0.2s						
PKSM	**Moragy**	**5.57**	**278**	P	**Pn**	**20 52 35.1**	**+0.3**
PKSM	**Moragy**	**5.57**	**278**	P	**Pn**	**20 52 35.0**	**+0.2**
NIE	**Niedzica**	**5.66**	**314**	*e*P	**Pn**	**20 52 36.3**	**+0.3**
OUR	**Ouranopolis**	**5.67**	**201**	*e*Pn	**Pn**	**20 52 37.0**	**+0.9**
SUDU	**Sudak**	**5.98**	**95**	*e*P	**Pn**	**20 52 39.0**	**-1.2**
SUDU				*e*S	**Sn**	**20 53 44.5**	**-3.3**
SUDU				pmax	pmax		
	comp=Z,28nm,0.8s						
SUDU				smax			
	comp=E,58nm,0.6s						
SUDU	**Sudak**	**5.98**	**95**	*e*P	**Pn**	**20 52 39.0**	**-1.2**
	comp=E,28nm,0.8s						
VYHS	**Vyhne**	**6.00**	**301**	*e*PN	**Pn**	**20 52 40.1**	**-0.4**
VRAC	**Vranov**	**7.69**	**302**	P	**Pn**	**20 53 02.2**	**-0.8**
	comp=E,0.1nm,0.3s,baz=109,slow=12,SNR=5.6						
VRAC				LR	LR	20 55 58.7	

PLAL	**Pickwick Lake**	**19.11**	**13**	*e*P		**P**		**20 57 15.2**	**-0.1**
	12nm,0.8s								
AMTX	**Amarillo**	**20.00**	**339**	*e*P		**P**		**20 57 24.9**	**-0.1**
	33nm,0.9s								
AMTX				*e*S		**S**		**21 01 00.8**	**+0.7**
COW	**Cow Castle Cre**	**20.34**	**31**	P		**P**		**20 57 29.9**	**+1.3**
JSC	**Jenkinsville**	**20.81**	**29**	P		**P**		**20 57 32.3**	**-1.2**
TKL	**Tuckaleechee C**	**20.97**	**22**	P		**P**		**20 57 33.5**	**-1.8**
	4.6nm,0.9s,baz=170,slow=12,SNR=4.8								
ANMO	**Albuquerque**	**22.06**	**330**	P		**P**		**20 57 46.9**	**+0.2**
	3.2nm,0.5s,mb4.0,baz=149,slow=12,SNR=14								
TUC	**Tucson**	**22.58**	**318**	*e*P		**P**		**20 57 52.6**	**+1.2**
	8.1nm,1.0s,mb4.1								
SDV	**Santo Domingo**	**23.14**	**106**	P		**P**		**20 57 54.1**	**-2.4**
	7.5nm,0.6s,mb4.3,baz=285,slow=5.8,SNR=17								
SDV	**Santo Domingo**	**23.14**	**106**	P		**P**		**20 57 54.1**	**-2.4**
MVCO	**Mesa Verde**	**24.85**	**330**	*e*P		**P**		**20 58 13.6**	**+1.5**
	15nm,0.7s,mb4.6								
MVCO				*e*				20 58 50.8	
SCIA	**State Center**	**25.48**	**360**	*e*P		**P**		**20 58 16.2**	**-1.6**
	18nm,0.6s,mb4.8								
PV10	**Paradox Valley**	**26.04**	**331**	*e*P		**P**		**20 58 23.4**	**+0.6**
MTP	**Monte Pirata**	**26.38**	**82**	*e*P		**P**		**20 58 24.4**	**-1.4**
PFO	**Pinyon Flat Ob**	**27.16**	**314**	P		**P**		**20 58 34.7**	**+1.8**
	1.9nm,0.8s,mb3.8,baz=46,slow=6.9,SNR=3.7								
ARUT	**Antelope Range**	**27.89**	**324**	*e*P		**P**		**20 58 41.5**	**+2.2**
PDAR	**Pinedale Array**	**29.86**	**335**	P		**P**		**20 58 56.5**	**-0.2**
	0.3nm,0.5s,mb3.3,baz=126,slow=7.5,SNR=3.8								
NVAR	**Mina Array Bea**	**31.20**	**320**	P		**P**		**20 59 11.1**	**+2.6**
	4.3nm,0.9s,mb4.2,baz=142,slow=7.4,SNR=28								
NVAR	**Mina Array Bea**	**31.20**	**320**	P		**P**		**20 59 11.1**	**+2.6**
LPAZ	**La Paz**	**40.72**	**142**	P		**P**		**21 00 29.1**	**-0.2**
	7.6nm,0.7s,mb4.5,baz=324,slow=7.3,SNR=34								
YKA	**Yellowknife Ar**	**48.52**	**347**	P		**P**		**21 01 29.6**	**-1.4**
	0.9nm,0.5s,mb3.6,baz=150,slow=7.6,SNR=4.7								
CFAA	**Coronel Fontan**	**53.31**	**153**	P		**P**		**21 02 06.7**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=346,slow=7.2,SNR=7.1								
INK	**Inuvik**	**57.91**	**343**	P		**P**		**21 02 37.7**	**-1.8**
	1.3nm,0.9s,mb3.7,baz=111,slow=12,SNR=3.0								
INK	**Inuvik**	**57.91**	**343**	P		**P**		**21 02 37.7**	**-1.8**
WRA	**Warramunga Arr**	**134.87**	**258**	PKP		PKPdf		21 12 03.8	0.0
	0.8nm,0.8s,baz=79,slow=2.4,SNR=8.8								

IDC 19 20:56:30.9±4.2, 1675S×17713W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=178.1km s-min=49.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.26**	**240**	P	P	21 04 10.2	+0.8
	1.1nm,0.5s,baz=99,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**46.05**	**258**	P	P	21 04 56.6	+0.2
	1.0nm,0.5s,baz=96,slow=7.3,SNR=35						
ASAR	**Alice Springs**	**46.29**	**253**	P	P	21 04 58.3	+0.1
	3.3nm,0.7s,baz=86,slow=8.6,SNR=45						
VNA3	**Neumayer Olymp**	**91.81**	**176**	*e*	P	21 09 34.7	-6.0
VNA2	**Neumayer--Watz**	**92.26**	**177**	*e*	P	21 09 37.7	-5.1
GERES	**GERESS Array B**	**146.79**	**347**	PKPbc	PKPbc	21 16 14.3	-0.6
	0.3nm,0.6s,baz=29,slow=3.0,SNR=3.6						

*IDC **19** 21:03:04.8±7.4, 279N×12789E, h129km±69km, mb3.7/7, mb1 3.8/7, mb1mx3.6/17, mbtmp3.7/7, Error ellipse: s-maj=155.8km s-min=15.1km az=68.0*

*ISCJB **19** 21:03:09.7±4.6, 29N±0.1×1285E±04, h202km±48km, mb3.8/11, Error ellipse: s-maj=64.1km s-min=12.6km az=144.2*

*NEIC **19** 21:03:09.5±4.0, 295N×12844E, h182km±40km, mb4.1/4, Error ellipse: s-maj=42.1km s-min=8.8km az=72.0*

ISC 19 21:03:09.8±6.0, 30N±01×1286E±04, h187km±62km, n17, σ0§85/16, mb3.9/11, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**22.14**	**343**	P	**P**	**21 07 50.7**	**+0.4**
YHNB	**Yeheng**	**22.67**	**343**	*e*P	**P**	**21 07 55.0**	**-0.2**
WRA	**Warramunga Arr**	**23.46**	**166**	P	**P**	**21 08 02.3**	**-0.1**
	6.7nm,0.7s,mb4.2,baz=345,slow=10,SNR=36						
WB2	**Warramunga Arr**	**23.46**	**166**	*e*P	**P**	**21 07 59.7**	**-2.7**
ASAR	**Alice Springs**	**26.97**	**169**	P	**P**	**21 08 34.0**	**0.0**
	0.6nm,0.7s,mb3.4,baz=2.6,slow=9.9,SNR=8.0						
ASAR				PcP	PcP	21 11 52.5	+1.8
	1.1nm,0.6s,baz=354,slow=2.2,SNR=15						
STKA	**Stephens Creek**	**36.79**	**161**	‖ *i*P	**P**	**21 10 00.5**	**+1.0**
	3.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**36.79**	**161**	P	**P**	**21 10 00.9**	**+1.4**
	5.6nm,0.6s,mb4.4,baz=344,slow=7.6,SNR=18						
STKA	**Stephens Creek**	**36.79**	**161**	*e*P	**P**	**21 10 00.7**	**+1.2**
LSA	**Lhasa**	**44.34**	**311**	*e*P	**P**	**21 11 02.6**	**+1.3**
	0.6nm,0.3s,mb3.7						
SONM	**Songino Array**	**48.62**	**340**	P	**P**	**21 11 34.8**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=141,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**59.25**	**325**	P	**P**	**21 12 51.0**	**-0.4**
	1.4nm,0.5s,mb4.1,baz=114,slow=8.1,SNR=19						
TIXI	**Tiksi**	**68.58**	**0**	*e*P	**P**	**21 13 52.5**	**+0.2**
	1.8nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**68.97**	**327**	P	**P**	**21 13 54.3**	**-0.5**
	0.6nm,0.4s,mb3.6,baz=106,slow=5.1,SNR=4.3						
BRVK	**Borovoye**	**69.05**	**327**	*e*P	**P**	**21 13 54.3**	**-0.9**
	1.5nm,0.5s,mb4.0						
VNDA	**Vanda**	**82.45**	**173**	P	**P**	**21 15 12.2**	**+1.0**
	1.7nm,0.8s,mb3.7,baz=0.9,slow=3.9,SNR=5.4						
EIL	**Elat**	**91.72**	**300**	*e*P	**P**	**21 15 55.5**	**-0.5**
	4.3nm,0.4s,mb4.8						
TORD	**Torodi Ar. Bea**	**124.93**	**288**	PKP	PKPdf	21 21 48.8	+1.3
	0.4nm,0.7s,baz=55,slow=1.8,SNR=7.5						

*BJI **19** 21:11:15.6, 4731N×15482E, h10km, mB4.9, mb4.5, Ms4.4, Msz4.2*

*ISCJB **19** 21:11:20.5±0.3, 4713N±004×15405E±006, h10km, mb4.7/83, MS4.2/11, Error ellipse: s-maj=7.2km s-min=3.7km az=96.4*

*IDC **19** 21:11:20.5±0.6, 4719N×15397E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.4/20, ML3.4/1, MS4.2/6, Ms1 4.2/6, ms1mx3.5/38, Error ellipse: s-maj=19.4km s-min=14.4km az=110.0*

*NEIC **19** 21:11:22.1±0.2, 4712N×15404E, h10km, mb4.7/33, Error ellipse: s-maj=7.0km s-min=4.8km az=135.0*

*MOS **19** 21:11:26.0±1.4, 4720N×15395E, h50km, mb4.9/28, MS4.2/6, Error ellipse: s-maj=7.9km s-min=5.2km az=100.0*

*SZGRF **19** 21:11:31.0, 4777N×15372E, h33km, mb5.3, Kuril Islands, Russia*

ISC 19 21:11:26.3±0.8, 4718N±004×15404E±006, h38km±6km, h12km±5.1km; pP-P, n220, σ1§07/219, mb4.7/83, MS4.2/11, 21C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**21**	*e*PN	**Pn**	**21 12 20.5**	**-1.3**
SKR				*e*S	**Sn**	**21 13 07.5**	**+2.6**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				smax			
	comp=N,2μm,4.0s						
SKR				smax			
	comp=E,3μm,6.0s						
SKR				smax			
	comp=N,740nm,0.7s						
SKR				smax			
	comp=E,600nm,0.7s						
KUR	**Kuril'sk**	**4.71**	**248**	‖ *i*PN	**Pn**	**21 12 32.0**	**-2.7**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.54**	**244**	*e*PN	**Pn**	**21 13 00.5**	**+0.6**
YUK				*e*S	**Sn**	**21 14 15.0**	**+1.8**
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,760nm,0.5s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
PET	**Petropavlovsk**	**6.56**	**25**	*e*PN	**Pn**	**21 12 58.7**	**-1.5**
PET				pmax	pmax		
	comp=Z,51nm,0.9s						
PET	**Petropavlovsk**	**6.56**	**25**	*e*Pn	**Pn**	**21 12 58.9**	**-1.3**
	comp=Z,36nm,0.6s						
PET				*e*Sn	**Sn**	**21 14 16.4**	**+2.7**
YSS	**Yuzh-Sakhalins**	**7.71**	**272**	⇑ *e*PN	**Pn**	**21 13 19.0**	**+3.0**
YSS				*e*S	**Sn**	**21 14 46.5**	**+4.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.71**	**272**	*e*Pn	**Pn**	**21 13 18.5**	**+2.5**
	comp=Z,30nm,0.6s						
YSS				*e*Sn	**Sn**	**21 14 45.2**	**+3.2**
ASAJ	**Asahikawa**	**8.58**	**253**	Pn	**Pn**	**21 13 31.6**	**+3.7**
	comp=Z,1.6nm,0.3s,baz=92,slow=17,SNR=11						
ASAJ	**Asahikawa**	**8.58**	**253**	PN	**Pn**	**21 13 31.6**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MA2	**Magadan**	**12.57**	**352**	*e*PN	**Pn**	**21 14 21.7**	**-0.8**
KLR	**Kul'dur**	**15.00**	**286**	*e*P	**Pn**	**21 14 56.2**	**+0.8**
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s						
MAJO	**Matsushiro**	**15.85**	**234**	*e*P	**Pn**	**21 15 03.9**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAJO	**Matsushiro**	**15.85**	**234**	*e*Pn	**Pn**	**21 15 03.9**	**-2.5**
	comp=Z,9.3nm,0.6s						
MAT	**Matsushiro**	**15.85**	**234**	P	**Pn**	**21 15 07.0**	**+0.6**
MJAR	**Matsushiro Arr**	**15.85**	**234**	Pn	**Pn**	**21 15 03.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=5.2						
CLNS	**Chul'man**	**20.23**	**309**	*e*P	**P**	**21 15 53.7**	**-4.3**
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				pmax	pmax		
	comp=N,18nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,1.7s						
CLNS				MLR	MLR		
	comp=Z,830nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,140nm,12.0s						
CN2	**Changchun**	**20.28**	**271**	*e*P	**P**	**21 15 58.9**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YAK	**Yakutsk**	**20.32**	**326**	*e*P	**P**	**21 15 59.5**	**+0.6**
YAK				*e*S	**S**	**21 19 46.4**	**+1.8**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.5s						
YAK				smax			
	comp=E,77nm,2.6s						
YAK				smax			
	comp=N,88nm,2.5s						
YAK	**Yakutsk**	**20.32**	**326**	*e*P	**P**	**21 15 58.8**	**-0.1**
	comp=N,18nm,0.6s						
KSRS	**Korea Array**	**21.53**	**253**	P	**P**	**21 16 12.8**	**+0.8**
	comp=N,3.8nm,0.8s,mb3.9,baz=65,slow=10,SNR=12						
BILL	**Bilibino**	**21.84**	**12**	*e*P	**P**	**21 16 12.4**	**-2.9**
BILL				*e*		21 16 36.3	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.1						
BILL	**Bilibino**	**21.84**	**12**	*e*P	**P**	**21 16 15.0**	**-0.3**
	comp=Z,9.7nm,0.9s,mb4.2						
SNY	**Shenyang**	**22.29**	**267**	⇑P	**P**	**21 16 18.3**	**-1.9**
SNY				AP		21 16 22.8	
SNY				XP	sP	21 16 25.3	-9.5
SNY				AMB	AMB		
	comp=Z,15nm,2.5s,mb4.0						
HIA	**Hailar**	**22.84**	**288**	*e*P	**P**	**21 16 25.7**	**-0.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**22.84**	**288**	*e*P	**P**	**21 16 25.7**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.1						
BOD	**Bodaibo**	**26.21**	**309**	*e*P	**P**	**21 16 54.8**	**-2.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**31.36**	**289**	*e*P	**P**	**21 17 42.4**	**-0.8**
ULN				*e*		21 18 42.6	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**31.36**	**289**	*e*P	**P**	**21 17 42.4**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.2						
ULN				*e*		21 18 42.6	
SONM	**Songino Array**	**31.79**	**289**	P	**P**	**21 17 45.3**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.1,baz=64,slow=8.9,SNR=12						
SONM				LR	LR	21 30 31.7	
	comp=Z,273nm,20.3s,MS3.9,baz=188,slow=36						
TLY	**Talaya**	**32.55**	**297**	*e*P	**P**	**21 17 52.9**	**-0.8**
ZAK	**Zakamensk**	**33.08**	**295**	*e*P	**P**	**21 18 05.4**	**+7.1**
NACB	**Ninganchiao**	**34.56**	**240**	*e*P	**P**	**21 18 10.6**	**-0.6**
PMR	**Palmer**	**34.85**	**44**	*e*P	**P**	**21 18 13.4**	**-0.2**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
PMR	**Palmer**	**34.85**	**44**	*e*P	**P**	**21 18 13.4**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
MCK	**McKinley**	**34.91**	**41**	*e*P	**P**	**21 18 14.1**	**-0.1**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MCK	**McKinley**	**34.91**	**41**	*e*P	**P**	**21 18 14.1**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.1						
SML	**Sawmill**	**35.22**	**44**	*e*P	**P**	**21 18 17.0**	**+0.2**
COLA	**College**	**35.41**	**39**	*e*P	**P**	**21 18 18.9**	**+0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
COLA	**College**	**35.41**	**39**	*e*P	**P**	**21 18 18.9**	**+0.5**
	comp=Z,6.8nm,0.7s,mb4.7						
XAN	**Xi'an**	**36.19**	**265**	P	**P**	**21 18 24.9**	**-0.2**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
LZH	**Lanzhou**	**38.51**	**272**	*e*P	**P**	**21 18 46.1**	**+1.3**
LZH				AP	pP	21 18 50.1	-5.5
LZH				XP	sP	21 18 52.0	-8.2
LZH				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
LZH	**Lanzhou**	**38.51**	**272**	*e*P	**P**	**21 18 46.1**	**+1.3**
	comp=Z,18nm,1.1s,mb4.7						
LZH				pP	pP	21 18 50.1	-5.5
LZH				sP	sP	21 18 52.0	-8.2
GTA	**Gaotai**	**39.53**	**279**	*e*P	**P**	**21 18 53.8**	**+0.5**
GTA				AP	pP	21 18 58.8	-5.4
GTA				XP	sP	21 19 01.6	-7.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
INK	**Inuvik**	**40.95**	**33**	P	**P**	**21 19 05.8**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.2,baz=287,slow=6.2,SNR=17						
INK	**Inuvik**	**40.95**	**33**	P	**P**	**21 19 05.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**40.95**	**33**	*e*P	**P**	**21 19 06.2**	**+1.1**
	comp=Z,139nm,0.7s,mb5.7						
CD2	**Chengdu**	**41.55**	**265**	P	**P**	**21 19 10.4**	**+0.4**
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**43.44**	**307**	*e*P	**P**	**21 19 23.6**	**-1.7**
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
DLBC	**Dease Lake**	**44.84**	**46**	P	**P**	**21 19 36.5**	**-0.1**
QIZ	**Qiongzhong**	**45.60**	**247**	*e*P	**P**	**21 19 41.9**	**-0.7**
KMI	**Kunming**	**45.95**	**260**	P	**P**	**21 19 45.5**	**+0.2**
KMI				AP	pP	21 19 51.3	-5.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				LR	LR		
	comp=Z,88nm,17.9s,MS3.8						
KMI	**Kunming**	**45.95**	**260**	P	**P**	**21 19 45.5**	**+0.2**
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				pP	pP	21 19 51.3	-5.1
KMI				S	S	21 26 49.2	+22
KMI				LR	LR		
	comp=Z,90nm,17.9s,MS3.8						
MK31	**Makanchi Array**	**47.31**	**297**	P	**P**	**21 19 54.2**	**-1.8**
MK31				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**47.31**	**297**	P	**P**	**21 19 54.8**	**-1.3**
	comp=Z,6.2nm,0.8s,mb4.6,baz=64,slow=7.7,SNR=44						
MKAR				PcP	PcP	21 21 26.1	-0.5
	comp=Z,1.5nm,0.8s,baz=72,slow=5.2,SNR=3.6						
KURK	**Kurchatov**	**47.66**	**304**	P	**P**	**21 19 55.9**	**-2.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**50.20**	**37**	P	**P**	**21 20 15.9**	**-2.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=296,slow=7.0,SNR=5.2						
YKA	**Yellowknife Ar**	**50.20**	**37**	P	**P**	**21 20 15.9**	**-2.3**
RES	**Resolute Bay**	**50.23**	**19**	*e*P	**P**	**21 20 19.0**	**+0.6**
	comp=Z,146nm,0.8s						
LSA	**Lhasa**	**50.88**	**273**	P	**P**	**21 20 25.5**	**+2.1**
LSA	**Lhasa**	**50.88**	**273**	*e*P	**P**	**21 20 25.7**	**+2.3**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
LSA	**Lhasa**	**50.88**	**273**	*e*P	**P**	**21 20 25.7**	**+2.4**
	comp=Z,18nm,0.8s,mb5.0						
VOSK	**Vostochnaya**	**50.91**	**309**	P	**P**	**21 20 22.0**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BVA0	**Borovoye Array**	**51.08**	**309**	*i* P	**P**	**21 20 23.1**	**-1.7**
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**21 20 23.6**	**-1.2**
	comp=Z,5.9nm,0.7s,mb4.7,baz=53,slow=7.9,SNR=39						
BVAR				LR	LR	21 43 58.7	
	comp=Z,311nm,18.1s,MS4.4,baz=320,slow=38						
BRVK	**Borovoye**	**51.12**	**310**	*e*P	**P**	**21 20 23.6**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**51.12**	**310**	*e*P	**P**	**21 20 23.6**	**-1.6**
	comp=Z,9.2nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**52.84**	**257**	*e*P	**P**	**21 20 38.7**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**52.84**	**257**	*e*P	**P**	**21 20 38.6**	**+0.7**
	comp=Z,5.9nm,0.8s,mb4.6						
CM31	**Chiang Mai Arr**	**53.09**	**257**	*e*P	**P**	**21 20 41.2**	**+1.4**
AAK	**Ala-Archa**	**54.22**	**297**	⇑ *e*P	**P**	**21 20 46.7**	**-1.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**54.22**	**297**	*e*P	**P**	**21 20 46.4**	**-1.7**
	comp=Z,6.0nm,0.8s,mb4.6						
ARU	**Arti**	**55.13**	**318**	⇑ *i*P	**P**	**21 20 53.0**	**-1.6**
ARU				*e*		21 22 55.8	
ARU				*e*S	**S**	**21 28 32.9**	**-1.9**
ARU				*e*SS	SS	21 32 22.0	+2.9
ARU				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
ARU	**Arti**	**55.13**	**318**	*e*P	**P**	**21 20 52.8**	**-1.8**
	comp=Z,19nm,0.8s,mb5.2						
JIRN	**Jiri**	**55.55**	**275**	*e*P	**P**	**21 20 59.0**	**+1.4**
	comp=Z,67nm,0.8s,mb5.7						
GUN	**Gumba**	**55.60**	**275**	*e*P	**P**	**21 20 59.0**	**+1.0**
	comp=Z,31nm,0.7s,mb5.5						
KKN	**Kakani**	**56.08**	**276**	*e*P	**P**	**21 21 02.5**	**+1.0**
	comp=Z,44nm,0.8s,mb5.6						
PKI	**Pulchoki**	**56.13**	**275**	*e*P	**P**	**21 21 02.9**	**+1.0**
	comp=Z,42nm,0.9s,mb5.5						
DMN	**Daman**	**56.31**	**276**	*e*P	**P**	**21 21 04.5**	**+1.4**
	comp=Z,95nm,0.9s,mb5.8						
GKN	**Gorkha**	**56.38**	**276**	*e*P	**P**	**21 21 04.7**	**+1.1**
	comp=Z,104nm,0.8s						
KEV	**Kevo**	**57.15**	**341**	*e*p	**P**	**21 21 05.2**	**-3.9**
KOLN	**Koldanda**	**57.23**	**277**	*e*P	**P**	**21 21 10.9**	**+1.2**
	comp=Z,65nm,0.8s,mb5.7						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**21 21 11.5**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=30,slow=7.7,SNR=22						
ARE0	**ARCESS Array S**	**57.66**	**341**	P	**P**	**21 21 13.1**	**+0.5**
BOK	**Bokaro**	**58.27**	**272**	*e*P	**P**	**21 21 14.1**	**-2.9**
BOK				AMb	AMB	21 21 19.3	
	comp=Z,9.8nm,0.9s,mb4.8						
AB31	**Akbulak array**	**58.64**	**310**	*i* P	**P**	**21 21 18.4**	**-1.1**
AB31				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
AKTO	**Aktyubinsk**	**58.92**	**312**	P	**P**	**21 21 20.2**	**-1.2**
ORR	**Orenburg**	**59.80**	**315**	*e*P	**P**	**21 21 26.8**	**-0.8**
ORR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ORR				MLR	MLR		
	comp=Z,240nm,14.0s,MS4.5						
CMB	**Columbia Colle**	**60.65**	**65**	P	**P**	**21 21 34.0**	**+0.7**
NDI	**New Delhi**	**60.94**	**282**	*e*P	**P**	**21 21 35.4**	**+0.1**
NDI				AMb	AMB	21 21 36.2	
	comp=Z,27nm,0.6s,mb5.6						
ELK	**Elko**	**62.04**	**59**	P	**P**	**21 21 42.4**	**-0.4**
FIA1	**FINESS Array S**	**63.92**	**335**	*e*P	**P**	**21 21 54.3**	**-0.9**
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**21 21 54.3**	**-1.0**
	comp=Z,3.1nm,0.4s,mb4.7,baz=40,slow=7.2,SNR=51						
FINES				LR	LR	21 51 43.0	
	comp=Z,166nm,18.2s,MS4.3,baz=150,slow=38						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**21 21 54.3**	**-0.9**
FINES				LR	LR	21 51 43.0	
AJM	**Ajmer**	**64.11**	**282**	*e*P	**P**	**21 21 55.7**	**-0.7**
AJM				AMb	AMB	21 21 57.7	
	comp=Z,24nm,0.6s,mb5.4						
BHPL	**Bhopal**	**64.40**	**277**	*e*P	**P**	**21 21 57.6**	**-0.7**
BHPL				AMb	AMB	21 22 01.1	
	comp=Z,31nm,1.4s,mb5.1						
NGP	**Nagpur**	**64.71**	**274**	*e*P	**P**	**21 22 00.2**	**-0.3**
NGP				AMb	AMB	21 22 02.2	
	comp=Z,12nm,2.3s,mb4.5						
OBN	**Obninsk**	**65.32**	**326**	*e*P	**P**	**21 22 03.3**	**-1.1**
OBN				*i*		21 22 34.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
NB2	**NORSAR Subarra**	**68.03**	**342**	P	**P**	**21 22 21.2**	**-0.5**
	comp=Z,26nm,

CLL	**Collm**	**76.34**	**336**	⇓	*i*P		**P**		**21 23 11.5**	**+0.2**
CLL					pmax		pmax			
	comp=Z,28nm,0.9s,mb5.2									
CLL	**Collm**	**76.34**	**336**	⇓	*i*P		**P**		**21 23 11.5**	**+0.2**
	comp=Z,28nm,0.9s,mb5.2									
MORC	**Moravsky Berou**	**76.36**	**333**	⇑	*i*P		**P**		**21 23 12.6**	**+1.2**
MORC	**Moravsky Berou**	**76.36**	**333**		*e*P		**P**		**21 23 11.6**	**+0.2**
MORC					pmax		pmax			
	comp=Z,11nm,0.8s,mb4.8									
MORC	**Moravsky Berou**	**76.36**	**333**		*e*P		**P**		**21 23 11.6**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8									
BRG	**Berggiesshubel**	**76.46**	**335**		*e*P		**P**		**21 23 12.1**	**+0.1**
	comp=Z,7.2nm,1.1s,mb4.5									
BRG	**Berggiesshubel**	**76.46**	**335**		*e*P		**P**		**21 23 12.1**	**+0.1**
BRG					pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.5									
CFR	**Carcaliu**	**76.47**	**324**	⇓	*i*P		**P**		**21 23 12.9**	**+0.8**
CFR	**Carcaliu**	**76.47**	**324**	⇓	P		**P**		**21 23 12.9**	**+0.9**
PLOR	**Plostina**	**76.51**	**325**	⇑	*i*P		**P**		**21 23 13.0**	**+0.7**
KECS	**Kecovo**	**76.52**	**330**		*e*P		**P**		**21 23 12.8**	**+0.5**
KECS					pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4									
KECS	**Kecovo**	**76.52**	**330**		*e*P		**P**		**21 23 12.8**	**+0.5**
	comp=Z,4.7nm,0.9s,mb4.4									
PVCC	**Panska Ves**	**76.59**	**335**		*e*P		**P**		**21 23 13.4**	**+0.7**
LTX	**Lajitas**	**76.73**	**61**		P		**P**		**21 23 13.7**	**+0.2**
LTX					pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3									
LTX	**Lajitas**	**76.73**	**61**		P		**P**		**21 23 13.7**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2									
TXAR	**Lajitas Array**	**76.73**	**61**		P		**P**		**21 23 14.2**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.0,baz=282,slow=3.5,SNR=10.0									
VYHS	**Vyhne**	**77.06**	**331**		*i*P		**P**		**21 23 16.1**	**+0.7**
VYHS					pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5									
VYHS	**Vyhne**	**77.06**	**331**		*i*P		**P**		**21 23 16.1**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.5									
VRAC	**Vranov**	**77.06**	**333**	⇑	*i*P		**P**		**21 23 15.9**	**+0.5**
VRAC	**Vranov**	**77.06**	**333**		P		**P**		**21 23 16.6**	**+1.2**
MLR	**Muntele Rosu**	**77.08**	**325**		P		**P**		**21 23 16.3**	**+0.8**
PRU	**Pruhonice**	**77.08**	**335**		*e*P		**P**		**21 23 16.2**	**+0.7**
DRGR		**77.19**	**328**	⇑	*i*P		**P**		**21 23 16.5**	**+0.4**
DRGR		**77.19**	**328**		P		**P**		**21 23 16.8**	**+0.6**
PSZ	**Piszkesteto**	**77.21**	**330**		*e*P		**P**		**21 23 16.7**	**+0.5**
PSZ					pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4									
PSZ	**Piszkesteto**	**77.21**	**330**		*e*P		**P**		**21 23 16.7**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.5									
MOX	**Moxa**	**77.32**	**337**		*e*P		**P**		**21 23 17.4**	**+0.6**
	comp=Z,17nm,1.1s,mb4.9									
MOX	**Moxa**	**77.32**	**337**		*e*P		**P**		**21 23 17.4**	**+0.6**
MOX					pmax		pmax			
	comp=Z,17nm,1.1s,mb4.9									
MALT	**Malatya**	**77.33**	**313**	⇑	*i*P		**P**		**21 23 19.0**	**+2.1**
MALT	**Malatya**	**77.33**	**313**		*e*P		**P**		**21 23 18.4**	**+1.5**
MALT					*e*PcP		PcP		21 23 27.7	+0.4
NKC	**Novy Kostel**	**77.46**	**336**		*e*P		**P**		**21 23 17.9**	**+0.3**
VOIR		**77.47**	**326**	⇓	*i*P		**P**		**21 23 18.5**	**+0.8**
VOIR		**77.47**	**326**	⇓	P		**P**		**21 23 18.5**	**+0.9**
KHC	**Kasperske Hory**	**78.13**	**335**		*e*P		**P**		**21 23 21.2**	**-0.1**
GRA1	**Grafenberg Arr**	**78.29**	**336**		*e*P		**P**		**21 23 22.7**	**+0.5**
	comp=Z,22nm,0.9s,mb5.1									
GRF	**Grafenberg Arr**	**78.29**	**336**		*e*P		**P**		**21 23 22.7**	**+0.5**
	comp=Z,22nm,0.9s,mb5.1									
GRF	**Grafenberg Arr**	**78.29**	**336**		*e*P		**P**		**21 23 22.7**	**+0.5**
GRF					pmax		pmax			
	comp=Z,22nm,0.9s,mb5.1									
GERES	**GERESS Array B**	**78.35**	**335**		P		**P**		**21 23 22.6**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3,baz=34,slow=4.7,SNR=27									
GERES					LR		LR		22 00 22.6	
	comp=Z,161nm,18.3s,MS4.4,baz=271,slow=38									
CONA	**Conrad Observa**	**78.51**	**333**	⇑	*i*P		**P**		**21 23 24.7**	**+1.3**
	comp=Z,5.8nm,0.8s,mb4.6									
BR131	**Keskin Array S**	**78.51**	**317**		*e*P		**P**		**21 23 24.1**	**+0.6**
	comp=Z,9.1nm,1.0s,mb4.7									
BRTR	**Keskin Array B**	**78.51**	**317**		P		**P**		**21 23 24.2**	**+0.8**
	comp=Z,7.2nm,0.9s,mb4.6,baz=61,slow=3.2,SNR=37									
BZS	**Buzias**	**78.59**	**328**	⇑	*i*P		**P**		**21 23 24.6**	**+0.7**
BZS	**Buzias**	**78.59**	**328**		P		**P**		**21 23 24.7**	**+0.8**
ANTO	**Ankara**	**78.79**	**318**	⇑	*i*P		**P**		**21 23 26.9**	**+1.9**
ANTO	**Ankara**	**78.79**	**318**	⇑	P		**P**		**21 23 26.9**	**+1.9**
MIB	**Mutribah**	**78.98**	**302**		*e*P		**P**		**21 23 26.3**	**+0.3**
MIB					AMb		AMB		21 23 27.7	
	comp=Z,67nm,0.8s,mb5.6									
MOA	**Molln**	**79.07**	**334**	⇑	*i*P		**P**		**21 23 27.3**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.5									
PKSM	**Moragy**	**79.12**	**330**	⇓	*i*P		**P**		**21 23 26.4**	**-0.4**
PKSM	**Moragy**	**79.12**	**330**		P		**P**		**21 23 26.9**	**+0.1**
ARSA	**Arzberg**	**79.22**	**333**	⇑	*i*P		**P**		**21 23 28.3**	**+1.0**
	comp=Z,8.4nm,1.2s,mb4.6									
NAY	**Al-Naaiem**	**79.45**	**302**		*e*P		**P**		**21 23 28.6**	**+0.1**
NAY					AMb		AMB		21 23 31.2	
	comp=Z,32nm,1.0s,mb5.2									
STKA	**Stephens Creek**	**79.48**	**191**		P		**P**		**21 23 28.3**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=238,slow=4.4,SNR=2.9									
RDF	**Al-Radifah**	**79.51**	**301**		*e*P		**P**		**21 23 29.9**	**+1.0**
RDF					AMb		AMB		21 23 31.9	
	comp=Z,63nm,0.9s,mb5.5									
PERS	**Pernice**	**79.89**	**333**		*e*P		**P**		**21 23 31.2**	**+0.2**
KBA	**Koelnbreinsper**	**80.04**	**334**	⇑	*i*P		**P**		**21 23 32.8**	**+1.0**
	comp=Z,13nm,0.8s,mb4.9									
WTTA	**Wattenberg**	**80.38**	**335**	⇑	*i*P		**P**		**21 23 34.4**	**+0.8**
	comp=Z,19nm,1.0s,mb5.0									
LEGS	**Legarje**	**80.44**	**332**		*e*P		**P**		**21 23 33.5**	**-0.4**
MOTA	**Moosalm**	**80.45**	**335**	⇑	*i*P		**P**		**21 23 34.9**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8									
CDF	**Champ du Feu**	**80.50**	**338**		*e*P		**P**		**21 23 32.8**	**-1.5**
	comp=Z,19nm,1.0s,mb4.7									
CDF	**Champ du Feu**	**80.50**	**338**		*e*P		**P**		**21 23 32.8**	**-1.5**
CDF					pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.7									
CDF	**Champ du Feu**	**80.50**	**338**		*e*P		**P**		**21 23 32.8**	**-1.5**
	comp=Z,9.4nm,1.0s,mb4.7									
CRES	**Cresnjev**	**80.51**	**332**		*e*P		**P**		**21 23 34.8**	**+0.5**
SQTA	**Sankt Quirin**	**80.54**	**335**	⇑	*i*P		**P**		**21 23 35.6**	**+1.2**
	comp=Z,8.1nm,0.9s,mb4.7									
SQTA	**Sankt Quirin**	**80.54**	**335**		P		**P**		**21 23 35.6**	**+1.2**
VTS	**Vitosha**	**80.58**	**326**	⇑	*i*P		**P**		**21 23 35.4**	**+0.7**
VTS	**Vitosha**	**80.58**	**326**		P		**P**		**21 23 35.2**	**+0.4**
DAVA	**Damuels**	**80.85**	**336**	⇑	*i*P		**P**		**21 23 37.3**	**+1.1**
	comp=Z,13nm,0.9s,mb4.8									
GRR	**Gorron**	**82.34**	**343**		*e*P		**P**		**21 23 42.6**	**-1.4**
CSS	**Prodhromos**	**82.48**	**315**		*e*P		**P**		**21 23 45.1**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8									
CSS					*e*PP		PP		21 26 51.9	-2.3
SMF	**Signal de Mont**	**82.99**	**340**		*e*P		**P**		**21 23 45.4**	**-2.0**
	comp=Z,22nm,1.0s,mb4.9									
SMF	**Signal de Mont**	**82.99**	**340**		*e*P		**P**		**21 23 45.4**	**-2.0**
SMF					pmax		pmax			
	comp=Z,11nm,1.0s,mb4.8									
SMF	**Signal de Mont**	**82.99**	**340**		*e*P		**P**		**21 23 45.4**	**-2.0**
	comp=Z,11nm,1.0s,mb4.8									
MMAI	**Mount Meron Ar**	**83.01**	**312**		LR		LR		22 05 48.5	
	comp=Z,126nm,18.5s,MS4.3,baz=30,slow=39									
LPG	**La Plagne**	**83.34**	**338**		*e*P		**P**		**21 23 48.7**	**-0.5**
	comp=Z,24nm,1.1s,mb4.8									
LPG	**La Plagne**	**83.34**	**338**		*e*P		**P**		**21 23 48.7**	**-0.5**
LPG					pmax		pmax			
	comp=Z,12nm,1.1s,mb4.8									
LPG	**La Plagne**	**83.34**	**338**		*e*P		**P**		**21 23 48.7**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8									
CAF	**Calviac**	**85.02**	**340**		*e*P		**P**		**21 23 56.2**	**-1.5**
ESDC	**Sonseca Array**	**91.33**	**343**		P		**P**		**21 24 26.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=8.8,slow=2.7,SNR=4.1									
ATD	**Arta Tunnel**	**95.54**	**293**		LR		LR		22 13 43.3	
	comp=Z,123nm,18.8s,MS4.4,baz=99,slow=39									
JTS	**JuntasAbangare**	**102.48**	**60**		*e*P		Pdif		21 25 19.0	+0.6
NNA	**Nana**	**124.89**	**68**		*e*PKPdf		PKPdf		21 30 20.7	-1.4
CFAA	**Coronel Fontan**	**144.29**	**80**		PKP		PKPdf		21 30 55.9	-2.2
	comp=Z,0.5nm,0.6s,baz=295,slow=2.9,SNR=9.6									
VNA2	**Neumayer--Watz**	**154.57**	**194**		*e*PKPdf		PKPab		21 31 36.4	-1.1
VNA2					*e*				21 31 46.1	
VNA3	**Neumayer Olymp**	**154.65**	**192**		*e*PKPdf		PKPab		21 31 36.3	-1.6
VNA3					*e*				21 31 45.8	
VNA1	**Neumayer--Stat**	**154.96**	**194**		*e*PKPdf		PKPab		21 31 38.3	-0.9
VNA1					*e*				21 31 47.2	

*ISCJB **19** 21:32:47.2±0.3, 45.24N×004×143.07E±0.07, h294km±3km, mb3.7/9, Error ellipse: s-maj=8.5km s-min=7.0km az=18.8*
*MOS **19** 21:32:47.3±0.9, 45.30N×142.84E, h294km, mb4.0/2, Error ellipse: s-maj=25.5km s-min=10.9km az=77.8*
*JMA **19** 21:32:47.8±0.2, 45.25N×142.94E, h294km±2km, M3.4*
*NEIC **19** 21:32:48.0±0.5, 45.29N×142.93E, h288km±6km, mb3.8/2,*

Error ellipse: s-maj=13.0km s-min=7.6km az=111.0
*IDC **19** 21:32:48.3±0.6, 45.32N×142.93E, h288km±5km, mb3.4/8, mb1 3.6/10, mb1mx3.3/23, mbtmp3.4/10, Error ellipse: s-maj=21.2km s-min=12.3km az=118.0*

ISC 19 21:32:48.0±0.3, 4523N±004×14306E±008, h290km±3km, n44, σ0°95/65, mb3.7/9, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.43**	**231**	P	**Pn**	**21 33 25.4**	**+0.1**
JSE				*e*S	**S**	**21 33 53.9**	**-0.9**
JWK2	**Keihoku**	**0.82**	**277**	P	**Pn**	**21 33 26.8**	**+0.3**
JWK2				*e*S	**S**	**21 33 56.2**	**-0.8**
ASAJ	**Asahikawa**	**1.16**	**197**	P	**Pn**	**21 33 28.9**	**+0.8**
	20nm,0.3s,baz=23,slow=3.2,SNR=143						
ASAJ				S	**S**	**21 34 00.7**	**+0.8**
	baz=220,slow=32,SNR=3.3						
ASAJ	**Asahikawa**	**1.16**	**197**	P	**Pn**	**21 33 28.8**	**+0.7**
ASAJ				*e*S	**S**	**21 34 00.8**	**+0.9**
ASAJ	**Asahikawa**	**1.16**	**197**	PN	**Pn**	**21 33 28.9**	**+0.8**
ASAJ				S	**S**	**21 34 00.7**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
JSS	**Shosan**	**1.19**	**226**	P	**Pn**	**21 33 28.7**	**+0.5**
JSS				*e*S	**S**	**21 34 00.6**	**+0.4**
JRR	**Rishiri**	**1.24**	**266**	P	**Pn**	**21 33 28.3**	**-0.2**
JRR				*e*S	**S**	**21 34 00.4**	**-0.3**
JMP	**Maruseppu**	**1.24**	**170**	P	**Pn**	**21 33 29.3**	**+0.8**
JMP				*e*S	**S**	**21 34 01.6**	**+0.9**
JKK2	**Kamakawa 2**	**1.37**	**189**	P	**Pn**	**21 33 30.1**	**+0.8**
JKK2				*e*S	**S**	**21 34 03.2**	**+1.1**
JTKR	**Abashiri--Toko**	**1.40**	**154**	P	**Pn**	**21 33 30.5**	**+1.1**
JTKR				*e*S	**S**	**21 34 03.6**	**+1.2**
JYG	**Yagishiri**	**1.41**	**236**	P	**Pn**	**21 33 29.6**	**+0.1**
JYG				*e*S	**S**	**21 34 02.4**	**-0.2**
YSS	**Yuzh-Sakhalins**	**1.74**	**353**	⇓ *i*PN	**Pn**	**21 33 31.6**	**-0.2**
YSS				*e*		21 34 04.5	
YSS				pmax	pmax		
	comp=Z,90nm,0.1s						
YSS				smax			
	comp=N,90nm,0.6s						
YSS				smax			
	comp=E,210nm,0.6s						
YSS	**Yuzh-Sakhalins**	**1.74**	**353**	*e*Pn	**Pn**	**21 33 31.7**	**-0.1**
YSS				*e*S	**S**	**21 34 01.9**	**-4.7**
JHR	**Hokuryu**	**1.77**	**213**	P	**Pn**	**21 33 32.5**	**+0.5**
JFR	**Furan**	**2.09**	**189**	P	**Pn**	**21 33 35.2**	**+0.6**
JFR				*e*S	**S**	**21 34 11.6**	**0.0**
JAK	**Akkeshi**	**2.52**	**152**	P	**Pn**	**21 33 38.5**	**+0.1**
JAK				*e*S	**S**	**21 34 16.8**	**-1.7**
JCH	**Churui**	**2.62**	**175**	P	**Pn**	**21 33 38.6**	**-0.7**
JCH				*e*S	**S**	**21 34 16.6**	**-3.6**
JSK	**Shakotan**	**2.64**	**226**	P	**Pn**	**21 33 39.5**	**0.0**
JEW	**Eniwo**	**2.65**	**206**	P	**Pn**	**21 33 40.2**	**+0.6**
JEW				*e*S	**S**	**21 34 20.1**	**-0.7**
NEM2	**Nemuro 2**	**2.68**	**133**	P	**Pn**	**21 33 39.0**	**-0.9**
NEM2				*e*S	**S**	**21 34 18.6**	**-2.6**
JNBK	**Urakawa-nobuka**	**2.96**	**184**	P	**Pn**	**21 33 42.0**	**-0.5**
JNBK				*e*S	**S**	**21 34 23.0**	**-3.1**
ERM	**Erimo**	**3.21**	**179**	*e*PN	**Pn**	**21 33 45.3**	**+0.1**
ERM				*e*S	**S**	**21 34 29.8**	**-1.0**
JKB	**Kayabe**	**3.65**	**205**	P	**Pn**	**21 33 48.8**	**-1.0**
JKB				*e*S	**S**	**21 34 34.6**	**-4.6**
MAJO	**Matsushiro**	**9.42**	**205**	*e*PN	**Pn**	**21 34 58.9**	**0.0**
MAJO				S	**S**	**21 36 45.8**	**+0.2**
MJAR	**Matsushiro Arr**	**9.42**	**205**	P	**Pn**	**21 34 59.3**	**+0.4**
	comp=E,1.1nm,0.3s,baz=13,slow=14,SNR=8.4						
SKR	**Severo-Kuril's**	**10.31**	**53**	*e*PN	**Pn**	**21 35 12.0**	**+2.0**
PET	**Petropavlovsk**	**12.83**	**47**	PN	**Pn**	**21 35 41.1**	**+0.4**
KSRS	**Korea Array**	**13.76**	**241**	P	**Pn**	**21 35 52.8**	**+0.9**
	baz=59,slow=11,SNR=7.8						
YAK	**Yakutsk**	**18.54**	**340**	P	**P**	**21 36 42.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
YAK	**Yakutsk**	**18.54**	**340**	P	**P**	**21 36 42.3**	**-1.6**
	comp=Z,5.3nm,0.5s						
SONM	**Songino Array**	**25.21**	**289**	P	**P**	**21 37 47.9**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.2,baz=82,slow=10,SNR=3.3						
IMA2	**Indian Mountai**	**39.13**	**35**	*e*P	**P**	**21 39 46.5**	**-1.3**
KDAK	**Kodiak Island**	**40.42**	**48**	P	**P**	**21 39 59.0**	**+0.5**
	comp=Z,7.2nm,0.5s,mb4.3,baz=129,slow=6.7,SNR=8.5						
BRVK	**Borovoye**	**46.34**	**307**	*e*P	**P**	**21 40 44.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
BRVK	**Borovoye**	**46.34**	**307**	*e*P	**P**	**21 40 44.3**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.3						
INK	**Inuvik**	**46.61**	**31**	P	**P**	**21 40 46.5**	**-1.1**
	comp=Z,1.6nm,0.3s,mb3.8,baz=293,slow=6.9,SNR=24						
INK	**Inuvik**	**46.61**	**31**	*e*P	**P**	**21 40 46.5**	**-1.0**
INK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
INK	**Inuvik**	**46.61**	**31**	*e*P	**P**	**21 40 46.5**	**-1.1**
	comp=Z,61nm,0.3s,mb5.4						
YKA	**Yellowknife Ar**	**56.18**	**33**	P	**P**	**21 41 58.2**	**+0.2**
	comp=Z,1.7nm,0.5s,mb3.7,baz=309,slow=7.3,SNR=14						
YKA	**Yellowknife Ar**	**56.18**	**33**	P	**P**	**21 41 58.2**	**+0.2**
FINES	**FINESS Array B**	**62.20**	**331**	P	**P**	**21 42 37.1**	**-1.9**
	comp=Z,1.2nm,0.8s,mb3.6,baz=54,slow=9.7,SNR=4.8						
WRA	**Warramunga Arr**	**65.34**	**189**	P	**P**	**21 42 59.8**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.4,baz=8.8,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**69.07**	**189**	P	**P**	**21 43 24.1**	**+1.4**
	comp=Z,1.5nm,0.6s,mb3.9,baz=1.5,slow=5.3,SNR=30						
TXAR	**Lajitas Array**	**84.20**	**54**	P	**P**	**21 44 48.6**	**+1.7**
	comp=Z,0.4nm,0.5s,mb3.5,baz=310,slow=4.0,SNR=4.6						

*BJI **19** 21:41:08.8, 47.19N×154.71E, h7km, mB4.7, mb4.4, Ms4.0, Msz4.0*
*IDC **19** 21:41:08.7±0.9, 46.92N×154.75E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.2/26, mbtmp4.2/16, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=23.7km s-min=16.8km az=157.0*
*ISCJB **19** 21:41:09.2±0.5, 46.95N×007×154.71E±0.08, h10km, mb4.5/49, Error ellipse: s-maj=11.5km s-min=6.0km az=112.7*
*NEIC **19** 21:41:10.4±0.5, 46.81N×154.76E, h10km, mb4.6/25, Error ellipse: s-maj=13.0km s-min=7.8km az=149.0*
*MOS **19** 21:41:14.7±2.1, 46.99N×154.53E, h50km, mb4.7/25, Error ellipse: s-maj=11.0km s-min=7.0km az=99.9*

ISC 19 21:41:10.9±0.5, 4697N±007×15476E±008, h10km, n124, σ1°26/124, mb4.5/49, 4C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**13**	*e*PN	**Pn**	**21 42 09.4**	**-0.4**
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=E,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
PET	**Petropavlovsk**	**6.56**	**21**	PN	**Pn**	**21 42 47.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.21**	**274**	*e*PN	**Pn**	**21 43 09.6**	**-0.5**
ASAJ	**Asahikawa**	**9.00**	**256**	Pn	**Pn**	**21 43 21.6**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=81,slow=16,SNR=10						
ASAJ				LR	LR	21 46 52.3	
	comp=Z,96nm,20.6s,baz=340,slow=38						
MAJO	**Matsushiro**	**16.12**	**236**	P	**Pn**	**21 44 54.8**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**16.12**	**236**	Pn	**Pn**	**21 44 54.8**	**-2.8**
	comp=Z,3.2nm,0.6s						
MJAR	**Matsushiro Arr**	**16.12**	**236**	Pn	**Pn**	**21 44 54.4**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=15,SNR=5.6						
MJAR	**Matsushiro Arr**	**16.12**	**236**	Pn	**Pn**	**21 44 54.4**	**-3.1**
YAK	**Yakutsk**	**20.76**	**326**	*e*P	**P**	**21 45 51.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s						
YAK	**Yakutsk**	**20.76**	**326**	*e*P	**P**	**21 45 51.6**	**-0.3**
	comp=Z,12nm,0.6s						
CN2	**Changchun**	**20.77**	**272**	*e*P	**P**	**21 45 49.3**	**-2.6**
BILL	**Bilibino**	**21.94**	**12**	*e*P	**P**	**21 46 01.6**	**-2.9**
BILL				*e*		21 46 15.7	
BILL				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5						
BILL	**Bilibino**	**21.94**	**12**	*e*P	**P**	**21 46 02.5**	**-2.0**
	comp=Z,20nm,1.0s,mb4.5						
KSRS	**Korea Array**	**21.94**	**254**	P	**P**	**21 46 05.1**	**+0.6**
	comp=Z,1.4nm,0.7s,mb3.5,baz=58,slow=12,SNR=9.5						
SNY	**Shenyang**	**22.77**	**268**	⇓P	**P**	**21 46 12.4**	**-1.0**
SNY				AMB	AMB		
	comp=Z,17nm,2.5s,mb4.0						
BOD	**Bodaibo**	**26.72**	**309**	*e*P	**P**	**21 46 46.8**	**-3.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
TIXI	**Tiksi**	**27.59**	**343**	*e*P	**P**	**21 46 55.7**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
TIXI	**Tiksi**	**27.59**	**343**	*e*P	**P**	**21 46 55.7**	**-2.4**
	comp=Z,5.8nm,0.4s,mb4.6						
ULN	**Ulaanbaatar**	**31.89**	**289**	*e*P	**P**	**21 47 35.1**	**-1.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**31.89**	**289**	*e*P	**P**	**21 47 35.1**	**-1.2**
	comp=Z,2.1nm,0.9s,mb4.0						
SONM	**Songino Array**	**32.32**	**290**	P	**P**	**21 47 39.0**	**-1.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=62,slow=8.8,SNR=6.4						
TLY	**Talaya**	**33.08**	**297**	*e*P	**P**	**21 47 45.2**	**-1.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
TLY	**Talaya**	**33.08**	**297**	P	**P**	**21 47 45.2**	**-1.6**
	comp=Z,2.9nm,0.5s,mb4.5						
ZAK	**Zakamensk**	**33.61**	**295**	*e*P	**P**	**21 47 50.3**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
NACB	**Ninganchiao**	**34.88**	**241**	P	**P**	**21 48 02.0**	**-0.4**
COLA	**College**	**35.27**	**39**	*e*P	**P**	**21 48 04.9**	**-0.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
COLA	**College**	**35.27**	**39**	*e*P	**P**	**21 48 04.9**	**-0.8**
	comp=Z,4.0nm,0.9s,mb4.3						
XAN	**Xi'an**	**36.66**	**266**	P	**P**	**21 48 17.5**	**-0.1**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.1						
LZH	**Lanzhou**	**39.01**	**273**	*e*P	**P**	**21 48 38.5**	**+1.0**
LZH				AP	pP	21 48 48.6	+8.0
LZH				XP	sP	21 48 51.3	+9.5
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
LZH	**Lanzhou**	**39.01**	**273**	*e*P	**P**	**21 48 38.5**	**+1.0**
LZH				*SP	sP	21 48 51.2	+9.4
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
LZH	**Lanzhou**	**39.01**	**273**	*e*P	**P**	**21 48 38.5**	**+1.0**
	comp=Z,21nm,1.3s,mb4.7						
LZH				pP	pP	21 48 48.6	+8.0
LZH				sP	sP	21 48 51.2	+9.4
INK	**Inuvik**	**40.86**	**33**	P	**P**	**21 48 53.3**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.1,baz=262,slow=9.2,SNR=12						
CD2	**Chengdu**	**42.02**	**266**	P	**P**	**21 49 03.3**	**+0.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NVS	**Novosibirsk**	**43.95**	**308**	*e*P	**P**	**21 49 14.5**	**-3.5**
NVS				pmax	pmax		
	comp=N,1.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,3.0

comp=Z,3.7nm,0.8s,mb4.4
BRG Berggiesshubel 76.86 336 *e*P **P 21 53 05.0 +2.0**
comp=Z,5.8nm,1.4s,mb4.3
BRG Berggiesshubel 76.86 336 *e*P **P 21 53 05.0 +2.0**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
KECS Kecovo 76.94 331 *e*P **P 21 53 05.2 +1.7**
KECS Kecovo 76.94 331 *e*P **P 21 53 05.3 +1.8**
PVCC Panska Ves 76.99 335 *e*P **P 21 53 04.0 +0.2**
VRAC Vranov 77.47 333 ⇓*i*P **P 21 53 06.6 +0.1**
PRU Pruhonice 77.48 335 *e*P **P 21 53 06.3 -0.2**
VYHS Vyhne 77.48 332 *e*P **P 21 53 08.1 +1.6**
MLR Muntele Rosu 77.53 326 ⇓*i*P **P 21 53 06.7 -0.1**
DRGR 77.63 329 ⇓*i*P **P 21 53 09.1 +1.7**
PSZ Piszkesteto 77.63 331 *e*P **P 21 53 07.7 +0.3**
PSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
PSZ Piszkesteto 77.63 331 *e*P **P 21 53 07.7 +0.3**
comp=Z,1.6nm,0.5s,mb4.2
MALT Malatya 77.82 314 ⇑*i*P **P 21 53 09.7 +1.2**
MALT Malatya 77.82 314 *e*P **P 21 53 09.4 +0.9**
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MALT Malatya 77.82 314 *e*P **P 21 53 09.4 +1.0**
comp=Z,4.8nm,1.1s,mb4.3
KHC Kasperske Hory 78.53 335 *e*P **P 21 53 11.7 -0.7**
GRA1 Grafenberg Arr 78.67 337 *e*P **P 21 53 15.4 +2.2**
comp=Z,6.0nm,0.7s,mb4.6
GRF Grafenberg Arr 78.67 337 *e*P **P 21 53 15.4 +2.2**
comp=Z,6.0nm,0.7s,mb4.6
GRF Grafenberg Arr 78.67 337 *e*P **P 21 53 15.4 +2.2**
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GERES GERESS Array B 78.75 335 P **P 21 53 13.7 +0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=37,slow=6.9,SNR=10
BZS Buzias 79.03 329 ⇑*i*P **P 21 53 14.0 -1.1**
CDF Champ du Feu 80.87 339 *e*P **P 21 53 27.9 +2.8**
comp=Z,5.2nm,0.6s,mb4.3
CDF Champ du Feu 80.87 339 *e*P **P 21 53 27.9 +2.8**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CDF Champ du Feu 80.87 339 *e*P **P 21 53 27.9 +2.8**
comp=Z,2.6nm,0.6s,mb4.3
GRR Gorron 82.68 344 *e*P **P 21 53 38.3 +3.7**
SMF Signal de Mont 83.35 340 *e*P **P 21 53 41.6 +3.5**
comp=Z,16nm,0.9s,mb4.7
SMF Signal de Mont 83.35 340 *e*P **P 21 53 41.6 +3.5**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SMF Signal de Mont 83.35 340 *e*P **P 21 53 41.6 +3.5**
comp=Z,8.1nm,0.9s,mb4.8
LPG La Plagne 83.72 338 *e*P **P 21 53 44.3 +4.3**
comp=Z,13nm,0.8s,mb4.8
LPG La Plagne 83.72 338 *e*P **P 21 53 44.3 +4.3**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LPG La Plagne 83.72 338 *e*P **P 21 53 44.3 +4.3**
comp=Z,6.6nm,0.8s,mb4.8
CAF Calviac 85.38 341 *e*P **P 21 53 52.9 +4.5**
comp=Z,12nm,0.9s,mb4.8
CAF Calviac 85.38 341 *e*P **P 21 53 52.9 +4.5**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CAF Calviac 85.38 341 *e*P **P 21 53 52.9 +4.5**
comp=Z,6.2nm,0.9s,mb4.7

STR ***19*** *21:48:17.1±0.0, 43.02N×0.03W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 19 21:48:17.0±0.1, 4303N×003W, h3km, Md1.6/3, Ml1.3/2, Error ellipse: s-maj=3.0km s-min=1.4km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**74**	Pg	Pg	21 48 18.9	+0.4
LABF				Sg	Sg	21 48 20.2	+0.6
VIEF	**Viey**	**0.15**	**166**	Pg	Pg	21 48 20.1	+0.2
VIEF				Sg	Sg	21 48 22.2	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	21 48 22.0	-0.2
EPF				*e*Sg	Sg	21 48 26.0	+0.4
	5.3nm,0.3s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	21 48 25.3	+0.4
ETSF				*e*Sg	Sg	21 48 30.7	+0.4
	6.2nm,0.4s						
SJPF	**Ste Jean**	**0.88**	**276**	*e*Pg	Pg	21 48 33.4	-0.5
SJPF				*e*Sg	Sg	21 48 44.5	-0.9
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	21 48 48.3	-0.7
MTLF				*e*Sg	Sg	21 49 09.5	-1.2
	0.6nm,0.3s						

BJI ***19*** *21:53:17.5, 47.72N×154.69E, h20km, mB5.0, mb4.8, Ms4.6, Msz4.5*
IDC ***19*** *21:53:18.4±0.5, 47.34N×154.32E, h0km, mb4.6/29, mb1 4.8/31, mb1mx4.8/33, mbtmp4.6/31, ML4.0/2, MS4.4/1, Ms1 4.3/1, ms1mx3.0/33, Error ellipse: s-maj=14.9km s-min=12.4km az=153.0*
ISCJB ***19*** *21:53:19.7±0.1, 47.33N±003×154.39E±002, h19km, mb4.9/129, MS4.4/22, Error ellipse: s-maj=5.0km s-min=2.1km az=161.5*
SKHL ***19*** *21:53:19.6±1.7, 47.18N×154.59E, h54km±31km, mb5.8/4, mbh5.6/1, Ms4.7/4, msh5.2/2*
NEIC ***19*** *21:53:20.4±0.1, 47.37N×154.29E, h10km, mb5.1/62, Error ellipse: s-maj=4.9km s-min=3.0km az=164.0*
MOS ***19*** *21:53:22.1±1.1, 47.36N×154.28E, h35km, mb5.1/42, MS4.2/11, Error ellipse: s-maj=7.1km s-min=4.8km az=99.9*
SZGRF ***19*** *21:53:24.8, 47.54N×155.44E, h24km, mb5.3, East of Kuril Islands, Russia*
ISC 19 21:53:21.9±0.1, 4740N±003×15432E±002, h20km, h20km±1.9km: pP-P, n536, σ0.86/549, mb4.9/129, MS4.4/22, 88C-97D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.49**	**19**	*e*P	**Pn**	**21 54 14.4**	**-0.6**
SKR				AMB	AMB	21 54 21.0	
	400nm,0.6s						
SKR				AMB	AMB	21 54 21.0	
	180nm,0.5s						
SKR				AMB	AMB	21 54 21.0	
	150nm,0.5s						
SKR				AMB	AMB	21 54 27.0	
	2μm,2.0s						
SKR				*e*S	**Sn**	**21 54 54.0**	**-1.7**
SKR				A		21 55 06.0	
	5μm,8.0s						
SKR				A		21 55 06.0	
	3μm,8.0s						
SKR				A		21 55 06.0	
	5μm,8.0s						
SKR				A		21 55 06.0	
	6μm,8.0s						
SKR				A		21 55 15.5	
	980nm,0.9s						
SKR				A		21 55 15.5	
	1μm,0.9s						
SKR				A		21 55 15.5	
	260nm,0.5s						
SKR				AMS	AMS	21 55 50.0	
	6μm,14.0s						
SKR				AMS	AMS	21 55 50.0	
	6μm,14.0s						
SKR				AMS	AMS	21 55 50.0	
	6μm,14.0s						
SKR				AMS	AMS	21 55 50.0	
	8μm,14.0s						
SKR				AMS	AMS	21 55 50.0	
	5μm,14.0s						
SKR				AMS	AMS	21 55 50.0	
	8μm,14.0s						
KUR	**Kuril'sk**	**4.97**	**247**	⇓*i*P	**Pn**	**21 54 33.0**	**-2.3**
KUR				AMB	AMB	21 54 42.8	
	215nm,0.8s						
KUR				AMB	AMB	21 54 42.8	
	129nm,0.8s						
KUR				AMB	AMB	21 54 42.8	
	376nm,0.8s						
KUR				*i* S	**Sn**	**21 55 29.0**	**-3.1**
KUR				A		21 55 36.0	
	6μm,3.0s						
KUR				A		21 55 36.0	
	5μm,3.0s						
KUR				A		21 55 51.0	
	852nm,0.9s						
KUR				A		21 55 51.0	
	710nm,0.9s						
KUR				AMS	AMS	21 56 44.0	
	5μm,12.0s						
KUR				AMS	AMS	21 56 44.0	
	4μm,12.0s						
PET	**Petropavlovsk**	**6.28**	**25**	*e*PN	**Pn**	**21 54 52.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,66nm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET	**Petropavlovsk**	**6.28**	**25**	*e*Pn	**Pn**	**21 54 52.3**	**-1.0**
PET				*e*Sn	**Sn**	**21 56 01.4**	**-3.0**
YSS	**Yuzh-Sakhalins**	**7.89**	**271**	⇑*i*P	**Pn**	**21 55 18.7**	**+3.2**
YSS				AMB	AMB	21 55 20.5	
	comp=Z,80nm,0.9s						
YSS				AMB	AMB	21 55 20.5	
	comp=Z,90nm,0.9s						
YSS				AMB	AMB	21 55 20.5	
	comp=Z,70nm,0.8s						
YSS				*e*S	**Sn**	**21 56 48.5**	**+4.3**
YSS				*e*LQ		21 57 06.0	
YSS				AMS	AMS	21 58 16.0	
	comp=Z,2μm,17.0s						
YSS				AMS	AMS	21 58 16.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.89**	**271**	⇑*i*PN	**Pn**	**21 55 18.7**	**+3.2**
YSS				*e*S	**Sn**	**21 56 48.5**	**+4.3**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=N,80nm,0.9s						
YSS				pmax	pmax		
	comp=E,90nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.89**	**271**	*e*Pn	**Pn**	**21 55 18.3**	**+2.8**
UGL	**Uglegorsk**	**8.35**	**286**	*e*P	**Pn**	**21 55 25.5**	**+3.7**
UGL				AMB	AMB	21 55 29.5	
	comp=E,600nm,2.0s						
UGL				*e*L		21 57 40.0	
UGL				AMS	AMS	21 59 02.0	
	comp=E,6μm,16.0s						
UGL				AMS	AMS	21 59 02.0	
	comp=E,2μm,14.0s						
UGL				AMS	AMS	21 59 02.0	
	comp=E,3μm,14.0s						
UGL	**Uglegorsk**	**8.35**	**286**	PN	**Pn**	**21 55 25.5**	**+3.7**
UGL				pmax	pmax		
	comp=Z,600nm,2.0s						
UGL				MLR	MLR		
	comp=N,2μm,14.0s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=E,6μm,16.0s						
TYV	**Tymovskoe**	**8.40**	**299**	*e*P	**Pn**	**21 55 24.2**	**+1.8**
TYV				AMB	AMB	21 55 25.5	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	21 55 25.5	
	comp=E,92nm,1.0s						
TYV				AMB	AMB	21 55 30.0	
	comp=E,500nm,2.0s						
TYV				AMB	AMB	21 55 30.0	
	comp=E,500nm,2.0s						
TYV				AMB	AMB	21 55 30.0	
	comp=E,500nm,3.0s						
TYV				AMS	AMS	21 59 12.0	
	comp=E,2μm,16.0s						
TYV				AMS	AMS	21 59 12.0	
	comp=E,2μm,14.0s						
TYV				AMS	AMS	21 59 12.0	
	comp=E,3μm,14.0s						
ASAJ	**Asahikawa**	**8.83**	**252**	Pn	**Pn**	**21 55 28.8**	**+0.5**
	comp=E,2.3nm,0.3s,baz=83,slow=13,SNR=19						
ASAJ	**Asahikawa**	**8.83**	**252**	PN	**Pn**	**21 55 28.8**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
OKH	**Okha**	**9.51**	**315**	*e*P	**Pn**	**21 55 38.2**	**+0.5**
OKH				*e*L		21 58 44.0	
OKH				AMS	AMS	22 00 15.8	
	comp=Z,3μm,15.0s						
OKH				AMS	AMS	22 00 15.8	
	comp=Z,3μm,13.0s						
MA2	**Magadan**	**12.38**	**352**	*e*PN	**Pn**	**21 56 18.3**	**+1.4**
MA2				*e*		21 58 45.6	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**12.38**	**352**	*e*Pn	**Pn**	**21 56 16.7**	**-0.2**
HABR	**Khabarovsk**	**12.97**	**282**	⇓*i*PN	**Pn**	**21 56 30.1**	**+5.2**
HABR				*e*S	**Sn**	**21 59 00.2**	**+12**
HABR				pmax	pmax		
	comp=Z,95nm,1.4s						
KLR	**Kul'dur**	**15.12**	**285**	*e*P	**Pn**	**21 56 54.2**	**0.0**
KLR				pmax	pmax		
	comp=E,62nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
MJAR	**Matsushiro Arr**	**16.13**	**234**	Pn	**Pn**	**21 57 06.2**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**16.13**	**234**	Pn	**Pn**	**21 57 06.2**	**-1.1**
MAJO	**Matsushiro**	**16.13**	**234**	*e*P	**Pn**	**21 57 06.7**	**-0.7**
MAT	**Matsushiro**	**16.13**	**234**	P	**Pn**	**21 57 04.6**	**-2.8**
MDJ	**Mudanjiang**	**17.38**	**270**	P	**Pn**	**21 57 26.4**	**+3.2**
MDJ				XP	sP	21 57 31.8	-0.9
MDJ				S	**Sn**	**22 00 37.8**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,26nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,71nm,5.1s						
MDJ				LR	LR		
	comp=N,766nm,15.7s						
MDJ				LR	LR		
	comp=E,262nm,18.4s						
MDJ				LR	LR		
	comp=Z,875nm,12.7s						
ZEA	**Zeya**	**18.26**	**300**	*e*P	**Pn**	**21 57 33.8**	**-0.1**
ZEA				AMB	AMB	21 57 35.3	
	comp=Z,64nm,1.2s						
ZEA				AMB	AMB	21 57 35.3	
	comp=Z,56nm,1.4s						
ZEA				AMB	AMB	21 57 47.0	
	comp=Z,400nm,4.0s						
YAK	**Yakutsk**	**20.24**	**325**	*e*P	**P**	**21 57 57.5**	**+1.8**
YAK				*e*		21 58 13.1	
YAK				*e*S	**S**	**22 01 39.3**	**-2.5**
YAK				*e*SSS		22 02 11.1	
YAK				*e*		22 02 14.1	
YAK				*e*		22 09 20.2	
YAK				pmax	pmax		
	comp=Z,65nm,1.4s						
YAK				pmax	pmax		
	comp=N,29nm,1.3s						
YAK				pmax	pmax		
	comp=E,46nm,1.3s						
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=N,120nm,1.7s						
YAK				pmax	pmax		
	comp=E,35nm,1.2s						
YAK				smax			
	comp=N,32nm,1.0s						
YAK				smax			
	comp=E,9.0nm,0.7s						
YAK				MLR	MLR		
	comp=N,359nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,417nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,581nm,14.0s,MS4.1						
YAK	**Yakutsk**	**20.24**	**325**	*e*Pn	**P**	**21 57 55.4**	**-0.3**
	comp=Z,43nm,0.9s						
CLNS	**Chul'man**	**20.24**	**309**	*e*P	**P**	**21 57 59.8**	**+4.1**
CLNS				*e*		21 58 12.0	
CLNS				*e*PPP		21 58 27.3	
CLNS				pmax	pmax		
	comp=N,43nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,62nm,1.2s						
CLNS				pmax	pmax		
	comp=E,68nm,1.5s						
CLNS				pmax	pmax		
	comp=Z,46nm,1.0s						
CLNS				pmax	pmax		
	comp=N,29nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,0.7s						
CLNS				MLR	MLR		
	comp=E,1μm,15.0s,MS4.4						
CLNS				MLR	MLR		
	comp=Z,800nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,500nm,13.0s,MS4.4						
CN2	**Changchun**	**20.46**	**271**	*e*P	**P**	**21 57 57.8**	**-0.4**
CN2				*e*S	**S**	**22 01 40.8**	**-5.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s,MS4.3						
CN2				LR	LR		
	comp=E,700nm,14.0s,MS4.3						
CN2				LR	LR		
	comp=Z,800nm,16.0s,MS4.2						
BILL	**Bilibino**	**21.58**	**12**	*e*P	**P**	**21 58 11.3**	**+1.1**
BILL				*e*		21 58 36.6	
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.1						
BILL	**Bilibino**	**21.58**	**12**	*e*P	**P**	**21 58 08.2**	**-2.0**
	comp=Z,7.2nm,0.3s,mb4.6						
KSRS	**Korea Array**	**21.78**	**252**	P	**P**	**21 58 12.8**	**+0.5**
	comp=Z,13nm,0.7s,mb4.5,baz=59,slow=10,SNR=31						
KS15	**Wonju Array Si**	**21.81**	**252**	*e*P	**P**	**21 58 12.5**	**-0.2**
SNY	**Shenyang**	**22.49**	**267**	⇑P	**P**	**21 58 18.8**	**-1.1**
SNY				AP		21 58 22.8	
SNY				XP	sP	21 58 25.9	-2.5
SNY				PP		21 58 48.6	
SNY				S	**S**	**22 02 26.8**	**+0.7**
SNY				XS	sS	22 02 37.3	+1.9
SNY				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.3						
SNY				AMB	AMB		
	comp=Z,91nm,9.6s						
SNY				LR	LR		
	comp=E,1μm,15.7s						
SNY				LR	LR		
	comp=Z,1μm,15.6s,MS4.5						
INCN	**Inchon**	**22.60**	**254**	*e*P	**P**	**21 58 21.8**	**+0.6**
HIA	**Hailar**	**22.95**	**288**	*e*P	**P**	**21 58 23.0**	**-1.8**
	comp=Z,5.3nm,0.9s,mb4.0						
BOD	**Bodaibo**	**26.22**	**308**	*e*P	**P**	**21 58 53.6**	**-1.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.0						
TIXI	**Tiksi**	**27.09**	**343**	P	**P**	**21 59 02.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**27.09**	**343**	P	**P**	**21 59 02.0**	**-1.1**
	comp=Z,6.6nm,1.0s,mb4.1						
BJI	**Beijing**	**28.31**	**269**	*e*P	**P**	**21 59 18.0**	**+3.9**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
BJI				LR	LR		
	comp=N,1μm,17.1s,MS4.5						
BJI				LR	LR		
	comp=E,437nm,16.7s,MS4.5						
BJI				LR	LR		
	comp=Z,599nm,16.9s,MS4.3						
BJI	**Beijing**	**28.31**	**269**	*e*P	**P**	**21 59 18.0**	**+3.9**
	comp=Z,8.0nm,0.9s,mb4.3						
BJI				S	**S**	**22 04 11.2**	**+12**
BJI				LR	LR		
	comp=Z,600nm,16.9s,MS4.3						
BJT	**Baijiatuau**	**28.32**	**269**	P	**P**	**21 59 13.4**	**-0.8**
SSE	**Sheshan**	**30.10**	**249**	*e*P	**P**	**21 59 29.5**	**-0.5**
SSE				S	**S**	**22 04 28.0**	**+0.5**
SSE				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,126nm,4.7s						
SSE				LR	LR		
	comp=N,130nm,23.5s,MS3.7						
SSE				LR	LR		
	comp=E,143nm,23.4s,MS3.7						
SSE				LR	LR		
	comp=Z,153nm,19.2s,MS3.7						
SSE	**Sheshan**	**30.10**	**249**	*e*P	**P**	**21 59 29.5**	**-0.5**
	comp=Z,47nm,0.7s,mb5.3						
SSE				pP	pP	21 59 33.0	-3.2
SSE				S	**S**	**22 04 28.0**	**+0.5**
SSE				sS	sS	22 04 33.4	-4.3
SSE				ScS	ScS	22 10 12.2	+4.3
SSE				LR	LR		
	comp=Z,150nm,19.2s,MS3.6						
NJ2	**Nanjing**	**30.98**	**253**	*e*P	**P**	**21 59 39.8**	**+2.1**
NJ2				AP	pP	21 59 43.1	-0.8
NJ2				XP	sP	21 59 47.3	+0.9
NJ2				PP	PP	22 00 41.9	-5.8
NJ2				S	**S**	**22 04 41.5**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,750nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,15.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,13.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,14.3s,MS4.8						
HHC	**Hu-ho-hao-te**	**31.07**	**274**	*e*P	**P**	**21 59 38.4**	**-0.1**
HHC				AP	pP	21 59 42.8	-1.9
HHC				XP	sP	21 59 45.5	-1.8
HHC				PP	PP	22 00 40.9	-7.9
HHC				PCP	PcP	22 02 34.4	+0.6
HHC				S	**S**	**22 04 42.1**	**-0.6**
HHC				SCP	ScP	22 06 16.8	+1.3
HHC				SS	SS	22 06 25.4	-30
HHC				SCS	ScS	22 10 11.0	-1.6
HHC				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,96nm,5.9s						
HHC				LR	LR		
	comp=N,476nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=E,517nm,13.4s,MS4.5						
HHC				LR	LR		
	comp=Z,632nm,13.3s,MS4.5						
ULN	**Ulaanbaatar**	**31.47**	**289**	*e*P	**P**	**21 59 41.0**	**-1.0**
SONM	**Songino Array**	**31.90**	**289**	P	**P**	**21 59 45.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.2,baz=66,slow=8.7,SNR=15						
TLY	**Talaya**	**32.62**	**297**	P	**P**	**21 59 51.8**	**-0.3**
IMA2	**Indian Mountai**	**32.79**	**36**	*e*P	**P**	**21 59 54.7**	**+1.0**
KDAK	**Kodiak Island**	**33.05**	**52**	P	**P**	**21 59 54.6**	**-1.3**
	comp=Z,21nm,0.7s,mb5.2,baz=284,slow=5.1,SNR=9.5						
ZAK	**Zakamensk**	**33.16**	**294**	*e*P	**P**	**21 59 55.1**	**-1.7**
GUMO	**Guam**	**34.62**	**196**	P	**P**	**22 00 09.7**	**+0.1**
MCK	**McKinley**	**34.62**	**41**	*e*P	**P**	**22 00 09.8**	**+0.2**
MCK				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
MCK	**McKinley**	**34.62**	**41**	*e*P	**P**	**22 00 09.8**	**+0.2**
	comp=Z,19nm,1.4s,mb4.8						
SML	**Sawmill**	**34.93**	**44**	*e*P	**P**	**22 00 12.4**	**+0.2**
COLA	**College**	**35.11**	**39**	*e*P	**P**	**22 00 14.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
COLA	**College**	**35.11**	**39**	*e*P	**P**	**22 00 14.0**	**+0.2**
	comp=Z,19nm,0.8s,mb5.1						
XAN	**Xi'an**	**36.39**	**265**	P	**P**	**22 00 24.3**	**-0.5**
XAN				AP	pP	22 00 33.3	+2.3
XAN				S	**S**	**22 06 07.3**	**+2.2**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,332nm,14.4s,MS4.4						
XAN				LR	LR		
	comp=E,279nm,14.2s,MS4.4						
XAN				LR	LR		
	comp=Z,605nm,15.1s,MS4.5						
EGAK	**Eagle**	**37.98**	**39**	*e*P	**P**	**22 00 37.9**	**-0.3**
	comp=Z,21nm,1.0s,mb4.8						
EGAK				*e*		22 00 48.5	
ENH	**Enshi**	**38.29**	**260**	P	**P**	**22 00 40.7**	**-0.2**

LZH	**Lanzhou**	**38.69**	**272**	P	**P**	**22 00 45.0**	**+0.8**
LZH				AP	pP	22 00 50.0	-0.5
LZH				XP	sP	22 00 56.0	+2.9
LZH				PP	PP	22 02 18.0	+5.1
LZH				*e*S	**S**	**22 06 40.0**	**0.0**
LZH				XS	sS	22 06 50.0	-0.3
LZH				*e*SS	SS	22 09 22.0	-8.6
LZH				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,270nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS5.0						
LZH	**Lanzhou**	**38.69**	**272**	P	**P**	**22 00 45.0**	**+0.8**
LZH				*SP	sP	22 00 56.0	+2.9
LZH						22 02 18.0	
LZH				*e*S	**S**	**22 06 40.0**	**0.0**
LZH				*e*SS	SS	22 09 22.0	-8.6
LZH				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.3						
LZH				MLR	MLR		
	comp=Z,2μm,16.2s,MS5.0						
LZH	**Lanzhou**	**38.69**	**272**	P	**P**	**22 00 45.0**	**+0.8**
	comp=Z,80nm,1.2s,mb5.3						
LZH				pP	pP	22 00 50.0	-0.5
LZH				sP	sP	22 00 56.0	+2.9
LZH				PP	PP	22 02 18.0	+5.1
LZH				*e*S	**S**	**22 06 40.0**	**0.0**
LZH				sS	sS	22 06 50.0	-0.3
LZH				*e*SS	SS	22 09 22.0	-8.6
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS5.0						
DAWY	**Dawson**	**38.81**	**40**	*e*P	**P**	**22 00 45.7**	**+0.4**
GTA	**Gaotai**	**39.68**	**279**	*e*P	**P**	**22 00 52.3**	**-0.2**
GTA				AP	pP	22 00 59.3	+0.5
GTA				XP	sP	22 01 03.1	+1.8
GTA				PP	PP	22 02 30.3	+6.5
GTA				PPP		22 02 53.0	
GTA				S	**S**	**22 06 55.3**	**+0.4**
GTA				XS	sS	22 07 08.1	+2.8
GTA				SS	SS	22 09 44.8	-5.7
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,73nm,4.6s						
GTA				LR	LR		
	comp=N,261nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,284nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=Z,344nm,13.7s,MS4.3						
INK	**Inuvik**	**40.66**	**33**	P	**P**	**22 01 01.4**	**+0.8**
	comp=Z,10.0nm,0.7s,mb4.5,baz=290,slow=6.7,SNR=49						
INK	**Inuvik**	**40.66**	**33**	*e*P	**P**	**22 01 01.4**	**+0.8**
	comp=Z,620nm,0.8s						
CD2	**Chengdu**	**41.76**	**265**	⇑*i*P	**P**	**22 01 08.6**	**-1.0**
CD2				AP	pP	22 01 13.1	-2.9
CD2				XP	sP	22 01 15.9	-2.6
CD2				PP	PP	22 02 48.3	+2.0
CD2				S	**S**	**22 07 24.3**	**-1.4**
CD2				SS	SS	22 10 23.9	-7.8
CD2				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.4						
CD2				AMB	AMB		
	comp=Z,160nm,4.8s						
CD2				LR	LR		
	comp=N,340nm,13.8s,MS4.5						
CD2				LR	LR		
	comp=E,340nm,13.8s,MS4.5						
CD2				LR	LR		
	comp=Z,560nm,15.6s,MS4.5						
GYA	**Guiyang**	**42.66**	**258**	⇑*i*P	**P**	**22 01 17.8**	**+0.8**
GYA				AP	pP	22 01 21.8	-1.5
GYA				XP	sP	22 01 24.9	-0.9
GYA				PP	PP	22 03 00.4	+4.4
GYA				PCP	PcP	22 03 11.8	+3.1
GYA				SCP	ScP	22 07 01.3	+2.9
GYA				S	**S**	**22 07 40.9**	**+1.8**
GYA				SS	SS	22 10 44.0	-5.6
GYA				SCS	ScS	22 11 18.0	+0.8
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,150nm,4.6s						
GYA				LR	LR		
	comp=N,670nm,16.7s,MS4.8						
GYA				LR	LR		
	comp=E,730nm,17.0s,MS4.8						
GYA				LR	LR		
	comp=Z,830nm,16.4s,MS4.7						
ZAL	**Zalesovo**	**42.92**	**306**	P	**P**	**22 01 17.3**	**-1.8**
	comp=Z,4.6nm,0.7s,mb4.3,baz=50,slow=7.5,SNR=26						
ZAL				LR	LR	22 20 47.9	
	comp=Z,403nm,18.6s,MS4.3,baz=54,slow=38						
ZAL	**Zalesovo**	**42.92**	**306**	P	**P**	**22 01 17.3**	**-1.8**
ZAL				LR	LR	22 20 47.9	
NVS	**Novosibirsk**	**43.45**	**307**	*e*P	**P**	**22 01 19.4**	**-4.0**
NVS				pmax	pmax		
	comp=N,13nm,1.6s						
NVS				pmax	pmax		
	comp=E,23nm,1.6s						
NVS				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.6						
DLBC	**Dease Lake**	**44.55**	**47**	*e*P	**P**	**22 01 34.1**	**+1.9**
DLBC				*e*pP	pP	22 01 44.4	+5.8
WMQ	**Urumqi**	**45.46**	**291**	P	**P**	**22 01 39.5**	**0.0**
WMQ				AP	pP	22 01 44.0	-1.8
WMQ				XP	sP	22 01 46.5	-1.8
WMQ				PCP	PcP	22 03 21.8	+3.5
WMQ				PP	PP	22 03 25.0	-0.9
WMQ				PPP		22 04 05.0	
WMQ				S	**S**	**22 08 15.5**	**-4.4**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,130nm,4.4s						
WMQ				LR	LR		
	comp=N,248nm,16.9s,MS4.4						
WMQ				LR	LR		
	comp=E,227nm,15.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,329nm,16.8s,MS4.3						
QIZ	**Qiongzhong**	**45.86**	**247**	*e*P	**P**	**22 01 48.5**	**+5.9**
QIZ				S	**S**	**22 08 30.5**	**+4.8**
QIZ				SS	SS	22 11 48.8	-1.5
QIZ				LR	LR		
	comp=E,230nm,17.7s						
QIZ				LR	LR		
	comp=Z,279nm,16.5s,MS4.3						
KMI	**Kunming**	**46.17**	**260**	⇑P	**P**	**22 01 46.5**	**+1.4**
KMI				AP	pP	22 01 49.6	-1.9
KMI				PCP	PcP	22 03 23.4	+2.6
KMI				PP	PP	22 03 31.8	-1.7
KMI				PPP		22 04 18.5	
KMI				S	**S**	**22 08 31.5**	**+1.4**
KMI				SS	SS	22 11 48.0	-7.4
KMI				SSS		22 12 52.0	
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,124nm,3.1s						
KMI				LR	LR		
	comp=N,344nm,15.7s,MS4.5						
KMI				LR	LR		
	comp=E,205nm,15.7s,MS4.5						
KMI				LR	LR		
	comp=Z,162nm,16.1s,MS4.1						
KMI	**Kunming**	**46.17**	**260**	⇑P	**P**	**22 01 46.5**	**+1.4**
KMI						22 03 23.4	
KMI						22 03 31.8	
KMI				PPP		22 04 18.5	
KMI				S	**S**	**22 08 31.5**	**+1.4**
KMI				*SS	sS	22 08 37.1	-3.5
KMI				SS	SS	22 11 48.0	-7.4
KMI				SSS		22 12 52.0	
KMI				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KMI				MLR	MLR		
	comp=Z,160nm,16.1s,MS4.1						
KMI	**Kunming**	**46.17**	**260**	⇑P	**P**	**22 01 46.5**	**+1.4**
	comp=Z,16nm,1.1s,mb4.9						
KMI				pP	pP	22 01 49.6	-1.9
KMI				sP	sP	22 01 50.8	-3.2
KMI				PcP	PcP	22 03 23.4	+2.6
KMI				PP	PP	22 03 31.8	-1.7
KMI				PPP		22 04 18.5	
KMI				S	**S**	**22 08 31.5**	**+1.4**
KMI				sS	sS	22 08 37.1	-3.5
KMI				SS	SS	22 11 48.0	-7.4
KMI				SSS		22 12 52.0	
KMI				LR	LR		
	comp=Z,160nm,16.1s,MS4.1						
MK31	**Makanchi Array**	**47.38**	**297**	P	**P**	**22 01 52.5**	**-2.0**
MK31				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**22 01 53.4**	**-1.1**
	comp=Z,15nm,0.9s,mb4.9,baz=68,slow=6.9,SNR=51						
KURK	**Kurchatov**	**47.69**	**304**	P	**P**	**22 01 55.8**	**-1.2**
	comp=Z,277nm,0.9s,SNR=24						
YKA	**Yellowknife Ar**	**49.91**	**37**	P	**P**	**22 02 14.1**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=295,slow=7.1,SNR=4.5						
YKA	**Yellowknife Ar**	**49.91**	**37**	P	**P**	**22 02 14.1**	**+0.1**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RES	**Resolute Bay**	**49.96**	**19**	*e*P	**P**	**22 02 15.2**	**+0.8**
	comp=Z,409nm,1.1s						
RES				*e*pP	pP	22 02 24.4	+3.6
VOSK	**Vostochnaya**	**50.92**	**309**	P	**P**	**22 02 19.8**	**-1.8**
LSA	**Lhasa**	**51.06**	**273**	P	**P**	**22 02 24.0**	**+1.3**
LSA	**Lhasa**	**51.06**	**273**	*e*P	**P**	**22 02 24.3**	**+1.6**
BVA0	**Borovoye Array**	**51.08**	**309**	*i* P	**P**	**22 02 20.7**	**-2.2**
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**22 02 21.5**	**-1.3**
	comp=Z,7.3nm,0.9s,mb4.6,baz=65,slow=7.0,SNR=19						
BRVK	**Borovoye**	**51.12**	**310**	*e*P	**P**	**22 02 21.5**	**-1.7**
NANT	**Nan**	**51.92**	**256**	P	**P**	**22 02 29.0**	**-0.1**
CHG	**Chiang Mai**	**53.07**	**257**	P	**P**	**22 02 39.4**	**+1.8**
CHTO	**Chiang Mai**	**53.07**	**257**	*e*P	**P**	**22 02 37.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**53.07**	**257**	*e*P	**P**	**22 02 37.6**	**-0.1**
	comp=Z,13nm,0.8s,mb4.9						
SHL	**Shillong**	**53.21**	**269**	*e*P	**P**	**22 02 37.3**	**-1.4**
TKM2	**Tokmak 2**	**53.45**	**296**	P	**P**	**22 02 40.1**	**-0.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**53.45**	**296**	P	**P**	**22 02 38.4**	**-2.1**
TKM2				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
A07A	**Ashnola River,**	**53.90**	**54**	⇓P	**P**	**22 02 43.4**	**-0.3**
	baz=54						
CHMS	**Chumysh**	**53.92**	**297**	P	**P**	**22 02 42.8**	**-1.1**
	SNR=6.8						
USP	**Ospenovka**	**53.92**	**297**	P	**P**	**22 02 43.2**	**-0.7**
	SNR=28						
KBK	**Karagaybulak**	**54.00**	**296**	P	**P**	**22 02 44.4**	**0.0**
	SNR=7.9						
D05A	**Enumclaw**	**54.02**	**57**	⇓P	**P**	**22 02 44.3**	**-0.3**
	baz=54						
FRU	**Bishkek**	**54.10**	**297**	*e*P	**P**	**22 02 45.0**	**-0.2**
KZA	**Kyzart**	**54.14**	**296**	P	**P**	**22 02 46.4**	**+0.9**
	SNR=11						
AAK	**Ala-Archa**	**54.28**	**297**	P	**P**	**22 02 45.6**	**-0.9**
	comp=Z,60nm,0.9s,mb5.5,SNR=10						
AAK	**Ala-Archa**	**54.28**	**297**	P	**P**	**22 02 46.4**	**-0.1**
	SNR=14						
AAK	**Ala-Archa**	**54.28**	**297**	P	**P**	**22 02 45.2**	**-1.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**54.28**	**297**	*e*P	**P**	**22 02 45.1**	**-1.4**
B07A	**Winthrop**	**54.36**	**55**	⇓P	**P**	**22 02 46.8**	**-0.3**
	baz=54						
A08A	**Turner Farm, O**	**54.56**	**54**	P	**P**	**22 02 48.3**	**-0.2**
	baz=54,SNR=7.3						
EKS2	**Erkin-Say**	**54.70**	**297**	P	**P**	**22 02 49.6**	**0.0**
	SNR=12						
C07A	**Waterville**	**54.83**	**56**	⇑P	**P**	**22 02 50.2**	**-0.3**
	baz=55						
B08A	**Colville Reser**	**54.86**	**54**	⇓P	**P**	**22 02 50.7**	**0.0**
	baz=55						
A09A	**Danville**	**54.92**	**54**	P	**P**	**22 02 51.5**	**+0.3**
	baz=55,SNR=12						
I03A	**Eugene**	**55.07**	**61**	⇓P	**P**	**22 02 51.4**	**-0.9**
	baz=55						
ARU	**Arti**	**55.09**	**318**	⇓*i*P	**P**	**22 02 50.8**	**-1.6**
ARU				*e*		22 03 50.5	
ARU				*e*		22 04 51.9	
ARU				*e*S	**S**	**22 10 34.1**	**+0.2**
ARU				*e*SS	SS	22 14 22.8	+5.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	**Arti**	**55.09**	**318**	*e*P	**P**	**22 02 50.9**	**-1.5**
D07A	**Quincy**	**55.15**	**56**	⇓P	**P**	**22 02 52.5**	**-0.3**
	baz=55						
KSH	**Kashi**	**55.17**	**293**	*e*P	**P**	**22 02 53.9**	**+1.0**
KSH				*e*AP	pP	22 02 59.8	+0.4
KSH				*e*XP	sP	22 03 02.9	+1.0
KSH				*e*PCP	PcP	22 03 54.3	+0.4
KSH				*e*PPP		22 06 11.0	
KSH				*e*SCP	ScP	22 07 52.9	+1.4
KSH				*e*S	**S**	**22 10 33.8**	**-1.2**
KSH				*e*XS	sS	22 10 43.1	-2.5
KSH				*e*PS		22 10 53.0	
KSH				*e*SCS	ScS	22 12 39.1	-1.9
KSH				*e*SS	SS	22 14 19.3	+0.3
J02A	**Umpqua**	**55.24**	**62**	⇓P	**P**	**22 02 54.0**	**+0.5**
	baz=55						
EDM	**Edmonton**	**55.27**	**47**	*e*P	**P**	**22 02 53.8**	**+0.1**
H04A	**Detroit Lake**	**55.31**	**60**	⇑P	**P**	**22 02 53.7**	**-0.2**
	baz=55						
E07A	**Sunnyside**	**55.58**	**57**	⇓P	**P**	**22 02 56.0**	**0.0**
	baz=55						
K02A	**Glendale**	**55.64**	**62**	⇑P	**P**	**22 02 55.8**	**-0.5**
	baz=55						
I04A	**Tendick Farm,**	**55.69**	**61**	⇑P	**P**	**22 02 56.8**	**+0.1**
	baz=56						
JIRN	**Jiri**	**55.71**	**275**	*e*P	**P**	**22 02 57.5**	**+0.6**
	comp=Z,92nm,0.8s,mb5.8						
C09A	**Chrisman Ranch**	**55.76**	**55**	⇓P	**P**	**22 02 57.5**	**+0.3**
	baz=56						
GUN	**Gumba**	**55.76**	**275**	*e*P	**P**	**22 02 58.0**	**+0.8**
D08A	**Wollman Farm,**	**55.82**	**56**	⇓P	**P**	**22 02 57.3**	**-0.3**
	baz=56						
H05A	**Madras**	**55.89**	**59**	⇓P	**P**	**22 02 57.6**	**-0.6**
	baz=56						
L02A	**Cave Junction**	**55.92**	**63**	⇑P	**P**	**22 02 57.6**	**-0.8**
	baz=56						
B10A	**Chitwood Farm,**	**56.05**	**54**	⇑P	**P**	**22 02 57.9**	**-1.4**
	baz=56						
E08A	**Dider Farm, El**	**56.07**	**56**	⇑P	**P**	**22 02 59.1**	**-0.3**
	baz=56						
NEW	**Newport**	**56.13**	**54**	*e*P	**P**	**22 02 59.6**	**-0.2**
NEW				pmax	pmax		
	comp=Z,31nm,1.3s						
NEW	**Newport**	**56.13**	**54**	*e*P	**P**	**22 02 59.5**	**-0.3**
	comp=Z,31nm,1.3s,mb5.2						
A11A	**Hall Mountain,**	**56.14**	**53**	P	**P**	**22 03 00.7**	**+0.7**
	baz=56,SNR=6.7						
D09A	**Jones Farm, Ri**	**56.16**	**55**	⇓P	**P**	**22 02 59.8**	**-0.3**
	baz=56						
J04A	**Umpqua Nationa**	**56.19**	**61**	⇓P	**P**	**22 03 00.4**	**+0.2**
	baz=56						
KKN	**Kakani**	**56.25**	**276**	*e*P	**P**	**22 03 01.3**	**+0.6**
	comp=Z,224nm,1.4s,mb6.0						
C10A	**Spilker Farm,**	**56.28**	**54**	⇓P	**P**	**22 03 00.2**	**-0.7**
	baz=56						
PKI	**Pulchoki**	**56.30**	**275**	*e*P	**P**	**22 03 01.4**	**+0.3**
	comp=Z,76nm,0.8s,mb5.8						
H06A	**Lindquist Farm**	**56.36**	**59**	⇓P	**P**	**22 03 01.2**	**-0.2**
	baz=56						
KKAR	**Karatay Array**	**56.41**	**299**	*i* P	**P**	**22 03 00.8**	**-1.0**
B11A	**Sandpoint**	**56.44**	**53**	P	**P**	**22 03 02.5**	**+0.4**
	baz=56,SNR=6.7						
DMN	**Daman**	**56.48**	**276**	*e*P	**P**	**22 03 03.2**	**+0.8**
	comp=Z,202nm,1.1s						
A12A	**Yaak River Ran**	**56.53**	**52**	⇑P	**P**	**22 03 02.7**	**0.0**
	baz=56						
GKN	**Gorkha**	**56.54**	**276**	*e*P	**P**	**22 03 03.0**	**+0.2**
	comp=Z,213nm,1.1s						
E09A	**Wood Farm, Sta**	**56.57**	**56**	P	**P**	**22 03 03.0**	**0.0**
	baz=56,SNR=6.7						
F08A	**Pendleton**	**56.63**	**57**	⇓P	**P**	**22 03 02.8**	**-0.6**
	baz=56						
J05A	**Fort Rock**	**56.68**	**60**	⇑P	**P**	**22 03 04.6**	**+0.8**
	baz=56						
YBH	**Yreka Blue Hor**	**56.71**	**63**	⇓P	**P**	**22 03 04.5**	**+0.5**
	baz=56						
G08A	**Pilot Rock**	**56.83**	**57**	⇓P	**P**	**22 03 05.2**	**+0.4**
	baz=57						
I06A	**Prineville**	**56.89**	**59**	⇓P	**P**	**22 03 06.4**	**+1.1**
	baz=57						
KEV	**Kevo**	**57.00**	**341**	*e*p	**P**	**22 03 10.2**	**+4.1**
E10A	**Myers Farm, Un**	**57.17**	**55**	⇑P	**P**	**22 03 07.3**	**0.0**
	baz=57						
F09A	**S2 Ranch, Elgi**	**57.18**	**56**	⇑P	**P**	**22 03 07.7**	**+0.4**
	baz=57						
M04C	**Macdoel**	**57.21**	**62**	⇓P	**P**	**22 03 07.0**	**-0.5**
	baz=57						
K05A	**Summer Lake**	**57.21**	**61**	⇑P	**P**	**22 03 07.4**	**-0.2**
	baz=57						
I07A	**Izee**	**57.22**	**59**	⇓P	**P**	**22 03 07.0**	**-0.6**
	baz=57						
D11A	**Klaveano Farm,**	**57.27**	**54**	P	**P**	**22 03 07.5**	**-0.4**
	baz=57,SNR=7.5						
J06A	**Christmas Vall**	**57.34**	**60**	⇓P	**P**	**22 03 07.2**	**-1.2**
	baz=57						
C12A	**Trout Creek**	**57.35**	**53**	P	**P**	**22 03 08.8**	**+0.3**
	baz=57,SNR=7.9						
WALA	**Waterton Lakes**	**57.39**	**51**	*e*P	**P**	**22 03 09.2**	**+0.4**
	comp=Z,32nm,1.1s,mb5.3						
KOLN	**Koldanda**	**57.39**	**277**	*e*P	**P**	**22 03 09.2**	**+0.4**
	comp=Z,98nm,1.0s,mb5.8						
F10A	**Beach Ranch, E**	**57.41**	**56**	⇑P	**P**	**22 03 09.0**	**0.0**
	baz=57						
H08A	**Prairie City**	**57.45**	**58**	⇓P	**P**	**22 03 08.6**	**-0.6**
	baz=57						
B13A	**Whitefish**	**57.50**	**52**	P	**P**	**22 03 10.2**	**+0.6**
	baz=57,SNR=14						
WDC	**Whiskeytown Da**	**57.50**	**64**	⇓P	**P**	**22 03 09.8**	**+0.2**
	baz=57						
ARCES	**ARCESS Array B**	**57.51**	**341**	P	**P**	**22 03 08.6**	**-1.1**
	comp=Z,4.2nm,0.9s,mb4.5,baz=9.6,slow=25,SNR=4.1						
ARCES	**ARCESS Array B**	**57.51**	**341**	P	**P**	**22 03 08.6**	**-1.1**
K06A	**Valley Falls**	**57.55**	**60**	⇑P	**P**	**22 03 09.7**	**-0.2**
	baz=57						
O02C	**Red Bluff**	**57.59**	**64**	⇓P	**P**	**22 03 10.5**	**+0.2**
	baz=57						
L05A	**Lakeview**	**57.65**	**61**	⇓P	**P**	**22 03 11.2**	**+0.5**
	baz=58						
P01C	**Double 8 Ranch**	**57.68**	**65**	⇑P	**P**	**22 03 10.1**	**-0.7**
	baz=58						
J07A	**Hines**	**57.76**	**59**	⇓P	**P**	**22 03 11.9**	**+0.5**
	baz=58						
C13A	**Hot Springs**	**57.86**	**53**	⇑P	**P**	**22 03 12.1**	**0.0**
	baz=58						
I08A	**Drewsey**	**57.87**	**58**	⇓P	**P**	**22 03 12.6**	**+0.4**
	baz=58						
M05C	**Lookout**	**57.88**	**62**	⇓P	**P**	**22 03 11.4**	**-0.8**
	baz=58						
H09A	**Durkee**	**57.94**	**57**	⇓P	**P**	**22 03 11.7**	**-0.9**
	baz=58						
GASB	**Alder Springs**	**57.95**	**65**	⇓P	**P**	**22 03 12.3**	**-0.4**
	baz=58						
HATC	**Hat Creek Radi**	**58.01**	**63**	⇑P	**P**	**22 03 12.4**	**-0.8**
	baz=58						
BMO	**Blue Mountains**	**58.03**	**57**	*e*P	**P**	**22 03 13.0**	**-0.3**
	comp=Z,30nm,1.3s,mb5.2						
MOD	**Modoc**	**58.05**	**61**	⇑P	**P**	**22 03 13.6**	**+0.2**
	baz=58						
F11A	**Grangeville**	**58.06**	**55**	⇓P	**P**	**22 03 13.2**	**-0.3**
	baz=58						
C14A	**Swan Lake**	**58.25**	**52**	P	**P**	**22 03 15.4**	**+0.6**
	baz=58,SNR=7.5						
J08A	**Circle Bar Ran**	**58.25**	**59**	⇑P	**P**	**22 03 14.3**	**-0.6**
	baz=58						
D13A	**Huson**	**58.27**	**53**	⇑P	**P**	**22 03 14.3**	**-0.7**
	baz=58						
G11A	**Walters Elk Ra**	**58.29**	**56**	⇑P	**P**	**22 03 15.2**	**+0.1**
	baz=58						
I09A	**Lost Marbles R**	**58.31**	**58**	⇓P	**P**	**22 03 14.3**	**-0.9**
	baz=58						
BOK	**Bokaro**	**58.46**	**272**	*e*P	**P**	**22 03 16.6**	**+0.4**
BOK				AMb	AMB	22 03 19.1	
	comp=Z,30nm,1.7s,mb5.0						
O04C	**Chester**	**58.54**	**63**	⇓P	**P**	**22 03 16.4**	**-0.4**
	baz=58						
L07A	**Adell**	**58.55**	**61**	⇓P	**P**	**22 03 16.8**	**-0.2**
	baz=58						
K08A	**Mann Creek Ran**	**58.63**	**60**	⇓P	**P**	**22 03 16.6**	**-0.9**
	baz=58						
F12A	**Elk City**	**58.64**	**55**	P	**P**	**22 03 18.2**	**+0.7**
	baz=58,SNR=9.5						
J09A	**Fry Pan Ranch,**	**58.68**	**59**	⇑P	**P**	**22 03 16.9**	**-0.9**
	baz=58						
MSO	**Missoula**	**58.71**	**53**	*e*P	**P**	**22 03 18.3**	**+0.2**
	comp=Z,28nm,1.3s,mb5.1						
WVOR	**Wild Horse Val**	**58.72**	**60**	*e*P	**P**	**22 03 17.9**	**-0.2**
WVOR				*e*		22 03 29.6	
WVOR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
WVOR	**Wild Horse Val**	**58.72**	**60**	*e*P	**P**	**22 03 17.9**	**-0.2**
	comp=Z,15nm,1.1s,mb4.9						
WVOR				*e*		22 03 29.6	
ORV	**Oroville**	**58.76**	**64**	⇑P	**P**	**22 03 17.6**	**-0.8**
	baz=59						
I10A	**Payette**	**58.78**	**57**	⇑P	**P**	**22 03 19.3**	**+0.8**
	baz=59						
D14A	**Greenough**	**58.80**	**53**	P	**P**	**22 03 18.9**	**+0.3**
	baz=59,SNR=17						
E13A	**Victor**	**58.81**	**54**	P	**P**	**22 03 19.6**	**+0.8**
	baz=59,SNR=5.6						
H11A	**Donnelly**	**58.85**	**56**	P	**P**	**22 03 19.4**	**+0.3**
	baz=59,SNR=10						
O05C	**Quincy**	**58.86**	**63**	⇓P	**P**	**22 03 19.0**	**-0.1**
	baz=59						
OHCM	**Honcut**	**58.90**	**64**	*e*P	**P**	**22 03 18.5**	**-0.8**
AKTK	**Aktyubinsk**	**58.91**	**312**	P	**P**	**22 03 18.3**	**-1.1**
AKTO	**Aktyubinsk**	**58.91**	**312**	P	**P**	**22 03 18.3**	**-1.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=352,slow=7.7,SNR=3.7						
CVS	**Carmenet Viney**	**58.91**	**66**	⇑P	**P**	**22 03 19.1**	**-0.4**
	baz=59						
N06A	**Buffalo Meadow**	**59.03**	**62**	⇑P	**P**	**22 03 19.5**	**-0.8**
	baz=59						
CHMT	**Chamberlain Mo**	**59.04**	**53**	*e*P	**P**	**22 03 20.4**	**+0.1**
L08A	**Fields**	**59.04**	**60**	⇑P	**P**	**22 03 20.1**	**-0.2**
	baz=59						
M07A	**Soldier Meadow**	**59.04**	**61**	⇓P	**P**	**22 03 20.5**	**+0.2**
	baz=59,SNR=7.1						
K09A	**Rome**	**59.09**	**59**	⇓P	**P**	**22 03 19.8**	**-0.9**
	baz=59						
F13A	**Darby**	**59.13**	**55**	P	**P**	**22 03 21.1**	**+0.2**
	baz=59,SNR=8.0						
E14A	**Clinton**	**59.21**	**54**	P	**P**	**22 03 21.9**	**+0.3**
	baz=59,SNR=9.3						
BEKR	**Beckwourth**	**59.26**	**63**	⇑P	**P**	**22 03 22.5**	**+0.6**
	baz=59						
D15A	**Lincoln**	**59.35**	**53**	⇑P	**P**	**22 03 22.5**	**0.0**
	baz=59						
O06A	**Flanigan**	**59.40**	**63**	⇑P	**P**	**22 03 22.4**	**-0.5**
	baz=59						
P05C	**Yuba Gap, Truc**	**59.45**	**64**	⇑P	**P**	**22 03 23.5**	**+0.3**
	baz=59						
N07B	**Gerlach**	**59.53**	**62**	⇓P	**P**	**22 03 24.0**

CMB pmax pmax
comp=Z,11nm,1.3s,mb4.7
CMB Columbia Colle 60.38 65 *e*P **P 22 03 29.2 -0.3**
comp=Z,11nm,1.3s,mb4.7
CMB *e* 22 03 39.4
CMB Columbia Colle 60.38 65 ⇓P **P 22 03 29.5 0.0**
baz=60
HLID Hailey 60.46 57 *e*P **P 22 03 30.7 +0.5**
comp=Z,15nm,1.1s,mb4.9
HLID Hailey 60.46 57 P **P 22 03 30.9 +0.7**
baz=60,SNR=6.6
PACP Pacheco Peak 60.47 66 ⇑P **P 22 03 30.5 +0.4**
baz=60
M10A I.L. Ranch, Tu 60.51 60 ⇓P **P 22 03 31.0 +0.5**
baz=60
G15A Dillon 60.54 54 P **P 22 03 30.9 +0.3**
baz=60,SNR=6.0
R06C Coleville 60.65 64 ⇓P **P 22 03 32.0 +0.6**
baz=60
P08A Dixie Valley 60.74 62 ⇑P **P 22 03 31.2 -0.8**
baz=60
BMN Battle Mountai 60.79 61 *e*P **P 22 03 32.3 -0.1**
BMN pmax pmax
comp=Z,13nm,1.0s,mb5.0
BMN Battle Mountai 60.79 61 *e*P **P 22 03 32.3 0.0**
comp=Z,13nm,1.0s,mb5.0
S06C San Francisco 60.81 65 P **P 22 03 32.4 -0.1**
baz=61,SNR=5.4
T05C Eagle Field, D 60.92 66 ⇓P **P 22 03 34.6 +1.4**
baz=61
O09A Fish Creek Ran 60.98 61 ⇓P **P 22 03 34.5 +0.9**
baz=61
M11A Holland Ranch, 61.01 59 ⇓P **P 22 03 34.7 +0.9**
baz=61
NDI New Delhi 61.08 282 *e*P **P 22 03 33.0 -1.3**
NDI *e*P 22 03 33.6
NDI AMb AMB 22 03 35.9
comp=Z,32nm,1.2s,mb5.3
R07C Lee Vining 61.17 64 ⇓P **P 22 03 35.2 +0.3**
baz=61
O10A Cortez Mining, 61.31 61 ⇓P **P 22 03 36.8 +0.9**
baz=61
QLMT Earthquake Lak 61.33 54 *e*P **P 22 03 37.0 +0.9**
Q08A Gabbs 61.36 63 ⇓P **P 22 03 36.1 -0.1**
baz=61
NVAR Mina Array Bea 61.40 63 P **P 22 03 36.9 +0.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=299,slow=7.6,SNR=10
N11A Elko Archery C 61.43 60 ⇓P **P 22 03 36.2 -0.5**
baz=61
T06C Millerton Lake 61.45 65 ⇑P **P 22 03 35.4 -1.4**
baz=61
KCC Kaiser Creek 61.48 65 ⇓P **P 22 03 36.7 -0.4**
baz=61
M12A Wells 61.53 59 ⇓P **P 22 03 37.9 +0.5**
baz=61,SNR=5.5
GCMT Greycliff 61.67 52 *e*P **P 22 03 38.9 +0.5**
GCMT *e* 22 03 49.3
ELK Elko 61.76 60 P **P 22 03 39.8 +0.8**
N12A Clover Valley, 61.81 59 ⇓P **P 22 03 39.5 +0.2**
baz=62
YNR Norris Junctio 61.81 54 *e*P **P 22 03 41.5 +2.2**
YFT Old Faithful 61.90 54 *e*P **P 22 03 42.6 +2.7**
O11A Cowboy Ranch, 61.91 60 ⇑P **P 22 03 40.1 +0.2**
baz=62
M13A Montello 62.00 58 ⇓P **P 22 03 40.0 -0.5**
baz=62
S08C White Mtn Res 62.08 64 ⇑P **P 22 03 40.0 -1.0**
baz=62
HELL Mitchell Peak, 62.08 65 ⇓P **P 22 03 41.1 0.0**
baz=62
IMW Indian Meadow 62.20 55 *e*P **P 22 03 43.3 +1.4**
comp=Z,31nm,1.2s,mb5.3
FLWY Flagg Ranch 62.21 54 *e*P **P 22 03 43.6 +1.6**
P11A Circle Ranch, 62.22 61 ⇓P **P 22 03 40.2 -1.8**
baz=62
R09A Tonopah 62.27 63 P **P 22 03 42.6 +0.2**
baz=62,SNR=6.7
TPH Tonopah 62.28 63 *e*P **P 22 03 42.1 -0.4**
N13A Wendover, West 62.30 59 ⇓P **P 22 03 43.1 +0.5**
baz=62
RLMT Red Lodge 62.32 53 *e*P **P 22 03 43.7 +1.0**
comp=Z,38nm,1.4s,mb5.3
RLMT *e* 22 03 53.7
TIN Tinemaha 62.33 64 ⇓P **P 22 03 43.1 +0.3**
baz=62
RRI2 Red Ridge 62.34 55 *e*P **P 22 03 44.1 +1.3**
SMMC Simmler 62.35 67 ⇓P **P 22 03 41.9 -1.0**
baz=62
O12A Currie 62.36 60 ⇓P **P 22 03 42.5 -0.5**
baz=62
MOOW Moose Ponds 62.40 55 *e*P **P 22 03 44.4 +1.2**
comp=Z,21nm,1.3s,mb5.1
TPAW Teton Pass 62.45 55 *e*P **P 22 03 44.9 +1.3**
comp=Z,53nm,1.2s,mb5.5
TPAW *e* 22 03 55.4
S09A Goldfield 62.51 63 ⇑P **P 22 03 43.6 -0.4**
baz=62
LOHW Long Hollow 62.57 55 *e*P **P 22 03 45.6 +1.3**
SNOW Snow King Moun 62.58 55 *e*P **P 22 03 46.1 +1.6**
VES Vestal, Richgr 62.58 66 ⇓P **P 22 03 44.5 0.0**
baz=62
REDW Red Top Meadow 62.59 55 *e*P **P 22 03 45.8 +1.3**
Q11A Duckwater 62.73 61 ⇑P **P 22 03 45.4 -0.1**
baz=62
DGMT Dagmar 62.76 47 *e*P **P 22 03 46.0 +0.4**
P12A McGill 62.77 61 ⇓P **P 22 03 45.3 -0.4**
baz=63
CWC Cottonwood Cre 62.81 65 ⇑P **P 22 03 45.3 -0.7**
baz=63
LAO LASA Array 62.91 50 *e*pP pP 22 03 57.5 +4.3
SPUT South Promonto 63.02 58 *e*P **P 22 03 49.7 +2.4**
SPUT *e*pP pP 22 03 55.1 +1.2
ISA Isabella 63.07 66 *e*P **P 22 03 47.0 -0.7**
ISA Isabella 63.07 66 ⇓P **P 22 03 47.1 -0.6**
baz=63
Q12A Willow Creek R 63.10 61 ⇓P **P 22 03 47.1 -0.8**
baz=63
ARVC Arvin 63.20 66 ⇑P **P 22 03 48.3 -0.3**
baz=63
DAC Darwin (Calif) 63.22 65 *e*P **P 22 03 48.9 +0.2**
HWUT Hardware Ranch 63.33 57 *e*P **P 22 03 50.0 +0.6**
comp=Z,20nm,1.3s,mb5.1
MPMC Manual Prospec 63.42 65 ⇓P **P 22 03 49.0 -1.0**
baz=63
DUG Dugway 63.53 59 *e*P **P 22 03 51.3 +0.5**
DUG pmax pmax
comp=Z,31nm,1.3s,mb5.2
DUG Dugway 63.53 59 *e*P **P 22 03 51.3 +0.6**
comp=Z,32nm,1.3s,mb5.2
DUG Dugway 63.53 59 P **P 22 03 51.4 +0.7**
baz=63,SNR=7.1
FURC Furnace Creek, 63.54 64 ⇓P **P 22 03 50.8 0.0**
baz=63
OSI Osito Adit 63.60 67 ⇑P **P 22 03 49.9 -1.3**
baz=63
NOQ North Oquirrh 63.63 58 *e*pP pP 22 04 01.8 +3.8
LRMC Laurel Mountai 63.68 66 ⇓P **P 22 03 49.7 -2.0**
baz=64
BW06 Boulder Array 63.70 55 *e*P **P 22 03 52.2 +0.4**
comp=Z,21nm,1.2s,mb5.0
PDAR Pinedale Array 63.70 55 P **P 22 03 52.1 +0.3**
comp=Z,4.6nm,1.0s,mb4.5,baz=300,slow=2.6,SNR=24
FIA1 FINESS Array S 63.80 335 *e*P **P 22 03 52.1 -0.4**
FINES FINESS Array B 63.80 335 P **P 22 03 51.0 -1.6**
comp=Z,7.6nm,0.7s,mb4.8,baz=38,slow=7.3,SNR=28
CTU Camp Tracy 63.82 58 *e*P **P 22 03 53.5 +0.8**
EDW2 Edwards Air Fo 63.88 66 ⇓P **P 22 03 52.8 -0.3**
baz=64
U10A Ash Meadows, A 63.90 64 ⇑P **P 22 03 54.2 +1.0**
baz=64
JLU Jordanelle 64.05 58 *e*pP pP 22 04 05.3 +4.6
NLU North Lily Min 64.12 59 *e*P **P 22 03 55.6 +1.0**
NLU *e*pP pP 22 04 04.9 +3.7
AJM Ajmer 64.24 282 *e*P **P 22 03 54.8 -0.6**
AJM AMb AMB 22 03 57.4
comp=Z,32nm,1.3s,mb5.2
DAU Daniels Canyon 64.29 58 *e*P **P 22 03 56.1 +0.4**
GSC Goldstone 64.34 65 ⇑P **P 22 03 55.4 -0.6**
baz=64
SHPR Sheep Range 64.55 63 *e*P **P 22 03 57.1 -0.4**
BHPL Bhopal 64.56 277 *e*P **P 22 03 57.7 +0.2**
TUQ Turquoise Mtn. 64.79 64 ⇓P **P 22 03 58.4 -0.6**
baz=65
V11A Goodsprings 64.83 64 ⇑P **P 22 03 58.6 -0.7**
baz=65
NGP Nagpur 64.88 274 *e*P **P 22 03 58.5 -1.2**

NGP AMb AMB 22 04 02.4
comp=Z,49nm,1.0s,mb5.5
MSU Marysvale 65.01 60 *e*P **P 22 04 01.2 +0.8**
TMUT Trail Mountain 65.05 59 *e*P **P 22 03 59.1 -1.7**
MURC Murrieta 65.21 67 ⇑P **P 22 04 02.3 +0.5**
baz=65
OBN Obninsk 65.24 326 *e*P **P 22 04 00.9 -1.0**
OBN *e* 22 04 34.3
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 65.24 326 P **P 22 04 01.4 -0.5**
V12A Nelson 65.25 64 ⇓P **P 22 04 02.1 0.0**
baz=65
ULM Lac du Bonnet 65.49 42 P **P 22 04 02.8 -0.8**
comp=Z,4.4nm,0.7s,mb4.6,baz=302,slow=7.7,SNR=7.9
SRU San Rafael 65.57 58 *e*P **P 22 04 04.5 +0.4**
RWWY Rawlins 65.72 54 *e*P **P 22 04 05.3 +0.3**
comp=Z,21nm,1.2s,mb5.0
RSSD Black Hills 65.78 51 *e*P **P 22 04 05.5 +0.1**
RSSD *e* 22 04 15.4
RSSD pmax pmax
comp=Z,23nm,1.3s,mb5.0
RSSD Black Hills 65.78 51 *e*P **P 22 04 05.5 +0.1**
comp=Z,23nm,1.3s,mb5.0
RSSD *e* 22 04 15.4
IRM Iron Mountain 66.11 65 ⇓P **P 22 04 07.7 +0.1**
baz=66
W13A Hualapai Mount 66.26 64 ⇓P **P 22 04 08.9 +0.4**
baz=66,SNR=26
BC3 Big Chuckw Mtn 66.26 66 ⇑P **P 22 04 08.0 -0.6**
baz=66
DVTC Desert V Tower 66.53 67 ⇓P **P 22 04 10.4 +0.2**
baz=66
W14A Seligman 66.67 63 ⇑P **P 22 04 11.2 0.0**
baz=66
AGMN Agassiz Refuge 66.89 43 *e*P **P 22 04 11.9 -0.6**
comp=Z,26nm,1.6s,mb5.0
AGMN *e* 22 04 22.4
PV10 Paradox Valley 66.93 58 *e*P **P 22 04 13.3 +0.6**
PV10 *e* 22 04 23.6
GLA Glamis 67.06 66 ⇑P **P 22 04 12.7 -0.9**
baz=67
VRSR Storozhevoye 67.11 322 *e*P **P 22 04 14.7 +0.8**
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,5.0nm,0.7s
PV01 Paradox Valley 67.36 58 *e*P **P 22 04 15.4 -0.1**
PV01 *e* 22 04 26.2
WUAZ Wupatki 67.49 62 *e*P **P 22 04 16.7 +0.3**
SMCO Snowmass 67.56 56 P **P 22 04 08.0 -8.8**
comp=E,16nm,1.3s,mb4.9
X15A Humboldt 67.67 63 P **P 22 04 18.2 +0.7**
baz=68,SNR=5.0
HYB Hyderabad 67.80 272 *e*P **P 22 04 20.0 +1.7**
NB2 NORSAR Subarra 67.88 342 P **P 22 04 18.2 -0.6**
comp=Z,7.3nm,0.7s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 67.88 342 P **P 22 04 18.6 -0.2**
comp=Z,18nm,0.9s,mb5.1,baz=26,slow=6.3,SNR=28
ISCO Idaho Springs 67.89 55 *e*P **P 22 04 19.7 +0.8**
ISCO pmax pmax
comp=Z,19nm,1.3s,mb5.0
ISCO Idaho Springs 67.89 55 *e*P **P 22 04 19.7 +0.8**
comp=Z,19nm,1.3s,mb5.0
MVCO Mesa Verde 68.03 59 ⇑P **P 22 04 18.3 -1.4**
baz=68
115A Sonoran Desert 68.90 64 ⇑P **P 22 04 25.3 +0.1**
baz=69
SDCO Great Sand Dun 69.38 56 *e*P **P 22 04 28.7 +0.5**
comp=Z,13nm,1.4s,mb4.7
WB2 Warramunga Arr 69.40 200 ⇑*i*P **P 22 04 27.0 -1.3**
WB2 Warramunga Arr 69.40 200 *e*P **P 22 04 27.1 -1.1**
WRA Warramunga Arr 69.40 200 P **P 22 04 27.2 -1.1**
comp=Z,7.9nm,1.0s,mb4.6,baz=17,slow=6.2,SNR=21
ECSD EROS,Sioux Fal 69.84 47 *e*P **P 22 04 30.1 -0.9**
comp=Z,25nm,1.3s,mb5.0
ECSD *e* 22 04 40.8
FITZ Fitzroy Crossi 70.11 209 ⇑*i*P **P 22 04 32.5 -0.1**
comp=Z,6.1nm,0.8s,mb4.6
POO Poona 70.21 276 ⇓*i*P **P 22 04 31.0 -2.3**
comp=Z,40nm,1.0s,mb5.3
ANMO Albuquerque 70.79 59 *e*P **P 22 04 37.4 +0.6**
SUW Suwalki 70.82 332 *e*P **P 22 04 36.6 -0.4**
KAD Karad 70.84 275 *e*P **P 22 04 37.9 +0.8**
KAD AMb AMB 22 04 40.6
comp=Z,33nm,0.9s,mb5.3
KIV Kislovodsk 70.93 315 *e*P **P 22 04 37.6 -0.1**
KIV *e* 22 04 59.1
KIV *e*S S 22 13 53.0 +0.8
KIV pmax pmax
comp=Z,16nm,1.2s,mb4.8
KIV MLR MLR
comp=Z,273nm,17.0s,MS4.6
KIV Kislovodsk 70.93 315 *e*P **P 22 04 39.5 +1.8**
comp=Z,12nm,1.0s,mb4.8
AKASG Malin Array Be 71.46 327 P **P 22 04 39.8 -1.1**
comp=Z,12nm,0.8s,mb4.9,baz=33,slow=6.1,SNR=35
AKBB Malin Array Si 71.46 327 *e*P **P 22 04 40.1 -0.8**
AKBB *e* 22 04 50.3
KIEV Kiev 71.47 327 *e*P **P 22 04 39.7 -1.3**
KIEV *e* 22 04 50.0
KIEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
KIEV Kiev 71.47 327 *e*P **P 22 04 39.7 -1.3**
comp=Z,11nm,0.8s,mb4.8
KIEV *e* 22 04 50.0
GNI Garni 72.73 311 *e*P **P 22 04 51.9 +3.4**
SCIA State Center 72.87 46 *e*P **P 22 04 48.9 -0.4**
comp=Z,19nm,1.0s,mb5.0
SCIA *e* 22 04 59.4
AS31 Alice Springs 73.09 200 *e*P **P 22 04 50.5 -0.1**
ASAR Alice Springs 73.09 200 P **P 22 04 50.6 0.0**
comp=Z,15nm,0.8s,mb4.9,baz=13,slow=5.7,SNR=102
ASPA Alice Springs 73.09 200 *e*P **P 22 04 50.5 -0.1**
GKP Gorka Klasztor 73.27 335 *e*P **P 22 04 51.2 -0.5**
AMTX Amarillo 73.58 56 *e*pP pP 22 05 04.7 +4.5
PALK Pallekele 73.60 263 P **P 22 04 53.4 -0.2**
MNTX Cornudas Mount 73.73 61 *e*P **P 22 04 54.5 +0.1**
MNTX *e*pP pP 22 05 04.3 +3.2
LVV L'vov 74.07 329 *e*P **P 22 04 55.4 -1.0**
SIM Simferopol' 74.10 320 *e*P **P 22 04 57.2 +0.7**
SIM pmax pmax
comp=Z,18nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,190nm,17.2s,MS4.5
KWP Kalwaria 74.68 330 *e*P **P 22 05 00.7 +0.8**
KWP Kalwaria 74.68 330 P **P 22 04 59.5 -0.4**
KWP pmax pmax
comp=Z,62nm,1.0s,mb5.5
IAS Iasi 74.96 326 P **P 22 05 01.7 +0.1**
OJC Ojcow 75.14 332 *e*P **P 22 05 02.6 0.0**
WMOK Wichita Mounta 75.31 55 *e*P **P 22 05 03.3 -0.3**
STHS Stebnicka Huta 75.36 330 *i* P **P 22 05 04.8 +0.9**
STHS pmax pmax
comp=Z,16nm,0.9s,mb5.0
STHS Stebnicka Huta 75.36 330 *i* P **P 22 05 04.8 +0.9**
comp=Z,16nm,0.9s,mb5.0
KOLS Kolonicke sedl 75.43 330 *e*P **P 22 05 03.8 -0.4**
BURAR Bucovina Array 75.50 327 ⇑*i*P **P 22 05 04.6 0.0**
BURAR Bucovina Array 75.50 327 ⇑P **P 22 05 04.6 -0.1**
NIE Niedzica 75.67 331 *e*P **P 22 05 06.5 +0.9**
UZH Uzhgorod 75.68 329 *e*P **P 22 05 05.0 -0.7**
KSP Ksiaz 75.69 334 *e*P **P 22 05 05.9 +0.2**
KSP Ksiaz 75.69 334 ⇓*e*P **P 22 05 05.5 -0.2**
EKA Eskdalemuir Ar 75.90 347 P **P 22 05 06.7 -0.2**
comp=Z,3.5nm,0.8s,mb4.3,baz=19,slow=5.3,SNR=3.8
OKC Ostrava-Krasne 76.00 332 *e*P **P 22 05 07.6 +0.1**
OKC *e*PCP PcP 22 05 19.5 -0.3
UPC Upice 76.06 334 *e*P **P 22 05 08.2 +0.3**
UPC *e*PCP PcP 22 05 19.2 -0.9
DPC Dobruska-Polom 76.11 334 *e*P **P 22 05 08.5 +0.4**
DPC *e*PCP PcP 22 05 19.3 -1.0
CLL Collm 76.21 336 ⇓*i*P **P 22 05 08.5 -0.2**
comp=Z,40nm,1.1s,mb5.3
CLL *e* 22 05 19.0
CLL Collm 76.21 336 ⇓*i*P **P 22 05 08.5 -0.2**
comp=Z,40nm,1.1s,mb5.3
CLL *i* PcP PcP 22 05 18.8 -1.9
MORC Moravsky Berou 76.25 333 ⇑*i*P **P 22 05 09.6 +0.7**
MORC Moravsky Berou 76.25 333 *e*P **P 22 05 09.2 +0.3**
comp=Z,25nm,1.0s,mb5.1

BRG Berggiesshubel 76.34 335 *e*P **P 22 05 09.6 +0.1**
comp=Z,12nm,1.2s,mb4.7
BRG Berggiesshubel 76.34 335 *e*P **P 22 05 09.6 +0.2**
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.7
KECS Kecovo 76.42 330 *e*P **P 22 05 10.0 +0.1**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 76.42 330 *e*P **P 22 05 10.0 +0.1**
comp=Z,6.2nm,0.9s,mb4.5
PLOR Plostina 76.43 325 ⇑*i*P **P 22 05 10.2 +0.2**
LTX Lajitas 76.46 61 *e*P **P 22 05 10.3 +0.2**
LTX pmax pmax
comp=Z,22nm,1.3s,mb4.9
LTX Lajitas 76.46 61 *e*P **P 22 05 10.3 +0.2**
comp=Z,22nm,1.3s,mb4.9
TXAR Lajitas Array 76.46 61 P **P 22 05 09.8 -0.3**
comp=Z,4.1nm,0.7s,mb4.5,baz=299,slow=4.2,SNR=39
TXAR Lajitas Array 76.46 61 P **P 22 05 09.8 -0.3**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
PVCC Panska Ves 76.47 335 *e*P **P 22 05 10.4 +0.2**
PVCC *e*PCP PcP 22 05 20.6 -1.2
TIRR Tirgusor 76.89 323 ⇑*i*P **P 22 05 12.5 0.0**
TIRR Tirgusor 76.89 323 ⇑P **P 22 05 12.5 0.0**
VRAC Vranov 76.95 333 P **P 22 05 13.3 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=24,slow=5.7,SNR=16
VRAC Vranov 76.95 333 ⇑*i*P **P 22 05 13.9 +1.0**
VRAC Vranov 76.95 333 P **P 22 05 13.3 +0.4**
VRAC pmax pmax
comp=Z,11nm,0.8s
VRAC Vranov 76.95 333 P **P 22 05 13.6 +0.7**
VYHS Vyhne 76.96 331 *e*P **P 22 05 13.6 +0.7**
VYHS pmax pmax
comp=Z,12nm,1.3s,mb4.7
VYHS Vyhne 76.96 331 *e*P **P 22 05 13.6 +0.7**
comp=Z,12nm,1.3s,mb4.7
PRU Pruhonice 76.96 335 *e*P **P 22 05 13.2 +0.3**
PRU *e*PCP PcP 22 05 23.6 -0.3
MLR Muntele Rosu 77.00 326 P **P 22 05 13.8 +0.6**
comp=Z,14nm,0.7s,mb5.0,baz=109,slow=1.2,SNR=26
MLR Muntele Rosu 77.00 326 ⇓*i*P **P 22 05 14.9 +1.7**
MLR Muntele Rosu 77.00 326 P **P 22 05 13.8 +0.6**
MLR pmax pmax
comp=Z,14nm,0.7s
MLR Muntele Rosu 77.00 326 P **P 22 05 14.4 +1.2**
DRGR 77.10 328 ⇑*i*P **P 22 05 14.1 +0.3**
DRGR 77.10 328 ⇑P **P 22 05 14.1 +0.3**
PSZ Piszkesteto 77.11 330 ⇓*i*P **P 22 05 14.6 +0.8**
PSZ Piszkesteto 77.11 330 *e*P **P 22 05 14.7 +0.9**
comp=Z,16nm,1.1s,mb4.8
MOX Moxa 77.19 337 *e*P **P 22 05 14.2 0.0**
comp=Z,18nm,1.3s,mb4.8
MOX Moxa 77.19 337 *e*P **P 22 05 14.2 0.0**
MOX pmax pmax
comp=Z,18nm,1.3s,mb4.8
MALT Malatya 77.31 313 ⇑*i*P **P 22 05 16.8 +1.9**
MALT Malatya 77.31 313 *e*P **P 22 05 16.4 +1.5**
MALT pmax pmax
comp=Z,21nm,1.0s,mb5.0
MALT Malatya 77.31 313 *e*P **P 22 05 16.4 +1.5**
comp=Z,21nm,1.0s,mb5.0
NKC Novy Kostel 77.33 336 *e*P **P 22 05 15.5 +0.5**
NKC *e*PCP PcP 22 05 25.9 +0.4
VOIR 77.39 326 ⇑*i*P **P 22 05 16.5 +1.1**
VOIR 77.39 326 ⇑P **P 22 05 16.5 +1.1**
ARMA Armidale 77.50 182 ⇑*i*P **P 22 05 16.1 +0.2**
ZST Bratislava 77.77 332 *e*P **P 22 05 19.0 +1.5**
ZST pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZST MLR MLR
comp=Z,300nm,18.9s,MS4.6
ZST Bratislava 77.77 332 *e*P **P 22 05 19.0 +1.5**
comp=Z,12nm,0.9s,mb4.8
ZST LR LR
comp=Z,300nm,18.9s,MS4.6
JCT Junction City 77.88 58 *e*P **P 22 05 17.9 -0.2**
JCT pmax pmax
comp=Z,43nm,1.5s,mb5.2
JCT Junction City 77.88 58 *e*P **P 22 05 17.9 -0.2**
comp=Z,43nm,1.5s,mb5.2
KHC Kasperske Hory 78.01 335 *e*P **P 22 05 19.2 +0.4**
KHC *e*PCP PcP 22 05 29.8 +1.3
SIUC Southern Illin 78.06 47 *e*pP pP 22 05 29.6 +3.8
GRA1 Grafenberg Arr 78.16 337 *e*P **P 22 05 20.2 +0.6**
comp=Z,29nm,1.2s,mb5.1
GRA1 *e*pP pP 22 05 26.6 +0.3
GRA1 *e*sP sP 22 05 30.7 +1.9
GRF Grafenberg Arr 78.16 337 *e*P **P 22 05 20.2 +0.6**
comp=Z,29nm,1.2s,mb5.1
GRF *e*pP pP 22 05 26.6 +0.3
GRF *e*sP sP 22 05 30.7 +1.9
GRF Grafenberg Arr 78.16 337 *e*P **P 22 05 20.2 +0.6**
GRF *e**PP pP 22 05 26.6 +0.3
GRF *e**SP sP 22 05 30.7 +1.9
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.1
GERES GERESS Array B 78.23 335 P **P 22 05 20.1 +0.1**
comp=Z,2.6nm,0.7s,mb4.3,baz=39,slow=5.0,SNR=24
GZR Gura Zlata 78.27 327 ⇑*i*P **P 22 05 20.6 +0.3**
GZR Gura Zlata 78.27 327 ⇑P **P 22 05 20.6 +0.4**
CONA Conrad Observa 78.40 333 ⇓*i*P **P 22 05 21.8 +0.8**
comp=Z,17nm,1.8s,mb4.7
BR131 Keskin Array S 78.48 317 *e*P **P 22 05 22.3 +0.9**
BRTR Keskin Array B 78.48 317 P **P 22 05 22.0 +0.6**
comp=Z,8.4nm,0.9s,mb4.7,baz=66,slow=3.0,SNR=37
BZS Buzias 78.50 328 ⇓*i*P **P 22 05 21.3 -0.2**
BZS Buzias 78.50 328 P **P 22 05 22.0 +0.5**
MEM Membach 78.62 340 P **P 22 05 22.0 -0.2**
ANTO Ankara 78.75 318 *e*P **P 22 05 24.0 +1.1**
ANTO pmax pmax
comp=Z,14nm,1.0s,mb4.8
ANTO Ankara 78.75 318 *e*P **P 22 05 24.0 +1.1**
comp=Z,14nm,1.0s,mb4.8
ZIMR 78.77 325 ⇓*i*P **P 22 05 23.4 +0.4**
ZIMR 78.77 325 ⇓P **P 22 05 23.4 +0.4**
MOA Molln 78.95 334 ⇓*i*P **P 22 05 24.5 +0.5**
comp=Z,7.3nm,0.8s,mb4.7
PKSM Moragy 79.02 330 ⇑*i*P **P 22 05 24.2 -0.2**
PKSM Moragy 79.02 330 P **P 22 05 23.7 -0.7**
MIB Mutribah 79.02 302 *e*P **P 22 05 24.6 +0.2**
MIB AMb AMB 22 05 26.7
comp=Z,87nm,0.8s,mb5.8
ALLY Alegheny Colle 79.05 38 *e*P **P 22 05 24.9 +0.4**
ARSA Arzberg 79.11 333 ⇓*i*P **P 22 05 26.4 +1.5**
comp=Z,5.5nm,0.8s,mb4.5
KBD Kabd 79.29 301 *e*P **P 22 05 26.4 +0.6**
NAY Al-Naaiem 79.49 302 *e*P **P 22 05 27.0 0.0**
NAY AMb AMB 22 05 29.2
comp=Z,42nm,1.0s,mb5.3
RDF Al-Radifah 79.56 301 *e*P **P 22 05 27.5 +0.2**
RDF AMb AMB 22 05 29.9
comp=Z,105nm,0.9s,mb5.8
STKA Stephens Creek 79.74 191 ⇑*i*P **P 22 05 27.4 -0.9**
comp=Z,3.8nm,0.9s,mb4.3
STKA Stephens Creek 79.74 191 P **P 22 05 27.2 -1.1**
comp=Z,4.1nm,0.9s,mb4.4,baz=0.8,slow=9.1,SNR=8.1
KBA Koelnbreinsper 79.92 334 ⇓*i*P **P 22 05 30.4 +1.1**
comp=Z,24nm,0.8s,mb5.1,SNR=8.5
KBA Koelnbreinsper 79.92 334 P **P 22 05 30.4 +1.1**
DOBS Dobrina 80.11 332 *e*P **P 22 05 30.2 -0.1**
BFO Black Forest 80.17 338 *e*P **P 22 05 31.6 +1.0**
BFO *e* 22 05 41.8
BFO pmax pmax
comp=Z,13nm,1.0s,mb4.8
BFO Black Forest 80.17 338 *e*P **P 22 05 31.6 +0.9**
comp=Z,13nm,1.0s,mb4.8
BFO *e* 22 05 41.8
WATA Walderalm 80.20 335 ⇓*i*P **P 22 05 32.4 +1.6**
comp=Z,17nm,1.1s,mb4.9
WTTA Wattenberg 80.25 335 *i* P **P 22 05 32.6 +1.5**
comp=Z,30nm,1.4s,mb5.0,SNR=7.2
WTTA Wattenberg 80.25 335 ⇑*i* sP 22 05 42.0 +1.8
comp=Z,20nm,0.7s
WTTA Wattenberg 80.25 335 sP 22 05 42.0 +1.8
comp=Z,20nm,0.7s
WTTA Wattenberg 80.25 335 P **P 22 05 32.6 +1.5**
WTTA *e* 22 05 42.0
GCIS Gornji Cirnik 80.31 332 *e*P **P 22 05 31.7 +0.4**
GCIS *e* 22 05 42.4
GRUS Gruza 80.32 328 *i* P **P 22 05 30.2 -1.2**
MOTA Moosalm 80.33 336 ⇑*i*P **P 22 05 32.4 +0.9**
comp=Z,13nm,0.9s,mb4.9
PDKS Podkum 80.33 333 *e*P **P 22 05 31.9 +0.4**

CDF	**Champ du Feu**	**80.36**	**338**	*e*P		**P**		**22 05 31.3**	**-0.4**
	comp=Z,40nm,1.2s,mb4.9								
CDF	**Champ du Feu**	**80.36**	**338**	*e*P		**P**		**22 05 31.3**	**-0.4**
CDF					pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9								
CDF	**Champ du Feu**	**80.36**	**338**	*e*P		**P**		**22 05 31.3**	**-0.4**
	comp=Z,20nm,1.2s,mb4.9								
DIVS	**Divcibare**	**80.39**	**328**	*i* P		**P**		**22 05 31.0**	**-0.8**
SQTA	**Sankt Quirin**	**80.41**	**335**⇑	*i*P		**P**		**22 05 33.3**	**+1.4**
	comp=Z,8.9nm,0.9s,mb4.7,SNR=5.7								
VTS	**Vitosha**	**80.51**	**326**⇑	*i*P		**P**		**22 05 33.1**	**+0.7**
VTS	**Vitosha**	**80.51**	**326**⇑	P		**P**		**22 05 33.1**	**+0.7**
DAVA	**Damuels**	**80.72**	**336**⇓	*i*P		**P**		**22 05 35.2**	**+1.6**
	comp=Z,16nm,0.9s,mb5.0								
PMOR	**Pomariorio Ree**	**80.72**	**124**	*e*T				23 34 32.4	
	comp=Z,3.7nm,0.3s								
PLAL	**Pickwick Lake**	**80.77**	**47**	*e*P		**P**		**22 05 32.9**	**-1.0**
	comp=Z,15nm,1.4s,mb4.7								
MCWV	**Mont Chateau**	**80.83**	**39**	*e*P		**P**		**22 05 34.4**	**+0.3**
SSPA	**Standing Stone**	**80.84**	**38**	*e*P		**P**		**22 05 33.9**	**-0.4**
	comp=Z,24nm,1.1s,mb5.0								
SSPA				*e*				22 05 44.8	
STIP	**Stip**	**81.67**	**326**	*e*P		**P**		**22 05 33.4**	**-5.2**
SKO	**Skopje**	**81.71**	**326**	*e*P		**P**		**22 05 36.0**	**-2.9**
VAY	**Valandovo**	**81.84**	**325**	*e*P		**P**		**22 05 35.0**	**-4.5**
PPT	**Papeete**	**81.88**	**127**	*e*LR		LR		22 31 33.6	
	comp=Z,166nm,21.8s								
GRR	**Gorron**	**82.18**	**344**	*e*P		**P**		**22 05 40.9**	**-0.4**
	comp=Z,125nm,1.4s,mb5.3								
GRR	**Gorron**	**82.18**	**344**	*e*P		**P**		**22 05 40.9**	**-0.4**
GRR					pmax	pmax			
	comp=Z,62nm,1.4s,mb5.3								
GRR	**Gorron**	**82.18**	**344**	*e*P		**P**		**22 05 40.9**	**-0.4**
	comp=Z,62nm,1.4s,mb5.3								
ELN	**Prospectdale**	**82.44**	**41**	*e*P		**P**		**22 05 42.5**	**-0.2**
BLA	**Blacksburg**	**82.60**	**41**	*e*P		**P**		**22 05 42.5**	**-1.0**
BLA				*e*				22 05 54.1	
BLA					pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9								
BLA	**Blacksburg**	**82.60**	**41**	*e*P		**P**		**22 05 42.5**	**-1.1**
	comp=Z,11nm,0.9s,mb4.9								
BLA				*e*				22 05 54.1	
SMF	**Signal de Mont**	**82.84**	**340**	*e*P		**P**		**22 05 44.2**	**-0.6**
	comp=Z,53nm,1.1s,mb5.2								
SMF	**Signal de Mont**	**82.84**	**340**	*e*P		**P**		**22 05 44.2**	**-0.6**
SMF					pmax	pmax			
	comp=Z,27nm,1.1s,mb5.2								
SMF	**Signal de Mont**	**82.84**	**340**	*e*P		**P**		**22 05 44.2**	**-0.6**
	comp=Z,26nm,1.1s,mb5.2								
ASF	**Jabal al Asfar**	**82.91**	**311**	P		**P**		**22 05 46.9**	**+1.8**
	comp=Z,4.1nm,0.9s,mb4.5,baz=338,slow=3.3,SNR=6.5								
MMAI	**Mount Meron Ar**	**83.00**	**312**	P		**P**		**22 05 47.0**	**+1.4**
	comp=Z,7.7nm,0.8s,mb4.8,baz=41,slow=6.6,SNR=13								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**		**22 05 47.1**	**+0.5**
	comp=Z,26nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**		**22 05 47.1**	**+0.5**
LPG					pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**		**22 05 47.1**	**+0.5**
	comp=Z,13nm,0.9s,mb5.0								
LHS	**Liberty Hill**	**84.69**	**43**	*e*P		**P**		**22 06 00.1**	**+5.9**
CAF	**Calviac**	**84.88**	**341**	*e*P		**P**		**22 05 54.9**	**-0.3**
	comp=Z,54nm,1.5s,mb5.2								
CAF	**Calviac**	**84.88**	**341**	*e*P		**P**		**22 05 54.9**	**-0.3**
CAF					pmax	pmax			
	comp=Z,27nm,1.5s,mb5.2								
CAF	**Calviac**	**84.88**	**341**	*e*P		**P**		**22 05 54.9**	**-0.3**
	comp=Z,27nm,1.5s,mb5.2								
TIP	**Timpagrande**	**85.87**	**328**	*e*P		**P**		**22 06 01.5**	**+1.4**
EIL	**Elat**	**85.90**	**310**	*e*P		**P**		**22 06 02.0**	**+1.7**
EIL				*e*pP		pP		22 06 06.7	-0.3
NWAO	**Narrogin (SRO)**	**86.63**	**211**	*e*P		**P**		**22 06 03.5**	**-0.4**
NWAO					pmax	pmax			
	comp=Z,6.0nm,0.7s								
NWAO	**Narrogin (SRO)**	**86.63**	**211**	*e*P		**P**		**22 06 03.5**	**-0.4**
	comp=Z,5.6nm,0.7s,mb4.9								
ESDC	**Sonseca Array**	**91.17**	**343**	P		**P**		**22 06 26.0**	**+0.6**
	comp=Z,0.5nm,0.6s,mb4.0,baz=356,slow=3.5,SNR=4.3								
KEST	**Kesra**	**91.49**	**332**	P		**P**		**22 06 27.8**	**+1.0**
	comp=Z,1.2nm,0.9s,mb4.2,baz=330,slow=4.2,SNR=5.4								
QSPA	**South Pole Qui**	**137.14**	**180**	*e*PKPdf		PKPdf		22 12 41.1	-2.3
CFAA	**Coronel Fontan**	**144.06**	**80**	PKP		PKPdf		22 12 52.6	-3.3
	comp=Z,0.6nm,0.7s,baz=258,slow=3.2,SNR=13								
SNAA	**Sanae**	**153.41**	**196**	PKPbc		PKPbc		22 13 15.8	-2.8
	comp=Z,0.9nm,0.8s,baz=119,slow=0.6,SNR=12								
SNAA	**Sanae**	**153.41**	**196**	PKP2		PKPab		22 13 29.2	-1.6
VNA2	**Neumayer--Watz**	**154.84**	**194**	*e*PKPdf		PKPbc		22 13 19.5	-2.2
VNA2				*e*				22 13 35.0	
VNA2				*e*				22 13 44.9	
VNA3	**Neumayer Olymp**	**154.91**	**192**	*e*PKPdf		PKPbc		22 13 19.4	-2.4
VNA3				*e*				22 13 34.8	
VNA3				*e*				22 13 45.0	
VNA1	**Neumayer--Stat**	**155.22**	**194**	*e*PKPdf		PKPdf		22 13 24.2	+11
VNA1				*e*				22 13 37.2	
VNA1				*e*				22 13 46.2	

MAN 19 22:01:42.5, 1132N×12525E, h66km, mb1.7, ML3.5, MS2.5, Samar

*ISCJB **19** 22:06:49.6±0.8, 3872N±004×14143E±009, h79km±6km, mb3.6/1, Error ellipse: s-maj=12.1km s-min=6.1km az=39.5*

*JMA **19** 22:06:50.2, 3873N×14139E, h76km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ≈277.00000°, δ21.00000°, λ-7.00000°. NP2: ϕ≈14.00000°, δ87.00000°, λ-111.00000°. Principal axes: T Plg39.0000°, Azm123.0000°; N Plg21.0000°, Azm15.0000°; P Plg44.0000°, Azm264.0000°;*

JMA Felt I J1.

*IDC **19** 22:06:56.5±5.2, 3927N×13887E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3 Error ellipse: s-maj=151.2km s-min=30.7km az=68.0*

ISC 19 22:06:50.2±0.9, 3872N±004×14144E±009, h76km±6km, n16, σ0§56/24, mb3.6/1, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.28**	**195**	⇓P	**Pn**	**22 07 01.9**	**0.0**
JIO				*i* S	**Sn**	**22 07 10.6**	**+0.1**
JMK	**Ichinoseki**	**0.29**	**323**	⇑P	**Pn**	**22 07 01.7**	**-0.3**
JMK				S	**Sn**	**22 07 10.3**	**-0.3**
OFUJ	**Ofunato**	**0.40**	**26**	⇓P	**Pn**	**22 07 02.9**	**+0.2**
OFUJ				S	**Sn**	**22 07 12.4**	**+0.5**
JOU	**Okura**	**0.71**	**240**	⇑P	**Pn**	**22 07 05.5**	**-0.1**
JOU				S	**Sn**	**22 07 17.0**	**-0.1**
JOM	**Ohasama**	**0.76**	**351**	⇑P	**Pn**	**22 07 06.2**	**0.0**
JOM				S	**Sn**	**22 07 17.9**	**-0.2**
JYK	**Kaneyama**	**0.87**	**283**	⇑P	**Pn**	**22 07 07.0**	**-0.5**
JYK				*e*S	**Sn**	**22 07 20.7**	**+0.4**
JMM	**Marumori**	**1.00**	**211**	P	**Pn**	**22 07 08.7**	**-0.3**
JMM				S	**Sn**	**22 07 22.3**	**-0.7**
JYS	**Shirataka**	**1.19**	**246**	⇑P	**Pn**	**22 07 11.2**	**-0.2**
JYS				*e*S	**Sn**	**22 07 27.2**	**-0.1**
JYA	**Atsumi**	**1.36**	**265**	P	**Pn**	**22 07 13.2**	**-0.4**
JFK	**Kawauchi**	**1.43**	**199**	P	**Pn**	**22 07 14.4**	**0.0**
JFK				*e*S	**Sn**	**22 07 32.3**	**-0.3**
JAH	**Hinai**	**1.59**	**337**	⇑P	**Pn**	**22 07 16.9**	**+0.3**
JANG	**Nango**	**1.65**	**2**	P	**Pn**	**22 07 17.3**	**0.0**
MAT	**Matsushiro**	**3.37**	**231**	P	**Pn**	**22 07 41.7**	**+1.2**
MJAR	**Matsushiro Arr**	**3.37**	**231**	P	**Pn**	**22 07 42.5**	**+2.0**
	1.0nm,0.3s,baz=41,slow=12,SNR=16						
MKAR	**Makanchi Array**	**43.26**	**301**	P	**P**	**22 14 43.1**	**-1.0**
	0.9nm,0.7s,mb3.6,baz=83,slow=9.2,SNR=8.8						
WRA	**Warramunga Arr**	**58.73**	**188**	P	pP	22 16 58.3	-1.2
	0.3nm,0.7s,baz=360,slow=6.9,SNR=3.4						

*NEIC **19** 22:43:11.8, 1824N×6769W, h137km, MD3.5(RSPR), After RSPR.*

RSPR 19 22:43:11.8, 1824N×6769W, h137km±2km, MD3.5/5, MD3.5/5, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.59**	**113**⇓	*e*P	Pn	22 43 31.5	-0.7
CRPR				*e*S	Sn	22 43 47.9	+0.2
AOPR	**Arecibo Observ**	**0.89**	**83**⇑	*e*P	Pn	22 43 34.2	-0.2
AOPR				*e*S	Sn	22 43 51.8	+0.2
ICM	**Isla Caja Muer**	**1.16**	**107**⇑	*e*P	Pn	22 43 37.0	+0.2
ICM				*e*S	Sn	22 43 55.6	-0.3
CBYP	**Canovanas**	**1.74**	**89**⇑	*e*P	Pn	22 43 42.8	-0.2
CBYP				*e*S	Sn	22 44 06.6	-0.4
HUMP	**Col San Antoni**	**1.75**	**93**	*e*S	Sn	22 44 07.3	+0.2
MTP	**Monte Pirata**	**2.03**	**94**⇑	*e*P	Pn	22 43 46.5	0.0
MTP				*e*S	Sn	22 44 14.3	+1.1

*NEIC **19** 22:47:41.1±0.6, 47.14N×155.25E, h10km, mb4.4/12, Error ellipse: s-maj=15.4km s-min=7.5km az=158.0*

*ISCJB **19** 22:47:43.3±1.6, 472N±0.1×1552E±0.1, h39km±13km, mb4.2/23, Error ellipse: s-maj=19.7km s-min=9.3km az=123.7*

*MOS **19** 22:47:43.1±0.9, 47.16N×155.24E, h40km, mb4.3/9, Error ellipse: s-maj=14.5km s-min=10.4km az=90.1*

*IDC **19** 22:47:45.8±1.9, 47.15N×155.19E, h44km±6km, mb3.7/13, mb1 3.9/14, mb1mx3.7/28, mbtmp3.7/14, ML3.5/1, Error ellipse: s-maj=50.6km s-min=17.7km az=174.0*

ISC 19 22:47:45.8±1.4, 472N±01×1552E±01, h45km±11km, h47km±.9km·pP-P, n50, σ0§74/50, mb4.2/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.53**	**10**	*e*PN	**Pn**	**22 48 37.5**	**-0.6**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	**Petropavlovsk**	**6.23**	**20**	PN	**Pn**	**22 49 15.5**	**+0.4**
ASAJ	**Asahikawa**	**9.35**	**255**	P	**Pn**	**22 49 58.9**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=61,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**9.35**	**255**	PN	**Pn**	**22 49 58.9**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.51**	**236**	P	**Pn**	**22 51 33.4**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	**Matsushiro**	**16.51**	**236**	Pn	**Pn**	**22 51 33.4**	**-0.8**
	comp=Z,3.1nm,0.4s						
BJT	**Baijiatuau**	**28.93**	**270**	P	**P**	**22 53 39.9**	**-0.7**
ULN	**Ulaanbaatar**	**32.10**	**289**	*e*P	**P**	**22 54 10.2**	**+1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**32.10**	**289**	*e*P	**P**	**22 54 10.2**	**+1.6**
	comp=Z,0.6nm,0.5s,mb3.7						
SONM	**Songino Array**	**32.53**	**289**	P	**P**	**22 54 12.2**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=73,slow=11,SNR=3.4						
SONM	**Songino Array**	**32.53**	**289**	P	**P**	**22 54 12.2**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TLY	**Talaya**	**33.24**	**297**	*e*P	**P**	**22 54 18.5**	**-0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
TLY	**Talaya**	**33.24**	**297**	*e*P	**P**	**22 54 18.5**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.5						
TATO	**Taipei**	**34.73**	**242**	*e*P	**P**	**22 54 31.1**	**-0.4**
	comp=Z,13nm,0.3s,mb5.3						
COLA	**College**	**34.88**	**39**	*e*P	**P**	**22 54 32.4**	**-0.4**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
COLA	**College**	**34.88**	**39**	*e*P	**P**	**22 54 32.4**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.0						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**22 55 20.0**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=256,slow=4.2,SNR=4.5						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**22 55 20.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**40.49**	**33**	*e*P	**P**	**22 55 20.1**	**0.0**
	comp=Z,27nm,0.6s,mb5.2						
ZAL	**Zalesovo**	**43.52**	**306**	P	**P**	**22 55 43.7**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.1,baz=90,slow=4.0,SNR=5.5						
ZAL	**Zalesovo**	**43.52**	**306**	P	**P**	**22 55 43.7**	**-1.2**
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**22 56 19.7**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.2,baz=70,slow=7.8,SNR=11						
MKAR				pP	pP	22 56 32.2	-0.5
	comp=Z,2.5nm,0.9s,baz=68,slow=8.0,SNR=5.7						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**22 56 19.7**	**-0.5**
MKAR				pP	pP	22 56 32.2	-0.5
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**22 56 48.2**	**+0.1**
	comp=Z,3.8nm,0.6s,mb4.5,baz=53,slow=7.8,SNR=17						
BVAR				pP	pP	22 57 00.3	-0.4
	comp=Z,3.0nm,0.7s,baz=57,slow=7.4,SNR=6.5						
LSA	**Lhasa**	**51.67**	**274**	*e*P	**P**	**22 56 51.5**	**+3.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**51.67**	**274**	*e*P	**P**	**22 56 51.5**	**+3.4**
	comp=Z,1.7nm,0.5s,mb4.2						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**22 56 48.5**	**+0.1**
BRVK				*e*	pP	22 57 01.1	+0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.70**	**310**	*e*P	**P**	**22 56 48.5**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.6						
BRVK				*e*	pP	22 57 01.1	+0.1
AAK	**Ala-Archa**	**54.91**	**297**	*e*P	**P**	**22 57 12.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.91**	**297**	*e*P	**P**	**22 57 12.3**	**+0.5**
	comp=Z,0.9nm,0.6s,mb4.0						
ARU	**Arti**	**55.63**	**318**	*e*P	**P**	**22 57 15.6**	**-1.5**
ARU				*e*	pP	22 57 28.8	-1.1
ARU				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
ARU	**Arti**	**55.63**	**318**	*e*P	**P**	**22 57 15.6**	**-1.5**
	comp=Z,5.0nm,0.4s,mb4.9						
ARU				*e*	pP	22 57 28.8	-1.1
WALA	**Waterton Lakes**	**57.04**	**52**	P	**P**	**22 57 27.8**	**+0.6**
AKTK	**Aktyubinsk**	**59.48**	**313**	P	**P**	**22 57 44.4**	**+0.2**
AKTO	**Aktyubinsk**	**59.48**	**313**	P	**P**	**22 57 44.4**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=72,slow=9.6,SNR=4.8						
ISA	**Isabella**	**62.60**	**66**	P	**P**	**22 58 03.9**	**-1.4**
PDAR	**Pinedale Array**	**63.31**	**55**	P	**P**	**22 58 10.7**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.8,baz=336,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**64.22**	**336**	P	**P**	**22 58 16.0**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=42,slow=8.8,SNR=8.3						
FINES				pP	pP	22 58 28.1	-1.0
	comp=Z,1.1nm,0.4s,baz=37,slow=7.0,SNR=2.7						
RSSD	**Black Hills**	**65.43**	**51**	*e*P	**P**	**22 58 23.9**	**0.0**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RSSD	**Black Hills**	**65.43**	**51**	*e*P	**P**	**22 58 23.9**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.1						
OBN	**Obninsk**	**65.73**	**326**	P	**P**	**22 58 25.5**	**-0.3**
PV01	**Paradox Valley**	**66.95**	**58**	P	**P**	**22 58 34.4**	**+0.8**
NB2	**NORSAR Subarra**	**68.24**	**342**	P	**P**	**22 58 41.4**	**-0.4**
	comp=Z,2.3nm,0.9s,mb4.2,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.24**	**342**	P	**P**	**22 58 41.9**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=25,slow=6.3,SNR=3.5						
NOA				pP	pP	22 58 54.6	-0.3
	comp=Z,0.7nm,0.6s,baz=25,slow=6.3,SNR=2.0						
HFS	**Hagfors**	**68.51**	**340**	P	**P**	**22 58 43.1**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=57,slow=5.3,SNR=7.9						
HFS				pP	pP	22 58 56.6	0.0
	comp=Z,1.2nm,0.5s,baz=72,slow=11,SNR=1.6						
KIV	**Kislovodsk**	**71.49**	**315**	*e*P	**P**	**22 59 01.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KIV	**Kislovodsk**	**71.49**	**315**	*e*P	**P**	**22 59 01.7**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.4						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**22 59 28.2**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=296,slow=4.2,SNR=8.8						
EKA	**Eskdalemuir Ar**	**76.22**	**347**	P	**P**	**22 59 31.0**	**+1.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=19,slow=4.6,SNR=4.0						
GERES	**GERESS Array B**	**78.65**	**335**	P	**P**	**22 59 43.2**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=39,slow=5.0,SNR=3.2						

*CSEM **19** 22:59:17.6, 67.18N×2064E, h0km, ML2.7, Mining explosion. After UPP*

*UPP **19** 22:59:17.6, 67.18N×2064E, h0km, ML2.7, Mining explosion.*

HEL 19 22:59:18.2±0.0, 6717N×2064E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**210**	*i* P	Pg	22 59 19.1	-0.2
DUNU				*i* S	Sg	22 59 20.2	+0.1
DUNU	**Dundret**	**0.06**	**210**	P	Pg	22 59 19.1	-0.2
	baz=107						
DUNU				S	Sg	22 59 20.2	+0.1
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	22 59 29.0	-0.7
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	22 59 32.4	-1.0
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	22 59 33.7	-0.9
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	22 59 34.9	-1.1
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	22 59 35.7	-1.2
LANU	**Lannavaara**	**1.02**	**30**	*e*P	Pg	22 59 36.5	-1.3
LANU	**Lannavaara**	**1.02**	**30**	P	Pg	22 59 36.5	-1.3
	baz=285						
HARU	**Harads**	**1.02**	**172**	*e*P	Pg	22 59 36.5	-1.4
HARU	**Harads**	**1.02**	**172**	P	Pg	22 59 36.5	-1.3
	baz=343						
SJUU	**Sjulsmark**	**1.72**	**166**	*e*P	Pn	22 59 48.6	-0.7
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	22 59 52.2	0.0
SGF	**Sodankyl**	**2.30**	**81**	*e*P	Pn	22 59 57.6	+0.3
SGF				*e*SG	Sg	23 00 29.0	-3.0

*IDC **19** 23:02:28.7±3.7, 45.36N×155.03E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/25, mbtmp3.9/8, MS2.5/1, Ms1 2.5/1, ms1mx2.4/29, Error ellipse: s-maj=124.0km s-min=22.1km az=9.0*

*ISCJB **19** 23:02:32.2±1.2, 463N±02×1552E±02, h10km, mb3.9/9, Error ellipse: s-maj=34.9km s-min=14.3km az=153.6*

*MOS **19** 23:02:36.0±1.6, 4605N×155.16E, h45km, mb4.2/6, Error ellipse: s-maj=50.5km s-min=18.6km az=95.1*

ISC 19 23:02:34.7±1.2, 464N±02×1552E±02, h10km, n16, σ0§93/16, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.29**	**8**	*e*PN	**Pn**	**23 03 46.7**	**+6.7**
ASAJ	**Asahikawa**	**9.19**	**260**	Pn	**Pn**	**23 04 47.8**	**+0.5**
	0.9nm,0.3s,baz=258,slow=9.5,SNR=5.1						
ASAJ				LR	LR	23 07 51.3	
	comp=Z,29nm,20.8s,baz=323,slow=36						
BILL	**Bilibino**	**22.40**	**11**	*e*P	**P**	**23 07 32.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
MKAR	**Makanchi Array**	**48.37**	**299**	P	**P**	**23 11 15.4**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=64,slow=8.2,SNR=4.7						
MKAR	**Makanchi Array**	**48.37**	**299**	P	**P**	**23 11 15.5**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**23 11 44.7**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=55,slow=8.6,SNR=8.5						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**23 11 44.7**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**60.01**	**313**	P	**P**	**23 12 40.8**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=60,slow=14,SNR=2.6						
NVAR	**Mina Array Bea**	**61.29**	**63**	P	**P**	**23 12 50.5**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=292,slow=9.6,SNR=5.7						
PDAR	**Pinedale Array**	**63.76**	**55**	P	**P**	**23 13 06.6**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=270,slow=1.5,SNR=5.5						
FINES	**FINESS Array B**	**64.93**	**336**	P	**P**	**23 13 15.3**	**+0.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=30,slow=8.8,SNR=9.2						
FINES	**FINESS Array B**	**64.93**	**336**	P	**P**	**23 13 15.3**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**69.25**	**341**	P	**P**	**23 13 43.8**	**+2.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=40,slow=2.5,SNR=6.3						
HFS	**Hagfors**	**69.25**	**341**	P	**P**	**23 13 43.8**	**+2.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**76.38**	**62**	P	**P**	**23 14 23.4**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.3,baz=304,slow=4.2,SNR=29						
TXAR	**Lajitas Array**	**76.38**	**62**	P	**P**	**23 14 23.5**	**-0.6**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						

*ISCJB **19** 23:15:04.3±0.6, 4626N±008×1530E±01, h10km, mb4.3/18, MS3.4/2, Error ellipse: s-maj=15.0km s-min=8.5km az=84.5*

*IDC **19** 23:15:04.2±2.0, 4631N×15298E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/24, mbtmp3.9/11, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.4/33, Error ellipse: s-maj=52.3km s-min=25.0km az=169.0*

*NEIC **19** 23:15:06.0±0.5, 4629N×15288E, h10km, mb4.7/6, Error ellipse: s-maj=13.0km s-min=8.2km az=131.0*

*MOS **19** 23:15:07.9±2.0, 4636N×15302E, h37km, mb4.7/5, Error ellipse: s-maj=12.8km s-min=9.7km az=85.7*

ISC 19 23:15:06.0±0.6, 4630N±008×1530E±01, h10km, n58, σ1§25/57, mb4.3/18, MS3.4/2, 8C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.86**	**24**

comp=Z,1.6nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=6.3
AKASG **Malin Array Be** 71.87 326 P P 23 26 28.5 -0.7
comp=Z,2.4nm,0.4s,mb4.5,baz=34,slow=6.2,SNR=15
BURAR **Bucovina Array** 75.91 327 ⇑*i*P P 23 26 53.1 +0.2
BURAR **Bucovina Array** 75.91 327 ⇑P P 23 26 53.1 +0.2
CLL **Collm** 76.84 336 *e*P P 23 26 58.0 -0.1
MLR **Muntele Rosu** 77.38 325 ⇑*i*P P 23 27 02.4 +1.3
MLR **Muntele Rosu** 77.38 325 ⇑P P 23 27 02.4 +1.2
MALT **Malatya** 77.39 313 ⇑*i*P P 23 27 03.4 +2.2
MALT **Malatya** 77.39 313 ⇑P P 23 27 03.4 +2.2
VRAC **Vranov** 77.51 332 ⇑*i*P P 23 27 02.4 +0.5
VRAC **Vranov** 77.51 332 ⇑P P 23 27 02.4 +0.6
DRGR 77.54 328 ⇓*i*P P 23 27 02.5 +0.4
DRGR 77.54 328 ⇓P P 23 27 02.5 +0.4
TXAR **Lajitas Array** 77.80 60 P P 23 27 03.7 +0.2
comp=Z,0.8nm,0.6s,mb3.8,baz=296,slow=3.1,SNR=6.0
TXAR LR LR 00 00 02.7
comp=Z,27nm,18.4s,MS3.6,baz=5.0,slow=35
GERES **GERESS Array B** 78.82 334 P P 23 27 09.1 -0.1
comp=Z,0.6nm,0.5s,mb3.8,baz=49,slow=6.1,SNR=7.0
BZS **Buzias** 78.94 328 ⇓*i*P P 23 27 10.1 +0.3
BZS **Buzias** 78.94 328 ⇓P P 23 27 10.1 +0.3

*CSEM **19** 23:15:08.3±0.2, 35.16N×168W, h30km, MD3.3, Error ellipse: s-maj=7.4km s-min=2.4km az=113.0*
*CNRM **19** 23:15:15.7, 3500N×193W, h30km, MD3.3*
MDD 19 23:15:11.1±1.0, 3520N×177W, h36km±20km, mbLg1.9/7, Error ellipse: s-maj=11.1km s-min=6.0km az=126.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.83**	**254**	P	Pn	23 15 27.0	+0.7
ZAI				S	Sn	23 15 36.5	-0.8
ZAI	**Zaio**	**0.83**	**254**	*i* P	Pn	23 15 27.0	+0.7
EMLI	**Melilla**	**0.97**	**276**	P	Pn	23 15 26.9	-1.3
	46nm,0.2s,SNR=8.8						
EMEL	**Melilla**	**0.98**	**276**	P	Pn	23 15 26.9	-1.4
	46nm,0.2s,SNR=8.8						
EMEL				S	Sn	23 15 39.6	-1.3
	52nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.27**	**306**	P	Pn	23 15 30.8	-1.5
	1.7nm,0.2s,SNR=5.8						
EALB				S	Sn	23 15 48.7	+0.6
	34nm,0.5s,SNR=6.1						
EALB	**Alboran**	**1.27**	**306**	P	Pn	23 15 30.8	-1.4
	1.7nm,0.2s,SNR=5.8						
TOU	**Touzarine**	**1.64**	**262**	P	Pn	23 15 40.5	+3.0
TOU				S	Sn	23 15 56.5	-0.9
ENIJ	**Nijar**	**1.80**	**349**	P	Pn	23 15 38.8	-0.8
	0.7nm,0.1s,SNR=7.9						
ENIJ				S	Sn	23 16 00.7	-0.5
	1.5nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.80**	**349**	P	Pn	23 15 38.8	-0.8
	0.7nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.92**	**332**	P	Pn	23 15 40.8	-0.4
	0.7nm,0.3s,SNR=7.9						
EBER				S	Sn	23 16 03.2	-0.9
	4.5nm,0.3s,SNR=6.1						
EBER	**Berja**	**1.92**	**332**	P	Pn	23 15 40.8	-0.4
	0.7nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.18**	**319**	P	Pn	23 15 43.4	-1.5
	0.3nm,0.1s,SNR=7.9						
EGUA				S	Sn	23 16 08.4	-2.3
	0.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.41**	**326**	P	Pn	23 15 48.3	+0.3
	0.3nm,0.1s,SNR=4.6						
EQUE				S	Sn	23 16 14.6	-1.7
	2.0nm,0.4s,SNR=5.0						
EMUR	**La Murta**	**2.67**	**9**	P	Pn	23 15 50.4	-1.1
	2.3nm,0.3s,SNR=6.1						
EMUR				S	Sn	23 16 20.0	-2.6
	0.5nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.67**	**9**	P	Pn	23 15 50.4	-1.1
	2.3nm,0.3s,SNR=6.1						
EMIJ	**Mijas**	**2.79**	**300**	P	Pn	23 15 52.1	-1.1
	4.0nm,1.0s,SNR=4.6						
EMIJ				S	Sn	23 16 22.0	-3.6
	1.6nm,0.6s						
EQES	**Quesada**	**2.80**	**338**	P	Pn	23 15 54.2	+0.9
	0.5nm,0.2s,SNR=9.2						
EQES				S	Sn	23 16 27.4	+1.6
	3.6nm,0.3s						
EQES	**Quesada**	**2.80**	**338**	P	Pn	23 15 54.2	+0.9
	0.5nm,0.2s,SNR=9.2						
ETOB	**Tobarra**	**3.44**	**3**	P	Pn	23 16 02.1	0.0
	2.8nm,0.4s,SNR=31						
ETOB				S	Sn	23 16 39.9	-1.7
	0.5nm,0.2s						
ETOB	**Tobarra**	**3.44**	**3**	P	Pn	23 16 02.1	0.0
	2.8nm,0.4s,SNR=31						
CZD	**Col de Zad**	**3.47**	**232**	P	Pn	23 16 02.5	-0.1
CZD				S	Sn	23 16 39.0	-3.4
CZD	**Col de Zad**	**3.47**	**232**	*e*P	Pn	23 16 02.5	-0.1
ZFT	**Errachidia**	**3.82**	**215**	P	Pn	23 16 07.0	-0.4
ZFT				S	Sn	23 16 48.0	-3.1
ZFT	**Errachidia**	**3.82**	**215**	*e*P	Pn	23 16 07.0	-0.4
EIBI	**Ibiza**	**4.56**	**32**	P	Pn	23 16 16.5	-1.0
	0.8nm,0.3s,SNR=7.9						
EIBI				S	Sn	23 17 05.5	-3.7
	0.5nm,0.2s,SNR=7.9						

*LDG **19** 23:15:32.9±0.1, 4301N×002W, h4km, Md1.8/3, Ml1.5/5, Error ellipse: s-maj=2.2km s-min=1.4km az=155.0*
*STR **19** 23:15:33.0±0.0, 4302N×004W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 19 23:15:33.2±0.4, 4302N×002W, h6km±5km, mbLg1.0/10, Error ellipse: s-maj=2.8km s-min=2.3km az=144.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	23 15 34.9	-0.1
LABF				Sg	Sg	23 15 36.3	+0.1
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	23 15 35.0	0.0
LABF				Lg		23 15 36.3	
VIEF	**Viey**	**0.14**	**168**	Pg	Pg	23 15 36.0	-0.1
VIEF				Sg	Sg	23 15 38.2	+0.2
VIEF	**Viey**	**0.14**	**168**	Pg	Pg	23 15 36.1	0.0
VIEF				Lg		23 15 38.2	
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	23 15 37.9	-0.5
EPF				*e*Sg	Sg	23 15 41.7	-0.1
	8.5nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	Pg	Pg	23 15 37.9	-0.5
EPF				Lg		23 15 41.7	
	4.2nm,0.2s						
EBIE	**Bielsa**	**0.35**	**161**	Pg	Pg	23 15 39.7	-0.3
	0.3nm,0.1s,SNR=13						
EBIE				Lg		23 15 44.6	
	6.0nm,0.1s,SNR=7.0						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	23 15 41.2	-0.1
ETSF				*e*Sg	Sg	23 15 46.6	-0.2
	3.9nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	23 15 41.2	-0.1
ETSF				Lg		23 15 46.6	
	1.9nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	23 15 49.2	-1.2
SJPF				*e*Sg	Sg	23 16 00.5	-1.5
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	23 15 49.2	-1.2
SJPF				Lg		23 16 00.5	
	0.2nm,0.2s						
EALK	**Alkurruntz**	**1.11**	**281**	Lg		23 16 14.9	
	1.8nm,0.3s,SNR=5.8						
ELIZ	**Elizondo**	**1.12**	**278**	Pg	Pg	23 15 57.7	+3.0
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		23 16 12.9	
	1.0nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**195**	Pg	Pg	23 15 59.1	+0.2
	1.4nm,0.1s,SNR=4.0						
ESAC				Lg		23 16 17.3	
	6.3nm,0.3s,SNR=9.7						
EMIR	**Miracle**	**1.59**	**134**	Lg		23 16 19.1	
	17nm,0.6s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	23 16 04.2	-1.0
MTLF				*e*Sg	Sg	23 16 25.4	-1.3
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	23 16 04.2	-1.0
MTLF				Lg		23 16 25.4	
	0.3nm,0.2s						
EPOB	**Poblet**	**1.85**	**154**	Pg	Pg	23 16 04.5	-4.2
	1.1nm,0.4s,SNR=7.9						
EPOB				Lg		23 16 31.9	
	15nm,1.0s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**16**	*e*Pg	Pg	23 16 10.3	-1.2
LFF				*e*Sg	Sg	23 16 37.3	-0.1
	2.0nm,0.4s						
LFF	**La Frestale**	**2.00**	**16**	Pg	Pg	23 16 10.3	-1.2
LFF				Lg		23 16 37.3	
	1.0nm,0.4s						
ERTA	**Horta de San J**	**2.08**	**173**	Lg		23 16 36.9	
	14nm,0.8s,SNR=7.9						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	23 16 18.2	-1.6
CAF				*e*Sg	Sg	23 16 49.3	-1.9
	0.4nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	23 16 18.2	-1.6
CAF				Lg		23 16 49.3	
	0.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	23 16 20.6	-1.3
RJF				*e*Sg	Sg	23 16 53.7	-1.1
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Pg	Pg	23 16 20.6	-1.3
RJF				Lg		23 16 53.7	
	0.2nm,0.2s						

*ISCJB **19** 23:29:29.8±0.2, 4313N×002×004E±002, h15km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=99.3*
*CSEM **19** 23:29:32.5±0.1, 4302N×001W, h5km, ML2.6/17, Error ellipse: s-maj=1.4km s-min=0.9km az=132.0*
*STR **19** 23:29:32.1±0.2, 4301N×000E, h4km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 23:29:32.5±0.2, 4301N×001W, h5km±3km, mbLg2.0/21, Error ellipse: s-maj=1.9km s-min=1.2km az=13.0, PRXIMO*
*LDG **19** 23:29:32.0±0.1, 4299N×002W, h8km, Md2.5/3, Ml2.6/17, Error ellipse: s-maj=1.4km s-min=0.9km az=164.0*
*NEIC **19** 23:29:32.0, 4299N×002W, h8km, ML2.5(STR), ML2.6(LDG), MN2.0(MDD), After LDG.*
ISC 19 23:29:31.3±0.2, 4306N±002×003E±002, h12km±3km, n89, σ0°83/143, 1C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**104**	Pg	**Pg**	**23 29 34.0**	**+0.5**
LABF				Sg	**Sg**	**23 29 35.3**	**+0.3**
LABF	**Labassere**	**0.04**	**104**	Pg	**Pg**	**23 29 34.1**	**+0.6**
LABF				Lg		23 29 35.4	
VIEF	**Viey**	**0.17**	**181**	Pg	**Pg**	**23 29 35.1**	**-0.1**
VIEF				Sg	**Sg**	**23 29 37.1**	**-0.8**
VIEF	**Viey**	**0.17**	**181**	Pg	**Pg**	**23 29 35.1**	**0.0**
VIEF				Lg		23 29 37.2	
EPF	**Esparros**	**0.23**	**96**	*e*Pg	**Pg**	**23 29 37.0**	**+0.8**
EPF				*e*Sg	**Sg**	**23 29 41.1**	**+1.6**
	80nm,0.2s						
EPF	**Esparros**	**0.23**	**96**	*e*Pg	**Pg**	**23 29 37.0**	**+0.8**
EPF				*e*Sg	**Sg**	**23 29 41.1**	**+1.6**
	40nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**273**	Pg	**Pg**	**23 29 37.4**	**-0.1**
REYF				Sg	**Sg**	**23 29 41.9**	**+0.1**
REYF	**Montagne du Re**	**0.31**	**273**	Pg	**Pg**	**23 29 37.5**	**0.0**
REYF				Lg		23 29 42.0	
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**23 29 38.5**	**+0.4**
RESF				Sg	**Sg**	**23 29 43.2**	**+0.6**
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**23 29 38.5**	**+0.5**
RESF				Lg		23 29 43.3	
EBIE	**Bielsa**	**0.38**	**167**	⇑Pg	**Pg**	**23 29 38.9**	**0.0**
	53nm,0.4s,SNR=18						
EBIE				Lg		23 29 43.4	
	274nm,0.3s,SNR=9.5						
EBIE	**Bielsa**	**0.38**	**167**	Pg	**Pg**	**23 29 38.9**	**+0.1**
	53nm,0.4s,SNR=18						
EBIE				Lg		23 29 43.4	
	274nm,0.3s,SNR=9.5						
ETSF	**Etsaut**	**0.46**	**250**	*e*Pg	**Pg**	**23 29 40.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**23 29 45.3**	**-1.1**
	105nm,0.2s						
ETSF	**Etsaut**	**0.46**	**250**	*e*Pg	**Pg**	**23 29 40.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**23 29 45.3**	**-1.1**
	53nm,0.2s						
FDAF	**Les Forges d'A**	**0.50**	**242**	Pg	**Pg**	**23 29 40.8**	**-0.2**
FDAF				Lg		23 29 47.1	
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**23 29 42.0**	**+0.3**
ATE				Sg	**Sg**	**23 29 50.2**	**+1.4**
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**23 29 41.6**	**-0.1**
ATE				Lg		23 29 49.1	
MELF	**Melles**	**0.57**	**109**	Pg	**Pg**	**23 29 43.0**	**+0.6**
MELF				Lg		23 29 50.7	
ORDF	**Ordiarp**	**0.72**	**283**	Lg		23 29 55.4	
LARF	**Larrau**	**0.74**	**269**	Pg	**Pg**	**23 29 45.6**	**-0.1**
LARF				Sg	**Sg**	**23 29 56.0**	**+0.5**
LARF	**Larrau**	**0.74**	**269**	Pg	**Pg**	**23 29 45.7**	**0.0**
LARF				Lg		23 29 56.0	
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**23 29 49.0**	**+0.3**
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**23 29 49.0**	**+0.2**
SALF				Lg		23 30 01.4	
SJPF	**Ste Jean**	**0.92**	**274**	*e*Pg	**Pg**	**23 29 48.4**	**-0.6**
SJPF				*e*Sg	**Sg**	**23 30 00.2**	**-0.8**
	8.3nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**274**	*e*Pg	**Pg**	**23 29 48.4**	**-0.6**
SJPF				*e*Sg	**Sg**	**23 30 00.2**	**-0.8**
	4.2nm,0.2s						
IPRE	**Itoiz**	**1.05**	**257**	Pg	**Pg**	**23 29 51.3**	**-0.2**
	1.4nm,0.2s,SNR=7.9						
IPRE				Lg		23 30 05.6	
	3.1nm,0.3s,SNR=7.3						
IPRE	**Itoiz**	**1.05**	**257**	Pg	**Pg**	**23 29 51.3**	**-0.1**
	1.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.14**	**279**	Pg	**Pg**	**23 29 54.1**	**+1.0**
	2.1nm,0.3s,SNR=6.2						
EALK				Lg		23 30 08.5	
	6.5nm,0.3s,SNR=10.0						
ELIZ	**Elizondo**	**1.15**	**276**	Pg	**Pg**	**23 29 53.5**	**+0.2**
	1.5nm,0.2s,SNR=12						
ELIZ				Lg		23 30 08.7	
	6.7nm,0.2s,SNR=11						
IUSE	**Utxeti**	**1.16**	**265**	Lg		23 30 09.6	
	8.9nm,0.5s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**196**	Pg	**Pg**	**23 29 58.0**	**+0.1**
	30nm,0.3s,SNR=24						
ESAC				Lg		23 30 16.8	
	115nm,0.2s,SNR=31						
ESAC	**San Caprasio**	**1.38**	**196**	Pg	**Pg**	**23 29 58.0**	**+0.1**
	30nm,0.3s,SNR=24						
EMIR	**Miracle**	**1.59**	**135**	Pg	**Pg**	**23 30 02.2**	**+0.4**
	7.8nm,0.8s,SNR=18						
EMIR				Lg		23 30 23.5	
	11nm,0.3s,SNR=11						
EMIR	**Miracle**	**1.59**	**135**	Pg	**Pg**	**23 30 02.2**	**+0.4**
	7.8nm,0.8s,SNR=18						
MTLF	**Montolieu**	**1.63**	**79**	*e*Pg	**Pg**	**23 30 03.2**	**+0.7**
MTLF				*e*Sg	**Sg**	**23 30 24.4**	**+0.8**
	19nm,0.2s						
MTLF	**Montolieu**	**1.63**	**79**	*e*Pn	**Pn**	**23 30 00.0**	**+0.3**
MTLF				*e*Pg	**Pg**	**23 30 03.2**	**+0.7**
MTLF				*e*Sg	**Sg**	**23 30 24.4**	**+0.8**
MTLF	**Montolieu**	**1.63**	**79**	Pn	**Pn**	**23 30 00.0**	**+0.3**
MTLF				Pg	**Pg**	**23 30 03.2**	**+0.7**
MTLF				Lg		23 30 24.4	
	9.4nm,0.2s						
MTLF	**Montolieu**	**1.63**	**79**	*e*Pg	**Pg**	**23 30 03.2**	**+0.7**
MTLF				*e*Sg	**Sg**	**23 30 24.4**	**+0.8**
	9.4nm,0.2s						
EPOB	**Poblet**	**1.87**	**155**	Pg	**Pg**	**23 30 06.5**	**-0.7**
	1.6nm,0.3s,SNR=11						
EPOB				Lg		23 30 30.7	
	9.0nm,0.4s,SNR=12						
EPOB	**Poblet**	**1.87**	**155**	Pg	**Pg**	**23 30 06.5**	**-0.7**
	1.6nm,0.3s,SNR=11						
ECRI	**Cripan**	**1.92**	**257**	Pg	**Pg**	**23 30 07.8**	**-0.3**
ECRI				Lg		23 30 33.6	
ECRI	**Cripan**	**1.92**	**257**	Pg	**Pg**	**23 30 07.8**	**-0.3**
	1.6nm,0.2s,SNR=7.9						
ECRI				Lg		23 30 33.6	
	3.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.95**	**15**	*e*Pg	**Pg**	**23 30 09.3**	**+0.6**
LFF				*e*Sg	**Sg**	**23 30 35.9**	**+1.9**
	14nm,0.3s						
LFF	**La Frestale**	**1.95**	**15**	*e*Pg	**Pg**	**23 30 09.3**	**+0.6**
LFF				*e*Sg	**Sg**	**23 30 35.9**	**+1.9**
	7.0nm,0.3s						
ERTA	**Horta de San J**	**2.11**	**174**	Pg	**Pg**	**23 30 10.7**	**-1.0**
	0.8nm,0.3s,SNR=8.5						
ERTA				Sn	**Sn**	**23 30 33.7**	**+1.2**
	1.2nm,0.1s,SNR=7.9						
ERTA				Lg		23 30 37.6	
	8.7nm,0.3s,SNR=16						
ERTA	**Horta de San J**	**2.11**	**174**	Pg	**Pg**	**23 30 10.7**	**-1.1**
	0.8nm,0.3s,SNR=8.5						
ERTA				Sn	**Sn**	**23 30 33.7**	**+1.2**
	1.2nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.19**	**105**	Pg	**Pg**	**23 30 13.4**	**0.0**
	0.5nm,0.2s,SNR=7.9						
EJON				Lg		23 30 42.9	
	2.3nm,0.3s,SNR=5.7						
EJON	**La Jonquera**	**2.19**	**105**	Pg	**Pg**	**23 30 13.4**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.38**	**37**	*e*Pg	**Pg**	**23 30 17.1**	**+0.2**
CAF				*e*Sg	**Sg**	**23 30 48.9**	**+1.2**
	6.0nm,0.2s						
CAF	**Calviac**	**2.38**	**37**	*e*Pn	**Pn**	**23 30 09.8**	**-0.3**
CAF				*e*Pg	**Pg**	**23 30 17.1**	**+0.2**
CAF				*e*Sg	**Sg**	**23 30 48.9**	**+1.2**
CAF	**Calviac**	**2.38**	**37**	Pn	**Pn**	**23 30 09.8**	**-0.3**
CAF				Pg	**Pg**	**23 30 17.1**	**+0.2**
CAF				Lg		23 30 48.9	
	3.0nm,0.2s						
CAF	**Calviac**	**2.38**	**37**	*e*Pg	**Pg**	**23 30 17.1**	**+0.2**
CAF				*e*Sg	**Sg**	**23 30 48.9**	**+1.2**
	3.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg	**Pg**	**23 30 19.7**	**+0.7**
RJF				*e*Sg	**Sg**	**23 30 52.8**	**+1.5**
	6.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg	**Pg**	**23 30 19.7**	**+0.7**
RJF				*e*Sg	**Sg**	**23 30 52.8**	**+1.5**
	3.2nm,0.2s						
ELAN	**Lanestosa**	**2.54**	**275**	Pg	**Pg**	**23 30 18.5**	**-1.5**
	0.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.54**	**275**	Pg	**Pg**	**23 30 18.5**	**-1.5**
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.72**	**188**	Pn	**Pn**	**23 30 15.0**	**+0.3**
EMOS				Pg	**Pg**	**23 30 21.7**	**-1.7**
EMOS				Pn	**Pn**	**23 30 21.8**	**+7.1**
EMOS				Sn	**Sn**	**23 30 46.8**	**-0.7**
EMOS				Lg		23 30 55.6	
EMOS				Lg		23 30 56.4	
EMOS	**Mosqueruela**	**2.72**	**188**	Pn	**Pn**	**23 30 15.0**	**+0.3**
	4.5nm,0.4s,SNR=6.6						
EMOS				Pg	**Pg**	**23 30 21.7**	**-1.7**
	0.4nm,0.2s,SNR=5.7						
EMOS				Sn	**Sn**	**23 30 46.8**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EMOS				Lg		23 30 56.4	
	3.6nm,0.3s,SNR=5.9						
EMOS	**Mosqueruela**	**2.72**	**188**	Pn	**Pn**	**23 30 15.0**	**+0.3**
	4.5nm,0.4s,SNR=6.6						
EMOS	**Mosqueruela**	**2.72**	**188**	Pg	**Pg**	**23 30 21.7**	**-1.6**
	0.4nm,0.2s,SNR=5.7						
EMOS				Sn	**Sn**	**23 30 46.8**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.72**	**216**	Pn	**Pn**	**23 30 16.3**	**+1.5**
	2.3nm,0.8s,SNR=7.3						
ETOR				Sn	**Sn**	**23 30 47.9**	**+0.3**
	8.8nm,0.4s,SNR=5.0						
ETOR				Lg		23 30 57.9	
	7.1nm,0.4s,SNR=4.8						
ETOR	**Torete**	**2.72**	**216**	Pn	**Pn**	**23 30 16.3**	**+1.5**
	2.3nm,0.8s,SNR=7.3						
ETOR				Sn	**Sn**	**23 30 47.9**	**+0.3**
	8.8nm,0.4s,SNR=5.0						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**23 30 28.2**	**+0.1**
LASF				*e*Sg	**Sg**	**23 31 06.5**	**0.0**
	6.4nm,0.2s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pn	**Pn**	**23 30 17.6**	**-0.5**
LASF				*e*Pg	**Pg**	**23 30 28.2**	**+0.1**
LASF				*e*Sg	**Sg**	**23 31 06.5**	**0.0**
LASF	**Ste Croix**	**2.96**	**69**	Pn	**Pn**	**23 30 17.6**	**-0.5**
LASF				Pg	**Pg**	**23 30 28.2**	**+0.1**
LASF				Lg		23 31 06.5	
	3.2nm,0.2s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	**23 30 28.2**	**+0.1**
LASF				*e*Sg	**Sg**	**23 31 06.5**	**0.0**
	3.2nm,0.2s						
MFF	**Saint Martin d**	**3.55**	**358**	*e*Pg	**Pg**	**23 30 38.1**	**-1.2**
MFF				*e*Sg	**Sg**	**23 31 24.5**	**-0.7**
	2.3nm,0.3s						
MFF	**Saint Martin d**	**3.55**	**358**	*e*Pg	**Pg**	**23 30 38.1**	**-1.2**
MFF				*e*Sg	**Sg**	**23 31 24.5**	**-0.7**
	1.1nm,0.3s						
TCF	**Toulx Ste Croi**	**3.59**	**25**	*e*Pg	**Pg**	**23 30 39.7**	**-0.3**
TCF				*e*Sg	**Sg**	**23 31 26.6**	**+0.1**
	3.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.59**	**25**	*e*Pg	**Pg**	**23 30 39.7**	**-0.3**
TCF				*e*Sg	**Sg**	**23 31 26.6**	**+0.1**
	1.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.81**	**60**	*e*Pg	**Pg**	**23 30 44.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**23 31 32.9**	**-0.6**
	2.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.81**	**60**	*e*Pg	**Pg**	**23 30 44.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**23 31 32.9**	**-0.6**
	1.5nm,0.3s						
BGF	**Bois d'Agland**	**4.04**	**29**	*e*Pg	**Pg**	**23 30 48.5**	**-0.1**
BGF				*e*Sg	**Sg**	**23 31 40.3**	**-0.6**
	8.5nm,0.3s						
BGF	**Bois d'Agland**	**4.04**	**29**	*e*Pg	**Pg**	**23 30 48.5**	**-0.1**
BGF				*e*Sg	**Sg**	**23 31 40.3**	**-0.6**
	4.2nm,0.3s						
SMRF	**Simiane la Rot**	**4.14**	**75**	*e*Sg	**Sg**	**23 31 43.2**	**-1.0**
	6.4nm,0.6s						
SMRF	**Simiane la Rot**	**4.14**	**75**	*e*Sg	**Sg**	**23 31 43.2**	**-1.0**
	3.2nm,0.6s						
AVF	**Avril sur Loir**	**4.42**	**31**	*e*Pg	**Pg**	**23 30 55.7**	**-0.2**
AVF				*e*Sg	**Sg**	**23 31 53.0**	**-0.1**
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**4.42**	**31**	*e*Pg	**Pg**	**23 30 55.7**	**-0.2**
AVF				*e*Sg	**Sg**	**23 31 53.0**	**-0.1**
	0.8nm,0.3s						
ESDC	**Sonseca Array**	**4

QILN			SN	Sn	23 37 09.0	-9.2
SEDN	**First Sedna Si**	**12.82 174**	PN	Pn	23 36 06.7	-6.3
SEDN			SN	Sn	23 38 19.6	-16

MOS ***19*** *23:52:45.8±0.7, 28.19N×139.22E, h511km, mb4.5/16, Error ellipse: s-maj=14.6km s-min=7.0km az=106.9*

ISCJB ***19*** *23:52:46.2±0.3, 28.18N±003×139.35E±004, h514km±3km, mb4.5/64, Error ellipse: s-maj=5.9km s-min=4.6km az=161.2*

JMA ***19*** *23:52:46.9±0.1, 28.31N×139.76E, h522km, M4.8*

IDC ***19*** *23:52:46.7±0.6, 28.25N×139.32E, h507km±6km, mb4.0/25, mb1 4.1/30, mb1mx4.0/33, mbtmp4.0/30, Error ellipse: s-maj=11.5km s-min=7.0km az=72.0*

BJI ***19*** *23:52:47.6, 28.16N×139.44E, h553km, mB5.1, mb4.9*

NEIC ***19*** *23:52:48.1±0.5, 28.22N×139.26E, h524km±5km, mb4.5/17, Error ellipse: s-maj=5.6km s-min=4.3km az=87.0*

ISC 19 23:52:47.2±0.3, 2824N±003×13940E±004, h511km±3km, n182, σ1§02/196, mb4.5/64, 14C-4D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.72**	**114**	P	**P**	**23 53 56.9**	**-0.4**
	300nm,0.3s,baz=359,slow=1.9,SNR=87						
CBIJ				S	**S**	**23 54 52.8**	**-1.5**
	124nm,0.3s,baz=126,slow=23,SNR=6.3						
CBIJ	**Chichi jima**	**2.72**	**114**	P	**P**	**23 53 56.7**	**-0.5**
CBIJ				S	**S**	**23 54 52.3**	**-2.0**
JHHJ	**Haha-jima-NKT**	**2.95**	**122**	P	**P**	**23 53 58.6**	**0.0**
JHHJ				*e*S	**S**	**23 54 54.9**	**-2.0**
JHJ2	**Mitsune**	**4.87**	**4**	P	**P**	**23 54 14.5**	**+1.0**
JHJ2				S	**S**	**23 55 23.0**	**-1.1**
JHJ	**Hachijo jima 2**	**4.87**	**4**	P	**P**	**23 54 14.6**	**+1.0**
	126nm,0.3s,baz=61,slow=18,SNR=12						
JHJ				S	**S**	**23 55 21.9**	**-2.3**
	45nm,0.3s,baz=252,slow=19,SNR=4.7						
JWZ	**Kozaga**	**6.15**	**330**	P	**P**	**23 54 26.9**	**+1.6**
BSO1	**Boso 1**	**6.53**	**12**	P	**P**	**23 54 29.6**	**+0.5**
BSO1				*e*S	**S**	**23 55 51.8**	**-0.7**
JIE	**Ise**	**6.55**	**340**	P	**P**	**23 54 31.4**	**+2.2**
JIE				S	**S**	**23 55 54.8**	**+2.1**
JKN2	**Miekihoku**	**6.55**	**337**	P	**P**	**23 54 31.2**	**+2.0**
BSO3	**Boso 3**	**6.61**	**8**	P	**P**	**23 54 30.4**	**+0.6**
BSO3				*e*S	**S**	**23 55 53.3**	**-0.5**
BSO4	**Boso 4**	**6.78**	**7**	P	**P**	**23 54 31.8**	**+0.4**
BSO4				S	**S**	**23 55 57.8**	**+1.0**
JOD2	**Odawara 2**	**7.00**	**358**	P	**P**	**23 54 33.6**	**-0.1**
JOD2				S	**S**	**23 56 00.6**	**-0.4**
JNY	**Yasuok**	**7.21**	**350**	P	**P**	**23 54 36.6**	**+0.8**
JTO	**Tosashimizu**	**7.31**	**311**	P	**P**	**23 54 39.3**	**+2.5**
JEG	**Eigenji**	**7.33**	**340**	P	**P**	**23 54 39.3**	**+2.3**
JHU	**Hanno**	**7.59**	**359**	P	**P**	**23 54 38.7**	**-0.9**
JHU				S	**S**	**23 56 09.0**	**-2.8**
MJAR	**Matsushiro Arr**	**8.34**	**353**	P	**P**	**23 54 46.6**	**-0.7**
	15nm,0.3s,baz=239,slow=25,SNR=93						
MJAR				S	**S**	**23 56 25.0**	**-0.8**
	1.2nm,0.3s,baz=140,slow=12,SNR=3.4						
MAJO	**Matsushiro**	**8.34**	**353**	*e*P	**P**	**23 54 47.0**	**-0.2**
MAT	**Matsushiro**	**8.34**	**353**	P	**P**	**23 54 47.3**	**+0.1**
MAT				S	**S**	**23 56 23.9**	**-1.9**
JNU	**Nakatsue**	**8.80**	**306**	P	**P**	**23 54 55.0**	**+3.0**
	3.2nm,0.3s,baz=248,slow=20,SNR=9.5						
JOW	**Kunigami**	**9.97**	**264**	P	**P**	**23 55 06.3**	**+2.1**
	4.2nm,0.3s,baz=23,slow=22,SNR=11						
KSRS	**Korea Array**	**13.31**	**317**	P	**P**	**23 55 39.7**	**+0.3**
	baz=131,slow=10,SNR=16						
KS15	**Wonju Array Si**	**13.32**	**316**	*e*P	**P**	**23 55 45.1**	**+5.6**
GUMO	**Guam**	**15.45**	**160**	P	**P**	**23 56 03.2**	**+1.5**
	17nm,0.3s,baz=188,slow=6.7,SNR=17						
GUMO	**Guam**	**15.45**	**160**	*e*P	**P**	**23 56 03.3**	**+1.6**
ASAJ	**Asahikawa**	**16.05**	**8**	P	**P**	**23 56 08.7**	**+0.7**
	2.1nm,0.3s,baz=222,slow=14,SNR=14						
ASAJ	**Asahikawa**	**16.05**	**8**	P	**P**	**23 56 08.7**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TATO	**Taipei**	**16.34**	**263**	P	**P**	**23 56 10.1**	**-0.9**
NACB	**Ninganchiao**	**16.48**	**260**	*e*P	**P**	**23 56 10.7**	**-1.8**
YHNB	**Yeheng**	**16.52**	**262**	*e*P	**P**	**23 56 11.3**	**-1.6**
HIA	**Hailar**	**25.85**	**330**	*e*P	**P**	**23 57 37.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**25.85**	**330**	*e*P	**P**	**23 57 37.2**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.5						
XAN	**Xi'an**	**26.66**	**290**	P	**P**	**23 57 44.3**	**-0.3**
XAN				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
CD2	**Chengdu**	**31.03**	**284**	P	**P**	**23 58 22.8**	**+0.2**
CD2				AMB	AMB		
	comp=Z,70nm,0.5s,mb5.5						
ULN	**Ulaanbaatar**	**31.80**	**317**	*e*P	**P**	**23 58 28.9**	**-0.3**
SONM	**Songino Array**	**32.18**	**316**	P	**P**	**23 58 32.6**	**+0.2**
	comp=Z,6.7nm,0.6s,mb4.4,baz=132,slow=9.3,SNR=59						
SONM				PcP	PcP	00 01 06.1	+0.1
	comp=Z,1.2nm,0.5s,baz=144,slow=2.6,SNR=9.3						
SONM				ScP	ScP	00 03 59.8	-1.2
	comp=Z,0.6nm,0.6s,baz=155,slow=3.7,SNR=4.3						
SONM	**Songino Array**	**32.18**	**316**	P	**P**	**23 58 32.6**	**+0.1**
SONM						00 01 06.1	
GTA	**Gaotai**	**34.47**	**299**	⇓*i*P	**P**	**23 58 51.8**	**0.0**
GTA				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,84nm,4.0s						
BOD	**Bodaibo**	**34.49**	**336**	⇓*i*P	**P**	**23 58 51.8**	**-0.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
ZAK	**Zakamensk**	**35.12**	**319**	*e*P	**P**	**23 58 57.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
TLY	**Talaya**	**35.50**	**321**	*e*P	**P**	**23 59 00.8**	**+0.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
TLY	**Talaya**	**35.50**	**321**	*e*P	**P**	**23 59 00.8**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.3						
CHTO	**Chiang Mai**	**38.11**	**265**	*e*P	**P**	**23 59 21.7**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
CHTO	**Chiang Mai**	**38.11**	**265**	*e*P	**P**	**23 59 21.7**	**-0.2**
	comp=Z,12nm,0.9s,mb4.4						
PMG	**Port Moresby**	**38.17**	**168**	P	**P**	**23 59 22.3**	**-0.1**
	comp=Z,9.3nm,0.5s,mb4.6,baz=198,slow=13,SNR=3.1						
PMG	**Port Moresby**	**38.17**	**168**	*e*P	**P**	**23 59 22.8**	**+0.4**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PMG	**Port Moresby**	**38.17**	**168**	*e*P	**P**	**23 59 22.8**	**+0.4**
	comp=Z,7.8nm,0.3s,mb4.7						
KAKA	**Kakadu**	**41.26**	**190**	*e*P	**P**	**23 59 46.7**	**-0.6**
	comp=Z,15nm,0.8s,mb4.6						
LSA	**Lhasa**	**41.99**	**284**	P	**P**	**23 59 54.8**	**+1.8**
LSA	**Lhasa**	**41.99**	**284**	*e*P	**P**	**23 59 54.7**	**+1.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**41.99**	**284**	*e*P	**P**	**23 59 54.7**	**+1.6**
	comp=Z,5.5nm,0.6s,mb4.3						
SHL	**Shillong**	**42.25**	**278**	*e*P	**P**	**23 59 53.8**	**-1.2**
BILL	**Bilibino**	**42.93**	**14**	⇑*e*P	**P**	**00 00 01.1**	**+0.7**
BILL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,21.0s						
BILL	**Bilibino**	**42.93**	**14**	*e*P	**P**	**00 00 01.0**	**+0.6**
	comp=Z,3.0nm,0.6s,mb4.0						
WMQ	**Urumqi**	**43.90**	**305**	P	**P**	**00 00 08.5**	**+0.5**
PSI	**Prapat**	**46.11**	**244**	P	**P**	**00 00 25.6**	**+0.6**
	comp=Z,5.7nm,0.4s,mb4.5,baz=52,slow=4.6,SNR=9.6						
PSI				PcP	PcP	00 01 51.5	+0.8
	comp=Z,5.5nm,0.8s,baz=128,slow=7.9,SNR=3.6						
JIRN	**Jiri**	**46.68**	**282**	*e*P	**P**	**00 00 30.7**	**+1.4**
	comp=Z,130nm,0.7s,mb5.6						
GUN	**Gumba**	**46.89**	**283**	*e*P	**P**	**00 00 32.1**	**+1.3**
	comp=Z,109nm,0.5s						
ZAL	**Zalesovo**	**47.01**	**319**	P	**P**	**00 00 30.9**	**-0.9**
	comp=Z,7.0nm,0.4s,mb4.5,baz=3.5,slow=6.7,SNR=29						
ZAL				PcP	PcP	00 01 52.3	-1.6
	comp=Z,3.6nm,0.4s,baz=349,slow=4.6,SNR=6.5						
PKI	**Pulchoki**	**47.37**	**283**	*e*P	**P**	**00 00 34.8**	**+0.3**
	comp=Z,25nm,0.5s,mb5.0						
KKN	**Kakani**	**47.43**	**283**	*e*P	**P**	**00 00 35.6**	**+0.7**
	comp=Z,29nm,0.4s,mb5.2						
DMN	**Daman**	**47.62**	**283**	*e*P	**P**	**00 00 37.1**	**+0.7**
	comp=Z,54nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**47.84**	**309**	P	**P**	**00 00 37.7**	**-0.3**
	comp=Z,10.0nm,0.6s,mb4.5,baz=86,slow=10,SNR=99						
MKAR				PcP	PcP	00 01 56.0	-0.9
	comp=Z,2.5nm,0.6s,baz=78,slow=6.3,SNR=5.6						
MKAR				ScP	ScP	00 05 00.8	-1.3
	comp=Z,0.7nm,0.6s,baz=106,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**47.84**	**309**	P	**P**	**00 00 37.7**	**-0.3**
MKAR						00 01 56.0	
MKAR	**Makanchi Array**	**47.84**	**309**	P	**P**	**00 00 37.7**	**-0.3**
MKAR				PcP	PcP	00 01 56.0	-0.9
MKAR				ScP	ScP	00 05 00.8	-1.3
GKN	**Gorkha**	**47.93**	**283**	*e*P	**P**	**00 00 39.3**	**+0.6**
	comp=Z,14nm,0.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**47.95**	**198**	⇑*i*P	**P**	**00 00 38.9**	**0.0**
BOK	**Bokaro**	**47.98**	**278**	*e*P	**P**	**00 00 40.0**	**+0.9**
BOK				AMb	AMB	00 00 40.8	
	comp=Z,33nm,0.5s,mb5.2						
NVS	**Novosibirsk**	**48.07**	**320**	*e*P	**P**	**00 00 38.2**	**-1.6**
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**48.14**	**186**	*e*P	**P**	**00 00 39.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,15nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**48.14**	**186**	*e*P	**P**	**00 00 39.3**	**-0.9**
	comp=Z,15nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**48.15**	**186**	⇑*i*P	**P**	**00 00 39.6**	**-0.7**
WB2	**Warramunga Arr**	**48.15**	**186**	*e*P	**P**	**00 00 39.8**	**-0.6**
WRA	**Warramunga Arr**	**48.15**	**186**	P	**P**	**00 00 39.7**	**-0.7**
	comp=Z,25nm,0.6s,mb5.0,baz=1.8,slow=7.7,SNR=389						
WRA				PcP	PcP	00 01 58.4	+0.4
	comp=Z,1.7nm,0.7s,baz=358,slow=3.6,SNR=4.3						
WRA				pP	pP	00 02 15.6	-1.0
	comp=Z,2.0nm,0.8s,baz=5.3,slow=8.7,SNR=3.7						
WRA				ScP	ScP	00 05 02.3	-1.1
	comp=Z,4.0nm,1.0s,baz=5.5,slow=4.8,SNR=7.6						
WRA				S	**S**	**00 06 52.8**	**-8.3**
	comp=Z,1.4nm,0.7s,baz=2.3,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**48.15**	**186**	P	**P**	**00 00 39.7**	**-0.6**
WRA						00 01 58.4	
WRA				*PP	pP	00 02 15.6	-1.0
WRA				S	**S**	**00 06 52.8**	**-8.4**
CTA	**Charters Tower**	**48.50**	**171**	P	**P**	**00 00 43.5**	**+0.6**
	comp=Z,12nm,1.1s,mb4.3,baz=325,slow=12,SNR=4.3						
CTAO	**Charters Tower**	**48.50**	**171**	*e*P	**P**	**00 00 43.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
CTAO	**Charters Tower**	**48.50**	**171**	*e*P	**P**	**00 00 43.7**	**+0.8**
	comp=Z,4.4nm,0.6s,mb4.2						
KOLN	**Koldanda**	**48.88**	**283**	*e*P	**P**	**00 00 46.5**	**+0.7**
	comp=Z,37nm,0.6s,mb5.1						
AS31	**Alice Springs**	**51.88**	**186**	*e*P	**P**	**00 01 07.3**	**-0.4**
ASAR	**Alice Springs**	**51.88**	**186**	P	**P**	**00 01 07.3**	**-0.3**
	comp=Z,5.6nm,0.5s,mb4.1,baz=16,slow=12,SNR=100						
ASAR				PcP	PcP	00 02 12.1	+0.2
	comp=Z,1.4nm,0.7s,baz=22,slow=4.8,SNR=4.9						
ASAR				ScP	ScP	00 05 18.9	-0.7
	comp=Z,0.9nm,0.8s,baz=41,slow=4.5,SNR=4.7						
ASAR				S	**S**	**00 07 48.1**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=17,slow=17,SNR=4.4						
ASAR	**Alice Springs**	**51.88**	**186**	P	**P**	**00 01 07.4**	**-0.3**
ASAR						00 02 12.1	
ASAR				S	**S**	**00 07 48.2**	**-3.5**
ASPA	**Alice Springs**	**51.88**	**186**	*e*P	**P**	**00 01 07.3**	**-0.4**
VIS	**Vishakhapatnam**	**52.28**	**271**	*e*P	**P**	**00 01 11.4**	**+0.8**
VIS				AMb	AMB	00 01 12.5	
	comp=Z,20nm,0.5s,mb4.7						
ULHL	**Ulahol**	**52.33**	**303**	P	**P**	**00 01 11.9**	**+1.0**
	SNR=5.9						
MBWA	**Marble Bar**	**52.66**	**203**	*e*P	**P**	**00 01 13.2**	**-0.1**
	comp=Z,8.8nm,0.4s,mb4.4						
TKM2	**Tokmak 2**	**52.73**	**304**	P	**P**	**00 01 14.9**	**+1.0**
	SNR=17						
KZA	**Kyzart**	**53.08**	**303**	P	**P**	**00 01 18.0**	**+1.7**
	SNR=19						
KBK	**Karagaybulak**	**53.24**	**304**	P	**P**	**00 01 18.3**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**53.34**	**304**	P	**P**	**00 01 18.9**	**+0.7**
	SNR=5.8						
USP	**Ospenovka**	**53.49**	**305**	P	**P**	**00 01 19.5**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**53.57**	**304**	P	**P**	**00 01 20.4**	**+0.6**
	SNR=12						
AAK	**Ala-Archa**	**53.57**	**304**	*e*P	**P**	**00 01 19.3**	**-0.5**
UCH	**Uchtor**	**53.60**	**303**	P	**P**	**00 01 21.8**	**+1.7**
	SNR=26						
NDI	**New Delhi**	**54.09**	**286**	*e*P	**P**	**00 01 22.8**	**-0.7**
NDI				AMb	AMB	00 01 23.8	
	comp=Z,41nm,0.7s,mb4.9						
EKS2	**Erkin-Say**	**54.09**	**304**	P	**P**	**00 01 24.1**	**+0.6**
	SNR=8.7						
AML	**Almayashu**	**54.22**	**303**	P	**P**	**00 01 26.1**	**+1.7**
	SNR=6.8						
NGP	**Nagpur**	**54.81**	**277**	*e*P	**P**	**00 01 27.7**	**-0.9**
NGP				AMb	AMB	00 01 29.0	
	comp=Z,26nm,0.5s,mb4.7						
KDAK	**Kodiak Island**	**54.94**	**37**	P	**P**	**00 01 28.9**	**-0.5**
	comp=Z,13nm,0.9s,mb4.2,baz=284,slow=20,SNR=4.4						
BVAR	**Borovoye Array**	**55.52**	**317**	P	**P**	**00 01 33.3**	**-0.2**
	comp=Z,38nm,0.5s,mb4.9,baz=91,slow=7.2,SNR=280						
BVAR				S	**S**	**00 08 37.1**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=97,slow=12,SNR=4.8						
BHPL	**Bhopal**	**55.53**	**280**	*e*P	**P**	**00 01 33.5**	**-0.1**
BHPL				AMb	AMB	00 01 34.1	
	comp=Z,22nm,0.6s,mb4.6						
BRVK	**Borovoye**	**55.59**	**317**	*e*P	**P**	**00 01 33.8**	**-0.2**
BRVK				*e*		00 02 25.4	
BRVK				pmax	pmax		
	comp=Z,46nm,0.9s,mb4.7						
BRVK	**Borovoye**	**55.59**	**317**	*e*P	**P**	**00 01 33.8**	**-0.2**
	comp=Z,46nm,0.9s,mb4.7						
BRVK				*e*PcP	PcP	00 02 25.4	-0.8
DZM	**Mont Dzumac**	**56.42**	**150**	P	**P**	**00 01 40.8**	**+1.1**
	comp=Z,6.8nm,0.8s,mb3.9,baz=48,slow=16,SNR=3.4						
AJM	**Ajmer**	**56.91**	**285**	*e*P	**P**	**00 01 42.4**	**-0.7**
AJM				AMb	AMB	00 01 43.5	
	comp=Z,12nm,0.2s,mb4.7						
MCK	**McKinley**	**56.97**	**30**	*e*P	**P**	**00 01 43.7**	**+0.1**
COLA	**College**	**57.50**	**29**	*e*P	**P**	**00 01 47.0**	**-0.1**
	comp=Z,2.2nm,0.5s,mb3.6						
PALK	**Pallekele**	**59.07**	**261**	P	**P**	**00 01 57.1**	**-0.7**
STKA	**Stephens Creek**	**59.82**	**178**	*e*P	**P**	**00 02 02.5**	**-0.3**
STKA	**Stephens Creek**	**59.82**	**178**	P	**P**	**00 02 02.3**	**-0.5**
	comp=Z,1.6nm,0.4s,mb3.7,baz=3.6,slow=4.1,SNR=7.7						
KAD	**Karad**	**60.49**	**275**	*e*P	**P**	**00 02 07.1**	**-0.1**
KAD				AMb	AMB	00 02 07.4	
	comp=Z,14nm,0.5s,mb4.5						
ARU	**Arti**	**62.00**	**322**	⇓*i*P	**P**	**00 02 16.5**	**-0.7**
ARU				*e*		00 02 49.3	
ARU				*e*S	**S**	**00 10 03.0**	**+1.3**
ARU				SSS		00 14 18.9	
ARU				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
ARU	**Arti**	**62.00**	**322**	*e*P	**P**	**00 02 16.4**	**-0.7**
	comp=Z,26nm,0.6s,mb4.8						
INK	**Inuvik**	**63.02**	**25**	P	**P**	**00 02 23.4**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.0,baz=298,slow=6.3,SNR=33						
AKTK	**Aktyubinsk**	**63.48**	**315**	P	**P**	**00 02 26.1**	**-0.6**
AKTO	**Aktyubinsk**	**63.48**	**315**	P	**P**	**00 02 26.1**	**-0.6**
	comp=Z,9.7nm,0.6s,mb4.4,baz=78,slow=14,SNR=28						
ORR	**Orenburg**	**65.20**	**317**	*e*P	**P**	**00 02 36.9**	**-0.8**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
TMCR	**Tamitsa**	**69.70**	**333**	*e*P	**P**	**00 03 04.8**	**-0.4**
KEV	**Kevo**	**71.08**	**340**	*e*p	**P**	**00 03 12.0**	**-1.4**
	comp=Z,12nm,0.5s,mb4.7						
KEV	**Kevo**	**71.08**	**340**	*e*P	**P**	**00 03 12.0**	**-1.4**
KEV				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
RES	**Resolute Bay**	**71.52**	**13**	*e*P	**P**	**00 03 15.7**	**-0.3**
	comp=Z,270nm,0.6s						
ARCES	**ARCESS Array B**	**71.64**	**340**	P	**P**	**00 03 16.7**	**0.0**
	comp=Z,1.6nm,0.3s,mb3.9,baz=62,slow=9.4,SNR=5.3						
ARE0	**ARCESS Array S**	**71.64**	**340**	*e*P	**P**	**00 03 15.7**	**-1.0**
YKA	**Yellowknife Ar**	**72.30**	**28**	P	**P**	**00 03 20.0**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.1,baz=299,slow=6.1,SNR=12						
OBN	**Obninsk**	**74.17**	**324**	*e*P	**P**	**00 03 30.7**	**-0.5**
	comp=Z,12nm,0.4s,mb4.7						
VRSR	**Storozhevoye**	**74.48**	**320**	*e*P	**P**	**00 03 32.6**	**-0.4**
VRSR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
KIV	**Kislovodsk**	**75.46**	**312**	*e*P	**P**	**00 03 38.3**	**-0.2**
KIV				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**75.46**	**312**	*e*P	**P**	**00 03 38.8**	**+0.4**
FIA1	**FINESS Array S**	**75.82**	**333**	*e*P	**P**	**00 03 39.6**	**-0.9**
FINES	**FINESS Array B**	**75.82**	**333**	P	**P**	**00 03 39.6**	**-0.8**
	comp=Z,14nm,0.3s,mb4.8,baz=74,slow=4.8,SNR=270						
OHCM	**Honcut**	**79.12**	**51**	*e*P	**P**	**00 03 58.8**	**+0.4**
BMO	**Blue Mountains**	**79.25**	**45**	*e*P	**P**	**00 04 00.2**	**+1.1**
AKASG	**Malin Array Be**	**80.22**	**323**	P	**P**	**00 04 03.1**	**-1.1**
	comp=Z,8.4nm,0.5s,mb4.3,baz=53,slow=5.1,SNR=46						
AKBB	**Malin Array Si**	**80.22**	**323**	*e*P	**P**	**00 04 03.2**	**-1.0**
CHMT	**Chamberlain Mo**	**80.66**	**42**	*e*P	**P**	**00 04 06.6**	**+0.1**
MALT	**Malatya**	**80.88**	**309**	⇑*i*P	**P**	**00 04 08.5**	**+0.9**
HRY	**Holter Researc**	**81.59**	**41**	*e*P	**P**	**00 04 15.1**	**+3.8**
NB2	**NORSAR Subarra**	**81.62**	**337**	P	**P**	**00 04 09.8**	**-1.6**
	comp=Z,13nm,0.6s,mb4.5,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**81.62**	**337**	P	**P**	**00 04 10.2**	**-1.2**
	comp=Z,14nm,0.6s,mb4.6,baz=47,slow=4.9,SNR=46						
LRM	**Limekiln Ridge**	**81.71**	**42**	*e*P	**P**	**00 04 13.2**	**+1.3**
NVAR	**Mina Array Bea**	**81.74**	**51**	P	**P**	**00 04 13.2**	**+1.2**
	comp=Z,2.5nm,0.5s,mb3.9,baz=296,slow=6.9,SNR=30						
NVAR				pP	pP	00 06 09.2	+6.4
	comp=Z,1.0nm,0.8s,baz=282,slow=6.8,SNR=4.3						
EGMT	**Eagleton**	**82.06**	**39**	*e*P	**P**	**00 04 13.7**	**0.0**
QLMT	**Earthquake Lak**	**82.85**	**43**	*e*P	**P**	**00 04 19.4**	**+1.8**
ISA	**Isabella**	**82.98**	**53**	*e*P	**P**	**00 04 18.6**	**+0.3**
DAC	**Darwin (Calif)**	**83.29**	**52**	*e*P	**P**	**00 04 20.8**	**+0.9**
BR131	**Keskin Array S**	**83.41**	**312**	*e*P	**P**	**00 04 19.8**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**83.41**	**312**	P	**P**	**00 04 20.2**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.0,baz=102,slow=3.7,SNR=23						
MOOW	**Moose Ponds**	**83.85**	**43**	*e*P	**P**	**00 04 24.3**	**+1.6**
LOHW	**Long Hollow**	**84.01**	**43**	*e*P	**P**	**00 04 25.0**	**+1.6**
TIRR	**Tirgusor**	**84.13**	**318**	⇑*i*P	**P**	**00 04 24.4**	**+0.4**
BURAR	**Bucovina Array**	**84.14**	**322**	⇑*i*P	**P**	**00 04 23.8**	**-0.3**
VRI	**Vrincioaia**	**84.31**	**320**	⇑*i*P	**P**	**00 04 25.9**	**+1.0**
GSC	**Goldstone**	**84.34**	**53**	*e*P	**P**	**00 04 26.2**	**+1.1**
HWUT	**Hardware Ranch**	**84.52**	**45**	*e*P	**P**	**00 04 26.9**	**+1.0**
	comp=Z,6.7nm,1.0s,mb4.1						
MLR	**Muntele Rosu**	**84.97**	**320**	⇑*i*P	**P**	**00 04 28.1**	**-0.1**
PDAR	**Pinedale Array**	**85.12**	**44**	P	**P**	**00 04 30.1**	**+1.2**
	comp=Z,1.9nm,0.9s,mb3.6,baz=318,slow=2.0,SNR=12						
PFO	**Pinyon Flat Ob**	**85.45**	**54**	P	**P**	**00 04 31.5**	**+1.0**
	comp=Z,7.5nm,0.9s,mb4.2,baz=288,slow=3.2,SNR=12						
DRGR		**86.00**	**322**	⇑*i*P	**P**	**00 04 32.5**	**-0.6**
MORC	**Moravsky Berou**	**86.76**	**327**	⇓*i*P	**P**	**00 04 35.9**	**-0.8**
PSZ	**Piszkesteto**	**86.79**	**324**	⇑*i*P	**P**	**00 04 36.3**	**-0.5**
DPC	**Dobruska-Polom**	**86.96**	**327**	*e*P	**P**	**00 04 36.8**	**-0.9**
UPC	**Upice**	**87.00**	**328**	*e*P	**P**	**00 04 37.1**	**-0.8**
BZS	**Buzias**	**87.32**	**322**	⇑*i*P	**P**	**00 04 38.0**	**-1.4**
PVCC	**Panska Ves**	**87.66**	**328**	*e*P	**P**	**00 04 40.1**	**-0.8**
CLL	**Collm**	**87.83**	**330**	*i* P	**P**	**00 04 40.4**	**-1.3**
PV10	**Paradox Valley**	**87.93**	**47**	*e*P	**P**	**00 04 43.3**	**+1.1**
PRU	**Pruhonice**	**88.05**	**328**	*e*P	**P**	**00 04 41.6**	**-1.1**
VTS	**Vitosha**	**88.29**	**318**	⇑*i*P	**P**	**00 04 43.6**	**-0.3**
PKSM	**Moragy**	**88.54**	**323**	⇑*i*P	**P**	**00 04 43.9**	**-1

0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.14±.14; $M_{\theta\theta}$1.30±.09; $M_{\phi\phi}$-0.15±.09; $M_{r\theta}$-0.35±.15; $M_{r\phi}$0.60±.05; $M_{\theta\phi}$0.57±.21; Best double couple: $M_0$1.52600×10^{16} NP1:ϕ_s224.00000°,δ49.00000°,λ-131.00000°. NP2: ϕ_s97.00000°,δ55.00000°,λ-53.00000°. Principal axes: T 1.5260, Plg3.0000°, Azm161.0000°; N 0.0030, Plg30.0000°, Azm253.0000°; P -1.5250, Plg60.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*BJI **20** 00:07:30.3,5730N×12070E,h10km,mB4.3,mb4.5,ML4.9, Ms4.8,Msz4.1*

ISC 20 00:07:28.3±0.8,5736N±003×12067E±003,h9km±5km, n164,σ1§13/174,mb4.3/39,MS3.9/27,14C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.58**	**221**	⇓*i*Pg		**Pg**	**00 07 38.1**	**-1.4**
KHNR				*i* Sg		**Sg**	**00 07 46.7**	**-0.3**
CRS	**Chara**	**1.39**	**252**	*e*Pg		**Pn**	**00 07 53.2**	**-0.7**
CRS				Pmax			00 07 57.9	
	1μm,1.0s							
CRS				*i* Sg		**Sg**	**00 08 12.8**	**-0.2**
CRS				Smax			00 08 17.4	
	3μm,0.8s							
CRS	**Chara**	**1.39**	**252**	*e*P		**Pn**	**00 07 53.7**	**-0.2**
CRS				*e*			00 08 12.7	
CRS				pmax	pmax			
	comp=Z,2μm,1.0s							
CRS				smax				
	comp=N,3μm,1.0s							
NRGR	**Nerungri**	**2.32**	**106**	*e*P		**Pn**	**00 08 07.3**	**+0.5**
NRGR				S		**Sn**	**00 08 36.5**	**+1.0**
NRGR				smax				
	comp=E,260nm,0.1s							
CLNS	**Chul'man**	**2.36**	**101**	*e*Pn		**Pn**	**00 08 07.4**	**+0.1**
CLNS				*e*Pg		**Pb**	**00 08 10.0**	**-1.1**
CLNS				*e*Sg		**Sb**	**00 08 40.2**	**-0.1**
CLNS	**Chul'man**	**2.36**	**101**	*e*P		**Pb**	**00 08 10.5**	**-0.6**
CLNS				*e*		**Sb**	**00 08 40.1**	**-0.2**
CLNS				pmax	pmax			
	comp=N,102nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,141nm,0.3s							
CLNS				pmax	pmax			
	comp=E,36nm,0.2s							
CLNS				smax				
	comp=N,975nm,0.3s							
CLNS				smax				
	comp=Z,988nm,0.4s							
CLNS				smax				
	comp=E,943nm,0.2s							
NLYR	**Nelyaty**	**2.86**	**254**	*e*Pn		**Pn**	**00 08 15.1**	**+1.0**
NLYR				*e*Pg		**Pb**	**00 08 19.4**	**-0.1**
NLYR				*e*Sg		**Sg**	**00 08 58.0**	**-2.1**
TUP	**Tupik**	**2.97**	**188**	*e*Pn		**Pn**	**00 08 14.8**	**-0.8**
TUP				*e*Pg		**Pb**	**00 08 20.0**	**-1.4**
TUP				Pmax			00 08 24.4	
	comp=E,711nm,0.7s							
TUP				*e*Sg		**Sb**	**00 08 59.2**	**+1.5**
TUP				Smax			00 09 03.9	
	comp=E,3μm,1.5s							
TUP	**Tupik**	**2.97**	**188**	*e*P		**Pn**	**00 08 15.3**	**-0.3**
TUP				*e*S		**Sn**	**00 08 51.1**	**-0.2**
TUP				pmax	pmax			
	comp=Z,484nm,0.6s							
TUP				smax				
	comp=E,3μm,1.2s							
TNDR	**Tynda**	**3.16**	**133**	*e*Pn		**Pn**	**00 08 18.0**	**-0.3**
TNDR				*e*Pg		**Pb**	**00 08 25.8**	**+1.1**
TNDR				*e*Sn		**Sn**	**00 08 55.0**	**-1.2**
TNDR				*e*Sg		**Sb**	**00 09 05.3**	**+1.9**
BOD	**Bodaibo**	**3.62**	**280**	*e*Pn		**Pn**	**00 08 22.7**	**-1.9**
BOD				*e*Pg		**Pb**	**00 08 31.7**	**-0.8**
BOD				Pmax			00 08 37.7	
	comp=E,184nm,0.9s							
BOD				*e*Sn		**Sn**	**00 09 06.0**	**-1.5**
BOD				*e*Sg		**Sb**	**00 09 18.8**	**+2.3**
BOD				Smax			00 09 26.5	
	comp=E,2μm,0.7s							
BOD	**Bodaibo**	**3.62**	**280**	*e*P		**Pn**	**00 08 24.8**	**+0.2**
BOD				*e*S		**Sn**	**00 09 05.9**	**-1.6**
BOD				pmax	pmax			
	comp=Z,196nm,0.9s							
BOD				smax				
	comp=N,2μm,0.7s							
SVKR	**Severomuysk**	**4.11**	**255**	*e*P		**Pb**	**00 08 42.5**	**+1.6**
SVKR				pmax	pmax			
	comp=Z,298nm,1.2s							
UKT	**Uakit**	**4.34**	**247**	*e*Pn		**Pn**	**00 08 35.6**	**+1.2**
UKT				*e*Pg		**Pb**	**00 08 46.7**	**+2.0**
UKT				Pmax			00 08 51.4	
	comp=Z,108nm,1.0s							
UKT				*e*Sg		Sx	00 09 43.9	
UKT				Smax			00 09 56.7	
	comp=Z,670nm,1.6s							
UKT	**Uakit**	**4.34**	**247**	*e*P		**Pb**	**00 08 46.3**	**+1.6**
UKT				pmax	pmax			
	comp=Z,141nm,0.6s							
YOA	**Uoyan**	**5.08**	**260**	*e*Pg		**Pb**	**00 08 58.7**	**+1.4**
YOA				Pmax			00 09 10.2	
	comp=Z,699nm,1.3s							
YOA				*e*Sg		Sx	00 10 05.8	
YOA				Smax			00 10 24.0	
	comp=Z,4μm,2.6s							
YOA	**Uoyan**	**5.08**	**260**	⇑*i*P		**Pb**	**00 09 00.2**	**+2.9**
YOA				pmax	pmax			
	comp=Z,798nm,1.3s							
KMO	**Kumora**	**5.43**	**258**	*e*Pn		**Pn**	**00 08 51.1**	**+1.6**
KMO				*e*Pg		**Pb**	**00 09 04.8**	**+1.4**
KMO				Pmax			00 09 12.3	
	comp=Z,107nm,1.4s							
KMO				*e*Sg		Sx	00 10 15.2	
KMO				Smax			00 10 27.8	
	comp=Z,1μm,1.6s							
KMO	**Kumora**	**5.43**	**258**	*e*P		**Pn**	**00 08 49.4**	**-0.1**
KMO				*e*S		**Sn**	**00 09 51.8**	**-0.4**
KMO				pmax	pmax			
	comp=Z,23nm,0.6s							
KMO				smax				
	comp=N,1μm,1.5s							
CGD	**Chagda**	**5.46**	**71**	*e*Sg		Sx	00 10 13.0	
YLYR	**Ulyunkhan**	**5.87**	**249**	*e*Pn		**Pn**	**00 08 56.8**	**+1.3**
YLYR				*e*Pg		Px	00 09 13.8	
YLYR				Pmax			00 09 23.9	
	comp=N,47nm,1.3s							
YLYR				*e*Sg		Sx	00 10 31.5	
YLYR				Smax			00 10 41.7	
	comp=N,657nm,1.4s							
NIZ	**Nizh Angarsk**	**6.35**	**260**	*e*		**Pb**	**00 09 16.1**	**-3.0**
NIZ				*e*Sg		Sx	00 10 43.9	
NIZ				Smax			00 11 07.1	
	comp=N,448nm,1.4s							
YAK	**Yakutsk**	**6.54**	**40**	*e*P		**Pn**	**00 09 03.8**	**-0.9**
YAK				*e*			00 10 14.3	
YAK				pmax	pmax			
	comp=Z,14nm,0.6s							
YAK				pmax	pmax			
	comp=N,15nm,1.2s							
YAK				pmax	pmax			
	comp=E,16nm,1.3s							
YAK				smax				
	comp=N,272nm,1.0s							
YAK				smax				
	comp=Z,174nm,0.9s							
YAK				smax				
	comp=E,311nm,1.1s							
YAK				MLR	MLR			
	comp=Z,1μm,6.0s							
YAK	**Yakutsk**	**6.54**	**40**	*e*Pn		**Pn**	**00 09 03.9**	**-0.8**
YAK				*e*Sn		**Sn**	**00 10 15.1**	**-4.3**
YAK				*e*Sg		**Sb**	**00 10 42.7**	**+2.2**
CIT	**Chita**	**6.75**	**221**	*e*Pn		**Pn**	**00 09 09.3**	**+1.7**
CIT				*e*Pg		Px	00 09 29.5	
CIT				Pmax			00 09 32.5	
	comp=Z,85nm,1.3s							
CIT				*e*Sg		Sx	00 10 58.0	
CIT				Smax			00 11 09.0	
	comp=Z,2μm,1.7s							
SYVR	**Suvo**	**7.10**	**243**	*e*Pg		Sx	00 09 37.2	
SYVR				Pmax			00 09 42.0	
	comp=Z,68nm,1.2s							
SYVR				*e*Sg		Sx	00 11 10.3	
SYVR				Smax			00 11 25.8	
	comp=Z,729nm,1.9s							
SYVR	**Suvo**	**7.10**	**243**	*e*P		**Pn**	**00 09 15.5**	**+3.1**
SYVR				pmax	pmax			
	comp=Z,36nm,1.1s							
HIA	**Hailar**	**8.12**	**184**	*e*P		**Pn**	**00 09 24.8**	**-1.7**
HIA				*e*			00 10 55.2	
HIA				pmax	pmax			
	comp=Z,14nm,0.6s							
HIA	**Hailar**	**8.12**	**184**	*e*Pn		**Pn**	**00 09 24.8**	**-1.7**
	comp=Z,14nm,0.6s							
HIA				*e*Sn		**Sn**	**00 10 55.2**	**-3.3**
OGRR	**Ongureny**	**8.30**	**249**	*e*Pg		Px	00 09 59.0	
OGRR				Pmax			00 10 10.9	
	comp=Z,41nm,1.7s							
OGRR				*e*Sg		Sx	00 11 47.7	
OGRR				Smax			00 12 20.7	
	comp=Z,203nm,1.6s							
KPC	**Khapcheranga**	**9.11**	**216**	*e*Sg		Sx	00 12 09.9	
KPC				Smax			00 12 18.4	
	comp=Z,275nm,1.6s							
TRG	**Tyrgan**	**9.41**	**247**	*e*Sg		Sx	00 12 21.3	
TRG				Smax			00 12 32.1	
	comp=Z,98nm,1.6s							
TLY	**Talaya**	**11.40**	**247**	*e*P		**Pn**	**00 10 10.6**	**-0.7**
ULN	**Ulaanbaatar**	**12.58**	**227**	P		**Pn**	**00 10 27.0**	**-0.5**
SONM	**Songino Array**	**12.87**	**228**	Pn		**Pn**	**00 10 32.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=9.5							
SONM				Lg			00 14 10.6	
	comp=Z,1.2nm,0.3s,baz=58,slow=22,SNR=9.0							
SONM				LR		LR	00 15 41.0	
	comp=Z,382nm,19.5s,baz=216,slow=38							
TIXI	**Tiksi**	**14.75**	**10**	*e*P		**Pn**	**00 10 50.6**	**-6.5**
TIXI				pmax	pmax			
	comp=Z,40nm,0.6s							
TIXI	**Tiksi**	**14.75**	**10**	*e*Pn		**Pn**	**00 10 50.6**	**-6.5**
	comp=Z,40nm,0.6s							
TIXI				*e*Sn		**Sn**	**00 13 22.1**	**-19**
SNY	**Shenyang**	**15.65**	**172**	⇑P		**Pn**	**00 11 13.3**	**+4.2**
SNY				AMB	AMB			
	comp=Z,11nm,0.5s							
SNY				AMB	AMB			
	comp=Z,75nm,5.7s							
SNY				LR	LR			
	comp=N,619nm,14.2s							
SNY				LR	LR			
	comp=Z,515nm,14.7s							
MA2	**Magadan**	**15.83**	**69**	P		**Pn**	**00 11 11.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**17.01**	**118**	P		**Pn**	**00 11 25.0**	**-1.4**
BJI	**Beijing**	**17.57**	**191**	*e*P		**Pn**	**00 11 40.3**	**+6.8**
BJI				AMB	AMB			
	comp=Z,9.0nm,0.5s							
BJI				LR	LR			
	comp=N,722nm,9.8s							
BJI				LR	LR			
	comp=E,2μm,9.8s							
BJI				LR	LR			
	comp=Z,522nm,18.8s							
BJI	**Beijing**	**17.57**	**191**	*e*P		**Pn**	**00 11 40.3**	**+6.8**
	comp=Z,9.0nm,0.5s							
BJI				Lg			00 17 10.5	
BJT	**Baijiatuau**	**17.60**	**192**	P		**Pn**	**00 11 33.3**	**-0.5**
ASAJ	**Asahikawa**	**19.07**	**125**	LR		LR	00 18 33.0	
	comp=Z,284nm,18.9s,baz=345,slow=35							
ZAL	**Zalesovo**	**20.38**	**276**	P		**P**	**00 12 05.0**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=39,slow=12,SNR=13							
ZAL				LR		LR	00 21 13.7	
	comp=Z,92nm,20.9s,MS3.1,baz=49,slow=41							
ZAL	**Zalesovo**	**20.38**	**276**	P		**P**	**00 12 05.0**	**-0.3**
ZAL				LR		LR	00 21 13.7	
KSRS	**Korea Array**	**20.48**	**163**	P		**P**	**00 12 07.5**	**+1.0**
	comp=Z,6.2nm,1.1s,baz=341,slow=10,SNR=8.0							
KSRS				LR		LR	00 21 14.4	
	comp=Z,222nm,18.6s,MS3.5,baz=343,slow=40							
NVS	**Novosibirsk**	**20.86**	**279**	*e*P		**P**	**00 12 12.3**	**+1.8**
NVS				pmax	pmax			
	comp=N,17nm,2.0s							
NVS				pmax	pmax			
	comp=E,33nm,2.0s							
NVS				pmax	pmax			
	comp=Z,26nm,2.0s							
GTA	**Gaotai**	**22.52**	**226**	*e*P		**P**	**00 12 32.1**	**+3.8**
GTA				AP			00 12 36.6	
GTA				XP		sP	00 12 39.8	+7.9
GTA				AMB	AMB			
	comp=Z,5.0nm,2.0s,mb3.6							
GTA				AMB	AMB			
	comp=Z,62nm,5.3s							
GTA				LR	LR			
	comp=N,1μm,13.3s,MS4.7							
GTA				LR	LR			
	comp=E,2μm,14.4s,MS4.7							
GTA				LR	LR			
	comp=Z,1μm,8.7s							
BILL	**Bilibino**	**22.88**	**44**	*e*P		**P**	**00 12 28.8**	**-3.4**
BILL				pmax	pmax			
	comp=Z,18nm,1.7s,mb4.2							
BILL	**Bilibino**	**22.88**	**44**	Pn		**P**	**00 12 28.2**	**-4.0**
MJAR	**Matsushiro Arr**	**23.88**	**143**	LR		LR	00 21 52.9	
	comp=Z,176nm,19.3s,MS3.5,baz=320,slow=36							
JNU	**Nakatsue**	**25.22**	**160**	LR		LR	00 22 38.1	
	comp=Z,509nm,18.1s,MS4.1,baz=304,slow=36							
MKAR	**Makanchi Array**	**25.51**	**262**	P		**P**	**00 12 57.3**	**+0.2**
	comp=Z,2.8nm,0.7s,mb3.9,baz=54,slow=6.7,SNR=12							
SSE	**Sheshan**	**26.26**	**179**	P		**P**	**00 13 02.4**	**-1.5**
SSE				XP		sP	00 13 11.3	+3.8
SSE				S		**S**	**00 17 32.8**	**-3.6**
SSE				AMB	AMB			
	comp=Z,31nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,115nm,5.7s							
SSE				LR	LR			
	comp=N,156nm,12.6s,MS3.8							
SSE				LR	LR			
	comp=E,86nm,12.6s,MS3.8							
SSE				LR	LR			
	comp=Z,211nm,13.6s,MS3.9							
SSE	**Sheshan**	**26.26**	**179**	P		**P**	**00 13 02.4**	**-1.5**
	comp=Z,31nm,0.7s,mb5.0							
SSE				sP		sP	00 13 11.2	+3.7
SSE				S		**S**	**00 17 32.8**	**-3.6**
SSE				sS		sS	00 17 43.1	+2.4
SSE				LR	LR			
	comp=Z,210nm,13.6s,MS3.8							
BVAR	**Borovoye Array**	**28.48**	**283**	P		**P**	**00 13 23.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=63,slow=9.1,SNR=10							
BVAR				LR		LR	00 24 47.8	
	comp=Z,153nm,18.2s,MS3.6,baz=233,slow=37							
BRVK	**Borovoye**	**28.52**	**283**	*e*P		**P**	**00 13 23.1**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
BRVK	**Borovoye**	**28.52**	**283**	*e*Pn		**P**	**00 13 23.1**	**-1.1**
	comp=Z,1.6nm,0.6s,mb3.9							
JOW	**Kunigami**	**30.98**	**167**	LR		LR	00 27 23.9	
	comp=Z,300nm,18.4s,MS4.0,baz=282,slow=39							
AAK	**Ala-Archa**	**32.43**	**263**	*e*P		**P**	**00 13 58.1**	**-0.6**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.0							
ARU	**Arti**	**32.90**	**295**	*e*P		**P**	**00 14 01.4**	**-1.4**
ARU				*e*			00 15 10.0	
ARU				*e*			00 16 41.8	
ARU				*e*S		**S**	**00 19 19.6**	**-1.0**
ARU				*e*SS		SS	00 21 18.8	-23
ARU				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.6							
ARU				MLR	MLR			
	comp=N,50nm,13.0s,MS3.6							
ARU				MLR	MLR			
	comp=E,80nm,15.0s,MS3.6							
NACB	**Ninganchiao**	**33.16**	**178**	*e*Pn		**P**	**00 14 04.0**	**-1.0**
JIRN	**Jiri**	**38.34**	**234**	*e*P		**P**	**00 14 53.0**	**+3.5**
KKN	**Kakani**	**38.63**	**235**	*e*P		**P**	**00 14 53.1**	**+1.1**
GKN	**Gorkha**	**38.73**	**236**	*e*P		**P**	**00 14 54.6**	**+1.7**
	comp=E,28nm,1.0s,mb5.0							
DMN	**Daman**	**38.86**	**235**	*e*P		**P**	**00 14 55.9**	**+2.0**
KEV	**Kevo**	**39.13**	**327**	*e*p		**P**	**00 14 52.7**	**-3.4**
KOLN	**Koldanda**	**39.40**	**237**	*e*P		**P**	**00 15 00.2**	**+1.7**
ARCES	**ARCESS Array B**	**39.69**	**327**	P		**P**	**00 14 59.2**	**-1.6**
	comp=E,5.0nm,0.9s,mb4.3,baz=58,slow=9.1,SNR=6.7							
ARCES				LR		LR	00 35 21.1	
	comp=E,212nm,20.0s,MS4.0,baz=71,slow=42							
INK	**Inuvik**	**43.51**	**31**	P		**P**	**00 15 31.9**	**-0.3**
	comp=E,2.8nm,1.0s,mb3.9,baz=311,slow=17,SNR=4.6							
INK	**Inuvik**	**43.51**	**31**	P		**P**	**00 15 31.9**	**-0.3**
INK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	**43.51**	**31**	P		**P**	**00 15 30.6**	**-1.6**
	comp=Z,94nm,1.0s,mb5.5							
FINES	**FINESS Array B**	**44.26**	**317**	P		**P**	**00 15 37.0**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.4,baz=43,slow=7.8,SNR=17							
FINES				LR		LR	00 34 09.1	
	comp=Z,206nm,20.2s,MS4.0,baz=151,slow=36							
NB2	**NORSAR Subarra**	**49.74**	**323**	P		**P**	**00 16 19.5**	**-1.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=40,slow=7.4							
NOA	**NORSAR Array B**	**49.74**	**323**	P		**P**	**00 16 19.4**	**-1.5**
	comp=Z,1.5nm,0.4s,mb4.3,baz=43,slow=7.8,SNR=7.3							
NOA				LR		LR	00 38 28.6	
	comp=Z,128nm,19.7s,MS3.9,baz=40,slow=37							
NAO01	**NORSAR Array S**	**49.99**	**323**	*e*P		**P**	**00 16 22.2**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.6							
AKASG	**Malin Array Be**	**50.22**	**304**	P		**P**	**00 16 23.9**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=41,slow=8.5,SNR=15							
YKA	**Yellowknife Ar**	**53.06**	**29**	LR		LR	00 43 32.9	
	comp=Z,56nm,18.0s,MS3.7,baz=165,slow=41							
KWP	**Kalwaria**	**53.87**	**307**	*e*P		**P**	**00 16 51.9**	**+0.1**
KWP				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7							
KWP	**Kalwaria**	**53.87**	**307**	*e*P		**P**	**00 16 51.9**	**+0.1**
	comp=Z,11nm,1.0s,mb4.7							
BURAR	**Bucovina Array**	**54.27**	**304**	⇑*i*P		**P**	**00 16 55.5**	**+0.8**
BURAR	**Bucovina Array**	**54.27**	**304**	⇑P		**P**	**00 16 55.5**	**+0.7**
KOLS	**Kolonicke sedl**	**54.58**	**307**	*e*P		**P**	**00 16 57.8**	**+0.8**
TIRR	**Tirgusor**	**55.16**	**299**	⇓*i*P		**P**	**00 17 03.0**	**+1.8**
TIRR	**Tirgusor**	**55.16**	**299**	⇓P		**P**	**00 17 03.0**	**+1.7**
KECS	**Kecovo**	**55.70**	**308**	*e*P		**P**	**00 17 04.7**	**-0.4**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
KECS	**Kecovo**	**55.70**	**308**	*e*P		**P**	**00 17 04.7**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.3							
MORC	**Moravsky Berou**	**55.94**	**310**	⇑*i*P		**P**	**00 17 07.1**	**+0.3**
MORC	**Moravsky Berou**	**55.94**	**310**	⇑P		**P**	**00 17 07.0**	**+0.2**
DPC	**Dobruska-Polom**	**56.00**	**312**	*e*P		**P**	**00 17 07.2**	**0.0**
UPC	**Upice**	**56.00**	**312**	*e*P		**P**	**00 17 06.8**	**-0.5**
DRGR		**56.01**	**305**	⇑*i*P		**P**	**00 17 07.6**	**+0.3**
DRGR		**56.01**	**305**	⇑P		**P**	**00 17 07.6**	**+0.3**
BRTR	**Keskin Array B**	**56.18**	**292**	P		**P**	**00 17 07.3**	**-1.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=144,slow=4.6,SNR=3.2							
BRTR				LR		LR	00 45 54.1	
	comp=Z,80nm,19.0s,MS3.8,baz=120,slow=41							
PSZ	**Piszkesteto**	**56.38**	**307**	⇑*i*P		**P**	**00 17 11.6**	**+1.6**
PSZ	**Piszkesteto**	**56.38**	**307**	⇑P		**P**	**00 17 11.6**	**+1.7**
VYHS	**Vyhne**	**56.39**	**309**	*e*P		**P**	**00 17 09.7**	**-0.3**
PVCC	**Panska Ves**	**56.56**	**313**	*e*P		**P**	**00 17 10.7**	**-0.6**
CLL	**Collm**	**56.57**	**314**	*i* P		**P**	**00 17 10.1**	**-1.2**
	comp=Z,6.0nm,0.7s,mb4.7							
VRAC	**Vranov**	**56.70**	**311**	⇑*i*P		**P**	**00 17 13.7**	**+1.5**
VRAC	**Vranov**	**56.70**	**311**	⇑P		**P**	**00 17 13.7**	**+1.5**
SMOL	**Smolenice**	**56.97**	**309**	*e*P		**P**	**00 17 14.3**	**+0.2**
PRU	**Pruhonice**	**57.00**	**312**	*e*P		**P**	**00 17 14.1**	**-0.2**
ZST	**Bratislava**	**57.35**	**309**	*e*P		**P**	**00 17 14.2**	**-2.6**
NKC	**Novy Kostel**	**57.63**	**314**	*e*P		**P**	**00 17 19.0**	**+0.2**
KHC	**Kasperske Hory**	**58.06**	**312**	*e*P		**P**	**00 17 21.7**	**-0.1**
GERES	**GERESS Array B**	**58.24**	**312**	P		**P**	**00 17 22.8**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=40,slow=6.5,SNR=18							
GERES				LR		LR	00 44 35.3	
	comp=Z,189nm,18.1s,MS4.2,baz=279,slow=38							
PKSM	**Moragy**	**58.25**	**307**	⇑*i*P		**P**	**00 17 22.5**	**-0.6**
PKSM	**Moragy**	**58.25**	**307**	⇑P		**P**	**00 17 22.5**	**-0.6**
LOR	**Lormes**	**63.33**	**317**	*e*P		**P**	**00 17 59.1**	**+1.4**
AQU	**L'Aquila**	**63.59**	**308**	*e*P		**P**	**00 17 59.5**	**0.0**
SSF	**Saint Saulge**	**63.63**	**317**	*e*P		**P**	**00 17 59.7**	**-0.1**
	comp=Z,20nm,1.2s,mb4.7							
SSF	**Saint Saulge**	**63.63**	**317**	*e*P		**P**	**00 17 59.7**	**-0.1**
SSF				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.7							
SSF	**Saint Saulge**	**63.63**	**317**	*e*P		**P**	**00 17 59.7**	**-0.1**
	comp=Z,10nm,1.2s,mb4.7							
LPL	**La Plagne**	**63.71**	**314**	*e*P		**P**	**00 18 00.6**	**+0.4**
LPG	**La Plagne**	**63.72**	**314**	*e*P		**P**	**00 18 00.9**	**+0.6**
	comp=Z,24nm,1.1s,mb4.8							
LPG	**La Plagne**	**63.72**	**314**	*e*P		**P**	**00 18 00.9**	**+0.6**
LPG				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8							
LPG	**La Plagne**	**63.72**	**314**	*e*P		**P**	**00 18 00.9**	**+0.6**
	comp=Z,12nm,1.1s,mb4.8							
AVF	**Avril sur Loir**	**63.92**	**317**	*e*P		**P**	**00 18 03.1**	**+1.5**
MBDF	**Montbardon**	**64.35**	**314**	*e*P		**P**	**00 18 05.4**	**+0.9**
	comp=Z,7.7nm,0.7s,mb4.6							
MBDF	**Montbardon**	**64.35**	**314**	*e*P		**P**	**00 18 05.4**	**+0.9**
MBDF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
MBDF	**Montbardon**	**64.35**	**314**	*e*P		**P**	**00 18 05.4**	**+0.9**
	comp=Z,3.8nm,0.7s,mb4.5							
FRF	**La Foret Royal**	**65.38**	**313**	*e*P		**P**	**00 18 11.7**	**+0.5**
	comp=Z,29nm,1.1s,mb4.9							
FRF	**La Foret Royal**	**65.38**	**313**	*e*P		**P**	**00 18 11.7**	**+0.5**
FRF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
FRF	**La Foret Royal**	**65.38**	**313**	*e*P		**P**	**00 18 11.7**	**+0.5**
	comp=Z,14nm,1.1s,mb4.9							
LFF	**La Frestale**	**66.45**	**318**	*e*P		**P**	**00 18 19.1**	**+1.0**
	comp=Z,40nm,1.2s,mb5.0							
LFF	**La Frestale**	**66.45**	**318**	*e*P		**P**	**00 18 19.1**	**+1.0**
LFF				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.0							
LFF	**La Frestale**	**66.45**	**318**	*e*P		**P**	**00 18 19.1**	**+1.0**
	comp=Z,20nm,1.2s,mb5.0							
CHMT	**Chamberlain Mo**	**66.86**	**37**	*e*P		**P**	**00 18 19.7**	**-0.9**
BMO	**Blue Mountains**	**67.28**	**41**	*e*P		**P**	**00 18 23.5**	**+0.2**
SCHQ	**Schefferville**	**68.00**	**5**	P		**P**	**00 18 26.8**	**-1.2**
	comp=Z,3.5nm,0.8s,mb4.4,baz=4.5,slow=7.4,SNR=3.4							
SCHQ				LR		LR	00 49 30.2	
	comp=Z,85nm,18.9s,MS4.0,baz=58,slow=37		

comp=Z,29nm,18.9s,MS3.7,baz=319,slow=36
TORD Torodi Ar. Bea 93.78 301 P **P** **00 20 43.9 -1.9**
comp=Z,0.3nm,0.5s,mb4.0,baz=18,slow=4.5,SNR=7.3
TORD LR LR 01 10 10.7
comp=Z,55nm,20.6s,MS4.0,baz=195,slow=40
VNA2 Neumayer--Watz 154.63 217 *e*PKPdf PKPbc 00 27 27.4 -2.3
VNA2 *e* 00 27 33.9
VNA2 *e* 00 27 43.5
VNA2 *e* 00 27 45.9
VNA2 *e* 00 27 59.4
VNA2 *e* 00 28 05.1
VNA1 Neumayer--Stat 154.94 218 *e*PKPdf PKPbc 00 27 28.4 -1.9
VNA1 *e* 00 27 36.3
VNA1 *e* 00 27 43.2
VNA1 *e* 00 27 46.3

ISCJB ***20*** *00:11:34.3±0.4,5727N±004×12028E±003,h10km, mb3.8/11,Error ellipse: s-maj=5.2km s-min=2.6km az=4.4*
IDC ***20*** *00:11:34.8±0.9,5735N×12064E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.7/23,mbtmp3.8/8,Error ellipse: s-maj=48.2km s-min=21.5km az=61.0*
MOS ***20*** *00:11:35.8±1.6,5767N×12067E,h7km,mb4.1/6,Error ellipse: s-maj=20.8km s-min=13.5km az=89.3*
BYKL ***20*** *00:11:36.4±0.6,5740N×12076E,h5km±22km*
ISC 20 00:11:36.0±0.4**,5730N**±003×**12045E**±003**,h10**km**,n42,** σ1§**25**/53**,mb3.8**/11**,1D,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNR	**Khani**	**0.46**	**215**	*e*Pg		**Pg**	**00 11 48.1**	**+3.2**
KHNR				*e*Sg		**Sg**	**00 11 55.9**	**+5.0**
CRS	**Chara**	**1.26**	**252**	*e*Pg		**Pg**	**00 12 02.9**	**+2.8**
CRS				Pmax			00 12 05.9	
	645nm,0.8s							
CRS				*e*Sg		**Sg**	**00 12 21.1**	**+4.7**
CRS				Smax			00 12 26.0	
	959nm,1.2s							
CRS	**Chara**	**1.26**	**252**	*e*P		**Pg**	**00 12 02.9**	**+2.8**
CRS				*e*			00 12 21.0	
CRS				pmax	pmax			
	comp=Z,662nm,0.8s							
CRS				smax				
	comp=N,997nm,1.2s							
NRGR	**Nerungri**	**2.42**	**104**	*e*P		**Pn**	**00 12 16.9**	**+1.2**
NRGR				S		**Sn**	**00 12 45.8**	**+0.4**
NRGR				smax				
	comp=E,139nm,0.1s							
CLNS	**Chul'man**	**2.47**	**99**	*e*Pn		**Pn**	**00 12 15.5**	**-0.8**
CLNS				*e*Pg		**Pb**	**00 12 18.8**	**-1.6**
CLNS				*e*Sg		**Sb**	**00 12 49.4**	**-1.5**
CLNS	**Chul'man**	**2.47**	**99**	*e*P		**Pb**	**00 12 18.8**	**-1.6**
CLNS				*e*			00 12 49.4	
CLNS				pmax	pmax			
	comp=E,36nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,69nm,0.3s							
CLNS				pmax	pmax			
	comp=N,68nm,0.4s							
CLNS				smax				
	comp=N,3μm,0.5s							
CLNS				smax				
	comp=Z,528nm,0.3s							
CLNS				smax				
	comp=E,2μm,0.4s							
NLYR	**Nelyaty**	**2.73**	**255**	*e*Pg		**Pg**	**00 12 28.3**	**0.0**
NLYR				*e*Sg		**Sg**	**00 13 05.4**	**+1.8**
TUP	**Tupik**	**2.89**	**186**	*e*Pn		**Pb**	**00 12 25.2**	**-2.4**
TUP				*e*Pg		**Pg**	**00 12 30.7**	**-0.7**
TUP				Pmax			00 12 32.9	
	comp=E,619nm,0.7s							
TUP				*e*Sg		**Sg**	**00 13 08.4**	**-0.5**
TUP				Smax			00 13 09.8	
	comp=E,1μm,1.0s							
TUP	**Tupik**	**2.89**	**186**	*e*P		**Pg**	**00 12 30.8**	**-0.6**
TUP				*e*			00 13 08.2	
TUP				pmax	pmax			
	comp=Z,625nm,0.7s							
TUP				smax				
	comp=E,1μm,0.9s							
TNDR	**Tynda**	**3.21**	**130**	*e*Pg		**Pb**	**00 12 33.0**	**-0.1**
TNDR				*e*Sn		**Sn**	**00 13 04.5**	**-0.3**
TNDR				*e*Sg		**Sb**	**00 13 13.8**	**+1.5**
BOD	**Bodaibo**	**3.51**	**281**	*e*Pg		**Pg**	**00 12 41.8**	**-1.5**
BOD				Pmax			00 12 47.1	
	comp=E,85nm,1.3s							
BOD				*e*Sg		**Sg**	**00 13 27.5**	**-1.3**
BOD				Smax			00 13 38.3	
	comp=E,633nm,1.5s							
UKT	**Uakit**	**4.20**	**247**	*e*Sg		**Sg**	**00 13 51.6**	**+0.6**
UKT				Smax			00 14 01.6	
	comp=E,279nm,1.5s							
KROS	**Kirovskiy**	**4.66**	**125**	*e*Pg		**Pb**	**00 12 58.4**	**+0.6**
KROS				*e*Sg		**Sb**	**00 13 54.4**	**+0.5**
YOA	**Uoyan**	**4.95**	**260**	*e*Sg		**Sg**	**00 14 15.9**	**+1.0**
YOA				Smax			00 14 33.8	
	comp=E,3μm,1.6s							
KMO	**Kumora**	**5.30**	**258**	*e*Sg		**Sg**	**00 14 25.6**	**-0.7**
KMO				Smax			00 14 38.7	
	comp=E,440nm,1.4s							
CGD	**Chagda**	**5.60**	**71**	*e*Sg		**Sb**	**00 14 21.6**	**+0.7**
YLYR	**Ulyunkhan**	**5.74**	**249**	*e*Sg		**Sg**	**00 14 40.9**	**+0.7**
YLYR				Smax			00 14 54.2	
	comp=E,279nm,1.0s							
YLYR	**Ulyunkhan**	**5.74**	**249**	*e*P		**Pg**	**00 13 24.6**	**-1.3**
NIZ	**Nizh Angarsk**	**6.23**	**260**	*e*Sg		**Sg**	**00 14 55.5**	**-0.4**
NIZ				Smax			00 15 15.4	
	comp=E,174nm,2.0s							
CIT	**Chita**	**6.63**	**220**	*e*Sg		**Sg**	**00 15 07.3**	**-1.4**
CIT				Smax			00 15 17.6	
	comp=E,835nm,1.5s							
YAK	**Yakutsk**	**6.66**	**41**	*e*P		**Pn**	**00 13 10.5**	**-3.4**
SYVR	**Suvo**	**6.97**	**243**	*e*Sg		**Sg**	**00 15 17.0**	**-2.6**
SYVR				Smax			00 15 26.1	
	comp=E,383nm,1.6s							
KPC	**Khapcheranga**	**8.99**	**216**	*e*Sg		Sx	00 16 20.9	
KPC				Smax			00 16 29.1	
	comp=E,153nm,1.3s							
SONM	**Songino Array**	**12.74**	**228**	Lg			00 18 21.6	
	comp=E,0.5nm,0.3s,baz=38,slow=34,SNR=5.5							
KSRS	**Korea Array**	**20.46**	**163**	P		**P**	**00 16 18.2**	**+4.6**
	comp=E,1.1nm,0.7s,baz=348,slow=13,SNR=3.1							
BILL	**Bilibino**	**23.01**	**44**	*e*P		**P**	**00 16 39.9**	**-1.1**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb3.9							
AAK	**Ala-Archa**	**32.30**	**263**	*e*P		**P**	**00 18 09.4**	**+4.4**
AAK				pmax	pmax			
	comp=Z,1.0nm,1.3s,mb3.5							
ARU	**Arti**	**32.82**	**295**	⇓*i*P		**P**	**00 18 12.5**	**+3.0**
ARU				*e*			00 19 18.7	
ARU				*e*			00 20 56.0	
ARU				*e*S		**S**	**00 23 30.9**	**+4.2**
ARU				*e*SS		SS	00 25 31.6	-16
ARU				*e*			00 28 44.9	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.3							
FINES	**FINESS Array B**	**44.23**	**317**	P		**P**	**00 19 45.7**	**+0.4**
	comp=Z,2.0nm,0.7s,mb3.9,baz=38,slow=13,SNR=4.4							
FINES	**FINESS Array B**	**44.23**	**317**	*e*P		**P**	**00 19 45.7**	**+0.4**
NOA	**NORSAR Array B**	**49.72**	**323**	P		**P**	**00 20 28.0**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=41,slow=7.6,SNR=3.4							
NOA	**NORSAR Array B**	**49.72**	**323**	P		**P**	**00 20 28.0**	**-0.2**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**50.15**	**304**	P		**P**	**00 20 31.5**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=40,slow=8.1,SNR=4.0							
AKASG	**Malin Array Be**	**50.15**	**304**	*e*P		**P**	**00 20 34.2**	**+2.6**
GERES	**GERESS Array B**	**58.19**	**312**	P		**P**	**00 21 30.6**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=45,slow=7.7,SNR=5.5							
GERES	**GERESS Array B**	**58.19**	**312**	P		**P**	**00 21 30.6**	**+0.4**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**71.87**	**36**	P		**P**	**00 22 58.9**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=5.2,slow=3.3,SNR=3.7							
FITZ	**Fitzroy Crossi**	**75.23**	**175**	P		**P**	**00 23 19.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=34,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**77.81**	**167**	P		**P**	**00 23 33.7**	**+0.1**
	comp=Z,1.4nm,1.0s,mb3.9,baz=348,slow=6.8,SNR=4.8							
WRA	**Warramunga Arr**	**77.81**	**167**	*e*P		**P**	**00 23 36.3**	**+2.8**
ASAR	**Alice Springs**	**81.44**	**168**	P		**P**	**00 23 53.9**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=359,slow=4.9,SNR=5.3							
ASAR	**Alice Springs**	**81.44**	**168**	P		**P**	**00 23 53.9**	**+0.7**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

IDC 20 00:20:31.1±10.0**,200S**×**13435E,h0**km**,mb3.7**/2**, mb1 3.9**/4**,mb1mx3.6**/15**,mbtmp3.7**/4**,ML3.4**/2**,Error ellipse: s-maj=155.6km s-min=76.3km az=170.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.83**	**180**	P		Pn	00 24 39.0	-1.6
	0.1nm,0.3s,baz=360,slow=11,SNR=5.1							
FITZ	**Fitzroy Crossi**	**18.14**	**208**	P		Pn	00 24 43.6	-0.7
	0.1nm,0.3s,baz=25,slow=14,SNR=3.2							
ASAR	**Alice Springs**	**21.54**	**181**	P		P	00 25 23.6	+1.8
	1.3nm,0.7s,baz=7.9,slow=12,SNR=16							
STKA	**Stephens Creek**	**30.49**	**168**	P		P	00 26 45.7	0.0
	1.1nm,0.7s,baz=356,slow=13,SNR=3.1							

CSEM ***20*** *00:22:19.2,6786N×2020E,h7km,ML2.9,Mining explosion. After UPP*
UPP ***20*** *00:22:19.2,6786N×2020E,h7km,ML2.9,Mining explosion.*
HEL 20 00:22:19.5±0.0**,6786N**×**2019E,h0**km**,ML2.9**(UPP)**, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**30**	*i* P		Pg	00 22 21.4	-0.2
KUA				*i* S		Sg	00 22 23.0	0.0
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P		Pg	00 22 27.4	-0.5
LANU	**Lannavaara**	**0.70**	**73**	*i* P		Pg	00 22 32.3	-0.7
LANU	**Lannavaara**	**0.70**	**73**	P		Pg	00 22 32.3	-0.7
	baz=300							
DUNU	**Dundret**	**0.76**	**169**	*i* P		Pg	00 22 33.1	-0.9
DUNU	**Dundret**	**0.76**	**169**	P		Pg	00 22 33.1	-0.9
	baz=72							
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P		Pg	00 22 33.9	-1.0
SALU	**Saltoluokta**	**0.81**	**234**	*i* P		Pg	00 22 34.0	-1.0
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P		Pg	00 22 42.0	0.0
KIF				*e*S		Sg	00 22 57.3	+0.1
PAJU	**Pajala**	**1.41**	**125**	*e*P		Pn	00 22 44.4	-2.0
HARU	**Harads**	**1.73**	**169**	*e*P		Pn	00 22 50.1	-0.7

STR ***20*** *00:23:16.5±0.0,4302N×002W,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 20 00:23:15.7±0.1**,4304N×002W,h9**km**,Md1.5**/3**,Ml1.2**/2**, Error ellipse: s-maj=3.0km s-min=1.3km az=173.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**82**	Pg		Pg	00 23 18.2	+0.5
LABF				Sg		Sg	00 23 19.5	+0.3
VIEF	**Viey**	**0.16**	**169**	Pg		Pg	00 23 19.4	+0.3
VIEF				Sg		Sg	00 23 21.6	+0.2
EPF	**Esparros**	**0.26**	**91**	*e*Pg		Pg	00 23 20.8	-0.2
EPF				*e*Sg		Sg	00 23 24.8	+0.3
	2.0nm,0.2s							
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg		Pg	00 23 24.1	+0.2
ETSF				*e*Sg		Sg	00 23 30.1	+0.6
	2.6nm,0.3s							
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg		Pg	00 23 32.4	-0.4
SJPF				*e*Sg		Sg	00 23 43.5	-0.8
	0.4nm,0.2s							
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg		Pg	00 23 47.0	-0.6
MTLF				*e*Sg		Sg	00 24 08.3	-0.9
	0.6nm,0.4s							

IDC 20 00:24:14.9±27.0**,4773N**×**15462E,h0**km**,mb3.9**/4**, mb1 4.0**/4**,mb1mx3.5**/23**,mbtmp3.9**/4**,Error ellipse: s-maj=584.6km s-min=89.5km az=154.0,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAL	**Zalesovo**	**42.89**	**305**	P		P	00 32 14.1	-1.0
	0.5nm,0.3s,baz=314,slow=24,SNR=2.7							
MKAR	**Makanchi Array**	**47.41**	**297**	P		P	00 32 50.6	-0.3
	0.5nm,0.6s,baz=74,slow=6.4,SNR=3.9							
BVAR	**Borovoye Array**	**51.03**	**309**	P		P	00 33 18.7	0.0
	1.2nm,0.4s,baz=55,slow=7.6,SNR=16							
FINES	**FINESS Array B**	**63.59**	**335**	P		P	00 34 46.8	-0.6
	1.5nm,1.0s,baz=31,slow=6.5,SNR=7.2							

ISCJB ***20*** *00:24:36.8±0.9,463N±01.0×1547E±02,h10km,mb3.9/8, Error ellipse: s-maj=21.4km s-min=19.1km az=77.9*
IDC ***20*** *00:24:37.2±1.0,4638N×15483E,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.8/22,mbtmp3.8/8,Error ellipse: s-maj=33.0km s-min=24.8km az=177.0*
MOS ***20*** *00:24:41.8±2.0,4657N×15469E,h33km,mb4.1/6,Error ellipse: s-maj=42.0km s-min=23.1km az=81.8*
ISC 20 00:24:38.6±0.9**,463N**±01×**1547E**±02**,h10**km**,n17,** σ0§**87**/17**,mb3.9**/8**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.48**	**12**	*e*PN		**Pn**	**00 25 47.4**	**+0.9**
MJAR	**Matsushiro Arr**	**15.73**	**238**	Pn		**Pn**	**00 28 26.2**	**+6.1**
	0.3nm,0.3s,baz=39,slow=16,SNR=4.0							
MJAR	**Matsushiro Arr**	**15.73**	**238**	P		**Pn**	**00 28 26.2**	**+6.0**
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**00 33 18.1**	**-0.5**
	0.8nm,0.8s,mb3.8,baz=61,slow=7.7,SNR=2.8							
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**00 33 18.1**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**00 33 46.6**	**-1.3**
	comp=Z,1.2nm,0.9s,mb3.8,baz=46,slow=8.6,SNR=3.0							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**00 33 46.6**	**-1.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NVAR	**Mina Array Bea**	**61.66**	**63**	P		**P**	**00 34 56.4**	**-0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=291,slow=9.2,SNR=6.3							
PDAR	**Pinedale Array**	**64.12**	**55**	P		**P**	**00 35 12.3**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.8,baz=324,slow=4.5,SNR=7.3							
FINES	**FINESS Array B**	**64.90**	**336**	P		**P**	**00 35 18.1**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=46,slow=8.2,SNR=1.8							
FINES	**FINESS Array B**	**64.90**	**336**	P		**P**	**00 35 18.1**	**0.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**68.99**	**342**	P		**P**	**00 35 45.5**	**+1.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=26,slow=6.4,SNR=3.3							
NOA	**NORSAR Array B**	**68.99**	**342**	P		**P**	**00 35 45.5**	**+1.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**72.15**	**200**	P		**P**	**00 36 04.5**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=14,slow=5.4,SNR=5.9							
ASAR	**Alice Springs**	**72.15**	**200**	P		**P**	**00 36 04.6**	**+1.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**76.75**	**61**	P		**P**	**00 36 29.6**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=297,slow=4.0,SNR=20							
TXAR	**Lajitas Array**	**76.75**	**61**	P		**P**	**00 36 29.6**	**-0.6**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							

LDG ***20*** *00:27:32.6±0.1,4300N×001W,h4km,Md1.9/3,Ml1.7/5, Error ellipse: s-maj=1.0km s-min=0.8km az=153.0*
STR ***20*** *00:27:33.0±0.1,4300N×001E,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 20 00:27:33.2±0.3**,4301N×000W,h0**km**,mbLg1.2**/11**,1C, Error ellipse: s-maj=2.3km s-min=1.9km az=138.0, PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**53**	Pg		Pg	00 27 34.5	0.0
LABF				Sg		Sg	00 27 35.7	+0.3
LABF	**Labassere**	**0.07**	**53**	Pg		Pg	00 27 34.5	0.0
LABF				Lg			00 27 35.8	
VIEF	**Viey**	**0.12**	**171**	Pg		Pg	00 27 35.5	0.0
VIEF				Sg		Sg	00 27 37.5	+0.4
VIEF	**Viey**	**0.12**	**171**	Pg		Pg	00 27 35.6	+0.1
VIEF				Lg			00 27 37.5	
EPF	**Esparros**	**0.25**	**84**	*e*Pg		Pg	00 27 37.5	-0.5
EPF				*e*Sg		Sg	00 27 41.1	-0.2
	9.5nm,0.2s							
EPF	**Esparros**	**0.25**	**84**	Pg		Pg	00 27 37.5	-0.5
EPF				Lg			00 27 41.1	
	4.8nm,0.2s							
RESF	**Ens**	**0.32**	**128**	Pg		Pg	00 27 38.9	-0.4
RESF				Sg		Sg	00 27 43.5	+0.1
RESF	**Ens**	**0.32**	**128**	Pg		Pg	00 27 38.9	-0.3
RESF				Lg			00 27 43.5	
EBIE	**Bielsa**	**0.34**	**161**	⇑Pg		Pg	00 27 39.3	-0.3
	1.6nm,0.0s,SNR=18							
EBIE				Lg			00 27 43.9	
	10nm,0.1s,SNR=7.3							
ETSF	**Etsaut**	**0.42**	**256**	*e*Pg		Pg	00 27 40.9	-0.3
ETSF				*e*Sg		Sg	00 27 46.3	-0.4
	4.8nm,0.3s							
ETSF	**Etsaut**	**0.42**	**256**	Pg		Pg	00 27 40.9	-0.3
ETSF				Lg			00 27 46.3	
	2.4nm,0.3s							
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg		Pg	00 27 49.3	-1.2
SJPF				*e*Sg		Sg	00 28 01.2	-0.9
	1.4nm,0.3s							
SJPF	**Ste Jean**	**0.90**	**277**	Pg		Pg	00 27 49.3	-1.2
SJPF				Lg			00 28 01.2	
	0.7nm,0.3s							
ELIZ	**Elizondo**	**1.13**	**279**	Pg		Pg	00 27 55.1	+0.3
	0.2nm,0.1s,SNR=7.9							
ELIZ				Lg			00 28 12.5	
	1.3nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**1.33**	**195**	Pg		Pg	00 27 58.1	-0.5
	1.5nm,0.1s,SNR=7.9							
ESAC				Lg			00 28 18.0	
	5.0nm,0.4s,SNR=9.0							
EMIR	**Miracle**	**1.57**	**133**	Pg		Pg	00 28 04.4	+1.1
	1.1nm,0.2s,SNR=4.0							
EMIR				Lg			00 28 23.0	
	3.4nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg		Pg	00 28 03.8	-1.2
MTLF				*e*Sg		Sg	00 28 25.0	-1.5
	2.1nm,0.4s							
MTLF	**Montolieu**	**1.66**	**78**	Pg		Pg	00 28 03.8	-1.2
MTLF				Lg			00 28 25.0	
	1.1nm,0.4s							
EPOB	**Poblet**	**1.84**	**154**	Pg		Pg	00 28 08.4	0.0
	0.2nm,0.1s,SNR=7.9							
EPOB				Sn		Sn	00 28 28.3	-1.6
	0.1nm,0.1s,SNR=7.9							
EPOB				Lg			00 28 31.0	
	2.5nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.01**	**15**	*e*Pg		Pg	00 28 10.2	-1.4
LFF				*e*Sg		Sg	00 28 36.3	-1.4
	3.6nm,0.4s							
LFF	**La Frestale**	**2.01**	**15**	Pg		Pg	00 28 10.2	-1.4
LFF				Lg			00 28 36.3	
	1.8nm,0.4s							
ERTA	**Horta de San J**	**2.06**	**173**	Lg			00 28 38.5	
	3.3nm,0.4s,SNR=7.9							
CAF	**Calviac**	**2.43**	**37**	*e*Pg		Pg	00 28 17.6	-2.2
CAF				*e*Sg		Sg	00 28 49.2	-2.1
	0.9nm,0.3s							
CAF	**Calviac**	**2.43**	**37**	Pg		Pg	00 28 17.6	-2.2
CAF				Lg			00 28 49.2	
	0.4nm,0.3s							
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Pg		Pg	00 28 20.0	-2.0
RJF				*e*Sg		Sg	00 28 52.8	-2.2
	0.5nm,0.2s							
RJF	**Les Rejaudoux**	**2.55**	**25**	Pg		Pg	00 28 20.0	-2.0
RJF				Lg			00 28 52.8	
	0.2nm,0.2s							

NEIC ***20*** *00:45:35.0±0.2,4617N×15423E,h10km,mb4.8/41,Error ellipse: s-maj=6.9km s-min=4.3km az=172.0*
ISCJB ***20*** *00:45:34.1±0.3,4624N±005×15428E±004,h13km, mb4.6/88,MS4.1/27,Error ellipse: s-maj=7.3km s-min=3.6km az=154.4*
SKHL ***20*** *00:45:35.3±1.1,4635N×15429E,h51km±22km,Ms4.5/3*
BJI ***20*** *00:45:35.1,4688N×154.11E,h10km,mB4.7,mb4.6,Ms4.3, Msz4.0*
MOS ***20*** *00:45:37.3±1.0,4625N×15424E,h35km,mb4.9/33,Error ellipse: s-maj=8.4km s-min=6.2km az=92.8*
IDC ***20*** *00:45:40.5±3.4,4621N×15423E,h53km±30km,mb4.2/23, mb1 4.3/25,mb1mx4.3/28,mbtmp4.2/25,ML3.9/2,MS4.0/21, Ms1 4.0/21,ms1mx3.8/34,Error ellipse: s-maj=14.8km s-min=11.5km az=136.0*
SZGRF ***20*** *00:45:49.0,4777N×15372E,h33km,mb4.9,Kuril Islands, Russia*
ISC 20 00:45:36.2±0.2**,4634N**±005×**15423E**±004**,h14**km**, h14**km±.8km**:pP-P,n256,**σ1§**08**/243**,mb4.6**/88**,MS4.1**/27**, 35C-17D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.52**	**15**	*e*P		**Pn**	**00 46 43.0**	**-1.3**
SKR				AMB		AMB	00 46 47.6	
	90nm,0.5s							
SKR				AMB		AMB	00 46 47.6	
	170nm,0.5s							
SKR				*e*S		**Sn**	**00 47 33.5**	**-3.2**
SKR				A			00 47 37.5	
	230nm,0.5s							
SKR				A			00 47 37.5	
	590nm,0.2s							
SKR				A			00 47 37.5	
	950nm,0.2s							
KUR	**Kuril'sk**	**4.59**	**258**	⇑*i*P		**Pn**	**00 46 42.0**	**-3.1**
KUR				AMB		AMB	00 46 46.5	
	152nm,0.6s							
KUR				AMB		AMB	00 46 46.5	
	228nm,0.6s							
KUR				*e*S		**Sn**	**00 47 32.0**	**-6.2**
KUR				A			00 47 34.0	
	430nm,0.8s							
KUR				A			00 47 34.0	
	752nm,0.8s							
KUR	**Kuril'sk**	**4.59**	**258**	⇑*i*PN		**Pn**	**00 46 42.0**	**-3.1**
KUR				pmax	pmax			
	comp=N,150nm,0.6s							
KUR				pmax	pmax			
	comp=E,150nm,0.6s							
KUR				pmax	pmax			
	comp=Z,230nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.35**	**252**	*e*P		**Pn**	**00 47 09.0**	**-0.3**
YUK				*e*S		**Sn**	**00 48 18.5**	**-3.1**
YUK				A			00 48 27.0	
	comp=Z,380nm,0.5s							
YUK				A			00 48 27.0	
	comp=Z,300nm,0.5s							
PET	**Petropavlovsk**	**7.28**	**22**	*e*PN		**Pn**	**00 47 22.9**	**+0.8**
PET				MLR		MLR		
	comp=Z,1μm,13.0s							
PET				MLR		MLR		
	comp=Z,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**7.92**	**279**	*e*P

UGL AMS AMS 00 52 12.0
comp=Z,3µm,14.0s
UGL AMS AMS 00 52 12.0
comp=Z,1µm,14.0s
TYV Tymovskoe 8.90 305 *e*P **Pn 00 47 47.0 +2.6**
TYV AMB AMB 00 47 48.8
comp=Z,40nm,1.2s
TYV AMB AMB 00 47 48.8
comp=Z,66nm,1.2s
TYV AMS AMS 00 51 05.0
comp=Z,2µm,18.0s
TYV AMS AMS 00 51 05.0
comp=Z,1µm,14.0s
ERM Erimo 9.05 245 *e*PN **Pn 00 47 48.5 +2.0**
OKH Okha 10.24 319 *e*L 00 51 02.2
OKH AMS AMS 00 53 26.0
comp=Z,2µm,12.0s
OKH AMS AMS 00 53 26.0
comp=Z,2µm,12.0s
NKL Nikolayevsk 11.09 313 *e*L 00 52 06.0
NKL AMS AMS 00 53 58.0
comp=Z,2µm,18.0s
HABR Khabarovsk 13.16 286 *e*PN **Pn 00 48 46.3 +3.6**
KLR Kul'dur 15.37 289 *e*P **Pn 00 49 11.0 -1.7**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,45nm,1.6s
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s
MAJO Matsushiro 15.47 236 *e*P **Pn 00 49 15.7 +1.8**
MAT Matsushiro 15.47 236 P **Pn 00 49 21.1 +7.2**
MJAR Matsushiro Arr 15.47 236 P **Pn 00 49 12.8 -1.2**
comp=Z,0.4nm,0.3s,baz=9.7,slow=10,SNR=4.7
MJAR Matsushiro Arr 15.47 236 P **Pn 00 49 12.8 -1.2**
MDJ Mudanjiang 17.35 273 P **Pn 00 49 38.3 +0.4**
MDJ S **Sn 00 52 56.4 +5.6**
MDJ AMB AMB
comp=Z,25nm,1.1s
MDJ AMB AMB
comp=Z,63nm,6.3s
MDJ LR LR
comp=N,406nm,21.1s
MDJ LR LR
comp=Z,321nm,15.5s
ZEA Zeya 18.76 303 *e*P **Pn 00 49 50.3 -5.0**
ZEA AMB AMB 00 49 51.6
comp=Z,23nm,1.0s
CN2 Changchun 20.44 273 *e*P **P 00 50 12.8 -0.3**
CN2 *e*AP 00 50 16.8
CN2 *e*XP sP 00 50 19.8 +1.0
CN2 *e*S **S 00 53 58.3 -3.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,700nm,16.0s,MS4.2
CN2 LR LR
comp=E,500nm,16.0s,MS4.2
CN2 LR LR
comp=Z,400nm,14.0s,MS3.9
YAK Yakutsk 21.08 327 *e*P **P 00 50 18.5 -1.6**
YAK *e* 00 50 38.3
YAK *e*S **S 00 54 14.1 -0.3**
YAK *e**SS sS 00 54 27.2 +6.6
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.4
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,157nm,3.0s
YAK smax
comp=N,90nm,1.8s
YAK smax
comp=E,130nm,3.3s
YAK MLR MLR
comp=Z,393nm,17.0s,MS3.9
YAK MLR MLR
comp=N,472nm,18.0s
YAK MLR MLR
comp=E,131nm,12.0s
KSRS Korea Array 21.42 255 P **P 00 50 24.9 +1.2**
comp=E,4.2nm,0.7s,mb3.9,baz=57,slow=10,SNR=15
JNU Nakatsue 22.19 242 LR LR 00 59 11.0
comp=E,479nm,19.1s,MS3.9,baz=56,slow=37
SNY Shenyang 22.40 269 ⇑P **P 00 50 33.4 -0.8**
SNY S **S 00 54 27.3 -13**
SNY AMB AMB
comp=Z,28nm,1.5s,mb4.5
SNY AMB AMB
comp=Z,110nm,3.5s
SNY LR LR
comp=E,380nm,10.5s
SNY LR LR
comp=Z,409nm,17.4s
BILL Bilibino 22.63 12⇑ *e*P **P 00 50 35.4 -1.2**
BILL pmax pmax
comp=Z,51nm,1.2s,mb4.8
BILL Bilibino 22.63 12 *e*P **P 00 50 36.9 +0.3**
comp=Z,42nm,1.0s,mb4.8
HIA Hailar 23.23 290 *e*P **P 00 50 40.6 -2.4**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 23.23 290 *e*P **P 00 50 40.6 -2.3**
comp=Z,6.5nm,0.6s,mb4.2
BOD Bodaibo 26.84 310 *e*P **P 00 51 14.0 -2.2**
BOD pmax pmax
comp=Z,12nm,1.2s,mb4.3
TIXI Tiksi 28.08 343 *e*P **P 00 51 25.9 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
TIXI Tiksi 28.08 343 *e*P **P 00 51 25.9 -1.4**
comp=Z,5.2nm,0.8s,mb4.2
BJI Beijing 28.25 271 *e*P **P 00 51 32.3 +3.5**
BJI S **S 00 56 19.9 +5.5**
BJI AMB AMB
comp=Z,18nm,0.9s,mb4.7
BJI LR LR
comp=N,220nm,14.0s,MS4.2
BJI LR LR
comp=E,378nm,13.1s,MS4.2
BJI LR LR
comp=Z,265nm,17.6s,MS3.9
BJI Beijing 28.25 271 *e*P **P 00 51 32.2 +3.4**
BJI S **S 00 56 19.9 +5.5**
BJI pmax pmax
comp=Z,18nm,0.9s,mb4.7
BJI MLR MLR
comp=Z,260nm,17.6s,MS3.9
BJI Beijing 28.25 271 *e*P **P 00 51 32.2 +3.4**
comp=Z,18nm,0.9s,mb4.7
BJI S **S 00 56 19.9 +5.5**
BJI LR LR
comp=Z,260nm,17.6s,MS3.9
BJT Baijiatuau 28.26 271 P **P 00 51 32.3 +3.4**
ULN Ulaanbaatar 31.76 290⇑ *e*P **P 00 51 59.0 -0.9**
ULN Ulaanbaatar 31.76 290 *e*P **P 00 51 59.1 -0.8**
comp=Z,22nm,1.1s,mb4.9
SONM Songino Array 32.20 290 P **P 00 52 03.3 -0.4**
comp=Z,9.9nm,1.1s,mb4.5,baz=68,slow=6.6,SNR=8.9
SONM PcP PcP 00 54 51.4 -0.9
comp=Z,1.6nm,1.0s,baz=91,slow=1.9,SNR=4.8
SONM LR LR 01 06 36.4
comp=Z,334nm,18.7s,MS4.0,baz=28,slow=39
SONM Songino Array 32.20 290 P **P 00 52 03.3 -0.4**
SONM 00 54 51.4
SONM Songino Array 32.20 290 P **P 00 52 03.3 -0.4**
SONM PcP PcP 00 54 51.4 -0.9
SONM LR LR 01 06 36.4
TLY Talaya 33.05 298 *e*P **P 00 52 07.9 -3.3**
TLY *e*S **S 00 57 30.1 +0.5**
TLY *e*SS SS 00 59 27.9 -24
TLY *e*SSS 00 59 54.9
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,377nm,15.0s,MS4.2
ZAK Zakamensk 33.55 296 *e*P **P 00 52 14.5 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GUMO Guam 33.59 197 LR LR 01 04 26.9
comp=Z,100nm,19.7s,MS3.5,baz=78,slow=34
KDAK Kodiak Island 33.77 50 P **P 00 52 16.6 -0.8**
comp=Z,11nm,0.6s,mb5.0,baz=234,slow=5.3,SNR=11
KDAK LR LR 01 05 45.1
comp=Z,214nm,20.0s,MS3.9,baz=109,slow=36
MCK McKinley 35.47 40 *e*P **P 00 52 32.6 +0.4**
MCK pmax pmax
comp=Z,14nm,1.4s,mb4.7
MCK McKinley 35.47 40 *e*P **P 00 52 32.6 +0.4**
comp=Z,14nm,1.4s,mb4.7
SML Sawmill 35.74 43 *e*P **P 00 52 34.9 +0.4**
COLA College 35.98 38⇓ *i*P **P 00 52 36.6 0.0**
COLA College 35.98 38 *e*P **P 00 52 37.0 +0.4**
comp=Z,30nm,1.3s,mb5.1
XAN Xi'an 36.25 267 P **P 00 52 41.4 +2.5**
XAN AMB AMB
comp=Z,11nm,1.4s,mb4.6
XAN LR LR
comp=N,60nm,10.4s,MS4.0
XAN LR LR
comp=E,129nm,12.5s,MS4.0
XAN LR LR
comp=Z,180nm,16.2s,MS3.9
LZH Lanzhou 38.67 273 *e*P **P 00 53 01.5 +2.1**
LZH AP pP 00 53 05.5 +1.9
LZH XP sP 00 53 07.5 +2.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,96nm,4.4s
LZH Lanzhou 38.67 273 *e*P **P 00 53 01.5 +2.1**
comp=Z,25nm,1.0s,mb4.9
LZH pP pP 00 53 05.5 +1.9
LZH sP sP 00 53 07.5 +2.2
EGAK Eagle 38.85 38 *e*P **P 00 53 00.9 0.0**
comp=Z,7.0nm,0.5s,mb4.7
GTA Gaotai 39.80 280 *e*P **P 00 53 10.5 +1.7**
GTA AP pP 00 53 15.3 +2.3
GTA XP sP 00 53 18.3 +3.6
GTA PP PP 00 54 46.8 +6.6
GTA PCP PcP 00 55 15.1 +0.3
GTA S **S 00 59 17.8 +5.2**
GTA XS sS 00 59 24.5 +4.9
GTA AMB AMB
comp=Z,14nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,139nm,4.2s
GTA LR LR
comp=N,215nm,13.7s,MS4.3
GTA LR LR
comp=E,200nm,13.3s,MS4.3
GTA LR LR
comp=Z,179nm,14.8s,MS4.0
INK Inuvik 41.59 32 P **P 00 53 24.4 +0.8**
comp=Z,3.5nm,0.4s,mb4.3,baz=283,slow=6.7,SNR=41
INK LR LR 01 11 55.8
comp=Z,144nm,18.3s,MS3.9,baz=32,slow=38
INK Inuvik 41.59 32 *e*P **P 00 53 24.5 +0.9**
comp=Z,127nm,0.5s,mb5.8
CD2 Chengdu 41.62 267 P **P 00 53 24.0 +0.2**
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
ZAL Zalesovo 43.49 306 P **P 00 53 37.9 -1.2**
comp=Z,2.8nm,0.4s,mb4.3,baz=60,slow=3.2,SNR=9.2
ZAL PcP PcP 00 55 26.1 -0.9
comp=Z,2.6nm,1.0s,baz=33,slow=6.1,SNR=7.0
ZAL LR LR 01 14 27.7
comp=Z,616nm,18.5s,MS4.5,baz=293,slow=40
ZAL Zalesovo 43.49 306 P **P 00 53 37.9 -1.2**
ZAL 00 55 26.1
NVS Novosibirsk 44.05 308 *e*P **P 00 53 42.1 -1.5**
NVS pmax pmax
comp=N,8.0nm,1.9s
NVS pmax pmax
comp=E,10.0nm,1.9s
NVS pmax pmax
comp=Z,18nm,1.9s,mb4.5
MKAR Makanchi Array 47.81 298 P **P 00 54 12.9 -0.4**
comp=Z,6.7nm,0.9s,mb4.7,baz=64,slow=6.3,SNR=27
YKA Yellowknife Ar 50.79 37 P **P 00 54 36.3 +0.3**
comp=Z,1.7nm,0.5s,mb4.3,baz=296,slow=7.1,SNR=11
YKA LR LR 01 17 26.9
comp=Z,81nm,21.4s,MS3.7,baz=215,slow=38
YKA Yellowknife Ar 50.79 37 P **P 00 54 36.3 +0.3**
YKA LR LR 01 17 26.9
RES Resolute Bay 50.98 19 *e*P **P 00 54 38.0 +0.6**
RES pmax pmax
comp=Z,336nm,0.9s
RES Resolute Bay 50.98 19 *e*P **P 00 54 38.0 +0.5**
comp=Z,336nm,0.9s
LSA Lhasa 51.07 274 *e*P **P 00 54 42.9 +4.8**
LSA *e* 00 54 57.7
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
LSA Lhasa 51.07 274 *e*P **P 00 54 42.9 +4.8**
comp=Z,13nm,0.8s,mb4.9
LSA *e* 00 54 57.7
BVAR Borovoye Array 51.71 310 P **P 00 54 42.9 -0.1**
comp=Z,2.0nm,0.3s,mb4.5,baz=58,slow=7.6,SNR=33
BVAR PcP PcP 00 55 54.6 -1.6
comp=Z,1.6nm,0.8s,baz=74,slow=5.4,SNR=4.4
BVAR LR LR 01 19 12.1
comp=Z,308nm,18.1s,MS4.4,baz=320,slow=39
BVAR Borovoye Array 51.71 310 P **P 00 54 42.9 0.0**
BVAR 00 55 54.6
BRVK Borovoye 51.75 310 *e*P **P 00 54 42.6 -0.6**
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRVK Borovoye 51.75 310 *e*P **P 00 54 42.6 -0.6**
comp=Z,12nm,1.1s,mb4.7
AAK Ala-Archa 54.71 297⇓ *i*P **P 00 55 04.7 -0.3**
AAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
AAK Ala-Archa 54.71 297 *e*P **P 00 55 05.0 +0.1**
comp=Z,4.2nm,0.7s,mb4.6
ARU Arti 55.83 318⇑ *i*P **P 00 55 12.5 -0.6**
ARU *e*S **S 01 02 59.1 -0.8**
ARU *e*SS SS 01 06 40.9 -4.6
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ARU Arti 55.83 318 *e*P **P 00 55 12.7 -0.4**
comp=Z,8.5nm,0.5s,mb5.0
EDM Edmonton 56.04 46 *e*P **P 00 55 14.7 +0.1**
NEW Newport 56.81 53 *e*P **P 00 55 19.3 -0.8**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 56.81 53 *e*P **P 00 55 19.3 -0.7**
comp=Z,5.4nm,1.0s,mb4.5
KEV Kevo 57.98 341 *e*p **P 00 55 28.2 -0.1**
comp=Z,3.3nm,0.6s,mb4.5
KEV Kevo 57.98 341 *e*P **P 00 55 28.2 -0.1**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BOK Bokaro 58.43 272 *e*P **P 00 55 30.3 -1.2**
BOK AMb AMB 00 55 37.8
comp=Z,18nm,1.5s,mb4.9
ARCES ARCESS Array B 58.49 341 P **P 00 55 31.3 -0.6**
comp=Z,1.7nm,0.4s,mb4.4,baz=37,slow=6.2,SNR=15
ARCES LR LR 01 28 45.6
comp=Z,100nm,18.8s,MS4.0,baz=135,slow=44
MOD Modoc 58.62 61 *e*P **P 00 55 33.5 +0.7**
BMO Blue Mountains 58.66 56 *e*P **P 00 55 33.5 +0.5**
comp=Z,9.1nm,1.3s,mb4.7
MSO Missoula 59.40 53 *e*P **P 00 55 38.4 +0.2**
comp=Z,14nm,1.4s,mb4.8
AKTO Aktyubinsk 59.57 312 LR LR 01 24 01.3
comp=Z,345nm,18.2s,MS4.5,baz=240,slow=39
LRM Limekiln Ridge 60.83 53 *e*P **P 00 55 48.6 +0.6**
CMB Columbia Colle 60.89 64 *e*P **P 00 55 48.5 +0.1**
HLID Hailey 61.10 56 *e*P **P 00 55 50.1 +0.3**
comp=Z,8.4nm,1.3s,mb4.7
NDI New Delhi 61.24 282 *e*P **P 00 55 49.0 -1.8**
NVAR Mina Array Bea 61.94 63 P **P 00 55 55.6 +0.1**
comp=Z,4.6nm,0.9s,mb4.6,baz=304,slow=8.0,SNR=20
QLMT Earthquake Lak 62.01 53 *e*P **P 00 55 56.8 +0.8**
ELK Elko 62.36 59 P **P 00 55 59.4 +1.1**
YFT Old Faithful 62.58 54 *e*P **P 00 56 02.3 +2.6**
IMW Indian Meadow 62.87 54 *e*P **P 00 56 02.6 +0.9**
comp=Z,14nm,1.1s,mb5.0
MOOW Moose Ponds 63.07 54 *e*P **P 00 56 03.9 +0.8**
comp=Z,14nm,1.3s,mb4.9
LOHW Long Hollow 63.23 54 *e*P **P 00 56 05.0 +0.8**
comp=Z,16nm,1.2s,mb5.0
SNOW Snow King Moun 63.24 54 *e*P **P 00 56 05.4 +1.2**
SPUT South Promonto 63.64 57 *e*P **P 00 56 04.5 -2.4**
DAC Darwin (Calif) 63.73 64 *e*P **P 00 56 07.3 -0.1**
HWUT Hardware Ranch 63.97 56 *e*P **P 00 56 09.3 +0.3**
DUG Dugway 64.14 58 *e*P **P 00 56 10.2 +0.1**
DUG pmax pmax
comp=Z,15nm,1.3s,mb4.9
DUG Dugway 64.14 58 *e*P **P 00 56 10.2 +0.1**
comp=Z,15nm,1.3s,mb4.9
VIS Vishakhapatnam 64.26 269 *ex* **P 00 56 06.4 -4.6**
VIS AMb AMB 00 56 17.9
comp=Z,15nm,0.2s,mb5.7
BW06 Boulder Array 64.36 54 *e*P **P 00 56 11.6 0.0**
comp=Z,8.6nm,1.0s,mb4.7
PDAR Pinedale Array 64.36 54 P **P 00 56 11.4 -0.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=291,slow=2.9,SNR=27
AJM Ajmer 64.40 282 *e*P **P 00 56 11.6 -0.3**
AJM AMb AMB 00 56 14.1
comp=Z,18nm,1.2s,mb5.0
BHPL Bhopal 64.63 278 *e*P **P 00 56 13.7 +0.4**
BHPL AMb AMB 00 56 14.6
comp=Z,20nm,0.8s,mb5.2
FIA1 FINESS Array S 64.74 335 *e*P **P 00 56 14.6 +0.5**
FINES FINESS Array B 64.74 335 P **P 00 56 13.3 -0.7**
comp=Z,3.6nm,0.4s,mb4.7,baz=39,slow=7.4,SNR=58
FINES LR LR 01 27 55.4
comp=Z,140nm,18.5s,MS4.2,baz=152,slow=39
MOS Moscow 65.21 326 *e*P **P 00 56 19.0 +1.9**
MOS *e* 00 56 38.7
MSU Marysvale 65.60 59 *e*P **P 00 56 19.7 +0.1**
OBN Obninsk 66.08 326 *e*P **P 00 56 22.0 -0.7**
OBN *e* 00 56 36.6
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
SRU San Rafael 66.19 58 *e*P **P 00 56 23.3 -0.1**
SRU pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SRU San Rafael 66.19 58 *e*P **P 00 56 23.3 -0.1**
comp=Z,9.7nm,1.1s,mb4.8
ULM Lac du Bonnet 66.33 41 P **P 00 56 23.1 -1.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=333,slow=4.1,SNR=6.2
ULM LR LR 01 26 54.3
comp=Z,74nm,19.4s,MS3.9,baz=309,slow=37
RSSD Black Hills 66.50 50 *e*P **P 00 56 24.7 -0.7**
RSSD pmax pmax
comp=Z,13nm,1.4s,mb4.8
RSSD Black Hills 66.50 50 *e*P **P 00 56 24.6 -0.8**
comp=Z,13nm,1.4s,mb4.8
PV10 Paradox Valley 67.54 58 *e*P **P 00 56 32.2 +0.1**
VRSR Storozhevoye 67.90 322 *e*P **P 00 56 37.4 +3.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.8s
PV01 Paradox Valley 67.98 58 *e*P **P 00 56 33.9 -0.9**
WUAZ Wupatki 68.06 61 *e*P **P 00 56 35.9 +0.7**
comp=E,7.9nm,1.3s,mb4.6
SMCO Snowmass 68.20 56 P **P 00 56 26.6 -10**
comp=E,8.0nm,1.1s,mb4.7
WRAB Tennant Creek 68.37 200 *e*P **P 00 56 35.3 -2.0**
WRA Warramunga Arr 68.38 200 P **P 00 56 35.6 -1.7**
comp=E,8.0nm,1.0s,mb4.7,baz=17,slow=6.8,SNR=11
WRA LR LR 01 22 33.6
comp=E,59nm,20.1s,MS3.8,baz=35,slow=32
ISCO Idaho Springs 68.55 55 *e*P **P 00 56 38.8 +0.4**
ISCO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ISCO Idaho Springs 68.55 55 *e*P **P 00 56 38.8 +0.4**
comp=Z,8.4nm,1.1s,mb4.6
NB2 NORSAR Subarra 68.86 342 P **P 00 56 39.6 -0.7**
comp=Z,5.0nm,0.6s,mb4.6,baz=30,slow=6.5
NOA NORSAR Array B 68.86 342 P **P 00 56 40.0 -0.3**
comp=Z,3.8nm,0.6s,mb4.5,baz=27,slow=6.4,SNR=12
NOA LR LR 01 32 32.3
comp=Z,90nm,18.4s,MS4.0,baz=5.0,slow=41
FITZ Fitzroy Crossi 69.15 209 P **P 00 56 40.7 -1.5**
comp=Z,3.3nm,0.9s,mb4.2,baz=69,slow=4.4,SNR=5.3
SDCO Great Sand Dun 70.02 56 *e*P **P 00 56 47.5 0.0**
POO Poona 70.27 276 *e*P **P 00 56 48.0 -1.0**
KAD Karad 70.88 275 *e*P **P 00 56 53.9 +1.2**
KAD AMb AMB 00 56 58.2
comp=Z,17nm,2.8s,mb4.5
LAZ Ladron 71.36 60 *e*P **P 00 56 55.9 +0.3**
ANMO Albuquerque 71.39 59 *e*P **P 00 56 55.8 0.0**
KIV Kislovodsk 71.64 315 *e*P **P 00 56 59.2 +1.9**
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV Kislovodsk 71.64 315 *e*P pP 00 57 03.5 +1.7
comp=Z,22nm,1.1s
ZEI Tsey 71.90 313 *e*P **P 00 56 58.6 -0.3**
ASAR Alice Springs 72.07 200 P **P 00 56 59.0 -0.9**
comp=Z,5.2nm,0.9s,mb4.4,baz=13,slow=6.0,SNR=23
ASAR LR LR 01 28 45.6
comp=Z,74nm,18.2s,MS4.0,baz=241,slow=36
AKASG Malin Array Be 72.31 327 P **P 00 57 00.5 -0.9**
comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.0,SNR=12
AKASG LR LR 01 31 24.2
comp=Z,163nm,18.4s,MS4.3,baz=40,slow=38
AKASG Malin Array Be 72.31 327 P **P 00 57 00.5 -0.9**
AKASG LR LR 01 31 24.2
SCHQ Schefferville 73.39 23 P **P 00 57 07.0 -0.8**
comp=Z,6.1nm,1.0s,mb4.5,baz=270,slow=10,SNR=4.2
SCHQ Schefferville 73.39 23 P **P 00 57 07.0 -0.8**
KWP Kalwaria 75.57 330 *e*P **P 00 57 21.2 +0.8**
WMOK Wichita Mounta 75.98 54 *e*P **P 00 57 22.0 -0.8**
WMOK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WMOK Wichita Mounta 75.98 54 *e*P **P 00 57 22.0 -0.8**
comp=Z,5.4nm,1.0s,mb4.4
OJC Ojcow 76.05 332 *e*P **P 00 57 26.2 +3.0**
STHS Stebnicka Huta 76.25 331 *e*P **P 00 57 24.6 +0.3**
STHS *e*pP pP 00 57 28.1 -0.7
STHS Stebnicka Huta 76.25 331 *e*P **P 00 57 24.6 +0.3**
STHS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
STHS Stebnicka Huta 76.25 331 *e*P **P 00 57 24.6 +0.3**
comp=Z,9.2nm,1.3s,mb4.5
STHS *e* pP 00 57 28.1 -0.7
KOLS Kolonicke sedl 76.31 330 *e*P **P 00 57 23.8 -0.9**
KOLS *e* 01 06 08.5
KOLS Kolonicke sedl 76.31 330 *e*P **P 00 57 23.8 -0.9**
KOLS *e* 01 06 08.5
BURAR Bucovina Array 76.35 327⇑ *i*P **P 00 57 24.9 0.0**
BURAR Bucovina Array 76.35 327⇑P **P 00 57 24.9 0.0**
NIE Niedzica 76.57 331 *e*P **P 00 57 29.9 +3.8**
OKC Ostrava-Krasne 76.92 333 *e*P **P 00 57 28.8 +0.7**
UPC Upice 76.99 334 *e*pP pP 00 57 32.8 -0.2
TXAR Lajitas Array 77.02 61 P **P 00 57 28.3 -0.4**
comp=Z,6.1nm,0.7s,mb4.6,baz=305,slow=4.2,SNR=70
TXAR Lajitas Array 77.02 61 P **P 00 57 28.3 -0.4**
DPC Dobruska-Polom 77.04 334 *e*P **P 00 57 28.9 +0.1**
DPC *e*pP pP 00 57 32.1 -1.2
CLL Collm 77.16 336 *i* P pP 00 57 32.9 -1.0
CLL *i* 00 57 45.3
CLL pmax pmax
comp=Z,11nm,0.6s,mb5.0
CLL Collm 77.16 336 *i* P pP 00 57 32.9 -1.0
comp=Z,11nm,0.6s
CLL *i* 00 57 45.3
CLL Collm 77.16 336 *e*P **P 00 57 29.0 -0.4**
CLL *i* pP pP 00 57 32.9 -1.0
comp=Z,11nm,0.6s
CLL *i* sPcP 00 57 45.3
MORC Moravsky Berou 77.16 333⇓ *i*P **P 00 57 29.5 0.0**
MORC Moravsky Berou 77.16 333⇓P **P 00 57 29.4 0.0**
VRI Vrincioaia 77.22 325⇑ *i*P **P 00 57 31.5 +1.7**
VRI Vrincioaia 77.22 325⇑P **P 00 57 31.5 +1.7**
KECS Kecovo 77.31 330 *e*P **P 00 57 30.2 -0.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 77.31 330 *e*P **P 00 57 30.2 -0.1**
comp=Z,3.0nm,1.0s,mb4.2
KECS *e* pP 00 57 33.6 -1.2
MLR Muntele Rosu 77.84 326⇑ *i*P **P 00 57 34.0 +0.7**
MLR Muntele Rosu 77.84 326⇑P **P 00 57 34.0 +0.7**
VYHS Vyhne 77.86 331 *e*P **P 00 57 33.4 0.0**
VYHS *e*pP pP 00 57 37.1 -0.8
VYHS Vyhne 77.86 331 *e*P **P 00 57 33.4 0.0**
VYHS *e* pP 00 57 37.1 -0.8
VRAC Vranov 77.87 333⇑ *i*P **P 00 57 32.9 -0.5**
PRU Pruhonice 77.89 335 *e*P **P 00 57 33.6 +0.1**
PRU *e*pP pP 00 57 37.6 -0.4
DRGR 77.97 328⇓ *i*P **P 00 57 34.0 0.0**
DRGR 77.97 328⇓P **P 00 57 34.0 0.0**
MALT Malatya 78.00 314⇑ *i*P **P 00 57 35.8 +1.7**

MALT Malatya 78.00 314 *e*P **P** 00 57 35.7 +1.6
MALT *e* *e*P pP 00 57 40.9 +2.3
MALT *e* 00 57 50.9
MALT pmax pmax
comp=Z,11nm,1.2s,mb4.7
MALT Malatya 78.00 314 *e*P **P** **00 57 35.7 +1.6**
comp=Z,11nm,1.2s,mb4.7
MALT *e*PcP PcP 00 57 40.9 -2.9
MALT *e* 00 57 50.9
NKC Novy Kostel 78.28 336 *e*P **P** **00 57 34.8 -0.9**
NKC epP pP 00 57 40.6 +0.4
SMOL Smolenice 78.30 332 epP pP 00 57 41.0 +0.7
SMOL Smolenice 78.30 332 *e*P pP 00 57 41.1 +0.8
JCT Junction City 78.50 58 *e*P **P** **00 57 36.5 -0.4**
ZST Bratislava 78.69 332 *e*P pP 00 57 43.1 +0.7
ZST pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZST Bratislava 78.69 332 *e*P pP 00 57 43.1 +0.7
comp=Z,12nm,1.1s
STKA Stephens Creek 78.69 191 P **P** **00 57 35.5 -2.5**
comp=Z,1.7nm,0.8s,mb4.0,baz=1.1,slow=11,SNR=3.4
STKA LR LR 01 31 51.8
comp=Z,89nm,18.4s,MS4.1,baz=24,slow=35
STKA Stephens Creek 78.69 191 P **P** **00 57 35.5 -2.5**
STKA LR LR 01 31 51.8
KHC Kasperske Hory 78.94 335 *e*P **P** **00 57 39.7 +0.4**
KHC *e*pP pP 00 57 42.6 -1.2
GRA1 Grafenberg Arr 79.11 337 *e*P **P** **00 57 40.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 79.11 337 *e*P **P** **00 57 40.7 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 79.11 337 *e*P **P** **00 57 40.7 +0.4**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 79.16 335 P **P** **00 57 40.5 -0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=35,slow=4.9,SNR=6.5
GERES LR LR 01 38 05.7
comp=Z,143nm,19.7s,MS4.3,baz=95,slow=40
BRTR Keskin Array B 79.22 317 P **P** **00 57 40.9 0.0**
comp=Z,2.0nm,1.0s,mb4.0,baz=73,slow=2.5,SNR=7.9
CONA Conrad Observa 79.31 333 ⇑*i*pP pP 00 57 42.1 -3.8
comp=Z,10nm,1.2s
BZS Buzias 79.37 328 ⇓*i*P **P** **00 57 41.7 0.0**
PKSM Moragy 79.91 330 ⇓*i*P **P** **00 57 43.6 -1.0**
PKSM Moragy 79.91 330 ⇓P **P** **00 57 43.6 -1.0**
ARSA Arzberg 80.02 333 ⇓*i* pP 00 57 50.5 +0.8
comp=Z,8.8nm,1.3s
ARSA Arzberg 80.02 333 ⇑*i*P **P** **00 57 43.9 -1.3**
comp=Z,2.8nm,1.0s,mb4.2
ARSA ⇓*i*PcP PcP 00 57 50.5 -2.1
comp=Z,8.8nm,1.3s
ARSA Arzberg 80.02 333 P **P** **00 57 43.9 -1.3**
ARSA *e* 00 57 50.5
PERS Pernice 80.70 333 *e*P **P** **00 57 52.7 +3.8**
KBA Koelnbreinsper 80.85 334 ⇑*i*P **P** **00 57 50.1 +0.5**
comp=Z,4.3nm,0.8s,mb4.4
KBA Koelnbreinsper 80.85 334 ⇓*i* **P** **00 57 53.0 +3.3**
comp=Z,31nm,1.0s,mb5.2
KBA Koelnbreinsper 80.85 334 ⇑*i*pP pP 00 57 50.1 -4.0
comp=Z,4.3nm,0.8s
KBA ⇓*i*PcP PcP 00 57 53.0 -3.2
comp=Z,31nm,1.0s
KBA Koelnbreinsper 80.85 334 P **P** **00 57 50.1 +0.5**
KBA *e* pP 00 57 53.0 -1.2
OBKA Obir 80.99 333⇑*e*P **P** **00 57 51.3 +0.9**
comp=Z,2.1nm,0.8s,mb4.1
OBKA Obir 80.99 333⇑*i* pP 00 57 54.9 -0.1
comp=Z,5.2nm,1.0s
OBKA Obir 80.99 333⇑*e*pP **P** **00 57 51.3 +0.9**
comp=Z,2.1nm,0.8s,mb4.1
OBKA ⇑*i*PcP pP 00 57 54.9 -0.1
comp=Z,5.2nm,1.0s
OBKA Obir 80.99 333 P **P** **00 57 51.3 +0.9**
OBKA *e* pP 00 57 54.9 -0.1
BFO Black Forest 81.13 338 *e*P **P** **00 57 51.7 +0.5**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 81.13 338 *e*P **P** **00 57 51.7 +0.5**
comp=Z,6.5nm,0.9s,mb4.6
WATA Walderalm 81.14 335⇑*i*P **P** **00 57 51.9 +0.6**
comp=Z,0.9nm,0.3s,mb4.1
WATA Walderalm 81.14 335⇓*i* pP 00 57 56.1 +0.3
comp=Z,15nm,1.0s
WATA Walderalm 81.14 335⇑*i*pP **P** **00 57 51.9 +0.6**
comp=Z,0.9nm,0.3s,mb4.1
WATA ⇓*i*PcP PcP 00 57 56.1 -1.5
comp=Z,15nm,1.0s
WATA Walderalm 81.14 335 P **P** **00 57 51.9 +0.6**
WATA *e* pP 00 57 56.1 +0.3
WTTA Wattenberg 81.19 335⇑*i*P **P** **00 57 52.2 +0.7**
comp=Z,12nm,1.4s,mb4.7
WTTA Wattenberg 81.19 335⇑*i* pP 00 57 56.8 +0.8
comp=Z,23nm,0.9s
WTTA Wattenberg 81.19 335⇑*i*pP **P** **00 57 52.2 +0.7**
comp=Z,12nm,1.4s,mb4.7
WTTA ⇑*i*PcP PcP 00 57 56.8 -0.9
comp=Z,23nm,0.9s
WTTA Wattenberg 81.19 335 P **P** **00 57 52.1 +0.7**
WTTA *e* pP 00 57 56.8 +0.8
MOTA Moosalm 81.27 336⇑*i* pP 00 57 57.6 +1.2
comp=Z,20nm,1.1s
MOTA Moosalm 81.27 336⇑*i*P **P** **00 57 51.3 -0.6**
comp=Z,8.4nm,1.2s,mb4.5
MOTA ⇑*i*PcP PcP 00 57 57.6 -0.5
comp=Z,20nm,1.1s
MOTA Moosalm 81.27 336 P **P** **00 57 51.3 -0.6**
MOTA *e* 00 57 57.6
CDF Champ du Feu 81.33 338 *e*P **P** **00 57 51.5 -0.7**
comp=Z,9.9nm,0.6s,mb4.6
CDF Champ du Feu 81.33 338 *e*P **P** **00 57 51.5 -0.7**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CDF Champ du Feu 81.33 338 *e*P **P** **00 57 51.5 -0.7**
comp=Z,4.9nm,0.6s,mb4.6
SQTA Sankt Quirin 81.35 335⇑*i*P **P** **00 57 53.0 +0.6**
comp=Z,6.3nm,1.2s,mb4.4
SQTA Sankt Quirin 81.35 335⇑*i* pP 00 57 58.3 +1.4
comp=Z,18nm,1.2s
SQTA Sankt Quirin 81.35 335⇑*i*pP **P** **00 57 53.0 +0.6**
comp=Z,6.3nm,1.2s,mb4.4
SQTA ⇑*i*PcP PcP 00 57 58.3 -0.2
comp=Z,18nm,1.2s
SQTA Sankt Quirin 81.35 335 P **P** **00 57 53.0 +0.6**
SQTA *e* pP 00 57 58.3 +1.4
VISS Visnje 81.53 333 *i* P **P** **00 57 57.0 +3.7**
BOJS Bojanci 81.66 332 *i* P **P** **00 57 57.6 +3.7**
DAVA Damuels 81.67 336 ⇓P **P** **00 57 54.5 +0.5**
comp=Z,15nm,1.6s,mb4.7
DAVA Damuels 81.67 336 ⇓pP **P** **00 57 54.5 +0.5**
comp=Z,15nm,1.6s,mb4.7
GRR Gorron 83.18 344 *e*P **P** **00 58 01.7 -0.2**
SMF Signal de Mont 83.82 340 *e*P **P** **00 58 05.1 -0.1**
comp=Z,63nm,1.2s,mb5.3
SMF Signal de Mont 83.82 340 *e*P **P** **00 58 05.1 -0.1**
SMF pmax pmax
comp=Z,32nm,1.2s,mb5.3
SMF Signal de Mont 83.82 340 *e*P **P** **00 58 05.1 -0.1**
comp=Z,32nm,1.2s,mb5.3
LPG La Plagne 84.16 338 *e*P **P** **00 58 07.7 +0.7**
comp=Z,13nm,0.6s,mb4.9
LPG La Plagne 84.16 338 *e*P **P** **00 58 07.7 +0.7**
LPG pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
LPG La Plagne 84.16 338 *e*P **P** **00 58 07.7 +0.7**
comp=Z,6.4nm,0.6s,mb4.9
AQU L'Aquila 85.07 332 *e*P **P** **00 58 11.6 0.0**
CAF Calviac 85.85 341 *e*P **P** **00 58 15.3 -0.2**
comp=Z,17nm,0.7s,mb5.1
CAF Calviac 85.85 341 *e*P **P** **00 58 15.3 -0.2**
CAF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
CAF Calviac 85.85 341 *e*P **P** **00 58 15.3 -0.2**
comp=Z,8.5nm,0.7s,mb5.1
EIL Elat 86.55 310 *e*P **P** **00 58 23.5 +4.7**
TIP Timpagrande 86.74 328 *e*P **P** **00 58 24.6 +4.8**
ESDC Sonseca Array 92.17 343 LR LR 01 48 55.5
comp=Z,101nm,20.6s,MS4.2,baz=300,slow=41
KEST Kesra 92.40 332 LR LR 01 45 25.5
comp=Z,71nm,20.8s,MS4.1,baz=322,slow=39
TORD Torodi Ar. Bea 115.84 330 PKP PKPdf 01 04 16.3 -2.0
comp=Z,0.2nm,0.4s,baz=22,slow=1.7,SNR=5.8
CFAA Coronel Fontan 144.31 81 PKP PKPdf 01 05 08.4 -3.4
comp=Z,0.4nm,0.7s,baz=315,slow=4.5,SNR=5.6
SNAA Sanae 152.37 195 PKPbc PKPbc 01 05 28.3 -3.5
comp=Z,2.0nm,1.1s,baz=270,slow=3.0,SNR=4.5
SNAA PKPab PKPab 01 05 37.8 -4.0

comp=Z,1.3nm,0.8s,baz=124,slow=3.8,SNR=5.7

*ISCJB **20** 00:45:40.5±2.9, 29S±02×1290E±02, h43km±23km, mb4.3/4, Error ellipse: s-maj=45.5km s-min=20.0km az=121.6*
*NEIC **20** 00:45:43.6±1.2, 3.16S×128.82E, h35km, mb4.0/5, Error ellipse: s-maj=29.6km s-min=18.5km az=70.0*
*IDC **20** 00:45:48.0±4.4, 3.30S×129.08E, h64km±36km, mb3.9/3, mb1 4.0/5, mb1mx3.6/17, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=65.9km s-min=20.5km az=76.0*
ISC 20 00:45:54.1±3.1, 38S±02×1286E±02, h95km±23km, n14, σ0§82/16, mb4.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.48**	**191**	*e*P		**Pn**		**00 49 19.0**	**+4.7**
	5.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**14.48**	**191**	P		**Pn**		**00 49 18.7**	**+4.4**
	0.1nm,0.3s,baz=30,slow=12,SNR=4.8								
WRAB	**Tennant Creek**	**16.95**	**161**	*e*Pn		**Pn**		**00 49 45.6**	**+0.3**
	1.8nm,0.5s								
WRA	**Warramunga Arr**	**16.96**	**161**	P		**Pn**		**00 49 44.6**	**-0.8**
	0.4nm,0.3s,baz=342,slow=12,SNR=16								
WRA				S		**S**		**00 52 58.2**	**+0.5**
	0.1nm,0.3s,baz=348,slow=25,SNR=4.1								
WB2	**Warramunga Arr**	**16.96**	**161**	*e*Pn		**Pn**		**00 49 46.4**	**+0.9**
WB2				*e*Sn		**Sn**		**00 52 52.8**	**-0.9**
MBWA	**Marble Bar**	**19.27**	**206**	*e*P		**Pn**		**00 50 13.1**	**0.0**
	11nm,0.9s								
ASAR	**Alice Springs**	**20.37**	**166**	P		**P**		**00 50 24.3**	**+1.3**
	11nm,0.9s,baz=348,slow=11,SNR=68								
ASAR				S		**S**		**00 54 13.4**	**+7.4**
	1.7nm,0.8s,baz=349,slow=20,SNR=8.6								
STKA	**Stephens Creek**	**30.45**	**158**	*e*P		**P**		**00 51 57.7**	**+0.1**
	1.5nm,0.8s,mb3.7								
STKA	**Stephens Creek**	**30.45**	**158**	P		**P**		**00 51 57.8**	**+0.2**
	2.0nm,0.8s,mb3.8,baz=346,slow=13,SNR=4.2								
CASY	**Casey**	**63.62**	**188**	*e*P		**P**		**00 56 14.3**	**-0.6**
	15nm,0.7s,mb4.9								
VNDA	**Vanda**	**75.74**	**173**	P		**P**		**00 57 27.8**	**-1.5**
MAW	**Mawson**	**77.39**	**201**	P		**P**		**00 57 39.0**	**+0.4**
	1.3nm,0.8s,mb3.7,baz=46,slow=8.6,SNR=3.5								
MAW	**Mawson**	**77.39**	**201**	*e*P		**P**		**00 57 39.3**	**+0.7**
	5.6nm,1.1s,mb4.2								
TXAR	**Lajitas Array**	**124.42**	**57**	PKP		PKPdf		01 04 39.4	-2.7
	0.2nm,0.8s,baz=196,slow=2.2,SNR=3.5								

*NEIC **20** 01:01:26.4±0.4, 46.95N×152.95E, h10km, mb4.4/12, Error ellipse: s-maj=14.4km s-min=6.9km az=166.0*
*ISCJB **20** 01:01:29.9±1.0, 46.86N±007×152.94E±008, h52km±9km, mb4.4/31, MS3.5/1, Error ellipse: s-maj=13.6km s-min=6.3km az=115.5*
*MOS **20** 01:01:29.7±1.1, 46.79N×152.93E, h54km, mb4.5/8, Error ellipse: s-maj=11.2km s-min=9.0km az=68.5*
*IDC **20** 01:01:36.2±3.5, 46.86N×152.76E, h95km±32km, mb3.8/15, mb1 4.0/17, mb1mx3.9/25, mbtmp3.8/17, MS3.4/2, Ms1 3.4/2, ms1mx2.9/30, Error ellipse: s-maj=17.8km s-min=15.7km az=146.0*
ISC 20 01:01:33.4±0.9, 4695N±007×15292E±008, h66km±7km, n85, σ1§01/83, mb4.2/31, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**246**	⇑*i*PN		**Pn**		**01 02 25.5**	**-5.5**
KUR				*i* S		**Sn**		**01 03 09.0**	**-6.7**
KUR				pmax	pmax				
	comp=Z,170nm,0.5s								
KUR				smax					
	comp=N,260nm,0.6s								
KUR				smax					
	comp=E,230nm,0.6s								
SKR	**Severo-Kuril's**	**4.29**	**28**	*e*PN		**Pn**		**01 02 36.0**	**-0.2**
SKR				*e*S		**Sn**		**01 03 24.5**	**-0.5**
SKR				pmax	pmax				
	comp=Z,80nm,0.4s								
SKR				smax					
	comp=N,180nm,0.3s								
SKR				smax					
	comp=E,370nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.75**	**242**	*e*PN		**Pn**		**01 02 54.0**	**-2.2**
YUK				*e*S		**Sn**		**01 04 05.0**	**+4.2**
YUK				smax					
	comp=N,2μm,1.0s								
YUK				smax					
	comp=E,2μm,1.0s								
YUK				smax					
	comp=N,570nm,0.5s								
YUK				smax					
	comp=E,570nm,0.5s								
YSS	**Yuzh-Sakhalins**	**6.96**	**274**	*e*PN		**Pn**		**01 03 13.1**	**+0.4**
YSS				pmax	pmax				
	comp=Z,30nm,0.9s								
YSS				pmax	pmax				
	comp=E,30μm,1.0s								
YSS				MLR	MLR				
	comp=Z,400nm,14.0s								
YSS				MLR	MLR				
	comp=E,400nm,16.0s								
YSS	**Yuzh-Sakhalins**	**6.96**	**274**	Pn		**Pn**		**01 03 14.4**	**+1.7**
ASAJ	**Asahikawa**	**7.78**	**252**	P		**Pn**		**01 03 24.0**	**+0.1**
	comp=E,3.4nm,0.3s,baz=77,slow=18,SNR=15								
ASAJ				LR		LR		01 05 59.8	
	comp=E,192nm,20.6s,baz=12,slow=34								
ERM	**Erimo**	**8.54**	**238**	*e*PN		**Pn**		**01 03 31.5**	**-2.8**
ERM				pmax	pmax				
	comp=Z,37nm,0.6s								
ERM	**Erimo**	**8.54**	**238**	*e*Pn		**Pn**		**01 03 31.5**	**-2.8**
	comp=Z,37nm,0.6s								
MAJO	**Matsushiro**	**15.10**	**232**	P		**Pn**		**01 05 05.7**	**+2.9**
MAJO				pmax	pmax				
	comp=Z,6.0nm,0.4s								
MAJO	**Matsushiro**	**15.10**	**232**	Pn		**Pn**		**01 05 05.7**	**+2.9**
	comp=Z,5.9nm,0.4s								
MJAR	**Matsushiro Arr**	**15.10**	**232**	P		**Pn**		**01 05 04.4**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=38,slow=8.4,SNR=9.7								
YAK	**Yakutsk**	**20.09**	**327**	*e*P		**P**		**01 06 01.9**	**+0.4**
KSRS	**Korea Array**	**20.73**	**252**	P		**P**		**01 06 09.0**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=53,slow=11,SNR=9.2								
BILL	**Bilibino**	**22.23**	**13**	P		**P**		**01 06 27.1**	**+2.6**
BILL	**Bilibino**	**22.23**	**13**	P		**P**		**01 06 27.1**	**+2.6**
ULN	**Ulaanbaatar**	**30.71**	**289**	P		**P**		**01 07 42.7**	**+0.7**
SONM	**Songino Array**	**31.15**	**289**	P		**P**		**01 07 45.6**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=80,slow=8.9,SNR=3.2								
SONM				LR		LR		01 21 29.0	
	comp=Z,100nm,18.4s,baz=54,slow=38								
SML	**Sawmill**	**35.92**	**44**	P		**P**		**01 08 28.7**	**+1.4**
COLA	**College**	**36.06**	**39**	*e*P		**P**		**01 08 27.8**	**-0.8**
COLA				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
COLA	**College**	**36.06**	**39**	*e*P		**P**		**01 08 27.8**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.3								
INK	**Inuvik**	**41.56**	**33**	P		**P**		**01 09 15.3**	**+0.9**
	comp=Z,2.3nm,0.4s,mb4.2,baz=291,slow=6.2,SNR=22								
MKAR	**Makanchi Array**	**46.74**	**297**	P		**P**		**01 09 54.8**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=68,slow=7.0,SNR=7.7								
MKAR				PcP	PcP			01 11 28.1	-0.3
	comp=Z,0.9nm,0.7s,baz=66,slow=2.8,SNR=4.7								
LSA	**Lhasa**	**50.13**	**273**	*e*P		**P**		**01 10 23.2**	**+1.2**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.6								
LSA	**Lhasa**	**50.13**	**273**	*e*P		**P**		**01 10 23.2**	**+1.2**
	comp=Z,3.5nm,0.5s,mb4.5								
CHTO	**Chiang Mai**	**52.04**	**256**	*e*P		**P**		**01 10 36.5**	**+0.2**
CHTO				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
CHTO	**Chiang Mai**	**52.04**	**256**	*e*P		**P**		**01 10 36.5**	**+0.2**
	comp=Z,3.9nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**53.63**	**296**	P		**P**		**01 10 50.1**	**+2.1**
JIRN	**Jiri**	**54.80**	**274**	*e*P		**P**		**01 10 57.2**	**+0.7**
	comp=Z,11nm,0.5s,mb5.2								
GUN	**Gumba**	**54.85**	**275**	*e*P		**P**		**01 10 56.5**	**-0.4**
KKN	**Kakani**	**55.34**	**275**	*e*P		**P**		**01 11 00.0**	**-0.4**
PKI	**Pulchoki**	**55.39**	**275**	*e*P		**P**		**01 11 00.8**	**0.0**
	comp=Z,7.7nm,0.5s,mb5.0								
DMN	**Daman**	**55.57**	**275**	*e*P		**P**		**01 11 02.6**	**+0.5**
	comp=Z,9.0nm,0.4s,mb5.1								
GKN	**Gorkha**	**55.64**	**276**	*e*P		**P**		**01 11 02.7**	**+0.1**
	comp=Z,13nm,0.6s,mb5.1								
KOLN	**Koldanda**	**56.50**	**276**	*e*P		**P**		**01 11 09.1**	**+0.4**
	comp=Z,19nm,1.0s,mb5.1								
ARCES	**ARCESS Array B**	**57.62**	**341**	P		**P**		**01 11 15.4**	**-1.2**
	comp=Z,2.9nm,0.9s,mb4.3,baz=35,slow=11,SNR=4.7								

WALA	**Waterton Lakes**	**58.42**	**50**	P		**P**		**01 11 21.3**	**-0.9**
PBA	**Port Blair**	**61.32**	**256**	*e*P		x		01 12 24.1	
PBA				*e*S		x		01 12 35.1	
PBA				*ex*		x		01 12 36.6	
	comp=N,267nm,0.4s								
PBA				*ex*		x		01 12 37.4	
	comp=E,184nm,0.2s								
NVAR	**Mina Array Bea**	**62.46**	**62**	P		**P**		**01 11 50.7**	**+0.9**
	comp=E,0.6nm,0.5s,mb3.9,baz=307,slow=8.9,SNR=5.6								
FINES	**FINESS Array B**	**63.81**	**335**	P		**P**		**01 11 57.7**	**-1.0**
	comp=E,2.6nm,0.4s,mb4.4,baz=39,slow=7.0,SNR=38								
FINES	**FINESS Array B**	**63.81**	**335**	P		**P**		**01 11 57.7**	**-1.0**
HWUT	**Hardware Ranch**	**64.37**	**56**	*e*P		**P**		**01 12 03.4**	**+1.0**
	comp=E,0.9nm,0.3s,mb4.1								
DUG	**Dugway**	**64.58**	**58**	*e*P		**P**		**01 12 03.6**	**-0.1**
DUG				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.9								
DUG	**Dugway**	**64.58**	**58**	*e*P		**P**		**01 12 03.6**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.7								
BW06	**Boulder Array**	**64.74**	**54**	*e*P		**P**		**01 12 05.3**	**+0.6**
	comp=Z,1.6nm,0.8s,mb3.9								
PDAR	**Pinedale Array**	**64.74**	**54**	P		**P**		**01 12 05.5**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.8,baz=331,slow=1.4,SNR=11								
OBN	**Obninsk**	**65.07**	**325**	*e*P		**P**		**01 12 06.0**	**-0.9**
	comp=Z,4.0nm,0.4s,mb4.6								
RSSD	**Black Hills**	**66.80**	**50**	*e*P		**P**		**01 12 18.2**	**+0.2**
RSSD				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.9								
RSSD	**Black Hills**	**66.80**	**50**	*e*P		**P**		**01 12 18.2**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.0								
AGMN	**Agassiz Refuge**	**67.87**	**42**	P		**P**		**01 12 23.5**	**-1.3**
	comp=Z,15nm,0.4s,mb5.2								
PV10	**Paradox Valley**	**67.97**	**57**	*e*P		**P**		**01 12 26.2**	**+0.8**
NB2	**NORSAR Subarra**	**68.00**	**341**	P		**P**		**01 12 24.7**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.4,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.00**	**341**	P		**P**		**01 12 25.1**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.4,baz=28,slow=6.3,SNR=12								
PV01	**Paradox Valley**	**68.41**	**57**	*e*P		**P**		**01 12 28.5**	**+0.4**
WRA	**Warramunga Arr**	**68.66**	**199**	P		**P**		**01 12 27.0**	**-2.7**
	comp=Z,0.4nm,0.8s,mb3.3,baz=6.8,slow=7.0,SNR=4.8								
ISCO	**Idaho Springs**	**68.93**	**54**	*e*P		**P**		**01 12 31.0**	**-0.4**
ISCO				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.8								
ISCO	**Idaho Springs**	**68.93**	**54**	*e*P		**P**		**01 12 31.0**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.8								
SDCO	**Great Sand Dun**	**70.42**	**56**	P		**P**		**01 12 40.9**	**+0.3**
KIV	**Kislovodsk**	**70.57**	**314**	*e*P		**P**		**01 12 41.8**	**+0.3**
KIV				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
KIV	**Kislovodsk**	**70.57**	**314**	*e*P		**P**		**01 12 41.8**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.2								
AKASG	**Malin Array Be**	**71.31**	**326**	P		**P**		**01 12 44.9**	**-1.1**
	comp=Z,5.2nm,0.4s,mb4.7,baz=35,slow=6.4,SNR=14								
ASAR	**Alice Springs**	**72.35**	**198**	P		**P**		**01 12 51.4**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.7,baz=14,slow=5.0,SNR=9.9								
STHS	**Stebnicka Huta**	**75.28**	**330**	*e*P		**P**		**01 13 10.0**	**+0.7**
KOLS	**Kolonicke sedl**	**75.33**	**329**	*e*P		**P**		**01 13 07.0**	**-2.6**
BURAR	**Bucovina Array**	**75.35**	**326**	⇓*i*P		**P**		**01 13 09.6**	**-0.1**
MORC	**Moravsky Berou**	**76.20**	**332**	*e*P		**P**		**01 13 14.9**	**+0.3**
MORC				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.2								
MORC	**Moravsky Berou**	**76.20**	**332**	*e*P		**P**		**01 13 14.9**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.2								
CLL	**Collm**	**76.23**	**335**	*e*P		**P**		**01 13 14.0**	**-0.8**
WMOK	**Wichita Mounta**	**76.35**	**54**	P		**P**		**01 13 15.4**	**0.0**
MLR	**Muntele Rosu**	**76.83**	**325**	⇓*i*P		**P**		**01 13 19.1**	**+1.0**
MLR	**Muntele Rosu**	**76.83**	**325**	⇓P		**P**		**01 13 19.1**	**+1.0**
VYHS	**Vyhne**	**76.89**	**331**	*e*P		**P**		**01 13 18.0**	**-0.5**
MALT	**Malatya**	**76.92**	**313**	⇓*i*P		**P**		**01 13 20.2**	**+1.5**
MALT	**Malatya**	**76.92**	**313**	*e*P		**P**		**01 13 18.8**	**+0.2**
DRGR		**76.98**	**327**	⇑*i*P		**P**		**01 13 17.1**	**-1.9**
DRGR		**76.98**	**327**	⇑P		**P**		**01 13 17.1**	**-1.8**
LTX	**Lajitas**	**77.51**	**60**	P		**P**		**01 13 21.0**	**-0.9**
TXAR	**Lajitas Array**	**77.51**	**60**	P		**P**		**01 13 22.3**	**+0.4**
	comp=Z,1.1nm,0.5s,mb3.9,baz=301,slow=4.7,SNR=34								
BRTR	**Keskin Array B**	**78.16**	**317**	P		**P**		**01 13 25.7**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=60,slow=4.0,SNR=11								
GERES	**GERESS Array B**	**78.22**	**334**	P		**P**		**01 13 25.2**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.6,baz=34,slow=5.0,SNR=8.1								
VTS	**Vitosha**	**80.33**	**325**	⇓*i*P		**P**		**01 13 37.8**	**+0.4**
VTS	**Vitosha**	**80.33**	**325**	⇓P		**P**		**01 13 37.8**	**+0.4**
CFAA	**Coronel Fontan**	**145.08**	**79**	PKPbc	PKPbc			01 21 01.9	-0.9
	comp=Z,0.2nm,0.5s,baz=275,slow=4.8,SNR=6.2								
SNAA	**Sanae**	**152.71**	**196**	*e*	PKPbc			01 21 19.6	-3.0
SNAA				*e*				01 21 34.5	
SNAA				*e*				01 21 41.2	
SNAA				*e*				01 22 08.6	
VNA2	**Neumayer--Watz**	**154.16**	**195**	*e*	PKPbc			01 21 23.3	-2.5
	baz=124,slow=1.0								
VNA2				*e*				01 21 30.8	
VNA2				*e*				01 21 38.0	
VNA2				*e*				01 21 52.0	
VNA2				*e*				01 22 13.1	
VNA3	**Neumayer Olymp**	**154.26**	**193**	*e*	PKPbc			01 21 23.5	-2.5
VNA3				*e*				01 21 31.7	
VNA3				*e*				01 21 37.8	
VNA3				*e*				01 21 51.7	
VNA3				*e*				01 22 12.8	

*SOF **20** 01:02:25.7, 4186N×2273E, h7km, MD3.7*
*SKO **20** 01:02:25.4, 4183N×2269E, h15km, M2.8, ML3.1*
*CSEM **20** 01:02:25.8±0.1, 4185N×2267E, h8km, MD3.7, Error ellipse: s-maj=1.5km s-min=1.3km az=152.0*
*ISCJB **20** 01:02:25.7±0.2, 4182N±002×2264E±002, h10km, Error ellipse: s-maj=2.2km s-min=2.0km az=139.2*
*NEIC **20** 01:02:26.0, 4182N×2269E, h0km, MD3.7(SOF), ML2.9(BUC), ML3.1(ATH), ML3.7(THE), After THE.*
*THE **20** 01:02:26.0, 4182N×2269E, h10km, ML3.6*
**ISC 20 01:02:26.7±0.2, 4181N±002×2267E±002, h10km

THE	**Thessaloniki**	**1.20 169**	*e*Pg		**Pg**	**01 02 48.7**	**-1.0**
HORT	**Hortiatis**	**1.25 165**	*e*Pg		**Pg**	**01 02 49.7**	**-1.0**
HORT			*e*Sg		**Sg**	**01 03 06.7**	**-0.3**
BIA	**Bitola**	**1.28 232**	*e*Pg		**Pg**	**01 02 50.6**	**-0.8**
BIA			*e*Sg		**Sg**	**01 03 08.2**	**+0.2**
BIA	**Bitola**	**1.28 232**	*e*Pg		**Pg**	**01 02 50.4**	**-1.0**
BIA			*e*Sg		**Sg**	**01 03 07.8**	**-0.2**
BIA			*e*Lg			01 03 08.1	
	comp=E,184nm,0.5s						
BIA			*e*Lg			01 03 08.2	
	comp=N,299nm,0.5s						
BIA	**Bitola**	**1.28 232**	*e*Pg		**Pg**	**01 02 50.3**	**-1.0**
BIA			*e*Sg		**Sg**	**01 03 07.8**	**-0.2**
PGB	**Panagyurishte**	**1.33 56**	*i* P		**Pn**	**01 02 50.6**	**-0.7**
PGB			*i* S		**Sb**	**01 03 07.0**	**-1.9**
FNA	**Florina**	**1.42 224**	*e*Pg		**Pg**	**01 02 52.9**	**-0.9**
FNA			*e*Sg		**Sg**	**01 03 12.5**	**+0.3**
RZN	**Rozhen**	**1.54 94**	*i* P		**Pn**	**01 02 53.7**	**-0.4**
RZN			*i* S		**Sn**	**01 03 14.0**	**-0.1**
PLD	**Plovdiv**	**1.54 78**	*i* P		**Pn**	**01 02 54.8**	**+0.6**
PLD			*i* S		**Sn**	**01 03 15.6**	**+1.3**
PLD	**Plovdiv**	**1.54 78**	*e*Pg		**Pn**	**01 02 54.8**	**+0.6**
PLG	**Polygyros**	**1.55 158**	*e*Pg		**Pn**	**01 02 54.2**	**-0.1**
PLG	**Polygyros**	**1.55 158**	*e*P		**Pn**	**01 02 54.0**	**-0.3**
PLG	**Polygyros**	**1.55 158**	P		**Pn**	**01 02 54.9**	**+0.6**
OHR	**Ohrid**	**1.57 244**	*e*Pg		**Pn**	**01 02 55.6**	**+1.1**
OHR	**Ohrid**	**1.57 244**	*e*Pg		**Pn**	**01 02 55.4**	**+0.8**
OHR			*e*Sg		**Sg**	**01 03 16.6**	**-0.6**
OHR			*e*Lg			01 03 16.9	
	comp=N,308nm,0.5s						
OHR			*e*Lg			01 03 17.1	
	comp=E,304nm,0.7s						
OHR	**Ohrid**	**1.57 244**	*e*Pg		**Pn**	**01 02 55.3**	**+0.7**
OHR			*e*Sg		**Sg**	**01 03 16.6**	**-0.6**
KZN	**Kozani**	**1.65 205**	*e*P		**Pn**	**01 02 56.0**	**+0.3**
KZN	**Kozani**	**1.65 205**	P		**Pn**	**01 02 57.0**	**+1.3**
LIT	**Litokhoron**	**1.71 185**	*e*Pb		**Pn**	**01 02 55.9**	**-0.6**
OUR	**Ouranopolis**	**1.78 146**	*e*Pb		**Pn**	**01 02 57.1**	**-0.4**
KDZ	**Kurdzhali**	**2.06 94**	*i* P		**Pn**	**01 03 02.2**	**+0.9**
KDZ			*i* S		**Sn**	**01 03 29.5**	**+2.4**
DIM	**Dimitrovgrad**	**2.15 83**	*i* P		**Pb**	**01 03 04.4**	**-1.3**
DIM			*i* S		**Sb**	**01 03 34.7**	**+2.4**
TIR	**Tirane**	**2.16 259**	P		**Pg**	**01 03 07.4**	**-0.6**
RDO	**Rodhopi**	**2.25 106**	*e*P		**Pn**	**01 03 04.0**	**0.0**
RDO	**Rodhopi**	**2.25 106**	P		**Pn**	**01 03 04.3**	**+0.3**
THL	**Klokotos Trika**	**2.30 193**	*e*P		**Pn**	**01 03 05.0**	**+0.4**
PVL	**Pavlikeni**	**2.42 54**	*i* P		**Pn**	**01 03 09.0**	**+2.8**
PVL			*i* Sg		**Sn**	**01 03 35.5**	**-0.4**
GRUS	**Gruza**	**2.53 326**	*i* Pn		**Pn**	**01 03 10.2**	**+2.5**
GRUS			Sn		**Sn**	**01 03 44.3**	**+5.8**
GRUS	**Gruza**	**2.53 326**	Pn		**Pn**	**01 03 10.2**	**+2.5**
JAN	**Janina**	**2.56 213**	*e*P		**Pn**	**01 03 09.0**	**+0.8**
ALN	**Alexandroupoli**	**2.70 109**	*e*Pn		**Pn**	**01 03 09.9**	**-0.2**
ALN			*e*Sn		**Sn**	**01 03 45.1**	**+2.3**
SVIS	**Svilajnac**	**2.70 337**	*i* Pn		**Pn**	**01 03 10.9**	**+0.8**
AOS	**Alonnisos**	**2.79 160**	*e*Pn		**Pn**	**01 03 11.3**	**-0.1**
AGG	**Agios Georgios**	**2.80 185**	*e*Pn		**Pn**	**01 03 11.9**	**+0.5**
SZH	**Strazhica**	**2.82 58**	*i* P		**Pg**	**01 03 18.0**	**-2.6**
SZH			*i* S		**Sg**	**01 03 54.6**	**-2.5**
EVR	**Evrytania**	**2.96 193**	*e*P		**Pn**	**01 03 14.5**	**+0.7**
EVR	**Evrytania**	**2.96 193**	P		**Pn**	**01 03 15.8**	**+2.0**
JMB	**Yambol**	**2.98 76**	*e*Pn		**Pn**	**01 03 12.9**	**-1.0**
JMB	**Yambol**	**2.98 76**	*e*Pn		**Pn**	**01 03 12.9**	**-1.1**
DIVS	**Divcibare**	**3.02 320**	*i* Pn		**Pn**	**01 03 13.9**	**-0.6**
DIVS			Sn		**Sn**	**01 03 55.5**	**+4.9**
DIVS	**Divcibare**	**3.02 320**	*e*Pn		**Pn**	**01 03 13.9**	**-0.6**
BEO	**Belgrade**	**3.42 332**	*i* Pn		**Pn**	**01 03 24.3**	**+4.3**
BEO			Sn		**Sn**	**01 04 02.4**	**+1.8**
BEO	**Belgrade**	**3.42 332**	Sn		**Sn**	**01 04 02.3**	**+1.8**
GZR	**Gura Zlata**	**3.58 1**	⇑*i*P		**Pn**	**01 03 21.1**	**-1.1**
GZR	**Gura Zlata**	**3.58 1**	P		**Pn**	**01 03 21.1**	**-1.2**
PRK	**Paraskevi**	**3.75 132**	P		**Pn**	**01 03 26.8**	**+2.2**
BZS	**Buzias**	**3.88 349**	⇑*i*P		**Pn**	**01 03 25.0**	**-1.4**
BZS	**Buzias**	**3.88 349**	⇑P		**Pn**	**01 03 25.0**	**-1.4**
VOIR		**4.01 25**	⇑*i*P		**Pn**	**01 03 31.8**	**+3.6**
VOIR		**4.01 25**	⇑P		**Pn**	**01 03 31.8**	**+3.6**
MLR	**Muntele Rosu**	**4.38 32**	⇓*i*P		**Pn**	**01 03 36.9**	**+3.7**
MLR	**Muntele Rosu**	**4.38 32**	⇓P		**Pn**	**01 03 36.9**	**+3.7**
TIRR	**Tirgusor**	**4.96 56**	⇑*i*P		**Pn**	**01 03 40.9**	**-0.3**
DRGR		**4.98 0**	⇑*i*P		**Pn**	**01 03 41.3**	**-0.2**
DRGR		**4.98 0**	⇑P		**Pn**	**01 03 41.3**	**-0.2**
VRI	**Vrincioaia**	**5.00 35**	⇓*i*P		**Pn**	**01 03 45.6**	**+3.8**
VRI	**Vrincioaia**	**5.00 35**	⇓P		**Pn**	**01 03 45.6**	**+3.8**
VLI	**Veliai**	**5.09 178**	P		**Pn**	**01 03 43.9**	**+0.9**
PKSM	**Moragy**	**5.27 328**	⇓*i*P		**Pn**	**01 03 44.3**	**-1.2**
BURAR	**Bucovina Array**	**6.08 16**	⇑*i*P		**Pn**	**01 03 58.8**	**+2.2**
BURAR	**Bucovina Array**	**6.08 16**	⇑P		**Pn**	**01 03 58.8**	**+2.3**
ARSA	**Arzberg**	**7.46 319**	⇑*i*Sn		**Sn**	**01 05 41.3**	**+1.1**
	comp=E,0.2nm,0.1s						
ARSA	**Arzberg**	**7.46 319**	⇓*i*Pn		**Pn**	**01 04 16.0**	**+0.5**
ARSA	comp=E,2.9nm,0.5s		⇑*i*Sn		**Sn**	**01 05 41.3**	**+1.1**
	comp=E,0.2nm,0.1s						
MOA	**Molln**	**8.49 318**	⇓*i*Sn		**Sn**	**01 06 09.6**	**+4.1**
	comp=E,3.5nm,0.4s						
MOA	**Molln**	**8.49 318**	⇑*e*Pn		**Pn**	**01 04 30.5**	**+0.8**
MOA	comp=E,0.2nm,0.2s		⇓*i*Sn		**Sn**	**01 06 09.6**	**+4.1**
	comp=E,3.5nm,0.4s						
MOTA	**Moosalm**	**9.93 308**	⇑*e*Sn		**Sn**	**01 06 40.6**	**-0.3**
	comp=E,1.2nm,0.7s						
MOTA	**Moosalm**	**9.93 308**	⇑*i*Pn		**Pn**	**01 04 51.8**	**+2.4**
MOTA	comp=E,0.7nm,0.3s		⇑*e*Sn		**Sn**	**01 06 40.6**	**-0.3**
	comp=E,1.2nm,0.7s						

WEL 20 01:08:37.6±0.5, 4097S×17285E, h192km±3km, ML3.5/8, 4C, Error ellipse: s-maj=3.7km s-min=3.5km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.28**	**300**	PN	Pn	01 09 03.0	-0.1
QRZ				SN	Sn	01 09 21.5	-1.2
NNZ	**Nelson**	**0.47**	**122**	⇑PN	Pn	01 09 03.6	0.0
NNZ				SN	Sn	01 09 22.7	-1.1
THZ	**Tophouse**	**0.79**	**177**	PN	Pn	01 09 05.6	+0.4
DUWZ	**D'Urville Isla**	**0.83**	**79**	⇑PN	Pn	01 09 05.2	-0.1
DUWZ				SN	Sn	01 09 27.0	+0.1
BSWZ	**Blackbirch Sta**	**1.07**	**134**	PN	Pn	01 09 07.2	+0.3
BSWZ				SN	Sn	01 09 29.5	-0.3
TCW	**Tory Channel**	**1.10**	**103**	⇑PN	Pn	01 09 07.2	0.0
DSZ	**Denniston Nort**	**1.11**	**225**	PN	Pn	01 09 07.1	-0.1
DSZ				SN	Sn	01 09 28.4	-1.8
MRW	**Makara Radio**	**1.42**	**101**	⇑PN	Pn	01 09 09.4	-0.4
SNZO	**South Karori**	**1.44**	**104**	PN	Pn	01 09 09.5	-0.5
KHZ	**Kahutara**	**1.54**	**161**	PN	Pn	01 09 10.7	-0.2
KIW	**Kapiti Island**	**1.56**	**87**	PN	Pn	01 09 10.6	-0.5
LTZ	**Lake Taylor**	**1.86**	**193**	PN	Pn	01 09 14.1	+0.1
MTW	**Mount Morrison**	**2.01**	**96**	PN	Pn	01 09 14.9	-0.7
WAZ	**Wanganui**	**2.03**	**54**	PN	Pn	01 09 15.4	-0.4
TRWZ	**Traveller**	**2.18**	**102**	SN	Sn	01 09 47.2	-1.2
TSZ	**Takapari Road**	**2.54**	**70**	PN	Pn	01 09 20.3	-1.1
BFZ	**Birch Farm**	**2.59**	**85**	PN	Pn	01 09 21.1	-0.9
TUVZ	**Tukino**	**2.74**	**53**	PN	Pn	01 09 22.3	-1.4
BKZ	**Black Stump Fm**	**3.32**	**58**	PN	Pn	01 09 28.4	-2.3

MAN 20 01:13:45.8, 920N×12563E, h9km, mb3.9, ML4.9, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**182**	*e*P	Pg	01 13 50.8	+0.4
BUTP				*e*S	Sg	01 13 55.3	+1.8
SCPH	**Surigao**	**0.60**	**347**	⇑*e*P	Pg	01 13 58.6	+1.2
SCPH				*e*S	Sg	01 14 09.9	+4.6
CGP	**Cagayan de Oro**	**1.18**	**232**	⇑*i*P	Pb	01 14 05.8	-2.6
CGP				*i* S	Sb	01 14 20.7	-3.1
MSLP	**Maasin**	**1.20**	**321**	*e*P	Pb	01 14 08.1	-0.7
MSLP				*e*S	Sb	01 14 26.9	+2.4
BUKP	**Musuan**	**1.42**	**203**	*e*P	Pn	01 14 11.2	-0.7
BUKP				*e*S	Sn	01 14 31.9	+1.1
TBP	**Tagbilaran**	**1.81**	**286**	*e*P	Pn	01 14 16.9	-0.3
TBP				*e*S	Sn	01 14 40.5	+0.2
PLP	**Palo**	**2.06**	**342**	*e*P	Pn	01 14 22.1	+1.5
PLP				*e*S	Sn	01 14 48.4	+2.0

*STR **20** 01:14:13.9±0.0, 4302N×003W, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 20 01:14:13.7±0.1, 4304N×002W, h10km, Md1.8/3, Ml1.4/2, Error ellipse: s-maj=11.4km s-min=2.0km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**87**	Pg	Pg	01 14 15.8	-0.1
LABF				Sg	Sg	01 14 17.2	-0.3
VIEF	**Viey**	**0.16**	**168**	Pg	Pg	01 14 16.9	-0.4
VIEF				Sg	Sg	01 14 19.1	-0.6
EPF	**Esparros**	**0.27**	**93**	*e*Pg	Pg	01 14 18.9	-0.2
EPF				*e*Sg	Sg	01 14 22.5	-0.2
	3.3nm,0.2s						
ETSF	**Etsaut**	**0.42**	**250**	*e*Pg	Pg	01 14 22.1	+0.2
ETSF				*e*Sg	Sg	01 14 27.8	+0.3
	1.9nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**275**	*e*Pg	Pg	01 14 30.4	-0.3
SJPF				*e*Sg	Sg	01 14 41.4	-0.8
	1.5nm,0.4s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	01 14 45.1	-0.5
MTLF				*e*Sg	Sg	01 15 06.5	-0.7
	0.9nm,0.3s						

*SKHL **20** 01:18:12.9±3.5, 4729N×15540E, h31km±11km, Ms3.9/1 IDC **20** 01:18:13.0±0.7, 4729N×15528E, h0km, mb4.2/21, mb1 4.4/23, mb1mx4.4/27, mbtmp4.2/23, ML3.7/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/30, Error ellipse: s-maj=19.4km s-min=13.8km az=161.0 ISCJB **20** 01:18:13.3±0.3, 4734N±005×15521E±007, h10km, mb4.5/51, MS3.7/8, Error ellipse: s-maj=8.6km s-min=5.0km az=103.5 BJI **20** 01:18:14.3, 4741N×15507E, h10km, mB4.8, mb4.6, Ms4.0, Msz3.7 NEIC **20** 01:18:14.9±0.3, 4732N×155.17E, h10km, mb4.6/15, Error ellipse: s-maj=8.5km s-min=5.6km az=151.0 MOS **20** 01:18:17.6±1.4, 47.18N×15508E, h48km, mb4.9/17, Error ellipse: s-maj=11.0km s-min=8.3km az=96.5*

ISC 20 01:18:15.1±0.3, 4738N±005×15520E±007, h10km, n118, σ1§05/122, mb4.5/51, MS3.7/8, 8C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.36**	**10**	*e*P	**Pn**	**01 19 06.0**	**-1.7**
SKR				*e*S	**Sn**	**01 19 48.5**	**+0.8**
KUR	**Kuril'sk**	**5.51**	**250**	*e*P	**Pn**	**01 19 35.6**	**-1.7**
KUR				AMB	AMB	01 19 37.4	
	120nm,0.7s						
KUR				*e*S	**Sn**	**01 20 35.0**	**-5.7**
KUR				A		01 20 40.0	
	344nm,0.7s						
KUR				A		01 20 40.0	
	189nm,0.7s						
PET	**Petropavlovsk**	**6.07**	**20**	*e*PN	**Pn**	**01 19 43.3**	**-1.6**
PET	**Petropavlovsk**	**6.07**	**20**	*e*Pn	**Pn**	**01 19 43.5**	**-1.4**
PET				*e*Sn	**Sn**	**01 20 41.2**	**-13**
YSS	**Yuzh-Sakhalins**	**8.49**	**272**	*e*P	**Pn**	**01 20 22.6**	**+4.5**
YSS				AMB	AMB	01 20 24.0	
	30nm,0.9s						
YSS				AMB	AMB	01 20 24.0	
	30nm,0.9s						
YSS				*e*pP		01 20 30.9	
YSS				*e*sP		01 20 35.8	
YSS				*e*rx	rx	01 20 49.8	
YSS				*e*S	**Sn**	**01 21 48.0**	**-6.0**
YSS				*e*LQ		01 22 12.0	
YSS				AMS	AMS	01 24 24.0	
	300nm,15.0s						
YSS				AMS	AMS	01 24 24.0	
	400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.49**	**272**	*e*PN	**Pn**	**01 20 17.0**	**-1.1**
YSS	**Yuzh-Sakhalins**	**8.49**	**272**	Pn	**Pn**	**01 20 17.1**	**-1.0**
ASAJ	**Asahikawa**	**9.40**	**254**	Pn	**Pn**	**01 20 31.6**	**+1.1**
	1.4nm,0.3s,baz=79,slow=14,SNR=15						
ASAJ				LR	LR	01 24 32.9	
	comp=Z,86nm,18.7s,baz=141,slow=40						
ASAJ	**Asahikawa**	**9.40**	**254**	PN	**Pn**	**01 20 31.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,86nm,18.7s						
NKL	**Nikolayevsk**	**10.94**	**307**	*e*L		01 25 10.0	
NKL				AMS	AMS	01 26 36.0	
	comp=Z,1μm,14.0s						
MA2	**Magadan**	**12.50**	**350**	PN	**Pn**	**01 21 13.0**	**0.0**
KLR	**Kul'dur**	**15.70**	**285**	*e*P	**Pn**	**01 22 02.8**	**+6.4**
MJAR	**Matsushiro Arr**	**16.60**	**235**	Pn	**Pn**	**01 22 06.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=4.0						
MAJO	**Matsushiro**	**16.60**	**235**	*e*P	**Pn**	**01 22 05.2**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAJO	**Matsushiro**	**16.60**	**235**	*e*Pn	**Pn**	**01 22 05.2**	**-2.7**
	comp=Z,9.5nm,0.7s						
YAK	**Yakutsk**	**20.60**	**325**	P	**P**	**01 22 52.1**	**-2.2**
CN2	**Changchun**	**21.06**	**271**	*e*P	**P**	**01 22 57.8**	**-1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS3.6						
BILL	**Bilibino**	**21.48**	**11**	*e*P	**P**	**01 23 04.8**	**+1.0**
BILL				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.5						
BILL	**Bilibino**	**21.48**	**11**	*e*P	**P**	**01 23 03.2**	**-0.6**
	comp=Z,20nm,1.0s,mb4.4						
KSRS	**Korea Array**	**22.34**	**254**	P	**P**	**01 23 13.6**	**+0.5**
	comp=Z,5.5nm,0.9s,mb4.0,baz=52,slow=11,SNR=10						
SNY	**Shenyang**	**23.09**	**268**	⇓P	**P**	**01 23 21.4**	**+0.4**
SNY				S	**S**	**01 27 21.4**	**-11**
SNY				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.2						
SNY				AMB	AMB		
	comp=Z,149nm,4.6s						
SNY				LR	LR		
	comp=E,322nm,15.0s						
SNY				LR	LR		
	comp=Z,216nm,16.2s,MS3.7						
JNU	**Nakatsue**	**23.27**	**241**	LR	LR	01 31 37.5	
	comp=Z,159nm,20.3s,MS3.5,baz=253,slow=35						
TIXI	**Tiksi**	**27.29**	**342**	*e*P	**P**	**01 23 59.7**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
TIXI	**Tiksi**	**27.29**	**342**	*e*P	**P**	**01 23 59.7**	**0.0**
	comp=Z,2.2nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**32.04**	**289**	⇑*e*P	**P**	**01 24 40.3**	**-1.6**
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**01 24 45.3**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.0,baz=60,slow=9.5,SNR=16						
SONM				PcP	PcP	01 27 31.0	-1.6
	comp=Z,0.9nm,0.9s,baz=68,slow=3.1,SNR=4.0						
SONM				LR	LR	01 39 35.3	
	comp=Z,79nm,19.3s,MS3.4,baz=8.7,slow=39						
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**01 24 45.3**	**-0.3**
SONM						01 27 31.0	
TLY	**Talaya**	**33.16**	**297**	P	**P**	**01 24 50.6**	**-1.1**
COLA	**College**	**34.76**	**39**	*e*P	**P**	**01 25 03.7**	**-1.8**
COLA	**College**	**34.76**	**39**	*e*P	**P**	**01 25 05.2**	**-0.3**
	comp=Z,6.4nm,0.8s,mb4.6						
LZH	**Lanzhou**	**39.29**	**272**	*e*P	**P**	**01 25 46.5**	**+2.4**
LZH				AP	pP	01 25 52.3	+5.1
LZH				XP	sP	01 25 54.9	+6.5
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
LZH	**Lanzhou**	**39.29**	**272**	*e*P	**P**	**01 25 46.5**	**+2.4**
	comp=Z,18nm,1.0s,mb4.8						
LZH				pP	pP	01 25 52.3	+5.1
LZH				sP	sP	01 25 54.9	+6.5
GTA	**Gaotai**	**40.28**	**280**	*e*P	**P**	**01 25 53.9**	**+1.6**
GTA				AP	pP	01 25 58.4	+3.0
GTA				XP	sP	01 26 01.5	+4.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
INK	**Inuvik**	**40.35**	**33**	P	**P**	**01 25 53.1**	**+0.2**
	comp=Z,5.1nm,0.9s,mb4.2,baz=285,slow=6.4,SNR=14						
INK	**Inuvik**	**40.35**	**33**	P	**P**	**01 25 53.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**40.35**	**33**	*e*P	**P**	**01 25 53.2**	**+0.3**
	comp=Z,151nm,0.8s,mb5.8						
CD2	**Chengdu**	**42.35**	**266**	P	**P**	**01 26 09.4**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
ZAL	**Zalesovo**	**43.42**	**306**	P	**P**	**01 26 16.8**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.1,baz=56,slow=6.4,SNR=12						
ZAL				LR	LR	01 45 18.2	
	comp=Z,78nm,20.8s,MS3.6,baz=43,slow=37						
NVS	**Novosibirsk**	**43.94**	**308**	*e*P	**P**	**01 26 20.8**	**-1.4**
NVS				pmax	pmax		
	comp=N,7.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.8s						
NVS				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.5						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**01 26 53.8**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.6,baz=69,slow=8.1,SNR=17						
RES	**Resolute Bay**	**49.78**	**19**	*e*P	**P**	**01 27 06.6**	**-1.3**
	comp=Z,96nm,0.8s						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**01 27 21.2**	**-0.1**
	comp=Z,6.7nm,0.6s,mb4.8,baz=58,slow=8.0,SNR=30						
BVAR				LR	LR	01 52 09.1	
	comp=Z,116nm,18.6s,MS3.9,baz=319,slow=39						
BRVK	**Borovoye**	**51.60**	**310**	*e*P	**P**	**01 27 21.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**51.60**	**310**	*e*P	**P**	**01 27 21.8**	**+0.2**
	comp=Z,9.5nm,0.6s,mb4.9						
LSA	**Lhasa**	**51.66**	**274**	*e*P	**P**	**01 27 23.8**	**+1.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**51.66**	**274**	*e*P	**P**	**01 27 23.8**	**+1.8**
	comp=Z,3.8nm,0.4s,mb4.7						
CM31	**Chiang Mai Arr**	**53.90**	**258**	P	**P**	**01 27 39.8**	**+1.2**
HOOD	**Mount Hood Mea**	**54.76**	**59**	*e*P	**P**	**01 27 47.0**	**+2.2**
AAK	**Ala-Archa**	**54.83**	**297**	*e*P	**P**	**01 27 45.9**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.83**	**297**	*e*P	**P**	**01 27 46.0**	**+0.6**
ARU	**Arti**	**55.51**	**318**	⇑*i*P	**P**	**01 27 48.9**	**-1.4**
ARU				*e*		01 29 57.2	
ARU				*e*PPP		01 31 05.3	
ARU				*e*S	**S**	**01 35 33.7**	**-1.8**
ARU				*e*SS	SS	01 39 19.3	-0.9
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**55.51**	**318**	*e*P	**P**	**01 27 41.0**	**-9.2**
JIRN	**Jiri**	**56.31**	**276**	*e*P	**P**	**01 27 57.4**	**+1.4**
	comp=Z,12nm,0.7s,mb5.1						
GUN	**Gumba**	**56.36**	**276**	*e*P	**P**	**01 27 57.3**	**+0.9**
KKN	**Kakani**	**56.84**	**276**	*e*P	**P**	**01 28 01.3**	**+1.5**
PKI	**Pulchoki**	**56.90**	**276**	*e*P	**P**	**01 28 01.3**	**+1.1**
	comp=Z,5.0nm,0.3s,mb5.0						
PMG	**Port Moresby**	**56.98**	**189**	*e*P	**P**	**01 27 57.1**	**-3.7**
DMN	**Daman**	**57.08**	**276**	*e*P	**P**	**01 28 02.4**	**+0.9**
GKN	**Gorkha**	**57.14**	**277**	*e*P	**P**	**01 28 03.0**	**+1.1**
	comp=Z,37nm,0.9s,mb5.4						
ARCES	**ARCESS Array B**	**57.72**	**341**	P	**P**	**01 28 05.4**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.4,baz=39,slow=7.8,SNR=5.3						
ARCES				LR	LR	01 55 13.1	
	comp=Z,105nm,19.7s,MS4.0,baz=185,slow=38						
KOLN	**Koldanda**	**57.99**	**277**	*e*P	**P**	**01 28 09.1**	**+1.2**
	comp=Z,17nm,0.8s,mb5.1						
AKTK	**Aktyubinsk**	**59.37**	**312**	P	**P**	**01 28 18.7**	**+1.2**
AKTO	**Aktyubinsk**	**59.37**	**312**	P	**P**	**01 28 18.7**	**+1.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=61,slow=6.7,SNR=8.5						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**01 28 28.3**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=295,slow=8.9,SNR=7.7						
RRI2	**Red Ridge**	**61.86**	**56**	*e*P	**P**	**01 28 35.5**	**+1.1**
LOHW	**Long Hollow**	**62.09**	**55**	*e*P	**P**	**01 28 36.6**	**+0.6**
REDW	**Red Top Meadow**	**62.11**	**55**	*e*P	**P**	**01 28 36.9**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.8						
DUG	**Dugway**	**63.03**	**59**	*e*P	**P**	**01 28 42.6**	**+0.3**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
DUG	**Dugway**	**63.03**	**59**	*e*P	**P**	**01 28 42.6**	**+0.3**
	comp=Z,3.7nm,1.0s,mb4.5						
BW06	**Boulder Array**	**63.22**	**55**	*e*P	**P**	**01 28 43.6**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**63.22**	**55**	P	**P**	**01 28 43.5**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.4,baz=290,slow=2.1,SNR=20						
FINES	**FINESS Array B**	**64.07**	**336**	P	**P**	**01 28 48.8**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.7,baz=37,slow=7.2,SNR=16						
SRU	**San Rafael**	**65.08**	**59**	*e*P	**P**	**01 28 55.9**	**+0.2**
**

LPG La Plagne 83.45 338 *e*P **P 01 30 43.5 +0.7**
comp=Z,11nm,1.1s,mb4.8
CAF Calviac 85.09 341 *e*P **P 01 30 51.3 +0.1**
ESDC Sonseca Array 91.36 344 P **P 01 31 19.7 -1.4**
comp=Z,1.1nm,1.0s,mb4.2,baz=31,slow=4.3,SNR=5.3

*TRN **20** 01:24:15.3, 1949N×6422W, h10km, MD4.2*
*NEIC **20** 01:24:16.2, 1938N×6378W, h57km, MD3.9(RSPR), MD4.2(TRN), After RSPR.*
*RSPR **20** 01:24:16.2, 1938N×6378W, h57km±17km, MD3.9/11, MD3.9/11*
*ISCJB **20** 01:24:17.1±1.4, 196N±0.1×64.15W±004, h99km±18km, Error ellipse: s-maj=22.7km s-min=5.0km az=18.8*
ISC 20 01:24:18.3±1.3, 197N±01×6415W±004, h73km±37km, n18, σ1§31/34, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STMA	**St. Maarten, A**	**1.90**	**149**	*e*P	**Pn**	**01 24 50.8**	**+2.1**
STMA				*e*S	**Sn**	**01 25 11.6**	**-0.1**
MTP	**Monte Pirata**	**2.06**	**220**↑	*e*P	**Pn**	**01 24 48.6**	**-2.1**
MTP				*e*S	**Sn**	**01 25 13.3**	**-2.1**
CBYP	**Canovanas**	**2.13**	**229**↑	*e*P	**Pn**	**01 24 50.3**	**-1.5**
CBYP				*e*S	**Sn**	**01 25 17.4**	**0.0**
HUMP	**Col San Antoni**	**2.22**	**227**↑	*e*P	**Pn**	**01 24 51.3**	**-1.5**
HUMP				*e*S	**Sn**	**01 25 18.3**	**-1.0**
SABT	**Saba**	**2.22**	**157**	*e*P	**Pn**	**01 24 56.3**	**+3.4**
SABT				*e*S	**Sn**	**01 25 19.8**	**+0.4**
CPD	**Cerro la Pandu**	**2.33**	**226**↑	*e*P	**Pn**	**01 24 53.1**	**-1.4**
CPD				*e*S	**Sn**	**01 25 21.6**	**-0.6**
SJG	**San Juan**	**2.45**	**231**↑	*e*P	**Pn**	**01 24 54.5**	**-1.5**
SJG				*e*S	**Sn**	**01 25 24.8**	**-0.1**
AOPR	**Arecibo Observ**	**2.79**	**242**↑	*e*P	**Pn**	**01 25 00.5**	**-0.2**
AOPR				*e*S	**Sn**	**01 25 36.0**	**+2.7**
CELP	**Cerrillos**	**2.80**	**236**↑	*e*P	**Pn**	**01 25 00.1**	**-0.6**
CELP				*e*S	**Sn**	**01 25 34.9**	**+1.5**
ICM	**Isla Caja Muer**	**2.86**	**232**↑	*e*P	**Pn**	**01 25 00.9**	**-0.7**
ICM				*e*S	**Sn**	**01 25 35.4**	**+0.4**
GBPR	**Guanica, Bosqu**	**3.09**	**237**	*e*P	**Pn**	**01 25 04.8**	**+0.1**
GBPR				*e*S	**Sn**	**01 25 41.8**	**+1.4**
LSP	**Las Mesas**	**3.15**	**242**↑	*e*P	**Pn**	**01 25 05.7**	**+0.1**
LSP				*e*S	**Sn**	**01 25 44.0**	**+2.0**
CRPR	**Cabo Rojo, PR**	**3.26**	**240**↑	*e*P	**Pn**	**01 25 06.8**	**-0.2**
CRPR	**Cabo Rojo, PR**	**3.26**	**240**↑	*e*P	**Pn**	**01 25 06.8**	**-0.2**
CRPR				*e*S	**Sn**	**01 25 46.6**	**+2.0**
BPA	**Boggy Peak**	**3.41**	**140**	*e*P	**Pn**	**01 25 10.5**	**+1.4**
BPA				*e*S	**Sn**	**01 25 47.4**	**-0.9**
LZG	**Guadaloupe-1**	**4.18**	**147**	*e*P	**Pn**	**01 25 22.2**	**+2.6**
DEG	**La Desirade**	**4.46**	**138**	*e*P	**Pn**	**01 25 23.9**	**+0.6**
DEG				*e*S	**Sn**	**01 26 13.1**	**-0.8**
SDV	**Santo Domingo**	**12.43**	**211**	*e*Pn	**Pn**	**01 27 10.5**	**-1.6**
	5.1nm,0.6s						
SDV				*e*Sn	**Sn**	**01 29 19.4**	**-9.3**

*IDC **20** 01:31:48.0±3.0, 47.36N×155.39E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, Error ellipse: s-maj=86.2km s-min=28.3km az=3.0*
MOS 20 01:31:49.6±0.7, 4713N×15523E, h33km, mb4.1/6, Error ellipse: s-maj=54.3km s-min=23.1km az=90.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.60**	**9**	*e*PN	Pn	01 32 44.7	+1.6
SKR				*e*		01 33 28.5	
INK	**Inuvik**	**40.55**	**33**	P	P	01 39 25.7	0.0
	1.1nm,0.9s,baz=278,slow=11,SNR=4.0						
INK	**Inuvik**	**40.55**	**33**	P	P	01 39 25.7	0.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**48.05**	**298**	P	P	01 40 28.8	+3.1
	comp=Z,0.5nm,0.6s,baz=68,slow=9.5,SNR=4.7						
MKAR	**Makanchi Array**	**48.05**	**298**	P	P	01 40 28.8	+3.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.73**	**310**	P	P	01 40 55.3	+1.6
	comp=Z,0.8nm,0.4s,baz=55,slow=8.0,SNR=7.6						
BVAR	**Borovoye Array**	**51.73**	**310**	P	P	01 40 55.3	+1.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.31**	**336**	P	P	01 42 23.4	+1.7
	comp=Z,1.5nm,0.6s,baz=30,slow=7.4,SNR=9.6						
FINES	**FINESS Array B**	**64.31**	**336**	P	P	01 42 23.4	+1.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.33**	**342**	P	P	01 42 50.3	+2.8
	comp=Z,0.6nm,0.6s,baz=27,slow=6.4,SNR=2.8						
NOA	**NORSAR Array B**	**68.33**	**342**	P	P	01 42 50.3	+2.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.04**	**62**	P	P	01 43 36.1	+2.5
	comp=Z,0.8nm,0.6s,baz=309,slow=4.3,SNR=12						
TXAR	**Lajitas Array**	**76.04**	**62**	P	P	01 43 36.1	+2.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*BJI **20** 01:35:50.3, 4593N×15299E, h15km, mB4.7, mb4.3*
*NEIC **20** 01:35:51.5±0.6, 4639N×153.11E, h10km, mb4.0/5, Error ellipse: s-maj=14.4km s-min=9.1km az=162.0*
*ISCJB **20** 01:35:52.4±2.5, 4638N±0.10×15302E±0.10, h27km±17km, mb4.0/20, Error ellipse: s-maj=18.3km s-min=7.5km az=116.7*
*MOS **20** 01:35:56.4±1.4, 4637N×15287E, h60km, mb4.3/4, Error ellipse: s-maj=12.7km s-min=10.8km az=114.7*
*IDC **20** 01:35:57.6±4.2, 4631N×15304E, h60km±40km, mb3.6/15, mb1 3.8/17, mb1mx3.7/26, mbtmp3.6/17, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=26.2km s-min=18.3km az=2.0*
ISC 20 01:35:55.8±1.2, 4638N±009×1530E±01, h40km±9km, n51, σ1§12/51, mb4.0/20, 4C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.78**	**254**↓	*i*PN	**Pn**	**01 36 49.0**	**-2.5**
KUR				*i* S	**Sn**	**01 37 34.0**	**-0.7**
KUR				pmax	pmax		
	comp=Z,180nm,0.6s						
KUR				smax			
	comp=N,340nm,0.9s						
KUR				smax			
	comp=E,360nm,0.9s						
SKR	**Severo-Kuril's**	**4.78**	**24**	*e*PN	**Pn**	**01 37 03.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.08**	**278**	*e*PN	**Pn**	**01 37 37.6**	**+0.7**
PET	**Petropavlovsk**	**7.59**	**27**	PN	**Pn**	**01 37 45.2**	**+1.3**
ASAJ	**Asahikawa**	**7.69**	**257**	P	**Pn**	**01 37 47.3**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=102,slow=21,SNR=7.1						
ASAJ				LR	LR	01 40 26.6	
	comp=Z,105nm,18.4s,baz=66,slow=35						
MJAR	**Matsushiro Arr**	**14.80**	**234**	P	**Pn**	**01 39 23.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=105,slow=32,SNR=3.3						
CN2	**Changchun**	**19.60**	**272**	*e*P	**Pn**	**01 40 19.5**	**-2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**20.60**	**328**	P	**P**	**01 40 31.9**	**+0.5**
KSRS	**Korea Array**	**20.62**	**253**	P	**P**	**01 40 32.9**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=58,slow=12,SNR=4.4						
INCN	**Inchon**	**21.47**	**255**	P	**P**	**01 40 40.3**	**-0.5**
HIA	**Hailar**	**22.42**	**290**	P	**P**	**01 40 52.8**	**+1.8**
ULN	**Ulaanbaatar**	**30.96**	**290**	*e*P	**P**	**01 42 07.5**	**-1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ULN	**Ulaanbaatar**	**30.96**	**290**	*e*P	**P**	**01 42 07.5**	**-1.5**
	comp=Z,0.6nm,0.4s,mb3.8						
SONM	**Songino Array**	**31.39**	**290**	P	**P**	**01 42 12.4**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.1,baz=82,slow=12,SNR=2.9						
ENH	**Enshi**	**37.23**	**260**	*e*P	**P**	**01 43 03.4**	**-0.1**
	comp=Z,0.4nm,0.2s,mb3.9						
GTA	**Gaotai**	**38.96**	**279**	*e*P	**P**	**01 43 19.8**	**+1.8**
GTA				AP	pP	01 43 25.1	-4.1
GTA				XP	sP	01 43 28.1	-5.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
INK	**Inuvik**	**42.00**	**32**	P	**P**	**01 43 42.6**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.8,baz=298,slow=4.3,SNR=6.0						
INK	**Inuvik**	**42.00**	**32**	*e*P	**P**	**01 43 43.3**	**+0.2**
	comp=Z,48nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**47.05**	**298**	P	**P**	**01 44 22.8**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.1,baz=63,slow=5.6,SNR=7.2						
LSA	**Lhasa**	**50.23**	**273**	P	**P**	**01 44 48.1**	**+0.3**
BVAR	**Borovoye Array**	**51.04**	**310**	P	**P**	**01 44 53.1**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=46,slow=8.5,SNR=5.5						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**01 44 53.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.08**	**310**	*e*P	**P**	**01 44 53.4**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**53.94**	**297**	P	**P**	**01 45 15.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**53.94**	**297**	P	**P**	**01 45 15.1**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0						
ARU	**Arti**	**55.24**	**318**	P	**P**	**01 45 23.3**	**-1.5**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ARU	**Arti**	**55.24**	**318**	P	**P**	**01 45 23.2**	**-1.6**
	comp=Z,1.1nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**01 45 46.5**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.1,baz=17,slow=6.6,SNR=2.9						
NVAR	**Mina Array Bea**	**62.67**	**62**	P	**P**	**01 46 15.4**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=298,slow=8.5,SNR=5.1						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**01 46 26.6**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=29,slow=4.4,SNR=6.6						
PDAR	**Pinedale Array**	**65.02**	**54**	P	**P**	**01 46 32.2**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=320,slow=1.2,SNR=5.5						
PV10	**Paradox Valley**	**68.23**	**57**	*e*P	**P**	**01 46 52.9**	**+0.6**
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**01 46 53.6**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**01 46 54.0**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=27,slow=6.1,SNR=4.9						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**01 46 54.0**	**-0.4**
AKASG	**Malin Array Be**	**71.82**	**326**	P	**P**	**01 47 13.8**	**-0.5**
	comp=Z,3.4nm,0.5s,mb4.5,baz=34,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	**71.82**	**326**	P	**P**	**01 47 13.8**	**-0.5**
ASAR	**Alice Springs**	**71.83**	**198**	P	**P**	**01 47 13.2**	**-1.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=18,slow=5.6,SNR=1.8						
BURAR	**Bucovina Array**	**75.86**	**327**↓	*i*P	**P**	**01 47 38.4**	**+0.4**
BURAR	**Bucovina Array**	**75.86**	**327**↓	P	**P**	**01 47 38.4**	**+0.4**
CLL	**Collm**	**76.78**	**336**	*e*P	**P**	**01 47 43.0**	**-0.2**
MLR	**Muntele Rosu**	**77.33**	**325**↑	*i*P	**P**	**01 47 47.7**	**+1.4**
MLR	**Muntele Rosu**	**77.33**	**325**↑	P	**P**	**01 47 47.7**	**+1.4**
MALT	**Malatya**	**77.36**	**313**↓	*i*P	**P**	**01 47 48.7**	**+2.3**
MALT	**Malatya**	**77.36**	**313**↓	P	**P**	**01 47 48.7**	**+2.3**
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**01 47 48.5**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=302,slow=4.5,SNR=14						
BRTR	**Keskin Array B**	**78.61**	**317**	P	**P**	**01 47 54.6**	**+1.2**
	comp=Z,1.3nm,1.0s,mb3.8,baz=7.3,slow=2.7,SNR=5.8						
GERES	**GERESS Array B**	**78.76**	**334**	P	**P**	**01 47 54.1**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=29,slow=6.1,SNR=7.1						
BZS	**Buzias**	**78.89**	**328**↑	*i*P	**P**	**01 47 55.4**	**+0.5**
BZS	**Buzias**	**78.89**	**328**↑	P	**P**	**01 47 55.4**	**+0.5**
CFAA	**Coronel Fontain**	**145.13**	**80**	PKPbc	PKPbc	01 55 27.4	-1.1
	comp=Z,0.2nm,0.5s,baz=294,slow=10.0,SNR=3.5						

*ISCJB **20** 01:37:54.5±0.7, 4183N±004×22.71E±004, h1km, Error ellipse: s-maj=5.4km s-min=3.7km az=125.2*
*CSEM **20** 01:37:54.9±0.2, 4186N×2270E, h10km, ML2.5, Error ellipse: s-maj=3.4km s-min=1.7km az=11.0*
*SKO **20** 01:37:54.7, 4183N×2269E, h19km, M2.2, ML2.1*
*THE **20** 01:37:56.2, 4180N×2269E, h1km, ML2.5*
ISC 20 01:37:55.4±0.7, 4183N±004×2270E±004, h7km±10km, n16, σ0§44/27, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.41**	**251**↓	*i*Pg	**Pg**	**01 38 03.3**	**0.0**
STIP				*e*Sg	**Sg**	**01 38 09.1**	**+0.5**
STIP				*e*Lg		01 38 09.2	
	comp=E,47nm,0.2s						
STIP				*e*Lg		01 38 09.2	
	comp=N,64nm,0.2s						
STIP	**Stip**	**0.41**	**251**	*e*Pg	**Pg**	**01 38 03.3**	**0.0**
STIP				*e*Sg	**Sg**	**01 38 09.2**	**+0.6**
VAY	**Valandovo**	**0.52**	**191**	*e*Pg	**Pg**	**01 38 05.3**	**0.0**
VAY				*e*Sg	**Sg**	**01 38 12.5**	**+0.4**
VAY				*e*Lg		01 38 12.6	
	comp=N,244nm,0.5s						
VAY				*e*Lg		01 38 12.8	
	comp=E,194nm,0.2s						
VAY	**Valandovo**	**0.52**	**191**	*e*Pg	**Pg**	**01 38 05.5**	**+0.1**
VAY				*e*Sg	**Sg**	**01 38 12.2**	**+0.1**
KNT	**Kendrikon**	**0.68**	**167**	*e*Pg	**Pg**	**01 38 08.9**	**+0.4**
KNT				*e*Sg	**Sg**	**01 38 17.5**	**+0.1**
VTS	**Vitosha**	**0.85**	**26**	*e*Pg	**Pg**	**01 38 12.1**	**+0.3**
GRG	**Griva**	**0.90**	**194**	*e*Pg	**Pg**	**01 38 12.3**	**-0.4**
GRG				*e*Sg	**Sg**	**01 38 24.5**	**+0.1**
SOH	**Sokhos**	**1.12**	**154**	*e*Pg	**Pg**	**01 38 16.8**	**-0.1**
SOH				*e*Sg	**Sg**	**01 38 31.7**	**+0.2**
THE	**Thessaloniki**	**1.21**	**170**	*e*Pg	**Pg**	**01 38 18.2**	**-0.5**
HORT	**Hortiatis**	**1.27**	**166**	*e*Pg	**Pg**	**01 38 19.3**	**-0.5**
BIA	**Bitola**	**1.31**	**232**	*e*Pg	**Pg**	**01 38 20.0**	**-0.6**
BIA				*e*Sg	**Sg**	**01 38 37.9**	**+0.3**
BIA	**Bitola**	**1.31**	**232**	*e*Pg	**Pg**	**01 38 19.8**	**-0.8**
BIA				*e*Sg	**Sg**	**01 38 36.9**	**-0.7**
BIA				*e*Lg		01 38 37.5	
	comp=E,12nm,0.3s						
BIA				*e*Lg		01 38 37.6	
	comp=N,12nm,0.3s						
FNA	**Florina**	**1.44**	**224**	*e*Pg	**Pg**	**01 38 22.5**	**-0.6**
FNA				*e*Sg	**Sg**	**01 38 42.5**	**+0.7**
PLD	**Plovdiv**	**1.52**	**79**	*e*Pg	**Pg**	**01 38 24.2**	**-0.5**
PLD				*e*Sg	**Sg**	**01 38 44.8**	**+0.4**
PLG	**Polygyros**	**1.56**	**158**	*e*Pg	**Pn**	**01 38 24.4**	**+0.8**
OUR	**Ouranopolis**	**1.78**	**147**	*e*Pb	**Pn**	**01 38 26.2**	**-0.4**

*NEIC **20** 01:41:45.8, 1922N×6420W, h62km, MD3.5(RSPR), After RSPR.*
RSPR 20 01:41:45.8, 1922N×6420W, h61km±9km, MD3.5/8, MD3.5/8, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.70**	**229**↑	*e*P	Pn	01 42 12.4	-0.7
MTP				*e*S	Sn	01 42 33.1	-0.8
CBYP	**Canovanas**	**1.83**	**239**↑	*e*P	Pn	01 42 14.4	-0.5
CBYP				*e*S	Sn	01 42 36.3	-0.8
HUMP	**Col San Antoni**	**1.90**	**236**↑	*e*P	Pn	01 42 15.0	-0.8
HUMP				*e*S	Sn	01 42 38.2	-0.4
CPD	**Cerro la Pandu**	**2.01**	**234**↑	*e*P	Pn	01 42 16.6	-0.8
CPD				*e*S	Sn	01 42 41.0	-0.4
SJG	**San Juan**	**2.15**	**240**↓	*e*P	Pn	01 42 18.7	-0.6
SJG				*e*S	Sn	01 42 44.6	-0.2
CELP	**Cerrillos**	**2.53**	**244**↓	*e*P	Pn	01 42 24.0	-0.4
CELP				*e*S	Sn	01 42 53.4	-0.6
AOPR	**Arecibo Observ**	**2.57**	**251**↑	*e*P	Pn	01 42 24.4	-0.6
LSP	**Las Mesas**	**2.93**	**250**	*e*S	Sn	01 43 03.5	-0.3
CRPR	**Cabo Rojo, PR**	**3.01**	**247**↑	*e*P	Pn	01 42 30.8	-0.2
CRPR				*e*S	Sn	01 43 05.6	-0.3

MAN 20 01:45:38.1, 1106N×12573E, h52km, mb2.2, ML3.8, MS3.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.61**	**332**	*e*P	Pn	01 45 52.8	+2.0
BESP				*e*S	Sn	01 46 03.0	+3.0
PLP	**Palo**	**0.75**	**278**	*e*P	Pn	01 45 52.4	-0.1
PLP				*i* S	Sn	01 46 00.7	-2.3
OCLP	**Ormoc**	**1.10**	**270**	*e*P	Pn	01 45 58.2	+1.0
MSLP	**Maasin**	**1.26**	**223**	*e*P	Pn	01 46 00.6	+1.3
MSLP				*e*S	Sn	01 46 17.6	+2.5
SCPH	**Surigao**	**1.29**	**191**↓	*e*P	Pn	01 46 01.0	+1.3
SCPH				*e*S	Sn	01 46 16.9	+0.9
GUIM	**Jordan**	**3.12**	**262**	*e*P	Pn	01 46 25.6	+0.9

*CSEM **20** 01:49:26.1±0.2, 3463N×1372E, h10km, MD3.2/10, After ROM*
ROM 20 01:49:26.1±0.2, 3463N×1372E, h10km, Md3.2/10, Ml3.5/6, Error ellipse: s-maj=7.6km s-min=0.0km az=94.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDC	**Modica**	**2.48**	**20**	Pn	Pn	01 50 07.1	+0.6
	359nm,1.0s						
PTS	**Pantelleria**	**2.59**	**328**	Pn	Pn	01 50 08.5	+0.5
HAVL	**Avola**	**2.59**	**26**	Pn	Pn	01 50 08.6	+0.5
	184nm,0.3s						
PZI	**Palazzolo**	**2.62**	**22**	Pn	Pn	01 50 08.9	+0.4
RAFF	**Raffo Rosso**	**2.64**	**11**	Pn	Pn	01 50 08.8	+0.1
HVZN	**Vizzini**	**2.67**	**17**	Pn	Pn	01 50 10.3	+1.2
	284nm,0.5s						
SSY	**Sortino**	**2.75**	**23**	Pn	Pn	01 50 11.6	+1.4
	316nm,0.5s						
AGST	**Augusta-Monte**	**2.90**	**25**	Pn	Pn	01 50 12.9	+0.7
	121nm,0.7s						
HAGA	**Augusta**	**2.90**	**23**	Pn	Pn	01 50 12.7	+0.4
GALF	**Gagliano Caste**	**3.15**	**12**	Pn	Pn	01 50 17.5	+1.7
SOI	**Samo**	**3.92**	**28**	Pn	Pn	01 50 27.8	+1.5
	116nm,2.6s						
VSL	**Villasalto**	**5.97**	**326**	Pn	Pn	01 50 56.5	+2.0

*STR **20** 02:04:47.9±0.1, 4301N×000E, h2km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **20** 02:04:47.7, 4300N×000W, h5km, ML2.4(STR), ML2.6(LDG), After LDG.*
*LDG **20** 02:04:47.7±0.1, 4300N×000W, h5km, Md2.4/3, Ml2.6/13, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
*CSEM **20** 02:04:48.1±0.1, 4302N×001W, h2km, ML2.5/15, Error ellipse: s-maj=1.5km s-min=0.9km az=129.0*
*MDD **20** 02:04:48.4±0.2, 4301N×000W, h0km, mbLg1.6/19, Error ellipse: s-maj=1.8km s-min=1.2km az=12.0, PRXIMO*
ISC 20 02:04:47.0±0.2, 4306N±002×003E±002, h11km±3km, n71, σ0§78/115, 1C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**105**	Pg	**Pg**	**02 04 49.7**	**+0.6**
LABF				Sg	**Sg**	**02 04 50.9**	**+0.3**
LABF	**Labassere**	**0.04**	**105**	Pg	**Pg**	**02 04 49.7**	**+0.6**
LABF				Lg		02 04 51.0	
VIEF	**Viey**	**0.17**	**181**	Pg	**Pg**	**02 04 50.7**	**-0.2**
VIEF				Sg	**Sg**	**02 04 52.7**	**-0.8**
VIEF	**Viey**	**0.17**	**181**	Pg	**Pg**	**02 04 50.8**	**-0.1**
VIEF				Lg		02 04 52.8	
EPF	**Esparros**	**0.23**	**96**	*e*Pg	**Pg**	**02 04 52.6**	**+0.7**
EPF				*e*Sg	**Sg**	**02 04 56.5**	**+1.4**
	103nm,0.2s						
EPF	**Esparros**	**0.23**	**96**	*e*Pg	**Pg**	**02 04 52.6**	**+0.7**
EPF				*e*Sg	**Sg**	**02 04 56.5**	**+1.4**
	52nm,0.2s						
REYF	**Montagne du Re**	**0.31**	**273**	Pg	**Pg**	**02 04 53.3**	**+0.1**
REYF				Sg	**Sg**	**02 04 57.7**	**+0.3**
REYF	**Montagne du Re**	**0.31**	**273**	Pg	**Pg**	**02 04 53.4**	**+0.2**
REYF				Lg		02 04 57.8	
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**02 04 54.1**	**+0.3**
RESF				Sg	**Sg**	**02 04 58.8**	**+0.4**
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**02 04 54.1**	**+0.3**
RESF				Lg		02 04 58.8	
EBIE	**Bielsa**	**0.38**	**167**	⇑Pg	**Pg**	**02 04 54.5**	**0.0**
	39nm,0.3s,SNR=18						
EBIE				Lg		02 04 59.1	
	13nm,0.3s,SNR=11						
EBIE	**Bielsa**	**0.38**	**167**	Pg	**Pg**	**02 04 54.5**	**-0.1**
	39nm,0.3s,SNR=18						
EBIE				Lg		02 04 59.1	
	13nm,0.3s,SNR=11						
ETSF	**Etsaut**	**0.46**	**250**	*e*Pg	**Pg**	**02 04 56.0**	**0.0**
ETSF				*e*Sg	**Sg**	**02 05 01.0**	**-1.1**
	78nm,0.3s						
ETSF	**Etsaut**	**0.46**	**250**	*e*Pg	**Pg**	**02 04 56.0**	**0.0**
ETSF				*e*Sg	**Sg**	**02 05 01.0**	**-1.1**
	39nm,0.3s						
FDAF	**Les Forges d'A**	**0.50**	**242**	Pg	**Pg**	**02 04 56.6**	**-0.1**
FDAF				Lg		02 05 02.6	
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**02 04 57.8**	**+0.4**
ATE				Sg	**Sg**	**02 05 05.0**	**+0.5**
ATE	**Arette**	**0.53**	**273**	Pg	**Pg**	**02 04 57.8**	**+0.4**
ATE				Lg		02 05 04.6	
MELF	**Melles**	**0.57**	**109**	Pg	**Pg**	**02 04 58.6**	**+0.5**
MELF				Lg		02 05 06.7	
LARF	**Larrau**	**0.74**	**269**	Pg	**Pg**	**02 05 01.6**	**+0.2**
LARF				Sg	**Sg**	**02 05 11.7**	**+0.6**
LARF	**Larrau**	**0.74**	**269**	Pg	**Pg**	**02 05 01.6**	**+0.2**
LARF				Lg		02 05 11.6	
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**02 05 04.6**	**+0.1**
SALF				Sg	**Sg**	**02 05 16.7**	**+0.4**
SALF	**Salau**	**0.90**	**109**	Pg	**Pg**	**02 05 04.6**	**+0.1**
SALF				Lg		02 05 16.7	
SJPF	**Ste Jean**	**0.92**	**274**	*e*Pg	**Pg**	**02 05 04.5**	**-0.2**
SJPF				*e*Sg	**Sg**	**02 05 15.9**	**-0.8**
	5.7nm,0.2s						
SJPF	**Ste Jean**	**0.92**	**274**	*e*Pg	**Pg**	**02 05 04.5**	**-0.2**
SJPF				*e*Sg	**Sg**	**02 05 15.9**	**-0.8**
	2.8nm,0.2s						
IPRE	**Itoiz**	**1.05**	**257**	Pg	**Pg**	**02 05 07.1**	**-0.1**

RJF	**Les Rejaudoux**	**2.49**	**25**	*e*Pg		**Pg**	**02 05 34.9**	**+0.1**
RJF				*e*Sg		**Sg**	**02 06 07.9**	**+0.9**
	2.2nm,0.2s							
ELAN	**Lanestosa**	**2.54**	**275**	Pn		**Pn**	**02 05 30.2**	**+2.1**
ELAN				Sn		**Sn**	**02 05 58.9**	**-0.1**
ELAN				Lg			02 06 09.7	
ELAN	**Lanestosa**	**2.54**	**275**	Pn		**Pn**	**02 05 30.2**	**+2.1**
	0.2nm,0.1s,SNR=7.9							
ELAN				Sn		**Sn**	**02 05 58.8**	**-0.1**
	0.4nm,0.2s,SNR=4.0							
ELAN				Lg			02 06 09.7	
	0.3nm,0.1s,SNR=7.9							
ELAN	**Lanestosa**	**2.54**	**275**	Pn		**Pn**	**02 05 30.2**	**+2.1**
	0.2nm,0.1s,SNR=7.9							
ELAN				Sn		**Sn**	**02 05 58.8**	**-0.2**
	0.4nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**2.72**	**188**	Pg		**Pg**	**02 05 37.6**	**-1.5**
EMOS				Sn		**Sn**	**02 06 03.3**	**-0.1**
EMOS				Lg			02 06 11.0	
EMOS	**Mosqueruela**	**2.72**	**188**	Pg		**Pg**	**02 05 37.6**	**-1.5**
	0.1nm,0.3s,SNR=7.9							
EMOS				Sn		**Sn**	**02 06 03.3**	**-0.1**
	0.2nm,0.1s,SNR=7.9							
EMOS				Lg			02 06 13.9	
	0.7nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.72**	**188**	Pg		**Pg**	**02 05 37.6**	**-1.5**
	0.1nm,0.3s,SNR=7.9							
EMOS				Sn		**Sn**	**02 06 03.3**	**-0.1**
	0.2nm,0.1s,SNR=7.9							
ETOR	**Torete**	**2.72**	**215**	Pn		**Pn**	**02 05 32.4**	**+1.8**
	2.8nm,1.1s,SNR=7.3							
ETOR				Sn		**Sn**	**02 05 38.2**	**-1.0**
	4.1nm,0.2s,SNR=7.9							
ETOR				Sn		**Sn**	**02 06 03.7**	**+0.2**
	2.5nm,0.4s,SNR=7.0							
ETOR				Lg			02 06 13.6	
	3.7nm,0.8s,SNR=5.0							
ETOR	**Torete**	**2.72**	**215**	Pg		**Pg**	**02 05 38.2**	**-1.0**
	4.1nm,0.2s,SNR=7.9							
ETOR				Sn		**Sn**	**02 06 03.7**	**+0.2**
	2.5nm,0.4s,SNR=7.0							
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg		**Pg**	**02 05 44.3**	**+0.5**
LASF				*e*Sg		**Sg**	**02 06 22.1**	**-0.2**
	4.1nm,0.3s							
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg		**Pg**	**02 05 44.3**	**+0.5**
LASF				*e*Sg		**Sg**	**02 06 22.1**	**-0.2**
	2.0nm,0.3s							
MFF	**Saint Martin d**	**3.55**	**358**	*e*Pg		**Pg**	**02 05 53.2**	**-1.8**
MFF				*e*Sg		**Sg**	**02 06 40.4**	**-0.6**
	2.9nm,0.4s							
MFF	**Saint Martin d**	**3.55**	**358**	*e*Pg		**Pg**	**02 05 53.2**	**-1.8**
MFF				*e*Sg		**Sg**	**02 06 40.4**	**-0.6**
	1.5nm,0.4s							
TCF	**Toulx Ste Croi**	**3.59**	**25**	*e*Pg		**Pg**	**02 05 55.2**	**-0.5**
TCF				*e*Sg		**Sg**	**02 06 42.1**	**-0.1**
	1.8nm,0.3s							
TCF	**Toulx Ste Croi**	**3.59**	**25**	*e*Pg		**Pg**	**02 05 55.2**	**-0.5**
TCF				*e*Sg		**Sg**	**02 06 42.1**	**-0.1**
	0.9nm,0.3s							
VIVF	**Saint-Julien-l**	**3.81**	**60**	*e*Pg		**Pg**	**02 05 59.4**	**-0.6**
VIVF				*e*Sg		**Sg**	**02 06 48.5**	**-0.8**
	4.6nm,0.5s							
VIVF	**Saint-Julien-l**	**3.81**	**60**	*e*Pg		**Pg**	**02 05 59.4**	**-0.6**
VIVF				*e*Sg		**Sg**	**02 06 48.5**	**-0.8**
	2.3nm,0.5s							
BGF	**Bois d'Agland**	**4.04**	**29**	*e*Pg		**Pg**	**02 06 03.9**	**-0.4**
BGF				*e*Sg		**Sg**	**02 06 56.2**	**-0.4**
	7.9nm,0.4s							
BGF	**Bois d'Agland**	**4.04**	**29**	*e*Pg		**Pg**	**02 06 03.9**	**-0.4**
BGF				*e*Sg		**Sg**	**02 06 56.2**	**-0.4**
	4.0nm,0.4s							
SSF	**Saint Saulge**	**4.70**	**30**	*e*Pg		**Pg**	**02 06 16.3**	**-0.8**
SSF				*e*Sg		**Sg**	**02 07 17.4**	**-0.6**
	1.1nm,0.3s							
SSF	**Saint Saulge**	**4.70**	**30**	*e*Pg		**Pg**	**02 06 16.3**	**-0.8**
SSF				*e*Sg		**Sg**	**02 07 17.4**	**-0.6**
	0.6nm,0.3s							
LOR	**Lormes**	**5.01**	**31**	*e*Pg		**Pg**	**02 06 22.0**	**-0.9**
LOR				*e*Sg		**Sg**	**02 07 26.7**	**-1.1**
	1.7nm,0.4s							
LOR	**Lormes**	**5.01**	**31**	*e*Pg		**Pg**	**02 06 22.0**	**-0.9**
LOR				*e*Sg		**Sg**	**02 07 26.7**	**-1.1**
	0.9nm,0.4s							

*MOS **20** 02:32:32.8±2.5, 4690N×1546E, h33km, mb4.1/5, Error ellipse: s-maj=28.9km s-min=15.4km az=135.5*
*ISCJB **20** 02:32:35.6±1.6, 473N±02×1533E±02, h45km±14km, mb3.8/7, MS3.3/3, Error ellipse: s-maj=35.6km s-min=11.3km az=88.0*
*IDC **20** 02:32:40.4±4.9, 4728N×15323E, h75km±45km, mb3.5/7, mb1 3.7/9, mb1mx3.4/25, mbtmp3.6/9, ML3.7/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=35.4km s-min=24.1km az=116.0*

ISC 20 02:32:38.4±2.1, 473N±02×1533E±03, h58km±19km, n23, σ1°13/22, mb3.8/7, MS3.3/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**28**	*e*PN	**Pn**	**02 33 33.0**	**-1.8**
SKR				*e*S	**Sn**	**02 34 28.5**	**+10**
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=N,190nm,0.7s						
KUR	**Kuril'sk**	**4.32**	**243**	*i*PN	**Pn**	**02 33 39.5**	**-2.0**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.17**	**240**	*e*PN	**Pn**	**02 34 08.0**	**+1.1**
YUK				*e*S	**Sn**	**02 35 23.0**	**+6.9**
YUK				smax			
	comp=N,570nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.21**	**271**	PN	**Pn**	**02 34 30.3**	**+9.2**
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
ASAJ	**Asahikawa**	**8.16**	**251**	P	**Pn**	**02 34 35.0**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=100,slow=18,SNR=5.9						
ASAJ				LR	LR	02 37 36.2	
	comp=Z,127nm,20.7s,baz=230,slow=37						
MJAR	**Matsushiro Arr**	**15.54**	**232**	P	**Pn**	**02 36 12.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=36,slow=13,SNR=3.1						
MJAR	**Matsushiro Arr**	**15.54**	**232**	P	**Pn**	**02 36 12.5**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.11**	**251**	P	**P**	**02 37 19.5**	**+1.4**
	comp=Z,2.3nm,0.6s,mb3.7,baz=50,slow=11,SNR=5.9						
JNU	**Nakatsue**	**22.14**	**238**	LR	LR	02 45 40.8	
	comp=Z,103nm,19.5s,MS3.3,baz=98,slow=35						
SONM	**Songino Array**	**31.27**	**289**	LR	LR	02 51 57.8	
	comp=Z,51nm,18.3s,MS3.2,baz=12,slow=37						
INK	**Inuvik**	**41.09**	**33**	P	**P**	**02 40 16.4**	**0.0**
	comp=Z,1.8nm,1.0s,mb3.7,baz=288,slow=6.4,SNR=5.4						
INK	**Inuvik**	**41.09**	**33**	P	**P**	**02 40 16.4**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAL	**Zalesovo**	**42.40**	**305**	LR	LR	02 59 33.0	
	comp=Z,56nm,18.4s,MS3.5,baz=69,slow=38						
FINES	**FINESS Array B**	**63.58**	**335**	P	**P**	**02 43 02.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=46,slow=7.4,SNR=9.0						
FINES	**FINESS Array B**	**63.58**	**335**	P	**P**	**02 43 02.5**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.72**	**341**	P	**P**	**02 43 29.3**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**02 43 29.7**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=27,slow=6.5,SNR=4.1						
NOA	**NORSAR Array B**	**67.72**	**341**	P	**P**	**02 43 29.7**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**02 43 50.1**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=31,slow=6.1,SNR=4.4						
AKASG	**Malin Array Be**	**71.14**	**326**	P	**P**	**02 43 50.1**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.80**	**199**	P	**P**	**02 43 60.0**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=20,slow=6.9,SNR=5.8						
ASAR	**Alice Springs**	**72.80**	**199**	P	**P**	**02 44 00.0**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**77.09**	**61**	P	**P**	**02 44 26.9**	**+1.5**
	comp=Z,0.1nm,0.4s,mb3.1,baz=270,slow=5.2,SNR=2.9						

*NEIC **20** 02:33:28.0, 1578N×9873W, h10km, MD4.1(MEX), After MEX.*

MEX 20 02:33:28.2±0.5, 1588N×9873W, h12km±12km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.77**	**48**	*i*P	Pg	02 33 40.9	-2.3
PNIG				*i*S	Sg	02 33 50.9	-2.3
PNIG	**Pinotepa**	**0.77**	**48**	*i*P	Pg	02 33 40.9	-2.3
PNIG				*i*S	Sg	02 33 52.7	-0.6
ACX	**Acapulco**	**1.51**	**311**	*e*P	Pn	02 33 51.0	-4.0
ACX				*i*S	Sn	02 34 09.5	-5.1
CAIG	**El Cayaco**	**1.88**	**308**	*e*P	Pn	02 33 56.5	-3.7
CAIG				*i*S	Sn	02 34 20.0	-3.8
CAIG	**El Cayaco**	**1.88**	**308**	*e*P	Pn	02 33 54.3	-5.9
CAIG				*i*S	Sn	02 34 20.0	-3.8
UTMO	**Huajuapan**	**2.14**	**24**	*i*P	Pn	02 34 01.1	-2.6
UTMO				*i*S	Sn	02 34 25.9	-4.2
MEIG	**Mezcala**	**2.21**	**337**	*e*P	Pn	02 34 02.0	-2.7
MEIG				*i*S	Sn	02 34 27.4	-4.6
VHO	**Vista Hermosa**	**2.25**	**58**	*i*P	Pn	02 34 03.7	-1.6
VHO				*i*S	Sn	02 34 28.6	-4.4
VHO	**Vista Hermosa**	**2.25**	**58**	*i*P	Pn	02 34 04.6	-0.6
VHO				*i*S	Sn	02 34 32.4	-0.6
OXX	**Oaxaca**	**2.27**	**58**	*i*P	Pn	02 34 04.0	-1.5
OXX				*i*S	Sn	02 34 30.0	-3.3
OXX	**Oaxaca**	**2.27**	**58**	*i*P	Pn	02 34 04.0	-1.5
OXX				*i*S	Sn	02 34 40.0	+6.7
PLIG	**Platanillo**	**2.61**	**344**	*e*P	Pn	02 34 06.5	-3.7
PLIG				*i*S	Sn	02 34 38.2	-3.6
PLIG	**Platanillo**	**2.61**	**344**	*i*P	Pn	02 34 10.5	+0.3
PLIG				*i*S	Sn	02 34 42.5	+0.7
TPIG	**Tehuac#an**	**2.85**	**27**	*i*P	Pn	02 34 11.3	-2.1
TPIG				*i*S	Sn	02 34 44.6	-3.1
ZIIG	**Zihuatanejo**	**3.14**	**304**	*i*P	Pn	02 34 15.2	-2.2
ZIIG				*i*S	Sn	02 34 52.2	-2.6
UNM	**Universidad Na**	**3.46**	**353**	*e*P	Pn	02 34 31.5	+10
IIO	**Organos**	**3.70**	**0**	*i*P	Pn	02 34 25.7	+0.6
IIO				*i*S	Sn	02 35 09.5	+0.9
PTVM	**Pico Tres Padr**	**3.72**	**354**	*i*P	Pn	02 34 24.3	-1.1
PTVM				*i*S	Sn	02 35 05.2	-3.9
PTVM	**Pico Tres Padr**	**3.72**	**354**	*i*P	Pn	02 34 26.8	+1.4
PTVM				*i*S	Sn	02 35 10.1	+1.0
MOIG	**Morelia**	**4.45**	**329**	*i*P	Sn	02 35 25.4	-1.8
MOIG	**Morelia**	**4.45**	**329**	*i*S	Sn	02 35 28.8	+1.6

*ISCJB **20** 02:48:24.1±0.6, 4687N±009×1547E±01, h10km, mb4.0/17, MS3.7/10, Error ellipse: s-maj=15.4km s-min=9.1km az=101.5*
*IDC **20** 02:48:24.5±0.7, 4678N×15467E, h0km, mb4.0/15, mb1 4.3/17, mb1mx4.1/25, mbtmp4.0/17, ML3.7/2, MS3.6/11, Ms1 3.6/11, ms1mx3.2/34, Error ellipse: s-maj=22.0km s-min=16.1km az=156.0*
*NEIC **20** 02:48:26.0±0.6, 4680N×15479E, h10km, mb4.7/2, Error ellipse: s-maj=17.7km s-min=11.8km az=144.0*
*MOS **20** 02:48:27.8±1.0, 4689N×15448E, h35km, mb4.7/2, Error ellipse: s-maj=19.5km s-min=12.4km az=84.9*

ISC 20 02:48:25.9±0.6, 4690N±009×1547E±01, h10km, n36, σ0°99/30, mb4.0/17, MS3.7/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.91**	**14**	*e*PN	**Pn**	**02 49 24.5**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.16**	**275**	PN	**Pn**	**02 50 33.5**	**+9.1**
ASAJ	**Asahikawa**	**8.92**	**256**	Pn	**Pn**	**02 50 35.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=85,slow=12,SNR=2.3						
ASAJ				LR	LR	02 54 22.0	
	comp=Z,94nm,18.6s,baz=160,slow=40						
ASAJ	**Asahikawa**	**8.92**	**256**	PN	**Pn**	**02 50 35.1**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,94nm,18.6s						
MJAR	**Matsushiro Arr**	**16.03**	**236**	Pn	**Pn**	**02 52 11.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=40,slow=16,SNR=3.4						
KSRS	**Korea Array**	**21.86**	**254**	P	**P**	**02 53 18.5**	**-0.3**
	comp=Z,1.2nm,0.4s,mb3.7,baz=352,slow=3.2,SNR=5.0						
BILL	**Bilibino**	**22.02**	**12**	*e*P	**P**	**02 53 20.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
BILL	**Bilibino**	**22.02**	**12**	*e*P	**P**	**02 53 21.0**	**+0.6**
	comp=Z,22nm,1.0s,mb4.5						
JNU	**Nakatsue**	**22.72**	**241**	LR	LR	03 02 23.1	
	comp=Z,74nm,18.2s,MS3.2,baz=45,slow=37						
BOD	**Bodaibo**	**26.72**	**309**	*e*P	**P**	**02 54 02.5**	**-2.9**
SONM	**Songino Array**	**32.29**	**290**	P	**P**	**02 54 54.1**	**-0.8**
	comp=Z,0.7nm,1.1s,mb3.4,baz=62,slow=10,SNR=2.5						
SONM				LR	LR	03 09 21.4	
	comp=Z,82nm,18.7s,MS3.5,baz=149,slow=39						
LZH	**Lanzhou**	**38.95**	**273**	*e*P	**P**	**02 55 55.5**	**+3.5**
LZH				*PP	pP	02 56 05.0	+10
LZH				*SP	sP	02 56 10.0	+14
LZH				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LZH	**Lanzhou**	**38.95**	**273**	*e*P	**P**	**02 55 55.5**	**+3.5**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	02 56 05.0	+10
LZH				sP	sP	02 56 10.0	+14
INK	**Inuvik**	**40.95**	**33**	P	**P**	**02 56 08.6**	**-0.1**
	comp=Z,2.6nm,0.9s,mb3.9,baz=271,slow=9.9,SNR=6.5						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**02 56 28.8**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.9,baz=316,slow=0.9,SNR=3.5						
ZAL				LR	LR	03 16 22.0	
	comp=Z,83nm,18.0s,MS3.7,baz=192,slow=39						
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**02 57 03.9**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=75,slow=6.6,SNR=6.0						
MKAR	**Makanchi Array**	**47.82**	**298**	P	**P**	**02 57 03.9**	**+0.3**
BVAR	**Borovoye Array**	**51.59**	**310**	LR	LR	03 18 29.1	
	comp=Z,56nm,21.2s,MS3.6,baz=306,slow=35						
ARU	**Arti**	**55.62**	**318**	*e*P	**P**	**02 58 01.8**	**-0.1**
ARCES	**ARCESS Array B**	**58.06**	**341**	P	**P**	**02 58 19.4**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.5,baz=35,slow=4.4,SNR=4.6						
ARCES				LR	LR	03 28 06.2	
	comp=Z,55nm,18.1s,MS3.7,baz=194,slow=41						
AKTO	**Aktyubinsk**	**59.42**	**312**	LR	LR	03 24 41.9	
	comp=Z,42nm,19.9s,MS3.6,baz=294,slow=37						
NVAR	**Mina Array Bea**	**61.42**	**63**	P	**P**	**02 58 43.2**	**+0.9**
	comp=Z,0.9nm,0.7s,mb4.0,baz=295,slow=7.9,SNR=6.1						
NVAR	**Mina Array Bea**	**61.42**	**63**	P	**P**	**02 58 43.2**	**+0.9**
PDAR	**Pinedale Array**	**63.79**	**55**	P	**P**	**02 58 58.8**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=275,slow=2.3,SNR=13						
FINES	**FINESS Array B**	**64.36**	**335**	P	**P**	**02 59 02.2**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.5,baz=39,slow=7.3,SNR=17						
PV10	**Paradox Valley**	**66.99**	**58**	*e*P	**P**	**02 59 16.9**	**-2.0**
NOA	**NORSAR Array B**	**68.43**	**342**	P	**P**	**02 59 28.9**	**+0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=26,slow=6.4,SNR=3.2						
NOA				LR	LR	03 34 41.1	
	comp=Z,44nm,18.9s,MS3.7,baz=260,slow=40						
WRA	**Warramunga Arr**	**69.01**	**200**	P	**P**	**02 59 30.6**	**-0.9**
	comp=Z,1.3nm,1.1s,mb3.8,baz=21,slow=7.2,SNR=3.5						
AKASG	**Malin Array Be**	**72.02**	**327**	P	**P**	**02 59 49.0**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	**72.70**	**200**	P	**P**	**02 59 53.5**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=13,slow=5.0,SNR=7.4						
TXAR	**Lajitas Array**	**76.49**	**62**	P	**P**	**03 00 16.6**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.4,baz=302,slow=4.2,SNR=35						
CLL	**Collm**	**76.77**	**336**	*e*P	**P**	**03 00 18.0**	**+0.4**
GERES	**GERESS Array B**	**78.79**	**335**	P	**P**	**03 00 31.2**	**+2.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=27,slow=6.1,SNR=4.0						
GERES				LR	LR	03 36 37.0	
	comp=Z,92nm,19.5s,MS4.1,baz=24,slow=37						
STKA	**Stephens Creek**	**79.29**	**191**	LR	LR	03 35 08.6	
	comp=Z,37nm,18.2s,MS3.8,baz=24,slow=35						
PPT	**Papeete**	**81.38**	**127**	LR	LR	03 30 00.7	
	comp=Z,89nm,19.2s,MS4.1,baz=28,slow=31						
TORD	**Torodi Ar. Bea**	**115.51**	**331**	PP	PP	03 08 07.1	-2.6
	comp=Z,1.2nm,1.2s,baz=0.9,slow=7.9,SNR=3.7						

*IDC **20** 02:53:08.4±1.1, 4711N×15321E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=40.6km s-min=29.6km az=109.0*
*ISCJB **20** 02:53:12.6±4.0, 4701N±02×1531E±04, h40km±32km, mb3.7/5, Error ellipse: s-maj=47.1km s-min=35.4km az=44.6*
*MOS **20** 02:53:12.8±0.7, 4713N×15313E, h42km, mb3.9/1, Error ellipse: s-maj=85.8km s-min=26.9km az=75.4*

ISC 20 02:53:14.8±3.8, 472N±02×1532E±04, h45km±32km, n7, σ0°68/7, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.02**	**28**	*e*PN	**Pn**	**02 54 13.7**	**-0.1**
SKR				*e*		02 54 58.5	
INK	**Inuvik**	**41.28**	**33**	P	**P**	**03 00 56.2**	**+0.6**
	1.0nm,0.5s,mb3.8,baz=305,slow=7.2,SNR=7.8						
INK	**Inuvik**	**41.28**	**33**	P	**P**	**03 00 56.3**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**03 03 41.9**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=35,slow=6.7,SNR=8.4						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**03 04 28.4**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.7,baz=32,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	**72.62**	**198**	P	**P**	**03 04 37.7**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=8.5,slow=5.4,SNR=6.8						
TXAR	**Lajitas Array**	**77.26**	**61**	P	**P**	**03 05 03.8**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=288,slow=4.1,SNR=6.8						

*ISCJB **20** 03:06:57.0±1.7, 1576N±007×11892E±008, h16km±12km, mb3.9/6, Error ellipse: s-maj=14.7km s-min=8.4km az=79.5*
*IDC **20** 03:06:57.0±1.4, 1575N×11923E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/21, mbtmp4.0/6, Error ellipse: s-maj=93.5km s-min=19.7km az=80.0*
*MAN **20** 03:06:57.3, 1582N×11885E, h20km, mb3.0, ML4.3, MS4.1*
*NEIC **20** 03:07:01.9±1.0, 1572N×119.15E, h35km, mb4.2/2, Error ellipse: s-maj=161.0km s-min=16.7km az=72.0*

ISC 20 03:06:57.2±1.6, 1578N±007×11898E±008, h4km±9km, n14, σ0°93/18, mb3.9/6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**1.08**	**56**	*e*P	**Pg**	**03 07 17.6**	**-0.3**
BOLP				*e*S	**Sg**	**03 07 31.9**	**-0.1**
BCPH	**Baguio City Da**	**1.65**	**68**	*e*P	**Pn**	**03 07 25.9**	**-1.2**
BCPH				*e*S	**Sn**	**03 07 47.3**	**-1.4**
BALP	**Baler**	**2.50**	**90**	*e*P	**Pn**	**03 07 40.1**	**+1.5**
BALP				*e*S	**Sn**	**03 08 11.5**	**+1.8**
APYP	**Conner**	**3.00**	**46**	*e*P	**Pn**	**03 07 46.5**	**+1.0**
APYP				*e*S	**Sn**	**03 08 21.5**	**-0.4**
ENPP	**El Nido**	**4.56**	**174**	*e*P	**Pn**	**03 08 07.2**	**+0.2**
KSRS	**Korea Array**	**23.00**	**18**	P	**P**	**03 12 02.9**	**-0.1**
	1.3nm,0.5s,mb3.6,baz=202,slow=11,SNR=2.8						
SONM	**Songino Array**	**33.62**	**345**	P	**P**	**03 13 39.8**	**+1.1**
	0.8nm,0.7s,mb3.8,baz=161,slow=10,SNR=6.5						
FITZ	**Fitzroy Crossi**	**34.30**	**169**	*e*P	**P**	**03 13 44.4**	**-0.2**
	3.7nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**34.30**	**169**	P	**P**	**03 13 44.8**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=349,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**38.57**	**156**	P	**P**	**03 14 20.0**	**-1.1**
	1.9nm,0.7s,mb3.9,baz=337,slow=9.3,SNR=17						
WB2	**Warramunga Arr**	**38.58**	**156**	*e*P	**P**	**03 14 20.1**	**-1.1**
ASAR	**Alice Springs**	**41.83**	**159**	P	**P**	**03 14 47.7**	**-0.4**
	2.4nm,0.6s,mb4.0,baz=339,slow=6.8,SNR=34						
STKA	**Stephens Creek**	**52.11**	**156**	*e*P	**P**	**03 16 09.1**	**+0.6**
	2.4nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**52.11**	**156**	P	**P**	**03 16 08.9**	**+0.5**
	1.2nm,0.6s,mb4.0,baz=335,slow=9.6,SNR=3.6						

*ISCJB **20** 03:07:59.5±0.9, 4705N±010×1546E±02, h10km, mb4.1/14, Error ellipse: s-maj=19.9km s-min=8.5km az=77.1*
*NEIC **20** 03:08:00.4±0.8, 4690N×15468E, h10km, mb4.3/2, Error ellipse: s-maj=21.2km s-min=13.9km az=136.0*
*MOS **20** 03:08:02.2±1.4, 4697N×15463E, h34km, mb4.3/2, Error ellipse: s-maj=20.8km s-min=12.3km az=86.3*
*IDC **20** 03:08:06.2±4.5, 4676N×15463E, h58km±42km, mb3.9/12, mb1 4.1/14, mb1mx3.8/26, mbtmp3.9/14, ML3.7/2, Error ellipse: s-maj=23.4km s-min=20.1km az=178.0*

ISC 20 03:08:00.9±0.8, 4702N±009×1547E±02, h10km, n23, σ1°07/24, mb4.1/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**14**	*e*PN	**Pn**	**03 08 59.0**	**-0.3**
SKR				*e*S	**Sn**	**03 09 44.0**	**+0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.16**	**274**	PN	**Pb**	**03 10 14.6**	**-7.7**
ASAJ	**Asahikawa**	**8.96**	**255**	P	**Pn**	**03 10 12.1**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**99**	Pg	Pg	03 36 16.4	+0.1
LABF				Sg	Sg	03 36 17.7	-0.2
VIEF	**Viey**	**0.18**	**168**	Pg	Pg	03 36 17.5	-0.4
VIEF				Sg	Sg	03 36 19.8	-0.7
EPF	**Esparros**	**0.27**	**96**	*e*Pg	Pg	03 36 19.2	-0.3
EPF				*e*Sg	Sg	03 36 23.3	+0.1
	1.2nm,0.2s						
ETSF	**Etsaut**	**0.42**	**248**	*e*Pg	Pg	03 36 22.4	+0.1
ETSF				*e*Sg	Sg	03 36 28.3	+0.5
	1.4nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	03 36 30.5	-0.4
SJPF				*e*Sg	Sg	03 36 41.8	-0.6
	1.4nm,0.4s						
MTLF	**Montolieu**	**1.67**	**80**	*e*Pg	Pg	03 36 45.6	-0.4
MTLF				*e*Sg	Sg	03 37 06.7	-0.9
	0.6nm,0.3s						

*NEIC **20** 03:36:22.2±2.0, 1014S×16570E, h35km, mb4.5/1, Error ellipse: s-maj=41.1km s-min=19.9km az=66.0*

IDC 20 03:36:42.4±11.0, 1135S×16629E, h261km±137km, mb3.3/3, mb1 3.5/4, mb1mx3.2/16, mbtmp3.4/4, 1C, Error ellipse: s-maj=98.6km s-min=53.3km az=152.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.66**	**179**	P	Pn	03 39 09.5	+0.4
	2.3nm,0.3s,baz=317,slow=18,SNR=31						
DZM				S	S	03 41 08.4	-0.2
	1.2nm,0.3s,baz=122,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**31.88**	**250**	P	P	03 42 43.7	+0.2
	1.2nm,0.7s,baz=79,slow=8.8,SNR=7.2						
ASAR	**Alice Springs**	**33.13**	**244**	P	P	03 42 54.8	+0.4
	0.5nm,0.8s,baz=71,slow=9.2,SNR=4.9						
FITZ	**Fitzroy Crossi**	**39.82**	**255**	⇑*i*P	P	03 43 51.2	+0.6
	6.1nm,0.6s						
MKAR	**Makanchi Array**	**94.11**	**317**	P	P	03 49 31.3	0.0
	0.2nm,0.5s,baz=90,slow=5.0,SNR=4.7						

IDC 20 03:40:30.3±17.0, 2227S×17457W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.1/17, mbtmp4.4/5, Error ellipse: s-maj=322.1km s-min=140.2km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.52**	**266**	P	P	03 47 38.6	+1.1
	8.4nm,0.5s,baz=96,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**39.96**	**247**	P	P	03 48 07.0	+0.6
	2.0nm,0.5s,baz=97,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**47.25**	**258**	P	P	03 49 05.0	0.0
	2.7nm,0.6s,baz=95,slow=7.8,SNR=21						
WB2	**Warramunga Arr**	**47.52**	**263**	*e*P	P	03 49 06.6	-0.7
WRA	**Warramunga Arr**	**47.54**	**263**	P	P	03 49 06.7	-0.7
	2.0nm,0.3s,baz=103,slow=8.4,SNR=38						
FITZ	**Fitzroy Crossi**	**55.97**	**263**	P	P	03 50 11.1	+0.7
	1.0nm,0.4s,baz=120,slow=8.1,SNR=8.6						

*NEIC **20** 03:44:40.7±1.4, 6.11S×151.49E, h10km, mb4.0/1, Error ellipse: s-maj=36.7km s-min=19.0km az=114.0*

*ISCJB **20** 03:44:46.5±4.7, 6.1S±02×1512E±03, h58km±35km, mb3.9/5, MS3.0/1, Error ellipse: s-maj=46.5km s-min=27.8km az=41.5*

*IDC **20** 03:44:48.5±7.6, 6.17S×151.21E, h58km±57km, mb3.9/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/22, Error ellipse: s-maj=59.0km s-min=31.8km az=92.0*

ISC 20 03:44:48.0±4.7, 61S±02×1512E±03, h55km±34km, n12, σ0 85/10, mb3.9/5, MS3.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.18**	**231**	P	**Pn**	**03 46 02.8**	**-0.1**
	3.6nm,0.3s,baz=64,slow=9.8,SNR=10						
PMG				S	**Sn**	**03 47 02.2**	**+0.8**
	2.4nm,0.3s,baz=30,slow=5.7,SNR=3.6						
HNR	**Honiara**	**9.24**	**111**	LR	LR	03 49 25.3	
	comp=Z,58nm,20.8s,baz=1.5,slow=30						
KAKA	**Kakadu**	**19.65**	**249**	*e*P	**Pn**	**03 49 11.4**	**-2.5**
	21nm,1.0s						
GUMO	**Guam**	**20.58**	**342**	LR	LR	03 57 10.1	
	comp=Z,61nm,18.4s,MS3.0,baz=92,slow=36						
WRA	**Warramunga Arr**	**21.40**	**229**	P	**P**	**03 49 30.9**	**-0.1**
	6.3nm,0.9s,mb4.0,baz=55,slow=11,SNR=15						
AS31	**Alice Springs**	**24.12**	**222**	*e*P	**P**	**03 49 58.3**	**-0.2**
ASAR	**Alice Springs**	**24.12**	**222**	P	**P**	**03 49 58.2**	**-0.3**
	8.3nm,0.9s,mb4.2,baz=55,slow=9.1,SNR=34						
STKA	**Stephens Creek**	**27.16**	**198**	*e*P	**P**	**03 50 25.5**	**-0.5**
	3.1nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**27.16**	**198**	P	**P**	**03 50 26.8**	**+0.8**
	3.4nm,0.8s,mb3.9,baz=22,slow=14,SNR=7.4						
FITZ	**Fitzroy Crossi**	**27.66**	**242**	P	**P**	**03 50 31.0**	**+0.5**
	1.7nm,0.5s,mb3.9,baz=83,slow=16,SNR=6.0						
SONM	**Songino Array**	**66.62**	**329**	P	**P**	**03 55 33.4**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=128,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	PKPbc	04 04 30.7	+0.6
	1.5nm,0.8s,baz=98,slow=2.8,SNR=10						

*IDC **20** 03:47:52.8±4.7, 46.39N×152.91E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=158.5km s-min=31.9km az=7.0*

MOS 20 03:47:55.0±0.8, 4612N×15274E, h35km, mb4.0/2, Error ellipse: s-maj=75.7km s-min=36.9km az=83.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.09**	**25**	*e*PN	Pn	03 49 10.5	+1.8
MKAR	**Makanchi Array**	**47.00**	**298**	P	P	03 56 25.5	+2.8
	0.9nm,0.7s,baz=62,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**47.00**	**298**	P	P	03 56 25.5	+2.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.50**	**335**	P	P	03 58 29.0	+0.8
	comp=Z,0.6nm,0.7s,baz=43,slow=8.6,SNR=3.6						
FINES	**FINESS Array B**	**64.50**	**335**	P	P	03 58 29.0	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**65.33**	**53**	P	P	03 58 36.2	+2.7
	comp=Z,0.1nm,0.4s,baz=296,slow=6.9,SNR=2.2						
AKASG	**Malin Array Be**	**71.93**	**326**	P	P	03 59 16.9	+2.2
	comp=Z,1.1nm,0.5s,baz=34,slow=6.3,SNR=7.6						
AKASG	**Malin Array Be**	**71.93**	**326**	P	P	03 59 16.9	+2.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**78.03**	**60**	P	P	03 59 51.4	+1.5
	comp=Z,0.3nm,0.5s,baz=299,slow=4.0,SNR=5.3						

*NEIC **20** 03:51:08.4, 24.07S×69.31W, h79km, MD4.0(GUC), After GUC.*

GUC 20 03:51:08.4±0.7, 2407S×6931W, h79km±89km, MD4.0, ML3.6, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.06**	**310**	⇓*i*P	Pn	03 51 28.5	+0.4
CEN1				*i* S	Sn	03 51 43.6	+0.7
ANCH	**Antofagasta**	**1.08**	**291**	⇓*e*P	Pn	03 51 29.1	+0.7
ANCH				*i* S	Sn	03 51 43.9	+0.5
ANCH				AML	AML	03 51 47.1	
	comp=N,2μm,0.2s						
ANCH	**Antofagasta**	**1.08**	**291**	⇓*e*P	Pn	03 51 29.1	+0.7
ANCH				*i* S	Sn	03 51 43.9	+0.5
CPN1	**Cerro Paranal**	**1.14**	**241**	⇑*i*P	Pn	03 51 30.3	+1.2
CPN1				*i* S	Sn	03 51 46.9	+2.3
CPN1				AML	AML	03 51 51.4	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**1.50**	**14**	⇓*i*Pn	Pn	03 51 34.5	+0.8
LVC				*e*Sn	Sn	03 51 53.5	+0.8
CDCH	**Caldera**	**3.29**	**204**	*e*P	Pn	03 51 57.1	-0.5
CPCH	**Copiapo**	**3.40**	**196**	*e*P	Pn	03 52 00.4	+1.3
CPCH				*i* S	Sn	03 52 40.3	+1.9

IDC 20 03:53:02.2±5.0, 4623N×15472E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=176.3km s-min=42.5km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	04 01 43.8	-0.3
	0.3nm,0.5s,baz=69,slow=8.2,SNR=2.5						
FINES	**FINESS Array B**	**64.98**	**336**	P	P	04 03 43.2	-0.5
	1.7nm,1.0s,baz=35,slow=7.0,SNR=3.7						
TXAR	**Lajitas Array**	**76.77**	**61**	P	P	04 04 55.7	+0.2
	0.4nm,0.6s,baz=310,slow=3.4,SNR=4.1						

JMA 20 03:57:24.6±0.1, 3810N×14459E, h40km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.49**	**294**	P	Pn	03 58 04.2	+1.6
OFUJ				*e*S	Sn	03 58 34.0	+2.3
JIO	**Ouri**	**2.58**	**279**	P	Pn	03 58 05.2	+1.4
JIO				*e*S	Sn	03 58 35.2	+1.4
MIYJ	**Miyakonagasawa**	**2.62**	**305**	P	Pn	03 58 05.6	+1.2
MIYJ				*e*S	Sn	03 58 36.2	+1.3
JMK	**Ichinoseki**	**2.78**	**289**	P	Pn	03 58 08.4	+1.9
JMK				*e*S	Sn	03 58 41.5	+2.7
JOT	**Ohata**	**4.27**	**321**	*e*S	Sn	03 59 16.2	+0.7
JCH	**Churui**	**4.61**	**349**	P	Pn	03 58 31.9	+0.2
JCH				*e*S	Sn	03 59 22.5	-1.4
JKB	**Kayabe**	**4.67**	**325**	*e*S	Sn	03 59 25.1	-0.3
JRY	**Ryogami san**	**5.00**	**247**	P	Pn	03 58 37.7	+0.6
JRY				*e*S	Sn	03 59 32.2	-1.5
NEM2	**Nemuro 2**	**5.33**	**9**	P	Pn	03 58 39.1	-2.5
NEM2				*e*S	Sn	03 59 36.0	-5.8
JTKR	**Abashiri--Toko**	**5.89**	**355**	P	Pn	03 58 49.2	-0.1
JTKR				*e*S	Sn	03 59 51.9	-3.6
JHR	**Hokuryu**	**6.04**	**340**	*e*S	Sn	04 00 00.7	+1.5

*ISCJB **20** 04:01:43.5±0.2, 43.15N±001×005E±001, h13km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=109.4*

*STR **20** 04:01:45.8±0.3, 4309N×003E, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **20** 04:01:46.0, 4302N×003W, h8km, ML3.2/47, Error ellipse: s-maj=0.8km s-min=0.6km az=118.0*

*CSEM **20** 04:01:46.9±0.8, 4305N×000W, h12km, ML3.2/47, Error ellipse: s-maj=0.8km s-min=0.6km az=118.0*

*LDG **20** 04:01:46.0±0.1, 4302N×003W, h8km, Md3.0/3, Ml3.2/33, Error ellipse: s-maj=1.3km s-min=0.9km az=178.0*

*MDD **20** 04:01:46.1±0.1, 4302N×000E, h10km, mbLg2.7/31, Error ellipse: s-maj=1.7km s-min=1.2km az=9.0, PRXIMO*

*INMG **20** 04:01:47.2±0.8, 4298N×002W, h2km±1km, ML2.1, Error ellipse: s-maj=1.6km s-min=1.2km az=48.0*

ISC 20 04:01:45.0±0.2, 4310N±001×002E±001, h11km±1km, n248, σ1 17/493, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**142**	Pg	**Pg**	**04 01 47.9**	**+0.7**
LABF	**Labassere**	**0.06**	**142**	Pg	**Pg**	**04 01 47.9**	**+0.7**
LABF				Lg		04 01 49.2	
VIEF	**Viey**	**0.21**	**179**	Pg	**Pg**	**04 01 48.9**	**-0.6**
VIEF	**Viey**	**0.21**	**179**	Pg	**Pg**	**04 01 49.0**	**-0.5**
VIEF				Lg		04 01 51.1	
EPF	**Esparros**	**0.24**	**106**	*e*Pg	**Pg**	**04 01 50.9**	**+0.9**
EPF				*e*Sg	**Sg**	**04 01 54.8**	**+1.4**
	723nm,0.2s						
EPF	**Esparros**	**0.24**	**106**	*e*Pg	**Pg**	**04 01 50.9**	**+0.9**
EPF				*e*Sg	**Sg**	**04 01 54.8**	**+1.4**
	361nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**265**	Pg	**Pg**	**04 01 51.3**	**+0.2**
REYF	**Montagne du Re**	**0.30**	**265**	Pg	**Pg**	**04 01 51.4**	**+0.3**
REYF				Lg		04 01 55.9	
RESF	**Ens**	**0.37**	**141**	Pg	**Pg**	**04 01 52.3**	**-0.1**
RESF				Sg	**Sg**	**04 01 57.1**	**-0.3**
RESF	**Ens**	**0.37**	**141**	Pg	**Pg**	**04 01 52.3**	**0.0**
RESF				Lg		04 01 57.1	
EBIE	**Bielsa**	**0.42**	**168**	⇑Pg	**Pg**	**04 01 52.7**	**-0.6**
	258nm,0.3s,SNR=18						
EBIE				Lg		04 01 57.3	
	548nm,0.2s,SNR=9.2						
EBIE	**Bielsa**	**0.42**	**168**	Pg	**Pg**	**04 01 52.7**	**-0.6**
	258nm,0.3s,SNR=18						
EBIE				Lg		04 01 57.3	
	548nm,0.2s,SNR=9.2						
ETSF	**Etsaut**	**0.47**	**245**	*e*Pg	**Pg**	**04 01 54.2**	**0.0**
ETSF				*e*Sg	**Sg**	**04 01 59.2**	**-1.2**
	1μm,0.3s						
ETSF	**Etsaut**	**0.47**	**245**	*e*Pg	**Pg**	**04 01 54.2**	**0.0**
ETSF				*e*Sg	**Sg**	**04 01 59.2**	**-1.2**
	515nm,0.3s						
FDAF	**Les Forges d'A**	**0.51**	**237**	Pg	**Pg**	**04 01 54.8**	**-0.2**
FDAF				Lg		04 02 01.0	
ATE	**Arette**	**0.53**	**269**	Pg	**Pg**	**04 01 54.4**	**+0.1**
ATE				Sg	**Sg**	**04 02 03.0**	**+0.8**
ATE	**Arette**	**0.53**	**269**	Pg	**Pg**	**04 01 55.5**	**+0.2**
ATE				Lg		04 02 02.7	
MELF	**Melles**	**0.59**	**112**	Pg	**Pg**	**04 01 56.5**	**+0.1**
MELF				Lg		04 02 04.8	
ORDF	**Ordiarp**	**0.71**	**280**	Pg	**Pg**	**04 01 59.4**	**+0.7**
ORDF				Sg	**Sg**	**04 02 09.6**	**+1.6**
ORDF	**Ordiarp**	**0.71**	**280**	Pg	**Pg**	**04 01 59.4**	**+0.7**
ORDF				Lg		04 02 09.6	
LARF	**Larrau**	**0.74**	**266**	Pg	**Pg**	**04 01 59.6**	**+0.3**
LARF				Sg	**Sg**	**04 02 09.9**	**+0.9**
LARF	**Larrau**	**0.74**	**266**	Pg	**Pg**	**04 01 59.5**	**+0.2**
LARF				Lg		04 02 09.8	
MLS	**Moulis**	**0.80**	**100**	Pg	**Pg**	**04 02 00.4**	**-0.1**
MLS	**Moulis**	**0.80**	**100**	Pg	**Pg**	**04 02 00.4**	**0.0**
MLS				Lg		04 02 13.2	
SJPF	**Ste Jean**	**0.91**	**271**	*e*Pg	**Pg**	**04 02 02.6**	**0.0**
SJPF				*e*Sg	**Sg**	**04 02 14.0**	**-0.5**
	113nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**271**	*e*Pg	**Pg**	**04 02 02.6**	**0.0**
SJPF				*e*Sg	**Sg**	**04 02 14.0**	**-0.5**
	56nm,0.2s						
SALF	**Salau**	**0.92**	**111**	Pg	**Pg**	**04 02 02.7**	**-0.1**
SALF				Sg	**Sg**	**04 02 15.1**	**+0.3**
SALF	**Salau**	**0.92**	**111**	Pg	**Pg**	**04 02 02.6**	**-0.2**
SALF				Lg		04 02 14.9	
OSSF	**Osses**	**0.95**	**280**	Pg	**Pg**	**04 02 02.9**	**-0.4**
OSSF	**Osses**	**0.95**	**280**	Pg	**Pg**	**04 02 03.0**	**-0.3**
OSSF				Lg		04 02 17.3	
IPRE	**Itoiz**	**1.05**	**254**	Pg	**Pg**	**04 02 05.3**	**0.0**
	13nm,0.3s,SNR=25						
IPRE				Lg		04 02 19.6	
	45nm,0.4s,SNR=22						
IPRE	**Itoiz**	**1.05**	**254**	Pg	**Pg**	**04 02 05.3**	**+0.1**
	13nm,0.3s,SNR=25						
EALK	**Alkurruntz**	**1.12**	**277**	Pg	**Pg**	**04 02 06.7**	**+0.1**
EALK				Lg		04 02 22.4	
EALK	**Alkurruntz**	**1.12**	**277**	Pg	**Pg**	**04 02 07.0**	**+0.4**
	11nm,0.3s,SNR=22						
EALK				Lg		04 02 22.6	
	46nm,0.3s,SNR=11						
GRBF	**Gourbit**	**1.14**	**102**	Pg	**Pg**	**04 02 06.8**	**-0.2**
IUSE	**Utxeti**	**1.16**	**263**	Pg	**Pg**	**04 02 07.2**	**-0.1**
	17nm,0.2s,SNR=26						
IUSE				Lg		04 02 23.0	
	35nm,0.6s,SNR=14						
IUSE	**Utxeti**	**1.16**	**263**	Pg	**Pg**	**04 02 07.2**	**-0.1**
	17nm,0.2s,SNR=26						
LPEF	**Le Peyrat**	**1.39**	**95**	Lg		04 02 31.2	
ESAC	**San Caprasio**	**1.42**	**195**	Pg	**Pg**	**04 02 12.2**	**-0.1**
ESAC				Lg		04 02 30.6	
ESAC	**San Caprasio**	**1.42**	**195**	Pg	**Pg**	**04 02 11.4**	**-0.9**
	486nm,0.3s,SNR=418						
ESAC				Lg		04 02 30.1	
	430nm,0.2s,SNR=20						
ESAC	**San Caprasio**	**1.42**	**195**	Pg	**Pg**	**04 02 11.4**	**-0.9**
	486nm,0.3s,SNR=418						
CARF	**Carcanieres**	**1.58**	**103**	Pn	**Pn**	**04 02 15.3**	**+2.3**
CARF				Sg	**Sg**	**04 02 37.2**	**+1.4**
CARF	**Carcanieres**	**1.58**	**103**	Pg	**Pg**	**04 02 15.2**	**-0.1**
CARF				Lg		04 02 36.5	
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**04 02 16.2**	**+0.1**
EMIR				Lg		04 02 37.8	
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**04 02 15.4**	**-0.8**
	29nm,0.1s,SNR=7.9						
EMIR				Lg		04 02 37.1	
	215nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.62**	**136**	Pg	**Pg**	**04 02 15.4**	**-0.8**
	29nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**04 02 16.7**	**+0.5**
MTLF				*e*Sg	**Sg**	**04 02 38.4**	**+1.1**
	119nm,0.3s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pn	**Pn**	**04 02 13.7**	**+0.1**
MTLF				*e*Pg	**Pg**	**04 02 16.7**	**+0.5**
MTLF				*e*Sg	**Sg**	**04 02 38.4**	**+1.1**
MTLF	**Montolieu**	**1.62**	**81**	Pn	**Pn**	**04 02 13.7**	**+0.1**
MTLF				Pg	**Pg**	**04 02 16.7**	**+0.5**
MTLF				Lg		04 02 38.4	
	60nm,0.3s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**04 02 16.7**	**+0.5**
MTLF				*e*Sg	**Sg**	**04 02 38.4**	**+1.1**
	60nm,0.3s						
VALF	**Valcebollere**	**1.63**	**115**	Pg	**Pg**	**04 02 16.7**	**+0.4**
VALF				Lg		04 02 38.5	
LRDF	**Laroque-de-Fa**	**1.85**	**94**	Lg		04 02 45.0	
EPOB	**Poblet**	**1.91**	**155**	Pg	**Pg**	**04 02 18.7**	**-3.0**
EPOB				Lg		04 02 45.4	
EPOB	**Poblet**	**1.91**	**155**	Pn	**Pn**	**04 02 18.8**	**+1.2**
	7.8nm,0.3s,SNR=7.4						
EPOB				Pg	**Pg**	**04 02 19.9**	**-1.8**
	27nm,0.6s,SNR=8.0						
EPOB				Lg		04 02 44.1	
	29nm,0.3s,SNR=11						
EPOB	**Poblet**	**1.91**	**155**	Pn	**Pn**	**04 02 18.8**	**+1.2**
	7.8nm,0.3s,SNR=7.4						
EPOB	**Poblet**	**1.91**	**155**	Pg	**Pg**	**04 02 19.9**	**-1.8**
	27nm,0.6s,SNR=8.0						
LFF	**La Frestale**	**1.91**	**16**	*e*Pg	**Pg**	**04 02 23.1**	**+1.4**
LFF				*e*Sg	**Sg**	**04 02 49.0**	**+2.5**
	94nm,0.3s						
LFF	**La Frestale**	**1.91**	**16**	*e*Pn	**Pn**	**04 02 18.4**	**+0.8**
LFF				*e*Pg	**Pg**	**04 02 23.1**	**+1.4**
LFF				*e*Sg	**Sg**	**04 02 49.0**	**+2.5**
LFF	**La Frestale**	**1.91**	**16**	Pn	**Pn**	**04 02 18.4**	**+0.8**
LFF				Pg	**Pg**	**04 02 23.1**	**+1.4**
LFF				Lg		04 02 49.0	
	47nm,0.3s						
LFF	**La Frestale**	**1.91**	**16**	*e*Pg	**Pg**	**04 02 23.1**	**+1.4**
LFF				*e*Sg	**Sg**	**04 02 49.0**	**+2.5**
	47nm,0.3s						
ECRI	**Cripan**	**1.92**	**256**	Pg	**Pg**	**04 02 20.5**	**-1.4**
ECRI				Lg		04 02 47.0	
ECRI	**Cripan**	**1.92**	**256**	Pn	**Pn**	**04 02 20.0**	**+2.3**
	14nm,0.2s,SNR=7.9						
ECRI				Lg		04 02 47.0	
	33nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.92**	**256**	Pg	**Pg**	**04 02 20.5**	**-1.4**
FILF	**Fillols**	**1.94**	**105**	Pn	**Pn**	**04 02 20.5**	**+2.5**
FILF				Sg	**Sg**	**04 02 45.8**	**-1.7**
FILF	**Fillols**	**1.94**	**105**	Pg	**Pg**	**04 02 20.6**	**-1.7**
FILF				Lg		04 02 44.6	
ERTA	**Horta de San J**	**2.15**	**174**	Pg	**Pg**	**04 02 23.5**	**-2.8**
ERTA				Lg		04 02 54.4	
ERTA	**Horta de San J**	**2.15**	**174**	Pn	**Pn**	**04 02 21.9**	**+1.0**
	7.8nm,0.4s,SNR=56						
ERTA				Pg	**Pg**	**04 02 24.5**	**-1.8**
	9.3nm,0.3s,SNR=12						
ERTA				Sn	**Sn**	**04 02 46.4**	**-1.1**
	12nm,0.6s,SNR=8.0						
ERTA				Lg		04 02 51.7	
	32nm,0.3s,SNR=5.0						
ERTA	**Horta de San J**	**2.15**	**174**	Pn	**Pn**	**04 02 21.9**	**+1.1**
	7.8nm,0.4s,SNR=56						
ERTA	**Horta de San J**	**2.15**	**174**	Pg	**Pg**	**04 02 24.5**	**-1.8**
	9.3nm,0.3s,SNR=12						
ERTA				Sn	**Sn**	**04 02 46.4**	**-1.1**
	12nm,0.6s,SNR=8.0						
SJAF	**Saint Jean de**	**2.19**	**105**	Pn	**Pn**	**04 02 24.7**	**+3.3**
SJAF				Sg	**Sg**	**04 02 56.1**	**+0.6**
SJAF	**Saint Jean de**	**2.19**	**105**	Pg	**Pg**	**04 02 24.8**	**-2.2**
SJAF				Lg		04 02 54.5	
EJON	**La Jonquera**	**2.21**	**106**	Pg	**Pg**	**04 02 25.2**	**-2.2**
EJON				Lg		04 02 59.4	
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**04 02 23.8**	**+2.2**
	6.4nm,0.3s,SNR=15						
EJON				Pg	**Pg**	**04 02 27.5**	**+0.1**
	4.3nm,0.3s,SNR=7.4						
EJON				Sn	**Sn**	**04 02 51.0**	**+2.1**
	5.8nm,0.4s,SNR=7.9						
EJON				Lg		04 02 57.4	
	21nm,0.4s,SNR=5.0						
EJON	**La Jonquera**	**2.21**	**106**	Pn	**Pn**	**04 02 23.8**	**+2.2**
	6.4nm,0.3s,SNR=15						
EJON	**La Jonquera**	**2.21**	**106**	Pg	**Pg**	**04 02 27.5**	**+0.1**
	4.3nm,0.3s,SNR=7.4						
EJON				Sn	**Sn**	**04 02 51.0**	**+2.0**
	5.8nm,0.4s,SNR=7.9						
CAF	**Calviac**	**2.35**	**38**	*e*Pg	**Pg**	**04 02 31.2**	**+1.2**
CAF				*e*Sg	**Sg**	**04 03 02.5**	**+2.0**
	33nm,0.2s						
CAF	**Calviac**	**2.35**	**38**	*e*Pn	**Pn**	**04 02 23.7**	**+0.1**
CAF				*e*Pg	**Pg**	**04 02 31.2**	**+1.2**
CAF				*e*Sg	**Sg**	**04 03 02.5**	**+2.0**
CAF	**Calviac**	**2.35**	**38**	Pn	**Pn**	**04 02 23.7**	**+0.1**
CAF				Pg	**Pg**	**04 02 31.2**	**+1.2**
CAF				Lg		04 03 02.5	
	16nm,0.2s						
CAF	**Calviac**	**2.35**	**38**	*e*Pg	**Pg**	**04 02 31.2**	**+1.2**
CAF				*e*Sg	**Sg**	**04 03 02.5**	**+2.0**
	16nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**25**	*e*Pg	**Pg**	**04 02 33.6**	**+1.5**
RJF				*e*Sg	**Sg**	**04 03 06.0**	**+2.1**
	50nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**25**	*e*Pn	**Pn**	**04 02 25.4**	**+0.4**
RJF				*e*Pg	**Pg**	**04 02 33.6**	**+1.5**
RJF				*e*Sg	**Sg**	**04 03 06.0**	**+2.1**
RJF	**Les Rejaudoux**	**2.46**	**25**	Pn	**Pn**	**04 02 25.4**	**+0.4**
RJF				Pg	**Pg**	**04 02 33.6**	**+1.5**
RJF				Lg		04 03 06.0	
	25nm,0.2s

LASF eSg **Sg** **04 03 21.0 +1.1**
LASF Ste Croix 2.96 69 Pn **Pn** **04 02 31.7 -0.2**
LASF Pg **Pg** **04 02 41.9 +0.3**
LASF Lg 04 03 21.0

13nm,0.2s
LASF Ste Croix 2.96 69 ePg **Pg** **04 02 41.9 +0.3**
LASF eSg **Sg** **04 03 21.0 +1.1**

13nm,0.2s
LBL Lubilhac 3.15 46 Pn **Pn** **04 02 35.1 +0.5**
LBL Sg **Sg** **04 03 27.3 +1.0**
PYM Petit Puy Mans 3.41 38 Pn **Pn** **04 02 39.6 +1.5**
PYM Sg **Sg** **04 03 36.1 +1.6**
MFF Saint Martin d 3.51 358 ePg **Pg** **04 02 52.0 -0.2**
MFF eSg **Sg** **04 03 37.7 +0.1**

39nm,0.3s
MFF Saint Martin d 3.51 358 ePn **Pn** **04 02 40.1 +0.6**
MFF ePg **Pg** **04 02 52.0 -0.2**
MFF eSg **Sg** **04 03 37.7 +0.1**
MFF Saint Martin d 3.51 358 Pn **Pn** **04 02 40.1 +0.6**
MFF Pg **Pg** **04 02 52.0 -0.2**
MFF Lg 04 03 37.7

20nm,0.3s
MFF Saint Martin d 3.51 358 ePg **Pg** **04 02 52.0 -0.2**
MFF eSg **Sg** **04 03 37.7 +0.1**

20nm,0.3s
TCF Toulx Ste Croi 3.55 25 ePg **Pg** **04 02 53.5 +0.4**
TCF eSn **Sn** **04 03 20.9 -1.2**
TCF eSg **Sg** **04 03 40.4 +1.3**

24nm,0.2s
TCF Toulx Ste Croi 3.55 25 ePn **Pn** **04 02 40.7 +0.6**
TCF ePg **Pg** **04 02 53.5 +0.4**
TCF eSn **Sn** **04 03 20.9 -1.2**
TCF eSg **Sg** **04 03 40.4 +1.3**
TCF Toulx Ste Croi 3.55 25 Pn **Pn** **04 02 40.7 +0.6**
TCF Pg **Pg** **04 02 53.5 +0.4**
TCF Sn **Sn** **04 03 20.9 -1.2**
TCF Lg 04 03 40.4

12nm,0.2s
TCF Toulx Ste Croi 3.55 25 ePn **Pn** **04 02 40.7 +0.6**
TCF Toulx Ste Croi 3.55 25 ePg **Pg** **04 02 53.5 +0.4**
TCF eSn **Sn** **04 03 20.9 -1.2**
TCF eSg **Sg** **04 03 40.4 +1.3**

12nm,0.2s
AGO Saint Agoulin 3.70 36 Pn **Pn** **04 02 44.7 +2.6**
AGO Sg **Sg** **04 03 45.5 +1.8**
VIVF Saint-Julien-l 3.79 61 ePg **Pg** **04 02 57.6 0.0**
VIVF eSn **Sn** **04 03 26.0 -2.0**
VIVF eSg **Sg** **04 03 46.7 0.0**

25nm,0.4s
VIVF Saint-Julien-l 3.79 61 ePn **Pn** **04 02 44.1 +0.7**
VIVF ePg **Pg** **04 02 57.6 0.0**
VIVF eSn **Sn** **04 03 26.0 -2.0**
VIVF eSg **Sg** **04 03 46.7 0.0**
VIVF Saint-Julien-l 3.79 61 Pn **Pn** **04 02 44.1 +0.7**
VIVF Pg **Pg** **04 02 57.6 0.0**
VIVF Sn **Sn** **04 03 26.0 -2.0**
VIVF Lg 04 03 46.7

12nm,0.4s
VIVF Saint-Julien-l 3.79 61 ePn **Pn** **04 02 44.1 +0.7**
VIVF Saint-Julien-l 3.79 61 ePg **Pg** **04 02 57.6 0.0**
VIVF eSn **Sn** **04 03 26.0 -2.0**
VIVF eSg **Sg** **04 03 46.7 0.0**

12nm,0.4s
EARI Arriondas 3.83 275 Pn **Pn** **04 02 47.2 +3.3**
EARI Pg **Pg** **04 02 55.2 -3.1**
EARI Lg 04 03 42.2
EARI Arriondas 3.83 275 Pn **Pn** **04 02 46.5 +2.6**

4.2nm,0.8s,SNR=114
EARI Sn **Sn** **04 03 29.7 +0.7**

54nm,1.3s,SNR=4.7
EARI Arriondas 3.83 275 Pn **Pn** **04 02 46.5 +2.6**

4.2nm,0.8s,SNR=114
EARI Arriondas 3.83 275 Pg **Pg** **04 02 55.2 -3.2**
EARI Sn **Sn** **04 03 29.7 +0.8**

54nm,1.3s,SNR=4.7
ETOS Mallorca 3.93 147 Pn **Pn** **04 02 46.5 +1.2**
ETOS Sn **Sn** **04 03 31.0 -0.5**
ETOS Mallorca 3.93 147 Pn **Pn** **04 02 46.5 +1.2**

0.3nm,0.1s,SNR=7.9
ETOS Sn **Sn** **04 03 30.6 -0.9**

2.9nm,0.3s,SNR=4.8
ETOS Mallorca 3.93 147 Pn **Pn** **04 02 46.5 +1.1**

0.3nm,0.1s,SNR=7.9
ETOS Sn **Sn** **04 03 30.6 -0.9**

2.9nm,0.3s,SNR=4.8
GUD Guadarrama 3.97 233 Pn **Pn** **04 02 47.0 +1.2**
GUD Sn **Sn** **04 03 32.1 -0.2**
GUD Lg 04 03 52.4
GUD Guadarrama 3.97 233 Pn **Pn** **04 02 47.0 +1.2**

1.3nm,0.2s,SNR=7.9
GUD Sn **Sn** **04 03 30.6 -1.6**

2.2nm,0.2s,SNR=7.9
GUD Lg 04 03 49.6

4.8nm,0.3s,SNR=7.9
GUD Guadarrama 3.97 233 Pn **Pn** **04 02 47.0 +1.2**

1.3nm,0.2s,SNR=7.9
GUD Sn **Sn** **04 03 30.6 -1.7**

2.2nm,0.2s,SNR=7.9
BGF Bois d'Agland 4.00 29 ePg **Pg** **04 03 01.8 +0.1**
BGF eSn **Sn** **04 03 31.0 -2.2**
BGF eSg **Sg** **04 03 54.3 +0.8**

88nm,0.4s
BGF Bois d'Agland 4.00 29 ePn **Pn** **04 02 46.7 +0.4**
BGF ePg **Pg** **04 03 01.8 +0.1**
BGF eSn **Sn** **04 03 31.0 -2.2**
BGF eSg **Sg** **04 03 54.3 +0.8**
BGF Bois d'Agland 4.00 29 Pn **Pn** **04 02 46.7 +0.4**
BGF Pg **Pg** **04 03 01.8 +0.1**
BGF Sn **Sn** **04 03 31.0 -2.2**
BGF Lg 04 03 54.3

44nm,0.4s
BGF Bois d'Agland 4.00 29 ePn **Pn** **04 02 46.7 +0.4**
BGF Bois d'Agland 4.00 29 ePg **Pg** **04 03 01.8 +0.1**
BGF eSn **Sn** **04 03 31.0 -2.2**
BGF eSg **Sg** **04 03 54.3 +0.8**

44nm,0.4s
SMRF Simiane la Rot 4.13 76 ePg **Pg** **04 03 03.8 -0.4**
SMRF eSg **Sg** **04 03 57.4 -0.3**

7.3nm,0.4s
SMRF Simiane la Rot 4.13 76 ePn **Pn** **04 02 48.3 +0.2**
SMRF ePg **Pg** **04 03 03.8 -0.4**
SMRF eSg **Sg** **04 03 57.4 -0.3**
SMRF Simiane la Rot 4.13 76 Pn **Pn** **04 02 48.3 +0.2**
SMRF Pg **Pg** **04 03 03.8 -0.4**
SMRF Lg 04 03 57.4

7.3nm,0.4s
SMRF Simiane la Rot 4.13 76 ePg **Pg** **04 03 03.8 -0.4**
SMRF eSg **Sg** **04 03 57.4 -0.3**

3.7nm,0.4s
EIBI Ibiza 4.19 166 Pn **Pn** **04 02 49.3 +0.5**
EIBI Sn **Sn** **04 03 34.3 -3.4**
EIBI Ibiza 4.19 166 Pn **Pn** **04 02 49.3 +0.5**
EIBI Sn **Sn** **04 03 35.5 -2.3**

15nm,0.9s,SNR=7.9
AVF Avril sur Loir 4.39 31 ePg **Pg** **04 03 09.4 +0.4**
AVF eSn **Sn** **04 03 40.3 -2.4**
AVF eSg **Sg** **04 04 06.4 +0.6**

14nm,0.3s
AVF Avril sur Loir 4.39 31 ePn **Pn** **04 02 52.1 +0.5**
AVF ePg **Pg** **04 03 09.4 +0.4**
AVF eSn **Sn** **04 03 40.3 -2.4**
AVF eSg **Sg** **04 04 06.4 +0.6**
AVF Avril sur Loir 4.39 31 Pn **Pn** **04 02 52.1 +0.5**
AVF Pg **Pg** **04 03 09.4 +0.4**
AVF Sn **Sn** **04 03 40.3 -2.4**
AVF Lg 04 04 06.4

7.0nm,0.3s
AVF Avril sur Loir 4.39 31 ePn **Pn** **04 02 52.1 +0.5**
AVF Avril sur Loir 4.39 31 ePg **Pg** **04 03 09.4 +0.4**
AVF eSn **Sn** **04 03 40.3 -2.4**
AVF eSg **Sg** **04 04 06.4 +0.6**

7.0nm,0.3s
EBEN Beniarda 4.39 182 Pn **Pn** **04 02 52.3 +0.7**
EBEN Lg 04 03 58.1
EBEN Beniarda 4.39 182 Pn **Pn** **04 02 52.1 +0.4**

6.3nm,0.8s,SNR=8.2
EBEN Sn **Sn** **04 03 40.5 -2.3**

6.0nm,1.0s,SNR=4.0
EBEN Lg 04 03 59.1

5.4nm,0.6s,SNR=5.0
EBEN Beniarda 4.39 182 Pn **Pn** **04 02 52.1 +0.4**

6.3nm,0.8s,SNR=8.2
EBEN Sn **Sn** **04 03 40.5 -2.3**

6.0nm,1.0s,SNR=4.0
SMF Signal de Mont 4.47 36 ePg **Pg** **04 03 10.6 0.0**
SMF eSn **Sn** **04 03 42.7 -2.0**
SMF eSg **Sg** **04 04 08.9 +0.4**

12nm,0.3s
SMF Signal de Mont 4.47 36 ePn **Pn** **04 02 52.9 +0.2**
SMF ePg **Pg** **04 03 10.6 0.0**
SMF eSn **Sn** **04 03 42.7 -2.0**
SMF eSg **Sg** **04 04 08.9 +0.4**
SMF Signal de Mont 4.47 36 Pn **Pn** **04 02 52.9 +0.2**
SMF Pg **Pg** **04 03 10.6 0.0**
SMF Sn **Sn** **04 03 42.7 -2.0**
SMF Lg 04 04 08.9

5.8nm,0.3s
SMF Signal de Mont 4.47 36 ePn **Pn** **04 02 52.9 +0.2**
SMF Signal de Mont 4.47 36 ePg **Pg** **04 03 10.6 0.0**
SMF eSn **Sn** **04 03 42.7 -2.0**
SMF eSg **Sg** **04 04 08.9 +0.4**

5.8nm,0.3s
ESDC Sonseca Array 4.55 223 Pn **Pn** **04 02 53.7 -0.1**
ESDC Sn **Sn** **04 03 44.3 -2.3**
ESDC Lg 04 04 08.0
ESDC Sonseca Array 4.55 223 Pn **Pn** **04 02 54.1 +0.4**

1.8nm,0.2s,baz=42,slow=13,SNR=7.9
ESDC Sn **Sn** **04 03 44.3 -2.3**

2.1nm,0.4s,baz=44,slow=24,SNR=7.9
ESDC Lg 04 04 06.0

2.7nm,0.6s,baz=40,slow=30,SNR=7.9
ESDC Sonseca Array 4.55 223 Pn **Pn** **04 02 54.1 +0.3**

1.8nm,0.2s,SNR=7.9
ESDC Sn **Sn** **04 03 44.3 -2.3**

2.1nm,0.4s,SNR=7.9
HYF Humbligny 4.56 23 ePn **Pn** **04 02 54.2 +0.2**
HYF ePg **Pg** **04 03 13.1 +0.7**
HYF eSn **Sn** **04 03 45.8 -1.2**
HYF eSg **Sg** **04 04 12.0 +0.5**
ORIF Oris-en-Rattie 4.60 65 ePg **Pg** **04 03 14.3 +1.1**
ORIF eSg **Sg** **04 04 12.6 -0.2**

2.6nm,0.4s
ORIF Oris-en-Rattie 4.60 65 ePn **Pn** **04 02 54.8 +0.3**
ORIF ePg **Pg** **04 03 14.3 +1.1**
ORIF eSg **Sg** **04 04 12.6 -0.2**
ORIF Oris-en-Rattie 4.60 65 Pn **Pn** **04 02 54.8 +0.3**
ORIF Pg **Pg** **04 03 14.3 +1.1**
ORIF Lg 04 04 12.6

1.3nm,0.4s
ORIF Oris-en-Rattie 4.60 65 ePg **Pg** **04 03 14.3 +1.1**
ORIF eSg **Sg** **04 04 12.6 -0.2**

1.3nm,0.4s
ETOB Tobarra 4.60 195 Pn **Pn** **04 02 55.2 +0.7**
ETOB Sn **Sn** **04 03 44.0 -4.1**
ETOB Lg 04 04 14.7
ETOB Tobarra 4.60 195 Pn **Pn** **04 02 55.2 +0.7**

1.4nm,0.3s,SNR=13
ETOB Sn **Sn** **04 03 44.0 -4.1**

2.0nm,0.7s,SNR=5.6
ETOB Lg 04 04 09.7

74nm,2.8s,SNR=5.0
ETOB Tobarra 4.60 195 Pn **Pn** **04 02 55.2 +0.6**

1.4nm,0.3s,SNR=13
ETOB Sn **Sn** **04 03 44.0 -4.0**

2.0nm,0.7s,SNR=5.6
SSF Saint Saulge 4.67 31 ePg **Pg** **04 03 14.6 +0.2**
SSF eSg **Sg** **04 04 15.1 +0.2**

13nm,0.4s
SSF Saint Saulge 4.67 31 ePn **Pn** **04 02 56.1 +0.6**
SSF ePg **Pg** **04 03 14.6 +0.2**
SSF eSg **Sg** **04 04 15.1 +0.2**
SSF Saint Saulge 4.67 31 Pn **Pn** **04 02 56.1 +0.6**
SSF Pg **Pg** **04 03 14.6 +0.2**
SSF Lg 04 04 15.1

6.6nm,0.4s
SSF Saint Saulge 4.67 31 ePg **Pg** **04 03 14.6 +0.2**
SSF eSg **Sg** **04 04 15.1 +0.2**

6.6nm,0.4s
LMR La Mourre 4.75 85 ePg **Pg** **04 03 14.6 -1.4**
LMR eSg **Sg** **04 04 16.1 -1.4**

2.2nm,0.3s
LMR La Mourre 4.75 85 ePn **Pn** **04 02 56.6 0.0**
LMR ePg **Pg** **04 03 14.6 -1.4**
LMR eSg **Sg** **04 04 16.1 -1.4**
LMR La Mourre 4.75 85 Pn **Pn** **04 02 56.6 0.0**
LMR Pg **Pg** **04 03 14.6 -1.4**
LMR Lg 04 04 16.1

1.1nm,0.3s
LMR La Mourre 4.75 85 ePg **Pg** **04 03 14.6 -1.4**
LMR eSg **Sg** **04 04 16.1 -1.4**

1.1nm,0.3s
FRF La Foret Royal 4.86 82 ePg **Pg** **04 03 17.7 -0.3**
FRF eSg **Sg** **04 04 19.2 -1.7**

2.5nm,0.3s
FRF La Foret Royal 4.86 82 ePn **Pn** **04 02 57.9 -0.1**
FRF ePg **Pg** **04 03 17.7 -0.3**
FRF eSg **Sg** **04 04 19.2 -1.7**
FRF La Foret Royal 4.86 82 Pn **Pn** **04 02 57.9 -0.1**
FRF Pg **Pg** **04 03 17.7 -0.3**
FRF Lg 04 04 19.2

1.2nm,0.3s
FRF La Foret Royal 4.86 82 ePg **Pg** **04 03 17.7 -0.3**
FRF eSg **Sg** **04 04 19.2 -1.7**

1.2nm,0.3s
LOR Lormes 4.97 32 ePg **Pg** **04 03 19.8 -0.5**
LOR eSg **Sg** **04 04 25.0 +0.3**

13nm,0.4s
LOR Lormes 4.97 32 ePn **Pn** **04 03 00.2 +0.5**
LOR ePg **Pg** **04 03 19.8 -0.5**
LOR eSg **Sg** **04 04 25.0 +0.3**
LOR Lormes 4.97 32 Pn **Pn** **04 03 00.2 +0.5**
LOR Pg **Pg** **04 03 19.8 -0.5**
LOR Lg 04 04 25.0

6.3nm,0.4s
LOR Lormes 4.97 32 ePg **Pg** **04 03 19.8 -0.5**
LOR eSg **Sg** **04 04 25.0 +0.3**

6.3nm,0.4s
ECAL Calabor 5.13 259 Pn **Pn** **04 03 02.5 +0.8**
ECAL Sn **Sn** **04 04 00.2 -0.7**
ECAL Calabor 5.13 259 Pn **Pn** **04 03 03.3 +1.6**

3.5nm,0.2s,SNR=7.9
ECAL Sn **Sn** **04 04 00.2 -0.7**

29nm,1.1s,SNR=7.9
ECAL Calabor 5.13 259 Pn **Pn** **04 03 02.5 +0.8**

29nm,1.1s,SNR=7.9
ECAL Sn **Sn** **04 04 00.2 -0.7**

29nm,1.1s,SNR=7.9
MBDF Montbardon 5.14 69 ePg **Pg** **04 03 23.4 -0.1**
MBDF eSg **Sg** **04 04 29.3 -0.8**

0.5nm,0.3s
MBDF Montbardon 5.14 69 ePn **Pn** **04 03 01.9 -0.1**
MBDF ePg **Pg** **04 03 23.4 -0.1**
MBDF eSg **Sg** **04 04 29.3 -0.8**
MBDF Montbardon 5.14 69 Pn **Pn** **04 03 01.9 -0.1**
MBDF Pg **Pg** **04 03 23.4 -0.1**
MBDF Lg 04 04 29.3

0.2nm,0.3s
MBDF Montbardon 5.14 69 ePg **Pg** **04 03 23.4 -0.1**
MBDF eSg **Sg** **04 04 29.3 -0.8**

0.2nm,0.3s
PBRG Braganca 5.17 258 ePn **Pn** **04 03 04.0 +1.7**
PBRG eSn **Sn** **04 04 01.1 -0.8**
PBRG

2.2nm,0.2s
PBRG Braganca 5.17 258 ePn **Pn** **04 03 04.0 +1.7**
PBRG eSn **Sn** **04 04 01.1 -0.8**

2.2nm,0.2s
EPON Pontenova 5.25 275 Pn **Pn** **04 03 04.3 +1.0**
EPON Sn **Sn** **04 04 03.8 0.0**
EPON Pontenova 5.25 275 Pn **Pn** **04 03 05.3 +1.9**

0.2nm,0.3s,SNR=7.9
EPON Sn **Sn** **04 04 03.8 0.0**

9.9nm,1.0s,SNR=7.9
EPON Pontenova 5.25 275 Pn **Pn** **04 03 04.3 +0.9**
EPON Sn **Sn** **04 04 03.8 0.0**

9.9nm,1.0s,SNR=7.9
QUIF Quistinic 5.31 336 ePg **Pg** **04 03 25.0 -1.8**
QUIF eSn **Sn** **04 04 01.9 -3.6**
QUIF eSg **Sg** **04 04 34.2 -1.4**

2.2nm,0.2s
QUIF Quistinic 5.31 336 ePn **Pn** **04 03 04.5 +0.2**
QUIF ePg **Pg** **04 03 25.0 -1.8**
QUIF eSn **Sn** **04 04 01.9 -3.6**
QUIF eSg **Sg** **04 04 34.2 -1.4**
QUIF Quistinic 5.31 336 Pn **Pn** **04 03 04.5 +0.2**
QUIF Pg **Pg** **04 03 25.0 -1.8**
QUIF Sn **Sn** **04 04 01.9 -3.6**
QUIF Lg 04 04 34.2

1.1nm,0.2s
QUIF Quistinic 5.31 336 ePn **Pn** **04 03 04.5 +0.2**
QUIF Quistinic 5.31 336 ePg **Pg** **04 03 25.0 -1.8**
QUIF eSn **Sn** **04 04 01.9 -3.6**
QUIF eSg **Sg** **04 04 34.2 -1.4**

1.1nm,0.2s
GRR Gorron 5.33 354 ePg **Pg** **04 03 25.6 -1.4**
GRR eSn **Sn** **04 04 02.8 -3.1**
GRR eSg **Sg** **04 04 35.2 -0.8**

4.8nm,0.2s
GRR Gorron 5.33 354 ePn **Pn** **04 03 04.8 +0.3**
GRR ePg **Pg** **04 03 25.6 -1.4**
GRR eSn **Sn** **04 04 02.8 -3.1**
GRR eSg **Sg** **04 04 35.2 -0.8**

2.4nm,0.2s
GRR Gorron 5.33 354 ePn **Pn** **04 03 04.8 +0.3**
GRR ePg **Pg** **04 03 25.6 -1.4**
GRR eSn **Sn** **04 04 02.8 -3.1**
GRR Lg 04 04 35.2

2.4nm,0.2s
GRR Gorron 5.33 354 ePn **Pn** **04 03 04.8 +0.3**
GRR Gorron 5.33 354 ePg **Pg** **04 03 25.6 -1.4**
GRR eSn **Sn** **04 04 02.8 -3.1**
GRR eSg **Sg** **04 04 35.2 -0.8**

2.4nm,0.2s
EMUR La Murta 5.34 191 Pn **Pn** **04 03 05.6 +1.0**

1.6nm,0.3s,SNR=15
EMUR La Murta 5.34 191 Pn **Pn** **04 03 05.6 +1.0**

1.6nm,0.3s,SNR=15
LPL La Plagne 5.39 61 ePg **Pg** **04 03 27.5 -0.7**
LPL eSg **Sg** **04 04 37.4 -0.6**

1.6nm,0.3s
LPL La Plagne 5.39 61 ePn **Pn** **04 03 06.0 +0.6**
LPL ePg **Pg** **04 03 27.5 -0.7**
LPL eSg **Sg** **04 04 37.4 -0.6**
LPL La Plagne 5.39 61 Pn **Pn** **04 03 06.0 +0.6**
LPL Pg **Pg** **04 03 27.5 -0.7**
LPL Lg 04 04 37.4

0.8nm,0.3s
LPL La Plagne 5.39 61 ePg **Pg** **04 03 27.5 -0.7**
LPL eSg **Sg** **04 04 37.4 -0.6**

0.8nm,0.3s
LPG La Plagne 5.39 61 ePg **Pg** **04 03 27.7 -0.6**
LPG eSg **Sg** **04 04 37.6 -0.6**

2.9nm,0.5s
LPG La Plagne 5.39 61 ePn **Pn** **04 03 05.8 +0.4**
LPG ePg **Pg** **04 03 27.7 -0.6**
LPG eSg **Sg** **04 04 37.6 -0.6**
LPG La Plagne 5.39 61 Pn **Pn** **04 03 05.8 +0.4**
LPG Pg **Pg** **04 03 27.7 -0.6**
LPG Lg 04 04 37.6

1.4nm,0.5s
LPG La Plagne 5.39 61 ePg **Pg** **04 03 27.7 -0.6**
LPG eSg **Sg** **04 04 37.6 -0.6**

1.5nm,0.5s
SBF Sospel 5.45 79 ePg **Pg** **04 03 28.5 -0.9**
SBF eSg **Sg** **04 04 38.4 -1.6**

4.9nm,0.4s
SBF Sospel 5.45 79 ePg **Pg** **04 03 28.5 -0.9**
SBF eSg **Sg** **04 04 38.4 -1.6**

2.5nm,0.4s
SGMF Saint Gilles 5.46 342 ePg **Pg** **04 03 27.4 -2.2**
SGMF eSn **Sn** **04 04 05.7 -3.5**
SGMF eSg **Sg** **04 04 39.0 -1.4**

9.0nm,0.4s
SGMF Saint Gilles 5.46 342 ePn **Pn** **04 03 07.5 +1.1**
SGMF ePg **Pg** **04 03 27.4 -2.2**
SGMF eSn **Sn** **04 04 05.7 -3.5**
SGMF eSg **Sg** **04 04 39.0 -1.4**
SGMF Saint Gilles 5.46 342 Pn **Pn** **04 03 07.5 +1.1**
SGMF Pg **Pg** **04 03 27.4 -2.2**
SGMF Sn **Sn** **04 04 05.7 -3.5**
SGMF Lg 04 04 39.0

4.5nm,0.4s
SGMF Saint Gilles 5.46 342 ePn **Pn** **04 03 07.5 +1.1**
SGMF Saint Gilles 5.46 342 ePg **Pg** **04 03 27.4 -2.2**
SGMF eSn **Sn** **04 04 05.7 -3.5**
SGMF eSg **Sg** **04 04 39.0 -1.4**

4.5nm,0.4s
CABF La Chapelle 5.56 49 ePg **Pg** **04 03 31.0 -0.5**
CABF eSg **Sg** **04 04 43.2 -0.4**

8.8nm,0.5s
CABF La Chapelle 5.56 49 ePn **Pn** **04 03 08.3 +0.6**
CABF ePg **Pg** **04 03 31.0 -0.5**
CABF eSg **Sg** **04 04 43.2 -0.4**
CABF La Chapelle 5.56 49 Pn **Pn** **04 03 08.3 +0.6**
CABF Pg **Pg** **04 03 31.0 -0.5**
CABF Lg 04 04 43.2

4.4nm,0.5s
CABF La Chapelle 5.56 49 ePg **Pg** **04 03 31.0 -0.5**
CABF eSg **Sg** **04 04 43.2 -0.4**

4.4nm,0.5s
FLN La Foliniere 5.68 357 ePg **Pg** **04 03 31.9 -1.8**
FLN eSn **Sn** **04 04 10.5 -4.0**
FLN eSg **Sg** **04 04 46.2 -1.0**

7.5nm,0.3s
FLN La Foliniere 5.68 357 ePn **Pn** **04 03 09.7 +0.4**
FLN ePg **Pg** **04 03 31.9 -1.8**
FLN eSn **Sn** **04 04 10.5 -4.0**
FLN eSg **Sg** **04 04 46.2 -1.0**
FLN La Foliniere 5.68 357 Pn **Pn** **04 03 09.7 +0.4**
FLN Pg **Pg** **04 03 31.9 -1.8**
FLN Sn **Sn** **04 04 10.5 -4.0**
FLN Lg 04 04 46.2

3.8nm,0.3s
FLN La Foliniere 5.68 357 ePn **Pn** **04 03 09.7 +0.4**
FLN La Foliniere 5.68 357 ePg **Pg** **04 03 31.9 -1.8**
FLN eSn **Sn** **04 04 10.5 -4.0**
FLN eSg **Sg** **04 04 46.2 -1.0**

3.8nm,0.3s
EBAN Banos Encina 5.71 212 Lg 04 04 46.0

2.9nm,0.7s,SNR=4.0
ROSF Rostrenen 5.72 337 ePg **Pg** **04 03 32.7 -1.9**
ROSF eSn **Sn** **04 04 11.5 -4.1**
ROSF eSg **Sg** **04 04 46.8 -1.9**

2.1nm,0.2s
ROSF Rostrenen 5.72 337 ePn **Pn** **04 03 10.2 +0.3**
ROSF ePg **Pg** **04 03 32.7 -1.9**
ROSF eSn **Sn** **04 04 11.5 -4.1**
ROSF eSg **Sg** **04 04 46.8 -1.9**
ROSF Rostrenen 5.72 337 Pn **Pn** **04 03 10.2 +0.3**
ROSF Pg **Pg** **04 03 32.7 -1.9**
ROSF Sn **Sn** **04 04 11.5 -4.1**
ROSF Lg 04 04 46.8

1.1nm,0.2s
ROSF Rostrenen 5.72 337 ePn **Pn** **04 03 10.2 +0.3**
ROSF Rostrenen 5.72 337 ePg **Pg** **04 03 32.7 -1.9**
ROSF eSn **Sn** **04 04 11.5 -4.1**
ROSF eSg **Sg** **04 04 46.8 -1.9**

1.0nm,0.2s
EQES Quesada 5.79 205 Pn **Pn** **04 03 11.6 +0.7**

0.5nm,0.2s,SNR=7.9
EQES Sn **Sn** **04 04 13.2 -4.0**

11nm,0.8s,SNR=7.9
EQES Lg 04 04 48.0

24nm,1.3s,SNR=7.9
EQES Quesada 5.79 205 Pn **Pn** **04 03 11.6 +0.7**

0.5nm,0.2s,SNR=7.9
EQES Sn **Sn** **04 04 13.2 -4.1**

11nm,0.8s,SNR=7.9
PVRL Vila Real 6.03 255 ePn **Pn** **04 03 15.4 +1.3**
PVRL eSn **Sn** **04 04 22.7 -0.4**
EADA Adamuz 6.04 217 Pn **Pn** **04 03 15.3 +1.0**

1.2nm,0.3s,SNR=7.9
EADA Sn **Sn** **04 04 19.4 -4.0**

6.2nm,0.9s,SNR=7.9
EADA Lg 04 04 56.3

1.3nm,0.3s,SNR=5.0
EADA Adamuz 6.04 217 Pn **Pn** **04 03 15.3 +1.0**

1.2nm,0.3s,SNR=7.9
EADA Sn **Sn** **04 04 19.4 -4.0**

6.2nm,0.9s,SNR=7.9
SFTF Sexfontaines 6.20 33 ePg **Pg** **04 03 42.1 -1.6**
SFTF eSg **Sg** **04 05 02.4 -1.6**

5.4nm,0.5s
SFTF Sexfontaines 6.20 33 ePg **Pg** **04 03 42.1 -1.6**
SFTF eSg **Sg** **04 05 02.4 -1.6**

2.7nm,0.5s
PVIS Viseu 6.37 251 ePn **Pn** **04 03 19.9 +1.1**
PVIS eSn **Sn** **04 04 28.6 -2.9**
EQUE Quentar 6.45 205 Lg 04 05 08.9

14nm,1.2s,SNR=7.9
PCBR Castelo Branco 6.50 243 ePn **Pn** **04 03 21.4 +0.8**
PCBR eSn **Sn** **04 04 32.1 -2.7**
HAU Haudompre 6.62 40 eSg **Sg** **04 05 15.9 -1.5**

	4.0nm,0.5s								
HAU	**Haudompre**	**6.62**	**40**	*e*Sg	**Sg**	04 05 15.9	**-1.5**		
	2.0nm,0.5s								
HINF	**Hinteralfeld**	**6.73**	**43**	*e*Pg	**Pg**	04 03 51.3	**-2.6**		
HINF				*e*Sg	**Sg**	04 05 19.5	**-1.6**		
	3.8nm,0.6s								
HINF	**Hinteralfeld**	**6.73**	**43**	*e*Pg	**Pg**	04 03 51.3	**-2.6**		
HINF				*e*Sg	**Sg**	04 05 19.5	**-1.6**		
	1.9nm,0.6s								
EBAD	**Badajoz**	**6.87**	**233**	Pn	**Pn**	04 03 26.5	**+0.9**		
	0.9nm,0.2s,SNR=7.9								
EBAD				Sn	**Sn**	04 04 39.6	**-4.2**		
	6.2nm,0.9s,SNR=7.9								
EBAD	**Badajoz**	**6.87**	**233**	Pn	**Pn**	04 03 26.5	**+0.9**		
	0.9nm,0.2s,SNR=7.9								
EBAD				Sn	**Sn**	04 04 39.6	**-4.2**		
	6.2nm,0.9s,SNR=7.9								
EMIN	**Mina Concepcio**	**7.37**	**226**	Sn	**Sn**	04 04 50.4	**-5.9**		
	1.8nm,0.7s,SNR=7.9								
EGRO	**El Granado**	**7.98**	**228**	Sn	**Sn**	04 05 05.8	**-5.4**		
	4.5nm,0.9s,SNR=4.0								

NEIC ***20*** *04:09:41.6±2.0, 6.08S×151.67E, h10km, mb4.4/1, Error ellipse: s-maj=52.6km s-min=30.7km az=133.0*

IDC 20 04:09:50.4±8.9, 633S×15142E, h57km±65km, mb3.7/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.8/5, ML2.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=59.4km s-min=53.4km az=95.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**234**	P	Pn	04 11 06.3	**+0.6**
	3.1nm,0.3s,baz=345,slow=4.3,SNR=6.2						
PMG				S	Sn	04 12 05.3	+0.9
	4.1nm,0.3s,baz=26,slow=2.6,SNR=3.8						
CTA	**Charters Tower**	**14.56**	**200**	LR	LR	04 17 57.1	
	comp=Z,31nm,21.4s,baz=55,slow=33						
WB2	**Warramunga Arr**	**21.40**	**229**	*e*P	P	04 14 32.4	-0.9
WRA	**Warramunga Arr**	**21.41**	**229**	P	P	04 14 32.7	-0.7
	2.6nm,0.9s,baz=56,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**24.10**	**223**	P	P	04 15 00.7	+0.2
	2.6nm,0.6s,baz=53,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**27.02**	**199**	P	P	04 15 27.4	+0.5
	1.6nm,0.7s,baz=359,slow=14,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.73**	**243**	*e*P	P	04 15 33.3	0.0
	5.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.73**	**243**	P	P	04 15 34.2	+0.9
	0.9nm,0.3s,baz=54,slow=9.7,SNR=12						
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	PKPbc	04 29 33.5	+0.5
	0.9nm,0.6s,baz=74,slow=2.7,SNR=12						

IDC 20 04:11:56.6±2.8, 593S×15105E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=70.6km s-min=44.8km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**228**	Sn	Sn	04 14 19.1	+3.5
	1.4nm,0.3s,baz=189,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**21.39**	**228**	P	P	04 16 46.0	+0.2
	2.6nm,1.0s,baz=54,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	04 17 14.0	-0.2
	2.4nm,0.7s,baz=57,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**27.28**	**198**	P	P	04 17 43.1	+0.5
	3.0nm,0.7s,baz=7.9,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**27.59**	**242**	P	P	04 17 46.3	+0.9
	1.2nm,0.6s,baz=55,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**148.96**	**286**	PKPbc	PKPbc	04 31 47.0	+0.6
	1.0nm,0.7s,baz=60,slow=2.0,SNR=7.9						

IDC ***20*** *04:16:37.5±1.0, 4.690N×152.64E, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.8/23, mbtmp3.8/9, Error ellipse: s-maj=29.6km s-min=27.8km az=159.0*
ISCJB ***20*** *04:16:42.2±3.6, 4.69N±02×152.6E±0.3, h45km±27km, mb3.7/9, Error ellipse: s-maj=31.7km s-min=29.5km az=144.1*
MOS ***20*** *04:16:42.8±0.7, 4.692N×152.58E, h52km, mb4.1/6, Error ellipse: s-maj=59.3km s-min=21.5km az=79.4*

ISC 20 04:16:44.6±3.3, 470N±02×1526E±03, h51km±26km, n17, σ0§35/16, mb3.7/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.41**	**31**	*e*PN	**Pn**	**04 17 49.0**	**+0.1**
INK	**Inuvik**	**41.68**	**32**	P	**P**	**04 24 27.3**	**-0.8**
	0.7nm,0.6s,mb3.5,baz=301,slow=5.6,SNR=6.0						
INK	**Inuvik**	**41.68**	**32**	P	**P**	**04 24 27.3**	**-0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEV	**Kevo**	**57.03**	**340**	*e*p	pP	04 26 37.7	-1.6
NVAR	**Mina Array Bea**	**62.66**	**62**	P	**P**	**04 27 04.5**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.6,baz=279,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**63.70**	**334**	P	**P**	**04 27 10.9**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.1,baz=32,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**63.70**	**334**	P	**P**	**04 27 10.9**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**64.92**	**54**	P	**P**	**04 27 18.6**	**-0.1**
	comp=Z,0.5nm,1.0s,mb3.5,baz=17,slow=1.5,SNR=4.5						
NOA	**NORSAR Array B**	**67.92**	**341**	P	**P**	**04 27 38.0**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=28,slow=6.3,SNR=2.8						
NOA	**NORSAR Array B**	**67.92**	**341**	P	**P**	**04 27 38.0**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**68.58**	**198**	P	**P**	**04 27 41.9**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=14,slow=6.3,SNR=5.6						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**04 27 57.9**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.2,baz=35,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**04 27 57.9**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**04 28 36.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=293,slow=4.8,SNR=11						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**04 28 36.0**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.12**	**334**	P	**P**	**04 28 38.4**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=40,slow=5.2,SNR=4.8						
GERES	**GERESS Array B**	**78.12**	**334**	P	**P**	**04 28 38.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***20*** *04:40:28.0±4.5, 4.681N×155.17E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=160.9km s-min=33.6km az=9.0*

MOS 20 04:40:34.7±1.3, 4736N×15511E, h47km, mb4.0/1, Error ellipse: s-maj=75.5km s-min=35.0km az=94.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.40**	**11**	*e*PN	Pn	04 41 26.0	+0.9
SKR				*e*		04 42 05.7	
ZAL	**Zalesovo**	**43.38**	**306**	P	P	04 48 34.2	+1.8
	1.2nm,0.5s,baz=53,slow=9.6,SNR=3.2						
ZAL	**Zalesovo**	**43.38**	**306**	P	P	04 48 34.3	+1.9
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.87**	**298**	P	P	04 49 09.8	+1.9
	comp=Z,0.5nm,0.5s,baz=66,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.87**	**298**	P	P	04 49 09.8	+1.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.06**	**335**	P	P	04 51 06.6	+2.9
	comp=Z,1.1nm,0.6s,baz=28,slow=8.6,SNR=4.9						
FINES	**FINESS Array B**	**64.06**	**335**	P	P	04 51 06.6	+2.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.01**	**62**	P	P	04 52 18.4	+1.6
	comp=Z,0.2nm,0.6s,baz=308,slow=4.4,SNR=2.9						

GUC 20 04:43:15.8±0.6, 3273S×7169W, h26km±6km, MD3.5, ML2.4, 8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.29**	**47**	*i*P	Pb	04 43 22.8	+0.1
PACH				*i* S	Sb	04 43 28.0	+0.7
ROCH	**El Roble**	**0.62**	**113**	*i*P	Pb	04 43 27.9	0.0
ROCH				*i* S	Sb	04 43 37.3	+1.0
LCCH	**Las Cruces**	**0.75**	**173**	*i* P	Pb	04 43 29.4	-0.8
LCCH				*i* S	Sb	04 43 39.6	-0.4
PTCH	**Petorca**	**0.79**	**54**	*i*P	Pb	04 43 30.4	-0.5
PTCH				*i* S	Sb	04 43 41.5	+0.2
PTCH				AML	AML	04 43 42.0	
	comp=E,218nm,0.3s						
JACH	**Jahuel**	**0.92**	**87**	*i*P	Pn	04 43 32.3	-0.8
JACH				*i* S	Sb	04 43 44.8	-0.1
PEL	**Peldehue**	**0.94**	**116**	*e*P	Pn	04 43 32.7	-0.6
PEL				*i* S	Sb	04 43 45.8	+0.4
PEL				AML	AML	04 43 48.5	
	comp=E,410nm,0.3s						
RCDM	**Rinconada Maip**	**1.05**	**136**	*e*P	Pn	04 43 34.5	-0.4
RCDM				*i* S	Sn	04 43 48.3	-0.4
RCDM				AML	AML	04 43 55.0	
	comp=E,114nm,0.1s						
TACH	**Talagante**	**1.11**	**146**	*i*P	Pn	04 43 35.4	-0.3
TACH				*i* S	Sn	04 43 50.0	-0.2
CLCH	**Cerro Calan**	**1.17**	**125**	*e*P	Pn	04 43 36.5	0.0
CLCH				*i* S	Sn	04 43 52.3	+0.7
CLCH				AML	AML	04 43 57.2	
	comp=E,83nm,0.6s						
FCH	**Farellones**	**1.31**	**117**	*i*P	Pn	04 43 39.0	+0.5
FCH				*i* S	Sn	04 43 56.9	+1.7
FCH				AML	AML	04 43 57.8	
	comp=E,82nm,0.2s						
PCH	**Pirque**	**1.32**	**132**	*i*P	Pn	04 43 39.0	+0.5
CMCH	**Combarbala**	**1.66**	**21**	*i*P	Pn	04 43 42.7	-0.5
CMCH				*i* S	Sn	04 44 04.1	+0.4
CMCH				AML	AML	04 44 08.7	
	comp=E,152nm,0.4s						

IDC ***20*** *04:44:17.8±4.2, 46.16N×152.99E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=131.6km s-min=40.3km az=10.0*
ISCJB ***20*** *04:44:21.5±2.0, 462N±03×1529E±03, h33km, mb3.8/4, Error ellipse: s-maj=45.3km s-min=24.4km az=123.1*
MOS ***20*** *04:44:21.1±0.5, 4.620N×152.73E, h35km, mb4.0/1, Error ellipse: s-maj=78.0km s-min=35.8km az=82.8*

ISC 20 04:44:24.4±9.8, 463N±07×1529E±03, h43km±62km, n8, σ0§28/8, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.91**	**25**	*e*PN	**Pn**	**04 45 35.7**	**0.0**
MKAR	**Makanchi Array**	**47.03**	**298**	P	**P**	**04 52 51.5**	**0.0**
	0.4nm,0.4s,mb3.8,baz=74,slow=9.2,SNR=4.4						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**04 54 55.8**	**-0.3**
	0.6nm,0.3s,mb4.0,baz=55,slow=7.2,SNR=4.5						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**04 54 55.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**04 55 23.4**	**+0.3**
	comp=Z,1.7nm,1.0s,mb3.9,baz=28,slow=6.5,SNR=3.0						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**04 55 23.4**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**77.86**	**60**	P	**P**	**04 56 17.4**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=291,slow=4.5,SNR=4.6						
TXAR	**Lajitas Array**	**77.86**	**60**	P	**P**	**04 56 17.5**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***20*** *04:47:15.2±6.6, 7.50S×157.61E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML3.9/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/30, Error ellipse: s-maj=122.2km s-min=18.3km az=22.0*

NEIC 20 04:47:15.9±9.8, 701S×15784E, h35km, mb3.9/1, Error ellipse: s-maj=194.0km s-min=19.0km az=197.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.19**	**139**	Pn	Pn	04 48 03.6	+0.1
	15nm,0.3s,baz=278,slow=5.2,SNR=5.6						
HNR				Sn	Sn	04 48 43.0	+2.7
	68nm,0.3s,baz=270,slow=19,SNR=4.1						
HNR				Lg		04 48 50.6	
	71nm,0.3s,baz=263,slow=13,SNR=7.0						
CTA	**Charters Tower**	**17.18**	**220**	LR	LR	04 56 31.5	
	comp=Z,58nm,18.4s,baz=230,slow=33						
WRA	**Warramunga Arr**	**26.17**	**238**	P	P	04 52 47.8	+0.8
	3.5nm,0.8s,baz=65,slow=9.4,SNR=10						
WRA				LR	LR	05 02 01.0	
	comp=Z,62nm,20.0s,baz=55,slow=34						
ASAR	**Alice Springs**	**28.33**	**232**	P	P	04 53 06.0	-0.3
	0.5nm,0.8s,baz=64,slow=10,SNR=3.7						
ASAR				LR	LR	05 02 54.9	
	comp=Z,73nm,18.3s,baz=120,slow=34						
STKA	**Stephens Creek**	**29.02**	**209**	*e*P	P	04 53 12.8	+0.4
	2.0nm,0.8s						
STKA	**Stephens Creek**	**29.02**	**209**	P	P	04 53 12.6	+0.2
	2.3nm,0.7s,baz=34,slow=12,SNR=6.0						
FITZ	**Fitzroy Crossi**	**33.24**	**248**	LR	LR	05 05 20.8	
	comp=Z,46nm,18.5s,baz=68,slow=33						

IDC ***20*** *04:49:33.6±9.0, 6.39S×151.43E, h60km±64km, mb3.6/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=96.9km s-min=56.0km az=132.0*

NEIC 20 04:49:23.8±2.4, 624S×15189E, h10km, mb4.3/2, 1D, Error ellipse: s-maj=104.0km s-min=30.6km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.65**	**236**	P	Pn	04 50 49.0	+1.3
	3.8nm,0.3s,baz=30,slow=7.8,SNR=7.7						
PMG				S	Sn	04 51 47.8	-4.9
	1.2nm,0.3s,baz=181,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**21.83**	**230**	P	P	04 54 15.9	-0.3
	1.1nm,0.6s,baz=56,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**24.49**	**223**	P	P	04 54 43.7	+0.7
	4.1nm,0.9s,baz=53,slow=9.4,SNR=22						
FITZ	**Fitzroy Crossi**	**28.19**	**243**	*i*P	P	04 55 16.7	+0.2
	3.6nm,0.9s						
FITZ				*e*		04 55 23.8	
FITZ	**Fitzroy Crossi**	**28.19**	**243**	P	P	04 55 16.9	+0.4
	0.8nm,0.4s,baz=50,slow=12,SNR=8.6						
MBWA	**Marble Bar**	**34.48**	**241**	P	P	04 56 10.9	-1.0
	4.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.85**	**285**	PKPbc	PKPbc	05 09 16.4	+2.2
	0.8nm,0.7s,baz=63,slow=1.9,SNR=8.0						

IDC ***20*** *04:50:36.4±1.4, 6.33S×151.59E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.2/15, mbtmp4.2/7, ML3.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.6/33, Error ellipse: s-maj=48.4km s-min=22.0km az=123.0*
NEIC ***20*** *04:50:38.0±0.9, 6.31S×151.57E, h10km, mb4.5/2, Error ellipse: s-maj=32.8km s-min=14.0km az=128.0*
ISCJB ***20*** *04:50:40.4±1.0, 6.3S±02×1515E±02, h35km, mb4.0/6, MS3.3/3, Error ellipse: s-maj=32.9km s-min=11.9km az=94.2*

ISC 20 04:50:42.1±1.0, 63S±02×1515E±02, h35km, n15, σ1§05/12, mb4.0/6, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**234**	Pn	**Pn**	**04 51 56.7**	**-2.1**
	4.7nm,0.3s,baz=219,slow=23,SNR=5.1						
PMG				Sn	**Sn**	**04 52 59.8**	**+1.1**
	4.3nm,0.3s,baz=184,slow=19,SNR=3.4						
KAKA	**Kakadu**	**19.86**	**250**	*e*P	**Pn**	**04 55 10.4**	**-1.4**
	17nm,0.8s						
GUMO	**Guam**	**20.85**	**342**	LR	LR	05 00 56.9	
	comp=Z,52nm,21.7s,MS2.9,baz=128,slow=30						
DZM	**Mont Dzumac**	**21.29**	**139**	LR	LR	05 02 30.4	
	comp=Z,89nm,19.1s,MS3.2,baz=39,slow=34						
WB2	**Warramunga Arr**	**21.49**	**229**	*e*P	**P**	**04 55 28.8**	**+1.1**
WRA	**Warramunga Arr**	**21.50**	**229**	P	**P**	**04 55 27.8**	**0.0**
	2.2nm,0.5s,mb3.7,baz=56,slow=10,SNR=6.9						
AS31	**Alice Springs**	**24.18**	**223**	*e*P	**P**	**04 55 55.7**	**+0.6**
ASAR	**Alice Springs**	**24.18**	**223**	P	**P**	**04 55 55.6**	**+0.5**
	9.6nm,0.8s,mb4.3,baz=52,slow=9.2,SNR=23						
STKA	**Stephens Creek**	**27.07**	**199**	P	**P**	**04 56 19.9**	**-1.5**
	2.3nm,0.7s,mb3.9,baz=16,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**27.83**	**243**	*e*P	**P**	**04 56 28.3**	**+0.2**
	3.0nm,0.3s,mb4.4						
FITZ				*e*	pP	04 56 35.9	-2.2
FITZ	**Fitzroy Crossi**	**27.83**	**243**	P	**P**	**04 56 29.0**	**+0.8**
	1.7nm,0.4s,mb4.1,baz=65,slow=8.3,SNR=9.3						
AFI	**Afiamalu**	**36.87**	**105**	LR	LR	05 10 10.9	
	comp=Z,211nm,18.5s,MS4.0,baz=36,slow=32						
SONM	**Songino Array**	**66.94**	**329**	P	**P**	**05 01 30.9**	**-0.1**
	0.9nm,0.6s,mb4.0,baz=147,slow=4.9,SNR=6.2						
NVAR	**Mina Array Bea**	**94.01**	**52**	P	**P**	**05 03 57.3**	**+0.8**
	0.3nm,0.4s,mb4.1,baz=272,slow=6.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.52**	**285**	PKPbc	PKPbc	05 10 28.2	+0.6
	1.6nm,0.6s,baz=56,slow=2.0,SNR=13						

IDC ***20*** *05:04:34.4±0.6, 4.740N×154.03E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/27, mbtmp4.1/20, ML3.9/2, Error ellipse: s-maj=17.7km s-min=14.8km az=134.0*
NEIC ***20*** *05:04:36.0±0.6, 4.739N×154.18E, h10km, mb4.6/5, Error ellipse: s-maj=16.2km s-min=12.0km az=145.0*
BJI ***20*** *05:04:36.0, 4.740N×154.20E, h10km, mB4.6, mb4.4*
ISCJB ***20*** *05:04:38.9±1.3, 4.737N±008×154.1E±0.1, h42km±10km, mb4.4/32, Error ellipse: s-maj=16.2km s-min=7.7km az=93.7*
MOS ***20*** *05:04:39.5±1.2, 4.735N×153.89E, h46km, mb4.3/5, Error ellipse: s-maj=13.6km s-min=9.5km az=97.2*

ISC 20 05:04:42.5±1.3, 4745N±008×1541E±01, h58km±9km, n72, σ1§17/69, mb4.4/32, 8C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.50**	**22**	*e*PN	**Pn**	**05 05 33.5**	**-0.9**
SKR				*e*S	**Sn**	**05 06 14.0**	**-0.5**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,240nm,0.2s						
SKR				smax			
	comp=E,330nm,0.2s						
PET	**Petropavlovsk**	**6.30**	**26**	*e*PN	**Pn**	**05 06 15.3**	**+2.6**
PET				MLR	MLR		
	comp=Z,100nm,10.0s						
YSS	**Yuzh-Sakhalins**	**7.74**	**270**	*e*PN	**Pn**	**05 06 32.8**	**+0.3**
YSS				pmax	pmax		
	comp=Z,56nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.74**	**270**	*e*Pn	**Pn**	**05 06 32.8**	**+0.3**
	comp=Z,56nm,0.7s						
ASAJ	**Asahikawa**	**8.70**	**252**	Pn	**Pn**	**05 06 42.6**	**-2.9**
	comp=Z,1.9nm,0.3s,baz=84,slow=8.0,SNR=9.6						
ASAJ	**Asahikawa**	**8.70**	**252**	PN	**Pn**	**05 06 42.7**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**14.96**	**285**	*e*P	**Pn**	**05 08 12.7**	**+2.3**
MJAR	**Matsushiro Arr**	**16.04**	**233**	Pn	**Pn**	**05 08 19.9**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=6.1						
MDJ	**Mudanjiang**	**17.23**	**270**	P	**Pn**	**05 08 42.9**	**+3.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,57nm,5.8s						
CN2	**Changchun**	**20.31**	**270**	*e*P	**P**	**05 09 16.4**	**+2.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**21.65**	**252**	P	**P**	**05 09 27.8**	**-0.2**
	comp=Z,3.5nm,0.6s,mb3.9,baz=61,slow=9.7,SNR=12						
BJT	**Baijiatuau**	**28.17**	**269**	P	**P**	**05 10 31.6**	**+2.2**
BJT				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuau**	**28.17**	**269**	P	**P**	**05 10 31.6**	**+2.3**
	comp=Z,20nm,0.9s,mb4.8						
SONM	**Songino Array**	**31.74**	**289**	P	**P**	**05 10 59.8**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.6,baz=75,slow=8.6,SNR=6.1						
INK	**Inuvik**	**40.70**	**33**	P	**P**	**05 12 18.3**	**+0.9**
	comp=Z,2.2nm,0.6s,mb4.0,baz=272,slow=7.0,SNR=11						
INK	**Inuvik**	**40.70**	**33**	P	**P**	**05 12 18.3**	**+0.9**
ZAL	**Zalesovo**	**42.76**	**305**	P	**P**	**05 12 32.3**	**-1.9**
	comp=Z,2.8nm,0.3s,mb4.5,baz=143,slow=24,SNR=6.4						
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**05 13 08.0**	**-1.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=60,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**05 13 08.0**	**-1.5**
VOSK	**Vostochnaya**	**50.77**	**309**	P	**P**	**05 13 35.0**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**50.90**	**273**	*e*P	**P**	**05 13 39.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.90**	**273**	*e*P	**P**	**05 13 39.3**	**+1.6**
	comp=Z,8.2nm,0.6s,mb4.8						
BVA0	**Borovoye Array**	**50.93**	**309**	*i* P	**P**	**05 13 36.5**	**-1.4**
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**05 13 36.9**	**-1.0**
	comp=Z,2.8nm,0.5s,mb4.5,baz=55,slow=9.2,SNR=20						
BRVK	**Borovoye**	**50.97**	**309**	P	**P**	**05 13 36.7**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**50.97**	**309**	*e*P	**P**	**05 13 37.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**50.97**	**309**	*e*P	**P**	**05 13 37.0**	**-1.2**
	comp=Z,4.6nm,0.6s,mb4.6						
JIRN	**Jiri**	**55.56**	**275**	*e*P	**P**	**05 14 12.6**	**+0.7**
	comp=Z,30nm,0.7s,mb5.5						
GUN	**Gumba**	**55.60**	**275**	*e*P	**P**	**05 14 12.6**	**+0.3**
	comp=Z,13nm,0.4s,mb5.3						
KKN	**Kakani**	**56.09**	**276**	*e*P	**P**	**05 14 15.8**	**+0.1**
	comp=Z,18nm,0.6s,mb5.3						
PKI	**Pulchoki**	**56.14**	**275**	*e*P	**P**	**05 14 16.3**	**+0.2**
	comp=Z

VTS	Vitosha	80.38	326	⇓*i*P	P	05	16 48.0	+0.4
VTS	Vitosha	80.38	326	⇓P	P	05	16 48.0	+0.3
SNAA	Sanae	153.41	196	*e*	PKPbc	05	24 31.4	-2.8
SNAA				*e*		05	24 46.3	
VNA2	Neumayer--Watz	154.85	194	*e*	PKPbc	05	24 35.0	-2.3
	baz=26,slow=2.5							
VNA2				*e*		05	24 40.5	
VNA2				*e*		05	24 50.8	
VNA2				*e*		05	24 54.2	
VNA3	Neumayer Olymp	154.92	192	*e*	PKPbc	05	24 35.0	-2.5
VNA3				*e*		05	24 50.7	
VNA3				*e*		05	24 54.5	
VNA1	Neumayer--Stat	155.23	194	*e*	PKPdf	05	24 32.8	+3.7
VNA1				*e*		05	24 50.4	
VNA1				*e*		05	24 54.5	

*IDC **20** 05:06:09.9±1.0, 46.74N×155.57E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=30.6km s-min=24.7km az=68.0*

NEIC 20 05:06:11.5±0.8, 46.78N×155.55E, h10km, Error ellipse: s-maj=25.3km s-min=19.5km az=46.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.90**	**290**	P		P		05 12 45.5	-0.2
	0.2nm,0.6s,baz=71,slow=9.3,SNR=2.7								
MKAR	**Makanchi Array**	**48.41**	**298**	P		P		05 14 53.6	-0.1
	0.9nm,1.0s,baz=67,slow=7.1,SNR=3.0								
BVAR	**Borovoye Array**	**52.13**	**310**	P		P		05 15 21.8	-0.1
	0.7nm,0.4s,baz=59,slow=8.9,SNR=4.7								
FINES	**FINESS Array B**	**64.72**	**336**	P		P		05 16 50.0	+0.2
	0.6nm,0.6s,baz=38,slow=7.4,SNR=2.8								
WRA	**Warramunga Arr**	**69.11**	**201**	P		P		05 17 17.3	-0.5
	0.7nm,0.8s,baz=25,slow=7.9,SNR=4.3								
ASAR	**Alice Springs**	**72.79**	**201**	P		P		05 17 40.5	+0.4
	0.5nm,0.5s,baz=24,slow=7.1,SNR=3.4								
TXAR	**Lajitas Array**	**76.01**	**62**	P		P		05 17 58.9	+0.1
	0.3nm,0.7s,baz=337,slow=2.1,SNR=3.0								
TXAR	**Lajitas Array**	**76.01**	**62**	P		P		05 17 58.9	+0.1

*ISCJB **20** 05:10:06.4±1.0, 476N±0.1×156.1E±03, h10km, mb3.8/8, Error ellipse: s-maj=27.2km s-min=19.1km az=24.2*
*IDC **20** 05:10:06.6±1.2, 4756N×156.10E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=31.8km s-min=29.7km az=113.0*
*MOS **20** 05:10:11.1±1.2, 4767N×15592E, h43km, mb4.1/7, Error ellipse: s-maj=53.5km s-min=18.7km az=91.5*

ISC 20 05:10:08.1±1.0, 476N±0.1×1561E±03, h10km, n16, σ0°70/16, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.08**	**1**	*e*PN		**Pn**		**05 10 57.0**	**+0.2**
SKR					pmax		pmax		
	comp=Z,80nm,0.5s								
INK	**Inuvik**	**39.85**	**33**	P		**P**		**05 17 41.2**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=269,slow=5.3,SNR=3.9								
INK	**Inuvik**	**39.85**	**33**	P		**P**		**05 17 41.2**	**-0.4**
INK					pmax		pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**48.33**	**298**	P		**P**		**05 18 49.3**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=63,slow=8.3,SNR=15								
MKAR	**Makanchi Array**	**48.33**	**298**	P		**P**		**05 18 49.3**	**-0.4**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**57.70**	**342**	P		**P**		**05 19 57.7**	**-1.1**
	comp=Z,2.5nm,0.9s,mb4.3,baz=29,slow=9.6,SNR=4.4								
ARCES	**ARCESS Array B**	**57.70**	**342**	P		**P**		**05 19 57.7**	**-1.1**
ARCES					pmax		pmax		
	comp=Z,3.0nm,0.9s								
FINES	**FINESS Array B**	**64.11**	**336**	P		**P**		**05 20 41.9**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=41,slow=6.1,SNR=3.9								
FINES	**FINESS Array B**	**64.11**	**336**	P		**P**		**05 20 41.9**	**-0.5**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**68.05**	**342**	P		**P**		**05 21 08.6**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.9,baz=46,slow=8.8,SNR=3.2								
NOA	**NORSAR Array B**	**68.05**	**342**	P		**P**		**05 21 08.6**	**+0.9**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**73.69**	**201**	P		**P**		**05 21 42.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=5.6,slow=6.3,SNR=5.1								
ASAR	**Alice Springs**	**73.69**	**201**	P		**P**		**05 21 42.0**	**0.0**
ASAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**75.32**	**63**	P		**P**		**05 21 51.5**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=302,slow=3.8,SNR=5.9								
TXAR	**Lajitas Array**	**75.32**	**63**	P		**P**		**05 21 51.5**	**0.0**
TXAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
GERES	**GERESS Array B**	**78.54**	**336**	P		**P**		**05 22 11.0**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=42,slow=7.9,SNR=3.6								

*IDC **20** 05:16:34.2±0.9, 4625N×154.05E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=31.9km s-min=21.5km az=100.0*
*ISCJB **20** 05:16:37.6±0.8, 464N±0.1×1540E±03, h35km, mb3.9/8, Error ellipse: s-maj=27.2km s-min=15.5km az=40.0*
*MOS **20** 05:16:39.6±1.5, 4643N×15392E, h55km, mb4.2/8, Error ellipse: s-maj=50.6km s-min=18.9km az=84.0*

ISC 20 05:16:39.3±0.8, 464N±01×1540E±03, h35km, n18, σ0°81/18, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.54**	**17**	*e*PN		**Pn**		**05 17 44.5**	**-1.0**
INK	**Inuvik**	**41.65**	**32**	P		**P**		**05 24 25.0**	**+0.8**
	0.8nm,0.4s,mb3.7,baz=210,slow=6.8,SNR=5.1								
INK	**Inuvik**	**41.65**	**32**	P		**P**		**05 24 25.0**	**+0.8**
INK					pmax		pmax		
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**47.67**	**298**	P		**P**		**05 25 12.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=68,slow=8.8,SNR=4.8								
MKAR	**Makanchi Array**	**47.67**	**298**	P		**P**		**05 25 12.0**	**-0.2**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ARCES	**ARCESS Array B**	**58.42**	**341**	P		**P**		**05 26 31.0**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.4,baz=42,slow=13,SNR=4.6								
ARCES	**ARCESS Array B**	**58.42**	**341**	P		**P**		**05 26 31.0**	**-0.4**
ARCES					pmax		pmax		
	comp=Z,3.0nm,0.9s								
FINES	**FINESS Array B**	**64.65**	**335**	P		**P**		**05 27 13.3**	**-0.1**
	comp=Z,1.7nm,0.9s,mb4.1,baz=28,slow=7.8,SNR=9.5								
FINES	**FINESS Array B**	**64.65**	**335**	P		**P**		**05 27 13.4**	**-0.1**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	**68.35**	**200**	P		**P**		**05 27 36.1**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=17,slow=6.6,SNR=5.8								
WRA	**Warramunga Arr**	**68.35**	**200**	P		**P**		**05 27 36.1**	**-1.0**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.8s								
NB2	**NORSAR Subarra**	**68.79**	**342**	P		**P**		**05 27 40.8**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.79**	**342**	P		**P**		**05 27 41.9**	**+2.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.5,SNR=2.8								
NOA	**NORSAR Array B**	**68.79**	**342**	P		**P**		**05 27 41.9**	**+2.1**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**72.04**	**199**	P		**P**		**05 28 00.1**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=17,slow=5.4,SNR=10.0								
ASAR	**Alice Springs**	**72.04**	**199**	P		**P**		**05 28 00.2**	**+0.5**
ASAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**		**05 28 29.2**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=299,slow=2.9,SNR=11								
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**		**05 28 29.2**	**-0.1**
TXAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								

*BJI **20** 05:27:23.8, 4771N×15503E, h10km, mB4.8, mb4.8, Ms4.4, Msz4.2*
*IDC **20** 05:27:26.4±0.5, 4769N×15428E, h0km, mb4.5/25, mb1 4.7/26, mb1mx4.6/28, mbtmp4.4/26, ML4.0/1, MS4.0/21, Ms1 4.0/21, ms1mx3.9/35, Error ellipse: s-maj=15.8km s-min=12.9km az=134.0*
*SKHL **20** 05:27:28.6±2.4, 4755N×15486E, h36km±1km, Ms4.4/5, msh5.5/3*

*NEIC **20** 05:27:28.5±0.2, 4771N×154.33E, h10km, mb5.1/54, Error ellipse: s-maj=6.3km s-min=3.9km az=162.0*
*ISCJB **20** 05:27:29.0±1.1, 4771N±003×15450E±003, h23km±7km, mb4.9/96, MS4.1/36, Error ellipse: s-maj=6.0km s-min=2.7km az=151.4*
*MOS **20** 05:27:31.2±1.2, 4770N×15451E, h41km, mb5.1/30, Error ellipse: s-maj=7.5km s-min=5.6km az=67.0*
*SZGRF **20** 05:27:35.7, 4737N×152.40E, h33km, mb4.8, Kuril Islands, Russia*

ISC 20 05:27:33.4±0.6, 4776N±004×15439E±003, h43km±5km, h6km±4.7km; pP-P, n532, σ0°84/543, mb4.9/96, MS4.1/35, 115C-112D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.13**	**21**	*e*P		**Pn**		**05 28 19.2**	**-1.1**
SKR					AMB		AMB	05 28 23.0	
	380nm,0.4s								
SKR					AMB		AMB	05 28 23.0	
	170nm,0.4s								
SKR					AMB		AMB	05 28 23.0	
	630nm,0.4s								
SKR					pP			05 28 30.5	
SKR				*i*	S		**Sn**	**05 28 55.3**	**-1.1**
SKR					A			05 29 02.5	
	3μm,2.0s								
SKR					A			05 29 02.5	
	4μm,2.0s								
SKR					A			05 29 02.5	
	2μm,2.0s								
SKR					A			05 29 02.5	
	2μm,0.5s								
SKR					A			05 29 02.5	
	1μm,0.5s								
SKR					A			05 29 02.5	
	630nm,0.5s								
SKR					A			05 29 02.5	
	3μm,2.0s								
SKR					A			05 29 02.5	
	5μm,2.0s								
SKR					A			05 29 02.5	
	2μm,2.0s								
SKR					AMS		AMS	05 29 42.0	
	4μm,14.0s								
SKR					AMS		AMS	05 29 42.0	
	3μm,10.0s								
SKR					AMS		AMS	05 29 42.0	
	4μm,14.0s								
SKR	**Severo-Kuril's**	**3.13**	**21**	*e*PN		**Pn**		**05 28 19.2**	**-1.1**
SKR				*i*	S		**Sn**	**05 28 55.3**	**-1.1**
SKR					pmax		pmax		
	comp=E,170nm,0.5s								
SKR					pmax		pmax		
	comp=Z,630nm,0.5s								
SKR					pmax		pmax		
	comp=N,380nm,0.2s								
SKR					pmax		pmax		
	comp=Z,2μm,1.0s								
SKR					smax				
	comp=N,2μm,0.5s								
SKR					smax				
	comp=E,1μm,0.5s								
SKR					smax				
	comp=N,3μm,2.0s								
SKR					smax				
	comp=E,4μm,2.0s								
SKR					MLR		MLR		
	comp=Z,4μm,14.0s								
SKR					MLR		MLR		
	comp=N,3μm,10.0s								
SKR					MLR		MLR		
	comp=E,3μm,10.0s								
KUR	**Kuril'sk**	**5.17**	**243**	⇑*i*P		**Pn**		**05 28 45.5**	**-2.7**
KUR					AMB		AMB	05 28 47.8	
	comp=E,228nm,0.6s								
KUR				*e*	S		**Sn**	**05 29 45.0**	**-1.5**
KUR					A			05 29 48.2	
	comp=E,639nm,0.9s								
KUR					A			05 29 48.2	
	comp=E,568nm,0.9s								
PET	**Petropavlovsk**	**5.93**	**26**	*e*PN		**Pn**		**05 28 57.1**	**-1.5**
PET					pmax		pmax		
	comp=Z,400nm,1.6s								
PET					pmax		pmax		
	comp=Z,154nm,0.5s								
PET	**Petropavlovsk**	**5.93**	**26**	*e*Pn		**Pn**		**05 28 57.1**	**-1.6**
PET				*e*Sn		**Sn**		**05 30 04.2**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**7.02**	**241**	*e*P		**Pn**		**05 29 18.0**	**+4.3**
YUK					AMB		AMB	05 29 20.0	
	comp=Z,570nm,0.5s								
YUK					AMB		AMB	05 29 20.8	
	comp=Z,2μm,1.0s								
YUK				*e*	S		**Sn**	**05 30 27.5**	**-4.7**
YUK					A			05 30 35.4	
	comp=Z,200nm,0.5s								
YUK					A			05 30 35.4	
	comp=Z,380nm,0.5s								
YUK					A			05 30 45.0	
	comp=Z,5μm,3.0s								
YUK					A			05 30 45.0	
	comp=Z,3μm,3.0s								
YUK	**Yuzh-Kuril'sk**	**7.02**	**241**	*e*PN		**Pn**		**05 29 17.8**	**+4.1**
YUK					pmax		pmax		
	comp=Z,570nm,0.5s								
YUK					pmax		pmax		
	comp=Z,2μm,1.0s								
YSS	**Yuzh-Sakhalins**	**7.95**	**268**	⇑*i*P		**Pn**		**05 29 28.9**	**+2.6**
YSS					AMB		AMB	05 29 31.4	
	comp=Z,130nm,1.0s								
YSS					AMB		AMB	05 29 31.4	
	comp=Z,140nm,1.0s								
YSS				*es*	P			05 29 45.0	
YSS				*e*	S		**Sn**	**05 30 55.0**	**+0.1**
YSS					A			05 30 57.6	
	comp=Z,30nm,0.9s								
YSS					A			05 30 57.6	
	comp=Z,80nm,0.9s								
YSS				*e*	LQ			05 31 18.0	
YSS					AMS		AMS	05 33 58.0	
	comp=Z,500nm,16.0s								
YSS					AMS		AMS	05 33 58.0	
	comp=Z,500nm,14.0s								
YSS					AMS		AMS	05 33 58.0	
	comp=Z,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**7.95**	**268**	*e*Pn		**Pn**		**05 29 29.1**	**+2.8**
YSS				*e*Sn		**Sn**		**05 30 58.8**	**+3.9**
TYV	**Tymovskoe**	**8.27**	**296**	*e*P		**Pn**		**05 29 33.0**	**+2.2**
TYV					AMB		AMB	05 29 34.5	
	comp=Z,24nm,0.8s								
TYV					AMB		AMB	05 29 34.5	
	comp=Z,69nm,0.8s								
TYV					AMS		AMS	05 33 04.0	
	comp=Z,1μm,16.0s								
TYV					AMS		AMS	05 33 04.0	
	comp=Z,900nm,16.0s								
TYV					AMS		AMS	05 33 04.0	
	comp=Z,2μm,16.0s								
UGL	**Uglegorsk**	**8.31**	**284**	*e*PN		**Pn**		**05 29 34.5**	**+3.3**
UGL					S		**Sn**	**05 31 20.0**	**+16**
UGL					pmax		pmax		
	comp=Z,180nm,0.9s								
UGL					smax				
	comp=N,500nm,7.0s								
UGL					smax				
	comp=E,900nm,7.0s								
UGL					MLR		MLR		
	comp=Z,1μm,15.0s								
UGL					MLR		MLR		
	comp=N,1μm,14.0s								
UGL					MLR		MLR		
	comp=E,4μm,17.0s								
ASAJ	**Asahikawa**	**8.99**	**250**	Pn		**Pn**		**05 29 43.3**	**+2.7**
	comp=E,2.2nm,0.3s,baz=76,slow=10,SNR=18								
ASAJ					LR		LR	05 32 53.9	
	comp=E,1μm,19.9s,baz=26,slow=37								
ASAJ	**Asahikawa**	**8.99**	**250**	PN		**Pn**		**05 29 43.3**	**+2.7**
ASAJ					pmax		pmax		
	comp=Z,2.0nm,0.3s								
ASAJ					MLR		MLR		
	comp=Z,1μm,19.9s								
OKH	**Okha**	**9.29**	**313**	*e*S		**Sn**		**05 31 28.2**	**+0.2**
OKH				*e*S		**Sn**		**05 31 28.5**	**+0.5**
OKH				*e*L				05 32 18.4	
OKH					AMS		AMS	05 33 54.2	
	comp=Z,2μm,14.0s								
OKH					AMS		AMS	05 33 54.2	
	comp=Z,2μm,12.0s								
OKH					AMS		AMS	05 33 54.2	
	comp=Z,2μm,13.0s								
ERM	**Erimo**	**9.82**	**238**	Pn		**Pn**		**05 29 52.3**	**+0.3**
	comp=Z,225nm,0.6s,SNR=5.5								
ERM	**Erimo**	**9.82**	**238**	*e*PN		**Pn**		**05 29 52.7**	**+0.7**
ERM	**Erimo**	**9.82**	**238**	Pn		**Pn**		**05 29 53.0**	**+0.9**
NKL	**Nikolayevsk**	**10.27**	**307**	*e*P		**Pn**		**05 29 56.3**	**-1.8**
NKL					AMB		AMB	05 30 08.0	
	comp=Z,60nm,0.9s								
NKL				*e*	L			05 32 19.0	
NKL					AMS		AMS	05 34 36.0	
	comp=Z,800nm,15.0s								
NKL					AMS		AMS	05 34 36.0	
	comp=Z,1μm,15.0s								
MA2	**Magadan**	**12.03**	**351**	*e*PN		**Pn**		**05 30 23.1**	**+1.0**
MA2				*e*				05 32 41.9	
MA2	**Magadan**	**12.03**	**351**	*e*Pn		**Pn**		**05 30 23.2**	**+1.1**
HABR	**Khabarovsk**	**12.95**	**280**	*e*PN		**Pn**		**05 30 38.1**	**+3.4**
HABR				*e*S		**Sn**		**05 33 04.7**	**+7.4**
KLR	**Kul'dur**	**15.07**	**284**	*e*P		**Pn**		**05 31 03.4**	**0.0**
KLR				*e*				05 33 56.0	
KLR					pmax		pmax		
	comp=E,85nm,1.6s								
KLR					pmax		pmax		
	comp=Z,74nm,1.6s								
KLR					MLR		MLR		
	comp=N,500nm,13.0s								
KLR					MLR		MLR		
	comp=Z,2μm,13.0s								
MAJO	**Matsushiro**	**16.39**	**233**	*e*P		**Pn**		**05 31 20.3**	**0.0**
MJAR	**Matsushiro Arr**	**16.39**	**233**	Pn		**Pn**		**05 31 18.1**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=32,slow=12,SNR=10.0								
MAT	**Matsushiro**	**16.39**	**233**	P		**Pn**		**05 31 17.8**	**-2.5**
MAT				S		**S**		**05 34 29.6**	**-2.2**
MDJ	**Mudanjiang**	**17.43**	**269**	P		**Pn**		**05 31 34.1**	**+0.7**
MDJ				AP		pP		05 31 38.6	-5.9
MDJ				XP		sP		05 31 40.0	-10
MDJ				S		**S**		**05 34 51.3**	**-1.9**
MDJ				XS		sS		05 35 03.8	-5.8
MDJ				PCP		PcP		05 36 12.3	-0.4
MDJ				PCS		PcS		05 39 50.3	+1.4
MDJ				AMB		AMB			
	comp=Z,9.0nm,1.1s								
MDJ				AMB		AMB			
	comp=Z,68nm,5.0s								
MDJ				LR		LR			
	comp=N,189nm,19.9s								
MDJ				LR		LR			
	comp=E,212nm,22.7s								
MDJ				LR		LR			
	comp=Z,369nm,21.7s								
ZEA	**Zeya**	**18.12**	**299**	*e*P		**Pn**		**05 31 40.3**	**-1.4**
ZEA					AMB		AMB	05 31 41.6	
	comp=Z,56nm,1.4s								
ZEA					AMB		AMB	05 31 41.6	
	comp=Z,64nm,1.4s								
YAK	**Yakutsk**	**19.97**	**325**	*e*P		**Pn**		**05 32 04.8**	**+0.9**
YAK				*e*				05 32 20.2	
YAK				*e*S		**S**		**05 35 39.3**	**-4.9**
YAK				*e*SS				05 36 06.6	
YAK				*e*SSS				05 36 20.2	
YAK				*e*				05 43 30.3	
YAK					pmax		pmax		
	comp=Z,110nm,1.1s								
YAK					pmax		pmax		
	comp=N,59nm,1.4s								
YAK					pmax		pmax		
	comp=E,79nm,1.5s								
YAK					pmax		pmax		
	comp=Z,92nm,1.3s								
YAK					pmax		pmax		
	comp=N,60nm,1.2s								
YAK					pmax		pmax		
	comp=E,59nm,1.2s								
YAK					smax				
	comp=N,41nm,1.2s								
YAK					smax				
	comp=Z,24nm,0.5s								
YAK					smax				
	comp=E,85nm,1.9s								
YAK					MLR		MLR		
	comp=Z,322nm,13.0s								
YAK					MLR		MLR		
	comp=N,266nm,14.0s								
YAK					MLR		MLR		
	comp=E,198nm,14.0s								
YAK	**Yakutsk**	**19.97**	**325**	*e*Pn		**Pn**		**05 32 05.0**	**+1.1**
	comp=E,88nm,0.9s								
CLNS	**Chul'man**	**20.05**	**308**	*e*P		**P**		**05 32 06.0**	**+3.1**
CLNS				*e*				05 32 21.1	
CLNS				*e*S		**S**		**05 35 46.1**	**+0.2**
CLNS				*e*				05 36 14.8	
CLNS				*e*SS				05 36 16.3	
CLNS					pmax		pmax		
	comp=E,40nm,1.2s								
CLNS					pmax		pmax		
	comp=Z,47nm,1.2s								
CLNS					pmax		pmax		
	comp=N,39nm,1.1s								
CLNS					pmax		pmax		
	comp=Z,29nm,0.9s								
CLNS					pmax		pmax		
	comp=N,45nm,1.0s								
CLNS					pmax		pmax		
	comp=E,46nm,1.2s								
CLNS					smax				
	comp=N,168nm,16.6s								
CLNS					smax				
	comp=Z,93nm,13.7s								
CLNS					smax				
	comp=E,785nm,12.6s								
CLNS					MLR		MLR		
	comp=Z,400nm,17.0s,MS3.8								
CLNS					MLR		MLR		
	comp=N,200nm,13.0s,MS4.5								
CLNS					MLR		MLR		
	comp=E,1μm,13.0s,MS4.5								
NRGR	**Nerungri**	**20.10**	**307**	*e*P		**P**		**05 32 07.1**	**+3.7**
NRGR					S		**S**	**05 35 42.6**	**-4.2**
NRGR					smax				
	comp=E,9.0nm,0.2s								
CN2	**Changchun**	**20.51**	**270**	*e*P		**P**		**05 32 06.9**	**-1.0**
CN2				*e*AP				05 32 11.1	
CN2				*e*XP		sP		05 32 13.9	-10
CN2				*e*S		**S**		**05 35 51.8**	**-3.2**
CN2					LR		LR		
	comp=N,200nm,14.0s,MS3.9								
CN2					LR		LR		
	comp=E,300nm,14.0s,MS3.9								
CN2					LR		LR		
	comp=Z,300nm,15.0s,MS3.8								
BILL	**Bilibino**	**21.21**	**12**	*e*P		**P**		**05 32 15.1**	**-0.3**
BILL					pmax		pmax		
	comp=Z,19nm,1.3s,mb4.3								
BILL	**Bilibino**	**21.21**	**12**	*e*P		**P**		**05 32 13.4**	**-2.0**
	comp=Z,16nm,0.9s,mb4.3								
KSRS	**Korea Array**	**21.94**	**252**	P		**P**		**05 32 20.4**	**-2.7**
	comp=Z,40nm,1.0s,mb4.8,baz=57,slow=9.2,SNR=17								
KSRS					PcP		PcP	05 36 20.9	+0.1
	comp=Z,2.1nm,0.7s,baz=349,slow=2.6,SNR=4.4								
KSRS					LR		LR	05 39 31.8	
	comp=Z,328nm,22.0s,MS3.7,baz=32,slow=33								
KS15	**Wonju Array Si**	**21.97**	**252**	*e*P		**P**		**05 32 25.8**	**+2.3**
SNY	**Shenyang**	**22.56**	**266**	⇓P		**P**		**05 32 30.8**	**+1.0**
SNY					S		**S**	**05 36 38.8**	**+4.1**
SNY					AMB		AMB		
	comp=Z,14nm,0.9s,mb4.4								
SNY					AMB		AMB		
	comp=Z,134nm,5.1s								
SNY					LR		LR		
	comp=N,237nm,14.7s,MS4.1								
SNY					LR		LR		
	comp=E,465nm,16.5s,MS4.1								
SNY					LR		LR		
	comp=Z,505nm,17.7s,MS4.0								
JNU	**Nakatsue**	**22.99**	**239**	LR		LR		05 41 20.5	
	comp=Z,462nm,18.4s,MS4.0,baz=72,slow=36								
BOD	**Bodaibo**

comp=N,167nm,12.1s
BJI LR LR
comp=E,347nm,17.3s
BJI LR LR
comp=Z,361nm,22.1s
BJI Beijing 28.37 268 *eP* **P 05 33 27.2 +3.8**
BJI S **S 05 38 05.5 -1.7**
BJI pmax pmax
comp=Z,13nm,0.8s,mb4.6
BJI MLR MLR
comp=Z,360nm,22.1s,MS3.9
BJI Beijing 28.37 268 *eP* **P 05 33 27.2 +3.8**
comp=Z,13nm,0.8s,mb4.6
BJI S **S 05 38 05.5 -1.7**
BJI LR LR
comp=Z,360nm,22.1s,MS3.9
SSE Sheshan 30.28 249 P **P 05 33 40.9 +0.5**
SSE XP sP 05 33 49.8 -7.3
SSE S **S 05 38 40.1 +2.8**
SSE XS sS 05 38 50.5 -6.1
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,82nm,7.4s
SSE LR LR
comp=N,118nm,14.7s,MS3.7
SSE LR LR
comp=E,78nm,14.7s,MS3.7
SSE LR LR
comp=Z,139nm,16.0s,MS3.7
SSE Sheshan 30.28 249 P **P 05 33 40.9 +0.5**
comp=Z,20nm,0.7s,mb5.0
SSE sP sP 05 33 49.8 -7.3
SSE S **S 05 38 40.1 +2.8**
SSE sS sS 05 38 50.5 -6.1
SSE LR LR
comp=Z,140nm,16.0s,MS3.7
HHC Hu-ho-hao-te 31.10 273 *eP* **P 05 33 49.9 +2.3**
HHC AP pP 05 33 54.3 -4.9
HHC XP sP 05 33 57.4 -6.9
HHC PP PP 05 34 53.9 -5.0
HHC PCP PcP 05 36 44.3 +2.1
HHC S **S 05 38 55.1 +5.0**
HHC XS sS 05 39 01.4 -8.0
HHC SCP ScP 05 40 26.3 +4.7
HHC SS SS 05 40 41.4 -23
HHC SCS ScS 05 44 22.3 +3.5
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,186nm,5.3s
HHC LR LR
comp=N,176nm,13.5s,MS4.1
HHC LR LR
comp=E,232nm,14.7s,MS4.1
HHC LR LR
comp=Z,248nm,15.7s,MS4.0
NJ2 Nanjing 31.13 253 *eP* **P 05 33 50.8 +2.9**
NJ2 AP pP 05 33 54.1 -5.3
NJ2 XP sP 05 33 57.3 -7.3
NJ2 PP PP 05 34 53.9 -4.7
NJ2 S **S 05 38 54.5 +3.9**
NJ2 LR LR
comp=N,1μm,20.5s,MS4.8
NJ2 LR LR
comp=E,1μm,16.4s,MS4.8
NJ2 LR LR
comp=Z,280nm,17.2s,MS4.0
ULN Ulaanbaatar 31.40 288↑ *eP* **P 05 33 50.1 -0.2**
SONM Songino Array 31.83 288 P **P 05 33 54.0 0.0**
comp=Z,1.4nm,1.0s,mb3.8,baz=58,slow=7.5,SNR=4.7
SONM PcP PcP 05 36 43.0 -1.2
comp=Z,0.8nm,0.6s,baz=82,slow=2.2,SNR=4.6
SONM LR LR 05 47 28.6
comp=Z,371nm,20.1s,MS4.1,baz=258,slow=38
SONM Songino Array 31.83 288 P **P 05 33 54.0 0.0**
SONM 05 36 43.0
SONM Songino Array 31.83 288 P **P 05 33 54.0 0.0**
SONM PcP PcP 05 36 43.0 -1.2
SONM LR LR 05 47 28.6
IMA2 Indian Mountai 32.47 37 *eP* **P 05 33 59.3 -0.4**
ZAK Zakamensk 33.05 294 *eP* **P 05 34 05.7 +1.0**
PMR Palmer 34.27 45 *eP* **P 05 34 15.1 -0.2**
PMR pmax pmax
comp=Z,17nm,0.9s,mb5.0
PMR Palmer 34.27 45 *eP* **P 05 34 15.1 -0.2**
comp=Z,16nm,0.9s,mb5.0
MCK McKinley 34.31 41 *eP* **P 05 34 15.4 -0.3**
SML Sawmill 34.63 45 *eP* **P 05 34 18.2 -0.3**
COLA College 34.80 39*c* *iP* **P 05 34 19.6 -0.3**
COLA College 34.80 39↑ *eP* **P 05 34 19.6 -0.3**
comp=Z,36nm,0.9s,mb5.3
GUMO Guam 34.98 196 LR LR 05 48 28.3
comp=Z,101nm,18.4s,MS3.6,baz=338,slow=36
WHN Wuhan 35.03 255 *eP* **P 05 34 22.5 +0.6**
DIV Divide 35.91 46 *eP* **P 05 34 28.2 -1.3**
comp=Z,85nm,0.9s,mb5.7
EGAK Eagle 37.66 39 *eP* **P 05 34 43.1 -1.2**
comp=Z,36nm,1.0s,mb5.0
DAWY Dawson 38.50 40 *eP* **P 05 34 51.5 0.0**
LZH Lanzhou 38.73 271 *eP* **P 05 34 55.0 +1.6**
LZH PCP PcP 05 37 05.3 +0.9
LZH *eS* **S 05 40 52.3 +4.8**
LZH SS SS 05 43 33.1 -6.1
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,211nm,5.6s
LZH LR LR
comp=N,1μm,14.8s
LZH LR LR
comp=Z,2μm,15.5s,MS5.0
LZH Lanzhou 38.73 271 *eP* **P 05 34 55.0 +1.6**
LZH 05 36 21.4
LZH 05 37 05.2
LZH *eS* **S 05 40 52.3 +4.8**
LZH SS SS 05 43 33.1 -6.1
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,2μm,15.5s,MS5.0
LZH Lanzhou 38.73 271 *eP* **P 05 34 55.0 +1.6**
comp=Z,25nm,1.0s,mb4.9
LZH pP pP 05 34 56.5 -8.6
LZH sP sP 05 34 57.5 -13
LZH PP PP 05 36 21.4 -1.2
LZH PcP PcP 05 37 05.2 +0.8
LZH *eS* **S 05 40 52.3 +4.8**
LZH sS sS 05 40 57.0 -10
LZH SS SS 05 43 33.1 -6.1
LZH LR LR
comp=Z,2μm,15.5s,MS5.0
GTA Gaotai 39.68 279 *eP* **P 05 35 03.4 +2.1**
GTA AP pP 05 35 07.8 -5.2
GTA XP sP 05 35 10.9 -7.2
GTA PP PP 05 36 38.0 +5.1
GTA S **S 05 41 09.9 +8.2**
GTA XS sS 05 41 17.1 -4.2
GTA SS SS 05 44 02.1 +4.0
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,46nm,5.7s
GTA LR LR
comp=N,229nm,12.9s,MS4.3
GTA LR LR
comp=E,198nm,16.0s,MS4.3
GTA LR LR
comp=Z,297nm,16.7s,MS4.2
INK Inuvik 40.33 33 P **P 05 35 06.7 0.0**
comp=Z,9.5nm,0.8s,mb4.6,baz=286,slow=7.3,SNR=20
INK LR LR 05 53 46.5
comp=Z,144nm,19.8s,MS3.8,baz=205,slow=39
INK Inuvik 40.33 33 *eP* **P 05 35 06.8 +0.1**
SKAG Skagway 41.33 47 *eP* **P 05 35 11.3 -3.6**
comp=Z,20nm,1.2s,mb4.6
CD2 Chengdu 41.83 265 P **P 05 35 19.5 +0.5**
CD2 AP pP 05 35 24.6 -6.3
CD2 XP sP 05 35 27.3 -8.6
CD2 PP PP 05 37 00.3 +4.0
CD2 S **S 05 41 37.6 +3.8**
CD2 XS sS 05 41 45.8 -7.7
CD2 SS SS 05 44 39.8 -1.2
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,80nm,4.8s
CD2 LR LR
comp=N,200nm,18.0s,MS4.4
CD2 LR LR
comp=E,350nm,16.8s,MS4.4
CD2 LR LR
comp=Z,330nm,18.0s,MS4.2
ZAL Zalesovo 42.75 305 P **P 05 35 25.0 -1.4**
comp=Z,1.3nm,0.3s,mb4.1,baz=152,slow=2.4,SNR=5.4
ZAL PcP PcP 05 37 16.1 -1.4
comp=Z,1.6nm,0.8s,baz=2.5,slow=0.7,SNR=5.6
ZAL Zalesovo 42.75 305 P **P 05 35 25.0 -1.4**
ZAL PcP PcP 05 37 16.1 -1.4
GYA Guiyang 42.78 258↑ *iP* **P 05 35 26.3 -0.5**
GYA AP pP 05 35 30.4 -8.2
GYA XP sP 05 35 33.3 -10
GYA PP PP 05 37 12.4 +5.9
GYA PCP PcP 05 37 21.6 +4.1
GYA SCP ScP 05 41 11.4 +6.4
GYA S **S 05 41 54.5 +6.7**
GYA SS SS 05 44 59.0 -0.7
GYA SCS ScS 05 45 29.0 +4.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,580nm,16.0s,MS4.7
GYA LR LR
comp=E,640nm,16.4s,MS4.7
GYA LR LR
comp=Z,620nm,16.8s,MS4.6
DLBC Dease Lake 44.26 47 *eP* **P 05 35 40.3 +1.6**
DLBC *ePP* PP 05 37 23.6 +1.2
WMQ Urumqi 45.37 291↑ *iP* **P 05 35 50.6 +3.1**
WMQ AP pP 05 35 55.1 -4.4
WMQ XP sP 05 35 57.6 -6.9
WMQ PCP PcP 05 37 28.6 +2.2
WMQ PP PP 05 37 38.1 +3.9
WMQ PPP 05 38 21.6
WMQ SCP ScP 05 41 20.3 +4.7
WMQ S **S 05 42 32.1 +6.6**
WMQ XS sS 05 42 39.8 -5.6
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,204nm,5.0s
WMQ LR LR
comp=N,149nm,16.8s,MS4.1
WMQ LR LR
comp=E,126nm,17.5s,MS4.1
WMQ LR LR
comp=Z,228nm,16.8s,MS4.2
QIZ Qiongzhong 46.05 247 *eP* **P 05 35 52.3 -0.5**
QIZ S **S 05 42 37.3 +2.1**
QIZ LR LR
comp=N,138nm,13.5s
QIZ LR LR
comp=Z,178nm,14.9s,MS4.1
KMI Kunming 46.28 260 P **P 05 35 55.1 +0.4**
KMI AMB AMB
comp=Z,18nm,1.2s,mb4.9
KMI LR LR
comp=Z,99nm,21.5s,MS3.7
KMI Kunming 46.28 260 P **P 05 35 55.1 +0.4**
comp=Z,18nm,1.2s,mb4.9
KMI LR LR
comp=Z,100nm,21.5s,MS3.7
MKAR Makanchi Array 47.25 297 P **P 05 36 00.5 -1.7**
comp=Z,7.2nm,0.8s,mb4.7,baz=79,slow=7.9,SNR=23
MKAR Makanchi Array 47.25 297 P **P 05 36 00.5 -1.7**
KURK Kurchatov 47.53 303 P **P 05 36 04.1 -0.3**
comp=Z,93nm,0.9s,mb5.8,SNR=5.6
YKA Yellowknife Ar 49.59 38 P **P 05 36 20.0 -0.2**
comp=Z,8.8nm,0.8s,mb4.8,baz=296,slow=7.0,SNR=7.2
YKA Yellowknife Ar 49.59 38 P **P 05 36 20.0 -0.3**
YKA pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 50.89 309 P **P 05 36 28.0 -2.1**
comp=Z,1.5nm,0.4s,mb4.3,baz=55,slow=7.6,SNR=8.3
BVAR PcP PcP 05 37 44.8 -1.4
comp=Z,2.0nm,0.6s,baz=75,slow=3.4,SNR=4.6
BVAR LR LR 05 59 52.5
comp=Z,369nm,18.5s,MS4.4,baz=322,slow=38
BVAR Borovoye Array 50.89 309 P **P 05 36 28.0 -2.1**
BVAR 05 37 44.8
LSA Lhasa 51.09 273 P **P 05 36 32.1 +0.5**
LSA Lhasa 51.09 273 *eP* **P 05 36 35.0 +3.4**
LSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LSA Lhasa 51.09 273 *eP* **P 05 36 35.0 +3.5**
comp=Z,10.0nm,0.9s,mb4.8
NANT Nan 52.06 255↑P **P 05 36 36.0 -2.8**
comp=Z,78nm,1.0s,mb5.6
B04A Port Angeles **52.44 57**↓P **P 05 36 41.0 -0.7**
baz=52
A04A Legoe Bay, Lum 52.53 56↑P **P 05 36 42.0 -0.4**
baz=52
A05A Maple Falls 52.73 55↓P **P 05 36 43.2 -0.7**
baz=52
A06A Chilliwack 53.01 55↑P **P 05 36 44.8 -1.1**
baz=53
B05A Bryant 53.12 56↑P **P 05 36 46.1 -0.7**
baz=53
CHG Chiang Mai 53.20 257↑P **P 05 36 47.0 -0.3**
comp=Z,22nm,1.2s,mb5.0
CHTO Chiang Mai 53.20 257 *eP* **P 05 36 46.6 -0.7**
CHTO pmax pmax
comp=Z,23nm,1.0s,mb5.1
CHTO Chiang Mai 53.20 257 *eP* **P 05 36 46.6 -0.6**
comp=Z,23nm,1.0s,mb5.1
A07A Ashnola River, **53.64 55**↑P **P 05 36 49.9 -0.6**
baz=53,SNR=6.3
C05A Tolt Reservoir 53.66 57↑P **P 05 36 50.1 -0.6**
baz=53
D05A Enumclaw 53.78 57↑P **P 05 36 51.0 -0.5**
baz=54
FMW Mount Fremont 54.10 57 P **P 05 36 53.9 0.0**
B07A Winthrop 54.12 55↑P **P 05 36 53.5 -0.5**
baz=54
AAK Ala-Archa 54.17 296 *eP* **P 05 36 53.4 -0.9**
NLW Nelson Butte 54.21 55 P **P 05 36 54.7 0.0**
F04A Amboy 54.23 59↓P **P 05 36 54.2 -0.7**
baz=54
E05A Randle 54.26 58↓P **P 05 36 54.4 -0.7**
baz=54
A08A Turner Farm, O 54.30 54↑P **P 05 36 54.7 -0.6**
baz=54,SNR=8.3
D06A Cle Elum 54.42 57↓P **P 05 36 55.8 -0.4**
baz=54
TBM Table Mountain 54.57 57 P **P 05 36 57.0 -0.3**
C07A Waterville 54.58 56↑P **P 05 36 56.7 -0.6**
baz=54
B08A Colville Reser 54.61 55↓P **P 05 36 57.1 -0.5**
baz=54,SNR=8.8
A09A Danville 54.67 54↓P **P 05 36 57.6 -0.4**
baz=54,SNR=13
ARU Arti 54.85 317 *iP* **P 05 37 01.6 +2.3**
ARU *e* 05 39 02.4
ARU *eS* **S 05 44 41.9 +4.4**
ARU *eSS* SS 05 48 18.6 -2.5
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
D07A Quincy 54.91 56↑P **P 05 36 59.0 -0.7**
baz=55
EDM Edmonton 54.98 47 *eP* **P 05 36 59.0 -1.3**
J02A Umpqua 55.02 62↓P **P 05 37 00.7 +0.1**
baz=55
EPH Ephrata 55.03 56 P **P 05 37 00.1 -0.5**
H04A Detroit Lake 55.08 60↑P **P 05 37 00.8 -0.1**
baz=55
C08A Higginbotham F 55.09 55 P **P 05 37 00.8 -0.3**
baz=55,SNR=5.9
B09A Rice 55.22 54 P **P 05 37 01.8 -0.2**
baz=55,SNR=5.9
G05A Wamic 55.27 59↓P **P 05 37 02.4 +0.1**
baz=55
F06A Goldendale 55.27 58↑P **P 05 37 02.2 -0.1**
baz=55
E07A Sunnyside 55.34 57 P **P 05 37 02.8 -0.1**
baz=55,SNR=5.1
MDW Midway 55.36 57 P **P 05 37 03.0 0.0**
J03A Ideyld Park 55.38 61↓P **P 05 37 03.8 +0.6**
baz=55
K02A Glendale 55.42 62↑P **P 05 37 03.3 -0.1**
baz=55
BENWA Benson Ranch 55.44 57 P **P 05 37 03.8 +0.2**
I04A Tendick Farm, 55.47 61↑P **P 05 37 04.0 +0.2**
baz=55,SNR=5.9
OD2 Odessa Site #2 55.50 55 P **P 05 37 03.2 -0.8**
SNIWA Snively Ranch 55.51 57 P **P 05 37 04.2 +0.1**
C09A Chrisman Ranch 55.51 55 P **P 05 37 03.6 -0.4**
baz=55,SNR=6.2
D08A Wollman Farm, 55.58 56↑P **P 05 37 04.1 -0.5**
baz=55,SNR=5.5
H05A Madras 55.66 59↓P **P 05 37 05.2 0.0**
baz=55
F07A Phinny Hill Vi 55.68 57↓P **P 05 37 05.2 -0.1**
baz=55,SNR=5.7
L02A Cave Junction 55.72 63↓P **P 05 37 05.7 +0.2**
baz=55
JIRN Jiri 55.73 275 *eP* **P 05 37 06.9 +1.2**
comp=Z,22nm,0.6s,mb5.4
GUN Gumba 55.78 275 *eP* **P 05 37 06.5 +0.5**
comp=Z,10nm,0.3s,mb5.4
B10A Chitwood Farm, 55.79 54↓P **P 05 37 05.8 -0.3**
baz=56
E08A Dider Farm, El 55.83 56↑P **P 05 37 06.0 -0.4**
baz=56
BBOR Butler Butte 55.84 62 P **P 05 37 07.5 +1.0**
NEW Newport 55.87 54 *eP* **P 05 37 06.2 -0.5**
NEW pmax pmax
comp=Z,24nm,1.3s
NEW Newport 55.87 54 *eP* **P 05 37 06.2 -0.5**
comp=Z,24nm,1.4s,mb5.0
A11A Hall Mountain, 55.88 53↓P **P 05 37 06.9 +0.2**
baz=56,SNR=5.7
D09A Jones Farm, Ri 55.92 56 P **P 05 37 06.7 -0.3**
baz=56,SNR=6.7
I05A Bend 55.92 60↓P **P 05 37 07.1 +0.1**
baz=56
J04A Umpqua Nationa 55.97 61↓P **P 05 37 07.6 +0.2**
baz=56
C10A Spilker Farm, 56.03 54↑P **P 05 37 07.4 -0.3**
baz=56
VIPM Ingram Point 56.09 59 P **P 05 37 08.9 +0.6**
H06A Lindquist Farm 56.13 59 P **P 05 37 08.9 +0.4**
baz=56,SNR=5.7
B11A Sandpoint 56.18 53↓P **P 05 37 08.7 -0.2**
baz=56
G07A Ruggs Ranch, H 56.20 58↓P **P 05 37 08.6 -0.4**
baz=56
KKN Kakani 56.26 276 *eP* **P 05 37 10.5 +1.1**
comp=Z,29nm,0.7s,mb5.4
A12A Yaak River Ran 56.27 52↓P **P 05 37 09.6 +0.1**
baz=56
PKI Pulchoki 56.31 275 *eP* **P 05 37 11.0 +1.2**
comp=Z,22nm,0.8s,mb5.2
E09A Wood Farm, Sta 56.33 56↓P **P 05 37 09.4 -0.6**
baz=56,SNR=12
F08A Pendleton 56.39 57↓P **P 05 37 10.6 +0.2**
baz=56
J05A Fort Rock 56.46 61↓P **P 05 37 11.5 +0.7**
baz=56,SNR=11
DMN Daman 56.49 275 *eP* **P 05 37 12.3 +1.2**
comp=Z,121nm,1.2s,mb5.8
YBH Yreka Blue Hor 56.50 63 *eP* **P 05 37 11.8 +0.6**
YBH Yreka Blue Hor 56.50 63↓P **P 05 37 11.9 +0.8**
baz=56,SNR=8.6
GKN Gorkha 56.55 276 *eP* **P 05 37 11.9 +0.4**
comp=Z,93nm,1.1s,mb5.7
K04A Chilquin 56.56 62↑P **P 05 37 12.1 +0.5**
baz=56
B12A Libby 56.58 53↓P **P 05 37 12.6 +0.9**
baz=56
G08A Pilot Rock 56.59 58 P **P 05 37 12.1 +0.3**
baz=56,SNR=6.0
M02C Callahan 56.62 63↓P **P 05 37 12.8 +0.8**
baz=56
I06A Prineville 56.66 60↑P **P 05 37 12.9 +0.5**
baz=56,SNR=6.5
N02C Big Bar 56.69 64↑P **P 05 37 12.6 +0.2**
baz=56
L04A Klamath Falls 56.73 62↑P **P 05 37 13.1 +0.3**
baz=56,SNR=5.6
LHEM Herd Peak 56.86 63 P **P 05 37 14.5 +0.9**
E10A Myers Farm, Un 56.92 56↓P **P 05 37 14.2 +0.1**
baz=57
F09A S2 Ranch, Elgi 56.94 57↓P **P 05 37 14.4 +0.2**
baz=57,SNR=6.0
K05A Summer Lake 56.99 61↓P **P 05 37 15.4 +0.8**
baz=57,SNR=7.5
I07A Izee 56.99 59↓P **P 05 37 14.8 +0.2**
baz=57,SNR=8.1
M04C Macdoel 56.99 62↑P **P 05 37 15.2 +0.5**
baz=57,SNR=7.0
D11A Klaveano Farm, 57.02 55↓P **P 05 37 14.2 -0.6**
baz=57,SNR=11
C12A Trout Creek 57.09 54 P **P 05 37 15.2 -0.2**
baz=57,SNR=9.5
J06A Christmas Vall 57.11 60↓P **P 05 37 15.8 +0.3**
baz=57
WALA Waterton Lakes 57.12 52 *eP* **P 05 37 15.8 +0.2**
comp=Z,19nm,1.0s,mb5.1
M03C McCloud 57.13 63↑P **P 05 37 15.7 +0.1**
baz=57
HNR Honiara 57.16 173 LR LR 05 57 39.7
comp=Z,16nm,20.4s,MS4.0,baz=0.6,slow=32
F10A Beach Ranch, E 57.16 56↑P **P 05 37 15.5 -0.3**
baz=57
ARCES ARCESS Array B 57.18 341 P **P 05 37 15.7 -0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=28,slow=8.3,SNR=4.3
ARCES LR LR 06 04 53.1
comp=Z,260nm,18.6s,MS4.4,baz=31,slow=39
H08A Prairie City 57.21 58↓P **P 05 37 16.4 +0.2**
baz=57,SNR=9.4
B13A Whitefish 57.24 52↑P **P 05 37 16.4 0.0**
baz=57,SNR=15
PMG Port Moresby 57.28 188 LR LR 05 59 45.3
comp=Z,92nm,21.6s,MS3.9,baz=94,slow=34
WDC Whiskeytown Da 57.30 64 *eP* **P 05 37 17.2 +0.4**
WDC pmax pmax
comp=Z,21nm,1.1s,mb5.1
WDC Whiskeytown Da 57.30 64 *eP* **P 05 37 17.2 +0.4**
comp=Z,20nm,1.1s,mb5.1
WDC Whiskeytown Da 57.30 64↑P **P 05 37 16.8 0.0**
baz=57,SNR=5.6
K06A Valley Falls 57.33 61↑P **P 05 37 17.3 +0.3**
baz=57,SNR=14
BSMT Bassoo Peak 57.38 53 *eP* **P 05 37 17.9 +0.6**
BSMT *ePcP* PcP 05 38 15.2 +4.2
O02C Red Bluff 57.39 64↑P **P 05 37 18.1 +0.7**
baz=57
KOLN Koldanda 57.40 277 *eP* **P 05 37 17.7 +0.2**
comp=Z,72nm,1.2s,mb5.6
L05A Lakeview 57.43 62↑P **P 05 37 18.4 +0.6**
baz=57,SNR=9.2
P01C Double 8 Ranch 57.48 65↑P **P 05 37 18.1 0.0**
baz=57
J07A Hines 57.53 60↓P **P 05 37 18.9 +0.5**
baz=57,SNR=6.5
C13A Hot Springs 57.60 53↓P **P 05 37 19.1 +0.1**
baz=57
I08A Drewsey 57.63 59↓P **P 05 37 19.7 +0.5**
baz=57,SNR=11
M05C Lookout 57.66 62↓P **P 05 37 19.7 +0.3**
baz=57,SNR=5.4
H09A Durkee 57.70 58↑P **P 05 37 19.8 +0.2**
baz=57,SNR=12
GASB Alder Springs 57.75 65↓P **P 05 37 20.6 +0.6**
baz=57,SNR=8.4
BMO Blue Mountains 57.79 57 *eP* **P 05 37 20.6 +0.3**
comp=Z,16nm,0.8s,mb5.1
BMO *ePcP* PcP 05 38 11.7 -0.8
BMO *ePP* PP 05 39 29.9 +1.3
HATC Hat Creek Radi 57.80 63↓P **P 05 37 20.8 +0.4**
baz=58
F11A Grangeville 57.81 56 P **P 05 37 20.6 +0.2**
baz=58,SNR=7.0
MOD Modoc 57.84 62 *eP* **P 05 37 21.3 +0.8**
comp=Z,12nm,0.8s,mb5.0
MOD Modoc 57.84 62↑P **P 05 37 20.4 -0.2**
baz=58,SNR=9.7
LBCM Butte Creek Ri 57.86 63 P **P 05 37 21.2 +0.5**
HOPS Hopland 57.94 66↓P **P 05 37 21.3 +0.1**
baz=58
O03C Acorn Hollow, 57.96 64↓P **P 05 37 21.0 -0.5**
baz=58
K07A Rock Creek Ran 57.98 60↓P **P 05 37 21.8 +0.2**
baz=58,SNR=9.6
D13A Huson 58.01 54↑P **P 05 37 21.7 -0.1**
baz=58,SNR=8.3

J08A	Circle Bar Ran	58.02	59	⇑P		P		05 37 22.4	+0.5	
	baz=58,SNR=10									
G11A	Walters Elk Ra	58.04	56	⇓P		P		05 37 21.7	-0.3	
	baz=58,SNR=8.7									
I09A	Lost Marbles R	58.07	58	⇓P		P		05 37 22.4	+0.2	
	baz=58,SNR=12									
M06C	Likely Place G	58.16	62	⇓P		P		05 37 23.0	+0.2	
	baz=58									
O04C	Chester	58.33	63	⇑P		P		05 37 24.5	+0.4	
	baz=58,SNR=12									
L07A	Adell	58.34	61	⇓P		P		05 37 24.6	+0.5	
	baz=58,SNR=7.5									
ELFS	Eagle Lake Fie	58.37	63	⇓P		P		05 37 24.7	+0.4	
	baz=58,SNR=7.5									
F12A	Elk City	58.39	55	P		P		05 37 24.7	+0.2	
	baz=58,SNR=16									
MNRC	McLaughlin Nat	58.39	66	⇑P		P		05 37 24.8	+0.3	
	baz=58,SNR=8.0									
K08A	Mann Creek Ran	58.40	60	⇓P		P		05 37 24.9	+0.4	
	baz=58,SNR=10									
J09A	Fry Pan Ranch,	58.45	59	P		P		05 37 25.5	+0.6	
	baz=58,SNR=14									
MSO	Missoula	58.46	54	eP		P		05 37 24.9	0.0	
	comp=Z,22nm,1.3s,mb5.0									
WVOR	Wild Horse Val	58.49	60	eP		P		05 37 25.2	0.0	
WVOR					pmax		pmax			
	comp=Z,17nm,0.9s,mb5.1									
WVOR	Wild Horse Val	58.49	60	eP		P		05 37 25.2	0.0	
	comp=Z,17nm,0.9s,mb5.1									
D14A	Greenough	58.54	53	P		P		05 37 25.3	-0.2	
	baz=58,SNR=18									
ORV	Oroville	58.55	64	⇑P		P		05 37 24.8	-0.8	
	baz=58,SNR=5.2									
E13A	Victor	58.56	54	⇑P		P		05 37 25.4	-0.2	
	baz=58,SNR=10.0									
SUTB	Sutter Butte	58.58	65	⇑P		P		05 37 24.9	-0.9	
	baz=58									
H11A	Donnelly	58.61	57	P		P		05 37 26.0	0.0	
	baz=58,SNR=37									
O05C	Quincy	58.66	64	P		P		05 37 26.5	+0.2	
	baz=58,SNR=13									
OHCM	Honcut	58.70	65	eP		P		05 37 26.5	-0.1	
CVS	Carmenet Viney	58.72	66	⇓P		P		05 37 27.3	+0.6	
	baz=58									
CHMT	Chamberlain Mo	58.78	53	eP		P		05 37 27.2	+0.1	
FARB	Farallon Islan	58.78	67	⇑P		P		05 37 27.4	+0.2	
	baz=58									
Q03C	Winters	58.81	65	⇑P		P		05 37 27.5	+0.1	
	baz=58									
L08A	Fields	58.81	60	⇓P		P		05 37 27.5	+0.1	
	baz=58,SNR=17									
M07A	Soldier Meadow	58.82	61	P		P		05 37 28.1	+0.6	
	baz=58,SNR=28									
N06A	Buffalo Meadow	58.82	62	⇓P		P		05 37 27.6	+0.1	
	baz=58,SNR=12									
K09A	Rome	58.86	59	⇑P		P		05 37 28.0	+0.3	
	baz=59,SNR=6.5									
F13A	Darby	58.88	55	⇑P		P		05 37 27.6	-0.3	
	baz=59,SNR=11									
E14A	Clinton	58.95	54	⇑P		P		05 37 28.2	-0.2	
	baz=59,SNR=10									
BEKR	Beckwourth	59.05	63	P		P		05 37 29.1	0.0	
	baz=59,SNR=20									
D15A	Lincoln	59.09	53	⇓P		P		05 37 29.3	0.0	
	baz=59									
O06A	Flanigan	59.19	63	⇓P		P		05 37 30.1	+0.1	
	baz=59,SNR=9.9									
P05C	Yuba Gap, Truc	59.25	64	⇑P		P		05 37 30.3	-0.2	
	baz=59									
L09A	Wilkinson Ranc	59.32	60	⇑P		P		05 37 31.1	+0.3	
	baz=59,SNR=7.7									
F14A	Wisdom	59.40	54	⇑P		P		05 37 31.3	-0.2	
	baz=59									
E15A	Deer Lodge	59.41	53	⇑P		P		05 37 31.3	-0.2	
	baz=59,SNR=15									
P06A	Stead Airport,	59.45	63	P		P		05 37 31.6	-0.2	
	baz=59									
LAVA	Lava Cap Winer	59.51	65	⇓P		P		05 37 31.7	-0.5	
	baz=59,SNR=14									
WENL	Wente Brothers	59.60	66	⇓P		P		05 37 32.8	0.0	
	baz=59									
SUMG	Summit	59.62	4	eP		pP		05 37 43.9	-1.4	
BNLO	Ben Lomond (Sa	59.65	67	⇑P		P		05 37 32.9	-0.3	
	baz=59									
R04C	Big Horse Ranc	59.70	65	⇓P		P		05 37 32.8	-0.7	
	baz=59									
O07A	Toulon	59.76	62	⇓P		P		05 37 34.0	0.0	
	baz=60,SNR=13									
WCN	Washoe City	59.77	64	⇓P		P		05 37 34.2	+0.2	
	baz=60,SNR=5.6									
N08A	GE Springer Mi	59.81	61	⇓P		P		05 37 34.5	+0.2	
	baz=60									
M09A	Marrel Ranch,	59.81	60	⇑P		P		05 37 34.6	+0.3	
	baz=60,SNR=7.5									
F15A	Butte	59.86	54	⇓P		P		05 37 34.7	+0.1	
	baz=60,SNR=18									
LRM	Limekiln Ridge	59.89	54	eP		P		05 37 35.1	+0.2	
S04C	Ingram Canyon,	59.94	66	⇑P		P		05 37 35.8	+0.7	
	baz=60									
EGMT	Eagleton	59.94	50	eP		P		05 37 35.3	+0.2	
	comp=Z,23nm,1.1s,mb5.1									
EGMT	Eagleton	59.94	50	⇑P		P		05 37 34.8	-0.4	
	baz=60,SNR=6.7									
R05C	Kirkwood Meado	59.95	64	⇑P		P		05 37 35.2	-0.1	
	baz=60,SNR=7.5									
N09A	Rock Creek Ran	60.13	61	⇓P		P		05 37 36.8	+0.3	
	baz=60,SNR=14									
P07A	Fallon	60.14	63	⇑P		P		05 37 36.6	+0.1	
	baz=60									
CMB	Columbia Colle	60.18	65	eP		P		05 37 36.7	-0.1	
CMB					pmax		pmax			
	comp=Z,12nm,1.0s,mb4.9									
CMB	Columbia Colle	60.18	65	eP		P		05 37 36.7	-0.2	
	comp=Z,12nm,1.0s,mb4.9									
CMB	Columbia Colle	60.18	65	P		P		05 37 36.7	-0.1	
	baz=60,SNR=15									
HLID	Hailey	60.22	57	eP		P		05 37 37.5	+0.4	
	comp=Z,12nm,1.0s,mb4.9									
HLID	Hailey	60.22	57	⇑P		P		05 37 37.5	+0.4	
	baz=60,SNR=18									
PACP	Pacheco Peak	60.28	67	⇑P		P		05 37 37.4	-0.1	
	baz=60,SNR=6.4									
G15A	Dillon	60.28	54	P		P		05 37 37.6	0.0	
	baz=60,SNR=13									
M10A	I.L. Ranch, Tu	60.28	60	⇑P		P		05 37 38.1	+0.5	
	baz=60,SNR=20									
R06C	Coleville	60.44	64	⇑P		P		05 37 38.7	+0.1	
	baz=60,SNR=15									
WAKR	Walker	60.46	64	eP		P		05 37 39.3	+0.5	
HAST	UC Hastings Re	60.51	67	⇑P		P		05 37 38.6	-0.4	
	baz=60									
P08A	Dixie Valley	60.53	62	⇑P		P		05 37 39.7	+0.5	
	baz=60									
BMN	Battle Mountai	60.57	61	eP		P		05 37 39.8	+0.3	
S06C	San Francisco	60.61	65	P		P		05 37 39.6	-0.1	
	baz=60,SNR=16									
S05C	Merced	60.65	66	⇑P		P		05 37 39.3	-0.7	
	baz=60,SNR=8.9									
O09A	Fish Creek Ran	60.76	61	P		P		05 37 41.5	+0.7	
	baz=60,SNR=5									
M11A	Holland Ranch,	60.78	59	⇑P		P		05 37 41.8	+0.9	
	baz=60,SNR=14									
N10A	Dunphy	60.81	61	⇓P		P		05 37 41.4	+0.3	
	baz=60									
JMIC	Jan Mayen	60.92	354	LR		LR		06 01 54.4		
	comp=Z,241nm,21.7s,MS4.3,baz=78,slow=34									
R07C	Lee Vining	60.96	64	⇓P		P		05 37 42.6	+0.4	
	baz=61,SNR=14									
U04C	Hernandez Rese	61.00	67	⇑P		P		05 37 42.5	+0.1	
	baz=61									
QLMT	Earthquake Lak	61.08	54	eP		P		05 37 43.4	+0.5	
O10A	Cortez Mining,	61.09	61	⇑P		P		05 37 43.5	+0.6	
	baz=61,SNR=6.5									
Q08A	Gabbs	61.15	63	⇓P		P		05 37 43.4	0.0	
	baz=61,SNR=25									
P09A	Austin	61.18	62	⇓P		P		05 37 43.9	+0.3	
	baz=61									
NVAR	Mina Array Bea	61.20	64	P		P		05 37 44.1	+0.4	
	comp=Z,12nm,0.9s,mb5.0,baz=290,slow=9.1,SNR=61									
T06C	Millerton Lake	61.25	66	P		P		05 37 43.7	-0.4	
	baz=61,SNR=5.8									
KCC	Kaiser Creek	61.29	65	⇓P		P		05 37 44.4	+0.1	
	baz=61,SNR=5.6									
M12A	Wells	61.30	59	⇓P		P		05 37 44.9	+0.4	
	baz=61,SNR=18									
R08A	Mina	61.37	64	⇑P		P		05 37 45.1	+0.2	
	baz=61									
MLAC	Mammoth Lakes	61.38	65	⇑P		P		05 37 45.5	+0.4	
	baz=61									
GCMT	Greycliff	61.41	52	eP		P		05 37 45.9	+0.7	
PKD	Parkfield	61.42	67	⇓P		P		05 37 44.6	-0.6	
	baz=61									
U05C	Westside ANR,	61.43	66	⇓P		P		05 37 45.5	+0.2	
	baz=61									
YMR	Madison River	61.44	54	eP		P		05 37 46.0	+0.7	
	comp=Z,37nm,1.4s,mb5.3									
P10A	Eureka	61.54	61	⇓P		P		05 37 46.7	+0.6	
	baz=61,SNR=6.5									
YNR	Norris Junctio	61.56	54	eP		P		05 37 47.9	+1.7	
N12A	Clover Valley,	61.59	60	⇑P		P		05 37 46.9	+0.6	
	baz=61,SNR=8.1									
Q09A	Carvers	61.61	63	⇑P		P		05 37 46.7	+0.1	
	baz=61									
YFT	Old Faithful	61.65	54	eP		P		05 37 49.1	+2.3	
O11A	Cowboy Ranch,	61.69	61	⇓P		P		05 37 47.5	+0.5	
	baz=61,SNR=11									
MTUM	Tungsten Hills	61.73	65	eP		P		05 37 48.0	+0.6	
M13A	Montello	61.76	59	P		P		05 37 47.9	+0.3	
	baz=62,SNR=16									
PTRM	Twissleman Ran	61.81	67	eP		P		05 37 48.2	+0.4	
S08C	White Mtn Res	61.87	64	⇑P		P		05 37 48.5	+0.2	
	baz=62,SNR=8.1									
HELL	Mitchell Peak,	61.88	65	⇑P		P		05 37 47.7	-0.6	
	baz=62,SNR=16									
IMW	Indian Meadow	61.95	55	eP		P		05 37 50.2	+1.5	
	comp=Z,29nm,1.2s,mb5.3									
FLWY	Flagg Ranch	61.96	54	eP		P		05 37 50.5	+1.7	
	comp=Z,30nm,1.3s,mb5.3									
RCTC	Rector, Farmer	61.99	66	⇑P		P		05 37 48.6	-0.5	
	baz=62									
P11A	Circle Ranch,	62.00	61	⇑P		P		05 37 49.3	+0.1	
	baz=62									
DCID1	Drake Creek	62.01	55	eP		P		05 37 51.2	+2.0	
R09A	Tonopah	62.06	63	P		P		05 37 49.6	0.0	
	baz=62,SNR=32									
N13A	Wendover, West	62.07	59	⇑P		P		05 37 49.9	+0.3	
	baz=62,SNR=11									
TPH	Tonopah	62.08	63	eP		P		05 37 50.2	+0.5	
RRI2	Red Ridge	62.09	55	eP		P		05 37 50.6	+0.9	
	comp=Z,29nm,0.9s,mb5.4									
TIN	Tinemaha	62.13	65	⇑P		P		05 37 50.2	+0.2	
	baz=62									
O12A	Currie	62.13	60	⇓P		P		05 37 50.3	+0.3	
	baz=62,SNR=32									
MOOW	Moose Ponds	62.15	55	eP		P		05 37 51.0	+0.9	
	comp=Z,22nm,1.4s,mb5.1									
SMMC	Simmler	62.16	67	⇓P		P		05 37 50.2	0.0	
	baz=62									
HVU	Hansel Valley	62.29	58	eP		P		05 37 51.9	+0.8	
S09A	Goldfield	62.30	64	⇑P		P		05 37 51.1	0.0	
	baz=62,SNR=10									
LOHW	Long Hollow	62.32	55	eP		P		05 37 52.6	+1.3	
SNOW	Snow King Moun	62.33	55	eP		P		05 37 52.9	+1.6	
REDW	Red Top Meadow	62.34	55	eP		P		05 37 52.4	+1.0	
VES	Vestal, Richgr	62.39	66	⇓P		P		05 37 50.8	-0.9	
	baz=62,SNR=5.7									
DGMT	Dagmar	62.48	47	eP		P		05 37 52.6	+0.2	
R10A	Warm Springs	62.49	63	⇓P		P		05 37 52.5	0.0	
	baz=62,SNR=9.4									
Q11A	Duckwater	62.52	62	⇑P		P		05 37 52.3	-0.3	
	baz=62,SNR=9.0									
PKM	Peak Mountain	62.54	67	⇓P		P		05 37 52.6	-0.1	
	baz=62									
P12A	McGill	62.55	61	⇑P		P		05 37 53.0	+0.1	
	baz=62,SNR=10									
CWC	Cottonwood Cre	62.61	65	⇓P		P		05 37 53.1	-0.2	
	baz=62									
LAO	LASA Array	62.64	50	eP		P		05 37 54.2	+0.8	
LAO				ePP		PP		05 40 14.7	+3.2	
GRAC	Grapevine Rang	62.68	64	⇓P		P		05 37 53.8	+0.1	
	baz=62,SNR=7.2									
BGU	Big Grassy Mou	62.70	58	eP		P		05 37 54.2	+0.3	
SPUT	South Promonto	62.78	58	eP		P		05 37 52.1	-2.3	
ISA	Isabella	62.88	66	eP		P		05 37 54.3	-0.7	
ISA	Isabella	62.88	66	⇑P		P		05 37 53.6	-1.4	
	baz=63,SNR=6.6									
Q12A	Willow Creek R	62.88	61	⇓P		P		05 37 55.0	0.0	
	baz=63,SNR=8.7									
TRCR	Troy Canyon	62.88	62	eP		P		05 37 54.8	-0.2	
ARVC	Arvin	63.01	67	⇑P		P		05 37 55.0	-0.9	
	baz=63									
DAC	Darwin (Calif)	63.02	65	eP		P		05 37 56.1	+0.2	
HWUT	Hardware Ranch	63.09	57	eP		P		05 37 56.9	+0.5	
	comp=Z,17nm,1.0s,mb5.1									
MPMC	Manual Prospec	63.22	65	⇓P		P		05 37 57.2	-0.1	
	baz=63,SNR=16									
DUG	Dugway	63.30	59	eP		P		05 37 58.1	+0.3	
DUG					pmax		pmax			
	comp=Z,43nm,1.3s,mb5.4									
DUG	Dugway	63.30	59	eP		P		05 37 58.0	+0.2	
	comp=Z,43nm,1.3s,mb5.4									
DUG	Dugway	63.30	59	⇓P		P		05 37 57.8	0.0	
	baz=63,SNR=24									
FURC	Furnace Creek,	63.34	64	⇑P		P		05 37 57.8	-0.2	
	baz=63,SNR=18									
NOQ	North Oquirrh	63.40	58	eP		P		05 37 59.3	+0.8	
OSI	Osito Adit	63.41	67	⇑P		P		05 37 58.2	-0.3	
	baz=63									
BW06	Boulder Array	63.45	55	eP		P		05 37 59.0	+0.2	
	comp=Z,18nm,1.1s,mb5.1									
PDAR	Pinedale Array	63.45	55	P		P		05 37 58.9	+0.1	
	comp=Z,12nm,1.0s,mb5.0,baz=294,slow=2.3,SNR=61									
LRMC	Laurel Mountai	63.48	66	⇑P		P		05 37 58.5	-0.6	
	baz=63,SNR=9.2									
FINES	FINESS Array B	63.49	335	P		P		05 37 57.7	-1.4	
	comp=Z,0.9nm,0.4s,mb4.2,baz=46,slow=8.2,SNR=8.3									
FINES					LR		LR	06 07 10.2		
	comp=Z,215nm,18.5s,MS4.4,baz=358,slow=38									
CTU	Camp Tracy	63.59	58	eP		P		05 38 02.9	+3.2	
EDW2	Edwards Air Fo	63.69	66	⇓P		P		05 38 00.0	-0.4	
	baz=63,SNR=17									
U10A	Ash Meadows, A	63.70	64	⇓P		P		05 38 00.5	+0.1	
	baz=63,SNR=10									
JLU	Jordanelle	63.82	58	eP		P		05 38 01.9	+0.7	
NLU	North Lily Min	63.88	59	eP		P		05 38 02.5	+0.8	
DECC	Green Verdugo	63.89	67	⇓P		P		05 38 01.2	-0.5	
	baz=64									
DAU	Daniels Canyon	64.05	58	eP		P		05 38 03.9	+1.1	
SHOC	Shoshone	64.07	65	⇑P		P		05 38 02.6	-0.3	
	baz=64									
MWC	Mount Wilson	64.08	67	eP		P		05 38 03.0	0.0	
MPU	Maple Canyon	64.10	58	eP		P		05 38 03.9	+0.8	
GSC	Goldstone	64.14	65	eP		P		05 38 02.7	-0.7	
GSC	Goldstone	64.14	65	P		P		05 38 02.8	-0.5	
	baz=64,SNR=9.4									
U11A	Corn Creek	64.27	64	⇑P		P		05 38 04.1	-0.1	
	baz=64									
BFSC	Mount Baldy St	64.32	67	⇑P		P		05 38 04.1	-0.4	
	baz=64,SNR=8.9									
SHPR	Sheep Range	64.35	63	eP		P		05 38 05.2	+0.6	
CIS	Catalina Islan	64.41	68	⇓P		P		05 38 04.1	-1.0	
	baz=64									
ARUT	Antelope Range	64.52	61	eP		P		05 38 06.1	+0.2	
TUQ	Turquoise Mtn.	64.59	65	⇓P		P		05 38 06.1	-0.2	
	baz=64,SNR=8.1									
V11A	Goodsprings	64.62	64	⇓P		P		05 38 06.3	-0.2	
	baz=64,SNR=7.2									
CCUT	Cedar City	64.73	61	eP		P		05 38 07.8	+0.6	
HEC	Hector,Ludlow	64.75	65	⇑P		P		05 38 06.8	-0.5	
	baz=64,SNR=5.6									
BBRC	Big Bear Sol-O	64.76	66	⇑P		P		05 38 07.2	-0.2	
	baz=64									
U12A	Valley of Fire	64.77	63	⇑P		P		05 38 07.3	-0.1	
	baz=64									
MSU	Marysvale	64.78	60	eP		P		05 38 08.2	+0.6	
TMUT	Trail Mountain	64.82	59	eP		P		05 38 12.5	+4.7	
MURC	Murrieta	65.03	67	⇓P		P		05 38 08.6	-0.6	
	baz=65,SNR=6.4									
V12A	Nelson	65.05	64	⇑P		P		05 38 09.3	+0.1	
	baz=65,SNR=9.5									
ULM	Lac du Bonnet	65.19	42	P		P		05 38 09.2	-0.9	
	comp=Z,5.6nm,0.7s,mb4.7,baz=312,slow=9.6,SNR=13									
W12A	Cal Nev Ari	65.32	64	⇓P		P		05 38 10.6	-0.4	
	baz=65									
SRU	San Rafael	65.34	59	eP		P		05 38 11.4	+0.2	
PFO	Pinyon Flat Ob	65.48	67	eP		P		05 38 11.1	-1.0	
PFO	Pinyon Flat Ob	65.48	67	⇑P		P		05 38 11.3	-0.8	
	baz=65									
BELC	Belle Mtn.	65.50	66	⇓P		P		05 38 11.4	-0.8	
	baz=65,SNR=8.8									
109C	Camp Elliot, M	65.56	68	⇓P		P		05 38 11.9	-0.7	
	baz=65									
IRM	Iron Mountain	65.92	65	⇓P		P		05 38 14.7	-0.2	
	baz=66,SNR=13									
BAR	Barrett	65.97	67	eP		P		05 38 15.0	-0.2	
MONP	Monument Peak	65.99	67	⇑P		P		05 38 15.0	-0.3	
	baz=66									
W13A	Hualapai Mount	66.06	64	⇓P		P		05 38 15.5	-0.3	
	baz=66,SNR=9.5									
BC3	Big Chuckw Mtn	66.07	66	⇑P		P		05 38 15.4	-0.5	
	baz=66,SNR=6.1									
SWSC	Sam W. Stewart	66.34	67	⇓P		P		05 38 16.7	-0.9	
	baz=66									
DVTC	Desert V Tower	66.34	67	⇓P		P		05 38 17.1	-0.5	
	baz=66									
X13A	Yucca	66.43	64	P		P		05 38 18.0	-0.1	
	baz=66,SNR=15									
PDMCI	Parker Dam,Lak	66.44	65	⇑P		P		05 38 18.0	-0.3	
	baz=66,SNR=11									
W14A	Seligman	66.46	63	⇓P		P		05 38 18.8	+0.4	
	baz=66,SNR=14									
Y12C	Blythe	66.58	65	⇓P		P		05 38 18.8	-0.4	
	baz=66									
PV10	Paradox Valley	66.69	58	eP		P		05 38 20.1	+0.3	
GLA	Glamis	66.86	66	⇑P		P		05 38 20.5	-0.4	
	baz=67									
W15A	Williams	66.98	63	⇑P		P		05 38 22.2	+0.5	
	baz=67,SNR=5.5									
X14A	Yava	67.08	64	P		P		05 38 22.9	+0.6	
	baz=67,SNR=10									
PV01	Paradox Valley	67.13	58	eP		P		05 38 22.6	-0.1	
WUAZ	Wupatki	67.28	62	eP		P		05 38 24.3	+0.7	
	comp=Z,15nm,1.1s,mb4.9									
WUAZ	Wupatki	67.28	62	⇑P		P		05 38 23.8	+0.2	
	baz=67,SNR=7.8									
Y14A	Wickenburg	67.38	64	⇓P		P		05 38 23.9	-0.3	
	baz=67,SNR=12									
X15A	Humboldt	67.47	63	P		P		05 38 25.4	+0.7	
	baz=67,SNR=15									
NB2	NORSAR Subarra	67.55	342	P		P		05 38 24.2	-1.1	
	comp=Z,9.9nm,0.7s,mb4.5,baz=25,slow=6.2									
NOA	NORSAR Array B	67.55	342	P		P		05 38 24.2	-1.1	
	comp=Z,2.4nm,0.7s,mb4.3,baz=25,slow=6.3,SNR=5.7									
NOA					LR		LR	06 13 08.4		
	comp=Z,89nm,18.5s,MS4.0,baz=270,slow=41									
NOA	NORSAR Array B	67.55	342	P		P		05 38 24.2	-1.1	
NOA					LR		LR	06 13 08.4		
ISCO	Idaho Springs	67.64	55	eP		P		05 38 26.6	+0.7	
ISCO					pmax		pmax			
	comp=Z,13nm,1.0s,mb4.9									
ISCO	Idaho Springs	67.64	55	eP		P		05 38 26.6	+0.7	
	comp=Z,13nm,1.0s,mb4.9									
MVCO	Mesa Verde	67.80	59	eP		P		05 38 26.6	-0.3	
	comp=Z,34nm,1.5s,mb5.2									
MVCO	Mesa Verde	67.80	59	P		P		05 38 27.1	+0.2	
	baz=68,SNR=9.9									
Z14A	Wintersburg	67.80	65	⇑P		P		05 38 26.8	-0.1	
	baz=68									
HYB	Hyderabad	67.84	272	*i* P		P		05 38 30.0	+2.9	
HYB	Hyderabad	67.84	272	eP		P		05 38 30.0	+2.9	
115A	Sonoran Desert	68.70	65	⇑P		P		05 38 32.5	0.0	
	baz=68,SNR=7.1									
116A	Eloy	69.11	64	⇓P		P		05 38 35.0	0.0	
	baz=69,SNR=5.4									
SDCO	Great Sand Dun	69.14	57	eP		P		05 38 36.0	+0.8	
	comp=Z,24nm,1.5s,mb4.9									
ECSD	EROS,Sioux Fal	69.56	47	eP		P		05 38 36.6	-1.2	
	comp=Z,38nm,1.4s,mb5.1									
WRAB	Tennant Creek	69.75	200	eP		P		05 38 37.5	-1.5	
WRAB					pmax		pmax			
	comp=Z,14nm,1.0s,mb4.8									
WRAB	Tennant Creek	69.75	200	eP		P		05 38 37.5	-1.5	
	comp=Z,14nm,1.0s,mb4.8									
WRA	Warramunga Arr	69.76	200	P		P		05 38 37.5	-1.5	
	comp=Z,9.8nm,1.0s,mb4.7,baz=18,slow=6.5,SNR=15									
POO	Poona	70.22	276	eP		P		05 38 37.0	-4.9	
FITZ	Fitzroy Crossi	70.45	209	eP		P		05 38 42.0	-1.3	
	comp=Z,14nm,1.1s,mb4.8									
FITZ				*i*				05 39 00.5		
FITZ	Fitzroy Crossi	70.45	209	P		P		05 38 42.6	-0.7	
	comp=Z,11nm,1.1s,mb4.7,baz=34,slow=5.2,SNR=8.5									
LAZ	Ladron	70.55	60

BRTR	**Keskin Array B**	**78.24**	**317**	P		**P**	**05 39 28.2**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.9,baz=76,slow=3.3,SNR=6.3							
USIN	**University of**	**78.33**	**45**	*e*P		**P**	**05 39 30.1**	**+1.0**
WVT	**Waverly**	**79.70**	**47**	*e*P		**P**	**05 39 35.6**	**-1.0**
WVT				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
WVT	**Waverly**	**79.70**	**47**	*e*P		**P**	**05 39 35.5**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8							
WTTA	**Wattenberg**	**79.94**	**335**	⇑*i*P		**P**	**05 39 38.4**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.3							
WTTA	**Wattenberg**	**79.94**	**335**	⇓*i*		**P**	**05 39 41.2**	**+3.3**
	comp=Z,16nm,1.0s,mb4.9							
WTTA	**Wattenberg**	**79.94**	**335**			**P**	**05 39 41.2**	**+3.3**
	comp=Z,16nm,1.0s,mb4.9							
WTTA	**Wattenberg**	**79.94**	**335**	P		**P**	**05 39 38.4**	**+0.5**
WTTA				*e*			05 39 41.2	
MOTA	**Moosalm**	**80.02**	**336**	⇑*i*P		**P**	**05 39 36.1**	**-2.2**
	comp=Z,0.9nm,0.6s,mb3.9							
CDF	**Champ du Feu**	**80.04**	**338**	*e*P		**P**	**05 39 36.6**	**-1.8**
STKA	**Stephens Creek**	**80.11**	**191**	*e*P		**P**	**05 39 37.0**	**-1.8**
	comp=Z,2.9nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**80.11**	**191**	P		**P**	**05 39 37.3**	**-1.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=28,slow=5.8,SNR=5.6							
STKA				LR		LR	06 15 18.7	
	comp=Z,73nm,19.7s,MS4.0,baz=207,slow=36							
OXF	**Oxford**	**80.19**	**49**	*e*P		**P**	**05 39 38.8**	**-0.5**
VTS	**Vitosha**	**80.23**	**326**	⇑*i*P		**P**	**05 39 39.1**	**-0.4**
VTS	**Vitosha**	**80.23**	**326**	⇑P		**P**	**05 39 39.1**	**-0.4**
DAVA	**Damuels**	**80.41**	**336**	‖*e*P		**P**	**05 39 39.3**	**-1.1**
	comp=Z,5.6nm,0.7s,mb4.6							
MCWV	**Mont Chateau**	**80.51**	**39**	*e*P		**P**	**05 39 41.0**	**+0.1**
	comp=Z,2.6nm,0.8s,mb5.2							
TZTN	**Tazewell**	**81.42**	**44**	*e*P		**P**	**05 39 45.6**	**-0.2**
GRR	**Gorron**	**81.85**	**344**	*e*P		**P**	**05 39 46.4**	**-1.7**
	comp=Z,278nm,1.7s,mb5.6							
GRR	**Gorron**	**81.85**	**344**	*e*P		**P**	**05 39 46.4**	**-1.7**
	comp=Z,139nm,1.7s,mb5.6							
PPT	**Papeete**	**82.06**	**127**	*e*LR		LR	06 05 11.7	
	comp=Z,223nm,22.8s,baz=327							
BLA	**Blacksburg**	**82.29**	**41**	*e*P		**P**	**05 39 49.6**	**-0.8**
BLA				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.9							
BLA	**Blacksburg**	**82.29**	**41**	*e*P		**P**	**05 39 49.6**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8							
SMF	**Signal de Mont**	**82.52**	**340**	*e*P		**P**	**05 39 49.7**	**-1.9**
	comp=Z,26nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**82.52**	**340**	*e*P		**P**	**05 39 49.7**	**-1.9**
SMF				pmax		pmax		
	comp=Z,13nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**82.52**	**340**	*e*P		**P**	**05 39 49.7**	**-1.9**
	comp=Z,13nm,0.9s,mb5.0							
LRAL	**Lakeview Retre**	**82.58**	**48**	*e*P		**P**	**05 39 51.1**	**-0.8**
LPG	**La Plagne**	**82.88**	**338**	*e*P		**P**	**05 39 52.4**	**-1.1**
	comp=Z,14nm,0.9s,mb4.7							
LPG	**La Plagne**	**82.88**	**338**	*e*P		**P**	**05 39 52.4**	**-1.1**
LPG				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
LPG	**La Plagne**	**82.88**	**338**	*e*P		**P**	**05 39 52.4**	**-1.1**
	comp=Z,6.8nm,0.9s,mb4.7							
GOGA	**Godfrey**	**84.01**	**45**	*e*P		**P**	**05 39 58.9**	**-0.4**
CAF	**Calviac**	**84.55**	**341**	*e*P		**P**	**05 40 00.1**	**-1.9**
	comp=Z,42nm,1.5s,mb5.1							
CAF	**Calviac**	**84.55**	**341**	*e*P		**P**	**05 40 00.1**	**-1.9**
CAF				pmax		pmax		
	comp=Z,21nm,1.5s,mb5.0							
CAF	**Calviac**	**84.55**	**341**	*e*P		**P**	**05 40 00.1**	**-1.9**
	comp=Z,21nm,1.5s,mb5.0							
TBI	**Tubuai**	**86.87**	**130**	*e*LR		LR	06 07 24.4	
	comp=Z,242nm,24.8s,baz=329							
NWAO	**Narrogin (SRO)**	**86.97**	**211**	P		**P**	**05 40 11.3**	**-2.7**
	comp=Z,6.6nm,0.7s,mb5.0,baz=51,slow=10.0,SNR=4.3							
ESDC	**Sonseca Array**	**90.84**	**343**	P		**P**	**05 40 30.7**	**-1.5**
	comp=Z,0.1nm,0.3s,mb3.7,baz=20,slow=4.7,SNR=4.4							
ESDC				LR		LR	06 29 09.5	
	comp=Z,87nm,19.5s,MS4.2,baz=325,slow=41							
KEST	**Kesra**	**91.19**	**332**	P		**P**	**05 40 33.2**	**-0.7**
	comp=Z,2.0nm,0.9s,mb4.4,baz=327,slow=6.9,SNR=6.8							
KEST				LR		LR	06 25 15.9	
	comp=Z,51nm,19.4s,MS4.0,baz=268,slow=38							
RKT	**Rikitea**	**94.72**	**119**	*e*LR		LR	06 11 05.7	
	comp=Z,122nm,28.0s							
TORD	**Torodi Ar. Bea**	**114.66**	**331**	PKP		PKiKP	05 46 07.5	-1.5
	comp=Z,0.4nm,0.5s,baz=2.1,slow=2.0,SNR=7.2							
LPAZ	**La Paz**	**133.10**	**63**	PKP		PKPdf	05 46 45.0	+0.7
	comp=Z,1.7nm,1.0s,baz=268,slow=4.5,SNR=4.3							
SYO	**Syowa Base**	**142.23**	**212**	⇑*e*PKPdf		PKPdf	05 47 00.5	-0.6
CFAA	**Coronel Fontan**	**143.95**	**79**	PKhKP			05 47 00.5	
	comp=Z,2.2nm,0.8s,baz=288,slow=3.0,SNR=49							
NVL	**N'lazarevskaya**	**150.92**	**204**	⇓*i*PKIKP		PKPdf	05 47 18.1	+2.5
NVL				pmax		pmax		
	comp=Z,33nm,1.6s							
SNAA	**Sanae**	**153.77**	**196**	PKPbc		PKPbc	05 47 24.3	-3.4
	comp=Z,1.9nm,1.1s,baz=178,slow=1.6,SNR=12							
SNAA	**Sanae**	**153.77**	**196**	*e*PKPdf		PKPdf	05 47 17.1	-2.8
SNAA				*e*			05 47 24.1	
SNAA				*e*			05 47 30.9	
SNAA				*e*			05 47 38.0	
SNAA				*e*			05 47 43.9	
SNAA				*e*			05 47 56.5	
SNAA				*e*			05 51 14.0	
SNAA	**Sanae**	**153.77**	**196**	PKIKP		PKPdf	05 47 24.3	+4.4
SNAA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
VNA2	**Neumayer--Watz**	**155.20**	**194**	*e*PKPdf		PKPdf	05 47 18.5	-3.3
VNA2				*e*			05 47 28.6	
VNA2				*e*			05 47 39.3	
VNA2				*e*			05 47 44.3	
VNA2				*e*			05 47 46.4	
VNA2				*e*			05 47 53.4	
VNA2				*e*			05 48 03.0	
VNA2				*e*			05 48 16.3	
VNA2				*e*			05 51 22.6	
VNA3	**Neumayer Olymp**	**155.27**	**192**	*e*PKPdf		PKPdf	05 47 17.6	-4.3
VNA3				*e*			05 47 28.1	
VNA3				*e*			05 47 38.6	
VNA3				*e*			05 47 44.4	
VNA3				*e*			05 47 47.4	
VNA3				*e*			05 47 53.4	
VNA3				*e*			05 48 03.0	
VNA3				*e*			05 51 23.3	
VNA1	**Neumayer--Stat**	**155.58**	**194**	*e*PKPdf		PKPdf	05 47 18.2	-4.2
VNA1				*e*			05 47 29.3	
VNA1				*e*			05 47 39.6	
VNA1				*e*			05 47 46.1	
VNA1				*e*			05 47 48.3	
VNA1				*e*			05 47 53.5	
VNA1				*e*			05 48 00.0	
VNA1				*e*			05 51 23.7	

*IDC **20** 05:32:56.2± 1.1, 0.17S× 125.17E, h0 km, mb4.0/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=105.0km s-min=18.4km az=68.0*
*ISCJB **20** 05:32:59.2± 0.9, 0.1S± 02× 1253E± 04, h35 km, mb4.1/6, Error ellipse: s-maj=67.9km s-min=13.3km az=139.8*
*NEIC **20** 05:33:01.2± 0.8, 0.22S× 125.17E, h35 km, mb4.0/1, Error ellipse: s-maj=56.9km s-min=11.6km az=70.0*

ISC 20 05:33:01.5± 0.9, 01S± 02× 1254E± 04, h35 km, n13, σ 0 95/13, mb4.1/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.87**	**179**	*e*P	**Pn**	**05 37 09.6**	**+2.4**
	4.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.87**	**179**	P	**Pn**	**05 37 05.6**	**-1.6**
	0.1nm,0.3s,baz=9.0,slow=13,SNR=2.5						
FITZ	**Fitzroy Crossi**	**17.87**	**179**	P	**Pn**	**05 37 05.6**	**-1.6**
FITZ				*e*P		05 37 09.6	
WRAB	**Tennant Creek**	**21.57**	**156**	*e*P	**P**	**05 37 47.4**	**-0.6**
	2.5nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**21.57**	**156**	P	**P**	**05 37 47.0**	**-1.0**
	3.5nm,0.6s,mb3.9,baz=334,slow=11,SNR=15						
WB2	**Warramunga Arr**	**21.58**	**156**	*e*P	**P**	**05 37 47.0**	**-1.1**
AS31	**Alice Springs**	**24.83**	**161**	*e*P	**P**	**05 38 21.6**	**+1.2**
ASAR	**Alice Springs**	**24.83**	**161**	P	**P**	**05 38 21.1**	**+0.7**
	2.9nm,0.5s,mb4.1,baz=342,slow=7.2,SNR=40						
ASPA	**Alice Springs**	**24.83**	**161**	*e*P	**P**	**05 38 21.6**	**+1.2**
STKA	**Stephens Creek**	**35.12**	**156**	P	**P**	**05 39 51.9**	**+0.4**
	3.6nm,0.7s,mb4.4,baz=323,slow=10,SNR=9.8						
STKA	**Stephens Creek**	**35.12**	**156**	P	**P**	**05 39 51.9**	**+0.4**
SONM	**Songino Array**	**50.53**	**344**	P	**P**	**05 41 56.3**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=142,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**05 43 04.0**	**-0.3**
	0.9nm,0.3s,mb4.2,baz=124,slow=7.6,SNR=12						

2006 NOV

*NEIC **20** 05:41:27.5, 3729S× 17776E, h113 km, MG3.9(WEL), After WEL.*

WEL 20 05:41:27.6± 0.2, 3730S× 17773E, h113 km± 2 km, ML3.9/7, 2C-3D, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.53**	**120**	P	Pn	05 41 44.7	-0.2
MXZ				S	Sn	05 41 57.4	-0.5
MXZ	**Matakaoa Point**	**0.53**	**120**	⇑PN	Pn	05 41 44.7	-0.1
MXZ				SN	Sn	05 41 58.2	+0.3
PUZ	**Puketiti**	**0.88**	**152**	P	Pn	05 41 47.7	0.0
PUZ	**Puketiti**	**0.88**	**152**	⇑PN	Pn	05 41 47.7	0.0
PUZ				SN	Sn	05 42 02.7	-0.3
MWZ	**Matawai**	**1.04**	**189**	P	Pn	05 41 49.5	+0.1
MWZ				S	Sn	05 42 06.8	+0.9
MWZ	**Matawai**	**1.04**	**189**	⇓PN	Pn	05 41 49.5	+0.1
MWZ				SN	Sn	05 42 06.2	+0.2
URZ	**Urewera**	**1.08**	**207**	⇓PN	Pn	05 41 49.7	0.0
URZ				SN	Sn	05 42 06.3	-0.2
EDRZ	**Edgecumbe**	**1.13**	**224**	P	Pn	05 41 49.4	-0.9
TAZ	**Tarawera**	**1.34**	**226**	P	Pn	05 41 53.5	+0.8
TAZ	**Tarawera**	**1.34**	**226**	PN	Pn	05 41 53.4	+0.7
PATZ	**Paeroa**	**1.59**	**227**	P	Pn	05 41 54.9	-0.7
PATZ	**Paeroa**	**1.59**	**227**	PN	Pn	05 41 54.9	-0.7
KUZ	**Kuaotunu**	**1.70**	**288**	P	Pn	05 41 57.0	0.0
KUZ	**Kuaotunu**	**1.70**	**288**	⇓PN	Pn	05 41 57.0	0.0
KNZ	**Kokohu**	**1.72**	**182**	*e*P	Pn	05 41 56.9	-0.2
KNZ	**Kokohu**	**1.72**	**182**	PN	Pn	05 41 56.9	-0.3
BKZ	**Black Stump Fm**	**2.10**	**207**	P	Pn	05 42 01.7	-0.2
BKZ	**Black Stump Fm**	**2.10**	**207**	PN	Pn	05 42 01.7	-0.2
OTVZ	**Oturere**	**2.47**	**221**	PN	Pn	05 42 06.9	+0.2
NGZ	**Ngauruhoe**	**2.51**	**221**	P	Pn	05 42 07.8	+0.6
NGZ	**Ngauruhoe**	**2.51**	**221**	PN	Pn	05 42 07.7	+0.5
TUVZ	**Tukino**	**2.56**	**219**	P	Pn	05 42 08.0	+0.2
TUVZ	**Tukino**	**2.56**	**219**	PN	Pn	05 42 08.0	+0.3
WPVZ	**Whakapapa**	**2.56**	**222**	P	Pn	05 42 08.5	+0.6
FWVZ	**Far West T-bar**	**2.60**	**221**	PN	Pn	05 42 08.4	+0.1
MOVZ	**Moawhango**	**2.62**	**216**	P	Pn	05 42 07.8	-0.8
MOVZ	**Moawhango**	**2.62**	**216**	PN	Pn	05 42 07.8	-0.7
WNVZ	**Wahianoa**	**2.63**	**219**	P	Pn	05 42 08.6	-0.1
WNVZ	**Wahianoa**	**2.63**	**219**	PN	Pn	05 42 08.6	-0.2
PXZ	**Pawanui**	**2.81**	**194**	PN	Pn	05 42 09.4	-1.7
BFZ	**Birch Farm**	**3.57**	**198**	P	Pn	05 42 18.6	-2.5
MRZ	**Mangatainoka R**	**3.75**	**206**	P	Pn	05 42 20.8	-2.8
MRZ	**Mangatainoka R**	**3.75**	**206**	PN	Pn	05 42 20.8	-2.8
KIW	**Kapiti Island**	**4.18**	**211**	P	Pn	05 42 26.5	-2.8
KIW	**Kapiti Island**	**4.18**	**211**	PN	Pn	05 42 26.5	-2.8
TRWZ	**Traveller**	**4.39**	**201**	PN	Pn	05 42 28.7	-3.4
TCW	**Tory Channel**	**4.74**	**213**	P	Pn	05 42 33.5	-3.3
TCW	**Tory Channel**	**4.74**	**213**	PN	Pn	05 42 33.5	-3.4
BSWZ	**Blackbirch Sta**	**5.32**	**213**	P	Pn	05 42 41.1	-3.6
BSWZ	**Blackbirch Sta**	**5.32**	**213**	PN	Pn	05 42 41.1	-3.6

*IDC **20** 05:46:44.5± 1.0, 47.15N× 155.33E, h0 km, mb3.9/10, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=29.9km s-min=22.8km az=177.0*
*ISCJB **20** 05:46:49.3± 2.3, 47.2N± 0.1× 153.3E± 02, h44 km± 19 km, mb4.0/10, Error ellipse: s-maj=26.9km s-min=16.7km az=86.4*
*MOS **20** 05:46:49.9± 1.0, 47.21N× 155.17E, h50 km, mb4.3/7, Error ellipse: s-maj=29.7km s-min=17.5km az=90.3*

ISC 20 05:46:50.9± 2.1, 472N± 01× 1552E± 02, h44 km± 18 km, n22, σ 0 65/22, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.56**	**9**	*e*PN	**Pn**	**05 47 43.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**8.53**	**273**	PN	**Pn**	**05 49 05.0**	**+13**
KLR	**Kul'dur**	**15.79**	**286**	*e*P	**Pn**	**05 50 37.2**	**+7.1**
MJAR	**Matsushiro Arr**	**16.51**	**236**	Pn	**Pn**	**05 50 39.7**	**+0.4**
	0.4nm,0.3s,baz=39,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**32.57**	**290**	P	**P**	**05 53 17.1**	**-0.8**
	0.9nm,1.1s,mb3.6,baz=90,slow=10,SNR=3.2						
SONM	**Songino Array**	**32.57**	**290**	P	**P**	**05 53 17.1**	**-0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**05 55 25.3**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.2,baz=73,slow=8.3,SNR=7.8						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**05 55 25.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**05 55 52.8**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.4,baz=56,slow=7.0,SNR=15						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**05 55 52.8**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**63.31**	**55**	P	**P**	**05 57 15.1**	**-0.2**
	comp=Z,1.3nm,1.1s,mb4.0,baz=270,slow=1.5,SNR=6.1						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**05 57 21.1**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=42,slow=8.8,SNR=7.0						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**05 57 21.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**05 57 48.5**	**+1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=26,slow=6.2,SNR=3.2						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**05 57 48.5**	**+1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.09**	**200**	P	**P**	**05 58 16.4**	**-0.1**
	comp=Z,0.9nm,1.0s,mb3.6,baz=14,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**73.09**	**200**	P	**P**	**05 58 16.4**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**05 58 33.0**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=311,slow=4.1,SNR=6.7						
MLR	**Muntele Rosu**	**77.54**	**326**	P	**P**	**05 58 42.9**	**+0.9**
	comp=Z,2.1nm,0.6s,mb4.3,baz=185,slow=15,SNR=5.4						
MLR	**Muntele Rosu**	**77.54**	**326**	P	**P**	**05 58 42.9**	**+0.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**79.06**	**318**	P	**P**	**05 58 51.4**	**+0.9**
	comp=Z,2.6nm,1.2s,mb4.0,baz=11,slow=7.7,SNR=3.9						
BRTR	**Keskin Array B**	**79.06**	**318**	P	**P**	**05 58 51.4**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.2s						

FUNV 20 06:01:37.8, 690N× 7318W, h159 km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.29**	**42**	⇑*i*P	Pn	06 02 05.9	0.0
CAPV				*e*S	Sn	06 02 25.9	-1.5
VIGV	**El Vigia**	**2.63**	**43**	*i*P	Pn	06 02 20.4	-0.5
VIGV				*e*S	Sn	06 02 50.7	-3.7
SOCV	**Socops**	**2.68**	**59**	*e*P	Pn	06 02 20.7	-0.8
SOCV				*e*S	Sn	06 02 52.3	-3.1
VIRV	**Villa del Rosa**	**3.66**	**12**	*e*P	Pn	06 02 32.7	-1.1
VIRV				*e*S	Sn	06 03 12.4	-5.0
ELOV	**Elorza**	**3.67**	**88**	*e*P	Pn	06 02 32.2	-1.9
QARV	**Quebrada Arrib**	**4.21**	**39**	*e*P	Pn	06 02 40.2	-0.7
QARV				*e*S	Sn	06 03 25.4	-4.7
SANV	**Sanarito**	**4.44**	**54**	*e*P	Pn	06 02 42.0	-2.0
CURV	**Curarigua**	**4.44**	**46**	*e*P	Pn	06 02 42.9	-1.0
SIQV	**Siquisique**	**5.00**	**42**	*e*P	Pn	06 02 49.0	-2.2
SIQV				*e*S	Sn	06 03 43.5	-5.1

CASC 20 06:21:26.7± 1.3, 843N× 8283W, h11 km± 9 km, MD3.5, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.37**	**90**	*e*P	Pg	06 21 34.3	+0.3
BRU	**Baru**	**0.46**	**35**	*e*P	Pg	06 21 36.5	+0.9
CNI	**Changuinola**	**1.02**	**17**	⇑*i*P	Pg	06 21 45.6	-0.8
LAJ	**Bijagual**	**1.91**	**318**	*e*P	Pn	06 22 01.4	+2.2
PRS1	**Puriscal**	**2.13**	**317**	*e*P	Pn	06 22 02.3	+0.1
CGA2	**Cerro Gallo 2**	**2.26**	**314**	*e*P	Pn	06 22 04.8	+0.9
AZU	**Azuero**	**2.61**	**104**	*e*P	Pn	06 22 08.0	-0.6
ACH	**Altos**	**2.88**	**85**	*e*P	Pn	06 22 18.0	+5.5
ACH				*e*S	Sn	06 22 47.2	+0.1
PTP	**Ponta Puerca**	**19.36**	**58**	⇑*i*P		06 21 31.8	

*IDC **20** 06:26:09.2± 0.8, 46.74N× 154.80E, h0 km, mb3.9/12, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, ML3.8/1, Error ellipse: s-maj=25.1km s-min=16.8km az=165.0*
*ISCJB **20** 06:26:12.6± 2.2, 46.8N± 0.1× 154.7E± 02, h33 km± 18 km, mb3.9/12, Error ellipse: s-maj=24.6km s-min=13.2km az=114.9*
*MOS **20** 06:26:13.3± 0.8, 46.85N× 154.56E, h41 km, mb4.3/8, Error ellipse: s-maj=23.9km s-min=15.3km az=93.8*

ISC 20 06:26:15.2± 1.8, 469N± 01× 1547E± 02, h40 km± 15 km, n25, σ 0 75/25, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.94**	**13**	*e*PN	**Pn**	**06 27 13.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**8.92**	**256**	Pn	**Pn**	**06 28 21.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=87,slow=7.2,SNR=7.5						
ASAJ	**Asahikawa**	**8.92**	**256**	PN	**Pn**	**06 28 21.6**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.86**	**254**	P	**P**	**06 31 04.7**	**+0.4**
	comp=Z,1.7nm,0.7s,mb3.6,baz=60,slow=9.0,SNR=5.2						
BOD	**Bodaibo**	**26.75**	**309**	*e*P	**P**	**06 31 48.2**	**-2.8**
SONM	**Songino Array**	**32.31**	**290**	P	**P**	**06 32 40.8**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.5,baz=66,slow=6.7,SNR=5.4						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**06 33 54.2**	**+0.1**
	comp=Z,1.1nm,0.6s,mb3.6,baz=325,slow=5.9,SNR=4.4						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**06 33 54.2**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**06 34 49.2**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=57,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**06 34 49.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**06 35 17.7**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=52,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**06 35 17.7**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**57.59**	**341**	*e*p	**P**	**06 36 00.2**	**-0.7**
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**06 36 04.5**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=29,slow=6.8,SNR=8.6						
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**06 36 04.5**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**61.43**	**63**	P	**P**	**06 36 27.7**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.8,baz=301,slow=9.8,SNR=4.1						
PDAR	**Pinedale Array**	**63.81**	**55**	P	**P**	**06 36 43.2**	**0.0**
	comp=Z,1.1nm,1.0s,mb3.9,baz=306,slow=1.3,SNR=5.7						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**06 36 46.6**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=57,slow=7.0,SNR=13						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**06 36 46.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**06 37 14.7**	**+1.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=26,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**06 37 14.7**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.67**	**200**	P	**P**	**06 37 37.9**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=17,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**72.67**	**200**	P	**P**	**06 37 37.9**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**	**06 38 00.8**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.4,baz=304,slow=4.7,SNR=63						
TXAR	**Lajitas Array**	**76.50**	**62**	P	**P**	**06 38 00.9**	**0.0**
TXAR				pmax	pmax

IDC ***20*** *06:36:23.7±1.9, 46.19N×154.95E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/26, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=58.2km s-min=19.6km az=1.0*

ISCJB ***20*** *06:36:26.9±1.0, 463N±02×1547E±0.1, h35km, mb4.0/11, Error ellipse: s-maj=24.6km s-min=7.9km az=133.4*

MOS ***20*** *06:36:29.9±1.9, 4644N×1545.0E, h52km, mb4.2/8, Error ellipse: s-maj=23.4km s-min=16.8km az=81.0*

ISC 20 06:36:29.0±1.0, 463N±02×1547E±01, h35km, n22, σ1§03/23, mb4.0/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.47**	**11**	*e*Pn	**Pn**	**06 37 33.5**	**-0.7**
KUR	**Kuril'sk**	**4.92**	**260**	*e*Pn	**Pn**	**06 37 38.6**	**-1.8**
KUR				*i* S	**Sn**	**06 38 35.0**	**-1.1**
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
KUR				smax			
	comp=N,110nm,0.6s						
KUR				smax			
	comp=E,130nm,0.6s						
ASAJ	**Asahikawa**	**8.84**	**260**	Pn	**Pn**	**06 38 35.8**	**+1.5**
	comp=E,1.3nm,0.3s,baz=135,slow=17,SNR=6.4						
ASAJ	**Asahikawa**	**8.84**	**260**	PN	**Pn**	**06 38 35.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**22.58**	**11**	*e*P	**P**	**06 41 24.9**	**-1.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
INK	**Inuvik**	**41.42**	**32**	P	**P**	**06 44 12.0**	**-0.1**
	comp=Z,2.6nm,0.8s,mb3.9,baz=238,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**48.13**	**298**	P	**P**	**06 45 06.4**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=67,slow=7.8,SNR=7.5						
MKAR	**Makanchi Array**	**48.13**	**298**	P	**P**	**06 45 06.4**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**06 45 35.6**	**+0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=63,slow=6.2,SNR=7.4						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**06 45 35.6**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.63**	**341**	P	**P**	**06 46 22.9**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.4,baz=45,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**58.63**	**341**	P	**P**	**06 46 23.0**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**06 46 31.9**	**+0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=75,slow=11,SNR=4.6						
AKTO	**Aktyubinsk**	**59.84**	**313**	P	**P**	**06 46 31.9**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**61.65**	**63**	P	**P**	**06 46 43.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=297,slow=9.7,SNR=8.3						
PDAR	**Pinedale Array**	**64.10**	**55**	P	**P**	**06 46 59.1**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=299,slow=4.1,SNR=5.6						
FINES	**FINESS Array B**	**64.90**	**336**	P	**P**	**06 47 04.5**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=36,slow=6.9,SNR=7.4						
FINES	**FINESS Array B**	**64.90**	**336**	P	**P**	**06 47 04.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**06 47 33.0**	**+2.2**
	comp=Z,1.3nm,0.9s,mb3.9,baz=27,slow=6.6,SNR=3.1						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**06 47 33.0**	**+2.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**76.73**	**61**	P	**P**	**06 48 16.4**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=300,slow=3.8,SNR=10.0						
TXAR	**Lajitas Array**	**76.73**	**61**	P	**P**	**06 48 16.4**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC ***20*** *06:37:42.5±0.5, 46.30N×154.33E, h0km, mb4.5/21, mb1 4.7/22, mb1mx4.6/26, mbtmp4.5/22, ML4.4/1, MS3.9/7, Ms1 3.8/7, ms1mx3.5/21, Error ellipse: s-maj=16.4km s-min=13.4km az=157.0*

NEIC ***20*** *06:37:44.1±0.2, 46.25N×154.32E, h10km, mb4.9/66, Error ellipse: s-maj=6.1km s-min=3.4km az=166.0*

BJI ***20*** *06:37:44.8, 4642N×15389E, h10km, mB5.0, mb5.0, Ms4.5, Msz4.2*

SKHL ***20*** *06:37:45.8±3.0, 4658N×153.97E, h55km±33km, mb5.3/3, mbh5.9/1, Ms4.4/4, msh4.6/1*

ISCJB ***20*** *06:37:45.7±0.2, 4630N±004×15436E±002, h32km, mb4.9/124, MS4.1/23, Error ellipse: s-maj=6.2km s-min=2.3km az=167.0*

MOS ***20*** *06:37:47.2±1.0, 4634N×154.24E, h42km, mb5.1/46, Error ellipse: s-maj=8.1km s-min=5.4km az=110.7*

SZGRF ***20*** *06:37:56.0, 4724N×152.96E, h33km, mb4.9, Kuril Islands, Russia*

ISC 20 06:37:48.3±0.2, 4639N±004×15431E±002, h34km, h34km±.7km:pP-P, n467, σ0§80/475, mb4.9/124, MS4.1/23, 87C-84D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.46**	**15**	*e*P	**Pn**	**06 38 51.7**	**-1.8**
SKR				AMB	AMB	06 38 56.1	
	80nm,0.5s						
SKR				AMB	AMB	06 38 56.1	
	100nm,0.6s						
SKR				*e*S	**Sn**	**06 39 38.9**	**-5.3**
SKR				A		06 39 45.4	
	250nm,0.5s						
SKR				A		06 39 45.4	
	170nm,0.5s						
SKR				A		06 39 45.4	
	110nm,0.5s						
SKR				AMS	AMS	06 40 50.0	
	3μm,14.0s						
SKR				AMS	AMS	06 40 50.0	
	4μm,16.0s						
KUR	**Kuril'sk**	**4.65**	**258**	*e*P	**Pn**	**06 38 51.5**	**-4.6**
KUR				AMB	AMB	06 38 53.5	
	167nm,0.6s						
KUR				AMB	AMB	06 38 53.5	
	228nm,0.6s						
KUR				AMB	AMB	06 38 53.5	
	319nm,0.6s						
KUR				*e*S	**Sn**	**06 39 43.0**	**-5.8**
KUR				A		06 39 46.8	
	447nm,0.7s						
KUR				A		06 39 46.8	
	602nm,0.7s						
KUR	**Kuril'sk**	**4.65**	**258**	*e*PN	**Pn**	**06 38 51.5**	**-4.6**
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,320nm,0.6s						
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.41**	**251**	*e*P	**Pn**	**06 39 20.0**	**-0.3**
YUK				AMB	AMB	06 42 43.0	
	comp=Z,5μm,10.0s						
PET	**Petropavlovsk**	**7.21**	**21**	*e*PN	**Pn**	**06 39 29.4**	**-1.8**
PET				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS	**Yuzh-Sakhalins**	**7.97**	**278**	*e*P	**Pn**	**06 39 42.9**	**+1.3**
YSS				AMB	AMB	06 39 45.8	
	comp=Z,90nm,1.0s						
YSS				AMB	AMB	06 39 45.8	
	comp=Z,60nm,1.0s						
YSS				*e*LQ		06 41 30.0	
YSS	**Yuzh-Sakhalins**	**7.97**	**278**	*e*PN	**Pn**	**06 39 42.9**	**+1.3**
YSS				S	**Sn**	**06 41 16.4**	**+5.8**
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=E,800nm,15.0s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.97**	**278**	*e*Pn	**Pn**	**06 39 42.7**	**+1.1**
ASAJ	**Asahikawa**	**8.57**	**259**	Pn	**Pn**	**06 39 49.6**	**-0.3**
	comp=Z,5.4nm,0.3s,baz=91,slow=13,SNR=16						
ASAJ				LR	LR	06 43 01.6	
	comp=Z,627nm,21.9s,baz=105,slow=37						
UGL	**Uglegorsk**	**8.68**	**292**	*e*P	**Pn**	**06 39 44.0**	**-7.4**
UGL				AMB	AMB	06 39 57.0	
	comp=Z,600nm,5.0s						
UGL				AMB	AMB	06 40 03.5	
	comp=Z,90nm,1.0s						
UGL				AMS	AMS	06 44 20.0	
	comp=Z,1μm,13.0s						
UGL				AMS	AMS	06 44 20.0	
	comp=Z,3μm,13.0s						
UGL				AMS	AMS	06 44 20.0	
	comp=Z,2μm,15.0s						
TYV	**Tymovskoe**	**8.92**	**304**	*e*P	**Pn**	**06 39 56.5**	**+1.8**
TYV				AMB	AMB	06 39 58.0	
	comp=Z,18nm,1.0s						
TYV				AMB	AMB	06 39 58.0	
	comp=Z,32nm,1.0s						
TYV				AMB	AMB	06 40 06.0	
	comp=Z,500nm,7.0s						
TYV				AMS	AMS	06 44 54.0	
	comp=Z,1μm,15.0s						
TYV				AMS	AMS	06 44 54.0	
	comp=Z,2μm,15.0s						
TYV				AMS	AMS	06 44 54.0	
	comp=Z,2μm,15.0s						
OKH	**Okha**	**10.24**	**319**	*e*L		06 43 08.0	
OKH				AMS	AMS	06 45 46.0	
	comp=Z,2μm,13.0s						
OKH				AMS	AMS	06 45 46.0	
	comp=Z,2μm,10.0s						
OKH				AMS	AMS	06 45 46.0	
	comp=Z,3μm,10.0s						
NKL	**Nikolayevsk**	**11.10**	**313**	*e*rx	rx	06 40 18.0	
NKL				*e*L		06 43 32.0	
NKL				AMS	AMS	06 46 24.0	
	comp=Z,1μm,14.0s						
NKL				AMS	AMS	06 46 24.0	
	comp=Z,2μm,14.0s						
MA2	**Magadan**	**13.38**	**352**	*e*PN	**Pn**	**06 40 55.0**	**-0.6**
KLR	**Kul'dur**	**15.41**	**289**	*e*P	**Pn**	**06 41 20.7**	**-2.3**
KLR				pmax	pmax		
	comp=E,90nm,2.0s						
KLR				pmax	pmax		
	comp=Z,90nm,2.0s						
KLR				MLR	MLR		
	comp=N,1μm,13.0s						
KLR				MLR	MLR		
	comp=E,900nm,13.0s						
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
MJAR	**Matsushiro Arr**	**15.54**	**236**	Pn	**Pn**	**06 41 19.7**	**-5.1**
	comp=Z,0.7nm,0.3s,baz=35,slow=12,SNR=18						
MJAR	**Matsushiro Arr**	**15.54**	**236**	Pn	**Pn**	**06 41 19.7**	**-5.1**
MAJO	**Matsushiro**	**15.54**	**236**	*e*P	**Pn**	**06 41 19.9**	**-4.9**
MAJO				pmax	pmax		
	comp=Z,68nm,1.0s						
MAJO	**Matsushiro**	**15.54**	**236**	*e*P	**Pn**	**06 41 19.9**	**-4.9**
	comp=Z,68nm,1.0s						
MAJO				*e*		06 41 28.4	
MAT	**Matsushiro**	**15.54**	**236**	P	**Pn**	**06 41 21.3**	**-3.5**
SEY	**Seymchan**	**16.61**	**357**	*e*P	**Pn**	**06 41 39.2**	**+0.7**
MDJ	**Mudanjiang**	**17.40**	**273**	P	**Pn**	**06 41 45.9**	**-2.4**
MDJ				AP	pP	06 41 50.3	-7.9
MDJ				XP	sP	06 41 51.6	-11
MDJ				S	**Sn**	**06 45 00.1**	**-0.8**
MDJ				PCS	PcS	06 50 04.0	-0.9
MDJ				AMB	AMB		
	comp=Z,78nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,70nm,3.1s						
MDJ				LR	LR		
	comp=N,200nm,20.9s						
MDJ				LR	LR		
	comp=E,282nm,20.9s						
MDJ				LR	LR		
	comp=Z,413nm,21.7s						
ZEA	**Zeya**	**18.78**	**303**	*e*P	**Pn**	**06 42 00.5**	**-4.7**
ZEA				AMB	AMB	06 42 06.6	
	comp=Z,24nm,0.9s						
ZEA				AMB	AMB	06 42 06.6	
	comp=Z,21nm,0.9s						
ZEA				AMB	AMB	06 42 06.6	
	comp=Z,28nm,1.2s						
ZEA				AMB	AMB	06 42 18.0	
	comp=Z,400nm,8.0s						
ZEA				AMB	AMB	06 42 18.0	
	comp=Z,400nm,6.0s						
ZEA				A		06 45 43.0	
	comp=Z,200nm,6.0s						
CN2	**Changchun**	**20.49**	**273**	*e*P	**P**	**06 42 18.3**	**-4.9**
CN2				*e*AP		06 42 25.3	
CN2				*e*XP	sP	06 42 28.8	-7.6
CN2				*e*S	**S**	**06 46 01.3**	**-9.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.1						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.1						
CN2				LR	LR		
	comp=Z,500nm,14.0s,MS4.0						
CLNS	**Chul'man**	**20.88**	**311**	*e*P	**P**	**06 42 27.2**	**-0.2**
CLNS				*e*		06 42 42.9	
CLNS				*e*S	**S**	**06 46 18.3**	**-0.1**
CLNS				*e*		06 46 30.2	
CLNS				*e*SS		06 46 53.9	
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				pmax	pmax		
	comp=N,20nm,1.1s						
CLNS				pmax	pmax		
	comp=E,18nm,1.1s						
CLNS				smax			
	comp=N,19nm,1.1s						
CLNS				smax			
	comp=E,17nm,1.1s						
CLNS				smax			
	comp=Z,8.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s,MS4.6						
NRGR	**Nerungri**	**20.91**	**310**	*e*P	**P**	**06 42 28.5**	**+0.7**
NRGR				S	**S**	**06 46 04.1**	**-15**
NRGR				smax			
	comp=N,6.0nm,0.2s						
YAK	**Yakutsk**	**21.07**	**327**	*e*P	**P**	**06 42 28.2**	**-1.3**
YAK				*e*S	**S**	**06 46 15.1**	**-7.0**
YAK				*e**SS	sS	06 46 27.2	-9.3
YAK				*e*SS		06 46 33.3	
YAK				*e*SSS		06 46 52.5	
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
YAK				pmax	pmax		
	comp=N,19nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
YAK				smax			
	comp=N,162nm,3.1s						
YAK				smax			
	comp=E,163nm,3.2s						
YAK				MLR	MLR		
	comp=Z,463nm,16.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,335nm,13.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,262nm,14.0s,MS4.0						
YAK	**Yakutsk**	**21.07**	**327**	*e*P	**P**	**06 42 27.9**	**-1.6**
	comp=E,31nm,1.0s,mb4.6						
KSRS	**Korea Array**	**21.49**	**255**	P	**P**	**06 42 34.4**	**+0.4**
	comp=E,25nm,0.9s,mb4.5,baz=60,slow=10,SNR=27						
KSRS				LR	LR	06 50 43.9	
	comp=E,191nm,18.8s,MS3.5,baz=47,slow=36						
KS15	**Wonju Array Si**	**21.52**	**255**	*e*P	**P**	**06 42 34.5**	**+0.2**
JNU	**Nakatsue**	**22.26**	**242**	LR	LR	06 51 25.3	
	comp=E,304nm,21.6s,MS3.7,baz=84,slow=37						
INCN	**Inchon**	**22.34**	**256**	*e*P	**P**	**06 42 42.9**	**-0.2**
	comp=E,98nm,0.9s,mb5.2						
BILL	**Bilibino**	**22.57**	**12**	*d* iP	**P**	**06 42 44.4**	**-1.1**
BILL				pmax	pmax		
	comp=Z,53nm,1.0s,mb4.9						
BILL	**Bilibino**	**22.57**	**12**	*e*P	**P**	**06 42 44.4**	**-1.1**
	comp=Z,74nm,1.3s,mb5.0						
HIA	**Hailar**	**23.26**	**290**	*e*P	**P**	**06 42 48.5**	**-4.3**
HIA				pmax	pmax		
	comp=Z,21nm,1.1s						
HIA	**Hailar**	**23.26**	**290**	*e*P	**P**	**06 42 48.5**	**-4.3**
	comp=Z,21nm,1.1s,mb4.5						
DL2	**Dalian**	**25.04**	**264**	P	**P**	**06 43 13.0**	**+3.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
BOD	**Bodaibo**	**26.85**	**310**	*e*P	**P**	**06 43 22.3**	**-3.3**
BOD				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.7						
CIT	**Chita**	**26.95**	**297**	*e*P	**P**	**06 43 24.5**	**-2.0**
CIT				pmax	pmax		
	comp=Z,49nm,2.1s,mb4.7						
BJI	**Beijing**	**28.30**	**271**	*e*P	**P**	**06 43 40.5**	**+1.9**
BJI				AMB	AMB		
	comp=Z,41nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,257nm,13.9s,MS4.3						
BJI				LR	LR		
	comp=E,428nm,14.5s,MS4.3						
BJI				LR	LR		
	comp=Z,234nm,24.6s						
BJI	**Beijing**	**28.30**	**271**	*e*P	**P**	**06 43 40.5**	**+1.9**
	comp=Z,41nm,0.9s,mb5.1						
BJI				S	**S**	**06 48 39.1**	**+16**
BJI				LR	LR		
	comp=Z,230nm,24.6s,MS3.7						
BJT	**Baijiatuau**	**28.32**	**271**	*e*P	**P**	**06 43 38.5**	**-0.2**
BJT				pmax	pmax		
	comp=Z,24nm,0.8s						
BJT	**Baijiatuau**	**28.32**	**271**	*e*P	**P**	**06 43 38.5**	**-0.2**
	comp=Z,24nm,0.8s,mb4.9						
TIA	**Tai'an**	**29.48**	**263**	⇑P	**P**	**06 43 49.4**	**+0.3**
SSE	**Sheshan**	**29.75**	**251**	P	**P**	**06 43 49.0**	**-2.4**
SSE				XP	sP	06 44 01.4	-3.9
SSE				S	**S**	**06 48 40.9**	**-4.5**
SSE				XS	sS	06 48 55.8	-5.7
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,125nm,4.5s						
SSE				LR	LR		
	comp=N,91nm,16.5s,MS3.6						
SSE				LR	LR		
	comp=E,86nm,16.6s,MS3.6						
SSE				LR	LR		
	comp=Z,163nm,14.5s,MS3.8						
SSE	**Sheshan**	**29.75**	**251**	P	**P**	**06 43 49.0**	**-2.4**
	comp=Z,29nm,0.8s,mb5.1						
SSE				sP	sP	06 44 01.4	-3.9
SSE				S	**S**	**06 48 40.9**	**-4.5**
SSE				sS	sS	06 48 55.8	-5.7
SSE				LR	LR		
	comp=Z,160nm,14.5s,MS3.8						
NJ2	**Nanjing**	**30.69**	**255**	*e*P	**P**	**06 43 59.8**	**+0.1**
NJ2				AP	pP	06 44 03.1	-6.4
NJ2				XP	sP	06 44 07.3	-6.3
NJ2				PP	PP	06 44 59.9	-9.4
NJ2				S	**S**	**06 48 59.5**	**-0.7**
NJ2				XS	sS	06 49 07.5	-8.7
NJ2				LR	LR		
	comp=N,1μm,15.5s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,13.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,450nm,14.2s,MS4.3						
HHC	**Hu-ho-hao-te**	**31.14**	**275**	*e*P	**P**	**06 44 03.8**	**0.0**
HHC				AP	pP	06 44 08.1	-5.4
HHC				XP	sP	06 44 10.8	-6.8
HHC				PP	PP	06 45 05.8	-8.6
HHC				PCP	PcP	06 46 57.8	-0.5
HHC				S	**S**	**06 49 09.0**	**+1.7**
HHC				XS	sS	06 49 15.3	-8.1
HHC				SCP	ScP	06 50 40.5	+1.9
HHC				SCS	ScS	06 54 35.4	-0.4
HHC				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,132nm,5.8s						
HHC				LR	LR		
	comp=N,298nm,12.6s,MS4.3						
HHC				LR	LR		
	comp=E,295nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=Z,338nm,12.3s,MS4.2						
ULN	**Ulaanbaatar**	**31.80**	**290**	*e*P	**P**	**06 44 08.3**	**-1.2**
ULN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**31.80**	**290**	*e*P	**P**	**06 44 08.3**	**-1.2**
	comp=Z,17nm,0.9s,mb4.9						
SONM	**Songino Array**	**32.23**	**290**	P	**P**	**06 44 12.1**	**-1.3**
	comp=Z,3.1nm,0.9s,mb4.1,baz=67,slow=7.5,SNR=15						
SONM				PcP	PcP	06 47 01.0	-0.3
	comp=Z,2.9nm,1.1s,baz=33,slow=3.5,SNR=5.9						
TLY	**Talaya**	**33.08**	**298**	*e*P	**P**	**06 44 19.7**	**-1.0**
TLY				*e*		06 47 03.1	
TLY				*e*S	**S**	**06 49 36.9**	**-0.5**
TLY				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
TLY				MLR	MLR		
	comp=Z,502nm,15.0s,MS4.3						
TLY	**Talaya**	**33.08**	**298**	*e*P	**P**	**06 44 19.4**	**-1.4**
	comp=Z,14nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**33.58**	**296**	*e*P	**P**	**06 44 23.8**	**-1.3**
ZAK				*e*		06 47 03.3	
IMA2	**Indian Mountai**	**33.62**	**35**	*e*P	**P**	**06 44 23.6**	**-1.8**
IMA2				*e*	pP	06 44 33.8	-1.4
GUMO	**Guam**	**33.65**	**197**	LR	LR	06 56 58.2	
	comp=Z,89nm,18.2s,MS3.5,baz=30,slow=34						
MCK	**McKinley**	**35.40**	**40**	*e*P	**P**	**06 44 40.5**	**-0.3**
	comp=Z,9.2nm,1.1s,mb4.6						
SML	**Sawmill**	**35.66**	**43**	*e*P	**P**	**06 44 43.0**	**-0.1**
SML				*e*	pP	06 44 52.6	-0.3
COLA	**College**	**35.91**	**38**	‖ *i*P	**P**	**06 44 45.1**	**-0.1**
COLA	**College**	**35.91**	**38**	*e*P	**P**	**06 44 45.0**	**-0.2**
	comp=Z,31nm,1.0s,mb5.2						
COLA				*e*	pP	06 44 55.3	+0.3
XAN	**Xi'an**	**36.31**	**267**	P	**P**	**06 44 48.6**	**-0.1**
XAN				AP	pP	06 44 59.1	+0.6
XAN				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
XAN				LR	LR		
	comp=N,140nm,12.2s,MS4.1						
XAN				LR	LR		
	comp=E,150nm,14.2s,MS4.1						
XAN				LR	LR		
	comp=Z,210nm,14.5s,MS4.0						
LZH	**Lanzhou**	**38.73**	**273**	*e*P	**P**	**06 45 10.5**	**+1.4**
LZH				AP	pP	06 45 18.5	-0.5
LZH				XP	sP	06 45 21.0	-2.0
LZH				PP	PP	06 46 44.5	+6.4
LZH				PCP	PcP	06 47 21.6	+1.2
LZH				AMB	AMB		
	comp=Z,111nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,370nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,16.4s,MS4.9						
LZH	**Lanzhou**	**38.73**	**273**	*e*P	**P**	**06 45 10.5**	**+1.4**
LZH				*SP	sP	06 45 21.0	-2.0
LZH						06 46 44.5	
LZH						06 47 21.6	
LZH				*e*S	**S**	**06 51 04.2**	**+0.3**
LZH				*SS	sS	06 51 21.0	+0.8
LZH				SS	SS	06 53 42.0	-13
LZH				pmax	pmax		
	comp=Z,111nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,2μm,16.4s,MS4.9						
LZH	**Lanzhou**	**38.73**	**273**	*e*P	**P**	**06 45 10.5**	**+1.4**
	comp=Z,111nm,1.5s,mb5.4						
LZH				pP	pP	06 45 18.5	-0.5
LZH				sP	sP	06 45 21.0	-2.0
LZH				PP	PP	06 46 44.5	+6.4
LZH				PcP	PcP	06 47 21.6	+1.2
LZH				*eS	**S**	**06 51 04.2**	**+0.3**
LZH				sS	sS	06 51 21.0	+0.8
LZH				SS	SS	06 53 42.0	-13
LZH				LR	LR		
	comp=Z,2μm,16.4s,MS4.9						
EGAK	**Eagle**	**38.77**	**38**	*e*P	**P**	**06 45 09.0**	**-0.5**
	comp=Z,36nm,1.0s,mb5.1						
EGAK				*e*	pP	06 45 19.0	-0.3
DAWY	**Dawson**	**39.60**	**39**	*e*P	**P**	**06 45 16.3**	**-0.1**
DAWY				*e*	pP	06 45 26.8	+0.5
GTA	**Gaotai**	**39.84**	**280**	*e*P	**P**	**06 45 19.3**	**+0.9**
GTA				AP	pP	06 45 28.5	+0.2

GTA PP PP 06 46 55.9 +5.6
GTA PCP PcP 06 47 24.6 +0.7
GTA AMB AMB
comp=Z,26nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,202nm,6.1s
GTA LR LR
comp=N,247nm,14.4s,MS4.3
GTA LR LR
comp=E,243nm,14.5s,MS4.3
GTA LR LR
comp=Z,353nm,14.1s,MS4.4
INK Inuvik 41.52 32 P **P 06 45 31.5 -0.7**
comp=Z,7.7nm,0.7s,mb4.5,baz=299,slow=6.0,SNR=17
INK Inuvik 41.52 32 *eP* **P 06 45 32.1 -0.1**
comp=Z,230nm,0.6s,mb6.0
INK *e* pP 06 45 41.9 -0.3
CD2 Chengdu 41.67 267 P **P 06 45 32.4 -1.1**
CD2 AP pP 06 45 42.3 -1.2
CD2 XP sP 06 45 46.3 -1.2
CD2 PP PP 06 47 12.6 +2.4
CD2 S **S 06 51 46.3 -1.6**
CD2 XS sS 06 52 02.4 -1.9
CD2 SS SS 06 54 46.8 -7.2
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,130nm,4.8s
CD2 LR LR
comp=N,270nm,12.0s,MS4.8
CD2 LR LR
comp=E,710nm,12.0s,MS4.8
CD2 LR LR
comp=Z,190nm,14.4s,MS4.1
GYA Guiyang 42.45 259⇑ *i*P **P 06 45 39.5 -0.3**
GYA AP pP 06 45 48.6 -1.2
GYA XP sP 06 45 52.8 -1.0
GYA PP PP 06 47 21.5 +3.0
GYA PCP PcP 06 47 34.3 +1.9
GYA SCP ScP 06 51 21.0 +0.5
GYA S **S 06 51 59.0 -0.4**
GYA XS sS 06 52 15.1 -0.7
GYA SS SS 06 55 01.5 -7.8
GYA SCS ScS 06 55 37.4 -1.5
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,140nm,5.0s
GYA LR LR
comp=N,540nm,16.8s,MS4.7
GYA LR LR
comp=E,570nm,17.0s,MS4.7
GYA LR LR
comp=Z,610nm,16.6s,MS4.6
ZAL Zalesovo 43.50 306 P **P 06 45 47.0 -1.4**
comp=Z,3.3nm,0.6s,mb4.3,baz=54,slow=5.5,SNR=10.0
ZAL PcP PcP 06 47 34.9 -1.0
comp=Z,2.8nm,0.7s,baz=80,slow=3.4,SNR=6.7
ZAL LR LR 07 07 16.0
comp=Z,297nm,18.3s,MS4.2,baz=42,slow=41
ZAL Zalesovo 43.50 306 P **P 06 45 47.0 -1.4**
ZAL 06 47 34.9
ZAL Zalesovo 43.50 306 P **P 06 45 47.0 -1.3**
ZAL PcP PcP 06 47 34.9 -1.0
ZAL LR LR 07 07 16.0
NVS Novosibirsk 44.06 308 *eP* **P 06 45 50.8 -2.0**
NVS pmax pmax
comp=N,25nm,2.3s
NVS pmax pmax
comp=E,58nm,2.3s
NVS pmax pmax
comp=Z,60nm,2.3s,mb4.9
DLBC Dease Lake 45.25 46 *eP* **P 06 46 03.2 +0.8**
QIZ Qiongzhong 45.47 248 *eP* **P 06 46 01.4 -2.7**
QIZ S **S 06 52 44.4 +0.9**
QIZ LR LR
comp=E,181nm,18.9s
QIZ LR LR
comp=Z,166nm,19.4s,MS4.0
WMQ Urumqi 45.83 292⇑ *i*P **P 06 46 07.4 +0.5**
WMQ AP pP 06 46 11.9 -5.0
WMQ XP sP 06 46 14.4 -6.5
WMQ PCP PcP 06 47 45.4 +1.5
WMQ PP PP 06 47 54.9 +0.4
WMQ PPP 06 48 38.3
WMQ S **S 06 52 49.9 +1.4**
WMQ XS sS 06 52 57.8 -7.2
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,131nm,4.2s
WMQ LR LR
comp=N,184nm,21.2s,MS4.1
WMQ LR LR
comp=E,146nm,24.7s,MS4.1
WMQ LR LR
comp=Z,185nm,17.6s
KMI Kunming 45.99 261 P **P 06 46 08.4 +0.2**
KMI AMB AMB
comp=Z,17nm,1.4s,mb4.8
KMI LR LR
comp=Z,61nm,21.4s,MS3.5
KMI Kunming 45.99 261 P **P 06 46 08.4 +0.2**
comp=Z,17nm,1.4s,mb4.8
KMI LR LR
comp=Z,60nm,21.4s,MS3.5
MKAR Makanchi Array 47.84 298 P **P 06 46 21.8 -0.8**
comp=Z,15nm,0.9s,mb5.0,baz=65,slow=8.6,SNR=45
MKAR PcP PcP 06 47 50.7 -0.3
comp=Z,2.9nm,0.7s,baz=96,slow=2.2,SNR=4.7
KURK Kurchatov 48.25 304 P **P 06 46 24.5 -1.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
YKA Yellowknife Ar 50.72 37 P **P 06 46 44.7 +0.1**
comp=Z,1.5nm,0.5s,mb4.1,baz=294,slow=7.1,SNR=6.5
YKA LR LR 07 08 48.3
comp=Z,42nm,18.7s,MS3.5,baz=40,slow=37
YKA Yellowknife Ar 50.72 37 P **P 06 46 44.7 +0.1**
YKA LR LR 07 08 48.3
RES Resolute Bay 50.91 19 *eP* **P 06 46 46.0 -0.1**
comp=Z,624nm,1.2s
LSA Lhasa 51.12 274 P **P 06 46 49.8 +2.2**
LSA Lhasa 51.12 274 *eP* **P 06 46 49.1 +1.5**
LSA pmax pmax
comp=Z,21nm,0.8s,mb5.1
LSA Lhasa 51.12 274 *eP* **P 06 46 49.1 +1.4**
comp=Z,21nm,0.8s,mb5.1
VOSK Vostochnaya 51.55 310 P **P 06 46 49.5 -1.4**
VOSK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BVA0 Borovoye Array 51.72 310 *i* P **P 06 46 51.7 -0.5**
BVAR Borovoye Array 51.72 310 P **P 06 46 51.9 -0.2**
comp=Z,6.6nm,0.6s,mb4.7,baz=54,slow=8.4,SNR=28
BVAR PcP PcP 06 48 04.8 -0.4
comp=Z,4.2nm,0.9s,baz=46,slow=6.4,SNR=4.9
BRVK Borovoye 51.76 310 P **P 06 46 52.1 -0.3**
SNR=6.0
BRVK Borovoye 51.76 310 *eP* **P 06 46 51.5 -1.0**
BRVK pmax pmax
comp=Z,13nm,0.7s,mb5.0
BRVK Borovoye 51.76 310 *eP* **P 06 46 51.2 -1.3**
comp=Z,13nm,0.7s,mb5.0
TKM2 Tokmak 2 53.90 297 P **P 06 47 09.4 +1.2**
SNR=7.3
CHMS Chumysh 54.38 297 P **P 06 47 12.5 +0.8**
SNR=5.4
USP Ospenovka 54.38 298 P **P 06 47 12.8 +1.0**
SNR=22
KBK Karagaybulak 54.44 297 P **P 06 47 13.4 +1.2**
SNR=7.8
C05A Tolt Reservoir 54.48 56 ⇓P **P 06 47 11.9 -0.6**
baz=54
A07A Ashnola River, 54.50 54 ⇓P **P 06 47 12.0 -0.6**
baz=54
FRU Bishkek 54.55 297 *eP* **P 06 47 14.0 +1.0**
KZA Kyzart 54.57 296 P **P 06 47 15.5 +2.4**
SNR=9.0
AAK Ala-Archa 54.73 297⇑P **P 06 47 14.5 +0.2**
SNR=7.6
AAK Ala-Archa 54.73 297 *eP* **P 06 47 13.5 -0.8**
AAK pmax pmax
comp=Z,16nm,0.8s,mb5.1
AAK Ala-Archa 54.73 297 *eP* **P 06 47 13.7 -0.6**
comp=Z,19nm,0.8s,mb5.2
EKS2 Erkin-Say 55.16 298 P **P 06 47 17.9 +0.5**
SNR=13

A08A Turner Farm, O 55.16 53 ⇓P **P 06 47 17.2 -0.3**
baz=55
I02A Mapleton 55.23 60 ⇓P **P 06 47 18.1 +0.2**
baz=55
B08A Colville Reser 55.45 54 ⇓P **P 06 47 18.2 -1.3**
baz=55
A09A Danville 55.53 53 ⇓P **P 06 47 19.8 -0.3**
baz=55
KSH Kashi 55.55 293 P **P 06 47 22.1 +1.9**
KSH *e*AP pP 06 47 26.4 -4.0
KSH *e*XP sP 06 47 29.4 -5.0
KSH *e*PCP PcP 06 48 22.5 +2.7
KSH *e*PP PP 06 49 27.1 +2.7
KSH *e*PPP 06 50 04.8
KSH *e*SCP ScP 06 52 19.8 +3.7
KSH *e*S **S 06 55 03.1 -0.3**
KSH *e*XS sS 06 55 10.8 -9.4
KSH *e*PS 06 55 20.0
KSH *e*SCS ScS 06 57 07.3 +0.5
KSH *e*SS SS 06 58 47.3 -1.3
J02A Umpqua 55.73 61⇑P **P 06 47 22.1 +0.6**
baz=56
JIRN Jiri 55.80 276 *eP* **P 06 47 23.3 +1.3**
comp=Z,62nm,1.0s,mb5.6
ARU Arti 55.83 318 *eP* **P 06 47 22.0 -0.2**
ARU *e* 06 49 24.8
ARU *e*S **S 06 55 08.4 +1.3**
ARU Arti 55.83 318 *eP* **P 06 47 21.8 -0.4**
comp=Z,26nm,0.5s,mb5.5
H04A Detroit Lake 55.83 59⇑P **P 06 47 22.8 +0.5**
baz=56
GUN Gumba 55.86 276 *eP* **P 06 47 23.4 +1.0**
comp=Z,68nm,0.9s,mb5.7
EDM Edmonton 55.97 46 P **P 06 47 23.1 -0.1**
EDM Edmonton 55.97 46 *eP* **P 06 47 23.0 -0.2**
B09A Rice 56.08 53 ⇓P **P 06 47 22.0 -2.0**
baz=56
E07A Sunnyside 56.15 56⇑P **P 06 47 24.6 +0.1**
baz=56
I04A Tendick Farm, 56.20 60⇑P **P 06 47 25.4 +0.6**
baz=56
KKN Kakani 56.34 276 *eP* **P 06 47 26.9 +1.0**
comp=Z,181nm,1.4s,mb5.9
C09A Chrisman Ranch 56.35 54 ⇓P **P 06 47 25.0 -0.9**
baz=56
PKI Pulchoki 56.39 276 *eP* **P 06 47 26.9 +0.7**
comp=Z,99nm,1.4s,mb5.7
G06A Carlson Farm, 56.44 58⇑P **P 06 47 27.0 +0.5**
baz=56
F07A Phinny Hill Vi 56.48 57 ⇓P **P 06 47 28.0 +1.2**
baz=56
DMN Daman 56.58 276 *eP* **P 06 47 28.8 +1.3**
comp=Z,161nm,1.3s,mb5.9
E08A Dirr Farm, El 56.64 56⇑P **P 06 47 28.1 +0.1**
baz=56
GKN Gorkha 56.65 277 *eP* **P 06 47 29.1 +1.0**
comp=Z,156nm,1.3s,mb5.9
I05A Bend 56.67 59 ⇓P **P 06 47 28.7 +0.5**
baz=56
J04A Umpqua Nationa 56.69 60⇑P **P 06 47 28.5 +0.2**
baz=56
D09A Jones Farm, Ri 56.75 55⇑P **P 06 47 28.5 -0.2**
baz=57
KK31 Karatay Array 56.89 300 *i* P **P 06 47 29.8 0.0**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KKAR Karatay Array 56.89 300 *i* P **P 06 47 29.8 0.0**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
H06A Lindquist Farm 56.90 58⇑P **P 06 47 28.9 -0.9**
baz=57
G07A Ruggs Ranch, H 56.98 57 ⇓P **P 06 47 29.9 -0.5**
baz=57
B11A Sandpoint 57.05 53⇑P **P 06 47 30.3 -0.6**
baz=57
E09A Wood Farm, Sta 57.15 55⇑P **P 06 47 31.4 -0.2**
baz=57
A12A Yaak River Ran 57.16 52 ⇓P **P 06 47 31.7 +0.1**
baz=57
YBH Yreka Blue Hor 57.19 62⇑P **P 06 47 31.8 -0.1**
baz=57
J05A Fort Rock 57.19 60⇑P **P 06 47 32.1 +0.2**
baz=57
F08A Pendleton 57.20 56 ⇓P **P 06 47 31.0 -0.9**
baz=57
M02C Callahan 57.29 63 ⇓P **P 06 47 33.6 +1.0**
baz=57
G08A Pilot Rock 57.38 57 ⇓P **P 06 47 33.0 -0.2**
baz=57
I06A Prineville 57.42 59⇑P **P 06 47 35.4 +1.9**
baz=57
L04A Klamath Falls 57.43 61 ⇓P **P 06 47 33.5 -0.1**
baz=57
KOLN Koldanda 57.51 277 *eP* **P 06 47 35.3 +1.2**
comp=Z,94nm,1.1s,mb5.7
M04C Macdoel 57.69 62 ⇓P **P 06 47 35.3 -0.1**
baz=58
K05A Summer Lake 57.71 60 ⇓P **P 06 47 36.1 +0.6**
baz=58
E10A Myers Farm, Un 57.75 55 ⇓P **P 06 47 34.9 -0.9**
baz=58
I07A Izee 57.76 58⇑P **P 06 47 36.4 +0.5**
baz=58
J06A Christmas Vall 57.85 59 ⇓P **P 06 47 36.8 +0.2**
baz=58
D11A Klaveano Farm, 57.87 54⇑P **P 06 47 35.7 -0.9**
baz=58
KEV Kevo 57.95 341 *eP* **P 06 47 36.5 -0.8**
WDC Whiskeytown Da 57.96 63⇑P **P 06 47 36.5 -0.7**
baz=58
C12A Trout Creek 57.96 53⇑P **P 06 47 37.4 +0.1**
baz=58
F10A Beach Ranch, E 57.98 55 ⇓P **P 06 47 37.6 +0.1**
baz=58
APA Apatity 57.99 337⇓ *i*P **P 06 47 36.9 -0.6**
APA *i* pP 06 47 49.0 +1.2
APA pmax pmax
comp=Z,29nm,1.0s,mb5.3
H08A Prairie City 57.99 57 ⇓P **P 06 47 37.0 -0.5**
baz=58
WALA Waterton Lakes 58.03 51 *eP* **P 06 47 37.3 -0.5**
comp=Z,12nm,1.1s,mb4.8
O02C Red Bluff 58.04 64⇑P **P 06 47 37.8 0.0**
baz=58
K06A Valley Falls 58.06 60⇑P **P 06 47 37.9 -0.1**
baz=58
B13A Whitefish 58.13 52 P **P 06 47 39.0 +0.5**
baz=58,SNR=8.8
L05A Lakeview 58.15 61⇑P **P 06 47 39.2 +0.6**
baz=58
M05C Lookout 58.36 62 ⇓P **P 06 47 40.0 -0.1**
baz=58
GASB Alder Springs 58.39 64⇑P **P 06 47 41.7 +1.4**
baz=58
I08A Drewsey 58.41 58 ⇓P **P 06 47 40.6 +0.2**
baz=58
ARCES ARCESS Array B 58.46 341 P **P 06 47 40.5 -0.3**
comp=Z,15nm,1.1s,mb5.0,baz=28,slow=6.4,SNR=9.9
C13A Hot Springs 58.48 52⇑P **P 06 47 40.6 -0.3**
baz=58
BOK Bokaro 58.48 272 *eP* **P 06 47 39.8 -1.1**
BOK AMb AMB 06 47 43.0
comp=Z,25nm,1.4s,mb5.0
HATC Hat Creek Radi 58.48 62 ⇓P **P 06 47 40.6 -0.4**
baz=58
H09A Durkee 58.49 57⇑P **P 06 47 41.2 +0.2**
baz=58
MOD Modoc 58.55 61 *eP* **P 06 47 41.2 -0.2**
comp=Z,6.6nm,1.0s,mb4.6
MOD Modoc 58.55 61⇑P **P 06 47 41.0 -0.4**
baz=58
HOPS Hopland 58.56 65 ⇓P **P 06 47 41.2 -0.3**
baz=58
BMO Blue Mountains 58.59 56 *eP* **P 06 47 41.8 +0.1**
comp=Z,13nm,1.3s,mb4.8
F11A Grangeville 58.64 55 ⇓P **P 06 47 41.5 -0.6**
baz=58
K07A Rock Creek Ran 58.72 59⇑P **P 06 47 42.1 -0.5**
baz=59
J08A Circle Bar Ran 58.79 58 ⇓P **P 06 47 42.2 -0.8**
baz=59
I09A Lost Marbles R 58.85 57 ⇓P **P 06 47 43.7 +0.2**
baz=59
M06C Likely Place G 58.86 61 ⇓P **P 06 47 43.5 -0.1**
baz=59
G11A Walters Elk Ra 58.86 55 ⇓P **P 06 47 43.0 -0.6**
baz=59

O04C Chester 59.01 63⇑P **P 06 47 44.9 +0.3**
baz=59,SNR=5.7
MNRC McLaughlin Nat 59.02 65 ⇓P **P 06 47 44.7 0.0**
baz=59
TMCR Tamitsa 59.03 333 *eP* **P 06 47 44.6 -0.2**
ELFS Eagle Lake Fie 59.05 62 ⇓P **P 06 47 44.8 -0.1**
baz=59
L07A Adell 59.06 60⇑P **P 06 47 45.5 +0.6**
baz=59
K08A Mann Creek Ran 59.15 59 P **P 06 47 46.3 +0.7**
baz=59,SNR=6.0
ORV Oroville 59.21 64 ⇓P **P 06 47 45.3 -0.7**
baz=59
J09A Fry Pan Ranch, 59.22 58⇑P **P 06 47 45.5 -0.5**
baz=59
SUTB Sutter Butte 59.23 64 ⇓P **P 06 47 44.7 -1.4**
baz=59
F12A Elk City 59.23 55 P **P 06 47 46.6 +0.5**
baz=59,SNR=8.3
AB31 Akbulak array 59.29 311 *i* P **P 06 47 46.1 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MSO Missoula 59.32 53 *eP* **P 06 47 46.7 0.0**
comp=Z,11nm,1.1s,mb4.8
MSO *e* pP 06 47 56.3 -0.8
O05C Quincy 59.33 63⇑P **P 06 47 47.1 +0.3**
baz=59
OHCM Honcut 59.35 64 *eP* **P 06 47 46.8 -0.2**
OHCM *e* pP 06 47 56.6 -0.6
D14A Greenough 59.41 52 P **P 06 47 47.5 +0.1**
baz=59,SNR=12
E13A Victor 59.42 53⇑P **P 06 47 46.8 -0.6**
baz=59
H11A Donnelly 59.42 56 P **P 06 47 47.4 -0.1**
baz=59,SNR=12
Q03C Winters 59.44 65⇑P **P 06 47 47.9 +0.3**
baz=59
N06A Buffalo Meadow 59.52 62⇑P **P 06 47 48.4 +0.3**
baz=59
M07A Soldier Meadow 59.54 61 P **P 06 47 49.0 +0.8**
baz=59,SNR=9.2
L08A Fields 59.55 59 ⇓P **P 06 47 48.6 +0.2**
baz=59
AKTK Aktyubinsk 59.58 313 P **P 06 47 48.5 0.0**
AKTO Aktyubinsk 59.58 313 P **P 06 47 48.5 0.0**
comp=Z,7.2nm,0.6s,mb4.9,baz=62,slow=6.5,SNR=22
K09A Rome 59.62 59 ⇓P **P 06 47 49.4 +0.6**
baz=60
CHMT Chamberlain Mo 59.65 53 *eP* **P 06 47 49.2 +0.1**
BEKR Beckwourth 59.73 63 ⇓P **P 06 47 49.2 -0.4**
baz=60
F13A Darby 59.73 54 ⇓P **P 06 47 49.7 +0.1**
baz=60
E14A Clinton 59.82 53 P **P 06 47 50.3 +0.1**
baz=60,SNR=6.3
O06A Flanigan 59.87 62 P **P 06 47 50.8 +0.2**
baz=60,SNR=5.8
P05C Yuba Gap, Truc 59.91 63⇑P **P 06 47 50.1 -0.7**
baz=60
D15A Lincoln 59.98 52⇑P **P 06 47 51.0 -0.3**
baz=60
N07B Gerlach 60.02 61⇑P **P 06 47 52.2 +0.6**
baz=60
L09A Wilkinson Ranc 60.06 59⇑P **P 06 47 51.7 -0.1**
baz=60
LAVA Lava Cap Winer 60.16 64 P **P 06 47 52.5 -0.1**
baz=60,SNR=6.1
F14A Wisdom 60.25 54⇑P **P 06 47 52.6 -0.6**
baz=60
E15A Deer Lodge 60.28 53 P **P 06 47 53.5 +0.2**
baz=60,SNR=7.7
WCN Washoe City 60.44 63⇑P **P 06 47 54.1 -0.4**
baz=60
O07A Toulon 60.45 62 P **P 06 47 55.1 +0.6**
baz=60,SNR=8.6
ORR Orenburg 60.48 315 *eP* **P 06 47 54.2 -0.6**
ORR pmax pmax
comp=Z,40nm,1.0s,mb5.4
ORR MLR MLR
comp=Z,250nm,16.0s,MS4.5
N08A GE Springer Mi 60.53 61 ⇓P **P 06 47 54.3 -0.8**
baz=60
M09A Marrel Ranch, 60.55 60⇑P **P 06 47 54.8 -0.4**
baz=60
R05C Kirkwood Meado 60.60 64⇑P **P 06 47 56.6 +1.0**
baz=60
F15A Butte 60.72 53 P **P 06 47 57.0 +0.6**
baz=61,SNR=11
LRM Limekiln Ridge 60.76 53 *eP* **P 06 47 56.8 +0.2**
LRM *e* pP 06 48 06.7 -0.2
CMB Columbia Colle 60.82 64 *eP* **P 06 47 56.7 -0.3**
CMB pmax pmax
comp=Z,23nm,1.7s,mb5.0
CMB Columbia Colle 60.82 64 *eP* **P 06 47 56.7 -0.3**
comp=Z,23nm,1.7s,mb5.0
CMB Columbia Colle 60.82 64⇑P **P 06 47 57.7 +0.7**
baz=61,SNR=5.2
N09A Rock Creek Ran 60.85 60 ⇓P **P 06 47 57.2 -0.1**
baz=61
EGMT Eagleton 60.87 50 *eP* **P 06 47 57.1 -0.3**
comp=Z,14nm,1.1s,mb5.0
EGMT Eagleton 60.87 50⇑P **P 06 47 57.0 -0.3**
baz=61
HLID Hailey 61.03 56 *eP* **P 06 47 57.6 -0.8**
comp=Z,8.5nm,1.3s,mb4.7
HLID *e* pP 06 48 07.6 -1.2
HLID Hailey 61.03 56 ⇓P **P 06 47 59.0 +0.5**
baz=61,SNR=5.7
M10A I.L. Ranch, Tu 61.03 59 P **P 06 47 59.5 +1.0**
baz=61,SNR=5.3
HAST UC Hastings Re 61.10 66 ⇓P **P 06 48 00.0 +1.1**
baz=61
R06C Coleville 61.10 63⇑P **P 06 47 59.3 +0.3**
baz=61
WAKR Walker 61.12 63 *eP* **P 06 48 00.1 +1.0**
G15A Dillon 61.14 54 ⇓P **P 06 47 59.0 -0.2**
baz=61
S06C San Francisco 61.25 64⇑P **P 06 47 59.6 -0.3**
baz=61
NDI New Delhi 61.28 282 *eP* **P 06 48 00.8 +0.6**
NDI AMb AMB 06 48 02.3
comp=Z,27nm,1.1s,mb5.3
O09A Fish Creek Ran 61.47 61 ⇓P **P 06 48 02.1 +0.6**
baz=61
M11A Holland Ranch, 61.53 59⇑P **P 06 48 01.7 -0.1**
baz=61
R07C Lee Vining 61.62 64 P **P 06 48 03.1 +0.7**
baz=62,SNR=6.2
O10A Cortez Mining, 61.81 60 ⇓P **P 06 48 04.0 +0.3**
baz=62
Q08A Gabbs 61.83 62 P **P 06 48 04.3 +0.4**
baz=62,SNR=8.6
NVAR Mina Array Bea 61.87 63 P **P 06 48 04.5 +0.3**
comp=Z,4.0nm,0.9s,mb4.6,baz=292,slow=7.1,SNR=17
T06C Millerton Lake 61.88 65⇑P **P 06 48 03.5 -0.6**
baz=62
P09A Austin 61.88 61⇑P **P 06 48 04.2 -0.1**
baz=62
KCC Kaiser Creek 61.92 64 ⇓P **P 06 48 05.2 +0.7**
baz=62
QLMT Earthquake Lak 61.93 54 *eP* **P 06 48 05.3 +0.7**
QLMT *e* pP 06 48 14.7 -0.2
R08A Mina 62.04 63⇑P **P 06 48 05.3 0.0**
baz=62
M12A Wells 62.06 58 ⇓P **P 06 48 06.0 +0.6**
baz=62
P10A Eureka 62.25 61 ⇓P **P 06 48 07.3 +0.6**
baz=62
GCMT Greycliff 62.30 52 *eP* **P 06 48 06.9 -0.1**
GCMT *e* pP 06 48 17.3 -0.1
N12A Clover Valley, 62.34 59 ⇓P **P 06 48 07.9 +0.6**
baz=62
O11A Cowboy Ranch, 62.42 60⇑P **P 06 48 07.7 -0.1**
baz=62
YFT Old Faithful 62.50 54 *eP* **P 06 48 10.0 +1.6**
HELL Mitchell Peak, 62.51 65 P **P 06 48 08.0 -0.5**
baz=62,SNR=7.8
S08C White Mtn Res 62.53 64 ⇓P **P 06 48 08.2 -0.3**
baz=62
M13A Montello 62.53 58 P **P 06 48 08.6 0.0**
baz=62,SNR=7.3
RCTC Rector, Farmer 62.61 65⇑P **P 06 48 09.1 +0.1**
baz=62
P11A Circle Ranch, 62.72 60 ⇓P **P 06 48 09.1 -0.7**
baz=63
R09A Tonopah 62.74 62 P **P 06 48 09.9 0.0**
baz=63,SNR=14

TPH	**Tonopah**	**62.75**	**63**	*e*P		**P**	**06 48 11.6**	**+1.5**
TPH					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0							
TPH	**Tonopah**	**62.75**	**63**	*e*P		**P**	**06 48 11.6**	**+1.5**
	comp=Z,6.8nm,0.6s,mb5.0							
IMW	**Indian Meadow**	**62.79**	**54**	*e*P		**P**	**06 48 11.4**	**+1.0**
	comp=Z,11nm,1.1s,mb4.9							
IMW				*e*		pP	06 48 19.4	-1.3
FLWY	**Flagg Ranch**	**62.81**	**54**	*e*P		**P**	**06 48 11.1**	**+0.6**
	comp=Z,15nm,1.1s,mb5.0							
FLWY				*e*		pP	06 48 21.6	+0.9
O12A	**Currie**	**62.88**	**59**	P		**P**	**06 48 11.3**	**+0.5**
	baz=63,SNR=6.3							
RRI2	**Red Ridge**	**62.93**	**55**	*e*P		**P**	**06 48 11.4**	**+0.3**
RRI2				*e*		pP	06 48 22.0	+0.5
S09A	**Goldfield**	**62.97**	**63**	⇑P		**P**	**06 48 11.2**	**-0.3**
	baz=63							
MOOW	**Moose Ponds**	**63.00**	**54**	*e*P		**P**	**06 48 12.1**	**+0.4**
	comp=Z,17nm,1.5s,mb5.0							
MOOW				*e*		pP	06 48 22.6	+0.6
VES	**Vestal, Richgr**	**63.00**	**66**	⇓P		**P**	**06 48 11.4**	**-0.3**
	baz=63							
PKM	**Peak Mountain**	**63.13**	**67**	⇑P		**P**	**06 48 12.4**	**-0.2**
	baz=63							
LOHW	**Long Hollow**	**63.16**	**54**	*e*P		**P**	**06 48 13.8**	**+1.1**
	comp=Z,16nm,1.2s,mb5.0							
SNOW	**Snow King Moun**	**63.17**	**54**	*e*P		**P**	**06 48 13.4**	**+0.6**
	comp=Z,21nm,1.2s,mb5.1							
SNOW				*e*		pP	06 48 23.9	+0.8
REDW	**Red Top Meadow**	**63.18**	**55**	*e*P		**P**	**06 48 13.8**	**+0.9**
	comp=Z,25nm,1.2s,mb5.2							
R10A	**Warm Springs**	**63.18**	**62**	⇓P		**P**	**06 48 12.9**	**0.0**
	baz=63							
Q11A	**Duckwater**	**63.23**	**61**	⇑P		**P**	**06 48 12.8**	**-0.4**
	baz=63							
P12A	**McGill**	**63.28**	**60**	⇓P		**P**	**06 48 13.5**	**-0.1**
	baz=63							
GRAC	**Grapevine Rang**	**63.34**	**64**	⇑P		**P**	**06 48 13.3**	**-0.6**
	baz=63							
ISA	**Isabella**	**63.50**	**65**	*e*P		**P**	**06 48 14.2**	**-0.8**
ISA	**Isabella**	**63.50**	**65**	⇓P		**P**	**06 48 14.4**	**-0.6**
	baz=63							
SPUT	**South Promonto**	**63.57**	**57**	*e*P		**P**	**06 48 12.4**	**-3.0**
LAO	**LASA Array**	**63.57**	**49**	*e*P		**P**	**06 48 15.8**	**+0.3**
	comp=Z,17nm,1.1s,mb5.0							
LAO				*e*		pP	06 48 26.2	+0.4
Q12A	**Willow Creek R**	**63.60**	**60**	⇑P		**P**	**06 48 16.3**	**+0.6**
	baz=63							
ARVC	**Arvin**	**63.61**	**66**	⇑P		**P**	**06 48 14.8**	**-0.9**
	baz=64							
DAC	**Darwin (Calif)**	**63.66**	**64**	*e*P		**P**	**06 48 14.8**	**-1.2**
DAC					pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6							
DAC	**Darwin (Calif)**	**63.66**	**64**	*e*P		**P**	**06 48 14.8**	**-1.2**
	comp=Z,10nm,1.7s,mb4.6							
MPMC	**Manual Prospec**	**63.86**	**64**	⇓P		**P**	**06 48 17.1**	**-0.3**
	baz=64							
HWUT	**Hardware Ranch**	**63.89**	**56**	*e*P		**P**	**06 48 17.5**	**-0.1**
	comp=Z,11nm,1.2s,mb4.8							
HWUT				*e*		pP	06 48 27.8	-0.2
FURC	**Furnace Creek,**	**63.99**	**64**	P		**P**	**06 48 18.1**	**-0.2**
	baz=64,SNR=11							
DUG	**Dugway**	**64.07**	**58**	*e*P		**P**	**06 48 18.7**	**0.0**
DUG					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
DUG	**Dugway**	**64.07**	**58**	*e*P		**P**	**06 48 18.7**	**0.0**
	comp=Z,10nm,1.1s,mb4.8							
DUG				*e*		pP	06 48 29.0	-0.1
DUG	**Dugway**	**64.07**	**58**	P		**P**	**06 48 19.3**	**+0.5**
	baz=64,SNR=8.6							
LRMC	**Laurel Mountai**	**64.11**	**65**	⇑P		**P**	**06 48 18.4**	**-0.6**
	baz=64							
NOQ	**North Oquirrh**	**64.18**	**58**	*e*P		**P**	**06 48 19.9**	**+0.4**
	comp=Z,4.1nm,0.5s,mb4.7							
BW06	**Boulder Array**	**64.29**	**54**	*e*P		**P**	**06 48 19.8**	**-0.4**
	comp=Z,10nm,1.0s,mb4.8							
BW06				*e*		pP	06 48 30.3	-0.3
PDAR	**Pinedale Array**	**64.29**	**54**	P		**P**	**06 48 20.2**	**+0.1**
	comp=Z,5.4nm,0.9s,mb4.6,baz=283,slow=2.1,SNR=25							
EDW2	**Edwards Air Fo**	**64.30**	**66**	⇓P		**P**	**06 48 20.3**	**+0.1**
	baz=64							
VIS	**Vishakhapatnam**	**64.32**	**269**	*e*P		**P**	**06 48 20.2**	**-0.2**
VIS					AMb	AMB	06 48 22.4	
	comp=Z,32nm,1.2s,mb5.2							
U10A	**Ash Meadows, A**	**64.35**	**63**	⇓P		**P**	**06 48 21.3**	**+0.7**
	baz=64							
JLU	**Jordanelle**	**64.60**	**57**	*e*P		**P**	**06 48 22.6**	**+0.4**
JLU				*e*PcP		PcP	06 48 56.9	+1.0
MWC	**Mount Wilson**	**64.68**	**66**	*e*P		**P**	**06 48 24.1**	**+1.4**
BHPL	**Bhopal**	**64.68**	**278**	*e*P		**P**	**06 48 22.8**	**0.0**
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**06 48 22.3**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.7,baz=46,slow=8.2,SNR=13							
FINES	**FINESS Array B**	**64.71**	**335**	P		**P**	**06 48 22.3**	**-0.7**
GSC	**Goldstone**	**64.77**	**65**	⇑P		**P**	**06 48 23.1**	**-0.3**
	baz=65							
DAU	**Daniels Canyon**	**64.84**	**57**	*e*P		**P**	**06 48 24.1**	**+0.3**
MPU	**Maple Canyon**	**64.87**	**58**	*e*P		**P**	**06 48 24.1**	**0.0**
	baz=65							
U11A	**Corn Creek**	**64.94**	**63**	⇑P		**P**	**06 48 25.1**	**+0.7**
	baz=65							
NGP	**Nagpur**	**64.96**	**275**	*e*P		**P**	**06 48 24.2**	**-0.3**
NGP					AMb	AMB	06 48 25.8	
	comp=Z,45nm,1.4s,mb5.3							
SHPR	**Sheep Range**	**65.02**	**63**	*e*P		**P**	**06 48 25.2**	**+0.3**
TUQ	**Turquoise Mtn.**	**65.24**	**64**	⇓P		**P**	**06 48 26.1**	**-0.3**
	baz=65							
ARUT	**Antelope Range**	**65.24**	**61**	*e*P		**P**	**06 48 26.4**	**0.0**
V11A	**Goodsprings**	**65.28**	**63**	⇑P		**P**	**06 48 26.7**	**+0.1**
	baz=65							
BBRC	**Big Bear Sol-O**	**65.37**	**66**	⇑P		**P**	**06 48 27.4**	**+0.1**
	baz=65							
HEC	**Hector,Ludlow**	**65.38**	**65**	⇑P		**P**	**06 48 27.3**	**+0.1**
	baz=65							
MSU	**Marysvale**	**65.53**	**59**	*e*P		**P**	**06 48 28.9**	**+0.7**
V12A	**Nelson**	**65.71**	**63**	⇓P		**P**	**06 48 29.2**	**-0.3**
	baz=66							
W12A	**Cal Nev Ari**	**65.98**	**64**	⇓P		**P**	**06 48 31.6**	**+0.4**
	baz=66							
OBN	**Obninsk**	**66.07**	**326**	*e*P		**P**	**06 48 29.5**	**-2.2**
OBN				*e*			06 48 49.0	
OBN				*e*			06 49 00.9	
OBN					pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0							
PFO	**Pinyon Flat Ob**	**66.09**	**66**	⇓P		**P**	**06 48 31.3**	**-0.6**
	baz=66							
SRU	**San Rafael**	**66.11**	**58**	*e*P		**P**	**06 48 32.2**	**+0.2**
	comp=Z,15nm,0.9s,mb5.0							
BELC	**Belle Mtn.**	**66.12**	**65**	⇓P		**P**	**06 48 30.5**	**-1.6**
	baz=66							
109C	**Camp Elliot, M**	**66.15**	**67**	⇓P		**P**	**06 48 33.1**	**+0.9**
	baz=66							
ULM	**Lac du Bonnet**	**66.25**	**41**	P		**P**	**06 48 32.1**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.3,baz=324,slow=14,SNR=2.8							
IRM	**Iron Mountain**	**66.55**	**65**	⇑P		**P**	**06 48 34.6**	**-0.2**
	baz=66							
MONP	**Monument Peak**	**66.58**	**66**	⇑P		**P**	**06 48 34.8**	**-0.2**
	baz=66							
BC3	**Big Chuckw Mtn**	**66.69**	**65**	⇓P		**P**	**06 48 35.1**	**-0.6**
	baz=66							
W13A	**Hualapai Mount**	**66.72**	**63**	⇓P		**P**	**06 48 35.6**	**-0.3**
	baz=67							
VRHR	**Novokhopersk**	**66.93**	**321**	*e*P		**P**	**06 48 36.8**	**-0.4**
VRHR					pmax	pmax		
	comp=E,10.0nm,0.4s							
VRHR					pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.2							
VRHR					pmax	pmax		
	comp=N,2.0nm,0.6s							
SWSC	**Sam W. Stewart**	**66.94**	**66**	⇑P		**P**	**06 48 36.8**	**-0.5**
	baz=67							
X13A	**Yucca**	**67.09**	**64**	P		**P**	**06 48 39.9**	**+1.6**
	baz=67,SNR=5.9							
PDMCI	**Parker Dam,Lak**	**67.09**	**64**	⇓P		**P**	**06 48 37.3**	**-1.0**
	baz=67							
W14A	**Seligman**	**67.14**	**63**	P		**P**	**06 48 38.9**	**+0.4**
	baz=67,SNR=9.9							
PV10	**Paradox Valley**	**67.47**	**58**	*e*P		**P**	**06 48 41.0**	**+0.3**
PV10				*e*		pP	06 48 51.1	0.0
W15A	**Williams**	**67.66**	**62**	⇓P		**P**	**06 48 42.3**	**+0.4**
	baz=68							
X14A	**Yava**	**67.75**	**63**	⇓P		**P**	**06 48 42.9**	**+0.4**
	baz=68							
HYB	**Hyderabad**	**67.83**	**272**	*i* P		**P**	**06 48 42.5**	**-0.4**
HYB	**Hyderabad**	**67.83**	**272**	*e*P		**P**	**06 48 42.5**	**-0.4**
PV01	**Paradox Valley**	**67.91**	**58**	*e*P		**P**	**06 48 43.3**	**-0.1**
PV01				*e*		pP	06 48 53.3	-0.5
WUAZ	**Wupatki**	**67.98**	**61**	*e*P		**P**	**06 48 43.8**	**-0.1**
	comp=N,6.8nm,1.1s,mb4.6							
WUAZ	**Wupatki**	**67.98**	**61**	⇑P		**P**	**06 48 43.9**	**0.0**
	baz=68							
Y14A	**Wickenburg**	**68.03**	**64**	⇓P		**P**	**06 48 43.6**	**-0.6**
	baz=68							
SMCO	**Snowmass**	**68.13**	**56**	*e*P		**P**	**06 48 35.5**	**-9.3**
	comp=N,8.0nm,1.0s,mb4.7							
X15A	**Humboldt**	**68.14**	**63**	P		**P**	**06 48 45.2**	**+0.4**
	baz=68,SNR=10							
WRAB	**Tennant Creek**	**68.44**	**200**	*e*P		**P**	**06 48 44.9**	**-1.8**
WRAB					pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2							
WRAB	**Tennant Creek**	**68.44**	**200**	*e*P		**P**	**06 48 44.9**	**-1.9**
	comp=Z,36nm,1.6s,mb5.2							
WB2	**Warramunga Arr**	**68.45**	**200**	*e*P		**P**	**06 48 45.0**	**-1.8**
WRA	**Warramunga Arr**	**68.45**	**200**	P		**P**	**06 48 45.5**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.7,baz=19,slow=6.6,SNR=23							
ISCO	**Idaho Springs**	**68.48**	**55**	*e*P		**P**	**06 48 47.2**	**+0.2**
ISCO				*e*		pP	06 48 57.0	-0.5
ISCO					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
ISCO	**Idaho Springs**	**68.48**	**55**	*e*P		**P**	**06 48 47.2**	**+0.2**
	comp=Z,6.7nm,1.0s,mb4.6							
ISCO				*e*		pP	06 48 57.0	-0.5
MVCO	**Mesa Verde**	**68.57**	**58**	*e*P		**P**	**06 48 47.1**	**-0.5**
	comp=Z,5.5nm,0.9s,mb4.5							
MVCO				*e*		pP	06 48 58.1	+0.1
MVCO	**Mesa Verde**	**68.57**	**58**	⇑P		**P**	**06 48 47.2**	**-0.4**
	baz=68							
NB2	**NORSAR Subarra**	**68.83**	**342**	P		**P**	**06 48 49.0**	**-0.2**
	comp=Z,25nm,1.1s,mb5.1,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.83**	**342**	P		**P**	**06 48 48.5**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=27,slow=6.3,SNR=7.7							
115A	**Sonoran Desert**	**69.34**	**64**	⇑P		**P**	**06 48 52.2**	**-0.2**
	baz=69							
116A	**Eloy**	**69.76**	**64**	⇓P		**P**	**06 48 55.4**	**+0.5**
	baz=70							
SDCO	**Great Sand Dun**	**69.95**	**56**	*e*P		**P**	**06 48 56.2**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.3							
POO	**Poona**	**70.32**	**276**	⇑*i*P		**P**	**06 48 58.0**	**-0.4**
	comp=Z,20nm,1.0s,mb5.0							
KAD	**Karad**	**70.92**	**275**	*e*P		**P**	**06 49 01.9**	**-0.2**
KAD					AMb	AMB	06 49 03.6	
	comp=Z,27nm,1.2s,mb5.1							
LAZ	**Ladron**	**71.29**	**60**	*e*P		**P**	**06 49 04.7**	**+0.4**
LAZ				*e*		pP	06 49 15.0	+0.3
ANMO	**Albuquerque**	**71.31**	**59**	*e*P		**P**	**06 49 04.8**	**+0.4**
	comp=Z,3.4nm,0.9s,mb4.3							
ANMO				*e*		pP	06 49 14.5	-0.4
KIV	**Kislovodsk**	**71.64**	**315**	*e*P		**P**	**06 49 04.5**	**-1.9**
KIV					pmax	pmax		
	comp=Z,18nm,1.9s,mb4.7							
KIV	**Kislovodsk**	**71.64**	**315**	*e*P		**P**	**06 49 07.4**	**+1.0**
	comp=Z,12nm,0.4s,mb5.2							
BNM	**Barren Site**	**71.77**	**60**	*e*P		**P**	**06 49 07.6**	**+0.4**
ZEI	**Tsey**	**71.91**	**313**	*e*P		**P**	**06 49 07.6**	**-0.4**
ZEI					pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7							
AS31	**Alice Springs**	**72.14**	**200**	*e*P		**P**	**06 49 08.8**	**-0.6**
ASAR	**Alice Springs**	**72.14**	**200**	P		**P**	**06 49 08.6**	**-0.8**
	comp=Z,7.3nm,0.9s,mb4.6,baz=13,slow=6.1,SNR=34							
AKASG	**Malin Array Be**	**72.30**	**327**	P		**P**	**06 49 09.3**	**-1.1**
	comp=Z,3.3nm,0.5s,mb4.5,baz=32,slow=6.2,SNR=13							
AMTX	**Amarillo**	**74.15**	**56**	*e*P		**P**	**06 49 20.8**	**-0.5**
	comp=Z,9.5nm,1.1s,mb4.6							
AMTX				*e*		pP	06 49 31.6	-0.2
MNTX	**Cornudas Mount**	**74.23**	**61**	*e*P		**P**	**06 49 21.0**	**-0.7**
	comp=Z,6.8nm,1.3s,mb4.4							
GDL2	**Guadalupe Moun**	**74.49**	**60**	*e*P		**P**	**06 49 23.8**	**+0.6**
KWP	**Kalwaria**	**75.55**	**330**	*e*P		**P**	**06 49 29.6**	**+0.2**
KWP	**Kalwaria**	**75.55**	**330**	*e*P		**P**	**06 49 29.5**	**+0.1**
KWP				*e*		pP	06 49 38.6	-1.3
KWP					pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2							
WMOK	**Wichita Mounta**	**75.90**	**54**	*e*P		**P**	**06 49 30.8**	**-0.6**
WMOK				*e*		pP	06 49 39.8	-2.2
STHS	**Stebnicka Huta**	**76.24**	**331**	*e*P		**P**	**06 49 33.9**	**+0.6**
STHS					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
STHS	**Stebnicka Huta**	**76.24**	**331**	*e*P		**P**	**06 49 33.9**	**+0.6**
	comp=Z,5.3nm,1.0s,mb4.4							
KOLS	**Kolonicke sedl**	**76.30**	**330**	*e*P		**P**	**06 49 33.7**	**+0.1**
BURAR	**Bucovina Array**	**76.34**	**327**	⇓*i*P		**P**	**06 49 34.0**	**+0.1**
BURAR	**Bucovina Array**	**76.34**	**327**	⇓P		**P**	**06 49 34.0**	**+0.1**
KSP	**Ksiaz**	**76.59**	**334**	*e*P		**P**	**06 49 35.5**	**+0.2**
KSP	**Ksiaz**	**76.59**	**334**	*e*P		**P**	**06 49 35.2**	**-0.1**
BANOM	**Banah**	**76.88**	**294**	⇓P		**P**	**06 49 37.5**	**+0.6**
	SNR=8.0							
LTX	**Lajitas**	**76.95**	**61**	*e*P		**P**	**06 49 37.1**	**-0.2**
LTX				*e*		pP	06 49 47.3	-0.6
LTX					pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9							
LTX	**Lajitas**	**76.95**	**61**	*e*P		**P**	**06 49 37.1**	**-0.2**
	comp=Z,13nm,0.9s,mb4.8							
LTX				*e*		pP	06 49 47.2	-0.6
TXAR	**Lajitas Array**	**76.95**	**61**	P		**P**	**06 49 36.9**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=304,slow=4.4,SNR=47							
TXAR	**Lajitas Array**	**76.95**	**61**	P		**P**	**06 49 36.9**	**-0.4**
DPC	**Dobruska-Polom**	**77.01**	**334**	*e*P		**P**	**06 49 38.3**	**+0.6**
DPC				*ex*		x	06 49 58.8	
CLL	**Collm**	**77.13**	**336**	*e*P		**P**	**06 49 38.0**	**-0.3**
CLL				*i*			06 49 43.3	
CLL	**Collm**	**77.13**	**336**	*e*P		**P**	**06 49 38.0**	**-0.3**
CLL				*i* pP		pP	06 49 43.3	-5.6
CLL				*es*P		sP	06 49 46.0	-6.8
MORC	**Moravsky Berou**	**77.14**	**333**	*e*P		**P**	**06 49 37.6**	**-0.8**
MORC					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
MORC	**Moravsky Berou**	**77.14**	**333**	*e*P		**P**	**06 49 37.6**	**-0.8**
	comp=Z,5.6nm,0.9s,mb4.5							
BOYT	**Boyabat**	**77.29**	**318**	*i* P		**P**	**06 49 38.5**	**-0.7**
KECS	**Kecovo**	**77.30**	**331**	*e*P		**P**	**06 49 38.7**	**-0.5**
KECS					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
KECS	**Kecovo**	**77.30**	**331**	*e*P		**P**	**06 49 38.7**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.3							
WBK	**Wadi Bani Khal**	**77.50**	**290**	P		**P**	**06 49 42.3**	**+1.9**
	SNR=8.5							
ELZG	**Elazig**	**77.58**	**313**	*i* P		**P**	**06 49 42.6**	**+1.8**
HATD	**Hatta, Dubai**	**77.77**	**293**	P		**P**	**06 49 42.9**	**+1.1**
	SNR=8.6							
MLR	**Muntele Rosu**	**77.83**	**326**	⇓*i*P		**P**	**06 49 43.3**	**+1.1**
MLR	**Muntele Rosu**	**77.83**	**326**	⇓P		**P**	**06 49 43.3**	**+1.1**
VYHS	**Vyhne**	**77.84**	**331**	*e*P		**P**	**06 49 42.7**	**+0.4**
VYHS					pmax	pmax		
	comp=Z,17nm,2.0s,mb4.6							
VYHS	**Vyhne**	**77.84**	**331**	*e*P		**P**	**06 49 42.7**	**+0.4**
	comp=Z,16nm,2.0s,mb4.6							
PRU	**Pruhonice**	**77.87**	**335**	*e*P		**P**	**06 49 42.4**	**0.0**
PRU				*ex*		x	06 50 03.3	
HOQ	**Hoqain**	**77.89**	**291**	P		**P**	**06 49 43.8**	**+1.2**
	SNR=5.2							
ASHO	**Ashiyiah**	**77.91**	**293**	⇑P		**P**	**06 49 43.6**	**+0.9**
	SNR=6.5							
CTKT	**Corum**	**77.97**	**317**	*i* P		**P**	**06 49 43.5**	**+0.5**
MALT	**Malatya**	**78.00**	**314**	⇓*i*P		**P**	**06 49 44.5**	**+1.3**
MALT	**Malatya**	**78.00**	**314**	P		**P**	**06 49 44.7**	**+1.5**
MALT					pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9							
MALT	**Malatya**	**78.00**	**314**	*e*P		**P**	**06 49 44.6**	**+1.5**
	comp=Z,16nm,1.1s,mb4.9							
MOX	**Moxa**	**78.11**	**337**	*e*P		**P**	**06 49 44.5**	**+0.7**
VOIR		**78.22**	**326**	⇑*i*P		**P**	**06 49 45.3**	**+0.9**
VOIR		**78.22**	**326**	⇑P		**P**	**06 49 45.3**	**+0.9**
JMDO	**Jabal Madar**	**78.24**	**290**	⇑P		**P**	**06 49 45.3**	**+0.9**
	SNR=8.5							
JCT	**Junction City**	**78.42**	**58**	*e*P		**P**	**06 49 44.6**	**-0.9**
JCT					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7							
JCT	**Junction City**	**78.42**	**58**	*e*P		**P**	**06 49 44.5**	**-1.0**
	comp=Z,11nm,1.0s,mb4.8							
BSY	**Bisya**	**78.56**	**291**	P		**P**	**06 49 47.8**	**+1.6**
	SNR=5.7							
ELDT	**Eldivan**	**78.70**	**318**	*i* P		**P**	**06 49 48.3**	**+1.2**
STKA	**Stephens Creek**	**78.75**	**191**	P		**P**	**06 49 45.2**	**-2.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=334,slow=12,SNR=4.1							
STKA	**Stephens Creek**	**78.75**	**191**	P		**P**	**06 49 45.2**	**-2.1**
KHC	**Kasperske Hory**	**78.92**	**335**	*e*P		**P**	**06 49 48.4**	**+0.2**
KHC				*ex*		x	06 50 09.3	
GRA1	**Grafenberg Arr**	**79.08**	**337**	*e*P		**P**	**06 49 49.2**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.7							
GRF	**Grafenberg Arr**	**79.08**	**337**	*e*P		**P**	**06 49 49.2**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.7							
GRF	**Grafenberg Arr**	**79.08**	**337**	*e*P		**P**	**06 49 49.2**	**+0.1**
GRF					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
GZR	**Gura Zlata**	**79.12**	**328**	⇑*i*P		**P**	**06 49 49.4**	**+0.1**
GZR	**Gura Zlata**	**79.12**	**328**	⇑P		**P**	**06 49 49.4**	**+0.1**
GERES	**GERESS Array B**	**79.14**	**335**	P		**P**	**06 49 49.2**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=17,slow=5.6,SNR=7.3							
GERES					LR	LR	07 24 46.5	
	comp=Z,202nm,21.2s,MS4.4,baz=276,slow=36							
BR131	**Keskin Array S**	**79.21**	**318**	*e*P		**P**	**06 49 50.3**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3							
BRTR	**Keskin Array B**	**79.22**	**318**	P		**P**	**06 49 50.7**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.2,baz=29,slow=2.8,SNR=8.4							
SGKT	**Sivrigoynuk**	**79.27**	**319**	*i* P		**P**	**06 49 51.4**	**+1.3**
KBA	**Koelnbreinsper**	**80.83**	**334**	⇑*i*P		**P**	**06 49 57.5**	**-1.1**
	comp=Z,7.8nm,0.6s,mb4.8							
KBA				⇓*i*			06 49 59.9	
	comp=Z,28nm,1.0s							
BFO	**Black Forest**	**81.10**	**338**	*e*P		**P**	**06 49 59.8**	**-0.2**
BFO					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
BFO	**Black Forest**	**81.10**	**338**	*e*P		**P**	**06 49 59.8**	**-0.3**
	comp=Z,9.3nm,1.0s,mb4.7							
WATA	**Walderalm**	**81.12**	**335**	⇑*i*P		**P**	**06 50 00.4**	**+0.3**
	comp=Z,4.9nm,0.5s,mb4.7							
WTTA	**Wattenberg**	**81.17**	**335**	⇑*i*P		**P**	**06 50 01.4**	**+1.1**
	comp=Z,22nm,1.5s,mb4.9							
MOTA	**Moosalm**	**81.25**	**336**	⇑*i*P		**P**	**06 50 01.4**	**+0.7**
	comp=Z,16nm,1.1s,mb4.9							
PPT	**Papeete**	**81.28**	**127**	*e*LR		LR	07 14 25.7	
	comp=Z,227nm,25.2s,baz=325							
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**06 50 00.8**	**-0.3**
	comp=Z,47nm,1.2s,mb5.0							
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**06 50 00.8**	**-0.3**
CDF					pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0							
CDF	**Champ du Feu**	**81.30**	**338**	*e*P		**P**	**06 50 00.8**	**-0.3**
	comp=Z,23nm,1.2s,mb5.0							
SQTA	**Sankt Quirin**	**81.33**	**336**	⇑*i*P		**P**	**06 50 02.1**	**+0.9**
	comp=Z,2.6nm,0.5s,mb4.4							
VTS	**Vitosha**	**81.33**	**326**	⇑*i*P		**P**	**06 50 01.5**	**+0.2**
VTS	**Vitosha**	**81.33**	**326**	⇑P		**P**	**06 50 01.5**	**+0.3**
GRR	**Gorron**	**83.15**	**344**	*e*P		**P**	**06 50 10.7**	**-0.1**
	comp=Z,268nm,1.8s,mb5.7							
GRR	**Gorron**	**83.15**	**344**	*e*P		**P**	**06 50 10.7**	**-0.1**
GRR					pmax	pmax		
	comp=Z,134nm,1.8s,mb5.7							
GRR	**Gorron**	**83.15**	**344**	*e*P		**P**	**06 50 10.7**	**-0.1**
	comp=Z,134nm,1.8s,mb5.7							
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**06 50 13.9**	**-0.1**
	comp=Z,64nm,1.1s,mb5.3							
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**06 50 13.9**	**-0.1**
SMF					pmax	pmax		
	comp=Z,32nm,1.1s,mb5.4							
SMF	**Signal de Mont**	**83.79**	**340**	*e*P		**P**	**06 50 13.9**	**-0.1**
	comp=Z,32nm,1.1s,mb5.4							
LPG	**La Plagne**	**84.13**	**338**	*e*P		**P**	**06 50 16.8**	**+1.0**
	comp=Z,71nm,1.3s,mb5.3							
LPG	**La Plagne**	**84.13**	**338**

comp=Z,1.4nm,1.2s,mb3.8,baz=71,slow=9.7,SNR=2.6
COLA College 35.70 38 *e*P **P 06 48 36.0 +0.4**
COLA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
COLA College 35.70 38 *e*P **P 06 48 36.0 +0.4**
comp=Z,8.6nm,0.7s,mb4.8
LZH Lanzhou 39.03 273 *e*P **P 06 49 05.5 +1.7**
LZH AP pP 06 49 17.0 +12
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH Lanzhou 39.03 273 *e*P **P 06 49 05.5 +1.7**
LZH *PP pP 06 49 17.0 +12
LZH *SP sP 06 49 23.0 +18
LZH pmax pmax
comp=Z,19nm,1.0s,mb4.8
LZH Lanzhou 39.03 273 *e*P **P 06 49 05.5 +1.7**
comp=Z,19nm,1.0s,mb4.8
LZH pP pP 06 49 17.0 +12
LZH sP sP 06 49 23.0 +18
GTA Gaotai 40.14 280 *e*P **P 06 49 14.1 +1.0**
GTA AP pP 06 49 19.0 +5.2
GTA XP sP 06 49 21.8 +7.8
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
INK Inuvik 41.33 32 P **P 06 49 22.5 -0.4**
comp=Z,5.9nm,0.5s,mb4.5,baz=294,slow=5.8,SNR=25
INK Inuvik 41.33 32 *e*P **P 06 49 23.6 +0.7**
comp=Z,190nm,0.5s
ZAL Zalesovo 43.73 307 P **P 06 49 41.5 -1.0**
comp=Z,2.3nm,0.3s,mb4.5,baz=119,slow=3.7,SNR=3.4
MKAR Makanchi Array 46.09 298 P **P 06 50 16.1 -0.8**
comp=Z,4.3nm,0.8s,mb4.6,baz=68,slow=8.2,SNR=14
LSA Lhasa 51.42 275 *e*P **P 06 50 40.6 -1.6**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSA Lhasa 51.42 275 *e*P **P 06 50 40.6 -1.6**
comp=Z,6.0nm,0.8s,mb4.6
BVAR Borovoye Array 51.94 310 P **P 06 50 45.9 -0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=64,slow=10,SNR=6.5
BRVK Borovoye 51.98 310 *e*P **P 06 50 46.3 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 51.98 310 *e*P **P 06 50 46.3 -0.1**
comp=Z,4.8nm,0.8s,mb4.5
AAK Ala-Archa 54.99 297 *e*P **P 06 51 08.0 -0.5**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AAK Ala-Archa 54.99 297 *e*P **P 06 51 08.0 -0.5**
comp=Z,2.6nm,0.6s,mb4.4
EDM Edmonton 55.73 47 *e*P **P 06 51 13.7 -0.1**
ARU Arti 56.02 318 *e*P **P 06 51 15.4 -0.5**
ARU Arti 56.02 318 *e*P **P 06 51 15.3 -0.6**
comp=Z,16nm,0.7s,mb5.2
JIRN Jiri 56.10 276 *e*P **P 06 51 17.8 +1.3**
comp=Z,34nm,0.9s,mb5.4
GUN Gumba 56.16 276 *e*P **P 06 51 18.2 +1.3**
comp=Z,51nm,1.3s,mb5.4
KKN Kakani 56.64 277 *e*P **P 06 51 21.6 +1.2**
comp=Z,36nm,0.8s,mb5.5
PKI Pulchoki 56.69 276 *e*P **P 06 51 21.7 +1.0**
comp=Z,15nm,0.8s,mb5.1
DMN Daman 56.88 277 *e*P **P 06 51 23.4 +1.4**
comp=Z,44nm,0.9s,mb5.5
GKN Gorkha 56.95 277 *e*P **P 06 51 23.5 +0.9**
comp=Z,45nm,0.9s,mb5.5
KOLN Koldanda 57.81 278 *e*P **P 06 51 29.8 +1.2**
comp=Z,38nm,1.0s,mb5.4
KEV Kevo 58.03 341 *e*p **P 06 51 30.8 +0.6**
ARCES ARCESS Array B 58.53 341 P **P 06 51 32.8 -0.9**
comp=Z,4.0nm,0.8s,mb4.5,baz=1.0,slow=7.3,SNR=5.2
WVOR Wild Horse Val 58.96 60 *e*P **P 06 51 37.0 +0.3**
WVOR pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
WVOR Wild Horse Val 58.96 60 *e*P **P 06 51 37.0 +0.3**
comp=Z,8.7nm,1.3s,mb4.6
AKTK Aktyubinsk 59.78 313 P **P 06 51 42.1 -0.2**
AKTO Aktyubinsk 59.78 313 P **P 06 51 42.1 -0.2**
comp=Z,3.6nm,0.8s,mb4.5,baz=51,slow=7.5,SNR=5.0
HLID Hailey 60.76 56 *e*P **P 06 51 49.5 +0.4**
NVAR Mina Array Bea 61.59 63 P **P 06 51 55.3 +0.7**
comp=Z,1.9nm,0.8s,mb4.3,baz=293,slow=8.5,SNR=10
QLMT Earthquake Lak 61.67 54 *e*P **P 06 51 55.8 +0.6**
RRI2 Red Ridge 62.66 55 *e*P **P 06 52 02.5 +0.6**
comp=Z,7.6nm,0.9s,mb4.8
LAO LASA Array 63.32 50 *e*P **P 06 52 06.5 +0.2**
comp=Z,4.6nm,0.8s,mb4.7
DUG Dugway 63.79 59 *e*P **P 06 52 09.9 +0.5**
BW06 Boulder Array 64.03 55 *e*P **P 06 52 11.0 +0.1**
comp=Z,3.8nm,0.9s,mb4.4
PDAR Pinedale Array 64.03 55 P **P 06 52 10.9 0.0**
comp=Z,2.9nm,0.9s,mb4.3,baz=290,slow=3.4,SNR=15
FINES FINESS Array B 64.35 335 P **P 06 52 14.9 -1.2**
comp=Z,3.0nm,0.7s,mb4.4,baz=44,slow=6.3,SNR=8.0
ARUT Antelope Range 64.96 61 *e*P **P 06 52 17.4 +0.4**
SRU San Rafael 65.84 58 *e*P **P 06 52 23.0 +0.3**
SRU pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
SRU San Rafael 65.84 58 *e*P **P 06 52 22.9 +0.2**
comp=Z,3.4nm,0.9s,mb4.4
ULM Lac du Bonnet 66.03 42 P **P 06 52 23.6 -0.4**
comp=Z,1.9nm,0.6s,mb4.3,baz=291,slow=6.2,SNR=5.7
PV10 Paradox Valley 67.20 58 *e*P **P 06 52 31.9 +0.5**
PV01 Paradox Valley 67.63 58 *e*P **P 06 52 34.2 +0.1**
ISCO Idaho Springs 68.22 55 *e*P **P 06 52 38.4 +0.6**
ISCO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ISCO Idaho Springs 68.22 55 *e*P **P 06 52 38.4 +0.5**
comp=Z,3.3nm,0.9s,mb4.4
WRA Warramunga Arr 68.58 201 P **P 06 52 38.2 -1.9**
comp=Z,2.0nm,0.9s,mb4.0,baz=20,slow=6.4,SNR=6.7
NOA NORSAR Array B 68.90 342 P **P 06 52 41.0 -1.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=26,slow=6.3,SNR=3.7
SDCO Great Sand Dun 69.68 56 *e*P **P 06 52 47.1 +0.2**
ANMO Albuquerque 71.04 59 *e*P **P 06 52 55.3 0.0**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 71.04 59 *e*P **P 06 52 55.3 0.0**
comp=Z,1.2nm,0.8s,mb3.9
ASAR Alice Springs 72.27 200 P **P 06 53 01.6 -1.0**
comp=Z,2.1nm,0.8s,mb4.1,baz=12,slow=5.0,SNR=11
AKASG Malin Array Be 72.44 327 P **P 06 53 02.6 -1.1**
comp=Z,1.6nm,0.5s,mb4.2,baz=34,slow=5.8,SNR=5.7
WMOK Wichita Mounta 75.64 55 *e*P **P 06 53 21.7 -0.7**
WMOK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
WMOK Wichita Mounta 75.64 55 *e*P **P 06 53 21.7 -0.7**
comp=Z,1.9nm,0.8s,mb4.1
BURAR Bucovina Array 76.48 328 ⇑*i*P **P 06 53 27.1 -0.1**
BURAR Bucovina Array 76.48 328 ⇑P **P 06 53 27.1 -0.1**
LTX Lajitas 76.67 62 *e*P **P 06 53 27.9 -0.3**
LTX pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
LTX Lajitas 76.67 62 *e*P **P 06 53 27.9 -0.3**
comp=Z,2.0nm,0.4s,mb4.4
TXAR Lajitas Array 76.67 62 P **P 06 53 28.0 -0.3**
comp=Z,3.4nm,0.6s,mb4.5,baz=306,slow=4.1,SNR=32
CLL Collm 77.23 337 *e*P **P 06 53 31.0 -0.4**
MORC Moravsky Berou 77.25 333 ⇑*i*P **P 06 53 31.6 +0.1**
MORC Moravsky Berou 77.25 333 *e*P **P 06 53 31.2 -0.3**
MLR Muntele Rosu 77.98 326 ⇓*i*P **P 06 53 36.0 +0.4**
MLR Muntele Rosu 77.98 326 ⇓P **P 06 53 36.0 +0.4**
DRGR 78.09 329 ⇓*i*P **P 06 53 36.4 +0.2**
DRGR 78.09 329 ⇓P **P 06 53 36.4 +0.2**
SNX Sinaia 78.26 326 ⇓*i*P **P 06 53 38.2 +1.1**
VOIR 78.37 326 ⇓*i*P **P 06 53 38.5 +0.7**
VOIR 78.37 326 ⇓P **P 06 53 38.5 +0.8**
STKA Stephens Creek 78.83 191 P **P 06 53 39.0 -1.3**
comp=Z,2.0nm,0.9s,mb4.1,baz=76,slow=7.2,SNR=2.9
STKA Stephens Creek 78.83 191 P **P 06 53 39.0 -1.3**
GERES GERESS Array B 79.24 335 P **P 06 53 41.8 -0.7**
comp=Z,1.2nm,0.5s,mb4.0,baz=29,slow=6.1,SNR=7.6
BRTR Keskin Array B 79.40 318 P **P 06 53 43.6 +0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=46,slow=7.1,SNR=4.2
CDF Champ du Feu 81.38 339 *e*P **P 06 53 53.9 -0.2**
comp=Z,14nm,0.9s,mb4.6
CDF Champ du Feu 81.38 339 *e*P **P 06 53 53.9 -0.2**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CDF Champ du Feu 81.38 339 *e*P **P 06 53 53.9 -0.2**
comp=Z,7.2nm,0.9s,mb4.6
VTS Vitosha 81.48 326 ⇓*i*P **P 06 53 55.0 +0.4**
VTS Vitosha 81.48 326 ⇓P **P 06 53 55.0 +0.3**
GRR Gorron 83.21 344 *e*P **P 06 54 03.2 -0.4**
SMF Signal de Mont 83.87 340 *e*P **P 06 54 06.7 -0.3**
LPG La Plagne 84.22 338 *e*P **P 06 54 09.6 +0.8**
comp=Z,9.4nm,0.7s,mb4.8
LPG La Plagne 84.22 338 *e*P **P 06 54 09.6 +0.8**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPG La Plagne 84.22 338 *e*P **P 06 54 09.6 +0.8**
comp=Z,4.7nm,0.6s,mb4.8
CAF Calvic 85.90 341 *e*P **P 06 54 16.8 -0.5**
CFAA Coronel Fontan 143.94 81 PKhKP 07 01 08.9
comp=Z,0.1nm,0.6s,baz=243,slow=2.5,SNR=3.6
SNAA Sanae 152.54 195 *e* PKPbc 07 01 30.6 -3.2
SNAA *e* 07 01 41.5
SNAA *e* 07 01 49.3
VNA2 Neumayer--Watz 153.95 193 *e* PKPbc 07 01 35.2 -1.7
VNA2 *e* 07 01 47.6
VNA2 *e* 07 01 56.0
VNA3 Neumayer Olymp 154.00 191 *e* PKPbc 07 01 36.6 -0.4
VNA3 *e* 07 01 48.8
VNA3 *e* 07 01 57.4

*IDC **20** 07:11:01.6±0.8, 46.90N×154.88E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/27, mbtmp4.0/13, ML3.8/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/31, Error ellipse: s-maj=24.0km s-min=19.9km az=110.0*
*ISCJB **20** 07:11:05.0±0.8, 46.9N±0.1×154.7E±0.2, h35km, mb4.0/11, MS3.9/1, Error ellipse: s-maj=20.1km s-min=11.3km az=78.5*
*MOS **20** 07:11:07.7±1.9, 47.01N×154.57E, h59km, mb4.3/10, Error ellipse: s-maj=24.5km s-min=14.7km az=75.9*
ISC 20 07:11:06.7±0.8, 47.0N±0.1×154.8E±0.2, h35km, n28, σ0=0.97/27, mb4.0/11, MS3.9/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.84**	**13**	*e*PN	**Pn**	**07 12 01.5**	**-1.8**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ASAJ	**Asahikawa**	**9.01**	**256**	Pn	**Pn**	**07 13 14.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=74,slow=15,SNR=4.0						
ASAJ	**Asahikawa**	**9.01**	**256**	PN	**Pn**	**07 13 14.5**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.12**	**236**	Pn	**Pn**	**07 14 48.8**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=4.7						
MJAR	**Matsushiro Arr**	**16.12**	**236**	P	**Pn**	**07 14 48.8**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**07 18 45.0**	**-0.2**
	comp=Z,1.7nm,0.5s,mb3.9,baz=302,slow=4.7,SNR=4.9						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**07 18 45.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**07 19 40.7**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=68,slow=7.1,SNR=5.7						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**07 19 40.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**07 20 09.6**	**0.0**
	comp=Z,1.4nm,0.4s,mb4.2,baz=57,slow=8.2,SNR=11						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**07 20 09.6**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.04**	**341**	LR	LR	07 51 36.6	
	comp=Z,87nm,18.5s,MS3.9,baz=103,slow=42						
AKTO	**Aktyubinsk**	**59.45**	**312**	P	**P**	**07 21 06.5**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=83,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**59.45**	**312**	P	**P**	**07 21 06.5**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**07 21 38.5**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=42,slow=6.3,SNR=13						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**07 21 38.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.41**	**342**	P	**P**	**07 22 06.9**	**+2.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**07 22 06.6**	**+1.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=24,slow=6.3,SNR=3.0						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**07 22 06.6**	**+1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.08**	**201**	P	**P**	**07 22 09.2**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.0,baz=18,slow=6.9,SNR=5.1						
WRA	**Warramunga Arr**	**69.08**	**201**	P	**P**	**07 22 09.2**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**72.01**	**327**	P	**P**	**07 22 26.5**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=39,slow=6.6,SNR=5.8						
AKASG	**Malin Array Be**	**72.01**	**327**	P	**P**	**07 22 26.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.77**	**200**	P	**P**	**07 22 31.7**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.2,baz=17,slow=5.6,SNR=17						
ASAR	**Alice Springs**	**72.77**	**200**	P	**P**	**07 22 31.7**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**07 22 52.2**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=302,slow=4.6,SNR=22						
TXAR	**Lajitas Array**	**76.39**	**62**	P	**P**	**07 22 52.2**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**78.77**	**335**	P	**P**	**07 23 07.5**	**+1.8**
	comp=Z,0.3nm,0.2s,mb3.8,baz=3.3,slow=5.1,SNR=4.3						

*IDC **20** 07:18:28.2±0.7, 46.01N×154.31E, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/24, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=24.4km s-min=17.2km az=155.0*
*ISCJB **20** 07:18:30.6±4.2, 46.1N±0.1×154.2E±0.2, h27km±29km, mb3.9/10, Error ellipse: s-maj=24.4km s-min=12.9km az=97.6*
*MOS **20** 07:18:32.1±1.4, 46.11N×154.10E, h40km, mb4.3/6, Error ellipse: s-maj=18.1km s-min=17.2km az=57.4*
ISC 20 07:18:33.9±1.7, 46.1N±0.1×154.3E±0.2, h38km±15km, n23, σ0=0.73/23, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.79**	**14**	*e*PN	**Pn**	**07 19 43.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.98**	**281**	*e*PN	**Pn**	**07 20 28.0**	**+0.7**
ASAJ	**Asahikawa**	**8.47**	**261**	Pn	**Pn**	**07 20 33.4**	**-0.7**
	0.5nm,0.3s,baz=80,slow=18,SNR=2.6						
ASAJ	**Asahikawa**	**8.47**	**261**	PN	**Pn**	**07 20 33.4**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.33**	**237**	Pn	**Pn**	**07 22 07.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=16,slow=14,SNR=4.9						
MJAR	**Matsushiro Arr**	**15.33**	**237**	P	**Pn**	**07 22 07.6**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.48**	**290**	*e*P	**Pn**	**07 22 05.0**	**-4.4**
KSRS	**Korea Array**	**21.37**	**256**	P	**P**	**07 23 19.2**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.3,baz=58,slow=12,SNR=4.5						
SONM	**Songino Array**	**32.31**	**291**	P	**P**	**07 24 59.8**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=97,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**07 27 07.4**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=69,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**07 27 07.4**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**62.05**	**63**	P	**P**	**07 28 51.4**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.0,baz=276,slow=9.3,SNR=5.9						
PDAR	**Pinedale Array**	**64.51**	**54**	P	**P**	**07 29 07.2**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=298,slow=3.2,SNR=7.3						
FINES	**FINESS Array B**	**65.00**	**335**	P	**P**	**07 29 09.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=32,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**65.00**	**335**	P	**P**	**07 29 09.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.13**	**200**	P	**P**	**07 29 28.8**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=16,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**68.13**	**200**	P	**P**	**07 29 28.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**71.81**	**200**	P	**P**	**07 29 52.4**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=14,slow=5.9,SNR=24						
ASAR	**Alice Springs**	**71.81**	**200**	P	**P**	**07 29 52.4**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**77.14**	**61**	P	**P**	**07 30 23.6**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=303,slow=4.3,SNR=29						
TXAR	**Lajitas Array**	**77.14**	**61**	P	**P**	**07 30 23.7**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**79.43**	**318**	P	**P**	**07 30 36.2**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=70,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**79.43**	**318**	P	**P**	**07 30 36.2**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **20** 07:31:01.1±1.1, 46.06N×154.02E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/22, mbtmp3.9/4, MS2.5/1, Ms1 2.5/1, ms1mx1.5/34, Error ellipse: s-maj=41.9km s-min=30.5km az=127.0*
*ISCJB **20** 07:31:04.5±0.9, 46.0N±0.1×154.0E±0.3, h33km, mb3.9/4, Error ellipse: s-maj=34.4km s-min=17.1km az=40.4*
*MOS **20** 07:31:04.4±0.5, 46.06N×153.75E, h33km, mb4.1/4, Error ellipse: s-maj=93.6km s-min=34.4km az=78.5*
ISC 20 07:31:07.1±4.0, 46.1N±0.2×153.9E±0.3, h40km±40km, n9, σ0=18/9, mb3.9/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.85**	**17**	*e*PN	**Pn**	**07 32 17.5**	**0.0**
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**07 39 40.2**	**0.0**
	0.5nm,0.7s,mb3.7,baz=72,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**07 39 40.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.05**	**200**	P	**P**	**07 42 02.2**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=14,slow=6.7,SNR=6.9						
WRA	**Warramunga Arr**	**68.05**	**200**	P	**P**	**07 42 02.2**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**71.74**	**199**	P	**P**	**07 42 25.4**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.9,baz=12,slow=4.8,SNR=14						
ASAR	**Alice Springs**	**71.74**	**199**	P	**P**	**07 42 25.4**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.33**	**61**	P	**P**	**07 42 57.5**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=309,slow=4.3,SNR=13						
TXAR	**Lajitas Array**	**77.33**	**61**	P	**P**	**07 42 57.5**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **20** 07:46:36.7±0.8, 46.91N×154.96E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/25, mbtmp3.9/9, ML3.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.0/36, Error ellipse: s-maj=26.4km s-min=21.1km az=117.0*
*MOS **20** 07:46:39.6±1.8, 46.70N×154.71E, h33km, mb4.1/8, Error ellipse: s-maj=27.9km s-min=17.1km az=70.8*
*ISCJB **20** 07:46:42.4±2.1, 46.8N±0.1×154.6E±0.2, h56km±18km, mb3.9/8, Error ellipse: s-maj=28.9km s-min=13.7km az=78.8*
ISC 20 07:46:44.2±1.8, 46.8N±0.1×154.6E±0.2, h58km±16km, n19, σ1=22/19, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.02**	**14**	*e*PN	**Pn**	**07 47 44.5**	**+1.2**
ASAJ	**Asahikawa**	**8.87**	**257**	Pn	**Pn**	**07 48 49.6**	**-0.1**
	0.8nm,0.3s,baz=102,slow=14,SNR=3.6						
ASAJ				LR	LR	07 52 40.3	
	comp=Z,43nm,20.9s,baz=28,slow=40						
MJAR	**Matsushiro Arr**	**15.95**	**236**	Pn	**Pn**	**07 50 22.7**	**-2.1**
	0.3nm,0.3s,baz=33,slow=9.4,SNR=4.0						
INK	**Inuvik**	**41.06**	**33**	P	**P**	**07 54 19.8**	**-2.2**
	0.9nm,0.4s,mb3.7,baz=308,slow=4.9,SNR=7.4						
INK	**Inuvik**	**41.06**	**33**	P	**P**	**07 54 19.8**	**-2.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**07 55 17.0**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.8,baz=61,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**07 55 17.0**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.64**	**310**	P	**P**	**07 55 45.0**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=53,slow=6.7,SNR=6.1						
BVAR	**Borovoye Array**	**51.64**	**310**	P	**P**	**07 55 45.0**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**07 57 14.1**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=42,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**07 57 14.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.52**	**342**	P	**P**	**07 57 40.6**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=29,slow=6.3,SNR=2.8						
NOA	**NORSAR Array B**	**68.52**	**342**	P	**P**	**07 57 40.6**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.90**	**200**	P	**P**	**07 57 43.9**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=23,slow=6.4,SNR=4.9						
WRA	**Warramunga Arr**	**68.90**	**200**	P	**P**	**07 57 43.9**	**+1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**	**07 58 07.2**	**+2.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=15,slow=5.4,SNR=13						
ASAR	**Alice Springs**	**72.59**	**200**	P	**P**	**07 58 07.3**	**+2.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.56**	**62**	P	**P**	**07 58 27.4**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=304,slow=4.9,SNR=15						
TXAR	**Lajitas Array**	**76.56**	**62**	P	**P**	**07 58 27.4**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*CSEM **20** 07:50:24.0, 67.90N×20.16E, h0km, ML3.2, Suspected Mining explosion. After UPP*
*UPP **20** 07:50:24.0, 67.90N×20.16E, h0km, ML3.2, Suspected Mining explosion.*
HEL 20 07:50:25.0±0.2, 67.86N×20.99E, h0km, ML1.8, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**29**	*i* P	Pg	07 50 25.9	-1.3
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	07 50 32.2	-1.2
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	07 50 37.9	-0.6
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	07 50 38.8	-0.6
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	07 50 39.5	-0.8
SALU	**Saltoluokta**	**0.80**	**234**	P	Pg	07 50 39.5	-0.9
	baz=74						
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	07 50 47.8	+0.3
KIF				*e*S	Sg	07 51 03.8	+0.9
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	07 50 49.5	-2.3

*STR **20** 08:18:57.8±0.0, 4302N×002W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 20 08:18:57.3±0.1, 4303N×002W, h6km, Md1.5/3, Ml1.6/2, Error ellipse: s-maj=3.3km s-min=1.5km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**74**	Pg	Pg	08 18 59.6	+0.6
LABF				Sg	Sg	08 19 00.9	+0.7
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	08 19 00.6	+0.3
VIEF				Sg	Sg	08 19 02.7	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	08 19 02.5	0.0
EPF				*e*Sg	Sg	08 19 06.0	0.0
	1.8nm,0.2s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	08 19 05.8	+0.5
ETSF				*e*Sg	Sg	08 19 11.5	+0.7
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	08 19 13.8	-0.5
SJPF				*e*Sg	Sg	08 19 25.1	-0.7
	0.8nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	08 19 28.7	-0.6
MTLF				*e*Sg	Sg	08 19 50.0	-0.9
	2.5nm,0.5s						

*SKHL **20** 08:22:30.2±1.0, 4625N×15396E, h63km±26km, Ms4.0/2*
*NEIC **20** 08:22:32.7±0.4, 4650N×15323E, h10km, mb4.8/13, Error ellipse: s-maj=10.8km s-min=7.9km az=133.0*
*BJI **20** 08:22:32.0, 4666N×15363E, h29km, mB4.8, mb4.3, Ms3.7, Msz3.6*
*ISCJB **20** 08:22:34.7±2.2, 4650N±007×15336E±009, h33km±14km, mb4.6/42, MS3.7/3, Error ellipse: s-maj=13.7km s-min=7.5km az=99.6*
*MOS **20** 08:22:35.0±1.3, 4647N×15335E, h40km, mb4.8/18, Error ellipse: s-maj=9.7km s-min=7.3km az=111.3*
*IDC **20** 08:22:36.1±8.3, 4649N×15320E, h33km±62km, mb4.0/17, mb1 4.2/18, mb1mx4.1/26, mbtmp4.0/18, MS3.7/4, Ms1 3.7/4, ms1mx3.2/35, Error ellipse: s-maj=18.7km s-min=15.8km az=144.0*

ISC 20 08:22:36.2±2.3, 4664N±007×15334E±009, h30km±15km, n117, σ1§15/118, mb4.6/42, MS3.7/3, 14C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.07**	**252**	⇓*i*P	**Pn**	**08 23 34.0**	**-2.4**
KUR				AMB	AMB	08 23 35.0	
	266nm,0.6s						
KUR				*e*S	**Sn**	**08 24 21.0**	**-2.0**
KUR				A		08 24 30.4	
	323nm,0.8s						
KUR				A		08 24 30.4	
	752nm,0.8s						
KUR	**Kuril'sk**	**4.07**	**252**	⇓*i*PN	**Pn**	**08 23 34.0**	**-2.4**
KUR				*i* S	**Sn**	**08 24 21.0**	**-2.0**
KUR				pmax	pmax		
	comp=Z,270nm,0.6s						
KUR				smax			
	comp=N,320nm,0.8s						
KUR				smax			
	comp=E,750nm,0.8s						
SKR	**Severo-Kuril's**	**4.44**	**23**	*e*P	**Pn**	**08 23 42.0**	**+0.5**
SKR				AMB	AMB	08 23 43.5	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	08 23 43.5	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**08 24 31.0**	**-1.2**
SKR				A		08 24 41.7	
	comp=E,70nm,0.6s						
SKR				A		08 24 41.7	
	comp=E,170nm,0.6s						
SKR				A		08 24 41.7	
	comp=E,60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.88**	**246**	*e*P	**Pn**	**08 24 02.7**	**+1.4**
YUK				*e*S	**Sn**	**08 25 12.2**	**+4.6**
YUK				A		08 25 20.0	
	comp=E,570nm,0.5s						
YUK				A		08 25 20.0	
	comp=E,200nm,0.5s						
YUK				A		08 25 37.0	
	comp=E,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.88**	**246**	*e*PN	**Pn**	**08 24 02.7**	**+1.4**
YUK				*e*S	**Sn**	**08 25 12.2**	**+4.6**
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,200nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
PET	**Petropavlovsk**	**7.25**	**26**	*e*PN	**Pn**	**08 24 17.4**	**-2.7**
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**276**	*e*P	**Pn**	**08 24 24.0**	**+3.6**
YSS				AMB	AMB	08 24 30.0	
	comp=Z,30nm,1.0s						
YSS				AMB	AMB	08 24 30.0	
	comp=Z,30nm,1.0s						
YSS				*e*S	**Sn**	**08 25 50.0**	**+8.1**
YSS				A		08 25 51.0	
	comp=Z,30nm,0.6s						
YSS				AMS	AMS	08 27 03.0	
	comp=Z,500nm,14.0s						
YSS				AMS	AMS	08 27 03.0	
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**276**	⇓*e*PN	**Pn**	**08 24 24.5**	**+4.1**
YSS	**Yuzh-Sakhalins**	**7.27**	**276**	*e*Pn	**Pn**	**08 24 24.1**	**+3.8**
	comp=Z,36nm,1.0s						
UGL	**Uglegorsk**	**7.96**	**292**	*e*P	**Pn**	**08 24 34.0**	**+4.1**
UGL				AMB	AMB	08 24 35.5	
	comp=Z,67nm,1.0s						
UGL				AMS	AMS	08 27 39.0	
	comp=Z,500nm,17.0s						
UGL				AMS	AMS	08 27 39.0	
	comp=Z,1μm,17.0s						
UGL				AMS	AMS	08 27 39.0	
	comp=Z,600nm,17.0s						
ASAJ	**Asahikawa**	**7.97**	**255**	Pn	**Pn**	**08 24 31.8**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=94,slow=17,SNR=17						
ASAJ				LR	LR	08 27 32.4	
	comp=Z,223nm,18.1s,baz=360,slow=38						
TYV	**Tymovskoe**	**8.22**	**305**	*e*P	**Pn**	**08 24 37.8**	**+4.4**
TYV				AMB	AMB	08 24 40.0	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	08 24 40.0	
	comp=Z,41nm,1.0s						
ERM	**Erimo**	**8.64**	**241**	⇑*e*PN	**Pn**	**08 24 38.4**	**-0.7**
ERM	**Erimo**	**8.64**	**241**	*e*Pn	**Pn**	**08 24 40.0**	**+0.9**
	comp=Z,60nm,0.6s						
NKL	**Nikolayevsk**	**10.44**	**313**	*e*L		08 28 22.0	
NKL				AMS	AMS	08 30 23.0	
	comp=Z,800nm,14.0s						
NKL				AMS	AMS	08 30 23.0	
	comp=Z,1μm,14.0s						
KLR	**Kul'dur**	**14.70**	**288**	*e*P	**Pn**	**08 26 02.9**	**+1.0**
MJAR	**Matsushiro Arr**	**15.14**	**234**	Pn	**Pn**	**08 26 04.6**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=22,slow=12,SNR=4.1						
YAK	**Yakutsk**	**20.50**	**327**	⇑*e*P	**P**	**08 27 13.4**	**+1.7**
YAK				pmax	pmax		
	comp=Z,11nm,0.4s						
KSRS	**Korea Array**	**20.91**	**253**	P	**P**	**08 27 15.3**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=55,slow=11,SNR=11						
SNY	**Shenyang**	**21.79**	**268**	⇓P	**P**	**08 27 24.5**	**-1.1**
SNY				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.5						
JNU	**Nakatsue**	**21.80**	**240**	LR	LR	08 35 09.8	
	comp=Z,200nm,18.7s,MS3.5,baz=336,slow=35						
BILL	**Bilibino**	**22.46**	**13**	⇑*e*P	**P**	**08 27 32.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
BILL	**Bilibino**	**22.46**	**13**	*e*P	**P**	**08 27 32.7**	**0.0**
	comp=Z,8.4nm,0.6s,mb4.3						
SONM	**Songino Array**	**31.52**	**290**	P	**P**	**08 28 54.4**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=74,slow=7.1,SNR=5.0						
SONM				PcP	PcP	08 31 47.5	-0.3
	comp=Z,0.4nm,0.7s,baz=108,slow=4.8,SNR=4.4						
SONM				LR	LR	08 42 40.1	
	comp=Z,151nm,18.2s,MS3.7,baz=350,slow=38						
SONM	**Songino Array**	**31.52**	**290**	P	**P**	**08 28 54.4**	**-1.0**
SONM				PcP	PcP	08 31 47.5	-0.3
ZAK	**Zakamensk**	**32.87**	**295**	*e*P	**P**	**08 29 05.6**	**-1.7**
LZH	**Lanzhou**	**38.05**	**272**	*e*P	**P**	**08 29 53.0**	**+1.2**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,160nm,5.5s						
GTA	**Gaotai**	**39.14**	**279**	*e*P	**P**	**08 30 01.8**	**+0.8**
GTA				AP	pP	08 30 07.4	-2.5
GTA				XP	sP	08 30 10.9	-2.6
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
INK	**Inuvik**	**41.66**	**32**	P	**P**	**08 30 22.2**	**+0.3**
	comp=Z,1.3nm,0.5s,mb3.8,baz=270,slow=16,SNR=10						
INK	**Inuvik**	**41.66**	**32**	*e*P	**P**	**08 30 22.2**	**+0.4**
	comp=Z,71nm,0.6s,mb5.5						
ZAL	**Zalesovo**	**42.82**	**306**	LR	LR	08 49 56.2	
	comp=Z,126nm,21.1s,MS3.8,baz=30,slow=38						
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**08 31 04.7**	**-0.9**
	comp=Z,4.8nm,0.8s,mb4.5,baz=64,slow=7.4,SNR=36						
MKAR				PcP	PcP	08 32 35.9	-1.1
	comp=Z,1.4nm,0.7s,baz=74,slow=5.0,SNR=5.3						
KURK	**Kurchatov**	**47.55**	**304**	P	**P**	**08 31 06.8**	**-2.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P	**P**	**08 31 30.9**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**50.62**	**310**	*e*P	**P**	**08 31 30.9**	**-1.4**
	comp=Z,11nm,0.8s,mb4.8						
VOSK	**Vostochnaya**	**50.88**	**309**	P	**P**	**08 31 32.9**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**50.92**	**37**	P	**P**	**08 31 34.8**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.4,baz=298,slow=7.2,SNR=6.0						
YKA	**Yellowknife Ar**	**50.92**	**37**	P	**P**	**08 31 34.8**	**+0.2**
BVA0	**Borovoye Array**	**51.05**	**310**	*i* P	**P**	**08 31 34.2**	**-1.4**
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**08 31 34.8**	**-0.8**
	comp=Z,2.2nm,0.3s,mb4.5,baz=55,slow=7.8,SNR=17						
BVAR				PcP	PcP	08 32 50.6	-0.6
	comp=Z,1.2nm,0.6s,baz=90,slow=1.9,SNR=2.4						
BRVK	**Borovoye**	**51.09**	**310**	P	**P**	**08 31 34.2**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**08 31 34.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**08 31 34.8**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**52.25**	**257**	*e*P	**P**	**08 31 45.2**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.25**	**257**	*e*P	**P**	**08 31 45.2**	**+0.7**
	comp=Z,5.5nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.02**	**297**	*de*P	**P**	**08 31 56.7**	**-0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**54.02**	**297**	*e*P	**P**	**08 31 56.6**	**-1.0**
	comp=Z,5.2nm,0.9s,mb4.5						
JIRN	**Jiri**	**55.11**	**275**	*e*P	**P**	**08 32 07.1**	**+1.6**
	comp=Z,13nm,0.6s,mb5.1						
GUN	**Gumba**	**55.17**	**275**	*e*P	**P**	**08 32 06.9**	**+1.0**
	comp=Z,11nm,0.4s,mb5.2						
ARU	**Arti**	**55.20**	**318**	⇓*i*P	**P**	**08 32 00.8**	**-5.3**
ARU				*e*S	**S**	**08 39 41.2**	**-6.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KKN	**Kakani**	**55.65**	**276**	*e*P	**P**	**08 32 11.1**	**+1.7**
	comp=Z,32nm,0.7s,mb5.4						
PKI	**Pulchoki**	**55.70**	**275**	*e*P	**P**	**08 32 10.8**	**+1.1**
	comp=Z,9.1nm,0.6s,mb5.0						
DMN	**Daman**	**55.89**	**275**	*e*P	**P**	**08 32 12.3**	**+1.2**
	comp=Z,29nm,0.8s,mb5.4						
GKN	**Gorkha**	**55.96**	**276**	*e*P	**P**	**08 32 12.4**	**+0.8**
	comp=Z,22nm,0.5s,mb5.4						
DANN	**Dangsing**	**56.34**	**277**	*e*P	**P**	**08 32 16.0**	**+1.7**
KOLN	**Koldanda**	**56.82**	**277**	*e*P	**P**	**08 32 18.4**	**+0.7**
	comp=Z,15nm,0.7s,mb5.1						
KEV	**Kevo**	**57.50**	**341**	*ep*	**P**	**08 32 26.7**	**+4.2**
ARCES	**ARCESS Array B**	**58.01**	**341**	P	**P**	**08 32 25.4**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=276,slow=4.3,SNR=5.2						
AB31	**Akbulak array**	**58.62**	**310**	*e*P	**P**	**08 32 29.5**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AKTK	**Aktyubinsk**	**58.91**	**312**	P	**P**	**08 32 31.3**	**-1.1**
AKTO	**Aktyubinsk**	**58.91**	**312**	P	**P**	**08 32 31.3**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=72,slow=8.5,SNR=4.0						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**08 32 58.2**	**+2.4**
	comp=Z,0.6nm,0.8s,mb3.8,baz=305,slow=5.6,SNR=4.8						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**08 32 58.2**	**+2.4**
FINES	**FINESS Array B**	**64.20**	**335**	P	**P**	**08 33 07.5**	**-0.6**
	comp=Z,3.4nm,0.4s,mb4.7,baz=40,slow=7.0,SNR=27						
PDAR	**Pinedale Array**	**64.68**	**54**	P	**P**	**08 33 11.6**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=27,slow=0.7,SNR=4.9						
NB2	**NORSAR Subarra**	**68.38**	**341**	P	**P**	**08 33 34.3**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.7,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.38**	**341**	P	**P**	**08 33 34.7**	**-0.2**
	comp=Z,6.0nm,0.7s,mb4.7,baz=28,slow=6.4,SNR=15						
WRA	**Warramunga Arr**	**68.46**	**199**	P	**P**	**08 33 32.4**	**-3.0**
	comp=Z,1.0nm,0.9s,mb3.9,baz=13,slow=7.5,SNR=5.2						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**08 33 54.9**	**-0.5**
	comp=Z,8.1nm,0.6s,mb4.8,baz=33,slow=6.2,SNR=21						
KIEV	**Kiev**	**71.74**	**326**	*e*P	**P**	**08 33 54.4**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
KIEV	**Kiev**	**71.74**	**326**	*e*P	**P**	**08 33 54.4**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
AS31	**Alice Springs**	**72.15**	**199**	*e*P	**P**	**08 33 56.5**	**-1.5**
ASAR	**Alice Springs**	**72.16**	**199**	P	**P**	**08 33 56.9**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=12,slow=5.9,SNR=22						
GNI	**Garni**	**72.72**	**310**	⇑*e*P	**P**	**08 34 02.1**	**+0.8**
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
BURAR	**Bucovina Array**	**75.77**	**327**	⇑*i*P	**P**	**08 34 19.1**	**0.0**
BURAR	**Bucovina Array**	**75.77**	**327**	⇑P	**P**	**08 34 19.1**	**+0.1**
UPC	**Upice**	**76.45**	**334**	*e*P	**P**	**08 34 23.7**	**+0.8**
DPC	**Dobruska-Polom**	**76.49**	**333**	*e*P	**P**	**08 34 24.0**	**+0.8**
MORC	**Moravsky Berou**	**76.61**	**332**	⇓*i*P	**P**	**08 34 24.2**	**+0.3**
CLL	**Collm**	**76.63**	**336**	*i* P	**P**	**08 34 24.2**	**+0.2**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
CLL	**Collm**	**76.63**	**336**	*i* P	**P**	**08 34 24.2**	**+0.2**
	comp=Z,10.0nm,0.8s,mb4.8						
KECS	**Kecovo**	**76.75**	**330**	*e*P	**P**	**08 34 25.0**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.0						
MLR	**Muntele Rosu**	**77.24**	**325**	⇓*i*P	**P**	**08 34 28.7**	**+1.3**
MLR	**Muntele Rosu**	**77.24**	**325**	⇓P	**P**	**08 34 28.7**	**+1.3**
VYHS	**Vyhne**	**77.30**	**331**	*e*P	**P**	**08 34 27.9**	**+0.2**
MALT	**Malatya**	**77.34**	**313**	⇓*i*P	**P**	**08 34 29.5**	**+1.5**
MALT	**Malatya**	**77.34**	**313**	⇓P	**P**	**08 34 29.5**	**+1.5**
PRU	**Pruhonice**	**77.35**	**334**	*e*P	**P**	**08 34 29.2**	**+1.2**
DRGR		**77.39**	**328**	⇑*i*P	**P**	**08 34 28.7**	**+0.5**
DRGR		**77.39**	**328**	⇑P	**P**	**08 34 28.7**	**+0.5**
TXAR	**Lajitas Array**	**77.41**	**61**	P	**P**	**08 34 28.0**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.8,baz=296,slow=4.7,SNR=18						
TXAR	**Lajitas Array**	**77.41**	**61**	P	**P**	**08 34 28.0**	**-0.3**
VOIR		**77.64**	**326**	⇑*i*P	**P**	**08 34 30.8**	**+1.2**
VOIR		**77.64**	**326**	⇑P	**P**	**08 34 30.8**	**+1.1**
KHC	**Kasperske Hory**	**78.40**	**334**	*e*P	**P**	**08 34 34.0**	**+0.1**
KHC	**Kasperske Hory**	**78.40**	**334**	⇓*i*P	**P**	**08 34 33.5**	**-0.4**
GZR	**Gura Zlata**	**78.55**	**327**	⇑*i*P	**P**	**08 34 34.7**	**0.0**
GZR	**Gura Zlata**	**78.55**	**327**	⇑P	**P**	**08 34 34.7**	**0.0**
GERES	**GERESS Array B**	**78.62**	**334**	P	**P**	**08 34 34.9**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=8.1,slow=1.9,SNR=9.1						
GERES	**GERESS Array B**	**78.62**	**334**	P	**P**	**08 34 34.9**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VTS	**Vitosha**	**80.75**	**325**	⇑*i*P	**P**	**08 34 47.8**	**+1.2**
VTS	**Vitosha**	**80.75**	**325**	⇑P	**P**	**08 34 47.8**	**+1.1**
CDF	**Champ du Feu**	**80.82**	**338**	*e*P	**P**	**08 34 46.8**	**-0.2**
	comp=Z,21nm,1.2s,mb4.7						
CDF	**Champ du Feu**	**80.82**	**338**	*e*P	**P**	**08 34 46.8**	**-0.2**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CDF	**Champ du Feu**	**80.82**	**338**	*e*P	**P**	**08 34 46.8**	**-0.2**
	comp=Z,10nm,1.2s,mb4.6						
PMOR	**Pomariorio Ree**	**80.86**	**123**	*e*T		10 05 03.9	
	comp=Z,3.6nm,0.2s						
PPT	**Papeete**	**81.97**	**126**	*e*LR	LR	09 01 05.7	
	comp=Z,60nm,25.8s						
FLN	**La Foliniere**	**82.28**	**343**	*e*P	**P**	**08 34 54.2**	**-0.5**
	comp=Z,229nm,1.6s,mb5.6						
FLN	**La Foliniere**	**82.28**	**343**	*e*P	**P**	**08 34 54.2**	**-0.5**
	comp=Z,115nm,1.6s,mb5.6						
SMF	**Signal de Mont**	**83.32**	**339**	*e*P	**P**	**08 35 00.1**	**0.0**
	comp=Z,31nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.32**	**339**	*e*P	**P**	**08 35 00.1**	**0.0**
SMF				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
SMF	**Signal de Mont**	**83.32**	**339**	*e*P	**P**	**08 35 00.1**	**0.0**
	comp=Z,16nm,1.1s,mb5.0						
MBDF	**Montbardon**	**84.35**	**337**	*e*P	**P**	**08 35 05.6**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.6						
MBDF	**Montbardon**	**84.35**	**337**	*e*P	**P**	**08 35 05.6**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
MBDF	**Montbardon**	**84.35**	**337**	*e*P	**P**	**08 35 05.6**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.6						
ORIF	**Oris-en-Rattie**	**84.41**	**337**	*e*P	**P**	**08 35 06.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**115.27**	**329**	PKP	PKPdf	08 41 13.9	-0.8
	comp=Z,0.3nm,0.5s,baz=19,slow=2.3,SNR=3.0						

*THR **20** 08:27:19.9±1.1, 3627N×5432E, h14km±10km, ML3.6*
*ISCJB **20** 08:27:20.7±1.0, 3621N±005×5423E±005, h6km±6km, Error ellipse: s-maj=9.4km s-min=5.7km az=113.4*
*CSEM **20** 08:27:20.0±0.1, 3629N×5430E, h16km, ML3.6, Error ellipse: s-maj=3.1km s-min=2.1km az=142.0*
*TEH **20** 08:27:22.3, 3625N×5425E, h10km, Mn3.7*

ISC 20 08:27:21.3±1.1, 3622N±005×5424E±005, h4km±6km, n20, σ0§68/29, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjiloo**	**0.80**	**200**	*e*Pg	**Pg**	**08 27 36.4**	**-0.2**
ISHM	**Shahmirzad**	**0.87**	**242**	*e*Pg	**Pg**	**08 27 37.2**	**-0.9**
ISHM				*e*Sg	**Sg**	**08 27 49.5**	**0.0**
ILAS	**Lasjerd**	**1.34**	**232**	*e*Pn	**Pn**	**08 27 45.7**	**-1.1**
IDMV	**Damavand**	**1.91**	**251**	*e*Pn	**Pn**	**08 27 54.5**	**-0.1**
DAMV	**Damavand**	**1.94**	**253**	*e*Pn	**Pn**	**08 27 55.0**	**0.0**
DAMV				*e*Sg	**Sg**	**08 28 23.3**	**-0.3**
DAMV				AML	AML	08 28 29.1	
	comp=N,606nm,0.6s						
DAMV				AML	AML	08 28 33.1	
	comp=E,681nm,0.6s						
DAMV	**Damavand**	**1.94**	**253**	*e*Pn	**Pn**	**08 27 55.0**	**0.0**
	SNR=52						
DAMV				*e*Sg	**Sg**	**08 28 23.3**	**-0.2**
	SNR=90						
MRVT	**Maraveh tapeh**	**2.06**	**45**	*e*Pg	**Pn**	**08 27 55.6**	**-1.1**
MRVT				*e*Sg	**Sn**	**08 28 22.7**	**-0.3**
IVRN	**Varamin**	**2.39**	**240**	*e*Pn	**Pn**	**08 28 01.7**	**+0.5**
IVRN				*e*Sn	**Sn**	**08 28 31.5**	**+0.6**
ISFB	**Sefidab**	**2.48**	**222**	*e*Pn	**Pn**	**08 28 02.9**	**+0.3**
ISFB				*e*Sn	**Sn**	**08 28 33.6**	**+0.3**
CHTH	**Charan**	**2.54**	**264**	*e*Pn	**Pn**	**08 28 04.0**	**+0.5**
CHTH				AML	AML	08 28 45.4	
	comp=N,178nm,0.6s						
THKV	**Tehran--Karaj**	**2.74**	**265**	*e*Pn	**Pn**	**08 28 07.1**	**+1.0**
IRAZ	**Razeghan**	**3.60**	**258**	*e*Pn	**Pn**	**08 28 18.3**	**+0.4**
IRAZ				*e*Sn	**Sn**	**08 28 59.8**	**-1.1**
NASN	**Na'in**	**3.61**	**200**	*e*Pn	**Pn**	**08 28 18.9**	**+0.8**
IKLH	**Kalahroud**	**3.63**	**218**	*e*Pn	**Pn**	**08 28 18.3**	**-0.1**
IZEF	**Zefreh**	**3.67**	**206**	*e*Pn	**Pn**	**08 28 19.4**	**+0.5**
IZEF				*e*Sn	**Sn**	**08 29 02.1**	**-0.6**
ASAO	**Ashtian**	**3.83**	**245**	*e*Pn	**Pn**	**08 28 21.6**	**+0.6**
ASAO				AML	AML	08 29 35.7	
	comp=E,63nm,0.7s						
ASAO				AML	AML	08 29 49.5	
	comp=N,62nm,0.6s						
ICHK	**Chekchek**	**3.97**	**178**	*e*Pn	**Pn**	**08 28 23.5**	**+0.5**
IPIR	**Pirpir**	**4.48**	**219**	*e*Pn	**Pn**	**08 28 31.0**	**+0.9**
IPIR				*e*Sn	**Sn**	**08 29 20.9**	**-1.8**
IBAF	**Bafgh**	**4.75**	**166**	*e*Pn	**Pn**	**08 28 33.7**	**0.0**
SNGE	**Sanandaj**	**5.73**	**261**	*e*Pn	**Pn**	**08 28 47.5**	**+0.4**

*IDC **20** 08:28:10.0±0.7, 4721N×15531E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.3/26, mbtmp4.2/20, ML3.7/2, Error ellipse: s-maj=19.5km s-min=14.2km az=157.0*
*ISCJB **20** 08:28:14.0±0.5, 4736N±008×15532E±008, h35km, mb4.3/28, Error ellipse: s-maj=12.6km s-min=6.4km az=129.4*
*MOS **20** 08:28:14.6±0.9, 4725N×15522E, h45km, mb4.6/19, Error ellipse: s-maj=14.2km s-min=10.6km az=107.2*

ISC 20 08:28:15.6±0.5, 4736N±008×15539E±008, h35km, n60, σ1§20/61, mb4.3/28, 5C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.36**	**8**	*e*PN	**Pn**	**08 29 03.5**	**-2.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
KUR	**Kuril'sk**	**5.63**	**251**	*e*PN	**Pn**	**08 29 33.0**	**-3.8**
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
PET	**Petropavlovsk**	**6.05**	**19**	⇑*i*PN	**Pn**	**08 29 40.9**	**-1.6**
PET				pmax	pmax		
	comp=Z,45nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,11.0s						
YSS	**Yuzh-Sakhalins**	**8.62**	**272**	*e*PN	**Pn**	**08 30 19.8**	**+1.9**
YSS				S

comp=Z,5.0nm,0.6s,mb4.7
JIRN Jiri 56.44 276 *e*P **P 08 37 56.4 +2.6**
GUN Gumba 56.49 276 *e*P **P 08 37 57.2 +3.1**
KKN Kakani 56.97 276 *e*P **P 08 37 59.4 +1.8**
PKI Pulchoki 57.03 276 *e*P **P 08 37 59.0 +1.1**
DMN Daman 57.21 276 *e*P **P 08 38 00.7 +1.5**
GKN Gorkha 57.27 277 *e*P **P 08 38 01.3 +1.6**
comp=Z,11nm,0.4s,mb5.3
KEV Kevo 57.28 341 *e*p **P 08 37 59.5 -0.2**
ARCES ARCESS Array B 57.78 341 P **P 08 38 02.8 -0.4**
comp=Z,9.1nm,1.2s,mb4.7,baz=23,slow=7.6,SNR=6.9
ARCES ARCESS Array B 57.78 341 P **P 08 38 02.8 -0.5**
ARCES pmax pmax
comp=Z,9.0nm,1.2s
KOLN Koldanda 58.12 278 *e*P **P 08 38 06.6 +1.0**
comp=Z,3.9nm,0.4s,mb4.8
AB31 Akbulak array 59.22 311 *i* P **P 08 38 13.7 +0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO Aktyubinsk 59.47 313 P **P 08 38 14.7 -0.3**
NVAR Mina Array Bea 60.77 64 P **P 08 38 25.1 +1.2**
comp=Z,0.7nm,0.7s,mb3.9,baz=297,slow=10.0,SNR=5.9
PDAR Pinedale Array 63.13 55 P **P 08 38 39.9 +0.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=295,slow=1.7,SNR=8.9
FINES FINESS Array B 64.14 336 P **P 08 38 46.6 +0.2**
comp=Z,1.9nm,0.4s,mb4.5,baz=39,slow=7.1,SNR=19
FINES FINESS Array B 64.14 336 P **P 08 38 46.6 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ULM Lac du Bonnet 65.04 42 P **P 08 38 52.4 +0.1**
comp=Z,2.0nm,0.9s,mb4.1,baz=300,slow=10,SNR=4.2
NB2 NORSAR Subarra 68.14 342 P **P 08 39 12.5 +0.4**
comp=Z,2.4nm,0.6s,mb4.4,baz=26,slow=6.5
NOA NORSAR Array B 68.14 342 P **P 08 39 12.6 +0.4**
comp=Z,3.0nm,0.6s,mb4.5,baz=25,slow=6.4,SNR=8.9
NOA NORSAR Array B 68.14 342 P **P 08 39 12.6 +0.5**
NOA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 69.62 201 P **P 08 39 19.5 -1.7**
comp=Z,0.6nm,0.7s,mb3.6,baz=21,slow=7.1,SNR=7.9
WRA Warramunga Arr 69.62 201 P **P 08 39 19.5 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 71.89 327 P **P 08 39 34.7 -0.4**
comp=Z,1.5nm,0.5s,mb4.2,baz=32,slow=5.9,SNR=5.2
AKASG Malin Array Be 71.89 327 P **P 08 39 34.7 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 73.30 201 P **P 08 39 42.2 -1.2**
comp=Z,0.7nm,0.6s,mb3.7,baz=13,slow=5.8,SNR=11
ASAR Alice Springs 73.30 201 P **P 08 39 42.3 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 75.84 62 P **P 08 39 58.8 +0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=299,slow=4.4,SNR=19
TXAR Lajitas Array 75.84 62 P **P 08 39 58.8 +0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 79.00 318 P **P 08 40 17.2 +1.3**
comp=Z,1.4nm,0.8s,mb3.9,baz=20,slow=5.4,SNR=4.5
BRTR Keskin Array B 79.00 318 P **P 08 40 17.2 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

*IDC **20** 08:29:19.1±1.3, 19.16N×6425W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.4/5, MS3.5/2, Ms1 3.5/2, ms1mx3.2/15, Error ellipse: s-maj=46.6km s-min=27.0km az=37.0*
*NEIC **20** 08:29:22.0, 1920N×6406W, h44km, mb4.1/1, MD4.1(RSPR), MD4.3(TRN), After RSPR.*
*TRN **20** 08:29:23.7, 1955N×6379W, h35km, MD4.2*
*ISCJB **20** 08:29:25.1±1.3, 192N±0.1×6443W±0.06, h56km±13km, mb3.5/6, MS3.7/1, Error ellipse: s-maj=18.5km s-min=8.4km az=26.8*
ISC 20 08:29:26.4±1.4, 191N±01×6446W±006, h47km±15km, n23, σ1§23/29, mb3.5/6, MS3.7/1, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.47**	**225**	*e*Pn		**Pn**		**08 29 49.7**	**-0.7**
STMA	**St. Maarten, A**	**1.68**	**130**	*e*P		**Pn**		**08 29 50.8**	**-2.5**
STMA				*e*S		**Sn**		**08 30 11.7**	**-2.0**
CPD	**Cerro la Pandu**	**1.76**	**232**	*e*Pn		**Pn**		**08 29 54.0**	**-0.4**
SABS	**Saba**	**1.90**	**142**	*e*P		**Pn**		**08 29 57.7**	**+1.4**
SABS				*e*S		**Sn**		**08 30 20.4**	**+1.3**
SABT	**Saba**	**1.90**	**142**	*e*P		**Pn**		**08 29 57.7**	**+1.4**
SABT				*e*S		**Sn**		**08 30 20.4**	**+1.3**
CPB	**Codrington**	**2.91**	**120**	*e*P		**Pn**		**08 30 05.2**	**-5.0**
CPB				*e*S		**Sn**		**08 30 42.0**	**-1.9**
CPB	**Codrington**	**2.91**	**120**	*e*P		**Pn**		**08 30 09.5**	**-0.6**
CPB				*e*S		**Sn**		**08 30 43.7**	**-0.2**
BPA	**Boggy Peak**	**3.23**	**130**	*e*P		**Pn**		**08 30 12.6**	**-2.0**
BPA				*e*S		**Sn**		**08 30 48.0**	**-3.8**
BPA	**Boggy Peak**	**3.23**	**130**	*e*P		**Pn**		**08 30 15.7**	**+1.1**
BPA				*e*S		**Sn**		**08 30 51.9**	**+0.1**
LZG	**Guadaloupe-1**	**3.93**	**139**	*e*P		**Pn**		**08 30 23.3**	**-0.8**
TBG	**Guadaloupe-3**	**4.23**	**140**	*e*P		**Pn**		**08 30 29.7**	**+1.4**
MGG	**Marie-Galante**	**4.39**	**136**	*e*P		**Pn**		**08 30 32.3**	**+1.9**
SDV	**Santo Domingo**	**11.82**	**211**	*e*Pn		**Pn**		**08 32 10.9**	**-1.3**
	6.0nm,0.7s								
ROSC	**El Rosal**	**17.15**	**215**	LR		LR		08 40 08.6	
	comp=Z,133nm,21.0s,baz=9.7,slow=38								
ROSC	**El Rosal**	**17.15**	**215**	*e*P		**Pn**		**08 33 22.8**	**+0.1**
OTAV	**Otavalo**	**23.26**	**218**	*e*P		**P**		**08 34 29.3**	**-0.6**
	8.6nm,1.1s,mb4.1								
TXAR	**Lajitas Array**	**37.01**	**294**	P		**P**		**08 36 32.2**	**+0.8**
	0.7nm,0.8s,mb3.5,baz=116,slow=9.2,SNR=6.0								
PDAR	**Pinedale Array**	**44.61**	**312**	P		**P**		**08 37 34.2**	**+0.2**
	0.5nm,0.8s,mb3.4,baz=99,slow=9.2,SNR=4.3								
NVAR	**Mina Array Bea**	**50.22**	**304**	P		**P**		**08 38 18.9**	**+1.3**
	0.3nm,0.6s,mb3.5,baz=92,slow=4.5,SNR=4.1								
NVAR	**Mina Array Bea**	**50.22**	**304**	P		**P**		**08 38 18.9**	**+1.3**
CFAA	**Coronel Fontan**	**50.58**	**184**	P		**P**		**08 38 19.9**	**-0.4**
	0.1nm,0.5s,mb3.0,baz=11,slow=5.2,SNR=4.3								
TORD	**Torodi Ar. Bea**	**63.52**	**85**	P		**P**		**08 39 50.5**	**-1.3**
	0.4nm,0.7s,mb3.5,baz=281,slow=4.8,SNR=2.4								
TORD				LR		LR		09 03 23.4	
	comp=Z,50nm,20.5s,MS3.7,baz=5.0,slow=32								
TORD	**Torodi Ar. Bea**	**63.52**	**85**	P		**P**		**08 39 50.5**	**-1.3**

*IDC **20** 08:50:27.7±1.2, 4548N×15266E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=33.0km s-min=28.4km az=137.0*
*ISCJB **20** 08:50:32.0±3.7, 455N±02×1526E±03, h41km±31km, mb3.7/6, Error ellipse: s-maj=34.6km s-min=26.6km az=36.3*
*MOS **20** 08:50:32.1±2.5, 4536N×15256E, h45km, mb4.1/4, Error ellipse: s-maj=23.8km s-min=17.6km az=179.3*
ISC 20 08:50:34.4±3.2, 455N±02×1526E±03, h47km±27km, n18, σ0§63/18, mb3.7/6, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.34**	**267**	⇑*i*P		N	**Pn**	**08 51 18.5**	**-5.6**
KUR						pmax	pmax		
	comp=N,150nm,0.7s								
KUR						pmax	pmax		
	comp=E,90nm,0.7s								
KUR						pmax	pmax		
	comp=Z,260nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.02**	**255**	*e*PN		**Pn**	**Pn**	**08 51 46.1**	**-1.0**
YUK						pmax	pmax		
	comp=Z,570nm,0.5s								
ASAJ	**Asahikawa**	**7.25**	**262**	Pn		**Pn**	**Pn**	**08 52 18.3**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=103,slow=24,SNR=13								
ASAJ	**Asahikawa**	**7.25**	**262**	PN		**Pn**	**Pn**	**08 52 18.3**	**+0.6**
ASAJ						pmax	pmax		
	comp=Z,3.0nm,0.3s								
UGL	**Uglegorsk**	**8.00**	**300**	*e*PN		**Pn**	**Pn**	**08 52 33.0**	**+5.0**
UGL						pmax	pmax		
	comp=Z,20nm,0.6s								
UGL						MLR	MLR		
	comp=N,500nm,16.0s								
UGL						MLR	MLR		
	comp=E,2μm,16.0s								
UGL						MLR	MLR		
	comp=Z,600nm,16.0s								
MJAR	**Matsushiro Arr**	**14.06**	**235**	Pn		**Pn**	**Pn**	**08 53 50.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=97,slow=9.9,SNR=3.9								
MJAR	**Matsushiro Arr**	**14.06**	**235**	P		**Pn**	**Pn**	**08 53 50.9**	**+0.1**
MJAR						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**20.11**	**255**	P		**P**	**P**	**08 55 05.1**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=55,slow=12,SNR=4.4								
MKAR	**Makanchi Array**	**47.20**	**298**	P		**P**	**P**	**08 59 02.2**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=76,slow=6.9,SNR=6.7								
MKAR	**Makanchi Array**	**47.20**	**298**	P		**P**	**P**	**08 59 02.2**	**-0.2**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**65.01**	**335**	P		**P**	**P**	**09 01 09.0**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=51,slow=9.1,SNR=3.0								
FINES	**FINESS Array B**	**65.01**	**335**	P		**P**	**P**	**09 01 09.0**	**-0.5**
FINES						pmax	pmax		
	comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**65.78**	**53**	P		**P**	**P**	**09 01 15.0**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=282,slow=4.5,SNR=2.8								
ASAR	**Alice Springs**	**70.91**	**198**	P		**P**	**P**	**09 01 46.1**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=16,slow=12,SNR=5.7								
AKASG	**Malin Array Be**	**72.38**	**326**	P		**P**	**P**	**09 01 54.8**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=37,slow=6.2,SNR=4.1								
AKASG	**Malin Array Be**	**72.38**	**326**	P		**P**	**P**	**09 01 54.8**	**-0.6**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.4s								
GERES	**GERESS Array B**	**79.42**	**334**	P		**P**	**P**	**09 02 36.2**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=39,slow=8.6,SNR=3.8								
GERES	**GERESS Array B**	**79.42**	**334**	P		**P**	**P**	**09 02 36.2**	**+0.7**
GERES						pmax	pmax		
	comp=Z,1.0nm,0.5s								

*IDC **20** 08:52:09.2±0.7, 4635N×15353E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/25, mbtmp4.1/16, ML3.4/1, MS3.9/5, Ms1 4.0/5, ms1mx3.3/36, Error ellipse: s-maj=20.0km s-min=17.6km az=163.0*
*SKHL **20** 08:52:11.8±3.1, 4577N×15344E, h63km±25km, Ms4.3/3*
*MOS **20** 08:52:13.5±1.6, 4627N×15339E, h45km, mb4.4/13, Error ellipse: s-maj=16.9km s-min=11.6km az=74.1*
*ISCJB **20** 08:52:15.5±1.6, 4633N±009×15342E±0.10, h61km±13km, mb4.1/16, Error ellipse: s-maj=16.4km s-min=8.0km az=114.8*
ISC 20 08:52:17.0±1.3, 4628N±008×15350E±009, h60km±11km, n50, σ1§06/45, mb4.1/16, 5C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08**	**257**	*e*P		**Pn**		**08 53 10.0**	**-6.8**
KUR						AMB	AMB	08 53 12.0	
	152nm,0.6s								
KUR				*e*S		**Sn**		**08 53 56.0**	**-7.3**
KUR				A				08 54 08.5	
	344nm,0.7s								
KUR				A				08 54 08.5	
	516nm,0.7s								
SKR	**Severo-Kuril's**	**4.74**	**21**	*e*P		**Pn**		**08 53 27.7**	**+1.8**
SKR				*e*S		**Sn**		**08 54 19.5**	**0.0**
SKR				A				08 54 26.4	
	400nm,1.0s								
SKR				A				08 54 26.4	
	270nm,1.0s								
SKR				A				08 54 26.4	
	90nm,0.5s								
SKR				AMS		AMS		08 56 04.0	
	2μm,12.0s								
SKR				AMS		AMS		08 56 04.0	
	3μm,12.0s								
YSS	**Yuzh-Sakhalins**	**7.43**	**279**	*e*P		**Pn**		**08 54 03.5**	**+0.8**
YSS						AMB	AMB	08 54 04.9	
	20nm,1.0s								
YSS				*e*S		**Sn**		**08 55 25.0**	**-0.5**
YSS				A				08 55 26.0	
	20nm,0.8s								
YSS				AMS		AMS		08 56 34.0	
	500nm,17.0s								
YSS				AMS		AMS		08 56 34.0	
	600nm,16.0s								
YSS				AMS		AMS		08 56 34.0	
	400nm,15.0s								
YSS	**Yuzh-Sakhalins**	**7.43**	**279**	PN		**Pn**		**08 54 03.5**	**+0.8**
YSS				*e*S		**Sn**		**08 55 25.0**	**-0.5**
YSS				smax					
	comp=E,20nm,0.8s								
PET	**Petropavlovsk**	**7.54**	**24**	*e*PN		**Pn**		**08 54 01.7**	**-2.5**
PET				pmax		pmax			
	comp=Z,40nm,0.9s								
PET				MLR		MLR			
	comp=Z,1μm,14.0s								
ASAJ	**Asahikawa**	**8.00**	**258**	LR		LR		08 56 53.8	
	comp=Z,289nm,20.6s,baz=358,slow=35								
OKH	**Okha**	**9.96**	**321**	*e*L				08 57 55.2	
OKH						AMS	AMS	09 00 22.0	
	comp=Z,2μm,12.0s								
NKL	**Nikolayevsk**	**10.77**	**314**	*e*L				08 59 05.0	
NKL						AMS	AMS	09 00 40.0	
	comp=Z,900nm,14.0s								
NKL						AMS	AMS	09 00 40.0	
	comp=Z,800nm,14.0s								
KLR	**Kul'dur**	**14.91**	**289**	*e*P		**Pn**		**08 55 36.1**	**-8.1**
MJAR	**Matsushiro Arr**	**15.02**	**235**	Pn		**Pn**		**08 55 45.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=40,slow=8.2,SNR=5.7								
SEY	**Seymchan**	**16.70**	**358**	⇑*e*P		pP		08 56 19.4	-1.8
ZEA	**Zeya**	**18.37**	**304**	*e*P		**Pn**		**08 56 30.7**	**+3.3**
YAK	**Yakutsk**	**20.86**	**328**	*e*P		**P**		**08 56 58.5**	**+4.6**
YAK				*e*S		**S**		**09 00 46.4**	**+3.2**
YAK				pmax		pmax			
	comp=Z,11nm,0.7s								
YAK				smax					
	comp=E,58nm,2.2s								
KSRS	**Korea Array**	**20.92**	**254**	P		**P**	**P**	**08 56 54.5**	**+0.1**
	comp=E,2.3nm,0.6s,baz=53,slow=11,SNR=5.5								
BILL	**Bilibino**	**22.80**	**12**	⇑*e*P		**P**		**08 57 19.6**	**+5.1**
BILL				pmax		pmax			
	comp=Z,28nm,2.5s,mb4.2								
SONM	**Songino Array**	**31.74**	**290**	P		**P**	**P**	**08 58 33.9**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.4,baz=64,slow=10,SNR=3.8								
SONM				LR		LR		09 12 11.6	
	comp=Z,152nm,18.5s,baz=52,slow=38								
COLA	**College**	**36.34**	**38**	⇑*e*P		**P**		**08 59 15.9**	**+0.8**
ZAL	**Zalesovo**	**43.12**	**306**	LR		LR		09 20 05.4	
	comp=Z,368nm,18.2s,baz=23,slow=39								
MKAR	**Makanchi Array**	**47.40**	**298**	P		**P**	**P**	**09 00 45.0**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=60,slow=5.7,SNR=8.7								
MKAR	**Makanchi Array**	**47.40**	**298**	P		**P**	**P**	**09 00 45.0**	**-0.2**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**P**	**09 01 14.9**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=41,slow=7.1,SNR=3.9								
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**P**	**09 01 14.9**	**-0.5**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
ARU	**Arti**	**55.54**	**318**	⇑*i*P		**P**	**P**	**09 01 53.2**	**+7.2**
ARU				*e*PPP				09 05 12.5	
ARU				*e*S		**S**	**S**	**09 09 45.0**	**+18**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.5s,mb4.5								
ARCES	**ARCESS Array B**	**58.39**	**341**	P		**P**	**P**	**09 02 06.6**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=25,slow=7.0,SNR=5.0								
ARCES	**ARCESS Array B**	**58.39**	**341**	P		**P**	**P**	**09 02 06.6**	**+0.5**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**	**59.24**	**312**	P		**P**	**P**	**09 02 11.8**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=41,slow=11,SNR=4.0								
AKTO	**Aktyubinsk**	**59.24**	**312**	P		**P**	**P**	**09 02 11.8**	**-0.3**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.2								
NVAR	**Mina Array Bea**	**62.42**	**62**	P		**P**	**P**	**09 02 33.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.3,baz=295,slow=9.7,SNR=7.9								
FINES	**FINESS Array B**	**64.58**	**335**	P		**P**	**P**	**09 02 47.1**	**-0.8**
	comp=Z,1.3nm,0.3s,mb4.4,baz=46,slow=5.5,SNR=13								
FINES	**FINESS Array B**	**64.58**	**335**	P		**P**	**P**	**09 02 47.1**	**-0.8**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.3s								
PDAR	**Pinedale Array**	**64.81**	**54**	P		**P**	**P**	**09 02 50.8**	**+1.3**
	comp=Z,2.5nm,0.9s,mb4.3,baz=297,slow=1.3,SNR=12								
WRA	**Warramunga Arr**	**68.15**	**199**	P		**P**	**P**	**09 03 11.5**	**+0.7**
	comp=Z,1.3nm,1.0s,mb3.9,baz=20,slow=7.5,SNR=4.3								
WRA	**Warramunga Arr**	**68.15**	**199**	P		**P**	**P**	**09 03 11.5**	**+0.8**
WRA				pmax		pmax			
	comp=Z,1.0nm,1.0s								
NOA	**NORSAR Array B**	**68.76**	**341**	P		**P**	**P**	**09 03 14.2**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=27,slow=6.4,SNR=4.5								
NOA				LR		LR		09 40 01.6	
	comp=Z,102nm,18.5s,baz=255,slow=42								
ASAR	**Alice Springs**	**71.84**	**199**	P		**P**	**P**	**09 03 34.4**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=18,slow=6.1,SNR=8.1								
ASAR	**Alice Springs**	**71.84**	**199**	P		**P**	**P**	**09 03 34.4**	**+1.0**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ANMO	**Albuquerque**	**71.85**	**58**	⇑*e*P		**P**	**P**	**09 03 31.6**	**-1.8**
AKASG	**Malin Array Be**	**72.09**	**326**	P		**P**	**P**	**09 03 34.0**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.3,SNR=6.7								
AKASG	**Malin Array Be**	**72.09**	**326**	P		**P**	**P**	**09 03 34.0**	**-0.8**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.4s								
TXAR	**Lajitas Array**	**77.49**	**61**	P		**P**	**P**	**09 04 05.8**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=304,slow=5.3,SNR=13								
TXAR	**Lajitas Array**	**77.49**	**61**	P		**P**	**P**	**09 04 05.8**	**-0.2**
TXAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KHC	**Kasperske Hory**	**78.78**	**334**	*e*P		**P**		**09 04 17.6**	**+4.4**
KHC				x		x		09 04 27.0	
KHC	**Kasperske Hory**	**78.78**	**334**	*e*P		**P**		**09 04 17.6**	**+4.4**
KHC				*e*				09 04 27.0	
GERES	**GERESS Array B**	**79.00**	**334**	P		**P**		**09 04 14.7**	**+0.3**
	comp=Z,0.4nm,0.2s,mb3.9,baz=43,slow=6.0,SNR=3.8								
PMOR	**Pomariorio Ree**	**80.57**	**123**	*e*T				10 32 20.4	
	comp=Z,3.8nm,0.2s								
PPT	**Papeete**	**81.67**	**126**	*e*LR		LR		09 30 22.8	
	comp=Z,105nm,23.5s								
PPT	**Papeete**	**81.67**	**126**	*e*T				10 33 38.0	
	comp=Z,0.9nm,0.2s								
PPT	**Papeete**	**81.67**	**126**	LR		LR		09 35 57.5	
	comp=Z,100nm,19.3s,baz=343,slow=32								
TBI	**Tubuai**	**86.39**	**129**	*e*T				10 39 26.8	
	comp=Z,3.4nm,0.3s								
CFAA	**Coronel Fontan**	**144.81**	**80**	PKP		PKPdf		09 11 46.8	-0.3
	comp=Z,0.6nm,0.7s,baz=251,slow=1.2,SNR=8.6								

IDC 20 08:53:45.2±1.0, 2216N×14309E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.8/7, MS3.7/1, Ms1 3.7/1, ms1mx2.6/35, Error ellipse: s-maj=38.4km s-min=21.3km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.93**	**320**	P		P	P	09 01 13.3	+0.5
	0.6nm,0.7s,baz=132,slow=7.6,SNR=2.9								
WRA	**Warramunga Arr**	**42.71**	**192**	P		P		09 01 43.8	-0.1
	1.1nm,0.7s,baz=14,slow=8.5,SNR=8.3								
ASAR	**Alice Springs**	**46.41**	**192**	P		P		09 02 14.1	+0.6
	0.6nm,0.7s,baz=17,slow=11,SNR=9.0								
ZAL	**Zalesovo**	**53.80**	**321**	P		P		09 03 08.1	-1.6
	1.0nm,0.3s,baz=172,slow=19,SNR=3.8								
MKAR	**Makanchi Array**	**54.32**	**312**	P		P		09 03 13.9	+0.5
	0.6nm,0.7s,baz=95,slow=9.1,SNR=2.7								
KDAK	**Kodiak Island**	**57.88**	**35**	LR		LR		09 28 00.1	
	comp=Z,55nm,18.3s,baz=290,slow=36								
BVAR	**Borovoye Array**	**62.27**	**319**	P		P		09 04 09.2	+0.3
	1.3nm,0.6s,baz=79,slow=7.7,SNR=4.6								
NVAR	**Mina Array Bea**	**82.93**	**51**	P		P		09 06 13.1	+1.1
	0.8nm,0.7s,baz=280,slow=6.0,SNR=5.9								
LPAZ	**La Paz**	**149.99**	**84**	PKPbc		PKPbc		09 13 38.2	+0.6
	0.5nm,0.5s,baz=298,slow=6.1,SNR=4.9								

*IDC **20** 09:01:47.4±4.2, 389S×14331E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/26, Error ellipse: s-maj=131.1km s-min=24.9km az=100.0*
*ISCJB **20** 09:01:55.8±2.6, 404S±009×1430E±0.1, h74km±27km, mb3.5/4, Error ellipse: s-maj=18.6km s-min=15.5km az=173.0*
ISC 20 09:01:59.7±2.5, 41S±01×1430E±01, h95km±26km, n10, σ0§55/12, mb3.5/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.67**	**142**			Sn	**Sn**	**09 04 49.6**	**0.0**
	0.8nm,0.3s,baz=264,slow=18,SNR=2.1								
KAKA	**Kakadu**	**13.52**	**230**	*e*P		**Pn**		**09 05 06.8**	**-0.6**
	8.6nm,0.5s								
WB2	**Warramunga Arr**	**17.87**	**208**	*e*P		**Pn**		**09 06 01.9**	**-0.1**
WRA	**Warramunga Arr**	**17.88**	**208**	P		**Pn**		**09 06 01.9**	**-0.2**
	0.7nm,0.3s,baz=27,slow=12,SNR=26								
WRA						S	**S**	**09 09 14.1**	**-7.4**
	0.1nm,0.3s,baz=29,slow=24,SNR=2.6								
WRA						LR	LR	09 13 25.8	
	comp=Z,21nm,19.5s,baz=315,slow=38								
ASAR	**Alice Springs**	**21.35**	**204**	P		**P**	**P**	**09 06 39.4**	**+0.3**
	0.9nm,0.7s,mb3.2,baz=33,slow=12,SNR=15								
ASAR						S	**S**	**09 10 30.0**	**-0.7**
	0.4nm,0.7s,baz=21,slow=22,SNR=4.2								
ASPA	**Alice Springs**	**21.35**	**204**	*e*P		**P**		**09 06 45.2**	**+6.1**
FITZ	**Fitzroy Crossi**	**21.98**	**229**	*e*P		**P**		**09 06 47.2**	**+1.4**
	3.2nm,0.6s,mb3.8								
FITZ	**Fitzroy Crossi**	**21.98**	**229**	P		**P**		**09 06 47.2**	**+1.3**
	2.1nm,0.6s,mb3.6,baz=43,slow=8.8,SNR=10								
SONM	**Songino Array**	**60.88**	**333**	P		**P**		**09 12 02.0**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=155,slow=8.7,SNR=1.8								
MKAR	**Makanchi Array**	**73.54**	**321**	P		**P**		**09 13 21.9**	**-0.2**
	0.9nm,0.7s,mb3.6,baz=102,slow=6.6,SNR=5.8								

**IDC 20 09:14:31.9±7.7, 974S×12480E,

BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**09 30 47.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.85**	**341**	P	**P**	**09 31 37.4**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=31,slow=7.3,SNR=4.0						
ARCES	**ARCESS Array B**	**58.85**	**341**	P	**P**	**09 31 37.4**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**59.94**	**313**	LR	LR	09 59 04.3	
	comp=Z,98nm,19.2s,MS4.0,baz=71,slow=38						
NVAR	**Mina Array Bea**	**61.90**	**63**	P	**P**	**09 31 58.0**	**+0.3**
	comp=Z,0.1nm,0.4s,mb3.3,baz=291,slow=7.6,SNR=3.5						
PDAR	**Pinedale Array**	**64.38**	**54**	P	**P**	**09 32 13.2**	**-0.9**
	comp=Z,0.8nm,1.0s,mb3.7,baz=262,slow=4.5,SNR=4.7						
FINES	**FINESS Array B**	**65.11**	**335**	P	**P**	**09 32 17.9**	**-1.0**
	comp=Z,0.6nm,0.4s,mb4.0,baz=41,slow=6.1,SNR=5.8						
FINES	**FINESS Array B**	**65.11**	**335**	P	**P**	**09 32 17.9**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.17**	**200**	P	**P**	**09 32 38.4**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=20,slow=6.6,SNR=7.4						
WRA	**Warramunga Arr**	**68.17**	**200**	P	**P**	**09 32 38.4**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**69.22**	**342**	LR	LR	10 09 37.1	
	comp=Z,50nm,18.1s,MS3.8,baz=250,slow=42						
ASAR	**Alice Springs**	**71.85**	**200**	P	**P**	**09 33 02.1**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=20,slow=6.0,SNR=4.9						
GNI	**Garni**	**73.74**	**311**	LR	LR	10 10 45.0	
	comp=Z,64nm,18.0s,MS4.0,baz=163,slow=40						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**09 33 30.3**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=304,slow=3.8,SNR=10						
TXAR	**Lajitas Array**	**76.99**	**61**	P	**P**	**09 33 30.3**	**-0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
IDI	**Anoyia**	**87.19**	**321**	LR	LR	10 18 10.6	
	comp=Z,81nm,18.5s,MS4.2,baz=253,slow=39						

IDC 20 09:31:31.2±8.7, 666S×15157E, h82km±61km, mb3.3/3, mb1 3.5/4, mb1mx3.2/15, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=93.2km s-min=58.2km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**238**	P	Pn	09 32 46.0	+0.3
	2.0nm,0.3s,baz=8.1,slow=7.1,SNR=6.7						
PMG				S	Sn	09 33 44.5	+0.7
	5.7nm,0.3s,baz=188,slow=21,SNR=7.7						
WB2	**Warramunga Arr**	**21.30**	**230**	*e*P	P	09 36 13.1	+2.1
WRA	**Warramunga Arr**	**21.31**	**230**	P	P	09 36 11.6	+0.5
	0.7nm,0.7s,baz=56,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**23.96**	**223**	P	P	09 36 37.9	+0.2
	1.3nm,0.8s,baz=49,slow=8.9,SNR=15						
FITZ	**Fitzroy Crossi**	**27.71**	**243**	P	P	09 37 12.2	+0.5
	0.8nm,0.5s,baz=67,slow=7.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.65**	**285**	PKPbc	PKPbc	09 51 11.9	+0.7
	0.5nm,0.6s,baz=55,slow=2.6,SNR=3.3						

*ISCJB **20** 09:32:06.4±0.8, 470N×0.1×1553E±0.1, h35km, mb3.8/9, Error ellipse: s-maj=19.9km s-min=12.5km az=122.6*
*MOS **20** 09:32:06.2±3.1, 4682N×15545E, h33km, mb4.2/6, Error ellipse: s-maj=18.9km s-min=15.1km az=53.0*
*IDC **20** 09:32:10.6±5.0, 4693N×155.16E, h58km±45km, mb3.5/9, mb1 3.7/11, mb1mx3.6/26, mbtmp3.6/11, ML3.5/2, Error ellipse: s-maj=26.7km s-min=19.4km az=111.0*
ISC 20 09:32:08.0±0.8, 470N±01×1554E±01, h35km, n21, σ1§05/21, mb3.8/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.76**	**7**	*e*PN	**Pn**	**09 33 09.0**	**+5.6**
KUR	**Kuril'sk**	**5.50**	**254**	*e*PN	**Pn**	**09 33 35.5**	**+8.2**
YSS	**Yuzh-Sakhalins**	**8.63**	**275**	PN	**Pn**	**09 34 12.2**	**+1.9**
ASAJ	**Asahikawa**	**9.40**	**257**	P	**Pn**	**09 34 21.0**	**+0.1**
	0.6nm,0.3s,baz=96,slow=19,SNR=4.5						
ASAJ	**Asahikawa**	**9.40**	**257**	PN	**Pn**	**09 34 21.0**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.47**	**237**	P	**Pn**	**09 35 56.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=72,slow=1.8,SNR=4.4						
KSRS	**Korea Array**	**22.34**	**255**	P	**P**	**09 37 03.6**	**+1.0**
	comp=Z,1.8nm,0.8s,mb3.6,baz=53,slow=11,SNR=6.4						
SONM	**Songino Array**	**32.72**	**290**	P	**P**	**09 38 35.8**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=54,slow=9.7,SNR=3.2						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**09 39 45.0**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.6,baz=300,slow=5.1,SNR=2.7						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**09 39 45.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**09 40 43.3**	**-1.8**
	comp=Z,0.7nm,0.7s,mb3.8,baz=65,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**09 40 43.3**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 41 12.2**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.2,baz=56,slow=10,SNR=8.9						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 41 12.2**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**09 42 41.7**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=42,slow=6.7,SNR=5.9						
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**09 42 41.7**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.24**	**201**	P	**P**	**09 43 10.1**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=22,slow=7.1,SNR=7.6						
WRA	**Warramunga Arr**	**69.24**	**201**	P	**P**	**09 43 10.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**09 43 33.8**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=16,slow=5.5,SNR=16						
ASAR	**Alice Springs**	**72.92**	**201**	P	**P**	**09 43 33.8**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**09 43 52.7**	**+1.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=262,slow=3.5,SNR=3.9						

IDC 20 09:42:02.5±5.4, 1982S×17761W, h576km±67km, mb3.1/8, mb1 3.4/9, mb1mx3.2/17, mbtmp3.2/9, Error ellipse: s-maj=42.9km s-min=22.3km az=176.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.94**	**193**	P	P	09 45 46.9	-0.7
	1.5nm,0.3s,baz=1.7,slow=23,SNR=9.3						
CTA	**Charters Tower**	**33.92**	**263**	*e*P	P	09 47 59.2	+0.5
	2.8nm,0.3s						
CTA	**Charters Tower**	**33.92**	**263**	P	P	09 47 59.0	+0.4
	5.1nm,0.4s,baz=95,slow=11,SNR=13						
STKA	**Stephens Creek**	**38.41**	**243**	P	P	09 48 36.5	+0.9
	0.7nm,0.6s,baz=109,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**45.03**	**256**	P	P	09 49 28.0	+0.4
	1.8nm,0.4s,baz=88,slow=7.7,SNR=40						
ASAR				PcP	PcP	09 50 56.9	+0.9
	0.5nm,0.5s,baz=103,slow=5.2,SNR=7.1						
ASPA	**Alice Springs**	**45.03**	**256**	*e*P	P	09 49 28.1	+0.5
WB2	**Warramunga Arr**	**45.05**	**261**	*e*P	P	09 49 27.6	-0.1
WRA	**Warramunga Arr**	**45.06**	**261**	P	P	09 49 27.7	-0.1
	1.4nm,0.3s,baz=97,slow=7.3,SNR=46						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	*e*P	P	09 50 30.2	+0.5
	2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	P	09 50 29.8	+0.1
	1.0nm,0.5s,baz=91,slow=17,SNR=8.0						
NVAR	**Mina Array Bea**	**80.28**	**43**	P	P	09 53 14.9	+0.8
	0.8nm,1.0s,baz=229,slow=8.2,SNR=3.4						
TXAR	**Lajitas Array**	**86.38**	**57**	P	P	09 53 45.4	+1.0
	0.6nm,0.8s,baz=213,slow=6.0,SNR=7.7						
PDAR	**Pinedale Array**	**88.22**	**43**	P	P	09 53 52.8	-0.2
	0.6nm,0.7s,baz=210,slow=2.8,SNR=6.0						
AKASG	**Malin Array Be**	**142.59**	**332**	PKhKP		10 00 26.3	
	0.6nm,0.4s,baz=43,slow=3.7,SNR=4.7						
GERES	**GERESS Array B**	**149.64**	**345**	PKPbc	PKPbc	10 00 46.7	-1.0
	1.7nm,0.7s,baz=75,slow=1.5,SNR=8.1						

IDC 20 09:49:01.3±3.8, 634S×15084E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=115.2km s-min=51.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**230**	Sn	Sn	09 51 13.1	+3.1
	1.5nm,0.3s,baz=286,slow=21,SNR=3.5						
WB2	**Warramunga Arr**	**20.96**	**228**	*e*P	P	09 53 47.0	+1.1
WRA	**Warramunga Arr**	**20.97**	**228**	P	P	09 53 45.9	-0.1
	1.9nm,0.8s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.71**	**222**	P	P	09 54 14.2	-0.7
	0.9nm,0.8s,baz=58,slow=8.5,SNR=11						
FITZ	**Fitzroy Crossi**	**27.22**	**242**	P	P	09 54 48.0	+1.2
	1.4nm,0.6s,baz=49,slow=9.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.87**	**285**	PKPbc	PKPbc	10 08 51.8	+0.9
	0.2nm,0.6s,baz=48,slow=2.1,SNR=1.4						

*IDC **20** 09:50:10.0±0.9, 4696N×155.31E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=26.5km s-min=20.0km az=126.0*
*ISCJB **20** 09:50:17.7±2.1, 469N±0.1×1550E±0.2, h72km±18km, mb3.7/8, Error ellipse: s-maj=29.2km s-min=13.7km az=82.6*
*MOS **20** 09:50:17.4±1.8, 4685N×155.04E, h70km, mb4.2/6, Error ellipse: s-maj=25.8km s-min=16.6km az=73.5*
ISC 20 09:50:18.7±1.9, 469N±01×1551E±02, h66km±16km, n19, σ1§30/19, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**9**	*e*PN	**Pn**	**09 51 16.9**	**+1.1**
ASAJ	**Asahikawa**	**9.22**	**257**	Pn	**Pn**	**09 52 27.5**	**-1.4**
	0.5nm,0.3s,baz=24,slow=29,SNR=5.7						
ASAJ	**Asahikawa**	**9.22**	**257**	PN	**Pn**	**09 52 27.5**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.28**	**237**	Pn	**Pn**	**09 54 02.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=39,slow=11,SNR=4.1						
KSRS	**Korea Array**	**22.16**	**255**	P	**P**	**09 55 10.8**	**+1.8**
	comp=Z,1.7nm,0.8s,mb3.4,baz=57,slow=10,SNR=5.5						
INK	**Inuvik**	**40.81**	**33**	P	**P**	**09 57 52.4**	**-1.2**
	comp=Z,1.6nm,0.9s,mb3.9,baz=239,slow=7.2,SNR=6.7						
INK	**Inuvik**	**40.81**	**33**	P	**P**	**09 57 52.4**	**-1.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVS	**Novosibirsk**	**44.21**	**308**	*e*P	**P**	**09 58 23.9**	**+2.7**
MKAR	**Makanchi Array**	**48.11**	**298**	P	**P**	**09 58 50.6**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=65,slow=7.9,SNR=6.9						
MKAR	**Makanchi Array**	**48.11**	**298**	P	**P**	**09 58 50.6**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**09 59 20.8**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.3,baz=57,slow=9.2,SNR=8.4						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**09 59 20.8**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.51**	**336**	P	**P**	**10 00 46.5**	**-2.0**
	comp=Z,1.7nm,0.8s,mb3.9,baz=338,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**64.51**	**336**	P	**P**	**10 00 46.5**	**-2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**69.09**	**201**	P	**P**	**10 01 17.4**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.7,baz=20,slow=6.8,SNR=7.0						
WRA	**Warramunga Arr**	**69.09**	**201**	P	**P**	**10 01 17.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.78**	**200**	P	**P**	**10 01 41.3**	**+1.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=15,slow=5.8,SNR=20						
ASAR	**Alice Springs**	**72.78**	**200**	P	**P**	**10 01 41.3**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.23**	**62**	P	**P**	**10 01 59.9**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.0,baz=298,slow=4.0,SNR=3.7						

*ISCJB **20** 10:11:21.4±1.0, 175S×04×1789W×0.2, h600km, mb4.1/9, Error ellipse: s-maj=53.6km s-min=15.8km az=125.6*
*NEIC **20** 10:11:23.0±4.9, 1765S×17884W, h607km±63km, mb4.4/4, Error ellipse: s-maj=45.2km s-min=22.7km az=174.0*
*IDC **20** 10:11:22.1±7.2, 1758S×17883W, h594km±92km, mb3.3/7, mb1 3.6/8, mb1mx3.3/16, mbtmp3.3/8, Error ellipse: s-maj=87.3km s-min=32.7km az=159.0*
ISC 20 10:11:22.7±1.0, 177S±04×1788W±02, h600km, n17, σ0§46/16, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.54**	**250**	P	**P**	**10 14 27.1**	**+0.6**
	0.5nm,0.3s,baz=75,slow=19,SNR=4.8						
ARMA	**Armidale**	**29.73**	**239**	*e*P	**P**	**10 16 42.1**	**+0.1**
CTA	**Charters Tower**	**33.11**	**260**	P	**P**	**10 17 10.5**	**-0.2**
	3.0nm,0.6s,mb4.1,baz=91,slow=11,SNR=3.5						
CNB	**Canberra Magne**	**33.27**	**232**	*e*P	**P**	**10 17 11.8**	**-0.3**
	19nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**38.41**	**241**	*e*P	**P**	**10 17 54.6**	**+0.3**
	4.2nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**10 17 54.4**	**+0.1**
	5.0nm,0.5s,mb4.3,baz=83,slow=6.9,SNR=13						
WB2	**Warramunga Arr**	**44.28**	**229**	*e*P	**P**	**10 18 40.0**	**-0.5**
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**10 18 39.8**	**-0.8**
	1.4nm,0.3s,mb4.0,baz=96,slow=8.2,SNR=57						
AS31	**Alice Springs**	**44.48**	**254**	*e*P	**P**	**10 18 41.9**	**-0.2**
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**10 18 42.0**	**-0.1**
	20nm,0.6s,mb4.8,baz=88,slow=8.4,SNR=350						
ASPA	**Alice Springs**	**44.49**	**254**	*e*P	**P**	**10 18 41.9**	**-0.2**
KAKA	**Kakadu**	**47.20**	**269**	*e*P	**P**	**10 19 02.9**	**+0.3**
	32nm,1.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	*e*P	**P**	**10 19 43.6**	**+1.0**
	1.0nm,0.3s,mb3.6						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**10 19 43.7**	**+1.1**
	0.6nm,0.3s,mb3.4,baz=97,slow=7.3,SNR=7.1						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**10 23 01.9**	**+0.3**
	0.8nm,0.7s,mb3.5,baz=217,slow=5.2,SNR=12						
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**10 23 07.0**	**-0.4**
	0.6nm,0.7s,mb3.5,baz=194,slow=3.2,SNR=4.4						
ANTO	**Ankara**	**144.83**	**316**	*e*P	Pdif	10 27 24.0	+0.2

*MOS **20** 10:15:39.4±1.4, 2786S×6759W, h123km, mb4.8/17, Error ellipse: s-maj=28.4km s-min=8.1km az=110.4*
*NEIC **20** 10:15:40.6±0.5, 2788S×6727W, h125km±4km, mb4.9/50, Error ellipse: s-maj=7.7km s-min=4.5km az=75.0*
*ISCJB **20** 10:15:40.7±0.2, 2791S±002×6742W±003, h135km, mb4.8/59, Error ellipse: s-maj=4.4km s-min=3.3km az=18.7*
*BJI **20** 10:15:41.0, 2790S×6730W, h125km, mB5.1*
*GUC **20** 10:15:41.8±0.9, 2783S×6747W, h125km, ML5.8*
*IDC **20** 10:15:42.2±0.7, 2789S×6733W, h139km±5km, mb4.3/11, mb1 4.4/15, mb1mx4.3/19, mbtmp4.3/15, Error ellipse: s-maj=16.6km s-min=8.0km az=82.0*
ISC 20 10:15:42.4±0.2, 2793S±002×6747W±004, h137km, h137km±5.4km; pP-P, n401, σ0§77/370, mb4.8/59, 72C-83D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.62**	**282**	↑*i*P	**Pn**	**10 16 24.5**	**+0.2**
CPCH				*i* S	**Sn**	**10 16 56.4**	**-0.3**
CPCH				AML	AML	10 17 04.0	
	comp=N,36μm,0.0s						
CPCH	**Copiapo**	**2.62**	**282**	↑*i*P	**Pn**	**10 16 24.5**	**+0.2**
CPCH				*i* S	**Sn**	**10 16 56.4**	**-0.3**
VACH	**Vallenar**	**2.97**	**257**	↑*i*P	**Pn**	**10 16 29.2**	**+0.3**
VACH				*i* S	**Sn**	**10 17 04.7**	**-0.1**
VACH				AML	AML	10 17 06.5	
	comp=N,16μm,0.0s						
VACH	**Vallenar**	**2.97**	**257**	↑*i*P	**Pn**	**10 16 29.2**	**+0.3**
VACH				*i* S	**Sn**	**10 17 04.7**	**-0.1**
CDCH	**Caldera**	**3.10**	**285**	↑*i*P	**Pn**	**10 16 29.8**	**-0.8**
CDCH				*i* S	**Sn**	**10 17 05.4**	**-2.4**
TLL	**Tololo Astrono**	**3.67**	**232**	↑*i*P	**Pn**	**10 16 38.6**	**+0.6**
TLL				*i* S	**Sn**	**10 17 22.8**	**+1.8**
CFAA	**Coronel Fontan**	**3.72**	**190**	P	**Pn**	**10 16 39.1**	**+0.5**
	comp=N,13nm,0.3s,baz=6.7,slow=14,SNR=1160						
CFAA				S	**Sn**	**10 17 21.5**	**-0.7**
	comp=N,45nm,0.3s,baz=251,slow=19,SNR=48						
LSCH	**La Serena**	**3.85**	**238**	*e*P	**Pn**	**10 16 39.5**	**-0.8**
LSCH				*i* S	**Sn**	**10 17 24.1**	**-1.2**
OVCH	**Ovalle**	**4.21**	**230**	↑*i*P	**Pn**	**10 16 44.3**	**-0.8**
OVCH				*i* S	**Sn**	**10 17 32.4**	**-1.4**
CPN1	**Cerro Paranal**	**4.21**	**321**	↑*i*P	**Pn**	**10 16 44.7**	**-0.4**
CPN1				*i* S	**Sn**	**10 17 32.5**	**-1.3**
CMCH	**Combarbala**	**4.46**	**223**	↓*i*P	**Pn**	**10 16 47.4**	**-1.0**
CMCH				*i* S	**Sn**	**10 17 39.2**	**-0.5**

CEN1	**Los Morros**	**5.15**	**331**	*e*P	**Pn**	**10 16 55.0**	**-2.5**
CEN1				*i* S	**Sn**	**10 17 50.7**	**-5.4**
LVC	**Limon Verde**	**5.45**	**346**	P	**Pn**	**10 17 01.8**	**+0.2**
	comp=N,62nm,0.3s,baz=90,slow=6.8,SNR=347						
LVC				S	**Sn**	**10 18 01.6**	**-1.8**
	comp=N,18nm,0.3s,baz=270,slow=23,SNR=28						
LVC	**Limon Verde**	**5.45**	**346**	*e*Pn	**Pn**	**10 17 01.7**	**+0.1**
LVC				*e*Sn	**Sn**	**10 18 03.0**	**-0.3**
TRQA	**Tornquist**	**11.10**	**157**	*e*Pn	**Pn**	**10 18 15.1**	**-2.0**
TRQA				*e*Sn	**Sn**	**10 20 20.5**	**+0.9**
LPAZ	**La Paz**	**11.60**	**357**	P	**Pn**	**10 18 22.3**	**-1.4**
	comp=N,3.2nm,0.3s,baz=166,slow=7.7,SNR=57						
LPAZ	**La Paz**	**11.60**	**357**	*e*P	**Pn**	**10 18 22.4**	**-1.3**
LPAZ				pmax	pmax		
	comp=Z,55nm,0.9s						
LPAZ	**La Paz**	**11.60**	**357**	*e*Pn	**Pn**	**10 18 22.4**	**-1.3**
	comp=Z,55nm,0.9s						
SIV	**San Ignacio**	**13.27**	**28**	P	**Pn**	**10 18 41.6**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=218,slow=15,SNR=34						
NNA	**Nana**	**18.13**	**329**	P	**P**	**10 19 45.4**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=168,slow=9.4,SNR=8.8						
NNA	**Nana**	**18.13**	**329**	*e*P	**P**	**10 19 45.5**	**+1.6**
	comp=Z,21nm,0.6s						
ATAH	**Atahualpa**	**23.25**	**332**	P	**P**	**10 20 38.4**	**+0.9**
	comp=Z,7.9nm,0.7s,mb4.3,baz=153,slow=4.8,SNR=6.5						
EFI	**East Falkland**	**24.75**	**166**	↑*e*P	**P**	**10 20 49.8**	**-1.4**
EFI	**East Falkland**	**24.75**	**166**	*e*P	**P**	**10 20 50.2**	**-0.9**
	comp=Z,55nm,0.8s,mb5.1						
OTAV	**Otavalo**	**29.92**	**338**	*e*P	**P**	**10 21 38.6**	**+1.3**
	comp=Z,6.3nm,0.8s,mb4.4						
SDV	**Santo Domingo**	**36.73**	**355**	*e*P	**P**	**10 22 34.3**	**-2.0**
JTS	**JuntasAbangare**	**41.59**	**334**	↓*e*P	**P**	**10 23 14.7**	**-2.0**
JTS				*e**PP	pP	10 23 42.2	-5.0
MTP	**Monte Pirata**	**45.79**	**3**	*e*P	**P**	**10 23 47.5**	**-2.8**
TEIG	**Tepich**	**51.93**	**335**	*e*P	**P**	**10 24 36.5**	**-0.6**
	comp=Z,33nm,0.6s,mb5.1						
VNA3	**Neumayer Olymp**	**53.60**	**160**	*e*P	**P**	**10 24 48.9**	**-0.5**
VNA3				*e*		10 24 53.3	
VNA3				*e*		10 24 59.3	
VNA3				*e*	pP	10 25 18.3	-2.9
VNA3				*e*	pP	10 25 22.5	+1.3
VNA3				*e*		10 25 26.0	
VNA3				*e*		10 25 32.9	
VNA3				*e*		10 25 38.6	
VNA3				*e*		10 25 53.5	
VNA3				*e*		10 26 02.0	
VNA3				*e*		10 26 07.3	
VNA3				*e*		10 27 00.4	
VNA3				*e*		10 27 11.5	
VNA1	**Neumayer--Stat**	**53.82**	**159**	*e*P	**P**	**10 24 50.8**	**-0.2**
VNA1				*e*		10 24 54.4	
VNA1				*e*		10 25 00.5	
VNA1				*e*		10 25 06.7	
VNA1				*e*	pP	10 25 21.0	-1.8
VNA1				*e*	pP	10 25 25.2	+2.4
VNA1				*e*		10 25 54.2	
VNA1				*e*		10 26 02.3	
VNA1				*e*		10 27 02.4	
VNA1				*e*		10 27 12.2	
VNA2	**Neumayer--Watz**	**54.19**	**159**	*e*P	**P**	**10 24 52.9**	**-0.7**
VNA2				*e*		10 24 57.6	
VNA2				*e*		10 25 03.6	
VNA2				*e*		10 25 10.3	
VNA2				*e*	pP	10 25 23.0	-2.5
VNA2				*e*	pP	10 25 26.9	+1.4
VNA2				*e*		10 25 30.3	
VNA2				*e*		10 25 36.8	
VNA2				*e*		10 25 41.7	
VNA2				*e*		10 25 46.3	
VNA2				*e*		10 25 56.1	
VNA2				*e*		10 26 05.4	
VNA2				*e*		10 27 04.2	
VNA2				*e*		10 27 12.8	
SNAA	**Sanae**	**55.81**	**160**	P	**P**	**10 25 04.7**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.1,baz=283,slow=7.1,SNR=15						
SNAA	**Sanae**	**55.81**	**160**	*e*P	**P**	**10 25 04.3**	**-1.0**
SNAA				*e*		10 25 08.3	
SNAA				*e*		10 25 14.9	
SNAA				*e*	pP	10 25 31.8	-5.5
SNAA				*e*	pP	10 25 37.8	+0.5
SNAA				*e*		10 25 41.4	
SNAA				*e*		10 25 46.2	
SNAA				*e*		10 25 55.5	
SNAA				*e*		10 26 01.9	
SNAA				*e*		10 26 08.5	
SNAA	**Sanae**	**55.81**	**160**	P	**P**	**10 25 04.7**

comp=Z,2.2nm,0.8s,baz=157,slow=3.5,SNR=3.9
VNDA **Vanda** 70.77 190 P P 10 26 44.7 +0.9
VNDA pP pP 10 27 18.6 +1.4
KSU1 **Kansas State U** 72.02 337 eP P 10 26 49.9 -1.4
comp=Z,12nm,0.7s,mb4.7
BNM **Barren Site** 72.02 327 eP P 10 26 52.0 +0.7
LPM **Los Pinos Moun** 72.16 327 eP P 10 26 52.2 +0.2
LENM **Lemitar** 72.20 326 eP P 10 26 53.4 +1.0
LAZ **Ladron** 72.47 326 eP P 10 26 54.8 +0.9
ANMO **Albuquerque** 72.59 327 c iP P 10 26 54.1 -0.6
ANMO **Albuquerque** 72.59 327 eP P 10 26 55.1 +0.5
CBKS **Cedar Bluff** 72.92 334 eP P 10 26 56.5 -0.1
CBKS pmax pmax
comp=Z,45nm,0.9s,mb5.2
CBKS **Cedar Bluff** 72.92 334 eP P 10 26 56.5 -0.1
comp=Z,45nm,0.9s,mb5.2
116A **Eloy** 73.39 322 ⇑P P 10 27 00.0 +0.6
baz=74
SCIA **State Center** 73.45 340 eP P 10 26 58.5 -1.2
comp=Z,11nm,0.4s,mb5.0
JFWS **Jewell Farm** 73.55 343 eP P 10 26 58.9 -1.4
JFWS pmax pmax
comp=Z,13nm,0.8s,mb4.7
JFWS **Jewell Farm** 73.55 343 eP P 10 26 58.9 -1.4
comp=Z,14nm,0.8s,mb4.7
115A **Sonoran Desert** 73.78 322 ⇓P P 10 27 02.1 +0.4
baz=74
SDCO **Great Sand Dun** 74.43 330 eP P 10 27 06.0 +0.5
comp=Z,16nm,0.9s,mb4.7
Y14A **Wickenburg** 75.15 322 P P 10 27 10.2 +0.6
baz=76,SNR=14
X15A **Humboldt** 75.15 323 ⇑P P 10 27 10.3 +0.8
baz=76,SNR=20
MVCO **Mesa Verde** 75.38 327 eP P 10 27 11.1 +0.2
comp=Z,16nm,0.9s,mb4.7
MVCO **Mesa Verde** 75.38 327 ⇓P P 10 27 11.5 +0.6
baz=76,SNR=11
X14A **Yava** 75.48 323 P P 10 27 12.5 +1.0
baz=76,SNR=17
WUAZ **Wupatki** 75.49 324 eP P 10 27 12.5 +1.0
comp=Z,22nm,1.0s,mb4.8
WUAZ **Wupatki** 75.49 324 ⇓P P 10 27 12.5 +1.0
baz=76,SNR=12
GLA **Glamis** 75.49 320 ⇓P P 10 27 12.3 +0.8
baz=76
Y13A **Salome** 75.50 322 ⇓P P 10 27 12.4 +0.8
baz=76
W15A **Williams** 75.69 323 ⇑P P 10 27 14.0 +1.3
baz=76,SNR=6.2
Y12C **Blythe** 75.84 321 ⇓P P 10 27 14.3 +0.8
baz=76,SNR=7.5
DVTC **Desert V Tower** 75.93 319 ⇑P P 10 27 14.7 +0.7
baz=76,SNR=6.2
SWSC **Sam W. Stewart** 75.96 320 ⇑P P 10 27 15.1 +0.9
baz=76
PDMCI **Parker Dam,Lak** 76.04 322 ⇓P P 10 27 15.4 +0.8
baz=76
X13A **Yucca** 76.09 322 P P 10 27 15.6 +0.7
baz=76,SNR=21
W14A **Seligman** 76.15 323 ⇓P P 10 27 16.3 +1.1
baz=76,SNR=14
PV01 **Paradox Valley** 76.16 328 eP P 10 27 16.1 +0.8
ECSD **EROS,Sioux Fal** 76.16 339 eP P 10 27 14.2 -1.2
comp=Z,26nm,0.8s,mb4.9
ISCO **Idaho Springs** 76.17 331 eP P 10 27 16.0 +0.6
SMCO **Snowmass** 76.26 329 eP P 10 27 07.5 -8.3
comp=Z,25nm,0.6s,mb5.0
BAR **Barrett** 76.28 319 eP P 10 27 16.6 +0.6
BC3 **Big Chuckw Mtn** 76.29 320 ⇑P P 10 27 16.7 +0.7
baz=77,SNR=16
IRM **Iron Mountain** 76.49 321 ⇑P P 10 27 17.7 +0.6
baz=77,SNR=8.4
W13A **Hualapai Mount** 76.50 322 ⇑P P 10 27 18.2 +1.0
baz=77,SNR=14
PV10 **Paradox Valley** 76.57 328 eP P 10 27 18.1 +0.4
PFO **Pinyon Flat Ob** 76.83 320 ⇓P P 10 27 19.9 +0.8
baz=77,SNR=9.1
BELC **Belle Mtn.** 76.85 320 ⇓P P 10 27 20.0 +0.8
baz=77,SNR=8.2
TSUM **Tsumeb** 77.03 105 eP P 10 27 20.6 +0.4
comp=Z,35nm,1.3s,mb4.8
W12A **Cal Nev Ari** 77.18 322 ⇓P P 10 27 21.4 +0.3
baz=78
MURC **Murrieta** 77.25 319 ⇓P P 10 27 21.9 +0.5
baz=78
PHWY **Pilot Hill** 77.34 332 eP P 10 27 22.4 +0.4
V12A **Nelson** 77.49 322 ⇓P P 10 27 23.2 +0.4
baz=78,SNR=17
BBRC **Big Bear Sol-O** 77.57 320 ⇓P P 10 27 24.1 +0.9
baz=78,SNR=6.3
HEC **Hector,Ludlow** 77.64 321 ⇑P P 10 27 24.6 +0.9
baz=78,SNR=17
MAW **Mawson** 77.83 163 P P 10 27 24.3 -0.3
comp=Z,8.9nm,0.9s,mb4.4,baz=220,slow=7.2,SNR=15
MAW **Mawson** 77.83 163 P P 10 27 24.3 -0.3
MAW pmax pmax
comp=Z,9.0nm,0.9s
U12A **Valley of Fire** 77.85 323 ⇓P P 10 27 25.4 +0.6
baz=78,SNR=12
SRU **San Rafael** 77.86 327 eP P 10 27 25.3 +0.5
TUQ **Turquoise Mtn.** 77.86 321 ⇑P P 10 27 25.6 +0.8
baz=78,SNR=13
V11A **Goodsprings** 77.89 322 P P 10 27 25.7 +0.7
baz=78,SNR=8.7
BFSC **Mount Baldy St** 77.97 319 ⇓P P 10 27 26.1 +0.6
baz=78
CCUT **Cedar City** 78.07 324 eP P 10 27 27.4 +1.4
MSU **Marysvale** 78.20 326 eP P 10 27 27.6 +0.9
SHPR **Sheep Range** 78.23 323 eP P 10 27 27.7 +0.8
GSC **Goldstone** 78.25 321 eP P 10 27 27.8 +0.8
GSC **Goldstone** 78.25 321 P P 10 27 27.9 +0.9
baz=79,SNR=10
ARUT **Antelope Range** 78.29 324 eP P 10 27 28.6 +1.4
U11A **Corn Creek** 78.29 322 ⇓P P 10 27 28.0 +0.8
baz=79
DECC **Green Verdugo** 78.37 319 ⇑P P 10 27 28.1 +0.5
baz=79
TOA0 **Torodi Ar. Sit** 78.39 68 eP P 10 27 27.4 -0.3
TORD **Torodi Ar. Bea** 78.39 68 P P 10 27 27.4 -0.3
comp=Z,11nm,0.6s,mb4.7,baz=271,slow=6.1,SNR=115
TORD S S 10 37 06.9 -5.2
comp=Z,1.3nm,1.1s,baz=234,slow=12,SNR=3.9
TORD **Torodi Ar. Bea** 78.39 68 P P 10 27 27.4 -0.3
TORD S S 10 37 06.9 -5.2
SHOC **Shoshone** 78.40 321 ⇑P P 10 27 27.9 +0.1
baz=79
RWWY **Rawlins** 78.41 331 eP P 10 27 28.8 +0.9
EDW2 **Edwards Air Fo** 78.62 320 P P 10 27 29.3 +0.3
baz=79,SNR=6.0
U10A **Ash Meadows, A** 78.81 322 P P 10 27 30.9 +0.9
baz=79,SNR=7.5
OSI **Osito Adit** 78.86 319 ⇓P P 10 27 30.6 +0.3
baz=79
LRMC **Laurel Mountai** 78.88 320 P P 10 27 31.0 +0.5
baz=79,SNR=9.7
MPU **Maple Canyon** 79.10 327 eP P 10 27 32.0 +0.3
RSSD **Black Hills** 79.13 334 eP P 10 27 31.9 +0.1
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
RSSD **Black Hills** 79.13 334 eP P 10 27 31.9 +0.1
comp=Z,7.8nm,0.8s,mb4.4
FURC **Furnace Creek,** 79.13 321 ⇓P P 10 27 32.4 +0.6
baz=80,SNR=10
MPMC **Manual Prospec** 79.19 321 P P 10 27 32.5 +0.4
baz=80,SNR=11
DAU **Daniels Canyon** 79.23 327 eP P 10 27 33.4 +1.1
NLU **North Lily Min** 79.27 327 eP P 10 27 33.6 +1.0
ARVC **Arvin** 79.28 319 ⇑P P 10 27 33.6 +1.0
baz=80
SBC **Santa Barbara** 79.31 318 ⇑P P 10 27 33.3 +0.5
baz=80
BOSA **Boshof** 79.34 117 P P 10 27 32.9 0.0
comp=Z,5.5nm,0.5s,mb4.4,baz=267,slow=5.8,SNR=19
BOSA pP pP 10 28 07.9 +0.9
comp=Z,5.9nm,0.8s,baz=216,slow=4.1,SNR=3.6
BOSA **Boshof** 79.34 117 P P 10 27 32.9 0.0
BOSA *PP pP 10 28 07.9 +0.9
BOSA pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
BOSA **Boshof** 79.34 117 P P 10 27 32.9 0.0
BOSA pP pP 10 28 07.9 +0.9
DAC **Darwin (Calif)** 79.40 321 eP P 10 27 34.3 +1.0
DAC pmax pmax
comp=Z,14nm,0.8s,mb4.6
DAC **Darwin (Calif)** 79.40 321 eP P 10 27 34.3 +1.0
comp=Z,14nm,0.8s,mb4.7
ISA **Isabella** 79.46 320 eP P 10 27 34.1 +0.5
ISA **Isabella** 79.46 320 P P 10 27 34.3 +0.8
baz=80,SNR=10
JLU **Jordanelle** 79.47 327 eP P 10 27 34.0 +0.4
CTU **Camp Tracy** 79.68 327 eP P 10 27 34.9 +0.2
comp=Z,6.4nm,0.7s,mb4.4
PKM **Peak Mountain** 79.69 319 P P 10 27 35.8 +1.0
baz=80,SNR=7.1
CWC **Cottonwood Cre** 79.79 321 ⇑P P 10 27 36.0 +0.6
baz=80
GRAC **Grapevine Rang** 79.80 322 ⇓P P 10 27 36.0 +0.6
baz=80
DUG **Dugway** 79.81 326 eP P 10 27 35.9 +0.4
DUG pmax pmax
comp=Z,13nm,0.9s,mb4.6
DUG **Dugway** 79.81 326 eP P 10 27 35.9 +0.4
comp=Z,13nm,0.9s,mb4.6
DUG **Dugway** 79.81 326 P P 10 27 35.9 +0.4
baz=80,SNR=16
TRCR **Troy Canyon** 79.83 324 eP P 10 27 36.5 +0.9
VES **Vestal, Richgr** 79.93 320 P P 10 27 36.4 +0.3
baz=80,SNR=7.8
Q12A **Willow Creek R** 79.95 324 ⇑P P 10 27 36.7 +0.5
baz=80,SNR=8.5
SMMC **Simmler** 80.09 319 ⇑P P 10 27 37.7 +0.8
baz=80
R10A **Warm Springs** 80.16 323 ⇑P P 10 27 38.4 +1.0
baz=80,SNR=28
Q11A **Duckwater** 80.23 324 P P 10 27 38.4 +0.6
baz=81,SNR=15
S09A **Goldfield** 80.25 322 ⇑P P 10 27 38.2 +0.4
baz=81,SNR=14
HWUT **Hardware Ranch** 80.31 328 ⇓i P P 10 27 38.1 0.0
comp=Z,31nm,0.8s,mb5.0
PDAR **Pinedale Array** 80.31 330 P P 10 27 37.8 -0.3
comp=Z,9.1nm,0.8s,mb4.5,baz=126,slow=7.6,SNR=76
P12A **McGill** 80.31 325 P P 10 27 38.8 +0.6
baz=81,SNR=5.9
TIN **Tinemaha** 80.31 321 ⇑P P 10 27 38.8 +0.6
baz=81
RCTC **Rector, Farmer** 80.35 320 ⇑P P 10 27 38.4 0.0
baz=81
BGU **Big Grassy Mou** 80.48 327 eP P 10 27 39.1 0.0
HELL **Mitchell Peak,** 80.49 320 P P 10 27 39.1 0.0
baz=81,SNR=13
SPUT **South Promonto** 80.50 327 eP P 10 27 36.3 -2.9
R09A **Tonopah** 80.54 323 P P 10 27 39.7 +0.3
baz=81,SNR=9.1
S08C **White Mtn Res** 80.60 321 ⇑P P 10 27 40.4 +0.7
baz=81,SNR=6.3
MTUM **Tungsten Hills** 80.72 321 eP P 10 27 41.1 +0.8
P11A **Circle Ranch,** 80.81 324 ⇑P P 10 27 41.4 +0.6
baz=81
O12A **Currie** 80.83 325 P P 10 27 41.1 +0.2
baz=81,SNR=12
PKD **Parkfield** 80.85 319 ⇑P P 10 27 41.4 +0.4
baz=81
U05C **Westside ANR,** 80.88 319 ⇓P P 10 27 41.0 -0.2
baz=81
N13A **Wendover, West** 81.00 326 P P 10 27 41.8 -0.1
baz=81,SNR=6.7
HVU **Hansel Valley** 81.01 327 eP P 10 27 41.8 -0.1
Q09A **Carvers** 81.03 323 ⇓P P 10 27 42.7 +0.7
baz=81
KCC **Kaiser Creek** 81.12 321 ⇓P P 10 27 42.0 -0.4
baz=82,SNR=5.5
R08A **Mina** 81.18 322 ⇑P P 10 27 43.2 +0.5
baz=82
O11A **Cowboy Ranch,** 81.19 325 P P 10 27 43.2 +0.4
baz=82,SNR=7.0
LBTB **Lobatse** 81.20 114 eP P 10 27 42.7 -0.2
LBTB pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LBTB **Lobatse** 81.20 114 eP P 10 27 42.7 -0.2
comp=Z,6.7nm,0.6s,mb4.5
P10A **Eureka** 81.23 324 P P 10 27 43.9 +0.8
baz=82,SNR=8.4
U04C **Hernandez Rese** 81.28 319 ⇑P P 10 27 43.8 +0.5
baz=82
REDW **Red Top Meadow** 81.36 330 eP P 10 27 43.7 -0.1
comp=Z,17nm,1.0s,mb4.6
M13A **Montello** 81.36 326 P P 10 27 43.5 -0.2
baz=82,SNR=10
SNOW **Snow King Moun** 81.39 330 eP P 10 27 43.6 -0.3
comp=Z,14nm,0.8s,mb4.7
N12A **Clover Valley,** 81.42 326 P P 10 27 44.0 0.0
baz=82,SNR=6.1
LOHW **Long Hollow** 81.44 330 eP P 10 27 44.2 0.0
comp=Z,16nm,0.7s,mb4.8
Q08A **Gabbs** 81.45 322 P P 10 27 44.3 +0.1
baz=82,SNR=13
R07C **Lee Vining** 81.51 321 ⇓P P 10 27 44.9 +0.4
baz=82,SNR=17
P09A **Austin** 81.53 323 ⇓P P 10 27 44.7 +0.1
baz=82
RRI2 **Red Ridge** 81.56 329 eP P 10 27 44.9 +0.2
comp=Z,18nm,1.0s,mb4.7
MOOW **Moose Ponds** 81.62 330 eP P 10 27 44.7 -0.3
comp=Z,3.8nm,0.7s,mb4.1
DCID1 **Drake Creek** 81.69 330 eP P 10 27 45.8 +0.4
S05C **Merced** 81.70 320 ⇑P P 10 27 45.7 +0.2
baz=82,SNR=8.5
N11A **Elko Archery C** 81.74 325 ⇓P P 10 27 45.5 -0.2
baz=82
HAST **UC Hastings Re** 81.74 319 ⇓P P 10 27 46.0 +0.3
baz=82
M12A **Wells** 81.78 326 P P 10 27 46.0 0.0
baz=82,SNR=11
S06C **San Francisco** 81.81 321 P P 10 27 46.2 +0.2
baz=82,SNR=7.6
ULM **Lac du Bonnet** 81.81 342 P P 10 27 44.5 -1.6
comp=Z,4.0nm,0.4s,mb4.4,baz=138,slow=6.0,SNR=17
IMW **Indian Meadow** 81.82 330 eP P 10 27 46.3 +0.1
comp=Z,22nm,0.8s,mb4.8
FLWY **Flag Ranch** 81.86 330 eP P 10 27 46.8 +0.5
comp=Z,25nm,0.6s,mb5.0
PACP **Pacheco Peak** 82.02 319 ⇓P P 10 27 47.5 +0.3
baz=82
WAKR **Walker** 82.02 321 eP P 10 27 48.0 +0.8
R06C **Coleville** 82.04 321 ⇑P P 10 27 48.2 +0.9
baz=82,SNR=11
N10A **Dunphy** 82.06 325 ⇓P P 10 27 47.2 -0.2
baz=82
RLMT **Red Lodge** 82.07 332 eP P 10 27 47.7 +0.3
comp=Z,43nm,1.2s,mb5.0
YFT **Old Faithful** 82.21 330 eP P 10 27 49.4 +1.2
CMB **Columbia Colle** 82.22 321 eP P 10 27 47.9 -0.3
CMB **Columbia Colle** 82.22 321 P P 10 27 48.0 -0.2
baz=83,SNR=5.4
M11A **Holland Ranch,** 82.22 325 P P 10 27 48.7 +0.5
baz=83,SNR=18
S04C **Ingram Canyon,** 82.38 320 ⇓P P 10 27 49.2 +0.1
baz=83
SCHQ **Schafferville** 82.42 0 P P 10 27 47.0 -2.3
comp=Z,2.8nm,0.6s,mb4.1,baz=169,slow=8.1,SNR=6.6
YMR **Madison River** 82.44 330 eP P 10 27 50.2 +0.9
comp=Z,49nm,1.2s,mb5.0
R05C **Kirkwood Meado** 82.51 321 P P 10 27 50.6 +0.9
baz=83,SNR=5.9
M10A **I.L. Ranch, Tu** 82.67 325 ⇓P P 10 27 50.7 +0.1
baz=83
R04C **Big Horse Ranc** 82.68 320 ⇓P P 10 27 51.1 +0.5
baz=83
WCN **Washoe City** 82.76 322 ⇓P P 10 27 51.6 +0.6
baz=83
QLMT **Earthquake Lak** 82.77 330 eP P 10 27 52.0 +0.9
JRSC **Jasper Ridge** 82.84 319 ⇓P P 10 27 51.6 +0.2
baz=83
O07A **Toulon** 82.90 323 ⇑P P 10 27 51.7 -0.1
baz=83
LAVA **Lava Cap Winer** 82.92 321 P P 10 27 51.8 0.0
baz=83,SNR=6.5
N08A **GE Springer Mi** 82.95 324 P P 10 27 51.4 -0.6
baz=83,SNR=5.8
BDM **Black Diamond** 83.00 320 ⇑P P 10 27 52.4 +0.2
baz=83
M09A **Marrel Ranch,** 83.06 325 ⇓P P 10 27 52.8 +0.2
baz=83
HLID **Hailey** 83.16 328 eP P 10 27 53.5 +0.4
comp=Z,19nm,0.9s,mb4.8
HLID **Hailey** 83.16 328 P P 10 27 53.6 +0.6
baz=84,SNR=40
P05C **Yuba Gap, Truc** 83.23 321 P P 10 27 53.8 +0.4
baz=84,SNR=7.9
Q04C **Lincoln** 83.33 321 ⇓P P 10 27 54.1 +0.2
baz=84
N07B **Gerlach** 83.39 323 ⇓P P 10 27 54.5 +0.2
baz=84
O06A **Flanigan** 83.41 322 ⇑P P 10 27 54.2 -0.1
baz=84
BEKR **Beckwourth** 83.49 322 P P 10 27 55.1 +0.3
baz=84,SNR=11
G15A **Dillon** 83.50 330 ⇓P P 10 27 55.0 +0.2
baz=84,SNR=11
Q03C **Winters** 83.55 320 ⇓P P 10 27 55.7 +0.6
baz=84
L09A **Wilkinson Ranc** 83.61 325 ⇓P P 10 27 55.1 -0.3
baz=84
CVS **Carmenet Viney** 83.61 320 ⇓P P 10 27 55.3 -0.1
baz=84,SNR=5.1
N06A **Buffalo Meadow** 83.83 323 P P 10 27 56.6 +0.1
baz=84,SNR=6.0
SUTB **Sutter Butte** 83.83 321 ⇓P P 10 27 56.4 -0.2
baz=84
O05C **Quincy** 83.86 322 P P 10 27 56.9 +0.2
baz=84,SNR=8.1
ORV **Oroville** 83.90 321 P P 10 27 56.9 0.0
baz=84,SNR=12
M07A **Soldier Meadow** 83.93 324 ⇓P P 10 27 56.9 -0.2
baz=84
LRM **Limekiln Ridge** 84.00 330 eP P 10 27 57.4 0.0
F15A **Butte** 84.03 330 ⇑P P 10 27 57.6 +0.1
baz=84,SNR=13
L08A **Fields** 84.08 325 P P 10 27 57.6 -0.2
baz=84,SNR=5.1
K09A **Rome** 84.13 325 ⇓P P 10 27 57.9 -0.2
baz=84
O04C **Chester** 84.20 322 P P 10 27 58.2 -0.2
baz=84,SNR=5.3
ELFS **Eagle Lake Fie** 84.22 322 ⇓P P 10 27 58.5 +0.1
baz=85,SNR=7.7
F14A **Wisdom** 84.39 330 ⇑P P 10 27 59.5 +0.1
baz=85,SNR=7.8
L07A **Adell** 84.47 324 P P 10 28 00.2 +0.5
baz=85,SNR=6.1
M06C **Likely Place G** 84.49 323 P P 10 28 00.0 +0.1
baz=85,SNR=8.1
K08A **Mann Creek Ran** 84.54 325 ⇑P P 10 28 00.2 +0.1
baz=85
E15A **Deer Lodge** 84.55 330 ⇓P P 10 28 00.1 0.0
baz=85
J09A **Fry Pan Ranch,** 84.62 326 ⇑P P 10 28 00.8 +0.4
baz=85
GASB **Alder Springs** 84.65 320 ⇓P P 10 28 01.2 +0.6
baz=85
HATC **Hat Creek Radi** 84.75 322 ⇑P P 10 28 00.7 -0.4
baz=85
H11A **Donnelly** 84.77 328 ⇓P P 10 28 01.0 -0.2
baz=85
F13A **Darby** 84.81 329 P P 10 28 01.4 -0.1
baz=85,SNR=17
P01C **Double 8 Ranch** 84.88 320 ⇓P P 10 28 02.3 +0.5
baz=85
MOD **Modoc** 84.89 323 ⇓P P 10 28 01.8 0.0
baz=85
K07A **Rock Creek Ran** 84.90 324 ⇓P P 10 28 02.1 +0.2
baz=85,SNR=12
E14A **Clinton** 84.91 330 P P 10 28 02.3 +0.3
baz=85,SNR=5.3
M05C **Lookout** 84.96 322 ⇑P P 10 28 01.9 -0.3
baz=85
D15A **Lincoln** 84.97 331 P P 10 28 02.4 +0.1
baz=85,SNR=6.3
J08A **Circle Bar Ran** 84.99 325 ⇑P P 10 28 02.4 +0.1
baz=85,SNR=18
I09A **Lost Marbles R** 85.07 326 ⇓P P 10 28 02.7 -0.1
baz=85,SNR=10
F12A **Elk City** 85.21 329 P P 10 28 03.4 -0.1
baz=86,SNR=6.1
E13A **Victor** 85.24 330 ⇑P P 10 28 03.6 -0.1
baz=86,SNR=12
L05A **Lakeview** 85.27 323 ⇑P P 10 28 04.2 +0.4
baz=86,SNR=5.4
G11A **Walters Elk Ra** 85.41 328 P P 10 28 04.3 -0.1
baz=86,SNR=14
M03C **McCloud** 85.43 322 ⇑P P 10 28 03.9 -0.6
baz=86
D14A **Greenough** 85.43 330 ⇑P P 10 28 04.2 -0.3
baz=86
I08A **Drewsey** 85.44 326 ⇓P P 10 28 04.5 -0.1
baz=86
K06A **Valley Falls** 85.50 324 ⇑P P 10 28 05.1 +0.3
baz=86
M04C **Macdoel** 85.63 322 P P 10 28 05.3 -0.2
baz=86,SNR=6.8
F11A **Grangeville** 85.72 328 ⇓P P 10 28 05.3 -0.7
baz=86
J06A **Christmas Vall** 85.77 324 ⇑P P 10 28 06.0 -0.2
baz=86
N02C **Big Bar** 85.77 321 ⇓P P 10 28 06.3 0.0
baz=86
K05A **Summer Lake** 85.78 324 P P 10 28 06.6 +0.3
baz=86,SNR=10
D13A **Huson** 85.86 330 ⇑P P 10 28 06.3 -0.4
baz=86,SNR=7.2
M02C **Callahan** 85.91 322 ⇑P P 10 28 06.3 -0.6
baz=86
H08A **Prairie City** 85.92 326 ⇓P P 10 28 06.6 -0.4
baz=86
L04A **Klamath Falls** 85.93 323 ⇓P P 10 28 06.8 -0.2
baz=86
I07A **Izee** 86.03 325 ⇑P P 10 28 07.5 0.0
baz=86
YBH **Yreka Blue Hor** 86.07 322 eP P 10 28 05.6 -2.1
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH **Yreka Blue Hor** 86.07 322 eP P 10 28 05.6 -2.1
comp=Z,7.7nm,1.0s,mb4.4
YBH **Yreka Blue Hor** 86.07 322 ⇓P P 10 28 06.7 -1.0
baz=86
I06A **Prineville** 86.29 325 ⇓P P 10 28 09.0 +0.2
baz=87,SNR=5.3
F10A **Beach Ranch, E** 86.29 328 ⇓P P 10 28 08.7 0.0
baz=87,SNR=7.0
J05A **Fort Rock** 86.35 324 ⇑P P 10 28 08.9 -0.2
baz=87,SNR=5.0
C13A **Hot Springs** 86.36 330 P P 10 28 08.8 -0.2
baz=87,SNR=5.8
F09A **S2 Ranch, Elgi** 86.42 327 P P 10 28 08.6 -0.8
baz=87,SNR=7.1
E10A **Myers Farm, Un** 86.61 328 ⇓P P 10 28 09.6 -0.8
baz=87,SNR=12
G08A **Pilot Rock** 86.62 326 ⇑P P 10 28 09.9 -0.5
baz=87
D11A **Klaveano Farm,** 86.67 329 P P 10 28 09.7 -0.9
baz=87,SNR=5.1
C12A **Trout Creek** 86.78 330 P P 10 28 10.6 -0.5
baz=87,SNR=6.3
J04A **Umpqua Nationa** 86.78 323 ⇓P P 10 28 11.4 +0.3
baz=87
HUMO **Hull Mountain** 86.80 322 ⇑P P 10 28 10.6 -0.6
baz=87
B13A **Whitefish** 86.84 331 P P 10 28 10.9 -0.5
baz=87,SNR=6.1
L02A **Cave Junction** 86.84 322 ⇑P P 10 28 11.7 +0.2
baz=87
F08A **Pendleton** 86.90 327 ⇓P P 10 28 11.9 +0.2
baz=87
H06A **Lindquist Farm** 86.91 325 ⇓P P 10 28 11.9 +0.1
baz=87
G07A **Ruggs Ranch, H** 86.96 326 ⇑P P 10 28 12.1 +0.1
baz=87
I05A **Bend** 86.98 324 ⇑P P 10 28 12.5 +0.4
baz=87
K02A **Glendale** 87.19 322 ⇓P P 10 28 13.6 +0.4
baz=88
B12A **Libby** 87.40 330 P P 10 28 13.8 -0.3
baz=88,SNR=7.1
E08A **Dider Farm, El** 87.54 327 ⇓P P 10 28 14.7 -0.1
baz=88
D09A **Jones Farm, Ri** 87.59 328 ⇓P P 10 28 14.5 -0.6
baz=88
J02A **Umpqua** 87.65 323 ⇓P P 10 28 15.3 0.0
baz=88
C10A **Spilker Farm,** 87.69 329 ⇓P P 10 28 14.6 -0.9
baz=88
A12A **Yaak River Ran** 87.78 331 ⇓P P 10 28 15.2 -0.7
baz=88
LSZ **Lusaka** 87.83 106 eP P 10 28 16.1 -0.1
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LSZ **Lusaka** 87.83 106 eP P 10 28 16.1 -0.1
comp=Z,5.1nm,0.8s,mb4.4
LSZ ePcP PcP 10 28 18.1 +0.2
D08A **Wollman Farm,** 87.88 328 ⇓P P 10 28 16.1 -0.3
baz=88

E07A	**Sunnyside**	**87.97**	**327**	⇑P		**P**		**10 28 16.7**	**-0.1**
	baz=88									
A11A	**Hall Mountain,**	**88.11**	**330**	P		**P**		**10 28 16.7**	**-0.8**
	baz=88,SNR=9.8									
C09A	**Chrisman Ranch**	**88.11**	**328**	P		**P**		**10 28 17.1**	**-0.5**
	baz=88,SNR=5.8									
D07A	**Quincy**	**88.48**	**327**	⇑P		**P**		**10 28 19.4**	**+0.1**
	baz=89									
B09A	**Rice**	**88.51**	**329**	⇑P		**P**		**10 28 18.8**	**-0.6**
	baz=89									
F04A	**Amboy**	**88.80**	**325**	⇓P		**P**		**10 28 20.4**	**-0.4**
	baz=89									
C07A	**Waterville**	**88.87**	**328**	⇑P		**P**		**10 28 20.5**	**-0.6**
	baz=89									
B08A	**Colville Reser**	**89.01**	**328**	⇑P		**P**		**10 28 21.4**	**-0.4**
	baz=89									
A09A	**Danville**	**89.11**	**329**	⇓P		**P**		**10 28 21.8**	**-0.4**
	baz=89									
PAB	**San Pablo**	**89.20**	**44**	*e*P		**P**		**10 28 25.0**	**+2.3**
PAB				pmax		pmax				
	comp=Z,9.0nm,0.6s,mb4.9									
PAB	**San Pablo**	**89.20**	**44**	*e*P		**P**		**10 28 25.0**	**+2.4**
	comp=Z,9.2nm,0.6s,mb4.9									
PAB				*e*PcP		PcP		10 28 26.8	+2.8
E04A	**Onalaska**	**89.41**	**325**	⇓P		**P**		**10 28 23.2**	**-0.4**
	baz=90									
A08A	**Turner Farm, O**	**89.41**	**329**	⇓P		**P**		**10 28 23.1**	**-0.5**
	baz=90									
B07A	**Winthrop**	**89.45**	**328**	⇓P		**P**		**10 28 23.2**	**-0.6**
	baz=90									
A07A	**Ashnola River,**	**89.99**	**328**	⇓P		**P**		**10 28 25.9**	**-0.4**
	baz=90									
EDM	**Edmonton**	**90.11**	**334**	*e*P		**P**		**10 28 24.7**	**-2.2**
B05A	**Bryant**	**90.25**	**327**	⇑P		**P**		**10 28 26.8**	**-0.7**
	baz=91									
A05A	**Maple Falls**	**90.75**	**328**	⇓P		**P**		**10 28 29.4**	**-0.5**
	baz=91									
YKA	**Yellowknife Ar**	**97.65**	**340**	P		**P**		**10 28 58.7**	**-2.8**
	comp=Z,3.2nm,0.9s,mb4.8,baz=139,slow=4.3,SNR=7.4									
YKA	**Yellowknife Ar**	**97.65**	**340**	P		**P**		**10 28 58.7**	**-2.7**
YKA				pmax		pmax				
	comp=Z,3.0nm,0.9s									
YKA	**Yellowknife Ar**	**97.65**	**340**	P		**P**		**10 28 58.7**	**-2.8**
COLA	**College**	**110.99**	**333**	*i* PKIKP		PKiKP		10 33 59.8	+0.4
CHGN	**Chignik**	**113.26**	**323**	*e*P		Pdif		10 30 08.0	-2.9
ASAR	**Alice Springs**	**124.72**	**204**	PKP		PKPdf		10 34 25.1	-0.7
	comp=Z,2.2nm,0.4s,baz=134,slow=1.7,SNR=56									
ASAR				SKP				10 37 47.5		
	comp=Z,0.4nm,1.0s,baz=149,slow=2.6,SNR=4.2									
AS31	**Alice Springs**	**124.72**	**204**	*e*P		PKPdf		10 34 25.2	-0.6
ASPA	**Alice Springs**	**124.72**	**204**	*e*P		PKPdf		10 34 25.2	-0.6
WB2	**Warramunga Arr**	**127.94**	**206**	*e*P		PKPdf		10 34 31.5	-0.4
WB2				*e*PKPdf		PKPdf		10 34 31.7	-0.2
WRA	**Warramunga Arr**	**127.94**	**206**	PKP		PKPdf		10 34 31.6	-0.3
	comp=Z,1.3nm,0.4s,baz=155,slow=2.0,SNR=59									
WRA				pPKP		pPKPdf		10 35 08.9	+0.6
	comp=Z,1.6nm,0.8s,baz=165,slow=1.7,SNR=3.8									
WRA	**Warramunga Arr**	**127.94**	**206**	PKIKP		PKPdf		10 34 31.6	-0.3
WRA								10 35 08.9		
WRA				pmax		pmax				
	comp=Z,1.0nm,0.4s									
WRAB	**Tennant Creek**	**127.95**	**206**	*i* PKIKP		PKPdf		10 34 31.4	-0.5
WRAB	**Tennant Creek**	**127.95**	**206**	*i* P		PKPdf		10 34 31.4	-0.5
BILL	**Bilibino**	**128.94**	**337**	*i* PKIKP		PKPdf		10 34 32.2	-1.6
FITZ	**Fitzroy Crossi**	**132.51**	**197**	*e*P		PKPdf		10 34 40.7	+0.1
	comp=Z,5.0nm,1.1s									
FITZ	**Fitzroy Crossi**	**132.51**	**197**	PKP		PKPdf		10 34 40.7	+0.1
	comp=Z,1.3nm,0.5s,baz=202,slow=2.1,SNR=5.5									
AKTO	**Aktyubinsk**	**133.37**	**46**	SKPbc		SKPbc		10 37 56.8	-1.0
	comp=Z,2.1nm,0.8s,baz=342,slow=3.2,SNR=6.2									
SEY	**Seymchan**	**136.47**	**335**	*i* PKIKP		PKPdf		10 34 46.3	-1.7
BVAR	**Borovoye Array**	**140.14**	**39**	PKP		PKPdf		10 34 53.5	-1.2
	comp=Z,1.0nm,0.5s,baz=281,slow=3.9,SNR=3.6									
BVAR				SKPbc		SKPbc		10 38 17.3	-0.8
	comp=Z,0.8nm,0.7s,baz=267,slow=8.7,SNR=4.1									
YAK	**Yakutsk**	**144.05**	**346**	*e*PKIKP		PKPdf		10 34 58.5	-3.2
YAK				pmax		pmax				
	comp=Z,55nm,1.0s									
YAK	**Yakutsk**	**144.05**	**346**	*e*PKPdf		PKPdf		10 34 58.2	-3.4
EKS2	**Erkin-Say**	**145.44**	**54**	P		PKPdf		10 35 04.6	+0.5
	SNR=9.8									
AML	**Almayashu**	**145.49**	**55**	P		PKPdf		10 35 05.2	+1.0
	SNR=5.1									
NVS	**Novosibirsk**	**145.73**	**30**	*e*PKP2		PKPab		10 35 04.0	-1.8
NVS				pmax		pmax				
	comp=N,4.0nm,0.6s									
NVS				pmax		pmax				
	comp=E,5.0nm,0.6s									
NVS				pmax		pmax				
	comp=Z,25nm,0.6s									
USP	**Ospenovka**	**145.82**	**53**	P		PKPdf		10 35 05.3	+0.6
	SNR=6.0									
AAK	**Ala-Archa**	**145.97**	**54**	P		PKPdf		10 35 06.2	+1.2
	SNR=12									
AAK	**Ala-Archa**	**145.97**	**54**	*e*PKPdf		PKPdf		10 35 05.1	+0.2
FRU	**Bishkek**	**146.01**	**54**	*e*PKP2		PKPab		10 35 06.0	-0.8
KBK	**Karagaybulak**	**146.29**	**54**	P		PKPdf		10 35 07.5	+2.0
	SNR=7.7									
ZAL	**Zalesovo**	**147.02**	**30**	PKPbc		PKPbc		10 35 07.9	-1.1
	comp=Z,21nm,0.5s,baz=161,slow=3.0,SNR=27									
ZAL				SKPbc		SKPbc		10 38 32.9	-1.7
	comp=Z,0.8nm,0.5s,baz=126,slow=4.3,SNR=3.2									
ZAL	**Zalesovo**	**147.02**	**30**	PKP2		PKPbc		10 35 07.9	-1.1
ZAL								10 38 32.9		
ZAL				pmax		pmax				
	comp=Z,21nm,0.5s									
ZAL				pmax		pmax				
	comp=N,1.0nm,0.5s									
YSS	**Yuzh-Sakhalins**	**149.68**	**317**	*e*PKP2		PKPbc		10 35 14.6	-1.3
YSS				pmax		pmax				
	comp=Z,30nm,0.9s									
YSS	**Yuzh-Sakhalins**	**149.68**	**317**	*e*PKPbc		PKPbc		10 35 15.2	-0.7
MK31	**Makanchi Array**	**149.74**	**43**	*e*PKPbc		PKPbc		10 35 15.2	-0.9
MK31				*e*PKPab		PKPab		10 35 21.4	-0.3
MKAR	**Makanchi Array**	**149.74**	**43**	PKPbc		PKPbc		10 35 15.3	-0.7
	comp=Z,12nm,0.7s,baz=303,slow=2.8,SNR=44									
MKAR				PKPab		PKPab		10 35 21.3	-0.4
	comp=Z,5.1nm,0.6s,baz=298,slow=3.3,SNR=13									
BOD	**Bodaibo**	**150.11**	**358**	*e*PKIKP		PKPdf		10 35 14.4	+2.6
BOD				*e*				10 35 20.6		
BOD				pmax		pmax				
	comp=Z,11nm,0.9s									
WMQ	**Urumqi**	**154.52**	**45**	⇑PKP		PKPdf		10 35 16.9	-1.4
WMQ				PKP2		PKPab		10 35 42.1	+0.3
WMQ				APKP				10 35 50.8		
WMQ				XPKP				10 36 05.3		
WMQ				PP		PP		10 39 18.3	+0.8
WMQ				PPP				10 42 51.8		
WMQ				PP		PP				
	comp=Z,416nm,7.1s									
WMQ				LR		LR				
	comp=N,87nm,17.8s									
WMQ				LR		LR				
	comp=E,128nm,16.7s									
WMQ				LR		LR				
	comp=Z,48nm,19.0s									
MJAR	**Matsushiro Arr**	**156.70**	**298**	PKPab		PKPab		10 35 51.3	+0.1
	comp=Z,7.9nm,1.0s,baz=87,slow=2.8,SNR=9.6									
MJAR	**Matsushiro Arr**	**156.70**	**298**	PKP2		PKPab		10 35 51.3	+0.1
MJAR				pmax		pmax				
	comp=Z,8.0nm,1.0s									
SONM	**Songino Array**	**159.56**	**12**	PKP		PKPdf		10 35 24.7	0.0
	comp=Z,1.4nm,1.0s,baz=157,slow=3.9,SNR=6.5									
SONM				PKPab		PKPab		10 36 03.1	-0.5
	comp=Z,2.7nm,0.7s,baz=324,slow=4.2,SNR=14									
SONM	**Songino Array**	**159.56**	**12**	PKIKP		PKPdf		10 35 24.7	0.0
SONM								10 36 03.1		
SONM				pmax		pmax				
	comp=Z,1.0nm,1.0s									
ULN	**Ulaanbaatar**	**159.64**	**11**	*ce*PKIKP		PKPdf		10 35 24.7	-0.1
KSRS	**Korea Array**	**163.95**	**310**	PKPab		PKPab		10 36 23.4	+0.5
	comp=Z,2.0nm,0.6s,baz=59,slow=4.4,SNR=7.6									
GTA	**Gaotai**	**164.43**	**39**	PKP		PKPdf		10 35 26.9	-2.7
GTA				APKP				10 36 08.3		
GTA				PKS				10 38 58.4		
GTA				PP		PP		10 40 11.4	+0.2
GTA				SKS		SKSdf		10 42 13.8	-7.5
GTA				SKKS		SKKSac		10 46 41.1	-4.8
GTA				PP		PP				
	comp=Z,214nm,5.7s									
GTA				LR		LR				
	comp=N,168nm,7.2s									
GTA				LR		LR				
	comp=E,219nm,7.2s									
GTA				LR		LR				
	comp=Z,249nm,7.6s									
HHC	**Hu-ho-hao-te**	**167.09**	**3**	*e*PKP		PKPdf		10 35 35.0	+3.2
HHC				APKP				10 36 02.1		
HHC				PKS				10 39 07.1		
HHC				PP		PP		10 40 30.8	+5.9
HHC				SS		SS		11 00 57.3	-1.1
HHC				PP		PP				
	comp=Z,75nm,8.4s									
HHC				LR		LR				
	comp=N,169nm,20.2s									
HHC				LR		LR				
	comp=E,188nm,21.2s									
HHC				LR		LR				
	comp=Z,130nm,22.3s									
LZH	**Lanzhou**	**169.03**	**40**	*e*PKP		PKPdf		10 35 37.5	+4.4
LZH				APKP				10 36 08.0		
LZH				XPKP				10 36 21.0		
LZH				LR		LR				
	comp=N,125nm,19.6s									
LZH				LR		LR				
	comp=Z,245nm,20.3s									
LZH	**Lanzhou**	**169.03**	**40**	*e*PKP		PKPdf		10 35 37.5	+4.4
LZH				pPKP		pPKPdf		10 36 08.0	-1.8
LZH				sPKP				10 36 21.0		
LZH				LR		LR				
	comp=Z,250nm,20.3s									
KMI	**Kunming**	**170.80**	**105**	PKP		PKPdf		10 35 33.5	-0.6
GYA	**Guiyang**	**174.57**	**104**	*e*PKP		PKPdf		10 35 35.0	-0.7
GYA				APKP				10 36 09.4		
GYA				XPKP				10 36 22.5		
GYA				PKP2		PKPab		10 37 10.5	+0.7
GYA				PKS				10 39 06.0		
GYA				PP		PP		10 41 03.5	+1.3
GYA				PP		PP				
	comp=Z,120nm,8.0s									

NIED ***20*** *10:24:00,4060N×144.00E,h11km,Mw4.4 Best double couple: M0 3.91000×10^15 NP1:φ=32.00000°,δ=73.00000°, λ=122.00000°. NP2:φ=147.00000°,δ=36.00000°,λ=30.00000°.*
BJI ***20*** *10:24:04.0,4076N×144.04E,h11km,mB5.0,mb4.5,Ms4.0, Msz3.9*
ISCJB ***20*** *10:24:04.3±0.5,4069N±.003×143.97E±.005,h10km, mb4.3/16,MS4.0/3,Error ellipse: s-maj=6.0km s-min=3.0km az=47.2*
NEIC ***20*** *10:24:06.2±5.5,4068N×144.00E,h11km±33km,mb4.8/4, MW4.3(NIED),Error ellipse: s-maj=20.5km s-min=10.1km az=94.0*
MOS ***20*** *10:24:06.8±0.9,4064N×144.06E,h33km,mb4.8/5,Error ellipse: s-maj=15.8km s-min=10.3km az=97.1*
JMA ***20*** *10:24:06.6±0.2,4064N×143.99E,h47km,M3.8*
IDC ***20*** *10:24:09.6±6.0,4062N×143.88E,h33km±44km,mb3.9/9, mb1 4.0/12,mb1mx3.8/25,mbtmp3.9/12,ML3.4/3,MS3.8/6, Ms1 3.8/6,ms1mx3.4/35,Error ellipse: s-maj=29.6km s-min=17.1km az=87.0*

ISC 20 10:24:06.0±0.5,4074N±.003×14395E±.005,h10km, (h15km±2.8km:pP-P),n52,σ1§08/68,mb4.3/16,MS4.0/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.41**	**335**	*e*Pn		**Pn**	**10 24 31.9**	**+0.2**
ERM				*e*Sn		**Sn**	**10 24 49.0**	**-1.4**
JEM	**Erimo**	**1.41**	**335**	P		**Pn**	**10 24 31.9**	**+0.2**
JEM				*e*S		**Sn**	**10 24 50.8**	**+0.4**
JTH	**Tanohata**	**1.78**	**244**	P		**Pn**	**10 24 35.8**	**-1.0**
JTH				*e*S		**Sn**	**10 24 56.3**	**-3.2**
JNBK	**Urakawa-nobuka**	**1.79**	**330**	P		**Pn**	**10 24 37.6**	**+0.7**
JNBK				*e*S		**Sn**	**10 25 01.1**	**+1.5**
JANG	**Nango**	**1.89**	**260**	P		**Pn**	**10 24 37.6**	**-0.7**
JANG				*e*S		**Sn**	**10 25 00.0**	**-2.2**
JCH	**Churui**	**1.93**	**347**	P		**Pn**	**10 24 39.2**	**+0.4**
JCH				*e*S		**Sn**	**10 25 03.1**	**0.0**
JOT	**Ohata**	**2.29**	**287**	P		**Pn**	**10 24 44.2**	**+0.4**
JOT				*e*S		**Sn**	**10 25 11.0**	**-1.0**
JAK	**Akkeshi**	**2.33**	**14**	P		**Pn**	**10 24 44.3**	**0.0**
JAK				*e*S		**Sn**	**10 25 11.9**	**-1.1**
JOM	**Ohasama**	**2.40**	**239**	P		**Pn**	**10 24 45.1**	**-0.2**
JOM				*e*S		**Sn**	**10 25 12.6**	**-2.1**
JKB	**Kayabe**	**2.48**	**299**	P		**Pn**	**10 24 46.8**	**+0.4**
JKB				*e*S		**Sn**	**10 25 15.9**	**-0.9**
JAR	**Ashorobuto**	**2.56**	**357**	P		**Pn**	**10 24 47.3**	**-0.3**
JAR				*e*S		**Sn**	**10 25 17.2**	**-1.6**
JFR	**Furan**	**2.63**	**338**	P		**Pn**	**10 24 48.9**	**+0.4**
JFR				*e*S		**Sn**	**10 25 20.8**	**+0.4**
JMK	**Ichinoseki**	**2.75**	**231**	P		**Pn**	**10 24 50.0**	**-0.2**
JMK				*e*S		**Sn**	**10 25 20.4**	**-3.1**
NEM2	**Nemuro 2**	**2.95**	**26**	P		**Pn**	**10 24 52.6**	**-0.2**
NEM2				*e*S		**Sn**	**10 25 25.7**	**-2.6**
JTKR	**Abashiri--Toko**	**3.23**	**359**	P		**Pn**	**10 24 56.9**	**+0.1**
JTKR				*e*S		**Sn**	**10 25 34.8**	**-0.5**
JHR	**Hokuryu**	**3.43**	**332**	P		**Pn**	**10 25 01.2**	**+1.7**
ASAJ	**Asahikawa**	**3.52**	**344**	Pn		**Pn**	**10 25 02.2**	**+1.4**
	2.5nm,0.3s,baz=193,slow=12,SNR=22							
ASAJ				Sn		**Sn**	**10 25 43.9**	**+1.4**
	5.5nm,0.3s,baz=99,slow=25,SNR=4.7							
ASAJ				LR		LR	10 27 09.0	
	comp=Z,726nm,19.0s,baz=194,slow=50							
ASAJ	**Asahikawa**	**3.52**	**344**	P		**Pn**	**10 25 02.2**	**+1.4**
ASAJ							10 25 43.9	
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ASAJ				smax				
	comp=N,6.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.59**	**23**	P		**Pn**	**10 25 00.5**	**-1.2**
YUK				*e*S		**Sn**	**10 25 40.6**	**-3.5**
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,760nm,0.5s							
JOSM	**Okushiri--Mats**	**3.62**	**293**	P		**Pn**	**10 25 02.4**	**+0.2**
MJAR	**Matsushiro Arr**	**6.14**	**229**	Pn		**Pn**	**10 25 36.5**	**-0.3**
	comp=E,1.0nm,0.3s,baz=27,slow=11,SNR=18							
MAJO	**Matsushiro**	**6.14**	**229**	*e*P		**Pn**	**10 25 37.6**	**+0.8**
MAJO				pmax		pmax		
	comp=Z,30nm,0.9s							
MAJO	**Matsushiro**	**6.14**	**229**	*e*Pn		**Pn**	**10 25 37.6**	**+0.8**
	comp=Z,30nm,0.9s							
MAT	**Matsushiro**	**6.14**	**229**	P		**Pn**	**10 25 37.2**	**+0.4**
MAT				*e*S		**Sn**	**10 26 48.7**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.28**	**352**	P		**Pb**	**10 25 49.9**	**-5.4**
YSS				MLR		MLR		
	comp=E,900nm,15.0s							
YSS				MLR		MLR		
	comp=Z,1μm,15.0s							
YSS				MLR		MLR		
	comp=N,1μm,16.0s							
KLR	**Kul'dur**	**12.10**	**319**	*e*P		**Pn**	**10 26 55.6**	**-2.8**
KSRS	**Korea Array**	**12.88**	**260**	Pn		**Pn**	**10 27 10.5**	**+1.5**
	baz=82,slow=12,SNR=4.6							
KSRS				LR		LR	10 31 27.5	
	comp=N,80nm,20.4s,baz=277,slow=34							
JNU	**Nakatsue**	**12.92**	**238**	LR		LR	10 32 14.4	
	comp=N,757nm,19.8s,baz=274,slow=38							
CN2	**Changchun**	**14.04**	**289**	*e*P		**Pn**	**10 27 25.3**	**+0.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,300nm,12.0s							
CN2				LR		LR		
	comp=E,300nm,12.0s							
CN2				LR		LR		
	comp=Z,600nm,13.0s							
ULN	**Ulaanbaatar**	**27.15**	**298**	*e*P		**P**	**10 29 50.4**	**+1.0**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.0							
ULN	**Ulaanbaatar**	**27.15**	**298**	*e*P		**P**	**10 29 50.4**	**+1.0**
	comp=Z,2.8nm,0.6s,mb4.0							
SONM	**Songino Array**	**27.60**	**298**	P		**P**	**10 29 53.5**	**+0.1**
	comp=Z,2.4nm,0.9s,mb3.8,baz=98,slow=9.9,SNR=13							
SONM				LR		LR	10 40 55.2	
	comp=Z,92nm,20.7s,MS3.3,baz=42,slow=36							
ZAK	**Zakamensk**	**29.73**	**303**	*e*P		**P**	**10 30 12.7**	**+0.3**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.1							
LZH	**Lanzhou**	**31.57**	**275**	*e*P		**P**	**10 30 30.5**	**+1.9**
LZH				AP		pP	10 30 36.0	+4.3
LZH				XP		sP	10 30 39.5	+6.6
LZH				AMB		AMB		
	comp=Z,25nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,109nm,4.2s							
LZH	**Lanzhou**	**31.57**	**275**	*e*P		**P**	**10 30 30.5**	**+1.9**
	comp=Z,25nm,1.0s,mb5.0							
LZH				pP		pP	10 30 36.0	+4.3
LZH				sP		sP	10 30 39.5	+6.6
GTA	**Gaotai**	**33.54**	**282**	*e*P		**P**	**10 30 47.0**	**+1.2**
GTA				AP		pP	10 30 51.1	+2.2
GTA				XP		sP	10 30 54.4	+4.3
GTA				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5							
GYA	**Guiyang**	**33.90**	**257**	P		**P**	**10 30 49.1**	**+0.1**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**41.01**	**309**	P		**P**	**10 31 49.9**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.2,baz=20,slow=8.4,SNR=19							
MKAR	**Makanchi Array**	**43.93**	**299**	P		**P**	**10 32 13.3**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.3,baz=82,slow=9.4,SNR=42							
CHKZ	**Chkalovo**	**49.30**	**311**	*e*P		**P**	**10 32 55.7**	**+0.6**
CHKZ				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
CHKZ	**Chkalovo**	**49.30**	**311**	*e*P		**P**	**10 32 55.7**	**+0.6**
	comp=Z,8.3nm,0.7s,mb4.9							
BVAR	**Borovoye Array**	**49.61**	**310**	P		**P**	**10 32 58.2**	**+0.8**
	comp=Z,1.6nm,0.4s,mb4.4,baz=81,slow=9.6,SNR=11							
INK	**Inuvik**	**50.20**	**29**	P		**P**	**10 33 03.3**	**+1.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=278,slow=5.6,SNR=9.5							
INK	**Inuvik**	**50.20**	**29**	P		**P**	**10 33 03.3**	**+1.4**
INK				*e*P		pP	10 33 06.4	+1.4
AAK	**Ala-Archa**	**50.55**	**296**	*e*P		**P**	**10 33 09.0**	**+4.5**
AAK				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
AAK	**Ala-Archa**	**50.55**	**296**	*e*P		**P**	**10 33 09.0**	**+4.4**
	comp=Z,6.0nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**61.02**	**190**	P		**P**	**10 34 18.3**	**-1.4**
	comp=Z,1.5nm,0.9s,mb4.1,baz=7.8,slow=6.7,SNR=9.8							
ASAR	**Alice Springs**	**64.75**	**190**	P		**P**	**10 34 44.2**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=1.4,slow=3.7,SNR=5.1							
FINES	**FINESS Array B**	**66.46**	**332**	P		**P**	**10 34 54.9**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=57,slow=7.0,SNR=5.6							
FINES				LR		LR	11 06 12.5	
	comp=Z,190nm,19.8s,MS4.3,baz=327,slow=38							
FINES	**FINESS Array B**	**66.46**	**332**	P		**P**	**10 34 54.9**	**-0.6**
FINES				LR		LR	11 06 12.5	
AKASG	**Malin Array Be**	**72.57**	**323**	P		**P**	**10 35 32.9**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=35,slow=5.6,SNR=5.6							
PPT	**Papeete**	**84.59**	**119**	LR		LR	11 15 24.5	
	comp=Z,102nm,18.2s,MS4.2,baz=331,slow=36							

ISCJB ***20*** *10:32:00.1±0.7,4312N±.004×057W±.003,h14km±7km, Error ellipse: s-maj=6.6km s-min=3.7km az=6.9*
STR ***20*** *10:32:01.3±0.4,4307N×060W,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *10:32:01.4±0.1,4306N×062W,h2km,Md2.0/3,Ml2.1/2, Error ellipse: s-maj=2.2km s-min=1.3km az=6.0*
MDD ***20*** *10:32:01.9±0.4,4308N×060W,h0km,mbLg1.0/9,Error ellipse: s-maj=3.9km s-min=2.1km az=15.0,PRXIMO*

ISC 20 10:32:01.3±0.6,4310N±.004×059W±.003,h7km±.9km,n19, σ0§70/27,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATE	**Arette**	**0.08**	**262**	Pg		**Pg**	**10 32 02.7**	**-0.5**
ATE				Sg		**Sg**	**10 32 03.8**	**-0.8**
REYF	**Montagne du Re**	**0.15**	**101**	Pg		**Pg**	**10 32 04.7**	**+0.3**
REYF				Sg		**Sg**	**10 32 07.7**	**+1.2**
ETSF	**Etsaut**	**0.20**	**173**	*e*Pg		**Pg**	**10 32 05.2**	**-0.1**
ETSF				*e*Sg		**Sg**	**10 32 07.3**	**-0.7**
	4.4nm,0.2s							
ETSF	**Etsaut**	**0.20**	**173**	Pg		**Pg**	**10 32 05.2**	**-0.1**
ETSF				Lg			10 32 07.3	
	2.2nm,0.2s							
ORDF	**Ordiarp**	**0.28**	**295**	Pg		**Pg**	**10 32 06.5**	**-0.2**
ORDF				Sg		**Sg**	**10 32 11.6**	**+1.2**
LARF	**Larrau**	**0.30**	**259**	Pg		**Pg**	**10 32 06.9**	**-0.2**
LARF				Sg		**Sg**	**10 32 12.7**	**+1.7**
SJPF	**Ste Jean**	**0.46**	**272**	*e*Pg		**Pg**	**10 32 09.8**	**-0.5**
SJPF				*e*Sg		**Sg**	**10 32 16.1**	**-0.2**
	4.8nm,0.2s							
SJPF	**Ste Jean**	**0.46**	**272**	Pg		**Pg**	**10 32 09.8**	**-0.5**
SJPF				Lg			10 32 16.1	
	2.4nm,0.2s							
IPRE	**Itoiz**	**0.63**	**243**	Lg			10 32 23.0	
	2.0nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**0.68**	**127**	Pg		**Pg**	**10 32 14.1**	**-0.3**
	1.6nm,0.2s,SNR=7.9							
EBIE				Lg			10 32 23.9	
	2.0nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**0.68**	**281**	Pg		**Pg**	**10 32 13.

MDRS	**Chennai**	**4.73**	**242**	*e*S		**Sn**	**10 45 30.6**	**+1.6**
SALM	**Salem**	**7.17**	**240**	*e*P		**Pn**	**10 45 09.0**	**+1.4**
SALM				*e*S		**Sn**	**10 46 29.0**	**0.0**
NGP	**Nagpur**	**7.77**	**319**	*e*P		**Pn**	**10 45 21.5**	**+5.6**
NGP				*e*P			10 45 22.1	
NGP				*e*S		**Sn**	**10 46 47.2**	**+3.2**
NGP				AML	AML		10 46 50.8	
	comp=N,112nm,0.3s							
NGP				AML	AML		10 46 51.1	
	comp=E,83nm,0.3s							
LATR	**Latur**	**8.22**	**293**	*e*P		**Pn**	**10 45 21.9**	**-0.1**
LATR				*e*S		**Sn**	**10 46 52.4**	**-2.5**
LATR				AML	AML		10 46 55.8	
BOK	**Bokaro**	**8.50**	**8**	*e*P		**Pn**	**10 45 24.7**	**-1.3**
BOK				*ex*	x		10 46 54.0	
BOK				*e*S		**Sn**	**10 46 54.3**	**-7.6**
BOK				AML	AML		10 47 44.7	
	comp=E,19nm,0.8s							
BOK				AML	AML		10 47 48.8	
	comp=N,24nm,0.5s							
KOD	**Kodaikanal**	**8.56**	**234**	AML	AML		10 55 44.9	
	comp=E,50nm,0.5s							
KOD				AML	AML		10 55 50.5	
	comp=N,118nm,0.4s							
JBP	**Jabalpur**	**8.89**	**332**	⇑*i*P		**Pn**	**10 45 35.8**	**+4.7**
JBP				*ex*	x		10 45 41.1	
	comp=Z,22nm,0.8s							
JBP				*i* S		**Sn**	**10 47 12.7**	**+1.4**
TRD	**Trivandrum**	**10.05**	**228**	*e*P		**Pn**	**10 45 46.5**	**-0.6**
TRD				*e*S		**Sn**	**10 47 33.8**	**-6.1**
KAD	**Karad**	**10.12**	**283**	*e*P		**Pn**	**10 45 47.6**	**-0.5**
KAD				*e*S		**Sn**	**10 47 39.8**	**-1.9**
BHPL	**Bhopal**	**10.33**	**321**	*e*P		**Pn**	**10 45 56.2**	**+5.3**
BHPL				*ex*	x		10 47 44.8	
BHPL				AML	AML		10 47 50.2	
	comp=N,34nm,0.5s							
BHPL				AML	AML		10 47 52.4	
	comp=E,42nm,0.7s							
POO	**Poona**	**10.70**	**289**	*ex*	x		10 46 07.0	
POO				*e*S		**Sn**	**10 47 53.0**	**-2.8**
POO				*ex*	x		10 48 27.4	
BOM	**Bombay**	**11.74**	**289**	*e*P		**Pn**	**10 46 17.6**	**+7.3**
BOM				*ex*	x		10 46 23.3	
	comp=Z,53nm,0.2s							
BOM				*ex*	x		10 48 09.5	
PKI	**Pulchoki**	**12.19**	**4**	*e*P		**Pn**	**10 46 16.1**	**-0.4**
	comp=Z,52nm,0.5s							
DMN	**Daman**	**12.22**	**2**	*e*P		**Pn**	**10 46 16.0**	**-0.8**
	comp=Z,120nm,0.6s							
JIRN	**Jiri**	**12.35**	**7**	*e*P		**Pn**	**10 46 18.6**	**0.0**
	comp=Z,129nm,0.5s							
KOLN	**Koldanda**	**12.39**	**356**	*e*P		**Pn**	**10 46 18.5**	**-0.7**
	comp=Z,26nm,0.2s							
KKN	**Kakani**	**12.40**	**3**	*e*P		**Pn**	**10 46 20.8**	**+1.5**
	comp=Z,18nm,0.3s							
GUN	**Gumba**	**12.57**	**6**	*e*P		**Pn**	**10 46 22.9**	**+1.3**
	comp=Z,22nm,0.3s							
GKN	**Gorkha**	**12.60**	**0**	*e*P		**Pn**	**10 46 21.0**	**-1.0**
	comp=Z,67nm,0.3s							

*ISCJB **20** 10:48:59.7±6.6, 474N±0.1×1554E±0.2, h3km±41km, mb3.7/9, Error ellipse: s-maj=28.9km s-min=15.7km az=100.0*
*IDC **20** 10:49:01.0±1.1, 47.37N×155.39E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, ML3.2/1, Error ellipse: s-maj=31.1km s-min=21.6km az=168.0*
*MOS **20** 10:49:05.0±1.0, 47.47N×155.12E, h39km, mb4.1/5, Error ellipse: s-maj=29.6km s-min=20.6km az=88.8*

ISC 20 10:49:04.2±7.0, 475N±01×1553E±02, h20km±43km, n16, σ0§82/16, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.26**	**9**	*e*PN	**Pn**	**10 49 54.0**	**-0.3**
SKR				*e*		10 50 39.4	
ASAJ	**Asahikawa**	**9.51**	**254**	Pn	**Pn**	**10 51 20.1**	**0.0**
	0.3nm,0.3s,baz=63,slow=16,SNR=2.9						
KSRS	**Korea Array**	**22.46**	**254**	P	**P**	**10 54 03.5**	**+1.4**
	1.2nm,0.8s,mb3.4,baz=58,slow=11,SNR=3.9						
SONM	**Songino Array**	**32.54**	**289**	P	**P**	**10 55 33.4**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=54,slow=9.7,SNR=3.3						
ZAL	**Zalesovo**	**43.45**	**306**	P	**P**	**10 57 04.6**	**-1.2**
	0.9nm,0.5s,mb3.7,baz=65,slow=7.1,SNR=3.9						
ZAL	**Zalesovo**	**43.45**	**306**	P	**P**	**10 57 04.6**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**10 57 40.8**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=57,slow=8.8,SNR=7.6						
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**10 57 40.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**60.75**	**64**	P	**P**	**10 59 14.1**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=283,slow=8.2,SNR=3.6						
FINES	**FINESS Array B**	**64.03**	**336**	P	**P**	**10 59 37.5**	**+1.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=32,slow=7.1,SNR=9.8						
FINES	**FINESS Array B**	**64.03**	**336**	P	**P**	**10 59 37.5**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.03**	**342**	P	**P**	**11 00 03.2**	**+1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=25,slow=6.4,SNR=2.9						
NOA	**NORSAR Array B**	**68.03**	**342**	P	**P**	**11 00 03.2**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.39**	**200**	P	**P**	**11 00 34.0**	**-0.9**
	comp=Z,0.3nm,0.8s,mb3.3,baz=14,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**75.81**	**62**	P	**P**	**11 00 49.6**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=302,slow=5.3,SNR=4.7						
TXAR	**Lajitas Array**	**75.81**	**62**	P	**P**	**11 00 49.6**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **20** 10:55:26.4±0.8, 1141N±005×6226W±003, h125km±7km, Error ellipse: s-maj=9.1km s-min=5.5km az=161.2*
*NEIC **20** 10:55:26.3, 1153N×6225W, h127km, MD3.5(TRN), After TRN.*
*TRN **20** 10:55:26.3, 1153N×6225W, h128km, MD3.5*
*FUNV **20** 10:55:28.7, 1140N×6217W, h115km, MW3.5*

ISC 20 10:55:27.1±0.9, 1143N±005×6225W±003, h122km±8km, n16, σ1§02/32, 4C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.78**	**178**	*e*P	**Pn**	**10 55 48.2**	**+1.0**
GUIV				*e*S	**Sn**	**10 56 01.4**	**-1.1**
ITEV	**Isla Los Testi**	**0.87**	**265**	*e*P	**Pn**	**10 55 48.7**	**+0.6**
ITEV				*e*S	**Sn**	**10 56 04.5**	**+0.6**
TCE	**Chacachacare**	**0.87**	**146**	⇑*i*P	**Pn**	**10 55 49.1**	**+1.0**
TCE				*e*S	**Sn**	**10 56 05.3**	**+1.3**
GRW	**Mount Saint Ca**	**0.93**	**38**	*e*P	**Pn**	**10 55 47.7**	**-0.9**
GRW				*e*S	**Sn**	**10 56 03.5**	**-1.4**
TRN	**Trinidad (W)**	**1.13**	**133**	⇑*i*P	**Pn**	**10 55 51.4**	**+0.8**
TRN				*e*S	**Sn**	**10 56 07.2**	**-1.2**
TRN				*e*S	**Sn**	**10 56 09.2**	**+0.8**
CRUV	**Carupano**	**1.23**	**232**	⇑*i*P	**Pn**	**10 55 53.0**	**+1.4**
CRUV				*e*S	**Sn**	**10 56 09.9**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.35**	**145**	*e*P	**Pn**	**10 55 51.6**	**-1.4**
TPP				*e*S	**Sn**	**10 56 13.1**	**+0.4**
GUNV	**Guanoco**	**1.43**	**209**	*e*P	**Pn**	**10 55 54.8**	**+0.9**
GUNV				*e*S	**Sn**	**10 56 14.5**	**+0.3**
TPR	**Prospect**	**1.46**	**99**	*e*P	**Pn**	**10 55 53.6**	**-0.6**
TPR				*e*S	**Sn**	**10 56 15.0**	**+0.1**
TBH	**Brigand Hill**	**1.49**	**129**	⇑*i*P	**Pn**	**10 55 55.1**	**+0.6**
TBH				*e*S	**Sn**	**10 56 14.5**	**-1.0**
ORIV	**Oritupano**	**2.61**	**206**	*e*P	**Pn**	**10 56 09.5**	**+1.2**
ORIV				*e*S	**Sn**	**10 56 39.1**	**-0.9**
PCRV	**Puerto La Cruz**	**2.66**	**242**	*e*P	**Pn**	**10 56 10.0**	**+1.1**
PCRV				*e*S	**Sn**	**10 56 40.1**	**-1.0**
CUPV	**Cœpira**	**3.74**	**249**	⇓*e*P	**Pn**	**10 56 24.8**	**+1.7**
CUPV				*e*S	**Sn**	**10 57 05.3**	**-1.2**
MERV	**Las Mercedes**	**4.53**	**242**	*e*P	**Pn**	**10 56 34.8**	**+1.0**
MERV				*e*S	**Sn**	**10 57 24.1**	**-1.5**
LUEV	**Luepa**	**5.60**	**172**	*e*P	**Pn**	**10 56 47.1**	**-1.1**
CAOV	**Caicara del Or**	**5.72**	**225**	*e*P	**Pn**	**10 56 48.5**	**-1.3**
CAOV				*e*S	**Sn**	**10 57 49.2**	**-5.0**

*ISCJB **20** 11:13:23.0±0.8, 464N±02×1542E±02, h33km, mb3.7/6, Error ellipse: s-maj=30.3km s-min=14.4km az=146.9*
*MOS **20** 11:13:22.6±1.2, 464.3N×154.13E, h33km, mb4.0/4, Error ellipse: s-maj=55.4km s-min=30.6km az=155.5*

*IDC **20** 11:13:26.3±5.2, 46.38N×154.31E, h46km±50km, mb3.5/6, mb1 3.8/7, mb1mx3.5/22, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=38.3km s-min=23.9km az=136.0*

ISC 20 11:13:25.7±3.7, 464N±02×1543E±03, h41km±34km, n13, σ0§76/13, mb3.7/6, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.66**	**258**	⇓*e*PN	**Pn**	**11 14 29.3**	**-4.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
ASAJ	**Asahikawa**	**8.58**	**259**	P	**Pn**	**11 15 27.1**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=90,slow=19,SNR=10						
ASAJ	**Asahikawa**	**8.58**	**259**	PN	**Pn**	**11 15 27.2**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.49**	**255**	P	**P**	**11 18 12.1**	**+1.2**
	comp=Z,2.4nm,0.8s,mb3.6,baz=53,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**11 21 58.8**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=63,slow=7.8,SNR=8.6						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**11 21 58.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**64.29**	**54**	P	**P**	**11 23 57.1**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=289,slow=2.8,SNR=4.5						
WRA	**Warramunga Arr**	**68.44**	**200**	P	**P**	**11 24 22.4**	**-1.1**
	comp=Z,0.8nm,0.9s,mb3.7,baz=16,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**68.44**	**200**	P	**P**	**11 24 22.4**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.12**	**200**	P	**P**	**11 24 46.4**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=12,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**72.12**	**200**	P	**P**	**11 24 46.4**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**11 25 14.1**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=306,slow=4.2,SNR=17						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**11 25 14.1**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*BJI **20** 11:23:03.3, 420S×102.50E, h30km, mB5.2, mb5.0, Ms4.8, Msz4.2*
*MOS **20** 11:23:03.5±1.2, 407S×102.59E, h33km, mb5.1/43, Error ellipse: s-maj=13.1km s-min=5.9km az=109.0*
*NEIC **20** 11:23:04.4±0.2, 416S×102.47E, h30km, mb4.9/19, Error ellipse: s-maj=11.1km s-min=6.7km az=59.0*
NEIC Felt [IV] at Bengkulu and [III] at Kapahiang.
*IDC **20** 11:23:09.8±1.6, 413.5S×102.57E, h75km±13km, mb4.5/21, mb1 4.6/22, mb1mx4.5/24, mbtmp4.5/22, MS3.7/14, Ms1 3.7/14, ms1mx3.3/38, Error ellipse: s-maj=22.0km s-min=8.6km az=46.0*
*ISCJB **20** 11:23:10.2±0.8, 4.10S±005×10253E±005, h95km±7km, mb4.9/74, Error ellipse: s-maj=11.6km s-min=5.0km az=90.8*

ISC 20 11:23:11.8±0.8, 413S±005×10252E±005, h93km±6km, n200, σ1§03/172, mb4.9/74, 23C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLI	**Kotabumi**	**2.44**	**107**	P	**Pn**	**11 23 48.4**	**-1.6**
	0.0nm,0.0s						
SBJI	**Serang**	**4.11**	**119**	P	**Pn**	**11 24 12.6**	**+0.3**
	0.0nm,0.0s						
LEM	**Lembang**	**5.74**	**118**	P	**Pn**	**11 24 35.6**	**+1.1**
	0.0nm,0.0s						
KGM	**Kluang**	**6.16**	**8**	P	**Pn**	**11 24 41.1**	**+0.9**
PSI	**Prapat**	**7.76**	**332**	P	**Pn**	**11 24 58.1**	**-3.9**
	1.1nm,0.3s,baz=151,slow=11,SNR=7.5						
PSI				LR	LR	11 28 25.6	
	comp=Z,445nm,21.3s,baz=143,slow=41						
IPM	**Ipoh**	**8.68**	**350**	P	**Pn**	**11 25 17.5**	**+3.0**
KULM	**Kulim**	**9.54**	**349**	*e*Pn	**Pn**	**11 25 25.0**	**-1.2**
KSM	**Kuching**	**9.57**	**55**	*e*Pn	**Pn**	**11 25 27.0**	**+0.4**
COCO	**West Island**	**9.78**	**215**	*e*Pn	**Pn**	**11 25 22.4**	**-7.2**
	326nm,0.8s						
BSI	**Banda Aceh**	**11.97**	**323**	P	**Pn**	**11 25 58.0**	**-1.3**
	0.0nm,0.0s						
TSM	**Tawau**	**17.48**	**62**	P	**Pn**	**11 27 12.7**	**+3.2**
KKTK	**Khon Kaen**	**20.34**	**1**	⇓P	**P**	**11 27 41.2**	**+0.6**
	679nm,0.5s						
NANT	**Nan**	**22.85**	**356**	⇑P	**P**	**11 28 06.0**	**-1.3**
	152nm,1.0s,mb5.3						
CHG	**Chiang Mai**	**23.07**	**351**	⇓P	**P**	**11 28 08.4**	**-0.9**
	24nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**23.07**	**351**	*e*P	**P**	**11 28 08.9**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**23.07**	**351**	*e*P	**P**	**11 28 08.9**	**-0.4**
	comp=Z,18nm,0.8s,mb4.4						
QIZ	**Qiongzhong**	**24.12**	**17**	P	**P**	**11 28 19.5**	**+0.6**
QIZ				S	**S**	**11 32 29.8**	**-0.1**
QIZ				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.5						
QIZ				LR	LR		
	comp=Z,187nm,27.7s						
FITZ	**Fitzroy Crossi**	**26.55**	**123**	*e*P	**P**	**11 28 40.3**	**-0.6**
	comp=Z,30nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**26.55**	**123**	P	**P**	**11 28 40.4**	**-0.5**
	comp=Z,18nm,0.8s,mb4.7,baz=299,slow=6.4,SNR=31						
MDRS	**Chennai**	**27.95**	**308**	*ex*	x	11 29 56.1	
KMI	**Kunming**	**29.08**	**0**	P	**P**	**11 29 05.3**	**+1.9**
KMI				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.9						
KMI				LR	LR		
	comp=N,156nm,18.7s						
KMI				LR	LR		
	comp=E,229nm,17.7s						
KMI				LR	LR		
	comp=Z,143nm,25.8s						
KMI	**Kunming**	**29.08**	**0**	P	**P**	**11 29 05.2**	**+1.8**
KMI				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.9						
KMI				MLR	MLR		
	comp=Z,140nm,25.8s						
KMI	**Kunming**	**29.08**	**0**	P	**P**	**11 29 05.2**	**+1.8**
	comp=Z,26nm,0.9s,mb4.9						
KMI				pP	pP	11 29 35.7	+11
KMI				LR	LR		
	comp=Z,140nm,25.8s						
NWAO	**Narrogin (SRO)**	**31.78**	**156**	LR	LR	11 41 10.6	
	comp=Z,181nm,20.3s,baz=172,slow=34						
BOK	**Bokaro**	**32.14**	**330**	*e*P	**P**	**11 29 30.9**	**+0.4**
WRA	**Warramunga Arr**	**34.76**	**120**	P	**P**	**11 29 52.6**	**-0.6**
	comp=Z,8.4nm,0.6s,mb4.7,baz=301,slow=9.2,SNR=74						
WRA				PcP	PcP	11 32 25.6	+0.9
	comp=Z,4.0nm,0.6s,baz=301,slow=2.2,SNR=10						
WRA				S	**S**	**11 35 16.2**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=287,slow=16,SNR=6.0						
WRA				LR	LR	11 43 31.0	
	comp=Z,60nm,21.3s,baz=300,slow=35						
WRA	**Warramunga Arr**	**34.76**	**120**	P	**P**	**11 29 52.6**	**-0.6**
WRA						11 32 25.6	
WRA				S	**S**	**11 35 16.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WRA				smax			
	comp=N,2.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,60nm,21.3s						
WRAB	**Tennant Creek**	**34.77**	**120**	*c* iP	**P**	**11 29 51.2**	**-2.0**
WB2	**Warramunga Arr**	**34.77**	**120**	⇑*i*P	**P**	**11 29 52.4**	**-0.9**
WB2				*e*PCP	PcP	11 32 25.7	+0.9
WB2				*e*		11 35 15.9	
KAD	**Karad**	**35.16**	**308**	*e*P	**P**	**11 29 56.6**	**0.0**
KAD				AMb	AMB	11 29 58.6	
	comp=Z,20nm,1.4s,mb4.8						
JIRN	**Jiri**	**35.31**	**334**	⇑*i*P	**P**	**11 29 58.9**	**+1.0**
LSA	**Lhasa**	**35.36**	**343**	P	**P**	**11 29 59.4**	**+1.1**
LSA	**Lhasa**	**35.36**	**343**	*e*P	**P**	**11 29 59.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
LSA	**Lhasa**	**35.36**	**343**	*e*P	**P**	**11 29 59.3**	**+1.0**
	comp=Z,13nm,0.7s,mb4.9						
PKI	**Pulchoki**	**35.58**	**333**	⇑*i*P	**P**	**11 30 00.7**	**+0.5**
	comp=Z,34nm,0.7s,mb5.4						
GUN	**Gumba**	**35.66**	**334**	⇑*i*P	**P**	**11 30 02.0**	**+1.1**
	comp=Z,125nm,0.5s						
DMN	**Daman**	**35.74**	**333**	⇑*i*P	**P**	**11 30 02.3**	**+0.7**
KKN	**Kakani**	**35.82**	**333**	⇑*i*P	**P**	**11 30 02.9**	**+0.6**
	comp=Z,66nm,0.6s,mb5.7						
ASPA	**Alice Springs**	**35.98**	**126**	⇑*i*P	**P**	**11 30 03.4**	**-0.2**
ASPA				*e*PCP	PcP	11 32 29.6	+1.3
ASPA				*e*S	**S**	**11 35 35.2**	**-0.1**
ASAR	**Alice Springs**	**35.98**	**126**	P	**P**	**11 30 03.2**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.7,baz=298,slow=8.1,SNR=78						
ASAR				PcP	PcP	11 32 29.6	+1.2
	comp=Z,5.0nm,0.6s,baz=307,slow=2.3,SNR=21						
ASAR				S	**S**	**11 35 35.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=298,slow=16,SNR=12						
ASAR				ScP	ScP	11 36 09.7	+3.6
	comp=Z,1.0nm,0.7s,baz=308,slow=3.4,SNR=4.6						
ASAR				LR	LR	11 44 41.5	
	comp=Z,47nm,18.7s,baz=111,slow=36						
ASAR	**Alice Springs**	**35.98**	**126**	P	**P**	**11 30 03.2**	**-0.4**
ASAR						11 32 29.6	
ASAR				S	**S**	**11 35 35.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,47nm,18.7s						
AS31	**Alice Springs**	**35.98**	**126**	⇑*i*P	**P**	**11 30 03.4**	**-0.2**
AS31				*e*P		11 30 03.5	
AS31				*e*PcP	PcP	11 32 29.6	+1.3
AS31				*e*S	**S**	**11 35 35.2**	**-0.1**
GKN	**Gorkha**	**36.30**	**333**	⇑*i*P	**P**	**11 30 06.9**	**+0.6**
	comp=Z,79nm,0.5s,mb5.9						
KOLN	**Koldanda**	**36.59**	**331**	⇑*i*P	**P**	**11 30 09.7**	**+0.9**
	comp=Z,100nm,0.7s,mb5.8						
BHPL	**Bhopal**	**36.60**	**319**	*e*P	**P**	**11 30 09.0**	**+0.1**
BHPL				AMb	AMB	11 30 10.8	
	comp=Z,24nm,0.9s,mb5.2						
XAN	**Xi'an**	**38.44**	**9**	P	**P**	**11 30 24.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.7						
AGRA	**Agra**	**39.18**	**324**	*e*P	**P**	**11 30 29.3**	**-1.3**
AGRA				AMb	AMB	11 30 33.4	
	comp=Z,72nm,0.4s,mb5.9						
LZH	**Lanzhou**	**40.02**	**2**	*e*P	**P**	**11 30 38.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,101nm,5.1s						
LZH	**Lanzhou**	**40.02**	**2**	*e*P	**P**	**11 30 38.5**	**+0.9**
	comp=Z,25nm,1.0s,mb5.0						
LZH				pP	pP	11 31 14.0	+15
LZH				sP	sP	11 31 31.0	+21
SONA	**Sohna**	**40.45**	**324**	*e*P	**P**	**11 30 39.6**	**-1.5**
SONA				AMb	AMB	11 30 42.1	
	comp=Z,56nm,1.2s,mb5.3						
AYAN	**Aya Nagar**	**40.60**	**325**	*e*P	**P**	**11 30 41.0**	**-1.3**
AYAN				AMb	AMB	11 30 43.4	
	comp=Z,50nm,0.9s,mb5.3						
NDI	**New Delhi**	**40.70**	**325**	*e*P	**P**	**11 30 41.4**	**-1.8**
KUDL	**Kundal**	**40.72**	**324**	*e*P	**P**	**11 30 41.7**	**-1.6**
KUDL				AMb	AMB	11 30 44.1	
	comp=Z,41nm,0.9s,mb5.2						
KHET	**Khetri**	**41.07**	**323**	*e*P	**P**	**11 30 45.1**	**-1.1**
KHET				AMb	AMB	11 30 48.3	
	comp=Z,33nm,0.8s,mb5.2						
RTK	**Rohtak**	**41.42**	**324**	*e*P	**P**	**11 30 47.9**	**-1.2**
KKR	**Kurukshetra**	**41.89**	**326**	*e*P	**P**	**11 30 51.4**	**-1.5**
GTA	**Gaotai**	**43.39**	**357**	P	**P**	**11 31 05.9**	**+0.8**
GTA				AP	pP	11 31 11.4	-16
GTA				XP	sP	11 31 15.8	-22
GTA				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,85nm,5.7s						
GTA				LR	LR		
	comp=N,672nm,14.5s						
GTA				LR	LR		
	comp=E,638nm,13.3s						
GTA				LR	LR		
	comp=Z,609nm,14.4s						
JASL	**Jaisalmer**	**43.43**	**317**	*e*P	**P**	**11 31 02.4**	**-3.0**
PMG	**Port Moresby**	**44.61**	**99**	LR	LR	11 51 40.7	
	comp=Z,11nm,18.6s,baz=38,slow=38						
CTA	**Charters Tower**	**45.43**	**114**	*e*P	**P**	**11 31 21.8**	**+0.5**
	comp=Z,20nm,0.8s,mb4.9						
CTA	**Charters Tower**	**45.43**	**114**	P	**P**	**11 31 22.0**	**+0.7**
	comp=Z,28nm,0.9s,mb5.0,baz=286,slow=8.1,SNR=14						
CTA				LR	LR	11 50 18.0	
	comp=Z,66nm,19.4s,baz=46,slow=36						
CTA	**Charters Tower**	**45.43**	**114**	*e*P	**P**	**11 31 21.8**	**+0.5**
CTA				pmax	pmax		
	comp=Z,21nm,0.8s						
BJT	**Baijiatuao**	**45.69**	**15**	*e*P	**P**	**11 31 24.3**	**+1.0**
BJT				pmax	pmax		
	comp=Z,24nm,0.7s						
BJT	**Baijiatuao**	**45.69**	**15**	*e*P	**P**	**11 31 24.3**	**+0.9**
	comp=Z,24nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**45.87**	**132**	⇑*i*P	**P**	**11 31 25.0**	**+0.3**
STKA				*e*PCP	PcP	11 33 01.3	+0.8
STKA	**Stephens Creek**	**45.87**	**132**	P	**P**	**11 31 25.1**	**+0.3**
	comp=Z,16nm,0.7s,mb4.9,baz=307,slow=7.9,SNR=36						
STKA				PcP	PcP	11 33 01.4	+0.9
	comp=Z,4.5nm,0.7s,baz=327,slow=3.0,SNR=2.9						
STKA				LR	LR	11 53 34.5	
	comp=Z,59nm,18.4s,baz=231,slow=40						
KSRS	**Korea Array**	**47.65**	**28**	P	**P**	**11 31 39.5**	**+0.9**
	comp=Z,5.1nm,0.8s,mb4.4,baz=215,slow=7.2,SNR=15						
KSRS				PcP	PcP	11 33 06.6	-0.2
	comp=Z,3.3nm,0.9s,baz=218,slow=3.0,SNR=8.9						
KSRS				LR	LR	11 54 21.3	
	comp=Z,31nm,19.7s,baz=230,slow=39						
WMQ	**Urumqi**	**49.56**	**346**	P	**P**	**11 31 54.5**	**+1.2**
SONM	**Songino Array

KK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KKAR Karatay Array 55.19 332 P **P** **11 32 33.9 -1.0**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
HIA Hailar 55.25 14 *e*P **P** **11 32 35.1 -0.2**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 55.25 14 *e*P **P** **11 32 35.1 -0.2**
comp=Z,3.9nm,0.6s,mb4.6
TLY Talaya 55.60 1⇑ *e*P **P** **11 32 38.0 +0.2**
TLY pmax pmax
comp=Z,17nm,0.8s,mb5.1
CIT Chita 56.72 8 *e*P **P** **11 32 46.8 +1.0**
CIT pmax pmax
comp=Z,33nm,1.2s,mb5.2
KURK Kurchatov 58.36 342 P **P** **11 32 56.6 -0.7**
KURK pmax pmax
comp=Z,18nm,0.9s,mb5.1
HABR Khabarovsk 59.59 25 *e*P **P** **11 33 05.6 -0.2**
HABR *e*S **S** **11 41 04.2 -4.4**
HABR pmax pmax
comp=Z,15nm,0.8s,mb5.1
ZAL Zalesovo 59.73 348 P **P** **11 33 06.0 -0.7**
comp=Z,26nm,0.8s,mb5.3,baz=295,slow=4.8,SNR=138
ZAL LR LR 12 03 01.4
comp=Z,175nm,19.2s,baz=287,slow=40
ZAL Zalesovo 59.73 348 P **P** **11 33 06.0 -0.7**
ZAL pmax pmax
comp=Z,26nm,0.8s
ZAL MLR MLR
comp=Z,175nm,19.2s
NVS Novosibirsk 60.90 347 *e*P **P** **11 33 12.2 -2.6**
NVS pmax pmax
comp=Z,16nm,1.1s,mb5.0
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,9.0nm,0.9s
YSS Yuzh-Sakhalins 62.00 30*c i*P **P** **11 33 21.2 -0.9**
YSS pmax pmax
comp=Z,62nm,1.0s,mb5.6
BOD Bodaibo 62.44 7 *e*P **P** **11 33 24.7 -0.4**
BOD pmax pmax
comp=Z,21nm,0.8s,mb5.2
VOSK Vostochnaya 62.59 339 P **P** **11 33 24.6 -1.5**
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BVAR Borovoye Array 63.05 339 P **P** **11 33 28.3 -0.8**
comp=Z,13nm,0.6s,mb5.0,baz=146,slow=8.2,SNR=56
BVAR Borovoye Array 63.05 339 P **P** **11 33 28.3 -0.8**
BVAR pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 63.11 339 *e*P **P** **11 33 28.8 -0.7**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.9
BRVK Borovoye 63.11 339 *e*P **P** **11 33 28.8 -0.8**
comp=Z,14nm,0.8s,mb4.9
AB31 Akbulak array 64.71 331 P **P** **11 33 39.2 -0.8**
AB31 pmax pmax
comp=Z,39nm,0.8s,mb5.3
KMBO Kilima Mbogo 65.25 271 P **P** **11 33 45.6 +2.2**
comp=Z,1.1nm,0.3s,mb4.1,baz=32,slow=24,SNR=3.6
KMBO LR LR 11 55 41.7
comp=Z,54nm,20.9s,baz=83,slow=30
KMBO Kilima Mbogo 65.25 271 *i*P **P** **11 33 46.9 +3.4**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
AKTK Aktyubinsk 66.42 331 P **P** **11 33 50.2 -0.8**
AKTO Aktyubinsk 66.42 331 P **P** **11 33 50.2 -0.8**
comp=Z,3.6nm,0.4s,mb4.5,baz=140,slow=6.6,SNR=23
AKTO Aktyubinsk 66.42 331 P **P** **11 33 50.3 -0.7**
AKTO pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
ORR Orenburg 68.77 330 *e*P **P** **11 34 05.8 0.0**
ORR pmax pmax
comp=Z,30nm,1.3s,mb5.0
MAW Mawson 68.88 195 LR LR 11 58 04.4
comp=Z,119nm,18.1s,baz=60,slow=30
YAK Yakutsk 69.19 13*c i*P **P** **11 34 07.7 -0.7**
YAK pmax pmax
comp=Z,60nm,0.8s,mb5.5
YAK pmax pmax
comp=N,24nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
YAK Yakutsk 69.19 13 *e*P **P** **11 34 07.6 -0.8**
comp=E,79nm,0.8s,mb5.6
ARU Arti 70.16 336⇑ *i*P **P** **11 34 13.8 -0.5**
ARU *e* pP 11 34 33.1 -5.0
ARU *e* 11 36 47.5
ARU *e*S S 11 43 14.5 -3.8
ARU *e*SSS 11 50 59.6
ARU pmax pmax
comp=Z,25nm,1.0s,mb5.0
ARU Arti 70.16 336 *e*P **P** **11 34 14.1 -0.2**
comp=Z,32nm,1.0s,mb5.1
ZEI Tsey 70.48 318 *e*P **P** **11 34 17.1 +0.8**
ZEI pmax pmax
comp=Z,14nm,0.8s,mb4.8
KIV Kislovodsk 71.79 319*c i*P **P** **11 34 24.6 +0.4**
KIV pmax pmax
comp=Z,17nm,1.0s,mb4.8
MALT Malatya 72.62 312 *e*P **P** **11 34 30.4 +1.2**
MALT pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
MALT Malatya 72.62 312 *e*P **P** **11 34 30.4 +1.2**
comp=Z,9.6nm,1.3s,mb4.5
SOKR Solikamsk 72.97 338 *e*P **P** **11 34 29.0 -2.2**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.9
SOC Sochi 73.61 318 *i*P **P** **11 34 36.0 +1.0**
PET Petropavlovsk 73.81 31 *e*P **P** **11 34 35.9 -0.3**
PET pmax pmax
comp=Z,36nm,0.7s,mb5.2
VRHR Novokhopersk 75.49 325 *e*P **P** **11 34 45.7 -0.2**
VRHR pmax pmax
comp=N,2.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.3
ANN Anapa 75.58 318 *e*P **P** **11 34 48.7 +2.3**
BR131 Keskin Array S 76.60 312 *e*P **P** **11 34 52.2 +0.1**
comp=Z,2.5nm,0.5s,mb4.2
BRTR Keskin Array B 76.60 312 P **P** **11 34 52.0 -0.2**
comp=Z,5.3nm,0.7s,mb4.4,baz=134,slow=6.8,SNR=24
BRTR Keskin Array B 76.60 312 P **P** **11 34 52.0 -0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 76.67 21⇓ *i*P **P** **11 34 52.5 -0.1**
BOSA Boshof 76.85 242 LR LR 12 04 48.3
comp=Z,108nm,19.4s,baz=267,slow=32
VRSR Storozhevoye 76.94 325 *e*P **P** **11 34 53.7 -0.4**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,20nm,0.7s
TIXI Tiksi 77.57 8 *e*P **P** **11 34 56.2 -1.4**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.7
TIXI Tiksi 77.57 8 *e*P **P** **11 34 56.1 -1.4**
comp=Z,17nm,1.0s,mb4.7
VNDA Vanda 79.60 169 P **P** **11 35 08.7 -0.1**
comp=Z,1.6nm,1.0s,mb3.8,baz=13,slow=4.5,SNR=3.6
VNDA LR LR 12 08 02.8
comp=Z,62nm,18.2s,baz=285,slow=34
OBN Obninsk 79.92 328*c i*P **P** **11 35 10.4 -0.1**
OBN *e* 11 35 19.8
OBN pmax pmax
comp=Z,20nm,0.6s,mb5.1
AKASG Malin Array Be 82.69 322 P **P** **11 35 24.6 -0.5**
comp=Z,2.2nm,0.5s,mb4.2,baz=85,slow=5.2,SNR=11
AKASG Malin Array Be 82.69 322 P **P** **11 35 24.6 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
MLR Muntele Rosu 83.56 316⇓ *i*P **P** **11 35 30.9 +1.3**
BILL Bilibino 84.28 20⇑ *e*P **P** **11 35 30.6 -2.7**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
BURAR Bucovina Array 84.51 318⇓ *i*P **P** **11 35 36.2 +1.8**
VSU Vasula 86.10 329*d i*P **P** **11 35 42.6 +0.2**
KOLS Kolonicke sedl 86.69 319 *e*P **P** **11 35 46.8 +1.6**
FINES FINESS Array B 87.15 332 P **P** **11 35 47.7 +0.2**
comp=Z,4.3nm,0.5s,mb4.6,baz=112,slow=6.1,SNR=24
FINES FINESS Array B 87.15 332 P **P** **11 35 47.7 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 87.15 332 P **P** **11 35 47.7 +0.2**
STHS Stebnicka Huta 87.44 320 *e*P **P** **11 35 50.0 +1.2**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 87.44 320 *e*P **P** **11 35 50.0 +1.2**
comp=Z,7.4nm,0.8s,mb4.7
KECS Kecovo 87.79 319 *e*P **P** **11 35 51.5 +1.0**
KECS Kecovo 87.79 319 *e*P **P** **11 35 51.6 +1.1**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
KECS Kecovo 87.79 319 *e*P **P** **11 35 51.6 +1.1**
comp=Z,4.7nm,1.1s,mb4.4
LIKS Likavka 88.77 319 *e*P **P** **11 35 53.0 -2.1**
VYHS Vyhne 88.87 319 *e*P **P** **11 35 56.3 +0.7**
ARCES ARCESS Array B 89.32 340 P **P** **11 35 57.1 -0.6**
comp=Z,6.5nm,0.7s,mb4.7,baz=87,slow=6.2,SNR=15
ARCES ARCESS Array B 89.32 340 P **P** **11 35 57.1 -0.6**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
SNAA Sanae 90.90 198 *e*P **P** **11 36 06.9 +1.8**
SNAA *e**PP pP 11 36 22.0 -7.8
SNAA pmax pmax
comp=Z,12nm,1.2s
SNAA Sanae 90.90 198 *e*P **P** **11 36 06.8 +1.8**
comp=Z,12nm,1.2s,mb4.9
SNAA *e*pP pP 11 36 22.0 -7.7
GERES GERESS Array B 92.30 319 P **P** **11 36 12.5 +1.0**
comp=Z,1.5nm,0.8s,mb4.3,baz=106,slow=4.3,SNR=7.4
GERES GERESS Array B 92.30 319 P **P** **11 36 12.5 +1.0**
GERES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 94.22 331 P **P** **11 36 19.8 -0.6**
comp=Z,0.3nm,0.7s,baz=94,slow=5.1
NOA NORSAR Array B 94.22 331 P **P** **11 36 19.8 -0.6**
comp=Z,1.6nm,0.7s,mb4.4,baz=95,slow=4.8,SNR=5.3
NOA NORSAR Array B 94.22 331 P **P** **11 36 19.8 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 94.22 331 P **P** **11 36 19.8 -0.6**
KEST Kesra 94.96 305 P **P** **11 36 25.3 +1.5**
comp=Z,1.4nm,0.8s,mb4.4,baz=170,slow=4.5,SNR=3.9
NVAR Mina Array Bea 129.58 42 PKP PKPdf 11 42 12.3 +2.5
comp=Z,0.9nm,0.6s,baz=268,slow=2.7
ULM Lac du Bonnet 131.49 16 PKP PKPdf 11 42 14.0 +0.5
comp=Z,1.5nm,0.5s,baz=0.0,slow=2.0,SNR=3.7
PDAR Pinedale Array 132.13 32 PKP PKPdf 11 42 15.3 +0.7
comp=Z,0.6nm,0.5s,baz=253,slow=1.5,SNR=5.7
PDAR SKPbc SKPbc 11 45 34.8 +2.2
comp=Z,1.0nm,0.7s,baz=291,slow=0.6,SNR=6.6
MSU Marysvale 133.45 38 *e*PKIKP PKPdf 11 42 20.3 +3.1
RSSD Black Hills 133.81 26 *e*PKIKP PKPdf 11 42 18.4 +0.6
PV10 Paradox Valley 135.42 36 *e*PKPdf PKPdf 11 42 23.6 +2.7
ANMO Albuquerque 139.25 38⇑ *i*PKHKP PKPdf 11 42 21.7 -6.2
KSU1 Kansas State U 141.10 24 *e*P PKPdf 11 42 31.8 +0.5
WMOK Wichita Mounta 143.70 30 *e*PKIKP PKPdf 11 42 34.0 -1.9
CCM Cathedral Cave 143.97 19 *e*PKHKP 11 42 28.5
FVM French Village 144.29 18 *e*PKIKP PKPdf 11 42 35.4 -1.5
LTX Lajitas 144.73 42 *e*PKIKP PKPdf 11 42 38.5 +0.8
TXAR Lajitas Array 144.73 42 PKP PKPdf 11 42 38.5 +0.8
comp=Z,12nm,0.7s,baz=286,slow=1.4,SNR=28
TXAR SKPbc SKPbc 11 46 12.1 +3.5
comp=Z,0.7nm,0.7s,baz=52,slow=0.8,SNR=4.3
TXAR Lajitas Array 144.73 42 PKIKP PKPdf 11 42 38.5 +0.8
TXAR pmax pmax
comp=Z,12nm,0.7s
TXAR pmax pmax
comp=N,1.0nm,0.7s
SIUC Southern Illin 144.89 16 *e*PKPbc PKPdf 11 42 37.8 -0.1
USIN University of 145.06 14 *e*PKPbc PKPdf 11 42 38.2 +0.4
WCI Wyandotte Cave 145.12 12 *e*PKIKP PKPdf 11 42 38.2 -0.2
MIAR Mount Ida 146.25 24 *e*PKIKP PKPdf 11 42 40.3 0.0
MIAR *e* 11 42 41.9
JCT Junction City 146.38 36 *e*PKP2 PKPab 11 42 41.9 -1.0
JCT *e* 11 42 42.9
JCT Junction City 146.38 36 *e*PKPdf PKPdf 11 42 41.9 +1.4
JCT *e*PKPbc PKPbc 11 42 42.9 +1.0
JCT *e*PKPab PKPab 11 42 44.4 +1.5
UALR University of 146.54 23 *e*PKPbc PKPbc 11 42 42.7 +0.3
FWV Forest Hill 146.57 5 *e*PKPbc PKPbc 11 42 42.3 -0.2
WVT Waverly 146.76 15 *e*PKIKP PKPdf 11 42 41.8 +0.7
WVT *e* 11 42 43.4
WVT Waverly 146.76 15 *e*PKPdf PKPdf 11 42 41.8 +0.7
WVT *e*PKPbc PKPbc 11 42 43.4 +0.4
WVT *e*PKPab PKPab 11 42 44.9 +0.5
ELN Prospectdale 146.92 5 *e*PKPbc PKPbc 11 42 43.2 -0.3
ELN *e*PKPab PKPab 11 42 44.8 -0.3
TZTN Tazewell 147.26 9 *e*PKPdf PKPdf 11 42 42.4 +0.4
TZTN *e*PKPbc PKPbc 11 42 44.5 +0.1
TZTN *e*PKPab PKPab 11 42 48.2 +1.8
PLAL Pickwick Lake 147.77 16 *e*PKPdf PKPdf 11 42 43.1 +0.3
PLAL *e*PKPbc PKPbc 11 42 45.4 -0.4
PLAL *e*PKPab PKPab 11 42 48.4 0.0
OXF Oxford 147.80 19 *e*PKIKP PKPdf 11 42 43.2 +0.3
OXF *e* 11 42 46.0
OXF *e* 11 42 49.7
JSC Jenkinsville 149.79 6 *e*PKPdf PKPdf 11 42 46.8 +0.7
JSC *e*PKPbc PKPbc 11 42 51.6 +0.6
JSC *e*PKPab PKPab 11 42 55.0 -1.6
LRAL Lakeview Retre 149.90 16 *e*PKPdf PKPdf 11 42 46.9 +0.6
LRAL *e*PKPbc PKPbc 11 42 51.4 +0.2
LRAL *e*PKPab PKPab 11 42 58.2 +1.2
GOGA Godfrey 150.34 10 *e*PKIKP PKPdf 11 42 48.5 +1.5
GOGA *e* 11 42 52.8

*ISCJB **20** 11:47:08.9±0.4, 35.25N±0.04×86.88E±0.08, h10km, mb3.7/13, MS3.4/4, Error ellipse: s-maj=9.3km s-min=5.9km az=151.5*
*IDC **20** 11:47:08.5±0.9, 35.09N×86.75E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.9/24, mbtmp3.9/13, ML3.1/3, MS3.5/5, Ms1 3.5/5, ms1mx3.1/32, Error ellipse: s-maj=28.2km s-min=17.1km az=39.0*
*NEIC **20** 11:47:12.5±5.6, 35.15N×86.78E, h25km±38km, mb4.3/1, Error ellipse: s-maj=22.0km s-min=12.8km az=198.0*
*MOS **20** 11:47:13.5±1.0, 35.45N×86.83E, h33km, mb4.0/4, Error ellipse: s-maj=25.7km s-min=8.7km az=112.0*
*BJI **20** 11:47:14.4, 35.46N×86.82E, h25km, mb4.6, Ms4.9*
ISC 20 11:47:10.9±0.4, 35.25N±0.04×86.94E±0.07, h10km, n42, σ1°9.0/42, mb3.7/13, MS3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.58**	**146**	PG	**Pg**	**11 49 14.4**	**-2.5**
LSA				SG	**Sg**	**11 50 42.6**	**+0.4**
LSA				LR	LR		
	comp=E,6μm,5.1s						
GUN	**Gumba**	**7.38**	**187**	*e*P	**Pn**	**11 49 03.8**	**+5.1**
GKN	**Gorkha**	**7.49**	**196**	*e*P	**Pn**	**11 49 04.7**	**+4.5**
KKN	**Kakani**	**7.58**	**191**	*e*P	**Pn**	**11 49 04.9**	**+3.5**
JIRN	**Jiri**	**7.60**	**185**	*e*P	**Pn**	**11 49 02.3**	**+0.6**
	comp=E,8.0nm,0.5s						
PKI	**Pulchoki**	**7.77**	**190**	*e*P	**Pn**	**11 49 04.3**	**+0.2**
DMN	**Daman**	**7.78**	**192**	*e*P	**Pn**	**11 49 05.2**	**+1.0**
KOLN	**Koldanda**	**7.99**	**202**	*e*P	**Pn**	**11 49 06.6**	**-0.4**
	comp=E,22nm,0.7s						
ULHL	**Ulahol**	**10.88**	**313**	P	**Pn**	**11 49 48.1**	**+1.4**
	SNR=15						
GTA	**Gaotai**	**11.06**	**64**	*e*P	**Pn**	**11 49 51.8**	**+2.7**
GTA				AP		11 49 56.6	
GTA				XP		11 50 00.3	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s						
KZA	**Kyzart**	**11.39**	**310**	P	**Pn**	**11 49 54.7**	**+1.0**
	SNR=7.8						
TKM2	**Tokmak 2**	**11.67**	**314**	P	**Pn**	**11 49 58.3**	**+0.8**
	SNR=13						
KBK	**Karagaybulak**	**11.90**	**312**	P	**Pn**	**11 50 01.7**	**+1.1**
	SNR=12						
MK31	**Makanchi Array**	**12.05**	**345**	*e*P	**Pn**	**11 50 03.2**	**+0.5**
MKAR	**Makanchi Array**	**12.05**	**345**	Pn	**Pn**	**11 50 02.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=156,slow=15,SNR=104						
MKAR				LR	LR	11 55 56.0	
	comp=Z,141nm,18.2s,baz=152,slow=43						
MKAR	**Makanchi Array**	**12.05**	**345**	*e*P	**Pn**	**11 50 02.9**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,17nm,0.9s						
AAK	**Ala-Archa**	**12.16**	**311**	P	**Pn**	**11 50 06.6**	**+2.4**
	SNR=7.8						
AAK	**Ala-Archa**	**12.16**	**311**	*e*P	**Pn**	**11 50 04.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**12.16**	**311**	*e*Pn	**Pn**	**11 50 04.0**	**-0.2**
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**16.59**	**341**	P	**Pn**	**11 51 01.0**	**-2.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZAL	**Zalesovo**	**18.74**	**356**	P	**Pn**	**11 51 29.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=296,slow=10,SNR=10						
SONM	**Songino Array**	**19.17**	**43**	P	**Pn**	**11 51 35.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=237,slow=12,SNR=11						
BVA0	**Borovoye Array**	**21.28**	**332**	*i* P	**P**	**11 51 57.6**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.4						
BVAR	**Borovoye Array**	**21.28**	**332**	P	**P**	**11 51 57.9**	**+0.4**
	comp=Z,1.6nm,0.7s,mb3.5,baz=139,slow=12,SNR=10						
BVAR				LR	LR	12 01 09.9	
	comp=Z,168nm,21.9s,MS3.4,baz=179,slow=39						
BRVK	**Borovoye**	**21.35**	**332**	P	**P**	**11 51 57.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
BRVK	**Borovoye**	**21.35**	**332**	*e*P	**P**	**11 51 59.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.2						
BRVK	**Borovoye**	**21.35**	**332**	*e*P	**P**	**11 51 59.0**	**+0.8**
	comp=Z,15nm,1.1s,mb4.2						
AB31	**Akbulak array**	**24.23**	**314**	*i* P	**P**	**11 52 27.6**	**-0.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
AKTK	**Aktyubinsk**	**25.86**	**315**	P	**P**	**11 52 41.8**	**-0.9**
AKTK				LR	LR	12 04 27.4	
AKTO	**Aktyubinsk**	**25.86**	**315**	P	**P**	**11 52 41.8**	**-0.9**
	comp=Z,3.2nm,0.9s,mb3.9,baz=104,slow=9.6,SNR=9.5						
AKTO				LR	LR	12 04 27.4	
	comp=Z,139nm,21.1s,MS3.5,baz=32,slow=40						
KSRS	**Korea Array**	**32.90**	**74**	P	**P**	**11 53 45.4**	**+0.2**
	comp=Z,1.5nm,1.0s,mb3.9,baz=271,slow=8.6,SNR=4.5						
KSRS				LR	LR	12 08 29.7	
	comp=Z,59nm,19.8s,MS3.3,baz=310,slow=39						
BRTR	**Keskin Array B**	**42.02**	**292**	P	**P**	**11 55 01.5**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.5,baz=88,slow=9.0,SNR=4.0						
ASAJ	**Asahikawa**	**43.02**	**61**	LR	LR	12 13 40.1	
	comp=Z,49nm,21.3s,MS3.4,baz=102,slow=37						
FINES	**FINESS Array B**	**45.94**	**324**	P	**P**	**11 55 33.4**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=83,slow=7.9,SNR=4.1						
FINES	**FINESS Array B**	**45.94**	**324**	P	**P**	**11 55 33.4**	**-0.5**
NB2	**NORSAR Subarra**	**53.12**	**324**	P	**P**	**11 56 27.5**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=82,slow=7.9						
NOA	**NORSAR Array B**	**53.12**	**324**	P	**P**	**11 56 27.5**	**-1.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=83,slow=7.3,SNR=5.0						
NOA	**NORSAR Array B**	**53.12**	**324**	P	**P**	**11 56 27.5**	**-1.2**
GERES	**GERESS Array B**	**54.03**	**309**	P	**P**	**11 56 34.9**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=87,slow=5.5,SNR=10						
WRA	**Warramunga Arr**	**70.95**	**133**	P	**P**	**11 58 29.0**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=326,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**73.57**	**136**	P	**P**	**11 58 43.3**	**-0.9**
	comp=Z,0.5nm,0.8s,mb3.5,baz=318,slow=6.2,SNR=4.3						
TORD	**Tordi Ar. Bea**	**78.70**	**278**	P	**P**	**11 59 10.7**	**-2.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=49,slow=4.7,SNR=4.4						

*IDC **20** 11:57:36.1±0.8, 47.25N×15.594E, h0km, mb4.0/11, mb1 4.3/12, mb1mx4.1/23, mbtmp4.1/12, ML3.9/1, Error ellipse: s-maj=22.7km s-min=19.7km az=152.0*
*ISCJB **20** 11:57:37.1±3.9, 47.11N±0.10×15.58E±0.02, h19km±27km, mb3.9/12, Error ellipse: s-maj=22.5km s-min=13.5km az=66.6*
*NEIC **20** 11:57:37.5±0.7, 47.12N×15.577E, h10km, Error ellipse: s-maj=18.8km s-min=15.4km az=133.0*
*MOS **20** 11:57:39.6±1.4, 47.13N×15.569E, h37km, mb4.3/1, Error ellipse: s-maj=15.8km s-min=13.5km az=95.2*
ISC 20 11:57:42.1±1.8, 473N±01×1558E±02, h42km±14km, n22, σ0°98/22, mb3.9/11, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**3**	*e*PN	**Pn**	**11 58 33.5**	**+0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.88**	**253⇓**	*i*PN	**Pn**	**11 59 03.0**	**-3.7**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.93**	**273**	PN	**Pn**	**11 59 50.0**	**+1.5**
ASAJ	**Asahikawa**	**9.78**	**256**	Pn	**Pn**	**11 59 59.6**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=93,slow=16,SNR=9.3						
ASAJ	**Asahikawa**	**9.78**	**256**	PN	**Pn**	**11 59 59.6**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.89**	**237**	Pn	**Pn**	**12 01 30.9**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=31,slow=14,SNR=4.1						
YAK	**Yakutsk**	**20.95**	**324**	*e*P	**P**	**12 02 21.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**22.72**	**255**	P	**P**	**12 02 41.8**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.1,baz=79,slow=7.6,SNR=4.5						
ZAL	**Zalesovo**	**43.84**	**306**	P	**P**	**12 05 44.0**	**-0.1**
	comp=Z,1.1nm,0.3s,mb4.0,baz=103,slow=6.1,SNR=3.6						
ZAL	**Zalesovo**	**43.84**	**306**	P	**P**	**12 05 44.0**	**-0.2**
MK31	**Makanchi Array**	**48.36**	**298**	*e*P	**P**	**12 06 20.8**	**+1.1**
MK31				*e**PP	pP	12 06 29.8	-1.7
MKAR	**Makanchi Array**	**48.36**	**298**	P	**P**	**12 06 18.9**	**-0.8**
	comp=Z,1.3nm,0.8s,mb4.0,baz=66,slow=6.7,SNR=9.8						
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**12 06 47.2**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=49,slow=6.7,SNR=6.2						
ARU	**Arti**	**55.89**	**318**	*e*P	**P**	**12 07 14.2**	**-1.4**
PDAR	**Pinedale Array**	**62.94**	**56**	P	**P**	**12 08 04.5**	**+0.2**
	comp=Z,1.2nm,0.9s,mb4.0,baz=300,slow=2.9,SNR=7.1						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**12 08 12.7**	**-1.0**
	comp=Z,3.4nm,1.0s,mb4.3,baz=38,slow=7.2,SNR=3.6						
WRA	**Warramunga Arr**	**69.62**	**202**	P	**P**	**12 08 46.4**	**-0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=6.7,SNR=7.2						
AKASG	**Malin Array Be**	**72.15**	**328**	P	**P**	**12 09 03.1**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.7,baz=24,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**72.15**	**328**	P	**P**	**12 09 03.1**	**+0.7**
ASAR	**Alice Springs**	**73.30**	**201**	P	**P**	**12 09 09.9**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=15,slow=4.7,SNR=14						
TXAR	**Lajitas Array**	**75.62**	**62**	P	**P**	**12 09 22.8**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=298,slow=4.5,SNR=39						
GERES	**GERESS Array B**	**78.80**	**336**	P	**P**	**12 09 40.8**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=15,slow=4.1,SNR=5.9						

*IDC **20** 12:04:23.6±1.0, 47.20N×15.595E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=41.9km s-min=23.3km az=149.0*
*ISCJB **20** 12:04:26.9±0.9, 47.2N±0.02×1558E±0.02, h35km, mb3.6/5, Error ellipse: s-maj=36.0km s-min=15.5km az=130.9*
*MOS **20** 12:04:27.8±2.3, 47.68N×15.554E, h43km, mb3.9/1, Error ellipse: s-maj=48.3km s-min=26.4km az=71.2*
ISC 20 12:04:28.8±0.9, 473N±02×1559E±02, h35km, n9, σ0°44/9, mb3.6/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.42**	**3**	*e*PN	**Pn**	**12 05 12.0**	**-7.6**
SKR				*e*		12 05 53.0	
ASAJ	**Asahikawa**	**9.81**	**256**	Pn	**Pn**	**12 06 47.5**	**+0.2**
	0.4nm,0.3s,baz=79,slow=16,SNR=4.3						
INK	**Inuvik**	**40.20**	**33**	P	**P**	**12 12 01.1**	**-0.7**
	0.8nm,0.7s,mb3.5,baz=306,slow=4.1,SNR=5.6						
INK	**Inuvik**	**40.20**	**33**	P	**P**	**12 12 01.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**12 13 07.1**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=70,slow=6.5,SNR=4.6						
PDAR	**Pinedale Array**	**62.91**	**56**	P	**P**	**12 14 52.1**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=269,slow=5.0,SNR=4.1						
ASAR	**Alice Springs**	**73.33**	**201**	P	**P**	**12 15 56.5**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=15,slow=5.9,SNR=6.6						
TXAR	**Lajitas Array**	**75.59**	**62**	P	**P**	**12 16 10.3**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=302,slow=4.6,SNR=22						
TXAR	**Lajitas Array**	**75.59**	**62**	P	**P**	**12 16 10.3**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NEIC **20** 12:07:32.4±0.

ellipse: s-maj=21.2km s-min=9.7km az=54.5
*IDC **20** 12:07:41.3±4.1, 47.49N×153.25E, h100km±39km, mb3.5/10, mb1 3.7/12, mb1mx3.6/24, mbtmp3.5/12, Error ellipse: s-maj=24.5km s-min=19.7km az=136.0*

ISC 20 12:07:38.4±1.1, 475N±01×1534E±02, h71km±9km, n25, σ1§03/28, mb3.8/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.62**	**29**	*e*PN	**Pn**	**12 08 31.5**	**-0.5**
SKR				*e*S	**Sn**	**12 09 13.4**	**-0.1**
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
KUR	**Kuril'sk**	**4.47**	**241**	⇓*i*PN	**Pn**	**12 08 39.5**	**-4.1**
KUR				*e*S	**Sn**	**12 09 33.0**	**-1.3**
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				smax			
	comp=N,290nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.33**	**239**	*e*PN	**Pn**	**12 09 07.8**	**-1.2**
YUK				*e*S	**Sn**	**12 10 20.2**	**+0.3**
YUK				smax			
	comp=N,370nm,0.5s						
YUK				smax			
	comp=E,200nm,0.5s						
PET	**Petropavlovsk**	**6.44**	**30**	*e*PN	**Pn**	**12 09 17.2**	**+6.7**
PET				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.27**	**269**	*e*PN	**Pn**	**12 09 23.0**	**+1.1**
YSS				*e*S	**Sn**	**12 10 47.0**	**+4.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS				pmax	pmax		
	comp=E,40nm,0.7s						
YSS				smax			
	comp=E,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.27**	**269**	*e*P	**Pn**	**12 09 23.0**	**+1.2**
	comp=E,43nm,0.4s						
ASAJ	**Asahikawa**	**8.28**	**250**	P	**Pn**	**12 09 36.8**	**+1.0**
	comp=E,0.9nm,0.3s,baz=89,slow=16,SNR=5.7						
ASAJ	**Asahikawa**	**8.28**	**250**	PN	**Pn**	**12 09 36.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.14**	**237**	*e*PN	**Pn**	**12 09 44.1**	**-3.3**
MAJO	**Matsushiro**	**15.72**	**231**	*e*P	**Pn**	**12 11 16.9**	**+1.4**
MJAR	**Matsushiro Arr**	**15.72**	**231**	P	**Pn**	**12 11 16.7**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=32,slow=9.3,SNR=9.1						
KSRS	**Korea Array**	**21.23**	**251**	P	**P**	**12 12 18.1**	**-0.4**
	comp=Z,2.2nm,0.7s,mb3.6,baz=60,slow=9.1,SNR=7.4						
INK	**Inuvik**	**40.88**	**33**	P	**P**	**12 15 14.4**	**+1.0**
	comp=Z,1.3nm,0.7s,mb3.8,baz=325,slow=8.4,SNR=7.9						
INK	**Inuvik**	**40.88**	**33**	P	**P**	**12 15 14.4**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.88**	**33**	*e*P	**P**	**12 15 14.0**	**+0.6**
	comp=Z,38nm,0.6s,mb5.4						
MKAR	**Makanchi Array**	**46.75**	**297**	P	**P**	**12 15 59.6**	**-0.9**
	comp=Z,0.1nm,0.3s,mb3.0,baz=50,slow=8.4,SNR=3.2						
EDM	**Edmonton**	**55.63**	**47**	*e*P	**P**	**12 17 07.2**	**+0.3**
ARCES	**ARCESS Array B**	**57.17**	**341**	P	**P**	**12 17 17.9**	**0.0**
	comp=Z,7.4nm,1.0s,mb4.7,baz=30,slow=7.3,SNR=4.0						
FINES	**FINESS Array B**	**63.41**	**335**	P	**P**	**12 17 58.4**	**-2.1**
	comp=Z,1.0nm,0.3s,mb4.2,baz=39,slow=7.4,SNR=13						
PDAR	**Pinedale Array**	**64.13**	**54**	P	**P**	**12 18 05.2**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.5,baz=342,slow=2.3,SNR=6.0						
NOA	**NORSAR Array B**	**67.54**	**341**	P	**P**	**12 18 27.1**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=25,slow=6.4,SNR=3.3						
ASAR	**Alice Springs**	**73.02**	**199**	*e*P	**P**	**12 18 59.7**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.6,baz=14,slow=5.0,SNR=9.0						
ASPA	**Alice Springs**	**73.02**	**199**	*e*P	PcP	12 19 14.8	-2.3
TXAR	**Lajitas Array**	**76.94**	**61**	P	**P**	**12 19 23.6**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=301,slow=5.0,SNR=13						
BRTR	**Keskin Array B**	**77.94**	**317**	P	**P**	**12 19 29.5**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.7,baz=72,slow=4.0,SNR=5.5						

IDC 20 12:10:08.9±6.3, 3312S×17660W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/11, mbtmp3.4/2, Error ellipse: s-maj=291.0km s-min=59.6km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.21**	**269**	P	P	12 18 19.6	-0.1
	0.2nm,0.4s,baz=110,slow=7.6,SNR=7.3						
WRA	**Warramunga Arr**	**45.44**	**274**	P	P	12 18 30.1	+0.6
	0.3nm,0.5s,baz=117,slow=7.9,SNR=7.5						
FINES	**FINESS Array B**	**148.10**	**339**	PKPbc	PKPbc	12 29 55.0	-1.5
	0.9nm,0.7s,baz=28,slow=6.3,SNR=4.6						

*IDC **20** 12:10:12.5±0.8, 46.79N×154.78E, h0km, mb3.9/12, mb1 4.2/14, mb1mx4.0/24, mbtmp4.0/14, ML3.8/2, Error ellipse: s-maj=22.9km s-min=17.3km az=144.0*
*NEIC **20** 12:10:14.0±0.8, 46.81N×154.62E, h10km, mb4.1/2, Error ellipse: s-maj=20.0km s-min=13.6km az=130.0*
*ISCJB **20** 12:10:15.6±3.2, 468N±0.1×1547E±02, h33km±28km, mb3.9/14, Error ellipse: s-maj=23.1km s-min=16.5km az=74.8*
*MOS **20** 12:10:16.8±2.2, 4684N×15466E, h47km, mb4.4/2, Error ellipse: s-maj=17.3km s-min=13.8km az=91.0*

ISC 20 12:10:18.9±2.5, 469N±01×1547E±02, h45km±22km, n24, σ1§28/24, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**13**	*e*PN	**Pn**	**12 11 35.5**	**+19**
YSS	**Yuzh-Sakhalins**	**8.18**	**275**	*e*PN	**Pn**	**12 12 19.0**	**+4.0**
ASAJ	**Asahikawa**	**8.95**	**256**	Pn	**Pn**	**12 12 25.2**	**-0.3**
	1.4nm,0.3s,baz=87,slow=17,SNR=5.7						
ASAJ	**Asahikawa**	**8.95**	**256**	PN	**Pn**	**12 12 25.3**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.06**	**236**	Pn	**Pn**	**12 13 57.6**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=28,slow=16,SNR=3.7						
KSRS	**Korea Array**	**21.89**	**254**	P	**P**	**12 15 09.1**	**+1.1**
	comp=Z,1.3nm,0.7s,mb3.5,baz=61,slow=9.2,SNR=5.8						
BILL	**Bilibino**	**22.00**	**12**	*e*P	**P**	**12 15 08.3**	**-0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
BILL	**Bilibino**	**22.00**	**12**	*e*P	**P**	**12 15 08.3**	**-0.8**
	comp=Z,5.3nm,0.9s,mb4.0						
TIXI	**Tiksi**	**27.62**	**343**	*e*P	**P**	**12 15 59.8**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
TIXI	**Tiksi**	**27.62**	**343**	*e*P	**P**	**12 15 59.8**	**-2.3**
	comp=Z,6.2nm,1.1s,mb4.2						
SONM	**Songino Array**	**32.31**	**290**	P	**P**	**12 16 42.3**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=60,slow=6.4,SNR=4.5						
INK	**Inuvik**	**40.92**	**33**	P	**P**	**12 17 56.8**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.6,baz=253,slow=16,SNR=5.6						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**12 18 16.1**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.1,baz=27,slow=6.8,SNR=5.3						
MK31	**Makanchi Array**	**47.83**	**298**	*e*P	**P**	**12 18 51.2**	**-0.8**
MKAR	**Makanchi Array**	**47.83**	**298**	P	**P**	**12 18 51.6**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=71,slow=7.9,SNR=6.8						
KEV	**Kevo**	**57.55**	**341**	*e*p	**P**	**12 19 59.5**	**-4.2**
PDAR	**Pinedale Array**	**63.76**	**55**	P	**P**	**12 20 45.9**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=298,slow=3.2,SNR=6.5						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**12 20 50.1**	**+0.2**
	comp=Z,1.7nm,0.4s,mb4.4,baz=38,slow=6.6,SNR=18						
NOA	**NORSAR Array B**	**68.42**	**342**	P	**P**	**12 21 17.7**	**+1.8**
	comp=Z,1.6nm,0.8s,mb4.1,baz=25,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**69.04**	**201**	P	**P**	**12 21 18.6**	**-1.2**
	comp=Z,0.7nm,1.0s,mb3.5,baz=15,slow=5.8,SNR=4.8						
ASAR	**Alice Springs**	**72.72**	**200**	P	**P**	**12 21 42.0**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=16,slow=5.1,SNR=9.7						
TXAR	**Lajitas Array**	**76.46**	**62**	P	**P**	**12 22 04.3**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=299,slow=4.1,SNR=8.3						
CLL	**Collm**	**76.76**	**336**	*i* (P)	**P**	**12 22 08.4**	**+2.9**
GERES	**GERESS Array B**	**78.78**	**335**	P	**P**	**12 22 19.0**	**+2.2**
	comp=Z,0.2nm,0.2s,mb3.6,baz=1.8,slow=6.2,SNR=4.1						

*STR **20** 12:10:32.1±0.0, 4303N×004W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 20 12:10:31.7±0.1, 4304N×002W, h7km, Md1.7/3, Ml1.4/2, Error ellipse: s-maj=3.4km s-min=1.5km az=173.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**82**	Pg	Pg	12 10 34.0	+0.5
LABF				Sg	Sg	12 10 35.3	+0.5
VIEF	**Viey**	**0.16**	**168**	Pg	Pg	12 10 35.2	+0.2
VIEF				Sg	Sg	12 10 37.5	+0.3
EPF	**Esparros**	**0.27**	**91**	*e*Pg	Pg	12 10 36.8	-0.1
EPF				*e*Sg	Sg	12 10 40.7	+0.2
	4.4nm,0.2s						
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg	Pg	12 10 40.2	+0.4
ETSF				*e*Sg	Sg	12 10 46.0	+0.7
	3.0nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	Pg	12 10 48.2	-0.5
SJPF				*e*Sg	Sg	12 10 59.4	-0.8
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg	Pg	12 11 03.1	-0.5
MTLF				*e*Sg	Sg	12 11 24.3	-0.9
	0.8nm,0.3s						

*ISCJB **20** 12:33:49.7±0.3, 43.12N±002×002E±002, h0km, Error ellipse: s-maj=3.0km s-min=2.3km az=156.5*
*CSEM **20** 12:33:51.2±0.1, 4301N×002W, h2km, ML2.7/8, Error ellipse: s-maj=1.9km s-min=1.2km az=155.0*
*STR **20** 12:33:51.3±0.1, 4301N×000E, h3km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **20** 12:33:51.7±0.2, 4300N×001W, h0km, mbLg2.0/16, Error ellipse: s-maj=1.7km s-min=1.3km az=17.0, PRXIMO*
*NEIC **20** 12:33:51.2, 4300N×001W, h3km, ML2.5(STR), ML2.7(LDG), MN2.1(MDD), After LDG.*
*LDG **20** 12:33:51.2±0.1, 4300N×001W, h3km, Md2.7/3, Ml2.7/8, Error ellipse: s-maj=1.9km s-min=1.2km az=171.0*

ISC 20 12:33:50.5±0.3, 4305N±002×001E±002, h14km±4km, n57, σ0§84/80, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**92**	Pg	**Pg**	**12 33 53.0**	**0.0**
LABF				Sg	**Sg**	**12 33 54.3**	**-0.6**
LABF	**Labassere**	**0.04**	**92**	Pg	**Pg**	**12 33 53.1**	**+0.1**
LABF				Lg		12 33 54.4	
VIEF	**Viey**	**0.17**	**177**	Pg	**Pg**	**12 33 54.0**	**-0.5**
VIEF	**Viey**	**0.17**	**177**	Pg	**Pg**	**12 33 54.1**	**-0.3**
VIEF				Lg		12 33 56.1	
EPF	**Esparros**	**0.24**	**94**	*e*Pg	**Pg**	**12 33 56.1**	**+0.4**
EPF				*e*Sg	**Sg**	**12 34 00.0**	**+0.8**
	107nm,0.2s						
EPF	**Esparros**	**0.24**	**94**	*e*Pg	**Pg**	**12 33 56.1**	**+0.4**
EPF				*e*Sg	**Sg**	**12 34 00.0**	**+0.8**
	54nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**274**	Pg	**Pg**	**12 33 56.7**	**0.0**
REYF				Lg		12 34 01.2	
RESF	**Ens**	**0.34**	**135**	Pg	**Pg**	**12 33 57.6**	**+0.2**
RESF				Sg	**Sg**	**12 34 02.2**	**+0.1**
RESF	**Ens**	**0.34**	**135**	Pg	**Pg**	**12 33 57.6**	**+0.1**
RESF				Lg		12 34 02.2	
EBIE	**Bielsa**	**0.38**	**165**	⇑Pg	**Pg**	**12 33 57.9**	**-0.2**
	5.3nm,0.0s,SNR=18						
EBIE				Lg		12 34 02.4	
	44nm,0.0s,SNR=14						
EBIE	**Bielsa**	**0.38**	**165**	Pg	**Pg**	**12 33 57.9**	**-0.2**
	5.3nm,0.0s,SNR=18						
EBIE				Lg		12 34 02.4	
	44nm,0.0s,SNR=14						
ETSF	**Etsaut**	**0.45**	**251**	*e*Pg	**Pg**	**12 33 59.2**	**-0.2**
ETSF				*e*Sg	**Sg**	**12 34 04.7**	**-0.7**
	103nm,0.2s						
ETSF	**Etsaut**	**0.45**	**251**	*e*Pg	**Pg**	**12 33 59.2**	**-0.2**
ETSF				*e*Sg	**Sg**	**12 34 04.7**	**-0.7**
	52nm,0.2s						
FDAF	**Les Forges d'A**	**0.48**	**242**	Pg	**Pg**	**12 33 60.0**	**-0.1**
FDAF				Lg		12 34 06.3	
ATE	**Arette**	**0.53**	**274**	Pg	**Pg**	**12 34 01.1**	**+0.3**
ATE				Sg	**Sg**	**12 34 08.3**	**+0.5**
ATE	**Arette**	**0.53**	**274**	Pg	**Pg**	**12 34 01.2**	**+0.3**
ATE				Lg		12 34 08.2	
MELF	**Melles**	**0.57**	**108**	Pg	**Pg**	**12 34 02.0**	**+0.2**
MELF				Sg	**Sg**	**12 34 10.3**	**+0.9**
MELF	**Melles**	**0.57**	**108**	Pg	**Pg**	**12 34 02.1**	**+0.3**
MELF				Lg		12 34 10.3	
LARF	**Larrau**	**0.73**	**269**	Pg	**Pg**	**12 34 05.3**	**+0.5**
LARF				Sg	**Sg**	**12 34 15.2**	**+0.8**
LARF	**Larrau**	**0.73**	**269**	Lg		12 34 15.0	
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**12 34 07.5**	**-0.6**
SJPF				*e*Sg	**Sg**	**12 34 18.7**	**-1.3**
	8.0nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**12 34 07.5**	**-0.6**
SJPF				*e*Sg	**Sg**	**12 34 18.7**	**-1.3**
	4.0nm,0.2s						
SALF	**Salau**	**0.91**	**108**	Lg		12 34 20.6	
IPRE	**Itoiz**	**1.03**	**257**	Lg		12 34 26.1	
	0.7nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.13**	**279**	Pg	**Pg**	**12 34 12.8**	**+0.6**
	0.1nm,0.1s,SNR=5.9						
EALK				Lg		12 34 28.3	
	2.0nm,0.1s,SNR=6.9						
ELIZ	**Elizondo**	**1.14**	**276**	Pg	**Pg**	**12 34 12.4**	**0.0**
	1.2nm,0.1s,SNR=7.9						
ELIZ				Lg		12 34 28.3	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**265**	Pg	**Pg**	**12 34 16.2**	**+3.5**
	0.0nm,0.1s,SNR=7.9						
IUSE				Lg		12 34 28.9	
	2.8nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**265**	Pg	**Pg**	**12 34 16.2**	**+3.5**
	SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**195**	Pg	**Pg**	**12 34 17.5**	**+0.6**
	9.7nm,0.2s,SNR=9.4						
ESAC				Lg		12 34 36.1	
	12nm,0.1s,SNR=25						
ESAC	**San Caprasio**	**1.37**	**195**	Pg	**Pg**	**12 34 17.5**	**+0.6**
	9.7nm,0.2s,SNR=9.4						
EMIR	**Miracle**	**1.59**	**135**	Pn	**Pn**	**12 34 16.7**	**-1.6**
	0.6nm,0.1s,SNR=5.6						
EMIR				Pg	**Pg**	**12 34 19.0**	**-2.1**
	0.6nm,0.0s,SNR=7.9						
EMIR				Lg		12 34 42.2	
	4.7nm,0.1s						
EMIR	**Miracle**	**1.59**	**135**	Pn	**Pn**	**12 34 16.7**	**-1.6**
	0.6nm,0.1s,SNR=5.6						
EMIR	**Miracle**	**1.59**	**135**	Pg	**Pg**	**12 34 19.0**	**-2.1**
	0.6nm,0.0s,SNR=7.9						
VALF	**Valcebollere**	**1.61**	**113**	Lg		12 34 43.8	
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**12 34 22.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**12 34 43.4**	**+0.2**
	17nm,0.2s						
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**12 34 22.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**12 34 43.4**	**+0.2**
	8.6nm,0.2s						
EPOB	**Poblet**	**1.87**	**155**	Lg		12 34 49.0	
	2.5nm,0.1s,SNR=9.6						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**12 34 28.6**	**+0.5**
LFF				*e*Sg	**Sg**	**12 34 55.2**	**+1.6**
	13nm,0.3s						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**12 34 28.6**	**+0.5**
LFF				*e*Sg	**Sg**	**12 34 55.2**	**+1.6**
	6.4nm,0.3s						
ERTA	**Horta de San J**	**2.10**	**173**	Pn	**Pn**	**12 34 26.4**	**+1.1**
ERTA				Pg	**Pg**	**12 34 30.6**	**-0.3**
ERTA				Lg		12 34 57.3	
ERTA	**Horta de San J**	**2.10**	**173**	Pn	**Pn**	**12 34 26.4**	**+1.1**
	0.3nm,0.1s,SNR=4.0						
ERTA				Pg	**Pg**	**12 34 30.6**	**-0.3**
	0.2nm,0.1s,SNR=4.0						
ERTA				Lg		12 34 57.3	
	2.3nm,0.1s,SNR=13						
ERTA	**Horta de San J**	**2.10**	**173**	Pn	**Pn**	**12 34 26.4**	**+1.1**
	0.3nm,0.1s,SNR=4.0						
ERTA	**Horta de San J**	**2.10**	**173**	Pg	**Pg**	**12 34 30.6**	**-0.3**
	0.2nm,0.1s,SNR=4.0						
EJON	**La Jonquera**	**2.20**	**105**	Lg		12 35 01.3	
	0.5nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**12 34 36.1**	**-0.2**
CAF				*e*Sg	**Sg**	**12 35 07.6**	**+0.3**
	6.2nm,0.2s						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**12 34 36.1**	**-0.2**
CAF				*e*Sg	**Sg**	**12 35 07.6**	**+0.3**
	3.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Pg	**Pg**	**12 34 38.4**	**0.0**
RJF				*e*Sg	**Sg**	**12 35 12.0**	**+1.1**
	5.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Pg	**Pg**	**12 34 38.4**	**0.0**
RJF				*e*Sg	**Sg**	**12 35 12.0**	**+1.1**
	2.8nm,0.3s						
EMOS	**Mosqueruela**	**2.71**	**188**	Lg		12 35 14.3	
	1.0nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.71**	**215**	Pn	**Pn**	**12 34 35.4**	**+1.7**
	1.8nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**12 35 05.7**	**-0.5**
	1.2nm,0.0s,SNR=7.9						
ETOR				Lg		12 35 16.8	
	3.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.71**	**215**	Pn	**Pn**	**12 34 35.4**	**+1.8**
ETOR				Sn	**Sn**	**12 35 05.7**	**-0.5**
LASF	**Ste Croix**	**2.98**	**69**	*e*Pg	**Pg**	**12 34 48.1**	**+0.6**
LASF				*e*Sg	**Sg**	**12 35 25.4**	**-0.7**
	5.0nm,0.3s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Pg	**Pg**	**12 34 48.1**	**+0.6**
LASF				*e*Sg	**Sg**	**12 35 25.4**	**-0.7**
	2.5nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**358**	*e*Pg	**Pg**	**12 34 57.0**	**-1.6**
MFF				*e*Sg	**Sg**	**12 35 43.3**	**-1.4**
	2.9nm,0.2s						
MFF	**Saint Martin d**	**3.56**	**358**	*e*Pg	**Pg**	**12 34 57.0**	**-1.6**
MFF				*e*Sg	**Sg**	**12 35 43.3**	**-1.4**
	1.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.82**	**60**	*e*Pg	**Pg**	**12 35 03.1**	**-0.6**
VIVF				*e*Sg	**Sg**	**12 35 51.8**	**-1.3**
	4.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.82**	**60**	*e*Pg	**Pg**	**12 35 03.1**	**-0.6**
VIVF				*e*Sg	**Sg**	**12 35 51.8**	**-1.3**
	2.0nm,0.3s						

*MOS **20** 12:35:10.2±2.2, 5735N×12064E, h7km, mb4.7/1, Error ellipse: s-maj=23.7km s-min=15.9km az=142.2*

BYKL 20 12:35:09.3±0.6, 5737N×12074E, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.61**	**223**	⇓*i*Pg	Pg	12 35 20.5	-0.5
KHNR				*i* Sg	Sg	12 35 28.2	-0.8
CRS	**Chara**	**1.43**	**252**	⇓*i*Pg	Pg	12 35 35.4	-1.3
CRS				Pmax		12 35 38.0	
	405nm,0.8s						
CRS				*i* Sg	Sg	12 35 53.6	-1.6
CRS				Smax		12 35 55.0	
	902nm,1.1s						
CRS	**Chara**	**1.43**	**252**	*e*P	Pn	12 35 35.6	-0.8
CRS				*e*		12 35 53.4	
CRS				pmax	pmax		
	comp=Z,408nm,0.6s						
CRS				smax			
	comp=E,524nm,0.5s						
NRGR	**Nerungri**	**2.29**	**106**	*i* P	Pn	12 35 50.9	+2.5
NRGR				S	Sn	12 36 18.1	+0.8
NRGR				smax			
	comp=E,78nm,0.5s						
CLNS	**Chul'man**	**2.33**	**102**	*e*Pn	Pn	12 35 50.0	+1.2
CLNS				*e*Pg	Pg	12 35 52.4	-1.5
CLNS				*e*Sg	Sg	12 36 22.4	-1.7
CLNS	**Chul'man**	**2.33**	**102**	*e*P	Pn	12 35 53.8	+5.0
CLNS				*e*		12 36 22.4	
CLNS				pmax	pmax		
	comp=N,22nm,0.3s						
CLNS				pmax	pmax		
	comp=E,14nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,30nm,0.3s						
CLNS				smax			
	comp=N,389nm,0.4s						
CLNS				smax			
	comp=E,212nm,0.3s						
CLNS				smax			
	comp=Z,92nm,0.3s						
NLYR	**Nelyaty**	**2.90**	**254**	*e*Pg	Pg	12 36 01.3	-3.6
NLYR				*e*Sg	Sg	12 36 37.5	-4.9
TUP	**Tupik**	**2.98**	**189**	*e*Pn	Pn	12 35 57.2	-0.7
TUP				*e*Pg	Pg	12 36 02.0	-4.5
TUP				Pmax		12 36 04.4	
	comp=Z,231nm,0.9s						
TUP				*e*Sg	Sg	12 36 40.4	-4.8
TUP				Smax		12 36 44.1	
	comp=Z,720nm,1.0s						
TUP	**Tupik**	**2.98**	**189**	*e*P	Pn	12 36 01.9	+4.0
TUP				*e*		12 36 40.4	
TUP				pmax	pmax		
	comp=Z,224nm,0.9s						
TUP				smax			
	comp=E,735nm,1.0s						
BOD	**Bodaibo**	**3.65**	**280**	*e*Pn	Pn	12 36 06.8	-0.3
BOD				*e*Pg	Pg	12 36 14.5	-4.8
BOD				Pmax		12 36 16.6	
	comp=E,28nm,0.8s						
BOD				*e*Sg	Sg	12 37 00.9	-5.8
BOD				Smax		12 37 09.8	
	comp=E,248nm,1.1s						
BOD	**Bodaibo**	**3.65**	**280**	*e*P	Pn	12 36 06.1	-1.0
BOD				*e*		12 36 59.2	
BOD				pmax	pmax		
	comp=Z,30nm,0.8s						
BOD				smax			
	comp=N,254nm,1.2s						
SVKR	**Severomuysk**	**4.15**	**255**	*e*Sg	Sg	12 37 18.0	-4.6
SVKR				Smax		12 37 24.9	
	comp=N,481nm,1.2s						
UKT	**Uakit**	**4.38**	**247**	*e*Pn	Pn	12 36 17.5	+0.5
UKT				*e*Pg	Pg	12 36 27.9	-5.3
UKT				Pmax		12 36 37.2	
	comp=N,28nm,0.6s						
UKT				*e*Sg	Sg	12 37 24.4	-5.5
UKT				Smax		12 37 31.4	
	comp=N,158nm,1.3s						
UKT	**Uakit**	**4.38**	**247**	*e*P	Pn	12 36 27.9	+11
UKT				pmax	pmax		
	comp=Z,29nm,0.7s						
KROS	**Kirovskiy**

OGRR	**Ongureny**	**8.34**	**249**	*e*Sg	Sg	12 39 28.5	-8.6
OGRR				Smax		12 39 33.7	
	comp=Z,80nm,2.0s						
KPC	**Khapcheranga**	**9.14**	**216**	*e*Sg	Sn	12 39 49.6	+43
KPC				Smax		12 40 01.6	
	comp=Z,77nm,1.0s						

IDC ***20*** *12:38:56.0±2.4, 622S×1513 2E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, ML2.1/1, Error ellipse: s-maj=63.7km s-min=38.3km az=127.0*
NEIC ***20*** *12:38:56.2±1.0, 6.15S×1514 8E, h10km, mb4.3/1, Error ellipse: s-maj=44.7km s-min=15.9km az=140.0*
ISCJB ***20*** *12:39:00.1±5.3, 62S±04×1513E±03, h51km±37km, mb3.5/4, Error ellipse: s-maj=70.1km s-min=38.2km az=114.8*

ISC 20 12:39:01.4±5.2, 62S±04×1514E±03, h47km±36km, n13, σ0§66/14, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.25**	**232**	Pn	**Pn**	**12 40 16.5**	**-0.8**
	0.4nm,0.3s,baz=333,slow=2.3,SNR=2.3						
PMG				Sn	**Sn**	**12 41 16.5**	**+0.1**
	0.4nm,0.3s,baz=330,slow=20,SNR=1.5						
PMG	**Port Moresby**	**5.25**	**232**	P	**Pn**	**12 40 18.2**	**+1.0**
PMG					Sn	**12 41 16.5**	**+0.1**
WRAB	**Tennant Creek**	**21.44**	**229**	*e*P	**P**	**12 43 45.2**	**-0.4**
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**	**12 43 43.3**	**-2.3**
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**	**12 43 45.7**	**+0.1**
WRA	**Warramunga Arr**	**21.45**	**229**	P	**P**	**12 43 46.0**	**+0.2**
	0.6nm,0.5s,mb3.2,baz=54,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.16**	**222**	P	**P**	**12 44 13.7**	**+0.5**
	0.5nm,0.6s,mb3.2,baz=52,slow=9.9,SNR=22						
STKA	**Stephens Creek**	**27.14**	**198**	*e*P	**P**	**12 44 40.0**	**-0.2**
	3.1nm,1.2s,mb3.7						
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**12 44 40.2**	**+0.1**
	3.3nm,1.0s,mb3.8,baz=1.4,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**27.14**	**198**	*e*P	**P**	**12 44 40.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.74**	**242**	*e*P	**P**	**12 44 45.6**	**+0.1**
	9.7nm,1.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	P	**P**	**12 44 45.9**	**+0.4**
	1.1nm,0.5s,mb3.8,baz=55,slow=10,SNR=8.9						
TORD	**Torodi Ar. Bea**	**149.32**	**285**	PKPbc	PKPbc	12 58 47.2	+2.2
	0.9nm,0.6s,baz=66,slow=3.1,SNR=6.0						

IDC ***20*** *12:41:21.0±2.2, 4739N×1553 3E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/22, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=59.1km s-min=28.5km az=176.0*
ISCJB ***20*** *12:41:21.3±1.5, 475N±02×1552E±02, h10km, mb4.0/7, Error ellipse: s-maj=35.7km s-min=13.6km az=118.3*
MOS ***20*** *12:41:25.7±1.4, 4753N×155.10E, h44km, mb4.4/1, Error ellipse: s-maj=25.8km s-min=17.6km az=88.2*
NEIC ***20*** *12:41:26.8±5.7, 4797N×1548 5E, h10km, mb4.3/1, Error ellipse: s-maj=136.0km s-min=21.4km az=163.0*

ISC 20 12:41:23.0±6.6, 475N±02×1552E±02, h9km±40km, n13, σ0§62/13, mb4.0/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**5.95**	**21**	*e*PN	**Pn**	**12 42 51.0**	**-0.1**
PET				pmax	pmax		
	comp=Z,17nm,0.7s						
ASAJ	**Asahikawa**	**9.43**	**254**	Pn	**Pn**	**12 43 39.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=58,slow=12,SNR=4.6						
ASAJ	**Asahikawa**	**9.43**	**254**	PN	**Pn**	**12 43 39.1**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**40.24**	**33**	*e*P	**P**	**12 49 00.7**	**+0.7**
ZAL	**Zalesovo**	**43.34**	**306**	P	**P**	**12 49 24.0**	**-1.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=90,slow=11,SNR=4.2						
MK31	**Makanchi Array**	**47.85**	**298**	*e*P	**P**	**12 50 01.1**	**0.0**
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**12 50 01.9**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.9,baz=68,slow=8.2,SNR=7.6						
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**	**12 50 28.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.51**	**310**	*e*P	**P**	**12 50 28.8**	**-0.1**
	comp=Z,2.2nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	**P**	**12 51 12.6**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=36,slow=7.8,SNR=4.2						
FINES	**FINESS Array B**	**63.95**	**335**	P	**P**	**12 51 56.9**	**+0.5**
	comp=Z,0.8nm,0.4s,mb4.1,baz=43,slow=6.5,SNR=9.6						
NOA	**NORSAR Array B**	**67.96**	**342**	P	**P**	**12 52 22.7**	**+0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=25,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**12 53 09.1**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=293,slow=4.6,SNR=7.4						

IDC 20 12:44:56.3±1.3, 4643N×15446E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/34, Error ellipse: s-maj=46.5km s-min=30.7km az=163.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.68**	**259**	Pn	Pn	12 47 02.1	-1.0
	0.3nm,0.3s,baz=151,slow=19,SNR=2.5						
MKAR	**Makanchi Array**	**47.91**	**298**	P	P	12 53 36.3	0.0
	0.2nm,0.4s,baz=64,slow=7.3,SNR=4.3						
PMG	**Port Moresby**	**55.97**	**189**	LR	LR	13 13 15.9	
	comp=Z,7.2nm,21.4s,baz=77,slow=30						
ASAR	**Alice Springs**	**72.21**	**200**	P	P	12 56 23.2	+0.1
	0.3nm,0.8s,baz=18,slow=6.9,SNR=5.5						
TXAR	**Lajitas Array**	**76.83**	**61**	P	P	12 56 50.0	+0.1
	0.4nm,0.5s,baz=299,slow=4.3,SNR=8.0						

INMG ***20*** *12:46:20.8±1.2, 4354N×744W, h23km±4km, ML2.3, Error ellipse: s-maj=5.4km s-min=3.2km az=132.0*
CSEM ***20*** *12:46:20.3±0.1, 4350N×738W, h10km, ML3.4/6, Error ellipse: s-maj=3.7km s-min=1.9km az=155.0*
NEIC ***20*** *12:46:21.7, 4349N×737W, h21km, MN2.8(MDD), After MDD.*

MDD 20 12:46:21.6±0.7, 4349N×737W, h21km±1km, mbLg2.7/9, 1D, Error ellipse: s-maj=7.7km s-min=3.8km az=169.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPON	**Pontenova**	**0.23**	**136**	∥Pg	Pb	12 46 27.0	-0.2
	24nm,0.1s,SNR=18						
EPON				Lg		12 46 30.6	
	229nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**0.23**	**136**	Pg	Pb	12 46 27.0	-0.3
	24nm,0.1s,SNR=18						
STS	**Santiago**	**1.05**	**235**	Pg	Pb	12 46 39.9	-1.3
	12nm,0.1s,SNR=7.9						
STS				Lg		12 46 55.3	
	56nm,0.1s,SNR=14						
EMAZ	**Mazaricos**	**1.29**	**246**	Pn	Pn	12 46 43.0	-1.5
	1.6nm,0.1s,SNR=12						
EMAZ				Pg	Pn	12 46 45.7	+1.2
	17nm,0.1s,SNR=16						
EMAZ				Sn	Sn	12 46 59.2	-2.0
	11nm,0.1s,SNR=5.0						
EMAZ				Lg		12 47 02.0	
	51nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**1.29**	**246**	Pn	Pn	12 46 43.0	-1.5
	1.6nm,0.1s,SNR=12						
EMAZ	**Mazaricos**	**1.29**	**246**	Pg	Pn	12 46 45.7	+1.2
	17nm,0.1s,SNR=16						
EMAZ				Sn	Sn	12 46 59.2	-2.0
	11nm,0.1s,SNR=5.0						
EARI	**Arriondas**	**1.59**	**96**	Pn	Pn	12 46 46.9	-1.6
	0.2nm,0.1s,SNR=12						
EARI				Pg	Pn	12 46 49.7	+1.1
	3.4nm,0.2s,SNR=9.3						
EARI				Sn	Sn	12 47 07.1	-1.3
	4.5nm,0.2s,SNR=7.2						
EARI				Lg		12 47 10.0	
	14nm,0.2s,SNR=5.8						
EARI	**Arriondas**	**1.59**	**96**	Pn	Pn	12 46 46.9	-1.6
	0.2nm,0.1s,SNR=12						
EARI	**Arriondas**	**1.59**	**96**	Pg	Pn	12 46 49.7	+1.2
	3.4nm,0.2s,SNR=9.3						
EARI				Sn	Sn	12 47 07.1	-1.3
	4.5nm,0.2s,SNR=7.2						
ECAL	**Calabor**	**1.62**	**163**	Pn	Pn	12 46 47.8	-1.2
	0.6nm,0.2s,SNR=9.0						
ECAL				Lg		12 47 11.6	
	35nm,0.2s,SNR=5.2						
ECAL	**Calabor**	**1.62**	**163**	Pn	Pn	12 46 47.8	-1.2
	0.6nm,0.2s,SNR=9.0						
PBRG	**Braganca**	**1.75**	**164**	*e*Pn	Pn	12 46 49.1	-1.7
PBRG	**Braganca**	**1.75**	**164**	*e*Pg	Pn	12 46 51.6	+0.8
PBRG				*e*Sg	Sn	12 47 16.7	+4.3
PBRG							
	20nm,0.3s						
PBRG	**Braganca**	**1.75**	**164**	Pn	Pn	12 46 49.1	-1.7
PBRG				Pg	Pn	12 46 51.6	+0.8
PBRG				Lg		12 47 16.7	
	10.0nm,0.3s						
PBRG	**Braganca**	**1.75**	**164**	*e*Pg	Pn	12 46 51.6	+0.8
PBRG				*e*Sg	Sn	12 47 16.7	+4.3
	20nm,0.3s						
PCAB	**Cabril**	**1.84**	**195**	*e*Pn	Pn	12 46 50.4	-1.7
PCAB				*e*Sn	Sn	12 47 12.2	-2.6
PCAB				*e*Sg	Sn	12 47 19.1	+4.3
PCAB							
	40nm,0.1s						
PCAB	**Cabril**	**1.84**	**195**	*e*Pn	Pn	12 46 50.4	-1.7
PCAB				*e*Sn	Sn	12 47 12.2	-2.6
PCAB				*e*Sg	Sn	12 47 19.1	+4.3
	40nm,0.1s						
PVRL	**Vila Real**	**2.23**	**187**	*e*Pg	Pn	12 47 02.0	+4.6
PVRL				*e*Sg	Sn	12 47 31.9	+7.6
PVRL							
	26nm,0.2s						
PVRL	**Vila Real**	**2.23**	**187**	*e*Pg	Pn	12 47 02.0	+4.6
PVRL				*e*Sg	Sn	12 47 31.9	+7.6
	26nm,0.2s						
PVIS	**Viseu**	**2.80**	**188**	*e*Pn	Pn	12 47 03.8	-1.4
PVIS				*e*Sg	Sn	12 47 48.3	+10
PVIS							
	11nm,0.1s						
ELAN	**Lanestosa**	**2.88**	**94**	Pn	Pn	12 47 05.6	-0.7
	0.9nm,0.2s,SNR=7.9						
ELAN				Pg	Pn	12 47 13.0	+6.6
	2.3nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	12 47 37.3	-3.1
	4.5nm,0.2s,SNR=7.9						
ELAN				Lg		12 47 51.9	
	17nm,0.4s,SNR=7.3						
ELAN	**Lanestosa**	**2.88**	**94**	Pn	Pn	12 47 05.6	-0.8
	0.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.88**	**94**	Pg	Pn	12 47 13.0	+6.6
	2.3nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	12 47 37.3	-3.1
	4.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.65**	**181**	*e*Sn	Sn	12 47 55.6	-3.7
PCBR				*e*Sg	Sn	12 48 15.8	+16
PCBR							
	5.8nm,0.4s						
GUD	**Guadarrama**	**3.72**	**139**	Pn	Pn	12 47 16.6	-1.2
	0.5nm,0.2s,SNR=7.9						
GUD				Pg	Pn	12 47 26.7	+8.8
	0.2nm,0.4s,SNR=7.9						
ELIZ	**Elizondo**	**4.27**	**92**	Pg	Pn	12 47 37.5	+12
	0.8nm,0.2s,SNR=7.9						
ELIZ				Sn	Sn	12 48 10.9	-3.9
	SNR=7.9						
EALK	**Alkurruntz**	**4.28**	**92**	Pn	Pn	12 47 23.6	-2.0
	0.3nm,0.1s,SNR=7.9						
EALK				Sn	Sn	12 48 10.9	-4.0
	1.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.55**	**149**	*e*Pg	Pn	12 47 44.2	+15
PAB				*e*S	Sn	12 47 55.7	-26
PAB	**San Pablo**	**4.55**	**149**	*e*Pg	Pn	12 47 44.2	+15
ESLA	**Sonseca Array**	**4.59**	**145**	*e*Pg	Pn	12 47 46.5	+17
ESLA				*e*S	Sn	12 48 01.8	-21
ESLA	**Sonseca Array**	**4.59**	**145**	*e*Pg	Pn	12 47 46.5	+17
EBIE	**Bielsa**	**5.56**	**96**	Sn	Sn	12 48 42.0	-4.4
	0.6nm,0.2s,SNR=4.0						

NEIC ***20*** *12:49:53.5±0.8, 4694N×153 06E, h10km, Error ellipse: s-maj=24.1km s-min=14.9km az=121.0*
MOS ***20*** *12:49:58.8±2.0, 4674N×152 90E, h71km, mb4.1/1, Error ellipse: s-maj=21.6km s-min=13.9km az=45.8*
ISCJB ***20*** *12:49:59.0±1.6, 468N±0.1×1528E±02, h63km±13km, mb3.7/7, Error ellipse: s-maj=30.2km s-min=11.1km az=97.0*
IDC ***20*** *12:50:00.6±5.4, 4689N×152 98E, h66km±48km, mb3.5/8, mb1 3.6/10, mb1mx3.5/23, mbtmp3.5/10, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/32, Error ellipse: s-maj=32.2km s-min=26.4km az=79.0*

ISC 20 12:50:01.0±1.4, 469N±01×1527E±02, h68km±12km, n17, σ1§10/18, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.76**	**246**	*e*PN	**Pn**	**12 50 53.0**	**-3.6**
KUR				*e*S	**Sn**	**12 51 38.0**	**-1.6**
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
SKR	**Severo-Kuril's**	**4.43**	**29**	*e*PN	**Pn**	**12 51 05.9**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**5.60**	**242**	*e*PN	**Pn**	**12 51 21.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.84**	**274**	PN	**Pn**	**12 51 43.8**	**+5.1**
ASAJ	**Asahikawa**	**7.64**	**253**	P	**Pn**	**12 51 51.7**	**+2.1**
	comp=E,0.9nm,0.3s,baz=81,slow=21,SNR=11						
ASAJ				LR	LR	12 54 51.0	
	comp=E,41nm,21.3s,baz=166,slow=37						
MJAR	**Matsushiro Arr**	**14.94**	**232**	P	**Pn**	**12 53 28.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=92,slow=5.8,SNR=2.7						
KSRS	**Korea Array**	**20.59**	**252**	P	**P**	**12 54 37.0**	**+2.5**
	comp=E,1.4nm,0.7s,baz=54,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**12 58 22.4**	**-0.4**
	comp=E,0.3nm,0.5s,mb3.3,baz=69,slow=4.5,SNR=3.9						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**13 00 25.8**	**-0.5**
	comp=E,0.7nm,0.4s,mb3.8,baz=57,slow=7.0,SNR=6.1						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**13 00 25.8**	**-0.5**
NB2	**NORSAR Subarra**	**68.05**	**341**	P	**P**	**13 00 52.9**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**13 00 53.3**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.1,baz=28,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**13 01 12.8**	**-0.6**
	comp=E,0.6nm,0.3s,mb3.8,baz=34,slow=6.9,SNR=5.6						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**13 01 12.8**	**-0.6**
ASAR	**Alice Springs**	**72.23**	**198**	P	**P**	**13 01 19.0**	**+0.1**
	comp=Z,0.2nm,0.7s,mb3.1,baz=25,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**77.66**	**60**	P	**P**	**13 01 49.2**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=303,slow=4.7,SNR=10						
BRTR	**Keskin Array B**	**78.14**	**316**	P	**P**	**13 01 53.9**	**+1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=90,slow=9.9,SNR=3.6						

NEIC ***20*** *13:07:55.9, 1885N×6375W, h13km, MD3.5(RSPR), After RSPR.*

RSPR 20 13:07:55.9, 1885N×6375W, h13km±23km, MD3.5/6, MD3.5/6, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.24**	**247∥**	*e*P	Pn	13 08 16.2	-2.8
STVI				*e*S	Sb	13 08 31.6	-3.6
MTP	**Monte Pirata**	**1.86**	**247∥**	*e*P	Pn	13 08 25.0	-2.6
MTP				*e*S	Sn	13 08 46.9	-4.1
CBYP	**Canovanas**	**2.08**	**254∥**	*e*P	Pn	13 08 27.3	-3.2
CBYP				*e*S	Sn	13 08 53.0	-3.2
CPD	**Cerro la Pandu**	**2.21**	**249∥**	*e*P	Pn	13 08 30.0	-2.3
CELP	**Cerrillos**	**2.79**	**254∥**	*e*P	Pn	13 08 37.4	-2.9
CRPR	**Cabo Rojo, PR**	**3.29**	**256∥**	*e*P	Pn	13 08 44.9	-2.4

ISCJB ***20*** *13:11:07.2±6.0, 67S±02×151 1E±02, h5km±42km, mb3.8/4, Error ellipse: s-maj=45.8km s-min=20.2km az=87.7*
NEIC ***20*** *13:11:09.2±1.5, 669S×151 13E, h10km, mb4.7/1, Error ellipse: s-maj=40.3km s-min=19.3km az=118.0*
IDC ***20*** *13:11:20.4±7.0, 681S×150 82E, h88km±51km, mb3.6/5, mb1 3.7/6, mb1mx3.5/13, mbtmp3.6/6, ML2.6/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=55.5km s-min=32.7km az=91.0*

ISC 20 13:11:15.6±4.8, 68S±02×1511E±03, h56km±34km, n15, σ0§75/16, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**236**	P	**Pn**	**13 12 24.5**	**+0.6**
	2.1nm,0.3s,baz=63,slow=9.0,SNR=6.6						
PMG				S	**Sn**	**13 13 17.8**	**+0.9**
	4.5nm,0.3s,baz=30,slow=20,SNR=3.8						
PMG	**Port Moresby**	**4.69**	**236**	*e*P	**Pn**	**13 12 22.5**	**-1.3**
PMG				S	**Sn**	**13 13 17.8**	**+0.9**
WRAB	**Tennant Creek**	**20.85**	**230**	*e*P	**P**	**13 15 51.7**	**-1.1**
WB2	**Warramunga Arr**	**20.86**	**230**	*e*P	**P**	**13 15 52.3**	**-0.5**
WRA	**Warramunga Arr**	**20.87**	**230**	P	**P**	**13 15 52.1**	**-0.8**
	2.7nm,0.7s,baz=54,slow=10,SNR=8.8						
AS31	**Alice Springs**	**23.54**	**223**	*e*P	**P**	**13 16 20.7**	**-0.2**
ASAR	**Alice Springs**	**23.54**	**223**	P	**P**	**13 16 20.9**	**+0.1**
	1.2nm,0.6s,mb3.5,baz=55,slow=9.3,SNR=22						
ASPA	**Alice Springs**	**23.55**	**223**	*e*P	**P**	**13 16 21.1**	**+0.2**
STKA	**Stephens Creek**	**26.47**	**198**	*e*P	**P**	**13 16 48.0**	**+0.6**
	2.6nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**26.47**	**198**	P	**P**	**13 16 48.9**	**+1.5**
	2.9nm,0.9s,mb3.8,baz=36,slow=7.6,SNR=5.7						
STKA	**Stephens Creek**	**26.47**	**198**	*e*P	**P**	**13 16 49.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**27.25**	**243**	*e*P	**P**	**13 16 53.9**	**-0.5**
	6.4nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.25**	**243**	P	**P**	**13 16 54.2**	**-0.2**
	3.7nm,0.4s,mb4.3,baz=63,slow=8.7,SNR=24						
MKAR	**Makanchi Array**	**80.75**	**320**	P	**P**	**13 23 23.7**	**+0.8**
	0.4nm,0.8s,mb3.4,baz=96,slow=6.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.26**	**284**	PKPbc	PKPbc	13 30 58.4	+0.4
	0.6nm,0.6s,baz=65,slow=3.0,SNR=4.7						

ISCJB ***20*** *13:23:16.7±0.6, 4616N±008×1542E±01, h10km, mb4.2/31, Error ellipse: s-maj=13.9km s-min=7.5km az=96.3*
IDC ***20*** *13:23:16.6±0.7, 4605N×154 34E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.1/25, mbtmp4.0/17, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/30, Error ellipse: s-maj=20.0km s-min=16.9km az=137.0*
NEIC ***20*** *13:23:18.0±6.0, 4610N×154 31E, h9km±37km, mb4.4/5, Error ellipse: s-maj=15.8km s-min=11.5km az=127.0*
BJI ***20*** *13:23:19.0, 4647N×153 84E, h8km, mB4.6, mb4.3*
MOS ***20*** *13:23:21.7±1.4, 4607N×153 93E, h46km, mb4.4/12, Error ellipse: s-maj=12.2km s-min=9.7km az=122.6*

ISC 20 13:23:18.0±2.2, 4615N±009×1543E±01, h8km±12km, n63, σ1§15/64, mb4.2/31, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.59**	**261**	∥*i* PN	**Pn**	**13 24 24.0**	**-3.7**
KUR				*i* S	**Sn**	**13 25 15.0**	**-6.3**
KUR				pmax	pmax		
	comp=Z,170nm,0.5s						
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.70**	**14**	*e*PN	**Pg**	**13 24 48.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**8.00**	**280**	*e*PN	**Pn**	**13 25 16.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				pmax	pmax		
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.00**	**280**	*e*P	**Pn**	**13 25 16.0**	**+1.5**
	comp=E,13nm,0.7s						
ASAJ	**Asahikawa**	**8.52**	**260**	Pn	**Pn**	**13 25 21.9**	**+0.3**
	comp=E,1.2nm,0.3s,baz=86,slow=21,SNR=11						
ASAJ				LR	LR	13 28 21.3	
	comp=E,124nm,20.9s,baz=154,slow=36						
ERM	**Erimo**	**9.01**	**247**	*e*PN	**Pn**	**13 25 27.6**	**-0.8**
MJAR	**Matsushiro Arr**	**15.40**	**237**	Pn	**Pn**	**13 26 52.9**	**-2.7**
	comp=E,0.3nm,0.3s,baz=28,slow=12,SNR=4.5						
MAJO	**Matsushiro**	**15.40**	**237**	*e*P	**Pn**	**13 27 00.2**	**+4.6**
MDJ	**Mudanjiang**	**17.40**	**274**	P	**Pn**	**13 27 17.8**	**-3.4**
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,64nm,4.7s						
CN2	**Changchun**	**20.49**	**274**	*e*P	**P**	**13 27 53.3**	**-3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**21.27**	**327**	*e*P	**P**	**13 28 02.5**	**-2.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.3						
YAK	**Yakutsk**	**21.27**	**327**	*e*P	**P**	**13 28 02.5**	**-2.3**
	comp=Z,9.6nm,0.6s,mb4.3						
KSRS	**Korea Array**	**21.41**	**255**	P	**P**	**13 28 07.6**	**+1.3**
	comp=Z,1.7nm,0.7s,mb3.5,baz=60,slow=9.5,SNR=7.7						
BILL	**Bilibino**	**22.81**	**12**	*e*P	**P**	**13 28 23.2**	**+2.0**
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
BILL	**Bilibino**	**22.81**	**12**	*e*P	**P**	**13 28 21.7**	**+0.6**
BOD	**Bodaibo**	**27.00**	**310**	*e*P	**P**	**13 28 57.3**	**-3.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
TIXI	**Tiksi**	**28.28**	**343**	*e*P	**P**	**13 29 10.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
TIXI	**Tiksi**	**28.28**	**343**	*e*P	**P**	**13 29 10.3**	**-1.5**
	comp=Z,2.6nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**31.87**	**291**	P	**P**	**13 29 44.8**	**+1.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**31.87**	**291**	P	**P**	**13 29 44.8**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.1						
SONM	**Songino Array**	**32.30**	**291**	P	**P**	**13 29 48.4**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=81,slow=9.1,SNR=5.5						
GTA	**Gaotai**	**39.88**	**280**	*e*P	**P**	**13 30 53.3**	**+1.1**
GTA				AP	pP	13 30 57.9	+3.4
GTA				XP	sP	13 31 01.4	+6.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.1

comp=Z,1.3nm,0.4s,mb4.4,baz=37,slow=6.7,SNR=16
WRA Warramunga Arr 68.22 200 P **P** **13 34 18.0 -1.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=21,slow=7.0,SNR=8.9
NB2 NORSAR Subarra 69.06 342 P **P** **13 34 25.1 +0.8**
comp=Z,0.8nm,0.5s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 69.06 342 P **P** **13 34 25.6 +1.3**
comp=Z,1.0nm,0.7s,mb3.8,baz=30,slow=6.8,SNR=3.3
ASAR Alice Springs 71.90 200 P **P** **13 34 41.3 -0.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=6.2,SNR=18
AKASG Malin Array Be 72.50 327 P **P** **13 34 46.0 +0.7**
comp=Z,1.1nm,0.4s,mb4.1,baz=34,slow=6.0,SNR=5.6
AKASG Malin Array Be 72.50 327 P **P** **13 34 46.0 +0.7**
TXAR Lajitas Array 77.08 61 P **P** **13 35 12.0 +0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=305,slow=4.6,SNR=12
CLL Collm 77.35 336 *e*P **P** **13 35 13.0 -0.3**
BRTR Keskin Array B 79.39 318 P **P** **13 35 25.4 +0.8**
comp=Z,1.5nm,0.9s,mb3.9,baz=67,slow=3.2,SNR=5.6

NEIC ***20*** *13:24:47.7, 27.45S×70.85W, h49km, MG3.7(GUC), After GUC.*
GUC 20 13:24:47.7±0.8, 27.45S×70.85W, h49km±6km, ML3.7, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CDCH	**Caldera**	**0.37**	**3**	⇓*i*P		Pn	13 24 57.7	+0.2
CDCH				*i* S		Sn	13 25 04.9	+0.5
CPCH	**Copiapo**	**0.45**	**79**	⇓*i*P		Pn	13 24 58.9	+0.6
CPCH				*i* S		Sn	13 25 06.5	+0.7
CPCH					AML	AML	13 25 07.8	
	comp=E,39μm,0.1s							
CPCH	**Copiapo**	**0.45**	**79**	⇓*i*P		Pn	13 24 58.9	+0.6
CPCH				*i* S		Sn	13 25 06.5	+0.7
VACH	**Vallenar**	**1.13**	**176**	*e*P		Pn	13 25 07.7	+0.6
VACH				*i* S		Sn	13 25 22.5	+1.0
VACH					AML	AML	13 25 24.4	
	comp=E,3μm,0.3s							
VACH	**Vallenar**	**1.13**	**176**	*e*P		Pn	13 25 07.7	+0.6
VACH				*i* S		Sn	13 25 22.5	+1.0
TLL	**Tololo Astrono**	**2.71**	**179**	*e*P		Pn	13 25 31.0	+2.3
TLL				*i* S		Sn	13 26 02.9	+2.6
TLL					AML	AML	13 26 16.8	
	comp=N,169nm,0.7s							
TLL	**Tololo Astrono**	**2.71**	**179**	*e*P		Pn	13 25 31.0	+2.3
TLL				*i* S		Sn	13 26 02.9	+2.6
CPN1	**Cerro Paranal**	**2.84**	**8**	*e*P		Pn	13 25 31.9	+1.4
CPN1				*i* S		Sn	13 26 05.0	+1.6
CPN1					AML	AML	13 26 26.6	
	comp=E,93nm,0.5s							

SKO ***20*** *13:41:28.6, 40.32N×21.74E, h8km*
CSEM ***20*** *13:41:29.1±0.1, 40.45N×21.81E, h30km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.7km az=132.0*
THE 20 13:41:29.6, 40.41N×21.83E, h10km, ML2.7, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FNA	**Florina**	**0.51**	**317**	*e*Pg		Pg	13 41 38.9	-0.6
FNA				*e*Sg		Sg	13 41 47.8	+1.5
LIT	**Litokhoron**	**0.59**	**121**	*e*Pg		Pg	13 41 40.2	-0.8
LIT				*e*Sg		Sg	13 41 50.2	+1.4
GRG	**Griva**	**0.70**	**38**	*e*Pg		Pg	13 41 42.1	-1.0
GRG				*e*Sg		Sg	13 41 53.9	+1.7
MEV	**Metsovon**	**0.78**	**217**	*e*Pg		Pg	13 41 44.4	-0.2
HORT	**Hortiatis**	**0.98**	**79**	*e*Pg		Pg	13 41 47.5	-1.0
HORT				*e*Sg		Sg	13 42 03.8	+2.4
HORT	**Hortiatis**	**0.98**	**79**	*e*Pg		Pg	13 41 47.5	-1.0
VAY	**Valandovo**	**1.07**	**31**	*e*Pg		Pg	13 41 49.4	-0.8
VAY				*e*Sg		Sg	13 42 07.3	+3.3
VAY	**Valandovo**	**1.07**	**31**	*e*Pg		Pg	13 41 49.3	-0.9
VAY				*e*Sg		Sg	13 42 07.3	+3.2
KNT	**Kendrikon**	**1.10**	**47**	*e*Pg		Pg	13 41 49.2	-1.6
AGG	**Agios Georgios**	**1.44**	**164**	*e*Pg		Pg	13 41 56.9	-0.3
PAIG	**Paliouri**	**1.50**	**108**	*e*Pg		Pg	13 41 56.1	-2.2

MAN 20 13:45:34.7, 892N×12634E, h25km, mb3.5, ML4.7, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.71**	**274**	*e*P		Pb	13 45 48.8	+0.3
BUTP				*e*S		Sb	13 46 00.3	+2.6
SCPH	**Surigao**	**1.20**	**316**	⇑*e*P		Pn	13 45 55.4	-0.4
SCPH				*e*S		Sn	13 46 11.9	+0.6
BUKP	**Musuan**	**1.63**	**231**	*e*P		Pn	13 46 02.4	+0.6
BUKP				*e*S		Sn	13 46 23.9	+1.9
CGP	**Cagayan de Oro**	**1.69**	**254**	⇑*i*P		Pn	13 46 01.3	-1.3
CGP				*i* S		Sn	13 46 22.7	-0.7
MSLP	**Maasin**	**1.89**	**310**	*e*P		Pn	13 46 07.5	+2.2
MSLP				*e*S		Sn	13 46 36.5	+8.0

NIED ***20*** *13:48:00, 46.70N×15.290E, h23km, Mw4.7 Best double couple: M0 1.32000×10^16 NP1:φ=248.00000°, δ=64.00000°, λ=111.00000°. NP2:φ=27.00000°, δ=33.00000°, λ=54.00000°.*
BJI ***20*** *13:48:15.8, 46.67N×153.01E, h10km, mB5.0, mb4.8, Ms4.4, Msz4.1*
ISCJB ***20*** *13:48:19.0±0.2, 46.64N±0.003×152.58E±0.04, h13km, mb4.8/99, MS3.9/24, Error ellipse: s-maj=5.4km s-min=2.3km az=111.5*
SKHL ***20*** *13:48:19.6±2.6, 46.34N×153.00E, h36km±1km, Ms4.2/3*
NEIC ***20*** *13:48:20.3±0.2, 46.71N×152.47E, h10km, mb4.9/38, Error ellipse: s-maj=5.9km s-min=3.4km az=153.0*
SZGRF ***20*** *13:48:21.8, 46.23N×152.99E, h33km, mb5.2, Kuril Islands, Russia*
JMA ***20*** *13:48:22.4±0.9, 46.70N×152.86E, h30km, M5.2*
IDC ***20*** *13:48:23.7±5.7, 46.72N×152.43E, h33km±42km, mb4.4/26, mb1 4.5/27, mb1mx4.5/28, mbtmp4.4/27, ML4.1/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/32, Error ellipse: s-maj=14.9km s-min=11.5km az=128.0*
MOS ***20*** *13:48:24.3±1.1, 46.63N×152.47E, h56km, mb5.1/28, Error ellipse: s-maj=8.3km s-min=5.7km az=91.6*
ISC 20 13:48:21.1±0.2, 46.75N±0.003×152.54E±0.04, h14km, h14km±1.5km: pP-P, n300, σ1°9'14/313, mb4.8/99, MS3.9/24, 24C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.59**	**247**	⇓*i*P		**Pn**	**13 49 17.0**	**+0.6**
KUR					AMB	AMB	13 49 17.5	
	68nm,0.5s							
KUR					AMB	AMB	13 49 17.5	
	456nm,0.5s							
KUR				*e*S		**Sn**	**13 50 02.0**	**+3.4**
KUR				A			13 50 13.5	
	6μm,1.0s							
KUR				A			13 50 13.5	
	10μm,1.0s							
KUR				A			13 50 16.2	
	2μm,0.6s							
KUR				A			13 50 16.2	
	2μm,0.6s							
KUR					AMS	AMS	13 50 50.0	
	3μm,14.0s							
KUR	**Kuril'sk**	**3.59**	**247**	⇓*i*P	N	**Pn**	**13 49 17.0**	**+0.6**
KUR				*i* S		**Sn**	**13 50 02.0**	**+3.4**
KUR					pmax	pmax		
	comp=N,70nm,0.5s							
KUR					pmax	pmax		
	comp=E,70nm,0.5s							
KUR					pmax	pmax		
	comp=Z,460nm,0.5s							
KUR					smax			
	comp=E,10μm,1.0s							
KUR					smax			
	comp=Z,6μm,1.0s							
KUR					smax			
	comp=N,2μm,0.6s							
KUR					smax			
	comp=E,2μm,0.6s							
KUR					MLR	MLR		
	comp=Z,3μm,14.0s							
SKR	**Severo-Kuril's**	**4.59**	**30**	*e*P		**Pn**	**13 49 33.5**	**+3.5**
SKR					AMB	AMB	13 49 36.6	
	comp=Z,90nm,0.5s							
SKR					pP		13 49 44.7	
SKR				*e*S		**Sn**	**13 50 24.9**	**+1.8**
SKR				A			13 50 46.9	
	comp=Z,250nm,0.5s							
SKR				A			13 50 46.9	
	comp=Z,620nm,0.5s							
SKR				A			13 50 46.9	
	comp=Z,200nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.43**	**242**	*e*P		**Pn**	**13 49 44.5**	**+2.9**
YUK					AMB	AMB	13 49 47.0	
	comp=Z,350nm,0.4s							
YUK					AMB	AMB	13 49 47.0	
	comp=Z,280nm,0.4s							
YUK					AMB	AMB	13 49 47.0	
	comp=Z,810nm,0.4s							
YUK				*e*S		**Sn**	**13 50 45.7**	**+1.8**
YUK				A			13 50 58.0	
	comp=Z,3μm,1.0s							
YUK				A			13 51 04.0	
	comp=Z,5μm,0.7s							
YUK				A			13 51 04.0	
	comp=Z,1μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.43**	**242**	*e*PN		**Pn**	**13 49 44.5**	**+2.9**
YUK				*e*S		**Sn**	**13 50 45.7**	**+1.8**
YUK					pmax	pmax		
	comp=N,350nm,0.4s							
YUK					pmax	pmax		
	comp=E,280nm,0.4s							
YUK					pmax	pmax		
	comp=Z,810nm,0.4s							
YUK					smax			
	comp=N,3μm,1.0s							
YUK					smax			
	comp=E,3μm,1.0s							
YUK					smax			
	comp=N,5μm,0.8s							
YUK					smax			
	comp=E,1μm,0.6s							
NEM2	**Nemuro 2**	**5.89**	**237**	P		**Pn**	**13 49 48.7**	**+0.9**
NEM2				*e*S		**Sn**	**13 50 53.2**	**-1.9**
JRA	**Rausu**	**5.94**	**244**	P		**Pn**	**13 49 52.8**	**+4.2**
JNK	**Nakash**	**6.37**	**243**	P		**Pn**	**13 49 57.6**	**+3.1**
JNK				*e*S		**Sn**	**13 51 08.5**	**+1.5**
JTKR	**Abashiri--Toko**	**6.69**	**249**	P		**Pn**	**13 50 03.2**	**+4.4**
YSS	**Yuzh-Sakhalins**	**6.71**	**275**	⇓*e*P		**Pn**	**13 50 04.9**	**+5.7**
YSS					AMB	AMB	13 50 09.5	
	comp=E,120nm,1.0s							
YSS					AMB	AMB	13 50 09.5	
	comp=E,250nm,1.0s							
YSS					AMB	AMB	13 50 09.5	
	comp=E,210nm,1.0s							
YSS				*e*sP			13 50 19.0	
YSS				*e*S		**Sn**	**13 51 21.9**	**+6.4**
YSS				A			13 51 25.0	
	comp=E,80nm,0.9s							
YSS				A			13 51 25.0	
	comp=E,90nm,0.9s							
YSS					AMS	AMS	13 52 34.0	
	comp=E,400nm,16.0s							
YSS					AMS	AMS	13 52 34.0	
	comp=E,800nm,16.0s							
YSS					AMS	AMS	13 52 34.0	
	comp=E,900nm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.71**	**275**	⇓*e*PN		**Pn**	**13 50 04.9**	**+5.7**
YSS				*e*S		**Sn**	**13 51 21.9**	**+6.4**
YSS					pmax	pmax		
	comp=N,120nm,1.0s							
YSS					pmax	pmax		
	comp=E,250nm,1.0s							
YSS					pmax	pmax		
	comp=Z,210nm,1.0s							
YSS					smax			
	comp=N,80nm,0.9s							
YSS					smax			
	comp=E,90nm,0.9s							
YSS					MLR	MLR		
	comp=N,400nm,16.0s							
YSS					MLR	MLR		
	comp=Z,900nm,16.0s							
YSS					MLR	MLR		
	comp=E,800nm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.71**	**275**	*e*Pn		**Pn**	**13 50 04.5**	**+5.3**
JAK	**Akkeshi**	**6.72**	**239**	P		**Pn**	**13 50 00.5**	**+1.2**
JAK				*e*S		**Sn**	**13 51 12.6**	**-3.0**
JMP	**Maruseppu**	**7.02**	**250**	P		**Pn**	**13 50 08.1**	**+4.6**
JAR	**Ashorobuto**	**7.11**	**244**	P		**Pn**	**13 50 08.0**	**+3.4**
JAR				*e*S		**Sn**	**13 51 25.8**	**+0.6**
JSE	**Soyaes**	**7.18**	**259**	P		**Pn**	**13 50 12.2**	**+6.6**
JOB	**Onbets**	**7.29**	**241**	P		**Pn**	**13 50 09.4**	**+2.3**
JOB				*e*S		**Sn**	**13 51 28.2**	**-1.4**
PET	**Petropavlovsk**	**7.41**	**30**	*e*PN		**Pn**	**13 50 15.9**	**+7.1**
PET					pmax	pmax		
	comp=Z,39nm,0.6s							
PET					MLR	MLR		
	comp=Z,2μm,14.0s							
PET	**Petropavlovsk**	**7.41**	**30**	*e*Pn		**Pn**	**13 50 12.9**	**+4.1**
PET				*e*Sn		**Sn**	**13 51 32.4**	**-0.3**
UGL	**Uglegorsk**	**7.41**	**292**	*e*P		**Pn**	**13 50 16.0**	**+7.2**
UGL					AMB	AMB	13 50 17.0	
	comp=Z,160nm,0.8s							
UGL					AMB	AMB	13 50 18.0	
	comp=Z,500nm,1.0s							
UGL				*e*S		**Sn**	**13 51 37.5**	**+4.8**
UGL				A			13 51 43.0	
	comp=Z,84nm,0.8s							
UGL				*e*L			13 52 12.0	
UGL					AMS	AMS	13 53 09.0	
	comp=Z,500nm,16.0s							
UGL					AMS	AMS	13 53 09.0	
	comp=Z,900nm,16.0s							
UGL					AMS	AMS	13 53 09.0	
	comp=Z,1μm,17.0s							
UGL	**Uglegorsk**	**7.41**	**292**	*e*PN		**Pn**	**13 50 16.0**	**+7.2**
UGL				S		**Sn**	**13 51 37.6**	**+4.9**
UGL					pmax	pmax		
	comp=Z,160nm,0.8s							
UGL					pmax	pmax		
	comp=Z,500nm,1.0s							
UGL					smax			
	comp=N,84nm,0.8s							
UGL					smax			
	comp=E,84nm,0.7s							
UGL					MLR	MLR		
	comp=N,500nm,16.0s							
UGL					MLR	MLR		
	comp=Z,900nm,16.0s							
UGL					MLR	MLR		
	comp=E,1μm,17.0s							
ASAJ	**Asahikawa**	**7.47**	**253**	Pn		**Pn**	**13 50 15.4**	**+5.7**
	comp=E,8.9nm,0.3s,baz=85,slow=12,SNR=99							
ASAJ					LR	LR	13 52 57.4	
	comp=E,656nm,20.1s,baz=72,slow=37							
ASAJ	**Asahikawa**	**7.47**	**253**	P		**Pn**	**13 50 15.3**	**+5.6**
JKK2	**Kamakawa 2**	**7.48**	**251**	P		**Pn**	**13 50 14.6**	**+4.9**
JWK2	**Keihoku**	**7.55**	**263**	P		**Pn**	**13 50 18.7**	**+8.1**
TYV	**Tymovskoe**	**7.71**	**306**	*e*P		**Pn**	**13 50 18.8**	**+5.9**
TYV					AMB	AMB	13 50 20.0	
	comp=E,24nm,0.8s							
TYV					AMB	AMB	13 50 20.0	
	comp=E,60nm,0.8s							
JCH	**Churui**	**7.74**	**241**	P		**Pn**	**13 50 14.8**	**+1.5**
JCH				*e*S		**Sn**	**13 51 38.3**	**-2.4**
JFR	**Furan**	**7.91**	**247**	P		**Pn**	**13 50 19.3**	**+3.6**
JAB	**Ashibetsu**	**7.99**	**250**	P		**Pn**	**13 50 21.7**	**+5.0**
JHR	**Hokuryu**	**8.20**	**252**	P		**Pn**	**13 50 25.4**	**+5.7**
ERM	**Erimo**	**8.22**	**238**	*e*PN		**Pn**	**13 50 22.3**	**+2.4**
ERM					pmax	pmax		
	comp=Z,206nm,0.6s							
ERM	**Erimo**	**8.22**	**238**	*e*Pn		**Pn**	**13 50 22.3**	**+2.4**
	comp=Z,206nm,0.6s							
ERM				S		**Sn**	**13 51 52.6**	**+0.1**
JEM	**Erimo**	**8.22**	**238**	P		**Pn**	**13 50 21.8**	**+1.9**
JBT2	**Biratori 2**	**8.26**	**245**	P		**Pn**	**13 50 23.0**	**+2.6**
JNBK	**Urakawa-nobuka**	**8.30**	**241**	P		**Pn**	**13 50 21.9**	**+0.9**
JEW	**Eniwo**	**8.80**	**248**	P		**Pn**	**13 50 31.1**	**+3.2**
JSK	**Shakotan**	**9.19**	**253**	P		**Pn**	**13 50 38.8**	**+5.6**
JNB	**Noboribetsu**	**9.25**	**247**	P		**Pn**	**13 50 35.7**	**+1.7**
JNB				*e*S		**Sn**	**13 52 16.8**	**-1.1**
JKB	**Kayabe**	**9.57**	**244**	P		**Pn**	**13 50 39.2**	**+0.8**
JKB				*e*S		**Sn**	**13 52 20.5**	**-5.2**
JSH	**Shimam**	**9.80**	**250**	P		**Pn**	**13 50 44.4**	**+2.9**
JYM2	**Yakumo 2**	**9.86**	**246**	P		**Pn**	**13 50 43.9**	**+1.5**
NKL	**Nikolayevsk**	**9.96**	**314**	*e*P		**Pn**	**13 50 46.0**	**+2.2**
NKL					AMB	AMB	13 50 49.0	
	comp=Z,86nm,1.0s							
NKL					AMB	AMB	13 50 49.0	
	comp=Z,110nm,1.0s							
NKL				*e*L			13 53 48.0	
NKL					AMS	AMS	13 55 38.0	
	comp=Z,800nm,14.0s							
NKL					AMS	AMS	13 55 38.0	
	comp=Z,600nm,14.0s							
NKL					AMS	AMS	13 55 38.0	
	comp=Z,1μm,14.0s							
JSR	**Shiriuchi**	**10.15**	**243**	P		**Pn**	**13 50 47.9**	**+1.5**
JTM	**Tenmabayashi**	**10.21**	**238**	P		**Pn**	**13 50 46.5**	**-0.7**
JTM				*e*S		**Sn**	**13 52 33.2**	**-8.3**
JANG	**Nango**	**10.22**	**235**	P		**Pn**	**13 50 45.7**	**-1.7**
JOSM	**Okushiri--Mats**	**10.45**	**248**	P		**Pn**	**13 50 52.0**	**+1.6**
OFUJ	**Ofunato**	**11.05**	**230**	*e*S		**Sn**	**13 52 51.6**	**-10**
TEY	**Ternei**	**11.24**	**267**	*e*P		**Pn**	**13 51 07.0**	**+5.7**
JRG	**Rokugo**	**11.39**	**234**	P		**Pn**	**13 51 02.7**	**-0.6**
JIO	**Ouri**	**11.69**	**229**	P		**Pn**	**13 51 06.3**	**-1.1**
JYA	**Atsumi**	**12.46**	**234**	P		**Pn**	**13 51 16.8**	**-1.2**
MA2	**Magadan**	**12.89**	**356**	*e*PN		**Pn**	**13 51 28.7**	**+4.9**
MA2					pmax	pmax		
	comp=N,20nm,0.5s							
MA2					pmax	pmax		
	comp=Z,30nm,0.5s							
KLR	**Kul'dur**	**14.14**	**288**	*e*P		**Pn**	**13 51 44.2**	**+3.4**
JAG	**Ashikaga**	**14.21**	**228**	P		**Pn**	**13 51 40.0**	**-1.8**
MAJO	**Matsushiro**	**14.77**	**231**	*e*Pn		**Pn**	**13 51 47.9**	**-1.6**
MAJO				*e*			13 51 56.5	
MAT	**Matsushiro**	**14.77**	**231**	P		**Pn**	**13 51 47.6**	**-1.9**
MAT				*e*S		**Sn**	**13 54 29.3**	**-3.6**
MAT	**Matsushiro**	**14.77**	**231**	P		**Pn**	**13 51 47.8**	**-1.7**
MJAR	**Matsushiro Arr**	**14.77**	**231**	Pn		**Pn**	**13 51 48.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=28,slow=14,SNR=15							
MJAR					LR	LR	13 57 21.3	
	comp=Z,219nm,20.7s,baz=40,slow=37							
JNG	**Nsakai**	**14.93**	**231**	P		**Pn**	**13 51 50.6**	**-1.0**
MDJ	**Mudanjiang**	**16.17**	**271**	P		**Pn**	**13 52 10.4**	**+2.5**
MDJ				XP		sP	13 52 18.3	+1.4
MDJ				S		**Sn**	**13 55 14.6**	**+7.6**
MDJ				SS			13 55 35.0	
MDJ				PCP		PcP	13 57 02.3	-0.4
MDJ					AMB	AMB		
	comp=Z,29nm,1.0s							
MDJ					AMB	AMB		
	comp=Z,100nm,6.7s							
MDJ					LR	LR		
	comp=N,90nm,23.0s							
MDJ					LR	LR		
	comp=E,194nm,27.6s							
MDJ					LR	LR		
	comp=Z,262nm,25.3s							
SEY	**Seymchan**	**16.22**	**360**	⇑*e*P		**Pn**	**13 52 12.2**	**+3.8**
JHJ	**Hachijo jima 2**	**16.73**	**220**	LR		LR	13 57 21.6	
	comp=Z,261nm,19.7s,baz=46,slow=32							
ZEA	**Zeya**	**17.56**	**303**	*e*P		**Pn**	**13 52 25.6**	**+0.2**
ZEA					AMB	AMB	13 52 28.5	
	comp=Z,27nm,0.9s							
ZEA					AMB	AMB	13 52 28.5	
	comp=Z,22nm,0.9s							
ZEA					AMB	AMB	13 52 28.5	
	comp=Z,29nm,1.0s							
CN2	**Changchun**	**19.26**	**271**	*e*P		**Pn**	**13 52 43.6**	**-2.5**
CN2				*e*XP		sP	13 52 50.6	-0.4
CN2				*e*S		**Sn**	**13 56 14.9**	**-6.8**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s							
CN2					AMB	AMB		
	comp=Z,200nm,3.0s							
CN2					LR	LR		
	comp=N,200nm,12.0s							
CN2					LR	LR		
	comp=E,300nm,12.0s							
CN2					LR	LR		
	comp=Z,400nm,14.0s							
YAK	**Yakutsk**	**20.11**	**328**	*d*iP		**P**	**13 52 57.5**	**+3.1**
YAK				*e*			13 53 13.1	
YAK				*e*S		**S**	**13 56 40.4**	**+0.6**
YAK				*e*SS			13 57 13.1	
YAK					pmax	pmax		
	comp=Z,71nm,0.7s							
YAK					pmax	pmax		
	comp=N,23nm,1.3s							
YAK					pmax	pmax		
	comp=E,33nm,1.2s							
YAK					pmax	pmax		
	comp=Z,151nm,1.8s							
YAK					pmax	pmax		
	comp=N,238nm,3.2s							
YAK					pmax	pmax		
	comp=E,226nm,2.3s							
YAK					smax			
	comp=E,115nm,3.1s							
YAK					smax			
	comp=N,71nm,2.5s							
YAK					MLR	MLR		
	comp=N,179nm,13.0s,MS3.7							
YAK					MLR	MLR		
	comp=E,125nm,13.0s,MS3.7							
YAK					MLR	MLR		
	comp=Z,203nm,13.0s,MS3.7							
YAK	**Yakutsk**	**20.11**	**328**	*e*P		**P**	**13 52 57.2**	**+2.9**
KSRS	**Korea Array**	**20.42**	**252**	P		**P**	**13 52 59.0**	**+1.2**
	comp=Z,25nm,0.8s,baz=56,slow=10,SNR=42							
KSRS					PcP	PcP	13 57 10.2	+0.3
	comp=Z,2.5nm,0.8s,baz=327,slow=0.8,SNR=9.4							
KSRS					LR	LR	13 59 48.4	
	comp=Z,179nm,21.2s,MS3.4,baz=18,slow=34							
KS15	**Wonju Array Si**	**20.45**	**252**	*e*Pn		**P**	**13 53 01.1**	**+3.0**
SNY	**Shenyang**	**21.25**	**267**	⇑P		**P**	**13 53 08.6**	**+1.9**
SNY				S		**S**	**13 57 00.0**	**-2.3**
SNY					AMB	AMB		
	comp=Z,21nm,0.9s,mb4.5							
SNY					AMB	AMB		
	comp=Z,167nm,6.0s							
SNY					LR	LR		
	comp=N,289nm,16.5s,MS3.9							
SNY					LR	LR		
	comp=E,317nm,19.8s,MS3.9							
SNY					LR	LR		
	comp=Z,371nm,20.7s,MS3.8							
INCN	**Inchon**	**21.25**	**254**	*e*P		**P**	**13 53 07.2**	**+0.4**
	comp=Z,26nm,0.6s,mb4.7							
JNU	**Nakatsue**	**21.39**	**238**	P		**P**	**13 53 08.1**	**-0.1**
	comp=Z,38nm,0.8s,mb4.8,baz=218,slow=19,SNR=8.7							
JNU					LR	LR	14 02 22.1	
	comp=Z,286nm,18.3s,MS3.7,baz=95,slow=39							
HIA	**Hailar**	**21.99**	**289**	⇑*e*P		**P**	**13 53 13.2**	**-1.5**
BILL	**Bilibino**	**22.48**	**14**	⇑*e*P		**P**	**13 53 20.9**	**+1.0**
BILL					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2							
BILL	**Bilibino**	**22.48**	**14**	*e*P		**P**	**13 53 21.4**	**+1.5**
	comp=Z,13nm,0.9s,mb4.4							
BOD	**Bodaibo**	**25.68**	**310**	*e*P		**P**	**13 53 48.8**	**-1.8**
BOD					pmax	pmax		
	comp=Z,11nm,1.3s,mb4.2							
BJI	**Beijing**	**27.08**	**269**	*e*P		**P**	**13 54 07.4**	**+4.2**
BJI					AMB	AMB		
	comp=Z,27nm,0.8s,mb4.8							
BJI					LR	LR		
	comp=N,228nm,14.4s,MS4.2							
BJI					LR	LR		
	comp=E,396nm,16.3s,MS4.2							
BJI					LR	LR		
	comp=Z,299nm,21.0s,MS3.8							
BJI	**Beijing**	**27.08**	**269**	*e*P		**P**	**13 54 07.4**	**+4.2**
	comp=Z,27nm,0.8s,mb4.8							
BJI					LR	LR		
	comp=Z,300nm,21.0s,MS3.8							
JOW	**Kunigami**	**27.61**	**232**	P		**P**	**13 54 07.9**	**-0.1**
	comp=Z,16nm,0.8s,mb4.7,baz=97,slow=9.4,SNR=4.5							
NJ2	**Nanjing**	**29.62**	**252**	*e*P		**P**	**13 54 26.8**	**+0.9**
NJ2				AP		pP	13 54 30.1	-0.1
NJ2				XP		sP	13 54 37.3	+5.3
NJ2				PP		PP	13 55 21.9	-11
NJ2				S		**S**	**13 59 18

HHC AMB AMB
comp=Z,2Snm,1.5s,mb4.7
HHC LR LR
comp=Z,111nm,5.6s
HHC LR LR
comp=N,329nm,12.7s,MS4.2
HHC LR LR
comp=E,262nm,13.6s,MS4.2
HHC LR LR
comp=Z,269nm,13.9s,MS4.0
ULN Ulaanbaatar 30.53 289⇑ *eP* **P 13 54 32.9 -0.9**
ULN Ulaanbaatar 30.53 289 *eP* **P 13 54 33.3 -0.5**
comp=Z,17nm,0.9s,mb4.9
SONM Songino Array 30.96 289 P **P 13 54 35.6 -2.0**
comp=Z,1.7nm,0.8s,mb3.9,baz=58,slow=8.1,SNR=8.0
SONM PcP PcP 13 57 33.1 -0.7
comp=Z,1.6nm,0.7s,baz=117,slow=2.3,SNR=5.2
SONM LR LR 14 08 09.0
comp=Z,308nm,18.7s,MS4.0,baz=30,slow=38
SONM Songino Array 30.96 289 P **P 13 54 35.6 -2.1**
SONM 13 57 33.1
TLY Talaya 31.83 297⇑ *eP* **P 13 54 44.4 -0.9**
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
ZAK Zakamensk 32.32 295 *eP* **P 13 54 49.1 -0.5**
GUMO Guam 33.68 194 LR LR 14 08 26.5
comp=Z,101nm,18.5s,MS3.6,baz=86,slow=36
IMA2 Indian Mountai 34.03 36 *eP* **P 13 55 05.1 +0.5**
KDAK Kodiak Island 34.41 51 P **P 13 55 07.7 -0.1**
comp=Z,18nm,0.9s,mb5.0,baz=278,slow=7.1,SNR=5.0
KDAK PcP PcP 13 57 42.5 -0.8
comp=Z,9.6nm,0.8s,baz=323,slow=5.1,SNR=2.9
XAN Xi'an 35.12 265 P **P 13 55 13.8 -0.2**
XAN AP pP 13 55 24.9 +6.5
XAN AMB AMB
comp=Z,17nm,0.9s,mb5.0
SML Sawmill 36.24 44 *eP* **P 13 55 23.6 0.0**
COLA College 36.38 38*c iP* **P 13 55 23.8 -1.0**
COLA College 36.38 38 *eP* **P 13 55 25.4 +0.6**
comp=Z,17nm,0.9s,mb5.0
LZH Lanzhou 37.49 271 *eP* **P 13 55 36.0 +1.7**
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,99nm,4.3s
LZH Lanzhou 37.49 271 *eP* **P 13 55 36.0 +1.7**
comp=Z,25nm,1.0s,mb5.0
LZH pP pP 13 55 48.0 +9.3
LZH sP sP 13 55 52.5 +12
GTA Gaotai 38.58 279 *eP* **P 13 55 44.3 +0.8**
GTA AP pP 13 55 49.1 +1.2
GTA XP sP 13 55 52.3 +2.6
GTA PP PP 13 57 14.6 +2.8
GTA PCP PcP 13 57 55.5 -0.3
GTA S **S 14 01 39.3 +0.2**
GTA AMB AMB
comp=Z,9.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,296nm,4.2s
GTA LR LR
comp=N,222nm,9.9s
GTA LR LR
comp=E,169nm,9.9s
GTA LR LR
comp=Z,251nm,13.3s,MS4.2
EGAK Eagle 39.24 38 *eP* **P 13 55 48.8 -0.2**
comp=Z,10nm,0.9s,mb4.5
CD2 Chengdu 40.49 265 P **P 13 55 58.8 -0.6**
CD2 AP pP 13 56 03.3 -0.5
CD2 XP sP 13 56 05.9 +0.3
CD2 S **S 14 02 06.4 -1.3**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.3
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,270nm,16.8s,MS4.3
CD2 LR LR
comp=E,190nm,15.6s,MS4.3
CD2 LR LR
comp=Z,190nm,14.4s,MS4.1
GYA Guiyang 41.33 257⇑ *iP* **P 13 56 06.3 0.0**
GYA AP pP 13 56 10.4 -0.4
GYA XP sP 13 56 13.4 +0.9
GYA PP PP 13 57 45.6 +3.9
GYA PCP PcP 13 58 06.4 +1.8
GYA SCP ScP 14 01 55.0 +0.9
GYA S **S 14 02 20.5 +0.3**
GYA SCS ScS 14 06 09.3 -0.7
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,450nm,16.4s,MS4.6
GYA LR LR
comp=E,480nm,16.8s,MS4.6
GYA LR LR
comp=Z,410nm,17.0s,MS4.4
INK Inuvik 41.86 32 P **P 13 56 11.5 +0.9**
comp=Z,6.9nm,0.8s,mb4.3,baz=294,slow=7.2,SNR=42
INK Inuvik 41.86 32 *eP* **P 13 56 11.2 +0.5**
comp=Z,290nm,0.9s,mb5.9
NVS Novosibirsk 42.88 307 *eP* **P 13 56 12.8 -6.1**
NVS *e* 13 58 06.8
WMQ Urumqi 44.56 291⇑ *iP* **P 13 56 34.0 +1.6**
WMQ AP pP 13 56 38.5 +1.6
WMQ XP sP 13 56 41.0 +2.3
WMQ PCP PcP 13 58 17.3 +1.9
WMQ PP PP 13 58 19.3 +2.9
WMQ PPP 13 58 58.8
WMQ SCP ScP 14 02 08.6 +1.5
WMQ *eS* **S 14 03 09.0 +1.4**
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,139nm,4.5s
WMQ LR LR
comp=N,286nm,22.0s,MS4.3
WMQ LR LR
comp=E,260nm,21.9s,MS4.3
WMQ LR LR
comp=Z,309nm,22.9s,MS4.2
KMI Kunming 44.86 259 P **P 13 56 35.0 +0.2**
KMI AP pP 13 56 37.8 -1.5
KMI PP PP 13 58 21.3 +1.7
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI Kunming 44.86 259 P **P 13 56 35.0 +0.2**
comp=Z,10.0nm,0.8s,mb4.7
KMI pP pP 13 56 37.7 -1.6
KMI PP PP 13 58 21.3 +1.7
MK31 Makanchi Array 46.59 297 *eP* **P 13 56 47.4 -1.1**
MKAR Makanchi Array 46.59 297 P **P 13 56 47.8 -0.8**
comp=Z,7.3nm,0.7s,mb4.7,baz=68,slow=7.8,SNR=47
MKAR PcP PcP 13 58 21.4 -1.0
comp=Z,5.0nm,0.8s,baz=54,slow=3.3,SNR=8.9
MKAR LR LR 14 17 34.4
comp=Z,390nm,19.6s,MS4.4,baz=103,slow=38
MKAR Makanchi Array 46.59 297 P **P 13 56 47.8 -0.7**
MKAR 13 58 21.4
MKAR Makanchi Array 46.59 297 P **P 13 56 47.8 -0.8**
MKAR PcP PcP 13 58 21.4 -1.1
MKAR LR LR 14 17 34.4
LSA Lhasa 49.88 273 P **P 13 57 16.0 +2.1**
BVAR Borovoye Array 50.55 309 P **P 13 57 18.3 -0.8**
comp=Z,3.8nm,0.5s,mb4.6,baz=50,slow=8.0,SNR=22
BVAR PcP PcP 13 58 35.9 -0.9
comp=Z,4.9nm,0.6s,baz=76,slow=2.6,SNR=12
NANT Nan 50.58 255 ⇓P **P 13 57 17.0 -2.2**
comp=Z,138nm,1.0s,mb5.8
BRVK Borovoye 50.59 309 *eP* **P 13 57 18.6 -0.7**
BRVK *e* 13 58 35.9
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 50.59 309 *eP* **P 13 57 18.6 -0.8**
comp=Z,6.9nm,0.6s,mb4.8
BRVK *e*PcP PcP 13 58 35.9 -1.0
YKA Yellowknife Ar 51.16 37 P **P 13 57 23.4 -0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=302,slow=7.1,SNR=5.3
YKA PcP PcP 13 58 38.2 -0.8
comp=Z,1.5nm,0.6s,baz=302,slow=3.5,SNR=5.4
YKA LR LR 14 19 23.6
comp=Z,68nm,18.3s,MS3.7,baz=105,slow=36
YKA Yellowknife Ar 51.16 37 P **P 13 57 23.4 -0.2**
YKA 13 58 38.2

YKA Yellowknife Ar 51.16 37 P **P 13 57 23.4 -0.1**
YKA PcP PcP 13 58 38.2 -0.8
YKA LR LR 14 19 23.6
CHG Chiang Mai 51.74 256⇑ P **P 13 57 28.6 +0.7**
comp=Z,19nm,0.8s,mb5.1
CHTO Chiang Mai 51.74 256 *eP* **P 13 57 28.5 +0.6**
CHTO pmax pmax
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 51.74 256 *eP* **P 13 57 28.5 +0.6**
comp=Z,13nm,0.8s,mb4.9
SHL Shillong 51.98 268 *eP* **P 13 57 29.9 +0.2**
JIRN Jiri 54.55 274⇑ *iP* **P 13 57 49.8 +1.1**
comp=Z,124nm,0.8s
GUN Gumba 54.61 275⇑ *iP* **P 13 57 49.9 +0.8**
ARU Arti 54.74 317⇑ *iP* **P 13 57 48.0 -2.1**
ARU *e* 13 58 49.6
ARU *e* 13 59 48.4
ARU *e*S **S 14 05 25.6 -4.5**
ARU *e*SS SS 14 09 01.9 -11
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KKN Kakani 55.09 275⇑ *iP* **P 13 57 53.5 +0.9**
comp=Z,84nm,0.8s,mb5.8
PKI Pulchoki 55.15 275⇑ *iP* **P 13 57 53.7 +0.7**
DMN Daman 55.33 275⇑ *iP* **P 13 57 55.4 +1.1**
comp=Z,130nm,0.9s
GKN Gorkha 55.40 276⇑ *iP* **P 13 57 55.5 +0.7**
comp=Z,127nm,0.9s
PMG Port Moresby 56.11 186 LR LR 14 19 38.2
comp=Z,46nm,18.6s,MS3.6,baz=50,slow=33
KOLN Koldanda 56.26 276⇑ *iP* **P 13 58 01.8 +0.9**
comp=Z,104nm,0.9s,mb5.9
HNR Honiara 56.32 171 LR LR 14 18 44.9
comp=Z,38nm,18.8s,MS3.5,baz=0.2,slow=32
EDM Edmonton 56.60 46 *eP* **P 13 58 03.0 -0.4**
KEV Kevo 57.21 340 *ep* **P 13 58 06.0 -1.7**
BOK Bokaro 57.26 271 *eP* **P 13 58 08.3 +0.3**
BOK AMb AMB 13 58 09.9
comp=Z,20nm,0.7s,mb5.3
ARCES ARCESS Array B 57.72 341 P **P 13 58 11.0 -0.3**
comp=Z,2.2nm,0.6s,mb4.4,baz=32,slow=7.1,SNR=9.9
ARCES PcP PcP 13 59 02.9 -1.2
comp=Z,2.7nm,0.7s,baz=61,slow=4.2,SNR=5.1
ARCES LR LR 14 25 33.5
comp=Z,167nm,20.7s,MS4.1,baz=183,slow=39
ARCES ARCESS Array B 57.72 341 P **P 13 58 11.0 -0.3**
ARCES 13 59 02.9
ARCES ARCESS Array B 57.72 341 P **P 13 58 11.0 -0.3**
ARCES PcP PcP 13 59 02.9 -1.2
ARCES LR LR 14 25 33.5
AKTK Aktyubinsk 58.43 312 P **P 13 58 15.0 -1.3**
AKTK PcP PcP 13 59 05.8 -1.1
AKTO Aktyubinsk 58.43 312 P **P 13 58 15.0 -1.3**
comp=Z,2.7nm,0.5s,mb4.5,baz=80,slow=8.2,SNR=11
AKTO PcP PcP 13 59 05.8 -1.1
comp=Z,5.4nm,0.9s,baz=47,slow=3.7,SNR=7.7
WALA Waterton Lakes 58.74 50 *eP* **P 13 58 18.5 +0.1**
BMO Blue Mountains 59.40 56 *eP* **P 13 58 24.1 +1.1**
comp=Z,14nm,1.5s,mb4.8
NDI New Delhi 60.02 281 *eP* **P 13 58 26.9 -0.3**
MSO Missoula 60.07 52 *eP* **P 13 58 27.9 +0.2**
comp=Z,5.2nm,1.0s,mb4.5
MSO *e* 13 58 38.6
CHMT Chamberlain Mo 60.39 52 *eP* **P 13 58 30.5 +0.7**
LRM Limekiln Ridge 61.51 52 *eP* **P 13 58 38.6 +1.2**
EGMT Eagleton 61.56 49 P **P 13 58 38.4 +0.7**
comp=Z,13nm,1.0s,mb5.0
HLID Hailey 61.83 55 *eP* **P 13 58 40.7 +1.1**
QLMT Earthquake Lak 62.69 53 *eP* **P 13 58 46.5 +1.2**
NVAR Mina Array Bea 62.78 62 P **P 13 58 47.0 +1.0**
comp=Z,1.4nm,0.8s,mb4.1,baz=304,slow=8.1,SNR=7.4
GCMT Greycliff 63.03 51 *eP* **P 13 58 48.4 +0.8**
VIS Vishakhapatnam 63.11 268 *eP* **P 13 58 48.3 +0.2**
VIS AMb AMB 13 58 49.6
comp=Z,19nm,0.5s,mb5.5
AJM Ajmer 63.18 281 *eP* **P 13 58 48.4 -0.2**
BHPL Bhopal 63.43 276 *eP* **P 13 58 50.1 -0.1**
BHPL AMb AMB 13 58 51.4
comp=Z,46nm,0.9s,mb5.6
IMW Indian Meadow 63.56 53 *eP* **P 13 58 51.6 +0.5**
comp=Z,6.4nm,1.0s,mb4.6
RRI2 Red Ridge 63.71 54 *eP* **P 13 58 53.3 +1.2**
comp=Z,8.2nm,0.7s,mb4.9
NGP Nagpur 63.72 273 *eP* **P 13 58 50.6 -1.6**
NGP AMb AMB 13 58 52.5
comp=Z,28nm,0.7s,mb5.4
MOOW Moose Ponds 63.77 53 *eP* **P 13 58 52.8 +0.3**
FINES FINESS Array B 63.87 335 P **P 13 58 52.4 -0.8**
comp=Z,11nm,0.5s,mb5.2,baz=37,slow=7.2,SNR=88
FINES LR LR 14 29 34.6
comp=Z,163nm,18.8s,MS4.2,baz=175,slow=39
LOHW Long Hollow 63.93 53 *eP* **P 13 58 55.2 +1.7**
comp=Z,20nm,1.5s,mb4.9
REDW Red Top Meadow 63.96 54 *eP* **P 13 58 54.7 +1.0**
comp=Z,9.3nm,1.0s,mb4.8
DGMT Dagmar 64.09 46 *eP* **P 13 58 54.4 -0.2**
LAO LASA Array 64.25 49 *eP* **P 13 58 56.8 +1.1**
HWUT Hardware Ranch 64.70 56 *eP* **P 13 58 59.8 +1.2**
DUG Dugway 64.91 57 *eP* **P 13 59 00.2 +0.2**
DUG pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
DUG Dugway 64.91 57 *eP* **P 13 59 00.2 +0.3**
comp=Z,5.1nm,1.2s,mb4.4
BW06 Boulder Array 65.06 54 *eP* **P 13 59 01.7 +0.7**
PDAR Pinedale Array 65.06 54 P **P 13 59 01.6 +0.6**
comp=Z,4.7nm,0.8s,mb4.5,baz=299,slow=1.6,SNR=36
HYB Hyderabad 66.60 271 *iP* **P 13 59 11.0 +0.1**
HYB Hyderabad 66.60 271 *eP* **P 13 59 11.0 +0.1**
CTA Charters Tower 66.77 186 LR LR 14 22 35.6
comp=Z,57nm,20.9s,MS3.8,baz=235,slow=31
ULM Lac du Bonnet 66.78 41 P **P 13 59 11.0 -1.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=310,slow=5.1,SNR=3.8
ULM Lac du Bonnet 66.78 41 P **P 13 59 11.0 -1.0**
SRU San Rafael 66.95 57 *eP* **P 13 59 13.3 +0.2**
NB2 NORSAR Subarra 68.10 341 P **P 13 59 19.5 -0.9**
comp=Z,18nm,0.6s,mb5.3,baz=28,slow=6.2
NOA NORSAR Array B 68.10 341 P **P 13 59 19.9 -0.5**
comp=Z,13nm,0.6s,mb5.2,baz=28,slow=6.4,SNR=37
NOA LR LR 14 31 26.9
comp=Z,79nm,19.0s,MS4.0,baz=340,slow=38
NOA NORSAR Array B 68.10 341 P **P 13 59 19.9 -0.5**
NOA LR LR 14 31 26.9
PV10 Paradox Valley 68.30 57 P **P 13 59 23.1 +1.5**
WRAB Tennant Creek 68.38 198⇑ *eP* **P 13 59 19.4 -2.7**
WB2 Warramunga Arr 68.39 198 *eP* **P 13 59 19.6 -2.6**
WRA Warramunga Arr 68.39 198 P **P 13 59 20.7 -1.5**
comp=Z,4.1nm,0.8s,mb4.5,baz=20,slow=6.7,SNR=27
WRA LR LR 14 26 44.6
comp=Z,53nm,19.0s,MS3.8,baz=345,slow=34
SMCO Snowmass 68.93 55 *eP* **P 13 59 16.3 -9.2**
FITZ Fitzroy Crossi 68.96 207 *eP* **P 13 59 25.1 -0.7**
comp=Z,13nm,0.9s,mb4.8
POO Poona 69.07 275 *ex* x 14 00 00.9
POO AMb AMB 14 00 01.8
comp=Z,24nm,0.6s,mb5.3
ISCO Idaho Springs 69.26 54 *eP* **P 13 59 28.2 +0.6**
KAD Karad 69.68 274 *eP* **P 13 59 29.8 -0.4**
KAD AMb AMB 13 59 31.1
comp=Z,34nm,1.1s,mb5.2
KIV Kislovodsk 70.52 314*de***P P 13 59 35.0 -0.3**
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
ZEI Tsey 70.77 312 *eP* **P 13 59 36.1 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ECSD EROS,Sioux Fal 71.17 46 *eP* **P 13 59 38.5 -0.8**
comp=Z,9.4nm,0.9s,mb4.7
AKASG Malin Array Be 71.33 326 P **P 13 59 39.1 -1.2**
comp=Z,11nm,0.3s,mb5.2,baz=36,slow=6.3,SNR=45
AKBB Malin Array Si 71.33 326 *eP* **P 13 59 39.2 -1.1**
KIEV Kiev 71.34 326 *eP* **P 13 59 38.8 -1.5**
KIEV pmax pmax
comp=Z,22nm,0.8s,mb5.1
KIEV Kiev 71.34 326 *eP* **P 13 59 38.8 -1.5**
comp=Z,22nm,0.8s,mb5.2
AS31 Alice Springs 72.08 198 *eP* **P 13 59 44.4 -0.4**
ASAR Alice Springs 72.09 198 P **P 13 59 44.5 -0.3**
comp=Z,4.4nm,0.6s,mb4.5,baz=13,slow=5.4,SNR=96
ASAR LR LR 14 27 24.7
comp=Z,53nm,21.0s,MS3.8,baz=271,slow=32
ASPA Alice Springs 72.09 198 *eP* **P 13 59 44.4 -0.4**
ANMO Albuquerque 72.16 58⇑ *eP* **P 13 59 44.6 -0.7**
ANMO Albuquerque 72.16 58 *eP* **P 13 59 46.3 +1.0**
GNI Garni 72.23 310⇑ *eP* **P 13 59 45.8 +0.1**
GNI pmax pmax
comp=Z,7.0nm,1.0s
ANN Anapa 72.41 317 *eP* **P 13 59 45.4 -1.4**
ANN *e**PP pP 14 00 01.3 +10
ANN *e*S S 14 09 03.3 -6.8
ANN pmax pmax
comp=Z,145nm,1.3s,mb5.8
SCHQ Schefferville 73.46 23 P **P 13 59 52.2 -0.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=11,slow=6.9,SNR=4.5
SCHQ Schefferville 73.46 23 P **P 13 59 52.2 -0.8**
TRD Trivandrum 73.97 265 *eP* **P 13 59 55.7 -0.3**
TRD AMb AMB 14 00 01.1
comp=Z,26nm,1.7s,mb4.9
SCIA State Center 74.19 45 *eP* **P 13 59 57.1 -0.2**
comp=Z,15nm,0.7s,mb5.0
KWP Kalwaria 74.62 329 *eP* **P 13 59 59.9 +0.1**
AMTX Amarillo 74.95 55 *eP* **P 14 00 01.7 0.0**
STHS Stebnicka Huta 75.31 330 *eP* **P 14 00 04.4 +0.6**
STHS pmax pmax
comp=Z,12nm,0.7s,mb4.9
STHS Stebnicka Huta 75.31 330 *eP* **P 14 00 04.4 +0.6**
comp=Z,12nm,0.7s,mb4.9
KOLS Kolonicke sedl 75.36 329 *eP* **P 14 00 03.8 -0.2**
BURAR Bucovina Array 75.37 326⇑ *iP* **P 14 00 03.7 -0.4**
NIE Niedzica 75.64 330 *eP* **P 14 00 06.0 +0.4**
KSP Ksiaz 75.72 333 *eP* **P 14 00 05.8 -0.3**
KSP Ksiaz 75.72 333 *eP* **P 14 00 05.6 -0.5**
OKC Ostrava-Krasne 76.00 332 *eP* **P 14 00 06.3 -1.4**
UPC Upice 76.10 333 *eP* **P 14 00 07.7 -0.6**
MORC Moravsky Berou 76.25 332 *eP* **P 14 00 08.7 -0.5**
MORC pmax pmax
comp=Z,13nm,0.8s,mb4.9
MORC Moravsky Berou 76.25 332 *eP* **P 14 00 08.7 -0.4**
comp=Z,13nm,0.8s,mb4.9
CLL Collm 76.30 335⇑ *iP* **P 14 00 08.3 -1.1**
CLL pmax pmax
comp=Z,23nm,0.7s,mb5.2
CLL Collm 76.30 335⇑ *iP* **P 14 00 08.3 -1.1**
comp=Z,23nm,0.7s,mb5.2
KECS Kecovo 76.37 329 *eP* **P 14 00 09.5 -0.3**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 76.37 329 *eP* **P 14 00 09.5 -0.3**
comp=Z,4.9nm,1.0s,mb4.4
BRG Berggiesshubel 76.41 334 *eP* **P 14 00 08.6 -1.4**
comp=Z,7.1nm,1.3s,mb4.4
BRG Berggiesshubel 76.41 334 *eP* **P 14 00 08.6 -1.4**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
WMOK Wichita Mounta 76.67 53 *eP* **P 14 00 10.7 -0.8**
MLR Muntele Rosu 76.84 325⇓ *iP* **P 14 00 12.4 -0.1**
MALT Malatya 76.86 312 *eP* **P 14 00 14.0 +1.4**
VYHS Vyhne 76.93 330 *eP* **P 14 00 12.8 -0.2**
VYHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VYHS Vyhne 76.93 330 *eP* **P 14 00 12.8 -0.2**
comp=Z,6.1nm,0.9s,mb4.5
VOIR 77.23 325⇓ *iP* **P 14 00 15.3 +0.6**
PSN Preselentsi 77.40 322 *eP* **P 14 00 25.0 +9.4**
ZST Bratislava 77.77 331 *eP* **P 14 00 18.4 +0.7**
ZST pmax pmax
comp=Z,12nm,0.7s,mb4.9
ZST Bratislava 77.77 331 *eP* **P 14 00 18.4 +0.7**
comp=Z,12nm,0.7s,mb4.9
LTX Lajitas 77.83 60 *eP* **P 14 00 18.4 +0.4**
LTX *e* 14 00 33.4
LTX pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LTX Lajitas 77.83 60 *eP* **P 14 00 18.4 +0.3**
comp=Z,3.2nm,0.8s,mb4.3
LTX *e* 14 00 33.4
TXAR Lajitas Array 77.83 60 P **P 14 00 18.4 +0.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=296,slow=4.1,SNR=7.2
KHC Kasperske Hory 78.06 334 *eP* **P 14 00 19.1 -0.2**
BR131 Keskin Array S 78.12 316 *eP* **P 14 00 20.0 +0.4**
comp=Z,5.7nm,0.8s,mb4.5
BRTR Keskin Array B 78.12 316 P **P 14 00 20.1 +0.4**
comp=Z,7.2nm,0.8s,mb4.6,baz=76,slow=4.1,SNR=31
GRA1 Grafenberg Arr 78.26 336 *eP* **P 14 00 20.1 -0.3**
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 78.26 336 *eP* **P 14 00 20.1 -0.3**
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 78.26 336 *eP* **P 14 00 20.1 -0.3**
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.1
GERES GERESS Array B 78.28 334 P **P 14 00 19.8 -0.7**
comp=Z,3.5nm,0.5s,mb4.5,baz=39,slow=6.3,SNR=18
UMR Umm Al-Rimmam 78.29 301 *eP* **P 14 00 20.5 -0.1**
UMR AMb AMB 14 00 20.9
comp=Z,51nm,0.5s,mb5.7
MIB Mutribah 78.33 301 *eP* **P 14 00 20.8 0.0**
MIB AMb AMB 14 00 21.8
comp=Z,91nm,0.7s,mb5.8
HGN Heimansgroeve 78.68 339 *eP* **P 14 00 21.8 -1.0**
comp=Z,45nm,1.6s,mb5.2
HGN *ex* x 14 00 36.2
NAY Al-Naaiem 78.79 301 *eP* **P 14 00 23.2 -0.1**
NAY AMb AMB 14 00 24.3
comp=Z,30nm,0.8s,mb5.3
RDF Al-Radifah 78.84 300 *eP* **P 14 00 23.8 +0.2**
RDF AMb AMB 14 00 24.8
comp=Z,116nm,1.0s,mb5.8
STKA Stephens Creek 78.89 189 P **P 14 00 22.6 -1.2**
comp=Z,1.9nm,0.9s,mb4.0,baz=328,slow=3.1,SNR=3.6
STKA LR LR 14 35 26.9
comp=Z,54nm,18.7s,MS3.9,baz=23,slow=36
MOA Molln 78.99 333⇓ *iP* **P 14 00 24.6 +0.1**
comp=Z,9.8nm,0.8s,mb4.8
MIAR Mount Ida 79.63 50 *eP* **P 14 00 27.5 -0.4**
MIAR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MIAR Mount Ida 79.63 50 *eP* **P 14 00 27.5 -0.4**
comp=Z,5.1nm,0.9s,mb4.5
PERS Pernice 79.79 332 *iP* **P 14 00 28.4 -0.4**
KBA Koelnbreinsper 79.96 333⇓ *iP* **P 14 00 30.3 +0.6**
comp=Z,31nm,0.9s,mb5.2
OBKA Obir 80.08 332⇓ *eP* **P 14 00 30.2 -0.2**
comp=Z,7.5nm,0.8s,mb4.7
GRUS Gruza 80.21 327 *iP* **P 14 00 29.9 -1.1**
WATA Walderalm 80.27 334⇓ *iP* **P 14 00 31.7 +0.3**
comp=Z,29nm,1.0s,mb5.2
BFO Black Forest 80.30 337 *eP* **P 14 00 31.1 -0.4**
BFO pmax pmax
comp=Z,22nm,1.0s,mb5.0
BFO Black Forest 80.30 337 *eP* **P 14 00 31.1 -0.5**
comp=Z,22nm,1.0s,mb5.0
DIVS Divcibare 80.30 327 *iP* **P 14 00 30.4 -1.1**
WTTA Wattenberg 80.32 334⇓ *iP* **P 14 00 31.8 +0.2**
comp=Z,35nm,1.0s,mb5.2
VTS Vitosha 80.34 325 *eP* **P 14 00 30.6 -1.2**
MOTA Moosalm 80.40 335⇓ *iP* **P 14 00 32.6 +0.4**
comp=Z,29nm,1.0s,mb5.2
SQTA Sankt Quirin 80.48 334⇓ *iP* **P 14 00 33.1 +0.6**
comp=Z,20nm,1.0s,mb5.0
SQTA Sankt Quirin 80.48 334 P **P 14 00 33.1 +0.6**
CDF Champ du Feu 80.50 337 *eP* **P 14 00 32.2 -0.5**
comp=Z,44nm,1.0s,mb5.1
CDF Champ du Feu 80.50 337 *eP* **P 14 00 32.2 -0.5**
CDF pmax pmax
comp=Z,22nm,1.0s,mb5.0
CDF Champ du Feu 80.50 337 *eP* **P 14 00 32.2 -0.5**
comp=Z,22nm,1.0s,mb5.0
ROBS Robic 80.65 333 *eP* **P 14 00 31.1 -2.3**
BOJS Bojanci 80.74 331 *iP* **P 14 00 33.2 -0.7**
JAVS Javornik 80.79 332 *iP* **P 14 00 32.9 -1.3**
DAVA Damuels 80.81 335⇓ *iP* **P 14 00 34.5 +0.2**
comp=Z,7.8nm,0.7s,mb4.8
MMB Musomiste 80.97 324 *eP* **P 14 00 35.0 -0.2**
KKB Krupnik 81.00 324 *eP* **P 14 00 35.0 -0.3**
WVT Waverly 81.31 45 *eP* **P 14 00 36.7 -0.3**
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WVT Waverly 81.31 45 *eP* **P 14 00 36.7 -0.3**
comp=Z,5.1nm,0.8s,mb4.5
GRR Gorron 82.45 342 *eP* **P 14 00 41.7 -1.2**
PPT Papeete 82.48 125 *e*LR LR 14 26 09.6
comp=Z,180nm,24.5s,baz=321
SMF Signal de Mont 83.02 339 *eP* **P 14 00 45.6 -0.3**
comp=Z,68nm,1.1s,mb5.3
SMF Signal de Mont 83.02 339 *eP* **P 14 00 45.6 -0.3**
SMF pmax pmax
comp=Z,34nm,1.1s,mb5.3
SMF Signal de Mont 83.02 339 *eP* **P 14 00 45.6 -0.3**
comp=Z,34nm,1.1s,mb5.3
LPG La Plagne 83.33 337 *eP* **P 14 00 48.0 +0.5**
comp=Z,33nm,1.0s,mb5.0

LPG	**La Plagne**	**83.33**	**337**	*e*P		**P**	**14 00 48.0**	**+0.5**
LPG				pmax		pmax		
	comp=Z,16nm,1.0s,mb5.0							
LPG	**La Plagne**	**83.33**	**337**	*e*P		**P**	**14 00 48.0**	**+0.5**
	comp=Z,16nm,1.0s,mb5.0							
BLA	**Blacksburg**	**83.88**	**40**	*e*P		**P**	**14 00 49.1**	**-1.3**
BLA				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb5.0							
BLA	**Blacksburg**	**83.88**	**40**	*e*P		**P**	**14 00 49.1**	**-1.3**
	comp=Z,10.0nm,0.7s,mb5.0							
LFF	**La Frestale**	**85.37**	**340**	*e*P		**P**	**14 00 57.1**	**-0.8**
EIL	**Elat**	**85.39**	**309**	*e*P		**P**	**14 00 58.4**	**+0.4**
	comp=Z,254nm,1.0s							
TBI	**Tubuai**	**87.20**	**129**	*e*LR		LR	14 28 22.6	
	comp=Z,142nm,34.0s							
TBI	**Tubuai**	**87.20**	**129**	*e*T			15 37 35.0	
	comp=Z,11nm,0.3s							
ESDC	**Sonseca Array**	**91.43**	**342**	P		**P**	**14 01 25.5**	**-1.2**
	comp=Z,0.3nm,0.4s,mb4.0,baz=11,slow=3.7,SNR=6.1							
KEST	**Kesra**	**91.48**	**331**	P		**P**	**14 01 26.7**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.3,baz=247,slow=4.3,SNR=5.1							
RKT	**Rikitea**	**95.33**	**118**	*e*LR		LR	14 32 03.2	
	comp=Z,101nm,30.8s							
TORD	**Torodi Ar. Bea**	**114.89**	**328**	PKP		PKiKP	14 07 00.2	-1.1
	comp=Z,0.8nm,0.6s,baz=16,slow=2.1,SNR=6.0							
TORD	**Torodi Ar. Bea**	**114.89**	**328**	PKP		PKiKP	14 07 00.2	-1.1
VNDA	**Vanda**	**124.13**	**178**	PKP		PKPdf	14 07 16.6	-2.6
	comp=Z,0.6nm,0.7s,baz=313,slow=3.8,SNR=7.3							
MAW	**Mawson**	**132.00**	**211**	PKP		PKPdf	14 07 32.3	-1.9
	comp=Z,1.4nm,0.8s,baz=342,slow=3.2,SNR=4.2							
SNAA	**Sanae**	**152.44**	**197**	PKPbc		PKPbc	14 08 14.1	-2.6
	comp=Z,1.3nm,0.6s,baz=167,slow=4.5,SNR=22							
SNAA				PKPab		PKPab	14 08 24.7	-2.3
	comp=Z,1.5nm,0.9s,baz=150,slow=5.8,SNR=7.5							
SNAA	**Sanae**	**152.44**	**197**	*e*PKPdf		PKPdf	14 08 12.7	+2.8
SNAA				*e*			14 08 18.8	
SNAA				*e*			14 08 27.4	
SNAA				*e*			14 08 30.1	
SNAA	**Sanae**	**152.44**	**197**	*e*PKPbc		PKPbc	14 08 13.8	-3.0
VNA2	**Neumayer--Watz**	**153.91**	**195**	*e*PKPdf		PKPbc	14 08 17.5	-2.5
	baz=201,slow=0.2							
VNA2				*e*			14 08 23.9	
VNA2				*e*			14 08 30.9	
VNA2				*e*			14 08 33.9	
VNA3	**Neumayer Olymp**	**154.01**	**193**	*e*PKPdf		PKPbc	14 08 17.5	-2.7
VNA3				*e*			14 08 31.3	
VNA3				*e*			14 08 34.2	

*IDC **20** 13:55:00.3±1.2, 4683N×15520E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=35.6km s-min=26.8km az=104.0*
*MOS **20** 13:55:03.5±1.8, 4694N×15527E, h33km, mb3.9/5, Error ellipse: s-maj=46.6km s-min=21.6km az=77.1*
*ISCJB **20** 13:55:05.3±2.6, 470N±02×1553E±03, h53km±23km, mb3.6/6, Error ellipse: s-maj=35.9km s-min=17.9km az=69.2*

ISC 20 13:55:06.9±2.4, 470N±01×1553E±03, h51km±22km, n13, σ0§80/13, mb3.6/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.73**	**8**	*e*PN	**Pn**	**13 56 01.2**	**-0.7**
MJAR	**Matsushiro Arr**	**16.44**	**237**	Pn	**Pn**	**13 58 55.1**	**+1.1**
	baz=38,slow=7.5,SNR=4.2						
KSRS	**Korea Array**	**22.30**	**255**	P	**P**	**13 59 59.6**	**-0.1**
	1.3nm,0.8s,mb3.4,baz=66,slow=9.2,SNR=5.4						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**14 02 43.2**	**+1.4**
	1.0nm,0.7s,mb3.6,baz=224,slow=9.9,SNR=3.9						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**14 02 43.2**	**+1.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**14 03 41.1**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=66,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**14 03 41.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**14 04 10.1**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=59,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**14 04 10.1**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.26**	**201**	P	**P**	**14 06 07.4**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=19,slow=6.8,SNR=5.1						
WRA	**Warramunga Arr**	**69.26**	**201**	P	**P**	**14 06 07.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.94**	**200**	P	**P**	**14 06 30.5**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=5.6,SNR=13						
ASAR	**Alice Springs**	**72.94**	**200**	P	**P**	**14 06 30.5**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 20 14:07:32.6±2.3, 4730N×15555E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/33, Error ellipse: s-maj=74.1km s-min=30.3km az=175.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.61**	**255**	Pn	Pn	14 09 51.0	-1.2
	0.3nm,0.3s,baz=202,slow=19,SNR=3.4						
JOW	**Kunigami**	**29.60**	**236**	LR	LR	14 25 58.4	
	comp=Z,44nm,18.6s,baz=114,slow=37						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	14 16 15.1	+0.6
	1.2nm,0.7s,baz=67,slow=8.3,SNR=10						
FINES	**FINESS Array B**	**64.24**	**336**	P	P	14 18 08.3	-1.1
	0.8nm,0.5s,baz=43,slow=7.7,SNR=9.4						
TXAR	**Lajitas Array**	**75.77**	**62**	P	P	14 19 20.5	+0.3
	0.2nm,0.5s,baz=308,slow=4.4,SNR=4.7						

*MOS **20** 14:08:24.2±0.5, 5081N×15822E, h6km, mb4.2/1, Error ellipse: s-maj=35.1km s-min=10.6km az=76.7*
*ISCJB **20** 14:08:29.2±1.2, 5098N±008×1580E±01, h43km±12km, mb3.6/5, Error ellipse: s-maj=19.2km s-min=6.2km az=87.4*
*KRSC **20** 14:08:29.4±0.9, 5117N×15826E, h5km±5km, ML4.4*
*IDC **20** 14:08:31.5±0.9, 5094N×15791E, h48km±8km, mb3.4/5, mb1 3.7/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=37.2km s-min=21.8km az=140.0*

ISC 20 14:08:30.5±1.1, 5100N±009×1579E±01, h39km±13km, h50km±.5km:pP-P, n32, σ1§01/48, mb3.6/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**255**	*e*PN	**Pn**	**14 08 50.0**	**-0.4**
SKR				*i* S	**Sn**	**14 09 05.0**	**-0.3**
SKR				pmax	pmax		
	comp=N,170nm,0.2s						
SKR				pmax	pmax		
	comp=E,330nm,0.2s						
SKR				pmax	pmax		
	comp=Z,360nm,0.2s						
SKR				smax			
	comp=N,7μm,0.2s						
SKR				smax			
	comp=E,1μm,0.2s						
SKR				smax			
	comp=N,5μm,2.0s						
SKR				smax			
	comp=E,5μm,2.0s						
RUS	**Russkaya**	**1.48**	**14**	*e*P	**Pn**	**14 08 54.1**	**-0.5**
RUS				*i* S	**Sn**	**14 09 12.0**	**-0.7**
RUS	**Russkaya**	**1.48**	**14**	*e*P	**Pn**	**14 08 54.1**	**-0.5**
RUS				*i* S	**Sn**	**14 09 12.0**	**-0.7**
GRL	**Gorelyy**	**1.56**	**4**	*e*P	**Pn**	**14 08 55.7**	**+0.1**
GRL				*i* S	**Sn**	**14 09 15.0**	**+0.4**
GRL	**Gorelyy**	**1.56**	**4**	*e*P	**Pn**	**14 08 55.7**	**+0.1**
GRL				*i* S	**Sn**	**14 09 15.0**	**+0.4**
PET	**Petropavlovsk**	**2.08**	**13**	*e*PN	**Pn**	**14 09 02.9**	**+0.1**
PET				*e*S	**Sn**	**14 09 28.0**	**+0.6**
PET				pmax	pmax		
	comp=Z,45nm,0.3s						
PET				smax			
	comp=E,400nm,0.6s						
PET				smax			
	comp=E,429nm,0.9s						
PET				smax			
	comp=N,757nm,0.5s						
PET	**Petropavlovsk**	**2.08**	**13**	*e*P	**Pn**	**14 09 02.9**	**+0.1**
PET				*i* S	**Sn**	**14 09 27.7**	**+0.3**
PET	**Petropavlovsk**	**2.08**	**13**	*e*P	**Pn**	**14 09 02.9**	**+0.1**
PET				*i* S	**Sn**	**14 09 27.7**	**+0.3**
NLC	**Nalytchevo**	**2.35**	**22**	P	**Pn**	**14 09 05.4**	**-1.1**
NLC				*i* S	**Sn**	**14 09 31.1**	**-3.0**
NLC	**Nalytchevo**	**2.35**	**22**	P	**Pn**	**14 09 05.4**	**-1.1**
NLC				*i* S	**Sn**	**14 09 31.1**	**-3.0**
SDLR	**Sedlovina**	**2.36**	**14**	P	**Pn**	**14 09 06.7**	**+0.1**
SDLR				*i* S	**Sn**	**14 09 33.6**	**-0.7**
SDLR	**Sedlovina**	**2.36**	**14**	P	**Pn**	**14 09 06.7**	**+0.1**
SDLR				*i* S	**Sn**	**14 09 33.6**	**-0.7**
SPN	**Mys Shipunski**	**2.47**	**31**	*e*P	**Pn**	**14 09 08.7**	**+0.5**
SPN				*i* S	**Sn**	**14 09 37.0**	**-0.2**
SPN	**Mys Shipunski**	**2.47**	**31**	*e*P	**Pn**	**14 09 08.7**	**+0.5**
SPN				*i* S	**Sn**	**14 09 37.0**	**-0.2**
MKZ	**Mys Kozlova**	**4.25**	**32**	*e*P	**Pn**	**14 09 31.1**	**-1.5**
MKZ				*i* S	**Sn**	**14 10 17.4**	**-3.6**
MKZ	**Mys Kozlova**	**4.25**	**32**	*e*P	**Pn**	**14 09 31.1**	**-1.5**
MKZ				*i* S	**Sn**	**14 10 17.4**	**-3.6**
TUMR	**Tumrok**	**4.50**	**17**	P	**Pn**	**14 09 36.2**	**+0.2**
TUMR	**Tumrok**	**4.50**	**17**	P	**Pn**	**14 09 36.2**	**+0.2**
KMNR	**Kamenistaya**	**4.96**	**15**	P	**Pn**	**14 09 45.0**	**+2.6**
KMNR	**Kamenistaya**	**4.96**	**15**	P	**Pn**	**14 09 45.0**	**+2.6**
ZLN	**Zelenaya**	**5.31**	**18**	P	**Pn**	**14 09 49.2**	**+1.9**
ZLN	**Zelenaya**	**5.31**	**18**	P	**Pn**	**14 09 49.2**	**+1.9**
SRDR	**Sredinnyy**	**5.43**	**11**	P	**Pn**	**14 09 51.2**	**+2.3**
SRDR	**Sredinnyy**	**5.43**	**11**	P	**Pn**	**14 09 51.2**	**+2.3**
KBTR	**Krutoberegovo**	**5.98**	**27**	P	**Pn**	**14 09 57.0**	**+0.6**
YAK	**Yakutsk**	**18.91**	**317**	*e*P	**Pn**	**14 12 55.8**	**+7.1**
MKAR	**Makanchi Array**	**47.86**	**296**	P	**P**	**14 17 04.4**	**0.0**
	comp=N,0.4nm,0.5s,mb3.7,baz=54,slow=6.9,SNR=7.3						
PDAR	**Pinedale Array**	**59.75**	**58**	P	**P**	**14 18 31.9**	**+0.6**
	comp=N,0.4nm,0.6s,mb3.6,baz=284,slow=3.6,SNR=3.3						
TXAR	**Lajitas Array**	**72.73**	**65**	P	**P**	**14 19 54.6**	**+0.1**
	comp=N,0.8nm,0.5s,mb3.9,baz=300,slow=5.1,SNR=6.5						
TXAR				pP	pP	14 20 08.6	+2.3
	comp=N,0.3nm,0.5s,baz=309,slow=5.7,SNR=3.5						
TXAR	**Lajitas Array**	**72.73**	**65**	P	**P**	**14 19 54.6**	**+0.1**
TXAR				*PP	pP	14 20 08.6	+2.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**73.62**	**203**	P	**P**	**14 19 59.0**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=19,slow=6.1,SNR=7.0						
WRA				pP	pP	14 20 12.6	+1.1
	comp=Z,0.4nm,0.5s,baz=18,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**77.30**	**202**	P	**P**	**14 20 20.8**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=14,slow=5.6,SNR=6.2						
ASAR				pP	pP	14 20 34.7	+2.0
	comp=Z,0.3nm,0.5s,baz=17,slow=5.7,SNR=2.9						

*MOS **20** 14:10:12.2±1.1, 5730N×12068E, h7km, mb4.4/1, Error ellipse: s-maj=45.7km s-min=26.6km az=55.6*

BYKL 20 14:10:09.9±0.6, 5743N×12077E, h19km, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.67**	**220**	*i* Pg	Pg	14 10 22.0	-1.1
KHNR				*e*Sg	Sg	14 10 30.0	-2.0
CRS	**Chara**	**1.46**	**250**	*i* Pg	Pg	14 10 36.9	-1.2
CRS				*i* Sg	Sg	14 10 55.6	-1.6
CRS				Pmax			
	239nm,0.8s						
CRS				Smax			
	371nm,0.7s						
CRS	**Chara**	**1.46**	**250**	*e*P	Pn	14 10 37.1	+1.8
CRS				*e*		14 10 55.8	
CRS				pmax	pmax		
	comp=Z,239nm,0.7s						
CRS				smax			
	comp=E,380nm,0.7s						
CLNS	**Chul'man**	**2.33**	**103**	*e*Pg	Pg	14 10 51.4	-3.1
CLNS				*e*Sg	Sg	14 11 22.6	-2.1
CLNS	**Chul'man**	**2.33**	**103**	*e*P	Pn	14 10 53.4	+6.3
CLNS				*e*		14 11 22.7	
CLNS				pmax	pmax		
	comp=N,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.2s						
CLNS				smax			
	comp=N,79nm,0.3s						
CLNS				smax			
	comp=E,100nm,0.3s						
CLNS				smax			
	comp=Z,27nm,0.3s						
NLYR	**Nelyaty**	**2.93**	**253**	*i* Pg	Pg	14 11 02.9	-3.2
NLYR				*e*Sg	Sg	14 11 40.4	-3.7
TUP	**Tupik**	**3.05**	**189**	*e*Pn	Pn	14 10 57.8	+0.8
TUP				*e*Pg	Pg	14 11 03.6	-4.7
TUP				*e*Sn	Sn	14 11 35.0	+2.0
TUP				*e*Sg	Sg	14 11 42.7	-5.1
TUP				Pmax			
	comp=Z,119nm,0.8s						
TUP				Smax			
	comp=Z,273nm,0.9s						
TUP	**Tupik**	**3.05**	**189**	*e*P	Pn	14 10 58.7	+1.6
TUP				*e*S	Sn	14 11 34.2	+1.2
TUP				pmax	pmax		
	comp=Z,109nm,0.9s						
TUP				smax			
	comp=E,220nm,1.1s						
TNDR	**Tynda**	**3.18**	**134**	*e*Sg	Sg	14 11 47.9	-4.0
BOD	**Bodaibo**	**3.66**	**279**	*e*Pg	Pg	14 11 15.0	-5.0
BOD				*e*Sg	Sg	14 12 01.4	-6.0
BOD				Pmax			
	comp=E,11nm,0.7s						
BOD				Smax			
	comp=E,123nm,1.1s						
UKT	**Uakit**	**4.41**	**247**	*e*Pg	Pg	14 11 28.8	-5.6
UKT				*e*Sg	Sg	14 12 24.5	-7.1
UKT				Pmax			
	comp=E,15nm,1.2s						
UKT				Smax			
	comp=E,81nm,0.9s						
UKT	**Uakit**	**4.41**	**247**	*e*P	Pn	14 11 29.5	+14
UKT				pmax	pmax		
	comp=Z,11nm,0.5s						
KROS	**Kirovskiy**	**4.60**	**128**	*e*Pg	Pg	14 11 32.0	-6.0
KROS				*e*Sg	Sg	14 12 30.3	-7.3
CGD	**Chagda**	**5.39**	**72**	*e*Sg	Sg	14 12 54.8	-8.1
KMO	**Kumora**	**5.50**	**258**	*e*Pg	Pg	14 11 48.3	-6.9
KMO				*e*Sg	Sg	14 12 59.2	-7.2
KMO				Pmax			
	comp=Z,22nm,0.5s						
KMO				Smax			
	comp=Z,108nm,0.9s						
KMO	**Kumora**	**5.50**	**258**	*e*P	Pn	14 11 34.8	+4.0
KMO				*e*S	Sn	14 12 34.8	+1.3
KMO				pmax	pmax		
	comp=Z,29nm,0.6s						
KMO				smax			
	comp=E,111nm,1.0s						
YLYR	**Ulyunkhan**	**5.95**	**249**	*e*Pg	Pn	14 11 57.7	+21
YLYR				*e*Sg	Sn	14 13 14.3	+30
YLYR				Smax			
	comp=E,90nm,1.8s						
NIZ	**Nizh Angarsk**	**6.42**	**260**	*e*Sg	Sn	14 13 29.1	+33
NIZ				Smax			
	comp=E,57nm,0.9s						
YAK	**Yakutsk**	**6.45**	**41**	*e*P	Pn	14 11 52.8	+9.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
YAK				MLR	MLR		
	comp=Z,56nm,7.0s						
CIT	**Chita**	**6.84**	**221**	*e*Sg	Sn	14 13 43.2	+37
CIT				Smax			
	comp=Z,149nm,1.2s						
SYVR	**Suvo**	**7.18**	**243**	*e*Sg	Sn	14 13 53.8	+39
SYVR				Smax			
	comp=Z,78nm,1.2s						
KPC	**Khapcheranga**	**9.20**	**216**	*e*Sg	Sn	14 14 52.9	+48
KPC				Smax			
	comp=Z,46nm,1.0s						

*NIED **20** 14:18:00, 4650N×15320E, h5km, Mw4.0 Best double couple: M0 1.31000×10^15 NP1:φ=2.00000°, δ73.00000°, λ65.00000°. NP2:φ=240.00000°, δ30.00000°, λ144.00000°.*
*ISCJB **20** 14:18:50.3±1.9, 4624N±008×1531.6E±0.10, h11km±12km, mb4.3/23, MS3.4/3, Error ellipse: s-maj=16.8km s-min=6.5km az=107.5*
*IDC **20** 14:18:50.4±0.7, 4628N×15300E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.2/21, mbtmp4.1/14, MS3.4/4, Ms1 3.4/4, ms1mx3.2/32, Error ellipse: s-maj=21.2km s-min=19.4km az=132.0*
*NEIC **20** 14:18:51.8±4.4, 4631N×153.10E, h9km±27km, mb4.8/5, Error ellipse: s-maj=15.7km s-min=9.2km az=136.0*
*MOS **20** 14:18:53.5±1.4, 4627N×153.14E, h36km, mb4.9/5, Error ellipse: s-maj=11.7km s-min=10.4km az=147.2*
*BJI **20** 14:18:54.5, 4587N×15248E, h9km, mB4.7, mb4.4, Ms4.1, Msz4.7*

ISC 20 14:18:54.0±1.8, 4631N±008×15314E±010, h21km±13km, n74, σ1§33/80, mb4.3/23, MS3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**256**	*e*PN	**Pn**	**14 19 50.5**	**-1.3**
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
SKR	**Severo-Kuril's**	**4.80**	**23**	*e*PN	**Pn**	**14 19 55.5**	**-10**
YUK	**Yuzh-Kuril'sk**	**5.62**	**249**	*e*PN	**Pn**	**14 20 16.5**	**+0.2**
YUK				*e*S	**Sn**	**14 21 21.5**	**+1.2**
YUK				smax			
	comp=N,460nm,0.6s						
YUK				smax			
	comp=E,250nm,0.6s						
NEM2	**Nemuro 2**	**6.03**	**243**	P	**Pn**	**14 20 20.1**	**-1.7**
NEM2				*e*S	**Sn**	**14 21 24.3**	**-5.9**
JRA	**Rausu**	**6.15**	**250**	P	**Pn**	**14 20 24.7**	**+1.2**
JNK	**Nakash**	**6.57**	**249**	P	**Pn**	**14 20 29.5**	**+0.3**
JAK	**Akkeshi**	**6.87**	**244**	P	**Pn**	**14 20 31.7**	**-1.7**
JAK				*e*S	**Sn**	**14 21 45.9**	**-5.1**
JTKR	**Abashiri--Toko**	**6.93**	**254**	P	**Pn**	**14 20 35.7**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.18**	**279**	*e*PN	**Pn**	**14 20 42.1**	**+4.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**279**	*e*P	**Pn**	**14 20 41.2**	**+3.5**
	comp=Z,12nm,0.5s						
JMP	**Maruseppu**	**7.29**	**255**	P	**Pn**	**14 20 41.0**	**+1.9**
JAR	**Ashorobuto**	**7.31**	**249**	P	**Pn**	**14 20 40.2**	**+0.7**
JAR				*e*S	**Sn**	**14 22 01.3**	**-0.5**
JOB	**Onbets**	**7.46**	**246**	P	**Pn**	**14 20 41.2**	**-0.3**
JOB				*e*S	**Sn**	**14 22 02.1**	**-3.4**
PET	**Petropavlovsk**	**7.61**	**26**	*e*PN	**Pn**	**14 20 45.1**	**+1.5**
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET	**Petropavlovsk**	**7.61**	**26**	*e*P	**Pn**	**14 20 43.3**	**-0.3**
JKK2	**Kamakawa 2**	**7.75**	**255**	P	**Pn**	**14 20 47.5**	**+2.1**
ASAJ	**Asahikawa**	**7.76**	**257**	Pn	**Pn**	**14 20 48.0**	**+2.3**
ASAJ				LR	LR	14 23 48.0	
	comp=Z,204nm,18.0s,baz=77,slow=39						
ASAJ	**Asahikawa**	**7.76**	**257**	P	**Pn**	**14 20 48.1**	**+2.5**
JCH	**Churui**	**7.91**	**246**	P	**Pn**	**14 20 46.9**	**-0.8**
JCH				*e*S	**Sn**	**14 22 11.4**	**-5.1**
JEM	**Erimo**	**8.36**	**243**	P	**Pn**	**14 20 54.3**	**+0.4**
ERM	**Erimo**	**8.36**	**243**	*e*PN	**Pn**	**14 20 53.9**	**0.0**
JNBK	**Urakawa-nobuka**	**8.47**	**245**	P	**Pn**	**14 20 54.7**	**-0.6**
JNBK				*e*S	**Sn**	**14 22 24.8**	**-5.4**
JEW	**Eniwo**	**9.04**	**252**	P	**Pn**	**14 21 03.1**	**0.0**
JNB	**Noboribetsu**	**9.47**	**250**	P	**Pn**	**14 21 08.9**	**-0.2**
JKB	**Kayabe**	**9.76**	**247**	P	**Pn**	**14 21 11.8**	**-1.3**
JYM2	**Yakumo 2**	**10.08**	**250**	P	**Pn**	**14 21 17.2**	**-0.2**
JTM	**Tenmabayashi**	**10.35**	**242**	P	**Pn**	**14 21 19.4**	**-1.8**
JTM				*e*S	**Sn**	**14 23 07.2**	**-9.3**
JOM	**Ohasama**	**11.05**	**236**	*e*S	**Sn**	**14 23 22.9**	**-11**
KLR	**Kul'dur**	**14.67**	**289**	*e*P	**Pn**	**14 22 20.0**	**-0.2**
MAT	**Matsushiro**	**14.83**	**234**	P	**Pn**	**14 22 28.8**	**+6.4**
MJAR	**Matsushiro Arr**	**14.83**	**234**	Pn	**Pn**	**14 22 19.1**	**-3.2**
	baz=27,slow=13,SNR=2.9						
MDJ	**Mudanjiang**	**16.60**	**273**	P	**Pn**	**14 22 46.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,102nm,6.7s						
CN2	**Changchun**	**19.69**	**273**	*e*P	**Pn**	**14 23 20.4**	**-2.8**
CN2				*e*XP	sP	14 23 27.4	-2.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,300nm,10.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
KSRS	**Korea Array**	**20.69**	**254**	P	**P**	**14 23 34.4**	**+1.9**
	comp=Z,2.3nm,0.6s,baz=56,slow=10,SNR=15						
KSRS				LR	LR	14 30 29.0	
	comp=Z,47nm,21.4s,MS2.8,baz=40,slow=34						
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**14 25 14.0**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.5,baz=68,slow=8.1,SNR=4.4						
SONM				LR	LR	14 38 24.0	
	comp=Z,66nm,20.1s,MS3.3,baz=18,slow=37						
BTO	**Baotou**	**31.51**	**275**	*e*P	**P**	**14 25 18.5**	**+4.1**
ZAK	**Zakamensk**	**32.88**	**296**	*e*P	**P**	**14 25 24.8**	**-1.6**
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**14 26 11.0**	**+1.3**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,99nm,4.6s						
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**14 26 11.0**	**+1.3**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	14 26 12.0	-4.2
LZH				sP	sP	14 26 13.0	-5.8
GTA	**Gaotai**	**39.06**	**280**	*e*P	**P**	**14 26 20.6**	**+1.3**
GTA				AP	pP	14 26 24.8	-1.0
GTA				XP	sP	14 26 28.1	-0.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
INK	**Inuvik**	**42.02**	**32**	P	**P**	**14 26 44.2**	**+0.5**
	comp=Z,1.3nm,0.5s,mb3.8,baz=313,slow=12,SNR=12						
INK	**Inuvik**	**42.02**	**32**	*e*P	**P**	**14 26 43.9**	**+0.1**
ZAL	**Zalesovo**	**42.90**	**306**	LR	LR	14 46 49.4	
	comp=Z,171nm,20.2s,MS3.9,baz=140,slow=39						
KMI	**Kunming**	**45.18**	**260**	P	**P**	**14 27 10.1**	**+0.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
KMI	**Kunming**	**45.18**	**260**	P	**P**	**14 27 10.1**	**+0.9**
	comp=Z,8.0nm,0.8s,mb4.6						
MK31	**Makanchi Array**	**47.16**	**298**	*e*P	**P**	**

comp=Z,5.9nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=26
KIEV Kiev 71.94 326 eP P 14 30 14.4 -1.3
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KIEV Kiev 71.94 326 eP P 14 30 14.4 -1.2
comp=Z,6.3nm,0.6s,mb4.7
TXAR Lajitas Array 77.69 60 P P 14 30 49.3 +0.3
comp=Z,1.2nm,0.5s,mb4.1,baz=302,slow=4.6,SNR=22
BRTR Keskin Array B 78.72 317 P P 14 30 54.6 -0.1
comp=Z,1.7nm,1.1s,mb3.9,baz=48,slow=1.8,SNR=5.5
GERES GERESS Array B 78.86 334 P P 14 30 54.7 -0.7
comp=Z,0.5nm,0.3s,mb4.0,baz=35,slow=4.9,SNR=5.1
CFAA Coronel Fontan 145.06 80 PKPbc PKPbc 14 38 28.4 -0.7
comp=Z,0.1nm,0.4s,baz=256,slow=6.2,SNR=4.0

NEIC 20 14:28:06.5, 27.61S×71.11W, h40km, MD3.9(GUC), After GUC.

GUC 20 14:28:06.5±0.8, 27.61S×71.11W, h40km±5km, MD3.9, ML3.4, 2D, Near coast of northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CDCH Caldera 0.59 25⇓iP Pn 14 28 18.7 +0.2
CDCH iS Sn 14 28 27.3 +0.3
CDCH AML AML 14 28 28.1
comp=N,2µm,0.4s
CDCH Caldera 0.59 25⇓iP Pn 14 28 18.7 +0.2
CDCH iS Sn 14 28 27.3 +0.3
CPCH Copiapo 0.72 70 eP Pn 14 28 20.1 -0.1
CPCH iS Sn 14 28 31.2 +1.2
CPCH AML AML 14 28 32.1
comp=N,13µm,0.1s
CPCH Copiapo 0.72 70 eP Pn 14 28 20.1 -0.1
CPCH iS Sn 14 28 31.2 +1.2
VACH Vallenar 1.01 162 eP Pn 14 28 25.0 +0.8
VACH iS Sn 14 28 38.6 +1.4
TLL Tololo Astrono 2.56 174 eP Pn 14 28 47.5 +2.0
TLL iS Sn 14 29 17.9 +2.5
TLL AML AML 14 29 33.8
comp=N,106nm,0.5s
TLL Tololo Astrono 2.56 174 eP Pn 14 28 47.5 +2.0
TLL iS Sn 14 29 17.9 +2.5

IGQ 20 14:33:31.7, 2.25S×78.50W, h174km±5km, Mb4.1, Ms3.9, 4C-14D, Error ellipse: s-maj=12.8km s-min=4.8km az=5.3, Ecuador

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARRY Arrayan 0.74 3⇓P Pn 14 33 57.1 +0.1
ARRY S Sn 14 34 18.3 +1.8
PATA Patacocha 0.74 5⇓P Pn 14 33 57.9 +0.8
IGUA Igualata 0.77 350⇓P Pn 14 33 58.0 +0.8
RETU Refugio 0.80 4 P Pn 14 33 58.2 +0.8
ULBA Ulba 0.80 7⇑P Pn 14 33 57.9 +0.5
JUIV Juive 0.82 2⇓P Pn 14 33 57.9 +0.3
RUN5 Runtun 0.83 5⇓P Pn 14 33 58.0 +0.4
PISA Pisayambo 1.19 6 P Pn 14 34 01.3 +1.0
TAMB Tambo 1.55 5⇓P Pn 14 34 04.9 +1.2
TAMB S Sn 14 34 28.7 +0.4
CAMI Rancho Maria 1.56 360⇑P Pn 14 34 05.0 +1.2
VC1 Cotopaxi 1 1.60 3⇓P Pn 14 34 06.0 +1.8
VC1 S Sn 14 34 28.6 -0.6
NAS1 Nasa 1.61 1⇓P Pn 14 34 05.7 +1.5
ANTI Antisana 1.82 11⇑P Pn 14 34 07.7 +1.3
ANTI S Sn 14 34 31.6 -1.6
JUA2 San Juan 2 2.02 357 P Pn 14 34 10.7 +2.1
GGP Refugio Guagua 2.06 357⇓P Pn 14 34 10.4 +1.3
GGP S Sn 14 34 39.5 +1.6
PINO Pino 2.08 357⇓P Pn 14 34 10.3 +1.1
PINO S Sn 14 34 38.0 -0.2
YANA Yana 2.12 358⇓P Pn 14 34 10.7 +1.0
CAYR Refugio Cayamb 2.30 12 P Pn 14 34 13.7 +1.9
LAV3 Lava3-Reventad 2.31 22⇓P Pn 14 34 13.7 +1.8
CONE Cono NE Rev Vo 2.33 22⇓P Pn 14 34 13.7 +1.6
CAYA Cayambe 2.36 12⇑P Pn 14 34 14.1 +1.7
COTA Cotacachi 2.57 4⇓P Pn 14 34 18.0 +3.1
COTA S Sn 14 34 50.2 +1.8

LDG 20 14:38:22.7±0.6, 17.23S×70.45W, h10km, Mb5.8/37, Ms4.8/10, Error ellipse: s-maj=41.7km s-min=8.2km az=64.0
ISCJB 20 14:38:26.7±0.1, 17.64S±0.03×70.21W±0.02, h40km, mb5.7/246, MS5.0/155, Error ellipse: s-maj=5.0km s-min=2.9km az=49.6
GCMT 20 14:38:27.9±0.1, 18.10S×70.18W, h69km, MW5.5/94, Moment Tensor Solution. s94,c182; s88,c193; Duration: 1.4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.01±.04; $M_{\theta\theta}$-1.87±.03; $M_{\phi\phi}$0.85±.04; $M_{r\theta}$1.23±.02; $M_{r\phi}$-0.67±.03; $M_{\theta\phi}$-0.52±.03; Best double couple: $M_0$2.17300×10^{17} NP1:ϕ_s220.00000°, δ41.00000°, λ28.00000°. NP2:ϕ_s108.00000°, δ72.00000°, λ127.00000°. Principal axes: T 1.9580, Plg49.0000°, Azm59.0000°; N 0.4280, Plg35.0000°, Azm275.0000°; P -2.3880, Plg19.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
IDC 20 14:38:27.5±0.5, 17.65S×70.10W, h38km±3km, mb5.1/18, mb1 5.1/21, mb1mx5.1/22, mbtmp5.1/21, ML4.5/2, MS5.0/22, Ms1 4.9/22, ms1mx4.9/25 Error ellipse: s-maj=15.7km s-min=10.5km az=74.0
NEIC 20 14:38:27.8±0.1, 17.67S×70.23W, h38km, mb5.8/211, ME5.4, MS5.0/137, MW5.6, Error ellipse: s-maj=4.3km s-min=2.8km az=220.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}3.14; $M_{\theta\theta}$-2.65; $M_{\phi\phi}$-0.49; $M_{r\theta}$0.32; $M_{r\phi}$2.23; $M_{\theta\phi}$0.09; Best double couple: $M_0$3.60000×10^{17} NP1:ϕ_s116.00000°, δ47.00000°, λ82.00000°. NP2:ϕ_s308.00000°, δ44.00000°, λ99.00000°. Principal axes: T 3.1700, Plg84.0000°, Azm318.0000°; N 0.8800, Plg6.0000°, Azm122.0000°; P -4.0600, Plg2.0000°, Azm212.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s263.00000°, δ22.00000°, λ64.00000°. NP2: ϕ_s110.00000°, δ70.00000°, λ100.00000°. Principal axes: T Plg64.0000°, Azm36.0000°; N Plg0.0000°, Azm0.0000°; P Plg24.0000°, Azm192.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [V] at Ilo and Tacna; [IV] at Arequipa; felt at Moquegua. Also felt [V] at Arica, General Lagos and Putre; [III] at Iquique and Pica, Chile. Felt at La Paz, Bolivia.
BJI 20 14:38:28.1, 16.73S×70.28W, h39km, mB5.6, Ms5.6, Msz5.4
MOS 20 14:38:30.7±0.7, 17.15S×70.17W, h58km, mb6.0/91, MS5.0/15, Error ellipse: s-maj=7.8km s-min=5.2km az=92.8
SZGRF 20 14:38:49.3, 14.50S×65.50W, h33km, mb5.7, Central Bolivia

ISC 20 14:38:28.6±0.1, 17.69S±0.03×70.16W±0.02, h42km, h42km±1.0km: pP-P, n1022, σ0.79/854, mb5.7/244, MS5.0/155, 194C-87D, Near coast of Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARE Arequipa 1.77 314⇑iP Pn 14 38 56.6 0.0
ARE eS Sn 14 39 18.0 +0.1
LPAZ La Paz 2.39 55 Pn Pn 14 39 14.5 +9.3
112nm,0.3s,baz=235,slow=10.0,SNR=4542
LPAZ Sn Sn 14 39 29.9 -3.4
127nm,0.3s,baz=233,slow=14,SNR=16
LPAZ La Paz 2.39 55 Pn Pn 14 39 14.5 +9.3
LPAZ Sn Sn 14 39 29.9 -3.4
LVC Limon Verde 5.03 167 Pn Pn 14 39 41.1 -0.4
83nm,0.3s,baz=270,slow=5.2,SNR=211
LVC Sn Sn 14 40 51.4 +13
249nm,0.3s,baz=90,slow=22,SNR=15
LVC LR LR 14 41 43.1
comp=Z,27µm,20.7s,baz=267,slow=39
LVC Limon Verde 5.03 167 eP Pn 14 39 41.1 -0.4
1µm,0.4s
LVC S Sn 14 40 57.2 +19
CEN1 Los Morros 5.67 180⇑iP Pn 14 39 48.7 -1.5
CEN1 iS Sn 14 40 53.4 -0.6
ANCH Antofagasta 5.96 182⇓iP Pn 14 39 50.1 -4.1
CPN1 Cerro Paranal 6.90 182⇓eP Pn 14 40 02.6 -4.5
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 29.6 -0.8
1µm,0.5s,SNR=12
NNA Nana 8.60 310 Pn Pn 14 40 28.6 -1.8
14nm,0.3s,baz=137,slow=12,SNR=24
NNA Sn Sn 14 42 15.7 +10
28nm,0.3s,baz=248,slow=19,SNR=4.5
NNA LR LR 14 43 36.2
comp=Z,4µm,21.4s,baz=322,slow=36
NNA Nana 8.60 310 eP Pn 14 40 28.4 -2.0
205nm,0.6s
SIV San Ignacio 8.87 80 Pn Pn 14 40 38.2 +4.1
38nm,0.3s,baz=260,slow=15,SNR=1583
TLL Tololo Astrono 12.43 183⇓eP Pn 14 41 16.4 -6.5
ATAH Atahualpa 13.32 322 Pn Pn 14 41 32.5 -2.5
0.9nm,0.3s,baz=153,slow=13,SNR=8.0
CFAA Coronel Fontan 13.96 173 Pn Pn 14 41 37.5 -6.2
0.4nm,0.3s,baz=351,slow=13,SNR=24
CFAA LR LR 14 47 23.6
comp=Z,1µm,19.9s,baz=335,slow=38
CFAA Coronel Fontan 13.96 173 Pn Pn 14 41 37.5 -6.2
CFAA LR LR 14 47 23.6
MDZ Mendoza 15.17 176 eP Pn 14 41 59.1 -0.8
FCH Farellones 15.57 180⇓eP Pn 14 42 01.7 -3.4
CLCH Cerro Calan 15.64 181 eP Pn 14 42 01.6 -4.6
LMEL Las Melosas 16.09 180⇓eP Pn 14 42 09.3 -2.4
NICH Los Niches 17.27 183 eP Pn 14 42 22.7 -3.8
LPA La Plata 20.32 150 epP pP 14 43 08.0 -3.2
LPA esP sP 14 43 22.0 +5.5
LPA La Plata 20.32 150ceP tx 14 43 59.0
LPA eS S 14 46 51.0 +4.5
TRQA Tornquist 21.52 162 eP P 14 43 12.5 -1.4
412nm,0.8s,mb5.9
TRQA LR LR
comp=Z,8µm,20.0s,MS5.1
ROSC El Rosal 22.78 349 P P 14 43 25.9 -1.5
comp=Z,55nm,0.9s,mb5.0,baz=112,slow=10,SNR=8.7
ROSC LR LR 14 53 14.8
comp=Z,8µm,20.6s,MS5.1,baz=197,slow=39
ROSC El Rosal 22.78 349 eP P 14 43 25.6 -1.7
PAYG Puerto Ayora 26.03 308 PFAKE 14 44 10.0 +12
PAYG LR LR
comp=Z,3µm,22.0s,MS4.8
CAM4 Nova Friburgo 26.32 105⇓iP P 14 44 01.0 +0.6
CAM4 i 14 44 07.9
CAM4 i 14 44 16.4
CAM4 i 14 44 24.8
CAM4 i 14 44 32.6
SDV Santo Domingo 26.41 359 P P 14 43 58.9 -2.3
comp=Z,54nm,0.9s,mb5.0,baz=214,slow=6.1,SNR=32
SDV LR LR 14 55 46.1
comp=Z,9µm,18.2s,MS5.4,baz=210,slow=39
SDV Santo Domingo 26.41 359 eP P 14 43 59.9 -1.3
comp=Z,102nm,1.2s,mb5.2
SDV LR LR
comp=Z,4µm,19.0s,MS5.0
CAM3 Guarapari 28.13 101 eP P 14 44 17.1 +0.5
CAM3 i 14 44 17.1
CAM3 i pP 14 44 29.3 +1.4
PCRV Puerto La Cruz 28.22 12 P P 14 44 17.1 -0.3
comp=Z,50nm,0.9s,mb5.1,baz=241,slow=2.1,SNR=9.2
PCRV LR LR 14 56 59.4
comp=Z,6µm,19.3s,MS5.2,baz=185,slow=40
JTS JuntasAbangare 31.41 331 P P 14 44 46.2 +0.6
comp=Z,237nm,1.1s,mb5.9,SNR=6.0
JTS JuntasAbangare 31.41 331 P P 14 44 46.0 +0.4
comp=Z,23nm,0.8s,mb5.1,baz=159,slow=3.5,SNR=13
JTS JuntasAbangare 31.41 331ceP P 14 44 45.6 0.0
JTS JuntasAbangare 31.41 331 eP P 14 44 45.4 -0.2
comp=Z,77nm,1.2s,mb5.4
JTS LR LR
comp=Z,567nm,20.0s,MS4.2
SVB Belmont 32.00 17 eP P 14 44 52.6 +1.8
SVB eS 14 45 45.0
SVV Soufriere Volc 32.05 17 eP P 14 44 52.4 +1.1
SVV Soufriere Volc 32.05 17 eP P 14 44 54.2 +2.9
SSV Crater Summit 32.07 17 eP P 14 44 50.0 -1.4
SSV eS 14 45 42.0
BBGH Gun Hill 32.38 20 PFAKE 14 45 00.0 +5.9
BBGH LR LR
comp=Z,6µm,19.0s,MS5.3
EFI East Falkland 35.24 167⇓eP P 14 45 16.3 -2.6
EFI East Falkland 35.24 167 PFAKE 14 45 30.0 +11
EFI LR LR
comp=Z,1µm,19.0s,MS4.7
CPD Cerro la Pandu 35.75 7 eP P 14 45 20.9 -2.5
comp=Z,234nm,1.2s,mb6.0
TGUH Tegucigalpa,Un 35.78 331 eP P 14 45 23.6 -0.1
comp=Z,102nm,0.8s,mb5.8
TGUH LR LR
comp=Z,1µm,21.0s,MS4.6
MTP Monte Pirata 35.85 7 eP P 14 45 21.5 -2.7
MTP epP pP 14 45 33.8 -1.8
USHA Ushuaia 37.09 178 P P 14 45 33.7 -1.1
comp=Z,18nm,0.7s,mb5.0,baz=336,slow=3.8,SNR=7.9
RPN Rapa Nui 37.28 248 PFAKE 14 45 50.0 +14
RPN LR LR
comp=Z,1µm,22.0s,MS4.6
CCCC Cccc 39.36 349 eP P 14 45 49.8 -4.1
TEIG Tepich 41.67 334 eP P 14 46 12.2 -0.7
comp=Z,204nm,1.1s,mb5.7
TEIG LR LR
comp=Z,2µm,20.0s,MS4.9
SOR Soroa 42.15 342 eP P 14 46 16.8 -0.1
CMIG Matias Romero 42.28 324 P P 14 46 18.1 +0.2
comp=Z,52nm,0.9s,mb5.2,baz=119,slow=5.7,SNR=40
HOPE Hope Point 44.77 153 P P 14 46 38.5 +0.5
comp=Z,484nm,0.8s,mb6.4,SNR=5.3
HOPE Hope Point 44.77 153 P P 14 46 38.7 +0.7
HOPE LR LR
comp=Z,687nm,19.0s,MS4.6
IIO Organos 46.47 322 iP P 14 46 53.4 +2.0
DWPF Disney 46.82 346 eP P 14 46 53.4 -0.8
comp=Z,329nm,1.4s,mb6.1
DWPF LR LR
comp=Z,2µm,20.0s,MS5.0
PMSA Palmer Station 47.22 176 P P 14 46 57.0 -0.3
comp=Z,43nm,0.9s,mb5.4,baz=310,slow=5.1,SNR=5.8
BBSR BB Station 50.05 6 PFAKE 14 47 30.0 +11
BBSR LR LR
comp=Z,913nm,20.0s,MS4.8
BRAL Brewton 51.08 341 eP P 14 47 26.5 -0.3
comp=Z,951nm,1.2s,mb6.6
BRAL LR LR
comp=Z,1µm,19.0s,MS4.9
NHSC New Hope 51.41 349 eP P 14 47 27.9 -1.4
comp=Z,214nm,0.8s,mb6.1
NHSC LR LR
comp=Z,2µm,21.0s,MS5.0
GOGA Godfrey 52.38 346 P P 14 47 35.4 -1.1
GOGA pmax pmax
comp=Z,210nm,1.0s,mb6.0
GOGA Godfrey 52.38 346 eP P 14 47 35.2 -1.3
comp=Z,207nm,1.1s,mb6.0
GOGA LR LR
comp=Z,2µm,19.0s,MS5.1
KVTX Kingsville 52.39 329 eP P 14 47 36.8 +0.2
comp=Z,182nm,1.0s,mb6.0
KVTX LR LR
comp=Z,1µm,19.0s,MS4.9
JSC Jenkinsville 52.75 348 P P 14 47 38.4 -0.9
JSC Jenkinsville 52.75 348 eP P 14 47 37.6 -1.6
LHS Liberty Hill 52.86 349 eP P 14 47 39.5 -0.5
LHS Liberty Hill 52.86 349 eP P 14 47 38.2 -1.8
LRAL Lakeview Retre 52.95 342 eP P 14 47 39.2 -1.5
comp=Z,648nm,1.8s,mb6.3
LRAL LR LR
comp=Z,1µm,22.0s,MS4.8
CNNC Cliffs of the 53.15 352 PFAKE 14 47 50.0 +7.8
CNNC LR LR
comp=Z,659nm,21.0s,MS4.7
HKT Hockley 53.44 332 P P 14 47 43.3 -1.0
HKT pmax pmax
comp=Z,150nm,1.5s,mb5.7
HKT Hockley 53.44 332 eP P 14 47 43.1 -1.2
comp=Z,145nm,1.5s,mb5.7
HKT LR LR
comp=Z,828nm,21.0s,MS4.8
OXF Oxford 55.05 341 P P 14 47 54.4 -1.6
OXF pmax pmax
comp=Z,170nm,1.1s,mb6.0
OXF Oxford 55.05 341 eP P 14 47 53.6 -2.4
comp=Z,166nm,1.1s,mb6.0
OXF LR LR
comp=Z,944nm,22.0s,MS4.8
PLAL Pickwick Lake 55.08 342 eP P 14 47 53.7 -2.5
comp=Z,272nm,1.5s,mb6.1
PLAL LR LR
comp=Z,951nm,22.0s,MS4.8
ASCN Ascension 55.10 87 eP P 14 47 55.9 -0.4
comp=Z,578nm,1.4s,mb6.4
ASCN LR LR
comp=Z,239nm,19.0s,MS4.3
TZTN Tazewell 55.41 347 eP P 14 47 57.2 -1.4
comp=Z,223nm,1.2s,mb6.1
TZTN LR LR
comp=Z,2µm,20.0s,MS5.2
BLA Blacksburg 55.46 350 P P 14 47 58.5 -0.5
BLA pmax pmax
comp=Z,390nm,1.5s,mb6.2
BLA Blacksburg 55.46 350 eP P 14 47 58.3 -0.6
comp=Z,390nm,1.5s,mb6.2
BLA LR LR
comp=Z,1µm,20.0s,MS5.0
ELN Prospectdale 55.53 350 eP P 14 47 59.0 -0.5
JCT Junction City 55.75 329 P P 14 48 00.3 -0.8
JCT pmax pmax
comp=Z,160nm,1.2s,mb5.9
JCT Junction City 55.75 329 eP P 14 48 00.1 -0.9
comp=Z,163nm,1.3s,mb5.9
JCT LR LR
comp=Z,471nm,20.0s,MS4.6
FWV Forest Hill 55.88 350 eP P 14 48 01.3 -0.7
CBN Corbin 56.01 353 PFAKE 14 48 10.0 +7.1
CBN LR LR
comp=Z,1µm,21.0s,MS5.0
WVT Waverly 56.08 343 eP P 14 48 01.1 -2.3
WVT pmax pmax
comp=Z,300nm,1.1s,mb6.2
WVT MLR MLR
comp=Z,888nm,19.0s,MS4.9
WVT Waverly 56.08 343 eP P 14 48 01.1 -2.3
comp=Z,300nm,1.1s,mb6.2
WVT LR LR
comp=Z,888nm,19.0s,MS4.9
UALR University of 56.28 338 eP P 14 48 03.5 -1.4
comp=Z,223nm,1.3s,mb6.0
MIAR Mount Ida 56.52 337 P P 14 48 05.6 -1.0
MIAR pmax pmax
comp=Z,220nm,1.2s,mb6.1
MIAR Mount Ida 56.52 337 eP P 14 48 05.5 -1.0
comp=Z,221nm,1.2s,mb6.1
MIAR LR LR
comp=Z,759nm,20.0s,MS4.8
LTX Lajitas 56.85 325 eP P 14 48 08.0 -0.9
LTX pmax pmax
comp=Z,66nm,1.1s,mb5.6
LTX MLR MLR
comp=Z,825nm,19.0s,MS4.8
LTX Lajitas 56.85 325 eP P 14 48 08.0 -0.9
comp=Z,66nm,1.1s,mb5.6
LTX LR LR
comp=Z,825nm,19.0s,MS4.8
TXAR Lajitas Array 56.85 325 P P 14 48 08.0 -0.9
comp=Z,16nm,0.7s,mb5.2,baz=150,slow=9.3,SNR=170
TXAR PcP PcP 14 49 04.0 -0.2
comp=Z,7.3nm,0.9s,baz=133,slow=6.6,SNR=2.1
TXAR Lajitas Array 56.85 325 P P 14 48 08.0 -0.9
TXAR PcP PcP 14 49 04.0 -0.2
PVMO Portageville 56.90 341 eP P 14 48 08.1 -1.1
comp=Z,471nm,1.0s,mb6.5
WCI Wyandotte Cave 57.65 345 eP P 14 48 12.7 -1.9
comp=Z,443nm,1.1s,mb6.4
WCI LR LR
comp=Z,1µm,19.0s,MS5.1
USIN University of 57.76 344 eP P 14 48 13.4 -1.8
comp=Z,679nm,1.3s,mb6.5
MCWV Mont Chateau 57.76 351 eP P 14 48 14.6 -0.7
comp=Z,71nm,0.7s,mb5.8
MCWV LR LR
comp=Z,2µm,19.0s,MS5.1
SIUC Southern Illin 57.96 342 eP P 14 48 15.3 -1.4
comp=Z,440nm,0.8s,mb6.5
SSPA Standing Stone 58.47 353 eP P 14 48 18.9 -1.4
comp=Z,81nm,1.5s,mb5.5
SSPA LR LR
comp=Z,1µm,22.0s,MS5.0
PAL Palisades 58.50 357 P P 14 48 19.2 -1.3
PAL pmax pmax
comp=Z,41nm,1.0s,mb5.4
PAL Palisades 58.50 357 eP P 14 48 18.7 -1.8
comp=Z,48nm,1.0s,mb5.5
FVM French Village 58.57 341 P P 14 48 19.6 -1.4
FVM French Village 58.57 341 eP P 14 48 19.5 -1.5
comp=Z,518nm,1.0s,mb6.5
BLO Bloomington 58.60 345 P P 14 48 19.6 -1.6
BLO pmax pmax
comp=Z,390nm,1.1s,mb6.3
BLO Bloomington 58.60 345 eP P 14 48 19.4 -1.8
comp=Z,394nm,1.1s,mb6.3
WMOK Wichita Mounta 58.81 333 P P 14 48 21.2 -1.5
WMOK pmax pmax
comp=Z,50nm,1.1s,mb5.5
WMOK Wichita Mounta 58.81 333 eP P 14 48 21.1 -1.6
comp=Z,50nm,1.1s,mb5.5
WMOK LR LR
comp=Z,896nm,22.0s,MS4.8
CCM Cathedral Cave 58.89 341 eP P 14 48 15.3 -7.8
comp=Z,143nm,0.9s,mb6.0
CCM epP pP 14 48 29.4 -5.8
CCM LR LR
comp=Z,719nm,19.0s,MS4.8
SLM Saint Louis 59.11 342 P P 14 48 22.9 -1.8
SLM pmax pmax
comp=Z,170nm,1.1s,mb6.0
SLM Saint Louis 59.11 342 eP P 14 48 22.7 -2.0
comp=Z,172nm,1.1s,mb6.0
MNTX Cornudas Mount 59.61 325 eP P 14 48 26.5 -1.7
comp=Z,113nm,1.3s,mb5.7
MNTX LR LR
comp=Z,737nm,21.0s,MS4.8
QUA2 Belchertown 59.70 358 eP P 14 48 26.3 -2.5
comp=Z,37nm,1.0s,mb5.4
ALLY Alegheny Colle 59.76 351 eP P 14 48 28.1 -1.1
comp=Z,378nm,1.0s,mb6.4
WES Weston 59.78 359 P P 14 48 28.1 -1.3
WES pmax pmax
comp=Z,110nm,1.3s,mb5.7
WES Weston 59.78 359 eP P 14 48 27.7 -1.7
comp=Z,172nm,1.3s,mb5.9
WES LR LR
comp=Z,824nm,21.0s,MS4.8
BINY Binghamton 59.83 355 eP P 14 48 28.8 -1.0
comp=Z,95nm,1.1s,mb5.7
BINY LR LR
comp=Z,2µm,22.0s,MS5.2
HRV Harvard--Oak R 59.91 359 P P 14 48 28.6 -1.6
HRV pmax pmax
comp=Z,57nm,1.0s,mb5.6
HRV Harvard--Oak R 59.91 359 eP P 14 48 28.4 -1.8
comp=Z,57nm,0.9s,mb5.5
HRV LR LR
comp=Z,780nm,20.0s,MS4.8
AMTX Amarillo 60.26 330 eP P 14 48 31.1 -1.5
comp=Z,60nm,1.1s,mb5.5

AMTX LR LR
comp=Z,653nm,20.0s,MS4.8
RKT Rikitea 60.56 253 *e*S **S 14 56 48.1 +0.4**
comp=Z,747nm,27.2s
RKT *e*LR LR 15 06 43.9
comp=Z,1µm,23.8s
HDIL Hopedale 60.62 343 PFAKE 14 48 40.0 +4.9
HDIL LR LR
comp=Z,1µm,19.0s,MS5.1
ACCN Adirondack Com 60.86 357 *e*P **P 14 48 35.3 -1.4**
comp=Z,19nm,0.9s,mb5.2
AAM Ann Arbor 60.98 349 P **P 14 48 36.2 -1.3**
AAM pmax pmax
comp=Z,83nm,0.9s,mb5.9
AAM Ann Arbor 60.98 349 *e*P **P 14 48 35.9 -1.7**
comp=Z,83nm,0.8s,mb5.9
AAM LR LR
comp=Z,1µm,22.0s,MS5.1
HNH Hanover 61.12 358 *e*P **P 14 48 37.7 -0.9**
comp=Z,431nm,1.6s,mb6.3
SHEL Horse Pasture 61.41 99 PFAKE 14 48 50.0 +10
SHEL LR LR
comp=Z,306nm,20.0s,MS4.5
NCB Newcomb 61.47 357 *e*P **P 14 48 39.6 -1.3**
comp=Z,43nm,1.0s,mb5.5
NCB LR LR
comp=Z,2µm,22.0s,MS5.1
LBNH Lisbon 61.65 359 P **P 14 48 41.4 -0.7**
LBNH pmax pmax
comp=Z,85nm,1.1s,mb5.8
LBNH Lisbon 61.65 359 *e*P **P 14 48 41.0 -1.0**
comp=Z,85nm,1.1s,mb5.8
LBNH LR LR
comp=Z,799nm,22.0s,MS4.8
KSU1 Kansas State U 61.68 337 *e*P **P 14 48 40.5 -1.8**
comp=Z,158nm,1.0s,mb6.1
KSU1 LR LR
comp=Z,703nm,19.0s,MS4.8
LONY Lake Ozonia 62.14 356 *e*P **P 14 48 44.1 -1.2**
comp=Z,114nm,1.4s,mb5.8
LONY LR LR
comp=Z,2µm,22.0s,MS5.2
BNM Barren Site 62.16 326 *e*P **P 14 48 45.1 -0.4**
Y22C IRIS PASSCAL I 62.26 326 ⇓P **P 14 48 46.2 0.0**
baz=62
LPM Los Pinos Moun 62.29 326 *e*P **P 14 48 45.9 -0.4**
LENM Lemitar 62.36 326 *e*P **P 14 48 46.6 -0.2**
MSNY Massena 62.53 356 *e*P **P 14 48 46.9 -1.1**
MSNY *e*pP pP 14 48 58.8 -1.3
LAZ Ladron 62.62 326 *e*P **P 14 48 48.5 -0.1**
PKME Peaks-Kenny Pk 62.66 1 *e*P **P 14 48 47.9 -1.0**
comp=Z,121nm,1.3s,mb5.9
PKME *e*pP pP 14 49 00.5 -0.4
PKME LR LR
comp=Z,1µm,22.0s,MS5.0
CBKS Cedar Bluff 62.67 334 P **P 14 48 48.3 -0.6**
CBKS pmax pmax
comp=Z,210nm,1.2s,mb6.1
CBKS Cedar Bluff 62.67 334 *e*P **P 14 48 47.6 -1.3**
comp=Z,213nm,1.2s,mb6.2
CBKS LR LR
comp=Z,679nm,20.0s,MS4.8
ANMO Albuquerque 62.69 327 P **P 14 48 48.6 -0.4**
ANMO pmax pmax
comp=Z,41nm,1.1s
ANMO Albuquerque 62.69 327 *e*P **P 14 48 48.4 -0.6**
comp=Z,41nm,1.1s,mb5.5
ANMO LR LR
comp=Z,598nm,21.0s,MS4.7
SCIA State Center 63.02 341 *e*P **P 14 48 49.6 -1.6**
comp=Z,82nm,0.7s,mb6.0
SCIA *e*pP pP 14 49 02.5 -0.9
SCIA LR LR
comp=Z,860nm,19.0s,MS4.9
JFWS Jewell Farm 63.08 344 P **P 14 48 50.3 -1.3**
JFWS pmax pmax
comp=Z,340nm,1.0s,mb6.4
JFWS Jewell Farm 63.08 344 *e*P **P 14 48 50.1 -1.5**
comp=Z,335nm,1.1s,mb6.4
JFWS LR LR
comp=Z,1µm,19.0s,MS5.0
TUC Tucson 63.13 322 *e*P **P 14 48 51.4 -0.5**
TUC pmax pmax
comp=Z,64nm,1.4s,mb5.6
TUC MLR MLR
comp=Z,489nm,19.0s,MS4.7
TUC Tucson 63.13 322 *e*P **P 14 48 51.4 -0.6**
comp=Z,64nm,1.4s,mb5.6
TUC LR LR
comp=Z,489nm,19.0s,MS4.7
116A Eloy 63.85 321 ⇑P **P 14 48 56.8 0.0**
baz=64,SNR=7.8
VNA3 Neumayer Olymp 64.04 162 ⇓*i*P **P 14 48 57.5 -0.5**
VNA3 *e* pP 14 49 09.0 -1.1
VNA3 *e* 14 49 13.9
VNA3 *e* 14 49 23.0
VNA3 *e* 14 49 32.2
VNA1 Neumayer--Stat 64.25 161 ⇓*i*P **P 14 48 59.4 +0.1**
VNA1 *e* pP 14 49 10.8 -0.7
VNA1 *e* 14 49 16.0
VNA1 *e* 14 49 26.2
VNA1 *e* 14 49 32.6
115A Sonoran Desert 64.26 321 P **P 14 48 59.7 +0.3**
baz=64,SNR=15
SDCO Great Sand Dun 64.39 329 *e*P **P 14 49 00.2 0.0**
comp=Z,166nm,1.1s,mb6.0
SDCO LR LR
comp=Z,1µm,22.0s,MS5.0
VNA2 Neumayer--Watz 64.61 161 ⇓*i*P **P 14 49 01.2 -0.5**
baz=288,slow=8.0
VNA2 *e* pP 14 49 12.9 -1.0
VNA2 *e* 14 49 18.6
VNA2 *e* 14 49 26.5
VNA2 *e* 14 49 35.1
Z14A Wintersburg 65.15 321 P **P 14 49 05.5 +0.3**
baz=65,SNR=18
MVCO Mesa Verde 65.48 327 *e*P **P 14 49 07.0 -0.4**
comp=Z,228nm,1.5s,mb6.0
MVCO LR LR
comp=Z,643nm,20.0s,MS4.8
MVCO Mesa Verde 65.48 327 P **P 14 49 07.3 0.0**
baz=66,SNR=41
X15A Humboldt 65.53 323 P **P 14 49 08.2 +0.5**
baz=66,SNR=22
Y14A Wickenburg 65.59 322 P **P 14 49 08.3 +0.3**
baz=66,SNR=29
ECSD EROS,Sioux Fal 65.76 339 *e*P **P 14 49 08.0 -1.2**
comp=Z,497nm,1.4s,mb6.3
ECSD LR LR
comp=Z,604nm,19.0s,MS4.8
WUAZ Wupatki 65.78 324 *e*P **P 14 49 09.5 +0.3**
comp=Z,153nm,1.2s,mb5.9
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.1
WUAZ Wupatki 65.78 324 P **P 14 49 09.8 +0.5**
baz=66,SNR=46
X14A Yava 65.90 322 P **P 14 49 10.6 +0.5**
baz=66,SNR=28
Y13A Salome 66.00 321 ⇑P **P 14 49 10.8 +0.1**
baz=66
W15A Williams 66.04 323 ⇓P **P 14 49 11.7 +0.7**
baz=66,SNR=17
ISCO Idaho Springs 66.07 331 P **P 14 49 11.2 +0.1**
ISCO pmax pmax
comp=Z,75nm,1.1s,mb5.6
ISCO Idaho Springs 66.07 331 *e*P **P 14 49 11.0 -0.1**
comp=Z,75nm,1.1s,mb5.6
ISCO LR LR
comp=Z,738nm,21.0s,MS4.9
GLA Glamis 66.08 320 P **P 14 49 11.4 +0.2**
GLA Glamis 66.08 320 *e*P **P 14 49 11.3 0.0**
comp=Z,305nm,2.0s,mb6.0
GLA Glamis 66.08 320 P **P 14 49 11.5 +0.3**
baz=66,SNR=11
PV01 Paradox Valley 66.22 328 *e*P **P 14 49 12.1 0.0**
SNAA Sanae 66.24 161 ⇓*i*P **P 14 49 11.3 -1.0**
SNAA *e* pP 14 49 23.1 -1.4
SNAA *e* 14 49 28.2
SNAA *e* 14 49 36.7
SNAA *e* 14 49 43.4
SNAA Sanae 66.24 161 *e*P **P 14 49 11.4 -0.9**
SNAA pmax pmax
comp=Z,66nm,1.0s
SNAA Sanae 66.24 161 *e*P **P 14 49 11.4 -0.8**
comp=Z,66nm,1.0s,mb5.6
SNAA *e*pP pP 14 49 21.6 -2.9

Y12C Blythe 66.37 321 ⇓P **P 14 49 13.2 +0.1**
baz=67,SNR=12
PDMCI Parker Dam,Lak 66.52 321 ⇓P **P 14 49 13.9 -0.1**
baz=67,SNR=9.9
W14A Seligman 66.53 323 P **P 14 49 14.9 +0.8**
baz=67,SNR=36
X13A Yucca 66.54 322 P **P 14 49 14.4 +0.2**
baz=67,SNR=37
SWSC Sam W. Stewart 66.61 319 P **P 14 49 14.9 +0.4**
baz=67,SNR=12
DVTC Desert V Tower 66.61 319 ⇑P **P 14 49 15.2 +0.6**
baz=67
PV10 Paradox Valley 66.64 327 *e*P **P 14 49 13.8 -1.0**
BC3 Big Chuckw Mtn 66.87 320 P **P 14 49 16.7 +0.4**
baz=67,SNR=45
W13A Hualapai Mount 66.92 322 P **P 14 49 17.4 +0.8**
baz=67,SNR=32
MONP Monument Peak 66.97 319 P **P 14 49 17.5 +0.6**
baz=67,SNR=48
IRM Iron Mountain 67.03 320 ⇑P **P 14 49 17.5 +0.3**
baz=67,SNR=71
NEE2 Needles Airpor 67.13 321 ⇑P **P 14 49 17.8 -0.1**
baz=67
PHWY Pilot Hill 67.19 332 *e*P **P 14 49 18.0 -0.3**
109C Camp Elliot, M 67.40 318 ⇓P **P 14 49 19.7 0.0**
baz=68
BELC Belle Mtn. 67.44 320 P **P 14 49 20.5 +0.6**
baz=68,SNR=28
PFO Pinyon Flat Ob 67.46 319 P **P 14 49 20.0 0.0**
comp=Z,262nm,0.7s,mb6.4,SNR=16
PFO Pinyon Flat Ob 67.46 319 *e*P **P 14 49 20.2 +0.2**
comp=Z,29nm,0.8s,mb5.4
PFO LR LR
comp=Z,284nm,20.0s,MS4.5
PFO Pinyon Flat Ob 67.46 319 P **P 14 49 20.6 +0.6**
baz=68,SNR=28
W12A Cal Nev Ari 67.64 322 ⇑P **P 14 49 21.3 +0.2**
baz=68,SNR=7.3
MURC Murrieta 67.92 319 P **P 14 49 23.4 +0.5**
baz=68,SNR=5.8
V12A Nelson 67.92 322 P **P 14 49 23.3 +0.3**
baz=68,SNR=46
SRU San Rafael 67.95 327 P **P 14 49 23.1 0.0**
SRU pmax pmax
comp=Z,130nm,1.3s,mb5.8
SRU San Rafael 67.95 327 *e*P **P 14 49 22.8 -0.3**
comp=Z,132nm,1.3s,mb5.8
EYMN Ely 68.08 345 *e*P **P 14 49 22.0 -1.9**
comp=Z,108nm,1.0s,mb5.8
EYMN LR LR
comp=Z,1µm,20.0s,MS5.2
BBRC Big Bear Sol-O 68.19 319 ⇑P **P 14 49 25.4 +0.8**
baz=68,SNR=8.1
HEC Hector,Ludlow 68.20 320 ⇓P **P 14 49 25.4 +0.7**
baz=68,SNR=6.3
U12A Valley of Fire 68.23 323 P **P 14 49 25.5 +0.7**
baz=68,SNR=20
RWWY Rawlins 68.30 331 *e*P **P 14 49 25.2 -0.1**
comp=Z,248nm,1.5s,mb6.0
V11A Goodsprings 68.34 322 P **P 14 49 26.1 +0.5**
baz=68,SNR=12
CCUT Cedar City 68.35 324 *e*P **P 14 49 26.6 +1.0**
TUQ Turquoise Mtn. 68.36 321 P **P 14 49 26.2 +0.5**
baz=69,SNR=41
TAOE Nuku Hiva Isla 68.37 267 *e*LR LR 15 09 59.0
comp=Z,2µm,27.5s
SCI San Clemente I 68.38 317 ⇓P **P 14 49 26.0 +0.2**
baz=69,SNR=5.3
MSU Marysvale 68.39 326 *e*P **P 14 49 26.2 +0.4**
MVU Marysvale 68.40 326 PFAKE 14 49 40.0 +14
MVU LR LR
comp=Z,1µm,21.0s,MS5.1
TMUT Trail Mountain 68.45 327 *e*P **P 14 49 26.2 0.0**
LIC Lamto 68.53 76 ⇑*i*P **P 14 49 26.8 +0.1**
LIC *e*R
comp=Z,943nm,19.2s
LIC Lamto 68.53 76 ⇑*i*P **P 14 49 26.8 +0.1**
LIC LR LR
comp=Z,470nm,19.3s,MS4.7
ARUT Antelope Range 68.56 324 P **P 14 49 27.8 +0.9**
ARUT Antelope Range 68.56 324 *e*P **P 14 49 27.7 +0.8**
CIS Catalina Islan 68.56 318 P **P 14 49 27.4 +0.5**
baz=69,SNR=6.9
EGOM La Gomera 68.57 49 P **P 14 49 27.6 +0.6**
comp=Z,156nm,0.8s,mb6.0
BFSC Mount Baldy St 68.63 319 P **P 14 49 27.7 +0.3**
baz=69,SNR=24
RRX Edison Barstow 68.64 320 ⇑P **P 14 49 28.1 +0.7**
baz=69
FMP Fort Macarthur 68.68 318 ⇓P **P 14 49 27.9 +0.2**
baz=69
U11A Corn Creek 68.72 322 ⇑P **P 14 49 28.7 +0.8**
baz=69,SNR=7.0
GSC Goldstone 68.81 320 P **P 14 49 29.1 +0.7**
GSC Goldstone 68.81 320 *e*P **P 14 49 28.8 +0.4**
comp=Z,140nm,1.3s,mb5.7
GSC Goldstone 68.81 320 P **P 14 49 29.2 +0.7**
baz=69,SNR=46
RSSD Black Hills 68.87 335 P **P 14 49 28.7 -0.1**
RSSD pmax pmax
comp=Z,51nm,0.9s,mb5.5
RSSD Black Hills 68.87 335 *e*P **P 14 49 28.5 -0.4**
comp=Z,51nm,0.9s,mb5.5
SHOC Shoshone 68.89 321 P **P 14 49 29.3 +0.4**
baz=69,SNR=12
CCAN Las Canadas 69.05 49 P **P 14 49 32.1 +2.2**
comp=Z,96nm,1.0s,mb5.7
DECC Green Verdugo 69.06 319 ⇓P **P 14 49 30.4 +0.4**
baz=69
SNCC San Nicolas Is 69.18 317 ⇓P **P 14 49 30.6 -0.2**
baz=69
MPU Maple Canyon 69.20 327 *e*P **P 14 49 30.5 -0.4**
comp=Z,124nm,1.4s,mb5.7
MPU LR LR
comp=Z,892nm,20.0s,MS5.0
EDW2 Edwards Air Fo 69.25 319 P **P 14 49 31.4 +0.2**
baz=69,SNR=29
U10A Ash Meadows, A 69.27 322 P **P 14 49 32.2 +0.9**
baz=70,SNR=32
DAU Daniels Canyon 69.30 328 P **P 14 49 32.0 +0.5**
DAU Daniels Canyon 69.30 328 *e*P **P 14 49 31.9 +0.4**
NLU North Lily Min 69.39 327 *e*P **P 14 49 32.0 0.0**
EBAJ Bajamar 69.42 49 P **P 14 49 34.4 +2.1**
comp=Z,200nm,1.9s,mb5.7
BLG Laguna Peak 69.43 318 ⇑P **P 14 49 32.5 +0.2**
baz=70,SNR=5.8
LRMC Laurel Mountai 69.46 320 ⇑P **P 14 49 32.8 +0.2**
baz=70,SNR=38
JLU Jordanelle 69.54 328 *e*P **P 14 49 33.3 +0.3**
OSI Osito Adit 69.54 319 ⇓P **P 14 49 33.1 +0.1**
baz=70,SNR=6.3
AGMN Agassiz Refuge 69.59 342 *e*P **P 14 49 31.8 -1.5**
comp=Z,134nm,1.1s,mb5.8
AGMN LR LR
comp=Z,1µm,19.0s,MS5.2
FURC Furnace Creek, 69.62 321 P **P 14 49 34.3 +0.8**
baz=70,SNR=53
BSC Santa Cruz Isl 69.72 318 ⇑P **P 14 49 34.4 +0.3**
baz=70
MPMC Manual Prospec 69.73 321 P **P 14 49 34.4 +0.3**
baz=70,SNR=48
EOSO Osorio 69.73 50 P **P 14 49 35.6 +1.5**
comp=Z,88nm,1.0s,mb5.7
CTU Camp Tracy 69.76 327 *e*P **P 14 49 34.0 -0.4**
comp=Z,34nm,1.0s,mb5.2
NOQ North Oquirrh 69.92 327 *e*P **P 14 49 35.0 -0.4**
comp=Z,18nm,0.6s,mb5.2
DAC Darwin (Calif) 69.93 321 *e*P **P 14 49 35.5 +0.1**
DAC *e**PP pP 14 49 47.9 +0.2
DAC pmax pmax
comp=Z,83nm,1.0s,mb5.6
DAC MLR MLR
comp=Z,636nm,22.0s,MS4.8
DAC Darwin (Calif) 69.93 321 *e*P **P 14 49 35.5 +0.1**
comp=Z,83nm,1.0s,mb5.6
DAC *e*pP pP 14 49 47.9 +0.2
DAC LR LR
comp=Z,636nm,22.0s,MS4.8
ARVC Arvin 69.94 319 ⇓P **P 14 49 35.6 +0.2**
baz=70,SNR=6.8
DUG Dugway 69.95 326 P **P 14 49 35.8 +0.3**
DUG pmax pmax
comp=Z,120nm,1.1s,mb5.7
DUG Dugway 69.95 326 *e*P **P 14 49 35.5 0.0**
comp=Z,119nm,1.1s,mb5.7
DUG LR LR
comp=Z,637nm,20.0s,MS4.9

DUG Dugway 69.95 326 P **P 14 49 36.0 +0.5**
baz=70,SNR=71
SBC Santa Barbara 70.06 318 ⇓P **P 14 49 36.3 +0.1**
baz=70
ISA Isabella 70.07 320 *e*P **P 14 49 36.9 +0.7**
ISA Isabella 70.07 320 *e*P **P 14 49 36.6 +0.4**
comp=Z,117nm,1.2s,mb5.7
ISA *e*pP pP 14 49 48.5 0.0
ISA LR LR
comp=Z,581nm,22.0s,MS4.8
ISA Isabella 70.07 320 ⇑P **P 14 49 36.8 +0.5**
baz=70,SNR=54
TRCR Troy Canyon 70.16 323 *e*P **P 14 49 37.5 +0.8**
Q12A Willow Creek R 70.22 324 ⇓P **P 14 49 37.6 +0.4**
baz=70,SNR=49
BW06 Boulder Array 70.24 330 PFAKE 14 49 50.0 +13
BW06 LR LR
comp=Z,926nm,22.0s,MS5.0
PDAR Pinedale Array 70.24 330 P **P 14 49 36.5 -0.8**
comp=Z,22nm,0.8s,mb5.1,baz=142,slow=7.5,SNR=120
GRAC Grapevine Rang 70.28 321 P **P 14 49 38.3 +0.8**
baz=70,SNR=10
CWC Cottonwood Cre 70.33 321 ⇑P **P 14 49 38.5 +0.6**
baz=70,SNR=10
HWUT Hardware Ranch 70.34 328 *e*P **P 14 49 37.3 -0.6**
comp=Z,103nm,1.2s,mb5.6
HWUT LR LR
comp=Z,1µm,21.0s,MS5.1
PKM Peak Mountain 70.41 318 ⇓P **P 14 49 38.9 +0.5**
baz=71,SNR=38
R10A Warm Springs 70.53 323 ⇓P **P 14 49 40.2 +1.2**
baz=71,SNR=45
Q11A Duckwater 70.54 324 ⇓P **P 14 49 39.8 +0.6**
baz=71,SNR=89
VES Vestal, Richgr 70.56 319 ⇑P **P 14 49 39.5 +0.3**
baz=71,SNR=24
P12A McGill 70.56 325 ⇓P **P 14 49 39.8 +0.6**
baz=71,SNR=66
SPUT South Promonto 70.57 327 *e*P **P 14 49 35.9 -3.5**
BGU Big Grassy Mou 70.59 327 *e*P **P 14 49 39.2 -0.2**
BGU *e*pP pP 14 49 50.9 -0.8
S09A Goldfield 70.68 322 P **P 14 49 40.5 +0.5**
baz=71,SNR=54
MAIT Maitri 70.76 160 *e*P pP 14 49 50.9 -1.9
SMMC Simmler 70.79 319 ⇑P **P 14 49 41.4 +0.7**
baz=71,SNR=16
NVL N'lazarevskaya 70.79 160 *d i*P **P 14 49 39.6 -1.1**
NVL *i* *SP sP 14 49 58.5 +0.8
NVL *i* S S 14 58 51.9 -0.6
NVL *e* 14 59 40.5
NVL *e*SS SS 15 03 42.2 +17
NVL pmax pmax
comp=Z,51nm,1.6s,mb5.2
TIN Tinemaha 70.83 321 ⇓P **P 14 49 41.5 +0.6**
baz=71
TPH Tonopah 70.91 322 P **P 14 49 42.1 +0.7**
TPH pmax pmax
comp=Z,93nm,1.2s,mb5.6
TPH Tonopah 70.91 322 *e*P **P 14 49 41.8 +0.4**
comp=Z,93nm,1.3s,mb5.5
TPH *e*pP pP 14 49 54.1 +0.4
TPH LR LR
comp=Z,605nm,22.0s,MS4.8
R09A Tonopah 70.94 323 P **P 14 49 42.1 +0.6**
baz=71,SNR=62
RCTC Rector, Farmer 70.96 320 ⇓P **P 14 49 41.2 -0.5**
baz=71
AHID Auburn Hatcher 70.98 329 *e*P **P 14 49 41.1 -0.7**
comp=Z,38nm,0.8s,mb5.4
AHID LR LR
comp=Z,712nm,20.0s,MS4.9
CFTV Fuerteventura 71.00 51 P **P 14 49 42.3 +0.4**
comp=Z,21nm,0.8s,mb5.1
O12A Currie 71.03 325 P **P 14 49 42.7 +0.6**
baz=71,SNR=113
HELL Mitchell Peak, 71.06 320 P **P 14 49 42.6 +0.3**
baz=71,SNR=33
HVU Hansel Valley 71.08 328 P **P 14 49 41.9 -0.5**
HVU pmax pmax
comp=Z,58nm,0.8s,mb5.6
HVU Hansel Valley 71.08 328 *e*P **P 14 49 41.8 -0.6**
comp=Z,58nm,0.8s,mb5.6
V05C Boulder Hill, 71.08 319 ⇓P **P 14 49 43.0 +0.6**
baz=71
P11A Circle Ranch, 71.09 324 ⇑P **P 14 49 42.7 +0.3**
baz=71,SNR=6.5
S08C White Mtn Res 71.09 321 P **P 14 49 43.4 +0.9**
baz=71,SNR=39
PTRM Twisteman Ran 71.14 319 *e*P **P 14 49 43.6 +0.8**
N13A Wendover, West 71.16 326 P **P 14 49 42.9 0.0**
baz=71,SNR=11
MTUM Tungsten Hills 71.23 321 *e*P **P 14 49 42.6 -0.7**
REDW Red Top Meadow 71.31 330 *e*P **P 14 49 43.2 -0.6**
comp=Z,136nm,1.3s,mb5.7
SNOW Snow King Moun 71.34 330 *e*P **P 14 49 43.9 0.0**
comp=Z,55nm,0.8s,mb5.5
ULM Lac du Bonnet 71.35 343 P **P 14 49 42.4 -1.6**
comp=Z,56nm,0.6s,mb5.6,baz=154,slow=5.5,SNR=64
ULM LR LR 15 23 39.8
comp=Z,940nm,20.2s,MS5.0,baz=283,slow=38
LOHW Long Hollow 71.38 330 *e*P **P 14 49 44.0 -0.2**
comp=Z,120nm,1.3s,mb5.7
Q09A Carvers 71.40 323 ⇑P **P 14 49 45.1 +0.8**
baz=72,SNR=13
O11A Cowboy Ranch, 71.43 325 ⇑P **P 14 49 44.8 +0.3**
baz=72,SNR=46
M13A Montello 71.50 327 P **P 14 49 44.7 -0.3**
baz=72,SNR=27
U05C Westside ANR, 71.52 319 ⇑P **P 14 49 44.9 -0.2**
baz=72
RRI2 Red Ridge 71.52 330 *e*P **P 14 49 45.1 0.0**
comp=Z,231nm,1.0s,mb6.1
P10A Eureka 71.53 324 ⇓P **P 14 49 45.8 +0.7**
baz=72,SNR=14
PKD Parkfield 71.53 319 ⇓P **P 14 49 45.2 +0.1**
baz=72,SNR=11
MOOW Moose Ponds 71.55 330 *e*P **P 14 49 44.8 -0.5**
comp=Z,108nm,1.4s,mb5.6
V04C Ramage Ranch, 71.55 318 ⇑P **P 14 49 45.7 +0.4**
baz=72,SNR=7.6
MLAC Mammoth Lakes 71.57 321 ⇓P **P 14 49 46.1 +0.8**
baz=72,SNR=14
N12A Clover Valley, 71.60 326 P **P 14 49 45.5 -0.1**
baz=72,SNR=17
R08A Mina 71.61 322 ⇓P **P 14 49 46.1 +0.5**
baz=72,SNR=24
ELK Elko 71.64 325 P **P 14 49 45.9 +0.1**
ELK pmax pmax
comp=Z,80nm,1.2s
ELK Elko 71.64 325 *e*P **P 14 49 45.7 -0.1**
comp=Z,80nm,1.2s,mb5.5
ELK LR LR
comp=Z,1µm,19.0s,MS5.2
DCID1 Drake Creek 71.64 330 *e*P **P 14 49 45.9 +0.1**
KCC Kaiser Creek 71.66 321 P **P 14 49 45.8 -0.1**
baz=72,SNR=14
T06C Millerton Lake 71.69 320 ⇓P **P 14 49 45.2 -1.0**
baz=72
IMW Indian Meadow 71.75 330 *e*P **P 14 49 46.5 +0.1**
comp=Z,140nm,1.1s,mb5.8
FLWY Flagg Ranch 71.78 330 *e*P **P 14 49 46.9 +0.2**
comp=Z,226nm,1.0s,mb6.0
NVAR Mina Array Bea 71.78 322 P **P 14 49 47.2 +0.6**
baz=148,slow=5.3
EFAM Famara 71.79 50 P **P 14 49 48.4 +1.7**
comp=Z,82nm,0.7s,mb5.8
Q08A Gabbs 71.85 323 ⇑P **P 14 49 47.1 +0.1**
baz=72,SNR=27
LAO LASA Array 71.86 335 *e*P **P 14 49 46.7 -0.4**
comp=Z,233nm,1.3s,mb6.0
LAO LR LR
comp=Z,805nm,20.0s,MS5.0
P09A Austin 71.86 324 ⇑P **P 14 49 47.7 +0.6**
baz=72,SNR=9.2
RLMT Red Lodge 71.92 332 *e*P **P 14 49 47.4 -0.1**
comp=Z,278nm,1.5s,mb6.0
M12A Wells 71.94 326 P **P 14 49 47.5 -0.1**
baz=72,SNR=36
U04C Hernandez Rese 71.95 319 ⇑P **P 14 49 48.1 +0.4**
baz=72,SNR=30
N11A Elko Archery C 71.95 325 ⇑P **P 14 49 47.8 +0.1**
baz=72
R07C Lee Vining 72.00 321 ⇓P **P 14 49 48.8 +0.9**
baz=72
LKWY Lake 72.01 331 P **P 14 49 49.3 +1.3**
LKWY pmax pmax
comp=Z,160nm,1.3s,mb5.8

LKWY **Lake** 72.01 331 *e*P P 14 49 49.0 +1.0
comp=Z,165nm,1.4s,mb5.8
LKWY LR LR
comp=Z,654nm,19.0s,MS4.9
O10A Cortez Mining, 72.01 324 ⇓P P 14 49 48.6 +0.6
baz=72,SNR=44
V03C Hunter Liggett 72.02 318 ⇑P P 14 49 48.9 +0.9
baz=72,SNR=10
PMPS Porto Santo 72.03 45 *e*P P 14 49 48.9 +0.8
comp=Z,631nm,1.4s,mb6.3
YFT Old Faithful 72.12 331 *e*P P 14 49 49.7 +1.1
LRV Little Rabbit 72.14 319 *e*P P 14 49 48.8 +0.1
T05C Eagle Field, D 72.22 319 ⇓P P 14 49 49.6 +0.4
baz=72
YNR Norris Junctio 72.25 331 *e*P P 14 49 50.1 +0.7
SCHQ Schefferville 72.29 2 P P 14 49 48.5 -1.2
comp=Z,87nm,1.0s,mb5.6,baz=170,slow=5.2,SNR=34
SCHQ LR LR 15 24 04.2
comp=Z,477nm,19.9s,MS4.8,baz=13,slow=38
SCHQ Schefferville 72.29 2 P P 14 49 48.5 -1.2
SCHQ LR LR 15 24 04.2
S05C Merced 72.29 320 ⇓P P 14 49 50.0 +0.3
baz=72,SNR=18
N10A Dunphy 72.31 325 ⇑P P 14 49 49.8 0.0
baz=72,SNR=11
O09A Fish Creek Ran 72.31 324 P P 14 49 49.8 0.0
baz=72,SNR=23
S06C San Francisco 72.34 321 P P 14 49 50.5 +0.6
baz=72,SNR=88
YMR Madison River 72.35 331 *e*P P 14 49 50.7 +0.7
comp=Z,190nm,1.2s,mb5.9
YMR LR LR
comp=Z,1μm,21.0s,MS5.2
M11A Holland Ranch, 72.41 326 ⇓P P 14 49 50.9 +0.5
baz=73,SNR=79
Q07A Schurz 72.42 322 ⇓P P 14 49 51.2 +0.8
baz=73
HAST UC Hastings Re 72.45 319 P P 14 49 51.1 +0.5
baz=73,SNR=19
QSPA South Pole Qui 72.48 180 *e*P P 14 49 50.3 -0.5
comp=Z,82nm,1.2s,mb5.5
QSPA *e*pP pP 14 50 00.8 -2.3
QSPA LR LR
comp=Z,775nm,21.0s,MS5.0
P08A Dixie Valley 72.50 323 ⇑P P 14 49 51.4 +0.5
baz=73,SNR=21
BMN Battle Mountai 72.51 324 P P 14 49 51.0 0.0
BMN pmax pmax
comp=Z,92nm,1.7s,mb5.4
BMN Battle Mountai 72.51 324 *e*P P 14 49 50.4 -0.6
comp=Z,92nm,1.8s,mb5.4
BMN LR LR
comp=Z,587nm,22.0s,MS4.8
R06C Coleville 72.52 321 ⇓P P 14 49 51.9 +0.8
baz=73,SNR=36
DGMT Dagmar 72.53 337 *e*P P 14 49 50.8 -0.3
comp=Z,186nm,1.1s,mb5.9
DGMT LR LR
comp=Z,875nm,20.0s,MS5.0
GCMT Greycliff 72.61 332 *e*P P 14 49 51.5 -0.1
SAO San Andreas Ge 72.62 319 P P 14 49 51.8 +0.2
SAO pmax pmax
comp=Z,29nm,1.1s,mb5.1
SAO San Andreas Ge 72.62 319 *e*P P 14 49 51.5 -0.1
comp=Z,29nm,1.1s,mb5.1
SAO LR LR
comp=Z,395nm,19.0s,MS4.7
PACP Pacheco Peak 72.67 319 ⇓P P 14 49 52.4 +0.5
baz=73,SNR=19
QLMT Earthquake Lak 72.69 331 *e*P P 14 49 52.7 +0.7
CMB Columbia Colle 72.77 321 P P 14 49 52.4 -0.1
CMB pmax pmax
comp=Z,52nm,1.3s,mb5.3
CMB Columbia Colle 72.77 321 *e*P P 14 49 52.2 -0.3
comp=Z,51nm,1.4s,mb5.3
CMB LR LR
comp=Z,289nm,21.0s,MS4.5
CMB Columbia Colle 72.77 321 P P 14 49 52.5 0.0
baz=73,SNR=14
P07A Fallon 72.86 323 ⇓P P 14 49 53.6 +0.5
baz=73
M10A I.L. Ranch, Tu 72.88 325 P P 14 49 53.6 +0.4
baz=73,SNR=28
O08A Rochester Mine 72.94 324 ⇑P P 14 49 53.3 -0.2
baz=73
N09A Rock Creek Ran 72.96 324 ⇓P P 14 49 53.1 -0.6
baz=73,SNR=17
S04C Ingram Canyon, 73.01 320 P P 14 49 54.3 +0.4
baz=73,SNR=12
R05C Kirkwood Meado 73.01 321 P P 14 49 54.9 +0.9
baz=73,SNR=36
HLID Hailey 73.21 328 *e*P P 14 49 55.5 +0.3
comp=Z,90nm,1.1s,mb5.6
HLID LR LR
comp=Z,830nm,20.0s,MS5.0
HLID Hailey 73.21 328 P P 14 49 55.5 +0.4
baz=73,SNR=81
WCN Washoe City 73.21 322 ⇓P P 14 49 55.8 +0.7
baz=73,SNR=15
R04C Big Horse Ranc 73.24 320 ⇓P P 14 49 55.8 +0.5
baz=73,SNR=8.4
N08A GE Springer Mi 73.26 324 P P 14 49 54.8 -0.6
baz=73,SNR=31
O07A Toulon 73.26 323 ⇑P P 14 49 55.5 0.0
baz=74,SNR=30
BNLO Ben Lomond (Sa 73.30 319 P P 14 49 56.1 +0.5
baz=74,SNR=10
M09A Marrel Ranch, 73.31 325 ⇓P P 14 49 55.8 +0.1
baz=74,SNR=31
WENL Wente Brothers 73.35 319 ⇑P P 14 49 56.6 +0.6
baz=74
MCMT McKenzie Canyo 73.36 330 *e*P P 14 49 56.3 +0.3
G15A Dillon 73.44 330 P P 14 49 56.5 +0.1
baz=74,SNR=48
LAVA Lava Cap Winer 73.44 321 ⇑P P 14 49 56.7 +0.2
baz=74,SNR=16
JRSC Jasper Ridge 73.51 319 P P 14 49 57.3 +0.4
baz=74,SNR=7.7
BDM Black Diamond 73.62 320 ⇑P P 14 49 58.3 +0.7
baz=74,SNR=13
DLMT Dillon 73.63 330 *e*P P 14 49 57.7 +0.1
comp=Z,123nm,1.2s,mb5.7
TBI Tubuai 73.64 250 *e*S S 14 59 25.2 +0.1
comp=Z,404nm,31.8s
TBI *e*LQ 15 09 37.4
comp=Z,681nm,30.5s
TBI *e*LR LR 15 12 47.8
comp=Z,2μm,27.8s
P05C Yuba Gap, Truc 73.71 321 ⇑P P 14 49 58.6 +0.5
baz=74,SNR=26
N07B Gerlach 73.73 323 P P 14 49 58.3 +0.1
baz=74,SNR=38
SAC San Andreas 73.73 319 P P 14 49 59.0 +0.8
SAC San Andreas 73.73 319 *e*P P 14 49 58.5 +0.3
O06A Flanigan 73.81 323 P P 14 49 59.1 +0.4
baz=74,SNR=14
L09A Wilkinson Ranc 73.83 325 ⇓P P 14 49 59.1 +0.3
baz=74
Q04C Lincoln 73.88 321 ⇓P P 14 49 59.7 +0.6
baz=74,SNR=11
BEKR Beckwourth 73.93 322 P P 14 49 60.0 +0.6
baz=74,SNR=46
F15A Butte 73.94 331 P P 14 49 59.6 +0.2
baz=74,SNR=34
Q03C Winters 74.14 320 ⇑P P 14 50 01.4 +0.8
baz=74
FARB Farallon Islan 74.17 319 ⇓P P 14 50 00.9 +0.1
baz=74
N06A Buffalo Meadow 74.20 323 P P 14 50 01.3 +0.4
baz=74,SNR=80
CVS Carmenet Viney 74.23 320 P P 14 50 01.2 +0.1
baz=74,SNR=27
M07A Soldier Meadow 74.24 324 P P 14 50 01.4 +0.2
baz=74,SNR=47
OHCM Honcut 74.26 321 *e*P P 14 50 01.3 0.0
O05C Quincy 74.32 322 ⇑P P 14 50 02.1 +0.5
baz=74,SNR=22
L08A Fields 74.32 325 ⇓P P 14 50 01.5 -0.1
baz=74,SNR=34
K09A Rome 74.33 326 P P 14 50 02.0 +0.3
baz=74,SNR=94
F14A Wisdom 74.33 330 ⇓P P 14 50 02.2 +0.5
baz=74,SNR=15
SUTB Sutter Butte 74.37 321 ⇑P P 14 50 01.9 0.0
baz=75
EGMT Eagleton 74.38 334 *e*P P 14 50 01.4 -0.6
comp=Z,162nm,1.1s,mb5.9
EGMT LR LR
comp=Z,658nm,20.0s,MS4.9
EGMT Eagleton 74.38 334 ⇑P P 14 50 01.4 -0.6
baz=75,SNR=42
ORV Oroville 74.41 321 P P 14 50 02.6 +0.4
baz=75,SNR=98
NSHM Saint Helena R 74.43 320 *e*P P 14 50 02.4 +0.1
E15A Deer Lodge 74.44 331 ⇓P P 14 50 02.4 +0.1
baz=75,SNR=30
MNRC McLaughlin Nat 74.55 320 ⇓P P 14 50 03.5 +0.5
baz=75,SNR=14
ELFS Eagle Lake Fie 74.63 322 ⇓P P 14 50 04.0 +0.5
baz=75,SNR=11
WVOR Wild Horse Val 74.65 325 *e*P P 14 50 03.2 -0.3
WVOR pmax pmax
comp=Z,125nm,1.8s,mb5.5
WVOR MLR MLR
comp=Z,526nm,20.0s,MS4.8
WVOR Wild Horse Val 74.65 325 *e*P P 14 50 03.2 -0.3
comp=Z,125nm,1.8s,mb5.5
WVOR LR LR
comp=Z,526nm,20.0s,MS4.8
O04C Chester 74.65 322 P P 14 50 04.0 +0.5
baz=75,SNR=26
L07A Adell 74.76 324 P P 14 50 04.6 +0.4
baz=75,SNR=30
K08A Mann Creek Ran 74.76 325 P P 14 50 04.3 +0.1
baz=75,SNR=9.8
F13A Darby 74.77 330 P P 14 50 04.6 +0.4
baz=75,SNR=137
J09A Fry Pan Ranch, 74.79 326 P P 14 50 04.3 0.0
baz=75,SNR=24
H11A Donnelly 74.83 328 ⇑P P 14 50 04.3 -0.2
baz=75,SNR=17
E14A Clinton 74.83 331 P P 14 50 05.1 +0.5
baz=75,SNR=76
D15A Lincoln 74.85 331 P P 14 50 04.9 +0.2
baz=75,SNR=50
M06C Likely Place G 74.87 323 P P 14 50 05.2 +0.4
baz=75,SNR=37
O03C Acorn Hollow, 75.00 321 ⇑P P 14 50 05.0 -0.6
baz=75
HOPS Hopland 75.01 320 *e*P P 14 50 05.9 +0.3
comp=Z,84nm,1.5s,mb5.5
HOPS LR LR
comp=Z,1μm,19.0s,MS5.1
HOPS Hopland 75.01 320 ⇓P P 14 50 06.1 +0.5
baz=75
PPT Papeete 75.07 256 *e*S S 14 59 41.0 -0.1
comp=Z,998nm,29.8s
PPT *e*LQ 15 10 11.8
comp=Z,435nm,28.0s
PPT *e*LR LR 15 13 26.4
comp=Z,714nm,26.0s
PPT Papeete 75.07 256 LR LR 15 14 52.6
comp=Z,392nm,19.4s,MS4.7,baz=93,slow=29
CHMT Chamberlain Mo 75.09 331 *e*P P 14 50 05.9 -0.2
LBCM Butte Creek Ri 75.13 322 P P 14 50 06.3 -0.1
K07A Rock Creek Ran 75.15 325 P P 14 50 06.8 +0.4
baz=75,SNR=18
E13A Victor 75.18 330 P P 14 50 07.0 +0.4
baz=75,SNR=71
J08A Circle Bar Ran 75.18 326 P P 14 50 06.8 +0.2
baz=75,SNR=17
HATC Hat Creek Radi 75.19 322 ⇑P P 14 50 06.7 +0.1
baz=75,SNR=15
F12A Elk City 75.20 329 P P 14 50 06.9 +0.2
baz=75,SNR=61
GASB Alder Springs 75.20 321 ⇓P P 14 50 07.2 +0.5
baz=75,SNR=16
I09A Lost Marbles R 75.21 327 P P 14 50 06.8 0.0
baz=75,SNR=22
MOD Modoc 75.22 324 *e*P P 14 50 07.1 +0.2
comp=Z,186nm,1.2s,mb5.9
MOD LR LR
comp=Z,638nm,19.0s,MS4.9
MOD Modoc 75.22 324 ⇓P P 14 50 07.1 +0.2
baz=75,SNR=43
D14A Greenough 75.33 331 P P 14 50 07.6 +0.1
baz=76,SNR=31
MSO Missoula 75.35 331 *e*P P 14 50 07.7 +0.1
comp=Z,98nm,1.4s,mb5.5
MSO LR LR
comp=Z,526nm,19.0s,MS4.9
M05C Lookout 75.35 323 P P 14 50 08.0 +0.4
baz=76,SNR=39
G11A Walters Elk Ra 75.45 328 P P 14 50 08.3 +0.1
baz=76,SNR=98
P01C Double 8 Ranch 75.46 320 P P 14 50 09.0 +0.8
baz=76,SNR=11
O02C Red Bluff 75.57 321 P P 14 50 08.5 -0.4
baz=76,SNR=14
BMO Blue Mountains 75.59 327 *e*P P 14 50 08.6 -0.3
comp=Z,162nm,1.2s,mb5.8
BMO LR LR
comp=Z,657nm,20.0s,MS4.9
I08A Drewsey 75.61 326 P P 14 50 09.5 +0.5
baz=76,SNR=64
L05A Lakeview 75.61 324 P P 14 50 10.0 +0.9
baz=76,SNR=36
J07A Hines 75.64 325 ⇑P P 14 50 09.6 +0.3
baz=76,SNR=19
H09A Durkee 75.64 327 P P 14 50 09.4 +0.1
baz=76,SNR=22
WDC Whiskeytown Da 75.67 321 P P 14 50 08.0 -1.4
WDC pmax pmax
comp=Z,78nm,1.2s,mb5.5
WDC Whiskeytown Da 75.67 321 *e*P P 14 50 07.7 -1.7
comp=Z,78nm,1.2s,mb5.5
WDC LR LR
comp=Z,284nm,19.0s,MS4.6
WDC Whiskeytown Da 75.67 321 P P 14 50 08.0 -1.4
baz=76,SNR=23
F11A Grangeville 75.73 329 ⇑P P 14 50 09.5 -0.3
baz=76,SNR=49
KIPM Iron Peak 75.76 320 *e*P P 14 50 10.4 +0.5
K06A Valley Falls 75.78 324 ⇓P P 14 50 10.6 +0.5
baz=76,SNR=57
D13A Huson 75.78 331 ⇓P P 14 50 10.0 0.0
baz=76,SNR=54
M03C McCloud 75.86 322 ⇑P P 14 50 10.0 -0.5
baz=76,SNR=18
M04C Macdoel 76.02 323 ⇓P P 14 50 11.6 +0.1
baz=76,SNR=29
J06A Christmas Vall 76.02 325 ⇓P P 14 50 11.7 +0.2
baz=76
H08A Prairie City 76.07 326 P P 14 50 12.3 +0.6
baz=76,SNR=75
K05A Summer Lake 76.09 324 P P 14 50 12.8 +0.9
baz=76,SNR=34
O01C Eel River Cons 76.17 321 ⇑P P 14 50 13.0 +0.8
baz=76
I07A Izee 76.22 326 P P 14 50 13.2 +0.6
baz=76,SNR=43
HOG Hogback Mounta 76.24 323 P P 14 50 13.2 +0.5
C13A Hot Springs 76.26 331 ⇑P P 14 50 12.9 +0.1
baz=76,SNR=38
N02C Big Bar 76.28 321 ⇑P P 14 50 13.4 +0.5
baz=76,SNR=41
L04A Klamath Falls 76.30 323 P P 14 50 13.3 +0.3
baz=76,SNR=28
F10A Beach Ranch, E 76.33 328 P P 14 50 13.4 +0.3
baz=76,SNR=40
M02C Callahan 76.36 322 P P 14 50 13.1 -0.3
baz=77,SNR=19
F09A S2 Ranch, Elgi 76.49 328 ⇑P P 14 50 14.3 +0.2
baz=77,SNR=49
K04A Chilquin 76.49 324 ⇑P P 14 50 14.4 +0.3
baz=77,SNR=11
YBH Yreka Blue Hor 76.49 322 P P 14 50 13.2 -0.9
YBH pmax pmax
comp=Z,46nm,1.0s
YBH Yreka Blue Hor 76.49 322 *e*P P 14 50 13.0 -1.1
comp=Z,47nm,1.1s,mb5.3
YBH *e*pP pP 14 50 24.9 -1.6
YBH Yreka Blue Hor 76.49 322 ⇓P P 14 50 13.2 -0.9
baz=77,SNR=16
I06A Prineville 76.51 325 ⇑P P 14 50 15.0 +0.8
baz=77,SNR=37
KHMM Horse Mountain 76.56 321 *e*P P 14 50 14.9 +0.4
BUOR Burton Butte 76.57 323 P P 14 50 14.4 -0.1
E10A Myers Farm, Un 76.63 329 ⇓P P 14 50 14.8 -0.1
baz=77,SNR=38
J05A Fort Rock 76.64 324 ⇑P P 14 50 15.4 +0.5
baz=77
D11A Klaveano Farm, 76.64 330 P P 14 50 14.5 -0.5
baz=77,SNR=34
C12A Trout Creek 76.70 330 P P 14 50 15.7 +0.4
baz=77,SNR=8.0
JCC Jacoby Creek 76.71 321 ⇑P P 14 50 15.8 +0.5
baz=77,SNR=7.1
B13A Whitefish 76.72 331 P P 14 50 15.5 +0.1
baz=77,SNR=26
G08A Pilot Rock 76.74 327 ⇑P P 14 50 15.7 +0.2
baz=77,SNR=31
WALA Waterton Lakes 76.97 332 *e*P P 14 50 16.4 -0.4
comp=Z,97nm,1.1s,mb5.6
F08A Pendleton 76.99 327 P P 14 50 16.5 -0.4
baz=77,SNR=22
FFC Flin Flon 77.06 342 P P 14 50 15.9 -1.4
comp=Z,173nm,1.2s,mb5.9,SNR=6.5
FFC Flin Flon 77.06 342 P P 14 50 15.9 -1.4
KRMB Red Mountain 77.07 322 *e*P P 14 50 17.8 +0.4
H06A Lindquist Farm 77.10 326 ⇑P P 14 50 18.3 +0.8
baz=77,SNR=65
G07A Ruggs Ranch, H 77.10 327 P P 14 50 18.4 +0.9
baz=77,SNR=40
VIPM Ingram Point 77.10 326 P P 14 50 18.4 +0.9
J04A Umpqua Nationa 77.10 324 ⇑P P 14 50 17.8 +0.3
baz=77,SNR=18
E09A Wood Farm, Sta 77.16 328 ⇓P P 14 50 17.5 -0.4
baz=77,SNR=52
HUMO Hull Mountain 77.19 323 *e*P P 14 50 17.0 -1.0
comp=Z,39nm,1.2s,mb5.2
HUMO LR LR
comp=Z,568nm,19.0s,MS4.9
HUMO Hull Mountain 77.19 323 P P 14 50 17.6 -0.4
baz=77,SNR=7.7
BBOR Butler Butte 77.20 323 P P 14 50 17.4 -0.7
I05A Bend 77.23 325 ⇑P P 14 50 18.9 +0.6
baz=77,SNR=16
TOA0 Torodi Ar. Sit 77.24 72 *e*P P 14 50 18.1 -0.2
TOA0 *e*pP pP 14 50 30.3 -0.4
TORD Torodi Ar. Bea 77.24 72 P P 14 50 18.2 0.0
comp=Z,147nm,1.0s,mb5.8,baz=253,slow=5.2,SNR=329
TORD pP pP 14 50 30.3 -0.4
comp=Z,50nm,0.7s,baz=245,slow=5.2,SNR=7.5
TORD S S 15 00 03.1 -1.8
comp=Z,12nm,1.1s,baz=260,slow=7.4,SNR=14
TORD LR LR 15 23 53.2
comp=Z,1μm,18.2s,MS5.3,baz=240,slow=35
L02A Cave Junction 77.28 322 ⇓P P 14 50 18.8 +0.2
baz=78,SNR=11
B12A Libby 77.30 331 ⇑P P 14 50 19.0 +0.4
baz=78,SNR=7.8
M01C Crescent City 77.39 322 ⇓P P 14 50 19.6 +0.4
baz=78
H05A Madras 77.52 325 ⇓P P 14 50 20.6 +0.7
baz=78,SNR=6.4
G06A Carlson Farm, 77.59 326 P P 14 50 21.2 +0.9
baz=78,SNR=12
K02A Glendale 77.59 323 P P 14 50 20.6 +0.3
baz=78,SNR=26
E08A Dider Farm, El 77.61 328 ⇓P P 14 50 20.1 -0.3
baz=78
D09A Jones Farm, Ri 77.62 329 ⇑P P 14 50 20.4 -0.1
baz=78,SNR=44
I04A Tendick Farm, 77.62 324 P P 14 50 20.1 -0.4
baz=78,SNR=9.3
B11A Sandpoint 77.64 331 P P 14 50 20.4 -0.2
baz=78,SNR=16
F07A Phinny Hill Vi 77.65 327 P P 14 50 21.5 +0.9
baz=78,SNR=17
C10A Spilker Farm, 77.66 330 ⇑P P 14 50 20.5 -0.2
baz=78,SNR=6.2
A12A Yaak River Ran 77.67 331 ⇓P P 14 50 20.9 +0.2
baz=78,SNR=40
J03A Ideyld Park 77.67 324 ⇓P P 14 50 20.2 -0.5
baz=78
RSW Rattlesnake Hi 77.81 327 P P 14 50 22.1 +0.6
NEW Newport 77.88 330 P P 14 50 21.2 -0.7
NEW pmax pmax
comp=Z,15nm,0.7s
NEW Newport 77.88 330 *e*P P 14 50 21.0 -0.9
comp=Z,15nm,0.7s,mb5.0
NEW LR LR
comp=Z,643nm,20.0s,MS5.0
GBL Gable Mountain 77.88 328 P P 14 50 22.2 +0.3
SNIWA Snively Ranch 77.90 327 P P 14 50 22.6 +0.6
D08A Wollman Farm, 77.92 328 P P 14 50 22.3 +0.2
baz=78,SNR=26
B10A Chitwood Farm, 77.95 330 ⇑P P 14 50 21.8 -0.4
baz=78
G05A Wamic 77.96 326 P P 14 50 23.4 +1.0
baz=78,SNR=16
A11A Hall Mountain, 78.01 331 P P 14 50 22.6 0.0
baz=78,SNR=42
J02A Umpqua 78.01 323 ⇓P P 14 50 23.1 +0.5
baz=78,SNR=10
F06A Goldendale 78.02 326 ⇑P P 14 50 23.2 +0.6
baz=78,SNR=17
OD2 Odessa Site #2 78.05 329 P P 14 50 23.0 +0.2
E07A Sunnyside 78.06 327 P P 14 50 23.5 +0.6
baz=78,SNR=17
H04A Detroit Lake 78.07 325 P P 14 50 22.8 -0.1
baz=78,SNR=9.9
C09A Chrisman Ranch 78.11 329 P P 14 50 23.3 +0.2
baz=78,SNR=33
KEBM Edson Butte 78.14 322 *e*P P 14 50 23.8 +0.5
I03A Eugene 78.22 324 ⇑P P 14 50 24.1 +0.3
baz=78,SNR=7.3
F05A White Salmon 78.45 326 P P 14 50 25.5 +0.5
baz=79,SNR=8.4
B09A Rice 78.48 330 ⇑P P 14 50 24.9 -0.3
baz=79,SNR=28
C08A Higginbotham F 78.48 329 P P 14 50 25.1 -0.1
baz=79,SNR=11
D07A Quincy 78.55 328 ⇓P P 14 50 26.2 +0.6
baz=79
I02A Mapleton 78.55 324 ⇓P P 14 50 25.8 +0.2
baz=79
G04A Mulino 78.56 325 ⇓P P 14 50 25.5 -0.1
baz=79,SNR=7.1
COR Corvallis 78.62 324 *e*P P 14 50 25.3 -0.7
COR pmax pmax
comp=Z,217nm,1.3s,mb5.9
COR Corvallis 78.62 324 *e*P P 14 50 25.3 -0.7
comp=Z,217nm,1.3s,mb5.9
E06A Yakima 78.63 327 P P 14 50 26.6 +0.6
baz=79,SNR=18
EBG Ellensburg 78.66 327 P P 14 50 26.9 +0.7
H03A Soap Creek Ran 78.67 324 ⇑P P 14 50 26.9 +0.6
baz=79,SNR=8.8
FCC Fort Churchill 78.68 348 P P 14 50 25.5 -0.8
FCC pmax pmax
comp=Z,130nm,1.3s,mb5.7
FCC Fort Churchill 78.68 348 *e*P P 14 50 25.2 -1.1
comp=Z,128nm,1.4s,mb5.7
WTV Waterville 78.87 328 P P 14 50 27.6 +0.2
C07A Waterville 78.92 328 P P 14 50 27.9 +0.2
baz=79,SNR=88
D06A Cle Elum 78.99 327 P P 14 50 28.3 +0.3
baz=79,SNR=20
F04A Amboy 78.99 326 P P 14 50 28.2 +0.2
baz=79,SNR=22
B08A Colville Reser 79.01 329 P P 14 50 27.7 -0.4
baz=79,SNR=30
E05A Randle 79.05 327 P P 14 50 28.3 -0.1
baz=79,SNR=13
H02A Toledo 79.07 324 ⇑P P 14 50 29.2 +0.8
baz=79
G03A Yamhill 79.07 325 ⇑P P 14 50 28.9 +0.5
baz=79
A09A Danville 79.07 330 P P 14 50 28.1 -0.4
baz=79,SNR=31
NLW Nelson Butte 79.32 328 P P 14 50 29.8 0.0
SBA Scott Base 79.34 190 P P 14 50 30.3 +0.4
SBA *e**PP pP 14 50 41.1 -1.3
SBA pmax pmax
comp=Z,83nm,1.5s,mb5.4
SBA MLR MLR
comp=Z,586nm,21.0s,MS4.9
SBA Scott Base 79.34 190 P P 14 50 30.3 +0.4
comp=Z,83nm,1.5s,mb5.5
SBA *e*pP pP 14 50 41.1 -1.3
SBA LR LR
comp=Z,586nm,21.0s,MS4.9
A08A Turner Farm, O 79.39 330 P P 14 50 30.3 +0.1
baz=80,SNR=74
B07A Winthrop 79.47 329 P P 14 50 30.4 -0.2
baz=80,SNR=37
D05A Enumclaw 79.58 327 P P 14 50 31.3 +0.1
baz=80,SNR=21
E04A Onalaska 79.58 326 ⇓P P 14 50 31.4 +0.2
baz=80
F03A Seaside 79.61 325 ⇑P P 14 50 31.9 +0.5

baz=80
PTEO Sao Teotonio 79.69 45 *i* P **P 14 50 33.3 +1.5**
comp=Z,613nm,1.6s,mb6.3
C05A Tolt Reservoir 79.75 327 ⇑P **P 14 50 31.3 -0.9**
baz=80,SNR=12
EDM Edmonton 79.83 335 P **P 14 50 31.2 -1.4**
EDM Edmonton 79.83 335 *eP* **P 14 50 31.1 -1.5**
D04A Dobbs Creek Ra 79.95 327 ⇓P **P 14 50 33.6 +0.3**
baz=80
A07A Ashnola River, 79.99 329 ⇑P **P 14 50 33.7 +0.3**
baz=80,SNR=82
E03A Lebam 80.00 326 ⇓P **P 14 50 33.9 +0.4**
baz=80,SNR=8.1
PMAFR Mafra 80.06 44 *eP* **P 14 50 34.8 +1.0**
comp=Z,167nm,1.4s,mb5.8
RPW Rockport 80.15 328 P **P 14 50 33.7 -0.6**
B06A Marblemount 80.19 328 ⇓P **P 14 50 33.8 -0.7**
baz=80,SNR=21
JCW Jim Creek 80.20 328 P **P 14 50 33.9 -0.7**
B05A Bryant 80.33 328 P **P 14 50 34.8 -0.5**
baz=80,SNR=23
VNDA Vanda 80.38 190 P **P 14 50 35.0 -0.5**
comp=Z,3.0nm,0.8s,baz=114,slow=4.6,SNR=12
VNDA pP pP 14 50 46.9 -1.2
comp=Z,11nm,0.9s,baz=125,slow=4.7,SNR=18
VNDA LR LR 15 23 22.9
comp=Z,596nm,21.8s,MS4.9,baz=138,slow=34
VNDA Vanda 80.38 190 P **P 14 50 35.6 +0.1**
VNDA pmax pmax
comp=Z,23nm,1.1s
VNDA Vanda 80.38 190 *eP* **P 14 50 35.2 -0.3**
comp=Z,23nm,1.1s,mb5.0
VNDA *e*pP pP 14 50 46.6 -1.4
VNDA LR LR
comp=Z,594nm,21.0s,MS4.9
C04A Brinnon 80.43 327 P **P 14 50 36.0 +0.2**
baz=81,SNR=14
SYO Syowa Base 80.46 160‖ *eP* **P 14 50 34.6 -1.4**
D03A Wishkah Elem. 80.47 326 ⇓P **P 14 50 36.6 +0.5**
baz=81
PBEJ Beja 80.52 45 *i* P **P 14 50 37.4 +1.1**
comp=Z,152nm,1.4s,mb5.7
EGRO El Granado 80.53 46 P **P 14 50 38.0 +1.7**
comp=Z,53nm,0.9s,mb5.5
A06A Chilliwack 80.56 329 ⇑P **P 14 50 36.0 -0.5**
baz=81
MBW Mount Baker 80.57 328 P **P 14 50 36.1 -0.4**
A05A Maple Falls 80.80 328 P **P 14 50 37.5 -0.2**
baz=81,SNR=29
B04A Port Angeles 80.92 327 ⇓P **P 14 50 38.9 +0.5**
baz=81,SNR=6.4
A04A Legoe Bay, Lum 80.93 328 P **P 14 50 38.8 +0.3**
baz=81,SNR=13
PESTR Estremoz 81.14 45 *i* P **P 14 50 40.5 +0.9**
comp=Z,195nm,1.3s,mb5.9
EMIN Mina Concepcio 81.20 46 P **P 14 50 41.0 +1.1**
comp=Z,90nm,1.1s,mb5.6
PGC Sidney 81.27 327 *eP* **P 14 50 40.4 +0.1**
comp=Z,373nm,1.0s,mb6.3
ESPR Espera 81.31 47 P **P 14 50 42.4 +1.9**
comp=Z,77nm,1.2s,mb5.5
EJIF Jimena Fronter 81.38 47 P **P 14 50 41.9 +1.0**
EJIF pmax pmax
comp=Z,101nm,1.2s,mb5.6
EJIF Jimena Fronter 81.38 47 P **P 14 50 41.9 +1.0**
comp=Z,101nm,1.2s,mb5.6
EBAD Badajoz 81.47 45 P **P 14 50 42.9 +1.5**
comp=Z,41nm,0.6s,mb5.5
SUR Sutherland 81.53 121 *eP* **P 14 50 42.8 +1.1**
SUR LR LR
comp=Z,404nm,22.0s,MS4.7
PCBR Castelo Branco 81.72 44 *eP* **P 14 50 43.2 +0.5**
comp=Z,71nm,1.4s,mb5.4
PVIS Viseu 81.90 43 *eP* **P 14 50 44.3 +0.7**
comp=Z,105nm,1.5s,mb5.5
EMIJ Mijas 81.92 48 P **P 14 50 44.4 +0.6**
comp=Z,30nm,1.0s,mb5.2
TSUM Tsumeb 82.29 108 *eP* **P 14 50 46.5 +0.9**
comp=Z,50nm,1.0s,mb5.4
TSUM LR LR
comp=Z,614nm,19.0s,MS5.0
PVRL Vila Real 82.31 42 *eP* **P 14 50 46.3 +0.6**
comp=Z,154nm,1.2s,mb5.8
PCAB Cabril 82.33 42 *eP* **P 14 50 46.7 +0.8**
comp=Z,179nm,1.2s,mb5.9
EMAZ Mazaricos 82.40 40 P **P 14 50 46.3 +0.1**
comp=Z,49nm,0.9s,mb5.4
STS Santiago 82.63 41 P **P 14 50 47.1 -0.3**
STS pmax pmax
comp=Z,240nm,1.4s,mb6.0
STS Santiago 82.63 41 P **P 14 50 47.1 -0.3**
comp=Z,240nm,1.4s,mb6.0
ELOJ Sierra Loja 82.64 47 P **P 14 50 48.0 +0.5**
ELOJ pmax pmax
comp=Z,121nm,1.1s,mb5.8
ELOJ Sierra Loja 82.64 47 P **P 14 50 48.0 +0.5**
comp=Z,121nm,1.1s,mb5.8
ELUQ Luque 82.76 47 P **P 14 50 49.5 +1.4**
ELUQ pmax pmax
comp=Z,16nm,0.6s,mb5.2
ELUQ Luque 82.76 47 P **P 14 50 49.5 +1.4**
comp=Z,16nm,0.6s,mb5.2
ERON Agron 82.82 48 P **P 14 50 49.3 +0.9**
comp=Z,14nm,0.7s,mb5.1
EADA Adamuz 82.83 46 P **P 14 50 49.0 +0.5**
comp=Z,35nm,1.0s,mb5.3
EALB Alboran 82.87 49 P **P 14 50 49.2 +0.5**
comp=Z,37nm,0.6s,mb5.6
ECOG Cogollos-Vega 83.11 48 P **P 14 50 49.8 -0.1**
ECOG pmax pmax
comp=Z,33nm,0.9s,mb5.4
ECOG Cogollos-Vega 83.11 48 P **P 14 50 49.8 -0.1**
comp=Z,33nm,0.9s,mb5.4
PBRG Braganca 83.20 42 *eP* **P 14 50 51.2 +0.8**
comp=Z,267nm,1.5s,mb6.0
ECAL Calabor 83.28 42 P **P 14 50 51.6 +0.8**
comp=Z,147nm,1.1s,mb5.9
EBAN Banos Encina 83.38 47 P **P 14 50 51.1 -0.2**
EBAN pmax pmax
comp=Z,129nm,1.1s,mb5.9
EBAN Banos Encina 83.38 47 P **P 14 50 51.1 -0.2**
comp=Z,129nm,1.1s,mb5.9
EBER Berja 83.41 48 P **P 14 50 52.6 +1.1**
comp=Z,110nm,1.2s,mb5.8
RAR Rarotonga 83.42 250 LR LR 15 19 35.6
comp=Z,1μm,20.4s,MS5.2,baz=90,slow=30
PAB San Pablo 83.66 45 P **P 14 50 53.6 +0.8**
PAB pmax pmax
comp=Z,210nm,1.1s,mb6.2
PAB San Pablo 83.66 45 *eP* **P 14 50 53.4 +0.6**
comp=Z,208nm,1.1s,mb6.2
PAB LR LR
comp=Z,664nm,19.0s,MS5.0
EQES Quesada 83.71 47 P **P 14 50 53.3 +0.3**
comp=Z,73nm,1.0s,mb5.8
OLHC Oulhaca 83.72 50 P **P 14 50 55.0 +1.9**
EPON Pontenova 83.73 41 P **P 14 50 54.2 +1.0**
comp=Z,52nm,0.7s,mb5.8
ODZI Dziouia 83.88 50 P **P 14 50 55.5 +1.6**
ENIJ Nijar 83.93 48 P **P 14 50 54.4 +0.2**
ENIJ pmax pmax
comp=Z,37nm,0.7s,mb5.6
ENIJ Nijar 83.93 48 P **P 14 50 54.4 +0.2**
comp=Z,37nm,0.7s,mb5.6
ESDC Sonseca Array 83.98 45 P **P 14 50 55.2 +0.8**
comp=Z,74nm,0.9s,mb5.8,baz=246,slow=5.5,SNR=164
ESDC LR LR 15 26 36.2
comp=Z,369nm,21.5s,MS4.7,baz=335,slow=34
ESLA Sonseca Array 83.98 45 *eP* **P 14 50 55.1 +0.7**
comp=Z,68nm,1.3s,mb5.6
ESLA LR LR
comp=Z,3μm,19.0s,MS5.7
EHUE Huescar 84.05 47 P **P 14 50 53.9 -0.8**
EHUE pmax pmax
comp=Z,46nm,0.9s,mb5.6
EHUE Huescar 84.05 47 P **P 14 50 53.9 -0.8**
comp=Z,46nm,0.9s,mb5.6
OTSS Djebel Tessala 84.19 50 P **P 14 50 54.0 -1.5**
EVIA Vianos 84.49 47 P **P 14 50 58.3 +1.3**
EVIA pmax pmax
comp=Z,57nm,0.9s,mb5.7
EVIA Vianos 84.49 47 P **P 14 50 58.3 +1.3**
comp=Z,57nm,0.9s,mb5.7
USTO Oran 84.57 50 P **P 14 50 57.0 -0.4**
EARI Arriondas 84.94 42 P **P 14 50 59.3 +0.1**
comp=Z,32nm,0.9s,mb5.5
EMUR La Murta 85.01 48 P **P 14 50 59.0 -0.6**
comp=Z,18nm,0.7s,mb5.3
CART Cartagena 85.07 48 P **P 14 50 59.0 -0.9**
comp=Z,56nm,1.0s,mb5.7
ETOB Tobarra 85.16 47 P **P 14 51 01.0 +0.7**
comp=Z,61nm,0.9s,mb5.7
OJGS Djebel Guires 85.43 51 P **P 14 51 04.5 +2.8**
OKGL Djebel Kef Gue 85.58 50 P **P 14 51 03.0 +0.6**
SFJD Kangerlussuaq 85.68 8 *i* P **P 14 51 01.4 -1.5**
ETRT Tiaret 85.78 51 P **P 14 51 05.0 +1.5**
ETOR Torete 85.81 45 P **P 14 51 04.9 +1.3**
ETOR pmax pmax
comp=Z,28nm,0.7s,mb5.6
ETOR Torete 85.81 45 P **P 14 51 04.9 +1.4**
comp=Z,28nm,0.7s,mb5.6
EANR 'Ain N'Sour 85.87 50 P **P 14 51 03.0 -0.9**
EBEN Beniarda 86.11 47 P **P 14 51 06.9 +1.8**
comp=Z,13nm,0.9s,mb5.2
BOSA Boshof 86.28 119 P **P 14 51 06.0 +0.1**
comp=Z,10nm,0.9s,mb5.0,baz=250,slow=3.9,SNR=9.2
BOSA pP pP 14 51 17.0 -1.5
comp=Z,28nm,1.1s,baz=238,slow=4.2,SNR=12
BOSA LR LR 15 26 44.7
comp=Z,942nm,20.1s,MS5.2,baz=254,slow=34
BOSA Boshof 86.28 119 *eP* **P 14 51 06.4 +0.4**
comp=Z,94nm,1.4s,mb5.8
BOSA *e*pP pP 14 51 16.5 -2.1
BOSA LR LR
comp=Z,1μm,21.0s,MS5.2
EBNR Beni Rached 86.33 50 P **P 14 51 08.0 +1.8**
ECRI Cripan 86.34 43 P **P 14 51 05.8 -0.4**
ECRI pmax pmax
comp=Z,25nm,0.7s,mb5.5
ECRI Cripan 86.34 43 P **P 14 51 05.8 -0.4**
comp=Z,25nm,0.7s,mb5.5
EMOS Mosqueruela 86.68 46 P **P 14 51 09.0 +1.2**
comp=Z,25nm,0.9s,mb5.5
YKA Yellowknife Ar 87.22 341 P **P 14 51 09.4 -1.1**
comp=Z,109nm,0.7s,mb6.2,baz=135,slow=5.0,SNR=291
YKA LR LR 15 33 45.7
comp=Z,803nm,19.2s,MS5.1,baz=125,slow=38
EALK Alkurruntz 87.27 43 P **P 14 51 11.5 +0.8**
comp=Z,23nm,0.9s,mb5.4
ESAC San Caprasio 87.28 45 P **P 14 51 12.2 +1.4**
comp=Z,19nm,0.6s,mb5.5
EIBI Ibiza 87.36 48 P **P 14 51 11.7 +0.6**
comp=Z,90nm,1.2s,mb5.9
SJPF Ste Jean 87.41 43⇑ *i* P **P 14 51 11.8 +0.4**
comp=Z,185nm,1.2s,mb5.9
SJPF Ste Jean 87.41 43⇑ *i* P **P 14 51 11.8 +0.4**
SJPF pmax pmax
comp=Z,93nm,1.2s,mb5.9
SJPF Ste Jean 87.41 43⇑ *i* P **P 14 51 11.8 +0.4**
comp=Z,93nm,1.2s,mb5.9
ERTA Horta de San J 87.49 46 P **P 14 51 12.2 +0.4**
comp=Z,61nm,0.9s,mb5.8
ABA Alger-Bouzarea 87.65 50 P **P 14 51 10.0 -2.6**
ADJB Djebel Djouab 87.69 51 P **P 14 51 13.8 +1.1**
LBTB Lobatse 87.69 115 *eP* **P 14 51 13.0 +0.2**
comp=Z,59nm,1.3s,mb5.7
LBTB *e*pP pP 14 51 24.9 -0.5
LBTB LR LR
comp=Z,1μm,21.0s,MS5.3
ATE Arette 87.74 43 *eP* **P 14 51 13.2 +0.2**
ETSF Etsaut 87.75 44⇑ *i* P **P 14 51 13.5 +0.5**
comp=Z,123nm,1.1s,mb5.8
ETSF Etsaut 87.75 44⇑ *i* P **P 14 51 13.5 +0.5**
ETSF pmax pmax
comp=Z,62nm,1.1s,mb5.8
ETSF Etsaut 87.75 44⇑ *i* P **P 14 51 13.5 +0.5**
comp=Z,62nm,1.1s,mb5.8
REYF Montagne du Re 87.93 43 *eP* **P 14 51 14.3 +0.4**
AKET Djebel Ketaf 87.97 51 P pP 14 51 25.7 -1.0
EBIE Bielsa 88.12 44 P **P 14 51 15.5 +0.8**
comp=Z,51nm,0.9s,mb5.8
VIEF Viey 88.12 44 *eP* **P 14 51 15.3 +0.5**
EPOB Poblet 88.17 45 P **P 14 51 14.6 -0.4**
comp=Z,42nm,1.1s,mb5.6
ATAF Djebel Tarf 88.20 52 P pP 14 51 26.0 -1.8
LABF Labassere 88.23 44 *eP* **P 14 51 15.9 +0.6**
MAW Mawson 88.30 164 *eP* **P 14 51 14.9 -0.7**
comp=Z,10nm,0.7s,mb5.2
MAW *e*pP pP 14 51 26.0 -2.3
MAW Mawson 88.30 164 P **P 14 51 15.1 -0.5**
comp=Z,12nm,0.6s,mb5.3,baz=201,slow=5.5,SNR=39
MAW pP pP 14 51 26.2 -2.1
comp=Z,24nm,1.0s,baz=237,slow=5.6,SNR=12
MAW LR LR 15 29 34.8
comp=Z,1μm,21.9s,MS5.3,baz=237,slow=35
MAW Mawson 88.30 164 *eP* **P 14 51 14.9 -0.7**
MAW pmax pmax
comp=Z,11nm,0.7s
RESF Ems 88.30 44 *eP* **P 14 51 16.2 +0.6**
EPF Esparros 88.40 44⇑ *i* P **P 14 51 16.3 +0.2**
comp=Z,132nm,1.2s,mb5.8
EPF Esparros 88.40 44⇑ *i* P **P 14 51 16.3 +0.2**
EPF pmax pmax
comp=Z,66nm,1.2s,mb5.7
EPF Esparros 88.40 44⇑ *i* P **P 14 51 16.3 +0.2**
comp=Z,66nm,1.2s,mb5.7
QUIF Quistinic 88.45 38 *eP* **P 14 51 15.2 -1.1**
comp=Z,187nm,1.3s,mb5.8
QUIF Quistinic 88.45 38 *eP* **P 14 51 15.2 -1.1**
QUIF pmax pmax
comp=Z,94nm,1.3s,mb5.9
QUIF Quistinic 88.45 38 *eP* **P 14 51 15.2 -1.1**
comp=Z,94nm,1.3s,mb5.9
ROSF Rostrenen 88.58 38⇑ *i* P **P 14 51 16.1 -0.9**
comp=Z,205nm,1.3s,mb6.0
ROSF Rostrenen 88.58 38⇑ *i* P **P 14 51 16.1 -0.9**
ROSF pmax pmax
comp=Z,103nm,1.3s,mb6.0
ROSF Rostrenen 88.58 38⇑ *i* P **P 14 51 16.1 -0.9**
comp=Z,103nm,1.3s,mb6.0
MELF Melles 88.61 44 *eP* **P 14 51 18.1 +1.0**
EMIR Miracle 88.71 45 P **P 14 51 18.2 +0.6**
comp=Z,11nm,0.6s,mb5.4
MLS Moulis 88.87 44 *eP* **P 14 51 18.5 +0.2**
SGMF Saint Gilles 88.97 38⇑ *i* P **P 14 51 17.6 -1.2**
comp=Z,113nm,1.3s,mb5.7
SGMF Saint Gilles 88.97 38⇑ *i* P **P 14 51 17.6 -1.2**
SGMF pmax pmax
comp=Z,56nm,1.3s,mb5.7
SGMF Saint Gilles 88.97 38⇑ *i* P **P 14 51 17.6 -1.2**
comp=Z,56nm,1.3s,mb5.7
SET Setif 89.16 52 P **P 14 51 20.0 +0.3**
CMER Merouana 89.31 52 P **P 14 51 23.0 +2.6**
CARF Carcanieres 89.44 45 *eP* **P 14 51 21.5 +0.5**
LFF La Frestale 89.49 42⇑ *i* P **P 14 51 20.8 -0.4**
comp=Z,275nm,1.2s,mb6.2
LFF La Frestale 89.49 42⇑ *i* P **P 14 51 20.8 -0.4**
LFF pmax pmax
comp=Z,137nm,1.2s,mb6.2
LFF La Frestale 89.49 42⇑ *i* P **P 14 51 20.8 -0.4**
comp=Z,137nm,1.2s,mb6.2
DFRA Djebel Bou Aff 89.65 51 P **P 14 51 23.0 +1.0**
MFF Saint Martin d 89.66 40⇑ *i* P **P 14 51 21.3 -0.8**
comp=Z,183nm,1.4s,mb5.9
MFF Saint Martin d 89.66 40⇑ *i* P **P 14 51 21.3 -0.8**
MFF pmax pmax
comp=Z,91nm,1.4s,mb5.9
MFF Saint Martin d 89.66 40⇑ *i* P **P 14 51 21.3 -0.8**
comp=Z,91nm,1.4s,mb5.9
FILF Fillols 89.68 45 *eP* **P 14 51 21.9 -0.2**
MTLF Montolieu 89.77 44⇑ *i* P **P 14 51 22.0 -0.6**
comp=Z,161nm,1.0s,mb6.0
MTLF Montolieu 89.77 44⇑ *i* P **P 14 51 22.0 -0.6**
MTLF pmax pmax
comp=Z,81nm,1.0s,mb6.0
MTLF Montolieu 89.77 44⇑ *i* P **P 14 51 22.0 -0.6**
comp=Z,81nm,1.0s,mb6.0
EJON La Jonquera 89.85 45 P **P 14 51 22.8 -0.1**
comp=Z,32nm,1.1s,mb5.6
CTEI Djebel Teioual 89.86 52 P **P 14 51 24.0 +1.0**
SJAF Saint Jean de 89.86 45 *eP* **P 14 51 22.7 -0.3**
CASM Ain Smara 90.00 52 P **P 14 51 25.0 +1.4**
GRR Gorron 90.03 39⇑ *i* P **P 14 51 22.6 -1.2**
comp=Z,95nm,0.8s,mb5.9
GRR Gorron 90.03 39⇑ *i* P **P 14 51 22.6 -1.2**
GRR pmax pmax
comp=Z,47nm,0.8s,mb5.9
GRR Gorron 90.03 39⇑ *i* P **P 14 51 22.6 -1.2**
comp=Z,48nm,0.8s,mb5.9
RJF Les Rejaudoux 90.14 42⇑ *i* P **P 14 51 23.6 -0.7**
comp=Z,144nm,1.3s,mb5.8
RJF *e*R
comp=Z,988nm,19.2s
RJF Les Rejaudoux 90.14 42⇑ *i* P **P 14 51 23.6 -0.7**
RJF pmax pmax
comp=Z,72nm,1.3s,mb5.8
RJF MLR MLR
comp=Z,990nm,19.3s,MS5.3
RJF Les Rejaudoux 90.14 42⇑ *i* P **P 14 51 23.6 -0.7**
comp=Z,72nm,1.3s,mb5.8
RJF LR LR
comp=Z,990nm,19.3s,MS5.3
CKFL Kef-Lekhel 90.22 52 P **P 14 51 25.5 +0.8**
CAF Calviac 90.34 43⇑ *i* P **P 14 51 24.8 -0.4**
comp=Z,137nm,1.2s,mb5.9
CAF Calviac 90.34 43⇑ *i* P **P 14 51 24.8 -0.4**
CAF pmax pmax
comp=Z,68nm,1.2s,mb5.8
CAF Calviac 90.34 43⇑ *i* P **P 14 51 24.8 -0.4**
comp=Z,68nm,1.2s,mb5.9
FLN La Foliniere 90.42 38⇑ *i* P **P 14 51 24.6 -1.0**
comp=Z,197nm,1.2s,mb6.0
FLN *e*R
comp=Z,698nm,21.8s
FLN La Foliniere 90.42 38⇑ *i* P **P 14 51 24.6 -1.0**
FLN pmax pmax
comp=Z,98nm,1.2s,mb6.0
FLN MLR MLR
comp=Z,700nm,21.8s,MS5.0
FLN La Foliniere 90.42 38⇑ *i* P **P 14 51 24.6 -1.0**
comp=Z,98nm,1.2s,mb6.0
FLN LR LR
comp=Z,700nm,21.8s,MS5.0
CAEH 'Ain El Ouahch 90.46 51 P **P 14 51 26.5 +0.7**
ABSA Djebel Ababsia 90.75 52 P **P 14 51 27.0 -0.1**
CGMA Guelma 90.76 52 P **P 14 51 28.0 +0.8**
CMAH Djebel Manchou 90.83 52 P **P 14 51 27.0 -0.5**
TCF Toulx Ste Croi 91.00 41⇑ *i* P **P 14 51 27.4 -0.9**
comp=Z,49nm,1.1s,mb5.5
TCF Toulx Ste Croi 91.00 41⇑ *i* P **P 14 51 27.4 -0.9**
TCF pmax pmax
comp=Z,25nm,1.1s,mb5.5
TCF Toulx Ste Croi 91.00 41⇑ *i* P **P 14 51 27.4 -0.9**
comp=Z,25nm,1.1s,mb5.5
LASF Ste Croix 91.16 44⇑ *i* P **P 14 51 28.9 -0.1**
comp=Z,68nm,1.0s,mb5.6
LBL Lubilhac 91.22 43 *eP* **P 14 51 29.3 0.0**
PYM Petit Puy Mans 91.28 42 *eP* **P 14 51 29.3 -0.3**
AGO Saint Agoulin 91.48 42 *eP* **P 14 51 30.2 -0.3**
BGF Bois d'Agland 91.51 41⇑ *i* P **P 14 51 29.8 -0.9**
comp=Z,99nm,1.1s,mb5.8
BGF Bois d'Agland 91.51 41⇑ *i* P **P 14 51 29.8 -0.9**
BGF pmax pmax
comp=Z,49nm,1.1s,mb5.8
BGF Bois d'Agland 91.51 41⇑ *i* P **P 14 51 29.8 -0.9**
comp=Z,49nm,1.1s,mb5.8
HYF Humbligny 91.67 41 *eP* **P 14 51 30.6 -0.8**
PLDF La Plantade 91.76 42 *eP* **P 14 51 31.4 -0.4**
PRAF Pradon 91.92 44 *eP* **P 14 51 33.0 +0.4**
AVF Avril sur Loir 91.92 41⇑ *i* P **P 14 51 31.4 -1.2**
comp=Z,42nm,1.2s,mb5.3
AVF Avril sur Loir 91.92 41⇑ *i* P **P 14 51 31.4 -1.2**
AVF pmax pmax
comp=Z,21nm,1.2s,mb5.3
AVF Avril sur Loir 91.92 41⇑ *i* P **P 14 51 31.4 -1.2**
comp=Z,21nm,1.2s,mb5.3
SIT Sitka 91.96 330 PFAKE **14 51 40.0 +7.3**
SIT LR LR
comp=Z,1μm,21.0s,MS5.3
KEST Kesra 91.97 53 P **P 14 51 33.2 +0.4**
comp=Z,14nm,0.9s,mb5.3,baz=194,slow=3.6,SNR=26
KEST LR LR 15 35 14.1
comp=Z,204nm,18.1s,MS4.6,baz=5.9,slow=37
VIVF Saint-Julien-l 92.00 43⇑ *i* P **P 14 51 32.9 0.0**
comp=Z,177nm,1.2s,mb6.0
VIVF Saint-Julien-l 92.00 43⇑ *i* P **P 14 51 32.9 0.0**
VIVF pmax pmax
comp=Z,89nm,1.2s,mb6.0
VIVF Saint-Julien-l 92.00 43⇑ *i* P **P 14 51 32.9 0.0**
comp=Z,89nm,1.2s,mb6.0
SSF Saint Saulge 92.13 41⇑ *i* P **P 14 51 32.1 -1.4**
comp=Z,35nm,1.2s,mb5.3
SSF Saint Saulge 92.13 41⇑ *i* P **P 14 51 32.1 -1.4**
SSF pmax pmax
comp=Z,17nm,1.2s,mb5.2
SSF Saint Saulge 92.13 41⇑ *i* P **P 14 51 32.1 -1.4**
comp=Z,17nm,1.2s,mb5.3
SMF Signal de Mont 92.17 42⇑ *i* P **P 14 51 32.9 -0.8**
comp=Z,110nm,1.2s,mb5.8
SMF Signal de Mont 92.17 42⇑ *i* P **P 14 51 32.9 -0.8**
SMF pmax pmax
comp=Z,55nm,1.2s,mb5.8
SMF Signal de Mont 92.17 42⇑ *i* P **P 14 51 32.9 -0.8**
comp=Z,55nm,1.2s,mb5.8
SMRF Simiane la Rot 92.26 44⇑ *i* P **P 14 51 34.4 +0.3**
comp=Z,140nm,1.3s,mb5.8
SMRF Simiane la Rot 92.26 44⇑ *i* P **P 14 51 34.4 +0.3**
comp=Z,140nm,1.3s,mb6.1
LOR Lormes 92.43 41⇑ *i* P **P 14 51 33.6 -1.3**
comp=Z,39nm,1.1s,mb5.3
LOR *e*R
comp=Z,1μm,18.2s
LOR Lormes 92.43 41⇑ *i* P **P 14 51 33.6 -1.3**
LOR pmax pmax
comp=Z,20nm,1.1s,mb5.4
LOR MLR MLR
comp=Z,1μm,18.3s,MS5.3
LOR Lormes 92.43 41⇑ *i* P **P 14 51 33.6 -1.3**
comp=Z,20nm,1.1s,mb5.3
LOR LR LR
comp=Z,1μm,18.3s,MS5.3
LMR La Mourre 92.65 45⇑ *i* P **P 14 51 35.6 -0.3**
comp=Z,139nm,1.1s,mb6.0
LMR La Mourre 92.65 45⇑ *i* P **P 14 51 35.6 -0.3**
LMR pmax pmax
comp=Z,70nm,1.1s,mb6.0
LMR La Mourre 92.65 45⇑ *i* P **P 14 51 35.6 -0.3**
comp=Z,70nm,1.1s,mb6.0
ORIF Oris-en-Rattie 92.82 44⇑ *i* P **P 14 51 37.0 +0.3**
comp=Z,131nm,1.0s,mb6.0
ORIF *e*R
comp=Z,743nm,22.0s
ORIF Oris-en-Rattie 92.82 44⇑ *i* P **P 14 51 37.0 +0.3**
ORIF pmax pmax
comp=Z,65nm,1.0s,mb6.0
ORIF Oris-en-Rattie 92.82 44⇑ *i* P **P 14 51 37.0 +0.3**
comp=Z,65nm,1.0s,mb6.0
FRF La Foret Royal 92.82 45⇑ *i* P **P 14 51 36.5 -0.2**
comp=Z,137nm,1.3s,mb5.9
FRF La Foret Royal 92.82 45⇑ *i* P **P 14 51 36.5 -0.2**
FRF pmax pmax
comp=Z,68nm,1.3s,mb5.9
FRF La Foret Royal 92.82 45⇑ *i* P **P 14 51 36.5 -0.2**
comp=Z,68nm,1.3s,mb5.9
DRV Dumont d'Urvil 92.94 192 P **P 14 51 30.0 -7.2**
DRV Dumont d'Urvil 92.94 192 SP SP 15 03 49.0 -2.8
LSZ Lusaka 93.12 107 P **P 14 51 40.1 +2.0**
LSZ *e* pP 14 51 52.1 +1.3
LSZ pmax pmax
comp=Z,17nm,1.3s,mb5.3
LSZ Lusaka 93.12 107 *eP* **P 14 51 40.0 +1.9**
comp=Z,16nm,1.5s,mb5.2
LSZ LR LR
comp=Z,891nm,19.0s,MS5.2
MBDF Montbardon 93.34 44⇑ *i* P **P 14 51 39.2 +0.1**
comp=Z,99nm,1.2s,mb5.8
MBDF Montbardon 93.34 44⇑ *i* P **P 14 51 39.2 +0.1**
MBDF pmax pmax
comp=Z,50nm,1.2s,mb5.8
MBDF Montbardon 93.34 44⇑ *i* P **P 14 51 39.2 +0.1**
comp=Z,50nm,1.2s,mb5.8
REVF Revere 93.38 45 *eP* **P 14 51 39.4 +0.1**
TOUF Mont Tournerai 93.39 45 *eP* **P 14 51 39.5 +0.1**
SBF Sospel 93.47 45⇑ *i* P **P 14 51 39.5 -0.2**
comp=Z,214nm,1.4s,mb6.1
SBF Sospel 93.47 45⇑ *i* P **P 14 51 39.5 -0.2**
SBF pmax pmax
comp=Z,107nm,1.4s,mb6.1
SBF Sospel 93.47 45⇑ *i* P **P 14 51 39.5 -0.2**
comp=Z,107nm,1.4s,mb6.1
RES Resolute Bay 93.50 354 P **P 14 51 39.2 -0.7**
RES Resolute Bay 93.50 354 *eP* **P 14 51 38.9 -1.0**
comp=Z,2μm,1.8s
CABF La Chapelle 93.59 42⇑ *i* P **P 14 51 39.8 -0.4**
comp=Z,34nm,1.1s,mb5.4
CABF La Chapelle 93.59 42⇑ *i* P **P 14 51 39.8 -0.4**
CABF pmax pmax
comp=Z,17nm,1.1s,mb5.4
CABF La Chapelle 93.59 42⇑ *i* P **P 14 51 39.8 -0.4**

comp=Z,17nm,1.1s,mb5.4
LPL La Plagne 93.60 43⇑ iP P 14 51 40.7 +0.4
comp=Z,102nm,1.1s,mb5.9
LPL La Plagne 93.60 43⇑ iP P 14 51 40.7 +0.4
LPL pmax pmax
comp=Z,51nm,1.1s,mb5.9
LPL La Plagne 93.60 43⇑ iP P 14 51 40.7 +0.4
comp=Z,51nm,1.1s,mb5.9
LPG La Plagne 93.61 43⇑ iP P 14 51 40.9 +0.6
comp=Z,149nm,1.2s,mb6.0
LPG La Plagne 93.61 43⇑ iP P 14 51 40.9 +0.6
LPG pmax pmax
comp=Z,75nm,1.2s,mb6.0
LPG La Plagne 93.61 43⇑ iP P 14 51 40.9 +0.6
comp=Z,75nm,1.2s,mb6.0
MEZF Maizieres J'vi 93.66 40⇑ iP P 14 51 39.7 -0.8
BAIF Baives 93.75 38⇑ iP P 14 51 39.8 -1.2
DOU Dourbes 93.99 39 P P 14 51 40.9 -1.2
comp=Z,7.5nm,1.3s,mb5.0
THEF They Montfort 94.13 41 eP P 14 51 45.8 +3.1
GIVF Givet 94.13 39⇑ iP P 14 51 41.9 -0.8
comp=Z,105nm,1.2s,mb5.9
GIVF Givet 94.13 39⇑ iP P 14 51 41.9 -0.8
GIVF pmax pmax
comp=Z,52nm,1.2s,mb5.8
GIVF Givet 94.13 39⇑ iP P 14 51 41.9 -0.8
comp=Z,52nm,1.2s,mb5.8
HAU Haudompre 94.27 41⇑ iP P 14 51 42.4 -1.0
HAU eR
comp=Z,1µm,21.8s
HAU Haudompre 94.27 41⇑ iP P 14 51 42.4 -1.0
HAU LR LR
comp=Z,1µm,21.8s,MS5.3
HINF Hinteralfeld 94.52 41 eP P 14 51 43.4 -1.1
MOF Molkenrain 94.71 41 eP P 14 51 45.1 -0.3
WLF Walferdange 94.76 39 eP P 14 51 45.4 -0.2
CDF Champ du Feu 95.00 41⇑ iP P 14 51 45.7 -1.0
comp=Z,76nm,1.1s,mb5.7
CDF Champ du Feu 95.00 41⇑ iP P 14 51 45.7 -1.0
CDF pmax pmax
comp=Z,38nm,1.1s,mb5.7
CDF Champ du Feu 95.00 41⇑ iP P 14 51 45.7 -1.0
comp=Z,38nm,1.1s,mb5.7
WLS Welschbruch 95.05 41 eP P 14 51 46.7 -0.2
FELD Feldberg im Sc 95.26 41 eP P 14 51 47.6 -0.3
RUP Ruppelstein 95.33 39 eP P 14 51 48.1 -0.1
LANF Langenberg 95.53 40 eP P 14 51 49.1 0.0
BFO Black Forest 95.63 41 eP P 14 51 48.3 -1.3
comp=Z,202nm,2.7s,mb6.1
BFO Black Forest 95.63 41 eP P 14 51 48.3 -1.3
BFO pmax pmax
comp=Z,202nm,2.7s,mb6.1
ABH Alteburg 95.69 39 eP P 14 51 49.5 -0.3
URZ Urewera 95.95 227 LR LR 15 27 49.9
comp=Z,399nm,18.6s,MS4.9,baz=31,slow=31
BUG Bochum--Univer 96.07 38 eP P 14 51 50.9 -0.7
comp=Z,67nm,1.4s,mb5.9
SNZO South Karori 96.11 223 PFAKE 14 52 00.0 +8.2
SNZO LR LR
comp=Z,1µm,20.0s,MS5.4
DAVA Damuels 96.26 42⇑ iP P 14 51 52.4 -0.1
comp=Z,34nm,1.1s,mb5.7
CASY Casey 96.28 180 PFAKE 14 52 00.0 +7.4
CASY LR LR
comp=Z,794nm,20.0s,MS5.2
STU Stuttgart 96.32 41 eP P 14 51 52.1 -0.6
TNS Taunus Mts 96.35 39 eP P 14 51 52.5 -0.4
TOD Tromm 96.36 40 eP P 14 51 52.3 -0.6
AFI Afiamalu 96.56 253 LR LR 15 28 06.8
comp=Z,290nm,19.3s,MS4.8,baz=10,slow=31
INK Inuvik 96.98 340 LR LR 15 39 14.2
comp=Z,1µm,19.9s,MS5.3,baz=57,slow=38
INK Inuvik 96.98 340 P P **14 51 54.1 -1.6**
INK Inuvik 96.98 340 eP P **14 51 53.8 -1.9**
comp=Z,1µm,1.3s
DAWY Dawson 97.05 336 eP P 14 51 53.7 -2.3
MOTA Moosalm 97.07 43⇑ iP P 14 51 55.9 -0.2
comp=Z,33nm,1.1s,mb5.7
SQTA Sankt Quirin 97.09 43⇑ iP P 14 51 56.1 -0.2
comp=Z,49nm,1.0s,mb5.9
AQU L'Aquila 97.10 48 P P **14 51 56.2 0.0**
AQU pmax pmax
comp=Z,41nm,1.0s,mb5.8
AQU L'Aquila 97.10 48 eP P 14 51 55.9 -0.3
comp=Z,41nm,0.9s,mb5.9
RPZ Rata Peaks 97.17 220 LR LR 15 24 40.9
comp=Z,1µm,21.8s,MS5.4,baz=178,slow=28
WTTA Wattenberg 97.39 43⇑ iP P 14 51 57.6 0.0
comp=Z,48nm,1.0s,mb5.9
FUR Furstenfeldbru 97.43 42 eP P 14 51 57.2 -0.6
comp=Z,58nm,1.1s,mb5.9
FUR Furstenfeldbru 97.43 42 eP P 14 51 57.2 -0.6
FUR pmax pmax
comp=Z,58nm,1.1s,mb5.9
GTTG Gvttingen 97.69 38 eP P 14 51 58.5 -0.4
GRFO Grafenberg 97.87 40 PFAKE 14 52 10.0 +10
GRFO LR LR
comp=Z,790nm,19.0s,MS5.2
GRA1 Grafenberg Arr 97.87 40 eP P 14 51 59.4 -0.3
comp=Z,40nm,1.2s,mb5.8
GRF Grafenberg Arr 97.87 40 eP P 14 51 59.4 -0.3
comp=Z,40nm,1.2s,mb5.8
GRF Grafenberg Arr 97.87 40 eP P 14 51 59.4 -0.3
GRF pmax pmax
comp=Z,40nm,1.2s,mb5.8
CLZ Clausthal 98.03 38 eP P 14 52 00.1 -0.3
comp=Z,46nm,1.4s,mb5.8
CLZ Clausthal 98.03 38 eP P 14 52 00.1 -0.3
CLZ pmax pmax
comp=Z,46nm,1.4s,mb5.8
EGAK Eagle 98.04 336 eP P 14 51 58.2 -2.3
comp=Z,5.0nm,0.9s,mb5.0
EGAK LR LR
comp=Z,728nm,21.0s,MS5.2
NRDL Niedersach Rie 98.08 37 eP P 14 52 00.9 +0.2
ROBS Robic 98.31 44 iP P 14 52 01.8 +0.1
MOX Moxa 98.40 40 eP P 14 52 01.5 -0.6
comp=Z,104nm,2.2s,mb6.0
KBA Koelnbreinsper 98.44 43⇑ iP P 14 52 02.1 -0.2
comp=Z,11nm,0.6s,mb5.6
ROTZ Rotzenmuhle 98.50 41 eP P 14 52 02.2 -0.4
VOY Vojsko 98.50 44 eP P 14 52 02.4 -0.2
VOY e pP 14 52 13.8 -1.5
MANZ Manzenberg 98.51 40 eP P 14 52 02.7 +0.1
DIV Divide 98.58 332 PFAKE 14 52 10.0 +7.1
DIV LR LR
comp=Z,2µm,21.0s,MS5.5
JAVS Javornik 98.58 45 iP P 14 52 03.7 +0.8
TIP Timpagrande 98.64 52 eP P 14 51 01.8 -1.4
comp=Z,12nm,1.0s,mb5.4
WET Wettzell 98.74 41 eP P 14 52 03.2 -0.4
comp=Z,28nm,1.2s,mb5.7
WET Wettzell 98.74 41 eP P 14 52 03.2 -0.4
WET pmax pmax
comp=Z,28nm,1.2s,mb5.7
WERD Werda 98.76 40 eP P 14 52 03.4 -0.3
NKC Novy Kostel 98.79 40 ePDIF P 14 52 04.1 +0.2
TANN Tannenbergstha 98.85 40 eP P 14 52 04.0 -0.1
OBKA Obir 99.08 44⇑ iP P 14 52 05.1 -0.1
comp=Z,24nm,1.6s,mb5.5
GEC2 GERESS Array S 99.17 42 eP P 14 52 04.8 -0.8
comp=Z,15nm,1.0s,mb5.5
GEC2 GERESS Array S 99.17 42 eP P 14 52 04.8 -0.8
GEC2 pmax pmax
comp=Z,15nm,1.0s,mb5.5
GERES GERESS Array B 99.17 42 P P **14 52 05.1 -0.4**
comp=Z,9.0nm,0.9s,mb5.3,baz=242,slow=2.9,SNR=36
GERES LR LR 15 33 59.7
comp=Z,610nm,19.6s,MS5.1,baz=259,slow=34
KHC Kasperske Hory 99.18 41 ePDIF P 14 52 05.5 -0.1
MOA Molln 99.26 43⇑ iP P 14 52 05.4 -0.5
comp=Z,11nm,0.9s,mb5.4
BOJS Bojanci 99.27 45 eP P 14 52 06.5 +0.5
CLL Collm 99.43 39 eP P 14 52 06.5 -0.2
comp=Z,127nm,2.6s,mb6.0
CLL Collm 99.43 39 iP P 14 52 06.6 -0.1
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.5
CLL Collm 99.43 39 i Pdif P 14 52 06.6 -0.1
comp=Z,23nm,1.3s,mb5.5
FBE Freiberg 99.54 40 eP 14 52 07.1
comp=Z,27nm,1.2s
BRG Berggiesshubel 99.88 40 eP Pdif 14 52 08.3 -0.4
comp=Z,21nm,1.2s
BRG Berggiesshubel 99.88 40 eP Pdif 14 52 08.8 0.0
comp=Z,14nm,1.3s
BRG Berggiesshubel 99.88 40 eP Pdif 14 52 08.8 +0.1
BRG pmax pmax
comp=Z,14nm,1.3s,mb5.2
ARSA Arzberg 99.92 44⇑ iP Pdif 14 52 08.4 -0.5
comp=Z,8.4nm,1.0s
PRU Pruhonice 100.02 41 ePDIF Pdif 14 52 09.4 +0.1
PMR Palmer 100.26 332 PFAKE 14 52 20.0 +10
PMR LR LR
comp=Z,864nm,19.0s,MS5.3
COLA College 100.74 335 eP Pdif 14 52 11.0 -1.5
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 100.74 335 ePdif Pdif 14 52 10.6 -1.9
comp=Z,9.3nm,1.0s
COLA LR LR
comp=Z,662nm,19.0s,MS5.2
MCK McKinley 100.83 334 PFAKE 14 52 20.0 +7.0
MCK LR LR
comp=Z,411nm,20.0s,MS4.9
UPC Upice 101.06 40 ePDIF Pdif 14 52 14.3 +0.3
NOA NORSAR Array B 101.20 29 P Pdif 14 52 14.6 0.0
comp=Z,2.6nm,1.0s,baz=255,slow=4.4,SNR=2.7
DPC Dobruska-Polom 101.21 41 ePDIF Pdif 14 52 14.5 -0.1
VYHS Vyhne 102.38 43 PDIF Pdif 14 52 19.6 -0.2
VYHS Vyhne 102.38 43 eP Pdif 14 52 19.6 -0.2
KECS Kecovo 103.45 43 PDIF Pdif 14 52 25.2 +0.6
KECS Kecovo 103.45 43 eP Pdif 14 52 25.2 +0.6
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 103.45 43 eP Pdif 14 52 25.2 +0.6
comp=Z,2.6nm,1.1s
STHS Stebnicka Huta 104.12 42 PDIF Pdif 14 52 28.7 +1.1
STHS Stebnicka Huta 104.12 42 eP Pdif 14 52 28.7 +1.1
comp=Z,3.9nm,0.5s
KMBO Kilima Mbogo 106.22 97 PFAKE 14 57 00.0 +12
KMBO LR LR
comp=Z,478nm,21.0s,MS5.0
ARCES ARCESS Array B 108.41 22 PKKPbc PKKPbc 15 08 01.2 -1.3
comp=Z,5.5nm,1.0s,baz=76,slow=3.8,SNR=11
ARCES PKKPab PKKPab 15 08 13.5 -2.5
comp=Z,0.9nm,0.5s,baz=76,slow=3.8,SNR=5.7
TNA Tin City 109.16 334 PFAKE 14 57 00.0 +6.1
TNA LR LR
comp=Z,469nm,19.0s,MS5.1
AKASG Malin Array Be 109.39 42 PKiKP PKiKP 14 56 52.8 -1.5
comp=Z,0.6nm,0.4s,baz=275,slow=2.8,SNR=5.6
TAU Tasmania Unive 110.54 209 PFAKE 14 57 10.0 +14
TAU LR LR
comp=Z,204nm,22.0s,MS4.7
ANTO Ankara 110.94 53 PFAKE 14 57 10.0 +13
ANTO LR LR
comp=Z,334nm,22.0s,MS4.9
BR131 Keskin Array S 111.57 54 PFAKE 14 57 10.0 +12
BR131 LR LR
comp=Z,369nm,22.0s,MS4.9
BRTR Keskin Array B 111.57 54 PKKP PKKPbc 15 08 12.5 +20
comp=Z,0.9nm,0.8s,baz=97,slow=6.9,SNR=4.2
OBN Obninsk 113.88 37⇑ iPKIKP PKiKP 14 57 02.3 -0.5
OBN pmax pmax
comp=Z,21nm,1.1s
OBN Obninsk 113.88 37⇑ ePKP PKiKP 14 57 02.3 -0.5
MALT Malatya 115.19 55 ePKIKP PKiKP 14 57 05.8 +0.5
MALT Malatya 115.19 55 ePKIKP PKiKP 14 57 05.5 +0.2
SOC Sochi 116.30 50 i PKIKP PKPdf 14 57 07.4 0.0
SOC e 14 58 17.3
SOC eSS SS 15 14 33.1 +19
SOC pmax pmax
comp=Z,35nm,1.2s
SOC Sochi 116.30 50 i PKP PKPdf 14 57 08.0 +0.6
KIV Kislovodsk 118.44 49c i PKIKP PKPdf 14 57 10.9 -0.7
KIV Kislovodsk 118.44 49⇑ ePKP PKPdf 14 57 10.9 -0.7
KIV LR LR
comp=Z,86nm,20.0s,MS4.4
BILL Bilibino 118.56 339 PFAKE 14 57 20.0 +8.2
BILL LR LR
comp=Z,456nm,19.0s,MS5.1
ZEI Tsey 119.38 50 ePKIKP PKPdf 14 57 13.5 +0.1
ZEI e 14 58 40.2
SMY Shemya 119.44 321 PFAKE 14 57 20.0 +6.5
SMY LR LR
comp=Z,410nm,20.0s,MS5.1
GNI Garni 120.11 53c i PKIKP PKPdf 14 57 15.0 +0.2
GNI Garni 120.11 53⇑ iPKP PKPdf 14 57 15.0 +0.2
GNI LR LR
comp=Z,293nm,21.0s,MS4.9
STKA Stephens Creek 122.06 212 ePKP PKPdf 14 57 17.0 -1.5
comp=Z,2.3nm,0.6s
STKA epPKP pPKPdf 14 57 30.4 -1.2
STKA Stephens Creek 122.06 212 PKP PKPdf 14 57 17.9 -0.6
comp=Z,2.5nm,0.5s,baz=130,slow=9.0,SNR=14
STKA pPKP pPKPdf 14 57 30.6 -1.0
comp=Z,3.5nm,0.7s,baz=190,slow=2.7,SNR=4.4
STKA PKKPab PKKPab 15 07 18.4 +2.5
comp=Z,1.3nm,0.6s,baz=341,slow=10,SNR=3.9
SOKR Solikamsk 123.48 29 i PKIKP PKPdf 14 57 21.4 +0.1
SOKR pmax pmax
comp=Z,40nm,1.5s
ORR Orenburg 125.19 39 ePKIKP PKPdf 14 57 23.7 -0.8
ORR pmax pmax
comp=Z,40nm,1.1s
ARU Arti 125.62 32 i PKIKP PKPdf 14 57 24.9 -0.5
ARU e 14 59 19.0
ARU e 15 04 26.8
ARU eSS SS 15 16 30.8 +17
ARU Arti 125.62 32 ePKPdf PKPdf 14 57 24.4 -0.9
SEY Seymchan 126.15 337c i PKIKP PKPdf 14 57 25.7 -0.7
AKTO Aktyubinsk 127.52 39 PKIKP PKPdf 14 57 28.6 -0.4
AKTO pmax pmax
comp=Z,2.0nm,1.5s
CTA Charters Tower 128.16 225 eP PKPdf 14 57 30.3 +0.1
comp=Z,4.5nm,0.8s
CTA Charters Tower 128.16 225 PKP PKPdf 14 57 29.8 -0.4
comp=Z,4.4nm,0.6s,baz=265,slow=3.6,SNR=5.6
CTAO Charters Tower 128.16 225 PFAKE 14 57 40.0 +10
CTAO LR LR
comp=Z,758nm,20.0s,MS5.4
PET Petropavlovsk 128.31 325⇑ iPKIKP PKPdf 14 57 28.7 -1.8
PET Petropavlovsk 128.31 325⇑ ePKP PKPdf 14 57 28.7 -1.8
FORT Forrest 128.72 200 ePKP PKPdf 14 57 29.6 -1.7
comp=Z,14nm,0.6s
FORT epPKP pPKPdf 14 57 42.8 -1.5
MA2 Magadan 128.80 335 PFAKE 14 57 40.0 +8.6
MA2 LR LR
comp=Z,432nm,20.0s,MS5.1
AB31 Akbulak array 129.09 40 i PKIKP PKPdf 14 57 32.2 +0.2
AB31 pmax pmax
comp=Z,196nm,1.5s
NWAO Narrogin (SRO) 129.17 188 PFAKE 14 57 40.0 +7.9
NWAO LR LR
comp=Z,365nm,22.0s,MS5.0
KLBR Kellerberrin 130.41 189 ePKP PKPdf 14 57 33.6 -0.9
comp=Z,30nm,1.3s
KLBR epPKP pPKPdf 14 57 46.1 -1.4
ASAR Alice Springs 132.65 211 PKhKP 14 57 22.1
comp=Z,0.3nm,0.6s,baz=140,slow=2.1,SNR=8.8
ASAR PKP PKPdf 14 57 38.0 -0.7
comp=Z,4.1nm,0.6s,baz=138,slow=1.9,SNR=50
ASAR pPKP pPKPdf 14 57 49.4 -2.4
comp=Z,7.4nm,1.0s,baz=161,slow=2.0,SNR=8.0
ASAR SKPbc SKPbc 15 01 01.7 -0.8
comp=Z,2.4nm,0.9s,baz=156,slow=3.5,SNR=5.6
ASAR PKKP 15 07 30.4
comp=Z,0.2nm,0.5s,baz=329,slow=1.6,SNR=7.9
AS31 Alice Springs 132.65 211 ePKP PKPdf 14 57 37.8 -0.9
AS31 epPKP pPKPdf 14 57 50.4 -1.4
AS31 ePKS 15 01 01.6
ASPA Alice Springs 132.65 211 ePKP PKPdf 14 57 37.8 -0.9
ASPA epPKP pPKPdf 14 57 50.4 -1.4
ASPA ePKS 15 01 01.6
BRVK Borovoye 133.19 32 PKIKP PKPdf 14 57 40.0 +0.3
BRVK Borovoye 133.19 32 ePKPdf PKPdf 14 57 39.8 +0.1
BRVK LR LR
comp=Z,166nm,22.0s,MS4.7
BVA0 Borovoye Array 133.26 32 i PKIKP PKPdf 14 57 39.5 -0.4
BVA0 pmax pmax
comp=Z,7.0nm,1.4s
BVAR Borovoye Array 133.26 32 PKP PKPdf 14 57 40.0 +0.1
comp=Z,4.4nm,0.8s,baz=277,slow=3.8,SNR=5.6
BVAR SKPbc SKPbc 15 01 03.4 -1.2
comp=Z,8.0nm,1.2s,baz=298,slow=3.1,SNR=4.0
YAK Yakutsk 133.56 347 ePKIKP PKPdf 14 57 38.8 -1.6
YAK MLR MLR
comp=Z,428nm,21.0s,MS5.1
VOSK Vostochnaya 133.73 32 PKIKP PKPdf 14 57 40.3 -0.4
VOSK pmax pmax
comp=Z,36nm,1.4s
PMG Port Moresby 134.35 237 PFAKE 14 57 50.0 +8.1
PMG LR LR
comp=Z,450nm,20.0s,MS5.2
DGAR Diego Garcia 135.44 121 PFAKE 14 57 50.0 +6.1
DGAR LR LR
comp=Z,134nm,20.0s,MS4.7
WB2 Warramunga Arr 135.53 214 ePKP PKPdf 14 57 43.8 -0.3
WB2 epPKP pPKPdf 14 57 56.5 -0.7
WB2 ePKS 15 01 10.9
WRA Warramunga Arr 135.53 214 PKhKP 14 57 31.1
comp=Z,0.6nm,0.4s,baz=139,slow=3.2,SNR=16
WRA PKP PKPdf 14 57 43.9 -0.2
comp=Z,4.5nm,0.4s,baz=146,slow=1.7,SNR=49
WRA pPKP pPKPdf 14 57 56.4 -0.8
comp=Z,9.5nm,0.8s,baz=161,slow=1.5,SNR=12
WRA SKPbc SKPbc 15 01 11.7 -0.3
comp=Z,5.8nm,1.0s,baz=143,slow=3.0,SNR=28
WRA Warramunga Arr 135.53 214 PKHKP 14 57 31.1
WRA 14 57 43.9
WRA 14 57 56.4
WRAB Tennant Creek 135.53 214⇑ iPKIKP PKPdf 14 57 44.0 -0.1
NVS Novosibirsk 137.68 23⇑ iPKIKP PKPdf 14 57 47.8 -0.3
NVS pmax pmax
comp=Z,89nm,1.7s
NVS pmax pmax
comp=E,21nm,1.3s
ZAL Zalesovo 138.96 22 PKhKP 14 57 39.2
comp=E,1.5nm,0.5s,baz=154,slow=2.5,SNR=9.5
ZAL PKP PKPdf 14 57 49.7 -0.8
comp=E,68nm,1.2s,baz=189,slow=1.9,SNR=59
ZAL Zalesovo 138.96 22 PKP 14 57 39.2
ZAL PKP PKPdf 14 57 49.7 -0.8
BOD Bodaibo 139.82 357 ePKHKP 14 57 43.6
BOD pmax pmax
comp=Z,14nm,1.4s
MBWA Marble Bar 140.19 195 PFAKE 14 58 00.0 +7.3
MBWA LR LR
comp=Z,390nm,20.0s,MS5.2
YSS Yuzh-Sakhalins 140.20 324 ePKIKP PKPdf 14 57 52.5 -0.2
YSS pmax pmax
comp=Z,30nm,1.2s
FITZ Fitzroy Crossi 141.18 204 ePKP 14 57 47.6
comp=Z,9.0nm,0.8s
FITZ epPKP PKiKP 14 57 57.0 -0.2
FITZ ePKS 15 01 14.4
TKM2 Tokmak 2 141.61 42 PKIKP PKPdf 14 57 55.8 +0.6
TKM2 pmax pmax
comp=Z,50nm,1.4s
ERM Erimo 142.66 318 PFAKE 14 58 10.0 +13
ERM LR LR
comp=Z,95nm,20.0s,MS4.5
MK31 Makanchi Array 143.15 32 ePKHKP 14 57 53.6
MKAR Makanchi Array 143.15 32 PKhKP 14 57 53.1
comp=Z,21nm,1.0s,baz=324,slow=3.6,SNR=30
MKAR PKP PKPdf 14 57 57.0 -0.9
comp=Z,22nm,1.0s,baz=300,slow=2.7,SNR=41
KSH Kashi 143.49 46 ePKP PKPdf 14 57 57.1 -1.5
KSH ePKS 15 01 32.1
KSH ePPP 15 04 02.3
KSH PP PP
comp=Z,981nm,7.0s
KLR Kul'dur 143.89 335 ePKHKP 14 57 52.6
KLR pmax pmax
comp=Z,65nm,1.6s
IRK Irkutsk 145.25 6⇑ iPKIKP PKPdf 14 58 01.0 -0.6
IRK e 14 58 23.3
IRK pmax pmax
comp=Z,360nm,2.0s
MOY Mondy 145.38 10 ePKIKP PKPdf 14 58 02.1 +0.2
MOY pmax pmax
comp=Z,301nm,1.5s
CIT Chita 145.62 356 ePKIKP PKPdf 14 58 02.9 +0.6
CIT e 14 58 15.3
CIT e 14 58 26.1
CIT e 15 01 17.8
CIT pmax pmax
comp=Z,441nm,1.6s
TLY Talaya 145.74 7 i PKIKP PKPdf 14 58 03.0 +0.5
TLY e 14 58 16.2
TLY e 15 01 24.9
TLY eSS SS 15 20 43.4 +29
TLY pmax pmax
comp=Z,179nm,1.4s
TLY MLR MLR
comp=Z,645nm,25.0s,MS5.3
TLY Talaya 145.74 7 ePKP PKPdf 14 58 02.6 +0.1
TLY LR LR
comp=Z,105nm,22.0s,MS4.6
POO Poona 145.82 83⇓ iP PKPdf 14 58 00.0 -2.6
THN Thein Dam 145.95 58 eP PKPdf 14 58 03.3 +0.5
KAD Karad 146.02 85 eP PKPdf 14 58 04.2 +1.2
AJM Ajmer 146.32 69 eP PKPdf 14 58 04.0 +0.5
TRD Trivandrum 146.75 102 eP PKPdf 14 58 03.3 -0.9
ZAK Zakamensk 146.97 8 ePKP2 PKPab 14 58 05.0 -3.1
ZAK pmax pmax
comp=Z,41nm,1.1s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
HIA Hailar 147.50 348 ePKIKP PKPdf 14 58 04.5 -0.9
HIA e 14 58 07.3
HIA MLR MLR
comp=Z,426nm,20.0s
WMQ Urumqi 147.94 31 ⇑PKP PKPdf 14 58 06.9 +0.7
WMQ PKP2 PKPab 14 58 14.4 +2.5
WMQ APKP 14 58 17.8
WMQ XPKP 14 58 21.4
WMQ PP PP 15 01 41.3 +4.4
WMQ PP PP
comp=Z,540nm,5.1s
WMQ LR LR
comp=N,286nm,22.2s,MS5.3
WMQ LR LR
comp=E,445nm,23.5s,MS5.3
WMQ LR LR
comp=Z,333nm,25.7s,MS5.0
NDI New Delhi 148.18 64 eP PKPdf 14 58 04.5 -2.0
NDI ex x 15 01 36.0
LATR Latur 148.37 83 ex x 14 58 01.6
LATR AMb AMB 14 58 05.0
MDJ Mudanjiang 148.45 333 PKP PKPdf 14 58 06.5 -0.5
MDJ APKP 14 58 20.6
MDJ LR LR
comp=N,306nm,31.5s,MS5.0
MDJ LR LR
comp=E,158nm,30.4s,MS5.0
MDJ LR LR
comp=Z,435nm,32.6s,MS5.0
MDJ Mudanjiang 148.45 333 ePKPdf PKPdf 14 58 06.8 -0.3
MDJ LR LR
comp=Z,475nm,21.0s,MS5.3
MJAR Matsushiro Arr 148.71 313 PKPbc PKPbc 14 58 11.1 -0.2
comp=Z,52nm,0.7s,baz=81,slow=2.0,SNR=52
MJAR Matsushiro Arr 148.71 313 PKPbc PKPbc 14 58 11.1 -0.2
MAJO Matsushiro 148.72 313 PKPdf PKPdf 14 58 06.5 -0.9
MAJO ePKPbc PKPbc 14 58 11.0 -0.3
MAJO ePKPab PKPab 14 58 15.1 +0.1
SALM Salem 148.84 97 ex x 14 58 12.0
BHPL Bhopal 149.18 74 eP PKPdf 14 58 09.2 +1.0
PALK Pallekele 149.77 106 PFAKE 14 58 20.0 +11
PALK LR LR
comp=Z,109nm,20.0s,MS4.7
SONM Songino Array 149.81 5 PKP PKPdf 14 58 09.4 +0.2
comp=Z,58nm,1.0s,baz=266,slow=1.1,SNR=78
SONM PKPbc PKPbc 14 58 14.2 +0.2
comp=Z,56nm,1.0s,baz=329,slow=1.3,SNR=88
SONM PP PP 15 01 44.8 -2.8
comp=Z,6.2nm,1.0s,baz=347,slow=5.9,SNR=4.1
ULN Ulaanbaatar 149.82 4 ePKPdf PKPdf 14 58 09.4 +0.2
ULN ePKPbc PKPbc 14 58 14.2 +0.2
ULN LR LR
comp=Z,487nm,20.9s,MS5.3
HYB Hyderabad 150.19 86 i PKP PKPdf 14 58 11.0 +1.2
HYB e 14 58 15.5
HYB e 14 58 22.0
HYB e 14 58 29.0
HYB esPKP 14 58 34.5
HYB Hyderabad 150.19 86 eP PKPdf 14 58 11.0 +1.2
LGTI Lohaghat 150.55 61 i x x 14 58 15.5
NGP Nagpur 150.78 78 eP PKPdf 14 58 08.2 -2.5
CN2 Changchun 150.82 336 ePKP PKPdf 14 58 14.8 +4.0
CN2 APKP 14 58 25.5
CN2 LR LR
comp=N,400nm,17.0s,MS5.4

CN2					LR	LR			
	comp=E,400nm,17.0s,MS5.4								
CN2					LR	LR			
	comp=Z,600nm,21.0s,MS5.4								
ALBI	**Allahabad**	**152.88**	**69**	*ex*	x		14 58 20.0		
KSRS	**Korea Array**	**154.70**	**325**		PKP	PKPdf	14 58 16.6	+0.1	
	comp=Z,7.9nm,1.0s,baz=45,slow=1.2,SNR=25								
KSRS					PKPbc	PKPbc	14 58 24.1	-0.9	
	comp=Z,12nm,1.0s,baz=14,slow=2.7,SNR=15								
VIS	**Vishakhapatnam**	**154.75**	**86**	*eP*	PKPdf		14 58 17.4	+0.9	
INCN	**Inchon**	**155.37**	**327**		PFAKE		14 58 30.0	+13	
INCN					LR	LR			
	comp=Z,504nm,22.0s,MS5.3								
GTA	**Gaotai**	**156.67**	**20**		PKP	PKPdf	14 58 19.8	+0.7	
GTA					APKP		14 58 31.3		
GTA					XPKP		14 58 37.9		
GTA					PKP2	PKPab	14 58 48.8	+0.4	
GTA					PKS		15 01 51.9		
GTA					PP	PP	15 02 29.3	+2.8	
GTA					SKS	SKSdf	15 05 20.3	-1.6	
GTA					PP	PP			
	comp=Z,349nm,8.4s								
GTA					LR	LR			
	comp=N,112nm,11.0s,MS5.3								
GTA					LR	LR			
	comp=E,253nm,10.6s,MS5.3								
GTA					LR	LR			
	comp=Z,243nm,11.0s,MS5.3								
BOK	**Bokaro**	**156.81**	**71**	*eP*		PKPdf	14 58 20.2	+0.9	
BOK					AMb	AMB	14 58 21.2		
	comp=Z,30nm,1.4s								
HHC	**Hu-ho-hao-te**	**156.88**	**357**	⇑	PKP	PKPdf	14 58 18.4	-1.0	
HHC					APKP		14 58 29.3		
HHC					XPKP		14 58 33.5		
HHC					PKS		15 01 50.5		
HHC					PP	PP	15 02 26.3	-1.3	
HHC					SKS	SKSdf	15 05 19.8	-2.3	
HHC					SKKS	SKKSac	15 09 09.3	-4.4	
HHC					PP	PP			
	comp=Z,373nm,9.2s								
HHC					LR	LR			
	comp=N,382nm,21.4s,MS5.3								
HHC					LR	LR			
	comp=E,206nm,19.2s,MS5.3								
HHC					LR	LR			
	comp=Z,602nm,19.8s,MS5.4								
BJI	**Beijing**	**157.07**	**347**	*e*	PKP	PKPdf	14 58 19.4	-0.2	
BJT	**Baijiatuau**	**157.09**	**347**		PFAKE		14 58 30.0	+10	
BJT					LR	LR			
	comp=Z,463nm,21.0s,MS5.3								
LSA	**Lhasa**	**159.16**	**52**		PKP	PKPdf	14 58 23.3	+1.2	
LSA	**Lhasa**	**159.16**	**52**	*e*	PKPdf	PKPdf	14 58 22.9	+0.8	
TIA	**Tai'an**	**160.46**	**342**	⇑	PKP	PKPdf	14 58 23.8	+0.2	
LZH	**Lanzhou**	**160.92**	**15**	*e*	PKP	PKPdf	14 58 25.0	+0.9	
LZH					APKP		14 58 38.5		
LZH					XPKP		14 58 43.5		
LZH					PKP2	PKPab	14 59 08.0	+1.1	
LZH					SKS	SKSdf	15 05 27.0	+1.1	
LZH					PP	PP			
	comp=Z,240nm,4.5s								
LZH					LR	LR			
	comp=N,226nm,13.4s								
LZH					LR	LR			
	comp=Z,465nm,17.6s								
DAV	**Davao City (W)**	**161.37**	**237**		PFAKE		14 58 40.0	+15	
DAV					LR	LR			
	comp=Z,363nm,22.0s								
SSE	**Sheshan**	**163.14**	**324**		PKP	PKPdf	14 58 17.5	-8.9	
SSE					PP	PP	15 02 55.8	-5.7	
SSE					SS	SS	15 23 10.5	-13	
SSE					LR	LR			
	comp=Z,380nm,19.0s								
XAN	**Xi'an**	**163.70**	**3**		PKP	PKPdf	14 58 26.9	0.0	
XAN					APKP		14 58 39.8		
KSM	**Kuching**	**163.88**	**182**	*e*	PKPdf	PKPdf	14 58 28.1	+1.0	
KSM				*e*	pPKPdf	pPKPdf	14 58 39.8	-0.3	
CD2	**Chengdu**	**165.73**	**22**	*e*	PKP	PKPdf	14 58 26.9	-1.8	
CD2					APKP		14 58 37.8		
CD2					XPKP		14 58 41.3		
CD2					PKP2	PKPab	14 59 27.8	-0.2	
CD2					PP	PP	15 03 16.0	+1.0	
CD2					SKS	SKSdf	15 05 25.8	-3.7	
CD2					SKKS	SKKSac	15 09 57.8	-1.5	
CD2					LR	LR			
	comp=N,440nm,11.8s								
CD2					LR	LR			
	comp=E,320nm,19.2s								
CD2					LR	LR			
	comp=Z,470nm,11.8s								
WHN	**Wuhan**	**166.56**	**343**	*e*	PKP	PKPdf	14 58 29.3	0.0	
WHN					PKP2	PKPab	14 59 30.0	-1.7	
WHN					PP	PP	15 03 16.5	-2.8	
WHN					LR	LR			
	comp=Z,926nm,26.3s								
TATO	**Taipei**	**166.96**	**306**		PFAKE		14 58 40.0	+10	
TATO					LR	LR			
	comp=Z,770nm,20.0s								
CHG	**Chiang Mai**	**169.59**	**82**	⇑	P	PKPdf	14 58 31.4	0.0	
	comp=Z,18nm,0.6s								
CHTO	**Chiang Mai**	**169.59**	**82**		PKIKP	PKPdf	14 58 31.5	+0.1	
CHTO	**Chiang Mai**	**169.59**	**82**	*e*	PKPdf	PKPdf	14 58 31.2	-0.2	
CHTO				*e*	pPKPdf	pPKPdf	14 58 43.5	-1.0	
CHTO					LR	LR			
	comp=Z,355nm,22.0s								
CM31	**Chiang Mai Arr**	**169.61**	**84**		PFAKE		14 58 40.0	+8.6	
CM31					LR	LR			
	comp=Z,371nm,20.0s								
KMI	**Kunming**	**170.08**	**41**		PKP	PKPdf	14 58 32.0	+0.3	
KMI					APKP		14 58 45.3		
KMI					XPKP		14 58 51.3		
KMI					PKP2	PKPab	14 59 47.5	+0.3	
KMI					PP	PP	15 03 35.8	-1.5	
KMI					SKKS	SKKSac	15 10 18.5	-2.4	
KMI					PP	PP			
	comp=Z,212nm,5.9s								
KMI					LR	LR			
	comp=N,227nm,24.6s								
KMI					LR	LR			
	comp=E,239nm,16.6s								
KMI					LR	LR			
	comp=Z,634nm,25.4s								
GYA	**Guiyang**	**170.79**	**18**	*i*	PKP	PKPdf	14 58 31.6	-0.5	
GYA					APKP		14 58 44.0		
GYA					XPKP		14 58 48.4		
GYA					PKP2	PKPab	14 59 51.1	+0.7	
GYA					PKS		15 02 02.5		
GYA					PP	PP	15 03 42.3	+1.5	
GYA					SKS	SKSdf	15 05 29.0	-3.1	
GYA					SKKS	SKKSac	15 10 23.8	-0.5	
GYA					PP	PP			
	comp=Z,840nm,9.4s								
GYA					LR	LR			
	comp=N,1μm,20.9s								
GYA					LR	LR			
	comp=E,1μm,21.8s								
GYA					LR	LR			
	comp=Z,1μm,21.6s								
NANT	**Nan**	**171.25**	**81**		P	PKPdf	14 58 30.0	-2.3	
QIZ	**Qiongzhong**	**178.67**	**360**		PKP	PKPdf	14 58 35.0	+0.5	
QIZ					PP	PP	15 04 17.0	-1.8	
QIZ					SS	SS	15 25 50.3	-6.2	
QIZ					LR	LR			
	comp=N,357nm,23.3s								
QIZ					LR	LR			
	comp=Z,492nm,22.7s								

*ISCJB **20** 15:00:30.9±0.8, 5142N±004×16.17E±004, h0km, Error ellipse: s-maj=6.0km s-min=3.0km az=27.6*
*IPEC **20** 15:00:32.6±0.4, 5144N×1652E, h0km, ML2.1/3, Error ellipse: s-maj=3.0km s-min=2.3km az=101.0*
*CSEM **20** 15:00:33.7±0.3, 5139N×1622E, h1km, ML3.2/6, Error ellipse: s-maj=5.7km s-min=3.3km az=10.0*
*WAR **20** 15:00:33.3, 5145N×1619E, ML2.6, Mining Induced*
*PRU **20** 15:00:34.5, 5135N×1617E, h0km*

ISC 20 15:00:32.4±0.9, 5141N±004×1621E±004, h0km, n18, σ1§04/36, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
KSP	**Ksiaz**	**0.57**	**174**	*e*Pg		**Pg**	**15**	**00**	**44.3 +1.0**
KSP				*e*Sg		**Sg**	**15**	**00**	**52.1 +1.4**
UPC	**Upice**	**0.91**	**188**	*e*PG		**Pg**	**15**	**00**	**50.7 +0.8**
DPC	**Dobruska-Polom**	**1.06**	**176**	*e*PG		**Pg**	**15**	**00**	**53.4 +0.6**
DPC				*e*SG		**Sg**	**15**	**01**	**07.8 +1.2**
	33nm,0.5s								
DPC	**Dobruska-Polom**	**1.06**	**176**	*e*Pg		**Pg**	**15**	**00**	**53.4 +0.6**
DPC				*e*Sg		**Sg**	**15**	**01**	**07.6 +1.0**
PVCC	**Panska Ves**	**1.36**	**230**	*e*PG		**Pg**	**15**	**00**	**59.1 +0.6**
BRG	**Berggiesshubel**	**1.52**	**250**	PG		**Pg**	**15**	**01**	**01.2 -0.5**
BRG				SG		**Sg**	**15**	**01**	**21.8 +0.4**
	15nm,0.4s								
PRU	**Pruhonice**	**1.77**	**217**	*e*PN		**Pn**	**15**	**01**	**04.7 +0.4**
PRU				*e*PG		**Pg**	**15**	**01**	**06.0 -0.4**
PRU				*ex*		x	15	01	22.6
PRU				*e*SG		**Sg**	**15**	**01**	**29.5 +0.1**
	29nm,0.6s								
MORC	**Moravsky Berou**	**1.84**	**152**	*e*Pn		**Pn**	**15**	**01**	**05.2 -0.1**
MORC				*e*Sg		**Sg**	**15**	**01**	**28.7 -2.9**
OKC	**Ostrava-Krasne**	**2.00**	**141**	*e*PG		**Pg**	**15**	**01**	**10.0 -0.8**
OKC				*e*SG		**Sg**	**15**	**01**	**35.7 -1.0**
	23nm,0.6s								
CLL	**Collm**	**2.01**	**268**	*e*Pg		**Pg**	**15**	**01**	**10.0 -1.0**
CLL				*e*Sg		**Sg**	**15**	**01**	**37.0 0.0**
	comp=Z,13nm,0.5s								
VRAC	**Vranov**	**2.12**	**173**	*e*Sg		**Sg**	**15**	**01**	**38.9 -1.6**
	comp=Z,11nm,0.2s								
KRUC	**Moravsky**	**2.35**	**177**	*e*Pg		**Pg**	**15**	**01**	**15.9 -1.6**
KRUC				*e*Sg		**Sg**	**15**	**01**	**47.4 -0.6**
	comp=Z,9.4nm,0.3s								
OJC	**Ojcow**	**2.57**	**116**	*e*Pg		**Pg**	**15**	**01**	**22.5 +0.8**
OJC				*e*Sg		**Sg**	**15**	**01**	**57.6 +2.6**
NKC	**Novy Kostel**	**2.66**	**245**	*e*PN		**Pn**	**15**	**01**	**16.6 +0.1**
NKC				*e*PG		**Pg**	**15**	**01**	**22.6 -0.8**
NKC				*e*SG		**Sg**	**15**	**01**	**57.9 +0.1**
	comp=Z,16nm,0.3s								
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN		**Pn**	**15**	**01**	**15.7 -3.2**
KHC				*e*PG		**Pg**	**15**	**01**	**25.1 -1.7**
KHC				*e*SN		**Sn**	**15**	**01**	**54.8 +1.0**
KHC				*e*SG		**Sg**	**15**	**02**	**04.0 +0.4**
	comp=Z,12nm,0.6s								
MOX	**Moxa**	**3.00**	**257**	*e*PG		**Pg**	**15**	**01**	**29.9 0.0**
MOX				*e*SG		**Sg**	**15**	**02**	**09.9 +1.2**
MOA	**Molln**	**3.78**	**200**	⇑	*i*Pn	**Pn**	**15**	**01**	**41.9 +10**
	comp=Z,3.2nm,0.3s								
MOA				⇑	*i*Sg	**Sg**	**15**	**02**	**39.4 +5.5**
	comp=Z,3.1nm,0.2s								
STHS	**Stebnicka Huta**	**3.79**	**120**	*e*SG		**Sg**	**15**	**02**	**38.8 +4.6**

*ISCJB **20** 15:04:45.6±0.8, 465N±02×1552E±02, h10km, mb4.1/13, Error ellipse: s-maj=23.9km s-min=12.2km az=125.9*
*IDC **20** 15:04:45.5±0.9, 4649N×15534E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=30.0km s-min=20.9km az=163.0*
*NEIC **20** 15:04:46.9±0.8, 4647N×15523E, h10km, mb4.0/2, Error ellipse: s-maj=19.8km s-min=17.7km az=160.0*
*MOS **20** 15:04:51.1±1.4, 4638N×15485E, h55km, mb4.2/2, Error ellipse: s-maj=23.8km s-min=17.9km az=79.5*

ISC 20 15:04:47.5±0.8, 465N±01×1553E±02, h10km, n22, σ0§95/23, mb4.1/13, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
SKR	**Severo-Kuril's**	**4.18**	**7**	*e*PN		**Pn**	**15**	**05**	**57.9 +6.6**
KUR	**Kuril'sk**	**5.37**	**259**	⇓	*i*PN	**Pn**	**15**	**06**	**04.0 -3.7**
KUR					*i* S	**Sn**	**15**	**07**	**02.0 -7.6**
KUR					pmax	pmax			
	comp=Z,230nm,0.6s								
KUR					smax				
	comp=N,150nm,0.6s								
ASAJ	**Asahikawa**	**9.29**	**259**		Pn	**Pn**	**15**	**07**	**00.8 -0.6**
	comp=N,1.0nm,0.3s,baz=86,slow=13,SNR=10								
ASAJ	**Asahikawa**	**9.29**	**259**		PN	**Pn**	**15**	**07**	**00.9 -0.6**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**22.21**	**256**		P	**P**	**15**	**09**	**44.0 0.0**
	comp=Z,1.7nm,0.7s,mb3.6,baz=61,slow=9.4,SNR=5.0								
BILL	**Bilibino**	**22.28**	**11**	*e*	P	**P**	**15**	**09**	**45.2 +0.4**
BILL					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.9								
BILL	**Bilibino**	**22.28**	**11**	*e*	P	**P**	**15**	**09**	**45.2 +0.4**
	comp=Z,3.8nm,0.8s,mb3.9								
MKAR	**Makanchi Array**	**48.39**	**298**		P	**P**	**15**	**13**	**28.2 -1.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=59,slow=5.9,SNR=6.2								
BVAR	**Borovoye Array**	**52.16**	**310**		P	**P**	**15**	**13**	**57.2 -0.9**
	comp=Z,0.6nm,0.4s,mb3.8,baz=61,slow=9.3,SNR=7.2								
BRVK	**Borovoye**	**52.20**	**310**		P	**P**	**15**	**13**	**57.0 -1.5**
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9								
BRVK	**Borovoye**	**52.20**	**310**		P	**P**	**15**	**13**	**57.0 -1.5**
	comp=Z,1.3nm,0.6s,mb4.0								
JIRN	**Jiri**	**56.48**	**276**	*e*	P	**P**	**15**	**14**	**30.4 +0.8**
	comp=Z,9.1nm,0.9s,mb4.8								
GUN	**Gumba**	**56.54**	**277**	*e*	P	**P**	**15**	**14**	**32.3 +2.3**
KKN	**Kakani**	**57.02**	**277**	*e*	P	**P**	**15**	**14**	**34.4 +0.9**
	comp=Z,6.8nm,0.7s,mb4.8								
PKI	**Pulchoki**	**57.08**	**277**	*e*	P	**P**	**15**	**14**	**34.4 +0.5**
DMN	**Daman**	**57.26**	**277**	*e*	P	**P**	**15**	**14**	**35.9 +0.8**
GKN	**Gorkha**	**57.33**	**278**	*e*	P	**P**	**15**	**14**	**36.2 +0.5**
	comp=Z,10nm,0.9s,mb4.9								
KOLN	**Kolanda**	**59.19**	**278**	*e*	P	**P**	**15**	**14**	**42.1 +0.4**
	comp=Z,9.9nm,1.0s,mb4.8								
PDAR	**Pinedale Array**	**63.63**	**55**		P	**P**	**15**	**15**	**18.4 -0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=294,slow=4.5,SNR=4.7								
FINES	**FINESS Array B**	**64.87**	**336**		P	**P**	**15**	**15**	**26.9 +0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=41,slow=7.0,SNR=8.8								
ASAR	**Alice Springs**	**72.52**	**201**		P	**P**	**15**	**16**	**13.8 -0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=18,slow=5.2,SNR=10								
TXAR	**Lajitas Array**	**76.26**	**62**		P	**P**	**15**	**16**	**36.0 -0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=300,slow=4.3,SNR=20								

*ISCJB **20** 15:12:37.0±0.3, 4268N±002×2.11E±002, h0km, Error ellipse: s-maj=2.8km s-min=2.5km az=134.8*
*NEIC **20** 15:12:38.7, 4260N×2.12E, h10km, ML2.3(STR), ML2.5(LDG), MN2.1(MDD), After LDG.*
*STR **20** 15:12:38.0±0.2, 4260N×2.11E, h8km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 15:12:38.7±0.1, 4260N×2.12E, h10km, Md2.7/3, Ml2.5/8, Error ellipse: s-maj=0.9km s-min=0.8km az=178.0*
*MDD **20** 15:12:39.3±0.2, 4260N×2.12E, h0km, mbLg1.9/12, Error ellipse: s-maj=1.7km s-min=1.5km az=162.0, PRXIMO*
*CSEM **20** 15:12:39.1±0.1, 4262N×2.14E, h8km, ML2.6/10, Error ellipse: s-maj=1.2km s-min=0.9km az=128.0*

ISC 20 15:12:38.1±0.3, 4263N±002×213E±002, h9km±4km, n54, σ0§79/88, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
CARF	**Carcanieres**	**0.09**	**351**		Pg	**Pg**	**15**	**12**	**41.8 +1.4**
CARF					Sg	**Sg**	**15**	**12**	**43.8 +1.8**
CARF	**Carcanieres**	**0.09**	**351**		Pg	**Pg**	**15**	**12**	**41.9 +1.5**
CARF					Lg		15	12	44.0
CLLI	**Llivia**	**0.19**	**216**		Pg	**Pg**	**15**	**12**	**42.4 +0.4**
CLLI					Lg		15	12	44.8
	98nm,0.1s								
VALF	**Valcebollere**	**0.24**	**199**		Pg	**Pg**	**15**	**12**	**43.3 +0.3**
VALF					Sg	**Sg**	**15**	**12**	**46.4 +0.1**
VALF	**Valcebollere**	**0.24**	**199**		Pg	**Pg**	**15**	**12**	**43.3 +0.3**
VALF					Lg		15	12	46.3
FILF	**Fillols**	**0.33**	**102**		Pg	**Pg**	**15**	**12**	**43.3 -1.3**
FILF					Sg	**Sg**	**15**	**12**	**46.7 -2.3**
FILF	**Fillols**	**0.33**	**102**		Pg	**Pg**	**15**	**12**	**43.4 -1.2**
FILF					Lg		15	12	46.8
LRDF	**Laroque-de-Fa**	**0.43**	**45**		Pg	**Pg**	**15**	**12**	**47.6 +1.0**
LRDF					Lg		15	12	54.2
GRBF	**Gourbit**	**0.48**	**296**		Pg	**Pg**	**15**	**12**	**48.3 +0.8**
GRBF					Lg		15	12	54.7
SJAF	**Saint Jean de**	**0.58**	**104**		Pg	**Pg**	**15**	**12**	**49.6 +0.3**
SJAF					Sg	**Sg**	**15**	**12**	**57.2 +0.3**
SJAF	**Saint Jean de**	**0.58**	**104**		Pg	**Pg**	**15**	**12**	**49.6 +0.3**
SJAF					Lg		15	12	57.1
EJON	**La Jonquera**	**0.59**	**108**		Pg	**Pg**	**15**	**12**	**50.0 +0.4**
	5.2nm,0.2s,SNR=15								
EJON					Lg		15	12	58.2
	7.4nm,0.1s,SNR=13								
EJON	**La Jonquera**	**0.59**	**108**		Pg	**Pg**	**15**	**12**	**50.0 +0.4**
	5.2nm,0.2s,SNR=15								
SALF	**Salau**	**0.70**	**281**		Pg	**Pg**	**15**	**12**	**51.9 +0.2**
SALF					Lg		15	13	01.0
MTLF	**Montolieu**	**0.71**	**5**	*e*	Pn	**Pn**	**15**	**12**	**54.7 +0.3**
MTLF				*e*	Sg	**Sg**	**15**	**13**	**02.2 +1.0**
	10nm,0.2s								
MTLF	**Montolieu**	**0.71**	**5**	*e*	Pg	**Pg**	**15**	**12**	**52.8 +0.9**
MTLF				*e*	Pn	**Pn**	**15**	**12**	**54.7 +0.3**
MTLF					Lg		15	13	02.2
	5.2nm,0.2s								
MTLF	**Montolieu**	**0.71**	**5**	*e*	Pn	**Pn**	**15**	**12**	**54.7 +0.3**
MTLF				*e*	Sg	**Sg**	**15**	**13**	**02.2 +1.0**
	5.2nm,0.2s								
CSOR	**Sort**	**0.78**	**251**		Pg	**Pg**	**15**	**12**	**52.9 -0.2**
CSOR					Lg		15	13	03.1
	9.8nm,0.2s								
EMIR	**Miracle**	**0.84**	**212**		Pg	**Pg**	**15**	**12**	**54.5 +0.2**
	6.0nm,0.3s,SNR=9.4								
EMIR					Lg		15	13	05.2
	7.6nm,0.1s,SNR=13								
EMIR	**Miracle**	**0.84**	**212**		Pg	**Pg**	**15**	**12**	**54.5 +0.2**
	6.0nm,0.3s,SNR=9.4								
CFON	**Fontmartina**	**0.90**	**165**		Pg	**Pg**	**15**	**12**	**55.3 -0.1**
CFON					Lg		15	13	07.6
	35nm,0.2s								
MELF	**Melles**	**1.03**	**284**		Pg	**Pg**	**15**	**12**	**57.8 -0.2**
MELF					Sg	**Sg**	**15**	**13**	**11.3 -0.1**
MELF	**Melles**	**1.03**	**284**		Pg	**Pg**	**15**	**12**	**58.0 0.0**
MELF					Lg		15	13	11.3
RESF	**Ens**	**1.33**	**278**		Lg		15	13	20.3
EPF	**Esparros**	**1.37**	**288**	*e*	Pg	**Pg**	**15**	**13**	**04.7 +0.2**
EPF				*e*	Sg	**Sg**	**15**	**13**	**21.9 -0.4**
	6.1nm,0.2s								
EPF	**Esparros**	**1.37**	**288**	*e*	Pn	**Pn**	**15**	**13**	**03.5 +0.1**
EPF				*e*	Pg	**Pg**	**15**	**13**	**04.7 +0.2**
EPF				*e*	Sg	**Sg**	**15**	**13**	**21.9 -0.4**
EPF	**Esparros**	**1.37**	**288**		Pn	**Pn**	**15**	**13**	**03.5 +0.1**
EPF					Pg	**Pg**	**15**	**13**	**04.7 +0.2**
EPF					Lg		15	13	21.9
	3.0nm,0.2s								
EPF	**Esparros**	**1.37**	**288**	*e*	Pg	**Pg**	**15**	**13**	**04.7 +0.2**
EPF				*e*	Sg	**Sg**	**15**	**13**	**21.9 -0.4**
	3.0nm,0.2s								
EBIE	**Bielsa**	**1.46**	**273**		Pg	**Pg**	**15**	**13**	**06.9 +0.7**
	0.4nm,0.1s,SNR=19								
EBIE					Lg		15	13	28.5
	4.9nm,0.1s,SNR=16								
EBIE	**Bielsa**	**1.46**	**273**		Pg	**Pg**	**15**	**13**	**06.9 +0.7**
	0.4nm,0.1s,SNR=19								
EPOB	**Poblet**	**1.50**	**212**		Pg	**Pg**	**15**	**13**	**06.1 -0.7**
	3.2nm,0.1s,SNR=17								
EPOB					Lg		15	13	25.4
	7.9nm,0.1s,SNR=22								
EPOB	**Poblet**	**1.50**	**212**		Pg	**Pg**	**15**	**13**	**06.2 -0.6**
LASF	**Ste Croix**	**1.92**	**41**	*e*	Pg	**Pg**	**15**	**13**	**15.2 +0.3**
LASF				*e*	Sg	**Sg**	**15**	**13**	**39.9 +0.1**
	11nm,0.5s								
LASF	**Ste Croix**	**1.92**	**41**	*e*	Pn	**Pn**	**15**	**13**	**11.4 +0.4**
LASF				*e*	Pg	**Pg**	**15**	**13**	**15.2 +0.3**
LASF				*e*	Sg	**Sg**	**15**	**13**	**39.9 +0.1**
LASF	**Ste Croix**	**1.92**	**41**		Pn	**Pn**	**15**	**13**	**11.4 +0.4**
LASF					Pg	**Pg**	**15**	**13**	**15.2 +0.3**
LASF					Lg		15	13	39.9
	5.7nm,0.5s								
LASF	**Ste Croix**	**1.92**	**41**	*e*	Pg	**Pg**	**15**	**13**	**15.2 +0.3**
LASF				*e*	Sg	**Sg**	**15**	**13**	**39.9 +0.1**
	5.7nm,0.5s								
ETSF	**Etsaut**	**1.99**	**279**	*e*	Pg	**Pg**	**15**	**13**	**16.2 -0.2**
ETSF				*e*	Sg	**Sg**	**15**	**13**	**41.4 -0.8**
	10nm,0.3s								
ETSF	**Etsaut**	**1.99**	**279**	*e*	Pg	**Pg**	**15**	**13**	**16.2 -0.2**
ETSF				*e*	Sg	**Sg**	**15**	**13**	**41.4 -0.8**
	5.2nm,0.3s								
ESAC	**San Caprasio**	**2.13**	**246**		Pn	**Pn**	**15**	**13**	**14.7 +0.9**
	4.3nm,0.1s,SNR=7.9								
ESAC					Pg	**Pg**	**15**	**13**	**18.3 -0.7**
	5.2nm,0.1s,SNR=7.9								
ESAC					Sn	**Sn**	**15**	**13**	**42.3 +1.9**
	3.8nm,0.1s,SNR=7.9								
ESAC					Lg		15	13	47.1
	7.7nm,0.1s,SNR=7.9								
ESAC	**San Caprasio**	**2.13**	**246**		Pn	**Pn**	**15**	**13**	**14.7 +0.8**
	4.3nm,0.1s,SNR=7.9								
ESAC	**San Caprasio**	**2.13**	**246**		Pg	**Pg**	**15**	**13**	**18.3 -0.7**
	5.2nm,0.1s,SNR=7.9								
ESAC					Sn	**Sn**	**15**	**13**	**42.3 +1.9**
	3.8nm,0.1s,SNR=7.9								
ERTA	**Horta de San J**	**2.14**	**219**		Pg	**Pg**	**15**	**13**	**18.6 -0.6**
	0.9nm,0.1s,SNR=7.9								
ERTA					Lg		15	13	45.7
	1.2nm,0.1s,SNR=7.9								
ERTA	**Horta de San J**	**2.14**	**219**		Pg	**Pg**	**15**	**13**	**18.6 -0.6**
	0.9nm,0.1s,SNR=7.9								
CAF	**Calviac**	**2.29**	**359**	*e*	Pg	**Pg**	**15**	**13**	**22.0 -0.1**
CAF				*e*	Sg	**Sg**	**15**	**13**	**51.5 -0.4**
	5.0nm,0.2s								
CAF	**Calviac**	**2.29**	**359**	*e*	Pg	**Pg**	**15**	**13**	**22.0 -0.1**
CAF				*e*	Sg	**Sg**	**15**	**13**	**51.5 -0.4**
	2.5nm,0.2s								
SJPF	**Ste Jean**	**2.51**	**282**	*e*	Pg	**Pg**	**15**	**13**	**25.5 -0.7**
SJPF				*e*	Sg	**Sg**	**15**	**13**	**57.3 -1.4**
	2.7nm,0.2s								
SJPF	**Ste Jean**	**2.51**	**282**

comp=N,430nm,0.5s
KUR pmax pmax
comp=E,170nm,0.5s
KUR pmax pmax
comp=Z,1µm,0.5s
KUR smax
comp=N,530nm,0.6s
KUR smax
comp=E,570nm,0.6s
KUR MLR MLR
comp=N,3µm,14.0s
KUR MLR MLR
comp=E,3µm,14.0s
KUR MLR MLR
comp=Z,3µm,14.0s
SKR Severo-Kuril's 5.10 16 *e*P **Pn 15 29 25.6 -3.8**
SKR AMB AMB 15 29 30.5
comp=Z,80nm,0.5s
SKR pP 15 29 39.9
SKR *e*S **Sn 15 30 18.8 -9.3**
SKR A 15 30 28.5
comp=Z,120nm,0.5s
SKR A 15 30 28.5
comp=Z,80nm,0.5s
SKR A 15 30 28.5
comp=Z,60nm,0.5s
YUK Yuzh-Kuril'sk 5.96 255 *e*P **Pn 15 29 40.2 -1.0**
YUK AMB AMB 15 29 42.5
comp=Z,230nm,0.5s
YUK AMB AMB 15 29 42.5
comp=Z,180nm,0.5s
YUK AMB AMB 15 29 42.5
comp=Z,360nm,0.5s
YUK *e*S **Sn 15 30 43.5 -5.8**
YUK A 15 30 45.0
comp=Z,2µm,1.0s
YUK A 15 30 48.5
comp=Z,570nm,0.5s
YUK A 15 30 48.5
comp=Z,540nm,0.5s
JMP Maruseppu 7.68 260 P **Pn 15 30 05.1 +0.3**
YSS Yuzh-Sakhalins 7.77 282⇓ *e*P **Pn 15 30 08.0 +1.9**
YSS AMB AMB 15 30 09.0
comp=Z,30nm,1.0s
YSS AMB AMB 15 30 09.0
comp=Z,80nm,0.9s
YSS pP 15 30 19.8
YSS sP 15 30 29.0
YSS *e*S **Sn 15 31 33.9 0.0**
YSS *e*LQ 15 31 58.0
YSS Yuzh-Sakhalins 7.77 282 *e*PN **Pn 15 30 08.0 +1.9**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS pmax pmax
comp=E,30nm,1.0s
YSS Yuzh-Sakhalins 7.77 282 *e*Pn **Pn 15 30 08.0 +1.8**
comp=E,70nm,0.8s
PET Petropavlovsk 7.86 22 *e*PN **Pn 15 30 05.4 -1.9**
PET pmax pmax
comp=Z,27nm,0.8s
ASAJ Asahikawa 8.17 262 P **Pn 15 30 12.4 +0.8**
comp=Z,4.7nm,0.3s,baz=86,slow=19,SNR=47
ASAJ LR LR 15 33 52.8
comp=Z,216nm,18.9s,baz=94,slow=41
JWK2 Keihoku 8.42 271 P **Pn 15 30 18.9 +3.9**
ERM Erimo 8.61 248 *e*PN **Pn 15 30 17.0 -0.7**
ERM pmax pmax
comp=Z,48nm,0.6s
ERM Erimo 8.61 248 *e*Pn **Pn 15 30 17.0 -0.6**
comp=Z,48nm,0.6s
JEM Erimo 8.61 248 P **Pn 15 30 16.8 -0.9**
UGL Uglegorsk 8.64 296 *e*P **Pn 15 30 19.5 +1.5**
UGL AMB AMB 15 30 23.5
comp=Z,500nm,2.0s
UGL AMB AMB 15 30 23.5
comp=Z,60nm,0.8s
UGL sP 15 30 41.0
TYV Tymovskoe 9.01 308 *e*P **Pn 15 30 25.8 +2.6**
TYV AMB AMB 15 30 36.0
comp=Z,11nm,0.8s
TYV AMB AMB 15 30 36.0
comp=Z,19nm,0.8s
TYV AMS AMS 15 35 22.0
comp=Z,600nm,14.0s
TYV AMS AMS 15 35 22.0
comp=Z,900nm,14.0s
TYV AMS AMS 15 35 22.0
comp=Z,1µm,14.0s
JEW Eniwo 9.38 256 P **Pn 15 30 28.4 +0.2**
JSH Shimam 10.42 257 P **Pn 15 30 42.3 -0.1**
JTM Tenmabayashi 10.59 246 P **Pn 15 30 41.9 -2.9**
JOM Ohasama 11.22 240 P **Pn 15 30 50.1 -3.2**
NKL Nikolayevsk 11.28 315 *e*L 15 34 52.0
NKL AMS AMS 15 36 42.0
comp=Z,1µm,13.0s
NKL AMS AMS 15 36 42.0
comp=Z,400nm,13.0s
TEY Ternei 12.16 273 *e*P **Pn 15 31 06.0 -0.2**
TEY AMB AMB 15 31 07.0
comp=Z,60nm,1.0s
JYA Atsumi 12.72 240 P **Pn 15 31 10.7 -3.2**
HABR Khabarovsk 13.08 289 *e*PN **Pn 15 31 22.2 +3.3**
HABR *e*S **Sn 15 33 48.1 +3.9**
MJAR Matsushiro Arr 14.97 237 P **Pn 15 31 41.9 -2.7**
comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=14
MJAR Matsushiro Arr 14.97 237 P **Pn 15 31 41.9 -2.7**
MAJO Matsushiro 14.97 237 *e*P **Pn 15 31 41.6 -3.0**
MAJO pmax pmax
comp=Z,84nm,0.8s
MAJO Matsushiro 14.97 237 *e*Pn **Pn 15 31 41.6 -3.0**
comp=Z,84nm,0.8s
MAJO *e* 15 31 51.5
MAT Matsushiro 14.97 237 P **Pn 15 31 41.6 -3.0**
MAT Matsushiro 14.97 237 P **Pn 15 31 41.8 -2.8**
JOD2 Odawara 2 15.38 232 P **Pn 15 31 54.7 +4.7**
JGF Kuroka 16.12 237 P **Pn 15 32 04.2 +4.6**
MDJ Mudanjiang 17.14 275 P **Pn 15 32 11.1 -1.4**
MDJ AP pP 15 32 15.8 -2.2
MDJ XP sP 15 32 17.3 -2.5
MDJ AMB AMB
comp=Z,58nm,1.1s
MDJ AMB AMB
comp=Z,182nm,6.8s
MDJ Mudanjiang 17.14 275 *e*Pn **Pn 15 32 11.0 -1.5**
comp=Z,48nm,0.8s
SEY Seymchan 17.18 358⇑ *e*P **Pn 15 32 10.5 -2.5**
ZEA Zeya 18.85 305 *e*P **Pn 15 32 27.4 -6.1**
ZEA AMB AMB 15 32 31.6
comp=Z,46nm,1.4s
CN2 Changchun 20.23 275 *e*P **P 15 32 45.5 -2.5**
CN2 *e*AP 15 32 49.4
CN2 *e*XP sP 15 32 52.4 -1.3
CN2 *e*S **S 15 36 27.3 -7.3**
CN2 AMB AMB
comp=Z,30nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,8.0s
CN2 LR LR
comp=E,400nm,8.0s
KSRS Korea Array 21.05 256 P **P 15 32 57.5 +0.6**
comp=E,8.1nm,0.8s,mb4.1,baz=59,slow=11,SNR=24
YAK Yakutsk 21.39 328 *de*P **P 15 32 57.7 -3.0**
YAK pmax pmax
comp=Z,26nm,1.0s,mb4.5
YAK Yakutsk 21.39 328 *e*P **P 15 32 57.0 -3.7**
comp=Z,25nm,0.8s,mb4.6
JNU Nakatsue 21.72 242 P **P 15 33 06.0 +1.8**
comp=Z,6.9nm,0.7s,mb4.2,baz=272,slow=15,SNR=3.5
INCN Inchon 21.91 257 *e*P **P 15 33 07.2 +1.0**
comp=Z,26nm,0.9s,mb4.7
HIA Hailar 23.18 291 *e*P **P 15 33 15.6 -4.1**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 23.18 291 *e*P **P 15 33 15.6 -4.1**
comp=Z,9.5nm,0.6s,mb4.4
BILL Bilibino 23.20 12⇑ *e*P **P 15 33 19.6 -0.2**
BILL pmax pmax
comp=Z,34nm,1.7s,mb4.5
BILL Bilibino 23.20 12 *e*P **P 15 33 18.5 -1.4**
comp=Z,11nm,0.6s,mb4.5
BOD Bodaibo 27.00 311 *e*P **P 15 33 50.8 -4.0**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb3.9
BJI Beijing 28.01 272 *e*P **P 15 34 07.8 +3.9**
BJI AMB AMB
comp=Z,44nm,0.8s,mb5.1
BJI AMB AMB
comp=Z,215nm,4.7s
BJI LR LR
comp=Z,492nm,32.0s,MS3.9
BJI Beijing 28.01 272 *e*P **P 15 34 07.8 +3.9**
comp=Z,44nm,0.8s,mb5.1
BJI LR LR
comp=Z,490nm,32.0s,MS3.9
BJT Baijiatuan 28.02 272 P **P 15 34 05.0 +0.9**
BJT pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuan 28.02 272 P **P 15 34 05.0 +0.9**
comp=Z,29nm,0.8s,mb5.0
NJ2 Nanjing 30.25 255 *e*P **P 15 34 25.8 +2.0**
NJ2 AP pP 15 34 29.1 +1.1
NJ2 XP sP 15 34 32.3 +2.6
NJ2 PP PP 15 35 23.9 -8.1
NJ2 S **S** 15 39 22.5 -0.5
NJ2 XS sS 15 39 30.5 +0.6
NJ2 LR LR
comp=N,2µm,13.2s,MS5.0
NJ2 LR LR
comp=E,1µm,14.4s,MS5.0
NJ2 LR LR
comp=Z,230nm,13.4s,MS4.0
HHC Hu-ho-hao-te 30.90 276⇓ P **P 15 34 30.4 +0.9**
HHC AP pP 15 34 34.6 +0.8
HHC XP sP 15 34 37.3 +1.8
HHC PP PP 15 35 33.0 -6.3
HHC PCP PcP 15 37 26.3 +0.3
HHC S **S** **15 39 33.6 +0.4**
HHC XS sS 15 39 40.4 +0.3
HHC SCP ScP 15 41 07.6 -0.8
HHC SCS ScS 15 45 02.6 -2.5
HHC AMB AMB
comp=Z,51nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,194nm,6.5s
HHC LR LR
comp=N,326nm,14.0s,MS4.3
HHC LR LR
comp=E,374nm,14.0s,MS4.3
HHC LR LR
comp=Z,232nm,14.2s,MS4.0
ULN Ulaanbaatar 31.71 291⇓ *i*P **P 15 34 36.2 -0.5**
SONM Songino Array 32.15 291 P **P 15 34 40.3 -0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=69,slow=7.8,SNR=12
SONM PcP PcP 15 37 28.7 -0.7
comp=Z,0.7nm,0.7s,baz=64,slow=3.4,SNR=3.7
TLY Talaya 33.08 299⇑ *e*P **P 15 34 47.0 -1.7**
ZAK Zakamensk 33.56 297 *e*P **P 15 34 51.4 -1.5**
WHN Wuhan 34.22 257 P **P 15 34 57.6 -1.0**
XAN Xi'an 35.98 267 P **P 15 35 12.9 -0.5**
XAN AP pP 15 35 23.3 +5.3
XAN AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
LZH Lanzhou 38.46 274 *e*P **P 15 35 35.0 +0.2**
LZH PP PP 15 37 07.3 +4.5
LZH PCP PcP 15 37 52.3 +4.5
LZH *e*S **S** **15 41 25.0 -4.6**
LZH SS SS 15 44 05.0 -13
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,108nm,4.4s
LZH LR LR
comp=N,626nm,15.4s
LZH LR LR
comp=Z,983nm,16.9s,MS4.7
LZH Lanzhou 38.46 274 *e*P **P 15 35 35.0 +0.2**
LZH 15 37 07.3
LZH 15 37 52.3
LZH *e*S **S** **15 41 25.0 -4.6**
LZH SS SS 15 44 05.0 -13
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH MLR MLR
comp=Z,980nm,16.9s,MS4.7
LZH Lanzhou 38.46 274 *e*P **P 15 35 35.0 +0.2**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 15 35 36.6 -2.5
LZH sP sP 15 35 37.5 -3.3
LZH PP PP 15 37 07.3 +4.5
LZH PcP PcP 15 37 52.3 +4.5
LZH *e*S **S** **15 41 25.0 -4.6**
LZH sS sS 15 41 31.0 -5.6
LZH SS SS 15 44 05.0 -13
LZH LR LR
comp=Z,980nm,16.9s,MS4.7
EGAK Eagle 39.41 38 *e*P **P 15 35 42.1 -0.8**
comp=Z,15nm,1.1s,mb4.6
GTA Gaotai 39.65 281 P **P 15 35 45.8 +1.0**
GTA AP pP 15 35 50.4 +1.4
GTA XP sP 15 35 53.5 +2.8
GTA PP PP 15 37 22.3 +6.5
GTA PCP PcP 15 37 51.3 -0.3
GTA S **S** **15 41 51.0 +3.4**
GTA XS sS 15 41 59.0 +4.4
GTA AMB AMB
comp=Z,36nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,142nm,5.3s
GTA LR LR
comp=N,150nm,12.6s,MS4.3
GTA LR LR
comp=E,203nm,12.2s,MS4.3
GTA LR LR
comp=Z,366nm,13.8s,MS4.4
CD2 Chengdu 41.34 267 P **P 15 35 58.1 -0.7**
CD2 AP pP 15 36 02.6 -0.4
CD2 XP sP 15 36 05.3 +0.6
CD2 S **S** **15 42 12.1 -0.7**
CD2 XS sS 15 42 19.8 0.0
CD2 SS SS 15 45 11.3 -5.2
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CD2 LR LR
comp=E,180nm,10.8s
CD2 LR LR
comp=Z,180nm,10.8s,MS4.2
GYA Guiyang 42.04 259⇓ *i*P **P 15 36 04.6 +0.1**
GYA AP pP 15 36 08.8 0.0
GYA XP sP 15 36 11.8 +1.3
GYA PP PP 15 37 46.4 +4.6
GYA PCP PcP 15 38 01.8 +2.5
GYA SCP ScP 15 41 51.0 +1.6
GYA S **S** **15 42 24.8 +1.6**
GYA SCS ScS 15 46 06.8 0.0
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,15.8s,MS4.6
GYA LR LR
comp=E,420nm,16.9s,MS4.6
GYA LR LR
comp=Z,430nm,17.0s,MS4.4
INK Inuvik 42.17 32 P **P 15 36 06.1 +0.6**
comp=Z,8.3nm,0.9s,mb4.4,baz=284,slow=8.0,SNR=20
INK Inuvik 42.17 32 *e*P **P 15 36 05.8 +0.3**
comp=Z,333nm,1.0s,mb5.9
ZAL Zalesovo 43.60 307 P **P 15 36 15.3 -1.9**
comp=Z,1.8nm,0.3s,mb4.3,baz=21,slow=3.6,SNR=4.8
ZAL PcP PcP 15 38 03.7 -0.8
comp=Z,1.0nm,0.7s,baz=61,slow=3.5,SNR=5.0
ZAL Zalesovo 43.60 307 P **P 15 36 15.3 -1.9**
ZAL PcP PcP 15 38 03.7 -0.8
NVS Novosibirsk 44.18 308 *e*P **P 15 36 17.9 -3.9**
KMI Kunming 45.60 261 P **P 15 36 33.8 +0.7**
KMI XP sP 15 36 39.0 -0.2
KMI AMB AMB
comp=Z,11nm,1.1s,mb4.7
KMI Kunming 45.60 261 P **P 15 36 33.7 +0.6**
KMI pmax pmax
comp=Z,11nm,1.1s,mb4.7
KMI Kunming 45.60 261 P **P 15 36 33.7 +0.6**
comp=Z,11nm,1.1s,mb4.7
KMI sP sP 15 36 39.0 -0.2
MK31 Makanchi Array 47.84 298 *e*P **P 15 36 49.9 -0.8**
MKAR Makanchi Array 47.84 298 P **P 15 36 50.0 -0.7**
comp=Z,4.4nm,0.6s,mb4.7,baz=68,slow=7.7,SNR=52
MKAR Makanchi Array 47.84 298 P **P 15 36 50.0 -0.7**
LSA Lhasa 50.86 274 P **P 15 37 16.0 +2.3**
LSA Lhasa 50.86 274 *e*P **P 15 37 15.7 +2.0**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 50.86 274 *e*P **P 15 37 15.7 +1.9**
comp=Z,6.0nm,0.6s,mb4.7
NANT Nan 51.24 257 P **P 15 37 15.0 -1.6**
BRVK Borovoye 51.90 310 *e*P **P 15 37 20.9 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.90 310 *e*P **P 15 37 20.9 -0.7**
comp=Z,7.0nm,0.6s,mb4.8
CHG Chiang Mai 52.42 258⇓ P **P 15 37 26.2 +0.8**
comp=Z,10nm,0.9s,mb4.8
CHTO Chiang Mai 52.42 258 *e*P **P 15 37 25.8 +0.3**
CHTO pmax pmax
comp=Z,11nm,1.1s,mb4.7
CHTO Chiang Mai 52.42 258 *e*P **P 15 37 25.8 +0.4**
comp=Z,11nm,1.1s,mb4.7
KSH Kashi 55.50 293 *e*P **P 15 37 50.1 +2.2**
KSH *e*AP pP 15 37 54.3 +2.0
KSH *e*XP sP 15 37 57.3 +3.3
JIRN Jiri 55.55 276 *e*P **P 15 37 49.5 +1.2**
comp=Z,37nm,0.9s,mb5.4
GUN Gumba 55.62 276 *e*P **P 15 37 50.3 +1.6**
comp=Z,44nm,1.0s,mb5.4
ARU Arti 56.06 318⇓ *i*P **P 15 37 50.7 -1.2**
ARU *e* 15 39 52.4
ARU *e*PPP 15 41 17.0
ARU *e*S **S** **15 45 37.0 -3.1**
ARU *e*SS SS 15 49 26.6 +0.3
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARU Arti 56.06 318 *e*P **P 15 37 51.2 -0.7**
comp=Z,10nm,0.6s,mb5.0
KKN Kakani 56.11 276 *e*P **P 15 37 53.3 +1.0**
comp=Z,14nm,0.6s,mb5.2
PKI Pulchoki 56.15 276 *e*P **P 15 37 53.4 +0.8**
DMN Daman 56.34 276 *e*P **P 15 37 55.1 +1.2**
GKN Gorkha 56.42 277 *e*P **P 15 37 55.3 +0.8**
comp=Z,48nm,0.8s,mb5.6
KOLN Koldanda 57.28 278 *e*P **P 15 38 01.5 +0.9**
comp=Z,42nm,0.8s,mb5.5
KEV Kevo 58.40 341 *e*p **P 15 38 04.3 -4.2**
ARCES ARCESS Array B 58.91 341 P **P 15 38 11.6 -0.5**
comp=Z,5.7nm,0.9s,mb4.6,baz=40,slow=8.3,SNR=8.4
ARCES ARCESS Array B 58.91 341 P **P 15 38 11.6 -0.5**
AKTK Aktyubinsk 59.75 313 P **P 15 38 17.4 -0.4**
AKTO Aktyubinsk 59.75 313 P **P 15 38 17.4 -0.4**
comp=Z,3.5nm,0.7s,mb4.5,baz=63,slow=5.6,SNR=16
QLMT Earthquake Lak 62.52 53 *e*P **P 15 38 36.4 -0.3**
PDAR Pinedale Array 64.88 54 P **P 15 38 52.1 0.0**
comp=Z,3.6nm,1.0s,mb4.4,baz=318,slow=2.0,SNR=15
FINES FINESS Array B 65.11 335 *i* P **P 15 38 52.9 -0.9**
comp=Z,2.2nm,0.5s,mb4.5,baz=45,slow=8.4,SNR=16
FINES FINESS Array B 65.11 335 *i* P **P 15 38 53.2 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
CTA Charters Tower 65.95 188 LR LR 16 06 12.8
comp=Z,122nm,19.1s,MS4.1,baz=189,slow=34
OBN Obninsk 66.38 326 *e*P **P 15 39 01.0 -0.9**
OBN *e* 15 39 31.1
OBN *e* 15 41 24.8
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.2
SRU San Rafael 66.68 57 *e*P **P 15 39 03.8 0.0**
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SRU San Rafael 66.68 57 *e*P **P 15 39 03.8 0.0**
comp=Z,5.9nm,0.9s,mb4.6
WRAB Tennant Creek 67.79 200 *c i*P **P 15 39 10.4 -0.4**
WB2 Warramunga Arr 67.80 200 *e*P **P 15 39 10.1 -0.8**
WRA Warramunga Arr 67.80 200 P **P 15 39 10.2 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=16,slow=6.7,SNR=49
WRA Warramunga Arr 67.80 200 *i* P **P 15 39 10.1 -0.8**
WRA pmax pmax
comp=Z,12nm,0.9s
PV10 Paradox Valley 68.04 57 *e*P **P 15 39 12.9 +0.5**
VRSR Storozhevoye 68.16 322 *e*P **P 15 39 13.8 +0.6**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.8s
ISCO Idaho Springs 69.06 54 *e*P **P 15 39 19.3 +0.5**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ISCO Idaho Springs 69.06 54 *e*P **P 15 39 19.3 +0.5**
comp=Z,6.1nm,1.1s,mb4.4
NB2 NORSAR Subarra 69.28 342 P **P 15 39 19.5 -0.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=31,slow=6.5
NOA NORSAR Array B 69.28 342 P **P 15 39 19.4 -0.7**
comp=Z,2.6nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=8.0
AS31 Alice Springs 71.49 199 *e*P **P 15 39 34.2 +0.6**
ASAR Alice Springs 71.49 199 P **P 15 39 34.0 +0.3**
comp=Z,12nm,0.8s,mb4.9,baz=15,slow=5.5,SNR=90
ASPA Alice Springs 71.49 199 *e*P **P 15 39 34.2 +0.5**
KIV Kislovodsk 71.83 315 *c i*P **P 15 39 35.9 +0.2**
KIV pmax pmax
comp=Z,47nm,1.7s,mb5.1
KIV Kislovodsk 71.83 315 *e*P **P 15 39 36.5 +0.8**
comp=Z,24nm,0.8s,mb5.2
ANMO Albuquerque 71.88 58⇓ *e*P **P 15 39 37.0 +1.0**
ZEI Tsey 72.08 313 *e*P **P 15 39 37.2 0.0**
ZEI pmax pmax
comp=Z,13nm,0.9s,mb4.9
AKASG Malin Array Be 72.62 327 P **P 15 39 40.1 -0.3**
comp=Z,7.4nm,0.5s,mb4.9,baz=33,slow=6.1,SNR=42
AKASG Malin Array Be 72.62 327 *i* P **P 15 39 40.0 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 72.62 327 *e*P **P 15 39 39.9 -0.5**
KIEV Kiev 72.63 327 *e*P **P 15 39 39.4 -1.1**
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 72.63 327 *e*P **P 15 39 39.4 -1.1**
comp=Z,13nm,0.8s,mb4.9
GNI Garni 73.54 311⇑ *e*P **P 15 39 48.1 +2.2**
GNI pmax pmax
comp=Z,23nm,1.7s
GNI Garni 73.54 311 *e*P **P 15 39 47.7 +1.8**
comp=Z,16nm,0.9s,mb4.9
SOC Sochi 73.56 316 *e*P **P 15 39 46.2 +0.2**
SOC *e* 15 42 29.2
SOC *e*PPP 15 44 23.8
SOC *e*S S 15 49 14.3 -1.3
SOC *e* 15 49 54.1
SOC *e*SS SS 15 53 53.8 -4.6
SOC pmax pmax
comp=Z,23nm,0.9s,mb5.1
ARMA Armidale 75.90 182 *e*P **P 15 40 00.4 +0.9**
KWP Kalwaria 75.90 330 *e*P **P 15 40 00.0 +0.5**
OJC Ojcow 76.40 332 *e*P **P 15 40 02.3 -0.1**
STHS Stebnicka Huta 76.59 330 *e*P **P 15 40 04.0 +0.5**
STHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
STHS Stebnicka Huta 76.59 330 *e*P **P 15 40 04.0 +0.5**
comp=Z,8.3nm,0.8s,mb4.7
KOLS Kolonicke sedl 76.64 330 *e*P **P 15 40 04.0 +0.2**
BURAR Bucovina Array 76.66 327⇓ *i*P **P 15 40 04.0 +0.1**
BURAR Bucovina Array 76.66 327⇓ P **P 15 40 04.0 +0.1**
KSP Ksiaz 76.98 334 *e*P **P 15 40 06.1 +0.5**
KSP Ksiaz 76.98 334 *e*P **P 15 40 05.7 +0.1**
OKC Ostrava-Krasne 77.27 332 *e*pP pP 15 40 14.3 +2.5
UPC Upice 77.36 334 *e*P **P 15 40 08.2 +0.4**
DPC Dobruska-Polom 77.40 334 *e*P **P 15 40 08.6 +0.6**
TXAR Lajitas Array 77.49 61 P **P 15 40 08.4 -0.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=302,slow=2.8,SNR=21
MORC Moravsky Berou 77.51 333⇓ *i*P **P 15 40 09.0 +0.3**
MORC Moravsky Berou 77.51 333 *e*P **P 15 40 09.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
CLL Collm 77.54 336 *i* P **P 15 40 08.2 -0.6**
CLL pmax pmax
comp=Z,26nm,1.0s,mb5.1
CLL Collm 77.54 336⇓ *i*P **P 15 40 08.2 -0.6**
comp=Z,26nm,1.0s,mb5.1
CLL *ex* x 15 40 42.0
KECS Kecovo 77.65 330 *e*P **P 15 40 09.6 +0.2**
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KECS Kecovo 77.65 330 *e*P **P 15 40 09.6 +0.2**
comp=Z,5.7nm,1.0s,mb4.5
BRG Berggiesshubel 77.65 335 *e*P **P 15 40 09.3 -0.2**

	comp=Z,2.6nm,0.8s,mb4.2							
BRG	**Berggiesshubel**	**77.65**	**335**	*e*P		**P**	**15 40 09.3**	**-0.1**
BRG				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
PVCC	**Panska Ves**	**77.77**	**335**	*e*P		**P**	**15 40 10.5**	**+0.4**
STKA	**Stephens Creek**	**78.12**	**191**	⇓*i*P		**P**	**15 40 10.7**	**-1.3**
	comp=Z,3.3nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**78.12**	**191**	P		**P**	**15 40 11.1**	**-0.9**
	comp=Z,3.6nm,0.9s,mb4.3,baz=351,slow=11,SNR=4.0							
MLR	**Muntele Rosu**	**78.14**	**325**	⇑*i*P		**P**	**15 40 13.2**	**+1.1**
MLR	**Muntele Rosu**	**78.14**	**325**	⇑P		**P**	**15 40 13.2**	**+1.1**
MALT	**Malatya**	**78.18**	**313**	⇑*i*P		**P**	**15 40 14.3**	**+1.9**
MALT	**Malatya**	**78.18**	**313**	*e*P		**P**	**15 40 14.2**	**+1.8**
MALT				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.9							
MALT	**Malatya**	**78.18**	**313**	*e*P		**P**	**15 40 14.2**	**+1.8**
	comp=Z,20nm,1.3s,mb4.9							
VYHS	**Vyhne**	**78.20**	**331**	*e*P		**P**	**15 40 12.5**	**0.0**
VYHS				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
VYHS	**Vyhne**	**78.20**	**331**	*e*P		**P**	**15 40 12.5**	**0.0**
	comp=Z,6.8nm,1.3s,mb4.4							
VRAC	**Vranov**	**78.23**	**333**	⇓*i*P		**P**	**15 40 13.1**	**+0.5**
VRAC	**Vranov**	**78.23**	**333**	⇓P		**P**	**15 40 13.1**	**+0.5**
PRU	**Pruhonice**	**78.26**	**335**	*e*P		**P**	**15 40 13.1**	**+0.3**
PSZ	**Piszkesteto**	**78.34**	**330**	⇑*i*P		**P**	**15 40 13.9**	**+0.7**
PSZ	**Piszkesteto**	**78.34**	**330**	⇑P		**P**	**15 40 13.9**	**+0.7**
VOIR		**78.53**	**326**	⇑*i*P		**P**	**15 40 15.1**	**+0.8**
VOIR		**78.53**	**326**	⇑P		**P**	**15 40 15.1**	**+0.7**
NKC	**Novy Kostel**	**78.66**	**336**	*e*P		**P**	**15 40 15.1**	**+0.1**
ZST	**Bratislava**	**79.03**	**332**	*e*P		**P**	**15 40 17.6**	**+0.5**
KHC	**Kasperske Hory**	**79.31**	**335**	*e*P		**P**	**15 40 19.0**	**+0.4**
KHC				*e*pP		pP	15 40 31.0	+7.9
BR131	**Keskin Array S**	**79.43**	**317**	*e*P		**P**	**15 40 19.9**	**+0.7**
	comp=Z,6.1nm,0.9s,mb4.5							
BRTR	**Keskin Array B**	**79.43**	**317**	P		**P**	**15 40 19.8**	**+0.5**
	comp=Z,5.5nm,0.9s,mb4.5,baz=60,slow=3.4,SNR=20							
BRTR	**Keskin Array B**	**79.43**	**317**	*i* P		**P**	**15 40 19.7**	**+0.4**
BRTR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GRA1	**Grafenberg Arr**	**79.49**	**336**	*e*P		**P**	**15 40 20.0**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9							
GRF	**Grafenberg Arr**	**79.49**	**336**	*e*P		**P**	**15 40 20.0**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9							
GRF	**Grafenberg Arr**	**79.49**	**336**	*e*P		**P**	**15 40 20.0**	**+0.4**
GRF				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
GERES	**GERESS Array B**	**79.53**	**335**	P		**P**	**15 40 19.9**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=23,slow=4.4,SNR=13							
FORT	**Forrest**	**79.75**	**202**	*e*P		**P**	**15 40 21.4**	**+0.4**
	comp=Z,19nm,0.8s,mb5.1							
VTS	**Vitosha**	**81.64**	**326**	⇑*i*P		**P**	**15 40 31.4**	**+0.3**
CDF	**Champ du Feu**	**81.72**	**338**	*e*P		**P**	**15 40 31.0**	**-0.5**
	comp=Z,27nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**81.72**	**338**	*e*P		**P**	**15 40 31.0**	**-0.5**
CDF				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**81.72**	**338**	*e*P		**P**	**15 40 31.0**	**-0.5**
	comp=Z,14nm,1.0s,mb4.8							
GRR	**Gorron**	**83.62**	**343**	*e*P		**P**	**15 40 40.5**	**-0.9**
	comp=Z,84nm,1.3s,mb5.4							
GRR	**Gorron**	**83.62**	**343**	*e*P		**P**	**15 40 40.5**	**-0.9**
GRR				pmax		pmax		
	comp=Z,42nm,1.3s,mb5.4							
GRR	**Gorron**	**83.62**	**343**	*e*P		**P**	**15 40 40.5**	**-0.9**
	comp=Z,42nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**84.23**	**340**	*e*P		**P**	**15 40 44.0**	**-0.5**
	comp=Z,76nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**84.23**	**340**	*e*P		**P**	**15 40 44.0**	**-0.5**
SMF				pmax		pmax		
	comp=Z,38nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**84.23**	**340**	*e*P		**P**	**15 40 44.0**	**-0.5**
	comp=Z,38nm,1.3s,mb5.4							
LPG	**La Plagne**	**84.55**	**337**	*e*P		**P**	**15 40 46.7**	**+0.5**
	comp=Z,65nm,1.4s,mb5.3							
LPG	**La Plagne**	**84.55**	**337**	*e*P		**P**	**15 40 46.7**	**+0.5**
LPG				pmax		pmax		
	comp=Z,32nm,1.4s,mb5.3							
LPG	**La Plagne**	**84.55**	**337**	*e*P		**P**	**15 40 46.7**	**+0.5**
	comp=Z,32nm,1.4s,mb5.3							
NWAO	**Narrogin (SRO)**	**85.10**	**210**	*e*P		**P**	**15 40 48.6**	**-0.3**
	comp=Z,86nm,1.1s,mb5.8							
RJF	**Les Rejaudoux**	**86.04**	**341**	*e*P		**P**	**15 40 53.2**	**-0.4**
CFAA	**Coronel Fontan**	**144.63**	**81**	PKP	PKPdf		15 47 47.5	-2.1
	comp=Z,0.8nm,0.9s,baz=296,slow=3.3,SNR=12							
SNAA	**Sanae**	**151.79**	**195**	PKPbc	PKPbc		15 48 04.8	-2.9
	comp=Z,1.0nm,0.6s,baz=195,slow=4.7,SNR=15							
SNAA				PKPab	PKPab		15 48 15.5	-1.1
	comp=Z,1.5nm,0.9s,baz=157,slow=9.7,SNR=8.4							
SNAA	**Sanae**	**151.79**	**195**	*e*PKPdf	PKPdf		15 48 03.8	+2.5
SNAA				*e*			15 48 06.7	
SNAA				*e*			15 48 14.4	
SNAA	**Sanae**	**151.79**	**195**	*e*PKPbc	PKPbc		15 48 04.5	-3.2
VNA2	**Neumayer--Watz**	**153.22**	**194**	*e*PKPdf	PKPdf		15 48 07.5	+4.1
	baz=132,slow=1.4							
VNA2				*e*			15 48 10.8	
VNA2				*e*			15 48 19.9	
VNA3	**Neumayer Olymp**	**153.29**	**192**	*e*PKPdf	PKPdf		15 48 06.9	+3.4
VNA3				*e*			15 48 10.2	
VNA3				*e*			15 48 19.8	

*NNC **20** 15:37:28.5±0.6, 42.99N×77.09E, h9km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=6.6km s-min=3.7km az=154.0*
*NEIC **20** 15:37:28.5, 42.99N×77.09E, h9km, After NNC.*
NEIC Felt [II] at Almaty.
*MOS **20** 15:37:29.6±2.0, 43.19N×76.91E, h13km, mb4.3/1, Error ellipse: s-maj=4.4km s-min=0.0km az=85.1*
MOS Felt (II) at Alma-Ata.
*KNET **20** 15:37:30.3±0.7, 42.93N×76.97E, h12km±4km, ml3.5, Error ellipse: s-maj=4.8km s-min=4.3km az=25.0*
*ISCJB **20** 15:37:30.7±0.7, 43.15N±004×77.11E±006, h22km±4km, mb4.7/2, Error ellipse: s-maj=8.2km s-min=5.3km az=48.4*
*BJI **20** 15:37:34.7, 43.04N×77.49E, h8km, ML3.3*

ISC 20 15:37:30.8±0.8, 43.06N±004×77.08E±006, h13km±4km, n30, σ1§14/43, mb4.7/2, 12C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.18**	**332**	⇓P		**Pg**	**15 37 34.6**	**-0.4**
	79nm,0.2s,baz=50							
KNDC				⇑S		**Sg**	**15 37 38.9**	**+1.1**
	1µm,0.3s							
AAA	**Alma-Ata**	**0.24**	**335**	*c i* PG		**Pg**	**15 37 35.1**	**-0.8**
AAA				*i* S		**Sg**	**15 37 39.7**	**+0.4**
AAA				pmax		pmax		
	comp=Z,2.0nm,0.1s							
AAA				smax				
	comp=E,16nm,0.1s							
ULHL	**Ulahol**	**1.02**	**218**	P		**Pb**	**15 37 47.0**	**-3.3**
	SNR=1307							
TKM2	**Tokmak 2**	**1.10**	**264**	⇑P		**Pb**	**15 37 49.5**	**-2.1**
	comp=E,5.1nm,0.5s							
TKM2				⇑S		**Sb**	**15 38 04.8**	**-1.1**
	comp=E,8.9nm,0.3s							
TKM2	**Tokmak 2**	**1.10**	**264**	P		**Pb**	**15 37 49.5**	**-2.1**
TKM2				S		**Sb**	**15 38 04.8**	**-1.1**
KBK	**Karagaybulak**	**1.62**	**256**	P		**Pn**	**15 37 58.9**	**-0.1**
	SNR=806							
KZA	**Kyzart**	**1.67**	**235**	P		**Pn**	**15 37 59.3**	**-0.4**
	SNR=301							
CHMS	**Chumysh**	**1.71**	**269**	P		**Pn**	**15 38 00.3**	**0.0**
	SNR=36							
USP	**Ospenovka**	**1.90**	**277**	P		**Pn**	**15 38 03.8**	**+0.9**
	SNR=199							
AAK	**Ala-Archa**	**1.95**	**258**	P		**Pn**	**15 38 04.6**	**+1.0**
	SNR=54							
AAK	**Ala-Archa**	**1.95**	**258**	*e*P		**Pn**	**15 38 03.4**	**-0.1**
AAK				*e*S		**Sn**	**15 38 29.7**	**+1.8**
UCH	**Uchtor**	**2.07**	**247**	P		**Pn**	**15 38 06.4**	**+1.2**
	SNR=81							
EKS2	**Erkin-Say**	**2.46**	**262**	P		**Pn**	**15 38 12.9**	**+2.3**
	SNR=62							
KSH	**Kashi**	**3.63**	**194**	*e*P		**Pb**	**15 38 33.6**	**-1.2**
KSH				*e*S		**Sb**	**15 39 21.9**	**+3.1**
KSH				Smax				
	comp=N,283nm,0.9s							
KSH				Smax				
	comp=E,238nm,0.6s							
KK31	**Karatay Array**	**4.81**	**273**	⇑Pg		**Pb**	**15 38 55.9**	**+0.9**
	comp=E,5.7nm,0.4s,baz=92,slow=16,SNR=44							
KK31				⇑Lg			15 39 59.9	
	comp=E,46nm,0.5s,baz=88,slow=28							
KK31	**Karatay Array**	**4.81**	**273**	Pg		**Pb**	**15 38 55.9**	**+0.9**
KK31				Lg			15 39 59.9	
MK31	**Makanchi Array**	**5.26**	**43**	Pn		**Pn**	**15 38 49.9**	**+0.9**
	comp=E,1.1nm,0.3s,baz=220,slow=15,SNR=46							
MK31				⇑Sn		**Sn**	**15 39 49.9**	**+0.5**
	comp=E,5.6nm,0.4s							
MK31				⇓Lg			15 40 14.1	
	comp=E,14nm,0.5s,baz=220,slow=28							
MK31	**Makanchi Array**	**5.26**	**43**	*e*PN		**Pn**	**15 38 50.3**	**+1.3**
MK31				*e*			15 39 51.1	
MK31	**Makanchi Array**	**5.26**	**43**	*e*Pn		**Pn**	**15 38 50.3**	**+1.3**
MK31				*e*Sn		**Sn**	**15 39 51.1**	**+1.6**
MK31				*e*Sg		**Sg**	**15 40 14.4**	**-5.1**
VOSK	**Vostochnaya**	**10.50**	**339**	⇑Pn		**Pn**	**15 40 00.1**	**-0.8**
	comp=E,2.7nm,1.1s							
VOSK				⇓Sn		**Sn**	**15 41 58.3**	**-0.2**
	comp=E,3.4nm,1.1s							
VOSK				⇑Lg			15 43 04.0	
	comp=E,12nm,0.9s							
VOSK	**Vostochnaya**	**10.50**	**339**	P		**Pn**	**15 40 00.1**	**-0.9**
VOSK							15 41 58.3	
VOSK	**Vostochnaya**	**10.50**	**339**	Pn		**Pn**	**15 40 00.1**	**-0.8**
VOSK				Sn		**Sn**	**15 41 58.3**	**-0.2**
VOSK				Lg			15 43 04.0	
BVA0	**Borovoye Array**	**10.93**	**338**	⇑Pn		**Pn**	**15 40 06.0**	**-0.8**
	comp=E,0.3nm,0.5s							
BVA0				⇓Sn		**Sn**	**15 42 09.2**	**+0.2**
	comp=E,0.6nm,1.1s							
BVA0				⇓Lg			15 43 16.7	
	comp=E,2.0nm,0.8s							
BVA0	**Borovoye Array**	**10.93**	**338**	P		**Pn**	**15 40 06.2**	**-0.6**
BVA0							15 42 09.2	
BVA0	**Borovoye Array**	**10.93**	**338**	Pn		**Pn**	**15 40 06.2**	**-0.6**
BVA0				Sn		**Sn**	**15 42 09.2**	**+0.2**
BVA0				Lg			15 43 16.7	
ARU	**Arti**	**17.88**	**325**	⇓*i*P		**Pn**	**15 41 37.7**	**-1.4**
ARU				*e*S		**Sn**	**15 44 57.6**	**-0.6**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.4s							
TLY	**Talaya**	**19.86**	**55**	*e*P		Px	15 42 14.6	
TLY				pmax		pmax		
	comp=Z,13nm,0.5s							
KIV	**Kislovodsk**	**24.86**	**284**	⇑*e*P		**P**	**15 42 47.9**	**-5.1**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.1							
ANN	**Anapa**	**28.42**	**287**	*e*P		**P**	**15 43 18.4**	**-6.6**
ANN				pmax		pmax		
	comp=Z,117nm,1.7s,mb5.2							
SEY	**Seymchan**	**46.37**	**38**	⇑*e*P		**P**	**15 45 55.5**	**-1.2**

*ISCJB **20** 15:41:26.0±1.1, 1944N±008×6427W±003, h10km, Error ellipse: s-maj=10.9km s-min=4.4km az=7.4*
*TRN **20** 15:41:26.9, 1974N×6387W, h35km, MD3.9*
*RSPR **20** 15:41:27.2, 1930N×6403W, h6km±14km, MD3.1/5, MD3.1/5*
*NEIC **20** 15:41:27.2, 1930N×6403W, h6km, MD3.2(RSPR), After RSPR.*

ISC 20 15:41:27.0±1.1, 1940N±008×6426W±003, h10km, n17, σ0§97/30, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.23**	**212**	⇑*e*P		**Pn**	**15 41 48.2**	**-2.0**
STVI				*e*S		**Sb**	**15 42 05.2**	**-1.0**
STMA	**St. Maarten, A**	**1.73**	**141**	*e*P		**Pn**	**15 41 57.2**	**0.0**
STMA				*e*S		**Sn**	**15 42 20.0**	**+0.7**
MTP	**Monte Pirata**	**1.78**	**224**	⇑*e*P		**Pn**	**15 41 56.5**	**-1.4**
MTP				*e*S		**Sn**	**15 42 19.8**	**-0.7**
CBYP	**Canovanas**	**1.88**	**234**	⇑*e*P		**Pn**	**15 41 58.5**	**-0.7**
CBYP				*e*S		**Sn**	**15 42 22.7**	**-0.3**
HUMP	**Col San Antoni**	**1.96**	**231**	⇑*e*P		**Pn**	**15 41 59.3**	**-1.0**
HUMP				*e*S		**Sn**	**15 42 24.4**	**-0.5**
SABT	**Saba**	**2.01**	**151**	*e*P		**Pn**	**15 42 02.9**	**+1.9**
SABT				*e*S		**Sn**	**15 42 28.7**	**+2.5**
CPD	**Cerro la Pandu**	**2.07**	**230**	⇑*e*P		**Pn**	**15 42 01.5**	**-0.3**
CPD				*e*S		**Sn**	**15 42 27.3**	**-0.4**
SJG	**San Juan**	**2.20**	**235**	⇑*e*P		**Pn**	**15 42 03.3**	**-0.3**
SJG				*e*S		**Sn**	**15 42 31.0**	**+0.1**
CELP	**Cerrillos**	**2.56**	**240**	⇑*e*P		**Pn**	**15 42 08.0**	**-0.6**
CELP				*e*S		**Sn**	**15 42 40.5**	**+0.7**
AOPR	**Arecibo Observ**	**2.58**	**247**	⇑*e*P		**Pn**	**15 42 08.7**	**-0.2**
AOPR				*e*S		**Sn**	**15 42 41.8**	**+1.4**
ICM	**Isla Caja Muer**	**2.61**	**236**	⇑*e*P		**Pn**	**15 42 09.1**	**-0.2**
ICM				*e*S		**Sn**	**15 42 41.8**	**+0.7**
GBPR	**Guanica, Bosqu**	**2.86**	**241**	⇑*e*P		**Pn**	**15 42 13.1**	**+0.4**
GBPR	**Guanica, Bosqu**	**2.86**	**241**	*e*S		**Sn**	**15 42 48.3**	**+1.2**
LSP	**Las Mesas**	**2.94**	**246**	⇑*e*P		**Pn**	**15 42 14.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**3.04**	**243**	⇑*e*P		**Pn**	**15 42 15.3**	**+0.2**
CRPR				*e*S		**Sn**	**15 42 52.8**	**+1.3**
BPA	**Boggy Peak**	**3.27**	**135**	*e*P		**Pn**	**15 42 18.1**	**-0.2**
BPA				*e*S		**Sn**	**15 42 55.3**	**-1.9**
LZG	**Guadaloupe-1**	**4.01**	**143**	*e*P		**Pn**	**15 42 29.1**	**+0.6**

*NEIC **20** 15:46:12.2, 19.19N×64.13W, h72km, MD3.5(RSPR), After RSPR.*

RSPR 20 15:46:12.2, 1919N×6413W, h71km±27km, MD3.5/7, MD3.5/7, 5C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.73**	**232**	⇓*e*P		Pn	15 46 40.0	-0.2
MTP				*e*S		Sn	15 47 01.4	-0.1
CBYP	**Canovanas**	**1.87**	**241**	⇑*e*P		Pn	15 46 41.3	-0.8
CBYP				*e*S		Sn	15 47 04.4	-0.5
HUMP	**Col San Antoni**	**1.93**	**238**	⇑*e*P		Pn	15 46 42.1	-0.8
HUMP				*e*S		Sn	15 47 05.0	-1.3
CELP	**Cerrillos**	**2.57**	**245**	⇑*e*P		Pn	15 46 51.0	-0.6
CELP				*e*S		Sn	15 47 22.1	+0.2
AOPR	**Arecibo Observ**	**2.62**	**252**	⇑*e*P		Pn	15 46 51.2	-1.1
LSP	**Las Mesas**	**2.98**	**251**	⇑*e*P		Pn	15 46 57.6	+0.5
CRPR	**Cabo Rojo, PR**	**3.06**	**248**	⇓*e*P		Pn	15 46 58.1	-0.1

CASC 20 16:00:48.5±0.9, 1384N×9126W, h5km±17km, MD3.7, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**0.96**	**14**	⇑*e*P		Pg	16 01 07.0	0.0
TP2				*e*S		Sg	16 01 21.9	+2.3
RBDL	**Robledal**	**1.55**	**80**	*e*P		x	16 01 42.8	
RBDL				*e*S		x	16 02 04.9	
SBLS	**San Blas**	**1.59**	**90**	*e*P		x	16 01 43.2	
SBLS				*e*S		x	16 02 05.4	
MRL	**Marmol**	**1.95**	**51**	*e*P		Pn	16 01 21.9	-0.4
MRL				*e*S		Sn	16 01 48.6	+1.6
LFRS	**El Faro**	**2.15**	**96**	*e*P		x	16 01 51.2	
LFRS				*e*S		x	16 02 19.5	

*BJI **20** 16:21:14.3, 094S×12509E, h10km, mB5.2, mb4.5*
*IDC **20** 16:21:20.6±0.9, 023S×12441E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=122.7km s-min=16.2km az=68.0*
*ISCJB **20** 16:21:27.5±2.5, 02S±01×1246E±02, h71km±25km, mb4.3/15, Error ellipse: s-maj=30.9km s-min=8.4km az=116.9*
*NEIC **20** 16:21:29.5±2.1, 0.19S×124.79E, h75km±22km, mb4.0/3, Error ellipse: s-maj=26.8km s-min=8.2km az=60.0*

ISC 20 16:21:29.2±1.9, 03S±01×1246E±02, h68km±19km, n30, σ0§67/30, mb4.3/15, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.48**	**307**	*e*P		**Pn**	**16 23 57.0**	**+0.4**
KSM	**Kuching**	**14.43**	**277**	*e*P		**Pn**	**16 24 54.7**	**+4.8**
KAKA	**Kakadu**	**14.60**	**148**	*e*P		**Pn**	**16 24 51.8**	**-0.3**
	18nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.77**	**177**	*e*P		**Pn**	**16 25 31.7**	**-0.2**
	4.3nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.77**	**177**	P		**Pn**	**16 25 31.6**	**-0.3**
	0.3nm,0.3s,baz=5.7,slow=13,SNR=7.6							
MBWA	**Marble Bar**	**21.33**	**193**	*e*P		**P**	**16 26 10.7**	**+0.2**
WRA	**Warramunga Arr**	**21.76**	**155**	P		**P**	**16 26 14.2**	**-0.9**
	2.8nm,0.7s,mb3.7,baz=331,slow=12,SNR=39							
WB2	**Warramunga Arr**	**21.76**	**155**	*e*P		**P**	**16 26 13.6**	**-1.5**
WB2	**Warramunga Arr**	**21.76**	**155**	*e*P		**P**	**16 26 14.4**	**-0.8**
AS31	**Alice Springs**	**24.95**	**160**	*e*P		**P**	**16 26 46.9**	**+0.7**
ASPA	**Alice Springs**	**24.95**	**160**	*e*P		**P**	**16 26 46.9**	**+0.7**
ASAR	**Alice Springs**	**24.96**	**160**	P		**P**	**16 26 46.8**	**+0.6**
	4.2nm,0.8s,mb4.0,baz=332,slow=7.2,SNR=45							
CHTO	**Chiang Mai**	**31.55**	**308**	*e*P		**P**	**16 27 44.0**	**-1.0**
	2.3nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**35.31**	**155**	*e*P		**P**	**16 28 18.0**	**+0.3**
	1.5nm,0.9s,mb3.8							
STKA	**Stephens Creek**	**35.31**	**155**	P		**P**	**16 28 19.0**	**+1.3**
	1.2nm,0.5s,mb4.0,baz=317,slow=13,SNR=4.2							
STKA	**Stephens Creek**	**35.31**	**155**	*e*P		**P**	**16 28 18.3**	**+0.7**
GTA	**Gaotai**	**45.54**	**333**	*e*P		**P**	**16 29 43.3**	**+1.2**
GTA				AP		pP	16 29 47.3	-12
GTA				XP		sP	16 29 50.8	-16
GTA				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.2							
JIRN	**Jiri**	**46.16**	**310**	*e*P		**P**	**16 29 47.0**	**+0.1**
	comp=Z,6.8nm,0.5s,mb4.6							
GUN	**Gumba**	**46.52**	**310**	*e*P		**P**	**16 29 50.0**	**+0.2**
	comp=Z,10nm,0.5s,mb4.9							
PKI	**Pulchoki**	**46.71**	**310**	*e*P		**P**	**16 29 51.4**	**+0.1**
KKN	**Kakani**	**46.92**	**310**	*e*P		**P**	**16 29 52.7**	**-0.2**
	comp=Z,3.8nm,0.5s,mb4.4							
DMN	**Daman**	**46.97**	**309**	*e*P		**P**	**16 29 53.8**	**+0.5**
GKN	**Gorkha**	**47.52**	**310**	*e*P		**P**	**16 29 57.6**	**0.0**
	comp=Z,7.6nm,0.5s,mb4.8							
KOLN	**Koldanda**	**48.21**	**309**	*e*P		**P**	**16 30 02.9**	**0.0**
	comp=Z,15nm,0.9s,mb4.8							
ULN	**Ulaanbaatar**	**50.30**	**345**	*e*P		**P**	**16 30 19.4**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.1							
SONM	**Songino Array**	**50.45**	**344**	P		**P**	**16 30 20.3**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=154,slow=8.5,SNR=15							
MK31	**Makanchi Array**	**59.69**	**328**	*e*P		**P**	**16 31 25.2**	**-1.4**
MKAR	**Makanchi Array**	**59.69**	**328**	P		**P**	**16 31 25.4**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=121,slow=8.3,SNR=26							
MKAR				PcP		PcP	16 32 12.8	-0.1
	comp=Z,0.8nm,0.6s,baz=117,slow=4.2,SNR=5.4							
YAK	**Yakutsk**	**62.23**	**3**	P		**P**	**16 31 44.0**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1							
ZAL	**Zalesovo**	**63.22**	**335**	P		**P**	**16 31 49.9**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=6.3,slow=5.9,SNR=3.2							

*IDC **20** 16:24:07.7±0.9, 029S×12424E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=124.5km s-min=16.3km az=67.0*
*BJI **20** 16:24:09.4, 060S×125.14E, h55km, mB5.3, mb4.8*
*ISCJB **20** 16:24:12.5±2.7, 03S±01×1243E±02, h52km±26km, mb4.4/10, Error ellipse: s-maj=41.3km s-min=9.2km az=121.8*
*NEIC **20** 16:24:14.7±1.5, 032S×12436E, h55km±15km, mb4.3/1, Error ellipse: s-maj=26.9km s-min=6.3km az=61.0*

ISC 20 16:24:14.5±2.0, 03S±01×1244E±02, h51km±20km, n22, σ0§82/22, mb4.4/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.32**	**308**	*e*Pn		**Pn**	**16 26 39.7**	**-0.1**
KAKA	**Kakadu**	**14.68**	**147**	*e*P		**Pn**	**16 27 38.3**	**-0.8**
	11nm,0.7s							
FITZ	**Fitzroy Crossi**	**17.72**	**176**	*e*P		**Pn**	**16 28 18.9**	**+1.3**
	3.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**17.72**	**176**	P		**Pn**	**16 28 17.6**	**0.0**
	0.2nm,0.3s,baz=11,slow=9.7,SNR=6.4							
WRA	**Warramunga Arr**	**21.81**	**154**	P		**P**	**16 29 01.8**	**-0.5**
	2.6nm,0.6s,mb3.8,baz=339,slow=11,SNR=16							
WB2	**Warramunga Arr**	**21.81**	**154**	*e*P		**P**	**16 29 02.3**	**-0.1**
WB2	**Warramunga Arr**	**21.81**	**154**	*e*P		**P**	**16 29 02.3**	**0.0**
AS31	**Alice Springs**	**24.98**	**159**	*e*P		**P**	**16 29 33.7**	**+0.4**
ASPA	**Alice Springs**	**24.98**	**159**	*e*P		**P**	**16 29 34.0**	**+0.6**
ASAR	**Alice Springs**	**24.98**	**159**	P		**P**	**16 29 34.0**	**+0.6**
	3.0nm,0.7s,mb3.9,baz=326,slow=7.1,SNR=15							
ASAR				PcP		PcP	16 33 08.9	+1.5
	0.4nm,0.5s,baz=350,slow=2.2,SNR=9.3							
CHTO	**Chiang Mai**	**31.39**	**309**	P		**P**	**16 30 30.6**	**0.0**
STKA	**Stephens Creek**	**35.36**	**154**	P		**P**	**16 31 05.7**	**+0.6**
	2.0nm,0.9s,mb4.0,baz=334,slow=15,SNR=3.1							
GTA	**Gaotai**	**45.48**	**333**	*e*P

ESAC				Lg			16 43 01.1		
	50nm,0.3s,SNR=10								
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	**Pg**		**16 42 46.7**	**-0.1**	
MTLF				*e*Sg	**Sg**		**16 43 08.5**	**+0.3**	
	8.5nm,0.3s								
MTLF	**Montolieu**	**1.65**	**78**	Pg	**Pg**		**16 42 46.7**	**-0.1**	
MTLF				Lg			16 43 08.5		
	4.2nm,0.3s								
EPOB	**Poblet**	**1.86**	**154**	Pg	**Pg**		**16 42 49.4**	**-1.5**	
	0.3nm,0.1s,SNR=7.9								
EPOB				Lg			16 43 14.2		
	1.3nm,0.2s,SNR=7.9								
LFF	**La Frestale**	**1.98**	**15**	*e*Pg	**Pg**		**16 42 53.2**	**0.0**	
LFF				*e*Sg	**Sg**		**16 43 19.3**	**+0.5**	
	7.0nm,0.3s								
LFF	**La Frestale**	**1.98**	**15**	Pg	**Pg**		**16 42 53.2**	**0.0**	
LFF				Lg			16 43 19.3		
	3.5nm,0.3s								
ERTA	**Horta de San J**	**2.09**	**173**	Lg			16 43 22.0		
	1.8nm,0.2s,SNR=7.9								
CAF	**Calviac**	**2.41**	**37**	*e*Pg	**Pg**		**16 43 00.9**	**-0.4**	
CAF				*e*Sg	**Sg**		**16 43 32.4**	**-0.1**	
	1.4nm,0.2s								
CAF	**Calviac**	**2.41**	**37**	Pg	**Pg**		**16 43 00.9**	**-0.4**	
CAF				Lg			16 43 32.4		
	0.7nm,0.2s								
EMOS	**Mosqueruela**	**2.69**	**188**	Lg			16 43 41.4		
	1.6nm,0.2s,SNR=7.9								
LASF	**Ste Croix**	**2.99**	**68**	*e*Pg	**Pg**		**16 43 11.5**	**-0.9**	
LASF				*e*Sg	**Sg**		**16 43 50.1**	**-1.1**	
	1.5nm,0.2s								
LASF	**Ste Croix**	**2.99**	**68**	Pg	**Pg**		**16 43 11.5**	**-0.9**	
LASF				Lg			16 43 50.1		
	0.8nm,0.2s								

NIED ***20*** *16:48:00,4690N×15370E,h44km,Mw4.9 Best double couple: M₀2.66000×10¹⁶ NP1:φs32.00000°,δ82.00000°, λ171.00000°. NP2:φs123.00000°,δ81.00000°,λ8.00000°.*
BJI ***20*** *16:48:25.4,4677N×15358E,h14km,mB5.0,mb4.6,Ms4.5, Msz4.4*
ISCJB ***20*** *16:48:26.5±0.8,4686N±003×15355E±002,h20km±5km, mb4.8/96,MS4.4/29,Error ellipse: s-maj=5.7km s-min=2.3km az=148.5*
NEIC ***20*** *16:48:26.8±0.2,4692N×15350E,h10km,mb5.0/47, MS4.4/2,Error ellipse: s-maj=7.7km s-min=4.7km az=156.0*
JMA ***20*** *16:48:28.4±0.8,4693N×15373E,h30km,M5.5*
SKHL ***20*** *16:48:28.9±1.6,4697N×15369E,h50km±19km,mb5.8/3, mbh5.5/4,Ms4.6/6,msh5.5/1*
MOS ***20*** *16:48:29.2±1.2,4696N×15359E,h38km,mb5.1/33, MS4.1/9,Error ellipse: s-maj=7.9km s-min=6.1km az=85.5*
SZGRF ***20*** *16:48:33.1,4741N×15600E,h33km, mb4.9, East of Kuril Islands, Russia*
IDC ***20*** *16:48:34.9±3.4,4698N×15346E,h75km±30km,mb4.1/24, mb1 4.3/25,mb1mx4.3/28,mbtmp4.2/25,MS4.3/19, Ms1 4.3/19,ms1mx4.1/38,Error ellipse: s-maj=14.7km s-min=11.7km az=141.0*
ISC 20 16:48:30.2±0.8,4689N±003×15353E±002,h31km±6km, h15km±1.9km;pP-P,n461,σ0s99/487,mb4.8/96,MS4.4/29, 100C-102D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res	ISC
				Op			h m s		
SKR	**Severo-Kuril's**	**4.16**	**23**	*e*P		**Pn**	**16 49 29.7**	**-1.9**	
SKR					AMB	AMB	16 49 33.5		
	280nm,0.5s								
SKR					AMB	AMB	16 49 33.5		
	170nm,0.5s								
SKR					AMB	AMB	16 49 33.5		
	570nm,0.6s								
SKR				*i*	S	**Sn**	**16 50 15.8**	**-3.4**	
SKR					A		16 50 25.3		
	3μm,6.0s								
SKR					A		16 50 25.3		
	6μm,6.0s								
SKR					A		16 50 25.3		
	5μm,6.0s								
SKR					A		16 50 25.3		
	3μm,6.0s								
SKR					A		16 50 25.3		
	6μm,6.0s								
SKR					A		16 50 25.3		
	4μm,6.0s								
SKR					A		16 50 25.3		
	920nm,0.2s								
SKR					A		16 50 25.3		
	2μm,0.2s								
SKR					AMS	AMS	16 50 59.0		
	2μm,16.0s								
SKR					AMS	AMS	16 50 59.0		
	9μm,16.0s								
SKR					AMS	AMS	16 50 59.0		
	4μm,16.0s								
SKR					AMS	AMS	16 50 59.0		
	3μm,16.0s								
SKR					AMS	AMS	16 50 59.0		
	9μm,16.0s								
SKR					AMS	AMS	16 50 59.0		
	4μm,16.0s								
KUR	**Kuril'sk**	**4.27**	**249**	*i*	P	**Pn**	**16 49 32.0**	**-1.1**	
KUR					AMB	AMB	16 49 34.0		
	304nm,0.5s								
KUR					AMB	AMB	16 49 34.0		
	1μm,0.5s								
KUR					AMB	AMB	16 49 35.0		
	6μm,3.0s								
KUR				*i*	S	**Sn**	**16 50 21.0**	**-0.9**	
KUR					A		16 50 28.0		
	12μm,2.0s								
KUR					A		16 50 41.0		
	2μm,0.5s								
KUR					A		16 50 41.0		
	1μm,0.5s								
KUR					AMS	AMS	16 51 12.0		
	6μm,14.0s								
KUR					AMS	AMS	16 51 12.0		
	5μm,14.0s								
KUR					AMS	AMS	16 51 12.0		
	6μm,14.0s								
YUK	**Yuzh-Kuril'sk**	**6.10**	**245**	*e*P		**Pn**	**16 50 00.5**	**+2.3**	
YUK					AMB	AMB	16 50 02.5		
	380nm,0.5s								
YUK					AMB	AMB	16 50 02.5		
	420nm,0.5s								
YUK					AMB	AMB	16 50 02.5		
	1μm,0.5s								
YUK					AMB	AMB	16 50 11.0		
	5μm,1.8s								
YUK					AMB	AMB	16 50 11.0		
	3μm,1.8s								
YUK				*e*	S	**Sn**	**16 51 07.7**	**+0.8**	
YUK					A		16 51 25.0		
	8μm,3.0s								
YUK					A		16 51 25.0		
	5μm,3.0s								
YUK					A		16 51 26.5		
	960nm,0.5s								
YUK					A		16 51 26.5		
	1μm,0.5s								
NEM2	**Nemuro 2**	**6.54**	**240**		P	**Pn**	**16 50 03.3**	**-0.9**	
NEM2				*e*	S	**Sn**	**16 51 14.0**	**-3.6**	
JRA	**Rausu**	**6.61**	**247**		P	**Pn**	**16 50 07.3**	**+2.1**	
JRA				*e*	S	**Sn**	**16 51 23.7**	**+4.3**	
PET	**Petropavlovsk**	**6.97**	**26**	*e*PN		**Pn**	**16 50 09.3**	**-0.8**	
PET					pmax	pmax			
	comp=Z,56nm,0.6s								
PET					MLR	MLR			
	comp=Z,1μm,17.0s								
PET					MLR	MLR			
	comp=Z,700nm,15.0s								
PET	**Petropavlovsk**	**6.97**	**26**	*e*Pn		**Pn**	**16 50 07.8**	**-2.4**	
	comp=Z,315nm,1.3s								
JNK	**Nakash**	**7.04**	**245**		P	**Pn**	**16 50 12.5**	**+1.4**	
JNK				*e*	S	**Sn**	**16 51 30.1**	**+0.1**	
JTKR	**Abashiri--Toko**	**7.37**	**250**	⇓	P	**Pn**	**16 50 17.7**	**+2.1**	
JTKR				*e*	S	**Sn**	**16 51 43.2**	**+5.1**	
JAK	**Akkeshi**	**7.37**	**241**		P	**Pn**	**16 50 15.2**	**-0.5**	
JAK				*e*	S	**Sn**	**16 51 34.7**	**-3.6**	
YSS	**Yuzh-Sakhalins**	**7.38**	**274**	*e*P		**Pn**	**16 50 19.8**	**+4.1**	
YSS					AMB	AMB	16 50 22.6		
	comp=Z,120nm,1.0s								
YSS					AMB	AMB	16 50 22.6		
	comp=Z,100nm,1.0s								
YSS				*e*	S	**Sn**	**16 51 41.9**	**+3.6**	
YSS					A		16 51 49.0		
	comp=Z,160nm,1.0s								
YSS				*e*	LQ		16 51 58.0		
YSS					AMS	AMS	16 53 03.0		
	comp=Z,2μm,17.0s								
YSS					AMS	AMS	16 53 03.0		
	comp=Z,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**7.38**	**274**	*e*PN		**Pn**	**16 50 19.8**	**+4.1**	
YSS					pmax	pmax			
	comp=N,120nm,1.0s								
YSS					pmax	pmax			
	comp=E,120nm,1.0s								
YSS					pmax	pmax			
	comp=Z,100nm,1.0s								
YSS					MLR	MLR			
	comp=Z,2μm,16.0s								
YSS					MLR	MLR			
	comp=E,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.38**	**274**	*e*Pn		**Pn**	**16 50 19.5**	**+3.8**	
	comp=E,82nm,0.6s								
YSS				*e*	Sn	**Sn**	**16 51 38.9**	**+0.5**	
JMP	**Maruseppu**	**7.71**	**252**		P	**Pn**	**16 50 22.8**	**+2.6**	
JAR	**Ashorobuto**	**7.78**	**246**		P	**Pn**	**16 50 22.5**	**+1.3**	
JAR				*e*	S	**Sn**	**16 51 49.3**	**+1.0**	
JSE	**Soyaes**	**7.87**	**260**		P	**Pn**	**16 50 26.7**	**+4.2**	
JOB	**Onbets**	**7.95**	**243**		P	**Pn**	**16 50 24.1**	**+0.5**	
JOB				*e*	S	**Sn**	**16 51 49.5**	**-2.9**	
UGL	**Uglegorsk**	**8.00**	**290**	*e*PN		**Pn**	**16 50 29.0**	**+4.8**	
UGL					S	**Sn**	**16 51 59.0**	**+5.5**	
UGL					pmax	pmax			
	comp=Z,600nm,1.6s								
UGL					pmax	pmax			
	comp=Z,490nm,1.2s								
UGL					smax				
	comp=N,54nm,0.5s								
UGL					smax				
	comp=E,150nm,0.5s								
UGL					MLR	MLR			
	comp=E,3μm,15.0s								
UGL					MLR	MLR			
	comp=Z,2μm,15.0s								
UGL					MLR	MLR			
	comp=N,2μm,14.0s								
ASAJ	**Asahikawa**	**8.16**	**254**		P	**Pn**	**16 50 29.9**	**+3.4**	
	comp=N,20nm,0.3s,baz=89,slow=13,SNR=134								
ASAJ					LR	LR	16 53 29.1		
	comp=N,2μm,19.8s,baz=244,slow=36								
ASAJ	**Asahikawa**	**8.16**	**254**	⇓	P	**Pn**	**16 50 29.6**	**+3.1**	
ASAJ	**Asahikawa**	**8.16**	**254**		PN	**Pn**	**16 50 29.9**	**+3.4**	
ASAJ					pmax	pmax			
	comp=Z,20nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,2μm,19.8s								
JKK2	**Kamakawa 2**	**8.16**	**252**		P	**Pn**	**16 50 29.2**	**+2.7**	
TYV	**Tymovskoe**	**8.19**	**303**	*e*P		**Pn**	**16 50 29.5**	**+2.6**	
TYV					AMB	AMB	16 50 34.0		
	comp=Z,500nm,5.0s								
TYV					AMB	AMB	16 50 34.0		
	comp=Z,400nm,2.0s								
TYV					AMB	AMB	16 50 34.2		
	comp=Z,88nm,1.2s								
TYV					AMB	AMB	16 50 34.2		
	comp=Z,389nm,1.4s								
TYV				*e*	S	**Sn**	**16 52 00.5**	**+2.1**	
TYV					A		16 52 03.0		
	comp=Z,119nm,1.0s								
TYV					AMS	AMS	16 53 38.0		
	comp=Z,2μm,18.0s								
TYV					AMS	AMS	16 53 38.0		
	comp=Z,2μm,16.0s								
TYV					AMS	AMS	16 53 38.0		
	comp=Z,4μm,16.0s								
JWK2	**Keihoku**	**8.23**	**263**		P	**Pn**	**16 50 33.7**	**+6.2**	
JCH	**Churui**	**8.40**	**243**		P	**Pn**	**16 50 29.7**	**0.0**	
JCH				*e*	S	**Sn**	**16 51 59.2**	**-4.3**	
JAB	**Ashibetsu**	**8.67**	**251**		P	**Pn**	**16 50 36.5**	**+3.1**	
ERM	**Erimo**	**8.87**	**240**		Pn	**Pn**	**16 50 38.2**	**+2.0**	
	comp=Z,1μm,0.6s,SNR=19								
ERM	**Erimo**	**8.87**	**240**	*d*	PN	**Pn**	**16 50 37.9**	**+1.7**	
ERM	**Erimo**	**8.87**	**240**	*e*	Pn	**Pn**	**16 50 37.3**	**+1.1**	
	comp=Z,192nm,0.5s								
ERM				*e*	Sn	**Sn**	**16 52 08.1**	**-6.9**	
JEM	**Erimo**	**8.87**	**240**		P	**Pn**	**16 50 37.0**	**+0.8**	
JEM				*e*	S	**Sn**	**16 52 11.8**	**-3.2**	
JHR	**Hokuryu**	**8.89**	**254**		P	**Pn**	**16 50 39.6**	**+3.1**	
JBT2	**Biratori 2**	**8.93**	**247**		P	**Pn**	**16 50 38.0**	**+1.0**	
JNBK	**Urakawa-nobuka**	**8.96**	**243**		P	**Pn**	**16 50 36.6**	**-0.8**	
JEW	**Eniwo**	**9.48**	**249**		P	**Pn**	**16 50 46.6**	**+2.0**	
OKH	**Okha**	**9.51**	**318**	*e*	L		16 52 54.0		
OKH					AMS	AMS	16 54 42.0		
	comp=Z,3μm,12.0s								
OKH					AMS	AMS	16 54 42.0		
	comp=Z,3μm,12.0s								
JSK	**Shakotan**	**9.88**	**254**		P	**Pn**	**16 50 52.8**	**+2.8**	
JNB	**Noboribetsu**	**9.93**	**248**		P	**Pn**	**16 50 50.8**	**+0.1**	
JNB				*e*	S	**Sn**	**16 52 38.0**	**-3.0**	
JKB	**Kayabe**	**10.24**	**245**		P	**Pn**	**16 50 54.0**	**-1.0**	
JKB				*e*	S	**Sn**	**16 52 42.4**	**-6.3**	
NKL	**Nikolayevsk**	**10.36**	**312**	*e*P		**Pn**	**16 50 56.0**	**-0.6**	
NKL					AMB	AMB	16 50 59.5		
	comp=Z,65nm,1.0s								
NKL					AMB	AMB	16 50 59.5		
	comp=Z,64nm,1.0s								
NKL					AMB	AMB	16 50 59.5		
	comp=Z,90nm,1.0s								
NKL				*e*	L		16 53 14.0		
NKL					AMS	AMS	16 55 42.0		
	comp=Z,1μm,15.0s								
NKL					AMS	AMS	16 55 42.0		
	comp=Z,2μm,15.0s								
NKL					AMS	AMS	16 55 42.0		
	comp=Z,2μm,15.0s								
JSH	**Shimam**	**10.48**	**251**		P	**Pn**	**16 50 59.0**	**+0.7**	
JYM2	**Yakumo 2**	**10.54**	**248**		P	**Pn**	**16 50 58.7**	**-0.3**	
JSR	**Shiriuchi**	**10.82**	**245**	*e*S		**Sn**	**16 52 53.2**	**-10**	
JANG	**Nango**	**10.87**	**237**		P	**Pn**	**16 51 00.4**	**-3.1**	
JANG				*e*S		**Sn**	**16 52 53.3**	**-11**	
JTM	**Tenmabayashi**	**10.87**	**240**		P	**Pn**	**16 51 01.6**	**-1.9**	
JOSM	**Okushiri--Mats**	**11.12**	**249**		P	**Pn**	**16 51 06.7**	**-0.4**	
OFUJ	**Ofunato**	**11.67**	**232**		P	**Pn**	**16 51 11.6**	**-2.9**	
TEY	**Ternei**	**11.93**	**267**	*e*P		**Pn**	**16 51 22.0**	**+4.0**	
TEY					AMS	AMS	16 55 41.0		
	comp=Z,2μm,19.0s								
TEY					AMS	AMS	16 55 41.0		
	comp=Z,1μm,18.0s								
JRG	**Rokugo**	**12.02**	**236**		P	**Pn**	**16 51 16.9**	**-2.4**	
JOG2	**Oga 2**	**12.17**	**240**		P	**Pn**	**16 51 19.4**	**-2.0**	
JIO	**Ouri**	**12.29**	**231**		P	**Pn**	**16 51 19.9**	**-3.1**	
JIO				*e*S		**Sn**	**16 53 27.5**	**-11**	
HABR	**Khabarovsk**	**12.55**	**284**	⇑	PN	**Pn**	**16 51 32.8**	**+6.2**	
HABR				*e*			16 53 57.8		
HABR					pmax	pmax			
	comp=Z,73nm,1.8s								
MA2	**Magadan**	**12.81**	**354**	*e*PN		**Pn**	**16 51 31.2**	**+1.1**	
MA2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
MA2	**Magadan**	**12.81**	**354**	*e*Pn		**Pn**	**16 51 30.6**	**+0.5**	
	comp=Z,21nm,0.6s								
JYA	**Atsumi**	**13.09**	**236**		P	**Pn**	**16 51 31.5**	**-2.5**	
JYA				*e*S		**Sn**	**16 53 52.1**	**-6.4**	
JFK	**Kawauchi**	**13.35**	**229**	*e*S		**Sn**	**16 53 54.0**	**-11**	
JFY	**Yanaizu**	**13.94**	**232**		P	**Pn**	**16 51 45.3**	**-0.3**	
KLR	**Kul'dur**	**14.74**	**287**	*e*P		**Pn**	**16 51 58.0**	**+1.5**	
KLR					MLR	MLR			
	comp=N,800nm,13.0s								
KLR					MLR	MLR			
	comp=E,700nm,13.0s								
KLR					MLR	MLR			
	comp=Z,3μm,13.0s								
MAJO	**Matsushiro**	**15.39**	**233**	*e*P		**Pn**	**16 52 02.3**	**-2.7**	
MAJO					pmax	pmax			
	comp=Z,37nm,0.7s								
MAJO	**Matsushiro**	**15.39**	**233**	*e*Pn		**Pn**	**16 52 02.3**	**-2.7**	
	comp=Z,37nm,0.6s								
MAT	**Matsushiro**	**15.39**	**233**		P	**Pn**	**16 52 02.4**	**-2.6**	
MJAR	**Matsushiro Arr**	**15.39**	**233**		P	**Pn**	**16 52 02.1**	**-2.9**	
	comp=Z,0.7nm,0.3s,baz=25,slow=12,SNR=15								
MJAR					LR	LR	16 58 16.6		
	comp=Z,569nm,20.2s,baz=50,slow=38								
SEY	**Seymchan**	**16.09**	**358**	⇑	*e*P	**Pn**	**16 52 16.7**	**+2.6**	
MDJ	**Mudanjiang**	**16.84**	**271**		P	**Pn**	**16 52 23.6**	**0.0**	
MDJ					AP	pP	16 52 26.8	-6.9	
MDJ					XP	sP	16 52 28.3	-9.4	
MDJ					S	**Sn**	**16 55 32.8**	**+3.0**	
MDJ					PCS	PcS	17 00 46.1	0.0	
MDJ					AMB	AMB			
	comp=Z,19nm,1.4s								
MDJ					AMB	AMB			
	comp=Z,149nm,6.0s								
MDJ					LR	LR			
	comp=N,450nm,20.4s								
MDJ					LR	LR			
	comp=E,686nm,18.8s								
MDJ					LR	LR			
	comp=Z,1μm,18.8s								
JHJ	**Hachijo jima 2**	**17.28**	**222**		LR	LR	16 57 40.5		
	comp=Z,390nm,21.9s,baz=59,slow=32								
ZEA	**Zeya**	**18.06**	**302**	*e*P		**Pn**	**16 52 37.6**	**-1.0**	
ZEA					AMB	AMB	16 52 39.2		
	comp=Z,36nm,1.2s								
ZEA					AMB	AMB	16 52 39.2		
	comp=Z,43nm,1.2s								
ZEA					AMB	AMB	16 52 48.0		
	comp=Z,300nm,4.0s								
ZEA				*e*S		**Sn**	**16 56 00.5**	**+1.4**	
ZEA					A		16 56 08.0		
	comp=Z,200nm,8.0s								
ZEA					A		16 56 08.0		
	comp=Z,600nm,11.0s								
CN2	**Changchun**	**19.93**	**271**	*e*P		**Pn**	**16 52 58.3**	**-2.9**	
CN2				*e*AP		pP	16 53 02.1	-5.6	
CN2				*e*S		**Sn**	**16 56 35.6**	**-8.8**	
CN2					AMB	AMB			
	comp=Z,20nm,0.5s								
CN2					AMB	AMB			
	comp=Z,200nm,6.0s								
CN2					LR	LR			
	comp=N,400nm,15.0s								
CN2					LR	LR			
	comp=E,800nm,15.0s								
CN2					LR	LR			
	comp=Z,1μm,17.0s								
CLNS	**Chul'man**	**20.14**	**310**	*e*P		**P**	**16 53 07.4**	**+5.7**	
CLNS				*e*			16 53 24.0		
CLNS				*e*S		**S**	**16 56 44.9**	**-1.3**	
CLNS				*e*SS			16 57 13.1		
CLNS				*e*			16 57 23.9		
CLNS					pmax	pmax			
	comp=Z,57nm,1.4s								
CLNS					pmax	pmax			
	comp=N,50nm,1.1s								
CLNS					pmax	pmax			
	comp=E,50nm,1.3s								
CLNS					pmax	pmax			
	comp=N,33nm,1.2s								
CLNS					pmax	pmax			
	comp=E,42nm,1.2s								
CLNS					pmax	pmax			
	comp=Z,46nm,1.2s								
CLNS					smax				
	comp=N,19nm,1.1s								
CLNS					smax				
	comp=Z,8.0nm,0.9s								
CLNS					smax				
	comp=E,15nm,1.0s								
CLNS					MLR	MLR			
	comp=N,300nm,15.0s,MS4.6								
CLNS					MLR	MLR			
	comp=E,2μm,15.0s,MS4.6								
CLNS					MLR	MLR			
	comp=Z,1μm,15.0s,MS4.4								
NRGR	**Nerungri**	**20.18**	**310**	*e*P		**P**	**16 53 05.2**	**+3.1**	
NRGR					S	**S**	**16 56 40.7**	**-6.3**	
NRGR					smax				
	comp=E,5.0nm,0.2s								
YAK	**Yakutsk**	**20.36**	**327**	*e*P		**P**	**16 53 03.0**	**-1.0**	
YAK				*e*			16 53 17.3		
YAK				*e*S		**S**	**16 56 43.7**	**-6.8**	
YAK				*e*			17 04 28.6		
YAK					pmax	pmax			
	comp=Z,48nm,1.4s								
YAK					smax				
	comp=N,51nm,2.1s								
YAK					smax				
	comp=E,196nm,4.5s								
KSRS	**Korea Array**	**21.11**	**253**		P	**P**	**16 53 12.8**	**+0.7**	
	comp=E,22nm,1.0s,mb4.5,baz=56,slow=10,SNR=38								
KSRS					LR	LR	17 00 18.9		
	comp=E,572nm,20.6s,MS3.9,baz=50,slow=33								
SNY	**Shenyang**	**21.93**	**268**	⇑	P	**P**	**16 53 20.0**	**-0.9**	
SNY					S	**S**	**16 57 24.3**	**+3.0**	
SNY					AMB	AMB			
	comp=Z,16nm,1.3s,mb4.3								
SNY					AMB	AMB			
	comp=Z,152nm,6.3s								
SNY					LR	LR			
	comp=N,441nm,16.2s,MS4.3								
SNY					LR	LR			
	comp=E,997nm,18.6s,MS4.3								
SNY					LR	LR			
	comp=Z,1μm,18.3s,MS4.3								
JNU	**Nakatsue**	**22.04**	**239**		P	**P**	**16 53 25.1**	**+3.0**	
	comp=Z,38nm,0.9s,mb4.8,baz=279,slow=27,SNR=9.2								
JNU					LR	LR	17 01 23.5		
	comp=Z,2μm,22.0s,MS4.4,baz=88,slow=35								
BILL	**Bilibino**	**22.19**	**13**	⇑	*e*P	**P**	**16 53 22.7**	**-1.1**	
BILL					pmax	pmax			
	comp=Z,40nm,1.7s,mb4.6								
BILL	**Bilibino**	**22.19**	**13**	*e*P		**P**	**16 53 20.5**	**-3.3**	
	comp=Z,31nm,1.2s,mb4.6								
BOD	**Bodaibo**	**26.12**	**309**	*e*P		**P**	**16 53 58.9**	**-2.4**	
BOD					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.0								
SSE	**Sheshan**	**29.41**	**249**		P	**P**	**16 54 30.9**	**+0.1**	
SSE					AP	pP	16 54 34.1	-5.7	
SSE					S	**S**	**16 59 23.1**	**+0.4**	
SSE					XS	sS	16 59 28.9	-8.7	
SSE					AMB	AMB			
	comp=Z,25nm,0.8s,mb5.0								
SSE					AMB	AMB			
	comp=Z,558nm,4.1s								
SSE					LR	LR			
	comp=N,239nm,16.4s,MS4.0								
SSE					LR	LR			
	comp=E,176nm,16.4s,MS4.0								
SSE					LR	LR			
	comp=Z,329nm,15.8s,MS4.1								
SSE	**Sheshan**	**29.41**	**249**		P	**P**	**16 54 30.9**	**+0.1**	
	comp=Z,25nm,0.8s,mb5.0								
SSE					pP	pP	16 54 34.1	-5.7	
SSE					S	**S**	**16 59 23.1**	**+0.4**	
SSE					sS	sS	16 59 28.9	-8.7	
SSE					LR	LR			
	comp=Z,330nm,15.8s,MS4.1								
NJ2	**Nanjing**	**30.31**	**253**	*e*P		**P**	**16 54 39.8**	**+1.1**	
NJ2					AP	pP	16 54 43.1	-4.6	
NJ2					XP	sP	16 54 47.3	-4.2	
NJ2					PP	PP	16 55 37.9	-9.4	
NJ2					S	**S**	**16 59 36.5**	**-0.2**	
NJ2					XS	sS	16 59 44.5	-7.1	
NJ2					LR	LR			
	comp=N,1μm,14.2s,MS4.9								
NJ2					LR	LR			
	comp=E,2μm,13.4s,MS4.9								
NJ2					LR	LR			
	comp=Z,340nm,16.4s,MS4.1								
HHC	**Hu-ho-hao-te**	**30.57**	**274**	*e*P		**P**	**16 54 39.9**	**-1.0**	
HHC					AP	pP	16 54 45.0	-5.0	
HHC					XP	sP	16 54 46.5	-7.3	
HHC					PCP	PcP	16 57 39.4	+0.3	
HHC					S	**S**	**16 59 39.4**	**-1.3**	
HHC					SS	SS	17 01 18.9	-33	
HHC					SCP	ScP	17 01 20.8	+1.4	
HHC					SCS	ScS	17 05 14.6	-1.0	
HHC					AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.5								
HHC					AMB	AMB			
	comp=Z,201nm,7.0s								
HHC					LR	LR			
	comp

SONM Songino Array 31.55 289 P **P** **16 54 49.3 -0.4**
comp=Z,3.1nm,1.1s,mb4.0,baz=68,slow=6.5,SNR=8.0
SONM LR LR 17 08 36.1
comp=Z,1μm,18.5s,MS4.5,baz=52,slow=38
ZAK Zakamensk 32.88 295 *e*P **P** **16 55 01.4 +0.1**
IMA2 Indian Mountai 33.52 36 *e*P **P** **16 55 06.3 -0.6**
KDAK Kodiak Island 33.80 51 LR LR 17 08 38.0
comp=Z,580nm,21.8s,MS4.3,baz=262,slow=36
GUMO Guam 33.98 195 LR LR 17 06 28.5
comp=Z,214nm,21.5s,MS3.8,baz=248,slow=32
MCK McKinley 35.36 40 *e*P **P** **16 55 22.0 -0.8**
MCK pmax pmax
comp=Z,17nm,1.2s,mb4.8
MCK McKinley 35.36 40 *e*P **P** **16 55 22.0 -0.8**
comp=Z,17nm,1.2s,mb4.8
SML Sawmill 35.67 44 P **P** **16 55 22.5 -3.0**
XAN Xi'an 35.81 265 P **P** **16 55 26.3 -0.4**
XAN AP pP 16 55 36.8 +1.0
XAN S **S** **17 01 06.3 +4.2**
XAN AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
XAN LR LR
comp=N,232nm,16.8s,MS4.2
XAN LR LR
comp=E,238nm,14.8s,MS4.2
XAN LR LR
comp=Z,656nm,16.2s,MS4.5
COLA College 35.85 38*c*e**P** **P** **16 55 25.8 -1.2**
COLA College 35.85 38 *e*P **P** **16 55 26.7 -0.3**
comp=Z,39nm,0.9s,mb5.3
DIV Divide 36.95 45 *e*P **P** **16 55 36.0 -0.4**
comp=Z,88nm,1.0s,mb5.5
DIV *e* 16 55 48.2
LZH Lanzhou 38.17 272 *e*P **P** **16 55 48.0 +1.3**
LZH AP pP 16 55 50.0 -5.9
LZH PP PP 16 57 20.8 +6.6
LZH PCP PcP 16 58 02.6 +1.6
LZH *e*S **S** **17 01 36.0 -2.0**
LZH SS SS 17 04 16.0 -10
LZH AMB AMB
comp=Z,23nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,128nm,4.3s
LZH LR LR
comp=E,756nm,15.5s
LZH LR LR
comp=Z,965nm,18.7s,MS4.6
LZH Lanzhou 38.17 272 *e*P **P** **16 55 48.0 +1.3**
LZH 16 57 20.7
LZH 16 58 02.6
LZH *e*S **S** **17 01 36.0 -2.0**
LZH SS SS 17 04 16.0 -10
LZH pmax pmax
comp=Z,23nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,970nm,18.7s,MS4.6
LZH Lanzhou 38.17 272 *e*P **P** **16 55 48.0 +1.3**
comp=Z,23nm,1.0s,mb4.9
LZH pP pP 16 55 50.0 -5.9
LZH sP sP 16 55 51.0 -8.6
LZH PP PP 16 57 20.7 +6.5
LZH PcP PcP 16 58 02.6 +1.6
LZH *e*S **S** **17 01 36.0 -2.0**
LZH sS sS 17 01 41.0 -12
LZH SS SS 17 04 16.0 -10
LZH LR LR
comp=Z,970nm,18.7s,MS4.6
EGAK Eagle 38.71 38 *e*P **P** **16 55 49.9 -1.4**
comp=Z,54nm,1.3s,mb5.1
GTA Gaotai 39.23 279 *e*P **P** **16 55 56.9 +1.3**
GTA AP pP 16 56 01.4 -3.4
GTA XP sP 16 56 04.6 -3.9
GTA PP PP 16 57 29.8 +4.0
GTA S **S** **17 01 55.6 +1.6**
GTA SS SS 17 04 38.3 -9.4
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb3.8
GTA AMB AMB
comp=Z,87nm,5.7s
GTA LR LR
comp=N,320nm,16.0s,MS4.5
GTA LR LR
comp=E,480nm,14.8s,MS4.5
GTA LR LR
comp=Z,389nm,13.3s,MS4.4
DAWY Dawson 39.55 39 P **P** **16 55 59.4 +1.1**
CD2 Chengdu 41.17 265 P **P** **16 56 10.4 -1.3**
CD2 AP pP 16 56 14.9 -6.0
CD2 XP sP 16 56 17.6 -7.1
CD2 PP PP 16 57 48.9 +1.9
CD2 S **S** **17 02 23.3 +0.3**
CD2 SS SS 17 05 21.5 -5.0
CD2 AMB AMB
comp=Z,40nm,1.3s,mb4.9
CD2 AMB AMB
comp=Z,80nm,5.2s
CD2 LR LR
comp=N,420nm,9.6s
CD2 LR LR
comp=E,300nm,15.6s
CD2 LR LR
comp=Z,540nm,13.2s,MS4.6
INK Inuvik 41.38 33 P **P** **16 56 13.4 0.0**
comp=Z,9.7nm,0.4s,mb4.8,baz=278,slow=6.4,SNR=99
INK Inuvik 41.38 33 *e*P **P** **16 56 13.1 -0.3**
comp=Z,400nm,0.6s
GYA Guiyang 42.02 258⇑ *i*P **P** **16 56 19.0 +0.3**
GYA AP pP 16 56 23.4 -4.5
GYA XP sP 16 56 26.3 -5.3
GYA PP PP 16 57 59.8 +3.6
GYA PCP PcP 16 58 15.6 +2.3
GYA SCP ScP 17 02 04.8 +3.4
GYA S **S** **17 02 38.0 +2.4**
GYA SCS ScS 17 06 20.5 +1.7
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,540nm,16.4s,MS4.6
GYA LR LR
comp=E,480nm,16.8s,MS4.6
GYA LR LR
comp=Z,510nm,17.0s,MS4.5
ZAL Zalesovo 42.77 306 P **P** **16 56 22.4 -2.4**
comp=Z,1.8nm,0.3s,mb4.2,baz=53,slow=5.7,SNR=5.2
ZAL PcP PcP 16 58 14.3 -1.5
comp=Z,1.6nm,0.9s,baz=61,slow=4.7,SNR=7.3
ZAL LR LR 17 16 03.8
comp=Z,1μm,18.6s,MS4.8,baz=42,slow=39
ZAL Zalesovo 42.77 306 P **P** **16 56 22.4 -2.4**
ZAL 16 58 14.3
NVS Novosibirsk 43.33 307 *e*P **P** **16 56 27.4 -1.9**
WMQ Urumqi 45.14 291⇑ P **P** **16 56 43.5 -0.3**
WMQ AP pP 16 56 48.0 -5.1
WMQ XP sP 16 56 49.5 -7.3
WMQ PCP PcP 16 58 24.5 +0.7
WMQ PP PP 16 58 29.8 +0.3
WMQ PPP 16 59 10.5
WMQ SCP ScP 17 02 15.6 +1.5
WMQ S **S** **17 03 21.1 -0.1**
WMQ AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,351nm,7.0s
WMQ LR LR
comp=N,330nm,18.3s,MS4.4
WMQ LR LR
comp=E,237nm,21.6s,MS4.4
WMQ LR LR
comp=Z,489nm,19.3s,MS4.5
QIZ Qiongzhong 45.16 247 P **P** **16 56 41.3 -2.7**
QIZ S **S** **17 03 24.1 +2.6**
QIZ SS SS 17 06 35.9 -8.7
QIZ AMB AMB
comp=Z,117nm,6.6s
QIZ LR LR
comp=N,195nm,19.0s
QIZ LR LR
comp=Z,260nm,21.5s,MS4.1
KMI Kunming 45.55 260 P **P** **16 56 45.9 -1.1**
KMI AMB AMB
comp=Z,14nm,1.1s,mb4.8
KMI LR LR
comp=N,232nm,15.2s,MS4.4
KMI LR LR
comp=E,269nm,18.2s,MS4.4
KMI LR LR
comp=Z,252nm,18.2s,MS4.2
KMI Kunming 45.55 260 P **P** **16 56 45.9 -1.1**
comp=Z,14nm,1.1s,mb4.8
KMI LR LR
comp=Z,250nm,18.2s,MS4.2
MK31 Makanchi Array 47.13 297 *e*P **P** **16 56 58.8 -0.6**
MKAR Makanchi Array 47.13 297 P **P** **16 56 58.6 -0.8**
comp=Z,1.2nm,0.5s,mb4.1,baz=65,slow=6.6,SNR=16
MKAR PcP PcP 16 58 29.9 -1.0
comp=Z,0.5nm,0.4s,baz=96,slow=1.6,SNR=2.9
MKAR LR LR 17 17 58.0
comp=Z,674nm,18.6s,MS4.6,baz=237,slow=38
MKAR Makanchi Array 47.13 297 P **P** **16 56 58.7 -0.7**
MKAR 16 58 29.9
MKAR Makanchi Array 47.13 297 P **P** **16 56 58.6 -0.8**
MKAR PcP PcP 16 58 29.9 -1.0
MKAR LR LR 17 17 58.0
LSA Lhasa 50.55 273 P **P** **16 57 28.0 +2.4**
RES Resolute Bay 50.61 19 *e*P **P** **16 57 25.1 -1.0**
comp=Z,627nm,1.0s
YKA Yellowknife Ar 50.64 37 P **P** **16 57 25.8 -0.5**
comp=Z,7.7nm,0.8s,mb4.7,baz=296,slow=7.4,SNR=9.3
YKA Yellowknife Ar 50.64 37 P **P** **16 57 25.8 -0.5**
BVAR Borovoye Array 50.99 309 P **P** **16 57 27.4 -1.5**
comp=Z,1.6nm,0.4s,mb4.3,baz=55,slow=8.2,SNR=12
BVAR PcP PcP 16 58 42.8 -2.0
comp=Z,0.9nm,0.5s,baz=64,slow=6.6,SNR=2.3
BRVK Borovoye 51.03 310 *e*P **P** **16 57 28.6 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 51.03 310 *e*P **P** **16 57 28.6 -0.7**
comp=Z,3.8nm,0.7s,mb4.4
NANT Nan 51.27 255⇑ P **P** **16 57 29.0 -2.0**
comp=Z,81nm,1.0s,mb5.6
CHTO Chiang Mai 52.43 257 *e*P **P** **16 57 40.8 +1.1**
CHTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CHTO Chiang Mai 52.43 257 *e*P **P** **16 57 40.8 +1.1**
comp=Z,6.7nm,0.6s,mb4.8
SHL Shillong 52.66 269 *e*P **P** **16 57 41.4 0.0**
A07A Ashnola River, 54.63 54⇓ P **P** **16 57 55.4 -0.5**
baz=54
KSH Kashi 54.86 293 *e*P **P** **16 58 02.3 +4.8**
KSH *e*AP pP 16 58 06.9 -0.1
KSH *e*XP sP 16 58 09.9 -0.8
KSH *e*PCP PcP 16 59 02.3 +2.9
KSH *e*PP PP 17 00 07.5 +7.0
KSH *e*PPP 17 01 20.8
KSH *e*SCP ScP 17 02 58.8 +3.1
KSH *e*S **S** **17 05 44.3 +7.6**
KSH *e*XS sS 17 05 53.8 +1.5
KSH *e*PS 17 06 04.4
KSH *e*SCS ScS 17 07 47.5 +3.1
KSH LR LR
comp=Z,1μm,7.8s
ARU Arti 55.10 318⇓ *i*P **P** **16 57 57.6 -1.7**
ARU *e*S **S** **17 05 40.6 +0.7**
ARU pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
ARU Arti 55.10 318 *e*P **P** **16 57 57.4 -1.9**
comp=Z,5.6nm,0.4s,mb5.0
B07A Winthrop 55.10 54⇓ P **P** **16 57 58.7 -0.6**
baz=55
JIRN Jiri 55.22 275 *e*P **P** **16 58 01.3 +1.2**
comp=Z,15nm,0.4s,mb5.3
E05A Randle 55.23 57⇓ P **P** **16 57 59.9 -0.3**
baz=55
GUN Gumba 55.27 275 *e*P **P** **16 58 01.5 +1.0**
comp=Z,19nm,0.4s,mb5.5
A08A Turner Farm, O 55.30 53⇓ P **P** **16 58 00.3 -0.4**
baz=55
C07A Waterville 55.56 55⇓ P **P** **16 58 02.2 -0.4**
baz=55
B08A Colville Reser 55.59 54⇑ P **P** **16 58 02.6 -0.2**
baz=55
A09A Danville 55.66 53⇓ P **P** **16 58 03.1 -0.2**
baz=55
KKN Kakani 55.76 275 *e*P **P** **16 58 04.9 +0.9**
comp=Z,26nm,0.6s,mb5.4
PKI Pulchoki 55.81 275 *e*P **P** **16 58 05.3 +1.0**
J02A Umpqua 55.96 61⇓ P **P** **16 58 05.4 0.0**
baz=56
DMN Daman 55.99 275 *e*P **P** **16 58 06.7 +1.0**
comp=Z,53nm,1.0s,mb5.5
EDM Edmonton 56.01 46 *e*P **P** **16 58 04.0 -1.8**
H04A Detroit Lake 56.03 59⇓ P **P** **16 58 06.3 +0.3**
baz=56
GKN Gorkha 56.06 276 *e*P **P** **16 58 07.1 +0.9**
comp=Z,21nm,0.4s,mb5.5
C08A Higginbotham F 56.08 54⇑ P **P** **16 58 06.3 0.0**
baz=56
G05A Wamic 56.23 58⇑ P **P** **16 58 07.8 +0.4**
baz=56
F06A Goldendale 56.24 57⇑ P **P** **16 58 07.9 +0.5**
baz=56
E07A Sunnyside 56.32 56⇑ P **P** **16 58 08.2 +0.2**
baz=56
J03A Ideyld Park 56.32 61⇓ P **P** **16 58 08.5 +0.4**
baz=56
K02A Glendale 56.36 61⇓ P **P** **16 58 08.7 +0.5**
baz=56
I04A Tendick Farm, 56.41 60⇑ P **P** **16 58 09.1 +0.5**
baz=56
C09A Chrisman Ranch 56.50 54⇓ P **P** **16 58 09.4 +0.2**
baz=56
D08A Wollman Farm, 56.56 55⇑ P **P** **16 58 10.0 +0.3**
baz=56
G06A Carlson Farm, 56.62 58⇑ P **P** **16 58 10.6 +0.4**
baz=56
HUMO Hull Mountain 56.77 61⇑ P **P** **16 58 11.9 +0.7**
baz=57
E08A Dider Farm, El 56.80 56⇓ P **P** **16 58 11.7 +0.2**
baz=57
NEW Newport 56.87 53 P **P** **16 58 10.4 -1.5**
comp=Z,2.6nm,0.8s,mb4.3,baz=287,slow=4.3,SNR=4.3
I05A Bend 56.87 59⇑ P **P** **16 58 12.4 +0.5**
baz=57
A11A Hall Mountain, 56.88 52⇓ P **P** **16 58 12.3 +0.3**
baz=57
D09A Jones Farm, Ri 56.90 55⇑ P **P** **16 58 11.8 -0.3**
baz=57
J04A Umpqua Nationa 56.91 60⇓ P **P** **16 58 12.7 +0.5**
baz=57
KOLN Koldanda 56.91 277 *e*P **P** **16 58 13.4 +1.2**
H06A Lindquist Farm 57.09 58⇓ P **P** **16 58 13.5 +0.1**
baz=57
G07A Ruggs Ranch, H 57.16 57⇓ P **P** **16 58 14.3 +0.3**
baz=57
B11A Sandpoint 57.18 52⇓ P **P** **16 58 14.3 +0.2**
baz=57
KEV Kevo 57.30 341 *e*p **P** **16 58 12.5 -2.5**
E09A Wood Farm, Sta 57.31 55⇑ P **P** **16 58 14.9 -0.1**
baz=57
F08A Pendleton 57.37 56⇑ P **P** **16 58 15.2 -0.2**
baz=57
J05A Fort Rock 57.40 60⇓ P **P** **16 58 16.2 +0.5**
baz=57
YBH Yreka Blue Hor 57.43 62 P **P** **16 58 15.1 -0.8**
comp=Z,12nm,1.1s,mb4.8,baz=235,slow=1.1,SNR=5.8
YBH LR LR 17 18 38.6
comp=Z,189nm,20.4s,MS4.2,baz=325,slow=31
YBH Yreka Blue Hor 57.43 62⇓ P **P** **16 58 16.2 +0.3**
baz=57
M02C Callahan 57.54 62⇑ P **P** **16 58 17.5 +0.8**
baz=57
G08A Pilot Rock 57.56 57⇑ P **P** **16 58 17.2 +0.4**
baz=57
I06A Prineville 57.62 59⇓ P **P** **16 58 18.0 +0.8**
baz=57
L04A Klamath Falls 57.66 61⇑ P **P** **16 58 17.9 +0.4**
baz=57
ARCES ARCESS Array B 57.81 341 P **P** **16 58 16.9 -1.6**
comp=Z,1.8nm,0.5s,mb4.4,baz=19,slow=7.2,SNR=18
ARCES LR LR 17 28 50.1
comp=Z,208nm,20.6s,MS4.2,baz=54,slow=42
E10A Myers Farm, Un 57.91 55⇓ P **P** **16 58 19.4 +0.2**
baz=58
F09A S2 Ranch, Elgi 57.91 56⇑ P **P** **16 58 19.5 +0.3**
baz=58
M04C Macdoel 57.92 61⇓ P **P** **16 58 19.8 +0.5**
baz=58
BOK Bokaro 57.93 271 *e*P **P** **16 58 20.1 +0.7**
BOK AMb AMB 16 58 23.2
comp=Z,15nm,1.4s,mb4.8
K05A Summer Lake 57.93 60⇓ P **P** **16 58 20.1 +0.7**
baz=58,SNR=5.4
I07A Izee 57.95 58⇑ P **P** **16 58 20.1 +0.6**
baz=58
D11A Klaveano Farm, 58.01 54⇑ P **P** **16 58 19.3 -0.6**
baz=58
M03C McCloud 58.05 62⇓ P **P** **16 58 20.3 0.0**
baz=58
J06A Christmas Vall 58.06 59⇑ P **P** **16 58 20.3 0.0**
baz=58
C12A Trout Creek 58.09 53⇓ P **P** **16 58 20.1 -0.4**
baz=58
F10A Beach Ranch, E 58.14 55⇓ P **P** **16 58 21.0 +0.2**
baz=58
H08A Prairie City 58.18 57⇑ P **P** **16 58 21.5 +0.4**
baz=58,SNR=8.0
WDC Whiskeytown Da 58.21 63⇑ P **P** **16 58 21.6 +0.2**
baz=58
B13A Whitefish 58.24 52⇑ P **P** **16 58 21.5 -0.1**
baz=58
K06A Valley Falls 58.27 60⇑ P **P** **16 58 22.5 +0.7**
baz=58,SNR=8.0
O02C Red Bluff 58.30 64⇑ P **P** **16 58 22.6 +0.6**
baz=58
L05A Lakeview 58.37 61⇓ P **P** **16 58 23.0 +0.5**
baz=58
P01C Double 8 Ranch 58.39 64⇓ P **P** **16 58 23.2 +0.6**
baz=58
M05C Lookout 58.59 62⇓ P **P** **16 58 24.4 +0.3**
baz=58
GASB Alder Springs 58.66 64⇓ P **P** **16 58 25.3 +0.8**
baz=58
H09A Durkee 58.67 57⇓ P **P** **16 58 25.1 +0.5**
baz=58
BMO Blue Mountains 58.76 56 *e*P **P** **16 58 25.2 0.0**
comp=Z,19nm,1.5s,mb4.9
MOD Modoc 58.77 61 *e*P **P** **16 58 25.6 +0.4**
comp=Z,5.7nm,1.1s,mb4.5
MOD Modoc 58.77 61⇓ P **P** **16 58 26.0 +0.7**
baz=59,SNR=6.1
F11A Grangeville 58.79 55⇑ P **P** **16 58 25.9 +0.5**
baz=59
AKTK Aktyubinsk 58.84 312 P **P** **16 58 26.0 +0.2**
AKTO Aktyubinsk 58.84 312 P **P** **16 58 26.0 +0.2**
comp=Z,1.0nm,0.6s,mb4.1,baz=79,slow=12,SNR=5.4
K07A Rock Creek Ran 58.93 59⇓ P **P** **16 58 26.9 +0.6**
baz=59,SNR=5.8
J08A Circle Bar Ran 58.98 58⇑ P **P** **16 58 27.3 +0.6**
baz=59
D13A Huson 59.01 53⇑ P **P** **16 58 26.8 -0.1**
baz=59
G11A Walters Elk Ra 59.02 55⇑ P **P** **16 58 27.1 +0.1**
baz=59
I09A Lost Marbles R 59.04 57⇑ P **P** **16 58 27.4 +0.2**
baz=59
M06C Likely Place G 59.09 61⇑ P **P** **16 58 28.0 +0.5**
baz=59
O04C Chester 59.26 62⇑ P **P** **16 58 29.3 +0.7**
baz=59
L07A Adell 59.28 60⇓ P **P** **16 58 29.5 +0.8**
baz=59
MNRC McLaughlin Nat 59.30 65⇑ P **P** **16 58 29.5 +0.6**
baz=59
K08A Mann Creek Ran 59.35 59⇑ P **P** **16 58 29.5 +0.2**
baz=59,SNR=7.1
F12A Elk City 59.38 54⇓ P **P** **16 58 29.5 0.0**
baz=59,SNR=9.2
J09A Fry Pan Ranch, 59.41 58⇓ P **P** **16 58 29.8 +0.1**
baz=59
WVOR Wild Horse Val 59.44 59 *e*P **P** **16 58 30.1 +0.2**
WVOR pmax pmax
comp=Z,16nm,1.1s,mb5.0
WVOR Wild Horse Val 59.44 59 *e*P **P** **16 58 30.1 +0.2**
comp=Z,16nm,1.1s,mb5.0
ORV Oroville 59.47 63⇑ P **P** **16 58 29.8 -0.2**
baz=59
D14A Greenough 59.54 52⇓ P **P** **16 58 30.2 -0.3**
baz=59,SNR=7.1
E13A Victor 59.55 53⇑ P **P** **16 58 30.3 -0.4**
baz=59
O05C Quincy 59.58 63⇓ P **P** **16 58 30.7 -0.1**
baz=59
H11A Donnelly 59.59 56⇑ P **P** **16 58 30.5 -0.4**
baz=59
OHCM Honcut 59.61 64 *e*P **P** **16 58 31.1 0.0**
CVS Carmenet Viney 59.61 65⇓ P **P** **16 58 30.9 -0.2**
baz=59
N06A Buffalo Meadow 59.75 61⇑ P **P** **16 58 32.3 +0.3**
baz=60,SNR=9.0
M07A Soldier Meadow 59.76 60⇓ P **P** **16 58 32.6 +0.5**
baz=60,SNR=13
L08A Fields 59.76 59⇓ P **P** **16 58 32.7 +0.5**
baz=60
K09A Rome 59.82 58⇓ P **P** **16 58 32.8 +0.3**
baz=60,SNR=5.7
F13A Darby 59.87 54 P **P** **16 58 32.9 0.0**
baz=60,SNR=6.1
BEKR Beckwourth 59.97 62⇓ P **P** **16 58 33.3 -0.3**
baz=60,SNR=8.7
O06A Flanigan 60.11 62⇓ P **P** **16 58 34.5 0.0**
baz=60,SNR=5.6
N07B Gerlach 60.25 61⇓ P **P** **16 58 35.8 +0.3**
baz=60
L09A Wilkinson Ranc 60.27 59⇓ P **P** **16 58 36.0 +0.4**
baz=60
JRSC Jasper Ridge 60.33 66⇓ P **P** **16 58 35.9 -0.1**
baz=60
E15A Deer Lodge 60.41 53⇑ P **P** **16 58 36.0 -0.5**
baz=60
LAVA Lava Cap Winer 60.42 64⇑ P **P** **16 58 36.2 -0.4**
baz=60
WENL Wente Brothers 60.49 65⇑ P **P** **16 58 37.0 -0.2**
baz=60
NDI New Delhi 60.65 282 *e*P **P** **16 58 39.2 +1.0**
NDI AMb AMB 16 58 40.5
comp=Z,22nm,1.8s,mb5.0
WCN Washoe City 60.69 63⇑ P **P** **16 58 39.0 +0.5**
baz=60
O07A Toulon 60.69 61⇓ P **P** **16 58 38.6 +0.1**
baz=60,SNR=9.0
N08A GE Springer Mi 60.75 60 P **P** **16 58 39.3 +0.4**
baz=60,SNR=8.0
M09A Marrel Ranch, 60.76 60⇓ P **P** **16 58 39.4 +0.4**
baz=60
S04C Ingram Canyon, 60.83 65⇓ P **P** **16 58 39.4 -0.1**
baz=61
F15A Butte 60.85 53⇓ P **P** **16 58 39.6 0.0**
baz=61,SNR=8.2
R05C Kirkwood Meado 60.86 63⇓ P **P** **16 58 39.7 +0.1**
baz=61
EGMT Eagleton 60.95 50⇑ P **P** **16 58 39.7 -0.6**
baz=61
FCC Fort Churchill 60.99 33 *e*P **P** **16 58 39.9 -0.6**
P07A Fallon 61.07 62⇓ P **P** **16 58 41.3 +0.3**
baz=61
N09A Rock Creek Ran 61.07 60⇓ P **P** **16 58 41.3 +0.2**
baz=61
CMB Columbia Colle 61.09 64⇓ P **P** **16 58 41.3 +0.1**
baz=61,SNR=5.1
PACP Pacheco Peak 61.17 66⇓ P **P** **16 58 41.8 +0.1**
baz=61,SNR=7.5
HLID Hailey 61.20 56 *e*P **P** **16 58 42.1 +0.2**
comp=Z,14nm,1.3s,mb4.9
HLID Hailey 61.20 56⇑ P **P** **16 58 42.0 +0.1**
baz=61,SNR=10
M10A I.L. Ranch, Tu 61.24 59⇑ P **P** **16 58 42.3 +0.1**
baz=61,SNR=7.3
G15A Dillon 61.27 54 P **P** **16 58 42.4 -0.1**
baz=61,SNR=7.6
R06C Coleville 61.36 63⇓ P **P** **16 58 43.6 +0.6**
baz=61,SNR=8.7
HAST UC Hastings Re 61.39 66⇓ P **P** **16 58 43.0 -0.2**
baz=61
BMN Battle Mountai 61.51 60 *e*P **P** **16 58 43.5 -0.5**
BMN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BMN Battle Mountai 61.51 60 *e*P **P** **16 58 43.5 -0.6**
comp=Z,9.3nm,1.0s,mb4.9
S06C San Francisco 61.52 64⇑ P **P** **16 58 44.0 0.0**
baz=61,SNR=12
S05C Merced 61.55 65⇑ P **P** **16 58 44.0 -0.3**
baz=61
O09A Fish Creek Ran 61.70 60⇑ P **P** **16 58 45.7 +0.4**
baz=62,SNR=7.2
M11A Holland Ranch, 61.73 59⇓ P **P** **16 58 46.2 +0.7**
baz=62,SNR=7.6
V03C Hunter Liggett 61.82 66⇑ P **P** **16 58 45.9 -0.2**
baz=62

R07C	Lee Vining	61.88	63	⇑P		P		16 58 47.2	+0.7		
	baz=62,SNR=12										
U04C	Hernandez Rese	61.89	66	⇓P		P		16 58 46.8	+0.2		
	baz=62										
O10A	Cortez Mining,	62.03	60	⇓P		P		16 58 47.9	+0.4		
	baz=62										
QLMT	Earthquake Lak	62.07	53	*e*P		P		16 58 48.4	+0.6		
Q08A	Gabbs	62.07	62	⇓P		P		16 58 48.0	+0.2		
	baz=62,SNR=6.0										
T06C	Millerton Lake	62.15	65	⇓P		P		16 58 48.2	-0.1		
	baz=62										
KCC	Kaiser Creek	62.19	64	P		P		16 58 49.2	+0.6		
	baz=62,SNR=6.3										
M12A	Wells	62.25	58	P		P		16 58 50.0	+0.9		
	baz=62,SNR=10.0										
R08A	Mina	62.29	63	⇓P		P		16 58 49.7	+0.4		
	baz=62										
PKD	Parkfield	62.30	66	⇓P		P		16 58 49.2	-0.2		
	baz=62										
GCMT	Greycliff	62.42	52	*e*P		P		16 58 50.8	+0.7		
P10A	Eureka	62.48	61	⇓P		P		16 58 50.8	+0.3		
	baz=62										
N12A	Clover Valley,	62.54	59	⇑P		P		16 58 51.3	+0.4		
	baz=62,SNR=7.2										
O11A	Cowboy Ranch,	62.63	60	⇑P		P		16 58 51.9	+0.4		
	baz=62										
MTUM	Tungsten Hills	62.64	64	*e*P		P		16 58 51.7	+0.1		
PTRM	Twisselman Ran	62.70	66	P		P		16 58 52.0	+0.1		
M13A	Montello	62.73	58	⇓P		P		16 58 52.4	+0.2		
	baz=62										
HELL	Mitchell Peak,	62.78	65	⇑P		P		16 58 52.1	-0.5		
	baz=63										
S08C	White Mtn Res	62.79	63	⇓P		P		16 58 52.8	+0.2		
	baz=63,SNR=8.4										
R09A	Tonopah	62.99	62	P		P		16 58 54.2	+0.3		
	baz=63,SNR=13										
TPH	Tonopah	63.00	62	*e*P		P		16 58 54.9	+0.9		
TPH					pmax		pmax				
	comp=Z,13nm,1.0s,mb5.0										
TPH	Tonopah	63.00	62	*e*P		P		16 58 54.9	+0.9		
	comp=Z,13nm,1.0s,mb5.0										
N13A	Wendover, West	63.02	58	⇑P		P		16 58 54.2	+0.1		
	baz=63										
TIN	Tinemaha	63.04	64	⇑P		P		16 58 54.8	+0.6		
	baz=63										
SMMC	Simmler	63.05	66	⇑P		P		16 58 54.7	+0.4		
	baz=63										
RRI2	Red Ridge	63.08	55	*e*P		P		16 58 55.5	+0.9		
	comp=Z,35nm,1.4s,mb5.3										
O12A	Currie	63.08	59	⇓P		P		16 58 54.7	+0.2		
	baz=63,SNR=5.9										
S09A	Goldfield	63.22	63	⇓P		P		16 58 55.6	+0.1		
	baz=63,SNR=6.3										
VES	Vestal, Richgr	63.28	65	⇑P		P		16 58 55.2	-0.7		
	baz=63										
REDW	Red Top Meadow	63.33	54	*e*P		P		16 58 57.1	+1.0		
	comp=Z,40nm,1.3s,mb5.4										
R10A	Warm Springs	63.42	62	⇑P		P		16 58 56.6	-0.2		
	baz=63										
PKM	Peak Mountain	63.43	67	⇓P		P		16 58 57.1	+0.3		
	baz=63,SNR=5.0										
Q11A	Duckwater	63.45	61	⇑P		P		16 58 57.1	+0.1		
	baz=63										
P12A	McGill	63.50	60	⇓P		P		16 58 57.2	-0.1		
	baz=63,SNR=6.1										
CWC	Cottonwood Cre	63.52	64	⇓P		P		16 58 57.5	0.0		
	baz=63,SNR=9.6										
GRAC	Grapevine Rang	63.60	63	⇑P		P		16 58 58.1	+0.1		
	baz=63,SNR=5.7										
SPUT	South Promonto	63.75	57	*e*P		P		16 58 55.9	-3.1		
ISA	Isabella	63.78	65	⇓P		P		16 58 58.3	-0.9		
	baz=64,SNR=7.1										
VIS	Vishakhapatnam	63.79	268	*e*P		P		16 59 00.3	+1.0		
TRCR	Troy Canyon	63.81	61	*e*P		P		16 58 60.0	+0.6		
AJM	Ajmer	63.82	281	*e*P		P		16 58 59.7	+0.3		
AJM					AMb		AMB	16 59 02.2			
	comp=Z,23nm,1.3s,mb5.0										
Q12A	Willow Creek R	63.82	60	⇑P		P		16 58 59.6	+0.1		
	baz=64,SNR=6.0										
ARVC	Arvin	63.90	66	⇑P		P		16 58 59.5	-0.5		
	baz=64										
FINES	FINESS Array B	64.03	335	P		P		16 58 58.9	-2.0		
	comp=Z,4.5nm,0.3s,mb4.9,baz=38,slow=6.3,SNR=86										
FINES					LR		LR	17 28 10.1			
	comp=Z,330nm,21.4s,MS4.5,baz=157,slow=37										
HWUT	Hardware Ranch	64.06	56	*e*P		P		16 59 01.0	0.0		
	comp=Z,12nm,1.1s,mb4.8										
BHPL	Bhopal	64.08	277	*e*P		P		16 59 01.6	+0.5		
BHPL					AMb		AMB	16 59 04.2			
	comp=Z,41nm,0.9s,mb5.5										
MPMC	Manual Prospec	64.13	64	⇑P		P		16 59 01.3	-0.2		
	baz=64,SNR=17										
FURC	Furnace Creek,	64.25	63	⇑P		P		16 59 02.4	+0.2		
	baz=64										
DUG	Dugway	64.26	58	*e*P		P		16 59 02.7	+0.4		
DUG					pmax		pmax				
	comp=Z,32nm,1.2s,mb5.2										
DUG	Dugway	64.26	58	*e*P		P		16 59 02.7	+0.3		
	comp=Z,32nm,1.2s,mb5.2										
DUG	Dugway	64.26	58	⇓P		P		16 59 02.4	+0.1		
	baz=64,SNR=14										
OSI	Osito Adit	64.30	66	⇓P		P		16 59 02.5	0.0		
	baz=64										
NGP	Nagpur	64.38	274	*ex*		x		16 58 59.7			
NGP					AMb		AMB	16 59 15.8			
	comp=Z,24nm,1.2s,mb5.1										
LRMC	Laurel Mountai	64.38	65	P		P		16 59 03.1	-0.1		
	baz=64,SNR=9.9										
PDAR	Pinedale Array	64.44	54	P		P		16 59 03.8	+0.3		
	comp=Z,6.8nm,1.0s,mb4.6,baz=302,slow=2.8,SNR=33										
EDW2	Edwards Air Fo	64.58	65	⇓P		P		16 59 04.2	-0.2		
	baz=64,SNR=16										
U10A	Ash Meadows, A	64.61	63	⇓P		P		16 59 04.9	+0.3		
	baz=64,SNR=9.8										
DECC	Green Verdugo	64.78	66	⇓P		P		16 59 05.4	-0.3		
	baz=65										
NLU	North Lily Min	64.85	58	*e*P		P		16 59 06.8	+0.6		
GSC	Goldstone	65.05	64	*e*P		P		16 59 07.3	-0.1		
GSC	Goldstone	65.05	64	⇑P		P		16 59 07.2	-0.2		
	baz=65,SNR=8.7										
BFSC	Mount Baldy St	65.21	66	⇑P		P		16 59 08.2	-0.3		
	baz=65,SNR=5.5										
CIS	Catalina Islan	65.28	67	⇓P		P		16 59 08.6	-0.4		
	baz=65										
OBN	Obninsk	65.35	326	⇑*i*P		P		16 59 07.9	-1.5		
OBN				*e*				16 59 39.1			
OBN					pmax		pmax				
	comp=Z,29nm,1.2s,mb5.2										
ARUT	Antelope Range	65.46	60	*e*P		P		16 59 10.7	+0.6		
TUQ	Turquoise Mtn.	65.50	64	P		P		16 59 10.6	+0.2		
	baz=65,SNR=19										
V11A	Goodsprings	65.54	63	⇓P		P		16 59 10.8	+0.2		
	baz=65										
HEC	Hector,Ludlow	65.65	65	⇑P		P		16 59 11.1	-0.3		
	baz=65,SNR=10										
BBRC	Big Bear Sol-O	65.65	65	⇑P		P		16 59 11.3	-0.1		
	baz=66										
U12A	Valley of Fire	65.69	62	⇑P		P		16 59 11.6	-0.1		
	baz=66										
MSU	Marysvale	65.73	59	*e*P		P		16 59 12.3	+0.4		
TMUT	Trail Mountain	65.78	58	*e*P		P		16 59 12.9	+0.7		
MURC	Murrieta	65.92	66	⇓P		P		16 59 12.6	-0.5		
	baz=66										
V12A	Nelson	65.97	63	⇓P		P		16 59 13.5	+0.1		
	baz=66,SNR=7.3										
ULM	Lac du Bonnet	66.23	41	P		P		16 59 14.0	-1.1		
	comp=Z,1.1nm,0.6s,mb4.1,baz=285,slow=12,SNR=2.2										
W12A	Cal Nev Ari	66.24	63	⇓P		P		16 59 14.7	-0.4		
	baz=66										
SRU	San Rafael	66.30	58	*e*P		P		16 59 15.5	-0.1		
SRU					pmax		pmax				
	comp=Z,24nm,1.0s,mb5.2										
SRU	San Rafael	66.30	58	*e*P		P		16 59 15.5	-0.1		
	comp=Z,24nm,1.0s,mb5.2										
PFO	Pinyon Flat Ob	66.38	66	⇑P		P		16 59 15.6	-0.4		
	baz=66										
BELC	Belle Mtn.	66.40	65	P		P		16 59 15.8	-0.3		
	baz=66,SNR=7.5										
109C	Camp Elliot, M	66.44	67	⇓P		P		16 59 16.4	-0.1		
	baz=66										
IRM	Iron Mountain	66.82	64	⇑P		P		16 59 18.7	-0.1		
	baz=67,SNR=18										
BC3	Big Chuckw Mtn	66.97	65	⇓P		P		16 59 19.2	-0.6		
	baz=67,SNR=7.9										
W13A	Hualapai Mount	66.97	63	⇓P		P		16 59 19.5	-0.3		
	baz=67,SNR=5.1										
SWSC	Sam W. Stewart	67.23	66	⇓P		P		16 59 20.5	-1.0		
	baz=67										
HYB	Hyderabad	67.28	271	*i* P		P		16 59 26.0	+4.2		
X13A	Yucca	67.34	63	P		P		16 59 22.2	+0.1		
	baz=67,SNR=13										
PDMCI	Parker Dam,Lak	67.35	64	⇓P		P		16 59 21.7	-0.5		
	baz=67,SNR=8.4										
W14A	Seligman	67.39	62	⇑P		P		16 59 22.7	+0.3		
	baz=67,SNR=18										
Y12C	Blythe	67.48	64	⇑P		P		16 59 22.8	-0.3		
	baz=67										
PV10	Paradox Valley	67.66	57	*e*P		P		16 59 24.5	+0.3		
GLA	Glamis	67.76	65	*e*P		P		16 59 24.6	-0.2		
GLA	Glamis	67.76	65	P		P		16 59 25.0	+0.2		
	baz=68,SNR=9.5										
Y13A	Salome	67.87	64	⇑P		P		16 59 25.5	0.0		
	baz=68										
W15A	Williams	67.90	62	⇓P		P		16 59 26.3	+0.6		
	baz=68										
X14A	Yava	68.00	63	⇑P		P		16 59 26.8	+0.5		
	baz=68,SNR=10										
PV01	Paradox Valley	68.09	57	*e*P		P		16 59 27.4	+0.5		
NB2	NORSAR Subarra	68.19	341	P		P		16 59 25.9	-1.6		
	comp=Z,0.8nm,0.6s,mb3.9,baz=30,slow=6.5										
NOA	NORSAR Array B	68.19	341	P		P		16 59 26.1	-1.4		
	comp=Z,10nm,1.0s,mb4.8,baz=26,slow=6.4,SNR=8.7										
NOA					LR		LR	17 35 15.5			
	comp=Z,144nm,19.0s,MS4.2,baz=10.0,slow=41										
WUAZ	Wupatki	68.21	61	⇑P		P		16 59 27.9	+0.2		
	baz=68,SNR=5.6										
Y14A	Wickenburg	68.29	63	P		P		16 59 28.4	+0.2		
	baz=68,SNR=7.0										
X15A	Humboldt	68.39	62	⇓P		P		16 59 29.1	+0.3		
	baz=68,SNR=8.8										
ISCO	Idaho Springs	68.63	54	*e*P		P		16 59 30.2	-0.1		
ISCO					pmax		pmax				
	comp=Z,13nm,1.3s,mb4.7										
ISCO	Idaho Springs	68.63	54	*e*P		P		16 59 30.2	0.0		
	comp=Z,14nm,1.3s,mb4.7										
Z14A	Wintersburg	68.72	64	⇑P		P		16 59 30.7	-0.1		
	baz=68										
WRAB	Tennant Creek	68.73	199	⇓*e*P		P		16 59 26.9	-4.0		
WB2	Warramunga Arr	68.73	199	*e*P		P		16 59 30.8	-0.1		
WRA	Warramunga Arr	68.74	199	P		P		16 59 30.3	-0.7		
	comp=Z,3.4nm,1.0s,mb4.2,baz=17,slow=6.5,SNR=12										
MVCO	Mesa Verde	68.76	58	*e*P		P		16 59 30.4	-0.7		
	comp=Z,30nm,1.4s,mb5.0										
MVCO	Mesa Verde	68.76	58	⇓P		P		16 59 31.3	+0.2		
	baz=68,SNR=8.1										
FITZ	Fitzroy Crossi	69.40	208	*e*P		P		16 59 35.4	+0.4		
	comp=Z,9.5nm,1.0s,mb4.7										
115A	Sonoran Desert	69.61	64	⇑P		P		16 59 36.6	+0.3		
	baz=69										
116A	Eloy	70.02	64	⇓P		P		16 59 38.9	0.0		
	baz=70										
KAD	Karad	70.34	275	*e*P		P		16 59 41.3	+0.5		
KAD					AMb		AMB	16 59 45.7			
	comp=Z,16nm,1.3s,mb4.8										
ECSD	EROS,Sioux Fal	70.58	46	*e*P		P		16 59 41.4	-1.0		
	comp=Z,9.2nm,1.0s,mb4.7										
ECSD				*e*				16 59 55.1			
TUC	Tucson	70.76	63	*e*P		P		16 59 42.8	-0.6		
TUC					pmax		pmax				
	comp=Z,11nm,1.2s,mb4.7										
TUC	Tucson	70.76	63	*e*P		P		16 59 42.8	-0.6		
	comp=Z,11nm,1.2s,mb4.7										
KIV	Kislovodsk	70.90	314	⇓*e*P		P		16 59 44.7	+0.4		
KIV					pmax		pmax				
	comp=Z,10.0nm,1.2s,mb4.6										
LAZ	Ladron	71.50	59	*e*P		P		16 59 48.6	+0.7		
ANMO	Albuquerque	71.52	59	*i* P		P		16 59 47.9	-0.1		
AKASG	Malin Array Be	71.59	326	P		P		16 59 46.2	-2.1		
	comp=Z,4.3nm,0.4s,mb4.7,baz=33,slow=6.1,SNR=22										
AKASG					LR		LR	17 32 57.5			
	comp=Z,274nm,19.4s,MS4.5,baz=300,slow=37										
AKBB	Malin Array Si	71.59	326	*e*P		P		16 59 46.0	-2.4		
KIEV	Kiev	71.60	326	*e*P		P		16 59 46.0	-2.5		
KIEV					pmax		pmax				
	comp=Z,7.0nm,0.6s,mb4.8										
KIEV	Kiev	71.60	326	*e*P		P		16 59 46.0	-2.5		
	comp=Z,6.8nm,0.6s,mb4.8										
AS31	Alice Springs	72.43	199	*e*P		P		16 59 54.1	+0.7		
ASAR	Alice Springs	72.43	199	P		P		16 59 54.0	+0.5		
	comp=Z,4.3nm,0.7s,mb4.5,baz=12,slow=5.8,SNR=51										
GNI	Garni	72.66	311	⇑*e*P		P		16 59 57.1	+2.3		
GNI					pmax		pmax				
	comp=Z,10.0nm,1.3s										
SCHQ	Schefferville	73.07	23	P		P		16 59 55.6	-1.6		
	comp=Z,3.6nm,0.8s,mb4.4,baz=325,slow=10,SNR=3.3										
SCHQ					LR		LR	17 36 40.0			
	comp=Z,152nm,18.8s,MS4.3,baz=143,slow=40										
AMTX	Amarillo	74.31	56	*e*P		P		17 00 03.9	-0.6		
	comp=Z,31nm,1.1s,mb5.2										
STHS	Stebnicka Huta	75.54	330	*e*P		P		17 00 11.6	0.0		
STHS					pmax		pmax				
	comp=Z,8.0nm,0.8s,mb4.7										
STHS	Stebnicka Huta	75.54	330	*e*P		P		17 00 11.6	0.0		
	comp=Z,8.0nm,0.8s,mb4.7										
KOLS	Kolonicke sedl	75.59	329	*e*P		P		17 00 10.7	-1.2		
BURAR	Bucovina Array	75.63	327	⇑*i*P		P		17 00 10.8	-1.3		
WMOK	Wichita Mounta	76.05	54	*e*P		P		17 00 13.6	-0.9		
WMOK					pmax		pmax				
	comp=Z,11nm,1.1s,mb4.7										
WMOK	Wichita Mounta	76.05	54	*e*P		P		17 00 13.6	-0.9		
	comp=Z,11nm,1.1s,mb4.7										
CLL	Collm	76.45	336	*e*P		P		17 00 16.0	-0.8		
CLL				*i*		pP		17 00 27.2	+0.6		
CLL					pmax		pmax				
	comp=Z,17nm,1.4s,mb4.8										
CLL	Collm	76.45	336	*e*P		P		17 00 16.0	-0.8		
	comp=Z,17nm,1.4s,mb4.8										
CLL				*i* PcP		PcP		17 00 27.2	-1.2		
	comp=Z,29nm,1.2s										
KECS	Kecovo	76.59	330	*e*P		P		17 00 17.2	-0.4		
	comp=Z,2.2nm,1.0s,mb4.0										
MLR	Muntele Rosu	77.11	325	⇑*i*P		P		17 00 20.9	+0.4		
VYHS	Vyhne	77.14	331	*e*P		P		17 00 18.6	-2.1		
LTX	Lajitas	77.18	61	*e*P		P		17 00 20.6	-0.3		
LTX					pmax		pmax				
	comp=Z,18nm,0.8s,mb5.0										
LTX	Lajitas	77.18	61	*e*P		P		17 00 20.6	-0.3		
	comp=Z,18nm,0.8s,mb5.0										
TXAR	Lajitas Array	77.18	61	P		P		17 00 20.9	-0.1		
	comp=Z,7.0nm,0.4s,mb4.9,baz=301,slow=5.0,SNR=137										
MALT	Malatya	77.27	313	*e*P		P		17 00 22.0	+0.6		
MALT					pmax		pmax				
	comp=Z,5.0nm,0.9s,mb4.4										
MALT	Malatya	77.27	313	*e*P		P		17 00 21.9	+0.6		
	comp=Z,5.4nm,0.9s,mb4.5										
VOIR		77.51	326	⇑*i*P		P		17 00 22.5	-0.2		
KHC	Kasperske Hory	78.23	334	⇓*e*P		P		17 00 25.3	-1.5		
GRA1	Grafenberg Arr	78.41	336	*e*P		P		17 00 30.0	+2.3		
	comp=Z,10.0nm,0.8s,mb4.8										
GRF	Grafenberg Arr	78.41	336	*e*P		P		17 00 30.0	+2.3		
	comp=Z,10.0nm,0.8s,mb4.8										
GRF	Grafenberg Arr	78.41	336	*e*P		P		17 00 30.0	+2.3		
GRF					pmax		pmax				
	comp=Z,10.0nm,0.8s,mb4.8										
GZR	Gura Zlata	78.41	327	⇑*i*P		P		17 00 27.0	-0.8		
GERES	GERESS Array B	78.45	334	P		P		17 00 26.4	-1.6		
	comp=Z,0.4nm,0.6s,baz=38,slow=6.5,SNR=3.5										
GERES					LR		LR	17 44 18.0			
	comp=Z,223nm,18.0s,MS4.5,baz=89,slow=43										
BR131	Keskin Array S	78.48	317	*e*P		P		17 00 27.9	-0.2		
	comp=Z,1.1nm,0.4s,mb4.1										
BRTR	Keskin Array B	78.48	317	P		P		17 00 28.2	+0.1		
	comp=Z,4.3nm,0.9s,mb4.4,baz=70,slow=4.1,SNR=16										
CONA	Conrad Observa	78.60	332	⇑*i*P		P		17 00 27.5	-1.4		
	comp=Z,7.6nm,1.0s,mb4.6										
JCT	Junction City	78.61	58	*e*P		P		17 00 28.6	-0.3		
JCT					pmax		pmax				
	comp=Z,42nm,1.5s,mb5.2										
JCT	Junction City	78.61	58	*e*P		P		17 00 28.6	-0.2		
	comp=Z,42nm,1.5s,mb5.2										
MIAR	Mount Ida	79.02	51	*e*P		P		17 00 29.8	-1.3		
MIAR					pmax		pmax				
	comp=Z,55nm,1.8s,mb5.2										
MIAR	Mount Ida	79.02	51	*e*P		P		17 00 29.8	-1.4		
	comp=Z,55nm,1.8s,mb5.2										
STKA	Stephens Creek	79.14	190	P		P		17 00 30.8	-1.0		
	comp=Z,2.0nm,1.0s,mb4.0,baz=232,slow=4.5,SNR=3.0										
ARSA	Arzberg	79.31	332	⇑*e*P		P		17 00 30.0	-2.7		
	comp=Z,7.6nm,1.3s,mb4.5										
KBA	Koelnbreinsper	80.14	334	⇑*i*P		P		17 00 37.5	+0.3		
	comp=Z,2.2nm,0.5s,mb4.3										
KBA	Koelnbreinsper	80.14	334	⇑*i*		P		17 00 39.7	+2.5		
	comp=Z,14nm,0.8s,mb5.0										
KBA	Koelnbreinsper	80.14	334	P		P		17 00 37.5	+0.3		
KBA				*e*				17 00 39.7			
WTTA	Wattenberg	80.48	335	⇑*i*P		P		17 00 39.7	+0.7		
	comp=Z,16nm,1.0s,mb4.9										
MOTA	Moosalm	80.57	335	⇑*i*P		P		17 00 38.6	-0.9		
	comp=Z,22nm,1.1s,mb5.0										
CDF	Champ du Feu	80.63	338	*e*P		P		17 00 41.1	+1.2		
	comp=Z,59nm,1.4s,mb5.0										
CDF	Champ du Feu	80.63	338	*e*P		P		17 00 41.1	+1.2		
CDF					pmax		pmax				
	comp=Z,30nm,1.4s,mb5.0										
CDF	Champ du Feu	80.63	338	*e*P		P		17 00 41.1	+1.2		
	comp=Z,30nm,1.4s,mb5.0										
SQTA	Sankt Quirin	80.65	335	⇑*i*P		P		17 00 38.6	-1.3		
	comp=Z,3.8nm,0.6s,mb4.5										
DAVA	Damuels	80.97	336	⇑*i*P		P		17 00 37.0	-4.6		
	comp=Z,7.4nm,1.1s,mb4.5										
PPT	Papeete	82.01	126	*e*LR		LR		17 25 51.2			
	comp=Z,248nm,21.5s,baz=325										
PPT				*e*LR		LR		17 25 51.2			
	comp=Z,248nm,21.5s,baz=325										
PPT	Papeete	82.01	126	LR		LR		17 30 22.3			
	comp=Z,200nm,20.1s,MS4.5,baz=305,slow=30										
GRR	Gorron	82.52	343	*e*P		P		17 00 51.1	+1.3		
	comp=Z,143nm,1.5s,mb5.5										
GRR	Gorron	82.52	343	*e*P		P		17 00 51.1	+1.3		
GRR					pmax		pmax				
	comp=Z,72nm,1.5s,mb5.5										
GRR	Gorron	82.52	343	*e*P		P		17 00 51.1	+1.3		
	comp=Z,72nm,1.5s,mb5.5										
SMF	Signal de Mont	83.13	339	*e*P		P		17 00 54.5	+1.5		
	comp=Z,50nm,1.2s,mb5.1										
SMF	Signal de Mont	83.13	339	*e*P		P		17 00 54.5	+1.5		
SMF					pmax		pmax				
	comp=Z,25nm,1.2s,mb5.1										
SMF	Signal de Mont	83.13	339	*e*P		P		17 00 54.5	+1.5		
	comp=Z,25nm,1.2s,mb5.1										
LPG	La Plagne	83.47	337	*e*P		P		17 00 57.0	+2.3		
	comp=Z,54nm,1.4s,mb5.1										
LPG	La Plagne	83.47	337	*e*P		P		17 00 57.0	+2.3		
LPG					pmax		pmax				
	comp=Z,27nm,1.4s,mb5.1										
LPG	La Plagne	83.47	337	*e*P		P		17 00 57.0	+2.3		
	comp=Z,27nm,1.4s,mb5.1										
CAF	Calviac	85.17	340	*e*P		P		17 01 04.5	+1.1		
	comp=Z,81nm,1.6s,mb5.3										
CAF	Calviac	85.17	340	*e*P		P		17 01 04.5	+1.1		
CAF					pmax		pmax				
	comp=Z,41nm,1.6s,mb5.3										
CAF	Calviac	85.17	340	*e*P		P		17 01 04.5	+1.1		
	comp=Z,40nm,1.6s,mb5.3										
TBI	Tubuai	86.77	129	*e*LR		LR		17 28 03.1			
	comp=Z,194nm,22.5s,baz=324										
TBI				*e*LR		LR		17 28 03.1			
	comp=Z,194nm,22.5s,baz=324										
TBI	Tubuai	86.77	129	*e*T				18 37 04.9			
	comp=Z,21nm,0.3s										
KEST	Kesra	91.68	332	LR		LR		17 45 23.0			
	comp=Z,73nm,21.4s,MS4.1,baz=298,slow=37										
RKT	Rikitea	94.81	119	*e*LR		LR		17 31 47.6			
	comp=Z,155nm,31.2s	

BRTR	**Keskin Array B**	**141.54**	**319**	PKP		PKPdf	17 13 27.2	+0.5
	0.5nm,0.8s,baz=44,slow=8.6,SNR=3.3							
GERES	**GERESS Array B**	**143.26**	**347**	PKP		PKPdf	17 13 31.3	+1.5
	0.3nm,0.6s,baz=334,slow=8.7,SNR=2.3							

BER ***20*** *17:18:01.9±4.0, 6785N×2013E, h0km, ML2.1, ML2.2(NAO), Suspected explosion*
NAO ***20*** *17:18:01.8±1.9, 6782N×2066E, ML2.2*
UPP ***20*** *17:18:01.0, 6783N×2021E, h0km, ML3.2, Mining explosion.*
CSEM ***20*** *17:18:01.3±0.3, 6786N×2007E, h2km, ML3.2, Error ellipse: s-maj=8.9km s-min=6.2km az=107.0, Mining explosion.*

HEL 20 17:18:01.5±0.1, 6784N×2020E, h0km, ML2.4, ML3.2(UPP), **ML2.1**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	17 18 03.6	-0.2
KUA				*i* S	Sg	17 18 05.5	0.0
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	17 18 09.5	-0.5
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	17 18 14.3	-0.8
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	17 18 14.5	-1.1
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	17 18 15.7	-1.0
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	17 18 15.8	-0.9
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	17 18 23.4	-0.9
KIF				*e*S	Sg	17 18 39.8	+0.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	17 18 26.3	-1.8
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	17 18 31.5	+0.1
KTK1				*e*Sg	Sg	17 18 54.6	+0.9
KTK1				AML	AML	17 18 56.5	
	comp=Z,25nm,0.4s						
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	17 18 31.5	+0.1
	SNR=50						
KTK1				*e*Sg	Sg	17 18 54.7	+0.9
	comp=Z,25nm,0.4s,SNR=90						
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	17 18 31.9	-0.7
TRO	**Tromso**	**1.86**	**346**	*e*P	Pn	17 18 33.5	-1.1
TRO				*e*Sg	Sg	17 18 58.7	-2.5
TRO				AML	AML	17 19 01.2	
	comp=Z,30nm,0.6s						
TRO	**Tromso**	**1.86**	**346**	*e*P	Pn	17 18 33.5	-1.1
	SNR=50						
TRO				*e*Sg	Sg	17 18 58.7	-2.5
	SNR=90						
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	17 18 42.4	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	17 18 42.9	+0.1
SGF				*e*S	Sn	17 19 13.4	0.0
SGF				MSG		17 19 18.8	
	comp=Z,18nm,0.2s						
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn	Pn	17 18 44.2	-0.3
	baz=219,slow=16						
ARA0				Lg		17 19 19.1	
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	17 18 44.2	-0.3
ARA0				*e*SB	Sb	17 19 19.1	-1.8
MOR8	**Moi Rana**	**2.81**	**236**	*e*Sg	Sg	17 19 23.5	-8.5
MOR8				AML	AML	17 19 25.3	
	comp=Z,36nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	17 18 52.1	0.0
KEV				*e*S	Sn	17 19 30.3	+0.1
KEV				MSG		17 19 37.9	
	comp=Z,9.9nm,0.3s						
STOK	**Stokkvaagen**	**3.19**	**245**	*e*Sg	Sg	17 19 39.3	-4.8
STOK				AML	AML	17 19 44.0	
	comp=Z,17nm,0.6s						
OUL	**Oulu**	**3.59**	**138**	*e*SB	Sb	17 19 48.2	-1.8
NSS	**Namsos**	**4.71**	**229**	*e*Sg	Sg	17 20 28.1	-4.7
APA0	**Apatity Array**	**4.88**	**87**	Pn	Pn	17 19 14.5	-1.5
	baz=288,slow=12						
APA0				Sn	Sn	17 20 10.0	-3.2
	baz=274,slow=28						
APA0				Lg		17 20 30.7	
	baz=294,slow=37						
APA0	**Apatity Array**	**4.88**	**87**	*e*P	Pn	17 19 14.5	-1.5
APA0				*e*S	Sn	17 20 10.0	-3.2
APA0				*e*SG	Sg	17 20 30.7	-7.4
APA0	**Apatity Array**	**4.88**	**87**	Pn	Pn	17 19 14.5	-1.6
	SNR=50						
APA0				Sn	Sn	17 20 10.0	-3.2
	SNR=50						
FIA0	**FINESS Array S**	**6.90**	**156**	Pn	Pn	17 19 43.3	-0.6
	baz=346,slow=12						
FIA0				Sn	Sn	17 21 00.2	-2.8
	baz=348,slow=28						
FIA0				Lg		17 21 33.4	
	baz=339,slow=28						
FIA0	**FINESS Array S**	**6.90**	**156**	*e*P	Pn	17 19 43.3	-0.6
FIA0				*e*S	Sn	17 21 00.2	-2.8
FIA0				*e*SG	Sg	17 21 33.4	-10
NB2	**NORSAR Subarra**	**7.85**	**214**	*e*P	Pn	17 19 56.1	-0.8

IDC ***20*** *17:29:22.2±0.7, 1102S×7467W, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, ML3.4/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/27, Error ellipse: s-maj=17.7km s-min=14.2km az=161.0*
ISCJB ***20*** *17:29:24.5±2.8, 1094S±007×7450W±005, h25km±22km, mb3.8/7, MS3.9/1, Error ellipse: s-maj=11.1km s-min=8.1km az=27.0*
NEIC ***20*** *17:29:27.5±1.0, 1099S×7455W, h35km±10km, mb4.2/1, Error ellipse: s-maj=11.9km s-min=9.9km az=167.0*

ISC 20 17:29:27.7±2.8, 1099S±007×7453W±005, h33km±22km, n27, σ0§66/21, mb3.8/7, MS3.9/1, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.47**	**246**	Pg	**Pn**	**17 30 05.5**	**-0.2**
	73nm,0.3s,baz=54,slow=16,SNR=98						
NNA				Lg		17 30 35.2	
	86nm,0.3s,baz=7.9,slow=19,SNR=21						
NNA	**Nana**	**2.47**	**246**	*e*Pn	**Pn**	**17 30 05.0**	**-0.7**
NNA				*e*Sg	**Sn**	**17 30 35.0**	**+0.3**
NNA				Lg		17 30 35.2	
ATAH	**Atahualpa**	**5.50**	**316**	Pn	**Pn**	**17 30 47.7**	**+0.4**
	11nm,0.3s,baz=146,slow=7.2,SNR=41						
ATAH				Sn	**Sn**	**17 31 49.4**	**-0.1**
	1.8nm,0.3s,baz=284,slow=16,SNR=2.0						
LPAZ	**La Paz**	**8.15**	**131**	Pn	**Pn**	**17 31 23.4**	**-0.2**
	0.1nm,0.3s,baz=301,slow=18,SNR=1.9						
LPAZ				Lg		17 33 41.9	
	0.8nm,0.3s,baz=202,slow=22,SNR=3.2						
LPAZ				LR	LR	17 35 21.4	
	comp=Z,62nm,21.9s,baz=258,slow=44						
LPAZ	**La Paz**	**8.15**	**131**	*e*Pn	**Pn**	**17 31 28.7**	**+5.1**
	5.5nm,0.6s						
LPAZ				*e*Sg	Sn	17 33 41.3	+47
LPAZ				Lg		17 33 41.9	
LPAZ				LR	LR	17 35 21.4	
SAML	**Samuel**	**11.36**	**81**	*e*Pn	**Pn**	**17 32 07.7**	**+0.1**
	25nm,0.6s						
LVC	**Limon Verde**	**12.74**	**156**	LR	LR	17 38 11.7	
	comp=Z,128nm,19.4s,baz=270,slow=41						
SIV	**San Ignacio**	**14.00**	**112**	Pn	**Pn**	**17 32 43.1**	**-0.6**
	0.4nm,0.3s,baz=313,slow=11,SNR=7.1						
SIV				Lg		17 36 44.8	
	1.8nm,0.3s,baz=278,slow=19,SNR=4.0						
ROSC	**El Rosal**	**15.74**	**1**	Lg		17 37 45.3	
	0.8nm,0.3s,baz=240,slow=23,SNR=2.6						
SDV	**Santo Domingo**	**20.12**	**11**	P	**P**	**17 33 59.5**	**+0.7**
	3.5nm,0.5s,baz=229,slow=3.5,SNR=7.4						
SDV				Lg		17 40 03.3	
	1.9nm,0.5s,baz=83,slow=20,SNR=1.9						
SDV	**Santo Domingo**	**20.12**	**11**	P	**P**	**17 33 59.6**	**+0.8**
	9.1nm,0.7s						
SDV				Lg		17 40 03.3	
CFAA	**Coronel Fontan**	**21.32**	**165**	P	**P**	**17 34 12.6**	**+0.8**
	0.3nm,0.6s,mb2.8,baz=327,slow=10,SNR=5.6						
CFAA	**Coronel Fontan**	**21.32**	**165**	P	**P**	**17 34 12.6**	**+0.8**
TXAR	**Lajitas Array**	**48.96**	**326**	P	**P**	**17 38 10.6**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=140,slow=9.9,SNR=6.0						
ULM	**Lac du Bonnet**	**63.77**	**345**	P	**P**	**17 39 54.9**	**-1.5**
	3.2nm,0.7s,mb4.5,baz=142,slow=9.8,SNR=3.9						
ULM	**Lac du Bonnet**	**63.77**	**345**	P	**P**	**17 39 54.9**	**-1.5**
SNAA	**Sanae**	**73.90**	**162**	P	**P**	**17 40 59.2**	**-0.2**
	0.7nm,1.0s,mb3.5,baz=257,slow=5.9,SNR=6.2						
TOA0	**Torodi Ar. Sit**	**79.34**	**74**	*e*P	**P**	**17 41 29.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**79.34**	**74**	P	**P**	**17 41 30.4**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=266,slow=4.2,SNR=6.9						
ESDC	**Sonseca Array**	**82.43**	**47**	P	**P**	**17 41 48.1**	**+1.5**
	0.6nm,0.5s,mb3.8,baz=244,slow=4.1,SNR=4.2						
KEST	**Kesra**	**91.43**	**54**	LR	LR	18 19 11.4	
	comp=Z,39nm,19.8s,MS3.9,baz=269,slow=33						
GERES	**GERESS Array B**	**97.02**	**42**	P	**P**	**17 42 55.6**	**-0.6**
	0.4nm,0.6s,mb4.0,baz=208,slow=4.5,SNR=3.6						
ZAL	**Zalesovo**	**134.10**	**17**	PKP	PKPdf	17 48 41.6	-0.2
	0.8nm,0.3s,baz=112,slow=5.2,SNR=2.2						
ASAR	**Alice Springs**	**135.73**	**219**	PKP	PKPdf	17 48 45.5	+0.7
	0.6nm,0.7s,baz=151,slow=2.9,SNR=5.2						
WRA	**Warramunga Arr**	**138.13**	**223**	PKP	PKPdf	17 48 49.6	+0.4
	0.7nm,0.6s,baz=126,slow=2.0,SNR=12						
FITZ	**Fitzroy Crossi**	**144.90**	**215**	PKP	PKPdf	17 49 00.3	-1.0
	2.7nm,0.8s,baz=179,slow=6.5,SNR=4.6						
KSRS	**Korea Array**	**146.81**	**326**	PKPbc	PKPbc	17 49 06.5	0.0
	2.1nm,0.9s,baz=20,slow=4.0,SNR=6.6						

JMA ***20*** *17:34:32.8±0.5, 3180N×14171E, h0km, M4.1*
IDC ***20*** *17:34:33.7±4.7, 3133N×14132E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=178.4km s-min=22.9km az=70.0*
ISCJB ***20*** *17:34:35.0±1.6, 3171N±0.10×1419E±0.02, h47km±19km, mb3.4/4, Error ellipse: s-maj=34.5km s-min=12.2km az=139.0*

ISC 20 17:34:36.2±1.6, 317N±01×1420E±02, h39km±20km, n14, σ1§14/20, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.30**	**307**	P	**Pn**	**17 35 09.6**	**-2.0**
BSO1	**Boso 1**	**3.04**	**344**	P	**Pn**	**17 35 22.1**	**+0.4**
BSO2	**Boso 2**	**3.19**	**341**	*e*S	**Sn**	**17 36 01.5**	**+0.9**
BSO3	**Boso 3**	**3.31**	**338**	P	**Pn**	**17 35 25.3**	**-0.1**
BSO3				*e*S	**Sn**	**17 36 05.9**	**+2.4**
JOD2	**Odawara 2**	**4.28**	**326**	P	**Pn**	**17 35 39.5**	**+0.7**
JOD2				*e*S	**Sn**	**17 36 27.5**	**0.0**
JHU	**Hanno**	**4.69**	**332**	P	**Pn**	**17 35 45.1**	**+0.6**
JHU				*e*S	**Sn**	**17 36 36.5**	**-1.1**
JRY	**Ryogami san**	**4.99**	**330**	P	**Pn**	**17 35 49.5**	**+0.9**
JRY				*e*S	**Sn**	**17 36 45.5**	**+0.5**
JHO	**Hitachi**	**5.01**	**347**	P	**Pn**	**17 35 47.9**	**-0.9**
JHO				*e*S	**Sn**	**17 36 42.8**	**-2.7**
JAG	**Ashikaga**	**5.13**	**336**	P	**Pn**	**17 35 50.4**	**-0.2**
JAG				*e*S	**Sn**	**17 36 47.1**	**-1.5**
MJAR	**Matsushiro Arr**	**5.73**	**328**	Pn	**Pn**	**17 35 60.0**	**+1.2**
	0.7nm,0.3s,baz=151,slow=11,SNR=6.1						
SONM	**Songino Array**	**31.40**	**311**	P	**P**	**17 40 56.8**	**+3.4**
	0.2nm,0.4s,mb3.3,baz=117,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**47.50**	**306**	P	**P**	**17 43 07.4**	**0.0**
	0.2nm,0.6s,mb3.4,baz=84,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**51.90**	**189**	P	**P**	**17 43 40.1**	**-0.8**
	0.6nm,0.7s,mb3.7,baz=5.7,slow=7.6,SNR=9.1						
ASAR	**Alice Springs**	**55.63**	**189**	P	**P**	**17 44 08.4**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=2.6,slow=5.8,SNR=4.5						

ISCJB ***20*** *17:37:37.1±7.7, 4711N±0.02×1557E±0.02, h10km±47km, mb3.9/5, MS3.9/4, Error ellipse: s-maj=39.2km s-min=18.7km az=114.7*
IDC ***20*** *17:37:37.9±2.3, 4725N×15578E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.8/6, ML3.4/1, MS3.9/4, Ms1 3.9/4, ms1mx3.1/36, Error ellipse: s-maj=88.2km s-min=22.6km az=179.0*
MOS ***20*** *17:37:41.3±0.6, 4717N×15556E, h39km, mb4.0/4, Error ellipse: s-maj=39.1km s-min=29.0km az=92.4*

ISC 20 17:37:41.9±5.9, 472N±02×1557E±02, h28km±40km, n15, σ0§25/11, mb3.9/5, MS3.9/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.50**	**5**	*e*PN	**Pn**	**17 38 34.5**	**0.0**
ASAJ	**Asahikawa**	**9.66**	**256**	Pn	**Pn**	**17 39 59.0**	**0.0**
	0.4nm,0.3s,baz=63,slow=18,SNR=3.8						
JOW	**Kunigami**	**29.62**	**236**	LR	LR	17 53 47.9	
	comp=Z,202nm,21.9s,MS3.7,baz=16,slow=33						
SONM	**Songino Array**	**32.84**	**290**	LR	LR	17 57 46.7	
	comp=Z,66nm,18.8s,MS3.4,baz=329,slow=37						
ZAL	**Zalesovo**	**43.78**	**306**	P	**P**	**17 45 44.8**	**-0.3**
	0.5nm,0.5s,mb3.5,baz=158,slow=11,SNR=2.2						
ZAL	**Zalesovo**	**43.78**	**306**	P	**P**	**17 45 44.8**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**17 46 21.1**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.8,baz=58,slow=6.7,SNR=6.8						
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**17 46 21.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**17 46 47.9**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=52,slow=9.3,SNR=6.0						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**17 46 47.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**63.06**	**55**	P	**P**	**17 48 06.5**	**-0.1**
	comp=Z,1.2nm,0.9s,mb4.0,baz=297,slow=2.1,SNR=9.1						
DZM	**Mont Dzumac**	**69.62**	**169**	LR	LR	18 13 58.1	
	comp=Z,120nm,21.6s,MS4.1,baz=235,slow=31						
TXAR	**Lajitas Array**	**75.74**	**62**	P	**P**	**17 49 25.0**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.0,baz=299,slow=3.6,SNR=12						
TXAR	**Lajitas Array**	**75.74**	**62**	P	**P**	**17 49 25.0**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PPT	**Papeete**	**81.02**	**128**	LR	LR	18 27 29.2	
	comp=Z,114nm,18.0s,MS4.3,baz=267,slow=37						

ISCJB ***20*** *17:52:04.1±3.8, 194S±06×1777W±0.4, h600km, mb4.1/8, Error ellipse: s-maj=91.6km s-min=29.0km az=61.2*
IDC ***20*** *17:52:13.0±11.0, 1975S×17847W, h626km±102km, mb3.3/5, mb1 3.5/6, mb1mx3.2/15, mbtmp3.3/6, Error ellipse: s-maj=111.9km s-min=66.1km az=124.0*
NEIC ***20*** *17:52:16.2±4.0, 2021S×17843W, h673km±42km, mb4.0/6, Error ellipse: s-maj=42.7km s-min=28.0km az=56.0*

ISC 20 17:52:08.2±4.1, 199S±06×1779W±05, h600km, n27, σ0§41/18, mb4.0/8, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.77**	**259**	P	**P**	**17 55 14.9**	**+0.7**
	0.6nm,0.3s,baz=89,slow=20,SNR=6.0						
CTA	**Charters Tower**	**33.64**	**263**	*e*P	**P**	**17 58 00.7**	**+0.1**
	8.9nm,0.9s,mb4.4						
CTA	**Charters Tower**	**33.64**	**263**	P	**P**	**17 58 00.3**	**-0.3**
	9.2nm,0.7s,mb4.5,baz=84,slow=12,SNR=7.2						
CTAO	**Charters Tower**	**33.64**	**263**	*e*P	**P**	**17 58 00.8**	**+0.1**
	8.6nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**38.12**	**244**	*e*P	**P**	**17 58 37.0**	**-0.5**
	3.5nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**17 58 37.2**	**-0.2**
	2.6nm,0.9s,mb3.8,baz=100,slow=9.5,SNR=3.8						
STKA	**Stephens Creek**	**38.12**	**244**	*e*P	**P**	**17 58 37.6**	**+0.1**
AS31	**Alice Springs**	**44.74**	**256**	*e*P	**P**	**17 59 29.7**	**+0.2**
ASAR	**Alice Springs**	**44.74**	**256**	P	**P**	**17 59 29.4**	**-0.1**
	9.8nm,0.8s,mb4.4,baz=95,slow=7.9,SNR=80						
ASAR				PcP	PcP	18 01 00.0	+1.6
	1.0nm,0.8s,baz=106,slow=4.1,SNR=5.6						
ASPA	**Alice Springs**	**44.74**	**256**	*e*P	**P**	**17 59 29.7**	**+0.2**
WB2	**Warramunga Arr**	**44.76**	**261**	*e*P	**P**	**17 59 28.9**	**-0.7**
WB2	**Warramunga Arr**	**44.76**	**261**	*e*P	**P**	**17 59 29.2**	**-0.4**
WRAB	**Tennant Creek**	**44.76**	**261**	*e*P	**P**	**17 59 29.2**	**-0.4**
	3.2nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**44.77**	**261**	P	**P**	**17 59 29.1**	**-0.6**
	2.5nm,0.3s,mb4.2,baz=97,slow=7.4,SNR=161						
KAKA	**Kakadu**	**48.05**	**271**	*e*P	**P**	**17 59 54.8**	**+0.4**
	4.3nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.20**	**262**	*e*P	**P**	**18 00 32.3**	**+0.7**
	6.5nm,1.2s,mb3.8						
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	**P**	**18 00 31.8**	**+0.1**
	1.8nm,0.7s,mb3.5,baz=148,slow=9.2,SNR=5.8						
QSPA	**South Pole Qui**	**70.15**	**180**	*e*P	**P**	**18 02 21.7**	**+0.1**
	3.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**118.69**	**320**	PKP	PKPdf	18 09 49.6	+0.6
	0.4nm,0.5s,baz=162,slow=1.4,SNR=3.6						
AKASG	**Malin Array Be**	**142.54**	**332**	PKhKP		18 10 31.6	
	0.5nm,0.3s,baz=42,slow=4.5,SNR=11						
BRTR	**Keskin Array B**	**146.51**	**313**	PKPbc	PKPbc	18 10 44.6	+1.5
	1.0nm,0.6s,baz=132,slow=4.7,SNR=5.4						
ASF	**Jabal al Asfar**	**146.58**	**299**	PKPbc	PKPbc	18 10 42.3	-1.1
	1.0nm,0.5s,baz=135,slow=7.1,SNR=2.4						
MMAI	**Mount Meron Ar**	**147.60**	**301**	PKPbc	PKPbc	18 10 48.5	+2.4
	1.7nm,0.6s,baz=48,slow=5.0,SNR=4.7						
GRFO	**Grafenberg**	**149.41**	**348**	*e*PKPbc	PKPbc	18 10 53.1	+2.6
GERES	**GERESS Array B**	**149.66**	**345**	PKPbc	PKPbc	18 10 52.4	+1.3
	0.6nm,0.6s,baz=5.2,slow=2.2,SNR=8.1						
WATA	**Walderalm**	**151.58**	**346**	⇓*i*PKPdf	PKPdf	18 10 50.4	+1.8
WATA				⇑*i*PKiKP	PKiKP	18 11 01.1	+5.4
	5.4nm,0.4s						
SQTA	**Sankt Quirin**	**151.76**	**347**	⇓*e*PKPdf	PKPdf	18 10 48.5	-0.4
	2.5nm,0.3s						
SQTA				⇓*i*PKPab	PKPab	18 11 09.6	+1.7

CSEM ***20*** *17:52:22.6±0.1, 4296N×0.18E, h2km, ML2.7/12, Error ellipse: s-maj=1.0km s-min=0.8km az=151.0*
NEIC ***20*** *17:52:22.5, 4295N×0.18E, h3km, ML2.4(STR), ML2.6(LDG), MN2.1(MDD), After LDG.*
STR ***20*** *17:52:22.3±0.1, 4295N×0.18E, h4km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *17:52:22.5±0.1, 4295N×0.18E, h3km, Md2.8/3, Ml2.6/12, Error ellipse: s-maj=1.1km s-min=0.8km az=162.0*
MDD ***20*** *17:52:22.9±0.2, 4295N×0.17E, h6km±4km, mbLg2.0/18, Error ellipse: s-maj=1.7km s-min=1.4km az=17.0, PRXIMO*

ISC 20 17:52:21.6±0.3, 4300N±002×020E±002, h14km±3km, n62, σ0§64/97, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.11**	**72**	*e*Pg	**Pg**	**17 52 25.7**	**+0.9**
EPF				*e*Sg	**Sg**	**17 52 27.8**	**+0.8**
	598nm,0.2s						
EPF	**Esparros**	**0.11**	**72**	Pg	**Pg**	**17 52 25.7**	**+0.9**
EPF				Lg		17 52 27.8	
	299nm,0.2s						
LABF	**Labassere**	**0.11**	**297**	Pg	**Pg**	**17 52 25.3**	**+0.5**
LABF				Sg	**Sg**	**17 52 27.4**	**+0.3**
LABF	**Labassere**	**0.11**	**297**	Pg	**Pg**	**17 52 25.4**	**+0.6**
LABF				Lg		17 52 27.4	
VIEF	**Viey**	**0.17**	**229**	Pg	**Pg**	**17 52 25.5**	**-0.2**
VIEF				Sg	**Sg**	**17 52 27.3**	**-1.3**
VIEF	**Viey**	**0.17**	**229**	Pg	**Pg**	**17 52 25.5**	**-0.2**
VIEF				Lg		17 52 27.5	
RESF	**Ens**	**0.21**	**152**	Pg	**Pg**	**17 52 26.4**	**0.0**
RESF				Sg	**Sg**	**17 52 29.4**	**-0.2**
RESF	**Ens**	**0.21**	**152**	Pg	**Pg**	**17 52 26.6**	**+0.2**
RESF				Lg		17 52 29.4	
EBIE	**Bielsa**	**0.32**	**188**	⇑Pg	**Pg**	**17 52 27.9**	**-0.2**
	21nm,0.1s,SNR=18						
EBIE				Lg		17 52 31.5	
	155nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.32**	**188**	Pg	**Pg**	**17 52 27.9**	**-0.2**
	21nm,0.1s,SNR=18						
EBIE				Lg		17 52 31.5	
	155nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.43**	**107**	Pg	**Pg**	**17 52 30.5**	**+0.4**
MELF				Sg	**Sg**	**17 52 36.7**	**+0.8**
MELF	**Melles**	**0.43**	**107**	Pg	**Pg**	**17 52 30.7**	**+0.5**
MELF				Lg		17 52 36.7	
REYF	**Montagne du Re**	**0.44**	**279**	Pg	**Pg**	**17 52 30.2**	**-0.2**
REYF				Sg	**Sg**	**17 52 36.9**	**+0.5**
REYF	**Montagne du Re**	**0.44**	**279**	Pg	**Pg**	**17 52 30.6**	**+0.2**
REYF				Lg		17 52 36.8	
ETSF	**Etsaut**	**0.57**	**260**	*e*Pg	**Pg**	**17 52 32.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**17 52 39.6**	**-0.7**
	66nm,0.3s						
ETSF	**Etsaut**	**0.57**	**260**	*e*Pg	**Pg**	**17 52 32.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**17 52 39.6**	**-0.7**
	33nm,0.3s						
FDAF	**Les Forges d'A**	**0.59**	**253**	Pg	**Pg**	**17 52 32.7**	**-0.5**
FDAF				Lg		17 52 40.4	
ATE	**Arette**	**0.67**	**278**	Pg	**Pg**	**17 52 34.9**	**+0.3**
ATE				Sg	**Sg**	**17 52 44.1**	**+0.6**
ATE	**Arette**	**0.67**	**278**	Pg	**Pg**	**17 52 34.8**	**+0.1**
ATE				Lg		17 52 43.6	
SALF	**Salau**	**0.76**	**108**	Pg	**Pg**	**17 52 36.9**	**+0.4**
SALF				Lg		17 52 47.4	
LARF	**Larrau**	**0.87**	**273**	Lg		17 52 50.1	
SJPF	**Ste Jean**	**1.05**	**277**	*e*Pg	**Pg**	**17 52 42.0**	**+0.1**
SJPF				*e*Sg	**Sg**	**17 52 55.6**	**-0.1**
	12nm,0.2s						
SJPF	**Ste Jean**	**1.05**	**277**	*e*Pg	**Pg**	**17 52 42.0**	**+0.1**
SJPF				*e*Sg	**Sg**	**17 52 55.6**	**-0.1**
	6.2nm,0.2s						
IPRE	**Itoiz**	**1.16**	**261**	Pg	**Pg**	**17 52 44.0**	**0.0**
	0.3nm,0.1s,SNR=7.9						
IPRE				Lg		17 53 00.0	
	3.3nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**1.16**	**261**	Pg	**Pg**	**17 52 44.0**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.27**	**281**	Pg	**Pg**	**17 52 46.9**	**+0.8**
	0.5nm,0.1s,SNR=4.5						
EALK				Lg		17 53 02.8	
	3.5nm,0.1s,SNR=10

LASF					*e*Sg		**Sg**	**17 53 53.7**	**0.0**
	2.5nm,0.3s								
LASF	**Ste Croix**	**2.87**	**67**	*e*Pg		**Pg**	**17 53 16.6**	**0.0**	
LASF				*e*Sn		**Sn**	**17 53 41.4**	**+0.2**	
LASF				*e*Sg		**Sg**	**17 53 53.7**	**0.0**	
	1.2nm,0.3s								
TCF	**Toulx Ste Croi**	**3.59**	**23**	*e*Pg		**Pg**	**17 53 30.0**	**-0.3**	
TCF				*e*Sg		**Sg**	**17 54 16.9**	**+0.1**	
	2.3nm,0.3s								
TCF	**Toulx Ste Croi**	**3.59**	**23**	*e*Pg		**Pg**	**17 53 30.0**	**-0.3**	
TCF				*e*Sg		**Sg**	**17 54 16.9**	**+0.1**	
	1.1nm,0.3s								
MFF	**Saint Martin d**	**3.61**	**356**	*e*Pg		**Pg**	**17 53 29.7**	**-1.1**	
MFF				*e*Sg		**Sg**	**17 54 17.1**	**-0.5**	
	2.5nm,0.3s								
MFF	**Saint Martin d**	**3.61**	**356**	*e*Pg		**Pg**	**17 53 29.7**	**-1.1**	
MFF				*e*Sg		**Sg**	**17 54 17.1**	**-0.5**	
	1.2nm,0.3s								
VIVF	**Saint-Julien-l**	**3.73**	**59**	*e*Pg		**Pg**	**17 53 32.3**	**-0.7**	
VIVF				*e*Sn		**Sn**	**17 54 02.2**	**-0.2**	
VIVF				*e*Sg		**Sg**	**17 54 20.7**	**-0.5**	
	2.2nm,0.3s								
VIVF	**Saint-Julien-l**	**3.73**	**59**	*e*Pg		**Pg**	**17 53 32.3**	**-0.7**	
VIVF				*e*Sn		**Sn**	**17 54 02.2**	**-0.2**	
VIVF				*e*Sg		**Sg**	**17 54 20.7**	**-0.5**	
	1.1nm,0.3s								
BGF	**Bois d'Agland**	**4.03**	**27**	*e*Pg		**Pg**	**17 53 38.1**	**-0.6**	
BGF				*e*Sg		**Sg**	**17 54 30.4**	**-0.5**	
	6.5nm,0.3s								
BGF	**Bois d'Agland**	**4.03**	**27**	*e*Pg		**Pg**	**17 53 38.1**	**-0.6**	
BGF				*e*Sg		**Sg**	**17 54 30.4**	**-0.5**	
	3.2nm,0.3s								
AVF	**Avril sur Loir**	**4.40**	**29**	*e*Pg		**Pg**	**17 53 44.4**	**-1.5**	
AVF				*e*Sg		**Sg**	**17 54 41.9**	**-1.1**	
	1.0nm,0.2s								
AVF	**Avril sur Loir**	**4.40**	**29**	*e*Pg		**Pg**	**17 53 44.4**	**-1.5**	
AVF				*e*Sg		**Sg**	**17 54 41.9**	**-1.1**	
	0.5nm,0.2s								

*ISCJB **20** 17:57:08.5±1.1, 475N±0.1×1552E±0.2, h10km, mb4.0/8, Error ellipse: s-maj=24.7km s-min=10.3km az=105.0*
*IDC **20** 17:57:08.5±2.1, 4742N×15534E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/24, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=66.0km s-min=23.5km az=180.0*
*NEIC **20** 17:57:09.9±1.0, 4741N×15521E, h10km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=11.9km az=149.0*
*MOS **20** 17:57:12.5±1.7, 4742N×155.10E, h46km, mb4.4/1, Error ellipse: s-maj=21.7km s-min=16.5km az=74.7*

ISC 20 17:57:11.7±5.4, 476N±01×1552E±02, h18km±35km, n16, σ1°00/18, mb4.0/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**5.89**	**21**	*e*PN	**Pn**	**17 58 38.4**	**+0.3**
PET				*e*S	**Sn**	**17 59 44.0**	**-1.1**
PET	**Petropavlovsk**	**5.89**	**21**	*e*Pn	**Pn**	**17 58 38.2**	**+0.1**
PET				*e*Sn	**Sn**	**17 59 44.0**	**-1.1**
ASAJ	**Asahikawa**	**9.43**	**253**	Pn	**Pn**	**17 59 27.5**	**+0.9**
	0.4nm,0.3s,baz=78,slow=32,SNR=4.5						
ERM	**Erimo**	**10.18**	**241**	*e*PN	**Pn**	**17 59 35.1**	**-1.8**
INK	**Inuvik**	**40.20**	**33**	*e*P	**P**	**18 04 47.8**	**+0.8**
ZAL	**Zalesovo**	**43.28**	**306**	P	**P**	**18 05 11.2**	**-1.0**
	1.2nm,0.3s,mb4.1,baz=74,slow=4.1,SNR=3.4						
MK31	**Makanchi Array**	**47.80**	**298**	P	**P**	**18 05 46.4**	**-1.6**
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**18 05 48.8**	**+0.8**
	0.9nm,0.7s,mb3.9,baz=75,slow=7.8,SNR=11						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**18 06 16.1**	**+0.6**
	1.8nm,0.5s,mb4.3,baz=58,slow=7.7,SNR=19						
BRVK	**Borovoye**	**51.45**	**310**	*e*P	**P**	**18 06 16.3**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.45**	**310**	*e*P	**P**	**18 06 16.3**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**18 07 37.7**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=320,slow=4.1,SNR=3.6						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**18 07 43.7**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.1,baz=57,slow=7.0,SNR=6.1						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**18 07 43.7**	**+0.4**
HFS	**Hagfors**	**68.16**	**340**	P	**P**	**18 08 12.5**	**+1.8**
	comp=Z,3.1nm,0.7s,mb4.5,baz=93,slow=8.9,SNR=5.2						
TXAR	**Lajitas Array**	**75.87**	**62**	P	**P**	**18 08 56.7**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=325,slow=4.4,SNR=2.8						

*NEIC **20** 18:07:33.5, 3931N×2239E, h94km, After ATH.*
*CSEM **20** 18:07:33.6±0.1, 3937N×2239E, h80km, ML2.7, Error ellipse: s-maj=2.1km s-min=1.7km az=144.0*
*ATH **20** 18:07:33.5, 3931N×2239E, h94km±3km*
*ISCJB **20** 18:07:34.2±0.7, 3933N±003×2239E±004, h89km±6km, Error ellipse: s-maj=5.9km s-min=5.1km az=113.4*
*SKO **20** 18:07:35.5, 3959N×2218E, h0km*
*THE **20** 18:07:35.2, 3935N×2237E, h79km, ML2.7*

ISC 20 18:07:34.8±0.7, 3933N±003×2239E±004, h87km±7km, n31, σ0°49/45, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.31**	**188**	*e*Pg	**Pn**	**18 07 48.0**	**+0.1**
AGG				*e*Sg	**Sn**	**18 07 56.9**	**-0.7**
THL	**Klokotos Trika**	**0.37**	**309**	*i*P	**Pn**	**18 07 48.6**	**+0.3**
THL				*e*S	**Sn**	**18 07 59.1**	**+0.8**
EVR	**Evrytania**	**0.61**	**228**	*e*P	**Pn**	**18 07 50.6**	**+0.5**
XOR	**Xorichti**	**0.63**	**86**	*e*Pg	**Pn**	**18 07 50.5**	**+0.3**
XOR				*e*Sg	**Sn**	**18 08 01.3**	**-0.5**
XOR	**Xorichti**	**0.63**	**86**	*e*Pg	**Pn**	**18 07 50.5**	**+0.2**
XOR				*e*Sg	**Sn**	**18 08 01.3**	**-0.5**
NEO	**Neokhori**	**0.65**	**92**	*i*P	**Pn**	**18 07 50.9**	**+0.4**
NEO				*e*S	**Sn**	**18 08 02.3**	**+0.1**
LIT	**Litokhoron**	**0.77**	**6**	*e*Pg	**Pn**	**18 07 51.9**	**+0.1**
LIT				*e*Sg	**Sn**	**18 08 04.8**	**+0.4**
LIT	**Litokhoron**	**0.77**	**6**	*e*Pg	**Pn**	**18 07 51.9**	**+0.1**
LIT				*e*Sg	**Sn**	**18 08 04.8**	**+0.4**
LKR	**Lokris**	**0.83**	**145**	*e*P	**Pn**	**18 07 52.2**	**-0.1**
LKR				*e*S	**Sn**	**18 08 05.5**	**0.0**
MEV	**Metsovon**	**1.00**	**297**	*e*Pg	**Pn**	**18 07 54.6**	**+0.3**
KZN	**Kozani**	**1.08**	**334**	*e*P	**Pn**	**18 07 55.0**	**-0.2**
PAIG	**Paliouri**	**1.16**	**59**	*e*Pg	**Pn**	**18 07 56.3**	**+0.1**
PAIG				*e*Sg	**Sn**	**18 08 12.1**	**-0.2**
AOS	**Alonnisos**	**1.17**	**97**	*e*Pg	**Pn**	**18 07 56.2**	**-0.1**
JAN	**Janina**	**1.23**	**286**	*e*P	**Pn**	**18 07 58.5**	**+1.5**
PLG	**Polygyros**	**1.32**	**38**	*e*Pg	**Pn**	**18 07 58.0**	**-0.1**
PLG				*e*Sg	**Sn**	**18 08 15.2**	**-0.6**
HORT	**Hortiatis**	**1.38**	**23**	*e*Pg	**Pn**	**18 07 58.7**	**-0.1**
RLS	**Riolos of Patr**	**1.46**	**210**	*e*P	**Pn**	**18 08 00.0**	**+0.1**
LKD	**Levkas**	**1.49**	**246**	*e*Pg	**Pn**	**18 08 00.3**	**+0.1**
OUR	**Ouranopolis**	**1.59**	**50**	*e*Pg	**Pn**	**18 08 01.2**	**-0.3**
IGT	**Igoumenitsa**	**1.60**	**278**	*e*Pg	**Pn**	**18 08 01.7**	**0.0**
IGT				*e*Sg	**Sn**	**18 08 21.1**	**-1.0**
GRG	**Griva**	**1.62**	**0**	*e*Pg	**Pn**	**18 08 02.1**	**+0.1**
FNA	**Florina**	**1.65**	**332**	*e*Pb	**Pn**	**18 08 02.9**	**+0.7**
FNA				*e*Sb	**Sn**	**18 08 22.3**	**-0.8**
SOH	**Sokhos**	**1.67**	**26**	*e*Pb	**Pn**	**18 08 03.1**	**+0.6**
VLS	**Valsamata**	**1.82**	**231**	*e*P	**Pn**	**18 08 03.5**	**-0.9**
KNT	**Kendrikon**	**1.87**	**12**	*e*Pb	**Pn**	**18 08 05.8**	**+0.6**
SRN	**Sarande**	**1.92**	**287**	*i* Pg	**Pn**	**18 08 05.9**	**0.0**
VAY	**Valandovo**	**1.99**	**4**	*e*Pn	**Pn**	**18 08 06.5**	**-0.3**
VAY				*e*Sg	**Sn**	**18 08 30.7**	**-0.5**
VAY	**Valandovo**	**1.99**	**4**	*e*Pn	**Pn**	**18 08 06.5**	**-0.3**
VAY				*e*Sg	**Sn**	**18 08 30.6**	**-0.6**
KEK	**Kerkira**	**2.04**	**282**	*e*P	**Pn**	**18 08 06.8**	**-0.6**
LOS	**Limnos**	**2.17**	**73**	*e*Pn	**Pn**	**18 08 09.1**	**+0.1**
ITM	**Ithomi**	**2.18**	**190**	*e*P	**Pn**	**18 08 09.2**	**0.0**

*NIED **20** 18:13:00, 4370N×14730E, h32km, Mw3.7 Best double couple: M0 3.90000×10^14 NP1:φs 73.00000°, δ 77.00000°, λ 142.00000°. NP2:φs 172.00000°, δ 53.00000°, λ 16.00000°.*

JMA 20 18:13:58.1±0.3, 4371N×14731E, h21km, M4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.19**	**254**	P	Pn	18 14 19.6	+0.1
NEM2				*e*S	Sb	18 14 35.1	+0.2
JRA	**Rausu**	**1.60**	**279**	P	Pn	18 14 25.6	+0.5
JRA				*e*S	Sn	18 14 46.0	+0.9
JNK	**Nakash**	**1.89**	**267**	P	Pn	18 14 29.6	+0.5
JAK	**Akkeshi**	**2.04**	**250**	P	Pn	18 14 31.6	+0.5
JAK				*e*S	Sn	18 14 56.0	+0.1
JTKR	**Abashiri--Toko**	**2.48**	**277**	P	Pn	18 14 38.5	+1.3
JAR	**Ashorobuto**	**2.61**	**262**	P	Pn	18 14 40.8	+1.8
JOB	**Onbets**	**2.66**	**254**	P	Pn	18 14 41.1	+1.4
JMP	**Maruseppu**	**2.87**	**277**	P	Pn	18 14 44.2	+1.6
JCH	**Churui**	**3.09**	**251**	P	Pn	18 14 46.6	+1.0
JFR	**Furan**	**3.48**	**263**	P	Pn	18 14 53.7	+2.7
JFR				*e*S	Sn	18 15 34.3	+2.8
JSE	**Soyaes**	**3.61**	**292**	P	Pn	18 14 53.7	+0.9
JNBK	**Urakawa-nobuka**	**3.64**	**248**	P	Pn	18 14 54.3	+1.2

*ISCJB **20** 18:29:43.3±2.4, 319N±0.3×1424E±0.6, h62km±36km, mb3.5/3, Error ellipse: s-maj=98.0km s-min=20.6km az=127.0*
*IDC **20** 18:29:43.0±3.8, 3129N×14088E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=152.5km s-min=25.6km az=72.0*
*JMA **20** 18:29:46.3±0.5, 3219N×14253E, h81km, M3.1*

ISC 20 18:29:44.9±2.3, 319N±03×1424E±06, h56km±33km, n9, σ0°56/10, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.96**	**337**	P	**Pn**	**18 30 29.4**	**0.0**
BSO3	**Boso 3**	**3.26**	**332**	*e*S	**Sn**	**18 31 11.4**	**+0.2**
JHO	**Hitachi**	**4.90**	**343**	P	**Pn**	**18 30 56.2**	**+0.1**
JRY	**Ryogami san**	**5.00**	**326**	P	**Pn**	**18 30 57.9**	**+0.6**
JAG	**Ashikaga**	**5.10**	**332**	P	**Pn**	**18 30 58.9**	**+0.2**
JAG				*e*S	**Sn**	**18 31 55.0**	**-1.2**
MJAR	**Matsushiro Arr**	**5.75**	**324**	Pn	**Pn**	**18 31 07.7**	**0.0**
	0.4nm,0.3s,baz=152,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**47.64**	**306**	P	**P**	**18 38 16.4**	**+0.9**
	0.2nm,0.5s,mb3.4,baz=94,slow=7.8,SNR=4.4						
WRA	**Warramunga Arr**	**52.15**	**190**	P	**P**	**18 38 49.1**	**-0.5**
	0.8nm,0.6s,mb3.8,baz=3.6,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**55.87**	**189**	P	**P**	**18 39 16.4**	**-0.3**
	0.2nm,0.7s,mb3.3,baz=5.7,slow=5.9,SNR=7.1						

*BJI **20** 18:33:37.7, 4743N×15493E, h10km, mB5.0, mb4.4, Ms4.1, Msz4.0*
*NEIC **20** 18:33:44.7±0.6, 4724N×154.11E, h10km, mb4.5/8, Error ellipse: s-maj=16.8km s-min=10.1km az=150.0*
*ISCJB **20** 18:33:47.2±1.2, 4720N±008×154.1E±0.1, h41km±10km, mb4.5/28, MS3.6/6, Error ellipse: s-maj=16.0km s-min=7.6km az=104.8*
*MOS **20** 18:33:47.4±1.5, 4722N×154.02E, h43km, mb4.7/6, Error ellipse: s-maj=11.4km s-min=9.8km az=62.6*
*IDC **20** 18:33:52.4±3.7, 4724N×15383E, h74km±34km, mb3.8/15, mb1 4.0/17, mb1mx3.8/26, mbtmp3.8/17, ML3.8/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/37, Error ellipse: s-maj=18.6km s-min=15.4km az=148.0*

ISC 20 18:33:50.2±1.0, 4727N±008×15404E±009, h51km±8km, n68, σ1°07/66, mb4.5/28, MS3.6/6, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**21**	*e*PN	**Pn**	**18 34 43.4**	**-1.1**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR	**Kuril'sk**	**4.74**	**247**	*e*PN	**Pn**	**18 34 54.8**	**-4.3**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.58**	**244**	*e*PN	**Pn**	**18 35 25.5**	**+1.1**
YUK				*e*S	**Sn**	**18 36 38.2**	**+0.2**
YUK				smax			
	comp=N,580nm,0.5s						
YUK				smax			
	comp=E,580nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.71**	**272**	*e*Pn	**Pn**	**18 35 41.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,30nm,0.8s						
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.71**	**272**	*e*P	**Pn**	**18 35 41.4**	**+1.6**
	comp=E,53nm,0.8s						
ASAJ	**Asahikawa**	**8.61**	**253**	P	**Pn**	**18 35 52.6**	**+0.5**
ASAJ	comp=E,1.6nm,0.3s,baz=111,slow=17,SNR=15			LR	LR	18 38 54.8	
ASAJ	**Asahikawa**	**8.61**	**253**	PN	**Pn**	**18 35 52.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,394nm,18.6s						
ERM	**Erimo**	**9.37**	**240**	*e*PN	**Pn**	**18 36 01.7**	**-0.8**
KLR	**Kul'dur**	**14.97**	**286**	*e*P	**Pn**	**18 37 20.6**	**+2.0**
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
MJAR	**Matsushiro Arr**	**15.90**	**233**	P	**Pn**	**18 37 28.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=31,slow=11,SNR=9.1						
MAT	**Matsushiro**	**15.90**	**233**	P	**Pn**	**18 37 27.5**	**-3.0**
MDJ	**Mudanjiang**	**17.19**	**270**	P	**Pn**	**18 37 46.3**	**-0.4**
MDJ				S	**S**	**18 41 03.0**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,11nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,70nm,6.0s						
MDJ				LR	LR		
	comp=N,128nm,20.0s						
MDJ				LR	LR		
	comp=E,123nm,20.6s						
MDJ				LR	LR		
	comp=Z,246nm,18.4s						
YAK	**Yakutsk**	**20.24**	**326**	*e*P	**P**	**18 38 20.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**20.24**	**326**	*e*P	**P**	**18 38 20.2**	**-0.8**
	comp=Z,12nm,0.8s						
CN2	**Changchun**	**20.28**	**271**	*e*P	**P**	**18 38 24.8**	**+3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=Z,500nm,15.0s,MS4.0						
KSRS	**Korea Array**	**21.56**	**252**	P	**P**	**18 38 34.5**	**-0.7**
	comp=Z,4.8nm,0.8s,mb4.0,baz=64,slow=9.8,SNR=19						
KSRS				LR	LR	18 46 43.6	
	comp=Z,158nm,19.0s,MS3.4,baz=51,slow=36						
CBIJ	**Chichi jima**	**22.20**	**209**	LR	LR	18 46 30.3	
	comp=Z,33nm,19.5s,MS2.8,baz=156,slow=34						
SONM	**Songino Array**	**31.76**	**289**	P	**P**	**18 40 08.6**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.8,baz=63,slow=8.9,SNR=7.8						
SONM				LR	LR	18 53 57.2	
	comp=Z,192nm,18.1s,MS3.8,baz=186,slow=38						
KDAK	**Kodiak Island**	**33.28**	**52**	P	**P**	**18 40 22.7**	**0.0**
	comp=Z,11nm,0.9s,mb4.8,baz=143,slow=5.1,SNR=2.6						
SML	**Sawmill**	**35.15**	**44**	*e*P	**P**	**18 40 39.1**	**+0.1**
XAN	**Xi'an**	**36.19**	**265**	P	**P**	**18 40 47.4**	**-0.5**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
EGAK	**Eagle**	**38.20**	**39**	*e*P	**P**	**18 41 04.5**	**-0.3**
	comp=Z,8.8nm,1.0s,mb4.4						
LZH	**Lanzhou**	**38.51**	**272**	*e*P	**P**	**18 41 08.0**	**+0.5**
LZH				AP	pP	18 41 12.5	-8.3
LZH				XP	sP	18 41 16.0	-11
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,46nm,4.1s						
LZH				LR	LR		
	comp=N,326nm,15.7s						
LZH				LR	LR		
	comp=Z,289nm,17.0s,MS4.2						
LZH	**Lanzhou**	**38.51**	**272**	*e*P	**P**	**18 41 08.0**	**+0.5**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	18 41 12.5	-8.3
LZH				sP	sP	18 41 16.0	-11
LZH				LR	LR		
	comp=Z,290nm,17.0s,MS4.2						
INK	**Inuvik**	**40.87**	**33**	P	**P**	**18 41 28.2**	**+1.1**
	comp=Z,2.8nm,0.8s,mb4.0,baz=243,slow=7.7,SNR=7.9						
CD2	**Chengdu**	**41.56**	**265**	P	**P**	**18 41 33.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**42.84**	**306**	P	**P**	**18 41 41.2**	**-1.9**
	comp=Z,1.7nm,0.6s,mb4.0,baz=25,slow=11,SNR=7.9						
KMI	**Kunming**	**45.96**	**260**	P	**P**	**18 42 00.0**	**-8.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.3						
KMI	**Kunming**	**45.96**	**260**	P	**P**	**18 42 00.0**	**-8.1**
	comp=Z,8.0nm,1.9s,mb4.3						
MK31	**Makanchi Array**	**47.27**	**297**	*e*P	**P**	**18 42 16.7**	**-1.6**
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**18 42 16.9**	**-1.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=66,slow=7.9,SNR=27						
YKA	**Yellowknife Ar**	**50.13**	**37**	LR	LR	19 06 56.6	
	comp=Z,50nm,20.5s,MS3.5,baz=200,slow=40						
LSA	**Lhasa**	**50.88**	**273**	P	**P**	**18 42 48.0**	**+2.1**
LSA	**Lhasa**	**50.88**	**273**	*e*P	**P**	**18 42 47.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
LSA	**Lhasa**	**50.88**	**273**	*e*P	**P**	**18 42 47.5**	**+1.6**
	comp=Z,11nm,0.6s,mb5.0						
BRVK	**Borovoye**	**51.06**	**310**	*e*P	**P**	**18 42 45.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.06**	**310**	*e*P	**P**	**18 42 45.9**	**-1.4**
	comp=Z,4.2nm,0.7s,mb4.5						
JIRN	**Jiri**	**55.54**	**275**	*e*P	**P**	**18 43 21.3**	**+1.1**
	comp=Z,46nm,0.8s,mb5.6						
GUN	**Gumba**	**55.59**	**275**	*e*P	**P**	**18 43 21.4**	**+0.9**
KKN	**Kakani**	**56.07**	**276**	*e*P	**P**	**18 43 24.7**	**+0.7**
	comp=Z,26nm,0.7s,mb5.3						
PKI	**Pulchoki**	**56.12**	**275**	*e*P	**P**	**18 43 25.1**	**+0.7**
	comp=Z,23nm,0.8s,mb5.3						
DMN	**Daman**	**56.31**	**276**	*e*P	**P**	**18 43 26.8**	**+1.1**
	comp=Z,54nm,0.8s,mb5.6						
GKN	**Gorkha**	**56.37**	**276**	*e*P	**P**	**18 43 26.9**	**+0.8**
	comp=Z,59nm,0.8s						
KOLN	**Koldanda**	**57.22**	**277**	*e*P	**P**	**18 43 33.1**	**+0.9**
	comp=Z,38nm,0.8s,mb5.5						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**18 44 16.6**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.3,baz=37,slow=7.1,SNR=26						
PDAR	**Pinedale Array**	**63.93**	**55**	P	**P**	**18 44 18.2**	**+0.4**
	comp=Z,0.9nm,1.0s,mb3.8,baz=341,slow=3.1,SNR=5.6						
NB2	**NORSAR Subarra**	**67.94**	**342**	P	**P**	**18 44 43.2**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.5,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.94**	**342**	P	**P**	**18 44 43.5**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.5,baz=26,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**67.94**	**342**	P	**P**	**18 44 43.5**	**-0.1**
WRA	**Warramunga Arr**	**69.21**	**200**	P	**P**	**18 44 50.2**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=16,slow=6.9,SNR=5.4						
AKASG	**Malin Array Be**	**71.47**	**327**	P	**P**	**18 45 04.5**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**71.47**	**327**	P	**P**	**18 45 04.5**	**-0.8**
ASAR	**Alice Springs**	**72.91**	**199**	P	**P**	**18 45 13.9**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=11,slow=5.5,SNR=12						
STHS	**Stebnicka Huta**	**75.38**	**330**	*e*P	**P**	**18 45 28.7**	**+0.4**
KOLS	**Kolonicke sedl**	**75.44**	**329**	*e*P	**P**	**18 45 29.2**	**+0.5**
BURAR	**Bucovina Array**	**75.50**	**327**	*i*P	**P**	**18 45 28.8**	**-0.2**
CLL	**Colim**	**76.25**	**336**	*e*P	**P**	**18 45 33.0**	**-0.3**
	comp=Z,9.0nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**76.68**	**61**	P	**P**	**18 45 36.6**	**+0.9**
	comp=Z,1.4nm,0.8s,mb3.9,baz=285,slow=3.4,SNR=14						
MLR	**Muntele Rosu**	**77.00**	**325**	*i*P	**P**	**18 45 38.5**	**+1.0**
MALT	**Malatya**	**77.26**	**313**	*e*P	**P**	**18 45 39.9**	**+0.9**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MALT	**Malatya**	**77.26**	**313**	*e*P	**P**	**18 45 39.9**	**+0.9**
	comp=Z,7.2nm,1.1s,mb4.5						
KHC	**Kasperske Hory**	**78.04**	**335**	*e*P	**P**	**18 45 44.7**	**+1.3**
GERES	**GERESS Array B**	**78.26**	**334**	P	**P**	**18 45 43.3**	**-1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=28,slow=6.0,SNR=5.3						
BR131	**Keskin Array S**	**78.44**	**317**	*e*P	**P**	**18 45 46.8**	**+1.3**
	comp=Z,1.7nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**18 45 44.4**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=61,slow=4.9,SNR=11						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**18 45 44.4**	**-1.2**
CFAA	**Coronel Fontan**	**144.27**	**79**	PKP	PKPdf	18 53 17.9	-2.5
	comp=Z,0.2nm,0.3s,baz=241,slow=3.7,SNR=4.2						
CFAA	**Coronel Fontan**	**144.27**	**79**	PKP	PKPdf	18 53 17.9	-2.5

*IDC **20** 18:39:01.1±5.3, 4751N×15429E, h82km±59km, mb3.5/7, mb1 3.7/9, mb1mx3.4/25, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=60.0km s-min=24.9km az=178.0*
*MOS **20** 18:39:02.6±1.2, 4744N×154.18E, h117km, mb4.2/4, Error ellipse: s-maj=25.3km s-min=20.7km az=163.0*
*ISCJB **20** 18:39:06.0±1.7, 473N±02×1540E±02, h153km±13km, mb3.6/7, Error ellipse: s-maj=34.0km s-min=13

YSS pmax pmax
comp=Z,20nm,1.0s
ASAJ Asahikawa 9.38 256 Pn **Pn 18 44 50.7 -0.7**
comp=Z,1.5nm,0.3s,baz=86,slow=4.8,SNR=12
ASAJ Asahikawa 9.38 256 PN **Pn 18 44 50.7 -0.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
KLR Kul'dur 15.85 287 *eP* **Pn 18 46 18.2 -1.3**
MJAR Matsushiro Arr 16.47 237 Pn **Pn 18 46 23.4 -4.0**
comp=Z,0.2nm,0.3s,baz=31,slow=13,SNR=5.9
MAT Matsushiro 16.48 237 P **Pn 18 46 23.9 -3.5**
JHJ Hachijo jima 2 18.24 226 LR LR 18 52 22.5
comp=Z,74nm,21.7s,baz=80,slow=32
YAK Yakutsk 20.90 325 *eP* **P 18 47 16.8 -1.8**
YAK *e* 18 47 37.3
YAK *eS* **S 18 51 09.9 -1.1**
YAK pmax pmax
comp=Z,38nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,28nm,1.4s
YAK pmax pmax
comp=Z,14nm,0.8s
YAK smax
comp=N,74nm,2.3s
YAK smax
comp=Z,122nm,4.6s
YAK smax
comp=E,85nm,2.3s
YAK MLR MLR
comp=Z,296nm,13.0s,MS3.9
YAK MLR MLR
comp=N,115nm,12.0s,MS3.8
YAK MLR MLR
comp=E,172nm,11.0s,MS3.8
YAK Yakutsk 20.90 325 *eP* **P 18 47 16.4 -2.2**
comp=E,29nm,0.8s
BILL Bilibino 21.78 11⇑ *eP* **P 18 47 28.8 +0.7**
BILL pmax pmax
comp=Z,27nm,1.3s,mb4.5
BILL Bilibino 21.78 11 *eP* **P 18 47 29.7 +1.6**
comp=Z,22nm,1.0s,mb4.5
KSRS Korea Array 22.32 254 P **P 18 47 34.5 +0.7**
comp=Z,3.9nm,0.8s,mb3.9,baz=58,slow=9.6,SNR=9.8
BOD Bodaibo 26.96 309 *eP* **P 18 48 14.9 -2.8**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb3.9
ULN Ulaanbaatar 32.21 290⇑ *eP* **P 18 49 02.8 -1.5**
SONM Songino Array 32.64 290 P **P 18 49 07.4 -0.7**
comp=Z,1.1nm,0.8s,mb3.8,baz=57,slow=7.6,SNR=6.9
ZAK Zakamensk 33.90 295 *eP* **P 18 49 17.8 -1.3**
XAN Xi'an 37.03 266 P **P 18 49 47.6 +1.7**
XAN AP pP 18 49 56.9 +5.7
XAN AMB AMB
comp=Z,3.0nm,1.1s,mb4.0
LZH Lanzhou 39.37 273 *eP* **P 18 50 07.5 +1.8**
LZH AP pP 18 50 11.5 +0.5
LZH XP sP 18 50 13.5 +0.4
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,81nm,4.0s
LZH Lanzhou 39.37 273 *eP* **P 18 50 07.5 +1.8**
comp=Z,19nm,1.0s,mb4.8
LZH pP pP 18 50 11.5 +0.5
LZH sP sP 18 50 13.5 +0.4
GTA Gaotai 40.40 280 *eP* **P 18 50 15.6 +1.4**
GTA AP pP 18 50 20.4 +0.9
GTA XP sP 18 50 23.3 +1.7
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
INK Inuvik 40.59 33 P **P 18 50 15.9 +0.1**
comp=Z,3.9nm,0.8s,mb4.1,baz=256,slow=7.0,SNR=12
CD2 Chengdu 42.39 267 P **P 18 50 31.5 +0.9**
ZAL Zalesovo 43.66 306 P **P 18 50 40.6 -0.2**
comp=Z,1.5nm,0.6s,mb3.9,baz=9.2,slow=6.9,SNR=8.6
ZAL Zalesovo 43.66 306 *i P* **P 18 50 41.0 +0.2**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
NVS Novosibirsk 44.19 308 *eP* **P 18 50 44.9 -0.2**
KMI Kunming 46.77 261 P **P 18 51 05.9 +0.4**
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
KMI Kunming 46.77 261 P **P 18 51 05.9 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
MK31 Makanchi Array 48.13 298 *eP* **P 18 51 15.2 -0.9**
MKAR Makanchi Array 48.13 298 P **P 18 51 16.4 +0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=69,slow=8.0,SNR=18
LSA Lhasa 51.75 274 P **P 18 51 47.1 +3.5**
BVA0 Borovoye Array 51.82 310 *i P* **P 18 51 44.3 +0.2**
BVAR Borovoye Array 51.82 310 P **P 18 51 44.8 +0.7**
comp=Z,4.3nm,0.4s,mb4.7,baz=57,slow=8.2,SNR=45
BRVK Borovoye 51.85 310 *eP* **P 18 51 44.4 0.0**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BRVK Borovoye 51.85 310 *eP* **P 18 51 44.4 0.0**
comp=Z,15nm,0.8s,mb5.0
ARU Arti 55.79 318⇑ *iP* **P 18 52 13.4 +0.2**
ARU *eS* PKiKP 18 59 45.9 +3.3
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARU Arti 55.79 318 *eP* **P 18 52 13.1 -0.1**
comp=Z,36nm,1.3s,mb5.2
KK31 Karatay Array 57.16 300 *i P* **P 18 52 23.4 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KKAR Karatay Array 57.16 300 P **P 18 52 23.4 +0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KEV Kevo 57.55 341 *ep* **P 18 52 25.2 -0.5**
comp=Z,3.9nm,0.7s,mb4.5
KEV Kevo 57.55 341 *eP* **P 18 52 25.2 -0.5**
KEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ARCES ARCESS Array B 58.05 341 P **P 18 52 29.9 +0.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=26,slow=6.5,SNR=8.2
AB31 Akbulak array 59.37 311 P **P 18 52 38.7 +0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
PDAR Pinedale Array 63.35 55 P **P 18 53 04.6 -0.7**
comp=Z,0.5nm,0.8s,mb3.7,baz=257,slow=2.6,SNR=4.8
FINES FINESS Array B 64.39 336 P **P 18 53 12.1 -0.1**
comp=Z,3.2nm,0.5s,mb4.6,baz=42,slow=6.6,SNR=21
OBN Obninsk 65.90 326 *eP* **P 18 53 22.7 +0.8**
OBN pmax pmax
comp=Z,41nm,2.4s,mb5.0
NB2 NORSAR Subarra 68.41 342 P **P 18 53 40.1 +2.2**
comp=Z,1.2nm,0.5s,mb4.2,baz=30,slow=6.5
NOA NORSAR Array B 68.41 342 P **P 18 53 38.0 0.0**
comp=Z,2.1nm,0.9s,mb4.2,baz=26,slow=6.3,SNR=3.4
WRAB Tennant Creek 69.30 201⇑ *eP* **P 18 53 34.7 -8.7**
WRA Warramunga Arr 69.31 201 P **P 18 53 41.4 -2.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=19,slow=6.5,SNR=7.9
KIV Kislovodsk 71.65 315⇑ *eP* **P 18 53 58.6 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AKASG Malin Array Be 72.11 327 P **P 18 53 59.9 -0.7**
comp=Z,0.9nm,0.4s,mb4.1,baz=34,slow=6.6,SNR=8.2
ASAR Alice Springs 72.99 200 P **P 18 54 04.8 -1.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=16,slow=5.6,SNR=29
GNI Garni 73.46 312 LR LR 19 27 45.2
comp=Z,113nm,21.6s,MS4.1,baz=199,slow=37
TXAR Lajitas Array 76.04 62 P **P 18 54 23.5 0.0**
comp=Z,0.7nm,0.5s,mb3.9,baz=314,slow=5.1,SNR=13
BURAR Bucovina Array 76.15 328 ||*iP* **P 18 54 24.7 +0.6**
DPC Dobruska-Polom 76.72 334 *eP* **P 18 54 28.8 +1.5**
CLL Collm 76.80 337 *eP* **P 18 54 28.0 +0.2**
CLL *epP* pP 18 54 32.0 -1.4
CLL *ex* x 18 54 49.0
MORC Moravsky Berou 76.86 333 ||*iP* **P 18 54 31.4 +3.3**
PRU Pruhonice 77.56 335 *eP* **P 18 54 32.9 +0.8**
KHC Kasperske Hory 78.60 335 *eP* **P 18 54 38.6 +0.7**
KHC pP pP 18 54 43.5 0.0
KHC Kasperske Hory 78.60 335 *eP* **P 18 54 38.6 +0.7**
KHC *e* pP 18 54 43.5 0.0
GERES GERESS Array B 78.83 335 P **P 18 54 39.1 0.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=20,slow=4.3,SNR=4.1
BRTR Keskin Array B 79.18 318 P **P 18 54 42.0 +1.0**
comp=Z,1.2nm,0.9s,mb3.8,baz=72,slow=4.0,SNR=6.2
CDF Champ du Feu 80.93 339 *eP* pP 18 54 56.1 0.0
GRR Gorron 82.70 344 *eP* pP 18 55 07.1 +1.6
SMF Signal de Mont 83.39 341 *eP* pP 18 55 09.4 +0.3
comp=Z,26nm,1.1s
SMF Signal de Mont 83.39 341 *eP* pP 18 55 09.4 +0.3
SMF pmax pmax
comp=Z,13nm,1.1s,mb4.9
SMF Signal de Mont 83.39 341 *eP* pP 18 55 09.4 +0.3
comp=Z,13nm,1.1s
LPG La Plagne 83.78 338 *eP* pP 18 55 12.5 +1.5
CAF Calviac 85.42 341 *eP* pP 18 55 20.8 +1.4
comp=Z,16nm,1.0s
CAF Calviac 85.42 341 *eP* pP 18 55 20.8 +1.4
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CAF Calviac 85.42 341 *eP* pP 18 55 20.8 +1.4
comp=Z,7.9nm,1.0s

NEIC ***20*** *18:49:26.6±1.3, 4788N×153.12E, h10km, Error ellipse: s-maj=31.6km s-min=25.5km az=128.0*
MOS ***20*** *18:49:37.4±0.9, 4789N×15294E, h114km, mb4.0/3, Error ellipse: s-maj=29.3km s-min=15.6km az=98.6*
ISCJB ***20*** *18:49:39.4±1.5, 480N±02×153.1E±02, h128km±13km, mb3.8/13, Error ellipse: s-maj=33.2km s-min=14.0km az=93.8*
IDC ***20*** *18:49:43.4±4.2, 4787N×15301E, h152km±37km, mb3.6/12, mb1 3.7/13, mb1mx3.6/24, mbtmp3.6/13, Error ellipse: s-maj=27.0km s-min=19.7km az=116.0*
ISC 20 18:49:40.5±1.4, 480N±02×1532E±02, h127km±12km, n24, σ0s78/24, mb4.0/13, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.32**	**34**	*e*PN	**Pn**	**18 50 30.7**	**-0.4**
SKR				*e*		18 51 09.4	
ASAJ	**Asahikawa**	**8.31**	**246**	P	**Pn**	**18 51 38.5**	**+0.4**
	0.6nm,0.3s,baz=79,slow=13,SNR=7.0						
ASAJ	**Asahikawa**	**8.31**	**246**	PN	**Pn**	**18 51 38.5**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.24**	**250**	P	**P**	**18 54 16.6**	**+0.4**
	comp=Z,1.7nm,0.9s,mb3.4,baz=57,slow=11,SNR=5.3						
SONM	**Songino Array**	**30.98**	**287**	P	**P**	**18 55 46.0**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=67,slow=8.5,SNR=5.6						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**18 57 08.9**	**+1.4**
	comp=Z,1.0nm,0.5s,mb3.9,baz=298,slow=7.8,SNR=7.3						
MKAR	**Makanchi Array**	**46.42**	**296**	P	**P**	**18 57 53.9**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.8,baz=63,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**46.42**	**296**	*i* P	**P**	**18 57 53.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.11**	**309**	P	**P**	**18 58 22.4**	**-0.2**
	comp=Z,1.9nm,0.3s,mb4.5,baz=57,slow=7.9,SNR=28						
ARU	**Arti**	**54.13**	**317**‖	*eP*	**P**	**18 58 51.5**	**-0.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6						
KEV	**Kevo**	**56.19**	**340**	*ep*	**P**	**18 59 04.0**	**-3.1**
ARCES	**ARCESS Array B**	**56.70**	**341**	P	**P**	**18 59 10.3**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=15,slow=7.4,SNR=12						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	**18 59 53.0**	**-0.4**
	comp=Z,2.6nm,0.4s,mb4.5,baz=37,slow=6.9,SNR=44						
FINES	**FINESS Array B**	**62.94**	**335**	*i* P	**P**	**18 59 53.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	**18 59 53.0**	**-0.4**
NB2	**NORSAR Subarra**	**67.07**	**341**	P	**P**	**19 00 20.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.07**	**341**	P	**P**	**19 00 20.4**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.4,baz=28,slow=6.0,SNR=9.5						
AKASG	**Malin Array Be**	**70.55**	**326**	P	**P**	**19 00 40.8**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=33,slow=6.0,SNR=5.8						
ASAR	**Alice Springs**	**73.39**	**198**	P	**P**	**19 00 57.5**	**-1.0**
	comp=Z,0.7nm,0.9s,mb3.5,baz=11,slow=5.5,SNR=7.2						
BURAR	**Bucovina Array**	**74.58**	**326**	||*iP*	**P**	**19 01 05.9**	**+0.5**
MLR	**Muntele Rosu**	**76.08**	**325**	||*iP*	**P**	**19 01 15.1**	**+1.1**
KHC	**Kasperske Hory**	**77.15**	**334**	*eP*	**P**	**19 01 20.0**	**0.0**
GERES	**GERESS Array B**	**77.36**	**334**	P	**P**	**19 01 22.2**	**+1.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=33,slow=5.6,SNR=6.5						
BRTR	**Keskin Array B**	**77.52**	**317**	P	**P**	**19 01 22.4**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=58,slow=5.3,SNR=5.9						

IDC 20 18:57:35.5±62.0, 1524S×17221W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/15, mbtmp4.5/3, 1D, Error ellipse: s-maj=1204.0km s-min=170.8km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.11**	**240**	||*iP*	P	19 05 53.6	+0.1
	2.2nm,0.6s						
STKA	**Stephens Creek**	**45.11**	**240**	P	P	19 05 54.0	+0.5
	2.2nm,0.4s,baz=80,slow=6.8,SNR=16						
WB2	**Warramunga Arr**	**50.99**	**257**	*eP*	P	19 06 39.3	+0.4
WRA	**Warramunga Arr**	**51.00**	**257**	P	P	19 06 39.4	+0.3
	1.4nm,0.5s,baz=95,slow=7.0,SNR=44						
ASAR	**Alice Springs**	**51.26**	**252**	P	P	19 06 41.2	+0.3
	16nm,6s,baz=89,slow=8.2,SNR=410						
ASPA	**Alice Springs**	**51.26**	**252**	*eP*	P	19 06 41.4	+0.4

IDC ***20*** *19:03:49.2±4.2, 4706N×15585E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/22, mbtmp3.6/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/43, Error ellipse: s-maj=142.4km s-min=28.4km az=7.0*
MOS ***20*** *19:03:55.8±1.6, 4799N×15589E, h33km, mb4.0/2, Error ellipse: s-maj=74.7km s-min=36.1km az=89.3*
ISCJB ***20*** *19:03:56.5±1.6, 480N±02×1560E±02, h35km, mb3.7/5, MS3.5/1, Error ellipse: s-maj=34.5km s-min=22.1km az=149.3*
ISC 20 19:03:58.1±1.6, 480N±02×1559E±02, h35km, n10, σ0s74/9, mb3.7/5, MS3.5/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**5.33**	**18**	*e*PN	**Pn**	**19 05 14.7**	**-0.4**
JNU	**Nakatsue**	**24.00**	**241**	LR	LR	19 19 03.9	
	comp=Z,134nm,18.8s,MS3.5,baz=306,slow=39						
MKAR	**Makanchi Array**	**48.06**	**298**	P	**P**	**19 12 33.1**	**-0.9**
	0.4nm,0.7s,mb3.6,baz=66,slow=7.1,SNR=3.9						
BVAR	**Borovoye Array**	**51.54**	**310**	P	**P**	**19 13 00.6**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=69,slow=7.1,SNR=5.0						
BVAR	**Borovoye Array**	**51.54**	**310**	P	**P**	**19 13 00.6**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**62.47**	**56**	P	**P**	**19 14 18.1**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.6,baz=322,slow=2.8,SNR=3.5						
FINES	**FINESS Array B**	**63.71**	**336**	P	**P**	**19 14 27.5**	**+1.4**
	comp=Z,1.6nm,1.0s,mb4.0,baz=27,slow=9.4,SNR=2.7						
FINES	**FINESS Array B**	**63.71**	**336**	P	**P**	**19 14 27.5**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**75.22**	**63**	P	**P**	**19 15 36.6**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=292,slow=4.9,SNR=6.1						
TXAR	**Lajitas Array**	**75.22**	**63**	P	**P**	**19 15 36.7**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NNC ***20*** *19:13:24.8±1.3, 4129N×7773E, h1km±12km, mb4.3, mpv4.2, Error ellipse: s-maj=14.0km s-min=8.3km az=151.0*
BJI ***20*** *19:13:26.5, 4153N×7781E, h6km, mB4.9, mb4.4, ML4.2, Ms4.2, Msz4.2*
KNET ***20*** *19:13:27.3±0.4, 4146N×7740E, h0km, ml4.3, Error ellipse: s-maj=4.7km s-min=2.2km az=52.0*
ISCJB ***20*** *19:13:28.1±0.5, 4133N×003×7783E±004, h42km±5km, mb4.2/21, MS4.0/1, Error ellipse: s-maj=5.6km s-min=4.2km az=134.5*
MOS ***20*** *19:13:28.5±0.7, 4160N×7769E, h33km, mb4.7/8, Error ellipse: s-maj=13.6km s-min=7.8km az=115.9*
NEIC ***20*** *19:13:30.5±2.7, 4149N×7758E, h35km±20km, mb4.6/7, Error ellipse: s-maj=11.6km s-min=6.6km az=205.0*
IDC ***20*** *19:13:30.5±2.7, 4141N×7772E, h40km±22km, mb3.9/14, mb1 4.1/18, mb1mx3.9/28, mbtmp3.9/18, ML3.5/4, MS3.5/2, Ms1 3.6/2, ms1mx3.0/39, Error ellipse: s-maj=21.0km s-min=12.9km az=4.0*
ISC 20 19:13:30.0±0.4, 4141N±003×7776E±004, h41km±5km, n95, σ1s28/111, mb4.2/21, MS3.9/1, 9C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.41**	**307**	P	**Pn**	**19 13 49.6**	**-3.6**
	SNR=28						

KNDC Almaty 1.90 342 ||Pn **Pn 19 13 59.8 -0.2**
1μm,0.5s
KNDC ||Sn **Sn 19 14 26.4 +3.6**
4μm,0.4s
AAA Alma-Ata 1.96 342 *d i* PN **Pn 19 13 59.9 -0.8**
AAA *i* S **Sn 19 14 25.4 +1.3**
AAA pmax pmax
comp=Z,4.0nm,0.4s
AAA smax
comp=E,3.0nm,0.5s
KZA Kyzart 2.00 290 P **Pn 19 14 00.0 -1.2**
SNR=90
TKM2 Tokmak 2 2.21 314 P **Pn 19 14 04.3 +0.1**
SNR=995
TKM2 Tokmak 2 2.21 314 ||Pn **Pn 19 14 04.3 +0.1**
TKM2 comp=E,67nm,0.5s
TKM2 ||Sn **Sn 19 14 33.6 +3.3**
comp=E,188nm,0.6s
KSH Kashi 2.33 216 P **Pn 19 14 08.8 +3.0**
KSH S **Sn 19 14 40.6 +7.4**
KSH Smax
comp=N,8μm,0.7s
KSH Smax
comp=E,15μm,0.8s
KBK Karagaybulak 2.44 302 P **Pn 19 14 08.3 +0.9**
SNR=354
UCH Uchtor 2.56 290 P **Pn 19 14 09.5 +0.4**
SNR=466
AAK Ala-Archa 2.73 298 P **Pn 19 14 12.0 +0.7**
SNR=237
FRU Bishkek 2.74 302 *i* PN **Pn 19 14 12.5 +1.0**
FRU *eS* **Sn 19 14 48.5 +5.1**
FRU *i* S **Sn 19 14 51.0 +7.6**
FRU *i* 19 14 52.5
FRU pmax pmax
comp=Z,1μm,2.5s
FRU pmax pmax
comp=Z,2μm,3.4s
FRU MLR MLR
comp=E,6μm,6.5s
CHMS Chumysh 2.75 306 P **Pn 19 14 12.4 +0.8**
SNR=314
USP Ospenovka 3.05 309 P **Pn 19 14 17.8 +2.1**
SNR=52
AML Almayashu 3.13 285 P **Pn 19 14 17.2 +0.3**
SNR=24
EKS2 Erkin-Say 3.22 294 P **Pn 19 14 19.1 +1.0**
SNR=61
KK31 Karatay Array 5.64 290 ||Pn **Pn 19 14 49.8 -1.5**
comp=E,1.2nm,0.7s,baz=106,slow=12
KK31 ||Pg **Pn 19 15 07.5 +16**
comp=E,48nm,0.8s,baz=110,slow=16
KK31 ||Lg 19 16 24.4
comp=E,118nm,0.6s,baz=108,slow=26
MK31 Makanchi Array 6.29 30 Pn **Pn 19 15 01.9 +1.7**
comp=E,4.0nm,0.5s,baz=189,slow=14,SNR=44
MK31 ||Pg Pn 19 15 21.5 +21
comp=E,18nm,0.6s,baz=204,slow=13,SNR=4.2
MK31 ⇑Lg 19 16 46.8
comp=E,46nm,0.8s,baz=193,slow=24
MKAR Makanchi Array 6.29 30 Pn **Pn 19 15 01.5 +1.2**
comp=E,1.2nm,0.3s,baz=189,slow=13,SNR=23
MKAR Sn **Sn 19 16 12.6 +1.7**
comp=E,2.3nm,0.3s,baz=202,slow=19,SNR=3.6
MKAR Lg 19 16 47.4
comp=E,3.0nm,0.3s,baz=210,slow=28,SNR=3.2
MKAR Makanchi Array 6.29 30 PN **Pn 19 15 01.5 +1.2**
MKAR 19 16 12.6
WMQ Urumqi 7.71 68 *eP* **Pn 19 15 21.0 +1.2**
WMQ S **Sn 19 16 53.1 +7.3**
WMQ Smax
comp=N,61nm,1.0s
WMQ Smax
comp=E,100nm,0.6s
CHCP Chirah Chowk 8.52 206 P **Pn 19 15 33.4 +2.6**
CEP Cherat 8.88 213 P **Pn 19 15 36.3 +0.6**
CEP S **Sn 19 17 16.0 +1.6**
THN Thein Dam 9.10 191 *eP* **Pn 19 15 38.8 0.0**
THN *eS* **Sn 19 17 25.6 +5.6**
SBDP Sheikh Budin 10.66 214 P **Pn 19 16 00.1 0.0**
DRP Derazinda 11.39 215 P **Pn 19 16 08.4 -1.7**
VOSK Vostochnaya 12.22 340⇑Pn **Pn 19 16 19.4 -2.1**
comp=E,5.5nm,0.9s
VOSK ||Lg 19 19 55.7
comp=E,50nm,0.9s
BVA0 Borovoye Array 12.65 339 Pn **Pn 19 16 24.9 -2.4**
comp=E,1.4nm,0.8s,baz=150,slow=13,SNR=54
BVA0 ||Lg 19 20 09.5
comp=E,24nm,1.6s
BVAR Borovoye Array 12.65 339 Pn **Pn 19 16 25.2 -2.1**
comp=E,0.8nm,0.3s,baz=153,slow=13,SNR=66
BVAR Sn **Sn 19 18 37.1 -10**
comp=E,0.2nm,0.3s,baz=241,slow=46,SNR=2.5
BVAR Lg 19 19 55.7
comp=E,0.8nm,0.3s,baz=171,slow=21,SNR=3.1
BVAR LR LR 19 21 45.4
comp=E,82nm,21.5s,baz=128,slow=39
BVAR Borovoye Array 12.65 339 P **Pn 19 16 25.2 -2.1**
BVAR 19 18 37.1
BRVK Borovoye 12.71 339 *eP* **Pn 19 16 25.5 -2.6**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 12.71 339 *eP* **Pn 19 16 25.5 -2.6**
comp=Z,11nm,0.7s
ZAL Zalesovo 13.39 18 Pn **Pn 19 16 37.1 -0.4**
comp=Z,0.5nm,0.3s,baz=271,slow=14,SNR=13
ZAL Lg 19 20 26.9
comp=Z,0.2nm,0.3s,baz=354,slow=13,SNR=2.4
ZAL Zalesovo 13.39 18 Pn **Pn 19 16 37.1 -0.4**
ZAL Lg 19 20 26.9
NVS Novosibirsk 13.92 13 *eP* **Pn 19 16 42.7 -2.0**
NVS *e* 19 19 18.7
KOLN Koldanda 14.42 159 *eP* **Pn 19 16 48.4 -3.1**
comp=Z,9.7nm,0.6s
GKN Gorkha 14.51 155 *eP* **Pn 19 16 50.6 -2.1**
comp=Z,14nm,0.5s
AB31 Akbulak array 14.76 308 ||Pn **Pn 19 16 54.8 -1.3**
comp=Z,1.5nm,0.5s
AB31 ⇑Sn **Sn 19 19 43.0 +4.6**
comp=Z,6.8nm,0.9s
AB31 ⇑Lg 19 21 15.5
comp=Z,9.6nm,0.8s
KKN Kakani 14.92 153 *eP* **Pn 19 16 57.1 -1.0**
comp=Z,15nm,0.5s
GUN Gumba 15.02 151 *eP* **Pn 19 16 59.4 0.0**
comp=Z,52nm,1.0s
DMN Daman 15.03 154 *eP* **Pn 19 16 58.0 -1.5**
PKI Pulchoki 15.16 153 *eP* **Pn 19 16 59.4 -1.9**
comp=Z,24nm,0.7s
JIRN Jiri 15.36 151 *eP* **Pn 19 17 03.3 -0.5**
comp=Z,27nm,0.7s
LSA Lhasa 15.95 133 *eP* **Pn 19 17 14.2 +2.8**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 15.95 133 *eP* **Pn 19 17 14.2 +2.8**
comp=Z,2.7nm,0.6s
AKTK Aktyubinsk 16.40 310 Pn **Pn 19 17 15.2 -1.9**
AKTK Sn **Sn 19 20 20.9 +2.8**
AKTK Lg 19 21 58.6
AKTO Aktyubinsk 16.40 310⇑Pn **Pn 19 17 15.8 -1.4**
comp=Z,1.1nm,2.0s
AKTO ⇑Lg 19 22 08.2
comp=Z,1.3nm,1.7s
AKTO Aktyubinsk 16.40 310 Pn **Pn 19 17 15.2 -1.9**
comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=7.1
AKTO Sn **Sn 19 20 20.9 +2.8**
comp=Z,0.1nm,0.3s,baz=103,slow=18,SNR=1.9
AKTO Lg 19 21 58.6
comp=Z,0.1nm,0.3s,baz=290,slow=20,SNR=2.4
AKTO Aktyubinsk 16.40 310 P **Pn 19 17 15.3 -1.9**
AKTO 19 20 20.9
GTA Gaotai 16.91 89 *eP* **Pn 19 17 27.3 +3.7**
GTA AP pP 19 17 31.4 -3.7
GTA XP sP 19 17 34.8 -5.5
GTA AMB AMB
comp=Z,4.0nm,1.1s
ARU Arti 19.52 327 *eP* **Pn 19 17 53.1 -2.3**
ARU *eS* **S 19 21 32.3 +0.1**
ARU Arti 19.52 327 *eP* **Pn 19 17 53.8 -1.7**
comp=Z,6.1nm,0.8s
ZAK Zakamensk 19.82 54 *eP* **Pn 19 17 58.1 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
LZH Lanzhou 20.99 96 *eP* **P 19 18 15.0 +5.2**
LZH AP 19 18 18.0
LZH XP sP 19 18 20.0 -5.0

LZH					AMB	AMB				
	comp=Z,28nm,1.5s									
LZH					AMB	AMB				
	comp=Z,67nm,4.2s									
LZH	**Lanzhou**	**20.99**	**96**	*eP*	**P**		**19 18 15.0**	**+5.2**		
	comp=Z,28nm,1.5s									
LZH					pP		19 18 18.0			
LZH					sP	sP	19 18 20.0	-5.0		
SONM	**Songino Array**	**21.29**	**63**	P	**P**		**19 18 14.7**	**+1.6**		
	comp=Z,6.2nm,0.8s,mb4.0,baz=265,slow=10,SNR=26									
ULN	**Ulaanbaatar**	**21.74**	**63**⇑	*eP*	**P**		**19 18 18.3**	**+0.5**		
GNI	**Garni**	**24.96**	**278**	P	**P**		**19 18 50.8**	**+1.2**		
	comp=Z,1.2nm,0.3s,mb3.8,baz=84,slow=9.5,SNR=5.9									
GNI	**Garni**	**24.96**	**278**⇑	*eP*	**P**		**19 18 51.1**	**+1.5**		
XAN	**Xi'an**	**25.62**	**97**	P	**P**		**19 18 59.6**	**+4.0**		
KIV	**Kislovodsk**	**25.80**	**288**⇑	*eP*	**P**		**19 19 00.9**	**+3.7**		
KIV					pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.0									
OBN	**Obninsk**	**30.17**	**311**	*eP*	**P**		**19 19 36.7**	**+0.4**		
OBN					pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.2									
BR131	**Keskin Array S**	**33.29**	**282**	*eP*	**P**		**19 20 04.1**	**+0.4**		
	comp=Z,3.2nm,0.6s,mb4.4									
BRTR	**Keskin Array B**	**33.29**	**282**	P	**P**		**19 20 04.3**	**+0.7**		
	comp=Z,5.1nm,0.7s,mb4.6,baz=92,slow=8.4,SNR=31									
BRTR	**Keskin Array B**	**33.29**	**282**	*i* P	**P**		**19 20 04.4**	**+0.7**		
BRTR					pmax	pmax				
	comp=Z,5.0nm,0.7s									
AKASG	**Malin Array Be**	**34.39**	**302**	P	**P**		**19 20 12.3**	**-0.9**		
	comp=Z,0.2nm,0.3s,mb3.5,baz=73,slow=8.2,SNR=3.6									
FINES	**FINESS Array B**	**36.69**	**321**	P	**P**		**19 20 33.3**	**+0.4**		
	comp=Z,3.0nm,0.6s,mb4.3,baz=99,slow=12,SNR=12									
ARCES	**ARCESS Array B**	**38.85**	**334**	P	**P**		**19 20 51.2**	**-0.1**		
	comp=Z,2.6nm,0.6s,mb4.2,baz=102,slow=9.1,SNR=14									
NB2	**NORSAR Subarra**	**43.84**	**320**	P	**P**		**19 21 31.8**	**-0.3**		
	comp=Z,6.0nm,0.9s,mb4.3,baz=87,slow=8.6									
NOA	**NORSAR Array B**	**43.84**	**320**	P	**P**		**19 21 32.2**	**+0.1**		
	comp=Z,2.5nm,0.7s,mb4.0,baz=87,slow=8.0,SNR=5.0									
NOA					LR	LR	19 40 30.4			
	comp=Z,155nm,18.6s,MS3.9,baz=260,slow=37									
NOA	**NORSAR Array B**	**43.84**	**320**	P	**P**		**19 21 32.2**	**+0.1**		
NOA					LR	LR	19 40 30.4			
CLL	**Collm**	**44.42**	**306**	*eP*	**P**		**19 21 37.0**	**+0.2**		
GERES	**GERESS Array B**	**44.60**	**302**	P	**P**		**19 21 38.9**	**+0.7**		
	comp=Z,1.5nm,0.6s,mb4.0,baz=72,slow=8.6,SNR=14									
KHC	**Kasperske Hory**	**44.60**	**303**	*eP*	**P**		**19 21 38.5**	**+0.3**		
HINF	**Hinteralfeld**	**49.27**	**303**	*eP*	**P**		**19 22 14.6**	**0.0**		
	comp=Z,20nm,1.0s,mb4.8									
HINF	**Hinteralfeld**	**49.27**	**303**	*eP*	**P**		**19 22 14.6**	**0.0**		
HINF					pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8									
HINF	**Hinteralfeld**	**49.27**	**303**	*eP*	**P**		**19 22 14.6**	**0.0**		
	comp=Z,9.9nm,1.0s,mb4.8									
HAU	**Haudompre**	**49.52**	**303**	*eP*	**P**		**19 22 16.5**	**-0.1**		
LPL	**La Plagne**	**50.17**	**300**	*eP*	**P**		**19 22 21.1**	**-0.5**		
	comp=Z,20nm,1.1s,mb4.7									
LPL	**La Plagne**	**50.17**	**300**	*eP*	**P**		**19 22 21.1**	**-0.5**		
LPL					pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.8									
LPL	**La Plagne**	**50.17**	**300**	*eP*	**P**		**19 22 21.1**	**-0.5**		
	comp=Z,10.0nm,1.1s,mb4.8									
ORIF	**Oris-en-Rattie**	**50.96**	**300**	*eP*	**P**		**19 22 27.0**	**-0.5**		
SMF	**Signal de Mont**	**51.60**	**302**	*eP*	**P**		**19 22 32.0**	**-0.3**		
	comp=Z,18nm,0.9s,mb4.7									
SMF	**Signal de Mont**	**51.60**	**302**	*eP*	**P**		**19 22 32.0**	**-0.3**		
SMF					pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7									
SMF	**Signal de Mont**	**51.60**	**302**	*eP*	**P**		**19 22 32.0**	**-0.3**		
	comp=Z,8.8nm,0.9s,mb4.7									
SSF	**Saint Saulge**	**51.66**	**303**	*eP*	**P**		**19 22 32.5**	**-0.2**		
AVF	**Avril sur Loir**	**51.86**	**303**	*eP*	**P**		**19 22 33.9**	**-0.3**		
	comp=Z,24nm,0.9s,mb4.8									
AVF	**Avril sur Loir**	**51.86**	**303**	*eP*	**P**		**19 22 33.9**	**-0.3**		
AVF					pmax	pmax				
	comp=Z,12nm,0.9s,mb4.8									
AVF	**Avril sur Loir**	**51.86**	**303**	*eP*	**P**		**19 22 33.9**	**-0.3**		
	comp=Z,12nm,0.9s,mb4.8									
LASF	**Ste Croix**	**52.62**	**299**	*eP*	**P**		**19 22 39.5**	**-0.4**		
	comp=Z,12nm,1.0s,mb4.5									
INK	**Inuvik**	**68.12**	**12**	P	**P**		**19 24 26.0**	**+0.2**		
	comp=Z,2.4nm,0.8s,mb4.3,baz=12,slow=8.1,SNR=9.8									
TORD	**Torodi Ar. Bea**	**71.01**	**271**	P	**P**		**19 24 42.9**	**-0.7**		
	comp=Z,1.2nm,0.6s,mb4.0,baz=46,slow=4.2,SNR=22									
KDAK	**Kodiak Island**	**72.59**	**26**	P	**P**		**19 24 53.5**	**+0.4**		
	comp=Z,10nm,0.8s,mb4.8,baz=244,slow=6.2,SNR=4.9									
YKA	**Yellowknife Ar**	**75.97**	**6**	P	**P**		**19 25 12.5**	**-0.3**		
	comp=Z,3.2nm,0.9s,mb4.2,baz=347,slow=5.9,SNR=3.8									
WRA	**Warramunga Arr**	**80.42**	**127**	P	**P**		**19 25 38.7**	**+1.4**		
	comp=Z,1.1nm,1.0s,mb3.7,baz=330,slow=5.1,SNR=5.7									
ASAR	**Alice Springs**	**83.03**	**130**	P	**P**		**19 25 51.5**	**+0.3**		
	comp=Z,0.6nm,0.8s,mb3.6,baz=330,slow=5.4,SNR=3.1									

*IDC **20** 19:16:60.0±0.6, 4720N×15545E, h0km, mb4.4/22, mb1 4.6/23, mb1mx4.5/28, mbtmp4.4/23, ML3.4/1, MS3.8/8, Ms1 3.8/8, ms1mx3.3/39, Error ellipse: s-maj=18.2km s-min=13.0km az=163.0*

*BJI **20** 19:17:00.3, 4780N×15581E, h18km, mB4.8, mb4.4, Ms4.0, Msz3.8*

*NEIC **20** 19:17:01.9±0.4, 4725N×15552E, h10km, mb4.7/16, Error ellipse: s-maj=12.6km s-min=6.9km az=169.0*

*ISCJB **20** 19:17:02.3±2.0, 4738N±007×15553E±007, h21km±13km, mb4.5/52, MS3.8/9, Error ellipse: s-maj=11.8km s-min=6.7km az=141.0*

*MOS **20** 19:17:04.3±1.0, 4728N×15552E, h38km, mb4.9/23, Error ellipse: s-maj=13.4km s-min=7.7km az=109.6*

*SKHL **20** 19:17:04.9±2.7, 4742N×15543E, h62km±24km, Ms4.1/3*

ISC 20 19:17:04.7±2.1, 4735N±007×15552E±006, h26km±14km, h14km±3.1km:pP-P, n144, σ1§09/144, mb4.5/52, MS3.8/9, 9C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**3.35**	**7**	*e*P		**Pn**	**19**	**17**	**55.5**	**0.0**
SKR				*e*S		**Sn**	**19**	**18**	**31.5**	**-2.9**
SKR				A			19	18	36.3	
	630nm,0.5s									
SKR				A			19	18	36.3	
	450nm,0.5s									
SKR				A			19	18	36.3	
	250nm,0.5s									
SKR				AMS		AMS	19	19	48.0	
	2µm,16.0s									
SKR				AMS		AMS	19	19	48.0	
	5µm,16.0s									
SKR				AMS		AMS	19	19	48.0	
	6µm,16.0s									
SKR				AMS		AMS	19	19	48.0	
	3µm,16.0s									
KUR	**Kuril'sk**	**5.71**	**251**	⇓*i*P		**Pn**	**19**	**18**	**23.8**	**-4.0**
KUR				AMB		AMB	19	18	24.5	
	215nm,0.8s									
KUR				*i* S		**Sn**	**19**	**19**	**25.0**	**-7.5**
KUR				A			19	19	30.0	
	430nm,0.8s									
KUR				A			19	19	30.0	
	129nm,0.8s									
PET	**Petropavlovsk**	**6.02**	**18**	*e*PN		**Pn**	**19**	**18**	**31.0**	**-1.1**
PET				pmax		pmax				
	comp=Z,33nm,0.9s									
PET				MLR		MLR				
	comp=Z,200nm,13.0s									
YSS	**Yuzh-Sakhalins**	**8.71**	**272**	*e*P		**Pn**	**19**	**19**	**11.0**	**+2.0**
YSS				AMB		AMB	19	19	12.0	
	comp=Z,30nm,0.9s									
YSS				AMB		AMB	19	19	12.0	
	comp=Z,20nm,0.9s									
YSS				AMB		AMB	19	19	12.0	
	comp=Z,30nm,0.9s									
YSS				*e*S		**Sn**	**19**	**20**	**45.5**	**-0.8**
YSS				A			19	20	49.0	
	comp=Z,30nm,0.9s									
YSS				A			19	20	49.0	
	comp=Z,40nm,0.9s									
YSS				*e*LQ			19	21	15.0	
YSS				AMS		AMS	19	23	40.0	
	comp=Z,500nm,15.0s									
YSS				AMS		AMS	19	23	40.0	
	comp=Z,400nm,14.0s									
YSS	**Yuzh-Sakhalins**	**8.71**	**272**	*d i*PN		**Pn**	**19**	**19**	**11.0**	**+2.0**
YSS	**Yuzh-Sakhalins**	**8.71**	**272**	*e*P		**Pn**	**19**	**19**	**10.8**	**+1.8**
	comp=Z,25nm,0.6s									
TYV	**Tymovskoe**	**9.14**	**297**	*e*P		**Pn**	**19**	**19**	**16.5**	**+1.6**
TYV				AMB		AMB	19	19	18.8	
	comp=Z,23nm,1.0s									
TYV				AMB		AMB	19	19	18.8	
	comp=Z,80nm,1.6s									
UGL	**Uglegorsk**	**9.15**	**286**	*e*P		**Pn**	**19**	**19**	**22.0**	**+7.0**
UGL				AMB		AMB	19	19	24.5	
	comp=Z,42nm,0.7s									
UGL				AMS		AMS	19	23	51.0	
	comp=Z,500nm,14.0s									
UGL				AMS		AMS	19	23	51.0	
	comp=Z,700nm,14.0s									
UGL				AMS		AMS	19	23	51.0	
	comp=Z,800nm,16.0s									
ASAJ	**Asahikawa**	**9.60**	**255**	Pn		**Pn**	**19**	**19**	**18.5**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=98,slow=17,SNR=7.8									
ASAJ				LR		LR	19	24	01.8	
	comp=Z,192nm,18.1s,baz=238,slow=44									
NKL	**Nikolayevsk**	**11.12**	**307**	AMS		AMS	19	25	24.0	
	comp=Z,600nm,16.0s									
HABR	**Khabarovsk**	**13.77**	**282**	*e*P		**Pn**	**19**	**20**	**22.6**	**+4.3**
HABR				*e*S		**Sn**	**19**	**22**	**56.8**	**+6.5**
MJAR	**Matsushiro Arr**	**16.77**	**236**	Pn		**Pn**	**19**	**20**	**51.0**	**-6.7**
	comp=Z,0.2nm,0.3s,baz=21,slow=15,SNR=5.0									
MDJ	**Mudanjiang**	**18.20**	**271**	P		**Pn**	**19**	**21**	**15.9**	**+0.4**
MDJ				AMB		AMB				
	comp=Z,7.0nm,0.8s									
MDJ				AMB		AMB				
	comp=Z,113nm,4.4s									
MDJ				LR		LR				
	comp=N,99nm,20.7s									
MDJ				LR		LR				
	comp=E,61nm,26.8s									
MDJ				LR		LR				
	comp=Z,96nm,19.0s									
ZEA	**Zeya**	**18.98**	**300**	*e*P		**Pn**	**19**	**21**	**24.0**	**-1.0**
ZEA				AMB		AMB	19	21	32.5	
	comp=Z,17nm,1.0s									
ZEA				AMB		AMB	19	21	32.5	
	comp=Z,16nm,0.9s									
YAK	**Yakutsk**	**20.74**	**325**	*e*P		**P**	**19**	**21**	**42.4**	**-1.0**
YAK				*e*S		**S**	**19**	**25**	**28.2**	**-5.4**
YAK				pmax		pmax				
	comp=Z,13nm,0.8s									
YAK				pmax		pmax				
	comp=N,11nm,1.4s									
YAK				pmax		pmax				
	comp=E,10.0nm,1.4s									
YAK				smax						
	comp=N,241nm,5.8s									
YAK				smax						
	comp=E,165nm,3.9s									
YAK	**Yakutsk**	**20.74**	**325**	*e*P		**P**	**19**	**21**	**41.1**	**-2.3**
	comp=E,22nm,0.6s									
CLNS	**Chul'man**	**20.91**	**308**	*e*P		**P**	**19**	**21**	**47.5**	**+2.4**
CLNS				pmax		pmax				
	comp=Z,37nm,0.9s									
CLNS				pmax		pmax				
	comp=N,20nm,1.0s									
CLNS				pmax		pmax				
	comp=E,21nm,1.1s									
BILL	**Bilibino**	**21.46**	**11**⇑	*e*P		**P**	**19**	**21**	**52.4**	**+1.3**
BILL				pmax		pmax				
	comp=Z,37nm,1.7s,mb4.4									
BILL	**Bilibino**	**21.46**	**11**	*e*P		**P**	**19**	**21**	**52.0**	**+1.0**
	comp=Z,18nm,0.9s,mb4.4									
KSRS	**Korea Array**	**22.55**	**254**	P		**P**	**19**	**22**	**02.9**	**+0.2**
	comp=Z,4.7nm,0.9s,mb3.9,baz=56,slow=8.9,SNR=8.5									
KSRS				PcP		PcP	19	25	55.5	-0.3
	comp=Z,1.2nm,0.7s,baz=325,slow=2.2,SNR=4.1									
KSRS				LR		LR	19	30	15.3	
	comp=Z,92nm,18.2s,MS3.2,baz=80,slow=35									
SNY	**Shenyang**	**23.30**	**268**	⇑P		**P**	**19**	**22**	**10.6**	**-0.1**
SNY				AMB		AMB				
	comp=Z,12nm,1.1s,mb4.2									
SNY				AMB		AMB				
	comp=Z,173nm,5.9s									
SNY				LR		LR				
	comp=E,307nm,14.4s									
SNY				LR		LR				
	comp=Z,285nm,17.7s,MS3.8									
JNU	**Nakatsue**	**23.45**	**242**	LR		LR	19	31	34.7	
	comp=Z,229nm,18.2s,MS3.7,baz=255,slow=38									
BOD	**Bodaibo**	**26.89**	**308**	*e*P		**P**	**19**	**22**	**39.5**	**-3.9**
BOD				pmax		pmax				
	comp=Z,5.0nm,1.1s,mb4.0									
ULN	**Ulaanbaatar**	**32.25**	**289**⇓	*e*P		**P**	**19**	**23**	**31.9**	**+0.9**
IMA2	**Indian Mountai**	**32.35**	**36**	*e*P		**P**	**19**	**23**	**31.4**	**-0.5**
KDAK	**Kodiak Island**	**32.44**	**52**	P		**P**	**19**	**23**	**30.7**	**-1.9**
	comp=Z,7.5nm,0.9s,mb4.5,baz=270,slow=9.6,SNR=5.0									
SONM	**Songino Array**	**32.69**	**289**	P		**P**	**19**	**23**	**32.3**	**-2.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=67,slow=7.2,SNR=3.3									
SONM				PcP		PcP	19	26	19.4	-0.7
	comp=Z,1.5nm,0.9s,baz=66,slow=0.9,SNR=5.7									
SONM				LR		LR	19	37	56.1	
	comp=Z,130nm,19.0s,MS3.6,baz=35,slow=38									
SONM	**Songino Array**	**32.69**	**289**	P		**P**	**19**	**23**	**32.3**	**-2.5**
SONM							19	26	19.4	
TLY	**Talaya**	**33.37**	**297**	*e*P		**P**	**19**	**23**	**41.2**	**+0.4**
TLY				pmax		pmax				
	comp=Z,11nm,0.8s,mb4.8									
TLY				MLR		MLR				
	comp=Z,157nm,15.0s,MS3.9									
COLA	**College**	**34.64**	**39**⇓	*e*P		**P**	**19**	**23**	**51.3**	**-0.5**
COLA	**College**	**34.64**	**39**	*e*P		**P**	**19**	**23**	**51.9**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.5									
XAN	**Xi'an**	**37.20**	**266**	P		**P**	**19**	**24**	**13.3**	**-0.5**
XAN				AMB		AMB				
	comp=Z,2.0nm,1.0s,mb3.9									
EGAK	**Eagle**	**37.50**	**39**	*e*P		**P**	**19**	**24**	**15.6**	**-0.7**
	comp=Z,9.1nm,0.8s,mb4.6									
LZH	**Lanzhou**	**39.51**	**273**	*e*P		**P**	**19**	**24**	**33.5**	**+0.3**
LZH				AP		pP	19	24	39.0	-2.0
LZH				AMB		AMB				
	comp=Z,13nm,1.0s,mb4.6									
LZH	**Lanzhou**	**39.51**	**273**	*e*P		**P**	**19**	**24**	**33.5**	**+0.3**
LZH				*SP		sP	19	24	41.0	-3.1
LZH				pmax		pmax				
	comp=Z,13nm,1.0s,mb4.6									
LZH	**Lanzhou**	**39.51**	**273**	*e*P		**P**	**19**	**24**	**33.5**	**+0.3**
	comp=Z,13nm,1.0s,mb4.6									
LZH				pP		pP	19	24	39.0	-2.0
LZH				sP		sP	19	24	41.0	-3.1
INK	**Inuvik**	**40.26**	**33**	P		**P**	**19**	**24**	**39.9**	**+0.5**
	comp=Z,5.3nm,0.7s,mb4.4,baz=297,slow=7.1,SNR=16									
CD2	**Chengdu**	**42.56**	**266**	P		**P**	**19**	**24**	**58.3**	**0.0**
CD2				AMB		AMB				
	comp=Z,20nm,1.0s,mb4.8									
ZAL	**Zalesovo**	**43.61**	**306**	P		**P**	**19**	**25**	**05.8**	**-1.0**
	comp=Z,2.8nm,0.5s,mb4.2,baz=48,slow=7.3,SNR=8.4									
ZAL				LR		LR	19	41	54.9	
	comp=Z,115nm,21.7s,MS3.8,baz=276,slow=34									
NVS	**Novosibirsk**	**44.12**	**308**	*e*P		**P**	**19**	**25**	**10.9**	**0.0**
MK31	**Makanchi Array**	**48.12**	**298**	*i* P		**P**	**19**	**25**	**41.7**	**-0.6**
MK31				pmax		pmax				
	comp=Z,6.0nm,0.6s,mb4.8									
MK31	**Makanchi Array**	**48.12**	**298**	*e*P		**P**	**19**	**25**	**42.0**	**-0.3**
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**	**19**	**25**	**41.7**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.6,baz=68,slow=8.2,SNR=18									
MKAR				LR		LR	19	48	33.9	
	comp=Z,133nm,20.2s,MS3.9,baz=188,slow=39									
MKAR	**Makanchi Array**	**48.12**	**298**	*i* P		**P**	**19**	**25**	**41.7**	**-0.6**
MKAR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
YKA	**Yellowknife Ar**	**49.45**	**38**	P		**P**	**19**	**25**	**52.7**	**+0.2**
	comp=Z,4.5nm,0.7s,mb4.6,baz=292,slow=7.1,SNR=6.9									
YKA	**Yellowknife Ar**	**49.45**	**38**	*i* P		**P**	**19**	**25**	**52.7**	**+0.1**
YKA				pmax		pmax				
	comp=Z,5.0nm,0.7s									
YKA	**Yellowknife Ar**	**49.45**	**38**	P		**P**	**19**	**25**	**52.7**	**+0.2**
BVAR	**Borovoye Array**	**51.74**	**310**	P		**P**	**19**	**26**	**09.7**	**-0.2**
	comp=Z,13nm,0.6s,mb5.1,baz=58,slow=7.6,SNR=39									
BVAR				LR		LR	19	51	25.6	
	comp=Z,151nm,19.0s,MS4.0,baz=50,slow=40									
BVA2	**Borovoye Array**	**51.74**	**310**	P		**P**	**19**	**26**	**10.4**	**+0.5**
BVA2				pmax		pmax				
	comp=Z,1.0nm,0.5s,mb4.0									
BRVK	**Borovoye**	**51.78**	**310**	*e*P		**P**	**19**	**26**	**09.6**	**-0.5**
LSA	**Lhasa**	**51.88**	**274**	P		**P**	**19**	**26**	**12.0**	**+1.1**
LSA	**Lhasa**	**51.88**	**274**	*e*P		**P**	**19**	**26**	**13.1**	**+2.2**
LSA				pmax		pmax				
	comp=Z,3.0nm,0.6s,mb4.4									
LSA	**Lhasa**	**51.88**	**274**	*e*P		**P**	**19**	**26**	**13.1**	**+2.2**
	comp=Z,4.3nm,0.6s,mb4.5									
EDM	**Edmonton**	**54.70**	**47**	*e*P		**P**	**19**	**26**	**31.3**	**-0.3**
ARU	**Arti**	**55.67**	**318**⇑	*i*P		**P**	**19**	**26**	**38.0**	**-0.6**
ARU				*e*			19	27	32.2	
ARU				*e*			19	28	38.9	
ARU				*e*S		**S**	**19**	**34**	**22.7**	**-0.5**
ARU				*e*SS		SS	19	38	03.2	-5.4
ARU				pmax		pmax				
	comp=Z,18nm,0.7s,mb5.2									
YBH	**Yreka Blue Hor**	**56.01**	**63**	P		**P**	**19**	**26**	**41.9**	**+0.9**
	comp=Z,7.4nm,1.0s,mb4.7,baz=324,slow=3.3,SNR=8.1									
GUN	**Gumba**	**56.58**	**276**	*e*P		**P**	**19**	**26**	**48.4**	**+3.3**
KKN	**Kakani**	**57.06**	**277**	*e*P		**P**	**19**	**26**	**49.0**	**+0.5**
PKI	**Pulchoki**	**57.12**	**276**	*e*P		**P**	**19**	**26**	**50.2**	**+1.3**
DMN	**Daman**	**57.30**	**277**	*e*P		**P**	**19**	**26**	**50.9**	**+0.7**
GKN	**Gorkha**	**57.36**	**277**	*e*P		**P**	**19**	**26**	**50.8**	**+0.2**
	comp=Z,15nm,0.5s,mb5.3									
ARCES	**ARCESS Array B**	**57.81**	**341**	P		**P**	**19**	**26**	**53.6**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.5,baz=27,slow=8.2,SNR=4.4									
KOLN	**Koldanda**	**58.21**	**278**	*e*P		**P**	**19**	**26**	**53.6**	**-3.0**
	comp=Z,13nm,0.7s,mb5.0									
AB31	**Akbulak array**	**59.29**	**311**	P		**P**	**19**	**27**	**03.8**	**-0.3**
AB31				pmax		pmax				
	comp=Z,4.0nm,0.5s,mb4.7									
AKTK	**Aktyubinsk**	**59.54**	**313**	P		**P**	**19**	**27**	**05.6**	**-0.3**
AKTK				LR		LR	19	56	35.5	
AKTO	**Aktyubinsk**	**59.54**	**313**	P		**P**	**19**	**27**	**05.6**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.6,baz=55,slow=6.0,SNR=16									
AKTO				LR		LR	19	56	35.5	
	comp=Z,174nm,19.0s,MS4.2,baz=233,slow=40									
AKTO	**Aktyubinsk**	**59.54**	**313**	P		**P**	**19**	**27**	**05.1**	**-0.7**
ORR	**Orenburg**	**60.39**	**315**	*e*P		**P**	**19**	**27**	**11.0**	**-0.7**
ORR				pmax		pmax				
	comp=Z,10.0nm,0.8s,mb4.9									
QLMT	**Earthquake Lak**	**60.70**	**55**	*e*P		**P**	**19**	**27**	**14.5**	**+0.7**
REDW	**Red Top Meadow**	**61.95**	**56**	*e*P		**P**	**19**	**27**	**23.4**	**+1.2**
	comp=Z,9.2nm,0.9s,mb4.9									
DUG	**Dugway**	**62.86**	**59**	*e*P		**P**	**19**	**27**	**28.8**	**+0.5**
DUG				pmax		pmax				
	comp=Z,4.0nm,1.0s,mb4.5									
DUG	**Dugway**	**62.86**	**59**	*e*P		**P**	**19**	**27**	**28.8**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.5									
PDAR	**Pinedale Array**	**63.06**	**55**	P		**P**	**19**	**27**	**30.1**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.6,baz=293,slow=2.4,SNR=32									
FINES	**FINESS Array B**	**64.18**	**336**	P		**P**	**19**	**27**	**36.9**	**-0.2**
	comp=Z,8.9nm,0.7s,mb4.9,baz=42,slow=6.7,SNR=16									
FINES	**FINESS Array B**	**64.18**	**336**	*i* P		**P**	**19**	**27**	**36.9**	**-0.2**
FINES				pmax		pmax				
	comp=Z,9.0nm,0.7s									
ULM	**Lac du Bonnet**	**64.98**	**42**	P		**P**	**19**	**27**	**42.0**	**-0.3**
	comp=Z,3.4nm,1.0s,mb4.3,baz=308,slow=6.6,SNR=6.3									
ULM	**Lac du Bonnet**	**64.98**	**42**	P		**P**	**19**	**27**	**42.0**	**-0.3**
RSSD	**Black Hills**	**65.17**	**51**	*e*P		**P**	**19**	**27**	**43.1**	**-0.4**
RSSD				pmax		pmax				
	comp=Z,11nm,1.0s,mb4.8									
RSSD	**Black Hills**	**65.17**	**51**	*e*P		**P**	**19**	**27**	**43.1**	**-0.4**
	comp=Z,11nm,1.0s,mb4.9									
OBN	**Obninsk**	**65.73**	**327**	*e*P		**P**	**19**	**27**	**46.4**	**-0.7**
OBN				pmax		pmax				
	comp=Z,11nm,0.8s,mb4.9									
NB2	**NORSAR Subarra**	**68.17**	**342**	P		**P**	**19**	**28**	**02.1**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.5,baz=26,slow=6.5									
NOA	**NORSAR Array B**	**68.17**	**342**	P		**P**	**19**	**28**	**02.5**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.5,baz=26,slow=6.3,SNR=6.5									
WRA	**Warramunga Arr**	**69.64**	**201**	P		**P**	**19**	**28**	**09.3**	**-2.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=21,sl

SNAA				*e*			19 37 13.9	
SNAA				*e*			19 37 17.4	
VNA2	**Neumayer--Watz**	**154.98**	**193**	*e*PKPdf		PKPbc	19 37 01.1	-2.9
VNA2				*e*			19 37 11.2	
VNA2				*e*			19 37 16.8	
VNA2				*e*			19 37 21.2	
VNA3	**Neumayer Olymp**	**155.03**	**191**	*e*PKPdf		PKPdf	19 36 58.4	+3.1
VNA3				*e*			19 37 08.9	
VNA3				*e*			19 37 15.4	
VNA3				*e*			19 37 20.3	

*BJI **20** 19:23:03.2, 1840S×178.10W, h541km, mB4.9, mb4.5*
*NEIC **20** 19:23:06.2±2.0, 1841S×178.14W, h541km±22km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=13.4km az=140.0*
*ISCJB **20** 19:23:07.1±2.1, 1846S±0.10×17820W±009, h565km±26km, mb4.0/22, Error ellipse: s-maj=15.4km s-min=12.9km az=113.8*
*IDC **20** 19:23:08.0±2.1, 1847S×178.17W, h564km±25km, mb3.5/16, mb1 3.6/17, mb1mx3.6/22, mbtmp3.5/17, Error ellipse: s-maj=15.0km s-min=12.3km az=144.0*

ISC 20 19:23:07.6±2.0, 1848S±009×17813W±009, h558km±23km, n84, σ0887/36, mb4.0/22, 17C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.91**	**254**	P	**P**	**19 26 16.1**	**+0.2**
	0.4nm,0.3s,baz=120,slow=19,SNR=4.1						
URZ	**Urewera**	**20.14**	**191**	P	**P**	**19 27 02.5**	**-2.0**
	12nm,0.5s,baz=307,slow=2.6,SNR=10.0						
RPZ	**Rata Peaks**	**26.76**	**198**	P	**P**	**19 28 02.7**	**-0.6**
	6.4nm,0.5s,mb4.5,baz=345,slow=7.8,SNR=2.6						
CTA	**Charters Tower**	**33.62**	**261**	P	**P**	**19 29 01.9**	**-0.4**
	4.9nm,0.6s,mb4.2,baz=107,slow=11						
STKA	**Stephens Creek**	**38.59**	**242**	*e*P	**P**	**19 29 44.6**	**+1.4**
	2.7nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**38.59**	**242**	P	**P**	**19 29 44.1**	**+0.9**
	3.8nm,0.8s,mb4.0,baz=106,slow=9.3,SNR=6.1						
WB2	**Warramunga Arr**	**44.78**	**260**	*e*P	**P**	**19 30 31.9**	**-0.1**
WRA	**Warramunga Arr**	**44.79**	**260**	P	**P**	**19 30 32.2**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=97,slow=6.8,SNR=50						
WRA				PcP	PcP	19 32 02.2	+0.3
	1.1nm,0.7s,baz=87,slow=4.0,SNR=6.1						
AS31	**Alice Springs**	**44.89**	**255**	*e*P	**P**	**19 30 33.3**	**+0.5**
ASAR	**Alice Springs**	**44.89**	**255**	P	**P**	**19 30 33.4**	**+0.6**
	4.4nm,0.5s,mb4.2,baz=88,slow=8.8,SNR=76						
ASAR				PcP	PcP	19 32 01.8	-0.5
	1.6nm,0.8s,baz=99,slow=4.4,SNR=7.0						
ASAR				S	**S**	**19 36 29.7**	**-0.6**
	1.8nm,0.9s,baz=87,slow=14,SNR=11						
ASPA	**Alice Springs**	**44.90**	**255**	*e*P	**P**	**19 30 33.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.20**	**261**	P	**P**	**19 31 34.4**	**+0.4**
	0.9nm,0.5s,mb3.4						
VNDA	**Vanda**	**59.90**	**185**	P	**P**	**19 32 21.0**	**+1.0**
	1.0nm,0.6s,mb3.3,baz=349,slow=8.1,SNR=9.1						
VNDA	**Vanda**	**59.90**	**185**	P	**P**	**19 32 21.0**	**+1.0**
MJAR	**Matsushiro Arr**	**68.52**	**323**	P	**P**	**19 33 13.2**	**-1.4**
	4.8nm,0.7s,mb4.1,baz=157,slow=5.7,SNR=14						
QSPA	**South Pole Qui**	**71.58**	**180**	*e*P	**P**	**19 33 33.5**	**+0.7**
	4.1nm,0.6s,mb4.0						
ASAJ	**Asahikawa**	**71.90**	**331**	P	**P**	**19 33 35.0**	**+0.3**
	6.6nm,0.8s,mb4.1,baz=235,slow=8.1,SNR=5.3						
KSRS	**Korea Array**	**75.30**	**319**	P	**P**	**19 33 54.6**	**+0.7**
	1.0nm,0.7s,mb3.4,baz=132,slow=6.0,SNR=4.7						
OHCM	**Honcut**	**78.12**	**41**	*e*P	**P**	**19 34 09.2**	**-0.2**
YBH	**Yreka Blue Hor**	**78.80**	**39**	P	**P**	**19 34 13.3**	**+0.3**
	5.0nm,0.8s,mb3.9,baz=285,slow=2.6,SNR=7.6						
MDJ	**Mudanjiang**	**78.80**	**325**	P	**P**	**19 34 12.6**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,144nm,4.5s						
MDJ	**Mudanjiang**	**78.80**	**325**	*e*P	**P**	**19 34 12.7**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.0						
HUMO	**Hull Mountain**	**79.18**	**38**	*e*P	**P**	**19 34 15.3**	**+0.3**
WVOR	**Wild Horse Val**	**81.67**	**40**	*e*P	**P**	**19 34 28.2**	**+0.3**
	comp=Z,10nm,1.0s,mb4.2						
TUC	**Tucson**	**81.84**	**52**	*e*P	**P**	**19 34 28.8**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.0						
HAWA	**Hanford**	**83.40**	**36**	*e*P	**P**	**19 34 36.8**	**+0.1**
	comp=Z,14nm,1.4s,mb4.3						
LTX	**Lajitas**	**86.08**	**57**	*e*P	**P**	**19 34 51.0**	**+1.4**
	comp=Z,11nm,1.1s,mb4.4						
TXAR	**Lajitas Array**	**86.08**	**57**	P	**P**	**19 34 51.0**	**+1.4**
	comp=Z,5.9nm,0.8s,mb4.2,baz=219,slow=5.8,SNR=40						
TXAR	**Lajitas Array**	**86.08**	**57**	P	**P**	**19 34 51.0**	**+1.4**
COLA	**College**	**86.27**	**12**	*e*P	**P**	**19 34 48.3**	**-2.3**
	comp=Z,14nm,1.1s,mb4.5						
SNAA	**Sanae**	**90.02**	**179**	P	**P**	**19 35 07.2**	**-0.9**
	comp=Z,0.3nm,0.9s,mb3.1,baz=216,slow=8.7,SNR=6.1						
VNA3	**Neumayer Olymp**	**90.16**	**176**	*e*PKPdf	**P**	**19 35 08.1**	**-0.6**
VNA2	**Neumayer--Watz**	**90.60**	**177**	*e*PKPdf	**P**	**19 35 11.0**	**+0.3**
	baz=198,slow=3.9						
INK	**Inuvik**	**92.36**	**15**	P	**P**	**19 35 16.6**	**-2.3**
	comp=Z,4.7nm,0.9s,mb4.5,baz=208,slow=5.6,SNR=8.3						
SONM	**Songino Array**	**94.15**	**319**	P	**P**	**19 35 27.0**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.7,baz=90,slow=3.4,SNR=3.8						
BVAR	**Borovoye Array**	**117.45**	**321**	PKP	PKPdf	19 40 47.9	-2.3
	comp=Z,0.9nm,0.7s,baz=93,slow=3.0,SNR=5.9						
AKTK	**Aktyubinsk**	**125.47**	**319**	PKP	PKPdf	19 41 04.7	-0.9
AKTO	**Aktyubinsk**	**125.47**	**319**	PKP	PKPdf	19 41 04.7	-0.9
	comp=Z,1.6nm,0.8s,baz=31,slow=3.6,SNR=5.9						
ARCES	**ARCESS Array B**	**126.35**	**350**	PKP	PKPdf	19 41 06.3	-2.0
	comp=Z,2.8nm,0.7s,baz=46,slow=3.5,SNR=4.0						
ARCES	**ARCESS Array B**	**126.92**	**350**	PKP	PKPdf	19 41 06.3	-2.0
AKASG	**Malin Array Be**	**141.19**	**332**	PKhKP		19 41 28.1	
	comp=Z,1.2nm,0.5s,baz=43,slow=4.1,SNR=10						
KWP	**Kalwaria**	**144.70**	**336**	*e*PX	PKPdf	19 41 40.8	-0.2
BURAR	**Bucovina Array**	**145.24**	**332**	⇓P	PKPdf	19 41 43.4	+1.5
BR131	**Keskin Array S**	**145.37**	**314**	*e*P	PKPdf	19 41 42.6	+0.4
BRTR	**Keskin Array B**	**145.37**	**314**	PKPbc	PKPbc	19 41 43.0	-0.5
	comp=Z,3.1nm,0.8s,baz=145,slow=4.5,SNR=17						
STHS				*e*		19 44 15.4	
STHS	**Stebnicka Huta**	**145.42**	**338**	*e*	PKPdf	19 41 43.7	+1.4
STHS				*e*		19 44 15.4	
STHS	**Stebnicka Huta**	**145.42**	**338**	pPDIF	PKPdf	19 41 43.7	+1.4
KOLS	**Kolonicke sedl**	**145.43**	**336**	*e*	PKPdf	19 41 43.6	+1.3
KOLS	**Kolonicke sedl**	**145.43**	**336**	pPDIF	PKPdf	19 41 43.6	+1.3
KSP	**Ksiaz**	**145.73**	**344**	*e*PX	PKPdf	19 41 44.2	+1.4
NIE	**Niedzica**	**145.75**	**338**	*e*P	PKPdf	19 41 44.5	+1.7
ANTO	**Ankara**	**145.87**	**315**	⇑P	PKPdf	19 41 45.1	+2.1
CLL	**Collm**	**146.07**	**347**	⇓*i*P	PKPdf	19 41 44.7	+1.3
CLL	**Collm**	**146.07**	**347**	⇓*i*PKPbc	PKPbc	19 41 44.7	-0.7
	comp=Z,25nm,0.8s						
OKC	**Ostrava-Krasne**	**146.10**	**341**	⇑*e*PKP	PKPdf	19 41 45.4	+2.0
OKC				*e*PKPAB	PKPab	19 41 47.6	0.0
UPC	**Upice**	**146.11**	**344**	⇑*e*PKP	PKPdf	19 41 45.2	+1.8
UPC				*e*PKPAB	PKPab	19 41 47.7	0.0
DPC	**Dobruska-Polom**	**146.17**	**343**	⇑*e*PKP	PKPdf	19 41 45.6	+2.1
DPC				*e*PKPAB	PKPab	19 41 48.8	+0.9
BRG	**Berggiesshubel**	**146.28**	**346**	*e*P	PKPdf	19 41 45.3	+1.5
	comp=Z,6.4nm,0.8s						
BRG				*e*		19 41 47.5	
	comp=Z,5.3nm,0.8s						
MORC	**Moravsky Berou**	**146.33**	**342**	⇑*i*P	PKPbc	19 41 46.3	+0.1
MORC	**Moravsky Berou**	**146.33**	**342**	⇑P	PKPbc	19 41 46.2	+0.1
MLR	**Muntele Rosu**	**146.45**	**329**	⇑P	PKPbc	19 41 46.0	-0.4
PVCC	**Panska Ves**	**146.46**	**345**	⇑*e*PKP	PKPbc	19 41 46.5	0.0
KECS	**Kecovo**	**146.47**	**337**	*e*	PKPdf	19 41 46.1	+2.0
PRU	**Pruhonice**	**146.96**	**345**	⇑*e*PKP	PKPbc	19 41 47.5	-0.3
PRU				*e*PKPAB	PKPab	19 41 50.8	-0.3
VYHS	**Vyhne**	**147.04**	**339**	*e*	PKPdf	19 41 47.8	+2.8
PSZ	**Piszkesteto**	**147.16**	**337**	⇑*i*P	PKPbc	19 41 47.4	-1.0
PSZ	**Piszkesteto**	**147.16**	**337**	⇑P	PKPbc	19 41 47.4	-0.9
NKC	**Novy Kostel**	**147.21**	**347**	⇑*e*PKP	PKPbc	19 41 51.5	+3.0
GRA1	**Grafenberg Arr**	**147.97**	**349**	*e*PKP	PKPbc	19 41 50.3	-0.1
KHC	**Kasperske Hory**	**147.99**	**345**	⇑*e*PKP	PKPbc	19 41 50.2	-0.3
KHC				*e*PKPAB	PKPab	19 41 55.3	0.0
GERES	**GERESS Array B**	**148.23**	**345**	PKPbc	PKPbc	19 41 50.6	-0.5
	comp=Z,4.3nm,0.8s,baz=28,slow=3.2,SNR=32						
BZS	**Buzias**	**148.36**	**333**	⇑*i*P	PKPbc	19 41 50.9	-0.5
BZS	**Buzias**	**148.36**	**333**	⇑P	PKPbc	19 41 50.9	-0.5
GIVF	**Givet**	**148.36**	**356**	*e*PKP1	PKPbc	19 41 50.6	-0.8
BAIF	**Baives**	**148.44**	**357**	*e*PKP1	PKPbc	19 41 50.9	-0.7
	comp=Z,11nm,0.8s						
PKSM	**Moragy**	**149.06**	**337**	⇑*i*P	PKPbc	19 41 52.6	-0.5
PKSM	**Moragy**	**149.06**	**337**	⇑P	PKPbc	19 41 52.6	-0.6
CDF	**Champ du Feu**	**149.82**	**353**	*e*PKP1	PKPbc	19 41 54.1	-0.8
	comp=Z,20nm,1.0s						
VTS	**Vitosha**	**149.91**	**328**	⇓*i*P	PKPbc	19 41 55.2	0.0
HAU	**Haudompre**	**150.32**	**354**	*e*PKP1	PKPbc	19 41 55.2	-0.9
	comp=Z,20nm,0.9s						
HINF	**Hinteralfeld**	**150.46**	**353**	*e*PKP1	PKPbc	19 41 55.3	-1.1
	comp=Z,7.5nm,0.7s						
LOR	**Lormes**	**151.24**	**357**	*e*PKP1	PKPbc	19 41 57.4	-0.8
	comp=Z,20nm,1.0s						
SSF	**Saint Saulge**	**151.46**	**358**	*e*PKP1	PKPbc	19 41 58.0	-0.7
	comp=Z,14nm,0.9s						
ESDC	**Sonseca Array**	**158.28**	**12**	PKPab	PKPab	19 42 38.2	-0.9
	comp=Z,0.5nm,0.6s,baz=347,slow=4.0,SNR=4.2						

*IDC **20** 19:24:16.0±10.0, 1499N×9285W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/17, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=211.9km s-min=108.0km az=21.0*
*ISCJB **20** 19:24:27.4±1.1, 1536N±008×94.12W±004, h67km±12km, mb3.7/3, Error ellipse: s-maj=13.7km s-min=6.0km az=177.4*
*MEX **20** 19:24:29.3±0.8, 1532N×94.16W, h19km±31km, MD4.6*
*NEIC **20** 19:24:29.4, 1531N×94.16W, h16km, MD4.6(MEX), After MEX.*

ISC 20 19:24:28.7±1.2, 1536N±009×9411W±004, h58km±12km, n16, σ1931/28, mb3.7/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.87**	**337**	*i*P	**Pn**	**19 24 58.0**	**-0.4**
CMIG				*i*S	**Sn**	**19 25 20.0**	**-0.9**
HUIG	**Huatulco**	**1.97**	**282**	*i*P	**Pn**	**19 24 58.6**	**-1.1**
HUIG				*i*S	**Sn**	**19 25 20.1**	**-3.3**
CCIG	**Comitan**	**2.10**	**64**	*i*P	**Pn**	**19 25 02.4**	**+0.8**
CCIG				*i*S	**Sn**	**19 25 26.1**	**-0.5**
TUIG	**Tuzandepetl**	**2.67**	**354**	*i*P	**Pn**	**19 25 08.1**	**-1.2**
TUIG				*i*S	**Sn**	**19 25 42.4**	**+1.9**
OXX	**Oaxaca**	**3.04**	**305**	*e*P	**Pn**	**19 25 16.0**	**+1.7**
OXX				*i*S	**Sn**	**19 25 48.0**	**-1.5**
OXX	**Oaxaca**	**3.04**	**305**	*e*P	**Pn**	**19 25 16.5**	**+2.2**
OXX				*i*S	**Sn**	**19 25 48.0**	**-1.5**
VHO	**Vista Hermosa**	**3.04**	**304**	*i*P	**Pn**	**19 25 14.3**	**-0.1**
VHO				*i*S	**Sn**	**19 25 48.5**	**-1.0**
VHO	**Vista Hermosa**	**3.04**	**304**	*i*P	**Pn**	**19 25 14.3**	**-0.1**
VHO				*i*S	**Sn**	**19 25 52.2**	**+2.6**
UTMO	**Huajuapan**	**4.31**	**305**	*i*P	**Pn**	**19 25 32.8**	**+1.1**
UTMO				*i*S	**Sn**	**19 26 22.0**	**+1.3**
TPIG	**Tehuac#an**	**4.35**	**315**	*i*P	**Pn**	**19 25 33.4**	**+1.1**
TPIG				*i*S	**Sn**	**19 26 20.7**	**-1.0**
SCIG	**Sabancuy**	**4.54**	**38**	*i*P	**Pn**	**19 25 35.2**	**+0.2**
SCIG				*i*S	**Sn**	**19 26 25.9**	**-0.5**
IIO	**Organos**	**6.09**	**314**	*i*P	**Pn**	**19 26 01.6**	**+5.5**
IIO				*i*S	**Sn**	**19 27 09.0**	**+4.6**
TXAR	**Lajitas Array**	**16.46**	**329**	P	**Pn**	**19 28 20.1**	**+4.2**
	0.1nm,0.3s,baz=153,slow=14,SNR=5.6						
PDAR	**Pinedale Array**	**30.36**	**337**	P	**P**	**19 30 37.7**	**+2.7**
	0.3nm,0.5s,mb3.3,baz=151,slow=11,SNR=3.8						
ULM	**Lac du Bonnet**	**34.83**	**358**	P	**P**	**19 31 11.9**	**-2.0**
	2.6nm,0.7s,mb4.2,baz=171,slow=13,SNR=3.5						
INK	**Inuvik**	**58.57**	**344**	P	**P**	**19 34 18.7**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=142,slow=4.3,SNR=4.2						

*ISCJB **20** 19:26:54.8±0.8, 2759S±003×6752W±009, h136km±10km, mb4.0/8, Error ellipse: s-maj=12.7km s-min=5.2km az=6.9*
*NEIC **20** 19:26:55.3±0.8, 2760S×6738W, h124km±8km, mb4.6/2, Error ellipse: s-maj=14.8km s-min=6.6km az=104.0*
*GUC **20** 19:26:55.9±0.8, 2765S×6759W, h145km, ML5.0*
*IDC **20** 19:26:55.5±1.5, 2761S×6734W, h124km±14km, mb4.0/7, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, Error ellipse: s-maj=28.7km s-min=11.7km az=91.0*

ISC 20 19:26:56.2±0.7, 2760S±003×6754W±009, h132km±9km, n36, σ0996/43, mb4.0/8, 2C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.52**	**275**	*e*P	**Pn**	**19 27 37.4**	**+0.8**
CPCH				*i*S	**Sn**	**19 28 08.2**	**+0.5**
CPCH				AML	AML	19 28 11.5	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**2.52**	**275**	*e*P	**Pn**	**19 27 37.4**	**+0.8**
CPCH				*i*S	**Sn**	**19 28 08.2**	**+0.5**
CDCH	**Caldera**	**2.98**	**279**	*e*P	**Pn**	**19 27 42.7**	**+0.2**
CDCH				*i*S	**Sn**	**19 28 16.8**	**-1.5**
CDCH				AML	AML	19 28 23.0	
	comp=N,2μm,0.3s						
CDCH	**Caldera**	**2.98**	**279**	*e*P	**Pn**	**19 27 42.7**	**+0.2**
CDCH				*i*S	**Sn**	**19 28 16.8**	**-1.5**
VACH	**Vallenar**	**3.01**	**250**	*e*P	**Pn**	**19 27 44.2**	**+1.2**
VACH				*i*S	**Sn**	**19 28 19.7**	**+0.6**
VACH				AML	AML	19 28 22.1	
	comp=N,7μm,0.3s						
VACH	**Vallenar**	**3.01**	**250**	*e*P	**Pn**	**19 27 44.2**	**+1.2**
VACH				*i*S	**Sn**	**19 28 19.7**	**+0.6**
TLL	**Tololo Astrono**	**3.84**	**227**	⇑*i*P	**Pn**	**19 27 54.8**	**+0.9**
TLL				*i*S	**Sn**	**19 28 40.2**	**+1.6**
TLL				AML	AML	19 28 45.6	
	comp=N,508nm,0.5s						
TLL	**Tololo Astrono**	**3.84**	**227**	⇑*i*P	**Pn**	**19 27 54.8**	**+0.9**
TLL				S	**Sn**	**19 28 40.2**	**+1.6**
CPN1	**Cerro Paranal**	**3.93**	**318**	*e*P	**Pn**	**19 27 56.6**	**+1.7**
CPN1				*i*S	**Sn**	**19 28 25.1**	**-1.4**
LSCH	**La Serena**	**3.99**	**234**	⇓*i*P	**Pn**	**19 27 55.7**	**-0.1**
LSCH				*i*S	**Sn**	**19 28 41.2**	**-0.8**
CFAA	**Coronel Fontan**	**4.04**	**189**	P	**Pn**	**19 27 57.1**	**+0.6**
	comp=N,10.0nm,0.3s,baz=2.0,slow=11,SNR=335						
CFAA				S	**Sn**	**19 28 42.3**	**-0.9**
	comp=N,19nm,0.3s,baz=227,slow=19,SNR=27						
OVCH	**Ovalle**	**4.39**	**226**	⇓*e*P	**Pn**	**19 28 00.6**	**-0.6**
OVCH				*i*S	**Sn**	**19 28 50.3**	**-1.3**
CMCH	**Combarbala**	**4.67**	**219**	*e*P	**Pn**	**19 28 03.8**	**-1.1**
CEN1	**Los Morros**	**4.83**	**330**	*e*P	**Pn**	**19 28 06.5**	**-0.5**
LVC	**Limon Verde**	**5.12**	**346**	P	**Pn**	**19 28 13.1**	**+2.3**
	comp=N,25nm,0.3s,baz=90,slow=2.8,SNR=151						
LVC				S	**Sn**	**19 29 08.7**	**-0.2**
	comp=N,12nm,0.3s,baz=270,slow=23,SNR=36						
CHNG	**Los Chungos**	**5.49**	**218**	*e*P	**Pn**	**19 28 14.3**	**-1.5**
FCH	**Farellones**	**6.19**	**202**	*e*P	**Pn**	**19 28 26.3**	**+1.1**
CLCH	**Cerro Calan**	**6.33**	**203**	*e*P	**Pn**	**19 28 27.3**	**+0.1**
LPAZ	**La Paz**	**11.27**	**357**	P	**Pn**	**19 29 33.1**	**-0.1**
	comp=N,1.1nm,0.3s,baz=160,slow=8.4,SNR=17						
SIV	**San Ignacio**	**13.01**	**29**	P	**Pn**	**19 29 53.1**	**-2.9**
	comp=N,0.8nm,0.3s,baz=208,slow=14,SNR=21						
SAML	**Samuel**	**19.00**	**13**	*e*P	**P**	**19 31 07.3**	**-0.2**
	comp=N,17nm,0.4s						
SNAA	**Sanae**	**56.14**	**160**	P	**P**	**19 36 21.3**	**-0.5**
	comp=N,1.2nm,0.5s,mb4.0,baz=87,slow=3.0,SNR=3.4						
QSPA	**South Pole Qui**	**62.62**	**180**	*e*P	**P**	**19 37 06.3**	**0.0**
	comp=N,5.6nm,0.8s,mb4.5						
VNDA	**Vanda**	**71.09**	**190**	P	**P**	**19 38 00.8**	**+0.8**
	comp=N,1.7nm,1.0s,mb3.7,baz=129,slow=6.0,SNR=4.4						
TSUM	**Tsumeb**	**77.17**	**105**	P	**P**	**19 38 35.9**	**+0.6**
	comp=N,1.9nm,0.7s,mb3.9,baz=247,slow=7.3,SNR=6.4						
MAW	**Mawson**	**78.16**	**163**	P	**P**	**19 38 40.6**	**-0.1**
	comp=N,5.1nm,0.7s,mb4.3,baz=217,slow=6.8,SNR=7.6						
TOA0	**Torodi Ar. Sit**	**78.32**	**68**	*e*P	**P**	**19 38 41.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**78.32**	**68**	P	**P**	**19 38 41.3**	**-0.3**
	comp=N,5.1nm,0.7s,mb4.3,baz=274,slow=7.0,SNR=6.9						
BOSA	**Boshof**	**79.54**	**117**	P	**P**	**19 38 48.1**	**-0.1**
	comp=N,6.0nm,0.7s,mb4.3,baz=261,slow=3.7,SNR=15						
PDAR	**Pinedale Array**	**79.99**	**330**	P	**P**	**19 38 51.2**	**+0.5**
	comp=N,0.4nm,0.6s,mb3.2,baz=121,slow=8.7,SNR=3.4						
WRA	**Warramunga Arr**	**128.21**	**206**	PKP	PKPdf	19 45 46.9	+0.1
	comp=N,1.6nm,0.6s,baz=174,slow=1.7,SNR=25						
ZAL	**Zalesovo**	**146.76**	**30**	PKPbc	PKPbc	19 46 22.2	-0.4
	comp=N,6.9nm,0.6s,baz=165,slow=2.9,SNR=22						
HYB	**Hyderabad**	**147.17**	**101**	*i*PKP	PKPdf	19 46 24.0	+2.7
HYB	**Hyderabad**	**147.17**	**101**	*e*P	PKPdf	19 46 24.0	+2.7
MK31	**Makanchi Array**	**149.54**	**43**	*e*PKPbc	PKPbc	19 46 29.5	-0.3
MKAR	**Makanchi Array**	**149.54**	**43**	PKPbc	PKPbc	19 46 29.6	-0.2
	comp=N,4.9nm,0.7s,baz=299,slow=2.9,SNR=38						

IDC 20 19:32:33.3±0.9, 4607N×15478E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=22.7km s-min=21.9km az=114.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.84**	**262**	Pn	Pn	19 34 41.5	-0.7
	0.7nm,0.3s,baz=192,slow=16,SNR=5.8						
MJAR	**Matsushiro Arr**	**15.64**	**238**	Pn	Pn	19 36 19.6	+4.6
	0.2nm,0.3s,baz=265,slow=11,SNR=4.1						
KSRS	**Korea Array**	**21.72**	**256**	P		19 37 29.3	+3.3
	0.7nm,0.6s,baz=59,slow=10,SNR=4.1						
SONM	**Songino Array**	**32.65**	**291**	P	P	19 39 07.2	+0.3
	0.4nm,0.8s,baz=346,slow=41,SNR=3.0						
INK	**Inuvik**	**41.62**	**32**	P	P	19 40 22.7	-0.3
	1.5nm,0.8s,baz=268,slow=3.7,SNR=12						
ZAL	**Zalesovo**	**43.96**	**307**	P	P	19 40 41.0	-1.1
	0.8nm,0.4s,baz=49,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**48.28**	**299**	P	P	19 41 14.9	-1.2
	0.8nm,0.5s,baz=68,slow=7.5,SNR=9.1						
BVAR	**Borovoye Array**	**52.18**	**310**	P	P	19 41 44.5	-1.2
	0.5nm,0.4s,baz=70,slow=13,SNR=4.4						
AKTO	**Aktyubinsk**	**60.04**	**313**	P	P	19 42 43.4	+1.5
	0.7nm,0.6s,baz=69,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**65.14**	**336**	P	P	19 43 15.4	-0.5
	0.8nm,0.7s,baz=22,slow=6.2,SNR=4.5						
WRA	**Warramunga Arr**	**68.26**	**201**	P	P	19 43 35.8	-0.1
	0.3nm,0.6s,baz=23,slow=6.6,SNR=4.2						
ASAR	**Alice Springs**	**71.94**	**200**	P	P	19 43 58.7	+0.2
	0.5nm,0.8s,baz=16,slow=4.1,SNR=3.6						
TXAR	**Lajitas Array**	**76.82**	**61**	P	P	19 44 26.4	-0.5
	0.5nm,0.6s,baz=304,slow=3.5,SNR=5.5						

IDC 20 19:33:27.6±8.8, 1184S×16817E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/15, mbtmp3.7/5, MS3.4/5, Ms1 3.4/5, ms1mx2.9/34, Error ellipse: s-maj=255.3km s-min=41.1km az=125.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.43**	**286**	LR	LR	19 37 47.0	
	comp=Z,155nm,20.8s,baz=177,slow=31						
PMG	**Port Moresby**	**20.79**	**275**	LR	LR	19 44 34.7	
	comp=Z,101nm,18.8s,baz=90,slow=32						
CTA	**Charters Tower**	**22.59**	**246**	LR	LR	19 45 41.1	
	comp=Z,81nm,18.9s,baz=226,slow=32						
STKA	**Stephens Creek**	**31.57**	**227**	LR	LR	19 51 55.7	
	comp=Z,76nm,18.1s,baz=26,slow=35						
WRA	**Warramunga Arr**	**33.47**	**252**	P	P	19 40 08.7	+0.4
	0.4nm,0.7s,baz=84,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**34.60**	**245**	P	P	19 40 18.5	+0.4
	0.9nm,1.0s,baz=75,slow=9.0,SNR=5.2						
ASAR				LR	LR	19 53 22.2	
	comp=Z,60nm,19.0s,baz=267,slow=34						
FITZ	**Fitzroy Crossi**	**41.49**	**256**	P	P	19 41 16.7	+0.4
	3.4nm,0.7s,baz=122,slow=7.4,SNR=8.6						
SONM	**Songino Array**	**80.71**	**323**	P	P	19 45 42.5	-0.1
	0.2nm,0.5s,baz=112,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**95.72**	**316**	P	P	19 46 56.0	+0.6
	0.7nm,0.7s,baz=94,slow=6.2,SNR=2.6						

*IDC **20** 19:33:51.9±0.4, 4010S×7515W, h0km, mb4.8/20, mb1 4.8/23, mb1mx4.8/24, mbtmp4.7/23, ML4.2/3, MS4.2/7, Ms1 4.1/7, ms1mx3.9/20, Error ellipse: s-maj=19.

SNAA e 19 42 30.8
SNAA e 19 42 34.5
SNAA e 19 42 41.7
SNAA Sanae 46.92 156 *d* iP P **19 42 24.5 -0.2**
SNAA Sanae 46.92 156 eP P **19 42 24.9 +0.2**
comp=Z,156nm,1.3s,mb5.8
SDV Santo Domingo 48.85 6 P P **19 42 39.7 0.0**
comp=Z,4.5nm,0.7s,mb4.6,baz=239,slow=5.2,SNR=7.7
SDV Santo Domingo 48.85 6 eP P **19 42 39.9 +0.2**
comp=Z,18nm,1.1s,mb5.0
QSPA South Pole Qui 50.19 180 eP P **19 42 49.3 -0.5**
comp=Z,43nm,1.0s,mb5.4
JTS JuntasAbangare 50.96 347 P P **19 42 54.9 -0.8**
comp=Z,7.5nm,0.9s,mb4.6,baz=124,slow=22,SNR=4.1
JTS JuntasAbangare 50.96 347 P P **19 42 54.9 -0.7**
JTS pmax pmax
comp=Z,8.0nm,0.9s
JTS JuntasAbangare 50.96 347 P P **19 42 54.9 -0.8**
MAIT Maitri 51.70 155 ⇓ *i* P P **19 43 01.4 +0.2**
NVL N'lazarevskaya 51.73 155 *d* iP P **19 43 00.0 -1.4**
NVL *i* 19 43 09.6
NVL *i* 19 43 16.6
NVL pmax pmax
comp=Z,104nm,1.6s,mb5.5
RKT Rikitea 52.94 270 eS S **19 50 33.4 -6.4**
comp=Z,416nm,28.0s
RKT eSS SS 19 54 12.1 -6.7
comp=Z,110nm,32.8s
RKT eLR LR 19 58 20.4
comp=Z,1μm,30.0s,baz=127
VNDA Vanda 57.72 192 P P **19 43 44.5 -0.4**
comp=Z,14nm,1.2s,mb4.9,baz=144,slow=6.2,SNR=16
VNDA LR LR 20 05 51.2
comp=Z,58nm,18.3s,MS3.7,baz=135,slow=33
VNDA Vanda 57.72 192 P P **19 43 44.5 -0.4**
VNDA pmax pmax
comp=Z,14nm,1.2s
VNDA MLR MLR
comp=Z,58nm,18.3s
SYO Syowa Base 61.09 158 ⇑ eP P **19 44 06.5 -1.7**
SYO Syowa Base 61.09 158 ⇑ epP pP 19 44 13.0 +1.9
TBI Tubuai 63.88 261 eS S **19 53 03.4 +1.0**
comp=Z,772nm,29.0s
TBI eLR LR 20 03 24.5
comp=Z,1μm,30.2s,baz=124
PPT Papeete 67.32 266 eS S 19 53 43.8 -0.7
comp=Z,771nm,29.5s
PPT eLR LR 20 04 55.8
comp=Z,775nm,28.0s,baz=131
MAW Mawson 68.01 164 ⇓ *i* P P **19 44 52.6 -0.8**
comp=Z,15nm,1.1s,mb5.0
MAW Mawson 68.01 164 P P **19 44 52.7 -0.7**
comp=Z,22nm,1.1s,mb5.1,baz=228,slow=5.7,SNR=14
MAW Mawson 68.01 164 ⇓ *i* P P **19 44 52.6 -0.8**
MAW pmax pmax
comp=Z,15nm,1.1s
GOGA Godfrey 73.53 353 eP P **19 45 26.6 -0.4**
GOGA pmax pmax
comp=Z,42nm,1.5s,mb5.2
GOGA Godfrey 73.53 353 eP P **19 45 26.6 -0.4**
comp=Z,42nm,1.5s,mb5.2
LRAL Lakeview Retre 73.59 349 eP P **19 45 26.8 -0.6**
comp=Z,29nm,0.9s,mb5.2
JCT Junction City 73.90 338 eP P **19 45 28.7 -0.5**
JCT pmax pmax
comp=Z,27nm,1.2s,mb5.0
JCT Junction City 73.90 338 eP P **19 45 28.6 -0.5**
comp=Z,27nm,1.2s,mb5.0
SUR Sutherland 73.91 119 P P **19 45 31.1 +1.9**
comp=Z,24nm,1.1s,mb5.0,baz=229,slow=8.0,SNR=3.3
SUR Sutherland 73.91 119 P P **19 45 31.1 +1.9**
CASY Casey 73.91 182 eP P **19 45 27.5 -1.7**
LTX Lajitas 74.04 334 eP P **19 45 29.5 -0.5**
LTX pmax pmax
comp=Z,14nm,1.2s,mb4.8
LTX Lajitas 74.04 334 eP P **19 45 29.5 -0.5**
comp=Z,14nm,1.2s,mb4.8
TXAR Lajitas Array 74.04 334 P P **19 45 29.7 -0.3**
comp=Z,6.3nm,0.9s,mb4.5,baz=152,slow=8.4,SNR=42
TXAR LR LR 20 12 02.8
comp=Z,153nm,18.5s,MS4.3,baz=275,slow=31
TXAR Lajitas Array 74.04 334 P P **19 45 29.7 -0.3**
TXAR pmax pmax
comp=Z,6.0nm,0.9s
TXAR MLR MLR
comp=Z,153nm,18.5s
MIAR Mount Ida 76.22 344 eP P **19 45 41.5 -1.0**
MIAR pmax pmax
comp=Z,22nm,1.3s,mb4.9
MIAR Mount Ida 76.22 344 eP P **19 45 41.5 -1.1**
comp=Z,22nm,1.3s,mb4.9
TZTN Tazewell 76.64 353 eP P **19 45 43.8 -1.2**
comp=Z,95nm,1.7s,mb5.5
WVT Waverly 76.75 349 eP P **19 45 44.2 -1.4**
WVT pmax pmax
comp=Z,40nm,1.3s,mb5.2
WVT Waverly 76.75 349 eP P **19 45 44.2 -1.3**
comp=Z,40nm,1.3s,mb5.2
MNTX Cornudas Mount 76.79 334 eP P **19 45 44.2 -1.6**
comp=Z,5.9nm,1.1s,mb4.4
ELN Prospectdale 77.10 355 eP P **19 45 47.2 -0.4**
FWV Forest Hill 77.46 355 eP P **19 45 49.0 -0.6**
WMOK Wichita Mounta 77.63 340 eP P **19 45 49.5 -1.0**
WMOK pmax pmax
comp=Z,35nm,1.4s,mb5.1
WMOK Wichita Mounta 77.63 340 eP P **19 45 49.5 -1.0**
comp=Z,35nm,1.4s,mb5.1
SIUC Southern Illin 78.51 348 eP P **19 45 54.6 -0.8**
comp=Z,20nm,0.9s,mb5.0
AMTX Amarillo 78.56 338 eP P **19 45 54.9 -0.8**
comp=Z,68nm,1.4s,mb5.4
FVM French Village 78.96 348 eP P **19 45 56.6 -1.3**
FVM pmax pmax
comp=Z,70nm,1.5s,mb5.4
FVM French Village 78.96 348 eP P **19 45 56.6 -1.3**
comp=Z,70nm,1.5s,mb5.4
BOSA Boshof 79.24 118 P P **19 46 00.2 +0.7**
comp=Z,12nm,1.0s,mb4.8,baz=184,slow=5.5,SNR=9.0
BOSA Boshof 79.24 118 P P **19 46 00.2 +0.8**
BOSA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 79.24 118 eP P **19 46 00.2 +0.8**
comp=Z,18nm,1.1s,mb4.9
TUC Tucson 79.31 330 eP P **19 46 00.2 +0.4**
TUC pmax pmax
comp=Z,22nm,1.4s,mb4.9
TUC Tucson 79.31 330 eP P **19 46 00.2 +0.4**
comp=Z,22nm,1.4s,mb4.9
BNM Barren Site 79.45 334 eP P **19 46 00.9 +0.4**
LPM Los Pinos Moun 79.60 334 eP P **19 46 00.7 -0.7**
TSUM Tsumeb 79.72 106 P P **19 46 03.6 +1.6**
comp=Z,5.1nm,1.1s,mb4.4,baz=177,slow=3.7,SNR=4.2
ANMO Albuquerque 80.12 334 *c* iP P **19 46 03.5 -0.7**
ANMO Albuquerque 80.12 334 eP P **19 46 04.3 +0.1**
comp=Z,39nm,1.2s,mb5.2
115A Sonoran Desert 80.22 329 ⇑ P P **19 46 05.3 +0.6**
baz=80,SNR=6.6
Z14A Wintersburg 81.09 329 ⇓ P P **19 46 09.7 +0.3**
baz=81
KSU1 Kansas State U 81.25 343 eP P **19 46 08.9 -1.4**
comp=Z,19nm,0.8s,mb5.1
GLA Glamis 81.59 327 eP P **19 46 12.2 +0.1**
GLA Glamis 81.59 327 ⇓ P P **19 46 12.5 +0.5**
baz=82
Y14A Wickenburg 81.62 329 P P **19 46 12.6 +0.4**
baz=82,SNR=6.4
DVTC Desert V Tower 81.80 326 ⇓ P P **19 46 13.7 +0.6**
baz=82
X15A Humboldt 81.80 330 P P **19 46 13.8 +0.7**
baz=82,SNR=9.6
SWSC Sam W. Stewart 81.91 326 ⇑ P P **19 46 13.9 +0.2**
baz=82
X14A Yava 82.04 329 ⇑ P P **19 46 15.1 +0.6**
baz=82,SNR=8.5
Y12C Blythe 82.07 328 ⇓ P P **19 46 15.1 +0.5**
baz=82
MONP Monument Peak 82.13 326 P P **19 46 15.8 +1.0**
baz=82,SNR=5.9
SDCO Great Sand Dun 82.37 336 eP P **19 46 16.0 -0.2**
comp=Z,15nm,1.0s,mb4.9
BC3 Big Chuckw Mtn 82.38 327 P P **19 46 16.6 +0.5**
baz=83,SNR=9.5
WUAZ Wupatki 82.38 331 eP P **19 46 17.0 +0.9**
comp=Z,31nm,1.4s,mb5.0
WUAZ Wupatki 82.38 331 ⇑ P P **19 46 16.9 +0.7**
baz=83,SNR=7.1
PDMCI Parker Dam,Lak 82.39 328 ⇓ P P **19 46 16.5 +0.3**
baz=83
W15A Williams 82.42 330 ⇑ P P **19 46 16.9 +0.5**
baz=83
109C Camp Elliot, M 82.43 325 ⇑ P P **19 46 16.5 +0.1**
baz=83
X13A Yucca 82.52 328 P P **19 46 17.2 +0.2**
baz=83,SNR=25
IRM Iron Mountain 82.68 327 P P **19 46 18.0 +0.2**
baz=83,SNR=11
PFO Pinyon Flat Ob 82.76 326 P P **19 46 18.5 +0.3**
comp=Z,136nm,1.1s,mb5.9,SNR=7.1
PFO Pinyon Flat Ob 82.76 326 P P **19 46 18.1 0.0**
comp=Z,20nm,1.0s,mb5.1,baz=136,slow=2.7,SNR=16
PFO Pinyon Flat Ob 82.76 326 P P **19 46 18.2 0.0**
PFO pmax pmax
comp=Z,20nm,1.0s,mb5.1
PFO Pinyon Flat Ob 82.76 326 ⇑ P P **19 46 18.9 +0.7**
baz=83,SNR=11
W14A Seligman 82.77 329 P P **19 46 18.9 +0.7**
baz=83,SNR=11
MVCO Mesa Verde 82.86 334 eP P **19 46 18.9 +0.2**
comp=Z,52nm,1.5s,mb5.3
MVCO Mesa Verde 82.86 334 ⇓ P P **19 46 18.8 +0.1**
baz=83,SNR=8.9
BELC Belle Mtn. 82.90 327 P P **19 46 19.6 +0.7**
baz=83,SNR=8.3
W13A Hualapai Mount 82.98 329 P P **19 46 19.9 +0.5**
baz=83,SNR=12
ACCN Adirondack Com 83.07 1 eP P **19 46 19.8 0.0**
MURC Murrieta 83.08 326 ⇓ P P **19 46 20.4 +0.6**
baz=83
SCIA State Center 83.27 346 eP P **19 46 19.9 -0.9**
comp=Z,53nm,1.2s,mb5.5
CIS Catalina Islan 83.44 325 ⇓ P P **19 46 22.4 +0.7**
baz=84
W12A Cal Nev Ari 83.56 328 ⇑ P P **19 46 22.4 +0.1**
baz=84
PV01 Paradox Valley 83.72 334 eP P **19 46 23.7 +0.5**
HEC Hector,Ludlow 83.75 327 ⇑ P P **19 46 24.0 +0.7**
baz=84
JFWS Jewell Farm 83.75 349 eP P **19 46 22.3 -1.0**
JFWS pmax pmax
comp=Z,35nm,1.1s,mb5.4
JFWS Jewell Farm 83.75 349 eP P **19 46 22.3 -1.0**
comp=Z,35nm,1.1s,mb5.4
BFSC Mount Baldy St 83.82 326 P P **19 46 24.3 +0.7**
baz=84,SNR=7.0
V12A Nelson 83.92 328 ⇑ P P **19 46 24.4 +0.2**
baz=84
TUQ Turquoise Mtn. 84.11 327 P P **19 46 25.8 +0.7**
baz=84,SNR=18
V11A Goodsprings 84.25 328 ⇑ P P **19 46 26.3 +0.4**
baz=84
ISCO Idaho Springs 84.29 337 eP P **19 46 26.4 +0.4**
ISCO pmax pmax
comp=Z,25nm,1.3s,mb5.2
ISCO Idaho Springs 84.29 337 eP P **19 46 26.4 +0.4**
comp=Z,25nm,1.3s,mb5.2
LONY Lake Ozonia 84.30 0 eP P **19 46 25.3 -0.7**
comp=Z,38nm,1.5s,mb5.3
GSC Goldstone 84.36 327 eP P **19 46 26.8 +0.4**
GSC Goldstone 84.36 327 P P **19 46 26.9 +0.6**
baz=85,SNR=8.4
U12A Valley of Fire 84.41 329 ⇓ P P **19 46 26.9 +0.3**
baz=85
FRNY Flat Rock 84.52 1 eP P **19 46 27.1 -0.1**
OSI Osito Adit 84.60 325 ⇓ P P **19 46 27.7 +0.1**
baz=85
SHOC Shoshone 84.65 327 ⇓ P P **19 46 28.4 +0.5**
baz=85
U11A Corn Creek 84.73 328 ⇓ P P **19 46 28.9 +0.7**
baz=85
LRMC Laurel Mountai 84.88 326 P P **19 46 29.2 +0.2**
baz=85,SNR=9.9
CCUT Cedar City 84.92 330 eP P **19 46 29.6 +0.3**
U10A Ash Meadows, A 85.12 328 ⇓ P P **19 46 30.8 +0.6**
baz=85
ARUT Antelope Range 85.16 330 eP P **19 46 30.2 -0.2**
SRU San Rafael 85.27 333 eP P **19 46 30.5 -0.5**
SRU pmax pmax
comp=Z,31nm,1.2s,mb5.3
SRU San Rafael 85.27 333 eP P **19 46 30.5 -0.5**
comp=Z,31nm,1.2s,mb5.3
PKM Peak Mountain 85.32 324 ⇑ P P **19 46 31.7 +0.5**
baz=86
MSU Marysvale 85.33 332 eP P **19 46 31.7 +0.4**
ISA Isabella 85.38 326 eP P **19 46 31.9 +0.4**
ISA Isabella 85.38 326 ⇓ P P **19 46 31.7 +0.2**
baz=86,SNR=10
FURC Furnace Creek, 85.38 327 ⇑ P P **19 46 32.1 +0.6**
baz=86
DAC Darwin (Calif) 85.52 327 eP P **19 46 32.6 +0.4**
DAC pmax pmax
comp=Z,23nm,1.2s,mb5.3
DAC Darwin (Calif) 85.52 327 eP P **19 46 32.5 +0.3**
comp=Z,23nm,1.2s,mb5.3
TMUT Trail Mountain 85.67 333 eP P **19 46 33.4 +0.4**
ECSD EROS,Sioux Fal 85.69 344 eP P **19 46 31.9 -1.1**
comp=Z,62nm,1.1s,mb5.8
SMMC Simmler 85.75 324 ⇑ P P **19 46 33.8 +0.4**
baz=86
VES Vestal, Richgr 85.79 325 ⇑ P P **19 46 33.9 +0.3**
baz=86
CWC Cottonwood Cre 85.87 326 ⇑ P P **19 46 34.1 +0.1**
baz=86
GRAC Grapevine Rang 86.05 327 ⇓ P P **19 46 35.3 +0.5**
baz=86,SNR=5.0
TIN Tinemaha 86.45 327 ⇓ P P **19 46 37.5 +0.7**
baz=87
MPU Maple Canyon 86.46 333 eP P **19 46 37.1 +0.2**
comp=Z,53nm,1.1s,mb5.7
HELL Mitchell Peak, 86.47 326 ⇓ P P **19 46 37.2 +0.3**
baz=87
TRCR Troy Canyon 86.48 329 eP P **19 46 37.8 +0.9**
PKD Parkfield 86.52 324 ⇑ P P **19 46 37.3 +0.2**
baz=87
NLU North Lily Min 86.56 332 eP P **19 46 37.4 0.0**
S09A Goldfield 86.60 328 ⇑ P P **19 46 37.8 +0.2**
baz=87,SNR=10
DAU Daniels Canyon 86.68 333 eP P **19 46 37.3 -0.7**
R10A Warm Springs 86.71 329 P P **19 46 38.7 +0.6**
baz=87,SNR=5.2
Q12A Willow Creek R 86.78 330 ⇑ P P **19 46 38.4 -0.1**
baz=87
S08C White Mtn Res 86.80 327 ⇓ P P **19 46 38.7 +0.1**
baz=87
TPH Tonopah 86.90 328 eP P **19 46 39.5 +0.5**
TPH pmax pmax
comp=Z,21nm,1.0s,mb5.3
TPH Tonopah 86.90 328 eP P **19 46 39.5 +0.5**
comp=Z,21nm,1.0s,mb5.3
JLU Jordanelle 86.92 333 eP P **19 46 39.0 -0.1**
Q11A Duckwater 86.94 329 ⇑ P P **19 46 39.6 +0.4**
baz=87,SNR=5.5
U04C Hernandez Rese 86.98 325 ⇑ P P **19 46 39.9 +0.5**
baz=87
R09A Tonopah 86.98 328 P P **19 46 39.7 +0.3**
baz=87,SNR=11
DUG Dugway 87.04 332 eP P **19 46 39.5 -0.2**
DUG pmax pmax
comp=Z,46nm,1.2s,mb5.6
DUG Dugway 87.04 332 eP P **19 46 39.5 -0.2**
comp=Z,46nm,1.2s,mb5.6
DUG Dugway 87.04 332 P P **19 46 39.8 +0.1**
baz=87,SNR=24
T06C Millerton Lake 87.04 326 ⇓ P P **19 46 40.2 +0.5**
baz=87
KCC Kaiser Creek 87.14 326 ⇑ P P **19 46 39.7 -0.5**
baz=87
P12A McGill 87.19 330 ⇓ P P **19 46 40.5 0.0**
baz=88,SNR=5.9
MLAC Mammoth Lakes 87.19 327 ⇓ P P **19 46 40.9 +0.4**
baz=88
HAST UC Hastings Re 87.34 324 ⇑ P P **19 46 40.8 -0.4**
baz=88
R08A Mina 87.50 327 ⇑ P P **19 46 42.5 +0.5**
baz=88
Q09A Carvers 87.53 328 ⇓ P P **19 46 42.5 +0.4**
baz=88
S05C Merced 87.60 325 ⇓ P P **19 46 42.5 +0.1**
baz=88
R07C Lee Vining 87.67 327 P P **19 46 43.7 +1.0**
baz=88,SNR=9.0
PACP Pacheco Peak 87.74 325 ⇑ P P **19 46 43.8 +0.7**
baz=88
BGU Big Grassy Mou 87.76 332 eP P **19 46 42.4 -0.8**
O12A Currie 87.82 331 ⇑ P P **19 46 43.8 +0.4**
baz=88,SNR=5.7
S06C San Francisco 87.84 326 P P **19 46 44.2 +0.6**
baz=88,SNR=11
HWUT Hardware Ranch 87.85 333 eP P **19 46 43.1 -0.5**
comp=Z,43nm,1.0s,mb5.6
Q08A Gabbs 87.86 328 ⇓ P P **19 46 44.1 +0.4**
baz=88
P10A Eureka 87.92 329 ⇓ P P **19 46 44.1 +0.2**
baz=88
O11A Cowboy Ranch, 88.05 330 P P **19 46 44.6 0.0**
baz=88,SNR=16
N13A Wendover, West 88.13 331 ⇓ P P **19 46 44.7 -0.2**
baz=88
S04C Ingram Canyon, 88.17 325 ⇓ P P **19 46 45.6 +0.4**
baz=88
CMB Columbia Colle 88.20 326 ⇑ P P **19 46 45.5 +0.2**
baz=88,SNR=8.3
R06C Coleville 88.21 327 ⇓ P P **19 46 46.0 +0.7**
baz=88,SNR=15
PDAR Pinedale Array 88.22 335 P P **19 46 44.6 -0.7**
comp=Z,9.5nm,1.0s,mb5.0,baz=123,slow=5.5,SNR=25
TOA0 Torodi Ar. Sit 88.36 71 eP P **19 46 46.4 +0.4**
TORD Torodi Ar. Bea 88.36 71 P P **19 46 46.6 +0.6**
comp=Z,5.1nm,0.9s,mb4.7,baz=232,slow=3.8,SNR=20
TORD PP PP 19 50 11.5 -2.0
comp=Z,1.4nm,1.0s,baz=239,slow=6.9,SNR=3.6
HVU Hansel Valley 88.42 333 eP P **19 46 45.3 -1.0**
HVU pmax pmax
comp=Z,25nm,1.0s,mb5.4
HVU Hansel Valley 88.42 333 eP P **19 46 45.3 -1.0**
comp=Z,25nm,1.0s,mb5.4
N12A Clover Valley, 88.44 331 ⇓ P P **19 46 46.1 -0.2**
baz=89
JRSC Jasper Ridge 88.49 324 ⇓ P P **19 46 47.0 +0.3**
baz=89
M13A Montello 88.56 332 P P **19 46 46.4 -0.6**
baz=89,SNR=7.8
R05C Kirkwood Meado 88.62 326 ⇑ P P **19 46 47.6 +0.4**
baz=89,SNR=11
O09A Fish Creek Ran 88.68 329 ⇑ P P **19 46 47.5 -0.1**
baz=89
AHID Auburn Hatcher 88.72 334 eP P **19 46 47.3 -0.4**
comp=Z,32nm,1.3s,mb5.5
M12A Wells 88.88 331 ⇓ P P **19 46 48.2 -0.2**
baz=89
LAVA Lava Cap Winer 88.95 326 ⇓ P P **19 46 48.8 0.0**
baz=89,SNR=11
WCN Washoe City 88.99 327 ⇓ P P **19 46 49.4 +0.4**
baz=89
FARB Farallon Islan 89.08 324 ⇑ P P **19 46 49.7 +0.3**
baz=89
REDW Red Top Meadow 89.17 335 eP P **19 46 49.0 -0.9**
comp=Z,51nm,1.4s,mb5.7
M11A Holland Ranch, 89.22 330 P P **19 46 50.7 +0.6**
baz=90,SNR=8.1
Q04C Lincoln 89.30 325 ⇑ P P **19 46 50.9 +0.4**
baz=90
LOHW Long Hollow 89.31 335 eP P **19 46 49.8 -0.7**
comp=Z,18nm,1.2s,mb5.3
RRI2 Red Ridge 89.31 334 eP P **19 46 50.1 -0.4**
comp=Z,38nm,1.4s,mb5.5
O07A Toulon 89.35 328 ⇑ P P **19 46 50.8 +0.1**
baz=90,SNR=12
P05C Yuba Gap, Truc 89.35 326 P P **19 46 51.2 +0.6**
baz=90,SNR=17
CVS Carmenet Viney 89.36 325 ⇑ P P **19 46 50.8 +0.1**
baz=90,SNR=7.7
N09A Rock Creek Ran 89.39 329 ⇓ P P **19 46 50.1 -0.8**
baz=90
MOOW Moose Ponds 89.48 335 eP P **19 46 50.4 -0.9**
comp=Z,28nm,1.6s,mb5.3
N08A GE Springer Mi 89.58 329 P P **19 46 51.4 -0.3**
baz=90,SNR=8.6
NSHM Saint Helena R 89.58 325 eP P **19 46 52.0 +0.3**
M10A I.L. Ranch, Tu 89.58 330 ⇓ P P **19 46 52.0 +0.2**
baz=90
IMW Indian Meadow 89.68 335 eP P **19 46 51.7 -0.6**
comp=Z,42nm,1.2s,mb5.7
BEKR Beckwourth 89.72 327 ⇑ P P **19 46 52.5 +0.1**
baz=90,SNR=6.9
O06A Flanigan 89.75 327 ⇓ P P **19 46 53.1 +0.6**
baz=90
OHCM Honcut 89.75 326 eP P **19 46 52.7 +0.1**
FLWY Flagg Ranch 89.77 335 eP P **19 46 52.6 0.0**
comp=Z,107nm,1.6s,mb5.9
MNRC McLaughlin Nat 89.80 325 ⇓ P P **19 46 53.3 +0.5**
baz=90,SNR=6.6
SUTB Sutter Butte 89.80 325 ⇑ P P **19 46 52.8 0.0**
baz=90
M09A Marrel Ranch, 89.85 329 ⇑ P P **19 46 52.5 -0.5**
baz=90
N07B Gerlach 89.91 328 ⇑ P P **19 46 53.3 0.0**
baz=90
AGMN Agassiz Refuge 89.92 346 eP P **19 46 52.0 -1.3**
comp=Z,26nm,1.0s,mb5.5
AGMN *e* 19 46 59.9
ORV Oroville 89.94 326 P P **19 46 53.9 +0.5**
baz=90,SNR=25
LSZ Lusaka 89.98 110 LR LR 20 24 34.8
comp=Z,506nm,19.4s,MS5.0,baz=136,slow=34
LSZ Lusaka 89.98 110 eP P **19 46 56.0 +2.4**
LSZ pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
LSZ Lusaka 89.98 110 eP P **19 46 56.0 +2.4**
comp=Z,9.2nm,1.2s,mb5.0
O05C Quincy 90.03 326 ⇑ P P **19 46 54.0 +0.1**
baz=90
YFT Old Faithful 90.14 335 eP P **19 46 55.1 +0.8**
HOPS Hopland 90.17 324 ⇑ P P **19 46 54.8 +0.3**
baz=90
N06A Buffalo Meadow 90.24 328 ⇑ P P **19 46 54.6 -0.2**
baz=90,SNR=8.3
O04C Chester 90.40 327 ⇓ P P **19 46 55.5 -0.1**
baz=91,SNR=7.4
M07A Soldier Meadow 90.50 328 ⇑ P P **19 46 56.2 +0.1**
baz=91
GASB Alder Springs 90.55 325 ⇑ P P **19 46 57.3 +1.0**
baz=91,SNR=11
HLID Hailey 90.57 332 eP P **19 46 55.8 -0.5**
comp=Z,8.4nm,0.9s,mb5.1
HLID Hailey 90.57 332 ⇓ P P **19 46 56.5 +0.1**
baz=91,SNR=10
QLMT Earthquake Lak 90.67 335 eP P **19 46 57.1 +0.3**
P01C Double 8 Ranch 90.68 325 ⇓ P P **19 46 57.8 +0.9**
baz=91
L08A Fields 90.86 329 ⇑ P P **19 46 57.7 0.0**
baz=91
M06C Likely Place G 90.89 327 ⇑ P P **19 46 58.0 +0.1**
baz=91
GCMT Greycliff 90.97 336 eP P **19 46 56.3 -1.9**
HATC Hat Creek Radi 90.97 327 ⇑ P P **19 46 58.2 0.0**
baz=91
O02C Red Bluff 91.02 325 ⇓ P P **19 46 58.4 -0.1**
baz=91
K09A Rome 91.05 330 P P **19 46 58.5 -0.1**
baz=91,SNR=7.4
MCMT McKenzie Canyo 91.14 334 eP P **19 46 59.2 +0.1**
WVOR Wild Horse Val 91.18 329 eP P **19 46 59.2 0.0**
WVOR pmax pmax
comp=Z,14nm,1.3s,mb5.1
WVOR Wild Horse Val 91.18 329 eP P **19 46 59.2 0.0**
comp=Z,14nm,1.3s,mb5.1
WDC Whiskeytown Da 91.24 326 P P **19 46 57.5 -2.0**
WDC *e* 19 47 07.0
WDC pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
WDC Whiskeytown Da 91.24 326 P P **19 46 57.5 -2.0**
comp=Z,8.3nm,1.0s,mb5.0
WDC *e* 19 47 07.0
WDC Whiskeytown Da 91.24 326 ⇓ P P **19 46 59.0 -0.5**
baz=92
M05C Lookout 91.29 327 ⇓ P P **19 46 59.5 -0.3**
baz=92
G15A Dillon 91.31 334 P P **19 46 59.8 0.0**
baz=92,SNR=7.2
K08A Mann Creek Ran 91.37 329 ⇑ P P **19 47 00.0 -0.1**
baz=92
MOD Modoc 91.40 328 ⇓ P P **19 47 00.3 +0.1**
baz=92
DLMT Dillon 91.52 334 eP P **19 47 00.6 -0.2**
comp=Z,42nm,1.6s,mb5.5
J09A Fry Pan Ranch, 91.61 330 ⇓ P P **19 47 00.9 -0.3**
baz=92,SNR=11
M03C McCloud 91.63 326 ⇑ P P **19 47 01.0 -0.3**
baz=92
K07A Rock Creek Ran 91.63 329 ⇓ P P **19 47 01.8 +0.5**
baz=92,SNR=7.9
L05A Lakeview 91.73 328 ⇓ P P **19 47 02.7 +0.9**

baz=92
N02C Big Bar 91.77 325 ⇓P P 19 47 02.7 +0.7
baz=92
ULM Lac du Bonnet 91.80 347 P P 19 47 00.1 -2.1
comp=Z,4.4nm,0.7s,mb4.9,baz=146,slow=7.9,SNR=5.1
J08A Circle Bar Ran 91.90 330 P P 19 47 03.0 +0.5
baz=92,SNR=5.1
F15A Butte 91.91 335 ⇑P P 19 47 02.5 -0.1
baz=92,SNR=9.6
M04C Macdoel 91.93 327 ⇑P P 19 47 02.6 -0.2
baz=92
M02C Callahan 92.04 326 ⇑P P 19 47 03.3 +0.1
baz=92
K06A Valley Falls 92.13 328 ⇓P P 19 47 03.9 +0.3
baz=92
H11A Donnelly 92.13 332 P P 19 47 03.6 0.0
baz=92,SNR=7.0
I09A Lost Marbles R 92.14 331 ⇑P P 19 47 03.5 -0.2
baz=92
F14A Wisdom 92.18 334 ⇓P P 19 47 04.1 +0.2
baz=92
YBH Yreka Blue Hor 92.26 326 P P 19 47 03.4 -0.9
comp=Z,5.2nm,0.8s,mb4.9,baz=173,slow=3.4,SNR=8.0
YBH Yreka Blue Hor 92.26 326 P P 19 47 03.4 -0.8
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 92.26 326 ⇓P P 19 47 04.3 +0.1
baz=92
L04A Klamath Falls 92.28 327 ⇑P P 19 47 05.0 +0.7
baz=93
K05A Summer Lake 92.33 328 ⇑P P 19 47 05.0 +0.4
baz=93
I08A Drewsey 92.40 330 ⇑P P 19 47 05.1 +0.2
baz=93
J06A Christmas Vall 92.47 329 ⇑P P 19 47 05.3 +0.1
baz=93
E15A Deer Lodge 92.47 335 ⇓P P 19 47 05.1 -0.1
baz=93
F13A Darby 92.48 334 P P 19 47 04.8 -0.4
baz=93,SNR=17
H09A Durkee 92.70 331 ⇓P P 19 47 05.9 -0.3
baz=93
E14A Clinton 92.75 334 ⇓P P 19 47 06.3 -0.1
baz=93
F12A Elk City 92.77 333 P P 19 47 06.2 -0.4
baz=93,SNR=14
G11A Walters Elk Ra 92.82 332 ⇓P P 19 47 06.5 -0.3
baz=93
I07A Izee 92.91 330 ⇓P P 19 47 07.4 +0.2
baz=93
J05A Fort Rock 92.93 328 ⇓P P 19 47 07.2 -0.2
baz=93
H08A Prairie City 92.95 330 ⇑P P 19 47 07.0 -0.5
baz=93
D15A Lincoln 92.98 335 P P 19 47 07.5 -0.1
baz=93,SNR=9.8
E13A Victor 93.00 334 ⇓P P 19 47 07.4 -0.3
baz=93,SNR=17
EGMT Eagleton 93.00 337 ⇑P P 19 47 07.2 -0.4
baz=93
I06A Prineville 93.07 329 ⇑P P 19 47 08.4 +0.4
baz=93
CHMT Chamberlain Mo 93.11 335 *e*P P 19 47 07.9 -0.2
F11A Grangeville 93.20 333 ⇓P P 19 47 08.5 -0.1
baz=94
MSO Missoula 93.26 334 *e*P P 19 47 08.8 -0.1
comp=Z,7.2nm,1.2s,mb5.0
D14A Greenough 93.34 335 P P 19 47 08.8 -0.4
baz=94,SNR=6.8
K02A Glendale 93.44 326 ⇑P P 19 47 10.2 +0.5
baz=94
F10A Beach Ranch, E 93.66 332 ⇓P P 19 47 10.5 -0.2
baz=94
D13A Huson 93.66 334 ⇓P P 19 47 10.2 -0.5
baz=94,SNR=10
G08A Pilot Rock 93.72 331 ⇑P P 19 47 10.1 -0.8
baz=94
H06A Lindquist Farm 93.78 329 ⇓P P 19 47 11.2 0.0
baz=94
G07A Ruggs Ranch, H 93.97 330 ⇓P P 19 47 12.1 0.0
baz=94
C13A Hot Springs 94.21 334 P P 19 47 12.9 -0.3
baz=94,SNR=5.4
E09A Wood Farm, Sta 94.45 332 ⇑P P 19 47 13.7 -0.6
baz=95
C12A Trout Creek 94.54 334 P P 19 47 14.1 -0.6
baz=95,SNR=5.7
E08A Dider Farm, El 94.77 331 ⇓P P 19 47 15.5 -0.3
baz=95
SCHQ Schefferville 94.77 5 P P 19 47 13.4 -2.4
comp=Z,5.3nm,0.9s,mb5.0,baz=202,slow=4.9,SNR=3.6
B13A Whitefish 94.78 335 ⇓P P 19 47 15.3 -0.6
baz=95
F06A Goldendale 94.81 330 ⇑P P 19 47 15.6 -0.4
baz=95
D08A Wollman Farm, 95.20 331 ⇑P P 19 47 17.1 -0.6
baz=96
WALA Waterton Lakes 95.20 335 *e*P P 19 47 16.2 -1.6
comp=Z,27nm,1.1s,mb5.6
B12A Libby 95.23 334 ⇑P P 19 47 17.6 -0.3
baz=96
E06A Yakima 95.54 330 ⇓P P 19 47 19.2 -0.1
baz=96
A12A Yaak River Ran 95.66 334 ⇑P P 19 47 19.4 -0.5
baz=96
A11A Hall Mountain, 95.92 334 ⇑P P 19 47 19.7 -1.3
baz=96
C07A Waterville 96.15 331 ⇓P P 19 47 21.4 -0.7
baz=96
A07A Ashnola River, 97.40 332 ⇓P P 19 47 27.5 -0.3
baz=98
B04A Port Angeles 97.76 329 ⇓P P 19 47 29.3 -0.1
baz=98
ASAR Alice Springs 111.16 208 PKiKP PKiKP 19 52 25.9 -1.9
comp=Z,0.7nm,0.9s,baz=122,slow=1.6,SNR=5.8
ASAR PKKPbc PKKPbc 20 03 23.7 -0.2
comp=Z,0.4nm,0.7s,baz=339,slow=2.4,SNR=5.3
ASAR Alice Springs 111.16 208 *i* PKIKP PKiKP 19 52 26.0 -1.9
ASAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 114.38 210 PKP PKiKP 19 52 31.9 -2.1
comp=Z,2.1nm,0.9s,baz=161,slow=1.2,SNR=15
WRA Warramunga Arr 114.38 210 PKIKP PKiKP 19 52 31.9 -2.1
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRAB Tennant Creek 114.39 210 ⇑ *i* PKIKP PKiKP 19 52 32.0 -2.0
GERES GERESS Array B 117.95 48 PKP PKPdf 19 52 39.9 -1.0
comp=Z,2.9nm,0.8s,baz=202,slow=1.4,SNR=19
GERES GERESS Array B 117.95 48 PKIKP PKPdf 19 52 39.9 -1.0
GERES pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 118.77 46 *e*PKPdf PKPdf 19 52 42.0 -0.5
MORC Moravsky Berou 120.61 49 ⇑ *i*P PKPdf 19 52 54.0 +8.0
VYHS Vyhne 120.78 51 *e*PKP PKPdf 19 52 45.9 -0.4
BZS Buzias 121.17 55 ⇑ *i*P PKPdf 19 52 46.6 -0.5
BZS Buzias 121.17 55 ⇑P PKPdf 19 52 46.6 -0.5
NOA NORSAR Array B 122.31 35 PKP PKPdf 19 52 47.6 -1.7
comp=Z,2.9nm,0.9s,baz=252,slow=1.5,SNR=3.0
NOA NORSAR Array B 122.31 35 PKIKP PKPdf 19 52 47.6 -1.7
NOA pmax pmax
comp=Z,3.0nm,0.9s
DRGR 122.37 54 ⇑ *i*P PKPdf 19 52 48.9 -0.5
DRGR 122.37 54 ⇑P PKPdf 19 52 48.9 -0.5
KWP Kalwaria 123.57 51 *e*PKP PKPdf 19 52 51.7 0.0
KWP *e* 19 52 59.9
MLR Muntele Rosu 123.85 56 ⇑ *i*P PKPdf 19 52 51.6 -0.6
MLR Muntele Rosu 123.85 56 ⇑P PKPdf 19 52 51.6 -0.6
BURAR Bucovina Array 124.27 54 ⇑ *i*P PKPdf 19 52 53.8 +0.8
BURAR Bucovina Array 124.27 54 ⇑P PKPdf 19 52 53.8 +0.8
TIRR Tirgusor 125.02 58 ⇓ *i*P PKPdf 19 52 53.7 -0.8
TIRR Tirgusor 125.02 58 ⇓P PKPdf 19 52 53.7 -0.8
SUW Suwalki 125.52 46 *e*PKP PKPdf 19 52 54.4 -1.0
SUW *e* 19 53 03.3
BRTR Keskin Array B 126.59 66 PKP PKPdf 19 52 57.0 -0.4
comp=Z,3.0nm,0.8s,baz=197,slow=3.9,SNR=16
BRTR Keskin Array B 126.59 66 *i* PKIKP PKPdf 19 52 57.5 0.0
BRTR pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 127.86 51 PKP PKPdf 19 52 58.1 -1.7
comp=Z,2.8nm,0.8s,baz=261,slow=2.6,SNR=12
AKASG PP PP 19 55 10.1 +8.2
comp=Z,0.1nm,0.2s,baz=247,slow=7.7,SNR=4.5
AKASG Malin Array Be 127.86 51 PKIKP PKPdf 19 52 58.2 -1.7
AKASG 19 55 10.1
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 127.86 51 PKP PKPdf 19 52 58.1 -1.7
AKASG PP PP 19 55 10.1 +8.2
MALT Malatya 129.40 69 ⇓ *i*P PKPdf 19 53 03.9 +1.1
MALT Malatya 129.40 69 ⇓P PKPdf 19 53 03.9 +1.1
OBN Obninsk 133.31 47 *i* PKIKP PKPdf 19 53 08.1 -2.1
OBN pmax pmax
comp=Z,20nm,1.3s
KIV Kislovodsk 134.42 64 *c i* PKIKP PKPdf 19 53 12.3 0.0
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.9
GOF Gofitskoye 134.98 62 *e*PKHKP 19 52 54.4
BILL Bilibino 137.16 331 ⇑ *i*PKIKP PKPdf 19 53 14.3 -3.1
ORR Orenburg 143.75 54 *e*PKIKP PKPdf 19 53 26.5 -2.8
ORR pmax pmax
comp=Z,50nm,1.4s
SEY Seymchan 143.93 325 ⇓ *i*PKHKP 19 53 23.9
SOKR Solikamsk 144.25 41 *e*PKIKP PKPdf 19 53 28.5 -1.7
SOKR pmax pmax
comp=Z,70nm,1.4s
KAD Karad 144.93 121 *e*P PKPdf 19 53 30.1 -1.2
MDRS Chennai 145.34 134 *ex* x 19 53 12.0
MA2 Magadan 145.57 320 *e*PKIKP PKPdf 19 53 30.5 -2.0
MA2 pmax pmax
comp=Z,30nm,0.9s
POO Poona 145.58 119 ⇑ *i*P PKPdf 19 53 30.0 -2.5
comp=Z,90nm,1.0s
ARU Arti 145.71 46 *i* PKP2 PKPab 19 53 32.4 -1.0
ARU *e* 19 56 53.0
ARU *e*SS SS 20 15 46.8 -0.4
ARU Arti 145.71 46 *e*P PKPdf 19 53 31.8 -0.9
AKTO Aktyubinsk 145.78 56 PKPbc PKPbc 19 53 32.8 -0.5
comp=Z,8.9nm,0.9s,baz=273,slow=1.2,SNR=21
AKTO Aktyubinsk 145.78 56 PKP2 PKPab 19 53 32.8 -0.9
AKTO pmax pmax
comp=Z,9.0nm,0.9s
HYB Hyderabad 147.79 127 *i* PKP PKPdf 19 53 39.0 +2.8
HYB Hyderabad 147.79 127 *e*P PKPdf 19 53 39.0 +2.8
TGY Tagaytay City 150.65 213 PKP PKPdf 19 53 38.3 -2.5
comp=Z,70nm,0.3s,baz=168,slow=16,SNR=2.0
TGY PKPbc PKPbc 19 53 44.5 -1.8
comp=Z,50nm,0.3s,baz=92,slow=12,SNR=3.4
TGY Tagaytay City 150.65 213 PKIKP PKPdf 19 53 38.3 -2.5
TGY 19 53 44.5
TGY pmax pmax
comp=Z,70nm,0.3s
TGY pmax pmax
comp=Z,50nm,0.3s
VIS Vishakhapatnam 150.83 133 *e*P PKPdf 19 53 42.1 +1.0
BHPL Bhopal 151.24 117 *e*P PKPdf 19 53 40.4 -1.3
AJM Ajmer 151.30 109 *e*P PKPdf 19 53 40.5 -1.3
YSS Yuzh-Sakhalins 152.05 297 *e*PKIKP PKPdf 19 53 47.0 +4.1
YSS *e* 19 53 55.2
YSS Yuzh-Sakhalins 152.05 297 *e*PKPbc PKPbc 19 53 47.5 -2.0
YSS *e* 19 53 55.9
ASAJ Asahikawa 152.05 291 PKPbc PKPbc 19 53 47.8 -1.8
comp=Z,19nm,0.9s,baz=231,slow=11,SNR=7.3
ASAJ Asahikawa 152.05 291 PKIKP PKPdf 19 53 47.8 +4.9
ASAJ pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 153.04 50 *e*PKIKP PKPdf 19 53 43.9 -0.5
BVAR Borovoye Array 153.11 50 PKP PKPdf 19 53 43.6 -0.9
comp=Z,3.7nm,0.9s,baz=294,slow=1.5,SNR=19
BVAR PKPbc PKPbc 19 53 51.4 -0.4
comp=Z,5.9nm,0.9s,baz=270,slow=2.7,SNR=14
BVAR PKPab PKPab 19 54 00.6 -2.8
comp=Z,3.3nm,0.7s,baz=299,slow=3.7,SNR=7.3
BVAR Borovoye Array 153.11 50 PKIKP PKPdf 19 53 43.6 -0.9
BVAR 19 53 51.4
BVAR 19 54 00.6
BVAR pmax pmax
comp=Z,4.0nm,0.9s
YAK Yakutsk 153.44 334 *d i* PKIKP PKPdf 19 53 50.5 +5.5
YAK pmax pmax
comp=Z,59nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.4s
MJAR Matsushiro Arr 153.88 273 PKPbc PKPbc 19 53 51.8 -1.7
comp=E,1.4nm,0.3s,baz=126,slow=1.7,SNR=7.5
MJAR PKPab PKPab 19 54 04.5 -2.1
comp=E,8.0nm,1.0s,baz=135,slow=3.2,SNR=9.2
MJAR Matsushiro Arr 153.88 273 PKIKP PKPdf 19 53 51.8 +6.2
MJAR 19 54 04.5
MJAR pmax pmax
comp=Z,1.0nm,0.4s
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MAT Matsushiro 153.88 273 PKP PKPdf 19 53 49.9 +4.3
FRU Bishkek 157.03 73 *e*PKP2 PKPab 19 54 21.5 +1.4
FRU *e* 19 58 10.0
BOK Bokaro 157.07 129 *e*P PKPdf 19 53 46.5 -3.4
HABR Khabarovsk 157.09 301 *e*PKIKP PKPdf 19 53 58.5 +8.6
KOLN Koldanda 158.40 118 *e*P PKPdf 19 53 51.0 -0.5
comp=Z,28nm,1.3s
NVS Novosibirsk 159.21 37 ⇑ *i*PKIKP PKPdf 19 53 50.9 -1.6
NVS *i* 19 54 30.1
NVS pmax pmax
comp=Z,19nm,1.6s
NVS pmax pmax
comp=N,6.0nm,1.7s
NVS pmax pmax
comp=E,8.0nm,1.4s
GKN Gorkha 159.25 119 *e*P PKPdf 19 53 51.6 -0.9
comp=E,29nm,1.2s
DMN Daman 159.31 121 *e*P PKPdf 19 53 52.0 -0.6
PKI Pulchoki 159.48 121 *e*P PKPdf 19 53 52.4 -0.4
KKN Kakani 159.54 121 *e*P PKPdf 19 53 52.4 -0.5
comp=E,21nm,1.3s
GUN Gumba 160.01 121 *e*P PKPdf 19 53 53.1 -0.3
ZAL Zalesovo 160.48 38 PKP PKPdf 19 53 51.6 -2.3
comp=E,2.3nm,0.9s,baz=249,slow=2.3,SNR=16
ZAL PKPab PKPab 19 54 33.5 -1.6
comp=E,1.0nm,0.7s,baz=167,slow=6.0,SNR=2.0
ZAL Zalesovo 160.48 38 PKIKP PKPdf 19 53 51.6 -2.3
ZAL 19 54 33.5
ZAL pmax pmax
comp=Z,2.0nm,0.9s
ZAL Zalesovo 160.48 38 PKP PKPdf 19 53 51.6 -2.3
ZAL PKPab PKPab 19 54 33.5 -1.6
BOD Bodaibo 161.32 345 *e*PKIKP PKPdf 19 53 50.7 -4.1
MDJ Mudanjiang 161.37 292 PKP PKPdf 19 53 52.5 -2.4
KSRS Korea Array 162.03 269 PKP PKPdf 19 53 53.2 -2.4
comp=Z,1.7nm,1.0s,baz=163,slow=1.3,SNR=7.0
KSRS PKPab PKPab 19 54 39.9 -2.0
comp=Z,5.9nm,1.1s,baz=113,slow=3.9,SNR=9.0
MKAR Makanchi Array 162.14 60 PKP PKPdf 19 53 54.2 -1.5
comp=Z,2.2nm,0.9s,baz=298,slow=2.6,SNR=14
MKAR PKPab PKPab 19 54 41.9 -0.4
comp=Z,2.8nm,0.8s,baz=286,slow=4.5,SNR=9.2
MKAR PP PP 19 58 25.7 -0.5
comp=Z,0.7nm,0.8s,baz=252,slow=2.9,SNR=3.6
MKAR Makanchi Array 162.14 60 PKIKP PKPdf 19 53 54.2 -1.5
MKAR 19 54 41.9
MKAR 19 58 25.7
MKAR pmax pmax
comp=Z,2.0nm,0.9s
CN2 Changchun 164.42 291 *e*PKP PKPdf 19 53 57.3 -0.5
CN2 PP PP 19 58 41.1 +2.8
KMI Kunming 164.97 172 PKP PKPdf 19 53 57.6 -0.7
KMI APKP 19 54 07.8
KMI PKP2 PKPab 19 54 57.4 +2.6
KMI PP PP 19 58 42.1 +1.0
KMI SS SS 20 19 18.8 +3.2
KMI SSS 20 25 37.6
KMI PP PP
comp=Z,101nm,5.3s
KMI LR LR
comp=N,145nm,18.3s
KMI LR LR
comp=E,189nm,19.0s
KMI LR LR
comp=Z,175nm,23.2s
NJ2 Nanjing 166.32 239 *e*PKP PKPdf 19 53 58.4 -1.0
GYA Guiyang 166.38 186 *e*PKP PKPdf 19 53 58.9 -0.6
GYA APKP 19 54 08.9
GYA PKP2 PKPab 19 55 02.9 +1.9
GYA PKS 19 57 30.8
GYA PP PP 19 58 51.3 +2.9
GYA SKS SKSdf 20 00 58.9 -4.8
GYA SKKS SKKSac 20 05 34.5 -1.8
GYA SS SS 20 19 27.8 -2.1
GYA PP PP
comp=Z,160nm,7.8s
GYA LR LR
comp=N,290nm,20.8s
GYA LR LR
comp=E,270nm,21.7s
GYA LR LR
comp=Z,280nm,22.0s
WMQ Urumqi 166.50 68 ⇓PKP PKPdf 19 53 58.8 -0.8
WMQ APKP 19 54 09.5
WMQ PKP2 PKPab 19 55 03.3 +1.8
WMQ PKS 19 57 30.0
WMQ PP PP 19 58 52.3 +3.2
WMQ SKS SKSdf 20 00 57.4 -6.3
WMQ PPP 20 02 50.1
WMQ PP PP
comp=Z,313nm,6.0s
WMQ LR LR
comp=N,165nm,22.7s
WMQ LR LR
comp=E,158nm,21.3s
WMQ LR LR
comp=Z,265nm,25.4s
ZAK Zakamensk 169.60 7 *e* PKPdf 19 53 59.4 -2.3
CD2 Chengdu 170.80 173 *e*PKP PKPdf 19 53 59.3 -3.1
CD2 APKP 19 54 10.1
CD2 XPKP 19 54 13.8
CD2 PKP2 PKPab 19 55 19.6 -1.0
CD2 PP PP 19 59 11.0 +0.1
CD2 SKS SKSdf 20 00 57.6 -8.3
CD2 SKKS SKKSac 20 05 52.9 -5.2
CD2 SS SS 20 20 08.3 -5.9
CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,240nm,15.6s
CD2 LR LR
comp=E,350nm,15.6s
CD2 LR LR
comp=Z,140nm,15.6s
ULN Ulaanbaatar 172.07 351 *e*PKIKP PKPdf 19 54 01.0 -2.0
SONM Songino Array 172.17 354 PKP PKPdf 19 54 01.1 -1.9
comp=Z,4.1nm,1.0s,baz=38,slow=1.0,SNR=22
SONM PKPab PKPab 19 55 26.5 -0.1
comp=Z,3.8nm,0.9s,baz=359,slow=3.8,SNR=12
SONM PP PP 19 59 15.5 -2.3
comp=Z,1.7nm,1.3s,baz=26,slow=8.0,SNR=4.3
SONM Songino Array 172.17 354 PKIKP PKPdf 19 54 01.1 -1.9
SONM 19 55 26.5
SONM 19 59 15.5
SONM pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 173.27 208 PKP PKPdf 19 54 02.3 -1.2
XAN APKP 19 54 11.3
HHC Hu-ho-hao-te 175.02 281 *e*PKP PKPdf 19 54 02.0 -2.1
HHC APKP 19 54 13.0
HHC PKS 19 57 31.0
HHC PP PP 19 59 32.0 +0.4
HHC SKS SKSdf 20 00 58.3 -9.0
HHC SKKS SKKSac 20 06 13.3 -5.0
HHC SS SS 20 20 49.3 -6.0
HHC PP PP
comp=Z,91nm,7.5s
HHC LR LR
comp=N,194nm,20.4s
HHC LR LR
comp=E,245nm,20.4s
HHC LR LR
comp=Z,251nm,20.3s
GTA Gaotai 175.86 97 PKP PKPdf 19 54 03.9 -0.4
GTA APKP 19 54 14.3
GTA PKP2 PKPab 19 55 43.6 +0.6
GTA PKS 19 57 34.1
GTA PP PP 19 59 34.3 -1.4
GTA SKS SKSdf 20 01 01.8 -5.7
GTA SKKS SKKSac 20 06 16.6 -5.6
GTA PP PP
comp=Z,267nm,7.2s
GTA LR LR
comp=N,172nm,7.6s
GTA LR LR
comp=E,174nm,9.5s
GTA LR LR
comp=Z,120nm,9.5s
LZH Lanzhou 175.91 165 *e*PKP PKPdf 19 54 03.5 -0.8
LZH APKP 19 54 13.0
LZH XPKP 19 54 15.5
LZH PKP2 PKPab 19 55 43.5 +0.3
LZH SKS SKSdf 20 01 01.5 -6.0
LZH *e*SKKS SKKSac 20 06 17.5 -5.0
LZH SS SS 20 20 59.1 -4.7
LZH PP PP
comp=Z,283nm,6.3s
LZH LR LR
comp=N,625nm,19.5s
LZH LR LR
comp=Z,956nm,20.3s

BJI ***20*** *19:34:03.5, 4760N∿154.10E, h10km, mB4.7, mb4.2*
ISCJB ***20*** *19:34:05.0±2.6, 4762N±0.08∿154.2E±0.1, h24km±18km, mb4.3/22, Error ellipse: s-maj=16.8km s-min=7.4km az=95.9*
NEIC ***20*** *19:34:04.6±0.5, 4763N∿154.05E, h10km, mb4.8/5, Error ellipse: s-maj=15.8km s-min=9.2km az=138.0*
MOS ***20*** *19:34:07.2±1.3, 4764N∿154.04E, h42km, mb5.0/8, Error ellipse: s-maj=16.2km s-min=9.7km az=78.1*
IDC ***20*** *19:34:10.8±4.0, 4769N∿153.87E, h57km±36km, mb3.8/15, mb1 4.0/17, mb1mx3.9/25, mbtmp3.8/17, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.0/39, Error ellipse: s-maj=20.0km s-min=16.2km az=123.0*

ISC 20 19:34:08.9±1.2, 4771N±009∿1540E±01, h40km±9km, n51, σ0s88/50, mb4.3/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.28**	**24**	*e*PN	**Pn**	**Pn**	**19 34 57.5**	**-0.3**
SKR				*e*S	**Sn**	**Sn**	**19 35 35.0**	**-0.5**
SKR				pmax	pmax			
	comp=Z,150nm,0.5s							
SKR				smax				
	comp=N,320nm,0.6s							
SKR				smax				
	comp=E,180nm,0.3s							
SKR				smax				
	comp=Z,110nm,0.3s							
PET	**Petropavlovsk**	**6.09**	**27**	*e*PN	**Pn**	**Pn**	**19 35 37.4**	**+1.0**
PET	**Petropavlovsk**	**6.09**	**27**	*e*P	**Pn**	**Pn**	**19 35 36.4**	**0.0**
	comp=Z,20nm,0.4s							
YSS	**Yuzh-Sakhalins**	**7.68**	**269**	*e*PN	**Pn**	**Pn**	**19 36 02.6**	**+4.4**
YSS				*e*S	**Sn**	**Sn**	**19 37 30.0**	**+6.1**
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.68**	**269**	*e*P	**Pn**	**Pn**	**19 35 59.2**	**+1.0**
	comp=Z,17nm,0.6s							
ASAJ	**Asahikawa**	**8.73**	**250**	P	**Pn**	**Pn**	**19 36 13.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=48,slow=10,SNR=5.9							
ASAJ				LR	LR		19 39 07.8	
	comp=Z,120nm,20.1s,baz=158,slow=34							
MJAR	**Matsushiro Arr**	**16.15**	**232**	P	**Pn**	**Pn**	**19 37 51.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=32,slow=9.5,SNR=5.0							
KSRS	**Korea Array**	**21.67**	**251**	P	**P**	**Pn**	**19 38 57.4**	**+1.3**
	comp=Z,4.1nm,0.8s,mb3.9,baz=60,slow=11,SNR=13							
INK	**Inuvik**	**40.52**	**33**	P	**P**	**Pn**	**19 41 44.7**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.7,baz=260,slow=7.5,SNR=8.2							
INK	**Inuvik**	**40.52**	**33**	P	**P**	**P**	**19 41 44.7**	**+0.7**
GYA	**Guiyang**	**42.52**	**257**	P	**P**	**P**	**19 42 00.5**	**+0.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**42.56**	**305**	PcP	PcP		19 43 51.7	-0.9
	comp=Z,0.8nm,0.4s,baz=81,slow=2.3,SNR=4.4							
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**P**	**19 42 35.5**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=66,slow=7.2,SNR=8.8							
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**P**	**19 42 35.5**	**-1.0**
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**P**	**19 42 57.9**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=294,slow=7.4,SNR=3.1							
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**P**	**19 43 03.5**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=59,slow=8.0,SNR=11							
BVAR				PcP	PcP		19 44 20.8	-0.6
	comp=Z,1.1nm,0.5s,baz=51,slow=1.9,SNR=5.8							
LSA	**Lhasa**	**50.83**	**273**	*e*P	**P**	**P**	**19 43 07.5**	**+2.1**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**50.83**	**273**	*e*P	**P**	**P**	**19 43 07.5**	**+2.1**
	comp=Z,3.4nm,0.6s,mb4.5							
ARCES	**ARCESS Array B**	**57.15**	**341**	P	**P**	**P**	**19 43 50.2**	**-1.3**
	comp=Z,10nm,1.1s,mb4.8,baz=32,slow=8.8,SNR=3.3							

AKTO Aktyubinsk 58.54 312 PcP PcP 19 44 50.5 -0.8
comp=Z,1.0nm,0.6s,baz=78,slow=9.3,SNR=5.0
FINES FINESS Array B 63.43 335 P **P** **19 44 32.9 -1.6**
comp=Z,1.3nm,0.4s,mb4.4,baz=37,slow=6.9,SNR=17
PDAR Pinedale Array 63.69 55 P **P** **19 44 36.6 +0.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=297,slow=2.0,SNR=9.6
NB2 NORSAR Subarra 67.52 341 P **P** **19 45 00.1 -0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.2
NOA NORSAR Array B 67.52 341 P **P** **19 45 00.5 -0.4**
comp=Z,1.1nm,0.5s,mb4.1,baz=25,slow=6.3,SNR=4.0
WRA Warramunga Arr 69.62 200 P **P** **19 45 12.3 -1.7**
comp=Z,0.9nm,0.9s,mb3.7,baz=23,slow=7.1,SNR=5.5
AKASG Malin Array Be 71.08 326 P **P** **19 45 22.5 -0.5**
comp=Z,1.5nm,0.4s,mb4.2,baz=34,slow=6.3,SNR=6.0
AKASG Malin Array Be 71.08 326 P **P** **19 45 22.5 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 73.31 199 P **P** **19 45 36.3 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=16,slow=5.3,SNR=9.4
CLL Collm 75.84 336 *i* P **P** **19 45 50.8 -0.1**
CLL Collm 75.84 336 *e*P **P** **19 45 51.0 +0.1**
TXAR Lajitas Array 76.49 61 P **P** **19 45 54.9 +0.3**
comp=Z,3.9nm,0.9s,mb4.4,baz=305,slow=4.8,SNR=7.5
TXAR Lajitas Array 76.49 61 P **P** **19 45 54.9 +0.3**
KHC Kasperske Hoyo 77.64 335 *e*P **P** **19 46 01.5 +0.4**
GRF Grafenberg Arr 77.79 336 *e*P **P** **19 46 02.6 +0.7**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 77.86 334 P **P** **19 46 02.1 -0.1**
comp=Z,1.9nm,0.8s,mb4.1,baz=32,slow=5.6,SNR=13
GERES GERESS Array B 77.86 334 P **P** **19 46 02.1 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.10 317 P **P** **19 46 03.6 0.0**
comp=Z,2.1nm,0.9s,mb4.1,baz=68,slow=4.3,SNR=7.8
CDF Champ du Feu 80.00 338 *e*P **P** **19 46 14.1 +0.1**
comp=Z,31nm,1.3s,mb4.8
CDF Champ du Feu 80.00 338 *e*P **P** **19 46 14.1 +0.1**
CDF pmax pmax
comp=Z,15nm,1.3s,mb4.8
CDF Champ du Feu 80.00 338 *e*P **P** **19 46 14.1 +0.1**
comp=Z,15nm,1.3s,mb4.8
GRR Gorron 81.83 343 *e*P **P** **19 46 24.0 +0.2**
comp=Z,32nm,1.1s,mb4.9
GRR Gorron 81.83 343 *e*P **P** **19 46 24.0 +0.2**
GRR pmax pmax
comp=Z,16nm,1.1s,mb4.9
GRR Gorron 81.83 343 *e*P **P** **19 46 24.0 +0.2**
comp=Z,16nm,1.1s,mb4.8
SMF Signal de Mont 82.48 340 *e*P **P** **19 46 27.7 +0.5**
comp=Z,32nm,1.3s,mb4.8
SMF Signal de Mont 82.48 340 *e*P **P** **19 46 27.7 +0.5**
SMF pmax pmax
comp=Z,16nm,1.3s,mb4.8
SMF Signal de Mont 82.48 340 *e*P **P** **19 46 27.7 +0.5**
comp=Z,16nm,1.3s,mb4.8
LPG La Plagne 82.83 337 *e*P **P** **19 46 30.3 +1.3**
comp=Z,6.0nm,0.6s,mb4.5
LPG La Plagne 82.83 337 *e*P **P** **19 46 30.3 +1.3**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LPG La Plagne 82.83 337 *e*P **P** **19 46 30.3 +1.3**
comp=Z,3.0nm,0.6s,mb4.5
CAF Calviac 84.51 340 *e*P **P** **19 46 38.0 +0.4**
SNAA Sanae 153.65 196 PKPbc PKPbc 19 54 02.0 -1.3
comp=Z,0.5nm,1.0s,baz=95,slow=3.0,SNR=2.6

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*ISCJB **20** 19:54:28.2±0.8, 529S±0.1×226E±0.3, h10km, mb4.0/9, Error ellipse: s-maj=22.7km s-min=16.3km az=11.4*
*IDC **20** 19:54:28.3±0.9, 5290S×2259E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/15, mbtmp3.7/7, Error ellipse: s-maj=30.1km s-min=22.5km az=79.0*
*NEIC **20** 19:54:29.7±0.6, 5288S×2260E, h10km, mb4.8/1, Error ellipse: s-maj=19.4km s-min=13.6km az=84.0*
ISC 20 19:54:29.5±0.8, 529S±0.1×226E±0.3, h10km, n13, σ0§82/12, mb4.0/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**21.92**	**201**	P		**P**		**19 59 23.7**	**+0.8**
	2.5nm,0.9s,mb3.6,baz=37,slow=7.7,SNR=13								
SNAA	**Sanae**	**21.92**	**201**	*e*		**P**		**19 59 22.9**	**0.0**
SNAA				*e*				19 59 25.0	
SNAA				*e*				19 59 29.5	
SNAA				*e*				19 59 36.6	
VNA2	**Neumayer--Watz**	**22.52**	**205**	*e*		**P**		**19 59 31.0**	**+1.7**
	baz=38,slow=11								
VNA2				*e*				19 59 37.4	
VNA3	**Neumayer Olymp**	**23.30**	**206**	*e*		**P**		**19 59 37.0**	**-0.6**
VNA3				*e*				19 59 39.2	
VNA3				*e*				19 59 43.0	
VNA3				*e*				19 59 47.8	
VNA3				*e*				19 59 53.5	
MAW	**Mawson**	**24.21**	**143**	P		**P**		**19 59 46.7**	**+0.6**
	1.9nm,0.7s,mb3.6,baz=292,slow=16,SNR=2.5								
QSPA	**South Pole Qui**	**37.34**	**180**	*e*P		**P**		**20 01 41.5**	**-0.4**
	4.4nm,0.2s,mb4.9								
PMSA	**Palmer Station**	**42.80**	**219**	P		**P**		**20 02 27.1**	**-0.2**
	29nm,0.6s,mb5.1,baz=59,slow=3.7,SNR=9.4								
VNDA	**Vanda**	**47.42**	**169**	P		**P**		**20 03 03.0**	**-1.0**
	0.4nm,0.5s,mb3.6,baz=153,slow=2.5,SNR=4.2								
CFAA	**Coronel Fontan**	**65.99**	**249**	P		**P**		**20 05 15.1**	**-0.9**
	0.2nm,0.5s,mb3.4,baz=143,slow=11,SNR=3.1								
TORD	**Torodi Ar. Bea**	**68.19**	**338**	P		**P**		**20 05 31.1**	**+1.1**
	1.1nm,0.8s,mb3.9,baz=171,slow=7.8,SNR=6.0								
WRA	**Warramunga Arr**	**86.62**	**119**	P		**P**		**20 07 13.4**	**+0.2**
	0.7nm,1.0s,mb3.9,baz=215,slow=3.7,SNR=4.7								
BRTR	**Keskin Array B**	**92.73**	**8**	P		**P**		**20 07 41.2**	**-0.7**
	0.6nm,0.8s,mb4.1,baz=186,slow=8.8,SNR=4.2								
PDAR	**Pinedale Array**	**146.92**	**272**	PKPbc		PKPbc		20 14 11.8	-0.3
	1.7nm,0.8s,baz=118,slow=4.6,SNR=15								

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*IDC **20** 20:09:52.2±1.1, 4641N×15483E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.5/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=31.7km s-min=25.7km az=159.0*
*ISCJB **20** 20:09:54.2±5.1, 464N±0.2×1546E±0.2, h25km±37km, mb3.7/8, MS4.2/1, Error ellipse: s-maj=32.1km s-min=14.2km az=138.0*
*MOS **20** 20:09:56.2±1.1, 4643N×15451E, h41km, mb4.0/7, Error ellipse: s-maj=28.7km s-min=23.9km az=148.6*
ISC 20 20:09:56.9±5.4, 464N±0.2×1546E±0.2, h31km±38km, n18, σ1§11/18, mb3.7/8, MS4.2/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.85**	**258**	*e*PN		**Pn**		**20 11 06.0**	**-1.7**
KUR				*e*S		**Sn**		**20 12 02.0**	**-0.7**
KUR				pmax	pmax				
	comp=Z,80nm,0.6s								
KUR				smax					
	comp=N,110nm,0.6s								
KUR				smax					
	comp=E,70nm,0.6s								
ASAJ	**Asahikawa**	**8.77**	**259**	Pn		**Pn**		**20 12 03.6**	**+2.1**
	comp=E,0.6nm,0.3s,baz=72,slow=13,SNR=4.4								
ASAJ				LR		LR		20 15 09.5	
	comp=E,50nm,19.1s,baz=155,slow=36								
KSRS	**Korea Array**	**21.68**	**255**	P		**P**		**20 14 50.2**	**+5.2**
	comp=E,1.1nm,0.7s,mb3.4,baz=59,slow=11,SNR=4.5								
INK	**Inuvik**	**41.39**	**32**	P		**P**		**20 17 39.0**	**-1.2**
	comp=E,0.8nm,0.7s,mb3.4,baz=299,slow=4.7,SNR=3.4								
INK	**Inuvik**	**41.39**	**32**	P		**P**		**20 17 39.0**	**-1.2**
INK				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**20 18 33.1**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=65,slow=7.4,SNR=6.3								
MKAR	**Makanchi Array**	**48.00**	**298**	P		**P**		**20 18 33.1**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**51.86**	**310**	P		**P**		**20 19 02.8**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=52,slow=9.3,SNR=5.6								
BVAR	**Borovoye Array**	**51.86**	**310**	P		**P**		**20 19 02.8**	**+0.6**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.50**	**341**	LR		LR		20 52 24.1	
	comp=Z,149nm,18.0s,MS4.2,baz=243,slow=44								
FINES	**FINESS Array B**	**64.78**	**335**	P		**P**		**20 20 31.7**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=32,slow=5.5,SNR=6.0								
FINES	**FINESS Array B**	**64.78**	**335**	P		**P**		**20 20 31.7**	**-0.7**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								

NOA NORSAR Array B 68.87 342 P **P** **20 21 00.1 +1.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=36,slow=4.7,SNR=3.3
NOA NORSAR Array B 68.87 342 P **P** **20 21 00.1 +1.6**
NOA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 72.22 200 P **P** **20 21 19.4 +0.4**
comp=Z,0.5nm,0.7s,mb3.5,baz=18,slow=5.2,SNR=5.0
ASAR Alice Springs 72.22 200 P **P** **20 21 19.4 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 76.76 61 P **P** **20 21 44.9 -0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=307,slow=4.3,SNR=9.3
TXAR Lajitas Array 76.76 61 P **P** **20 21 44.9 -0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.7s

IDC 20 20:13:35.8±2.8, 1314S×16736E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.3/3, Error ellipse: s-maj=108.3km s-min=45.6km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.11**	**227**	*e*P		P	P	20 19 47.2	+0.2
	4.5nm,0.4s								
STKA	**Stephens Creek**	**30.11**	**227**	P		P	P	20 19 47.3	+0.3
	7.3nm,0.6s,baz=50,slow=8.1,SNR=24								
WRA	**Warramunga Arr**	**32.33**	**253**	P		P	P	20 20 07.2	+0.6
	1.0nm,0.6s,baz=85,slow=9.1,SNR=21								
ASAR	**Alice Springs**	**33.34**	**247**	P		P	P	20 20 15.6	+0.1
	2.7nm,0.6s,baz=94,slow=9.4,SNR=66								
ASPA	**Alice Springs**	**33.35**	**247**	*e*P		P	P	20 20 15.5	0.0
ARCES	**ARCESS Array B**	**118.74**	**346**	PKP		PKPdf	PKPdf	20 32 25.3	-0.6
	2.8nm,0.8s,baz=48,slow=1.3,SNR=5.6								

MAN 20 20:14:02.5, 840N×12650E, h30km, mb3.4, ML4.6, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.04**	**303**	*e*P		Pn		20 14 20.8	-0.3
BUTP				*e*S		Sn		20 14 35.2	+0.6
MATI	**Mati**	**1.46**	**190**	*e*P		Pn		20 14 27.0	+0.1
MATI				*e*S		Sn		20 14 45.2	+0.3
BUKP	**Musuan**	**1.52**	**250**	*e*P		Pn		20 14 28.6	+1.0
BUKP				*e*S		Sn		20 14 50.6	+4.2
DMPH	**Davao City--Mi**	**1.63**	**217**	*e*P		Pn		20 14 32.1	+2.8
DMPH	**Davao City--Mi**	**1.63**	**217**	*e*P		Pn		20 14 32.1	+2.8
SCPH	**Surigao**	**1.70**	**324**⇓	*e*P		Pn		20 14 30.4	+0.2
SCPH				*e*S		Sn		20 14 51.2	+0.2
CGP	**Cagayan de Oro**	**1.79**	**272**⇑	*e*P		Pn		20 14 30.5	-0.9
CGP				*i* S		Sn		20 14 53.2	+0.1
MSLP	**Maasin**	**2.37**	**317**	*e*P		Pn		20 14 39.5	+0.1
PLP	**Palo**	**3.14**	**332**	*e*P		Pn		20 14 51.6	+1.7
PLP				*e*S		Sn		20 15 29.7	+3.4

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*PRE **20** 20:16:03.8±1.4, 2050S×3249E, h5km, ML6.0*
*IDC **20** 20:16:03.8±0.5, 2095S×3319E, h0km, mb4.5/21, mb1 4.6/25, mb1mx4.6/27, mbtmp4.5/25, ML4.8/4, MS4.5/13, Ms1 4.5/13, ms1mx4.1/27, Error ellipse: s-maj=17.1km s-min=12.7km az=94.0*
*MOS **20** 20:16:04.2±1.2, 2115S×3312E, h10km, mb5.1/43, Error ellipse: s-maj=14.0km s-min=6.0km az=94.0*
*ISCJB **20** 20:16:04.9±0.2, 2111S±0.03×3294E±0.04, h11km, mb4.8/68, MS4.6/17, Error ellipse: s-maj=6.3km s-min=3.1km az=62.0*
*GCMT **20** 20:16:06.2±0.2, 2088S×3312E, h12km, MW5.1/71, Moment Tensor Solution. s37,c46; s71,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.99±.14; Mθθ-0.79±.14; Mϕϕ5.79±.12; Mrθ-1.06±.41; Mθϕ0.09±.13; Mϕr1.41±.38; Best double couple: M0 5.69400×10^16 NP1:ϕs168.00000°, δ54.00000°, λ-106.00000°. Principal axes: T 5.9720, Plg7.0000°, Azm270.0000°; N -0.5480, Plg13.0000°, Azm178.0000°; P -5.4160, Plg75.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 20:16:06.2±0.3, 2113S×3311E, h10km, mb5.1/37 Error ellipse: s-maj=10.2km s-min=6.8km az=104.0*
*BJI **20** 20:16:11.7, 20.10S×3403E, h10km, mB5.2, mb4.9, Ms5.1, Msz4.8*
ISC 20 20:16:07.0±0.2, 2110S×3003×3298E±004, h12km, h12km±1.3km:pP-P, n225, σ1§17/233, mb4.8/68, MS4.6/17, 12C-11D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.24**	**278**	Pn		**Pn**		**20 17 11.4**	**0.0**
	9.8nm,0.3s,baz=93,slow=14,SNR=140								
MATP				Pg		**Pg**		**20 17 25.1**	**-3.2**
	63nm,0.3s,baz=89,slow=16,SNR=58								
MATP				Sn		**Sn**		**20 18 00.7**	**-0.2**
	38nm,0.3s,baz=159,slow=23,SNR=4.6								
MATP				Lg				20 18 17.9	
	433nm,0.3s,baz=161,slow=18,SNR=23								
SLR	**Silverton**	**6.32**	**222**	*e*P		**Pn**		**20 17 41.1**	**+1.2**
SLR				*e*S		**Sn**		**20 18 52.3**	**+0.4**
SLR				AML		AML		20 19 38.9	
	comp=Z,2μm,0.6s								
ERPM	**east rand prop**	**6.71**	**219**	*e*P		**Pn**		**20 17 47.3**	**+2.0**
ERPM				*e*S		**Sn**		**20 19 01.9**	**+0.2**
ERPM				AML		AML		20 19 46.8	
	comp=Z,961nm,0.7s								
KSR	**Koster**	**7.32**	**229**	*e*P		**Pn**		**20 17 53.6**	**0.0**
KSR				*e*S		**Sn**		**20 19 14.1**	**-2.4**
KSR				AML		AML		20 20 13.9	
	comp=Z,904nm,0.7s								
LSZ	**Lusaka**	**7.37**	**321**	Pn		**Pn**		**20 17 51.6**	**-2.7**
	comp=Z,9.3nm,0.3s,baz=146,slow=13,SNR=83								
LSZ				Sn		**Sn**		**20 19 12.2**	**-5.6**
	comp=Z,36nm,0.3s,baz=77,slow=10,SNR=12								
LSZ				Lg				20 19 50.4	
	comp=Z,54nm,0.3s,baz=201,slow=13,SNR=8.9								
LSZ	**Lusaka**	**7.37**	**321**	*e*P		**Pn**		**20 17 51.7**	**-2.6**
LSZ				*e*S		**Sn**		**20 19 13.0**	**-4.8**
LSZ				pmax	pmax				
	comp=Z,146nm,0.5s								
LSZ	**Lusaka**	**7.37**	**321**	*e*P		**Pn**		**20 17 51.7**	**-2.6**
	comp=Z,146nm,0.5s								
LSZ				*e*S		**Sn**		**20 19 13.0**	**-4.7**
PRYS	**Parys**	**7.75**	**220**	*e*P		**Pn**		**20 18 00.9**	**+1.4**
PRYS				*e*S		**Sn**		**20 19 26.2**	**-0.9**
PRYS				AML		AML		20 20 26.8	
	comp=Z,1μm,0.6s								
LBTB	**Lobatse**	**7.83**	**239**	*e*P		**Pn**		**20 17 59.5**	**-1.2**
LBTB				*e*S		**Sn**		**20 19 23.5**	**-5.8**
LBTB				AML		AML		20 20 23.0	
	comp=Z,935nm,0.7s								
LBTB	**Lobatse**	**7.83**	**239**	Pn		**Pn**		**20 18 01.8**	**+1.0**
	comp=Z,7.6nm,0.3s,baz=63,slow=13,SNR=42								
LBTB				Sn		**Sn**		**20 19 30.4**	**+1.1**
	comp=Z,18nm,0.3s,baz=125,slow=18,SNR=4.2								
LBTB				Lg				20 20 09.3	
	comp=Z,25nm,0.3s,baz=165,slow=21,SNR=6.1								
LBTB				LR		LR		20 21 15.0	
	comp=Z,7μm,18.5s,baz=72,slow=38								
LBTB	**Lobatse**	**7.83**	**239**	P		**Pn**		**20 18 01.8**	**+1.1**
LBTB								20 19 30.4	
LBTB				pmax	pmax				
	comp=Z,8.0nm,0.3s								
LBTB				smax					
	comp=N,18nm,0.3s								
LBTB				MLR	MLR				
	comp=Z,7μm,18.5s								
LBTB	**Lobatse**	**7.83**	**239**	*e*Pn		**Pn**		**20 18 01.5**	**+0.8**
	comp=Z,1.0nm,0.3s								
LBTB				*e*Sn		**Sn**		**20 19 28.9**	**-0.4**
SEK	**Senekal**	**8.68**	**213**	*e*P		**Pn**		**20 18 15.0**	**+2.7**
SEK				*e*S		**Sn**		**20 19 50.5**	**+0.4**
SEK				AML		AML		20 21 23.6	
	comp=Z,297nm,0.7s								
SWZ	**Schweizer**	**9.24**	**228**	*e*P		**Pn**		**20 18 20.6**	**+0.6**
SWZ				*e*S		**Sn**		**20 19 59.1**	**-4.7**
SWZ				AML		AML		20 21 00.8	
	comp=Z,271nm,0.6s								
KSD	**Kokstad**	**9.93**	**198**	*e*P		**Pn**		**20 18 34.3**	**+4.8**
KSD				*e*S		**Sn**		**20 20 25.1**	**+4.3**
KSD				AML		AML		20 21 25.4	
	comp=Z,356nm,0.7s								

BOSA Boshof 10.25 222 *e*P **Pn** **20 18 34.9 +1.1**
BOSA *e*S **Sn** **20 20 25.7 -3.0**
BOSA AML AML 20 21 44.0
comp=Z,479nm,0.7s
BOSA Boshof 10.25 222 Pn **Pn** **20 18 33.6 -0.2**
comp=Z,13nm,0.3s,baz=51,slow=14,SNR=142
BOSA Sn **Sn** **20 20 27.2 -1.4**
comp=Z,22nm,0.3s,baz=13,slow=19,SNR=10
BOSA Lg 20 21 26.5
comp=Z,15nm,0.3s,baz=128,slow=22,SNR=4.1
BOSA LR LR 20 22 49.3
comp=Z,4μm,18.8s,baz=49,slow=39
BOSA Boshof 10.25 222 P **Pn** **20 18 33.6 -0.2**
BOSA 20 20 27.2
BOSA pmax pmax
comp=Z,13nm,0.3s
BOSA smax
comp=N,22nm,0.3s
BOSA MLR MLR
comp=Z,4μm,18.8s
BOSA Boshof 10.25 222 *e*P **Pn** **20 18 33.8 0.0**
comp=Z,1.0nm,0.3s
UPI Upington 12.87 234 *e*P **Pn** **20 19 08.9 -0.7**
UPI *e*S **Sn** **20 21 24.2 -8.6**
UPI AML AML 20 23 05.4
comp=Z,162nm,0.7s
OPO Ambohidratompo 13.61 82 Pn **Pn** **20 19 10.8 -8.9**
comp=Z,0.2nm,0.3s,baz=272,slow=17,SNR=2.5
OPO Sn **Sn** **20 21 34.4 -16**
comp=Z,2.5nm,0.3s,baz=308,slow=17,SNR=3.6
TSUM Tsumeb 14.58 275 Pn **Pn** **20 19 30.5 -2.5**
comp=Z,1.8nm,0.3s,baz=90,slow=11,SNR=38
TSUM Sn **Sn** **20 22 05.0 -10**
comp=Z,1.5nm,0.3s,baz=82,slow=8.3,SNR=3.4
TSUM Lg 20 23 35.9
comp=Z,4.1nm,0.3s,baz=37,slow=21,SNR=3.4
TSUM LR LR 20 25 13.8
comp=Z,7μm,18.2s,baz=71,slow=37
TSUM Tsumeb 14.58 275 *e*Pn **Pn** **20 19 30.6 -2.5**
comp=Z,33nm,0.8s
SUR Sutherland 15.62 221 Pn **Pn** **20 19 47.7 +0.9**
comp=Z,1μm,0.7s,SNR=19
SUR Sutherland 15.62 221 Pn **Pn** **20 19 45.0 -1.9**
comp=Z,6.1nm,0.3s,baz=52,slow=14,SNR=38
SUR Sn **Sn** **20 22 33.3 -6.4**
comp=Z,10nm,0.3s,baz=7.2,slow=18,SNR=7.7
SUR Lg 20 24 11.0
comp=Z,5.2nm,0.3s,baz=150,slow=18,SNR=3.2
SUR LR LR 20 26 12.5
comp=Z,2μm,19.3s,baz=46,slow=38
SUR Sutherland 15.62 221 *e*Pn **Pn** **20 19 46.5 -0.3**
comp=Z,181nm,0.9s
CVNA Calvinia 15.71 226 *e*P **Pn** **20 19 49.3 +1.2**
CVNA *e*S **Sn** **20 22 36.0 -6.1**
CVNA AML AML 20 24 45.0
comp=Z,327nm,0.7s
KMBO Kilima Mbogo 20.28 12 P **P** **20 20 39.1 -3.4**
comp=Z,0.7nm,0.4s,baz=38,slow=22,SNR=4.5
KMBO Lg 20 26 27.6
comp=Z,13nm,1.0s,baz=277,slow=12,SNR=4.8
KMBO Kilima Mbogo 20.28 12 P **P** **20 20 41.6 -0.8**
comp=Z,4.3nm,0.6s
TOA0 Torodi Ar. Sit 45.85 315 *e*P **P** **20 24 27.7 -1.3**
TORD Torodi Ar. Bea 45.85 315 P **P** **20 24 27.9 -1.1**
comp=Z,17nm,1.0s,mb4.9,baz=124,slow=6.2,SNR=40
TORD LR LR 20 45 50.3
comp=Z,410nm,20.4s,MS4.4,baz=135,slow=39
SYO Syowa Base 48.08 177⇑ *e*P **P** **20 24 45.2 -1.2**
SYO Syowa Base 48.08 177⇑ *e*pP pP 20 24 49.8 -0.4
SYO Syowa Base 48.08 177⇓ *e*PcP PcP 20 26 13.7 -0.3
MAW Mawson 50.15 166 P **P** **20 25 01.4 -0.8**
comp=Z,6.3nm,0.6s,mb4.8,baz=313,slow=9.5,SNR=13
MAW Mawson 50.15 166 P **P** **20 25 01.4 -0.8**
MAW pmax pmax
comp=Z,6.0nm,0.6s
NVL N'lazarevskaya 51.22 189⇓ *i*P **P** **20 25 08.2 -2.1**
NVL pmax pmax
comp=Z,32nm,1.5s,mb5.0
NVL pmax pmax
comp=E,254nm,18.2s
SNAA Sanae 54.62 193 P **P** **20 25 35.6 +0.3**
comp=E,7.3nm,1.1s,mb4.6,baz=58,slow=7.1,SNR=18
SNAA LR LR 20 45 15.5
comp=E,86nm,18.3s,MS3.9,baz=20,slow=32
SNAA Sanae 54.62 193 *e*P **P** **20 25 35.1 -0.2**
SNAA *e* pP 20 25 37.1 -2.1
SNAA *e* pP 20 25 38.9 -0.3
SNAA Sanae 54.62 193 P **P** **20 25 35.6 +0.3**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA MLR MLR
comp=Z,86nm,18.3s
SNAA Sanae 54.62 193 *e*P **P** **20 25 35.3 0.0**
comp=Z,42nm,1.4s,mb5.3
VNA2 Neumayer--Watz 55.12 195 *e*P **P** **20 25 39.2 +0.2**
VNA2 *e* pP 20 25 41.2 -1.7
VNA2 *e* pP 20 25 42.5 -0.4
VNA2 *e* 20 25 46.7
VNA2 *e* 20 25 50.4
VNA2 *e* 20 26 41.8
VNA1 Neumayer--Stat 55.15 196 *e*P **P** **20 25 39.6 +0.4**
VNA1 *e* pP 20 25 41.5 -1.6
VNA1 *e* pP 20 25 43.7 +0.6
VNA3 Neumayer Olymp 55.89 195 *e*P **P** **20 25 43.8 -0.7**
VNA3 *e* pP 20 25 45.8 -2.6
VNA3 *e* pP 20 25 47.4 -1.0
VNA3 *e* 20 25 50.7
VNA3 *e* 20 25 57.7
VNA3 *e* 20 26 45.0
BR131 Keskin Array S 60.51 1 *e*P **P** **20 26 14.5 -2.4**
comp=Z,2.3nm,0.8s,mb4.4
BRTR Keskin Array B 60.51 1 P **P** **20 26 15.8 -1.1**
comp=Z,2.8nm,0.9s,mb4.4,baz=171,slow=8.8,SNR=12
BRTR Keskin Array B 60.51 1 *i* P **P** **20 26 18.3 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
KEST Kesra 60.79 338 P **P** **20 26 19.5 +0.7**
comp=Z,2.2nm,0.9s,mb4.3,baz=46,slow=7.1,SNR=7.8
GNI Garni 61.91 10⇓ *e*P **P** **20 26 26.8 +0.5**
GNI pmax pmax
comp=Z,9.0nm,1.3s
KIV Kislovodsk 65.34 8⇑ *e*P **P** **20 26 49.9 +0.9**
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.9
KIV MLR MLR
comp=Z,200nm,17.0s,MS4.4
MLR Muntele Rosu 66.58 355⇑ *i*P **P** **20 26 58.8 +1.8**
MLR Muntele Rosu 66.58 355⇑ P **P** **20 26 58.8 +1.9**
VOIR 66.61 354⇓ *i*P **P** **20 26 57.2 +0.1**
VOIR 66.61 354⇓ P **P** **20 26 57.2 0.0**
PLOR Plostina 66.88 355⇓ *i*P **P** **20 26 58.3 -0.6**
PGF Pioggiola 67.08 341 *e*P **P** **20 27 01.0 +0.8**
comp=Z,64nm,1.2s,mb5.2
PGF Pioggiola 67.08 341 *e*P **P** **20 27 01.0 +0.8**
PGF pmax pmax
comp=Z,32nm,1.2s,mb5.2
PGF Pioggiola 67.08 341 *e*P **P** **20 27 01.0 +0.8**
comp=Z,32nm,1.2s,mb5.2
BZS Buzias 67.19 351⇓ *i*P **P** **20 27 00.6 -0.3**
BZS Buzias 67.19 351⇓ P **P** **20 27 00.6 -0.3**
DRGR 68.20 352⇑ *i*P **P** **20 27 06.8 -0.5**
DRGR 68.20 352⇑ P **P** **20 27 06.8 -0.5**
PKSM Moragy 68.24 349⇑ *i*P **P** **20 27 06.8 -0.7**
PKSM Moragy 68.24 349⇑ P **P** **20 27 06.8 -0.7**
LMR La Mourre 68.58 340 *e*P **P** **20 27 09.7 +0.1**
comp=Z,46nm,1.3s,mb5.0
LMR La Mourre 68.58 340 *e*P **P** **20 27 09.7 +0.1**
LMR pmax pmax
comp=Z,23nm,1.3s,mb5.0
LMR La Mourre 68.58 340 *e*P **P** **20 27 09.7 +0.1**
comp=Z,23nm,1.3s,mb5.0
FRF La Foret Royal 68.74 340 *e*P **P** **20 27 10.5 -0.1**
BURAR Bucovina Array 68.75 354⇑ *i*P **P** **20 27 11.2 +0.5**
BURAR Bucovina Array 68.75 354⇑ P **P** **20 27 11.2 +0.6**
SBF Sospel 68.76 340 *e*P **P** **20 27 10.9 +0.2**
comp=Z,53nm,1.0s,mb5.1
SBF Sospel 68.76 340 *e*P **P** **20 27 10.9 +0.2**
SBF pmax pmax
comp=Z,26nm,1.0s,mb5.1
SBF Sospel 68.76 340 *e*P **P** **20 27 10.9 +0.2**
com

SMRF Simiane la Rot 69.46 339 *e*P P **20 27 15.7 +0.6**
comp=Z,34nm,1.1s,mb4.9
SMRF Simiane la Rot 69.46 339 *e*P P **20 27 15.7 +0.6**
comp=Z,34nm,1.1s,mb5.2
ESDC Sonseca Array 69.61 330 P P **20 27 15.5 -0.5**
comp=Z,8.7nm,1.0s,mb4.6,baz=145,slow=5.9,SNR=15
ESDC LR LR
21 00 05.3
comp=Z,230nm,19.9s,MS4.4,baz=315,slow=38
PSZ Piszkesteto 69.69 351 *e*P P **20 27 15.3 -1.2**
PSZ pmax pmax
comp=Z,23nm,1.3s,mb5.0
PSZ Piszkesteto 69.69 351 *e*P P **20 27 15.3 -1.2**
comp=Z,23nm,1.3s,mb5.0
MBDF Montbardon 69.74 340 *e*P P **20 27 17.0 +0.2**
comp=Z,22nm,1.0s,mb4.7
MBDF Montbardon 69.74 340 *e*P P **20 27 17.0 +0.2**
MBDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
MBDF Montbardon 69.74 340 *e*P P **20 27 17.0 +0.2**
comp=Z,11nm,1.0s,mb4.7
MTLF Montolieu 70.08 337 *e*P P **20 27 19.1 +0.2**
LASF Ste Croix 70.13 338 *e*P P **20 27 19.6 +0.4**
comp=Z,19nm,1.1s,mb4.7
KECS Kecovo 70.16 351 *e*P P **20 27 20.6 +1.2**
ORIF Oris-en-Rattie 70.20 340 *e*P P **20 27 20.4 +0.8**
comp=Z,62nm,1.5s,mb5.0
ORIF Oris-en-Rattie 70.20 340 *e*P P **20 27 20.4 +0.8**
ORIF pmax pmax
comp=Z,31nm,1.5s,mb5.0
ORIF Oris-en-Rattie 70.20 340 *e*P P **20 27 20.4 +0.8**
comp=Z,31nm,1.5s,mb5.0
KOLS Kolonicke sedl 70.36 353 *e*P P **20 27 25.3 +4.7**
KOLS *e* 21 06 51.9
VYHS Vyhne 70.42 350 *e*P P **20 27 21.7 +0.7**
LPG La Plagne 70.44 341 *e*P P **20 27 22.4 +1.3**
comp=Z,31nm,1.1s,mb4.9
LPG La Plagne 70.44 341 *e*P P **20 27 22.4 +1.3**
LPG pmax pmax
comp=Z,16nm,1.1s,mb4.9
LPG La Plagne 70.44 341 *e*P P **20 27 22.4 +1.3**
comp=Z,16nm,1.1s,mb4.8
LPL La Plagne 70.47 341 *e*P P **20 27 21.5 +0.2**
comp=Z,41nm,1.4s,mb4.9
LPL La Plagne 70.47 341 *e*P P **20 27 21.5 +0.2**
LPL pmax pmax
comp=Z,21nm,1.4s,mb4.9
LPL La Plagne 70.47 341 *e*P P **20 27 21.5 +0.2**
comp=Z,20nm,1.4s,mb4.9
EPF Esparros 70.53 335 *e*P P **20 27 22.5 +0.8**
comp=Z,26nm,1.1s,mb4.8
EPF Esparros 70.53 335 *e*P P **20 27 22.5 +0.8**
EPF pmax pmax
comp=Z,13nm,1.1s,mb4.8
EPF Esparros 70.53 335 *e*P P **20 27 22.5 +0.8**
comp=Z,13nm,1.1s,mb4.8
VIVF Saint-Julien-l 70.54 339 *e*P P **20 27 22.1 +0.4**
EVO Evora 70.68 327 *e*P P **20 27 22.6 0.0**
comp=Z,23nm,1.2s,mb4.7
EVO *e*R
comp=Z,563nm,17.0s
ETSF Etsaut 70.78 335 *e*P P **20 27 23.3 +0.1**
comp=Z,21nm,1.0s,mb4.7
ETSF Etsaut 70.78 335 *e*P P **20 27 23.3 +0.1**
ETSF pmax pmax
comp=Z,11nm,1.0s,mb4.7
ETSF Etsaut 70.78 335 *e*P P **20 27 23.3 +0.1**
comp=Z,10nm,1.0s,mb4.7
STHS Stebnicka Huta 70.97 352 *e*P P **20 27 24.8 +0.5**
SJPF Ste Jean 71.23 334 *e*P P **20 27 26.0 +0.1**
comp=Z,34nm,1.1s,mb4.9
SJPF Ste Jean 71.23 334 *e*P P **20 27 26.0 +0.1**
SJPF pmax pmax
comp=Z,17nm,1.1s,mb4.9
SJPF Ste Jean 71.23 334 *e*P P **20 27 26.0 +0.1**
comp=Z,17nm,1.1s,mb4.9
AKASG Malin Array Be 71.56 357 P P **20 27 25.4 -2.5**
comp=Z,3.5nm,0.8s,mb4.4,baz=180,slow=5.5,SNR=17
AKASG Malin Array Be 71.56 357 P P **20 27 25.4 -2.5**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 71.56 357 *i*P P **20 27 27.8 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
CABF La Chapelle 71.65 341 *e*P P **20 27 29.6 +1.2**
comp=Z,107nm,1.6s,mb5.2
CABF La Chapelle 71.65 341 *e*P P **20 27 29.6 +1.2**
comp=Z,53nm,1.6s,mb5.2
GERES GERESS Array B 71.72 347 P P **20 27 28.0 -0.9**
comp=Z,2.9nm,0.9s,mb4.2,baz=178,slow=4.0,SNR=18
GERES GERESS Array B 71.72 347 P P **20 27 28.0 -0.9**
GERES pmax pmax
comp=Z,3.0nm,0.9s
OKC Ostrava-Krasne 71.84 350 *e*P P **20 27 29.5 -0.1**
MORC Moravsky Berou 71.88 350 ⇓*i*P P **20 27 28.5 -1.3**
MORC Moravsky Berou 71.88 350 ⇓P P **20 27 28.5 -1.3**
KHC Kasperske Hory 72.02 347 *e*P P **20 27 31.6 +0.9**
RJF Les Rejaudoux 72.03 337 *e*P P **20 27 30.6 -0.1**
SMF Signal de Mont 72.39 339 *e*P P **20 27 33.6 +0.7**
comp=Z,89nm,1.7s,mb5.1
SMF Signal de Mont 72.39 339 *e*P P **20 27 33.6 +0.7**
SMF pmax pmax
comp=Z,44nm,1.7s,mb5.1
SMF Signal de Mont 72.39 339 *e*P P **20 27 33.6 +0.7**
comp=Z,44nm,1.7s,mb5.1
HINF Hinteralfeld 72.50 342 *e*P P **20 27 33.2 -0.3**
comp=Z,72nm,1.6s,mb5.1
HINF Hinteralfeld 72.50 342 *e*P P **20 27 33.2 -0.3**
HINF pmax pmax
comp=Z,36nm,1.6s,mb5.0
HINF Hinteralfeld 72.50 342 *e*P P **20 27 33.2 -0.3**
comp=Z,36nm,1.6s,mb5.0
TCF Toulx Ste Croi 72.63 338 *e*P P **20 27 34.8 +0.5**
comp=Z,67nm,1.3s,mb5.1
TCF Toulx Ste Croi 72.63 338 *e*P P **20 27 34.8 +0.5**
TCF pmax pmax
comp=Z,34nm,1.3s,mb5.1
TCF Toulx Ste Croi 72.63 338 *e*P P **20 27 34.8 +0.5**
comp=Z,34nm,1.3s,mb5.1
PRU Pruhonice 72.64 348 *e*P P **20 27 35.5 +1.2**
DPC Dobruska-Polom 72.64 349 *e*P P **20 27 35.2 +0.8**
BGF Bois d'Agland 72.65 339 *e*P P **20 27 34.5 +0.1**
comp=Z,55nm,1.3s,mb5.0
BGF Bois d'Agland 72.65 339 *e*P P **20 27 34.5 +0.1**
BGF pmax pmax
comp=Z,28nm,1.3s,mb5.0
BGF Bois d'Agland 72.65 339 *e*P P **20 27 34.5 +0.1**
comp=Z,28nm,1.3s,mb5.0
AVF Avril sur Loir 72.68 339 *e*P P **20 27 34.4 -0.2**
comp=Z,40nm,1.3s,mb4.9
AVF Avril sur Loir 72.68 339 *e*P P **20 27 34.4 -0.2**
AVF pmax pmax
comp=Z,20nm,1.3s,mb4.9
AVF Avril sur Loir 72.68 339 *e*P P **20 27 34.4 -0.2**
comp=Z,20nm,1.3s,mb4.9
HAU Haudompre 72.82 342 *e*P P **20 27 35.1 -0.3**
comp=Z,49nm,1.3s,mb5.0
HAU Haudompre 72.82 342 *e*P P **20 27 35.1 -0.3**
HAU pmax pmax
comp=Z,25nm,1.3s,mb5.0
HAU Haudompre 72.82 342 *e*P P **20 27 35.1 -0.3**
comp=Z,24nm,1.3s,mb5.0
UPC Upice 72.85 349 *e*P P **20 27 37.5 +1.9**
CDF Champ du Feu 72.92 342 *e*P P **20 27 35.4 -0.6**
comp=Z,49nm,1.5s,mb4.9
CDF Champ du Feu 72.92 342 *e*P P **20 27 35.4 -0.6**
CDF pmax pmax
comp=Z,24nm,1.5s,mb4.9
CDF Champ du Feu 72.92 342 *e*P P **20 27 35.4 -0.6**
comp=Z,24nm,1.5s,mb4.9
NKC Novy Kostel 73.31 346 *e*P P **20 27 41.1 +2.8**
BRG Berggiesshubel 73.60 348 *e*(P) P **20 27 41.5 +1.5**
comp=Z,12nm,1.6s,mb4.6
BRG Berggiesshubel 73.60 348 P P **20 27 41.5 +1.5**
BRG pmax pmax
comp=Z,12nm,1.6s,mb4.6
MEZF Maizieres J'vi 73.65 341 *e*P P **20 27 40.5 +0.2**
comp=Z,138nm,1.4s,mb5.4
MEZF Maizieres J'vi 73.65 341 *e*P P **20 27 40.5 +0.2**
comp=Z,138nm,1.4s,mb5.7
MFF Saint Martin d 73.74 337 *e*P P **20 27 41.0 +0.1**
comp=Z,78nm,1.2s,mb5.2
MFF Saint Martin d 73.74 337 *e*P P **20 27 41.0 +0.1**
MFF pmax pmax
comp=Z,39nm,1.2s,mb5.2
MFF Saint Martin d 73.74 337 *e*P P **20 27 41.0 +0.1**
comp=Z,39nm,1.2s,mb5.2

MOX Moxa 73.88 346 *e*P P **20 27 43.0 +1.3**
comp=Z,20nm,1.5s,mb4.8
MOX Moxa 73.88 346 *e*P P **20 27 43.0 +1.3**
MOX pmax pmax
comp=Z,20nm,1.5s,mb4.8
CLL Collm 74.20 347 *e*P P **20 27 45.0 +1.4**
CLL pmax pmax
comp=Z,19nm,1.5s,mb4.8
CLL Collm 74.20 347 *e*P P **20 27 45.0 +1.4**
comp=Z,19nm,1.5s,mb4.8
AKTK Aktyubinsk 74.58 16 P P **20 27 42.7 -3.1**
AKTO Aktyubinsk 74.58 16 P P **20 27 42.7 -3.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=199,slow=5.2,SNR=6.2
AKTO Aktyubinsk 74.58 16 P P **20 27 42.7 -3.1**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ORR Orenburg 74.88 14 *e*P P **20 27 44.6 -2.9**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SUW Suwalki 75.28 354 *e*P P **20 27 49.0 -0.8**
SUW pmax pmax
comp=Z,15nm,0.3s,mb5.4
SUW Suwalki 75.28 354 *e*P P **20 27 49.0 -0.8**
comp=Z,15nm,0.3s,mb5.4
LSA Lhasa 75.40 50 P P **20 27 48.5 -2.0**
LSA Lhasa 75.40 50 *e*P P **20 27 48.9 -1.6**
LSA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LSA Lhasa 75.40 50 *e*P P **20 27 48.9 -1.6**
comp=Z,10nm,1.1s,mb4.7
GRR Gorron 75.51 337 *e*P P **20 27 50.8 -0.3**
comp=Z,195nm,1.7s,mb5.5
GRR Gorron 75.51 337 *e*P P **20 27 50.8 -0.3**
GRR pmax pmax
comp=Z,97nm,1.7s,mb5.5
GRR Gorron 75.51 337 *e*P P **20 27 50.8 -0.3**
comp=Z,97nm,1.7s,mb5.5
OBN Obninsk 75.96 2 *e*P P **20 27 53.7 0.0**
OBN *e* 20 28 09.5
OBN pmax pmax
comp=Z,35nm,1.6s,mb5.0
SGMF Saint Gilles 76.02 336 *e*P P **20 27 53.4 -0.6**
comp=Z,214nm,1.5s,mb5.5
SGMF Saint Gilles 76.02 336 *e*P P **20 27 53.4 -0.6**
SGMF pmax pmax
comp=Z,107nm,1.5s,mb5.5
SGMF Saint Gilles 76.02 336 *e*P P **20 27 53.4 -0.6**
comp=Z,107nm,1.5s,mb5.5
VNDA Vanda 77.18 170 P P **20 28 00.1 -0.6**
comp=Z,4.3nm,1.0s,mb4.3,baz=259,slow=6.3,SNR=20
VNDA LR LR
21 02 46.7
comp=Z,234nm,18.3s,MS4.5,baz=233,slow=36
VNDA Vanda 77.18 170 *e*P P **20 28 00.8 +0.2**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 77.18 170 *e*P P **20 28 00.8 +0.1**
comp=Z,14nm,1.4s,mb4.7
USHA Ushuaia 79.34 215 P P **20 28 13.6 +1.0**
comp=Z,24nm,1.1s,mb5.0,baz=284,slow=7.8,SNR=3.9
ARU Arti 80.19 14 ⇓*i*P P **20 28 16.5 -0.7**
ARU *e* 20 31 19.6
ARU *e*PPP 20 33 06.0
ARU *e*S S 20 38 22.8 +0.8
ARU *e*SS SS 20 43 34.3 +1.7
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.8
BVAR Borovoye Array 80.63 22 P P **20 28 16.9 -2.6**
comp=Z,5.1nm,0.8s,mb4.5,baz=222,slow=12,SNR=7.8
BVAR Borovoye Array 80.63 22 P P **20 28 16.9 -2.7**
BVAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 80.90 32 P P **20 28 18.0 -3.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=224,slow=3.3,SNR=5.3
MKAR LR LR
21 09 13.9
comp=Z,148nm,18.8s,MS4.4,baz=245,slow=40
MKAR Makanchi Array 80.90 32 P P **20 28 18.0 -3.0**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,148nm,18.8s
WMQ Urumqi 81.75 37 ⇑P P **20 28 25.8 +0.3**
WMQ AP pP 20 28 29.9 +0.3
WMQ XP sP 20 28 32.8 +1.8
WMQ PPP 20 33 26.9
WMQ *e*S S 20 38 36.9 -1.3
WMQ SKS 20 38 40.8
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
WMQ AMB AMB
comp=Z,125nm,4.1s
WMQ LR LR
comp=N,205nm,26.1s,MS4.5
WMQ LR LR
comp=E,159nm,22.1s,MS4.5
WMQ LR LR
comp=Z,256nm,24.0s,MS4.5
KMI Kunming 81.85 59 P P **20 28 27.3 +1.2**
KMI S S 20 38 33.5 -5.8
KMI SSS 20 47 28.1
KMI AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
KMI LR LR
comp=Z,179nm,26.8s,MS4.3
KMI Kunming 81.85 59 P P **20 28 27.2 +1.1**
KMI S S 20 38 33.5 -5.8
KMI SS SS 20 44 03.0 +5.6
KMI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KMI MLR MLR
comp=Z,180nm,26.8s,MS4.3
KMI Kunming 81.85 59 P P **20 28 27.2 +1.1**
comp=Z,6.0nm,1.2s,mb4.4
KMI S S 20 38 33.5 -5.8
KMI SS SS 20 44 03.0 +5.6
KMI SSS 20 47 28.1
KMI LR LR
comp=Z,180nm,26.8s,MS4.3
FINES FINESS Array B 82.44 357 P P **20 28 26.6 -2.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=93,slow=7.6,SNR=5.5
FINES FINESS Array B 82.44 357 *i*P P **20 28 29.5 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.9s
SOKR Solikamsk 82.71 12 *e*P P **20 28 27.9 -2.7**
SOKR pmax pmax
comp=Z,30nm,1.5s,mb5.1
QIZ Qiongzhong 85.14 68 P P **20 28 42.1 -0.8**
QIZ S S 20 39 13.9 +1.4
QIZ LR LR
comp=E,241nm,17.2s
QIZ LR LR
comp=Z,211nm,18.3s,MS4.6
CD2 Chengdu 85.34 55 P P **20 28 44.4 +0.5**
CD2 AP pP 20 28 49.3 +1.3
CD2 XP sP 20 28 51.4 +2.0
CD2 S S 20 39 13.9 -0.5
CD2 XS sS 20 39 21.5 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,8.2s
CD2 LR LR
comp=N,230nm,18.0s,MS4.8
CD2 LR LR
comp=E,230nm,14.4s,MS4.8
CD2 LR LR
comp=Z,260nm,14.4s,MS4.8
GYA Guiyang 85.61 60 P P **20 28 47.8 +2.5**
GYA AP pP 20 28 51.9 +2.5
GYA XP sP 20 28 54.9 +4.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=N,340nm,19.4s,MS4.9
GYA LR LR
comp=E,410nm,20.0s,MS4.9
GYA LR LR
comp=Z,380nm,19.8s,MS4.8
GTA Gaotai 86.66 46 *e*P P **20 28 48.5 -2.0**
GTA AP pP 20 28 52.8 -1.7
GTA XP sP 20 28 56.3 +0.3
GTA PP PP 20 32 11.0 -1.5
GTA S S 20 39 22.3 -5.1
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,124nm,5.7s
GTA LR LR
comp=N,248nm,16.4s
GTA LR LR
comp=E,326nm,23.3s
GTA LR LR
comp=Z,395nm,22.2s
ZAL Zalesovo 86.98 28 P P **20 28 50.0 -2.0**
comp=Z,0.8nm,0.9s,mb4.0,baz=209,slow=4.8,SNR=1.7
ZAL Zalesovo 86.98 28 P P **20 28 50.0 -2.0**
ZAL pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 87.82 50 *e*P P **20 28 57.0 +0.9**
LZH AP pP 20 29 00.0 -0.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.1
LZH Lanzhou 87.82 50 *e*P P **20 28 57.0 +0.9**
LZH *PP pP 20 29 00.0 -0.2
LZH *SP sP 20 29 01.0 -0.6
LZH pmax pmax
comp=Z,13nm,1.0s,mb5.1
LZH Lanzhou 87.82 50 *e*P P **20 28 57.0 +0.9**
comp=Z,13nm,1.0s,mb5.1
LZH pP pP 20 29 00.0 -0.2
LZH sP sP 20 29 01.0 -0.6
SIV San Ignacio 88.02 254 P P **20 28 58.3 +1.2**
comp=Z,0.7nm,0.6s,mb4.1,baz=118,slow=15,SNR=3.3
ASAR Alice Springs 91.11 116 P P **20 29 10.5 -1.0**
comp=Z,3.6nm,0.9s,mb4.7,baz=236,slow=4.0,SNR=27
ASAR LR LR
21 03 38.1
comp=Z,116nm,19.4s,MS4.3,baz=41,slow=31
ASAR Alice Springs 91.11 116 P P **20 29 10.5 -1.0**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR MLR MLR
comp=Z,116nm,19.4s
AS31 Alice Springs 91.11 116 *e*P P **20 29 10.9 -0.6**
LVC Limon Verde 92.35 245 P P **20 29 18.3 +1.0**
comp=Z,6.1nm,1.0s,mb4.9,baz=268,slow=4.1,SNR=3.0
SAML Samuel 92.50 259 *e*P P **20 29 20.2 +2.2**
comp=Z,4.3nm,1.0s,mb4.8
WRA Warramunga Arr 92.96 113 P P **20 29 18.6 -1.5**
comp=Z,1.6nm,0.9s,mb4.4,baz=242,slow=3.0,SNR=8.5
WRA LR LR
21 05 46.9
comp=Z,309nm,19.7s,MS4.8,baz=265,slow=32
WRA Warramunga Arr 92.96 113 P P **20 29 18.6 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA MLR MLR
comp=Z,309nm,19.7s
STKA Stephens Creek 93.76 126 P P **20 29 22.6 -1.2**
comp=Z,2.1nm,0.8s,mb4.6,baz=137,slow=12,SNR=3.5
STKA LR LR
21 06 10.4
comp=Z,316nm,18.8s,MS4.8,baz=205,slow=32
LPAZ La Paz 94.19 251 P P **20 29 25.4 -0.4**
comp=Z,2.1nm,1.0s,mb4.5,baz=83,slow=12,SNR=5.7
LPAZ LR LR
21 08 36.1
comp=Z,407nm,20.2s,MS4.9,baz=274,slow=33
LPAZ La Paz 94.19 251 P P **20 29 25.4 -0.3**
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ MLR MLR
comp=Z,407nm,20.2s
SONM Songino Array 94.87 40 P P **20 29 25.2 -3.6**
comp=Z,0.2nm,0.6s,mb3.7,baz=13,slow=20,SNR=3.6
HHC Hu-ho-hao-te 95.34 48 *e*P P **20 29 32.6 +1.6**
HHC XP sP 20 29 39.8 +3.3
HHC SKS 20 40 07.1
HHC S S 20 40 47.0 +0.3
HHC XS sS 20 40 53.9 +0.4
HHC AMB AMB
comp=Z,13nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,205nm,6.3s
HHC LR LR
comp=N,194nm,16.7s,MS4.9
HHC LR LR
comp=E,245nm,15.2s,MS4.9
HHC LR LR
comp=Z,353nm,16.7s,MS4.9
NJ2 Nanjing 97.58 59 *e*P P **20 29 42.8 +1.6**
NJ2 AP pP 20 29 47.1 +1.8
NJ2 XP sP 20 29 49.3 +2.6
NJ2 S S 20 41 04.5 -1.6
NJ2 XS sS 20 41 12.5 -0.3
NJ2 LR LR
comp=N,1μm,14.2s,MS5.7
NJ2 LR LR
comp=E,1μm,15.2s,MS5.7
NJ2 LR LR
comp=Z,730nm,13.6s,MS5.3
TXAR Lajitas Array 140.11 291 PKhKP 20 35 30.3
comp=Z,0.6nm,0.8s,baz=111,slow=6.9,SNR=4.5
TXAR PKP PKPdf 20 35 37.0 +1.6
comp=Z,0.9nm,0.7s,baz=108,slow=4.1,SNR=6.7
TXAR Lajitas Array 140.11 291 PKP 20 35 30.3
TXAR PKP PKPdf 20 35 37.0 +1.6
PDAR Pinedale Array 141.99 313 PKP PKPdf 20 35 39.9 +1.1
comp=Z,1.1nm,0.9s,baz=86,slow=3.9,SNR=6.9
TMUT Trail Mountain 144.42 309 *e*PKPdf PKPdf 20 35 43.0 0.0
MSU Marysvale 145.40 308 *e*PKIKP PKPdf 20 35 45.7 +0.9
WUAZ Wupatki 145.69 302 *e*PKPdf PKPdf 20 35 46.4 +1.2
BMO Blue Mountains 145.93 321 *e*PKHKP PKPdf 20 35 45.3 -0.4
HAWA Hanford 146.27 325 *e*PKPdf PKPdf 20 35 46.8 +0.5
WVOR Wild Horse Val 148.08 318 *e*PKP2 PKPbc 20 35 52.8 +0.4
GLA Glamis 149.08 299 PKIKP PKPdf 20 35 51.7 +0.8
DAC Darwin (Calif) 150.23 307 PKIKP PKPdf 20 35 55.6 +2.9
ISA Isabella 151.12 306 *e*PKIKP PKPdf 20 35 54.6 +0.5

*ISCJB **20** 20:16:52.4±0.5,3124S×003×6908W±005,h119km±6km, mb3.8/3,Error ellipse: s-maj=7.3km s-min=4.7km az=170.4*
*GUC **20** 20:16:53.1±0.8,3129S×6932W,h147km±14km,MD4.1, ML4.2*
*IDC **20** 20:16:53.8±1.0,31.35S×6899W,h113km±6km,mb3.5/3, mb1 3.8/5,mb1mx3.6/15,mbtmp3.6/5,MS3.0/1,Ms1 3.2/1, ms1mx2.8/16,Error ellipse: s-maj=33.3km s-min=18.9km az=54.0*
*NEIC **20** 20:16:54.5±1.2,3130S×6885W,h120km±9km,Error ellipse: s-maj=34.3km s-min=13.9km az=87.0*
ISC 20 20:16:53.5±0.5,3125S±003×6907W±005,h112km±6km, n31,σ0°93/42,mb3.8/3,7C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	11nm,0.3s,baz=287,slow=7.6,SNR=915								
CFAA	**Coronel Fontan**	**0.80**	**117**	P		**Pn**		**20 17 13.2**	**+0.3**
CFAA				S		**Sn**		**20 17 27.7**	**+0.2**
	90nm,0.3s,baz=205,slow=21,SNR=210								
CFAA	**Coronel Fontan**	**0.80**	**117**	P		**Pn**		**20 17 13.2**	**+0.3**
CFAA				S		**Sn**		**20 17 27.7**	**+0.2**
CMCH	**Combarbala**	**1.65**	**272**	⇓*i*P		**Pn**		**20 17 22.4**	**+0.1**
CMCH				*i* S		**Sn**		**20 17 44.6**	**+0.5**
CMCH				AML	AML	20 17 46.2			
	comp=N,7μm,0.4s								
TLL	**Tololo Astrono**	**1.84**	**305**	⇑*i*P		**Pn**		**20 17 25.8**	**+1.2**
TLL				*i* S		**Sn**		**20 17 50.1**	**+1.9**
PTCH	**Petorca**	**1.88**	**237**	*e*P		**Pn**		**20 17 25.2**	**+0.1**
PTCH				*i* S		**Sn**		**20 17 49.2**	**+0.1**
PTCH				AML	AML	20 17 51.2			
	comp=N,1μm,0.3s								
OVCH	**Ovalle**	**1.94**	**289**	⇑*i*P		**Pn**		**20 17 25.8**	**+0.1**
OVCH				*i* S		**Sn**		**20 17 49.9**	**-0.4**
OVCH				AML	AML	20 17 51.4			
	comp=E,2μm,0.3s								
CHNG	**Los Chungos**	**2.17**	**252**	*e*P		**Pn**		**20 17 28.1**	**-0.6**
CHNG				*i* S		**Sn**		**20 17 53.8**	**-1.8**
LSCH	**La Serena**	**2.30**	**305**	⇓*i*P		**Pn**		**20 17 30.6**	**+0.3**
LSCH				*i* S		**Sn**		**20 17 58.2**	**-0.4**
FCH	**Farellones**	**2.32**	**206**	⇑*i*P		**Pn**		**20 17 31.4**	**+0.8**
FCH				*i* S		**Sn**		**20 18 00.8**	**+1.7**
FCH				AML	AML	20 18 06.4			
	comp=E,707nm,0.2s								
PEL	**Peldehue**	**2.33**	**215**	⇓*i*P		**Pn**		**20 17 30.5**	**-0.3**
PEL				*i* S		**Sn**		**20 17 59.0**	**-0.5**
PEL				AML	AML	20 18 00.6			
	comp=N,1μm,0.3s								
CLCH	**Cerro Calan**	**2.48**	**210**	⇑*i*P		**Pn**		**20 17 32.8**	**+0.1**
CLCH				*i* S		**Sn**		**20 18 02.8**	**0.0**
CLCH				AML	AML	20 18 05.9			
	comp=E,851nm,0.6s								

RCDM	**Rinconada Maip**	**2.68**	**213**	⇑*i*P		**Pn**	**20 17 35.0**	**-0.3**
RCDM				*i* S		**Sn**	**20 18 07.0**	**-0.4**
RCDM				AML	AML		20 18 10.2	
	comp=E,836nm,0.1s							
LMEL	**Las Melosas**	**2.77**	**200**	*e*P		**Pn**	**20 17 36.7**	**+0.2**
CHCH	**Chadas Angostu**	**2.99**	**206**	⇑*i*P		**Pn**	**20 17 39.2**	**-0.2**
VACH	**Vallenar**	**3.04**	**331**	⇓*i*P		**Pn**	**20 17 40.7**	**+0.7**
VACH				*i* S		**Sn**	**20 18 16.2**	**+0.3**
VACH				AML	AML		20 18 17.3	
	comp=E,2µm,0.3s							
CACH	**El Canelo**	**3.14**	**204**	⇑*i*P		**Pn**	**20 17 41.4**	**0.0**
CICH	**Cipreses**	**3.27**	**200**	⇓*i*P		**Pn**	**20 17 43.1**	**0.0**
LNV	**Longovilo**	**3.35**	**216**	*e*P		**Pn**	**20 17 41.6**	**-2.5**
CDCH	**Caldera**	**4.43**	**339**	*e*P		**Pn**	**20 17 58.0**	**-0.7**
LVC	**Limon Verde**	**8.60**	**1**	P		**Pn**	**20 18 53.5**	**-1.5**
	comp=E,2.9nm,0.3s,baz=269,slow=2.5,SNR=21							
LVC				S		**Sn**	**20 20 28.3**	**-2.0**
	comp=E,0.8nm,0.3s,baz=90,slow=19,SNR=3.2							
LPAZ	**La Paz**	**14.91**	**4**	P		**Pn**	**20 20 21.3**	**+2.8**
	comp=E,0.3nm,0.3s,baz=175,slow=7.9,SNR=34							
LPAZ				S		**Sn**	**20 22 56.3**	**-7.0**
	comp=E,0.1nm,0.3s,baz=102,slow=8.3,SNR=2.1							
LPAZ				LR	LR		20 25 39.4	
	comp=E,62nm,19.6s,baz=215,slow=35							
LPAZ	**La Paz**	**14.91**	**4**	P		**Pn**	**20 20 21.3**	**+2.7**
LPAZ				S		**Sn**	**20 22 56.3**	**-7.0**
LPAZ				LR	LR		20 25 39.4	
SIV	**San Ignacio**	**16.85**	**28**	P		**Pn**	**20 20 41.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=225,slow=13,SNR=10							
SNAA	**Sanae**	**53.21**	**159**	P		**P**	**20 25 59.6**	**-0.6**
	comp=E,1.5nm,0.9s,mb4.0,baz=310,slow=14,SNR=3.7							
TXAR	**Lajitas Array**	**68.65**	**328**	P		**P**	**20 27 46.1**	**+1.5**
	comp=E,0.3nm,0.6s,mb3.3,baz=155,slow=9.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**80.90**	**69**	P		**P**	**20 28 55.9**	**+0.7**
	comp=E,1.5nm,0.7s,mb3.9,baz=244,slow=4.1,SNR=4.8							
TORD				pP	pP		20 29 25.1	+1.3
	comp=E,0.4nm,0.5s,baz=274,slow=5.7,SNR=4.0							
WRA	**Warramunga Arr**	**124.36**	**207**	PKP	PKPdf		20 35 38.8	-0.4
	comp=E,0.5nm,0.7s,baz=154,slow=1.9,SNR=12							
ZAL	**Zalesovo**	**150.57**	**32**	PKPbc	PKPbc		20 36 31.8	-0.4
	comp=E,1.8nm,0.3s,baz=168,slow=2.9,SNR=7.8							
ZAL				pPKPbc	pPKPbc		20 37 02.7	+0.3
	comp=E,0.8nm,0.5s,baz=205,slow=3.9,SNR=2.5							
ZAL	**Zalesovo**	**150.57**	**32**	PKPbc	PKPbc		20 36 31.8	-0.4
ZAL				pPKPbc	pPKPbc		20 37 02.7	+0.3
MKAR	**Makanchi Array**	**153.06**	**47**	PKPbc	PKPbc		20 36 37.7	-0.2
	comp=E,0.4nm,0.6s,baz=313,slow=1.4,SNR=4.3							
MKAR				PKPab	PKPab		20 36 49.8	+0.1
	comp=E,0.7nm,0.6s,baz=301,slow=3.4,SNR=7.8							
MKAR				pPKPbc	pPKPbc		20 37 07.6	-0.5
	comp=E,0.5nm,0.8s,baz=343,slow=2.9,SNR=2.9							
MKAR	**Makanchi Array**	**153.06**	**47**	PKPbc	PKPbc		20 36 37.7	-0.2
MKAR				PKPab	PKPab		20 36 49.8	+0.1
MKAR				pPKPbc	pPKPbc		20 37 07.6	-0.5

*IDC **20** 20:19:44.0±2.0, 4109N×7783E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.0/4, Error ellipse: s-maj=31.8km s-min=18.1km az=147.0*
*MOS **20** 20:19:45.2±2.5, 4106N×7752E, h33km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=9.3km az=92.7*
*NEIC **20** 20:19:46.5±1.6, 4129N×7759E, h10km, Error ellipse: s-maj=23.5km s-min=13.9km az=167.0*
*NNC **20** 20:19:47.4±1.2, 4138N×7771E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=9.6km s-min=8.0km az=3.0*
*BJI **20** 20:19:48.2, 4152N×7784E, h8km, ML3.7*
*KNET **20** 20:19:48.8±0.6, 4147N×7743E, h0km, ml3.7, Error ellipse: s-maj=7.8km s-min=3.9km az=46.0*
*ISCJB **20** 20:19:48.8±1.4, 4122N±008×7780E±008, h47km±13km, mb3.7/4, Error ellipse: s-maj=14.2km s-min=9.1km az=123.1*

ISC 20 20:19:47.0±1.6, 4130N±007×7789E±008, h13km±15km, n31, σ1§43/37, mb3.7/4, 9C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**1.55**	**308**	P		**Pn**	**20 20 10.7**	**-3.6**
	SNR=206							
KNDC	**Almaty**	**2.03**	**341**	⇑Pn		**Pn**	**20 20 21.0**	**0.0**
	351nm,0.5s,baz=116,slow=28							
KNDC				⇑Sn		**Sn**	**20 20 47.2**	**+0.9**
	1µm,0.4s							
AAA	**Alma-Ata**	**2.09**	**341**	*c i*Pn		**Pn**	**20 20 21.4**	**-0.4**
AAA				*i* S		**Sn**	**20 20 47.5**	**-0.1**
AAA				pmax	pmax			
	comp=Z,26nm,0.1s							
AAA				smax				
	comp=E,10.0nm,0.1s							
KZA	**Kyzart**	**2.12**	**292**	P		**Pn**	**20 20 21.3**	**-1.0**
	SNR=85							
KSH	**Kashi**	**2.31**	**220**	P		**Pg**	**20 20 29.9**	**-1.4**
KSH				S		**Sg**	**20 21 02.3**	**+1.1**
KSH				Smax				
	comp=N,2µm,0.6s							
KSH				Smax				
	comp=E,4µm,0.8s							
TKM2	**Tokmak 2**	**2.35**	**314**	P		**Pn**	**20 20 25.6**	**+0.3**
	SNR=348							
TKM2	**Tokmak 2**	**2.35**	**314**	⇓Pn		**Pn**	**20 20 25.6**	**+0.3**
	comp=E,16nm,0.5s							
TKM2				⇑Sn		**Sn**	**20 20 55.0**	**+1.0**
	comp=E,39nm,0.5s							
KBK	**Karagaybulak**	**2.58**	**303**	P		**Pn**	**20 20 29.6**	**+1.1**
	SNR=142							
UCH	**Uchtor**	**2.69**	**291**	P		**Pn**	**20 20 30.8**	**+0.8**
	SNR=179							
AAK	**Ala-Archa**	**2.86**	**299**	P		**Pn**	**20 20 34.3**	**+1.9**
	SNR=97							
CHMS	**Chumysh**	**2.88**	**307**	P		**Pn**	**20 20 33.7**	**+1.1**
	SNR=88							
USP	**Ospenovka**	**3.19**	**309**	P		**Pn**	**20 20 39.0**	**+2.1**
	SNR=39							
KK31	**Karatay Array**	**5.77**	**291**	⇑Pg		**Pb**	**20 21 29.0**	**+1.5**
	comp=E,8.2nm,0.6s,baz=113,slow=14							
KK31				⇓Lg			20 22 45.4	
	comp=E,29nm,0.6s,baz=102,slow=28							
MK31	**Makanchi Array**	**6.34**	**29**	⇓Pn		**Pn**	**20 21 23.4**	**+3.2**
	comp=E,1.3nm,0.5s,baz=197,slow=15							
MK31				⇑Pg		**Pg**	**20 21 44.0**	**-4.4**
	comp=E,4.9nm,0.6s,baz=214,slow=15							
MK31				⇑Lg			20 23 10.1	
	comp=E,18nm,0.8s,baz=204,slow=28							
MK31	**Makanchi Array**	**6.34**	**29**	*e*P		**Pn**	**20 21 23.2**	**+3.0**
MKAR	**Makanchi Array**	**6.34**	**29**	Pn		**Pn**	**20 21 22.9**	**+2.7**
	comp=E,0.5nm,0.3s,baz=201,slow=15,SNR=29							
MKAR				Sn		**Sn**	**20 22 37.4**	**+4.9**
	comp=E,1.4nm,0.3s,baz=204,slow=24,SNR=6.1							
MKAR				Lg			20 22 57.5	
	comp=E,0.5nm,0.3s,baz=209,slow=26,SNR=2.9							
MKAR	**Makanchi Array**	**6.34**	**29**	PN		**Pn**	**20 21 22.9**	**+2.7**
MKAR							20 22 37.4	
VOSK	**Vostochnaya**	**12.35**	**340**	⇓Pn		**Pn**	**20 22 41.0**	**-1.6**
	comp=E,4.2nm,1.4s							
VOSK				⇑Lg			20 26 15.3	
	comp=E,26nm,1.4s							
BVA0	**Borovoye Array**	**12.78**	**339**	⇑Pn		**Pn**	**20 22 47.1**	**-1.4**
	comp=E,0.7nm,0.8s,baz=153,slow=16,SNR=16							
BVA0				⇓Lg			20 26 29.5	
	comp=E,4.0nm,1.4s,baz=148,slow=26,SNR=5.1							
BVAR	**Borovoye Array**	**12.78**	**339**	Pn		**Pn**	**20 22 46.8**	**-1.6**
	comp=E,0.3nm,0.3s,baz=152,slow=13,SNR=15							
BVAR				Lg			20 26 21.0	
	comp=E,0.3nm,0.3s,baz=146,slow=31,SNR=7.1							
BRVK	**Borovoye**	**12.84**	**339**	*e*P		**Pn**	**20 22 47.5**	**-1.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**12.84**	**339**	*e*P		**Pn**	**20 22 47.5**	**-1.8**
	comp=Z,3.4nm,0.6s							
ZAL	**Zalesovo**	**13.46**	**18**	Pn		**Pn**	**20 22 56.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=9.9,SNR=2.3							
ZAL				Lg			20 26 51.1	
	comp=Z,0.2nm,0.3s,baz=280,slow=11,SNR=2.3							
NVS	**Novosibirsk**	**14.00**	**13**	*e*P		**Pn**	**20 23 09.8**	**+4.7**
AKTK	**Aktyubinsk**	**16.54**	**310**	Pn		**Pn**	**20 23 36.4**	**-2.3**
AKTO	**Aktyubinsk**	**16.54**	**310**	Pn		**Pn**	**20 23 36.4**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=106,slow=17,SNR=3.0							
SONM	**Songino Array**	**21.26**	**62**	P		**P**	**20 24 34.1**	**+1.2**
	comp=Z,2.1nm,0.8s,mb3.5,baz=271,slow=11,SNR=13							
FINES	**FINESS Array B**	**36.83**	**321**	P		**P**	**20 26 54.1**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.7,baz=111,slow=10,SNR=4.2							
ARCES	**ARCESS Array B**	**38.99**	**334**	P		**P**	**20 27 12.8**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.0,baz=96,slow=8.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**71.11**	**271**	P		**P**	**20 31 03.9**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=54,slow=5.5,SNR=5.4							
TORD	**Torodi Ar. Bea**	**71.11**	**271**	P		**P**	**20 31 03.9**	**-1.2**

*ISCJB **20** 20:44:12.6±3.0, 414N±0.1×780E±03, h10km, Error ellipse: s-maj=27.9km s-min=17.3km az=17.1*
*NNC **20** 20:44:12.3±3.2, 4138N×7780E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=23.6km s-min=20.6km az=122.0*
*KNET **20** 20:44:14.1±0.8, 4148N×7743E, h0km, ml2.3, Error ellipse: s-maj=8.3km s-min=4.8km az=53.0*

ISC 20 20:44:12.8±2.9, 414N±01×781E±03, h10km, n9, σ0§98/11, 4C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**1.62**	**303**	P		**Pn**	**20 44 36.5**	**-4.9**
	SNR=19							
KNDC	**Almaty**	**2.02**	**336**	⇑Pn		**Pn**	**20 44 46.3**	**-0.4**
	22nm,0.4s,baz=146							
KNDC				⇑Sn		**Sn**	**20 45 13.2**	**+1.1**
	47nm,0.4s							
KZA	**Kyzart**	**2.23**	**289**	P		**Pn**	**20 44 49.3**	**-0.4**
	SNR=16							
TKM2	**Tokmak 2**	**2.40**	**311**	P		**Pn**	**20 44 51.2**	**-1.0**
	SNR=17							
TKM2	**Tokmak 2**	**2.40**	**311**	⇑Pn		**Pn**	**20 44 50.9**	**-1.2**
	0.4nm,0.4s							
TKM2				⇓Sn		**Sn**	**20 45 20.4**	**-1.2**
	1.8nm,0.5s							
KBK	**Karagaybulak**	**2.66**	**300**	P		**Pn**	**20 44 55.5**	**-0.1**
	SNR=7.2							
UCH	**Uchtor**	**2.79**	**289**	P		**Pn**	**20 45 01.4**	**+3.9**
	SNR=13							
CHMS	**Chumysh**	**2.95**	**304**	P		**Pn**	**20 45 00.4**	**+0.7**
	SNR=6.0							
KK31	**Karatay Array**	**5.87**	**290**	⇑Pg		**Pb**	**20 45 56.6**	**+1.4**
	1.5nm,0.8s,baz=101,slow=17							
KK31				⇓Lg			20 47 12.8	
	1.3nm,0.6s,baz=103,slow=28							

*MOS **20** 20:58:09.6±1.7, 5730N×12073E, h5km, Southeastern Siberia*

BYKL 20 20:58:09.1±0.6, 5735N×12073E, h5km, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNR	**Khani**	**0.59**	**224**	*e*Pg		Pg	20 58 20.0	-0.5
KHNR				*e*Sg		Sg	20 58 27.7	-0.5
CRS	**Chara**	**1.42**	**252**	*e*Pg		Pg	20 58 35.0	-1.2
CRS				*i* Sg		Sg	20 58 53.2	-1.4
CRS				Pmax				
	122nm,0.8s							
CRS				Smax				
	336nm,0.7s							
CRS	**Chara**	**1.42**	**252**	*e*P		Pn	20 58 35.2	-0.3
CRS				*e*			20 58 53.0	
CRS				pmax	pmax			
	comp=Z,112nm,0.4s							
CRS				smax				
	comp=E,355nm,0.7s							
NRGR	**Nerungri**	**2.29**	**106**	*e*P		Pn	20 58 49.6	+2.1
NRGR				S		Sn	20 59 19.3	+3.2
NRGR				smax				
	comp=N,18nm,0.2s							
CLNS	**Chul'man**	**2.33**	**101**	*e*Pg		Pg	20 58 50.3	-3.4
CLNS				*e*Sg		Sg	20 59 22.4	-1.5
CLNS	**Chul'man**	**2.33**	**101**	*e*P		Pn	20 58 52.9	+4.8
CLNS				*e*			20 59 22.6	
CLNS				pmax	pmax			
	comp=Z,39nm,0.4s							
CLNS				pmax	pmax			
	comp=N,6.0nm,0.3s							
CLNS				pmax	pmax			
	comp=E,11nm,0.3s							
CLNS				smax				
	comp=N,218nm,0.5s							
CLNS				smax				
	comp=E,233nm,0.4s							
CLNS				smax				
	comp=Z,113nm,0.4s							
NLYR	**Nelyaty**	**2.89**	**255**	*e*Pg		Pg	20 59 00.5	-3.9
NLYR				*e*Sg		Sg	20 59 36.8	-5.1
TUP	**Tupik**	**2.96**	**189**	*e*Pn		Pn	20 58 57.2	+0.4
TUP				*e*Pg		Pg	20 59 02.5	-3.4
TUP				*e*			20 59 34.2	
TUP				*e*Sg		Sg	20 59 40.3	-4.0
TUP				Pmax				
	comp=Z,86nm,1.3s							
TUP				Smax				
	comp=Z,329nm,0.7s							
TUP	**Tupik**	**2.96**	**189**	*e*P		Pn	20 58 57.1	+0.3
TUP				*e*S		Sn	20 59 32.1	-0.6
TUP				pmax	pmax			
	comp=Z,74nm,0.6s							
TUP				smax				
	comp=E,233nm,1.0s							
TNDR	**Tynda**	**3.14**	**133**	*e*Sg		Sg	20 59 46.7	-3.1
BOD	**Bodaibo**	**3.65**	**280**	*e*Pg		Pg	20 59 15.1	-4.0
BOD				*e*Sg		Sg	21 00 00.6	-5.8
BOD				Pmax				
	comp=E,19nm,0.8s							
BOD				Smax				
	comp=E,133nm,1.3s							
BOD	**Bodaibo**	**3.65**	**280**	*e*P		Pn	20 59 06.4	+0.2
BOD				*e*			21 00 00.4	
BOD				pmax	pmax			
	comp=Z,20nm,0.6s							
BOD				smax				
	comp=N,139nm,0.8s							
UKT	**Uakit**	**4.36**	**248**	*e*Pg		Pg	20 59 27.4	-5.3
UKT				*e*Sg		Sg	21 00 23.2	-6.0
UKT				Pmax				
	comp=N,13nm,0.6s							
UKT				Smax				
	comp=N,61nm,0.8s							
UKT	**Uakit**	**4.36**	**248**	*e*P		Pg	20 59 27.8	-4.9
UKT				pmax	pmax			
	comp=Z,10.0nm,0.4s							
KROS	**Kirovskiy**	**4.57**	**127**	*e*Pg		Pg	20 59 29.8	-6.9
KROS				*e*Sg		Sg	21 00 29.0	-6.9
CGD	**Chagda**	**5.44**	**71**	*e*Sg		Sg	21 00 55.2	-8.5
KMO	**Kumora**	**5.46**	**258**	*e*Pg		Pg	20 59 48.2	-5.6
KMO				*e*Sg		Sg	21 00 57.5	-7.0
KMO				Pmax				
	comp=Z,10.0nm,0.9s							
KMO				Smax				
	comp=Z,91nm,1.0s							
YLYR	**Ulyunkhan**	**5.90**	**249**	*e*Sg		Sg	21 01 12.0	-6.5
YLYR				Smax				
	comp=Z,62nm,1.2s							
NIZ	**Nizh Angarsk**	**6.38**	**260**	*e*Sg		Sg	21 01 27.7	-6.4
NIZ				Smax				
	comp=Z,33nm,1.8s							
CIT	**Chita**	**6.77**	**221**	*e*Sg		Sg	21 01 36.8	-10
CIT				Smax				
	comp=Z,91nm,1.0s							
SYVR	**Suvo**	**7.13**	**243**	*e*Sg		Sg	21 01 51.5	-6.4
SYVR				Smax				
	comp=Z,58nm,1.4s							
KPC	**Khapcheranga**	**9.13**	**216**	*e*Sg		Sn	21 02 50.4	+46
KPC				Smax				
	comp=Z,39nm,1.1s							

MAN 20 20:58:27.3, 1139N×12450E, h0km, mb2.0, ML3.7, MS0.2, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCLP	**Ormoc**	**0.35**	**161**	*e*P		Pg	20 58 34.3	+0.3
OCLP				*e*S		Sg	20 58 41.1	+2.6
PLP	**Palo**	**0.52**	**115**	*e*P		Pg	20 58 37.7	+0.4
PLP				*e*S		Sg	20 58 45.3	+1.2
MSLP	**Maasin**	**1.29**	**164**	*e*P		Pg	20 58 52.1	0.0
MSLP				*e*S		Sg	20 59 11.6	+2.7

*BYKL **20** 20:58:47.6±0.7, 57.38N×120.75E*
*IDC **20** 20:58:47.1±1.9, 57.25N×121.07E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=59.4km s-min=31.4km az=54.0*
*ISCJB **20** 20:58:48.0±0.6, 57.15N±005×12051E±006, h10km, mb3.5/5, Error ellipse: s-maj=8.0km s-min=4.7km az=153.8*

ISC 20 20:58:48.8±0.6, 5715N±005×12053E±005, h10km, n21, σ1§65/22, mb3.5/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNR	**Khani**	**0.38**	**233**	*e*Pg		**Pg**	**20 58 59.2**	**+2.9**
KHNR				*e*Sg		**Sg**	**20 59 06.8**	**+5.5**
CRS	**Chara**	**1.26**	**259**	*e*Pg		**Pg**	**20 59 14.1**	**+1.1**
CRS				*e*Sg		**Sg**	**20 59 31.9**	**+2.5**
CRS				Pmax				
	214nm,1.0s							
CRS				Smax				
	460nm,0.7s							
CLNS	**Chul'man**	**2.41**	**96**	*e*Sg		**Sb**	**21 00 01.5**	**-0.4**
NLYR	**Nelyaty**	**2.73**	**258**	*e*Sg		**Sg**	**21 00 16.8**	**+0.1**
TUP	**Tupik**	**2.75**	**187**	*e*Sg		**Sg**	**21 00 19.5**	**+2.3**
TUP				Smax				
	475nm,0.7s							
TNDR	**Tynda**	**3.09**	**129**	*e*Sg		**Sg**	**21 00 25.5**	**-2.4**
BOD	**Bodaibo**	**3.59**	**284**	*e*Sg		**Sg**	**21 00 40.0**	**-4.0**
BOD				Smax				
	237nm,0.8s							
UKT	**Uakit**	**4.19**	**249**	*e*Sg		**Sg**	**21 01 02.0**	**-1.3**
UKT				Smax				
	90nm,0.8s							
KMO	**Kumora**	**5.32**	**260**	*e*Sg		**Sg**	**21 01 36.8**	**-2.8**
KMO				Smax				
	206nm,1.0s							
CGD	**Chagda**	**5.61**	**69**	*e*Sg		**Sb**	**21 01 33.2**	**-0.8**
YLYR	**Ulyunkhan**	**5.73**	**251**	*e*Sg		**Sg**	**21 01 52.1**	**-0.6**
YLYR				Smax				
	105nm,1.4s							
NIZ	**Nizh Angarsk**	**6.25**	**262**	*e*Sg		**Sg**	**21 02 06.3**	**-3.0**
NIZ				Smax				
	43nm,1.3s							
CIT	**Chita**	**6.54**	**221**	*e*Sg		**Sg**	**21 02 17.3**	**-1.6**
CIT				Smax				
	151nm,1.1s							
SYVR	**Suvo**	**6.94**	**244**	*e*Sg		**Sg**	**21 02 28.8**	**-2.8**
SYVR				Smax				
	77nm,1.4s							
KPC	**Khapcheranga**	**8.90**	**217**	*e*Sg		Sx	21 03 31.0	
KPC				Smax				
	53nm,1.2s							
SONM	**Songino Array**	**12.67**	**229**	Sn		**Sn**	**21 04 19.9**	**+10**
	0.1nm,0.3s,baz=36,slow=20,SNR=2.3							
SONM				Lg			21 05 36.9	
	0.5nm,0.3s,baz=36,slow=25,SNR=6.7							
MKAR	**Makanchi Array**	**25.40**	**262**	P		**P**	**21 04 17.9**	**+1.6**
	0.4nm,0.6s,mb3.1,baz=58,slow=9.9,SNR=2.9							
BVAR	**Borovoye Array**	**28.46**	**283**	P		**P**	**21 04 46.7**	**+2.8**
	0.3nm,0.5s,mb3.2,baz=61,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**44.36**	**317**	P		**P**	**21 06 59.1**	**-0.1**
	1.3nm,0.7s,mb3.8,baz=52,slow=9.6,SNR=5.0							
NOA	**NORSAR Array B**	**49.86**	**323**	P		**P**	**21 07 42.1**	**0.0**
	0.3nm,0.5s,mb3.6,baz=43,slow=6.2,SNR=3.3							
WRA	**Warramunga Arr**	**77.66**	**167**	P		**P**	**21 10 45.6**	**+0.1**
	0.8nm,0.9s,mb3.7,baz=355,slow=7.1,SNR=4.6							

*IDC **20** 21:04:33.6±1.0, 4664N×15361E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=31.3km s-min=29.6km az=27.0*
*ISCJB **20** 21:04:38.9±1.9, 466N±02×1536E±02, h50km±15km, mb3.6/8, Error ellipse: s-maj=30.4km s-min=11.6km az=109.2*
*MOS **20** 21:04:39.7±1.4, 4665N×15336E, h57km, mb4.1/4, Error ellipse: s-maj=26.9km s-min=18.5km az=65.0*

ISC 20 21:04:41.7±1.7, 467N±02×1535E±02, h60km±14km, n16, σ0§85/17, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.19**	**252**	*e*PN		**Pn**	**21 05 40.0**	**-3.0**
KUR				*e*S		**Sn**	**21 06 31.0**	**+0.4**
KUR				pmax	pmax			
	comp=Z,90nm,0.7s							
KUR				smax				
	comp=N,110nm,0.7s							
KUR				smax				
	comp=E,190nm,0.7s							
SKR	**Severo-Kuril's**	**4.39**	**22**	*e*PN		**Pn**	**21 05 46.0**	**+0.2**
ASAJ	**Asahikawa**	**8.09**	**256**	Pn		**Pn**	**21 06 37.2**	**+0.8**
	comp=E,0.6nm,0.3s,baz=101,slow=16,SNR=4.0							
ASAJ	**Asahikawa**	**8.09**	**256**	PN		**Pn**	**21 06 37.3**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**47.23**	**298**	P		**P**	**21 13 07.6**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=74,slow=7.6,SNR=3.8							
FINES	**FINESS Array B**	**64.25**	**335**	P		**P**	**21 15 09.4**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=8.2,SNR=3.9							
FINES	**FINESS Array B**	**64.25**	**335**	P		**P**	**21 15 09.4**	**-1.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**64.58**	**54**	P		**P**	**21 15 12.4**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=321,slow=2.1,SNR=3.7							
NOA	**NORSAR Array B**	**68.41**	**341**	P		**P**	**21 15 37.6**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=4.0							
NOA	**NORSAR Array B**	**68.41**	**341**	P		**P**	**21 15 37.7**	**+0.6**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.78**	**326**	P		**P**	**21 15 58.5**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=32,slow=5.3,SNR=5.1							
ASAR	**Alice Springs**	**72.20**	**199**	P		**P**	**21 16 00.5**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=2.9,slow=5.5,SNR=6.7							
ASAR	**Alice Springs**	**72.20**	**199**	P		**P**	**21 16 00.5**	**+0.3**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**77.30**	**61**	P		**P**	**21 16 29.6**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=288,slow=4.4,SNR=10							
TXAR	**Lajitas Array**	**77.30**	**61**	P		**P**	**21 16 29.6**	**-0.1**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.67**	**334**	P		**P**	**21

PVCC	**Panska Ves**	**2.61**	**278**	*e*PG	**Pg**	**21**	**06**	**24.3 -1.3**
PRU	**Pruhonice**	**2.64**	**266**	*e*PG	**Pg**	**21**	**06**	**24.7 -1.4**
PRU				*e*SG	**Sg**	**21**	**06**	**58.3 -2.0**
	5.2nm,0.5s							
BRG	**Berggiesshubel**	**3.05**	**284**	SG	**Sg**	**21**	**07**	**13.7 +0.1**
	2.3nm,0.5s							
KHC	**Kasperske Hory**	**3.46**	**253**	*e*PN	**Pn**	**21**	**06**	**30.5 -0.2**
KHC				*e*PG	**Pg**	**21**	**06**	**39.9 -1.9**
KHC				*e*SG	**Sg**	**21**	**07**	**25.7 -0.9**
	8.3nm,0.5s							
CLL	**Collm**	**3.72**	**289**	*e*Sg	**Sg**	**21**	**07**	**38.0 +2.8**
NKC	**Novy Kostel**	**3.96**	**272**	*e*SG	**Sg**	**21**	**07**	**41.1 -1.8**

IDC 20 21:16:24.0±2.1, 1150S×16383E, h0km, mb3.8/4, mb1 4.1/7, mb1mx4.0/17, mbtmp4.0/7, ML4.2/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/31, Error ellipse: s-maj=40.6km s-min=29.5km az=73.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
HNR	**Honiara**	**4.34**	**298**	Pn	Pn	21	17	31.9 +0.8
	37nm,0.3s,baz=108,slow=4.3,SNR=7.7							
HNR				Sn	Sn	21	18	25.6 +3.2
	13nm,0.3s,baz=264,slow=19,SNR=1.9							
DZM	**Mont Dzumac**	**10.80**	**167**	Pn	Pn	21	19	00.4 +0.6
	2.7nm,0.3s,baz=162,slow=21,SNR=18							
DZM				LR	LR	21	22	25.3
	comp=Z,213nm,19.2s,baz=270,slow=34							
CTA	**Charters Tower**	**18.93**	**241**	P	Pn	21	20	48.3 +1.4
	0.2nm,0.3s,baz=69,slow=8.6,SNR=3.1							
CTA				LR	LR	21	27	03.9
	comp=Z,94nm,18.6s,baz=48,slow=34							
WRA	**Warramunga Arr**	**29.56**	**250**	P	P	21	22	30.1 -0.3
	4.4nm,1.1s,baz=77,slow=9.1,SNR=7.1							
ASAR	**Alice Springs**	**30.91**	**243**	P	P	21	22	42.0 -0.3
	0.6nm,0.7s,baz=65,slow=9.8,SNR=7.0							
SONM	**Songino Array**	**77.93**	**325**	P	P	21	28	24.1 +0.3
	0.4nm,0.7s,baz=142,slow=5.3,SNR=3.7							
MKAR	**Makanchi Array**	**92.57**	**317**	P	P	21	29	37.8 +0.5
	0.2nm,0.7s,baz=116,slow=6.6,SNR=2.3							

ISC 20 21:20:23.0±0.6, 3981N±003×3410E±005, h10km, n6, σ0§75/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CDAG	**Cicekdag**	**0.28**	**131**	*i* P	**Pg**	**21**	**20**	**28.6 -0.1**
CDAG				*i* S	**Sg**	**21**	**20**	**32.4 0.0**
KAMT	**Kaman**	**0.53**	**215**	PG	**Pg**	**21**	**20**	**33.4 +0.1**
KAMT				SG	**Sg**	**21**	**20**	**41.3 +0.9**
CORM	**Corum**	**0.55**	**47**	*e*PG	**Pg**	**21**	**20**	**32.6 -1.2**
ELDT	**Eldivan**	**0.86**	**323**	*i* P	**Pg**	**21**	**20**	**39.0 -0.5**
ELDT				*i* S	**Sg**	**21**	**20**	**50.3 -0.3**
CTKT	**Corum**	**0.97**	**33**	*i* P	**Pg**	**21**	**20**	**41.6 -0.1**
CTKT				*i* S	**Sg**	**21**	**20**	**56.3 +2.0**
AVNT	**Avonos**	**1.18**	**150**	*i* P	**Pb**	**21**	**20**	**45.3 -0.2**
AVNT				*i* S	**Sb**	**21**	**21**	**00.5 -0.3**

*BJI **20** 21:31:09.2, 1342N×5307E, h10km, mB5.4, mb4.7*
*ISCJB **20** 21:31:17.3±0.5, 1415N±009×5370E±007, h10km, mb4.1/22, MS3.7/5, Error ellipse: s-maj=13.3km s-min=9.7km az=158.0*
*IDC **20** 21:31:17.0±0.8, 1415N×5380E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.1/24, mbtmp4.0/17, MS3.8/5, Ms1 3.8/5, ms1mx3.4/32, Error ellipse: s-maj=18.6km s-min=17.0km az=150.0*
*NEIC **20** 21:31:18.6±0.5, 1413N×5378E, h10km, mb4.1/1, Error ellipse: s-maj=12.5km s-min=10.1km az=117.0*
*CSEM **20** 21:31:18.6, 1413N×5378E, h10km, mb4.1/1, After NEIC*

ISC 20 21:31:19.4±0.5, 1417N±009×5368E±007, h10km, n40, σ0§95/36, mb4.1/22, MS3.7/5, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
KMBO	**Kilima Mbogo**	**22.26**	**228**	P	**P**	**21**	**36**	**16.2 -0.3**
	3.6nm,0.9s,mb3.8,baz=40,slow=14,SNR=6.8							
ASF	**Jabal al Asfar**	**23.58**	**322**	P	**P**	**21**	**36**	**31.0 +0.6**
	0.7nm,0.3s,mb3.5,baz=106,slow=5.1,SNR=6.3							
GNI	**Garni**	**27.04**	**345**	P	**P**	**21**	**37**	**02.8 +1.0**
	1.9nm,0.5s,mb3.9,baz=145,slow=12,SNR=4.1							
MALT	**Malatya**	**27.58**	**333**	*e*P	**P**	**21**	**37**	**08.3 +1.6**
	2.6nm,0.8s,mb3.9							
BRTR	**Keskin Array B**	**30.95**	**329**	P	**P**	**21**	**37**	**36.0 -0.5**
	0.4nm,0.4s,mb3.6,baz=90,slow=6.2,SNR=3.6							
BRTR	**Keskin Array B**	**30.95**	**329**	P	**P**	**21**	**37**	**36.0 -0.5**
KOLN	**Koldanda**	**30.95**	**59**	*e*P	**P**	**21**	**37**	**38.8 +2.3**
GKN	**Gorkha**	**31.89**	**59**	*e*P	**P**	**21**	**37**	**45.1 +0.3**
	13nm,1.0s,mb4.7							
DMN	**Daman**	**32.16**	**60**	*e*P	**P**	**21**	**37**	**47.9 +0.7**
KKN	**Kakani**	**32.36**	**60**	*e*P	**P**	**21**	**37**	**49.7 +0.7**
	24nm,1.1s,mb5.0							
GUN	**Gumba**	**32.90**	**60**	*e*P	**P**	**21**	**37**	**54.5 +0.8**
	36nm,1.0s,mb5.2							
JIRN	**Jiri**	**33.09**	**61**	*e*P	**P**	**21**	**37**	**55.9 +0.5**
IDI	**Anoyia**	**33.34**	**314**	LR	LR	21	53	55.1
	comp=Z,65nm,18.6s,MS3.4,baz=351,slow=41							
AKTO	**Aktyubinsk**	**36.34**	**5**	LR	LR	21	56	48.9
	comp=Z,151nm,20.2s,MS3.8,baz=264,slow=42							
LSZ	**Lusaka**	**38.62**	**222**	LR	LR	21	54	37.0
	comp=Z,173nm,20.6s,MS3.9,baz=256,slow=36							
MK31	**Makanchi Array**	**40.38**	**31**	*e*P	**P**	**21**	**38**	**56.7 -0.8**
MK31	**Makanchi Array**	**40.38**	**31**	*e*P	**P**	**21**	**38**	**56.7 -0.7**
MKAR	**Makanchi Array**	**40.38**	**31**	P	**P**	**21**	**38**	**56.4 -1.0**
	1.0nm,0.7s,mb3.7,baz=216,slow=7.2,SNR=12							
MKAR				LR	LR	21	55	40.1
	comp=Z,135nm,19.4s,MS3.8,baz=241,slow=36							
MKAR	**Makanchi Array**	**40.38**	**31**	P	**P**	**21**	**38**	**56.4 -1.0**
MKAR				LR	LR	21	55	40.1
BVAR	**Borovoye Array**	**40.97**	**15**	LR	LR	21	57	35.8
	comp=Z,165nm,19.9s,MS3.9,baz=58,slow=38							
WMQ	**Urumqi**	**41.43**	**38**	*e*P	**P**	**21**	**39**	**07.0 +0.9**
AKASG	**Malin Array Be**	**41.47**	**337**	P	**P**	**21**	**39**	**05.2 -1.3**
	0.2nm,0.3s,mb3.2,baz=144,slow=7.9,SNR=11							
AKASG	**Malin Array Be**	**41.47**	**337**	P	**P**	**21**	**39**	**05.2 -1.3**
KEST	**Kesra**	**45.09**	**307**	P	**P**	**21**	**39**	**36.4 +0.7**
	2.9nm,0.9s,mb4.1,baz=292,slow=8.6,SNR=6.9							
ZAL	**Zalesovo**	**46.59**	**25**	P	**P**	**21**	**39**	**45.5 -2.1**
	1.5nm,0.8s,mb4.0,baz=245,slow=8.0,SNR=12							
ZAL	**Zalesovo**	**46.59**	**25**	P	**P**	**21**	**39**	**45.5 -2.1**
LBTB	**Lobatse**	**47.61**	**215**	P	**P**	**21**	**39**	**56.2 +0.7**
	2.7nm,0.6s,mb4.4,baz=28,slow=8.5,SNR=5.5							
LBTB	**Lobatse**	**47.61**	**215**	P	**P**	**21**	**39**	**56.2 +0.7**
TORD	**Torodi Ar. Bea**	**50.44**	**275**	P	**P**	**21**	**40**	**17.1 -0.1**
	2.3nm,1.0s,mb4.2,baz=92,slow=8.4,SNR=11							
TORD	**Torodi Ar. Bea**	**50.44**	**275**	P	**P**	**21**	**40**	**17.0 -0.2**
FINES	**FINESS Array B**	**51.22**	**343**	P	**P**	**21**	**40**	**22.5 -0.5**
	1.8nm,0.7s,mb4.1,baz=162,slow=14,SNR=4.3							
FINES	**FINESS Array B**	**51.22**	**343**	P	**P**	**21**	**40**	**22.5 -0.5**
SONM	**Songino Array**	**54.86**	**41**	P	**P**	**21**	**40**	**49.5 -0.4**
	1.4nm,0.9s,mb4.0,baz=250,slow=8.1,SNR=9.6							
ESDC	**Sonseca Array**	**56.26**	**308**	P	**P**	**21**	**41**	**00.6 +0.6**
	2.2nm,0.9s,mb4.2,baz=73,slow=6.8,SNR=6.7							
ARCES	**ARCESS Array B**	**58.10**	**349**	P	**P**	**21**	**41**	**11.9 -1.0**
	1.4nm,0.7s,mb4.1,baz=138,slow=9.5,SNR=3.5							
ARCES	**ARCESS Array B**	**58.10**	**349**	P	**P**	**21**	**41**	**11.9 -1.1**
CN2	**Changchun**	**67.20**	**48**	*e*P	**P**	**21**	**42**	**13.4 -0.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0							
KSRS	**Korea Array**	**69.09**	**55**	P	**P**	**21**	**42**	**24.1 -1.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=265,slow=6.6,SNR=7.0							
WRA	**Warramunga Arr**	**86.24**	**112**	P	**P**	**21**	**44**	**00.8 -0.5**
	comp=Z,0.9nm,0.8s,mb4.0,baz=298,slow=4.1,SNR=9.3							
ASAR	**Alice Springs**	**86.92**	**115**	P	**P**	**21**	**44**	**03.6 -0.9**
	comp=Z,1.5nm,0.9s,mb4.2,baz=282,slow=4.5,SNR=7.2							

*ATH **20** 21:31:42.8, 4017N×2167E, h13km, MD2.8/3*
*ISCJB **20** 21:31:43.4±0.5, 4016N±002×2166E±004, h8km, Error ellipse: s-maj=4.5km s-min=3.2km az=165.8*
*CSEM **20** 21:31:43.8±0.2, 4018N×2166E, h8km, ML2.5, Error ellipse: s-maj=5.9km s-min=3.7km az=82.0*
*SKO **20** 21:31:43.1, 4008N×2161E, h0km*
*THE **20** 21:31:44.6, 4017N×2169E, h1km, ML2.5*

ISC 20 21:31:44.0±0.6, 4016N±003×2166E±004, h12km±10km, n14, σ1§07/25, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
KZN	**Kozani**	**0.17**	**29**	⇑*i* PG	**Pg**	**21**	**31**	**46.8 -1.1**
KZN				*e*SG	**Sg**	**21**	**31**	**49.7 -0.9**
MEV	**Metsovon**	**0.50**	**222**	*e*Pg	**Pg**	**21**	**31**	**54.1 +0.2**
MEV				*e*Sg	**Sg**	**21**	**32**	**02.5 +2.0**
MEV	**Metsovon**	**0.50**	**222**	*e*Pg	**Pg**	**21**	**31**	**54.1 +0.2**
MEV				*e*Sg	**Sg**	**21**	**32**	**02.5 +2.0**
LIT	**Litokhoron**	**0.64**	**95**	*e*Pg	**Pg**	**21**	**31**	**55.1 -1.3**
LIT				*e*Sg	**Sg**	**21**	**32**	**05.0 +0.2**
LIT	**Litokhoron**	**0.64**	**95**	*e*Pg	**Pg**	**21**	**31**	**55.1 -1.3**
LIT				*e*Sg	**Sg**	**21**	**32**	**04.9 +0.1**
THL	**Klokotos Trika**	**0.65**	**155**	*e*PB	**Pg**	**21**	**31**	**55.4 -1.3**
FNA	**Florina**	**0.66**	**341**	*e*Pg	**Pg**	**21**	**31**	**56.1 -0.8**
FNA				*e*Sg	**Sg**	**21**	**32**	**06.0 +0.4**
BIA	**Bitola**	**0.90**	**343**	*e*Pg	**Pg**	**21**	**32**	**00.5 -0.9**
BIA				*e*Sg	**Sg**	**21**	**32**	**13.8 +0.7**
GRG	**Griva**	**0.97**	**35**	*e*Pg	**Pg**	**21**	**32**	**02.7 -0.2**
GRG				*e*Sg	**Sg**	**21**	**32**	**17.6 +2.1**
HORT	**Hortiatis**	**1.18**	**68**	*e*Sg	**Sg**	**21**	**32**	**23.9 +1.7**
AGG	**Agios Georgios**	**1.25**	**155**	*e*Pg	**Pg**	**21**	**32**	**07.8 -0.2**
AGG				*e*Sg	**Sg**	**21**	**32**	**25.5 +1.3**
EVR	**Evrytania**	**1.25**	**175**	*e*PB	**Pb**	**21**	**32**	**06.4 -1.0**
KRUS	**Krusevo**	**1.25**	**346**	*e*Pg	**Pg**	**21**	**32**	**07.3 -0.8**
KRUS				*e*Sg	**Sg**	**21**	**32**	**25.0 +0.7**
KRUS	**Krusevo**	**1.25**	**346**	*e*Pg	**Pg**	**21**	**32**	**07.2 -0.9**
KRUS				*e*Sg	**Sg**	**21**	**32**	**24.9 +0.6**

MAN 20 21:33:02.2, 1274N×12452E, h23km, mb2.4, ML4.0, MS1.3, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CNP	**Catarman**	**0.27**	**148**	*e*P	Pb	21	33	10.1 +1.5
CNP				*e*S	Sb	21	33	17.6 +4.8
PVCP	**Virac**	**0.92**	**338**	*e*P	Pb	21	33	18.9 -0.6
PVCP				*e*S	Sb	21	33	33.0 +1.6
PLP	**Palo**	**1.63**	**164**	*e*P	Pn	21	33	29.2 -0.2
PLP				*e*S	Sn	21	33	50.7 +1.0

*IDC **20** 21:36:31.2±1.5, 4674N×15507E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/25, mbtmp4.0/12, ML3.5/1, Error ellipse: s-maj=46.5km s-min=19.7km az=173.0*
*ISCJB **20** 21:36:34.8±1.2, 468N±02×1549E±02, h35km, mb4.0/12, Error ellipse: s-maj=31.6km s-min=14.4km az=131.6*
*MOS **20** 21:36:34.6±1.8, 4650N×15474E, h44km, mb4.3/8, Error ellipse: s-maj=22.8km s-min=20.9km az=125.4*

ISC 20 21:36:36.7±1.2, 468N±02×1549E±02, h35km, n22, σ0§80/22, mb4.0/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
KUR	**Kuril'sk**	**5.17**	**255**	*e*PN	**Pn**	**21**	**37**	**46.0 -5.5**
KUR				pmax	pmax			
	comp=Z,160nm,0.7s							
ASAJ	**Asahikawa**	**9.08**	**257**	Pn	**Pn**	**21**	**38**	**43.6 -1.5**
	comp=Z,0.6nm,0.3s,baz=69,slow=13,SNR=5.8							
ASAJ	**Asahikawa**	**9.08**	**257**	PN	**Pn**	**21**	**38**	**43.7 -1.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**22.01**	**255**	P	**P**	**21**	**41**	**28.8 +0.9**
	comp=Z,2.2nm,0.8s,mb3.6,baz=54,slow=10,SNR=7.3							
BILL	**Bilibino**	**22.07**	**11**	*e*P	**P**	**21**	**41**	**27.7 -0.7**
BILL				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.3							
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**21**	**44**	**36.6 -0.8**
	comp=Z,0.8nm,0.4s,mb3.8,baz=93,slow=8.3,SNR=3.4							
ZAL	**Zalesovo**	**43.60**	**306**	P	**P**	**21**	**44**	**36.6 -0.8**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**21**	**45**	**12.2 -0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=65,slow=7.9,SNR=6.6							
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**21**	**45**	**12.2 -0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**21**	**45**	**40.5 -0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=48,slow=8.8,SNR=9.2							
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**21**	**45**	**40.5 -0.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**58.20**	**341**	P	**P**	**21**	**46**	**27.3 +0.1**
	comp=Z,2.8nm,0.8s,mb4.4,baz=12,slow=6.2,SNR=6.2							
ARCES	**ARCESS Array B**	**58.20**	**341**	P	**P**	**21**	**46**	**27.3 +0.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**21**	**46**	**38.4 +1.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=80,slow=14,SNR=4.4							
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**21**	**46**	**38.4 +1.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
PDAR	**Pinedale Array**	**63.70**	**55**	P	**P**	**21**	**47**	**04.5 0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=247,slow=3.0,SNR=8.3							
FINES	**FINESS Array B**	**64.51**	**336**	P	**P**	**21**	**47**	**09.8 -0.1**
	comp=Z,2.0nm,0.8s,mb4.2,baz=44,slow=6.1,SNR=6.5							
FINES	**FINESS Array B**	**64.51**	**336**	P	**P**	**21**	**47**	**09.8 -0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**21**	**48**	**21.7 -0.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=301,slow=4.2,SNR=29							
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**21**	**48**	**21.7 -0.6**
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BRTR	**Keskin Array B**	**79.19**	**318**	P	**P**	**21**	**48**	**39.3 +1.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=61,slow=10,SNR=3.0							
MMAI	**Mount Meron Ar**	**83.70**	**313**	P	**P**	**21**	**49**	**02.4 +0.5**
	comp=Z,0.6nm,0.4s,mb4.1,baz=50,slow=7.8,SNR=5.2							

*ISCJB **20** 21:38:29.0±0.8, 142N±01×536E±01, h10km, mb3.8/11, MS3.6/2, Error ellipse: s-maj=17.7km s-min=15.9km az=50.9*
*IDC **20** 21:38:28.9±1.0, 1419N×5373E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/25, mbtmp3.8/11, MS3.7/2, Ms1 3.6/2, ms1mx3.2/27, Error ellipse: s-maj=28.4km s-min=20.5km az=47.0*

ISC 20 21:38:30.9±0.8, 142N±01×536E±01, h10km, n13, σ1§04/13, mb3.8/11, MS3.6/2, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MUKL	**Al Mukalla**	**4.46**	**274**	*i* P	**Pn**	**21**	**39**	**36.7 -1.9**
MUKL				*e*		21	39	36.8
	baz=71,slow=10							
MUKL				AML	AML	21	39	55.9
	comp=E,50nm,0.5s							
MUKL				*i* S	**Sn**	**21**	**40**	**23.8 -6.7**
KMBO	**Kilima Mbogo**	**22.25**	**228**	P	**P**	**21**	**43**	**28.1 +0.3**
	comp=E,1.0nm,0.5s,mb3.5,baz=26,slow=24,SNR=4.6							
KMBO				LR	LR	21	51	47.9
	comp=E,246nm,19.0s,MS3.6,baz=90,slow=36							
ASF	**Jabal al Asfar**	**23.54**	**322**	P	**P**	**21**	**43**	**42.4 +0.9**
	comp=E,1.3nm,0.8s,mb3.4,baz=132,slow=17,SNR=3.0							
MMAI	**Mount Meron Ar**	**25.02**	**322**	P	**P**	**21**	**43**	**56.5 +1.5**
	comp=E,3.5nm,0.9s,mb3.9,baz=117,slow=10,SNR=4.2							
BRTR	**Keskin Array B**	**30.90**	**329**	P	**P**	**21**	**44**	**46.7 -0.9**
	comp=E,0.2nm,0.4s,mb3.3,baz=116,slow=11,SNR=2.2							
IDI	**Anoyia**	**33.30**	**314**	P	**P**	**21**	**45**	**09.5 +0.9**
	comp=E,5.2nm,0.7s,mb4.6,baz=101,slow=13,SNR=5.5							
AKTO	**Aktyubinsk**	**36.32**	**5**	P	**P**	**21**	**45**	**33.9 -0.9**
	comp=E,0.9nm,0.7s,mb3.8,baz=190,slow=7.6,SNR=4.0							
AKASG	**Malin Array Be**	**41.43**	**337**	P	**P**	**21**	**46**	**16.2 -1.5**
	comp=E,0.5nm,0.6s,mb3.4,baz=138,slow=7.4,SNR=4.8							
KEST	**Kesra**	**45.04**	**307**	P	**P**	**21**	**46**	**48.2 +1.4**
	comp=E,1.5nm,0.9s,mb3.8,baz=292,slow=8.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**50.39**	**275**	P	**P**	**21**	**47**	**28.5 +0.2**
	comp=E,1.6nm,1.0s,mb4.0,baz=91,slow=4.6,SNR=8.0							
BOSA	**Boshof**	**50.64**	**213**	LR	LR	22	08	25.7
	comp=E,51nm,18.8s,MS3.6,baz=19,slow=35							
WRA	**Warramunga Arr**	**86.29**	**112**	P	**P**	**21**	**51**	**13.3 +0.3**
	comp=E,1.0nm,1.0s,mb4.0,baz=291,slow=3.9,SNR=20							
ASAR	**Alice Springs**	**86.97**	**115**	P	**P**	**21**	**51**	**15.9 -0.3**
	comp=E,0.4nm,0.6s,mb3.9,baz=290,slow=5.0,SNR=4.8							

*IDC **20** 21:40:52.4±1.5, 4791N×15453E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/26, mbtmp4.0/14, ML3.6/2, Error ellipse: s-maj=39.1km s-min=20.3km az=161.0*
*NEIC **20** 21:40:53.6±0.8, 4787N×15451E, h10km, mb4.8/1, Error ellipse: s-maj=21.3km s-min=13.4km az=154.0*
*ISCJB **20** 21:40:55.5±1.0, 478N±0.1×1544E±02, h35km, mb4.0/13, Error ellipse: s-maj=24.7km s-min=12.9km az=108.3*
*MOS **20** 21:40:55.0±1.8, 4787N×15457E, h33km, mb4.6/1, Error ellipse: s-maj=20.8km s-min=18.6km az=26.4*

ISC 20 21:40:57.3±1.0, 479N±01×1544E±02, h35km, n19, σ0§86/19, mb4.0/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
YSS	**Yuzh-Sakhalins**	**7.98**	**268**	*e*PN	**Pn**	**21**	**42**	**56.5 +5.7**
ASAJ	**Asahikawa**	**9.05**	**250**	Pn	**Pn**	**21**	**43**	**05.5 0.0**
	0.8nm,0.3s,baz=107,slow=18,SNR=7.2							
ASAJ	**Asahikawa**	**9.05**	**250**	PN	**Pn**	**21**	**43**	**05.5 0.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.47**	**233**	Pn	**Pn**	**21**	**44**	**45.1 -0.5**
	comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=6.1							
KSRS	**Korea Array**	**22.00**	**252**	P	**P**	**21**	**45**	**48.4 +0.1**
	comp=Z,2.0nm,0.7s,mb3.6,baz=52,slow=10.0,SNR=7.3							
SONM	**Songino Array**	**31.83**	**288**	P	**P**	**21**	**47**	**18.7 -0.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=78,slow=7.8,SNR=6.2							
ZAL	**Zalesovo**	**42.72**	**305**	P	**P**	**21**	**48**	**50.5 -0.4**
	comp=Z,1.3nm,0.3s,mb4.1,baz=47,slow=8.6,SNR=6.9							
MKAR	**Makanchi Array**	**47.24**	**297**	P	**P**	**21**	**49**	**27.2 +0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=68,slow=7.9,SNR=11							
BVAR	**Borovoye Array**	**50.86**	**309**	P	**P**	**21**	**49**	**55.1 +0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=55,slow=7.6,SNR=21							
ARU	**Arti**	**54.81**	**317**	*e*P	**P**	**21**	**50**	**23.4 -0.4**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.8							
ARU	**Arti**	**54.81**	**317**	*e*P	**P**	**21**	**50**	**23.4 -0.4**
	comp=Z,4.9nm,0.5s,mb4.8							
AKTK	**Aktyubinsk**	**58.66**	**312**	P	**P**	**21**	**50**	**50.9 -0.2**
AKTO	**Aktyubinsk**	**58.66**	**312**	P	**P**	**21**	**50**	**50.9 -0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=44,slow=5.4,SNR=6.6							
PDAR	**Pinedale Array**	**63.37**	**55**	P	**P**	**21**	**51**	**22.4 -0.7**
	comp=Z,1.1nm,0.8s,mb4.0,baz=337,slow=1.2,SNR=3.8							
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**21**	**51**	**21.6 -1.8**
	comp=Z,1.2nm,0.6s,mb4.2,baz=42,slow=7.3,SNR=11							
NOA	**NORSAR Array B**	**67.47**	**342**	P	**P**	**21**	**51**	**49.1 -0.5**
	comp=Z,3.0nm,1.0s,mb4.3,baz=26,slow=6.3,SNR=3.0							
TXAR	**Lajitas Array**	**76.17**	**62**	P	**P**	**21**	**52**	**42.2 +0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=277,slow=3.3,SNR=3.7							
GERES	**GERESS Array B**	**77.85**	**335**	P	**P**	**21**	**52**	**52.8 +1.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=40,slow=4.4,SNR=5.3							
MMAI	**Mount Meron Ar**	**82.75**	**312**	P	**P**	**21**	**53**	**20.1 +2.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=53,slow=7.4,SNR=4.4							

*CSEM **20** 21:49:59.9±0.2, 3791N×2151E, h0km±1km, ML3.4, Error ellipse: s-maj=3.6km s-min=2.4km az=6.0*
*ISCJB **20** 21:49:59.7±0.7, 3794N±003×2152E±003, h1km±5km, mb3.5/2, Error ellipse: s-maj=5.4km s-min=3.6km az=88.8*
*ATH **20** 21:50:00.0, 3794N×2147E, h23km±1km, MD3.6/15, ML3.4*
*THE **20** 21:50:01.2, 3798N×2155E, h10km, ML3.5*
*NEIC **20** 21:50:02.0, 3798N×2142E, h10km, ML3.4(ATH), After ATH.*
*IDC **20** 21:50:06.9±5.5, 3776N×2170E, h78km±53km, mb3.2/2, mb1 3.1/4, mb1mx3.0/21, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=44.7km s-min=26.1km az=129.0*

ISC 20 21:50:00.9±0.6, 3792N±003×2149E±004, h10km±4km, n49, σ1§08/61, mb3.4/2, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RLS	**Riolos of Patr**	**0.14**	**352**	*e*PB	**Pg**	**21**	**50**	**04.6 +0.5**
RLS				*e*SB	**Sg**	**21**	**50**	**08.3 +2.0**
VLS	**Valsamata**	**0.76**

az=158.5

IDC ***20*** *21:56:55.0±2.4, 1763S×17834W, h570km±27km, mb3.6/8, mb1 3.8/9, mb1mx3.7/14, mbtmp3.6/9, Error ellipse: s-maj=22.1km s-min=13.7km az=152.0*

ISC 20 21:56:53.6±1.5, 178S±01×17820W±009, h556km±16km, n74, σ0 83/34, mb4.3/18, 8C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.05**	**251**	P	**P**	**22 00 02.2**	**-1.2**
	0.9nm,0.3s,baz=82,slow=19,SNR=5.5						
URZ	**Urewera**	**20.79**	**190**	P	**P**	**22 00 54.1**	**-2.4**
	5.5nm,0.4s,baz=354,slow=3.0,SNR=7.4						
ARMA	**Armidale**	**30.16**	**240**	*iP*	**P**	**22 02 20.4**	**+1.4**
CNB	**Canberra Magne**	**33.65**	**232**	*eP*	**P**	**22 02 49.8**	**+1.2**
	23nm,0.6s,mb4.9						
CTA	**Charters Tower**	**33.66**	**260**	*eP*	**P**	**22 02 48.9**	**+0.2**
	7.0nm,0.7s,mb4.3						
TOO	**Toolangi**	**37.39**	**231**	*eP*	**P**	**22 03 20.7**	**+1.1**
	16nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**38.85**	**241**	*iP*	**P**	**22 03 32.0**	**+0.6**
	14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.85**	**241**	P	**P**	**22 03 32.3**	**+0.9**
	18nm,0.5s,mb4.9,baz=96,slow=10,SNR=49						
WB2	**Warramunga Arr**	**44.83**	**259**	*iP*	**P**	**22 04 18.0**	**-0.5**
WB2				*eS*	**S**	**22 10 16.5**	**+0.8**
WRA	**Warramunga Arr**	**44.84**	**259**	P	**P**	**22 04 18.4**	**-0.2**
	9.5nm,0.5s,mb4.6,baz=93,slow=7.1,SNR=246						
WRA				PcP	PcP	22 05 48.4	+0.2
	2.2nm,0.8s,baz=90,slow=3.6,SNR=6.0						
WRA				S	**S**	**22 10 15.2**	**-0.7**
	0.3nm,0.7s,baz=99,slow=12,SNR=4.6						
AS31	**Alice Springs**	**45.01**	**254**	*iP*	**P**	**22 04 19.7**	**-0.1**
AS31				*eS*	**S**	**22 10 17.4**	**-0.7**
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**22 04 19.8**	**0.0**
	72nm,0.6s,mb5.4,baz=88,slow=8.3,SNR=853						
ASAR				PcP	PcP	22 05 49.0	+0.1
	2.7nm,0.8s,baz=111,slow=3.0,SNR=5.6						
ASAR				S	**S**	**22 10 17.9**	**-0.3**
	1.0nm,0.9s,baz=86,slow=14,SNR=7.7						
ASPA	**Alice Springs**	**45.01**	**254**	*iP*	**P**	**22 04 19.7**	**-0.1**
ASPA				*eS*	**S**	**22 10 17.4**	**-0.8**
KAKA	**Kakadu**	**47.78**	**269**	*iP*	**P**	**22 04 40.6**	**-0.2**
	20nm,0.5s,mb4.9						
FORT	**Forrest**	**50.23**	**245**	*eP*	**P**	**22 04 58.5**	**-0.3**
	42nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.24**	**260**	*eP*	**P**	**22 05 21.1**	**+0.6**
	6.3nm,0.8s,mb4.0						
KLBR	**Kellerberrin**	**59.05**	**243**	*eP*	**P**	**22 06 00.3**	**-0.2**
	23nm,0.7s,mb4.5						
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**22 06 11.4**	**+0.8**
	1.6nm,0.6s,mb3.5,baz=355,slow=6.9,SNR=9.2						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**22 06 56.2**	**-1.0**
	1.2nm,0.6s,mb3.6,baz=158,slow=5.8,SNR=6.1						
QSPA	**South Pole Qui**	**72.25**	**180**	*eP*	**P**	**22 07 23.2**	**+0.3**
	5.7nm,0.5s,mb4.3						
KSM	**Kuching**	**72.86**	**277**	*eP*	**P**	**22 07 27.7**	**+1.3**
KSRS	**Korea Array**	**74.75**	**318**	P	**P**	**22 07 37.0**	**0.0**
	1.5nm,0.8s,mb3.5,baz=132,slow=5.3,SNR=4.9						
CN2	**Changchun**	**80.05**	**322**	*eP*	**P**	**22 08 06.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.1						
PSI	**Prapat**	**84.07**	**275**	P	**P**	**22 08 26.5**	**+0.4**
	comp=Z,7.5nm,0.8s,mb4.3,baz=153,slow=3.9,SNR=7.4						
TXAR	**Lajitas Array**	**85.77**	**58**	P	**P**	**22 08 35.3**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.5,baz=217,slow=5.6,SNR=9.1						
SNAA	**Sanae**	**90.70**	**179**	*e*	**P**	**22 08 56.1**	**-1.2**
VNA3	**Neumayer Olymp**	**90.84**	**176**	*e*	**P**	**22 08 57.6**	**-0.4**
VNA3				*e*		22 09 01.4	
VNA2	**Neumayer--Watz**	**91.28**	**177**	*e*	**P**	**22 08 59.8**	**-0.2**
	baz=190,slow=4.0						
VNA2				*e*		22 09 01.6	
VNA2				*e*		22 09 04.6	
SONM	**Songino Array**	**93.59**	**319**	P	**P**	**22 09 09.2**	**-1.4**
	comp=Z,0.6nm,0.9s,mb3.7,baz=119,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**109.20**	**314**	PKiKP	PKiKP	22 14 19.1	-1.4
	comp=Z,0.4nm,0.6s,baz=88,slow=0.3,SNR=5.9						
ARCES	**ARCESS Array B**	**126.24**	**350**	PKP	PKPdf	22 14 51.4	-1.8
	comp=Z,1.6nm,0.7s,baz=0.0,slow=1.2,SNR=8.6						
ARCES	**ARCESS Array B**	**126.24**	**350**	PKP	PKPdf	22 14 51.4	-1.8
FINES	**FINESS Array B**	**133.14**	**344**	PKP	PKPdf	22 15 05.0	-1.3
	comp=Z,1.6nm,0.9s,baz=27,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**133.14**	**344**	PKP	PKPdf	22 15 05.0	-1.3
AKASG	**Malin Array Be**	**140.55**	**333**	PKhKP		22 15 12.5	
	comp=Z,0.3nm,0.3s,baz=50,slow=3.7,SNR=4.2						
STHS	**Stebnicka Huta**	**144.76**	**338**	*e*PKP	PKPdf	22 15 27.7	+0.4
BR131	**Keskin Array S**	**144.84**	**315**	*eP*	PKPdf	22 15 26.9	-0.6
BRTR	**Keskin Array B**	**144.84**	**315**	PKP	PKPdf	22 15 27.4	-0.1
	comp=Z,3.2nm,0.6s,baz=130,slow=4.4,SNR=19						
NIE	**Niedzica**	**145.09**	**339**	*eP*	PKPdf	22 15 28.8	+0.9
CLL	**Collm**	**145.40**	**348**	*iP*	PKPdf	22 15 28.8	+0.4
CLL	**Collm**	**145.40**	**348**	*iP*KPbc	PKPdf	22 15 28.8	+0.4
	comp=Z,10.0nm,0.7s						
UPC	**Upice**	**145.44**	**344**	*e*PKP	PKPdf	22 15 29.8	+1.3
DPC	**Dobruska-Polom**	**145.50**	**344**	*e*PKP	PKPdf	22 15 30.1	+1.5
BRG	**Berggiesshubel**	**145.61**	**346**	*i* P	PKPdf	22 15 29.8	+1.0
	comp=Z,3.9nm,0.9s						
MORC	**Moravsky Berou**	**145.67**	**342**	*iP*	PKPdf	22 15 30.2	+1.3
PVCC	**Panska Ves**	**145.78**	**345**	*e*PKP	PKPdf	22 15 30.9	+1.8
KECS	**Kecovo**	**145.82**	**338**	*e*PKP	PKPdf	22 15 30.2	+1.1
MLR	**Muntele Rosu**	**145.84**	**329**	*iP*	PKPdf	22 15 30.5	+1.3
MLR	**Muntele Rosu**	**145.84**	**329**	*i*P	PKPdf	22 15 30.5	+1.3
SNX	**Sinaia**	**146.15**	**329**	*iP*	PKPbc	22 15 32.5	+0.7
SNX	**Sinaia**	**146.15**	**329**	*i*P	PKPbc	22 15 32.5	+0.7
PRU	**Pruhonice**	**146.29**	**345**	*e*PKP	PKPbc	22 15 32.0	-0.2
DRGR		**146.33**	**334**	*iP*	PKPbc	22 15 32.5	+0.2
DRGR		**146.33**	**334**	*i*P	PKPbc	22 15 32.5	+0.2
VYHS	**Vyhne**	**146.39**	**339**	*e*PKP	PKPbc	22 15 32.1	-0.4
NKC	**Novy Kostel**	**146.53**	**348**	*e*PKP	PKPbc	22 15 32.7	-0.2
GRA1	**Grafenberg Arr**	**147.29**	**349**	*e*PKP	PKPbc	22 15 34.8	-0.1
KHC	**Kasperske Hory**	**147.32**	**346**	*e*PKP	PKPbc	22 15 34.5	-0.5
GZR	**Gura Zlata**	**147.39**	**332**	*iP*	PKPbc	22 15 34.8	-0.4
GZR	**Gura Zlata**	**147.39**	**332**	*i*P	PKPbc	22 15 34.8	-0.4
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	PKPbc	22 15 34.6	-1.0
	comp=Z,4.0nm,0.7s,baz=24,slow=2.6,SNR=32						
GIVF	**Givet**	**147.68**	**356**	*e*PKP1	PKPbc	22 15 35.2	-0.7
BZS	**Buzias**	**147.72**	**334**	*iP*	PKPbc	22 15 35.5	-0.5
BZS	**Buzias**	**147.72**	**334**	*i*P	PKPbc	22 15 35.5	-0.5
BAIF	**Baives**	**147.76**	**357**	*e*PKP1	PKPbc	22 15 35.5	-0.6
	comp=Z,21nm,0.8s						
FLN	**La Foliniere**	**149.06**	**3**	*e*PKP1	PKPbc	22 15 38.4	-0.9
	comp=Z,30nm,0.9s						
CDF	**Champ du Feu**	**149.14**	**353**	*e*PKP1	PKPbc	22 15 39.0	-0.5
	comp=Z,6.4nm,0.6s						
GRR	**Gorron**	**149.41**	**3**	*e*PKP1	PKPbc	22 15 39.3	-0.9
HAU	**Haudompre**	**149.64**	**354**	*e*PKP1	PKPbc	22 15 40.0	-0.7
HINF	**Hinteralfeld**	**149.78**	**353**	*e*PKP1	PKPbc	22 15 40.8	-0.2
	comp=Z,6.7nm,0.6s						
LOR	**Lormes**	**150.56**	**357**	*e*PKP1	PKPbc	22 15 42.3	-0.5
	comp=Z,7.2nm,0.5s						
SSF	**Saint Saulge**	**150.78**	**358**	*e*PKP1	PKPbc	22 15 42.9	-0.5
	comp=Z,7.8nm,0.6s						
CABF	**La Chapelle**	**151.05**	**354**	*e*PKP1	PKPbc	22 15 43.9	-0.1
TCF	**Toulx Ste Croi**	**151.59**	**359**	*e*PKP1	PKPbc	22 15 44.6	-0.6

IDC 20 22:05:03.8±2.1, 4681N×15513E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=52.3km s-min=33.2km az=95.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.21**	**258**	Pn	**Pn**	**22 07 19.1**	**+1.3**
	0.3nm,0.3s,baz=60,slow=32,SNR=5.3						
MJAR	**Matsushiro Arr**	**16.25**	**237**	Pn	Pn	22 08 51.3	-2.0
	0.3nm,0.3s,baz=34,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**48.14**	**298**	P	P	22 13 45.0	-0.5
	0.4nm,0.6s,baz=71,slow=9.3,SNR=6.0						
FINES	**FINESS Array B**	**64.57**	**336**	P	P	22 15 42.2	-0.5
	1.8nm,0.9s,baz=38,slow=7.8,SNR=7.7						
ASAR	**Alice Springs**	**72.72**	**200**	P	P	22 16 33.7	+0.1
	0.5nm,0.7s,baz=12,slow=6.9,SNR=5.5						

IDC 20 22:19:24.4±4.3, 4647N×15479E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=150.8km s-min=37.0km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	22 28 05.5	-0.3
	0.4nm,0.5s,baz=70,slow=9.1,SNR=5.3						
FINES	**FINESS Array B**	**64.78**	**336**	P	P	22 30 04.2	-0.5
	1.4nm,0.8s,baz=22,slow=4.9,SNR=3.3						
TXAR	**Lajitas Array**	**76.62**	**62**	P	P	22 31 17.1	+0.2
	0.4nm,0.5s,baz=305,slow=4.0,SNR=7.9						

IDC ***20*** *22:27:55.4±0.8, 4599N×15463E, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, ML3.4/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/35, Error ellipse: s-maj=20.8km s-min=17.2km az=148.0*

NEIC ***20*** *22:27:56.7±0.4, 4593N×15465E, h10km, mb4.9/11, Error ellipse: s-maj=12.2km s-min=6.8km az=141.0*

ISCJB ***20*** *22:27:58.4±0.5, 4587N±008×1548E±0.1, h35km, mb4.4/27, MS3.6/5, Error ellipse: s-maj=13.5km s-min=7.8km az=107.3*

BJI ***20*** *22:27:59.6, 4646N×15483E, h13km, mB4.8, mb4.2, Ms4.1, Msz3.7*

MOS ***20*** *22:28:03.3±1.7, 4563N×154.14E, h60km, mb4.8/12, Error ellipse: s-maj=13.0km s-min=8.9km az=108.9*

ISC 20 22:28:00.1±0.5, 4593N±008×15471E±010, h35km, n93, σ1 39/83, mb4.4/27, MS3.6/5, 9C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.85**	**11**	*eP*	**Pn**	**22 29 21.0**	**+10**
PET	**Petropavlovsk**	**7.55**	**18**	P	**Pn**	**22 29 45.4**	**-2.3**
ASAJ	**Asahikawa**	**8.77**	**262**	Pn	**Pn**	**22 30 02.8**	**-1.6**
	0.4nm,0.3s,baz=90,slow=20,SNR=2.4						
ASAJ				LR	LR	22 32 29.7	
	comp=Z,53nm,21.4s,baz=82,slow=31						
ERM	**Erimo**	**9.20**	**249**	P	**Pn**	**22 30 08.2**	**-2.1**
MJAR	**Matsushiro Arr**	**15.53**	**239**	Pn	**Pn**	**22 31 36.3**	**-0.1**
	0.2nm,0.3s,baz=33,slow=13,SNR=3.3						
CN2	**Changchun**	**20.80**	**275**	*eP*	**P**	**22 32 42.4**	**+4.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,12.0s,MS4.0						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS3.6						
KSRS	**Korea Array**	**21.64**	**257**	P	**P**	**22 32 48.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=67,slow=11,SNR=2.6						
KSRS				LR	LR	22 40 26.5	
	comp=Z,57nm,20.8s,MS3.0,baz=40,slow=35						
INCN	**Inchon**	**22.50**	**258**	P	**P**	**22 32 56.0**	**-0.5**
BILL	**Bilibino**	**22.97**	**11**	P	**P**	**22 32 59.5**	**-1.9**
HIA	**Hailar**	**23.68**	**291**	P	**P**	**22 33 07.4**	**-1.2**
BJT	**Baijiatuau**	**28.61**	**272**	*eP*	**P**	**22 33 52.1**	**-0.9**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BJT	**Baijiatuau**	**28.61**	**272**	*eP*	**P**	**22 33 52.1**	**-0.9**
	comp=Z,3.4nm,0.3s,mb4.5						
SONM	**Songino Array**	**32.66**	**291**	P	**P**	**22 34 27.6**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=61,slow=8.9,SNR=2.7						
SONM				LR	LR	22 48 02.7	
	comp=Z,87nm,19.1s,MS3.5,baz=32,slow=37						
GUMO	**Guam**	**33.29**	**198**	P	**P**	**22 34 33.4**	**-0.9**
IMA2	**Indian Mountai**	**33.83**	**35**	*eP*	**P**	**22 34 37.8**	**-1.2**
ZAK	**Zakamensk**	**34.03**	**297**	*eP*	**P**	**22 34 42.5**	**+1.8**
MCK	**McKinley**	**35.57**	**40**	*eP*	**P**	**22 34 53.1**	**-1.0**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
MCK	**McKinley**	**35.57**	**40**	*eP*	**P**	**22 34 53.1**	**-1.0**
	comp=Z,4.6nm,1.1s,mb4.3						
COLA	**College**	**36.11**	**38**	*eP*	**P**	**22 34 57.4**	**-1.2**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
COLA	**College**	**36.11**	**38**	*eP*	**P**	**22 34 57.4**	**-1.3**
	comp=Z,7.4nm,0.8s,mb4.7						
ENH	**Enshi**	**38.32**	**262**	P	**P**	**22 35 17.0**	**-0.4**
EGAK	**Eagle**	**38.97**	**38**	*eP*	**P**	**22 35 20.3**	**-2.6**
	comp=Z,8.5nm,1.0s,mb4.4						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**22 35 44.1**	**-1.8**
	comp=Z,2.5nm,0.6s,mb4.0,baz=289,slow=4.8,SNR=15						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**22 35 44.1**	**-1.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**41.76**	**32**	*eP*	**P**	**22 35 45.6**	**-0.4**
	comp=Z,55nm,0.4s,mb5.5						
ZAL	**Zalesovo**	**44.00**	**307**	P	**P**	**22 36 04.1**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=48,slow=8.0,SNR=7.0						
ZAL				PcP	PcP	22 37 53.7	+4.4
	comp=Z,1.2nm,0.9s,baz=342,slow=2.1,SNR=4.9						
ZAL				LR	LR	22 54 47.1	
	comp=Z,121nm,18.1s,MS3.9,baz=39,slow=37						
ZAL	**Zalesovo**	**44.00**	**307**	P	**P**	**22 36 04.1**	**0.0**
ZAL						22 37 53.7	
ZAL	**Zalesovo**	**44.00**	**307**	P	**P**	**22 36 04.1**	**0.0**
ZAL				PcP	PcP	22 37 53.7	+4.4
ZAL				LR	LR	22 54 47.1	
NVS	**Novosibirsk**	**44.57**	**309**	*eP*	**P**	**22 36 10.2**	**+1.6**
MK31	**Makanchi Array**	**48.30**	**299**	*eP*	**P**	**22 36 36.3**	**-1.6**
MKAR	**Makanchi Array**	**48.30**	**299**	P	**P**	**22 36 36.1**	**-1.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=69,slow=7.1,SNR=8.8						
RES	**Resolute Bay**	**51.27**	**19**	*eP*	**P**	**22 37 00.2**	**-0.3**
LSA	**Lhasa**	**51.43**	**275**	P	**P**	**22 37 01.6**	**-0.1**
BVAR	**Borovoye Array**	**52.23**	**311**	P	**P**	**22 37 06.9**	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.5,baz=53,slow=6.6,SNR=22						
BRVK	**Borovoye**	**52.27**	**311**	*eP*	**P**	**22 37 10.5**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
BRVK	**Borovoye**	**52.27**	**311**	*eP*	**P**	**22 37 10.5**	**+2.6**
	comp=Z,5.9nm,0.5s,mb4.8						
ARU	**Arti**	**56.36**	**318**	*iP*	**P**	**22 37 38.8**	**+1.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ARU	**Arti**	**56.36**	**318**	*eP*	**P**	**22 37 37.0**	**-0.7**
	comp=Z,9.2nm,0.4s,mb5.2						
KEV	**Kevo**	**58.48**	**341**	*ep*	**P**	**22 37 58.6**	**+5.9**
ARCES	**ARCESS Array B**	**58.99**	**341**	P	**P**	**22 37 56.0**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=44,slow=8.9,SNR=3.6						
ARCES				LR	LR	23 04 55.7	
	comp=Z,138nm,21.0s,MS4.1,baz=255,slow=38						
ARCES	**ARCESS Array B**	**58.99**	**341**	P	**P**	**22 37 56.0**	**-0.1**
ARCES				LR	LR	23 04 55.6	
PDAR	**Pinedale Array**	**64.33**	**54**	P	**P**	**22 38 32.7**	**+0.5**
	comp=Z,0.9nm,1.0s,mb3.8,baz=300,slow=3.3,SNR=5.5						
FINES	**FINESS Array B**	**65.25**	**336**	P	**P**	**22 38 38.4**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.4,baz=33,slow=7.3,SNR=18						
FINES	**FINESS Array B**	**65.25**	**336**	*i* P	**P**	**22 38 38.5**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN	**Obninsk**	**66.61**	**326**	*eP*	**P**	**22 38 48.1**	**+1.2**
OBN				pmax	pmax		
	comp=Z,28nm,2.2s,mb4.9						
OBN	**Obninsk**	**66.61**	**326**	P	**P**	**22 38 45.6**	**-1.3**
WRA	**Warramunga Arr**	**68.11**	**201**	P	**P**	**22 38 55.9**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=18,slow=6.7,SNR=5.6						
NOA	**NORSAR Array B**	**69.36**	**342**	P	**P**	**22 39 02.7**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.4,SNR=3.0						
NOA	**NORSAR Array B**	**69.36**	**342**	P	**P**	**22 39 02.7**	**-1.5**
ASAR	**Alice Springs**	**71.79**	**200**	P	**P**	**22 39 20.2**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=13,slow=5.3,SNR=9.1						
KIV	**Kislovodsk**	**72.16**	**315**	*eP*	**P**	**22 39 25.4**	**+4.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**72.16**	**315**	P	**P**	**22 39 20.9**	**-0.3**
AKASG	**Malin Array Be**	**72.84**	**327**	P	**P**	**22 39 26.2**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=33,slow=6.1,SNR=6.7						
AKASG	**Malin Array Be**	**72.84**	**327**	P	**P**	**22 39 26.2**	**+0.9**
KWP	**Kalwaria**	**76.09**	**330**	*eP*	**P**	**22 39 47.9**	**+3.7**
BURAR	**Bucovina Array**	**76.88**	**328**	*iP*	**P**	**22 39 50.5**	**+1.9**
BURAR	**Bucovina Array**	**76.88**	**328**	*i*P	**P**	**22 39 50.5**	**+1.9**
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**22 39 51.3**	**+2.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=4.2,SNR=25						
OKC	**Ostrava-Krasne**	**77.43**	**333**	*eP*	pP	22 40 01.4	-1.3
UPC	**Upice**	**77.51**	**334**	*eP*	pP	22 40 00.5	-2.6
DPC	**Dobruska-Polom**	**77.55**	**334**	*eP*	pP	22 39 59.1	-4.2
CLL	**Collm**	**77.67**	**337**	*eP*	**P**	**22 39 57.0**	**+4.0**
CLL				*i* pP	pP	22 40 01.0	-3.0
	comp=Z,8.0nm,0.9s						
CLL				*i* PcP	PcP	22 40 17.1	+14
MORC	**Moravsky Berou**	**77.68**	**333**	*iP*	pP	22 40 00.9	-3.1
MORC	**Moravsky Berou**	**77.68**	**333**	*i*P	pP	22 40 00.9	-3.1
BRG	**Berggiesshubel**	**77.79**	**336**	*eP*	**P**	**22 39 57.7**	**+4.0**
	comp=Z,7.7nm,1.6s,mb4.4						
BRG	**Berggiesshubel**	**77.79**	**336**	*eP*	**P**	**22 39 57.7**	**+4.0**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
PVCC	**Panska Ves**	**77.92**	**335**	*eP*	**P**	**22 39 59.3**	**+4.9**
MLR	**Muntele Rosu**	**78.37**	**326**	*iP*	**P**	**22 40 00.5**	**+3.6**
MLR	**Muntele Rosu**	**78.37**	**326**	*i*P	**P**	**22 40 00.5**	**+3.6**
PRU	**Pruhonice**	**78.41**	**335**	*eP*	**P**	**22 40 00.9**	**+3.8**
MALT	**Malatya**	**78.52**	**314**	*iP*	pP	22 40 04.9	-3.8
MALT	**Malatya**	**78.52**	**314**	*i*P	pP	22 40 04.9	-3.9
SNX	**Sinaia**	**78.65**	**326**	*iP*	pP	22 40 07.8	-1.6
SNX	**Sinaia**	**78.65**	**326**	*i*P	pP	22 40 07.8	-1.7
KHC	**Kasperske Hory**	**79.45**	**335**	*eP*	**P**	**22 40 06.2**	**+3.3**
KHC	**Kasperske Hory**	**79.45**	**335**	*i*P	**P**	**22 40 05.0**	**+2.1**
GZR	**Gura Zlata**	**79.66**	**328**	*i*P	PcP	22 40 18.6	+6.9
GERES	**GERESS Array B**	**79.67**	**335**	P	**P**	**22 40 04.3**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=23,slow=7.2,SNR=5.7						
BRTR	**Keskin Array B**	**79.75**	**318**	P	**P**	**22 40 06.2**	**+1.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=35,slow=3.5,SNR=2.9						
PKSM	**Moragy**	**80.43**	**331**	*i*P	**P**	**22 40 13.0**	**+4.8**
CDF	**Champ du Feu**	**81.83**	**339**	*eP*	**P**	**22 40 16.0**	**+0.4**
GRR	**Gorron**	**83.67**	**344**	*eP*	**P**	**22 40 25.8**	**+0.6**
	comp=Z,89nm,1.4s,mb5.4						
GRR	**Gorron**	**83.67**	**344**	*eP*	**P**	**22 40 25.8**	**+0.6**
GRR				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.4						
GRR	**Gorron**	**83.67**	**344**	*eP*	**P**	**22 40 25.8**	**+0.6**
	comp=Z,45nm,1.4s,mb5.4						
SMF	**Signal de Mont**	**84.32**	**340**	*eP*	**P**	**22 40 29.2**	**+0.7**
	comp=Z,22nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**84.32**	**340**	*eP*	**P**	**22 40 29.2**	**+0.7**
SMF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**84.32**	**340**	*eP*	**P**	**22 40 29.2**	**+0.7**
	comp=Z,11nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.67**	**338**	*eP*	**P**	**22 40 32.1**	**+1.9**
	comp=Z,34nm,1.4s,mb5.0						
LPG	**La Plagne**	**84.67**	**338**	*eP*	**P**	**22 40 32.1**	**+1.9**
LPG				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
LPG	**La Plagne**	**84.67**	**338**	*eP*	**P**	**22 40 32.1**	**+1.9**
	comp=Z,17nm,1.4s,mb5.0						
CAF	**Calviac**	**86.35**	**341**	*eP*	**P**	**22 40 39.8**	**+1.2**
	comp=Z,68nm,1.6s,mb5.3						
CAF	**Calviac**	**86.35**	**341**	*eP*	**P**	**22 40 39.8**	**+1.2**
CAF				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.3						
CAF	**Calviac**	**86.35**	**341**	*eP*	**P**	**22 40 39.8**	**+1.2**
	comp=Z,34nm,1.6s,mb5.3						

IDC ***20*** *22:31:49.7±0.8, 4658N×153.15E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/24, mbtmp3.9/15, ML3.4/1, Error ellipse: s-maj=21.4km s-min=18.0km az=138.0*

NEIC ***20*** *22:31:51.6±0.5, 4659N×153.10E, h10km, mb4.3/8, Error ellipse: s-maj=11.5km s-min=7.6km az=130.0*

ISCJB ***20*** *22:31:53.4±0.5, 4649N±008×15325E±009, h35km, mb4.2/24, Error ellipse: s-maj=12.9km s-min=6.6km az=108.2*

BJI ***20*** *22:31:53.3, 4679N×15290E, h7km, mB4.9, mb4.4*

MOS ***20*** *22:31:54.9±2.1, 4664N×15307E, h49km, mb4.5/6, Error ellipse: s-maj=11.3km s-min=8.2km az=91.3*

**ISC 20 22:31:55.5±0.5, 4666N±007×15322E±009, h35km, n70, σ1 49/71, mb4.3/24

comp=Z,4.0nm,0.6s,mb4.5,baz=33,slow=6.1,SNR=18
ASAR Alice Springs 72.14 199 P P 22 43 16.0 -0.5
comp=Z,0.8nm,0.6s,mb3.8,baz=14,slow=5.2,SNR=7.5
BURAR Bucovina Array 75.71 327 P 22 43 38.1 +0.8
BURAR Bucovina Array 75.71 327 P 22 43 38.1 +0.8
CLL Collm 76.58 336 *i* P **P 22 43 43.4 +1.1**
comp=Z,5.0nm,0.7s,mb4.5
MLR Muntele Rosu 77.19 325 *i*P **P 22 43 47.2 +1.5**
MLR Muntele Rosu 77.19 325 P P 22 43 47.1 +1.5
DRGR 77.33 328 *i*P **P 22 43 45.7 -0.8**
DRGR 77.33 328 P P 22 43 45.7 -0.8
TXAR Lajitas Array 77.47 61 P P 22 43 48.0 +0.7
comp=Z,0.7nm,0.6s,mb3.8,baz=308,slow=5.0,SNR=8.8
VOIR 77.58 325 *i*P **P 22 43 49.8 +1.9**
VOIR 77.58 325 P P 22 43 49.8 +1.9
KHC Kasperske Hory 78.36 334 *e*P **P 22 43 53.0 +0.8**
BRTR Keskin Array B 78.51 317 P P 22 43 52.4 -0.6
comp=Z,0.6nm,0.7s,mb3.6,baz=69,slow=4.1,SNR=4.0
GERES GERESS Array B 78.57 334 P P 22 43 52.9 -0.5
comp=Z,0.8nm,0.6s,mb3.8,baz=29,slow=6.1,SNR=7.5
BZS Buzias 78.73 328 *i*P **P 22 43 56.0 +1.7**
BZS Buzias 78.73 328 P P 22 43 56.0 +1.7
VTS Vitosha 80.69 325 *i*P **P 22 44 06.3 +1.4**
VTS Vitosha 80.69 325 P P 22 44 06.3 +1.4

ISCJB ***20*** *22:56:26.1±0.3, 4650N×002×676E×003, h8km±7km, Error ellipse: s-maj=3.1km s-min=2.5km az=143.2*
ZUR ***20*** *22:56:26.9, 4649N×688E, h-4km, ML1.2/4*
LDG ***20*** *22:56:27.7±0.1, 4651N×691E, h2km, Md2.2/3, Ml2.1/16, Error ellipse: s-maj=1.2km s-min=0.6km az=82.0*
NEIC ***20*** *22:56:27.7, 4651N×691E, h2km, ML2.1(LDG), After LDG. NEIC Felt at Blonay.*
STR ***20*** *22:56:29.2±1.8, 4649N×703E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 22:56:27.3±0.3, 4650N±001×684E±003, h13km±6km, n32, σ0§80/54, 2C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIGLE	**Aigle**	**0.17**	**152**	*e*Pg	**Pg**	**22 56 31.0**	**-0.3**
	397nm,0.2s						
AIGLE				*i* Sg	**Sg**	**22 56 33.5**	**-0.6**
	397nm,0.2s						
GRYON	**Gryon**	**0.31**	**142**	*i* Sg	**Pg**	**22 56 33.6**	**-0.1**
	31nm,0.2s						
GRYON	**Gryon**	**0.31**	**142**	⇓*i*Pg	**Sg**	**22 56 38.0**	**+0.1**
	31nm,0.2s						
SALAN	**Lac Salanfe**	**0.36**	**165**	*e*Sg	**Pg**	**22 56 34.9**	**+0.3**
	36nm,0.2s						
SALAN	**Lac Salanfe**	**0.36**	**165**	⇑*i*Pg	**Sg**	**22 56 39.7**	**+0.1**
	36nm,0.2s						
GIMEL	**Gimel**	**0.40**	**276**	⇓*i*P	**Pg**	**22 56 36.5**	**+1.3**
GIMEL				*i* S	**Sg**	**22 56 44.3**	**+3.7**
CABF	**La Chapelle**	**0.53**	**283**	*e*Pg	**Pg**	**22 56 38.5**	**+0.8**
CABF				*e*Sg	**Sg**	**22 56 46.4**	**+1.7**
	26nm,0.5s						
LKBD	**Leukerbad**	**0.56**	**101**	*i* Sg	**Pg**	**22 56 38.2**	**-0.1**
	18nm,0.2s						
LKBD	**Leukerbad**	**0.56**	**101**	⇓*i*Pg	**Sg**	**22 56 46.2**	**+0.5**
	18nm,0.2s						
WIMIS	**Wimmis**	**0.57**	**72**	*i* Sg	**Sg**	**22 56 46.7**	**+0.7**
LOMF	**Lomont**	**0.86**	**360**	Pg	**Pg**	**22 56 45.3**	**+1.4**
LOMF				Sg	**Sg**	**22 56 58.5**	**+3.4**
LPL	**La Plagne**	**0.98**	**184**	*e*Pg	**Pg**	**22 56 46.5**	**+0.2**
LPL				*e*Sg	**Sg**	**22 56 59.6**	**+0.5**
	7.1nm,0.5s						
LPG	**La Plagne**	**1.00**	**183**	*e*Pg	**Pg**	**22 56 46.8**	**+0.2**
LPG				*e*Sg	**Sg**	**22 57 00.3**	**+0.7**
	7.7nm,0.3s						
BALST	**Balsthal**	**1.03**	**35**	⇑*i*Pn	**Pn**	**22 56 47.5**	**0.0**
HINF	**Hinteralfeld**	**1.32**	**1**	*e*Pg	**Pg**	**22 56 52.8**	**0.0**
HINF				*e*Sg	**Sg**	**22 57 09.0**	**-1.0**
	5.9nm,0.2s						
SULZ	**Sulz-Cheisache**	**1.35**	**40**	⇓*i*P	**Pn**	**22 56 53.6**	**+1.6**
MOF	**Molkenrain**	**1.37**	**8**	Pg	**Pg**	**22 56 54.0**	**+0.3**
HAU	**Haudompre**	**1.55**	**348**	*e*Pg	**Pg**	**22 56 56.6**	**-0.5**
HAU				*e*Sg	**Sg**	**22 57 16.3**	**-0.9**
	9.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.71**	**203**	*e*Pg	**Pg**	**22 57 00.1**	**-0.1**
ORIF				*e*Sg	**Sg**	**22 57 22.9**	**+0.5**
	5.0nm,0.4s						
ECH	**Echery**	**1.74**	**7**	Pg	**Pg**	**22 57 03.8**	**+3.1**
ECH				Sg	**Sg**	**22 57 24.2**	**+1.0**
MBDF	**Montbardon**	**1.77**	**181**	*e*Pg	**Pg**	**22 57 01.0**	**-0.3**
MBDF				*e*Sg	**Sg**	**22 57 24.0**	**-0.2**
	0.5nm,0.3s						
CDF	**Champ du Feu**	**1.94**	**9**	*e*Pg	**Pg**	**22 57 03.4**	**-1.2**
CDF				*e*Sg	**Sg**	**22 57 28.2**	**-1.6**
	2.0nm,0.3s						
SMF	**Signal de Mont**	**2.07**	**275**	*e*Pg	**Pg**	**22 57 06.9**	**-0.2**
SMF				*e*Sg	**Sg**	**22 57 34.4**	**+0.5**
	2.1nm,0.2s						
SFTF	**Sexfontaines**	**2.10**	**325**	*e*Pg	**Pg**	**22 57 07.4**	**-0.3**
SFTF				*e*Sg	**Sg**	**22 57 34.4**	**-0.5**
	3.5nm,0.3s						
LOR	**Lormes**	**2.18**	**292**	*e*Pg	**Pg**	**22 57 09.6**	**+0.4**
LOR				*e*Sg	**Sg**	**22 57 37.3**	**-0.2**
	1.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.23**	**224**	*e*Pg	**Pg**	**22 57 10.4**	**+0.2**
VIVF				*e*Sg	**Sg**	**22 57 39.2**	**+0.1**
	3.3nm,0.3s						
MEZF	**Maizieres J'vi**	**2.34**	**330**	*e*Pg	**Pg**	**22 57 11.6**	**-0.7**
MEZF				*e*Sg	**Sg**	**22 57 41.9**	**-0.8**
	2.3nm,0.3s						
SSF	**Saint Saulge**	**2.36**	**285**	*e*Pg	**Pg**	**22 57 12.2**	**-0.3**
SSF				*e*Sg	**Sg**	**22 57 43.2**	**+0.1**
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**2.42**	**278**	*e*Pg	**Pg**	**22 57 13.4**	**-0.3**
AVF				*e*Sg	**Sg**	**22 57 45.3**	**+0.3**
	0.8nm,0.3s						
SBF	**Sospel**	**2.67**	**171**	*e*Pg	**Pg**	**22 57 17.5**	**-0.9**
SBF				*e*Sg	**Sg**	**22 57 51.3**	**-1.7**
	2.3nm,0.3s						
HYF	**Humbligny**	**2.98**	**287**	*e*Pg	**Pg**	**22 57 23.6**	**-0.9**
HYF				*e*Sg	**Sg**	**22 58 02.7**	**-0.4**
LASF	**Ste Croix**	**3.20**	**222**	*e*Pg	**Pg**	**22 57 28.1**	**-0.6**
LASF				*e*Sg	**Sg**	**22 58 09.5**	**-0.8**
	0.9nm,0.2s						

CSEM ***20*** *22:59:16.7±0.1, 3788N×27.14E, h20km, MD3.3, Error ellipse: s-maj=1.6km s-min=1.0km az=79.0*
ISK ***20*** *22:59:16.6, 3791N×27.18E, h15km, MD3.3*
ISCJB ***20*** *22:59:17.8±0.5, 3789N±004×2703E±006, h33km±6km, Error ellipse: s-maj=8.6km s-min=5.4km az=128.1*
NEIC ***20*** *22:59:17.0, 3783N×2702E, h32km, MD3.1(ATH), MD3.3(ISK), After ISK.*
ATH ***20*** *22:59:17.0, 3801N×2687E, h25km±4km, MD3.1/3*
ISC 20 22:59:18.3±0.6, 3786N±004×2702E±006, h33km±6km, n22, σ1§11/28, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.21**	**224**	⇑*i*PB	**Pb**	**22 59 23.3**	**-1.6**
SMG				*e*SB	**Sb**	**22 59 30.1**	**+0.6**
KDAG	**Bornova**	**0.57**	**20**	*i* P	**Pb**	**22 59 21.3**	**-8.7**
KDAG				*i* S	**Sb**	**22 59 27.2**	**-11**
MLSB	**Milas**	**0.82**	**133**	PG	**Pn**	**22 59 32.5**	**-1.1**
MLSB				SG	**Sb**	**22 59 43.4**	**-1.6**
BODT	**Bodrum**	**0.83**	**164**	PG	**Pn**	**22 59 33.3**	**-0.4**
BDRM	**Kayabasi**	**0.86**	**157**	*i* P	**Pn**	**22 59 33.3**	**-0.8**
BDRM				*i* S	**Sb**	**22 59 48.5**	**+2.4**
DAT	**Datca**	**1.22**	**158**	*e*PN	**Pn**	**22 59 40.3**	**+1.3**
YER	**Yerkesik**	**1.24**	**125**	*e*PN	**Pn**	**22 59 38.7**	**-0.6**
APE	**Apeiranthos**	**1.42**	**237**	*e*PN	**Pn**	**22 59 45.6**	**+1.2**
AYVA	**Ayvalik**	**1.47**	**350**	*i* P	**Pn**	**22 59 39.6**	**-2.8**
PRK	**Paraskevi**	**1.50**	**337**	*e*PN	**Pn**	**22 59 41.1**	**-1.8**
PRK				*e*SN	**Sn**	**23 00 00.4**	**-0.9**
DNZL	**Cakiroluk**	**1.61**	**95**	*i* P	**Pb**	**22 59 48.1**	**+0.6**
DALT	**Dalyan (Mudla)**	**1.69**	**130**	*e*PN	**Pn**	**22 59 45.4**	**-0.1**
ARG	**Arkhangelos**	**1.86**	**151**	*e*PN	**Pb**	**22 59 52.2**	**+0.5**
KHL	**Karahalli**	**2.03**	**76**	*e*PN	**Pn**	**22 59 48.9**	**-1.2**
FETY	**Fethiye**	**2.05**	**126**	*e*PN	**Pn**	**22 59 50.3**	**-0.2**
CANB	**Canakkale**	**2.15**	**1**	*e*PN	**Pn**	**22 59 51.9**	**0.0**
ULDT	**Uludag**	**2.81**	**35**	*i* P	**Pn**	**23 00 02.5**	**+1.5**
ULDT				*i* S	**Sn**	**23 00 34.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.83**	**2**	*e*PN	**Pn**	**23 00 01.9**	**+0.8**
MFT	**Murefte**	**2.93**	**4**	*e*PN	**Pn**	**23 00 03.4**	**+0.9**
IZI	**Iznik**	**3.12**	**37**	*e*PN	**Pn**	**23 00 05.6**	**+0.4**
YLV	**Yalova**	**3.26**	**33**	*e*PN	**Pn**	**23 00 07.4**	**+0.3**
EDRB	**Edirne**	**3.99**	**357**	*e*PN	**Pn**	**23 00 18.3**	**+1.2**

IDC ***20*** *23:03:00.2±3.7, 4691N×1535.4E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=98.3km s-min=35.7km az=2.0*
MOS ***20*** *23:03:04.1±1.0, 4710N×1533.9E, h33km, mb4.4/4, Error ellipse: s-maj=55.5km s-min=23.7km az=82.2*
ISCJB ***20*** *23:03:05.1±1.9, 4721N±003×1536E±003, h35km, mb3.9/6, Error ellipse: s-maj=43.1km s-min=22.1km az=130.7*
ISC 20 23:03:06.6±1.9, 4721N±003×1536E±003, h35km, n12, σ0§51/12, mb3.9/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.91**	**25**	*e*PN	**Pn**	**23 04 04.0**	**-0.1**
INK	**Inuvik**	**41.14**	**33**	P	**P**	**23 10 48.3**	**+0.9**
	1.3nm,0.6s,mb3.7,baz=265,slow=4.1,SNR=4.6						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**23 10 48.3**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**23 11 34.9**	**+0.5**
	comp=Z,0.2nm,0.7s,mb3.1,baz=65,slow=8.1,SNR=2.9						
FINES	**FINESS Array B**	**63.79**	**335**	P	**P**	**23 13 34.7**	**-0.4**
	comp=Z,3.5nm,1.0s,mb4.3,baz=44,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**63.79**	**335**	P	**P**	**23 13 34.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**67.93**	**341**	P	**P**	**23 13 55.6**	**-6.2**
	comp=Z,13nm,1.4s,mb4.8,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.93**	**341**	P	**P**	**23 14 01.1**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**67.93**	**341**	P	**P**	**23 14 01.1**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**68.17**	**340**	P	**P**	**23 14 03.3**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.4,baz=52,slow=7.8,SNR=8.4						
HFS	**Hagfors**	**68.17**	**340**	P	**P**	**23 14 03.3**	**0.0**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**23 14 55.6**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=311,slow=4.7,SNR=3.5						

IDC ***20*** *23:05:51.6±0.4, 4644N×1550.4E, h0km, mb4.7/30, mb1 4.8/31, mb1mx4.8/32, mbtmp4.7/31, ML4.3/1, MS3.9/21, Ms1 3.9/21, ms1mx3.7/33, Error ellipse: s-maj=14.1km s-min=10.8km az=144.0*
ISCJB ***20*** *23:05:52.9±0.1, 4652N±004×1550.1E±002, h14km, mb4.9/154, MS4.1/31, Error ellipse: s-maj=5.4km s-min=2.1km az=166.7*
GCMT ***20*** *23:05:54.2±0.4, 4644N×1552.3E, h13km±1km, MW4.8/65, Moment Tensor Solution. s18,c21; s65,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.89±.16; Mθθ1.06±.10; Mϕϕ0.82±.09; Mrθ0.57±.25; Mϕθ0.80±.05; Mrϕ0.05±.26; Best double couple: M0 1.90500×10^16 NP1:ϕs238.00000°, δ53.00000°, λ-79.00000°. NP2: ϕs238.00000°, δ53.00000°, λ-104.00000°. Principal axes: T 1.8110, Plg7.0000°, Azm321.0000°; N 0.1860, Plg9.0000°, Azm52.0000°; P -1.9990, Plg79.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *23:05:54.2±2.9, 4653N×1549.9E, h11km±17km, mb5.0/80 Error ellipse: s-maj=5.4km s-min=3.0km az=167.0*
BJI ***20*** *23:05:55.7, 4670N×1543.9E, h11km, mB5.0, mb4.9, Ms4.6, Msz4.4*
SKHL ***20*** *23:05:56.8±1.8, 4674N×1550.6E, h57km±27km, mb5.5/1, mbh5.1/1, Ms4.7/3, msh4.7/1*
MOS ***20*** *23:05:57.6±1.1, 4651N×1549.1E, h50km, mb5.1/60, Error ellipse: s-maj=7.2km s-min=5.1km az=103.3*
SZGRF ***20*** *23:06:04.5, 4778N×1557.7E, h33km, mb4.8, East of Kuril Islands, Russia*
ISC 20 23:05:55.1±0.1, 4662N±004×15495E±002, h14km, h14km±.9km:pP-P, n624, σ0§81/630, mb4.9/154, MS4.1/31, 94C-97D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.14**	**10**	*e*P	**Pn**	**23 06 55.9**	**-1.9**
SKR				AMB	AMB	23 07 02.5	
	150nm,0.5s						
SKR				*e*S	**Sn**	**23 07 41.6**	**-4.3**
SKR				A		23 07 47.8	
	2µm,6.0s						
SKR				A		23 07 47.8	
	2µm,6.0s						
SKR				A		23 07 47.8	
	740nm,0.6s						
SKR				A		23 07 47.8	
	160nm,0.6s						
SKR				A		23 07 47.8	
	560nm,0.6s						
PET	**Petropavlovsk**	**6.84**	**19**	*e*Pn	**Pn**	**23 07 32.6**	**-2.3**
PET				*e*Sn	**Sn**	**23 08 45.6**	**-7.0**
YUK	**Yuzh-Kuril'sk**	**6.91**	**251**	*e*P	**Pn**	**23 07 35.7**	**-0.2**
YUK				*e*S	**Sn**	**23 08 48.5**	**-5.8**
YUK				A		23 08 54.0	
	230nm,0.5s						
YUK				A		23 08 54.0	
	380nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.38**	**277**	⇓*e*P	**Pn**	**23 07 59.0**	**+3.0**
YSS				*e*S	**Sn**	**23 09 21.5**	**-8.9**
YSS				A		23 09 22.6	
	30nm,1.0s						
YSS				*e*LQ		23 09 50.0	
YSS				AMS	AMS	23 12 58.0	
	1µm,14.0s						
YSS				AMS	AMS	23 12 58.0	
	600nm,13.0s						
YSS				AMS	AMS	23 12 58.0	
	1µm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.38**	**277**	*e*Pn	**Pn**	**23 07 58.1**	**+2.1**
JMP	**Maruseppu**	**8.58**	**256**	P	**Pn**	**23 07 58.2**	**-0.6**
UGL	**Uglegorsk**	**9.01**	**291**	*e*P	**Pn**	**23 08 06.0**	**+1.3**
UGL				*e*L		23 10 10.0	
UGL				AMS	AMS	23 13 24.0	
	1µm,11.0s						
UGL				AMS	AMS	23 13 24.0	
	2µm,13.0s						
UGL				AMS	AMS	23 13 24.0	
	2µm,13.0s						
ASAJ	**Asahikawa**	**9.05**	**258**	Pn	**Pn**	**23 08 05.3**	**+0.1**
	3.3nm,0.3s,baz=95,slow=14,SNR=23						
ASAJ				LR	LR	23 11 43.9	
	comp=Z,121nm,21.3s,baz=286,slow=39						
ASAJ	**Asahikawa**	**9.05**	**258**	P	**Pn**	**23 08 05.5**	**+0.2**
TYV	**Tymovskoe**	**9.16**	**302**	*e*P	**Pn**	**23 08 09.0**	**+2.2**
TYV				AMB	AMB	23 08 11.8	
	13nm,0.8s						
TYV				AMB	AMB	23 08 11.8	
	29nm,0.8s						
TYV				AMB	AMB	23 08 18.0	
	500nm,6.0s						
TYV				AMB	AMB	23 08 18.0	
	1µm,6.0s						
TYV				*e*S	**Sn**	**23 09 50.0**	**+0.3**
TYV				A		23 09 51.8	
	35nm,1.0s						
TYV				AMS	AMS	23 13 39.0	
	1µm,12.0s						
TYV				AMS	AMS	23 13 39.0	
	2µm,12.0s						
TYV				AMS	AMS	23 13 39.0	
	2µm,12.0s						
JEM	**Erimo**	**9.62**	**246**	P	**Pn**	**23 08 10.8**	**-2.3**
JEW	**Eniwo**	**10.32**	**253**	P	**Pn**	**23 08 21.8**	**-0.9**
OKH	**Okha**	**10.37**	**316**	*e*L		23 12 08.0	
OKH				AMS	AMS	23 13 46.2	
	3µm,12.0s						
OKH				AMS	AMS	23 13 46.2	
	2µm,12.0s						
OKH				AMS	AMS	23 13 46.2	
	2µm,12.0s						
NKL	**Nikolayevsk**	**11.28**	**311**	*e*P	**Pn**	**23 08 34.5**	**-1.3**
NKL				AMB	AMB	23 08 37.0	
	220nm,1.8s						
JSH	**Shimam**	**11.34**	**255**	P	**Pn**	**23 08 35.1**	**-1.5**
JTM	**Tenmabayashi**	**11.61**	**245**	P	**Pn**	**23 08 35.7**	**-4.6**
JOM	**Ohasama**	**12.27**	**239**	P	**Pn**	**23 08 43.9**	**-5.5**
MA2	**Magadan**	**13.21**	**351**	*e*PN	**Pn**	**23 09 02.9**	**+0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2				MLR	MLR		
	comp=Z,600nm,17.0s						
HABR	**Khabarovsk**	**13.57**	**285**	*e*P	**Pn**	**23 09 05.7**	**-1.4**
HABR				S	**Sn**	**23 11 35.9**	**-1.7**
JSD	**Sado**	**15.01**	**241**	P	**Pn**	**23 09 21.5**	**-5.2**
KLR	**Kul'dur**	**15.76**	**288**	*e*P	**Pn**	**23 09 36.7**	**+0.2**
KLR				*e*S	**Sn**	**23 12 40.4**	**+10**
KLR				MLR	MLR		
	comp=E,800nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2µm,12.0s						
JRY	**Ryogami san**	**16.02**	**234**	P	**Pn**	**23 09 36.0**	**-3.9**
MAJO	**Matsushiro**	**16.04**	**237**	*e*P	**Pn**	**23 09 36.2**	**-4.0**
MAT	**Matsushiro**	**16.04**	**237**	P	**Pn**	**23 09 35.6**	**-4.6**
MAT	**Matsushiro**	**16.04**	**237**	P	**Pn**	**23 09 35.7**	**-4.5**
MJAR	**Matsushiro Arr**	**16.04**	**237**	Pn	**Pn**	**23 09 35.2**	**-5.0**
	comp=Z,0.5nm,0.3s,baz=33,slow=11,SNR=23						
MJAR	**Matsushiro Arr**	**16.04**	**237**	Pn	**Pn**	**23 09 35.2**	**-5.0**
SEY	**Seymchan**	**16.41**	**356**	⇓*e*P	**Pn**	**23 09 43.4**	**-1.5**
JHJ	**Hachijo jima 2**	**17.77**	**226**	LR	LR	23 15 29.9	
	comp=Z,50nm,21.7s,baz=103,slow=33						
MDJ	**Mudanjiang**	**17.83**	**273**	P	**Pn**	**23 10 01.5**	**-1.2**
MDJ				S	**Sn**	**23 13 22.5**	**+1.3**
MDJ				SCP	ScP	23 18 14.6	+0.6
MDJ				AMB	AMB		
	comp=Z,42nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,115nm,5.9s						
MDJ				LR	LR		
	comp=Z,263nm,31.7s						
MDJ	**Mudanjiang**	**17.83**	**273**	*e*Pn	**Pn**	**23 10 01.6**	**-1.1**
	comp=Z,38nm,0.9s						
ZEA	**Zeya**	**19.03**	**302**	*e*P	**Pn**	**23 10 13.2**	**-4.1**
ZEA				AMB	AMB	23 10 16.0	
	comp=Z,28nm,1.2s						
CN2	**Changchun**	**20.92**	**273**	*e*P	**P**	**23 10 34.1**	**-3.1**
CN2				*e*AP		23 10 38.3	
CN2				*e*S	**S**	**23 14 21.4**	**-8.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,13.0s,MS4.2						
CN2				LR	LR		
	comp=E,600nm,13.0s,MS4.2						
CN2				LR	LR		
	comp=Z,700nm,14.0s,MS4.2						
CLNS	**Chul'man**	**21.07**	**310**	*e*P	**P**	**23 10 37.7**	**-1.0**
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
YAK	**Yakutsk**	**21.12**	**326**	*d* iP	**P**	**23 10 38.3**	**-1.0**
YAK				*e*		23 10 59.5	
YAK				*e*S	**S**	**23 14 31.3**	**-2.6**
YAK				*e**SS	sS	23 14 45.4	+4.9
YAK				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,20nm,1.2s						
YAK				pmax	pmax		
	comp=E,25nm,1.2s						
YAK				pmax	pmax		
	comp=Z,33nm,0.7s,mb4.8						
YAK				pmax	pmax		
	comp=N,90nm,1.9s						
YAK				pmax	pmax		
	comp=E,55nm,1.4s						
YAK				smax			
	comp=N,203nm,2.2s						
YAK				smax			
	comp=E,218nm,2.3s						
YAK				MLR	MLR		
	comp=Z,333nm,15.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,287nm,13.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,251nm,14.0s,MS4.0						
YAK	**Yakutsk**	**21.12**	**326**	*e*P	**P**	**23 10 38.7**	**-0.6**
	comp=E,72nm,0.8s,mb5.1						
KSRS	**Korea Array**	**21.98**	**255**	P	**P**	**23 10 48.8**	**+0.2**
	comp=E,25nm,0.8s,mb4.7,baz=59,slow=10,SNR=20						
KSRS				LR	LR	23 18 13.3	
	comp=E,163nm,19.6s,MS3.5,baz=36,slow=34						
KS15	**Wonju Array Si**	**22.01**	**255**	*e*P	**P**	**23 10 49.2**	**+0.4**
BILL	**Bilibino**	**22.25**	**11**	*c* iP	**P**	**23 10 51.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,91nm,0.8s,mb5.3						
BILL	**Bilibino**	**22.25**	**11**	*e*P	**P**	**23 10 50.9**	**-0.5**
	comp=Z,87nm,0.8s,mb5.2						
JNU	**Nakatsue**	**22.76**	**242**	P	**P**	**23 10 57.0**	**+0.1**
	comp=Z,31nm,0.8s,mb4.8,baz=215,slow=19,SNR=6.3						
INCN	**Inchon**	**22.82**	**257**	*e*P	**P**	**23 10 58.1**	**+0.5**
	comp=Z,21nm,0.4s,mb4.9						
SNY	**Shenyang**	**22.90**	**269**	⇑P	**P**	**23 10 57.6**	**-0.7**
SNY				S	**S**	**23 15 06.1**	**-1.7**
SNY				AMB	AMB		
	comp=Z,41nm,0.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,154nm,6.0s						
SNY				LR	LR		
	comp=N,333nm,10.2s						
SNY				LR	LR		
	comp=E,159nm,7.8s						
SNY				LR	LR		
	comp=Z,376nm,14.4s,MS4.0						
HIA	**Hailar**	**23.60**	**289**	⇑*e*P	**P**	**23 11 02.6**	**-3.0**
HIA	**Hailar**	**23.60**	**289**	*e*P	**P**	**23 11 06.2**	**+0.6**
	comp=Z,4.5nm,0.4s,mb4.2						
BOD	**Bodaibo**	**27.04**	**310**	*e*P	**P**	**23 11 34.5**	**-2.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**27.95**	**343**	*e*P	**P**	**23 11 44.0**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,99nm,0.9s,mb5.4						
TIXI	**Tiksi**	**27.95**	**343**	*e*P	**P**	**23 11 44.0**	**-1.1**
	comp=Z,995nm,0.9s						
BJI	**Beijing**	**28.74**	**271**	*e*P	**P**	**23 11 54.1**	**+2.1**
BJI				S	**S**	**23 16 41.3**	**+0.4**
BJI				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,151nm,3.2s						
BJI				LR	LR		
	comp=N,378nm,11.6s,MS4.3						
BJI				LR	LR		
	comp=E,361nm,13.8s,MS4.3						
BJI				LR	LR		
	comp=Z,182nm,14.7s,MS3.8						
BJI	**Beijing**	**28.74**	**271**

HHC comp=Z,155nm,6.3s LR LR
HHC comp=N,302nm,14.3s,MS4.3 LR LR
HHC comp=E,412nm,14.3s,MS4.3 LR LR
ULN Ulaanbaatar 32.13 290 *e*P **P 23 12 21.4 -0.6**
ULN comp=Z,568nm,12.9s,MS4.4 pmax pmax
ULN Ulaanbaatar 32.13 290 *e*P **P 23 12 21.4 -0.6**
SONM Songino Array 32.57 290 P **P 23 12 24.7 -1.1**
SONM comp=Z,4.0nm,0.9s,mb4.2 comp=Z,2.4nm,0.7s,mb4.2,baz=68,slow=8.7,SNR=13 LR LR 23 26 03.0
KDAK Kodiak Island 33.20 51 P **P 23 12 29.8 -1.6**
comp=Z,366nm,19.0s,MS4.1,baz=121,slow=37
TLY Talaya 33.36 298 *e*P **P 23 12 32.3 -0.4**
TLY *e* 23 13 45.7
TLY *e* 23 15 14.0
TLY *e*S **S 23 17 54.2 +1.1**
TLY comp=Z,8.0nm,0.5s,mb4.9,baz=268,slow=4.5,SNR=10 pmax pmax
TLY Talaya 33.36 298 *e*P **P 23 12 32.7 0.0**
ZAK Zakamensk 33.88 296 *e* **P 23 12 35.8 -1.4**
GUMO Guam 34.00 198 LR LR 23 23 10.6
comp=Z,81nm,19.9s,MS3.5,baz=68,slow=31
TATO Taipei 34.30 243 P **P 23 12 40.3 -0.6**
NACB Ninganchiao 34.83 242 P **P 23 12 45.2 -0.3**
MCK McKinley 34.93 40 *e*P **P 23 12 46.9 +0.5**
MCK comp=Z,7.0nm,1.3s,mb4.4 pmax pmax
MCK McKinley 34.93 40 *e*P **P 23 12 46.9 +0.6**
SML Sawmill 35.19 44 *e*P **P 23 12 47.9 -0.7**
COLA College 35.45 38 *e*P **P 23 12 50.8 -0.1**
COLA comp=Z,7.6nm,1.3s,mb4.4 pmax pmax
COLA College 35.45 38 *e*P **P 23 12 50.8 -0.1**
XAN Xi'an 36.77 267 P **P 23 13 02.1 0.0**
XAN comp=Z,6.0nm,0.6s,mb4.7 AMB AMB
EGAK Eagle 38.31 38 *e*P **P 23 13 14.2 -1.0**
ENH Enshi 38.59 261 *e*P **P 23 13 18.1 +0.5**
DAWY Dawson 39.14 39 *e*P **P 23 13 22.7 +0.6**
LZH Lanzhou 39.16 273 *e*P **P 23 13 23.5 +1.2**
LZH AP pP 23 13 26.0 -0.8
LZH XP sP 23 13 27.0 -1.5
LZH comp=Z,7.0nm,1.5s,mb4.3 AMB AMB
LZH comp=Z,38nm,1.0s,mb5.1 AMB AMB
GTA Gaotai 40.24 280 *e*P **P 23 13 32.5 +1.2**
GTA comp=Z,323nm,4.1s AP pP 23 13 37.0 +1.2
GTA XP sP 23 13 40.3 +2.8
GTA PP PP 23 15 07.8 +3.9
GTA PCP PcP 23 15 35.3 +0.2
GTA S **S 23 19 42.3 +4.4**
GTA XS sS 23 19 49.5 +4.2
GTA comp=Z,14nm,1.3s,mb4.5 AMB AMB
GTA comp=Z,110nm,6.1s LR LR
GTA comp=N,271nm,11.5s,MS4.5 LR LR
GTA comp=E,307nm,11.5s,MS4.5 LR LR
GTA comp=Z,431nm,13.4s,MS4.5 AMB AMB
INK Inuvik 41.08 32 P **P 23 13 37.9 -0.3**
INK Inuvik 41.08 32 *e*P **P 23 13 38.8 +0.5**
INK Inuvik 41.08 32 *e*P **P 23 13 38.6 +0.3**
CD2 Chengdu 42.13 267 P **P 23 13 46.8 -0.1**
CD2 comp=Z,10nm,0.8s,mb4.5,baz=282,slow=7.0,SNR=30 AP pP 23 13 51.3 -0.1
CD2 XP sP 23 13 53.8 +0.7
CD2 comp=Z,258nm,0.7s,mb6.0 PP PP 23 15 27.4 +3.0
CD2 S **S 23 20 05.3 -0.8**
CD2 XS sS 23 20 12.8 -0.7
CD2 SS SS 23 23 06.3 -7.5
CD2 comp=Z,50nm,0.7s,mb5.2 AMB AMB
CD2 comp=Z,120nm,5.2s LR LR
CD2 comp=N,200nm,12.0s,MS4.3 LR LR
CD2 comp=E,160nm,13.2s,MS4.3 LR LR
CD2 comp=Z,200nm,12.0s,MS4.2 LR LR
GYA Guiyang 42.93 259⇑ *i*P **P 23 13 53.4 +0.1**
GYA AP pP 23 13 57.8 0.0
GYA XP sP 23 14 01.3 +1.7
GYA PP PP 23 15 37.6 +4.6
GYA PCP PcP 23 15 46.8 +2.9
GYA SCP ScP 23 19 36.6 +2.1
GYA S **S 23 20 20.0 +2.2**
GYA SS SS 23 23 24.8 -4.6
GYA SCS ScS 23 23 54.3 +0.5
GYA comp=Z,30nm,1.0s,mb5.0 AMB AMB
GYA comp=Z,130nm,4.9s AMB AMB
GYA comp=N,480nm,16.4s,MS4.7 LR LR
GYA comp=E,540nm,16.8s,MS4.7 LR LR
GYA comp=Z,570nm,17.0s,MS4.5 LR LR
ZAL Zalesovo 43.72 306 P **P 23 13 57.9 -1.9**
ZAL comp=Z,4.1nm,0.8s,mb4.2,baz=46,slow=8.8,SNR=25 PcP PcP 23 15 45.5 -1.1
ZAL comp=Z,2.6nm,0.7s,baz=23,slow=1.4,SNR=5.2 LR LR 23 33 59.7
ZAL Zalesovo 43.72 306 P **P 23 13 57.9 -1.9**
ZAL comp=Z,238nm,18.2s,MS4.1,baz=44,slow=38 23 15 45.5
ZAL Zalesovo 43.72 306 P **P 23 13 57.9 -1.9**
ZAL PcP PcP 23 15 45.5 -1.1
ZAL LR LR 23 33 59.7
NVS Novosibirsk 44.27 308 *e*P **P 23 14 03.2 -0.9**
NVS *e* 23 15 55.2
NVS comp=E,28nm,2.0s pmax pmax
NVS comp=Z,39nm,2.0s,mb4.8 pmax pmax
QIZ Qiongzhong 45.97 249 P **P 23 14 16.9 -0.8**
WMQ Urumqi 46.15 292⇑ *i*P **P 23 14 20.4 +1.3**
WMQ AP pP 23 14 24.9 +1.3
WMQ XP sP 23 14 27.4 +2.0
WMQ PCP PcP 23 15 56.5 +1.6
WMQ PP PP 23 16 08.9 +1.6
WMQ PPP 23 16 52.8
WMQ SCP ScP 23 19 47.9 +0.2
WMQ PCS PcS 23 19 49.9 +0.5
WMQ S **S 23 21 05.6 +1.0**
WMQ XS sS 23 21 13.3 +1.3
WMQ comp=Z,5.0nm,0.8s,mb4.5 AMB AMB
WMQ comp=Z,237nm,5.2s LR LR
WMQ comp=N,297nm,18.1s,MS4.3 LR LR
WMQ comp=E,139nm,19.4s,MS4.3 LR LR
WMQ comp=Z,192nm,19.4s,MS4.1 LR LR
KMI Kunming 46.47 261 P **P 23 14 22.4 +0.8**
KMI PCP PcP 23 15 58.8 +2.8
KMI S **S 23 21 11.6 +2.5**
KMI AMB AMB
KMI comp=Z,13nm,1.2s,mb4.7 LR LR
KMI comp=Z,48nm,19.4s,MS3.5 LR LR
KMI Kunming 46.47 261 P **P 23 14 22.4 +0.8**
KMI 23 15 58.8
KMI S **S 23 21 11.6 +2.5**
KMI SS SS 23 24 29.4 -5.5
KMI pmax pmax
KMI comp=Z,13nm,1.2s,mb4.7 MLR MLR
KMI comp=Z,50nm,19.4s,MS3.5 MLR MLR
KMI Kunming 46.47 261 P **P 23 14 22.4 +0.8**
KMI PcP PcP 23 15 58.8 +2.8
KMI S **S 23 21 11.6 +2.5**
KMI SS SS 23 24 29.4 -5.5
KMI LR LR
MK31 Makanchi Array 48.12 298 *i* P **P 23 14 34.0 -0.4**
MK31 comp=Z,6.0nm,0.6s,mb4.8 pmax pmax
MKAR Makanchi Array 48.12 298 P **P 23 14 34.0 -0.4**
MKAR comp=Z,4.7nm,0.6s,mb4.7,baz=70,slow=7.8,SNR=48 LR LR 23 35 47.3
KURK Kurchatov 48.48 304 P **P 23 14 36.3 -0.9**
YKA comp=Z,163nm,21.0s,MS4.0,baz=254,slow=37 LR LR 23 38 09.0
ALE Alert 49.74 6 P **P 23 14 47.9 +1.0**
comp=Z,127nm,0.6s,SNR=20
YKA Yellowknife Ar 50.27 37 P **P 23 14 50.3 -0.6**
comp=Z,83nm,0.7s,mb5.9,SNR=6.1
YKA Yellowknife Ar 50.27 37 P **P 23 14 50.3 -0.6**
YKA comp=Z,13nm,0.8s,mb5.0,baz=295,slow=7.1,SNR=17 PcP PcP 23 16 08.7 -1.0
YKA comp=Z,1.1nm,0.5s,baz=303,slow=3.8,SNR=5.3 LR LR 23 38 09.0
YKA comp=Z,52nm,19.2s,MS3.5,baz=70,slow=38 23 16 08.7
YKA Yellowknife Ar 50.27 37 P **P 23 14 50.3 -0.6**
YKA PcP PcP 23 16 08.7 -1.0
YKA LR LR 23 38 09.0
RES Resolute Bay 50.55 19 *e*P **P 23 14 53.9 +0.9**
LSA Lhasa 51.54 274 P **P 23 15 03.3 +2.8**
LSA Lhasa 51.54 274 *e*P **P 23 15 02.8 +2.3**
LSA comp=Z,15nm,0.7s,mb5.0 pmax pmax
LSA Lhasa 51.54 274 *e*P **P 23 15 02.8 +2.3**
comp=Z,15nm,0.7s,mb5.0
BVA0 Borovoye Array 51.91 310 *i* P **P 23 15 03.5 +0.3**
BVA0 comp=Z,4.0nm,1.4s,mb4.2 pmax pmax
BVAR Borovoye Array 51.91 310 P **P 23 15 03.5 +0.3**
BVAR comp=Z,8.7nm,0.7s,mb4.8,baz=61,slow=7.9,SNR=34 PcP PcP 23 16 14.7 -1.1
BVAR comp=Z,4.9nm,0.7s,baz=67,slow=5.0,SNR=3.9
BRVK Borovoye 51.95 310 P **P 23 15 04.0 +0.5**
comp=Z,126nm,0.7s,mb6.0,SNR=5.9
BRVK Borovoye 51.95 310 *e*P **P 23 15 03.9 +0.4**
BRVK comp=Z,14nm,0.7s,mb5.0 pmax pmax
BRVK Borovoye 51.95 310 *e*P **P 23 15 03.9 +0.3**
comp=Z,14nm,0.7s,mb5.0
KBS Kingsbay 52.81 352 *e*P **P 23 15 10.3 +0.3**
KBS Kingsbay 52.81 352 *e*P **P 23 15 10.5 +0.6**
KBS *e*PcP PcP 23 16 17.9 -1.3
CHTO Chiang Mai 53.33 258 *e*P **P 23 15 14.1 +0.4**
CHTO comp=Z,7.0nm,0.8s,mb4.6 pmax pmax
CHTO Chiang Mai 53.33 258 *e*P **P 23 15 14.1 +0.4**
comp=Z,6.8nm,0.8s,mb4.6
B05A Bryant 53.45 56⇑P **P 23 15 14.1 -0.5**
baz=53
CM31 Chiang Mai Arr 53.58 258 *e*P **P 23 15 15.8 +0.2**
comp=Z,17nm,0.6s,mb5.1
SHL Shillong 53.63 270 *e*P **P 23 15 14.8 -1.1**
B06A Marblemount 53.66 55⇑P **P 23 15 15.7 -0.5**
baz=53
C05A Tolt Reservoir 53.98 56⇓P **P 23 15 17.7 -0.8**
baz=54
A07A Ashnola River, 54.00 54⇓P **P 23 15 17.8 -0.8**
baz=54
D05A Enumclaw 54.08 57⇓P **P 23 15 19.1 -0.2**
baz=54
TKM2 Tokmak 2 54.19 297 P **P 23 15 21.6 +1.6**
SNR=6.8
B07A Winthrop 54.46 55⇑P **P 23 15 21.8 -0.2**
baz=54
F04A Amboy 54.51 58⇓P **P 23 15 21.3 -1.1**
baz=54
E05A Randle 54.55 57⇑P **P 23 15 21.6 -1.1**
baz=54
USP Ospenovka 54.66 298 P **P 23 15 24.5 +1.0**
SNR=21
A08A Turner Farm, O 54.67 54⇑P **P 23 15 22.9 -0.7**
baz=54,SNR=5.9
H03A Soap Creek Ran 54.68 60⇑P **P 23 15 22.2 -1.3**
baz=54
KBK Karagaybulak 54.73 297 P **P 23 15 25.1 +1.2**
SNR=7.8
D06A Cle Elum 54.74 56⇓P **P 23 15 23.5 -0.5**
baz=54
FRU Bishkek 54.83 297 *e*P **P 23 15 26.0 +1.3**
C07A Waterville 54.91 55⇓P **P 23 15 24.8 -0.5**
baz=55
B08A Colville Reser 54.96 54⇓P **P 23 15 24.5 -1.1**
baz=55
SOKR Solikamsk 54.98 322 *e*P **P 23 15 25.9 +0.1**
SOKR comp=Z,10.0nm,0.8s,mb4.9 pmax pmax
E06A Yakima 55.01 57⇑P **P 23 15 25.4 -0.6**
baz=55
AAK Ala-Archa 55.02 297 P **P 23 15 26.8 +0.7**
SNR=14
AAK Ala-Archa 55.02 297 P **P 23 15 26.3 +0.2**
comp=Z,94nm,0.7s,mb5.9,SNR=13
A09A Danville 55.04 53 P **P 23 15 26.1 -0.1**
baz=55,SNR=9.7
D07A Quincy 55.23 56⇓P **P 23 15 27.1 -0.5**
baz=55
J02A Umpqua 55.23 61⇓P **P 23 15 27.0 -0.6**
baz=55
HOOD Mount Hood Mea 55.29 58 *e*P **P 23 15 26.2 -1.9**
H04A Detroit Lake 55.33 59⇑P **P 23 15 28.5 +0.2**
baz=55
C08A Higginbotham F 55.43 55⇑P **P 23 15 28.5 -0.5**
baz=55
EKS2 Erkin-Say 55.44 298 P **P 23 15 30.3 +1.2**
SNR=15
B09A Rice 55.58 54⇓P **P 23 15 29.9 -0.2**
baz=55
J03A Ideyld Park 55.60 61⇓P **P 23 15 29.6 -0.6**
baz=55
K02A Glendale 55.62 62⇑P **P 23 15 30.3 -0.1**
baz=55
E07A Sunnyside 55.65 56⇑P **P 23 15 30.1 -0.5**
baz=55
I04A Tendick Farm, 55.69 60⇓P **P 23 15 31.1 +0.2**
baz=55
C09A Chrisman Ranch 55.86 54⇓P **P 23 15 31.6 -0.5**
baz=56
KSH Kashi 55.87 293 *e*P **P 23 15 34.3 +2.1**
KSH *e*AP pP 23 15 39.8 +3.0
KSH *e*XP sP 23 15 41.9 +3.4
KSH *e*PCP PcP 23 16 33.8 +2.9
KSH *e*PP PP 23 17 40.9 +4.2
KSH *e*PPP 23 18 54.8
KSH *e*SCP ScP 23 20 33.8 +4.3
KSH *e*S **S 23 23 18.9 -0.2**
KSH *e*XS sS 23 23 29.4 +2.7
KSH *e*PS 23 23 39.6
KSH *e*SCS ScS 23 25 19.1 -1.9
KSH *e*SS SS 23 27 04.3 -0.5
KSH comp=Z,1μm,7.8s LR LR
L02A Cave Junction 55.90 63⇓P **P 23 15 32.6 +0.3**
baz=56
H05A Madras 55.92 59⇑P **P 23 15 32.7 +0.2**
baz=56
G06A Carlson Farm, 55.94 58⇑P **P 23 15 31.9 -0.8**
baz=56
ARU Arti 55.95 318 P **P 23 15 32.4 -0.4**
comp=Z,387nm,0.6s,SNR=23
ARU Arti 55.95 318 *e*P **P 23 15 32.5 -0.3**
ARU *e* 23 16 28.9
ARU *e*S **S 23 23 19.1 -1.2**
ARU *e*SS SS 23 27 03.8 -2.4
ARU Arti 55.95 318 *e*P **P 23 15 32.7 -0.1**
comp=Z,42nm,0.7s,mb5.6
HUMO Hull Mountain 56.03 62⇓P **P 23 15 33.6 +0.3**
baz=56
I05A Bend 56.17 59⇑P **P 23 15 34.5 +0.2**
baz=56
J04A Umpqua Nationa 56.19 61⇓P **P 23 15 34.5 +0.1**
baz=56,SNR=6.4
JIRN Jiri 56.22 276 *e*P **P 23 15 36.3 +1.6**
comp=Z,53nm,0.7s,mb5.7
NEW Newport 56.24 53 P **P 23 15 33.4 -1.5**
comp=Z,1.7nm,0.4s,mb4.5,baz=221,slow=13,SNR=5.1
NEW Newport 56.24 53 *e*P **P 23 15 34.2 -0.6**
NEW comp=Z,24nm,1.5s pmax pmax
D09A Jones Farm, Ri 56.25 55⇓P **P 23 15 34.3 -0.6**
baz=56
A11A Hall Mountain, 56.27 52⇑P **P 23 15 35.0 0.0**
baz=56,SNR=6.0
GUN Gumba 56.27 276 *e*P **P 23 15 36.5 +1.5**
H06A Lindquist Farm 56.40 58⇓P **P 23 15 35.9 -0.1**
baz=56,SNR=5.4
G07A Ruggs Ranch, H 56.48 58⇑P **P 23 15 36.1 -0.5**
baz=56
B11A Sandpoint 56.56 53 P **P 23 15 37.4 +0.2**
baz=56,SNR=5.4
E09A Wood Farm, Sta 56.65 56 P **P 23 15 37.9 +0.1**
baz=56,SNR=5.7
A12A Yaak River Ran 56.67 52⇑P **P 23 15 38.0 +0.1**
baz=56
YBH Yreka Blue Hor 56.69 63⇑P **P 23 15 38.6 +0.6**
baz=56,SNR=7.8
J05A Fort Rock 56.69 60⇓P **P 23 15 38.3 +0.3**
baz=56,SNR=8.9
F08A Pendleton 56.70 57⇑P **P 23 15 38.9 +0.8**
baz=56
KKN Kakani 56.76 277 *e*P **P 23 15 39.9 +1.4**
comp=Z,75nm,0.8s,mb5.8
M02C Callahan 56.79 63⇓P **P 23 15 39.4 +0.6**
baz=56
PKI Pulchoki 56.81 276 *e*P **P 23 15 40.1 +1.2**
comp=Z,42nm,0.8s,mb5.5
N02C Big Bar 56.84 64⇓P **P 23 15 39.4 +0.3**
baz=57
G08A Pilot Rock 56.88 57⇓P **P 23 15 39.6 +0.2**
baz=57
I06A Prineville 56.92 59⇓P **P 23 15 40.2 +0.5**
baz=57
L04A Klamath Falls 56.93 62⇑P **P 23 15 40.4 +0.7**
baz=57
DMN Daman 56.99 277 *e*P **P 23 15 41.8 +1.6**
comp=Z,89nm,0.9s,mb5.8
GKN Gorkha 57.06 277 *e*P **P 23 15 42.0 +1.3**
comp=Z,96nm,1.0s,mb5.8
KK31 Karatay Array 57.16 300 *i* P **P 23 15 40.9 -0.5**
KK31 comp=Z,13nm,0.8s,mb5.0 pmax pmax
KKAR Karatay Array 57.16 300 P **P 23 15 40.9 -0.5**
KKAR comp=Z,11nm,0.9s,mb4.9 pmax pmax
M04C Macdoel 57.19 62⇑P **P 23 15 42.1 +0.6**
baz=57
K05A Summer Lake 57.21 61⇓P **P 23 15 43.0 +1.3**
baz=57,SNR=12
F09A S2 Ranch, Elgi 57.25 56⇓P **P 23 15 42.1 +0.1**
baz=57
E10A Myers Farm, Un 57.26 55⇑P **P 23 15 42.2 +0.1**
baz=57
I07A Izee 57.26 59 P **P 23 15 42.8 +0.8**
baz=57,SNR=5.0
M03C McCloud 57.31 63⇓P **P 23 15 42.4 0.0**
baz=57
J06A Christmas Vall 57.35 60⇓P **P 23 15 43.0 +0.3**
baz=57,SNR=6.1
D11A Klaveano Farm, 57.37 54 P **P 23 15 42.2 -0.6**
baz=57,SNR=6.6
WDC Whiskeytown Da 57.46 64 *e*P **P 23 15 43.7 +0.2**
WDC comp=Z,17nm,1.1s,mb5.0 pmax pmax
WDC Whiskeytown Da 57.46 64 *e*P **P 23 15 43.6 +0.2**
comp=Z,17nm,1.1s,mb5.0
WDC Whiskeytown Da 57.46 64⇑P **P 23 15 43.4 0.0**
baz=57,SNR=5.2
C12A Trout Creek 57.47 53⇓P **P 23 15 43.1 -0.4**
baz=57,SNR=6.5
F10A Beach Ranch, E 57.48 56⇓P **P 23 15 43.8 +0.1**
baz=57
H08A Prairie City 57.49 58 P **P 23 15 44.1 +0.4**
baz=57,SNR=6.2
O02C Red Bluff 57.54 64⇑P **P 23 15 44.4 +0.3**
baz=57
WALA Waterton Lakes 57.54 51 *e*P **P 23 15 43.8 -0.3**
comp=Z,16nm,0.8s,mb5.1
K06A Valley Falls 57.56 60⇓P **P 23 15 44.6 +0.5**
baz=57,SNR=9.8
P01C Double 8 Ranch 57.62 65⇑P **P 23 15 44.6 +0.1**
baz=57
B13A Whitefish 57.64 52 P **P 23 15 45.0 +0.3**
baz=57,SNR=14
L05A Lakeview 57.64 61⇓P **P 23 15 45.6 +0.8**
baz=57,SNR=6.3
BSMT Bassoo Peak 57.76 53 *e*P **P 23 15 46.1 +0.5**
J07A Hines 57.78 59⇑P **P 23 15 46.1 +0.4**
baz=58
M05C Lookout 57.86 62⇑P **P 23 15 46.9 +0.6**
baz=58
KEV Kevo 57.88 341 *e*p **P 23 15 44.7 -1.7**
comp=Z,8.7nm,0.6s,mb5.0
KEV Kevo 57.88 341 *e*P **P 23 15 44.7 -1.7**
KEV comp=Z,9.0nm,0.6s,mb5.0 pmax pmax
GASB Alder Springs 57.89 65⇑P **P 23 15 46.9 +0.3**
baz=58
I08A Drewsey 57.91 58⇑P **P 23 15 46.9 +0.2**
baz=58
KOLN Koldanda 57.92 278 *e*P **P 23 15 48.3 +1.6**
comp=Z,72nm,1.0s,mb5.7
C13A Hot Springs 57.98 53⇓P **P 23 15 47.0 -0.2**
baz=58
HATC Hat Creek Radi 57.98 63⇓P **P 23 15 47.4 +0.3**
baz=58
H09A Durkee 57.99 57⇓P **P 23 15 47.4 +0.2**
baz=58
MOD Modoc 58.05 61 *e*P **P 23 15 48.2 +0.6**
MOD Modoc 58.05 61 P **P 23 15 48.2 +0.6**
baz=58,SNR=5.8
HOPS Hopland 58.06 65⇑P **P 23 15 47.8 +0.1**
baz=58
BMO Blue Mountains 58.09 57 *e*P **P 23 15 48.1 +0.2**
comp=Z,16nm,1.2s,mb5.0
F11A Grangeville 58.14 55⇓P **P 23 15 48.1 -0.2**
baz=58
K07A Rock Creek Ran 58.22 60⇑P **P 23 15 49.0 +0.2**
baz=58,SNR=7.0
J08A Circle Bar Ran 58.29 59⇑P **P 23 15 49.5 +0.2**
baz=58
I09A Lost Marbles R 58.35 58⇓P **P 23 15 49.8 0.0**
baz=58
M06C Likely Place G 58.36 62⇑P **P 23 15 50.1 +0.3**
baz=58
G11A Walters Elk Ra 58.37 56⇓P **P 23 15 50.3 +0.5**
baz=58
C14A Swan Lake 58.38 52⇑P **P 23 15 50.2 +0.2**
baz=58
ARCES ARCESS Array B 58.38 341 P **P 23 15 50.4 +0.4**
comp=Z,12nm,0.8s,mb5.0,baz=29,slow=5.1,SNR=21
ARCES LR LR 23 44 16.0
comp=Z,267nm,20.0s,MS4.4,baz=44,slow=39
D13A Huson 58.39 53⇓P **P 23 15 49.5 -0.5**
baz=58
O04C Chester 58.51 63 P **P 23 15 51.4 +0.6**
baz=58,SNR=6.9
MNRC McLaughlin Nat 58.52 65⇓P **P 23 15 51.3 +0.4**
baz=58
L07A Adell 58.56 61⇓P **P 23 15 51.6 +0.4**
baz=58,SNR=5.4
K08A Mann Creek Ran 58.65 59 P **P 23 15 52.4 +0.6**
baz=58,SNR=8.0
ORV Oroville 58.71 64 P **P 23 15 51.8 -0.5**
baz=58,SNR=10
J09A Fry Pan Ranch, 58.72 59⇓P **P 23 15 52.5 +0.2**
baz=58
SUTB Sutter Butte 58.73 64⇑P **P 23 15 51.8 -0.6**
baz=58
F12A Elk City 58.73 55⇓P **P 23 15 52.4 0.0**
baz=58,SNR=7.9
WVOR Wild Horse Val 58.73 60 *e*P **P 23 15 52.5 +0.1**
O05C Quincy 58.83 63⇓P **P 23 15 52.9 -0.1**
baz=59
MSO Missoula 58.83 53 *e*P **P 23 15 53.2 +0.2**
comp=Z,20nm,1.3s,mb5.0
CVS Carmenet Viney 58.84 66⇓P **P 23 15 52.7 -0.4**
baz=59
OHCM Honcut 58.85 64 *e*P **P 23 15 53.5 +0.3**
BOK Bokaro 58.92 273 *e*P **P 23 15 53.7 0.0**
BOK AMb AMB 23 15 56.8

comp=Z,24nm,1.4s,mb5.0
D14A **Greenough** 58.92 53 P P 23 15 53.6 0.0
baz=59,SNR=14
E13A **Victor** 58.92 54 P P 23 15 53.9 +0.2
baz=59,SNR=6.0
H11A **Donnelly** 58.92 56 ⇑P P 23 15 53.7 0.0
baz=59
N06A **Buffalo Meadow** 59.02 62 P P 23 15 54.7 +0.4
baz=59,SNR=10
TMCR **Tamitsa** 59.03 333 *e*P P 23 15 55.3 +0.8
TMCR pmax pmax
comp=Z,20nm,0.8s,mb5.2
M07A **Soldier Meadow** 59.04 61 ⇑P P 23 15 55.1 +0.6
baz=59,SNR=12
L08A **Fields** 59.05 60 P P 23 15 55.0 +0.4
baz=59,SNR=8.2
K09A **Rome** 59.12 59 ⇑P P 23 15 55.5 +0.4
baz=59
CHMT **Chamberlain Mo** 59.16 53 *e*P P 23 15 55.0 -0.4
BEKR **Beckwourth** 59.23 63 P P 23 15 55.9 +0.1
baz=59,SNR=9.4
F13A **Darby** 59.23 55 ⇓P P 23 15 55.4 -0.5
baz=59,SNR=7.1
KTK1 **Kautokeino** 59.29 342 *e*P P 23 15 57.5 +1.2
E14A **Clinton** 59.32 54 ⇓P P 23 15 56.2 -0.3
baz=59,SNR=7.7
P05C **Yuba Gap, Truc** 59.41 64 ⇓P P 23 15 57.1 0.0
baz=59
AB31 **Akbulak array** 59.47 311 P P 23 15 56.9 -0.6
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
D15A **Lincoln** 59.48 52 ⇓P P 23 15 57.5 -0.1
baz=59,SNR=7.0
N07B **Gerlach** 59.52 62 ⇓P P 23 15 58.0 +0.2
baz=59
LAVA **Lava Cap Winer** 59.66 64 ⇓P P 23 15 58.7 -0.2
baz=59
TRO **Tromso** 59.67 344 *e*P P 23 15 57.4 -1.4
AKTK **Aktyubinsk** 59.75 313 P P 23 15 59.5 +0.1
AKTO **Aktyubinsk** 59.75 313 P P 23 15 59.5 +0.1
comp=Z,11nm,0.8s,mb5.0,baz=61,slow=5.1,SNR=21
F14A **Wisdom** 59.76 54 ⇑P P 23 15 59.3 -0.2
baz=60
E15A **Deer Lodge** 59.79 53 P P 23 15 59.6 -0.1
baz=60,SNR=9.9
WCN **Washoe City** 59.94 63 ⇑P P 23 16 00.9 +0.2
baz=60
O07A **Toulon** 59.95 62 ⇑P P 23 16 00.9 +0.1
baz=60,SNR=11
FFC **Flin Flon** 60.02 41 P P 23 16 01.3 0.0
comp=Z,246nm,0.6s,SNR=6.7
FFC **Flin Flon** 60.02 41 P P 23 16 01.4 +0.2
N08A **GE Springer Mi** 60.03 61 P P 23 16 01.6 +0.3
baz=60,SNR=9.3
M09A **Marrel Ranch,** 60.05 60 ⇑P P 23 16 01.9 +0.4
baz=60
S04C **Ingram Canyon,** 60.05 66 ⇓P P 23 16 01.9 +0.4
baz=60
HRY **Holter Researc** 60.06 52 *e*P P 23 16 02.6 +1.1
R05C **Kirkwood Meado** 60.10 64 P P 23 16 02.0 +0.1
baz=60,SNR=5.5
F15A **Butte** 60.23 54 P P 23 16 02.6 -0.1
baz=60,SNR=21
LRM **Limekiln Ridge** 60.26 54 *e*P P 23 16 03.0 +0.1
THN **Thein Dam** 60.29 287 *e*P P 23 16 00.6 -2.5
CMB **Columbia Colle** 60.32 65 *e*P P 23 16 03.6 +0.3
CMB pmax pmax
comp=Z,20nm,1.1s,mb5.1
CMB **Columbia Colle** 60.32 65 *e*P P 23 16 03.6 +0.3
comp=Z,20nm,1.1s,mb5.1
CMB **Columbia Colle** 60.32 65 ⇓P P 23 16 03.3 0.0
baz=60,SNR=5.3
N09A **Rock Creek Ran** 60.35 61 ⇑P P 23 16 03.6 +0.1
baz=60
EGMT **Eagleton** 60.38 50 ⇓P P 23 16 03.7 -0.1
baz=60
PACP **Pacheco Peak** 60.38 66 P P 23 16 04.0 +0.2
baz=60,SNR=11
HLID **Hailey** 60.53 57 *e*P P 23 16 04.8 0.0
comp=Z,16nm,1.4s,mb5.0
HLID **Hailey** 60.53 57 P P 23 16 05.2 +0.4
baz=60,SNR=9.1
M10A **I.L. Ranch, Tu** 60.53 60 ⇓P P 23 16 05.3 +0.5
baz=60
HAST **UC Hastings Re** 60.60 67 ⇓P P 23 16 05.9 +0.6
baz=60
R06C **Coleville** 60.60 64 ⇓P P 23 16 05.6 +0.3
baz=60,SNR=11
WAKR **Walker** 60.62 64 *e*P P 23 16 05.9 +0.5
G15A **Dillon** 60.64 54 P P 23 16 05.7 +0.2
baz=60,SNR=7.3
MCMT **McKenzie Canyo** 60.65 55 *e*P P 23 16 05.2 -0.4
S06C **San Francisco** 60.75 65 ⇓P P 23 16 05.9 -0.4
baz=60,SNR=16
S05C **Merced** 60.78 65 ⇓P P 23 16 06.4 -0.1
baz=60
BMN **Battle Mountai** 60.79 61 *e*P P 23 16 07.0 +0.4
BMN pmax pmax
comp=Z,16nm,0.8s,mb5.2
BMN **Battle Mountai** 60.79 61 *e*P P 23 16 07.0 +0.4
comp=Z,16nm,0.8s,mb5.2
O09A **Fish Creek Ran** 60.97 61 P P 23 16 08.5 +0.7
baz=61,SNR=10
M11A **Holland Ranch,** 61.03 59 ⇓P P 23 16 08.6 +0.4
baz=61
U04C **Hernandez Rese** 61.10 67 ⇑P P 23 16 09.1 +0.4
baz=61
R07C **Lee Vining** 61.12 64 ⇑P P 23 16 09.2 +0.4
baz=61,SNR=12
O10A **Cortez Mining,** 61.31 61 ⇓P P 23 16 10.6 +0.5
baz=61
Q08A **Gabbs** 61.33 63 P P 23 16 10.6 +0.4
baz=61,SNR=5.8
NVAR **Mina Array Bea** 61.37 63 P P 23 16 09.9 -0.6
baz=298,slow=7.9
T06C **Millerton Lake** 61.38 65 ⇓P P 23 16 10.3 -0.3
baz=61
P09A **Austin** 61.38 62 ⇓P P 23 16 11.1 +0.5
baz=61
KCC **Kaiser Creek** 61.42 65 P P 23 16 11.1 +0.3
baz=61,SNR=7.4
QLMT **Earthquake Lak** 61.44 54 *e*P P 23 16 11.7 +0.8
V04C **Ramage Ranch,** 61.50 67 ⇓P P 23 16 11.6 +0.3
baz=61
PKD **Parkfield** 61.51 67 ⇓P P 23 16 11.4 0.0
baz=61
NDI **New Delhi** 61.66 283 *e*P P 23 16 10.4 -2.0
NDI AMb AMB 23 16 13.4
comp=Z,17nm,1.0s,mb5.1
P10A **Eureka** 61.75 61 ⇑P P 23 16 13.3 +0.3
baz=62
ELK **Elko** 61.78 60 *e*P P 23 16 13.2 -0.1
ELK pmax pmax
comp=Z,5.0nm,0.5s
ELK **Elko** 61.78 60 *e*P P 23 16 13.2 -0.1
comp=Z,5.0nm,0.5s,mb4.9
Q09A **Carvers** 61.80 62 ⇓P P 23 16 13.9 +0.5
baz=62
GCMT **Greycliff** 61.81 52 P P 23 16 14.1 +0.7
N12A **Clover Valley,** 61.84 59 P P 23 16 14.2 +0.6
baz=62,SNR=5.8
MTUM **Tungsten Hills** 61.88 64 *e*P P 23 16 14.5 +0.6
O11A **Cowboy Ranch,** 61.92 60 ⇓P P 23 16 14.4 +0.2
baz=62,SNR=6.9
YNR **Norris Junctio** 61.93 54 *e*P P 23 16 16.8 +2.6
YFT **Old Faithful** 62.01 54 *e*P P 23 16 16.9 +2.2
HELL **Mitchell Peak,** 62.01 65 P P 23 16 14.3 -0.5
baz=62,SNR=16
S08C **White Mtn Res** 62.03 64 ⇑P P 23 16 15.0 +0.1
baz=62,SNR=7.9
M13A **Montello** 62.03 58 P P 23 16 15.4 +0.4
baz=62,SNR=5.5
R09A **Tonopah** 62.24 63 P P 23 16 16.4 +0.1
baz=62,SNR=25
TPH **Tonopah** 62.25 63 *e*P P 23 16 17.0 +0.6
IMW **Indian Meadow** 62.30 55 *e*P P 23 16 17.8 +1.1
comp=Z,17nm,1.0s,mb5.1
FLWY **Flagg Ranch** 62.31 54 *e*P P 23 16 18.3 +1.5
comp=Z,15nm,0.9s,mb5.1
N13A **Wendover, West** 62.33 59 ⇑P P 23 16 17.0 +0.1
baz=62,SNR=6.0
O12A **Currie** 62.38 60 ⇑P P 23 16 17.6 +0.4
baz=62
RRI2 **Red Ridge** 62.43 55 *e*P P 23 16 18.6 +1.0
comp=Z,29nm,0.8s,mb5.5
S09A **Goldfield** 62.47 63 ⇑P P 23 16 17.8 -0.1
baz=62,SNR=13

MOOW **Moose Ponds** 62.50 55 *e*P P 23 16 19.1 +1.0
comp=Z,18nm,1.1s,mb5.1
HVU **Hansel Valley** 62.58 57 *e*P P 23 16 19.4 +0.8
PKM **Peak Mountain** 62.63 67 ⇓P P 23 16 19.1 +0.1
baz=62
LOHW **Long Hollow** 62.67 55 *e*P P 23 16 20.1 +0.9
SNOW **Snow King Moun** 62.68 55 *e*P P 23 16 20.8 +1.6
R10A **Warm Springs** 62.68 62 ⇓P P 23 16 19.4 +0.1
baz=62,SNR=5.8
REDW **Red Top Meadow** 62.68 55 *e*P P 23 16 20.3 +1.0
Q11A **Duckwater** 62.73 61 P P 23 16 19.9 +0.3
baz=62,SNR=5.2
CWC **Cottonwood Cre** 62.75 65 P P 23 16 19.6 -0.2
baz=62,SNR=14
P12A **McGill** 62.78 61 P P 23 16 20.2 +0.2
baz=62,SNR=6.8
GRAC **Grapevine Rang** 62.84 64 P P 23 16 20.7 +0.4
baz=63,SNR=12
ISA **Isabella** 63.00 66 *e*P P 23 16 20.6 -0.8
ISA **Isabella** 63.00 66 P P 23 16 20.7 -0.7
baz=63,SNR=6.8
SPUT **South Promonto** 63.07 58 *e*P P 23 16 19.4 -2.5
TRCR **Troy Canyon** 63.08 62 *e*P P 23 16 22.2 +0.2
Q12A **Willow Creek R** 63.10 61 ⇓P P 23 16 22.2 +0.1
baz=63
ARVC **Arvin** 63.11 66 ⇑P P 23 16 22.1 0.0
baz=63
DAC **Darwin (Calif)** 63.16 65 *e*P P 23 16 22.3 -0.2
MPMC **Manual Prospec** 63.36 65 P P 23 16 23.8 0.0
baz=63,SNR=17
HWUT **Hardware Ranch** 63.39 57 *e*P P 23 16 23.9 -0.1
comp=Z,7.8nm,0.9s,mb4.8
FURC **Furnace Creek,** 63.49 64 P P 23 16 24.8 +0.2
baz=63,SNR=16
OSI **Osito Adit** 63.51 67 ⇑P P 23 16 25.0 +0.2
baz=63
MOR8 **Moi Rana** 63.52 343 ⇑*i*P P 23 16 25.0 +0.1
MOR8 AMb AMB 23 16 43.3
comp=Z,65nm,1.5s,mb5.4
MOR8 **Moi Rana** 63.52 343 *e*P P 23 16 25.3 +0.4
comp=Z,65nm,1.5s,mb5.4
DUG **Dugway** 63.57 59 P P 23 16 25.3 +0.1
DUG pmax pmax
comp=Z,14nm,1.0s,mb5.0
DUG **Dugway** 63.57 59 *e*P P 23 16 25.3 +0.1
comp=Z,14nm,1.0s,mb5.0
DUG **Dugway** 63.57 59 P P 23 16 25.5 +0.3
baz=63,SNR=13
LRMC **Laurel Mountai** 63.61 66 P P 23 16 24.9 -0.5
baz=63,SNR=9.4
BW06 **Boulder Array** 63.79 55 *e*P P 23 16 26.3 -0.4
comp=Z,16nm,0.9s,mb5.0
PDAR **Pinedale Array** 63.79 55 P P 23 16 26.6 -0.1
comp=Z,10nm,0.8s,mb4.9,baz=287,slow=2.3,SNR=79
EDW2 **Edwards Air Fo** 63.80 66 P P 23 16 26.5 -0.2
baz=64,SNR=19
U10A **Ash Meadows, A** 63.85 64 P P 23 16 27.4 +0.3
baz=64,SNR=9.4
DECC **Green Verdugo** 63.99 67 ⇓P P 23 16 28.0 +0.1
baz=64
NLU **North Lily Min** 64.16 59 *e*P P 23 16 29.6 +0.6
MWC **Mount Wilson** 64.18 67 *e*P P 23 16 29.3 +0.1
SHOC **Shoshone** 64.22 64 ⇑P P 23 16 29.4 0.0
baz=64
GSC **Goldstone** 64.27 65 *e*P P 23 16 29.3 -0.5
GSC **Goldstone** 64.27 65 P P 23 16 29.9 +0.1
baz=64,SNR=6.9
DAU **Daniels Canyon** 64.34 58 *e*P P 23 16 31.2 +0.9
MPU **Maple Canyon** 64.38 58 *e*P P 23 16 31.6 +1.1
BFSC **Mount Baldy St** 64.42 67 ⇑P P 23 16 30.6 -0.2
baz=64
U11A **Corn Creek** 64.44 63 ⇑P P 23 16 31.2 +0.3
baz=64
CIS **Catalina Islan** 64.48 68 ⇑P P 23 16 30.7 -0.6
baz=64
SHPR **Sheep Range** 64.52 63 *e*P P 23 16 31.6 +0.1
FINES **FINESS Array B** 64.69 336 P P 23 16 32.1 -0.4
comp=Z,19nm,0.8s,mb5.2,baz=40,slow=9.9,SNR=37
FINES LR LR 23 46 30.4
comp=Z,198nm,21.3s,MS4.3,baz=348,slow=38
FINES **FINESS Array B** 64.69 336 *i*P P 23 16 32.2 -0.3
FINES pmax pmax
comp=Z,19nm,0.8s
TUQ **Turquoise Mtn.** 64.74 65 P P 23 16 32.8 0.0
baz=64,SNR=14
FRB **Frobisher Bay** 64.75 20 P P 23 16 31.6 -1.3
comp=Z,16nm,0.9s,mb5.1,baz=320,slow=5.9,SNR=3.2
VIS **Vishakhapatnam** 64.77 269 *e*P P 23 16 33.1 +0.1
VIS AMb AMB 23 16 35.9
comp=Z,18nm,2.1s,mb4.8
V11A **Goodsprings** 64.78 64 ⇑P P 23 16 33.3 +0.1
baz=64
AJM **Ajmer** 64.83 283 *e*P P 23 16 33.5 +0.1
AJM AMb AMB 23 16 34.8
comp=Z,25nm,0.8s,mb5.3
HEC **Hector,Ludlow** 64.88 65 ⇑P P 23 16 33.1 -0.6
baz=65
CCUT **Cedar City** 64.94 61 *e*P P 23 16 34.4 +0.2
CCUT *e* 23 16 44.1
U12A **Valley of Fire** 64.95 63 ⇓P P 23 16 34.5 +0.3
baz=65
MSU **Marysvale** 65.03 60 *e*P P 23 16 35.3 +0.6
SFJD **Kangerlussuaq** 65.05 11 *i*P P 23 16 35.0 +0.1
SFJD *i* 23 16 44.3
SFJD *e* 23 16 51.6
BHPL **Bhopal** 65.09 278 *e*P P 23 16 35.1 -0.1
BHPL AMb AMB 23 16 37.3
comp=Z,59nm,0.7s,mb5.7
TMUT **Trail Mountain** 65.09 59 *e*P P 23 16 35.7 +0.5
MURC **Murrieta** 65.12 67 ⇑P P 23 16 35.3 0.0
baz=65
PSI **Prapat** 65.17 246 P P 23 16 35.7 0.0
comp=Z,3.8nm,0.9s,mb4.5,baz=131,slow=10,SNR=4.3
V12A **Nelson** 65.21 64 P P 23 16 36.1 +0.1
baz=65,SNR=8.9
NGP **Nagpur** 65.38 275 *e*P P 23 16 37.5 +0.4
NGP AMb AMB 23 16 38.6
comp=Z,40nm,1.3s,mb5.3
NSS **Namsos** 65.46 343 *e*P P 23 16 38.2 +0.7
W12A **Cal Nev Ari** 65.48 64 ⇑P P 23 16 37.7 +0.1
baz=65
PFO **Pinyon Flat Ob** 65.59 66 ⇓P P 23 16 37.6 -0.8
baz=65
SRU **San Rafael** 65.61 58 *e*P P 23 16 38.4 -0.2
BELC **Belle Mtn.** 65.62 66 ⇑P P 23 16 37.9 -0.7
baz=65
ULM **Lac du Bonnet** 65.78 42 P P 23 16 39.0 -0.6
comp=Z,7.4nm,0.7s,mb4.8,baz=312,slow=6.9,SNR=13
RSSD **Black Hills** 65.93 51 *e*P P 23 16 40.2 -0.4
RSSD pmax pmax
comp=Z,19nm,0.8s,mb5.2
RSSD **Black Hills** 65.93 51 *e*P P 23 16 40.2 -0.4
comp=Z,19nm,0.8s,mb5.2
IRM **Iron Mountain** 66.05 65 P P 23 16 41.1 -0.2
baz=66,SNR=17
BAR **Barrett** 66.06 67 *e*P P 23 16 41.1 -0.3
MONP **Monument Peak** 66.08 67 ⇑P P 23 16 41.0 -0.5
baz=66
OBN **Obninsk** 66.12 326 *e*P P 23 16 41.4 -0.4
OBN *i* 23 17 11.0
OBN *e* 23 19 04.7
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
OBN **Obninsk** 66.12 326 *e*P P 23 16 41.5 -0.4
comp=Z,4.3nm,0.4s,mb4.8
BC3 **Big Chuckw Mtn** 66.19 66 P P 23 16 41.6 -0.7
baz=66,SNR=8.4
W13A **Hualapai Mount** 66.22 64 P P 23 16 42.5 +0.1
baz=66,SNR=10
DVTC **Desert V Tower** 66.44 67 ⇑P P 23 16 43.3 -0.5
baz=66
SWSC **Sam W. Stewart** 66.44 67 ⇑P P 23 16 43.1 -0.8
baz=66
X13A **Yucca** 66.59 64 P P 23 16 44.6 -0.1
baz=66,SNR=23
PDMCI **Parker Dam,Lak** 66.59 64 P P 23 16 44.6 -0.2
baz=66,SNR=7.7
W14A **Seligman** 66.64 63 P P 23 16 45.6 +0.5
baz=66,SNR=46
Y12C **Blythe** 66.71 65 ⇑P P 23 16 45.3 -0.3
baz=66
PV10 **Paradox Valley** 66.97 58 *e*P P 23 16 47.7 +0.5
GLA **Glamis** 66.98 66 *e*P P 23 16 47.1 -0.2
GLA *e* 23 16 56.5
GLA **Glamis** 66.98 66 *e*P P 23 16 47.1 -0.2
GLA **Glamis** 66.98 66 P P 23 16 47.1 -0.2
baz=67,SNR=9.1
W15A **Williams** 67.16 63 ⇑P P 23 16 48.9 +0.5
baz=67,SNR=5.9
AGMN **Agassiz Refuge** 67.17 43 *e*P P 23 16 47.6 -0.9
comp=Z,64nm,1.4s,mb5.5
X14A **Yava** 67.25 64 P P 23 16 49.5 +0.5
baz=67,SNR=12
PV01 **Paradox Valley** 67.41 58 *e*P P 23 16 49.9 -0.1
WUAZ **Wupatki** 67.48 62 *e*P P 23 16 50.8 +0.3
comp=Z,15nm,0.9s,mb5.0
WUAZ **Wupatki** 67.48 62 ⇑P P 23 16 50.7 +0.2
baz=67
Y14A **Wickenburg** 67.53 64 P P 23 16 50.8 -0.1
baz=67,SNR=12
SMCO **Snowmass** 67.63 56 *e*P P 23 16 42.0 -9.5
comp=Z,17nm,0.8s,mb5.1
X15A **Humboldt** 67.64 63 P P 23 16 52.0 +0.6
baz=67,SNR=22
Z14A **Wintersburg** 67.95 64 ⇑P P 23 16 53.0 -0.4
baz=68
VRSR **Storozhevoye** 67.98 322 *e*P P 23 16 53.4 -0.2
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,20nm,0.9s
ISCO **Idaho Springs** 67.98 55 P P 23 16 54.2 +0.5
ISCO pmax pmax
comp=Z,17nm,0.8s,mb5.1
ISCO **Idaho Springs** 67.98 55 *e*P P 23 16 54.2 +0.5
comp=Z,17nm,0.8s,mb5.1
MVCO **Mesa Verde** 68.07 59 *e*P P 23 16 53.7 -0.4
comp=Z,10nm,0.8s,mb4.9
MVCO **Mesa Verde** 68.07 59 ⇓P P 23 16 54.0 -0.2
baz=68
HYB **Hyderabad** 68.27 273 *i*P P 23 16 55.5 +0.1
HYB **Hyderabad** 68.27 273 *e*P P 23 16 55.5 +0.1
NB2 **NORSAR Subarra** 68.75 342 P P 23 16 57.9 -0.5
comp=Z,3.1nm,0.6s,mb4.4,baz=25,slow=6.2
NOA **NORSAR Array B** 68.75 342 P P 23 16 57.6 -0.8
comp=Z,6.7nm,0.7s,mb4.7,baz=26,slow=6.4,SNR=14
NOA LR LR 23 51 50.9
comp=Z,111nm,18.4s,MS4.1,baz=280,slow=40
WRAB **Tennant Creek** 68.81 201 *e*P P 23 16 56.5 -2.3
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WRAB **Tennant Creek** 68.81 201 *e*P P 23 16 56.5 -2.3
comp=Z,6.0nm,0.8s,mb4.6
WB2 **Warramunga Arr** 68.82 201 P P 23 16 57.0 -1.9
WRA **Warramunga Arr** 68.82 201 P P 23 16 56.6 -2.3
comp=Z,3.7nm,0.9s,mb4.3,baz=16,slow=6.4,SNR=9.0
WRA LR LR 23 43 31.6
comp=Z,70nm,19.4s,MS3.9,baz=40,slow=33
WRA **Warramunga Arr** 68.82 201 *i*P P 23 16 56.5 -2.4
WRA pmax pmax
comp=Z,4.0nm,0.9s
115A **Sonoran Desert** 68.84 65 ⇓P P 23 16 59.1 +0.1
baz=69,SNR=7.6
HFS **Hagfors** 69.01 340 P P 23 16 59.6 -0.5
comp=Z,14nm,0.8s,mb5.0,baz=56,slow=5.6,SNR=27
116A **Eloy** 69.26 64 ⇓P P 23 17 01.7 +0.1
baz=69
SDCO **Great Sand Dun** 69.45 57 *e*P P 23 17 02.7 -0.1
comp=Z,9.1nm,0.8s,mb4.8
FITZ **Fitzroy Crossi** 69.64 210 LR LR 23 46 07.4
comp=Z,37nm,18.3s,MS3.7,baz=198,slow=35
TUC **Tucson** 70.00 64 *e*P P 23 17 05.7 -0.5
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TUC **Tucson** 70.00 64 *e*P P 23 17 05.7 -0.5
comp=Z,3.8nm,0.8s,mb4.4
ECSD **EROS,Sioux Fal** 70.06 47 *e*P P 23 17 05.6 -0.9
comp=Z,8.3nm,0.8s,mb4.7
MAK **Makhachkala** 70.10 312 *e*P P 23 17 04.7 -2.1
KONO **Kongsberg** 70.35 342 *e*P P 23 17 12.5 +4.1
POO **Poona** 70.73 277 ⇑*i*P P 23 17 09.0 -1.6
comp=Z,60nm,1.0s,mb5.5
LAZ **Ladron** 70.79 60 *e*P P 23 17 11.6 +0.6
ANMO **Albuquerque** 70.82 59 *e*P P 23 17 10.8 -0.4
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO **Albuquerque** 70.82 59 *e*P P 23 17 10.8 -0.4
comp=Z,6.3nm,0.8s,mb4.6
LENM **Lemitar** 71.05 60 *e*P P 23 17 12.2 -0.4
BNM **Barren Site** 71.27 60 *e*P P 23 17 14.2 +0.2
KAD **Karad** 71.34 276 *e*P P 23 17 14.2 -0.2
KAD AMb AMB 23 17 16.6
comp=Z,44nm,1.4s,mb5.2
SUW **Suwalki** 71.70 332 *e*P P 23 17 16.0 -0.5
KIV **Kislovodsk** 71.79 315 P P 23 17 18.2 +1.2
comp=Z,108nm,0.9s,mb5.8,SNR=5.3
KIV **Kislovodsk** 71.79 315 ⇓*e*P P 23 17 17.8 +0.8
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV **Kislovodsk** 71.79 315 *e*P P 23 17 17.9 +0.9
comp=Z,17nm,0.8s,mb5.0
KIV *e*PcP PcP 23 17 36.2 +0.2
ZEI **Tsey** 72.07 314 *e*P P 23 17 18.3 -0.4
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.8
AKASG **Malin Array Be** 72.35 327 P P 23 17 19.2 -1.2
comp=Z,5.6nm,0.6s,mb4.7,baz=34,slow=6.3,SNR=20
AKASG LR LR 23 51 22.4
comp=Z,195nm,18.1s,MS4.4,baz=310,slow=38
AKASG **Malin Array Be** 72.35 327 *i*P P 23 17 19.5 -0.9
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB **Malin Array Si** 72.35 327 *e*P P 23 17 19.3 -1.1
KIEV **Kiev** 72.36 327 *e*P P 23 17 19.6 -0.9
KIEV *e* 23 17 37.2
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV **Kiev** 72.36 327 *e*P P 23 17 19.6 -0.8
comp=Z,8.5nm,0.8s,mb4.7
KIEV *e*PcP PcP 23 17 37.2 -1.2
ASAR **Alice Springs** 72.51 200 P P 23 17 19.8 -1.5
comp=Z,5.7nm,0.8s,mb4.6,baz=13,slow=5.9,SNR=12
ASAR LR LR 23 45 15.9
comp=Z,70nm,19.3s,MS4.0,baz=248,slow=33
SCHQ **Schefferville** 72.93 24 P P 23 17 23.5 -0.3
comp=Z,9.4nm,0.7s,mb4.8,baz=344,slow=7.4,SNR=13
SCHQ **Schefferville** 72.93 24 *e*P P 23 17 23.5 -0.3
comp=Z,11nm,0.6s,mb5.0
SCIA **State Center** 73.10 46 *e*P P 23 17 24.4 -0.4
comp=Z,42nm,0.6s,mb5.5
KSU1 **Kansas State U** 73.41 50 *e*P P 23 17 24.8 -1.9
comp=Z,7.6nm,0.7s,mb4.7
GNI **Garni** 73.57 311 ⇑*e*P P 23 17 21.1 -6.5
GNI pmax pmax
comp=Z,14nm,0.8s
AMTX **Amarillo** 73.65 56 *e*P P 23 17 28.1 -0.1
comp=Z,11nm,0.8s,mb4.8
MNTX **Cornudas Mount** 73.73 61 *e*P P 23 17 28.2 -0.4
comp=Z,4.9nm,0.8s,mb4.5
PALK **Pallekele** 73.93 264 P P 23 17 30.1 +0.4
WMOK **Wichita Mounta** 75.41 55 *e*P P 23 17 37.7 -0.6
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WMOK **Wichita Mounta** 75.41 55 *e*P P 23 17 37.7 -0.6
comp=Z,10nm,1.0s,mb4.7
ERZM **Erzurum** 75.47 313 *i*P P 23 17 40.2 +1.5
KWP **Kalwaria** 75.57 330 *e*P P 23 17 39.4 +0.1
STHS **Stebnicka Huta** 76.25 331 *e*P P 23 17 43.8 +0.7
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS **Stebnicka Huta** 76.25 331 *e*P P 23 17 43.8 +0.7
comp=Z,6.9nm,0.8s,mb4.6
KOLS **Kolonicke sedl** 76.32 330 *e*P P 23 17 43.6 +0.1
BURAR **Bucovina Array** 76.38 328 ⇓*i*P P 23 17 43.9 0.0
LTX **Lajitas** 76.45 62 *e*P P 23 17 44.2 -0.1
LTX *e* 23 17 53.4
LTX pmax pmax
comp=Z,29nm,0.8s,mb5.3
LTX **Lajitas** 76.45 62 *e*P P 23 17 44.2 -0.1
comp=Z,29nm,0.8s,mb5.3
LTX *e* 23 17 53.4
TXAR **Lajitas Array** 76.45 62 P P 23 17 44.0 -0.3
comp=Z,24nm,0.7s,mb5.2,baz=301,slow=4.2,SNR=293
NIE **Niedzica** 76.56 331 *e*P P 23 17 45.3 +0.4
EKA **Eskdalemuir Ar** 76.75 347 P P 23 17 46.0 0.0
comp=Z,3.6nm,0.8s,mb4.3,baz=26,slow=6.1,SNR=4.3
OKC **Ostrava-Krasne** 76.89 333 *e*P P 23 17 47.3 +0.5
DPC **Dobruska-Polom** 77.00 334 *e*P P 23 17 47.8 +0.4
CLL **Collm** 77.09 337 ⇓*i*P P 23 17 47.5 -0.4
CLL *i* pP 23 17 51.8 -0.9

CLL pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL Collm 77.09 337 ⇓*i*P **P 23 17 47.5 -0.4**
comp=Z,11nm,0.9s,mb4.8
CLL *i* pP 23 17 51.8 -0.9
CLL Collm 77.09 337 ⇓*i*P **P 23 17 47.5 -0.4**
comp=Z,11nm,0.9s,mb4.8
CLL *i* pP pP 23 17 51.8 -0.9
comp=Z,15nm,1.0s
MORC Moravsky Berou 77.13 333 ⇑*i*P **P 23 17 48.5 +0.4**
MORC Moravsky Berou 77.13 333 P **P 23 17 48.2 +0.1**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MORC Moravsky Berou 77.13 333 ⇑P **P 23 17 48.5 +0.4**
BRG Berggiesshubel 77.22 336 *e*P **P 23 17 53.6 +5.0**
comp=Z,6.7nm,1.1s,mb4.5
BRG Berggiesshubel 77.22 336 *e*P **P 23 17 53.6 +5.0**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VRI Vrincioaia 77.27 326 ⇓*i*P **P 23 17 49.6 +0.7**
VRI Vrincioaia 77.27 326 ⇓P **P 23 17 49.6 +0.7**
KECS Kecovo 77.31 331 *e*P **P 23 17 49.2 +0.1**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 77.31 331 *e*P **P 23 17 49.2 +0.1**
comp=Z,4.0nm,0.9s,mb4.3
BOYT Boyabat 77.41 318 *i*P **P 23 17 50.5 +0.8**
TIRR Tirgusor 77.77 324 ⇓*i*P **P 23 17 52.1 +0.4**
TIRR Tirgusor 77.77 324 ⇓P **P 23 17 52.1 +0.4**
VRAC Vranov 77.84 334 ⇑*i*P **P 23 17 52.7 +0.6**
VRAC Vranov 77.84 334 ⇑P **P 23 17 52.7 +0.6**
PRU Pruhonice 77.84 335 *e*P **P 23 17 52.4 +0.3**
VYHS Vyhne 77.84 332 *e*P **P 23 17 52.4 +0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 77.84 332 *e*P **P 23 17 52.4 +0.3**
comp=Z,5.0nm,1.1s,mb4.4
MLR Muntele Rosu 77.89 326 ⇓*i*P **P 23 17 52.9 +0.6**
MLR Muntele Rosu 77.89 326 P **P 23 17 52.9 +0.5**
JCT Junction City 77.93 58 *e*P **P 23 17 51.8 -0.8**
JCT pmax pmax
comp=Z,30nm,1.2s,mb5.1
JCT Junction City 77.93 58 *e*P **P 23 17 51.8 -0.7**
comp=Z,30nm,1.2s,mb5.1
DRGR 77.99 329 ⇑*i*P **P 23 17 53.0 +0.1**
DRGR 77.99 329 P **P 23 17 53.2 +0.2**
PSZ Piszkesteto 78.00 331 *e*P **P 23 17 53.3 +0.3**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PSZ Piszkesteto 78.00 331 *e*P **P 23 17 53.3 +0.4**
comp=Z,3.6nm,0.8s,mb4.3
BALT Daday 78.01 319 *i*P **P 23 17 54.3 +1.2**
MOX Moxa 78.07 337 *e*(P) **P 23 17 53.5 +0.1**
CTKT Corum 78.09 318 *i*P **P 23 17 54.3 +0.8**
MALT Malatya 78.16 314 ⇓*i*P **P 23 17 55.5 +1.7**
MALT Malatya 78.16 314 *e*P **P 23 17 55.5 +1.7**
MALT Malatya 78.16 314 P **P 23 17 55.8 +2.0**
NKC Novy Kostel 78.22 336 *e*P **P 23 17 54.1 -0.1**
VOIR 78.28 327 ⇑*i*P **P 23 17 55.3 +0.8**
VOIR 78.28 327 ⇑P **P 23 17 55.3 +0.8**
SMOL Smolenice 78.28 333 *e*P **P 23 17 55.4 +0.9**
MIAR Mount Ida 78.42 52 *e*P **P 23 17 54.9 -0.4**
MIAR *e* 23 18 03.5
MIAR pmax pmax
comp=Z,14nm,1.3s,mb4.7
MIAR Mount Ida 78.42 52 *e*P **P 23 17 54.9 -0.4**
comp=Z,14nm,1.3s,mb4.7
MIAR *e*PcP PcP 23 18 03.5 -1.0
ELDT Eldivan 78.83 318 *i*P **P 23 17 58.0 +0.4**
KHC Kasperske Hory 78.89 335 *e*P **P 23 17 58.3 +0.4**
KHC *ex* x 23 18 06.0
GRA1 Grafenberg Arr 79.04 337 *e*P **P 23 17 59.2 +0.5**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 79.04 337 *e*P **P 23 17 59.2 +0.5**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 79.04 337 *e*P **P 23 17 59.2 +0.5**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STKA Stephens Creek 79.06 192 P **P 23 17 56.5 -2.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=357,slow=6.6,SNR=4.0
STKA LR LR 23 50 24.5
comp=Z,80nm,18.1s,MS4.1,baz=24,slow=34
STKA Stephens Creek 79.06 192 *e*P **P 23 17 58.4 -0.4**
STKA LR LR 23 50 24.6
GERES **GERESS Array B 79.11 335** P **P 23 17 58.7 -0.4**
comp=Z,2.1nm,0.6s,mb4.2,baz=36,slow=5.6,SNR=20
GERES LR LR 23 56 14.9
comp=Z,210nm,20.1s,MS4.5,baz=84,slow=38
GZR Gura Zlata 79.16 328 ⇑*i*P **P 23 17 59.3 -0.1**
GZR Gura Zlata 79.16 328 P **P 23 17 59.4 0.0**
CONA Conrad Observa 79.29 333 ⇓*i*P **P 23 18 00.2 +0.2**
comp=Z,5.6nm,0.7s,mb4.6
WCI Wyandotte Cave 79.32 45 P **P 23 17 59.5 -0.7**
WCI pmax pmax
comp=Z,20nm,0.9s,mb5.0
WCI Wyandotte Cave 79.32 45 *e*P **P 23 17 59.8 -0.4**
comp=Z,20nm,0.9s,mb5.0
WCI *e*PcP PcP 23 18 08.5 +0.1
BR131 Keskin Array S 79.34 318 *e*P **P 23 18 00.6 +0.2**
comp=Z,2.7nm,0.7s,mb4.3
BRTR Keskin Array B 79.34 318 P **P 23 17 59.8 -0.6**
comp=Z,5.7nm,0.9s,mb4.5,baz=66,slow=4.2,SNR=24
SGKT Sivrigoynuk 79.38 319 *i*P **P 23 18 01.2 +0.7**
BZS Buzias 79.39 329 ⇓*i*P **P 23 18 00.9 +0.3**
BZS Buzias 79.39 329 P **P 23 18 00.4 -0.2**
MEM Membach 79.50 340 P **P 23 18 01.6 +0.4**
AVNT Avonos 79.53 317 *i*P **P 23 18 01.8 +0.5**
ANTO Ankara 79.61 319 ⇓*i*P **P 23 18 02.8 +1.0**
ANTO Ankara 79.61 319 ⇓P **P 23 18 02.8 +0.9**
BCLA Clavier 79.84 341 E **P 23 18 04.9 +1.9**
MOA Molln 79.84 334 ⇑*i*P **P 23 18 03.6 +0.6**
comp=Z,7.6nm,0.8s,mb4.7
PKSM Moragy 79.91 331 ⇑*i*P **P 23 18 02.7 -0.7**
PKSM Moragy 79.91 331 ⇑P **P 23 18 02.7 -0.7**
ARSA Arzberg 80.00 333 ⇑*i*P **P 23 18 01.7 -2.2**
comp=Z,4.2nm,0.7s,mb4.5
WVT Waverly 80.21 47 P **P 23 18 04.3 -0.8**
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WVT Waverly 80.21 47 *e*P **P 23 18 04.0 -1.0**
comp=Z,6.9nm,0.8s,mb4.6
WVT *e*PcP PcP 23 18 14.0 +1.7
COBT Iskenderun 80.64 314 *i*P **P 23 18 07.0 -0.4**
ESKT Eskisehir 80.77 320 *i*P **P 23 18 05.0 -3.1**
KBA Koelnbreinsper 80.81 335 ⇑*i*P **P 23 18 09.5 +1.2**
comp=Z,24nm,1.1s,mb5.1
PLAL Pickwick Lake 80.98 48 *e*P **P 23 18 07.7 -1.5**
comp=Z,4.3nm,0.6s,mb4.6
ULDT Uludag 81.02 321 *i*P **P 23 18 09.3 -0.1**
BFO Black Forest 81.05 338 *e*P **P 23 18 09.5 -0.1**
BFO pmax pmax
comp=Z,11nm,1.0s,mb4.7
BFO Black Forest 81.05 338 *e*P **P 23 18 09.5 -0.1**
comp=Z,11nm,1.0s,mb4.8
PPT Papeete 81.07 127 *e*LR LR 23 42 32.2
comp=Z,204nm,22.2s,baz=325
PPT Papeete 81.07 127 LR LR 23 47 02.2
comp=Z,192nm,21.9s,MS4.4,baz=339,slow=30
WATA Walderalm 81.09 336 ⇑*i*P **P 23 18 10.7 +1.0**
comp=Z,7.0nm,0.6s,mb4.8
WATA Walderalm 81.09 336 P **P 23 18 10.7 +1.0**
WTTA Wattenberg 81.14 336 ⇓*i*P **P 23 18 07.6 -2.5**
comp=Z,0.7nm,0.4s,mb4.0
WTTA Wattenberg 81.14 336 ⇓*i* **P 23 18 10.9 +0.9**
comp=Z,18nm,1.0s,mb5.0
WTTA Wattenberg 81.14 336 **P 23 18 10.9 +0.9**
comp=Z,18nm,1.0s,mb5.0
WTTA Wattenberg 81.14 336 P **P 23 18 07.6 -2.5**
WTTA *e* pP 23 18 10.9 -3.9
MCWV Mont Chateau 81.15 40 *e*P **P 23 18 10.1 0.0**
comp=Z,17nm,1.0s,mb4.9
SSPA Standing Stone 81.19 38 *e*P **P 23 18 09.7 -0.6**
comp=Z,8.9nm,0.8s,mb4.8
GRUS Gruza 81.20 328 *i*P **P 23 18 09.0 -1.4**
MOTA Moosalm 81.21 336 ⇑*i*P **P 23 18 11.4 +0.9**
comp=Z,14nm,0.8s,mb4.9
CDF Champ du Feu 81.24 339 *e*P **P 23 18 09.2 -1.4**
comp=Z,38nm,1.1s,mb4.9
CDF Champ du Feu 81.24 339 *e*P **P 23 18 09.2 -1.4**
CDF pmax pmax
comp=Z,19nm,1.1s,mb4.9
CDF Champ du Feu 81.24 339 *e*P **P 23 18 09.2 -1.4**
comp=Z,19nm,1.1s,mb4.9
DIVS Divcibare 81.28 329 *i*P **P 23 18 10.4 -0.4**
SQTA Sankt Quirin 81.30 336 ⇑*i*P **P 23 18 12.0 +1.1**
comp=Z,15nm,1.1s,mb4.9
VTS Vitosha 81.39 326 ⇑*i*P **P 23 18 11.4 0.0**
VTS Vitosha 81.39 326 P **P 23 18 11.6 +0.2**
DAVA Damuels 81.60 337 ⇑*i*P **P 23 18 13.3 +0.8**
comp=Z,14nm,1.0s,mb4.8
BTOK Tokmak 81.81 321 *i*P **P 23 18 13.7 +0.1**
VAY Valandovo 82.72 326 *e*P **P 23 18 17.6 -0.8**
ELN Prospectdale 82.73 42 *e*P **P 23 18 17.1 -1.4**
GRR Gorron 83.05 344 *e*P **P 23 18 18.8 -1.3**
comp=Z,145nm,1.3s,mb5.5
GRR Gorron 83.05 344 *e*P **P 23 18 18.8 -1.3**
GRR pmax pmax
comp=Z,73nm,1.3s,mb5.5
GRR Gorron 83.05 344 *e*P **P 23 18 18.8 -1.3**
comp=Z,73nm,1.3s,mb5.5
SMF Signal de Mont 83.72 340 *e*P **P 23 18 22.2 -1.3**
comp=Z,88nm,1.2s,mb5.5
SMF Signal de Mont 83.72 340 *e*P **P 23 18 22.2 -1.3**
SMF pmax pmax
comp=Z,44nm,1.2s,mb5.5
SMF Signal de Mont 83.72 340 *e*P **P 23 18 22.2 -1.3**
comp=Z,44nm,1.2s,mb5.5
LPG La Plagne 84.08 338 *e*P **P 23 18 25.1 -0.3**
comp=Z,70nm,1.1s,mb5.4
LPG La Plagne 84.08 338 *e*P **P 23 18 25.1 -0.3**
LPG pmax pmax
comp=Z,35nm,1.1s,mb5.4
LPG La Plagne 84.08 338 *e*P **P 23 18 25.1 -0.3**
comp=Z,35nm,1.1s,mb5.4
BDRM Kayabasi 84.31 320 *i*P **P 23 18 23.9 -2.6**
BNI Bardonecchia 84.52 338 *e*P **P 23 18 28.8 +1.2**
BNI pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
BNI Bardonecchia 84.52 338 *e*P **P 23 18 28.8 +1.2**
comp=Z,5.7nm,0.5s,mb5.0
AQU L'Aquila 85.05 332 *e*P **P 23 18 30.8 +0.5**
AQU pmax pmax
comp=Z,28nm,1.2s,mb5.3
AQU L'Aquila 85.05 332 *e*P **P 23 18 30.8 +0.5**
comp=Z,28nm,1.2s,mb5.3
CAF Calviac 85.75 341 *e*P **P 23 18 32.1 -1.7**
comp=Z,56nm,1.4s,mb5.3
CAF Calviac 85.75 341 *e*P **P 23 18 32.1 -1.7**
CAF pmax pmax
comp=Z,28nm,1.4s,mb5.3
CAF Calviac 85.75 341 *e*P **P 23 18 32.1 -1.7**
comp=Z,28nm,1.4s,mb5.3
TBI Tubuai 85.84 131 *e*LR LR 23 44 48.4
comp=Z,315nm,27.8s
NWAO Narrogin (SRO) 86.18 211 P **P 23 18 34.5 -1.4**
comp=Z,18nm,0.8s,mb5.3,baz=15,slow=6.0,SNR=7.7
NWAO LR LR 00 01 04.3
comp=Z,61nm,18.5s,MS4.0,baz=82,slow=38
NWAO Narrogin (SRO) 86.18 211 *e*P **P 23 18 34.5 -1.4**
NWAO pmax pmax
comp=Z,12nm,0.7s
NWAO Narrogin (SRO) 86.18 211 *e*P **P 23 18 34.5 -1.4**
comp=Z,12nm,0.7s,mb5.2
EIL Elat 86.74 311 *e*P **P 23 18 37.7 -1.0**
comp=Z,100nm,0.8s
TAU Tasmania Unive 89.41 186 P **P 23 18 50.1 -1.2**
ESDC Sonseca Array 92.04 344 P **P 23 19 02.6 -1.0**
comp=Z,2.4nm,0.8s,mb4.6,baz=2.8,slow=4.5,SNR=7.9
ESDC LR LR 00 03 48.9
comp=Z,148nm,21.3s,MS4.4,baz=340,slow=38
KEST Kesra 92.38 333 P **P 23 19 05.6 +0.4**
comp=Z,1.8nm,0.8s,mb4.4,baz=58,slow=2.0,SNR=6.9
KEST LR LR 00 05 23.7
comp=Z,34nm,19.9s,MS3.8,baz=263,slow=39
TORD Torodi Ar. Bea 115.84 331 PKP PKPdf 23 24 35.8 -1.4
comp=Z,0.6nm,0.5s,baz=14,slow=1.7,SNR=13
VNDA Vanda 123.94 178 PKP PKPdf 23 24 48.2 -4.6
comp=Z,1.8nm,0.8s,baz=278,slow=2.7,SNR=5.7
SBA Scott Base 124.42 177 *e*PKIKP PKPdf 23 24 51.1 -2.6
LPAZ La Paz 133.27 64 PKP PKPdf 23 25 10.8 +0.3
comp=Z,1.4nm,1.0s,baz=117,slow=1.5,SNR=3.7
LPAZ La Paz 133.27 64 PKP PKPdf 23 25 10.8 +0.3
QSPA South Pole Qui 136.36 180 *e*PKPdf PKPdf 23 25 14.1 -2.2
SYO Syowa Base 141.47 212 ⇓*e*PKPdf PKPdf 23 25 23.8 -1.8
CFAA Coronel Fontan 143.77 81 PKP PKPdf 23 25 25.6 -4.2
comp=Z,0.1nm,0.5s,baz=12,slow=1.5,SNR=3.9
SNAA Sanae 152.77 195 PKPbc PKPbc 23 25 47.8 -3.7
comp=Z,1.6nm,0.6s,baz=186,slow=3.2,SNR=25
SNAA PKPab PKPab 23 25 57.1 -5.2
comp=Z,3.6nm,0.9s,baz=121,slow=3.1,SNR=14
SNAA Sanae 152.77 195 *e*PKPdf PKPbc 23 25 47.3 -4.2
SNAA *e* 23 25 58.6
SNAA *e* 23 26 05.6
VNA2 Neumayer--Watz 154.18 193 *e*PKPdf PKPbc 23 25 51.1 -3.4
baz=112,slow=1.1
VNA2 *e* 23 26 05.1
VNA2 *e* 23 26 13.8
VNA2 *e* 23 26 22.0
VNA3 Neumayer Olymp 154.23 191 *e*PKPdf PKPbc 23 25 50.6 -4.1
VNA3 *e* 23 26 05.0
VNA3 *e* 23 26 14.2
VNA3 *e* 23 26 21.1

*ISCJB **20** 23:07:02.2±1.0, 652S×1004×12823E×008, h304km±10km, mb4.3/16, Error ellipse: s-maj=12.9km s-min=5.6km az=148.7*
*BJI **20** 23:07:03.0, 667S×1284E, h325km, mB4.6, mb4.5*
*NEIC **20** 23:07:05.3±1.0, 662S×1281E, h324km±11km, mb4.6/11, Error ellipse: s-maj=11.9km s-min=6.5km az=70.0*
*IDC **20** 23:07:05.8±3.2, 664S×1282E, h330km±35km, mb3.9/8, mb1 4.1/11, mb1mx3.9/17, mbtmp4.0/11, Error ellipse: s-maj=30.0km s-min=10.8km az=80.0*
ISC 20 23:07:05.3±0.9, 663S±004×12827E±007, h324km±9km, n35, σ0°91/44, mb4.2/16, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KAKA	**Kakadu**	**7.30**	**146**	*e*P		**Pn**	**23 08 50.6**	**-0.1**
	17nm,0.2s							
KAKA				*e*S		**S**	**23 10 15.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.68**	**192**	*e*P		**Pn**	**23 09 42.1**	**-1.4**
	83nm,0.5s							
FITZ				*e*S		**S**	**23 11 52.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.68**	**192**	P		**Pn**	**23 09 42.0**	**-1.5**
	7.4nm,0.3s,baz=23,slow=8.5,SNR=64							
FITZ				S		**S**	**23 11 52.2**	**-1.5**
	1.3nm,0.3s,baz=283,slow=21,SNR=5.3							
WRAB	**Tennant Creek**	**14.48**	**157**	*e*P		**P**	**23 10 16.4**	**+1.1**
	20nm,0.5s							
WRAB				*e*S		**S**	**23 12 51.0**	**-2.0**
WRA	**Warramunga Arr**	**14.48**	**157**	P		**P**	**23 10 16.2**	**+0.8**
	3.7nm,0.3s,baz=332,slow=12,SNR=139							
WRA				S		**S**	**23 12 51.7**	**-1.4**
	0.8nm,0.3s,baz=330,slow=20,SNR=12							
WB2	**Warramunga Arr**	**14.49**	**157**	*e*P		**P**	**23 10 16.5**	**+1.1**
WB2				*e*S		**S**	**23 12 52.1**	**-1.1**
MBWA	**Marble Bar**	**16.64**	**209**	*e*P		**P**	**23 10 38.7**	**-0.2**
	73nm,0.6s							
MBWA				S		**S**	**23 13 36.4**	**+0.3**
KKM	**Kota Kinabalu**	**17.41**	**316**	*e*P		**P**	**23 10 47.8**	**+0.6**
AS31	**Alice Springs**	**17.78**	**163**	*e*P		**P**	**23 10 52.7**	**+1.6**
AS31				*e*S		**S**	**23 13 59.2**	**+0.6**
ASAR	**Alice Springs**	**17.78**	**163**	P		**P**	**23 10 52.6**	**+1.4**
	8.9nm,0.3s,baz=345,slow=12,SNR=689							
ASAR				pP			23 11 38.1	
	1.2nm,0.3s,baz=336,slow=9.8,SNR=4.3							
ASAR				S		**S**	**23 13 59.0**	**+0.4**
	0.4nm,0.3s,baz=346,slow=23,SNR=12							
ASAR	**Alice Springs**	**17.78**	**163**	P		**P**	**23 10 52.6**	**+1.4**
ASAR				pP			23 11 38.1	
ASAR				S		**S**	**23 13 59.0**	**+0.4**
ASPA	**Alice Springs**	**17.78**	**163**	⇑*i*P		**P**	**23 10 52.7**	**+1.5**
ASPA				*e*S		**S**	**23 13 59.2**	**+0.6**
KSM	**Kuching**	**19.65**	**294**	*e*P		**P**	**23 11 11.2**	**+0.2**
FORT	**Forrest**	**24.02**	**180**	⇓*i*P		**P**	**23 11 52.3**	**+0.7**
	32nm,0.7s,mb4.7							
KLBR	**Kellerberrin**	**26.70**	**200**	*e*P		**P**	**23 12 15.4**	**-0.2**
	7.9nm,0.5s,mb4.2							
MUN	**Mundaring**	**27.61**	**203**	*e*P		**P**	**23 12 23.4**	**-0.3**
STKA	**Stephens Creek**	**28.03**	**155**	P		**P**	**23 12 28.6**	**+1.3**
	5.3nm,0.5s,mb4.1,baz=330,slow=9.6,SNR=13							
STKA	**Stephens Creek**	**28.03**	**155**	*e*P		**P**	**23 12 28.4**	**+1.0**
NWAO	**Narrogin (SRO)**	**28.10**	**200**	P		**P**	**23 12 27.9**	**-0.1**
	6.6nm,0.6s,mb4.1,baz=41,slow=9.8,SNR=7.2							
KSRS	**Korea Array**	**43.86**	**360**	P		**P**	**23 14 40.5**	**+0.2**
	2.8nm,0.5s,mb3.6,baz=179,slow=9.6,SNR=12							
MJAR	**Matsushiro Arr**	**43.95**	**12**	P		**P**	**23 14 39.6**	**-1.4**
	2.6nm,0.7s,mb3.5,baz=187,slow=8.9,SNR=7.5							
XAN	**Xi'an**	**44.41**	**337**	P		**P**	**23 14 43.3**	**-1.3**
XAN				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.3							
LZH	**Lanzhou**	**48.29**	**333**	*e*P		**P**	**23 15 15.1**	**+0.5**
LZH				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.2							
ULN	**Ulaanbaatar**	**57.40**	**343**	*e*P		**P**	**23 16 21.4**	**+0.8**
	comp=Z,6.6nm,0.9s,mb4.0							
SONM	**Songino Array**	**57.57**	**343**	P		**P**	**23 16 22.3**	**+0.5**
	comp=Z,3.2nm,0.6s,mb3.8,baz=163,slow=6.9,SNR=16							
MKAR	**Makanchi Array**	**66.99**	**328**	P		**P**	**23 17 23.9**	**+0.1**
	comp=Z,7.5nm,0.5s,mb4.7,baz=118,slow=8.2,SNR=67							
MKAR				PcP		PcP	23 17 48.9	-0.6
	comp=Z,1.9nm,0.6s,baz=131,slow=4.6,SNR=4.1							
MKAR	**Makanchi Array**	**66.99**	**328**	P		**P**	**23 17 23.9**	**+0.1**
MKAR				PcP		PcP	23 17 48.9	-0.6
ZAL	**Zalesovo**	**70.50**	**334**	P		**P**	**23 17 44.1**	**-1.2**
	comp=Z,2.6nm,0.5s,mb4.2,baz=314,slow=3.6,SNR=7.0							
BVAR	**Borovoye Array**	**76.84**	**328**	P		**P**	**23 18 21.6**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.1,baz=108,slow=8.3,SNR=9.9							
BRVK	**Borovoye**	**76.92**	**328**	*e*P		**P**	**23 18 22.2**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.2							
TIXI	**Tiksi**	**78.12**	**0**	P		**P**	**23 18 28.0**	**-0.9**
	comp=Z,9.6nm,0.5s,mb4.8							
ARU	**Arti**	**84.49**	**328**	*e*P		**P**	**23 19 01.6**	**-0.5**
	comp=Z,3.2nm,0.4s,mb4.5							
COLA	**College**	**93.36**	**25**	P		**P**	**23 19 43.9**	**0.0**
TORD	**Torodi Ar. Bea**	**127.05**	**281**	PKP		PKPdf	23 25 31.4	+0.4
	comp=Z,1.1nm,1.0s,baz=80,slow=1.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**127.05**	**281**	PKP		PKPdf	23 25 31.4	+0.4

IDC 20 23:33:38.4±4.7, 4615N×15512E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=165.5km s-min=41.2km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**48.45**	**299**	P		P	23 42 22.2	-0.3
	0.3nm,0.8s,baz=68,slow=8.1,SNR=4.4							
FINES	**FINESS Array B**	**65.17**	**336**	P		P	23 44 20.7	-0.5
	0.3nm,0.5s,baz=25,slow=6.3,SNR=4.9							
TXAR	**Lajitas Array**	**76.57**	**62**	P		P	23 45 30.8	+0.2
	0.1nm,0.3s,baz=308,slow=4.5,SNR=4.1							

IDC 20 23:36:47.2±4.7, 4590N×15516E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=162.2km s-min=40.7km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**48.60**	**299**	P		P	23 45 32.2	-0.3
	0.4nm,0.7s,baz=75,slow=8.2,SNR=4.8							
FINES	**FINESS Array B**	**65.41**	**336**	P		P	23 47 31.1	-0.5
	2.5nm,1.1s,baz=50,slow=6.0,SNR=5.9							
TXAR	**Lajitas Array**	**76.66**	**62**	P		P	23 48 40.1	+0.2
	0.1nm,0.4s,baz=300,slow=5.4,SNR=4.3							

*IDC **20** 23:56:45.4±4.5, 4594N×15303E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=151.4km s-min=30.5km az=8.0*
*ISCJB **20** 23:56:50.8±4.2, 462N±05×1530E±02, h41km±51km, mb3.8/5, Error ellipse: s-maj=88.9km s-min=25.0km az=172.6*
*MOS **20** 23:56:50.4±1.3, 4637N×15296E, h32km, mb4.1/2, Error ellipse: s-maj=59.4km s-min=49.8km az=172.0*
ISC 20 23:56:51.2±7.2, 463N±04×1530E±02, h27km±54km, n9, σ0°25/10, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR	**Kuril'sk**	**3.77**	**255**	*i* PN		**Pn**	**23 57 47.5**	**0.0**
KUR				*i* S		**Sn**	**23 58 31.0**	**+0.1**
KUR				pmax	pmax			
	comp=Z,80nm,0.5s							
KUR				smax				
	comp=N,100nm,0.5s							
MKAR	**Makanchi Array**	**47.09**	**298**	P		**P**	**00 05 20.1**	**-0.5**
	comp=N,0.4nm,0.7s,mb3.5,baz=63,slow=6.0,SNR=4.5							
FINES	**FINESS Array B**	**64.41**	**335**	P		**P**	**00 07 25.1**	**+0.4**
	comp=N,0.6nm,0.4s,mb3.9,baz=35,slow=5.6,SNR=6.3							
FINES	**FINESS Array B**	**64.41**	**335**	P		**P**	**00 07 25.2**	**+0.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**65.05**	**54**	P		**P**	**00 07 29.0**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.6,baz=282,slow=4.5,SNR=4.6							
AKASG	**Malin Array Be**	**71.87**	**326**	P		**P**	**00 08 11.6**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=34,slow=6.2,SNR=4.9							
AKASG	**Malin Array Be**	**71.87**	**326**	P		**P**	**00 08 11.6**	**0.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**77.76**	**60**	P		**P**	**00 08 45.5**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=306,slow=4.1,SNR=8.2							
TXAR	**Lajitas Array**	**77.76**	**60**	P		**P**	**00 08 45.6**	**0.0**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*ISCJB **21** 00:15:53.2±0.5, 4029N±003×23.98E±003, h3km±4km, Error ellipse: s-maj=4.4km s-min=3.6km az=50.5*
*CSEM **21** 00:15:54.3±0.1, 4028N×2398E, h15km, ML2.8, Error ellipse: s-maj=1.7km s-min=1.4km az=44.0*
*THE **21** 00:15:54.8, 4028N×2393E, h2km, ML2.8*
*NEIC **21** 00:15:54.0, 4025N×2395E, h27km, MD3.1(ATH), After ATH.*
*ATH **21** 00:15:54.0, 4025N×2395E, h27km±3km, MD3.1/7*
ISC 21 00:15:54.0±0.5, 4027N±003×2399E±003, h6km±4km, n31, σ0°59/47, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OUR	**Ouranopolis**	**0.06**	**354**	*e*Pg		**Pg**	**00 15 56.4**	**+0.8**
PAIG	**Paliouri**	**0.42**	**215**	*e*Pg		**Pg**	**00 16 02.8**	**+0.7**
PLG	**Polygyros**	**0.43**	**284**	*e*Pg		**Pg**	**00 16 02.8**	**+0.5**
PLG				*e*Sg		**Sg**	**00 16 08.0**	**+0.1**
PLG	**Polygyros**	**0.43**	**284**	*e*PB		**Pg**	**00 16 02.7**	**+0.4**
PLG				*e*SB		**Sg**	**00 16 08.3**	**+0.4**
SOH	**Sokhos**	**0.73**	**319**	*e*Pg		**Pg**	**00 16 08.2**	**+0.2**
SOH				*e*Sg		**Sg**	**00 16 17.9**	**+0.3**
HORT	**Hortiatis**	**0.75**	**296**	*e*Pg		**Pg**	**00 16 08.2**	**-0.3**
HORT				*e*Sg		**Sg**	**00 16 18.5**	**+0.3**
THE	**Thessaloniki**	**0.86**	**295**	*e*Pg		**Pg**	**00 16 10.1**	**-0.4**
SRS	**Serrai**	**0.90**	**340**	*e*Pg		**Pg**	**00 16 11.3**	**+0.1**
LOS	**Limnos**	**0.90**	**112**	*e*Pg		**Pg**	**00 16 11.8**	**+0.5**
LIA	**Limnos Island**	**0.99**	**112**	*e*PN		**Pn**	**00 16 13.4**	**-0.9**
NVR	**Nevrokopi**	**1.08**	**355**	*e*PN		**Pn**	**00 16 16.0**	**+0.4**
XOR	**Xorichti**	**1.10**	**214**	*e*Pg		**Pg**	**00 16 15.1**	**+0.1**
XOR				*e*Sg		**Sg**	**00 16 30.1**	**+0.8**
XOR	**Xorichti**	**1.10**	**214**	*e*Pg		**Pg**	**00 16 15.1**	**+0.1**
XOR				*e*Sg		**Sg**	**00 16 30.0**	**+0.8**
NEO	**Neokhori**	**1.13**	**212**	*e*PN		**Pg**	**00 16 15.2**	**-0.5**
LIT	**Litokhoron**	**1.16**	**262**	*e*Pg		**Pg**	**00 16 15.9**	**-0.4**
LIT				*e*Sg		**Sg**	**00 16 31.2**	**-0.2**
KNT	**Kendrikon**	**1.21**	**317**	*e*Pg		**Pg**	**00 16 16.9**	**-0.4**
KNT				*e*Sg		**Sg**	**00 16 33.2**	**+0.2**
GRG	**Griva**	**1.39**	**300**	*e*Pg		**Pg**	**00

*CSEM **21** 00:16:56.7, 6783N×2021E, h4km, ML3.3, Mining explosion. After UPP*
*UPP **21** 00:16:56.7, 6783N×2021E, h4km, ML3.3, Mining explosion.*
HEL 21 00:16:57.1±0.0, 6783N×2021E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	00 16 59.4	-0.4
KUA				*i* S	Sg	00 17 01.3	-0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 17 05.1	-0.5
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 17 09.9	-0.8
LANU	**Lannavaara** baz=310	**0.71**	**71**	P	Pg	00 17 09.9	-0.8
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 17 10.0	-0.9
DUNU	**Dundret** baz=85	**0.72**	**169**	P	Pg	00 17 10.0	-0.9
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 17 11.3	-0.9
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 17 19.5	-0.7
KIF				*e*S	Sg	00 17 35.4	-0.4
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 17 21.8	-1.8
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 17 27.3	-0.7
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 17 38.4	+0.1
SGF				*e*SB	Sb	00 18 09.7	-3.0

*MOS **21** 00:56:51.0±1.0, 4618N×15440E, h11km, mb4.5/4, Error ellipse: s-maj=16.2km s-min=12.5km az=84.8*
*IDC **21** 00:56:51.1±0.8, 4620N×15444E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/24, mbtmp3.9/12, MS2.9/3, Ms1 2.9/3, ms1mx2.3/45, Error ellipse: s-maj=22.9km s-min=18.3km az=162.0*
*BJI **21** 00:56:52.7, 4620N×15440E, h23km, mB5.0, mb4.5*
*NEIC **21** 00:56:54.8±3.7, 4618N×15437E, h23km±26km, mb4.3/6, Error ellipse: s-maj=10.0km s-min=6.6km az=139.0*
*ISCJB **21** 00:56:55.4±2.6, 4617N±009×1544E±01, h44km±23km, mb4.0/18, Error ellipse: s-maj=16.6km s-min=11.4km az=104.2*
ISC 21 00:56:57.2±2.0, 4620N±009×1544E±01, h44km±19km, n37, σ0°74/37, mb4.0/18, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.66**	**260**	*e*PN	**Pn**	**00 57 59.0**	**-6.0**
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
ASAJ	**Asahikawa**	**8.58**	**260**	Pn	**Pn**	**00 59 00.4**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=98,slow=19,SNR=5.2						
ASAJ				LR	LR	01 02 36.9	
	comp=Z,57nm,18.0s,baz=180,slow=40						
MAJO	**Matsushiro**	**15.48**	**237**	*e*P	**Pn**	**01 00 30.8**	**-1.6**
MDJ	**Mudanjiang**	**17.46**	**274**	*e*P	**Pn**	**01 00 56.3**	**-1.0**
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**21.48**	**255**	P	**P**	**01 01 42.3**	**+0.3**
	comp=Z,0.8nm,0.4s,mb3.4,baz=57,slow=13,SNR=3.4						
KSRS				LR	LR	01 09 36.3	
	comp=Z,9.6nm,19.2s,baz=5.0,slow=36						
INCN	**Inchon**	**22.34**	**257**	P	**P**	**01 01 50.6**	**-0.5**
SNY	**Shenyang**	**22.50**	**270**	⇑P	**P**	**01 01 52.3**	**-0.5**
SNY				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
BILL	**Bilibino**	**22.74**	**12**	*e*P	**P**	**01 01 56.4**	**+1.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.3						
BILL	**Bilibino**	**22.74**	**12**	*e*P	**P**	**01 01 56.4**	**+1.0**
	comp=Z,5.6nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**31.90**	**290**	P	**P**	**01 03 18.8**	**+0.5**
SONM	**Songino Array**	**32.34**	**291**	P	**P**	**01 03 23.2**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.3,baz=46,slow=10,SNR=2.6						
SONM				LR	LR	01 17 02.6	
	comp=Z,54nm,18.5s,baz=341,slow=37						
NACB	**Ninganchiao**	**34.28**	**241**	P	**P**	**01 03 39.1**	**0.0**
SML	**Sawmill**	**35.77**	**43**	*e*P	**P**	**01 03 51.8**	**-0.1**
COLA	**College**	**36.03**	**38**	*e*P	**P**	**01 03 54.1**	**0.0**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
COLA	**College**	**36.03**	**38**	*e*P	**P**	**01 03 54.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.4						
EGAK	**Eagle**	**38.89**	**38**	*e*P	**P**	**01 04 17.8**	**-0.6**
	comp=Z,9.4nm,1.0s,mb4.5						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**01 04 41.3**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=293,slow=7.8,SNR=14						
INK	**Inuvik**	**41.65**	**32**	*e*P	**P**	**01 04 41.8**	**+0.6**
	comp=Z,58nm,0.5s						
ZAL	**Zalesovo**	**43.65**	**307**	P	**P**	**01 04 56.0**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=97,slow=6.0,SNR=4.2						
ZAL				PcP	PcP	01 06 44.0	0.0
	comp=Z,0.8nm,0.3s,baz=116,slow=5.3,SNR=5.1						
MK31	**Makanchi Array**	**47.97**	**298**	*e*P	**P**	**01 05 31.9**	**+0.4**
MKAR	**Makanchi Array**	**47.97**	**298**	P	**P**	**01 05 31.9**	**+0.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=66,slow=7.9,SNR=18						
MKAR				PcP	PcP	01 06 59.2	0.0
	comp=Z,0.8nm,0.7s,baz=62,slow=3.1,SNR=4.2						
MKAR	**Makanchi Array**	**47.97**	**298**	P	**P**	**01 05 31.9**	**+0.4**
MKAR				PcP	PcP	01 06 59.2	0.0
RES	**Resolute Bay**	**51.08**	**19**	*e*P	**P**	**01 05 53.8**	**-1.4**
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**01 06 01.2**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=50,slow=5.7,SNR=8.6						
BVAR				PcP	PcP	01 07 13.0	-0.5
	comp=Z,0.6nm,0.7s,baz=98,slow=5.1,SNR=3.9						
BRVK	**Borovoye**	**51.92**	**310**	*e*P	**P**	**01 06 01.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**51.92**	**310**	*e*P	**P**	**01 06 01.3**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2						
PMG	**Port Moresby**	**55.73**	**189**	P	**P**	**01 06 29.7**	**+0.4**
ARU	**Arti**	**56.00**	**318**	*e*P	**P**	**01 06 31.0**	**-0.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ARU	**Arti**	**56.00**	**318**	*e*P	**P**	**01 06 31.0**	**-0.2**
	comp=Z,4.5nm,0.6s,mb4.7						
AKTK	**Aktyubinsk**	**59.74**	**313**	P	**P**	**01 06 58.0**	**+0.5**
AKTO	**Aktyubinsk**	**59.74**	**313**	P	**P**	**01 06 58.0**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=96,slow=8.8,SNR=7.4						
PDAR	**Pinedale Array**	**64.36**	**54**	P	**P**	**01 07 28.4**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=300,slow=2.4,SNR=7.2						
FINES	**FINESS Array B**	**64.90**	**335**	P	**P**	**01 07 31.3**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=26,slow=9.3,SNR=4.8						
FINES	**FINESS Array B**	**64.90**	**335**	P	**P**	**01 07 31.3**	**-0.7**
WRA	**Warramunga Arr**	**68.29**	**200**	P	**P**	**01 07 53.4**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.9,baz=19,slow=6.6,SNR=4.2						
ASAR	**Alice Springs**	**71.97**	**200**	P	**P**	**01 08 17.0**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=19,slow=6.9,SNR=8.1						
TXAR	**Lajitas Array**	**77.00**	**61**	P	**P**	**01 08 45.6**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=294,slow=3.7,SNR=20						

*SZGRF **21** 01:08:32.4, 1245N×126.14E, h33km, mb5.3, Philippine Islands region*
*MOS **21** 01:08:52.3±0.9, 1382N×120.42E, h47km, mb4.9/18, Error ellipse: s-maj=15.9km s-min=6.0km az=117.8*
*MAN **21** 01:08:55.8, 1388N×120.12E, h56km, mb3.2, ML4.5, MS2.6*
*BJI **21** 01:08:55.5, 1399N×120.44E, h61km, mB5.2, mb4.7, Ms4.3, Msz4.1*
*ISCJB **21** 01:08:56.4±0.3, 1384N±003×12021E±004, h75km±3km, mb4.6/49, Error ellipse: s-maj=6.7km s-min=4.6km az=27.2*
*IDC **21** 01:08:56.9±2.1, 1375N×120.16E, h70km±21km, mb4.2/15, mb1 4.4/15, mb1mx4.2/23, mbtmp4.2/15, MS3.4/7, Ms1 3.4/7, ms1mx3.1/40, Error ellipse: s-maj=37.7km s-min=14.1km az=72.0*
*NEIC **21** 01:08:57.4±0.8, 1379N×12033E, h76km±6km, mb4.7/16, Error ellipse: s-maj=9.5km s-min=6.5km az=63.0*
ISC 21 01:08:57.6±0.3, 1383N±003×12024E±004, h71km±3km, n136, σ1°03/145, mb4.6/50, 17C-13D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.09**	**175**	*e*P	**Pn**	**01 09 07.5**	**-0.5**
LUBP				*e*S	**Sn**	**01 09 14.3**	**-1.3**
TGY	**Tagaytay City**	**0.73**	**68**	⇓*e*P	**Pn**	**01 09 15.2**	**+2.3**
TGY				*i* S	**Sn**	**01 09 28.8**	**+4.6**
TGY	**Tagaytay City** 1μm,0.3s,baz=321,slow=1.0,SNR=132	**0.73**	**68**	P	**Pn**	**01 09 13.5**	**+0.6**
TGY				S	**Sn**	**01 09 26.7**	**+2.5**
	3μm,0.3s,baz=12,slow=21,SNR=32						
PGP	**Puerto Galera**	**0.77**	**115**	⇑*e*P	**Pn**	**01 09 13.5**	**+0.2**
PGP				*e*S	**Sn**	**01 09 25.4**	**+0.5**
LQP	**Lukban**	**1.29**	**77**	⇑*e*P	**Pn**	**01 09 20.9**	**+1.0**
BOAC	**Boac**	**1.60**	**103**	*e*P	**Pn**	**01 09 23.6**	**-0.3**
BUSP	**Coron**	**1.81**	**181**	*e*P	**Pn**	**01 09 27.0**	**+0.2**
BUSP				*e*S	**Sn**	**01 09 48.4**	**-0.5**
POLP	**Polilio Island**	**1.88**	**61**	*e*P	**Pn**	**01 09 27.9**	**+0.4**
POLP				*e*S	**Sn**	**01 09 51.1**	**+0.8**
PCPH	**Palayan**	**1.91**	**26**	⇓*i*P	**Pn**	**01 09 26.7**	**-1.4**
PCPH				*e*S	**Sn**	**01 09 48.7**	**-2.6**
GQP	**Guinayangan**	**2.15**	**88**	⇓*e*P	**Pn**	**01 09 32.6**	**+1.4**
GQP				*e*S	**Sn**	**01 10 00.2**	**+3.3**
OTRP	**Odiongan**	**2.27**	**130**	*e*P	**Pn**	**01 09 33.7**	**+0.9**
BALP	**Baler**	**2.30**	**34**	*e*P	**Pn**	**01 09 33.4**	**+0.1**
BOLP	**Bolinao**	**2.56**	**353**	*e*P	**Pn**	**01 09 34.5**	**-2.3**
ENPP	**El Nido**	**2.72**	**197**	*e*P	**Pn**	**01 09 39.4**	**+0.4**
KALP	**Kalibo**	**2.96**	**136**	*e*P	**Sn**	**01 10 11.5**	**-5.1**
CUYO	**Cuyo Island**	**3.06**	**165**	*e*P	**Pn**	**01 09 43.5**	**0.0**
CAUP	**Cauayan**	**3.46**	**26**	*e*P	**Pn**	**01 09 49.5**	**+0.5**
PVCP	**Virac**	**3.81**	**93**	⇑*e*P	**Pn**	**01 09 55.0**	**+1.1**
PVCP	**Virac**	**3.81**	**93**	*e*P	**Pn**	**01 09 53.9**	**0.0**
APYP	**Conner**	**4.13**	**13**	*e*P	**Pn**	**01 09 57.4**	**-0.7**
CVP	**Callao Caves**	**4.14**	**21**	*e*P	**Pn**	**01 09 58.0**	**-0.3**
PPR	**Puerto Princes**	**4.29**	**200**	⇑*i*P	**Pn**	**01 10 00.6**	**+0.3**
PPR				*i* S	**Sn**	**01 10 47.2**	**-1.8**
NACB	**Ninganchiao**	**10.37**	**7**	P	**Pn**	**01 11 23.9**	**+0.5**
YHNB	**Yeheng**	**10.84**	**6**	*e*Pn	**Pn**	**01 11 28.2**	**-1.6**
QIZ	**Qiongzhong**	**11.23**	**299**	P	**Pn**	**01 11 34.6**	**-0.6**
QIZ				S	**Sn**	**01 13 34.1**	**-4.8**
QIZ				AMB	AMB		
	comp=Z,24nm,1.2s						
QIZ				AMB	AMB		
	comp=Z,77nm,3.6s						
QIZ	**Qiongzhong**	**11.23**	**299**	*e*Pn	**Pn**	**01 11 35.0**	**-0.2**
JOW	**Kunigami**	**14.96**	**29**	LR	LR	01 18 26.2	
	comp=Z,79nm,18.8s,baz=73,slow=38						
CHTO	**Chiang Mai**	**21.02**	**286**	*e*P	**P**	**01 13 36.7**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
CHTO	**Chiang Mai**	**21.02**	**286**	*e*P	**P**	**01 13 36.7**	**+1.4**
	comp=Z,7.0nm,0.9s,mb4.0						
JNU	**Nakatsue**	**21.52**	**25**	P	**P**	**01 13 42.6**	**+2.0**
	comp=Z,14nm,0.3s,mb4.8,baz=223,slow=19,SNR=7.7						
JNU				LR	LR	01 21 37.6	
	comp=Z,173nm,19.4s,baz=107,slow=35						
XAN	**Xi'an**	**22.59**	**335**	P	**P**	**01 13 51.4**	**-0.6**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.3						
CD2	**Chengdu**	**22.78**	**321**	P	**P**	**01 13 54.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,110nm,0.9s,mb5.2						
PSI	**Prapat**	**23.74**	**244**	LR	LR	01 22 12.4	
	comp=Z,55nm,18.2s,baz=185,slow=34						
KSRS	**Korea Array**	**24.51**	**15**	P	**P**	**01 14 10.1**	**-0.1**
	comp=Z,2.3nm,0.5s,mb3.9,baz=201,slow=9.4,SNR=6.4						
KSRS				LR	LR	01 25 14.1	
	comp=Z,59nm,19.2s,baz=92,slow=40						
BJT	**Baijiatuan**	**26.33**	**353**	*e*P	**P**	**01 14 26.7**	**0.0**
BJT				pmax	pmax		
	comp=Z,12nm,0.4s						
BJT	**Baijiatuan**	**26.33**	**353**	*e*P	**P**	**01 14 26.7**	**0.0**
	comp=Z,12nm,0.4s,mb4.7						
BJI	**Beijing**	**26.36**	**353**	P	**P**	**01 14 26.8**	**-0.1**
BJI				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.7						
BJI	**Beijing**	**26.36**	**353**	P	**P**	**01 14 26.8**	**-0.1**
	comp=Z,27nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**27.76**	**32**	P	**P**	**01 14 39.4**	**-0.1**
LSA	**Lhasa**	**31.17**	**305**	*e*P	**P**	**01 15 12.2**	**+2.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
LSA	**Lhasa**	**31.17**	**305**	*e*P	**P**	**01 15 12.2**	**+2.5**
	comp=Z,3.8nm,0.5s,mb4.4						
MDJ	**Munjiang**	**31.70**	**13**	*e*P	**P**	**01 15 12.9**	**-1.5**
	comp=Z,4.3nm,0.5s,mb4.4						
GUN	**Gumba**	**34.89**	**299**	*e*P	**P**	**01 15 43.4**	**+1.3**
	comp=Z,28nm,0.5s,mb5.4						
PKI	**Pulchoki**	**35.20**	**298**	*e*P	**P**	**01 15 45.5**	**+0.8**
	comp=Z,21nm,0.5s,mb5.2						
HIA	**Hailar**	**35.34**	**359**	⇓*e*P	**P**	**01 15 44.2**	**-1.8**
KKN	**Kakani**	**35.37**	**299**	*e*P	**P**	**01 15 47.1**	**+0.9**
	comp=Z,29nm,0.7s,mb5.2						
DMN	**Daman**	**35.47**	**298**	*e*P	**P**	**01 15 48.0**	**+1.0**
ULN	**Ulaanbaatar**	**35.67**	**345**	⇓*i*P	**P**	**01 15 48.8**	**+0.1**
ULN	**Ulaanbaatar**	**35.67**	**345**	*e*P	**P**	**01 15 48.6**	**-0.1**
	comp=Z,28nm,1.2s,mb5.1						
SONM	**Songino Array**	**35.81**	**344**	P	**P**	**01 15 50.1**	**+0.2**
	comp=Z,16nm,0.8s,mb5.0,baz=160,slow=9.5,SNR=111						
SONM				LR	LR	01 30 08.8	
	comp=Z,70nm,20.0s,baz=360,slow=36						
GKN	**Gorkha**	**35.97**	**299**	*e*P	**P**	**01 15 51.8**	**+0.4**
	comp=Z,28nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**36.31**	**157**	⇑*e*P	**P**	**01 15 53.0**	**-1.2**
WRAB	**Tennant Creek**	**36.31**	**157**	*e*P	**P**	**01 15 54.0**	**-0.2**
	comp=Z,5.4nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**36.31**	**157**	P	**P**	**01 15 53.1**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=335,slow=9.6,SNR=20						
WB2	**Warramunga Arr**	**36.32**	**157**	*e*P	**P**	**01 15 53.8**	**-0.6**
KLR	**Kul'dur**	**36.55**	**13**	*e*P	**P**	**01 15 51.3**	**-5.0**
KOLN	**Koldanda**	**36.80**	**298**	*e*P	**P**	**01 15 59.3**	**+0.9**
YSS	**Yuzh-Sakhalins**	**38.03**	**25**	*e*P	**P**	**01 16 09.2**	**+0.4**
CIT	**Chita**	**38.47**	**353**	*e*P	**P**	**01 16 10.9**	**-1.6**
CIT				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**38.99**	**343**	*e*P	**P**	**01 16 15.8**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**39.59**	**160**	P	**P**	**01 16 21.9**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.2,baz=336,slow=6.6,SNR=19						
TLY	**Talaya**	**40.05**	**344**	*de*P	**P**	**01 16 24.6**	**-1.1**
TLY				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.7						
TLY	**Talaya**	**40.05**	**344**	*e*P	**P**	**01 16 25.9**	**+0.2**
	comp=Z,14nm,0.7s,mb4.9						
MOY	**Mondy**	**40.80**	**342**	*e*P	**P**	**01 16 32.3**	**+0.4**
MOY				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8						
MK31	**Makanchi Array**	**45.66**	**324**	*e*P	**P**	**01 17 11.9**	**+0.8**
MK31				*e*		01 18 47.8	
MKAR	**Makanchi Array**	**45.66**	**324**	P	**P**	**01 17 11.5**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.4,baz=132,slow=8.9,SNR=61						
MKAR				PcP	PcP	01 18 48.1	0.0
	comp=Z,4.2nm,0.8s,baz=111,slow=5.3,SNR=12						
MKAR				LR	LR	01 35 48.4	
	comp=Z,58nm,20.9s,baz=175,slow=35						
MKAR	**Makanchi Array**	**45.66**	**324**	P	**P**	**01 17 11.5**	**+0.4**
MKAR						01 18 48.1	
MKAR	**Makanchi Array**	**45.66**	**324**	P	**P**	**01 17 11.5**	**+0.5**
MKAR				PcP	PcP	01 18 48.1	0.0
MKAR				LR	LR	01 35 48.4	
HNR	**Honiara**	**45.68**	**118**	P	**P**	**01 17 07.9**	**-3.3**
NWAO	**Narrogin (SRO)**	**46.58**	**183**	P	**P**	**01 17 17.0**	**-1.2**
KZA	**Kyzart** SNR=8.5	**47.93**	**315**	P	**P**	**01 17 31.2**	**+2.5**
KBK	**Karagaybulak** SNR=13	**48.36**	**315**	P	**P**	**01 17 34.1**	**+2.0**
CHMS	**Chumysh** SNR=8.8	**48.62**	**316**	P	**P**	**01 17 35.2**	**+1.1**
ZAL	**Zalesovo**	**48.74**	**333**	P	**P**	**01 17 33.6**	**-1.3**
	comp=Z,3.2nm,0.5s,mb4.5,baz=335,slow=6.8,SNR=14						
ZAL				LR	LR	01 38 01.5	
	comp=Z,85nm,20.4s,baz=183,slow=36						
USP	**Ospenovka** SNR=8.6	**48.90**	**316**	P	**P**	**01 17 37.4**	**+1.2**
EKS2	**Erkin-Say** SNR=11	**49.16**	**315**	P	**P**	**01 17 39.8**	**+1.6**
NVS	**Novosibirsk**	**50.02**	**333**	*e*P	**P**	**01 17 43.7**	**-1.1**
NVS				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=N,14nm,1.6s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
KK31	**Karatay Array**	**51.57**	**314**	*i* P	**P**	**01 17 56.7**	**+0.4**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KKAR	**Karatay Array**	**51.57**	**314**	P	**P**	**01 17 56.7**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
VOSK	**Vostochnaya**	**54.96**	**326**	P	**P**	**01 18 20.8**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BVA0	**Borovoye Array**	**55.42**	**326**	*i* P	**P**	**01 18 24.7**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**55.42**	**326**	P	**P**	**01 18 24.9**	**+0.3**
	comp=Z,7.7nm,0.7s,mb4.8,baz=117,slow=8.1,SNR=55						
BRVK	**Borovoye**	**55.49**	**326**	*e*P	**P**	**01 18 25.2**	**+0.2**
BRVK				*e*		01 19 23.6	
BRVK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
BRVK	**Borovoye**	**55.49**	**326**	*e*P	**P**	**01 18 25.2**	**+0.2**
	comp=Z,28nm,1.0s,mb5.2						
BRVK				*e*PcP	PcP	01 19 23.6	-0.7
AB31	**Akbulak array**	**60.34**	**319**	P	**P**	**01 18 59.1**	**+0.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
BILL	**Bilibino**	**61.72**	**18**	*e*P	**P**	**01 19 04.5**	**-3.9**
BILL				*e*		01 19 46.2	
BILL				*e*		01 21 22.6	
BILL				*e*SS	SS	01 31 24.9	-3.4
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
AKTO	**Aktyubinsk**	**61.83**	**320**	P	**P**	**01 19 08.8**	**-0.3**
ARU	**Arti**	**63.03**	**327**	⇑*i*P	**P**	**01 19 15.9**	**-1.2**
ARU				*e*		01 21 39.2	
ARU				*e*PPP		01 23 10.3	
ARU				*e*S	**S**	**01 27 42.4**	**+0.3**
ARU				*e*SS	SS	01 31 55.2	+6.5
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
ARU	**Arti**	**63.03**	**327**	*e*P	**P**	**01 19 16.3**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0						
SOKR	**Solikamsk**	**64.82**	**330**	⇑*i*P	**P**	**01 19 28.7**	**-0.1**
SOKR				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8						
GNI	**Garni**	**70.19**	**308**	⇓*e*P	**P**	**01 20 03.7**	**+1.1**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
KIV	**Kislovodsk**	**71.61**	**312**	*e*P	**P**	**01 20 11.9**	**+0.6**
KIV				*e*	pP	01 20 29.7	-0.6
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**71.61**	**312**	*e*P	**P**	**01 20 11.9**	**+0.6**
	comp=Z,8.6nm,0.9s,mb4.6						
KIV				*e*	pP	01 20 29.7	-0.6
OBN	**Obninsk**	**75.17**	**324**	⇓*i*P	**P**	**01 20 30.8**	**-1.4**
OBN				*e*SS	SS	01 34 54.6	-1.2
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
MALT	**Malatya**	**75.20**	**306**	⇓*i*P	**P**	**01 20 34.2**	**+1.8**
MALT	**Malatya**	**75.20**	**306**	⇓P	**P**	**01 20 34.2**	**+1.9**
ANN	**Anapa**	**75.32**	**313**	*e*P	**P**	**01 20 27.7**	**-5.4**
ANN				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.1						
MCK	**McKinley**	**78.09**	**27**	*e*P	**P**	**01 20 47.2**	**-1.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
MCK	**McKinley**	**78.09**	**27**	*e*P	**P**	**01 20 47.2**	**-1.4**
	comp=Z,3.7nm,0.7s,mb4.2						
KEV	**Kevo**	**78.25**	**339**	*e*p	**P**	**01 20 45.4**	**-4.2**
	comp=Z,5.5nm,0.6s,mb4.5						
KEV	**Kevo**	**78.25**	**339**	*e*P	**P**	**01 20 45.4**	**-4.2**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**78.72**	**308**	P	**P**	**01 20 52.1**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.7,baz=128,slow=5.1,SNR=6.7						
ARCES	**ARCESS Array B**	**78.81**	**339**	P	**P**	**01 20 51.9**	**-0.7**
	comp=Z,5.9nm,0.7s,mb4.5,baz=74,slow=6.9,SNR=36						
FINES	**FINESS Array B**	**79.96**	**331**	P	**P**	**01 20 58.0**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.4,baz=61,slow=5.5,SNR=36						
AKASG	**Malin Array Be**	**80.08**	**320**	P	**P**	**01 20 58.6**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.0,baz=66,slow=5.2,SNR=12						
VSU	**Vasula**	**80.16**	**328**	⇓*i*P	**P**	**01 20 58.9**	**-1.1**
VRI	**Vrincioaia**	**82.63**	**315**	⇑*i*P	**P**	**01 21 14.2**	**+1.2**
VRI	**Vrincioaia**	**82.63**	**315**	⇑P	**P**	**01 21 14.2**	**+1.2**
INK	**Inuvik**	**83.14**	**21**	P	**P**	**01 21 13.6**	**-2.1**
MLR	**Muntele Rosu**	**83.24**	**315**	P	**P**	**01 21 16.8**	**+0.6**
	comp=Z,2.9nm,0.6s,mb4.3,baz=360,slow=4.0,SNR=7.8						
MLR				LR	LR	02 01 41.4	
	comp=Z,2μm,21.3s,baz=336,slow=38						
MLR	**Muntele Rosu**	**83.24**	**315**	⇓*i*P	**P**	**01 21 16.9**	**+0.7**
MLR	**Muntele Rosu**	**83.24**	**315**	⇓P	**P**	**01 21 16.9**	**+0.7**
BURAR	**Bucovina Array**	**83.26**	**317**	⇑*i*P	**P**	**01 21 16.4**	**+0.1**
KOLS	**Kolonicke sedl**	**84.85**	**319**	*e*P	**P**	**01 21 19.9**	**-4.5**
DRGR		**85.12**	**317**	⇑*i*P	**P**	**01 21 25.9**	**+0.2**
DRGR		**85.12**	**317**	⇑P	**P

TBI				*e*LR		LR	01 25 00.7		
	2μm,28.0s,baz=288								
CTA	**Charters Tower**	**35.01**	**257**	P		**P**	**01 19 14.2**	**+1.6**	
	8.7nm,0.9s,mb4.7,baz=42,slow=15,SNR=4.6								
TAOE	**Nuku Hiva Isla**	**36.79**	**84**	*e*LR		LR	01 29 01.0		
	3μm,27.4s								
RKT	**Rikitea**	**40.38**	**107**	*e*LR		LR	01 31 05.7		
	780nm,26.5s								
STKA	**Stephens Creek**	**40.72**	**239**	P		**P**	**01 20 01.4**	**+0.6**	
	20nm,1.0s,mb4.7,baz=49,slow=7.1,SNR=9.3								
STKA				LR		LR	01 34 30.9		
	comp=Z,804nm,21.9s,MS4.5,baz=46,slow=33								
WB2	**Warramunga Arr**	**46.20**	**257**	*e*P		**P**	**01 20 43.8**	**-1.1**	
WRAB	**Tennant Creek**	**46.20**	**257**	*e*P		**P**	**01 20 43.7**	**-1.2**	
	15nm,1.3s,mb4.8								
WRA	**Warramunga Arr**	**46.21**	**257**	P		**P**	**01 20 43.6**	**-1.4**	
	2.6nm,0.9s,mb4.2,baz=91,slow=8.4,SNR=10								
WRA				LR		LR	01 38 02.3		
	comp=Z,341nm,18.9s,MS4.3,baz=90,slow=33								
AS31	**Alice Springs**	**46.53**	**252**	*e*P		**P**	**01 20 46.9**	**-0.7**	
ASAR	**Alice Springs**	**46.53**	**252**	P		**P**	**01 20 46.5**	**-1.0**	
	16nm,0.7s,mb5.0,baz=85,slow=8.3,SNR=63								
ASAR				LR		LR	01 40 00.5		
	comp=Z,700nm,19.2s,MS4.6,baz=93,slow=36								
VNDA	**Vanda**	**62.70**	**185**	LR		LR	01 43 43.5		
	comp=Z,111nm,20.5s,MS4.0,baz=24,slow=30								
MJAR	**Matsushiro Arr**	**66.89**	**322**	LR		LR	01 46 09.2		
	comp=Z,296nm,22.0s,MS4.5,baz=185,slow=30								
KSRS	**Korea Array**	**73.88**	**317**	P		**P**	**01 23 56.0**	**+1.3**	
	0.6nm,0.3s,mb4.1,baz=132,slow=10,SNR=3.8								
KSRS				LR		LR	01 52 02.3		
	comp=Z,257nm,20.2s,MS4.5,baz=128,slow=32								
QSPA	**South Pole Qui**	**74.31**	**180**	*e*P		**P**	**01 23 57.4**	**+0.1**	
	5.1nm,0.4s,mb4.8								
CMB	**Columbia Colle**	**75.46**	**43**	*e*P		**P**	**01 24 03.3**	**-0.6**	
	1.9nm,0.8s,mb4.1								
ISA	**Isabella**	**75.47**	**46**	*e*P		**P**	**01 24 04.3**	**+0.3**	
YBH	**Yreka Blue Hor**	**76.11**	**39**	P		**P**	**01 24 07.8**	**+0.2**	
	4.9nm,1.0s,mb4.4,baz=179,slow=2.9,SNR=7.3								
DAC	**Darwin (Calif)**	**76.40**	**46**	*e*P		**P**	**01 24 15.1**	**+5.8**	
	7.6nm,1.4s,mb4.4								
NVAR	**Mina Array Bea**	**77.05**	**44**	P		**P**	**01 24 13.0**	**0.0**	
	baz=238,slow=8.4								
CN2	**Changchun**	**79.03**	**322**	*e*P		**P**	**01 24 29.3**	**+5.4**	
CN2				AMB		AMB			
	comp=Z,110.0nm,0.8s,mb4.8								
MCK	**McKinley**	**82.17**	**12**	*e*P		**P**	**01 24 40.3**	**-0.4**	
	comp=Z,11nm,1.5s,mb4.6								
HLID	**Hailey**	**82.23**	**41**	*e*P		**P**	**01 24 41.2**	**+0.2**	
NEW	**Newport**	**83.07**	**36**	P		**P**	**01 24 44.4**	**-1.1**	
BJI	**Beijing**	**83.07**	**315**	P		**P**	**01 24 45.8**	**+0.3**	
BJI				AMB		AMB			
	comp=Z,11nm,0.7s,mb5.0								
BJI				LR		LR			
	comp=N,207nm,21.3s,MS4.6								
BJI				LR		LR			
	comp=E,193nm,21.0s,MS4.6								
BJI				LR		LR			
	comp=Z,307nm,24.5s,MS4.6								
LAZ	**Ladron**	**83.10**	**52**	P		**P**	**01 24 46.0**	**+0.4**	
MNTX	**Cornudas Mount**	**83.38**	**55**	*e*P		**P**	**01 24 45.4**	**-1.6**	
	comp=Z,12nm,1.4s,mb4.7								
BNM	**Barren Site**	**83.39**	**52**	*e*P		**P**	**01 24 47.5**	**+0.5**	
PV10	**Paradox Valley**	**83.39**	**47**	*e*P		**P**	**01 24 48.1**	**+1.0**	
LPM	**Los Pinos Moun**	**83.45**	**52**	*e*P		**P**	**01 24 48.0**	**+0.7**	
ANMO	**Albuquerque**	**83.83**	**51**	*e*P		**P**	**01 24 49.3**	**-0.1**	
	comp=Z,4.1nm,1.1s,mb4.5								
LTX	**Lajitas**	**83.85**	**57**	*e*P		**P**	**01 24 51.0**	**+1.6**	
TXAR	**Lajitas Array**	**83.85**	**57**	P		**P**	**01 24 50.5**	**+1.0**	
	comp=Z,2.1nm,1.1s,mb4.2,baz=235,slow=4.4,SNR=12								
GDL2	**Guadalupe Moun**	**84.37**	**54**	*e*P		**P**	**01 24 52.6**	**+0.6**	
REDW	**Red Top Meadow**	**84.40**	**42**	*e*P		**P**	**01 24 53.0**	**+0.7**	
	comp=Z,11nm,1.3s,mb4.8								
IMW	**Indian Meadow**	**84.59**	**42**	*e*P		**P**	**01 24 53.6**	**+0.4**	
	comp=Z,2.8nm,0.7s,mb4.5								
DAWY	**Dawson**	**84.69**	**16**	*e*P		**P**	**01 24 54.0**	**+0.4**	
PSI	**Prapat**	**84.87**	**274**	P		**P**	**01 24 53.6**	**-1.0**	
	comp=Z,4.2nm,0.7s,mb4.7,baz=150,slow=4.1,SNR=3.5								
BW06	**Boulder Array**	**84.98**	**43**	*e*P		**P**	**01 24 59.0**	**+3.9**	
	comp=Z,4.7nm,1.2s,mb4.5								
PDAR	**Pinedale Array**	**84.98**	**43**	P		**P**	**01 24 54.5**	**-0.7**	
	comp=Z,0.7nm,0.7s,mb3.9,baz=208,slow=2.9,SNR=6.7								
PDAR				LR		LR	01 56 04.9		
	comp=Z,186nm,18.9s,MS4.5,baz=261,slow=31								
SMCO	**Snowmass**	**85.19**	**47**	*e*P		**P**	**01 24 53.8**	**-2.4**	
	comp=Z,7.1nm,1.1s,mb4.7								
SDCO	**Great Sand Dun**	**85.67**	**49**	P		**P**	**01 24 58.4**	**-0.2**	
YKA	**Yellowknife Ar**	**91.88**	**24**	LR		LR	01 59 35.4		
	comp=Z,310nm,20.0s,MS4.8,baz=185,slow=31								
SNAA	**Sanae**	**92.73**	**178**	LR		LR	02 01 46.7		
	comp=Z,73nm,20.8s,MS4.1,baz=202,slow=32								
VNA3	**Neumayer Olymp**	**92.82**	**176**	*e*Pdiff		**P**	**01 25 33.8**	**+1.4**	
VNA3				*e*			01 25 38.4		
VNA3				*e*		pP	01 25 43.8	+0.2	
VNA2	**Neumayer--Watz**	**93.28**	**177**	*e*Pdiff		**P**	**01 25 35.0**	**+0.5**	
	baz=184,slow=2.5								
VNA2				*e*			01 25 39.2		
VNA2				*e*		pP	01 25 44.4	-1.3	
VNA1	**Neumayer--Stat**	**93.50**	**176**	*e*Pdiff		**P**	**01 25 40.4**	**+4.9**	
VNA1				*e*			01 25 44.6		
ULM	**Lac du Bonnet**	**96.50**	**40**	LR		LR	02 02 59.6		
	comp=Z,391nm,19.7s,MS4.9,baz=11,slow=32								
NNA	**Nana**	**96.53**	**104**	LR		LR	02 01 04.7		
	comp=Z,92nm,19.0s,MS4.3,baz=309,slow=30								
CFAA	**Coronel Fontan**	**97.26**	**126**	LR		LR	02 00 20.1		
	comp=Z,29nm,20.7s,MS3.7,baz=230,slow=30								
PVCC	**Panska Ves**	**144.01**	**347**	*e*PKP		PKPdf	01 32 04.2	+8.9	
BRTR	**Keskin Array B**	**144.02**	**318**	PKP		PKPdf	01 31 53.3	-2.0	
	comp=Z,2.1nm,1.0s,baz=22,slow=1.3,SNR=7.1								
PRU	**Pruhonice**	**144.53**	**347**	*e*PKP		PKPdf	01 32 02.3	+6.1	
MLR	**Muntele Rosu**	**144.53**	**332**	PKP		PKPdf	01 31 55.6	-0.5	
	comp=Z,1.4nm,0.4s,baz=107,slow=7.4,SNR=4.1								
GRA1	**Grafenberg Arr**	**145.44**	**350**	*e*PKP		PKPdf	01 31 58.8	+1.1	
GRF	**Grafenberg Arr**	**145.44**	**350**	*e*PKP		PKPdf	01 31 58.8	+1.1	
KHC	**Kasperske Hory**	**145.55**	**347**	*e*PKP		PKPdf	01 31 57.8	-0.1	
ZST	**Bratislava**	**145.55**	**343**	*e*PKP		PKPdf	01 31 58.8	+0.9	
GERES	**GERESS Array B**	**145.79**	**347**	PKPbc		PKPbc	01 31 58.4	-0.5	
	comp=Z,1.1nm,0.7s,baz=35,slow=4.9,SNR=8.9								
LOR	**Lormes**	**148.54**	**359**	*e*PKIKP		PKPab	01 32 13.0	+2.9	
SSF	**Saint Saulge**	**148.76**	**359**	*e*PKIKP		PKPab	01 32 13.5	+2.6	
	comp=Z,39nm,1.4s								
AVF	**Avril sur Loir**	**149.03**	**359**	*e*PKIKP		PKPab	01 32 13.9	+1.9	
CABF	**La Chapelle**	**149.09**	**356**	*e*PKIKP		PKPab	01 32 14.0	+1.7	
	comp=Z,103nm,1.6s								
SMF	**Signal de Mont**	**149.17**	**359**	*e*PKIKP		PKPab	01 32 14.0	+1.4	
	comp=Z,15nm,1.0s								
LPG	**La Plagne**	**150.14**	**354**	*e*PKIKP		PKPab	01 32 16.2	-0.4	
TORD	**Torodi Ar. Bea**	**177.22**	**157**	PKP		PKPdf	01 32 30.4	+0.4	
	comp=Z,1.0nm,1.0s,baz=207,slow=1.0,SNR=3.6								
TORD				PKPab		PKPab	01 34 17.8	+3.2	
	comp=Z,0.5nm,0.9s,baz=208,slow=5.7,SNR=2.6								

*IDC **21** 01:28:46.7±2.0, 4785N×15628E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=65.8km s-min=31.2km az=167.0*
*MOS **21** 01:28:49.7±0.8, 4765N×15596E, h41km, mb4.1/2, Error ellipse: s-maj=99.9km s-min=50.4km az=93.9*
*ISCJB **21** 01:28:50.4±1.5, 478N±02×1563E±03, h35km, mb3.7/4, Error ellipse: s-maj=33.0km s-min=21.0km az=77.2*

ISC 21 01:28:51.9±1.6, 478N±02×1562E±03, h35km, n7, σ0=52/7, mb3.7/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.92**	**359**	*e*Pn		**Pn**	**01 29 36.3**	**+0.5**
KSRS	**Korea Array**	**23.12**	**254**	P		**P**	**01 33 55.4**	**+0.6**
	0.8nm,0.5s,mb3.4,baz=50,slow=10,SNR=4.7							
MKAR	**Makanchi Array**	**48.35**	**298**	P		**P**	**01 37 29.2**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=67,slow=7.0,SNR=6.1							
MKAR	**Makanchi Array**	**48.35**	**298**	P		**P**	**01 37 29.2**	**-0.8**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**64.01**	**336**	P		**P**	**01 39 21.4**	**-0.3**
	comp=Z,1.4nm,0.9s,mb4.0,baz=36,slow=7.1,SNR=4.8							
FINES	**FINESS Array B**	**64.01**	**336**	P		**P**	**01 39 21.5**	**-0.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**75.15**	**63**	P		**P**	**01 40 30.5**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=285,slow=3.5,SNR=4.7							

*IDC **21** 01:45:06.3±0.6, 775N×9399E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/22, mbtmp4.0/14, Error ellipse: s-maj=28.5km s-min=16.1km az=60.0*

*ISCJB **21** 01:45:11.7±2.2, 780N±008×941E±0.1, h52km±21km, mb4.2/22, Error ellipse: s-maj=21.4km s-min=8.4km az=109.2*
*NEIC **21** 01:45:11.8±0.3, 785N×940E, h35km, mb4.4/4, Error ellipse: s-maj=13.7km s-min=6.8km az=45.0*

ISC 21 01:45:14.5±1.7, 784N±008×941E±01, h58km±17km, n37, σ0=89/37, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.92**	**136**	Pn		**Pn**	**01 46 54.5**	**+1.4**
	1.0nm,0.3s,baz=314,slow=12,SNR=8.6							
KULM	**Kulim**	**6.95**	**111**	*e*Pn		**Pn**	**01 46 51.8**	**-1.9**
KULM				*e*Sn		**Sn**	**01 48 11.4**	**+0.2**
KSM	**Kuching**	**17.31**	**111**	Pn		**Pn**	**01 49 10.8**	**-1.2**
JIRN	**Jiri**	**21.10**	**340**	*e*P		**P**	**01 49 54.6**	**+0.6**
	6.9nm,0.4s,mb4.4							
PKI	**Pulchoki**	**21.29**	**338**	*e*P		**P**	**01 49 57.3**	**+1.2**
	15nm,0.6s,mb4.5							
GUN	**Gumba**	**21.43**	**340**	*e*P		**P**	**01 49 57.3**	**-0.3**
	26nm,0.6s,mb4.7							
DMN	**Daman**	**21.44**	**338**	*e*P		**P**	**01 49 58.7**	**+1.0**
KKN	**Kakani**	**21.54**	**338**	*e*P		**P**	**01 49 59.0**	**+0.3**
LSA	**Lhasa**	**21.92**	**353**	*e*P		**P**	**01 50 02.6**	**-0.2**
	15nm,0.7s,mb4.5							
GKN	**Gorkha**	**21.97**	**337**	*e*P		**P**	**01 50 02.7**	**-0.7**
	14nm,0.5s,mb4.7							
KOLN	**Koldanda**	**22.18**	**335**	*e*P		**P**	**01 50 05.7**	**0.0**
	13nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**40.12**	**347**	P		**P**	**01 52 44.2**	**-0.2**
	0.3nm,0.5s,mb3.3,baz=164,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	**40.12**	**347**	P		**P**	**01 52 44.2**	**-0.2**
SONM	**Songino Array**	**41.19**	**13**	P		**P**	**01 52 54.4**	**+1.1**
	0.8nm,0.6s,mb3.5,baz=194,slow=10.0,SNR=6.7							
NWAO	**Narrogin (SRO)**	**46.12**	**153**	*e*P		**P**	**01 53 35.5**	**+2.6**
	1.6nm,0.5s,mb4.2							
ZAL	**Zalesovo**	**46.58**	**352**	P		**P**	**01 53 36.6**	**+0.1**
	1.9nm,0.3s,mb4.4,baz=318,slow=6.3,SNR=5.7							
WRA	**Warramunga Arr**	**48.25**	**126**	P		**P**	**01 53 49.5**	**+0.1**
	1.2nm,0.5s,mb4.2,baz=305,slow=8.5,SNR=28							
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P		**P**	**01 53 49.9**	**+0.4**
	2.6nm,0.7s,mb4.4							
WB2	**Warramunga Arr**	**48.26**	**126**	*e*P		**P**	**01 53 49.7**	**+0.2**
ASAR	**Alice Springs**	**49.90**	**130**	P		**P**	**01 54 02.0**	**0.0**
	1.0nm,0.5s,mb4.1,baz=301,slow=7.6,SNR=14							
ASAR				PcP		PcP	01 55 22.9	+1.2
	0.4nm,0.5s,baz=299,slow=3.6,SNR=3.1							
EIL	**Elat**	**59.44**	**300**	P		**P**	**01 55 09.8**	**-1.3**
BRTR	**Keskin Array B**	**62.45**	**311**	P		**P**	**01 55 30.1**	**-1.5**
	0.3nm,0.5s,mb3.7,baz=122,slow=6.4,SNR=3.8							
MLR	**Muntele Rosu**	**69.19**	**316**	P		**P**	**01 56 14.7**	**-0.2**
	1.1nm,0.6s,mb4.0,baz=90,slow=9.1,SNR=3.3							
FINES	**FINESS Array B**	**72.73**	**332**	P		**P**	**01 56 35.9**	**-0.5**
	1.8nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=9.2							
LBTB	**Lobatse**	**74.22**	**241**	P		**P**	**01 56 44.9**	**-0.2**
BOSA	**Boshof**	**75.56**	**238**	P		**P**	**01 56 53.4**	**+0.6**
	2.0nm,0.7s,mb4.1,baz=44,slow=12,SNR=3.9							
BOSA	**Boshof**	**75.56**	**238**	P		**P**	**01 56 53.4**	**+0.6**
GERES	**GERESS Array B**	**77.84**	**318**	P		**P**	**01 57 05.5**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=77,slow=7.0,SNR=6.4							
CLL	**Collm**	**78.38**	**321**	*e*P		**P**	**01 57 08.0**	**-0.7**
MAW	**Mawson**	**78.50**	**192**	P		**P**	**01 57 07.7**	**-1.7**
	2.0nm,0.4s,mb4.4,baz=14,slow=4.2,SNR=8.0							
MAW	**Mawson**	**78.50**	**192**	*e*P		**P**	**01 57 07.8**	**-1.5**
	4.7nm,0.6s,mb4.6							
NB2	**NORSAR Subarra**	**79.75**	**331**	P		**P**	**01 57 15.5**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=93,slow=5.9							
NOA	**NORSAR Array B**	**79.75**	**331**	P		**P**	**01 57 16.0**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=128,slow=8.1,SNR=2.8							
NOA	**NORSAR Array B**	**79.75**	**331**	P		**P**	**01 57 16.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**90.60**	**283**	P		**P**	**01 58 11.5**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.8,baz=82,slow=5.8,SNR=2.8							
ESDC	**Sonseca Array**	**91.23**	**310**	P		**P**	**01 58 14.0**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.9,baz=58,slow=4.2,SNR=4.1							
CFAA	**Coronel Fontan**	**151.21**	**212**	PKPbc		PKPbc	02 05 02.6	+1.4
	comp=Z,0.1nm,0.4s,baz=186,slow=3.9,SNR=5.5							

*IDC **21** 01:53:55.1±3.6, 735S×10283E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=154.1km s-min=23.6km az=54.0*
*ISCJB **21** 01:53:57.8±0.6, 737S±010×1028E±0.1, h35km, mb4.0/7, Error ellipse: s-maj=17.1km s-min=13.1km az=122.8*
*NEIC **21** 01:53:59.4±0.4, 736S×10279E, h30km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=9.6km az=62.0*

ISC 21 01:54:00.2±0.6, 737S±010×1028E±01, h35km, n12, σ0=49/11, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**7.56**	**230**	Pn		**Pn**	**01 55 47.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**28.76**	**154**	*e*P		**P**	**01 59 55.5**	**+1.0**
	0.9nm,0.4s,mb3.9							
WRA	**Warramunga Arr**	**33.06**	**115**	P		**P**	**02 00 31.7**	**-0.7**
	1.0nm,0.6s,mb3.9,baz=286,slow=11,SNR=12							
WRAB	**Tennant Creek**	**33.06**	**115**	*e*P		**P**	**02 00 32.4**	**0.0**
	1.9nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**33.07**	**115**	*e*P		**P**	**02 00 32.2**	**-0.2**
LSA	**Lhasa**	**38.51**	**344**	P		**P**	**02 01 19.5**	**+0.5**
STKA	**Stephens Creek**	**43.59**	**129**	P		**P**	**02 02 00.8**	**-0.1**
	2.2nm,0.8s,mb3.9,baz=315,slow=5.7,SNR=3.0							
SONM	**Songino Array**	**55.05**	**3**	P		**P**	**02 03 28.8**	**+0.4**
	0.9nm,0.7s,mb3.9,baz=180,slow=9.1,SNR=7.9							
MKAR	**Makanchi Array**	**56.91**	**343**	P		**P**	**02 03 41.8**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=161,slow=7.7,SNR=4.2							
ZAL	**Zalesovo**	**62.92**	**348**	P		**P**	**02 04 22.1**	**-0.8**
	0.6nm,0.3s,mb4.2,baz=305,slow=7.9,SNR=3.6							
VNDA	**Vanda**	**76.40**	**169**	P		**P**	**02 05 46.1**	**+0.2**
TXAR	**Lajitas Array**	**146.89**	**45**	PKPbc		PKPbc	02 13 40.6	+1.9
	0.5nm,0.7s,baz=282,slow=1.5,SNR=5.7							

*NAO **21** 01:58:25.0, 4158N×2174E, h33km, mb4.2*
*BJI **21** 01:58:45.8, 4389N×2121E, h13km, mB5.1, mb4.7, Ms4.8, Msz4.4*
*LDG **21** 01:58:45.7±0.1, 4387N×2168E, h2km, Ml4.4/2, Error ellipse: s-maj=1.9km s-min=1.3km az=29.0*
*BEO **21** 01:58:46.9±0.2, 4381N×2159E, h17km*
*ISCJB **21** 01:58:46.5±0.3, 43874N±0009×2164E±001, h8km±2km, mb4.6/45, MS4.0/18, Error ellipse: s-maj=1.5km s-min=1.3km az=83.1*
*PRU **21** 01:58:46.2, 4372N×2156E, h0km, M4.9*
*PDG **21** 01:58:47.4±3.1, 4384N×2160E, h8km±9km*
*THE **21** 01:58:47.9, 4380N×2166E, h10km, ML4.9*
*IPEC **21** 01:58:47.5±0.3, 4388N×2171E, h3km±2km, ML4.2/1, Error ellipse: s-maj=2.0km s-min=0.8km az=64.0*
*NEIC **21** 01:58:47.4, 4384N×2160E, h8km, mb4.9/13, MS4.1/1, ML4.5(PDG), ML4.9(BUC), After PDG.*
NEIC Felt [III] at Nis and [II] at Belgrade. Felt at Trstenik and Zajecar. Also felt at Craiova, Lupeni and Moldova Noua, Romania.
*MOS **21** 01:58:47.5±0.9, 4386N×2153E, h15km, mb4.7/18, Error ellipse: s-maj=5.1km s-min=3.1km az=102.0*
*CSEM **21** 01:58:47.8±0.0, 4388N×2158E, h15km, mb4.6/21, ML4.9/3, Ms4.1, Error ellipse: s-maj=1.0km s-min=0.7km az=35.0*
*SKO **21** 01:58:49.0, 4375N×2159E, h8km*
*SOF **21** 01:58:48.7, 4371N×2186E, h5km, MD4.5*
*IDC **21** 01:58:50.5±2.2, 4394N×2158E, h16km±14km, mb4.2/15, mb1 4.3/28, mb1mx4.3/34, mbtmp4.2/28, ML4.3/11, MS3.8/20, Ms1 3.8/20, ms1mx3.5/36, Error ellipse: s-maj=8.3km s-min=7.0km az=177.0*
*SZGRF **21** 01:58:50.9, 4392N×2157E, h10km, Northwestern Balkan Peninsula*
*STR **21** 01:59:12.4±4.5, 4464N×1961E, h17km±1km, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 01:58:48.0±0.3, 43848N±0009×2165E±001, h4km±2km, h16km±6km: pP-P, n609, σ1=09/721, mb4.6/45, MS4.0/18, 52C-25D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SVIS	**Svilajnac**	**0.54**	**326**	*i* Pg		**Pg**	**01 58 58.5**	**+0.1**
SVIS					Sg	**Sg**	**01 59 05.8**	**+0.4**
SVIS	**Svilajnac**	**0.54**	**326**	P		**Pg**	**01 58 57.9**	**-0.5**
SVIS	**Svilajnac**	**0.54**	**326**	Pg		**Pg**	**01 58 58.5**	**+0.1**
SVIS					Sg	**Sg**	**01 59 05.8**	**+0.4**
GRUS	**Gruza**	**0.67**	**274**	*i* Pg		**Pg**	**01 59 01.5**	**+0.6**
GRUS					Sg	**Sg**	**01 59 10.5**	**+0.9**
DJES	**Djerdap**	**1.01**	**39**	*i* Pg		**Pg**	**01 59 08.1**	**+0.8**
DJES					Sg	**Sg**	**01 59 22.4**	**+2.0**

BARS	**Barje**	**1.04**	**173**	*i* Pg		**Pg**	**01 59 06.8**	**-1.0**	
BARS					Sg	**Sg**	**01 59 20.3**	**-1.0**	
BARS	**Barje**	**1.04**	**173**	P		**Pg**	**01 59 05.9**	**-1.9**	
BARS	**Barje**	**1.04**	**173**	Pg		**Pg**	**01 59 06.8**	**-1.0**	
BARS					Sg	**Sg**	**01 59 20.3**	**-1.0**	
DIVS	**Divcibare**	**1.22**	**282**	*i* Pg		**Pg**	**01 59 11.7**	**+0.3**	
DIVS					Sg	**Sg**	**01 59 29.9**	**+2.7**	
DIVS	**Divcibare**	**1.22**	**282**	*e*Pg		**Pg**	**01 59 11.5**	**+0.1**	
DIVS				*e*Sg		**Sg**	**01 59 28.9**	**+1.7**	
BEO	**Belgrade**	**1.29**	**319**	*i* Pg		**Pg**	**01 59 11.8**	**-1.0**	
BEO					Sg	**Sg**	**01 59 29.6**	**0.0**	
BEO	**Belgrade**	**1.29**	**319**	P		**Pg**	**01 59 08.8**	**-4.0**	
BEO	**Belgrade**	**1.29**	**319**	Pg		**Pg**	**01 59 11.8**	**-1.0**	
BEO					Sg	**Sg**	**01 59 29.6**	**0.0**	
SJES	**Sjenica**	**1.37**	**246**	Pg		**Pg**	**01 59 13.2**	**-1.0**	
SJES					Sg	**Sg**	**01 59 31.5**	**-0.4**	
IVA	**Berane**	**1.60**	**233**	*i* Pg		**Pg**	**01 59 16.8**	**-1.9**	
IVA				*e*Sg		**Sg**	**01 59 39.7**	**+0.1**	
BBLS	**Bajina Basta -**	**1.62**	**271**	*i* Pn		**Pn**	**01 59 18.4**	**+1.1**	
BBLS					Sn	**Sn**	**01 59 36.9**	**-1.7**	
CRAR	**CRAIOVA**	**1.62**	**72**	*i* P		**Pn**	**01 59 17.4**	**0.0**	
CRAR	**CRAIOVA**	**1.62**	**72**	S		**Sg**	**01 59 41.1**	**+1.0**	
CRAR	**CRAIOVA**	**1.62**	**72**	P		**Pn**	**01 59 17.8**	**+0.4**	
SOF	**Sofiya**	**1.69**	**133**	*i* P		**Pn**	**01 59 20.0**	**+1.6**	
VTS	**Vitosha**	**1.70**	**137**	*e*Pb		**Pn**	**01 59 18.4**	**0.0**	
VTS				*e*Sb		**Sn**	**01 59 41.1**	**+0.5**	
VTS	**Vitosha**	**1.70**	**137**	*i* P		**Pn**	**01 59 17.9**	**-0.5**	
VTS				*i* Sg		**Sn**	**01 59 40.0**	**-0.6**	
VTS	**Vitosha**	**1.70**	**137**	*i* P		**Pn**	**01 59 18.2**	**-0.2**	
VTS	**Vitosha**	**1.70**	**137**	S		**Sn**	**01 59 40.9**	**+0.3**	
PLE	**Pljevlja**	**1.72**	**253**	*i* Pn		**Pn**	**01 59 18.7**	**+0.1**	
PLE				*e*Sn		**Sn**	**01 59 41.9**	**+0.9**	
GZR	**Gura Zlata**	**1.74**	**27**	*i* P		**Pn**	**01 59 19.4**	**+0.4**	
GZR	**Gura Zlata**	**1.74**	**27**	S		**Sg**	**01 59 44.1**	**+0.1**	
GZR	**Gura Zlata**	**1.74**	**27**	P		**Pn**	**01 59 19.3**	**+0.3**	
GZR	**Gura Zlata**	**1.74**	**27**	P		**Pn**	**01 59 19.3**	**+0.3**	
PVY	**Plav**	**1.75**	**225**	*i* Pn		**Pn**	**01 59 18.9**	**-0.2**	
PVY				*e*Sn		**Sn**	**01 59 43.2**	**+1.4**	
BZS	**Buzias**	**1.77**	**359**	*i* P		**Pn**	**01 59 19.1**	**-0.3**	
BZS	**Buzias**	**1.77**	**359**	S		**Sn**	**01 59 41.1**	**-1.2**	
BZS	**Buzias**	**1.77**	**359**	P		**Pn**	**01 59 19.2**	**-0.2**	
BZS	**Buzias**	**1.77**	**359**	P		**Pn**	**01 59 19.2**	**-0.2**	
BCI	**Bajram Curri**	**1.88**	**219**	*i* Pn		**Pb**	**01 59 23.2**	**+0.4**	
SKO	**Skopje**	**1.88**	**185**	*e*Pb		**Pn**	**01 59 20.8**	**-0.2**	
SKO				*e*Sb		**Sn**	**01 59 44.7**	**-0.4**	
**SKO

RDO	Rodhopi	3.95	132	ePn	Pn	01 59 49.2	-0.1
MEV	Metsovon	4.07	185	ePn	Pn	01 59 51.9	+0.8
MEV	Metsovon	4.07	185	ePn	Pn	01 59 51.8	+0.8
BUD	Budapest	4.07	334	P	Pn	01 59 49.8	-1.3
BUD	Budapest	4.07	334	⇑ePn	Pn	01 59 50.6	-0.5
BUD				eSn	Sn	02 00 39.9	+0.7
PLOR	Plostina	4.08	59	P	Pn	01 59 52.0	+0.8
SISC	Sisak	4.10	295	ePn	Pn	01 59 51.2	-0.2
VRI	Vrincioaia	4.14	59	⇓iP	Pn	01 59 53.0	+1.0
VRI	Vrincioaia	4.14	59	P	Pn	01 59 52.8	+0.9
VRI	Vrincioaia	4.14	59	P	Pn	01 59 52.8	+0.8
SRN	Sarande	4.15	198	ip	Pn	01 59 52.9	+0.8
SRN	Sarande	4.15	198	ePn	Pn	01 59 52.9	+0.8
SRN				iSn	Sn	02 00 39.1	-2.0
PAIG	Paliouri	4.20	158	ePn	Pn	01 59 51.7	-1.1
PKSG		4.21	328	⇑iP	Pn	01 59 52.4	-0.6
JAN	Janina	4.23	188	eP	Pn	01 59 53.9	+0.7
PRD	Provadia	4.24	97	iPg	Pg	02 00 08.0	-1.1
PSZ	Piszkesteto	4.25	344	⇑iP	Pn	01 59 52.8	-0.7
PSZ	Piszkesteto	4.25	344	S	Sn	02 00 41.5	-2.1
PSZ	Piszkesteto	4.25	344	P	Pn	01 59 53.3	-0.2
PSZ	Piszkesteto	4.25	344	ePn	Pn	01 59 52.9	-0.6
PSZ				eSn	Sn	02 00 41.3	-2.3
PSZ	Piszkesteto	4.25	344	⇑ePn	Pn	01 59 52.8	-0.7
PSZ				ePB	Sn	02 00 41.5	-2.1
PSZ	Piszkesteto	4.25	344	ePn	Pn	01 59 52.8	-0.7
PSZ				eSn	Sn	02 00 41.3	-2.3
THL	Klokotos Trika	4.29	176	⇑iP	Pn	01 59 53.4	-0.6
KEK	Kerkira	4.36	199	eP	Pn	01 59 54.0	-1.0
KEK	Kerkira	4.36	199	ePn	Pn	01 59 55.1	+0.1
KEK	Kerkira	4.36	199	P	Pn	01 59 56.7	+1.7
LCI	Lecce	4.39	218	P	Pn	01 59 55.2	-0.2
ALN	Alexandroupoli	4.39	131	ePn	Pn	01 59 56.4	-0.9
IGT	Igoumenitsa	4.42	193	ePn	Pn	01 59 56.4	+0.5
BAI	Bari	4.46	234	ePn	Pn	01 59 55.5	-0.9
BURAR	Bucovina Array	4.52	32	⇓iP	Pn	01 59 59.3	+2.1
BURAR	Bucovina Array	4.52	32	S	Sn	02 00 51.6	+1.4
BURAR	Bucovina Array	4.52	32	P	Pn	01 59 59.4	+2.2
HARR	Harsova	4.59	77	P	Pn	01 59 55.9	-2.3
KOGS	Kog	4.62	306	iPn	Pn	01 59 58.1	-0.4
KOGS				iSn	Sn	02 00 48.9	-3.7
KOGS	Kog	4.62	306	iPn	Pn	01 59 58.1	-0.4
KOGS				iSn	Sn	02 00 48.9	-3.7
KOGS	Kog	4.62	306	iPn	Pn	01 59 58.1	-0.4
KOGS				iSn	Sn	02 00 48.9	-3.7
XOR	Xorichti	4.63	165	ePn	Pn	01 59 57.9	-0.8
LOS	Limnos	4.68	146	ePn	Pn	01 59 57.6	-1.7
NEO	Neokhori	4.69	165	⇑iP	Pn	01 59 58.4	-1.1
FGMS	Monte Sant'Ang	4.70	245	P	Pn	02 00 00.2	+0.5
KECS	Kecovo	4.71	351	iPN	Pn	01 59 59.8	+0.1
KECS				eSN	Sn	02 00 52.4	-2.4
GCIS	Gornji Cirnik	4.73	297	ePn	Pn	01 59 59.9	-0.2
PSN	Preselentsi	4.74	90	iP	Pn	02 00 01.3	+1.1
LIA	Limnos Island	4.75	145	⇑iP	Pn	01 59 59.4	-0.9
SG1	Sgolgore (BA)	4.75	232	ePn	Pn	01 59 59.3	-1.1
UZH	Uzhgorod	4.80	5	eP	Pn	02 00 01.0	-0.1
SGRT	San Giovanni R	4.82	246	P	Pn	02 00 02.3	+1.0
AGG	Agios Georgios	4.85	174	ePn	Pn	02 00 01.2	-0.6
BOJS	Bojanci	4.85	292	ePn	Pn	02 00 01.9	+0.2
BOJS				iSn	Sn	02 00 54.7	-3.7
BOJS	comp=Z,711nm,1.0s						
BOJS	Bojanci	4.85	292	ePn	Pn	02 00 01.9	+0.1
BOJS				iSn	Sn	02 00 54.7	-3.7
	comp=Z,711nm,1.0s						
TIRR	Tirgusor	4.91	81	⇓iP	Pn	02 00 02.3	-0.2
TIRR	Tirgusor	4.91	81	P	Pn	02 00 02.5	0.0
TIRR	Tirgusor	4.91	81	P	Pn	02 00 02.6	+0.1
NVLJ	Novalja	4.92	281	iPn	Pn	02 00 03.4	+0.6
NVLJ				iSn	Sn	02 00 58.0	-2.1
EVR	Evrytania	4.93	179	eP	Pn	02 00 02.4	-0.4
DOBS	Dobrina	4.95	300	ePn	Pn	02 00 02.8	-0.3
RGNG	Rignano Grg	4.96	246	P	Pn	02 00 03.2	-0.1
AOS	Alonnisos	4.97	160	ePn	Pn	02 00 01.9	-1.5
VYHS	Vyhne	5.04	338	iPN	Pn	02 00 03.9	-0.4
VYHS				eSN	Sn	02 01 02.7	-0.3
GROS	Grobnik	5.07	303	ePn	Pn	02 00 04.2	-0.5
GROS	Grobnik	5.07	303	ePn	Pn	02 00 04.2	-0.6
KOLS	Kolonicke sedl	5.11	5	ePN	Pn	02 00 05.9	+0.7
MFT	Murefte	5.18	124	eP	Pn	02 00 06.3	+0.1
RKY	Sarkoy-Tekirda	5.18	126	eP	Pn	02 00 06.3	0.0
SART	Tekirdag	5.18	126	iP	Pn	02 00 06.1	-0.1
BOZC	Bozcaada	5.18	139	iP	Pn	02 00 05.3	-1.0
FG2	Serracapriola	5.19	249	P	Pn	02 00 07.0	+0.6
LKD	Levkas	5.19	189	ePn	Pn	02 00 05.9	-0.5
SOP	Sopron	5.23	319	⇓ePn	Pn	02 00 07.1	+0.1
SOP				eSn	Sn	02 01 05.5	-2.3
SOP	Sopron	5.23	319	P	Pn	02 00 05.9	-1.1
SOP	Sopron	5.23	319	⇓ePn	Pn	02 00 07.1	+0.1
SOP				eSn	Sn	02 01 05.5	-2.3
FG4	Candela	5.28	241	P	Pn	02 00 07.7	0.0
LKR	Lokris	5.29	168	eP	Pn	02 00 06.7	-1.1
IAS	Iasi	5.33	49	P	Pn	02 00 09.7	+1.3
IAS	Iasi	5.33	49	P	Pn	02 00 09.6	+1.2
FG5	Orsara di Pugl	5.36	244	P	Pn	02 00 09.4	+0.6
ZST	Bratislava	5.38	326	ePN	Pn	02 00 08.3	-0.7
ZST				eSN	Sn	02 01 07.9	-3.4
PERS	Pernice	5.39	303	ePn	Pn	02 00 08.7	-0.4
PERS				eSn	Sn	02 01 07.4	-4.2
ORI	Oriolo Calabro	5.41	227	P	Pn	02 00 11.6	+2.1
KNDS	Knezji Dol	5.45	290	ePn	Pn	02 00 10.7	+0.8
KNDS				eSn	Sn	02 01 09.0	-4.0
KNDS	comp=Z,1μm,1.5s						
KNDS	Knezji Dol	5.45	290	ePn	Pn	02 00 10.7	+0.8
KNDS				eSn	Sn	02 01 09.0	-4.0
	comp=Z,1μm,1.5s						
MRMT	Marmara Adasi	5.48	124	eP	Pn	02 00 09.4	-1.0
ARSA	Arzberg	5.48	310	⇑iPn	Pn	02 00 10.2	-0.2
ARSA	comp=Z,100nm,0.4s,SNR=197			⇓iSn	Sn	02 01 11.0	-2.9
	comp=Z,92nm,0.5s						
ARSA	Arzberg	5.48	310	P	Pn	02 00 09.3	-1.1
ARSA	Arzberg	5.48	310	ePn	Pn	02 00 10.3	-0.1
LIKS	Likavka	5.49	342	ePN	Pn	02 00 11.1	+0.6
LJU	Ljubljana	5.51	296	ePn	Pn	02 00 10.9	+0.1
LJU				ePg	Pg	02 00 31.0	-2.5
LJU				iSn	Sn	02 01 10.5	-4.1
LJU				eSg	Sg	02 01 41.0	-3.9
LJU	comp=Z,1μm,1.7s						
LJU	Ljubljana	5.51	296	ePn	Pn	02 00 10.9	+0.1
LJU				iSn	Sn	02 01 10.5	-4.1
LJU	Ljubljana	5.51	296	ePn	Pn	02 00 10.9	+0.1
LJU				iSn	Sn	02 01 10.5	-4.1
SMOL	Smolenice	5.51	329	iPN	Pn	02 00 10.0	-0.8
SMOL				eSN	Sn	02 01 12.2	-2.4
MRLC	Muro Lucano	5.51	238	P	Pn	02 00 11.4	+0.6
CANB	Canakkale	5.56	132	eP	Pn	02 00 11.8	+0.3
CANB	Canakkale	5.56	132	iP	Pn	02 00 11.6	+0.1
STHS	Stebnicka Huta	5.58	357	ePN	Pn	02 00 12.3	+0.6
NIE	Niedzica	5.65	351	iPnc		02 00 13.9	
NIE				eSn	Sn	02 01 19.1	+1.1
SLCN	Sala Consilina	5.65	234	P	Pn	02 00 13.1	+0.4
OBKA	Obir	5.68	300	⇑iPn	Pn	02 00 13.0	-0.1
OBKA	comp=Z,11nm,0.3s,SNR=17			⇑iSn	Sn	02 01 13.1	-5.7
	comp=Z,214nm,0.5s						
OBKA	Obir	5.68	300	P	Pn	02 00 12.2	-0.9
OBKA	Obir	5.68	300	Pn	Pn	02 00 13.0	-0.1
	comp=Z,17nm,3.0s						
PSB1	Pescosannita	5.69	245	P	Pn	02 00 13.6	+0.3
CTT	Catalca	5.70	116	eP	Pn	02 00 13.4	+0.1
ELBA	Catalca	5.70	116	iP	Pn	02 00 13.4	0.0
JAVC	Velka Javorina	5.72	333	P	Pn	02 00 12.7	-0.9
JAVC	Velka Javorina	5.72	333	ePn	Pn	02 00 13.4	-0.2
VLS	Valsamata	5.72	188	eP	Pn	02 00 12.5	-1.2
CONA	Conrad Observa	5.74	317	iPn	Pn	02 00 13.6	-0.4
CONA	comp=Z,77nm,0.3s,SNR=226			⇓iSn	Sn	02 01 19.4	-0.9
	comp=Z,180nm,0.7s						
CONA				⇑eSg	Sg	02 01 52.1	-0.1
	comp=Z,181nm,0.9s						
PRK	Paraskevi	5.76	141	⇑iP	Pn	02 00 14.0	-0.2
RLS	Riolos of Patr	5.79	181	eP	Pn	02 00 14.6	0.0
EDC	Edincik	5.80	125	eP	Pn	02 00 15.1	+0.3
CUC	Castrocucco	5.81	230	P	Pn	02 00 14.2	-0.7
KWP	Kalwaria	5.83	7	ePn	Pn	02 00 17.6	+2.4
MIDA	Miranda	5.87	250	P	Pn	02 00 16.3	+0.5
SGG	Gregorio Mates	5.90	248	P	Pn	02 00 16.5	+0.4
AYVA	Ayvalik	5.91	138	iP	Pn	02 00 16.3	+0.1
TRI	Trieste	5.91	291	P	Pn	02 00 16.6	+0.3
VOY	Vojsko	5.92	294	ePn	Pn	02 00 17.1	+0.7
VOY				e		02 00 37.1	
VOY				eSn	Sn	02 01 21.3	-3.4
TIP	Timpagrande	5.93	220	ePn	Pn	02 00 15.9	-0.8
TIP				eSn	Sn	02 01 20.8	-4.3
TIP	Timpagrande	5.93	220	ePn	Pn	02 00 15.9	-0.7
TIP				eSn	Sn	02 01 20.8	-4.3
KIS	Kishinev	5.95	56	eP	Pn	02 00 16.0	-0.8
KIS				iS	Sn	02 01 26.0	+0.5
KIS	comp=N,1μm,1.0s			smax			
KIS	comp=E,2μm,1.2s			smax			
KIS	Kishinev	5.95	56	eP	Pn	02 00 16.0	-0.8
KIS				iS	Sn	02 01 26.0	+0.5
KIS	comp=E,1μm,1.0s						
KIS	Kishinev	5.95	56	eP	Pn	02 00 16.0	-0.8
INTR	Introdacqua	5.97	255	P	Pn	02 00 17.9	+0.7
MGER	Gerania Oros	5.98	168	eP	Pn	02 00 14.0	-3.3
TERO	Teramo	6.00	261	P	Pn	02 00 18.5	+0.9
PTL	Penteli	6.03	163	eP	Pn	02 00 17.5	-0.5
KLYT	Kilyos	6.05	113	eP	Pn	02 00 18.8	+0.6
ATH	Athens Observa	6.08	164	eP	Pn	02 00 18.1	-0.5
SDI	San Donato	6.15	252	P	Pn	02 00 19.8	+0.2
CING	Cingoli	6.15	269	P	Pn	02 00 20.0	+0.4
LVV	L'vov	6.19	14	eP	Pn	02 00 24.2	+4.0
LVV				eS	Sn	02 01 39.0	+7.6
LVV	comp=N,1μm,5.0s			MLR	MLR		
LVV	comp=E,500nm,5.0s			MLR	MLR		
LVV	comp=Z,1μm,5.0s			MLR	MLR		
LVV	L'vov	6.19	14	eP	Pn	02 00 23.8	+3.6
RFI	Roccamonfina	6.20	248	P	Pn	02 00 20.5	+0.2
AQU	L'Aquila	6.22	259	ePn	Pn	02 00 21.1	+0.6
AQU				eSn	Sn	02 01 27.0	-5.0
VVLD	Villa Vallelon	6.22	254	P	Pn	02 00 21.0	+0.5
KVR	Kavouri	6.23	164	eP	Pn	02 00 18.5	-2.1
NAIG	Nisos Aigina	6.24	166	eP	Pn	02 00 20.5	-0.4
BTOK	Tokmak	6.28	128	iP	Pn	02 00 21.4	+0.1
BADT	Buyukada	6.29	116	eP	Pn	02 00 21.7	+0.1
KRUC	Moravsky	6.35	327	P	Pn	02 00 20.4	-2.0
KRUC	Moravsky	6.35	327	ePn	Pn	02 00 20.9	-1.5
SNTG	Esanatoglia	6.35	268	P	Pn	02 00 22.2	-0.2
GRI	Girifalco	6.38	220	P	Pn	02 00 22.4	-0.3
PTCC	Patocco-Chiusa	6.40	296	P	Pn	02 00 23.1	+0.1
FSSB	Fossombrone	6.42	272	P	Pn	02 00 24.5	+1.1
GMNA	Gemona	6.43	295	P	Pn	02 00 25.1	+1.6
FIAM	Fiamignano	6.44	259	P	Pn	02 00 25.7	+2.1
OKC	Ostrava-Krasne	6.45	339	ePN	Pn	02 00 23.5	-0.3
OKC				eSN	Sn	02 01 38.1	+0.2
OKC				AMS	AMS	02 03 40.0	
OKC	comp=Z,1μm,8.7s						
OKC	Ostrava-Krasne	6.45	339	ePn	Pn	02 00 23.5	-0.3
OKC				eSn	Sn	02 01 38.1	+0.2
VRAC	Vranov	6.47	329	Pn	Pn	02 00 23.1	-1.0
VRAC	comp=Z,3.6nm,0.3s,baz=148,slow=12,SNR=52			Sn	Sn	02 01 36.3	-2.1
VRAC	comp=Z,4.8nm,0.3s,baz=65,slow=19,SNR=4.7			LR	LR	02 02 06.7	
VRAC	comp=Z,179nm,19.6s,baz=230,slow=31						
VRAC	Vranov	6.47	329	⇑iP	Pn	02 00 23.2	-0.9
VRAC	Vranov	6.47	329	P	Pn	02 00 23.1	-1.0
VRAC						02 01 36.3	
VRAC				pmax	pmax		
VRAC	comp=Z,4.0nm,0.3s			smax			
VRAC	comp=N,5.0nm,0.3s						
VRAC	Vranov	6.47	329	P	Pn	02 00 23.2	-0.8
VRAC	Vranov	6.47	329	ePn	Pn	02 00 23.0	-1.1
VRAC	Vranov	6.47	329	P	Pn	02 00 23.2	-0.9
OJC	Ojcow	6.50	349	ePn	Pn	02 00 24.7	+0.3
OJC				eSn	Sn	02 01 38.3	-0.7
MOA	Molln	6.52	310	⇑iPn	Pn	02 00 25.2	+0.5
MOA	comp=N,27nm,0.5s,SNR=21			⇓iSn	Sn	02 01 37.0	-2.6
MOA	comp=N,62nm,0.4s						
MOA	Molln	6.52	310	P	Pn	02 00 25.3	+0.6
MOA	Molln	6.52	310	ePn	Pn	02 00 25.1	+0.4
GEMT	Gemlik	6.56	119	eP	Pn	02 00 24.8	-0.4
MORC	Moravsky Berou	6.56	336	⇑iP	Pn	02 00 24.8	-0.5
MORC	Moravsky Berou	6.56	336	S	Sn	02 01 40.9	+0.3
MORC	Moravsky Berou	6.56	336	ePn	Pn	02 00 24.6	-0.6
MORC				eSn	Sn	02 01 37.4	-3.2
MORC	Moravsky Berou	6.56	336	ePn	Pn	02 00 24.6	-0.7
MORC				eSn	Sn	02 01 37.4	-3.2
ASS	Assisi	6.59	266	P	Pn	02 00 26.2	+0.5
YLV	Yalova	6.61	117	eP	Pn	02 00 25.9	+0.1
RSM	Repubblica di	6.65	244	P	Pn	02 00 28.7	+2.3
MURB	Monte Urbino	6.65	268	P	Pn	02 00 27.6	+1.1
ITM	Ithomi	6.67	178	⇑iP	Pn	02 00 26.3	-0.4
ITM	Ithomi	6.67	178	P	Pn	02 00 26.2	-0.5
ITM	Ithomi	6.67	178	ePn	Pn	02 00 26.5	-0.2
KBA	Koelnbreinsper	6.67	302	iPn	Pn	02 00 27.0	+0.3
KBA	comp=N,15nm,0.7s,SNR=16			⇑iSn	Sn	02 01 39.5	-3.8
KBA	comp=N,23nm,0.3s						
KBA	Koelnbreinsper	6.67	302	P	Pn	02 00 26.0	-0.7
KBA	Koelnbreinsper	6.67	302	Pn	Pn	02 00 27.0	+0.3
ULDT	Uludag	6.70	121	iP	Pn	02 00 27.0	-0.1
IZI	Iznik	6.80	118	eP	Pn	02 00 28.2	-0.3
BLCB	Balcova	6.81	141	eP	Pn	02 00 28.8	+0.1
FVI	Forni Avoltri	6.84	297	P	Pn	02 00 29.9	+0.9
KDAG	Bornova	6.90	140	iP	Pn	02 00 29.9	0.0
ADVT	Abdulvahap	6.92	117	eP	Pn	02 00 30.3	+0.2
CRE	Caprese Michel	7.03	271	P	Pn	02 00 33.5	+1.9
SFI	Santa Sofia	7.08	274	P	Pn	02 00 33.2	+0.8
BGLD	Berchtesgaden	7.14	305	ePn	Pn	02 00 33.8	+0.7
SOI	Samo	7.15	218	P	Pn	02 00 32.3	-1.1
SCLL	Scilla	7.16	221	P	Pn	02 00 34.7	+1.2
VLI	Veliai	7.19	172	eP	Pn	02 00 33.5	-0.4
SEST	Monte Rota	7.25	297	P	Pn	02 00 33.6	-1.2
SMG	Samos	7.29	146	eP	Pn	02 00 35.2	0.0
VMG	Vicchio	7.30	274	P	Pn	02 00 37.4	+2.0
MTTG	Motta San Giov	7.38	220	P	Pn	02 00 37.8	+1.4
APE	Apeiranthos	7.39	155	eP	Pn	02 00 35.8	-0.8
APE	Apeiranthos	7.39	155	⇑iP	Pn	02 00 35.6	-1.0
APE	Apeiranthos	7.39	155	⇓P	Pn	02 00 36.1	-0.5
APE	Apeiranthos	7.39	155	P	Pn	02 00 36.0	-0.7
APE	Apeiranthos	7.39	155	ePn	Pn	02 00 35.7	-0.9
CTI	Castel Tesino	7.42	291	P	Pn	02 00 37.7	+0.6
GEC2	GERESS Array S	7.43	315	ePn	Pn	02 00 37.6	+0.5
GERES	GERESS Array B	7.43	315	Pn	Pn	02 00 37.6	+0.5
GERES	comp=N,4.3nm,0.3s,baz=126,slow=14,SNR=270			Sn	Sn	02 01 59.1	-2.7
GERES	baz=133,slow=28,SNR=2.2			Lg		02 02 45.6	
GERES	baz=128,slow=24,SNR=2.4						
GERES	GERESS Array B	7.43	315	P	Pn	02 00 37.6	+0.5
GERES						02 01 59.1	
GERES	comp=Z,4.0nm,0.3s			pmax	pmax		
SEI	Scarperia	7.43	275	P	Pn	02 00 40.2	+3.0
DPC	Dobruska-Polom	7.45	333	ePN	Pn	02 00 36.8	-0.6
DPC	comp=Z,1μm,8.5s			AMS	AMS	02 04 10.0	
HENT	Hendek	7.49	111	iP	Pn	02 00 38.0	-0.1
CSNT	Castellina Chi	7.52	271	P	Pn	02 00 38.7	+0.3
GDZ	Gediz	7.56	126	iP	Pn	02 00 39.4	+0.4
KYTH	Kithira	7.63	172	eP	Pn	02 00 37.5	-2.5
KDZE	Karadeniz Ereo	7.66	106	eP	Pn	02 00 39.8	-0.6
KHC	Kasperske Hory	7.67	316	ePN	Pn	02 00 40.7	+0.2
KHC				x	x	02 00 47.5	
KHC				x	x	02 00 53.5	
KHC				eSN	Sn	02 02 07.9	0.0
KHC				x	x	02 02 57.5	
KHC				AMS	AMS	02 04 10.0	
KHC	comp=Z,2μm,8.0s						
KHC	Kasperske Hory	7.67	316	eP	Pn	02 00 40.7	+0.2
KHC				e		02 02 07.9	
KHC				MLR	MLR		
KHC	comp=Z,2μm,8.0s						
KHC	Kasperske Hory	7.67	316	ePn	Pn	02 00 40.7	+0.2
KHC				e		02 00 47.5	
KHC				e		02 00 53.5	
KHC				eSn	Sn	02 02 07.9	0.0
KHC				e		02 02 57.5	
BORA	Eskisehir	7.67	118	iP	Pn	02 00 39.9	-0.6
SCE	Schlegeis	7.68	298	ePn	Pn	02 00 41.4	+0.8
UPC	Upice	7.69	332	ePN	Pn	02 00 40.4	-0.3
WTTA	Wattenberg	7.81	299	⇑iPn	Pn	02 00 43.7	+1.3
WTTA	comp=Z,9.9nm,0.2s,SNR=24			⇑iSn	Sn	02 02 08.0	-3.2
	comp=Z,144nm,1.0s						
APPI	Appiano	7.82	293	P	Pn	02 00 43.7	+1.2
PRU	Puhonice	7.83	324	ePN	Pn	02 00 41.7	-1.0
PRU				AMS	AMS	02 04 10.0	
PRU	comp=Z,1μm,8.6s						
PRU	Pruhonice	7.83	324	ePn	Pn	02 00 41.5	-1.2
WATA	Walderalm	7.88	300	⇑iPn	Pn	02 00 45.3	+2.0
WATA	comp=Z,17nm,0.6s,SNR=12			⇑iSn	Sn	02 02 11.0	-1.9
	comp=Z,78nm,0.8s						
KSP	Ksiaz	7.88	334	ePn	Pn	02 00 44.1	+0.7
KSP	Ksiaz	7.88	334	ePn	Pn	02 00 43.3	-0.1
KSP				ePg	Pb	02 00 50.7	-14
KSP				eSn	Sn	02 02 11.0	-2.1
PRA	Prague	7.94	324	ex	x	02 00 59.0	
BODT	Bodrum	8.04	146	eP	Pn	02 00 45.7	+0.2
MLSB	Milas	8.04	142	eP	Pn	02 00 45.9	+0.4
WET	Wettzell	8.04	314	ePn	Pn	02 00 45.8	+0.3
PII	Pisa	8.05	273	P	Pn	02 00 45.8	+0.1
SQTA	Sankt Quirin	8.06	298	⇑iPn	Pn	02 00 47.5	+1.6
SQTA	comp=Z,35nm,0.6s,SNR=48			⇓iSn	Sn	02 02 17.4	-0.2
	comp=Z,31nm,0.5s						
SQTA	Sankt Quirin	8.06	298	P	Pn	02 00 47.6	+1.7
MAGA	Magasa	8.07	288	P	Pn	02 00 46.5	+0.6
BDRM	Kayabasi	8.09	145	iP	Pn	02 00 45.9	-0.3
ESKT	Eskisehir	8.13	119	eP	Pn	02 00 47.1	+0.3
ESKT	Eskisehir	8.13	119	iP	Pn	02 00 46.9	+0.1
SEYT	Eskypehyr	8.13	119	iP	Pn	02 00 46.9	+0.1
MOTA	Moosalm	8.18	299	⇑iPn	Pn	02 00 48.6	+1.1
MOTA	comp=Z,12nm,0.5s,SNR=22			⇑iSn	Sn	02 02 21.6	+1.3
	comp=Z,24nm,0.5s						
MOTA	Moosalm	8.18	299	P	Pn	02 00 48.5	+1.1
MABI	Malga Bissina	8.20	289	P	Pn	02 00 47.7	0.0
PVCC	Panska Ves	8.24	327	ePN	Pn	02 00 47.1	-1.1
DNZL	Cakiroluk	8.33	135	iP	Pn	02 00 55.1	+5.6
BRMO	Bormio	8.39	292	P	Pn	02 00 53.7	+3.4
SGKT	Sivrigoynuk	8.39	109	iP	Pn	02 00 51.0	+0.6
YER	Yerkesik	8.40	141	eP	Pn	02 00 50.8	+0.3
VAE	Valguarnera	8.41	223	Pn	Pn	02 00 54.6	+4.1
VAE	comp=Z,1.2nm,0.3s,baz=61,slow=8.1,SNR=5.9			Sn	Sn	02 02 29.5	+3.6
	comp=Z,1.7nm,0.3s,baz=220,slow=23,SNR=3.0						
VAE	Valguarnera	8.41	223	Pn	Pn	02 00 54.6	+4.1
VAE				Sn	Sn	02 02 29.5	+3.6
FUR	Furstenfeldbru	8.41	305	P	Pn	02 00 50.2	-0.4
DAT	Datca	8.43	146	eP	Pn	02 00 51.0	+0.1
HAVL	Avola	8.49	218	P	Pn	02 00 51.0	-0.7
SHUT	Suhut-Afyon	8.54	125	eP	Pn	02 00 52.6	+0.2
SAFT	Safranbolu	8.56	104	eP	Pn	02 00 51.2	-1.4
KIEV	Kiev	8.56	34	ePn	Pn	02 00 53.4	+0.7
KIEV	comp=Z,24nm,0.8s			Sn	Sn	02 02 30.5	+0.8
KIEV	Kiev	8.56	34	ePn	Pn	02 00 53.4	+0.7
AKASG	comp=Z,24nm,0.8s Malin Array Be	8.57	34	Pn	Pn	02 00 53.1	+0.2
AKASG	comp=Z,1.9nm,0.3s,baz=226,slow=13,SNR=23			Pg	Pg	02 01 15.8	-16
AKASG	comp=Z,2.1nm,0.3s,baz=217,slow=13,SNR=6.1			Sn	Sn	02 02 23.1	-6.9
AKASG	comp=Z,1.8nm,0.3s,baz=217,slow=17,SNR=5.5			Lg		02 03 18.8	
AKASG	comp=Z,3.1nm,0.3s,baz=215,slow=28,SNR=5.5 Malin Array Be	8.57	34	iP	Pn	02 00 53.0	+0.2
AKASG				pmax	pmax		
AKBB	comp=Z,4.0nm,0.6s Malin Array Si	8.57	34	ePn	Pn	02 00 53.1	+0.3
AKBB	Malin Array Si	8.57	34	ePn	Pn	02 00 53.1	+0.3
VAM	Vamos	8.66	166	eP	Pn	02 00 54.1	+0.1
SEV	Sevastopol'	8.67	81	eP	Pn	02 00 51.3	-2.9
SEV				iS	Sn	02 02 26.2	-6.2
SEV	comp=Z,31nm,0.7s			pmax	pmax		
SEV	comp=N,104nm,0.7s			smax			
BRG	comp=E,21nm,0.7s Berggiesshubel	8.76	326	eP	Pn	02 00 57.1	+1.8
BRG	comp=E,8.2nm,1.

MOX
comp=Z,700nm,18.0s
MOX Moxa 9.62 318 *e*P P **Pn 02 01 07.2 -0.1**
comp=Z,700nm,18.0s
SISB Singen-Schiene 9.66 298 P P **Pn 02 01 08.1 +0.4**
FIN Finale Ligure 9.69 277 P P **Pn 02 01 06.9 -1.3**
BUCH Bad Urach 9.69 303 P P **Pn 02 01 07.9 -0.3**
GUT Gutenstein 9.69 300 P P **Pn 02 01 08.1 -0.1**
BR131 Keskin Array S 9.86 111 *e*Pn P **Pn 02 01 11.6 +1.1**
BRTR Keskin Array B 9.86 111 Pn P **Pn 02 01 13.8 +3.3**
comp=Z,3.2nm,0.3s,baz=288,slow=11,SNR=3.3
BRTR Keskin Array B 9.86 111 P P **Pn 02 01 13.8 +3.3**
BRTR pmax pmax
comp=Z,3.0nm,0.3s
GKP Gorka Klasztor 9.87 344 *e*P P **Pn 02 01 11.6 +1.0**
ORO Oropa 9.89 285 P P **Pn 02 01 10.2 -0.7**
FEO Feodosiya 9.90 78 *e*P P **Pn 02 01 14.5 +3.4**
FEO *e*S S **Sn 02 03 00.9 -1.8**
FEO smax
comp=N,130nm,0.9s
FEO Feodosiya 9.90 78 *e*P P **Pn 02 01 14.5 +3.4**
comp=N,130nm,0.9s
SPAK Spaichingen-Ko 9.91 300 P P **Pn 02 01 11.5 +0.3**
SIND Sindeldorf 9.94 308 P P **Pn 02 01 11.6 0.0**
BOYT Boyabat 10.07 99 *i* P P **Pn 02 01 16.4 +3.1**
KAMT Kaman 10.08 112 *e*P P **Pn 02 01 12.8 -0.8**
LBG Lerchenberg 10.12 303 P P **Pn 02 01 14.4 +0.4**
SUW Suwalki 10.22 5 *e*P P **Pn 02 01 16.7 +1.2**
CTKT Corum 10.27 104 *i* P P **Pn 02 01 16.4 +0.4**
SBF Sospel 10.27 275 *e*Pn P **Pn 02 01 11.5 -4.6**
BFO Black Forest 10.28 301 *e*Pn P **Pn 02 01 16.1 -0.1**
BFO Black Forest 10.28 301 P P **Pn 02 01 15.7 -0.5**
BFO *e*Pn P **Pn 02 01 16.1 -0.1**
FELD Feldberg im Sc 10.33 298 P P **Pn 02 01 16.5 -0.5**
DOI San Damiano 10.37 279 P P **Pn 02 01 18.2 +0.7**
TOUF Mont Tournerai 10.39 276 P P **Pn 02 01 19.9 +2.1**
CDAG Cicekdag 10.40 110 *i* P 02 01 30.0
KIZ Kirchzarten 10.41 290 P P **Pn 02 01 17.7 -0.3**
TOD Tromm 10.52 308 P P **Pn 02 01 20.0 +0.4**
SWS Schriesheim-Wi 10.53 307 P P **Pn 02 01 20.4 +0.8**
BBS Basel-Blauen 10.54 295 P P **Pn 02 01 20.0 +0.2**
MBDF Montbardon 10.70 280 *e*Pn P **Pn 02 01 17.7 -4.4**
LPG La Plagne 10.74 284 *e*Pn P **Pn 02 01 18.2 -4.3**
LPG *e*Sn S **Sn 02 03 13.3 -10**
comp=N,28nm,0.6s
LPL La Plagne 10.75 284 *e*Pn P **Pn 02 01 18.4 -4.3**
BNI Bardonecchia 10.77 282 *e*Pn P **Pn 02 01 21.9 -1.1**
BNI Bardonecchia 10.77 282 *e*Pn P **Pn 02 01 21.9 -1.1**
FRF La Foret Royal 10.87 274 *e*Pn P **Pn 02 01 19.6 -4.7**
MOF Molkenrain 10.88 297 P P **Pn 02 01 24.5 0.0**
LOMF Lomont 10.96 294 P P **Pn 02 01 26.0 +0.5**
CDF Champ du Feu 10.96 300 *e*Pn P **Pn 02 01 21.2 -4.4**
CDF *e*Sn S **Sn 02 03 17.6 -11**
LMR La Mourre 10.99 273 *e*Pn P **Pn 02 01 21.4 -4.6**
TNS Taunus Mts 11.03 310 *e*Pn P **Pn 02 01 27.6 +1.1**
HINF Hinteralfeld 11.06 296 *e*Pn P **Pn 02 01 23.0 -3.9**
HINF *e*Sn S **Sn 02 03 19.9 -11**
AVNT Avonos 11.15 113 *i* P P **Pn 02 01 30.5 +2.4**
CABF La Chapelle 11.31 290 *e*Pn P **Pn 02 01 26.9 -3.5**
ORIF Oris-en-Rattie 11.34 281 *e*Pn P **Pn 02 01 26.1 -4.6**
ORIF *e*Sn S **Sn 02 03 28.0 -10**
comp=N,16nm,0.6s
ANN Anapa 11.35 80 *e*P P **Pn 02 01 26.7 -4.3**
ANN *e*S S **Sn 02 03 32.8 -5.5**
ANN pmax pmax
comp=Z,28nm,1.1s
ANN MLR MLR
comp=Z,473nm,14.0s
ABH Alteburg 11.37 307 P P **Pn 02 01 31.5 +0.3**
HAU Haudompre 11.43 297 *e*Pn P **Pn 02 01 28.0 -4.1**
SMRF Simiane la Rot 11.60 276 *e*Pn P **Pn 02 01 29.4 -4.9**
WLF Walferdange 12.11 304 P P **Pn 02 01 40.1 -1.1**
WLF AP 02 01 44.0
VIVF Saint-Julien-l 12.20 281 *e*Pn P **Pn 02 01 37.7 -4.8**
KEST Kesra 12.45 234 Pn P **Pn 02 01 47.7 +1.8**
comp=Z,0.1nm,0.3s,baz=35,slow=5.5,SNR=5.6
KEST LR LR 02 07 02.1
comp=Z,77nm,20.6s,baz=250,slow=39
MEM Membach 12.59 308 P P **Pn 02 01 48.2 +0.4**
MEM AP 02 01 50.1
MEM E 02 01 51.9
LASF Ste Croix 12.82 277 *e*Pn P **Pn 02 01 46.0 -5.0**
SMF Signal de Mont 12.86 289 *e*Pn P **Pn 02 01 47.0 -4.5**
BCLA Clavier 12.91 306 P P **Pn 02 01 53.0 +0.7**
LOR Lormes 12.92 292 *e*Pn P **Pn 02 01 48.0 -4.4**
GIVF Givet 13.07 304 *e*Pn P **Pn 02 01 49.8 -4.6**
SOC Sochi 13.08 85 *e*P P **Pn 02 01 52.8 -1.8**
SOC *e* 02 04 19.5
SOC pmax pmax
comp=Z,31nm,0.8s
SOC MLR MLR
comp=Z,289nm,12.0s
SSF Saint Saulge 13.13 290 *e*Pn P **Pn 02 01 50.8 -4.5**
DOU Dourbes 13.20 304 P P **Pn 02 01 55.4 -0.8**
AVF Avril sur Loir 13.21 289 *e*Pn P **Pn 02 01 51.5 -4.8**
BAIF Baives 13.42 304 *e*Pn P **Pn 02 01 54.6 -4.6**
BGF Bois d'Agland 13.53 288 *e*Pn P **Pn 02 01 56.2 -4.5**
KELT Kelkit 13.61 100 *i* P 02 02 16.0
HYF Humbligny 13.75 291 *e*Pn P **Pn 02 01 59.3 -4.4**
MALT Malatya 13.81 108 *e*P 02 02 18.4
VRSR Storozhevoye 13.94 52 *e*P P **Pn 02 01 59.7 -6.5**
VRSR *e*S S **Sn 02 04 38.1 -3.3**
VRSR pmax pmax
comp=Z,30nm,1.0s
VRSR pmax pmax
comp=N,50nm,0.9s
VRSR pmax pmax
comp=E,90nm,0.9s
VRSR smax
comp=N,10.0nm,0.8s
VRSR smax
comp=Z,10.0nm,2.2s
VRSR smax
comp=E,30nm,1.0s
VRSR MLR MLR
comp=N,220nm,14.0s
VRSR MLR MLR
comp=E,350nm,15.0s
TCF Toulx Ste Croi 13.95 287 *e*Pn P **Pn 02 02 01.9 -4.5**
CAF Calviac 14.05 281 *e*Pn P **Pn 02 02 03.1 -4.6**
MTLF Montolieu 14.09 275 *e*Pn P **Pn 02 02 03.7 -4.7**
VOR Voronezh 14.17 50 P P **Pn 02 02 07.0 -2.4**
VOR pmax pmax
comp=E,80nm,1.4s
VOR pmax pmax
comp=Z,80nm,1.4s
OBN Obninsk 14.83 35 *c*e P P **Pn 02 02 15.0 -3.5**
OBN *e*S S **Sn 02 05 05.7 +2.4**
OBN pmax pmax
comp=Z,45nm,1.0s
OBN MLR MLR
comp=Z,200nm,13.0s
OBN Obninsk 14.83 35 *e*Pn P **Pn 02 02 16.0 -2.5**
OBN Obninsk 14.83 35 *e*Pn P **Pn 02 02 16.0 -2.5**
VSU Vasula 14.97 10 *e*P P **Pn 02 02 20.4 +0.1**
KIV Kislovodsk 15.17 82 *e*P P **Pn 02 02 24.7 +1.7**
KIV *e*S S **Sn 02 05 16.6 +5.1**
KIV pmax pmax
comp=Z,19nm,1.2s
KIV MLR MLR
comp=Z,182nm,12.0s
KIV Kislovodsk 15.17 82 *e*Pn P **Pn 02 02 24.9 +1.9**
comp=Z,25nm,0.8s
KIV Kislovodsk 15.17 82 *e*P P **Pn 02 02 24.7 +1.7**
comp=Z,19nm,1.2s
ERZM Erzurum 15.21 98 *i* P P **Pn 02 02 26.6 +3.1**
MMAI Mount Meron Ar 15.25 131 Pn P **Pn 02 02 25.3 +1.2**
baz=324,slow=20,SNR=3.8
MMAI LR LR 02 08 48.7
comp=Z,244nm,21.8s,baz=335,slow=39
MOS Moscow 15.70 35 *e*P P **Pn 02 02 26.7 -3.3**
MOS *e*S S **Sn 02 05 22.7 -1.7**
MOS pmax pmax
comp=Z,77nm,1.0s
FLN La Foliniere 16.04 296 *e*Pn P **Pn 02 02 30.4 -4.0**
ZEI Tsey 16.23 86 *e*P P **Pn 02 02 40.9 +4.1**
GRR Gorron 16.23 294 *e*Pn P **Pn 02 02 32.7 -4.2**
ASF Jabal al Asfar 16.71 129 Pn P **Pn 02 02 49.6 +6.6**
comp=Z,0.1nm,0.3s,baz=130,slow=6.1,SNR=5.2
ASF LR LR 02 10 12.6
comp=Z,175nm,20.3s,baz=29,slow=41
HFS Hagfors 17.01 346 Pn P **Pn 02 02 44.5 -2.2**
comp=Z,0.2nm,0.3s,baz=161,slow=11,SNR=6.7
HFS LR LR 02 10 00.6
comp=Z,467nm,20.9s,baz=333,slow=40
SGMF Saint Gilles 17.34 293 *e*Pn P **Pn 02 02 48.0 -2.9**
GNI Garni 17.55 94 P P **Pn 02 02 57.0 +3.5**
comp=Z,0.3nm,0.3s,baz=290,slow=3.7,SNR=13
GNI LR LR 02 10 40.7
comp=Z,158nm,20.2s,baz=114,slow=40
GNI Garni 17.55 94 ⇓ *e*P P **Pn 02 02 56.0 +2.5**
GNI pmax pmax
comp=Z,36nm,1.7s
GNI MLR MLR
comp=Z,100nm,18.0s
GNI Garni 17.55 94 *e*P P **Pn 02 02 56.9 +3.4**
comp=Z,18nm,0.9s
GNI Garni 17.55 94 *e*P P **Pn 02 02 56.0 +2.5**
comp=Z,100nm,18.0s
EIL Elat 17.68 139 *e*Pn P **Pn 02 02 56.9 +1.7**
comp=Z,340nm,1.0s
EIL Elat 17.68 139 *e*Pn P **Pn 02 02 56.9 +1.8**
comp=Z,340nm,1.0s
FINES FINESS Array B 17.82 7 P P **Pn 02 02 55.8 -1.0**
comp=Z,0.2nm,0.3s,baz=152,slow=12,SNR=13
FINES LR LR 02 10 20.1
comp=Z,227nm,19.2s,baz=192,slow=39
FINES FINESS Array B 17.82 7 P P **Pn 02 02 55.8 -1.0**
FINES LR LR 02 10 20.1
ROSF Rostrenen 17.83 293 *e*Pn P **Pn 02 02 54.3 -2.6**
NB2 NORSAR Subarra 18.31 344 P P **Pn 02 03 00.1 -2.8**
comp=Z,19nm,1.2s,baz=157,slow=11
NOA NORSAR Array B 18.31 344 P P **Pn 02 03 00.7 -2.2**
comp=Z,0.3nm,0.3s,baz=158,slow=12,SNR=7.5
NOA LR LR 02 10 29.3
comp=Z,267nm,20.1s,baz=180,slow=38
PECR Pechory 18.94 41 *e*P P **Pn 02 03 10.5 -0.1**
ESDC Sonseca Array 19.52 267 P P **Pn 02 03 17.9 +0.3**
comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=7.3
ESDC LR LR 02 10 32.8
comp=Z,165nm,21.6s,baz=60,slow=36
EKA Eskdalemuir Ar 19.64 315 P P **Pn 02 03 17.8 -1.3**
comp=Z,0.6nm,0.3s,baz=110,slow=11,SNR=24
EKA Eskdalemuir Ar 19.64 315 P P **Pn 02 03 17.8 -1.2**
EKA pmax pmax
comp=Z,1.0nm,0.3s
TMCR Tamitsa 22.38 19 P P **P 02 03 45.1 -2.1**
TMCR pmax pmax
comp=Z,43nm,1.3s,mb4.7
TMCR Tamitsa 22.38 19 P P **P 02 03 45.1 -2.1**
comp=Z,43nm,1.3s,mb4.7
MDT Midelt 23.26 251 P P **P 02 03 57.8 +1.3**
comp=Z,4.5nm,1.1s,mb3.8,baz=70,slow=12,SNR=4.6
MDT LR LR 02 13 52.0
comp=Z,110nm,19.8s,MS3.3,baz=155,slow=39
AKTK Aktyubinsk 25.41 62 P P **P 02 04 15.6 -0.9**
AKTK LR LR 02 15 47.6
AKTK Aktyubinsk 25.41 62 P P **P 02 04 16.1 -0.5**
AKTO Aktyubinsk 25.41 62 P P **P 02 04 15.6 -0.9**
comp=Z,2.1nm,0.7s,mb3.8,baz=272,slow=12,SNR=6.8
AKTO LR LR 02 15 47.6
comp=Z,154nm,22.0s,MS3.5,baz=119,slow=40
AKTO Aktyubinsk 25.41 62 P P **P 02 04 16.1 -0.5**
ARCES ARCESS Array B 25.83 3 P P **P 02 04 18.5 -1.9**
comp=Z,7.9nm,1.0s,mb4.2,baz=41,slow=22,SNR=4.5
ARCES ARCESS Array B 25.83 3 P P **P 02 04 18.5 -1.9**
ARCES pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 26.45 49 ⇓ *i* P P **P 02 04 25.3 -0.7**
ARU *e* 02 05 02.6
ARU *e*PPP 02 05 21.6
ARU *e*S S **P 02 09 01.5 +1.2**
ARU *e*SS 02 10 02.6
ARU pmax pmax
comp=Z,29nm,0.9s,mb4.8
ARU Arti 26.45 49 *e*P P **P 02 04 25.8 -0.1**
comp=Z,29nm,0.9s,mb4.8
ARU Arti 26.45 49 *e*P P **P 02 04 25.8 -0.2**
comp=Z,29nm,0.9s,mb4.8
SOKR Solikamsk 26.45 41 ⇑ *i* P P **P 02 04 34.7 +8.7**
SOKR pmax pmax
comp=Z,30nm,1.5s,mb4.6
AB31 Akbulak array 26.68 65 *i* P P **P 02 04 27.8 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
AB31 Akbulak array 26.68 65 *i* P P **P 02 04 27.8 -0.3**
comp=Z,2.0nm,0.6s,mb3.8
BRVK Borovoye 32.97 56 P P **P 02 05 24.1 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 32.97 56 *e*P P **P 02 05 24.6 +0.8**
comp=Z,9.0nm,0.6s,mb4.9
BVA0 Borovoye Array 33.03 56 *i* P P **P 02 05 24.9 +0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVA0 Borovoye Array 33.03 56 *i* P P **P 02 05 24.9 +0.5**
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 33.03 56 P P **P 02 05 25.2 +0.8**
comp=Z,16nm,0.7s,mb5.0,baz=269,slow=7.1,SNR=76
BVAR Borovoye Array 33.03 56 P P **P 02 05 25.2 +0.8**
BVAR pmax pmax
comp=Z,16nm,0.7s
VOSK Vostochnaya 33.41 57 P P **P 02 05 27.9 +0.2**
VOSK pmax pmax
comp=Z,13nm,1.0s,mb4.8
VOSK Vostochnaya 33.41 57 P P **P 02 05 27.9 +0.2**
comp=Z,13nm,1.0s,mb4.8
TOA0 Torodi Ar. Sit 35.06 215 *e*P P **P 02 05 42.5 +0.5**
TOA0 Torodi Ar. Sit 35.06 215 *e*P P **P 02 05 42.5 +0.5**
TORD Torodi Ar. Bea 35.06 215 P P **P 02 05 42.7 +0.7**
comp=Z,9.9nm,0.8s,mb4.8,baz=15,slow=9.1,SNR=26
TORD Torodi Ar. Bea 35.06 215 P P **P 02 05 42.7 +0.7**
NVS Novosibirsk 40.34 52 ⇓ *i* P P **P 02 06 27.4 +0.8**
NVS *i* 02 08 00.6
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,22nm,1.2s,mb4.8
ZAL Zalesovo 41.42 53 P P **P 02 06 35.0 -0.5**
comp=Z,5.3nm,0.7s,mb4.3,baz=186,slow=8.9,SNR=32
ZAL LR LR 02 25 38.9
comp=Z,225nm,18.9s,MS4.1,baz=192,slow=39
ZAL Zalesovo 41.42 53 P P **P 02 06 35.0 -0.5**
ZAL pmax pmax
comp=Z,5.0nm,0.7s
ZAL MLR MLR
comp=Z,225nm,18.9s
MK31 Makanchi Array 41.82 64 *i* P P **P 02 06 38.8 0.0**
MK31 pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
MK31 Makanchi Array 41.82 64 *e*P P **P 02 06 39.2 +0.4**
MK31 Makanchi Array 41.82 64 *i* P P **P 02 06 38.8 0.0**
comp=Z,7.0nm,1.1s,mb4.2
MKAR Makanchi Array 41.82 64 P P **P 02 06 38.9 0.0**
comp=Z,3.1nm,0.8s,mb4.0,baz=279,slow=6.5,SNR=24
MKAR LR LR 02 25 23.3
comp=Z,166nm,21.3s,MS3.9,baz=311,slow=38
MKAR Makanchi Array 41.82 64 *i* P P **P 02 06 38.9 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 41.82 64 P P **P 02 06 38.9 0.0**
MKAR LR LR 02 25 23.3
WMQ Urumqi 46.46 66 ⇑ P P **P 02 07 17.8 +1.8**
WMQ AP pP 02 07 22.3 +5.1
WMQ XP sP 02 07 24.8 +7.2
WMQ PCP PcP 02 08 52.6 +1.9
WMQ PP PP 02 09 07.0 +2.1
WMQ S S **02 14 05.0 +0.4**
WMQ XS sS 02 14 12.4 +5.9
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,217nm,5.5s
WMQ LR LR
comp=N,189nm,19.9s,MS4.1
WMQ LR LR
comp=E,115nm,21.2s,MS4.1
WMQ LR LR
comp=Z,90nm,17.0s,MS3.8
KOLN Koldanda 51.58 87 *e*P P **P 02 07 55.5 +0.2**
comp=Z,16nm,1.0s,mb4.9
GKN Gorkha 52.20 86 *e*P P **P 02 08 00.0 +0.1**
DMN Daman 52.76 86 *e*P P **P 02 08 04.5 +0.4**
comp=Z,20nm,0.8s,mb5.1
GUN Gumba 53.15 85 *e*P P **P 02 08 07.2 +0.3**
comp=Z,34nm,1.0s,mb5.2
JIRN Jiri 53.52 85 *e*P P **P 02 08 09.9 +0.3**
comp=Z,11nm,0.8s,mb4.8
SCHQ Schefferville 54.96 315 LR LR 02 31 01.8
comp=Z,123nm,18.4s,MS4.0,baz=241,slow=35
SONM Songino Array 56.31 54 P P **P 02 08 30.4 +0.6**
comp=Z,1.9nm,0.9s,mb4.1,baz=302,slow=8.8,SNR=11
SONM Songino Array 56.31 54 P P **P 02 08 30.4 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.9s
LSZ Lusaka 59.14 173 P P **P 02 08 51.8 +2.0**
comp=Z,2.5nm,0.8s,mb4.3,baz=9.9,slow=8.9,SNR=6.0
LSZ Lusaka 59.14 173 P P **P 02 08 51.8 +2.0**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK Yakutsk 59.79 31 ⇑ *e*P P **P 02 08 52.2 -2.1**
YAK pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
YAK MLR MLR
comp=Z,100nm,19.0s,MS4.0
LZH Lanzhou 61.03 67 *e*P P **P 02 09 05.5 +2.8**
LZH AP pP 02 09 10.0 +6.1
LZH XP sP 02 09 12.5 +8.1
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.0
LZH Lanzhou 61.03 67 *e*P P **P 02 09 05.5 +2.8**
comp=Z,13nm,1.0s,mb5.0
LZH pP pP 02 09 10.0 +6.1
LZH sP sP 02 09 12.5 +8.1
HHC Hu-ho-hao-te 63.22 58 *e*P P **P 02 09 19.3 +1.8**
HHC AP pP 02 09 23.9 +5.3
HHC PCP PcP 02 09 56.5 +1.7
HHC PP PP 02 11 39.6 +3.2
HHC SCP ScP 02 13 56.0 -2.0
HHC S **S 02 17 50.0 +0.3**
HHC XS sS 02 17 56.6 +4.9
HHC SS SS 02 21 56.6 +0.8
HHC AMB AMB
comp=Z,15nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,290nm,6.0s
HHC LR LR
comp=N,262nm,18.0s,MS4.6
HHC LR LR
comp=E,288nm,17.2s,MS4.6
HHC LR LR
comp=Z,213nm,18.3s,MS4.4
CD2 Chengdu 64.01 71 *e*P P **P 02 09 23.5 +0.8**
CD2 AP pP 02 09 28.3 +4.4
CD2 XP sP 02 09 30.6 +6.3
CD2 PP PP 02 11 46.0 +2.7
CD2 S **S 02 17 56.5 -3.1**
CD2 SS SS 02 22 06.0 -2.1
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=E,140nm,14.4s
CD2 LR LR
comp=Z,190nm,12.0s,MS4.5
BILL Bilibino 65.31 14 *e*P P **P 02 09 29.2 -2.0**
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
BILL Bilibino 65.31 14 *e*P P **P 02 09 29.2 -2.0**
comp=Z,4.0nm,1.4s,mb4.3
BJI Beijing 66.52 57 P P **P 02 09 33.2 -5.7**
comp=Z,10.0nm,1.7s,mb4.6
BJI LR LR
comp=Z,130nm,20.2s,MS4.1
KMI Kunming 66.86 77 P P **P 02 09 41.8 +0.7**
KMI AP pP 02 09 46.3 +4.0
KMI XP sP 02 09 48.1 +5.4
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
KMI LR LR
comp=Z,46nm,26.0s,MS3.6
KMI Kunming 66.86 77 P P **P 02 09 41.8 +0.7**
comp=Z,8.0nm,0.8s,mb4.8
KMI pP pP 02 09 46.3 +4.0
KMI sP sP 02 09 48.1 +5.4
KMI LR LR
comp=Z,50nm,26.0s,MS3.6
YKA Yellowknife Ar 68.36 340 LR LR 02 41 21.5
comp=Z,104nm,19.5s,MS4.1,baz=185,slow=37
LBTB Lobatse 68.62 176 P P **P 02 09 52.8 +0.5**
comp=Z,4.8nm,0.9s,mb4.4,baz=1.0,slow=5.7,SNR=5.3
LBTB Lobatse 68.62 176 P P **P 02 09 52.8 +0.6**
LBTB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GYA Guiyang 68.76 73 *e*P P **P 02 09 54.3 +1.2**
GYA AP pP 02 09 59.8 +5.5
GYA XP sP 02 10 01.6 +6.9
GYA PCP PcP 02 10 19.8 +2.0
GYA PP PP 02 12 28.4 +3.6
GYA S S 02 18 55.9 -1.4
GYA SKS 02 19 49.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,6.1s
GYA LR LR
comp=N,380nm,19.7s,MS4.8
GYA LR LR
comp=E,360nm,20.4s,MS4.8
GYA LR LR
comp=Z,350nm,19.9s,MS4.6
CN2 Changchun 69.44 49 *e*P P **P 02 09 59.3 +2.0**
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
IMA2 Indian Mountai 70.36 358 *e*P P **P 02 10 04.2 +1.2**
IMA2 *e*PcP PcP 02 10 22.1 -2.4
IMA2 Indian Mountai 70.36 358 *e*P P **P 02 10 04.2 +1.2**
IMA2 Indian Mountai 70.36 358 *e*PcP PcP 02 10 22.1 -2.4
MDJ Mudanjiang 71.10 46 P P **P 02 10 07.0 -0.5**
MDJ AMB AMB
comp=Z,7.0nm,2.4s,mb4.2
MDJ AMB AMB
comp=Z,116nm,4.9s
DAWY Dawson 71.39 351 *e*P P **P 02 10 09.9 +0.6**
DAWY Dawson 71.39 351 *e*P P **P 02 10 09.9 +0.7**
ULM Lac du Bonnet 71.66 323 P P **P 02 10 10.2 -0.7**
comp=Z,2.6nm,0.8s,mb4.2,baz=36,slow=4.7,SNR=3.2
ULM LR LR 02 41 05.5
comp=Z,152nm,18.0s,MS4.3,baz=16,slow=35
BOSA Boshof 72.18 177 P P **P 02 10 15.0 +1.0**
comp=Z,5.0nm,0.9s,mb4.4,baz=344,slow=7.4,SNR=6.8
BOSA LR LR 02 44 50.1
comp=Z,100nm,18.4s,MS4.1,baz=2.1,slow=38
BOSA Boshof 72.18 177 P P **P 02 10 15.0 +1.0**
BOSA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOSA MLR MLR
comp=Z,100nm,18.4s,MS4.1
BOSA Boshof 72.18 177 P P **P 02 10 15.0 +1.0**
BOSA LR LR 02 44 50.1
NJ2 Nanjing 73.29 62 *e*P P **P 02 10 23.9 +3.3**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
KSRS Korea Array 75.13 52 LR LR 02 47 21.2
comp=Z,63nm,18.2s,MS4.0,baz=128,slow=39
KULM Kulim 78.43 94 P P **P 02 10 52.5 +2.6**
KULM Kulim 78.43 94 P P **P 02 10 52.5 +2.6**
LAO LASA Array 78.76 326 P P **P 02 10 52.4 +0.6**
comp=Z,36nm,1.4s,mb5.1
LAO LASA Array 78.76 326 P P **P 02 10 52.4 +0.6**
comp=Z,36nm,1.4s,mb5.1
EGMT Eagleton 79.02 329 *e*P P **P 02 10 54.1 +0.9**
comp=Z,13nm,0.9s,mb4.9
EGMT Eagleton 79.02 329 *e*P P **P 02 10 54.1 +0.9**
comp=Z,13nm,0.9s,mb4.9
NEW Newport 81.37 334 P P **P 02 11 06.7 +0.8**
comp=Z,3.7nm,1.0s,mb4.3,baz=40,slow=6.6,SNR=6.3
NEW Newport 81.37 334 P P **P 02 11 06.7 +0.8**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 81.37 334 P P **P 02 11 06.7 +0.8**
PDAR Pinedale Array 83.33 326 P P **P 02 11 16.6 +0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=60,slow=4.0,SNR=13
RRI2 Red Ridge 83.55 328 *e*P P **P 02 11 17.3 +0.1**
comp=Z,9.3nm,1.0s,mb4.9
BMO Blue Mountains 84.43 332 *e*P P **P 02 11 21.5 -0.3**
comp=Z,5.1nm,1.0s,mb4.6
BMO Blue Mountains 84.43 332 *e*P P **P 02 11 21.5 -0.2**
comp=Z,5.1nm,1.0s,mb4.6
HWUT Hardware Ranch 85.11 327 *e*P P **P 02 11 25.2 0.0**
comp=Z,4.5nm,1.0s,mb4.5
ROSC El Rosal 90.97 278 LR LR 02 49 31.5
comp=Z,87nm,18.2s,MS4.2,baz=20,slow=33

TXAR	**Lajitas Array**	**91.65**	**315**	P	**P**	**02 11 57.5**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=66,slow=3.1,SNR=3.9						
TXAR				LR	LR	02 48 55.1	
	comp=Z,85nm,19.5s,MS4.2,baz=0.0,slow=33						

*ISCJB **21** 02:02:57.2±2.0, 46.1N±0.4×1546E±0.3, h10km, mb3.8/4, Error ellipse: s-maj=62.3km s-min=17.0km az=142.2*
*IDC **21** 02:02:57.7±3.4, 46.14N×154.72E, h0km, mb3.9/4, mb1 1.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=97.0km s-min=34.7km az=180.0*
*MOS **21** 02:02:59.0±2.3, 46.77N×154.35E, h10km, mb4.1/4, Error ellipse: s-maj=47.1km s-min=26.6km az=65.1*

ISC 21 02:02:58.9±2.0, 461N±0.4×1546E±0.3, h10km, n10, σ0§55/10, mb3.8/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.81**	**262**	*e*PN	**Pn**	**02 04 11.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,80nm,5.0s						
PET	**Petropavlovsk**	**7.38**	**19**	*e*PN	**Pn**	**02 04 39.2**	**-7.4**
PET				pmax	pmax		
	comp=N,28nm,0.5s						
INK	**Inuvik**	**41.62**	**32**	P	**P**	**02 10 46.9**	**-0.2**
	comp=N,1.6nm,0.7s,mb3.8,baz=287,slow=6.3,SNR=7.7						
INK	**Inuvik**	**41.62**	**32**	P	**P**	**02 10 46.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**02 11 40.1**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=62,slow=6.8,SNR=5.1						
MKAR	**Makanchi Array**	**48.15**	**298**	P	**P**	**02 11 40.1**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.04**	**336**	P	**P**	**02 13 38.7**	**-0.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=40,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**65.04**	**336**	P	**P**	**02 13 38.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**02 14 51.4**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=310,slow=4.4,SNR=5.8						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**02 14 51.4**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

WEL 21 02:09:01.9±0.1, 3798S×17729E, h71km±1km, ML3.7/8, 3C-3D, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.32**	**207**	⇓P*	Pn	02 09 13.1	-0.2
URZ				S*	Sn	02 09 21.7	+0.1
MWZ	**Matawai**	**0.40**	**153**	⇑P*	Pn	02 09 14.0	+0.1
MWZ				S*	Sn	02 09 23.5	+0.7
EDRZ	**Edgecumbe**	**0.46**	**253**	P*	Pn	02 09 14.4	-0.1
WIZ	**White Island**	**0.46**	**350**	P*	Pn	02 09 14.0	-0.4
MARZ	**Manawahe**	**0.49**	**269**	⇓P*	Pn	02 09 14.4	-0.3
TAZ	**Tarawera**	**0.67**	**247**	P*	Pn	02 09 16.8	+0.2
MKRZ	**Makatiti**	**0.67**	**256**	P*	Pn	02 09 17.0	+0.4
LIRZ	**Lichensteins R**	**0.72**	**268**	P*	Pn	02 09 17.1	0.0
PUZ	**Puketiti**	**0.77**	**97**	PN	Pn	02 09 17.6	-0.1
KARZ	**Kaharoa**	**0.83**	**267**	⇓P*	Pn	02 09 18.2	-0.2
TGRZ	**Tauranga**	**0.85**	**287**	P*	Pn	02 09 18.4	-0.2
MXZ	**Matakaoa Point**	**0.90**	**63**	P*	Pn	02 09 20.0	+0.8
PATZ	**Paeroa**	**0.91**	**243**	P*	Pn	02 09 19.6	+0.2
KNZ	**Kokohu**	**1.08**	**164**	⇑PN	Pn	02 09 20.9	-0.6
MYRZ	**Mayor Island**	**1.09**	**309**	⇑P*	Pn	02 09 21.4	-0.1
BKZ	**Black Stump Fm**	**1.34**	**208**	P*	Pn	02 09 24.8	-0.1
WATZ	**Wairara**	**1.43**	**239**	P*	Pn	02 09 26.0	+0.1
TOZ	**Tahuroa Road**	**1.44**	**279**	P*	Pn	02 09 26.1	0.0
TOZ				*e*S*	Sn	02 09 43.9	-0.4
RATZ	**Rangitukua**	**1.49**	**233**	P*	Pn	02 09 27.0	+0.3
RITZ	**Rihia Road**	**1.50**	**228**	P*	Pn	02 09 27.5	+0.5
KRVZ	**Karewarewa**	**1.71**	**229**	P*	Pn	02 09 30.2	+0.5
OTVZ	**Oturere**	**1.74**	**227**	P*	Pn	02 09 30.5	+0.4
WTVZ	**West Tongariro**	**1.75**	**229**	P*	Pn	02 09 30.6	+0.3
KUZ	**Kuaotunu**	**1.76**	**314**	PN	Pn	02 09 29.8	-0.5
NGZ	**Ngauruhoe**	**1.79**	**227**	P*	Pn	02 09 31.2	+0.5
TUVZ	**Tukino**	**1.82**	**224**	PN	Pn	02 09 31.3	+0.2
TWVZ	**Taurewa**	**1.82**	**233**	PN	Pn	02 09 31.4	+0.3
WPVZ	**Whakapapa**	**1.84**	**228**	PN	Pn	02 09 32.0	+0.6
FWVZ	**Far West T-bar**	**1.87**	**226**	PN	Pn	02 09 32.2	+0.4
MOVZ	**Moawhango**	**1.87**	**220**	PN	Pn	02 09 31.4	-0.4
WNVZ	**Wahianoa**	**1.89**	**224**	PN	Pn	02 09 32.2	+0.1
TRVZ	**Turoa**	**1.90**	**225**	PN	Pn	02 09 32.5	+0.3
MTVZ	**Mangateitei**	**2.00**	**225**	PN	Pn	02 09 33.8	+0.1
PKVZ	**Pokaka**	**2.01**	**229**	PN	Pn	02 09 34.3	+0.5
PXZ	**Pawanui**	**2.08**	**189**	*e*PN	Pn	02 09 32.5	-2.1
VRZ	**Vera Road**	**2.29**	**239**	PN	Pn	02 09 38.3	+0.8
WAZ	**Wanganui**	**2.53**	**225**	PN	Pn	02 09 40.9	+0.2
MRZ	**Mangatainoka R**	**2.99**	**206**	PN	Pn	02 09 44.0	-3.0
KIW	**Kapiti Island**	**3.42**	**222**	PN	Pn	02 09 49.8	-3.1
MTW	**Mount Morrison**	**3.46**	**203**	PN	Pn	02 09 50.3	-3.1
PAWZ	**Paruwai Farm**	**3.69**	**202**	PN	Pn	02 09 53.3	-3.2
SNZO	**South Karori**	**3.88**	**210**	PN	Pn	02 09 55.2	-3.9
TCW	**Tory Channel**	**3.98**	**215**	PN	Pn	02 09 56.7	-3.8
QRZ	**Quartz Range**	**4.66**	**231**	PN	Pn	02 10 06.7	-3.1
KHZ	**Kahutara**	**5.28**	**212**	PN	Pn	02 10 14.2	-4.1

*BJI **21** 02:10:10.1, 4581N×15340E, h5km, mB4.8, mb4.5, Ms4.5, Msz4.1*
*IDC **21** 02:10:11.4±0.8, 4586N×15346E, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.1/29, mbtmp4.0/20, ML4.2/2, MS3.2/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=20.7km s-min=17.1km az=126.0*
*NEIC **21** 02:10:12.8±0.8, 4576N×15347E, h10km, mb4.7/1, Error ellipse: s-maj=19.9km s-min=14.3km az=147.0*
*MOS **21** 02:10:13.6±1.7, 4587N×15332E, h27km, mb4.2/15, Error ellipse: s-maj=12.3km s-min=11.3km az=94.3*
*ISCJB **21** 02:10:15.2±0.6, 458N±0.1×1533E±0.1, h35km, mb4.1/23, MS3.6/3, Error ellipse: s-maj=15.9km s-min=8.8km az=123.8*

ISC 21 02:10:17.1±0.7, 459N±01×1534E±01, h35km, n63, σ1§21/63, mb4.1/23, MS3.6/3, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**263**	⇑*i*PN	**Pn**	**02 11 11.5**	**-3.6**
KUR				pmax	pmax		
	comp=N,230nm,0.5s						
KUR				pmax	pmax		
	comp=E,300nm,0.5s						
KUR				pmax	pmax		
	comp=Z,530nm,0.5s						
SKR	**Severo-Kuril's**	**5.13**	**20**	*e*PN	**Pn**	**02 11 26.7**	**-4.7**
YUK	**Yuzh-Kuril'sk**	**5.67**	**254**	*e*PN	**Pn**	**02 11 37.0**	**-1.7**
YUK				pmax	pmax		
	comp=Z,360nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.44**	**282**	⇓*e*PN	**Pn**	**02 12 04.8**	**+1.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.44**	**282**	*e*Pn	**Pn**	**02 12 04.8**	**+1.7**
	comp=Z,6.7nm,0.3s						
ASAJ	**Asahikawa**	**7.87**	**261**	Pn	**Pn**	**02 12 09.1**	**+0.1**
	comp=Z,4.1nm,0.3s,baz=89,slow=11,SNR=7.2						
ASAJ				LR	LR	02 15 52.6	
	comp=Z,76nm,18.6s,baz=62,slow=43						
MJAR	**Matsushiro Arr**	**14.74**	**236**	Pn	**Pn**	**02 13 39.2**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=35,slow=13,SNR=6.5						
MJAR	**Matsushiro Arr**	**14.74**	**236**	P	**Pn**	**02 13 39.2**	**-3.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.74**	**236**	Pn	**Pn**	**02 13 39.2**	**-3.8**
MAT	**Matsushiro**	**14.74**	**236**	P	**Pn**	**02 13 49.2**	**+6.2**
KLR	**Kul'dur**	**14.99**	**291**	*e*P	**Pn**	**02 13 42.6**	**-3.7**
CN2	**Changchun**	**19.90**	**274**	*e*P	**Pn**	**02 14 45.1**	**-2.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**20.75**	**255**	P	**P**	**02 14 55.9**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=54,slow=11,SNR=9.0						
KSRS				LR	LR	02 23 04.1	
	comp=Z,44nm,18.1s,MS2.9,baz=35,slow=37						
SNY	**Shenyang**	**21.83**	**270**	⇑P	**P**	**02 15 05.6**	**-0.7**
SNY				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.6						
BOD	**Bodaibo**	**26.71**	**311**	*e*P	**P**	**02 15 46.9**	**-6.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.7						

SONM	**Songino Array**	**31.83**	**291**	P	**P**	**02 16 38.8**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.6,baz=80,slow=7.6,SNR=4.5						
SONM	**Songino Array**	**31.83**	**291**	P	**P**	**02 16 38.8**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LZH	**Lanzhou**	**38.13**	**273**	*e*P	**P**	**02 17 33.3**	**+0.5**
LZH				AP	pP	02 17 36.0	-7.0
LZH				XP	sP	02 17 38.0	-9.2
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
LZH	**Lanzhou**	**38.13**	**273**	*e*P	**P**	**02 17 33.2**	**+0.4**
	comp=Z,16nm,1.0s,mb4.7						
LZH				pP	pP	02 17 36.0	-7.0
LZH				sP	sP	02 17 38.0	-9.2
GTA	**Gaotai**	**39.32**	**280**	*e*P	**P**	**02 17 43.6**	**+0.9**
GTA				AP	pP	02 17 47.8	-5.1
GTA				XP	sP	02 17 50.6	-6.5
GTA				PP	PP	02 19 21.6	+8.4
GTA				S	**S**	**02 23 52.3**	**+11**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,85nm,5.7s						
GTA				LR	LR		
	comp=N,227nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=E,291nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=Z,229nm,15.6s,MS4.1						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**02 18 07.8**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.6,baz=285,slow=7.5,SNR=6.0						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**02 18 07.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**02 18 07.8**	**+0.7**
ZAL	**Zalesovo**	**43.31**	**307**	LR	LR	02 37 24.0	
	comp=Z,94nm,18.2s,MS3.7,baz=208,slow=38						
MK31	**Makanchi Array**	**47.53**	**298**	*e*P	**P**	**02 18 47.2**	**-1.7**
MKAR	**Makanchi Array**	**47.53**	**298**	P	**P**	**02 18 47.4**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=67,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**47.53**	**298**	P	**P**	**02 18 47.4**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.57**	**310**	P	**P**	**02 19 18.0**	**-1.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=38,slow=6.9,SNR=4.6						
BVAR	**Borovoye Array**	**51.57**	**310**	P	**P**	**02 19 18.0**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JIRN	**Jiri**	**55.23**	**275**	*e*P	**P**	**02 19 47.5**	**+1.0**
	comp=Z,9.6nm,0.5s,mb5.0						
GUN	**Gumba**	**55.29**	**276**	*e*P	**P**	**02 19 48.2**	**+1.2**
KKN	**Kakani**	**55.78**	**276**	*e*P	**P**	**02 19 51.3**	**+0.8**
PKI	**Pulchoki**	**55.83**	**276**	*e*P	**P**	**02 19 51.2**	**+0.4**
DMN	**Daman**	**56.01**	**277**	*e*P	**P**	**02 19 53.2**	**+1.1**
GKN	**Gorkha**	**56.09**	**277**	*e*P	**P**	**02 19 53.4**	**+0.7**
KOLN	**Koldanda**	**56.96**	**277**	*e*P	**P**	**02 19 59.8**	**+0.9**
	comp=Z,18nm,1.1s,mb5.0						
ARCES	**ARCESS Array B**	**58.74**	**341**	P	**P**	**02 20 10.9**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=7.0,SNR=3.6						
ARCES	**ARCESS Array B**	**58.74**	**341**	P	**P**	**02 20 10.9**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**59.46**	**312**	P	**P**	**02 20 15.8**	**-0.5**
AKTO	**Aktyubinsk**	**59.46**	**312**	P	**P**	**02 20 15.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=66,slow=10.0,SNR=3.2						
AKTO	**Aktyubinsk**	**59.46**	**312**	P	**P**	**02 20 15.9**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**02 20 51.9**	**-1.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=57,slow=7.0,SNR=18						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**02 20 51.9**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**65.09**	**54**	P	**P**	**02 20 54.1**	**0.0**
	comp=Z,0.5nm,0.9s,mb3.5,baz=263,slow=2.4,SNR=4.2						
WRA	**Warramunga Arr**	**67.76**	**199**	P	**P**	**02 21 10.4**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=18,slow=7.0,SNR=8.7						
WRA	**Warramunga Arr**	**67.76**	**199**	P	**P**	**02 21 10.4**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**69.12**	**341**	P	**P**	**02 21 20.2**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=27,slow=6.4,SNR=3.3						
NOA	**NORSAR Array B**	**69.12**	**341**	P	**P**	**02 21 20.2**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**69.34**	**340**	P	**P**	**02 21 18.7**	**-2.3**
	comp=Z,1.3nm,0.4s,mb4.2,baz=45,slow=6.5,SNR=13						
HFS	**Hagfors**	**69.34**	**340**	P	**P**	**02 21 18.7**	**-2.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.45**	**199**	P	**P**	**02 21 33.9**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=14,slow=6.9,SNR=9.8						
ASAR	**Alice Springs**	**71.45**	**199**	P	**P**	**02 21 33.9**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.39**	**327**	P	**P**	**02 21 37.5**	**-2.0**
	comp=Z,1.1nm,0.4s,mb4.1,baz=36,slow=6.3,SNR=8.3						
AKASG	**Malin Array Be**	**72.39**	**327**	P	**P**	**02 21 37.5**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BURAR	**Bucovina Array**	**76.43**	**327**	⇑*i*P	**P**	**02 22 04.0**	**+1.0**
EKA	**Eskdalemuir Ar**	**77.23**	**347**	P	**P**	**02 22 08.6**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=21,slow=4.6,SNR=4.9						
EKA	**Eskdalemuir Ar**	**77.23**	**347**	P	**P**	**02 22 08.6**	**+1.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**77.74**	**61**	P	**P**	**02 22 08.7**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=295,slow=2.2,SNR=5.6						
TXAR	**Lajitas Array**	**77.74**	**61**	P	**P**	**02 22 08.7**	**-1.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MLR	**Muntele Rosu**	**77.90**	**325**	P	**P**	**02 22 12.5**	**+1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=303,slow=11,SNR=3.0						
MLR	**Muntele Rosu**	**77.90**	**325**	P	**P**	**02 22 12.5**	**+1.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**79.11**	**334**	*e*P	**P**	**02 22 20.0**	**+2.1**
GERES	**GERESS Array B**	**79.33**	**334**	P	**P**	**02 22 20.3**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=46,slow=5.9,SNR=4.5						

*IDC **21** 02:11:43.7±2.1, 534S×12838E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.2/22, Error ellipse: s-maj=100.8km s-min=27.3km az=72.0*

NEIC 21 02:11:45.3±1.5, 545S×12827E, h10km, mb3.7/1, Error ellipse: s-maj=48.4km s-min=18.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.84**	**191**	Pn	Pn	02 14 47.7	-0.1
	0.3nm,0.3s,baz=28,slow=11,SNR=12						
FITZ				Sn	Sn	02 17 03.0	-7.8
	0.1nm,0.3s,baz=160,slow=22,SNR=3.1						
WRAB	**Tennant Creek**	**15.57**	**158**	*e*Pn	Pn	02 15 24.2	-0.5
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**15.57**	**158**	Pn	Pn	02 15 24.4	-0.4
	0.5nm,0.3s,baz=343,slow=13,SNR=20						
WRA				Sn	Sn	02 18 09.3	-8.1
	0.1nm,0.3s,baz=333,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**18.91**	**164**	P	Pn	02 16 08.2	+1.6
	0.3nm,0.3s,baz=338,slow=10,SNR=9.9						
HNR	**Honiara**	**31.65**	**99**	LR	LR	02 29 42.6	
	comp=Z,59nm,18.1s,baz=180,slow=34						
MKAR	**Makanchi Array**	**65.99**	**327**	P	P	02 22 31.8	0.0
	0.4nm,0.5s,baz=118,slow=7.5,SNR=5.5						

*LDG **21** 02:24:24.4±0.1, 4300N×001W, h10km, Md1.9/3, Ml1.9/5, Error ellipse: s-maj=4.8km s-min=1.9km az=164.0*
*STR **21** 02:24:24.8±0.1, 4301N×001E, h4km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 21 02:24:25.2±0.4, 4301N×000E, h5km±5km, mbLg1.4/12, 1C, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**53**	Pg	Pg	02 24 26.6	-0.1
LABF				Sg	Sg	02 24 27.8	0.0
LABF	**Labassere**	**0.07**	**53**	Pg	Pg	02 24 26.6	-0.1
LABF				Lg		02 24 27.9	
VIEF	**Viey**	**0.13**	**173**	Pg	Pg	02 24 27.8	+0.1
VIEF				Sg	Sg	02 24 29.8	+0.3
VIEF	**Viey**	**0.13**	**173**	Pg	Pg	02 24 27.8	+0.1
VIEF				Lg		02 24 29.8	
EPF	**Esparros**	**0.25**	**85**	*e*Pg	Pg	02 24 29.5	-0.5
EPF				*e*Sg	Sg	02 24 33.3	0.0
	16nm,0.2s						
EPF	**Esparros**	**0.25**	**85**	Pg	Pg	02 24 29.5	-0.5
EPF				Lg		02 24 33.3	
	7.8nm,0.2s						
RESF	**Ens**	**0.32**	**129**	Pg	Pg	02 24 31.0	-0.3
RESF				Sg	Sg	02 24 35.7	+0.2
RESF	**Ens**	**0.32**	**129**	Pg	Pg	02 24 31.1	-0.2
RESF				Lg		02 24 35.8	
EBIE	**Bielsa**	**0.34**	**162**	⇑Pg	Pg	02 24 31.5	-0.2
	SNR=18						
EBIE				Lg		02 24 36.1	
	2.2nm,0.1s,SNR=25						
ETSF	**Etsaut**	**0.43**	**255**	*e*Pg	Pg	02 24 33.0	-0.4
ETSF				*e*Sg	Sg	02 24 38.9	-0.1
	14nm,0.4s						
ETSF	**Etsaut**	**0.43**	**255**	Pg	Pg	02 24 33.0	-0.4
ETSF				Lg		02 24 38.9	
	7.2nm,0.4s						
SJPF	**Ste Jean**	**0.91**	**277**	*e*Pg	Pg	02 24 40.9	-1.6
SJPF				*e*Sg	Sg	02 24 52.2	-2.1
	2.4nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**277**	Pg	Pg	02 24 40.9	-1.6
SJPF				Lg		02 24 52.2	
	1.2nm,0.2s						
SALF	**Salau**	**0.91**	**106**	Pg	Pg	02 24 41.6	-1.0
SALF				Lg		02 24 53.8	
IUSE	**Utxeti**	**1.14**	**267**	Lg		02 25 03.3	
	0.6nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.33**	**195**	Pg	Pg	02 24 51.4	+0.7
	0.0nm,0.1s,SNR=7.9						
ESAC				Lg		02 25 09.1	
	6.3nm,0.1s,SNR=5.8						
EMIR	**Miracle**	**1.57**	**134**	Pg	Pg	02 24 55.3	0.0
	0.3nm,0.2s,SNR=4.0						
EMIR				Lg		02 25 16.7	
	2.3nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	02 24 55.6	-1.3
MTLF				*e*Sg	Sg	02 25 17.1	-1.2
	2.9nm,0.2s						
MTLF	**Montolieu**	**1.65**	**78**	Pg	Pg	02 24 55.6	-1.3
MTLF				Lg		02 25 17.1	
	1.4nm,0.2s						
EPOB	**Poblet**	**1.84**	**154**	Pg	Pg	02 24 59.1	-1.3
	0.3nm,0.3s,SNR=7.9						
EPOB				Lg		02 25 22.8	
	1.8nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.89**	**259**	Lg		02 25 27.0	
	2.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.06**	**173**	Pg	Pg	02 25 02.1	-2.6
	SNR=7.9						
ERTA				Lg		02 25 30.5	
	33nm,1.5s,SNR=7.9						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	02 25 09.7	-2.0
CAF				*e*Sg	Sg	02 25 41.0	-2.1
	1.4nm,0.3s						
CAF	**Calviac**	**2.43**	**37**	Pg	Pg	02 25 09.7	-2.0
CAF				Lg		02 25 41.0	
	0.7nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	02 25 12.0	-1.8
RJF				*e*Sg	Sg	02 25 45.5	-1.3
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Pg	Pg	02 25 12.0	-1.8
RJF				Lg		02 25 45.5	
	0.6nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	02 25 21.2	-1.4
LASF				*e*Sg	Sg	02 25 58.9	-2.6
	0.8nm,0.3s						
LASF	**Ste Croix**	**3.00**	**68**	Pg	Pg	02 25 21.2	-1.4
LASF				Lg		02 25 58.9	
	0.4nm,0.3s						

*BEO **21** 02:53:46.9±0.2, 4385N×2167E, h15km±1km*
*CSEM **21** 02:53:47.9±0.1, 4386N×2164E, h10km, ML2.6, Error ellipse: s-maj=2.8km s-min=1.9km az=53.0*
*ISCJB **21** 02:53:48.8±1.3, 4390N±003×2159E±009, h9km±10km, Error ellipse: s-maj=11.2km s-min=5.0km az=179.6*
*NEIC **21** 02:53:48.7, 4389N×2159E, h10km, ML2.6(BUC), After BUC.*
*SKO **21** 02:53:49.1, 4375N×2163E, h0km*

ISC 21 02:53:49.0±1.6, 4391N±003×216E±01, h5km±12km, n18, σ0§93/26, 4C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVIS	**Svilajnac**	**0.49**	**323**	*i* Pg	**Pg**	**02 53 58.1**	**-0.3**
SVIS				Sg	**Sg**	**02 54 06.2**	**+1.4**
GRUS	**Gruza**	**0.67**	**269**	*i* Pg	**Pg**	**02 54 00.8**	**-0.9**
GRUS				Sg	**Sg**	**02 54 10.1**	**-0.2**
DIVS	**Divcibare**	**1.20**	**280**	*i* Pg	**Pg**	**02 54 11.2**	**-0.8**
DIVS				Sg	**Sg**	**02 54 28.7**	**+1.2**
GZR	**Gura Zlata**	**1.69**	**28**	⇓*i*P	**Pn**	**02 54 19.6**	**+0.4**
GZR	**Gura Zlata**	**1.69**	**28**	S	**Sn**	**02 54 42.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**64.65**	**336**	P	P	03 44 15.5	-0.5
	1.0nm,0.7s,baz=28,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**72.73**	**201**	P	P	03 45 06.4	-0.1
	0.4nm,0.6s,baz=12,slow=5.5,SNR=5.6						
TXAR	**Lajitas Array**	**76.16**	**62**	P	P	03 45 26.6	+0.2
	0.8nm,1.1s,baz=297,slow=5.5,SNR=4.2						

WEL 21 03:50:54.6±0.5, 3654S×17721E, h220km±6km, ML3.8/10, Error ellipse: s-maj=8.3km s-min=7.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.35**	**140**	PN	Pn	03 51 28.7	-0.2
MXZ				eSN	S	03 51 54.8	-0.8
URZ	**Urewera**	**1.72**	**183**	PN	Pn	03 51 32.3	+0.3
URZ				SN	S	03 52 01.8	+0.6
PUZ	**Puketiti**	**1.75**	**152**	PN	Pn	03 51 32.5	+0.3
PUZ				eSN	S	03 52 00.6	-1.0
MWZ	**Matawai**	**1.81**	**172**	PN	Pn	03 51 33.4	+0.6
MWZ				eSN	S	03 52 02.6	-0.1
KNZ	**Kokohu**	**2.51**	**172**	ePN	Pn	03 51 39.9	+0.1
BKZ	**Black Stump Fm**	**2.69**	**192**	ePN	Pn	03 51 41.4	-0.4
BKZ				eSN	S	03 52 17.6	-1.1
WNVZ	**Wahianoa**	**3.06**	**204**	PN	Pn	03 51 46.2	+0.2
MRZ	**Mangatainoka R**	**4.31**	**197**	ePN	Pn	03 51 58.7	-2.3
MRZ				eSN	S	03 52 50.2	-3.1
TCW	**Tory Channel**	**5.20**	**205**	ePN	Pn	03 52 10.0	-2.0
KHZ	**Kahutara**	**6.52**	**205**	ePN	Pn	03 52 26.7	-2.1

ISCJB 21 04:22:54.7±0.5, 4604N±002×1069E±003, h11km±5km, Error ellipse: s-maj=4.2km s-min=3.4km az=70.5
CSEM 21 04:22:54.3±0.1, 4599N×1066E, h20km, ML2.6/6, Error ellipse: s-maj=2.9km s-min=1.9km az=131.0
ROM 21 04:22:55.1±0.2, 4600N×1067E, h8km±2km, Md2.3/9, Ml2.1/6, Error ellipse: s-maj=2.4km s-min=2.2km az=53.0
ZUR 21 04:22:55.9, 4604N×1063E, h10km±1km, ML1.8/6
VIE 21 04:22:59.1±0.7, 4622N×1070E, h0km, ML2.0/6, Error ellipse: s-maj=4.7km s-min=2.5km az=1.0 8 km NW of Pinzolo
ISC 21 04:22:55.7±0.4, 4603N±002×1069E±003, h1km±7km, n26, σ0°67/42, 8C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MABI	**Malga Bissina**	**0.12**	**282**	Pg	**Pg**	**04 22 58.6**	**+0.5**
MABI				Sg	**Sg**	**04 23 00.5**	**+0.8**
	118nm,0.1s						
MAGA	**Magasa**	**0.26**	**190**	Pg	**Pg**	**04 22 59.9**	**-0.7**
MAGA				Sg	**Sg**	**04 23 03.9**	**0.0**
	1µm,0.3s						
SALO	**Salr**	**0.43**	**196**	Pg	**Pg**	**04 23 03.1**	**-0.8**
SALO				Sg	**Sg**	**04 23 09.9**	**+0.5**
	565nm,0.5s						
BRMO	**Bormio**	**0.50**	**334**	Pg	**Pg**	**04 23 05.7**	**+0.5**
BRMO				Sg	**Sg**	**04 23 12.1**	**+0.4**
	50nm,0.1s						
APPI	**Appiano**	**0.58**	**39**	Pg	**Pg**	**04 23 07.1**	**+0.2**
APPI				Sg	**Sg**	**04 23 15.7**	**+1.2**
	112nm,0.5s						
BERNI	**Berninapass**	**0.60**	**310**	*i* P	**Pg**	**04 22 58.6**	**-8.6**
	62nm,0.9s						
FUORN	**Ofenpass**	**0.66**	**334**	*e*S	**Pg**	**04 23 00.5**	**-7.9**
	161nm,0.9s						
FUORN	**Ofenpass**	**0.66**	**334**	⇑*i*P	**Pg**	**04 23 03.1**	**-5.3**
	161nm,0.9s						
CTI	**Castel Tesino**	**0.67**	**88**	Pg	**Pg**	**04 23 09.1**	**+0.6**
CTI				Sg	**Sg**	**04 23 18.0**	**+0.8**
	12nm,0.2s						
MDI	**Monti di Nese**	**0.73**	**250**	Pg	**Pg**	**04 23 09.0**	**-0.6**
MDI				Sg	**Sg**	**04 23 19.2**	**+0.1**
DAVOX	**Davos**	**0.94**	**324**	*e*P	**Pg**	**04 23 09.8**	**-3.9**
	56nm,1.0s						
VDL	**Val di Lei**	**0.96**	**299**	*i* P	**Pg**	**04 23 07.5**	**-6.6**
	36nm,0.3s						
MUGIO	**Muggio**	**1.15**	**265**	⇓*i*P	**Pg**	**04 23 08.7**	**-9.1**
	147nm,0.3s						
MUGIO	**Muggio**	**1.15**	**265**	Pg	**Pg**	**04 23 17.0**	**-0.8**
SQTA	**Sankt Quirin**	**1.25**	**17**	⇑*i*Pg	**Pg**	**04 23 19.7**	**+0.1**
	1.3nm,0.1s						
SQTA				⇓*i*Sg	**Sg**	**04 23 34.2**	**-1.5**
	2.9nm,0.1s						
SEST	**Monte Rota**	**1.28**	**55**	Pg	**Pg**	**04 23 20.2**	**0.0**
SEST				Sg	**Sg**	**04 23 37.9**	**+1.1**
	23nm,0.2s						
MOTA	**Moosalm**	**1.35**	**12**	⇓*i*Pg	**Pg**	**04 23 21.6**	**+0.1**
	0.5nm,0.1s						
MOTA				⇑*i*Sg	**Sg**	**04 23 38.0**	**-1.0**
	1.0nm,0.1s						
DAVA	**Damuels**	**1.38**	**336**	⇓*i*Pg	**Pg**	**04 23 22.7**	**+0.6**
DAVA				⇓*i*Sg	**Sg**	**04 23 40.0**	**+0.1**
	8.6nm,0.3s						
WTTA	**Wattenberg**	**1.40**	**27**	⇑*i*Pg	**Pg**	**04 23 22.4**	**0.0**
	1.2nm,0.1s						
WTTA				⇑*i*Sn	**Sn**	**04 23 41.2**	**-0.3**
	4.2nm,0.2s						
WATA	**Walderalm**	**1.44**	**25**	⇓*e*Pg	**Pg**	**04 23 23.2**	**-0.1**
	1.3nm,0.1s						
WATA				⇓*i*Sg	**Sg**	**04 23 42.1**	**+0.1**
	3.2nm,0.2s						
WATA	**Walderalm**	**1.44**	**25**	Pg	**Pg**	**04 23 23.2**	**-0.2**
	1.3nm,0.1s						
WATA				Sg	**Sg**	**04 23 42.1**	**0.0**
	3.2nm,0.2s						
FUSIO	**Fusio**	**1.47**	**288**	⇑*i*P	**Pn**	**04 23 13.7**	**-10**
KBA	**Koelnbreinsper**	**2.11**	**59**	⇑*i*Pn	**Pg**	**04 23 35.3**	**-0.9**
	0.9nm,0.1s						
KBA				⇑*i*Sn	**Sg**	**04 24 02.5**	**-1.0**
	4.3nm,0.3s						
VOJS	**Vojsko**	**2.23**	**89**	*e*Pn	**Pn**	**04 23 33.4**	**-0.3**
VOY	**Vojsko**	**2.23**	**89**	*e*	**Sn**	**04 24 02.8**	**+0.8**
VOY				*e*	**Sg**	**04 24 07.0**	**-0.4**
VOY	**Vojsko**	**2.23**	**89**	*e*Sg	**Sg**	**04 24 07.0**	**-0.4**

IDC 21 04:44:07.3±1.7, 054N×12591E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=163.5km s-min=23.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**158**	P	P	04 49 02.0	-0.6
	5.1nm,0.5s,baz=337,slow=11,SNR=87						
WB2	**Warramunga Arr**	**21.97**	**158**	*e*P	P	04 49 02.2	-0.5
ASAR	**Alice Springs**	**25.28**	**163**	P	P	04 49 36.5	+1.2
	3.0nm,0.5s,baz=352,slow=14,SNR=30						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	04 54 14.1	+0.3
	0.9nm,0.4s,baz=122,slow=7.1,SNR=10						
TORD	**Torodi Ar. Bea**	**123.07**	**286**	PKP	PKPdf	05 03 06.2	+0.5
	0.3nm,0.5s,baz=82,slow=2.6,SNR=5.6						

IDC 21 04:46:01.2±0.7, 4637N×15485E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/32, Error ellipse: s-maj=20.2km s-min=15.2km az=150.0
NEIC 21 04:46:02.6±0.4, 4634N×15476E, h10km, mb4.4/3, Error ellipse: s-maj=12.4km s-min=8.7km az=142.0
ISCJB 21 04:46:04.5±0.6, 4636N±010×1547E±01, h35km, mb4.0/20, MS3.3/4, Error ellipse: s-maj=15.6km s-min=9.5km az=118.1
MOS 21 04:46:05.4±1.1, 4637N×15462E, h43km, mb4.2/15, Error ellipse: s-maj=20.3km s-min=13.7km az=85.5
ISC 21 04:46:06.4±0.6, 4641N±010×1547E±01, h35km, n47, σ0°85/45, mb4.0/20, MS3.3/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.37**	**12**	ePN	**Pn**	**04 47 04.5**	**-5.7**
ASAJ	**Asahikawa**	**8.87**	**259**	Pn	**Pn**	**04 48 12.9**	**+1.0**
	1.5nm,0.3s,baz=83,slow=14,SNR=5.9						
ASAJ				LR	LR	04 51 03.1	
	comp=Z,97nm,18.8s,baz=0.2,slow=34						
MJAR	**Matsushiro Arr**	**15.80**	**237**	Pn	**Pn**	**04 49 43.9**	**-2.3**
	baz=329,slow=36,SNR=3.4						
KSRS	**Korea Array**	**21.78**	**255**	P	**P**	**04 50 56.0**	**+0.9**
	1.7nm,0.6s,mb3.6,baz=43,slow=11,SNR=4.2						
KSRS				LR	LR	04 58 06.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,28nm,21.9s,MS2.6,baz=345,slow=33						
BILL	**Bilibino**	**22.48**	**11**	*e*P	**P**	**04 51 02.7**	**+0.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
BILL	**Bilibino**	**22.48**	**11**	P	**P**	**04 51 02.3**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.3						
BOD	**Bodaibo**	**27.07**	**310**	*e*P	**P**	**04 51 43.0**	**-2.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.7						
SONM	**Songino Array**	**32.50**	**290**	LR	LR	05 06 51.9	
	comp=Z,38nm,19.7s,MS3.1,baz=88,slow=38						
INK	**Inuvik**	**41.34**	**32**	P	**P**	**04 53 48.0**	**-0.7**
	comp=Z,1.8nm,0.7s,mb3.8,baz=292,slow=9.9,SNR=9.2						
INK	**Inuvik**	**41.34**	**32**	P	**P**	**04 53 48.0**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**41.34**	**32**	P	**P**	**04 53 48.0**	**-0.7**
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**04 54 42.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**04 54 42.7**	**+0.2**
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**04 55 00.4**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=294,slow=7.0,SNR=6.2						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**04 55 00.4**	**-0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**04 55 00.4**	**-0.6**
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**04 55 11.6**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=57,slow=7.4,SNR=8.9						
BVAR				LR	LR	05 20 21.0	
	comp=Z,71nm,18.6s,MS3.7,baz=326,slow=40						
BVAR	**Borovoye Array**	**51.94**	**310**	P	**P**	**04 55 11.6**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,71nm,18.6s						
BRVK	**Borovoye**	**51.98**	**310**	*e*P	**P**	**04 55 11.2**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**58.54**	**341**	P	**P**	**04 55 58.4**	**-0.8**
	comp=Z,4.1nm,0.9s,mb4.5,baz=12,slow=6.7,SNR=4.5						
ARCES	**ARCESS Array B**	**58.54**	**341**	P	**P**	**04 55 58.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.78**	**313**	P	**P**	**04 56 08.2**	**+0.3**
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**04 56 08.2**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=72,slow=6.9,SNR=6.4						
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**04 56 08.2**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**61.59**	**63**	P	**P**	**04 56 20.6**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.2,baz=291,slow=7.6,SNR=9.1						
PDAR	**Pinedale Array**	**64.03**	**55**	P	**P**	**04 56 36.6**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=311,slow=2.0,SNR=12						
FINES	**FINESS Array B**	**64.82**	**336**	P	**P**	**04 56 41.9**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=36,slow=7.5,SNR=17						
FINES	**FINESS Array B**	**64.82**	**336**	P	**P**	**04 56 41.9**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SRU	**San Rafael**	**65.85**	**58**	*e*P	**P**	**04 56 48.4**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**68.58**	**201**	P	**P**	**04 57 04.7**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=21,slow=7.0,SNR=6.1						
WRA	**Warramunga Arr**	**68.58**	**201**	P	**P**	**04 57 04.7**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.90**	**342**	P	**P**	**04 57 09.1**	**+1.5**
	comp=Z,5.5nm,1.1s,mb4.4,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.90**	**342**	P	**P**	**04 57 09.4**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=26,slow=6.3,SNR=4.2						
NOA	**NORSAR Array B**	**68.90**	**342**	P	**P**	**04 57 09.4**	**+1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.26**	**200**	P	**P**	**04 57 28.8**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=15,slow=5.4,SNR=15						
ASAR	**Alice Springs**	**72.26**	**200**	P	**P**	**04 57 28.8**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.44**	**327**	P	**P**	**04 57 30.0**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=33,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**72.44**	**327**	P	**P**	**04 57 30.0**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.44**	**327**	P	**P**	**04 57 30.0**	**+0.9**
TXAR	**Lajitas Array**	**76.67**	**62**	P	**P**	**04 57 53.8**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=4.1,SNR=38						
TXAR	**Lajitas Array**	**76.67**	**62**	P	**P**	**04 57 53.8**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**77.23**	**337**	*e*P	**P**	**04 57 57.0**	**+0.2**
KHC	**Kasperske Hory**	**79.02**	**335**	*e*P	**P**	**04 58 07.0**	**+0.3**
GERES	**GERESS Array B**	**79.24**	**335**	P	**P**	**04 58 07.7**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=13,slow=6.1,SNR=3.1						
GERES	**GERESS Array B**	**79.24**	**335**	P	**P**	**04 58 07.7**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PPT	**Papeete**	**81.06**	**127**	LR	LR	05 29 40.9	
	comp=Z,43nm,19.3s,MS3.8,baz=111,slow=32						

CSEM 21 04:56:11.0±0.8, 4070N×2937W, h5km, ML3.1, Error ellipse: s-maj=11.7km s-min=4.6km az=77.0, After PDA
PDA 21 04:56:11.0±0.8, 4070N×2937W, h5km, MD3.1, ML3.1, Error ellipse: s-maj=11.7km s-min=4.6km az=77.0
SVSA 21 04:56:11.0±0.8, 4070N×2937W, h5km, MD3.1, ML3.1, Error ellipse: s-maj=11.7km s-min=4.6km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**1.92**	**148**	*e*P	Pn	04 57 00.2	+16
STGR	**Santa Cruz**	**1.93**	**146**	*e*P	Pn	04 56 39.9	-4.6
STGR				*e*S	Sn	04 57 01.1	-8.0
STGR							
	30nm,0.2s						
STGR	**Santa Cruz**	**1.93**	**146**	*e*P	Pn	04 56 39.9	-4.6
STGR				*e*S	Sn	04 57 01.1	-8.0
SRBC	**Serra Branca**	**1.95**	**148**	*e*P	Pn	04 56 39.8	-5.0
SRBC				*e*S	Sn	04 57 02.0	-7.6
PCED	**Cedros**	**2.13**	**166**	*e*P	Pn	04 56 42.9	-4.4
PCED				*e*S	Sn	04 57 06.0	-8.1
PCED							
	21nm,0.3s						
PCED	**Cedros**	**2.13**	**166**	*e*P	Pn	04 56 42.9	-4.4
PCED				*e*S	Sn	04 57 06.0	-8.1
ROSA	**Rosais**	**2.16**	**156**	*e*P	Pn	04 56 42.9	-4.8
ROSA				*e*S	Sn	04 57 07.1	-7.7
CALA	**Caldeira**	**2.18**	**166**	*e*P	Pn	04 56 43.3	-4.6
CALA				*e*S	Sn	04 57 07.1	-8.1
PAMA	**Santo Amaro**	**2.22**	**155**	*e*P	Pn	04 57 10.1	+22
HOR	**Horta**	**2.25**	**165**	*e*S	Sn	04 57 08.9	-8.0
PMAN	**Manadas**	**2.29**	**154**	*e*P	Pn	04 56 44.4	-5.0
PMAN				*e*S	Sn	04 57 09.9	-8.1
PMAN							
	21nm,0.2s						
PMAN	**Manadas**	**2.29**	**154**	*e*P	Pn	04 56 44.4	-5.0
PMAN				*e*S	Sn	04 57 09.9	-8.1
PICO	**Pico**	**2.31**	**161**	*e*P	Pn	04 56 45.3	-4.5
PICO				*e*S	Sn	04 57 10.9	-7.7
PCND	**Candelaria**	**2.34**	**162**	*e*S	Sn	04 57 11.5	-7.6
PCND							
	23nm,0.2s						
PBOI	**Pico dos Bois**	**2.39**	**161**	*e*P	Pn	04 57 14.3	+24
PID	**Ribeirinha**	**2.45**	**156**	*e*P	Pn	04 56 46.5	-5.2

NIED 21 05:00:00, 4640N×15370E, h8km, Mw4.4 Best double couple: M₀5.22000×10¹⁵ NP1:φs346.00000°, δ89.00000°, λ-88.00000°. NP2:φs106.00000°, δ2.00000°, λ-150.00000°.
ISCJB 21 05:00:08.4±0.1, 4643N±005×15355E±003, h10km, mb4.5/47, MS3.8/11, Error ellipse: s-maj=8.1km s-min=2.2km az=141.4
IDC 21 05:00:08.4±0.6, 4661N×15339E, h0km, mb4.3/21, mb1 4.5/22, mb1mx4.4/26, mbtmp4.3/22, MS3.5/6, Ms1 3.5/6, ms1mx3.2/35, Error ellipse: s-maj=18.5km s-min=13.0km az=147.0
BJI 21 05:00:09.6, 4665N×15355E, h17km, mB4.9, mb4.6, Ms4.2, Msz3.9
JMA 21 05:00:10.9±0.9, 4645N×15372E, h30km, MS.1
NEIC 21 05:00:10.3±0.3, 4659N×15336E, h10km, mb4.8/16, Error ellipse: s-maj=10.8km s-min=4.8km az=154.0
MOS 21 05:00:11.8±1.2, 4655N×15341E, h35km, mb4.6/16, Error ellipse: s-maj=12.7km s-min=9.8km az=73.4
SKHL 21 05:00:11.8±1.5, 4658N×15372E, h50km±17km, Ms4.2/1
ISC 21 05:00:09.1±1.3, 4654N±005×15351E±003, h0km±8km, n312, σ0°87/328, mb4.6/47, MS3.8/11, 78C-78D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.15**	**254**	*e*P	**Pn**	**05 01 16.0**	**+2.4**
KUR				AMB	AMB	05 01 16.0	
	160nm,0.6s						
KUR				AMB	AMB	05 01 16.0	
	190nm,0.6s						
KUR				AMB	AMB	05 01 16.0	
	342nm,0.6s						
KUR				*e*S	**Sn**	**05 02 00.5**	**-2.4**
KUR				A		05 02 10.0	
	418nm,0.6s						
KUR				A		05 02 10.0	
	570nm,0.6s						
KUR	**Kuril'sk**	**4.15**	**254**	*e*PN	**Pn**	**05 01 12.5**	**-1.1**
KUR				*i* S	**Sn**	**05 02 00.5**	**-2.4**
KUR				pmax	pmax		
	comp=Z,340nm,0.6s						
KUR				pmax	pmax		
	comp=N,160nm,0.3s						
KUR				pmax	pmax		
	comp=E,190nm,0.6s						
KUR				smax			
	comp=N,420nm,0.6s						
KUR				smax			
	comp=E,570nm,0.6s						
SKR	**Severo-Kuril's**	**4.49**	**22**	*e*P	**Pn**	**05 01 18.5**	**+0.2**
SKR				AMB	AMB	05 01 20.8	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	05 01 20.8	
	comp=E,120nm,0.5s						
SKR				*e*S	**Sn**	**05 02 07.4**	**-3.8**
SKR				A		05 02 12.1	
	comp=E,190nm,0.6s						
SKR				A		05 02 12.1	
	comp=E,220nm,0.6s						
SKR				A		05 02 12.1	
	comp=E,60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.95**	**248**	*e*rx	rx	05 01 50.0	
YUK				*e*S	**Sn**	**05 02 46.5**	**-0.7**
YUK				A		05 02 54.5	
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**6.36**	**243**	P	**Pn**	**05 01 42.6**	**-1.4**
NEM2				*e*S	**Sn**	**05 02 49.9**	**-7.4**
JRA	**Rausu**	**6.47**	**249**	P	**Pn**	**05 01 47.2**	**+1.7**
JNK	**Nakash**	**6.89**	**248**	P	**Pn**	**05 01 52.3**	**+1.0**
JAK	**Akkeshi**	**7.20**	**244**	P	**Pn**	**05 01 54.7**	**-0.9**
JAK				*e*S	**Sn**	**05 03 11.3**	**-6.8**
JTKR	**Abashiri--Toko**	**7.25**	**253**	P	**Pn**	**05 01 58.0**	**+1.8**
PET	**Petropavlovsk**	**7.29**	**25**	*e*PN	**Pn**	**05 01 55.9**	**-0.9**
PET				pmax	pmax		
	comp=Z,31nm,0.8s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	*e*P	**Pn**	**05 02 02.0**	**+3.7**
YSS				AMB	AMB	05 02 04.0	
	comp=Z,30nm,0.8s						
YSS				AMB	AMB	05 02 04.0	
	comp=Z,40nm,0.8s						
YSS				*e*S	**Sn**	**05 03 25.8**	**+2.9**
YSS				A		05 03 28.8	
	comp=Z,30nm,0.9s						
YSS				AMS	AMS	05 04 43.0	
	comp=Z,500nm,17.0s						
YSS				AMS	AMS	05 04 43.0	
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	⇑*i*PN	**Pn**	**05 02 01.4**	**+3.1**
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	*e*Pn	**Pn**	**05 02 01.9**	**+3.6**
	comp=Z,35nm,0.6s						
JMP	**Maruseppu**	**7.59**	**254**	P	**Pn**	**05 02 03.2**	**+2.2**
JAR	**Ashorobuto**	**7.63**	**248**	P	**Pn**	**05 02 02.7**	**+1.2**
JOB	**Onbets**	**7.79**	**246**	P	**Pn**	**05 02 03.9**	**+0.3**
JOB				*e*S	**Sn**	**05 03 26.4**	**-6.1**
JSE	**Soyaes**	**7.80**	**262**	P	**Pn**	**05 02 07.7**	**+3.9**
JKK2	**Kamakawa 2**	**8.05**	**255**	P	**Pn**	**05 02 09.8**	**+2.5**
ASAJ	**Asahikawa**	**8.06**	**256**	Pn	**Pn**	**05 02 10.3**	**+2.9**
	comp=Z,11nm,0.3s,baz=91,slow=11,SNR=30						
ASAJ				LR	LR	05 05 06.1	
	comp=Z,288nm,20.0s,baz=360,slow=37						
ASAJ	**Asahikawa**	**8.06**	**256**	PN	**Pn**	**05 02 10.3**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,288nm,20.0s						
UGL	**Uglegorsk**	**8.11**	**292**	*e*P	**Pn**	**05 02 13.5**	**+5.5**
UGL				AMB	AMB	05 02 15.0	
	comp=Z,44nm,0.6s						
UGL				AMS	AMS	05 05 19.0	
	comp=Z,800nm,15.0s						
UGL				AMS	AMS	05 05 19.0	
	comp=Z,500nm,15.0s						
UGL				AMS	AMS	05 05 19.0	
	comp=Z,900nm,15.0s						
JWK2	**Keihoku**	**8.19**	**266**	P	**Pn**	**05 02 14.2**	**+5.1**
JCH	**Churui**	**8.24**	**245**	P	**Pn**	**05 02 09.2**	**-0.6**
JCH				*e*S	**Sn**	**05 03 35.5**	**-8.0**
TYV	**Tymovskoe**	**8.38**	**305**	*e*P	**Pn**	**05 02 19.0**	**+7.3**
TYV				AMB	AMB	05 02 27.2	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	05 02 27.2	
	comp=Z,14nm,0.8s						
TYV				*e*S	**Sn**	**05 03 46.5**	**-0.4**
JFR	**Furan**	**8.46**	**250**	P	**Pn**	**05 02 15.3**	**+2.5**
JAB	**Ashibetsu**	**8.55**	**253**	P	**Pn**	**05 02 16.9**	**+2.8**
JEM	**Erimo**	**8.69**	**242**	P	**Pn**	**05 02 16.5**	**+0.5**
ERM	**Erimo**	**8.69**	**242**	*c i*PN	**Pn**	**05 02 16.9**	**+0.9**
ERM	**Erimo**	**8.69**	**242**	*e*Pn	**Pn**	**05 02 16.2**	**+0.2**
	comp=Z,66nm,0.4s						
ERM				*e*Sn	**Sn**	**05 03 51.0**	**-3.8**
JBT2	**Biratori 2**	**8.79**	**249**	P	**Pn**	**05 02 17.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.80**	**245**	P	**Pn**	**05 02 16.5**	**-1.0**
JNBK				*e*S	**Sn**	**05 03 47.8**	**-9.5**
JNB	**Noboribetsu**	**9.79**	**250**	P	**Pn

SNY Shenyang 21.90 268 ⇑P P **05 05 06.4 +2.7**
SNY AMB AMB
comp=Z,13nm,0.5s,mb4.6
NJ2 Nanjing 30.20 254 *e*P P **05 06 23.8 +2.7**
NJ2 AP 05 06 27.1
NJ2 XP sP 05 06 30.3 +9.1
NJ2 PP PP 05 07 23.9 -5.2
NJ2 S **S** **05 11 24.5 +3.2**
NJ2 XS sS 05 11 32.5 +11
NJ2 LR LR
comp=N,2μm,13.5s,MS4.9
NJ2 LR LR
comp=E,1μm,14.4s,MS4.9
NJ2 LR LR
comp=Z,380nm,15.3s,MS4.2
HHC Hu-ho-hao-te 30.58 275 *e*P P **05 06 24.8 +0.4**
HHC AP 05 06 29.1
HHC PP PP 05 07 25.8 -7.5
HHC PCP PcP 05 09 21.9 -1.2
HHC S **S** **05 11 26.9 -0.4**
HHC XS sS 05 11 36.3 +8.9
HHC SCP ScP 05 13 03.0 -3.8
HHC SS SS 05 13 09.3 -28
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,97nm,5.5s
HHC LR LR
comp=N,171nm,15.1s,MS4.1
HHC LR LR
comp=E,252nm,15.1s,MS4.1
HHC LR LR
comp=Z,209nm,14.9s,MS3.9
SONM Songino Array 31.66 290 P P **05 06 33.8 -0.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=93,slow=8.7,SNR=3.3
SONM LR LR 05 20 19.5
comp=Z,148nm,18.3s,MS3.7,baz=43,slow=38
IMA2 Indian Mountai 33.81 36 *e*P P **05 06 52.3 -0.5**
KDAK Kodiak Island 34.02 51 P P **05 06 53.3 -1.3**
comp=Z,8.7nm,0.6s,mb4.8,baz=313,slow=16,SNR=5.7
WHN Wuhan 34.14 256 *e*P P **05 06 57.6 +1.9**
SML Sawmill 35.93 43 *e*P P **05 07 10.9 -0.2**
COLA College 36.13 38⇑*e*P P **05 07 12.5 -0.3**
LZH Lanzhou 38.17 272 *e*P P **05 07 31.0 +0.9**
LZH AP 05 07 34.0
LZH XP sP 05 07 35.5 +5.3
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,98nm,4.7s
LZH Lanzhou 38.17 272 *e*P P **05 07 31.0 +0.9**
comp=Z,25nm,1.0s,mb4.9
LZH pP 05 07 34.0
LZH sP sP 05 07 35.5 +5.3
GTA Gaotai 39.27 280 *e*P P **05 07 41.0 +1.6**
GTA AP 05 07 44.9
GTA XP sP 05 07 47.9 +8.4
GTA PP PP 05 09 17.8 +8.5
GTA PCP PcP 05 09 44.6 -3.7
GTA S **S** **05 13 46.6 +5.6**
GTA XS sS 05 13 53.1 +12
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.8
GTA AMB AMB
comp=Z,86nm,5.3s
GTA LR LR
comp=N,136nm,13.3s,MS4.1
GTA LR LR
comp=E,147nm,15.6s,MS4.1
GTA LR LR
comp=Z,171nm,15.2s,MS4.0
CD2 Chengdu 41.13 266 P P **05 07 55.3 +0.5**
CD2 XP sP 05 08 02.5 +7.6
CD2 PP PP 05 09 33.8 +4.2
CD2 S **S** **05 14 08.3 -0.6**
CD2 SS SS 05 17 06.4 -4.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=E,130nm,13.2s
CD2 LR LR
comp=Z,40nm,13.2s,MS3.5
INK Inuvik 41.68 32 P P **05 07 59.2 -0.1**
comp=Z,2.5nm,0.5s,mb4.2,baz=301,slow=6.7,SNR=26
INK Inuvik 41.68 32 P P **05 07 59.2 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 41.68 32 P P **05 07 59.2 -0.1**
GYA Guiyang 41.94 258⇑*i*P P **05 08 01.4 0.0**
GYA AP 05 08 05.4
GYA XP sP 05 08 08.6 +7.1
GYA PP PP 05 09 43.3 +5.0
GYA PCP PcP 05 09 58.8 +1.9
GYA SCP ScP 05 13 47.9 -0.6
GYA S **S** **05 14 21.4 +0.6**
GYA SCS ScS 05 18 03.6 -2.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,350nm,16.4s,MS4.5
GYA LR LR
comp=E,370nm,16.8s,MS4.5
GYA LR LR
comp=Z,380nm,16.0s,MS4.4
ZAL Zalesovo 42.97 306 P P **05 08 06.7 -3.1**
comp=Z,1.0nm,0.3s,mb4.0,baz=116,slow=7.3,SNR=3.4
ZAL Zalesovo 42.97 306 P P **05 08 06.7 -3.1**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
WMQ Urumqi 45.26 292⇑*i*P P **05 08 31.3 +3.1**
WMQ AP 05 08 35.8
WMQ XP sP 05 08 38.3 +10
WMQ PCP PcP 05 10 10.8 +2.6
WMQ PP PP 05 10 18.3 +4.5
WMQ S **S** **05 15 11.9 +2.6**
WMQ XS sS 05 15 19.5 +10
WMQ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,109nm,5.4s
WMQ LR LR
comp=N,72nm,19.5s,MS3.7
WMQ LR LR
comp=E,49nm,21.9s,MS3.7
WMQ LR LR
comp=Z,66nm,17.1s,MS3.6
KMI Kunming 45.47 260 P P **05 08 29.6 -0.3**
KMI AP 05 08 33.5
KMI XP sP 05 08 35.4 +5.4
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI LR LR
comp=Z,35nm,21.4s,MS3.3
KMI Kunming 45.47 260 P P **05 08 29.6 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
KMI pP 05 08 33.5
KMI sP sP 05 08 35.4 +5.4
KMI LR LR
comp=Z,40nm,21.4s,MS3.3
MKAR Makanchi Array 47.28 298 P P **05 08 41.4 -2.7**
comp=Z,0.6nm,0.6s,mb3.9,baz=68,slow=7.0,SNR=7.5
MKAR LR LR 05 29 44.4
comp=Z,144nm,18.3s,MS4.0,baz=169,slow=38
MKAR Makanchi Array 47.28 298 *i* P P **05 08 42.4 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
LSA Lhasa 50.56 274 P P **05 09 10.0 +0.7**
YKA Yellowknife Ar 50.93 37 P P **05 09 11.5 -0.5**
comp=Z,6.7nm,0.7s,mb4.7,baz=295,slow=7.1,SNR=14
YKA Yellowknife Ar 50.93 37 *i* P P **05 09 11.5 -0.6**
YKA pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 51.20 310 P P **05 09 12.2 -1.9**
comp=Z,0.5nm,0.4s,mb3.8,baz=44,slow=7.1,SNR=4.2
BVAR Borovoye Array 51.20 310 P P **05 09 12.2 -1.9**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
CHTO Chiang Mai 52.34 257 *e*P P **05 09 23.1 +0.6**
comp=Z,7.4nm,0.9s,mb4.6
A07A Ashnola River, 54.85 53 ⇓P P **05 09 40.6 -0.5**
baz=55

JIRN Jiri 55.23 275 *e*P P **05 09 44.6 +0.8**
comp=Z,13nm,0.4s,mb5.3
GUN Gumba 55.29 275 *e*P P **05 09 44.6 +0.4**
comp=Z,7.6nm,0.4s,mb5.1
B07A Winthrop 55.32 54 ⇑P P **05 09 43.9 -0.5**
baz=55
ARU Arti 55.35 318⇓*e*P P **05 09 45.8 +1.2**
ARU pmax pmax
comp=Z,16nm,2.5s,mb4.6
F04A Amboy 55.39 58 ⇑P P **05 09 44.7 -0.3**
baz=55
A08A Turner Farm, O 55.52 53 ⇑P P **05 09 45.4 -0.4**
baz=55
D06A Cle Elum 55.60 55 ⇓P P **05 09 45.6 -0.9**
baz=56
C07A Waterville 55.77 55 ⇓P P **05 09 46.7 -1.0**
baz=56
KKN Kakani 55.78 276 *e*P P **05 09 48.0 +0.3**
comp=Z,13nm,0.5s,mb5.2
B08A Colville Reser 55.81 54 ⇓P P **05 09 47.3 -0.6**
baz=56
PKI Pulchoki 55.83 275 *e*P P **05 09 48.1 0.0**
A09A Danville 55.88 53 ⇑P P **05 09 48.0 -0.4**
baz=56
GKN Gorkha 56.09 276 *e*P P **05 09 50.3 +0.4**
D07A Quincy 56.10 55 ⇑P P **05 09 49.3 -0.7**
baz=56
J02A Umpqua 56.14 61 ⇓P P **05 09 50.1 -0.2**
baz=56
H04A Detroit Lake 56.23 59 ⇑P P **05 09 49.9 -1.0**
baz=56
EDM Edmonton 56.26 46 *e*P P **05 09 51.1 -0.1**
C08A Higginbotham F 56.29 54 ⇑P P **05 09 50.7 -0.7**
baz=56
B09A Rice 56.43 53 ⇑P P **05 09 52.8 +0.4**
baz=56
E07A Sunnyside 56.52 56 ⇑P P **05 09 53.2 +0.2**
baz=56
C09A Chrisman Ranch 56.71 54 ⇓P P **05 09 54.1 -0.3**
baz=57
D08A Wollman Farm, 56.77 55 ⇑P P **05 09 53.9 -0.9**
baz=57
F07A Phinny Hill Vi 56.85 56 ⇑P P **05 09 55.2 -0.2**
baz=57
KOLN Koldanda 56.94 277 *e*P P **05 09 56.6 +0.6**
comp=Z,25nm,0.9s,mb5.3
E08A Dider Farm, El 57.01 55 ⇑P P **05 09 56.2 -0.4**
baz=57
NEW Newport 57.09 53 P P **05 09 56.5 -0.5**
comp=Z,4.4nm,1.1s,mb4.4,baz=296,slow=8.7,SNR=5.0
NEW Newport 57.09 53 P P **05 09 56.5 -0.5**
NEW pmax pmax
comp=Z,4.0nm,1.1s
J04A Umpqua Nationa 57.09 60 ⇓P P **05 09 57.8 +0.7**
baz=57
A11A Hall Mountain, 57.10 52 ⇓P P **05 09 57.8 +0.6**
baz=57
D09A Jones Farm, Ri 57.11 54 ⇓P P **05 09 56.2 -1.0**
baz=57
C10A Spilker Farm, 57.24 53 ⇑P P **05 09 57.7 -0.5**
baz=57
H06A Lindquist Farm 57.28 58 ⇓P P **05 09 58.4 -0.1**
baz=57
B11A Sandpoint 57.40 52 ⇓P P **05 09 59.5 +0.3**
baz=57
A12A Yaak River Ran 57.50 51 ⇓P P **05 10 00.5 +0.5**
baz=57
E09A Wood Farm, Sta 57.52 55 ⇑P P **05 09 59.8 -0.3**
baz=57
F08A Pendleton 57.57 56 ⇑P P **05 10 01.1 +0.7**
baz=57
J05A Fort Rock 57.59 60 ⇑P P **05 10 01.3 +0.7**
baz=57
YBH Yreka Blue Hor 57.60 62 ⇓P P **05 10 01.4 +0.7**
baz=57
G08A Pilot Rock 57.76 56 ⇓P P **05 10 02.3 +0.5**
baz=58
M04C Macdoel 58.10 61 ⇑P P **05 10 04.9 +0.7**
baz=58
E10A Myers Farm, Un 58.12 54 ⇑P P **05 10 04.0 -0.3**
baz=58
F09A S2 Ranch, Elgi 58.12 56 ⇓P P **05 10 03.6 -0.7**
baz=58
K05A Summer Lake 58.12 60 ⇑P P **05 10 04.5 +0.2**
baz=58
ARCES ARCESS Array B 58.14 341 P P **05 10 02.4 -2.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=19,slow=7.8,SNR=5.2
ARCES ARCESS Array B 58.14 341 P P **05 10 02.4 -2.1**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
I07A Izee 58.15 58 ⇓P P **05 10 03.9 -0.6**
baz=58
D11A Klaveano Farm, 58.22 54 ⇓P P **05 10 04.4 -0.7**
baz=58
J06A Christmas Vall 58.25 59 ⇑P P **05 10 05.8 +0.6**
baz=58
F10A Beach Ranch, E 58.35 55 ⇓P P **05 10 05.9 0.0**
baz=58
H08A Prairie City 58.38 57 ⇓P P **05 10 06.4 +0.3**
baz=58
WDC Whiskeytown Da 58.38 63 ⇓P P **05 10 05.9 -0.2**
baz=58
K06A Valley Falls 58.46 60 ⇑P P **05 10 06.7 0.0**
baz=58
B13A Whitefish 58.47 51 P P **05 10 07.2 +0.4**
baz=58,SNR=8.6
O02C Red Bluff 58.47 63 ⇑P P **05 10 07.0 +0.3**
baz=58
P01C Double 8 Ranch 58.55 64 ⇑P P **05 10 08.3 +0.9**
baz=58
L05A Lakeview 58.55 61 ⇓P P **05 10 08.2 +0.9**
baz=58
J07A Hines 58.68 58 ⇓P P **05 10 08.8 +0.6**
baz=58
M05C Lookout 58.77 61 ⇓P P **05 10 08.7 -0.2**
baz=59
I08A Drewsey 58.79 58 ⇓P P **05 10 10.0 +1.0**
baz=59
C13A Hot Springs 58.82 52 ⇓P P **05 10 09.1 -0.1**
baz=59
GASB Alder Springs 58.82 64 ⇑P P **05 10 10.2 +1.0**
baz=59
H09A Durkee 58.87 56 ⇓P P **05 10 10.1 +0.5**
baz=59
HATC Hat Creek Radi 58.90 62 ⇑P P **05 10 09.8 0.0**
baz=59
MOD Modoc 58.96 60 ⇓P P **05 10 09.8 -0.3**
baz=59
BMO Blue Mountains 58.97 56 *e*P P **05 10 10.4 +0.2**
comp=Z,3.2nm,0.8s,mb4.4
F11A Grangeville 59.01 55 ⇓P P **05 10 10.5 0.0**
baz=59
K07A Rock Creek Ran 59.12 59 ⇓P P **05 10 10.8 -0.5**
baz=59
J08A Circle Bar Ran 59.18 58 ⇓P P **05 10 11.4 -0.3**
baz=59
C14A Swan Lake 59.22 52 ⇓P P **05 10 11.7 -0.2**
baz=59
D13A Huson 59.23 53 ⇓P P **05 10 11.8 -0.3**
baz=59
G11A Walters Elk Ra 59.23 55 ⇓P P **05 10 12.4 +0.3**
baz=59
I09A Lost Marbles R 59.24 57 ⇓P P **05 10 11.9 -0.2**
baz=59
O04C Chester 59.43 62 ⇓P P **05 10 14.1 +0.7**
baz=59
K08A Mann Creek Ran 59.54 59 ⇑P P **05 10 14.8 +0.6**
baz=59
F12A Elk City 59.59 54 ⇓P P **05 10 15.1 +0.5**
baz=59
J09A Fry Pan Ranch, 59.60 58 ⇑P P **05 10 15.1 +0.4**
baz=59
ORV Oroville 59.63 63 ⇓P P **05 10 14.1 -0.8**
baz=59
MSO Missoula 59.67 53 *e*P P **05 10 15.3 +0.2**
comp=Z,6.4nm,1.3s,mb4.5
O05C Quincy 59.75 63 ⇑P P **05 10 15.4 -0.2**
baz=60
D14A Greenough 59.76 52 P P **05 10 15.7 -0.1**
baz=60,SNR=8.1
E13A Victor 59.77 53 ⇓P P **05 10 15.9 +0.1**
baz=60
OHCM Honcut 59.78 63 *e*P P **05 10 15.7 -0.1**
H11A Donnelly 59.79 56 P P **05 10 15.9 0.0**
baz=60,SNR=7.9
N06A Buffalo Meadow 59.93 61 ⇑P P **05 10 17.2 +0.3**
baz=60
M07A Soldier Meadow 59.94 60 P P **05 10 17.8 +0.8**
baz=60,SNR=5.7
K09A Rome 60.01 58 ⇑P P **05 10 17.7 +0.2**
baz=60
F13A Darby 60.08 54 ⇓P P **05 10 17.8 -0.1**
baz=60
BEKR Beckwourth 60.15 62 ⇑P P **05 10 18.2 -0.2**
baz=60
E14A Clinton 60.17 53 ⇑P P **05 10 18.8 +0.2**
baz=60
O06A Flanigan 60.29 62 ⇓P P **05 10 19.3 0.0**
baz=60
D15A Lincoln 60.32 52 ⇓P P **05 10 19.7 +0.1**
baz=60
L09A Wilkinson Ranc 60.46 59 ⇑P P **05 10 20.6 +0.1**
baz=60
LAVA Lava Cap Winer 60.59 64 ⇓P P **05 10 21.0 -0.4**
baz=60
F14A Wisdom 60.60 53 ⇓P P **05 10 21.2 -0.3**
baz=60
E15A Deer Lodge 60.63 52 P P **05 10 21.8 +0.1**
baz=60,SNR=5.1
WCN Washoe City 60.86 62 ⇓P P **05 10 22.7 -0.6**
baz=61
O07A Toulon 60.87 61 ⇑P P **05 10 23.0 -0.4**
baz=61
N08A GE Springer Mi 60.94 60 ⇓P P **05 10 23.8 0.0**
baz=61
M09A Marrel Ranch, 60.95 59 ⇓P P **05 10 24.6 +0.8**
baz=61
F15A Butte 61.07 53 P P **05 10 25.2 +0.5**
baz=61,SNR=7.0
LRM Limekiln Ridge 61.10 53 *e*P P **05 10 25.4 +0.5**
EGMT Eagleton 61.19 50 *e*P P **05 10 25.4 -0.1**
comp=Z,22nm,1.4s,mb5.1
EGMT Eagleton 61.19 50 P P **05 10 25.6 +0.2**
baz=61,SNR=5.2
O08A Rochester Mine 61.22 61 ⇓P P **05 10 25.2 -0.5**
baz=61
CMB Columbia Colle 61.25 64 ⇓P P **05 10 25.8 -0.1**
baz=61
N09A Rock Creek Ran 61.26 60 ⇑P P **05 10 26.0 0.0**
baz=61
PACP Pacheco Peak 61.33 65 ⇑P P **05 10 26.0 -0.5**
baz=61
HLID Hailey 61.40 56 *e*P P **05 10 27.3 +0.3**
comp=Z,2.7nm,0.9s,mb4.4
HLID Hailey 61.40 56 ⇓P P **05 10 27.3 +0.3**
baz=61
M10A I.L. Ranch, Tu 61.43 59 ⇓P P **05 10 27.5 +0.4**
baz=61
G15A Dillon 61.49 53 P P **05 10 27.3 -0.2**
baz=61,SNR=6.9
R06C Coleville 61.53 63 ⇑P P **05 10 27.7 0.0**
baz=61
S06C San Francisco 61.68 64 P P **05 10 29.1 +0.3**
baz=62,SNR=5.9
S05C Merced 61.71 65 ⇑P P **05 10 29.0 -0.1**
baz=62
T05C Eagle Field, D 61.78 65 ⇓P P **05 10 30.1 +0.6**
baz=62
O09A Fish Creek Ran 61.88 60 ⇑P P **05 10 30.4 +0.2**
baz=62
M11A Holland Ranch, 61.92 58 ⇓P P **05 10 31.4 +1.0**
baz=62
N10A Dunphy 61.95 59 ⇓P P **05 10 31.9 +1.3**
baz=62
V03C Hunter Liggett 61.97 66 ⇑P P **05 10 30.5 -0.3**
baz=62
Q08A Gabbs 62.25 62 ⇑P P **05 10 32.6 0.0**
baz=62
P09A Austin 62.30 61 ⇑P P **05 10 33.1 +0.2**
baz=62
T06C Millerton Lake 62.31 65 ⇓P P **05 10 32.8 -0.2**
baz=62
KCC Kaiser Creek 62.36 64 ⇓P P **05 10 33.0 -0.4**
baz=62
M12A Wells 62.45 58 ⇓P P **05 10 35.0 +1.0**
baz=62
P10A Eureka 62.66 60 ⇑P P **05 10 36.1 +0.7**
baz=62
N12A Clover Valley, 62.73 59 ⇓P P **05 10 36.7 +0.8**
baz=63
O11A Cowboy Ranch, 62.82 60 ⇓P P **05 10 37.0 +0.6**
baz=63
M13A Montello 62.92 58 ⇑P P **05 10 37.4 +0.3**
baz=63
HELL Mitchell Peak, 62.95 64 P P **05 10 37.0 -0.3**
baz=63,SNR=6.4
S08C White Mtn Res 62.95 63 ⇓P P **05 10 37.5 +0.2**
baz=63
P11A Circle Ranch, 63.13 60 ⇓P P **05 10 38.9 +0.4**
baz=63
R09A Tonopah 63.16 62 P P **05 10 38.9 +0.1**
baz=63,SNR=8.0
N13A Wendover, West 63.22 58 ⇑P P **05 10 39.7 +0.6**
baz=63
O12A Currie 63.27 59 P P **05 10 39.9 +0.4**
baz=63,SNR=8.4
RRI2 Red Ridge 63.29 54 *e*P P **05 10 40.5 +1.0**
S09A Goldfield 63.39 62 ⇓P P **05 10 40.8 +0.5**
baz=63
VES Vestal, Richgr 63.44 65 ⇑P P **05 10 40.5 -0.1**
baz=63
LOHW Long Hollow 63.52 54 *e*P P **05 10 42.0 +0.9**
comp=Z,7.0nm,1.1s,mb4.8
REDW Red Top Meadow 63.54 54 *e*P P **05 10 42.4 +1.2**
Q11A Duckwater 63.63 61 ⇓P P **05 10 41.6 -0.3**
baz=64
P12A McGill 63.68 60 ⇑P P **05 10 42.2 +0.1**
baz=64
CWC Cottonwood Cre 63.68 64 ⇓P P **05 10 42.0 -0.2**
baz=64
GRAC Grapevine Rang 63.77 63 ⇓P P **05 10 43.1 +0.4**
baz=64
LAO LASA Array 63.89 49 *e*P P **05 10 44.2 +0.7**
comp=Z,8.4nm,0.9s,mb5.0
ISA Isabella 63.93 65 ⇑P P **05 10 42.9 -0.9**
baz=64
Q12A Willow Creek R 64.00 60 ⇓P P **05 10 44.7 +0.4**
baz=64
HWUT Hardware Ranch 64.27 56 *e*P P **05 10 46.6 +0.6**
MPMC Manual Prospec 64.29 64 P P **05 10 46.1 -0.1**
baz=64,SNR=7.6
FINES FINESS Array B 64.34 335 P P **05 10 44.5 -2.0**
comp=Z,3.1nm,0.6s,mb4.7,baz=37,slow=7.1,SNR=18
FINES FINESS Array B 64.34 335 *i* P P **05 10 44.5 -2.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FURC Furnace Creek, 64.42 63 P P **05 10 47.2 +0.1**
baz=64,SNR=8.1
OSI Osito Adit 64.45 66 ⇑P P **05 10 47.0 -0.2**
baz=64
DUG Dugway 64.45 58 *e*P P **05 10 47.2 -0.1**
comp=Z,9.9nm,1.3s,mb4.9
DUG Dugway 64.45 58 P P **05 10 47.6 +0.4**
baz=64,SNR=6.7
LRMC Laurel Mountai 64.54 65 ⇑P P **05 10 47.3 -0.5**
baz=64
PDAR Pinedale Array 64.65 54 P P **05 10 48.4 -0.2**
comp=Z,3.2nm,0.8s,mb4.6,baz=280,slow=1.9,SNR=33
EDW2 Edwards Air Fo 64.74 65 P P **05 10 49.4 +0.3**
baz=64,SNR=7.8
U10A Ash Meadows, A 64.78 63 ⇑P P **05 10 49.4 0.0**
baz=65,SNR=5.6
NLU North Lily Min 65.04 58 *e*P P **05 10 51.7 +0.7**
SHOC Shoshone 65.14 63 ⇑P P **05 10 51.6 -0.1**
baz=65
GSC Goldstone 65.21 64 *e*P P **05 10 51.9 -0.3**
GSC Goldstone 65.21 64 ⇓P P **05 10 51.6 -0.5**
baz=65
U11A Corn Creek 65.36 63 ⇓P P **05 10 54.0 +0.9**
baz=65
BFSC Mount Baldy St 65.36 66 ⇑P P **05 10 53.1 0.0**
baz=65
SHPR Sheep Range 65.44 62 *e*P P **05 10 54.8 +1.1**
OBN Obninsk 65.63 326 *e*P P **05 10 54.3 -0.6**
OBN *e* 05 11 25.9
OBN *e*S S 05 19 39.7 -1.9
OBN *e*SS SS 05 23 50.4 -5.0
OBN pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
TUQ Turquoise Mtn. 65.67 64 P P **05 10 55.3 +0.2**
baz=66,SNR=5.3
V11A Goodsprings 65.71 63 ⇓P P **05 10 55.8 +0.4**
baz=66
HEC Hector,Ludlow 65.81 64 ⇑P P **05 10 55.9 -0.2**

baz=66
BBRC Big Bear Sol-O 65.81 65 ⇑P P 05 10 56.2 +0.2
baz=66
MURC Murrieta 66.07 66 ⇑P P 05 10 57.2 -0.5
baz=66
V12A Nelson 66.14 63 ⇑P P 05 10 58.0 -0.1
baz=66
W12A Cal Nev Ari 66.41 63 ⇑P P 05 10 59.9 0.0
baz=66
SRU San Rafael 66.50 58 *eP* P 05 11 00.9 +0.4
ULM Lac du Bonnet 66.50 41 P P 05 10 59.5 -1.0
comp=Z,3.7nm,0.7s,mb4.8,baz=322,slow=2.9,SNR=7.5
PFO Pinyon Flat Ob 66.53 65 ⇑P P 05 11 00.1 -0.6
baz=66
BELC Belle Mtn. 66.56 65 ⇓P P 05 10 59.8 -1.1
baz=66
109C Camp Elliot, M 66.59 66 ⇑P P 05 11 00.0 -1.1
baz=66
RSSD Black Hills 66.75 50 *eP* P 05 11 01.6 -0.5
comp=Z,7.9nm,1.1s,mb4.9
IRM Iron Mountain 66.98 64 P P 05 11 03.5 -0.1
baz=67,SNR=8.4
MONP Monument Peak 67.03 66 ⇑P P 05 11 03.3 -0.6
baz=67
BC3 Big Chuckw Mtn 67.13 65 ⇓P P 05 11 03.5 -1.0
baz=67
W13A Hualapai Mount 67.14 63 ⇓P P 05 11 04.3 -0.3
baz=67
SWSC Sam W. Stewart 67.39 66 ⇓P P 05 11 05.8 -0.4
baz=67
X13A Yucca 67.51 63 P P 05 11 07.1 +0.1
baz=67,SNR=6.5
PDMCI Parker Dam,Lak 67.52 64 ⇑P P 05 11 06.8 -0.2
baz=67
W14A Seligman 67.56 62 P P 05 11 07.8 +0.5
baz=67,SNR=8.5
Y12C Blythe 67.64 64 ⇑P P 05 11 07.4 -0.3
baz=67
PV10 Paradox Valley 67.85 57 *eP* P 05 11 09.6 +0.5
GLA Glamis 67.92 65 *eP* P 05 11 09.7 +0.2
GLA Glamis 67.92 65 ⇓P P 05 11 09.7 +0.2
baz=68
W15A Williams 68.08 62 ⇑P P 05 11 11.1 +0.6
baz=68
X14A Yava 68.17 63 ⇑P P 05 11 11.5 +0.4
baz=68
PV01 Paradox Valley 68.29 57 *eP* P 05 11 12.0 +0.1
WUAZ Wupatki 68.39 61 ⇓P P 05 11 12.9 +0.5
baz=68
WRA Warramunga Arr 68.41 199 P P 05 11 11.5 -1.1
comp=Z,2.2nm,0.8s,mb4.5,baz=21,slow=6.8,SNR=13
WRA Warramunga Arr 68.41 199 *i* P P 05 11 11.8 -0.8
WRA pmax pmax
comp=Z,2.0nm,0.8s
Y14A Wickenburg 68.46 63 ⇑P P 05 11 13.1 +0.2
baz=68
NB2 NORSAR Subarra 68.51 341 P P 05 11 11.3 -1.9
comp=Z,3.6nm,0.6s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 68.51 341 P P 05 11 11.8 -1.5
comp=Z,4.1nm,0.5s,mb4.9,baz=28,slow=6.4,SNR=16
NOA NORSAR Array B 68.51 341 P P 05 11 11.8 -1.4
NOA pmax pmax
comp=Z,4.0nm,0.5s
X15A Humboldt 68.56 62 P P 05 11 14.4 +0.9
baz=68,SNR=6.8
MVCO Mesa Verde 68.96 58 ⇑P P 05 11 16.2 +0.2
baz=69
115A Sonoran Desert 69.77 64 ⇑P P 05 11 21.1 +0.1
baz=70
116A Eloy 70.19 63 ⇓P P 05 11 23.9 +0.3
baz=70
ANMO Albuquerque 71.71 58⇑ *eP* P 05 11 33.2 +0.4
AKASG Malin Array Be 71.87 326 P P 05 11 31.7 -2.1
comp=Z,2.0nm,0.4s,mb4.6,baz=35,slow=6.4,SNR=12
AKASG Malin Array Be 71.87 326 *i* P P 05 11 32.0 -1.8
AKASG pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 72.10 199 P P 05 11 35.0 -0.1
comp=Z,1.6nm,0.5s,mb4.4,baz=9.8,slow=5.6,SNR=18
ASAR Alice Springs 72.10 199 P P 05 11 35.1 -0.1
ASAR pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 73.39 23 P P 05 11 41.5 -1.4
comp=Z,6.3nm,1.1s,mb4.7,baz=342,slow=6.4,SNR=2.3
BURAR Bucovina Array 75.91 327 ⇓ *iP* P 05 11 56.7 -0.8
CLL Collm 76.77 336 *i* P P 05 12 01.2 -1.1
CLL *i* 05 12 14.3
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CLL Collm 76.77 336 *i* P P 05 12 01.2 -1.1
comp=Z,10.0nm,1.0s,mb4.9
CLL *i* pPcP 05 12 14.3
LTX Lajitas 77.36 61 *eP* P 05 12 05.2 -0.5
comp=Z,13nm,1.0s,mb5.0
TXAR Lajitas Array 77.36 61 P P 05 12 05.5 -0.2
comp=Z,7.0nm,0.6s,mb5.0,baz=300,slow=4.2,SNR=120
TXAR Lajitas Array 77.36 61 P P 05 12 05.5 -0.2
TXAR pmax pmax
comp=Z,7.0nm,0.6s
MLR Muntele Rosu 77.39 325 ⇑ *iP* P 05 12 06.0 +0.1
MALT Malatya 77.49 313 *eP* P 05 12 07.5 +1.0
comp=Z,3.1nm,0.8s,mb4.5
KHC Kasperske Hory 78.54 334 *eP* P 05 12 15.6 +3.3
KHC *ex* x 05 12 26.1
KHC Kasperske Hory 78.54 334 ⇓ *iP* P 05 12 11.0 -1.3
BR131 Keskin Array S 78.73 317 *eP* P 05 12 13.6 +0.3
comp=Z,2.4nm,0.8s,mb4.3
BRTR Keskin Array B 78.73 317 P P 05 12 12.8 -0.5
comp=Z,0.9nm,0.7s,mb3.9,baz=63,slow=2.4,SNR=5.7
BRTR Keskin Array B 78.73 317 *i* P P 05 12 13.1 -0.2
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.76 334 P P 05 12 12.1 -1.4
comp=Z,0.6nm,0.5s,mb3.9,baz=38,slow=6.8,SNR=6.3
GERES GERESS Array B 78.76 334 P P 05 12 12.1 -1.4
GERES pmax pmax
comp=Z,1.0nm,0.5s
BZS Buzias 78.93 328 ⇑ *iP* P 05 12 14.1 -0.3
TORD Torodi Ar. Bea 115.41 329 PKP PKPdf 05 18 51.1 -1.7
comp=Z,4.5nm,1.5s,baz=6.0,slow=1.1,SNR=4.4
CFAA Coronel Fontan 144.76 80 PKP PKPdf 05 19 45.0 -2.9
comp=Z,0.6nm,0.6s,baz=256,slow=1.7,SNR=11

IDC 21 05:20:33.1±1.2, 4685N×15455E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=39.1km s-min=31.9km az=107.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.94**	**236**	Pn	Pn	05 24 19.3	+0.6
	0.4nm,0.3s,baz=43,slow=16,SNR=2.2						
FINES	**FINESS Array B**	**64.36**	**335**	P	P	05 31 11.4	+0.6
	1.6nm,0.4s,baz=40,slow=6.7,SNR=24						
AKASG	**Malin Array Be**	**72.00**	**327**	P	P	05 31 56.5	-2.2
	0.5nm,0.4s,baz=32,slow=6.0,SNR=4.8						
ASAR	**Alice Springs**	**72.63**	**200**	P	P	05 32 02.4	-0.1
	0.3nm,0.6s,baz=18,slow=6.2,SNR=4.2						
TXAR	**Lajitas Array**	**76.58**	**61**	P	P	05 32 25.6	+0.2
	0.5nm,0.6s,baz=303,slow=3.8,SNR=9.2						

*ISCJB **21** 05:38:00.4±0.8, 464N×02×1549E±02, h10km, mb3.7/9, Error ellipse: s-maj=26.0km s-min=13.2km az=137.6*
*IDC **21** 05:38:00.7±0.9, 4639N×15494E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=29.4km s-min=19.5km az=164.0*
*MOS **21** 05:38:04.4±1.7, 4643N×15455E, h38km, mb4.3/4, Error ellipse: s-maj=31.5km s-min=26.8km az=155.8*

ISC 21 05:38:06.8±3.3, 4655N×02×1548E±02, h43km±32km, n16, σ0§72/16, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.00**	**258**	*ePN*	**Pn**	**05 39 14.3**	**-5.0**
KUR				pmax	pmax		
	comp=Z,130nm,0.6s						
ASAJ	**Asahikawa**	**8.92**	**259**	Pn	**Pn**	**05 40 13.1**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=346,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**8.92**	**259**	PN	**Pn**	**05 40 13.1**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.83**	**255**	P	**P**	**05 42 55.6**	**+0.1**
	comp=Z,0.6nm,0.3s,mb3.5,baz=59,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**05 46 41.0**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=69,slow=7.0,SNR=4.8						
ARCES	**ARCESS Array B**	**58.52**	**341**	P	**P**	**05 47 58.6**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=34,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**58.52**	**341**	P	**P**	**05 47 58.6**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**61.54**	**63**	P	**P**	**05 48 19.7**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=294,slow=8.7,SNR=3.5						
PDAR	**Pinedale Array**	**63.98**	**55**	P	**P**	**05 48 35.2**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=308,slow=4.5,SNR=3.4						
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**05 48 41.3**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=33,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**64.81**	**336**	P	**P**	**05 48 41.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.89**	**342**	P	**P**	**05 49 08.8**	**+1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=27,slow=6.5,SNR=2.9						
NOA	**NORSAR Array B**	**68.89**	**342**	P	**P**	**05 49 08.8**	**+1.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**	**05 49 28.1**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=17,slow=5.3,SNR=4.4						
TXAR	**Lajitas Array**	**76.62**	**62**	P	**P**	**05 49 52.5**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=289,slow=4.3,SNR=7.4						
TXAR	**Lajitas Array**	**76.62**	**62**	P	**P**	**05 49 52.5**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **21** 05:50:01.5±2.5, 392N±02×723E±01, h10km, Error ellipse: s-maj=23.4km s-min=11.5km az=11.1*
*NNC **21** 05:50:13.0±10.0, 3994N×7269E, h7km±23km, mb3.4, mpv2.8, Error ellipse: s-maj=76.9km s-min=28.7km az=172.0*

ISC 21 05:50:03.4±2.5, 392N±02×724E±01, h10km, n12, σ1§00/13, 3C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.14**	**18**	P	**Sn**	**05 51 30.6**	**+0.1**
	SNR=6.0						
UCH	**Uchtor**	**3.48**	**27**	P	**Pn**	**05 50 56.6**	**-0.9**
	SNR=16						
KZA	**Kyzart**	**3.65**	**36**	P	**Pn**	**05 50 59.1**	**-0.9**
	SNR=11						
EKS2	**Erkin-Say**	**3.67**	**16**	P	**Pn**	**05 51 02.5**	**+2.3**
	SNR=11						
AAK	**Ala-Archa**	**3.83**	**24**	P	**Pn**	**05 51 03.2**	**+0.8**
	SNR=33						
KBK	**Karagaybulak**	**4.01**	**28**	P	**Pb**	**05 51 09.1**	**-5.0**
	SNR=5.6						
KK31	**Karatay Array**	**4.19**	**341**	⇑Pn	**Pb**	**05 51 13.5**	**-3.8**
	5.1nm,0.5s,baz=142,slow=15						
KK31				⇓Lg		05 52 05.1	
	18nm,0.5s,baz=151,slow=24						
CHMS	**Chumysh**	**4.24**	**24**	P	**Pn**	**05 51 08.6**	**+0.5**
	SNR=10						
ULHL	**Ulahol**	**4.27**	**42**	P	**Pn**	**05 50 58.0**	**-10**
	SNR=66						
TKM2	**Tokmak 2**	**4.49**	**32**	P	**Pn**	**05 51 11.1**	**-0.3**
	SNR=9.3						
TKM2	**Tokmak 2**	**4.49**	**32**	⇑Pn	**Pn**	**05 51 10.4**	**-1.0**
	0.4nm,0.5s						
TKM2				⇑Lg		05 52 11.0	
	1.5nm,0.6s						
AB31	**Akbulak array**	**13.46**	**323**	⇓Pn	**Pn**	**05 53 14.7**	**+0.3**
	1.5nm,0.8s						
AB31				⇓Sn	**Sn**	**05 55 43.7**	**-0.3**
	0.9nm,0.8s						

KRSC 21 05:52:14.0±0.4, 5608N×16355E, h11km±10km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.43**	**288**	*i* P	Pg	05 52 23.1	+0.7
KBTR				*eS*	Sg	05 52 30.3	+2.2
KBTR	**Krutoberegovo**	**0.43**	**288**	*i* P	Pg	05 52 23.1	+0.7
KBTR				*eS*	Sg	05 52 30.3	+2.2
SRKR	**Sorokina**	**1.45**	**294**	*eP*	Pn	05 52 39.2	-0.9
SRKR				S	Sn	05 52 57.8	-1.2
SRKR	**Sorokina**	**1.45**	**294**	*eP*	Pn	05 52 39.2	-0.9
SRKR				S	Sn	05 52 57.8	-1.2
ZLN	**Zelenaya**	**1.54**	**269**	*eP*	Pn	05 52 42.2	+0.8
ZLN				*eS*	Sn	05 53 02.6	+1.2
ZLN	**Zelenaya**	**1.54**	**269**	*eP*	Pn	05 52 42.2	+0.8
ZLN				*eS*	Sn	05 53 02.6	+1.2
KLY	**Klyuchi**	**1.64**	**279**	*eP*	Pn	05 52 41.1	-1.6
KLY				*eS*	Sn	05 53 00.8	-2.9
KLY	**Klyuchi**	**1.64**	**279**	*eP*	Pn	05 52 41.1	-1.6
KLY				*eS*	Sn	05 53 00.8	-2.9
KRSR	**Krestovskiy**	**1.68**	**276**	*eP*	Pn	05 52 44.1	+0.9
KRSR				S	Sn	05 53 06.6	+1.9
KRSR	**Krestovskiy**	**1.68**	**276**	*eP*	Pn	05 52 44.1	+0.9
KRSR				S	Sn	05 53 06.6	+1.9
MKZ	**Mys Kozlova**	**1.85**	**215**	*eP*	Pn	05 52 44.6	-1.0
MKZ				S	Sn	05 53 06.7	-2.3
MKZ	**Mys Kozlova**	**1.85**	**215**	*eP*	Pn	05 52 44.6	-1.0
MKZ				S	Sn	05 53 06.7	-2.3
KPT	**Kopyto**	**1.87**	**268**	*eP*	Pn	05 52 46.9	+1.0
KPT				S	Sn	05 53 10.8	+1.2
KPT	**Kopyto**	**1.87**	**268**	*eP*	Pn	05 52 46.9	+1.0
KPT				S	Sn	05 53 10.8	+1.2
KMNR	**Kamenistaya**	**1.89**	**261**	*eP*	Pn	05 52 48.1	+1.9
KMNR				*eS*	Sn	05 53 12.7	+2.6
KMNR	**Kamenistaya**	**1.89**	**261**	*eP*	Pn	05 52 48.1	+1.9
KMNR				*eS*	Sn	05 53 12.7	+2.6
KOZ	**Kozyrevsk**	**2.06**	**271**	*eP*	Pn	05 52 50.1	+1.5
KOZ				*eS*	Sn	05 53 16.2	+2.0
KOZ	**Kozyrevsk**	**2.06**	**271**	*eP*	Pn	05 52 50.1	+1.5
KOZ				*eS*	Sn	05 53 16.2	+2.0
TUMR	**Tumrok**	**2.09**	**249**	*eP*	Pn	05 52 51.8	+2.9
TUMR				*eS*	Sn	05 53 19.2	+4.3
TUMR	**Tumrok**	**2.09**	**249**	*eP*	Pn	05 52 51.8	+2.9
TUMR				*eS*	Sn	05 53 19.2	+4.3
SRDR	**Sredinnyy**	**2.15**	**278**	*eP*	Pn	05 52 50.7	+0.9
SRDR				S	Sn	05 53 17.1	+0.6
SRDR	**Sredinnyy**	**2.15**	**278**	*eP*	Pn	05 52 50.7	+0.9
SRDR				S	Sn	05 53 17.1	+0.6
SPN	**Mys Shipunski**	**3.62**	**216**	P	Pn	05 53 10.0	0.0
SPN				S	Sn	05 53 51.4	-1.4
SPN	**Mys Shipunski**	**3.62**	**216**	P	Pn	05 53 10.0	0.0
SPN				S	Sn	05 53 51.4	-1.4
NLC	**Nalytchevo**	**3.80**	**222**	S	Sn	05 53 58.5	+1.3
NLC	**Nalytchevo**	**3.80**	**222**	S	Sn	05 53 58.5	+1.3
AVH	**Avacha**	**3.97**	**227**	P	Pn	05 53 17.3	+2.5
AVH	**Avacha**	**3.97**	**227**	P	Pn	05 53 17.3	+2.5

IDC 21 06:11:57.9±1.3, 4645N×15455E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=52.9km s-min=38.1km az=110.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**64.73**	**335**	P	P	06 22 37.5	-0.5
	1.6nm,1.0s,baz=54,slow=9.8,SNR=4.2						
ASAR	**Alice Springs**	**72.25**	**200**	P	P	06 23 24.9	-0.1
	0.1nm,0.6s,baz=14,slow=6.3,SNR=4.5						
TXAR	**Lajitas Array**	**76.78**	**61**	P	P	06 23 51.5	+0.2
	0.8nm,0.7s,baz=304,slow=4.4,SNR=9.6						

IDC 21 06:15:11.0±2.5, 722S×10300E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/19, mbtmp3.6/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/27, Error ellipse: s-maj=104.8km s-min=24.9km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.91**	**116**	P	P	06 21 47.3	+0.4
	0.9nm,0.7s,baz=286,slow=11,SNR=11						
ASAR	**Alice Springs**	**33.86**	**122**	P	P	06 21 55.2	-0.1
	0.3nm,0.8s,baz=302,slow=7.2,SNR=4.5						
ASAR				PcP	PcP	06 24 34.2	+0.1
	0.4nm,0.6s,baz=300,slow=1.7,SNR=5.2						
JHJ	**Hachijo jima 2**	**53.21**	**39**	LR	LR	06 45 46.7	
	comp=Z,100nm,18.1s,baz=6.9,slow=34						
SONM	**Songino Array**	**54.90**	**3**	P		06 24 43.9	+0.5
	1.0nm,0.7s,baz=180,slow=8.4,SNR=8.2						
MKAR	**Makanchi Array**	**56.84**	**343**	P	P	06 24 56.4	-1.0
	0.4nm,0.6s,baz=148,slow=6.8,SNR=3.5						
TXAR	**Lajitas Array**	**146.63**	**45**	PKPbc	PKPbc	06 34 55.6	+1.1
	0.7nm,0.7s,baz=257,slow=1.6,SNR=7.4						

IDC 21 06:29:22.1±1.1, 4747N×15479E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=33.1km s-min=29.0km az=149.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.42**	**33**	P	P	06 37 02.2	+0.2
	0.6nm,0.8s,baz=269,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**47.63**	**298**	P	P	06 37 58.4	-1.4
	0.2nm,0.5s,baz=69,slow=7.4,SNR=2.9						
PDAR	**Pinedale Array**	**63.39**	**55**	P	P	06 39 52.5	-0.8
	0.7nm,0.9s,baz=306,slow=6.0,SNR=5.3						
FINES	**FINESS Array B**	**63.87**	**335**	P	P	06 39 55.1	-1.3
	0.5nm,0.4s,baz=44,slow=5.8,SNR=6.1						
NOA	**NORSAR Array B**	**67.91**	**342**	P	P	06 40 23.3	+0.8
	1.3nm,0.8s,baz=31,slow=5.9,SNR=3.1						
ASAR	**Alice Springs**	**73.27**	**200**	P	P	06 40 55.5	+0.3
	0.6nm,0.9s,baz=17,slow=5.4,SNR=4.8						
TXAR	**Lajitas Array**	**76.14**	**62**	P	P	06 41 11.8	0.0
	0.5nm,0.8s,baz=294,slow=4.0,SNR=5.1						

*IDC **21** 06:31:42.3±0.8, 4653N×15463E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.7/7, MS3.1/2, Ms1 3.1/2, ms1mx2.8/29, Error ellipse: s-maj=27.1km s-min=24.6km az=105.0*
*ISCJB **21** 06:31:45.0±6.5, 465N±02×1544E±01, h30km±46km, mb3.7/7, MS3.3/1, Error ellipse: s-maj=28.7km s-min=15.0km az=141.7*
*MOS **21** 06:31:46.6±1.5, 4652N×15432E, h42km, mb4.1/4, Error ellipse: s-maj=36.8km s-min=34.4km az=56.6*

ISC 21 06:31:46.2±6.8, 465N±02×1544E±01, h25km±48km, n14, σ0§88/13, mb3.7/7, MS3.3/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.77**	**257**	*ePN*	**Pn**	**06 32 56.5**	**0.0**
KUR				*i* S	**Sn**	**06 33 50.5**	**-0.5**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,70nm,0.5s						
ASAJ	**Asahikawa**	**8.69**	**258**	LR	LR	06 37 37.5	
	comp=E,46nm,19.3s,baz=12,slow=40						
SONM	**Songino Array**	**32.27**	**290**	LR	LR	06 53 10.6	
	comp=E,62nm,18.1s,MS3.3,baz=86,slow=40						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**06 40 21.8**	**-0.1**
	comp=E,0.2nm,0.4s,mb3.5,baz=68,slow=8.6,SNR=5.8						
BVAR	**Borovoye Array**	**51.70**	**310**	P	**P**	**06 40 52.5**	**+1.4**
	comp=E,0.4nm,0.3s,mb3.8,baz=52,slow=7.5,SNR=4.3						
PDAR	**Pinedale Array**	**64.13**	**54**	P	**P**	**06 42 17.5**	**-0.8**
	comp=E,0.5nm,0.8s,mb3.6,baz=258,slow=1.4,SNR=4.0						
FINES	**FINESS Array B**	**64.63**	**335**	P	**P**	**06 42 21.1**	**-0.4**
	comp=E,0.7nm,0.4s,mb4.0,baz=29,slow=7.1,SNR=9.4						
FINES	**FINESS Array B**	**64.63**	**335**	P	**P**	**06 42 21.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.61**	**200**	P	**P**	**06 42 45.9**	**-1.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=18,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**68.61**	**200**	P	**P**	**06 42 45.9**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.30**	**200**	P	**P**	**06 43 11.2**	**+1.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=8.6,slow=6.6,SNR=7.1						
ASAR	**Alice Springs**	**72.30**	**200**	P	**P**	**06 43 11.3**	**+1.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**06 43 35.6**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=300,slow=4.4,SNR=15						
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**06 43 35.6**	**0.0**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*IDC **21** 06:33:25.3±0.8, 4753N×15458E, h0km, mb3.9/14, mb1 4.0/14, mb1mx4.0/24, mbtmp3.9/14, Error ellipse: s-maj=23.2km s-min=18.5km az=150.0*
*MOS **21** 06:33:28.5±0.9, 4760N×15458E, h33km, mb4.1/10, Error ellipse: s-maj=25.8km s-min=20.7km az=94.0*
*ISCJB **21** 06:33:29.3±3.4, 476N±01×1547E±02, h37km±30km, mb3.9/15, Error ellipse: s-maj=23.7km s-min=15.9km az=127.0*

ISC 21 06:33:31.7±2.6, 476N±01×1547E±02, h42km±23km, n32, σ0§84/32, mb3.9/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.12**	**252**	Pn	**Pn**	**06 35 41.0**	**+0.3**
	0.5nm,0.3s,baz=66,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**9.12**	**252**	PN	**Pn**	**06 35 41.0**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.07**	**252**	P	**P**	**06 38 21.9**	**-1.0**
	comp=Z,4.6nm,0.9s,mb3.9,baz=58,slow=10,SNR=10						
SONM	**Songino Array**	**32.07**	**289**	P	**P**	**06 39 53.4**	**-1.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=83,slow=12,SNR=3.0						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**06 41 05.5**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=267,slow=5.0,SNR=3.5						
INK	**Inuvik**	**40.36**	**33**	P	**P**	**06 41 05.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.50**	**297**	P	**P**	**06 42 01.4**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=66,slow=8.2,SNR=5.9						
MKAR	**Makanchi Array**	**47.50**	**297**	P	**P**	**06 42 01.5**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.15**	**309**	P	**P**	**06 42 29.4**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=62,slow=6.1,SNR=6.9						
BVAR	**Borovoye Array**	**51.15**	**309**	P	**P**	**06 42 29.4**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JIRN	**Jiri**	**55.94**	**275**	*eP*	**P**	**06 43 06.8**	**+1.3**
GUN	**Gumba**	**55.99**	**276**	*eP*	**P**	**06 43 06.6**	**+0.7**
KKN	**Kakani**	**56.47**	**276**	*eP*	**P**	**06 43 10.3**	**+1.0**
DMN	**Daman**	**56.70**	**276**	*eP*	**P**	**06 43 12.2**	**+1.2**
GKN	**Gorkha**	**56.76**	**276**	*eP*	**P**	**06 43 12.3**	**+0.9**
	comp=Z,9.3nm,0.5s,mb5.0						
KOLN	**Koldanda**	**57.61**	**277**	*eP*	**P**	**06 43 18.5**	**+1.1**
PDAR	**Pinedale Array**	**63.39**	**55**	P	**P**	**06 43 57.4**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.9,baz=180,slow=0.4,SNR=6.5						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**06 43 58.8**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=48,slow=6.7,SNR=8.7						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**06 43 58.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULM	**Lac du Bonnet**	**65.18**	**42**	P	**P**	**06 44 09.0**	**+0.4**
	comp=Z,2.8nm,1.0s,mb4.2,baz=318,slow=12,SNR=3.2						
NB2	**NORSAR Subarra**	**67.77**	**342**	P	**P**	**06 44 24.9**	**-0.1**

*LDG **21** 06:56:59.1±0.1, 4302N×001W, h5km, Md1.8/3, Ml1.7/2, Error ellipse: s-maj=2.6km s-min=1.4km az=176.0*

STR 21 06:56:59.3±0.0, 4301N×001E, h3km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**51**	Pg	Pg	06 57 01.1	+0.5
LABF				Sg	Sg	06 57 02.3	+0.9
VIEF	**Viey**	**0.13**	**175**	Pg	Pg	06 57 02.2	+0.4
VIEF				Sg	Sg	06 57 04.2	+0.7
EPF	**Esparros**	**0.24**	**85**	*e*Pg	Pg	06 57 04.1	+0.1
EPF				*e*Sg	Sg	06 57 07.9	+0.7
	20nm,0.2s						
RESF	**Ens**	**0.32**	**130**	Pg	Pg	06 57 05.5	+0.1
RESF				Sg	Sg	06 57 10.2	+0.7
ETSF	**Etsaut**	**0.43**	**255**	*e*Pg	Pg	06 57 07.6	0.0
ETSF				*e*Sg	Sg	06 57 13.3	+0.1
	14nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**277**	*e*Pg	Pg	06 57 15.7	-1.1
SJPF				*e*Sg	Sg	06 57 26.6	-2.0
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	06 57 30.3	-0.6
MTLF				*e*Sg	Sg	06 57 51.4	-0.9
	2.8nm,0.3s						

*CSEM **21** 07:07:19.9±0.5, 3865N×2911W, h3km±3km, ML1.7, Error ellipse: s-maj=9.6km s-min=3.3km az=22.0, After PDA*

*PDA **21** 07:07:19.9±0.5, 3865N×2911W, h3km±3km, MD3.0, ML1.7, Error ellipse: s-maj=9.6km s-min=3.3km az=22.0*

SVSA 21 07:07:19.9±0.5, 3865N×2911W, h3km±3km, MD3.0, ML1.7, Error ellipse: s-maj=9.6km s-min=3.3km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.32**	**94**	*i* P	Pg	07 07 25.8	-0.3
PCED				*i* S	Sg	07 07 30.2	0.0
PCED							
	43nm,0.4s						
PCED	**Cedros**	**0.32**	**94**	*i* S	Sg	07 07 30.2	0.0
CALA	**Caldeira**	**0.33**	**102**	*i* P	Pg	07 07 25.9	-0.3
CALA				*e*S	Sg	07 07 30.4	-0.1
CALA	**Caldeira**	**0.33**	**102**	*e*S	Sg	07 07 30.4	-0.1
PICO	**Pico**	**0.56**	**105**	*e*P	Pg	07 07 29.9	-0.7
PICO				*e*S	Sg	07 07 37.0	-0.8
ROSA	**Rosais**	**0.68**	**84**	*e*P	Pg	07 07 31.4	-1.6
PID	**Ribeirinha**	**0.80**	**105**	*e*P	Pg	07 07 32.6	-2.7

*IDC **21** 07:21:34.0±1.5, 4862N×15498E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, ML4.0/1, MS3.7/1, Ms1 3.6/1, ms1mx2.8/39, Error ellipse: s-maj=79.6km s-min=22.2km az=162.0*

*ISCJB **21** 07:21:39.9±2.1, 482N±02×1550E±03, h67km±18km, mb3.5/4, Error ellipse: s-maj=39.3km s-min=10.3km az=85.5*

*MOS **21** 07:21:44.7±1.4, 4898N×15353E, h33km, mb4.1/2, Error ellipse: s-maj=86.1km s-min=24.8km az=55.4*

ISC 21 07:21:43.5±1.8, 483N±02×1548E±03, h83km±16km, n12, σ1$09/13, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.58**	**19**	*e*PN	**Pn**	**07 22 19.6**	**-3.7**
SKR				*e*S	**Sn**	**07 22 53.0**	**-0.8**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,180nm,1.0s						
PET	**Petropavlovsk**	**5.37**	**26**	*e*PN	**Pn**	**07 23 04.6**	**+3.5**
PET				*e*S	**Sn**	**07 24 10.7**	**+9.1**
PET				pmax	pmax		
	comp=Z,19nm,0.6s						
PET				smax			
	comp=E,59nm,0.8s						
PET				smax			
	comp=N,46nm,0.7s						
KUR	**Kuril'sk**	**5.63**	**240**	*e*PN	**Pn**	**07 23 04.3**	**-0.4**
KUR				pmax	pmax		
	comp=Z,160nm,0.7s						
ASAJ	**Asahikawa**	**9.41**	**248**	Pn	**Pn**	**07 23 55.8**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=104,slow=20,SNR=5.9						
ASAJ	**Asahikawa**	**9.41**	**248**	PN	**Pn**	**07 23 55.8**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**22.35**	**251**	P	**P**	**07 26 35.5**	**+1.0**
	comp=Z,2.0nm,0.7s,mb3.5,baz=48,slow=9.6,SNR=6.4						
ZAL	**Zalesovo**	**42.69**	**305**	LR	LR	07 50 24.4	
	comp=Z,81nm,18.6s,baz=296,slow=41						
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**07 30 08.2**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=70,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**47.27**	**297**	P	**P**	**07 30 08.2**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**62.95**	**55**	P	**P**	**07 32 00.7**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=348,slow=4.0,SNR=3.9						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**07 33 19.9**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=300,slow=4.6,SNR=14						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**07 33 19.9**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **21** 07:42:07.3, 3761N×2069E, h34km, MD3.5(ATH), After ATH.*

*CSEM **21** 07:42:07.3, 3761N×2069E, h34km, MD3.5/4, After ATH*

ATH 21 07:42:07.3, 3761N×2069E, h34km±3km, MD3.5/2, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.57**	**352**	*e*PN	Pn	07 42 19.3	+0.3
VLS	**Valsamata**	**0.57**	**352**	*e*Pn	Pn	07 42 19.3	+0.3
VLS				*e*Sn	Sn	07 42 28.7	+1.5
RLS	**Riolos of Patr**	**0.76**	**54**	*e*PN	Pn	07 42 22.3	+0.7
RLS				*e*SN	Sn	07 42 33.7	+1.8
ITM	**Ithomi**	**1.07**	**113**	*e*PN	Pn	07 42 27.7	+1.8
EVR	**Evrytania**	**1.57**	**34**	*e*PN	Pn	07 42 35.5	+2.7
EVR				*e*Sn	Sn	07 42 54.6	+2.6

*ISCJB **21** 07:44:45.3±0.4, 1858N±004×10190W±003, h73km±8km, mb3.8/4, Error ellipse: s-maj=6.2km s-min=4.0km az=43.5*

*MEX **21** 07:44:47.6±0.4, 1860N×10190W, h58km±8km, MD4.3*

*NEIC **21** 07:44:47.5, 1860N×10189W, h60km, MD4.3(MEX), After MEX.*

*IDC **21** 07:44:53.1±4.3, 1909N×10132W, h123km±31km, mb3.6/4, mb1 3.6/7, mb1mx3.5/18, mbtmp3.4/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=78.7km s-min=20.9km az=35.0*

ISC 21 07:44:46.2±0.4, 1856N±004×10191W±003, h74km±8km, n31, σ1$20/52, mb3.8/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.03**	**156**	*i* P	**Pn**	**07 45 04.8**	**-0.4**
ZIIG				*i* S	**Sn**	**07 45 18.8**	**-0.7**
MOIG	**Morelia**	**1.31**	**31**	*i* P	**Pn**	**07 45 07.5**	**-1.1**
MOIG				*i* S	**Sn**	**07 45 23.5**	**-2.2**
MMIG	**Aquila**	**1.39**	**259**	*i* P	**Pn**	**07 45 09.7**	**-0.1**
MMIG				*i* S	**Sn**	**07 45 26.7**	**-0.9**
CAIG	**El Cayaco**	**2.17**	**134**	*i* P	**Pn**	**07 45 19.8**	**-0.3**
CAIG				*i* S	**Sn**	**07 45 45.4**	**-0.6**
SFJM	**Santa Fe**	**2.20**	**331**	*i* P	**Pn**	**07 45 20.0**	**-0.5**
MEIG	**Mezcala**	**2.27**	**106**	*i* P	**Pn**	**07 45 21.6**	**+0.2**
MEIG				*i* S	**Sn**	**07 45 47.8**	**-0.6**
PLIG	**Platanillo**	**2.29**	**94**	*i* P	**Pn**	**07 45 22.1**	**+0.3**
PLIG				*i* S	**Sn**	**07 45 47.8**	**-1.2**
ACX	**Acapulco**	**2.54**	**131**	*e*P	**Pn**	**07 45 26.0**	**+0.9**
ACX				*i* S	**Sn**	**07 45 55.5**	**+0.5**
ACX	**Acapulco**	**2.54**	**131**	*e*P	**Pn**	**07 45 18.5**	**-6.6**
ACX				*i* S	**Sn**	**07 45 43.5**	**-11**
UNM	**Universidad Na**	**2.70**	**73**	*i* P	**Pn**	**07 45 25.5**	**-1.8**
UNM				*e*P		07 45 31.5	
UNM				*i* S	**Sn**	**07 45 58.0**	**-0.8**
UNM	**Universidad Na**	**2.70**	**73**	*e*P	**Pn**	**07 45 31.5**	**+4.2**
UNM				*i* S	**Sn**	**07 45 58.0**	**-0.8**
YAIG	**Yautepec**	**2.71**	**83**	*i* P	**Pn**	**07 45 27.7**	**+0.2**
YAIG				*i* S	**Sn**	**07 45 58.9**	**-0.3**
PTVM	**Pico Tres Padr**	**2.84**	**68**	*i* P	**Pn**	**07 45 30.1**	**+1.0**
CJM	**Chamela**	**3.11**	**288**	*e*P	**Pn**	**07 45 33.6**	**+0.7**
CJM				*i* S	**Sn**	**07 46 07.8**	**-1.0**
CJM	**Chamela**	**3.11**	**288**	*e*P	**Pn**	**07 45 33.6**	**+0.7**
CJM				*i* S	**Sn**	**07 46 11.0**	**+2.2**
IIO	**Organos**	**3.19**	**71**	*i* P	**Pn**	**07 45 34.9**	**+1.0**
IIO				*i* S	**Sn**	**07 46 13.5**	**+2.7**
UTMO	**Huajuapan**	**3.97**	**100**	*i* P	**Pn**	**07 45 45.4**	**+0.9**
ZAIG	**Zacatecas**	**4.24**	**352**	*i* P	**Pn**	**07 45 48.4**	**+0.2**
ZAIG				*i* S	**Sn**	**07 46 38.6**	**+2.2**
TPIG	**Tehuac#an**	**4.32**	**91**	*i* P	**Pn**	**07 45 50.2**	**+0.9**
TPIG				*i* S	**Sn**	**07 46 39.2**	**+0.8**
VHO	**Vista Hermosa**	**5.15**	**106**	*i* P	**Pn**	**07 46 03.5**	**+2.9**
VHO				*i* S	**Sn**	**07 46 57.8**	**-0.9**
OXX	**Oaxaca**	**5.15**	**106**	*e*P	**Pn**	**07 46 02.0**	**+1.3**
LNIG	**Linares**	**6.71**	**19**	*i* P	**Pn**	**07 46 22.1**	**+0.2**
LNIG				*i* S	**Sn**	**07 47 35.2**	**-1.6**
CMIG	**Matias Romero**	**6.85**	**101**	P	**Pn**	**07 46 25.8**	**+1.9**
	1.5nm,0.3s,baz=276,slow=9.4,SNR=39						
CMIG				S	**Sn**	**07 47 37.4**	**-2.9**
	2.4nm,0.3s,baz=144,slow=19,SNR=7.9						
CMIG	**Matias Romero**	**6.85**	**101**	*i* P	**Pn**	**07 46 25.5**	**+1.6**
CMIG				*i* S	**Sn**	**07 47 41.0**	**+0.6**
CMIG	**Matias Romero**	**6.85**	**101**	*i* P	**Pn**	**07 46 25.5**	**+1.6**
CMIG				*i* S	**Sn**	**07 47 39.1**	**-1.3**
TXAR	**Lajitas Array**	**10.85**	**352**	P	**Pn**	**07 47 21.1**	**+2.6**
	0.1nm,0.3s,baz=167,slow=15,SNR=10						
PFO	**Pinyon Flat Ob**	**19.85**	**322**	P	**Pn**	**07 49 12.7**	**-0.6**
	0.1nm,0.3s,baz=140,slow=7.9,SNR=3.1						
PDAR	**Pinedale Array**	**24.99**	**347**	P	**P**	**07 50 03.1**	**+0.2**
	0.8nm,0.6s,mb3.3,baz=151,slow=10.0,SNR=5.3						
ULM	**Lac du Bonnet**	**31.99**	**7**	P	**P**	**07 51 02.1**	**-3.1**
	3.0nm,0.9s,mb4.0,baz=182,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**44.78**	**352**	P	**P**	**07 52 49.1**	**-3.4**
	0.8nm,0.8s,mb3.5,baz=156,slow=7.9,SNR=3.2						
ARCES	**ARCESS Array B**	**84.64**	**16**	P	**P**	**07 57 10.7**	**-0.9**
	4.3nm,1.0s,mb4.3,baz=319,slow=5.3,SNR=3.6						

MEX 21 08:13:54.3±0.3, 1810N×9485W, h70km±46km, MD3.6, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.00**	**182**	*i* P	Pn	08 14 11.5	-1.3
CMIG				*i* S	Sn	08 14 24.8	-1.7
OXX	**Oaxaca**	**2.05**	**241**	*i* P	Pn	08 14 25.5	-1.1
OXX				*i* S	Sn	08 14 49.5	-1.7
VHO	**Vista Hermosa**	**2.06**	**241**	*i* P	Pn	08 14 25.6	-1.2
VHO				*i* S	Sn	08 14 50.2	-1.3

*IDC **21** 08:26:49.9±3.1, 4598N×15271E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/24, mbtmp3.8/6, Error ellipse: s-maj=89.4km s-min=28.7km az=1.0*

*ISCJB **21** 08:26:55.4±2.2, 463N±02×1527E±02, h37km±16km, mb3.7/6, Error ellipse: s-maj=48.2km s-min=11.7km az=118.1*

*MOS **21** 08:26:56.2±1.0, 4638N×15258E, h45km, mb4.2/3, Error ellipse: s-maj=28.2km s-min=19.2km az=57.1*

ISC 21 08:26:57.5±2.0, 463N±03×1527E±02, h43km±14km, n13, σ0$80/14, mb3.7/6, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.55**	**254**	*i* PN	**Pn**	**08 27 48.3**	**-1.8**
KUR				*i* S	**Sn**	**08 28 31.0**	**+0.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,170nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
SKR	**Severo-Kuril's**	**4.93**	**26**	*e*PN	**Pn**	**08 28 08.9**	**-0.1**
ASAJ	**Asahikawa**	**7.47**	**257**	Pn	**Pn**	**08 28 45.6**	**+1.8**
	comp=E,1.3nm,0.3s,baz=66,slow=20,SNR=7.0						
ASAJ	**Asahikawa**	**7.47**	**257**	PN	**Pn**	**08 28 45.6**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**42.17**	**32**	P	**P**	**08 34 46.2**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.5,baz=322,slow=10,SNR=7.9						
INK	**Inuvik**	**42.17**	**32**	P	**P**	**08 34 46.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.89**	**298**	P	**P**	**08 35 23.4**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=70,slow=7.4,SNR=6.7						
BVAR	**Borovoye Array**	**50.92**	**310**	P	**P**	**08 35 53.8**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=40,slow=9.4,SNR=3.4						
FINES	**FINESS Array B**	**64.32**	**335**	P	**P**	**08 37 28.6**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=32,slow=8.4,SNR=4.7						
FINES	**FINESS Array B**	**64.32**	**335**	P	**P**	**08 37 28.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.55**	**341**	P	**P**	**08 37 55.8**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.1,baz=27,slow=6.1,SNR=3.5						
NOA	**NORSAR Array B**	**68.55**	**341**	P	**P**	**08 37 55.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**77.95**	**60**	P	**P**	**08 38 51.0**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=298,slow=4.3,SNR=9.2						

IDC 21 08:28:56.2±1.6, 711S×12977E, h0km, mb4.2/3, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=120.7km s-min=28.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.51**	**161**	Pn	Pn	08 32 10.4	+1.4
	0.8nm,0.3s,baz=343,slow=12,SNR=24						
WRA				Sn	Sn	08 34 35.2	-4.7
	1.3nm,0.3s,baz=330,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**16.93**	**167**	Pn	Pn	08 32 53.5	-0.9
	0.3nm,0.3s,baz=341,slow=10.0,SNR=30						
ASAR				Sn	Sn	08 35 58.1	-5.2
	0.2nm,0.3s,baz=350,slow=22,SNR=4.9						
SONM	**Songino Array**	**58.47**	**342**	P	P	08 38 53.3	-0.7
	0.5nm,0.4s,baz=166,slow=6.4,SNR=7.0						
MKAR	**Makanchi Array**	**68.19**	**327**	P	P	08 39 59.5	+1.2
	4.3nm,0.5s,baz=112,slow=8.8,SNR=53						
BVAR	**Borovoye Array**	**78.03**	**328**	P	P	08 40 56.1	-0.5
	0.5nm,0.3s,baz=120,slow=6.0,SNR=4.4						

*IDC **21** 08:31:36.2±1.3, 4807N×15512E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/26, mbtmp3.8/11, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.1/52, Error ellipse: s-maj=39.4km s-min=18.6km az=161.0*

*ISCJB **21** 08:31:39.4±0.8, 4813N±010×15516E±01, h35km, mb3.8/9, Error ellipse: s-maj=18.7km s-min=6.0km az=88.5*

*MOS **21** 08:31:39.7±1.6, 4802N×15508E, h48km, mb4.1/6, Error ellipse: s-maj=21.0km s-min=13.0km az=66.9*

ISC 21 08:31:41.5±0.9, 4817N±010×1551E±01, h35km, n23, σ0$90/25, mb3.8/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.60**	**15**	*e*PN	**Pn**	**08 32 20.9**	**-0.1**
SKR				*e*S	**Sn**	**08 32 50.4**	**-1.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,760nm,1.0s						
SKR				smax			
	comp=N,370nm,0.5s						
SKR				smax			
	comp=N,2μm,4.0s						
SKR				smax			
	comp=E,5μm,6.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
PET	**Petropavlovsk**	**5.36**	**24**	*e*PN	**Pn**	**08 32 58.9**	**-0.1**
PET				pmax	pmax		
	comp=Z,38nm,0.8s						
PET				MLR	MLR		
	comp=Z,800nm,11.0s						
KUR	**Kuril'sk**	**5.77**	**242**	*e*PN	**Pn**	**08 33 02.7**	**-1.8**
KUR				*i* S	**Sn**	**08 34 10.0**	**+0.5**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,70nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.43**	**266**	PN	**Pn**	**08 33 49.0**	**+7.9**
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
UGL	**Uglegorsk**	**8.68**	**281**	PN	**Pn**	**08 33 37.0**	**-7.4**
UGL				pmax	pmax		
	comp=Z,45nm,1.0s						
UGL				MLR	MLR		
	comp=N,500nm,15.0s						
UGL				MLR	MLR		
	comp=E,1μm,15.0s						
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
ASAJ	**Asahikawa**	**9.57**	**250**	Pn	**Pn**	**08 33 55.8**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=76,slow=13,SNR=7.8						
ASAJ				LR	LR	08 37 05.7	
	comp=Z,185nm,20.6s,baz=156,slow=34						
KLR	**Kul'dur**	**15.44**	**283**	*e*P	**Pn**	**08 35 18.1**	**+1.6**
KLR				MLR	MLR		
	comp=E,500nm,12.5s						
KLR				MLR	MLR		
	comp=Z,2μm,12.5s						
MJAR	**Matsushiro Arr**	**17.00**	**233**	Pn	**Pn**	**08 35 33.0**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=41,slow=12,SNR=3.8						
KSRS	**Korea Array**	**22.51**	**252**	P	**P**	**08 36 37.9**	**0.0**
	comp=Z,2.0nm,0.8s,mb3.6,baz=50,slow=11,SNR=4.8						
INK	**Inuvik**	**39.73**	**33**	P	**P**	**08 39 10.7**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.6,baz=319,slow=5.2,SNR=2.9						
INK	**Inuvik**	**39.73**	**33**	P	**P**	**08 39 10.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**08 40 13.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=69,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**08 40 13.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	**08 40 39.7**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=67,slow=7.7,SNR=3.7						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	**08 40 39.7**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**62.83**	**55**	P	**P**	**08 42 03.9**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.7,baz=264,slow=3.0,SNR=4.8						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**08 42 06.0**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.2,baz=46,slow=6.0,SNR=2.8						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**08 42 06.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.31**	**342**	P	**P**	**08 42 33.6**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=26,slow=6.4,SNR=2.6						
NOA	**NORSAR Array B**	**67.31**	**342**	P	**P**	**08 42 33.6**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**08 43 23.4**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=301,slow=4.4,SNR=26						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**08 43 23.4**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**78.26**	**318**	P	**P**	**08 43 38.8**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=31,slow=3.4,SNR=3.9						

*NEIC **21** 08:32:25.7±0.1, 622S×15475E, mb5.7/96, MS5.2/145, MW5.6, Error ellipse: s-maj=4.3km s-min=3.6km az=90.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}3.28; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-2.42; $M_{r\theta}$-0.69; $M_{\theta\phi}$1.53; $M_{\phi r}$0.17; Best double couple: M_o3.40000×10^{17} NP1: ϕ_s320.00000°, δ50.00000°, λ79.00000°. NP2: ϕ_s157.00000°, δ41.00000°, λ103.00000°. Principal axes: T 3.3900, Plg81.0000°, Azm175.0000°; N 0.0000, Plg8.0000°, Azm327.0000°; P -3.3900, Plg4.0000°, Azm58.0000°;*

*MOS **21** 08:32:25.1±0.8, 6.10S×15459E, h33km, mb5.9/47, MS5.1/36 Error ellipse: s-maj=7.6km s-min=5.6km az=87.2*

*GCMT **21** 08:32:25.7±0.1, 641S×15477E, h56km, MW5.6/100, Moment Tensor Solution. s100,c171; s98,c219; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.68±.03; $M_{\theta\theta}$-1.30±.02; $M_{\phi\phi}$-1.38±.03; $M_{r\theta}$-0.20±.02; $M_{\theta\phi}$1.54±.02; $M_{\phi r}$0.16±.02; Best double couple: M_o2.79200×10^{17} NP1:ϕ_s137.00000°, δ42.00000°, λ91.00000°. NP2:ϕ_s315.00000°, δ48.00000°, λ89.00000°. Principal axes: T 2.6920, Plg87.0000°, Azm208.0000°; N 0.2000, Plg1.0000°, Azm316.0000°; P -2.8920, Plg3.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **21** 08:32:28.9±0.1, 628S±002×15467E±002, h67km, mb5.6/151 Error ellipse: s-maj=3.1km s-min=2.8km az=7.9*

*BJI **21** 08:32:29.7, 593S×155.12E, h83km, mB5.4, mb5.6, Ms4.9, Msz4.8*

*IDC **21** 08:32:31.8±1.6, 624S×15476E, h86km±13km, mb5.4/22, mb1 5.4/26, mb1mx5.4/27, mbtmp5.4/26, MS4.8/22, Ms1 4.8/22, ms1mx4.6/27, Error ellipse: s-maj=9.8km s-min=8.7km az=79.0*

ISC 21 08:32:30.8±0.1, 629S±002×15472E±002, h69km, h69km±3.3km:pP-P, n931, σ0$87/698, mb5.6/151, 133C-108D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.05**	**121**	P	**Pn**	**08 33 57.1**	**-0.5**
	121nm,0.3s,baz=264,slow=2.0,SNR=62						
HNR				S	**Sn**	**08 35 09.6**	**+4.2**
	318nm,0.3s,baz=85,slow=19,SNR=16						
HNR	**Honiara**	**6.05**	**121**	*e*Pn	**Pn**	**08 33 57.4**	**-0.3**
HNR				*e*Sn	**Sn**	**08 35 12.7**	**+7.3**
PMG	**Port Moresby**	**8.10**	**247**	P	**Pn**	**08 34 27.3**	**+1.6**
	80nm,0.3s,baz=66,slow=7.3,SNR=88						
PMG				S	**Sn**	**08 36 00.9**	**+5.1**
	63nm,0.3s,baz=34,slow=21,SNR=7.6						
PMG				LR	LR	08 37 31.5	
	comp=Z,12μm,20.8s,baz=233,slow=37						
PMG	**Port Moresby**	**8.10**	**247**	*e*Pn	**Pn**	**08 34 27.7**	**+1.9**
CTA	**Charters Tower**	**15.99**	**210**	*e*P	**Pn**	**08 36 12.0**	**+0.6**
	69nm,1.5s						
CTA				*e*S	**S**	**08 39 16.9**	**-1.0**
CTA	**Charters Tower**	**15.99**	**210**	P	**Pn**	**08 36 12.3**	**+0.9**
	2.5nm,0.3s,baz=40,slow

WB2 eS S 08 41 49.0 -1.8
WRA Warramunga Arr 24.00 234 P P 08 37 37.4 -1.6
comp=Z,143nm,0.8s,mb5.3,baz=58,slow=9.3,SNR=71
WRA PcP PcP 08 41 19.7 +0.5
comp=Z,47nm,0.9s,baz=55,slow=1.9,SNR=14
WRA S S 08 41 52.2 +1.2
comp=Z,7.1nm,1.0s,baz=55,slow=16,SNR=4.8
WRA LR LR 08 47 03.0
comp=Z,3μm,20.0s,baz=60,slow=36
WRA PKiKP PKiKP 08 49 00.0 -2.0
comp=Z,1.7nm,0.8s,baz=319,slow=1.2,SNR=11
WRA Warramunga Arr 24.00 234 P P 08 37 37.4 -1.6
WRA 08 41 19.7
WRA S S 08 41 52.2 +1.2
WRA Warramunga Arr 24.00 234 P P 08 37 37.4 -1.6
WRA PcP PcP 08 41 19.7 +0.5
WRA S S 08 41 52.2 +1.2
WRA LR LR 08 47 03.0
ARMA Armidale 24.18 187 eP P 08 37 41.6 +1.0
ARMA ePCP PcP 08 41 19.9 +0.3
ARMA eS S 08 41 57.0 +3.2
FUNA Funafuti 24.37 97 eP P 08 37 40.6 -1.7
comp=Z,170nm,0.7s,mb5.5
AS31 Alice Springs 26.44 227 eP P 08 38 01.7 +0.6
AS31 epP pP 08 38 12.0 -5.5
AS31 ePcP PcP 08 41 25.8 +1.1
AS31 eS S 08 42 29.1 -0.6
ASAR Alice Springs 26.44 227 P P 08 38 01.6 +0.6
comp=Z,46nm,0.8s,mb5.0,baz=60,slow=8.5,SNR=116
ASAR PcP PcP 08 41 25.4 +0.7
comp=Z,51nm,0.9s,baz=56,slow=2.8,SNR=18
ASAR S S 08 42 29.1 -0.7
comp=Z,0.9nm,0.4s,baz=57,slow=31,SNR=3.0
ASAR LR LR 08 48 07.7
comp=Z,4μm,20.7s,baz=151,slow=35
ASAR Alice Springs 26.44 227 P P 08 38 01.7 +0.6
ASAR 08 41 25.5
ASAR S S 08 42 29.1 -0.7
ASPA Alice Springs 26.44 227 eP P 08 38 01.7 +0.6
ASPA epP pP 08 38 12.0 -5.6
ASPA ePCP PcP 08 41 25.8 +1.1
ASPA eS S 08 42 29.1 -0.7
RIV Riverview 27.60 186 eP P 08 38 12.0 +0.5
STKA Stephens Creek 28.26 204 eP P 08 38 17.1 -0.3
comp=Z,24nm,0.8s,mb4.8
STKA ePCP PcP 08 41 29.1 0.0
STKA eS S 08 42 55.8 -2.6
STKA Stephens Creek 28.26 204 P P 08 38 17.1 -0.3
comp=Z,20nm,0.7s,mb4.8,baz=6.8,slow=9.0,SNR=36
STKA PcP PcP 08 41 29.1 +0.1
comp=Z,40nm,0.9s,baz=58,slow=2.7,SNR=6.5
STKA LR LR 08 49 37.3
comp=Z,4μm,19.6s,baz=16,slow=36
CNB Canberra Magne 29.30 189 eP P 08 38 27.1 +0.5
comp=Z,32nm,1.0s,mb4.9
FITZ Fitzroy Crossi 30.70 245 eP P 08 38 39.2 +0.3
comp=Z,223nm,0.9s,mb5.9
FITZ e 08 38 48.8
FITZ ePCP PcP 08 41 36.2 +0.9
FITZ eS S 08 43 35.1 -1.5
FITZ Fitzroy Crossi 30.70 245 LR LR 08 51 39.2
comp=Z,3μm,19.8s,baz=84,slow=37
DAV Davao City (W) 31.96 294 P P 08 38 51.1 +1.0
comp=Z,137nm,0.7s,mb5.8
DAV LR LR
comp=Z,1μm,21.0s
TOO Toolangi 32.25 194 eP P 08 38 52.3 -0.3
comp=Z,12nm,0.9s,mb4.6
TOO ePCP PcP 08 41 39.6 +0.1
TOO Toolangi 32.25 194 eP P 08 38 52.3 -0.3
TOO e 08 41 39.6
TOO pmax pmax
comp=Z,12nm,0.9s,mb4.6
OUZ Omahuta 33.63 151 eP P 08 39 05.1 +0.4
OUZ Omahuta 33.63 151 PN P 08 39 05.1 +0.4
comp=Z,96nm,0.8s,mb5.7
AFI Afiamalu 33.81 106 P P 08 39 04.1 -2.1
comp=Z,109nm,0.8s,mb5.8,baz=87,slow=21,SNR=11
AFI Afiamalu 33.81 106 P P 08 39 04.1 -2.1
AFI LR LR
comp=Z,2μm,20.0s
MSLP Maasin 33.92 299 eP P 08 39 07.9 +0.7
PLP Palo 34.30 300 eP P 08 39 11.1 +0.6
RAO Raoul Island 34.47 135 LR LR 08 49 04.7
comp=Z,425nm,20.4s,baz=57,slow=29
FORT Forrest 34.92 222⇑ iP P 08 39 15.5 -0.3
comp=Z,79nm,0.7s,mb5.7
FORT i pP pP 08 39 25.5 -7.0
FORT ePCP PcP 08 41 47.5 +0.5
CBIJ Chichi jima 35.34 340 LR LR 08 51 06.6
comp=Z,590nm,22.0s,baz=162,slow=32
KUZ Kuaotunu 35.88 151 eP P 08 39 24.1 +0.1
KUZ Kuaotunu 35.88 151⇑PN P 08 39 24.1 0.0
comp=Z,182nm,0.8s,mb6.1
GUIM Jordan 36.13 298 eP P 08 39 26.7 +0.5
PVCP Virac 36.21 303 eP P 08 39 27.6 +0.7
RCP Roxas 36.42 299⇑ eP P 08 39 29.6 +1.0
MBWA Marble Bar 36.95 243 P P 08 39 33.4 +0.3
SNR=8.1
MBWA Marble Bar 36.95 243 eP P 08 39 33.3 +0.2
comp=Z,112nm,0.7s,mb5.9
MBWA e 08 39 40.9
MBWA ePcP PcP 08 41 53.6 +0.5
MBWA LR LR
comp=Z,4μm,20.0s
TAU Tasmania Unive 37.05 189 P P 08 39 35.9 +1.9
comp=Z,766nm,1.0s,mb6.6,SNR=12
TAU Tasmania Unive 37.05 189 eP P 08 39 35.0 +1.0
TAU e 08 39 42.1
TAU LR LR
comp=Z,341nm,20.0s
OTRP Odiongan 37.42 300 eP P 08 39 37.5 +0.4
CUYO Cuyo Island 37.62 297 eP P 08 39 40.1 +1.3
URZ Urewera 37.75 151 P P 08 39 39.7 -0.3
comp=Z,211nm,0.9s,mb6.0,baz=354,slow=3.5,SNR=58
URZ Urewera 37.75 151 eP P 08 39 39.6 -0.3
URZ Urewera 37.75 151⇑PN P 08 39 39.6 -0.3
NGZ Ngauruhoe 37.78 153 eP P 08 39 40.8 +0.6
NGZ Ngauruhoe 37.78 153 PN P 08 39 40.8 +0.7
MXZ Matakaoa Point 37.82 149 eP P 08 39 40.0 -0.5
MXZ Matakaoa Point 37.82 149 PN P 08 39 40.0 -0.4
MWZ Matawai 38.02 150 eP P 08 39 42.6 +0.4
MWZ Matawai 38.02 150 PN P 08 39 41.7 -0.5
PUZ Puketiti 38.18 149 eP P 08 39 43.0 -0.5
PUZ Puketiti 38.18 149⇑PN P 08 39 43.1 -0.4
BKZ Black Stump Fm 38.18 152 eP P 08 39 43.6 +0.1
BKZ Black Stump Fm 38.18 152 PN P 08 39 43.0 -0.6
DSZ Denniston Nort 38.44 159 P P 08 39 45.8 +0.1
DSZ Denniston Nort 38.44 159 ePN P 08 39 45.4 -0.3
NNZ Nelson 38.56 157 P P 08 39 46.1 -0.6
NNZ Nelson 38.56 157 ePN P 08 39 46.0 -0.8
KNZ Kokohu 38.62 151 eP P 08 39 46.6 -0.6
KNZ Kokohu 38.62 151 PN P 08 39 46.6 -0.6
THZ Tophouse 38.85 158 eP P 08 39 47.7 -1.5
THZ Tophouse 38.85 158 ePN P 08 39 48.1 -1.1
WPHZ Waipukurau 38.88 153 ePN P 08 39 48.4 -0.9
TCW Tory Channel 38.91 156 eP P 08 39 49.3 -0.3
TCW Tory Channel 38.91 156 PN P 08 39 49.3 -0.3
MRZ Mangatainoka R 38.99 154 P P 08 39 49.2 -1.1
MRZ Mangatainoka R 38.99 154 PN P 08 39 49.2 -1.1
PXZ Pawanui 39.04 153 PN P 08 39 49.9 -0.8
SNZO South Karori 39.16 156 eP P 08 39 52.0 +0.3
comp=Z,69nm,0.6s,mb5.7
SNZO LR LR
comp=Z,2μm,21.0s
TGY Tagaytay City 39.17 301 LR LR 08 54 22.8
comp=Z,4.5nm,21.4s,baz=352,slow=34
PPR Puerto Princes 39.24 294⇑ iP P 08 39 54.6 +2.1
BFZ Birch Farm 39.29 154 eP P 08 39 51.9 -0.9
BFZ Birch Farm 39.29 154⇓PN P 08 39 51.9 -0.9
MTW Mount Morrison 39.37 155 eP P 08 39 52.2 -1.3
MTW Mount Morrison 39.37 155⇑PN P 08 39 52.2 -1.2
FOZ Fox Glacier 39.40 163 eP P 08 39 53.4 -0.3
FOZ Fox Glacier 39.40 163 PN P 08 39 53.2 -0.5
BALP Baler 39.45 304 eP P 08 39 54.8 +0.7
LTZ Lake Taylor 39.52 160 eP P 08 39 55.1 +0.4
LTZ Lake Taylor 39.52 160 PN P 08 39 54.5 -0.3
JCZ Jackson Bay 39.60 164 eP P 08 39 55.3 -0.1
JCZ Jackson Bay 39.60 164 PN P 08 39 55.3 -0.1
KHZ Kahutara 39.66 158 eP P 08 39 54.4 -1.5
KHZ Kahutara 39.66 158 PN P 08 39 54.2 -1.6
BATP Bataraza 39.74 292 eP P 08 39 57.7 +1.2
RPZ Rata Peaks 39.95 161 P P 08 39 58.3 0.0
comp=Z,120nm,0.7s,mb5.8,baz=2.5,slow=2.4,SNR=28
RPZ Rata Peaks 39.95 161 eP P 08 39 58.0 -0.3
RPZ Rata Peaks 39.95 161 ePN P 08 39 57.8 -0.5
KKM Kota Kinabalu 40.34 287 eP P 08 40 02.3 +0.8
BCPH Baguio City Da 40.60 304⇓ iP P 08 40 04.7 +1.1
BOLP Bolinao 41.15 304 eP P 08 40 06.1 -2.0
ABRA Dolores 41.15 306 eP P 08 39 58.5 -10
JOW Kunigami 41.72 323 P P 08 40 13.4 +0.6
comp=Z,116nm,0.7s,mb5.7,baz=135,slow=11,SNR=33
JOW LR LR 08 54 34.6
comp=Z,613nm,22.0s,baz=138,slow=32
KLBR Kellerberrin 42.73 229 eP P 08 40 19.9 -1.2
comp=Z,164nm,1.0s,mb5.7
KLBR epP pP 08 40 28.6 -10
KLBR ePCP PcP 08 42 11.4 -0.2
MIDW Midway 43.61 37 eP P 08 40 29.4 +1.2
comp=Z,223nm,0.5s,mb6.2
NWAO Narrogin (SRO) 43.76 228 LR LR 08 58 50.0
comp=Z,3μm,19.4s,baz=360,slow=36
NWAO Narrogin (SRO) 43.76 228 eP P 08 40 29.5 +0.2
NWAO e 08 42 14.8
NWAO pmax pmax
comp=Z,38nm,0.9s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 43.76 228 eP P 08 40 29.5 +0.1
comp=Z,38nm,0.9s,mb5.1
NWAO ePcP PcP 08 42 14.8 -0.2
NWAO LR LR
comp=Z,2μm,21.0s
MUN Mundaring 44.08 230⇑ iP P 08 40 32.3 +0.4
MUN epP pP 08 40 39.9 -9.3
MUN ePCP PcP 08 42 16.0 -0.1
NACB Ninganchiao 44.27 314 eP P 08 40 33.0 -0.4
YHNB Yeheng 44.74 315 eP P 08 40 37.6 +0.4
TATO Taipei 44.85 315 eP P 08 40 38.6 +0.5
comp=Z,142nm,1.0s,mb5.7
TATO LR LR
comp=Z,1μm,20.0s
KSM Kuching 45.00 278 eP P 08 40 40.1 +0.8
JNU Nakatsue 45.26 331 P P 08 40 41.0 -0.3
comp=Z,92nm,0.6s,mb5.7,baz=244,slow=20,SNR=31
JNU LR LR 08 57 07.3
comp=Z,828nm,20.0s,baz=258,slow=33
MJAR Matsushiro Arr 45.33 341 P P 08 40 40.2 -1.7
comp=Z,6.6nm,0.6s,baz=170,slow=7.2,SNR=20
MJAR PcP PcP 08 42 19.6 -0.8
comp=Z,16nm,0.8s,baz=157,slow=3.3,SNR=9.3
MJAR LR LR 08 58 07.0
comp=Z,262nm,20.2s,baz=140,slow=34
MJAR Matsushiro Arr 45.33 341 P P 08 40 40.2 -1.6
MJAR 08 42 19.6
MAJO Matsushiro 45.33 341 eP P 08 40 41.3 -0.6
MAJO Matsushiro 45.33 341 eP P 08 40 38.5 -3.4
MAJO LR LR
comp=Z,1μm,19.0s
MAT Matsushiro 45.33 341 P P 08 40 39.6 -2.3
MAT eS S 08 47 28.6 +11
RAR Rarotonga 46.44 113 P P 08 40 48.7 -1.9
comp=Z,68nm,0.8s,mb5.4,baz=270,slow=5.1,SNR=6.8
QZH Quanzhou 46.90 313⇑ iP P 08 40 54.8 +0.6
QZH S S 08 47 42.6 +2.6
QZH AMB AMB
comp=Z,350nm,0.9s,mb6.1
QZH LR LR
comp=Z,1μm,22.1s
MCQ Macquarie Isla 48.19 177 eP P 08 41 04.5 +0.3
SSE Sheshan 49.09 321 P P 08 41 10.8 -0.3
SSE S S 08 48 12.8 +1.9
SSE XS sS 08 48 43.5 +2.8
SSE AMB AMB
comp=Z,27nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,186nm,6.0s
SSE LR LR
comp=N,361nm,27.8s
SSE LR LR
comp=E,348nm,28.2s
SSE LR LR
comp=Z,532nm,26.0s
SSE Sheshan 49.09 321 P P 08 41 10.7 -0.4
comp=Z,27nm,0.8s,mb5.2
SSE S S 08 48 12.7 +1.8
SSE sS sS 08 48 43.5 +2.8
SSE LR LR
comp=Z,530nm,26.0s
ERM Erimo 49.22 349 PFAKE 08 41 20.0 +7.9
ERM LR LR
comp=Z,456nm,22.0s
GZH Guangzhou 49.87 307 P P 08 41 18.6 +1.5
GZH S S 08 48 22.5 +0.7
GZH LR LR
comp=N,494nm,18.8s
GZH LR LR
comp=E,839nm,26.8s
GZH LR LR
comp=Z,1μm,24.3s
KSRS Korea Array 50.19 332 P P 08 41 18.4 -1.0
comp=Z,32nm,0.7s,mb5.4,baz=150,slow=8.8,SNR=82
KSRS PcP PcP 08 42 37.5 -0.2
comp=Z,11nm,0.8s,baz=158,slow=4.1,SNR=9.0
KSRS LR LR 08 58 14.2
comp=Z,263nm,21.9s,baz=149,slow=31
INCN Inchon 50.82 331 P P 08 41 24.7 +0.5
SNR=6.7
INCN Inchon 50.82 331 eP P 08 41 24.1 -0.1
comp=Z,150nm,0.7s,mb6.1
INCN LR LR
comp=Z,491nm,20.0s
QIZ Qiongzhong 50.87 301 P P 08 41 25.9 +1.4
QIZ AP pP 08 41 43.4 +1.2
QIZ XP sP 08 41 52.9 +2.8
QIZ PP PP 08 43 21.3 0.0
QIZ S S 08 48 40.4 +4.8
QIZ AMB AMB
comp=Z,110nm,1.2s,mb5.8
QIZ LR LR
comp=E,461nm,19.5s
QIZ LR LR
comp=Z,943nm,34.1s
QIZ Qiongzhong 50.87 301 eP P 08 41 26.2 +1.7
comp=Z,161nm,1.3s,mb5.9
QIZ LR LR
comp=Z,738nm,22.0s
NJ2 Nanjing 51.20 320 eP P 08 41 28.3 +1.3
NJ2 AP pP 08 41 51.8 +7.1
NJ2 PP PP 08 43 28.4 +4.0
NJ2 S S 08 48 37.0 -3.2
NJ2 XS sS 08 49 17.0 +6.8
NJ2 AMB AMB
comp=Z,1μm,6.4s
NJ2 LR LR
comp=N,2μm,21.4s
NJ2 LR LR
comp=E,2μm,23.4s
NJ2 LR LR
comp=Z,3μm,17.6s
WHN Wuhan 53.24 316⇑ P P 08 41 43.0 +0.8
WHN S S 08 49 12.0 +3.8
WHN AMB AMB
comp=Z,463nm,9.8s
WHN LR LR
comp=Z,3μm,34.5s
KIP Kipapa 53.91 58 eP P 08 41 47.5 +0.4
YSS Yuzh-Sakhalins 54.06 350⇑ eP P 08 41 47.5 -0.7
YSS e 08 42 51.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS MLR MLR
comp=Z,700nm,19.0s
YSS MLR MLR
comp=N,500nm,20.0s
YSS Yuzh-Sakhalins 54.06 350 eP P 08 41 47.7 -0.5
comp=N,19nm,0.7s,mb5.2
YSS LR LR
comp=Z,1μm,22.0s
DL2 Dalian 54.43 328 P P 08 41 49.8 -1.0
DL2 AP pP 08 42 10.1 +1.5
DL2 PCP PcP 08 42 53.0 -0.7
DL2 S S 08 49 21.0 -3.1
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,130nm,5.3s
DL2 LR LR
comp=N,380nm,23.0s
DL2 LR LR
comp=E,350nm,21.5s
DL2 LR LR
comp=Z,540nm,26.9s
TIA Tai'an 55.04 323⇑ P P 08 41 54.8 -0.5
TIA AMB AMB
comp=Z,45nm,1.0s,mb5.5
KHU Kahuku 55.09 61 eP P 08 41 56.4 +0.8
KULM Kulim 55.19 281 eP P 08 41 56.4 +0.1
POHA Pohakuloa 55.36 61 eP P 08 41 58.0 +0.5
comp=Z,195nm,0.9s,mb6.1
POHA e pP 08 42 13.8 -1.7
PPT Papeete 55.46 107 eS S 08 49 39.0 +1.0
comp=Z,596nm,25.5s
PPT eLQ 08 55 48.7
comp=Z,1μm,28.5s
PPT eLR LR 08 58 10.5
comp=Z,1μm,27.5s,baz=288
PPT Papeete 55.46 107 LR LR 09 00 28.7
comp=Z,437nm,20.9s,baz=268,slow=30
MDJ Mudanjiang 55.49 338 P P 08 41 57.5 -1.0
MDJ AP pP 08 42 13.5 -2.8
MDJ PP PP 08 44 01.8 -1.2
MDJ SCP ScP 08 46 50.8 +0.3
MDJ PCS PcS 08 46 57.0 -1.0
MDJ S S 08 49 37.5 -0.8
MDJ XS sS 08 50 05.0 -3.6
MDJ AMB AMB
comp=Z,46nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,168nm,8.1s
MDJ LR LR
comp=N,248nm,40.3s
MDJ LR LR
comp=E,351nm,41.8s
MDJ LR LR
comp=Z,472nm,31.7s
MDJ Mudanjiang 55.49 338 eP P 08 41 57.5 -0.9
comp=Z,43nm,1.0s,mb5.4
MDJ LR LR
comp=Z,627nm,21.0s
SNG Songkhla 55.61 283 P P 08 42 00.0 +0.7
SNY Shenyang 55.70 332⇑ P P 08 41 59.0 -1.0
SNY AMB AMB
comp=Z,25nm,0.8s,mb5.3
SNY AMB AMB
comp=Z,174nm,6.5s
SNY LR LR
comp=E,439nm,19.4s
SNY LR LR
comp=Z,508nm,20.2s
KKTK Khon Kaen 56.04 294⇑ P P 08 42 03.5 +1.0
comp=Z,1μm,0.4s
TBI Tubuai 56.21 114 eS S 08 49 47.9 -0.1
comp=Z,560nm,27.0s
TBI eSS SS 08 53 39.1 +3.8
comp=Z,259nm,28.2s
TBI eLQ 08 56 05.2
comp=Z,871nm,42.5s
TBI eLR LR 08 58 22.6
comp=Z,4μm,29.5s,baz=281
PSI Prapat 56.44 278 LR LR 09 07 07.3
comp=Z,379nm,21.6s,baz=281,slow=37
CN2 Changchun 56.44 335 eP P 08 42 04.5 -0.8
CN2 eXP sP 08 42 30.5 -0.5
CN2 PCP PcP 08 43 00.1 -1.4
CN2 eS S 08 49 48.8 -2.2
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,900nm,21.0s
SKR Severo-Kuril's 56.75 1 eP P 08 42 07.5 0.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
GYA Guiyang 56.81 307⇑ iP P 08 42 09.0 +1.1
GYA AP pP 08 42 29.3 +3.5
GYA XP sP 08 42 37.0 +3.4
GYA PCP PcP 08 43 05.5 +2.6
GYA PP PP 08 44 19.8 +5.0
GYA PCS PcS 08 47 04.8 +1.0
GYA S S 08 49 57.3 +1.4
GYA XS sS 08 50 28.6 +2.3
GYA SCS ScS 08 51 49.8 -1.0
GYA SS SS 08 53 47.1 +2.4
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.7
GYA AMB AMB
comp=Z,1μm,5.4s
GYA LR LR
comp=N,1μm,19.7s
GYA LR LR
comp=E,1μm,19.9s
GYA LR LR
comp=Z,970nm,18.6s
PMOR Pomariorio Ree 56.93 104 eP P 08 42 08.1 -0.6
comp=Z,151nm,1.1s,mb6.0
VAH Vaihoa 57.19 104 eP P 08 42 09.6 -1.0
comp=Z,101nm,1.0s,mb5.8
HABR Khabarovsk 57.20 345 eP P 08 42 09.9 -0.8
HABR eS S 08 50 01.3 +0.3
HABR pmax pmax
comp=Z,112nm,1.3s,mb5.7
COCO West Island 57.35 260 eP P 08 42 13.6 +1.9
comp=Z,241nm,1.1s,mb6.1
COCO LR LR
comp=Z,176nm,19.0s
NNT Nonggplab 57.77 289 P P 08 42 16.4 +1.7
BJT Baijiatuau 58.17 326 eP P 08 42 16.6 -0.9
BJT e pP 08 42 34.3 -1.2
BJT pmax pmax
comp=Z,50nm,0.7s
BJT MLR MLR
comp=Z,711nm,22.0s
BJT Baijiatuau 58.17 326 eP P 08 42 16.6 -0.9
comp=Z,50nm,0.7s,mb5.7
BJT e pP 08 42 34.3 -1.2
BJT LR LR
comp=Z,711nm,22.0s
BJI Beijing 58.19 326 P P 08 42 16.8 -0.8
BJI S S 08 50 18.4 +4.5
BJI SS SS 08 54 05.3 -1.1
BJI AMB AMB
comp=Z,25nm,1.3s,mb5.1
BJI AMB AMB
comp=Z,255nm,9.4s
BJI LR LR
comp=N,474nm,22.3s
BJI LR LR
comp=E,279nm,22.4s
BJI LR LR
comp=Z,704nm,29.8s
BJI Beijing 58.19 326 P P 08 42 16.7 -0.9
BJI S S 08 50 18.4 +4.5
BJI SS SS 08 54 05.2 -1.2
BJI pmax pmax
comp=Z,25nm,1.3s,mb5.1
BJI MLR MLR
comp=Z,700nm,29.8s
BJI Beijing 58.19 326 P P 08 42 16.7 -0.9
comp=Z,25nm,1.3s,mb5.1
BJI PP PP 08 44 09.6 -17
BJI S S 08 50 18.4 +4.5
BJI SS SS 08 54 05.2 -1.2
BJI LR LR
comp=Z,700nm,29.8s
NST Nakhon Sawan 58.28 293 P P 08 42 19.2 +0.9
comp=Z,217nm,1.0s,mb6.1
NANT Nan 58.77 296⇑ P P 08 42 20.0 -1.7
comp=Z,1μm,1.0s
KLR Kul'dur 58.81 343⇓ eP P 08 42 18.0 -3.9
KLR pmax pmax
comp=Z,100nm,1.2s,mb5.7
KLR pmax pmax
comp=N,20nm,1.1s
KLR pmax pmax
comp=E,43nm,1.2s
XAN Xi'an 59.01 316 P P 08 42 23.0 -0.3
XAN AMB AMB
comp=Z,84nm,0.9s,mb5.8

PET **Petropavlovsk** 59.18 3 *e*P **P** 08 42 24.3 -0.2
PET *e* 08 43 10.9
PET *e*S **S** **08 50 30.2 +3.4**
PET *e*SP 08 50 42.3
PET *e*SS SS 08 54 26.3 +4.3
PET pmax pmax
comp=Z,700nm,5.9s
PET pmax pmax
comp=Z,359nm,0.6s,mb6.6
PET smax
comp=N,400nm,4.8s
PET Petropavlovsk 59.18 3 *e*P **P** **08 42 23.9 -0.6**
comp=N,196nm,0.6s,mb6.3
PET LR LR
comp=Z,1μm,20.0s
KMI Kunming 59.40 304 P **P** **08 42 27.9 +1.9**
KMI AP pP 08 42 49.5 +5.5
KMI XP sP 08 42 58.9 +7.1
KMI S **S** **08 50 29.8 +0.2**
KMI XS sS 08 51 05.3 +5.1
KMI SS SS 08 54 26.4 +1.0
KMI AMB AMB
comp=Z,195nm,1.1s,mb6.0
KMI AMB AMB
comp=Z,271nm,6.5s
KMI LR LR
comp=N,247nm,21.2s
KMI LR LR
comp=E,595nm,24.4s
KMI LR LR
comp=Z,912nm,26.4s
KMI Kunming 59.40 304 P **P** **08 42 27.9 +1.9**
comp=Z,195nm,1.1s,mb6.0
KMI pP pP 08 42 49.5 +5.5
KMI sP sP 08 42 58.9 +7.1
KMI S **S** **08 50 29.8 +0.2**
KMI sS sS 08 51 05.2 +5.0
KMI SS SS 08 54 26.4 +1.0
KMI SSS 08 57 07.8
KMI LR LR
comp=Z,910nm,26.4s
BDT Bhumibol Dam 59.80 294 ⇓P **P** **08 42 30.0 +1.3**
comp=Z,33nm,0.9s,mb5.4
CM31 Chiang Mai Arr 60.23 295 *e*P **P** **08 42 34.0 +2.2**
comp=Z,311nm,0.8s,mb6.4
CHG Chiang Mai 60.35 296 ⇑P **P** **08 42 33.3 +0.8**
comp=Z,150nm,1.0s,mb6.0
CHTO Chiang Mai 60.35 296 ⇑P **P** **08 42 34.2 +1.7**
SNR=123
CHTO Chiang Mai 60.35 296 *e*P **P** **08 42 33.8 +1.3**
CHTO pmax pmax
comp=Z,320nm,1.1s,mb6.3
CHTO MLR MLR
comp=Z,407nm,21.0s
CHTO Chiang Mai 60.35 296 *e*P **P** **08 42 33.8 +1.3**
comp=Z,320nm,1.1s,mb6.3
CHTO LR LR
comp=Z,407nm,21.0s
SMY Shemya 61.06 13 *e*P **P** **08 42 37.3 0.0**
SMY MLR MLR
comp=Z,2μm,20.0s
DRV Dumont d'Urvil 61.13 187 P **P** **08 42 37.0 -0.8**
DRV Dumont d'Urvil 61.13 187 PP PP 08 44 53.0 -0.1
DRV S **S** **08 50 57.0 +5.2**
DRV L 08 58 00.0
CD2 Chengdu 61.15 310⇑*i*P **P** **08 42 38.3 +0.4**
CD2 AP pP 08 42 59.8 +3.7
CD2 XP sP 08 43 13.6 +10
CD2 PP PP 08 44 58.8 +5.6
CD2 PCS PcS 08 47 23.8 +0.8
CD2 S **S** **08 50 50.3 -1.7**
CD2 XS sS 08 51 30.5 +7.7
CD2 SCS ScS 08 52 16.8 -6.1
CD2 SS SS 08 54 51.8 -1.1
CD2 AMB AMB
comp=Z,130nm,0.8s,mb6.0
CD2 AMB AMB
comp=Z,400nm,8.4s
CD2 LR LR
comp=N,640nm,24.6s
CD2 LR LR
comp=E,640nm,22.8s
CD2 LR LR
comp=Z,790nm,21.6s
HHC Hu-ho-hao-te 61.36 324 ⇑P **P** **08 42 38.8 -0.6**
HHC XP sP 08 43 07.0 +1.7
HHC PP PP 08 44 57.3 +2.2
HHC SCP ScP 08 47 14.8 -1.7
HHC S **S** **08 50 53.0 -1.8**
HHC XS sS 08 51 25.0 -0.5
HHC SS SS 08 54 53.9 -2.4
HHC AMB AMB
comp=Z,29nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,324nm,7.1s
HHC LR LR
comp=N,361nm,19.2s
HHC LR LR
comp=E,351nm,19.6s
HHC LR LR
comp=Z,505nm,18.6s
BTO Baotou 62.13 323 *e*P **P** **08 42 44.1 -0.4**
HIA Hailar 63.17 335 *e*P **P** **08 42 51.0 -0.5**
HIA pmax pmax
comp=Z,118nm,0.9s
HIA MLR MLR
comp=Z,486nm,21.0s
HIA Hailar 63.17 335 *e*P **P** **08 42 51.0 -0.4**
comp=Z,118nm,0.9s,mb5.8
HIA LR LR
comp=Z,486nm,21.0s
LZH Lanzhou 63.62 315 ⇑P **P** **08 42 55.0 +0.6**
LZH AP pP 08 43 12.5 -0.2
LZH PCP PcP 08 43 30.3 +0.1
LZH *e*S **S** **08 51 22.4 -0.7**
LZH SS SS 08 55 35.1 +3.5
LZH AMB AMB
comp=Z,167nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,553nm,5.2s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,2μm,18.4s
LZH Lanzhou 63.62 315 ⇑P **P** **08 42 55.0 +0.6**
LZH *PP pP 08 43 12.5 -0.2
LZH 08 43 30.3
LZH *e*S **S** **08 51 22.4 -0.7**
LZH *SS sS 08 51 51.1 -2.9
LZH SS SS 08 55 35.1 +3.5
LZH pmax pmax
comp=Z,167nm,1.5s,mb5.7
LZH MLR MLR
comp=Z,2μm,18.4s
LZH Lanzhou 63.62 315 ⇑P **P** **08 42 55.0 +0.6**
comp=Z,167nm,1.5s,mb5.7
LZH pP pP 08 43 12.5 -0.2
LZH sP sP 08 43 20.5 +0.1
LZH PcP PcP 08 43 30.3 +0.1
LZH PP PP 08 45 22.3 +7.3
LZH *e*S **S** **08 51 22.4 -0.7**
LZH sS sS 08 51 51.1 -2.9
LZH SS SS 08 55 35.1 +3.5
LZH LR LR
comp=Z,2μm,18.4s
TAOE Nuku Hiva Isla 64.55 97 *e*P **P** **08 42 59.5 -1.0**
comp=Z,535nm,0.9s,mb6.4
TAOE Nuku Hiva Isla 64.55 97 *e*LR LR 09 02 13.3
comp=Z,4μm,34.2s
MA2 Magadan 65.73 358*c i*P **P** **08 43 07.0 -1.2**
MA2 pmax pmax
comp=Z,155nm,0.6s,mb6.0
MA2 Magadan 65.73 358 *e*P **P** **08 43 07.4 -0.7**
comp=Z,172nm,0.7s,mb6.0
MA2 LR LR
comp=Z,996nm,19.0s
IMP Imphal 66.69 300 *i* P **P** **08 43 14.0 -0.3**
CASY Casey 67.18 198 *e*P **P** **08 43 16.6 -0.8**
CASY LR LR
comp=Z,1μm,22.0s
CLNS Chul'man 67.47 343 *e*P **P** **08 43 18.0 -1.3**
CLNS pmax pmax
comp=N,42nm,0.7s
CLNS pmax pmax
comp=Z,76nm,0.7s,mb5.6
CLNS pmax pmax
comp=E,18nm,0.6s
CIT Chita 67.86 334 *e*P **P** **08 43 21.6 -0.1**
CIT *e* 08 43 47.1
CIT pmax pmax
comp=Z,121nm,1.1s,mb5.6
GTA Gaotai 68.04 317⇑*i*P **P** **08 43 23.4 +0.6**
GTA AP pP 08 43 40.1 -1.1
GTA PCP PcP 08 43 48.1 -0.5
GTA PP PP 08 45 56.6 +3.0
GTA S S 08 52 18.3 +1.4
GTA SS SS 08 56 43.3 +3.1
GTA AMB AMB
comp=Z,68nm,1.1s,mb5.4
GTA AMB AMB
comp=Z,385nm,10.3s
GTA LR LR
comp=N,304nm,20.2s
GTA LR LR
comp=E,366nm,25.1s
GTA LR LR
comp=Z,661nm,27.4s
UNV Unalaska Valle 68.19 24 *e*P **P** **08 43 22.9 -0.9**
comp=Z,290nm,0.9s,mb6.1
UNV LR LR
comp=Z,6μm,22.0s
ULN Ulaanbaatar 68.26 328 P **P** **08 43 24.9 +0.7**
SNR=22
ULN Ulaanbaatar 68.26 328*c i*P **P** **08 43 24.3 +0.1**
ULN Ulaanbaatar 68.26 328 *e*P **P** **08 43 24.1 -0.1**
comp=Z,55nm,0.9s,mb5.4
ULN LR LR
comp=Z,454nm,21.0s
SONM Songino Array 68.60 327 P **P** **08 43 26.3 0.0**
comp=Z,56nm,0.9s,mb5.4,baz=124,slow=5.0,SNR=196
SONM PcP PcP 08 43 50.2 -0.7
comp=Z,20nm,0.8s,baz=140,slow=5.6,SNR=6.2
SONM PKPPKP 09 11 39.8
comp=Z,4.8nm,0.9s,baz=280,slow=1.8,SNR=15
SONM Songino Array 68.60 327 P **P** **08 43 26.3 0.0**
SONM 08 43 50.2
SEY Seymchan 69.05 359⇑*i*P **P** **08 43 28.2 -0.9**
SPIA Saint Paul Isl 69.39 20 *e*P **P** **08 43 31.4 +0.1**
RKT Rikitea 69.46 112 *e*PP PP 08 46 03.5 -2.4
comp=Z,73nm,28.5s
RKT Rikitea 69.46 112 *e*S S 08 52 34.7 +1.0
comp=Z,827nm,35.8s
RKT *e*SS SS 08 57 05.4 +3.3
comp=Z,1μm,38.0s
RKT *e*LR LR 09 04 39.8
comp=Z,2μm,31.0s,baz=290
FALS False Pass 70.17 24 *e*P **P** **08 43 35.4 -0.7**
LSA Lhasa 70.65 304 P **P** **08 43 40.6 +1.7**
LSA Lhasa 70.65 304 *e*P **P** **08 43 40.2 +1.3**
LSA pmax pmax
comp=Z,49nm,0.7s,mb5.5
LSA MLR MLR
comp=Z,306nm,20.0s
LSA Lhasa 70.65 304 *e*P **P** **08 43 40.2 +1.2**
comp=Z,49nm,0.7s,mb5.5
LSA LR LR
comp=Z,306nm,20.0s
YAK Yakutsk 70.81 348*c i*P **P** **08 43 39.1 -0.8**
YAK pmax pmax
comp=Z,149nm,0.7s,mb5.9
YAK Yakutsk 70.81 348 *e*P **P** **08 43 39.2 -0.8**
comp=Z,150nm,0.8s,mb5.9
YAK LR LR
comp=Z,169nm,21.0s
VNDA Vanda 71.29 178 P **P** **08 43 42.4 -0.5**
comp=Z,18nm,0.8s,mb4.9,baz=334,slow=6.9,SNR=44
VNDA Vanda 71.29 178 *e*P **P** **08 43 42.3 -0.5**
VNDA pmax pmax
comp=Z,30nm,1.0s
VNDA MLR MLR
comp=Z,478nm,21.0s
VNDA Vanda 71.29 178 *e*P **P** **08 43 42.3 -0.6**
comp=Z,30nm,1.0s,mb5.1
VNDA LR LR
comp=Z,478nm,21.0s
SDPT Sand Point 71.73 25 *e*P **P** **08 43 44.5 -0.9**
ZAK Zakamensk 71.75 328⇓*i*P **P** **08 43 44.8 -0.8**
ZAK pmax pmax
comp=Z,63nm,0.9s,mb5.5
SBA Scott Base 71.80 177 *e*P **P** **08 43 47.0 +1.1**
SBA pmax pmax
comp=Z,165nm,1.5s,mb5.6
SBA MLR MLR
comp=Z,540nm,20.0s
SBA Scott Base 71.80 177 *e*P **P** **08 43 47.0 +1.1**
comp=Z,164nm,1.5s,mb5.6
SBA LR LR
comp=Z,540nm,20.0s
BOD Bodaibo 71.86 338 *e*P **P** **08 43 44.4 -1.9**
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.1
TLY Talaya 72.32 329 P **P** **08 43 48.5 -0.5**
comp=Z,234nm,0.9s,mb6.0,SNR=9.3
TLY Talaya 72.32 329 P **P** **08 43 49.0 0.0**
SNR=12
TLY Talaya 72.32 329 *e*P **P** **08 43 48.5 -0.5**
TLY *e*SS SS 08 57 44.9 -1.0
TLY pmax pmax
comp=Z,46nm,1.0s,mb5.3
TLY MLR MLR
comp=Z,291nm,20.0s
TLY Talaya 72.32 329⇑*i*P **P** **08 43 48.6 -0.4**
TLY LR LR
comp=Z,82nm,20.0s
IRK Irkutsk 72.34 330 *e*P **P** **08 43 47.9 -1.2**
IRK *e* pP 08 44 01.3 -6.4
IRK pmax pmax
comp=Z,91nm,0.8s,mb5.7
BOK Bokaro 73.43 297 *i* P **P** **08 43 56.2 +0.6**
BOK *i* x x 08 46 04.2
MOY Mondy 73.67 328 *e*P **P** **08 43 56.7 -0.3**
MOY pmax pmax
comp=Z,83nm,1.3s,mb5.3
JIRN Jiri 74.19 301 *e*P **P** **08 44 00.8 +0.8**
comp=Z,137nm,0.7s,mb5.8
GUN Gumba 74.52 301 *e*P **P** **08 44 02.9 +1.0**
comp=Z,281nm,0.7s,mb6.1
BILL Bilibino 74.60 4*c i*P **P** **08 44 01.8 -0.6**
BILL *e* 08 44 10.3
BILL *e* 08 44 14.0
BILL *e**PP pP 08 44 20.2 -0.9
BILL *e* 08 46 47.4
BILL *e*S S 08 53 31.6 -1.0
BILL pmax pmax
comp=Z,209nm,0.7s,mb6.0
BILL Bilibino 74.60 4 *e*P **P** **08 44 01.7 -0.7**
comp=Z,207nm,0.7s,mb6.0
BILL LR LR
comp=Z,641nm,22.0s
PKI Pulchoki 74.83 301 *e*P **P** **08 44 04.1 +0.4**
KKN Kakani 75.00 301 *e*P **P** **08 44 05.2 +0.5**
comp=Z,234nm,0.8s,mb6.0
PALK Pallekele 75.06 279 P **P** **08 44 06.1 +1.1**
comp=Z,1μm,0.9s,mb6.5,SNR=23
PALK Pallekele 75.06 279 P **P** **08 44 06.8 +1.8**
SNR=12
PALK Pallekele 75.06 279 *e*P **P** **08 44 05.9 +0.9**
comp=Z,163nm,0.9s,mb5.8
DMN Daman 75.10 301 *e*P **P** **08 44 06.0 +0.7**
comp=Z,266nm,0.6s,mb6.1
GKN Gorkha 75.60 301 *e*P **P** **08 44 08.4 +0.2**
comp=Z,284nm,0.8s,mb6.1
MDRS Chennai 76.42 285 *ex* x 08 44 10.5
KOLN Koldanda 76.43 300 *e*P **P** **08 44 13.0 +0.1**
comp=Z,314nm,0.8s,mb6.1
KDAK Kodiak Island 76.65 26 P **P** **08 44 13.3 -0.8**
baz=213,slow=2.6
KDAK Kodiak Island 76.65 26 *e*P **P** **08 44 11.5 -2.6**
comp=Z,100nm,1.0s,mb5.5
KDAK LR LR
comp=Z,327nm,22.0s
TNA Tin City 76.72 15 *e*P **P** **08 44 14.1 -0.3**
comp=Z,58nm,0.9s,mb5.3
TNA LR LR
comp=Z,793nm,21.0s
ALBI Allahabad 77.40 298 *e*P **P** **08 44 17.5 -0.8**
SVW2 Sparrevohn 77.45 22 *e*P **P** **08 44 18.4 -0.2**
WMQ Urumqi 78.12 317⇑*i*P **P** **08 44 22.3 0.0**
WMQ PCP PcP 08 44 31.9 +0.2
WMQ AP pP 08 44 41.3 +0.2
WMQ PP PP 08 47 21.6 +2.1
WMQ S S 08 54 09.0 -2.1
WMQ SKS 08 54 24.5
WMQ SCS ScS 08 54 31.8 -4.4
WMQ XS sS 08 54 43.8 +0.7
WMQ AMB AMB
comp=Z,45nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,396nm,6.7s
WMQ LR LR
comp=N,373nm,25.2s
WMQ LR LR
comp=E,264nm,29.7s
WMQ LR LR
comp=Z,438nm,26.5s
HYB Hyderabad 78.78 289 *i* P **P** **08 44 25.0 -0.9**
comp=Z,260nm,1.0s,mb6.0
HYB *e* pP 08 44 47.0 +2.2
HYB *e* 08 44 58.0
HYB Hyderabad 78.78 289 *e*P **P** **08 44 25.0 -0.9**
SLKM Skilak Lake 79.21 24 *e*P **P** **08 44 27.5 -0.8**
TIXI Tiksi 79.62 352 PFAKE 08 44 40.0 +9.5
TIXI LR LR
comp=Z,384nm,21.0s
LGTI Lohaghat 79.69 301 *i* P **P** **08 44 30.5 -0.4**
PMR Palmer 80.26 24 *e*P **P** **08 44 32.6 -1.4**
PMR pmax pmax
comp=Z,134nm,1.4s,mb5.6
PMR MLR MLR
comp=Z,1μm,23.0s
PMR Palmer 80.26 24 *e*P **P** **08 44 32.6 -1.4**
comp=Z,134nm,1.4s,mb5.6
PMR LR LR
comp=Z,1μm,23.0s
SML Sawmill 80.69 24 P **P** **08 44 35.6 -0.7**
SML Sawmill 80.69 24 *e*P **P** **08 44 35.4 -0.9**
EYAK Cordova Ski Ar 81.11 26 *e*P **P** **08 44 37.8 -0.7**
IMA2 Indian Mountai 81.22 19 *e*P **P** **08 44 38.4 -0.7**
DIV Divide 81.39 25 *e*P **P** **08 44 39.7 -0.3**
DIV LR LR
comp=Z,3μm,20.0s
MCK McKinley 81.51 22 *e*P **P** **08 44 38.9 -1.7**
MCK pmax pmax
comp=Z,81nm,0.9s,mb5.5
MCK MLR MLR
comp=Z,1μm,20.0s
MCK McKinley 81.51 22 *e*P **P** **08 44 38.9 -1.7**
comp=Z,81nm,0.9s,mb5.6
MCK *e* 08 45 06.5
MCK LR LR
comp=Z,1μm,20.0s
DGAR Diego Garcia 81.57 263 PFAKE 08 44 50.0 +9.1
DGAR LR LR
comp=Z,190nm,19.0s
MNGI Mangalore 81.62 284 *i* x x 08 44 23.8
NDI New Delhi 82.12 300 *e*P **P** **08 44 41.0 -2.8**
COLA College 82.53 21⇑*i*P **P** **08 44 44.1 -1.8**
COLA MLR MLR
comp=Z,1μm,22.0s
MK31 Makanchi Array 82.70 319 *i* P **P** **08 44 46.0 -0.8**
MK31 pmax pmax
comp=Z,42nm,0.4s,mb5.6
MKAR Makanchi Array 82.70 319 P **P** **08 44 46.0 -0.8**
comp=Z,92nm,0.7s,mb5.7,baz=100,slow=5.1,SNR=343
MKAR PKKPbc PKKPbc 09 03 10.1 -0.6
comp=Z,2.0nm,0.9s,baz=274,slow=1.9,SNR=6.4
MKAR PKPPKP 09 11 15.5
comp=Z,0.8nm,0.8s,baz=284,slow=6.1,SNR=4.5
SDNR Sundarnagar 82.90 303 *e*P **P** **08 44 47.9 0.0**
MENT Mentasta 83.12 24 *e*P **P** **08 44 48.7 -0.3**
POO Poona 83.38 289⇑*i*P **P** **08 44 49.0 -1.4**
comp=Z,156nm,1.1s,mb5.8
QSPA South Pole Qui 83.68 180 *e*P **P** **08 44 51.8 -0.1**
comp=Z,263nm,0.8s,mb6.1
QSPA LR LR
comp=Z,546nm,21.0s
DLH Dalhousie 83.94 304 *e*P **P** **08 44 54.0 +0.8**
AJM Ajmer 83.95 297 *i* P **P** **08 44 52.0 -1.3**
THN Thein Dam 84.13 303 *e*P **P** **08 44 52.7 -1.5**
SIT Sitka 84.55 31 PFAKE 08 45 10.0 +14
SIT LR LR
comp=Z,1μm,19.0s
NVS Novosibirsk 84.61 327⇑*i*P **P** **08 44 54.8 -1.8**
NVS pmax pmax
comp=Z,46nm,1.3s,mb5.2
MAW Mawson 84.94 203⇑*i*P **P** **08 44 57.7 -0.6**
comp=Z,69nm,0.9s,mb5.6
MAW Mawson 84.94 203 P **P** **08 44 58.1 -0.2**
comp=Z,74nm,0.8s,mb5.7,baz=95,slow=6.4,SNR=118
MAW LR LR 09 19 02.8
comp=Z,557nm,21.6s,baz=80,slow=33
MAW Mawson 84.94 203⇑*i*P **P** **08 44 57.7 -0.6**
MAW pmax pmax
comp=Z,69nm,0.9s
EGAK Eagle 84.97 23 *e*P **P** **08 44 57.6 -0.9**
comp=Z,67nm,1.0s,mb5.5
EGAK *e* 08 45 25.4
EGAK LR LR
comp=Z,2μm,22.0s
KSH Kashi 85.35 310 ⇑P **P** **08 45 02.4 +2.1**
KSH *e*AP pP 08 45 19.0 -0.4
KSH *e*PP PP 08 48 22.3 +3.3
KSH *e*SKS 08 55 17.9
KSH *e*S S 08 55 25.3 -0.2
KSH *e*SS SS 09 01 04.0 +2.6
DAWY Dawson 85.36 24 *e*P **P** **08 45 00.2 -0.2**
ULHL Ulahol 85.72 313 P **P** **08 45 00.8 -1.4**
SNR=8.1
WRAK Wrangell Islan 85.89 32 *e*P **P** **08 45 02.7 -0.3**
comp=Z,69nm,0.9s,mb5.6
WRAK LR LR
comp=Z,991nm,22.0s
KURK Kurchatov 86.11 322 P **P** **08 45 02.2 -1.9**
comp=Z,412nm,1.0s,mb6.3,SNR=16
KURK Kurchatov 86.11 322 P **P** **08 45 00.5 -3.6**
KURK pmax pmax
comp=Z,59nm,1.0s,mb5.5
TKM2 Tokmak 2 86.33 314 P **P** **08 45 04.8 -0.4**
SNR=68
TKM2 Tokmak 2 86.33 314 *i* P **P** **08 45 03.0 -2.2**
KZA Kyzart 86.41 313 P **P** **08 45 06.2 +0.6**
SNR=30
KBK Karagaybulak 86.75 313 P **P** **08 45 07.9 +0.7**
SNR=26
CHMS Chumysh 86.95 314 P **P** **08 45 08.6 +0.3**
SNR=36
UCH Uchtor 86.98 313 P **P** **08 45 05.0 -3.3**
SNR=17
FRU Bishkek 87.02 313 *e*P **P** **08 45 08.0 -0.5**
FRU *e* pP 08 45 23.0 -4.6
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.3
AAK Ala-Archa 87.07 313 P **P** **08 45 08.5 -0.3**
SNR=56
AAK Ala-Archa 87.07 313 P **P** **08 45 07.4 -1.4**
comp=Z,444nm,0.6s,mb6.6,SNR=28
AAK Ala-Archa 87.07 313 *e*P **P** **08 45 07.8 -1.0**
AAK pmax pmax
comp=Z,46nm,0.6s,mb5.6
AAK MLR MLR
comp=Z,62nm,21.0s
AAK Ala-Archa 87.07 313 *e*P **P** **08 45 07.8 -1.0**
comp=Z,46nm,0.6s,mb5.6
AAK LR LR
comp=Z,62nm,21.0s
USP Ospenovka 87.19 314 P **P** **08 45 08.6 -0.8**
SNR=54
O01C Eel River Cons 87.52 49 ⇓P **P** **08 45 11.5 +0.6**
baz=88,SNR=8.7
AML Almayashu 87.56 313 P **P** **08 45 11.3 +0.2**
SNR=40
EKS2 Erkin-Say 87.59 313 P **P** **08 45 11.1 -0.2**
SNR=56
KCPM Cahto Peak 87.62 50 *e*P **P** **08 45 11.9 +0.5**
KHMM Horse Mountain 87.72 49 *e*P **P** **08 45 13.4 +1.5**
KIPM Iron Peak 87.72 50 *e*P **P** **08 45 12.6 +0.7**
FARB Farallon Islan 87.73 52 ⇑P **P** **08 45 12.1 +0.2**
baz=88
P01C Double 8 Ranch 87.77 50 ⇑P **P** **08 45 12.4 +0.3**
baz=88,SNR=8.7
HOPS Hopland 87.89 51 *e*P **P** **08 45 12.9 +0.2**
comp=Z,38nm,0.9s,mb5.4
HOPS LR LR
comp=Z,798nm,19.0s
HOPS Hopland 87.89 51 ⇑P **P** **08 45 13.1 +0.4**
baz=88,SNR=6.0
N02C Big Bar 88.03 49 ⇑P **P** **08 45 13.8 +0.4**

baz=88,SNR=7.7
L02A Cave Junction 88.04 47 ⇑P P 08 45 13.9 +0.4
baz=88
NSHM Saint Helena R 88.17 51 eP P 08 45 13.3 -0.7
K02A Glendale 88.23 47 ⇑P P 08 45 14.4 +0.1
baz=88
CVS Carmenet Viney 88.26 51 ⇑P P 08 45 14.3 -0.1
baz=88,SNR=18
GASB Alder Springs 88.27 50 ⇑P P 08 45 15.1 +0.6
baz=88,SNR=7.3
J02A Umpqua 88.27 46 ⇓P P 08 45 14.9 +0.4
baz=88
JRSC Jasper Ridge 88.28 52 ⇓P P 08 45 14.6 0.0
baz=88
BNLO Ben Lomond (Sa 88.28 53 ⇓P P 08 45 14.8 +0.3
baz=88,SNR=10
O02C Red Bluff 88.30 49 ⇓P P 08 45 15.3 +0.6
baz=88,SNR=39
MNRC McLaughlin Nat 88.35 51 ⇓P P 08 45 15.4 +0.5
baz=88,SNR=30
M02C Callahan 88.46 48 ⇓P P 08 45 15.8 +0.4
baz=88,SNR=14
WDC Whiskeytown Da 88.56 49 eP P 08 45 16.4 +0.5
WDC pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WDC MLR MLR
comp=Z,791nm,19.0s
WDC Whiskeytown Da 88.56 49 eP P 08 45 16.4 +0.5
comp=Z,8.4nm,0.7s,mb4.9
WDC LR LR
comp=Z,791nm,19.0s
WDC Whiskeytown Da 88.56 49 ⇓P P 08 45 16.0 +0.1
baz=89,SNR=9.4
HUMO Hull Mountain 88.59 47 eP P 08 45 16.2 +0.2
comp=Z,61nm,1.0s,mb5.6
HUMO LR LR
comp=Z,2μm,21.0s
HUMO Hull Mountain 88.59 47 ⇓P P 08 45 16.1 +0.1
baz=89,SNR=26
YBH Yreka Blue Hor 88.62 48 LR LR 09 18 11.3
comp=Z,2μm,21.0s,baz=253,slow=31
YBH Yreka Blue Hor 88.62 48 P P 08 45 16.9 +0.7
YBH pmax pmax
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 88.62 48 eP P 08 45 16.5 +0.3
comp=Z,15nm,0.8s,mb5.1
YBH LR LR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 88.62 48 ⇓P P 08 45 16.7 +0.6
baz=89,SNR=11
Q03C Winters 88.65 51 ⇑P P 08 45 17.2 +0.9
baz=89,SNR=16
BDM Black Diamond 88.66 52 ⇓P P 08 45 16.5 +0.2
baz=89
HAST UC Hastings Re 88.66 53 ⇑P P 08 45 17.0 +0.6
baz=89,SNR=20
COR Corvallis 88.68 45 PFAKE 08 45 30.0 +14
COR LR LR
comp=Z,2μm,19.0s
WENL Wente Brothers 88.69 52 ⇓P P 08 45 17.1 +0.6
baz=89
H03A Soap Creek Ran 88.70 45 ⇑P P 08 45 16.8 +0.3
baz=89,SNR=6.2
F03A Seaside 88.74 44 ⇓P P 08 45 16.9 +0.1
baz=89
SAO San Andreas Ge 88.80 53 P P 08 45 17.9 +0.9
SAO pmax pmax
comp=Z,13nm,0.9s,mb5.0
SAO San Andreas Ge 88.80 53 eP P 08 45 16.7 -0.4
comp=Z,13nm,0.8s,mb5.0
SAO LR LR
comp=Z,844nm,21.0s
E03A Lebam 88.85 43 ⇓P P 08 45 17.3 0.0
baz=89,SNR=6.9
O03C Acorn Hollow, 88.85 50 ⇓P P 08 45 17.3 +0.1
baz=89
V03C Hunter Liggett 88.86 54 ⇓P P 08 45 17.8 +0.5
baz=89,SNR=15
SUTB Sutter Butte 88.92 51 ⇓P P 08 45 17.2 -0.4
baz=89,SNR=35
PACP Pacheco Peak 88.97 53 ⇑P P 08 45 18.2 +0.4
baz=89,SNR=22
M03C McCloud 88.98 48 ⇑P P 08 45 18.1 +0.2
baz=89,SNR=18
S04C Ingram Canyon, 89.01 52 ⇓P P 08 45 18.3 +0.3
baz=89,SNR=17
LRV Little Rabbit 89.09 53 eP P 08 45 18.9 +0.5
V04C Ramage Ranch, 89.10 54 ⇑P P 08 45 18.3 -0.1
baz=89,SNR=7.5
B04A Port Angeles 89.16 42 ⇓P P 08 45 18.4 -0.3
baz=89
INK Inuvik 89.16 21 P P 08 45 17.4 -1.3
comp=Z,27nm,0.9s,mb5.3,baz=249,slow=4.5,SNR=51
INK PKKP PKKPbc 09 02 52.6 -2.7
comp=Z,4.0nm,0.9s,baz=108,slow=5.7,SNR=8.4
INK Inuvik 89.16 21 eP P 08 45 17.4 -1.3
comp=Z,1μm,1.1s
OHCM Honcut 89.16 50 eP P 08 45 19.0 +0.2
Q04C Lincoln 89.17 51 ⇑P P 08 45 18.7 -0.1
baz=89
I04A Tendick Farm, 89.18 46 ⇓P P 08 45 18.7 -0.1
baz=89
ORV Oroville 89.18 50 ⇓P P 08 45 18.5 -0.3
baz=89,SNR=66
M04C Macdoel 89.27 48 ⇓P P 08 45 19.3 +0.1
baz=89
L04A Klamath Falls 89.30 48 ⇓P P 08 45 19.3 -0.1
baz=89
PGC Sidney 89.30 41 eP P 08 45 18.7 -0.6
comp=Z,55nm,0.8s,mb5.6
J04A Umpqua Nationa 89.31 47 ⇑P P 08 45 19.4 0.0
baz=89,SNR=7.9
G04A Mulino 89.36 45 ⇑P P 08 45 19.4 -0.3
baz=89,SNR=10.0
HATC Hat Creek Radi 89.41 49 ⇓P P 08 45 20.4 +0.6
baz=90,SNR=8.4
PKD Parkfield 89.41 54 ⇓P P 08 45 20.6 +0.7
baz=90,SNR=26
R04C Big Horse Ranc 89.43 52 ⇑P P 08 45 19.7 -0.3
baz=90
E04A Onalaska 89.43 43 ⇑P P 08 45 20.0 0.0
baz=90
T05C Eagle Field, D 89.44 53 ⇓P P 08 45 20.9 +0.9
baz=90
C04A Brinnon 89.45 42 ⇓P P 08 45 19.7 -0.4
baz=90,SNR=12
D04A Dobbs Creek Ra 89.46 43 ⇑P P 08 45 20.2 +0.1
baz=90
K04A Chilquin 89.48 47 ⇑P P 08 45 20.3 +0.1
baz=90
H04A Detroit Lake 89.48 45 P P 08 45 20.6 +0.4
baz=90,SNR=5.1
F04A Amboy 89.53 44 ⇑P P 08 45 19.9 -0.5
baz=90,SNR=8.6
O04C Chester 89.61 50 ⇓P P 08 45 21.1 +0.2
baz=90,SNR=12
PTRM Twissleman Ran 89.63 54 eP P 08 45 21.7 +0.8
LAVA Lava Cap Winer 89.65 51 P P 08 45 21.2 +0.3
baz=90,SNR=25
O05C Quincy 89.69 50 ⇑P P 08 45 21.4 +0.2
baz=90,SNR=8.7
M05C Lookout 89.72 48 ⇑P P 08 45 21.4 +0.1
baz=90,SNR=20
SMMC Simmler 89.75 55 ⇑P P 08 45 22.4 +0.9
baz=90,SNR=11
S05C Merced 89.77 53 ⇓P P 08 45 21.7 +0.2
baz=90,SNR=40
A04A Legoe Bay, Lum 89.80 41 ⇑P P 08 45 21.9 +0.2
baz=90,SNR=5.9
U05C Westside ANR, 89.80 54 ⇑P P 08 45 22.1 +0.4
baz=90
CMB Columbia Colle 89.82 52 P P 08 45 22.0 +0.2
CMB pmax pmax
comp=Z,15nm,0.8s,mb5.2
CMB Columbia Colle 89.82 52 eP P 08 45 21.9 +0.1
comp=Z,15nm,0.8s,mb5.2
CMB LR LR
comp=Z,872nm,20.0s
CMB Columbia Colle 89.82 52 P P 08 45 22.1 +0.3
baz=90,SNR=16
P05C Yuba Gap, Truc 89.83 51 ⇓P P 08 45 22.2 +0.3
baz=90,SNR=18
PKM Peak Mountain 89.85 55 ⇑P P 08 45 22.9 +1.0
baz=90,SNR=25
SBC Santa Barbara 89.87 55 ⇑P P 08 45 22.8 +0.8
baz=90
SNCC San Nicolas Is 89.87 57 eP P 08 45 22.9 +0.8
comp=Z,0.3nm,1.0s
SNCC LR LR
comp=Z,1μm,19.0s
SNCC San Nicolas Is 89.87 57 ⇑P P 08 45 22.9 +0.9
baz=90,SNR=21
BSC Santa Cruz Isl 89.88 56 ⇑P P 08 45 22.7 +0.6
baz=90,SNR=13
V05C Boulder Hill, 89.91 54 ⇓P P 08 45 23.1 +0.9
baz=90
ELFS Eagle Lake Fie 89.93 49 ⇑P P 08 45 22.7 +0.4
baz=90
J05A Fort Rock 89.94 47 P P 08 45 22.7 +0.3
baz=90,SNR=23
D05A Enumclaw 90.02 43 ⇓P P 08 45 22.6 -0.1
baz=90,SNR=6.5
KK31 Karatay Array 90.03 313 iP P 08 45 21.0 -1.8
KK31 pmax pmax
comp=Z,14nm,0.6s,mb5.3
KKAR Karatay Array 90.03 313 P P 08 45 21.0 -1.8
KKAR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
I05A Bend 90.05 46 ⇑P P 08 45 22.7 -0.1
baz=90
L05A Lakeview 90.06 48 ⇓P P 08 45 23.1 +0.2
baz=90,SNR=6.6
E05A Randle 90.08 43 ⇓P P 08 45 22.2 -0.8
baz=90,SNR=11
BEKR Beckwourth 90.10 50 ⇑P P 08 45 23.2 +0.1
baz=90,SNR=16
K05A Summer Lake 90.11 47 P P 08 45 23.4 +0.2
baz=90,SNR=15
B05A Bryant 90.12 42 ⇑P P 08 45 22.8 -0.4
baz=90,SNR=8.2
H05A Madras 90.15 45 ⇓P P 08 45 22.8 -0.5
baz=90,SNR=10
R05C Kirkwood Meado 90.16 51 P P 08 45 23.9 +0.5
baz=90,SNR=16
F05A White Salmon 90.18 44 ⇑P P 08 45 23.2 -0.3
baz=90
G05A Wamic 90.18 45 ⇓P P 08 45 22.9 -0.6
baz=90
M06C Likely Place G 90.20 49 ⇑P P 08 45 23.5 -0.1
baz=90,SNR=13
T06C Millerton Lake 90.22 53 P P 08 45 23.8 +0.2
baz=90,SNR=54
S06C San Francisco 90.22 52 ⇓P P 08 45 23.7 0.0
baz=90,SNR=78
VDB Vedder Mountai 90.24 41 P P 08 45 22.9 -0.9
WPW White Pass 90.24 43 P P 08 45 23.6 -0.2
A05A Maple Falls 90.25 41 ⇑P P 08 45 22.9 -0.9
baz=90
C05A Tolt Reservoir 90.30 42 ⇓P P 08 45 23.4 -0.6
baz=90
BLG Laguna Peak 90.36 56 ⇑P P 08 45 24.5 +0.1
baz=90,SNR=7.3
MOD Modoc 90.43 48 eP P 08 45 24.3 -0.3
comp=Z,23nm,1.0s,mb5.3
MOD LR LR
comp=Z,894nm,20.0s
MOD Modoc 90.43 48 ⇑P P 08 45 24.4 -0.2
baz=90,SNR=12
WCN Washoe City 90.48 51 ⇑P P 08 45 24.9 0.0
baz=90,SNR=18
RCTC Rector, Farmer 90.50 54 ⇓P P 08 45 24.6 -0.4
baz=90,SNR=7.7
RPW Rockport 90.53 41 P P 08 45 24.4 -0.7
O06A Fiagan 90.55 50 ⇑P P 08 45 25.2 +0.1
baz=91,SNR=43
B06A Marblemount 90.56 41 ⇓P P 08 45 24.2 -1.1
baz=91,SNR=5.9
KCC Kaiser Creek 90.57 53 ⇑P P 08 45 25.0 -0.2
baz=91,SNR=29
VES Vestal, Richgr 90.57 54 ⇓P P 08 45 25.2 -0.1
baz=91,SNR=19
K06A Valley Falls 90.59 47 P P 08 45 25.6 +0.2
baz=91,SNR=11
E06A Yakima 90.61 43 P P 08 45 25.1 -0.4
baz=91,SNR=15
N06A Buffalo Meadow 90.62 49 P P 08 45 25.8 +0.3
baz=91,SNR=45
R06C Coleville 90.62 51 P P 08 45 26.4 +0.9
baz=91,SNR=38
F06A Goldendale 90.63 44 ⇑P P 08 45 25.3 -0.2
baz=91
SCI San Clemente I 90.65 57 ⇑P P 08 45 26.0 +0.4
baz=91,SNR=9.8
A06A Chilliwack 90.66 41 ⇓P P 08 45 24.8 -0.8
baz=91
G06A Carlson Farm, 90.66 45 ⇑P P 08 45 25.1 -0.6
baz=91
ARVC Arvin 90.68 55 ⇑P P 08 45 26.6 +0.8
baz=91,SNR=22
OSI Osito Adit 90.70 55 ⇓P P 08 45 26.4 +0.4
baz=91
HELL Mitchell Peak, 90.72 53 ⇓P P 08 45 26.3 +0.3
baz=91
J06A Christmas Vall 90.72 47 P P 08 45 25.7 -0.3
baz=91,SNR=18
I06A Prineville 90.78 46 P P 08 45 26.4 +0.2
baz=91,SNR=14
D06A Cle Elum 90.79 43 P P 08 45 26.0 -0.3
baz=91,SNR=13
H06A Lindquist Farm 90.80 45 ⇓P P 08 45 26.0 -0.3
baz=91,SNR=18
CIS Catalina Islan 90.82 57 ⇑P P 08 45 27.0 +0.6
baz=91,SNR=32
R07C Lee Vining 90.88 52 ⇓P P 08 45 27.5 +0.8
baz=91
FMP Fort Macarthur 90.95 56 ⇓P P 08 45 27.7 +0.7
baz=91
TBM Table Mountain 90.96 43 P P 08 45 27.0 0.0
DECC Green Verdugo 90.98 56 ⇓P P 08 45 27.5 +0.3
baz=91,SNR=6.5
MLAC Mammoth Lakes 90.99 52 ⇑P P 08 45 27.7 +0.4
baz=91
ISA Isabella 91.03 54 P P 08 45 27.7 +0.3
ISA Isabella 91.03 54 eP P 08 45 27.5 +0.1
comp=Z,0.1nm,1.0s
ISA LR LR
comp=Z,206nm,20.0s
ISA Isabella 91.03 54 P P 08 45 27.9 +0.4
baz=91,SNR=36
L07A Adell 91.15 48 ⇑P P 08 45 28.4 +0.4
baz=91,SNR=17
MTUM Tungsten Hills 91.17 53 eP P 08 45 29.1 +1.0
Q07A Schurz 91.17 51 ⇓P P 08 45 28.7 +0.6
baz=91,SNR=7.4
VOSK Vostochnaya 91.17 323 P P 08 45 25.1 -3.0
VOSK pmax pmax
comp=Z,37nm,0.9s,mb5.5
P07A Fallon 91.18 51 ⇑P P 08 45 28.8 +0.7
baz=91,SNR=5.5
M07A Soldier Meadow 91.20 49 P P 08 45 28.7 +0.5
baz=91,SNR=22
F07A Phinny Hill Vi 91.24 44 P P 08 45 28.2 -0.1
baz=91,SNR=14
NLW Nelson Butte 91.26 42 P P 08 45 28.1 -0.4
O07A Toulon 91.27 50 P P 08 45 29.1 +0.6
baz=91,SNR=52
N07B Gerlach 91.27 49 ⇓P P 08 45 28.9 +0.4
baz=91,SNR=54
I07A Izee 91.30 46 P P 08 45 28.5 -0.1
baz=91,SNR=16
K07A Rock Creek Ran 91.31 47 P P 08 45 28.8 +0.1
baz=91,SNR=13
EDW2 Edwards Air Fo 91.34 55 ⇑P P 08 45 29.6 +0.7
baz=91,SNR=78
G07A Ruggs Ranch, H 91.34 45 P P 08 45 28.4 -0.5
baz=91,SNR=21
J07A Hines 91.35 47 ⇓P P 08 45 28.6 -0.2
baz=91,SNR=7.4
A07A Astnola River, 91.36 41 ⇓P P 08 45 28.3 -0.7
baz=91,SNR=19
E07A Sunnyside 91.38 43 P P 08 45 28.9 -0.2
baz=91,SNR=23
D07A Quincy 91.38 43 P P 08 45 28.7 -0.4
baz=91,SNR=17
C07A Waterville 91.39 42 P P 08 45 28.2 -0.8
baz=91,SNR=21
TIN Tinemaha 91.40 53 ⇓P P 08 45 30.0 +0.9
baz=92
CWC Cottonwood Cre 91.44 54 ⇓P P 08 45 29.8 +0.4
baz=92,SNR=10
MDW Midway 91.45 43 P P 08 45 29.0 -0.4
B07A Winthrop 91.45 42 ⇓P P 08 45 28.8 -0.6
baz=92,SNR=10
WTV Waterville 91.46 42 P P 08 45 28.5 -0.9
S08C White Mtn Res 91.50 53 P P 08 45 30.7 +1.1
baz=92,SNR=40
BFSC Mount Baldy St 91.53 56 P P 08 45 30.4 +0.7
baz=92,SNR=63
BVA0 Borovoye Array 91.57 323 iP P 08 45 27.7 -2.2
BVAR Borovoye Array 91.57 323 P P 08 45 27.0 -2.9
comp=Z,84nm,0.9s,mb6.0,baz=104,slow=5.4,SNR=258
BVAR LR LR 09 25 32.2
comp=Z,324nm,21.4s,baz=319,slow=35
HAWA Hanford 91.58 44 eP P 08 45 29.4 -0.6
comp=Z,51nm,1.0s,mb5.7
HAWA LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 91.64 323 P P 08 45 27.8 -2.4
comp=Z,419nm,0.9s,mb6.7,SNR=30
BRVK Borovoye 91.64 323 eP P 08 45 27.8 -2.4
BRVK pmax pmax
comp=Z,72nm,0.9s,mb5.9
BRVK MLR MLR
comp=Z,111nm,19.0s
BRVK Borovoye 91.64 323 eP P 08 45 27.8 -2.5
comp=Z,72nm,0.9s,mb5.9
BRVK LR LR
comp=Z,111nm,19.0s
R08A Mina 91.64 52 ⇑P P 08 45 30.9 +0.7
baz=92,SNR=55
LRMC Laurel Mountai 91.65 55 ⇓P P 08 45 31.2 +0.9
baz=92,SNR=56
WVOR Wild Horse Val 91.72 48 eP P 08 45 30.2 -0.4
WVOR pmax pmax
comp=Z,37nm,1.1s,mb5.5
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 91.72 48 eP P 08 45 30.1 -0.5
comp=Z,37nm,1.1s,mb5.5
WVOR LR LR
comp=Z,1μm,20.0s
DAC Darwin (Calif) 91.82 54 eP P 08 45 32.0 +0.9
DAC pmax pmax
comp=Z,100nm,1.0s,mb6.0
DAC MLR MLR
comp=Z,983nm,20.0s
DAC Darwin (Calif) 91.82 54 eP P 08 45 32.0 +0.9
comp=Z,100nm,1.0s,mb6.0
DAC LR LR
comp=Z,983nm,20.0s
P08A Dixie Valley 91.82 50 ⇓P P 08 45 31.7 +0.7
baz=92,SNR=11
O08A Rochester Mine 91.83 50 ⇓P P 08 45 31.5 +0.4
baz=92
G08A Pilot Rock 91.84 45 P P 08 45 30.8 -0.4
baz=92,SNR=31
Q08A Gabbs 91.84 51 P P 08 45 31.7 +0.5
baz=92,SNR=80
MURC Murrieta 91.84 57 P P 08 45 32.0 +0.8
baz=92,SNR=18
109C Camp Elliot, M 91.84 57 P P 08 45 32.3 +1.1
baz=92,SNR=20
K08A Mann Creek Ran 91.87 47 P P 08 45 31.3 0.0
baz=92,SNR=7.0
MPMC Manual Prospec 91.88 54 P P 08 45 32.2 +0.9
baz=92,SNR=101
WRD Warden 91.89 43 P P 08 45 31.3 -0.2
L08A Fields 91.91 48 P P 08 45 31.7 +0.2
baz=92,SNR=19
E08A Dider Farm, El 91.91 44 ⇑P P 08 45 31.1 -0.4
baz=92,SNR=20
H08A Prairie Ity 91.95 46 P P 08 45 31.3 -0.4
baz=92,SNR=9.9
I08A Drewsey 91.95 46 P P 08 45 31.5 -0.1
baz=92,SNR=8.7
J08A Circle Bar Ran 91.95 47 P P 08 45 31.6 -0.1
baz=92,SNR=30
B08A Colville Reser 91.96 42 P P 08 45 30.9 -0.9
baz=92,SNR=25
F08A Pendleton 92.03 44 ⇓P P 08 45 31.5 -0.5
baz=92,SNR=11
GRAC Grapevine Rang 92.07 53 ⇓P P 08 45 32.7 +0.4
baz=92,SNR=36
A08A Turner Farm, O 92.08 41 P P 08 45 31.7 -0.5
baz=92,SNR=15
D08A Wollman Farm, 92.08 43 P P 08 45 31.6 -0.7
baz=92,SNR=23
C08A Higginbotham F 92.08 42 ⇑P P 08 45 31.3 -1.0
baz=92,SNR=28
BBRC Big Bear Sol-O 92.14 56 ⇑P P 08 45 33.5 +1.0
baz=92,SNR=32
RRX Edison Barstow 92.14 55 ⇑P P 08 45 33.5 +0.9
baz=92
OD2 Odessa Site #2 92.26 43 P P 08 45 32.5 -0.7
S09A Goldfield 92.27 52 P P 08 45 33.9 +0.8
baz=92,SNR=91
TPH Tonopah 92.31 52 P P 08 45 34.5 +1.2
TPH pmax pmax
comp=Z,84nm,1.0s,mb5.9
TPH Tonopah 92.31 52 PFAKE 08 45 40.0 +6.7
TPH LR LR
comp=Z,770nm,20.0s
GSC Goldstone 92.35 55 eP P 08 45 34.1 +0.6
GSC Goldstone 92.35 55 P P 08 45 34.4 +0.8
baz=92,SNR=65
N09A Rock Creek Ran 92.37 49 ⇓P P 08 45 34.2 +0.6
baz=92,SNR=24
L09A Wilkinson Ranc 92.39 48 ⇓P P 08 45 34.0 +0.3
baz=92,SNR=19
MONP Monument Peak 92.42 57 P P 08 45 35.2 +1.3
baz=92,SNR=54
Q09A Carvers 92.42 51 ⇓P P 08 45 34.4 +0.6
baz=92,SNR=18
K09A Rome 92.42 47 ⇓P P 08 45 33.6 -0.3
baz=92,SNR=9.1
FURC Furnace Creek, 92.42 54 P P 08 45 34.7 +0.8
baz=92,SNR=118
RPN Rapa Nui 92.43 117 P P 08 45 34.5 +0.6
comp=Z,56nm,0.9s,mb5.8,baz=305,slow=3.6,SNR=4.7
R09A Tonopah 92.44 52 P P 08 45 34.6 +0.6
baz=92,SNR=102
PFO Pinyon Flat Ob 92.46 57 P P 08 45 35.0 +1.0
comp=Z,317nm,0.9s,mb6.5,SNR=32
PFO Pinyon Flat Ob 92.46 57 LR LR 09 22 53.8
comp=Z,863nm,18.4s,baz=164,slow=33
PFO Pinyon Flat Ob 92.46 57 P P 08 45 35.0 +0.9
baz=92,SNR=45
J09A Fry Pan Ranch, 92.47 47 ⇑P P 08 45 33.9 -0.2
baz=92,SNR=22
M09A Marrel Ranch, 92.49 49 ⇑P P 08 45 34.6 +0.4
baz=92,SNR=16
D09A Jones Farm, Ri 92.49 43 ⇑P P 08 45 33.5 -0.7
baz=92,SNR=16
A09A Danville 92.53 41 P P 08 45 33.7 -0.6
baz=93,SNR=28
P09A Austin 92.53 51 ⇓P P 08 45 34.7 +0.3
baz=93,SNR=13
E09A Wood Farm, Sta 92.54 44 P P 08 45 34.0 -0.4
baz=93,SNR=48
I09A Lost Marbles R 92.55 46 ⇑P P 08 45 33.9 -0.6
baz=93,SNR=8.8
O09A Fish Creek Ran 92.55 50 ⇓P P 08 45 34.9 +0.5
baz=93,SNR=75
BMN Battle Mountai 92.56 50 eP P 08 45 35.1 +0.6
BMN pmax pmax
comp=Z,65nm,1.0s,mb5.9
BMN MLR MLR
comp=Z,993nm,22.0s
BMN Battle Mountai 92.56 50 eP P 08 45 35.1 +0.6
comp=Z,65nm,1.0s,mb5.9
BMN LR LR
comp=Z,993nm,22.0s
C09A Chrisman Ranch 92.60 42 ⇑P P 08 45 33.8 -0.9
baz=93,SNR=16
F09A S2 Ranch, Elgi 92.62 44 ⇓P P 08 45 34.2 -0.6
baz=93,SNR=14
DVTC Desert V Tower 92.66 58 ⇓P P 08 45 36.0 +1.0
baz=93,SNR=14
H09A Durkee 92.68 46 ⇓P P 08 45 34.5 -0.6
baz=93,SNR=12
HEC Hector,Ludlow 92.69 55 P P 08 45 35.8 +0.7
baz=93,SNR=91
B09A Rice 92.75 42 P P 08 45 34.8 -0.6
baz=93,SNR=32
SHOC Shoshone 92.83 54 P P 08 45 36.3 +0.5
baz=93,SNR=100
U10A Ash Meadows, A 92.84 54 P P 08 45 36.9 +1.0
baz=93,SNR=58
BELC Belle Mtn. 92.88 56 ⇓P P 08 45 36.6 +0.6
baz=93,SNR=117
SYO Syowa Base 92.90 199 ⇓iP P 08 45 34.5 -1.6
SYO Syowa Base 92.90 199 ⇑ePcP PcP 08 45 36.7 0.0
SWSC Sam W. Stewart 92.94 57 P P 08 45 37.2 +1.0
baz=93,SNR=23

BMO **Blue Mountains** 92.95 45 P P 08 45 35.4 -0.9
BMO pmax pmax
comp=Z,24nm,0.9s,mb5.5
BMO Blue Mountains 92.95 45 *e*P P 08 45 35.1 -1.2
comp=Z,24nm,0.9s,mb5.5
BMO LR LR
comp=Z,1μm,20.0s
R10A Warm Springs 93.05 52 P P 08 45 37.6 +0.9
baz=93,SNR=28
P10A Eureka 93.05 51 P P 08 45 37.3 +0.5
baz=93,SNR=15
TUQ Turquoise Mtn. 93.08 55 P P 08 45 37.7 +0.8
baz=93,SNR=34
O10A Cortez Mining, 93.09 50 P P 08 45 37.8 +0.9
baz=93,SNR=18
F10A Beach Ranch, E 93.12 44 P P 08 45 36.4 -0.7
baz=93,SNR=25
N10A Dunphy 93.13 50 ⇓P P 08 45 37.7 +0.6
baz=93,SNR=19
M10A I.L. Ranch, Tu 93.18 49 ⇑P P 08 45 37.6 +0.2
baz=93,SNR=10
C10A Spilker Farm, 93.25 42 ⇑P P 08 45 36.7 -1.0
baz=93
E10A Myers Farm, Un 93.25 44 ⇓P P 08 45 36.5 -1.2
baz=93,SNR=6.4
BC3 Big Chuckw Mtn 93.30 57 P P 08 45 39.0 +1.1
baz=93,SNR=66
B10A Chitwood Farm, 93.35 42 ⇓P P 08 45 37.5 -0.7
baz=93,SNR=11
NEW Newport 93.42 42 P P 08 45 37.6 -0.8
comp=Z,35nm,0.9s,mb5.7,baz=247,slow=3.8,SNR=53
NEW pmax pmax
comp=Z,40nm,0.9s
NEW Newport 93.42 42 *e*P P 08 45 37.3 -1.1
comp=Z,40nm,0.9s,mb5.8
NEW LR LR
comp=Z,2μm,20.0s
V11A Goodsprings 93.52 54 ⇑P P 08 45 39.9 +1.0
baz=94,SNR=63
P11A Circle Ranch, 93.59 51 ⇑P P 08 45 39.6 +0.4
baz=94,SNR=12
IRM Iron Mountain 93.59 56 P P 08 45 40.3 +1.0
baz=94,SNR=205
U11A Corn Creek 93.61 54 ⇓P P 08 45 39.9 +0.6
baz=94,SNR=20
Q11A Duckwater 93.61 51 P P 08 45 40.1 +0.8
baz=94,SNR=100
TRCR Troy Canyon 93.62 52 *e*P P 08 45 40.1 +0.8
O11A Cowboy Ranch, 93.72 50 P P 08 45 40.6 +0.8
baz=94,SNR=42
N11A Elko Archery C 93.72 50 ⇓P P 08 45 40.2 +0.4
baz=94
M11A Holland Ranch, 93.73 49 ⇑P P 08 45 40.3 +0.4
baz=94,SNR=27
G11A Walters Elk Ra 93.74 45 P P 08 45 38.8 -1.1
baz=94,SNR=17
GLA Glamis 93.77 57 *e*P P 08 45 41.6 +1.5
GLA Glamis 93.77 57 ⇑P P 08 45 41.1 +1.1
baz=94,SNR=38
D11A Klaveano Farm, 93.83 43 P P 08 45 39.3 -1.0
baz=94,SNR=26
H11A Donnelly 93.86 46 P P 08 45 39.6 -0.8
baz=94,SNR=26
F11A Grangeville 93.86 44 ⇑P P 08 45 38.6 -1.9
baz=94,SNR=17
W12A Cal Nev Ari 93.92 55 ⇑P P 08 45 41.5 +0.7
baz=94,SNR=8.9
B11A Sandpoint 93.94 42 ⇓P P 08 45 40.0 -0.8
baz=94,SNR=6.8
V12A Nelson 93.97 55 ⇓P P 08 45 41.8 +0.8
baz=94,SNR=53
A11A Hall Mountain, 93.98 41 P P 08 45 41.3 +0.2
baz=94,SNR=70
Y12C Blythe 94.08 57 P P 08 45 42.5 +1.0
baz=94,SNR=26
ELK Elko 94.09 50 P P 08 45 42.4 +0.9
ELK pmax pmax
comp=Z,38nm,1.1s
ELK Elko 94.09 50 *e*P P 08 45 41.8 +0.3
comp=Z,38nm,1.1s,mb5.6
ELK LR LR
comp=Z,781nm,20.0s
P12A McGill 94.24 51 P P 08 45 43.1 +0.9
baz=94,SNR=68
N12A Clover Valley, 94.25 50 ⇓P P 08 45 42.8 +0.5
baz=94,SNR=18
Q12A Willow Creek R 94.26 51 ⇓P P 08 45 43.1 +0.7
baz=94,SNR=54
U12A Valley of Fire 94.28 54 ⇓P P 08 45 43.3 +0.9
baz=94,SNR=30
M12A Wells 94.39 49 P P 08 45 43.2 +0.3
baz=94,SNR=37
O12A Currie 94.43 50 P P 08 45 43.6 +0.5
baz=94,SNR=52
PDMCI Parker Dam,Lak 94.44 56 P P 08 45 43.7 +0.6
baz=94,SNR=61
A12A Yaak River Ran 94.45 41 ⇓P P 08 45 42.8 -0.4
baz=94
B12A Libby 94.45 42 ⇓P P 08 45 42.8 -0.4
baz=94,SNR=12
C12A Trout Creek 94.47 43 ⇑P P 08 45 42.2 -1.0
baz=94,SNR=14
F12A Elk City 94.47 45 ⇓P P 08 45 42.0 -1.3
baz=94
W13A Hualapai Mount 94.71 55 P P 08 45 45.6 +1.2
baz=95,SNR=84
X13A Yucca 94.72 56 ⇓P P 08 45 45.1 +0.7
baz=95,SNR=49
N13A Wendover, West 94.88 50 ⇑P P 08 45 45.3 +0.1
baz=95
HLID Hailey 94.91 47 *e*P P 08 45 45.0 -0.3
comp=Z,11nm,0.9s,mb5.3
HLID LR LR
comp=Z,2μm,22.0s
HLID Hailey 94.91 47 ⇑P P 08 45 45.0 -0.4
baz=95,SNR=27
M13A Montello 94.94 49 P P 08 45 45.8 +0.3
baz=95,SNR=52
C13A Hot Springs 95.08 43 ⇓P P 08 45 45.5 -0.5
baz=95
D13A Huson 95.12 43 P P 08 45 46.0 -0.3
baz=95,SNR=6.2
F13A Darby 95.12 45 P P 08 45 45.2 -1.0
baz=95,SNR=39
B13A Whitefish 95.19 42 ⇑P P 08 45 45.9 -0.7
baz=95,SNR=39
ARUT Antelope Range 95.26 53 P P 08 45 47.8 +0.9
ARUT Antelope Range 95.26 53 *e*P P 08 45 47.7 +0.8
E13A Victor 95.26 44 ⇓P P 08 45 45.4 -1.5
baz=95,SNR=12
CCUT Cedar City 95.31 53 *e*P P 08 45 48.4 +1.3
Y14A Wickenburg 95.35 57 ⇑P P 08 45 48.0 +0.7
baz=95,SNR=16
Z14A Wintersburg 95.36 57 ⇑P P 08 45 48.3 +0.9
baz=95,SNR=5.6
W14A Seligman 95.38 55 P P 08 45 48.8 +1.4
baz=95,SNR=32
MSO Missoula 95.45 44 *e*P P 08 45 47.1 -0.7
comp=Z,5.0nm,0.9s,mb4.9
MSO LR LR
comp=Z,553nm,20.0s
X14A Yava 95.48 56 ⇓P P 08 45 48.8 +0.9
baz=96,SNR=28
WALA Waterton Lakes 95.60 41 *e*P P 08 45 48.2 -0.3
comp=Z,50nm,0.9s,mb6.0
C14A Swan Lake 95.64 43 ⇑P P 08 45 47.4 -1.2
baz=96
E14A Clinton 95.74 44 ⇑P P 08 45 48.0 -1.1
baz=96,SNR=6.9
D14A Greenough 95.77 43 ⇑P P 08 45 48.6 -0.6
baz=96
BGU Big Grassy Mou 95.77 50 *e*P P 08 45 49.2 -0.1
F14A Wisdom 95.79 45 ⇓P P 08 45 48.7 -0.6
baz=96
YKA Yellowknife Ar 95.84 28 P P 08 45 48.6 -0.9
comp=Z,26nm,0.7s,mb5.8,baz=266,slow=4.6,SNR=94
YKA PKKP PKKPbc 09 02 36.8 -1.3
comp=Z,4.1nm,0.8s,baz=80,slow=2.6,SNR=17
YKA LR LR 09 30 06.6
comp=Z,392nm,18.8s,baz=225,slow=36
YKA Yellowknife Ar 95.84 28 P P 08 45 48.6 -0.9
YKA PKKP PKKPbc 09 02 36.8 -1.4
YKA LR LR 09 30 06.6
DUG Dugway 95.90 50 P P 08 45 50.4 +0.6
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
DUG Dugway 95.90 50 *e*P P 08 45 49.9 +0.1
comp=Z,6.7nm,0.8s,mb5.1
DUG LR LR
comp=Z,696nm,21.0s
DUG Dugway 95.90 50 ⇑P P 08 45 49.9 +0.1
baz=96,SNR=11
115A Sonoran Desert 95.92 58 ⇓P P 08 45 50.9 +1.0
baz=96,SNR=16
CHMT Chamberlain Mo 95.93 44 *e*P P 08 45 49.1 -0.9
HVU Hansel Valley 96.01 49 P P 08 45 50.5 +0.2
HVU pmax pmax
comp=Z,25nm,0.9s,mb5.6
HVU Hansel Valley 96.01 49 *e*P P 08 45 50.4 +0.1
comp=Z,25nm,0.9s,mb5.6
X15A Humboldt 96.02 56 P P 08 45 51.8 +1.4
baz=96,SNR=31
W15A Williams 96.04 55 ⇓P P 08 45 52.0 +1.5
baz=96,SNR=18
MCMT McKenzie Canyo 96.11 46 *e*P P 08 45 50.4 -0.4
EDM Edmonton 96.15 37 *e*P P 08 45 50.2 -0.7
SPUT South Promonto 96.23 49 *e*P P 08 45 47.9 -3.4
MVU Marysvale 96.27 52 PFAKE 08 46 00.0 +8.5
MVU LR LR
comp=Z,860nm,21.0s
MSU Marysvale 96.30 52 P P 08 45 53.2 +1.6
MSU Marysvale 96.30 52 *e*P P 08 45 53.1 +1.4
DLMT Dillon 96.31 45 *e*P P 08 45 50.7 -1.0
comp=Z,7.1nm,0.7s,mb5.2
E15A Deer Lodge 96.33 44 ⇓P P 08 45 50.8 -1.0
baz=96,SNR=24
116A Eloy 96.35 58 ⇑P P 08 45 53.3 +1.4
baz=96,SNR=6.3
G15A Dillon 96.38 45 P P 08 45 51.5 -0.5
baz=96,SNR=17
F15A Butte 96.41 45 ⇓P P 08 45 51.2 -1.0
baz=96
D15A Lincoln 96.44 43 ⇑P P 08 45 52.4 +0.2
baz=96,SNR=7.5
NLU North Lily Min 96.45 51 *e*P P 08 45 52.9 +0.6
CTU Camp Tracy 96.73 50 *e*P P 08 45 53.8 +0.2
comp=Z,10nm,0.9s,mb5.3
WUAZ Wupatki 96.79 55 *e*P P 08 45 55.0 +1.2
comp=Z,32nm,1.1s,mb5.7
WUAZ LR LR
comp=Z,913nm,19.0s
WUAZ Wupatki 96.79 55 ⇓P P 08 45 55.2 +1.3
baz=97,SNR=26
MPU Maple Canyon 96.79 51 *e*P P 08 45 56.1 +2.2
comp=Z,13nm,0.9s,mb5.4
MPU LR LR
comp=Z,2μm,22.0s
HWUT Hardware Ranch 96.91 49 *e*P P 08 45 53.6 -0.8
comp=Z,14nm,0.9s,mb5.4
HWUT LR LR
comp=Z,771nm,20.0s
JLU Jordanelle 96.96 50 *e*P P 08 45 55.0 +0.4
LPIG La Paz 97.06 67 LR LR 09 21 39.5
comp=Z,829nm,21.4s,baz=335,slow=30
TMUT Trail Mountain 97.09 51 *e*P P 08 45 56.2 +1.0
TUC Tucson 97.12 58 *e*P P 08 45 57.8 +2.5
TUC pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
TUC MLR MLR
comp=Z,763nm,21.0s
TUC Tucson 97.12 58 *e*P P 08 45 57.8 +2.5
comp=Z,4.4nm,0.9s,mb4.9
TUC LR LR
comp=Z,763nm,21.0s
QLMT Earthquake Lak 97.12 46 *e*P P 08 45 55.7 +0.4
RRI2 Red Ridge 97.15 47 *e*P P 08 45 55.2 -0.3
comp=Z,18nm,0.9s,mb5.5
DCID1 Drake Creek 97.26 47 *e*P P 08 45 55.9 -0.1
AHID Auburn Hatcher 97.30 48 PFAKE 08 46 10.0 +14
AHID LR LR
comp=Z,934nm,19.0s
IMW Indian Meadow 97.45 47 *e*P P 08 45 56.7 -0.1
comp=Z,13nm,1.0s,mb5.3
YMR Madison River 97.45 46 *e*P P 08 45 57.2 +0.4
comp=Z,22nm,1.0s,mb5.5
YMR LR LR
comp=Z,2μm,22.0s
REDW Red Top Meadow 97.49 47 *e*P P 08 45 56.2 -0.8
comp=Z,24nm,1.2s,mb5.5
YFT Old Faithful 97.53 46 *e*P P 08 45 58.7 +1.4
SNOW Snow King Moun 97.57 47 *e*P P 08 45 56.7 -0.7
comp=Z,18nm,1.1s,mb5.5
MOOW Moose Ponds 97.58 47 *e*P P 08 45 56.8 -0.6
comp=Z,11nm,1.1s,mb5.3
SRU San Rafael 97.61 51 P P 08 45 57.8 +0.2
SRU pmax pmax
comp=Z,12nm,0.7s,mb5.5
SRU San Rafael 97.61 51 *e*P P 08 45 57.5 -0.1
comp=Z,12nm,0.7s,mb5.5
FLWY Flagg Ranch 97.62 46 *e*P P 08 45 57.6 0.0
comp=Z,14nm,1.0s,mb5.4
YNR Norris Junctio 97.65 46 *e*P P 08 45 59.5 +1.7
LOHW Long Hollow 97.68 47 *e*P P 08 45 57.4 -0.5
comp=Z,9.5nm,1.1s,mb5.2
AB31 Akbulak array 97.84 319 P P 08 45 55.4 -3.2
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
LKWY Lake 97.85 46 PFAKE 08 46 10.0 +11
LKWY LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 98.33 42 *e*P P 08 45 59.8 -1.0
comp=Z,17μm,1.4s
EGMT LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 98.33 42 ⇑P P 08 45 59.8 -1.0
baz=98,SNR=12
BW06 Boulder Array 98.43 48 PFAKE 08 46 10.0 +8.8
BW06 LR LR
comp=Z,882nm,20.0s
PDAR Pinedale Array 98.43 48 P P 08 46 00.1 -1.1
comp=Z,8.7nm,0.6s,mb5.4,baz=243,slow=2.3,SNR=76
PDAR PP PP 08 50 01.2 -0.9
comp=Z,2.7nm,1.0s,baz=263,slow=6.9,SNR=4.5
PDAR PKKPbc PKKPbc 09 02 31.1 0.0
comp=Z,0.6nm,0.6s,baz=117,slow=6.2,SNR=5.2
PDAR LR LR 09 26 38.7
comp=Z,739nm,19.6s,baz=292,slow=33
ARU Arti 98.61 326 ⇑*i*P P 08 45 58.7 -3.3
ARU *e* 08 49 59.5
ARU *e*S SKSac 08 56 30.1 -3.8
ARU *e*PS PS 08 58 59.9 +0.7
ARU *e*SSS 09 07 53.7
ARU pmax pmax
comp=Z,26nm,0.9s,mb5.8
PV10 Paradox Valley 98.76 52 *e*P P 08 46 03.1 +0.4
AKTK Aktyubinsk 99.08 320 P P 08 46 01.5 -2.6
AKTO Aktyubinsk 99.08 320 P P 08 46 01.5 -2.6
comp=Z,6.7nm,0.8s,mb5.2,baz=99,slow=5.9,SNR=28
PV01 Paradox Valley 99.12 52 *e*P P 08 46 04.9 +0.6
MVCO Mesa Verde 99.16 53 *e*P P 08 46 05.5 +1.0
comp=Z,9.1nm,0.6s,mb5.5
MVCO LR LR
comp=Z,643nm,21.0s
MVCO Mesa Verde 99.16 53 ⇓P P 08 46 05.3 +0.8
baz=99,SNR=16
RWWY Rawlins 100.17 49 *e*Pdif Pdif 08 46 08.3 -0.7
comp=Z,35nm,1.0s
LAZ Lander 100.23 56 *e*Pdif Pdif 08 46 10.9 +1.7
BNM Barren Site 100.65 57 *e*Pdif Pdif 08 46 11.8 +0.6
LAO LASA Array 100.76 44 *e*Pdif Pdif 08 46 13.4 +1.9
comp=Z,57nm,1.0s
LAO LR LR
comp=Z,941nm,22.0s
ANMO Albuquerque 100.79 56 *e*P Pdif 08 46 12.9 +1.1
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO MLR MLR
comp=Z,546nm,20.0s
ANMO Albuquerque 100.79 56 *e*Pdif Pdif 08 46 12.9 +1.1
comp=Z,6.2nm,1.0s
ANMO LR LR
comp=Z,546nm,20.0s
SNAA Sanae 100.81 187 P Pdif 08 46 11.0 -0.9
comp=Z,3.3nm,0.9s,baz=154,slow=3.0,SNR=22
SNAA PP PP 08 50 17.7 -2.4
comp=Z,2.4nm,1.1s,baz=158,slow=5.8,SNR=4.1
SNAA Sanae 100.81 187 *e*P Pdif 08 46 10.3 -1.5
SNAA pmax pmax
comp=Z,12nm,0.9s
SNAA Sanae 100.81 187 *e*Pdif Pdif 08 46 10.3 -1.5
comp=Z,12nm,0.9s
ORR Orenburg 101.09 321 *e*P Pdif 08 46 10.6 -2.5
ORR pmax pmax
comp=Z,30nm,0.8s
RES Resolute Bay 101.36 15 *e*P Pdif 08 46 12.8 -1.5
RES pmax pmax
comp=Z,167nm,0.8s
RES Resolute Bay 101.36 15 *e*Pdif Pdif 08 46 12.8 -1.5
comp=Z,166nm,0.8s
ISCO Idaho Springs 101.42 51 *e*P Pdif 08 46 15.1 +0.6
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO MLR MLR
comp=Z,557nm,20.0s
ISCO Idaho Springs 101.42 51 *e*Pdif Pdif 08 46 15.1 +0.6
comp=Z,6.3nm,1.0s
ISCO LR LR
comp=Z,557nm,20.0s
SDCO Great Sand Dun 101.55 53 PFAKE 08 46 30.0 +15
SDCO LR LR
comp=Z,922nm,20.0s
MNTX Cornudas Mount 101.69 59 PFAKE 08 46 30.0 +14
MNTX LR LR
comp=Z,1μm,21.0s
VNA3 Neumayer Olymp 101.93 185 ⇑*i*Pdiff Pdif 08 46 15.4 -1.4
VNA3 *e* 08 46 19.4
VNA3 *e* 08 46 22.9
VNA3 *e* 08 46 55.3
VNA2 Neumayer--Watz 102.02 186 ⇑*i*Pdiff Pdif 08 46 16.3 -0.9
baz=144,slow=4.2
VNA2 *e* 08 46 20.2
VNA2 *e* 08 46 23.4
VNA2 *e* 08 46 35.1
VNA2 *e* 08 46 43.4
VNA2 *e* 08 46 56.3
DGMT Dagmar 102.03 42 *e*Pdif Pdif 08 46 16.6 -0.7
comp=Z,50nm,1.0s
DGMT LR LR
comp=Z,2μm,22.0s
VNA1 Neumayer--Stat 102.37 186 ⇑*i*Pdiff Pdif 08 46 17.6 -1.2
VNA1 *e* 08 46 21.6
VNA1 *e* 08 46 25.4
VNA1 *e* 08 46 37.1
VNA1 *e* 08 46 44.1
VNA1 *e* 08 46 57.2
RSSD Black Hills 102.42 46 *e*P Pdif 08 46 19.2 +0.2
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD MLR MLR
comp=Z,2μm,20.0s
RSSD Black Hills 102.42 46 *e*Pdif Pdif 08 46 19.2 +0.2
comp=Z,8.6nm,0.6s
RSSD LR LR
comp=Z,2μm,20.0s
LTX Lajitas 103.17 61 PFAKE 08 46 30.0 +7.7
LTX LR LR
comp=Z,826nm,22.0s
TXAR Lajitas Array 103.17 61 Pdiff Pdif 08 46 23.6 +1.3
comp=Z,1.2nm,0.7s,baz=258,slow=3.9,SNR=14
TXAR PP PP 08 50 33.1 -4.8
comp=Z,0.9nm,0.9s,baz=264,slow=5.9,SNR=4.1
TXAR PKiKP PKiKP 08 50 41.7 +0.1
comp=Z,3.5nm,0.9s,baz=215,slow=2.0,SNR=5.4
TXAR PKKPbc PKKPbc 09 02 18.3 +0.8
comp=Z,5.4nm,0.8s,baz=100,slow=3.5,SNR=28
TXAR Lajitas Array 103.17 61 Pdif Pdif 08 46 23.6 +1.3
TXAR PP PP 08 50 33.1 -4.8
PMSA Palmer Station 103.52 164 PFAKE 08 46 30.0 +6.1
PMSA LR LR
comp=Z,1μm,22.0s
AMTX Amarillo 104.72 56 PFAKE 08 46 40.0 +11
AMTX LR LR
comp=Z,685nm,20.0s
CBKS Cedar Bluff 106.02 52 PFAKE 08 51 00.0 +13
CBKS LR LR
comp=Z,932nm,21.0s
JCT Junction City 106.50 60 *e*P Pdif 08 46 42.7 +5.6
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT Junction City 106.50 60 *e*PKPdf PKiKP 08 50 47.2 -0.5
JCT LR LR
comp=Z,1μm,22.0s
WMOK Wichita Mounta 107.11 56 PFAKE 08 51 00.0 +11
WMOK LR LR
comp=Z,586nm,19.0s
ULM Lac du Bonnet 107.19 39 Pdiff Pdif 08 46 40.1 -0.1
comp=Z,4.6nm,0.9s,baz=290,slow=5.9,SNR=5.1
ULM PKiKP PKiKP 08 50 47.2 -1.7
comp=Z,3.0nm,0.5s,baz=274,slow=3.0,SNR=10
ULM PKKPbc PKKPbc 09 02 04.7 -0.6
comp=Z,1.6nm,0.4s,baz=22,slow=5.5,SNR=5.2
ULM Lac du Bonnet 107.19 39 Pdif Pdif 08 46 40.1 -0.1
ULM PKPdf PKiKP 08 50 47.2 -1.7
ULM PKKPbc PKKPbc 09 02 04.7 -0.6
ULM LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Refuge 107.56 41 PFAKE 08 51 00.0 +10
AGMN LR LR
comp=Z,1μm,22.0s
ECSD EROS,Sioux Fal 107.79 46 *e*PKPdf PKiKP 08 50 48.7 -1.4
ECSD *e*PP PP 08 51 09.8 -2.2
ECSD LR LR
comp=Z,699nm,20.0s
KVTX Kingsville 108.29 63 PFAKE 08 51 00.0 +9.0
KVTX LR LR
comp=Z,935nm,21.0s
KSU1 Kansas State U 108.42 51 PFAKE 08 51 00.0 +8.7
KSU1 LR LR
comp=Z,910nm,20.0s
ARCES ARCESS Array B 108.84 343 Pdiff Pdif 08 46 47.6 +0.1
comp=Z,3.3nm,0.8s,baz=46,slow=5.2,SNR=9.4
ARCES PKiKP PKiKP 08 50 47.1 -5.0
comp=Z,6.8nm,0.8s,baz=103,slow=1.1,SNR=8.6
ARCES PKKPbc PKKPbc 09 01 57.8 -2.3
comp=Z,3.9nm,0.8s,baz=270,slow=0.4,SNR=7.4
GNI Garni 109.28 310 PFAKE 08 51 00.0 +7.1
GNI LR LR
comp=Z,229nm,20.0s
ZEI Tsey 109.50 313 *e*P Pdif 08 46 49.4 -1.1
ZEI *e* 08 51 23.7
HKT Hockley 109.96 61 PFAKE 08 51 10.0 +16
HKT LR LR
comp=Z,846nm,20.0s
KIV Kislovodsk 110.16 315 PFAKE 08 51 10.0 +15
KIV LR LR
comp=Z,99nm,19.0s
EYMN Ely 110.49 41 PFAKE 08 51 10.0 +15
EYMN LR LR
comp=Z,2μm,22.0s
SCIA State Center 110.56 48 *e*PKPdf PKiKP 08 50 53.8 -1.5
SCIA LR LR
comp=Z,956nm,20.0s
OBN Obninsk 111.01 327 *e*P Pdif 08 46 55.0 -2.2
OBN *e* 08 51 34.0
OBN *e* 08 57 27.0
OBN pmax pmax
comp=Z,7.0nm,0.8s
MIAR Mount Ida 111.40 55 *e*PKiKP PKiKP 08 50 55.1 -1.8
MIAR MLR MLR
comp=Z,976nm,20.0s
UALR University of 112.38 55 *e*PKPdf PKiKP 08 50 58.4 -0.4
JFWS Jewell Farm 112.51 46 *e*PKiKP PKiKP 08 50 58.5 -0.5
JFWS MLR MLR
comp=Z,680nm,21.0s
FINES FINESS Array B 113.18 336 Pdiff Pdif 08 47 03.8 -3.1
comp=Z,2.0nm,0.8s,baz=77,slow=4.1,SNR=6.4
FINES PKiKP PKiKP 08 50 58.6 -1.7
comp=Z,6.1nm,1.1s,baz=48,slow=2.8,SNR=5.9
FINES PP PP 08 51 49.2 -1.7
comp=Z,3.7nm,0.8s,baz=29,slow=4.4,SNR=3.9
FINES PKKPbc PKKPbc 09 01 44.7 -1.2
comp=Z,1.6nm,0.5s,baz=216,slow=1.7,SNR=11
FINES FINESS Array B 113.18 336 P Pdif 08 47 03.8 -3.0
FINES 08 50 58.6
FINES 08 51 49.2
FINES FINESS Array B 113.18 336 Pdif Pdif 08 47 03.8 -3.1
FINES PKPdf PKiKP 08 50 58.6 -1.7
FINES PP PP 08 51 49.2 -1.7
FINES PKKPbc PKKPbc 09 01 44.7 -1.2
FVM French Village 113.38 51 *e*PKiKP PKiKP 08 51 00.3 -0.4
HDIL Hopedale 113.72 48 PFAKE 08 51 10.0 +8.7
HDIL LR LR
comp=Z,819nm,20.0s
MALT Malatya 114.43 309 *e*PKiKP PKiKP 08 51 02.0 -0.7
MALT *e* 08 51 59.7
WVT Waverly 115.78 53 *e*PKiKP PKPdf 08 51 03.4 -1.9
WVT MLR MLR
comp=Z,529nm,20.0s
PLAL Pickwick Lake 115.80 54 PFAKE 08 51 20.0 +15

PLAL LR LR
comp=Z,584nm,20.0s
BLO Bloomington 116.12 49 *e*PKIKP PKPdf 08 51 05.0 -0.9
WCI Wyandotte Cave 116.52 50 *e*PKIKP PKPdf 08 51 07.4 +0.7
WCI MLR MLR
comp=Z,974nm,20.0s
AKASG Malin Array Be 116.81 325 PKP PKPdf 08 51 05.0 -2.3
comp=Z,4.4nm,0.6s,baz=58,slow=2.1,SNR=16
AKASG PP PP 08 52 13.6 -2.8
comp=Z,0.4nm,0.3s,baz=55,slow=7.2,SNR=5.8
AKASG PKKPbc PKKPbc 09 01 32.5 -1.0
comp=Z,1.2nm,0.5s,baz=257,slow=4.5,SNR=8.9
AKASG Malin Array Be 116.81 325 PKIKP PKPdf 08 51 05.0 -2.2
AKASG 08 52 13.6
AKBB Malin Array Si 116.81 325 *e*PKIKP PKPdf 08 51 05.5 -1.7
KIEV Kiev 116.82 325 *e*PKIKP PKPdf 08 51 05.2 -2.1
KIEV MLR MLR
comp=Z,589nm,22.0s
SFJD Kangerlussuaq 116.95 11 PFAKE 08 51 20.0 +12
SFJD LR LR
comp=Z,637nm,20.0s
LRAL Lakeview Retre 117.05 56 *e*PKPdf PKPdf 08 51 06.7 -1.0
LRAL LR LR
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 117.15 266 PKP PKPdf 08 51 08.2 +0.3
comp=Z,3.8nm,0.7s,baz=47,slow=5.9,SNR=11
KMBO PKKPbc PKKPbc 09 01 32.1 -0.1
comp=Z,1.0nm,0.3s,baz=71,slow=17,SNR=4.6
KMBO Kilima Mbogo 117.15 266 P PKPdf 08 51 09.2 +1.3
SNR=6.4
KMBO Kilima Mbogo 117.15 266 *e*PKPdf PKPdf 08 51 09.2 +1.3
KMBO LR LR
comp=Z,299nm,20.0s
BRAL Brewton 117.35 58 PFAKE 08 51 20.0 +12
BRAL LR LR
comp=Z,866nm,21.0s
AAM Ann Arbor 117.36 45 *e*PKIKP PKPdf 08 51 07.3 -1.0
AAM MLR MLR
comp=Z,896nm,22.0s
TEIG Tepich 117.47 71 PFAKE 08 51 20.0 +11
TEIG LR LR
comp=Z,647nm,21.0s
BR131 Keskin Array S 117.71 312 *e*PKPdf PKPdf 08 51 07.6 -1.4
BRTR Keskin Array B 117.71 312 PKP PKPdf 08 51 07.2 -1.8
comp=Z,3.3nm,0.7s,baz=133,slow=3.4,SNR=15
BRTR PP PP 08 52 25.4 +2.7
comp=Z,0.7nm,0.6s,baz=99,slow=6.4,SNR=4.0
BRTR PKKPbc PKKPbc 09 01 30.9 +0.7
comp=Z,1.8nm,0.8s,baz=198,slow=3.4,SNR=7.3
BRTR Keskin Array B 117.71 312 PKIKP PKPdf 08 51 07.2 -1.8
BRTR 08 52 25.4
ANTO Ankara 118.30 312 ⇓*i*P PKPdf 08 51 09.6 -0.5
ANTO Ankara 118.30 312 ⇓P PKPdf 08 51 09.7 -0.5
ANTO LR LR
comp=Z,183nm,20.0s
TGUH Tegucigalpa,Un 118.64 77 *e*PKPdf PKPdf 08 51 10.6 -0.1
TGUH LR LR
comp=Z,714nm,19.0s
HOPE Hope Point 118.92 173 PFAKE 08 51 20.0 +8.7
HOPE LR LR
comp=Z,163nm,21.0s
NB2 NORSAR Subarra1 118.95 341 PKPdf PKPdf 08 51 09.1 -2.3
comp=Z,3.4nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 118.95 341 PKP PKPdf 08 51 09.6 -1.8
comp=Z,5.9nm,0.8s,baz=46,slow=2.0,SNR=19
NOA PKKPbc PKKPbc 09 01 24.4 -1.4
comp=Z,2.0nm,0.8s,baz=208,slow=6.5,SNR=4.5
MYNC Murphy 118.95 53 PFAKE 08 51 20.0 +8.6
MYNC LR LR
comp=Z,818nm,21.0s
TZTN Tazewell 119.05 52 *e*PKPdf PKPdf 08 51 10.8 -0.7
GOGA Godfrey 119.86 55 PFAKE 08 51 20.0 +6.9
GOGA LR LR
comp=Z,610nm,19.0s
BOSA Boshof 120.24 232 PKP PKPdf 08 51 14.2 +0.3
comp=Z,17nm,0.7s,baz=124,slow=1.7,SNR=8.6
BOSA PKKPbc PKKPbc 09 01 20.7 -0.3
comp=Z,9.0nm,0.8s,baz=313,slow=1.9,SNR=16
BOSA Boshof 120.24 232 *e*PKPdf PKPdf 08 51 14.0 +0.2
BOSA LR LR
comp=Z,994nm,21.0s
BURAR Bucovina Array 120.53 323 ⇓*i*P PKPdf 08 51 12.5 -1.9
FWV Forest Hill 120.87 50 *e*PKPdf PKPdf 08 51 13.9 -1.2
MCWV Mont Chateau 120.94 47 PFAKE 08 51 30.0 +15
MCWV LR LR
comp=Z,1μm,22.0s
MLR Muntele Rosu 121.01 320 ⇑*i*P PKPdf 08 51 14.2 -1.1
MLR Muntele Rosu 121.01 320 ⇑P PKPdf 08 51 14.2 -1.1
BLA Blacksburg 121.27 50 *e*PKIKP PKPdf 08 51 15.2 -0.6
BLA MLR MLR
comp=Z,1μm,22.0s
SCHQ Schefferville 121.28 27 PKP PKPdf 08 51 13.9 -1.9
comp=Z,3.1nm,0.4s,baz=82,slow=17,SNR=11
SCHQ Schefferville 121.28 27 PKP PKPdf 08 51 13.9 -1.9
SCHQ LR LR
comp=Z,2μm,21.0s
LBTB Lobatse 121.56 236 *e*PKIKP PKPdf 08 51 17.0 +0.6
LBTB MLR MLR
comp=Z,736nm,22.0s
KOLS Kolonicke sedl 121.61 325 *e*PKP PKPdf 08 51 16.0 -0.5
SUR Sutherland 121.69 226 ⇓P PKPdf 08 51 18.0 +1.4
SNR=14
STHS Stebnicka Huta 121.94 326 *e*PKP PKPdf 08 51 15.6 -1.5
SSPA Standing Stone 122.00 45 *e*PKPdf PKPdf 08 51 16.2 -1.1
SSPA LR LR
comp=Z,656nm,21.0s
MSNY Massena 122.27 40 *e*PKPdf PKPdf 08 51 16.4 -1.4
NHSC New Hope 122.61 55 PFAKE 08 51 30.0 +12
NHSC LR LR
comp=Z,732nm,21.0s
LONY Lake Ozonia 122.62 40 *e*PKPdf PKPdf 08 51 16.9 -1.5
LONY LR LR
comp=Z,978nm,21.0s
DWPF Disney 122.69 61 PFAKE 08 51 30.0 +11
DWPF LR LR
comp=Z,644nm,19.0s
BINY Binghamton 122.72 43 *e*PKPdf PKPdf 08 51 17.4 -1.2
BINY LR LR
comp=Z,985nm,22.0s
LSZ Lusaka 122.86 247 ⇓P PKPdf 08 51 20.2 +1.3
SNR=6.0
LSZ Lusaka 122.86 247 *e*PKPdf PKPdf 08 51 20.0 +1.1
LSZ LR LR
comp=Z,564nm,22.0s
GZR Gura Zlata 123.05 321 ⇑*i*P PKPdf 08 51 18.3 -0.9
GZR Gura Zlata 123.05 321 ⇑P PKPdf 08 51 18.3 -0.9
NCB Newcomb 123.14 41 *e*PKPdf PKPdf 08 51 18.4 -1.0
NCB LR LR
comp=Z,2μm,22.0s
CBN Corbin 123.24 48 *e*PKPdf PKPdf 08 51 19.0 -0.6
CBN LR LR
comp=Z,1μm,21.0s
MVL Millersville 123.33 46 *e*PKPdf PKPdf 08 51 18.9 -0.8
BZS Buzias 123.66 322 ⇑*i*P PKPdf 08 51 19.2 -1.2
BZS Buzias 123.66 322 ⇑P PKPdf 08 51 19.2 -1.2
MORC Moravsky Berou 123.75 328 ⇓*i*P PKPdf 08 51 19.9 -0.7
KSP Ksiaz 123.75 330 *e*PKIKP PKPdf 08 51 20.0 -0.6
VYHS Vyhne 123.78 326 *e*PKP PKPdf 08 51 19.7 -0.9
VYHS *e* 09 01 07.0
LUPA Lehigh Univers 123.79 45 *e*PKPdf PKPdf 08 51 19.4 -1.2
CNNC Cliffs of the 123.82 52 *e*PKPdf PKPdf 08 51 20.5 -0.2
CNNC LR LR
comp=Z,1μm,19.0s
DPC Dobruska-Polom 124.04 329 *e*PKPdf PKPdf 08 51 20.9 -0.2
TRQA Tornquist 124.22 145 PFAKE 08 51 30.0 +8.5
TRQA LR LR
comp=Z,314nm,21.0s
HNH Hanover 124.51 40 *e*PKPdf PKPdf 08 51 21.7 -0.4
PAL Palisades 124.64 44 *e*PKIKP PKPdf 08 51 21.7 -0.6
CPNY Central Park 124.69 44 *e*PKPdf PKPdf 08 51 21.7 -0.7
PVCC Panska Ves 124.81 330 *e*PKPdf PKPdf 08 51 22.3 -0.3
BRG Berggiesshubel 124.90 331 *e*PKP PKPdf 08 51 21.7 -1.1
comp=Z,14nm,1.3s
BRG Berggiesshubel 124.90 331 *e*PKIKP PKPdf 08 51 21.7 -1.1
BRG pmax pmax
comp=Z,14nm,1.3s
CLL Collm 125.06 332 ⇓*i*PKIKP PKPdf 08 51 22.5 -0.6
CLL pmax pmax
comp=Z,22nm,0.9s
CLL Collm 125.06 332 ⇓*i*PKPdf PKPdf 08 51 22.5 -0.6
comp=Z,22nm,0.9s
QUA2 Belchertown 125.13 42 *e*PKPdf PKPdf 08 51 22.7 -0.5
PKSM Moragy 125.14 324 ⇑*i*P PKPdf 08 51 22.1 -1.1
PKSM Moragy 125.14 324 ⇑P PKPdf 08 51 22.1 -1.1
PRU Pruhonice 125.16 330 *e*PKPdf PKPdf 08 51 22.7 -0.6

DIVS Divcibare 125.41 321 *i* P PKPdf 08 51 22.5 -1.3
HRV Harvard--Oak R 125.54 41 PFAKE 08 51 40.0 +16
HRV LR LR
comp=Z,2μm,21.0s
PKME Peaks-Kenny Pk 125.59 37 *e*PKPdf PKPdf 08 51 23.2 -0.9
PKME LR LR
comp=Z,1μm,19.0s
NNA Nana 125.61 109 *e*PKPdf PKPdf 08 51 23.8 -0.3
WES Weston 125.75 41 PFAKE 08 51 40.0 +16
WES LR LR
comp=Z,1μm,20.0s
CLZ Clausthal 125.91 333 *e*PKIKP PKPdf 08 51 24.0 -0.7
NKC Novy Kostel 126.04 331 *e*PKPdf PKPdf 08 51 24.7 -0.3
MOX Moxa 126.16 332 *e*PKP PKPdf 08 51 24.7 -0.5
KHC Kasperske Hory 126.19 329 *e*PKPdf PKPdf 08 51 25.0 -0.3
GEC2 GERESS Array S 126.31 329 *e*PKIKP PKPdf 08 51 24.7 -0.8
GERES GERESS Array B 126.31 329 PKP PKPdf 08 51 24.6 -0.9
comp=Z,12nm,0.8s,baz=48,slow=2.0,SNR=45
WET Wettzell 126.54 330 *e*PKIKP PKPdf 08 51 25.5 -0.4
OTAV Otavalo 126.61 94 *e*PKPdf PKPdf 08 51 27.1 +1.0
OTAV LR LR
comp=Z,314nm,20.0s
GROS Grobnik 126.79 326 *e*PKPdf PKPdf 08 51 25.1 -1.3
GRA1 Grafenberg Arr 126.99 331 *e*PKPdf PKPdf 08 51 25.7 -1.1
GRF Grafenberg Arr 126.99 331 *e*PKIKP PKPdf 08 51 25.7 -1.1
GRFO Grafenberg 126.99 331 PFAKE 08 51 40.0 +13
GRFO LR LR
comp=Z,297nm,19.0s
CCCC Cccc 127.16 68 *e*P PKPdf 08 51 26.9 -0.2
BOJS Bojanci 127.49 325 *e*PKPdf PKPdf 08 51 27.0 -0.7
LJU Ljubljana 127.59 326 *e*PKPdf PKPdf 08 51 27.1 -0.9
CEY Cerknica 127.83 325 *e*PKPdf PKPdf 08 51 27.2 -1.2
TNS Taunus Mts 127.91 333 *e*PKIKP PKPdf 08 51 27.6 -0.9
LMGC Las Mercedes 128.02 70 *e*P PKPdf 08 51 21.7 -7.1
LVC Limon Verde 128.56 125 *e*PKPdf PKPdf 08 51 30.3 +0.5
LVC LR LR
comp=Z,249nm,21.0s
MEM Membach 128.69 335 PKP PKPdf 08 51 28.7 -1.3
ARE Arequipa 129.01 117 *e*PKIKP PKPdf 08 51 31.0 +0.4
BCLA Clavier 129.13 335 PKP PKPdf 08 51 29.8 -1.1
BCLA APKP 08 51 54.7
RCC Rio Carpintero 129.25 69 *e*P PKPdf 08 51 30.1 -1.0
BFO Black Forest 129.31 331 *e*PKIKP PKPdf 08 51 30.9 -0.3
WLF Walferdange 129.33 334 PKP PKPdf 08 51 30.6 -0.6
SNF Seneffe 129.48 336 PKP PKPdf 08 51 31.3 -0.2
GIVF Givet 129.57 335 *e*PKIKP PKPdf 08 51 31.2 -0.5
comp=Z,45nm,1.1s
CDF Champ du Feu 129.75 332 *e*PKIKP PKPdf 08 51 31.1 -0.9
comp=Z,20nm,0.9s
MOAC Moa 129.83 68 *e*P PKPdf 08 51 32.8 +0.6
BAIF Baives 129.86 336 *e*PKIKP PKPdf 08 51 31.7 -0.6
HINF Hinteralfeld 130.37 332 *e*PKIKP PKPdf 08 51 32.3 -0.9
HAU Haudompre 130.47 332 *e*PKIKP PKPdf 08 51 32.5 -0.9
HAU *e*R
comp=Z,446nm,21.5s
HAU Haudompre 130.47 332 *e*PKPdf PKPdf 08 51 32.5 -0.9
HAU LR LR
comp=Z,450nm,21.5s
MEZF Maizieres J'vi 130.68 334 *e*PKIKP PKPdf 08 51 33.3 -0.5
TSUM Tsumeb 130.77 238 *e*PKPdf PKPdf 08 51 35.2 +1.2
TSUM LR LR
comp=Z,641nm,21.0s
ROSC El Rosal 131.18 89 PKP PKPdf 08 51 35.7 +1.0
comp=Z,79nm,0.6s,baz=96,slow=5.7,SNR=45
ROSC El Rosal 131.18 89 *e*PKPdf PKPdf 08 51 35.5 +0.8
CABF La Chapelle 131.60 331 *e*PKIKP PKPdf 08 51 34.2 -1.4
comp=Z,111nm,1.5s
LPAZ La Paz 132.03 118 PKhKP 08 51 24.6
comp=Z,2.9nm,0.7s,baz=263,slow=2.0,SNR=11
LPAZ PKP PKPdf 08 51 37.9 +1.6
comp=Z,17nm,0.9s,baz=359,slow=2.4,SNR=11
LPAZ La Paz 132.03 118 *e*PKIKP PKPdf 08 51 38.0 +1.6
LPAZ MLR MLR
comp=Z,288nm,21.0s
LPL La Plagne 132.07 330 *e*PKIKP PKPdf 08 51 36.1 -0.3
comp=Z,14nm,0.7s
LPG La Plagne 132.07 330 *e*PKIKP PKPdf 08 51 36.2 -0.2
comp=Z,15nm,0.7s
LOR Lormes 132.14 333 *e*PKIKP PKPdf 08 51 35.8 -0.8
comp=Z,29nm,0.9s
LOR *e*R
comp=Z,561nm,22.5s
LOR Lormes 132.14 333 *e*PKPdf PKPdf 08 51 35.8 -0.8
LOR LR LR
comp=Z,560nm,22.5s
BNI Bardonecchia 132.42 329 *e*PKIKP PKPdf 08 51 36.3 -0.8
SSF Saint Saulge 132.46 333 *e*PKIKP PKPdf 08 51 36.5 -0.7
comp=Z,30nm,1.0s
MBDF Montbardon 132.60 329 *e*PKIKP PKPdf 08 51 37.2 -0.2
SMF Signal de Mont 132.62 333 *e*PKIKP PKPdf 08 51 36.8 -0.7
comp=Z,28nm,1.0s
AVF Avril sur Loir 132.73 333 *e*PKIKP PKPdf 08 51 36.7 -1.0
FLN La Foliniere 132.74 338 *e*PKIKP PKPdf 08 51 36.9 -0.8
comp=Z,36nm,0.9s
FLN *e*R
comp=Z,275nm,20.2s
FLN La Foliniere 132.74 338 *e*PKPdf PKPdf 08 51 36.9 -0.8
FLN LR LR
comp=Z,270nm,20.3s
ORIF Oris-en-Rattie 132.92 330 *e*PKIKP PKPdf 08 51 37.4 -0.6
comp=Z,18nm,0.8s
ORIF *e*R
comp=Z,637nm,22.5s
BGF Bois d'Agland 133.13 334 *e*PKIKP PKPdf 08 51 37.8 -0.6
comp=Z,60nm,1.1s
GRR Gorron 133.19 338 *e*PKIKP PKPdf 08 51 37.9 -0.7
FRF La Foret Royal 133.47 328 *e*PKIKP PKPdf 08 51 38.1 -1.0
comp=Z,9.2nm,0.6s
VIVF Saint-Julien-l 133.56 331 *e*PKIKP PKPdf 08 51 38.8 -0.4
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 133.62 334 *e*PKIKP PKPdf 08 51 38.8 -0.6
comp=Z,35nm,1.0s
LMR La Mourre 133.70 328 *e*PKIKP PKPdf 08 51 38.6 -0.9
comp=Z,24nm,0.9s
SMRF Simiane la Rot 133.74 329 *e*PKIKP PKPdf 08 51 38.5 -1.1
comp=Z,102nm,1.4s
SGMF Saint Gilles 133.93 339 *e*PKIKP PKPdf 08 51 39.7 -0.2
MFF Saint Martin d 134.37 336 *e*PKIKP PKPdf 08 51 40.8 0.0
comp=Z,57nm,1.1s
LASF Ste Croix 134.53 331 *e*PKIKP PKPdf 08 51 40.5 -0.6
comp=Z,46nm,1.0s
RJF Les Rejaudoux 134.69 333 *e*PKIKP PKPdf 08 51 41.2 -0.2
comp=Z,20nm,0.9s
RJF *e*R
comp=Z,426nm,18.0s
RJF Les Rejaudoux 134.69 333 *e*PKPdf PKPdf 08 51 41.2 -0.2
RJF LR LR
comp=Z,430nm,18.0s
SDV Santo Domingo 134.99 84 *e*PKPdf PKPdf 08 51 42.5 +0.6
SDV LR LR
comp=Z,196nm,20.0s
BBSR BB Station 135.06 50 PFAKE 08 51 50.0 +7.9
BBSR LR LR
comp=Z,659nm,20.0s
MTLF Montolieu 135.87 331 *e*PKIKP PKPdf 08 51 42.9 -0.7
KEST Kesra 136.78 318 PKP PKPdf 08 51 46.8 +1.6
comp=Z,5.4nm,1.0s,baz=89,slow=0.7,SNR=7.8
EPF Esparros 136.99 332 *e*PKIKP PKPdf 08 51 44.6 -1.0
ETSF Etsaut 137.50 333 *e*PKIKP PKPdf 08 51 46.0 -0.6
comp=Z,65nm,1.2s
CPD Cerro la Pandu 138.70 70 *e*PKIKP PKPdf 08 51 48.4 -0.4
MTP Monte Pirata 139.03 70 *e*PKPdf PKPdf 08 51 49.8 +0.4
MSKU Masuku 140.38 260 PFAKE 08 52 00.0 +8.2
MSKU LR LR
comp=Z,27nm,21.0s
ESDC Sonseca Array 141.62 333 PKhKP 08 51 48.7
comp=Z,0.4nm,0.3s,baz=20,slow=4.9,SNR=4.1
ESDC PKP PKPdf 08 51 52.2 -1.9
comp=Z,0.3nm,0.3s,baz=16,slow=4.6,SNR=3.5
ESDC PP PP 08 54 55.7 -2.5
comp=Z,1.5nm,0.5s,baz=16,slow=6.7,SNR=4.8
ESDC Sonseca Array 141.62 333 PKP PKPdf 08 51 52.2 -1.9
ESDC PP PP 08 54 55.7 -2.5
ESLA Sonseca Array 141.62 333 PFAKE 08 52 10.0 +16
ESLA LR LR
comp=Z,2μm,19.0s
PVRL Vila Real 141.80 338 *e*PKP PKPdf 08 51 48.5 -5.9
PVIS Viseu 142.35 338 *e*PKP PKPdf 08 51 50.6 -4.8
PCBR Castelo Branco 142.95 337 *e*PKP PKPdf 08 51 52.7 -3.8
TBG Guadaloupe-3 143.13 72 *e*P PKPdf 08 51 53.5 -3.3
MGG Marie-Galante 143.43 72 *e*P PKPdf 08 51 53.7 -3.6
DEG La Desirade 143.59 71 *e*P PKPdf 08 51 55.7 -1.9
FDF Fort de France 143.79 74 *e*P PKPdf 08 51 54.6 -3.3
PESTR Estremoz 143.84 336 *e*PKP PKPdf 08 51 55.3 -2.7
BIM Bigot 143.91 74⇓*e*P PKPdf 08 51 55.7 -2.4

SVB Belmont 143.91 76 *e*P PKPdf 08 51 54.0 -4.2
FCV Fort Charlotte 143.93 76 *e*P PKPdf 08 51 51.5 -6.7
SSV Crater Summit 143.96 76 *e*P PKPdf 08 51 50.8 -7.4
SLB Belfond 144.04 75 *e*P PKPdf 08 51 51.3 -7.1
EVO Evora 144.29 336 *e*PKIKP PKPdf 08 51 56.6 -2.2
comp=Z,46nm,1.0s
PMAFR Mafra 144.41 338 *e*PKP PKPdf 08 51 58.2 -0.8
PLOU Loures 144.42 338 *e*PKP PKPdf 08 51 57.6 -1.4
PBEJ Beja 144.67 336 *e*PKP PKPdf 08 51 58.1 -1.4
SFS San Fernando 145.26 332 *e*PKIKP PKPdf 08 52 00.3 -0.2
PTEO Sao Teotonio 145.43 336 *e*PKP PKPdf 08 52 00.8 0.0
BBGH Gun Hill 145.56 76 *e*PKPdf PKPdf 08 52 00.9 -0.1
CAM4 Nova Friburgo 146.88 150 *e*P PKPdf 08 52 01.6 -1.6
CAM4 *i* 08 52 10.9
CAM4 *i* 08 52 21.2
CAM4 *i* 08 52 31.2
SRBC Serra Branca 147.30 4 *e*PKP PKPdf 08 52 07.6 +3.7
PGRA Graciosa 147.31 4 *e*PKP PKPdf 08 52 07.2 +3.2
ROSA Rosais 147.60 4 *e*PKP PKPdf 08 52 08.2 +3.8
PMAN Manadas 147.70 4 *e*PKP PKPdf 08 52 10.4 +5.8
ADH Angra Heroismo 147.73 3 *e*PKP PKPdf 08 52 08.6 +4.0
PICO Pico 147.81 5 *e*PKP PKPdf 08 52 12.0 +7.2
CAM3 Guarapari 149.26 151 *e*P PKPdf 08 52 10.8 +3.7
CAM3 *i* 08 52 16.6
CAM3 *i* 08 52 31.4
SHEL Horse Pasture 150.63 221 *e*PKPbc PKPbc 08 52 14.4 -0.4
PMPS Porto Santo 152.09 344 *e*PKP PKPbc 08 52 18.6 +0.4
PMAR Madeira 152.57 345 *e*PKP PKPbc 08 52 19.9 +0.7
TOA0 Torodi Ar. Sit 152.57 286 *e*PKPdf PKPdf 08 52 11.2 -1.0
TOA0 *e*PKPbc PKPbc 08 52 18.8 -0.4
TORD Torodi Ar. Bea 152.57 286 PKP PKPdf 08 52 11.9 -0.3
comp=Z,12nm,0.9s,baz=40,slow=1.7,SNR=52
TORD PKPbc PKPbc 08 52 19.4 +0.1
comp=Z,42nm,0.9s,baz=52,slow=2.0,SNR=35
TORD PKPab PKPab 08 52 29.8 -0.1
comp=Z,14nm,0.7s,baz=73,slow=2.0,SNR=9.0
TORD PP PP 08 56 00.9 -1.7
comp=Z,3.8nm,0.8s,baz=71,slow=5.0,SNR=4.4
LIC Lamto 159.87 271 *e*PKIKP PKPdf 08 52 21.3 -0.5
comp=Z,51nm,1.0s
LIC *e*R
comp=Z,464nm,21.2s
LIC Lamto 159.87 271 *e*PKPdf PKPdf 08 52 21.3 -0.5
LIC LR LR
comp=Z,230nm,21.3s
ASCN Ascension 162.16 218 PFAKE 08 52 40.0 +16
ASCN LR LR
comp=Z,220nm,19.0s
RCBR Riachuelo 163.96 138 PFAKE 08 52 40.0 +14
RCBR LR LR
comp=Z,724nm,19.0s

NEIC ***21*** *08:37:12.2, 35.11S×7038W, h2km, ML3.0(GUC), After GUC.*

GUC 21 08:37:12.2±0.9, 3511S×7038W, h2km±2km, MD4.0, ML3.0, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.70**	**278**	*e*P	Pg	08 37 26.4	+0.7
NICH				*i* S	Sg	08 37 37.4	+2.6
SFDO	**San Fernando**	**0.72**	**313**	⇑*i*P	Pg	08 37 26.7	+0.8
SFDO				*i* S	Sg	08 37 37.9	+2.7
CICH	**Cipreses**	**0.79**	**358**	⇓*e*P	Pg	08 37 27.5	+0.2
CICH				*i* S	Sg	08 37 39.5	+1.9
CACH	**El Canelo**	**1.01**	**350**	⇓*i*P	Pg	08 37 31.3	-0.2
CACH				*i* S	Sg	08 37 45.9	+1.4
TALC	**Talca**	**1.06**	**254**	⇑*i*P	Pg	08 37 32.1	-0.5
TALC				*i* S	Sg	08 37 47.2	+0.8
TALC				AML	AML	08 37 48.3	
	comp=E,2μm,0.1s						
TALC	**Talca**	**1.06**	**254**	⇑*i*P	Pg	08 37 32.1	-0.5
TALC				*i* S	Sg	08 37 47.2	+0.8
CHCH	**Chadas Angostu**	**1.19**	**349**	*i* P	Pg	08 37 34.9	-0.2
LMEL	**Las Melosas**	**1.27**	**7**	*e*P	Pg	08 37 35.9	-0.6
LMEL				*i* S	Sg	08 37 53.7	+0.8
LMEL				AML	AML	08 37 55.8	
	comp=E,177nm,0.1s						
LMEL	**Las Melosas**	**1.27**	**7**	*e*P	Pg	08 37 35.9	-0.6
LMEL				*i* S	Sg	08 37 53.7	+0.8
LNV	**Longovilo**	**1.43**	**323**	*i* P	Pn	08 37 38.8	-0.4
PCH	**Pirque**	**1.49**	**356**	*i* P	Pn	08 37 40.4	+0.5
TACH	**Talagante**	**1.52**	**342**	⇑*i*P	Pn	08 37 41.0	+0.5
RCDM	**Rinconada Maip**	**1.65**	**348**	*e*P	Pn	08 37 42.8	+0.5
RCDM				*i* S	Sn	08 38 05.1	+1.0
RCDM				AML	AML	08 38 12.4	
	comp=E,297nm,0.2s						
RCDM	**Rinconada Maip**	**1.65**	**348**	*e*P	Pn	08 37 42.8	+0.5
RCDM				*i* S	Sn	08 38 05.1	+1.0
FCH	**Farellones**	**1.78**	**2**	*e*P	Pn	08 37 44.8	+0.9
FCH				*e*S	Sn	08 38 09.2	+2.0
FCH				AML	AML	08 38 23.3	
	comp=N,154nm,0.2s						
CNCO	**Chanco**	**1.86**	**250**	*i* P	Pn	08 37 45.5	+0.4
CNCO				*i* S	Sn	08 38 11.0	+1.7
CNCO				AML	AML	08 38 12.7	
	comp=E,410nm,0.5s						
CNCO	**Chanco**	**1.86**	**250**	*i* P	Pn	08 37 45.5	+0.4
CNCO				*i* S	Sn	08 38 11.0	+1.7
PEL	**Peldehue**	**1.98**	**353**	*i* P	Pn	08 37 48.8	+2.1
COCH	**Cobquecura**	**2.21**	**242**	*e*P	Pn	08 37 50.4	+0.5
COCH				*i* S	Sn	08 38 19.8	+2.0

IDC ***21*** *08:48:20.1±1.7, 4648N×15275E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, ML3.6/1, MS4.0/2, Ms1 4.0/2, ms1mx2.8/36, Error ellipse: s-maj=45.8km s-min=24.6km az=161.0*

JMA ***21*** *08:48:21.0±0.8, 4620N×15307E, h30km, M4.4*

ISCJB ***21*** *08:48:22.6±1.0, 463N±0.1×1526E±0.2, h35km, mb3.9/9, MS4.0/2, Error ellipse: s-maj=26.3km s-min=5.3km az=102.9*

MOS ***21*** *08:48:24.2±1.3, 4636N×15261E, h47km, mb4.1/9, Error ellipse: s-maj=21.8km s-min=14.9km az=62.3*

ISC 21 08:48:24.4±0.9, 463N±0.1×1527E±0.2, h35km, n48, σ1§50/56, mb3.9/9, MS4.0/2, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.52**	**254**	⇓*i*PN	**Pn**	**08 49 16.5**	**-0.1**
KUR				*i* S	**Sn**	**08 50 04.0**	**+7.1**
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,170nm,0.7s						
SKR	**Severo-Kuril's**	**4.96**	**26**	*e*PN	**Pn**	**08 49 37.4**	**+1.0**
NEM2	**Nemuro 2**	**5.72**	**242**	P	**Pn**	**08 49 46.2**	**-0.6**
NEM2				*e*S	**Sn**	**08 50 49.3**	**-2.0**
JRA	**Rausu**	**5.83**	**249**	P	**Pn**	**08 49 50.8**	**+2.5**
JNK	**Nakash**	**6.25**	**247**	P	**Pn**	**08 49 55.7**	**+1.6**
JNK				*e*S	**Sn**	**08 51 05.0**	**+0.7**
JAK	**Akkeshi**	**6.56**	**243**	P	**Pn**	**08 49 57.8**	**-0.6**
JAK				*e*S	**Sn**	**08 51 08.8**	**-3.2**
JTKR	**Abashiri--Toko**	**6.61**	**253**	P	**Pn**	**08 50 01.8**	**+2.7**
JMP	**Maruseppu**	**6.96**	**254**	P	**Pn**	**08 50 07.5**	**+3.6**
JAR	**Ashorobuto**	**7.00**	**248**	P	**Pn**	**08 50 06.1**	**+1.7**
JAR				*e*S	**Sn**	**08 51 24.8**	**+2.1**
JOB	**Onbets**	**7.15**	**245**	P	**Pn**	**08 50 07.1**	**+0.6**
JKK2	**Kamakawa 2**	**7.42**	**255**	P	**Pn**	**08 50 13.5**	**+3.3**
ASAJ	**Asahikawa**	**7.43**	**257**	Pn	**Pn**	**08 50 14.1**	**+3.7**
	comp=E,2.4nm,0.3s,baz=77,slow=18,SNR=12						
ASAJ	**Asahikawa**	**7.43**	**257**	PN	**Pn**	**08 50 14.1**	**+3.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.60**	**244**	P	**Pn**	**08 50 13.1**	**+0.5**
JCH				*e*S	**Sn**	**08 51 35.1**	**-2.4**
JNBK	**Urakawa-nobuka**	**8.16**	**244**	*e*S	**Sn**	**08 51 46.9**	**-4.3**
JKB	**Kayabe**	**9.45**	**246**	P	**Pn**	**08 50 37.4**	**-0.6**
JKB				*e*S	**Sn**	**08 52 18.1**	**-4.9**
JYM2	**Yakumo 2**	**9.76**	**249**	P	**Pn**	**08 50 43.0**	**+0.8**
JANG	**Nango**	**10.04**	**238**	P	**Pn**	**08 50 42.9**	**-3.2**
JANG				*e*S	**Sn**	**08 52 28.2**	**-9.2**
JTM	**Tenmabayashi**	**10.05**	**241**	P	**Pn**	**08 50 42.3**	**-3.9**
JTM				*e*S	**Sn**	**08 52 27.5**	**-10**
JOSM	**Okushiri--Mats**	**10.36**	**251**	P	**Pn**	**08 50 50.7**	**+0.2**
MJAR	**Matsushiro Arr**	**14.55**	**233**	Pn	**Pn**	**08 51 48.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=3.3						
KSRS	**Korea Array**	**20.36**	**253**	P	**P**	**08 53 00.1**	**+2.2**

comp=Z,0.7nm,0.4s,baz=51,slow=14,SNR=2.9
INK Inuvik 42.21 32 P **P** 08 56 13.3 -0.6
comp=Z,1.0nm,0.8s,mb3.5,baz=314,slow=6.3,SNR=2.9
INK Inuvik 42.21 32 P **P** 08 56 13.3 -0.6
INK pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.88 298 P **P** 08 56 51.3 +0.2
comp=Z,0.5nm,0.4s,mb3.8,baz=67,slow=6.9,SNR=11
MKAR LR LR 09 19 25.2
comp=Z,187nm,20.9s,MS4.0,baz=128,slow=40
MKAR Makanchi Array 46.88 298 P **P** 08 56 51.3 +0.1
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR MLR MLR
comp=Z,187nm,20.9s
BVAR Borovoye Array 50.91 310 P **P** 08 57 22.0 -0.1
comp=Z,0.8nm,0.4s,mb4.0,baz=36,slow=7.0,SNR=4.2
BVAR Borovoye Array 50.91 310 P **P** 08 57 22.0 -0.1
BVAR pmax pmax
comp=Z,1.0nm,0.4s
JIRN Jiri 54.67 275 *e*P **P** 08 57 45.4 -4.5
GUN Gumba 54.73 275 *e*P **P** 08 57 48.2 -2.1
KKN Kakani 55.22 275 *e*P **P** 08 57 49.6 -4.2
PKI Pulchoki 55.27 275 *e*P **P** 08 57 48.7 -5.5
GKN Gorkha 55.53 276 *e*P **P** 08 57 53.5 -2.6
KOLN Koldanda 56.39 276 *e*P **P** 08 57 56.5 -5.7
ARCES ARCESS Array B 58.19 341 P **P** 08 58 13.5 -1.4
comp=Z,2.4nm,0.8s,mb4.3,baz=30,slow=8.4,SNR=4.6
ARCES ARCESS Array B 58.19 341 P **P** 08 58 13.5 -1.4
ARCES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 64.33 335 P **P** 08 58 55.6 -0.9
comp=Z,0.6nm,0.5s,mb3.9,baz=34,slow=7.6,SNR=5.6
FINES FINESS Array B 64.33 335 P **P** 08 58 55.6 -0.8
FINES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 68.57 341 P **P** 08 59 23.9 +0.4
comp=Z,0.7nm,0.5s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 68.57 341 P **P** 08 59 23.6 0.0
comp=Z,1.4nm,0.7s,mb4.0,baz=29,slow=6.5,SNR=3.6
NOA NORSAR Array B 68.57 341 P **P** 08 59 23.6 +0.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
BORG Borgarnes 69.21 357 LR LR 09 27 44.3
comp=Z,88nm,20.0s,MS4.0,baz=56,slow=34
AKASG Malin Array Be 71.76 326 P **P** 08 59 41.9 -1.2
comp=Z,0.9nm,0.5s,mb4.0,baz=31,slow=5.8,SNR=5.0
AKASG Malin Array Be 71.76 326 P **P** 08 59 41.9 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 77.99 60 P **P** 09 00 19.3 +0.2
comp=Z,0.6nm,0.8s,mb3.5,baz=308,slow=4.5,SNR=3.7
TXAR Lajitas Array 77.99 60 P **P** 09 00 19.3 +0.2
TXAR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 78.52 317 P **P** 09 00 24.3 +2.3
comp=Z,1.4nm,0.9s,mb3.9,baz=67,slow=4.4,SNR=4.8
BRTR Keskin Array B 78.52 317 P **P** 09 00 24.3 +2.3
BRTR pmax pmax
comp=Z,1.0nm,0.9s

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*CRAAG **21** 08:57:54.2, 3644N×473E, Ml3.5*
*CSEM **21** 08:57:55.1±0.1, 3650N×471E, h5km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.2km az=15.0*
*ISCJB **21** 08:57:56.8±0.6, 3657N±005×460E±005, h22km±7km, Error ellipse: s-maj=8.4km s-min=6.3km az=7.3*
*MDD **21** 08:57:57.4±0.6, 3650N×465E, h7km±6km, mb4.4/4, Error ellipse: s-maj=7.8km s-min=5.4km az=14.0, PRXIMO*
*NEIC **21** 08:58:00.4, 3677N×461E, h0km, MN2.7(MDD), After MDD.*

ISC 21 08:57:57.3±0.9, 3652N±005×461E±005, h19km±6km, n28, σ1§40/34, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKF	**Akfadou**	**0.12**	**341**	P	**Pg**	**08 58 00.4**	**-0.9**
SET	**Setif**	**0.71**	**117**	P	**Pb**	**08 58 07.0**	**-4.0**
AKET	**Djebel Ketaf**	**0.76**	**231**	P	**Pb**	**08 58 12.0**	**+0.2**
ABMS	**Boumerdes**	**0.94**	**284**	P	**Pb**	**08 58 15.3**	**+0.4**
ADJB	**Djebel Djouab**	**1.02**	**249**	P	**Sb**	**08 58 26.9**	**-2.3**
DFRA	**Djebel Bou Aff**	**1.02**	**88**	P	**Pb**	**08 58 15.0**	**-1.3**
ABA	**Alger-Bouzarea**	**1.30**	**283**	P	**Pn**	**08 58 21.3**	**+0.9**
CMER	**Merouana**	**1.38**	**130**	P	**Pn**	**08 58 20.0**	**-1.4**
EMHD	**Djebel Mahouad**	**1.38**	**257**	P	**Pn**	**08 58 21.2**	**-0.3**
CTEI	**Djebel Teioual**	**1.52**	**107**	P	**Pn**	**08 58 24.0**	**+0.6**
CASM	**Ain Smara**	**1.54**	**99**	P	**Pn**	**08 58 24.0**	**+0.4**
CKFL	**Kef-Lekhel**	**1.70**	**94**	P	**Pn**	**08 58 31.0**	**+5.1**
EBNR	**Beni Rached**	**2.50**	**266**	P	**Pn**	**08 58 38.5**	**+1.6**
ECHA	**Ech Chlef**	**2.65**	**263**	P	**Pn**	**08 58 38.7**	**-0.2**
ECHF	**Ech Chlef**	**2.67**	**263**	P	**Pn**	**08 58 38.7**	**-0.5**
EANR	**'Ain N'Sour**	**2.90**	**260**	P	**Pn**	**08 58 40.0**	**-2.3**
ETRT	**Tiaret**	**2.92**	**248**	P	**Pn**	**08 58 44.4**	**+1.8**
ETOS	**Mallorca**	**3.54**	**337**	P	**Pn**	**08 58 52.7**	**+1.6**
	16nm,0.3s,SNR=27						
ETOS				S	**Sn**	**08 59 30.6**	**-1.8**
	8.5nm,0.3s,SNR=9.6						
ETOS	**Mallorca**	**3.54**	**337**	P	**Pn**	**08 58 52.7**	**+1.6**
	16nm,0.3s,SNR=27						
ETOB	**Tobarra**	**5.33**	**295**	P	**Pn**	**08 59 18.5**	**+2.7**
ETOB				S	**Sn**	**09 00 16.0**	**-0.6**
ETOB	**Tobarra**	**5.33**	**295**	P	**Pn**	**08 59 18.5**	**+2.7**
	8.7nm,0.4s,SNR=7.9						
ETOB				S	**Sn**	**09 00 16.0**	**-0.6**
	2.1nm,0.3s,SNR=7.5						
ETOB	**Tobarra**	**5.33**	**295**	P	**Pn**	**08 59 18.5**	**+2.7**
	8.7nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.55**	**331**	P	**Pn**	**08 59 19.7**	**+0.8**
	2.2nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**09 00 19.0**	**-3.2**
	3.4nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.55**	**331**	P	**Pn**	**08 59 19.7**	**+0.8**
	2.2nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.89**	**337**	P	**Pn**	**08 59 25.9**	**+2.4**
	16nm,0.3s,SNR=4.0						
EMIR				S	**Sn**	**09 00 23.7**	**-6.7**
	4.9nm,0.1s,SNR=4.0						
EMIR	**Miracle**	**5.89**	**337**	P	**Pn**	**08 59 25.9**	**+2.4**
	16nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	**6.07**	**348**	P	**Pn**	**08 59 26.6**	**+0.8**
	3.8nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**09 00 29.9**	**-4.8**
	SNR=6.5						
EJON	**La Jonquera**	**6.07**	**348**	P	**Pn**	**08 59 26.6**	**+0.7**
	3.8nm,0.3s,SNR=7.9						

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*IDC **21** 09:05:28.1±3.0, 4772N×15592E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, Error ellipse: s-maj=90.5km s-min=29.1km az=2.0*

MOS 21 09:05:27.8±1.5, 4700N×15579E, h33km, mb4.1/5, Error ellipse: s-maj=61.6km s-min=26.6km az=92.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.69**	**3**	*e*PN	Pn	09 06 24.6	+2.1
INK	**Inuvik**	**40.45**	**33**	P	P	09 13 02.9	-0.2
	1.0nm,0.8s,baz=238,slow=10,SNR=6.4						
INK	**Inuvik**	**40.45**	**33**	P	P	09 13 02.9	-0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.45**	**298**	P	P	09 14 10.3	+3.3
	comp=Z,0.7nm,0.9s,baz=61,slow=3.9,SNR=4.5						
MKAR	**Makanchi Array**	**48.45**	**298**	P	P	09 14 10.3	+3.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**52.11**	**310**	P	P	09 14 37.1	+2.4
	comp=Z,0.8nm,0.5s,baz=78,slow=7.7,SNR=4.1						
BVAR	**Borovoye Array**	**52.11**	**310**	P	P	09 14 37.1	+2.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.58**	**336**	P	P	09 16 01.3	-0.5
	comp=Z,1.6nm,0.9s,baz=44,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**64.58**	**336**	P	P	09 16 01.3	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**75.76**	**62**	P	P	09 17 13.3	+3.1
	comp=Z,1.0nm,0.6s,baz=302,slow=4.3,SNR=16						
TXAR	**Lajitas Array**	**75.76**	**62**	P	P	09 17 13.3	+3.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*NIED **21** 09:09:00, 4670N×15420E, h8km, Mw5.1 Best double couple: M₀5.49000×10¹⁶ NP1:φ₁218.00000°, δ71.00000°, λ-103.00000°. NP2:φ₂73.00000°, δ23.00000°, λ-56.00000°.*
*ISCJB **21** 09:09:48.8±0.1, 4615N±003×15467E±002, h12km, mb5.3/261, MS4.4/33, Error ellipse: s-maj=4.2km s-min=1.6km az=155.3*
*IDC **21** 09:09:49.0±0.4, 4635N×15462E, h0km, mb5.1/37, mb1 5.2/39, mb1mx5.2/41, mbtmp5.1/39, ML4.4/2, MS4.3/12, Ms1 4.3/12, ms1mx3.9/43, Error ellipse: s-maj=12.0km s-min=10.8km az=140.0*
*NEIC **21** 09:09:50.8±0.2, 4630N×15467E, h10km, mb5.4/154, Error ellipse: s-maj=5.6km s-min=3.3km az=167.0*
*SKHL **21** 09:09:50.1±0.6, 4632N×15484E, h54km±15km, mb5.5/2, Ms4.8/8, msh5.9/3*
*GCMT **21** 09:09:50.8±0.3, 4640N×15471E, h23km, MW5.1/66, Moment Tensor Solution. s28,c35; s66,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.85±.30; Mθθ2.35±.18; Mϕϕ2.50±.18; Mrθ0.30±.26; Mϕθ2.70±.10; Mϕr2.00±.24; Best double couple: M₀5.38800×10¹⁶ NP1:φ₁57.00000°, δ37.00000°, λ-69.00000°. NP2: φ₂212.00000°, δ55.00000°, λ-105.00000°. Principal axes: T 5.3970, Plg9.0000°, Azm312.0000°; N -0.0170, Plg12.0000°, Azm220.0000°; P -5.3790, Plg74.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **21** 09:09:53.8±0.6, 4667N×15421E, h30km, M5.3*
*BJI **21** 09:09:53.8, 4681N×15382E, h10km, mB5.2, mb5.2, Ms4.7, Msz4.5*
*MOS **21** 09:09:54.7±1.4, 4627N×15449E, h55km, mb5.5/132, MS4.4/15, Error ellipse: s-maj=6.2km s-min=4.4km az=104.1*
*BGS **21** 09:09:59.2, 4726N×15533E, h10km, mb5.6*
*SZGRF **21** 09:10:07.0, 4745N×15266E, h33km, mb5.8, Kuril Islands, Russia*

ISC 21 09:09:51.0±0.1, 4624N±003×15463E±002, h13km, h13km±.8km:pP-P, n987, σ1§08/1012, mb5.3/261, MS4.4/33, 109C-123D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.56**	**12**	*e*P	**Pn**	**09 10 54.6**	**-5.1**
SKR				AMB	AMB	09 10 59.0	
	110nm,0.5s						
SKR				AMB	AMB	09 10 59.0	
	160nm,0.4s						
SKR				AMB	AMB	09 10 59.0	
	230nm,0.4s						
SKR				*e*S	**Sn**	**09 11 42.5**	**-10**
SKR				A		09 11 47.9	
	860nm,0.5s						
SKR				A		09 11 47.9	
	460nm,0.5s						
SKR				A		09 11 47.9	
	290nm,0.5s						
SKR				AMS	AMS	09 12 58.0	
	4μm,20.0s						
SKR				AMS	AMS	09 12 58.0	
	6μm,20.0s						
SKR				AMS	AMS	09 12 58.0	
	12μm,16.0s						
KUR	**Kuril'sk**	**4.84**	**260**	*e*P	**Pn**	**09 11 00.5**	**-3.0**
KUR				AMB	AMB	09 11 02.0	
	5μm,1.0s						
KUR				AMB	AMB	09 11 02.3	
	456nm,0.6s						
KUR				AMB	AMB	09 11 02.3	
	342nm,0.6s						
KUR				AMB	AMB	09 11 02.3	
	2μm,0.6s						
KUR				*e*S	**Sn**	**09 11 57.0**	**-2.4**
KUR				A		09 11 59.0	
	10μm,2.0s						
KUR				A		09 11 59.5	
	5μm,0.8s						
KUR				A		09 11 59.5	
	2μm,0.8s						
KUR				AMS	AMS	09 14 08.0	
	5μm,15.0s						
KUR				AMS	AMS	09 14 08.0	
	4μm,15.0s						
KUR				AMS	AMS	09 14 08.0	
	6μm,15.0s						
KUR	**Kuril'sk**	**4.84**	**260**	*e*PN	**Pn**	**09 11 00.5**	**-3.0**
KUR				*e*S	**Sn**	**09 11 57.0**	**-2.4**
KUR				pmax	pmax		
	comp=Z,5μm,1.0s						
KUR				pmax	pmax		
	comp=N,460nm,0.6s						
KUR				pmax	pmax		
	comp=E,340nm,6.0s						
KUR				pmax	pmax		
	comp=Z,2μm,6.0s						
KUR				smax			
	comp=N,10μm,2.0s						
KUR				smax			
	comp=N,5μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
KUR				MLR	MLR		
	comp=E,5.0nm,15.0s						
KUR				MLR	MLR		
	comp=N,4μm,15.0s						
KUR				MLR	MLR		
	comp=E,6μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**6.58**	**254**	*e*P	**Pn**	**09 11 28.5**	**+1.0**
YUK				AMB	AMB	09 11 32.5	
	comp=E,370nm,0.5s						
YUK				AMB	AMB	09 11 32.5	
	comp=E,380nm,0.5s						
YUK				*i* S	**Sn**	**09 12 37.5**	**-4.9**
YUK				A		09 12 43.6	
	comp=E,2μm,0.6s						
YUK				A		09 12 43.6	
	comp=E,940nm,0.6s						
YUK				A		09 12 45.0	
	comp=E,5μm,2.0s						
YUK				A		09 12 45.0	
	comp=E,3μm,3.0s						
YUK				AMS	AMS	09 15 20.0	
	comp=E,5μm,14.0s						
YUK				AMS	AMS	09 15 20.0	
	comp=E,3μm,11.0s						
YUK				AMS	AMS	09 15 20.0	
	comp=E,3μm,11.0s						
NEM2	**Nemuro 2**	**6.94**	**249**	P	**Pn**	**09 11 31.2**	**-1.2**
NEM2				*e*S	**Sn**	**09 12 44.2**	**-7.1**
JRA	**Rausu**	**7.11**	**255**	P	**Pn**	**09 11 35.5**	**+0.8**
JRA				*e*S	**Sn**	**09 12 52.8**	**-2.6**
PET	**Petropavlovsk**	**7.28**	**20**	*e*PN	**Pn**	**09 11 32.4**	**-4.6**
PET				pmax	pmax		
	comp=Z,44nm,0.5s						
PET	**Petropavlovsk**	**7.28**	**20**	*e*Pn	**Pn**	**09 11 32.2**	**-4.8**
PET				*e*Sn	**Sn**	**09 12 50.2**	**-9.3**
JNK	**Nakash**	**7.52**	**253**	P	**Pn**	**09 11 40.6**	**+0.3**
JNK				*e*S	**Sn**	**09 13 00.8**	**-4.6**
JAK	**Akkeshi**	**7.79**	**249**	P	**Pn**	**09 11 42.9**	**-1.2**
JAK				*e*S	**Sn**	**09 13 04.9**	**-7.3**
JTKR	**Abashiri--Toko**	**7.92**	**257**	P	**Pn**	**09 11 46.5**	**+0.7**
JTKR				*e*S	**Sn**	**09 13 12.3**	**-2.9**
YSS	**Yuzh-Sakhalins**	**8.21**	**279**	*e*P	**Pn**	**09 11 50.9**	**+1.1**
YSS				AMB	AMB	09 11 53.3	
	comp=Z,370nm,1.0s						
YSS				AMB	AMB	09 11 53.3	
	comp=Z,400nm,0.9s						
YSS				AMB	AMB	09 11 53.3	
	comp=Z,190nm,0.9s						
YSS				*e*S	**Sn**	**09 13 22.0**	**-0.5**
YSS				A		09 13 23.8	
	comp=Z,110nm,0.9s						
YSS				*e*LQ		09 13 40.0	
YSS				AMS	AMS	09 15 55.0	
	comp=Z,3μm,16.0s						
YSS				AMS	AMS	09 15 55.0	
	comp=Z,700nm,13.0s						
YSS				AMS	AMS	09 15 55.0	
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.21**	**279**	*e*PN	**Pn**	**09 11 50.9**	**+1.1**
YSS				pmax	pmax		
	comp=N,190nm,0.9s						
YSS				pmax	pmax		
	comp=Z,400nm,0.9s						
YSS				pmax	pmax		
	comp=E,370nm,1.0s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,700nm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.21**	**279**	*e*Pn	**Pn**	**09 11 51.4**	**+1.6**
JAR	**Ashorobuto**	**8.27**	**253**	P	**Pn**	**09 11 50.5**	**-0.1**
JAR				*e*S	**Sn**	**09 13 19.7**	**-4.2**
JMP	**Maruseppu**	**8.28**	**258**	P	**Pn**	**09 11 51.5**	**+0.8**
JSE	**Soyaes**	**8.54**	**266**	P	**Pn**	**09 11 56.6**	**+2.2**
JKK2	**Kamakawa 2**	**8.74**	**259**	P	**Pn**	**09 11 58.1**	**+1.0**
ASAJ	**Asahikawa**	**8.76**	**260**	Pn	**Pn**	**09 11 57.9**	**+0.5**
	comp=E,5.8nm,0.3s,baz=92,slow=16,SNR=47						
ASAJ				LR	LR	09 15 42.1	
	comp=E,1μm,18.1s,baz=88,slow=40						
ASAJ	**Asahikawa**	**8.76**	**260**	P	**Pn**	**09 11 58.9**	**+1.5**
JCH	**Churui**	**8.84**	**250**	P	**Pn**	**09 11 57.2**	**-1.2**
JCH				*e*S	**Sn**	**09 13 30.0**	**-7.9**
UGL	**Uglegorsk**	**8.94**	**293**	*e*PN	**Pn**	**09 12 00.5**	**+0.6**
UGL				*e*S	**Sn**	**09 13 46.0**	**+5.6**
UGL				pmax	pmax		
	comp=Z,216nm,0.8s						
UGL				pmax	pmax		
	comp=Z,1μm,5.0s						
UGL				smax			
	comp=N,700nm,6.0s						
UGL				smax			
	comp=E,1μm,6.0s						
UGL				smax			
	comp=Z,900nm,6.0s						
UGL				MLR	MLR		
	comp=Z,6μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,12.0s						
UGL				MLR	MLR		
	comp=E,4μm,14.0s						
JWK2	**Keihoku**	**8.95**	**269**	P	**Pn**	**09 12 03.4**	**+3.5**
JFR	**Furan**	**9.10**	**255**	P	**Pn**	**09 12 02.7**	**+0.6**
JFR				*e*S	**Sn**	**09 13 41.4**	**-3.1**
TYV	**Tymovskoe**	**9.19**	**305**	*e*P	**Pn**	**09 12 03.2**	**0.0**
TYV				AMB	AMB	09 12 06.0	
	comp=E,88nm,0.8s						
TYV				AMB	AMB	09 12 06.0	
	comp=E,223nm,0.8s						
TYV				AMB	AMB	09 12 06.0	
	comp=E,1μm,8.0s						
TYV				AMS	AMS	09 16 58.0	
	comp=E,2μm,14.0s						
TYV				AMS	AMS	09 16 58.0	
	comp=E,3μm,16.0s						
TYV				AMS	AMS	09 16 58.0	
	comp=E,2μm,16.0s						
JAB	**Ashibetsu**	**9.22**	**257**	P	**Pn**	**09 12 05.5**	**+1.8**
ERM	**Erimo**	**9.26**	**247**	Pn	**Pn**	**09 12 06.1**	**+1.8**
	comp=E,789nm,1.1s,SNR=8.7						
ERM	**Erimo**	**9.26**	**247**	*e*PN	**Pn**	**09 12 05.3**	**+1.0**
ERM				pmax	pmax		
	comp=Z,70nm,0.6s						
ERM	**Erimo**	**9.26**	**247**	*e*Pn	**Pn**	**09 12 05.2**	**+1.0**
	comp=Z,70nm,0.6s						
ERM				*e*Sn	**Sn**	**09 13 42.4**	**-6.0**
JEM	**Erimo**	**9.26**	**247**	P	**Pn**	**09 12 03.0**	**-1.3**
JEM				*e*S	**Sn**	**09 13 39.3**	**-9.1**
JNBK	**Urakawa-nobuka**	**9.39**	**249**	P	**Pn**	**09 12 05.2**	**-0.9**
JNBK				*e*S	**Sn**	**09 13 41.6**	**-10**
JBT2	**Biratori 2**	**9.42**	**253**	P	**Pn**	**09 12 06.3**	**-0.1**
JBT2				*e*S	**Sn**	**09 13 47.2**	**-5.0**
JHR	**Hokuryu**	**9.48**	**259**	P	**Pn**	**09 12 08.9**	**+1.7**
JEW	**Eniwo**	**10.00**	**255**	P	**Pn**	**09 12 15.7**	**+1.3**
JEW				*e*S	**Sn**	**09 14 04.0**	**-2.5**
JNB	**Noboribetsu**	**10.44**	**254**	P	**Pn**	**09 12 19.6**	**-0.7**
JNB				*e*S	**Sn**	**09 14 10.5**	**-6.6**
JSK	**Shakotan**	**10.46**	**259**	P	**Pn**	**09 12 22.1**	**+1.4**
OKH	**Okha**	**10.50**	**318**	*e*P	**Pn**	**09 12 23.0**	**+1.8**
OKH				*e*L		09 15 28.2	
OKH				AMS	AMS	09 17 50.6	
	comp=Z,3μm,13.0s						
OKH				AMS	AMS	09 17 50.6	
	comp=Z,3μm,16.0s						
OKH				AMS	AMS	09 17 50.6	
	comp=Z,4μm,12.0s						
JKB	**Kayabe**	**10.70**	**251**	P	**Pn**	**09 12 22.5**	**-1.5**
JKB				*e*S	**Sn**	**09 14 14.0**	**-10**
JSH	**Shimam**	**11.03**	**256**	P	**Pn**	**09 12 28.7**	**+0.3**
JYM2	**Yakumo 2**	**11.04**	**253**	P	**Pn**	**09 12 27.6**	**-0.9**
JYM2				*e*S	**Sn**	**09 14 23.6**	**-8.2**
JANG	**Nango**	**11.20**	**243**	P	**Pn**	**09 12 27.6**	**-3.2**
JANG				*e*S	**Sn**	**09 14 22.1**	**-14**
JTM	**Tenmabayashi**	**11.25**	**246**	P	**Pn**	**09 12 29.4**	**-2.1**
JTM				*e*S	**Sn**	**09 14 24.6**	**-12**
JTH	**Tanohata**	**11.25**	**241**	P	**Pn**	**09 12 28.5**	**-3.0**
JTH				*e*S	**Sn**	**09 14 23.1**	**-14**
JSR	**Shiriuchi**	**11.28**	**250**	P	**Pn**	**09 12 30.2**	**-1.7**
JSR				*e*S	**Sn**	**09 14 27.4**	**-10**
NKL	**Nikolayevsk**	**11.36**	**313**	*e*P	**Pn**	**09 12 29.0**	**-4.0**
NKL				AMB	AMB	09 12 30.8	
	comp=Z,160nm,1.5s						
NKL				AMB	AMB	09 12 30.8	
	comp=Z,430nm,1.8s						
NKL				*e*L		09 16 14.0	
NKL				AMS	AMS	09 18 12.0	
	comp=Z,1μm,16.0s						
NKL				AMS	AMS	09 18 12.0	
	comp=Z,2μm,16.0s						
JOSM	**Okushiri--Mats**	**11.65**	**255**	P	**Pn**	**09 12 35.6**	**-1.3**
JOSM				*e*S	**Sn**	**09 14 39.9**	**-6.9**
OFUJ	**Ofunato**	**11.91**	**238**	P	**Pn**	**09 12 38.0**	**-2.6**
OFUJ				*e*S	**Sn**	**09 14 38.9**	**-14**
JRG	**Rokugo**	**12.33**	**241**	P	**Pn**	**09 12 44.2**	**-2.1**
JRG				*e*S	**Sn**	**09 14 50.7**	**-13**
JIO	**Ouri**	**12.52**	**236**	P	**Pn**	**09 12 45.6**	**-3.2**
JIO				*e*S	**Sn**	**09 14 54.0**	**-14**
TEY	**Ternei**	**12.68**	**271**	*e*P	**Pn**	**09 12 49.0**	**-2.0**
TEY				*e*L		09 16 36.0	
TEY				AMS	AMS	09 18 40.0	
	comp=Z,2μm,16.0s						
TEY				AMS	AMS	09 18 40.0	
	comp=Z,1μm,14.0s						
JYA	**Atsumi**	**13.39**	**241**	P	**Pn**	**09 12 59.2**	**-1.6**
JYA				*e*S	**Sn**	**09 15 17.9**	**-12**
HABR	**Khabarovsk**	**13.46**	**287**	*e*PN	**Pn**	**09 13 04.8**	**+3.1**
HABR				*e*S	**Sn**	**09 15 40.9**	**+10**
HABR				pmax	pmax		
	comp=Z,131nm,1.7s						
JFK	**Kawauchi**	**13.54**	**234**	P	**Pn**	**09 12 59.9**	**-2.9**
JFK				*e*S	**Sn**	**09 15 19.6**	**-14**
MA2	**Magadan**	**13.56**	**352**	*e*P	**Pn**	**09 12 59.5**	**-3.5**
MA2				pmax	pmax		
	comp=Z,44nm,0.7s						
MA2	**Magadan**	**13.56**	**352**	*e*Pn	**Pn**	**09 13 00.1**	**-2.9**
JFY	**Yanaizu**	**14.18**	**237**	P	**Pn**	**09 13 09.9**	**-1.7**
MJAR	**Matsushiro Arr**	**15.65**	**238**	Pn	**Pn**	**09 13 30.8**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=32						
MJAR	**Matsushiro Arr**	**15.65**	**238**	P	**Pn**	**09 13 30.8**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.65**	**238**	*e*P	**Pn**	**09 13 30.9**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,27nm,0.7s						
MAJO	**Matsushiro**	**15.65**	**238**	*e*P	**Pn**	**09 13 30.9**	**-0.3**
	comp=Z,27nm,0.7s						
MAT	**Matsushiro**	**15.65**	**238**	P	**Pn**	**09 13 29.6**	**-1.6**
MAT				S	**Sn**	**09 16 26.6**	**+2.2**
KLR	**Kul'dur**	**15.67**	**289**	*e*P	**Pn**	**09 13 27.8**	**-3.6**
KLR				*e*S	**Sn**	**09 16 30.5**	**+5.6**
KLR				pmax	pmax		
	comp=E,130nm,1.6s						
KLR				pmax	pmax		
	comp=Z,120nm,1.6s						
KLR				MLR	MLR		
	comp=N,2μm,14.0s						
KLR				MLR	MLR		
	comp=E,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,6μm,14.0s						
SEY	**Seymchan**	**16.78**	**356**	*e*P	**Pn**	**09 13 41.3**	**-4.4**
SEY	**Seymchan**	**16.78**	**356**	*e*P	**Pn**	**09 13 41.4**	**-4.3**
MDJ	**Mudanjiang**	**17.63**	**274**	P	**Pn**	**09 13 54.0**	**-2.3**
MDJ				AP	pP	09 13 58.3	-2.5
MDJ				XP	s

MDJ S **Sn** **09 17 09.3 -3.3**
MDJ SCP ScP 09 22 10.3 +0.3
MDJ AMB AMB
comp=Z,124nm,1.4s
MDJ AMB AMB
comp=Z,126nm,4.3s
MDJ LR LR
comp=N,498nm,14.4s
MDJ LR LR
comp=E,676nm,18.2s
MDJ LR LR
comp=Z,1μm,15.5s
MDJ Mudanjiang 17.63 274 *e*P **Pn** **09 13 54.5 -1.8**
comp=Z,136nm,0.9s
ZEA Zeya 19.05 303 *e*P **Pn** **09 14 06.6 -7.1**
ZEA AMB AMB 09 14 07.8
comp=Z,74nm,1.4s
CN2 Changchun 20.72 274 *e*P **P** **09 14 27.8 -3.3**
CN2 *e*XP sP 09 14 34.6 -1.8
CN2 *e*S **S** **09 18 13.5 -8.7**
CN2 AMB AMB
comp=Z,90nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,16.0s,MS4.4
CN2 LR LR
comp=E,1μm,16.0s,MS4.4
CN2 LR LR
comp=Z,900nm,17.0s,MS4.2
CLNS Chul'man 21.14 311 *e*P **P** **09 14 33.6 -2.1**
CLNS *e*PPP 09 14 56.2
CLNS *e*S **S** **09 18 23.3 -7.3**
CLNS *e* 09 18 34.5
CLNS *e*SS 09 18 57.6
CLNS pmax pmax
comp=Z,146nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,22nm,0.6s
CLNS pmax pmax
comp=E,66nm,0.8s
CLNS smax
comp=N,78nm,1.3s
CLNS smax
comp=E,73nm,1.1s
CLNS smax
comp=Z,11nm,1.1s
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,1μm,14.0s,MS4.5
CLNS MLR MLR
comp=Z,2μm,14.0s,MS4.6
NRGR Nerungri 21.18 310 *e*P **P** **09 14 35.9 -0.2**
YAK Yakutsk 21.32 327 *e*P **P** **09 14 36.3 -1.3**
YAK *e* 09 14 51.5
YAK *e*S **S** **09 18 30.3 -3.7**
YAK *e**SS sS 09 18 39.3 -0.5
YAK *e*SS 09 19 04.4
YAK pmax pmax
comp=Z,108nm,0.9s,mb5.2
YAK pmax pmax
comp=N,51nm,1.2s
YAK pmax pmax
comp=E,62nm,1.2s
YAK smax
comp=E,163nm,2.9s
YAK smax
comp=Z,102nm,2.1s
YAK smax
comp=N,163nm,2.2s
YAK Yakutsk 21.32 327 *e*P **P** **09 14 33.5 -4.1**
comp=N,122nm,0.6s,mb5.4
CBIJ Chichi jima 21.51 212 LR LR 09 21 02.1
comp=N,287nm,20.2s,MS3.7,baz=34,slow=31
KSRS Korea Array 21.66 256 P **P** **09 14 42.3 +1.0**
comp=N,69nm,0.8s,mb5.1,baz=58,slow=11,SNR=50
KSRS PcP PcP 09 18 43.0 +0.5
comp=N,3.7nm,0.9s,baz=310,slow=0.9,SNR=6.9
KSRS LR LR 09 23 10.8
comp=N,646nm,18.1s,MS4.1,baz=65,slow=37
KS15 Wonju Array Si 21.70 256 *e*P **P** **09 14 42.9 +1.3**
JNU Nakatsue 22.38 243 P **P** **09 14 51.6 +2.6**
comp=N,30nm,0.8s,mb4.8,baz=270,slow=24,SNR=4.4
INCN Inchon 22.52 257 *e*P **P** **09 14 50.8 +0.4**
comp=N,83nm,0.8s,mb5.2
BILL Bilibino 22.67 11 *d i*P **P** **09 14 48.9 -3.1**
BILL *e* 09 15 11.2
BILL *e* 09 18 42.1
BILL *e*S **S** **09 18 55.1 -5.3**
BILL pmax pmax
comp=Z,39nm,0.6s,mb5.0
BILL MLR MLR
comp=Z,500nm,20.0s,MS4.0
BILL Bilibino 22.67 11 *e*P **P** **09 14 48.8 -3.2**
comp=Z,106nm,1.0s,mb5.2
SNY Shenyang 22.67 270 ⇑P **P** **09 14 51.3 -0.8**
SNY AMB AMB
comp=Z,176nm,0.7s,mb5.6
SNY AMB AMB
comp=Z,247nm,3.5s
SNY LR LR
comp=N,722nm,14.5s,MS4.4
SNY LR LR
comp=E,741nm,16.3s,MS4.4
SNY LR LR
comp=Z,857nm,15.5s,MS4.3
HIA Hailar 23.52 290 *e*P **P** **09 14 57.0 -4.0**
HIA pmax pmax
comp=Z,36nm,0.8s
HIA Hailar 23.52 290 *e*P **P** **09 14 57.0 -4.0**
comp=Z,36nm,0.8s,mb4.8
DL2 Dalian 25.25 265 P **P** **09 15 18.9 +2.1**
DL2 *e*S **S** **09 19 45.6 +3.5**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,170nm,4.4s
DL2 LR LR
comp=N,390nm,15.3s,MS4.1
DL2 LR LR
comp=E,220nm,13.2s,MS4.1
DL2 LR LR
comp=Z,260nm,15.5s,MS3.9
BOD Bodaibo 27.12 310 ⇑ *i*P **P** **09 15 30.3 -3.4**
BOD *e* 09 20 09.6
BOD pmax pmax
comp=Z,77nm,0.9s,mb5.2
CIT Chita 27.21 297 *e*P **P** **09 15 31.8 -2.7**
CIT *e* 09 15 42.2
CIT *e* 09 15 53.1
CIT *e* 09 16 40.5
CIT pmax pmax
comp=Z,70nm,1.2s,mb5.1
BJI Beijing 28.53 271 P **P** **09 15 46.4 +0.1**
BJI S **S** **09 20 32.8 -1.0**
BJI AMB AMB
comp=Z,150nm,0.8s,mb5.8
BJI AMB AMB
comp=Z,358nm,3.7s
BJI LR LR
comp=N,865nm,16.7s,MS4.5
BJI LR LR
comp=E,274nm,16.7s,MS4.5
BJI LR LR
comp=Z,534nm,15.8s,MS4.2
BJI Beijing 28.53 271 P **P** **09 15 46.4 +0.1**
comp=Z,150nm,0.8s,mb5.8
BJI S **S** **09 20 32.7 -1.1**
BJI LR LR
comp=Z,530nm,15.8s,MS4.2
BJT Baijiatuau 28.54 271 *e*P **P** **09 15 49.7 +3.3**
BJT pmax pmax
comp=Z,158nm,0.9s
BJT Baijiatuau 28.54 271 *e*P **P** **09 15 49.7 +3.3**
comp=Z,158nm,0.9s,mb5.8
TIA Tai'an 29.69 264 *e*P **P** **09 15 58.5 +1.9**
SSE Sheshan 29.91 251 *e*P **P** **09 15 58.6 +0.1**
SSE S **S** **09 20 56.4 +0.9**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,68nm,4.4s
SSE LR LR
comp=N,221nm,18.6s,MS3.9
SSE LR LR
comp=E,117nm,19.5s,MS3.9
SSE LR LR
comp=Z,301nm,18.1s,MS4.0
SSE Sheshan 29.91 251 *e*P **P** **09 15 58.6 +0.1**
comp=Z,20nm,0.7s,mb5.0
SSE S **S** **09 20 56.4 +0.9**
SSE LR LR
comp=Z,300nm,18.1s,MS4.0
NJ2 Nanjing 30.86 255 *e*P **P** **09 16 10.8 +3.8**
NJ2 AP pP 09 16 14.8 +4.0
NJ2 XP sP 09 16 17.3 +4.9
NJ2 PP PP 09 17 12.4 -4.2
NJ2 S **S** **09 21 12.0 +1.5**
NJ2 XS sS 09 21 16.0 -0.9
NJ2 AMB AMB
comp=Z,710nm,4.4s
NJ2 LR LR
comp=N,2μm,13.4s,MS5.2
NJ2 LR LR
comp=E,2μm,13.4s,MS5.2
NJ2 LR LR
comp=Z,3μm,18.3s,MS5.0
HHC Hu-ho-hao-te 31.38 276 ⇑ *i*P **P** **09 16 11.9 +0.4**
HHC AP pP 09 16 16.3 +0.9
HHC XP sP 09 16 18.9 +1.9
HHC PP PP 09 17 14.0 -8.4
HHC PCP PcP 09 19 06.3 +1.2
HHC S **S** **09 21 17.4 -1.2**
HHC XS sS 09 21 21.9 -3.0
HHC AMB AMB
comp=Z,154nm,1.3s,mb5.7
HHC AMB AMB
comp=Z,250nm,4.2s
HHC LR LR
comp=N,580nm,14.3s,MS4.5
HHC LR LR
comp=E,406nm,14.8s,MS4.5
HHC LR LR
comp=Z,524nm,15.5s,MS4.3
ULN Ulaanbaatar 32.05 291 *c i*P **P** **09 16 15.0 -2.5**
ULN Ulaanbaatar 32.05 291 *e*P **P** **09 16 15.6 -1.9**
comp=Z,33nm,1.0s,mb5.1
SVW2 Sparrevohn 32.12 44 *e*P **P** **09 16 17.8 -0.3**
SONM Songino Array 32.49 291 P **P** **09 16 19.3 -2.0**
comp=Z,7.8nm,0.8s,mb4.6,baz=67,slow=8.8,SNR=35
SONM LR LR 09 31 03.0
comp=Z,626nm,18.9s,MS4.3,baz=160,slow=39
SONM Songino Array 32.49 291 P **P** **09 16 19.3 -2.0**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM MLR MLR
comp=Z,627nm,18.9s
BTO Baotou 32.55 276 *e*P **P** **09 16 21.4 -0.4**
IRK Irkutsk 32.86 299 *e*P **P** **09 16 21.2 -3.3**
IRK pmax pmax
comp=Z,74nm,0.6s,mb5.8
TLY Talaya 33.34 298 P **P** **09 16 26.9 -1.8**
comp=Z,618nm,0.7s,SNR=20
TLY Talaya 33.34 298 *e*P **P** **09 16 26.4 -2.3**
TLY *e* 09 17 59.2
TLY *e*SS SS 09 23 52.8 -20
TLY pmax pmax
comp=Z,62nm,0.7s,mb5.7
TLY MLR MLR
comp=Z,693nm,14.0s,MS4.5
TLY Talaya 33.34 298 *e*P **P** **09 16 26.2 -2.5**
comp=Z,54nm,0.6s,mb5.7
GUMO Guam 33.57 197 LR LR 09 28 34.3
comp=Z,171nm,18.4s,MS3.8,baz=66,slow=33
IMA2 Indian Mountai 33.61 35 *e*P **P** **09 16 30.1 -1.0**
KDAK Kodiak Island 33.62 50 P **P** **09 16 29.4 -1.7**
comp=Z,36nm,0.8s,mb5.3,baz=289,slow=1.7,SNR=8.8
KDAK Kodiak Island 33.62 50 *e*P **P** **09 16 29.4 -1.7**
comp=Z,30nm,0.7s,mb5.3
ZAK Zakamensk 33.84 296 *e*P **P** **09 16 30.6 -2.5**
ZAK *e* 09 19 06.6
ZAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
WHN Wuhan 34.83 258 *e*P **P** **09 16 42.0 +0.4**
MOY Mondy 34.96 299 *e*P **P** **09 16 40.6 -2.2**
MOY pmax pmax
comp=Z,23nm,1.4s,mb4.9
PMR Palmer 35.24 44 *e*P **P** **09 16 44.1 -1.1**
PMR pmax pmax
comp=Z,29nm,1.2s,mb5.1
PMR Palmer 35.24 44 *e*P **P** **09 16 44.7 -0.5**
comp=Z,8.6nm,1.0s,mb4.6
MCK McKinley 35.37 40 *e*P **P** **09 16 45.1 -1.2**
MCK pmax pmax
comp=Z,23nm,1.2s,mb5.0
MCK McKinley 35.37 40 *e*P **P** **09 16 45.1 -1.2**
comp=Z,23nm,1.2s,mb5.0
SML Sawmill 35.62 43 *e*P **P** **09 16 47.8 -0.7**
COLA College 35.89 38 *d i*P **P** **09 16 48.6 -2.2**
COLA College 35.89 38 *i*P **P** **09 16 48.6 -2.2**
XAN Xi'an 36.52 267 P **P** **09 16 57.3 +1.1**
XAN AP pP 09 17 06.5 +6.4
XAN AMB AMB
comp=Z,53nm,1.2s,mb5.2
DIV Divide 36.88 44 *e*P **P** **09 16 58.5 -0.7**
comp=Z,65nm,0.7s,mb5.6
EGAK Eagle 38.76 38 *e*P **P** **09 17 16.7 +1.6**
comp=Z,49nm,0.8s,mb5.3
LZH Lanzhou 38.96 273 *e*P **P** **09 17 18.5 +1.7**
LZH AP pP 09 17 21.5 +0.8
LZH PP PP 09 18 48.0 +2.0
LZH PCP PcP 09 19 28.8 +1.6
LZH *e*S **S** **09 23 13.0 -2.0**
LZH XS sS 09 23 21.0 -0.5
LZH AMB AMB
comp=Z,73nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,356nm,4.2s
LZH LR LR
comp=E,1μm,14.3s
LZH LR LR
comp=Z,2μm,15.2s,MS4.9
LZH Lanzhou 38.96 273 *e*P **P** **09 17 18.5 +1.7**
LZH 09 18 48.0
LZH 09 19 28.7
LZH *e*S **S** **09 23 13.0 -2.0**
LZH SS SS 09 25 57.0 -10
LZH pmax pmax
comp=Z,73nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,2μm,15.2s,MS4.9
LZH Lanzhou 38.96 273 *e*P **P** **09 17 18.5 +1.7**
comp=Z,73nm,1.0s,mb5.4
LZH pP pP 09 17 21.5 +0.8
LZH sP sP 09 17 22.5 +0.3
LZH PP PP 09 18 48.0 +2.0
LZH PcP PcP 09 19 28.7 +1.5
LZH *e*S **S** **09 23 13.0 -2.0**
LZH sS sS 09 23 21.0 -0.5
LZH SS SS 09 25 57.0 -10
LZH LR LR
comp=Z,2μm,15.2s,MS4.9
DAWY Dawson 39.58 39 *e*P **P** **09 17 21.4 -0.5**
GTA Gaotai 40.09 281 ⇑ *i*P **P** **09 17 27.1 +0.9**
GTA AP pP 09 17 31.5 +1.4
GTA XP sP 09 17 33.9 +2.2
GTA PP PP 09 19 03.5 +5.1
GTA PCP PcP 09 19 30.3 -0.4
GTA S **S** **09 23 31.9 -0.1**
GTA XS sS 09 23 40.3 +1.8
GTA AMB AMB
comp=Z,57nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,308nm,5.8s
GTA LR LR
comp=N,413nm,15.6s,MS4.6
GTA LR LR
comp=E,493nm,15.2s,MS4.6
GTA LR LR
comp=Z,540nm,14.8s,MS4.5
INK Inuvik 41.52 32 P **P** **09 17 37.5 -0.6**
comp=Z,26nm,0.9s,mb4.9,baz=284,slow=7.0,SNR=62
INK Inuvik 41.52 32 *e*P **P** **09 17 37.7 -0.3**
comp=Z,1μm,0.9s
CD2 Chengdu 41.89 267 ⇓ *i*P **P** **09 17 41.9 +0.9**
CD2 AP pP 09 17 45.5 +0.6
CD2 XP sP 09 17 49.0 +2.5
CD2 PP PP 09 19 22.0 +4.1
CD2 PCP PcP 09 19 38.6 +2.0
CD2 S **S** **09 23 58.0 -0.8**
CD2 XS sS 09 24 04.9 -0.4
CD2 SS SS 09 26 56.6 -8.6
CD2 SCS ScS 09 27 42.4 -1.3
CD2 AMB AMB
comp=Z,110nm,1.1s,mb5.4
CD2 AMB AMB
comp=Z,160nm,6.0s
CD2 LR LR
comp=N,380nm,12.6s,MS4.6
CD2 LR LR
comp=E,350nm,12.0s,MS4.6
CD2 LR LR
comp=Z,390nm,12.9s,MS4.5
SKAG Skagway 42.27 46 *e*P **P** **09 17 44.4 +0.2**
comp=Z,18nm,0.8s,mb4.8
GYA Guiyang 42.64 259 ⇑ *i*P **P** **09 17 48.3 +1.2**
GYA AP pP 09 17 52.4 +1.3
GYA XP sP 09 17 56.8 +4.2
GYA PP PP 09 19 30.3 +4.3
GYA PCP PcP 09 19 41.6 +2.5
GYA SCP ScP 09 23 31.3 +1.6
GYA S **S** **09 24 11.0 +1.2**
GYA SS SS 09 27 14.5 -5.5
GYA SCS ScS 09 27 48.0 -0.4
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,160nm,5.0s
GYA LR LR
comp=N,870nm,16.8s,MS4.8
GYA LR LR
comp=E,710nm,17.0s,MS4.8
GYA LR LR
comp=Z,810nm,17.2s,MS4.7
ZAL Zalesovo 43.77 307 P **P** **09 17 53.8 -2.5**
comp=Z,14nm,0.6s,mb4.8,baz=46,slow=7.5,SNR=29
ZAL LR LR 09 38 33.4
comp=Z,704nm,20.0s,MS4.6,baz=50,slow=40
ZAL Zalesovo 43.77 307 P **P** **09 17 53.8 -2.5**
ZAL pmax pmax
comp=Z,14nm,0.6s
ZAL MLR MLR
comp=Z,704nm,20.0s
NVS Novosibirsk 44.33 308 *e*P **P** **09 17 58.3 -2.5**
NVS *e**PP pP 09 18 22.1 +17
NVS *e* 09 19 43.7
NVS *e*S **S** **09 24 28.4 -6.2**
NVS pmax pmax
comp=E,64nm,1.6s
NVS pmax pmax
comp=Z,68nm,1.6s,mb5.1
NVS pmax pmax
comp=N,39nm,1.7s
NVS smax
comp=N,31nm,1.7s
QIZ Qiongzhong 45.62 249 P **P** **09 18 10.9 -0.2**
QIZ S **S** **09 24 54.8 +1.4**
QIZ LR LR
comp=E,355nm,17.1s
QIZ LR LR
comp=Z,294nm,17.1s,MS4.3
WMQ Urumqi 46.09 292 ⇑ *i*P **P** **09 18 14.5 -0.2**
WMQ AP pP 09 18 19.0 +0.3
WMQ XP sP 09 18 21.5 +1.3
WMQ PCP PcP 09 19 51.3 +0.4
WMQ PP PP 09 20 02.8 0.0
WMQ S **S** **09 24 59.0 -1.0**
WMQ XS sS 09 25 06.6 +0.1
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,295nm,4.0s
WMQ LR LR
comp=N,331nm,17.8s,MS4.4
WMQ LR LR
comp=E,211nm,15.1s,MS4.4
WMQ LR LR
comp=Z,420nm,16.5s,MS4.5
KMI Kunming 46.19 261 P **P** **09 18 16.4 +0.9**
KMI AMB AMB
comp=Z,17nm,0.9s,mb5.0
KMI LR LR
comp=N,210nm,12.1s,MS4.5
KMI LR LR
comp=E,224nm,13.0s,MS4.5
KMI LR LR
comp=Z,190nm,15.3s,MS4.2
KMI Kunming 46.19 261 P **P** **09 18 16.4 +0.9**
comp=Z,17nm,0.9s,mb5.0
KMI LR LR
comp=Z,190nm,15.3s,MS4.2
MK31 Makanchi Array 48.10 298 *i*P **P** **09 18 28.9 -1.6**
MK31 pmax pmax
comp=Z,59nm,0.7s,mb5.7
MK31 Makanchi Array 48.10 298 *e*P **P** **09 18 29.1 -1.4**
MKAR Makanchi Array 48.10 298 P **P** **09 18 28.7 -1.8**
comp=Z,48nm,0.8s,mb5.6,baz=69,slow=7.1,SNR=208
MKAR LR LR 09 40 36.2
comp=Z,727nm,18.3s,MS4.7,baz=227,slow=38
MKAR Makanchi Array 48.10 298 P **P** **09 18 28.9 -1.6**
MKAR pmax pmax
comp=Z,41nm,0.7s
MKAR Makanchi Array 48.10 298 P **P** **09 18 28.7 -1.8**
MKAR LR LR 09 40 36.2
KURK Kurchatov 48.52 305 P **P** **09 18 31.0 -2.7**
comp=Z,789nm,0.7s,SNR=10
KURK Kurchatov 48.52 305 P **P** **09 18 31.9 -1.8**
KURK pmax pmax
comp=Z,27nm,0.7s,mb5.4
KURK Kurchatov 48.52 305 ⇑ *e*P **P** **09 18 31.9 -1.8**
ALE Alert 50.15 6 P **P** **09 18 46.0 -0.1**
comp=Z,181nm,0.7s,mb6.2,SNR=7.2
YKA Yellowknife Ar 50.71 37 P **P** **09 18 49.6 -0.8**
comp=Z,14nm,0.8s,mb4.9,baz=294,slow=7.0,SNR=22
YKA Yellowknife Ar 50.71 37 P **P** **09 18 49.6 -0.8**
YKA pmax pmax
comp=Z,14nm,0.8s
RES Resolute Bay 50.99 19 *e*P **P** **09 18 51.9 -0.6**
comp=Z,2μm,0.9s
LSA Lhasa 51.35 275 P **P** **09 18 58.0 +2.8**
LSA Lhasa 51.35 275 *e*P **P** **09 18 59.2 +4.0**
LSA pmax pmax
comp=Z,107nm,0.6s,mb6.0
LSA Lhasa 51.35 275 *e*P **P** **09 18 59.2 +4.0**
comp=Z,106nm,0.6s,mb6.0
CHKZ Chkalovo 51.56 311 *e*P **P** **09 18 55.4 -1.3**
CHKZ pmax pmax
comp=Z,109nm,0.7s,mb5.9
CHKZ Chkalovo 51.56 311 *e*P **P** **09 18 55.4 -1.4**
comp=Z,109nm,0.7s,mb5.9
VOSK Vostochnaya 51.82 310 P **P** **09 18 57.5 -1.2**
VOSK pmax pmax
comp=Z,35nm,0.8s,mb5.3
BVA0 Borovoye Array 51.99 310 *i*P **P** **09 18 58.8 -1.2**
BVA0 pmax pmax
comp=Z,16nm,1.1s,mb4.9
BVAR Borovoye Array 51.99 310 P **P** **09 18 58.8 -1.1**
comp=Z,35nm,0.7s,mb5.4,baz=57,slow=9.0,SNR=115
BVAR PP PP 09 20 50.3 -7.7
comp=Z,10.0nm,0.7s,baz=56,slow=8.5,SNR=5.3
BVAR LR LR 09 43 42.6
comp=Z,596nm,18.4s,MS4.7,baz=322,slow=39
BRVK Borovoye 52.03 310 P **P** **09 18 59.3 -1.0**
comp=Z,505nm,0.8s,SNR=20
BRVK Borovoye 52.03 310 P **P** **09 18 58.5 -1.8**
BRVK pmax pmax
comp=Z,71nm,0.9s,mb5.6
BRVK Borovoye 52.03 310 *i*P **P** **09 18 59.2 -1.1**
CHTO Chiang Mai 53.03 258 *e*P **P** **09 19 08.7 +1.0**
CHTO pmax pmax
comp=Z,12nm,0.7s,mb4.9
CHTO Chiang Mai 53.03 258 *e*P **P** **09 19 08.7 +1.1**
comp=Z,12nm,0.7s,mb4.9
KBS Kingsbay 53.16 352 *e*P **P** **09 19 07.7 -0.9**
KBS pmax pmax
comp=Z,30nm,0.7s,mb5.3
KBS Kingsbay 53.16 352 *e*P **P** **09 19 07.7 -0.9**
comp=Z,30nm,0.7s,mb5.3
A04A Legoe Bay, Lum 53.27 55 ⇑P **P** **09 19 08.8 -0.6**
baz=53
SPB4 Spitsbergen Ar 53.30 350 *e*P **P** **09 19 08.2 -1.5**
A05A Maple Falls 53.48 54 ⇓P **P** **09 19 10.7 -0.2**
baz=53
C04A Brinnon 53.63 56 ⇑P **P** **09 19 11.5 -0.6**
baz=53
A06A Chilliwack 53.77 54 ⇓P **P** **09 19 11.7 -1.4**

baz=54
B05A Bryant 53.85 55 ⇑P P 09 19 12.8 -1.0
baz=54,SNR=6.4
B06A Marblemount 54.07 55 ⇑P P 09 19 14.4 -0.9
baz=54
ULHL Ulahol 54.13 296 P P 09 19 17.0 +1.2
SNR=6.7
TKM2 Tokmak 2 54.16 297 P P 09 19 17.0 +1.0
SNR=23
TKM2 Tokmak 2 54.16 297 P P 09 19 15.6 -0.4
TKM2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
TKM2 Tokmak 2 54.16 297 *i* P P 09 19 15.6 -0.4
E04A Onalaska 54.37 57 ⇓P P 09 19 16.9 -0.6
baz=54
C05A Tolt Reservoir 54.38 56 ⇑P P 09 19 17.1 -0.5
baz=54
A07A Ashnola River, 54.41 54 ⇑P P 09 19 17.0 -0.8
baz=54,SNR=7.0
D05A Enumclaw 54.48 56 ⇓P P 09 19 18.0 -0.3
baz=54
CHMS Chumysh 54.64 298 P P 09 19 19.9 +0.5
SNR=10
USP Ospenovka 54.65 298 P P 09 19 19.7 +0.2
SNR=55
KBK Karagaybulak 54.71 297 P P 09 19 20.6 +0.7
SNR=22
FRU Bishkek 54.81 298 ⇓*i* P P 09 19 21.5 +0.8
FRU *e* 09 19 33.0
FRU pmax pmax
comp=Z,120nm,1.4s,mb5.7
FRU MLR MLR
comp=Z,1μm,16.0s,MS5.0
KZA Kyzart 54.84 296 P P 09 19 22.3 +1.4
SNR=36
B07A Winthrop 54.87 54 ⇑P P 09 19 20.3 -0.8
baz=55,SNR=6.7
F04A Amboy 54.90 58 ⇓P P 09 19 20.7 -0.7
baz=55
AAK Ala-Archa 55.00 297 P P 09 19 21.7 -0.3
SNR=40
AAK Ala-Archa 55.00 297 P P 09 19 21.6 -0.5
comp=Z,304nm,0.8s,mb6.4,SNR=13
AAK Ala-Archa 55.00 297 *eP* P
AAK pmax pmax
comp=Z,42nm,0.8s,mb5.5
AAK Ala-Archa 55.00 297 *eP* P 09 19 20.7 -1.4
comp=Z,42nm,0.8s,mb5.5
H03A Soap Creek Ran 55.06 60 ⇑P P 09 19 22.3 -0.3
baz=55
A08A Turner Farm, O 55.08 53 ⇑P P 09 19 21.8 -0.8
baz=55,SNR=15
D06A Cle Elum 55.13 56 ⇓P P 09 19 22.5 -0.5
baz=55,SNR=5.4
SOKR Solikamsk 55.15 322 *d i* P P 09 19 21.7 -1.4
SOKR pmax pmax
comp=Z,80nm,1.9s,mb5.4
ETW Entiat 55.21 55 P P 09 19 23.1 -0.4
UCH Uchtor 55.21 297 P P 09 19 24.8 +1.2
SNR=9.3
C07A Waterville 55.31 55 P P 09 19 23.5 -0.8
baz=55,SNR=6.1
B08A Colville Reser 55.36 54 ⇓P P 09 19 23.8 -0.9
baz=55,SNR=12
WTV Waterville 55.37 55 P P 09 19 24.1 -0.7
E06A Yakima 55.41 57 ⇓P P 09 19 24.6 -0.4
baz=55
EKS2 Erkin-Say 55.42 298 P P 09 19 26.5 +1.4
SNR=24
A09A Danville 55.45 53 P P 09 19 25.0 -0.3
baz=55,SNR=26
EBG Ellensburg 55.45 56 P P 09 19 25.2 -0.1
I03A Eugene 55.46 60 ⇓P P 09 19 25.6 +0.2
baz=55
J02A Umpqua 55.61 61 P P 09 19 27.1 +0.6
baz=55,SNR=9.1
D07A Quincy 55.63 55 ⇓P P 09 19 26.1 -0.6
baz=55
H04A Detroit Lake 55.72 59 ⇓P P 09 19 27.3 0.0
baz=56,SNR=6.6
AML Almayashu 55.77 297 P P 09 19 28.6 +1.0
SNR=9.4
PMG Port Moresby 55.79 189 *eP* P 09 19 28.5 +0.7
KSH Kashi 55.81 294 ⇑P P 09 19 29.5 +1.6
KSH *e*AP pP 09 19 35.3 +3.3
KSH *e*XP sP 09 19 37.9 +4.4
KSH *e*PCP PcP 09 20 28.0 +1.2
KSH *e*SCP ScP 09 24 26.1 +0.5
KSH *e*S **S 09 27 13.5 -1.2**
KSH *e*XS sS 09 27 23.3 +1.9
KSH *e*SCS ScS 09 29 15.3 -1.7
C08A Higginbotham F 55.84 54 P P 09 19 27.3 -0.8
baz=56,SNR=7.4
EDM Edmonton 55.91 47 *eP* P 09 19 27.9 -0.7
G05A Wamic 55.93 58 ⇑P P 09 19 28.8 +0.1
baz=56,SNR=5.4
F06A Goldendale 55.95 57 ⇑P P 09 19 28.8 -0.1
baz=56
J03A Ideyld Park 55.98 61 ⇑P P 09 19 29.5 +0.4
baz=56,SNR=5.6
B09A Rice 55.99 53 P P 09 19 28.7 -0.5
baz=56,SNR=11
K02A Glendale 56.00 62 ⇑P P 09 19 29.9 +0.6
baz=56
FRIS Frissel Point 56.03 59 P P 09 19 30.1 +0.6
JIRN Jiri 56.03 276 *eP* P 09 19 31.2 +1.7
comp=Z,197nm,0.8s,mb6.2
E07A Sunnyside 56.05 56 P P 09 19 29.4 -0.2
baz=56,SNR=7.0
IRO Indian Ridge 56.06 60 P P 09 19 29.9 +0.2
MDW Midway 56.08 56 P P 09 19 29.4 -0.4
I04A Tendick Farm, 56.08 60 ⇑P P 09 19 30.0 +0.1
baz=56,SNR=9.9
GUN Gumba 56.09 276 *eP* P 09 19 31.3 +1.4
ARU Arti 56.09 318 P P 09 19 28.7 -1.2
comp=Z,1μm,0.5s,SNR=7.0
ARU Arti 56.09 318 *eP* P 09 19 28.6 -1.3
ARU *e*PPP 09 22 49.3
ARU *e*S **S 09 27 17.2 -1.2**
ARU Arti 56.09 318 ⇑*i* P P 09 19 28.6 -1.3
OD2 Odessa Site #2 56.24 55 P P 09 19 30.1 -0.9
C09A Chrisman Ranch 56.26 54 ⇑P P 09 19 30.2 -0.9
baz=56,SNR=9.2
L02A Cave Junction 56.27 62 ⇑P P 09 19 31.4 +0.2
baz=56,SNR=5.5
D08A Wollman Farm, 56.31 55 P P 09 19 30.7 -0.8
baz=56,SNR=6.8
H05A Madras 56.31 59 ⇓P P 09 19 31.2 -0.2
baz=56,SNR=10
HAWA Hanford 56.33 56 *eP* P 09 19 31.1 -0.6
comp=Z,28nm,1.4s,mb5.1
G06A Carlson Farm, 56.33 58 ⇑P P 09 19 31.4 -0.2
baz=56
F07A Phinny Hill Vi 56.38 57 P P 09 19 32.1 +0.1
baz=56,SNR=6.0
HUMO Hull Mountain 56.41 61 ⇓P P 09 19 32.7 +0.4
baz=56,SNR=5.4
E08A Dider Farm, El 56.55 56 ⇑P P 09 19 32.6 -0.6
baz=56
I05A Bend 56.56 59 ⇓P P 09 19 33.5 +0.2
baz=56,SNR=7.5
J04A Umpqua Nationa 56.57 60 ⇑P P 09 19 33.5 +0.2
baz=56,SNR=6.8
B10A Chitwood Farm, 56.57 53 ⇑P P 09 19 32.6 -0.8
baz=56
KKN Kakani 56.58 277 *eP* P 09 19 35.3 +1.9
comp=Z,64nm,0.6s,mb5.8
PKI Pulchoki 56.63 276 *eP* P 09 19 35.2 +1.5
comp=Z,94nm,0.9s,mb5.8
NEW Newport 56.65 53 *eP* P 09 19 32.9 -1.0
NEW pmax pmax
comp=Z,29nm,1.3s
NEW Newport 56.65 53 *eP* P 09 19 32.9 -1.0
comp=Z,29nm,1.3s,mb5.2
D09A Jones Farm, Ri 56.66 55 P P 09 19 33.2 -0.7
baz=56,SNR=5.0
A11A Hall Mountain, 56.68 52 ⇓P P 09 19 34.0 -0.1
baz=56,SNR=16
VIPM Ingram Point 56.75 58 P P 09 19 35.0 +0.4
JCC Jacoby Creek 56.77 64 ⇑P P 09 19 35.5 +0.8
baz=56
H06A Lindquist Farm 56.79 58 ⇑P P 09 19 34.7 -0.2
baz=56,SNR=8.6
C10A Spilker Farm, 56.80 54 ⇓P P 09 19 34.2 -0.7
baz=56
DMN Daman 56.81 277 *eP* P 09 19 36.7 +1.6
comp=Z,233nm,0.8s,mb6.3
G07A Ruggs Ranch, H 56.88 57 P P 09 19 35.4 -0.1
baz=57,SNR=6.3
GKN Gorkha 56.89 277 *eP* P 09 19 37.0 +1.4
comp=Z,196nm,0.8s,mb6.2
B11A Sandpoint 56.97 53 ⇓P P 09 19 35.7 -0.4
baz=57,SNR=7.9
BUOR Burton Butte 57.03 61 P P 09 19 37.5 +0.9
E09A Wood Farm, Sta 57.05 55 P P 09 19 36.3 -0.5
baz=57,SNR=12
YBH Yreka Blue Hor 57.06 62 P P 09 19 36.7 -0.1
comp=Z,20nm,1.0s,mb5.1,baz=354,slow=3.9,SNR=20
YBH Yreka Blue Hor 57.06 62 *eP* P 09 19 37.6 +0.8
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 57.06 62 *eP* P 09 19 37.6 +0.8
comp=Z,25nm,1.2s,mb5.1
YBH Yreka Blue Hor 57.06 62 P P 09 19 37.6 +0.8
baz=57,SNR=9.5
J05A Fort Rock 57.07 60 P P 09 19 37.8 +0.9
baz=57,SNR=13
A12A Yaak River Ran 57.08 52 ⇓P P 09 19 36.9 0.0
baz=57,SNR=6.4
F08A Pendleton 57.10 56 ⇓P P 09 19 36.9 -0.2
baz=57,SNR=7.9
K04A Chilquin 57.16 61 ⇓P P 09 19 38.0 +0.5
baz=57
KK31 Karatay Array 57.16 300 *i* P P 09 19 36.9 -0.6
KK31 pmax pmax
comp=Z,26nm,0.9s,mb5.3
KKAR Karatay Array 57.16 300 P P 09 19 36.9 -0.6
KKAR pmax pmax
comp=Z,24nm,1.0s,mb5.2
M02C Callahan 57.17 63 ⇑P P 09 19 38.4 +0.8
baz=57,SNR=8.7
DAG Danmarks Havn 57.19 358 ⇓*i* P P 09 19 38.1 +0.3
comp=Z,11nm,0.6s,mb5.1
DAG Danmarks Havn 57.19 358 ⇓*i* P P 09 19 38.1 +0.3
DAG pmax pmax
comp=Z,11nm,0.6s,mb5.1
N02C Big Bar 57.22 63 ⇑P P 09 19 38.3 +0.4
baz=57
DANN Dangsing 57.28 278 *eP* P 09 19 41.0 +2.7
G08A Pilot Rock 57.28 57 P P 09 19 38.2 -0.1
baz=57,SNR=11
O01C Eel River Cons 57.29 64 ⇓P P 09 19 39.3 +0.9
baz=57
I06A Prineville 57.31 59 P P 09 19 39.1 +0.5
baz=57,SNR=10
L04A Klamath Falls 57.31 61 ⇓P P 09 19 38.8 +0.2
baz=57,SNR=9.5
B12A Libby 57.38 52 ⇑P P 09 19 38.7 -0.4
baz=57
M04C Macdoel 57.57 62 ⇓P P 09 19 40.8 +0.4
baz=57,SNR=8.7
K05A Summer Lake 57.60 60 ⇑P P 09 19 41.5 +0.8
baz=57,SNR=12
LVZ Lovozero 57.65 337 *eP* P 09 19 37.0 -4.0
LVZ pmax pmax
comp=Z,45nm,1.1s,mb5.4
LVZ pmax pmax
comp=N,29nm,1.7s
LVZ pmax pmax
comp=E,8.0nm,1.0s
F09A S2 Ranch, Elgi 57.65 56 P P 09 19 41.1 +0.1
baz=57,SNR=6.0
I07A Izee 57.65 58 P P 09 19 41.2 +0.2
baz=57,SNR=7.9
E10A Myers Farm, Un 57.66 55 P P 09 19 40.6 -0.5
baz=57,SNR=12
M03C McCloud 57.69 62 ⇑P P 09 19 41.4 +0.2
baz=57,SNR=7.0
J06A Christmas Vall 57.74 59 P P 09 19 42.1 +0.5
baz=58,SNR=12
KOLN Koldanda 57.75 278 *eP* P 09 19 43.1 +1.4
comp=E,126nm,0.8s,mb6.0
D11A Kiweano Farm, 57.78 54 P P 09 19 41.0 -0.9
baz=58,SNR=17
WDC Whiskeytown Da 57.83 63 *eP* P 09 19 42.3 +0.1
WDC pmax pmax
comp=Z,49nm,1.5s,mb5.3
WDC Whiskeytown Da 57.83 63 *eP* P 09 19 42.3 0.0
comp=Z,49nm,1.5s,mb5.3
WDC Whiskeytown Da 57.83 63 P P 09 19 42.6 +0.3
baz=58,SNR=9.8
C12A Trout Creek 57.88 53 P P 09 19 42.3 -0.3
baz=58,SNR=17
F10A Beach Ranch, E 57.89 55 P P 09 19 42.3 -0.3
baz=58,SNR=8.7
H08A Prairie City 57.89 57 P P 09 19 42.9 +0.3
baz=58,SNR=16
O02C Red Bluff 57.91 64 ⇑P P 09 19 43.5 +0.7
baz=58,SNR=8.6
K06A Valley Falls 57.94 60 P P 09 19 43.8 +0.7
baz=58,SNR=13
WALA Warton Lakes 57.96 51 *eP* P 09 19 42.8 -0.3
comp=Z,31nm,1.1s,mb5.2
P01C Double 8 Ranch 57.98 65 ⇓P P 09 19 43.6 +0.3
baz=58
L05A Lakeview 58.02 61 ⇑P P 09 19 44.1 +0.5
baz=58,SNR=12
B13A Whitefish 58.05 52 ⇑P P 09 19 43.5 -0.2
baz=58,SNR=44
KEV Kevo 58.17 341 *ep* P 09 19 42.0 -2.6
comp=Z,8.8nm,0.6s,mb5.0
KEV Kevo 58.17 341 *eP* P 09 19 42.0 -2.6
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
J07A Hines 58.17 59 ⇑*i* P P 09 19 44.8 +0.2
baz=58
APA Apatity 58.22 337 ⇑*i* P P 09 19 43.4 -1.5
APA *i* 09 19 55.7
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
M05C Lookout 58.23 62 ⇓P P 09 19 45.3 +0.3
baz=58,SNR=11
GASB Alder Springs 58.26 64 ⇓P P 09 19 46.1 +0.8
baz=58
I08A Drewsey 58.30 58 P P 09 19 46.0 +0.4
baz=58,SNR=11
HATC Hat Creek Radi 58.36 62 ⇓P P 09 19 46.2 +0.3
baz=58,SNR=5.5
H09A Durkee 58.39 57 P P 09 19 46.5 +0.4
baz=58,SNR=20
C13A Hot Springs 58.39 53 P P 09 19 46.1 -0.1
baz=58,SNR=9.3
HOPS Hopland 58.43 65 ⇑P P 09 19 46.3 -0.1
baz=58
MOD Modoc 58.43 61 *eP* P 09 19 46.7 +0.3
comp=Z,22nm,1.2s,mb5.1
MOD Modoc 58.43 61 ⇓P P 09 19 46.4 -0.1
baz=58,SNR=7.6
O03C Acorn Hollow, 58.49 64 ⇓P P 09 19 46.7 -0.2
baz=58
BMO Blue Mountains 58.49 56 *eP* P 09 19 46.9 0.0
comp=Z,22nm,1.0s,mb5.1
F11A Grangeville 58.55 55 P P 09 19 46.9 -0.4
baz=58,SNR=17
K07A Rock Creek Ran 58.61 60 ⇑P P 09 19 47.6 -0.1
baz=58,SNR=14
ARCES ARCESS Array B 58.67 341 P P 09 19 46.4 -1.8
comp=Z,20nm,0.8s,mb5.2,baz=31,slow=6.5,SNR=49
ARCES ARCESS Array B 58.67 341 P P 09 19 46.4 -1.8
ARCES pmax pmax
comp=Z,20nm,0.8s
ARE0 ARCESS Array S 58.67 341 *eP* P 09 19 46.6 -1.5
J08A Circle Bar Ran 58.68 58 ⇑P P 09 19 48.0 -0.1
baz=58,SNR=12
BOK Bokaro 58.71 273 *eP* P 09 19 49.4 +1.0
BOK AMb AMB 09 19 53.7
comp=Z,44nm,0.8s,mb5.5
M06C Likely Place G 58.73 62 ⇓P P 09 19 48.9 +0.3
baz=58
I09A Lost Marbles R 58.75 58 ⇑P P 09 19 48.7 0.0
baz=58,SNR=13
G11A Walters Elk Ra 58.77 55 ⇓P P 09 19 48.5 -0.3
baz=58,SNR=13
C14A Swan Lake 58.79 52 ⇑P P 09 19 48.6 -0.4
baz=58
D13A Huson 58.80 53 P P 09 19 48.5 -0.5
baz=58,SNR=13
O04C Chester 58.88 63 P P 09 19 50.1 +0.6
baz=59,SNR=7.9
MNRC McLaughlin Nat 58.89 65 P P 09 19 50.4 +0.8
baz=59,SNR=7.3
ELFS Eagle Lake Fie 58.93 62 ⇓P P 09 19 50.3 +0.4
baz=59
L07A Adell 58.95 60 P P 09 19 50.5 +0.5
baz=59,SNR=10
LGTI Lohaghat 58.99 281 *ex* x 09 19 12.0
K08A Mann Creek Ran 59.04 59 P P 09 19 51.2 +0.5
baz=59,SNR=14
ORV Oroville 59.08 64 ⇑P P 09 19 50.1 -0.9
baz=59,SNR=11
SUTB Sutter Butte 59.09 64 ⇓P P 09 19 50.3 -0.7
baz=59
J09A Fry Pan Ranch, 59.11 58 P P 09 19 51.6 +0.5
baz=59,SNR=15
WVOR Wild Horse Val 59.12 59 *eP* P 09 19 51.4 +0.1
WVOR pmax pmax
comp=Z,24nm,1.0s,mb5.2
WVOR Wild Horse Val 59.12 59 *eP* P 09 19 51.4 +0.1
comp=Z,24nm,1.0s,mb5.2
F12A Elk City 59.13 55 ⇓P P 09 19 51.2 -0.2
baz=59
CVS Carmenet Viney 59.20 65 ⇑P P 09 19 51.3 -0.5
baz=59
O05C Quincy 59.20 63 ⇓P P 09 19 51.8 0.0
baz=59
OHCM Honcut 59.22 64 *eP* P 09 19 51.5 -0.4
MSO Missoula 59.24 53 *eP* P 09 19 51.7 -0.3
comp=Z,39nm,1.3s,mb5.3
FARB Farallon Islan 59.24 66 ⇓P P 09 19 51.6 -0.4
baz=59
Q03C Winters 59.30 65 ⇑P P 09 19 53.2 +0.7
baz=59
H11A Donnelly 59.32 56 P P 09 19 52.4 -0.2
baz=59,SNR=28
D14A Greenough 59.33 53 ⇓P P 09 19 52.1 -0.6
baz=59,SNR=30
E13A Victor 59.33 53 P P 09 19 52.2 -0.5
baz=59,SNR=24
N06A Buffalo Meadow 59.40 62 P P 09 19 53.4 +0.3
baz=59,SNR=20
M07A Soldier Meadow 59.42 61 P P 09 19 53.9 +0.6
baz=59,SNR=38
L08A Fields 59.44 60 ⇑P P 09 19 53.6 +0.2
baz=59,SNR=13
K09A Rome 59.51 59 P P 09 19 54.1 +0.2
baz=59,SNR=9.3
AB31 Akbulak array 59.55 311 P P 09 19 53.4 -0.8
AB31 pmax pmax
comp=Z,27nm,0.6s,mb5.5
AB31 Akbulak array 59.55 311 ⇑*eP* P 09 19 53.5 -0.7
CHMT Chamberlain Mo 59.57 53 *eP* P 09 19 53.8 -0.6
Q04C Lincoln 59.58 64 ⇑P P 09 19 54.4 0.0
baz=59
KTK1 Kautokeino 59.59 342 *eP* P 09 19 53.1 -1.4
KTK1 *e*pP pP 09 19 56.4 -2.1
KTK1 AMb AMB 09 19 57.2
comp=Z,75nm,1.4s,mb5.5
KTK1 Kautokeino 59.59 342 *eP* P 09 19 53.1 -1.4
comp=Z,75nm,1.4s,mb5.5
BEKR Beckwourth 59.60 63 ⇓P P 09 19 54.3 -0.3
baz=59,SNR=5.8
F13A Darby 59.64 54 P P 09 19 54.4 -0.5
baz=59,SNR=24
E14A Clinton 59.73 53 ⇓P P 09 19 54.9 -0.6
baz=59,SNR=27
O06A Flanigan 59.75 62 ⇓P P 09 19 55.7 +0.1
baz=60,SNR=18
P05C Yuba Gap, Truc 59.78 63 ⇓P P 09 19 55.1 -0.7
baz=60
AKTK Aktyubinsk 59.84 313 P P 09 19 55.4 -0.9
AKTO Aktyubinsk 59.84 313 P P 09 19 55.4 -0.9
comp=Z,26nm,0.6s,mb5.5,baz=66,slow=6.0,SNR=67
AKTO Aktyubinsk 59.84 313 *i* P P 09 19 55.2 -1.0
AKTO pmax pmax
comp=Z,1.0nm,0.6s
D15A Lincoln 59.90 52 ⇑P P 09 19 56.2 -0.4
baz=60,SNR=15
N07B Gerlach 59.90 61 ⇑P P 09 19 56.7 0.0
baz=60,SNR=12
SDNR Sundarnagar 59.93 285 *eP* P 09 19 57.5 +0.7
L09A Wilkinson Ranc 59.95 59 ⇓P P 09 19 57.0 +0.1
baz=60,SNR=13
DLH Dalhousie 59.95 287 *eP* P 09 20 00.0 +3.0
TRO Tromso 59.97 344 *eP* P 09 19 54.9 -2.2
TRO AMb AMB 09 20 00.1
comp=Z,87nm,1.2s,mb5.6
TRO Tromso 59.97 344 *eP* P 09 19 54.9 -2.2
comp=Z,87nm,1.3s,mb5.6
LAVA Lava Cap Winer 60.03 64 ⇑P P 09 19 57.2 -0.3
baz=60,SNR=13
BNLO Ben Lomond (Sa 60.11 66 ⇑P P 09 19 57.6 -0.4
baz=60
F14A Wisdom 60.16 54 ⇓P P 09 19 58.0 -0.4
baz=60,SNR=9.9
THN Thein Dam 60.19 287 *eP* P 09 19 57.6 -1.0
E15A Deer Lodge 60.20 53 P P 09 19 58.5 -0.2
baz=60,SNR=38
WCN Washoe City 60.31 63 ⇓P P 09 19 59.5 +0.1
baz=60,SNR=5.9
O07A Toulon 60.33 62 ⇓P P 09 19 59.8 +0.2
baz=60,SNR=20
M09A Marrel Ranch, 60.44 60 ⇑P P 09 20 00.5 +0.2
baz=60,SNR=10
FFC Flin Flon 60.45 40 P P 09 20 00.8 +0.4
comp=Z,315nm,0.9s,mb6.3,SNR=11
FFC Flin Flon 60.45 40 P P 09 20 00.1 -0.3
R05C Kirkwood Meado 60.48 64 ⇑P P 09 20 00.6 0.0
baz=60,SNR=6.9
ALBI Allahabad 60.55 277 *eP* P 09 20 02.5 +1.4
F15A Butte 60.63 53 P P 09 20 01.6 -0.1
baz=60,SNR=32
CMB Columbia Colle 60.69 64 *eP* P 09 20 02.0 0.0
CMB pmax pmax
comp=Z,33nm,1.3s,mb5.3
CMB Columbia Colle 60.69 64 *eP* P 09 20 02.0 0.0
comp=Z,33nm,1.3s,mb5.3
CMB Columbia Colle 60.69 64 P P 09 20 02.0 0.0
baz=60,SNR=15
P07A Fallon 60.70 62 ⇑P P 09 20 02.4 +0.3
baz=60
N09A Rock Creek Ran 60.74 60 ⇑P P 09 20 02.5 +0.2
baz=60,SNR=17
PACP Pacheco Peak 60.74 66 ⇓P P 09 20 02.4 0.0
baz=60,SNR=8.2
ORR Orenburg 60.75 315 *eP* P 09 20 01.5 -0.9
ORR pmax pmax
comp=Z,50nm,0.6s,mb5.8
ORR MLR MLR
comp=Z,400nm,13.0s,MS4.8
EGMT Eagleton 60.79 50 *eP* P 09 20 02.2 -0.5
comp=Z,67nm,1.2s,mb5.7
EGMT Eagleton 60.79 50 P P 09 20 02.5 -0.3
baz=60,SNR=17
DLMT Dillon 60.87 54 *eP* P 09 20 02.8 -0.5
comp=Z,50nm,1.5s,mb5.4
M10A I.L. Ranch, Tu 60.92 59 ⇓P P 09 20 03.7 +0.1
baz=61,SNR=20
HLID Hailey 60.93 56 *eP* P 09 20 03.7 +0.1
comp=Z,21nm,1.1s,mb5.2
HLID Hailey 60.93 56 P P 09 20 03.9 +0.2
baz=61,SNR=23
HAST UC Hastings Re 60.95 67 ⇑P P 09 20 03.7 -0.2
baz=61
R06C Coleville 60.97 63 ⇓P P 09 20 04.0 0.0
baz=61,SNR=16
G15A Dillon 61.05 54 ⇓P P 09 20 03.8 -0.6
baz=61,SNR=25
MCMT McKenzie Canyo 61.05 54 *eP* P 09 20 04.3 -0.2
NIL Nilore 61.06 290 P P 09 20 07.0 +2.4
comp=Z,298nm,0.7s,SNR=9.3
P08A Dixie Valley 61.10 62 ⇓P P 09 20 05.4 +0.5
baz=61
FCC Fort Churchill 61.11 34 *eP* P 09 20 04.0 -0.9
FCC pmax pmax
comp=Z,163nm,1.8s,mb5.9
FCC Fort Churchill 61.11 34 *eP* P 09 20 04.0 -0.9
comp=Z,162nm,1.8s,mb5.9
S06C San Francisco 61.12 64 P P 09 20 04.8 -0.1
baz=61,SNR=20
Q07A Schurz 61.12 63 ⇓P P 09 20 05.1 +0.1
baz=61
S05C Merced 61.14 65 ⇓P P 09 20 04.5 -0.6
baz=61,SNR=12
BMN Battle Mountai 61.17 61 *eP* P 09 20 05.7 +0.4
BMN pmax pmax
comp=Z,39nm,1.2s,mb5.4
BMN Battle Mountai 61.17 61 *eP* P 09 20 05.7 +0.4
comp=Z,39nm,1.2s,mb5.4
T05C Eagle Field, D 61.20 66 ⇑P P 09 20 05.7 +0.2
baz=61
O09A Fish Creek Ran 61.35 61 P P 09 20 07.1 +0.6
baz=61,SNR=21

M11A **Holland Ranch,** 61.42 59 P P 09 20 07.8 +0.8
baz=61,SNR=20
N10A **Dunphy** 61.43 60 ⇓P P 09 20 07.3 +0.2
baz=61
R07C **Lee Vining** 61.49 64 ⇓P P 09 20 08.0 +0.5
baz=61
NDI **New Delhi** 61.53 283 eP P 09 20 07.0 -0.7
NDI eP 09 20 08.0
NDI AMb AMB 09 20 14.4
comp=Z,45nm,1.7s,mb5.3
O10A **Cortez Mining,** 61.70 60 ⇑P P 09 20 09.2 +0.3
baz=61,SNR=9.0
Q08A **Gabbs** 61.70 62 P P 09 20 09.2 +0.2
baz=61,SNR=22
AYAN **Aya Nagar** 61.72 283 eP P 09 20 08.9 -0.1
AYAN AMb AMB 09 20 14.4
comp=Z,18nm,0.8s,mb5.2
T06C **Millerton Lake** 61.74 65 P P 09 20 08.8 -0.4
baz=62,SNR=12
P09A **Austin** 61.76 61 P P 09 20 09.8 +0.5
baz=62,SNR=5.4
KCC **Kaiser Creek** 61.79 64 P P 09 20 09.4 -0.1
baz=62,SNR=11
N11A **Elko Archery C** 61.83 59 ⇓P P 09 20 10.0 +0.2
baz=62,SNR=5.0
QLMT **Earthquake Lak** 61.84 54 eP P 09 20 10.0 +0.1
V04C **Ramage Ranch,** 61.85 67 ⇑P P 09 20 10.3 +0.4
baz=62
PKD **Parkfield** 61.87 66 ⇓P P 09 20 09.8 -0.2
baz=62,SNR=5.0
SONA **Sohna** 61.90 282 eP P 09 20 10.4 +0.2
SONA AMb AMB 09 20 14.0
comp=Z,24nm,0.8s,mb5.4
MLAC **Mammoth Lakes** 61.90 64 ⇓P P 09 20 10.8 +0.5
baz=62
R08A **Mina** 61.91 63 ⇓P P 09 20 10.8 +0.5
baz=62
M12A **Wells** 61.95 58 ⇓P P 09 20 11.0 +0.5
baz=62,SNR=20
AGRA **Agra** 61.97 281 eP P 09 20 10.3 -0.3
AGRA AMb AMB 09 20 12.6
comp=Z,50nm,0.2s,mb6.2
KAKA **Kakadu** 61.98 205 ⇓*i*P P 09 20 11.4 +0.6
comp=Z,40nm,0.6s,mb5.7
P10A **Eureka** 62.13 61 ⇑P P 09 20 12.2 +0.4
baz=62,SNR=7.3
ELK **Elko** 62.17 59 eP P 09 20 12.3 +0.2
ELK pmax pmax
comp=Z,12nm,0.8s
ELK **Elko** 62.17 59 eP P 09 20 12.3 +0.3
comp=Z,12nm,0.8s,mb5.1
Q09A **Carvers** 62.18 62 ⇓P P 09 20 12.1 0.0
baz=62
YMR **Madison River** 62.21 54 eP P 09 20 12.8 +0.5
comp=Z,61nm,1.3s,mb5.6
N12A **Clover Valley,** 62.23 59 ⇓P P 09 20 12.8 +0.3
baz=62,SNR=6.2
MTUM **Tungsten Hills** 62.24 64 eP P 09 20 12.4 -0.2
PTRM **Twissleman Ran** 62.26 66 eP P 09 20 13.0 +0.3
LOF **Lofoten** 62.28 345 eP P 09 20 14.0 +1.2
LOF AMb AMB 09 20 17.1
comp=Z,143nm,1.3s,mb5.9
O11A **Cowboy Ranch,** 62.30 60 P P 09 20 13.3 +0.4
baz=62,SNR=9.1
V05C **Boulder Hill,** 62.33 66 ⇓P P 09 20 13.2 +0.1
baz=62
YNR **Norris Junctio** 62.34 53 eP P 09 20 14.0 +0.9
KUDL **Kundal** 62.37 283 eP P 09 20 13.0 -0.4
KUDL AMb AMB 09 20 16.6
comp=Z,22nm,0.5s,mb5.5
HELL **Mitchell Peak,** 62.38 65 ⇓P P 09 20 12.9 -0.5
baz=62
S08C **White Mtn Res** 62.40 64 P P 09 20 14.1 +0.5
baz=62,SNR=14
YFT **Old Faithful** 62.41 54 eP P 09 20 15.5 +1.8
M13A **Montello** 62.43 58 ⇓P P 09 20 13.8 +0.1
baz=62,SNR=24
RCTC **Rector, Farmer** 62.47 65 ⇑P P 09 20 13.3 -0.7
baz=62
LKWY **Lake** 62.59 53 eP P 09 20 14.3 -0.5
LKWY pmax pmax
comp=Z,24nm,1.0s,mb5.3
LKWY **Lake** 62.59 53 eP P 09 20 14.3 -0.5
comp=Z,24nm,1.0s,mb5.3
P11A **Circle Ranch,** 62.60 61 ⇓P P 09 20 15.2 +0.3
baz=62
SMMC **Simmler** 62.61 67 ⇓P P 09 20 15.2 +0.3
baz=62
R09A **Tonopah** 62.62 62 P P 09 20 15.1 0.0
baz=62,SNR=51
TPH **Tonopah** 62.63 63 eP P 09 20 14.7 -0.4
TPH pmax pmax
comp=Z,49nm,1.2s,mb5.5
TPH **Tonopah** 62.63 63 eP P 09 20 14.7 -0.4
comp=Z,50nm,1.2s,mb5.5
IMW **Indian Meadow** 62.70 54 eP P 09 20 16.2 +0.6
comp=Z,45nm,1.2s,mb5.5
N13A **Wendover, West** 62.72 59 ⇓P P 09 20 15.9 +0.2
baz=62,SNR=11
FLWY **Flagg Ranch** 62.72 54 eP P 09 20 16.5 +0.8
comp=Z,61nm,1.4s,mb5.5
DCID1 **Drake Creek** 62.75 55 eP P 09 20 16.9 +1.0
O12A **Currie** 62.76 59 P P 09 20 15.9 -0.1
baz=62,SNR=42
RRI2 **Red Ridge** 62.83 55 eP P 09 20 17.5 +1.0
comp=Z,60nm,0.9s,mb5.7
S09A **Goldfield** 62.84 63 P P 09 20 16.4 -0.2
baz=63,SNR=23
RLMT **Red Lodge** 62.86 52 eP P 09 20 17.0 +0.4
comp=Z,61nm,1.3s,mb5.6
VES **Vestal, Richgr** 62.86 66 P P 09 20 15.8 -0.9
baz=63,SNR=8.3
KHET **Khetri** 62.87 283 eP P 09 20 17.0 +0.3
KHET AMb AMB 09 20 21.0
comp=Z,12nm,1.1s,mb4.9
MOOW **Moose Ponds** 62.91 54 eP P 09 20 17.4 +0.4
comp=Z,33nm,1.2s,mb5.3
HVU **Hansel Valley** 62.98 57 eP P 09 20 17.6 +0.2
HVU pmax pmax
comp=Z,17nm,1.1s,mb5.1
HVU **Hansel Valley** 62.98 57 eP P 09 20 17.6 +0.1
comp=Z,17nm,1.1s,mb5.1
PKM **Peak Mountain** 62.99 67 ⇓P P 09 20 17.6 +0.1
baz=63
R10A **Warm Springs** 63.06 62 ⇑P P 09 20 18.0 0.0
baz=63,SNR=11
LOHW **Long Hollow** 63.07 54 eP P 09 20 18.6 +0.5
comp=Z,46nm,1.2s,mb5.5
SNOW **Snow King Moun** 63.08 54 eP P 09 20 18.4 +0.3
comp=Z,61nm,1.1s,mb5.6
REDW **Red Top Meadow** 63.09 55 eP P 09 20 18.8 +0.7
comp=Z,57nm,1.0s,mb5.7
Q11A **Duckwater** 63.11 61 P P 09 20 18.1 -0.2
baz=63,SNR=13
CWC **Cottonwood Cre** 63.12 65 P P 09 20 18.5 +0.1
baz=63,SNR=10
P12A **McGill** 63.16 60 P P 09 20 18.8 +0.1
baz=63,SNR=14
GRAC **Grapevine Rang** 63.21 64 P P 09 20 19.3 +0.3
baz=63,SNR=12
AHID **Auburn Hatcher** 63.32 55 eP P 09 20 20.1 +0.3
comp=Z,7.4nm,0.8s,mb4.9
SBC **Santa Barbara** 63.34 67 ⇓P P 09 20 19.8 0.0
baz=63
ISA **Isabella** 63.36 65 eP P 09 20 18.9 -1.1
ISA **Isabella** 63.36 65 ⇓P P 09 20 18.9 -1.1
baz=63,SNR=11
DGMT **Dagmar** 63.40 47 eP P 09 20 19.4 -0.9
comp=Z,10nm,0.6s,mb5.1
TRCR **Troy Canyon** 63.46 62 eP P 09 20 20.5 -0.1
SPUT **South Promonto** 63.47 57 eP P 09 20 17.8 -2.9
ARVC **Arvin** 63.47 66 ⇓P P 09 20 20.0 -0.7
baz=63,SNR=5.5
Q12A **Willow Creek R** 63.48 60 ⇓P P 09 20 20.8 0.0
baz=63,SNR=14
LAO **LASA Array** 63.50 49 eP P 09 20 20.8 -0.1
comp=Z,42nm,0.9s,mb5.5
DAC **Darwin (Calif)** 63.52 64 eP P 09 20 20.8 -0.3
DAC pmax pmax
comp=Z,30nm,1.6s,mb5.1
DAC **Darwin (Calif)** 63.52 64 eP P 09 20 20.8 -0.2
comp=Z,30nm,1.6s,mb5.1
BSC **Santa Cruz Isl** 63.67 68 ⇓P P 09 20 21.4 -0.6
baz=64
MPMC **Manual Prospec** 63.73 65 P P 09 20 22.4 0.0
baz=64,SNR=27
HWUT **Hardware Ranch** 63.79 57 eP P 09 20 22.8 0.0
comp=Z,23nm,1.1s,mb5.1
MOR8 **Moi Rana** 63.82 343 ⇑*i*P P 09 20 21.3 -1.7
MOR8 epP pP 09 20 24.6 -2.5
MOR8 AMb AMB 09 20 24.9
comp=Z,94nm,1.1s,mb5.7
MOR8 **Moi Rana** 63.82 343 ⇑*i*P P 09 20 21.3 -1.7
comp=Z,94nm,1.1s,mb5.7
FURC **Furnace Creek,** 63.86 64 ⇑P P 09 20 23.0 -0.3
baz=64,SNR=39
OSI **Osito Adit** 63.86 67 ⇑P P 09 20 23.2 -0.1
baz=64
DUG **Dugway** 63.96 58 eP P 09 20 24.1 +0.2
DUG pmax pmax
comp=Z,33nm,1.0s,mb5.3
DUG **Dugway** 63.96 58 eP P 09 20 24.1 +0.2
comp=Z,33nm,1.0s,mb5.3
DUG **Dugway** 63.96 58 ⇓P P 09 20 23.8 -0.1
baz=64,SNR=38
BLG **Laguna Peak** 63.97 67 ⇑P P 09 20 23.3 -0.7
baz=64
LRMC **Laurel Mountai** 63.97 65 ⇓P P 09 20 23.5 -0.5
baz=64,SNR=5.5
NOQ **North Oquirrh** 64.08 58 eP P 09 20 24.8 +0.1
comp=Z,58nm,1.2s,mb5.5
EDW2 **Edwards Air Fo** 64.16 66 P P 09 20 25.2 -0.1
baz=64,SNR=35
BW06 **Boulder Array** 64.20 54 eP P 09 20 25.2 -0.3
comp=Z,30nm,1.0s,mb5.3
PDAR **Pinedale Array** 64.20 54 P P 09 20 25.2 -0.2
comp=Z,20nm,0.9s,mb5.2,baz=286,slow=2.1,SNR=116
SNCC **San Nicolas Is** 64.22 68 ⇑P P 09 20 25.4 -0.2
baz=64
U10A **Ash Meadows, A** 64.22 64 ⇑P P 09 20 25.7 0.0
baz=64,SNR=22
CTU **Camp Tracy** 64.27 57 eP P 09 20 25.9 0.0
comp=Z,18nm,1.1s,mb5.0
DECC **Grnd Verdugo** 64.34 67 ⇓P P 09 20 26.0 -0.5
baz=64
JLU **Jordanelle** 64.50 57 eP P 09 20 27.6 +0.1
VIS **Vishakhapatnam** 64.54 269 eP P 09 20 28.6 +0.9
VIS AMb AMB 09 20 33.0
comp=Z,26nm,0.6s,mb5.4
NLU **North Lily Min** 64.55 58 eP P 09 20 28.0 +0.2
SHOC **Shoshone** 64.58 64 ⇑P P 09 20 27.7 -0.3
baz=64,SNR=10
GSC **Goldstone** 64.64 65 eP P 09 20 28.2 -0.2
GSC **Goldstone** 64.64 65 ⇑P P 09 20 27.8 -0.5
baz=64,SNR=12
AJM **Ajmer** 64.69 282 *i* P P 09 20 29.0 +0.3
FMP **Fort Macarthur** 64.72 67 ⇑P P 09 20 28.1 -0.8
baz=64
MPU **Maple Canyon** 64.77 58 eP P 09 20 29.4 +0.2
comp=Z,23nm,1.0s,mb5.2
BFSC **Mount Baldy St** 64.78 66 ⇓P P 09 20 29.1 -0.2
baz=64,SNR=12
RRX **Edison Barstow** 64.78 65 ⇑P P 09 20 29.2 -0.1
baz=65
U11A **Corn Creek** 64.81 63 ⇑P P 09 20 29.6 +0.1
baz=65,SNR=11
CIS **Catalina Islan** 64.84 67 ⇓P P 09 20 29.1 -0.6
baz=65,SNR=5.2
BHPL **Bhopal** 64.92 278 eP P 09 20 30.7 +0.5
BHPL AMb AMB 09 20 35.5
comp=Z,148nm,0.6s,mb6.2
FIA1 **FINESS Array S** 64.94 335 eP P 09 20 28.7 -1.6
FINES **FINESS Array B** 64.94 335 P P 09 20 28.6 -1.7
comp=Z,38nm,0.8s,mb5.5,baz=38,slow=6.9,SNR=84
FINES **FINESS Array B** 64.94 335 *i* P P 09 20 28.6 -1.8
FINES pmax pmax
comp=Z,38nm,0.8s
TUQ **Turquoise Mtn.** 65.10 64 P P 09 20 31.4 0.0
baz=65,SNR=14
ARUT **Antelope Range** 65.12 61 eP P 09 20 31.8 +0.3
V11A **Goodsprings** 65.15 64 P P 09 20 31.8 +0.1
baz=65,SNR=14
NGP **Nagpur** 65.19 275 eP P 09 20 31.8 -0.2
NGP AMb AMB 09 20 36.8
comp=Z,124nm,1.0s,mb5.9
BBRC **Big Bear Sol-O** 65.23 66 ⇓P P 09 20 32.1 -0.1
baz=65
HEC **Hector,Ludlow** 65.24 65 ⇓P P 09 20 32.2 -0.1
baz=65,SNR=15
CCUT **Cedar City** 65.32 61 eP P 09 20 33.2 +0.4
U12A **Valley of Fire** 65.32 63 ⇓P P 09 20 32.9 +0.1
baz=65,SNR=5.1
MSU **Marysvale** 65.41 59 eP P 09 20 33.9 +0.5
MOS **Moscow** 65.45 326 eP P 09 20 34.6 +1.0
MOS *e* 09 22 55.1
SFJD **Kangerlussuaq** 65.47 11 *i* P P 09 20 33.0 -0.8
SFJD *i* pP 09 20 38.0 +0.2
SFJD **Kangerlussuaq** 65.47 11 P P 09 20 32.8 -1.0
SFJD pmax pmax
comp=Z,44nm,0.9s,mb5.5
MURC **Murrieta** 65.48 66 ⇓P P 09 20 33.2 -0.6
baz=65,SNR=7.3
TMUT **Trail Mountain** 65.48 58 eP P 09 20 34.2 +0.3
V12A **Nelson** 65.58 63 ⇑P P 09 20 34.4 -0.1
baz=65,SNR=14
NSS **Namsos** 65.76 343 eP P 09 20 34.7 -1.0
NSS epP pP 09 20 37.9 -1.9
W12A **Cal Nev Ari** 65.85 64 ⇑P P 09 20 36.2 -0.1
baz=66
PFO **Pinyon Flat Ob** 65.95 66 P P 09 20 36.7 -0.2
comp=Z,56nm,1.1s,mb5.5,SNR=5.7
PFO **Pinyon Flat Ob** 65.95 66 P P 09 20 36.8 -0.1
comp=Z,5.0nm,0.9s,mb4.5,baz=348,slow=4.4,SNR=10
PFO **Pinyon Flat Ob** 65.95 66 P P 09 20 36.8 -0.1
PFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
PFO **Pinyon Flat Ob** 65.95 66 ⇑P P 09 20 36.2 -0.6
baz=66,SNR=8.4
BELC **Bell Mtn.** 65.98 65 ⇓P P 09 20 36.0 -1.1
baz=66,SNR=7.7
109C **Camp Elliot, M** 66.00 67 ⇑P P 09 20 36.8 -0.4
baz=66
SRU **San Rafael** 66.01 58 eP P 09 20 37.1 -0.1
SRU pmax pmax
comp=Z,41nm,0.9s,mb5.5
SRU **San Rafael** 66.01 58 eP P 09 20 37.1 -0.2
comp=Z,41nm,0.9s,mb5.5
ULM **Lac du Bonnet** 66.22 41 P P 09 20 37.4 -1.2
comp=Z,10nm,0.8s,mb4.9,baz=310,slow=5.8,SNR=17
ULM **Lac du Bonnet** 66.22 41 eP P 09 20 37.2 -1.4
comp=Z,9.9nm,0.8s,mb4.9
RWWY **Rawlins** 66.22 54 eP P 09 20 37.6 -1.1
comp=Z,40nm,1.2s,mb5.3
OBN **Obninsk** 66.32 326 eP P 09 20 38.4 -0.8
OBN *e* 09 20 53.0
OBN *e* 09 21 07.3
OBN *e*S S 09 29 25.0 -3.5
OBN *e*SS SS 09 33 41.2 -3.6
OBN pmax pmax
comp=Z,36nm,0.8s,mb5.5
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
RSSD **Black Hills** 66.35 50 eP P 09 20 38.8 -0.6
RSSD pmax pmax
comp=Z,36nm,0.9s,mb5.4
RSSD **Black Hills** 66.35 50 eP P 09 20 38.8 -0.6
comp=Z,36nm,0.9s,mb5.4
IRM **Iron Mountain** 66.42 65 P P 09 20 39.4 -0.4
baz=66,SNR=27
MONP **Monument Peak** 66.44 67 ⇑P P 09 20 39.7 -0.3
baz=66,SNR=6.3
CTA **Charters Tower** 66.45 189 ⇓*i*P P 09 20 39.8 -0.3
comp=Z,14nm,0.9s,mb5.0
CTA **Charters Tower** 66.45 189 ⇓*i*P P 09 20 39.8 -0.3
CTA pmax pmax
comp=Z,15nm,0.9s
CTAO **Charters Tower** 66.45 189 eP P 09 20 40.3 +0.2
CTAO pmax pmax
comp=Z,72nm,1.5s,mb5.5
CTAO **Charters Tower** 66.45 189 eP P 09 20 40.3 +0.2
comp=Z,72nm,1.5s,mb5.5
BC3 **Big Chuckw Mtn** 66.55 65 ⇑P P 09 20 40.0 -0.8
baz=66,SNR=11
W13A **Hualapai Mount** 66.59 63 P P 09 20 40.9 -0.1
baz=66,SNR=16
DVTC **Desert V Tower** 66.79 67 P P 09 20 41.9 -0.3
baz=67,SNR=7.0
SWSC **Sam W. Stewart** 66.80 66 P P 09 20 41.7 -0.7
baz=67,SNR=5.6
PDMCI **Parker Dam,Lak** 66.96 64 P P 09 20 43.0 -0.4
baz=67,SNR=24
X13A **Yucca** 66.96 64 P P 09 20 43.1 -0.2
baz=67,SNR=26
W14A **Seligman** 67.01 63 P P 09 20 44.1 +0.4
baz=67,SNR=46
Y12C **Blythe** 67.08 65 P P 09 20 43.9 -0.2
baz=67,SNR=11
GLA **Glamis** 67.34 66 eP P 09 20 45.5 -0.3
GLA **Glamis** 67.34 66 P P 09 20 45.5 -0.3
baz=67,SNR=17
PV10 **Paradox Valley** 67.36 58 eP P 09 20 46.3 +0.4
W15A **Williams** 67.54 62 ⇓P P 09 20 47.5 +0.5
baz=67,SNR=11
AGMN **Agassiz Refuge** 67.60 43 eP P 09 20 45.9 -1.5
comp=Z,49nm,1.2s,mb5.4
X14A **Yava** 67.62 63 P P 09 20 48.0 +0.5
baz=67,SNR=18
ABKT **Ailbek** 67.76 302 P P 09 20 49.8 +1.4
comp=Z,202nm,0.7s,mb6.3,SNR=5.0
PV01 **Paradox Valley** 67.80 58 eP P 09 20 48.6 0.0
WUAZ **Wupatki** 67.86 61 eP P 09 20 49.3 +0.3
comp=Z,26nm,1.1s,mb5.2
WUAZ **Wupatki** 67.86 61 ⇑P P 09 20 49.1 +0.1
baz=68
Y14A **Wickenburg** 67.90 64 P P 09 20 49.2 -0.1
baz=68,SNR=22
X15A **Humboldt** 68.01 63 ⇓P P 09 20 50.4 +0.4
baz=68,SNR=39
SMCO **Snowmass** 68.03 56 eP P 09 20 40.4 -10
comp=Z,30nm,0.9s,mb5.3
HYB **Hyderabad** 68.06 273 *i* P P 09 20 50.0 -0.3
HYB **Hyderabad** 68.06 273 eP P 09 20 50.0 -0.3
VRSR **Storozhevoye** 68.15 322 eP P 09 20 50.0 -0.9
VRSR pmax pmax
comp=N,60nm,0.8s
VRSR pmax pmax
comp=E,40nm,0.8s
VRSR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VORD **Divnogorie** 68.29 322 eP P 09 20 48.9 -2.8
VORD pmax pmax
comp=Z,20nm,0.9s,mb5.2
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
Z14A **Wintersburg** 68.32 64 ⇓P P 09 20 51.4 -0.6
baz=68
WRAB **Tennant Creek** 68.37 201 P P 09 20 52.9 +0.6
comp=E,196nm,0.8s,mb6.2,SNR=11
WRAB **Tennant Creek** 68.37 201 eP P 09 20 51.5 -0.8
WB2 **Warramunga Arr** 68.38 201 ⇓*i*P P 09 20 52.4 +0.1
WRA **Warramunga Arr** 68.39 201 P P 09 20 52.6 +0.2
comp=E,21nm,0.9s,mb5.2,baz=20,slow=6.6,SNR=87
WRA **Warramunga Arr** 68.39 201 *i* P P 09 20 52.5 +0.2
WRA pmax pmax
comp=Z,21nm,0.9s
ISCO **Idaho Springs** 68.39 55 P P 09 20 52.5 +0.2
ISCO pmax pmax
comp=Z,28nm,0.9s,mb5.3
ISCO **Idaho Springs** 68.39 55 eP P 09 20 52.6 +0.2
comp=Z,28nm,0.9s,mb5.3
MVCO **Mesa Verde** 68.46 58 eP P 09 20 52.7 -0.1
comp=Z,60nm,1.4s,mb5.4
MVCO **Mesa Verde** 68.46 58 ⇓P P 09 20 52.7 -0.1
baz=68
DOMB **Dombas** 68.58 343 ⇑*i*P P 09 20 54.3 +0.7
DOMB AMb AMB 09 20 56.6
comp=Z,22nm,0.7s,mb5.2
DOMB **Dombas** 68.58 343 ⇑*i*P P 09 20 54.3 +0.7
comp=Z,22nm,0.7s,mb5.2
NB2 **NORSAR Subarra** 69.04 342 P P 09 20 56.8 +0.4
comp=Z,28nm,0.8s,mb5.2,baz=26,slow=6.5
NOA **NORSAR Array B** 69.04 342 P P 09 20 55.0 -1.5
comp=Z,16nm,0.7s,mb5.0,baz=27,slow=6.4,SNR=44
NOA **NORSAR Array B** 69.04 342 P P 09 20 55.0 -1.4
NOA pmax pmax
comp=Z,16nm,0.7s
FITZ **Fitzroy Crossi** 69.20 210 ⇓*i*P P 09 20 58.2 +0.8
comp=Z,25nm,0.9s,mb5.1
FITZ **Fitzroy Crossi** 69.20 210 P P 09 20 58.0 +0.6
comp=Z,18nm,1.0s,mb4.9,baz=22,slow=7.9,SNR=17
115A **Sonoran Desert** 69.21 64 ⇑P P 09 20 57.3 -0.2
baz=69,SNR=10
NAO01 **NORSAR Array S** 69.29 342 eP P 09 20 58.0 +0.1
comp=Z,11nm,0.8s,mb4.8
HFS **Hagfors** 69.30 340 P P 09 20 56.4 -1.6
comp=Z,23nm,0.6s,mb5.3,baz=47,slow=4.9,SNR=74
HFS **Hagfors** 69.30 340 P P 09 20 56.4 -1.6
HFS pmax pmax
comp=Z,23nm,0.6s
116A **Eloy** 69.63 64 P P 09 21 00.0 -0.1
baz=69,SNR=8.5
SDCO **Great Sand Dun** 69.85 56 eP P 09 21 01.5 +0.1
comp=Z,16nm,1.2s,mb4.8
HYA **Hoyanger** 69.94 344 eP P 09 21 04.4 +2.4
MNK **Minsk** 69.98 330 eP P 09 21 00.0 -2.3
ECSD **EROS,Sioux Fal** 70.48 47 eP P 09 21 03.6 -1.7
comp=Z,49nm,1.5s,mb5.2
POO **Poona** 70.55 277 ⇑*i*P P 09 21 05.0 -0.7
comp=Z,40nm,1.0s,mb5.3
KONO **Kongsberg** 70.65 342 P P 09 21 08.7 +2.4
KONO pmax pmax
comp=Z,38nm,0.9s,mb5.3
KONO **Kongsberg** 70.65 342 eP P 09 21 07.5 +1.1
comp=Z,38nm,0.9s,mb5.3
ASK **Askoy** 70.76 345 eP P 09 21 09.1 +2.1
BER **Bergen** 70.83 344 eP P 09 21 09.7 +2.3
BER AMb AMB 09 21 14.4
comp=Z,150nm,1.7s,mb5.6
BER **Bergen** 70.83 344 eP P 09 21 09.7 +2.3
comp=Z,150nm,1.7s,mb5.7
ODD1 **Odda** 71.02 344 eP P 09 21 09.6 +1.0
KAD **Karad** 71.16 276 eP P 09 21 09.7 +0.3
KAD AMb AMB 09 21 15.9
comp=Z,61nm,0.9s,mb5.5
LAZ **Ladron** 71.17 60 eP P 09 21 09.9 +0.4
ANMO **Albuquerque** 71.20 59 P P 09 21 09.5 -0.2
ANMO pmax pmax
comp=Z,16nm,1.0s
ANMO **Albuquerque** 71.20 59 eP P 09 21 09.7 0.0
comp=Z,16nm,0.9s,mb5.0
LENM **Lemitar** 71.44 60 eP P 09 21 11.2 +0.1
BLS5 **Blasjo** 71.50 343 eP P 09 21 14.6 +3.1
BLS5 AMb AMB 09 21 17.5
comp=Z,57nm,1.1s,mb5.4
BLS5 **Blasjo** 71.50 343 eP P 09 21 14.6 +3.1
comp=Z,57nm,1.1s,mb5.4
LPM **Los Pinos Moun** 71.54 60 eP P 09 21 11.8 +0.1
BNM **Barren Site** 71.66 60 eP P 09 21 12.5 +0.1
KIV **Kislovodsk** 71.90 315 eP P 09 21 13.9 0.0
KIV pmax pmax
comp=Z,53nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,400nm,17.0s,MS4.8
KIV **Kislovodsk** 71.90 315 eP P 09 21 13.0 -0.9
AS31 **Alice Springs** 72.07 200 eP P 09 21 15.8 +1.0
ASAR **Alice Springs** 72.07 200 P P 09 21 16.1 +1.2
comp=Z,23nm,0.8s,mb5.1,baz=14,slow=5.4,SNR=130
ASAR LR LR 09 48 48.2
comp=Z,119nm,19.7s,MS4.2,baz=354,slow=32
ASAR **Alice Springs** 72.07 200 P P 09 21 16.1 +1.2
ASAR LR LR 09 48 48.2
ZEI **Tsey** 72.17 314 eP P 09 21 15.3 -0.2
CBKS **Cedar Bluff** 72.35 52 eP P 09 21 14.5 -2.1
CBKS pmax pmax
comp=Z,40nm,1.3s,mb5.2
CBKS **Cedar Bluff** 72.35 52 eP P 09 21 14.5 -2.1
comp=Z,40nm,1.3s,mb5.2
AKASG **Malin Array Be** 72.55 327 P P 09 21 15.9 -1.9
comp=Z,23nm,0.7s,mb5.2,baz=34,slow=6.2,SNR=29
AKASG **Malin Array Be** 72.55 327 P P 09 21 15.9 -1.9
AKASG pmax pmax
comp=Z,23nm,0.7s
AKBB **Malin Array Si** 72.55 327 eP P 09 21 16.1 -1.7
KIEV **Kiev** 72.56 327 eP P 09 21 16.0 -1.8
KIEV pmax pmax
comp=Z,28nm,0.8s,mb5.2
KIEV **Kiev** 72.56 327 eP P 09 21 16.0 -1.8
comp=Z,28nm,0.8s,mb5.2
SCHQ **Schefferville** 73.37 24 P P 09 21 21.2 -1.4
comp=Z,5.6nm,0.9s,mb4.5,baz=346,slow=8.3,SNR=3.2
SCIA **State Center** 73.52 46 eP P 09 21 22.8 -0.8
comp=Z,44nm,0.8s,mb5.4
SOC **Sochi** 73.61 317 eP P 09 21 26.7 +2.6
SOC *e* 09 24 08.4
SOC *e*PPP 09 25 53.3
SOC *e* 09 31 43.8
SOC *e*SS SS 09 35 37.0 -0.1
SOC *e*SSS 09 38 46.0

SOC pmax pmax
comp=Z,34nm,0.9s,mb5.3
GNI Garni 73.66 311 P **P 09 21 25.3 +0.9**
comp=Z,7.7nm,0.4s,mb5.0,baz=188,slow=5.6,SNR=5.6
GNI LR LR 09 57 54.1
comp=Z,290nm,19.8s,MS4.6,baz=57,slow=39
GNI Garni 73.66 311 *e*P **P 09 21 23.9 -0.4**
GNI pmax pmax
comp=Z,42nm,1.2s
GNI Garni 73.66 311 *e*P **P 09 21 24.4 +0.1**
comp=Z,29nm,0.9s,mb5.2
GNI *e*PcP PcP 09 21 40.5 +0.4
ANN Anapa 73.76 319 *e*P **P 09 21 22.1 -2.8**
MNTX Cornudas Mount 74.11 61 *e*P **P 09 21 26.7 -0.3**
comp=Z,33nm,1.2s,mb5.1
LVV L'vov 75.17 329 *e*P **P 09 21 33.6 +0.5**
MDO Dochfour 75.21 348 *e*P **P 09 21 35.4 +2.0**
KPL Plockton 75.49 349 *e*P **P 09 21 37.5 +2.6**
KPL AMb AMB 09 21 37.9
comp=Z,152nm,1.7s,mb5.7
KSB Sheil Bridge 75.58 349 *e*P **P 09 21 38.2 +2.7**
KWP Kalwaria 75.79 330 *e*P **P 09 21 36.9 +0.2**
KWP Kalwaria 75.79 330 P **P 09 21 36.8 +0.1**
KWP pmax pmax
comp=Z,52nm,0.9s,mb5.5
WMOK Wichita Mounta 75.81 54 *e*P **P 09 21 35.6 -1.2**
WMOK pmax pmax
comp=Z,22nm,1.1s,mb5.0
WMOK Wichita Mounta 75.81 54 *e*P **P 09 21 35.6 -1.2**
comp=Z,22nm,1.1s,mb5.0
OJC Ojcow 76.27 332 *e*P **P 09 21 41.2 +1.8**
LPIG La Paz 76.33 70 P **P 09 21 40.1 +0.3**
comp=Z,5.7nm,0.3s,mb4.9,baz=25,slow=5.1,SNR=3.7
ARMA Armidale 76.34 183 ⇓*i*P **P 09 21 41.2 +1.4**
EAB Aberfoyle 76.42 348 *e*P **P 09 21 43.2 +2.9**
ESY Stoneypath 76.43 347 *e*P **P 09 21 43.1 +2.8**
STHS Stebnicka Huta 76.48 331 *e*P **P 09 21 40.6 0.0**
STHS pmax pmax
comp=Z,18nm,0.9s,mb5.0
STHS Stebnicka Huta 76.48 331 *e*P **P 09 21 40.6 0.0**
comp=Z,18nm,0.9s,mb5.0
KOLS Kolonicke sedl 76.54 330 *e*P **P 09 21 42.5 +1.6**
KOLS Kolonicke sedl 76.54 330 *e*P **P 09 21 42.6 +1.7**
BURAR Bucovina Array 76.59 327 ⇑*i*P **P 09 21 40.3 -0.9**
EAU Auchinoon 76.62 347 *e*P **P 09 21 45.0 +3.5**
NIE Niedzica 76.79 331 *e*P **P 09 21 44.9 +2.6**
PGBU Glenifferbraes 76.81 348 *e*P **P 09 21 45.6 +3.1**
PGBU AMb AMB 09 21 46.0
comp=Z,173nm,1.6s,mb5.7
KSP Ksiaz 76.82 334 *e*P **P 09 21 43.7 +1.2**
KSP Ksiaz 76.82 334 *e*P **P 09 21 43.0 +0.5**
LTX Lajitas 76.83 61 *e*P **P 09 21 42.4 -0.2**
LTX pmax pmax
comp=Z,48nm,0.8s,mb5.5
LTX Lajitas 76.83 61 *e*P **P 09 21 42.4 -0.1**
comp=Z,48nm,0.8s,mb5.5
TXAR Lajitas Array 76.83 61 P **P 09 21 42.3 -0.3**
comp=Z,34nm,0.6s,mb5.4,baz=302,slow=4.1,SNR=476
TXAR Lajitas Array 76.83 61 P **P 09 21 42.3 -0.3**
TXAR pmax pmax
comp=Z,34nm,0.6s
EKA Eskdalemuir Ar 77.08 347 P **P 09 21 43.9 -0.1**
comp=Z,11nm,0.5s,mb5.1,baz=16,slow=4.7,SNR=59
EKA Eskdalemuir Ar 77.08 347 P **P 09 21 43.9 -0.1**
EKA pmax pmax
comp=Z,11nm,0.5s
ESK Eskdalemuir 77.10 347 *e*P **P 09 21 47.0 +2.9**
ESK AMb AMB 09 21 54.8
comp=Z,97nm,1.9s,mb5.4
ESK Eskdalemuir 77.10 347 *e*P **P 09 21 43.0 -1.1**
ESK pmax pmax
comp=Z,20nm,0.7s,mb5.2
ESK Eskdalemuir 77.10 347 *e*P **P 09 21 43.0 -1.1**
comp=Z,20nm,0.7s,mb5.2
OKC Ostrava-Krasne 77.13 333 *e*P **P 09 21 46.5 +2.2**
OKC *e*PCP PcP 09 21 59.7 +4.6
UPC Upice 77.20 334 *e*P **P 09 21 47.1 +2.4**
UPC *e*PCP PcP 09 22 00.5 +5.1
DPC Dobruska-Polom 77.25 334 *e*P **P 09 21 47.5 +2.6**
DPC *e*PCP PcP 09 22 00.9 +5.3
CLL Collm 77.36 336 ⇓*i*P **P 09 21 47.8 +2.2**
CLL *i* 09 21 59.9
CLL pmax pmax
comp=Z,67nm,0.9s,mb5.6
CLL Collm 77.36 336 ⇓*i*P **P 09 21 47.8 +2.2**
comp=Z,67nm,0.9s,mb5.6
CLL *i* 09 21 59.9
CLL Collm 77.36 336 *e*P **P 09 21 45.0 -0.6**
CLL ⇓*i*pP pP 09 21 47.8 -1.9
comp=Z,45nm,0.8s
CLL *i* sP sP 09 21 49.3 -1.9
comp=Z,67nm,0.9s
CLL *i* sPcP 09 21 59.9
MORC Moravsky Berou 77.37 333 ⇓*i*P **P 09 21 48.1 +2.5**
MORC Moravsky Berou 77.37 333 P **P 09 21 48.8 +3.2**
MORC Moravsky Berou 77.37 333 *e*P **P 09 21 44.9 -0.8**
comp=Z,16nm,0.8s,mb5.0
CFR Carcaliu 77.47 324 P **P 09 21 53.5 +7.3**
BRG Berggiesshubel 77.48 336 *e*P **P 09 21 48.5 +2.2**
comp=Z,10nm,1.0s,mb4.7
BRG *i* 09 21 49.8
comp=Z,9.6nm,0.8s
BRG Berggiesshubel 77.48 336 *e*P **P 09 21 48.5 +2.2**
BRG *i* 09 21 49.8
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PLOR Plostina 77.50 326 ⇑*i*P **P 09 21 48.6 +2.2**
KECS Kecovo 77.53 331 *e*P **P 09 21 46.0 -0.5**
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS Kecovo 77.53 331 *e*P **P 09 21 46.0 -0.5**
comp=Z,7.7nm,0.9s,mb4.6
PVCC Panska Ves 77.61 335 *e*P **P 09 21 49.6 +2.6**
FVM French Village 77.89 47 P **P 09 21 47.5 -1.0**
FVM pmax pmax
comp=Z,28nm,1.3s,mb5.0
FVM French Village 77.89 47 *e*P **P 09 21 47.1 -1.4**
comp=Z,28nm,1.4s,mb5.0
TIRR Tirgusor 77.95 324 ⇓*i*P **P 09 21 50.9 +2.1**
TIRR Tirgusor 77.95 324 *e*P **P 09 21 48.3 -0.5**
TIRR pmax pmax
comp=Z,19nm,0.9s,mb5.0
TIRR Tirgusor 77.95 324 *e*P **P 09 21 48.3 -0.5**
comp=Z,19nm,0.9s,mb5.0
VYHS Vyhne 78.08 332 *e*P **P 09 21 49.4 -0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VYHS Vyhne 78.08 332 *e*P **P 09 21 49.4 -0.2**
comp=Z,7.3nm,1.0s,mb4.6
VYHS *e*PP PP 09 24 30.4 -15
MLR Muntele Rosu 78.08 326 P **P 09 21 49.7 +0.2**
comp=Z,23nm,0.6s,mb5.3,baz=330,slow=2.6,SNR=19
MLR Muntele Rosu 78.08 326 ⇓*i*P **P 09 21 50.2 +0.6**
MLR Muntele Rosu 78.08 326 P **P 09 21 49.7 +0.1**
MLR pmax pmax
comp=Z,23nm,0.6s
VRAC Vranov 78.08 333 P **P 09 21 50.0 +0.4**
comp=Z,24nm,0.7s,mb5.2,baz=13,slow=3.5,SNR=15
VRAC Vranov 78.08 333 ⇓*i*P **P 09 21 52.4 +2.8**
VRAC Vranov 78.08 333 P **P 09 21 50.0 +0.4**
VRAC pmax pmax
comp=Z,24nm,0.7s
PRU Pruhonice 78.10 335 *e*P **P 09 21 52.8 +3.1**
PRU *e*PCP PcP 09 22 04.9 +5.6
DRGR 78.20 329 ⇓*i*P **P 09 21 51.8 +1.5**
DRGR 78.20 329 P **P 09 21 52.7 +2.4**
PSZ Piszkesteto 78.22 331 P **P 09 21 51.9 +1.5**
PSZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 78.22 331 *e*P **P 09 21 49.4 -1.0**
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 78.22 331 *e*P **P 09 21 53.2 +2.8**
MALT Malatya 78.26 314 ⇓*i*P **P 09 21 51.8 +1.2**
MALT Malatya 78.26 314 *e*P **P 09 21 51.4 +0.8**
MALT *e* 09 24 45.2
MALT pmax pmax
comp=Z,11nm,0.8s,mb4.8
MALT Malatya 78.26 314 *e*P **P 09 21 51.4 +0.8**
comp=Z,11nm,0.8s,mb4.8
MALT *e*PP PP 09 24 45.2 -2.2
JCT Junction City 78.32 58 *e*P **P 09 21 50.1 -0.8**
JCT pmax pmax
comp=Z,46nm,1.1s,mb5.3
JCT Junction City 78.32 58 *e*P **P 09 21 50.1 -0.8**
comp=Z,46nm,1.1s,mb5.3

MOX Moxa 78.34 337 *e*P **P 09 21 45.6 -5.4**
comp=Z,38nm,1.0s,mb5.3
MOX Moxa 78.34 337 *e*P **P 09 21 45.6 -5.4**
MOX pmax pmax
comp=Z,38nm,1.0s,mb5.3
SNX Sinaia 78.36 326 ⇑*i*P **P 09 21 52.1 +1.0**
NKC Novy Kostel 78.48 336 *e*P **P 09 21 54.8 +3.0**
NKC *e*PCP PcP 09 22 07.9 +7.0
STKA Stephens Creek 78.64 191 *e*P **P 09 21 53.0 +0.3**
comp=Z,12nm,0.9s,mb4.8
STKA Stephens Creek 78.64 191 P **P 09 21 53.4 +0.7**
comp=Z,15nm,0.8s,mb5.0,baz=346,slow=6.7,SNR=18
STKA LR LR 09 59 20.6
comp=Z,128nm,18.2s,MS4.3,baz=26,slow=38
MIAR Mount Ida 78.84 51 *e*P **P 09 21 52.5 -1.3**
MIAR pmax pmax
comp=Z,16nm,1.1s,mb4.9
MIAR Mount Ida 78.84 51 *e*P **P 09 21 52.5 -1.2**
comp=Z,16nm,1.1s,mb4.8
BUD Budapest 78.89 331 *e*PcP PcP 09 21 58.1 -4.6
ZST Bratislava 78.90 333 *e*P **P 09 21 56.7 +2.6**
comp=Z,19nm,0.8s,mb5.1
ZST LR LR
comp=Z,300nm,19.1s,MS4.7
KWE Weaver Farm 79.09 346 *e*P **P 09 21 58.3 +3.1**
KHC Kasperske Hory 79.15 335 *e*P **P 09 21 57.2 +1.7**
KHC *e*PCP PcP 09 22 10.8 +7.0
USIN University of 79.28 45 *e*P **P 09 21 54.4 -1.8**
comp=Z,31nm,1.2s,mb5.1
GRA1 Grafenberg Arr 79.31 337 *e*P **P 09 21 58.7 +2.4**
comp=Z,82nm,1.1s,mb5.6
GRA1 *e* 09 22 11.0
GRF Grafenberg Arr 79.31 337 *e*P **P 09 21 58.7 +2.4**
comp=Z,82nm,1.1s,mb5.6
GRF *e* 09 22 11.0
GRF Grafenberg Arr 79.31 337 *e*P **P 09 21 58.7 +2.4**
GRF *e* 09 22 11.0
GRF pmax pmax
comp=Z,82nm,1.1s,mb5.6
GRF Grafenberg Arr 79.31 337 *e*P **P 09 21 58.7 +2.4**
GRF *e* 09 22 11.0
GRF pmax pmax
comp=Z,82nm,1.1s,mb5.6
GRFO Grafenberg 79.31 337 *e*P **P 09 21 54.9 -1.4**
GRFO pmax pmax
comp=Z,51nm,0.9s,mb5.5
GRFO Grafenberg 79.31 337 *e*P **P 09 21 54.9 -1.4**
comp=Z,52nm,0.9s,mb5.5
GZR Gura Zlata 79.37 328 ⇓*i*P **P 09 21 57.6 +0.9**
GZR Gura Zlata 79.37 328 P **P 09 21 59.9 +3.2**
GEC2 GERESS Array S 79.37 335 *e*P **P 09 21 56.1 -0.6**
GERES GERESS Array B 79.37 335 P **P 09 21 56.3 -0.4**
comp=Z,5.9nm,0.7s,mb4.7,baz=34,slow=5.0,SNR=20
GERES GERESS Array B 79.37 335 P **P 09 21 56.3 -0.4**
GERES pmax pmax
comp=Z,6.0nm,0.7s
SBD1 Bryn Du 79.44 347 *e*P **P 09 22 00.7 +3.7**
BR131 Keskin Array S 79.47 318 *e*P **P 09 21 58.2 +1.0**
BRTR Keskin Array B 79.47 318 P **P 09 21 57.6 +0.3**
comp=Z,14nm,1.0s,mb4.8,baz=74,slow=4.0,SNR=16
BRTR PP PP 09 24 54.2 -3.3
comp=Z,3.0nm,0.8s,baz=49,slow=6.8,SNR=4.5
BRTR Keskin Array B 79.47 318 P **P 09 21 57.6 +0.3**
BRTR 09 24 54.2
BRTR pmax pmax
comp=Z,14nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SOP Sopron 79.53 333 ⇓*e*PcP PcP 09 22 01.4 -4.1
CONA Conrad Observa 79.53 333 ⇑*i*P **P 09 21 57.7 +0.1**
comp=Z,0.7nm,0.4s
CONA Conrad Observa 79.53 333 **P 09 22 01.3 +3.7**
comp=Z,25nm,1.3s,mb5.0
BZS Buzias 79.60 329 ⇑*i*P **P 09 22 00.5 +2.6**
BZS Buzias 79.60 329 P **P 09 22 00.9 +3.0**
HGN Heimansgroeve 79.66 340 *e*P **P 09 21 59.7 +1.4**
comp=Z,47nm,0.9s,mb5.4
HLM1 Long Mynd 79.75 346 *e*P **P 09 22 02.1 +3.4**
WCI Wyandotte Cave 79.75 44 *e*P **P 09 21 57.7 -1.0**
WCI pmax pmax
comp=Z,23nm,1.0s,mb5.1
WCI Wyandotte Cave 79.75 44 *e*P **P 09 21 57.7 -1.0**
comp=Z,23nm,1.0s,mb5.1
ANTO Ankara 79.75 318 ⇑*i*P **P 09 22 00.8 +2.0**
ANTO Ankara 79.75 318 *e*P **P 09 21 58.7 -0.1**
UMR Umm Al-Rimmam 79.78 302 *e*P **P 09 22 01.0 +2.0**
UMR AMb AMB 09 22 05.2
comp=Z,92nm,0.6s,mb5.9
TAOE Nuku Hiva Isla 79.79 114 *e*LR LR 09 46 23.7
comp=Z,730nm,22.9s
MEM Membach 79.79 340 AP pP 09 22 00.0 -3.1
MEM XP sP 09 22 02.1 -2.5
MIB Mutribah 79.82 303 *e*P **P 09 22 00.5 +1.4**
MIB AMb AMB 09 22 05.8
comp=Z,139nm,0.8s,mb6.0
79.84 325 P **P 09 22 01.8 +2.6**
ZIMR Strazhica 79.94 325 *e*P **P 09 22 04.6 +4.8**
SZH Tromm 80.03 338 *e*P **P 09 22 03.2 +2.9**
TOD Kabd 80.08 302 *e*P **P 09 22 01.1 +0.6**
KBD AMb AMB 09 22 06.7
comp=Z,184nm,0.6s,mb6.2
MOA Molln 80.09 334 ⇓*i*P **P 09 22 02.5 +2.0**
comp=Z,18nm,0.8s,mb5.0
ABH Alteburg 80.09 339 *e*P **P 09 22 03.2 +2.6**
BCLA Clavier 80.13 341 AP pP 09 22 01.8 -3.2
BCLA XP sP 09 22 03.1 -3.3
BCLA E 09 22 05.9
BCLA E 09 22 16.0
PKSM Moragy 80.13 331 ⇓*i*P **P 09 22 02.5 +1.7**
PVL Pavlikeni 80.22 325 *e*P **P 09 22 05.0 +3.7**
ARSA Arzberg 80.24 333 ⇓*i*P **P 09 22 03.1 +1.7**
comp=Z,15nm,0.9s,mb4.9
NAY Al-Naaiem 80.29 302 *e*P **P 09 22 01.7 +0.1**
NAY AMb AMB 09 22 08.3
comp=Z,32nm,0.8s,mb5.3
RDF Al-Radifah 80.34 302 *e*P **P 09 22 02.3 +0.4**
RDF AMb AMB 09 22 08.5
comp=Z,106nm,0.7s,mb5.9
FORT Forrest 80.34 203 *e*P **P 09 22 02.6 +0.6**
comp=Z,44nm,0.8s,mb5.4
GIVF Givet 80.53 341 *e*P **P 09 22 02.5 -0.5**
comp=Z,44nm,1.0s,mb5.0
GIVF Givet 80.53 341 *e*P **P 09 22 02.5 -0.5**
GIVF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GIVF Givet 80.53 341 *e*P **P 09 22 02.5 -0.5**
comp=Z,22nm,1.0s,mb5.0
HGH Gray Hill 80.58 346 *e*P **P 09 22 06.0 +2.7**
DOU Dourbes 80.59 341 P **P 09 22 01.0 -2.3**
DOU AP pP 09 22 03.6 -3.9
DOU E 09 22 20.4
WVT Waverly 80.63 47 P **P 09 22 02.5 -1.0**
WVT pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WVT Waverly 80.63 47 *e*P **P 09 22 02.1 -1.4**
comp=Z,9.2nm,0.9s,mb4.7
BAIF Baives 80.71 341 *e*P **P 09 22 03.1 -0.8**
comp=Z,31nm,0.8s,mb5.0
BAIF Baives 80.71 341 *e*P **P 09 22 03.1 -0.8**
BAIF pmax pmax
comp=Z,15nm,0.8s,mb5.0
BAIF Baives 80.71 341 *e*P **P 09 22 03.1 -0.8**
comp=Z,15nm,0.8s,mb5.0
KOGS Kog 80.72 332 *e*P **P 09 22 07.1 +3.2**
PERS Pernice 80.91 333 *e*P **P 09 22 08.0 +3.0**
PPT Papeete 81.01 127 *e*SS SS 09 37 07.3 -21
comp=Z,130nm,25.2s
PPT *e*LR LR 09 46 55.7
comp=Z,362nm,26.5s,baz=326
PPT Papeete 81.01 127 LR LR 09 51 27.5
comp=Z,184nm,19.2s,MS4.5,baz=302,slow=31
KBA Koelnbreinsper 81.06 334 ⇓*i*P **P 09 22 06.6 +0.8**
comp=Z,7.5nm,0.7s,mb4.8,SNR=12
KBA Koelnbreinsper 81.06 334 ⇓*i* **P 09 22 10.1 +4.3**
comp=Z,73nm,0.8s,mb5.7
KBA Koelnbreinsper 81.06 334 **P 09 22 10.1 +4.3**
comp=Z,73nm,0.8s,mb5.7
KBA Koelnbreinsper 81.06 334 P **P 09 22 06.6 +0.8**
KBA *e* pP 09 22 10.1 +0.1
OBKA Obir 81.20 333 ⇑*i*P **P 09 22 09.6 +3.1**
comp=Z,11nm,0.7s,mb4.9
BFO Black Forest 81.33 338 P **P 09 22 10.5 +3.3**
comp=Z,134nm,0.8s,mb5.9,SNR=6.1
BFO Black Forest 81.33 338 *e*P **P 09 22 06.5 -0.7**
BFO pmax pmax
comp=Z,25nm,0.9s,mb5.1
BFO Black Forest 81.33 338 *e*P **P 09 22 06.5 -0.7**
comp=Z,25nm,0.9s,mb5.1
BFO *e*PcP PcP 09 22 10.6 -2.7
WATA Walderalm 81.35 336 ⇓*i*P **P 09 22 07.8 +0.5**
comp=Z,6.1nm,0.6s,mb4.7
WATA Walderalm 81.35 336 ⇓*i* **P 09 22 11.3 +3.9**
comp=Z,15nm,0.5s,mb5.2
WATA Walderalm 81.35 336 **P 09 22 11.3 +3.9**
comp=Z,15nm,0.5s,mb5.2
WATA Walderalm 81.35 336 P **P 09 22 07.8 +0.5**
WATA *e* pP 09 22 11.3 -0.2
WTTA Wattenberg 81.39 336 ⇑*i*P **P 09 22 08.1 +0.5**
comp=Z,4.4nm,0.6s,mb4.6,SNR=8.8
WTTA Wattenberg 81.39 336 ⇓*i* **P 09 22 11.9 +4.3**
comp=Z,47nm,0.9s,mb5.4
WTTA Wattenberg 81.39 336 **P 09 22 11.9 +4.3**
comp=Z,47nm,0.9s,mb5.4
WTTA Wattenberg 81.39 336 P **P 09 22 08.1 +0.5**
WTTA *e* pP 09 22 11.9 +0.2
LEGS Legarje 81.46 333 *e* **P 09 22 10.5 +2.6**
MOTA Moosalm 81.47 336 ⇑*i*P **P 09 22 08.9 +0.9**
comp=Z,59nm,0.9s,mb5.5,SNR=13
MOTA Moosalm 81.47 336 ⇓*i* **P 09 22 11.9 +3.9**
comp=Z,59nm,0.9s,mb5.5
MOTA Moosalm 81.47 336 **P 09 22 11.9 +3.9**
comp=Z,59nm,0.9s,mb5.5
MOTA Moosalm 81.47 336 P **P 09 22 08.9 +0.9**
MOTA *e* pP 09 22 11.9 -0.3
HTL Hartland 81.48 347 *e*P **P 09 22 11.1 +3.1**
HTL AMb AMB 09 22 12.0
comp=Z,93nm,2.0s,mb5.4
DIVS Divcibare 81.50 329 *i*P **P 09 22 09.4 +1.3**
WLS Welschbruch 81.50 339 *e*P **P 09 22 09.5 +1.4**
CDF Champ du Feu 81.52 339 *e*P **P 09 22 07.3 -0.9**
comp=Z,99nm,1.1s,mb5.3
CDF Champ du Feu 81.52 339 *e*P **P 09 22 07.3 -0.9**
CDF pmax pmax
comp=Z,49nm,1.1s,mb5.3
CDF Champ du Feu 81.52 339 *e*P **P 09 22 07.3 -0.9**
comp=Z,49nm,1.1s,mb5.3
CRES Cresnjev 81.52 332 *e*P **P 09 22 10.9 +2.7**
SQTA Sankt Quirin 81.56 336 ⇑*i*P **P 09 22 10.6 +2.2**
comp=Z,4.5nm,0.7s,mb4.5
SQTA Sankt Quirin 81.56 336 ⇑*i* **P 09 22 12.8 +4.4**
comp=Z,48nm,1.0s,mb5.4
SQTA Sankt Quirin 81.56 336 **P 09 22 12.8 +4.4**
comp=Z,48nm,1.0s,mb5.4
SQTA Sankt Quirin 81.56 336 P **P 09 22 10.6 +2.2**
SQTA *e* pP 09 22 12.8 +0.2
VTS Vitosha 81.58 326 P **P 09 22 08.0 -0.6**
PTCC Patocco-Chiusa 81.66 334 P **P 09 22 10.6 +1.6**
GMNA Gemona 81.81 334 P **P 09 22 11.4 +1.6**
FELD Feldberg im Sc 81.83 338 *e*P **P 09 22 11.1 +1.2**
VOY Vojsko 81.83 334 *e*P **P 09 22 11.6 +1.7**
VOY *e* 09 22 26.2
DAVA Damuels 81.87 337 ⇓*i*P **P 09 22 10.5 +0.4**
comp=Z,5.7nm,0.8s,mb4.6
DAVA Damuels 81.87 337 ⇑*i* **P 09 22 13.6 +3.6**
comp=Z,24nm,0.9s,mb5.1
DAVA Damuels 81.87 337 **P 09 22 13.6 +3.6**
comp=Z,24nm,0.9s,mb5.1
DAVA Damuels 81.87 337 P **P 09 22 10.5 +0.4**
DAVA *e* pP 09 22 13.6 -0.6
DYA Yadsworthy 81.93 346 *e*P **P 09 22 13.9 +3.5**
MEZF Maizieres J'vi 81.98 340 *e*P **P 09 22 10.2 -0.5**
comp=Z,43nm,0.6s,mb5.2
MEZF Maizieres J'vi 81.98 340 *e*P **P 09 22 10.2 -0.5**
comp=Z,43nm,0.6s,mb5.5
THEF They Montfort 82.01 339 *e*P **P 09 22 12.8 +2.0**
MOF Molkenrain 82.07 339 *e*P **P 09 22 12.1 +0.9**
HAU Haudompre 82.13 339 *e*P **P 09 22 10.5 -0.9**
comp=Z,26nm,0.8s,mb4.9
HAU Haudompre 82.13 339 *e*P **P 09 22 10.5 -0.9**
HAU pmax pmax
comp=Z,13nm,0.8s,mb4.9
HAU Haudompre 82.13 339 *e*P **P 09 22 10.5 -0.9**
comp=Z,13nm,0.8s,mb4.9
HINF Hinteralfeld 82.18 339 *e*P **P 09 22 10.7 -1.0**
MMB Musomiste 82.23 325 *e*P **P 09 22 10.0 -2.0**
DAVOX Davos 82.33 336 P **P 09 22 13.2 +0.7**
comp=Z,16nm,0.7s,mb5.0,baz=24,slow=5.8,SNR=14
BRMO Bormio 82.47 336 P **P 09 22 14.9 +1.7**
VAY Valandovo 82.92 326 *e*P **P 09 22 18.6 +3.0**
FLN La Foliniere 82.92 344 *e*P **P 09 22 15.1 -0.5**
comp=Z,67nm,1.0s,mb5.3
FLN La Foliniere 82.92 344 *e*P **P 09 22 15.1 -0.5**
FLN pmax pmax
comp=Z,34nm,1.0s,mb5.3
FLN La Foliniere 82.92 344 *e*P **P 09 22 15.1 -0.5**
comp=Z,34nm,1.0s,mb5.3
GRR Gorron 83.36 344 *e*P **P 09 22 17.3 -0.5**
comp=Z,98nm,0.9s,mb5.5
GRR Gorron 83.36 344 *e*P **P 09 22 17.3 -0.5**
GRR pmax pmax
comp=Z,49nm,0.9s,mb5.5
GRR Gorron 83.36 344 *e*P **P 09 22 17.3 -0.5**
comp=Z,49nm,0.9s,mb5.5
LOR Lormes 83.42 340 *e*P **P 09 22 17.6 -0.5**
comp=Z,75nm,0.8s,mb5.5
LOR Lormes 83.42 340 *e*P **P 09 22 17.6 -0.5**
LOR pmax pmax
comp=Z,38nm,0.8s,mb5.5
LOR Lormes 83.42 340 *e*P **P 09 22 17.6 -0.5**
comp=Z,38nm,0.8s,mb5.5
CSS Prodhromos 83.42 315 *e*P **P 09 22 20.9 +2.8**
comp=Z,22nm,0.7s,mb5.3
CABF La Chapelle 83.49 339 *e*P **P 09 22 18.3 -0.2**
comp=Z,85nm,1.2s,mb5.4
CABF La Chapelle 83.49 339 *e*P **P 09 22 18.3 -0.2**
CABF pmax pmax
comp=Z,43nm,1.2s,mb5.3
CABF La Chapelle 83.49 339 *e*P **P 09 22 18.3 -0.2**
comp=Z,42nm,1.2s,mb5.3
SSF Saint Saulge 83.69 341 *e*P **P 09 22 19.2 -0.3**
comp=Z,49nm,0.8s,mb5.4
SSF Saint Saulge 83.69 341 *e*P **P 09 22 19.2 -0.3**
SSF pmax pmax
comp=Z,25nm,0.8s,mb5.4
SSF Saint Saulge 83.69 341 *e*P **P 09 22 19.2 -0.3**
comp=Z,25nm,0.8s,mb5.4
HYF Humbligny 83.69 341 *e*P **P 09 22 19.7 +0.1**
OHR Ohrid 83.78 327 *e*P **P 09 22 21.6 +1.6**
SGMF Saint Gilles 83.80 345 *e*P **P 09 22 20.1 0.0**
comp=Z,147nm,1.0s,mb5.8
SGMF Saint Gilles 83.80 345 *e*P **P 09 22 20.1 0.0**
SGMF pmax pmax
comp=Z,74nm,1.0s,mb5.8
SGMF Saint Gilles 83.80 345 *e*P **P 09 22 20.1 0.0**
comp=Z,74nm,1.0s,mb5.8
ASF Jabal al Asfar 83.82 311 P **P 09 22 21.2 +1.0**
comp=Z,13nm,1.0s,mb5.0,baz=286,slow=2.9,SNR=9.4
ASF Jabal al Asfar 83.82 311 P **P 09 22 21.2 +1.0**
ASF pmax pmax
comp=Z,13nm,1.0s
ROSF Rostrenen 83.85 345 *e*P **P 09 22 20.1 -0.3**
comp=Z,147nm,0.9s,mb5.8
ROSF Rostrenen 83.85 345 *e*P **P 09 22 20.1 -0.3**
ROSF pmax pmax
comp=Z,73nm,0.9s,mb5.8
ROSF Rostrenen 83.85 345 *e*P **P 09 22 20.1 -0.3**
comp=Z,73nm,0.9s,mb5.8
MMAI Mount Meron Ar 83.93 312 P **P 09 22 21.0 +0.2**
comp=Z,6.1nm,0.5s,mb5.0,baz=41,slow=7.7,SNR=12
AVF Avril sur Loir 83.98 341 *e*P **P 09 22 20.8 -0.2**
comp=Z,114nm,0.9s,mb5.7
AVF Avril sur Loir 83.98 341 *e*P **P 09 22 20.8 -0.2**
AVF pmax pmax
comp=Z,57nm,0.9s,mb5.7
AVF Avril sur Loir 83.98 341 *e*P **P 09 22 20.8 -0.2**
comp=Z,57nm,0.9s,mb5.7
SMF Signal de Mont 84.00 340 *e*P **P 09 22 20.7 -0.4**
comp=Z,140nm,1.0s,mb5.7
SMF Signal de Mont 84.00 340 *e*P **P 09 22 20.7 -0.4**
SMF pmax pmax
comp=Z,70nm,1.0s,mb5.8
SMF Signal de Mont 84.00 340 *e*P **P 09 22 20.7 -0.4**
comp=Z,70nm,1.0s,mb5.7
RSM Repubblica di 84.17 334 P **P 09 22 25.5 +3.5**
QUIF Quistinic 84.24 345 *e*P **P 09 22 22.4 +0.1**
FSSB Fossombrone 84.28 333 P **P 09 22 26.5 +3.9**
BGF Bois d'Agland 84.32 341 *e*P **P 09 22 22.4 -0.3**
comp=Z,36nm,0.6s,mb5.3
BGF Bois d'Agland 84.32 341 *e*P **P 09 22 22.4 -0.3**
BGF pmax pmax
comp=Z,18nm,0.6s,mb5.4

BGF	**Bois d'Agland**	**84.32**	**341**	*e*P		**P**	**09 22 22.4**	**-0.3**
	comp=Z,18nm,0.6s,mb5.4								
KLBR	**Kellerberrin**	**84.34**	**211**	*e*P		**P**	**09 22 23.0**	**+0.1**
	comp=Z,25nm,1.1s,mb5.2								
LPG	**La Plagne**	**84.36**	**338**	*e*P		**P**	**09 22 23.6**	**+0.7**
	comp=Z,76nm,0.7s,mb5.6								
LPG	**La Plagne**	**84.36**	**338**	*e*P		**P**	**09 22 23.6**	**+0.7**
LPG					pmax	pmax			
	comp=Z,38nm,0.7s,mb5.6								
LPG	**La Plagne**	**84.36**	**338**	*e*P		**P**	**09 22 23.6**	**+0.7**
	comp=Z,38nm,0.7s,mb5.6								
SFI	**Santa Sofia**	**84.38**	**334**	P		**P**	**09 22 27.7**	**+4.7**
CRE	**Caprese Michel**	**84.60**	**334**	P		**P**	**09 22 28.3**	**+4.1**
PLDF	**La Plantade**	**84.69**	**340**	*e*P		**P**	**09 22 29.5**	**+4.9**
TCF	**Toulx Ste Croi**	**84.72**	**341**	*e*P		**P**	**09 22 25.0**	**+0.2**
	comp=Z,87nm,0.9s,mb5.6								
TCF	**Toulx Ste Croi**	**84.72**	**341**	*e*P		**P**	**09 22 25.0**	**+0.2**
TCF					pmax	pmax			
	comp=Z,44nm,0.9s,mb5.6								
TCF	**Toulx Ste Croi**	**84.72**	**341**	*e*P		**P**	**09 22 25.0**	**+0.2**
	comp=Z,44nm,0.9s,mb5.6								
BNI	**Bardonecchia**	**84.79**	**338**	*e*P		**P**	**09 22 24.4**	**-0.7**
BNI					pmax	pmax			
	comp=Z,14nm,0.8s,mb5.1								
BNI	**Bardonecchia**	**84.79**	**338**	*e*P		**P**	**09 22 24.4**	**-0.7**
	comp=Z,14nm,0.8s,mb5.2								
BNI				*e*PcP		PcP	09 22 28.9	+0.3	
MFF	**Saint Martin d**	**84.92**	**343**	*e*P		**P**	**09 22 26.1**	**+0.3**
	comp=Z,36nm,0.7s,mb5.3								
MFF	**Saint Martin d**	**84.92**	**343**	*e*P		**P**	**09 22 26.1**	**+0.3**
MFF					pmax	pmax			
	comp=Z,18nm,0.7s,mb5.3								
MFF	**Saint Martin d**	**84.92**	**343**	*e*P		**P**	**09 22 26.1**	**+0.3**
	comp=Z,18nm,0.7s,mb5.3								
TERO	**Teramo**	**84.98**	**332**	P		**P**	**09 22 30.1**	**+4.0**
PYM	**Petit Puy Mans**	**85.04**	**340**	*e*P		**P**	**09 22 31.1**	**+4.7**
MBDF	**Montbardon**	**85.07**	**338**	*e*P		**P**	**09 22 26.2**	**-0.3**
	comp=Z,32nm,0.7s,mb5.2								
MBDF	**Montbardon**	**85.07**	**338**	*e*P		**P**	**09 22 26.2**	**-0.3**
MBDF					pmax	pmax			
	comp=Z,16nm,0.7s,mb5.3								
MBDF	**Montbardon**	**85.07**	**338**	*e*P		**P**	**09 22 26.2**	**-0.3**
	comp=Z,16nm,0.7s,mb5.3								
ORIF	**Oris-en-Rattie**	**85.12**	**338**	*e*P		**P**	**09 22 27.3**	**+0.5**
	comp=Z,75nm,0.8s,mb5.5								
ORIF	**Oris-en-Rattie**	**85.12**	**338**	*e*P		**P**	**09 22 27.3**	**+0.5**
ORIF					pmax	pmax			
	comp=Z,37nm,0.8s,mb5.6								
ORIF	**Oris-en-Rattie**	**85.12**	**338**	*e*P		**P**	**09 22 27.3**	**+0.5**
	comp=Z,37nm,0.8s,mb5.6								
DOI	**San Damiano**	**85.15**	**337**	P		**P**	**09 22 28.1**	**+1.2**
AQU	**L'Aquila**	**85.29**	**332**	*i*P		**P**	**09 22 31.3**	**+3.7**
VIVF	**Saint-Julien-l**	**85.48**	**339**	*e*P		**P**	**09 22 28.3**	**-0.3**
	comp=Z,106nm,1.0s,mb5.6								
VIVF	**Saint-Julien-l**	**85.48**	**339**	*e*P		**P**	**09 22 28.3**	**-0.3**
VIVF					pmax	pmax			
	comp=Z,53nm,1.0s,mb5.6								
VIVF	**Saint-Julien-l**	**85.48**	**339**	*e*P		**P**	**09 22 28.3**	**-0.3**
	comp=Z,53nm,1.0s,mb5.6								
IMI	**Imperia**	**85.52**	**337**	P		**P**	**09 22 31.5**	**+2.7**
SAOF	**Saorge**	**85.54**	**337**	*e*P		**P**	**09 22 32.6**	**+3.7**
AUTN	**L'Aution**	**85.57**	**337**	*e*P		**P**	**09 22 35.0**	**+6.0**
SBF	**Sospel**	**85.69**	**337**	*e*P		**P**	**09 22 28.8**	**-0.8**
	comp=Z,74nm,0.8s,mb5.7								
SBF	**Sospel**	**85.69**	**337**	*e*P		**P**	**09 22 28.8**	**-0.8**
SBF					pmax	pmax			
	comp=Z,37nm,0.8s,mb5.7								
SBF	**Sospel**	**85.69**	**337**	*e*P		**P**	**09 22 28.8**	**-0.8**
	comp=Z,37nm,0.8s,mb5.7								
NWAO	**Narrogin (SRO)**	**85.74**	**211**	P		**P**	**09 22 30.1**	**+0.2**
	comp=Z,27nm,0.9s,mb5.5,baz=24,slow=4.9,SNR=10								
NWAO	**Narrogin (SRO)**	**85.74**	**211**	*e*P		**P**	**09 22 30.3**	**+0.4**
NWAO					pmax	pmax			
	comp=Z,34nm,1.1s								
NWAO	**Narrogin (SRO)**	**85.74**	**211**	*e*P		**P**	**09 22 30.3**	**+0.5**
	comp=Z,34nm,1.1s,mb5.5								
TBI	**Tubuai**	**85.77**	**130**	*e*LR		LR	09 49 01.2		
	comp=Z,287nm,35.5s,baz=320								
RJF	**Les Rejaudoux**	**85.80**	**341**	*e*P		**P**	**09 22 29.7**	**-0.5**
	comp=Z,122nm,1.2s,mb5.7								
RJF	**Les Rejaudoux**	**85.80**	**341**	*e*P		**P**	**09 22 29.7**	**-0.5**
RJF					pmax	pmax			
	comp=Z,61nm,1.2s,mb5.7								
RJF	**Les Rejaudoux**	**85.80**	**341**	*e*P		**P**	**09 22 29.7**	**-0.5**
	comp=Z,61nm,1.2s,mb5.7								
CAF	**Calviac**	**86.04**	**341**	*e*P		**P**	**09 22 31.1**	**-0.3**
	comp=Z,65nm,0.9s,mb5.6								
CAF	**Calviac**	**86.04**	**341**	*e*P		**P**	**09 22 31.1**	**-0.3**
CAF					pmax	pmax			
	comp=Z,32nm,0.9s,mb5.5								
CAF	**Calviac**	**86.04**	**341**	*e*P		**P**	**09 22 31.1**	**-0.3**
	comp=Z,32nm,0.9s,mb5.6								
SMRF	**Simiane la Rot**	**86.08**	**338**	*e*P		**P**	**09 22 31.6**	**0.0**
	comp=Z,29nm,0.9s,mb5.2								
SMRF	**Simiane la Rot**	**86.08**	**338**	*e*P		**P**	**09 22 31.6**	**0.0**
	comp=Z,29nm,0.9s,mb5.5								
FRF	**La Foret Royal**	**86.18**	**337**	*e*P		**P**	**09 22 31.6**	**-0.5**
TAVF	**Tavernes**	**86.29**	**338**	*e*P		**P**	**09 22 37.2**	**+4.6**
LFF	**La Frestale**	**86.32**	**342**	*e*P		**P**	**09 22 31.8**	**-0.9**
	comp=Z,47nm,0.7s,mb5.5								
LFF	**La Frestale**	**86.32**	**342**	*e*P		**P**	**09 22 31.8**	**-0.9**
LFF					pmax	pmax			
	comp=Z,24nm,0.7s,mb5.5								
LFF	**La Frestale**	**86.32**	**342**	*e*P		**P**	**09 22 31.8**	**-0.9**
	comp=Z,24nm,0.7s,mb5.5								
PRAF	**Pradon**	**86.34**	**338**	*e*P		**P**	**09 22 38.1**	**+5.2**
LASF	**Ste Croix**	**86.42**	**339**	*e*P		**P**	**09 22 32.9**	**-0.3**
	comp=Z,34nm,0.9s,mb5.3								
LMR	**La Mourre**	**86.43**	**337**	*e*P		**P**	**09 22 33.0**	**-0.3**
	comp=Z,78nm,1.1s,mb5.6								
LMR	**La Mourre**	**86.43**	**337**	*e*P		**P**	**09 22 33.0**	**-0.3**
LMR					pmax	pmax			
	comp=Z,39nm,1.1s,mb5.5								
LMR	**La Mourre**	**86.43**	**337**	*e*P		**P**	**09 22 33.0**	**-0.3**
	comp=Z,39nm,1.1s,mb5.5								
PGF	**Pioggiola**	**86.46**	**335**	*e*P		**P**	**09 22 32.9**	**-0.5**
	comp=Z,57nm,1.1s,mb5.4								
PGF	**Pioggiola**	**86.46**	**335**	*e*P		**P**	**09 22 32.9**	**-0.5**
PGF					pmax	pmax			
	comp=Z,29nm,1.1s,mb5.4								
PGF	**Pioggiola**	**86.46**	**335**	*e*P		**P**	**09 22 32.9**	**-0.5**
	comp=Z,28nm,1.1s,mb5.4								
EIL	**Elat**	**86.82**	**311**	*e*P		**P**	**09 22 37.2**	**+2.0**
	comp=Z,768nm,1.1s								
TIP	**Timpagrande**	**86.97**	**329**	*e*P		**P**	**09 22 36.7**	**+0.8**
IDI	**Anoyia**	**87.07**	**321**	P		**P**	**09 22 37.4**	**+0.9**
	comp=Z,18nm,0.6s,mb5.5,baz=12,slow=11,SNR=4.8								
MTLF	**Montolieu**	**87.50**	**340**	*e*P		**P**	**09 22 37.9**	**-0.6**
	comp=Z,30nm,0.8s,mb5.3								
MTLF	**Montolieu**	**87.50**	**340**	*e*P		**P**	**09 22 37.9**	**-0.6**
MTLF					pmax	pmax			
	comp=Z,15nm,0.8s,mb5.3								
MTLF	**Montolieu**	**87.50**	**340**	*e*P		**P**	**09 22 37.9**	**-0.6**
	comp=Z,15nm,0.8s,mb5.3								
EPF	**Esparros**	**88.23**	**341**	*e*P		**P**	**09 22 41.0**	**-1.0**
	comp=Z,20nm,0.8s,mb5.1								
EPF	**Esparros**	**88.23**	**341**	*e*P		**P**	**09 22 41.0**	**-1.0**
EPF					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.1								
EPF	**Esparros**	**88.23**	**341**	*e*P		**P**	**09 22 41.0**	**-1.0**
	comp=Z,10nm,0.8s,mb5.1								
SJPF	**Ste Jean**	**88.48**	**343**	*e*P		**P**	**09 22 42.3**	**-0.9**
	comp=Z,45nm,1.1s,mb5.3								
SJPF	**Ste Jean**	**88.48**	**343**	*e*P		**P**	**09 22 42.3**	**-0.9**
SJPF					pmax	pmax			
	comp=Z,23nm,1.1s,mb5.3								
SJPF	**Ste Jean**	**88.48**	**343**	*e*P		**P**	**09 22 42.3**	**-0.9**
	comp=Z,23nm,1.1s,mb5.3								
ETSF	**Etsaut**	**88.55**	**342**	*e*P		**P**	**09 22 42.7**	**-0.8**
	comp=Z,13nm,0.6s,mb5.1								
ETSF	**Etsaut**	**88.55**	**342**	*e*P		**P**	**09 22 42.7**	**-0.8**
ETSF					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb5.2								
ETSF	**Etsaut**	**88.55**	**342**	*e*P		**P**	**09 22 42.7**	**-0.8**
	comp=Z,6.7nm,0.6s,mb5.2								
ESDC	**Sonseca Array**	**92.35**	**344**	P		**P**	**09 22 59.7**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.5,baz=359,slow=4.5,SNR=4.8								
RKT	**Rikitea**	**93.83**	**120**	*e*LR		LR	09 52 52.9		
	comp=Z,276nm,34.5s								
TORD	**Torodi Ar. Bea**	**116.06**	**330**	PKP		PKPdf	09 28 32.4	-1.4	
	comp=Z,0.7nm,0.6s,baz=354,slow=2.0,SNR=5.6								
TORD				PP		PP	09 29 34.0	-4.3	
	comp=Z,4.6nm,0.9s,baz=19,slow=6.4,SNR=10								
TORD				PKKPbc		PKKPbc	09 39 02.7	-1.2	
	comp=Z,0.9nm,0.8s,baz=202,slow=2.0,SNR=4.1								
TORD	**Torodi Ar. Bea**	**116.06**	**330**	PKP		PKPdf	09 28 32.4	-1.4	
TORD				PP		PP	09 29 34.0	-4.3	
TORD				PKKPbc		PKKPbc	09 39 02.7	-1.2	
MAW	**Mawson**	**132.31**	**211**	PKP		PKPdf	09 29 03.6	-1.3	
	comp=Z,4.1nm,1.0s,baz=144,slow=2.4,SNR=4.2								
MAW	**Mawson**	**132.31**	**211**	PKIKP		PKPdf	09 29 03.6	-1.3	
MAW					pmax	pmax			
	comp=Z,4.0nm,1.0s								
LPAZ	**La Paz**	**133.64**	**64**	PKP		PKPdf	09 29 08.0	+0.7	
	comp=Z,1.3nm,0.6s,baz=347,slow=4.9,SNR=8.2								
LPAZ	**La Paz**	**133.64**	**64**	PKIKP		PKPdf	09 29 08.0	+0.6	
LPAZ					pmax	pmax			
	comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**133.64**	**64**	*e*PKPdf		PKPdf	09 29 08.0	+0.6	
LBTB	**Lobatse**	**134.37**	**280**	PKP		PKPdf	09 29 09.5	+0.7	
	comp=Z,3.9nm,0.9s,baz=79,slow=7.5,SNR=4.9								
LBTB	**Lobatse**	**134.37**	**280**	PKIKP		PKPdf	09 29 09.5	+0.8	
LBTB					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BOSA	**Boshof**	**136.89**	**276**	PKP		PKPdf	09 29 13.4	0.0	
	comp=Z,4.8nm,1.1s,baz=93,slow=13,SNR=3.5								
BOSA	**Boshof**	**136.89**	**276**	PKIKP		PKPdf	09 29 13.4	0.0	
BOSA					pmax	pmax			
	comp=Z,5.0nm,1.1s								
SYO	**Syowa Base**	**141.02**	**211**	*e*PKPdf		PKPdf	09 29 21.6	+0.6	
CFAA	**Coronel Fontan**	**144.05**	**81**	PKP		PKPdf	09 29 23.3	-3.1	
	comp=Z,1.0nm,0.6s,baz=274,slow=3.2,SNR=22								
NVL	**N'lazarevskaya**	**149.59**	**203**	*e*PKP2		PKPab	09 29 37.9	-7.4	
NVL					pmax	pmax			
	comp=Z,38nm,1.3s								
USHA	**Ushuaia**	**151.71**	**124**	PKPbc		PKPbc	09 29 43.6	-1.7	
	comp=Z,24nm,0.9s,baz=308,slow=1.6,SNR=8.1								
TRQA	**Tornquist**	**151.86**	**86**	*e*PKPbc		PKPbc	09 29 44.1	-1.5	
PMSA	**Palmer Station**	**151.97**	**145**	PKPbc		PKPbc	09 29 43.7	-2.1	
	comp=Z,50nm,0.9s,baz=191,slow=1.7,SNR=8.1								
SNAA	**Sanae**	**152.34**	**195**	PKP		PKPdf	09 29 38.4	-1.5	
	comp=Z,0.3nm,0.7s,baz=213,slow=1.1,SNR=3.6								
SNAA					PKPbc	PKPbc	09 29 44.4	-2.3	
	comp=Z,5.0nm,0.9s,baz=161,slow=2.2,SNR=29								
SNAA	**Sanae**	**152.34**	**195**	PKP		PKPdf	09 29 38.4	-1.5	
SNAA				*e*PKPbc		PKPbc	09 29 44.5	-2.3	
SNAA				*e*PKPab		PKPab	09 29 55.5	-1.2	
VNA2	**Neumayer--Watz**	**153.76**	**193**	*e*PKPdf		PKPdf	09 29 42.8	+0.8	
VNA2				*e*			09 29 47.8		
VNA2				*e*			09 29 55.8		
VNA2				*e*			09 30 01.8		
VNA2				*e*			09 30 14.1		
VNA2				*e*			09 30 19.5		
VNA2				*e*			09 30 22.9		
VNA3	**Neumayer Olymp**	**153.81**	**191**	*e*PKPdf		PKPdf	09 29 42.7	+0.7	
VNA3				*e*			09 29 47.7		
VNA3				*e*			09 29 55.5		
VNA3				*e*			09 30 01.6		
VNA3				*e*			09 30 13.8		
VNA3				*e*			09 30 19.1		
VNA3				*e*			09 30 22.3		
VNA1	**Neumayer--Stat**	**154.14**	**193**	*e*PKPdf		PKPdf	09 29 43.4	+0.9	
VNA1				*e*			09 29 48.2		
VNA1				*e*			09 29 56.6		
VNA1				*e*			09 30 03.1		
VNA1				*e*			09 30 14.7		
VNA1				*e*			09 30 20.3		
VNA1				*e*			09 30 23.2		

IDC 21 09:10:04.8±4.7, 1561S×17294W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/16, mbtmp3.9/4, MS3.5/2, Ms1 3.5/2, ms1mx3.1/30, Error ellipse: s-maj=203.9km s-min=21.1km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.03**	**34**	Pn	Pn	09 10 40.8	+0.5
	15nm,0.3s,baz=144,slow=6.0,SNR=10						
AFI				Sn	Sn	09 11 06.2	-0.1
	170nm,0.3s,baz=143,slow=20,SNR=22						
AFI				LR	LR	09 11 08.6	
	comp=Z,479nm,19.4s,baz=283,slow=31						
STKA	**Stephens Creek**	**44.32**	**240**	P	P	09 18 16.5	0.0
	1.9nm,0.8s,baz=94,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	09 19 03.2	+0.6
	0.5nm,0.5s,baz=94,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**50.47**	**252**	P	P	09 19 04.7	+0.3
	2.7nm,0.7s,baz=88,slow=8.6,SNR=65						
NWAO	**Narrogin (SRO)**	**64.91**	**241**	LR	LR	09 49 25.3	
	comp=Z,59nm,18.2s,baz=328,slow=36						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPbc	09 29 48.3	0.0
	0.6nm,0.6s,baz=85,slow=2.6,SNR=3.9						

*ISK **21** 09:14:10.9, 4085N×3130E, h4km, MD3.7, ML3.9*
*IDC **21** 09:14:11.6±1.1, 4074N×3122E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/21, mbtmp3.5/6, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=21.8km s-min=9.5km az=44.0*
*NEIC **21** 09:14:11.1, 4085N×3129E, h5km, ML3.8(ISK), After ISK.*
*ISCJB **21** 09:14:11.4±0.4, 4087N±002×3131E±002, h8km±3km, mb3.5/2, Error ellipse: s-maj=3.5km s-min=2.4km az=161.5*
*SOF **21** 09:14:11.5, 4079N×3123E, h8km, MD3.0*
*CSEM **21** 09:14:11.1±0.0, 4084N×3129E, h5km, MD3.7, Error ellipse: s-maj=1.3km s-min=1.0km az=155.0*
*MOS **21** 09:14:12.1±1.0, 4086N×3130E, h10km, mb3.9/1, Error ellipse: s-maj=10.0km s-min=7.2km az=98.2*

ISC 21 09:14:12.0±0.4, 4082N±002×3132E±002, h5km±3km, n124, σ0s 97/153, mb3.5/2, 8C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HENT	**Hendek**	**0.32**	**270**	*i* P		**Pg**	**09 14 18.8**	**+0.6**
HENT				*i* S		**Sg**	**09 14 24.6**	**+2.2**
KDZE	**Karadeniz Ereo**	**0.50**	**11**	*i* PG		**Pg**	**09 14 21.3**	**-0.4**
KDZE				*i* SG		**Sg**	**09 14 27.9**	**-0.3**
SGKT	**Sivrigoynuk**	**0.61**	**114**	*i* P		**Pg**	**09 14 24.0**	**+0.2**
SGKT				*i* S		**Sg**	**09 14 31.7**	**-0.1**
GPA	**Golpazari**	**0.94**	**236**	PG		**Pg**	**09 14 29.3**	**-0.7**
GPA				SG		**Sg**	**09 14 42.9**	**+0.8**
GPA	**Golpazari**	**0.94**	**236**	Pg		**Pg**	**09 14 29.4**	**-0.6**
GPA				Sg		**Sg**	**09 14 42.4**	**+0.2**
GPA	**Golpazari**	**0.94**	**236**	Pg		**Pg**	**09 14 29.4**	**-0.6**
GPA				*e*Sg		**Sg**	**09 14 42.9**	**+0.8**
SAFT	**Safranbolu**	**1.12**	**68**	PN		**Pg**	**09 14 32.1**	**-1.4**
SAFT	**Safranbolu**	**1.12**	**68**	Pn		**Pg**	**09 14 31.9**	**-1.6**
BORA	**Eskisehir**	**1.15**	**215**	*i* P		**Pg**	**09 14 33.4**	**-0.7**
BORA				*i* S		**Sg**	**09 14 50.8**	**+1.8**
HRT	**Hereke**	**1.25**	**271**	PN		**Pn**	**09 14 34.4**	**-1.8**
HRT	**Hereke**	**1.25**	**271**	Pn		**Pn**	**09 14 35.0**	**-1.2**
HRT	**Hereke**	**1.25**	**271**	Pn		**Pn**	**09 14 35.0**	**-1.2**
ADVT	**Abdulvahap**	**1.26**	**253**	PN		**Pn**	**09 14 35.2**	**-1.2**
ADVT	**Abdulvahap**	**1.26**	**253**	Pn		**Pn**	**09 14 35.2**	**-1.2**
ESKT	**Eskisehir**	**1.35**	**196**	PN		**Pn**	**09 14 37.5**	**-0.1**
ESKT	**Eskisehir**	**1.35**	**196**	*i* P		**Pn**	**09 14 36.9**	**-0.7**
ESKT	**Eskisehir**	**1.35**	**196**	Pn		**Pn**	**09 14 37.5**	**0.0**
SEYT	**Eskypehyr**	**1.35**	**196**	*i* P		**Pn**	**09 14 36.9**	**-0.7**
ANTO	**Ankara**	**1.48**	**130**	PN		**Pn**	**09 14 39.2**	**-0.1**
ANTO	**Ankara**	**1.48**	**130**	↑*i* P		**Pn**	**09 14 38.6**	**-0.7**
ANTO	**Ankara**	**1.48**	**130**	Pn		**Pn**	**09 14 39.2**	**-0.1**
IZI	**Iznik**	**1.49**	**252**	PN		**Pn**	**09 14 39.6**	**+0.1**
IZI	**Iznik**	**1.49**	**252**	Pn		**Pn**	**09 14 39.3**	**-0.2**
IZI	**Iznik**	**1.49**	**252**	Pn		**Pn**	**09 14 39.3**	**-0.2**
YLV	**Yalova**	**1.50**	**261**	PN		**Pn**	**09 14 39.0**	**-0.7**
ELDT	**Eldivan**	**1.64**	**101**	*i* P		**Pn**	**09 14 41.8**	**+0.2**
ELDT				*i* S		**Sg**	**09 15 06.6**	**+1.9**
GEMT	**Gemlik**	**1.67**	**257**	PN		**Pn**	**09 14 41.5**	**-0.4**
BADT	**Buyukada**	**1.67**	**272**	PN		**Pn**	**09 14 42.1**	**+0.1**
BADT	**Buyukada**	**1.67**	**272**	Pn		**Pn**	**09 14 42.1**	**+0.2**
ISK	**Istanbul-Kandi**	**1.73**	**279**	PN		**Pn**	**09 14 43.0**	**+0.2**
CANT	**Cankiri**	**1.76**	**96**	PN		**Pn**	**09 14 43.6**	**+0.3**
CANT	**Cankiri**	**1.76**	**96**	Pn		**Pn**	**09 14 43.7**	**+0.4**
KLYT	**Kilyos**	**1.77**	**285**	PN		**Pn**	**09 14 43.2**	**-0.2**
ALT	**Altintas**	**1.99**	**208**	PN		**Pn**	**09 14 46.6**	**+0.2**
ALT	**Altintas**	**1.99**	**208**	Pn		**Pn**	**09 14 46.6**	**+0.2**
BRTR	**Keskin Array B**	**2.09**	**121**	Pn		**Pn**	**09 14 47.5**	**-0.3**
	14nm,0.3s,baz=293,slow=13,SNR=129							
BRTR				Pg		**Pg**	**09 14 50.9**	**-1.1**
	22nm,0.3s,baz=303,slow=15,SNR=156							
BRTR				Sn		**Sn**	**09 15 15.0**	**+0.9**
	8.2nm,0.3s,baz=297,slow=21,SNR=5.0							
BRTR				Lg			09 15 19.0	
	28nm,0.3s,baz=298,slow=23,SNR=13							
BRTR	**Keskin Array B**	**2.09**	**121**	P		**Pg**	**09 14 50.9**	**-1.1**
BRTR							09 15 15.0	
BRTR					pmax	pmax		
	comp=Z,22nm,0.3s							
BRTR					smax			
	comp=N,8.0nm,0.3s							
BRTR	**Keskin Array B**	**2.09**	**121**	Pg		**Pg**	**09 14 50.9**	**-1.1**
ELBA	**Catalca**	**2.21**	**279**	*i* P		**Pn**	**09 14 49.7**	**+0.3**
ELBA				*i* S		**Sg**	**09 15 22.7**	**-0.4**
CTT	**Catalca**	**2.21**	**279**	PN		**Pn**	**09 14 49.6**	**+0.2**
CTT	**Catalca**	**2.21**	**279**	Pn		**Pn**	**09 14 49.1**	**-0.3**
CTT	**Catalca**	**2.21**	**279**	Pn		**Pn**	**09 14 49.1**	**-0.3**
GDZ	**Gediz**	**2.23**	**220**	*i* P		**Pn**	**09 14 49.2**	**-0.5**
GDZ				*i* S		**Sg**	**09 15 23.4**	**-0.4**
BZK	**Bozkurt**	**2.32**	**60**	*e*PN		**Pn**	**09 14 51.0**	**+0.1**
KAMT	**Kaman**	**2.34**	**128**	*e*PN		**Pn**	**09 14 52.2**	**+1.0**
KAMT	**Kaman**	**2.34**	**128**	Pn		**Pn**	**09 14 52.2**	**+1.0**
SHUT	**Suhut-Afyon**	**2.34**	**195**	*e*PN		**Pn**	**09 14 51.7**	**+0.5**
CORM	**Corum**	**2.61**	**103**	*e*PN		**Pn**	**09 14 56.0**	**+1.1**
EDC	**Edincik**	**2.67**	**261**	*e*PN		**Pn**	**09 14 55.5**	**-0.3**
EDC	**Edincik**	**2.67**	**261**	Pn		**Pn**	**09 14 55.6**	**-0.2**
EDC	**Edincik**	**2.67**	**261**	Pn		**Pn**	**09 14 55.6**	**-0.2**
BYBT	**Boyabat**	**2.68**	**75**	*e*PN		**Pn**	**09 14 56.7**	**+0.8**
BYBT	**Boyabat**	**2.68**	**75**	Pn		**Pn**	**09 14 56.7**	**+0.8**
BTOK	**Tokmak**	**2.73**	**248**	*i* P		**Pb**	**09 15 01.6**	**+0.2**
BTOK				*i* S		**Sg**	**09 15 43.4**	**+3.7**
BOYT	**Boyabat**	**2.77**	**76**	*i* P		**Pb**	**09 15 01.6**	**-0.6**
BOYT				*i* S		**Sg**	**09 15 41.6**	**+0.5**
MRMT	**Marmara Adasi**	**2.84**	**267**	*e*PN		**Pn**	**09 14 57.8**	**-0.2**
KONT	**Konya--Tatoy**	**2.98**	**164**	*e*PN		**Pn**	**09 14 59.9**	**-0.2**
KONT	**Konya--Tatoy**	**2.98**	**164**	Pn		**Pn**	**09 14 59.2**	**-0.9**
MFT	**Murefte**	**3.06**	**271**	*e*PN		**Pn**	**09 15 01.6**	**+0.4**
DIKM	**Dikmen**	**3.08**	**73**	*e*PN		**Pn**	**09 15 02.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**3.15**	**269**	*e*PN		**Pn**	**09 15 02.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**3.15**	**269**	Pn		**Pn**	**09 15 02.1**	**-0.2**
CANB	**Canakkale**	**3.35**	**257**	*e*PN		**Pn**	**09 15 04.8**	**-0.2**
CANB	**Canakkale**	**3.35**	**257**	Pn		**Pn**	**09 15 04.3**	**-0.8**
CANB	**Canakkale**	**3.35**	**257**	Pn		**Pn**	**09 15 04.3**	**-0.7**
AVNT	**Avonos**	**3.40**	**126**	*i* P		**Pb**	**09 15 11.2**	**-1.7**
AVNT				*i* S		**Sg**	**09 15 59.8**	**-1.6**
KVT	**Kavak**	**3.59**	**84**	*e*PN		**Pn**	**09 15 09.6**	**+1.2**
KVT	**Kavak**	**3.59**	**84**	Pn		**Pn**	**09 15 09.7**	**+1.3**
EDRB	**Edirne**	**3.59**	**288**	*e*PN		**Pn**	**09 15 08.2**	**-0.2**
EDRB	**Edirne**	**3.59**	**288**	Pn		**Pn**	**09 15 08.3**	**-0.1**
EDRB	**Edirne**	**3.59**	**288**	Pn		**Pn**	**09 15 08.3**	**-0.

5.7nm,0.6s
WRA Warramunga Arr 19.28 153 P Pn 09 39 23.6 +0.6
0.1nm,0.3s,baz=332,slow=11,SNR=4.8
WRA LR LR 09 47 16.4
comp=Z,89nm,18.1s,baz=10.0,slow=38
ASAR Alice Springs 22.42 158 P P 09 39 54.7 -1.4
0.1nm,0.3s,baz=339,slow=7.5,SNR=6.3
STKA Stephens Creek 32.83 154 P P 09 41 31.9 +0.9
1.3nm,0.5s,baz=326,slow=11,SNR=3.0

MAN 21 09:39:58.1,1353N×12153E,h4km,mb3.4,ML4.6,MS1.2, 2C-4D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.32**	**103**	*eP*	Pg	09 40 04.5	+0.3
PGP	**Puerto Galera**	**0.56**	**267**‖	*eP*	Pg	09 40 09.7	+0.8
PGP				*eS*	Sg	09 40 17.5	+1.3
LQP	**Lukban**	**0.58**	**1**‖	*eP*	Pg	09 40 16.9	+7.7
TGY	**Tagaytay City**	**0.81**	**315**‖	*eP*	Pg	09 40 15.6	+1.9
TGY						09 40 27.6	
GQP	**Guinayangan**	**0.97**	**67**‖	*eP*	Pg	09 40 16.4	-0.3
OTRP	**Odiongan**	**1.25**	**157**	*eP*	Pg	09 40 21.6	-0.6
POLP	**Polilio Island**	**1.26**	**18**	*eP*	Pg	09 40 20.9	-1.3
LUBP	**Lubang**	**1.26**	**279**	*eP*	Pg	09 40 20.7	-1.6
LUBP				*eS*	Sg	09 40 39.4	+0.7
BUSP	**Coron**	**1.99**	**221**	*eP*	Pn	09 40 33.1	+0.6
PCPH	**Palayan**	**2.06**	**348**‖	*eP*	Pg	09 40 34.2	+0.7
PCPH				*eS*	Sn	09 41 01.3	+1.6
BALP	**Baler**	**2.20**	**1**	*eP*	Pn	09 40 35.5	+0.1
RCP	**Roxas**	**2.29**	**149**‖	*eP*	Pn	09 40 40.6	+4.0
PVCP	**Virac**	**2.56**	**88**	*eP*	Pn	09 40 41.4	+1.0
CUYO	**Cuyo Island**	**2.71**	**191**	*eP*	Pn	09 40 42.6	+0.2
ENPP	**El Nido**	**3.09**	**222**	*eP*	Pn	09 40 49.0	+1.3

*IDC **21** 09:53:00.3±5.7,3055S×17850W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/11,mbtmp3.9/3,Error ellipse: s-maj=212.5km s-min=55.0km az=151.0*
*ISCJB **21** 09:53:28.6±1.6,323S±02×1776W±04,h363km±22km, mb3.2/3,Error ellipse: s-maj=62.8km s-min=16.2km az=60.5*
ISC 21 09:53:32.5±1.6,325S±02×1778W±04,h373km±15km,n16, σ1§12/21,mb3.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.99**	**211**	PN	**Pn**	**09 55 03.8**	**-0.1**
MXZ				*e*SN	**S**	**09 56 17.9**	**-0.3**
PUZ	**Puketiti**	**6.44**	**209**	*e*PN	**Pn**	**09 55 09.6**	**+0.6**
PUZ				SN	**S**	**09 56 29.6**	**+2.1**
MWZ	**Matawai**	**6.97**	**212**	PN	**Pn**	**09 55 14.8**	**-0.2**
MWZ				*e*SN	**S**	**09 56 38.9**	**+0.3**
URZ	**Urewera**	**7.10**	**214**	*e*PN	**Pn**	**09 55 15.4**	**-1.1**
URZ				*e*SN	**S**	**09 56 40.5**	**-0.9**
KNZ	**Kokohu**	**7.48**	**208**	*e*PN	**Pn**	**09 55 22.6**	**+1.6**
BKZ	**Black Stump Fm**	**8.11**	**213**	PN	**Pn**	**09 55 27.4**	**-0.9**
PXZ	**Pawanui**	**8.67**	**208**	PN	**Pn**	**09 55 35.3**	**+0.5**
MRZ	**Mangatainoka R**	**9.74**	**211**	*e*PN	**Pn**	**09 55 46.6**	**-0.7**
MRZ				SN	**S**	**09 57 37.9**	**-0.1**
MTW	**Mount Morrison**	**10.18**	**210**	*e*PN	**Pn**	**09 55 51.5**	**-1.0**
NNZ	**Nelson**	**11.21**	**216**	*e*PN	**Pn**	**09 56 03.7**	**-0.8**
NNZ				*e*SN	**S**	**09 58 06.9**	**-2.9**
THZ	**Tophouse**	**11.85**	**216**	*e*PN	**Pn**	**09 56 12.5**	**+0.4**
LTZ	**Lake Taylor**	**12.93**	**214**	*e*SN	**S**	**09 58 46.7**	**+1.9**
STKA	**Stephens Creek**	**34.21**	**260**	P	**P**	**09 59 47.0**	**+2.5**
	1.9nm,0.6s,mb3.5,baz=109,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**43.19**	**269**	P	**P**	**10 00 58.1**	**0.0**
	0.6nm,0.6s,mb2.9,baz=106,slow=7.5,SNR=10.0						
WRA	**Warramunga Arr**	**44.37**	**274**	P	**P**	**10 01 06.8**	**-0.6**
	0.6nm,0.3s,mb3.2,baz=111,slow=8.0,SNR=34						
FINES	**FINESS Array B**	**147.14**	**339**	PKPbc	PKPbc	10 12 38.2	+6.1
	1.0nm,0.7s,baz=57,slow=7.0,SNR=4.0						

*IDC **21** 09:57:52.5±0.9,4680N×15540E,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.8/25,mbtmp3.8/10,ML3.5/2,Error ellipse: s-maj=25.1km s-min=21.2km az=128.0*
*MOS **21** 09:57:54.7±1.6,4698N×15533E,h29km,mb4.1/7,Error ellipse: s-maj=25.8km s-min=16.5km az=66.7*
*ISCJB **21** 09:57:56.0±0.8,468N±01×1553E±02,h35km,mb3.8/8, Error ellipse: s-maj=21.4km s-min=13.7km az=107.5*
ISC 21 09:57:57.6±0.8,469N±01×1554E±02,h35km,n19, σ0§66/19,mb3.8/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.52**	**18**	*e*PN	**Pn**	**09 59 27.1**	**-3.9**
PET				pmax	pmax		
	comp=Z,15nm,0.5s						
ASAJ	**Asahikawa**	**9.38**	**258**	Pn	**Pn**	**10 00 10.9**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=130,slow=11,SNR=8.0						
ASAJ	**Asahikawa**	**9.38**	**258**	PN	**Pn**	**10 00 10.9**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.41**	**237**	Pn	**Pn**	**10 01 45.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=35,slow=10,SNR=7.8						
SONM	**Songino Array**	**32.75**	**290**	P	**P**	**10 04 27.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=88,slow=13,SNR=2.9						
INK	**Inuvik**	**40.72**	**33**	P	**P**	**10 05 35.2**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.7,baz=255,slow=8.9,SNR=5.4						
INK	**Inuvik**	**40.72**	**33**	P	**P**	**10 05 35.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**10 06 34.3**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=52,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**10 06 34.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**10 07 03.4**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=59,slow=8.8,SNR=8.6						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**10 07 03.4**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.59**	**336**	P	**P**	**10 08 31.6**	**+0.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=62,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**64.59**	**336**	P	**P**	**10 08 31.6**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**10 08 59.3**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=24,slow=6.5,SNR=5.9						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**10 08 59.3**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.83**	**201**	P	**P**	**10 09 23.1**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=15,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**72.83**	**201**	P	**P**	**10 09 23.2**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**76.08**	**62**	P	**P**	**10 09 42.0**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=301,slow=4.0,SNR=6.4						
TXAR	**Lajitas Array**	**76.08**	**62**	P	**P**	**10 09 42.0**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **21** 10:05:21.9±4.4,4664N±008×1550E±01,h5km±27km, mb4.2/28,Error ellipse: s-maj=15.2km s-min=10.6km az=122.7*
*IDC **21** 10:05:22.6±0.7,4657N×155.16E,h0km,mb4.1/18, mb1 4.2/20,mb1mx4.2/27,mbtmp4.1/20,ML3.5/2,Error ellipse: s-maj=18.9km s-min=15.5km az=155.0*
*NEIC **21** 10:05:24.3±0.4,4661N×15504E,h10km,mb4.7/6,Error ellipse: s-maj=12.7km s-min=8.6km az=172.0*
*MOS **21** 10:05:25.7±1.6,4664N×15499E,h31km,mb4.5/12,Error ellipse: s-maj=12.5km s-min=10.5km az=108.3*
ISC 21 10:05:27.6±3.5,4667N±008×1550E±01,h31km±24km,n57, σ1§12/56,mb4.2/28,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.09**	**10**	*e*PN	**Pn**	**10 06 26.0**	**-1.9**
KUR	**Kuril'sk**	**5.17**	**256**‖	*i*PN	**Pn**	**10 06 40.0**	**-2.8**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.40**	**276**	*e*PN	**Pn**	**10 07 32.2**	**+5.1**
YSS	**Yuzh-Sakhalins**	**8.40**	**276**	*e*P	**P**	**10 07 33.2**	**+6.1**
ASAJ	**Asahikawa**	**9.09**	**258**	Pn	**Pn**	**10 07 37.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=3.8,slow=14,SNR=5.9						
ASAJ	**Asahikawa**	**9.09**	**258**	PN	**Pn**	**10 07 37.2**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.77**	**288**	*e*P	**Pn**	**10 09 09.0**	**+1.7**
MJAR	**Matsushiro Arr**	**16.09**	**237**	Pn	**Pn**	**10 09 12.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=3.8						
KSRS	**Korea Array**	**22.01**	**255**	P	**P**	**10 10 21.1**	**+1.9**
	comp=Z,2.8nm,0.6s,mb3.9,baz=55,slow=10,SNR=9.5						
BILL	**Bilibino**	**22.20**	**11**	*e*P	**P**	**10 10 23.6**	**+2.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.9						
BOD	**Bodaibo**	**27.04**	**309**	*e*P	**P**	**10 11 04.5**	**-2.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.7						
TIXI	**Tiksi**	**27.92**	**343**	*e*P	**P**	**10 11 15.2**	**+0.3**
SONM	**Songino Array**	**32.58**	**290**	P	**P**	**10 11 55.3**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=59,slow=7.2,SNR=3.9						
ZAK	**Zakamensk**	**33.88**	**296**	*e*P	**P**	**10 12 06.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**43.72**	**306**	P	**P**	**10 13 28.5**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.1,baz=61,slow=7.9,SNR=5.0						
ZAL	**Zalesovo**	**43.72**	**306**	P	**P**	**10 13 28.5**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**10 14 04.8**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=70,slow=8.4,SNR=7.4						
MKAR				PcP	PcP	10 15 31.5	-0.2
	comp=Z,0.4nm,0.6s,baz=51,slow=2.9,SNR=3.6						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**10 14 29.2**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**10 14 29.2**	**-0.7**
	comp=Z,8.6nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**10 14 32.8**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.4,baz=60,slow=8.2,SNR=12						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**10 14 32.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**10 14 32.5**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**55.02**	**297**	*e*P	**P**	**10 14 56.2**	**+0.1**
ARU	**Arti**	**55.94**	**318**	*e*P	**P**	**10 15 02.5**	**-0.2**
ARU	**Arti**	**55.94**	**318**	*e*P	**P**	**10 15 02.5**	**-0.2**
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 15 18.3**	**-1.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=14,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 15 18.3**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.35**	**341**	P	**P**	**10 15 18.3**	**-1.4**
RRI2	**Red Ridge**	**62.38**	**55**	*e*P	**P**	**10 15 48.4**	**+1.2**
REDW	**Red Top Meadow**	**62.64**	**55**	*e*P	**P**	**10 15 49.8**	**+0.8**
	comp=Z,4.1nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**	**10 15 55.5**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=302,slow=2.1,SNR=18						
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**10 16 03.0**	**+0.8**
	comp=Z,1.7nm,0.3s,mb4.5,baz=38,slow=7.0,SNR=29						
SRU	**San Rafael**	**65.57**	**58**	*e*P	**P**	**10 16 08.2**	**0.0**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SRU	**San Rafael**	**65.57**	**58**	*e*P	**P**	**10 16 08.2**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5						
ULM	**Lac du Bonnet**	**65.73**	**42**	P	**P**	**10 16 08.1**	**-1.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=1.0,slow=21,SNR=3.1						
GLA	**Glamis**	**66.94**	**66**	*e*P	**P**	**10 16 17.2**	**+0.2**
NB2	**NORSAR Subarra**	**68.71**	**342**	P	**P**	**10 16 30.2**	**+2.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.71**	**342**	P	**P**	**10 16 30.1**	**+2.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=5.0						
NOA	**NORSAR Array B**	**68.71**	**342**	P	**P**	**10 16 30.1**	**+1.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**68.88**	**201**	P	**P**	**10 16 27.9**	**-1.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=19,slow=6.7,SNR=7.3						
HFS	**Hagfors**	**68.98**	**340**	P	**P**	**10 16 31.4**	**+1.6**
	comp=Z,2.7nm,0.4s,mb4.5,baz=60,slow=5.8,SNR=24						
HFS	**Hagfors**	**68.98**	**340**	P	**P**	**10 16 31.4**	**+1.6**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ANMO	**Albuquerque**	**70.77**	**59**	P	**P**	**10 16 40.7**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=306,slow=7.0,SNR=6.9						
ANMO	**Albuquerque**	**70.77**	**59**	P	**P**	**10 16 40.7**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.32**	**327**	P	**P**	**10 16 51.1**	**+0.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=38,slow=7.2,SNR=4.8						
AKASG	**Malin Array Be**	**72.32**	**327**	P	**P**	**10 16 51.1**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.56**	**200**	P	**P**	**10 16 51.4**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=18,slow=4.9,SNR=25						
LTX	**Lajitas**	**76.40**	**62**	*e*P	**P**	**10 17 14.0**	**+0.1**
LTX				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LTX	**Lajitas**	**76.40**	**62**	*e*P	**P**	**10 17 14.0**	**+0.1**
	comp=Z,8.3nm,0.7s,mb4.8						
TXAR	**Lajitas Array**	**76.40**	**62**	P	**P**	**10 17 13.9**	**0.0**
	comp=Z,5.4nm,0.5s,mb4.7,baz=303,slow=4.8,SNR=106						
EKA	**Eskdalemuir Ar**	**76.71**	**347**	P	**P**	**10 17 16.9**	**+1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=18,slow=4.9,SNR=7.8						
EKA	**Eskdalemuir Ar**	**76.71**	**347**	P	**P**	**10 17 16.9**	**+1.2**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JCT	**Junction City**	**77.88**	**58**	*e*P	**P**	**10 17 21.5**	**-0.7**
JCT				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
JCT	**Junction City**	**77.88**	**58**	*e*P	**P**	**10 17 21.5**	**-0.7**
	comp=Z,9.0nm,1.3s,mb4.5						
GERES	**GERESS Array B**	**79.08**	**335**	P	**P**	**10 17 28.2**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=123,slow=4.9,SNR=4.5						
MMAI	**Mount Meron Ar**	**83.83**	**313**	P	**P**	**10 17 54.9**	**+0.9**
	comp=Z,0.7nm,0.3s,mb4.2,baz=56,slow=7.7,SNR=3.6						
CBYP	**Canovanas**	**105.61**	**40**	*e*Pdif	Pdif	10 19 35.1	+0.5

*ISCJB **21** 10:10:21.8±1.5,2170N±010×143.1E±03,h314km±13km, mb3.7/10,Error ellipse: s-maj=38.9km s-min=15.4km az=173.1*
*IDC **21** 10:10:22.6±1.7,2172N×14302E,h305km±16km,mb3.4/11, mb1 3.5/13,mb1mx3.4/25,mbtmp3.4/13,Error ellipse: s-maj=24.4km s-min=12.0km az=87.0*
*NEIC **21** 10:10:24.3±3.0,2172N×14291E,h323km±30km,Error ellipse: s-maj=27.7km s-min=10.8km az=88.0*
ISC 21 10:10:22.9±1.5,2176N±010×1431E±03,h310km±13km, n16,σ0§66/16,mb3.7/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.38**	**351**	P	**Pn**	**10 11 45.1**	**0.0**
	36nm,0.3s,baz=304,slow=20,SNR=20						
CBIJ				S	**S**	**10 12 51.0**	**-0.5**
	11nm,0.3s,baz=223,slow=21,SNR=4.1						
MJAR	**Matsushiro Arr**	**15.33**	**345**	P	**P**	**10 13 43.6**	**+0.6**
	0.4nm,0.3s,baz=229,slow=9.6,SNR=4.3						
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**10 14 38.5**	**+1.1**
	1.8nm,0.6s,baz=146,slow=8.4,SNR=8.6						
WRA	**Warramunga Arr**	**42.32**	**192**	P	**P**	**10 17 46.1**	**-0.8**
	0.5nm,0.3s,mb3.2,baz=9.5,slow=7.9,SNR=9.0						
ASAR	**Alice Springs**	**46.02**	**192**	P	**P**	**10 18 16.3**	**+0.2**
	0.3nm,0.5s,mb2.9,baz=16,slow=7.0,SNR=3.4						
STKA	**Stephens Creek**	**53.35**	**182**	P	**P**	**10 19 11.6**	**+0.7**
	1.4nm,0.9s,mb3.3,baz=317,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**54.59**	**313**	P	**P**	**10 19 19.9**	**+0.1**
	0.4nm,0.5s,mb3.1,baz=92,slow=8.3,SNR=5.7						
MKAR				PcP	PcP	10 20 18.6	0.0
	0.3nm,0.4s,baz=59,slow=6.6,SNR=5.0						
BVAR	**Borovoye Array**	**62.57**	**319**	P	**P**	**10 20 14.4**	**-0.1**
	3.0nm,0.3s,mb4.3,baz=96,slow=7.7,SNR=16						
INK	**Inuvik**	**67.55**	**24**	P	**P**	**10 20 46.5**	**+0.2**
	0.6nm,0.6s,mb3.5,baz=252,slow=3.2,SNR=3.2						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**10 21 39.3**	**+0.5**
	2.0nm,0.6s,mb3.9,baz=293,slow=6.1,SNR=8.9						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**10 21 39.3**	**+0.5**
ARCES	**ARCESS Array B**	**78.84**	**341**	P	**P**	**10 21 52.1**	**+0.2**
	5.2nm,0.8s,mb4.3,baz=68,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**83.09**	**334**	P	**P**	**10 22 13.2**	**-1.0**
	2.0nm,0.5s,mb4.2,baz=76,slow=4.5,SNR=16						
HFS	**Hagfors**	**88.64**	**337**	P	**P**	**10 22 39.8**	**-1.4**
	1.1nm,0.6s,mb3.9,baz=90,slow=5.9,SNR=6.3						
HFS	**Hagfors**	**88.64**	**337**	P	**P**	**10 22 39.8**	**-1.4**
LPAZ	**La Paz**	**150.02**	**85**	PKPbc	PKPbc	10 29 39.1	+2.3
	1.0nm,0.5s,baz=285,slow=2.8,SNR=7.5						

*JMA **21** 10:14:30.3±0.7,4568N×15293E,h30km,M4.3*
*ISCJB **21** 10:14:38.8±3.2,463N±02×1516E±02,h16km±23km, mb3.7/7,Error ellipse: s-maj=30.8km s-min=11.9km az=106.5*
*IDC **21** 10:14:38.4±1.1,4651N×15180E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,ML3.7/1,Error ellipse: s-maj=28.8km s-min=28.0km az=126.0*
ISC 21 10:14:40.5±3.3,463N±01×1516E±02,h16km±21km,n23, σ1§41/18,mb3.7/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.12**	**237**	P	Px	10 15 51.1	
NEM2				*e*S	Sx	10 16 51.0	
JRA	**Rausu**	**5.18**	**245**	P	**Pn**	**10 15 56.7**	**-0.7**
JNK	**Nakash**	**5.62**	**243**	P	**Pn**	**10 16 01.3**	**-2.0**
JTKR	**Abashiri--Toko**	**5.95**	**250**	P	**Pn**	**10 16 08.3**	**+0.4**
JAK	**Akkeshi**	**5.96**	**239**	P	Px	10 16 03.1	
JAK				*e*S	Sx	10 17 11.7	
JMP	**Maruseppu**	**6.29**	**252**	P	**Pn**	**10 16 13.9**	**+1.3**
JAR	**Ashorobuto**	**6.36**	**245**	P	**Pn**	**10 16 11.7**	**-1.8**
JAR				*e*S	**Sn**	**10 17 27.0**	**+1.2**
JOB	**Onbets**	**6.53**	**241**	*e*S	**Sn**	**10 17 27.9**	**-2.1**
JKK2	**Kamakawa 2**	**6.75**	**252**	P	**Pn**	**10 16 20.5**	**+1.6**
ASAJ	**Asahikawa**	**6.75**	**254**	Pn	**Pn**	**10 16 20.8**	**+1.8**
	1.2nm,0.3s,baz=72,slow=23,SNR=11						
JCH	**Churui**	**6.98**	**241**	P	Px	10 16 17.9	
JCH				*e*S	Sx	10 17 37.2	
JNBK	**Urakawa-nobuka**	**7.54**	**241**	P	**Pn**	**10 16 25.3**	**-4.5**
JNBK				*e*S	Sx	10 17 48.9	
JNB	**Noboribetsu**	**8.51**	**247**	P	**Pn**	**10 16 41.8**	**-1.2**
JKB	**Kayabe**	**8.82**	**244**	*e*S	Sx	10 18 21.3	
JANG	**Nango**	**9.46**	**235**	*e*S	Sx	10 18 27.1	
JTH	**Tanohata**	**9.57**	**232**	*e*S	Sx	10 18 29.9	
SONM	**Songino Array**	**30.52**	**290**	P	**P**	**10 20 54.3**	**+1.3**
	0.2nm,0.4s,mb3.3,baz=77,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**46.24**	**297**	P	**P**	**10 23 06.5**	**+1.5**
	0.4nm,0.5s,mb3.6,baz=61,slow=6.7,SNR=4.6						
ARCES	**ARCESS Array B**	**57.93**	**340**	P	**P**	**10 24 31.6**	**-0.3**
	3.7nm,0.9s,mb4.4,baz=45,slow=6.0,SNR=4.1						
FINES	**FINESS Array B**	**64.00**	**334**	P	**P**	**10 25 11.2**	**-1.9**
	1.0nm,0.4s,mb4.2,baz=37,slow=6.5,SNR=9.4						
AKASG	**Malin Array Be**	**71.34**	**325**	P	**P**	**10 25 58.1**	**-1.4**
	0.9nm,0.4s,mb4.0,baz=39,slow=5.8,SNR=4.0						
ASAR	**Alice Springs**	**71.48**	**197**	P	**P**	**10 26 01.9**	**+1.5**
	0.1nm,0.7s,mb2.9,baz=2.9,slow=7.4,SNR=3.6						
TXAR	**Lajitas Array**	**78.59**	**60**	P	**P**	**10 26 41.6**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=305,slow=4.4,SNR=7.5						

*IDC **21** 10:16:23.8±0.7,4746N×155.11E,h0km,mb4.3/24, mb1 4.5/25,mb1mx4.4/30,mbtmp4.3/25,ML4.1/1,MS4.0/9, Ms1 4.0/9,ms1mx3.5/34,Error ellipse: s-maj=19.0km s-min=13.3km az=166.0*
*NEIC **21** 10:16:25.7±0.4,4738N×15523E,h10km,mb4.9/33,Error ellipse: s-maj=12.6km s-min=6.1km az=166.0*
*BJI **21** 10:16:27.5,4798N×155.15E,h30km,mB4.9,mb4.6,Ms4.5, Msz4.1*
*ISCJB **21** 10:16:29.3±0.3,4775N±005×155.12E±005,h42km, mb4.6/79,MS4.2/22,Error ellipse: s-maj=8.0km s-min=3.8km az=140.1*
*MOS **21** 10:16:30.3±1.4,4779N×15507E,h51km,mb4.8/41,Error ellipse: s-maj=10.6km s-min=6.6km az=101.4*
*SZGRF **21** 10:17:03.3,5240N×16094E,h33km,mb4.9,Off east coast of Kamchatka Peninsula, Russia*
ISC 21 10:16:31.3±0.3,4773N±005×15509E±005,h44km, h44km±1.2km:pP-P,n192,σ1§15/206,mb4.6/78,MS4.2/22, 7C-5D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.03**	**12**	*e*PN	**Pn**	**10 17 13.9**	**-2.8**
SKR				*e*S	**Sn**	**10 17 47.5**	**-4.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,230nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
SKR				MLR	MLR		
	comp=N,6µm,16.0s						
SKR				MLR	MLR		
	comp

CLNS MLR MLR
comp=Z,400nm,14.0s,MS3.9
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,1µm,13.0s,MS4.5
CN2 Changchun 20.98 270 *e*P **P** **10 21 06.5 -4.2**
CN2 *e*XP sP 10 21 22.5 -4.5
CN2 *e*S **S** **10 24 52.9 -9.1**
CN2 AMB AMB
comp=Z,10.0nm,1.5s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,15.0s,MS4.2
CN2 LR LR
comp=E,600nm,15.0s,MS4.2
CN2 LR LR
comp=Z,500nm,15.0s,MS4.0
BILL Bilibino 21.14 12 *e*P **P** **10 21 11.6 -0.9**
BILL *e* 10 21 29.4
BILL pmax pmax
comp=Z,37nm,1.5s,mb4.5
BILL Bilibino 21.14 12 *e*P **P** **10 21 14.3 +1.8**
comp=Z,31nm,1.1s,mb4.5
KSRS Korea Array 22.38 253 P **P** **10 21 24.6 -1.0**
comp=Z,12nm,1.0s,mb4.3,baz=52,slow=9.9,SNR=14
KS15 Wonju Array Si 22.41 253 *e*P **P** **10 21 24.4 -1.6**
KS15 *e*pP 10 21 38.0
JNU Nakatsue 23.38 240 LR LR 10 31 00.9
comp=Z,511nm,18.7s,MS4.0,baz=83,slow=38
BOD Bodaibo 26.43 308 *e*P **P** **10 22 01.9 -1.9**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.0
TIXI Tiksi 26.93 342 *e*P **P** **10 22 06.4 -1.9**
TIXI *e* pP 10 22 18.9 -1.2
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
TIXI MLR MLR
comp=Z,418nm,14.0s,MS4.2
BJI Beijing 28.84 269 P **P** **10 22 25.3 -0.1**
BJI S **S** **10 27 04.5 -7.8**
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
BJI LR LR
comp=N,518nm,16.3s,MS4.3
BJI LR LR
comp=E,306nm,16.3s,MS4.3
BJI LR LR
comp=Z,339nm,18.8s,MS4.0
BJI Beijing 28.84 269 P **P** **10 22 25.3 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
BJI S **S** **10 27 04.5 -7.8**
BJI LR LR
comp=Z,340nm,18.8s,MS4.0
HHC Hu-ho-hao-te 31.57 274 ⇓P **P** **10 22 49.5 0.0**
HHC AP pP 10 23 01.4 0.0
HHC XP sP 10 23 07.3 +0.6
HHC PP PP 10 23 55.9 -5.4
HHC PCP PcP 10 25 40.5 -0.7
HHC S **S** **10 27 54.1 -1.0**
HHC XS sS 10 28 15.3 +0.3
HHC SS SS 10 29 45.6 -26
HHC AMB AMB
comp=Z,15nm,1.5s,mb4.6
HHC AMB AMB
comp=Z,167nm,5.7s
HHC LR LR
comp=N,281nm,13.1s,MS4.3
HHC LR LR
comp=E,326nm,13.9s,MS4.3
HHC LR LR
comp=Z,288nm,14.5s,MS4.1
NJ2 Nanjing 31.57 253 *e*P **P** **10 22 51.0 +1.5**
NJ2 AP pP 10 23 02.0 +0.6
NJ2 XP sP 10 23 08.3 +1.6
NJ2 PP PP 10 23 56.1 -5.2
NJ2 S **S** **10 27 55.0 -0.1**
NJ2 XS sS 10 28 14.5 -0.5
NJ2 AMB AMB
comp=Z,540nm,4.2s
NJ2 LR LR
comp=N,2µm,13.6s,MS4.9
NJ2 LR LR
comp=E,1µm,15.5s,MS4.9
NJ2 LR LR
comp=Z,670nm,13.4s,MS4.5
ULN Ulaanbaatar 31.86 288⇑ *e*P **P** **10 22 50.8 -1.2**
ULN Ulaanbaatar 31.86 288 *e*P **P** **10 22 50.9 -1.1**
SONM Songino Array 32.29 289 P **P** **10 22 54.0 -1.8**
comp=Z,2.0nm,0.8s,mb4.0,baz=70,slow=8.1,SNR=9.4
SONM LR LR 10 36 35.1
comp=Z,118nm,20.1s,MS3.6,baz=34,slow=37
SONM Songino Array 32.29 289 P **P** **10 22 54.0 -1.8**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,118nm,20.1s
KDAK Kodiak Island 32.44 52 *e*P **P** **10 23 03.5 +6.4**
TLY Talaya 32.94 296 *e*P **P** **10 23 01.0 -0.5**
TLY *e* 10 24 10.3
TLY *e*S **S** **10 28 12.6 -3.8**
TLY *e*SS SS 10 30 16.6 -23
TLY pmax pmax
comp=Z,13nm,1.4s,mb4.7
TLY MLR MLR
comp=Z,311nm,17.0s,MS4.1
ZAK Zakamensk 33.49 294 *e*P **P** **10 23 02.4 -3.9**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
COLA College 34.53 39 *e*P **P** **10 23 14.6 -0.7**
WHN Wuhan 35.48 256 *e*P **P** **10 23 22.8 -0.7**
XAN Xi'an 36.94 265 P **P** **10 23 35.3 -0.7**
XAN AMB AMB
comp=Z,9.0nm,1.5s,mb4.4
EGAK Eagle 37.39 39 *e*P **P** **10 23 38.6 -1.2**
comp=Z,3.8nm,0.6s,mb4.4
DAWY Dawson 38.23 40 *e*P **P** **10 23 47.6 +0.7**
LZH Lanzhou 39.20 272 *e*P **P** **10 23 55.5 +0.5**
LZH AP pP 10 24 07.0 -0.1
LZH XP sP 10 24 12.0 -0.3
LZH PP PP 10 25 30.4 +4.9
LZH PCP PcP 10 25 59.0 -4.6
LZH *e*S **S** **10 29 51.0 -1.2**
LZH XS sS 10 30 14.0 +1.7
LZH SS SS 10 32 41.0 -5.3
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,167nm,5.2s
LZH LR LR
comp=N,1µm,14.2s
LZH LR LR
comp=Z,1µm,16.1s,MS4.9
LZH Lanzhou 39.20 272 *e*P **P** **10 23 55.5 +0.5**
LZH *PP pP 10 24 07.0 -0.1
LZH *SP sP 10 24 12.0 -0.3
LZH 10 25 30.4
LZH 10 25 59.0
LZH *e*S **S** **10 29 51.0 -1.2**
LZH *SS sS 10 30 14.0 +1.7
LZH SS SS 10 32 41.0 -5.3
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,1µm,16.1s,MS4.9
LZH Lanzhou 39.20 272 *e*P **P** **10 23 55.5 +0.5**
comp=Z,42nm,1.5s,mb5.0
LZH pP pP 10 24 07.0 -0.1
LZH sP sP 10 24 12.0 -0.3
LZH PP PP 10 25 30.4 +4.9
LZH PcP PcP 10 25 59.0 -4.6
LZH *e*S **S** **10 29 51.0 -1.2**
LZH sS sS 10 30 14.0 +1.7
LZH SS SS 10 32 41.0 -5.3
LZH LR LR
comp=Z,1µm,16.1s,MS4.9
INK Inuvik 40.10 33 P **P** **10 24 02.5 -0.1**
comp=Z,2.9nm,0.5s,mb4.3,baz=303,slow=6.0,SNR=25
INK Inuvik 40.10 33 P **P** **10 24 02.5 0.0**
INK pmax pmax
comp=Z,3.0nm,0.5s
GTA Gaotai 40.15 279 *e*P **P** **10 24 03.0 +0.1**
GTA AP pP 10 24 14.9 -0.1
GTA XP sP 10 24 20.4 +0.2
GTA PP PP 10 25 39.4 +3.6
GTA PCP PcP 10 26 09.1 +2.5
GTA S **S** **10 30 05.5 -0.8**
GTA XS sS 10 30 24.3 -2.2
GTA SS SS 10 32 57.0 -8.2
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,132nm,5.0s
GTA LR LR
comp=N,314nm,14.1s,MS4.3
GTA LR LR
comp=E,139nm,14.1s,MS4.3
GTA LR LR
comp=Z,336nm,14.8s,MS4.3
CD2 Chengdu 42.30 266⇑ *i*P **P** **10 24 19.8 -0.8**
CD2 AP pP 10 24 32.1 -0.6
CD2 XP sP 10 24 37.5 -0.5
CD2 PP PP 10 26 01.3 +2.2
CD2 S **S** **10 30 36.8 -1.5**
CD2 XS sS 10 30 57.3 -1.3
CD2 SS SS 10 33 39.8 -8.1
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,260nm,11.4s
CD2 LR LR
comp=Z,310nm,14.4s,MS4.3
ZAL Zalesovo 43.15 306 P **P** **10 24 25.4 -2.1**
comp=Z,3.0nm,0.5s,mb4.3,baz=56,slow=5.3,SNR=9.9
ZAL LR LR 10 43 35.5
comp=Z,236nm,18.5s,MS4.1,baz=47,slow=38
ZAL Zalesovo 43.15 306 P **P** **10 24 25.4 -2.1**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,236nm,18.5s
ZAL Zalesovo 43.15 306 P **P** **10 24 25.4 -2.1**
ZAL LR LR 10 43 35.5
GYA Guiyang 43.24 258⇑ *i*P **P** **10 24 27.6 -0.6**
GYA AP pP 10 24 41.5 +1.1
GYA XP sP 10 24 46.4 +0.8
GYA PP PP 10 26 12.4 +3.2
GYA PCP PcP 10 26 18.8 +2.0
GYA SCP ScP 10 30 05.0 +0.6
GYA S **S** **10 30 52.8 +0.8**
GYA XS sS 10 31 13.4 +1.0
GYA SCS ScS 10 34 23.3 -1.2
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,460nm,16.8s,MS4.6
GYA LR LR
comp=E,380nm,17.0s,MS4.6
GYA LR LR
comp=Z,410nm,16.9s,MS4.4
NVS Novosibirsk 43.66 307 *e*P **P** **10 24 28.9 -2.7**
NVS pmax pmax
comp=E,33nm,1.7s
NVS pmax pmax
comp=Z,28nm,1.7s,mb4.7
NVS pmax pmax
comp=N,32nm,2.0s
WMQ Urumqi 45.82 291⇑ P **P** **10 24 50.6 +1.8**
WMQ AP pP 10 25 03.1 +2.0
WMQ PCP PcP 10 26 27.1 +1.5
WMQ PP PP 10 26 38.8 +2.1
WMQ S **S** **10 31 31.8 +2.2**
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
WMQ AMB AMB
comp=Z,201nm,4.6s
WMQ LR LR
comp=N,221nm,19.5s,MS4.1
WMQ LR LR
comp=E,76nm,21.9s,MS4.1
WMQ LR LR
comp=Z,167nm,17.2s,MS4.0
KMI Kunming 46.74 260 P **P** **10 24 59.8 +3.8**
KMI AMB AMB
comp=Z,16nm,1.4s,mb4.8
KMI LR LR
comp=Z,138nm,14.2s,MS4.1
KMI Kunming 46.74 260 P **P** **10 24 59.8 +3.8**
comp=Z,16nm,1.4s,mb4.8
KMI LR LR
comp=Z,140nm,14.2s,MS4.1
MK31 Makanchi Array 47.69 297 *e*P **P** **10 25 03.2 -0.2**
MKAR Makanchi Array 47.69 297 P **P** **10 25 01.9 -1.5**
comp=Z,2.6nm,0.6s,mb4.4,baz=68,slow=9.0,SNR=13
MKAR LR LR 10 45 41.2
comp=Z,97nm,18.4s,MS3.8,baz=29,slow=37
MKAR Makanchi Array 47.69 297 P **P** **10 25 01.9 -1.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,97nm,18.4s
YKA Yellowknife Ar 49.33 38 P **P** **10 25 15.9 -0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=294,slow=7.1,SNR=5.9
YKA Yellowknife Ar 49.33 38 P **P** **10 25 15.9 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 49.33 38 P **P** **10 25 15.9 -0.1**
BVA0 Borovoye Array 51.27 310 *i*P **P** **10 25 30.6 -0.1**
BVAR Borovoye Array 51.27 310 P **P** **10 25 30.3 -0.4**
comp=Z,7.5nm,0.4s,mb4.9,baz=55,slow=7.1,SNR=34
BVAR Borovoye Array 51.27 310 P **P** **10 25 30.3 -0.4**
BVAR pmax pmax
comp=Z,8.0nm,0.4s
BRVK Borovoye 51.31 310 *e*P **P** **10 25 30.8 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
BRVK Borovoye 51.31 310 *e*P **P** **10 25 30.8 -0.2**
comp=Z,8.3nm,0.5s,mb4.9
LSA Lhasa 51.56 274 *e*P **P** **10 25 34.8 +1.9**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA Lhasa 51.56 274 *e*P **P** **10 25 34.8 +1.9**
comp=Z,6.7nm,0.6s,mb4.8
AAK Ala-Archa 54.60 297 *e*P **P** **10 25 55.5 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 54.60 297 *e*P **P** **10 25 55.5 +0.2**
comp=Z,2.2nm,0.6s,mb4.4
EDM Edmonton 54.66 47 *e*P **P** **10 25 55.3 -0.4**
ARU Arti 55.19 318⇓ *i*P **P** **10 25 58.4 -1.1**
ARU *e*S **S** **10 33 37.9 -1.7**
ARU *e*SS SS 10 37 23.7 -0.4
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.3
ARU Arti 55.19 318 *e*P **P** **10 25 59.6 +0.1**
YBH Yreka Blue Hor 56.10 63 P **P** **10 26 05.7 -0.3**
comp=Z,2.8nm,1.0s,mb4.3,baz=59,slow=7.1,SNR=5.5
YBH Yreka Blue Hor 56.10 63 P **P** **10 26 05.7 -0.3**
YBH pmax pmax
comp=Z,3.0nm,1.0s
JIRN Jiri 56.20 275 *e*P **P** **10 26 07.5 +0.7**
comp=Z,13nm,0.4s,mb5.3
GUN Gumba 56.25 276 *e*P **P** **10 26 07.7 +0.6**
comp=Z,10.0nm,0.3s,mb5.3
KKN Kakani 56.73 276 *e*P **P** **10 26 11.3 +0.8**
PKI Pulchoki 56.78 276 *e*P **P** **10 26 11.4 +0.5**
DMN Daman 56.96 276 *e*P **P** **10 26 12.9 +0.7**
BSMT Bassoo Peak 57.02 53 *e*P **P** **10 26 12.8 +0.2**
GKN Gorkha 57.02 277 *e*P **P** **10 26 13.1 +0.5**
comp=Z,19nm,0.6s,mb5.3
ARCES ARCESS Array B 57.36 341 P **P** **10 26 15.2 +0.2**
comp=Z,2.3nm,0.7s,mb4.3,baz=15,slow=7.0,SNR=6.1
ARCES LR LR 10 53 44.9
comp=Z,160nm,20.8s,MS4.1,baz=235,slow=39
ARCES ARCESS Array B 57.36 341 P **P** **10 26 15.2 +0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,160nm,20.8s
BMO Blue Mountains 57.41 58 *e*P **P** **10 26 15.0 -0.3**
BMO pmax pmax
comp=Z,12nm,1.5s,mb4.7
BMO Blue Mountains 57.41 58 *e*P **P** **10 26 15.0 -0.4**
comp=Z,12nm,1.5s,mb4.7
KOLN Koldanda 57.87 277 *e*P **P** **10 26 19.2 +0.6**
MSO Missoula 58.10 54 *e*P **P** **10 26 20.1 -0.1**
comp=Z,16nm,1.6s,mb4.8
AB31 Akbulak array 58.82 310 P **P** **10 26 25.1 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AKTK Aktyubinsk 59.07 312 P **P** **10 26 26.4 -0.5**
AKTO Aktyubinsk 59.07 312 P **P** **10 26 26.4 -0.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=49,slow=6.0,SNR=8.1
AKTO Aktyubinsk 59.07 312 P **P** **10 26 26.5 -0.4**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LRM Limekiln Ridge 59.53 54 *e*P **P** **10 26 29.4 -0.7**
EGMT Eagleton 59.60 51 *e*P **P** **10 26 30.2 -0.3**
HLID Hailey 59.84 57 *e*P **P** **10 26 32.6 +0.4**
QLMT Earthquake Lak 60.71 55 *e*P **P** **10 26 38.1 -0.1**
IMW Indian Meadow 61.58 55 *e*P **P** **10 26 44.2 +0.2**
comp=Z,11nm,1.3s,mb4.8
MOOW Moose Ponds 61.78 55 *e*P **P** **10 26 46.1 +0.6**
comp=Z,9.6nm,1.5s,mb4.7
LOHW Long Hollow 61.95 55 *e*P **P** **10 26 47.3 +0.7**
comp=Z,18nm,1.4s,mb5.0
LOHW *e*pP pP 10 26 59.8 +0.6
REDW Red Top Meadow 61.97 56 *e*P **P** **10 26 47.5 +0.8**
comp=Z,26nm,1.4s,mb5.2
LAO LASA Array 62.30 50 *e*P **P** **10 26 49.9 +1.0**
SPUT South Promonto 62.40 58 *e*P **P** **10 26 48.0 -1.6**
HWUT Hardware Ranch 62.71 57 *e*P **P** **10 26 51.0 -0.6**
comp=Z,11nm,1.4s,mb4.8
DUG Dugway 62.91 59 *e*P **P** **10 26 53.0 0.0**
DUG pmax pmax
comp=Z,11nm,1.3s,mb4.8
DUG Dugway 62.91 59 *e*P **P** **10 26 53.0 0.0**
comp=Z,11nm,1.3s,mb4.8
BW06 Boulder Array 63.08 55 *e*P **P** **10 26 54.0 -0.1**
comp=Z,14nm,1.5s,mb4.9
PDAR Pinedale Array 63.08 55 P **P** **10 26 53.9 -0.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=270,slow=3.0,SNR=13
FINES FINESS Array B 63.72 335 P **P** **10 26 58.6 +0.3**
comp=Z,6.5nm,0.6s,mb4.9,baz=40,slow=7.1,SNR=34
FINES FINESS Array B 63.72 335 P **P** **10 26 58.6 +0.3**
FINES pmax pmax
comp=Z,7.0nm,0.6s
MOS Moscow 64.38 326 *e*P **P** **10 27 01.0 -1.7**
MOS pmax pmax
comp=Z,56nm,1.4s,mb5.4
ULM Lac du Bonnet 64.90 42 P **P** **10 27 04.8 -1.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=332,slow=2.8,SNR=4.6
SRU San Rafael 64.96 59 *e*P **P** **10 27 06.1 -0.3**
SRU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SRU San Rafael 64.96 59 *e*P **P** **10 27 06.1 -0.3**
comp=Z,5.4nm,0.9s,mb4.6
RSSD Black Hills 65.16 51 *e*P **P** **10 27 07.6 -0.1**
RSSD pmax pmax
comp=Z,13nm,1.1s,mb4.9
RSSD Black Hills 65.16 51 *e*P **P** **10 27 07.5 -0.2**
comp=Z,13nm,1.1s,mb4.9
OBN Obninsk 65.25 326 *e*P **P** **10 27 08.4 +0.1**
OBN *e**PP pP 10 27 20.4 -0.7
OBN *e* 10 27 40.0
OBN *e*S S 10 35 46.6 -1.9
OBN *e*SS SS 10 40 00.0 -1.8
OBN pmax pmax
comp=Z,101nm,2.5s,mb5.4
PV10 Paradox Valley 66.31 59 *e*P **P** **10 27 15.7 +0.6**
WUAZ Wupatki 66.88 62 *e*P **P** **10 27 18.9 +0.1**
comp=Z,9.1nm,1.4s,mb4.6
VRSR Storozhevoye 67.16 322 *e*P **P** **10 27 21.0 +0.4**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
ISCO Idaho Springs 67.28 56 *e*P **P** **10 27 21.7 +0.4**
ISCO *e**PP pP 10 27 34.0 -0.1
NB2 NORSAR Subarra 67.72 342 P **P** **10 27 24.6 +0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=25,slow=6.5
NOA NORSAR Array B 67.72 342 P **P** **10 27 24.6 +0.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=26,slow=6.4,SNR=7.0
NOA NORSAR Array B 67.72 342 P **P** **10 27 24.6 +0.5**
NOA pmax pmax
comp=Z,2.0nm,0.7s
CTA Charters Tower 67.97 189 LR LR 10 56 57.7
comp=Z,43nm,18.2s,MS3.7,baz=230,slow=36
HFS Hagfors 68.00 340 P **P** **10 27 25.2 -0.6**
comp=Z,4.0nm,0.5s,mb4.7,baz=64,slow=3.8,SNR=21
HFS Hagfors 68.00 340 P **P** **10 27 25.2 -0.6**
HFS pmax pmax
comp=Z,4.0nm,0.5s
SDCO Great Sand Dun 68.77 57 *e*P **P** **10 27 30.7 +0.1**
comp=Z,15nm,1.6s,mb4.7
WRA Warramunga Arr 69.89 201 P **P** **10 27 34.2 -3.4**
comp=Z,3.4nm,1.2s,mb4.1,baz=16,slow=6.1,SNR=5.4
WRA Warramunga Arr 69.89 201 *i*P **P** **10 27 34.2 -3.4**
WRA pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 70.17 60 P **P** **10 27 38.8 -0.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=297,slow=8.4,SNR=4.5
ANMO Albuquerque 70.17 60⇑ *e*P **P** **10 27 39.2 -0.1**
KIV Kislovodsk 71.07 315 *e*P **P** **10 27 44.8 0.0**
KIV pmax pmax
comp=Z,19nm,1.4s,mb4.8
ZEI Tsey 71.37 314 *e*P **P** **10 27 46.2 -0.4**
ZEI *e**PP pP 10 27 59.2 -0.3
ZEI *e* 10 28 05.9
ZEI pmax pmax
comp=Z,11nm,1.2s,mb4.7
AKASG Malin Array Be 71.47 327 P **P** **10 27 46.5 -0.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=30,slow=5.6,SNR=11
AKASG LR LR 10 58 35.7
comp=Z,106nm,20.5s,MS4.1,baz=0.0,slow=35
AKASG Malin Array Be 71.47 327 *i*P **P** **10 27 47.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.47 327 P **P** **10 27 46.5 -0.7**
AKASG LR LR 10 58 35.7
SOC Sochi 72.75 317 *e*P **P** **10 27 56.1 +1.3**
SOC *e* 10 30 45.1
SOC *ePPP 10 32 28.8
SOC *e*S S 10 37 14.9 -2.3
SOC *e* 10 37 59.9
SOC pmax pmax
comp=Z,19nm,1.2s,mb4.9
SOC MLR MLR
comp=Z,173nm,15.0s,MS4.5
GNI Garni 72.91 311 P **P** **10 27 56.7 +0.9**
comp=Z,3.1nm,0.4s,mb4.6,baz=172,slow=23,SNR=6.5
GNI Garni 72.91 311 *e*P **P** **10 27 56.5 +0.7**
GNI pmax pmax
comp=Z,14nm,1.2s
GNI Garni 72.91 311 *e*P **P** **10 27 58.3 +2.5**
MNTX Cornudas Mount 73.11 61 *e*P **P** **10 27 56.5 -0.5**
comp=Z,16nm,1.7s,mb4.7
ASAR Alice Springs 73.58 200 P **P** **10 27 57.4 -2.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=13,slow=5.8,SNR=8.9
ASAR Alice Springs 73.58 200 P **P** **10 27 57.4 -2.4**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 75.33 331 *e*P **P** **10 28 12.7 +2.8**
STHS *e* pP 10 28 23.4 +0.5
STHS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
STHS Stebnicka Huta 75.33 331 *e*P **P** **10 28 12.7 +2.8**
comp=Z,9.2nm,1.4s,mb4.5
STHS *e* pP 10 28 23.4 +0.5
STHS *e* 10 28 47.0
BURAR Bucovina Array 75.50 328⇓ *i*P **P** **10 28 11.6 +0.7**
EKA Eskdalemuir Ar 75.69 347 P **P** **10 28 13.8 +1.8**
comp=Z,3.1nm,0.5s,mb4.5,baz=18,slow=5.1,SNR=18
EKA Eskdalemuir Ar 75.69 347 P **P** **10 28 13.8 +1.8**
EKA pmax pmax
comp=Z,3.0nm,0.5s
LTX Lajitas 75.84 62 *e*P **P** **10 28 12.3 -0.6**
TXAR Lajitas Array 75.84 62 P **P** **10 28 12.3 -0.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=302,slow=4.9,SNR=52
TXAR Lajitas Array 75.84 62 P **P** **10 28 12.4 -0.5**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
DPC Dobruska-Polom 76.04 334 *e*P **P** **10 28 16.1 +2.1**
DPC *e*PCP PcP 10 28 27.6 +1.5
CLL Collm 76.11 337 *i*P **P** **10 28 17.0 +2.6**
CLL *i* pP 10 28 28.3 +0.8
CLL *e* 10 28 39.0
CLL pmax pmax

	comp=Z,10.0nm,0.9s,mb4.8							
CLL	**Collm**	**76.11**	**337**	*i* P		**P**	**10 28 17.0**	**+2.6**
	comp=Z,10.0nm,0.9s,mb4.8							
CLL				*i* PcP		PcP	10 28 28.3	+1.9
	comp=Z,24nm,1.1s							
CLL				*ex*		x	10 28 39.0	
MORC	**Moravsky Berou**	**76.19**	**333**	*e*P		**P**	**10 28 16.3**	**+1.5**
MORC				*e*		pP	10 28 28.0	+0.1
MORC				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
MORC	**Moravsky Berou**	**76.19**	**333**	*e*P		**P**	**10 28 16.3**	**+1.5**
	comp=Z,10nm,1.0s,mb4.7							
MORC				*e*		pP	10 28 28.0	+0.2
BRG	**Berggiesshubel**	**76.25**	**336**	*e*P		**P**	**10 28 16.4**	**+1.2**
	comp=Z,2.6nm,1.0s,mb4.1							
BRG	**Berggiesshubel**	**76.25**	**336**	*e*P		**P**	**10 28 16.4**	**+1.2**
BRG				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.2							
PRU	**Pruhonice**	**76.88**	**335**	*e*P		**P**	**10 28 20.2**	**+1.5**
PRU				*e*PCP		PcP	10 28 33.4	+3.7
VYHS	**Vyhne**	**76.91**	**332**	*e*P		**P**	**10 28 19.3**	**+0.4**
MLR	**Muntele Rosu**	**77.02**	**326**	⇓*i* P		**P**	**10 28 22.9**	**+3.4**
MOX	**Moxa**	**77.08**	**337**	*e*(P)		**P**	**10 28 21.0**	**+1.1**
JCT	**Junction City**	**77.27**	**59**	*e*P		**P**	**10 28 20.1**	**-0.8**
KHC	**Kasperske Hory**	**77.92**	**335**	*e*P		**P**	**10 28 25.9**	**+1.3**
KHC				*e*PCP		PcP	10 28 39.6	+5.3
GRF	**Grafenberg Arr**	**78.06**	**337**	*e*P		PcP	10 28 40.3	+5.5
	comp=Z,9.0nm,0.7s							
GERES	**GERESS Array B**	**78.15**	**335**	P		**P**	**10 28 27.0**	**+1.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=27,slow=3.3,SNR=6.1							
GERES	**GERESS Array B**	**78.15**	**335**	P		**P**	**10 28 27.0**	**+1.2**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
GZR	**Gura Zlata**	**78.27**	**328**	⇓*i* P		**P**	**10 28 29.7**	**+3.2**
BZS	**Buzias**	**78.49**	**329**	⇑*i* P		**P**	**10 28 30.5**	**+2.8**
BR131	**Keskin Array S**	**78.58**	**318**	*e*P		**P**	**10 28 28.2**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.7							
BR131				*e*		pP	10 28 40.1	-1.3
BRTR	**Keskin Array B**	**78.58**	**318**	P		**P**	**10 28 28.4**	**+0.2**
	comp=Z,3.3nm,0.7s,mb4.3,baz=46,slow=3.1,SNR=15							
BRTR	**Keskin Array B**	**78.58**	**318**	*i* P		**P**	**10 28 29.7**	**+1.5**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
CDF	**Champ du Feu**	**80.24**	**339**	*e*P		**P**	**10 28 40.3**	**+3.0**
	comp=Z,45nm,1.1s,mb5.0							
CDF	**Champ du Feu**	**80.24**	**339**	*e*P		**P**	**10 28 40.3**	**+3.0**
CDF				pmax		pmax		
	comp=Z,23nm,1.1s,mb5.0							
CDF	**Champ du Feu**	**80.24**	**339**	*e*P		**P**	**10 28 40.3**	**+3.0**
	comp=Z,23nm,1.1s,mb5.0							
RAO	**Raoul Island**	**80.39**	**156**	LR		LR	11 02 19.0	
	comp=Z,167nm,18.5s,MS4.4,baz=133,slow=34							
GRR	**Gorron**	**82.01**	**344**	*e*P		**P**	**10 28 50.3**	**+3.7**
	comp=Z,51nm,1.1s,mb5.1							
GRR	**Gorron**	**82.01**	**344**	*e*P		**P**	**10 28 50.3**	**+3.7**
GRR				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.1							
GRR	**Gorron**	**82.01**	**344**	*e*P		**P**	**10 28 50.3**	**+3.7**
	comp=Z,26nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**82.71**	**340**	*e*P		**P**	**10 28 53.8**	**+3.5**
	comp=Z,92nm,1.3s,mb5.4							
SMF	**Signal de Mont**	**82.71**	**340**	*e*P		**P**	**10 28 53.8**	**+3.5**
SMF				pmax		pmax		
	comp=Z,46nm,1.3s,mb5.3							
SMF	**Signal de Mont**	**82.71**	**340**	*e*P		**P**	**10 28 53.8**	**+3.5**
	comp=Z,46nm,1.3s,mb5.3							
LPG	**La Plagne**	**83.09**	**338**	*e*P		**P**	**10 28 56.6**	**+4.3**
	comp=Z,77nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.09**	**338**	*e*P		**P**	**10 28 56.6**	**+4.3**
LPG				pmax		pmax		
	comp=Z,38nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.09**	**338**	*e*P		**P**	**10 28 56.6**	**+4.3**
	comp=Z,38nm,1.2s,mb5.3							
BNI	**Bardonecchia**	**83.53**	**338**	*e*P		**P**	**10 28 57.3**	**+2.8**
BNI				*e**PP		pP	10 29 09.2	+1.5
BNI				pmax		pmax		
	comp=Z,19nm,1.2s,mb5.1							
BNI	**Bardonecchia**	**83.53**	**338**	*e*P		**P**	**10 28 57.3**	**+2.8**
	comp=Z,19nm,1.2s,mb5.1							
BNI				*e*pP		pP	10 29 09.2	+1.5
RJF	**Les Rejaudoux**	**84.49**	**342**	*e*P		**P**	**10 29 03.3**	**+3.9**
	comp=Z,79nm,1.5s,mb5.3							
RJF	**Les Rejaudoux**	**84.49**	**342**	*e*P		**P**	**10 29 03.3**	**+3.9**
RJF				pmax		pmax		
	comp=Z,39nm,1.5s,mb5.3							
RJF	**Les Rejaudoux**	**84.49**	**342**	*e*P		**P**	**10 29 03.3**	**+3.9**
	comp=Z,39nm,1.5s,mb5.3							
EIL	**Elat**	**86.08**	**311**	*e*P		**P**	**10 29 08.3**	**+1.0**
EIL				*e*pP		pP	10 29 22.7	+2.1
PMSA	**Palmer Station**	**152.99**	**143**	*e*PKPbc		PKPbc	10 36 20.3	-3.5

*ISCJB **21** 10:29:58.7±0.5, 680N±004×7288W±005, h175km±5km, mb3.9/9, Error ellipse: s-maj=7.9km s-min=7.2km az=37.6*
*NEIC **21** 10:29:59.0±0.7, 675N×7298W, h168km±7km, mb4.2/2, Error ellipse: s-maj=10.7km s-min=8.3km az=107.0*
*FUNV **21** 10:29:58.3, 667N×73.14W, h164km, MW4.2*
*IDC **21** 10:29:58.9±1.1, 679N×72.93W, h167km±12km, mb3.6/7, mb1 3.9/10, mb1mx3.7/20, mbtmp3.7/10, MS2.8/1, Ms1 2.8/1, ms1mx2.6/26, Error ellipse: s-maj=17.2km s-min=11.4km az=100.0*

ISC 21 10:29:59.8±0.5, 681N±004×7289W±005, h168km±5km, n35, σ0§96/47, mb3.9/9, 1C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.19**	**29**	⇓*i* P	**Pn**	**10 30 28.1**	**+0.3**
CAPV				*e*S	**Sn**	**10 30 49.8**	**+0.4**
ROSC	**El Rosal**	**2.41**	**217**	P	**Pn**	**10 30 40.1**	**-0.6**
	146nm,0.3s,baz=0.4,slow=2.4,SNR=209						
ROSC				S	**Sn**	**10 31 07.8**	**-4.6**
	71nm,0.3s,baz=99,slow=16,SNR=9.0						
SOCV	**Socops**	**2.49**	**54**	⇓*i* P	**Pn**	**10 30 42.7**	**+1.1**
SOCV				*e*S	**Sn**	**10 31 14.6**	**+0.6**
VIGV	**El Vigia**	**2.52**	**37**	*e*P	**Pn**	**10 30 42.5**	**+0.5**
VIGV				*e*S	**Sn**	**10 31 15.2**	**+0.6**
SDV	**Santo Domingo**	**3.04**	**47**	P	**Pn**	**10 30 49.4**	**+1.0**
	37nm,0.3s,baz=249,slow=10.0,SNR=563						
SDV				S	**Sn**	**10 31 26.4**	**+0.3**
	70nm,0.3s,baz=117,slow=23,SNR=23						
SDV				LR	LR	10 31 34.1	
	comp=Z,154nm,18.2s,baz=359,slow=31						
ELOV	**Elorza**	**3.39**	**87**	⇓*i* P	**Pn**	**10 30 54.0**	**+1.4**
ELOV				*e*S	**Sn**	**10 31 33.5**	**-0.3**
VIRV	**Villa del Rosa**	**3.70**	**7**	⇑*i* P	**Pn**	**10 30 54.8**	**-1.8**
VIRV				*e*S	**Sn**	**10 31 39.3**	**-1.6**
QARV	**Quebrada Arrib**	**4.11**	**35**	*e*P	**Pn**	**10 31 02.3**	**+0.5**
QARV				*e*S	**Sn**	**10 31 49.4**	**-0.8**
CURV	**Curarigua**	**4.30**	**42**	*e*P	**Pn**	**10 31 04.6**	**+0.3**
CURV				*e*S	**Sn**	**10 31 54.2**	**-0.6**
DABV	**Dabajuro**	**4.65**	**28**	*e*P	**Pn**	**10 31 09.1**	**+0.2**
DABV				*e*S	**Sn**	**10 32 01.6**	**-1.3**
TEPV	**Terepaima**	**4.82**	**49**	*e*P	**Pn**	**10 31 11.5**	**+0.4**
TEPV				*e*S	**Sn**	**10 32 06.2**	**-0.5**
BAUV	**El Baul**	**5.25**	**66**	*e*S	**Sn**	**10 32 15.5**	**-1.4**
CAOV	**Caicara del Or**	**6.54**	**85**	*e*S	**Sn**	**10 32 43.5**	**-4.1**
OTAV	**Otavalo**	**8.57**	**221**	*e*Pn	**Pn**	**10 31 57.6**	**-3.0**
	14nm,0.9s						
OTAV				*e*Sn	**Sn**	**10 33 21.9**	**-14**
PCRV	**Puerto La Cruz**	**8.82**	**67**	P	**Pn**	**10 32 03.6**	**-0.2**
	1.4nm,0.3s,baz=164,slow=8.7,SNR=12						
PCRV				S	**Sn**	**10 33 46.8**	**+4.6**
	0.5nm,0.3s,baz=23,slow=21,SNR=2.2						
CMJ	**Castle Mountai**	**11.76**	**344**	⇓*e*P	**Pn**	**10 32 42.6**	**+0.2**
BNJ	**Bonny Gate**	**12.11**	**341**	⇓*e*P	**Pn**	**10 32 47.6**	**+0.8**
CVJ	**Coleyville**	**12.22**	**339**	*e*P	**Pn**	**10 32 49.6**	**+1.3**
BBJ	**Bamboo Saint A**	**12.27**	**340**	⇓*e*P	**Pn**	**10 32 50.8**	**+1.9**
ATAH	**Atahualpa**	**14.78**	**202**	P	**Pn**	**10 33 24.6**	**+4.1**
	1.7nm,0.3s,baz=326,slow=17,SNR=3.7						
ATAH				S	**Sn**	**10 36 14.1**	**+9.0**
	0.7nm,0.3s,baz=101,slow=12,SNR=2.7						
SAML	**Samuel**	**18.40**	**148**	*e*P	**P**	**10 34 02.3**	**+0.2**
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**10 34 54.0**	**+0.3**
	2.8nm,0.8s,mb3.8,baz=340,slow=11,SNR=14						
SIV	**San Ignacio**	**25.50**	**153**	P	**P**	**10 35 11.9**	**-0.6**
	2.2nm,0.9s,mb3.7,baz=313,slow=10,SNR=9.6						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**10 36 49.0**	**-1.0**
	1.2nm,0.7s,mb3.7,baz=126,slow=9.3,SNR=18						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**10 36 49.0**	**-1.0**
WUAZ	**Wupatki**	**45.39**	**315**	*e*P	**P**	**10 38 01.7**	**+0.3**
	5.1nm,1.0s,mb4.1						
ULM	**Lac du Bonnet**	**47.37**	**340**	P	**P**	**10 38 15.6**	**-1.3**
	1.1nm,0.4s,mb3.9,baz=186,slow=11,SNR=6.4						
ULM	**Lac du Bonnet**	**47.37**	**340**	P	**P**	**10 38 15.6**	**-1.3**

SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**10 38 22.9**	**+0.2**
	6.2nm,0.7s,mb4.4,baz=206,slow=4.4,SNR=7.5							
PDAR	**Pinedale Array**	**48.22**	**324**	P		**P**	**10 38 22.8**	**-0.6**
	0.6nm,0.5s,mb3.5,baz=123,slow=9.1,SNR=5.3							
MCMT	**McKenzie Canyo**	**51.36**	**324**	*e*P		**P**	**10 38 48.1**	**+1.0**
YKA	**Yellowknife Ar**	**63.35**	**340**	P		**P**	**10 40 10.3**	**-0.6**
	1.3nm,0.6s,mb4.0,baz=133,slow=6.6,SNR=11							
BRG	**Berggiesshubel**	**82.77**	**40**	*e*P		**P**	**10 42 06.0**	**+1.0**
	12nm,1.7s,mb4.3							
ASAR	**Alice Springs**	**149.29**	**234**	PKPbc		PKPbc	10 49 27.9	-0.7
	0.6nm,0.5s,baz=119,slow=3.2,SNR=11							
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc		PKPbc	10 49 31.2	-0.4
	0.5nm,0.3s,baz=108,slow=2.7,SNR=17							

*VIE **21** 10:34:34.5±0.7, 4455N×1570E, h10km, mb2.7/1, ML3.0/1, Error ellipse: s-maj=6.0km s-min=4.6km az=14.0 105 km S of Karlovac*

LJU 21 10:35:01.9, 4639N×1507E, h0km, 1C Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	10 35 07.6	-0.2
PDKS	**Podkum**	**0.33**	**189**	*e*Pg	Pg	10 35 08.2	0.0
PDKS				*e*Sg	Sg	10 35 13.5	+0.9
OBKA	**Obir**	**0.38**	**288**	⇑*i* Pn	Pg	10 35 09.9	+0.8
	comp=Z,14nm,0.4s						
OBKA	**Obir**	**0.38**	**288**	Pn	Pg	10 35 09.9	+0.7
	14nm,0.4s						
LEGS	**Legarje**	**0.47**	**159**	*e*Pg	Pg	10 35 10.9	-0.1

*ISCJB **21** 10:51:11.6±0.4, 3254N±003×348W±003, h10km, MS3.0/1, Error ellipse: s-maj=4.8km s-min=3.0km az=99.3*
*CSEM **21** 10:51:11.5±0.1, 3244N×342W, h5km, MD4.5, Error ellipse: s-maj=2.9km s-min=2.5km az=122.0*
*LDG **21** 10:51:12.9±1.0, 3263N×349W, h2km, Ml4.1/1, Error ellipse: s-maj=25.5km s-min=12.0km az=162.0*
*CRAAG **21** 10:51:12.0, 3240N×390W, Mb4.6*
*INMG **21** 10:51:12.6±0.8, 3235N×376W, h24km±13km, MD3.6, ML3.1, Error ellipse: s-maj=11.1km s-min=6.3km az=42.0*
*IDC **21** 10:51:12.2±1.8, 3251N×349W, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=29.1km s-min=12.8km az=13.0*
*MDD **21** 10:51:13.3±0.9, 3252N×346W, h0km, mb4.4/9, Error ellipse: s-maj=10.1km s-min=4.7km az=131.0, PRXIMO*
*CNRM **21** 10:51:13.3, 3233N×320W, h30km, MD4.5*
*NEIC **21** 10:51:16.9±1.3, 3257N×388W, h58km±27km, MG4.4(MDD), Error ellipse: s-maj=24.1km s-min=12.1km az=112.0*

ISC 21 10:51:13.4±0.7, 3250N±003×350W±003, h13km±5km, n81, σ1§46/112, MS3.0/1, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZFT	**Errachidia**	**0.86**	**237**	P	**Pg**	**10 51 30.0**	**0.0**
ZFT				S	**Sg**	**10 51 42.0**	**+0.7**
ZFT	**Errachidia**	**0.86**	**237**	*i* P	**Pg**	**10 51 30.0**	**0.0**
MDT	**Midelt**	**0.99**	**289**	Pg	**Pg**	**10 51 31.1**	**-1.4**
	376nm,0.3s,baz=110,slow=17,SNR=600						
MDT				Lg		10 51 45.2	
	193nm,0.3s,baz=359,slow=13,SNR=16						
CZD	**Col de Zad**	**1.41**	**293**	P	**Pn**	**10 51 40.0**	**+1.3**
CZD				S	**Sn**	**10 51 58.0**	**+0.9**
CZD	**Col de Zad**	**1.41**	**293**	*i* P	**Pn**	**10 51 40.0**	**+1.3**
MIF	**Mishlifen**	**1.71**	**302**	P	**Pn**	**10 51 44.0**	**+1.1**
MIF				S	**Sn**	**10 52 05.0**	**+0.3**
MIF	**Mishlifen**	**1.71**	**302**	*i* P	**Pn**	**10 51 44.0**	**+1.1**
TGT	**Taghat**	**2.04**	**321**	P	**Pn**	**10 51 49.0**	**+1.7**
TGT				S	**Sn**	**10 52 15.0**	**+2.4**
TGT	**Taghat**	**2.04**	**321**	*e*P	**Pn**	**10 51 49.0**	**+1.7**
KIB	**El Ksiba**	**2.15**	**273**	P	**Pn**	**10 51 50.5**	**+1.6**
KIB				S	**Sn**	**10 52 17.0**	**+1.6**
KIB	**El Ksiba**	**2.15**	**273**	*i* P	**Pn**	**10 51 50.5**	**+1.6**
TOU	**Touzarine**	**2.46**	**355**	P	**Pn**	**10 51 54.0**	**+0.8**
TOU				S	**Sn**	**10 52 24.0**	**+0.8**
TOU	**Touzarine**	**2.46**	**355**	*e*P	**Pn**	**10 51 54.0**	**+0.8**
ZAI	**Zaio**	**2.54**	**14**	P	**Pn**	**10 51 52.5**	**-1.8**
ZAI				S	**Sn**	**10 52 21.0**	**-4.1**
ZAI	**Zaio**	**2.54**	**14**	*i* P	**Pn**	**10 51 52.5**	**-1.8**
TZC	**Tazercounte**	**2.56**	**263**	P	**Pn**	**10 51 54.0**	**-0.5**
TZC				S	**Sn**	**10 52 25.0**	**-0.5**
TZC	**Tazercounte**	**2.56**	**263**	*i* P	**Pn**	**10 51 54.0**	**-0.5**
MPAL	**Palemas**	**2.74**	**352**	*i* P	**Pn**	**10 51 56.0**	**-1.0**
RSA	**Sarsar**	**3.06**	**321**	P	**Pn**	**10 52 01.0**	**-0.5**
RSA				S	**Sn**	**10 52 40.0**	**+2.0**
RSA	**Sarsar**	**3.06**	**321**	*i* P	**Pn**	**10 52 01.0**	**-0.5**
RTC	**Rabat Centre**	**3.18**	**299**	P	**Pn**	**10 52 05.0**	**+1.9**
RTC				S	**Sn**	**10 52 42.0**	**+1.1**
RTC	**Rabat Centre**	**3.18**	**299**	*e*P	**Pn**	**10 52 05.0**	**+1.9**
OLHC	**Oulhaca**	**3.24**	**32**	P	**Pb**	**10 52 12.0**	**+1.2**
DKH	**Dar Kharkhour**	**3.36**	**333**	P	**Pn**	**10 52 07.0**	**+1.5**
DKH				S	**Sn**	**10 52 46.5**	**+1.3**
DKH	**Dar Kharkhour**	**3.36**	**333**	*e*P	**Pn**	**10 52 07.0**	**+1.5**
ODZI	**Dziouia**	**3.36**	**34**	P	**Pb**	**10 52 14.0**	**+1.2**
TSY	**Tnine Yamani**	**3.52**	**325**	P	**Pn**	**10 52 09.0**	**+1.2**
TSY				S	**Sn**	**10 52 52.0**	**+2.7**
TSY	**Tnine Yamani**	**3.52**	**325**	*i* P	**Pn**	**10 52 09.0**	**+1.2**
OTSS	**Djebel Tessala**	**3.57**	**38**	P	**Pb**	**10 52 16.0**	**-0.4**
OUK	**Oukaimeden**	**3.94**	**252**	P	**Pn**	**10 52 14.0**	**+0.5**
OUK				S	**Sn**	**10 52 58.0**	**-1.5**
OUK	**Oukaimeden**	**3.94**	**252**	*e*P	**Pn**	**10 52 14.0**	**+0.5**
USTO	**Oran**	**4.05**	**36**	P	**Pn**	**10 52 09.0**	**-6.0**
EMIJ	**Mijas**	**4.19**	**346**	P	**Pn**	**10 52 15.9**	**-1.0**
	1.2nm,0.1s,SNR=4.6						
EMIJ				S	**Sn**	**10 53 02.6**	**-3.1**
	26nm,0.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**4.26**	**338**	P	**Pn**	**10 52 17.4**	**-0.6**
	1.9nm,0.2s,SNR=4.0						
EGUA	**Guajares**	**4.32**	**359**	P	**Pn**	**10 52 18.9**	**+0.1**
	4.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.41**	**6**	P	**Pn**	**10 52 21.4**	**+1.4**
	0.4nm,0.0s,SNR=9.6						
EBER				S	**Sn**	**10 53 08.8**	**-2.5**
	49nm,0.5s						
EBER	**Berja**	**4.41**	**6**	P	**Pn**	**10 52 21.4**	**+1.4**
	0.4nm,0.0s,SNR=9.6						
OJBR	**Djebel Berber**	**4.43**	**45**	P	**Pb**	**10 52 33.0**	**+2.0**
ERON	**Agron**	**4.51**	**357**	P	**Pn**	**10 52 22.6**	**+1.2**
	2.7nm,0.1s,SNR=5.3						
CIA	**Chichaoua**	**4.56**	**260**	P	**Pn**	**10 52 24.0**	**+1.9**
CIA				S	**Sn**	**10 53 13.0**	**-2.0**
CIA	**Chichaoua**	**4.56**	**260**	*i* P	**Pn**	**10 52 24.0**	**+1.9**
ENIJ	**Nijar**	**4.58**	**13**	P	**Pn**	**10 52 21.8**	**-0.6**
	8.3nm,0.3s,SNR=5.6						
OJGS	**Djebel Guires**	**4.63**	**49**	P	**Pb**	**10 52 38.0**	**+3.6**
EQUE	**Quentar**	**4.69**	**1**	P	**Pn**	**10 52 23.9**	**+0.1**
	5.7nm,0.2s,SNR=13						
EQUE	**Quentar**	**4.69**	**1**	P	**Pn**	**10 52 23.9**	**0.0**
	5.7nm,0.2s,SNR=13						
OKGL	**Djebel Kef Gue**	**4.92**	**43**	P	**Pn**	**10 52 30.0**	**+3.0**
EANR	**´Ain N'Sour**	**5.13**	**47**	P	**Pn**	**10 52 29.1**	**-0.8**
EQES	**Quesada**	**5.30**	**4**	P	**Pn**	**10 52 33.8**	**+1.5**
	5.3nm,0.2s,SNR=8.0						
EQES				S	**Sn**	**10 53 33.7**	**+0.5**
	8.2nm,0.4s						
EQES	**Quesada**	**5.30**	**4**	P	**Pn**	**10 52 33.8**	**+1.6**
	5.3nm,0.2s,SNR=8.0						
EHUE	**Huescar**	**5.35**	**8**	P	**Pn**	**10 52 35.3**	**+2.4**
	2.0nm,0.2s,SNR=7.9						
ECHF	**Ech Chlef**	**5.41**	**46**	P	**Pb**	**10 52 46.0**	**-1.8**
ECHA	**Ech Chlef**	**5.42**	**47**	P	**Pb**	**10 52 46.0**	**-2.0**
AOF	**Agadir Oufela**	**5.57**	**250**	P	**Pn**	**10 52 37.0**	**+1.1**
AOF				S	**Sn**	**10 53 39.0**	**-0.8**
AOF	**Agadir Oufela**	**5.57**	**250**	*e*P	**Pn**	**10 52 37.0**	**+1.1**
EBNR	**Beni Rached**	**5.62**	**46**	P	**Pn**	**10 52 37.7**	**+1.1**
EMUR	**La Murta**	**5.64**	**19**	P	**Pn**	**10 52 36.0**	**-0.9**
	4.1nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**5.72**	**351**	P	**Pn**	**10 52 37.6**	**-0.4**
	1.3nm,0.2s,SNR=7.2						
EADA				S	**Sn**	**10 53 41.0**	**-2.5**
	1.8nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.86**	**335**	P	**Pn**	**10 52 37.7**	**-2.2**
	3.8nm,0.1s,SNR=17						
EMIN				S	**Sn**	**10 53 41.0**	**-6.0**
	1.5nm,0.2s,SNR=8.8						
YBT	**Youssef Ben Ta**	**5.91**	**245**	P	**Pn**	**10 52 39.0**	**-1.6**
YBT				S	**Sn**	**10 53 41.0**	**-7.2**
EGRO	**El Granado**	**5.99**	**328**	⇑P	**Pn**	**10 52 39.5**	**-2.2**
	13nm,0.2s,SNR=18						
EGRO				S	**Sn**	**10 53 43.5**	**-6.6**
	21nm,0.4s,SNR=7.0						
EVIA	**Vianos**	**6.18**	**7**	P	**Pn**	**10 52 48.0**	**+3.7**
	2.6nm,0.3s,SNR=6.3						
ETOB	**Tobarra**	**6.33**	**14**	P	**Pn**	**10 52 48.9**	**+2.6**
	1.4nm,0.2s,SNR=4.0						
ETOB				S	**Sn**	**10 53 58.1**	**-0.5**
	12nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**6.33**	**14**	P	**Pn**	**10 52 48.9**	**+2.5**
	1.4nm,0.2s,SNR=4.0						
PBEJ	**Beja**	**6.57**	**328**	*e*Pn	**Pn**	**10 52 47.4**	**-2.2**
PBEJ				*e*Sn	**Sn**	**10 53 59.0**	**-5.4**
PBEJ							
	12nm,0.4s						
PBEJ	**Beja**	**6.57**	**328**	*e*Pn	**Pn**	**10 52 47.4**	**-2.2**
PBEJ				*e*Sn	**Sn**	**10 53 59.0**	**-5.4**
PTEO	**Sao Teotonio**	**6.61**	**321**	*e*Pn	**Pn**	**10 52 48.0**	**-2.2**
PTEO				*e*Sn	**Sn**	**10 54 00.1**	**-5.3**
EBAD	**Badajoz**	**6.86**	**336**	P	**Pn**	**10 52 51.7**	**-2.0**
	3.3nm,0.2s,SNR=16						
EBAD				S	**Sn**	**10 54 04.1**	**-7.6**
	5.4nm,0.2s,SNR=5.0						
EVO	**Evora**	**7.05**	**330**	*e*Pn	**Pn**	**10 52 54.5**	**-1.8**
EVO				*e*Sn	**Sn**	**10 54 09.2**	**-7.1**
	23nm,0.3s						
ESDC	**Sonseca Array**	**7.17**	**357**	Pn	**Pn**	**10 52 58.0**	**+0.1**
	1.3nm,0.3s,baz=180,slow=12,SNR=6.4						
ESDC				Sn	**Sn**	**10 54 30.4**	**+11**
	0.7nm,0.3s,baz=99,slow=26,SNR=2.8						
ESDC	**Sonseca Array**	**7.17**	**357**	P	**Pn**	**10 52 59.8**	**+1.9**
	1.2nm,0.2s,baz=179,slow=12,SNR=5.0						
ESDC	**Sonseca Array**	**7.17**	**357**	P	**Pn**	**10 52 59.8**	**+1.9**
PESTR	**Estremoz**	**7.17**	**333**	*e*Pn	**Pn**	**10 52 56.0**	**-1.9**
PESTR				*e*Sn	**Sn**	**10 54 11.8**	**-7.4**
MOE	**Montemor**	**7.19**	**328**	*e*Pn	**Pn**	**10 52 56.9**	**-1.3**
MOE				*e*Sn	**Sn**	**10 54 14.2**	**-5.5**
PCBR	**Castelo Branco**	**8.00**	**337**	*e*Pn	**Pn**	**10 53 07.9**	**-1.4**
PCBR				*e*Sn	**Sn**	**10 54 33.1**	**-6.5**
PVIS	**Viseu**	**8.93**	**338**	*e*Pn	**Pn**	**10 53 20.7**	**-1.3**
KEST	**Kesra**	**11.12**	**70**	Pn	**Pn**	**10 53 53.2**	**+1.2**
	0.2nm,0.3s,baz=241,slow=9.7,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**19.84**	**165**	*e*P	**Pn**	**10 55 45.4**	**-0.1**
TOA0	**Torodi Ar. Sit**	**19.84**	**165**	*e*P	**Pn**	**10 55 45.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**19.84**	**165**	P	**Pn**	**10 55 44.6**	**-0.9**
	0.4nm,0.3s,baz=347,slow=12,SNR=14						
GERES	**GERESS Array B**	**20.82**	**33**	P	**P**	**10 55 54.8**	**+0.3**
	1.2nm,0.9s,baz=229,slow=12,SNR=4.1						
IDI	**Anoyia**	**23.70**	**75**	LR	LR	11 07 17.4	
	comp=Z,49nm,18.6s,MS3.0,baz=357,slow=41						

*NNC **21** 10:52:20.5±3.5, 4225N×8073E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=30.7km s-min=14.8km az=138.0*

BJI 21 10:52:20.4, 4189N×8118E, h23km, ML3.6, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**3.38**	**294**	⇑Lg		10 53 54.5	
	248nm,0.7s						
TKM2	**Tokmak 2**	**4.26**	**286**	⇓Pn	Pn	10 53 24.9	+1.0
	0.6nm

comp=Z,500nm,13.0s,MS4.1
CLNS MLR MLR
comp=N,100nm,9.0s
CLNS MLR MLR
comp=E,2μm,14.0s
BILL Bilibino 21.29 12 *e*P **P** **11 06 51.3 0.0**
BILL *e* 11 07 08.4
BILL pmax pmax
comp=Z,16nm,1.1s,mb4.3
KSRS Korea Array 22.36 253 P **P** **11 07 03.1 +0.4**
comp=Z,4.7nm,0.8s,mb3.9,baz=50,slow=10,SNR=12
BOD Bodaibo 26.55 308 *e*P **P** **11 07 40.8 -1.8**
BOD pmax pmax
comp=Z,4.0nm,2.1s,mb3.6
TIXI Tiksi 27.09 342 *e*P **P** **11 07 46.1 -1.3**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
NJ2 Nanjing 31.56 254 *e*P **P** **11 08 27.0 -0.1**
NJ2 S **S** **11 13 32.0 -3.6**
NJ2 LR LR
comp=N,2μm,16.6s,MS4.9
NJ2 LR LR
comp=E,1μm,14.2s,MS4.9
NJ2 LR LR
comp=Z,2μm,14.4s,MS4.8
ULN Ulaanbaatar 31.94 289 *e*P **P** **11 08 29.8 -0.7**
SONM Songino Array 32.37 289 P **P** **11 08 32.0 -2.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=61,slow=8.9,SNR=9.0
SONM Songino Array 32.37 289 P **P** **11 08 32.0 -2.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
TLY Talaya 33.04 297 *e*P **P** **11 08 43.9 +3.8**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,229nm,14.0s,MS4.0
COLA College 34.63 39 *e*P **P** **11 08 53.7 -0.2**
LZH Lanzhou 39.24 272 *e*P **P** **11 09 35.0 +1.8**
LZH AP pP 11 09 39.0 +2.7
LZH XP sP 11 09 41.5 +4.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,132nm,4.8s
LZH Lanzhou 39.24 272 *e*P **P** **11 09 35.0 +1.8**
comp=Z,25nm,1.0s,mb4.9
LZH pP pP 11 09 39.0 +2.7
LZH sP sP 11 09 41.5 +4.0
INK Inuvik 40.21 33 P **P** **11 09 40.2 -1.0**
comp=Z,3.3nm,0.6s,mb4.2,baz=300,slow=6.7,SNR=22
INK Inuvik 40.21 33 P **P** **11 09 40.2 -1.0**
INK pmax pmax
comp=Z,3.0nm,0.6s
ZAL Zalesovo 43.27 306 P **P** **11 10 04.8 -1.5**
comp=Z,1.9nm,0.5s,mb4.1,baz=60,slow=5.1,SNR=6.2
ZAL Zalesovo 43.27 306 P **P** **11 10 04.8 -1.5**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 47.79 298 *e*P **P** **11 10 41.6 -0.5**
MKAR Makanchi Array 47.79 298 P **P** **11 10 40.7 -1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=69,slow=8.3,SNR=26
MKAR Makanchi Array 47.79 298 *i* P **P** **11 10 41.2 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 49.43 38 P **P** **11 10 54.5 -0.2**
comp=Z,2.5nm,0.8s,mb4.3,baz=295,slow=7.4,SNR=4.2
YKA Yellowknife Ar 49.43 38 *i* P **P** **11 10 54.5 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 49.43 38 P **P** **11 10 54.5 -0.2**
BVAR Borovoye Array 51.40 310 P **P** **11 11 09.1 -0.5**
comp=Z,9.1nm,0.5s,mb5.0,baz=59,slow=7.8,SNR=70
BVAR Borovoye Array 51.40 310 P **P** **11 11 09.1 -0.5**
BVAR pmax pmax
comp=Z,9.0nm,0.5s
LSA Lhasa 51.60 274 P **P** **11 11 12.4 +1.3**
AAK Ala-Archa 54.70 297 *e*P **P** **11 11 34.0 0.0**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 54.70 297 *e*P **P** **11 11 34.0 +0.1**
comp=Z,2.0nm,0.6s,mb4.3
ARU Arti 55.33 318 ⇓ *i* P **P** **11 11 37.7 -0.8**
ARU *e* 11 13 39.4
ARU *e*S **S** **11 19 19.7 -2.9**
ARU *e*SS SS 11 23 06.5 -0.5
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YBH Yreka Blue Hor 56.14 63 P **P** **11 11 44.4 +0.1**
comp=Z,2.4nm,0.7s,mb4.4,baz=348,slow=5.9,SNR=5.6
YBH Yreka Blue Hor 56.14 63 P **P** **11 11 44.4 +0.1**
YBH pmax pmax
comp=Z,2.0nm,0.7s
JIRN Jiri 56.25 275 *e*P **P** **11 11 46.1 +1.0**
comp=Z,14nm,0.5s,mb5.2
GUN Gumba 56.30 276 *e*P **P** **11 11 46.2 +0.8**
KKN Kakani 56.78 276 *e*P **P** **11 11 49.0 +0.1**
PKI Pulchoki 56.84 276 *e*P **P** **11 11 49.9 +0.6**
comp=Z,11nm,0.6s,mb5.1
DMN Daman 57.02 276 *e*P **P** **11 11 51.5 +1.0**
GKN Gorkha 57.08 277 *e*P **P** **11 11 51.8 +0.8**
comp=Z,23nm,0.6s,mb5.4
ARCES ARCESS Array B 57.52 341 P **P** **11 11 54.5 +0.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=32,slow=7.5,SNR=3.8
ARCES ARCESS Array B 57.52 341 P **P** **11 11 54.5 +0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 57.52 341 P **P** **11 11 54.5 +0.4**
KOLN Koldanda 57.92 277 *e*P **P** **11 11 57.8 +0.9**
comp=Z,15nm,0.7s,mb5.1
AKTK Aktyubinsk 59.20 312 P **P** **11 12 05.2 -0.7**
AKTO Aktyubinsk 59.20 312 P **P** **11 12 05.2 -0.7**
comp=Z,2.4nm,0.6s,mb4.4,baz=65,slow=5.8,SNR=15
AKTO Aktyubinsk 59.20 312 P **P** **11 12 05.2 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
PDAR Pinedale Array 63.14 55 P **P** **11 12 32.0 -0.5**
comp=Z,2.8nm,0.9s,mb4.4,baz=275,slow=1.8,SNR=18
FINES FINESS Array B 63.87 335 P **P** **11 12 37.0 -0.5**
comp=Z,8.8nm,0.6s,mb5.0,baz=46,slow=8.2,SNR=27
FINES FINESS Array B 63.87 335 *i* P **P** **11 12 37.2 -0.2**
FINES pmax pmax
comp=Z,9.0nm,0.6s
ULM Lac du Bonnet 64.99 42 P **P** **11 12 43.6 -1.1**
comp=Z,2.5nm,0.8s,mb4.3,baz=294,slow=6.1,SNR=5.3
RSSD Black Hills 65.23 51 *e*P **P** **11 12 46.2 -0.1**
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RSSD Black Hills 65.23 51 *e*P **P** **11 12 46.2 -0.1**
comp=Z,9.4nm,1.0s,mb4.8
OBN Obninsk 65.40 326 *e*P **P** **11 12 46.8 -0.6**
OBN *e* 11 15 09.3
OBN *e*S S 11 21 26.2 -5.5
OBN pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
PV10 Paradox Valley 66.36 59 *e*P **P** **11 12 53.8 +0.2**
VRHR Novokhopersk 66.37 321 *e*P **P** **11 12 51.7 -1.9**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
VRHR pmax pmax
comp=N,1.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.4s
NB2 NORSAR Subarra 67.88 342 P **P** **11 13 03.1 -0.1**
comp=Z,2.2nm,0.6s,mb4.4,baz=25,slow=6.5
NOA NORSAR Array B 67.88 342 P **P** **11 13 03.3 0.0**
comp=Z,2.5nm,0.6s,mb4.4,baz=26,slow=6.4,SNR=9.3
NOA NORSAR Array B 67.88 342 P **P** **11 13 03.3 +0.1**
NOA pmax pmax
comp=Z,3.0nm,0.6s
WB2 Warramunga Arr 69.76 201 *e*P PcP 11 13 33.8 -3.8
WRA Warramunga Arr 69.76 201 P **P** **11 13 11.6 -3.3**
comp=Z,1.5nm,1.0s,mb3.9,baz=19,slow=6.6,SNR=6.2
WRA Warramunga Arr 69.76 201 P **P** **11 13 11.6 -3.3**
WRA pmax pmax
comp=Z,2.0nm,1.0s
MDRS Chennai 70.29 268 *ex* x 11 12 37.5
KIV Kislovodsk 71.20 315 *e*P **P** **11 13 24.0 +0.3**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.9
AKASG Malin Array Be 71.62 327 P **P** **11 13 25.2 -1.0**
comp=Z,1.1nm,0.5s,mb4.1,baz=34,slow=6.3,SNR=5.8
AKASG Malin Array Be 71.62 327 P **P** **11 13 25.2 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
GNI Garni 73.04 311 *e*P **P** **11 13 34.5 -0.2**
GNI pmax pmax
comp=Z,7.0nm,1.2s
ASAR Alice Springs 73.44 200 P **P** **11 13 35.5 -1.6**
comp=Z,0.9nm,0.8s,mb3.8,baz=14,slow=5.1,SNR=9.8
ASAR Alice Springs 73.44 200 P **P** **11 13 35.5 -1.6**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
BURAR Bucovina Array 75.65 328 ⇑ *i* P **P** **11 13 49.9 0.0**
EKA Eskdalemuir Ar 75.85 347 P **P** **11 13 52.0 +0.9**
comp=Z,4.1nm,0.5s,mb4.6,baz=18,slow=5.4,SNR=22
EKA Eskdalemuir Ar 75.85 347 P **P** **11 13 52.0 +0.9**
EKA pmax pmax
comp=Z,4.0nm,0.5s
TXAR Lajitas Array 75.88 62 P **P** **11 13 50.6 -0.7**
comp=Z,3.2nm,0.7s,mb4.4,baz=299,slow=4.2,SNR=45
TXAR Lajitas Array 75.88 62 P **P** **11 13 50.6 -0.7**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 76.27 337 *e*P **P** **11 13 54.0 +0.5**
CLL epPcP 11 14 07.0
MLR Muntele Rosu 77.17 326 P **P** **11 14 00.0 +1.4**
comp=Z,4.4nm,0.6s,mb4.6,baz=356,slow=10,SNR=8.2
MLR Muntele Rosu 77.17 326 ⇓ *i* P **P** **11 14 01.6 +3.0**
MLR Muntele Rosu 77.17 326 P **P** **11 14 00.0 +1.4**
MLR pmax pmax
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 78.08 335 *e*P **P** **11 14 04.5 +0.8**
KHC x x 11 14 18.0
KHC Kasperske Hory 78.08 335 *e*P **P** **11 14 04.5 +0.8**
KHC *e* 11 14 18.0
GERES GERESS Array B 78.31 335 P **P** **11 14 05.4 +0.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=50,slow=8.8,SNR=4.7
GERES GERESS Array B 78.31 335 P **P** **11 14 05.4 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GZR Gura Zlata 78.42 328 ⇑ *i* P **P** **11 14 07.9 +2.4**
BRTR Keskin Array B 78.72 318 P **P** **11 14 07.9 +0.7**
comp=Z,1.7nm,0.7s,mb4.1,baz=60,slow=3.3,SNR=8.3
BRTR Keskin Array B 78.72 318 P **P** **11 14 07.9 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PKSM Moragy 79.14 331 ⇑ *i* P **P** **11 14 09.9 +0.4**
CDF Champ du Feu 80.40 339 *e*P **P** **11 14 17.9 +1.6**
GRR Gorron 82.17 344 *e*P **P** **11 14 28.0 +2.3**
SMF Signal de Mont 82.86 341 *e*P **P** **11 14 31.1 +1.8**
comp=Z,108nm,1.8s,mb5.3
SMF Signal de Mont 82.86 341 *e*P **P** **11 14 31.1 +1.8**
SMF pmax pmax
comp=Z,54nm,1.8s,mb5.3
SMF Signal de Mont 82.86 341 *e*P **P** **11 14 31.1 +1.8**
comp=Z,54nm,1.8s,mb5.3
LPL La Plagne 83.24 338 *e*P **P** **11 14 33.8 +2.5**
comp=Z,20nm,1.0s,mb4.8
LPL La Plagne 83.24 338 *e*P **P** **11 14 33.8 +2.5**
LPL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LPL La Plagne 83.24 338 *e*P **P** **11 14 33.8 +2.5**
comp=Z,10.0nm,1.0s,mb4.8
CAF Calviac 84.89 341 *e*P **P** **11 14 41.6 +1.9**
comp=Z,121nm,1.9s,mb5.4
CAF Calviac 84.89 341 *e*P **P** **11 14 41.6 +1.9**
CAF pmax pmax
comp=Z,61nm,1.9s,mb5.4
CAF Calviac 84.89 341 *e*P **P** **11 14 41.6 +1.9**
comp=Z,61nm,1.9s,mb5.4
IDI Anoyia 86.25 321 P **P** **11 14 46.7 +0.2**
comp=Z,4.5nm,0.6s,mb4.9,baz=20,slow=12,SNR=3.4

*ISCJB **21** 11:04:07.3±4.4, 46.31N±009×1543E±0.1, h3km±28km, mb4.1/17, MS3.9/12, Error ellipse: s-maj=18.9km s-min=10.9km az=86.8*
*IDC **21** 11:04:08.8±0.7, 46.27N×154.40E, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.2/27, mbtmp4.2/16, ML4.0/2, MS3.8/12, Ms1 3.8/12, ms1mx3.5/30, Error ellipse: s-maj=21.7km s-min=15.7km az=148.0*
*MOS **21** 11:04:12.6±1.4, 46.32N×154.15E, h41km, mb4.4/12, Error ellipse: s-maj=14.4km s-min=12.1km az=93.5*
ISC 21 11:04:09.4±4.8, 4633N±009×1543E±01, h6km±30km, n41, σ1º18/35, mb4.1/17, MS3.9/12, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.53**	**15**	*e*PN	**Pn**	**11 05 19.0**	**+0.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**4.61**	**259**	*i*PN	**Pn**	**11 05 18.0**	**-1.6**
KUR				pmax	pmax		
	comp=Z,190nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.95**	**279**	*e*PN	**Pn**	**11 06 10.2**	**+4.8**
ASAJ	**Asahikawa**	**8.53**	**259**	Pn	**Pn**	**11 06 15.4**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=165,slow=9.9,SNR=6.1						
ASAJ				LR	LR	11 09 38.8	
	comp=Z,188nm,20.8s,baz=9.3,slow=38						
MJAR	**Matsushiro Arr**	**15.48**	**237**	Pn	**Pn**	**11 07 47.2**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=40,slow=11,SNR=4.5						
MAT	**Matsushiro**	**15.48**	**237**	P	**Pn**	**11 07 48.2**	**-0.1**
KSRS	**Korea Array**	**21.44**	**255**	P	**P**	**11 09 01.3**	**+3.0**
	comp=Z,2.6nm,0.7s,mb3.7,baz=55,slow=11,SNR=5.2						
KSRS				LR	LR	11 18 28.6	
	comp=Z,84nm,18.2s,MS3.2,baz=249,slow=40						
JNU	**Nakatsue**	**22.20**	**242**	LR	LR	11 16 38.6	
	comp=Z,209nm,20.1s,MS3.5,baz=271,slow=34						
BILL	**Bilibino**	**22.64**	**12**	*e*P	**P**	**11 09 15.1**	**+4.0**
BILL				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
BOD	**Bodaibo**	**26.87**	**310**	*e*P	**P**	**11 09 49.1**	**-1.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.0						
TIXI	**Tiksi**	**28.10**	**343**	*e*P	**P**	**11 10 00.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,190nm,14.0s,MS3.8						
JOW	**Kunigami**	**28.32**	**236**	LR	LR	11 21 37.6	
	comp=Z,62nm,19.9s,MS3.2,baz=95,slow=37						
SONM	**Songino Array**	**32.22**	**290**	P	**P**	**11 10 40.1**	**+1.7**
	comp=Z,0.7nm,1.0s,mb3.4,baz=44,slow=13,SNR=3.5						
SONM				LR	LR	11 24 08.8	
	comp=Z,185nm,20.1s,MS3.8,baz=191,slow=37						
SONM	**Songino Array**	**32.22**	**290**	P	**P**	**11 10 40.1**	**+1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,185nm,20.2s						
KDAK	**Kodiak Island**	**33.76**	**50**	P	**P**	**11 10 51.6**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.8,baz=310,slow=13,SNR=4.5						
INK	**Inuvik**	**41.59**	**32**	P	**P**	**11 11 58.7**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.2,baz=304,slow=6.5,SNR=20						
INK	**Inuvik**	**41.59**	**32**	P	**P**	**11 11 58.7**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**43.52**	**306**	LR	LR	11 32 01.3	
	comp=Z,273nm,19.3s,MS4.2,baz=33,slow=38						
NVS	**Novosibirsk**	**44.08**	**308**	*e*P	**P**	**11 12 15.4**	**-2.8**
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**11 12 48.0**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=70,slow=7.5,SNR=6.0						
MKAR				LR	LR	11 33 45.3	
	comp=Z,229nm,18.3s,MS4.2,baz=248,slow=37						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**11 12 48.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,229nm,18.3s						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**11 13 18.9**	**+1.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=50,slow=6.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**11 13 18.9**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**11 13 47.9**	**+0.1**
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**11 14 05.8**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=27,slow=14,SNR=5.0						
ARCES				LR	LR	11 41 47.7	
	comp=Z,138nm,19.1s,MS4.1,baz=15,slow=39						
ARCES	**ARCESS Array B**	**58.51**	**341**	P	**P**	**11 14 05.8**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,138nm,19.1s						
PDAR	**Pinedale Array**	**64.35**	**54**	P	**P**	**11 14 45.4**	**-0.6**
	comp=Z,1.5nm,0.9s,mb4.0,baz=281,slow=3.8,SNR=7.6						
FINES	**FINESS Array B**	**64.76**	**335**	P	**P**	**11 14 48.6**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=26,slow=7.4,SNR=5.7						
FINES				LR	LR	11 44 15.8	
	comp=Z,118nm,19.4s,MS4.1,baz=167,slow=37						
FINES	**FINESS Array B**	**64.76**	**335**	P	**P**	**11 14 48.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,118nm,19.4s						
WRA	**Warramunga Arr**	**68.38**	**200**	P	**P**	**11 15 11.1**	**-0.7**
	comp=Z,3.7nm,1.1s,mb4.3,baz=12,slow=6.2,SNR=7.2						
WRA	**Warramunga Arr**	**68.38**	**200**	P	**P**	**11 15 11.1**	**-0.7**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**68.88**	**342**	LR	LR	11 49 04.1	
	comp=Z,81nm,18.8s,MS4.0,baz=25,slow=39						
ASAR	**Alice Springs**	**72.07**	**200**	P	**P**	**11 15 34.8**	**+0.4**
	comp=Z,2.4nm,1.0s,mb4.1,baz=14,slow=5.1,SNR=9.5						
ASAR	**Alice Springs**	**72.07**	**200**	P	**P**	**11 15 34.8**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**72.34**	**327**	P	**P**	**11 15 35.6**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=6.2,SNR=5.1						
TXAR	**Lajitas Array**	**77.01**	**61**	P	**P**	**11 16 03.8**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.3,baz=304,slow=4.0,SNR=17						
TXAR	**Lajitas Array**	**77.01**	**61**	P	**P**	**11 16 03.8**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MLR	**Muntele Rosu**	**77.86**	**326**	P	**P**	**11 16 09.1**	**+1.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=5.7,slow=10,SNR=5.0						
MLR	**Muntele Rosu**	**77.86**	**326**	P	**P**	**11 16 09.1**	**+1.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**79.18**	**335**	LR	LR	11 55 01.2	
	comp=Z,148nm,19.3s,MS4.3,baz=23,slow=38						
PPT	**Papeete**	**81.27**	**127**	LR	LR	11 52 13.0	
	comp=Z,43nm,18.5s,MS3.8,baz=92,slow=36						

*IDC **21** 11:07:23.4±0.8, 4620N×154.37E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/26, mbtmp4.0/12, ML3.5/2, Error ellipse: s-maj=23.8km s-min=19.1km az=129.0*
*ISCJB **21** 11:07:25.4±5.5, 4624N±0.1×1542E±02, h25km±39km, mb3.9/11, Error ellipse: s-maj=24.8km s-min=17.5km az=61.1*
*MOS **21** 11:07:25.4±0.9, 4630N×154.11E, h23km, mb4.1/10, Error ellipse: s-maj=20.0km s-min=15.7km az=62.8*
ISC 21 11:07:27.1±5.4, 463N±01×1542E±02, h24km±38km, n25, σ0º91/25, mb3.9/11, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUR	**Kuril'sk**	**4.58**	**259**	⇑ *i*PN	**Pn**	**11 08 32.8**	**-2.1**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
ASAJ	**Asahikawa**	**8.51**	**259**	Pn	**Pn**	**11 09 29.3**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=83,slow=17,SNR=4.7						
ASAJ	**Asahikawa**	**8.51**	**259**	PN	**Pn**	**11 09 29.3**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.45**	**237**	Pn	**Pn**	**11 11 04.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=43,slow=11,SNR=3.2						
BILL	**Bilibino**	**22.68**	**12**	*e*P	**P**	**11 12 26.8**	**+0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**11 15 13.8**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.9,baz=281,slow=9.6,SNR=9.5						
INK	**Inuvik**	**41.63**	**32**	P	**P**	**11 15 13.8**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**11 16 02.8**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=68,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**11 16 02.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**11 16 32.3**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=56,slow=8.0,SNR=4.5						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**11 16 32.3**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**11 17 02.1**	**-0.7**
AKTO	**Aktyubinsk**	**59.62**	**313**	P	**P**	**11 17 29.4**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.2,baz=61,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**59.62**	**313**	P	**P**	**11 17 29.4**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**64.39**	**54**	P	**P**	**11 17 59.6**	**-1.5**
	comp=Z,0.8nm,0.9s,mb3.8,baz=323,slow=2.2,SNR=4.2						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**11 18 03.4**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=23,slow=6.2,SNR=4.5						
FINES	**FINESS Array B**	**64.79**	**335**	P	**P**	**11 18 03.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**11 18 26.3**	**-0.1**
	comp=Z,1.6nm,1.1s,mb4.0,baz=18,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**68.33**	**200**	P	**P**	**11 18 26.3**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**68.92**	**342**	P	**P**	**11 18 31.8**	**+1.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=27,slow=6.5,SNR=3.1						
NOA	**NORSAR Array B**	**68.92**	**342**	P	**P**	**11 18 31.8**	**+1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.02**	**200**	P	**P**	**11 18 48.5**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=17,slow=6.2,SNR=11						
ASAR	**Alice Springs**	**72.02**	**200**	P	**P**	**11 18 48.6**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**11 19 18.5**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=305,slow=4.5,SNR=11						
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**11 19 18.5**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 21 11:09:01.5±1.1, 4674N×15579E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=35.2km s-min=27.3km az=92.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.59**	**238**	Pn	Pn	11 12 57.2	+1.7
	0.3nm,0.3s,baz=34,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**48.58**	**299**	P	P	11 17 47.2	+0.6
	0.4nm,0.6s,baz=60,slow=8.7,SNR=2.5						
BVAR	**Borovoye Array**	**52.28**	**310**	P	P	11 18 13.2	-1.4
	1.0nm,0.5s,baz=66,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**64.82**	**336**	P	P	11 19 41.6	-0.5
	0.7nm,0.6s,baz=61,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**69.14**	**202**	P	P	11 20 08.8	-0.8
	0.8nm,0.8s,baz=20,slow=6.6,SNR=5.6						
ASAR	**Alice Springs**	**72.81**	**201**	P	P	11 20 32.1	+0.2
	0.5nm,0.6s,baz=18,slow=5.8,SNR=7.4						
TXAR	**Lajitas Array**	**75.88**	**62**	P	P	11 20 50.4	+0.6
	0.5nm,0.6s,baz=296,slow=4.4,SNR=4.2						

*NEIC **21** 11:39:10.0, 1068N×6169W, h17km, MD2.7(TRN), After TRN.*
*FUNV **21** 11:39:09.9, 1062N×6168W, h5km, MW3.1*
*TRN **21** 11:39:10.0, 1068N×6169W, h17km, MD2.7*
*ISCJB **21** 11:39:10.6±0.5, 1066N±006×6171W±003, h10km±4km, Error ellipse: s-maj=9.6km s-min=4.1km az=23.1*
ISC 21 11:39:10.7±0.5, 1067N±006×6170W±003, h13km±4km, n9, σ0º95/17, 3C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TCE	**Chacachacare**	**0.06**	**298**	⇑ *i*P	**Pg**	**11 39 13.4**	**+0.3**
TCE				*e*S	**Sg**	**11 39 15.8**	**+0.9**
TRN	**Trinidad (W)**	**0.29**	**94**	⇑ *e*P	**Pg**	**11 39 15.7**	**-1.0**
TRN				*e*S	**Sg**	**11 39 20.7**	**-0.1**
TPP	**Pointe-a-Pierr**	**0.43**	**145**	⇑ *i*P	**Pg**	**11 39 18.0**	**-1.2**
TPP				*e*S	**Sg**	**11 39 25.7**	**+0.8**
GUIV	**Guiria**	**0.51**	**267**	*e*P	**Pg**	**11 39 19.7**	**-1.0**
GUIV				*e*S	**Sg**	**11 39 26.8**	**-0.8**
TBH	**Brigand Hill**	**0.65**	**106**	*e*P	**Pg**	**11 39 23.4**	**0.0**
TBH				*e*S	**Sg**	**11 39 34.7**	**+2.8**
TPR	**Pr

mb4.2/23,Error ellipse: s-maj=15.9km s-min=9.6km az=111.2
*IDC **21** 11:39:25.0±0.8,4674N×15499E,h0km,mb4.1/14, mb1 4.2/16,mb1mx4.1/24,mbtmp4.0/16,ML3.7/1,Error ellipse: s-maj=20.5km s-min=18.3km az=140.0*
*NEIC **21** 11:39:26.5±0.6,4667N×15489E,h10km,mb4.6/6,Error ellipse: s-maj=14.0km s-min=10.7km az=141.0*
*BJI **21** 11:39:26.5,4734N×15488E,h10km,mB4.6,mb4.3*
*MOS **21** 11:39:29.3±1.5,4683N×15478E,h40km,mb4.5/15,Error ellipse: s-maj=12.8km s-min=9.6km az=104.1*

ISC 21 11:39:30.6±2.3,4697N±009×1550E±01,h31km±15km,n55, σ1§13/57,mb4.2/23,5C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**11**	*e*PN	**Pn**	**11 40 27.6**	**+0.8**
KUR	**Kuril'sk**	**5.24**	**253**	⇑*i*PN	**Pn**	**11 40 42.0**	**-4.8**
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.37**	**274**	*i* PN	**Pn**	**11 41 31.0**	**+1.4**
ASAJ	**Asahikawa**	**9.15**	**256**	Pn	**Pn**	**11 41 39.0**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=88,slow=14,SNR=7.9						
ASAJ	**Asahikawa**	**9.15**	**256**	PN	**Pn**	**11 41 39.0**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.25**	**236**	Pn	**Pn**	**11 43 10.9**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=22,slow=13,SNR=5.1						
YAK	**Yakutsk**	**20.85**	**326**	*e*P	**P**	**11 44 09.5**	**-0.2**
CN2	**Changchun**	**20.93**	**272**	*e*P	**P**	**11 44 13.4**	**+2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BILL	**Bilibino**	**21.91**	**11**	⇑*e*P	**P**	**11 44 20.9**	**-0.2**
BILL				*e*		11 44 41.1	
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
BILL	**Bilibino**	**21.91**	**11**	*e*P	**P**	**11 44 23.3**	**+2.2**
	comp=Z,4.3nm,0.4s,mb4.2						
KSRS	**Korea Array**	**22.09**	**254**	P	**P**	**11 44 23.2**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.6,baz=56,slow=11,SNR=8.6						
BOD	**Bodaibo**	**26.84**	**309**	*e*P	**P**	**11 45 06.6**	**-1.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb3.7						
TIXI	**Tiksi**	**27.63**	**343**	⇑*e*P	**P**	**11 45 13.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.2						
NJ2	**Nanjing**	**31.29**	**255**	*e*P	**P**	**11 45 49.0**	**+1.3**
NJ2				S	**S**	**11 50 54.0**	**+1.6**
SONM	**Songino Array**	**32.47**	**290**	P	**P**	**11 45 56.9**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=83,slow=6.3,SNR=3.6						
ZAK	**Zakamensk**	**33.75**	**295**	*e*P	**P**	**11 46 07.9**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
COLA	**College**	**35.17**	**39**	⇓*e*P	**P**	**11 46 20.8**	**-0.7**
WHN	**Wuhan**	**35.23**	**257**	*e*P	**P**	**11 46 23.3**	**+1.3**
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**11 46 56.5**	**+1.1**
LZH				AP	pP	11 46 58.5	-6.1
LZH				XP	sP	11 46 59.5	-8.8
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,141nm,5.7s						
LZH	**Lanzhou**	**39.16**	**273**	*e*P	**P**	**11 46 56.5**	**+1.1**
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	11 46 58.5	-6.1
LZH				sP	sP	11 46 59.5	-8.8
ZAL	**Zalesovo**	**43.54**	**306**	P	**P**	**11 47 30.0**	**-1.3**
	comp=Z,1.8nm,0.4s,mb4.1,baz=70,slow=5.0,SNR=5.7						
ZAL	**Zalesovo**	**43.54**	**306**	P	**P**	**11 47 30.0**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**11 48 05.2**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=68,slow=8.1,SNR=21						
MKAR	**Makanchi Array**	**47.98**	**298**	⇑*e*P	**P**	**11 48 06.0**	**-0.3**
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**11 48 30.5**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**51.27**	**311**	*e*P	**P**	**11 48 30.5**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0						
LSA	**Lhasa**	**51.54**	**274**	P	**P**	**11 48 37.3**	**+3.8**
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**11 48 34.4**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.5,baz=49,slow=8.2,SNR=18						
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**11 48 34.4**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**51.74**	**310**	*e*P	**P**	**11 48 34.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.74**	**310**	*e*P	**P**	**11 48 34.9**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**54.88**	**297**	*e*P	**P**	**11 48 57.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**54.88**	**297**	*e*P	**P**	**11 48 57.9**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.3						
ARU	**Arti**	**55.71**	**318**	⇑*i*P	**P**	**11 49 03.6**	**-0.4**
ARU				*e*		11 51 13.5	
ARU				*e*S	**S**	**11 56 48.0**	**-0.4**
ARU				*e*SS	SS	12 00 37.3	+3.3
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ARU	**Arti**	**55.71**	**318**	*e*P	**P**	**11 49 04.0**	**0.0**
	comp=Z,9.0nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**58.06**	**341**	P	**P**	**11 49 20.9**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=37,slow=4.7,SNR=3.7						
ARCES	**ARCESS Array B**	**58.06**	**341**	P	**P**	**11 49 20.9**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PDAR	**Pinedale Array**	**63.58**	**55**	P	**P**	**11 49 58.5**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=340,slow=1.7,SNR=5.3						
FINES	**FINESS Array B**	**64.38**	**336**	P	**P**	**11 50 03.3**	**-0.2**
	comp=Z,1.8nm,0.4s,mb4.4,baz=35,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**64.38**	**336**	*i* P	**P**	**11 50 04.8**	**+1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TMUT	**Trail Mountain**	**64.89**	**59**	*e*P	**P**	**11 50 07.3**	**+0.5**
NB2	**NORSAR Subarra**	**68.43**	**342**	P	**P**	**11 50 31.8**	**+2.4**
	comp=Z,5.3nm,1.1s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.43**	**342**	P	**P**	**11 50 30.8**	**+1.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=24,slow=6.3,SNR=2.8						
NOA	**NORSAR Array B**	**68.43**	**342**	P	**P**	**11 50 30.8**	**+1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**11 50 31.3**	**-2.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=19,slow=6.7,SNR=5.3						
WRA	**Warramunga Arr**	**69.15**	**201**	*i* P	**P**	**11 50 34.5**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.07**	**327**	P	**P**	**11 50 51.5**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=35,slow=6.3,SNR=6.0						
AKASG	**Malin Array Be**	**72.07**	**327**	*i* P	**P**	**11 50 51.5**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.07**	**327**	P	**P**	**11 50 51.5**	**-0.2**
ASAR	**Alice Springs**	**72.84**	**200**	P	**P**	**11 50 54.4**	**-1.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=18,slow=5.0,SNR=14						
ASAR	**Alice Springs**	**72.84**	**200**	P	**P**	**11 50 54.4**	**-1.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**11 51 15.9**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=302,slow=4.9,SNR=42						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**11 51 15.9**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KHC	**Kasperske Hory**	**78.59**	**335**	*e*P	**P**	**11 51 29.2**	**+0.1**
GERES	**GERESS Array B**	**78.81**	**335**	P	**P**	**11 51 32.4**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=15,slow=6.9,SNR=4.1						

IDC 21 11:50:31.2±1.0,4690N×15520E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.8/22,mbtmp3.8/8,ML3.3/1,Error ellipse: s-maj=29.1km s-min=24.5km az=67.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.27**	**257**	Pn	Pn	11 52 48.0	+1.8
	0.4nm,0.3s,baz=99,slow=13,SNR=3.9						
MJAR	**Matsushiro Arr**	**16.33**	**237**	Pn	Pn	11 54 27.4	+5.5
	0.1nm,0.3s,baz=32,slow=10,SNR=4.5						
KSRS	**Korea Array**	**22.21**	**255**	P	P	11 55 25.4	-3.8
	0.7nm,0.6s,baz=55,slow=14,SNR=3.2						
SONM	**Songino Array**	**32.63**	**290**	P	P	11 57 03.0	-1.6
	0.4nm,0.8s,baz=54,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**48.14**	**298**	P	P	11 59 12.1	-0.9
	0.7nm,0.6s,baz=72,slow=7.2,SNR=6.7						
BVAR	**Borovoye Array**	**51.87**	**310**	P	P	11 59 41.0	-0.3
	1.5nm,0.6s,baz=59,slow=8.0,SNR=8.2						
FINES	**FINESS Array B**	**64.51**	**336**	P	P	12 01 10.9	+1.1
	0.7nm,0.5s,baz=46,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**69.14**	**201**	P	P	12 01 38.6	-0.7
	0.9nm,0.8s,baz=20,slow=7.0,SNR=5.9						
ASAR	**Alice Springs**	**72.82**	**200**	P	P	12 02 02.2	+0.6
	0.7nm,0.5s,baz=17,slow=5.8,SNR=16						
TXAR	**Lajitas Array**	**76.17**	**62**	P	P	12 02 20.7	-0.4
	0.1nm,0.5s,baz=291,slow=4.3,SNR=4.8						

*NEIC **21** 12:07:10.7,3366S×7138W,h46km,MD3.6(GUC),After GUC.*

GUC 21 12:07:10.7±0.8,3366S×7138W,h46km±2km,MD3.6, ML2.5,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.29**	**185**	⇑*i*P	Pn	12 07 19.4	0.0
LNV				*i* S	Sn	12 07 25.5	0.0
TACH	**Talagante**	**0.37**	**89**	*e*P	Pn	12 07 20.8	+0.6
TACH				*i* S	Sn	12 07 27.9	+1.1
RCDM	**Rinconada Maip**	**0.51**	**70**	*e*P	Pn	12 07 22.5	+0.6
RCDM				*i* S	Sn	12 07 30.7	+1.0
RCDM				AML	AML	12 07 31.0	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**0.63**	**82**	*i* S	Sn	12 07 33.7	+1.2
ANTU				AML	AML	12 07 34.6	
	comp=N,191nm,0.2s						
CHCH	**Chadas Angostu**	**0.67**	**114**	⇓*i*P	Pn	12 07 24.5	+0.7
CHCH				*i* S	Sn	12 07 34.8	+1.6
PCH	**Pirque**	**0.72**	**87**	*e*P	Pn	12 07 25.2	+0.6
PCH				*i* S	Sn	12 07 35.8	+1.1
PEL	**Peldehue**	**0.78**	**49**	*e*P	Pn	12 07 25.7	+0.3
PEL				*i* S	Sn	12 07 37.5	+1.6
PEL				AML	AML	12 07 40.1	
	comp=N,197nm,0.6s						
PEL	**Peldehue**	**0.78**	**49**	*e*P	Pn	12 07 25.7	+0.3
PEL				*i* S	Sn	12 07 37.5	+1.6
CACH	**El Canelo**	**0.79**	**125**	⇓*i*P	Pn	12 07 27.3	+1.8
CACH				*i* S	Sn	12 07 39.5	+3.2
SFDO	**San Fernando**	**1.00**	**162**	⇓*i*P	Pn	12 07 29.4	+1.1
SFDO				*i* S	Sn	12 07 42.9	+1.7
LMEL	**Las Melosas**	**1.00**	**101**	*e*P	Pn	12 07 28.9	+0.6
LMEL				*i* S	Sn	12 07 43.3	+2.1
LMEL				AML	AML	12 07 45.3	
	comp=N,259nm,0.0s						
LMEL	**Las Melosas**	**1.00**	**101**	*e*P	Pn	12 07 28.9	+0.6
LMEL				*i* S	Sn	12 07 43.3	+2.1
CICH	**Cipreses**	**1.03**	**130**	⇓*i*P	Pn	12 07 29.7	+0.9
CICH				*i* S	Sn	12 07 43.9	+1.9

IDC 21 12:07:38.5±10.0,660S×15461E,h127km±73km,mb3.5/3, mb1 3.7/4,mb1mx3.4/13,mbtmp3.5/4,MS2.8/2,Ms1 2.8/2, ms1mx2.4/21,Error ellipse: s-maj=91.7km s-min=39.0km az=102.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.88**	**249**	P	Pn	12 09 30.2	-0.1
	1.6nm,0.3s,baz=53,slow=14,SNR=5.8						
PMG				S	Sn	12 10 59.1	+1.2
	0.9nm,0.3s,baz=135,slow=20,SNR=3.1						
PMG				LR	LR	12 12 12.1	
	comp=Z,54nm,19.6s,baz=273,slow=35						
WB2	**Warramunga Arr**	**23.72**	**234**	*e*P	P	12 12 39.5	+0.7
WRA	**Warramunga Arr**	**23.73**	**234**	P	P	12 12 39.5	+0.7
	3.4nm,0.8s,baz=59,slow=9.7,SNR=25						
ASAR	**Alice Springs**	**26.15**	**227**	P	P	12 13 00.8	+0.1
	1.3nm,0.6s,baz=58,slow=8.8,SNR=28						
ASAR				LR	LR	12 21 51.7	
	comp=Z,28nm,21.1s,baz=6.5,slow=33						
ASPA	**Alice Springs**	**26.15**	**227**	*e*P	P	12 13 00.8	0.0
MKAR	**Makanchi Array**	**82.85**	**319**	P	P	12 19 49.0	+0.2
	0.3nm,0.5s,baz=98,slow=7.4,SNR=6.7						

*THE **21** 12:14:12.9,3803N×27.17E,h20km,ML3.6*
*ISK **21** 12:14:12.8,3797N×2667E,h10km,MD3.5*
*CSEM **21** 12:14:12.5±0.1,3800N×2670E,h5km,MD3.7,Error ellipse: s-maj=2.1km s-min=1.4km az=60.0*
*ISCJB **21** 12:14:13.3±0.3,3806N±002×2669E±003,h10km,Error ellipse: s-maj=3.5km s-min=2.5km az=148.3*
*NEIC **21** 12:14:13.0,3813N×2665E,h19km,MD3.5(ISK), MD3.7(ATH),After ATH.*
*ATH **21** 12:14:13.0,3813N×2665E,h19km±1km,MD5.4/9*

ISC 21 12:14:14.0±0.3,3804N±002×2672E±003,h10km,n52, σ1§45/69,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.34**	**165**	*e*Pb	**Pg**	**12 14 21.8**	**+1.0**
SMG				*e*Sb	**Sg**	**12 14 28.9**	**+3.5**
KDAG	**Bornova**	**0.56**	**50**	*i* P	**Pg**	**12 14 20.3**	**-4.7**
KDAG				*i* S	**Sg**	**12 14 25.7**	**-6.6**
BODT	**Bodrum**	**1.08**	**154**	PG	**Pg**	**12 14 33.5**	**-1.3**
BODT				SG	**Sg**	**12 14 48.2**	**-0.7**
MLSB	**Milas**	**1.12**	**131**	PN	**Pb**	**12 14 34.4**	**-1.0**
MLSB				SN	**Sb**	**12 14 49.4**	**-0.6**
BDRM	**Kayabasi**	**1.13**	**149**	*i* P	**Pb**	**12 14 33.9**	**-1.7**
BDRM				*i* S	**Sb**	**12 14 50.1**	**-0.3**
PRK	**Paraskevi**	**1.26**	**344**	*e*Pn	**Pn**	**12 14 35.2**	**-2.4**
PRK				*e*Sn	**Sb**	**12 14 50.6**	**-3.4**
AYVA	**Ayvalik**	**1.27**	**359**	*i* P	**Pn**	**12 14 35.1**	**-2.7**
AYVA				*i* S	**Sb**	**12 14 51.6**	**-2.8**
APE	**Apeiranthos**	**1.35**	**225**	PN	**Pn**	**12 14 37.4**	**-1.6**
APE	**Apeiranthos**	**1.35**	**225**	*e*PN	**Pn**	**12 14 39.0**	**0.0**
APE	**Apeiranthos**	**1.35**	**225**	*e*Pb	**Pn**	**12 14 39.1**	**+0.1**
NISR	**Nisiros**	**1.46**	**167**	*e*PN	**Pn**	**12 14 42.5**	**+2.1**
DAT	**Datca**	**1.47**	**152**	PN	**Pn**	**12 14 38.6**	**-2.0**
YER	**Yerkesik**	**1.53**	**126**	PN	**Pn**	**12 14 41.1**	**-0.3**
EZN	**Ezine**	**1.81**	**350**	PN	**Pn**	**12 14 45.3**	**0.0**
DENT	**Denizli**	**1.85**	**98**	PN	**Pn**	**12 14 45.8**	**0.0**
BOZC	**Bozcaada**	**1.88**	**344**	*i* P	**Pn**	**12 14 43.6**	**-2.5**
BOZC				*i* S	**Sn**	**12 15 11.8**	**+1.9**
DALT	**Dalyan (Mudla)**	**1.98**	**129**	PN	**Pn**	**12 14 47.4**	**-0.2**
CANB	**Canakkale**	**1.99**	**8**	PN	**Pn**	**12 14 48.3**	**+0.5**
CANB	**Canakkale**	**1.99**	**8**	*i* P	**Pn**	**12 14 45.7**	**-2.1**
CANB				*i* S	**Sn**	**12 15 12.5**	**-0.3**
BTOK	**Tokmak**	**2.00**	**30**	*i* P	**Pn**	**12 14 45.4**	**-2.5**
BTOK				*i* S	**Sn**	**12 15 05.9**	**-7.0**
ARG	**Arkhangelos**	**2.14**	**148**	*e*PN	**Pn**	**12 14 51.5**	**+1.8**
LIA	**Limnos Island**	**2.21**	**328**	*e*PN	**Pn**	**12 14 49.4**	**-1.4**
KHL	**Karahalli**	**2.23**	**82**	PN	**Pn**	**12 14 51.5**	**+0.5**
LOS	**Limnos**	**2.29**	**326**	*e*Pn	**Pn**	**12 14 50.7**	**-1.1**
LOS				*e*Sn	**Sn**	**12 15 21.4**	**+1.4**
FETY	**Fethiye**	**2.35**	**126**	PN	**Pn**	**12 14 52.6**	**0.0**
GDZ	**Gediz**	**2.40**	**63**	*i* P	**Pn**	**12 14 54.3**	**+0.9**
GDZ				*i* S	**Sn**	**12 15 22.2**	**-0.7**
EDC	**Edincik**	**2.47**	**21**	PN	**Pn**	**12 14 55.2**	**+0.9**
AOS	**Alonnisos**	**2.50**	**298**	*e*Pn	**Pn**	**12 14 54.9**	**+0.1**
AOS	**Alonnisos**	**2.50**	**298**	*e*Pn	**Pn**	**12 14 54.8**	**+0.1**
KARP	**Karpathos**	**2.51**	**172**	*e*PN	**Pn**	**12 14 56.9**	**+2.0**
RKY	**Sarkoy-Tekirda**	**2.67**	**7**	*e*PN	**Pn**	**12 14 58.1**	**+1.0**
ULDT	**Uludag**	**2.82**	**41**	*i* P	**Pn**	**12 15 00.8**	**+1.7**
ULDT				*i* S	**Sn**	**12 15 31.0**	**-2.1**
TKTP	**Tekketepe**	**2.84**	**89**	*i* P	**Pb**	**12 15 03.8**	**-1.0**
TKTP				*i* S	**Sg**	**12 15 43.3**	**-2.0**
ELL	**Elmali**	**2.84**	**116**	*e*PN	**Pn**	**12 14 59.8**	**+0.3**
ALN	**Alexandroupoli**	**2.90**	**350**	*e*Pn	**Pn**	**12 14 57.6**	**-2.7**
IZI	**Iznik**	**3.14**	**42**	*e*PN	**Pn**	**12 15 05.0**	**+1.5**
RDO	**Rodhopi**	**3.24**	**344**	*e*PN	**Pn**	**12 15 03.1**	**-1.8**
YLV	**Yalova**	**3.26**	**38**	*e*PN	**Pn**	**12 15 07.2**	**+2.1**
XRY	**Khrisi**	**3.26**	**195**	*e*PN	**Pn**	**12 15 06.0**	**+0.7**
VLI	**Veliai**	**3.29**	**248**	*e*PN	**Pn**	**12 15 06.2**	**+0.6**
VLI				*e*SN	**Sn**	**12 15 44.4**	**-0.4**
ADVT	**Abdulvahap**	**3.35**	**43**	*e*PN	**Pn**	**12 15 07.5**	**+1.1**
CTT	**Catalca**	**3.37**	**22**	*e*PN	**Pn**	**12 15 08.1**	**+1.4**
ISK	**Istanbul-Kandi**	**3.52**	**30**	*e*PN	**Pn**	**12 15 11.0**	**+2.2**
ESKT	**Eskisehir**	**3.55**	**64**	*i* P	**Pb**	**12 15 15.6**	**-1.3**
ESKT				*i* S	**Sb**	**12 15 58.3**	**-1.7**
ESKT	**Eskisehir**	**3.55**	**64**	*e*Pn	**Pn**	**12 15 11.0**	**+1.8**
GPA	**Golpazari**	**3.58**	**50**	*e*PN	**Pn**	**12 15 11.6**	**+2.0**
HRT	**Hereke**	**3.59**	**38**	*e*PN	**Pn**	**12 15 11.6**	**+1.8**
HORT	**Hortiatis**	**3.80**	**313**	*e*Pn	**Pn**	**12 15 12.4**	**-0.1**
HORT	**Hortiatis**	**3.80**	**313**	*e*Pn	**Pn**	**12 15 12.4**	**-0.2**
EDRB	**Edirne**	**3.80**	**0**	*e*PN	**Pn**	**12 15 13.6**	**+0.9**
KNT	**Kendrikon**	**4.30**	**318**	*e*Pn	**Pn**	**12 15 18.9**	**-0.6**
SGKT	**Sivrigoynuk**	**4.85**	**57**	*i* P	**Pb**	**12 15 41.0**	**+2.0**
SGKT				*i* S	**Sb**	**12 16 39.8**	**+2.4**

IDC 21 12:18:01.7±1.6,4759N×15323E,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.7/23,mbtmp3.9/7,ML3.5/2,Error ellipse: s-maj=46.5km s-min=25.4km az=147.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.19**	**249**	Pn	Pn	12 20 01.4	-0.4
	0.7nm,0.3s,baz=90,slow=13,SNR=6.1						
MJAR	**Matsushiro Arr**	**15.66**	**231**	Pn	Pn	12 21 42.4	-1.2
	0.2nm,0.3s,baz=34,slow=9.3,SNR=4.6						
KSRS	**Korea Array**	**21.14**	**251**	P	P	12 22 49.0	+0.9
	1.0nm,0.6s,baz=55,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**63.31**	**335**	P	P	12 28 31.7	-0.7
	2.5nm,0.9s,baz=31,slow=8.4,SNR=3.4						
NOA	**NORSAR Array B**	**67.46**	**341**	P	P	12 28 58.9	-0.3
	1.5nm,1.1s,baz=100,slow=7.0,SNR=2.4						
HFS	**Hagfors**	**67.70**	**339**	P	P	12 29 00.1	-0.6
	3.5nm,0.9s,baz=46,slow=4.3,SNR=5.8						
TXAR	**Lajitas Array**	**77.01**	**61**	P	P	12 29 56.6	+0.2
	0.2nm,0.4s,baz=303,slow=5.7,SNR=8.6						

*ISCJB **21** 12:30:39.5±0.8,458N±0.1×1537E±0.1,h10km,mb4.1/14, Error ellipse: s-maj=18.9km s-min=9.4km az=139.9*
*IDC **21** 12:30:39.4±0.8,4585N×15406E,h0km,mb4.1/11, mb1 4.2/13,mb1mx4.0/23,mbtmp4.0/13,ML3.3/1,Error ellipse: s-maj=25.1km s-min=18.5km az=102.0*
*MOS **21** 12:30:44.4±1.9,4604N×15364E,h49km,mb4.2/11,Error ellipse: s-maj=20.1km s-min=13.8km az=69.8*

ISC 21 12:30:41.2±4.4,460N±01×1538E±01,h10km±27km,n33, σ1§48/31,mb4.1/14,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.21**	**262**	⇑*i*PN	**Pn**	**12 31 43.0**	**-2.5**
KUR				*i* S	**Sn**	**12 32 32.3**	**-2.5**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,170nm,0.6s						
SKR	**Severo-Kuril's**	**4.95**	**18**	*e*PN	**Pn**	**12 31 53.5**	**-2.1**
ASAJ	**Asahikawa**	**8.13**	**261**	Pn	**Pn**	**12 32 40.1**	**+0.8**
	comp=E,0.4nm,0.3s,baz=110,slow=12,SNR=4.0						
MJAR	**Matsushiro Arr**	**15.01**	**237**	Pn	**Pn**	**12 34 15.5**	**+2.0**
	baz=69,slow=6.8,SNR=2.7						
BILL	**Bilibino**	**23.03**	**12**	*e*P	**P**	**12 35 50.5**	**+4.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
INK	**Inuvik**	**42.05**	**32**	P	**P**	**12 38 30.7**	**-2.3**
	comp=Z,1.5nm,0.7s,mb3.7,baz=267,slow=5.3,SNR=5.8						
INK	**Inuvik**	**42.05**	**32**	P	**P**	**12 38 30.7**	**-2.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.70**	**298**	P	**P**	**12 39 17.9**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=70,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**47.70**	**298**	P	**P**	**12 39 17.9**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.70**	**310**	P	**P**	**12 39 48.6**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=54,slow=7.5,SNR=3.8						
BVAR	**Borovoye Array**	**51.70**	**310**	P	**P**	**12 39 48.6**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.72**	**341**	P	**P**	**12 40 39.5**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=24,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**58.72**	**341**	P	**P**	**12 40 39.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**12 41 21.3**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=35,slow=7.4,SNR=9.4						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**12 41

PRS1				⇓*e*S		**Sn**	**12 32 15.8**	**-1.8**
PRS1	**Puriscal**	**1.00**	**335**	⇑*i*P		**Pn**	**12 32 02.2**	**-2.4**
LIO	**Limon**	**1.25**	**42**	⇓*i*P		**Pn**	**12 32 07.5**	**-0.4**
LIO				*i* P			12 32 07.5	
LIO	**Limon**	**1.25**	**42**	⇓*i*P		**Pn**	**12 32 07.5**	**-0.4**
BRU	**Baru**	**1.33**	**101**	⇑*e*P		**Pn**	**12 32 08.8**	**-0.2**
CNI	**Changuinola**	**1.39**	**75**	⇓*i*P		**Pn**	**12 32 09.9**	**+0.1**
JCR	**Jicaral**	**1.44**	**303**	⇑*e*P		**Pn**	**12 32 08.4**	**-2.1**
JCR	**Jicaral**	**1.44**	**303**	⇑*e*P		**Pn**	**12 32 07.7**	**-2.8**
TRTC	**Tortuguero**	**1.51**	**6**	*e*P		**Pn**	**12 32 11.8**	**+0.4**
DVD	**David**	**1.55**	**114**	*e*P		**Pn**	**12 32 11.8**	**-0.2**
FORC	**Fortuna**	**1.60**	**331**	*i* P		**Pn**	**12 32 12.0**	**-0.6**
FORC				*i* S		**Sn**	**12 32 33.6**	**+1.5**
CONN	**Concepcion**	**3.02**	**326**	*e*P		**Pn**	**12 32 33.1**	**+1.0**
TICN	**Ticuantepe**	**3.75**	**322**	*e*P		**Pn**	**12 32 42.9**	**+0.8**
AZU	**Azuero**	**3.79**	**109**	⇑*e*P		**Pn**	**12 32 45.7**	**+3.0**
MGAN	**Managua**	**3.84**	**323**	*e*P		**Pn**	**12 32 44.6**	**+1.2**
TISN	**Laguna Tiscapa**	**3.85**	**323**	*e*P		**Pn**	**12 32 44.2**	**+0.7**
ACH	**Altos**	**3.93**	**96**	⇑*e*P		**Pn**	**12 32 45.8**	**+1.2**
MOMJ	**Momotombo**	**4.22**	**322**	*e*P		**Pn**	**12 32 49.0**	**+0.3**
CNGN	**Cerro Negro**	**4.39**	**321**	*e*P		**Pn**	**12 32 52.1**	**+1.2**
CRIN	**San Cristobal**	**4.76**	**320**	*e*P		**Pn**	**12 32 56.8**	**+0.8**
CRIN				*e*P			12 32 57.7	
TGUH	**Tegucigalpa,Un** 339nm,0.8s	**5.97**	**327**	*e*Pn		**Pn**	**12 33 15.6**	**+3.1**
TGUH				*e*Sn		**Sn**	**12 34 20.6**	**+1.0**
OTAV	**Otavalo** 15nm,0.8s	**10.30**	**148**	*e*Pn		**Pn**	**12 34 12.1**	**+0.1**
OTAV				*e*Sn		**Sn**	**12 36 08.0**	**+1.9**
ROSC	**El Rosal** 1.3nm,0.3s,baz=334,slow=12,SNR=2.8	**10.36**	**113**	Pn		**Pn**	**12 34 17.5**	**+4.8**
ROSC				LR		LR	12 37 53.5	
	comp=Z,280nm,21.6s,baz=321,slow=36							
SDV	**Santo Domingo** 2.4nm,0.3s,baz=290,slow=7.3,SNR=13	**13.09**	**90**	Pn		**Pn**	**12 34 50.1**	**+0.1**
SDV				Sn		**Sn**	**12 37 12.4**	**-1.7**
	1.3nm,0.3s,baz=315,slow=20,SNR=2.4							
SDV	**Santo Domingo** 24nm,0.7s	**13.09**	**90**	*e*Pn		**Pn**	**12 34 50.4**	**+0.4**
SDV				*e*Sn		**Sn**	**12 37 02.8**	**-11**
CMIG	**Matias Romero** 2.7nm,0.3s,baz=116,slow=9.7,SNR=22	**13.35**	**308**	Pn		**Pn**	**12 34 52.0**	**-1.6**
CMIG				Sn		**Sn**	**12 37 19.8**	**-0.7**
	0.1nm,0.3s,baz=60,slow=14,SNR=1.6							
CMIG	**Matias Romero**	**13.35**	**308**	Pn		**Pn**	**12 34 52.0**	**-1.6**
CMIG				Sn		**Sn**	**12 37 19.8**	**-0.7**
CCCC	**Cccc**	**13.43**	**25**	*e*P		**Pn**	**12 34 59.7**	**+5.1**
ATAH	**Atahualpa** baz=345,slow=16,SNR=2.1	**16.87**	**161**	Pn		**Pn**	**12 35 39.0**	**-0.5**
ATAH				LR		LR	12 41 45.1	
	comp=Z,177nm,19.1s,baz=355,slow=35							
PCRV	**Puerto La Cruz** 2.1nm,0.3s,baz=314,slow=4.1,SNR=5.6	**19.01**	**85**	P		**Pn**	**12 36 08.1**	**+2.5**
SAML	**Samuel** 6.3nm,0.9s,mb4.2	**27.30**	**130**	*e*P		**P**	**12 37 30.4**	**+3.5**
TXAR	**Lajitas Array** 0.4nm,0.5s,mb3.2,baz=144,slow=9.1,SNR=7.2	**27.40**	**320**	P		**P**	**12 37 27.2**	**-0.5**
TXAR				pP		pP	12 37 37.0	-3.2
	0.8nm,0.6s,baz=132,slow=10,SNR=6.6							
TXAR	**Lajitas Array**	**27.40**	**320**	P		**P**	**12 37 27.2**	**-0.5**
TXAR				pP		pP	12 37 37.0	-3.2
LPAZ	**La Paz** 0.4nm,0.5s,mb3.4,baz=338,slow=5.4,SNR=2.2	**29.63**	**148**	P		**P**	**12 37 47.6**	**0.0**
LPAZ				pP		pP	12 37 57.3	-2.8
	0.9nm,0.7s,baz=11,slow=7.4,SNR=3.0							
LPAZ				LR		LR	12 50 27.6	
	comp=Z,102nm,19.3s,MS3.5,baz=283,slow=38							
ANMO	**Albuquerque** 0.3nm,0.4s,mb3.6,baz=201,slow=3.4,SNR=3.7	**33.02**	**325**	P		**P**	**12 38 17.4**	**0.0**
SIV	**San Ignacio** 0.4nm,0.4s,mb3.7,baz=23,slow=5.6,SNR=3.2	**33.62**	**138**	P		**P**	**12 38 21.6**	**-0.9**
PFO	**Pinyon Flat Ob** 1.4nm,0.6s,mb3.9,baz=115,slow=4.5,SNR=3.9	**38.66**	**314**	P		**P**	**12 39 07.0**	**+1.3**
PDAR	**Pinedale Array** 0.7nm,0.9s,mb3.4,baz=126,slow=7.7,SNR=5.0	**40.41**	**331**	P		**P**	**12 39 19.4**	**-0.9**
ULM	**Lac du Bonnet** 2.1nm,0.8s,mb3.8,baz=156,slow=12,SNR=3.1	**42.24**	**349**	P		**P**	**12 39 34.4**	**-0.9**
NVAR	**Mina Array Bea** baz=126,slow=5.9	**42.54**	**319**	P		**P**	**12 39 39.0**	**+1.3**
YKA	**Yellowknife Ar** 0.6nm,0.7s,mb3.8,baz=124,slow=8.7,SNR=3.2	**57.80**	**344**	P		**P**	**12 41 31.2**	**-1.9**
YKA				pP		pP	12 41 43.2	-3.3
	1.3nm,0.6s,baz=136,slow=7.1,SNR=2.4							
INK	**Inuvik** 1.3nm,0.9s,mb4.0,baz=149,slow=5.9,SNR=2.7	**67.47**	**342**	P		**P**	**12 42 37.2**	**-0.4**
INK				pP		pP	12 42 46.8	-4.5
	1.1nm,0.7s,baz=170,slow=9.8,SNR=3.0							
ESDC	**Sonseca Array** 2.0nm,0.6s,mb4.2,baz=277,slow=5.5,SNR=6.8	**76.53**	**51**	P		**P**	**12 43 32.3**	**+0.4**
TORD	**Torodi Ar. Bea** 1.1nm,0.8s,mb4.1,baz=292,slow=4.1,SNR=6.2	**83.71**	**78**	P		**P**	**12 44 10.8**	**+0.2**
TORD				LR		LR	13 20 17.9	
	comp=Z,70nm,21.5s,MS4.0,baz=10.0,slow=35							
NOA	**NORSAR Array B** 1.1nm,0.8s,mb4.0,baz=270,slow=5.1,SNR=3.2	**84.60**	**29**	P		**P**	**12 44 14.0**	**-1.1**
GERES	**GERESS Array B** comp=Z,11nm,21.0s,MS4.3,baz=269,slow=30	**88.20**	**41**	LR		LR	13 15 47.5	
FINES	**FINESS Array B** comp=Z,88nm,18.3s,MS4.2,baz=347,slow=33	**91.42**	**27**	LR		LR	13 22 03.1	
AKASG	**Malin Array Be** comp=Z,65nm,18.2s,MS4.2,baz=325,slow=37	**97.22**	**36**	LR		LR	13 31 30.8	
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=94,slow=2.8,SNR=5.6	**141.54**	**249**	PKP		PKPdf	12 51 13.1	+0.5

*ISCJB **21** 12:57:57.0±1.0, 469N±02×1556E±03, h10km, mb3.7/6, Error ellipse: s-maj=32.0km s-min=24.4km az=24.3*
*IDC **21** 12:57:57.6±1.2, 4687N×15562E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=36.1km s-min=31.0km az=26.0*
*NEIC **21** 12:57:58.7±1.0, 4696N×15573E, h10km, mb4.8/2, Error ellipse: s-maj=31.6km s-min=24.3km az=191.0*
ISC 21 12:57:58.6±1.0, 470N±02×1557E±03, h10km, n8, σ0s94/8, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.3nm,0.6s,mb3.4,baz=71,slow=11,SNR=1.9	**32.92**	**290**	P		P	**P**	**13 04 32.7**	**-0.4**
CHKZ	**Chkalovo** 2.0nm,0.5s,mb4.3	**51.63**	**311**	*e*P		P	**P**	**13 07 05.5**	**+0.2**
BVAR	**Borovoye Array** 0.7nm,0.4s,mb3.9,baz=52,slow=8.5,SNR=6.9	**52.07**	**310**	P		P	**P**	**13 07 09.0**	**+0.4**
FINES	**FINESS Array B** 0.3nm,0.4s,mb3.7,baz=54,slow=5.9,SNR=3.1	**64.58**	**336**	P		P	**P**	**13 08 37.4**	**+1.4**
ASAR	**Alice Springs** 0.3nm,0.6s,mb3.4,baz=24,slow=5.9,SNR=5.3	**73.01**	**201**	P		P	**P**	**13 09 28.8**	**+0.2**
TXAR	**Lajitas Array** 0.3nm,0.5s,mb3.5,baz=308,slow=5.0,SNR=7.6	**75.83**	**62**	P		P	**P**	**13 09 46.0**	**+1.0**
TZTN	**Tazewell** 224nm,1.3s	**81.37**	**44**	*e*P		P	**P**	**13 10 14.6**	**-0.9**
PAB	**San Pablo** 11nm,0.8s	**92.04**	**345**	*e*P		P	**P**	**13 11 06.0**	**-1.8**

*MAN **21** 13:10:37.6, 1584N×11893E, h13km, mb3.8, ML4.9, MS6.6*
*ISCJB **21** 13:10:39.6±0.9, 1576N±004×11895E±006, h35km±9km, mb4.2/20, MS3.2/5, Error ellipse: s-maj=10.5km s-min=6.0km az=14.9*
*BJI **21** 13:10:44.1, 1572N×11907E, h52km, mB4.9, mb4.3*
*NEIC **21** 13:10:45.7±1.4, 1581N×11930E, h74km±14km, mb4.6/5, Error ellipse: s-maj=17.0km s-min=6.7km az=68.0*
*IDC **21** 13:10:45.7±2.0, 1586N×11923E, h72km±20km, mb3.8/16, mb1 4.0/17, mb1mx3.9/26, mbtmp3.9/17, MS3.3/6, Ms1 3.3/6, ms1mx3.1/23, Error ellipse: s-maj=26.3km s-min=10.7km az=68.0*
ISC 21 13:10:42.2±0.8, 1578N±004×11907E±007, h39km±8km, n53, σ1s15/53, mb4.2/20, MS3.2/5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.00**	**54**	*e*P		**Pn**	**P**	**13 10 57.2**	**-2.6**
BOLP				*e*S		**Sn**	**P**	**13 11 13.8**	**+1.1**
BCPH	**Baguio City Da**	**1.57**	**68**	⇓*e*P		**Pn**	**P**	**13 11 06.2**	**-1.3**
BCPH				*i* S		**Sn**	**P**	**13 11 27.7**	**+1.1**
PCPH	**Palayan**	**1.96**	**96**	⇑*e*P		**Pn**	**P**	**13 11 12.2**	**-0.8**
LUBP	**Lubang**	**2.33**	**151**	*e*P		**Pn**	**P**	**13 11 17.8**	**-0.3**
BALP	**Baler**	**2.41**	**91**	*e*P		**Pn**	**P**	**13 11 19.4**	**+0.2**
BALP				*e*S		**Sn**	**P**	**13 11 51.0**	**+3.6**
ABRA	**Dolores**	**2.43**	**40**	*e*P		**Pn**	**P**	**13 11 18.2**	**-1.2**
TGY	**Tagaytay City**	**2.46**	**133**	*e*P		**Pn**	**P**	**13 11 26.9**	**+7.1**
TGY	**Tagaytay City** 42nm,0.3s,baz=307,slow=8.7,SNR=6.6	**2.46**	**133**	P		**Pn**	**P**	**13 11 21.9**	**+2.1**
TGY				S		**Sn**	**P**	**13 11 52.9**	**+4.3**
	65nm,0.3s,baz=96,slow=19,SNR=3.9								
CAUP	**Cauayan**	**2.88**	**66**	*e*P		**Pn**	**P**	**13 11 26.3**	**+0.7**
PIP	**Pasuquin**	**2.93**	**30**	⇑*i*P		**Pn**	**P**	**13 11 24.0**	**-2.2**
APYP	**Conner**	**2.93**	**45**	*e*P		**Pn**	**P**	**13 11 24.8**	**-1.4**
POLP	**Polilio Island**	**2.96**	**110**	*e*P		**Pn**	**P**	**13 11 28.0**	**+1.3**
CVP	**Callao Caves**	**3.25**	**54**	*e*P		**Pn**	**P**	**13 11 30.9**	**+0.2**
PALP	**Palanan**	**3.46**	**68**	*e*P		**Pn**	**P**	**13 11 35.1**	**+1.6**
BUSP	**Coron**	**3.91**	**164**	*e*P		**Pn**	**P**	**13 11 39.5**	**-0.3**
ENPP	**El Nido**	**4.56**	**176**	*e*P		**Pn**	**P**	**13 11 47.8**	**-0.9**
CUYO	**Cuyo Island**	**5.26**	**159**	*e*P		**Pn**	**P**	**13 11 57.3**	**-0.9**
PVCP	**Virac**	**5.38**	**113**	*e*P		**Pn**	**P**	**13 12 01.8**	**+1.9**
BATP	**Bataraza**	**7.05**	**190**	*e*P		**Pn**	**P**	**13 12 22.3**	**-0.6**
QIZ	**Qiongzhong**	**9.38**	**291**	P		**Pn**	**P**	**13 12 59.5**	**+4.7**
JOW	**Kunigami** comp=Z,108nm,18.6s,baz=16,slow=36	**13.93**	**36**	LR		LR		13 19 06.8	
JNU	**Nakatsue** 15nm,1.0s,baz=214,slow=12,SNR=3.1	**20.30**	**30**	P		**P**	**P**	**13 15 13.2**	**-1.5**
CD2	**Chengdu**	**20.56**	**320**	P		**P**	**P**	**13 15 22.3**	**+4.8**
CD2						AMB	AMB		
	comp=Z,20nm,0.8s								
KSRS	**Korea Array** comp=Z,6.7nm,1.0s,mb4.0,baz=201,slow=9.8,SNR=14	**22.96**	**18**	P		**P**	**P**	**13 15 41.8**	**-1.3**
KSRS				LR		LR		13 25 33.8	
	comp=Z,41nm,18.6s,MS2.9,baz=336,slow=39								
PSI	**Prapat** comp=Z,3.3nm,0.4s,mb4.1,baz=35,slow=9.0,SNR=3.9	**23.66**	**239**	P		**P**	**P**	**13 15 52.4**	**+2.3**
PSI				LR		LR		13 25 40.8	
	comp=Z,64nm,19.1s,MS3.1,baz=209,slow=38								
LZH	**Lanzhou**	**24.36**	**329**	*e*P		**P**	**P**	**13 16 00.0**	**+3.6**
LZH						AMB	AMB		
	comp=Z,19nm,1.0s,mb4.5								
LZH	**Lanzhou** comp=Z,19nm,1.0s,mb4.5	**24.36**	**329**	*e*P		**P**	**P**	**13 16 00.0**	**+3.6**
LZH				pP				13 16 02.0	
LZH				sP		sP		13 16 03.0	-8.9
GUMO	**Guam** comp=Z,76nm,18.0s,MS3.2,baz=107,slow=34	**25.04**	**92**	LR		LR		13 24 51.2	
JHJ	**Hachijo jima 2** comp=Z,104nm,19.1s,MS3.4,baz=3.6,slow=35	**25.48**	**44**	LR		LR		13 25 35.3	
KAKA	**Kakadu** comp=Z,11nm,0.8s,mb4.8	**31.25**	**154**	*e*P		**P**		**13 16 57.1**	**-1.0**
SONM	**Songino Array** 2.4nm,0.8s,mb4.2,baz=168,slow=8.6,SNR=12	**33.63**	**345**	P		**P**		**13 17 19.9**	**+1.0**
FITZ	**Fitzroy Crossi** comp=Z,5.8nm,0.7s,mb4.6	**34.29**	**169**	*e*P		**P**		**13 17 25.0**	**+0.4**
ASAJ	**Asahikawa** comp=Z,57nm,19.2s,MS3.3,baz=152,slow=34	**34.58**	**30**	LR		LR		13 30 12.5	
WRA	**Warramunga Arr** comp=Z,5.4nm,0.9s,mb4.3,baz=339,slow=9.1,SNR=59	**38.54**	**157**	P		**P**		**13 18 00.1**	**-0.8**
WRA				PcP		PcP		13 20 14.7	+1.6
	comp=Z,1.0nm,0.5s,baz=341,slow=3.1,SNR=9.5								
WB2	**Warramunga Arr**	**38.55**	**157**	*e*P		**P**		**13 18 00.0**	**-1.0**
AS31	**Alice Springs**	**41.80**	**159**	*e*P		**P**		**13 18 27.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,5.2nm,0.7s,mb4.3,baz=339,slow=7.0,SNR=121	**41.80**	**159**	P		**P**		**13 18 27.9**	**-0.1**
ASAR				PcP		PcP		13 20 25.2	+1.7
	comp=Z,1.3nm,0.7s,baz=341,slow=3.2,SNR=6.5								
ASPA	**Alice Springs**	**41.80**	**159**	*e*P		**P**		**13 18 27.8**	**-0.1**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.7s,mb3.6,baz=107,slow=8.2,SNR=4.6	**43.43**	**323**	P		**P**		**13 18 42.7**	**+1.5**
MKAR	**Makanchi Array**	**43.43**	**323**	P		**P**		**13 18 42.7**	**+1.5**
CTA	**Charters Tower** comp=Z,2.9nm,0.9s,mb4.5	**44.55**	**142**	*e*P		**P**		**13 18 51.2**	**+1.1**
ZAL	**Zalesovo** comp=Z,0.9nm,0.4s,mb4.1,baz=79,slow=4.6,SNR=3.5	**46.50**	**333**	P		**P**		**13 19 04.6**	**-0.9**
FORT	**Forrest** comp=Z,18nm,0.8s,mb5.0	**47.09**	**169**	*e*P		**P**		**13 19 10.8**	**+0.6**
STKA	**Stephens Creek** comp=Z,1.5nm,0.5s,mb4.2,baz=29,slow=5.5,SNR=5.8	**52.08**	**156**	P		**P**		**13 19 47.7**	**-0.5**
STKA	**Stephens Creek**	**52.08**	**156**	P		**P**		**13 19 47.7**	**-0.5**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.5s,mb3.6,baz=120,slow=8.5,SNR=3.1	**53.17**	**325**	P		**P**		**13 19 57.0**	**+0.7**
AKTK	**Aktyubinsk**	**59.62**	**320**	P		**P**		**13 20 42.6**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,1.8nm,0.7s,mb4.2,baz=109,slow=5.5,SNR=5.8	**59.62**	**320**	P		**P**		**13 20 42.6**	**+0.4**
DZM	**Mont Dzumac** comp=Z,4.0nm,0.6s,mb4.6,baz=291,slow=14,SNR=4.1	**59.75**	**128**	P		**P**		**13 20 42.8**	**-0.2**
ARCES	**ARCESS Array B** comp=Z,3.8nm,0.9s,mb4.3,baz=73,slow=9.0,SNR=7.7	**76.59**	**339**	P		**P**		**13 22 28.0**	**-0.6**
FINES	**FINESS Array B** comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=4.2,SNR=7.2	**77.71**	**331**	P		**P**		**13 22 34.0**	**-0.8**
AKASG	**Malin Array Be** comp=Z,1.0nm,0.5s,mb4.0,baz=66,slow=4.8,SNR=4.5	**77.86**	**319**	P		**P**		**13 22 35.6**	**-0.1**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,mb3.8,baz=106,slow=4.6,SNR=3.2	**84.70**	**332**	P		**P**		**13 23 11.5**	**-0.4**

*LDG **21** 13:35:00.5±0.1, 4301N×002W, h4km, Md2.1/3, Ml2.2/6, Error ellipse: s-maj=1.4km s-min=1.0km az=176.0*
STR 21 13:35:00.4±0.1, 4301N×001W, h4km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**59**	Pg		Pg	Pg	13 35 02.5	+0.6
LABF				Sg		Sg	Sg	13 35 03.8	+0.8
VIEF	**Viey**	**0.13**	**169**	Pg		Pg	Pg	13 35 03.5	+0.5
VIEF				Sg		Sg	Sg	13 35 05.6	+0.9
EPF	**Esparros**	**0.26**	**85**	*e*Pg		Pg	Pg	13 35 05.6	+0.2
EPF				*e*Sg		Sg	Sg	13 35 09.6	+0.8
	20nm,0.2s								
REYF	**Montagne du Re**	**0.29**	**282**	Pg		Pg	Pg	13 35 05.9	0.0
REYF				Sg		Sg	Sg	13 35 10.3	+0.6
RESF	**Ens**	**0.33**	**128**	Pg		Pg	Pg	13 35 07.2	+0.5
RESF				Sg		Sg	Sg	13 35 11.7	+0.8
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg		Pg	Pg	13 35 08.7	+0.3
ETSF				*e*Sg		Sg	Sg	13 35 14.3	+0.4
	24nm,0.2s								
MELF	**Melles**	**0.58**	**103**	Pg		Pg	Pg	13 35 11.5	-0.1
MELF				Sg		Sg	Sg	13 35 19.4	+0.3
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg		Pg	Pg	13 35 16.9	-0.7
SJPF				*e*Sg		Sg	Sg	13 35 28.1	-1.1
	3.5nm,0.3s								
SALF	**Salau**	**0.92**	**105**	Pg		Pg	Pg	13 35 18.0	0.0
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg		Pg	Pg	13 35 31.7	-0.6
MTLF				*e*Sg		Sg	Sg	13 35 53.1	-0.7
	4.5nm,0.2s								
LFF	**La Frestale**	**2.00**	**15**	*e*Pg		Pg	Pg	13 35 37.9	-0.9
LFF				*e*Sg		Sg	Sg	13 36 05.1	+0.3
	6.1nm,0.3s								
CAF	**Calviac**	**2.43**	**37**	*e*Pg		Pg	Pg	13 35 45.8	-1.2
CAF				*e*Sg		Sg	Sg	13 36 16.9	-1.6
	1.7nm,0.3s								
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg		Pg	Pg	13 35 48.1	-1.0
RJF				*e*Sg		Sg	Sg	13 36 21.9	-0.2
	2.1nm,0.2s								
LASF	**Ste Croix**	**3.01**	**68**	*e*Pg		Pg	Pg	13 35 57.4	-0.6
LASF				*e*Sg		Sg	Sg	13 36 35.0	-2.0
	2.1nm,0.3s								

CASC 21 13:59:45.1±1.2, 906N×8390W, h16km±8km, MD3.5, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.83**	**345**	⇑*e*P		P	Pb	14 00 01.4	+0.3
LAJ				*e*S		S	Sb	14 00 14.4	+2.5
ACR	**Cerro Adams**	**0.83**	**119**	*e*P		P	Pb	14 00 00.0	-1.1
ACR				*e*S		S	Sb	14 00 11.8	-0.2
SJS	**Escuela Geolog**	**0.89**	**350**	⇓*e*P		P	Pb	14 00 01.5	-0.6
SJS				*e*S		S	Sb	14 00 14.4	+0.8
LIO	**Limon**	**1.27**	**42**	⇑*e*P		P	Pn	14 00 07.0	-1.1
JCR	**Jicaral**	**1.43**	**303**	*e*P		P	Pn	14 00 10.9	+0.6

*LDG **21** 14:00:02.0±0.0, 4305N×0.18W, h10km, Md1.8/3, Ml1.8/1, Error ellipse: s-maj=2.3km s-min=0.6km az=178.0*
STR 21 14:00:01.8±0.1, 4306N×017W, h6km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.16**	**273**	Pg		Pg	Pg	14 00 05.6	+0.5
REYF	**Montagne du Re**	**0.16**	**273**	Pg		Pg	Pg	14 00 05.6	+0.5
REYF				Sg		Sg	Sg	14 00 08.4	+1.1
LABF	**Labassere**	**0.18**	**94**	Pg		Pg	Pg	14 00 06.0	+0.6
LABF				Sg		Sg	Sg	14 00 09.0	+1.2
VIEF	**Viey**	**0.23**	**141**	Sg		Sg	Sg	14 00 10.3	+1.0
ETSF	**Etsaut**	**0.33**	**241**	*e*Pg		Pg	Pg	14 00 08.4	+0.2
ETSF				*e*Sg		Sg	Sg	14 00 12.6	+0.1
	14nm,0.2s								
EPF	**Esparros**	**0.38**	**94**	*e*Pg		Pg	Pg	14 00 09.4	+0.3
EPF				*e*Sg		Sg	Sg	14 00 14.6	+0.6
	7.0nm,0.3s								
SJPF	**Ste Jean**	**0.78**	**274**	*e*Pg		Pg	Pg	14 00 16.6	-0.1
SJPF				*e*Sg		Sg	Sg	14 00 26.9	+0.2
	2.0nm,0.2s								
MTLF	**Montolieu**	**1.77**	**80**	*e*Pg		Pg	Pg	14 00 35.2	-0.5
MTLF				*e*Sg		Sg	Sg	14 00 58.2	-0.4
	1.6nm,0.3s								

IDC 21 14:15:54.6±5.4, 3791S×9398W, h0km, mb4.0/3, mb1 4.3/3, mb1mx4.1/11, mbtmp4.0/3, MS3.2/1, Ms1 3.3/1, ms1mx3.0/15, Error ellipse: s-maj=152.9km s-min=46.7km az=174.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 2.9nm,1.1s,baz=220,slow=6.7,SNR=6.1	**31.33**	**54**	P		P	P	14 22 17.4	+0.9
LPAZ				LR		LR	LR	14 31 58.5	
	comp=Z,43nm,20.2s,baz=48,slow=31								
TXAR	**Lajitas Array** 1.4nm,1.1s,baz=181,slow=8.4,SNR=5.8	**67.50**	**351**	P		P	P	14 26 52.5	+0.1
PDAR	**Pinedale Array** 0.7nm,0.7s,baz=152,slow=5.9,SNR=5.9	**81.54**	**348**	P		P	P	14 28 13.9	-0.1
SONM	**Songino Array** 1.6nm,1.0s,baz=35,slow=5.4,SNR=4.4	**162.12**	**310**	PKPab		PKPab	PKPab	14 36 44.0	-0.5

*IDC **21** 14:18:30.0±2.1, 4658N×153.14E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.9/10, ML3.0/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/40, Error ellipse: s-maj=52.3km s-min=27.3km az=158.0*
*NEIC **21** 14:18:32.8±1.7, 4688N×153.15E, h10km, mb4.1/1, Error ellipse: s-maj=39.6km s-min=16.5km az=159.0*
*ISCJB **21** 14:18:35.7±2.2, 465N±02×1529E±02, h57km±16km, mb4.0/9, MS3.5/6, Error ellipse: s-maj=43.5km s-min=15.0km az=109.1*
*MOS **21** 14:18:35.9±0.7, 4646N×152.87E, h63km, mb4.5/6, Error ellipse: s-maj=24.8km s-min=17.1km az=98.1*
ISC 21 14:18:38.1±2.0, 465N±02×1529E±02, h63km±14km, n26, σ0s43/22, mb4.0/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.69**	**26**	*e*PN		**Pn**	**Pn**	**14 19 46.5**	**+0.2**
PET	**Petropavlovsk**	**7.51**	**28**	*e*PN		**Pn**	**Pn**	**14 20 15.7**	**-9.2**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=135,slow=10.0,SNR=4.5	**7.64**	**255**	Pn		**Pn**	**Pn**	**14 20 26.4**	**-0.3**
KSRS	**Korea Array** 1.2nm,0.7s,baz=58,slow=12,SNR=4.6	**20.58**	**253**	P		**P**	**P**	**14 23 12.2**	**+0.4**
KSRS				LR		LR	LR	14 31 29.3	
	comp=Z,23nm,19.5s,baz=60,slow=38								
INK	**Inuvik** comp=Z,43nm,18.4s,baz=17,slow=39	**41.94**	**32**	LR		LR	LR	14 45 31.1	
ZAL	**Zalesovo** comp=Z,76nm,19.3s,baz=295,slow=39	**42.65**	**306**	LR		LR	LR	14 46 08.9	
MK31	**Makanchi Array**	**46.92**	**297**	*e*P		**P**	**P**	**14 27 02.1**	**-0.1**
MKAR	**Makanchi Array** 0.4nm,0.6s,mb3.6,baz=64,slow=8.2,SNR=4.9	**46.92**	**297**	P		**P**	**P**	**14 27 02.2**	**-0.1**
MKAR				LR		LR	LR	14 47 51.9	
	comp=Z,37nm,21.3s,baz=182,slow=38								
MKAR	**Makanchi Array**	**46.92**	**297**	P		**P**	**P**	**14 27 02.2**	**-0.1**
MKAR				LR		LR	LR	14 47 51.9	
CHKZ	**Chkalovo**	**50.47**	**310**	*e*P		**P**	**P**	**14 27 29.1**	**-0.4**
CHKZ

comp=Z,0.2nm,0.3s,baz=29,slow=46,SNR=3.5
MJAR Matsushiro Arr 17.14 237 Pn Pn 14 38 04.2 -2.3
YAK Yakutsk 20.81 324 *e*P **P 14 38 47.5 -0.9**
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK Yakutsk 20.81 324 *e*P **P 14 38 47.5 -0.9**
comp=Z,9.2nm,0.6s
KSRS Korea Array 22.91 254 P P **14 39 12.1 +1.1**
comp=Z,3.2nm,0.9s,mb3.8,baz=56,slow=10.0,SNR=8.1
KSRS LR LR 14 48 00.7
comp=Z,16nm,18.5s,MS2.5,baz=40,slow=36
ZAL Zalesovo 43.78 306 P **P 14 42 14.0 +1.2**
comp=Z,0.7nm,0.5s,mb3.6,baz=74,slow=4.6,SNR=3.5
ZAL LR LR 15 03 10.1
comp=Z,54nm,18.3s,MS3.5,baz=268,slow=40
ZAL Zalesovo 43.78 306 P **P 14 42 14.0 +1.2**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,54nm,18.3s
ZAL Zalesovo 43.78 306 P **P 14 42 14.0 +1.2**
ZAL LR LR 15 03 10.2
MKAR Makanchi Array 48.34 298 P **P 14 42 49.1 +0.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=65,slow=8.4,SNR=7.6
MKAR Makanchi Array 48.34 298 P **P 14 42 49.1 +0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
CHKZ Chkalovo 51.44 311 *e*P **P 14 43 12.0 -0.3**
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CHKZ Chkalovo 51.44 311 *e*P **P 14 43 12.0 -0.3**
comp=Z,4.5nm,0.9s,mb4.4
BVAR Borovoye Array 51.89 310 P **P 14 43 16.0 +0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=54,slow=7.5,SNR=8.2
BVAR Borovoye Array 51.89 310 P **P 14 43 16.0 +0.4**
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 51.93 310 *e*P **P 14 43 16.3 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 51.93 310 *e*P **P 14 43 16.3 +0.4**
comp=Z,4.2nm,0.9s,mb4.4
PDAR Pinedale Array 62.69 56 P **P 14 44 33.4 +1.5**
comp=Z,0.6nm,0.9s,mb3.7,baz=270,slow=5.4,SNR=3.4
FINES FINESS Array B 64.17 336 P **P 14 44 41.3 -0.4**
comp=Z,2.6nm,1.0s,mb4.2,baz=42,slow=5.9,SNR=4.4
FINES FINESS Array B 64.17 336 P **P 14 44 41.3 -0.4**
FINES pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 75.39 63 P **P 14 45 50.1 -0.7**
comp=Z,1.4nm,0.8s,mb3.9,baz=300,slow=3.8,SNR=12
TXAR Lajitas Array 75.39 63 P **P 14 45 50.1 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.8s

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*NEIC **21** 14:35:56.9, 3120S×6852W, h140km, MG3.5(GUC), After GUC.*

GUC 21 14:35:56.9±0.6, 3120S×6852W, h140km, ML3.5, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**2.13**	**270**	⇓*i*P		Pn	14 36 33.3	+0.4
CMCH				*i* S		Sn	14 37 01.1	+0.5
TLL	**Tololo Astrono**	**2.22**	**297**	⇑*i*P		Pn	14 36 35.3	+1.3
TLL				*i* S		Sn	14 37 04.4	+1.8
TLL				AML	AML	14 37 09.3	
	comp=N,119nm,0.7s						
TLL	**Tololo Astrono**	**2.22**	**297**	⇑*i*P		Pn	14 36 35.3	+1.3
TLL				*i* S		Sn	14 37 04.4	+1.8
FCH	**Farellones**	**2.60**	**215**	*e*P		Pn	14 36 40.1	+1.3
FCH				*e*P			14 37 14.8	
PEL	**Peldehue**	**2.67**	**223**	*e*P		Pn	14 36 38.9	-0.8
PEL				*i* S		Sn	14 37 11.9	-0.8
PEL				AML	AML	14 37 19.5	
	comp=E,170nm,0.4s						
PEL	**Peldehue**	**2.67**	**223**	*e*P		Pn	14 36 38.9	-0.8
PEL				*i* S		Sn	14 37 11.9	-0.8
PCH	**Pirque**	**2.95**	**214**	*e*P		Pn	14 36 44.2	+1.0
RCDM	**Rinconada Maip**	**3.00**	**220**	*e*P		Pn	14 36 44.3	+0.6
RCDM				*i* S		Sn	14 37 21.1	+1.2
RCDM				AML	AML	14 37 21.9	
	comp=N,170nm,0.4s						
CHCH	**Chadas Angostu**	**3.27**	**213**	⇓*i*P		Pn	14 36 47.9	+0.6

IDC 21 14:41:28.1±1.2, 4669N×15702E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=41.1km s-min=32.9km az=3.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**49.34**	**299**	P		P	14 50 19.1	+0.1
	0.3nm,0.5s,baz=65,slow=6.8,SNR=3.6						
BVAR	**Borovoye Array**	**52.95**	**311**	P		P	14 50 45.5	-0.7
	0.5nm,0.4s,baz=68,slow=8.4,SNR=4.1						
ASAR	**Alice Springs**	**73.08**	**202**	P		P	14 53 00.0	-0.1
	0.2nm,0.6s,baz=19,slow=5.8,SNR=4.9						
TXAR	**Lajitas Array**	**75.16**	**63**	P		P	14 53 12.4	+0.2
	0.9nm,0.5s,baz=303,slow=4.5,SNR=17						

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*IDC **21** 14:49:26.4±1.1, 4849N×15544E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.6/6, ML3.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/33, Error ellipse: s-maj=39.6km s-min=23.0km az=157.0*

*NEIC **21** 14:49:28.1±0.7, 4854N×15536E, h10km, Error ellipse: s-maj=17.3km s-min=14.2km az=144.0*

*ISCJB **21** 14:49:30.6±2.0, 486N±0.1×1553E±0.2, h39km±18km, mb3.9/6, MS3.4/4, Error ellipse: s-maj=26.0km s-min=13.1km az=94.7*

*MOS **21** 14:49:30.8±1.2, 4861N×15529E, h43km, mb4.3/1, Error ellipse: s-maj=28.9km s-min=18.8km az=70.5*

ISC 21 14:49:33.2±1.7, 486N±0.1×1553E±0.2, h48km±16km, n15, σ1°05/13, mb3.9/6, MS3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**4.89**	**25**	*e*Pn		Pn	14 50 44.2	0.0
PET				pmax	pmax		
	comp=Z,41nm,0.8s						
ASAJ	**Asahikawa**	**9.84**	**247**	Pn		Pn	14 51 53.7	+1.7
	comp=Z,0.3nm,0.3s,baz=99,slow=13,SNR=5.0						
ASAJ				LR	LR	14 55 36.0	
	comp=Z,148nm,18.5s,baz=160,slow=37						
MJAR	**Matsushiro Arr**	**17.38**	**232**	P		Pn	14 53 30.6	-1.5
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=4.0						
YAK	**Yakutsk**	**19.61**	**323**	*e*P		Pn	14 53 57.3	-1.8
YAK				pmax	pmax		
	comp=Z,12nm,0.5s						
YAK	**Yakutsk**	**19.61**	**323**	*e*P		Pn	14 53 57.3	-1.8
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**22.76**	**251**	P		P	14 54 31.2	-0.1
	comp=Z,1.5nm,0.6s,mb3.6,baz=49,slow=11,SNR=5.9						
KSRS				LR	LR	15 02 50.9	
	comp=Z,64nm,18.0s,MS3.1,baz=60,slow=35						
JNU	**Nakatsue**	**23.93**	**239**	LR		LR	15 04 02.9	
	comp=Z,136nm,18.0s,MS3.5,baz=75,slow=37						
SONM	**Songino Array**	**32.11**	**287**	LR		LR	15 10 28.8	
	comp=Z,103nm,18.3s,MS3.5,baz=242,slow=39						
MK31	**Makanchi Array**	**47.37**	**297**	*e*P		P	14 58 02.4	-0.1
MKAR	**Makanchi Array**	**47.37**	**297**	P		P	14 58 02.9	+0.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=73,slow=7.0,SNR=10						
MKAR				LR	LR	15 19 29.5	
	comp=Z,42nm,18.1s,MS3.4,baz=148,slow=38						
MKAR	**Makanchi Array**	**47.37**	**297**	P		P	14 58 02.9	+0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,42nm,18.1s						
PDAR	**Pinedale Array**	**62.48**	**56**	P		P	14 59 52.2	+0.6
	comp=Z,0.4nm,0.9s,mb3.5,baz=301,slow=0.5,SNR=2.1						
ASAR	**Alice Springs**	**74.47**	**200**	P		P	15 01 05.8	-0.6
	comp=Z,0.4nm,0.9s,mb3.4,baz=12,slow=5.7,SNR=4.3						
TXAR	**Lajitas Array**	**75.32**	**62**	P		P	15 01 10.9	-0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=290,slow=4.7,SNR=6.9						
BRTR	**Keskin Array B**	**77.99**	**318**	P		P	15 01 28.2	+1.9
	comp=Z,12nm,0.3s,mb5.3,baz=41,slow=4.6,SNR=1.7						

IDC 21 14:49:59.5±17.0, 845S×11877E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=317.7km s-min=182.2km az=6.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.91**	**129**	P		Pn	14 54 21.5	-0.7
	0.1nm,0.3s,baz=303,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.95**	**138**	P		P	14 54 45.1	+1.2
	0.7nm,0.3s,baz=316,slow=9.0,SNR=37						
STKA	**Stephens Creek**	**31.52**	**141**	P		P	14 56 22.9	-0.3
	3.0nm,1.0s,baz=311,slow=9.2,SNR=2.9						

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*ISCJB **21** 15:04:19.5±0.6, 5553S±0.008×247W±0.2, h10km, mb4.3/10, Error ellipse: s-maj=12.9km s-min=11.1km az=112.0*

*IDC **21** 15:04:20.2±0.8, 5553S×2462W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML3.3/1, MS3.8/1, Ms1 3.7/1, ms1mx2.9/16, Error ellipse: s-maj=21.2km s-min=20.7km az=162.0*

*NEIC **21** 15:04:21.3±0.4, 5555S×2467W, h10km, mb4.7/2, Error ellipse: s-maj=10.7km s-min=9.5km az=179.0*

ISC 21 15:04:21.3±0.6, 5558S±0.008×247W±0.1, h10km, n22, σ0°78/20, mb4.3/10, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.00**	**163**	*e*P		Pn	15 08 19.6	+0.4
VNA3				*e*			15 08 25.1	
VNA3				*e*			15 08 29.8	
VNA3				*e*			15 08 39.9	
VNA3				*e*			15 10 54.2	
VNA3				*e*			15 11 23.6	
VNA2	**Neumayer--Watz**	**17.14**	**161**	*e*P		Pn	15 08 21.8	+0.9
	baz=320,slow=14						
VNA2				*e*			15 08 25.9	
VNA2				*e*			15 08 32.3	
VNA2				*e*			15 08 42.3	
VNA2				*e*			15 10 54.7	
VNA2				*e*			15 11 25.6	
SNAA	**Sanae**	**18.63**	**158**	P		Pn	15 08 39.8	+0.5
	0.1nm,0.3s,baz=298,slow=14,SNR=19						
SNAA				S		Sn	15 11 55.4	-12
	0.0nm,0.3s,baz=327,slow=17,SNR=4.0						
SNAA	**Sanae**	**18.63**	**158**	*e*P		Pn	15 08 38.3	-1.0
SNAA				S		Sn	15 11 55.4	-12
EFI	**East Falkland**	**20.06**	**267**	P		P	15 08 53.5	-1.2
PMSA	**Palmer Station**	**21.28**	**229**	P		P	15 09 07.3	-0.6
	16nm,0.9s,mb4.3,baz=56,slow=7.7,SNR=6.1						
PMSA	**Palmer Station**	**21.28**	**229**	*e*P		P	15 09 07.3	-0.5
SYO	**Syowa Base**	**31.06**	**141**	⇑*e*P		P	15 10 38.2	-1.2
QSPA	**South Pole Qui**	**34.68**	**180**	*e*P		P	15 11 11.5	+0.5
	12nm,0.7s,mb4.9						
CFAA	**Coronel Fontan**	**38.70**	**290**	P		P	15 11 45.1	-0.2
	0.2nm,0.5s,mb3.1,baz=170,slow=14,SNR=3.8						
MAW	**Mawson**	**39.69**	**143**	P		P	15 11 53.2	-0.3
	2.5nm,0.7s,mb4.0,baz=237,slow=11,SNR=5.5						
BOSA	**Boshof**	**44.48**	**74**	P		P	15 12 32.3	-0.4
	5.6nm,1.1s,mb4.2,baz=202,slow=8.5,SNR=3.9						
BOSA				LR	LR	15 26 42.0	
	comp=Z,111nm,18.3s,baz=58,slow=30						
VNDA	**Vanda**	**47.11**	**182**	P		P	15 12 54.0	+0.6
	1.9nm,0.7s,mb4.2,baz=166,slow=9.6,SNR=8.9						
LBTB	**Lobatse**	**47.52**	**71**	P		P	15 12 56.5	-0.2
	7.4nm,0.8s,mb4.7,baz=230,slow=9.0,SNR=8.9						
LBTB	**Lobatse**	**47.52**	**71**	P		P	15 12 56.5	-0.2
LPAZ	**La Paz**	**51.29**	**302**	P		P	15 13 27.3	+1.9
	1.5nm,0.6s,mb4.1,baz=136,slow=9.0,SNR=6.8						
LSZ	**Lusaka**	**56.88**	**67**	*e*P		P	15 14 06.2	0.0
	2.9nm,0.7s,mb4.4						
TORD	**Torodi Ar. Bea**	**71.97**	**27**	P		P	15 15 45.3	+0.3
	13nm,0.6s,mb5.0,baz=200,slow=6.3,SNR=101						
INK	**Inuvik**	**146.33**	**321**	*e*PKP	PKPdf		15 24 00.2	-0.8
DAWY	**Dawson**	**147.53**	**312**	*e*PKPbc	PKPbc		15 24 03.5	-2.2
SONM	**Songino Array**	**149.28**	**84**	PKPbc	PKPbc		15 24 08.6	-1.7
	1.3nm,0.8s,baz=211,slow=2.6,SNR=5.9						
MCK	**McKinley**	**151.56**	**309**	*e*PKPbc	PKPbc		15 24 14.0	-1.7

MEX 21 15:09:12.4±0.7, 1697N×10015W, h25km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.13**	**305**	*i* P		Pb	15 09 16.3	-1.1
CAIG				*i* S		Sb	15 09 19.2	-1.5
ACX	**Acapulco**	**0.25**	**115**	*i* P		Pb	15 09 17.5	-1.2
ACX				*i* S		Sb	15 09 21.5	-1.4
MEIG	**Mezcala**	**1.08**	**28**	*i* P		Pn	15 09 28.8	-3.1
MEIG				*i* S		Sb	15 09 42.2	-3.8
PLIG	**Platanillo**	**1.54**	**24**	*i* P		Pn	15 09 38.1	-0.2
PLIG				*i* S		Sn	15 09 55.7	-1.8

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*ISCJB **21** 15:14:25.3±0.5, 3997N±0.002×2250E±0.003, h4km±5km, Error ellipse: s-maj=4.3km s-min=3.8km az=173.9*

*NEIC **21** 15:14:25.7, 3996N×2244E, h17km, MD3.2(ATH), After ATH.*

*ATH **21** 15:14:25.7, 3996N×2244E, h17km±1km, MD3.2/6*

*THE **21** 15:14:26.2, 3997N×2253E, h8km, ML2.7*

*CSEM **21** 15:14:26.1±0.1, 3997N×2247E, h5km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.3km az=125.0*

ISC 21 15:14:26.0±0.4, 3997N±0.002×2248E±0.003, h7km±5km, n22, σ0°99/38, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.13**	**4**	*e*Pg		Pg	15 14 28.8	+0.1
THL	**Klokotos Trika**	**0.54**	**222**	⇓*i*PN		Pg	15 14 35.6	-0.8
THL				*e*SN		Sg	15 14 43.4	0.0
KZN	**Kozani**	**0.64**	**302**	*e*PN		Pg	15 14 37.9	-0.3
KZN				*e*SN		Sg	15 14 46.6	+0.1
THE	**Thessaloniki**	**0.76**	**29**	*e*Pg		Pg	15 14 40.7	+0.1
HORT	**Hortiatis**	**0.79**	**37**	*e*Pg		Pg	15 14 40.8	-0.3
HORT				*e*Sg		Sg	15 14 52.1	+0.8
XOR	**Xorichti**	**0.82**	**137**	*e*Pg		Pg	15 14 41.1	-0.5
PLG	**Polygyros**	**0.84**	**61**	*e*Pg		Pg	15 14 42.1	0.0
PLG				*e*Sg		Sg	15 14 53.2	+0.1
PLG	**Polygyros**	**0.84**	**61**	*e*PN		Pg	15 14 42.0	-0.2
PLG				*e*SN		Sg	15 14 53.8	+0.7
PLG	**Polygyros**	**0.84**	**61**	*e*Pg		Pg	15 14 42.2	0.0
PLG				*e*Sg		Sg	15 14 53.2	+0.1
PLG				*e*Sn		Sg	15 14 53.8	+0.7
NEO	**Neokhori**	**0.88**	**139**	*e*PN		Pg	15 14 42.4	-0.4
NEO				*e*SN		Sg	15 14 55.4	+1.2
AGG	**Agios Georgios**	**0.95**	**187**	*e*Pg		Pg	15 14 44.1	-0.1
AGG				*e*Sg		Sg	15 14 58.4	+1.8
MEV	**Metsovon**	**0.98**	**260**	*e*Pg		Pg	15 14 44.4	-0.3
SOH	**Sokhos**	**1.08**	**38**	*e*Pg		Pg	15 14 45.8	-0.9
SOH				*e*Sg		Sg	15 15 01.0	+0.2
FNA	**Florina**	**1.17**	**314**	*e*Pg		Pg	15 14 48.2	-0.1
FNA				*e*Sg		Sg	15 15 06.6	+3.0
FNA	**Florina**	**1.17**	**314**	*e*Pg		Pg	15 14 48.2	-0.2
EVR	**Evrytania**	**1.17**	**206**	*e*PN		Pn	15 14 47.6	-1.2
OUR	**Ouranopolis**	**1.21**	**72**	*e*Pg		Pg	15 14 47.9	-1.3
KNT	**Kendrikon**	**1.23**	**15**	*e*Pg		Pg	15 14 48.8	-0.8
KNT				*e*Sg		Sg	15 15 04.9	-0.7
VAY	**Valandovo**	**1.35**	**3**	*e*Pn		Pn	15 14 49.7	-1.6
VAY				*e*Sn		Sn	15 15 08.6	-0.9
VAY				*e*P			23 42 33.0	
VAY	**Valandovo**	**1.35**	**3**	*e*Pn		Pn	15 14 49.6	-1.7
VAY				*e*Sn		Sn	15 15 08.6	-0.9
KRUS	**Krusevo**	**1.68**	**327**	*e*Pn		Pn	15 14 56.1	+0.3
KRUS				*e*Sn		Sg	15 15 23.3	+3.3
NVR	**Nevrokopi**	**1.73**	**37**	*e*PN		Pn	15 14 58.2	+1.6
NVR				*e*SN		Sn	15 15 20.9	+1.9

IDC 21 15:38:31.3±1.2, 4606N×15449E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/33, Error ellipse: s-maj=37.7km s-min=31.6km az=153.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.63**	**261**	Pn		Pn	15 40 37.5	0.0
	0.6nm,0.3s,baz=101,slow=11,SNR=5.7						
ASAJ				LR	LR	15 43 10.5	
	comp=Z,36nm,20.1s,baz=157,slow=32						
MKAR	**Makanchi Array**	**48.11**	**299**	P		P	15 47 12.5	-0.3
	0.6nm,0.8s,baz=73,slow=9.4,SNR=5.0						
WRA	**Warramunga Arr**	**68.18**	**200**	P		P	15 49 33.1	-0.3
	0.7nm,0.9s,baz=19,slow=7.1,SNR=7.0						
ASAR	**Alice Springs**	**71.86**	**200**	P		P	15 49 56.4	+0.3
	0.4nm,1.0s,baz=14,slow=6.4,SNR=5.9						
TXAR	**Lajitas Array**	**77.00**	**61**	P		P	15 50 26.1	+0.1
	0.3nm,0.6s,baz=304,slow=3.8,SNR=5.2						

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*ISCJB **21** 15:46:58.8±0.2, 4601N±0.005×15446E±0.003, h10km, mb4.7/80, MS4.0/29, Error ellipse: s-maj=6.9km s-min=2.7km az=163.7*

*IDC **21** 15:46:58.7±0.5, 4602N×15443E, h0km, mb4.4/25, mb1 4.6/27, mb1mx4.5/31, mbtmp4.4/27, ML4.0/2, MS3.8/15, Ms1 3.8/15, ms1mx3.6/33, Error ellipse: s-maj=15.3km s-min=12.4km az=152.0*

*NEIC **21** 15:47:00.3±0.3, 4601N×15444E, h10km, mb4.9/38, Error ellipse: s-maj=7.9km s-min=5.1km az=151.0*

*GCMT **21** 15:47:00.3±0.5, 4611N×15469E, h12km±2km, MW4.7/54, Moment Tensor Solution. s5,c5; s54,c66; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.08±.13; Mθθ 0.61±.08; Mφφ 0.47±.08; Mrθ 0.39±.23; Mrφ 0.54±.05; Mθφ~0.14±.26; Best double couple: M0 1.15600×10^16 NP1: φs 33.00000°, δ42.00000°, λ-115.00000°. NP2: φs 245.00000°, δ53.00000°, λ-69.00000°. Principal axes: T 1.1070, Plg5.0000°, Azm320.0000°; N 0.1010, Plg16.0000°, Azm52.0000°; P -1.2050, Plg73.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SKHL **21** 15:47:00.8±3.4, 4581N×15455E, h51km±18km, Ms4.3/1*

*BJI **21** 15:47:01.1, 4620N×15390E, h5km, mB5.0, mb4.6, Ms4.4, Msz4.0*

*MOS **21** 15:47:04.5±1.3, 4587N×15431E, h59km, mb4.9/45, Error ellipse: s-maj=9.6km s-min=6.9km az=111.9*

*SZGRF **21** 15:47:13.6, 4769N×15361E, h20km, mb5.0, Kuril Islands, Russia*

ISC 21 15:46:59.4±1.3, 4611N±0.005×15440E±0.003, h1km±7km, n311, σ0°82/321, mb4.8/80, MS4.0/29, 66C-48D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.67**	**261**	⇑*i*P		Pn	15 48 07.8	-3.2
KUR				AMB	AMB	15 48 09.2	
	163nm,0.7s						
KUR				AMB	AMB	15 48 09.2	
	90nm,0.7s						
KUR				AMB	AMB	15 48 09.2	
	430nm,0.7s						
KUR				*i* S		Sn	15 48 59.0	-6.8
KUR				A			15 49 06.0	
	355nm,0.8s						
KUR				A			15 49 06.0	
	860nm,0.8s						
KUR	**Kuril'sk**	**4.67**	**261**	⇑*i*P		Pn	15 48 07.8	-3.2
KUR				*i* S		Sn	15 48 59.0	-6.8
KUR				pmax	pmax		
	comp=N,160nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				smax			
	comp=N,350nm,0.8s						
KUR				smax			
	comp=E,860nm,0.8s						
SKR	**Severo-Kuril's**	**4.71**	**13**	*e*P		Pn	15 48 13.0	+1.4
SKR				AMB	AMB	15 48 14.0	
	comp=E,80nm,0.5s						
SKR				A			15 49 02.0	
	comp=E,170nm,0.5s						
SKR				A			15 49 02.0	
	comp=E,150nm,0.5s						
SKR				A			15 49 02.0	
	comp=E,110nm,0.5s						
SKR				AMS	AMS	15 50 12.0	
	comp=E,3μm,12.0s						
YUK	**Yuzn-Kuril'sk**	**6.39**	**254**	*e*P		Pn	15 48 35.4	+0.7
YUK				AMB	AMB	15 48 37.9	
	comp=E,180nm,0.2s						
YUK				*e*S		Sn	15 49 43.5	-4.9
YUK				A			15 49 50.5	
	comp=E,700nm,0.6s						
YUK				A			15 49 50.5	
	comp=E,470nm,0.6s						
YUK	**Yuzn-Kuril'sk**	**6.39**	**254**	*e*P		Pn	15 48 35.4	+0.7
YUK				*e*S		Sn	15 49 43.5	-4.9
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				smax			
	comp=N,700nm,0.6s						
YUK				smax			
	comp=E,470nm,0.6s						
PET	**Petropavlovsk**	**7.45**	**20**	*e*P		Pn	15 48 48.8	-0.4
PET				pmax	pmax		
	comp=Z,29nm,1.4s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PET	**Petropavlovsk**	**7.45**	**20**	*e*P		Pn	15 48 47.3	-1.9
PET				*e*S		Sn	15 50 07.1	-7.2
YSS	**Yuzn-Sakhalins**	**8.08**	**280**	*e*P		Pn	15 49 00.3	+2.5
YSS				AMB	AMB	15 49 02.6	
	comp=Z,30nm,1.0s						
YSS				AMB	AMB	15 49 02.6	
	comp=Z,30nm,0.9s						
YSS				*e*S		Sn	15 50 31.9	+2.1
YSS				*e*LQ			15 50 46.0	
YSS				AMS	AMS	15 53 32.0	
	comp=Z,500nm,14.0s						
YSS				AMS	AMS	15 53 32.0	
	comp=Z,500nm,15.0s						
YSS	**Yuzn-Sakhalins**	**8.08**	**280**	P		Pn	15 49 00.3	+2.5
YSS				*e*S		Sn	15 50 31.9	+2.1
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS	**Yuzn-Sakhalins**	**8.08**	**280**	*e*P		Pn	15 49 00.4	+2.5
ASAJ	**Asahikawa**	**8.59**	**261**	Pn		Pn	15 49 05.6	+0.8
	comp=E,3.3nm,0.3s,baz=99,slow=17,SNR=17						
ASAJ	**Asahikawa**	**8.59**	**261**	P		Pn	15 49 05.6	+0.8
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
UGL	**Uglegorsk**	**8.85**	**294**	*e*rx		rx	15 49 18.0	
UGL				AMS	AMS	15 54 17.0	
	comp=Z,600nm,12.0s						
UGL				AMS	AMS	15 54 17.0	
	comp=Z,800nm,12.0s						
UGL				AMS	AMS	15 54 17.0	
	comp=Z,1μm,13.0s						
TYV	**Tymovskoe**	**9.13**	**306**	*e*P		Pn	15 49 15.2	+2.9
TYV				AMB	AMB	15 49 16.8	
	comp=Z,13nm,1.0s						
TYV				AMB	AMB	15 49 16.8	
	comp=Z,18nm,1.0s						
TYV				AMS	AMS	15 53 24.0	
	comp=Z,1μm,14.0s						
HABR	**Khabarovsk**	**13.35**	**287**	*e*P		Pn	15 50 13.8	+3.9
HABR				S		Sn	15 52 45.5	+6.5
MAJO	**Matsushiro**	**15.45**	**237**	*e*P		Pn	15 50 34.9	-3.6
MAJO				pmax	pmax		
	comp=Z,43nm,0.9s						
MAJO	**Matsushiro**	**15.45**	**237**	*e*P		Pn	15 50 34.9	-3.5
	comp=Z,43nm,0.9s						
MAT	**Matsushiro**

MDJ Mudanjiang 17.48 274 P **Pn** **15 51 03.3 -1.1**
comp=Z,40nm,1.1s
ZEA Zeya 18.99 304 *e*P **Pn** **15 51 19.0 -3.9**
ZEA AMB AMB 15 51 20.7
comp=Z,37nm,1.4s
CN2 Changchun 20.57 274 *e*P **P** **15 51 35.8 -3.8**
CN2 *e*XP sP 15 51 42.8 +3.0
CN2 *e*S **S** **15 55 21.0 -9.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,12.0s,MS4.2
CN2 LR LR
comp=E,500nm,12.0s,MS4.2
CN2 LR LR
comp=Z,400nm,15.0s,MS3.9
CLNS Chul'man 21.11 311 *e*P **P** **15 51 55.6 +10**
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.8s,mb4.3
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.3
CLNS MLR MLR
comp=Z,500nm,13.0s,MS4.1
CLNS MLR MLR
comp=E,800nm,12.0s,MS4.3
YAK Yakutsk 21.34 327 *e*P **P** **15 51 45.8 -2.1**
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.4
YAK Yakutsk 21.34 327 *e*P **P** **15 51 44.8 -3.1**
comp=Z,14nm,0.7s,mb4.4
KSRS Korea Array 21.48 256 P **P** **15 51 49.9 +0.4**
comp=Z,8.3nm,1.0s,mb4.0,baz=65,slow=9.2,SNR=15
KSRS LR LR 15 59 57.1
comp=Z,51nm,18.8s,MS3.0,baz=5.2,slow=36
SNY Shenyang 22.52 270 ⇑P **P** **15 52 00.4 -0.1**
SNY AP 15 52 03.1
SNY PP 15 52 22.8
SNY AMB AMB
comp=Z,36nm,1.2s,mb4.8
SNY AMB AMB
comp=Z,95nm,3.8s
SNY LR LR
comp=E,381nm,14.1s
SNY LR LR
comp=Z,245nm,12.6s,MS3.8
BILL Bilibino 22.83 12 *e*P **P** **15 52 02.7 -1.1**
BILL *e* 15 52 25.0
BILL *e* 15 55 52.7
BILL pmax pmax
comp=Z,38nm,1.6s,mb4.7
BILL Bilibino 22.83 12 *e*P **P** **15 52 02.6 -1.1**
comp=Z,65nm,1.4s,mb5.0
HIA Hailar 23.42 290 *e*P **P** **15 52 05.8 -4.3**
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 23.42 290 *e*P **P** **15 52 05.8 -4.2**
comp=Z,6.4nm,0.7s,mb4.3
BJI Beijing 28.37 272 P **P** **15 52 59.4 +4.3**
BJI AMB AMB
comp=Z,19nm,1.7s,mb4.7
BJI LR LR
comp=Z,148nm,25.5s,MS3.5
BJI Beijing 28.37 272 P **P** **15 52 59.4 +4.3**
comp=Z,19nm,1.7s,mb4.7
BJI LR LR
comp=Z,150nm,25.5s,MS3.5
NJ2 Nanjing 30.68 255 *e*P **P** **15 53 17.8 +2.2**
NJ2 AP 15 53 21.1
NJ2 XP sP 15 53 25.3 +10
NJ2 PP PP 15 54 18.9 -5.8
NJ2 S **S** **15 58 19.5 +0.5**
NJ2 XS sS 15 58 27.5 +8.2
NJ2 LR LR
comp=N,2μm,15.2s,MS4.9
NJ2 LR LR
comp=E,1μm,17.4s,MS4.9
NJ2 LR LR
comp=Z,570nm,16.4s,MS4.3
HHC Hu-ho-hao-te 31.24 276 *e*P **P** **15 53 21.1 +0.6**
HHC AP 15 53 25.3
HHC XP sP 15 53 28.3 +7.6
HHC PP PP 15 54 23.5 -7.3
HHC PCP PcP 15 56 15.3 +0.2
HHC S **S** **15 58 26.9 -0.9**
HHC XS sS 15 58 32.9 +4.9
HHC SS SS 16 00 11.3 -30
HHC AMB AMB
comp=Z,32nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,141nm,5.4s
HHC LR LR
comp=N,183nm,14.3s,MS4.2
HHC LR LR
comp=E,291nm,13.9s,MS4.2
HHC LR LR
comp=Z,196nm,14.5s,MS3.9
ULN Ulaanbaatar 31.95 291 *e*P **P** **15 53 27.5 +0.7**
ULN Ulaanbaatar 31.95 291 *e*P **P** **15 53 28.4 +1.7**
comp=Z,12nm,1.1s,mb4.7
SONM Songino Array 32.39 291 P **P** **15 53 30.4 -0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=96,slow=10,SNR=3.5
SONM LR LR 16 07 12.9
comp=Z,204nm,20.0s,MS3.8,baz=85,slow=37
TLY Talaya 33.27 298 *e*P **P** **15 53 43.0 +4.7**
TLY pmax pmax
comp=Z,19nm,1.6s,mb4.8
TLY MLR MLR
comp=Z,303nm,14.0s,MS4.2
ZAK Zakamensk 33.76 296 *e*P **P** **15 53 41.0 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
IMA2 Indian Mountai 33.80 35 *e*P **P** **15 53 42.9 0.0**
KDAK Kodiak Island 33.82 50 P **P** **15 53 41.8 -1.3**
comp=Z,14nm,0.5s,mb5.1,baz=286,slow=5.3,SNR=16
WHN Wuhan 34.65 258 ⇑P **P** **15 53 50.3 0.0**
SML Sawmill 35.82 43 *e*P **P** **15 54 00.2 -0.2**
COLA College 36.09 38 ⇓*i*P **P** **15 54 02.8 +0.1**
COLA College 36.09 38 *e*P **P** **15 54 02.9 +0.2**
comp=Z,33nm,1.1s,mb5.1
LZH Lanzhou 38.81 274 *e*P **P** **15 54 27.0 +1.3**
LZH XP sP 15 54 30.0 +4.0
LZH PP PP 15 55 53.4 -1.1
LZH PCP PcP 15 56 40.9 +3.8
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,276nm,4.6s
LZH Lanzhou 38.81 274 *e*P **P** **15 54 27.0 +1.3**
LZH 15 55 53.4
LZH 15 56 40.9
LZH pmax pmax
comp=Z,38nm,1.0s,mb5.0
LZH Lanzhou 38.81 274 *e*P **P** **15 54 27.0 +1.3**
comp=Z,38nm,1.0s,mb5.0
LZH pP 15 54 29.0
LZH sP sP 15 54 30.0 +4.0
LZH PP PP 15 55 53.4 -1.1
LZH PcP PcP 15 56 40.9 +3.8
EGAK Eagle 38.95 38 *e*P **P** **15 54 26.5 -0.4**
comp=Z,26nm,0.5s,mb5.1
DAWY Dawson 39.77 39 *e*P **P** **15 54 34.2 +0.4**
GTA Gaotai 39.96 281 *e*P **P** **15 54 36.4 +1.1**
GTA AP 15 54 40.8
GTA XP sP 15 54 43.5 +7.9
GTA PP PP 15 56 12.8 +5.8
GTA PCP PcP 15 56 41.1 +0.4
GTA S **S** **16 00 43.0 +1.5**
GTA XS sS 16 00 50.3 +8.5
GTA AMB AMB
comp=Z,11nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,168nm,6.1s
GTA LR LR
comp=N,131nm,14.1s,MS4.1
GTA LR LR
comp=E,153nm,12.5s,MS4.1
GTA LR LR
comp=Z,248nm,12.9s,MS4.2
INK Inuvik 41.72 32 P **P** **15 54 50.4 +0.5**
comp=Z,9.5nm,0.7s,mb4.7,baz=284,slow=7.2,SNR=21
INK Inuvik 41.72 32 P **P** **15 54 50.4 +0.6**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 41.72 32 *e*P **P** **15 54 50.4 +0.6**
comp=Z,212nm,0.6s
CD2 Chengdu 41.73 267 P **P** **15 54 49.4 -0.5**
CD2 AP 15 54 53.9
CD2 XP sP 15 54 56.5 +6.4
CD2 PP PP 15 56 29.5 +3.3
CD2 S **S** **16 01 06.3 -1.5**
CD2 SS SS 16 04 06.9 -6.2
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,40nm,4.5s
CD2 LR LR
comp=N,250nm,13.2s
CD2 LR LR
comp=Z,210nm,13.2s,MS4.2
GYA Guiyang 42.46 259 ⇑*i*P **P** **15 54 55.9 0.0**
GYA AP 15 54 59.8
GYA XP sP 15 55 03.3 +7.1
GYA PP PP 15 56 38.9 +4.7
GYA PCP PcP 15 56 51.3 +2.4
GYA SCP ScP 16 00 40.8 0.0
GYA S **S** **16 01 19.3 +0.6**
GYA SS SS 16 04 21.8 -5.8
GYA SCS ScS 16 04 57.4 -1.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,540nm,17.0s,MS4.6
GYA LR LR
comp=E,490nm,17.2s,MS4.6
GYA LR LR
comp=Z,570nm,16.8s,MS4.5
ZAL Zalesovo 43.72 307 P **P** **15 55 03.8 -2.4**
comp=Z,1.4nm,0.4s,mb4.0,baz=59,slow=6.3,SNR=8.7
ZAL PcP PcP 15 56 52.2 -0.9
comp=Z,2.2nm,0.7s,baz=2.6,slow=3.0,SNR=11
ZAL LR LR 16 14 21.8
comp=Z,218nm,20.5s,MS4.0,baz=32,slow=38
ZAL Zalesovo 43.72 307 P **P** **15 55 03.8 -2.4**
ZAL 15 56 52.2
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.7s
ZAL MLR MLR
comp=Z,218nm,20.5s
NVS Novosibirsk 44.28 308 *e*P **P** **15 55 09.6 -1.1**
NVS pmax pmax
comp=Z,21nm,2.3s,mb4.5
NVS pmax pmax
comp=E,23nm,1.8s
WMQ Urumqi 45.99 292 P **P** **15 55 25.3 +1.1**
WMQ AP 15 55 29.8
WMQ XP sP 15 55 32.3 +7.8
WMQ PCP PcP 15 57 02.1 +1.2
WMQ PP PP 15 57 13.5 +1.6
WMQ S **S** **16 02 09.8 -0.3**
WMQ XS sS 16 02 17.4 +7.0
WMQ AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
WMQ AMB AMB
comp=Z,191nm,5.9s
WMQ LR LR
comp=N,94nm,21.3s,MS3.7
WMQ LR LR
comp=E,39nm,22.8s,MS3.7
WMQ LR LR
comp=Z,110nm,21.3s,MS3.8
KMI Kunming 46.01 261 P **P** **15 55 23.0 -1.4**
KMI AP 15 55 28.8
KMI XP sP 15 55 30.8 +6.2
KMI PP PP 15 57 16.8 +4.7
KMI S **S** **16 02 11.9 +1.4**
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.5
KMI LR LR
comp=Z,34nm,24.4s,MS3.2
KMI Kunming 46.01 261 P **P** **15 55 23.0 -1.4**
comp=Z,7.0nm,1.3s,mb4.5
KMI pP 15 55 28.7
KMI sP sP 15 55 30.8 +6.2
KMI PP PP 15 57 16.8 +4.7
KMI S **S** **16 02 11.9 +1.4**
KMI SS SS 16 05 30.9 -4.3
KMI LR LR
comp=Z,30nm,24.4s,MS3.1
MKAR Makanchi Array 48.03 298 P **P** **15 55 39.4 -0.7**
comp=Z,6.0nm,0.8s,mb4.8,baz=66,slow=7.5,SNR=25
MKAR PcP PcP 15 57 07.3 -0.9
comp=Z,2.9nm,0.8s,baz=57,slow=3.7,SNR=3.9
MKAR LR LR 16 16 47.7
comp=Z,266nm,18.2s,MS4.3,baz=252,slow=37
MKAR Makanchi Array 48.03 298 P **P** **15 55 39.4 -0.7**
MKAR 15 57 07.3
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR MLR MLR
comp=Z,266nm,18.2s
YKA Yellowknife Ar 50.90 37 P **P** **15 56 01.7 -0.4**
comp=Z,2.3nm,0.9s,mb4.1,baz=296,slow=7.1,SNR=3.5
YKA PcP PcP 15 57 17.7 -0.9
comp=Z,1.3nm,0.5s,baz=304,slow=3.9,SNR=10
YKA LR LR 16 18 09.6
comp=Z,28nm,21.4s,MS3.2,baz=270,slow=37
YKA Yellowknife Ar 50.90 37 P **P** **15 56 01.7 -0.4**
YKA 15 57 17.7
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA MLR MLR
comp=Z,28nm,21.4s
RES Resolute Bay 51.16 19 *e*P **P** **15 56 04.3 +0.3**
comp=Z,372nm,1.2s
LSA Lhasa 51.21 275 P **P** **15 56 06.3 +1.9**
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
LSA Lhasa 51.21 275 *e*P **P** **15 56 06.6 +2.2**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.21 275 *e*P **P** **15 56 06.6 +2.2**
comp=Z,9.3nm,0.6s,mb4.9
CHKZ Chkalovo 51.52 311 *e*P **P** **15 56 05.7 -1.1**
CHKZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
CHKZ Chkalovo 51.52 311 *e*P **P** **15 56 05.7 -1.1**
comp=Z,14nm,1.0s,mb4.8
BVAR Borovoye Array 51.95 310 P **P** **15 56 09.3 -0.7**
comp=Z,2.6nm,0.6s,mb4.3,baz=70,slow=9.6,SNR=11
BVAR PcP PcP 15 57 21.9 -0.6
comp=Z,2.5nm,0.7s,baz=68,slow=3.0,SNR=5.3
BVAR LR LR 16 19 49.3
comp=Z,161nm,18.6s,MS4.1,baz=319,slow=38
BVAR Borovoye Array 51.95 310 P **P** **15 56 09.3 -0.7**
BVAR 15 57 21.9
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR MLR MLR
comp=Z,161nm,18.6s
BVAR Borovoye Array 51.95 310 P **P** **15 56 09.3 -0.7**
BVAR PcP PcP 15 57 21.9 -0.6
BVAR LR LR 16 19 49.3
BRVK Borovoye 51.99 310 *e*P **P** **15 56 10.0 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRVK Borovoye 51.99 310 *e*P **P** **15 56 09.9 -0.3**
comp=Z,9.9nm,1.0s,mb4.7
AAK Ala-Archa 54.92 297 *e*P **P** **15 56 31.5 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
A09A Danville 55.65 53 ⇑P **P** **15 56 36.6 -0.4**
baz=55
KSH Kashi 55.72 293 *e*P **P** **15 56 39.9 +2.3**
KSH *e*AP 15 56 45.6
KSH *e*XP sP 15 56 47.6 +10
KSH *e*PCP PcP 15 57 38.4 +1.5
KSH *e*SCP ScP 16 01 38.0 +1.0
KSH *e*S **S** **16 04 25.0 -0.1**
KSH *e*XS sS 16 04 35.3 +10
KSH *e*SS SS 16 08 10.3 +0.1
J02A Umpqua 55.81 61 ⇓P **P** **15 56 39.2 +1.0**
baz=56
JIRN Jiri 55.89 276 *e*P **P** **15 56 40.1 +1.3**
comp=Z,38nm,0.8s,mb5.5
H04A Detroit Lake 55.92 59 ⇓P **P** **15 56 39.2 +0.2**
baz=56
GUN Gumba 55.95 276 *e*P **P** **15 56 40.2 +1.0**
ARU Arti 56.08 318 ⇓*i*P **P** **15 56 39.3 -0.8**
ARU *e* 15 57 36.6
ARU *e* 15 58 41.3
ARU *e*S **S** **16 04 29.0 -0.9**
ARU pmax pmax
comp=Z,15nm,0.7s,mb5.1
ARU Arti 56.08 318 *e*P **P** **15 56 39.4 -0.8**
comp=Z,15nm,0.7s,mb5.1
EDM Edmonton 56.11 46 *e*P **P** **15 56 39.8 -0.6**
J03A Ideyld Park 56.18 61 ⇑P **P** **15 56 41.4 +0.6**
baz=56
KKN Kakani 56.44 277 *e*P **P** **15 56 43.7 +1.0**
comp=Z,35nm,0.8s,mb5.4
C09A Chrisman Ranch 56.47 54 ⇑P **P** **15 56 42.0 -0.9**
baz=56
PKI Pulchoki 56.49 276 *e*P **P** **15 56 43.9 +0.9**
comp=Z,25nm,1.0s,mb5.2
H05A Madras 56.51 58 ⇓P **P** **15 56 43.4 +0.3**
baz=56
DMN Daman 56.67 277 *e*P **P** **15 56 45.5 +1.1**
comp=Z,56nm,1.0s,mb5.5
GKN Gorkha 56.75 277 *e*P **P** **15 56 45.8 +0.9**
comp=Z,33nm,0.7s,mb5.5
NEW Newport 56.85 53 LR LR 16 20 46.7
comp=Z,56nm,19.0s,MS3.7,baz=324,slow=36
D09A Jones Farm, Ri 56.86 55 ⇓P **P** **15 56 44.6 -1.1**
baz=57
A11A Hall Mountain, 56.88 52 ⇑P **P** **15 56 45.4 -0.4**
baz=57
H06A Lindquist Farm 56.99 58 ⇓P **P** **15 56 47.1 +0.5**
baz=57
B11A Sandpoint 57.17 52 ⇑P **P** **15 56 47.5 -0.4**
baz=57
E09A Wood Farm, Sta 57.26 55 ⇑P **P** **15 56 49.1 +0.6**
baz=57
YBH Yreka Blue Hor 57.26 62 ⇓P **P** **15 56 49.4 +0.9**
baz=57
J05A Fort Rock 57.27 60 ⇑P **P** **15 56 48.9 +0.3**
baz=57
A12A Yaak River Ran 57.28 52 ⇑P **P** **15 56 49.1 +0.4**
baz=57
F08A Pendleton 57.30 56 ⇑P **P** **15 56 49.3 +0.5**
baz=57
G08A Pilot Rock 57.48 57 ⇓P **P** **15 56 49.6 -0.5**
baz=57
KOLN Koldanda 57.61 278 *e*P **P** **15 56 52.1 +1.1**
comp=Z,38nm,0.9s,mb5.4
F09A S2 Ranch, Elgi 57.85 56 ⇓P **P** **15 56 53.0 +0.4**
baz=58
E10A Myers Farm, Un 57.86 55 ⇓P **P** **15 56 52.8 +0.1**
baz=58
D11A Klaveano Farm, 57.98 54 ⇓P **P** **15 56 52.6 -0.9**
baz=58
C12A Trout Creek 58.08 53 ⇑P **P** **15 56 54.2 -0.1**
baz=58
H08A Prairie City 58.09 57 ⇑P **P** **15 56 54.0 -0.3**
baz=58
K06A Valley Falls 58.14 60 ⇓P **P** **15 56 54.6 -0.1**
baz=58
B13A Whitefish 58.25 52 P **P** **15 56 55.8 +0.3**
baz=58,SNR=7.5
M05C Lookout 58.43 62 ⇑P **P** **15 56 56.7 -0.1**
baz=58
H09A Durkee 58.59 57 ⇑P **P** **15 56 58.2 +0.4**
baz=58
ARCES ARCESS Array B 58.75 341 P **P** **15 56 58.3 -0.7**
comp=Z,2.8nm,0.7s,mb4.4,baz=16,slow=6.7,SNR=7.2
ARCES LR LR 16 25 39.1
comp=Z,180nm,20.2s,MS4.2,baz=258,slow=39
ARCES ARCESS Array B 58.75 341 P **P** **15 56 58.3 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,180nm,20.2s
F11A Grangeville 58.75 55 ⇑P **P** **15 56 59.3 +0.3**
baz=58
K07A Rock Creek Ran 58.80 59 ⇑P **P** **15 56 59.9 +0.6**
baz=58
M06C Likely Place G 58.93 61 ⇑P **P** **15 57 00.6 +0.3**
baz=59
I09A Lost Marbles R 58.95 57 ⇑P **P** **15 57 00.5 +0.1**
baz=59
G11A Walters Elk Ra 58.97 55 ⇓P **P** **15 57 00.4 -0.1**
baz=59
C14A Swan Lake 58.99 52 ⇑P **P** **15 57 00.7 0.0**
baz=59
D13A Huson 59.00 53 ⇓P **P** **15 57 00.4 -0.2**
baz=59
O04C Chester 59.08 63 ⇓P **P** **15 57 01.6 +0.4**
baz=59
K08A Mann Creek Ran 59.24 59 ⇑P **P** **15 57 03.0 +0.7**
baz=59
ORV Oroville 59.27 63 ⇑P **P** **15 57 02.0 -0.6**
baz=59
J09A Fry Pan Ranch, 59.31 58 ⇑P **P** **15 57 03.2 +0.4**
baz=59
F12A Elk City 59.34 54 ⇑P **P** **15 57 03.0 -0.1**
baz=59
MSO Missoula 59.44 53 *e*P **P** **15 57 03.6 -0.2**
comp=Z,12nm,1.3s,mb4.8
Q03C Winters 59.50 65 ⇓P **P** **15 57 04.2 0.0**
baz=59
H11A Donnelly 59.52 56 ⇓P **P** **15 57 04.3 0.0**
baz=59
D14A Greenough 59.53 52 P **P** **15 57 04.2 -0.2**
baz=59,SNR=8.9
E13A Victor 59.53 53 ⇓P **P** **15 57 04.1 -0.3**
baz=59
N06A Buffalo Meadow 59.59 61 ⇑P **P** **15 57 05.2 +0.3**
baz=59
M07A Soldier Meadow 59.62 61 ⇑P **P** **15 57 05.4 +0.5**
baz=59
K09A Rome 59.71 59 ⇓P **P** **15 57 05.7 +0.2**
baz=59
CHMT Chamberlain Mo 59.77 52 *e*P **P** **15 57 05.4 -0.6**
BEKR Beckwourth 59.80 63 ⇑P **P** **15 57 06.3 +0.1**
baz=60
F13A Darby 59.84 54 ⇓P **P** **15 57 06.1 -0.3**
baz=60
E14A Clinton 59.93 53 P **P** **15 57 07.4 +0.2**
baz=60,SNR=5.2
LAVA Lava Cap Winer 60.23 64 ⇓P **P** **15 57 08.7 -0.4**
baz=60
E15A Deer Lodge 60.40 53 P **P** **15 57 10.3 0.0**
baz=60,SNR=6.0
O07A Toulon 60.53 62 ⇓P **P** **15 57 11.5 +0.2**
baz=60
M09A Marrel Ranch, 60.63 60 ⇓P **P** **15 57 12.1 +0.2**
baz=60
R05C Kirkwood Meado 60.67 63 ⇑P **P** **15 57 11.9 -0.3**
baz=60
ORR Orenburg 60.73 315 *e*P **P** **15 57 12.9 +0.3**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
ORR MLR MLR
comp=Z,150nm,17.0s,MS4.2
F15A Butte 60.84 53 P **P** **15 57 13.7 +0.4**
baz=61,SNR=9.3
CMB Columbia Colle 60.88 64 ⇑P **P** **15 57 13.7 0.0**
baz=61
EGMT Eagleton 60.99 50 ⇓P **P** **15 57 14.8 +0.4**
baz=61
M10A I.L. Ranch, Tu 61.12 59 ⇑P **P** **15 57 15.4 +0.2**
baz=61
HLID Hailey 61.13 56 ⇑P **P** **15 57 15.6 +0.3**
baz=61
G15A Dillon 61.25 54 ⇓P **P** **15 57 16.1 -0.1**
baz=61
S06C San Francisco 61.31 64 ⇑P **P** **15 57 16.9 +0.3**
baz=61
O09A Fish Creek Ran 61.55 61 ⇑P **P** **15 57 18.1 -0.1**
baz=61
M11A Holland Ranch, 61.62 59 ⇓P **P** **15 57 19.2 +0.6**
baz=61
KAKA Kakadu 61.80 204 *e*P **P** **15 57 18.9 -1.0**

comp=Z,11nm,0.6s,mb5.3
O10A Cortez Mining, 61.89 60 ⇓P **P 15 57 21.4 +0.9**
baz=62
Q08A Gabbs 61.90 62 ⇓P **P 15 57 20.9 +0.4**
baz=62
NVAR Mina Array Bea 61.94 63 P **P 15 57 20.9 +0.1**
comp=Z,2.3nm,0.7s,mb4.5,baz=297,slow=6.0,SNR=11
KCC Kaiser Creek 61.99 64 ⇑P **P 15 57 21.0 -0.1**
baz=62
V04C Ramage Ranch, 62.05 67 ⇑P **P 15 57 22.7 +1.2**
baz=62
M12A Wells 62.15 58 ⇓P **P 15 57 22.7 +0.5**
baz=62
Q09A Carvers 62.38 62 ⇑P **P 15 57 24.3 +0.5**
baz=62
O11A Cowboy Ranch, 62.50 60 ⇑P **P 15 57 25.1 +0.6**
baz=62
S08C White Mtn Res 62.59 64 ⇓P **P 15 57 25.8 +0.6**
baz=62
M13A Montello 62.63 58 ⇑P **P 15 57 25.7 +0.3**
baz=62
R09A Tonopah 62.81 62 ⇓P **P 15 57 26.1 -0.5**
baz=63
N13A Wendover, West 62.92 58 ⇑P **P 15 57 27.7 +0.4**
baz=63
O12A Currie 62.96 59 ⇑P **P 15 57 27.6 0.0**
baz=63
S09A Goldfield 63.04 63 ⇓P **P 15 57 28.1 -0.1**
baz=63
REDW Red Top Meadow 63.29 54 *e*P **P 15 57 30.4 +0.6**
comp=Z,34nm,1.3s,mb5.3
Q11A Duckwater 63.30 61 ⇑P **P 15 57 30.3 +0.4**
baz=63
CWC Cottonwood Cre 63.31 64 ⇓P **P 15 57 29.4 -0.5**
baz=63
P12A McGill 63.36 60 ⇑P **P 15 57 31.0 +0.7**
baz=63
GRAC Grapevine Rang 63.41 63 ⇑P **P 15 57 30.2 -0.3**
baz=63
SBC Santa Barbara 63.53 67 ⇑P **P 15 57 28.6 -2.8**
baz=63
ISA Isabella 63.55 65 ⇓P **P 15 57 30.9 -0.6**
baz=63
Q12A Willow Creek R 63.68 60 ⇓P **P 15 57 32.7 +0.3**
baz=63
MPMC Manual Prospec 63.92 64 ⇑P **P 15 57 33.4 -0.6**
baz=64
HWUT Hardware Ranch 63.99 56 *e*P **P 15 57 34.8 +0.4**
comp=Z,3.0nm,0.9s,mb4.5
FURC Furnace Creek, 64.06 64 ⇓P **P 15 57 34.2 -0.6**
baz=64
DUG Dugway 64.16 58 P **P 15 57 35.9 +0.3**
baz=64,SNR=5.5
EDW2 Edwards Air Fo 64.35 66 ⇓P **P 15 57 36.8 0.0**
baz=64
BW06 Boulder Array 64.40 54 *e*P **P 15 57 36.8 -0.3**
comp=Z,11nm,1.3s,mb4.9
PDAR Pinedale Array 64.40 54 P **P 15 57 36.8 -0.3**
comp=Z,4.2nm,0.9s,mb4.7,baz=299,slow=3.1,SNR=24
U10A Ash Meadows, A 64.42 63 ⇓P **P 15 57 36.9 -0.3**
baz=64
FINES FINESS Array B 65.00 335 P **P 15 57 40.0 -1.0**
comp=Z,1.6nm,0.4s,mb4.6,baz=36,slow=6.0,SNR=15
FINES LR LR 16 26 13.5
comp=Z,126nm,20.3s,MS4.1,baz=1.2,slow=36
FINES FINESS Array B 65.00 335 *i* P **P 15 57 41.7 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
U11A Corn Creek 65.00 63 ⇑P **P 15 57 41.1 +0.1**
baz=65
SCI San Clemente I 65.21 68 ⇑P **P 15 57 42.3 -0.1**
baz=65
TUQ Turquoise Mtn. 65.30 64 ⇑P **P 15 57 43.1 +0.1**
baz=65
HEC Hector,Ludlow 65.43 65 ⇓P **P 15 57 43.6 -0.2**
baz=65
V12A Nelson 65.78 63 ⇑P **P 15 57 46.5 +0.4**
baz=66
SRU San Rafael 66.21 58 *e*P **P 15 57 48.5 -0.3**
SRU pmax pmax
comp=Z,11nm,1.1s,mb5.0
SRU San Rafael 66.21 58 *e*P **P 15 57 48.5 -0.4**
comp=Z,11nm,1.1s,mb5.0
OBN Obninsk 66.34 326 *e*P **P 15 57 49.0 -0.7**
OBN *e* 15 58 18.4
OBN *e* 16 00 13.1
OBN *e*S S 16 06 36.3 -4.1
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ULM Lac du Bonnet 66.42 41 P **P 15 57 49.4 -0.8**
comp=Z,1.4nm,0.6s,mb4.4,baz=310,slow=1.4,SNR=6.1
RSSD Black Hills 66.55 50 *e*P **P 15 57 50.6 -0.4**
RSSD pmax pmax
comp=Z,23nm,1.4s,mb5.2
RSSD Black Hills 66.55 50 *e*P **P 15 57 50.5 -0.5**
comp=Z,23nm,1.4s,mb5.2
IRM Iron Mountain 66.61 65 P **P 15 57 51.4 0.0**
baz=66,SNR=6.2
BC3 Big Chuckw Mtn 66.75 65 ⇑P **P 15 57 51.9 -0.4**
baz=66
W13A Hualapai Mount 66.79 63 ⇓P **P 15 57 52.4 -0.2**
baz=66
PDMCI Parker Dam,Lak 67.15 64 P **P 15 57 54.9 0.0**
baz=67,SNR=6.1
X13A Yucca 67.15 63 P **P 15 57 54.9 0.0**
baz=67,SNR=6.4
W14A Seligman 67.21 63 P **P 15 57 55.6 +0.4**
baz=67,SNR=10
Y12C Blythe 67.27 65 ⇑P **P 15 57 55.7 0.0**
baz=67
GLA Glamis 67.54 65 ⇑P **P 15 57 57.3 -0.1**
baz=67
W15A Williams 67.73 62 ⇓P **P 15 58 00.1 +1.5**
baz=68
X14A Yava 67.82 63 P **P 15 57 59.8 +0.7**
baz=68,SNR=6.0
WUAZ Wupatki 68.06 61 ⇑P **P 15 58 01.4 +0.7**
baz=68
Y14A Wickenburg 68.10 64 ⇑P **P 15 58 01.1 +0.3**
baz=68
WB2 Warramunga Arr 68.21 200 *e*P **P 15 58 00.0 -1.6**
WRA Warramunga Arr 68.21 200 P **P 15 58 00.3 -1.3**
comp=Z,5.4nm,0.7s,mb4.9,baz=20,slow=6.8,SNR=50
WRA Warramunga Arr 68.21 200 *i* P **P 15 58 00.3 -1.3**
WRA pmax pmax
comp=Z,5.0nm,0.7s
X15A Humboldt 68.21 63 P **P 15 58 02.4 +0.8**
baz=68,SNR=6.5
MVCO Mesa Verde 68.66 58 ⇓P **P 15 58 04.8 +0.4**
baz=68
FITZ Fitzroy Crossi 69.01 209 *e*P **P 15 58 06.4 -0.2**
comp=Z,9.5nm,0.9s,mb5.0
NB2 NORSAR Subarra 69.12 342 P **P 15 58 06.2 -1.0**
comp=Z,1.4nm,0.6s,mb4.4,baz=25,slow=6.5
NOA NORSAR Array B 69.12 342 P **P 15 58 06.6 -0.6**
comp=Z,1.7nm,0.6s,mb4.4,baz=26,slow=6.2,SNR=7.9
NOA LR LR 16 30 49.4
comp=Z,65nm,19.0s,MS3.9,baz=15,slow=38
NOA NORSAR Array B 69.12 342 P **P 15 58 06.6 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,65nm,19.0s
NOA NORSAR Array B 69.12 342 P **P 15 58 06.6 -0.7**
NOA LR LR 16 30 49.4
115A Sonoran Desert 69.41 64 ⇑P **P 15 58 08.8 -0.2**
baz=69
KIV Kislovodsk 71.88 315 *e*P **P 15 58 23.5 -0.6**
KIV pmax pmax
comp=Z,16nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 71.88 315 *e*P **P 15 58 24.9 +0.8**
comp=Z,8.9nm,0.8s,mb5.0
AS31 Alice Springs 71.89 200 *e*P **P 15 58 23.9 -0.3**
ASAR Alice Springs 71.90 200 P **P 15 58 23.8 -0.4**
comp=Z,4.2nm,1.0s,mb4.5,baz=9.6,slow=6.1,SNR=30
ASAR LR LR 16 28 10.9
comp=Z,34nm,20.7s,MS3.6,baz=265,slow=34
ASAR Alice Springs 71.90 200 P **P 15 58 23.8 -0.4**
ASAR pmax pmax
comp=Z,4.0nm,1.0s
ASAR MLR MLR
comp=Z,34nm,20.7s
ASPA Alice Springs 71.90 200 *e*P **P 15 58 23.9 -0.3**
ZEI Tsey 72.14 314 *e*P **P 15 58 24.4 -1.3**
ZEI *e* 15 58 43.3

AKASG Malin Array Be 72.57 327 P **P 15 58 27.4 -0.9**
comp=Z,1.4nm,0.4s,mb4.4,baz=32,slow=6.1,SNR=12
AKASG Malin Array Be 72.57 327 *i* P **P 15 58 27.3 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 72.58 327 *e*P **P 15 58 27.2 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KIEV Kiev 72.58 327 *e*P **P 15 58 27.2 -1.1**
comp=Z,3.9nm,0.6s,mb4.7
GNI Garni 73.62 311 P **P 15 58 36.1 +1.6**
comp=Z,3.0nm,0.6s,mb4.5,baz=90,slow=1.0,SNR=6.2
GNI Garni 73.62 311 *e*P **P 15 58 36.1 +1.6**
GNI pmax pmax
comp=Z,15nm,1.5s
KWP Kalwaria 75.83 330 *e*P **P 15 58 47.5 +0.3**
STHS Stebnicka Huta 76.51 331 *e*P **P 15 58 51.5 +0.4**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.51 331 *e*P **P 15 58 51.5 +0.4**
comp=Z,3.9nm,0.8s,mb4.6
KOLS Kolonicke sedl 76.57 330 *e*P **P 15 58 51.0 -0.5**
KOLS Kolonicke sedl 76.57 330 *e*P **P 15 58 51.1 -0.4**
BURAR Bucovina Array 76.61 327 ⇑*i*P **P 15 58 51.6 -0.1**
BURAR Bucovina Array 76.61 327 ⇑P **P 15 58 51.6 -0.1**
LTX Lajitas 77.02 61 *e*P **P 15 58 53.6 -0.4**
LTX pmax pmax
comp=Z,21nm,1.2s,mb5.1
LTX Lajitas 77.02 61 *e*P **P 15 58 53.6 -0.5**
comp=Z,21nm,1.2s,mb5.1
TXAR Lajitas Array 77.02 61 P **P 15 58 53.6 -0.4**
comp=Z,5.5nm,0.7s,mb4.9,baz=305,slow=4.2,SNR=61
TXAR Lajitas Array 77.02 61 P **P 15 58 53.7 -0.3**
TXAR pmax pmax
comp=Z,7.0nm,0.7s
DPC Dobruska-Polom 77.29 334 *e*P **P 15 58 56.0 +0.5**
CLL Collm 77.41 336 *i* P **P 15 58 55.8 -0.4**
CLL *i* 15 59 14.4
CLL pmax pmax
comp=Z,13nm,1.0s,mb5.0
CLL Collm 77.41 336 *i* P **P 15 58 55.8 -0.4**
comp=Z,13nm,1.0s,mb5.0
CLL *i* PcP PcP 15 59 14.4 +7.7
MORC Moravsky Berou 77.42 333 ⇑*i*P **P 15 58 56.4 +0.2**
BRG Berggiesshubel 77.53 336 *e*(P) **P 15 58 56.4 -0.5**
comp=Z,4.2nm,1.1s,mb4.5
BRG Berggiesshubel 77.53 336 *e*P **P 15 58 56.4 -0.5**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
KECS Kecovo 77.57 331 *e*P **P 15 58 56.6 -0.5**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
KECS Kecovo 77.57 331 *e*P **P 15 58 56.6 -0.5**
comp=Z,3.3nm,0.9s,mb4.5
MLR Muntele Rosu 78.10 326 P **P 15 59 00.3 +0.3**
comp=Z,5.8nm,0.6s,mb4.9,baz=175,slow=3.0,SNR=11
MLR Muntele Rosu 78.10 326 ⇑*i*P **P 15 59 00.8 +0.8**
VYHS Vyhne 78.12 332 *e*P **P 15 59 00.1 0.0**
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
VYHS Vyhne 78.12 332 *e*P **P 15 59 00.1 0.0**
comp=Z,4.6nm,1.3s,mb4.5
PRU Pruhonice 78.15 335 *e*P **P 15 59 00.3 0.0**
MALT Malatya 78.24 314 ⇓*i*P **P 15 59 02.4 +1.6**
MALT Malatya 78.24 314 *e*P **P 15 59 02.2 +1.4**
MALT *e* 15 59 11.3
MALT pmax pmax
comp=Z,20nm,1.4s,mb5.0
MALT Malatya 78.24 314 *e*P **P 15 59 02.2 +1.4**
comp=Z,20nm,1.4s,mb5.1
MALT *e* 15 59 11.3
SNX Sinaia 78.38 326 ⇓*i*P **P 15 59 02.5 +0.9**
SNX Sinaia 78.38 326 ⇓P **P 15 59 02.5 +0.9**
STKA Stephens Creek 78.49 191 P **P 15 59 01.1 -1.1**
comp=Z,1.3nm,0.7s,mb4.1,baz=41,slow=9.3,SNR=3.9
STKA LR LR 16 30 57.6
comp=Z,38nm,19.2s,MS3.7,baz=25,slow=34
VOIR 78.49 326 ⇑*i*P **P 15 59 02.6 +0.4**
VOIR 78.49 326 ⇑P **P 15 59 02.6 +0.4**
KHC Kasperske Hory 79.20 335 *e*P **P 15 59 06.5 +0.4**
KHC *e*pP 15 59 09.5
KHC Kasperske Hory 79.20 335 *e*P **P 15 59 06.5 +0.4**
KHC *e* 15 59 09.5
GRA1 Grafenberg Arr 79.36 337 *e*P **P 15 59 07.3 +0.3**
comp=Z,9.0nm,0.7s,mb4.9
GRA1 *e*pP 15 59 13.1
GRA1 *e*PcP PcP 15 59 17.0 +1.9
GRF Grafenberg Arr 79.36 337 *e*P **P 15 59 07.3 +0.3**
comp=Z,9.0nm,0.7s,mb4.9
GRF *e*pP 15 59 13.1
GRF *e*PcP PcP 15 59 17.0 +1.9
GRF Grafenberg Arr 79.36 337 *e*P **P 15 59 07.3 +0.3**
GRF *e**PP 15 59 13.1
GRF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
GRF Grafenberg Arr 79.36 337 *e*P **P 15 59 07.3 +0.3**
GRF *e**PP 15 59 13.1
GRF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
GERES GERESS Array B 79.42 335 P **P 15 59 07.2 -0.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=27,slow=3.3,SNR=9.0
GERES LR LR 16 39 18.7
comp=Z,102nm,18.5s,MS4.2,baz=66,slow=40
GERES GERESS Array B 79.42 335 P **P 15 59 07.2 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,102nm,18.5s
BRTR Keskin Array B 79.46 318 P **P 15 59 07.8 +0.3**
comp=Z,2.9nm,0.9s,mb4.3,baz=72,slow=4.0,SNR=8.7
BRTR Keskin Array B 79.46 318 *i* P **P 15 59 07.9 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BZS Buzias 79.63 328 ⇑*i*P **P 15 59 08.4 0.0**
BZS Buzias 79.63 328 ⇑P **P 15 59 08.4 0.0**
PPT Papeete 81.06 127 LR LR 16 26 23.4
comp=Z,126nm,21.1s,MS4.2,baz=82,slow=29
BFO Black Forest 81.39 338 *e*P **P 15 59 17.7 -0.2**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BFO Black Forest 81.39 338 *e*P **P 15 59 17.7 -0.2**
comp=Z,6.3nm,1.0s,mb4.6
CDF Champ du Feu 81.58 339 *e*P **P 15 59 17.2 -1.7**
comp=Z,19nm,0.9s,mb5.0
CDF Champ du Feu 81.58 339 *e*P **P 15 59 17.2 -1.7**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CDF Champ du Feu 81.58 339 *e*P **P 15 59 17.2 -1.7**
comp=Z,9.7nm,0.9s,mb4.9
VTS Vitosha 81.60 326 ⇓*i*P **P 15 59 19.0 0.0**
VTS Vitosha 81.60 326 ⇓P **P 15 59 19.0 0.0**
GRR Gorron 83.44 344 *e*P **P 15 59 26.8 -1.8**
comp=Z,223nm,1.7s,mb5.8
GRR Gorron 83.44 344 *e*P **P 15 59 26.8 -1.8**
GRR pmax pmax
comp=Z,112nm,1.7s,mb5.8
GRR Gorron 83.44 344 *e*P **P 15 59 26.8 -1.8**
comp=Z,112nm,1.7s,mb5.8
ASF Jabal al Asfar 83.79 311 P **P 15 59 31.0 +0.6**
comp=Z,5.6nm,0.7s,mb4.9,baz=0.9,slow=3.9,SNR=7.4
ASF Jabal al Asfar 83.79 311 P **P 15 59 31.0 +0.6**
ASF pmax pmax
comp=Z,6.0nm,0.7s
MMAI Mount Meron Ar 83.90 312 P **P 15 59 31.6 +0.6**
comp=Z,15nm,0.7s,mb5.3,baz=38,slow=7.3
SMF Signal de Mont 84.07 340 *e*P **P 15 59 30.3 -1.6**
comp=Z,32nm,1.1s,mb5.1
SMF Signal de Mont 84.07 340 *e*P **P 15 59 30.3 -1.6**
SMF pmax pmax
comp=Z,16nm,1.1s,mb5.2
SMF Signal de Mont 84.07 340 *e*P **P 15 59 30.3 -1.6**
comp=Z,16nm,1.1s,mb5.2
LPG La Plagne 84.42 338 *e*P **P 15 59 33.1 -0.5**
comp=Z,21nm,0.8s,mb5.1
LPG La Plagne 84.42 338 *e*P **P 15 59 33.1 -0.5**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
LPG La Plagne 84.42 338 *e*P **P 15 59 33.1 -0.5**
comp=Z,10nm,0.8s,mb5.1
RJF Les Rejaudoux 85.87 341 *e*P **P 15 59 39.5 -1.4**
KEST Kesra 92.65 332 LR LR 16 44 46.7
comp=Z,43nm,20.1s,MS3.9,baz=273,slow=37
CFAA Coronel Fontan 144.22 81 PKP PKPdf 16 06 34.3 -2.8
comp=Z,0.3nm,0.6s,baz=298,slow=3.6,SNR=5.8
SNAA Sanae 152.18 195 PKPbc PKPbc 16 06 53.7 -3.1
comp=Z,1.7nm,0.7s,baz=188,slow=5.3,SNR=18
SNAA PKPab PKPab 16 07 03.0 -3.4
comp=Z,1.4nm,0.8s,baz=122,slow=2.5,SNR=5.2
SNAA Sanae 152.18 195 PKIKP PKPab 16 07 03.0 -3.4
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 152.18 195 *e*PKPbc PKPbc 16 06 53.5 -3.2
VNA2 Neumayer--Watz 153.60 193 *e*PKPdf PKPdf 16 06 57.0 +4.8
baz=144,slow=1.1
VNA2 *e* 16 07 00.4
VNA2 *e* 16 07 06.6
VNA2 *e* 16 07 10.2
VNA3 Neumayer Olymp 153.66 192 *e*PKPdf PKPdf 16 06 56.3 +4.1
VNA3 *e* 16 07 00.0
VNA3 *e* 16 07 06.2
VNA3 *e* 16 07 09.6

IDC ***21*** *16:21:48.2±1.0,4669N×15239E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.8/21,mbtmp3.8/9,MS3.5/1,Ms1 3.5/1, ms1mx2.6/38,Error ellipse: s-maj=36.8km s-min=23.6km az=78.0*
NEIC ***21*** *16:21:50.0±0.7,4669N×15234E,h10km,mb4.1/1,Error ellipse: s-maj=22.6km s-min=15.1km az=72.0*
ISCJB ***21*** *16:21:54.6±1.2,4658N±0.010×1526E±0.1,h63km±9km, mb3.9/11,Error ellipse: s-maj=20.4km s-min=9.6km az=96.4*
MOS ***21*** *16:21:55.8±1.6,4668N×15240E,h73km,mb4.3/5,Error ellipse: s-maj=18.8km s-min=15.9km az=62.3*
ISC 21 16:21:56.5±1.1,466N±01×1526E±01,h65km±8km,n43, σ1°32/47,mb3.9/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.58**	**249**	*e*PN		**Pn**	**Pn**	**16 22 46.0**	**-3.5**
KUR				*i* S		**Sn**	**Sn**	**16 23 31.5**	**+1.0**
KUR				pmax	pmax				
	comp=Z,80nm,0.5s								
KUR				smax					
	comp=N,320nm,0.8s								
KUR				smax					
	comp=E,430nm,0.8s								
SKR	**Severo-Kuril's**	**4.70**	**29**	*e*PN		**Pn**		**16 23 05.4**	**+0.6**
SKR				*e*				16 24 01.2	
NEM2	**Nemuro 2**	**5.84**	**239**	P		**Pn**		**16 23 18.8**	**-1.7**
NEM2				*e*S		**Sn**		**16 24 20.1**	**-6.0**
JRA	**Rausu**	**5.91**	**246**	P		**Pn**		**16 23 23.4**	**+1.9**
JNK	**Nakash**	**6.34**	**244**	P		**Pn**		**16 23 27.8**	**+0.4**
JTKR	**Abashiri--Toko**	**6.67**	**250**	P		**Pn**		**16 23 33.2**	**+1.3**
JAK	**Akkeshi**	**6.68**	**240**	P		**Pn**		**16 23 30.6**	**-1.4**
YSS	**Yuzh-Sakhalins**	**6.76**	**276**	*e*PN		**Pn**		**16 23 34.7**	**+1.6**
YSS				pmax	pmax				
	comp=Z,9.0nm,0.4s								
YSS	**Yuzh-Sakhalins**	**6.76**	**276**	*e*P		**Pn**		**16 23 34.7**	**+1.6**
	comp=Z,8.8nm,0.4s								
JAR	**Ashorobuto**	**7.08**	**245**	P		**Pn**		**16 23 38.1**	**+0.6**
JAR				*e*S		**Sn**		**16 24 56.1**	**-0.4**
JOB	**Onbets**	**7.25**	**242**	P		**Pn**		**16 23 39.3**	**-0.5**
JKK2	**Kamakawa 2**	**7.47**	**252**	P		**Pn**		**16 23 44.7**	**+1.9**
ASAJ	**Asahikawa**	**7.47**	**254**	Pn		**Pn**		**16 23 44.6**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=64,slow=12,SNR=6.7								
ASAJ	**Asahikawa**	**7.47**	**254**	PN		**Pn**		**16 23 44.6**	**+1.8**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JCH	**Churui**	**7.70**	**242**	P		**Pn**		**16 23 45.3**	**-0.7**
JCH				*e*S		**Sn**		**16 25 06.3**	**-5.4**
JNBK	**Urakawa-nobuka**	**8.26**	**242**	P		**Pn**		**16 23 51.7**	**-1.9**
JYM2	**Yakumo 2**	**9.84**	**247**	P		**Pn**		**16 24 14.2**	**-0.9**
JANG	**Nango**	**10.18**	**236**	P		**Pn**		**16 24 15.6**	**-4.2**
JANG				*e*S		**Sn**		**16 26 00.5**	**-12**
JTH	**Tanohata**	**10.28**	**233**	*e*S		**Sn**		**16 26 03.5**	**-11**
JRG	**Rokugo**	**11.34**	**235**	P		**Pn**		**16 24 32.8**	**-2.8**
KSRS	**Korea Array**	**20.41**	**252**	P		**P**		**16 26 29.8**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=53,slow=8.8,SNR=4.9								
ZAL	**Zalesovo**		**42.42**	**306**	LR		LR	16 46 45.6	
	comp=Z,57nm,19.4s,baz=247,slow=35								
MKAR	**Makanchi Array**		**46.69**	**297**	P		**P**	**16 30 17.5**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=63,slow=6.9,SNR=5.3								
MKAR					PcP		PcP	16 31 50.9	-0.5
	comp=Z,0.3nm,0.7s,baz=66,slow=5.5,SNR=3.1								
MKAR	**Makanchi Array**		**46.69**	**297**	P		**P**	**16 30 17.5**	**-1.2**
MKAR								16 31 50.9	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CHKZ	**Chkalovo**		**50.25**	**310**	*e*P		**P**	**16 30 43.9**	**-2.2**
CHKZ					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
CHKZ	**Chkalovo**		**50.25**	**310**	*e*P		**P**	**16 30 43.9**	**-2.1**
	comp=Z,1.2nm,0.5s,mb4.2								
BVAR	**Borovoye Array**		**50.67**	**309**	P		**P**	**16 30 47.9**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=39,slow=9.7,SNR=4.5								
BVAR					PcP		PcP	16 32 05.1	-0.8
	comp=Z,0.4nm,0.3s,baz=78,slow=4.4,SNR=5.9								
JIRN	**Jiri**		**54.60**	**274**	*e*P		**P**	**16 31 19.5**	**+1.2**
KKN	**Kakani**		**55.14**	**275**	*e*P		**P**	**16 31 23.0**	**+0.8**
	comp=Z,9.1nm,0.8s,mb4.9								
PKI	**Pulchoki**		**55.19**	**275**	*e*P		**P**	**16 31 22.7**	**+0.1**
DMN	**Daman**		**55.38**	**275**	*e*P		**P**	**16 31 24.7**	**+0.8**
KOLN	**Koldanda**		**56.31**	**276**	*e*P		**P**	**16 31 31.4**	**+0.8**
FINES	**FINESS Array B**		**64.01**	**335**	P		**P**	**16 32 21.9**	**-1.3**
	comp=Z,1.1nm,0.4s,mb4.3,baz=36,slow=6.9,SNR=19								
FINES	**FINESS Array B**		**64.01**	**335**	P		**P**	**16 32 22.0**	**-1.2**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NB2	**NORSAR Subarra**		**68.24**	**341**	P		**P**	**16 32 49.3**	**-1.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=29,slow=6.5								
NOA	**NORSAR Array B**		**68.24**	**341**	P		**P**	**16 32 49.5**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.2,baz=30,slow=6.4,SNR=5.1								
NOA	**NORSAR Array B**		**68.24**	**341**	P		**P**	**16 32 49.5**	**-0.8**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**		**68.27**	**198**	P		**P**	**16 32 50.5**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=7.1,SNR=3.5								
AKASG	**Malin Array Be**		**71.46**	**326**	P		**P**	**16 33 08.9**	**-1.2**
	comp=Z,1.4nm,0.3s,mb4.4,baz=36,slow=6.3,SNR=7.5								
AKASG	**Malin Array Be**		**71.46**	**326**	P		**P**	**16 33 08.9**	**-1.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ASAR	**Alice Springs**		**71.97**	**198**	P		**P**	**16 33 14.0**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=10,slow=6.1,SNR=7.2								
TXAR	**Lajitas Array**		**77.87**	**60**	P		**P**	**16 33 48.7**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=326,slow=4.7,SNR=4.9								
BRTR	**Keskin Array B**		**78.24**	**316**	P		**P**	**16 33 50.0**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=59,slow=5.6,SNR=3.7								

IDC 21 16:26:59.0±1.2,4617N×15412E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=35.3km s-min=31.7km az=154.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.40**	**260**	Pn		**Pn**	Pn	**16 29 03.1**	**+1.1**
	0.4nm,0.3s,baz=43,slow=18,SNR=4.2								
MKAR	**Makanchi Array**		**47.83**	**298**	P		P	16 35 37.7	-0.6
	0.3nm,0.6s,baz=79,slow=9.9,SNR=4.3								
WRA	**Warramunga Arr**		**68.19**	**200**	P		P	16 38 00.0	-1.2
	0.5nm,0.7s,baz=18,slow=7.1,SNR=5.9								
ASAR	**Alice Springs**		**71.88**	**199**	P		P	16 38 24.6	+0.7
	0.8nm,0.7s,baz=7.5,slow=4.9,SNR=22								
TXAR	**Lajitas Array**		**77.17**	**61**	P		P	16 38 55.0	+0.4
	0.3nm,0.5s,baz=282,slow=4.2,SNR=4.7								

ISCJB ***21*** *16:42:11.7±0.3,4355S±004×17151E±005,h36km±7km, mb3.9/2,MS2.9/2,Error ellipse: s-maj=7.7km s-min=4.2km az=110.1*
WEL ***21*** *16:42:11.9±0.1,4356S×17153E,h12km,ML3.9/25,Error ellipse: s-maj=1.4km s-min=1.4km az=0.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.
NEIC ***21*** *16:42:12.2,4354S×17154E,h20km,ML4.1(WEL),After WEL.*
IDC ***21*** *16:42:13.1±3.0,4377S×17054E,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.8/9,mbtmp3.9/2,MS3.0/2,Ms1 3.0/2, ms1mx2.6/15,Error ellipse: s-maj=139.9km s-min=7.2km az=179.0*
ISC 21 16:42:11.9±0.5,4354S±004×17152E±004,h25km±5km, n58,σ0°52/60,mb3.9/2,MS2.9/2,1D,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**0.38**	**242**	Pg	**Pb**	**16 42 20.1**	**0.0**
	378nm,0.3s,baz=48,slow=2.7,SNR=1361						
RPZ				Lg		16 42 25.8	
	775nm,0.3s,baz=37,slow=20,SNR=214						
RPZ	**Rata Peaks**	**0.38**	**242**	P	**Pb**	**16 42 20.2**	**+0.1**
RPZ	**Rata Peaks**	**0.38**	**242**	P*	**Pb**	**16 42 20.2**	**0.0**
RPZ				S*	**Sb**	**16 42 25.6**	**-0.1**
WVZ	**Waitaha Valley**	**0.73**	**309**	P*	**Pb**	**16 42 25.9**	**-0.1**
WVZ				S*	**Sb**	**16 42 36.4**	**+0.7**
CRLZ	**Canterbury Las**	**0.80**	**93**	P	**Pb**	**16 42 27.2**	**0.0**
CRLZ				S	**Sb**	**16 42 39.0**	**+1.4**
CRLZ	**Canterbury Las**	**0.80**	**93**	P*	**Pb**	**16 42 27.2**	**0.0**
CRLZ				*e*S*	**Sb**	**16 42 38.0**	**+0.4**
MQZ	**McQueen's Vall**	**0.84**	**102**	P	**Pb**	**16 42 27.6**	**-0.2**
MQZ	**McQueen's Vall**	**0.84**	**102**	P*	**Pb**	**16 42 27.6**	**-0.3**
LTZ	**Lake Taylor**	**0.94**	**36**	P	**Pn**	**16 42 29.0**	**-0.4**
LTZ	**Lake Taylor**	**0.94**	**36**	⇓P*	**Pb**	**16 42 29.0**	**-0.4**
LTZ				S*	**Sb**	**16 42 41.3**	**-0.1**
LBZ	**Lake Benmore**	**1.28**	**228**	P	**Pn**	**16 42 34.3**	**+0.2**
LBZ	**Lake Benmore**	**1.28**	**228**	PN	**Pn**	**16 42 34.3**	**+0.2**
FOZ	**Fox Glacier**	**1.33**	**268**	P	**Pn**	**16 42 34.7**	**-0.1**
FOZ	**Fox Glacier**	**1.33**	**268**	P*	**Pb**	**16 42 34.7**	**-1.4**
ODZ	**Otahua Downs**	**1.63**	**202**	*e*P	**Pn**	**16 42 38.9**	**0.0**
ODZ	**Otahua Downs**	**1.63**	**202**	PN	**Pn**	**16 42 38.9**	**0.0**
DSZ	**Denniston Nort**	**1.80**	**7**	*e*P	**Pn**	**16 42 41.4**	**+0.1**
DSZ	**Denniston Nort**	**1.80**	**7**	PN	**Pn**	**16 42 41.4**	**+0.1**
KHZ	**Kahutara**	**1.86**	**54**	*e*P	**Pn**	**16 42 41.6**	**-0.5**
KHZ	**Kahutara**	**1.86**	**54**	PN	**Pn**	**16 42 41.6**	**-0.5**
THZ	**Tophouse**	**2.05**	**30**	P	**Pn**	**16 42 44.7**	**0.0**
THZ	**Tophouse**	**2.05**	**30**	PN	**Pn**	**16 42 44.7**	**0.0**
JCZ	**Jackson Bay**	**2.07**	**254**	P	**Pn**	**16 42 45.0**	**+0.1**
JCZ	**Jackson Bay**	**2.07**	**254**	PN	**Pn**	**16 42 45.0**	**+0.1**
WKZ	**Wanaka**	**2.21**	**234**	*e*P	**Pn**	**16 42 46.8**	**-0.1**
WKZ	**Wanaka**	**2.21**	**234**	PN	**Pn**	**16 42 46.8**	**-0.2**
EAZ	**Earnscleugh**	**2.32**	**222**	*e*P	**Pn**	**16 42 48.1**	**-0.3**
EAZ	**Earnscleugh**	**2.32**	**222**	*e*PN	**Pn**	**16 42 47.7**	**-0.7**
BSWZ	**Blackbirch Sta**	**2.52**	**44**	P	**Pn**	**16 42 51.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**2.52**	**44**	PN	**Pn**	**16 42 51.5**	**+0.3**
NNZ	**Nelson**	**2.70**	**31**	P	**Pn**	**16 42 54.1**	**+0.5**
NNZ	**Nelson**	**2.70**	**31**	PN	**Pn**	**16 42 54.1**	**+0.5**
TUZ	**Tuapeka**	**2.76**	**208**	*e*P	**Pn**	**16 42 54.6**	**+0.1**
TUZ	**Tuapeka**	**2.76**	**208**	PN	**Pn**	**16 42 54.6**	**+0.1**
QRZ	**Quartz Range**	**2.81**	**16**	*e*P	**Pn**	**16 42 55.3**	**+0.1**
QRZ	**Quartz Range**	**2.81**	**16**	PN	**Pn**	**16 42 55.3**	**+0.1**
MSZ	**Milford Sound**	**2.82**	**245**	*e*P	**Pn**	**16 42 54.7**	**-0.6**
MSZ	**Milford Sound**	**2.82**	**245**	PN	**Pn**	**16 42 54.7**	**-0.6**
MLZ	**Mavora Lakes**	**3.00**	**232**	*e*P	**Pn**	**16 42 57.2**	**-0.6**
MLZ	**Mavora Lakes**	**3.00**	**232**	PN	**Pn**	**16 42 57.2**	**-0.5**
TCW	**Tory Channel**	**3.10**	**42**	P	**Pn**	**16 42 59.0**	**-0.1**
TCW	**Tory Channel**	**3.10**	**42**	*e*PN	**Pn**	**16 42 59.0**	**-0.1**
SNZO	**South Karori**	**3.25**	**48**	*e*Pn	**Pn**	**16 43 01.4**	**+0.3**
MRW	**Makara Radio**	**3.30**	**47**	P	**Pn**	**16 43 01.3**	**-0.6**
SYZ	**Scrubby Hill**	**3.44**	**209**	PN	**Pn**	**16 43 03.8**	**0.0**
WHZ	**Wether Hill Ro**	**3.47**	**226**	*e*P	**Pb**	**16 43 14.2**	**+1.7**
CAW	**Cannon Point**	**3.58**	**49**	P	**Pb**	**16 43 14.0**	**-0.5**
DCZ	**Deep Cove**	**3.67**	**237**	*e*P	**Pb**	**16 43 20.2**	**+4.1**
MRZ	**Mangatainoka R**	**4.17**	**48**	*e*P	**Pn**	**16 43 13.2**	**-0.7**
VRZ	**Vera Road**	**5.04**	**30**	*e*P	**Pn**	**16 43 26.6**	**+0.8**
STKA	**Stephens Creek**	**26.24**	**286**	LR	LR	16 57 05.9	
	comp=Z,26nm,18.4s,MS2.8,baz=205,slow=35						
CTA	**Charters Tower**	**31.52**	**310**	LR	LR	16 59 35.7	
	comp=Z,32nm,19.3s,MS3.0,baz=138,slow=34						
AS31	**Alice Springs**	**36.66**	**290**	*e*P	**P**	**16 49 16.6**	**+0.2**
ASAR	**Alice Springs**	**36.66**	**290**	P	**P**	**16 49 16.8**	**+0.4**
	1.0nm,0.5s,mb3.9,baz=129,slow=7.9,SNR=60						
ASPA	**Alice Springs**	**36.66**	**290**	*e*P	**P**	**16 49 16.6**	**+0.2**
WB2	**Warramunga Arr**	**38.93**	**295**	*e*P	**P**	**16 49 35.9**	**+0.4**
WRA	**Warramunga Arr**	**38.94**	**295**	P	**P**	**16 49 35.8**	**+0.2**
	1.2nm,0.5s,mb3.9,baz=133,slow=7.8,SNR=49						
FINES	**FINESS Array B**	**152.84**	**323**	PKPbc	PKPbc	17 02 10.8	+4.2
	2.0nm,1.0s,baz=47,slow=3.7,SNR=3.0						

***IDC* 21 17:08:46.3±1.3, 4871N×15433E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=55.6km s-min=38.1km az=98.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**62.61**	**335**	P	P	17 19 11.8	-0.6
	1.2nm,0.7s,baz=35,slow=7.0,SNR=5.8						
ASAR	**Alice Springs**	**74.33**	**199**	P	P	17 20 25.6	-0.1
	0.3nm,0.6s,baz=9.9,slow=6.4,SNR=5.1						
TXAR	**Lajitas Array**	**75.83**	**62**	P	P	17 20 34.5	+0.2
	0.2nm,0.6s,baz=289,slow=5.6,SNR=4.0						

ISCJB ***21*** *17:12:51.6±0.6, 4353N×4597E×004, h132km×5km, Error ellipse: s-maj=7.7km s-min=4.6km az=18.7*
CSEM ***21*** *17:12:51.5±0.2, 4353N×4599E, h128km×3km, mb4.4, Error ellipse: s-maj=5.8km s-min=3.2km az=6.0*
MOS ***21*** *17:12:51.6±0.7, 4353N×4592E, h132km, mb4.4/1, Error ellipse: s-maj=10.4km s-min=9.4km az=18.3*

ISC 21 17:12:52.2±0.6, 4353N±005×4598E±004, h130km±6km, n38, σ0°95/69, 4C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.67**	**134**	*i*P	**Pn**	**17 13 11.5**	**-0.8**
DLMR				*i*S	**Sn**	**17 13 27.0**	**-0.5**
DLMR				pmax	pmax		
	comp=Z,967nm,0.3s						
DLMR	**Dylym**	**0.67**	**134**	*i*P	**Pn**	**17 13 11.5**	**-0.8**
	comp=Z,967nm,0.3s						
DLMR				*i*S	**Sn**	**17 13 27.0**	**-0.5**
DBC	**Dubki**	**0.81**	**129**	⇓*i*P	**Pn**	**17 13 13.7**	**+0.3**
DBC				*i*S	**Sn**	**17 13 30.0**	**+0.5**
DBC				pmax	pmax		
	comp=Z,112nm,0.3s						
DBC	**Dubki**	**0.81**	**129**	*i*P	**Pn**	**17 13 13.7**	**+0.3**
	comp=Z,112nm,0.3s						
DBC				*i*S	**Sn**	**17 13 30.0**	**+0.5**
BTLR	**Botlikh**	**0.89**	**168**	*e*P	**Pn**	**17 13 13.5**	**-0.6**
BTLR				*i*S	**Sn**	**17 13 29.5**	**-1.2**
BTLR				pmax	pmax		
	comp=Z,114nm,0.2s						
BTLR	**Botlikh**	**0.89**	**168**	*e*P	**Pn**	**17 13 13.5**	**-0.6**
	comp=Z,114nm,0.2s						
BTLR				*i*S	**Sn**	**17 13 29.5**	**-1.2**
TRKR	**Terskaya**	**0.92**	**282**	*i*P	**Pn**	**17 13 15.5**	**+1.1**
TRKR				*i*S	**Sn**	**17 13 32.7**	**+1.5**
SNJR	**Sundja**	**0.97**	**242**	*i*P	**Pn**	**17 13 15.6**	**+0.8**
SNJR				*i*S	**Sn**	**17 13 33.0**	**+1.1**
KRNR	**Karanay**	**0.98**	**136**	⇑*i*P	**Pn**	**17 13 14.5**	**-0.4**
KRNR				*i*S	**Sn**	**17 13 32.0**	**-0.1**
KRNR				pmax	pmax		
	comp=Z,70nm,0.2s						
KRNR	**Karanay**	**0.98**	**136**	*i*P	**Pn**	**17 13 14.5**	**-0.4**
	comp=Z,70nm,0.2s						
KRNR				*i*S	**Sn**	**17 13 32.0**	**-0.1**
UNCR	**Uncukul**	**1.01**	**144**	*i*P	**Pn**	**17 13 14.5**	**-0.7**
UNCR				*i*S	**Sn**	**17 13 32.0**	**-0.7**
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
UNCR	**Uncukul**	**1.01**	**144**	*i*P	**Pn**	**17 13 14.5**	**-0.7**
	comp=Z,72nm,0.2s						
UNCR				*i*S	**Sn**	**17 13 32.0**	**-0.7**
VLKR	**Vladikavkaz**	**1.07**	**243**	*i*P	**Pn**	**17 13 16.3**	**+0.6**
VLKR				*i*S	**Sn**	**17 13 34.3**	**+0.7**
BUJR	**Buynaksk**	**1.09**	**130**	*e*P	**Pn**	**17 13 16.0**	**0.0**
BUJR				*i*S	**Sn**	**17 13 35.0**	**+1.0**
BUJR				pmax	pmax		
	comp=Z,195nm,0.2s						
BUJR	**Buynaksk**	**1.09**	**130**	*e*P	**Pn**	**17 13 16.0**	**0.0**
	comp=Z,195nm,0.2s						
BUJR				*i*S	**Sn**	**17 13 35.0**	**+1.0**
PRTR	**Priterechnaya**	**1.25**	**281**	*i*P	**Pn**	**17 13 18.2**	**+0.6**
PRTR				*i*S	**Sn**	**17 13 37.5**	**+0.7**
MAK	**Makhachkala**	**1.25**	**117**	*d i*P	**Pn**	**17 13 21.2**	**+3.6**
MAK				*e*		17 13 41.9	
MAK				smax			
	comp=E,278μm,0.2s						
MAK	**Makhachkala**	**1.25**	**117**	*i*P	**Pn**	**17 13 21.2**	**+3.6**
MAK				*e*S	**Sn**	**17 13 41.9**	**+4.9**
ARNR	**Ardon**	**1.28**	**255**	*i*P	**Pn**	**17 13 18.5**	**+0.6**
ARNR				*i*S	**Sn**	**17 13 37.0**	**-0.5**
LACR	**Lac**	**1.42**	**241**	*i*P	**Pn**	**17 13 18.9**	**-0.5**
LACR				*i*S	**Sn**	**17 13 37.8**	**-2.3**
KORR	**Kora**	**1.46**	**253**	*i*P	**Pn**	**17 13 19.8**	**-0.1**
KORR				*i*S	**Sn**	**17 13 40.3**	**-0.6**
ZEI	**Tsey**	**1.70**	**244**	*i*P	**Pn**	**17 13 21.8**	**-0.8**
ZEI				*i*S	**Sn**	**17 13 42.7**	**-3.1**
DUS	**Dusheti**	**1.72**	**213**	P	**Pn**	**17 13 23.8**	**+1.0**
DUS				S	**Sn**	**17 13 47.2**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.86**	**251**	*i*P	**Pn**	**17 13 23.7**	**-0.8**
DIGR				*i*S	**Sn**	**17 13 46.1**	**-3.1**
KUBR	**Kubataba**	**1.88**	**279**	*i*P	**Pn**	**17 13 24.3**	**-0.4**
MTA	**Mtatsminda**	**2.04**	**206**	P	**Pn**	**17 13 36.2**	**+10**
MTA				S	**Sn**	**17 14 01.6**	**+8.7**
ONI	**Oni**	**2.08**	**244**	P	**Pn**	**17 13 27.0**	**-0.2**
ONI				S	**Sn**	**17 13 52.5**	**-1.4**
DGRG	**David-gareji**	**2.13**	**192**	P	**Pn**	**17 13 29.1**	**+1.4**
DGRG				S	**Sn**	**17 13 55.8**	**+0.8**
PYA	**Pyatigorsk**	**2.17**	**284**	*e*P	**Pn**	**17 13 27.1**	**-1.2**
KIV	**Kislovodsk**	**2.42**	**281**	⇑*i*P	**Pn**	**17 13 30.3**	**-1.1**
KZR	**Kazreti**	**2.44**	**209**	P	**Pn**	**17 13 31.6**	**-0.1**
KZR				S	**Sn**	**17 14 01.9**	**0.0**
GNI	**Garni**	**3.50**	**196**	*i*P	**Pn**	**17 13 46.5**	**+1.1**
ANN	**Anapa**	**6.27**	**285**	*e*P	**Pn**	**17 14 24.3**	**+1.9**
ANN				*e*S	**Sn**	**17 15 33.4**	**+0.6**
ANN				pmax	pmax		
	comp=Z,31nm,1.2s						
ANN	**Anapa**	**6.27**	**285**	*e*P	**Pn**	**17 14 24.3**	**+1.9**
	comp=Z,31nm,1.2s						
ANN				*e*S	**Sn**	**17 15 33.4**	**+0.6**
AKTO	**Aktyubinsk**	**10.73**	**46**	⇓Pn	**Pn**	**17 15 21.5**	**-0.7**
	comp=Z,0.1nm,0.8s						
AKTO				⇓Sn	**Sn**	**17 17 14.8**	**-5.7**
AB31	**Akbulak array**	**11.21**	**54**	⇑Pn	**Pn**	**17 15 28.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=248,slow=12						
AB31				⇓Sn	**Sn**	**17 17 25.8**	**-6.3**
	comp=Z,11nm,0.7s,baz=246,slow=24						
OBN	**Obninsk**	**13.10**	**336**	*e*P	**Pn**	**17 15 53.2**	**-0.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**13.10**	**336**	*e*P	**Pn**	**17 15 53.2**	**-0.1**
	comp=Z,3.0nm,0.8s						

IDC ***21*** *17:27:58.5±4.2, 2755S×14128E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/18, Error ellipse: s-maj=129.0km s-min=30.0km az=94.0*
ISCJB ***21*** *17:28:04.3±2.2, 28S±0.1×1407E±0.4, h35km, mb3.6/3, MS2.9/2, Error ellipse: s-maj=58.8km s-min=20.4km az=7.5*

ISC 21 17:28:05.5±2.2, 28S±01×1409E±004, h35km, n8, σ1°10/8, mb3.6/3, MS2.9/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.94**	**220**	*e*P	**Pn**	**17 31 06.1**	**-0.7**
	5.5nm,0.5s						
WB2	**Warramunga Arr**	**18.20**	**200**	*e*P	**Pn**	**17 32 14.1**	**-1.1**
WRA	**Warramunga Arr**	**18.20**	**200**	P	**Pn**	**17 32 14.0**	**-1.3**
	0.2nm,0.3s,baz=21,slow=12,SNR=22						
WRA				LR	LR	17 39 40.0	
	comp=Z,79nm,18.2s,baz=75,slow=38						
FITZ	**Fitzroy Crossi**	**21.35**	**224**	*e*P	**P**	**17 32 51.7**	**+2.2**
	4.7nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.35**	**224**	P	**P**	**17 32 50.8**	**+1.2**
	2.4nm,0.8s,mb3.6,baz=46,slow=16,SNR=4.0						
FITZ				LR	LR	17 41 54.0	
	comp=Z,37nm,20.6s,MS2.8,baz=118,slow=39						
ASAR	**Alice Springs**	**21.82**	**198**	P	**P**	**17 32 54.8**	**+0.2**
	0.7nm,0.5s,mb3.4,baz=29,slow=10.0,SNR=17						
ASAR				LR	LR	17 41 55.6	
	comp=Z,67nm,19.4s,MS3.1,baz=105,slow=38						
ASPA	**Alice Springs**	**21.82**	**198**	*e*P	**P**	**17 32 56.6**	**+2.0**
MKAR	**Makanchi Array**	**71.24**	**322**	P	**P**	**17 39 20.6**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=98,slow=6.6,SNR=4.1						

IDC 21 17:38:05.5±5.8, 097S×10120E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=309.9km s-min=22.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**15.10**	**326**	*e*P	x	17 42 07.3	
PBA				*e*S	x	17 42 19.9	
PBA				*ex*	x	17 42 21.6	
	comp=E,116nm,0.3s						
PBA				*ex*	x	17 42 21.9	
	comp=N,85nm,0.2s						
WRA	**Warramunga Arr**	**37.50**	**122**	P	P	17 45 21.9	+1.0
	comp=N,0.3nm,0.9s,baz=303,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**38.90**	**128**	P	P	17 45 32.8	-0.1
	comp=N,0.1nm,0.5s,baz=301,slow=8.2,SNR=6.7						
MKAR	**Makanchi Array**	**50.38**	**343**	P	P	17 47 05.1	+0.7
	comp=N,0.7nm,0.3s,baz=156,slow=8.8,SNR=9.2						
ZAL	**Zalesovo**	**56.39**	**348**	P	P	17 47 48.1	-0.5
	comp=N,2.0nm,0.3s,baz=320,slow=6.6,SNR=6.3						
TXAR	**Lajitas Array**	**143.16**	**38**	PKP	PKPdf	17 57 39.7	-1.8
	comp=N,0.2nm,0.6s,baz=190,slow=0.8,SNR=3.7						

IDC 21 17:53:23.5±2.8, 4722N×15579E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=103.6km s-min=36.1km az=78.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.35**	**298**	P	P	18 02 06.6	-0.3
	0.6nm,0.7s,baz=79,slow=7.5,SNR=2.7						
FINES	**FINESS Array B**	**64.38**	**336**	P	P	18 04 00.7	-0.6
	1.7nm,0.8s,baz=42,slow=5.9,SNR=4.8						
ASAR	**Alice Springs**	**73.27**	**201**	P	P	18 04 56.5	-0.1
	0.5nm,0.9s,baz=16,slow=5.6,SNR=6.2						

ISCJB ***21*** *17:53:34.9±0.5, 4837S±007×316E±02, h10km, mb4.1/13, MS3.4/7, Error ellipse: s-maj=21.4km s-min=9.4km az=149.8*
IDC ***21*** *17:53:34.7±0.6, 4838S×3165E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/17, mbtmp4.0/11, MS3.5/7, Ms1 3.5/7, ms1mx3.2/24, Error ellipse: s-maj=33.9km s-min=15.4km az=69.0*
NEIC ***21*** *17:53:36.3±0.3, 4838S×3162E, h10km, mb4.5/4, Error ellipse: s-maj=14.1km s-min=7.0km az=76.0*

ISC 21 17:53:36.3±0.5, 4841S±007×316E±02, h10km, n36, σ0°52/18, mb4.1/13, MS3.4/7, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.98**	**329**	*e*P	**Pn**	**17 57 46.1**	**-0.2**
BOSA	**Boshof**	**20.37**	**344**	P	**P**	**17 58 13.1**	**0.0**
	3.7nm,0.9s,baz=166,slow=10.0,SNR=4.1						
BOSA				LR	LR	18 04 09.9	
	comp=Z,146nm,18.9s,MS3.4,baz=136,slow=31						
LBTB	**Lobatse**	**23.83**	**346**	P	**P**	**17 58 49.7**	**+0.2**
	1.7nm,0.7s,mb3.6,baz=165,slow=12,SNR=3.0						
LBTB				LR	LR	18 06 49.0	
	comp=Z,88nm,18.2s,MS3.3,baz=355,slow=33						
LBTB	**Lobatse**	**23.83**	**346**	P	**P**	**17 58 49.7**	**+0.1**
LBTB				LR	LR	18 06 49.0	
MAW	**Mawson**	**24.90**	**152**	P	**P**	**17 59 00.4**	**+1.1**
	12nm,0.8s,mb4.5,baz=302,slow=12,SNR=19						
MAW				LR	LR	18 06 03.5	
	comp=Z,74nm,21.8s,MS3.1,baz=258,slow=30						
MATP	**Matopo**	**28.03**	**354**	P	**P**	**17 59 27.0**	**-0.6**
	2.8nm,0.7s,mb4.0,baz=183,slow=9.5						
MATP	**Matopo**	**28.03**	**354**	P	**P**	**17 59 27.0**	**-0.6**
SNAA	**Sanae**	**28.21**	**202**	P	**P**	**17 59 28.7**	**-0.5**
	0.7nm,0.8s,mb3.3,baz=45,slow=5.6,SNR=6.7						
SNAA				LR	LR	18 07 59.1	
	comp=Z,48nm,20.1s,MS3.1,baz=22,slow=31						
SNAA	**Sanae**	**28.21**	**202**	*e*P	**P**	**17 59 29.5**	**+0.2**
	2.6nm,0.8s,mb3.9						
SNAA				LR	LR	18 07 59.1	
LSZ	**Lusaka**	**33.16**	**354**	*e*P	**P**	**18 00 12.8**	**0.0**
	1.4nm,0.5s,mb4.2						
HOPE	**Hope Point**	**41.44**	**235**	*e*P	**P**	**18 01 23.2**	**+0.1**
	54nm,1.0s,mb5.1						
QSPA	**South Pole Qui**	**41.81**	**180**	*e*P	**P**	**18 01 25.5**	**-0.6**
	22nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**47.35**	**8**	LR	LR	18 20 53.9	
	comp=Z,68nm,18.1s,MS3.6,baz=89,slow=35						
VNDA	**Vanda**	**50.64**	**168**	P	**P**	**18 02 35.6**	**0.0**
	3.3nm,0.7s,mb4.4,baz=245,slow=3.9,SNR=13						
VNDA				LR	LR	18 23 02.9	
	comp=Z,122nm,18.7s,MS3.9,baz=250,slow=35						
NWAO	**Narrogin (SRO)**	**63.49**	**110**	LR	LR	18 25 59.8	
	comp=Z,31nm,18.8s,MS3.5,baz=292,slow=31						
TORD	**Torodi Ar. Bea**	**66.80**	**328**	P	**P**	**18 04 28.4**	**+0.3**
	1.7nm,0.6s,mb4.2,baz=164,slow=6.3,SNR=12						
STKA	**Stephens Creek**	**78.56**	**125**	P	**P**	**18 05 37.6**	**-0.4**
	2.2nm,0.8s,mb4.1,baz=287,slow=5.3,SNR=3.4						
ASAR	**Alice Springs**	**80.34**	**115**	P	**P**	**18 05 47.3**	**-0.4**
	1.0nm,0.9s,mb3.8,baz=222,slow=4.1,SNR=15						
WRA	**Warramunga Arr**	**83.40**	**113**	P	**P**	**18 06 03.5**	**-0.3**
	0.7nm,0.9s,mb3.7,baz=213,slow=4.1,SNR=6.1						
BRTR	**Keskin Array B**	**87.77**	**2**	P	**P**	**18 06 26.7**	**+1.1**
	0.5nm,0.7s,mb3.9,baz=168,slow=7.4,SNR=3.2						
TXAR	**Lajitas Array**	**140.98**	**257**	PKhKP		18 13 00.5	
	0.4nm,0.6s,baz=161,slow=5.7,SNR=5.3						
TXAR				PKP	PKPdf	18 13 07.3	+0.6
	0.7nm,0.8s,baz=144,slow=5.3,SNR=5.9						
MNTX	**Cornudas Mount**	**143.64**	**259**	*e*P	PKPdf	18 13 08.4	-3.0
ECSD	**EROS, Sioux Fal**	**144.35**	**282**	*e*P	PKPdf	18 13 10.3	-2.4
BNM	**Barren Site**	**145.99**	**261**	*e*PKPbc	PKPbc	18 13 16.9	+0.6
LPM	**Los Pinos Moun**	**146.09**	**261**	*e*PKPbc	PKPbc	18 13 16.3	-0.3
LENM	**Lemitar**	**146.23**	**261**	*e*PKPbc	PKPbc	18 13 17.2	+0.2
ULM	**Lac du Bonnet**	**146.32**	**293**	PKPbc	PKPbc	18 13 15.8	-1.5
	4.1nm,0.9s,baz=36,slow=1.5,SNR=5.2						
ULM	**Lac du Bonnet**	**146.32**	**293**	PKPbc	PKPbc	18 13 15.8	-1.5
TUC	**Tucson**	**147.54**	**254**	*e*PKPbc	PKPbc	18 13 20.8	+0.1
MVCO	**Mesa Verde**	**149.01**	**264**	*e*PKPbc	PKPbc	18 13 24.9	+0.3
MVCO				*e*PKPab	PKPab	18 13 29.2	+0.5
WUAZ	**Wupatki**	**149.93**	**258**	*e*PKPbc	PKPbc	18 13 27.0	+0.2
BILL	**Bilibino**	**150.12**	**32**	*e*PKPbc	PKPbc	18 13 26.8	-0.5
TMUT	**Trail Mountain**	**151.93**	**265**	*e*PKPbc	PKPbc	18 13 31.3	-0.2
TMUT				*e*PKPab	PKPab	18 13 40.8	0.0
BW06	**Boulder Array**	**152.47**	**273**	*e*PKPbc	PKPbc	18 13 31.4	-1.4
PDAR	**Pinedale Array**	**152.47**	**273**	PKP	PKPdf	18 13 25.2	-0.6
	0.7nm,0.9s,baz=104,slow=4.7,SNR=4.5						
PDAR				PKPbc	PKPbc	18 13 30.9	-1.9
	2.9nm,0.8s,baz=118,slow=3.5,SNR=19						
HWUT	**Hardware Ranch**	**153.30**	**269**	*e*PKPbc	PKPbc	18 13 33.1	-1.5

IDC ***21*** *18:16:04.6±6.3, 1317N×12075E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=263.6km s-min=10.1km az=94.0*
ISCJB ***21*** *18:16:07.6±0.5, 1342N±004×12154E±003, h27km±5km, mb3.9/3, Error ellipse: s-maj=7.0km s-min=5.2km az=18.0*
MAN ***21*** *18:16:07.0, 1342N×12156E, h10km, mb3.5, ML4.7, MS2.1*

ISC 21 18:16:07.6±0.6, 1345N±004×12152E±003, h18km±4km, n24, σ1°10/29, mb3.9/3, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.31**	**89**	*e*P	**Pg**	**18 16 13.2**	**-1.2**
BOAC				*e*S	**Sg**	**18 16 19.1**	**+0.2**
PGP	**Puerto Galera**	**0.56**	**275**	⇑*e*P	**Pg**	**18 16 19.8**	**+1.1**
PGP				*e*S	**Sg**	**18 16 27.2**	**+1.0**
LQP	**Lukban**	**0.66**	**1**	⇑*e*P	**Pg**	**18 16 20.7**	**+0.1**
TGY	**Tagaytay City**	**0.86**	**319**	⇑*e*P	**Pb**	**18 16 24.6**	**+0.5**
TGY	**Tagaytay City**	**0.86**	**319**	Pg	**Pg**	**18 16 22.9**	**-1.5**
	194nm,0.3s,baz=171,slow=1.6,SNR=42						
TGY				Lg		18 16 35.9	
	542nm,0.3s,baz=348,slow=19,SNR=16						
GQP	**Guinayangan**	**1.00**	**63**	⇑*e*P	**Pb**	**18 16 25.4**	**-1.1**
GQP				*e*S	**Sb**	**18 16 40.2**	**+0.9**
OTRP	**Odiongan**	**1.19**	**156**	*e*P	**Pn**	**18 16 27.6**	**-1.7**
OTRP				*e*S	**Sb**	**18 16 45.7**	**+1.1**
LUBP	**Lubang**	**1.27**	**283**	*e*P	**Pn**	**18 16 29.0**	**-1.5**
LUBP				*e*S	**Sb**	**18 16 45.5**	**-1.7**
POLP	**Polilio Island**	**1.33**	**18**	*e*P	**Pn**	**18 16 29.9**	**-1.4**

ISC 21 18:27:57.2±4.3, 465N±06×1531E±06, h40km±15km, n13, σ0§68/14, mb3.9/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**252**	⇓*i*	PN	**Pn**		**18 28 53.3**	**-1.2**
KUR				*i*	S	**Sn**		18 29 39.0	**-0.1**
KUR					pmax	pmax			
	comp=Z,150nm,0.5s								
KUR					smax				
	comp=N,120nm,0.8s								
KUR					smax				
	comp=E,200nm,0.8s								
SKR	**Severo-Kuril's**	**4.59**	**24**	*e*P	N	**Pn**		**18 29 04.0**	**0.0**
SKR				*e*				18 29 57.0	
ASAJ	**Asahikawa**	**7.81**	**256**	P	n	**Pn**		**18 29 49.7**	**+1.5**
	comp=E,0.3nm,0.3s,baz=78,slow=12,SNR=4.0								
MKAR	**Makanchi Array**	**47.05**	**298**	P		**P**		**18 36 24.9**	**+0.2**
	comp=E,0.7nm,0.8s,mb3.7,baz=53,slow=5.0,SNR=5.2								
MKAR	**Makanchi Array**	**47.05**	**298**	P		**P**		**18 36 24.9**	**+0.2**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**51.00**	**310**	P		**P**		**18 36 54.4**	**-0.6**
	comp=Z,0.1nm,0.3s,mb3.2,baz=46,slow=12,SNR=4.1								
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**		**18 38 28.0**	**0.0**
	comp=Z,4.4nm,1.1s,mb4.4,baz=46,slow=8.2,SNR=6.4								
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**		**18 38 28.0**	**0.0**
FINES					pmax	pmax			
	comp=Z,4.0nm,1.1s								
NB2	**NORSAR Subarra**	**68.43**	**341**	P		**P**		**18 38 54.9**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.43**	**341**	P		**P**		**18 38 55.0**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=28,slow=6.5,SNR=4.6								
NOA	**NORSAR Array B**	**68.43**	**341**	P		**P**		**18 38 55.0**	**+0.1**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**71.72**	**326**	P		**P**		**18 39 15.2**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=34,slow=5.7,SNR=6.3								
AKASG	**Malin Array Be**	**71.72**	**326**	P		**P**		**18 39 15.3**	**+0.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								

MAN 21 18:33:42.6, 1341N×12159E, h14km, mb1.6, ML3.5, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.25**	**79**	*e*P		Pg		18 33 48.5	+0.6
BOAC				*e*S		Sg		18 33 54.6	+3.0
TGY	**Tagaytay City**	**0.94**	**317**	*e*P		Pb		18 34 01.4	+0.8
OTRP	**Odiongan**	**1.12**	**158**	*e*P		Pb		18 34 03.1	-0.7
LUBP	**Lubang**	**1.35**	**284**	*e*P		Pn		18 34 05.1	-1.9
POLP	**Polillo Island**	**1.35**	**14**	*e*P		Pn		18 34 06.5	-0.6
BUSP	**Coron**	**1.95**	**224**	*e*P		Pn		18 34 15.7	+0.4
BALP	**Baler**	**2.32**	**360**	*e*P		Pn		18 34 24.8	+4.5
PVCP	**Virac**	**2.50**	**85**	*e*P		Pn		18 34 31.7	+8.9

*IDC **21** 18:40:58.8±0.7, 4733N×15569E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.1/20, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=21.1km s-min=14.6km az=162.0*

*ISCJB **21** 18:40:58.6±1.5, 4758N±007×15563E±009, h3km±9km, mb4.3/34, MS3.8/4, Error ellipse: s-maj=13.1km s-min=6.7km az=103.2*

*SKHL **21** 18:41:00.1±0.6, 4750N×15550E, h51km±17km, mb4.7/2*

*BJI **21** 18:41:00.4, 4811N×15545E, h9km, mB4.9, mb4.5, Ms4.4, Msz4.1*

*NEIC **21** 18:41:00.5±0.5, 4744N×15563E, h10km, mb4.4/9, Error ellipse: s-maj=12.6km s-min=8.5km az=144.0*

*MOS **21** 18:41:01.9±1.0, 4755N×15556E, h28km, mb4.4/19, Error ellipse: s-maj=13.3km s-min=8.7km az=93.5*

ISC 21 18:41:02.0±1.8, 4759N±007×15560E±008, h14km±11km, h15km±2.4km: pP-P, n85, σ0§86/96, mb4.3/34, MS3.8/4, 6C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.11**	**6**	*e*P		**Pn**		**18 41 50.3**	**-0.3**
SKR					AMB	AMB		18 41 53.5	
	80nm,0.5s								
SKR				*e*S		**Sn**		**18 42 28.4**	**+0.8**
SKR				A				18 42 30.5	
	80nm,0.5s								
SKR				A				18 42 30.5	
	330nm,0.2s								
SKR				A				18 42 30.5	
	410nm,0.2s								
PET	**Petropavlovsk**	**5.78**	**19**	*e*PN		**Pn**		**18 42 27.2**	**-0.1**
PET					pmax	pmax			
	comp=Z,32nm,0.3s								
PET	**Petropavlovsk**	**5.78**	**19**	*e*Pn		**Pn**		**18 42 26.7**	**-0.6**
	comp=Z,28nm,0.4s								
PET				*e*Sn		**Sn**		**18 43 28.5**	**-4.9**
KUR	**Kuril'sk**	**5.84**	**249**	⇑*i*P		**Pn**		**18 42 24.0**	**-4.1**
KUR					AMB	AMB		18 42 24.5	
	comp=Z,76nm,0.6s								
KUR				*i*	S	**Sn**		**18 43 26.5**	**-8.4**
KUR				A				18 43 28.6	
	comp=Z,175nm,0.6s								
KUR				A				18 43 28.6	
	comp=Z,106nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.76**	**271**	⇑*e*P		**Pn**		**18 43 11.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**8.76**	**271**	*e*Pn		**Pn**		**18 43 10.4**	**+2.2**
	comp=Z,20nm,0.5s								
ASAJ	**Asahikawa**	**9.71**	**254**	Pn		**Pn**		**18 43 20.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=56,slow=28,SNR=4.6								
ASAJ	**Asahikawa**	**9.71**	**254**	PN		**Pn**		**18 43 20.5**	**-0.8**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.95**	**236**	Pn		**Pn**		**18 44 57.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=32,slow=9.6,SNR=5.1								
MDJ	**Mudanjiang**	**18.25**	**270**	P		**Pn**		**18 45 14.5**	**-0.2**
MDJ				AP		pP		18 45 17.6	-1.4
MDJ				XP		sP		18 45 19.0	-1.9
MDJ				S		**Sn**		**18 48 37.4**	**-0.8**
MDJ				XS		sS		18 48 47.8	-2.0
MDJ				SCP		ScP		18 53 23.4	+1.6
MDJ				AMB		AMB			
	comp=Z,88nm,3.3s								
YAK	**Yakutsk**	**20.58**	**324**	*e*P		**P**		**18 45 39.4**	**-1.0**
YAK					pmax	pmax			
	comp=Z,22nm,0.7s								
YAK	**Yakutsk**	**20.58**	**324**	*e*P		**P**		**18 45 39.4**	**-1.0**
	comp=Z,23nm,0.7s								
BILL	**Bilibino**	**21.22**	**11**	*e*P		**P**		**18 45 47.2**	**-0.1**
BILL				*e*				18 46 06.3	
BILL					pmax	pmax			
	comp=Z,28nm,2.1s,mb4.2								
BILL	**Bilibino**	**21.22**	**11**	*e*P		**P**		**18 45 47.2**	**0.0**
	comp=Z,14nm,1.0s,mb4.2								
KSRS	**Korea Array**	**22.66**	**254**	P		**P**		**18 46 03.6**	**+0.9**
	comp=Z,1.5nm,0.7s,mb3.5,baz=56,slow=10,SNR=6.0								
HHC	**Hu-ho-hao-te**	**31.92**	**274**	*e*P		**P**		**18 47 27.3**	**+0.3**
HHC					XP	sP		18 47 34.1	+0.8
HHC					PP	PP		18 48 31.8	-7.4
HHC					AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.5								
HHC					AMB	AMB			
	comp=Z,152nm,6.7s								
ULN	**Ulaanbaatar**	**32.23**	**289**	P		**P**		**18 47 28.2**	**-1.5**
ULN					pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.7								
ULN	**Ulaanbaatar**	**32.23**	**289**	P		**P**		**18 47 28.1**	**-1.6**
	comp=Z,1.4nm,0.8s,mb3.8								
SONM	**Songino Array**	**32.66**	**289**	P		**P**		**18 47 33.6**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=64,slow=9.8,SNR=3.8								
SONM	**Songino Array**	**32.66**	**289**	P		**P**		**18 47 33.6**	**+0.1**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.3s								
COLA	**College**	**34.42**	**39**	*e*P		**P**		**18 47 49.0**	**+0.1**
INK	**Inuvik**	**40.03**	**33**	P		**P**		**18 48 36.4**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.4,baz=280,slow=5.8,SNR=6.9								
INK	**Inuvik**	**40.03**	**33**	P		**P**		**18 48 36.4**	**0.0**
INK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
INK	**Inuvik**	**40.03**	**33**	*e*P		**P**		**18 48 36.2**	**-0.3**
	comp=Z,160nm,0.6s								
CD2	**Chengdu**	**42.63**	**266**	*e*P		**P**		**18 48 58.3**	**+0.5**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
ZAL	**Zalesovo**	**43.51**	**306**	P		**P**		**18 49 04.1**	**-0.8**
	comp=Z,2.0nm,0.8s,mb3.9,baz=31,slow=9.1,SNR=12								
ZAL					LR	LR		19 07 45.2	
	comp=Z,42nm,18.5s,MS3.4,baz=115,slow=37								
ZAL	**Zalesovo**	**43.51**	**306**	P		**P**		**18 49 04.1**	**-0.8**
ZAL					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ZAL					MLR	MLR			
	comp=Z,42nm,18.5s								
WMQ	**Urumqi**	**46.20**	**292**	⇑P		**P**		**18 49 27.3**	**+1.0**
WMQ					AP	pP		18 49 31.8	+0.9
WMQ					XP	sP		18 49 34.3	+1.6
WMQ					PCP	PcP		18 51 04.1	+2.1
WMQ					PP	PP		18 51 15.5	+0.8
WMQ					S	**S**		**18 56 11.8**	**-0.4**
WMQ					AMB	AMB			
	comp=Z,4.0nm,0.5s,mb4.6								
WMQ					AMB	AMB			
	comp=Z,150nm,5.8s								
WMQ					LR	LR			
	comp=N,39nm,17.7s,MS3.6								
WMQ					LR	LR			
	comp=E,56nm,20.2s,MS3.6								
WMQ					LR	LR			
	comp=Z,31nm,14.3s								
QIZ	**Qiongzhong**	**46.74**	**249**	*e*P		**P**		**18 49 31.8**	**+1.2**
QIZ				*e*S		**S**		**18 56 22.3**	**+2.4**
QIZ					LR	LR			
	comp=Z,233nm,27.0s,MS4.0								
KMI	**Kunming**	**47.06**	**261**	P		**P**		**18 49 37.9**	**+4.8**
KMI					AP	pP		18 49 40.9	+3.3
KMI					XP	sP		18 49 42.3	+2.9
KMI					PP	PP		18 51 27.5	+3.7
KMI					S	**S**		**18 56 25.3**	**+0.8**
KMI					AMB	AMB			
	comp=Z,4.0nm,1.3s,mb4.2								
KMI					LR	LR			
	comp=N,102nm,18.4s,MS4.0								
KMI					LR	LR			
	comp=E,125nm,19.4s,MS4.0								
KMI					LR	LR			
	comp=Z,217nm,20.1s,MS4.1								
KMI	**Kunming**	**47.06**	**261**	P		**P**		**18 49 37.9**	**+4.8**
KMI				*SP		sP		18 49 42.2	+2.8
KMI								18 51 27.5	
KMI					S	**S**		**18 56 25.3**	**+0.8**
KMI					pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.2								
KMI					MLR	MLR			
	comp=Z,220nm,20.1s,MS4.1								
KMI	**Kunming**	**47.06**	**261**	P		**P**		**18 49 37.9**	**+4.8**
	comp=Z,4.0nm,1.3s,mb4.2								
KMI					pP	pP		18 49 40.9	+3.3
KMI					sP	sP		18 49 42.2	+2.8
KMI					PP	PP		18 51 27.5	+3.7
KMI					S	**S**		**18 56 25.3**	**+0.8**
KMI					LR	LR			
	comp=Z,220nm,20.1s,MS4.1								
MKAR	**Makanchi Array**	**48.05**	**298**	P		**P**		**18 49 41.4**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=73,slow=8.4,SNR=15								
MKAR	**Makanchi Array**	**48.05**	**298**	*i* P		**P**		**18 49 41.5**	**+0.7**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**48.05**	**298**	P		**P**		**18 49 41.4**	**+0.6**
YKA	**Yellowknife Ar**	**49.23**	**38**	P		**P**		**18 49 49.7**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.4,baz=292,slow=7.1,SNR=6.3								
YKA	**Yellowknife Ar**	**49.23**	**38**	⇓*e*P		**P**		**18 49 49.7**	**-0.2**
YKA	**Yellowknife Ar**	**49.23**	**38**	P		**P**		**18 49 49.7**	**-0.2**
RES	**Resolute Bay**	**49.49**	**19**	P		**P**		**18 49 53.0**	**+1.1**
	comp=Z,89nm,0.7s								
CHKZ	**Chkalovo**	**51.18**	**310**	*e*P		**P**		**18 50 03.5**	**-1.2**
CHKZ					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
CHKZ	**Chkalovo**	**51.18**	**310**	*e*P		**P**		**18 50 03.5**	**-1.2**
	comp=Z,6.1nm,0.5s,mb4.8								
BVAR	**Borovoye Array**	**51.63**	**310**	P		**P**		**18 50 08.2**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=54,slow=7.4,SNR=16								
BVAR	**Borovoye Array**	**51.63**	**310**	P		**P**		**18 50 08.2**	**+0.2**
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
BRVK	**Borovoye**	**51.67**	**310**	*e*P		**P**		**18 50 07.9**	**-0.4**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
BRVK	**Borovoye**	**51.67**	**310**	*e*P		**P**		**18 50 07.9**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.2								
LSA	**Lhasa**	**51.91**	**274**	P		**P**		**18 50 12.0**	**+1.9**
LSA	**Lhasa**	**51.91**	**274**	*e*P		**P**		**18 50 12.1**	**+2.0**
LSA					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
LSA	**Lhasa**	**51.91**	**274**	*e*P		**P**		**18 50 12.1**	**+1.9**
	comp=Z,2.1nm,0.5s,mb4.3								
AAK	**Ala-Archa**	**54.97**	**297**	*e*P		**P**		**18 50 32.3**	**-0.3**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
AAK	**Ala-Archa**	**54.97**	**297**	*e*P		**P**		**18 50 32.3**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.6								
ARU	**Arti**	**55.53**	**318**	⇑*i*P		**P**		**18 50 36.7**	**+0.1**
ARU				*e*				18 52 38.6	
ARU				*e*PPP				18 53 53.5	
ARU				*e*S		**S**		**18 58 18.4**	**-3.1**
ARU				*e*SS		SS		19 02 01.1	-5.3
ARU					pmax	pmax			
	comp=Z,12nm,0.7s,mb5.0								
ARU	**Arti**	**55.53**	**318**	*e*P		**P**		**18 50 36.6**	**0.0**
	comp=Z,12nm,0.6s,mb5.1								
KSH	**Kashi**	**55.89**	**293**	*e*P		**P**		**18 50 41.1**	**+1.9**
KSH				*e*AP		pP		18 50 46.3	+2.5
KSH				*e*S		**S**		**18 58 24.8**	**-1.5**
KSH				*e*XS		sS		18 58 34.3	+0.4
KSH					AMB	AMB			
	comp=Z,548nm,3.8s								
ARCES	**ARCESS Array B**	**57.61**	**341**	P		**P**		**18 50 51.9**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.4,baz=33,slow=7.4,SNR=9.0								
ARCES	**ARCESS Array B**	**57.61**	**341**	P		**P**		**18 50 51.9**	**+0.5**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ORR	**Orenburg**	**60.26**	**315**	*e*P		**P**		**18 51 10.1**	**+0.3**
ORR					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
NVAR	**Mina Array Bea**	**60.54**	**64**	P		**P**		**18 51 11.9**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=297,slow=8.0								
PDAR	**Pinedale Array**	**62.88**	**56**	P		**P**		**18 51 27.6**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.2,baz=297,slow=2.0,SNR=13								
FINES	**FINESS Array B**	**63.99**	**336**	P		**P**		**18 51 35.1**	**+0.2**
	comp=Z,2.3nm,0.4s,mb4.5,baz=45,slow=6.7,SNR=27								
FINES	**FINESS Array B**	**63.99**	**336**	*i* P		**P**		**18 51 35.0**	**+0.1**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.4s								
OBN	**Obninsk**	**65.56**	**327**	*e*P		**P**		**18 51 44.5**	**-0.6**
OBN				*e*				18 52 16.3	
OBN				*e*				18 54 07.5	
OBN					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
NB2	**NORSAR Subarra**	**67.96**	**342**	P		**P**		**18 52 00.5**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.96**	**342**	P		**P**		**18 52 00.8**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.4,baz=25,slow=6.4,SNR=8.7								
NOA	**NORSAR Array B**	**67.96**	**342**	P		**P**		**18 52 00.9**	**+0.5**
NOA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
WRA	**Warramunga Arr**	**69.88**	**201**	P		**P**		**18 52 08.3**	**-4.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=23,slow=4.5,SNR=3.4								
WRA	**Warramunga Arr**	**69.88**	**201**	P		**P**		**18 52 08.3**	**-4.1**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**71.77**	**327**	P		**P**		**18 52 23.2**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=32,slow=5.9,SNR=7.9								
AKASG	**Malin Array Be**	**71.77**	**327**	*i* P		**P**		**18 52 23.2**	**-0.7**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**71.77**	**327**	P		**P**		**18 52 23.2**	**-0.7**
ASAR	**Alice Springs**	**73.57**	**201**	P		**P**		**18 52 32.2**	**-2.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=13,slow=5.2,SNR=4.6								
ASAR	**Alice Springs**	**73.57**	**201**	P		**P**		**18 52 32.3**	**-2.2**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**75.60**	**62**	P		**P**		**18 52 46.0**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=300,slow=4.2,SNR=27								
TXAR	**Lajitas Array**	**75.60**	**62**	P		**P**		**18 52 46.0**	**-0.3**
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
BURAR	**Bucovina Array**	**75.80**	**328**	⇓*i*P		**P**		**18 52 47.4**	**-0.1**
MLR	**Muntele Rosu**	**77.33**	**326**	⇑*i*P		**P**		**18 52 56.8**	**+0.7**
KHC	**Kasperske Hory**	**78.20**	**336**	*e*P		**P**		**18 53 01.0**	**0.0**
GERES	**GERESS Array B**	**78.42**	**335**	P		**P**		**18 53 02.5**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=38,slow=6.8,SNR=8.8								
GERES	**GERESS Array B**	**78.42**	**335**	P		**P**		**18 53 02.5**	**+0.3**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**78.92**	**318**	P		**P**		**18 53 05.2**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.8,baz=32,slow=4.9,SNR=4.9								
BRTR	**Keskin Array B**	**78.92**	**318**	P		**P**		**18 53 05.2**	**+0.3**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
CDF	**Champ du Feu**	**80.50**	**339**	*e*P		**P**		**18 53 12.7**	**-0.8**
SMF	**Signal de Mont**	**82.95**	**341**	*e*P		**P**		**18 53 26.3**	**-0.2**
LPG	**La Plagne**	**83.35**	**339**	*e*P		**P**		**18 53 28.5**	**0.0**
	comp=Z,8.9nm,0.7s,mb4.6								
ORIF	**Oris-en-Rattie**	**84.11**	**339**	*e*P		**P**		**18 53 32.4**	**0.0**
	comp=Z,16nm,1.0s,mb4.8								
CAF	**Calviac**	**84.98**	**341**	*e*P		**P**		**18 53 36.1**	**-0.7**
	comp=Z,15nm,1.1s,mb4.7								

*ISCJB **21** 18:41:38.6±3.1, 3695±009×1494E±0.1, h82km±27km, mb4.5/20, Error ellipse: s-maj=24.5km s-min=15.1km az=175.2*

*BJI **21** 18:41:39.2, 284S×14926E, h47km, mB5.3, mb4.7, Ms4.7, Msz4.5*

*IDC **21** 18:41:39.5±5.6, 3395×14875E, h48km±49km, mb4.2/5, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, ML2.5/1, MS4.1/21, Ms1 4.1/21, ms1mx4.0/23, Error ellipse: s-maj=67.5km s-min=35.0km az=107.0*

*NEIC **21** 18:41:41.0±2.7, 3645×14916E, h80km±23km, mb4.7/12, Error ellipse: s-maj=22.6km s-min=14.4km az=87.0*

*GCMT **21** 18:41:41.0±0.2, 3455×14956E, h17km±1km, MW4.9/63, Moment Tensor Solution. s25,c31; s63,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.62±.12; Mθθ 1.86±.09; Mφφ-1.24±.09; Mrθ 0.10±.21; Mφθ 2.28±.08; Mrφ-0.07±.23; Best double couple: M◎2.76100×10¹⁶ NP1:ϕs287.00000°, δ88.00000°, λ-3.00000°. Principal axes: T 3.0680, Plg1.0000°, Azm332.0000°; N -0.6140, Plg87.0000°, Azm77.0000°; P -2.4530, Plg3.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 18:41:40.2±2.7, 373S±009×1495E±02, h80km±24km, n59, σ1§26/38, mb4.5/20, 1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**202**	P		**Pn**		**18 43 08.7**	**+1.0**
	0.6nm,0.3s,baz=60,slow=20,SNR=3.2								
PMG					LR	LR		18 45 38.2	
	comp=Z,615nm,20.2s,baz=26,slow=38								
HNR	**Honiara**	**11.84**	**119**	LR		LR		18 48 52.3	
	comp=Z,739nm,20.5s,baz=356,slow=34								
CTA	**Charters Tower**	**16.56**	**191**	LR		LR		18 51 49.6	
	comp=Z,368nm,18.2s,baz=12,slow=36								
GUMO	**Guam**	**17.80**	**345**	LR		LR		18 50 54.5	
	comp=Z,604nm,21.7s,baz=331,slow=32								
KAKA	**Kakadu**	**19.07**	**241**	*e*P		**Pn**		**18 45 54.9**	**-2.9**
	41nm,0.8s								
WRAB	**Tennant Creek**	**21.84**	**221**	*e*P		**P**		**18 46 24.8**	**-1.4**
	59nm,0.9s,mb4.9								
WB2	**Warramunga Arr**	**21.85**	**221**	*e*P		**P**		**18 46 25.2**	**-1.0**
WB2				*e*S		**S**		**18 50 32.2**	**+9.1**
WRA	**Warramunga Arr**	**21.86**	**221**	P		**P**		**18 46 25.8**	**-0.5**
	29nm,1.1s,mb4.5,baz=44,slow=10,SNR=22								
WRA					PcP	PcP		18 50 26.1	+3.1
	0.8nm,1.0s,baz=32,slow=1.5,SNR=4.7								
WRA					LR	LR		18 55 41.4	
	comp=Z,391nm,19.2s,baz=55,slow=39								
DZM	**Mont Dzumac**	**24.56**	**139**	LR		LR		18 55 26.6	
	comp=Z,933nm,19.8s,baz=216,slow=33								
AS31	**Alice Springs**	**24.89**	**216**	*e*P		**P**		**18 46 55.3**	**-0.2**
ASAR	**Alice Springs**	**24.89**	**216**	P		**P**		**18 46 56.6**	**+1.1**
	10nm,1.0s,mb4.2,baz=53,slow=8.2,SNR=40								
ASAR					LR	LR		18 57 44.0	
	comp=Z,579nm,18.8s,baz=44,slow=39								
ASPA	**Alice Springs**	**24.89**	**216**	*e*P		**P**		**18 46 58.7**	**+3.2**
ARMA	**Armidale**	**26.62**	**176**	⇓*i*P		**P**		**18 47 12.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.37**	**237**	*e*P		**P**		**18 47 18.6**	**+0.7**
	49nm,0.8s,mb5.1								
FITZ	**Fitzroy Crossi**	**27.37**	**237**	P		**P**		**18 47 17.0**	**-0.9**
	21nm,0.9s,mb4.7,baz=70,slow=8.0,SNR=21								
FITZ					LR	LR		18 59 16.3	
	comp=Z,468nm,18.5s,baz=211,slow=39								
STKA	**Stephens Creek**	**28.97**	**194**	LR		LR		19 00 00.6	
	comp=Z,350nm,19.9s,baz=16,slow=38								
CBIJ	**Chichi jima**	**31.44**	**347**	LR		LR		18 58 32.8	
	comp=Z,756nm,21.2s,baz=150,slow=33								
KKM	**Kota Kinabalu**	**34.61**	**286**	*e*P		**P**		**18 48 19.9**	**-1.7**
JOW	**Kunigami**	**36.65**	**327**	LR		LR		19 00 54.4	
	comp=Z,349nm,19.8s,baz=160,slow=32								
JHJ	**Hhijo jima 2**	**37.78**	**347**	LR		LR		19 02 22.0	
	comp=Z,188nm,20.0s,baz=134,slow=33								
**KS

MAW	**Mawson**	**85.28**	**203**	LR	LR	19 30 09.9		
	comp=Z,140nm,20.6s,baz=72,slow=34							
BVAR	**Borovoye Array**	**86.41**	**324**	P	**P**	**18 54 13.3**	**-0.5**	
	comp=Z,1.9nm,0.8s,mb4.0,baz=108,slow=4.7,SNR=6.8							
BVAR				LR	LR	19 36 02.2		
	comp=Z,69nm,19.1s,baz=315,slow=38							
BRVK	**Borovoye**	**86.48**	**324**	*e*P	**P**	**18 54 12.1**	**-2.0**	
	comp=Z,4.2nm,0.9s,mb4.4							
GERES	**GERESS Array B**	**121.39**	**327**	PKP	PKPdf	19 00 26.5	+2.3	
	comp=Z,0.3nm,0.5s,baz=0.0,slow=2.8,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**146.83**	**288**	*e*PKPdf	PKPdf	19 01 13.9	+2.6	
TORD	**Torodi Ar. Bea**	**146.83**	**288**	PKPbc	PKPbc	19 01 14.8	+1.5	
	comp=Z,3.4nm,0.7s,baz=58,slow=2.6,SNR=21							
TORD	**Torodi Ar. Bea**	**146.83**	**288**	PKPbc	PKPbc	19 01 14.8	+1.5	

IDC 21 18:59:46.7±7.3, 4661N×15324E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=498.8km s-min=36.4km az=129.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**68.41**	**199**	P	P	19 10 49.0	-1.3
	0.5nm,0.7s,baz=17,slow=6.9,SNR=4.9						
ASAR	**Alice Springs**	**72.10**	**199**	P	P	19 11 13.7	+0.8
	0.7nm,0.7s,baz=8.5,slow=4.9,SNR=12						
TXAR	**Lajitas Array**	**77.48**	**61**	P	P	19 11 44.1	+0.1
	0.3nm,0.7s,baz=306,slow=4.5,SNR=4.1						

*NEIC **21** 19:01:37.3, 1560N×9409W, h149km, MD4.4(MEX), After MEX.*

MEX 21 19:01:37.1±0.3, 1565N×9407W, h156km±11km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.63**	**332**	*i* P	Pn	19 02 07.3	-1.1
CMIG				*i* S	Sn	19 02 30.5	-2.0
CCIG	**Comitan**	**1.96**	**71**	*i* P	Pn	19 02 11.0	-1.1
CCIG				*i* S	Sn	19 02 38.4	-0.7
TUIG	**Tuzandepetl**	**2.39**	**352**	*i* P	Pn	19 02 15.9	-1.2
TUIG	**Tuzandepetl**	**2.39**	**352**	*i* P	Pn	19 02 15.8	-1.4
OXX	**Oaxaca**	**2.91**	**300**	*e*P	Pn	19 02 22.5	-1.1
UTMO	**Huajuapan**	**4.18**	**302**	*i* S	Sn	19 03 26.8	-1.8
TEIG	**Tepich**	**7.15**	**50**	*i* P	Pn	19 03 17.6	-1.5
TEIG	**Tepich**	**7.15**	**50**	*e*P	Pn	19 03 21.6	+2.5

*HLW **21** 19:02:32.1, 3621N×3192E, h33km, Mb3.1*
*ISCJB **21** 19:02:33.7±0.6, 3600N×004×3207E±005, h116km±8km, Error ellipse: s-maj=8.5km s-min=5.2km az=86.9*
*CSEM **21** 19:02:33.5±0.1, 3611N×3198E, h20km, Mw2.9, Error ellipse: s-maj=2.1km s-min=1.4km az=50.0*
*ISK **21** 19:02:34.4, 3616N×3198E, h23km, MD3.4*
*NEIC **21** 19:02:37.1, 3630N×3213E, h30km, ML3.0(NIC), After NIC.*
*NIC **21** 19:02:37.1±0.2, 3630N×3213E, h30km, ML3.0, MW2.9*
*GII **21** 19:02:39.2±0.5, 3544N×3200E, h12km, 30km, ML2.8/1*

ISC 21 19:02:34.8±0.6, 3602N±004×3205E±005, h106km±9km, n29, σ1§15/42, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alevga**	**0.97**	**153**	P	**Pn**	**19 02 55.5**	**+0.1**
	12nm,0.1s						
ALFC				S	**Sn**	**19 03 10.1**	**-0.7**
AKMC	**Akamas**	**1.01**	**167**	P	**Pn**	**19 02 56.8**	**+0.9**
PPCY	**Paphos**	**1.16**	**168**	⇑*i*P	**Pn**	**19 02 58.4**	**+1.0**
MAMC	**Mammari**	**1.27**	**131**	P	**Pn**	**19 02 59.0**	**+0.3**
IKL	**Isikli**	**1.34**	**80**	PN	**Pn**	**19 02 59.1**	**-0.4**
IKL				SN	**Sn**	**19 03 16.7**	**-1.5**
SZAC	**Souni-Zanaja**	**1.43**	**151**	P	**Pn**	**19 03 02.2**	**+1.6**
	4.7nm,0.2s						
SZAC				S	**Sn**	**19 03 21.7**	**+1.6**
CSS	**Prodhromos**	**1.48**	**135**	P	**Pn**	**19 03 01.7**	**+0.5**
	2.0nm,0.2s						
CSS				S	**Sn**	**19 03 21.5**	**+0.3**
ELL	**Elmali**	**1.88**	**293**	PN	**Pn**	**19 03 04.9**	**-1.2**
KONT	**Konya--Tatoy**	**1.94**	**7**	*e*PN	**Pn**	**19 03 05.1**	**-1.8**
MERS	**Mersin**	**2.16**	**66**	*e*PN	**Pn**	**19 03 10.2**	**+0.5**
FETY	**Fethiye**	**2.48**	**285**	*e*PN	**Pn**	**19 03 12.9**	**-0.9**
KARA	**Karaisali**	**2.71**	**62**	*e*PN	**Pn**	**19 03 17.0**	**+0.1**
YER	**Yerkesik**	**3.23**	**291**	*e*PN	**Pn**	**19 03 23.0**	**-0.8**
MMC7	**Mount Meron ar**	**4.07**	**136**	Pn	**Pn**	**19 03 36.6**	**+1.6**
MMC7				Sn	**Sn**	**19 04 21.0**	**-0.5**
MMC6	**Mount Meron ar**	**4.07**	**136**	Pn	**Pn**	**19 03 36.4**	**+1.4**
MMC6				Sn	**Sn**	**19 04 21.2**	**-0.5**
MMA0	**Mount Meron ar**	**4.08**	**136**	Pn	**Pn**	**19 03 36.6**	**+1.5**
MMB1	**Mount Meron ar**	**4.08**	**136**	Pn	**Pn**	**19 03 36.3**	**+1.1**
MMB1				Sn	**Sn**	**19 04 21.6**	**-0.3**
MMC5	**Mount Meron ar**	**4.09**	**136**	Pn	**Pn**	**19 03 36.6**	**+1.4**
MMC5				Sn	**Sn**	**19 04 20.9**	**-1.2**
KSDI	**Kefar Szold**	**4.10**	**132**	Pn	**Pn**	**19 03 36.7**	**+1.2**
KSDI				Sn	**Sn**	**19 04 21.7**	**-0.6**
SLTI	**Sal'it**	**4.51**	**146**	Sn	**Sn**	**19 04 29.6**	**-2.7**
MMLI	**Mount Malkishu**	**4.53**	**141**	Pn	**Pn**	**19 03 42.9**	**+1.6**
MMLI				Sn	**Sn**	**19 04 31.9**	**-0.9**
AMAZ	**Amatzia**	**5.07**	**151**	Sn	**Sn**	**19 04 43.9**	**-2.0**
AMAG	**Maghara**	**5.45**	**169**	⇓P	**Pn**	**19 03 54.0**	**+0.4**
KZIT	**Kziot**	**5.46**	**158**	Pn	**Pn**	**19 03 54.1**	**+0.3**
KZIT				Sn	**Sn**	**19 04 52.0**	**-3.3**
HNKL	**Nakhl**	**6.28**	**165**	P	**Pn**	**19 04 05.9**	**+0.9**
HMAT	**Matruh**	**6.42**	**222**	P	**Pn**	**19 04 06.9**	**+0.1**
HMAT				S	**Sn**	**19 05 14.1**	**-4.6**
HRFI	**Mount Harif**	**6.47**	**156**	Sn	**Sn**	**19 05 17.4**	**-2.4**
SWA1		**8.60**	**220**	P	**Pn**	**19 04 36.4**	**0.0**
SWA1				S	**Sn**	**19 06 06.9**	**-4.7**
SWA2		**8.75**	**221**	⇑P	**Pn**	**19 04 38.0**	**-0.5**

*IDC **21** 19:05:23.0±6.8, 3703N×7222E, h156km±66km, mb3.5/6, mb1 3.7/10, mb1mx3.4/24, mbtmp3.6/10, Error ellipse: s-maj=48.4km s-min=33.5km az=139.0*
*BJI **21** 19:05:24.8, 3747N×7188E, h162km, mb4.0*
*ISCJB **21** 19:05:24.6±0.4, 3724N±002×7206E±006, h184km±6km, mb4.0/12, Error ellipse: s-maj=7.7km s-min=3.7km az=161.5*
*NEIC **21** 19:05:26.1±2.7, 3739N×7191E, h162km±26km, mb4.1/9, Error ellipse: s-maj=21.8km s-min=14.7km az=201.0*
*MOS **21** 19:05:28.5±0.9, 3758N×7204E, h190km, mb4.0/9, Error ellipse: s-maj=14.8km s-min=7.3km az=94.5*
*NNC **21** 19:05:33.8±3.6, 3794N×7193E, h205km±32km, mb2.8, mpv3.6, Error ellipse: s-maj=37.4km s-min=21.0km az=17.0*

ISC 21 19:05:25.6±0.4, 3724N±002×7210E±006, h178km±6km, n83, σ1§07/101, mb4.0/12, 3C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.42**	**183**	P	**Pn**	**19 06 20.3**	**+1.0**
CEP				S	**Sn**	**19 07 01.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.70**	**165**	⇓P	**Pn**	**19 06 24.7**	**+1.9**
KSH	**Kashi**	**3.79**	**52**	P	**Pn**	**19 06 26.1**	**+2.1**
KSH				S	**Sn**	**19 07 10.8**	**+1.2**
KSH				Smax			
	comp=N,825nm,0.3s						
KSH				Smax			
	comp=E,876nm,0.3s						
AML	**Almayashu**	**5.03**	**14**	P	**Pn**	**19 06 40.3**	**+0.3**
	SNR=76						
SBDP	**Sheikh Budin**	**5.04**	**193**	⇓P	**Pn**	**19 06 39.6**	**-0.5**
UCH	**Uchtor**	**5.31**	**20**	P	**Pn**	**19 06 44.0**	**+0.5**
	SNR=50						
SARP	**Sargodha**	**5.33**	**175**	P	**Pn**	**19 06 43.8**	**0.0**
KZA	**Kyzart**	**5.40**	**26**	P	**Pn**	**19 06 45.2**	**+0.4**
	SNR=8.7						
EKS2	**Erkin-Say**	**5.56**	**13**	P	**Pn**	**19 06 47.1**	**+0.2**
	SNR=17						
THN	**Thein Dam**	**5.64**	**147**	*e*P	**Pn**	**19 06 48.3**	**+0.4**
THN				*e*S	**Sn**	**19 07 50.7**	**-1.8**
DLH	**Dalhousie**	**5.66**	**145**	*e*P	**Pn**	**19 06 55.0**	**+6.9**
DLH				*e*S	**Sn**	**19 07 53.0**	**0.0**
AAK	**Ala-Archa**	**5.69**	**18**	P	**Pn**	**19 06 49.3**	**+0.8**
	SNR=29						
AAK	**Ala-Archa**	**5.69**	**18**	*e*PN	**Pn**	**19 06 47.9**	**-0.6**
AAK				*e*		19 07 50.1	
AAK				pmax	pmax		
	comp=Z,46nm,0.6s						
AAK	**Ala-Archa**	**5.69**	**18**	*e*Pn	**Pn**	**19 06 47.9**	**-0.6**
	comp=Z,46nm,0.6s						
AAK				*e*Sn	**Sn**	**19 07 50.1**	**-3.5**
KBK	**Karagaybulak**	**5.83**	**21**	P	**Pn**	**19 06 52.1**	**+1.7**
	SNR=10.0						
ULHL	**Ulahol**	**5.93**	**31**	P	**Pn**	**19 06 52.1**	**+0.5**
	SNR=8.8						
KK31	**Karatay Array**	**5.98**	**349**	⇑P	**Pn**	**19 06 51.6**	**-0.6**
	comp=Z,16nm,0.4s,baz=165,slow=11						
KK31				⇑S	**Sn**	**19 07 54.3**	**-6.1**
	comp=Z,189nm,0.6s,baz=167,slow=21						
KKAR	**Karatay Array**	**5.98**	**349**	PN	**Pn**	**19 06 51.5**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
CHMS	**Chumysh**	**6.10**	**19**	P	**Pn**	**19 06 54.1**	**+0.3**
	SNR=21						
TKM2	**Tokmak 2**	**6.27**	**24**	⇓Pn	**Pn**	**19 06 56.7**	**+0.6**
	comp=Z,1.6nm,0.9s						
TKM2				⇓Sn	**Sn**	**19 08 05.6**	**-1.8**
	comp=Z,1.8nm,0.8s						
TKM2	**Tokmak 2**	**6.27**	**24**	PN	**Pn**	**19 06 57.5**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,161nm,2.2s						
USP	**Ospenovka**	**6.29**	**16**	P	**Pn**	**19 06 56.1**	**-0.2**
	SNR=11						
SDNR	**Sundarnagar**	**7.00**	**144**	*e*P	**Pn**	**19 07 05.9**	**+0.2**
SDNR				*e*S	**Sn**	**19 08 21.0**	**-3.7**
NDI	**New Delhi**	**9.55**	**152**	*e*P	**Sn**	**19 09 20.0**	**-5.6**
KHET	**Khetri**	**9.66**	**160**	*e*P	**Pn**	**19 07 39.2**	**-1.5**
KHET				*e*S	**Sn**	**19 09 21.3**	**-6.9**
KHET				AML	AML	19 09 21.6	
	comp=E,25nm,0.4s						
KHET				AML	AML	19 09 23.1	
	comp=N,14nm,0.3s						
SONA	**Sohna**	**9.90**	**154**	*e*P	**Pn**	**19 07 43.8**	**+0.1**
SONA				*e*S	**Sn**	**19 09 27.6**	**-6.3**
SONA				AML	AML	19 09 29.6	
	comp=N,16nm,0.3s						
MK31	**Makanchi Array**	**12.17**	**35**	*e*P	**Pn**	**19 08 11.9**	**-1.4**
MKAR	**Makanchi Array**	**12.17**	**35**	P	**Pn**	**19 08 13.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=220,slow=15,SNR=6.6						
MKAR	**Makanchi Array**	**12.17**	**35**	P	**Pn**	**19 08 13.3**	**+0.1**
KOLN	**Koldanda**	**13.53**	**131**	*e*P	**Pn**	**19 08 29.6**	**-0.8**
	comp=N,25nm,0.3s						
GKN	**Gorkha**	**14.00**	**128**	*e*P	**Pn**	**19 08 35.9**	**-0.5**
	comp=N,43nm,0.3s						
GKN				*e*S	**Sn**	**19 11 01.8**	**-10**
KKN	**Kakani**	**14.56**	**127**	*e*P	**Pn**	**19 08 42.9**	**-0.4**
	comp=N,58nm,0.7s						
DMN	**Daman**	**14.57**	**127**	*e*P	**Pn**	**19 08 43.4**	**-0.1**
	comp=N,28nm,0.4s						
PKI	**Pulchoki**	**14.79**	**127**	*e*P	**Pn**	**19 08 46.1**	**-0.1**
	comp=N,14nm,0.3s						
GUN	**Gumba**	**14.87**	**125**	*e*P	**Pn**	**19 08 47.1**	**0.0**
	comp=N,33nm,0.3s						
AB31	**Akbulak array**	**14.90**	**328**	⇓Pn	**Pn**	**19 08 46.7**	**-0.8**
	comp=N,4.9nm,0.5s						
AB31				⇓Sn	**Sn**	**19 11 18.2**	**-15**
	comp=N,10nm,0.6s						
AB31	**Akbulak array**	**14.90**	**328**	P	**Pn**	**19 08 46.6**	**-0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JIRN	**Jiri**	**15.24**	**125**	*e*P	**Pn**	**19 08 51.9**	**+0.3**
	comp=Z,83nm,0.4s						
VOSK	**Vostochnaya**	**15.50**	**357**	⇓P	**Pn**	**19 08 53.3**	**-1.6**
	comp=Z,10nm,1.6s						
BVA0	**Borovoye Array**	**15.83**	**356**	⇓P	**Pn**	**19 08 58.1**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=163,slow=10,SNR=67						
BVA0	**Borovoye Array**	**15.83**	**356**	*i* P	**Pn**	**19 08 58.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**15.83**	**356**	P	**Pn**	**19 08 57.8**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=164,slow=13,SNR=60						
BVAR				S	**S**	**19 11 48.1**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=166,slow=24,SNR=6.0						
BVAR	**Borovoye Array**	**15.83**	**356**	P	**Pn**	**19 08 57.8**	**-1.0**
BVAR				S	**S**	**19 11 48.1**	**-6.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**15.87**	**356**	*e*P	**Pn**	**19 08 59.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**15.87**	**356**	*e*Pn	**Pn**	**19 08 59.1**	**-0.2**
	comp=Z,13nm,0.8s						
CHKZ	**Chkalovo**	**16.47**	**357**	⇑P	**Pn**	**19 09 05.1**	**-1.5**
	comp=Z,4.3nm,0.7s						
CHKZ	**Chkalovo**	**16.47**	**357**	*e*P	**Pn**	**19 09 04.4**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHKZ	**Chkalovo**	**16.47**	**357**	*e*P	**Pn**	**19 09 04.4**	**-2.1**
	comp=Z,5.8nm,0.8s						
AKTK	**Aktyubinsk**	**16.61**	**327**	P	**Pn**	**19 09 07.5**	**-0.8**
AKTK				S	**S**	**19 12 03.0**	**-9.0**
AKTO	**Aktyubinsk**	**16.61**	**327**	⇓Pn	**Pn**	**19 09 08.5**	**+0.3**
	comp=Z,0.2nm,0.8s						
AKTO				⇓Sn	**Sn**	**19 12 05.3**	**-9.1**
	comp=Z,0.2nm,1.1s						
AKTO	**Aktyubinsk**	**16.61**	**327**	P	**Pn**	**19 09 07.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=132,slow=10,SNR=36						
AKTO				S	**S**	**19 12 03.0**	**-9.0**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=4.5						
AKTO	**Aktyubinsk**	**16.61**	**327**	P	**Pn**	**19 09 07.5**	**-0.7**
AKTO				S	**S**	**19 12 03.0**	**-9.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**17.56**	**110**	P	**Pn**	**19 09 24.0**	**+4.4**
LSA	**Lhasa**	**17.56**	**110**	*e*P	**Pn**	**19 09 23.8**	**+4.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LSA	**Lhasa**	**17.56**	**110**	*e*P	**Pn**	**19 09 23.8**	**+4.2**
	comp=Z,7.1nm,1.0s						
ZAL	**Zalesovo**	**18.86**	**24**	P	**P**	**19 09 33.3**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=246,slow=6.1,SNR=28						
ZAL	**Zalesovo**	**18.86**	**24**	P	**P**	**19 09 33.3**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ORR	**Orenburg**	**18.90**	**325**	*e*P	**P**	**19 09 33.6**	**+0.9**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARU	**Arti**	**21.24**	**339**	⇓*i*P	**P**	**19 09 56.7**	**-0.9**
ARU				*e*S	PcP	19 14 04.0	+8.9
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
ARU	**Arti**	**21.24**	**339**	*e*P	**P**	**19 09 56.9**	**-0.7**
	comp=Z,5.3nm,0.9s,mb3.9						
GNI	**Garni**	**21.52**	**286**	*e*P	**P**	**19 10 03.3**	**+2.7**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	**Garni**	**21.52**	**286**	*e*P	**P**	**19 10 03.3**	**+2.7**
	comp=Z,8.3nm,1.0s,mb4.1						
GTA	**Gaotai**	**21.82**	**76**	*e*P	**P**	**19 10 07.9**	**+4.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**27.63**	**56**	P	**P**	**19 10 59.2**	**+2.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ULN	**Ulaanbaatar**	**27.63**	**56**	P	**P**	**19 10 59.2**	**+2.7**
	comp=Z,1.1nm,0.6s,mb3.8						
BR131	**Keskin Array S**	**30.06**	**287**	*e*P	**P**	**19 11 20.1**	**+2.2**
	comp=Z,0.9nm,0.5s,mb3.8						
BRTR	**Keskin Array B**	**30.06**	**287**	P	**P**	**19 11 20.1**	**+2.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=102,slow=8.0,SNR=7.3						
BRTR	**Keskin Array B**	**30.06**	**287**	P	**P**	**19 11 20.2**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EIL	**Elat**	**31.75**	**267**	P	**P**	**19 11 40.8**	**+8.0**
	comp=Z,55nm,0.8s,mb5.3						
AKASG	**Malin Array Be**	**33.18**	**308**	P	**P**	**19 11 46.7**	**+1.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=103,slow=7.7,SNR=3.1						
AKASG	**Malin Array Be**	**33.18**	**308**	P	**P**	**19 11 46.7**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SANT	**Santorini**	**37.06**	**283**	P	**P**	**19 12 16.7**	**-1.8**
	comp=Z,11nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**37.37**	**325**	P	**P**	**19 12 22.2**	**+1.1**
	comp=Z,5.3nm,1.1s,mb4.1,baz=107,slow=9.5,SNR=3.0						
FINES	**FINESS Array B**	**37.37**	**325**	P	**P**	**19 12 22.2**	**+1.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
FINES	**FINESS Array B**	**37.37**	**325**	P	**P**	**19 12 22.2**	**+1.1**
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**19 12 50.6**	**+1.1**
	comp=Z,4.8nm,1.0s,mb4.1,baz=119,slow=9.0,SNR=10.0						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**19 12 50.6**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARE0	**ARCESS Array S**	**40.80**	**337**	P	**P**	**19 12 48.6**	**-0.9**
YHNB	**Yeheng**	**43.63**	**92**	*e*P	**P**	**19 13 08.0**	**-4.3**
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**19 13 17.9**	**+0.1**
	comp=Z,1.7nm,1.1s,mb3.6,baz=58,slow=9.2,SNR=2.7						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**19 13 17.9**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**66.62**	**269**	P	**P**	**19 15 56.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.62**	**269**	P	**P**	**19 15 57.0**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=48,slow=5.5,SNR=13						

*ISCJB **21** 19:06:14.3±0.2, 4732N±001×683E±002, h3km, Error ellipse: s-maj=1.9km s-min=1.5km az=108.2*
*CSEM **21** 19:06:16.8±0.0, 4737N×687E, h10km, ML2.5/20, Error ellipse: s-maj=0.7km s-min=0.6km az=151.0*
*LDG **21** 19:06:16.8±0.1, 4736N×688E, h3km, Md2.7/3, Ml2.6/22, Error ellipse: s-maj=1.1km s-min=0.9km az=107.0*
*ZUR **21** 19:06:16.5, 4740N×688E, h2km±1km, ML1.9/7*
*LEDBW **21** 19:06:17.2±0.2, 4737N±003×691E±002, h3km±3km, ML2.4, Error ellipse: s-maj=10.0km s-min=4.0km az=156.0*
*NEIC **21** 19:06:17.2, 4738N×688E, h5km, ML2.3(LEDBW), ML2.4(STR), ML2.6(LDG), After STR.*
*STR **21** 19:06:17.2±0.4, 4738N×688E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 19:06:16.0±0.2, 4736N±001×685E±002, h12km±2km, n95, σ0§90/185, 10C-3D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOMF	**Lomont**	**0.02**	**246**	⇑*i*P*	**Pg**	**19 06 18.7**	**+0.5**
LOMF				S*	**Sg**	**19 06 19.9**	**+0.2**
LOMF	**Lomont**	**0.02**	**246**	⇑*i*Pg	**Pg**	**19 06 18.7**	**+0.5**
LOMF				Sg	**Sg**	**19 06 19.9**	**+0.2**
LOMF	**Lomont**	**0.02**	**246**	Pg	**Pg**	**19 06 18.5**	**+0.3**
BOURR	**Bourrignon**	**0.26**	**82**	*i* Sg	**Sg**	**19 06 21.6**	**-3.5**
	317nm,0.6s						
BOURR	**Bourrignon**	**0.26**	**82**	⇓*i*Pg	**Pg**	**19 06 24.9**	**+3.5**
	317nm,0.6s						
BOURR	**Bourrignon**	**0.26**	**82**	⇓*i*Pg	**Pg**	**19 06 24.9**	**+3.5**
	317nm,0.6s						
HINF	**Hinteralfeld**	**0.46**	**0**	*e*Pn	**Pg**	**19 06 26.1**	**+1.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 06 31.1**	**-0.1**
	27nm,0.2s						
HINF	**Hinteralfeld**	**0.46**	**0**	*e*Pg	**Pg**	**19 06 25.4**	**+0.4**
HINF				*e*Pn	**Pg**	**19 06 26.1**	**+1.1**
HINF				*e*Sg	**Sg**	**19 06 31.1**	**-0.1**
HINF	**Hinteralfeld**	**0.46**	**0**	*e*Pn	**Pg**	**19 06 26.1**	**+1.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 06 31.1**	**-0.1**
	14nm,0.2s						
BBS	**Basel-Blauen**	**0.46**	**76**	P*	**Pg**	**19 06 25.4**	**+0.3**
BBS	**Basel-Blauen**	**0.46**	**76**	P	**Pg**	**19 06 25.4**	**+0.3**
BBS	**Basel-Blauen**	**0.46**	**76**	Pg	**Pg**	**19 06 25.2**	**+0.1**
BRANT	**Les Verrieres**	**0.49**	**212**	⇑*i*Pg	**Pg**	**19 06 27.4**	**+1.7**
	79nm,2.7s						
BRANT				*i* Sg	**Sg**	**19 06 35.0**	**+2.8**
	79nm,2.7s						
MOF	**Molkenrain**	**0.53**	**21**	Pg	**Pg**	**19 06 26.6**	**+0.2**
MOF				Sg	**Sg**	**19 06 33.6**	**+0.2**
MOF	**Molkenrain**	**0.53**	**21**	Pg	**Pg**	**19 06 26.8**	**+0.4**
MOF				Sg	**Sg**	**19 06 33.7**	**+0.3**
BALST	**Balsthal**	**0.57**	**92**	⇑*i*Pg	**Pg**	**19 06 27.4**	**+0.2**
	103nm,0.2s						
HAU	**Haudompre**	**0.73**	**333**	*e*Pn	**Pn**	**19 06 32.8**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 06 40.5**	**+0.7**
	36nm,0.2s						
HAU	**Haudompre**	**0.73**	**333**	*e*Pg	**Pg**	**19 06 30.8**	**+0.6**
HAU				*e*Pn	**Pn**	**19 06 32.8**	**+0.7**
HAU				*e*Sg	**Sg**	**19 06 40.5**	**+0.7**
HAU	**Haudompre**	**0.73**	**333**	*e*Pn	**Pn**	**19 06 32.8**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 06 40.5**	**+0.7**
	18nm,0.2s						
ECH	**Echery**	**0.88**	**14**	Pg	**Pg**	**19 06 34.0**	**+0.9**
ECH				Sg	**Sg**	**19 06 44.6**	**0.0**
ECH	**Echery**	**0.88**	**14**	Pg	**Pg**	**19 06 33.9**	**+0.8**
ECH				Sg	**Sg**	**19 06 44.8**	**+0.2**
CABF	**La Chapelle**	**0.91**	**215**	*e*Pg	**Pg**	**19 06 34.0**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 06 46.5**	**+1.0**
	16nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.91**	**215**	*e*Pg	**Pg**	**19 06 34.0**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 06 46.5**	**+1.0**
	7.9nm,0.3s,SNR=1.0						
FELD	**Feldberg im Sc**	**0.94**	**56**	P*	**Pg**	**19 06 33.9**	**-0.2**
FELD				S*	**Sb**	**19 06 45.6**	**-0.9**
FELD	**Feldberg im Sc**	**0.94**	**56**	P	**Pg**	**19 06 33.9**	**-0.2**
FEL

LPL					*e*Sg		**Sg**	**19 07 15.4**	**+0.1**
	4.9nm,0.3s,SNR=1.0								
LPL	**La Plagne**	**1.84**	**183**		*e*Pg		**Pg**	**19 06 51.5**	**+0.1**
LPL					*e*Sg		**Sg**	**19 07 15.4**	**+0.1**
	2.5nm,0.3s,SNR=1.0								
LBG	**Lerchenberg**	**1.85**	**44**		Sg		**Sg**	**19 07 14.0**	**-1.4**
LPG	**La Plagne**	**1.86**	**182**		*e*Pg		**Pg**	**19 06 51.9**	**+0.2**
LPG					*e*Sg		**Sg**	**19 07 16.1**	**+0.2**
	5.1nm,0.2s,SNR=1.0								
LPG	**La Plagne**	**1.86**	**182**		*e*Pg		**Pg**	**19 06 51.9**	**+0.2**
LPG					*e*Sg		**Sg**	**19 07 16.1**	**+0.2**
	2.5nm,0.2s,SNR=1.0								
BUCH	**Bad Urach**	**2.01**	**56**		P		**Pn**	**19 06 48.6**	**-1.1**
BUCH					Pg		**Pg**	**19 06 54.4**	**-0.1**
BUCH					Sg		**Sg**	**19 07 19.2**	**-1.3**
BUCH	**Bad Urach**	**2.01**	**56**		P		**Pn**	**19 06 48.6**	**-1.0**
BUCH					Pg		**Pg**	**19 06 54.4**	**-0.1**
BUCH					Sg		**Sg**	**19 07 19.3**	**-1.2**
BUCH	**Bad Urach**	**2.01**	**56**		P		**Pg**	**19 06 54.4**	**-0.1**
BUCH	**Bad Urach**	**2.01**	**56**		Pg		**Pg**	**19 06 54.4**	**-0.1**
LOR	**Lormes**	**2.04**	**269**		*e*Pg		**Pg**	**19 06 55.0**	**-0.1**
	SNR=1.0								
LOR					*e*Sn		**Sn**	**19 07 15.6**	**+0.3**
	SNR=1.0								
LOR					*e*Sg		**Sg**	**19 07 21.5**	**0.0**
	8.0nm,0.2s,SNR=1.0								
LOR	**Lormes**	**2.04**	**269**		*e*Pg		**Pg**	**19 06 55.0**	**-0.1**
	SNR=1.0								
LOR					*e*Sn		**Sn**	**19 07 15.6**	**+0.3**
	SNR=1.0								
LOR					*e*Sg		**Sg**	**19 07 21.5**	**0.0**
	4.0nm,0.2s,SNR=1.0								
DAVA	**Damuels**	**2.06**	**91**		⇑Pg		**Pg**	**19 06 56.0**	**+0.5**
	comp=Z,0.9nm,0.2s								
DAVA					⇑*i*Sg		**Sg**	**19 07 22.9**	**+0.6**
	comp=E,9.0nm,0.3s								
DAVA	**Damuels**	**2.06**	**91**		⇑Pg		**Pg**	**19 06 56.0**	**+0.5**
	0.9nm,0.2s								
DAVA					⇑*i*Sg		**Sg**	**19 07 22.9**	**+0.6**
	9.0nm,0.3s								
SMF	**Signal de Mont**	**2.18**	**252**		*e*Pg		**Pg**	**19 06 57.9**	**+0.1**
	SNR=1.0								
SMF					*e*Sg		**Sg**	**19 07 25.6**	**-0.4**
	8.0nm,0.3s,SNR=1.0								
SMF	**Signal de Mont**	**2.18**	**252**		*e*Pn		**Pn**	**19 06 52.6**	**+0.6**
SMF					*e*Pg		**Pg**	**19 06 57.9**	**+0.1**
SMF					*e*Sg		**Sg**	**19 07 25.6**	**-0.4**
SMF	**Signal de Mont**	**2.18**	**252**		*e*Pg		**Pg**	**19 06 57.9**	**+0.1**
	SNR=1.0								
SMF					*e*Sg		**Sg**	**19 07 25.6**	**-0.4**
	4.0nm,0.3s,SNR=1.0								
UBR	**Ueberruh**	**2.23**	**80**		Pg		**Pg**	**19 06 58.9**	**+0.1**
UBR					Sg		**Sg**	**19 07 28.3**	**+0.6**
SSF	**Saint Saulge**	**2.30**	**264**		*e*Pg		**Pg**	**19 06 59.9**	**-0.2**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**19 07 21.5**	**-0.3**
SSF					*e*Sg		**Sg**	**19 07 29.6**	**-0.3**
	3.6nm,0.2s,SNR=1.0								
SSF	**Saint Saulge**	**2.30**	**264**		*e*Pg		**Pg**	**19 06 59.9**	**-0.2**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**19 07 21.5**	**-0.3**
SSF					*e*Sg		**Sg**	**19 07 29.6**	**-0.3**
	1.8nm,0.2s,SNR=1.0								
WLF	**Walferdange**	**2.35**	**349**		*e*Sg		**Sg**	**19 07 30.9**	**-0.8**
AVF	**Avril sur Loir**	**2.46**	**258**		*e*Pg		**Pg**	**19 07 02.6**	**-0.5**
	SNR=1.0								
AVF					*e*Sg		**Sg**	**19 07 34.5**	**-0.4**
	1.9nm,0.2s,SNR=1.0								
AVF	**Avril sur Loir**	**2.46**	**258**		*e*Pn		**Pn**	**19 06 56.4**	**+0.6**
AVF					*e*Pg		**Pg**	**19 07 02.6**	**-0.5**
AVF					*e*Sg		**Sg**	**19 07 34.5**	**-0.4**
AVF	**Avril sur Loir**	**2.46**	**258**		*e*Pg		**Pg**	**19 07 02.6**	**-0.5**
	SNR=1.0								
AVF					*e*Sg		**Sg**	**19 07 34.5**	**-0.4**
	0.9nm,0.2s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.53**	**196**		*e*Pg		**Pg**	**19 07 03.9**	**-0.6**
ORIF					*e*Sg		**Sg**	**19 07 36.9**	**-0.4**
	4.2nm,0.2s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.53**	**196**		*e*Pg		**Pg**	**19 07 03.9**	**-0.6**
ORIF					*e*Sg		**Sg**	**19 07 36.9**	**-0.4**
	2.1nm,0.2s,SNR=1.0								
MBDF	**Montbardon**	**2.63**	**181**		*e*Pg		**Pg**	**19 07 05.9**	**-0.5**
MBDF					*e*Sg		**Sg**	**19 07 39.7**	**-0.8**
	0.9nm,0.2s								
MBDF	**Montbardon**	**2.63**	**181**		*e*Pg		**Pg**	**19 07 05.9**	**-0.5**
MBDF					*e*Sg		**Sg**	**19 07 39.7**	**-0.8**
	0.4nm,0.2s								
SIND	**Sindeldorf**	**2.71**	**42**		Sg		**Sg**	**19 07 42.2**	**-0.9**
BGF	**Bois d'Agland**	**2.86**	**255**		*e*Pg		**Pg**	**19 07 09.9**	**-0.8**
BGF					*e*Sg		**Sg**	**19 07 46.7**	**-1.0**
	7.1nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**	**2.86**	**255**		*e*Pg		**Pg**	**19 07 09.9**	**-0.8**
BGF					*e*Sg		**Sg**	**19 07 46.7**	**-1.0**
	3.5nm,0.4s,SNR=1.0								
HYF	**Humbligny**	**2.87**	**270**		*e*Pg		**Pg**	**19 07 10.4**	**-0.5**
HYF					*e*Sg		**Sg**	**19 07 47.6**	**-0.5**
VIVF	**Saint-Julien-l**	**2.92**	**212**		*e*Pg		**Pg**	**19 07 10.7**	**-1.3**
	SNR=1.0								
VIVF					*e*Sg		**Sg**	**19 07 49.1**	**-0.8**
	4.0nm,0.2s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.92**	**212**		*e*Pg		**Pg**	**19 07 10.7**	**-1.3**
	SNR=1.0								
VIVF					*e*Sg		**Sg**	**19 07 49.1**	**-0.8**
	2.0nm,0.2s,SNR=1.0								
GIVF	**Givet**	**3.06**	**335**		*e*Pg		**Pg**	**19 07 13.7**	**-0.9**
GIVF					*e*Sg		**Sg**	**19 07 53.1**	**-1.1**
	2.5nm,0.2s								
GIVF	**Givet**	**3.06**	**335**		*e*Pg		**Pg**	**19 07 13.7**	**-0.9**
GIVF					*e*Sg		**Sg**	**19 07 53.1**	**-1.1**
	1.2nm,0.2s								
BAIF	**Baives**	**3.22**	**328**		*e*Pn		**Pn**	**19 07 07.1**	**+0.8**
	SNR=1.0								
BAIF					*e*Sg		**Sg**	**19 07 58.0**	**-1.4**
	1.4nm,0.3s								
BAIF	**Baives**	**3.22**	**328**		*e*Pn		**Pn**	**19 07 07.1**	**+0.8**
	SNR=1.0								
BAIF					*e*Sg		**Sg**	**19 07 58.0**	**-1.4**
	0.7nm,0.3s								
TCF	**Toulx Ste Croi**	**3.36**	**253**		*e*Pg		**Pg**	**19 07 19.4**	**-1.0**
TCF					*e*Sg		**Sg**	**19 08 02.8**	**-1.1**
	1.4nm,0.2s								
TCF	**Toulx Ste Croi**	**3.36**	**253**		*e*Pg		**Pg**	**19 07 19.4**	**-1.0**
TCF					*e*Sg		**Sg**	**19 08 02.8**	**-1.1**
	0.7nm,0.2s								
LASF	**Ste Croix**	**3.89**	**214**		*e*Pg		**Pg**	**19 07 29.3**	**-1.3**
LASF					*e*Sg		**Sg**	**19 08 19.2**	**-1.8**
	4.1nm,0.4s								
LASF	**Ste Croix**	**3.89**	**214**		*e*Pg		**Pg**	**19 07 29.3**	**-1.3**
LASF					*e*Sg		**Sg**	**19 08 19.2**	**-1.8**
	2.0nm,0.4s								

*ISCJB **21** 19:11:10.0±0.3, 4737N±001×678E±002, h5km, Error ellipse: s-maj=2.5km s-min=1.9km az=49.8*
*ZUR **21** 19:11:10.9, 4742N×684E, h-0km±2km, ML1.9/6*
*STR **21** 19:11:12.1±0.3, 4740N×690E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 19:11:12.3±0.1, 4741N×686E, h3km, Md2.4/3, Ml2.4/22, Error ellipse: s-maj=1.0km s-min=0.6km az=99.0*

ISC 21 19:11:11.4±0.3, **4739N**±001×**682E**±002, **h6**km±4km, **n38,**
σ**0**:**87**/66, **4C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.04**	**174**	Pg	**Pg**	**19 11 13.5**	**+0.8**
HINF	**Hinteralfeld**	**0.43**	**3**	*e*Pg	**Pg**	**19 11 20.1**	**+0.4**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.43**	**3**	*e*Pn	**Pg**	**19 11 20.8**	**+1.1**
HINF				*e*Sg	**Sg**	**19 11 25.7**	**+0.5**
	15nm,0.2s						
MOF	**Molkenrain**	**0.51**	**24**	Pg	**Pg**	**19 11 21.7**	**+0.5**
BRANT	**Les Verrieres**	**0.51**	**208**	⇑*i*Pg	**Sg**	**19 11 22.4**	**+1.1**
	42nm,0.5s						
BRANT	**Les Verrieres**	**0.51**	**208**	⇑*i*Pg	**Sg**	**19 11 29.9**	**+1.9**
	42nm,0.5s						
BALST	**Balsthal**	**0.60**	**95**	⇑*i*Pg	**Pg**	**19 11 22.4**	**-0.5**
	80nm,0.2s						
HAU	**Haudompre**	**0.69**	**333**	*e*Pg	**Pg**	**19 11 25.6**	**+0.9**
HAU				*e*Sg	**Sg**	**19 11 34.3**	**+0.6**
	19nm,0.2s,SNR=1.0						
ECH	**Echery**	**0.86**	**15**	Pg	**Pg**	**19 11 28.5**	**+0.6**
ECH				Sg	**Sg**	**19 11 39.2**	**+0.2**
CABF	**La Chapelle**	**0.93**	**213**	*e*Pg	**Pg**	**19 11 29.9**	**+0.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 11 43.0**	**+1.7**
	13nm,0.3s,SNR=1.0						
GIMEL	**Gimel**	**0.94**	**204**	*e*P	**Pg**	**19 11 30.3**	**+0.8**
	112nm,0.2s						
THEF	**They Montfort**	**1.01**	**326**	Pg	**Pg**	**19 11 32.3**	**+1.5**
CDF	**Champ du Feu**	**1.07**	**16**	*e*Pg	**Pg**	**19 11 31.3**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 11 45.6**	**-0.1**
	24nm,0.2s,SNR=1.0						
WLS	**Welschbruch**	**1.08**	**19**	Pg	**Pg**	**19 11 32.1**	**-0.1**
WLS				Sg	**Sg**	**19 11 46.0**	**-0.3**
SLE	**Schleitheim**	**1.19**	**71**	*e*P	**Pg**	**19 11 32.8**	**-1.5**
	112nm,0.3s						
BFO	**Black Forest**	**1.38**	**47**	*e*Pg	**Pg**	**19 11 37.5**	**-0.4**
BFO				*e*Sg	**Sg**	**19 11 54.6**	**-1.3**
SFTF	**Sexfontaines**	**1.45**	**305**	*e*Pg	**Pg**	**19 11 39.3**	**0.0**
SFTF				*e*Sg	**Sg**	**19 11 58.1**	**0.0**
	7.5nm,0.2s						
RFYF	**Reffroy**	**1.53**	**324**	*e*Pg	**Pg**	**19 11 40.9**	**+0.1**
RFYF				*e*Sg	**Sg**	**19 12 01.1**	**+0.4**
	18nm,0.3s						
FUSIO	**Fusio**	**1.57**	**126**	*i* P	**Pn**	**19 11 41.6**	**+1.7**
	40nm,0.2s						
MEZF	**Maizieres J'vi**	**1.63**	**314**	*e*Pg	**Pg**	**19 11 42.5**	**-0.1**
MEZF				*e*Sn	**Sn**	**19 12 04.1**	**+2.1**
	9.7nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.88**	**182**	*e*Pg	**Pg**	**19 11 47.6**	**+0.2**
LPL				*e*Sg	**Sg**	**19 12 11.9**	**+0.2**
	2.3nm,0.3s						
LPG	**La Plagne**	**1.90**	**181**	*e*Pg	**Pg**	**19 11 48.5**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 12 13.2**	**+0.9**
	4.2nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.02**	**268**	*e*Pg	**Pg**	**19 11 49.0**	**-1.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**19 12 10.7**	**-0.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**19 12 16.7**	**+0.4**
	4.3nm,0.2s,SNR=1.0						
DAVA	**Damuels**	**2.08**	**92**	⇑Pg	**Pg**	**19 11 51.6**	**+0.2**
DAVA				⇑*i*Sg	**Sg**	**19 12 17.7**	**-0.6**
	3.9nm,0.2s						
SMF	**Signal de Mont**	**2.17**	**251**	*e*Pg	**Pg**	**19 11 53.6**	**+0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**19 12 13.9**	**-1.5**
SMF				*e*Sg	**Sg**	**19 12 21.2**	**0.0**
	4.2nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.28**	**263**	*e*Pg	**Pg**	**19 11 55.3**	**+0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 12 25.2**	**+0.4**
	3.6nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.44**	**257**	*e*Pg	**Pg**	**19 11 58.1**	**-0.2**
AVF				*e*Sg	**Sg**	**19 12 30.1**	**+0.1**
	0.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.56**	**195**	*e*Pg	**Pg**	**19 12 00.4**	**-0.1**
ORIF				*e*Sg	**Sg**	**19 12 32.8**	**-0.8**
	4.4nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.67**	**181**	*e*Pn	**Pn**	**19 11 54.5**	**-0.4**
MBDF	**Montbardon**	**2.67**	**181**	*e*Pg	**Pg**	**19 12 02.3**	**-0.2**
MBDF				*e*Sg	**Sg**	**19 12 36.8**	**-0.3**
	1.2nm,0.4s						
BGF	**Bois d'Agland**	**2.85**	**254**	*e*Pg	**Pg**	**19 12 05.7**	**-0.3**
BGF				*e*Sg	**Sg**	**19 12 42.4**	**-0.5**
	11nm,0.6s						
HYF	**Humbligny**	**2.85**	**269**	*e*Pg	**Pg**	**19 12 05.6**	**-0.4**
HYF				*e*Sg	**Sg**	**19 12 42.6**	**-0.3**
VIVF	**Saint-Julien-l**	**2.94**	**211**	*e*Pg	**Pg**	**19 12 07.2**	**-0.6**
VIVF				*e*Sg	**Sg**	**19 12 45.4**	**-0.6**
	3.2nm,0.3s,SNR=1.0						
GIVF	**Givet**	**3.02**	**335**	*e*Pg	**Pg**	**19 12 08.3**	**-1.0**
GIVF				*e*Sg	**Sg**	**19 12 47.0**	**-1.4**
	3.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.35**	**252**	*e*Pg	**Pg**	**19 12 14.9**	**-0.8**
TCF				*e*Sg	**Sg**	**19 12 57.8**	**-1.3**
	1.1nm,0.3s						
SBF	**Sospel**	**3.56**	**173**	*e*Pn	**Pn**	**19 12 08.7**	**+1.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 13 04.1**	**-1.5**
	1.4nm,0.2s						
LASF	**Ste Croix**	**3.91**	**213**	*e*Pn	**Pn**	**19 12 13.2**	**+1.1**
	SNR=1.0						
LASF	**Ste Croix**	**3.91**	**213**	*e*Pg	**Pg**	**19 12 25.3**	**-1.1**
LASF				*e*Sg	**Sg**	**19 13 15.2**	**-1.9**
	2.6nm,0.4s						

MAN 21 19:18:06.5, 842N×12668E, h35km, mb2.8, ML4.2, MS4.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.19**	**298**	*e*P	Pn	19 18 26.5	-0.1
BUTP				*e*S	Sn	19 18 41.7	+0.2
MATI	**Mati**	**1.52**	**196**	*e*P	Pn	19 18 31.9	+0.7
MATI				*e*S	Sn	19 18 49.1	-0.7
BUKP	**Musuan**	**1.69**	**252**	*e*P	Pn	19 18 34.5	+0.9
SCPH	**Surigao**	**1.80**	**319**	⇑*e*P	Pn	19 18 35.5	+0.5

*CSEM **21** 19:19:41.9±0.2, 3650N×2694E, h136km±3km, MD3.2*
*HLW **21** 19:19:42.1, 3645N×2689E, h25km, Mb3.7*
*ISCJB **21** 19:19:42.6±0.6, 3642N±005×2680E±005, h129km±6km, Error ellipse: s-maj=7.8km s-min=6.1km az=172.5*
*ISK **21** 19:19:42.0, 3642N×2651E, h96km, MD3.2*
*ATH **21** 19:19:43.7, 3648N×2676E, h117km±2km*
*NEIC **21** 19:19:43.7, 3648N×2676E, h117km, After ATH.*

ISC 21 19:19:43.6±0.6, **3644N**±005×**2681E**±005, **h123**km±7km, **n28,** σ**0**:**94**/36, **2C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.69**	**65**	PG	**Pn**	**19 20 02.5**	**-0.6**
DAT				SG	**Sn**	**19 20 17.1**	**-0.7**
BODT	**Bodrum**	**0.74**	**33**	PG	**Pn**	**19 20 01.8**	**-1.7**
BODT				SG	**Sn**	**19 20 16.1**	**-2.5**
KARP	**Karpathos**	**0.94**	**162**	*e*P	**Pn**	**19 20 06.1**	**+0.9**
KARP				*e*S	**Sn**	**19 20 22.2**	**+0.6**
ARG	**Arkhangelos**	**1.09**	**101**	⇑*i*P	**Pn**	**19 20 07.7**	**+1.0**
ARG				*e*S	**Sn**	**19 20 25.2**	**+0.9**
MLSB	**Milas**	**1.16**	**42**	PN	**Pn**	**19 20 06.9**	**-0.5**
APE	**Apeiranthos**	**1.20**	**302**	*e*P	**Pn**	**19 20 08.2**	**+0.3**
SMG	**Samos**	**1.27**	**1**	⇑*e*P	**Pn**	**19 20 08.5**	**-0.1**
YER	**Yerkesik**	**1.37**	**59**	*e*PN	**Pn**	**19 20 10.5**	**+0.8**
DALT	**Dalyan (Mudla)**	**1.51**	**77**	PN	**Pn**	**19 20 11.9**	**+0.6**
NPS	**Neapolis**	**1.52**	**220**	⇓*i*P	**Pn**	**19 20 12.0**	**+0.6**
NPS				*e*S	**Sn**	**19 20 31.8**	**-0.9**
XRY	**Khrisi**	**1.81**	**210**	*e*P	**Pn**	**19 20 16.0**	**+1.2**
FETY	**Fethiye**	**1.84**	**83**	PN	**Pn**	**19 20 16.1**	**+0.9**
KSL	**Kastellorizon**	**2.26**	**97**	*e*P	**Pn**	**19 20 21.5**	**+1.1**
ELL	**Elnali**	**2.52**	**82**	*e*PN	**Pn**	**19 20 24.6**	**+0.9**
GVD	**Gavdhos**	**2.73**	**235**	*e*P	**Pn**	**19 20 28.0**	**+1.6**
VLI	**Veliai**	**3.13**	**276**	*e*P	**Pn**	**19 20 32.4**	**+0.8**
VLI				*e*S	**Sn**	**19 21 07.2**	**-1.4**
ITM	**Ithomi**	**3.98**	**282**	*e*P	**Pn**	**19 20 44.1**	**+1.2**
HMAT	**Matruh**	**5.34**	**177**	P	**Pn**	**19 21 00.7**	**-0.3**
SWA1		**7.22**	**188**	P	**Pn**	**19 21 25.9**	**-0.5**
SWA1				S	**Sn**	**19 22 41.4**	**-5.4**
SWA2		**7.27**	**189**	P	**Pn**	**19 21 26.5**	**-0.7**
AMAG	**Maghara**	**7.87**	**135**	P	**Pn**	**19 21 33.6**	**-1.7**
GLL	**Jalalah**	**7.99**	**148**	P	**Pn**	**19 21 36.5**	**-0.3**
GLL	**Jalalah**	**7.99**	**148**	P	**Pn**	**19 21 36.5**	**-0.3**
AWBH		**8.29**	**167**	P	**Pn**	**19 21 40.5**	**-0.4**
SUZ		**8.30**	**141**	P	**Pn**	**19 21 40.4**	**-0.6**
HNKL	**Nakhl**	**8.85**	**135**	P	**Pn**	**19 21 47.3**	**-1.2**
HNKL				S	**Sn**	**19 23 20.0**	**-6.3**
HFRF	**Wahat Farafira**	**9.35**	**172**	P	**Pn**	**19 21 55.1**	**-0.2**
HKAT	**Jabal Katrina**	**9.95**	**140**	P	**Pn**	**19 22 03.3**	**0.0**

*ISCJB **21** 19:20:40.4±0.3, 4733N±001×679E±002, h3km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=71.3*
*STR **21** 19:20:42.9±0.3, 4739N×690E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **21** 19:20:42.8±0.1, 4738N×690E, h10km, ML2.4/16, Error ellipse: s-maj=1.4km s-min=1.1km az=126.0*
*LDG **21** 19:20:42.8±0.0, 4737N×688E, h4km, Md2.4/2, Ml2.4/18, Error ellipse: s-maj=0.9km s-min=0.7km az=125.0*
*ZUR **21** 19:20:42.3, 4740N×687E, h2km±2km, ML1.7/7*

ISC 21 19:20:41.9±0.2, **4736N**±001×**684E**±002, **h12**km±3km, **n62,**
σ**0**:**70**/116, **6C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.01**	**227**	Pg	**Pg**	**19 20 44.5**	**+0.6**
BOURR	**Bourrignon**	**0.27**	**82**	⇑*i*Pg	**Pg**	**19 20 47.6**	**+0.2**
	201nm,2.8s						
HINF	**Hinteralfeld**	**0.46**	**1**	*e*Pg	**Pg**	**19 20 51.3**	**+0.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 20 57.1**	**+0.1**
	15nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.46**	**1**	*e*Pg	**Pg**	**19 20 51.3**	**+0.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 20 57.1**	**+0.1**
	7.6nm,0.2s,SNR=1.0						
BBS	**Basel-Blauen**	**0.47**	**77**	Pg	**Pg**	**19 20 50.8**	**-0.3**
BRANT	**Les Verrieres**	**0.49**	**211**	⇑*i*Pg	**Pg**	**19 20 53.4**	**+1.9**
	56nm,0.3s						
BRANT				*i* Sg	**Sg**	**19 21 00.9**	**+2.9**
	56nm,0.3s						
MOF	**Molkenrain**	**0.53**	**22**	Pg	**Pg**	**19 20 52.7**	**+0.4**
MOF				Sg	**Sg**	**19 20 59.3**	**-0.1**
BALST	**Balsthal**	**0.58**	**92**	⇑*i*Pg	**Pg**	**19 20 53.4**	**+0.2**
	62nm,1.3s						
HAU	**Haudompre**	**0.73**	**333**	*e*Pg	**Pg**	**19 20 56.9**	**+0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 21 06.1**	**+0.6**
	17nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.73**	**333**	*e*Pg	**Pg**	**19 20 56.9**	**+0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 21 06.1**	**+0.6**
	8.4nm,0.2s,SNR=1.0						
ECH	**Echery**	**0.89**	**14**	Pg	**Pg**	**19 20 59.3**	**+0.3**
ECH				Sg	**Sg**	**19 21 10.3**	**-0.2**
CABF	**La Chapelle**	**0.91**	**215**	*e*Pn	**Pn**	**19 21 01.4**	**+0.9**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**19 21 14.4**	**+0.9**
	6.0nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**0.91**	**215**	*e*Pn	**Pn**	**19 21 01.4**	**+0.9**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**19 21 14.4**	**+0.9**
	3.0nm,0.2s,SNR=1.0						
FELD	**Feldberg im Sc**	**0.94**	**56**	Pg	**Pg**	**19 21 00.2**	**+0.1**
FELD				Sg	**Sg**	**19 21 11.4**	**-1.0**
AIGLE	**Aigle**	**1.02**	**176**	*i* Pn	**Pn**	**19 21 03.1**	**+1.1**
	49nm,0.3s						
THEF	**They Montfort**	**1.04**	**327**	Pg	**Pg**	**19 21 03.1**	**+1.1**
THEF				Sg	**Sg**	**19 21 16.3**	**+0.8**
SENIN	**Lac Senin**	**1.04**	**162**	⇑*i*P	**Pb**	**19 21 03.1**	**+1.2**
	27nm,0.4s						
CDF	**Champ du Feu**	**1.10**	**15**	*e*Pn	**Pn**	**19 21 01.9**	**-1.2**
	SNR=1.0						
CDF	**Champ du Feu**	**1.10**	**15**	*e*Pg	**Pg**	**19 21 02.4**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 21 16.8**	**-0.4**
	22nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**1.10**	**15**	*e*Pg	**Pg**	**19 21 02.4**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 21 16.8**	**-0.4**
	11nm,0.2s,SNR=1.0						
WLS	**Welschbruch**	**1.11**	**18**	Pg	**Pg**	**19 21 03.7**	**+0.4**
WLS				Sg	**Sg**	**19 21 17.9**	**+0.1**
BNALP	**Bannalp**	**1.19**	**114**	*i* Pn	**Pn**	**19 21 05.8**	**+1.5**
	54nm,0.3s						
SLE	**Schleitheim**	**1.19**	**69**	*i* Pn	**Pn**	**19 21 03.7**	**-0.7**
	94nm,0.3s						
BFO	**Black Forest**	**1.40**	**45**	*e*Pg	**Pg**	**19 21 08.5**	**-0.3**
BFO				*e*Sg	**Sg**	**19 21 25.7**	**-1.2**
SFTF	**Sexfontaines**	**1.48**	**306**	*e*Pg	**Pg**	**19 21 10.7**	**+0.4**
SFTF				*e*Sg	**Sg**	**19 21 29.7**	**+0.1**
	4.6nm,0.2s						
SFTF	**Sexfontaines**	**1.48**	**306**	*e*Pg	**Pg**	**19 21 10.7**	**+0.4**
SFTF				*e*Sg	**Sg**	**19 21 29.7**	**+0.1**
	2.3nm,0.2s						
RFYF	**Reffroy**	**1.57**	**325**	*e*Pg	**Pg**	**19 21 11.8**	**-0.2**
RFYF				*e*Sg	**Sg**	**19 21 32.5**	**+0.2**
	20nm,0.3s						
RFYF	**Reffroy**	**1.57**	**325**	*e*Pg	**Pg**	**19 21 11.8**	**-0.2**
RFYF				*e*Sg	**Sg**	**19 21 32.5**	**+0.2**
	10.0nm,0.3s						
MEZF	**Maizieres J'vi**	**1.66**	**314**	*e*Pg	**Pg**	**19 21 13.7**	**0.0**
MEZF				*e*S

LASF	**Ste Croix**	**3.89**	**214**	*e*Pn	**Pn**	**19 21 41.7**	**+0.2**
LASF	**Ste Croix**	**3.89**	**214**	*e*Pg	**Pg**	**19 21 55.3**	**-1.1**
LASF				*e*Sn	**Sn**	**19 22 26.1**	**-1.0**
LASF				*e*Sg	**Sg**	**19 22 45.5**	**-1.3**
	1.5nm,0.3s						
LASF	**Ste Croix**	**3.89**	**214**	*e*Pg	**Pg**	**19 21 55.3**	**-1.1**
LASF				*e*Sn	**Sn**	**19 22 26.1**	**-1.0**
LASF				*e*Sg	**Sg**	**19 22 45.5**	**-1.3**
	0.8nm,0.3s						
MTLF	**Montolieu**	**5.17**	**221**	*e*Pg	**Pg**	**19 22 19.1**	**-1.8**
	SNR=1.0						

IDC ***21*** *19:26:25.2±2.0,5405×14374E,h0km,mb3.8/3,mb1 4.0/5, mb1mx3.8/13,mbtmp3.9/5,ML2.6/1,Error ellipse: s-maj=39.6km s-min=29.2km az=66.0*
NEIC ***21*** *19:26:26.5±1.2,5415×14380E,h10km,mb3.8/1,Error ellipse: s-maj=17.9km s-min=15.2km az=189.0*
ISCJB ***21*** *19:26:28.1±1.4,5458±01×14379E±009,h35km,mb3.6/2, Error ellipse: s-maj=20.0km s-min=10.4km az=55.2*
ISC 21 19:26:30.2±1.4,5458±01×14377E±009,h35km,n11, σ1§03/13,mb3.6/2,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**140**	Pn	**Pn**	**19 27 44.5**	**-1.1**
	1.3nm,0.3s,baz=345,slow=19,SNR=5.0						
PMG				Sn	**Sn**	**19 28 45.6**	**+1.1**
	1.0nm,0.3s,baz=307,slow=20,SNR=4.5						
PMG	**Port Moresby**	**5.21**	**140**	*e*Pn	**Pn**	**19 27 43.8**	**-1.8**
PMG				*e*		19 28 00.2	
PMG				*e*Sn	**Sn**	**19 28 44.2**	**-0.3**
KAKA	**Kakadu**	**13.34**	**236**	*e*P	**Pn**	**19 29 36.4**	**-0.6**
	8.5nm,0.9s						
WRAB	**Tennant Creek**	**17.11**	**212**	P	**Pn**	**19 30 26.1**	**-0.5**
	10nm,1.3s						
WB2	**Warramunga Arr**	**17.12**	**212**	*e*P	**Pn**	**19 30 28.0**	**+1.4**
WB2	**Warramunga Arr**	**17.12**	**212**	*e*Pn	**Pn**	**19 30 26.5**	**-0.1**
WRA	**Warramunga Arr**	**17.13**	**212**	P	**Pn**	**19 30 26.6**	**-0.1**
	0.1nm,0.3s,baz=30,slow=13,SNR=8.6						
AS31	**Alice Springs**	**20.50**	**207**	*e*P	**P**	**19 31 07.5**	**+2.4**
ASAR	**Alice Springs**	**20.50**	**207**	P	**P**	**19 31 05.5**	**+0.4**
	4.2nm,0.8s,baz=29,slow=9.5,SNR=19						
FITZ	**Fitzroy Crossi**	**21.75**	**233**	P	**P**	**19 31 17.4**	**-1.2**
	2.5nm,1.0s,mb3.6,baz=45,slow=8.6,SNR=2.6						
ZAL	**Zalesovo**	**76.82**	**329**	P	**P**	**19 38 18.8**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=289,slow=5.2,SNR=3.0						

STR ***21*** *19:39:55.9±0.0,4302N×003W,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 21 19:39:55.9±0.1,4303N×002W,h2km,Md1.7/3,Ml1.7/2, Error ellipse: s-maj=2.8km s-min=1.3km az=172.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**74**	Pg	Pg	19 39 57.7	+0.4
LABF				Sg	Sg	19 39 59.0	+0.7
VIEF	**Viey**	**0.15**	**167**	Pg	Pg	19 39 58.9	+0.2
VIEF				Sg	Sg	19 40 01.1	+0.4
EPF	**Esparros**	**0.27**	**89**	*e*Pg	Pg	19 40 00.9	-0.1
EPF				*e*Sg	Sg	19 40 04.8	+0.3
	5.5nm,0.1s						
ETSF	**Etsaut**	**0.41**	**252**	*e*Pg	Pg	19 40 04.3	+0.4
ETSF				*e*Sg	Sg	19 40 09.8	+0.6
	9.5nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**276**	*e*Pg	Pg	19 40 12.4	-0.5
SJPF				*e*Sg	Sg	19 40 23.4	-1.0
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	19 40 27.2	-0.7
MTLF				*e*Sg	Sg	19 40 48.5	-1.0
	2.5nm,0.3s						

IDC ***21*** *19:47:36.6±1.8,4692N×15323E,h0km,mb3.9/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.9/5,ML3.5/1,Error ellipse: s-maj=63.5km s-min=29.8km az=96.0*
MOS ***21*** *19:47:40.1±0.3,4696N×15298E,h34km,mb4.4/2,Error ellipse: s-maj=46.3km s-min=31.1km az=45.6*
JMA ***21*** *19:47:43.5±0.6,4694N×15269E,h30km,M4.0*
ISCJB ***21*** *19:47:51.0±2.2,467N±02×1519E±03,h119km±18km, mb3.7/4,Error ellipse: s-maj=40.0km s-min=17.4km az=80.9*
ISC 21 19:47:51.5±2.2,467N±02×1520E±03,h113km±18km,n20, σ1§21/23,mb3.7/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.26**	**245**	*e*PN	**Pn**	**19 48 40.0**	**-1.0**
NEM2	**Nemuro 2**	**5.58**	**235**	P	**Pn**	**19 49 10.3**	**-1.8**
NEM2				*e*S	**Sn**	**19 50 14.8**	**-0.1**
JRA	**Rausu**	**5.61**	**243**	P	**Pn**	**19 49 14.3**	**+1.8**
JNK	**Nakash**	**6.05**	**241**	P	**Pn**	**19 49 18.6**	**+0.2**
JTKR	**Abashiri--Toko**	**6.35**	**247**	P	**Pn**	**19 49 24.4**	**+1.9**
JAK	**Akkeshi**	**6.41**	**237**	P	**Pn**	**19 49 21.8**	**-1.5**
JAK				*e*S	**Sn**	**19 50 34.9**	**0.0**
JAR	**Ashorobuto**	**6.78**	**243**	P	**Pn**	**19 49 29.0**	**+0.6**
ASAJ	**Asahikawa**	**7.13**	**252**	Pn	**Pn**	**19 49 34.1**	**+1.0**
	0.7nm,0.3s,baz=132,slow=27,SNR=6.1						
ASAJ	**Asahikawa**	**7.13**	**252**	PN	**Pn**	**19 49 34.1**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.14**	**250**	P	**Pn**	**19 49 35.8**	**+2.6**
JCH	**Churui**	**7.42**	**240**	P	**Pn**	**19 49 35.7**	**-1.3**
JCH				*e*S	**Sn**	**19 50 58.9**	**-0.6**
JKB	**Kayabe**	**9.25**	**243**	P	**Pn**	**19 50 00.9**	**-0.9**
JANG	**Nango**	**9.92**	**234**	*e*S	**Sn**	**19 51 55.2**	**-5.1**
FINES	**FINESS Array B**	**63.76**	**334**	P	**P**	**19 58 10.6**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.0,baz=36,slow=6.5,SNR=11						
FINES	**FINESS Array B**	**63.76**	**334**	P	**P**	**19 58 10.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**19 58 37.1**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**19 58 38.5**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=30,slow=6.6,SNR=2.7						
AKASG	**Malin Array Be**	**71.16**	**326**	P	**P**	**19 58 57.9**	**+0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=33,slow=6.3,SNR=5.0						
AKASG	**Malin Array Be**	**71.16**	**326**	P	**P**	**19 58 57.9**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**71.94**	**197**	P	**P**	**19 59 04.3**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.3,baz=9.2,slow=5.7,SNR=5.7						

IDC 21 19:49:11.5±9.6,2065N×14408E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=378.0km s-min=31.3km az=77.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**40.68**	**321**	P	P	19 56 53.6	+0.1
	0.8nm,0.4s,baz=124,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**41.45**	**194**	P	P	19 57 00.3	+0.4
	0.6nm,0.7s,baz=16,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**45.15**	**193**	P	P	19 57 29.7	-0.1
	0.3nm,0.7s,baz=13,slow=9.4,SNR=6.7						

ISCJB ***21*** *20:20:16.2±2.5,245N±008×1286E±0.1,h234km±25km, mb4.0/14,Error ellipse: s-maj=25.8km s-min=8.7km az=129.7*
NEIC ***21*** *20:20:18.8±3.2,240N×12856E,h248km±34km,mb4.0/6, Error ellipse: s-maj=26.8km s-min=8.5km az=66.0*
IDC ***21*** *20:20:18.1±2.4,239N×12856E,h237km±24km,mb3.4/7, mb1 3.5/7,mb1mx3.4/18,mbtmp3.4/7,Error ellipse: s-maj=39.3km s-min=9.4km az=79.0*
ISC 21 20:20:16.5±2.1,245N±007×1287E±01,h218km±19km,n25, σ0§60/28,mb4.0/14,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**12.91**	**286**	P	**Pn**	**20 23 11.8**	**-0.5**
KSM	**Kuching**	**18.37**	**267**	*e*P	**P**	**20 24 15.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.64**	**188**	*e*P	**P**	**20 24 38.5**	**-0.8**
	6.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.64**	**188**	P	**P**	**20 24 38.3**	**-1.0**
	1.4nm,0.5s,baz=346,slow=17,SNR=9.3						
WRAB	**Tennant Creek**	**22.93**	**166**	*e*P	**P**	**20 25 01.4**	**-0.2**
	3.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**22.94**	**166**	P	**P**	**20 25 01.7**	**+0.1**
	2.2nm,0.4s,mb4.1,baz=344,slow=10.0,SNR=50						
WRA				S	**S**	**20 28 55.1**	**0.0**
	0.6nm,0.6s,baz=346,slow=17,SNR=3.3						
WB2	**Warramunga Arr**	**22.94**	**166**	*e*P	**P**	**20 25 01.7**	**0.0**
WB2				*e*S	**S**	**20 28 56.2**	**+1.1**
AS31	**Alice Springs**	**26.45**	**169**	*e*P	**P**	**20 25 34.0**	**+0.6**
ASAR	**Alice Springs**	**26.45**	**169**	P	**P**	**20 25 33.6**	**+0.2**
	0.9nm,0.5s,mb3.6,baz=358,slow=8.2,SNR=18						
ASAR				S	**S**	**20 29 48.5**	**-2.3**
	0.5nm,0.8s,baz=351,slow=17,SNR=4.1						
ASPA	**Alice Springs**	**26.45**	**169**	*e*P	**P**	**20 25 34.0**	**+0.6**
MJAR	**Matsushiro Arr**	**35.05**	**13**	P	**P**	**20 26 48.4**	**-0.2**
	1.8nm,0.7s,mb3.7,baz=188,slow=9.0,SNR=8.2						
MJAR	**Matsushiro Arr**	**35.05**	**13**	P	**P**	**20 26 48.4**	**-0.2**
STKA	**Stephens Creek**	**36.28**	**161**	P	**P**	**20 26 59.4**	**+0.4**
	1.2nm,0.3s,mb3.9,baz=345,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**36.28**	**161**	*e*P	**P**	**20 26 59.0**	**0.0**
LSA	**Lhasa**	**44.73**	**311**	*e*P	**P**	**20 28 08.4**	**+0.3**
	4.5nm,0.8s,mb3.9						
JIRN	**Jiri**	**47.68**	**306**	*e*P	**P**	**20 28 31.7**	**+0.6**
	9.5nm,0.4s,mb4.5						
GUN	**Gumba**	**48.03**	**306**	*e*P	**P**	**20 28 34.3**	**+0.5**
	17nm,0.7s,mb4.5						
KKN	**Kakani**	**48.47**	**306**	*e*P	**P**	**20 28 36.9**	**-0.2**
DMN	**Daman**	**48.54**	**305**	*e*P	**P**	**20 28 37.7**	**+0.1**
ULN	**Ulaanbaatar**	**48.94**	**341**	*e*P	**P**	**20 28 40.5**	**-0.2**
	2.1nm,0.8s,mb3.5						
SONM	**Songino Array**	**49.13**	**340**	P	**P**	**20 28 42.7**	**+0.5**
	0.8nm,0.3s,mb3.5,baz=147,slow=8.2,SNR=3.3						
KOLN	**Koldanda**	**49.83**	**305**	*e*P	**P**	**20 28 47.8**	**+0.4**
	19nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**59.70**	**325**	P	**P**	**20 29 57.8**	**-0.4**
	1.7nm,0.4s,mb4.0,baz=115,slow=8.0,SNR=40						
BRVK	**Borovoye**	**69.51**	**327**	P	**P**	**20 31 00.1**	**-1.4**
	2.4nm,0.6s,mb4.0						
SBA	**Scott Base**	**82.81**	**172**	P	**P**	**20 32 11.8**	**-4.5**
	5.4nm,0.8s,mb4.3						

ISCJB ***21*** *20:22:20.9±0.5,3932N±003×23.15E±005,h9km±5km, Error ellipse: s-maj=6.6km s-min=4.9km az=41.0*
ATH ***21*** *20:22:21.4,3929N×2318E,h11km,MD3.0/4*
CSEM ***21*** *20:22:21.6±0.1,3928N×2313E,h2km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.4km az=136.0*
THE ***21*** *20:22:21.3,3931N×2313E,h19km,ML2.3*
ISC 21 20:22:21.0±0.6,3930N±003×2316E±005,h12km±5km,n13, σ0§65/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.05**	**81**	*e*PG	**Pg**	**20 22 23.5**	**+0.1**
NEO				*e*SG	**Sg**	**20 22 25.1**	**0.0**
XOR	**Xorichti**	**0.07**	**20**	*e*Pg	**Pg**	**20 22 24.1**	**+0.5**
AOS	**Alonnisos**	**0.57**	**103**	*e*Pg	**Pg**	**20 22 32.5**	**+0.3**
LKR	**Lokris**	**0.66**	**191**	*e*PG	**Pg**	**20 22 33.5**	**-0.4**
LKR				*e*SB	**Sb**	**20 22 43.0**	**-0.5**
AGG	**Agios Georgios**	**0.70**	**247**	*e*Pg	**Pg**	**20 22 33.8**	**-0.9**
AGG				*e*Sg	**Sg**	**20 22 44.6**	**+0.7**
PAIG	**Paliouri**	**0.74**	**32**	*e*Pg	**Pg**	**20 22 35.9**	**+0.4**
PAIG				*e*Sg	**Sg**	**20 22 46.2**	**+1.0**
PAIG	**Paliouri**	**0.74**	**32**	*e*Pg	**Pg**	**20 22 35.9**	**+0.4**
PAIG				*e*Sg	**Sg**	**20 22 46.2**	**+1.0**
THL	**Klokotos Trika**	**0.93**	**287**	*e*PB	**Pb**	**20 22 39.3**	**+0.3**
THL				*e*SB	**Sb**	**20 22 52.2**	**+1.0**
LIT	**Litokhoron**	**0.95**	**327**	*e*Pg	**Pg**	**20 22 38.6**	**-0.8**
LIT				*e*Sg	**Sg**	**20 22 51.5**	**-0.3**
LIT	**Litokhoron**	**0.95**	**327**	*e*Pg	**Pg**	**20 22 38.7**	**-0.7**
LIT				*e*Sg	**Sg**	**20 22 51.5**	**-0.4**
PLG	**Polygyros**	**1.10**	**11**	*e*Pg	**Pg**	**20 22 42.1**	**0.0**
PLG				*e*Sg	**Sg**	**20 22 54.9**	**-1.5**
PLG	**Polygyros**	**1.10**	**11**	*e*PB	**Pb**	**20 22 41.9**	**0.0**
PLG	**Polygyros**	**1.10**	**11**	*e*Pg	**Pg**	**20 22 42.1**	**0.0**
PLG				*e*Sg	**Sg**	**20 22 54.8**	**-1.6**

IDC ***21*** *20:34:31.1±1.9,4746N×15304E,h0km,mb3.8/7, mb1 4.1/8,mb1mx3.8/22,mbtmp3.9/8,ML3.5/1,Error ellipse: s-maj=50.9km s-min=27.0km az=156.0*
ISCJB ***21*** *20:34:34.9±1.9,470N±02×1528E±03,h54km±14km, mb3.8/6,Error ellipse: s-maj=49.7km s-min=11.7km az=106.9*
MOS ***21*** *20:34:36.0±1.5,4704N×15275E,h65km,mb4.4/2,Error ellipse: s-maj=30.6km s-min=19.5km az=60.1*
ISC 21 20:34:36.5±1.8,470N±02×1528E±03,h57km±14km,n14, σ0§59/15,mb3.8/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.83**	**245**	*e*PN	**Pn**	**20 35 32.0**	**-0.8**
KUR				*i* S	**Sn**	**20 36 17.0**	**+0.5**
KUR				smax			
	comp=N,250nm,0.5s						
KUR				smax			
	comp=E,140nm,0.5s						
SKR	**Severo-Kuril's**	**4.33**	**29**	*e*PN	**Pn**	**20 35 39.9**	**+0.2**
SKR				*e*		20 36 25.9	
ASAJ	**Asahikawa**	**7.69**	**252**	Pn	**Pn**	**20 36 30.3**	**+4.6**
	comp=E,0.7nm,0.3s,baz=87,slow=11,SNR=5.8						
ASAJ	**Asahikawa**	**7.69**	**252**	PN	**Pn**	**20 36 30.3**	**+4.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.64**	**252**	P	**P**	**20 39 15.9**	**+4.7**
	comp=Z,0.9nm,0.5s,baz=61,slow=9.2,SNR=4.8						
MKAR	**Makanchi Array**	**46.64**	**297**	P	**P**	**20 42 59.7**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=66,slow=6.7,SNR=4.9						
FINES	**FINESS Array B**	**63.75**	**335**	P	**P**	**20 45 02.4**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.2,baz=49,slow=7.0,SNR=14						
FINES	**FINESS Array B**	**63.75**	**335**	P	**P**	**20 45 02.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.95**	**341**	P	**P**	**20 45 29.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**20 45 29.7**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=6.6						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**20 45 29.7**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**20 45 49.5**	**-0.1**
	comp=Z,1.9nm,0.3s,mb4.5,baz=36,slow=6.5,SNR=10						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**20 46 26.9**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=316,slow=2.6,SNR=5.3						
GERES	**GERESS Array B**	**78.16**	**334**	P	**P**	**20 46 28.5**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=37,slow=6.9,SNR=3.8						

LDG ***21*** *20:36:25.6±0.2,4309N×123W,h10km,Md2.1/3,Ml1.9/1, Error ellipse: s-maj=4.8km s-min=1.6km az=37.0*
STR ***21*** *20:36:25.8±0.2,4310N×123W,h4km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 21 20:36:26.1±0.3,4311N×122W,h10km±3km,mbLg1.3/9, 1C-2D,Error ellipse: s-maj=1.5km s-min=1.3km az=175.0,PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.01**	**303**	*e*Pg	Pg	20 36 27.9	+0.1
SJPF				*e*Sg	Sg	20 36 28.7	-0.3
	24nm,0.1s						
OSSF	**Osses**	**0.15**	**347**	Pg	Pg	20 36 29.3	-0.2
OSSF				Sg	Sg	20 36 31.6	-0.2
OSSF	**Osses**	**0.15**	**347**	Pg	Pg	20 36 29.5	0.0
OSSF				Lg		20 36 31.8	
LARF	**Larrau**	**0.18**	**113**	Pg	Pg	20 36 29.7	-0.3
LARF				Sg	Sg	20 36 32.7	+0.1
LARF	**Larrau**	**0.18**	**113**	Pg	Pg	20 36 29.9	-0.1
LARF				Lg		20 36 33.0	
ELIZ	**Elizondo**	**0.23**	**284**	⇑Pg	Pg	20 36 30.7	-0.2
	11nm,0.2s,SNR=18						
ELIZ				Lg		20 36 33.9	
	6.1nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.24**	**298**	⇓Pg	Pg	20 36 30.9	-0.1
	19nm,0.3s,SNR=18						
EALK				Lg		20 36 34.4	
	12nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.29**	**236**	⇓Pg	Pg	20 36 31.7	-0.3
	7.7nm,0.3s,SNR=18						
IUSE				Lg		20 36 36.0	
	23nm,0.1s,SNR=25						
IPRE	**Itoiz**	**0.32**	**199**	Pg	Pg	20 36 31.2	-1.3
	SNR=4.0						
IPRE				Lg		20 36 37.1	
	2.4nm,0.1s,SNR=10						
ATE	**Arette**	**0.38**	**93**	Pg	Pg	20 36 33.2	-0.4
ATE				Sg	Sg	20 36 38.8	+0.2
ATE	**Arette**	**0.38**	**93**	Pg	Pg	20 36 33.4	-0.2
ATE				Lg		20 36 38.7	
ETSF	**Etsaut**	**0.53**	**113**	*e*Pg	Pg	20 36 35.6	-0.8
ETSF				*e*Sg	Sg	20 36 42.3	-1.0
	5.3nm,0.3s						
ETSF	**Etsaut**	**0.53**	**113**	Pg	Pg	20 36 35.6	-0.8
ETSF				Lg		20 36 42.3	
	2.7nm,0.3s						
ECRI	**Cripan**	**1.07**	**243**	Pg	Pg	20 36 47.2	+0.4
	SNR=7.9						
ECRI				Lg		20 37 00.5	
	2.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.08**	**112**	Pg	Pg	20 36 46.5	-0.4
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		20 37 01.2	
	1.8nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.14**	**93**	*e*Pg	Pg	20 36 47.4	-0.7
EPF				*e*Sg	Sg	20 37 02.4	-0.6
	2.7nm,0.2s						
EPF	**Esparros**	**1.14**	**93**	Pg	Pg	20 36 47.4	-0.7
EPF				Lg		20 37 02.4	
	1.4nm,0.2s						
ESAC	**San Caprasio**	**1.49**	**158**	Pg	Pg	20 36 54.2	-0.6
	7.4nm,0.4s,SNR=4.0						
ESAC				Lg		20 37 14.0	
	10nm,0.2s,SNR=7.9						

ISCJB ***21*** *20:41:11.1±0.5,4637N±007×15476E±007,h10km, mb4.4/44,MS3.6/8,Error ellipse: s-maj=11.3km s-min=5.5km az=135.8*
IDC ***21*** *20:41:11.2±0.7,4630N×15474E,h0km,mb4.2/18, mb1 4.4/19,mb1mx4.3/24,mbtmp4.2/19,ML4.3/1,MS3.6/4, Ms1 3.6/4,ms1mx3.2/28,Error ellipse: s-maj=19.8km s-min=15.3km az=154.0*
NEIC ***21*** *20:41:12.9±0.5,4636N×15473E,h10km,mb4.6/18,Error ellipse: s-maj=12.5km s-min=7.5km az=156.0*
BJI ***21*** *20:41:13.9,4692N×15427E,h5km,mB4.9,mb4.5,Ms4.4, Msz4.0*
MOS ***21*** *20:41:15.1±1.1,4645N×15462E,h39km,mb4.6/25,Error ellipse: s-maj=12.1km s-min=8.5km az=94.6*
ISC 21 20:41:13.3±2.1,4643N±008×15473E±007,h11km±12km, h15km±.7km:pP-P,n107,σ1§21/110,mb4.4/44,MS3.6/8, 5C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.35**	**12**	*e*PN	**Pn**	**20 42 21.5**	**+2.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**4.95**	**258**	⇑PN	**Pn**	**20 42 23.3**	**-4.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
PET	**Petropavlovsk**	**7.07**	**20**	PN	**Pn**	**20 42 56.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.25**	**278**	⇓*e*PN	**Pn**	**20 43 14.9**	**+1.9**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.25**	**278**	*e*P	**Pn**	**20 43 13.9**	**+0.9**
	comp=Z,40nm,0.9s						
ASAJ	**Asahikawa**	**8.87**	**259**	Pn	**Pn**	**20 43 21.2**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=264,slow=24,SNR=16						
ASAJ	**Asahikawa**	**8.87**	**259**	PN	**Pn**	**20 43 21.3**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.81**	**237**	Pn	**Pn**	**20 44 50.9**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=261,slow=25,SNR=3.2						
MDJ	**Mudanjiang**	**17.69**	**273**	P	**Pn**	**20 45 18.5**	**-1.1**
MDJ				AP	pP	20 45 22.1	-1.5
MDJ				XP	sP	20 45 23.6	-1.5
MDJ				S	**Sn**	**20 48 35.8**	**-0.9**
MDJ				SCP	ScP	20 53 32.5	-0.4
MDJ				PCS	PcS	20 53 33.8	-0.4
MDJ				AMB	AMB		
	comp=Z,22nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,136nm,3.7s						
MDJ	**Mudanjiang**	**17.69**	**273**	*e*P	**Pn**	**20 45 17.6**	**-2.0**
	comp=Z,20nm,1.0s						
YAK	**Yakutsk**	**21.20**	**326**	*e*P	**P**	**20 45 57.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.1						
YAK	**Yakutsk**	**21.20**	**326**	P	**P**	**20 45 57.7**	**-1.1**
	comp=Z,35nm,1.2s,mb4.6						
KSRS	**Korea Array**	**21.78**	**255**	P	**P**	**20 46 05.2**	**+0.1**
	comp=Z,6.3nm,0.8s,mb4.1,baz=54,slow=11,SNR=11						
BILL	**Bilibino**	**22.47**	**11**	*e*P	**P**	**20 46 11.4**	**-1.1**
BILL				*e*		20 46 24.2	
BILL				*e*		20 50 04.5	
BILL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
BILL	**Bilibino**	**22.47**	**11**	*e*P	**P**	**20 46 12.0**	**-0.5**
	comp=Z,13nm,1.1s,mb4.3						
BOD	**Bodaibo**	**27.05**	**310**	*e*P	**P**	**20 46 52.8**	**-2.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BJI	**Beijing**	**28.60**	**271**	P	**P**	**20 47 13.0**	**+3.5**
BJI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
BJI	**Beijing**	**28.60**	**271**	P	**P**	**20 47 13.0**	**+3.5**
	comp=Z,16nm,0.9s,mb4.8						
BJT	**Baijiatuan**	**28.61**	**271**	*e*P	**P**	**20 47 12.3**	**+2.7**
BJT				pmax	pmax		
	comp=Z,28nm,1.1s						

LZH sP sP 20 49 01.0 +16
GTA Gaotai 40.12 280 *e*P **P** **20 48 49.8 +0.7**
GTA AP pP 20 48 53.9 +1.4
GTA XP sP 20 48 56.4 +2.5
GTA PP PP 20 50 25.6 +4.3
GTA PCP PcP 20 50 53.6 +0.1
GTA S **S** **20 54 56.5 +1.2**
GTA XS sS 20 55 03.3 +2.3
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,75nm,6.1s
GTA LR LR
comp=N,103nm,12.9s,MS4.0
GTA LR LR
comp=E,122nm,13.3s,MS4.0
GTA LR LR
comp=Z,146nm,13.3s,MS4.0
INK Inuvik 41.33 32 P **P** **20 48 58.6 -0.3**
comp=Z,4.6nm,0.8s,mb4.2,baz=291,slow=5.1,SNR=8.9
INK Inuvik 41.33 32 *e*P **P** **20 48 59.0 +0.1**
comp=Z,215nm,0.9s
CD2 Chengdu 41.97 267 *e*P **P** **20 49 02.9 -1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
ZAL Zalesovo 43.72 307 P **P** **20 49 16.6 -1.8**
comp=Z,1.2nm,0.3s,mb4.0,baz=75,slow=6.7,SNR=6.5
ZAL LR LR 21 10 15.5
comp=Z,68nm,19.0s,MS3.6,baz=64,slow=40
ZAL Zalesovo 43.72 307 P **P** **20 49 16.7 -1.7**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL MLR MLR
comp=Z,68nm,19.0s
NVS Novosibirsk 44.27 308 *e*P **P** **20 49 20.3 -2.6**
WMQ Urumqi 46.08 292⇑ *i*P **P** **20 49 37.8 +0.5**
WMQ AP pP 20 49 42.3 +1.6
WMQ XP sP 20 49 44.8 +2.7
WMQ PCP PcP 20 51 14.4 +0.9
WMQ PP PP 20 51 25.9 +0.6
WMQ *e*S **S** **20 56 22.3 -0.4**
WMQ AMB AMB
comp=Z,3.0nm,0.6s,mb4.4
WMQ AMB AMB
comp=Z,149nm,5.2s
WMQ LR LR
comp=N,61nm,19.8s,MS3.7
WMQ LR LR
comp=E,55nm,19.8s,MS3.7
WMQ LR LR
comp=Z,47nm,18.7s,MS3.5
KMI Kunming 46.29 261 P **P** **20 49 40.3 +1.4**
KMI AP pP 20 49 44.3 +1.9
KMI AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
KMI LR LR
comp=Z,26nm,24.2s,MS3.1
KMI Kunming 46.29 261 P **P** **20 49 40.2 +1.3**
KMI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KMI MLR MLR
comp=Z,30nm,24.2s,MS3.2
KMI Kunming 46.29 261 P **P** **20 49 40.2 +1.3**
comp=Z,4.0nm,0.8s,mb4.4
KMI pP pP 20 49 44.2 +1.8
KMI LR LR
comp=Z,30nm,24.2s,MS3.2
MK31 Makanchi Array 48.08 298 *e*P **P** **20 49 51.6 -1.3**
MKAR Makanchi Array 48.08 298 P **P** **20 49 51.4 -1.4**
comp=Z,4.9nm,0.8s,mb4.6,baz=64,slow=8.2,SNR=18
MKAR LR LR 21 12 08.0
comp=Z,74nm,18.2s,MS3.7,baz=175,slow=39
MKAR Makanchi Array 48.08 298⇑ *e*P **P** **20 49 52.5 -0.4**
MKAR Makanchi Array 48.08 298 P **P** **20 49 51.4 -1.4**
MKAR LR LR 21 12 08.0
YKA Yellowknife Ar 50.51 37 P **P** **20 50 10.2 -1.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=294,slow=7.0,SNR=5.5
YKA Yellowknife Ar 50.51 37⇑ *e*P **P** **20 50 11.6 +0.2**
RES Resolute Bay 50.78 19 *e*P **P** **20 50 14.1 +0.6**
comp=Z,244nm,1.0s
LSA Lhasa 51.41 275 P **P** **20 50 20.0 +1.8**
LSA Lhasa 51.41 275 *e*P **P** **20 50 19.7 +1.5**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LSA Lhasa 51.41 275 *e*P **P** **20 50 19.7 +1.5**
comp=Z,8.8nm,0.7s,mb4.8
CHKZ Chkalovo 51.49 311 *e*P **P** **20 50 17.7 -1.1**
CHKZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CHKZ Chkalovo 51.49 311 *e*P **P** **20 50 17.7 -1.1**
comp=Z,9.5nm,0.8s,mb4.8
BVAR Borovoye Array 51.92 310 P **P** **20 50 21.5 -0.5**
comp=Z,3.3nm,0.8s,mb4.3,baz=65,slow=8.4,SNR=16
BVAR Borovoye Array 51.92 310 P **P** **20 50 21.5 -0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 51.96 310 *e*P **P** **20 50 21.3 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 51.96 310 *e*P **P** **20 50 21.3 -1.0**
comp=Z,3.9nm,0.8s,mb4.4
AAK Ala-Archa 54.98 297 *e*P **P** **20 50 44.3 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 54.98 297 *e*P **P** **20 50 44.3 -0.2**
comp=Z,3.2nm,0.8s,mb4.4
ARU Arti 56.00 318⇑ *i*P **P** **20 50 51.1 -0.7**
ARU *e* 20 51 53.4
ARU *e* 20 52 54.0
ARU *e*S **S** **20 58 35.2 -4.7**
ARU *e*SS SS 21 02 23.8 -2.1
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ARU Arti 56.00 318 *e*P **P** **20 50 50.6 -1.2**
comp=Z,8.7nm,0.8s,mb4.8
JIRN Jiri 56.09 276 *e*P **P** **20 50 53.3 +0.8**
comp=Z,20nm,0.7s,mb5.2
GUN Gumba 56.14 276 *e*P **P** **20 50 53.4 +0.5**
KKN Kakani 56.63 277 *e*P **P** **20 50 57.6 +1.3**
DMN Daman 56.87 277 *e*P **P** **20 50 59.1 +1.1**
GKN Gorkha 56.94 277 *e*P **P** **20 50 59.3 +0.8**
KOLN Koldanda 57.80 278 *e*P **P** **20 51 05.3 +0.7**
comp=Z,14nm,0.8s,mb5.0
ARCES ARCESS Array B 58.52 341 P **P** **20 51 09.7 0.0**
comp=Z,4.4nm,0.9s,mb4.5,baz=33,slow=7.0,SNR=7.4
ARCES ARCESS Array B 58.52 341 P **P** **20 51 09.7 +0.1**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 64.03 55 P **P** **20 51 47.0 +0.1**
comp=Z,2.6nm,0.9s,mb4.3,baz=283,slow=2.8,SNR=19
FINES FINESS Array B 64.80 335 P **P** **20 51 51.4 -0.6**
comp=Z,2.7nm,0.7s,mb4.4,baz=32,slow=9.5,SNR=9.9
FINES LR LR 21 22 53.5
comp=Z,61nm,19.3s,MS3.8,baz=165,slow=38
FINES FINESS Array B 64.80 335 *i*P **P** **20 51 52.2 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 64.80 335 P **P** **20 51 51.4 -0.6**
FINES LR LR 21 22 53.5
ULM Lac du Bonnet 66.03 42 P **P** **20 51 59.8 -0.2**
comp=Z,1.1nm,0.6s,mb4.1,baz=356,slow=8.1,SNR=3.0
WRAB Tennant Creek 68.58 201 *e*P **P** **20 52 14.0 -2.1**
WRAB pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WRAB Tennant Creek 68.58 201 *e*P **P** **20 52 14.0 -2.1**
comp=Z,4.9nm,1.0s,mb4.4
WRA Warramunga Arr 68.59 201 P **P** **20 52 14.2 -2.0**
comp=Z,1.0nm,1.0s,mb3.7,baz=22,slow=6.7,SNR=6.9
WRA Warramunga Arr 68.59 201 *i*P **P** **20 52 15.3 -0.9**
WRA pmax pmax
comp=Z,1.0nm,1.0s
NB2 NORSAR Subarra 68.89 342 P **P** **20 52 19.3 +1.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=28,slow=6.5
NOA NORSAR Array B 68.89 342 P **P** **20 52 19.7 +1.6**
comp=Z,2.0nm,0.7s,mb4.1,baz=28,slow=6.4,SNR=7.4
NOA NORSAR Array B 68.89 342 P **P** **20 52 19.7 +1.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 68.89 342 P **P** **20 52 19.7 +1.6**
BOM Bombay 71.06 278 *ex* x 20 53 30.4
BOM *ex* x 20 53 34.2
comp=Z,73nm,1.8s
BOM *ex* x 20 54 54.3
KIV Kislovodsk 71.82 315 *e*P **P** **20 52 41.1 +5.1**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
ASAR Alice Springs 72.27 200 P **P** **20 52 38.1 -0.6**
comp=Z,1.4nm,0.8s,mb3.9,baz=12,slow=5.1,SNR=14
ASAR Alice Springs 72.27 200 P **P** **20 52 38.1 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.43 327 P **P** **20 52 40.3 +0.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=35,slow=6.4,SNR=10.0
AKASG Malin Array Be 72.43 327 *i*P **P** **20 52 42.5 +2.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
LTX Lajitas 76.67 62 *e*P **P** **20 53 04.1 -0.2**
LTX pmax pmax
comp=Z,12nm,1.2s,mb4.7
LTX Lajitas 76.67 62 *e*P **P** **20 53 04.1 -0.1**
comp=Z,12nm,1.2s,mb4.7
TXAR Lajitas Array 76.67 62 P **P** **20 53 04.4 +0.1**
comp=Z,4.6nm,0.6s,mb4.6,baz=305,slow=4.2,SNR=52
TXAR Lajitas Array 76.67 62 P **P** **20 53 04.4 +0.1**
TXAR pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 77.21 337 *e*P **P** **20 53 10.0 +2.7**
CLL Collm 77.21 337 *e*pP pP 20 53 10.0 -1.0
MALT Malatya 78.19 314 *e*P **P** **20 53 17.9 +5.2**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 78.19 314 *e*P **P** **20 53 17.9 +5.1**
comp=Z,1.7nm,0.6s,mb4.2
KHC Kasperske Hory 79.01 335 *e*P **P** **20 53 19.0 +1.7**
KHC Kasperske Hory 79.01 335 *e*P **P** **20 53 16.6 -0.7**
GERES GERESS Array B 79.23 335 P **P** **20 53 20.0 +1.6**
comp=Z,0.8nm,0.8s,mb3.7,baz=32,slow=5.2,SNR=6.5
GERES GERESS Array B 79.23 335 P **P** **20 53 20.0 +1.5**
GERES pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 79.38 318 P **P** **20 53 21.1 +1.7**
comp=Z,1.0nm,0.9s,mb3.7,baz=90,slow=3.7,SNR=4.3
BRTR Keskin Array B 79.38 318 *i*P **P** **20 53 22.5 +3.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

IDC 21 21:08:48.8±3.3, 629S×1515 0E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=120.0km s-min=45.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.49**	**229**	P	P	21 13 39.4	+0.3
	0.7nm,0.5s,baz=55,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.18**	**223**	P	P	21 14 07.0	+0.2
	0.4nm,0.5s,baz=55,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	P	21 14 40.2	+0.5
	1.1nm,0.6s,baz=58,slow=7.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.49**	**285**	PKPbc	PKPbc	21 28 40.6	+0.7
	0.5nm,0.6s,baz=88,slow=2.4,SNR=12						

*NEIC **21** 21:31:58.3±0.6, 390N×9550E, h30km, mb4.4/9, Error ellipse: s-maj=15.2km s-min=10.3km az=224.0*
*IDC **21** 21:32:02.2±4.7, 403N×9578E, h65km±43km, mb3.8/11, mb1 3.9/12, mb1mx3.7/23, mbtmp3.8/12, ML3.2/1, Error ellipse: s-maj=42.4km s-min=15.9km az=61.0*
*ISCJB **21** 21:32:03.4±2.1, 401N±009×959E±01, h94km±20km, mb4.2/25, Error ellipse: s-maj=20.2km s-min=11.9km az=125.8*

ISC 21 21:32:04.8±2.0, 401N±009×958E±01, h89km±20km, n31, o0°68/32, mb4.2/25, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.30**	**111**	P	**Pn**	**21 32 53.2**	**-1.1**
	2.1nm,0.3s,baz=314,slow=6.8,SNR=16						
KULM	**Kulim**	**4.96**	**75**	*e*Pn	**Pn**	**21 33 16.8**	**0.0**
KULM				*e*Sn	**Sn**	**21 34 13.1**	**+0.2**
CM31	**Chiang Mai Arr**	**14.68**	**12**	*e*Pn	**Pn**	**21 35 29.1**	**+1.3**
	8.8nm,1.0s						
JIRN	**Jiri**	**25.26**	**340**	*e*P	**P**	**21 37 22.8**	**+0.3**
	14nm,0.7s,mb4.5						
PKI	**Pulchoki**	**25.46**	**338**	*e*P	**P**	**21 37 25.7**	**+1.4**
GUN	**Gumba**	**25.60**	**339**	*e*P	**P**	**21 37 25.8**	**+0.2**
	18nm,0.6s,mb4.7						
KKN	**Kakani**	**25.71**	**338**	*e*P	**P**	**21 37 26.4**	**-0.2**
	19nm,0.9s,mb4.5						
LSA	**Lhasa**	**25.94**	**351**	*e*P	**P**	**21 37 29.2**	**+0.5**
	2.6nm,0.4s,mb4.0						
GKN	**Gorkha**	**26.14**	**337**	*e*P	**P**	**21 37 30.4**	**-0.1**
	23nm,0.8s,mb4.7						
KOLN	**Koldanda**	**26.36**	**335**	*e*P	**P**	**21 37 32.7**	**+0.3**
	22nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**42.90**	**337**	P	**P**	**21 39 54.0**	**-0.4**
	5.3nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**44.21**	**347**	P	**P**	**21 40 04.4**	**-0.6**
	1.9nm,0.6s,mb4.0,baz=162,slow=8.3,SNR=23						
SONM	**Songino Array**	**44.60**	**10**	P	**P**	**21 40 07.5**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=193,slow=8.8,SNR=3.6						
WRA	**Warramunga Arr**	**44.69**	**124**	P	**P**	**21 40 09.7**	**+1.0**
	1.8nm,0.8s,mb3.9,baz=301,slow=9.1,SNR=17						
ULN	**Ulanbatar**	**44.75**	**11**	*e*P	**P**	**21 40 08.6**	**-0.6**
	0.9nm,0.6s,mb3.7						
ASAR	**Alice Springs**	**46.17**	**128**	P	**P**	**21 40 20.9**	**+0.4**
	0.6nm,0.8s,mb3.4,baz=309,slow=7.4,SNR=7.7						
ZAL	**Zalesovo**	**50.59**	**352**	P	**P**	**21 40 54.0**	**-0.4**
	2.4nm,0.4s,mb4.6,baz=311,slow=4.6,SNR=12						
BVAR	**Borovoye Array**	**53.17**	**341**	P	**P**	**21 41 13.3**	**-0.2**
	2.1nm,0.6s,mb4.3,baz=153,slow=8.3,SNR=12						
BRVK	**Borovoye**	**53.23**	**341**	P	**P**	**21 41 13.2**	**-0.8**
	2.7nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**53.65**	**342**	*e*P	**P**	**21 41 16.7**	**-0.3**
	5.4nm,0.8s,mb4.6						
GNI	**Garni**	**58.35**	**316**	P	**P**	**21 41 45.9**	**-4.7**
	3.8nm,0.9s,mb4.4						
ARU	**Arti**	**60.09**	**337**	*e*P	**P**	**21 42 01.1**	**-1.5**
	6.5nm,1.1s,mb4.6						
KIV	**Kislovodsk**	**61.31**	**319**	*e*P	**P**	**21 42 11.7**	**+0.8**
	4.2nm,0.9s,mb4.5						
EIL	**Elat**	**62.84**	**301**	P	**P**	**21 42 27.3**	**+6.3**
	138nm,1.1s						
BRTR	**Keskin Array B**	**66.24**	**312**	P	**P**	**21 42 43.1**	**-0.1**
	0.8nm,0.9s,mb3.5,baz=119,slow=12,SNR=3.6						
LBTB	**Lobatse**	**73.93**	**243**	P	**P**	**21 43 30.8**	**+0.5**
	2.5nm,0.7s,mb4.0						
MAW	**Mawson**	**75.13**	**192**	P	**P**	**21 43 37.1**	**0.0**
	1.1nm,0.5s,mb3.8,baz=305,slow=20,SNR=4.0						
FINES	**FINESS Array B**	**76.90**	**332**	P	**P**	**21 43 46.0**	**-1.2**
	3.5nm,1.1s,mb4.0,baz=243,slow=0.4,SNR=3.6						
ARCES	**ARCESS Array B**	**79.45**	**340**	P	**P**	**21 44 01.7**	**+0.4**
	3.2nm,0.9s,mb4.2,baz=91,slow=6.1,SNR=5.5						
ARCES	**ARCESS Array B**	**79.45**	**340**	P	**P**	**21 44 01.7**	**+0.4**
GERES	**GERESS Array B**	**81.82**	**319**	P	**P**	**21 44 14.6**	**+0.6**
	0.5nm,0.4s,mb3.7,baz=115,slow=6.2,SNR=8.5						

*NEIC **21** 21:46:00.4, 36.18N×157W, h4km, MN3.0(MDD), After MDD.*
*CSEM **21** 21:46:00.3±0.2, 36.11N×150W, h15km, ML3.3/16, Error ellipse: s-maj=4.9km s-min=2.8km az=144.0*
*INMG **21** 21:46:02.2±1.1, 3623N×169W, h11km±4km, ML2.5, Error ellipse: s-maj=4.7km s-min=2.5km az=119.0*
*CNRM **21** 21:46:07.0, 3547N×149W, h30km, MD3.7*
MDD 21 21:45:59.8±0.6, 3615N×157W, h0km, mbLg3.0/5, 2D, Error ellipse: s-maj=6.0km s-min=4.5km az=130.0, PRXIMO, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.97**	**328**	⇓Pg	Pg	21 46 18.0	-0.3
	72nm,0.1s,SNR=18						
ENIJ				Lg		21 46 29.3	
	121nm,0.2s,SNR=17						
EALB	**Alboran**	**1.21**	**260**	Pg	Pg	21 46 22.3	-0.6
	58nm,0.1s,SNR=7.9						
EALB				Lg		21 46 37.7	
	86nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.21**	**260**	Pg	Pg	21 46 22.3	-0.6
	58nm,0.1s,SNR=7.9						
EALB				Lg		21 46 37.7	
	86nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.30**	**305**	Pg	Pg	21 46 23.4	-1.2
	0.7nm,0.0s,SNR=44						
EBER				Lg		21 46 41.7	
	206nm,0.1s,SNR=13						
EBER	**Berja**	**1.30**	**305**	Pg	Pg	21 46 23.4	-1.3
	0.7nm,0.0s,SNR=44						

EBER Lg 21 46 41.7
206nm,0.1s,SNR=13
EMLI Melilla 1.41 233 Pg Pg 21 46 26.1 -0.7
88nm,0.1s,SNR=4.6
EMLI Sn Sn 21 46 44.3 -1.6
197nm,0.1s,SNR=8.8
EMEL Melilla 1.41 233 Pg Pg 21 46 26.1 -0.7
88nm,0.1s,SNR=4.6
EMEL Sn Sn 21 46 44.3 -1.8
197nm,0.1s,SNR=8.8
CART Cartagena 1.50 17 *e*Pn Pn 21 46 23.6 -4.3
CART Cartagena 1.50 17 *e*Pn Pn 21 46 23.6 -4.4
ZAI Zaio 1.52 220 Pn Pn 21 46 27.0 -1.2
ZAI Sn Sn 21 46 39.0 -10
ZAI Zaio 1.52 220 *i*P Pn 21 46 27.0 -1.2
EMUR La Murta 1.71 9 ⇓Pn Pn 21 46 28.1 -2.7
6.2nm,0.1s,SNR=18
EMUR Sn Sn 21 46 47.3 -6.0
46nm,0.2s,SNR=7.9
EMUR La Murta 1.71 9 Pn Pn 21 46 28.1 -2.7
6.2nm,0.1s,SNR=18
EMUR Sn Sn 21 46 47.3 -6.0
46nm,0.2s,SNR=7.9
EGUA Guajares 1.75 294 Pn Pn 21 46 29.0 -2.3
SNR=7.9
EGUA Sn Sn 21 46 50.5 -3.8
17nm,0.4s,SNR=7.9
EGUA Guajares 1.75 294 Pn Pn 21 46 29.0 -2.3
SNR=7.9
EGUA Sn Sn 21 46 50.5 -3.8
17nm,0.4s,SNR=7.9
EQUE Quentar 1.84 305 Pn Pn 21 46 32.6 0.0
4.8nm,0.1s,SNR=81
EQUE Sn Sn 21 46 53.2 -3.3
43nm,0.3s,SNR=11
EQUE Lg 21 46 58.2
34nm,0.4s,SNR=7.9
EHUE Huescar 1.85 334 Pn Pn 21 46 30.9 -1.9
1.4nm,0.2s,SNR=7.9
EHUE Sn Sn 21 46 53.2 -3.7
7.1nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 1.96 306 Pn Pn 21 46 34.6 +0.3
SNR=7.9
ECOG Sn Sn 21 46 52.9 -6.6
29nm,0.2s,SNR=7.9
ECOG Lg 21 47 02.2
20nm,0.1s,SNR=7.9
ERON Agron 2.00 296 Pn Pn 21 46 33.7 -1.1
0.5nm,0.3s,SNR=6.9
ERON Sn Sn 21 46 58.5 -2.0
41nm,0.4s,SNR=8.5
EQES Quesada 2.04 324 Pn Pn 21 46 35.7 +0.3
14nm,0.2s,SNR=90
EQES Pg Pg 21 46 40.4 +1.5
25nm,0.1s,SNR=7.9
EQES Sn Sn 21 47 00.2 -1.3
19nm,0.1s,SNR=7.9
EQES Quesada 2.04 324 Pn Pn 21 46 35.7 +0.3
14nm,0.2s,SNR=90
EQES Quesada 2.04 324 Pg Pg 21 46 40.4 +1.5
25nm,0.1s,SNR=7.9
EQES Sn Sn 21 47 00.2 -1.3
19nm,0.1s,SNR=7.9
TOU Touzarine 2.14 237 P Pn 21 46 35.0 -1.7
TOU S Sn 21 46 58.5 -5.5
TOU Touzarine 2.14 237 *e*P Pn 21 46 35.0 -1.7
ELOJ Sierra Loja 2.31 296 Pn Pn 21 46 38.7 -0.3
0.4nm,0.1s,SNR=7.9
ELOJ Pg Pg 21 46 44.6 +0.7
7.2nm,0.3s,SNR=7.9
ELOJ Sn Sn 21 47 07.3 -0.7
9.2nm,0.3s,SNR=7.9
ETOB Tobarra 2.49 0 Pn Pn 21 46 40.3 -1.2
6.1nm,0.1s,SNR=73
ETOB Sn Sn 21 47 07.6 -5.0
22nm,0.2s,SNR=7.9
ETOB Tobarra 2.49 0 Pn Pn 21 46 40.3 -1.2
6.1nm,0.1s,SNR=73
ETOB Sn Sn 21 47 07.6 -5.0
22nm,0.2s,SNR=7.9
ELUQ Luque 2.58 304 Pn Pn 21 46 42.1 -0.7
SNR=7.9
ELUQ Sn Sn 21 47 13.0 -1.9
13nm,0.5s,SNR=11
EVIA Vianos 2.59 344 Pn Pn 21 46 41.8 -1.2
8.2nm,0.3s,SNR=15
EVIA Sn Sn 21 47 12.2 -2.9
23nm,0.3s,SNR=6.5
EMIJ Mijas 2.62 280 Pn Pn 21 46 40.8 -2.5
4.6nm,0.1s,SNR=69
EMIJ Sn Sn 21 47 10.1 -5.7
14nm,0.1s,SNR=8.0
EBAN Banos Encina 2.68 319 Pn Pn 21 46 43.2 -0.9
0.9nm,0.1s,SNR=9.9
EBAN Pg Pg 21 46 50.1 -1.0
27nm,0.2s,SNR=7.9
EBAN Sn Sn 21 47 15.7 -1.6
22nm,0.2s,SNR=7.9
EBEN Beniarda 2.76 22 Pn Pn 21 46 45.0 -0.2
7.5nm,0.6s,SNR=11
EBEN Sn Sn 21 47 11.7 -7.6
5.4nm,0.2s,SNR=7.9
EBEN Beniarda 2.76 22 Pn Pn 21 46 45.0 -0.3
7.5nm,0.6s,SNR=11
EBEN Sn Sn 21 47 11.7 -7.6
5.4nm,0.2s,SNR=7.9
EADA Adamuz 3.13 311 Pn Pn 21 46 49.8 -0.6
0.3nm,0.1s,SNR=14
EADA Pg Pg 21 46 58.6 -1.3
SNR=7.9
EADA Sn Sn 21 47 25.0 -3.5
5.1nm,0.2s,SNR=5.4
EADA Adamuz 3.13 311 Pn Pn 21 46 49.8 -0.6
0.3nm,0.1s,SNR=14
EADA Adamuz 3.13 311 Pg Pg 21 46 58.6 -1.3
SNR=7.9
EADA Sn Sn 21 47 25.0 -3.5
5.1nm,0.2s,SNR=5.4
EJIF Jimena Fronter 3.17 277 Pn Pn 21 46 50.1 -0.7
0.6nm,0.1s,SNR=7.9
ESPR Espera 3.53 283 Pn Pn 21 46 53.6 -2.2
0.1nm,0.0s,SNR=6.3
ESPR Sn Sn 21 47 38.5 +0.3
4.5nm,0.2s,SNR=7.9
ESPR Espera 3.53 283 Pn Pn 21 46 53.6 -2.2
0.1nm,0.0s,SNR=6.3
ESPR Sn Sn 21 47 38.5 +0.3
4.5nm,0.2s,SNR=7.9
EIBI Ibiza 3.69 38 Pn Pn 21 46 55.3 -2.7
23nm,0.3s,SNR=4.0
EIBI Ibiza 3.69 38 Pn Pn 21 46 55.3 -2.7
23nm,0.3s,SNR=4.0
ESDC Sonseca Array 4.00 332 Pn Pn 21 47 01.7 -0.5
0.6nm,0.1s,baz=144,slow=13,SNR=11
ESDC Sonseca Array 4.00 332 Pn Pn 21 47 01.7 -0.5
0.6nm,0.1s,SNR=11
ESLA Sonseca Array 4.00 332 *e*Pn Pn 21 47 01.7 -0.5
ESLA Sonseca Array 4.00 332 *e*Pn Pn 21 47 01.7 -0.5
CZD Col de Zad 4.23 224 Pn Pn 21 47 03.5 -2.0
CZD Sn Sn 21 47 44.5 -11
EMOS Mosqueruela 4.29 11 Pn Pn 21 47 05.4 -0.9
3.3nm,0.3s,SNR=7.9
EMOS Sn Sn 21 47 53.2 -3.9
5.8nm,0.5s,SNR=4.0
EMOS Mosqueruela 4.29 11 Pn Pn 21 47 05.4 -0.9
3.3nm,0.3s,SNR=7.9
EMOS Sn Sn 21 47 53.2 -3.9
5.8nm,0.5s,SNR=4.0
EMIN Mina Concepcio 4.39 293 Pn Pn 21 47 05.9 -1.9
1.3nm,0.1s,SNR=23
EMIN Sn Sn 21 47 53.7 -5.9
1.5nm,0.2s,SNR=7.9
EMIN Mina Concepcio 4.39 293 Pn Pn 21 47 05.9 -1.8
1.3nm,0.1s,SNR=23
EMIN Sn Sn 21 47 53.7 -5.9
1.5nm,0.2s,SNR=7.9
ETOR Torete 4.68 355 Pn Pn 21 47 10.6 -1.0
4.1nm,0.2s,SNR=6.7
ETOR Sn Sn 21 47 58.2 -8.3
7.0nm,0.3s,SNR=4.0
ZFT Errachidia 4.71 210 Pn Pn 21 47 07.0 -5.1
ZFT Sn Sn 21 47 53.0 -14
ZFT Errachidia 4.71 210 *e*P Pn 21 47 07.0 -5.1
EGRO El Granado 4.94 288 Pn Pn 21 47 13.6 -1.6
0.8nm,0.1s,SNR=9.3
EGRO Sn Sn 21 48 07.3 -5.7
1.3nm,0.4s,SNR=7.9
EGRO El Granado 4.94 288 Pn Pn 21 47 13.6 -1.6

0.8nm,0.1s,SNR=9.3
EGRO Sn Sn 21 48 07.3 -5.8
1.3nm,0.4s,SNR=7.9
ETOS Mallorca 5.00 42 Pn Pn 21 47 14.6 -1.4
2.3nm,0.1s,SNR=9.4
ETOS Sn Sn 21 48 08.3 -6.2
0.6nm,0.2s,SNR=7.9
ETOS Mallorca 5.00 42 Pn Pn 21 47 14.6 -1.5
ETOS Sn Sn 21 48 08.4 -6.2
ERTA Horta de San J 5.02 17 Pn Pn 21 47 14.9 -1.5
0.6nm,0.1s,SNR=7.9
ERTA Sn Sn 21 48 09.1 -6.0
0.3nm,0.2s,SNR=7.9
ERTA Horta de San J 5.02 17 Pn Pn 21 47 14.9 -1.5
ERTA Sn Sn 21 48 09.1 -6.0
EBAD Badajoz 5.05 303 Pn Pn 21 47 15.0 -1.7
1.0nm,0.1s,SNR=12
EBAD Sn Sn 21 48 08.3 -7.5
2.0nm,0.2s,SNR=5.8
EBAD Badajoz 5.05 303 Pn Pn 21 47 15.0 -1.8
PBEJ Beja 5.37 292 *e*Pn Pn 21 47 20.1 -1.1
PBEJ *e*Sn Sn 21 48 18.0 -5.7
PESTR Estremoz 5.50 301 *e*Pn Pn 21 47 22.1 -0.8
PESTR *e*Sn Sn 21 48 20.8 -6.1
EPOB Poblet 5.59 21 Pn Pn 21 47 23.4 -0.8
0.8nm,0.2s,SNR=7.9
EPOB Sn Sn 21 48 22.9 -6.2
1.8nm,0.2s,SNR=7.9
EPOB Poblet 5.59 21 Pn Pn 21 47 23.4 -0.7
EPOB Sn Sn 21 48 22.9 -6.2
MOE Montemor 5.90 296 *e*Pn Pn 21 47 27.5 -0.9
MOE *e*Sn Sn 21 48 31.1 -5.6
PTEO Sao Teotonio 5.91 286 *e*Pn Pn 21 47 27.5 -1.0
PTEO *e*Sn Sn 21 48 31.2 -5.7
PTEO
4.5nm,0.4s
PTEO Sao Teotonio 5.91 286 *e*Pn Pn 21 47 27.5 -1.0
PTEO *e*Sn Sn 21 48 31.2 -5.7
4.5nm,0.4s
PCBR Castelo Branco 5.95 310 *e*Pn Pn 21 47 28.6 -0.4
PCBR *e*Sn Sn 21 48 29.6 -8.2
PCBR
3.5nm,0.3s
PCBR Castelo Branco 5.95 310 *e*Pn Pn 21 47 28.6 -0.4
PCBR *e*Sn Sn 21 48 29.6 -8.2
3.5nm,0.3s
EMIR Miracle 6.24 22 Pn Pn 21 47 31.8 -1.2
EMIR Sn Sn 21 48 38.2 -6.8
EMIR Miracle 6.24 22 Sn Sn 21 48 38.2 -6.8
0.2nm,0.1s,SNR=7.9
EMIR Miracle 6.24 22 Pn Pn 21 47 31.8 -1.2
EMIR Sn Sn 21 48 38.2 -6.8
ECRI Cripan 6.49 354 Pn Pn 21 47 35.0 -1.5
2.3nm,0.4s,SNR=4.0
PVIS Viseu 6.74 314 *e*Sn Sn 21 48 51.4 -6.0
PVIS
1.7nm,0.1s
PVIS Viseu 6.74 314 Sn Sn 21 48 51.4 -6.0
0.9nm,0.1s
ELIZ Elizondo 7.00 0 Pn Pn 21 47 44.0 +0.5
ELIZ Elizondo 7.00 0 Pn Pn 21 47 44.0 +0.4
PVRL Vila Real 7.02 319 *e*Sn Sn 21 48 57.6 -6.7
PVRL
3.9nm,0.1s
PVRL Vila Real 7.02 319 Sn Sn 21 48 57.6 -6.7
1.9nm,0.1s
EALK Alkurruntz 7.06 0 Pn Pn 21 47 42.3 -2.0
EALK Alkurruntz 7.06 0 Pn Pn 21 47 42.3 -2.0

IDC 21 21:52:37.1±3.8, 330S×14883E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, MS3.2/8, Ms1 3.2/8, ms1mx2.9/21, Error ellipse: s-maj=123.9km s-min=47.5km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.29**	**195**	LR	LR	21 56 51.3	
	comp=Z,262nm,19.7s,baz=5.6,slow=40						
HNR	**Honiara**	**12.61**	**119**	LR	LR	21 59 33.1	
	comp=Z,96nm,20.5s,baz=359,slow=33						
CTA	**Charters Tower**	**16.87**	**188**	LR	LR	22 01 29.0	
	comp=Z,31nm,21.6s,baz=220,slow=32						
GUMO	**Guam**	**17.24**	**347**	LR	LR	22 01 23.1	
	comp=Z,79nm,20.4s,baz=110,slow=30						
WRA	**Warramunga Arr**	**21.76**	**219**	P	P	21 57 29.8	-0.4
	2.6nm,0.9s,baz=42,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**24.86**	**214**	P	P	21 58 01.2	0.0
	1.4nm,1.0s,baz=54,slow=7.9,SNR=7.5						
ASAR				LR	LR	22 08 48.3	
	comp=Z,64nm,19.2s,baz=24,slow=39						
FITZ	**Fitzroy Crossi**	**27.07**	**235**	P	P	21 58 22.7	+1.5
	2.9nm,0.8s,baz=42,slow=7.6,SNR=5.3						
FITZ				LR	LR	22 10 54.7	
	comp=Z,52nm,18.2s,baz=206,slow=41						
NWAO	**Narrogin (SRO)**	**41.74**	**221**	LR	LR	22 18 59.4	
	comp=Z,76nm,18.7s,baz=146,slow=38						
KSRS	**Korea Array**	**44.97**	**336**	LR	LR	22 15 26.2	
	comp=Z,18nm,21.3s,baz=120,slow=30						
TORD	**Torodi Ar. Bea**	**146.08**	**289**	PKPbc	PKPbc	22 12 19.2	+0.2
	0.8nm,0.8s,baz=73,slow=2.1,SNR=3.4						

IDC 21 22:06:16.0±4.5, 4637N×15467E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=157.5km s-min=38.8km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.07**	**298**	P	P	22 14 57.0	-0.3
	0.7nm,1.0s,baz=74,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**64.84**	**335**	P	P	22 16 56.2	-0.5
	2.3nm,1.0s,baz=25,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**76.74**	**61**	P	P	22 18 09.4	+0.2
	0.4nm,0.6s,baz=300,slow=4.7,SNR=6.1						

CASC 21 22:25:44.4±0.9, 834N×8279W, h19km±9km, MD3.7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.48**	**309**	*e*P	Pg	22 25 54.1	-0.2
LAJ	**Bijagual**	**2.00**	**319**	*e*P	Pn	22 26 19.5	+2.3
PRS1	**Puriscal**	**2.22**	**317**	*e*P	Pn	22 26 20.2	+0.1

*IDC **21** 22:25:40.6±1.0, 4689N×15651E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=37.4km s-min=23.5km az=157.0*
*ISCJB **21** 22:25:41.6±4.6, 4711N±0.1×1562E±02, h18km±32km, mb4.2/9, Error ellipse: s-maj=25.2km s-min=12.7km az=91.5*
*NEIC **21** 22:25:41.8±0.7, 4701N×15625E, h10km, mb4.3/2, Error ellipse: s-maj=17.2km s-min=10.3km az=134.0*
*MOS **21** 22:25:45.7±1.7, 4722N×156.13E, h48km, mb4.4/4, Error ellipse: s-maj=24.2km s-min=11.8km az=87.6*

ISC 21 22:25:45.6±2.2, 471N±01×1562E±02, h36km±19km, n24, σ0§90/24, mb4.2/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.62**	**359**	*e*PN	**Pn**	**22 26 34.7**	**-4.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
PET	**Petropavlovsk**	**6.16**	**14**	*e*PN	**Pn**	**22 27 14.1**	**0.0**
MAJO	**Matsushiro**	**17.03**	**238**	P	**Pn**	**22 29 40.4**	**-0.5**
YAK	**Yakutsk**	**21.26**	**324**	P	**P**	**22 30 29.5**	**+0.8**
BILL	**Bilibino**	**21.65**	**10**	P	**P**	**22 30 32.9**	**+0.1**
BILL	**Bilibino**	**21.65**	**10**	P	**P**	**22 30 32.9**	**+0.1**
KSRS	**Korea Array**	**22.95**	**256**	P	**P**	**22 30 47.1**	**+0.5**
	comp=Z,2.6nm,0.8s,mb3.7,baz=53,slow=11,SNR=4.6						
INK	**Inuvik**	**40.23**	**33**	*e*P	**P**	**22 33 18.4**	**-0.3**
	comp=Z,37nm,0.5s,mb5.4						
MKAR	**Makanchi Array**	**48.69**	**298**	P	**P**	**22 34 29.6**	**+3.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=72,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**48.69**	**298**	P	**P**	**22 34 29.6**	**+3.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	**Resolute Bay**	**49.84**	**19**	*e*P	**P**	**22 34 35.2**	**+0.1**
	comp=Z,132nm,0.9s						
CHKZ	**Chkalovo**	**51.85**	**311**	*e*P	**P**	**22 34 48.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**51.85**	**311**	*e*P	**P**	**22 34 48.5**	**-1.7**
	comp=Z,4.1nm,0.8s,mb4.4						
BRVK	**Borovoye**	**52.34**	**310**	*e*P	**P**	**22 34 52.7**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.34**	**310**	*e*P	**P**	**22 34 52.7**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.3						
LSA	**Lhasa**	**52.39**	**275**	P	**P**	**22 34 55.7**	**+1.5**
AAK	**Ala-Archa**	**55.60**	**298**	P	**P**	**22 35 16.7**	**-0.9**
PDAR	**Pinedale Array**	**62.81**	**56**	P	**P**	**22 36 07.1**	**-0.4**
	comp=Z,1.3nm,0.9s,mb4.0,baz=300,slow=2.9,SNR=6.8						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**22 36 20.1**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=25,slow=6.3,SNR=3.4						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**22 36 20.2**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.23**	**201**	P	**P**	**22 37 12.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=20,slow=5.4,SNR=7.0						
ASAR	**Alice Springs**	**73.23**	**201**	P	**P**	**22 37 12.8**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.46**	**63**	P	**P**	**22 37 26.7**	**+0.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=301,slow=4.2,SNR=28						
TXAR	**Lajitas Array**	**75.46**	**63**	P	**P**	**22 37 26.7**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **21** 22:35:59.3±0.9, 4781N×15358E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.7/8, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/43, Error ellipse: s-maj=29.0km s-min=21.5km az=135.0*
*MOS **21** 22:36:02.3±1.7, 4788N×15381E, h33km, mb4.1/4, Error ellipse: s-maj=43.3km s-min=20.6km az=48.0*
*ISCJB **21** 22:36:06.5±2.7, 478N±02×1537E±02, h70km±22km, mb4.1/12, Error ellipse: s-maj=26.2km s-min=19.1km az=137.2*

ISC 21 22:36:08.2±2.3, 478N±02×1537E±02, h68km±19km, n25, σ1§15/23, mb4.1/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.77**	**240**	*e*PN	**Pn**	**22 37 16.0**	**-1.4**
KUR				*i* S	**Sn**	**22 38 13.0**	**+1.6**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
ASAJ	**Asahikawa**	**8.56**	**249**	Pn	**Pn**	**22 38 10.6**	**+1.3**
	comp=E,1.8nm,0.3s,baz=57,slow=13,SNR=8.1						
ASAJ	**Asahikawa**	**8.56**	**249**	PN	**Pn**	**22 38 10.6**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.03**	**231**	Pn	**Pn**	**22 39 46.5**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=38,slow=12,SNR=2.8						
KSRS	**Korea Array**	**21.50**	**251**	P	**P**	**22 40 48.6**	**-2.7**
	comp=Z,6.6nm,0.3s,mb3.4,baz=57,slow=10,SNR=2.8						
JNU	**Nakatsue**	**22.60**	**238**	LR	LR	22 49 16.1	
	comp=Z,66nm,18.4s,baz=38,slow=35						
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**22 44 30.5**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=61,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**22 44 30.5**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JIRN	**Jiri**	**55.26**	**274**	*e*P	**P**	**22 45 34.0**	**-0.4**
	comp=Z,4.8nm,0.4s,mb4.9						
GUN	**Gumba**	**55.31**	**275**	*e*P	**P**	**22 45 35.3**	**+0.6**
KKN	**Kakani**	**55.79**	**275**	*e*P	**P**	**22 45 39.1**	**+0.9**
	comp=Z,4.7nm,0.4s,mb4.9						
PKI	**Pulchoki**	**55.85**	**275**	*e*P	**P**	**22 45 39.3**	**+0.7**
DMN	**Daman**	**56.02**	**275**	*e*P	**P**	**22 45 40.8**	**+1.0**
	comp=Z,5.2nm,0.3s,mb5.0						
GKN	**Gorkha**	**56.08**	**276**	*e*P	**P**	**22 45 39.8**	**-0.5**
	comp=Z,6.6nm,0.4s,mb5.0						
KOLN	**Koldanda**	**56.93**	**276**	*e*P	**P**	**22 45 46.1**	**-0.2**
	comp=Z,2.8nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**63.27**	**335**	P	**P**	**22 46 28.4**	**-1.2**
	comp=Z,0.7nm,0.3s,mb4.0,baz=38,slow=7.0,SNR=13						
FINES	**FINESS Array B**	**63.27**	**335**	P	**P**	**22 46 28.4**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**63.82**	**55**	P	**P**	**22 46 33.9**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.4,baz=285,slow=2.9,SNR=4.6						
WRA	**Warramunga Arr**	**69.62**	**199**	P	**P**	**22 47 09.3**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=17,slow=6.5,SNR=5.5						
ASAR	**Alice Springs**	**73.32**	**199**	P	**P**	**22 47 33.2**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.7,baz=7.1,slow=6.0,SNR=9.1						
ASAR	**Alice Springs**	**73.32**	**199**	P	**P**	**22 47 33.2**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**22 47 52.5**	**+0.9**
	comp=Z,0.7nm,0.6s,mb3.6,baz=294,slow=4.0,SNR=8.2						
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**22 47 52.5**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNA2	**Neumayer--Wazt**	**155.11**	**195**	*e*	PKPdf	22 55 59.2	+5.8
VNA2				*e*		22 56 02.9	
VNA3	**Neumayer Olymp**	**155.19**	**193**	*e*	PKPdf	22 55 56.9	+3.4
VNA3				*e*		22 56 01.0	

*ISCJB **21** 23:09:36.2±0.5, 5032N±004×1896E±003, h0km, Error ellipse: s-maj=6.6km s-min=2.6km az=31.5*
*WAR **21** 23:09:37.8, 5023N×1907E, ML2.6, Mining Induced*
*NEIC **21** 23:09:38.3±0.7, 5023N×1900E, h5km, MG2.6(WAR), Error ellipse: s-maj=12.5km s-min=5.4km az=187.0*
*PRU **21** 23:09:38.4, 5027N×1898E, h0km*

ISC 21 23:09:37.6±0.5, 5029N±004×1900E±003, h0km, n18, σ1§10/32, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.52**	**97**	*e*Pg	**Pg**	**23 09 46.9**	**-0.6**
OJC				*e*Sg	**Sg**	**23 09 53.8**	**-0.4**
OKC	**Ostrava-Krasne**	**0.71**	**231**	*e*PG	**Pg**	**23 09 51.2**	**+0.1**
OKC				*e*SG	**Sg**	**23 10 01.9**	**+1.6**
	20nm,0.4s						
MORC	**Moravsky Berou**	**1.07**	**242**	*e*P	**Pg**	**23 09 57.7**	**-0.3**
MORC				*e*S	**Sg**	**23 10 12.6**	**+0.7**
NIE	**Niedzica**	**1.22**	**135**	*e*Pg	**Pg**	**23 09 59.9**	**-1.0**
NIE				*e*Sg	**Sg**	**23 10 16.3**	**-0.4**
STHS	**Stebnicka Huta**	**1.69**	**120**	*e*PN	**Pn**	**23 10 09.1**	**+0.7**
STHS				*e*SN	**Sn**	**23 10 32.5**	**+1.7**
DPC	**Dobruska-Polom**	**1.72**	**273**	*e*PG	**Pg**	**23 10 08.5**	**-2.0**
DPC				*e*SG	**Sg**	**23 10 33.1**	**+0.4**
	16nm,0.5s						
VYHS	**Vyhne**	**1.80**	**183**	*e*PN	**Pn**	**23 10 08.1**	**-1.7**
VYHS				*e*SN	**Sn**	**23 10 30.9**	**-2.4**
KSP	**Ksiaz**	**1.81**	**289**	*e*Pn	**Pn**	**23 10 09.9**	**-0.1**
KSP				*e*Pg	**Pg**	**23 10 11.9**	**-0.4**
KSP				*e*Sg	**Sg**	**23 10 37.0**	**+1.2**
VRAC	**Vranov**	**1.84**	**239**	P	**Pn**	**23 10 10.8**	**+0.4**
UPC	**Upice**	**1.92**	**278**	*e*PG	**Pg**	**23 10 13.1**	**-1.3**
KECS	**Kecovo**	**2.05**	**151**	*e*PN	**Pn**	**23 10 14.3**	**+1.0**
KECS				*e*SN	**Sn**	**23 10 41.5**	**+1.9**
KWP	**Kalwaria**	**2.48**	**104**	*e*Pn	**Pn**	**23 10 19.9**	**+0.6**
KWP				*e*Sn	**Sn**	**23 10 45.3**	**-5.0**
KOLS	**Kolonicke sedl**	**2.52**	**121**	*e*PG	**Pg**	**23 10 26.0**	**0.0**
PRU	**Pruhonice**	**2.88**	**266**	*e*PG	**Pg**	**23 10 29.6**	**-3.2**
PRU				*e*SG	**Sg**	**23 11 09.8**	**-0.4**
BRG	**Berggiesshubel**	**3.27**	**282**	SG	**Sg**	**23 11 23.4**	**+0.6**
	3.1nm,0.7s						
KHC	**Kasperske Hory**	**3.70**	**254**	*e*PN	**Pn**	**23 10 35.5**	**-0.5**
KHC				*e*PG	**Pg**	**23 10 49.5**	**+1.0**
KHC				*e*SG	**Sg**	**23 11 35.9**	**-0.6**
	6.4nm,0.4s						
CLL	**Collm**	**3.94**	**287**	*i* Sg	**Sg**	**23 11 45.9**	**+1.8**
NKC	**Novy Kostel**	**4.20**	**272**	*e*SG	**Sg**	**23 11 51.5**	**-1.1**

*IDC **21** 23:30:04.3±0.5, 4707N×15541E, h0km, mb4.6/20, mb1 4.8/21, mb1mx4.7/24, mbtmp4.7/21, ML4.2/1, MS4.4/23, Ms1 4.4/23, ms1mx4.2/33, Error ellipse: s-maj=17.1km s-min=13.0km az=143.0*
*ISCJB **21** 23:30:04.4±0.2, 4702N±004×1554 3E±004, h10km, mb5.2/140, MS4.6/55, Error ellipse: s-maj=6.7km s-min=3.3km az=137.3*
*NEIC **21** 23:30:06.0±0.2, 4704N×15540E, h10km, mb5.3/64, MS4.7/6, Error ellipse: s-maj=6.5km s-min=4.4km az=153.0*
*SKHL **21** 23:30:06.4±1.3, 4720N×15532E, h53km±16km, mb5.7/5, mbh5.7/4, Ms5.0/3, msh5.0/2*
*BJI **21** 23:30:06.4, 4724N×15494E, h9km, mB5.4, mb5.0, Ms5.0, Ms2.8*
*GCMT **21** 23:30:06.0±0.2, 47.19N×155.57E, h12km, MW5.1/91, Moment Tensor Solution. s46,c64; s91,c173; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~5.98±.09; Mθθ2.98±.10; Mϕϕ3.01±.09; Mrθ0.90±.33; Mrϕ 1.97±.07; Mθϕ~0.07±.33; Best double couple: Mo5.53700×10^16 NP1:φs40.00000°, δ42.00000°, λ-98.00000°. NP2: φs231.00000°, δ48.00000°, λ-83.00000°. Principal axes: T 4.9970, Plg3.0000°, Azm315.0000°; N 1.0910, Plg5.0000°, Azm46.0000°; P -6.0780, Plg84.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **21** 23:30:11.6±1.3, 4704N×155.19E, h62km, mb5.4/69, MS4.6/26 Error ellipse: s-maj=8.8km s-min=4.6km az=115.4*
*SZGRF **21** 23:30:21.1, 49.10N×155.89E, h33km, mb5.9, Kuril Islands, Russia*

ISC 21 23:30:05.0±1.0, 4717N±004×15539E±004, h1km±6km, n513, σ1§14/518, mb5.2/139, MS4.6/55, 44C-31D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.55**	**7**	*e*P	**Pn**	**23 30 59.0**	**-2.1**
SKR				AMB	AMB	23 31 05.5	
	80nm,0.4s						
SKR				AMB	AMB	23 31 05.5	
	110nm,0.4s						
SKR				AMB	AMB	23 31 06.0	
	3μm,7.0s						
SKR				AMB	AMB	23 31 06.0	
	3μm,7.0s						
SKR				*e*S	**Sn**	**23 31 39.5**	**-4.2**
SKR				A		23 31 44.0	
	620nm,0.5s						
SKR				A		23 31 44.0	
	460nm,0.5s						
SKR				A		23 31 44.0	
	230nm,0.5s						
SKR				A		23 31 48.0	
	8μm,8.0s						
SKR				A		23 31 48.0	
	5μm,10.0s						
SKR				A		23 31 48.0	
	8μm,8.0s						
SKR				A		23 31 48.0	
	5μm,10.0s						
SKR				AMS	AMS	23 33 18.0	
	15μm,12.0s						
SKR				AMS	AMS	23 33 18.0	
	5μm,12.0s						
SKR				AMS	AMS	23 33 18.0	
	15μm,12.0s						
SKR				AMS	AMS	23 33 18.0	
	14μm,14.0s						
SKR				AMS	AMS	23 33 18.0	
	13μm,14.0s						
KUR	**Kuril'sk**	**5.57**	**252**	*i* PN	**Pn**	**23 31 26.0**	**-3.0**
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				MLR	MLR		
	comp=N,11μm,13.0s						
KUR				MLR	MLR		
	comp=E,6μm,13.0s						
KUR				MLR	MLR		
	comp=Z,11μm,13.0s						
PET	**Petropavlovsk**	**6.22**	**18**	*e*PN	**Pn**	**23 31 36.7**	**-1.2**
PET				pmax	pmax		
	comp=Z,50nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET	**Petropavlovsk**	**6.22**	**18**	*e*Pn	**Pn**	**23 31 36.8**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**7.38**	**248**	*e*P	**Pn**	**23 31 53.0**	**-0.9**
YUK				AMB	AMB	23 31 55.0	
	comp=Z,300nm,0.2s						
YUK				*e*S	**Sn**	**23 33 12.5**	**-5.8**
YUK				A		23 33 13.4	
	comp=Z,100nm,0.4s						
YUK				A		23 33 13.4	
	comp=Z,400nm,0.5s						
YUK				AMS	AMS	23 35 45.0	
	comp=Z,5μm,12.0s						
YUK				AMS	AMS	23 35 45.0	
	comp=Z,4μm,10.0s						
YUK				AMS	AMS	23 35 45.0	
	comp=Z,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.63**	**273**	*e*P	**Pn**	**23 32 14.0**	**+3.0**
YSS				*e*S	**Sn**	**23 33 49.0**	**0.0**
YSS				A		23 33 55.0	
	comp=Z,100nm,0.8s						
YSS				*e*LQ		23 34 19.0	
YSS				AMS	AMS	23 36 48.0	
	comp=Z,6μm,15.0s						
YSS				AMS	AMS	23 36 48.0	
	comp=Z,9μm,15.0s						
YSS				AMS	AMS	23 36 48.0	
	comp=Z,6μm,15.0s						
YSS				AMS	AMS	23 36 48.0	
	comp=Z,7μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.63**	**273**	*e*Pn	**Pn**	**23 32 14.7**	**+3.7**
UGL	**Uglegorsk**	**9.12**	**287**	*e*P	**Pn**	**23 32 21.8**	**+4.2**
UGL				AMB	AMB	23 32 25.5	
	comp=Z,3μm,5.0s						
UGL				AMB	AMB	23 32 25.5	
	comp=Z,1μm,5.0s						
UGL				AMB	AMB	23 32 25.5	
	comp=Z,2μm,5.0s						
UGL				AMB	AMB	23 32 25.5	
	comp=Z,1μm,1.5s						
UGL				*e*L		23 34 26.0	
UGL				AMS	AMS	23 37 25.0	
	comp=Z,7μm,14.0s						
UGL				AMS	AMS	23 37 25.0	
	comp=Z,8μm,14.0s						
UGL				AMS	AMS	23 37 25.0	
	comp=Z,9μm,13.0s						
UGL	**Uglegorsk**	**9.12**	**287**	*e*PN	**Pn**	**23 32 21.8**	**+4.2**
UGL				pmax	pmax		
	comp=Z,1.0nm,1.5s						
UGL				pmax	pmax		
	comp=N,1μm,5.0s						
UGL				pmax	pmax		
	comp=E,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,3μm,5.0s						
UGL				MLR	MLR		
	comp=E,7μm,14.0s						
UGL				MLR	MLR		
	comp=Z,8μm,14.0s						
UGL				MLR	MLR		
	comp=N,9μm,13.0s						
TYV	**Tymovskoe**	**9.15**	**298**	*e*P	**Pn**	**23 32 21.0**	**+2.9**
TYV				AMB	AMB	23 32 25.0	
	comp=N,703nm,1.8s						
TYV				AMB	AMB	23 32 25.0	
	comp=N,200nm,1.6s						
TYV				AMB	AMB	23 32 32.0	
	comp=N,1μm,8.0s						
TYV				AMB	AMB	23 32 32.0	
	comp=N,1μm,8.0s						
TYV				AMB	AMB	23 32 32.0	
	comp=N,2μm,8.0s						
TYV				AMS	AMS	23 37 29.0	
	comp=N,7μm,15.0s						
TYV				AMS	AMS	23 37 29.0	
	comp=N,6μm,15.0s						
TYV				AMS	AMS	23 37 29.0	
	comp=N,8μm,15.0s						
ASAJ	**Asahikawa**	**9.47**	**256**	Pn	**Pn**	**23 32 22.5**	**0.0**
	comp=N,2.6nm,0.3s,baz=102,slow=17,SNR=15						
ASAJ				LR	LR	23 36 11.6	
	comp=N,320nm,20.4s,baz=96,slow=39						
OKH	**Okha**	**10.20**	**313**	*e*L		23 34 28.2	
OKH				AMS	AMS	23 38 07.0	
	comp=N,4μm,14.0s						
OKH				AMS	AMS	23 38 07.0	

OKH AMS AMS 23 38 07.0
comp=N,10μm,13.0s
NKL Nikolayevsk 11.16 308 *e*P **Pn** **23 32 42.0 -3.7**
NKL AMB AMB 23 32 48.0
comp=N,2μm,5.0s
NKL AMB AMB 23 32 48.0
comp=N,2μm,6.0s
NKL AMB AMB 23 32 48.2
comp=N,200nm,1.5s
NKL AMB AMB 23 32 48.2
comp=N,490nm,1.8s
TEY Ternei 13.21 268 *e*P **Pn** **23 33 05.0 -8.7**
HABR Khabarovsk 13.73 283⇑*i*P **Pn** **23 33 23.5 +2.8**
HABR *e*S **Sn** **23 36 01.0 +7.1**
HABR pmax pmax
comp=Z,184nm,2.0s
KLR Kul'dur 15.88 286 *e*P **Pn** **23 33 48.5 -1.2**
KLR pmax pmax
comp=E,140nm,2.0s
KLR pmax pmax
comp=Z,110nm,2.0s
KLR pmax pmax
comp=E,1μm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR MLR MLR
comp=E,2μm,12.5s
KLR MLR MLR
comp=Z,20μm,12.5s
SEY Seymchan 15.89 355 *e*P **Pn** **23 33 49.9 +0.1**
MJAR Matsushiro Arr 16.60 236 Pn **Pn** **23 33 55.0 -3.8**
comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=23
MJAR LR LR 23 40 53.4
comp=Z,800nm,18.9s,baz=55,slow=39
MJAR Matsushiro Arr 16.60 236 P **Pn** **23 33 55.0 -3.9**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,800nm,18.9s
MAJO Matsushiro 16.60 236 *e*P **Pn** **23 33 54.6 -4.3**
MAJO pmax pmax
comp=Z,109nm,0.9s
MAJO Matsushiro 16.60 236 *e*Pn **Pn** **23 33 54.6 -4.3**
comp=Z,109nm,0.9s
MAT Matsushiro 16.60 236 P **Pn** **23 33 54.8 -4.1**
MDJ Mudanjiang 18.11 271 P **Pn** **23 34 16.6 -1.2**
MDJ AP pP 23 34 19.9 +1.4
MDJ XP sP 23 34 21.4 +2.8
MDJ S **Sn** **23 37 37.8 -2.7**
MDJ SCP ScP 23 42 27.0 -1.4
MDJ AMB AMB
comp=Z,24nm,1.1s
MDJ AMB AMB
comp=Z,171nm,5.4s
MDJ LR LR
comp=N,1μm,22.3s
MDJ LR LR
comp=E,902nm,27.7s
MDJ LR LR
comp=Z,2μm,16.0s
MDJ Mudanjiang 18.11 271 *e*Pn **Pn** **23 34 16.7 -1.1**
comp=Z,13nm,0.7s
JHJ Hachijo jima 2 18.37 226 LR LR 23 40 14.0
comp=Z,117nm,20.6s,baz=35,slow=33
ZEA Zeya 19.00 301 *e*P **Pn** **23 34 23.8 -4.8**
ZEA AMB AMB 23 34 28.0
comp=Z,300nm,5.0s
ZEA AMB AMB 23 34 28.0
comp=Z,800nm,5.0s
ZEA AMB AMB 23 34 28.0
comp=Z,1μm,6.0s
ZEA AMB AMB 23 34 28.2
comp=Z,130nm,1.6s
ZEA AMB AMB 23 34 28.2
comp=Z,150nm,1.6s
ZEA AMB AMB 23 34 28.2
comp=Z,160nm,1.6s
ZEA A 23 37 35.0
comp=Z,600nm,8.0s
YAK Yakutsk 20.84 325 *e*P **P** **23 34 46.4 -1.7**
YAK *e* 23 35 05.5
YAK *e*S **S** **23 38 30.3 -11**
YAK pmax pmax
comp=Z,66nm,1.2s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,39nm,1.4s
YAK smax
comp=N,398nm,2.8s
YAK smax
comp=E,432nm,2.3s
YAK smax
comp=Z,200nm,2.3s
YAK MLR MLR
comp=E,1μm,14.0s,MS4.6
YAK MLR MLR
comp=Z,2μm,14.0s,MS4.6
YAK MLR MLR
comp=N,1μm,15.0s,MS4.6
YAK Yakutsk 20.84 325 *e*P **P** **23 34 48.2 +0.1**
comp=N,56nm,0.8s
CLNS Chul'man 20.95 309 *e*P **P** **23 34 48.1 -1.2**
CLNS *e* 23 35 05.3
CLNS *e*PPP 23 35 13.2
CLNS *e*S **S** **23 38 38.5 -5.0**
CLNS *e*SS 23 39 09.9
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=Z,42nm,0.8s
CLNS pmax pmax
comp=E,43nm,1.1s
CLNS smax
comp=E,38nm,1.5s
CLNS smax
comp=Z,13nm,1.4s
CLNS smax
comp=N,53nm,1.7s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS4.8
CLNS MLR MLR
comp=N,800nm,13.0s,MS4.6
CLNS MLR MLR
comp=E,2μm,13.0s,MS4.6
NRGR Nerungri 21.00 308 *e*P **P** **23 34 50.6 +0.8**
CN2 Changchun 21.20 272 *e*P **P** **23 34 49.1 -2.8**
CN2 *e*XP sP 23 34 56.1 +3.9
CN2 *e*S **S** **23 38 40.8 -7.6**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS4.7
CN2 LR LR
comp=E,2μm,14.0s,MS4.7
CN2 LR LR
comp=Z,2μm,15.0s,MS4.7
BILL Bilibino 21.65 11 *e*P **P** **23 34 56.7 -0.1**
BILL *e*S **S** **23 38 55.3 -2.0**
BILL *e*SS 23 39 20.2
BILL pmax pmax
comp=Z,98nm,1.1s,mb5.2
BILL MLR MLR
comp=Z,1μm,13.0s,MS4.5
KSRS Korea Array 22.41 254 P **P** **23 35 05.8 +0.9**
comp=Z,14nm,0.7s,mb4.5,baz=54,slow=9.5,SNR=18
KSRS LR LR 23 43 49.4
comp=Z,498nm,18.4s,MS4.0,baz=61,slow=37
CBIJ Chichi jima 22.58 212 LR LR 23 41 15.9
comp=Z,603nm,21.1s,MS4.0,baz=104,slow=30
SNY Shenyang 23.21 268⇑P **P** **23 35 11.8 -1.6**
SNY AP 23 35 14.6
SNY XP sP 23 35 16.9 +3.2
SNY S **S** **23 39 24.8 -1.3**
SNY AMB AMB
comp=Z,49nm,1.3s,mb4.9
SNY AMB AMB
comp=Z,419nm,7.9s
SNY LR LR
comp=E,3μm,14.3s
SNY LR LR
comp=Z,3μm,15.3s,MS4.8
INCN Inchon 23.25 256 *e*P **P** **23 35 17.2 +3.4**
comp=Z,90nm,0.9s,mb5.3

JNU Nakatsue 23.29 242 P **P** **23 35 14.8 +0.5**
comp=Z,30nm,0.8s,mb4.9,baz=268,slow=23,SNR=5.3
JNU LR LR 23 44 36.6
comp=Z,2μm,19.6s,MS4.5,baz=80,slow=38
HIA Hailar 23.71 288 *e*P **P** **23 35 16.7 -1.8**
BOD Bodaibo 26.93 309 *e*P **P** **23 35 44.6 -3.2**
BOD pmax pmax
comp=Z,28nm,1.6s,mb4.7
CIT Chita 27.26 296 *e*P **P** **23 35 50.8 +0.1**
CIT pmax pmax
comp=Z,92nm,1.6s,mb5.3
TIXI Tiksi 27.52 342 *e*P **P** **23 35 50.4 -2.7**
TIXI pmax pmax
comp=Z,65nm,1.5s,mb5.2
TIXI Tiksi 27.52 342 *e*P **P** **23 35 50.4 -2.7**
comp=Z,65nm,1.5s,mb5.2
BJI Beijing 29.04 270 P **P** **23 36 05.8 -0.8**
BJI S **S** **23 40 58.1 -0.7**
BJI AMB AMB
comp=Z,34nm,1.5s,mb5.0
BJI AMB AMB
comp=Z,450nm,3.9s
BJI LR LR
comp=N,2μm,14.2s,MS5.0
BJI LR LR
comp=E,2μm,14.3s,MS5.0
BJI LR LR
comp=Z,1μm,13.0s,MS4.7
BJI Beijing 29.04 270 P **P** **23 36 05.8 -0.8**
comp=Z,34nm,1.5s,mb5.0
BJI S **S** **23 40 58.1 -0.7**
BJI LR LR
comp=Z,1μm,13.0s,MS4.7
BJT Baijiatuan 29.05 270 *e*P **P** **23 36 07.8 +1.1**
BJT pmax pmax
comp=Z,48nm,1.1s
BJT Baijiatuan 29.05 270 *e*P **P** **23 36 07.8 +1.1**
comp=Z,48nm,1.1s,mb5.2
TIA Tai'an 30.32 263 *e*P **P** **23 36 18.4 +0.5**
TIA S **S** **23 41 18.0 -0.9**
TIA LR LR
comp=N,725nm,13.0s,MS4.6
TIA LR LR
comp=E,511nm,13.0s,MS4.6
SSE Sheshan 30.71 251 P **P** **23 36 19.1 -2.3**
SSE XP sP 23 36 32.9 +11
SSE S **S** **23 41 27.6 +2.6**
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,176nm,3.8s
SSE LR LR
comp=N,375nm,14.5s,MS4.3
SSE LR LR
comp=E,326nm,14.2s,MS4.3
SSE LR LR
comp=Z,473nm,14.2s,MS4.3
SSE Sheshan 30.71 251 P **P** **23 36 19.1 -2.3**
comp=Z,41nm,0.7s,mb5.5
SSE sP sP 23 36 32.9 +11
SSE PP PP 23 37 31.3 +0.8
SSE S **S** **23 41 27.6 +2.6**
SSE sS sS 23 41 45.6 +20
SSE LR LR
comp=Z,470nm,14.2s,MS4.3
NJ2 Nanjing 31.61 255 *e*P **P** **23 36 31.8 +2.4**
NJ2 AP 23 36 35.1
NJ2 XP sP 23 36 38.3 +8.6
NJ2 PP PP 23 37 36.9 -3.7
NJ2 S **S** **23 41 38.5 -0.7**
NJ2 XS sS 23 41 46.5 +7.0
NJ2 LR LR
comp=N,2μm,15.2s,MS4.9
NJ2 LR LR
comp=E,1μm,15.4s,MS4.9
NJ2 LR LR
comp=Z,530nm,14.7s,MS4.3
HHC Hu-ho-hao-te 31.82 275⇑*i*P **P** **23 36 32.1 +1.0**
HHC AP 23 36 36.5
HHC XP sP 23 36 39.1 +7.6
HHC PP PP 23 37 38.5 -4.3
HHC PCP PcP 23 39 23.4 +1.2
HHC S **S** **23 41 41.8 -0.5**
HHC XS sS 23 41 47.3 +4.6
HHC SCP ScP 23 43 04.0 -2.7
HHC AMB AMB
comp=Z,55nm,1.5s,mb5.3
HHC AMB AMB
comp=Z,227nm,5.1s
HHC LR LR
comp=N,1μm,13.9s,MS4.9
HHC LR LR
comp=E,1μm,13.3s,MS4.9
HHC LR LR
comp=Z,2μm,13.0s,MS5.0
ULN Ulaanbaatar 32.23 289 P **P** **23 36 33.8 -0.9**
SNR=9.7
ULN Ulaanbaatar 32.23 289 *e*P **P** **23 36 33.1 -1.7**
ULN pmax pmax
comp=Z,27nm,1.4s,mb5.0
ULN Ulaanbaatar 32.23 289 *e*P **P** **23 36 33.1 -1.7**
comp=Z,27nm,1.4s,mb5.0
IMA2 Indian Mountai 32.55 36 *e*P **P** **23 36 37.0 -0.5**
KDAK Kodiak Island 32.62 52 P **P** **23 36 36.3 -1.9**
comp=Z,5.0nm,0.6s,mb4.6,baz=328,slow=7.0,SNR=5.9
SONM Songino Array 32.66 290 P **P** **23 36 37.4 -1.1**
comp=Z,7.4nm,0.9s,mb4.6,baz=63,slow=8.7,SNR=19
SONM PcP PcP 23 39 24.2 -0.4
comp=Z,3.5nm,0.9s,baz=81,slow=2.0,SNR=5.8
SONM LR LR 23 50 28.9
comp=Z,1μm,19.4s,MS4.5,baz=78,slow=37
SONM Songino Array 32.66 290 P **P** **23 36 37.4 -1.2**
SONM 23 39 24.2
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM MLR MLR
comp=Z,1μm,19.4s
IRK Irkutsk 32.87 298 *e*P **P** **23 36 41.6 +1.2**
IRK pmax pmax
comp=Z,68nm,2.0s,mb5.2
BTO Baotou 32.97 275 *e*P **P** **23 36 40.6 -0.7**
TLY Talaya 33.37 297 *e*P **P** **23 36 44.7 -0.1**
TLY *e*S **S** **23 42 07.4 +0.8**
TLY pmax pmax
comp=Z,39nm,1.6s,mb5.1
TLY MLR MLR
comp=Z,1μm,15.0s,MS4.8
TLY Talaya 33.37 297 P **P** **23 36 44.3 -0.5**
ZAK Zakamensk 33.91 295 *e*P **P** **23 36 47.6 -1.9**
ZAK *e* 23 39 27.9
ZAK pmax pmax
comp=Z,13nm,1.5s,mb4.6
MCK McKinley 34.32 41 *e*P **P** **23 36 52.9 -0.1**
SML Sawmill 34.58 44 *e*P **P** **23 36 55.3 0.0**
COLA College 34.83 39 *e*P **P** **23 36 57.7 +0.2**
comp=Z,9.8nm,0.4s,mb5.1
MOY Mondy 34.98 298 *e*P **P** **23 37 00.0 +1.3**
MOY pmax pmax
comp=Z,46nm,1.9s,mb5.1
WHN Wuhan 35.55 257 *e*P **P** **23 37 03.5 -0.1**
WHN S **S** **23 42 39.0 -1.1**
WHN LR LR
comp=Z,1μm,12.4s,MS4.9
QZH Quanzhou 36.62 246 P **P** **23 37 13.9 +1.1**
QZH S **S** **23 42 58.3 +1.7**
QZH AMB AMB
comp=Z,1μm,4.2s
QZH LR LR
comp=N,1μm,12.5s,MS5.1
QZH LR LR
comp=E,1μm,11.6s,MS5.1
QZH LR LR
comp=Z,750nm,16.8s
XAN Xi'an 37.10 266 P **P** **23 37 17.3 +0.4**
XAN S **S** **23 43 07.6 +3.7**
XAN AMB AMB
comp=Z,37nm,1.6s,mb4.9
XAN AMB AMB
comp=Z,301nm,7.7s
XAN LR LR
comp=N,880nm,14.9s,MS4.8
XAN LR LR
comp=E,757nm,15.5s,MS4.8
XAN LR LR
comp=Z,1μm,15.6s,MS4.9

EGAK Eagle 37.70 39 *e*P **P** **23 37 21.2 -0.7**
comp=Z,21nm,1.0s,mb4.8
DAWY Dawson 38.52 40 *e*P **P** **23 37 29.2 +0.3**
LZH Lanzhou 39.43 273 *e*P **P** **23 37 37.6 +1.1**
LZH PP PP 23 39 11.9 +5.1
LZH PCP PcP 23 39 47.4 +2.8
LZH *e*S **S** **23 43 38.0 -1.1**
LZH XS sS 23 43 46.3 +6.8
LZH SS SS 23 46 23.1 -10
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,348nm,4.7s
LZH LR LR
comp=N,1μm,15.2s
LZH LR LR
comp=Z,2μm,16.2s,MS5.0
LZH Lanzhou 39.43 273 *e*P **P** **23 37 37.6 +1.1**
LZH 23 39 11.9
LZH 23 39 47.4
LZH *e*S **S** **23 43 38.0 -1.1**
LZH SS SS 23 46 23.1 -10
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,2μm,16.2s,MS5.0
LZH Lanzhou 39.43 273 *e*P **P** **23 37 37.6 +1.1**
comp=Z,69nm,1.5s,mb5.1
LZH pP 23 37 38.5
LZH sP sP 23 37 39.5 +2.7
LZH PP PP 23 39 11.9 +5.1
LZH PcP PcP 23 39 47.4 +2.8
LZH *e*S **S** **23 43 38.0 -1.1**
LZH sS sS 23 43 46.2 +6.7
LZH SS SS 23 46 23.1 -10
LZH LR LR
comp=Z,2μm,16.2s,MS5.0
GTA Gaotai 40.44 280⇑P **P** **23 37 46.1 +1.2**
GTA AP 23 37 50.4
GTA XP sP 23 37 53.3 +8.1
GTA PP PP 23 39 23.9 +6.1
GTA PCP PcP 23 39 48.6 +0.7
GTA S **S** **23 43 54.6 +0.3**
GTA XS sS 23 44 02.3 +7.7
GTA AMB AMB
comp=Z,18nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,443nm,5.3s
GTA LR LR
comp=N,792nm,15.2s,MS4.9
GTA LR LR
comp=E,863nm,13.7s,MS4.9
GTA LR LR
comp=Z,919nm,12.9s,MS4.8
INK Inuvik 40.45 33 P **P** **23 37 45.6 +0.6**
comp=Z,15nm,0.8s,mb4.7,baz=286,slow=6.9,SNR=29
INK Inuvik 40.45 33 *e*P **P** **23 37 45.8 +0.7**
CD2 Chengdu 42.47 266 P **P** **23 38 01.8 +0.3**
CD2 AP 23 38 06.3
CD2 XP sP 23 38 08.9 +7.0
CD2 PP PP 23 39 43.5 +3.7
CD2 PCP PcP 23 39 55.5 +1.0
CD2 S **S** **23 44 23.9 -0.4**
CD2 XS sS 23 44 31.3 +6.6
CD2 SS SS 23 47 27.8 -5.5
CD2 SCS ScS 23 48 00.6 -4.0
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,640nm,5.9s
CD2 LR LR
comp=N,990nm,15.0s,MS4.9
CD2 LR LR
comp=E,660nm,16.8s,MS4.9
CD2 LR LR
comp=Z,1μm,16.5s,MS4.8
GYA Guiyang 43.33 259⇑*i*P **P** **23 38 08.9 +0.4**
GYA AP 23 38 12.9
GYA XP sP 23 38 15.8 +6.9
GYA PP PP 23 39 54.3 +5.2
GYA PCP PcP 23 40 00.3 +2.9
GYA SCP ScP 23 43 50.4 +0.6
GYA S **S** **23 44 38.8 +1.8**
GYA SS SS 23 47 43.8 -6.4
GYA SCS ScS 23 48 09.0 -1.0
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,150nm,5.2s
GYA LR LR
comp=N,490nm,16.8s,MS4.7
GYA LR LR
comp=E,580nm,16.4s,MS4.7
GYA LR LR
comp=Z,560nm,16.9s,MS4.5
ZAL Zalesovo 43.64 306 P **P** **23 38 09.7 -1.3**
comp=Z,9.4nm,0.7s,mb4.6,baz=40,slow=5.4,SNR=30
ZAL PcP PcP 23 39 58.0 -0.4
comp=Z,3.5nm,0.8s,baz=34,slow=4.5,SNR=4.3
ZAL LR LR 23 57 37.4
comp=Z,1μm,21.7s,MS4.8,baz=34,slow=38
ZAL Zalesovo 43.64 306 P **P** **23 38 09.7 -1.4**
ZAL 23 39 58.0
ZAL pmax pmax
comp=Z,9.0nm,0.7s
ZAL MLR MLR
comp=Z,1μm,21.7s
NVS Novosibirsk 44.17 308 *i*P **P** **23 38 13.9 -1.4**
NVS *e*S **S** **23 44 41.5 -7.8**
NVS pmax pmax
comp=E,166nm,1.7s
NVS pmax pmax
comp=Z,152nm,1.7s,mb5.5
NVS pmax pmax
comp=N,88nm,1.8s
NVS smax
comp=E,41nm,1.8s
NVS smax
comp=N,14nm,1.6s
WMQ Urumqi 46.22 292⇑*i*P **P** **23 38 32.3 +0.7**
WMQ AP 23 38 36.8
WMQ XP sP 23 38 39.3 +7.4
WMQ PCP PcP 23 40 08.0 +0.7
WMQ PP PP 23 40 21.1 +1.2
WMQ SCP ScP 23 43 59.4 -2.3
WMQ PCS PcS 23 44 01.1 -0.7
WMQ S **S** **23 45 18.0 -1.0**
WMQ XS sS 23 45 25.6 +6.2
WMQ AMB AMB
comp=Z,23nm,1.2s,mb5.1
WMQ LR LR
comp=N,548nm,16.0s,MS4.8
WMQ LR LR
comp=E,607nm,15.4s,MS4.8
WMQ LR LR
comp=Z,863nm,16.0s,MS4.8
QIZ Qiongzhong 46.45 249 P **P** **23 38 34.5 +1.1**
QIZ XP sP 23 38 37.8 +4.1
QIZ S **S** **23 45 22.3 0.0**
QIZ XS sS 23 45 29.6 +6.9
QIZ SS SS 23 48 35.4 -13
QIZ AMB AMB
comp=Z,223nm,4.0s
QIZ LR LR
comp=N,404nm,17.4s
QIZ LR LR
comp=Z,336nm,19.9s,MS4.3
KMI Kunming 46.85 261 P **P** **23 38 36.3 -0.3**
KMI AP 23 38 40.8
KMI PP PP 23 40 25.8 -0.7
KMI PCS PcS 23 44 04.9 +0.5
KMI S **S** **23 45 25.3 -2.7**
KMI AMB AMB
comp=Z,27nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,422nm,5.4s
KMI LR LR
comp=N,493nm,14.1s,MS4.8
KMI LR LR
comp=E,593nm,15.7s,MS4.8
KMI LR LR
comp=Z,283nm,20.4s,MS4.2
KMI Kunming 46.85 261 P **P** **23 38 36.2 -0.4**
KMI 23 40 25.7

KMI PPP 23 41 07.2
KMI S **S** **23 45 25.2 -2.8**
KMI pmax pmax
comp=Z,27nm,1.5s,mb5.2
KMI MLR MLR
comp=Z,280nm,20.4s,MS4.2
KMI Kunming 46.85 261 P **P** **23 38 36.2 -0.4**
comp=Z,27nm,1.5s,mb5.2
KMI pP 23 38 40.7
KMI PP PP 23 40 25.7 -0.8
KMI PPP 23 41 07.2
KMI PcS PcS 23 44 04.9 +0.5
KMI S **S** **23 45 25.2 -2.8**
KMI SS SS 23 48 51.5 -2.9
KMI LR LR
comp=Z,280nm,20.4s,MS4.2
MK31 Makanchi Array 48.13 298 *i* P **P** **23 38 45.3 -1.2**
MK31 pmax pmax
comp=Z,48nm,1.0s,mb5.6
MKAR Makanchi Array 48.13 298 P **P** **23 38 45.6 -0.9**
comp=Z,20nm,1.0s,mb5.2,baz=68,slow=8.0,SNR=31
MKAR PcP PcP 23 40 13.5 -0.6
comp=Z,3.2nm,0.8s,baz=58,slow=4.0,SNR=3.5
MKAR LR LR 00 00 10.8
comp=Z,658nm,18.9s,MS4.6,baz=46,slow=38
MKAR Makanchi Array 48.13 298 P **P** **23 38 45.6 -0.9**
MKAR 23 40 13.5
MKAR pmax pmax
comp=Z,20nm,1.0s
MKAR MLR MLR
comp=Z,658nm,18.9s
KURK Kurchatov 48.42 304 P **P** **23 38 47.5 -1.3**
comp=Z,635nm,1.1s,SNR=63
ALE Alert 49.16 6 P **P** **23 38 54.2 -0.2**
comp=Z,140nm,1.5s,mb5.8,SNR=8.1
YKA Yellowknife Ar 49.65 38 P **P** **23 38 58.1 0.0**
comp=Z,8.7nm,0.8s,mb4.7,baz=296,slow=7.6,SNR=11
YKA Yellowknife Ar 49.65 38 P **P** **23 38 58.1 0.0**
YKA pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 49.93 19 *eP* **P** **23 39 01.0 +0.7**
BVA0 Borovoye Array 51.79 310 *i* P **P** **23 39 13.6 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BVAR Borovoye Array 51.79 310 LR LR 00 02 45.9
comp=Z,834nm,19.1s,MS4.8,baz=318,slow=38
LSA Lhasa 51.80 274 P **P** **23 39 16.6 +2.2**
LSA AP 23 39 24.8
LSA XP sP 23 39 29.1 +14
LSA PP PP 23 41 15.8 +3.7
LSA S **S** **23 46 41.9 +4.4**
LSA SCS ScS 23 49 03.3 -2.6
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.3
LSA AMB AMB
comp=Z,310nm,6.0s
LSA LR LR
comp=N,190nm,19.6s,MS4.4
LSA LR LR
comp=E,260nm,16.3s,MS4.4
LSA LR LR
comp=Z,390nm,22.9s
LSA Lhasa 51.80 274 *eP* **P** **23 39 16.1 +1.7**
LSA pmax pmax
comp=Z,23nm,0.8s,mb5.2
LSA Lhasa 51.80 274 *eP* **P** **23 39 16.1 +1.7**
comp=Z,23nm,0.8s,mb5.2
BRVK Borovoye 51.83 310 P **P** **23 39 14.2 -0.4**
comp=Z,276nm,0.5s,SNR=15
BRVK Borovoye 51.83 310 ⇓P **P** **23 39 14.2 -0.4**
SNR=16
BRVK Borovoye 51.83 310 P **P** **23 39 14.0 -0.6**
BRVK pmax pmax
comp=Z,33nm,0.8s,mb5.3
BRVK Borovoye 51.83 310 *eP* **P** **23 39 13.9 -0.7**
comp=Z,33nm,0.8s,mb5.3
KBS Kingsbay 52.31 352 *eP* **P** **23 39 17.7 -0.5**
CHTO Chiang Mai 53.73 258 ⇑P **P** **23 39 29.9 +1.2**
SNR=10.0
CHTO Chiang Mai 53.73 258 *eP* **P** **23 39 28.4 -0.3**
CHTO pmax pmax
comp=Z,46nm,1.4s,mb5.3
CHTO Chiang Mai 53.73 258 *eP* **P** **23 39 28.4 -0.3**
comp=Z,46nm,1.4s,mb5.3
TKM2 Tokmak 2 54.21 297 *i* P **P** **23 39 31.1 -1.0**
CHMS Chumysh 54.67 297 P **P** **23 39 36.4 +0.8**
SNR=9.5
USP Ospenovka 54.67 298 P **P** **23 39 36.5 +0.9**
SNR=21
SOKR Solikamsk 54.73 322 *d i* P **P** **23 39 37.5 +1.5**
SOKR pmax pmax
comp=Z,60nm,1.5s,mb5.4
SOKR MLR MLR
comp=Z,690nm,25.0s,MS4.6
KBK Karagaybulak 54.75 297 P **P** **23 39 37.2 +1.1**
SNR=14
EDM Edmonton 54.89 47 P **P** **23 39 37.3 +0.2**
EDM *e* 23 39 49.4
EDM Edmonton 54.89 47 *eP* **P** **23 39 36.5 -0.6**
KZA Kyzart 54.89 296 P **P** **23 39 42.5 +5.3**
SNR=12
AAK Ala-Archa 55.04 297 P **P** **23 39 39.2 +1.0**
SNR=13
AAK Ala-Archa 55.04 297 P **P** **23 39 38.3 +0.1**
comp=Z,136nm,0.7s,mb6.1,SNR=9.2
AAK Ala-Archa 55.04 297 P **P** **23 39 38.2 0.0**
SNR=13
AAK Ala-Archa 55.04 297 *eP* **P** **23 39 37.9 -0.3**
EKS2 Erkin-Say 55.46 298 P **P** **23 39 42.3 +1.1**
SNR=5.1
NEW Newport 55.67 54 *eP* **P** **23 39 42.1 -0.7**
ARU Arti 55.75 318 P **P** **23 39 43.1 -0.2**
comp=Z,342nm,1.0s,mb6.3,SNR=22
ARU Arti 55.75 318 ⇓*i* P **P** **23 39 42.7 -0.6**
ARU *e* 23 40 36.4
ARU *e* 23 41 48.3
ARU *e* PPP 23 43 00.5
ARU *e* S **S** **23 47 31.6 +0.7**
ARU pmax pmax
comp=Z,40nm,0.8s,mb5.5
ARU MLR MLR
comp=E,300nm,15.0s,MS4.6
ARU MLR MLR
comp=Z,400nm,15.0s,MS4.6
ARU MLR MLR
comp=N,200nm,14.0s,MS4.6
ARU Arti 55.75 318 *eP* **P** **23 39 41.6 -1.7**
comp=N,40nm,0.8s,mb5.5
KSH Kashi 55.93 293 *eP* **P** **23 39 46.1 +1.5**
KSH *e* AP 23 39 51.3
KSH *e* XP sP 23 39 53.5 +8.6
KSH *e* PCP PcP 23 40 44.9 +1.7
KSH *e* SCP ScP 23 44 42.0 -1.5
KSH *e* S **S** **23 47 31.8 -1.5**
KSH *e* XS sS 23 47 41.4 +7.7
KSH *e* SCS ScS 23 49 31.6 -3.5
KSH *e* SS SS 23 51 18.4 -0.6
KSH LR LR
comp=N,1μm,7.8s
KSH LR LR
comp=E,2μm,7.7s
KSH LR LR
comp=Z,4μm,11.2s
JIRN Jiri 56.46 276 *eP* **P** **23 39 49.2 +0.8**
comp=Z,43nm,0.8s,mb5.5
GUN Gumba 56.51 276 *eP* **P** **23 39 49.1 +0.3**
comp=Z,33nm,0.7s,mb5.5
KKN Kakani 56.99 277 *eP* **P** **23 39 52.5 +0.3**
comp=Z,35nm,0.7s,mb5.5
PKI Pulchoki 57.05 276 *eP* **P** **23 39 52.9 +0.3**
KK31 Karatay Array 57.15 300 *i* P **P** **23 39 51.7 -1.6**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb5.2
KKAR Karatay Array 57.15 300 P **P** **23 39 51.7 -1.6**
KKAR pmax pmax
comp=Z,13nm,0.8s,mb5.0
DMN Daman 57.23 277 *eP* **P** **23 39 54.4 +0.5**
comp=Z,116nm,1.1s,mb5.8
GKN Gorkha 57.29 277 *eP* **P** **23 39 54.5 +0.2**
comp=Z,119nm,1.1s,mb5.8
KEV Kevo 57.46 341 *ep* **P** **23 39 53.8 -1.7**
comp=Z,12nm,0.7s,mb5.0
KEV Kevo 57.46 341 *eP* **P** **23 39 53.8 -1.7**
KEV pmax pmax
comp=Z,12nm,0.7s,mb5.0
APA Apatity 57.56 337 ⇓*i* P **P** **23 39 55.8 -0.4**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
APA MLR MLR
comp=Z,900nm,17.0s,MS5.0
ARCES ARCESS Array B 57.96 341 P **P** **23 39 58.4 -0.6**
comp=Z,8.0nm,0.7s,mb4.8,baz=33,slow=6.5,SNR=32
ARCES LR LR 00 08 06.2
comp=Z,862nm,21.7s,MS4.8,baz=30,slow=39
ARCES ARCESS Array B 57.96 341 P **P** **23 39 58.4 -0.6**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,862nm,21.7s
ARCES ARCESS Array B 57.96 341 P **P** **23 39 58.4 -0.6**
ARCES LR LR 00 08 06.2
KOLN Koldanda 58.15 278 *eP* **P** **23 40 00.5 +0.2**
comp=Z,63nm,1.0s,mb5.6
MSO Missoula 58.26 54 *eP* **P** **23 40 00.7 -0.4**
TMCR Tamitsa 58.68 333 *eP* **P** **23 40 04.1 +0.1**
TMCR pmax pmax
comp=Z,111nm,1.5s,mb5.7
BOK Bokaro 59.20 273 ⇑*i* P **P** **23 40 08.7 +1.0**
BOK AMb AMB 23 40 13.9
comp=Z,27nm,1.2s,mb5.2
AB31 Akbulak array 59.34 311 ⇑*eP* **P** **23 40 08.1 -0.6**
AKTK Aktyubinsk 59.60 313 *i* P **P** **23 40 10.2 -0.2**
AKTO Aktyubinsk 59.60 313 LR LR 00 07 02.1
comp=Z,395nm,20.6s,MS4.5,baz=30,slow=37
AKTO Aktyubinsk 59.60 313 *i* P **P** **23 40 10.2 -0.2**
LRM Limekiln Ridge 59.69 54 *eP* **P** **23 40 11.7 +0.7**
HLID Hailey 59.98 57 *eP* **P** **23 40 13.3 +0.3**
ORR Orenburg 60.45 315 *eP* **P** **23 40 16.1 -0.2**
ORR MLR MLR
comp=Z,750nm,15.0s,MS5.0
NDI New Delhi 61.84 283 *eP* **P** **23 40 25.0 -0.7**
SNOW Snow King Moun 62.11 55 *eP* **P** **23 40 26.3 -1.2**
comp=Z,15nm,0.8s,mb5.3
KULM Kulim 62.67 246 *eP* **P** **23 40 31.9 +0.7**
KAKA Kakadu 63.05 205 *eP* **P** **23 40 32.6 -1.2**
comp=Z,6.7nm,0.5s,mb5.0
BW06 Boulder Array 63.23 55 *eP* **P** **23 40 35.5 +0.5**
comp=Z,56nm,2.1s,mb5.3
PDAR Pinedale Array 63.23 55 P **P** **23 40 35.1 +0.1**
comp=Z,3.8nm,1.1s,mb4.5,baz=318,slow=2.0,SNR=13
JLU Jordanelle 63.56 58 *eP* **P** **23 40 36.1 -1.1**
JLU *e* PcP PcP 23 41 13.1 -0.5
FINES FINESS Array B 64.31 336 P **P** **23 40 41.6 -0.5**
comp=Z,6.1nm,0.4s,mb5.2,baz=35,slow=7.2,SNR=97
FINES LR LR 00 10 57.0
comp=Z,456nm,20.8s,MS4.6,baz=0.1,slow=38
FINES FINESS Array B 64.31 336 *i* P **P** **23 40 41.7 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.4s
MOS Moscow 64.96 326 *eP* **P** **23 40 45.6 -0.8**
MOS *e* 23 43 06.3
MOS *e* S **S** **23 49 24.6 -4.5**
MOS *e* SS SS 23 53 42.3 +1.6
MOS pmax pmax
comp=Z,800nm,3.7s
MOS pmax pmax
comp=Z,180nm,1.8s,mb6.0
AJM Ajmer 65.00 283 *eP* **P** **23 40 45.3 -1.3**
AJM AMb AMB 23 40 55.4
comp=Z,24nm,1.1s,mb5.3
VIS Vishakhapatnam 65.07 269 *eP* **P** **23 40 47.6 +0.5**
VIS AMb AMB 23 40 55.8
comp=Z,36nm,0.8s,mb5.7
BHPL Bhopal 65.31 278 *eP* **P** **23 40 47.7 -0.9**
BHPL AMb AMB 23 40 52.3
comp=Z,32nm,1.4s,mb5.3
RSSD Black Hills 65.35 51 P **P** **23 40 48.7 -0.2**
RSSD pmax pmax
comp=Z,14nm,1.3s,mb5.0
RSSD Black Hills 65.35 51 *eP* **P** **23 40 48.3 -0.6**
comp=Z,14nm,1.3s,mb5.0
NGP Nagpur 65.63 275 *eP* **P** **23 40 51.4 +0.7**
NGP AMb AMB 23 40 56.7
comp=Z,38nm,0.3s,mb6.1
OBN Obninsk 65.83 327 P **P** **23 40 52.1 +0.1**
comp=Z,343nm,1.2s,SNR=7.0
OBN Obninsk 65.83 327 *eP* **P** **23 40 51.6 -0.4**
OBN *e* 23 43 14.7
OBN *e* SS SS 23 53 51.9 -2.3
OBN pmax pmax
comp=Z,195nm,1.9s,mb6.0
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.4
OBN Obninsk 65.83 327 *eP* **P** **23 40 51.4 -0.6**
VRHR Novokhopersk 66.79 321 *eP* **P** **23 41 00.3 +2.1**
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.7
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.4s
SMCO Snowmass 67.08 57 *eP* **P** **23 40 58.7 -1.2**
VOR Voronezh 67.34 323 P **P** **23 41 00.0 -1.6**
VOR pmax pmax
comp=N,80nm,1.8s
VOR pmax pmax
comp=Z,130nm,1.8s,mb5.9
VOR pmax pmax
comp=E,90nm,1.7s
ISCO Idaho Springs 67.42 55 *eP* **P** **23 41 02.6 +0.4**
ISCO pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
ISCO Idaho Springs 67.42 55 *eP* **P** **23 41 02.6 +0.5**
comp=Z,6.6nm,1.1s,mb4.8
ABKT Ailbek 67.71 302 P **P** **23 41 04.1 +0.1**
comp=Z,104nm,1.1s,mb6.0,SNR=6.5
VRSR Storozhevoye 67.73 322 *eP* **P** **23 41 05.7 +1.6**
VRSR pmax pmax
comp=Z,40nm,1.3s,mb5.5
VRSR pmax pmax
comp=N,30nm,1.2s
VRSR pmax pmax
comp=E,30nm,1.2s
VRSR MLR MLR
comp=Z,400nm,21.0s,MS4.6
VRSR MLR MLR
comp=N,560nm,24.0s
NB2 NORSAR Subarra 68.32 342 P **P** **23 41 07.2 -0.6**
comp=Z,4.2nm,0.6s,mb4.8,baz=26,slow=6.5
NOA NORSAR Array B 68.32 342 P **P** **23 41 07.5 -0.4**
comp=Z,6.8nm,0.8s,mb5.0,baz=26,slow=6.4,SNR=24
NOA LR LR 00 14 34.5
comp=Z,228nm,20.5s,MS4.4,baz=20,slow=39
NOA NORSAR Array B 68.32 342 P **P** **23 41 07.5 -0.3**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,228nm,20.5s
HYB Hyderabad 68.54 273 *i* P **P** **23 41 09.0 -0.2**
HYB Hyderabad 68.54 273 *eP* **P** **23 41 09.0 -0.2**
WRAB Tennant Creek 69.43 201 P **P** **23 41 13.1 -1.6**
comp=Z,74nm,1.0s,mb5.9,SNR=6.0
WRAB Tennant Creek 69.43 201 P **P** **23 41 12.6 -2.1**
WRAB pmax pmax
comp=Z,15nm,1.0s,mb5.2
WRAB Tennant Creek 69.43 201 *eP* **P** **23 41 12.2 -2.6**
comp=Z,15nm,1.0s,mb5.2
MNK Minsk 69.43 330 *eP* **P** **23 41 12.0 -2.8**
WB2 Warramunga Arr 69.44 201 *eP* **P** **23 41 12.8 -2.0**
WRA Warramunga Arr 69.44 201 P **P** **23 41 13.1 -1.7**
comp=Z,10nm,1.0s,mb5.0,baz=20,slow=6.4,SNR=28
WRA LR LR 00 07 52.3
comp=Z,122nm,21.3s,MS4.1,baz=40,slow=33
WRA Warramunga Arr 69.44 201 *i* P **P** **23 41 13.1 -1.7**
WRA pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 70.28 60 *eP* **P** **23 41 20.0 +0.1**
ANMO *e* 23 41 44.9
POO Poona 70.97 277 ⇑*i*P **P** **23 41 23.0 -1.1**
comp=Z,20nm,1.0s,mb5.2
KAD Karad 71.59 276 *eP* **P** **23 41 27.2 -0.7**
KAD AMb AMB 23 41 36.3
comp=Z,65nm,0.9s,mb5.7
KIV Kislovodsk 71.61 315 P **P** **23 41 28.2 +0.2**
comp=Z,150nm,0.8s,mb6.2,SNR=7.2
KIV Kislovodsk 71.61 315 ⇓P **P** **23 41 29.3 +1.2**
SNR=13
KIV Kislovodsk 71.61 315 *eP* **P** **23 41 27.4 -0.6**
KIV *e* 23 41 45.8
KIV *e* S 23 50 46.4 -2.0
KIV pmax pmax
comp=Z,35nm,1.2s,mb5.4
KIV Kislovodsk 71.61 315 *eP* **P** **23 41 29.0 +0.9**
comp=Z,18nm,0.8s,mb5.3
ZEI Tsey 71.91 314 *eP* **P** **23 41 29.4 -0.4**
ZEI *e* 23 41 46.0
AKASG Malin Array Be 72.05 327 P **P** **23 41 29.8 -0.9**
comp=Z,7.8nm,0.7s,mb5.0,baz=33,slow=6.1,SNR=17
AKASG LR LR 00 16 19.7
comp=Z,343nm,18.2s,MS4.7,baz=30,slow=38
AKASG Malin Array Be 72.05 327 P **P** **23 41 29.8 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG MLR MLR
comp=Z,343nm,18.2s
AKASG Malin Array Be 72.05 327 P **P** **23 41 29.8 -0.9**
AKASG LR LR 00 16 19.7
KIEV Kiev 72.06 327 *eP* **P** **23 41 29.5 -1.2**
KIEV pmax pmax
comp=Z,37nm,1.4s,mb5.3
KIEV Kiev 72.06 327 *eP* **P** **23 41 29.5 -1.2**
comp=Z,37nm,1.4s,mb5.3
SCHQ Schefferville 72.30 24 P **P** **23 41 33.4 +1.2**
comp=Z,3.2nm,1.0s,mb4.4,baz=326,slow=7.3,SNR=2.7
SCHQ LR LR 00 16 35.7
comp=Z,120nm,18.9s,MS4.2,baz=324,slow=39
ASAR Alice Springs 73.13 201 P **P** **23 41 36.5 -0.6**
comp=Z,7.7nm,1.0s,mb4.8,baz=16,slow=5.2,SNR=30
ASAR LR LR 00 10 43.4
comp=Z,141nm,19.1s,MS4.3,baz=17,slow=33
MNTX Cornudas Mount 73.20 62 *eP* **P** **23 41 37.8 +0.3**
SOC Sochi 73.30 317 *d i* P **P** **23 41 37.6 -0.5**
SOC *e* 23 41 53.4
SOC pmax pmax
comp=Z,19nm,0.7s,mb5.3
ANN Anapa 73.40 319 *eP* **P** **23 41 37.9 -0.8**
ANN pmax pmax
comp=Z,46nm,2.0s,mb5.3
GNI Garni 73.43 312 *eP* **P** **23 41 39.5 +0.6**
GNI Garni 73.43 312 LR LR 00 17 37.2
comp=Z,517nm,19.6s,MS4.8,baz=111,slow=39
GNI Garni 73.43 312 *eP* **P** **23 41 38.4 -0.5**
GNI pmax pmax
comp=Z,17nm,0.8s
GNI Garni 73.43 312 *eP* **P** **23 41 41.0 +2.0**
GKP Gorka Klasztor 73.78 335 *eP* **P** **23 41 44.8 +3.8**
DIGO Kars 73.93 313 *i* P **P** **23 41 42.8 +1.0**
CLDR Calderan 74.61 311 *eP* **P** **23 41 46.6 +0.8**
LVV L'vov 74.63 330 *eP* **P** **23 41 48.4 +2.5**
LVV *e* 23 41 55.6
KIS Kishinev 75.24 325 *eP* **P** **23 41 48.0 -1.4**
KIS *e* 23 42 06.0
KIS Kishinev 75.24 325 *eP* **P** **23 41 48.0 -1.4**
KIS LRM 00 21 28.0
comp=Z,200nm,15.0s
KWP Kalwaria 75.24 330 *eP* **P** **23 41 49.4 -0.1**
KWP Kalwaria 75.24 330 P **P** **23 41 49.2 -0.3**
KWP pmax pmax
comp=Z,150nm,1.4s,mb5.8
MACK Trabzon 75.30 315 *i* P **P** **23 41 49.4 -0.4**
IAS Iasi 75.56 326 P **P** **23 41 51.2 -0.1**
OJC Ojcow 75.69 332 *eP* **P** **23 41 55.8 +3.8**
HAKT HAKKARI 75.91 310 *i* P **P** **23 41 54.1 +0.8**
STHS Stebnicka Huta 75.92 331 *eP* **P** **23 41 53.6 +0.3**
STHS pmax pmax
comp=Z,45nm,1.8s,mb5.3
STHS Stebnicka Huta 75.92 331 *eP* **P** **23 41 53.6 +0.3**
comp=Z,45nm,1.8s,mb5.3
STHS *e* 23 41 58.4
LTX Lajitas 75.92 62 *eP* **P** **23 41 53.6 +0.3**
LTX pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
LTX Lajitas 75.92 62 *eP* **P** **23 41 53.6 +0.3**
comp=Z,6.0nm,0.4s,mb5.1
TXAR Lajitas Array 75.92 62 P **P** **23 41 53.3 0.0**
comp=Z,3.1nm,0.8s,mb4.5,baz=294,slow=4.1,SNR=34
TXAR Lajitas Array 75.92 62 P **P** **23 41 53.3 0.0**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 75.99 330 *eP* **P** **23 41 53.8 +0.1**
KOLS *ep* P 23 41 58.0
BURAR Bucovina Array 76.08 328 ⇑*i*P **P** **23 41 54.0 -0.2**
BURAR Bucovina Array 76.08 328 ⇑P **P** **23 41 54.0 -0.3**
KELT Kelkit 76.16 315 *i* P **P** **23 41 54.1 -0.6**
CUKT Cukurca 76.20 310 *eP* **P** **23 41 54.9 0.0**
KSP Ksiaz 76.20 335 *eP* **P** **23 41 59.5 +4.5**
KSP Ksiaz 76.20 335 *eP* **P** **23 41 54.5 -0.5**
KSP *ep* P 23 41 59.5
NIE Niedzica 76.22 332 *eP* **P** **23 41 59.8 +4.8**
OKC Ostrava-Krasne 76.54 333 *eP* **P** **23 41 58.0 +1.2**
OKC *ep* P 23 42 01.5
BTMT Batman 76.56 312 *eP* **P** **23 41 58.3 +1.3**
UPC Upice 76.58 335 *eP* **P** **23 41 57.5 +0.4**
UPC *ep* P 23 42 02.1
DPC Dobruska-Polom 76.63 334 *eP* **P** **23 41 57.9 +0.5**
DPC *ep* P 23 42 02.9
CLL Collm 76.71 337 *i* P **P** **23 41 57.3 -0.5**
CLL *i* 23 42 02.4
CLL pmax pmax
comp=Z,15nm,1.2s,mb5.0
CLL Collm 76.71 337 *i* P **P** **23 41 57.3 -0.5**
comp=Z,15nm,1.2s,mb5.0
CLL *i* 23 42 02.4
CLL Collm 76.71 337 *i* P **P** **23 41 57.3 -0.5**
comp=Z,15nm,1.2s,mb5.0
CLL *i* pP 23 42 02.4
comp=Z,59nm,1.1s
CLL *i* sPcP 23 42 11.3
MORC Moravsky Berou 76.78 333 ⇓*i*P **P** **23 41 58.2 0.0**
MORC Moravsky Berou 76.78 333 *eP* **P** **23 41 58.4 +0.2**
MORC pmax pmax
comp=Z,41nm,1.1s,mb5.5
MORC Moravsky Berou 76.78 333 *eP* **P** **23 41 58.4 +0.2**
comp=Z,41nm,1.1s,mb5.5
BRG Berggiesshubel 76.84 336 *eP* **P** **23 42 00.2 +1.6**
comp=Z,5.2nm,1.3s,mb4.5
BRG *i* 23 42 02.7
comp=Z,25nm,1.5s
BRG Berggiesshubel 76.84 336 *eP* **P** **23 42 00.2 +1.6**
BRG *i* 23 42 02.7
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
KVT Kavak 76.95 317 *eP* **P** **23 42 03.1 +4.0**
KECS Kecovo 76.98 331 *eP* **P** **23 42 00.4 +1.1**
KECS *e* 23 42 03.8
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KECS Kecovo 76.98 331 *eP* **P** **23 42 00.4 +1.1**
comp=Z,8.3nm,0.9s,mb4.9
KECS *e* 23 42 03.8
PVCC Panska Ves 76.98 336 *eP* **P** **23 41 59.4 +0.1**
PVCC *ep* P 23 42 04.2
VRI Vrincioaia 76.99 326 ⇑*i*P **P** **23 42 00.8 +1.4**
VRI Vrincioaia 76.99 326 ⇑P **P** **23 42 00.8 +1.4**
VRI P 23 42 04.5
CFR Carcaliu 77.01 325 P **P** **23 42 05.6 +6.1**
PLOR Plostina 77.03 326 ⇑*i*P **P** **23 42 02.2 +2.6**
PTK Pertek 77.07 314 *eP* **P** **23 42 01.6 +1.7**
MSL Mosul 77.19 310 *ex* x 23 42 02.5
MSL *ex* x 23 42 19.0
MSL *ex* x 23 51 53.0
BOYT Boyabat 77.20 318 *i* P **P** **23 42 01.5 +0.9**
BYBT Boyabat 77.22 318 *eP* **P** **23 42 02.0 +1.3**
PRU Pruhonice 77.47 335 *eP* **P** **23 42 02.2 +0.1**
PRU *ep* P 23 42 07.3
VRAC Vranov 77.48 334 ⇑*i*P **P** **23 42 02.4 +0.3**
VRAC Vranov 77.48 334 ⇑P **P** **23 42 02.4 +0.3**
VRAC P 23 42 07.5
TIRR Tirgusor 77.50 324 ⇓*i*P **P** **23 42 02.7 +0.4**
TIRR Tirgusor 77.50 324 *eP* **P** **23 42 06.5 +4.2**
TIRR pmax pmax
comp=Z,13nm,0.7s,mb5.2
TIRR Tirgusor 77.50 324 *eP* **P** **23 42 06.5 +4.3**
comp=Z,13nm,0.7s,mb5.2
VYHS Vyhne 77.50 332 *eP* **P** **23 42 02.5 +0.2**
VYHS *e* 23 42 07.2
VYHS pmax pmax
comp=Z,35nm,1.6s,mb5.2
VYHS Vyhne 77.50 332 *eP* **P** **23 42 02.5 +0.2**
comp=Z,35nm,1.6s,mb5.2
VYHS *e* 23 42 07.2
MARD Mardin 77.60 312 *i* P **P** **23 42 03.7 +0.8**
MLR Muntele Rosu 77.60 326 ⇑*i*P **P** **23 42 03.4 +0.6**
MLR Muntele Rosu 77.60 326 ⇑P **P** **23 42 03.4 +0.6**
MLR P 23 42 08.1

PSZ Piszkesteto 77.66 331 ⇑*i*P P **23 42 03.6 +0.4**
PSZ Piszkesteto 77.66 331 *e*P P **23 42 08.2 +5.1**
DRGR 77.68 329 ⇓*i*P P **23 42 04.4 +1.1**
DRGR 77.68 329 ⇓P P **23 42 04.4 +1.1**
DRGR P 23 42 07.8
MOX Moxa 77.68 337 *e*P P **23 42 08.0 +4.7**
comp=Z,76nm,1.9s,mb5.5
MOX *e* 23 42 22.4
MOX
comp=Z,200nm,22.0s
MOX Moxa 77.68 337 *e*P P **23 42 08.0 +4.7**
MOX *e* 23 42 22.4
MOX pmax pmax
comp=Z,76nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.4
BALT Daday 77.79 319 *i*P P **23 42 05.0 +1.2**
NKC Novy Kostel 77.83 337 *e*P P **23 42 04.1 0.0**
NKC *e*pP 23 42 09.3
CTKT Corum 77.89 318 *i*P P **23 42 05.1 +0.7**
VOIR 77.98 327 ⇓*i*P P **23 42 05.6 +0.7**
VOIR 77.98 327 ⇓P P **23 42 05.6 +0.6**
MALT Malatya 77.99 314 ⇓*i*P P **23 42 06.1 +1.1**
MALT Malatya 77.99 314 *e*P P **23 42 06.4 +1.4**
MALT pmax pmax
comp=Z,13nm,1.0s,mb5.0
MALT Malatya 77.99 314 *e*P P **23 42 06.4 +1.4**
comp=Z,13nm,1.0s,mb5.0
ZST Bratislava 78.31 333 *e*P P **23 42 12.2 +5.4**
ZST LR LR
comp=Z,900nm,17.1s,MS5.2
CORM Corum 78.32 318 *e*P P **23 42 06.2 -0.7**
BUD Budapest 78.33 331 ⇓*e*PcP PcP 23 42 12.5 -3.7
SAFT Safranbolu 78.34 320 *e*P P **23 42 07.7 +0.7**
CANT Cankiri 78.43 319 *e*P P **23 42 08.0 +0.6**
URFA Urfa 78.48 313 *e*P P **23 42 08.4 +0.7**
KHC Kasperske Hory 78.52 336 *e*P P **23 42 08.2 +0.3**
KHC *e*pP 23 42 13.4
KHC *e*PcP PcP 23 42 18.5 +1.5
BUC1 Bucharest 78.53 326 P P **23 42 13.5 +5.5**
ELDT Eldivan 78.61 319 *i*P P **23 42 11.9 +3.4**
GRA1 Grafenberg Arr 78.65 337 *e*P P **23 42 09.1 +0.4**
comp=Z,153nm,1.6s,mb5.8
GRF Grafenberg Arr 78.65 337 *e*P P **23 42 09.1 +0.4**
comp=Z,153nm,1.6s,mb5.8
GRF Grafenberg Arr 78.65 337 *e*P P **23 42 09.1 +0.4**
GRF pmax pmax
comp=Z,153nm,1.6s,mb5.8
GRF Grafenberg Arr 78.65 337 *e*P P **23 42 09.1 +0.4**
GRF pmax pmax
comp=Z,153nm,1.6s,mb5.8
GRFO Grafenberg 78.66 337 *e*P P **23 42 11.2 +2.5**
GRFO pmax pmax
comp=Z,58nm,1.2s,mb5.5
GRFO Grafenberg 78.66 337 *e*P P **23 42 11.2 +2.5**
comp=Z,58nm,1.2s,mb5.5
GERES GERESS Array B 78.74 335 P P **23 42 08.9 -0.2**
comp=Z,0.6nm,0.4s,baz=42,slow=5.0,SNR=8.6
GERES LR LR 00 22 24.0
comp=Z,464nm,18.3s,MS4.8,baz=24,slow=40
BHD Baghdad 78.80 307 *ex* x 23 42 03.5
GZR Gura Zlata 78.86 328 ⇑*i*P P **23 42 10.9 +1.1**
GZR Gura Zlata 78.86 328 ⇑P P **23 42 10.9 +1.1**
GZR P 23 42 14.7
CDAG Cicekdag 78.88 318 *i*P P **23 42 08.8 -1.1**
CONA Conrad Observa 78.93 334 ⇓*i*P P **23 42 08.3 -1.9**
comp=Z,6.6nm,1.6s,mb4.4
SOP Sopron 78.94 333 ⇓*e*PcP PcP 23 42 15.0 -3.9
BZS Buzias 79.08 329 ⇓*i*P P **23 42 10.8 -0.2**
BZS Buzias 79.08 329 ⇓P P **23 42 10.8 -0.2**
BZS P 23 42 15.6
BRTR Keskin Array B 79.14 318 P P **23 42 12.0 +0.7**
comp=Z,8.5nm,0.9s,mb4.8,baz=85,slow=2.6,SNR=28
BRTR Keskin Array B 79.14 318 P P **23 42 12.0 +0.7**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
SGKT Sivrigoynuk 79.16 320 *i*P P **23 42 12.2 +0.7**
TOD Tromm 79.35 339 *e*P P **23 42 17.3 +4.8**
ZIMR 79.37 326 P P **23 42 16.1 +3.5**
KAMT Kaman 79.39 318 *e*P P **23 42 11.8 -0.9**
CRAR CRAIOVA 79.39 327 P P **23 42 17.2 +4.5**
ANTO Ankara 79.40 319 P P **23 42 13.4 +0.6**
SNR=13
ANTO Ankara 79.40 319 ⇑*i*P P **23 42 14.9 +2.1**
ANTO Ankara 79.40 319 ⇑P P **23 42 17.6 +4.8**
ABH Alteburg 79.40 339 *e*P P **23 42 17.6 +4.8**
MOA Molln 79.48 335 ⇑*i*P P **23 42 15.2 +2.0**
comp=Z,7.8nm,1.7s,mb4.5
MOA Molln 79.48 335 ⇓*i* P **23 42 18.6 +5.4**
comp=Z,14nm,1.0s,mb5.0
MOA Molln 79.48 335 ⇑*i*P P **23 42 12.9 -0.3**
comp=Z,7.8nm,1.7s,mb4.5
MOA ⇓*i*PcP PcP 23 42 18.6 -2.6
comp=Z,14nm,1.0s
MOA Molln 79.48 335 P P **23 42 15.2 +2.0**
MOA *e* 23 42 18.6
SZH Strazhica 79.48 325 *e*P P **23 42 18.4 +5.2**
PKSM Moragy 79.57 331 ⇑*i*P P **23 42 15.1 +1.4**
PKSM Moragy 79.57 331 ⇑P P **23 42 15.1 +1.4**
PKSM P 23 42 18.5
ARSA Arzberg 79.64 333 ⇑*i* P **23 42 19.5 +5.4**
comp=Z,32nm,1.7s,mb5.0
ARSA Arzberg 79.64 333 ⇑*i*P P **23 42 12.6 -1.5**
comp=Z,7.8nm,1.3s,mb4.5
ARSA ⇑*i*PcP PcP 23 42 19.5 -2.4
comp=Z,32nm,1.7s
ARSA Arzberg 79.64 333 P P **23 42 12.6 -1.5**
ARSA *e* 23 42 19.5
STKA Stephens Creek 79.66 192 LR LR 00 16 57.4
comp=Z,204nm,19.3s,MS4.5,baz=25,slow=35
GIVF Givet 79.82 341 *e*P P **23 42 14.7 -0.4**
comp=Z,196nm,1.7s,mb5.5
GIVF Givet 79.82 341 *e*P P **23 42 14.7 -0.4**
GIVF pmax pmax
comp=Z,98nm,1.7s,mb5.5
GIVF Givet 79.82 341 *e*P P **23 42 14.7 -0.4**
comp=Z,98nm,1.7s,mb5.5
JMB Yambol 79.90 324 *e*P P **23 42 18.4 +2.9**
BAIF Baives 80.00 342 *e*P P **23 42 16.0 0.0**
comp=Z,105nm,1.5s,mb5.2
BAIF Baives 80.00 342 *e*P P **23 42 16.0 0.0**
BAIF pmax pmax
comp=Z,52nm,1.5s,mb5.2
BAIF Baives 80.00 342 *e*P P **23 42 16.0 0.0**
comp=Z,52nm,1.5s,mb5.2
LANF Langenberg 80.18 339 *e*P P **23 42 22.2 +5.2**
GROS Grobnik 80.35 333 *e*P P **23 42 21.6 +3.7**
KBA Koelnbreinsper 80.44 335 ⇑*i*P P **23 42 18.8 +0.4**
comp=Z,5.8nm,0.8s,mb4.5
KBA Koelnbreinsper 80.44 335 *i* P **23 42 24.7 +6.3**
comp=Z,114nm,2.1s,mb5.4,SNR=10.0
KBA Koelnbreinsper 80.44 335 ⇑*i*P P **23 42 17.3 -1.1**
comp=Z,5.8nm,0.8s,mb4.5
KBA *i* PcP PcP 23 42 24.7 -0.7
comp=Z,114nm,2.1s,SNR=10.0
KBA Koelnbreinsper 80.44 335 P P **23 42 18.8 +0.4**
KBA *e* 23 42 24.7
ESKT Eskisehir 80.55 320 *e*P P **23 42 16.7 -2.3**
ESKT Eskisehir 80.55 320 *i*P P **23 42 17.6 -1.4**
OBKA Obir 80.60 334 ⇑P P **23 42 18.0 -1.3**
comp=Z,24nm,1.2s,mb5.1
KIZT Kizilcal 80.62 319 *e*P P **23 42 17.8 -1.6**
BFO Black Forest 80.65 338 *e*P P **23 42 22.4 +2.9**
BFO pmax pmax
comp=Z,42nm,1.4s,mb5.3
BFO Black Forest 80.65 338 *e*P P **23 42 22.4 +2.9**
comp=Z,42nm,1.4s,mb5.3
WATA Walderalm 80.71 336 ⇑*i*P P **23 42 19.9 +0.1**
comp=Z,8.5nm,1.0s,mb4.7,SNR=7.2
WATA ⇑*i*P 23 42 19.9
comp=Z,8.5nm,1.0s,SNR=7.2
WATA Walderalm 80.71 336 ⇓*i* P **23 42 26.0 +6.2**
comp=Z,35nm,1.1s,mb5.3
WATA Walderalm 80.71 336 ⇑*i*pP pP 23 42 19.9 -0.2
comp=Z,8.5nm,1.0s,SNR=7.2
WATA ⇓*i*PcP PcP 23 42 26.0 -0.6
comp=Z,35nm,1.1s
WTTA Wattenberg 80.76 336 *i*P P **23 42 21.2 +1.0**
comp=Z,16nm,1.3s,mb4.9,SNR=8.2
WTTA *i*P 23 42 21.2
comp=Z,16nm,1.3s,SNR=8.2
WTTA Wattenberg 80.76 336 ⇑*i* P **23 42 25.7 +5.6**
comp=Z,89nm,1.4s,mb5.6
WTTA Wattenberg 80.76 336 *i*pP pP 23 42 21.2 +0.8
comp=Z,16nm,1.3s,SNR=8.2
WTTA ⇑*i*PcP PcP 23 42 25.7 -1.1
comp=Z,89nm,1.4s
KDHN Kadinhani 80.80 318 *i*P P **23 42 18.8 -1.5**
WLS Welschbruch 80.82 339 *e*P P **23 42 24.5 +4.1**
MOTA Moosalm 80.83 336 ⇑*i*P P **23 42 21.0 +0.5**
comp=Z,8.8nm,1.1s,mb4.7,SNR=11
MOTA ⇑*i*P 23 42 21.0
comp=Z,8.8nm,1.1s,SNR=11
MOTA Moosalm 80.83 336 ⇓*i* P **23 42 26.2 +5.7**
comp=Z,35nm,1.0s,mb5.4
MOTA Moosalm 80.83 336 ⇑*i*pP pP 23 42 21.0 +0.3
comp=Z,8.8nm,1.1s,SNR=11
MOTA ⇓*i*PcP PcP 23 42 26.2 -0.9
comp=Z,35nm,1.0s
MOTA Moosalm 80.83 336 P P **23 42 21.0 +0.5**
CDF Champ du Feu 80.84 339 *e*P P **23 42 20.5 0.0**
comp=Z,134nm,1.5s,mb5.5
CDF Champ du Feu 80.84 339 *e*P P **23 42 20.5 0.0**
CDF pmax pmax
comp=Z,67nm,1.5s,mb5.5
CDF Champ du Feu 80.84 339 *e*P P **23 42 20.5 0.0**
comp=Z,67nm,1.5s,mb5.5
LEGS Legarje 80.87 333 *e*P P **23 42 23.9 +3.2**
GRUS Gruza 80.89 329 *i*P P **23 42 17.7 -3.2**
SQTA Sankt Quirin 80.92 336 ⇓*i*P P **23 42 22.3 +1.3**
comp=Z,2.9nm,0.7s,mb4.4,SNR=12
SQTA ⇓*i*P 23 42 22.3
comp=Z,2.9nm,0.7s,SNR=12
SQTA Sankt Quirin 80.92 336 ⇓*i* P **23 42 26.8 +5.8**
comp=Z,104nm,1.6s,mb5.6
SQTA Sankt Quirin 80.92 336 ⇓*i*pP pP 23 42 22.3 +1.1
comp=Z,2.9nm,0.7s,SNR=12
SQTA ⇓*i*PcP PcP 23 42 26.8 -0.7
comp=Z,104nm,1.6s
DIVS Divcibare 80.97 329 *i*P P **23 42 23.4 +2.2**
DIVS Divcibare 80.97 329 *e*P P **23 42 23.2 +2.0**
ECH Echery 81.05 339 *e*P P **23 42 26.8 +5.1**
VTS Vitosha 81.10 326 *e*P P **23 42 24.5 +2.6**
VTS Vitosha 81.10 326 ⇓*i*P P **23 42 22.6 +0.7**
VTS Vitosha 81.10 326 P P **23 42 27.3 +5.4**
VTS Vitosha 81.10 326 *e*P P **23 42 22.0 +0.1**
VTS P 23 42 27.3
FELD Feldberg im Sc 81.16 338 *e*P P **23 42 27.1 +4.9**
PPT Papeete 81.16 128 *e*S S 23 52 35.0 +1.8
comp=Z,648nm,30.5s
PPT *e*LR LR 00 07 07.3
comp=Z,651nm,22.5s,baz=322
PPT Papeete 81.16 128 LR LR 00 12 31.5
comp=Z,315nm,19.3s,MS4.7,baz=351,slow=31
DAVA Damuels 81.22 337 ⇑*i* P **23 42 26.1 +3.6**
comp=Z,51nm,1.6s,mb5.3
DAVA Damuels 81.22 337 P **23 42 26.1 +3.6**
comp=Z,51nm,1.6s,mb5.3
DAVA Damuels 81.22 337 *e*P P **23 42 26.1 +3.6**
MEZF Maizieres J'vi 81.28 341 *e*P P **23 42 23.1 +0.2**
comp=Z,321nm,1.8s,mb5.8
MEZF Maizieres J'vi 81.28 341 *e*P P **23 42 23.1 +0.2**
comp=Z,321nm,1.8s,mb6.0
RZN Rozhen 81.29 325 *e*P P **23 42 18.9 -4.1**
THEF They Montfort 81.32 340 *e*P P **23 42 28.1 +5.0**
MOF Molkenrain 81.39 339 *e*P P **23 42 28.8 +5.3**
RDO Rodhopi 81.43 324 *e*P P **23 42 21.1 -2.6**
HAU Haudompre 81.44 340 *e*P P **23 42 23.6 -0.1**
comp=Z,143nm,1.7s,mb5.4
HAU *e*R
comp=Z,433nm,21.8s
HAU Haudompre 81.44 340 *e*P P **23 42 23.6 -0.1**
HAU pmax pmax
comp=Z,71nm,1.7s,mb5.4
HAU MLR MLR
comp=Z,430nm,21.8s,MS4.8
HAU Haudompre 81.44 340 *e*P P **23 42 23.6 -0.1**
comp=Z,71nm,1.7s,mb5.4
HAU LR LR
comp=Z,430nm,21.8s,MS4.8
SHUT Suhut-Afyon 81.48 319 *e*P P **23 42 24.5 +0.6**
HINF Hinteralfeld 81.50 339 *e*P P **23 42 23.9 -0.1**
comp=Z,164nm,1.7s,mb5.5
HINF Hinteralfeld 81.50 339 *e*P P **23 42 23.9 -0.1**
HINF pmax pmax
comp=Z,82nm,1.7s,mb5.5
HINF Hinteralfeld 81.50 339 *e*P P **23 42 23.9 -0.1**
comp=Z,82nm,1.7s,mb5.5
BBS Basel-Blauen 81.66 339 *e*P P **23 42 28.9 +4.0**
CANB Canakkale 81.76 323 *i*P P **23 42 30.4 +5.0**
MMB Musomiste 81.76 326 *e*P P **23 42 25.0 -0.4**
KKB Krupnik 81.77 326 *e*P P **23 42 29.1 +3.6**
NVR Nevrokopi 81.92 325 *e*P P **23 42 26.7 +0.5**
LOMF Lomont 81.94 339 *e*P P **23 42 31.2 +4.8**
FLN La Foliniere 82.17 344 *e*P P **23 42 27.8 +0.2**
comp=Z,176nm,1.5s,mb5.7
FLN *e*R
comp=Z,393nm,19.0s
FLN La Foliniere 82.17 344 *e*P P **23 42 27.8 +0.2**
FLN pmax pmax
comp=Z,88nm,1.5s,mb5.7
FLN MLR MLR
comp=Z,390nm,19.0s,MS4.8
FLN La Foliniere 82.17 344 *e*P P **23 42 27.8 +0.2**
comp=Z,88nm,1.5s,mb5.7
FLN LR LR
comp=Z,390nm,19.0s,MS4.8
SRS Serrai 82.22 325 *e*P P **23 42 33.5 +5.7**
LDF La Druitiere 82.27 344 *e*P P **23 42 27.8 -0.3**
VAY Valandovo 82.44 326 *e*P P **23 42 32.9 +3.9**
KNT Kendrikon 82.45 326 *e*P P **23 42 32.5 +3.5**
GRR Gorron 82.60 344 *e*P P **23 42 30.2 +0.4**
comp=Z,148nm,1.4s,mb5.7
GRR Gorron 82.60 344 *e*P P **23 42 30.2 +0.4**
GRR pmax pmax
comp=Z,74nm,1.4s,mb5.7
GRR Gorron 82.60 344 *e*P P **23 42 30.2 +0.4**
comp=Z,74nm,1.4s,mb5.7
LOR Lormes 82.71 341 *e*P P **23 42 30.6 +0.2**
comp=Z,116nm,1.4s,mb5.6
LOR *e*R
comp=Z,644nm,21.0s
LOR Lormes 82.71 341 *e*P P **23 42 30.6 +0.2**
LOR pmax pmax
comp=Z,58nm,1.4s,mb5.6
LOR MLR MLR
comp=Z,640nm,21.0s,MS5.0
LOR Lormes 82.71 341 *e*P P **23 42 30.6 +0.2**
comp=Z,58nm,1.4s,mb5.6
LOR LR LR
comp=Z,640nm,21.0s,MS5.0
PRK Paraskevi 82.74 323 *e*P P **23 42 32.8 +2.3**
CABF La Chapelle 82.81 339 *e*P P **23 42 31.5 +0.6**
comp=Z,145nm,1.5s,mb5.7
CABF La Chapelle 82.81 339 *e*P P **23 42 31.5 +0.6**
CABF pmax pmax
comp=Z,73nm,1.5s,mb5.7
CABF La Chapelle 82.81 339 *e*P P **23 42 31.5 +0.6**
comp=Z,73nm,1.5s,mb5.7
GRG Griva 82.82 326 *e*P P **23 42 33.5 +2.6**
PLG Polygyros 82.92 325 *e*P P **23 42 32.9 +1.4**
HYF Humbligny 82.98 342 *e*P P **23 42 32.1 +0.3**
SSF Saint Saulge 82.98 341 *e*P P **23 42 31.8 0.0**
comp=Z,311nm,0.9s,mb5.2
SSF Saint Saulge 82.98 341 *e*P P **23 42 31.8 0.0**
SSF pmax pmax
comp=Z,15nm,0.9s,mb5.2
SSF Saint Saulge 82.98 341 *e*P P **23 42 31.8 0.0**
comp=Z,15nm,0.9s,mb5.2
SGMF Saint Gilles 83.04 345 *e*P P **23 42 32.9 +0.8**
ROSF Rostrenen 83.08 346 *e*P P **23 42 32.8 +0.5**
comp=Z,84nm,1.1s,mb5.6
ROSF Rostrenen 83.08 346 *e*P P **23 42 32.8 +0.5**
ROSF pmax pmax
comp=Z,42nm,1.1s,mb5.6
ROSF Rostrenen 83.08 346 *e*P P **23 42 32.8 +0.5**
comp=Z,42nm,1.1s,mb5.6
CSS Prodhromos 83.13 315 *e*P P **23 42 33.6 +1.1**
comp=Z,14nm,0.8s,mb5.2
AVF Avril sur Loir 83.27 341 *e*P P **23 42 33.3 0.0**
SMF Signal de Mont 83.30 341 *e*P P **23 42 33.6 +0.1**
comp=Z,238nm,1.5s,mb5.9
SMF Signal de Mont 83.30 341 *e*P P **23 42 33.6 +0.1**
SMF pmax pmax
comp=Z,119nm,1.5s,mb5.9
SMF Signal de Mont 83.30 341 *e*P P **23 42 33.6 +0.1**
comp=Z,119nm,1.5s,mb5.9
QUIF Quistinic 83.47 346 *e*P P **23 42 34.1 -0.2**
comp=Z,209nm,1.5s,mb5.8
QUIF Quistinic 83.47 346 *e*P P **23 42 34.1 -0.2**
QUIF pmax pmax
comp=Z,104nm,1.5s,mb5.8
QUIF Quistinic 83.47 346 *e*P P **23 42 34.1 -0.2**
comp=Z,104nm,1.5s,mb5.8
BGF Bois d'Agland 83.61 341 *e*P P **23 42 34.5 -0.5**
LPL La Plagne 83.67 338 *e*P P **23 42 36.3 +0.9**
comp=Z,54nm,1.0s,mb5.4
LPL La Plagne 83.67 338 *e*P P **23 42 36.3 +0.9**
LPL pmax pmax
comp=Z,27nm,1.0s,mb5.4
LPL La Plagne 83.67 338 *e*P P **23 42 36.3 +0.9**
comp=Z,27nm,1.0s,mb5.4
LPG La Plagne 83.69 338 *e*P P **23 42 36.7 +1.3**
comp=Z,171nm,1.4s,mb5.8
LPG La Plagne 83.69 338 *e*P P **23 42 36.7 +1.3**
LPG pmax pmax
comp=Z,85nm,1.4s,mb5.8
LPG La Plagne 83.69 338 *e*P P **23 42 36.7 +1.3**
comp=Z,85nm,1.4s,mb5.8
FETY Fethiye 83.72 319 *e*P P **23 42 33.2 -2.4**
SMG Samos 83.80 321 *e*P P **23 42 33.8 -2.2**
NEO Neokhori 83.92 325 *e*P P **23 42 34.6 -2.0**
TCF Toulx Ste Croi 84.00 342 *e*P P **23 42 37.9 +0.9**
AGO Saint Agoulin 84.02 341 *e*P P **23 42 44.1 +6.9**
THL Klokotos Trika 84.17 326 *e*P P **23 42 34.2 -3.7**
MFF Saint Martin d 84.18 343 *e*P P **23 42 37.7 -0.3**
MBDF Montbardon 84.40 338 *e*P P **23 42 39.0 -0.1**
comp=Z,24nm,0.9s,mb5.1
MBDF Montbardon 84.40 338 *e*P P **23 42 39.0 -0.1**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb5.1
MBDF Montbardon 84.40 338 *e*P P **23 42 39.0 -0.1**
comp=Z,12nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.45 339 *e*P P **23 42 40.1 +0.8**
comp=Z,65nm,1.0s,mb5.5
ORIF *e*R
comp=Z,341nm,22.2s
ORIF Oris-en-Rattie 84.45 339 *e*P P **23 42 40.1 +0.8**
ORIF pmax pmax
comp=Z,33nm,1.0s,mb5.5
ORIF Oris-en-Rattie 84.45 339 *e*P P **23 42 40.1 +0.8**
comp=Z,33nm,1.0s,mb5.5
ARG Arkhangelos 84.49 320 *e*P P **23 42 38.5 -1.0**
JAN Janina 84.53 326 *e*P P **23 42 45.3 +5.5**
LKR Lokris 84.57 324 *e*P P **23 42 36.2 -3.8**
AQU L'Aquila 84.70 333 *e*P P **23 42 46.3 +5.7**
VIVF Saint-Julien-l 84.80 340 *e*P P **23 42 41.6 +0.5**
comp=Z,54nm,1.0s,mb5.4
VIVF Saint-Julien-l 84.80 340 *e*P P **23 42 41.6 +0.5**
VIVF pmax pmax
comp=Z,27nm,1.0s,mb5.4
VIVF Saint-Julien-l 84.80 340 *e*P P **23 42 41.6 +0.5**
comp=Z,27nm,1.0s,mb5.4
SBF Sospel 85.04 337 *e*P P **23 42 42.5 +0.2**
RJF Les Rejaudoux 85.08 342 *e*P P **23 42 42.4 -0.1**
comp=Z,46nm,1.0s,mb5.4
RJF *e*R
comp=Z,487nm,20.8s
RJF Les Rejaudoux 85.08 342 *e*P P **23 42 42.4 -0.1**
RJF pmax pmax
comp=Z,23nm,1.0s,mb5.4
RJF MLR MLR
comp=Z,490nm,20.8s,MS4.9
RJF Les Rejaudoux 85.08 342 *e*P P **23 42 42.4 -0.1**
comp=Z,23nm,1.0s,mb5.4
RJF LR LR
comp=Z,490nm,20.8s,MS4.9
CAF Calviac 85.33 341 *e*P P **23 42 43.8 +0.1**
comp=Z,140nm,1.6s,mb5.7
CAF Calviac 85.33 341 *e*P P **23 42 43.8 +0.1**
CAF pmax pmax
comp=Z,70nm,1.6s,mb5.6
CAF Calviac 85.33 341 *e*P P **23 42 43.8 +0.1**
comp=Z,70nm,1.6s,mb5.6
SMRF Simiane la Rot 85.41 339 *e*P P **23 42 44.9 +0.8**
comp=Z,62nm,1.3s,mb5.4
SMRF Simiane la Rot 85.41 339 *e*P P **23 42 44.9 +0.8**
comp=Z,62nm,1.3s,mb5.7
KARP Karpathos 85.48 320 *e*P P **23 42 40.1 -4.4**
FRF La Foret Royal 85.52 338 *e*P P **23 42 44.0 -0.7**
LFF La Frestale 85.60 342 *e*P P **23 42 44.3 -0.8**
comp=Z,162nm,1.4s,mb5.7
LFF La Frestale 85.60 342 *e*P P **23 42 44.3 -0.8**
LFF pmax pmax
comp=Z,81nm,1.4s,mb5.7
LFF La Frestale 85.60 342 *e*P P **23 42 44.3 -0.8**
comp=Z,81nm,1.4s,mb5.7
RLS Riolos of Patr 85.69 325 *e*P P **23 42 44.5 -1.0**
LASF Ste Croix 85.73 340 *e*P P **23 42 45.2 -0.5**
comp=Z,112nm,1.6s,mb5.5
LMR La Mourre 85.77 338 *e*P P **23 42 45.7 -0.3**
comp=Z,317nm,1.8s,mb5.9
LMR La Mourre 85.77 338 *e*P P **23 42 45.7 -0.3**
LMR pmax pmax
comp=Z,159nm,1.8s,mb5.8
LMR La Mourre 85.77 338 *e*P P **23 42 45.7 -0.3**
comp=Z,159nm,1.8s,mb5.8
VLS Valsamata 85.92 326 *e*P P **23 42 47.8 +1.1**
ITM Ithomi 86.27 324 *e*P P **23 42 46.0 -2.4**
NPS Neapolis 86.39 321 *e*P P **23 42 52.6 +3.6**
TIP Timpagrande 86.44 329 *e*P P **23 42 52.6 +3.3**
EIL Elat 86.60 311 *e*P P **23 42 55.7 +5.7**
MTLF Montolieu 86.80 341 *e*P P **23 42 50.5 -0.5**
GVD Gavdhos 87.40 322 *e*P P **23 42 54.1 +0.2**
comp=Z,23nm,0.9s,mb5.4
EPF Esparros 87.51 342 *e*P P **23 42 53.1 -1.4**
SJPF Ste Jean 87.75 343 *e*P P **23 42 54.5 -1.1**
ETSF Etsaut 87.82 343 *e*P P **23 42 56.2 +0.2**
ESDC Sonseca Array 91.60 344 P P **23 43 11.5 -2.1**
comp=Z,0.2nm,0.5s,baz=46,slow=9.2,SNR=3.7
ESDC LR LR 00 30 13.9
comp=Z,228nm,18.1s,MS4.7,baz=30,slow=39
PAB San Pablo 91.79 344 P P **23 43 13.7 -0.9**
KEST Kesra 92.03 333 P P **23 43 18.6 +3.0**
comp=Z,4.1nm,1.0s,mb4.7,baz=215,slow=6.7,SNR=7.0
KEST LR LR 00 28 42.9
comp=Z,117nm,19.7s,MS4.3,baz=353,slow=38
RKT Rikitea 93.83 120 *e*PS PS 23 55 48.4 +0.1
comp=Z,116nm,31.0s
RKT Rikitea 93.83 120 *e*SS SS 00 00 49.8 -3.3
comp=Z,113nm,28.8s
RKT *e*LR LR 00 12 55.2
comp=Z,471nm,33.2s
TORD Torodi Ar. Bea 115.50 331 PKP PKPdf 23 48 47.6 -1.1
comp=Z,1.1nm,0.9s,baz=21,slow=1.8,SNR=5.9
TORD PP PP 23 49 48.9 -1.4
comp=Z,1.4nm,0.9s,baz=18,slow=4.8,SNR=6.3
VNDA Vanda 124.48 178 PKP PKPdf 23 49 02.7 -3.2
comp=Z,1.1nm,0.8s,baz=59,slow=8.1,SNR=3.7
VNDA Vanda 124.48 178 PKIKP PKPdf 23 49 02.7 -3.3
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 124.48 178 PKP PKPdf 23 49 02.7 -3.2
LSZ Lusaka 126.12 288 *e*PKIKP PKPdf 23 49 08.8 -0.3
QSPA South Pole Qui 136.91 180 *e*PKPdf PKPdf 23 49 27.7 -1.8
LVC Limon Verde 136.94 71 *e*PKPdf PKPdf 23 49 30.5 +1.0
BOSA Boshof 137.31 278 PKP PKPdf 23 49 30.4 +0.2
comp=Z,1.9nm,0.7s,baz=150,slow=12,SNR=3.1
BOSA Boshof 137.31 278 PKIKP PKPdf 23 49 30.4 +0.2
BOSA pmax pmax
comp=Z,2.0nm,0.7s
SYO Syowa Base 142.09 212 ⇑*e*X 23 49 32.2
TRQA Tornquist 151.26 85 *e*PKPdf PKPdf 23 49 54.1 -0.1
USHA Ushuaia 151.78 122 PKPbc PKPbc 23 49 58.0 -3.4
comp=Z,17nm,0.9s,baz=164,slow=8.5,SNR=3.6
SNAA Sanae 153.38 195 PKPbc PKPbc 23 50 02.0 -3.0
comp=Z,1.0nm,0.6s,baz=92,slow=1.0,SNR=22

IDC 21 23:41:33.2±1.1, 4675N×15489E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=32.3km s-min=27.2km az=167.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.97**	**255**	P		P		23 46 30.3	+1.7
	1.8nm,0.7s,baz=53,slow=11,SNR=4.4								
ZAL	**Zalesovo**	**43.61**	**306**	P		P		23 49 37.8	-1.5
	0.7nm,0.5s,baz=120,slow=5.7,SNR=3.2								
MKAR	**Makanchi Array**	**48.02**	**298**	P		P		23 50 13.1	-1.0
	0.4nm,0.6s,baz=57,slow=6.9,SNR=4.5								
FINES	**FINESS Array B**	**64.55**	**336**	P		P		23 52 12.2	+0.1
	2.2nm,0.9s,baz=42,slow=6.1,SNR=8.4								
ASAR	**Alice Springs**	**72.61**	**200**	P		P		23 53 02.0	-0.4
	0.5nm,0.6s,baz=16,slow=4.7,SNR=6.4								
TXAR	**Lajitas Array**	**76.42**	**62**	P		P		23 53 24.9	+0.3

1.4nm,0.6s,baz=300,slow=3.8,SNR=23

*IDC **22** 00:01:57.2±2.4, 4132N×7778E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.2/23, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=36.1km s-min=18.6km az=146.0*

*MOS **22** 00:02:00.1±2.0, 4162N×7763E, h20km, mb3.9/2, Error ellipse: s-maj=27.6km s-min=18.6km az=106.4*

*NNC **22** 00:02:00.2±4.8, 4158N×7786E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=37.5km s-min=16.1km az=163.0*

*ISCJB **22** 00:02:01.3±1.4, 4137N±009×7790E±008, h49km±14km, mb3.5/3, Error ellipse: s-maj=15.8km s-min=7.4km az=127.3*

*NEIC **22** 00:02:05.0±2.8, 4171N×7762E, h48km±21km, mb3.8/1, Error ellipse: s-maj=34.2km s-min=11.4km az=170.0*

ISC 22 00:02:02.6±1.5, 4133N±010×7783E±008, h42km±15km, n25, σ1§20/31, mb3.5/3, 4C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.50**	**308**	P	**Pn**	**00 02 21.3**	**-5.7**
	SNR=90						
KNDC	**Almaty**	**1.99**	**341**	⇑P	**Pn**	**00 02 31.4**	**-2.4**
	134nm,0.5s,baz=95,slow=31						
KNDC				⇑S	**Sn**	**00 02 57.8**	**+0.3**
	311nm,0.4s,baz=95,slow=31						
KZA	**Kyzart**	**2.07**	**292**	P	**Pn**	**00 02 32.9**	**-1.9**
	SNR=18						
TKM2	**Tokmak 2**	**2.30**	**314**	P	**Pn**	**00 02 36.4**	**-1.6**
	SNR=26						
TKM2	**Tokmak 2**	**2.30**	**314**	⇓P	**Pn**	**00 02 36.0**	**-2.0**
	5.8nm,0.5s,baz=95,slow=31						
TKM2				⇑S	**Sn**	**00 03 05.7**	**+0.7**
	45nm,0.9s,baz=95,slow=31						
KBK	**Karagaybulak**	**2.52**	**303**	P	**Pn**	**00 02 40.4**	**-0.7**
	SNR=14						
UCH	**Uchtor**	**2.64**	**291**	P	**Pn**	**00 02 43.3**	**+0.7**
	SNR=51						
AAK	**Ala-Archa**	**2.81**	**299**	P	**Pn**	**00 02 45.0**	**+0.1**
	SNR=32						
AAK	**Ala-Archa**	**2.81**	**299**	*e*Pn	**Pn**	**00 02 43.6**	**-1.4**
AAK				*e*Sn	**Sn**	**00 03 18.6**	**+1.0**
CHMS	**Chumysh**	**2.83**	**307**	P	**Pn**	**00 02 45.4**	**+0.1**
	SNR=6.9						
USP	**Ospenovka**	**3.14**	**309**	P	**Pn**	**00 02 50.1**	**+0.6**
	SNR=14						
AML	**Almayashu**	**3.20**	**286**	P	**Pn**	**00 02 53.4**	**+3.1**
	SNR=8.9						
EKS2	**Erkin-Say**	**3.30**	**295**	P	**Pn**	**00 02 55.0**	**+3.2**
	SNR=15						
KK31	**Karatay Array**	**5.72**	**290**	⇓Pn	**Pn**	**00 03 29.3**	**+4.4**
	2.8nm,0.7s,baz=94,slow=15						
KK31				⇓Lg		00 04 58.3	
	10nm,0.7s,baz=95,slow=31						
MK31	**Makanchi Array**	**6.34**	**29**	Pn	**Pn**	**00 03 34.3**	**+0.9**
	2.2nm,0.7s,baz=95,slow=31,SNR=9.9						
MK31				⇑Sn	**Sn**	**00 04 43.9**	**-0.6**
	2.8nm,0.7s,baz=95,slow=31						
MK31				⇓Lg		00 05 12.5	
	2.1nm,0.5s,baz=95,slow=31						
MKAR	**Makanchi Array**	**6.34**	**29**	Pn	**Pn**	**00 03 33.3**	**-0.1**
	0.2nm,0.3s,baz=206,slow=14,SNR=8.2						
MKAR				Pg	**Pn**	**00 03 46.8**	**+13**
	0.3nm,0.3s,baz=211,slow=15,SNR=6.9						
MKAR				Sn	**Sn**	**00 04 45.1**	**+0.6**
	0.5nm,0.3s,baz=201,slow=22,SNR=4.6						
MKAR				Lg		00 05 20.1	
	0.5nm,0.3s,baz=202,slow=29,SNR=3.1						
BVAR	**Borovoye Array**	**12.74**	**339**	Pn	**Pn**	**00 04 57.6**	**-3.5**
	0.1nm,0.3s,baz=153,slow=11,SNR=8.7						
BVAR				Lg		00 08 32.5	
	0.1nm,0.3s,baz=155,slow=25,SNR=6.3						
BRVK	**Borovoye**	**12.80**	**339**	*e*P	**Pn**	**00 04 57.6**	**-4.3**
SONM	**Songino Array**	**21.28**	**63**	P	**P**	**00 06 46.5**	**+1.0**
	0.4nm,0.6s,mb3.0,baz=282,slow=8.7,SNR=3.2						
KIV	**Kislovodsk**	**25.87**	**288**	*e*P	**P**	**00 07 30.3**	**0.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
KIV	**Kislovodsk**	**25.87**	**288**	*e*P	**P**	**00 07 30.3**	**+0.1**
	comp=Z,2.6nm,0.8s,mb3.8						
OBN	**Obninsk**	**30.26**	**311**	P	**P**	**00 08 08.8**	**-0.7**
BR131	**Keskin Array S**	**33.36**	**282**	P	**P**	**00 08 36.1**	**-0.5**
BRTR	**Keskin Array B**	**33.36**	**282**	P	**P**	**00 08 36.5**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=84,slow=9.7,SNR=3.5						
BRTR	**Keskin Array B**	**33.36**	**282**	P	**P**	**00 08 36.5**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **22** 00:03:43.9±0.7, 2544N±005×14088E±008, h154km±6km, mb4.1/27, Error ellipse: s-maj=12.0km s-min=7.8km az=153.3*

*MOS **22** 00:03:43.4±1.2, 2545N×14090E, h150km, mb4.2/10, Error ellipse: s-maj=20.3km s-min=8.4km az=96.0*

*IDC **22** 00:03:45.5±0.5, 2546N×14102E, h161km±4km, mb3.7/14, mb1 3.9/17, mb1mx3.7/24, mbtmp3.8/17, MS3.6/1, Ms1 3.6/1, ms1mx2.3/41, Error ellipse: s-maj=13.8km s-min=7.6km az=105.0*

*NEIC **22** 00:03:47.1±1.4, 2550N×14091E, h168km±14km, mb4.4/16, Error ellipse: s-maj=14.0km s-min=7.2km az=85.0*

*JMA **22** 00:03:48.5±0.1, 2562N×141.1E, h159km, M5.1*

ISC 22 00:03:45.6±0.7, 2550N±005×14090E±008, h153km±6km, h165km±4.8km; pP-P, n83, σ1§04/83, mb4.1/27, 5C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.61**	**45**	P	**Pn**	**00 04 17.8**	**+1.4**
JHHJ				S	**Sn**	**00 04 40.0**	**-0.1**
CBIJ	**Chichi jima**	**1.96**	**36**	P	**Pn**	**00 04 21.8**	**+1.3**
	338nm,0.3s,baz=205,slow=3.0,SNR=194						
CBIJ				LR	LR	00 04 43.8	
	comp=Z,375nm,18.6s,baz=338,slow=30						
CBIJ				S	**Sn**	**00 04 47.1**	**0.0**
	542nm,0.3s,baz=308,slow=24,SNR=79						
CBIJ	**Chichi jima**	**1.96**	**36**	P	**Pn**	**00 04 21.7**	**+1.3**
CBIJ				S	**Sn**	**00 04 47.5**	**+0.3**
JHJ	**Hachijo jima 2**	**7.66**	**353**	P	**Pn**	**00 05 34.4**	**0.0**
	29nm,0.3s,baz=270,slow=20,SNR=4.1						
BSO1	**Boso 1**	**9.12**	**0**	P	**Pn**	**00 05 52.6**	**-1.3**
JWZ	**Kozaga**	**9.19**	**332**	P	**Pn**	**00 05 58.9**	**+4.2**
BSO3	**Boso 3**	**9.28**	**358**	P	**Pn**	**00 05 54.3**	**-1.6**
BSO4	**Boso 4**	**9.47**	**357**	P	**Pn**	**00 05 57.7**	**-0.8**
JOD2	**Odawara 2**	**9.86**	**351**	P	**Pn**	**00 06 03.7**	**+0.1**
JNY	**Yasuok**	**10.17**	**346**	P	**Pn**	**00 06 09.1**	**+1.4**
JHU	**Hanno**	**10.41**	**353**	P	**Pn**	**00 06 09.7**	**-1.2**
JRY	**Ryogami san**	**10.62**	**351**	P	**Pn**	**00 06 12.6**	**-1.1**
MJAR	**Matsushiro Arr**	**11.25**	**349**	P	**Pn**	**00 06 21.1**	**-0.8**
	2.8nm,0.3s,baz=152,slow=11,SNR=12						
MJAR	**Matsushiro Arr**	**11.25**	**349**	P	**Pn**	**00 06 21.1**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**11.25**	**349**	*e*P	**Pn**	**00 06 21.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**11.25**	**349**	*e*Pn	**Pn**	**00 06 21.6**	**-0.3**
	comp=Z,9.9nm,0.4s						
MAT	**Matsushiro**	**11.25**	**349**	P	**Pn**	**00 06 21.6**	**-0.3**
JNU	**Nakatsue**	**11.58**	**313**	LR	LR	00 09 57.7	
	comp=Z,301nm,19.0s,baz=154,slow=32						
GUMO	**Guam**	**12.42**	**162**	P	**Pn**	**00 06 41.2**	**+4.1**
JMK	**Ichinoseki**	**13.42**	**1**	P	**Pn**	**00 06 48.5**	**-1.4**
KSRS	**Korea Array**	**16.25**	**320**	P	**Pn**	**00 07 28.6**	**+3.5**
	baz=136,slow=12,SNR=28						
INCN	**Inchon**	**17.03**	**318**	P	**Pn**	**00 07 36.4**	**+1.9**
ASAJ	**Asahikawa**	**18.63**	**4**	P	**P**	**00 07 52.9**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=178,slow=15,SNR=5.4						
ASAJ	**Asahikawa**	**18.63**	**4**	P	**P**	**00 07 52.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**21.46**	**3**	*e*P	**P**	**00 08 21.8**	**0.0**
YSS				pmax	pmax		
	comp=Z,14nm,0.2s,mb5.0						
YSS	**Yuzh-Sakhalins**	**21.46**	**3**	*e*P	**P**	**00 08 21.8**	**-0.1**
	comp=Z,14nm,0.2s,mb4.9						
ULN	**Ulaanbaatar**	**34.72**	**319**	*e*P	**P**	**00 10 23.4**	**+2.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**34.72**	**319**	*e*P	**P**	**00 10 23.4**	**+2.5**
	comp=Z,1.8nm,0.9s,mb3.7						
SONM	**Songino Array**	**35.10**	**318**	P	**P**	**00 10 23.9**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=134,slow=10,SNR=2.9						
YAK	**Yakutsk**	**37.30**	**351**	*e*P	**P**	**00 10 42.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.8						
YAK	**Yakutsk**	**37.30**	**351**	*e*P	**P**	**00 10 42.3**	**-0.5**
	comp=Z,11nm,0.4s,mb4.8						
BILL	**Bilibino**	**45.27**	**13**	*e*P	**P**	**00 11 47.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
BILL	**Bilibino**	**45.27**	**13**	*e*P	**P**	**00 11 47.0**	**-0.7**
	comp=Z,3.4nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**45.60**	**189**	*e*P	**P**	**00 11 50.0**	**-0.4**
WRAB				*e*		00 12 44.2	
CTA	**Charters Tower**	**45.61**	**173**	⇑*i*P	**P**	**00 11 50.4**	**-0.1**
	comp=Z,13nm,0.8s,mb4.6						
CTA	**Charters Tower**	**45.61**	**173**	⇑*i*P	**P**	**00 11 50.4**	**-0.1**
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**45.61**	**173**	*e*P	**P**	**00 11 50.6**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**45.61**	**173**	*e*P	**P**	**00 11 50.5**	**+0.1**
	comp=Z,13nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**45.61**	**189**	⇑*i*P	**P**	**00 11 50.0**	**-0.5**
WB2				*e*		00 12 44.0	
WRA	**Warramunga Arr**	**45.62**	**189**	P	**P**	**00 11 50.0**	**-0.5**
	comp=Z,10nm,0.4s,mb4.9,baz=9.4,slow=8.6,SNR=94						
WRA				pP	pP	00 12 26.3	+1.8
	comp=Z,3.4nm,0.9s,baz=7.1,slow=8.5,SNR=1.8						
WRA				sP	sP	00 12 41.7	0.0
	comp=Z,5.3nm,0.7s,baz=10.0,slow=8.6,SNR=3.8						
WRA				S	**S**	**00 18 17.4**	**-4.0**
	comp=Z,1.9nm,1.3s,baz=9.1,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**45.62**	**189**	P	**P**	**00 11 50.0**	**-0.5**
WRA				*PP	pP	00 12 26.3	+1.7
WRA				*SP	sP	00 12 41.7	+0.1
WRA				S	**S**	**00 18 17.4**	**-4.0**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
WRA				smax			
	comp=N,2.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**45.81**	**200**	⇑*i*P	**P**	**00 11 52.1**	**+0.1**
	comp=N,13nm,0.9s,mb4.5						
PSI	**Prapat**	**46.23**	**248**	P	**P**	**00 11 55.9**	**+0.6**
	comp=N,6.9nm,0.6s,mb4.5,baz=68,slow=4.6,SNR=7.4						
PSI	**Prapat**	**46.23**	**248**	P	**P**	**00 11 55.9**	**+0.6**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**49.34**	**188**	P	**P**	**00 12 18.6**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.7,baz=16,slow=12,SNR=22						
ASAR				PcP	PcP	00 13 37.5	-2.0
	comp=Z,0.8nm,0.8s,baz=4.2,slow=3.8,SNR=5.9						
MKAR	**Makanchi Array**	**50.62**	**311**	P	**P**	**00 12 28.6**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.2,baz=89,slow=9.2,SNR=6.7						
DZM	**Mont Dzumac**	**53.39**	**150**	P	**P**	**00 12 48.9**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.4,baz=36,slow=2.7,SNR=3.6						
STKA	**Stephens Creek**	**57.06**	**179**	⇑*i*P	**P**	**00 13 14.7**	**-0.9**
	comp=Z,3.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**57.06**	**179**	P	**P**	**00 13 14.8**	**-0.8**
	comp=Z,5.6nm,0.5s,mb4.6,baz=351,slow=7.0,SNR=18						
FORT	**Forrest**	**57.29**	**193**	*e*P	**P**	**00 13 16.6**	**-0.7**
	comp=Z,9.5nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**58.45**	**318**	P	**P**	**00 13 24.0**	**-1.3**
	comp=Z,0.8nm,0.4s,mb3.9,baz=87,slow=6.6,SNR=12						
BVAR				pP	pP	00 14 03.9	+2.9
	comp=Z,0.9nm,0.6s,baz=95,slow=6.9,SNR=2.6						
BVAR	**Borovoye Array**	**58.45**	**318**	P	**P**	**00 13 24.0**	**-1.3**
BVAR				*PP	pP	00 14 03.9	+2.9
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**58.51**	**318**	P	**P**	**00 13 27.9**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
BRVK	**Borovoye**	**58.51**	**318**	P	**P**	**00 13 27.9**	**+2.2**
	comp=Z,1.3nm,0.7s,mb3.9						
MCK	**McKinley**	**58.68**	**29**	P	**P**	**00 13 26.0**	**-0.9**
INK	**Inuvik**	**64.95**	**24**	P	**P**	**00 14 07.7**	**-1.2**
	comp=Z,0.4nm,0.3s,mb3.7,baz=272,slow=5.4,SNR=3.3						
INK	**Inuvik**	**64.95**	**24**	*e*P	**P**	**00 14 07.9**	**-1.0**
INK				pmax	pmax		
	comp=Z,18nm,0.4s						
INK	**Inuvik**	**64.95**	**24**	*e*P	**P**	**00 14 07.9**	**-0.9**
	comp=Z,18nm,0.4s,mb5.2						
YKA	**Yellowknife Ar**	**74.09**	**28**	P	**P**	**00 15 03.8**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=299,slow=5.7,SNR=4.4						
ARCES	**ARCESS Array B**	**74.67**	**341**	P	**P**	**00 15 09.3**	**+1.2**
	comp=Z,2.3nm,0.8s,mb3.8,baz=37,slow=6.2,SNR=4.9						
ARCES	**ARCESS Array B**	**74.67**	**341**	P	**P**	**00 15 09.4**	**+1.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**78.86**	**334**	P	**P**	**00 15 29.1**	**-2.6**
	comp=Z,0.8nm,0.3s,mb3.8,baz=92,slow=4.9,SNR=7.8						
FINES				pP	pP	00 16 11.8	+2.5
	comp=Z,3.0nm,1.0s,baz=46,slow=4.0,SNR=1.9						
FINES	**FINESS Array B**	**78.86**	**334**	P	**P**	**00 15 29.2**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WALA	**Waterton Lakes**	**80.40**	**40**	P	**P**	**00 15 40.3**	**+0.2**
HLID	**Hailey**	**82.68**	**45**	*e*P	**P**	**00 15 52.8**	**+0.8**
	comp=Z,2.0nm,0.5s,mb3.7						
SUW	**Suwalki**	**84.41**	**328**	P	**P**	**00 16 00.0**	**-0.8**
NB2	**NORSAR Subarra**	**84.66**	**338**	P	**P**	**00 16 02.7**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.7,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**84.66**	**338**	P	**P**	**00 16 03.1**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=46,slow=4.7,SNR=3.0						
NOA				pP	pP	00 16 42.3	+2.1
	comp=Z,0.4nm,0.6s,baz=81,slow=5.2,SNR=1.5						
NOA	**NORSAR Array B**	**84.66**	**338**	P	**P**	**00 16 03.1**	**+1.1**
NOA				*PP	pP	00 16 42.3	+2.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HWUT	**Hardware Ranch**	**85.47**	**46**	*e*P	**P**	**00 16 06.6**	**+0.5**
	comp=Z,1.8nm,0.7s,mb3.9						
BW06	**Boulder Array**	**86.16**	**44**	P	**P**	**00 16 11.1**	**+1.6**
PDAR	**Pinedale Array**	**86.16**	**44**	P	**P**	**00 16 09.3**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=291,slow=3.2,SNR=9.8						
PDAR				pP	pP	00 16 47.8	+0.1
	comp=Z,0.7nm,0.8s,baz=245,slow=3.1,SNR=3.5						
MORC	**Moravsky Berou**	**89.78**	**327**	P	**P**	**00 16 28.4**	**+1.7**
ISCO	**Idaho Springs**	**90.26**	**45**	*e*P	**P**	**00 16 29.4**	**+0.5**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ISCO	**Idaho Springs**	**90.26**	**45**	*e*P	**P**	**00 16 29.4**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.1						
SDCO	**Great Sand Dun**	**91.48**	**47**	*e*P	**P**	**00 16 35.1**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.3						
ANMO	**Albuquerque**	**92.39**	**49**	P	**P**	**00 16 39.8**	**+1.0**
TXAR	**Lajitas Array**	**97.48**	**53**	P	**P**	**00 17 02.0**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=277,slow=1.4,SNR=4.9						
TXAR	**Lajitas Array**	**97.48**	**53**	P	**P**	**00 17 02.0**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**124.73**	**309**	PKP	PKPdf	00 22 25.7	-1.3
	comp=Z,0.4nm,0.9s,baz=53,slow=2.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**124.73**	**309**	PKP	PKPdf	00 22 25.7	-1.4
LPAZ	**La Paz**	**151.42**	**77**	PKPbc	PKPbc	00 23 21.4	+0.2
	comp=Z,3.6nm,0.6s,baz=282,slow=2.2,SNR=19						
LPAZ	**La Paz**	**151.42**	**77**	PKPbc	PKPbc	00 23 21.4	+0.2

*CSEM **22** 00:18:52.2, 6783N×2020E, h0km, ML2.9, Mining explosion. After UPP*

*UPP **22** 00:18:52.2, 6783N×2020E, h0km, ML2.9, Mining explosion.*

HEL 22 00:18:52.8±0.0, 6784N×2020E, h0km, ML2.9 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**24**	*i*P	Pg	00 18 55.0	-0.3
KUA				*i*S	Sg	00 18 56.8	-0.1
NIKU	**Nikkaluokta**	**0.44**	**274**	*i*P	Pg	00 19 00.7	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	00 19 05.5	-0.9
DUNU	**Dundret**	**0.73**	**169**	*i*P	Pg	00 19 05.8	-1.0
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 19 05.8	-1.1
	baz=81						
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	00 19 07.1	-0.8
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	00 19 07.1	-0.9
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	00 19 15.3	-0.4
KIF				*e*S	Sg	00 19 30.8	-0.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 19 17.6	-1.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	00 19 19.5	-1.5
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 19 23.3	-0.6
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	00 19 35.1	+1.7
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 19 35.3	-2.5
SGF				*e*SG	Sg	00 20 07.9	-3.7

IDC 22 00:21:42.3±3.2, 770S×14764E, h117km±10km, mb2.9/2, mb1 3.0/3, mb1mx2.9/12, mbtmp2.8/3, Error ellipse: s-maj=85.8km s-min=41.9km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.72**	**225**	P	Pn	**00 25 42.9**	**+1.3**
	0.0nm,0.3s,baz=44,slow=10.0,SNR=7.9						
WRA				pP	pP	00 26 05.5	+3.6
	0.1nm,0.3s,baz=54,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**20.63**	**218**	P	P	00 26 13.9	+1.6
	0.3nm,0.7s,baz=51,slow=8.0,SNR=4.8						
ASAR				pP	pP	00 26 33.7	-0.3
	1.4nm,0.6s,baz=56,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**23.77**	**242**	P	P	00 26 43.0	-1.0
	0.8nm,0.7s,baz=170,slow=14,SNR=3.6						
FITZ				pP	pP	00 27 06.5	-1.5
	1.1nm,0.5s,baz=49,slow=9.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**146.09**	**282**	PKPbc	PKPbc	00 41 09.1	+0.5
	0.8nm,0.8s,baz=72,slow=2.1,SNR=58						

*ISCJB **22** 00:29:43.7±9.9, 463N±0.1×155.1E±0.2, h13km±61km, mb3.9/8, Error ellipse: s-maj=29.8km s-min=20.6km az=62.0*

*IDC **22** 00:29:43.2±0.8, 4635N×15523E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/22, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=28.1km s-min=22.8km az=142.0*

*MOS **22** 00:29:46.6±0.7, 4630N×15493E, h31km, mb4.0/5, Error ellipse: s-maj=31.8km s-min=24.0km az=87.6*

ISC 22 00:29:48.4±7.0, 463N±0.1×1551E±0.2, h33km±49km, n17, σ0§50/17, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.11**	**260**	Pn	**Pn**	**00 31 57.2**	**-0.2**
	3.9nm,0.3s,baz=284,slow=29,SNR=4.9						
ASAJ	**Asahikawa**	**9.11**	**260**	PN	**Pn**	**00 31 57.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BILL	**Bilibino**	**22.52**	**11**	*e*P	**P**	**00 34 45.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.0						
MKAR	**Makanchi Array**	**48.36**	**299**	P	**P**	**00 38 26.6**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=71,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**48.36**	**299**	P	**P**	**00 38 26.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**56.25**	**318**	*e*P	**P**	**00 39 25.7**	**+0.3**
PDAR	**Pinedale Array**	**63.87**	**55**	P	**P**	**00 40 16.6**	**-1.0**
	comp=Z,1.7nm,1.0s,mb4.0,baz=329,slow=2.6,SNR=8.1						
FINES	**FINESS Array B**	**65.00**	**336**	P	**P**	**00 40 25.4**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.3,baz=34,slow=7.1,SNR=7.4						
FINES	**FINESS Array B**	**65.00**	**336**	P	**P**	**00 40 25.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**68.59**	**201**	P	**P**	**00 40 47.9**	**0.0**
	comp=Z,0.7nm,1.0s,mb3.5,baz=20,slow=6.8,SNR=4.3						
WRA	**Warramunga Arr**	**68.59**	**201**	P	**P**	**00 40 47.9**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**72.27**	**200**	P	**P**	**00 41 11.1**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=30,slow=5.9,SNR=4.8						
ASAR	**Alice Springs**	**72.27**	**200**	P	**P**	**00 41 11.1**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.49**	**62**	P	**P**	**00 41 35.0**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=4.0,SNR=37						
TXAR	**Lajitas Array**	**76.49**	**62**	P	**P**	**00 41 35.1**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**79.64**	**318**	P	**P**	**00 41 51.9**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=104,slow=2.5,SNR=4.6						
BRTR	**Keskin Array B**	**79.64**	**318**	P	**P**	**00 41 51.9**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

JMA 22 00:42:12.8±0.4, 2615N×12403E, h189km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**1.62**	**158**	P	Pn	00 42 47.3	+0.7
JTJ				*e*S	Sn	00 43 13.0	+0.1
JMJ	**

	comp=Z,13nm,1.2s							
FITZ	**Fitzroy Crossi**	**20.55**	**219**	*e*P		**P**	**00 57 06.2**	**+0.3**
	comp=Z,17nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.55**	**219**	P		**P**	**00 57 06.4**	**+0.6**
	comp=Z,9.0nm,0.7s,baz=54,slow=11,SNR=19							
FITZ				LR		LR	01 06 05.2	
	comp=Z,253nm,18.6s,MS3.6,baz=39,slow=40							
AS31	**Alice Springs**	**21.80**	**193**	*e*P		**P**	**00 57 20.0**	**+0.7**
ASAR	**Alice Springs**	**21.80**	**193**	P		**P**	**00 57 19.9**	**+0.5**
	comp=Z,7.0nm,0.4s,mb4.4,baz=24,slow=11,SNR=62							
ASAR				LR		LR	01 06 39.7	
	comp=Z,324nm,18.2s,MS3.8,baz=8.8,slow=39							
ASPA	**Alice Springs**	**21.80**	**193**	*i*P		**P**	**00 57 20.1**	**+0.7**
MBWA	**Marble Bar**	**26.64**	**224**	*e*P		**P**	**00 58 06.8**	**+1.1**
	comp=Z,14nm,0.8s,mb4.5							
KSM	**Kuching**	**29.14**	**277**	P		**P**	**00 58 28.0**	**-0.1**
STKA	**Stephens Creek**	**29.45**	**176**	*e*P		**P**	**00 58 30.6**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**29.45**	**176**	P		**P**	**00 58 30.6**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.1,baz=330,slow=8.1,SNR=7.2							
FORT	**Forrest**	**30.18**	**199**	*e*P		**P**	**00 58 38.5**	**+1.2**
	comp=Z,24nm,0.7s,mb5.0							
DZM	**Mont Dzumac**	**32.93**	**129**	LR		LR	01 11 16.6	
	comp=Z,73nm,18.3s,MS3.4,baz=303,slow=34							
KLBR	**Kellerberrin**	**35.43**	**213**	*i*P		**P**	**00 59 23.8**	**+0.7**
	comp=Z,12nm,0.7s,mb4.9							
NWAO	**Narrogin (SRO)**	**36.74**	**212**	P		**P**	**00 59 34.2**	**-0.1**
	comp=Z,14nm,1.0s,mb4.8,baz=74,slow=5.7,SNR=9.0							
NWAO	**Narrogin (SRO)**	**36.74**	**212**	*e*P		**P**	**00 59 35.2**	**+0.8**
NWAO				pmax		pmax		
	comp=Z,9.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**36.74**	**212**	*e*P		**P**	**00 59 35.2**	**+0.9**
	comp=Z,8.5nm,0.8s,mb4.6							
KULM	**Kulim**	**39.26**	**281**	*e*P		**P**	**00 59 55.0**	**-0.5**
PSI	**Prapat**	**40.60**	**277**	P		**P**	**01 00 05.8**	**-0.9**
	comp=Z,12nm,1.0s,mb4.5,baz=92,slow=4.5,SNR=8.6							
SONM	**Songino Array**	**57.61**	**334**	P		**P**	**01 02 16.5**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=151,slow=6.2,SNR=3.6							
JIRN	**Jiri**	**59.05**	**304**	*e*P		**P**	**01 02 27.8**	**+0.9**
	comp=Z,10nm,0.5s,mb5.1							
GUN	**Gumba**	**59.40**	**304**	*e*P		**P**	**01 02 30.3**	**+1.0**
	comp=Z,26nm,0.8s,mb5.3							
PKI	**Pulchoki**	**59.66**	**304**	*e*P		**P**	**01 02 31.8**	**+0.7**
KKN	**Kakani**	**59.85**	**304**	*e*P		**P**	**01 02 33.0**	**+0.6**
	comp=Z,28nm,0.7s,mb5.4							
DMN	**Daman**	**59.93**	**304**	*e*P		**P**	**01 02 33.9**	**+0.9**
	comp=Z,18nm,0.7s,mb5.2							
GKN	**Gorkha**	**60.45**	**304**	*e*P		**P**	**01 02 37.1**	**+0.5**
	comp=Z,53nm,1.0s,mb5.5							
KOLN	**Koldanda**	**61.24**	**303**	*e*P		**P**	**01 02 42.5**	**+0.6**
	comp=Z,20nm,0.9s,mb5.2							
MK31	**Makanchi Array**	**69.81**	**322**	*e*P		**P**	**01 03 37.4**	**+0.1**
MKAR	**Makanchi Array**	**69.81**	**322**	P		**P**	**01 03 37.4**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.5,baz=111,slow=7.4,SNR=26							
ZAL	**Zalesovo**	**71.88**	**330**	P		**P**	**01 03 48.5**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=10,slow=8.4,SNR=4.3							
AAK	**Ala-Archa**	**73.30**	**316**	*e*P		**P**	**01 03 58.8**	**+0.5**
AAK				pmax		pmax		
	comp=Z,9.0nm,1.6s,mb4.5							
AAK	**Ala-Archa**	**73.30**	**316**	P		**P**	**01 03 57.9**	**-0.4**
VNDA	**Vanda**	**76.09**	**175**	P		**P**	**01 04 13.2**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=43,slow=4.5,SNR=4.6							
BVAR	**Borovoye Array**	**79.31**	**325**	P		**P**	**01 04 32.1**	**-0.3**
	comp=Z,8.0nm,0.7s,mb4.8,baz=115,slow=6.5,SNR=48							
BRVK	**Borovoye**	**79.38**	**325**	*e*P		**P**	**01 04 32.4**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
BRVK	**Borovoye**	**79.38**	**325**	*e*P		**P**	**01 04 32.4**	**-0.4**
	comp=Z,11nm,1.0s,mb4.8							
MCK	**McKinley**	**84.15**	**25**	*e*P		**P**	**01 04 57.2**	**-0.7**
MCK				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.4							
MCK	**McKinley**	**84.15**	**25**	*e*P		**P**	**01 04 57.2**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.3							
COLA	**College**	**84.93**	**24**	P		**P**	**01 05 01.6**	**-0.3**
ARU	**Arti**	**86.77**	**327**	*i*P		**P**	**01 05 08.9**	**-2.1**
ARU				*e*			01 08 31.8	
ARU				*e*PPP			01 10 28.7	
ARU				*e*S		SKSac	01 15 32.5	-2.7
ARU				*e*SS		SS	01 21 29.9	+1.8
ARU				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.8							
ARU	**Arti**	**86.77**	**327**	*e*P		**P**	**01 05 09.2**	**-1.8**
	comp=Z,5.4nm,0.9s,mb4.8							
DAWY	**Dawson**	**88.33**	**26**	*e*P		**P**	**01 05 17.9**	**-0.5**
KIV	**Kislovodsk**	**96.33**	**314**	P		**P**	**01 05 55.8**	**+0.4**
KIV	**Kislovodsk**	**96.33**	**314**	P		**P**	**01 05 55.8**	**+0.3**
ARCES	**ARCESS Array B**	**100.34**	**341**	P		Pdif	01 06 10.8	-2.6
	comp=Z,4.5nm,0.8s,baz=64,slow=8.2,SNR=6.8							
ARCES	**ARCESS Array B**	**100.34**	**341**	P		Pdif	01 06 10.8	-2.6
FINES	**FINESS Array B**	**102.97**	**333**	P		Pdif	01 06 22.4	-2.6
	comp=Z,4.0nm,1.1s,baz=343,slow=2.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**136.63**	**287**	PKP		PKPdf	01 11 49.6	+0.7
	comp=Z,1.3nm,0.7s,baz=76,slow=1.7,SNR=7.4							
ROSC	**El Rosal**	**146.44**	**85**	PKPbc		PKPbc	01 12 08.0	+0.3
	comp=Z,3.3nm,0.3s,baz=96,slow=19,SNR=3.1							
LPAZ	**La Paz**	**147.25**	**125**	PKPbc		PKPbc	01 12 10.6	+0.6
	comp=Z,5.1nm,0.8s,baz=251,slow=3.4,SNR=16							

*ISCJB **22** 00:59:14.5±1.7, 109S±0.1×1617E±02, h113km±11km, mb3.8/5, Error ellipse: s-maj=36.7km s-min=11.1km az=108.6*
*IDC **22** 00:59:15.6±2.5, 1076S×16171E, h108km±16km, mb3.7/4, mb1 3.9/6, mb1mx3.6/17, mbtmp3.8/6, Error ellipse: s-maj=38.2km s-min=17.3km az=57.0*
*NEIC **22** 00:59:16.8±1.2, 1074S×16161E, h113km±10km, mb3.9/1, Error ellipse: s-maj=23.4km s-min=11.6km az=51.0*

ISC 22 00:59:15.3±1.7, 109S±01×1617E±02, h101km±11km, n9, σ0$84/11, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.24**	**309**	P	**Pn**	**00 59 51.3**	**+0.3**
	140nm,0.3s,baz=112,slow=4.6,SNR=25						
HNR				S	**Sn**	**01 00 18.3**	**-0.1**
	261nm,0.3s,baz=84,slow=23,SNR=13						
DZM	**Mont Dzumac**	**12.04**	**159**	P	**Pn**	**01 02 06.5**	**+3.1**
	0.5nm,0.3s,baz=237,slow=10,SNR=15						
DZM				S	**Sn**	**01 04 14.8**	**-1.0**
	0.7nm,0.3s,baz=179,slow=19,SNR=5.9						
PMG	**Port Moresby**	**14.40**	**274**	Pn	**Pn**	**01 02 33.4**	**-0.9**
WRAB	**Tennant Creek**	**27.85**	**248**	*e*P	**P**	**01 04 55.8**	**+0.5**
	2.6nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**27.86**	**248**	P	**P**	**01 04 56.0**	**+0.6**
	1.6nm,0.5s,mb3.8,baz=77,slow=8.8,SNR=8.0						
ASAR	**Alice Springs**	**29.39**	**241**	P	**P**	**01 05 08.6**	**-0.3**
	0.6nm,0.3s,mb3.6,baz=65,slow=9.6,SNR=4.1						
FITZ	**Fitzroy Crossi**	**35.62**	**254**	P	**P**	**01 06 03.5**	**+0.2**
	2.6nm,0.6s,mb4.4,baz=65,slow=12,SNR=8.9						
KULM	**Kulim**	**62.86**	**282**	P	**P**	**01 09 30.9**	**+0.4**
SONM	**Songino Array**	**76.21**	**325**	P	**P**	**01 10 51.6**	**-1.0**
	1.1nm,0.8s,mb3.6,baz=138,slow=5.5,SNR=4.4						

*ISCJB **22** 01:00:31.4±0.9, 3884N±002×2588E±006, h0km±6km, Error ellipse: s-maj=7.4km s-min=4.1km az=165.9*
*ISK **22** 01:00:31.8, 3886N×2590E, h6km, MD3.3*
*ATH **22** 01:00:32.8, 3884N×2599E, h22km±3km, MD4.0/6*
*CSEM **22** 01:00:32.5±0.2, 3886N×2598E, h8km, MD3.5, Error ellipse: s-maj=6.3km s-min=1.8km az=82.0*
*NEIC **22** 01:00:32.8, 3884N×2599E, h22km, MD3.3(ISK), MD3.5(ATH), After ATH.*

ISC 22 01:00:31.8±0.9, 3883N±003×2585E±006, h1km±5km, n33, σ0$80/46, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.53**	**38**	*i*Pb	**Pg**	**01 00 42.4**	**+0.5**
PRK				*e*Sb	**Sg**	**01 00 48.9**	**+0.1**
AYVA	**Ayvalik**	**0.81**	**53**	*i*P	**Pg**	**01 00 47.1**	**-0.2**
AYVA				*i*S	**Sg**	**01 00 56.6**	**-1.2**
BOZC	**Bozcaada**	**1.02**	**9**	*i*P	**Pg**	**01 00 51.5**	**+0.1**
BOZC				*i*S	**Sg**	**01 01 06.5**	**+1.9**
BLCB	**Balcova**	**1.03**	**115**	*i*PG	**Pg**	**01 00 51.4**	**-0.1**
BLCB				*i*SG	**Sg**	**01 01 06.1**	**+1.1**
BLCB	**Balcova**	**1.03**	**115**	Pg	**Pg**	**01 00 51.4**	**-0.1**
BLCB				Sg	**Sg**	**01 01 06.4**	**+1.5**
EZN	**Ezine**	**1.06**	**20**	*i*PG	**Pg**	**01 00 52.2**	**+0.1**
EZN				*i*SG	**Sg**	**01 01 05.7**	**-0.2**
EZN	**Ezine**	**1.06**	**20**	Pg	**Pg**	**01 00 52.2**	**+0.1**
EZN				Sg	**Sg**	**01 01 05.2**	**-0.6**
EZN	**Ezine**	**1.06**	**20**	*i*Pg	**Pg**	**01 00 52.3**	**+0.2**
EZN				Sg	**Sg**	**01 01 05.2**	**-0.7**
LIA	**Limnos Island**	**1.19**	**334**	*i*PN	**Pn**	**01 00 56.3**	**+0.8**
KDAG	**Bornova**	**1.19**	**110**	*i*P	**Pg**	**01 00 53.7**	**-0.8**
KDAG				*i*S	**Sg**	**01 01 14.8**	**+4.8**
SMG	**Samos**	**1.36**	**145**	*e*PN	**Pn**	**01 00 57.5**	**-0.4**
SMG				*e*SN	**Sn**	**01 01 16.1**	**-0.4**
CANB	**Canakkale**	**1.51**	**38**	PN	**Pn**	**01 00 59.9**	**-0.1**
CANB	**Canakkale**	**1.51**	**38**	*i*P	**Pn**	**01 00 59.8**	**-0.2**
CANB				*i*S	**Sb**	**01 01 20.2**	**-0.1**
APE	**Apeiranthos**	**1.77**	**188**	*e*PN	**Pn**	**01 01 04.6**	**+1.0**
BTOK	**Tokmak**	**1.93**	**60**	*i*P	**Pn**	**01 01 03.6**	**-2.1**
BTOK				*i*S	**Sn**	**01 01 32.6**	**+2.0**
BODT	**Bodrum**	**2.11**	**146**	*e*PN	**Pn**	**01 01 07.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.12**	**28**	*e*PN	**Pn**	**01 01 08.6**	**+0.3**
SART	**Tekirdag**	**2.12**	**28**	*i*P	**Pn**	**01 01 08.0**	**-0.3**
SART				*i*S	**Sn**	**01 01 35.1**	**-0.3**
MLSB	**Milas**	**2.16**	**135**	*e*PN	**Pn**	**01 01 08.9**	**+0.1**
EDC	**Edincik**	**2.17**	**45**	PN	**Pn**	**01 01 08.7**	**-0.4**
MRMT	**Marmara Adasi**	**2.23**	**37**	*e*PN	**Pn**	**01 01 09.3**	**-0.5**
MFT	**Murefte**	**2.25**	**29**	*e*PN	**Pn**	**01 01 09.5**	**-0.6**
RDO	**Rodhopi**	**2.33**	**354**	*e*PN	**Pn**	**01 01 12.0**	**+0.8**
KCT	**Karacabey**	**2.41**	**53**	*e*PN	**Pn**	**01 01 11.9**	**-0.4**
DAT	**Datca**	**2.50**	**146**	*e*PN	**Pn**	**01 01 13.6**	**0.0**
YER	**Yerkesik**	**2.56**	**131**	*e*PN	**Pn**	**01 01 14.7**	**+0.4**
NVR	**Nevrokopi**	**2.94**	**329**	*e*PB	**Pb**	**01 01 22.7**	**-2.3**
CTT	**Catalca**	**3.05**	**40**	*e*PN	**Pn**	**01 01 20.8**	**-0.2**
EDRB	**Edirne**	**3.09**	**12**	*e*PN	**Pn**	**01 01 22.4**	**+0.8**
IZI	**Iznik**	**3.18**	**61**	*e*PN	**Pn**	**01 01 23.3**	**+0.4**
YLV	**Yalova**	**3.23**	**56**	*e*PN	**Pn**	**01 01 23.4**	**-0.1**
BADT	**Buyukada**	**3.23**	**50**	*e*PN	**Pn**	**01 01 23.9**	**+0.3**
KLYT	**Kilyos**	**3.44**	**44**	*e*PN	**Pn**	**01 01 26.4**	**-0.1**

*ISCJB **22** 01:04:09.9±0.9, 4874N±006×15468E±008, h66km±8km, mb3.9/22, Error ellipse: s-maj=12.8km s-min=4.9km az=96.6*
*MOS **22** 01:04:09.6±0.9, 4873N×15461E, h65km, mb4.3/10, Error ellipse: s-maj=15.2km s-min=9.2km az=75.9*
*NEIC **22** 01:04:13.3±0.9, 4872N×15462E, h82km±8km, mb4.2/6, Error ellipse: s-maj=9.4km s-min=5.0km az=141.0*
*BJI **22** 01:04:13.3, 4870N×15460E, h82km, mB4.9, mb4.4*
*IDC **22** 01:04:15.0±3.8, 4874N×15458E, h97km±34km, mb3.7/16, mb1 3.9/18, mb1mx3.8/25, mbtmp3.7/18, MS3.2/2, Ms1 3.2/2, ms1mx2.4/39, Error ellipse: s-maj=17.4km s-min=13.9km az=120.0*

ISC 22 01:04:11.9±0.8, 4875N±006×15470E±009, h70km±7km, n65, σ1$02/67, mb3.9/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.14**	**25**	*e*PN	**Pn**	**01 04 43.8**	**-1.6**
SKR				*e*S	**Sn**	**01 05 09.0**	**-2.0**
SKR				pmax	pmax		
	comp=N,180nm,0.4s						
SKR				pmax	pmax		
	comp=E,160nm,0.4s						
SKR				pmax	pmax		
	comp=Z,180nm,0.4s						
SKR				smax			
	comp=N,1μm,0.3s						
SKR				smax			
	comp=E,1μm,0.3s						
SKR				smax			
	comp=Z,410nm,0.3s						
PET	**Petropavlovsk**	**4.96**	**29**	*e*PN	**Pn**	**01 05 29.6**	**+5.8**
PET				*e*S	**Sn**	**01 06 19.1**	**-0.6**
PET				pmax	pmax		
	comp=Z,20nm,0.4s						
PET				smax			
	comp=E,249nm,0.7s						
PET				smax			
	comp=N,129nm,0.8s						
PET	**Petropavlovsk**	**4.96**	**29**	*e*Pn	**Pn**	**01 05 25.1**	**+1.4**
	comp=N,110nm,0.8s						
PET				*e*Sn	**Sn**	**01 06 21.0**	**+1.3**
KUR	**Kuril'sk**	**5.85**	**236**	*e*PN	**Pn**	**01 05 34.0**	**-2.0**
KUR				*e*S	**Sn**	**01 06 41.5**	**-0.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,230nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.23**	**262**	*e*PN	**Pn**	**01 06 10.6**	**+2.0**
YSS				*e*		01 07 40.9	
YSS				pmax	pmax		
	comp=Z,34nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.23**	**262**	*e*Pn	**Pn**	**01 06 10.6**	**+2.0**
	comp=Z,34nm,0.5s						
YSS				*e*Sn	**Sn**	**01 07 40.9**	**+0.8**
ASAJ	**Asahikawa**	**9.55**	**245**	P	**Pn**	**01 06 28.9**	**+2.3**
	comp=Z,7.3nm,0.3s,baz=77,slow=15,SNR=23						
ASAJ				LR	LR	01 10 17.9	
	comp=Z,66nm,21.7s,baz=135,slow=38						
MA2	**Magadan**	**11.09**	**350**	PN	**Pn**	**01 06 49.2**	**+1.7**
KLR	**Kul'dur**	**15.07**	**280**	*e*P	**Pn**	**01 07 45.0**	**+4.3**
MJAR	**Matsushiro Arr**	**17.16**	**231**	P	**Pn**	**01 08 07.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=25,slow=11,SNR=4.1						
MJAR	**Matsushiro Arr**	**17.16**	**231**	P	**Pn**	**01 08 07.0**	**0.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**17.16**	**231**	*e*P	**Pn**	**01 08 05.2**	**-1.8**
BILL	**Bilibino**	**20.20**	**13**	*e*P	**P**	**01 08 40.0**	**-1.0**
CN2	**Changchun**	**20.75**	**267**	*e*P	**P**	**01 08 47.5**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**22.46**	**250**	P	**P**	**01 09 04.8**	**-0.3**
	comp=Z,3.5nm,0.7s,mb3.8,baz=48,slow=10,SNR=7.4						
BJT	**Baijiatuan**	**28.63**	**267**	*e*P	**P**	**01 10 01.5**	**-0.2**
ULN	**Ulaanbaatar**	**31.30**	**287**	*e*P	**P**	**01 10 25.1**	**-0.2**
SONM	**Songino Array**	**31.73**	**287**	P	**P**	**01 10 30.4**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=129,slow=16,SNR=3.7						
ENH	**Enshi**	**38.80**	**258**	P	**P**	**01 11 29.6**	**-0.2**
INK	**Inuvik**	**39.39**	**34**	P	**P**	**01 11 35.3**	**+0.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=352,slow=2.9,SNR=3.7						
INK	**Inuvik**	**39.39**	**34**	*e*Pn	**P**	**01 11 35.2**	**+0.5**
	comp=Z,40nm,0.4s						
ZAL	**Zalesovo**	**42.35**	**304**	PcP	PcP	01 13 51.5	+0.2
	comp=Z,1.4nm,0.6s,baz=33,slow=2.1,SNR=8.0						
MK31	**Makanchi Array**	**46.99**	**296**	*e*P	**P**	**01 12 35.3**	**-0.7**
MKAR	**Makanchi Array**	**46.99**	**296**	P	**P**	**01 12 35.9**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=64,slow=7.0,SNR=12						
MKAR				PcP	PcP	01 14 07.2	-0.1
	comp=Z,1.3nm,0.9s,baz=57,slow=4.5,SNR=3.8						
MKAR	**Makanchi Array**	**46.99**	**296**	P	**P**	**01 12 35.9**	**-0.1**
MKAR						01 14 07.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.99**	**296**	P	**P**	**01 12 35.9**	**-0.1**
MKAR				PcP	PcP	01 14 07.2	-0.1
RES	**Resolute Bay**	**48.59**	**19**	*e*P	**P**	**01 12 48.1**	**-0.2**
	comp=Z,38nm,0.5s						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**01 13 01.3**	**-1.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=49,slow=8.4,SNR=9.8						
BVAR				PcP	PcP	01 14 19.8	0.0
	comp=Z,1.6nm,0.7s,baz=71,slow=2.8,SNR=7.6						
BVAR				LR	LR	01 33 51.4	
	comp=Z,50nm,20.6s,baz=132,slow=35						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**01 13 01.3**	**-1.0**
BVAR						01 14 19.8	
LSA	**Lhasa**	**51.24**	**273**	*e*P	**P**	**01 13 08.9**	**+0.4**
CHTO	**Chiang Mai**	**53.62**	**257**	*e*P	**P**	**01 13 26.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**53.62**	**257**	*e*P	**P**	**01 13 26.6**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.8						
ARU	**Arti**	**54.27**	**317**	P	**P**	**01 13 30.3**	**-0.5**
ARU	**Arti**	**54.27**	**317**	P	**P**	**01 13 30.3**	**-0.5**
WALA	**Waterton Lakes**	**56.35**	**52**	*e*P	**P**	**01 13 46.6**	**+0.9**
HLID	**Hailey**	**59.51**	**58**	*e*P	**P**	**01 14 08.4**	**+0.6**
HWUT	**Hardware Ranch**	**62.38**	**58**	*e*P	**P**	**01 14 28.1**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.1						
DUG	**Dugway**	**62.62**	**60**	*e*P	**P**	**01 14 30.2**	**+1.3**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
DUG	**Dugway**	**62.62**	**60**	*e*P	**P**	**01 14 30.2**	**+1.3**
	comp=Z,1.2nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**62.68**	**335**	P	**P**	**01 14 28.6**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=36,slow=7.9,SNR=8.5						
FINES	**FINESS Array B**	**62.68**	**335**	P	**P**	**01 14 28.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**62.72**	**56**	P	**P**	**01 14 30.8**	**+1.2**
	comp=Z,2.9nm,0.9s,mb4.2,baz=304,slow=2.1,SNR=18						
ULM	**Lac du Bonnet**	**64.31**	**42**	P	**P**	**01 14 39.4**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=203,slow=2.2,SNR=3.6						
SRU	**San Rafael**	**64.65**	**59**	*e*P	**P**	**01 14 43.5**	**+1.2**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
SRU	**San Rafael**	**64.65**	**59**	*e*P	**P**	**01 14 43.5**	**+1.2**
	comp=Z,6.6nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**66.67**	**342**	P	**P**	**01 14 54.4**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.5,baz=28,slow=6.5,SNR=2.6						
NOA	**NORSAR Array B**	**66.67**	**342**	P	**P**	**01 14 54.4**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANMO	**Albuquerque**	**69.88**	**60**	P	**P**	**01 15 16.3**	**+1.0**
AKASG	**Malin Array Be**	**70.47**	**327**	P	**P**	**01 15 17.6**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=33,slow=6.2,SNR=3.7						
WRAB	**Tennant Creek**	**70.75**	**200**	*e*P	**P**	**01 15 19.7**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**70.75**	**200**	*e*P	**P**	**01 15 19.7**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**70.75**	**200**	*e*P	**P**	**01 15 19.7**	**-1.0**
WRA	**Warramunga Arr**	**70.76**	**200**	P	**P**	**01 15 19.6**	**-1.1**
	comp=Z,2.6nm,0.9s,mb4.0,baz=16,slow=6.4,SNR=24						
WRA	**Warramunga Arr**	**70.76**	**200**	P	**P**	**01 15 19.6**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SCHQ	**Schefferville**	**71.05**	**24**	*e*P	**P**	**01 15 22.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**71.41**	**209**	P	**P**	**01 15 24.8**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.1,baz=6.6,slow=5.7,SNR=6.9						
ASAR	**Alice Springs**	**74.45**	**200**	P	**P**	**01 15 42.4**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.8,baz=14,slow=5.0,SNR=15						
ASAR	**Alice Springs**	**74.45**	**200**	P	**P**	**01 15 42.4**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**75.59**	**62**	P	**P**	**01 15 49.9**	**+0.7**
	comp=Z,4.4nm,1.0s,mb4.1,baz=298,slow=4.8,SNR=26						
TXAR	**Lajitas Array**	**75.59**	**62**	P	**P**	**01 15 49.9**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GERES	**GERESS Array B**	**77.11**	**335**	P	**P**	**01 15 56.7**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.0,baz=34,slow=7.1,SNR=3.2						
BRTR	**Keskin Array B**	**77.65**	**317**	P	**P**	**01 16 01.4**	**+0.6**
	comp=Z,0.7nm,0.9s,mb3.4,baz=72,slow=4.0,SNR=3.7						
BRTR	**Keskin Array B**	**77.65**	**317**	P	**P**	**01 16 01.4**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**113.89**	**331**	PKiKP	PKiKP	01 22 41.9	-0.8
	comp=Z,0.2nm,0.4s,baz=0.1,slow=3.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**113.89**	**331**	PKPdf	PKiKP	01 22 41.9	-0.8

*ISCJB **22** 01:19:46.9±0.4, 4604N±007×154.11E±0.10, h10km, mb4.2/21, MS3.7/3, Error ellipse: s-maj=11.0km s-min=8.3km az=94.0*
*NEIC **22** 01:19:48.9±0.3, 4604N×154.11E, h10km, mb4.4/7, Error ellipse: s-maj=8.5km s-min=6.8km az=142.0*
*MOS **22** 01:19:51.0±1.0, 4610N×15408E, h39km, mb4.4/16, Error ellipse: s-maj=18.5km s-min=10.4km az=95.4*
*IDC **22** 01:19:58.0±4.2, 4609N×15408E, h85km±37km, mb3.7/14, mb1 3.9/16, mb1mx3.7/27, mbtmp3.7/16, MS3.6/4, Ms1 3.6/4, ms1mx2.8/37, Error ellipse: s-maj=17.6km s-min=17.1km az=81.0*

ISC 22 01:19:48.8±0.4, 4606N±007×15409E±010, h10km, n57, σ0$76/56, mb4.2/21, MS3.7/3, 1D, East of Kuril Islands

| Code | Station Name | Δ° | A

WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WRAB Tennant Creek 68.08 200 *e*P **P 01 30 48.2 -0.4**
comp=Z,3.8nm,0.7s,mb4.5
WB2 Warramunga Arr 68.08 200 *e*P **P 01 30 48.3 -0.4**
WRA Warramunga Arr 68.09 200 P **P 01 30 48.2 -0.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=18,slow=6.7,SNR=19
WRA Warramunga Arr 68.09 200 P **P 01 30 48.2 -0.5**
WRA pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 69.10 342 P **P 01 30 56.4 +1.4**
comp=Z,0.9nm,0.5s,mb4.0,baz=26,slow=6.5
NOA NORSAR Array B 69.10 342 P **P 01 30 55.8 +0.8**
comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=6.5,SNR=3.3
NOA NORSAR Array B 69.10 342 P **P 01 30 55.8 +0.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
AS31 Alice Springs 71.77 199 P **P 01 31 11.8 +0.4**
ASAR Alice Springs 71.77 199 P **P 01 31 11.8 +0.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=12,slow=5.3,SNR=36
ASAR Alice Springs 71.77 199 P **P 01 31 11.8 +0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 77.24 61 P **P 01 31 43.1 -0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=4.1,SNR=34
TXAR Lajitas Array 77.24 61 P **P 01 31 43.1 -0.1**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 79.37 335 LR LR 02 11 16.9
comp=Z,64nm,21.7s,MS3.9,baz=275,slow=39
ASF Jabal al Asfar 83.66 311 P **P 01 32 18.2 +0.6**
comp=Z,1.0nm,0.6s,mb4.1,baz=0.0,slow=15,SNR=2.3
ASF Jabal al Asfar 83.66 311 P **P 01 32 18.2 +0.6**
ASF pmax pmax
comp=Z,1.0nm,0.6s
MMAI Mount Meron Ar 83.78 312 P **P 01 32 18.9 +0.7**
comp=Z,2.3nm,0.7s,mb4.4,baz=46,slow=6.0,SNR=6.1

ATH ***22*** *01:30:09.6,4089N×2797E,h29km±7km,MD3.6/5*
CSEM ***22*** *01:30:10.8±0.1,4078N×2783E,h10km,MD3.1,Error ellipse: s-maj=3.5km s-min=1.5km az=168.0*
ISK ***22*** *01:30:10.9,4081N×2777E,h17km,MD3.1*
NEIC ***22*** *01:30:10.9,4081N×2775E,h20km,MD3.1(ISK), MD3.6(ATH),After ISK.*
SOF ***22*** *01:30:11.1,4055N×2771E,h10km,MD2.7*
ISCJB ***22*** *01:30:11.2±0.4,4078N±003×2783E±002,h4km±3km, Error ellipse: s-maj=4.4km s-min=3.0km az=148.1*
ISC 22 01:30:11.8±0.4,4080N±003×2782E±003,h7km±3km,n39, σ1º10/56,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.26**	**222**	*i* PG	**Pg**	**01 30 16.4**	**-0.5**
MRMT				*i* SG	**Sg**	**01 30 20.5**	**+0.1**
MFT	**Murefte**	**0.41**	**269**	*i* PG	**Pg**	**01 30 18.7**	**-1.1**
MFT				*i* SG	**Sg**	**01 30 24.9**	**-0.3**
EDC	**Edincik**	**0.45**	**176**	*i* PG	**Pg**	**01 30 21.5**	**+1.0**
SART	**Tekirdag**	**0.50**	**258**	*i* P	**Pg**	**01 30 20.8**	**-0.7**
SART				*i* S	**Sg**	**01 30 27.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.50**	**258**	*i* PG	**Pg**	**01 30 21.1**	**-0.4**
RKY				*i* SG	**Sg**	**01 30 27.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.50**	**258**	Pg	**Pg**	**01 30 21.1**	**-0.4**
RKY				Sg	**Sg**	**01 30 27.1**	**-0.9**
CTT	**Catalca**	**0.58**	**52**	*i* PG	**Pg**	**01 30 23.5**	**+0.5**
ELBA	**Catalca**	**0.58**	**52**	*i* P	**Pg**	**01 30 23.0**	**0.0**
ELBA				*i* S	**Sg**	**01 30 32.2**	**+1.7**
KCT	**Karacabey**	**0.67**	**142**	*i* PG	**Pg**	**01 30 25.6**	**+1.0**
CANB	**Canakkale**	**0.97**	**217**	PG	**Pg**	**01 30 29.9**	**-0.5**
CANB	**Canakkale**	**0.97**	**217**	*i* P	**Pg**	**01 30 29.8**	**-0.7**
CANB				*i* S	**Sg**	**01 30 43.9**	**+0.8**
ISK	**Istanbul-Kandi**	**0.97**	**74**	PG	**Pg**	**01 30 30.3**	**-0.2**
BADT	**Buyukada**	**0.98**	**86**	PG	**Pg**	**01 30 30.6**	**-0.1**
KLYT	**Kilyos**	**1.03**	**63**	PG	**Pg**	**01 30 31.7**	**+0.1**
BTOK	**Tokmak**	**1.04**	**171**	*i* P	**Pg**	**01 30 32.1**	**+0.3**
BTOK				*i* S	**Sg**	**01 30 47.5**	**+2.1**
GEMT	**Gemlik**	**1.10**	**109**	PN	**Pn**	**01 30 32.4**	**-1.1**
YLV	**Yalova**	**1.20**	**100**	PN	**Pn**	**01 30 33.3**	**-1.6**
EDRB	**Edirne**	**1.33**	**323**	PN	**Pn**	**01 30 35.1**	**-1.6**
IZI	**Iznik**	**1.34**	**110**	PN	**Pn**	**01 30 36.2**	**-0.6**
HRT	**Hereke**	**1.40**	**88**	PN	**Pn**	**01 30 36.3**	**-1.3**
EZN	**Ezine**	**1.50**	**230**	*e*PN	**Pn**	**01 30 37.6**	**-1.4**
ADVT	**Abdulvahap**	**1.50**	**103**	*e*PN	**Pn**	**01 30 38.0**	**-1.1**
BOZC	**Bozcaada**	**1.66**	**235**	*i* P	**Pn**	**01 30 40.6**	**-0.6**
BOZC				*i* S	**Sn**	**01 31 02.8**	**+0.2**
AYVA	**Ayvalik**	**1.72**	**211**	*i* P	**Pn**	**01 30 43.7**	**+1.6**
AYVA				*i* S	**Sn**	**01 31 07.0**	**+2.7**
RDO	**Rodhopi**	**1.77**	**282**	*e*PN	**Pn**	**01 30 41.5**	**-1.2**
RDO				*e*SN	**Sn**	**01 31 04.9**	**-0.5**
JMB	**Yambol**	**1.91**	**331**	P	**Pn**	**01 30 48.2**	**+3.5**
PRK	**Paraskevi**	**1.95**	**218**	*e*PN	**Pn**	**01 30 45.0**	**-0.3**
PRK				*e*SN	**Sn**	**01 31 10.5**	**+0.5**
GPA	**Golpazari**	**1.96**	**104**	*e*PN	**Pn**	**01 30 44.8**	**-0.6**
KDZ	**Kurdzhali**	**2.01**	**296**	P	**Pn**	**01 30 48.0**	**+2.0**
KDZ				S	**Sn**	**01 31 15.0**	**+3.7**
DIM	**Dimitrovgrad**	**2.13**	**307**	P	**Pn**	**01 30 50.2**	**+2.5**
DIM				S	**Sn**	**01 31 17.7**	**+3.3**
LIA	**Limnos Island**	**2.21**	**247**	*e*PN	**Pn**	**01 30 47.9**	**-0.9**
BLCB	**Balcova**	**2.48**	**194**	*e*PN	**Pn**	**01 30 52.3**	**-0.3**
RZN	**Rozhen**	**2.51**	**292**	P	**Pn**	**01 30 53.4**	**+0.5**
RZN				S	**Sn**	**01 31 29.9**	**+6.2**
ESKT	**Eskisehir**	**2.65**	**118**	*e*PN	**Pn**	**01 30 54.7**	**-0.1**
NVR	**Nevrokopi**	**3.05**	**282**	*e*PN	**Pn**	**01 31 00.3**	**0.0**
SMG	**Samos**	**3.18**	**194**	*e*PN	**Pn**	**01 31 01.8**	**-0.3**
SMG				*e*SN	**Sn**	**01 31 39.8**	**-0.4**
MMB	**Musomiste**	**3.19**	**286**	P	**Pn**	**01 31 07.8**	**+5.5**
MMB				S	**Sn**	**01 31 49.8**	**+9.2**
KKB	**Krupnik**	**3.73**	**288**	*e*P	**Pn**	**01 31 10.0**	**+0.3**
MLR	**Muntele Rosu**	**4.89**	**344**	⇓*i*P	**Pn**	**01 31 30.6**	**+4.9**

NEIC ***22*** *01:37:25.0±5.2,755S×12905E,h92km±50km,Error ellipse: s-maj=62.2km s-min=23.7km az=221.0*
ISCJB ***22*** *01:37:31.6±2.8,80S±01×1289E±01,h176km±32km, mb3.4/1,Error ellipse: s-maj=24.8km s-min=15.2km az=106.0*
IDC ***22*** *01:37:31.5±13.0,792S×12857E,h153km±155km,mb3.2/1, mb1 3.1/4,mb1mx3.1/15,mbtmp3.0/4,ML3.4/3,Error ellipse: s-maj=99.4km s-min=55.6km az=20.0*
ISC 22 01:37:33.7±4.5,82S±02×1290E±01,h133km±47km,n7, σ1º00/11,mb3.4/1,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.42**	**198**	P	**Pn**	**01 39 59.3**	**-0.3**
	0.1nm,0.3s,baz=295,slow=23,SNR=5.5						
FITZ				S	**Sn**	**01 41 54.6**	**0.0**
	0.2nm,0.3s,baz=16,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**12.80**	**157**	*e*Pn	**Pn**	**01 40 29.2**	**-1.7**
	1.5nm,0.6s						
WRAB				*e*Sn	**Sn**	**01 42 51.8**	**-0.2**
WRA	**Warramunga Arr**	**12.81**	**157**	P	**Pn**	**01 40 31.6**	**+0.7**
	0.4nm,0.3s,baz=321,slow=15,SNR=22						
WRA				S	**Sn**	**01 42 51.1**	**-1.1**
	0.3nm,0.3s,baz=332,slow=22,SNR=6.2						
WB2	**Warramunga Arr**	**12.81**	**157**	*e*Pn	**Pn**	**01 40 31.4**	**+0.4**
WB2				*e*Sn	**Sn**	**01 42 53.4**	**+1.1**
ASAR	**Alice Springs**	**16.12**	**164**	P	**Pn**	**01 41 14.5**	**+1.8**
	0.2nm,0.3s,baz=346,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**26.35**	**155**	P	**P**	**01 42 56.7**	**-0.6**
MKAR	**Makanchi Array**	**68.66**	**328**	P	**P**	**01 48 15.6**	**-7.0**
	0.4nm,0.5s,mb3.4,baz=120,slow=8.1,SNR=6.0						

IDC 22 01:38:16.6±2.9,630S×15128E,h0km,mb3.7/4,mb1 4.0/4, mb1mx3.7/13,mbtmp3.8/4,MS3.3/1,Ms1 3.3/1, ms1mx2.7/21,Error ellipse: s-maj=71.6km s-min=46.6km az=109.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.76**	**342**	LR	LR	01 48 56.3	
	comp=Z,82nm,21.8s,baz=28,slow=31						
WRA	**Warramunga Arr**	**21.32**	**229**	P	P	01 43 05.9	+0.9
	1.0nm,0.6s,baz=54,slow=10.0,SNR=7.6						
ASAR	**Alice Springs**	**24.03**	**222**	P	P	01 43 33.0	-0.1
	1.0nm,0.5s,baz=56,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**27.01**	**198**	P	P	01 44 00.3	+0.1
	1.8nm,0.9s,baz=0.0,slow=14,SNR=2.6						
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P	P	01 44 06.0	+0.3
	1.3nm,0.5s,baz=95,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	PKPbc	01 58 08.1	+0.9
	0.4nm,0.6s,baz=60,slow=3.3,SNR=5.4						

IDC ***22*** *01:45:49.2±1.6, 1611N×11974E,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.7/21,mbtmp4.0/5,Error ellipse: s-maj=176.6km s-min=27.6km az=67.0*
MAN ***22*** *01:45:53.5, 1565N×11921E,h14km,mb2.0, ML3.7, MS1.8*
ISCJB ***22*** *01:45:54.2±1.0, 1572N±007×11906E±008,h46km±11km, mb3.9/7,Error ellipse: s-maj=13.1km s-min=11.4km az=20.2*
NEIC ***22*** *01:45:54.4±0.7, 1606N×11959E,h35km,mb3.9/2,Error ellipse: s-maj=22.5km s-min=9.8km az=224.0*
ISC 22 01:45:56.1±0.9,1576N±007×11913E±008,h45km±11km, n18,σ1º00/19,mb3.9/7,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.98**	**51**	*e*P	**Pn**	**01 46 11.5**	**-1.9**
BCPH	**Baguio City Da**	**1.53**	**66**	⇑*i*P	**Pn**	**01 46 19.6**	**-1.3**
BCPH				*i* S	**Sn**	**01 46 41.5**	**+1.9**
BALP	**Baler**	**2.36**	**90**	*e*P	**Pn**	**01 46 33.9**	**+1.5**
CVP	**Callao Caves**	**3.23**	**53**	*e*P	**Pn**	**01 46 44.0**	**-0.2**
ENPP	**El Nido**	**4.53**	**176**	*e*P	**Pn**	**01 47 01.6**	**-0.6**
CUYO	**Cuyo Island**	**5.21**	**159**	*e*P	**Pn**	**01 47 11.0**	**-0.6**
QIZ	**Qiongzhong**	**9.44**	**291**	Pn	**Pn**	**01 48 11.2**	**+1.7**
KULM	**Kulim**	**20.91**	**242**	P	**P**	**01 50 40.8**	**+6.1**
FITZ	**Fitzroy Crossi**	**34.25**	**169**	P	**P**	**01 52 38.0**	**+0.3**
	1.5nm,0.9s,mb3.9,baz=31,slow=19,SNR=5.0						
WRAB	**Tennant Creek**	**38.49**	**157**	*e*P	**P**	**01 53 13.8**	**-0.1**
	1.4nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**38.50**	**157**	P	**P**	**01 53 13.8**	**-0.2**
	2.1nm,0.8s,mb3.9,baz=340,slow=9.1,SNR=12						
WB2	**Warramunga Arr**	**38.50**	**157**	*e*P	**P**	**01 53 05.4**	**-8.6**
ASAR	**Alice Springs**	**41.76**	**159**	P	**P**	**01 53 41.6**	**+0.7**
	1.7nm,0.6s,mb3.9,baz=338,slow=6.9,SNR=24						
CTAO	**Charters Tower**	**44.49**	**142**	P	**P**	**01 54 02.6**	**-0.4**
STKA	**Stephens Creek**	**52.03**	**156**	P	**P**	**01 55 02.3**	**+1.2**
	0.6nm,0.4s,mb3.9,baz=353,slow=12,SNR=4.0						
BRVK	**Borovoye**	**53.30**	**325**	*e*P	**P**	**01 55 09.9**	**-0.6**
	0.4nm,0.4s,mb3.7						
TAU	**Tasmania Unive**	**63.87**	**157**	P	**P**	**01 56 23.8**	**-0.3**
FINES	**FINESS Array B**	**77.76**	**331**	P	**P**	**01 57 47.8**	**-0.6**
	2.7nm,1.1s,mb4.1,baz=116,slow=4.4,SNR=4.2						

IDC 22 01:57:51.9±9.2,661S×15073E,h73km±60km,mb3.5/4, mb1 3.7/5,mb1mx3.4/14,mbtmp3.5/5,ML2.2/1,Error ellipse: s-maj=79.2km s-min=56.8km az=74.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**232**	P	Pn	01 58 57.9	+0.4
	0.9nm,0.3s,baz=1.0,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**20.71**	**229**	P	P	02 02 25.9	-0.3
	0.9nm,0.4s,baz=52,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**23.43**	**222**	P	P	02 02 54.8	+0.2
	0.9nm,0.8s,baz=56,slow=8.5,SNR=8.8						
STKA	**Stephens Creek**	**26.55**	**198**	P	P	02 03 22.9	+0.1
	1.3nm,0.6s,baz=17,slow=11,SNR=3.3						
FITZ	**Fitzroy Crossi**	**26.99**	**243**	P	P	02 03 27.6	+0.8
	2.4nm,0.4s,baz=55,slow=8.2,SNR=21						
TORD	**Torodi Ar. Bea**	**148.83**	**284**	PKPbc	PKPbc	02 17 31.7	+0.6
	0.3nm,0.7s,baz=61,slow=2.8,SNR=4.9						

NEIC ***22*** *02:06:05.0,4247S×17268E,h9km,ML4.1(WEL),After WEL.*
WEL 22 02:06:04.8±0.1,4248S×17268E,h5km,ML4.1/32,2C-4D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.43**	**224**	P	Pg	02 06 13.5	+0.4
LTZ				S	Sg	02 06 19.8	+1.1
LTZ	**Lake Taylor**	**0.43**	**224**	⇑PG	Pg	02 06 13.5	+0.5
LTZ				SG	Sg	02 06 19.7	+1.0
KHZ	**Kahutara**	**0.64**	**85**	P	Pg	02 06 17.0	-0.1
KHZ	**Kahutara**	**0.64**	**85**	⇓P*	Pb	02 06 17.0	-1.5
KHZ				SG	Sg	02 06 25.4	-0.1
THZ	**Tophouse**	**0.73**	**13**	P	Pg	02 06 17.7	-1.1
THZ	**Tophouse**	**0.73**	**13**	⇑P*	Pb	02 06 17.7	-2.3
DSZ	**Denniston Nort**	**0.98**	**318**	P	Pg	02 06 23.1	-0.4
DSZ	**Denniston Nort**	**0.98**	**318**	⇓P*	Pb	02 06 23.1	-1.1
CRLZ	**Canterbury Las**	**1.10**	**182**	P*	Pb	02 06 25.8	-0.5
BSWZ	**Blackbirch Sta**	**1.17**	**50**	P	Pg	02 06 26.3	-1.0
BSWZ	**Blackbirch Sta**	**1.17**	**50**	P*	Pb	02 06 26.4	-1.1
BSWZ				S*	Sb	02 06 46.0	+3.0
MQZ	**McQueen's Vall**	**1.23**	**181**	P	Pg	02 06 26.9	-1.5
MQZ	**McQueen's Vall**	**1.23**	**181**	P*	Pb	02 06 27.0	-1.5
CMWZ	**Cape Campbell**	**1.35**	**58**	P	Pn	02 06 30.6	+0.3
CMWZ	**Cape Campbell**	**1.35**	**58**	⇓PN	Pn	02 06 30.6	+0.2
NNZ	**Nelson**	**1.36**	**23**	P	Pn	02 06 28.6	-1.8
NNZ	**Nelson**	**1.36**	**23**	PN	Pn	02 06 28.6	-1.8
WVZ	**Waitaha Valley**	**1.55**	**247**	PN	Pn	02 06 32.8	-0.2
QRZ	**Quartz Range**	**1.65**	**356**	P	Pn	02 06 33.8	-0.6
QRZ	**Quartz Range**	**1.65**	**356**	PN	Pn	02 06 34.2	-0.2
RPZ	**Rata Peaks**	**1.72**	**223**	*e*P	Pn	02 06 34.6	-0.7
RPZ	**Rata Peaks**	**1.72**	**223**	PN	Pn	02 06 34.5	-0.8
TCW	**Tory Channel**	**1.74**	**44**	P	Pn	02 06 34.9	-0.7
TCW	**Tory Channel**	**1.74**	**44**	PN	Pn	02 06 34.9	-0.7
SNZO	**South Karori**	**1.91**	**53**	P	Pn	02 06 36.5	-1.5
BHW	**Baring Head**	**1.95**	**58**	P	Pn	02 06 37.4	-1.2
MRW	**Makara Radio**	**1.96**	**51**	P	Pn	02 06 37.8	-0.8
MRW	**Makara Radio**	**1.96**	**51**	PN	Pn	02 06 37.8	-0.9
MSWZ	**Moikau Station**	**2.19**	**62**	P	Pn	02 06 40.1	-1.8
MSWZ	**Moikau Station**	**2.19**	**62**	⇓PN	Pn	02 06 40.1	-1.8
KIW	**Kapiti Island**	**2.32**	**47**	P	Pn	02 06 43.1	-0.5
FOZ	**Fox Glacier**	**2.45**	**243**	*e*P	Pn	02 06 44.1	-1.2
MTW	**Mount Morrison**	**2.49**	**59**	P	Pn	02 06 43.8	-2.1
LBZ	**Lake Benmore**	**2.64**	**223**	*e*P	Pn	02 06 47.1	-0.8
MRZ	**Mangatainoka R**	**2.83**	**51**	*e*P	Pn	02 06 49.0	-1.7
MRZ	**Mangatainoka R**	**2.83**	**51**	PN	Pn	02 06 48.9	-1.7
ODZ	**Otahua Downs**	**2.96**	**209**	*e*P	Pn	02 06 50.8	-1.6
ODZ	**Otahua Downs**	**2.96**	**209**	PN	Pn	02 06 50.8	-1.6
BFZ	**Birch Farm**	**3.22**	**57**	*e*P	Pn	02 06 54.0	-2.0
WAZ	**Wanganui**	**3.23**	**33**	P	Pn	02 06 58.3	+2.2
NRZ	**Ngariki Road**	**3.28**	**17**	P	Pn	02 06 58.9	+2.1
JCZ	**Jackson Bay**	**3.28**	**239**	*e*P	Pn	02 06 56.6	-0.2
NEZ	**North Egmont**	**3.38**	**19**	P	Pn	02 07 00.3	+2.2
VRZ	**Vera Road**	**3.70**	**26**	P	Pn	02 07 04.7	+2.1
FWVZ	**Far West T-bar**	**3.88**	**35**	P	Pn	02 07 05.4	+0.3
HIZ	**Hauiti**	**4.29**	**23**	*e*P	Pn	02 07 11.6	+0.9

ISCJB ***22*** *02:07:28.8±0.6,4767N±007×1555E±02,h10km,mb4.0/16, Error ellipse: s-maj=15.7km s-min=9.1km az=52.4*
IDC ***22*** *02:07:28.6±0.8,4756N×15539E,h0km,mb3.9/12, mb1 4.1/12,mb1mx4.0/22,mbtmp3.9/12,MS3.5/2, Ms1 3.5/2,ms1mx2.6/33,Error ellipse: s-maj=23.9km s-min=19.3km az=130.0*
NEIC ***22*** *02:07:30.2±0.6,4754N×15547E,h10km,mb4.5/5,Error ellipse: s-maj=18.8km s-min=14.2km az=158.0*
MOS ***22*** *02:07:32.4±1.6,4765N×15542E,h36km,mb4.6/7,Error ellipse: s-maj=29.5km s-min=14.5km az=92.9*
ISC 22 02:07:30.5±6.1,4769N±008×1554E±02,h11km±38km,n34, σ0º99/33,mb4.0/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.03**	**8**	*e*PN	**Pn**	**02 08 17.8**	**-0.6**
SKR				*e*S	**Sn**	**02 08 54.0**	**-0.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,160nm,0.4s						
SKR				smax			
	comp=E,110nm,0.4s						
SKR				smax			
	comp=Z,70nm,0.4s						
KSRS	**Korea Array**	**22.59**	**253**	P	**P**	**02 12 31.1**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.6,baz=54,slow=9.5,SNR=4.7						
LZH	**Lanzhou**	**39.44**	**272**	*e*P	**P**	**02 15 02.0**	**+1.3**
LZH				*SP	sP	02 15 10.0	+4.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**39.44**	**272**	*e*P	**P**	**02 15 02.0**	**+1.3**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	02 15 07.0	+3.0
LZH				sP	sP	02 15 10.0	+4.7

INK Inuvik 40.00 33 P **P 02 15 05.9 +0.6**
comp=Z,1.7nm,0.6s,mb3.9,baz=293,slow=10,SNR=3.8
INK Inuvik 40.00 33 *e*P **P 02 15 06.0 +0.7**
comp=Z,81nm,0.7s
ZAL Zalesovo 43.37 306 LR LR 02 33 18.9
comp=Z,30nm,19.3s,baz=169,slow=36
MKAR Makanchi Array 47.91 298 P **P 02 16 07.5 -1.3**
comp=Z,0.5nm,0.6s,mb3.8,baz=74,slow=9.9,SNR=6.2
MKAR Makanchi Array 47.91 298 P **P 02 16 07.6 -1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 49.43 19 *e*P **P 02 16 21.5 +1.0**
comp=Z,94nm,0.9s
BRVK Borovoye 51.52 310 *e*P **P 02 16 35.2 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 51.52 310 *e*P **P 02 16 35.2 -1.1**
comp=Z,3.1nm,0.6s,mb4.4
AAK Ala-Archa 54.83 297 *e*P **P 02 17 03.4 +2.7**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
AAK Ala-Archa 54.83 297 *e*P **P 02 17 03.4 +2.7**
comp=Z,5.2nm,0.8s,mb4.6
BMO Blue Mountains 57.23 58 *e*P **P 02 17 17.5 -0.4**
comp=Z,0.8nm,0.7s,mb3.9
PDAR Pinedale Array 62.91 55 P **P 02 17 57.5 +0.6**
comp=Z,0.6nm,0.7s,mb3.8,baz=245,slow=2.0,SNR=5.7
FINES FINESS Array B 63.85 336 P **P 02 18 02.8 -0.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=45,slow=7.6,SNR=12
FINES FINESS Array B 63.85 336 P **P 02 18 02.8 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 67.84 342 P **P 02 18 28.1 -0.6**
comp=Z,3.2nm,1.1s,mb4.3,baz=25,slow=6.5
NOA NORSAR Array B 67.84 342 P **P 02 18 28.7 -0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=6.6,SNR=5.7
NOA NORSAR Array B 67.84 342 P **P 02 18 28.7 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 67.84 342 P **P 02 18 28.7 -0.1**
AFI Afiamalu 67.95 145 LR LR 02 41 18.3
comp=Z,72nm,20.9s,baz=74,slow=30
WRA Warramunga Arr 69.94 201 P **P 02 18 39.8 -2.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=22,slow=6.6,SNR=5.9
AKASG Malin Array Be 71.63 327 P **P 02 18 51.6 -0.6**
comp=Z,1.4nm,0.5s,mb4.1,baz=32,slow=5.9,SNR=6.8
AKASG Malin Array Be 71.63 327 P **P 02 18 51.6 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 73.62 201 P **P 02 19 03.4 -0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=11,slow=5.7,SNR=10
ASAR Alice Springs 73.62 201 P **P 02 19 03.4 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 75.65 62 P **P 02 19 16.0 +0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=302,slow=4.5,SNR=20
TXAR Lajitas Array 75.65 62 P **P 02 19 16.0 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 75.65 62 P **P 02 19 16.0 +0.3**
GERES GERESS Array B 78.29 335 P **P 02 19 31.8 +1.2**
comp=Z,0.4nm,0.8s,mb3.4,baz=16,slow=10,SNR=3.9
BRTR Keskin Array B 78.77 318 P **P 02 19 34.0 +0.7**
comp=Z,0.6nm,0.8s,mb3.5,baz=44,slow=4.8,SNR=3.4
BRTR Keskin Array B 78.77 318 P **P 02 19 34.0 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

IDC 22 02:15:32.4±13.0,1279S×16556E,h180km±184km, mb3.5/4,mb1 3.7/5,mb1mx3.5/17,mbtmp3.6/5,ML4.5/1, MS4.0/1,Ms1 4.0/1,ms1mx2.6/26,Error ellipse: s-maj=398.4km s-min=86.2km az=67.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.27**	**175**	P	Pn	02 17 42.5	+0.2
	5.0nm,0.3s,baz=341,slow=13,SNR=41						
STKA	**Stephens Creek**	**29.08**	**225**	P	P	02 21 15.9	0.0
	1.5nm,0.6s,baz=60,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**30.75**	**252**	P	P	02 21 30.9	+0.2
	0.5nm,0.4s,baz=83,slow=8.9,SNR=8.9						
RPZ	**Rata Peaks**	**31.18**	**172**	LR	LR	02 32 22.5	
	comp=Z,296nm,20.1s,baz=168,slow=32						
ASAR	**Alice Springs**	**31.88**	**246**	P	P	02 21 41.0	+0.5
	1.7nm,0.6s,baz=69,slow=9.8,SNR=19						
FITZ	**Fitzroy Crossi**	**38.78**	**257**	P	P	02 22 39.8	+0.3
	2.5nm,0.7s,baz=120,slow=10.0,SNR=7.0						

IDC 22 02:20:42.4±1.6,2918S×17812W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.8/12,mbtmp3.7/2,MS3.5/6,Ms1 3.5/6, ms1mx3.2/28,Error ellipse: s-maj=118.4km s-min=12.8km az=15.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.19**	**112**	Pn	Pg	02 20 52.4	+6.4
	67nm,0.3s,baz=205,slow=23,SNR=2.3						
DZM	**Mont Dzumac**	**15.61**	**293**	LR	LR	02 28 58.5	
	comp=Z,125nm,21.1s,baz=121,slow=32						
CTA	**Charters Tower**	**33.52**	**277**	LR	LR	02 39 56.0	
	comp=Z,188nm,18.6s,baz=52,slow=34						
STKA	**Stephens Creek**	**34.67**	**255**	LR	LR	02 40 46.9	
	comp=Z,90nm,19.3s,baz=25,slow=35						
ASAR	**Alice Springs**	**43.09**	**266**	P	P	02 28 44.4	+0.2
	0.9nm,0.6s,baz=101,slow=7.0,SNR=11						
ASAR				LR	LR	02 46 56.6	

NIED ***22*** *02:41:00,4690N×15430E,h8km,Mw5.3 Best double couple: M₀1.00000×10¹⁷ NP1:φ227.00000°,δ72.00000°, λ-98.00000°. NP2:φ71.00000°,δ20.00000°,λ-68.00000°.*

ISCJB ***22*** *02:41:08.9±0.1,4632N±003×15457E±002,h15km, mb5.1/186,MS4.5/44,Error ellipse: s-maj=4.6km s-min=1.8km az=156.2*

BJI ***22*** *02:41:10.1,4665N×15425E,h7km,mB5.2,mb5.0,Ms4.8, Msz4.6*

JMA ***22*** *02:41:10.8±0.8,4695N×15430E,h30km,M5.4*

MOS ***22*** *02:41:10.5±0.9,4638N×15448E,h26km,mb5.3/68, MS4.5/20,Error ellipse: s-maj=6.5km s-min=4.9km az=103.2*

NEIC ***22*** *02:41:11.7±1.8,4640N×15452E,h20km±12km,mb5.3/103, Error ellipse: s-maj=4.6km s-min=2.9km az=166.0*

GCMT ***22*** *02:41:11.7±0.2,4653N×15477E,h17km,MW5.2/91, Moment Tensor Solution. s51,c88; s91,c166; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-6.00±.18; Mθθ3.21±.13; Mφφ2.79±.13; Mrθ3.22±.33; Mθφ3.35±.08; Mφr1.50±.31; Best double couple: M₀7.13100×10¹⁶ NP1:φ37.00000°,δ31.00000°,λ-106.00000°. NP2: φ236.00000°,δ60.00000°,λ-80.00000°. Principal axes: T 7.2280, Plg14.0000°, Azm319.0000°; N -0.1930, Plg8.0000°, Azm51.0000°; P -7.0350, Plg73.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SKHL ***22*** *02:41:11.7±1.7,4654N×15433E,h51km±19km,mb5.5/3, mbh5.3/1,Ms5.0/5,msh5.4/2*

IDC ***22*** *02:41:15.8±3.1,4642N×15457E,h55km±27km,mb4.6/33, mb1 4.7/34,mb1mx4.7/36,mbtmp4.6/34,ML4.6/1,MS4.3/18, Ms1 4.3/18,ms1mx4.1/36,Error ellipse: s-maj=12.4km s-min=9.1km az=118.0*

SZGRF ***22*** *02:41:19.2,4736N×15457E,h33km,mb5.5,MS4.4,Kuril Islands, Russia*

ISC 22 02:41:11.2±0.1,4644N±003×15452E±002,h16km, h16km±1.3km:pP-P,n759,σ0s92/778,mb5.1/186,MS4.5/44, 116C-115D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**4.38**	**13**	*e*P		**Pn**	**02 42 14.0**	**-3.0**
SKR					AMB	AMB	02 42 20.5	
	2μm,4.0s							
SKR					AMB	AMB	02 42 20.5	
	2μm,4.0s							
SKR					AMB	AMB	02 42 20.5	
	300nm,0.6s							
SKR					AMB	AMB	02 42 20.5	
	190nm,0.6s							
SKR					AMB	AMB	02 42 20.5	
	480nm,0.6s							
SKR				*e*S		**Sn**	**02 43 02.0**	**-5.7**
SKR					A		02 43 11.0	
	950nm,0.6s							
SKR					A		02 43 11.0	
	250nm,0.6s							
SKR					A		02 43 11.0	
	730nm,0.4s							
SKR					A		02 43 18.0	
	5μm,10.0s							
SKR					A		02 43 18.0	
	4μm,10.0s							
SKR					A		02 43 18.0	
	5μm,10.0s							
SKR					A		02 43 18.0	
	4μm,10.0s							
SKR					AMS	AMS	02 44 24.0	
	8μm,14.0s							
SKR					AMS	AMS	02 44 24.0	
	18μm,14.0s							
SKR					AMS	AMS	02 44 24.0	
	16μm,14.0s							
KUR	**Kuril'sk**	**4.80**	**258**	⇓*i*P		**Pn**	**02 42 20.5**	**-2.3**
KUR				⇓*i*P			02 42 20.5	
KUR					AMB	AMB	02 42 21.5	
	387nm,0.7s							
KUR					AMB	AMB	02 42 21.5	
	344nm,0.7s							
KUR					AMB	AMB	02 42 21.5	
	1μm,0.7s							
KUR					AMB	AMB	02 42 21.5	
	10μm,1.0s							
KUR				*e*S		**Sn**	**02 43 13.0**	**-5.1**
KUR					A		02 43 16.5	
	3μm,2.0s							
KUR					A		02 43 16.5	
	8μm,2.0s							
KUR					A		02 43 19.0	
	2μm,0.7s							
KUR					A		02 43 19.0	
	860nm,0.7s							
KUR					AMS	AMS	02 44 34.0	
	5μm,14.0s							
KUR					AMS	AMS	02 44 34.0	
	5μm,14.0s							
KUR					AMS	AMS	02 44 34.0	
	4μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**6.57**	**252**	*e*P		**Pn**	**02 42 47.0**	**0.0**
YUK					AMB	AMB	02 42 49.0	
	800nm,0.2s							
YUK				*e*S		**Sn**	**02 43 57.3**	**-4.3**
YUK					A		02 44 02.0	
	2μm,0.8s							
YUK					A		02 44 02.0	
	3μm,0.8s							
YUK					A		02 44 07.8	
	900nm,0.3s							
YUK					A		02 44 07.8	
	2μm,0.5s							
YUK					AMS	AMS	02 46 29.0	
	3μm,15.0s							
YUK					AMS	AMS	02 46 29.0	
	7μm,16.0s							
NEM2	**Nemuro 2**	**6.95**	**247**	P		**Pn**	**02 42 50.4**	**-1.9**
NEM2				*e*S		**Sn**	**02 44 04.3**	**-6.6**
JRA	**Rausu**	**7.09**	**253**	P		**Pn**	**02 42 54.8**	**+0.5**
PET	**Petropavlovsk**	**7.11**	**21**	*e*PN		**Pn**	**02 42 50.9**	**-3.7**
PET					pmax	pmax		
	comp=Z,109nm,0.7s							
PET					MLR	MLR		
	comp=Z,3μm,19.0s							
PET	**Petropavlovsk**	**7.11**	**21**	*e*Pn		**Pn**	**02 42 51.7**	**-2.9**
JNK	**Nakash**	**7.50**	**251**	P		**Pn**	**02 42 59.9**	**0.0**
JNK				*e*S		**Sn**	**02 44 20.2**	**-4.5**
JAK	**Akkeshi**	**7.79**	**247**	P		**Pn**	**02 43 02.4**	**-1.5**
JAK				*e*S		**Sn**	**02 44 24.8**	**-7.0**
JTKR	**Abashiri--Toko**	**7.89**	**256**	P		**Pn**	**02 43 05.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**8.10**	**278**	⇑*i*P		**Pn**	**02 43 11.0**	**+2.9**
YSS					AMB	AMB	02 43 12.8	
	comp=Z,100nm,0.8s							
YSS					AMB	AMB	02 43 12.8	
	comp=Z,60nm,0.8s							
YSS				*e*S		**Sn**	**02 44 39.5**	**+0.1**
YSS					A		02 44 43.2	
	comp=Z,80nm,0.9s							
YSS				eLQ			02 45 00.0	
YSS					AMS	AMS	02 47 24.0	
	comp=Z,3μm,16.0s							
YSS					AMS	AMS	02 47 24.0	
	comp=Z,4μm,15.0s							
YSS					AMS	AMS	02 47 24.0	
	comp=Z,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**8.10**	**278**	⇑*i*PN		**Pn**	**02 43 11.0**	**+2.9**
YSS					pmax	pmax		
	comp=E,60nm,0.8s							
YSS					pmax	pmax		
	comp=Z,100nm,0.8s							
YSS					MLR	MLR		
	comp=Z,4μm,15.0s							
YSS					MLR	MLR		
	comp=N,1μm,12.0s							
YSS					MLR	MLR		
	comp=E,3μm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.10**	**278**	*e*Pn		**Pn**	**02 43 11.4**	**+3.2**
JMP	**Maruseppu**	**8.24**	**257**	P		**Pn**	**02 43 11.1**	**+1.0**
JAR	**Ashorobuto**	**8.25**	**251**	P		**Pn**	**02 43 10.0**	**-0.2**
JAR				*e*S		**Sn**	**02 44 39.3**	**-3.8**
JOB	**Onbets**	**8.39**	**249**	P		**Pn**	**02 43 11.4**	**-0.7**
JOB				*e*S		**Sn**	**02 44 40.3**	**-6.2**
JKK2	**Kamakawa 2**	**8.70**	**257**	P		**Pn**	**02 43 17.6**	**+1.2**
ASAJ	**Asahikawa**	**8.72**	**259**	P		**Pn**	**02 43 18.3**	**+1.7**
	comp=E,7.2nm,0.3s,baz=104,slow=18,SNR=23							
ASAJ					LR	LR	02 47 11.4	
	comp=E,2μm,18.5s,baz=108,slow=41							
ASAJ	**Asahikawa**	**8.72**	**259**	P		**Pn**	**02 43 18.1**	**+1.5**
UGL	**Uglegorsk**	**8.79**	**292**	*e*P		**Pn**	**02 43 20.0**	**+2.4**
UGL					AMB	AMB	02 43 23.0	
	comp=E,63nm,0.6s							
UGL				*e*L			02 45 26.0	
UGL					AMS	AMS	02 47 57.0	
	comp=E,6μm,15.0s							
UGL					AMS	AMS	02 47 57.0	
	comp=E,5μm,16.0s							
UGL					AMS	AMS	02 47 57.0	
	comp=E,3μm,12.0s							
UGL	**Uglegorsk**	**8.79**	**292**	*e*PN		**Pn**	**02 43 20.0**	**+2.4**
UGL					pmax	pmax		
	comp=Z,63nm,0.6s							
UGL					MLR	MLR		
	comp=Z,5μm,16.0s							
UGL					MLR	MLR		
	comp=N,3μm,12.0s							
UGL					MLR	MLR		
	comp=E,6μm,15.0s							
JCH	**Churui**	**8.84**	**248**	P		**Pn**	**02 43 17.0**	**-1.2**
JCH				*e*S		**Sn**	**02 44 50.3**	**-7.1**
TYV	**Tymovskoe**	**9.01**	**304**	*e*P		**Pn**	**02 43 23.0**	**+2.4**
TYV					AMB	AMB	02 43 25.5	
	comp=E,105nm,1.4s							
TYV					AMB	AMB	02 43 25.5	
	comp=E,335nm,1.4s							
TYV					AMB	AMB	02 43 40.0	
	comp=E,1μm,8.0s							
TYV					AMB	AMB	02 43 40.0	
	comp=E,500nm,8.0s							
TYV					AMB	AMB	02 43 40.0	
	comp=E,1μm,9.0s							
TYV					AMS	AMS	02 48 12.0	
	comp=E,6μm,14.0s							
TYV					AMS	AMS	02 48 12.0	
	comp=E,4μm,16.0s							
TYV					AMS	AMS	02 48 12.0	
	comp=E,5μm,16.0s							
JFR	**Furan**	**9.09**	**253**	P		**Pn**	**02 43 23.0**	**+1.4**
ERM	**Erimo**	**9.27**	**246**	Pn		**Pn**	**02 43 25.5**	**+1.3**
	comp=E,878nm,0.4s,SNR=6.2							
ERM	**Erimo**	**9.27**	**246**	*e*Pn		**Pn**	**02 43 23.9**	**-0.3**
	comp=E,100nm,0.8s							
JEM	**Erimo**	**9.27**	**246**	*e*S		**Sn**	**02 45 00.0**	**-8.2**
JNBK	**Urakawa-nobuka**	**9.39**	**248**	P		**Pn**	**02 43 24.5**	**-1.3**
JNBK				*e*S		**Sn**	**02 45 02.5**	**-8.6**
JBT2	**Biratori 2**	**9.41**	**251**	P		**Pn**	**02 43 25.4**	**-0.6**
OKH	**Okha**	**10.30**	**318**	*e*L			02 46 08.2	
OKH					AMS	AMS	02 48 59.0	
	comp=E,7μm,14.0s							
OKH					AMS	AMS	02 48 59.0	
	comp=E,5μm,13.0s							
OKH					AMS	AMS	02 48 59.0	
	comp=E,5μm,13.0s							
JKB	**Kayabe**	**10.70**	**250**	P		**Pn**	**02 43 41.7**	**-2.0**
JKB				*e*S		**Sn**	**02 45 32.8**	**-10**
JSH	**Shimam**	**11.00**	**255**	P		**Pn**	**02 43 47.9**	**0.0**
JYM2	**Yakumo 2**	**11.02**	**252**	P		**Pn**	**02 43 46.9**	**-1.2**
JANG	**Nango**	**11.23**	**242**	P		**Pn**	**02 43 47.1**	**-3.8**
JANG				*e*S		**Sn**	**02 45 42.7**	**-13**
JTM	**Tenmabayashi**	**11.26**	**245**	P		**Pn**	**02 43 48.3**	**-3.1**
JTM				*e*S		**Sn**	**02 45 44.9**	**-12**
JTH	**Tanohata**	**11.29**	**239**	*e*S		**Sn**	**02 45 44.7**	**-13**
JOSM	**Okushiri--Mats**	**11.63**	**253**	P		**Pn**	**02 43 54.9**	**-1.5**
OFUJ	**Ofunato**	**11.96**	**237**	P		**Pn**	**02 43 57.6**	**-3.4**
OFUJ				*e*S		**Sn**	**02 46 01.8**	**-12**
JRG	**Rokugo**	**12.36**	**240**	P		**Pn**	**02 44 03.4**	**-3.1**
JRG				*e*S		**Sn**	**02 46 07.1**	**-17**
JIO	**Ouri**	**12.57**	**235**	P		**Pn**	**02 44 05.3**	**-4.0**
JIO				*e*S		**Sn**	**02 46 14.8**	**-14**
HABR	**Khabarovsk**	**13.33**	**286**	*e*PN		**Pn**	**02 44 27.0**	**+7.3**
HABR				*e*S		**Sn**	**02 46 58.9**	**+11**
JFK	**Kawauchi**	**13.60**	**233**	P		**Pn**	**02 44 19.0**	**-4.4**
JFK				*e*S		**Sn**	**02 46 39.3**	**-15**
SMY	**Shemya**	**14.15**	**56**	*e*P		**Pn**	**02 44 30.8**	**-0.2**
SMY					pmax	pmax		
	comp=Z,68nm,0.6s							
SMY	**Shemya**	**14.15**	**56**	*e*P		**Pn**	**02 44 30.8**	**-0.2**
	comp=Z,68nm,0.6s							
KLR	**Kuril'dur**	**15.53**	**289**	*e*P		**Pn**	**02 44 48.2**	**-1.2**
KLR				*e*			02 47 36.5	
KLR					MLR	MLR		
	comp=N,2μm,14.0s							
KLR					MLR	MLR		
	comp=E,3μm,14.0s							
KLR					MLR	MLR		
	comp=Z,8μm,14.0s							
MJAR	**Matsushiro Arr**	**15.69**	**237**	P		**Pn**	**02 44 47.7**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=14							
MJAR	**Matsushiro Arr**	**15.69**	**237**	P		**Pn**	**02 44 47.7**	**-3.8**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**15.69**	**237**	*e*P		**Pn**	**02 44 49.2**	**-2.3**
MAT	**Matsushiro**	**15.69**	**237**	P		**Pn**	**02 44 48.9**	**-2.6**
MAT				S		**Sn**	**02 47 49.0**	**+3.9**
SEY	**Seymchan**	**16.57**	**357**	*e*P		**Pn**	**02 45 00.1**	**-2.7**
MDJ	**Mudanjiang**	**17.54**	**273**	P		**Pn**	**02 45 14.5**	**-0.5**
MDJ				XP		sP	02 45 27.5	+4.9
MDJ				S		**Sn**	**02 48 28.0**	**-2.0**
MDJ					AMB	AMB		
	comp=Z,25nm,0.8s							
MDJ					AMB	AMB		
	comp=Z,128nm,4.2s							
MDJ					LR	LR		
	comp=N,772nm,15.4s							
MDJ					LR	LR		
	comp=E,1μm,17.8s							
MDJ					LR	LR		
	comp=Z,2μm,15.4s							
ZEA	**Zeya**	**18.87**	**303**	*e*P		**Pn**	**02 45 26.8**	**-4.5**
ZEA					AMB	AMB	02 45 28.9	
	comp=Z,46nm,1.4s							
ZEA					AMB	AMB	02 45 47.0	
	comp=Z,400nm,7.0s							
ZEA					AMB	AMB	02 45 47.0	
	comp=Z,300nm,7.0s							
CN2	**Changchun**	**20.63**	**273**	*e*P		**P**	**02 45 47.3**	**-2.6**
CN2				*e*AP			02 45 56.3	
CN2				*e*S		**S**	**02 49 30.9**	**-9.0**
CN2				*e*SS			02 50 01.3	
CN2					AMB	AMB		
	comp=Z,20nm,0.8s							
CN2					AMB	AMB		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,800nm,15.0s,MS4.4							
CN2					LR	LR		
	comp=E,1μm,15.0s,MS4.4							
CN2					LR	LR		
	comp=Z,1μm,15.0s,MS4.4							
NRGR	**Nerungri**	**20.99**	**310**	*e*P		**P**	**02 45 51.3**	**-2.5**
YAK	**Yakutsk**	**21.11**	**327**	*e*P		**P**	**02 45 52.4**	**-2.6**
YAK				*e**PP			02 46 01.7	
YAK				*e*S		**S**	**02 49 40.5**	**-8.8**
YAK				*e*SS			02 49 58.5	
YAK					pmax	pmax		
	comp=N,51nm,1.3s							
YAK					pmax	pmax		
	comp=Z,106nm,1.3s,mb5.0							
YAK					pmax	pmax		
	comp=E,62nm,1.2s							
YAK					smax			
	comp=N,226nm,2.4s							
YAK					smax			
	comp=E,193nm,2.7s							
YAK					MLR	MLR		
	comp=E,882nm,13.0s,MS4.4							
YAK					MLR	MLR		
	comp=Z,955nm,13.0s,MS4.4							
YAK					MLR	MLR		
	comp=N,407nm,12.0s,MS4.4							
YAK	**Yakutsk**	**21.11**	**327**	*e*P		**P**	**02 45 56.2**	**+1.1**
	comp=N,98nm,0.8s,mb5.2							
CBIJ	**Chichi jima**	**21.64**	**211**	P		**P**	**02 46 02.1**	**+1.4**
	comp=N,43nm,0.7s,mb5.0,baz=335,slow=11,SNR=4.1							
CBIJ					LR	LR	02 51 48.4	
	comp=N,374nm,21.1s,MS3.8,baz=80,slow=29							
KSRS	**Korea Array**	**21.64**	**255**	P		**P**	**02 46 03.2**	**+2.5**
	comp=N,26nm,0.8s,mb4.7,baz=59,slow=10,SNR=37							
KSRS					PcP	PcP	02 50 01.9	-0.1
	comp=N,4.3nm,1.0s,baz=45,slow=1.9,SNR=5.2							
KSRS					LR	LR	02 54 22.0	
	comp=N,785nm,18.8s,MS4.1,baz=59,slow=36							
KS15	**Wonju Array Si**	**21.67**	**255**	*e*P		**P**	**02 46 04.4**	**+3.3**
JNU	**Nakatsue**	**22.41**	**242**	P		**P**	**02 46 11.7**	**+2.7**
	comp=N,13nm,0.7s,mb4.5,baz=239,slow=12,SNR=2.8							
JNU					LR	LR	02 53 25.6	
	comp=N,1μm,20.7s,MS4.3,baz=69,slow=32							
INCN	**Inchon**	**22.49**	**257**	*e*P		**P**	**02 46 11.5**	**+1.7**
	comp=N,79nm,0.8s,mb5.2							
BILL	**Bilibino**	**22.49**	**12**	⇑*i*P		**P**	**02 46 08.4**	**-1.4**
BILL				*i*			02 46 17.7	
BILL				*e*			02 46 30.7	
BILL				*i*S		**S**	**02 50 15.3**	**-1.0**
BILL					pmax	pmax		
	comp=Z,110nm,0.9s,mb5.3							
BILL					MLR	MLR		
	comp=Z,800nm,18.0s,MS4.2							
BILL	**Bilibino**	**22.49**	**12**	*e*P		**P**	**02 46 08.1**	**-1.7**
	comp=Z,126nm,1.0s,mb5.3							
SNY	**Shenyang**	**22.60**	**269**	⇑P		**P**	**02 46 11.3**	**+0.3**
SNY					AP		02 46 16.3	
SNY					XP	sP	02 46 18.6	+1.0
SNY					S	**S**	**02 50 20.6**	**+2.2**
SNY					AMB	AMB		
	comp=Z,51nm,0.7s,mb5.1							
SNY					LR	LR		
	comp=E,1μm,15.7s							
SNY					LR	LR		
	comp=Z,1μm,16.5s,MS4.5							
HIA	**Hailar**	**23.38**	**290**	*e*P		**P**	**02 46 16.9**	**-2.3**
DL2	**Dalian**	**25.19**	**265**	P		**P**	**02 46 39.8**	**+3.9**
DL2				S		**S**	**02 51 04.3**	**+3.8**
DL2					AMB	AMB		
	comp=Z,40nm,1.1s,mb4.9							
DL2					AMB	AMB		
	comp=Z,270nm,4.6s							
DL2					LR	LR		
	comp=N,660nm,15.0s,MS4.3							
DL2					LR	LR		
	comp=E,440nm,16.7s,MS4.3							
DL2					LR	LR		
	comp=Z,320nm,13.3s,MS4.0							
BOD	**Bodaibo**	**26.93**	**310**	*e*P		**P**	**02 46 49.4**	**-2.3**
BOD				*e*			02 51 31.7	
BOD					pmax	pmax		
	comp=Z,38nm,1.4s,mb4.7							
CIT	**Chita**	**27.05**	**297**	*e*P		**P**	**02 46 50.6**	**-2.1**
CIT					pmax	pmax		
	comp=Z,39nm,1.5s,mb4.7							
TNA	**Tin City**	**27.76**	**33**	*e*P		**P**	**02 47 07.0**	**+8.0**
	comp=Z,31nm,1.1s,mb4.8							
TIXI	**Tiksi**	**28.04**	**343**	*e*P		**P**	**02 46 59.3**	**-2.3**
TIXI					pmax	pmax		
	comp=E,61nm,1.1s,mb5.1							
TIXI	**Tiksi**	**28.04**	**343**	*e*P		**P**	**02 46 59.3**	**-2.4**
	comp=Z,60nm,1.1s,mb5.1							
BJI	**Beijing**	**28.44**	**271**	P		**P**	**02 47 04.5**	**-0.7**
BJI				S		**S**	**02 51 53.8**	**+1.9**
BJI					AMB	AMB		
	comp=Z,12nm,1.4s,mb4.3							
BJI					AMB	AMB		
	comp=Z,403nm,4.2s							
BJI					LR	LR		
	comp=N,622nm,15.1s,MS4.3							
BJI					LR	LR		
	comp=E,134nm,15.4s,MS4.3							
BJI					LR	LR		
	comp=Z,843nm,16.6s,MS4.4							
BJI	**Beijing**	**28.44**	**271**	P		**P**	**02 47 04.5**	**-0.7**
	comp=Z,12nm,1.4s,mb4.3							
BJI				S		**S**	**02 51 53.7**	**+1.8**
BJI					LR	LR		
	comp=Z,840nm,16.6s,MS4.4							
BJT	**Baijiatuau**	**28.46**	**271**	*e*P		**P**	**02 47 05.1**	**-0.2**
BJT					pmax	pmax		
	comp=Z,26nm,0.6s							
BJT	**Baijiatuau**	**28.46**	**271**	*e*P		**P**	**02 47 05.1**	**-0.3**
	comp=Z,26nm,0.6s,mb5.0							
JOW	**Kunigami**	**28.53**	**236**	P		**P**	**02 47 05.7**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9,baz=61,slow=24,SNR=2.7							
SSE	**Sheshan**	**29.90**	**251**	P		**P**	**02 47 17.5**	**-0.6**
SSE				S		**S**	**02 52 18.6**	**+3.9**
SSE					AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2							
SSE					AMB	AMB		
	comp=Z,112nm,3.8s							
SSE					LR	LR		
	comp=N,336nm,19.1s,MS4.0							
SSE					LR	LR		
	comp=E,175nm,19.1s,MS4.0							
SSE					LR	LR		
	comp=Z,457nm,17.6s,MS4.2							
SSE	**Sheshan**	**29.90**	**251**	P		**P**	**02 47 17.5**	**-0.6**
	comp=Z,36nm,0.8s,mb5.2							
SSE				S		**S**	**02 52 18.6**	**+3.9**
SSE				sS		sS	02 52 35.4	+13
SSE				LR		LR		
	comp=Z,460nm,17.6s,MS4.2							
NJ2	**Nanjing**	**30.84**	**255**	*e*P		**P**	**02 47 28.8**	**+2.4**
NJ2					AP	pP	02 47 36.1	+4.8
NJ2					XP	sP	02 47 38.3	+5.0
NJ2					S	**S**	**02 52 33.5**	**+4.0**
NJ2					XS	sS	02 52 41.5	+4.0
NJ2					AMB	AMB		
	comp=Z,1μm,4.4s							
NJ2					LR	LR		
	comp=N,1μm,15.2s,MS4.8							
NJ2					LR	LR		
	comp=E,1μm,15.5s,MS4.8							
NJ2					LR	LR		
	comp=Z,140nm,16.2s,MS3.7							
HHC	**Hu-ho-hao-te**	**31.28**	**275**	⇑P		**P**	**02 47 31.5**	**+1.2**
HHC					AP	pP	02 47 41.3	+6.1
HHC					XP	sP	02 47 45.0	+7.8
HHC					PP	PP	02 48 34.8	-6.2
HHC					PCP	PcP	02 50 25.8	+1.4
HHC					S	**S**	**02 52 35.3**	**-1.1**
HHC					XS	sS	02 52 49.6	+5.2
HHC					SCP	ScP	02 54 05.4	-1.4
HHC					SS	SS	02 54 21.0	-29
HHC					AMB	AMB		
	comp=Z,67nm,1.3s,mb5.3							
HHC					AMB	AMB		
	comp=Z,268nm,6.0s							
HHC					LR	LR		
	comp=N,700nm,14.3s,MS4.6							
HHC					LR	LR		
	comp=E,585nm,15.1s,MS4.6							
HHC					LR	LR		
	comp=Z,791nm,15.1s,MS4.5							
SVW2	**Sparrevohn**	**32.03**	**44**	*e*P		**P**	**02 47 37.0**	**+0.1**
SONM	**Songino Array**	**32.35**	**290**	P		**P**	**02 47 38.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=18,slow=32,SNR=11							
SONM					PcP	PcP	02 50 26.5	-0.8
	comp=Z,1.7nm,0.9s,baz=107,slow=4.7,SNR=3.6							
SONM					LR	LR	03 02 13.6	
	comp=Z,1μm,18.0s,MS4.7,baz=239,slow=39							
TLY	**Talaya**	**33.18**	**298**	*e*P		**P**	**02 47 45.0**	**-2.0**
TLY				*e*			02 49 05.2	
TLY				*e*S		**S**	**02 53 11.7**	**+5.7**
TLY					pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0							
TLY					MLR	MLR		
	comp=Z,1μm,15.0s,MS4.7							
TLY	**Talaya**	**33.18**	**298**	*e*P		**P**	**02 47 46.0**	**-1.0**
	comp=E,12nm,0.5s,mb5.1							
IMA2	**Indian Mountai**	**33.49**	**36**	*e*P		**P**	**02 47 49.2**	**-0.5**
KDAK	**Kodiak Island**	**33.55**	**51**	P		**P**	**02 47 48.2**	**-2.0**
	comp=Z,9.5nm,0.7s,mb4.8,baz=338,slow=5.0,SNR=4.1							
KDAK	**Kodiak Island**	**33.55**	**51**	P		**P**	**02 47 48.2**	**-2.1**
ZAK	**Zakamensk**	**33.68**	**296**	⇑*i*P		**P**	**02 47 50.7**	**-0.7**
ZAK				*e*			02 49 11.7	
ZAK				*e*			02 50 28.1	
ZAK					pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7							
GUMO	**Guam**	**33.74**	**197**	LR		LR	02 59 54.2	
	comp=Z,222nm,19.9s,MS3.9,baz=59,slow=33							
MCK	**McKinley**	**35.27**	**40**	*e*P		**P**	**02 48 04.4**	**-0.7**
MCK					pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9							
MCK	**McKinley**	**35.27**	**40**	*e*P		**P**	**02 48 04.4**	**-0.7**
	comp=Z,24nm,1.5s,mb4.9							
SML	**Sawmill**	**35.53**	**43**	*e*P		**P**	**02 48 07.1**	**-0.2**
COLA	**College**	**35.78**	**38**	*e*

comp=Z,13nm,0.6s,mb5.0
XAN Xi'an 36.46 267 P **P** **02 48 17.6 +2.3**
XAN S **S** **02 53 57.9 +1.4**
XAN AMB AMB
comp=Z,153nm,8.6s
XAN LR LR
comp=N,372nm,16.2s,MS4.3
XAN LR LR
comp=E,248nm,15.7s,MS4.3
XAN LR LR
comp=Z,757nm,15.7s,MS4.6
DIV Divide 36.79 44 *eP* **P** **02 48 18.1 -0.1**
comp=Z,103nm,1.3s,mb5.5
EGAK Eagle 38.65 38 *eP* **P** **02 48 32.8 -1.0**
comp=Z,45nm,1.2s,mb5.1
LZH Lanzhou 38.87 273 *eP* **P** **02 48 37.0 +1.3**
LZH PP PP 02 50 07.0 +2.3
LZH PCP PcP 02 50 47.5 +1.0
LZH AMB AMB
comp=Z,76nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,396nm,5.0s
LZH LR LR
comp=E,718nm,14.4s
LZH LR LR
comp=Z,2µm,16.0s,MS5.0
LZH Lanzhou 38.87 273 *eP* **P** **02 48 37.0 +1.3**
LZH *PP pP 02 48 48.5 +7.9
LZH 02 50 07.0
LZH 02 50 47.5
LZH *eS* **S** **02 54 32.0 -1.0**
LZH SS SS 02 57 16.0 -8.4
LZH pmax pmax
comp=Z,76nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,2µm,16.0s,MS5.0
LZH Lanzhou 38.87 273 *eP* **P** **02 48 37.0 +1.3**
comp=Z,76nm,1.5s,mb5.2
LZH pP pP 02 48 48.5 +7.9
LZH sP sP 02 48 52.5 +10
LZH PP PP 02 50 07.0 +2.3
LZH PcP PcP 02 50 47.5 +1.0
LZH *eS* **S** **02 54 32.0 -1.0**
LZH sS sS 02 55 09.2 +28
LZH SS SS 02 57 16.0 -8.4
LZH LR LR
comp=Z,2µm,16.0s,MS5.0
DAWY Dawson 39.47 39 *eP* **P** **02 48 40.8 +0.1**
GTA Gaotai 39.98 280 *eP* **P** **02 48 46.5 +1.6**
GTA AP pP 02 48 54.9 +5.1
GTA XP sP 02 48 58.3 +6.5
GTA PP PP 02 50 23.0 +6.2
GTA PCP PcP 02 50 49.8 -0.2
GTA S **S** **02 54 53.3 +3.6**
GTA XS sS 02 55 01.3 +3.5
GTA AMB AMB
comp=Z,25nm,1.3s,mb4.8
GTA AMB AMB
comp=Z,185nm,5.3s
GTA LR LR
comp=N,617nm,14.4s,MS4.8
GTA LR LR
comp=E,687nm,14.4s,MS4.8
GTA LR LR
comp=Z,828nm,15.2s,MS4.7
INK Inuvik 41.40 32 P **P** **02 48 55.5 -1.2**
comp=Z,13nm,1.0s,mb4.5,baz=280,slow=5.4,SNR=14
INK Inuvik 41.40 32 *eP* **P** **02 48 56.5 -0.2**
comp=Z,685nm,0.8s
CD2 Chengdu 41.82 267 P **P** **02 49 01.8 +1.7**
CD2 AP pP 02 49 06.3 +1.2
CD2 XP sP 02 49 08.8 +1.8
CD2 PP PP 02 50 41.9 +5.0
CD2 PCP PcP 02 50 58.4 +2.4
CD2 S **S** **02 55 18.3 +1.2**
CD2 XS sS 02 55 26.1 +0.8
CD2 SS SS 02 58 19.6 -3.7
CD2 SCS ScS 02 59 02.3 -0.3
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CD2 AMB AMB
comp=Z,280nm,5.9s
CD2 LR LR
comp=N,450nm,14.4s,MS4.7
CD2 LR LR
comp=E,570nm,12.6s,MS4.7
CD2 LR LR
comp=Z,580nm,14.4s,MS4.6
SKAG Skagway 42.19 46 *eP* **P** **02 49 03.2 0.0**
comp=Z,71nm,1.6s,mb5.0
GYA Guiyang 42.60 259 ⇓*iP* **P** **02 49 07.3 +0.8**
GYA AP pP 02 49 11.4 0.0
GYA XP sP 02 49 14.8 +1.4
GYA PP PP 02 50 48.6 +3.3
GYA PCP PcP 02 51 00.4 +1.8
GYA SCP ScP 02 54 50.0 +1.2
GYA S **S** **02 55 29.4 +0.8**
GYA SS SS 02 58 32.3 -6.4
GYA SCS ScS 02 59 06.9 -0.5
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,180nm,5.4s
GYA LR LR
comp=N,640nm,16.4s,MS4.8
GYA LR LR
comp=E,740nm,16.7s,MS4.8
GYA LR LR
comp=Z,760nm,17.0s,MS4.7
ZAL Zalesovo 43.59 306 P **P** **02 49 13.5 -1.0**
comp=Z,6.3nm,0.4s,mb4.7,baz=63,slow=7.1,SNR=18
ZAL PcP PcP 02 51 01.2 -0.7
comp=Z,3.7nm,0.9s,baz=89,slow=1.6,SNR=6.0
ZAL LR LR 03 09 52.7
comp=Z,1µm,19.2s,MS4.8,baz=42,slow=39
ZAL Zalesovo 43.59 306 *i* P **P** **02 49 13.5 -1.0**
ZAL pmax pmax
comp=Z,6.0nm,0.4s
ZAL Zalesovo 43.59 306 P **P** **02 49 13.5 -1.0**
ZAL PcP PcP 02 51 01.2 -0.7
ZAL LR LR 03 09 52.7
NVS Novosibirsk 44.14 308 *eP* **P** **02 49 18.1 -0.8**
NVS *eS* **S** **02 55 47.7 -3.5**
NVS pmax pmax
comp=Z,40nm,1.8s,mb4.8
NVS pmax pmax
comp=E,49nm,1.6s
NVS smax
comp=N,46nm,2.2s
QIZ Qiongzhong 45.62 249 P **P** **02 49 32.3 +1.6**
QIZ AP pP 02 49 36.9 +1.2
QIZ S **S** **02 56 13.4 +0.7**
QIZ AMB AMB
comp=Z,435nm,3.5s
QIZ LR LR
comp=E,545nm,16.6s
QIZ LR LR
comp=Z,451nm,17.2s,MS4.5
WMQ Urumqi 45.94 292 ⇓P **P** **02 49 34.6 +1.4**
WMQ AP pP 02 49 39.1 +0.9
WMQ XP sP 02 49 41.6 +1.4
WMQ PCP PcP 02 51 11.4 +1.4
WMQ PP PP 02 51 22.8 +1.9
WMQ SCP ScP 02 55 02.8 +0.4
WMQ PCS PcS 02 55 04.8 +0.5
WMQ S **S** **02 56 19.1 +1.9**
WMQ XS sS 02 56 26.8 +1.4
WMQ AMB AMB
comp=Z,18nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,279nm,5.0s
WMQ LR LR
comp=N,477nm,19.5s,MS4.6
WMQ LR LR
comp=E,483nm,15.8s,MS4.6
WMQ LR LR
comp=Z,648nm,16.5s,MS4.7
KMI Kunming 46.14 261 P **P** **02 49 34.1 -0.7**
KMI AP pP 02 49 36.8 -3.0
KMI PCP PcP 02 51 12.4 +1.7
KMI PP PP 02 51 22.4 -0.7
KMI S **S** **02 56 22.3 +2.2**
KMI XS sS 02 56 27.4 -0.9
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,105nm,3.4s
KMI LR LR
comp=N,294nm,16.0s,MS4.5
KMI LR LR
comp=E,312nm,14.8s,MS4.5
KMI LR LR
comp=Z,372nm,14.8s,MS4.5
KMI Kunming 46.14 261 P **P** **02 49 34.1 -0.7**
KMI *SP sP 02 49 38.3 -3.5
KMI 02 51 12.4
KMI 02 51 22.4
KMI PPP 02 52 06.5
KMI S **S** **02 56 22.2 +2.1**
KMI *SS sS 02 56 27.4 -0.9
KMI SSS 03 00 39.5
KMI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,370nm,14.8s,MS4.5
KMI Kunming 46.14 261 P **P** **02 49 34.1 -0.7**
comp=Z,9.0nm,1.0s,mb4.7
KMI pP pP 02 49 36.7 -3.1
KMI sP sP 02 49 38.3 -3.5
KMI PcP PcP 02 51 12.4 +1.7
KMI PP PP 02 51 22.4 -0.7
KMI PPP 02 52 06.5
KMI S **S** **02 56 22.2 +2.1**
KMI sS sS 02 56 27.4 -0.9
KMI SS SS 02 59 51.2 +5.9
KMI SSS 03 00 39.5
KMI LR LR
comp=Z,370nm,14.8s,MS4.5
MKAR Makanchi Array 47.94 298 P **P** **02 49 48.8 -0.1**
comp=Z,16nm,0.8s,mb5.1,baz=67,slow=7.1,SNR=122
MKAR Makanchi Array 47.94 298⇑*eP* **P** **02 49 48.7 -0.2**
KURK Kurchatov 48.34 304 P **P** **02 49 51.9 0.0**
comp=Z,244nm,0.5s,SNR=16
ALE Alert 49.95 6 P **P** **02 50 04.9 +0.6**
comp=Z,84nm,1.2s,mb5.7,SNR=5.5
YKA Yellowknife Ar 50.59 37 P **P** **02 50 09.0 -0.1**
comp=Z,5.6nm,0.5s,mb4.7,baz=294,slow=7.0,SNR=23
YKA LR LR 03 12 51.2
comp=Z,200nm,21.0s,MS4.1,baz=235,slow=38
YKA Yellowknife Ar 50.59 37⇑*eP* **P** **02 50 09.0 -0.2**
RES Resolute Bay 50.82 19 *eP* **P** **02 50 11.1 +0.2**
comp=Z,2µm,1.1s
LSA Lhasa 51.26 274 P **P** **02 50 16.4 +2.2**
LSA AP pP 02 50 24.1 +4.9
LSA XP sP 02 50 29.3 +8.2
LSA PCP PcP 02 51 27.8 -1.4
LSA PP PP 02 52 14.1 +3.1
LSA S **S** **02 57 33.9 +1.7**
LSA SCS ScS 03 00 03.5 -0.6
LSA AMB AMB
comp=Z,60nm,0.7s,mb5.6
LSA LR LR
comp=E,370nm,15.2s
LSA LR LR
comp=Z,350nm,16.3s,MS4.5
BVA0 Borovoye Array 51.80 310 *i* P **P** **02 50 18.6 +0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVAR Borovoye Array 51.80 310 P **P** **02 50 18.8 +0.6**
comp=Z,5.2nm,0.3s,mb4.9,baz=55,slow=7.8,SNR=53
BVAR Borovoye Array 51.80 310 P **P** **02 50 18.8 +0.6**
BVAR pmax pmax
comp=Z,5.0nm,0.3s
BRVK Borovoye 51.84 310 P **P** **02 50 19.5 +1.0**
comp=Z,164nm,1.2s,mb5.8,SNR=10
BRVK Borovoye 51.84 310 *eP* **P** **02 50 18.5 0.0**
BRVK pmax pmax
comp=Z,40nm,1.1s,mb5.3
BRVK Borovoye 51.84 310 *eP* **P** **02 50 18.5 0.0**
comp=Z,40nm,1.1s,mb5.3
KBS Kingsbay 52.95 352 *eP* **P** **02 50 25.8 -0.9**
CHTO Chiang Mai 52.99 258 *eP* **P** **02 50 28.0 +0.9**
CHTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
CHTO Chiang Mai 52.99 258 *eP* **P** **02 50 28.0 +0.9**
comp=Z,4.0nm,0.5s,mb4.6
A05A Maple Falls 53.42 55 ⇑P **P** **02 50 29.5 -0.7**
baz=53
GNW Green Mountain 53.75 56 *eP* **P** **02 50 33.7 +1.0**
B05A Bryant 53.80 55 ⇑P **P** **02 50 32.4 -0.6**
baz=54
ULHL Ulahol 53.97 296 P **P** **02 50 36.1 +1.8**
SNR=6.1
TKM2 Tokmak 2 54.00 297 P **P** **02 50 36.1 +1.7**
SNR=7.5
B06A Marblemount 54.01 55 ⇑P **P** **02 50 34.2 -0.3**
baz=54
C05A Tolt Reservoir 54.33 56 ⇓P **P** **02 50 36.3 -0.6**
baz=54
A07A Ashnola River, 54.35 54 ⇓P **P** **02 50 36.5 -0.5**
baz=54,SNR=5.5
D05A Emumclaw 54.43 56 ⇓P **P** **02 50 37.6 0.0**
baz=54
USP Ospenovka 54.49 298 P **P** **02 50 39.5 +1.5**
SNR=19
KBK Karagaybulak 54.55 297 P **P** **02 50 40.0 +1.5**
SNR=8.9
B07A Winthrop 54.81 54 ⇑P **P** **02 50 39.9 -0.5**
baz=55,SNR=5.4
AAK Ala-Archa 54.84 297 P **P** **02 50 41.8 +1.2**
SNR=15
AAK Ala-Archa 54.84 297 P **P** **02 50 41.8 +1.3**
comp=Z,128nm,0.8s,mb6.0,SNR=11
AAK Ala-Archa 54.84 297 *eP* **P** **02 50 40.7 +0.2**
AAK pmax pmax
comp=Z,17nm,0.8s,mb5.1
AAK Ala-Archa 54.84 297 *eP* **P** **02 50 40.7 +0.2**
comp=Z,17nm,0.8s,mb5.1
E05A Randle 54.90 57 ⇓P **P** **02 50 39.5 -1.5**
baz=55
SOKR Solikamsk 54.94 322 *d iP* **P** **02 50 41.4 +0.1**
SOKR pmax pmax
comp=Z,60nm,1.7s,mb5.3
SOKR MLR MLR
comp=Z,480nm,19.0s,MS4.6
A08A Turner Farm, O 55.02 53 P **P** **02 50 41.5 -0.4**
baz=55,SNR=7.5
D06A Cle Elum 55.09 56 ⇓P **P** **02 50 42.0 -0.3**
baz=55
C07A Waterville 55.26 55 ⇓P **P** **02 50 42.7 -0.9**
baz=55
EKS2 Erkin-Say 55.26 298 P **P** **02 50 45.2 +1.6**
SNR=12
B08A Colville Reser 55.31 54 ⇑P **P** **02 50 43.3 -0.6**
baz=55,SNR=8.4
E06A Yakima 55.36 57 ⇑P **P** **02 50 44.0 -0.3**
baz=55
A09A Danville 55.39 53 P **P** **02 50 44.4 -0.1**
baz=55,SNR=8.3
I03A Eugene 55.43 60 ⇑P **P** **02 50 44.8 0.0**
baz=55
F05A White Salmon 55.45 58 ⇓P **P** **02 50 43.7 -1.2**
baz=55
D07A Quincy 55.59 56 ⇓P **P** **02 50 45.6 -0.3**
baz=55
J02A Umpqua 55.59 61 ⇓P **P** **02 50 45.3 -0.6**
baz=55
HOOD Mount Hood Mea 55.65 58 *eP* **P** **02 50 47.0 +0.7**
KSH Kashi 55.66 293 P **P** **02 50 49.8 +3.3**
KSH *ePCP PcP 02 51 48.0 +2.1
KSH *ePP PP 02 52 56.5 +5.7
KSH *eSCP ScP 02 55 43.3 -0.9
KSH *eS* **S** **02 58 32.1 0.0**
KSH *eXS sS 02 58 42.1 +1.7
KSH *eSCS ScS 03 00 33.9 -1.2
KSH *eSS SS 03 02 17.8 +0.5
H04A Detroit Lake 55.68 59 ⇓P **P** **02 50 46.6 0.0**
baz=56,SNR=6.2
C08A Higginbotham F 55.78 54 ⇑P **P** **02 50 46.4 -0.9**
baz=56
EDM Edmonton 55.83 47 *eP* **P** **02 50 47.4 -0.3**
G05A Wamic 55.89 58 ⇑P **P** **02 50 48.1 0.0**
baz=56
ARU Arti 55.89 318 P **P** **02 50 47.6 -0.5**
comp=Z,480nm,0.6s,SNR=26
ARU Arti 55.89 318⇑*iP* **P** **02 50 47.5 -0.6**
ARU *e* 02 51 43.7
ARU *eS* **S** **02 58 36.3 +1.2**
ARU *eSSS 03 04 32.0
ARU pmax pmax
comp=Z,84nm,1.5s,mb5.5
ARU Arti 55.89 318 P **P** **02 50 47.3 -0.8**
comp=Z,45nm,0.4s,mb5.8
F06A Goldendale 55.91 57 ⇓P **P** **02 50 47.9 -0.3**
baz=56
B09A Rice 55.94 53 ⇓P **P** **02 50 48.2 -0.3**
baz=56,SNR=7.6
JIRN Jiri 55.94 276 *eP* **P** **02 50 50.4 +1.9**
comp=Z,85nm,0.8s,mb5.8
J03A Ideyld Park 55.95 61 ⇑P **P** **02 50 49.7 +1.1**
baz=56
K02A Glendale 55.97 62 ⇓P **P** **02 50 48.2 -0.5**
baz=56
PMG Port Moresby 55.98 189 P **P** **02 50 48.4 -0.4**
comp=Z,48nm,1.2s,mb5.4,baz=302,slow=2.8,SNR=5.0
PMG Port Moresby 55.98 189 *eP* **P** **02 50 47.7 -1.1**
GUN Gumba 55.99 276 *eP* **P** **02 50 50.6 +1.7**
comp=Z,25nm,0.3s,mb5.7
E07A Sunnyside 56.00 56 ⇑P **P** **02 50 48.9 -0.1**
baz=56
I04A Tendick Farm, 56.05 60 ⇑P **P** **02 50 49.3 +0.1**
baz=56,SNR=7.3
C09A Chrisman Ranch 56.21 54 ⇓P **P** **02 50 49.8 -0.6**
baz=56
L02A Cave Junction 56.25 62 ⇓P **P** **02 50 51.0 +0.3**
baz=56
D08A Wollman Farm, 56.26 55 ⇑P **P** **02 50 50.7 0.0**
baz=56
H05A Madras 56.27 59 ⇑P **P** **02 50 51.2 +0.3**
baz=56
G06A Carlson Farm, 56.29 58 ⇑P **P** **02 50 51.1 +0.1**
baz=56
F07A Phinny Hill Vi 56.33 57 ⇑P **P** **02 50 51.4 +0.1**
baz=56
HUMO Hull Mountain 56.39 62 ⇑P **P** **02 50 52.3 +0.6**
baz=56
KKN Kakani 56.48 276 *eP* **P** **02 50 54.1 +1.8**
comp=Z,32nm,0.5s,mb5.6
E08A Dider Farm, El 56.50 56 ⇑P **P** **02 50 51.9 -0.5**
baz=56
B10A Chitwood Farm, 56.52 53 ⇓P **P** **02 50 52.2 -0.4**
baz=56
I05A Bend 56.52 59 ⇑P **P** **02 50 52.9 +0.3**
baz=56
PKI Pulchoki 56.53 276 *eP* **P** **02 50 54.3 +1.6**
comp=Z,28nm,0.6s,mb5.5
J04A Umpqua Nationa 56.54 60 ⇑P **P** **02 50 53.4 +0.6**
baz=56
NEW Newport 56.59 53 P **P** **02 50 52.4 -0.7**
comp=Z,14nm,1.1s,mb4.9,baz=311,slow=7.1,SNR=12
NEW Newport 56.59 53 *eP* **P** **02 50 53.0 -0.1**
NEW pmax pmax
comp=Z,29nm,1.3s
NEW Newport 56.59 53 *eP* **P** **02 50 53.0 -0.1**
comp=Z,29nm,1.3s,mb5.2
D09A Jones Farm, Ri 56.60 55 ⇑P **P** **02 50 52.9 -0.3**
baz=56
A11A Hall Mountain, 56.62 52 P **P** **02 50 53.7 +0.3**
baz=56,SNR=9.3
DMN Daman 56.71 276 *eP* **P** **02 50 55.9 +1.9**
comp=Z,124nm,0.9s,mb5.9
C10A Spilker Farm, 56.74 54 ⇓P **P** **02 50 53.2 -0.9**
baz=57
H06A Lindquist Farm 56.75 58 P **P** **02 50 54.5 +0.3**
baz=57,SNR=7.7
GKN Gorkha 56.79 277 *eP* **P** **02 50 56.2 +1.7**
comp=Z,91nm,0.7s,mb5.9
G07A Ruggs Ranch, H 56.84 57 ⇓P **P** **02 50 54.6 -0.3**
baz=57
KHMM Horse Mountain 56.90 64 *eP* **P** **02 50 56.5 +1.1**
B11A Sandpoint 56.91 53 ⇑P **P** **02 50 55.1 -0.3**
baz=57,SNR=5.8
DAG Danmarks Havn 56.99 358⇓*iP* **P** **02 50 54.0 -2.0**
comp=Z,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 56.99 358⇓*eP* **P** **02 50 54.0 -2.0**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 56.99 358⇓*eP* **P** **02 50 54.0 -2.0**
comp=Z,4.0nm,0.6s,mb4.6
KK31 Karatay Array 56.99 300 *i* P **P** **02 50 55.3 -0.7**
KK31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KKAR Karatay Array 56.99 300 P **P** **02 50 55.3 -0.7**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
E09A Wood Farm, Sta 57.01 55 P **P** **02 50 55.7 -0.4**
baz=57,SNR=11
A12A Yaak River Ran 57.02 52 ⇑P **P** **02 50 56.1 -0.1**
baz=57
YBH Yreka Blue Hor 57.04 62 *eP* **P** **02 50 57.6 +1.3**
YBH pmax pmax
comp=Z,44nm,1.3s
YBH Yreka Blue Hor 57.04 62 *eP* **P** **02 50 57.6 +1.3**
comp=Z,44nm,1.3s,mb5.3
YBH Yreka Blue Hor 57.04 62 ⇓P **P** **02 50 57.1 +0.8**
baz=57,SNR=5.1
F08A Pendleton 57.05 56 ⇑P **P** **02 50 56.5 +0.1**
baz=57,SNR=7.4
K04A Chilquin 57.13 61 ⇑P **P** **02 50 57.6 +0.6**
baz=57
M02C Callahan 57.14 63 ⇑P **P** **02 50 57.5 +0.5**
baz=57,SNR=6.9
N02C Big Bar 57.20 63 ⇓P **P** **02 50 57.5 +0.1**
baz=57
G08A Pilot Rock 57.23 57 ⇓P **P** **02 50 57.6 -0.1**
baz=57,SNR=7.6
I06A Prineville 57.27 59 ⇓P **P** **02 50 58.4 +0.5**
baz=57,SNR=7.5
O01C Eel River Cons 57.27 64 ⇑P **P** **02 50 58.9 +0.9**
baz=57
L04A Klamath Falls 57.28 61 ⇓P **P** **02 50 58.6 +0.6**
baz=57,SNR=5.1
B12A Libby 57.32 52 ⇓P **P** **02 50 58.8 +0.5**
baz=57
M04C Macdoel 57.54 62 ⇑P **P** **02 51 00.5 +0.6**
baz=57,SNR=5.7
F09A S2 Ranch, Elgi 57.60 56 ⇑P **P** **02 51 00.2 0.0**
baz=57
E10A Myers Farm, Un 57.61 55 ⇓P **P** **02 51 00.2 -0.2**
baz=57,SNR=6.8
I07A Izee 57.61 58 ⇑P **P** **02 51 00.7 +0.4**
baz=57,SNR=8.3
KOLN Koldanda 57.65 278 *eP* **P** **02 51 02.4 +1.8**
comp=Z,76nm,0.9s,mb5.7
M03C McCloud 57.66 62 ⇓P **P** **02 51 01.1 +0.3**
baz=58,SNR=5.4
J06A Christmas Vall 57.70 59 ⇑P **P** **02 51 01.3 +0.2**
baz=58,SNR=9.2
D11A Klaveano Farm, 57.72 54 P **P** **02 51 00.5 -0.7**
baz=58,SNR=11
WDC Whiskeytown Da 57.81 63 *eP* **P** **02 51 02.3 +0.6**
WDC pmax pmax
comp=Z,30nm,1.2s,mb5.2
WDC Whiskeytown Da 57.81 63 *eP* **P** **02 51 02.3 +0.6**
comp=Z,30nm,1.2s,mb5.2
WDC Whiskeytown Da 57.81 63 ⇑P **P** **02 51 01.6 -0.1**
baz=58,SNR=8.9
C12A Trout Creek 57.82 53 P **P** **02 51 01.8 0.0**
baz=58,SNR=12
F10A Beach Ranch, E 57.84 55 ⇓P **P** **02 51 01.6 -0.3**
baz=58
H08A Prairie City 57.85 58 P **P** **02 51 02.4 +0.4**
baz=58,SNR=10
WALA Waterton Lakes 57.89 51 *eP* **P** **02 51 02.2 -0.1**
comp=Z,39nm,1.2s,mb5.3
O02C Red Bluff 57.89 64 ⇑P **P** **02 51 02.8 +0.5**
baz=58,SNR=6.4
K06A Valley Falls 57.91 60 P **P** **02 51 03.4 +0.9**
baz=58,SNR=13
KEV Kevo 57.95 341 *ep* **P** **02 51 01.1 -1.7**
comp=Z,2.0nm,0.4s,mb4.5
KEV Kevo 57.95 341 *eP* **P** **02 51 01.1 -1.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
P01C Double 8 Ranch 57.97 65 ⇑P **P** **02 51 02.6 -0.2**
baz=58
B13A Whitefish 57.99 52 P **P** **02 51 03.1 +0.1**
baz=58,SNR=28
BSMT Bassoo Peak 58.11 52 *eP* **P** **02 51 04.2 +0.3**
J07A Hines 58.13 59 ⇑P **P** **02 51 04.6 +0.6**
baz=58
M05C Lookout 58.21 62 P **P** **02 51 05.2 +0.6**
baz=58,SNR=6.8
GASB Alder Springs 58.24 64 ⇑P **P** **02 51 05.3 +0.5**
baz=58
I08A Drewsey 58.26 58 P **P** **02 51 05.5 +0.6**
baz=58,SNR=11
C13A Hot Springs 58.33 53 P **P** **02 51 05.6 +0.2**
baz=58,SNR=5.7

HATC **Hat Creek Radi** 58.34 62 ⇓P P 02 51 06.1 +0.7
baz=58
H09A **Durkee** 58.35 57 P P 02 51 06.1 +0.6
baz=58,SNR=11
MOD **Modoc** 58.40 61 eP P 02 51 06.1 +0.2
comp=Z,18nm,1.1s,mb5.0
MOD **Modoc** 58.40 61 ⇓P P 02 51 06.3 +0.4
baz=58,SNR=5.5
HOPS **Hopland** 58.41 65 ⇑P P 02 51 05.8 -0.2
baz=58
BMO **Blue Mountains** 58.44 57 eP P 02 51 06.5 +0.3
comp=Z,26nm,1.2s,mb5.1
ARCES **ARCESS Array B** 58.46 341 P P 02 51 05.8 -0.5
comp=Z,20nm,0.8s,mb5.2,baz=34,slow=5.5,SNR=52
ARCES LR LR 03 23 36.6
comp=Z,362nm,18.2s,MS4.5,baz=279,slow=43
ARE0 **ARCESS Array S** 58.46 341 eP P 02 51 05.7 -0.6
F11A **Grangeville** 58.50 55 ⇑P P 02 51 06.1 -0.5
baz=58,SNR=13
K07A **Rock Creek Ran** 58.57 60 ⇑P P 02 51 07.6 +0.5
baz=58,SNR=8.1
BOK **Bokaro** 58.63 272 eP P 02 51 08.6 +1.1
J08A **Circle Bar Ran** 58.64 59 P P 02 51 08.1 +0.5
baz=58,SNR=8.7
I09A **Lost Marbles R** 58.71 58 P P 02 51 08.5 +0.5
baz=58,SNR=6.9
M06C **Likely Place G** 58.71 62 ⇓P P 02 51 08.4 +0.3
baz=58
G11A **Walters Elk Ra** 58.72 56 ⇓P P 02 51 07.8 -0.3
baz=58
C14A **Swan Lake** 58.73 52 P P 02 51 08.4 +0.2
baz=58,SNR=6.1
D13A **Huson** 58.74 53 P P 02 51 08.0 -0.3
baz=58,SNR=9.9
O04C **Chester** 58.86 63 ⇓P P 02 51 09.4 +0.4
baz=59,SNR=6.0
MNRC **McLaughlin Nat** 58.87 65 ⇓P P 02 51 09.8 +0.6
baz=59
L07A **Adell** 58.91 60 ⇓P P 02 51 09.8 +0.3
baz=59
K08A **Mann Creek Ran** 59.00 59 P P 02 51 10.5 +0.4
baz=59,SNR=11
TMCR **Tamitsa** 59.06 333 eP P 02 51 10.3 -0.2
TMCR pmax pmax
comp=Z,84nm,1.2s,mb5.7
ORV **Oroville** 59.06 64 ⇑P P 02 51 09.9 -0.6
baz=59,SNR=8.6
J09A **Fry Pan Ranch,** 59.07 58 P P 02 51 11.0 +0.5
baz=59,SNR=12
SUTB **Sutter Butte** 59.08 64 ⇓P P 02 51 09.8 -0.8
baz=59
F12A **Elk City** 59.08 55 ⇓P P 02 51 10.7 +0.1
baz=59,SNR=28
WVOR **Wild Horse Val** 59.09 59 eP P 02 51 10.8 +0.1
WVOR pmax pmax
comp=Z,27nm,1.1s,mb5.2
WVOR **Wild Horse Val** 59.09 59 eP P 02 51 10.8 +0.1
comp=Z,27nm,1.1s,mb5.2
O05C **Quincy** 59.17 63 ⇑P P 02 51 11.2 -0.1
baz=59,SNR=7.7
MSO **Missoula** 59.18 53 eP P 02 51 11.3 0.0
comp=Z,35nm,1.2s,mb5.3
CVS **Carmenet Viney** 59.18 65 ⇑P P 02 51 10.9 -0.5
baz=59
OHCM **Honcut** 59.20 64 eP P 02 51 10.7 -0.7
FARB **Farallon Islan** 59.23 66 ⇑P P 02 51 10.9 -0.7
baz=59
D14A **Greenough** 59.27 53 P P 02 51 11.7 -0.2
baz=59,SNR=33
E13A **Victor** 59.27 54 ⇓P P 02 51 11.7 -0.2
baz=59,SNR=16
H11A **Donnelly** 59.27 56 P P 02 51 12.0 0.0
baz=59,SNR=21
Q03C **Winters** 59.29 65 ⇑P P 02 51 11.9 -0.2
baz=59
AB31 **Akbulak array** 59.37 311 P P 02 51 11.9 -0.7
AB31 pmax pmax
comp=Z,19nm,0.7s,mb5.2
AB31 **Akbulak array** 59.37 311⇑eP P 02 51 11.9 -0.7
N06A **Buffalo Meadow** 59.37 62 ⇑P P 02 51 12.7 +0.1
baz=59,SNR=12
KTK1 **Kautokeino** 59.37 342 eP P 02 51 12.2 -0.4
KTK1 AMb AMB 02 51 14.7
comp=Z,60nm,1.9s,mb5.3
KTK1 **Kautokeino** 59.37 342 eP P 02 51 12.6 -0.1
comp=Z,60nm,1.9s,mb5.3
M07A **Soldier Meadow** 59.39 61 ⇑P P 02 51 13.2 +0.5
baz=59,SNR=20
L08A **Fields** 59.41 60 P P 02 51 13.3 +0.5
baz=59,SNR=7.6
K09A **Rome** 59.47 59 ⇓P P 02 51 13.4 +0.1
baz=59,SNR=9.4
CHMT **Chamberlain Mo** 59.51 53 eP P 02 51 13.3 -0.3
BEKR **Beckwourth** 59.58 63 ⇓P P 02 51 13.8 -0.2
baz=59,SNR=11
F13A **Darby** 59.58 54 P P 02 51 13.9 -0.2
baz=59,SNR=25
AKTK **Aktyubinsk** 59.65 313 P P 02 51 14.6 0.0
AKTO **Aktyubinsk** 59.65 313 P P 02 51 14.6 0.0
comp=Z,7.9nm,0.5s,mb5.0,baz=68,slow=8.3,SNR=50
AKTO **Aktyubinsk** 59.65 313 P P 02 51 14.6 0.0
AKTO pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
E14A **Clinton** 59.67 53 P P 02 51 14.7 0.0
baz=60,SNR=15
TRO **Tromso** 59.76 344 eP P 02 51 13.9 -1.4
TRO AMb AMB 02 51 21.0
comp=Z,65nm,1.6s,mb5.4
TRO **Tromso** 59.76 344 eP P 02 51 14.5 -0.8
TRO pmax pmax
comp=Z,65nm,1.6s,mb5.4
TRO **Tromso** 59.76 344 eP P 02 51 14.5 -0.8
comp=Z,65nm,1.6s,mb5.4
D15A **Lincoln** 59.83 52 P P 02 51 15.8 0.0
baz=60,SNR=9.8
N07B **Gerlach** 59.88 61 ⇓P P 02 51 16.4 +0.3
baz=60,SNR=6.0
JRSC **Jasper Ridge** 59.89 66 ⇓P P 02 51 15.8 -0.4
baz=60
L09A **Wilkinson Ranc** 59.91 59 ⇓P P 02 51 16.7 +0.4
baz=60,SNR=10
LAVA **Lava Cap Winer** 60.01 64 ⇓P P 02 51 16.8 -0.2
baz=60,SNR=10.0
WENL **Wente Brothers** 60.06 66 ⇑P P 02 51 17.5 +0.1
baz=60
BNLO **Ben Lomond (Sa** 60.10 66 ⇓P P 02 51 17.5 -0.1
baz=60
F14A **Wisdom** 60.11 54 ⇓P P 02 51 17.4 -0.2
baz=60
E15A **Deer Lodge** 60.14 53 P P 02 51 17.8 -0.1
baz=60,SNR=21
R04C **Big Horse Ranc** 60.19 65 ⇓P P 02 51 17.7 -0.6
baz=60
WCN **Washoe City** 60.29 63 ⇓P P 02 51 19.3 +0.4
baz=60
O07A **Toulon** 60.30 62 ⇑P P 02 51 19.4 +0.4
baz=60,SNR=11
FFC **Flin Flon** 60.35 40 P P 02 51 19.9 +0.5
comp=Z,200nm,1.1s,mb6.1,SNR=10
N08A **GE Springer Mi** 60.38 61 ⇓P P 02 51 19.9 +0.4
baz=60
M09A **Marrel Ranch,** 60.40 60 ⇓P P 02 51 20.2 +0.5
baz=60,SNR=9.5
S04C **Ingram Canyon,** 60.40 65 ⇑P P 02 51 19.6 -0.1
baz=60
R05C **Kirkwood Meado** 60.45 64 ⇓P P 02 51 20.2 +0.1
baz=60
F15A **Butte** 60.58 53 P P 02 51 21.1 +0.1
baz=60,SNR=27
LRM **Limekiln Ridge** 60.61 53 eP P 02 51 21.3 +0.2
CMB **Columbia Colle** 60.67 64 eP P 02 51 21.5 0.0
CMB pmax pmax
comp=Z,36nm,1.3s,mb5.3
CMB **Columbia Colle** 60.67 64 eP P 02 51 21.5 -0.1
comp=Z,36nm,1.3s,mb5.3
CMB **Columbia Colle** 60.67 64 P P 02 51 21.5 0.0
baz=60,SNR=14
P07A **Fallon** 60.68 62 ⇓P P 02 51 21.7 +0.1
baz=60
N09A **Rock Creek Ran** 60.70 60 ⇑P P 02 51 22.1 +0.4
baz=60,SNR=7.5
EGMT **Eagleton** 60.72 50 eP P 02 51 21.9 0.0
comp=Z,68nm,1.2s,mb5.7
EGMT **Eagleton** 60.72 50 ⇓P P 02 51 21.7 -0.2
baz=60,SNR=14
PACP **Pacheco Peak** 60.73 66 ⇑P P 02 51 21.9 0.0
baz=61,SNR=9.5
DLMT **Dillon** 60.81 54 eP P 02 51 22.3 -0.2
comp=Z,60nm,1.6s,mb5.5
HLID **Hailey** 60.88 56 eP P 02 51 23.3 +0.3
comp=Z,31nm,1.4s,mb5.2
HLID **Hailey** 60.88 56 P P 02 51 23.4 +0.4
baz=61,SNR=21
M10A **I.L. Ranch, Tu** 60.88 59 ⇓P P 02 51 23.5 +0.5
baz=61,SNR=23
HAST **UC Hastings Re** 60.95 67 ⇓P P 02 51 23.0 -0.4
baz=61
R06C **Coleville** 60.95 64 ⇓P P 02 51 23.8 +0.3
baz=61,SNR=9.7
G15A **Dillon** 60.99 54 P P 02 51 23.7 -0.1
baz=61,SNR=12
P08A **Dixie Valley** 61.08 62 ⇓P P 02 51 25.0 +0.7
baz=61
S06C **San Francisco** 61.10 64 P P 02 51 24.4 -0.1
baz=61,SNR=14
S05C **Merced** 61.13 65 ⇑P P 02 51 23.8 -0.8
baz=61,SNR=11
BMN **Battle Mountai** 61.14 61 eP P 02 51 25.3 +0.5
BMN pmax pmax
comp=Z,31nm,1.1s,mb5.3
BMN **Battle Mountai** 61.14 61 eP P 02 51 25.3 +0.5
comp=Z,31nm,1.1s,mb5.4
O09A **Fish Creek Ran** 61.32 61 ⇓P P 02 51 26.4 +0.4
baz=61,SNR=14
M11A **Holland Ranch,** 61.38 59 P P 02 51 27.2 +0.8
baz=61,SNR=16
N10A **Dunphy** 61.40 60 ⇓P P 02 51 26.6 +0.2
baz=61
NDI **New Delhi** 61.41 283 eP P 02 51 27.4 +0.8
NDI AMb AMB 02 51 33.9
comp=Z,37nm,1.8s,mb5.2
U04C **Hernandez Rese** 61.45 66 ⇑P P 02 51 27.3 +0.5
baz=61
BHGR **Bahadurgarh** 61.60 283 AMb AMB 02 51 25.1
BHGR eP 02 51 27.0
comp=Z,222nm,0.8s
AYAN **Aya Nagar** 61.60 282 eP P 02 51 27.7 -0.2
AYAN AMb AMB 02 51 34.9
comp=Z,16nm,0.9s,mb5.1
O10A **Cortez Mining,** 61.66 60 ⇑P P 02 51 28.6 +0.4
baz=62,SNR=6.9
Q08A **Gabbs** 61.68 62 ⇑P P 02 51 28.4 0.0
baz=62,SNR=12
NVAR **Mina Array Bea** 61.72 63 P P 02 51 29.0 +0.4
comp=Z,71nm,0.9s,mb5.0,baz=290,slow=9.4,SNR=33
T06C **Millerton Lake** 61.73 65 ⇓P P 02 51 28.2 -0.5
baz=62,SNR=8.7
P09A **Austin** 61.73 61 ⇑P P 02 51 29.3 +0.5
baz=62,SNR=5.2
KCC **Kaiser Creek** 61.77 65 P P 02 51 29.4 +0.4
baz=62,SNR=8.9
SONA **Sohna** 61.78 282 eP P 02 51 29.5 +0.4
QLMT **Earthquake Lak** 61.79 54 eP P 02 51 29.0 -0.1
N11A **Elko Archery C** 61.80 59 ⇓P P 02 51 29.5 +0.4
baz=62
AGRA **Agra** 61.85 281 eP P 02 51 30.3 +0.8
AGRA AMb AMB 02 51 31.4
comp=Z,52nm,0.5s,mb5.9
PKD **Parkfield** 61.86 66 ⇓P P 02 51 29.5 -0.1
baz=62
M12A **Wells** 61.91 58 ⇑P P 02 51 30.7 +0.7
baz=62,SNR=24
LOF **Lofoten** 62.07 345 eP P 02 51 32.7 +1.8
LOF AMb AMB 02 51 37.9
comp=Z,94nm,1.6s,mb5.7
LOF **Lofoten** 62.07 345 eP P 02 51 33.2 +2.2
comp=Z,94nm,1.6s,mb5.7
P10A **Eureka** 62.10 61 ⇑P P 02 51 31.6 +0.4
baz=62
KAKA **Kakadu** 62.13 205⇓iP P 02 51 31.0 -0.4
comp=Z,26nm,0.6s,mb5.5
YMR **Madison River** 62.15 54 eP P 02 51 32.2 +0.7
comp=Z,63nm,1.3s,mb5.6
Q09A **Carvers** 62.16 62 ⇑P P 02 51 32.0 +0.5
baz=62,SNR=5.3
N12A **Clover Valley,** 62.19 59 ⇓P P 02 51 32.2 +0.4
baz=62,SNR=5.6
PTRM **Twissleman Ran** 62.25 67 eP P 02 51 32.2 0.0
O11A **Cowboy Ranch,** 62.27 60 ⇓P P 02 51 32.7 +0.3
baz=62,SNR=11
YNR **Norris Junctio** 62.28 53 eP P 02 51 34.0 +1.6
V05C **Boulder Hill,** 62.32 66 ⇓P P 02 51 33.1 +0.4
baz=62
YFT **Old Faithful** 62.36 54 eP P 02 51 35.3 +2.4
HELL **Mitchell Peak,** 62.36 65 P P 02 51 32.5 -0.4
baz=62,SNR=26
S08C **White Mtn Res** 62.38 64 ⇑P P 02 51 33.4 +0.3
baz=62,SNR=14
M13A **Montello** 62.39 58 P P 02 51 33.6 +0.4
baz=62,SNR=20
RCTC **Rector, Farmer** 62.46 65 ⇓P P 02 51 33.2 -0.4
baz=62
P11A **Circle Ranch,** 62.57 61 ⇑P P 02 51 34.9 +0.6
baz=62
R09A **Tonopah** 62.59 62 ⇑P P 02 51 34.8 +0.3
baz=62,SNR=41
SMMC **Simmler** 62.60 67 ⇑P P 02 51 34.8 +0.3
baz=62
TPH **Tonopah** 62.60 63 eP P 02 51 35.2 +0.6
TPH pmax pmax
comp=Z,60nm,1.3s,mb5.6
TPH **Tonopah** 62.60 63 eP P 02 51 35.2 +0.6
comp=Z,60nm,1.3s,mb5.6
TIN **Timmaha** 62.62 64 ⇓P P 02 51 35.0 +0.3
baz=62
FLWY **Flagg Ranch** 62.67 54 eP P 02 51 35.6 +0.6
comp=Z,36nm,1.1s,mb5.4
N13A **Wendover, West** 62.68 59 ⇓P P 02 51 35.5 +0.4
baz=62,SNR=9.8
DCID1 **Drake Creek** 62.70 55 eP P 02 51 36.9 +1.6
O12A **Currie** 62.73 59 P P 02 51 35.8 +0.4
baz=62,SNR=26
KHET **Khri** 62.75 283⇑iP P 02 51 36.3 +0.7
RRI2 **Red Ridge** 62.78 55 eP P 02 51 36.8 +1.1
comp=Z,69nm,1.1s,mb5.7
S09A **Goldfield** 62.82 63 P P 02 51 36.1 0.0
baz=63,SNR=12
MOOW **Moose Ponds** 62.85 54 eP P 02 51 37.1 +0.8
comp=Z,34nm,1.3s,mb5.3
VES **Vestal, Richgr** 62.85 66 ⇑P P 02 51 35.3 -0.9
baz=63,SNR=7.9
HVU **Hansel Valley** 62.94 57 eP P 02 51 37.6 +0.8
PKM **Peak Mountain** 62.98 67 P P 02 51 37.4 +0.3
baz=63,SNR=6.2
LOHW **Long Hollow** 63.02 54 eP P 02 51 38.2 +0.9
comp=Z,51nm,1.2s,mb5.5
SNOW **Snow King Moun** 63.03 55 eP P 02 51 38.9 +1.5
REDW **Red Top Meadow** 63.03 55 eP P 02 51 38.5 +1.0
comp=Z,92nm,1.2s,mb5.8
Q11A **Duckwater** 63.08 61 P P 02 51 37.7 0.0
baz=63,SNR=12
CWC **Cottonwood Cre** 63.10 65 P P 02 51 38.1 +0.2
baz=63,SNR=8.1
P12A **McGill** 63.13 60 P P 02 51 38.5 +0.4
baz=63,SNR=10
GRAC **Grapevine Rang** 63.19 64 P P 02 51 38.9 +0.4
baz=63,SNR=6.9
DGMT **Dagmar** 63.32 47 eP P 02 51 39.2 -0.1
comp=Z,67nm,1.3s,mb5.6
SBC **Santa Barbara** 63.33 67 ⇑P P 02 51 39.2 -0.2
baz=63
ISA **Isabella** 63.34 65 eP P 02 51 38.8 -0.7
ISA **Isabella** 63.34 65 ⇑P P 02 51 38.7 -0.9
baz=63,SNR=8.7
SPUT **South Promonto** 63.42 57 eP P 02 51 37.7 -2.3
LAO **LASA Array** 63.43 49 eP P 02 51 40.5 +0.4
comp=Z,49nm,1.1s,mb5.5
TRCR **Troy Canyon** 63.43 62 eP P 02 51 39.9 -0.2
Q12A **Willow Creek R** 63.45 61 P P 02 51 40.5 +0.3
baz=63,SNR=12
ARVC **Arvin** 63.46 66 ⇓P P 02 51 39.6 -0.7
baz=63
DAC **Darwin (Calif)** 63.51 64 eP P 02 51 40.3 -0.3
DAC pmax pmax
comp=Z,20nm,1.3s,mb5.0
DAC **Darwin (Calif)** 63.51 64 eP P 02 51 40.3 -0.3
comp=Z,20nm,1.3s,mb5.0
MOR8 **Moi Rana** 63.60 343 eP P 02 51 40.0 -1.3
BSC **Santa Cruz Isl** 63.67 68 ⇓P P 02 51 41.0 -0.7
baz=64
MPMC **Manual Prospec** 63.71 65 P P 02 51 41.9 0.0
baz=64,SNR=29
HWUT **Hardware Ranch** 63.74 57 eP P 02 51 42.2 0.0
comp=Z,27nm,1.2s,mb5.2
FURC **Furnace Creek,** 63.84 64 P P 02 51 42.9 +0.1
baz=64,SNR=27
OSI **Osito Adit** 63.85 67 ⇑P P 02 51 43.0 +0.1
baz=64
DUG **Dugway** 63.92 58 eP P 02 51 43.6 +0.3
DUG pmax pmax
comp=Z,45nm,1.2s,mb5.4
DUG **Dugway** 63.92 58 eP P 02 51 43.6 +0.3
comp=Z,45nm,1.2s,mb5.4
DUG **Dugway** 63.92 58 P P 02 51 43.6 +0.4
baz=64,SNR=33
LRMC **Laurel Mountai** 63.96 65 P P 02 51 43.3 -0.2
baz=64,SNR=10
BLG **Laguna Peak** 63.96 67 ⇑P P 02 51 42.8 -0.8
baz=64
NOQ **North Oquirrh** 64.03 58 eP P 02 51 44.2 +0.2
comp=Z,55nm,1.1s,mb5.5
BW06 **Boulder Array** 64.14 54 eP P 02 51 44.9 +0.1
comp=Z,43nm,1.2s,mb5.3
PDAR **Pinedale Array** 64.14 54 P P 02 51 44.6 -0.1
comp=Z,19nm,1.0s,mb5.1,baz=300,slow=2.9,SNR=86
EDW2 **Edwards Air Fo** 64.15 66 P P 02 51 44.8 0.0
baz=64,SNR=27
U10A **Ash Meadows, A** 64.20 64 P P 02 51 45.5 +0.3
baz=64,SNR=20
SNCC **San Nicolas Is** 64.22 68 ⇑P P 02 51 45.3 +0.1
baz=64
CTU **Camp Tracy** 64.22 57 eP P 02 51 45.4 +0.1
comp=Z,19nm,1.1s,mb5.0
DECC **Green Verdugo** 64.34 67 ⇑P P 02 51 45.4 -0.7
baz=64
JLU **Jordanelle** 64.46 57 eP P 02 51 47.6 +0.8
VIS **Vishakhapatnam** 64.46 269 eP P 02 51 48.4 +1.6
VIS AMb AMB 02 51 50.9
comp=Z,26nm,1.0s,mb5.2
NLU **North Lily Min** 64.51 58 eP P 02 51 47.4 +0.2
MWC **Mount Wilson** 64.53 66 eP P 02 51 47.0 -0.3
SHOC **Shoshone** 64.57 64 ⇑P P 02 51 47.0 -0.6
baz=64,SNR=5.6
GSC **Goldstone** 64.62 65 eP P 02 51 51.0 +3.1
GSC **Goldstone** 64.62 65 eP P 02 51 47.6 -0.3
GSC **Goldstone** 64.62 65 ⇑P P 02 51 47.6 -0.3
baz=64,SNR=8.8
DAU **Daniels Canyon** 64.69 57 eP P 02 51 48.9 +0.5
MPU **Maple Canyon** 64.73 58 eP P 02 51 48.7 +0.1
comp=Z,28nm,1.1s,mb5.2
FIA1 **FINESS Array S** 64.73 335 eP P 02 51 47.5 -1.1
FINES **FINESS Array B** 64.73 335 P P 02 51 47.7 -0.9
comp=Z,7.8nm,0.4s,mb5.0,baz=38,slow=8.7,SNR=72
FINES LR LR 03 23 31.6
comp=Z,246nm,18.3s,MS4.4,baz=168,slow=39
FINES **FINESS Array B** 64.73 335 iP P 02 51 47.7 -0.9
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES **FINESS Array B** 64.73 335 P P 02 51 47.7 -0.9
FINES LR LR 03 23 31.6
BFSC **Mount Baldy St** 64.77 66 ⇑P P 02 51 48.5 -0.4
baz=65,SNR=9.9
U11A **Corn Creek** 64.78 63 ⇑P P 02 51 49.1 +0.2
baz=65
BHPL **Bhopal** 64.82 278⇓iP P 02 51 50.0 +0.8
BHPL AMb AMB 02 51 55.8
comp=Z,41nm,1.0s,mb5.4
PSI **Prapat** 64.82 246 P P 02 51 49.8 +0.5
comp=Z,1.3nm,0.3s,mb4.4,baz=322,slow=13,SNR=3.7
PSI **Prapat** 64.82 246 P P 02 51 49.8 +0.6
PSI pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
CIS **Catalina Islan** 64.83 67 ⇓P P 02 51 48.5 -0.8
baz=65
SHPR **Sheep Range** 64.87 63 eP P 02 51 49.7 +0.2
TUQ **Turquoise Mtn.** 65.09 64 P P 02 51 50.9 0.0
baz=65,SNR=23
ARUT **Antelope Range** 65.09 61 eP P 02 51 50.7 -0.3
NGP **Nagpur** 65.09 275 eP P 02 51 51.0 0.0
NGP AMb AMB 02 51 56.5
comp=Z,55nm,1.0s,mb5.6
V11A **Goodsprings** 65.13 64 P P 02 51 51.4 +0.1
baz=65,SNR=13
BBRC **Big Bear Sol-O** 65.22 66 ⇑P P 02 51 51.7 -0.1
baz=65
HEC **Hector,Ludlow** 65.22 65 P P 02 51 51.8 0.0
baz=65,SNR=17
MOS **Moscow** 65.24 326 eP P 02 51 50.3 -1.6
MOS *i* 02 52 02.1
MOS pmax pmax
comp=Z,51nm,1.0s,mb5.5
CCUT **Cedar City** 65.29 61 eP P 02 51 52.2 0.0
U12A **Valley of Fire** 65.30 63 ⇑P P 02 51 51.9 -0.4
baz=65
MSU **Marysvale** 65.38 59 eP P 02 51 53.3 +0.5
TMUT **Trail Mountain** 65.44 58 eP P 02 51 53.3 0.0
MURC **Murrieta** 65.47 66 ⇑P P 02 51 52.8 -0.6
baz=65,SNR=7.2
NSS **Namsos** 65.55 343 eP P 02 51 53.9 0.0
NSS AMb AMB 02 52 10.3
comp=Z,56nm,1.5s,mb5.4
NSS **Namsos** 65.55 343 eP P 02 51 53.9 0.0
comp=Z,56nm,1.5s,mb5.4
V12A **Nelson** 65.56 63 ⇑P P 02 51 53.8 -0.2
baz=65,SNR=14
GMRC **Granite Mounta** 65.68 65 P P 02 51 54.5 -0.2
baz=66,SNR=17
W12A **Cal Nev Ari** 65.83 64 ⇑P P 02 51 55.6 -0.2
baz=66
PFO **Pinyon Flat Ob** 65.94 66 eP P 02 51 56.3 -0.1
PFO pmax pmax
comp=Z,28nm,1.5s,mb5.1
PFO **Pinyon Flat Ob** 65.94 66 eP P 02 51 56.3 -0.2
comp=Z,28nm,1.5s,mb5.1
PFO **Pinyon Flat Ob** 65.94 66 ⇑P P 02 51 55.9 -0.5
baz=66,SNR=5.5
SRU **San Rafael** 65.97 58 eP P 02 51 56.6 0.0
SRU pmax pmax
comp=Z,44nm,1.0s,mb5.4
SRU **San Rafael** 65.97 58 eP P 02 51 56.6 -0.1
comp=Z,44nm,1.0s,mb5.4
BELC **Belle Mtn.** 65.97 65 ⇑P P 02 51 55.8 -0.8
baz=66,SNR=8.0
109C **Camp Elliot, M** 66.00 67 ⇓P P 02 51 56.2 -0.6
baz=66
OBN **Obninsk** 66.11 326 eP P 02 51 56.1 -1.4
OBN *i* 02 52 08.8
OBN *e*S S 03 00 48.2 +2.9
OBN pmax pmax
comp=Z,67nm,2.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
OBN MLR MLR
comp=Z,100nm,21.0s
OBN **Obninsk** 66.11 326 eP P 02 51 56.1 -1.4
comp=Z,28nm,1.1s,mb5.2
ULM **Lac du Bonnet** 66.12 41 P P 02 51 56.9 -0.7
comp=Z,7.0nm,0.9s,mb4.7,baz=315,slow=6.2,SNR=8.9
ULM LR LR 03 22 51.3
comp=Z,91nm,18.8s,MS4.0,baz=307,slow=38
ULM **Lac du Bonnet** 66.12 41 eP P 02 51 56.6 -1.0
comp=Z,40nm,1.5s,mb5.2
RSSD **Black Hills** 66.28 50 eP P 02 51 58.0 -0.6
RSSD pmax pmax
comp=Z,35nm,1.1s,mb5.3
RSSD **Black Hills** 66.28 50 eP P 02 51 58.0 -0.6
comp=Z,35nm,1.1s,mb5.3
IRM **Iron Mountain** 66.40 65 P P 02 51 59.2 -0.2
baz=66,SNR=26
BAR **Barrett** 66.41 67 eP P 02 51 58.9 -0.6
MONP **Monument Peak** 66.43 67 ⇓P P 02 51 59.2 -0.4
baz=66,SNR=5.4
BC3 **Big Chuckw Mtn** 66.54 65 ⇑P P 02 51 59.8 -0.5
baz=66,SNR=7.0
W13A **Hualapai Mount** 66.57 63 ⇓P P 02 52 00.2 -0.3
baz=66,SNR=7.7
CTA **Charters Tower** 66.63 188 P P 02 51 59.6 -1.3
comp=Z,1.8nm,0.3s,mb4.6,baz=17,slow=6.3,SNR=6.3
CTA **Charters Tower** 66.63 188 P P 02 51 59.6 -1.3
CTA pmax pmax
comp=Z,2.0nm,0.3s
SWSC **Sam W. Stewart** 66.79 66 ⇑P P 02 52 01.2 -0.7
baz=67
JASL **Jaisalmer** 66.80 285⇑*i*x x 02 51 58.1
X13A **Yucca** 66.94 64 ⇑P P 02 52 02.5 -0.3
baz=67,SNR=29
PDMCI **Parker Dam,Lak** 66.94 64 P P 02 52 02.6 -0.2
baz=67,SNR=24
VRHR **Novokhopersk** 66.98 321 eP P 02 52 00.9 -2.2
VRHR pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
VRHR pmax pmax

VRHR pmax pmax
comp=N,1.0nm,0.7s
W14A Seligman 66.99 63 ⇑P **P 02 52 03.5 +0.3**
baz=67,SNR=33
Y12C Blythe 67.06 65 ⇑P **P 02 52 03.4 -0.2**
baz=67
PV10 Paradox Valley 67.32 58 *e*P **P 02 52 05.6 +0.3**
GLA Glamis 67.33 66 *e*P **P 02 52 05.0 -0.3**
GLA Glamis 67.33 66 ⇑P **P 02 52 05.2 -0.2**
baz=67,SNR=12
PHWY Pilot Hill 67.41 53 *e*P **P 02 52 06.0 +0.2**
AGMN Agassiz Refuge 67.50 43 *e*P **P 02 52 05.3 -1.2**
comp=E,40nm,1.2s,mb5.3
W15A Williams 67.51 62 ⇓P **P 02 52 07.1 +0.6**
baz=67,SNR=7.7
X14A Yava 67.60 63 ⇑P **P 02 52 07.4 +0.3**
baz=67,SNR=15
PV01 Paradox Valley 67.76 58 *e*P **P 02 52 07.8 -0.3**
WUAZ Wupatki 67.83 61 *e*P **P 02 52 08.8 +0.3**
comp=E,44nm,1.4s,mb5.3
WUAZ Wupatki 67.83 61 ⇓P **P 02 52 09.0 +0.5**
baz=68
Y14A Wickenburg 67.88 64 P **P 02 52 08.7 -0.1**
baz=68,SNR=23
VRSR Storozhevoye 67.94 322 *e*P **P 02 52 09.1 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
HYB Hyderabad 67.97 272 *i* P **P 02 52 10.0 +0.6**
HYB Hyderabad 67.97 272 *e*P **P 02 52 10.0 +0.6**
X15A Humboldt 67.99 63 P **P 02 52 10.1 +0.6**
baz=68,SNR=46
Z14A Wintersburg 68.30 64 ⇓P **P 02 52 11.0 -0.4**
baz=68
ISCO Idaho Springs 68.33 55 *e*P **P 02 52 12.2 +0.5**
ISCO pmax pmax
comp=Z,29nm,1.1s,mb5.2
ISCO Idaho Springs 68.33 55 *e*P **P 02 52 12.2 +0.5**
comp=Z,29nm,1.1s,mb5.2
DOMB Dombas 68.37 343 *e*P **P 02 52 13.7 +1.8**
DOMB AMb AMB 02 52 15.4
comp=Z,9.0nm,0.8s,mb4.8
DOMB Dombas 68.37 343 *e*P **P 02 52 13.7 +1.8**
comp=Z,9.0nm,0.8s,mb4.8
MVCO Mesa Verde 68.42 58 *e*P **P 02 52 12.0 -0.2**
comp=Z,41nm,1.3s,mb5.3
MVCO Mesa Verde 68.42 58 ⇑P **P 02 52 12.2 0.0**
baz=68
WRAB Tennant Creek 68.53 200 P **P 02 52 12.0 -0.9**
comp=Z,191nm,1.3s,mb5.9,SNR=15
WRAB Tennant Creek 68.53 200 *d* iP **P 02 52 11.9 -1.0**
WB2 Warramunga Arr 68.54 200 ⇓ *i* P **P 02 52 11.9 -1.1**
WRA Warramunga Arr 68.55 200 P **P 02 52 12.1 -0.8**
comp=Z,18nm,1.0s,mb5.0,baz=19,slow=6.6,SNR=71
WRA Warramunga Arr 68.55 200 *i* P **P 02 52 12.1 -0.9**
WRA pmax pmax
comp=Z,19nm,1.0s
NB2 NORSAR Subarra 68.83 342 P **P 02 52 14.2 -0.6**
comp=Z,11nm,0.7s,mb4.9,baz=27,slow=6.2
NOA NORSAR Array B 68.83 342 P **P 02 52 13.9 -0.9**
comp=Z,6.0nm,0.7s,mb4.6,baz=26,slow=6.3,SNR=21
NOA LR LR 03 27 44.4
comp=Z,244nm,18.1s,MS4.5,baz=15,slow=40
NOA NORSAR Array B 68.83 342 P **P 02 52 13.9 -0.8**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,244nm,18.2s
NAO01 NORSAR Array S 69.08 342 *e*P **P 02 52 17.5 +1.3**
115A Sonoran Desert 69.19 64 P **P 02 52 17.3 +0.3**
baz=69,SNR=11
FITZ Fitzroy Crossi 69.33 209 *e*P **P 02 52 17.9 0.0**
comp=Z,25nm,0.9s,mb5.1
FITZ Fitzroy Crossi 69.33 209 P **P 02 52 17.4 -0.5**
comp=Z,16nm,1.0s,mb4.9,baz=22,slow=7.9,SNR=18
116A Eloy 69.61 64 ⇑P **P 02 52 19.0 -0.6**
baz=69,SNR=5.4
HYA Hoyanger 69.73 344 *e*P **P 02 52 23.8 +3.5**
HYA AMb AMB 02 52 29.5
comp=Z,57nm,1.9s,mb5.2
HYA Hoyanger 69.73 344 *e*P **P 02 52 23.8 +3.5**
comp=Z,57nm,1.9s,mb5.2
EYMN Ely 69.78 41 *e*P **P 02 52 20.1 -0.6**
comp=Z,24nm,1.1s,mb5.0
SDCO Great Sand Dun 69.80 56 *e*P **P 02 52 20.8 +0.1**
comp=Z,24nm,1.3s,mb5.0
TUC Tucson 70.35 64 *e*P **P 02 52 24.1 0.0**
TUC pmax pmax
comp=Z,50nm,1.9s,mb5.1
TUC Tucson 70.35 64 *e*P **P 02 52 24.1 0.0**
comp=Z,50nm,1.9s,mb5.1
ECSD EROS,Sioux Fal 70.40 47 *e*P **P 02 52 23.1 -1.3**
comp=Z,30nm,1.3s,mb5.1
KONO Kongsberg 70.44 342 *e*P **P 02 52 27.3 +2.7**
KONO AMb AMB 02 52 37.0
comp=Z,85nm,2.1s,mb5.3
KONO Kongsberg 70.44 342 *e*P **P 02 52 27.3 +2.7**
comp=Z,85nm,2.1s,mb5.3
KAD Karad 71.06 275 *e*P **P 02 52 29.5 +1.0**
KAD AMb AMB 02 52 36.1
comp=Z,34nm,0.7s,mb5.4
LAZ Ladron 71.14 60 *e*P **P 02 52 29.3 +0.3**
ANMO Albuquerque 71.17 59 *e*P **P 02 52 29.3 +0.2**
ANMO pmax pmax
comp=Z,21nm,1.2s
ANMO Albuquerque 71.17 59 *e*P **P 02 52 29.3 +0.2**
comp=Z,21nm,1.2s,mb5.0
BLS5 Blasjo 71.29 343 *e*P **P 02 52 33.1 +3.2**
LENM Lemitar 71.40 60 *e*P **P 02 52 30.8 +0.2**
LPM Los Pinos Moun 71.51 60 *e*P **P 02 52 31.3 +0.1**
BNM Barren Site 71.62 60 *e*P **P 02 52 32.3 +0.4**
KIV Kislovodsk 71.71 315 *e*P **P 02 52 31.6 -0.8**
KIV *e* 02 52 49.1
KIV *e*S S 03 01 51.3 -0.3
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,599nm,17.0s,MS4.9
KIV Kislovodsk 71.71 315 *e*P **P 02 52 34.5 +2.1**
comp=Z,44nm,1.2s,mb5.3
ZEI Tsey 71.98 314 *e*P **P 02 52 33.5 -0.5**
ZEI *e**PP pP 02 52 37.3 -1.9
AS31 Alice Springs 72.23 200 *e*P **P 02 52 35.5 0.0**
ASAR Alice Springs 72.23 200 P **P 02 52 35.6 +0.1**
comp=Z,21nm,0.9s,mb5.0,baz=13,slow=5.3,SNR=140
ASAR Alice Springs 72.23 200 P **P 02 52 35.7 +0.2**
ASAR pmax pmax
comp=Z,21nm,0.9s
ASPA Alice Springs 72.23 200 ⇓ *i* P **P 02 52 35.7 +0.2**
AKASG Malin Array Be 72.34 327 P **P 02 52 35.1 -1.0**
comp=Z,3.9nm,0.5s,mb4.6,baz=33,slow=5.9,SNR=21
AKASG PP PP 02 55 15.4 -1.5
comp=Z,0.3nm,0.3s,baz=33,slow=8.5,SNR=5.7
AKASG LR LR 03 28 00.7
comp=Z,299nm,18.0s,MS4.6,baz=40,slow=39
AKASG Malin Array Be 72.34 327 P **P 02 52 35.1 -1.0**
AKASG 02 55 15.4
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,299nm,18.0s
AKBB Malin Array Si 72.34 327 *e*P **P 02 52 35.2 -0.9**
KIEV Kiev 72.35 327 *e*P **P 02 52 34.7 -1.5**
KIEV pmax pmax
comp=Z,22nm,1.0s,mb5.0
KIEV Kiev 72.35 327 *e*P **P 02 52 34.7 -1.5**
comp=Z,22nm,1.0s,mb5.0
SCHQ Schefferville 73.22 24 LR LR 03 30 03.0
comp=Z,120nm,20.0s,MS4.2,baz=333,slow=40
SCHQ Schefferville 73.22 24 *e*P **P 02 52 41.0 -0.4**
SOC Sochi 73.42 317 *e*P **P 02 52 41.7 -0.8**
SOC *e* 02 52 55.8
SOC *e* 02 55 26.7
SOC *e*PPP 02 57 17.9
SOC *e*S S 03 02 08.0 -3.1
SOC *e* 03 02 46.7
SOC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SCIA State Center 73.44 46 *e*P **P 02 52 41.9 -0.8**
comp=Z,69nm,1.2s,mb5.5
GNI Garni 73.47 311 *e*P **P 02 52 46.7 +3.9**
GNI Garni 73.47 311 *e*P **P 02 52 44.5 +1.7**
GNI pmax pmax
comp=Z,64nm,1.4s
GNI Garni 73.47 311 *e*P **P 02 52 44.5 +1.6**
comp=Z,64nm,1.4s,mb5.4
ANN Anapa 73.56 319 *e*P **P 02 52 43.1 -0.3**
ANN *e* 02 52 58.2
ANN *e* 02 55 26.6
ANN *e*PPP 02 57 12.4
ANN *e*S S 03 02 15.5 +2.8
ANN *e*SS SS 03 07 00.7 +5.1
ANN pmax pmax
comp=Z,32nm,1.4s,mb5.1
AMTX Amarillo 74.00 56 *e*P **P 02 52 45.8 -0.2**
comp=Z,40nm,1.1s,mb5.3
MNTX Cornudas Mount 74.08 61 *e*P **P 02 52 46.2 -0.3**
comp=Z,29nm,1.3s,mb5.0
GDL2 Guadalupe Moun 74.34 60 *e*P **P 02 52 47.9 0.0**
CLDR Caldiran 74.64 311 *e*P **P 02 52 51.5 +1.8**
AGRB Hanur-Agry 74.80 312 *e*P **P 02 52 51.0 +0.4**
SIM Simferopol' 74.92 321 *e*P **P 02 52 49.7 -1.6**
SIM *e* 03 02 28.3 +0.2
SIM pmax pmax
comp=Z,13nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,410nm,18.0s,MS4.8
LVV L'vov 74.96 329 *e*P **P 02 52 49.2 -2.3**
ERZM Erzurum 75.38 313 *i* P **P 02 52 56.0 +2.1**
EZM Erzurum 75.38 313 *e*P **P 02 52 56.4 +2.4**
KIS Kishinev 75.50 325 *e*P **P 02 52 58.0 +3.4**
KIS *e* 03 02 38.0
KIS MLR MLR
comp=Z,300nm,15.0s,MS4.7
KIS MLR MLR
comp=Z,200nm,15.0s
KWP Kalwaria 75.58 330 *e*P **P 02 52 55.4 +0.3**
WMOK Wichita Mounta 75.76 54 *e*P **P 02 52 55.4 -0.7**
WMOK pmax pmax
comp=Z,22nm,1.1s,mb5.0
WMOK Wichita Mounta 75.76 54 *e*P **P 02 52 55.4 -0.8**
comp=Z,22nm,1.1s,mb5.0
HAKT HAKKARI 75.92 310 *i* P **P 02 52 58.4 +1.3**
OJC Ojcow 76.06 332 *e*P **P 02 52 57.7 -0.1**
CUKT Cukurca 76.21 310 *e*P **P 02 52 58.5 -0.2**
STHS Stebnicka Huta 76.27 331 *i* P **P 02 52 59.7 +0.7**
STHS pmax pmax
comp=Z,13nm,1.0s,mb4.8
STHS Stebnicka Huta 76.27 331 *i* P **P 02 52 59.7 +0.7**
comp=Z,13nm,1.0s,mb4.8
KOLS Kolonicke sedl 76.33 330 *e*P **P 02 52 59.2 -0.2**
BURAR Bucovina Array 76.38 327 ⇓ *i*P **P 02 52 59.4 -0.3**
BURAR Bucovina Array 76.38 327 ⇓P **P 02 52 59.4 -0.3**
ARMA Armidale 76.54 183 ⇓ *i*P **P 02 53 00.9 +0.3**
NIE Niedzica 76.58 331 *e*P **P 02 53 01.4 +0.6**
KSP Ksiaz 76.61 334 *e*P **P 02 53 00.3 -0.7**
KSP *e**PP pP 02 53 03.8 -2.4
KSP Ksiaz 76.61 334 *e*P **P 02 53 00.3 -0.7**
KSP *e*pP pP 02 53 03.8 -2.4
KSP LR LR
comp=Z,1μm,17.0s,MS5.3
LTX Lajitas 76.80 61 *e*P **P 02 53 01.9 -0.1**
LTX pmax pmax
comp=Z,50nm,1.0s,mb5.4
LTX Lajitas 76.80 61 *e*P **P 02 53 01.9 -0.1**
comp=Z,50nm,1.0s,mb5.4
TXAR Lajitas Array 76.80 61 P **P 02 53 01.8 -0.2**
comp=Z,24nm,0.8s,mb5.2,baz=299,slow=4.2,SNR=270
TXAR Lajitas Array 76.80 61 P **P 02 53 01.8 -0.2**
TXAR pmax pmax
comp=Z,24nm,0.8s
OKC Ostrava-Krasne 76.92 333 *e*P **P 02 53 02.9 +0.2**
OKC *e*pP pP 02 53 05.9 -2.0
UPC Upice 76.99 334 *e*P **P 02 53 02.9 -0.2**
DPC Dobruska-Polom 77.03 334 *e*P **P 02 53 01.4 -2.0**
DPC *e*pP pP 02 53 07.3 -1.3
DPC AMS AMS 03 32 10.0
comp=Z,600nm,15.3s
PTK Pertek 77.14 314 *e*P **P 02 53 03.7 -0.3**
CLL Collm 77.14 336 ⇓ *i*P **P 02 53 03.0 -1.0**
CLL *i* pP 02 53 07.2 -2.0
CLL *i* 02 53 10.1
CLL pmax pmax
comp=Z,15nm,0.9s,mb4.9
CLL Collm 77.14 336 ⇓ *i*P **P 02 53 03.0 -1.0**
comp=Z,15nm,0.9s,mb4.9
CLL *i* pP 02 53 07.2 -2.0
CLL *i* 02 53 10.1
CLL Collm 77.14 336 ⇓ *i*P **P 02 53 03.0 -1.0**
comp=Z,15nm,0.9s,mb4.9
CLL *i* pP pP 02 53 07.2 -2.0
comp=Z,28nm,1.1s
CLL *i* sP sP 02 53 09.1 -2.0
CLL *i* sPcP 02 53 21.6
comp=Z,38nm,1.1s
MORC Moravsky Berou 77.16 333 ⇓ *i*P **P 02 53 04.1 0.0**
MORC Moravsky Berou 77.16 333 *e*P **P 02 53 04.2 +0.2**
comp=Z,10nm,0.9s,mb4.8
MSL Mosul 77.20 310 *ex* x 02 53 06.0
MSL *ex* x 03 02 48.0
VRI Vrincioaia 77.25 326 ⇑ *i*P **P 02 53 08.1 +3.5**
BRG Berggiesshubel 77.27 336 *e*P **P 02 53 07.2 +2.5**
comp=Z,6.5nm,1.0s,mb4.5
BRG *e* 02 55 53.9
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 77.27 336 *e*P **P 02 53 07.2 +2.5**
BRG *e* 02 55 53.9
KECS Kecovo 77.32 331 *e*P **P 02 53 04.9 -0.1**
KECS *e*pP pP 02 53 08.6 -1.6
KECS Kecovo 77.32 331 *e*P **P 02 53 04.9 -0.1**
KECS *e* pP 02 53 08.7 -1.5
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 77.32 331 *e*P **P 02 53 04.9 -0.1**
comp=Z,4.5nm,1.0s,mb4.3
KECS *e* pP 02 53 08.7 -1.5
BOYT Boyabat 77.34 318 *i* P **P 02 53 05.9 +0.8**
PVCC Panska Ves 77.40 335 *e*P **P 02 53 03.3 -2.1**
PVCC *e*pP pP 02 53 08.1 -2.5
SVSK Karacayir 77.53 316 *e*P **P 02 53 06.0 -0.1**
ELZG Elazig 77.65 314 *i* P **P 02 53 08.7 +1.9**
VYHS Vyhne 77.86 332 *i* P **P 02 53 08.2 +0.2**
VYHS *e* pP 02 53 11.5 -1.7
VYHS pmax pmax
comp=Z,24nm,2.2s,mb4.7
VYHS Vyhne 77.86 332 *i* P **P 02 53 08.2 +0.2**
comp=Z,24nm,2.2s,mb4.7
VYHS *e* pP 02 53 11.5 -1.7
VRAC Vranov 77.87 333 ⇓ *i*P **P 02 53 08.3 +0.3**
VRAC Vranov 77.87 333 ⇓P **P 02 53 08.2 +0.2**
MLR Muntele Rosu 77.87 326 ⇓ *i*P **P 02 53 08.7 +0.7**
MLR Muntele Rosu 77.87 326 ⇓P **P 02 53 08.7 +0.6**
PRU Pruhonice 77.89 335 *e*P **P 02 53 07.6 -0.5**
PRU *e*pP pP 02 53 11.4 -2.0
PRU Pruhonice 77.89 335 *e*P **P 02 53 07.6 -0.5**
PRU *e* pP 02 53 11.4 -2.0
BALT Daday 77.95 319 *i* P **P 02 53 09.2 +0.7**
DRGR 77.99 328 ⇑ *i*P **P 02 53 08.7 0.0**
DRGR 77.99 328 ⇑P **P 02 53 08.7 0.0**
PSZ Piszkesteto 78.01 331 ⇑ *i*P **P 02 53 09.1 +0.3**
CTKT Corum 78.03 317 *i* P **P 02 53 09.6 +0.7**
MALT Malatya 78.07 314 ⇓ *i*P **P 02 53 10.8 +1.6**
MALT Malatya 78.07 314 *e*P **P 02 53 10.8 +1.6**
MALT pmax pmax
comp=Z,15nm,1.1s,mb4.8
MALT Malatya 78.07 314 *e*P **P 02 53 10.8 +1.6**
comp=Z,15nm,1.1s,mb4.8
MOX Moxa 78.12 337 *e*P **P 02 53 09.4 0.0**
comp=Z,31nm,1.4s,mb5.0
MOX *e* pP 02 53 13.2 -1.5
MOX Moxa 78.12 337 *e*P **P 02 53 09.4 0.0**
MOX *e* pP 02 53 13.2 -1.5
MOX pmax pmax
comp=Z,31nm,1.4s,mb5.0
WTSB Winterswijk 78.13 340 *e*P **P 02 53 08.8 -0.7**
VOIR 78.26 326 ⇑ *i*P **P 02 53 10.7 +0.5**
NKC Novy Kostel 78.27 336 *e*P **P 02 53 10.0 -0.2**
NKC *e*pP pP 02 53 14.0 -1.5
JCT Junction City 78.28 58 *e*P **P 02 53 09.6 -0.7**
JCT pmax pmax
comp=Z,55nm,1.2s,mb5.4
JCT Junction City 78.28 58 *e*P **P 02 53 09.6 -0.7**
comp=Z,55nm,1.2s,mb5.4
CORM Corum 78.45 317 *e*P **P 02 53 11.3 0.0**
SAFT Safranbolu 78.50 319 *e*P **P 02 53 10.2 -1.3**
URFA Urfa 78.54 313 *e*P **P 02 53 12.1 +0.3**
SIUC Southern Illin 78.62 47 *e*P **P 02 53 11.6 -0.6**
comp=Z,44nm,1.2s,mb5.3
ZST Bratislava 78.69 332 *e*P **P 02 53 13.2 +0.6**
comp=Z,10nm,1.0s,mb4.7
ZST LR LR
comp=Z,400nm,18.5s,MS4.8
BHD Baghdad 78.76 307 *ex* x 02 53 07.0
ELDT Eldivan 78.76 318 *i* P **P 02 53 14.1 +1.1**
MIAR Mount Ida 78.77 51 *e*P **P 02 53 12.5 -0.5**
MIAR pmax pmax
comp=Z,31nm,1.3s,mb5.1
MIAR Mount Ida 78.77 51 *e*P **P 02 53 12.5 -0.6**
comp=Z,31nm,1.3s,mb5.1
STKA Stephens Creek 78.82 191 ⇓ *i*P **P 02 53 12.5 -0.8**
comp=Z,8.9nm,0.9s,mb4.7
STKA Stephens Creek 78.82 191 P **P 02 53 12.3 -1.0**
comp=Z,11nm,0.9s,mb4.8,baz=359,slow=7.6,SNR=12
KHC Kasperske Hory 78.93 335 *e*P **P 02 53 14.0 +0.1**
KHC epP pP 02 53 16.9 -2.3
KHC AMS AMS 03 34 50.0
comp=Z,600nm,12.0s
GRA1 Grafenberg Arr 79.09 337 *e*P **P 02 53 14.3 -0.5**
comp=Z,37nm,1.0s,mb5.3
GRA1 *e* pP 02 53 19.8 -0.2
GRA1 LR LR
comp=Z,200nm,18.5s,MS4.5
GRF Grafenberg Arr 79.09 337 *e*P **P 02 53 14.3 -0.5**
comp=Z,37nm,1.0s,mb5.3
GRF *e* pP 02 53 19.8 -0.2
GRF *e*L 03 34 30.7
comp=Z,181nm,18.5s
GRF Grafenberg Arr 79.09 337 *e*P **P 02 53 14.3 -0.5**
GRF *e* pP 02 53 19.8 -0.2
GRF pmax pmax
comp=Z,37nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,200nm,18.5s,MS4.5
GRFO Grafenberg 79.09 337 *e*P **P 02 53 14.6 -0.2**
GRFO pmax pmax
comp=Z,31nm,1.0s,mb5.2
GRFO Grafenberg 79.09 337 *e*P **P 02 53 14.6 -0.2**
comp=Z,31nm,1.0s,mb5.2
GEC2 GERESS Array S 79.15 335 *e*P **P 02 53 14.7 -0.4**
GERES GERESS Array B 79.15 335 P **P 02 53 14.6 -0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=33,slow=5.6,SNR=22
GERES LR LR 03 35 36.5
comp=Z,341nm,18.0s,MS4.7,baz=12,slow=41
GZR Gura Zlata 79.16 328 ⇓ *i*P **P 02 53 15.2 +0.1**
GZR Gura Zlata 79.16 328 ⇓P **P 02 53 15.2 +0.1**
BR131 Keskin Array S 79.28 318 *e*P **P 02 53 16.5 +0.7**
comp=Z,6.7nm,0.8s,mb4.6
BRTR Keskin Array B 79.28 318 P **P 02 53 16.1 +0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=68,slow=4.1,SNR=17
BRTR Keskin Array B 79.28 318 ⇑ *e*P **P 02 53 16.2 +0.4**
CONA Conrad Observa 79.32 333 ⇑ *i*P **P 02 53 14.5 -1.5**
comp=Z,16nm,1.8s,mb4.7
SGKT Sivrigoynuk 79.32 319 *i* P **P 02 53 16.4 +0.3**
DLF Lyons Farm 79.33 349 *e*P **P 02 53 21.0 +4.9**
DCN Croghan 79.39 349 *e*P **P 02 53 20.0 +3.6**
BZS Buzias 79.39 328 ⇓ *i*P **P 02 53 15.8 -0.6**
BZS Buzias 79.39 328 ⇓P **P 02 53 15.8 -0.6**
HGN Heimansgroeve 79.45 340 *e*P **P 02 53 16.9 +0.2**
comp=Z,50nm,1.3s,mb5.3
KAMT Kaman 79.52 317 *e*P **P 02 53 21.2 +4.0**
ANTO Ankara 79.55 318 ⇓ *i*P **P 02 53 18.0 +0.7**
ANTO Ankara 79.55 318 *e*P **P 02 53 17.8 +0.5**
comp=Z,11nm,0.8s,mb4.8
MEM Membach 79.57 340 P **P 02 53 16.8 -0.6**
TOD Tromm 79.81 338 *e*P **P 02 53 21.2 +2.5**
ABH Alteburg 79.88 339 *e*P **P 02 53 23.5 +4.4**
MOA Molln 79.88 334 ⇑ *i*P **P 02 53 16.8 -2.3**
comp=Z,14nm,1.1s,mb4.8
BCLA Clavier 79.91 341 P **P 02 53 18.3 -0.9**
PKSM Moragy 79.92 331 ⇓ *i*P **P 02 53 18.4 -0.9**
PKSM Moragy 79.92 331 ⇓P **P 02 53 18.4 -0.8**
ARSA Arzberg 80.02 333 ⇑ *i*P **P 02 53 19.3 -0.6**
comp=Z,16nm,1.5s,mb4.8
DOU Dourbes 80.38 341 P **P 02 53 23.4 +1.7**
FORT Forrest 80.50 203 *e*P **P 02 53 22.3 -0.1**
comp=Z,22nm,0.8s,mb5.1
PERS Pernice 80.70 333 *i* P **P 02 53 23.6 +0.1**
ESKT Eskisehir 80.72 319 *i* P **P 02 53 23.1 -0.5**
KIZT Kizilcal 80.77 318 *e*P **P 02 53 24.6 +0.7**
KBA Koelnbreinsper 80.85 334 ⇑ *i*P **P 02 53 25.3 +1.0**
comp=Z,50nm,0.8s,mb5.5
ULDT Uludag 80.97 321 *i* P **P 02 53 25.1 +0.2**
OBKA Obir 80.99 333 ⇓ *i*P **P 02 53 25.1 +0.1**
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 81.11 338 *e*P **P 02 53 25.5 -0.2**
BFO pmax pmax
comp=Z,22nm,1.0s,mb5.0
BFO Black Forest 81.11 338 *e*P **P 02 53 25.5 -0.2**
comp=Z,22nm,1.0s,mb5.0
WATA Walderalm 81.13 335 ⇑ *i*P **P 02 53 26.5 +0.7**
comp=Z,6.5nm,0.5s,mb4.8
WTTA Wattenberg 81.18 335 ⇑ *i*P **P 02 53 27.0 +1.0**
comp=Z,21nm,1.2s,mb4.7
WTTA Wattenberg 81.18 335 ⇓ *i* P **P 02 53 32.2 +6.1**
WTTA Wattenberg 81.18 335 P **P 02 53 32.2 +6.1**
WTTA Wattenberg 81.18 335 P **P 02 53 27.0 +1.0**
WTTA *e* pP 02 53 32.2 +0.9
PPT Papeete 81.19 127 *e*S S 03 03 59.2 +24
comp=Z,404nm,32.8s
PPT *e*LR LR 03 18 05.0
comp=Z,359nm,26.2s,baz=328
PPT Papeete 81.19 127 LR LR 03 24 23.7
comp=Z,179nm,19.6s,MS4.4,baz=295,slow=32
MOTA Moosalm 81.26 336 ⇑ *i*P **P 02 53 27.1 +0.6**
comp=Z,21nm,1.1s,mb5.0
DIVS Divcibare 81.28 329 *e*P **P 02 53 26.0 -0.6**
WLS Welschbruch 81.28 339 *e*P **P 02 53 27.1 +0.5**
CDF Champ du Feu 81.31 339 *e*P **P 02 53 25.7 -1.0**
comp=Z,53nm,1.1s,mb5.1
SQTA Sankt Quirin 81.34 336 ⇑ *i*P **P 02 53 25.3 -1.6**
comp=Z,14nm,0.9s,mb4.9
VTS Vitosha 81.38 326 *e*P **P 02 53 26.4 -0.7**
VTS *e*S pP 02 53 46.0 +14
VTS Vitosha 81.38 326 ⇓ *i*P **P 02 53 27.1 0.0**
VTS Vitosha 81.38 326 ⇓P **P 02 53 27.1 +0.1**
ECH Echery 81.52 339 *e*P **P 02 53 28.1 +0.3**
FELD Feldberg im Sc 81.61 338 *e*P **P 02 53 28.3 -0.1**
DAVA Damuels 81.65 337 ⇓ *i*P **P 02 53 28.5 -0.1**
comp=Z,9.1nm,0.8s,mb4.7
THEF They Montfort 81.80 339 *e*P **P 02 53 28.3 -1.0**
MOF Molkenrain 81.86 338 *e*P **P 02 53 28.8 -0.9**
BBS Basel-Blauen 82.12 338 *e*P **P 02 53 34.5 +3.5**
TKTP Tekketepe 82.16 319 *i* P **P 02 53 34.1 +2.9**
LOMF Lomont 82.40 338 *e*P **P 02 53 36.3 +3.8**
SRS Serrai 82.48 325 *e*P **P 02 53 36.9 +4.0**
VAY Valandovo 82.71 326 *e*P **P 02 53 29.5 -4.6**
KNT Kendrikon 82.71 325 *e*P **P 02 53 33.4 -0.7**
KNT *e*S pP 02 53 39.4 0.0
GRR Gorron 83.14 344 *e*P **P 02 53 35.3 -1.0**
comp=Z,23nm,0.6s,mb5.1
SMF Signal de Mont 83.79 340 *e*P **P 02 53 38.8 -0.9**
comp=Z,100nm,1.1s,mb5.6
LPG La Plagne 84.14 338 *e*P **P 02 53 41.5 0.0**
comp=Z,84nm,1.3s,mb5.4
BDRM Kayabasi 84.26 320 *i* P **P 02 53 41.5 -0.6**
KLBR Kellerberrin 84.48 211 *e*P **P 02 53 42.1 -1.1**
comp=Z,39nm,1.6s,mb5.3
PLDF La Plantade 84.48 340 *e*P **P 02 53 48.8 +5.6**
AGO Saint Agoulin 84.52 340 *e*P **P 02 53 48.8 +5.4**
PYM Petit Puy Mans 84.83 340 *e*P **P 02 53 49.0 +4.1**
LBL Lubilhac 85.26 340 *e*P **P 02 53 50.9 +3.8**
CAF Calviac 85.83 341 *e*P **P 02 53 49.1 -0.8**
comp=Z,33nm,1.0s,mb5.2
NWAO Narrogin (SRO) 85.87 211 P **P 02 53 48.6 -1.5**
comp=Z,28nm,1.1s,mb5.4,baz=1.2,slow=6.6,SNR=6.9
NWAO Narrogin (SRO) 85.87 211 *e*P **P 02 53 50.0 -0.1**
NWAO pmax pmax
comp=Z,40nm,1.2s
NWAO Narrogin (SRO) 85.87 211 *e*P **P 02 53 49.6 -0.5**
comp=Z,40nm,1.3s,mb5.5
EIL Elat 86.63 311 *e*P **P 02 53 53.4 -0.5**
TIP Timpagrande 86.76 328 *e*P **P 02 53 58.8 +4.3**
ESDC Sonseca Array 92.13 344 P **P 02 54 18.6 -1.2**
comp=Z,1.6nm,0.9s,mb4.4,baz=9.9,slow=3.5,SNR=5.6
ESDC LR LR 03 42 56.6
comp=Z,225nm,18.8s,MS4.6,baz=35,slow=40
KEST Kesra 92.40 332 P **P 02 54 20.0 -1.0**
comp=Z,2.0nm,0.8s,mb4.5,baz=297,slow=9.0,SNR=3.2
KEST LR LR 03 41 51.6
comp=Z,77nm,20.0s,MS4.2,baz=331,slow=39

RKT	**Rikitea**	**93.99**	**120**	*e*SP	SP		03 06 48.6	-3.5
	comp=Z,129nm,29.5s								
RKT				*e*SS	SS		03 11 53.0	-4.7
	comp=Z,99nm,29.8s								
RKT				*e*LR	LR		03 23 58.3		
	comp=Z,314nm,33.0s								
SDV	**Santo Domingo**	**111.78**	**49**	*e*Pdif	Pdif		02 55 53.0	+5.0
TORD	**Torodi Ar. Bea**	**115.85**	**330**	PKiKP	PKiKP		02 59 51.2	-1.7
	comp=Z,1.0nm,0.9s,baz=17,slow=2.3,SNR=10								
TORD				PKKPbc	PKKPbc		03 10 22.5	-1.8
	comp=Z,1.6nm,1.0s,baz=210,slow=2.2,SNR=6.6								
VNDA	**Vanda**	**123.77**	**178**	PKP	PKPdf		03 00 04.7	-3.6
	comp=Z,2.1nm,1.1s,baz=278,slow=3.6,SNR=3.7								
LPAZ	**La Paz**	**133.62**	**64**	PKP	PKPdf		03 00 27.4	+0.5
	comp=Z,2.7nm,1.0s,baz=12,slow=6.1,SNR=10								
LPAZ	**La Paz**	**133.62**	**64**	*e*PKPdf	PKPdf		03 00 27.6	+0.6
QSPA	**South Pole Qui**	**136.18**	**180**	*e*PKPdf	PKPdf		03 00 30.4	-1.3
LVC	**Limon Verde**	**137.75**	**71**	*e*PKPdf	PKPdf		03 00 35.2	+0.5
CFAA	**Coronel Fontan**	**144.09**	**81**	PKP	PKPdf		03 00 42.5	-3.5
	comp=Z,0.8nm,0.8s,baz=246,slow=1.9,SNR=12								
NVL	**N'lazarevskaya**	**149.74**	**203**	*d* PKP2	PKPab		03 00 57.1	-8.4
NVL				pmax	pmax				
	comp=Z,38nm,1.3s								
USHA	**Ushuaia**	**151.89**	**123**	PKPbc	PKPbc		03 01 03.0	-2.3
	comp=Z,27nm,1.0s,baz=266,slow=2.5,SNR=5.6								
TRQA	**Tornquist**	**151.92**	**86**	*e*PKPbc	PKPbc		03 01 03.7	-1.7
PMSA	**Palmer Station**	**152.17**	**145**	PKPbc	PKPbc		03 01 03.2	-2.7
	comp=Z,40nm,1.0s,baz=267,slow=4.7,SNR=5.7								
PMSA	**Palmer Station**	**152.17**	**145**	*e*PKPbc	PKPbc		03 01 03.4	-2.6
SNAA	**Sanae**	**152.52**	**195**	PKPbc	PKPbc		03 01 03.9	-2.8
	comp=Z,3.9nm,1.0s,baz=188,slow=2.1,SNR=26								
SNAA				PKPab	PKPab		03 01 14.6	-2.4
	comp=Z,5.0nm,0.9s,baz=120,slow=3.5,SNR=13								
SNAA	**Sanae**	**152.52**	**195**	*e*PKPdf	PKPdf		03 00 56.6	-3.2
SNAA				*e*			03 01 03.9		
SNAA				*e*			03 01 09.7		
SNAA				*e*			03 01 15.1		
SNAA				*e*			03 01 18.5		
SNAA				*e*			03 01 27.5		
SNAA				*e*			03 01 37.4		
SNAA				*e*			03 04 28.9		
SNAA				*e*			03 04 32.3		
SNAA				*e*			03 04 42.7		
SNAA				*e*			03 04 48.6		
SNAA	**Sanae**	**152.52**	**195**	*e*PKPbc	PKPbc		03 01 03.7	-3.0
SNAA				*e*PKPab	PKPab		03 01 14.9	-2.1
VNA2	**Neumayer--Watz**	**153.94**	**193**	*e*PKPdf	PKPdf		03 00 59.3	-2.5
VNA2				*e*			03 01 07.7		
VNA2				*e*			03 01 14.5		
VNA2				*e*			03 01 21.4		
VNA2				*e*			03 01 25.7		
VNA2				*e*			03 01 33.7		
VNA2				*e*			03 01 41.9		
VNA2				*e*			03 01 51.6		
VNA2				*e*			03 04 21.4		
VNA2				*e*			03 04 24.5		
VNA2				*e*			03 04 34.9		
VNA2				*e*			03 04 38.4		
VNA2				*e*			03 04 57.1		
VNA3	**Neumayer Olymp**	**153.99**	**192**	*e*PKPdf	PKPdf		03 00 59.0	-2.9
VNA3				*e*			03 01 07.1		
VNA3				*e*			03 01 14.1		
VNA3				*e*			03 01 21.2		
VNA3				*e*			03 01 24.8		
VNA3				*e*			03 01 33.4		
VNA3				*e*			03 01 41.1		
VNA3				*e*			03 01 49.8		
VNA3				*e*			03 04 20.8		
VNA3				*e*			03 04 34.6		
VNA3				*e*			03 04 37.8		
VNA3				*e*			03 04 56.6		
VNA1	**Neumayer--Stat**	**154.31**	**193**	*e*PKPdf	PKPdf		03 01 00.8	-1.6
VNA1				*e*			03 01 08.7		
VNA1				*e*			03 01 15.3		
VNA1				*e*			03 01 23.1		
VNA1				*e*			03 01 26.5		
VNA1				*e*			03 01 42.7		
VNA1				*e*			03 04 36.4		
VNA1				*e*			03 04 40.4		
VNA1				*e*			03 05 00.8		

*BJI **22** 02:44:19.6, 46.30N×154.80E, h10km, mB4.7, mb4.6*
*ISCJB **22** 02:44:22.0±0.5, 46.32N±0.10×154.7E±0.1, h10km, mb4.4/30, Error ellipse: s-maj=14.5km s-min=9.3km az=141.9*
*IDC **22** 02:44:21.9±0.6, 46.31N×154.77E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.4/24, mbtmp4.2/19, ML4.0/1, Error ellipse: s-maj=17.7km s-min=16.1km az=142.0*
*MOS **22** 02:44:23.8±1.0, 46.35N×154.62E, h22km, mb4.5/17, Error ellipse: s-maj=17.3km s-min=13.4km az=111.2*
*NEIC **22** 02:44:23.6±0.4, 46.33N×154.78E, h10km, mb4.5/5, Error ellipse: s-maj=12.7km s-min=10.6km az=158.0*
ISC 22 02:44:26.5±4.4, 4640N±010×1547E±01, h28km±30km, n61, σ0≤89/59, mb4.4/30, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**4.39**	**12**	*e*PN		**Pn**	**02 45 38.0**	**+6.8**
YSS	**Yuzh-Sakhalins**	**8.26**	**278**	*e*PN		**Pn**	**02 46 24.8**	**+0.4**
ASAJ	**Asahikawa**	**8.87**	**259**	Pn		**Pn**	**02 46 32.2**	**-0.4**
	1.7nm,0.3s,baz=102,slow=20,SNR=2.5							
ASAJ	**Asahikawa**	**8.87**	**259**	PN		**Pn**	**02 46 32.3**	**-0.4**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KSRS	**Korea Array**	**21.78**	**255**	P		**P**	**02 49 19.6**	**+3.6**
	comp=Z,4.6nm,0.8s,mb4.0,baz=54,slow=11,SNR=5.4							
BILL	**Bilibino**	**22.50**	**11**	*e*P		**P**	**02 49 23.9**	**+0.2**
BILL				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.2							
BILL	**Bilibino**	**22.50**	**11**	*e*P		**P**	**02 49 23.9**	**+0.2**
	comp=Z,6.2nm,0.6s,mb4.2							
SONM	**Songino Array**	**32.51**	**291**	P		**P**	**02 50 54.3**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=5.8,SNR=2.8							
LZH	**Lanzhou**	**39.02**	**273**	*e*P		**P**	**02 51 53.5**	**+2.9**
LZH				*PP		pP	02 52 02.0	+3.1
LZH				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.6							
LZH	**Lanzhou**	**39.02**	**273**	*e*P		**P**	**02 51 53.5**	**+2.9**
	comp=Z,13nm,1.0s,mb4.6							
LZH				pP		pP	02 52 02.0	+3.1
LZH				sP		sP	02 52 06.0	+3.8
INK	**Inuvik**	**41.35**	**32**	P		**P**	**02 52 09.2**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.0,baz=201,slow=4.5,SNR=3.4							
INK	**Inuvik**	**41.35**	**32**	P		**P**	**02 52 09.2**	**-0.7**
INK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**02 53 03.0**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.1,baz=67,slow=8.4,SNR=5.9							
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**02 53 03.0**	**-0.7**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**50.54**	**37**	P		**P**	**02 53 22.6**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=296,slow=7.0,SNR=5.6							
LSA	**Lhasa**	**51.42**	**275**	*e*P		**P**	**02 53 30.4**	**+1.5**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
LSA	**Lhasa**	**51.42**	**275**	*e*P		**P**	**02 53 30.4**	**+1.5**
	comp=Z,6.7nm,0.7s,mb4.7							
BVAR	**Borovoye Array**	**51.95**	**310**	P		**P**	**02 53 31.8**	**-1.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=31,slow=12,SNR=5.7							
BVAR	**Borovoye Array**	**51.95**	**310**	P		**P**	**02 53 31.8**	**-1.1**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**51.99**	**310**	*e*P		**P**	**02 53 31.9**	**-1.3**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
BRVK	**Borovoye**	**51.99**	**310**	*e*P		**P**	**02 53 31.9**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2							
AAK	**Ala-Archa**	**55.00**	**297**	*e*P		**P**	**02 53 54.2**	**-1.1**
AAK				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
AAK	**Ala-Archa**	**55.00**	**297**	*e*P		**P**	**02 53 54.2**	**-1.0**
	comp=Z,5.8nm,1.1s,mb4.5							
ARCES	**ARCESS Array B**	**58.55**	**341**	P		**P**	**02 54 19.7**	**-0.8**
	comp=Z,5.1nm,0.9s,mb4.6,baz=36,slow=7.8,SNR=6.4							
ARCES	**ARCESS Array B**	**58.55**	**341**	P		**P**	**02 54 19.7**	**-0.8**
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HLID	**Hailey**	**60.78**	**56**	*e*P		**P**	**02 54 36.5**	**+0.7**
	comp=Z,3.5nm,1.2s,mb4.4							
NVAR	**Mina Array Bea**	**61.60**	**63**	P		**P**	**02 54 41.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=290,slow=9.8,SNR=4.1							
NVAR	**Mina Array Bea**	**61.60**	**63**	P		**P**	**02 54 41.5**	**+0.1**
PDAR	**Pinedale Array**	**64.04**	**55**	P		**P**	**02 54 58.4**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.2,baz=284,slow=1.3,SNR=6.3							
FIA1	**FINESS Array S**	**64.83**	**336**	*e*P		**P**	**02 55 02.8**	**0.0**
FINES	**FINESS Array B**	**64.83**	**336**	P		**P**	**02 55 03.0**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.8,baz=35,slow=7.0,SNR=8.1							
FINES	**FINESS Array B**	**64.83**	**336**	P		**P**	**02 55 03.0**	**+0.2**
FINES				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ULM	**Lac du Bonnet**	**66.05**	**42**	P		**P**	**02 55 08.7**	**-2.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=331,slow=10,SNR=2.6							
WRA	**Warramunga Arr**	**68.56**	**201**	P		**P**	**02 55 25.7**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=20,slow=6.7,SNR=5.0							
WRA	**Warramunga Arr**	**68.56**	**201**	P		**P**	**02 55 25.7**	**-0.9**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**68.92**	**342**	P		**P**	**02 55 29.5**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.4,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**68.92**	**342**	P		**P**	**02 55 29.8**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.3,baz=26,slow=6.3,SNR=6.1							
NOA	**NORSAR Array B**	**68.92**	**342**	P		**P**	**02 55 29.8**	**+1.0**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**68.92**	**342**	P		**P**	**02 55 29.8**	**+0.9**
ASAR	**Alice Springs**	**72.24**	**200**	P		**P**	**02 55 49.2**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.1,baz=9.9,slow=5.7,SNR=5.2							
ASAR	**Alice Springs**	**72.24**	**200**	P		**P**	**02 55 49.2**	**+0.1**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**72.46**	**327**	P		**P**	**02 55 51.7**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.4,baz=34,slow=6.2,SNR=7.1							
AKASG	**Malin Array Be**	**72.46**	**327**	P		**P**	**02 55 51.7**	**+1.3**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKBB	**Malin Array Si**	**72.46**	**327**	*e*P		**P**	**02 55 50.4**	**0.0**
TXAR	**Lajitas Array**	**76.68**	**62**	P		**P**	**02 56 15.4**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.6,baz=304,slow=4.6,SNR=27							
TXAR	**Lajitas Array**	**76.68**	**62**	P		**P**	**02 56 15.4**	**+0.5**
TXAR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CLL	**Collm**	**77.25**	**337**	*i* P		**P**	**02 56 22.5**	**+4.4**
CLL	**Collm**	**77.25**	**337**	*i* pP		**P**	**02 56 22.5**	**+4.4**
	comp=Z,11nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**78.81**	**191**	P		**P**	**02 56 26.2**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=54,slow=14,SNR=2.5							
GERES	**GERESS Array B**	**79.26**	**335**	P		**P**	**02 56 30.7**	**+1.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=35,slow=4.9,SNR=5.0							
GERES	**GERESS Array B**	**79.26**	**335**	P		**P**	**02 56 30.7**	**+1.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BR131	**Keskin Array S**	**79.41**	**318**	*e*P		**P**	**02 56 30.0**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.2							
BRTR	**Keskin Array B**	**79.41**	**318**	P		**P**	**02 56 29.4**	**-0.7**
	comp=Z,1.7nm,0.9s,mb4.0,baz=55,slow=5.5,SNR=3.9							
BRTR	**Keskin Array B**	**79.41**	**318**	P		**P**	**02 56 29.4**	**-0.6**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
CDF	**Champ du Feu**	**81.40**	**339**	*e*P		**P**	**02 56 40.3**	**-0.4**
	comp=Z,8.4nm,0.7s,mb4.5							
GRR	**Gorron**	**83.23**	**344**	*e*P		**P**	**02 56 50.0**	**-0.3**
SMF	**Signal de Mont**	**83.89**	**340**	*e*P		**P**	**02 56 53.4**	**-0.2**
	comp=Z,48nm,1.3s,mb5.2							
LPG	**La Plagne**	**84.24**	**338**	*e*P		**P**	**02 56 56.2**	**+0.7**
	comp=Z,41nm,1.4s,mb5.0							
CAF	**Calviac**	**85.92**	**341**	*e*P		**P**	**02 57 03.8**	**-0.1**
	comp=Z,24nm,1.0s,mb5.1							
PMSA	**Palmer Station**	**152.05**	**145**	PKPbc	PKPbc		03 04 17.0	-2.1
	comp=Z,13nm,0.7s,baz=288,slow=21,SNR=6.2							
SNAA	**Sanae**	**152.51**	**195**	PKPbc	PKPbc		03 04 17.1	-3.0
	comp=Z,0.7nm,0.9s,baz=336,slow=3.8,SNR=5.3							

*ISCJB **22** 02:48:10.8±0.9, 1119N±003×6187W±004, h52km±16km, Error ellipse: s-maj=6.4km s-min=4.9km az=66.4*
*NEIC **22** 02:48:10.0, 1121N×6172W, h29km, MD3.0(TRN), After TRN.*
*FUNV **22** 02:48:10.5, 1115N×6176W, h46km, MW2.4*
*TRN **22** 02:48:10.0, 1121N×6172W, h29km, MD3.0*
ISC 22 02:48:11.2±0.8, 1119N±003×6186W±004, h50km±18km, n12, σ0≤79/23, 2C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TCE	**Chacachacare**	**0.50**	**168**	*e*P		**Pn**	**02 48 22.8**	**+0.3**
TCE				*e*S		**Sn**	**02 48 30.8**	**+0.3**
GUIV	**Guiria**	**0.65**	**213**	*e*P		**Pn**	**02 48 23.8**	**-0.4**
GUIV				*e*S		**Sn**	**02 48 33.1**	**-0.6**
TRN	**Trinidad (W)**	**0.70**	**140**	*i*P		**Pn**	**02 48 24.5**	**-0.4**
TRN				*e*S		**Sn**	**02 48 34.7**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.96**	**155**	*e*P		**Pn**	**02 48 29.0**	**+0.7**
TPP				*e*S		**Sn**	**02 48 42.5**	**+1.6**
GRW	**Mount Saint Ca**	**0.98**	**11**	*e*P		**Pn**	**02 48 28.6**	**-0.1**
GRW				*e*S		**Sn**	**02 48 40.1**	**-1.4**
GRHS	**Sauteurs**	**1.05**	**12**	*e*P		**Pn**	**02 48 29.3**	**-0.2**
GRHS				*e*S		**Sn**	**02 48 43.6**	**+0.5**
TBH	**Brigand Hill**	**1.05**	**132**	*e*P		**Pn**	**02 48 30.8**	**+1.3**
TPR	**Prospect**	**1.06**	**90**	*e*P		**Pn**	**02 48 28.9**	**-0.9**
TPR				*e*S		**Sn**	**02 48 41.9**	**-1.6**
GRSS	**Sisters**	**1.13**	**12**	*i*P		**Pn**	**02 48 31.1**	**+0.5**
GRSS				*e*S		**Sn**	**02 48 46.5**	**+1.5**
ITEV	**Isla Los Testi**	**1.26**	**278**	*e*P		**Pn**	**02 48 32.4**	**0.0**
ITEV				*e*S		**Sn**	**02 48 49.0**	**+0.8**
CRUV	**Carupano**	**1.45**	**249**	*e*P		**Pn**	**02 48 34.5**	**-0.4**
CRUV				*e*S		**Sn**	**02 48 52.5**	**-0.2**
GUNV	**Guanoco**	**1.48**	**226**	*e*P		**Pn**	**02 48 35.0**	**-0.4**
GUNV				*e*S		**Sn**	**02 48 52.8**	**-0.7**

*IDC **22** 02:56:43.6±0.8, 166N×96.94E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/24, mbtmp4.3/17, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=27.1km s-min=14.0km az=45.0*
*BJI **22** 02:56:46.0, 170N×97.00E, h30km, mB5.1, mb4.7, Ms4.2, Msz4.0*
*ISCJB **22** 02:56:47.7±2.0, 167N±009×97.07E±0.10, h40km±16km, mb4.5/31, MS3.9/1, Error ellipse: s-maj=19.7km s-min=9.5km az=96.9*
*NEIC **22** 02:56:48.1±0.4, 166N×96.98E, h30km, mb4.7/9, Error ellipse: s-maj=10.6km s-min=7.0km az=35.0*
ISC 22 02:56:50.0±2.0, 170N±009×9710E±010, h40km±16km, h24km±4.8km: pP-P, n44, σ0≤82/44, mb4.5/31, MS3.9/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PSI	**Prapat**	**2.13**	**59**	Pn		**Pn**	**02 57 22.8**	**-0.2**
	6.9nm,0.3s,baz=301,slow=6.5,SNR=23							
PSI				LR		LR	02 58 02.1	
	comp=Z,287nm,21.4s,baz=274,slow=35							
KULM	**Kulim**	**5.03**	**45**	*e*Pn		**Pn**	**02 58 02.8**	**-0.2**
KKM	**Kota Kinabalu**	**19.55**	**77**	*e*P		**Pn**	**03 01 15.7**	**-0.1**
JIRN	**Jiri**	**27.85**	**339**	*e*P		**P**	**03 02 36.7**	**+1.0**
	14nm,0.6s,mb4.8							
PKI	**Pulchoki**	**28.06**	**338**	*e*P		**P**	**03 02 39.4**	**+1.9**
	7.0nm,0.5s,mb4.5							
GUN	**Gumba**	**28.19**	**339**	*e*P		**P**	**03 02 38.9**	**+0.2**
DMN	**Daman**	**28.21**	**337**	*e*P		**P**	**03 02 40.0**	**+1.1**
KKN	**Kakani**	**28.30**	**338**	*e*P		**P**	**03 02 40.2**	**+0.5**
GKN	**Gorkha**	**28.75**	**337**	*e*P		**P**	**03 02 44.0**	**+0.4**
	12nm,0.6s,mb4.8							
KOLN	**Koldanda**	**28.97**	**335**	*e*P		**P**	**03 02 46.5**	**+0.9**
	14nm,0.8s,mb4.7							
XAN	**Xi'an**	**34.02**	**18**	P		**P**	**03 03 29.3**	**-0.7**
XAN				AMB		AMB		
	comp=Z,23nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**34.30**	**126**	P		**P**	**03 03 32.3**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=270,slow=3.0,SNR=4.5							
LZH	**Lanzhou**	**34.78**	**10**	*e*P		**P**	**03 03 29.5**	**-7.1**
	comp=Z,16nm,1.0s,mb4.9							
LZH				pP		pP	03 03 36.0	-12
LZH				sP		sP	03 03 39.1	-14
GTA	**Gaotai**	**37.62**	**3**	*e*P		**P**	**03 04 00.4**	**-0.4**
GTA				AP		pP	03 04 06.9	-5.2
GTA				XP		sP	03 04 09.9	-7.0
GTA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
KAKA	**Kakadu**	**37.89**	**113**	*e*P		**P**	**03 04 02.3**	**-0.8**
	comp=Z,4.7nm,0.5s,mb4.5							
BJT	**Baijiatuan**	**41.90**	**22**	*e*P		**P**	**03 04 37.2**	**+0.8**
	comp=Z,14nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**42.38**	**122**	P		**P**	**03 04 40.5**	**+0.1**
	comp=Z,1.9nm,0.6s,mb3.9,baz=302,slow=9.2,SNR=16							
WB2	**Warramunga Arr**	**42.40**	**122**	*e*P		**P**	**03 04 40.8**	**+0.3**
WMQ	**Urumqi**	**42.77**	**350**	*i*P		**P**	**03 04 44.8**	**+1.3**
WMQ				AP		pP	03 04 54.4	-0.5
WMQ				XP		sP	03 04 58.8	-0.9
WMQ				PP		PP	03 06 26.8	+3.6
WMQ				PCP		PcP	03 06 37.0	+2.6
WMQ				SCP		ScP	03 10 24.3	+2.2
WMQ				PCS		PcS	03 10 28.3	+1.7
WMQ				S		**S**	**03 11 05.8**	**+1.2**
WMQ				XS		sS	03 11 21.3	-2.2
WMQ				SS		SS	03 14 09.8	-6.6
WMQ				SCS		ScS	03 14 40.9	-0.2
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.5s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,98nm,3.7s							
WMQ				LR		LR		
	comp=N,135nm,15.0s,MS4.0							
WMQ				LR		LR		
	comp=E,52nm,17.0s,MS4.0							
WMQ				LR		LR		
	comp=Z,123nm,17.0s,MS3.9							
ASAR	**Alice Springs**	**43.77**	**127**	P		**P**	**03 04 52.7**	**+1.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=300,slow=7.6,SNR=11							
KSRS	**Korea Array**	**45.50**	**35**	P		**P**	**03 05 05.0**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.4,baz=233,slow=7.8,SNR=11							
AAK	**Ala-Archa**	**45.51**	**337**	*e*P		**P**	**03 05 05.6**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2							
SONM	**Songino Array**	**46.66**	**9**	P		**P**	**03 05 14.7**	**+0.2**
	comp=Z,4.9nm,0.4s,mb4.8,baz=190,slow=9.8,SNR=56							
SONM				PcP		PcP	03 06 47.8	+0.1
	comp=Z,1.1nm,0.5s,baz=195,slow=4.0,SNR=5.3							
MKAR	**Makanchi Array**	**46.74**	**346**	P		**P**	**03 05 15.3**	**+0.2**
	comp=Z,13nm,0.6s,mb5.0,baz=160,slow=8.9,SNR=107							
MKAR	**Makanchi Array**	**46.74**	**346**	P		**P**	**03 05 15.3**	**+0.2**
ULN	**Ulaanbaatar**	**46.79**	**9**	*e*P		**P**	**03 05 15.2**	**-0.3**
	comp=Z,2.9nm,0.4s,mb4.6							
MAJO	**Matsushiro**	**51.40**	**43**	*e*P		**P**	**03 05 51.0**	**+0.3**
	comp=Z,9.1nm,0.8s,mb4.8							
MJAR	**Matsushiro Arr**	**51.40**	**43**	P		**P**	**03 05 50.5**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=210,slow=5.3,SNR=5.7							
ZAL	**Zalesovo**	**53.05**	**351**	P		**P**	**03 06 02.5**	**-0.4**
	comp=Z,14nm,0.5s,mb5.0,baz=311,slow=5.9,SNR=52							
STKA	**Stephens Creek**	**53.76**	**132**	P		**P**	**03 06 09.3**	**+1.1**
	comp=Z,0.8nm,0.3s,mb4.2,baz=348,slow=7.6,SNR=3.9							
STKA	**Stephens Creek**	**53.76**	**132**	*e*P		**P**	**03 06 09.9**	**+1.6**
BRVK	**Borovoye**	**55.81**	**341**	*e*P		**P**	**03 06 22.3**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.5							
AKTK	**Aktyubinsk**	**58.75**	**332**	P		**P**	**03 06 42.1**	**-1.6**
AKTO	**Aktyubinsk**	**58.75**	**332**	P		**P**	**03 06 42.1**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.3,baz=122,slow=8.6,SNR=9.7							
YAK	**Yakutsk**	**64.97**	**16**	*e*P		**P**	**03 07 24.3**	**-1.3**
	comp=Z,19nm,0.5s,mb5.4							
EIL	**Elat**	**65.11**	**302**	*e*P		**P**	**03 07 25.9**	**-0.6**
	comp=Z,60nm,0.8s							
BR131	**Keskin Array S**	**68.70**	**312**	*e*P		**P**	**03 07 48.5**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0							
BRTR	**Keskin Array B**	**68.70**	**312**	P		**P**	**03 07 48.3**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=118,slow=6.1,SNR=9.3							
AKASG	**Malin Array Be**	**74.80**	**322**	P		**P**	**03 08 24.7**	**-1.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=85,slow=5.4,SNR=7.1							
FINES	**FINESS Array B**	**79.51**	**332**	P		**P**	**03 08 51.9**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=114,slow=4.6,SNR=7.3							
ARCES	**ARCESS Array B**	**82.04**	**340**	P		**P**	**03 09 05.5**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.4,baz=97,slow=4.7,SNR=39							
GERES	**GERESS Array B**	**84.37**	**319**	P		**P**	**03 09 18.7**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.2,baz=89,slow=5.5,SNR=11							
NOA

0.8nm,0.6s,baz=66,slow=2.0,SNR=6.2
ASAR LR LR 03 36 04.9
comp=Z,624nm,20.2s,MS4.1,baz=48,slow=36
ASPA Alice Springs 24.09 221 *eP* **P 03 26 41.3 +0.7**
ASPA *eS* **S 03 31 02.7 +8.0**
ARMA Armidale 24.31 179⇑*iP* **P 03 26 42.7 +0.1**
STKA Stephens Creek 27.22 198 *eP* **P 03 27 07.8 -1.2**
16nm,0.8s,mb4.6
STKA Stephens Creek 27.22 198 P **P 03 27 09.0 0.0**
23nm,0.8s,mb4.7,baz=11,slow=12,SNR=26
STKA LR LR 03 37 37.7
comp=Z,714nm,21.0s,MS4.2,baz=139,slow=36
FITZ Fitzroy Crossi 27.53 242⇓*iP* **P 03 27 12.2 +0.4**
35nm,0.5s,mb5.2
FITZ Fitzroy Crossi 27.53 242 P **P 03 27 12.3 +0.5**
6.3nm,0.4s,mb4.6,baz=65,slow=7.8,SNR=54
TOO Toolangi 31.84 188 *eP* **P 03 27 49.7 -0.2**
14nm,0.9s,mb4.8
FORT Forrest 32.75 218 *eP* **P 03 27 57.2 -0.7**
22nm,0.9s,mb5.1
MBWA Marble Bar 33.84 240 *eP* **P 03 28 08.5 +1.1**
17nm,1.0s,mb4.9
CBIJ Chichi jima 33.98 346 LR LR 03 40 13.4
comp=Z,712nm,20.7s,MS4.4,baz=294,slow=33
AFI Afiamalu 37.44 105 P **P 03 28 38.4 +0.1**
23nm,0.3s,mb5.4,baz=106,slow=4.0,SNR=6.1
AFI LR LR 03 41 59.1
comp=Z,354nm,20.2s,MS4.2,baz=336,slow=33
JOW Kunigami 39.36 327 P **P 03 28 53.2 -1.1**
23nm,0.8s,mb4.9,baz=132,slow=12,SNR=5.3
JOW LR LR 03 42 01.3
comp=Z,439nm,21.9s,MS4.2,baz=128,slow=32
URZ Urewera 39.91 147 P **P 03 28 58.5 -0.5**
5.5nm,0.3s,mb4.7,baz=270,slow=3.0,SNR=8.1
URZ LR LR 03 43 17.7
comp=Z,372nm,18.8s,MS4.2,baz=11,slow=33
JHJ Hachijo jima 2 40.33 345 LR LR 03 42 39.5
comp=Z,310nm,19.1s,MS4.2,baz=76,slow=32
NWAO Narrogin (SRO) 41.29 225 LR LR 03 46 24.3
comp=Z,410nm,19.0s,MS4.3,baz=232,slow=36
RPZ Rata Peaks 41.51 158 P **P 03 29 12.0 -0.1**
17nm,1.0s,mb4.7,baz=32,slow=8.7,SNR=5.2
RPZ LR LR 03 43 04.3
comp=Z,924nm,21.9s,MS4.6,baz=342,slow=31
JNU Nakatsue 43.34 335 LR LR 03 43 45.9
comp=Z,577nm,20.1s,MS4.5,baz=262,slow=31
KSRS Korea Array 48.29 335 P **P 03 30 06.5 +0.5**
2.4nm,0.9s,mb4.2,baz=158,slow=8.8,SNR=5.4
KSRS LR LR 03 47 02.0
comp=Z,112nm,18.7s,MS3.9,baz=153,slow=32
KULM Kulim 51.51 282 *eP* **P 03 30 30.7 +0.2**
PPT Papeete 59.08 107 *eS* **S 03 39 30.1 +1.8**
249nm,25.8s
PPT *eLQ* 03 46 22.3
456nm,30.5s
PPT *eLR* LR 03 48 47.4
120nm,25.8s
PPT Papeete 59.08 107 LR LR 03 50 58.9
comp=Z,126nm,20.4s,MS4.0,baz=284,slow=30
TBI Tubuai 59.71 113 *eS* **S 03 39 37.8 +1.3**
161nm,31.5s
TBI *eLQ* 03 46 52.5
484nm,35.8s
TBI *eLR* LR 03 49 10.2
392nm,33.5s
ULN Ulaanbaatar 66.08 329 *eP* **P 03 32 11.9 +0.3**
2.7nm,1.0s,mb4.2
SONM Songino Array 66.39 329 P **P 03 32 13.1 -0.5**
1.3nm,0.6s,mb4.1,baz=132,slow=6.6,SNR=5.4
SONM LR LR 04 00 27.3
comp=Z,231nm,19.8s,MS4.4,baz=0.6,slow=35
VNDA Vanda 71.72 178 P **P 03 32 46.2 -0.5**
3.3nm,0.9s,mb4.3,baz=335,slow=6.0,SNR=8.1
VNDA LR LR 04 02 27.3
comp=Z,88nm,18.3s,MS4.1,baz=358,slow=34
VNDA Vanda 71.72 178 *eP* **P 03 32 46.4 -0.3**
20nm,1.9s,mb4.7
MDRS Chennai 72.78 286 *ex* x 03 32 57.5
RKT Rikitea 72.98 112 *eLR* LR 03 55 02.1
254nm,30.8s
BILL Bilibino 74.64 6 *eP* **P 03 33 04.3 +0.5**
9.8nm,1.1s,mb4.7
WMQ Urumqi 75.42 318⇑P **P 03 33 11.3 +2.9**
WMQ AP pP 03 33 21.6 -0.8
WMQ PCP PcP 03 33 24.8 +3.5
WMQ PP PP 03 36 02.5 +4.8
WMQ *eS* S 03 42 47.8 +3.1
WMQ XS sS 03 43 04.8 -3.4
WMQ SKS 03 43 13.3
WMQ SCS ScS 03 43 18.5 +0.9
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,27nm,4.5s
WMQ LR LR
comp=N,81nm,20.6s,MS4.0
WMQ LR LR
comp=E,38nm,21.9s,MS4.0
WMQ LR LR
comp=Z,142nm,20.7s,MS4.2
SVW2 Sparrevohn 78.61 23 *eP* **P 03 33 26.4 +0.1**
MKAR Makanchi Array 80.06 319 P **P 03 33 33.6 -0.6**
comp=Z,1.7nm,0.8s,mb4.0,baz=108,slow=6.9,SNR=8.4
MKAR PP PP 03 36 34.8 -1.7
comp=Z,0.9nm,0.9s,baz=86,slow=5.2,SNR=3.9
SLKM Skilak Lake 80.49 25 *eP* **P 03 33 35.4 -1.1**
ZAL Zalesovo 81.16 327 P **P 03 33 38.7 -1.4**
comp=Z,1.0nm,0.4s,mb4.1,baz=349,slow=5.2,SNR=3.4
ZAL LR LR 04 09 24.3
comp=Z,186nm,21.6s,MS4.4,baz=356,slow=36
ZAL Zalesovo 81.16 327 P **P 03 33 38.7 -1.4**
ZAL LR LR 04 09 24.3
MCK McKinley 82.64 23 *eP* **P 03 33 47.8 0.0**
comp=Z,4.6nm,0.9s,mb4.5
COLA College 83.61 22 *eP* **P 03 33 52.6 -0.2**
comp=Z,4.1nm,0.7s,mb4.7
MAW Mawson 83.80 203 P **P 03 33 53.4 -0.4**
comp=Z,2.3nm,0.5s,mb4.6,baz=80,slow=7.0,SNR=3.8
MAW LR LR 04 08 37.1
comp=Z,171nm,20.1s,MS4.4,baz=72,slow=34
QSPA South Pole Qui 83.98 180 *eP* **P 03 33 54.6 -0.2**
comp=Z,20nm,1.2s,mb5.1
AAK Ala-Archa 84.19 314 *eP* **P 03 33 55.8 0.0**
comp=Z,2.7nm,0.8s,mb4.4
DAWY Dawson 86.59 24 *eP* **P 03 34 08.4 +0.5**
BRVK Borovoye 89.19 323 *eP* **P 03 34 22.6 +2.4**
comp=Z,1.7nm,0.8s,mb4.4
SYO Syowa Base 91.96 200⇑*eP* **P 03 34 31.8 -1.3**
YKA Yellowknife Ar 97.30 28 P **P 03 34 57.6 +0.1**
comp=Z,1.1nm,0.8s,mb4.3,baz=278,slow=4.9,SNR=5.3
PDAR Pinedale Array 100.96 48 P Pdif 03 35 13.8 -0.1
comp=Z,1.0nm,0.7s,baz=261,slow=2.5,SNR=9.7
ARCES ARCESS Array B 107.47 343 PKiKP PKiKP 03 39 49.1 -1.8
comp=Z,3.4nm,0.9s,baz=107,slow=1.0,SNR=7.3
AKASG Malin Array Be 114.40 324 PKP PKiKP 03 40 03.2 -0.9
comp=Z,0.8nm,0.4s,baz=65,slow=1.8,SNR=7.6
NB2 NORSAR Subarra117.40 339 PKPdf PKPdf 03 40 08.7 -1.2
comp=Z,0.9nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B 117.40 339 PKP PKPdf 03 40 08.7 -1.2
comp=Z,1.3nm,0.7s,baz=48,slow=1.9,SNR=4.8
BURAR Bucovina Array 118.03 322⇓*iP* PKPdf 03 40 12.4 +1.3
MLR Muntele Rosu 118.40 319⇑*iP* PKPdf 03 40 12.1 +0.3
STHS Stebnicka Huta 119.60 325 *ePKP* PKPdf 03 40 12.8 -1.3
DRGR 119.92 322⇓*iP* PKPdf 03 40 15.1 +0.4
KECS Kecovo 120.49 324 *ePKP* PKPdf 03 40 15.4 -0.4
OKC Ostrava-Krasne 121.14 326 *ePKPdf* PKPdf 03 40 15.4 -1.7
MORC Moravsky Berou 121.50 327⇓*iP* PKPdf 03 40 18.9 +1.1
MORC Moravsky Berou 121.50 327 *ePKPdf* PKPdf 03 40 18.8 +1.1
PKSM Moragy 122.69 322⇓*iP* PKPdf 03 40 20.0 0.0
BRG Berggiesshubel 122.79 329 *eP* PKPdf 03 40 20.0 -0.2
comp=Z,3.4nm,0.8s
CLL Collm 123.00 330⇓*iPKPdf* PKPdf 03 40 20.7 +0.1
comp=Z,8.0nm,0.9s
NKC Novy Kostel 123.94 329 *ePKPdf* PKPdf 03 40 23.4 +1.0
KHC Kasperske Hory 124.01 328 *ePKPdf* PKPdf 03 40 22.5 -0.1
GERES GERESS Array B 124.11 327 PKP PKPdf 03 40 22.8 +0.1
comp=Z,3.0nm,0.6s,baz=74,slow=1.4,SNR=32
WATA Walderalm 126.15 327⇑*iP* PKPdf 03 40 27.0 +0.4
comp=Z,4.2nm,0.6s
WTTA Wattenberg 126.16 327⇑*iP* PKPdf 03 40 26.5 -0.2
comp=Z,5.1nm,0.5s
MOTA Moosalm 126.40 327⇑*iP* PKPdf 03 40 27.6 +0.4
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 126.42 327⇑*iP* PKPdf 03 40 27.8 +0.7
comp=Z,8.3nm,1.0s
KEST Kesra 134.03 315 PKP PKPdf 03 40 42.9 +1.3
comp=Z,2.4nm,1.0s,baz=193,slow=2.8,SNR=5.3

LPAZ La Paz 135.39 120 PKP PKPdf 03 40 46.2 +2.1
comp=Z,0.7nm,0.5s,baz=351,slow=2.7,SNR=4.7
SDV Santo Domingo 138.62 83 *ePKPdf* PKPdf 03 40 51.6 +1.5
SDV *epPKPdf* pPKPdf 03 41 02.3 -2.7
TOA0 Torodi Ar. Sit 148.94 286 *ePKPbc* PKPbc 03 41 12.7 +0.5
TORD Torodi Ar. Bea 148.94 286 PKPbc PKPbc 03 41 12.7 +0.6
comp=Z,12nm,0.6s,baz=68,slow=2.5,SNR=108

NEIC ***22*** *03:23:38.5, 2676S×6970W, h71km, MD4.1(GUC), After GUC.*
GUC 22 03:23:38.5±0.5, 2676S×6970W, h71km±10km, MD4.1, ML4.3, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.84**	**224**	⇓*iP*		Pn	Pn	03 23 55.2	+0.1
CPCH				*i*	S	Sn	Sn	03 24 08.0	+0.8
CPCH					AML	AML		03 24 09.4	
comp=E,46μm,0.1s									
CPCH	**Copiapo**	**0.84**	**224**	⇓*iP*		Pn	Pn	03 23 55.2	+0.1
CPCH				*i*	S	Sn	Sn	03 24 08.0	+0.8
CDCH	**Caldera**	**1.06**	**253**	⇓*iP*		Pn	Pn	03 23 58.1	+0.3
CDCH				*i*	S	Sn	Sn	03 24 12.6	+0.5
VACH	**Vallenar**	**2.04**	**207**	*eP*		Pn	Pn	03 24 11.3	+0.7
VACH				*i*	S	Sn	Sn	03 24 34.9	-0.3
VACH					AML	AML		03 24 41.8	
comp=N,3μm,0.4s									
VACH	**Vallenar**	**2.04**	**207**	*eP*		Pn	Pn	03 24 11.3	+0.7
VACH					S	Sn	Sn	03 24 34.9	-0.3
CPN1	**Cerro Paranal**	**2.22**	**343**	*eP*		Pn	Pn	03 24 14.3	+1.2
CPN1				*i*	S	Sn	Sn	03 24 41.4	+1.9
CPN1					AML	AML		03 24 47.3	
comp=N,1μm,0.2s									
ANCH	**Antofagasta**	**3.13**	**348**	*eP*		Pn	Pn	03 24 26.9	+1.4
ANCH				*i*	S	Sn	Sn	03 25 03.0	+1.3
CEN1	**Los Morros**	**3.39**	**352**	⇓*iP*		Pn	Pn	03 24 27.2	-1.7
CEN1				*i*	S	Sn	Sn	03 25 04.3	-3.6
CEN1					AML	AML		03 25 20.2	
comp=E,324nm,0.7s									
TLL	**Tololo Astrono**	**3.53**	**196**⇑	*eP*		Pn	Pn	03 24 31.9	+1.0
TLL				*i*	S	Sn	Sn	03 25 11.2	-0.3
TLL					AML	AML		03 25 40.9	
comp=N,322nm,0.1s									
TLL	**Tololo Astrono**	**3.53**	**196**⇑	*eP*		Pn	Pn	03 24 31.9	+1.0
TLL					S	Sn	Sn	03 25 11.2	-0.3
LVC	**Limon Verde**	**4.19**	**10**	*ePn*		Pn	Pn	03 24 40.9	+1.0
LVC				*eSn*		Sn	Sn	03 25 09.2	-18
CMCH	**Combarbala**	**4.54**	**194**	*eP*		Pn	Pn	03 24 44.2	-0.5
VNA3	**Neumayer Olymp**	**55.37**	**160**	*e*		P	P	03 33 05.2	0.0
VNA2	**Neumayer--Watz**	**55.97**	**159**	*e*		P	P	03 33 08.6	-0.9
baz=287,slow=8.7									
SNAA	**Sanae**	**57.59**	**160**	*e*		P	P	03 33 19.5	-1.4

NEIC ***22*** *03:26:40.1±1.0, 1995S×17761W, h550km, mb4.6/2, Error ellipse: s-maj=24.1km s-min=21.5km az=211.0*
ISCJB ***22*** *03:26:42.1±2.6, 2025S±03×17810W±02, h549km±28km, mb4.2/6, Error ellipse: s-maj=46.1km s-min=18.2km az=53.5*
IDC ***22*** *03:26:43.5±2.5, 2021S×17772W, h582km±31km, mb3.5/5, mb1 3.6/6, mb1mx3.3/15, mbtmp3.5/6, Error ellipse: s-maj=38.6km s-min=18.6km az=160.0*
ISC 22 03:26:42.8±2.6, 203S±03×1779W±02, h551km±29km, n18, σ0s54/15, mb4.2/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.45**	**193**	P		P		**03 30 24.4**	**-0.3**
2.8nm,0.3s,baz=296,slow=3.9,SNR=10									
CTA	**Charters Tower**	**33.63**	**264**	P		P		**03 32 38.2**	**+0.3**
5.8nm,0.5s,mb4.4,baz=123,slow=10,SNR=9.9									
CTAO	**Charters Tower**	**33.63**	**264**	*eP*		P		**03 32 38.5**	**+0.5**
7.0nm,0.7s,mb4.3									
PMG	**Port Moresby**	**35.40**	**283**	*eP*		P		**03 32 52.8**	**0.0**
20nm,0.9s,mb4.7									
STKA	**Stephens Creek**	**38.00**	**244**	P		P		**03 33 14.2**	**+0.1**
1.8nm,0.4s,mb3.9,baz=76,slow=11,SNR=7.3									
AS31	**Alice Springs**	**44.69**	**256**	*eP*		P		**03 34 06.8**	**-0.1**
ASAR	**Alice Springs**	**44.69**	**256**	P		P		**03 34 07.4**	**+0.4**
8.2nm,0.8s,mb4.3,baz=88,slow=8.5,SNR=47									
ASAR				S		S		**03 40 03.9**	**+0.4**
0.1nm,0.3s,baz=88,slow=16,SNR=4.9									
WRA	**Warramunga Arr**	**44.75**	**262**	P		P		**03 34 06.6**	**-0.8**
4.4nm,0.6s,mb4.2,baz=97,slow=8.6,SNR=21									
WRA				S		S		**03 40 03.9**	**-0.5**
0.6nm,0.8s,baz=97,slow=14,SNR=3.7									
FITZ	**Fitzroy Crossi**	**53.17**	**262**	P		P		**03 35 09.9**	**+0.2**
2.2nm,0.6s,mb3.7,baz=100,slow=5.4,SNR=6.7									
QSPA	**South Pole Qui**	**69.81**	**180**	*eP*		P		**03 36 58.9**	**+0.7**
VNA3	**Neumayer Olymp**	**88.37**	**176**	*e*		P		**03 38 35.3**	**-1.0**
VNA2	**Neumayer--Watz**	**88.81**	**177**	*e*		P		**03 38 37.9**	**-0.4**
baz=195,slow=4.3									
VNA1	**Neumayer--Stat**	**89.04**	**177**	*e*		P		**03 38 40.3**	**+0.9**
AKASG	**Malin Array Be**	**142.86**	**331**	PKP		PKPdf		03 45 08.7	-5.1
1.8nm,0.6s,baz=41,slow=4.1,SNR=8.9									
BRTR	**Keskin Array B**	**146.76**	**313**	PKPbc		PKPbc		03 45 21.1	-2.1
1.6nm,1.0s,baz=142,slow=4.6,SNR=5.9									
CLL	**Collm**	**147.86**	**347**	*i* PKPbc		PKPbc		03 45 24.3	-1.8
comp=Z,5.0nm,0.8s									
KHC	**Kasperske Hory**	**149.77**	**345**⇑	*ePKP*		PKPbc		03 45 28.5	-2.3
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc		PKPbc		03 45 29.2	-2.1
comp=Z,1.1nm,0.8s,baz=42,slow=2.2,SNR=8.4									

IDC ***22*** *03:34:58.6±0.8, 47.14N×155.77E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.9/25, mbtmp3.8/14, ML3.9/1, Error ellipse: s-maj=21.3km s-min=19.6km az=140.0*
ISCJB ***22*** *03:35:00.9±4.5, 47.1N±0.1×1557E±0.2, h28km±31km, mb4.0/17, Error ellipse: s-maj=21.0km s-min=13.4km az=82.2*
NEIC ***22*** *03:35:00.2±0.5, 47.12N×155.71E, h10km, mb4.2/2, Error ellipse: s-maj=14.3km s-min=10.6km az=141.0*
MOS ***22*** *03:35:02.2±0.9, 47.13N×155.60E, h36km, mb4.2/12, Error ellipse: s-maj=22.6km s-min=11.9km az=92.0*
ISC 22 03:35:01.9±4.7, 471N±01×1557E±02, h22km±33km, n32, σ0s67/32, mb4.0/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.58**	**4**	*ePN*		**Pn**		**03 35 56.5**	**+0.4**
MJAR	**Matsushiro Arr**	**16.73**	**237**	Pn		**Pn**		**03 38 54.4**	**-0.5**
0.4nm,0.3s,baz=42,slow=16,SNR=3.2									
BILL	**Bilibino**	**21.67**	**11**	*eP*		**P**		**03 39 51.6**	**+0.6**
BILL					pmax	pmax			
comp=Z,7.0nm,0.9s,mb4.1									
SONM	**Songino Array**	**32.87**	**290**	P		**P**		**03 41 33.6**	**-0.6**
comp=Z,0.3nm,0.7s,mb3.3,baz=83,slow=12,SNR=2.9									
INK	**Inuvik**	**40.40**	**33**	P		**P**		**03 42 37.1**	**-1.2**
comp=Z,1.9nm,0.9s,mb3.8,baz=253,slow=5.3,SNR=3.6									
INK	**Inuvik**	**40.40**	**33**	P		**P**		**03 42 37.1**	**-1.1**
INK					pmax	pmax			
comp=Z,2.0nm,0.9s									
ZAL	**Zalesovo**	**43.84**	**306**	P		**P**		**03 43 05.7**	**-0.7**
comp=Z,1.0nm,0.5s,mb3.8,baz=43,slow=5.8,SNR=3.6									
ZAL	**Zalesovo**	**43.84**	**306**	P		**P**		**03 43 05.7**	**-0.6**
ZAL					pmax	pmax			
comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**48.33**	**298**	P		**P**		**03 43 42.3**	**+0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=57,slow=5.3,SNR=8.5									
MKAR	**Makanchi Array**	**48.33**	**298**	P		**P**		**03 43 42.3**	**+0.6**
MKAR					pmax	pmax			
comp=Z,2.0nm,0.7s									
RES	**Resolute Bay**	**49.92**	**19**	*eP*		**P**		**03 43 54.2**	**+0.3**
comp=Z,32nm,0.6s,mb5.5									
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**		**03 44 10.1**	**+0.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=59,slow=8.8,SNR=6.4									
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**		**03 44 10.1**	**+0.7**
BVAR					pmax	pmax			
comp=Z,1.0nm,0.5s									
BRVK	**Borovoye**	**52.02**	**310**	*eP*		**P**		**03 44 10.0**	**+0.3**
BRVK					pmax	pmax			
comp=Z,2.0nm,0.6s,mb4.2									
BRVK	**Borovoye**	**52.02**	**310**	*eP*		**P**		**03 44 09.9**	**+0.3**
comp=Z,1.5nm,0.6s,mb4.1									
ARU	**Arti**	**55.92**	**318**	*eP*		**P**		**03 44 37.7**	**-0.5**
ARU					pmax	pmax			
comp=Z,2.0nm,0.5s,mb4.4									
ARU	**Arti**	**55.92**	**318**	*eP*		**P**		**03 44 37.7**	**-0.5**
comp=Z,1.8nm,0.5s,mb4.4									
ARCES	**ARCESS Array B**	**58.08**	**342**	P		**P**		**03 44 53.4**	**-0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=24,slow=8.2,SNR=5.9									
ARCES	**ARCESS Array B**	**58.08**	**342**	P		**P**		**03 44 53.4**	**0.0**
ARCES					pmax	pmax			
comp=Z,2.0nm,0.7s									
AKTK	**Aktyubinsk**	**59.78**	**313**	P		**P**		**03 45 05.6**	**+0.3**
AKTO	**Aktyubinsk**	**59.78**	**313**	P		**P**		**03 45 05.6**	**+0.3**
comp=Z,0.7nm,0.5s,mb4.0,baz=72,slow=12,SNR=4.2									
AKTO	**Aktyubinsk**	**59.78**	**313**	P		**P**		**03 45 05.6**	**+0.3**
AKTO					pmax	pmax			
comp=Z,1.0nm,0.5s,mb4.1									
PDAR	**Pinedale Array**	**63.10**	**55**	P		**P**		**03 45 27.3**	**-0.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=228,slow=1.8,SNR=5.9									
FINES	**FINESS Array B**	**64.45**	**336**	P		**P**		**03 45 36.2**	**-0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=36,slow=7.1,SNR=6.3									
FINES	**FINESS Array B**	**64.45**	**336**	P		**P**		**03 45 36.2**	**-0.4**
FINES					pmax	pmax			
comp=Z,2.0nm,0.9s									
FINES	**FINESS Array B**	**64.45**	**336**	P		**P**		**03 45 36.2**	**-0.4**
NOA	**NORSAR Array B**	**68.44**	**342**	P		**P**		**03 46 01.6**	**-0.5**
comp=Z,1.1nm,0.8s,mb4.0,baz=29,slow=6.2,SNR=4.0									
NOA	**NORSAR Array B**	**68.44**	**342**	P		**P**		**03 46 01.6**	**-0.5**
NOA					pmax	pmax			
comp=Z,1.0nm,0.8s									
WRA	**Warramunga Arr**	**69.46**	**201**	P		**P**		**03 46 07.7**	**-0.8**
comp=Z,0.4nm,0.8s,mb3.4,baz=15,slow=6.2,SNR=2.9									
ASAR	**Alice Springs**	**73.14**	**201**	P		**P**		**03 46 32.7**	**+1.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=26,slow=6.7,SNR=3.9									
TXAR	**Lajitas Array**	**75.77**	**62**	P		**P**		**03 46 46.2**	**+0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=300,slow=4.4,SNR=9.6									
TXAR	**Lajitas Array**	**75.77**	**62**	P		**P**		**03 46 46.3**	**+0.3**
TXAR					pmax	pmax			
comp=Z,1.0nm,0.8s									

NEIC ***22*** *03:57:13.4±0.8, 6.17S×151.19E, h10km, mb4.4/4, Error ellipse: s-maj=24.7km s-min=11.1km az=123.0*
ISCJB ***22*** *03:57:15.5±1.0, 6.2S±02×151.2E±02, h35km, mb3.9/6, Error ellipse: s-maj=30.6km s-min=11.9km az=79.8*
IDC ***22*** *03:57:16.7±2.2, 6.11S×151.06E, h30km±7km, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp3.9/5, ML2.6/1, Error ellipse: s-maj=51.2km s-min=34.1km az=124.0*
ISC 22 03:57:17.1±1.1, 62S±02×1512E±02, h35km, n15, σ0s93/14, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**231**	Pn		**Pn**		**03 58 30.2**	**-1.4**
1.4nm,0.3s,baz=54,slow=8.7,SNR=3.4									
PMG				Sn		**Sn**		**03 59 31.7**	**+1.9**
5.2nm,0.3s,baz=14,slow=8.1,SNR=5.0									
KAKA	**Kakadu**	**19.63**	**249**	*eP*		**Pn**		**04 01 43.1**	**-1.0**
7.1nm,0.4s									
WB2	**Warramunga Arr**	**21.35**	**229**	*eP*		**P**		**04 02 00.9**	**-0.3**
WRA	**Warramunga Arr**	**21.36**	**229**	P		**P**		**04 02 00.7**	**-0.5**
2.3nm,0.7s,mb3.6,baz=54,slow=9.9,SNR=12									
AS31	**Alice Springs**	**24.08**	**222**	*eP*		**P**		**04 02 28.6**	**-0.5**
ASAR	**Alice Springs**	**24.08**	**222**	P		**P**		**04 02 28.4**	**-0.7**
1.1nm,0.5s,mb3.6,baz=57,slow=8.8,SNR=27									
ASAR				pP				04 02 37.9	
4.7nm,0.6s,baz=57,slow=8.7,SNR=22									
STKA	**Stephens Creek**	**27.10**	**198**	P		**P**		**04 02 57.9**	**+1.4**
1.7nm,0.6s,mb3.8,baz=20,slow=14,SNR=4.5									
STKA				pP		pP		04 03 06.0	-0.5
2.7nm,0.6s,baz=360,slow=7.9,SNR=3.7									
STKA	**Stephens Creek**	**27.10**	**198**	P		**P**		**04 02 57.9**	**+1.4**
STKA				pP		pP		04 03 06.0	-0.5
FITZ	**Fitzroy Crossi**	**27.63**	**242**	*eP*		**P**		**04 03 01.2**	**-0.1**
5.7nm,0.6s,mb4.4									
FITZ	**Fitzroy Crossi**	**27.63**	**242**	P		**P**		**04 03 00.8**	**-0.5**
3.0nm,0.5s,mb4.2,baz=77,slow=7.8,SNR=17									
FITZ				pP		pP		04 03 09.7	-1.6
2.5nm,0.5s,baz=50,slow=10.0,SNR=3.5									
KULM	**Kulim**	**51.77**	**282**	*eP*		**P**		**04 06 21.8**	**+0.6**
MCK	**McKinley**	**82.74**	**23**	*eP*		**P**		**04 09 37.5**	**+0.3**
1.4nm,0.9s,mb4.0									
AAK	**Ala-Archa**	**84.49**	**314**	*eP*		**P**		**04 09 47.1**	**+0.8**
1.3nm,0.4s,mb4.4									
TOA0	**Torodi Ar. Sit**	**149.21**	**285**	*ePKPbc*		PKPbc		04 17 03.0	+1.2
TORD	**Torodi Ar. Bea**	**149.21**	**285**	PKPbc		PKPbc		04 17 02.8	+1.0
2.1nm,0.6s,baz=63,slow=3.0,SNR=29									

IDC 22 04:09:41.2±30.0, 1757S×17501W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, Error ellipse: s-maj=588.3km s-min=155.4km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.63**	**242**	P		P		04 17 31.2	+0.1
0.8nm,0.4s,baz=63,slow=4.5,SNR=3.8									
WRA	**Warramunga Arr**	**47.88**	**259**	P		P		04 18 21.5	+0.6
2.2nm,0.3s,baz=96,slow=7.6,SNR=46									
ASAR	**Alice Springs**	**48.00**	**254**	P		P		04 18 22.8	+0.9
1.5nm,0.5s,baz=86,slow=8.4,SNR=27									
FITZ	**Fitzroy Crossi**	**56.28**	**260**	P		P		04 19 23.2	-0.3
1.0nm,0.8s,baz=99,slow=4.0,SNR=3.0									

FUNV ***22*** *04:10:08.6, 1101N×62.16W, h82km, MW2.4*
ISCJB ***22*** *04:10:09.0±1.2, 1099N±009×6224W±004, h79km±12km, Error ellipse: s-maj=15.2km s-min=6.4km az=1.8*
NEIC ***22*** *04:10:09.7, 1082N×62.16W, h90km, MD2.9(TRN), After TRN.*
TRN ***22*** *04:10:09.7, 1082N×62.16W, h90km, MD2.9*
ISC 22 04:10:09.4±1.3, 1098N±009×6224W±004, h80km±13km, n8, σ0s46/15, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.34**	**178**	*eP*		**Pn**		**04 10 21.6**	**-0.2**
GUIV				*eS*		**Sn**		**04 10 30.6**	**-0.4**
TCE	**Chacachacare**	**0.55**	**121**⇑	*iP*		**Pn**		**04 10 23.9**	**+0.4**
TCE				*eS*		**Sn**		**04 10 34.6**	**+0.6**
TRN	**Trinidad (W)**	**0.88**	**112**⇑	*iP*		**Pn**		**04 10 27.2**	**+0.2**
TRN				*eS*

ASAR				S	S	04 30 01.5	+4.0	
	3.7nm,0.8s,baz=2.5,slow=26,SNR=5.2							
ASAR				LR	LR	04 35 39.9		
	comp=Z,254nm,18.3s,MS3.7,baz=358,slow=40							
ASPA	**Alice Springs**	**22.48**	**178**	*e*P	**P**	**04 25 53.2**	**+0.7**	
ASPA				*e*S	**S**	**04 30 01.6**	**+4.1**	
CTA	**Charters Tower**	**22.85**	**147**	*e*P	**P**	**04 26 02.7**	**+6.4**	
	14nm,0.9s,mb4.4							
CTA	**Charters Tower**	**22.85**	**147**	P	**P**	**04 25 58.3**	**+2.0**	
	6.6nm,1.0s,mb4.0,baz=315,slow=14,SNR=3.5							
CTAO	**Charters Tower**	**22.85**	**147**	*e*P	**P**	**04 25 56.9**	**+0.5**	
	18nm,1.0s,mb4.5							
MBWA	**Marble Bar**	**23.89**	**212**	*e*P	**P**	**04 26 06.0**	**-0.6**	
	9.8nm,0.8s,mb4.3							
FORT	**Forrest**	**29.95**	**189**	*e*P	**P**	**04 27 02.3**	**+1.2**	
	7.4nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**31.67**	**166**	P	**P**	**04 27 17.0**	**+0.7**	
	3.3nm,0.7s,mb4.3,baz=8.2,slow=5.5,SNR=4.6							
STKA				LR	LR	04 41 21.1		
	comp=Z,180nm,19.3s,MS3.8,baz=191,slow=39							
STKA	**Stephens Creek**	**31.67**	**166**	*e*P	**P**	**04 27 15.9**	**-0.4**	
KSRS	**Korea Array**	**38.62**	**353**	LR	LR	04 42 45.9		
	comp=Z,47nm,18.6s,MS3.3,baz=192,slow=34							
ULN	**Ulaanbaatar**	**53.77**	**338**	*e*P	**P**	**04 30 11.7**	**-3.5**	
	1.9nm,0.8s,mb4.1							
SONM	**Songino Array**	**53.99**	**338**	P	**P**	**04 30 18.5**	**+1.8**	
	0.4nm,0.7s,mb3.5,baz=159,slow=9.3,SNR=3.2							
MK31	**Makanchi Array**	**65.15**	**324**	*e*P	**P**	**04 31 33.1**	**-0.5**	
MKAR	**Makanchi Array**	**65.15**	**324**	P	**P**	**04 31 33.5**	**-0.1**	
	1.4nm,0.6s,mb4.1,baz=113,slow=7.6,SNR=9.2							
ZAL	**Zalesovo**	**67.78**	**331**	P	**P**	**04 31 50.8**	**+0.3**	
	0.7nm,0.4s,mb4.0,baz=8.1,slow=14,SNR=2.1							
BVAR	**Borovoye Array**	**74.82**	**326**	P	**P**	**04 32 32.1**	**-0.9**	
	1.0nm,0.6s,mb3.9,baz=144,slow=5.4,SNR=6.3							
VNDA	**Vanda**	**77.95**	**174**	LR	LR	05 07 36.1		
	comp=Z,76nm,18.5s,MS4.0,baz=358,slow=36							
VNDA	**Vanda**	**77.95**	**174**	*e*P	**P**	**04 32 50.6**	**-0.2**	
	5.8nm,1.3s,mb4.3							
MAW	**Mawson**	**81.59**	**201**	LR	LR	05 07 00.6		
	comp=Z,43nm,19.5s,MS3.8,baz=249,slow=34							
INK	**Inuvik**	**92.22**	**22**	*e*P	**P**	**04 34 02.8**	**+0.4**	
	51nm,0.5s							
LPAZ	**La Paz**	**152.83**	**130**	PKPbc	PKPbc	04 40 52.2	+2.7	
	0.7nm,0.7s,baz=256,slow=4.2,SNR=4.3							
LPAZ	**La Paz**	**152.83**	**130**	PKPbc	PKPbc	04 40 52.2	+2.7	

IDC 22 04:25:29.1±1.6, 404N×12645E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=106.5km s-min=21.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.01**	**182**	P	P	04 30 25.1	+0.2
	3.2nm,0.5s,baz=1.5,slow=9.8,SNR=6.6						
WRA	**Warramunga Arr**	**25.06**	**162**	P	P	04 30 55.2	+0.2
	3.8nm,0.5s,baz=341,slow=10,SNR=16						
PSI	**Prapat**	**27.51**	**268**	LR	LR	04 42 56.2	
	comp=Z,54nm,20.1s,baz=302,slow=38						
ASAR	**Alice Springs**	**28.48**	**166**	P	P	04 31 26.2	+0.5
	1.5nm,0.6s,baz=347,slow=7.1,SNR=7.9						
STKA	**Stephens Creek**	**38.51**	**159**	P	P	04 32 53.0	0.0
	3.0nm,0.8s,baz=333,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	04 35 17.7	+0.2
	0.6nm,0.4s,baz=118,slow=7.9,SNR=14						

IDC 22 04:31:22.9±1.2, 4602N×15607E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=52.4km s-min=30.0km az=87.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**59.20**	**342**	P	P	04 41 25.6	-0.2
	0.6nm,0.4s,baz=25,slow=6.8,SNR=8.4						
FINES	**FINESS Array B**	**65.56**	**336**	P	P	04 42 07.0	-1.3
	0.9nm,0.5s,baz=39,slow=7.6,SNR=7.0						
NOA	**NORSAR Array B**	**69.56**	**343**	P	P	04 42 33.6	0.0
	0.3nm,0.4s,baz=33,slow=4.5,SNR=2.4						
ASAR	**Alice Springs**	**72.22**	**201**	P	P	04 42 49.8	0.0
	0.4nm,0.6s,baz=13,slow=4.4,SNR=6.4						
TXAR	**Lajitas Array**	**76.05**	**62**	P	P	04 43 12.3	+0.2
	0.1nm,0.7s,baz=289,slow=3.8,SNR=3.6						

CSEM 22 04:39:25.7±0.7, 3648N×951W, h10km, ML3.2/4, Error ellipse: s-maj=13.5km s-min=8.4km az=39.0
NEIC 22 04:39:25.8, 3662N×977W, h0km, MN2.5(MDD), After MDD.
ISCJB 22 04:39:27.0±1.0, 3677N±004×958W±006, h10km, Error ellipse: s-maj=8.0km s-min=5.4km az=107.0
MDD 22 04:39:26.6±1.4, 3667N×976W, h0km, mbLg2.4/13, Error ellipse: s-maj=12.7km s-min=9.8km az=56.0, PRXIMO
INMG 22 04:39:28.1±1.0, 3666N×977W, h10km, ML2.1, Error ellipse: s-maj=6.2km s-min=3.6km az=70.0

ISC 22 04:39:27.7±0.9, 3675N±004×965W±006, h10km, n41, σ0§80/77, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.08**	**43**	*e*P	**Pb**	**04 39 49.4**	**+0.9**
PTEO				*e*S	**Sg**	**04 40 05.3**	**+2.7**
PTEO							
	10nm,0.1s						
EGRO	**El Granado**	**1.90**	**65**	P	**Pn**	**04 40 00.9**	**+0.7**
	SNR=12						
EGRO				S	**Sn**	**04 40 25.6**	**+1.5**
	2.2nm,0.1s,SNR=5.6						
EGRO	**El Granado**	**1.90**	**65**	P	**Pn**	**04 40 00.9**	**+0.7**
	SNR=12						
EGRO				S	**Sn**	**04 40 25.6**	**+1.5**
	2.2nm,0.1s,SNR=5.6						
PBEJ	**Beja**	**1.91**	**48**	*e*Pn	**Pn**	**04 40 00.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**04 40 24.9**	**+0.6**
PBEJ							
	4.9nm,0.1s						
PBEJ	**Beja**	**1.91**	**48**	*e*Pn	**Pn**	**04 40 00.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**04 40 24.9**	**+0.6**
	4.9nm,0.1s						
MOE	**Montemor**	**2.05**	**30**	*e*Pn	**Pn**	**04 40 03.6**	**+1.4**
MOE				*e*Sn	**Sn**	**04 40 28.9**	**+1.1**
PLOU	**Loures**	**2.17**	**10**	*e*Pn	**Pn**	**04 40 03.8**	**0.0**
PLOU				*e*Sn	**Sn**	**04 40 30.5**	**-0.2**
PLOU							
	14nm,0.2s						
PLOU	**Loures**	**2.17**	**10**	*e*Pn	**Pn**	**04 40 03.8**	**0.0**
PLOU				*e*Sn	**Sn**	**04 40 30.5**	**-0.2**
	14nm,0.2s						
PMAFR	**Mafra**	**2.22**	**7**	*e*Pn	**Pn**	**04 40 04.7**	**+0.1**
PMAFR				*e*Sn	**Sn**	**04 40 31.9**	**-0.1**
PMAFR							
	29nm,0.2s						
PMAFR	**Mafra**	**2.22**	**7**	*e*Pn	**Pn**	**04 40 04.7**	**+0.1**
PMAFR				*e*Sn	**Sn**	**04 40 31.9**	**-0.1**
	29nm,0.2s						
EMIN	**Mina Concepcio**	**2.58**	**66**	P	**Pn**	**04 40 08.7**	**-0.8**
EMIN				S	**Sn**	**04 40 42.1**	**+1.1**
EMIN	**Mina Concepcio**	**2.58**	**66**	P	**Pn**	**04 40 09.5**	**0.0**
	0.4nm,0.1s,SNR=13						
EMIN				S	**Sn**	**04 40 42.1**	**+1.1**
	2.3nm,0.2s						
EMIN	**Mina Concepcio**	**2.58**	**66**	P	**Pn**	**04 40 09.5**	**-0.1**
	0.4nm,0.1s,SNR=13						
EMIN				S	**Sn**	**04 40 42.1**	**+1.1**
	2.3nm,0.2s						
PESTR	**Estremoz**	**2.67**	**37**	*e*Pn	**Pn**	**04 40 11.2**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 40 43.4**	**+0.3**
PESTR							
	1.7nm,0.1s						
PESTR	**Estremoz**	**2.67**	**37**	*e*Pn	**Pn**	**04 40 11.2**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 40 43.4**	**+0.3**
	1.7nm,0.1s						
EBAD	**Badajoz**	**2.89**	**45**	P	**Pn**	**04 40 13.8**	**0.0**
	1.8nm,0.1s,SNR=14						
EBAD				S	**Sn**	**04 40 49.1**	**+0.4**
	4.4nm,0.1s						
EBAD	**Badajoz**	**2.89**	**45**	P	**Pn**	**04 40 13.8**	**0.0**
	1.8nm,0.1s,SNR=14						
EBAD				S	**Sn**	**04 40 49.1**	**+0.5**
	4.4nm,0.1s						
ESPR	**Espera**	**3.04**	**87**	P	**Pn**	**04 40 15.7**	**-0.2**
	8.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 40 51.2**	**-1.3**
	2.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.04**	**87**	P	**Pn**	**04 40 15.7**	**-0.2**
	8.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 40 51.2**	**-1.2**
	2.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.52**	**28**	*e*Pn	**Pn**	**04 40 23.2**	**+0.7**
PCBR				*e*Sn	**Sn**	**04 41 03.4**	**-0.8**
PCBR							
	1.8nm,0.3s						
PCBR	**Castelo Branco**	**3.52**	**28**	*e*Pn	**Pn**	**04 40 23.2**	**+0.7**
PCBR				*e*Sn	**Sn**	**04 41 03.4**	**-0.8**
	1.8nm,0.3s						
PVIS	**Viseu**	**4.19**	**19**	*e*Pn	**Pn**	**04 40 31.6**	**0.0**
PVIS				*e*Sn	**Sn**	**04 41 19.5**	**-1.1**
PVIS							
	4.2nm,0.1s						
EADA	**Adamuz**	**4.28**	**69**	P	**Pn**	**04 40 33.3**	**+0.5**
	0.3nm,0.1s,SNR=10						
EADA				S	**Sn**	**04 41 22.4**	**-0.3**
	0.4nm,0.1s						
EADA	**Adamuz**	**4.28**	**69**	P	**Pn**	**04 40 33.3**	**+0.5**
	0.3nm,0.1s,SNR=10						
EADA				S	**Sn**	**04 41 22.4**	**-0.4**
	0.4nm,0.1s						
PVRL	**Vila Real**	**4.76**	**18**	*e*Pn	**Pn**	**04 40 39.5**	**0.0**
PVRL				*e*Sn	**Sn**	**04 41 32.9**	**-1.8**
PVRL							
	5.6nm,0.1s						
EBAN	**Banos Encina**	**4.87**	**71**	P	**Pn**	**04 40 41.0**	**-0.1**
	0.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.34**	**55**	P	**Pn**	**04 40 47.6**	**+0.1**
ESDC				S	**Sn**	**04 41 48.7**	**-0.4**
ESDC	**Sonseca Array**	**5.34**	**55**	P	**Pn**	**04 40 47.9**	**+0.4**
	0.6nm,0.1s,baz=241,slow=13,SNR=7.9						
ESDC				S	**Sn**	**04 41 48.7**	**-0.4**
	2.3nm,0.3s,baz=243,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**5.34**	**55**	P	**Pn**	**04 40 47.9**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
ESDC				S	**Sn**	**04 41 48.7**	**-0.4**
	2.3nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.35**	**77**	P	**Pn**	**04 40 47.5**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 41 47.9**	**-1.3**
	0.0nm,0.0s,SNR=7.9						
EQES	**Quesada**	**5.35**	**77**	P	**Pn**	**04 40 47.5**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 41 47.9**	**-1.4**
	SNR=7.9						
EZAM	**Zamans**	**5.44**	**8**	P	**Pn**	**04 40 48.7**	**-0.1**
PBRG	**Braganca**	**5.53**	**23**	*e*Pn	**Pn**	**04 40 50.2**	**+0.2**
PBRG				*e*Sn	**Sn**	**04 41 52.8**	**-0.8**
EMEL	**Melilla**	**5.61**	**103**	P	**Pn**	**04 40 50.6**	**-0.6**
	65nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.65**	**23**	P	**Pn**	**04 40 52.4**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**04 41 55.8**	**-0.9**
	2.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.65**	**23**	P	**Pn**	**04 40 52.4**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**04 41 55.8**	**-0.9**
	2.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.72**	**77**	P	**Pn**	**04 40 51.8**	**-1.0**
EHUE	**Huescar**	**5.72**	**77**	P	**Pn**	**04 40 51.8**	**-1.0**
GUD	**Guadarrama**	**5.79**	**46**	P	**Pn**	**04 40 53.1**	**-0.6**
GUD				S	**Sn**	**04 41 59.7**	**-0.5**
GUD	**Guadarrama**	**5.79**	**46**	P	**Pn**	**04 40 53.2**	**-0.4**
	0.8nm,0.2s,SNR=4.0						
GUD				S	**Sn**	**04 41 59.7**	**-0.5**
	0.9nm,0.6s,SNR=7.9						
ETOR	**Torete**	**7.19**	**53**	P	**Pn**	**04 41 13.6**	**+0.7**
	1.8nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**04 42 33.5**	**-1.0**
	1.8nm,0.6s,SNR=7.9						

CASC 22 04:40:08.8±0.9, 839N×8302W, h12km±3km, MD3.5, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.30**	**330**	*e*P	Pg	04 40 15.8	+0.9
ACR				*e*S	Sg	04 40 20.2	+1.3
LAJ	**Bijagual**	**1.82**	**323**	*e*P	Pn	04 40 41.9	+1.9
PRS1	**Puriscal**	**2.03**	**321**	⇓*e*P	Pn	04 40 42.2	-0.7

IDC 22 04:40:18.6±4.6, 4714N×15580E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=161.8km s-min=29.6km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.39**	**298**	P	P	04 49 02.1	-0.2
	0.5nm,0.7s,baz=50,slow=8.1,SNR=3.9						
BVAR	**Borovoye Array**	**52.02**	**310**	P	P	04 49 29.7	-0.2
	0.8nm,0.5s,baz=71,slow=8.0,SNR=4.7						
PDAR	**Pinedale Array**	**63.02**	**55**	P	P	04 50 48.1	+0.7
	0.4nm,0.8s,baz=298,slow=3.2,SNR=3.6						
FINES	**FINESS Array B**	**64.46**	**336**	P	P	04 50 55.9	-0.9
	2.1nm,0.8s,baz=47,slow=8.4,SNR=3.6						
TXAR	**Lajitas Array**	**75.69**	**62**	P	P	04 52 05.6	-0.2
	0.6nm,0.8s,baz=288,slow=3.9,SNR=5.8						

ISCJB 22 04:43:59.5±0.8, 57N±0.1×614E±0.1, h10km, mb3.9/9, MS3.5/4, Error ellipse: s-maj=19.1km s-min=17.7km az=150.5
IDC 22 04:43:59.5±0.9, 571N×6142E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, MS3.4/5, Ms1 3.4/5, ms1mx3.1/33, Error ellipse: s-maj=34.0km s-min=21.5km az=33.0
NEIC 22 04:44:01.1±0.6, 570N×6140E, h10km, mb4.3/2, Error ellipse: s-maj=14.8km s-min=13.4km az=179.0

ISC 22 04:44:01.8±0.8, 58N±01×614E±01, h10km, n16, σ0§43/12, mb3.9/9, MS3.5/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**19.23**	**289**	LR	LR	04 54 40.3	
	comp=Z,41nm,21.4s,baz=111,slow=33						
KMBO	**Kilima Mbogo**	**25.09**	**255**	P	**P**	**04 49 26.9**	**+0.4**
	0.6nm,0.3s,mb3.7,baz=67,slow=14,SNR=5.5						
KMBO				LR	LR	04 57 00.7	
	comp=Z,87nm,20.9s,MS3.2,baz=205,slow=31						
AAK	**Ala-Archa**	**38.50**	**16**	*e*P	**P**	**04 51 24.3**	**+0.1**
	14nm,1.6s,mb4.4						
MALT	**Malatya**	**38.54**	**330**	*e*P	**P**	**04 51 24.5**	**0.0**
	7.5nm,1.3s,mb4.3						
BRTR	**Keskin Array B**	**42.06**	**328**	P	**P**	**04 51 53.6**	**0.0**
	0.9nm,0.9s,mb3.4,baz=159,slow=12,SNR=3.6						
AKTK	**Aktyubinsk**	**44.61**	**357**	P	**P**	**04 52 14.2**	**-0.1**
AKTO	**Aktyubinsk**	**44.61**	**357**	P	**P**	**04 52 14.2**	**-0.1**
	0.9nm,0.6s,mb3.8,baz=166,slow=4.2,SNR=5.5						
MK31	**Makanchi Array**	**44.66**	**20**	*e*P	**P**	**04 52 15.2**	**+0.6**
MKAR	**Makanchi Array**	**44.66**	**20**	LR	LR	05 11 13.6	
	comp=Z,63nm,19.9s,MS3.5,baz=310,slow=36						
BOSA	**Boshof**	**48.80**	**224**	LR	LR	05 10 50.7	
	comp=Z,57nm,19.5s,MS3.6,baz=229,slow=33						
AKASG	**Malin Array Be**	**52.23**	**335**	P	**P**	**04 53 12.5**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=130,slow=6.6,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**59.26**	**282**	*e*P	**P**	**04 54 04.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**59.26**	**282**	P	**P**	**04 54 02.5**	**-0.9**
	1.2nm,1.1s,mb3.8,baz=86,slow=7.7,SNR=4.3						
NOA	**NORSAR Array B**	**66.60**	**336**	LR	LR	05 25 21.2	
	comp=Z,32nm,18.2s,MS3.6,baz=225,slow=37						
WRA	**Warramunga Arr**	**76.05**	**112**	P	**P**	**04 55 49.0**	**-0.4**
	2.8nm,1.1s,mb4.1,baz=288,slow=4.1,SNR=9.3						
ASAR	**Alice Springs**	**76.42**	**116**	P	**P**	**04 55 51.7**	**+0.2**
	3.3nm,1.2s,mb4.1,baz=290,slow=5.6,SNR=11						

IDC 22 04:53:04.3±1.6, 3836N×2222E, h0km, mb3.5/2, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=37.6km s-min=21.3km az=115.0
ATH 22 04:53:04.8, 3825N×2219E, h23km±1km, MD3.5/16, ML3.3
NEIC 22 04:53:04.8, 3825N×2219E, h23km, ML3.3(ATH), After ATH.
CSEM 22 04:53:05.1±0.1, 3825N×2224E, h5km, ML3.3, Error ellipse: s-maj=2.2km s-min=1.6km az=66.0
ISCJB 22 04:53:05.7±0.6, 3826N±002×2222E±004, h17km±6km, mb3.4/2, Error ellipse: s-maj=5.1km s-min=3.7km az=163.9

THE 22 04:53:09.0, 3842N×2237E, h13km, ML3.1

ISC 22 04:53:05.3±0.5, 3826N±002×2224E±003, h8km±4km, n40, σ0§80/53, mb3.4/2, 3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.64**	**252**	*e*PN	**Pg**	**04 53 17.0**	**-0.6**
RLS				*e*SN	**Sg**	**04 53 25.7**	**-0.2**
LKR	**Lokris**	**0.72**	**56**	*e*PN	**Pg**	**04 53 18.8**	**-0.3**
LKR				*e*SN	**Sg**	**04 53 29.5**	**+1.0**
EVR	**Evrytania**	**0.74**	**333**	⇓*i*PN	**Pg**	**04 53 18.8**	**-0.8**
EVR				*e*SN	**Sg**	**04 53 29.9**	**+0.7**
AGG	**Agios Georgios**	**0.77**	**5**	*e*Pg	**Pg**	**04 53 19.2**	**-0.9**
AGG				*e*Sg	**Sg**	**04 53 30.4**	**+0.3**
MGER	**Gerania Oros**	**0.85**	**108**	*e*PN	**Pg**	**04 53 22.5**	**+0.8**
ITM	**Ithomi**	**1.10**	**193**	⇓*i*PN	**Pg**	**04 53 25.7**	**-0.8**
ITM				*e*SN	**Sg**	**04 53 40.3**	**-0.5**
NAIG	**Nisos Aigina**	**1.11**	**116**	*e*PN	**Pn**	**04 53 27.0**	**-0.1**
ATH	**Athens Observa**	**1.20**	**103**	*e*PN	**Pn**	**04 53 28.3**	**-0.1**
ATH				*e*SN	**Sn**	**04 53 45.6**	**+0.7**
KVR	**Kavouri**	**1.28**	**109**	*e*PN	**Pn**	**04 53 29.5**	**-0.1**
VLS	**Valsamata**	**1.30**	**267**	*e*PN	**Pn**	**04 53 28.8**	**-1.0**
PTL	**Penteli**	**1.30**	**99**	*e*PN	**Pn**	**04 53 29.5**	**-0.3**
NEO	**Neokhori**	**1.30**	**36**	⇓*i*PN	**Pn**	**04 53 29.7**	**-0.1**
NEO				*e*SN	**Sn**	**04 53 47.8**	**+0.4**
THL	**Klokotos Trika**	**1.32**	**353**	*e*PN	**Pn**	**04 53 30.0**	**-0.1**
THL				*e*SN	**Sn**	**04 53 47.4**	**-0.4**
XOR	**Xorichti**	**1.34**	**34**	*e*Pg	**Pn**	**04 53 30.4**	**+0.1**
XOR				*e*Sg	**Sb**	**04 53 46.0**	**-1.9**
AOS	**Alonnisos**	**1.58**	**54**	*e*Pg	**Pn**	**04 53 33.4**	**-0.2**
VLI	**Veliai**	**1.63**	**160**	*e*PN	**Pn**	**04 53 34.8**	**+0.4**
VLI				*e*SN	**Sn**	**04 53 55.8**	**+0.2**
MEV	**Metsovon**	**1.72**	**333**	*e*Pb	**Pb**	**04 53 37.0**	**-0.1**
JAN	**Janina**	**1.77**	**323**	*e*PN	**Pn**	**04 53 37.4**	**+1.2**
LIT	**Litokhoron**	**1.85**	**6**	*e*Pb	**Pn**	**04 53 37.6**	**+0.2**
LIT				*e*Sb	**Sn**	**04 53 58.9**	**-2.2**
LIT	**Litokhoron**	**1.85**	**6**	*e*Pb	**Pn**	**04 53 37.6**	**+0.2**
LIT				*e*Sb	**Sn**	**04 53 58.8**	**-2.2**
KZN	**Kozani**	**2.08**	**350**	*e*PN	**Pn**	**04 53 41.1**	**+0.6**
PLG	**Polygyros**	**2.31**	**24**	*e*PN	**Pn**	**04 53 43.4**	**-0.4**
HORT	**Hortiatis**	**2.43**	**16**	*e*PN	**Pn**	**04 53 44.9**	**-0.5**
OUR	**Ouranopolis**	**2.48**	**33**	*e*PN	**Pn**	**04 53 45.5**	**-0.5**
FNA	**Florina**	**2.61**	**346**	*e*PN	**Pn**	**04 53 48.6**	**+0.8**
GRG	**Griva**	**2.70**	**3**	*e*PN	**Pn**	**04 53 50.4**	**+1.4**
SOH	**Sokhos**	**2.71**	**18**	*e*PN	**Pn**	**04 53 49.7**	**+0.6**
APE	**Apeiranthos**	**2.87**	**113**	*e*PN	**Pn**	**04 53 52.1**	**+0.7**
KNT	**Kendrikon**	**2.95**	**10**	*e*PN	**Pn**	**04 53 52.7**	**+0.3**
KRUS	**Krusevo**	**3.20**	**347**	*e*PN	**Pn**	**04 54 00.5**	**+4.5**
KRUS	**Krusevo**	**3.20**	**347**	*e*PN	**Pn**	**04 54 00.5**	**+4.6**
KRUS	**Krusevo**	**3.20**	**347**	*e*PN	**Pn**	**04 54 00.4**	**+4.5**
IDI	**Anoyia**	**3.65**	**143**	Pn	**Pn**	**04 54 02.8**	**+0.7**
	1.0nm,0.3s,baz=319,slow=16,SNR=14						
IDI				Sn	**Sn**	**04 54 43.3**	**-2.0**
	2.9nm,0.3s,baz=55,slow=20,SNR=7.1						
TIP	**Timpagrande**	**4.38**	**284**	*e*Pn	**Pn**	**04 54 14.1**	**+1.9**
TIP	**Timpagrande**	**4.38**	**284**	*e*Pn	**Pn**	**04 54 14.1**	**+1.9**
MLR	**Muntele Rosu**	**7.74**	**20**	Pn	**Pn**	**04 54 57.8**	**-0.5**
	0.1nm,0.3s,baz=122,slow=19,SNR=2.0						
BRTR	**Keskin Array B**	**9.00**	**77**	Pn	**Pn**	**04 55 15.9**	**+0.3**
	0.2nm,0.3s,baz=265,slow=18,SNR=4.4						
TORD	**Torodi Ar. Bea**	**30.96**	**222**	P	**P**	**04 59 23.9**	**+1.0**
	0.3nm,0.7s,mb3.2,baz=34,slow=9.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**30.96**	**222**	P	**P**	**04 59 23.9**	**+1.0**
MKAR	**Makanchi Array**	**44.11**	**59**	P	**P**	**05 01 13.9**	**-0.2**
	0.5nm,0.4s,mb3.6,baz=273,slow=7.5,SNR=7.4						

GUC 22 05:11:33.7±0.9, 3169S×7158W, h34km±3km, MD3.5, ML2.4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.20**	**160**	⇓*i*P	Pb	05 11 40.3	-0.1
CHNG				*i* S	Sb	05 11 44.8	-0.1
CMCH	**Combarbala**	**0.72**	**44**	⇑*i*P	Pn	05 11 47.4	0.0
CMCH				*i* S	Sn	05 11 57.7	+0.5
CMCH				AML	AML	05 11 58.2	
	comp=E,405nm,0.4s						
PTCH	**Petorca**	**0.79**	**136**	⇑*i*P	Pn	05 11 48.7	+0.3
PTCH				*i* S	Sn	05 11 59.6	+0.5
PTCH				AML	AML	05 12 01.3	
	comp=N,316nm,0.3s						
RCDM	**Rinconada Maip**	**1.91**	**160**	*e*P	Pn	05 12 05.6	+1.8
RCDM				*i* S	Sn	05 12 28.9	+2.3
RCDM				AML	AML	05 12 37.0	
	comp=N,47nm,0.8s						

IDC 22 05:11:48.8±0.9, 4617N×15307E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML4.0/1, Error ellipse: s-maj=24.6km s-min=19.0km az=164.0
*BJI 22 05:11:51.2, 4612N×15296E, h18km, mB5.0, mb4.

WMQ					XP	sP	05 20 14.6	-7.6
WMQ					PCP	PcP	05 21 49.9	+1.3
WMQ					PP	PP	05 21 52.9	+0.5
WMQ					SCP	ScP	05 25 41.3	+3.2
WMQ					*e*S	**S**	**05 26 42.6**	**+0.3**
WMQ					AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.1							
WMQ					AMB	AMB		
	comp=Z,151nm,5.2s							
WMQ					LR	LR		
	comp=N,60nm,17.3s,MS3.8							
WMQ					LR	LR		
	comp=E,65nm,16.0s,MS3.8							
WMQ					LR	LR		
	comp=Z,43nm,15.0s,MS3.5							
MK31	**Makanchi Array**	**46.88**	**297**	*e*P	**P**		**05 20 21.5**	**-1.9**
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**		**05 20 22.4**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=69,slow=6.6,SNR=7.0							
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**		**05 20 22.4**	**-1.0**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**		**05 20 22.4**	**-0.9**
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**		**05 20 53.3**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=44,slow=6.8,SNR=9.7							
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**		**05 20 53.3**	**-0.5**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**50.89**	**310**	*e*P	**P**		**05 20 53.4**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**50.89**	**310**	*e*P	**P**		**05 20 53.4**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.4							
AAK	**Ala-Archa**	**53.77**	**296**	*e*P	**P**		**05 21 14.9**	**-0.6**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**53.77**	**296**	*e*P	**P**		**05 21 14.8**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.3							
JIRN	**Jiri**	**54.80**	**275**	*e*P	**P**		**05 21 24.4**	**+1.4**
	comp=Z,9.7nm,0.6s,mb5.0							
GUN	**Gumba**	**54.86**	**275**	*e*P	**P**		**05 21 25.0**	**+1.6**
	comp=Z,4.7nm,0.4s,mb4.9							
KKN	**Kakani**	**55.35**	**275**	*e*P	**P**		**05 21 28.3**	**+1.4**
PKI	**Pulchoki**	**55.40**	**275**	*e*P	**P**		**05 21 28.4**	**+1.1**
GKN	**Gorkha**	**55.66**	**276**	*e*P	**P**		**05 21 29.9**	**+0.8**
	comp=Z,14nm,0.7s,mb5.1							
KOLN	**Koldanda**	**56.51**	**276**	*e*P	**P**		**05 21 36.0**	**+0.7**
	comp=Z,9.3nm,0.8s,mb4.9							
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**		**05 21 45.4**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.5,baz=30,slow=7.0,SNR=6.2							
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**		**05 21 45.4**	**-0.1**
ARCES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**		**05 21 45.4**	**-0.1**
RRI2	**Red Ridge**	**63.61**	**54**	*e*P	**P**		**05 22 25.4**	**+1.5**
	comp=Z,9.8nm,1.0s,mb4.8							
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**		**05 22 26.8**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.2,baz=40,slow=6.7,SNR=15							
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**		**05 22 26.8**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
DUG	**Dugway**	**64.80**	**58**	*e*P	**P**		**05 22 31.4**	**-0.3**
DUG				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
DUG	**Dugway**	**64.80**	**58**	*e*P	**P**		**05 22 31.4**	**-0.3**
	comp=Z,2.6nm,1.0s,mb4.2							
PDAR	**Pinedale Array**	**64.97**	**54**	P	**P**		**05 22 31.5**	**-1.3**
	comp=Z,0.7nm,0.9s,mb3.7,baz=325,slow=2.3,SNR=5.4							
WB2	**Warramunga Arr**	**68.30**	**199**	*e*P	**P**		**05 22 54.4**	**+0.4**
NB2	**NORSAR Subarra**	**68.34**	**341**	P	**P**		**05 22 54.1**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**		**05 22 54.1**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=6.6							
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**		**05 22 54.2**	**-0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MDRS	**Chennai**	**68.70**	**267**	*ex*	x		05 23 52.5	
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**		**05 23 13.1**	**-1.2**
	comp=Z,3.1nm,0.4s,mb4.6,baz=36,slow=6.4,SNR=15							
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**		**05 23 13.1**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.4s							
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**		**05 23 13.1**	**-1.3**
AKBB	**Malin Array Si**	**71.60**	**326**	*e*P	**P**		**05 23 12.9**	**-1.4**
ASAR	**Alice Springs**	**72.00**	**198**	P	**P**		**05 23 11.2**	**-5.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=12,slow=5.0,SNR=3.1							
CLL	**Collm**	**76.56**	**335**	*e*P	**P**		**05 23 43.0**	**-0.2**
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**		**05 23 48.8**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=300,slow=4.1,SNR=13							
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**		**05 23 48.8**	**-0.9**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**78.41**	**317**	P	**P**		**05 23 54.6**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=101,slow=3.9,SNR=6.6							
BRTR	**Keskin Array B**	**78.41**	**317**	P	**P**		**05 23 54.7**	**+1.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.54**	**334**	P	**P**		**05 23 54.4**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=31,slow=5.4,SNR=8.0							
GERES	**GERESS Array B**	**78.54**	**334**	P	**P**		**05 23 54.4**	**+0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							

IDC ***22*** *05:16:47.8±1.1, 46.27N×152.95E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=32.0km s-min=25.7km az=14.0*
ISCJB ***22*** *05:16:51.4±0.9, 46.3N±0.1×153.0E±0.2, h35km, mb3.8/8, Error ellipse: s-maj=24.1km s-min=18.1km az=92.1*
MOS ***22*** *05:16:52.6±1.0, 46.39N×152.91E, h48km, mb4.2/6, Error ellipse: s-maj=45.8km s-min=22.4km az=89.7*

ISC 22 05:16:53.2±0.9, 464N±0.2×1529E±0.2, h35km, n15, σ0§37/15, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.83**	**25**	*e*P	N	**Pn**	**05 18 02.9**	**-0.5**
SKR				*e*			05 18 57.5	
MKAR	**Makanchi Array**	**47.00**	**298**	P		**P**	**05 25 21.0**	**+0.1**
	0.9nm,0.8s,mb3.8,baz=57,slow=12,SNR=4.2							
MKAR	**Makanchi Array**	**47.00**	**298**	P		**P**	**05 25 21.0**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**51.00**	**310**	P		**P**	**05 25 51.1**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=44,slow=7.9,SNR=2.8							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**05 27 25.1**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=36,slow=6.7,SNR=9.3							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**05 27 25.2**	**-0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
PDAR	**Pinedale Array**	**65.10**	**54**	P		**P**	**05 27 30.6**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.5,baz=278,slow=2.6,SNR=3.4							
WRA	**Warramunga Arr**	**68.09**	**199**	P		**P**	**05 27 48.9**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=12,slow=6.8,SNR=4.5							
WRA	**Warramunga Arr**	**68.09**	**199**	P		**P**	**05 27 48.9**	**-0.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**68.56**	**341**	P		**P**	**05 27 52.7**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=28,slow=6.6,SNR=2.8							
NOA	**NORSAR Array B**	**68.56**	**341**	P		**P**	**05 27 52.7**	**+0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.80**	**326**	P		**P**	**05 28 12.6**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=33,slow=6.1,SNR=11							
AKASG	**Malin Array Be**	**71.80**	**326**	P		**P**	**05 28 12.6**	**+0.5**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**77.82**	**60**	P		**P**	**05 28 47.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=302,slow=4.2,SNR=10							
TXAR	**Lajitas Array**	**77.82**	**60**	P		**P**	**05 28 47.1**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

IDC ***22*** *05:19:20.5±0.7, 46.24N×152.98E, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.2/24, mbtmp4.1/17, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/30, Error ellipse: s-maj=20.1km s-min=17.8km az=155.0*
NEIC ***22*** *05:19:22.1±0.3, 46.22N×152.95E, h10km, mb4.6/9, Error ellipse: s-maj=9.6km s-min=7.4km az=156.0*
BJI ***22*** *05:19:23.5, 46.13N×152.57E, h7km, mB4.9, mb4.5, Ms4.1, Msz3.9*
ISCJB ***22*** *05:19:24.8±1.5, 46.35N±0.1×153.1E±0.1, h35km±13km, mb4.4/31, MS3.7/2, Error ellipse: s-maj=17.9km s-min=9.2km az=116.6*
MOS ***22*** *05:19:24.6±1.3, 46.33N×152.90E, h37km, mb4.5/16, Error ellipse: s-maj=14.1km s-min=10.8km az=94.6*

ISC 22 05:19:28.8±1.3, 466N±0.1×1530E±0.1, h46km±11km, h26km±10.0km; pP-P, n75, σ1§05/72, mb4.4/31, MS3.7/2, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.61**	**26**	*e*PN		**Pn**	**05 20 36.0**	**+0.2**
SKR				pmax	pmax			
	comp=N,80nm,0.5s							
SKR				pmax	pmax			
	comp=Z,90nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.04**	**277**	⇑*i*PN		**Pn**	**05 21 18.0**	**+8.8**
PET	**Petropavlovsk**	**7.42**	**28**	*e*PN		**Pn**	**05 21 23.1**	**+8.6**
ASAJ	**Asahikawa**	**7.72**	**255**	Pn		**Pn**	**05 21 18.3**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=99,slow=16,SNR=5.0							
ASAJ	**Asahikawa**	**7.72**	**255**	PN		**Pn**	**05 21 18.3**	**-0.3**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**8.39**	**241**	*e*PN		**Pn**	**05 21 28.5**	**+0.7**
KLR	**Kul'dur**	**14.48**	**288**	*e*P		**Pn**	**05 22 46.3**	**-4.6**
MJAR	**Matsushiro Arr**	**14.90**	**233**	Pn		**Pn**	**05 22 50.6**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=41,slow=16,SNR=4.0							
YAK	**Yakutsk**	**20.42**	**328**	*e*P		**P**	**05 24 11.8**	**+10**
YAK				pmax	pmax			
	comp=E,10.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,12nm,1.1s							
YAK				pmax	pmax			
	comp=N,11nm,1.3s							
KSRS	**Korea Array**	**20.66**	**253**	P		**P**	**05 24 02.5**	**-2.1**
	comp=N,3.2nm,0.7s,baz=64,slow=10,SNR=8.6							
JNU	**Nakatsue**	**21.55**	**239**	LR	LR		05 32 07.7	
	comp=N,282nm,20.5s,MS3.6,baz=86,slow=36							
SONM	**Songino Array**	**31.31**	**290**	P		**P**	**05 25 43.8**	**-0.7**
	comp=N,0.4nm,0.7s,baz=58,slow=11,SNR=2.9							
SONM				LR	LR		05 40 25.8	
	comp=N,59nm,18.1s,baz=130,slow=40							
LZH	**Lanzhou**	**37.80**	**272**	*e*P				
LZH				AP	pP		05 26 47.0	-6.0
LZH				XP	sP		05 26 49.5	-9.0
LZH				AMB	AMB			
	comp=Z,25nm,1.0s,mb4.9							
LZH				AMB	AMB			
	comp=Z,104nm,4.0s							
LZH	**Lanzhou**	**37.80**	**272**	*e*P		**P**	**05 26 41.5**	**+0.9**
	comp=Z,25nm,1.0s,mb4.9							
LZH				pP	pP		05 26 47.0	-6.0
LZH				sP	sP		05 26 49.5	-9.0
GTA	**Gaotai**	**38.91**	**279**	P		**P**	**05 26 51.1**	**+1.2**
GTA				AP	pP		05 26 55.8	-6.6
GTA				XP	sP		05 26 58.0	-10
GTA				AMB	AMB			
	comp=Z,7.0nm,1.2s,mb4.3							
INK	**Inuvik**	**41.85**	**32**	P		**P**	**05 27 14.6**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.0,baz=293,slow=8.6,SNR=5.0							
INK	**Inuvik**	**41.85**	**32**	P		**P**	**05 27 14.6**	**+0.4**
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ZAL	**Zalesovo**	**42.66**	**306**	P		**P**	**05 27 18.6**	**-2.2**
	comp=Z,6.0nm,0.3s,mb4.9,baz=159,slow=1.2,SNR=4.4							
ZAL	**Zalesovo**	**42.66**	**306**	P		**P**	**05 27 18.6**	**-2.2**
ZAL				pmax	pmax			
	comp=Z,6.0nm,0.3s							
WMQ	**Urumqi**	**44.91**	**291**	⇑P		**P**	**05 27 36.8**	**-2.0**
WMQ				AP	pP		05 27 41.3	-10
WMQ				XP	sP		05 27 43.8	-13
WMQ				PP	PP		05 29 28.8	+4.5
WMQ				S	**S**		**05 34 19.1**	**+5.6**
WMQ				AMB	AMB			
	comp=Z,5.0nm,0.6s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,153nm,5.5s							
WMQ				LR	LR			
	comp=N,77nm,18.6s,MS3.9							
WMQ				LR	LR			
	comp=E,98nm,20.0s,MS3.9							
WMQ				LR	LR			
	comp=Z,72nm,16.9s,MS3.7							
MKAR	**Makanchi Array**	**46.94**	**297**	P		**P**	**05 27 53.4**	**-1.4**
	comp=Z,3.0nm,0.8s,mb4.3,baz=60,slow=7.4,SNR=9.3							
MKAR	**Makanchi Array**	**46.94**	**297**	P		**P**	**05 27 53.4**	**-1.5**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**46.94**	**297**	P		**P**	**05 27 53.4**	**-1.4**
BVAR	**Borovoye Array**	**50.90**	**309**	P		**P**	**05 28 24.0**	**-1.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=55,slow=8.1,SNR=9.2							
BVAR	**Borovoye Array**	**50.90**	**309**	P		**P**	**05 28 24.0**	**-1.2**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**50.94**	**310**	*e*P		**P**	**05 28 24.4**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**50.94**	**310**	*e*P		**P**	**05 28 24.4**	**-1.1**
	comp=Z,2.5nm,0.8s,mb4.2							
RES	**Resolute Bay**	**51.03**	**18**	*e*P		**P**	**05 28 26.8**	**+0.6**
	comp=Z,198nm,1.3s							
AAK	**Ala-Archa**	**53.83**	**296**	*e*P		**P**	**05 28 46.6**	**-0.3**
AAK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**53.83**	**296**	*e*P		**P**	**05 28 46.6**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.5							
JIRN	**Jiri**	**54.87**	**275**	*e*P		**P**	**05 28 55.6**	**+1.1**
	comp=Z,15nm,0.8s,mb5.1							
GUN	**Gumba**	**54.93**	**275**	*e*P		**P**	**05 28 56.6**	**+1.7**
KKN	**Kakani**	**55.41**	**275**	*e*P		**P**	**05 28 59.9**	**+1.5**
	comp=Z,13nm,0.6s,mb5.1							
PKI	**Pulchoki**	**55.46**	**275**	*e*P		**P**	**05 28 59.9**	**+1.2**
DMN	**Daman**	**55.65**	**275**	*e*P		**P**	**05 29 01.2**	**+1.1**
	comp=Z,14nm,0.6s,mb5.2							
GKN	**Gorkha**	**55.72**	**276**	*e*P		**P**	**05 29 01.4**	**+0.8**
	comp=Z,14nm,0.7s,mb5.1							
KOLN	**Koldanda**	**56.58**	**276**	*e*P		**P**	**05 29 07.6**	**+0.9**
	comp=Z,15nm,0.7s,mb5.1							
ARCES	**ARCESS Array B**	**57.99**	**341**	P		**P**	**05 29 16.7**	**+0.1**
	comp=Z,6.1nm,1.1s,mb4.6,baz=20,slow=6.5,SNR=5.6							
ARCES	**ARCESS Array B**	**57.99**	**341**	P		**P**	**05 29 16.7**	**+0.1**
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.1s							
BMO	**Blue Mountains**	**59.25**	**56**	*e*P		**P**	**05 29 29.8**	**+4.4**
	comp=Z,4.7nm,1.2s,mb4.4							
HLID	**Hailey**	**61.68**	**56**	*e*P		**P**	**05 29 41.8**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.0							
FINES	**FINESS Array B**	**64.16**	**335**	P		**P**	**05 29 58.2**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=43,slow=7.6,SNR=9.2							
FINES	**FINESS Array B**	**64.16**	**335**	P		**P**	**05 29 58.2**	**-0.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**64.16**	**335**	P		**P**	**05 29 58.2**	**-0.2**
DUG	**Dugway**	**64.74**	**58**	*e*P		**P**	**05 30 02.7**	**+0.4**
DUG				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
DUG	**Dugway**	**64.74**	**58**	*e*P		**P**	**05 30 02.7**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.3							
PDAR	**Pinedale Array**	**64.92**	**54**	P		**P**	**05 30 03.5**	**+0.1**
	comp=Z,1.4nm,1.0s,mb4.0,baz=286,slow=3.2,SNR=6.7							
SRU	**San Rafael**	**66.79**	**57**	*e*P		**P**	**05 30 15.4**	**0.0**
SRU				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.6							
SRU	**San Rafael**	**66.79**	**57**	*e*P		**P**	**05 30 15.4**	**0.0**
	comp=Z,5.8nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**68.32**	**199**	P		**P**	**05 30 20.8**	**-4.3**
	comp=Z,1.0nm,0.9s,mb3.8,baz=16,slow=6.7,SNR=5.5							
WRA	**Warramunga Arr**	**68.32**	**199**	P		**P**	**05 30 20.8**	**-4.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.36**	**341**	P		**P**	**05 30 26.0**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.36**	**341**	P		**P**	**05 30 25.4**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=27,slow=6.3,SNR=7.3							
NOA	**NORSAR Array B**	**68.36**	**341**	P		**P**	**05 30 25.4**	**0.0**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**71.64**	**326**	P		**P**	**05 30 44.7**	**-0.8**
	comp=Z,6.4nm,0.7s,mb4.7,baz=34,slow=6.3,SNR=21							
AKASG	**Malin Array Be**	**71.64**	**326**	P		**P**	**05 30 44.7**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AKBB	**Malin Array Si**	**71.64**	**326**	*e*P		**P**	**05 30 44.9**	**-0.6**
KIEV	**Kiev**	**71.65**	**326**	*e*P		**P**	**05 30 45.0**	**-0.6**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
KIEV	**Kiev**	**71.65**	**326**	*e*P		**P**	**05 30 45.0**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.5							
ASAR	**Alice Springs**	**72.01**	**198**	P		**P**	**05 30 44.4**	**-3.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=357,slow=5.7,SNR=6.4							
KWP	**Kalwaria**	**74.93**	**329**	*e*P		**P**	**05 31 05.7**	**+0.8**
	comp=Z,16nm,1.1s,mb4.9							
CLL	**Collm**	**76.59**	**335**	*e*P		**P**	**05 31 15.0**	**+0.7**
	comp=Z,6.0nm,0.7s,mb4.6							
CLL				*e*pPcP		pP	05 31 28.0	+0.1
TXAR	**Lajitas Array**	**77.66**	**60**	P		**P**	**05 31 19.6**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=297,slow=4.1,SNR=20							
TXAR	**Lajitas Array**	**77.66**	**60**	P		**P**	**05 31 19.7**	**-0.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KHC	**Kasperske Hory**	**78.36**	**334**	*e*P		**P**	**05 31 24.5**	**+0.3**
KHC				PCP	PcP		05 31 36.5	+3.1
KHC				*ex*	x		05 33 48.0	
KHC	**Kasperske Hory**	**78.36**	**334**	*e*P		**P**	**05 31 24.5**	**+0.3**
KHC				*e*	pP		05 31 36.5	-1.3
KHC	**Kasperske Hory**	**78.36**	**334**	*e*P		**P**	**05 31 24.5**	**+0.3**
KHC				*e*	pP		05 31 36.5	-1.3
KHC				*e*			05 33 48.0	
BR131	**Keskin Array S**	**78.46**	**317**	*e*P		**P**	**05 31 24.9**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.6							
BRTR	**Keskin Array B**	**78.46**	**317**	P		**P**	**05 31 25.2**	**+0.4**
	comp=Z,3.2nm,1.1s,mb4.2,baz=72,slow=4.0,SNR=11							
BRTR	**Keskin Array B**	**78.46**	**317**	P		**P**	**05 31 25.2**	**+0.4**
BRTR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GERES	**GERESS Array B**	**78.57**	**334**	P		**P**	**05 31 25.7**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.0,SNR=7.4							
GERES	**GERESS Array B**	**78.57**	**334**	P		**P**	**05 31 25.7**	**+0.3**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CFAA	**Coronel Fontan**	**145.11**	**79**	PKPbc		PKPbc	05 38 57.9	-2.7
	comp=Z,0.3nm,0.6s,baz=245,slow=1.8,SNR=3.6							
CFAA	**Coronel Fontan**	**145.11**	**79**	PKPbc		PKPbc	05 38 57.9	-2.7
SNAA	**Sanae**	**152.36**	**196**	*e*PKIKP		PKPdf	05 39 15.2	+2.5
SNAA				*e*			05 39 26.2	

ISCJB ***22*** *05:20:45.4±0.3, 3709S×1729W±008, h10km, mb4.5/22, MS4.5/16, Error ellipse: s-maj=10.1km s-min=9.3km az=148.6*
IDC ***22*** *05:20:45.4±0.6, 3709S×1724W, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/19, mbtmp4.2/15, MS4.4/16, Ms1 4.4/16, ms1mx4.4/17, Error ellipse: s-maj=19.4km s-min=14.7km az=176.0*
NEIC ***22*** *05:20:47.0±0.4, 3708S×1732W, h10km, mb5.0/13, Error ellipse: s-maj=13.8km s-min=9.8km az=173.0*
GCMT ***22*** *05:20:47.0±0.2, 3741S×17.18W, h12km, MW5.1/85, Moment Tensor Solution. s30,c37; s85,c130; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.69±.11; Mθθ=0.55±.12; Mϕϕ=4.14±.10; Mrθ=-0.69±.47; Mϕθ=-1.54±.09; Mϕr=0.08±.35; Best double couple: Mo=4.75100×10^16 NP1: φs=152.00000°, δ47.00000°, λ=-100.00000°. NP2: φs=347.00000°, δ44.00000°, λ=-79.00000°. Principal axes: T 4.7210, Plg2.0000°, Azm249.0000°; N 0.0610, Plg7.0000°, Azm159.0000°; P -4.7800, Plg82.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***22*** *05:20:49.9, 37.10S×1730W, h10km, mB5.6, Ms5.0, Msz4.8*

ISC 22 05:20:47.2±0.3, 3710S±007×1728W±008, h10km, (h5km±.2km: pP-P), n54, σ1§12/39, mb4.5/22, MS4.5/16, 2C-4D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**31.51**	**93**	P		**P**	**05 27 09.5**	**+0.3**
	8.8nm,1.0s,mb4.5,baz=288,slow=16,SNR=3.0							
SUR				LR	LR		05 37 22.9	
	comp=Z,835nm,18.1s,MS4.5,baz=220,slow=32							
SUR	**Sutherland**	**31.51**	**93**	P		**P**	**05 27 10.3**	**+1.1**
	37nm,1.4s,mb5.0							
VNA1	**Neumayer--Stat**	**33.95**	**175**	⇓*i*		**P**	**05 27 32.8**	**+2.2**
VNA1				*e*	pP		05 27 34.2	+0.5
VNA1				*e*			05 27 39.4	
VNA1				*e*			05 27 41.2	
VNA1				*e*			05 27 53.4	
VNA1				*e*			05 28 04.9	
VNA2	**Neumayer--Watz**	**34.29**	**174**	⇓*i*		**P**	**05 27 33.9**	**+0.3**
	baz=341,slow=11							
VNA2				*e*	pP		05 27 35.5	-

ESDC	**Sonseca Array**	**77.38**	**10**	P		**P**		**05 32 43.6**	**+1.3**
	0.1nm,0.3s,mb3.2,baz=190,slow=5.4,SNR=3.4								
ESDC				LR		LR		06 04 26.4	
	comp=Z,100nm,21.0s,MS4.1,baz=235,slow=34								
TIP	**Timpagrande**	**82.12**	**26**	*e*P		**P**		**05 33 09.0**	**+1.0**
ASF	**Jabal al Asfar**	**85.49**	**44**	LR		LR		06 09 34.3	
	comp=Z,354nm,19.3s,MS4.8,baz=262,slow=34								
BRTR	**Keskin Array B**	**89.63**	**37**	P		**P**		**05 33 45.5**	**+0.3**
	1.3nm,1.0s,mb4.2,baz=199,slow=6.5,SNR=5.7								
GERES	**GERESS Array B**	**89.89**	**20**	P		**P**		**05 33 44.1**	**-2.3**
	0.8nm,0.8s,mb4.1,baz=184,slow=13,SNR=4.5								
GERES				LR		LR		06 10 56.0	
	comp=Z,317nm,20.9s,MS4.7,baz=228,slow=34								
MALT	**Malatya**	**90.94**	**41**	*e*P		**P**		**05 33 53.1**	**+1.8**
BRG	**Berggiesshubel**	**91.80**	**19**	*e*P		**P**		**05 33 54.2**	**-1.0**
	4.1nm,1.3s,mb4.6								
CLL	**Collm**	**91.96**	**18**	*e*P		**P**		**05 33 57.0**	**+1.0**
GNI	**Garni**	**95.64**	**43**	LR		LR		06 16 09.5	
	comp=Z,169nm,19.9s,MS4.5,baz=58,slow=35								
RKT	**Rikitea**	**96.18**	**235**	*e*LR		LR		06 05 37.5	
	155nm,23.5s								
AKASG	**Malin Array Be**	**96.52**	**28**	LR		LR		06 18 31.3	
	comp=Z,72nm,18.4s,MS4.2,baz=35,slow=36								
RPZ	**Rata Peaks**	**99.21**	**186**	LR		LR		06 12 57.9	
	comp=Z,160nm,19.3s,MS4.5,baz=343,slow=32								
HKT	**Hockley**	**99.25**	**300**	*e*P		**P**		**05 34 26.6**	**-2.6**
TBI	**Tubuai**	**104.88**	**225**	*e*LR		LR		06 09 34.2	
	267nm,32.0s,baz=146								
PPT	**Papeete**	**109.46**	**228**	*e*SS		SS		05 55 18.0	+8.4
	147nm,26.5s								
PPT				*e*LR		LR		06 11 39.0	
	574nm,31.0s,baz=146								
EDM	**Edmonton**	**122.06**	**315**	*e*PKPdf		PKPdf		05 39 40.9	-1.1
SONM	**Songino Array**	**137.95**	**57**	PKP		PKPdf		05 40 11.4	-0.6
	1.4nm,1.0s,baz=222,slow=3.4,SNR=5.7								
HIA	**Hailar**	**146.82**	**55**	*e*PKPbc		PKPbc		05 40 29.6	+0.1
CN2	**Changchun**	**151.04**	**65**	*e*PKP		PKPdf		05 40 39.8	+5.2

IDC ***22*** *05:29:03.1±3.5, 47.24N×155.74E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=120.0km s-min=30.8km az=5.0*

NEIC 22 05:29:04.9±2.3, 4726N×15575E, h10km, mb4.1/1, Error ellipse: s-maj=80.2km s-min=20.6km az=183.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**32.87**	**290**	P		P	05 35 38.0	-0.9
	0.6nm,0.7s,baz=68,slow=9.0,SNR=4.4							
ZAL	**Zalesovo**	**43.79**	**306**	P		P	05 37 09.8	-0.9
	0.9nm,0.4s,baz=59,slow=8.2,SNR=4.1							
MK31	**Makanchi Array**	**48.30**	**298**	*e*P		P	05 37 47.1	+0.7
MKAR	**Makanchi Array**	**48.30**	**298**	P		P	05 37 46.5	+0.1
	0.7nm,0.6s,baz=60,slow=7.2,SNR=3.7							
BVAR	**Borovoye Array**	**51.92**	**310**	P		P	05 38 13.5	-0.3
	2.6nm,0.6s,baz=61,slow=7.8,SNR=15							
BRVK	**Borovoye**	**51.96**	**310**	*e*P		P	05 38 14.2	+0.2
	1.5nm,0.6s							
FINES	**FINESS Array B**	**64.33**	**336**	P		P	05 39 39.9	-0.8
	1.0nm,0.5s,baz=51,slow=7.3,SNR=7.2							
FINES	**FINESS Array B**	**64.33**	**336**	P		P	05 39 39.9	-0.8
TXAR	**Lajitas Array**	**75.66**	**62**	P		P	05 40 50.4	+0.1
	0.4nm,0.7s,baz=292,slow=4.4,SNR=5.1							

IDC 22 05:36:09.4±8.1, 4629N×15325E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, MS4.0/1, Ms1 4.0/1, ms1mx2.6/26, Error ellipse: s-maj=272.5km s-min=43.2km az=19.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**64.50**	**335**	P		P	05 46 47.2	-0.8
	0.7nm,0.4s,baz=38,slow=9.6,SNR=5.5							
NOA	**NORSAR Array B**	**68.70**	**341**	P		P	05 47 14.6	-0.2
	0.4nm,0.5s,baz=28,slow=6.4,SNR=2.5							
AKASG	**Malin Array Be**	**71.98**	**326**	P		P	05 47 34.5	-0.4
	1.5nm,0.4s,baz=34,slow=6.2,SNR=8.9							
TXAR	**Lajitas Array**	**77.64**	**61**	P		P	05 48 07.8	+0.2
	0.2nm,0.5s,baz=328,slow=4.4,SNR=6.0							
GERES	**GERESS Array B**	**78.91**	**334**	P		P	05 48 14.6	-0.1
	0.4nm,0.5s,baz=23,slow=7.2,SNR=3.8							

IDC ***22*** *05:36:55.7±0.7, 46.35N×152.93E, h0km, mb4.2/20, mb1 4.4/21, mb1mx4.3/27, mbtmp4.2/21, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/28, Error ellipse: s-maj=18.9km s-min=15.1km az=169.0*

ISCJB ***22*** *05:36:56.2±1.8, 4634N±007×15297E±006, h10km±11km, mb4.6/66, MS3.8/4, Error ellipse: s-maj=12.5km s-min=5.4km az=134.4*

NEIC ***22*** *05:36:57.8±0.3, 4637N×15294E, h10km, mb4.5/26, Error ellipse: s-maj=10.1km s-min=5.4km az=159.0*

BJI ***22*** *05:36:58.9, 4633N×15252E, h12km, mB5.0, mb4.5, Ms4.0, Msz3.7*

MOS ***22*** *05:36:58.9±1.1, 4632N×15291E, h30km, mb4.6/30, Error ellipse: s-maj=9.8km s-min=7.1km az=98.8*

SZGRF ***22*** *05:37:05.9, 4668N×15255E, h33km, mb5.0, Kuril Islands, Russia*

ISC 22 05:36:59.2±2.0, 4641N±007×15295E±006, h18km±12km, h14km±5.7km; pP-P, n147, σ0.96/143, mb4.6/66, MS3.8/4, 18C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.74**	**254**	*e*PN		**Pn**	**05 37 54.5**	**-1.6**
KUR				*i* S		**Sn**	**05 38 38.7**	**-1.0**
KUR				pmax		pmax		
	comp=Z,380nm,0.6s							
KUR				smax				
	comp=N,320nm,0.8s							
KUR				smax				
	comp=E,430nm,0.8s							
SKR	**Severo-Kuril's**	**4.77**	**25**	*e*PN		**Pn**	**05 38 11.0**	**+0.8**
SKR				pmax		pmax		
	comp=N,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.04**	**278**	⇑PN		**Pn**	**05 38 47.2**	**+5.9**
YSS				pmax		pmax		
	comp=Z,50nm,1.0s							
PET	**Petropavlovsk**	**7.58**	**27**	Pn		**Pn**	**05 38 54.4**	**+5.6**
ASAJ	**Asahikawa**	**7.66**	**256**	Pn		**Pn**	**05 38 52.2**	**+2.4**
	comp=Z,2.1nm,0.3s,baz=194,slow=14,SNR=4.3							
ASAJ				LR		LR	05 41 33.0	
	comp=Z,368nm,20.7s,baz=137,slow=36							
UGL	**Uglegorsk**	**7.81**	**294**	*e*PN		**Pn**	**05 38 57.0**	**+5.1**
UGL				pmax		pmax		
	comp=Z,70nm,0.7s							
UGL				MLR		MLR		
	comp=E,700nm,16.0s							
UGL				MLR		MLR		
	comp=Z,800nm,16.0s							
ERM	**Erimo**	**8.29**	**242**	*e*PN		**Pn**	**05 38 56.8**	**-1.7**
KLR	**Kul'dur**	**14.52**	**289**	*e*P		**Pn**	**05 40 24.3**	**+0.6**
MAT	**Matsushiro**	**14.78**	**233**	PP			05 40 33.4	
MJAR	**Matsushiro Arr**	**14.78**	**233**	Pn		**Pn**	**05 40 26.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=43,slow=11,SNR=3.4							
MJAR	**Matsushiro Arr**	**14.78**	**233**	P		**Pn**	**05 40 26.2**	**-1.1**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**14.78**	**233**	Pn		**Pn**	**05 40 26.2**	**-1.2**
MDJ	**Mudanjiang**	**16.46**	**272**	*e*P		**Pn**	**05 40 50.1**	**+0.9**
	comp=Z,15nm,0.9s							
CN2	**Changchun**	**19.55**	**272**	*e*P		**Pn**	**05 41 26.5**	**-0.7**
CN2				AMB		AMB		
	comp=Z,20nm,0.7s							
CLNS	**Chul'man**	**20.16**	**311**	*e*P		**P**	**05 41 32.6**	**+0.1**
CLNS				pmax		pmax		
	comp=Z,15nm,0.9s							
CLNS				pmax		pmax		
	comp=N,11nm,0.8s							
CLNS				pmax		pmax		
	comp=E,14nm,1.0s							
CLNS				MLR		MLR		
	comp=Z,400nm,15.0s							
CLNS				MLR		MLR		
	comp=N,100nm,14.0s							
CLNS				MLR		MLR		
	comp=E,700nm,13.0s							
YAK	**Yakutsk**	**20.55**	**328**	⇑*e*P		**P**	**05 41 38.0**	**+1.2**
YAK				pmax		pmax		
	comp=Z,12nm,0.7s							
KSRS	**Korea Array**	**20.59**	**253**	P		**P**	**05 41 38.0**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=54,slow=11,SNR=7.5							
JNU	**Nakatsue**	**21.45**	**240**	LR		LR	05 50 34.5	
	comp=Z,136nm,20.6s,baz=337,slow=38							
BILL	**Bilibino**	**22.75**	**13**	⇑*i*P		**P**	**05 41 58.3**	**-2.1**
BILL				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.3							
BILL				MLR		MLR		
	comp=Z,100nm,16.0s,MS3.4							
BILL	**Bilibino**	**22.75**	**13**	*e*P		**P**	**05 41 58.2**	**-2.2**
	comp=Z,11nm,0.7s,mb4.4							
ULN	**Ulaanbaatar**	**30.91**	**290**	⇑*i*P		**P**	**05 43 18.8**	**+4.0**
SONM	**Songino Array**	**31.34**	**290**	P		**P**	**05 43 18.1**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.6,baz=75,slow=8.5,SNR=5.2							
TLY	**Talaya**	**32.24**	**298**	*e*P		**P**	**05 43 20.8**	**-5.7**
TLY				*e*SS		SS	05 51 02.0	+4.6
TLY				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.7							
TLY				MLR		MLR		
	comp=Z,228nm,16.0s,MS4.0							
ZAK	**Zakamensk**	**32.72**	**295**	*e*P		**P**	**05 43 30.1**	**-0.6**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
IMA2	**Indian Mountai**	**34.15**	**36**	*e*P		**P**	**05 43 43.0**	**-0.1**
MCK	**McKinley**	**35.99**	**40**	*e*P		**P**	**05 43 58.7**	**-0.3**
MCK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.0							
MCK	**McKinley**	**35.99**	**40**	*e*P		**P**	**05 43 58.7**	**-0.3**
	comp=Z,2.5nm,1.1s,mb4.1							
COLA	**College**	**36.48**	**38**	*e*P		**P**	**05 44 03.2**	**0.0**
COLA				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
COLA	**College**	**36.48**	**38**	*e*P		**P**	**05 44 03.2**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5							
LZH	**Lanzhou**	**37.79**	**272**	*e*P		**P**	**05 44 16.0**	**+1.7**
LZH				AP		pP	05 44 17.3	-2.5
LZH				AMB		AMB		
	comp=Z,31nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,136nm,4.6s							
LZH	**Lanzhou**	**37.79**	**272**	*e*P		**P**	**05 44 16.0**	**+1.7**
	comp=Z,31nm,1.0s,mb5.0							
LZH				pP		pP	05 44 17.2	-2.6
LZH				sP		sP	05 44 18.2	-3.9
GTA	**Gaotai**	**38.91**	**279**	P		**P**	**05 44 25.3**	**+1.5**
GTA				AP		pP	05 44 31.5	+2.2
GTA				XP		sP	05 44 34.8	+3.2
GTA				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.4							
EGAK	**Eagle**	**39.34**	**38**	*e*P		**P**	**05 44 26.6**	**-0.8**
	comp=Z,3.8nm,0.9s,mb4.1							
DAWY	**Dawson**	**40.18**	**39**	*e*P		**P**	**05 44 33.7**	**-0.7**
CD2	**Chengdu**	**40.74**	**265**	*e*P		**P**	**05 44 38.9**	**-0.1**
CD2				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.9							
INK	**Inuvik**	**42.00**	**32**	P		**P**	**05 44 49.8**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.1,baz=268,slow=8.4,SNR=8.6							
INK	**Inuvik**	**42.00**	**32**	*e*P		**P**	**05 44 49.5**	**+0.2**
	comp=Z,122nm,0.9s,mb5.5							
ZAL	**Zalesovo**	**42.74**	**306**	P		**P**	**05 44 53.4**	**-2.0**
	comp=Z,1.3nm,0.4s,mb4.0,baz=40,slow=3.9,SNR=4.8							
ZAL	**Zalesovo**	**42.74**	**306**	P		**P**	**05 44 53.4**	**-1.9**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
WMQ	**Urumqi**	**44.95**	**291**	⇑P		**P**	**05 45 13.8**	**+0.7**
WMQ				AP		pP	05 45 18.3	-0.4
WMQ				XP		sP	05 45 20.6	-0.3
WMQ				PCP		PcP	05 46 55.8	+1.6
WMQ				PP		PP	05 46 59.8	+1.6
WMQ				*e*S		**S**	**05 51 50.9**	**+0.5**
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.3							
WMQ				AMB		AMB		
	comp=Z,174nm,6.0s							
WMQ				LR		LR		
	comp=N,91nm,17.8s,MS3.9							
WMQ				LR		LR		
	comp=E,100nm,20.0s,MS3.9							
WMQ				LR		LR		
	comp=Z,76nm,16.8s,MS3.7							
MK31	**Makanchi Array**	**47.00**	**298**	*e*P		**P**	**05 45 28.5**	**-0.8**
MKAR	**Makanchi Array**	**47.00**	**298**	P		**P**	**05 45 28.3**	**-1.0**
	comp=Z,5.0nm,0.8s,mb4.5,baz=64,slow=8.5,SNR=14							
MKAR	**Makanchi Array**	**47.00**	**298**	⇑*e*P		**P**	**05 45 28.7**	**-0.6**
BVAR	**Borovoye Array**	**50.99**	**310**	P		**P**	**05 45 58.8**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.4,baz=54,slow=7.5,SNR=13							
BVAR	**Borovoye Array**	**50.99**	**310**	P		**P**	**05 45 58.8**	**-1.1**
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**51.03**	**310**	*e*P		**P**	**05 45 59.1**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.03**	**310**	*e*P		**P**	**05 45 59.1**	**-1.1**
	comp=Z,3.4nm,0.6s,mb4.5							
RES	**Resolute Bay**	**51.20**	**18**	*e*P		**P**	**05 46 01.3**	**-0.2**
	comp=Z,114nm,0.8s							
YKA	**Yellowknife Ar**	**51.27**	**36**	P		**P**	**05 46 01.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=291,slow=6.9,SNR=3.7							
YKA	**Yellowknife Ar**	**51.27**	**36**	P		**P**	**05 46 01.2**	**-0.8**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CHTO	**Chiang Mai**	**51.93**	**257**	*e*P		**P**	**05 46 07.6**	**+0.7**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
CHTO	**Chiang Mai**	**51.93**	**257**	*e*P		**P**	**05 46 07.6**	**+0.7**
	comp=Z,2.7nm,0.5s,mb4.4							
AAK	**Ala-Archa**	**53.89**	**296**	*c i*P		**P**	**05 46 20.5**	**-0.9**
AAK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**53.89**	**296**	*e*P		**P**	**05 46 20.6**	**-0.7**
	comp=Z,7.0nm,0.9s,mb4.6							
JIRN	**Jiri**	**54.86**	**275**	*e*P		**P**	**05 46 29.7**	**+1.2**
	comp=Z,16nm,0.6s,mb5.3							
GUN	**Gumba**	**54.92**	**275**	*e*P		**P**	**05 46 29.8**	**+0.9**
	comp=Z,10nm,0.5s,mb5.2							
ARU	**Arti**	**55.19**	**318**	⇑*i*P		**P**	**05 46 29.5**	**-1.3**
ARU				*e*			05 48 29.9	
ARU				*e*S		**S**	**05 54 12.0**	**-1.2**
ARU				*e*SS		SS	05 58 02.4	+5.1
ARU				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
KKN	**Kakani**	**55.41**	**275**	*e*P		**P**	**05 46 33.4**	**+1.0**
	comp=Z,26nm,0.7s,mb5.4							
PKI	**Pulchoki**	**55.46**	**275**	*e*P		**P**	**05 46 33.7**	**+1.0**
	comp=Z,23nm,1.0s,mb5.2							
DMN	**Daman**	**55.64**	**275**	*e*P		**P**	**05 46 35.3**	**+1.2**
	comp=Z,34nm,0.8s,mb5.4							
GKN	**Gorkha**	**55.72**	**276**	*e*P		**P**	**05 46 35.7**	**+1.1**
	comp=Z,35nm,0.8s,mb5.5							
KOLN	**Koldanda**	**56.58**	**277**	*e*P		**P**	**05 46 41.8**	**+1.0**
	comp=Z,19nm,0.7s,mb5.3							
EDM	**Edmonton**	**56.63**	**46**	*e*P		**P**	**05 46 40.3**	**-0.9**
KEV	**Kevo**	**57.63**	**341**	*e*p		**P**	**05 46 45.4**	**-2.8**
	comp=Z,4.8nm,0.8s,mb4.6							
KEV	**Kevo**	**57.63**	**341**	*e*P		**P**	**05 46 45.4**	**-2.8**
KEV				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ARCES	**ARCESS Array B**	**58.14**	**341**	P		**P**	**05 46 50.5**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=36,slow=10,SNR=6.6							
ARCES	**ARCESS Array B**	**58.14**	**341**	P		**P**	**05 46 50.6**	**-1.2**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AKTK	**Aktyubinsk**	**58.87**	**312**	P		**P**	**05 46 55.9**	**-1.0**
AKTO	**Aktyubinsk**	**58.87**	**312**	P		**P**	**05 46 55.9**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=57,slow=7.7,SNR=6.1							
AKTO	**Aktyubinsk**	**58.87**	**312**	P		**P**	**05 46 55.9**	**-1.0**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
BMO	**Blue Mountains**	**59.36**	**56**	*e*P		**P**	**05 47 00.0**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.1							
WVOR	**Wild Horse Val**	**60.03**	**59**	*e*P		**P**	**05 47 05.4**	**+0.5**
WVOR				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
WVOR	**Wild Horse Val**	**60.03**	**59**	*e*P		**P**	**05 47 05.3**	**+0.4**
	comp=Z,1.8nm,0.7s,mb4.2							
HLID	**Hailey**	**61.80**	**55**	*e*P		**P**	**05 47 19.4**	**+2.5**
	comp=Z,1.5nm,0.7s,mb4.2							
NVAR	**Mina Array Bea**	**62.69**	**62**	P		**P**	**05 47 23.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=283,slow=7.9							
NVAR	**Mina Array Bea**	**62.69**	**62**	P		**P**	**05 47 23.2**	**+0.3**
RRI2	**Red Ridge**	**63.68**	**54**	*e*P		**P**	**05 47 30.1**	**+0.6**
	comp=Z,4.6nm,0.6s,mb4.7							
MOOW	**Moose Ponds**	**63.74**	**53**	*e*P		**P**	**05 47 30.4**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.2							
FIA1	**FINESS Array S**	**64.30**	**335**	*e*P		**P**	**05 47 32.5**	**-1.1**
FINES	**FINESS Array B**	**64.30**	**335**	P		**P**	**05 47 32.9**	**-0.6**
	comp=Z,3.7nm,0.5s,mb4.7,baz=33,slow=7.7,SNR=19							
FINES	**FINESS Array B**	**64.30**	**335**	P		**P**	**05 47 32.9**	**-0.6**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.5s							
DUG	**Dugway**	**64.85**	**58**	*e*P		**P**	**05 47 38.3**	**+1.2**
DUG				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
DUG	**Dugway**	**64.85**	**58**	*e*P		**P**	**05 47 38.3**	**+1.2**
	comp=Z,2.8nm,0.7s,mb4.4							
BW06	**Boulder Array**	**65.04**	**54**	*e*P		**P**	**05 47 37.9**	**-0.5**
	comp=Z,2.3nm,0.9s,mb4.2							
PDAR	**Pinedale Array**	**65.04**	**54**	P		**P**	**05 47 37.9**	**-0.5**
	comp=Z,1.5nm,0.9s,mb4.0,baz=270,slow=2.0,SNR=11							
OBN	**Obninsk**	**65.53**	**326**	‖*e*P		**P**	**05 47 41.3**	**-0.2**
OBN				pmax		pmax		
	comp=Z,11nm,0.6s,mb5.1							
SRU	**San Rafael**	**66.90**	**57**	*e*P		**P**	**05 47 50.5**	**+0.2**
SRU				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
SRU	**San Rafael**	**66.90**	**57**	*e*P		**P**	**05 47 50.5**	**+0.1**
	comp=Z,4.6nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**68.15**	**199**	P		**P**	**05 47 57.3**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=17,slow=5.6,SNR=6.6							
NB2	**NORSAR Subarra**	**68.52**	**341**	P		**P**	**05 47 59.9**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.3,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**05 48 00.1**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.4,baz=28,slow=6.2,SNR=10.0							
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**05 48 00.1**	**-0.4**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KIV	**Kislovodsk**	**70.96**	**314**	*i* P		**P**	**05 48 16.4**	**+0.8**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
AKASG	**Malin Array Be**	**71.77**	**326**	P		**P**	**05 48 19.2**	**-1.2**
	comp=Z,7.9nm,0.4s,mb5.0,baz=34,slow=6.2,SNR=38							
AKASG	**Malin Array Be**	**71.77**	**326**	P		**P**	**05 48 19.3**	**-1.2**
AKASG				pmax		pmax		
	comp=Z,8.0nm,0.4s							
AKBB	**Malin Array Si**	**71.77**	**326**	*e*P		**P**	**05 48 19.7**	**-0.8**
KIEV	**Kiev**	**71.78**	**326**	*e*P		**P**	**05 48 19.7**	**-0.8**
KIEV				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.0							
KIEV	**Kiev**	**71.78**	**326**	*e*P		**P**	**05 48 19.7**	**-0.9**
	comp=Z,16nm,0.9s,mb5.0							
ASAR	**Alice Springs**	**71.85**	**198**	P		**P**	**05 48 19.4**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=14,slow=6.5,SNR=6.9							
ASAR	**Alice Springs**	**71.85**	**198**	P		**P**	**05 48 19.4**	**-1.5**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GNI	**Garni**	**72.67**	**310**	P		**P**	**05 48 25.9**	**0.0**
	comp=Z,3.6nm,0.4s,mb4.6,baz=272,slow=3.5,SNR=3.7							
GNI	**Garni**	**72.67**	**310**	⇑*i*P		**P**	**05 48 26.9**	**+1.1**
GNI				pmax		pmax		
	comp=Z,15nm,1.4s							
GNI	**Garni**	**72.67**	**310**	*e*P		**P**	**05 48 27.5**	**+1.6**
	comp=Z,9.6nm,0.8s,mb4.8							
ANN	**Anapa**	**72.86**	**318**	*e*P		**P**	**05 48 27.0**	**0.0**
ANN				*i*			05 48 35.5	
ANN				*e*S		S	05 57 53.3	+1.0
ANN				pmax		pmax		
	comp=Z,21nm,1.0s,mb5.0							
KWP	**Kalwaria**	**75.06**	**329**	*e*P		**P**	**05 48 40.5**	**+0.7**
STHS	**Stebnicka Huta**	**75.76**	**330**	*e*P		**P**	**05 48 44.6**	**+0.8**
STHS				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
STHS	**Stebnicka Huta**	**75.76**	**330**	*e*P		**P**	**05 48 44.6**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.3							
BURAR	**Bucovina Array**	**75.81**	**327**	⇑*i*P		**P**	**05 48 44.3**	**+0.1**
BURAR	**Bucovina Array**	**75.81**	**327**	⇑P		**P**	**05 48 44.3**	**+0.1**
DPC	**Dobruska-Polom**	**76.58**	**333**	*e*P		**P**	**05 48 49.2**	**+0.7**
MORC	**Moravsky Berou**	**76.69**	**332**	⇑*i*P		**P**	**05 48 49.6**	**+0.4**
MORC	**Moravsky Berou**	**76.69**	**332**	⇑P		**P**	**05 48 49.6**	**+0.4**
CLL	**Collm**	**76.73**	**335**	*i* P		**P**	**05 48 48.6**	**-0.8**
CLL				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
CLL	**Collm**	**76.73**	**335**	*i* P		**P**	**05 48 48.6**	**-0.8**
	comp=Z,8.0nm,0.6s,mb4.8							
MLR	**Muntele Rosu**	**77.28**	**325**	⇑*i*P		**P**	**05 48 53.1**	**+0.6**
MLR	**Muntele Rosu**	**77.28**	**325**	⇑P		**P**	**05 48 53.1**	**+0.6**
VYHS	**Vyhne**	**77.37**	**331**	*e*P		**P**	**05 48 52.9**	**-0.1**
VYHS				p

ellipse: s-maj=30.4km s-min=14.8km az=105.5

ISC 22 05:49:20.5±5.8, 476N±01×1554E±02, h23km±40km, n33, σ0559/32, mb3.9/16, MS3.3/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.12**	**8**	*e*PN	**Pn**	**05 50 08.1**	**-0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KSRS	**Korea Array**	**22.54**	**253**	P	**P**	**05 54 19.8**	**+1.0**
	comp=Z,2.2nm,0.8s,mb3.6,baz=55,slow=11,SNR=4.9						
KDAK	**Kodiak Island**	**32.35**	**52**	LR	LR	06 09 29.6	
	comp=Z,58nm,19.9s,MS3.3,baz=176,slow=38						
SONM	**Songino Array**	**32.53**	**289**	P	**P**	**05 55 49.2**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=94,slow=6.1,SNR=2.9						
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**05 57 20.1**	**-1.2**
	comp=Z,1.3nm,0.3s,mb4.1,baz=43,slow=10,SNR=3.1						
ZAL	**Zalesovo**	**43.40**	**306**	P	**P**	**05 57 20.1**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.94**	**298**	P	**P**	**05 57 56.8**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.2,baz=51,slow=8.4,SNR=7.9						
MKAR	**Makanchi Array**	**47.94**	**298**	P	**P**	**05 57 56.8**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**51.56**	**310**	*e*P	**P**	**05 58 24.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.56**	**310**	*e*P	**P**	**05 58 24.5**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.85**	**297**	*e*P	**P**	**05 58 49.6**	**+0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**54.85**	**297**	*e*P	**P**	**05 58 49.6**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.3						
AKTK	**Aktyubinsk**	**59.32**	**312**	P	**P**	**05 59 20.5**	**0.0**
AKTO	**Aktyubinsk**	**59.32**	**312**	P	**P**	**05 59 20.5**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=60,slow=10.0,SNR=5.2						
AKTO	**Aktyubinsk**	**59.32**	**312**	P	**P**	**05 59 20.5**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**62.98**	**55**	P	**P**	**05 59 45.6**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.6,baz=278,slow=6.3,SNR=3.1						
FINES	**FINESS Array B**	**63.93**	**336**	P	**P**	**05 59 52.0**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.3,baz=37,slow=8.4,SNR=17						
FINES	**FINESS Array B**	**63.93**	**336**	P	**P**	**05 59 52.0**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.92**	**342**	P	**P**	**06 00 17.5**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**06 00 17.2**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.1,baz=25,slow=6.5,SNR=5.2						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**06 00 17.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.85**	**201**	P	**P**	**06 00 28.4**	**-0.9**
	comp=Z,0.7nm,1.0s,mb3.5,baz=19,slow=6.7,SNR=5.5						
WRA	**Warramunga Arr**	**69.85**	**201**	P	**P**	**06 00 28.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.69**	**327**	P	**P**	**06 00 39.8**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=32,slow=6.0,SNR=6.8						
AKASG	**Malin Array Be**	**71.69**	**327**	P	**P**	**06 00 39.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**73.53**	**201**	P	**P**	**06 00 51.5**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=14,slow=5.4,SNR=14						
ASAR	**Alice Springs**	**73.53**	**201**	P	**P**	**06 00 51.5**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**06 01 04.0**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=308,slow=4.0,SNR=8.6						
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**06 01 04.0**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**06 01 04.0**	**-0.1**
GERES	**GERESS Array B**	**78.36**	**335**	P	**P**	**06 01 20.1**	**+1.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=36,slow=7.3,SNR=3.9						
BRTR	**Keskin Array B**	**78.82**	**318**	P	**P**	**06 01 21.6**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=24,slow=4.9,SNR=3.2						
BRTR	**Keskin Array B**	**78.82**	**318**	P	**P**	**06 01 21.7**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

KRSC 22 06:00:48.6±0.4, 5374N×16184E, h5km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.82**	**356**	*e*P	Pg	06 01 05.0	+0.7
MKZ				*i* S	Sg	06 01 16.9	+1.9
MKZ	**Mys Kozlova**	**0.82**	**356**	*e*P	Pg	06 01 05.0	+0.7
MKZ				*i* S	Sg	06 01 16.9	+1.9
SPN	**Mys Shipunski**	**1.26**	**240**	*e*P	Pg	06 01 13.0	+0.2
SPN				*i* S	Sg	06 01 30.6	+1.4
SPN	**Mys Shipunski**	**1.26**	**240**	*e*P	Pg	06 01 13.0	+0.2
SPN				*i* S	Sg	06 01 30.6	+1.4
NLC	**Nalytchevo**	**1.60**	**250**	P	Pn	06 01 17.9	+0.4
NLC				*i* S	Sn	06 01 39.9	+1.4
NLC	**Nalytchevo**	**1.60**	**250**	P	Pn	06 01 17.9	+0.4
NLC				*i* S	Sn	06 01 39.9	+1.4
AVH	**Avacha**	**1.91**	**257**	*e*P	Pn	06 01 23.3	+1.5
AVH				*e*S	Sn	06 01 48.7	+2.4
AVH	**Avacha**	**1.91**	**257**	*e*P	Pn	06 01 23.3	+1.5
AVH				*e*S	Sn	06 01 48.7	+2.4
PET	**Petropavlovsk**	**2.04**	**251**	P	Pn	06 01 25.1	+1.5
PET				*i* S	Sn	06 01 51.6	+2.2
PET	**Petropavlovsk**	**2.04**	**251**	P	Pn	06 01 25.1	+1.5
PET				*i* S	Sn	06 01 51.6	+2.2
KMNR	**Kamenistaya**	**2.22**	**336**	*e*P	Pn	06 01 27.5	+1.4
KMNR				*i* S	Sn	06 01 55.5	+1.5
KMNR	**Kamenistaya**	**2.22**	**336**	*e*P	Pn	06 01 27.5	+1.4
KMNR				*i* S	Sn	06 01 55.5	+1.5
GNL	**Ganaly**	**2.32**	**270**	*e*P	Pn	06 01 29.7	+2.3
GNL				*i* S	Sn	06 01 58.8	+2.5
GNL	**Ganaly**	**2.32**	**270**	*e*P	Pn	06 01 29.7	+2.3
GNL				*i* S	Sn	06 01 58.8	+2.5
ZLN	**Zelenaya**	**2.36**	**346**	P	Pn	06 01 29.1	+1.1
ZLN				*i* S	Sn	06 01 59.1	+1.8
ZLN	**Zelenaya**	**2.36**	**346**	P	Pn	06 01 29.1	+1.1
ZLN				*i* S	Sn	06 01 59.1	+1.8
RUS	**Russkaya**	**2.40**	**238**	P	Pn	06 01 29.8	+1.3
RUS				*i* S	Sn	06 01 59.6	+1.4
RUS	**Russkaya**	**2.40**	**238**	P	Pn	06 01 29.8	+1.3
RUS				*i* S	Sn	06 01 59.6	+1.4
KPT	**Kopyto**	**2.42**	**338**	P	Pn	06 01 30.2	+1.4
KPT				*i* S	Sn	06 02 01.1	+2.3
KPT	**Kopyto**	**2.42**	**338**	P	Pn	06 01 30.2	+1.4
KPT				*i* S	Sn	06 02 01.1	+2.3
KBTR	**Krutoberegovo**	**2.54**	**12**	P	Pn	06 01 32.4	+2.0
KBTR				*i* S	Sn	06 02 04.1	+2.4
KBTR	**Krutoberegovo**	**2.54**	**12**	P	Pn	06 01 32.4	+2.0
KBTR				*i* S	Sn	06 02 04.1	+2.4
GRL	**Gorelyy**	**2.56**	**244**	P	Pn	06 01 32.2	+1.4
GRL	**Gorelyy**	**2.56**	**244**	P	Pn	06 01 32.2	+1.4
KOZ	**Kozyrevsk**	**2.59**	**335**	P	Pn	06 01 32.0	+0.9
KOZ				*i* S	Sn	06 02 03.7	+0.8
KOZ	**Kozyrevsk**	**2.59**	**335**	P	Pn	06 01 32.0	+0.9
KOZ				*i* S	Sn	06 02 03.7	+0.8
KRSR	**Krestovskiy**	**2.59**	**344**	P	Pn	06 01 32.6	+1.5
KRSR				*i* S	Sn	06 02 04.1	+1.1
KRSR	**Krestovskiy**	**2.59**	**344**	P	Pn	06 01 32.6	+1.5
KRSR				*i* S	Sn	06 02 04.1	+1.1
KLY	**Klyuchi**	**2.67**	**346**	P	Pn	06 01 33.6	+1.4
KLY				*i* S	Sn	06 02 06.0	+1.1
KLY	**Klyuchi**	**2.67**	**346**	P	Pn	06 01 33.6	+1.4
KLY				*i* S	Sn	06 02 06.0	+1.1
SRDR	**Sredinnyy**	**2.86**	**336**	P	Pn	06 01 35.6	+0.8
SRDR				*i* S	Sn	06 02 10.4	+0.8
SRDR	**Sredinnyy**	**2.86**	**336**	P	Pn	06 01 35.6	+0.8
SRDR				*i* S	Sn	06 02 10.4	+0.8
SRKR	**Sorokina**	**2.95**	**353**	P	Pn	06 01 37.6	+1.6
SRKR				*i* S	Sn	06 02 13.6	+1.8
SRKR	**Sorokina**	**2.95**	**353**	P	Pn	06 01 37.6	+1.6
SRKR				*i* S	Sn	06 02 13.6	+1.8

*BJI **22** 06:05:35.8, 4735N×15381E, h10km, mB4.9, mb4.7, Ms4.3, Msz3.9*
*NEIC **22** 06:05:41.5±0.2, 4728N×15298E, h10km, mb4.8/52, Error ellipse: s-maj=6.1km s-min=4.0km az=151.0*
*SKHL **22** 06:05:42.8±4.7, 4703N×15355E, h51km±18km, Ms4.1/1*

*SZGRF **22** 06:05:44.8, 4743N×15457E, h33km, mb5.3, Kuril Islands, Russia*
*ISCJB **22** 06:05:46.0±0.2, 4731N±004×15306E±004, h57km, mb4.6/82, MS3.9/11, Error ellipse: s-maj=5.9km s-min=2.9km az=118.0*
*MOS **22** 06:05:46.5±1.0, 4731N×15295E, h62km, mb4.8/35, Error ellipse: s-maj=9.4km s-min=5.9km az=77.9*
*IDC **22** 06:05:47.5±0.6, 4729N×15300E, h59km±4km, mb4.1/21, mb1 4.3/23, mb1mx4.2/27, mbtmp4.1/23, MS3.6/6, Ms1 3.6/6, ms1mx3.1/36, Error ellipse: s-maj=15.7km s-min=11.1km az=157.0*

ISC 22 06:05:48.1±0.2, 4737N±004×15304E±004, h59km, h59km±2.2km: pP-P, n253, σ1§10/248, mb4.6/82, MS3.8/11, 7C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.89**	**30**	*e*P	**Pn**	**06 06 45.5**	**+0.1**
SKR				AMB	AMB	06 06 49.5	
	80nm,0.3s						
SKR				AMB	AMB	06 06 49.5	
	80nm,0.5s						
SKR				*e*S	**Sn**	**06 07 29.0**	**-0.8**
SKR				A		06 07 38.0	
	540nm,0.5s						
SKR				A		06 07 38.0	
	480nm,0.5s						
SKR				A		06 07 38.0	
	170nm,0.5s						
SKR	**Severo-Kuril's**	**3.89**	**30**	*e*PN	**Pn**	**06 06 45.5**	**+0.1**
SKR				*e*S	**Sn**	**06 07 29.6**	**-0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.3s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=E,480nm,0.5s						
KUR	**Kuril'sk**	**4.17**	**241**	⇓*i*P	**Pn**	**06 06 47.5**	**-1.7**
KUR				AMB	AMB	06 06 48.8	
	comp=E,167nm,0.6s						
KUR				AMB	AMB	06 06 48.8	
	comp=E,137nm,0.6s						
KUR				AMB	AMB	06 06 48.8	
	comp=E,684nm,0.6s						
KUR				*e*S	**Sn**	**06 07 39.5**	**+2.9**
KUR				A		06 07 52.0	
	comp=E,1μm,0.8s						
KUR				A		06 07 52.0	
	comp=E,2μm,0.8s						
KUR	**Kuril'sk**	**4.17**	**241**	⇓*i*PN	**Pn**	**06 06 47.5**	**-1.7**
KUR				*i* S	**Sn**	**06 07 39.5**	**+2.9**
KUR				pmax	pmax		
	comp=N,170nm,0.6s						
KUR				pmax	pmax		
	comp=E,140nm,0.6s						
KUR				pmax	pmax		
	comp=Z,680nm,0.6s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.03**	**239**	*e*P	**Pn**	**06 07 15.3**	**+0.6**
YUK				*e*S	**Sn**	**06 08 25.0**	**+2.7**
YUK				A		06 08 38.0	
	comp=E,300nm,0.4s						
YUK				A		06 08 38.0	
	comp=E,600nm,0.5s						
PET	**Petropavlovsk**	**6.71**	**30**	*e*PN	**Pn**	**06 07 31.7**	**+7.7**
PET				pmax	pmax		
	comp=Z,34nm,0.8s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
PET	**Petropavlovsk**	**6.71**	**30**	*e*Pn	**Pn**	**06 07 22.1**	**-1.9**
	comp=Z,22nm,0.6s						
PET				*e*Sn	**Sn**	**06 08 38.1**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.02**	**270**	⇓*i*P	**Pn**	**06 07 31.3**	**+3.0**
YSS				AMB	AMB	06 07 32.6	
	comp=Z,90nm,0.5s						
YSS				*e*S	**Sn**	**06 08 48.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.02**	**270**	⇓*i*PN	**Pn**	**06 07 31.3**	**+3.0**
YSS				*e*S	**Sn**	**06 08 48.4**	**+1.7**
YSS				pmax	pmax		
	comp=Z,90nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.02**	**270**	*e*Pn	**Pn**	**06 07 25.6**	**-2.7**
UGL	**Uglegorsk**	**7.53**	**287**	*e*P	**Pn**	**06 07 40.0**	**+4.8**
UGL				AMB	AMB	06 07 41.0	
	comp=Z,190nm,0.8s						
UGL				AMS	AMS	06 10 44.0	
	comp=Z,600nm,16.0s						
UGL				AMS	AMS	06 10 44.0	
	comp=Z,500nm,16.0s						
UGL				AMS	AMS	06 10 44.0	
	comp=Z,700nm,16.0s						
TYV	**Tymovskoe**	**7.66**	**301**	*e*P	**Pn**	**06 07 40.8**	**+3.8**
TYV				AMB	AMB	06 07 44.8	
	comp=Z,138nm,1.0s						
JWK2	**Keihoku**	**7.98**	**259**	P	**Pn**	**06 07 47.1**	**+5.8**
ASAJ	**Asahikawa**	**7.99**	**250**	P	**Pn**	**06 07 42.1**	**+0.6**
	comp=Z,5.5nm,0.3s,baz=83,slow=13,SNR=10.0						
ASAJ				LR	LR	06 10 35.1	
	comp=Z,316nm,18.8s,baz=105,slow=36						
ASAJ	**Asahikawa**	**7.99**	**250**	P	**Pn**	**06 07 44.7**	**+3.1**
JEM	**Erimo**	**8.84**	**236**	P	**Pn**	**06 07 52.0**	**-1.1**
ERM	**Erimo**	**8.84**	**236**	*e*PN	**Pn**	**06 07 52.4**	**-0.7**
JEW	**Eniwo**	**9.36**	**245**	P	**Pn**	**06 07 59.5**	**-0.7**
NKL	**Nikolayevsk**	**9.80**	**311**	*e*P	**Pn**	**06 08 06.8**	**+0.5**
NKL				AMB	AMB	06 08 09.3	
	comp=Z,80nm,1.1s						
NKL				AMB	AMB	06 08 09.3	
	comp=Z,120nm,1.1s						
JSH	**Shimam**	**10.34**	**248**	P	**Pn**	**06 08 14.9**	**+1.3**
JOT	**Ohata**	**10.46**	**239**	P	**Pn**	**06 08 13.1**	**-2.1**
JTM	**Tenmabayashi**	**10.83**	**237**	P	**Pn**	**06 08 16.5**	**-3.8**
JOM	**Ohasama**	**11.62**	**231**	P	**Pn**	**06 08 27.3**	**-3.8**
MA2	**Magadan**	**12.31**	**355**	*e*PN	**Pn**	**06 08 42.9**	**+2.4**
MA2				pmax	pmax		
	comp=N,20nm,0.4s						
MA2				pmax	pmax		
	comp=Z,30nm,0.4s						
MA2				MLR	MLR		
	comp=Z,500nm,14.2s						
MA2	**Magadan**	**12.31**	**355**	*e*Pn	**Pn**	**06 08 39.0**	**-1.5**
KLR	**Kul'dur**	**14.29**	**285**	*e*P	**Pn**	**06 09 09.8**	**+2.6**
JSD	**Sado**	**14.29**	**235**	P	**Pn**	**06 09 13.2**	**+5.9**
MAJO	**Matsushiro**	**15.42**	**231**	*e*P	**Pn**	**06 09 19.2**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,74nm,1.0s						
MAJO	**Matsushiro**	**15.42**	**231**	*e*Pn	**Pn**	**06 09 19.2**	**-2.8**
	comp=Z,74nm,1.0s						
MAT	**Matsushiro**	**15.42**	**231**	P	**Pn**	**06 09 18.2**	**-3.7**
MAT	**Matsushiro**	**15.42**	**231**	P	**Pn**	**06 09 25.6**	**+3.7**
MJAR	**Matsushiro Arr**	**15.42**	**231**	P	**Pn**	**06 09 18.4**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=9.5						
MJAR				LR	LR	06 16 07.7	
	comp=Z,140nm,18.2s,baz=65,slow=40						
MJAR	**Matsushiro Arr**	**15.42**	**231**	P	**Pn**	**06 09 18.4**	**-3.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,140nm,18.2s						
MJAR	**Matsushiro Arr**	**15.42**	**231**	P	**Pn**	**06 09 18.4**	**-3.5**
MJAR				LR	LR	06 16 07.7	
JRY	**Ryogami san**	**15.47**	**228**	P	**Pn**	**06 09 25.9**	**+3.4**
MDJ	**Mudanjiang**	**16.51**	**269**	*e*P	**Pn**	**06 09 36.8**	**+1.1**
	comp=Z,23nm,1.0s						
JGF	**Kuroka**	**16.58**	**231**	P	**Pn**	**06 09 39.1**	**+2.5**
ZEA	**Zeya**	**17.52**	**301**	*e*P	**Pn**	**06 09 48.1**	**-0.2**
ZEA				AMB	AMB	06 09 48.9	
	comp=Z,23nm,1.0s						
JWT	**Wachi**	**17.87**	**234**	P	**Pn**	**06 09 51.9**	**-0.6**
JAD	**Aida**	**18.81**	**236**	P	**Pn**	**06 10 02.8**	**-1.0**
JWZ	**Kozaga**	**19.04**	**230**	P	**Pn**	**06 10 05.8**	**-0.8**
CLNS	**Chul'man**	**19.59**	**309**	*e*P	**Pn**	**06 10 13.1**	**0.0**
CLNS				pmax	pmax		
	comp=E,18nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,200nm,15.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,2μm,12.0s						
YAK	**Yakutsk**	**19.78**	**326**	*e*P	**Pn**	**06 10 13.9**	**-1.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.4s						
YAK	**Yakutsk**	**19.78**	**326**	*e*P	**Pn**	**06 10 13.9**	**-1.5**
	comp=Z,19nm,0.4s						
YAK				*e*Pn	**Pn**	**06 10 18.4**	**+3.1**
KSRS	**Korea Array**	**20.94**	**251**	P	**P**	**06 10 24.9**	**-1.1**
	comp=Z,8.7nm,0.8s,baz=59,slow=10,SNR=11						
KSRS				LR	LR	06 17 52.0	
	comp=Z,65nm,19.1s,MS3.0,baz=352,slow=35						
SNY	**Shenyang**	**21.62**	**266**	⇓P	**P**	**06 10 33.8**	**+0.6**
SNY				XP	sP	06 10 40.3	-13
SNY				S	**S**	**06 14 31.8**	**+2.5**
SNY				XS	sS	06 14 39.3	-11
SNY				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.6						
SNY				AMB	AMB		
	comp=Z,180nm,4.1s						
SNY				LR	LR		
	comp=N,302nm,4.6s						
SNY				LR	LR		
	comp=Z,274nm,19.0s,MS3.7						
BILL	**Bilibino**	**21.80**	**13**	*e*P	**P**	**06 10 35.6**	**+0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
BILL	**Bilibino**	**21.80**	**13**	P	**P**	**06 10 33.9**	**-1.3**
HIA	**Hailar**	**22.13**	**287**	*e*P	**P**	**06 10 38.2**	**-0.4**
NJ2	**Nanjing**	**30.13**	**252**	*e*P	**P**	**06 11 53.4**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
HHC	**Hu-ho-hao-te**	**30.20**	**273**	*e*P	**P**	**06 11 53.3**	**+0.4**
HHC				XP	sP	06 12 00.3	-14
HHC				PP	PP	06 12 55.6	-6.3
HHC				PCP	PcP	06 14 47.9	-4.7
HHC				S	**S**	**06 16 51.3**	**+3.3**
HHC				XS	sS	06 17 04.4	-8.5
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=N,136nm,13.5s,MS3.9						
HHC				LR	LR		
	comp=E,169nm,15.7s,MS3.9						
HHC				LR	LR		
	comp=Z,160nm,14.4s,MS3.8						
SONM	**Songino Array**	**31.09**	**288**	P	**P**	**06 12 00.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=75,slow=7.9,SNR=3.9						
SONM				PcP	PcP	06 14 54.2	-0.7
	comp=Z,1.4nm,0.8s,baz=125,slow=2.2,SNR=7.3						
SVW2	**Sparrevohn**	**32.10**	**46**	*e*P	**P**	**06 12 09.0**	**-0.6**
IMA2	**Indian Mountai**	**33.34**	**37**	*e*P	**P**	**06 12 20.4**	**0.0**
KDAK	**Kodiak Island**	**33.76**	**52**	P	**P**	**06 12 22.9**	**-1.1**
	comp=Z,19nm,0.9s,mb5.0,baz=290,slow=3.5,SNR=6.3						
KDAK	**Kodiak Island**	**33.76**	**52**	P	**P**	**06 12 22.9**	**-1.1**
PMR	**Palmer**	**35.20**	**45**	P	**P**	**06 12 36.5**	**0.0**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
PMR	**Palmer**	**35.20**	**45**	P	**P**	**06 12 36.5**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.4						
MCK	**McKinley**	**35.22**	**41**	*e*P	**P**	**06 12 36.3**	**-0.3**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MCK	**McKinley**	**35.22**	**41**	*e*P	**P**	**06 12 36.3**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0						
SML	**Sawmill**	**35.56**	**44**	*e*P	**P**	**06 12 38.9**	**-0.7**
SML				*e**PP	pP	06 12 54.5	+0.1
COLA	**College**	**35.69**	**39**	*e*P	**P**	**06 12 40.7**	**0.0**
COLA	**College**	**35.69**	**39**	*e*P	**P**	**06 12 40.0**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0						
LZH	**Lanzhou**	**37.82**	**271**	*e*P	**P**	**06 12 57.0**	**-1.8**
LZH				AP	pP	06 13 01.5	-12
LZH				XP	sP	06 13 04.0	-17
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**37.82**	**271**	*e*P	**P**	**06 12 57.0**	**-1.8**
	comp=Z,13nm,1.0s,mb4.6						
LZH				pP	pP	06 13 01.5	-12
LZH				sP	sP	06 13 04.0	-17
EGAK	**Eagle**	**38.55**	**39**	*e*P	**P**	**06 13 04.7**	**-0.2**
	comp=Z,11nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.83**	**278**	*e*P	**P**	**06 13 10.0**	**+2.7**
GTA				AP	pP	06 13 13.9	-8.3
GTA				XP	sP	06 13 16.8	-12
GTA				PP	PP	06 14 45.8	+8.7
GTA				PCP	PcP	06 15 17.8	+0.4
GTA				S	**S**	**06 19 11.9**	**+11**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,74nm,5.3s						
GTA				LR	LR		
	comp=N,138nm,11.8s,MS4.1						
GTA				LR	LR		
	comp=E,177nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=Z,166nm,17.1s,MS3.9						
DAWY	**Dawson**	**39.40**	**40**	*e*P	**P**	**06 13 12.5**	**+0.5**
CD2	**Chengdu**	**40.88**	**264**	*e*P	**P**	**06 13 24.4**	**+0.1**
CD2				AP	pP	06 13 28.8	-11
CD2				XP	sP	06 13 31.4	-15
CD2				S	**S**	**06 19 36.3**	**+4.8**
CD2				XS	sS	06 19 44.5	-12
CD2				SS	SS	06 22 33.8	-1.0
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
CD2				AMB	AMB		
	comp=Z,100nm,6.0s						
CD2				LR	LR		
	comp=E,180nm,15.0s						
CD2				LR	LR		
	comp=Z,220nm,14.4s,MS4.2						
INK	**Inuvik**	**41.16**	**33**	P	**P**	**06 13 27.4**	**+0.8**
	comp=Z,6.9nm,0.5s,mb4.5,baz=290,slow=6.8,SNR=20						
INK	**Inuvik**	**41.16**	**33**	*e*P	**P**	**06 13 26.5**	**-0.2**
	comp=Z,409nm,0.8s						
**GY

KMI	**Kunming**	**45.31**	**259**	P	**P**	**06 14 00.1**	**+0.1**
KMI				AP	pP	06 14 03.9	-11
KMI				XP	sP	06 14 05.6	-17
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
KMI	**Kunming**	**45.31**	**259**	P	**P**	**06 14 00.1**	**+0.1**
	comp=Z,11nm,1.0s,mb4.6						
KMI				pP	pP	06 14 03.9	-11
KMI				sP	sP	06 14 05.6	-17
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**06 14 09.1**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=61,slow=6.4,SNR=11						
MKAR				PcP	PcP	06 15 42.8	-0.7
	comp=Z,2.8nm,0.6s,baz=82,slow=2.5,SNR=12						
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**06 14 09.1**	**-1.2**
MKAR						06 15 42.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**06 14 09.1**	**-1.3**
MKAR				PcP	PcP	06 15 42.8	-0.7
RES	**Resolute Bay**	**50.27**	**19**	*e*P	**P**	**06 14 38.4**	**0.0**
	comp=Z,351nm,1.3s						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**06 14 38.8**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.3,baz=58,slow=7.4,SNR=11						
BVAR				sP	sP	06 15 00.9	-1.0
	comp=Z,0.8nm,0.3s,baz=62,slow=6.8,SNR=3.4						
BVAR				PcP	PcP	06 15 56.4	-0.8
	comp=Z,2.3nm,0.5s,baz=67,slow=3.3,SNR=12						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**06 14 38.8**	**-0.8**
BVAR				*SP	sP	06 15 00.9	-1.0
BVAR						06 15 56.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**50.46**	**37**	P	**P**	**06 14 40.1**	**+0.3**
	comp=Z,7.3nm,0.7s,mb4.8,baz=297,slow=7.2,SNR=16						
YKA				PcP	PcP	06 15 56.4	-0.9
	comp=Z,0.6nm,0.4s,baz=304,slow=3.7,SNR=6.0						
YKA	**Yellowknife Ar**	**50.46**	**37**	P	**P**	**06 14 40.1**	**+0.2**
YKA						06 15 56.4	
YKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NANT	**Nan**	**51.07**	**255**	P	**P**	**06 14 42.0**	**-2.4**
CHG	**Chiang Mai**	**52.21**	**256**	⇑P	**P**	**06 14 53.7**	**+0.7**
	comp=Z,18nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**52.21**	**256**	*e*P	**P**	**06 14 53.8**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**52.21**	**256**	*e*P	**P**	**06 14 53.8**	**+0.8**
	comp=Z,15nm,0.8s,mb5.0						
ARU	**Arti**	**54.52**	**317**	*e*P	**P**	**06 15 10.5**	**+0.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ARU	**Arti**	**54.52**	**317**	*e*P	**P**	**06 15 10.5**	**+0.6**
	comp=Z,3.6nm,0.5s,mb4.7						
JIRN	**Jiri**	**54.85**	**274**	*e*P	**P**	**06 15 13.1**	**+0.8**
	comp=Z,13nm,0.3s,mb5.4						
GUN	**Gumba**	**54.90**	**275**	*e*P	**P**	**06 15 13.0**	**+0.4**
	comp=Z,12nm,0.4s,mb5.3						
KKN	**Kakani**	**55.38**	**275**	*e*P	**P**	**06 15 16.6**	**+0.5**
	comp=Z,9.3nm,0.5s,mb5.1						
PKI	**Pulchoki**	**55.44**	**275**	*e*P	**P**	**06 15 17.7**	**+1.2**
	comp=Z,9.1nm,0.5s,mb5.1						
DMN	**Daman**	**55.62**	**275**	*e*P	**P**	**06 15 19.0**	**+1.2**
	comp=Z,13nm,0.4s,mb5.3						
GKN	**Gorkha**	**55.68**	**275**	*e*P	**P**	**06 15 18.7**	**+0.4**
	comp=Z,15nm,0.4s,mb5.4						
EDM	**Edmonton**	**55.93**	**46**	*e*P	**P**	**06 15 20.2**	**+0.2**
EDM				*e*PP	pP	06 15 36.1	+0.4
KOLN	**Koldanda**	**56.53**	**276**	*e*P	**P**	**06 15 24.9**	**+0.6**
	comp=Z,3.2nm,0.3s,mb4.9						
KEV	**Kevo**	**56.75**	**340**	*e*p	**P**	**06 15 24.5**	**-1.4**
APA	**Apatity**	**56.75**	**336**	⇓*i*P	**P**	**06 15 24.0**	**-1.9**
APA				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
NEW	**Newport**	**56.84**	**53**	*e*P	**P**	**06 15 27.4**	**+0.8**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	**Newport**	**56.84**	**53**	*e*P	**P**	**06 15 27.4**	**+0.9**
	comp=Z,0.6nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**57.26**	**341**	P	**P**	**06 15 28.5**	**-1.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=34,slow=6.9,SNR=7.9						
ARCES				LR	LR	06 42 53.0	
	comp=Z,86nm,18.6s,MS3.9,baz=91,slow=39						
ARCES	**ARCESS Array B**	**57.26**	**341**	P	**P**	**06 15 28.5**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,87nm,18.6s						
WALA	**Waterton Lakes**	**58.09**	**51**	*e*P	**P**	**06 15 35.2**	**-0.1**
	comp=Z,4.3nm,0.5s,mb4.7						
AKTO	**Aktyubinsk**	**58.28**	**312**	PcP	PcP	06 16 26.3	-1.0
	comp=Z,1.6nm,0.5s,baz=57,slow=5.5,SNR=6.2						
BMO	**Blue Mountains**	**58.77**	**56**	*e*P	**P**	**06 15 40.1**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.5						
BMO				*e*pP	pP	06 15 57.0	+1.1
MSO	**Missoula**	**59.43**	**53**	*e*P	**P**	**06 15 45.7**	**+1.1**
	comp=Z,5.5nm,1.1s,mb4.5						
CHMT	**Chamberlain Mo**	**59.75**	**52**	*e*P	**P**	**06 15 47.7**	**+0.9**
CHMT				*e*pP	pP	06 16 03.6	+1.0
FCC	**Fort Churchill**	**60.78**	**33**	*e*P	**P**	**06 15 53.5**	**-0.3**
LRM	**Limekiln Ridge**	**60.87**	**53**	*e*P	**P**	**06 15 55.7**	**+1.3**
LRM				*e*pP	pP	06 16 11.7	+1.3
EGMT	**Eagleton**	**60.90**	**50**	*e*P	**P**	**06 15 55.3**	**+0.6**
	comp=Z,8.9nm,0.9s,mb4.9						
HLID	**Hailey**	**61.21**	**56**	*e*P	**P**	**06 15 57.7**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.3						
HLID				*e*PcP	PcP	06 16 39.2	+0.2
BMN	**Battle Mountai**	**61.57**	**60**	*e*P	**P**	**06 16 00.1**	**+0.9**
BMN				*e*PP	pP	06 16 16.4	+1.3
QLMT	**Earthquake Lak**	**62.05**	**53**	*e*P	**P**	**06 16 02.2**	**-0.2**
NVAR	**Mina Array Bea**	**62.20**	**63**	P	**P**	**06 16 03.7**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.2,baz=299,slow=8.2,SNR=3.5						
NVAR				pP	pP	06 16 19.0	-0.3
	comp=Z,3.7nm,0.8s,baz=289,slow=8.5,SNR=7.5						
ELK	**Elko**	**62.53**	**59**	P	**P**	**06 16 06.0**	**+0.4**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ELK	**Elko**	**62.53**	**59**	P	**P**	**06 16 06.0**	**+0.4**
	comp=Z,2.4nm,0.3s,mb4.8						
KAKA	**Kakadu**	**62.57**	**203**	*e*P	**P**	**06 16 04.5**	**-1.4**
	comp=Z,5.3nm,0.6s,mb4.8						
RRI2	**Red Ridge**	**63.07**	**55**	*e*P	**P**	**06 16 10.9**	**+1.6**
	comp=Z,24nm,0.7s,mb5.4						
MOOW	**Moose Ponds**	**63.13**	**54**	*e*P	**P**	**06 16 09.5**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.7						
MOOW				*e*pP	pP	06 16 27.3	+1.7
LOHW	**Long Hollow**	**63.29**	**54**	*e*P	**P**	**06 16 11.6**	**+0.9**
	comp=Z,9.4nm,1.2s,mb4.8						
LOHW				*e*pP	pP	06 16 28.2	+1.5
SNOW	**Snow King Moun**	**63.31**	**54**	*e*P	**P**	**06 16 12.1**	**+1.3**
	comp=Z,6.9nm,0.7s,mb4.9						
REDW	**Red Top Meadow**	**63.32**	**54**	*e*P	**P**	**06 16 12.4**	**+1.6**
	comp=Z,11nm,0.8s,mb5.0						
FINES	**FINESS Array B**	**63.46**	**335**	P	**P**	**06 16 10.6**	**-1.2**
	comp=Z,3.7nm,0.4s,mb4.8,baz=38,slow=8.7,SNR=39						
FINES				LR	LR	06 47 41.7	
	comp=Z,80nm,18.8s,MS3.9,baz=20,slow=40						
FINES	**FINESS Array B**	**63.46**	**335**	*i*P	**P**	**06 16 10.6**	**-1.2**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LAO	**LASA Array**	**63.59**	**49**	*e*P	**P**	**06 16 13.1**	**+0.4**
SPUT	**South Promonto**	**63.77**	**57**	*e*P	**P**	**06 16 13.9**	**+0.1**
HWUT	**Hardware Ranch**	**64.08**	**56**	*e*P	**P**	**06 16 17.0**	**+1.2**
	comp=Z,4.0nm,0.7s,mb4.6						
DUG	**Dugway**	**64.29**	**58**	*e*P	**P**	**06 16 18.2**	**+0.9**
DUG				*e*PP	pP	06 16 30.6	-2.7
DUG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
DUG	**Dugway**	**64.29**	**58**	*e*P	**P**	**06 16 18.2**	**+0.9**
	comp=Z,9.7nm,1.0s,mb4.8						
DUG				*e*pP	pP	06 16 30.6	-2.7
BW06	**Boulder Array**	**64.43**	**54**	*e*P	**P**	**06 16 18.8**	**+0.6**
	comp=Z,8.7nm,0.8s,mb4.8						
BW06				*e*pP	pP	06 16 30.9	-3.3
PDAR	**Pinedale Array**	**64.43**	**54**	P	**P**	**06 16 17.2**	**-0.9**
	comp=Z,2.0nm,1.0s,mb4.1,baz=306,slow=2.8,SNR=9.5						
PDAR				pP	pP	06 16 34.5	+0.3
	comp=Z,7.2nm,0.7s,baz=290,slow=1.9,SNR=27						
CTU	**Camp Tracy**	**64.57**	**57**	*e*P	**P**	**06 16 20.3**	**+1.2**
CTU				*e*pP	pP	06 16 36.2	+1.1
MPU	**Maple Canyon**	**65.09**	**57**	*e*P	**P**	**06 16 24.8**	**+2.3**
MPU				*e*pP	pP	06 16 39.7	+1.2
GSC	**Goldstone**	**65.14**	**64**	*e*P	**P**	**06 16 24.4**	**+1.6**
GSC				*e*PP	pP	06 16 39.7	+0.9
ARUT	**Antelope Range**	**65.52**	**60**	*e*P	**P**	**06 16 27.1**	**+1.9**
TMUT	**Trail Mountain**	**65.81**	**58**	*e*P	**P**	**06 16 28.4**	**+1.3**

ULM	**Lac du Bonnet**	**66.09**	**41**	P	**P**	**06 16 27.8**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=314,slow=11,SNR=6.2						
ULM				pP	pP	06 16 44.8	-0.2
	comp=Z,1.9nm,0.7s,baz=321,slow=13,SNR=3.0						
SRU	**San Rafael**	**66.33**	**58**	*e*P	**P**	**06 16 31.1**	**+0.6**
SRU				*e*PP	pP	06 16 42.8	-3.7
RSSD	**Black Hills**	**66.47**	**50**	*e*P	**P**	**06 16 31.4**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
RSSD	**Black Hills**	**66.47**	**50**	*e*P	**P**	**06 16 31.4**	**+0.1**
	comp=Z,8.6nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**67.63**	**341**	P	**P**	**06 16 38.0**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.4,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.63**	**341**	P	**P**	**06 16 38.1**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.7,baz=26,slow=6.3,SNR=16						
NOA	**NORSAR Array B**	**67.63**	**341**	P	**P**	**06 16 38.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SMCO	**Snowmass**	**68.30**	**55**	*e*P	**P**	**06 16 42.4**	**-0.5**
	comp=Z,7.8nm,0.7s,mb4.8						
ISCO	**Idaho Springs**	**68.62**	**54**	*e*P	**P**	**06 16 45.7**	**+0.8**
ISCO				*e*PP	pP	06 16 58.7	-2.4
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ISCO	**Idaho Springs**	**68.62**	**54**	*e*P	**P**	**06 16 45.7**	**+0.8**
	comp=Z,5.5nm,0.7s,mb4.6						
ISCO				*e*pP	pP	06 16 58.7	-2.4
MVCO	**Mesa Verde**	**68.79**	**58**	*e*P	**P**	**06 16 47.4**	**+1.4**
	comp=Z,9.1nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**69.07**	**199**	*e*P	**P**	**06 16 46.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**69.07**	**199**	*e*P	**P**	**06 16 46.5**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**69.07**	**199**	*e*P	**P**	**06 16 45.9**	**-1.8**
WRA	**Warramunga Arr**	**69.08**	**199**	P	**P**	**06 16 46.1**	**-1.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=17,slow=6.7,SNR=31						
WRA	**Warramunga Arr**	**69.08**	**199**	P	**P**	**06 16 46.1**	**-1.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**69.66**	**208**	*e*P	**P**	**06 16 50.4**	**-1.0**
	comp=Z,5.7nm,0.6s,mb4.7						
SDCO	**Great Sand Dun**	**70.12**	**56**	*e*P	**P**	**06 16 54.0**	**-0.2**
SDCO				*e*pP	pP	06 17 11.3	+0.9
AKASG	**Malin Array Be**	**71.01**	**326**	P	**P**	**06 16 58.2**	**-1.4**
	comp=Z,2.4nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=19						
AKASG	**Malin Array Be**	**71.01**	**326**	P	**P**	**06 16 58.2**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.01**	**326**	P	**P**	**06 16 58.2**	**-1.4**
AKBB	**Malin Array Si**	**71.01**	**326**	*e*P	**P**	**06 16 58.5**	**-1.1**
LAZ	**Ladron**	**71.55**	**59**	*e*P	**P**	**06 17 04.3**	**+1.5**
ANMO	**Albuquerque**	**71.55**	**58**	*e*P	pP	06 17 16.3	-2.8
ANMO	**Albuquerque**	**71.55**	**58**	*e*pP	pP	06 17 16.3	-2.8
PALK	**Pallekele**	**72.73**	**262**	*e*P	**P**	**06 17 10.3**	**+0.4**
	comp=Z,4.0nm,0.5s,mb4.6						
SCHQ	**Schefferville**	**72.76**	**23**	P	**P**	**06 17 09.5**	**-0.6**
	comp=Z,6.2nm,0.9s,mb4.5,baz=194,slow=17,SNR=5.8						
SCHQ	**Schefferville**	**72.76**	**23**	*e*P	**P**	**06 17 09.7**	**-0.4**
	comp=Z,0.8nm,0.3s,mb4.1						
AS31	**Alice Springs**	**72.77**	**198**	⇑*i*P	**P**	**06 17 09.7**	**-0.4**
ASAR	**Alice Springs**	**72.78**	**198**	P	**P**	**06 17 09.8**	**-0.4**
	comp=Z,7.1nm,0.7s,mb4.7,baz=13,slow=5.2,SNR=96						
ASAR	**Alice Springs**	**72.78**	**198**	P	**P**	**06 17 09.8**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASPA	**Alice Springs**	**72.78**	**198**	⇑*i*P	**P**	**06 17 09.7**	**-0.5**
MBWA	**Marble Bar**	**74.51**	**212**	*e*P	**P**	**06 17 19.2**	**-1.1**
	comp=Z,0.7nm,0.4s,mb3.9						
STHS	**Stebnicka Huta**	**74.96**	**330**	*e*P	**P**	**06 17 23.5**	**+0.6**
STHS				*e*pP	pP	06 17 26.1	-13
STHS	**Stebnicka Huta**	**74.96**	**330**	*e*P	**P**	**06 17 23.5**	**+0.6**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
STHS	**Stebnicka Huta**	**74.96**	**330**	*e*P	**P**	**06 17 23.5**	**+0.6**
	comp=Z,4.0nm,0.8s,mb4.4						
KOLS	**Kolonicke sedl**	**75.01**	**329**	*e*P	**P**	**06 17 23.1**	**-0.1**
BURAR	**Bucovina Array**	**75.05**	**326**	⇓*i*P	**P**	**06 17 23.0**	**-0.4**
BURAR	**Bucovina Array**	**75.05**	**326**	⇓P	**P**	**06 17 23.1**	**-0.4**
OKC	**Ostrava-Krasne**	**75.63**	**332**	*e*P	**P**	**06 17 27.9**	**+1.1**
DPC	**Dobruska-Polom**	**75.75**	**333**	*e*P	**P**	**06 17 27.6**	**+0.1**
MORC	**Moravsky Berou**	**75.87**	**332**	⇓*i*P	**P**	**06 17 28.1**	**-0.1**
CLL	**Collm**	**75.89**	**335**	⇑*i*P	**P**	**06 17 27.3**	**-0.9**
CLL				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
CLL	**Collm**	**75.89**	**335**	⇑*i*P	**P**	**06 17 27.3**	**-0.9**
	comp=Z,15nm,0.6s,mb5.1						
BRG	**Berggiesshubel**	**76.00**	**335**	*e*P	**P**	**06 17 28.3**	**-0.6**
	comp=Z,4.5nm,1.1s,mb4.3						
BRG	**Berggiesshubel**	**76.00**	**335**	*e*P	**P**	**06 17 28.3**	**-0.6**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
KECS	**Kecovo**	**76.02**	**330**	*e*P	**P**	**06 17 28.6**	**-0.4**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KECS	**Kecovo**	**76.02**	**330**	*e*P	**P**	**06 17 28.6**	**-0.4**
	comp=Z,2.1nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**76.04**	**54**	*e*P	**P**	**06 17 29.1**	**0.0**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
WMOK	**Wichita Mounta**	**76.04**	**54**	*e*P	**P**	**06 17 29.1**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1						
MLR	**Muntele Rosu**	**76.53**	**325**	⇓*i*P	**P**	**06 17 32.3**	**+0.4**
MLR	**Muntele Rosu**	**76.53**	**325**	⇓P	**P**	**06 17 32.3**	**+0.4**
VYHS	**Vyhne**	**76.56**	**331**	*i* P	**P**	**06 17 32.0**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
VYHS	**Vyhne**	**76.56**	**331**	*i* P	**P**	**06 17 32.0**	**-0.1**
	comp=Z,7.0nm,1.5s,mb4.4						
PRU	**Pruhonice**	**76.61**	**334**	*e*P	**P**	**06 17 32.0**	**-0.4**
MALT	**Malatya**	**76.70**	**313**	*e*P	**P**	**06 17 33.8**	**+1.0**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MALT	**Malatya**	**76.70**	**313**	*e*P	**P**	**06 17 33.8**	**+1.0**
	comp=Z,3.8nm,0.7s,mb4.4						
LTX	**Lajitas**	**77.23**	**61**	*e*P	**P**	**06 17 35.9**	**0.0**
LTX				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LTX	**Lajitas**	**77.23**	**61**	*e*P	**P**	**06 17 35.9**	**+0.1**
	comp=Z,5.3nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**77.23**	**61**	P	**P**	**06 17 35.9**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.5,baz=298,slow=4.8,SNR=94						
TXAR	**Lajitas Array**	**77.23**	**61**	P	**P**	**06 17 35.9**	**0.0**
TXAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KHC	**Kasperske Hory**	**77.66**	**334**	*e*P	**P**	**06 17 38.1**	**-0.1**
KHC				x	x	06 17 46.5	
KHC	**Kasperske Hory**	**77.66**	**334**	*e*P	**P**	**06 17 38.1**	**-0.1**
KHC				*e*		06 17 46.5	
GRA1	**Grafenberg Arr**	**77.84**	**336**	*e*P	**P**	**06 17 39.5**	**+0.3**
	comp=Z,18nm,0.7s,mb5.1						
GRF	**Grafenberg Arr**	**77.84**	**336**	*e*P	**P**	**06 17 39.5**	**+0.3**
	comp=Z,18nm,0.7s,mb5.1						
GRF	**Grafenberg Arr**	**77.84**	**336**	*e*P	**P**	**06 17 39.5**	**+0.3**
GRF				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
GRF	**Grafenberg Arr**	**77.84**	**336**	*e*P	**P**	**06 17 39.5**	**+0.3**
GRF				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
GERES	**GERESS Array B**	**77.88**	**334**	P	**P**	**06 17 38.6**	**-0.8**
	comp=Z,3.5nm,0.6s,mb4.4,baz=37,slow=5.2,SNR=24						
GERES				LR	LR	06 54 20.0	
	comp=Z,74nm,21.5s,MS4.0,baz=266,slow=37						
GERES	**GERESS Array B**	**77.88**	**334**	P	**P**	**06 17 38.6**	**-0.9**
GERES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,74nm,21.5s						
BR131	**Keskin Array S**	**77.91**	**317**	*e*P	**P**	**06 17 40.5**	**+0.9**
BRTR	**Keskin Array B**	**77.91**	**317**	P	**P**	**06 17 40.1**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=75,slow=3.4,SNR=10.0						
BRTR	**Keskin Array B**	**77.91**	**317**	P	**P**	**06 17 40.1**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MEM	**Membach**	**78.35**	**339**	P	**P**	**06 17 41.8**	**-0.3**
JCT	**Junction City**	**78.64**	**57**	*e*P	**P**	**06 17 43.2**	**-0.4**
JCT				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
JCT	**Junction City**	**78.64**	**57**	*e*P	**P**	**06 17 43.2**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7						
BCLA	**Clavier**	**78.70**	**340**	P	**P**	**06 17 43.8**	**-0.2**
STKA	**Stephens Creek**	**79.55**	**190**	*e*P	**P**	**06 17 48.4**	**-0.3**
BFO	**Black Forest**	**79.87**	**337**	*e*P	**P**	**06 17 50.0**	**-0.3**
BFO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						

BFO	**Black Forest**	**79.87**	**337**	*e*P	**P**	**06 17 50.0**	**-0.4**
	comp=Z,7.6nm,0.9s,mb4.6						
CDF	**Champ du Feu**	**80.07**	**338**	*e*P	**P**	**06 17 48.9**	**-2.5**
	comp=Z,15nm,0.7s,mb4.7						
CDF	**Champ du Feu**	**80.07**	**338**	*e*P	**P**	**06 17 48.9**	**-2.5**
CDF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CDF	**Champ du Feu**	**80.07**	**338**	*e*P	**P**	**06 17 48.9**	**-2.5**
	comp=Z,7.6nm,0.7s,mb4.7						
VAY	**Valandovo**	**81.37**	**325**	*e*P	**P**	**06 17 57.5**	**-0.8**
PMOR	**Pomariorio Ree**	**81.43**	**123**	*e*T		07 47 44.0	
	comp=Z,11nm,0.2s						
GRR	**Gorron**	**81.97**	**343**	*e*P	**P**	**06 17 58.7**	**-2.8**
PPT	**Papeete**	**82.56**	**126**	*e*LR	LR	06 43 36.8	
	comp=Z,63nm,22.8s						
PPT	**Papeete**	**82.56**	**126**	*e*T		07 49 08.3	
	comp=Z,3.7nm,0.2s						
SMF	**Signal de Mont**	**82.57**	**339**	*e*P	**P**	**06 18 01.9**	**-2.8**
	comp=Z,16nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**82.57**	**339**	*e*P	**P**	**06 18 01.9**	**-2.8**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**82.57**	**339**	*e*P	**P**	**06 18 01.9**	**-2.8**
	comp=Z,7.9nm,0.9s,mb4.7						
PAE	**Paea**	**82.63**	**126**	*e*T		07 49 13.5	
	comp=Z,4.1nm,0.3s						
LPG	**La Plagne**	**82.90**	**337**	*e*P	**P**	**06 18 04.7**	**-1.7**
	comp=Z,22nm,1.0s,mb4.9						
LPG	**La Plagne**	**82.90**	**337**	*e*P	**P**	**06 18 04.7**	**-1.7**
LPG				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
LPG	**La Plagne**	**82.90**	**337**	*e*P	**P**	**06 18 04.7**	**-1.7**
	comp=Z,11nm,1.0s,mb4.8						
CAF	**Calviac**	**84.61**	**340**	*e*P	**P**	**06 18 12.1**	**-3.0**
EIL	**Elat**	**85.26**	**310**	*e*P	**P**	**06 18 19.0**	**+0.7**
LHS	**Liberty Hill**	**85.30**	**42**	*e*P	**P**	**06 18 14.6**	**-4.0**
NWAO	**Narrogin (SRO)**	**86.16**	**210**	*e*P	**P**	**06 18 22.8**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NWAO	**Narrogin (SRO)**	**86.16**	**210**	*e*P	**P**	**06 18 22.8**	**0.0**
	comp=Z,2.4nm,0.3s,mb4.9						
TBI	**Tubuai**	**87.33**	**129**	*e*T		07 55 05.1	
	comp=Z,23nm,0.2s						
VNDA	**Vanda**	**124.73**	**178**	*e*PKIKP	PKPdf	06 24 38.6	-2.4
SBA	**Scott Base**	**125.23**	**176**	*e*PKIKP	PKPdf	06 24 39.7	-2.3
NNA	**Nana**	**125.45**	**67**	*e*PKPdf	PKPdf	06 24 43.4	+1.0
LPAZ	**La Paz**	**134.10**	**62**	PKP	PKPdf	06 24 59.3	+0.5
	comp=Z,0.7nm,0.6s,baz=295,slow=5.0,SNR=5.4						
LPAZ	**La Paz**	**134.10**	**62**	*e*PKPdf	PKPdf	06 24 59.5	+0.6
LVC	**Limon Verde**	**138.38**	**68**	*e*PKPdf	PKPdf	06 25 07.4	+0.6
CFAA	**Coronel Fontan**	**144.92**	**78**	PKP	PKPdf	06 25 16.0	-2.5
	comp=Z,0.5nm,0.5s,baz=261,slow=3.4,SNR=19						
CFAA				pPKP	pPKPdf	06 25 33.3	-2.6
	comp=Z,0.6nm,0.5s,baz=277,slow=2.6,SNR=6.0						
CFAA	**Coronel Fontan**	**144.92**	**78**	PKP	PKPdf	06 25 16.0	-2.5
SNAA	**Sanae**	**153.13**	**197**	*e*PKPdf	PKPdf	06 25 29.5	-2

KOLN					*e*S		**Sn**	**06 19 14.8 -6.9**
GKN	**Gorkha**	**14.10**	**128**		*e*P		**Pn**	**06 16 56.8 -0.2**
	comp=E,18nm,0.4s							
GKN					*e*S		**Sn**	**06 19 24.1 -8.7**
KKN	**Kakani**	**14.65**	**127**		*e*P		**Pn**	**06 17 03.1 -0.9**
	comp=E,15nm,0.5s							
DMN	**Daman**	**14.67**	**128**		*e*P		**Pn**	**06 17 03.7 -0.5**
AB31	**Akbulak array**	**14.74**	**327**		P		**Pn**	**06 17 00.8 -4.3**
GUN	**Gumba**	**14.95**	**126**		*e*P		**Pn**	**06 17 07.3 -0.5**
JIRN	**Jiri**	**15.32**	**126**		*e*P		**Pn**	**06 17 12.3 -0.1**
	comp=E,13nm,0.3s							
JIRN					*e*S		**S**	**06 19 53.3 -16**
BVAR	**Borovoye Array**	**15.61**	**356**		P		**Pn**	**06 17 14.1 -1.9**
	comp=E,0.5nm,0.3s,baz=155,slow=9.7,SNR=9.5							
BVAR	**Borovoye Array**	**15.61**	**356**		P		**Pn**	**06 17 14.1 -1.8**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**15.64**	**356**		*e*P		**Pn**	**06 17 14.6 -1.8**
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.8s							
BRVK	**Borovoye**	**15.64**	**356**		*e*Pn		**Pn**	**06 17 14.6 -1.8**
	comp=Z,7.4nm,0.8s							
AKTK	**Aktyubinsk**	**16.45**	**326**		P		**Pn**	**06 17 23.2 -3.2**
AKTO	**Aktyubinsk**	**16.45**	**326**		P		**Pn**	**06 17 23.2 -3.1**
	comp=Z,1.1nm,0.3s,baz=133,slow=13,SNR=25							
AKTO	**Aktyubinsk**	**16.45**	**326**		P		**Pn**	**06 17 23.8 -2.5**
ZAL	**Zalesovo**	**18.63**	**24**		P		**P**	**06 17 51.8 +1.3**
	comp=Z,0.6nm,0.3s,baz=229,slow=8.3,SNR=5.3							
ZAL	**Zalesovo**	**18.63**	**24**		P		**P**	**06 17 51.8 +1.2**
ZAL					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ORR	**Orenburg**	**18.75**	**325**		*e*P		**P**	**06 17 51.5 -0.4**
ORR					pmax	pmax		
	comp=Z,7.0nm,0.4s							
FINES	**FINESS Array B**	**37.22**	**325**		P		**P**	**06 20 42.0 +0.2**
	comp=Z,1.3nm,0.6s,mb3.8,baz=122,slow=7.2,SNR=7.8							
FINES	**FINESS Array B**	**37.22**	**325**		P		**P**	**06 20 42.0 +0.2**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**37.22**	**325**		P		**P**	**06 20 42.0 +0.2**
ARCES	**ARCESS Array B**	**40.62**	**337**		P		**P**	**06 21 10.6 +0.6**
	comp=Z,3.0nm,0.8s,mb4.0,baz=110,slow=9.2,SNR=11							
ARCES	**ARCESS Array B**	**40.62**	**337**		P		**P**	**06 21 10.6 +0.5**
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.8s							
NB2	**NORSAR Subarra**	**44.18**	**322**		P		**P**	**06 21 38.9 0.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.18**	**322**		P		**P**	**06 21 39.8 +0.9**
	comp=Z,1.3nm,0.6s,mb3.7,baz=93,slow=7.8,SNR=5.0							
NOA	**NORSAR Array B**	**44.18**	**322**		P		**P**	**06 21 39.8 +0.9**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.68**	**269**		P		**P**	**06 24 20.8 +1.0**
	comp=Z,0.5nm,0.5s,mb3.6,baz=49,slow=6.6,SNR=8.7							
TORD	**Torodi Ar. Bea**	**66.68**	**269**		P		**P**	**06 24 20.8 +1.0**
YKA	**Yellowknife Ar**	**80.23**	**3**		P		**P**	**06 25 41.6 +2.5**
	comp=Z,0.3nm,0.4s,mb3.2,baz=351,slow=5.5,SNR=5.1							
YKA	**Yellowknife Ar**	**80.23**	**3**		P		**P**	**06 25 41.6 +2.5**

*ISCJB **22** 06:37:59.7±0.8, 3951N±002×787W±005, h7km±6km, Error ellipse: s-maj=6.8km s-min=4.0km az=24.6*
*INMG **22** 06:38:00.7±1.0, 3953N×7.94W, h0km±3km, MD1.9, ML2.4, Error ellipse: s-maj=2.5km s-min=1.3km az=99.0*
*MDD **22** 06:38:00.6±0.5, 3951N×792W, h0km, mbLg2.1/10, Error ellipse: s-maj=5.4km s-min=2.9km az=115.0, PRXIMO*
ISC 22 06:37:59.5±0.5, 3953N±002×792W±004, h8km±5km, n19, σ1$02/25, Portugal

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCBR	**Castelo Branco**	**0.46**	**48**	*e*Pg		**Pg**	**06 38 09.4**	**+1.0**
PCBR				*e*Sg		**Sg**	**06 38 15.7**	**+1.3**
PCBR								
	52nm,0.1s							
PESTR	**Estremoz**	**0.71**	**159**	*e*P		**Pg**	**06 38 13.5**	**+0.3**
PESTR				*e*S		**Sg**	**06 38 23.9**	**+1.5**
PESTR								
	19nm,0.1s							
EBAD	**Badajoz**	**1.05**	**138**	Pg		**Pg**	**06 38 19.7**	**+0.1**
	6.4nm,0.1s,SNR=32							
EBAD				Lg			06 38 33.8	
	15nm,0.1s,SNR=33							
MOE	**Montemor**	**1.06**	**199**	*e*P		**Pg**	**06 38 19.8**	**-0.1**
MOE				*e*S		**Sg**	**06 38 33.8**	**+0.1**
PLOU	**Loures**	**1.16**	**236**	*e*S		**Sg**	**06 38 37.3**	**+0.6**
PLOU								
	11nm,0.2s							
PLOU	**Loures**	**1.16**	**236**	Lg			06 38 37.3	
	5.5nm,0.2s							
PVIS	**Viseu**	**1.18**	**1**	*e*P		**Pg**	**06 38 22.4**	**+0.2**
PVIS				*e*S		**Sg**	**06 38 38.3**	**+0.7**
PVIS								
	31μm,0.1s							
PMAFR	**Mafra**	**1.21**	**242**	*e*P		**Pb**	**06 38 22.6**	**0.0**
PMAFR				*e*S		**Sg**	**06 38 38.4**	**+0.1**
PMAFR								
	23nm,0.2s							
PBEJ	**Beja**	**1.50**	**178**	*e*P		**Pn**	**06 38 27.3**	**+0.5**
PBEJ				*e*S		**Sn**	**06 38 47.1**	**+0.5**
PBEJ								
	5.2nm,0.2s							
PVRL	**Vila Real**	**1.75**	**5**	*e*Sn		**Sn**	**06 38 53.8**	**+1.2**
PVRL								
	8.2nm,0.1s							
PVRL	**Vila Real**	**1.75**	**5**	Sn		**Sn**	**06 38 53.8**	**+1.2**
	4.1nm,0.1s							
EMIN	**Mina Concepcio**	**2.01**	**151**	Pn		**Pn**	**06 38 34.9**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
EMIN				Pg		**Pg**	**06 38 37.3**	**-0.8**
	0.3nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**06 38 59.1**	**0.0**
	0.5nm,0.1s,SNR=7.9							
EMIN				Lg			06 39 02.9	
	1.3nm,0.1s,SNR=6.7							
EGRO	**El Granado**	**2.02**	**170**	Pg		**Pg**	**06 38 37.3**	**-1.0**
	1.1nm,0.1s,SNR=7.9							
EGRO				Lg			06 39 05.1	
	1.6nm,0.1s,SNR=4.7							
PTEO	**Sao Teotonio**	**2.08**	**198**	*e*Sg		**Sg**	**06 39 04.5**	**-1.9**
PCAB	**Cabril**	**2.18**	**358**	*e*Sg		**Sg**	**06 39 07.5**	**-2.0**
PCAB								
	5.8nm,0.1s							
PCAB	**Cabril**	**2.18**	**358**	Lg			06 39 07.5	
	2.9nm,0.1s							
PBRG	**Braganca**	**2.44**	**21**	*e*Sg		**Sg**	**06 39 16.0**	**-1.9**
ECAL	**Calabor**	**2.57**	**20**	Lg			06 39 22.9	
	1.2nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.94**	**117**	Pn		**Pn**	**06 38 46.2**	**-0.4**
	SNR=4.0							
EADA				Sn		**Sn**	**06 39 19.8**	**-2.3**
	0.3nm,0.1s,SNR=7.9							
EADA				Lg			06 39 32.9	
	1.4nm,0.1s,SNR=6.5							

*IDC **22** 07:04:01.9±4.3, 4774N×15599E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=153.0km s-min=38.1km az=9.0*
*MOS **22** 07:04:04.1±0.0, 4753N×15570E±0.3, h33km, mb4.0/2, Error ellipse: s-maj=99.9km s-min=50.4km az=92.1*
*ISCJB **22** 07:04:05.0±1.8, 476N±02×1559E±03, h35km, mb3.6/3, Error ellipse: s-maj=34.9km s-min=31.4km az=68.2*
ISC 22 07:04:06.8±1.9, 476N±02×1559E±03, h35km, n6, σ0$40/6, mb3.6/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.05**	**3**	*e*PN		**Pn**	**07 04 52.6**	**+0.1**
SKR				*e*			07 05 31.0	
MKAR	**Makanchi Array**	**48.19**	**298**	P		**P**	**07 12 44.0**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=75,slow=8.3,SNR=5.6							
MKAR	**Makanchi Array**	**48.19**	**298**	P		**P**	**07 12 44.0**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**64.02**	**336**	P		**P**	**07 14 36.3**	**-0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=48,slow=8.5,SNR=5.1							
FINES	**FINESS Array B**	**64.02**	**336**	P		**P**	**07 14 36.3**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**75.42**	**63**	P		**P**	**07 15 47.0**	**+0.1**
	comp=Z,0.1nm,0.4s,mb3.1,baz=296,slow=4.1,SNR=5.7							

*ISCJB **22** 07:12:12.6±0.4, 751N±004×7807W±004, h10km, mb3.9/13, MS3.5/4, Error ellipse: s-maj=6.7km s-min=4.7km az=71.2*
*CASC **22** 07:12:12.7±2.1, 759N×7807W, h0km±6km, MW4.1, mb4.1(NEIC)*
*NEIC **22** 07:12:17.5±0.5, 751N×7798W, h35km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=8.8km az=51.0*
*IDC **22** 07:12:20.8±3.0, 762N×7782W, h69km±29km, mb3.5/10, mb1 3.7/12, mb1mx3.7/20, mbtmp3.6/12, ML4.6/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/20, Error ellipse: s-maj=24.0km s-min=13.9km az=64.0*
ISC 22 07:12:14.5±0.4, 758N±004×7809W±004, h10km, n42, σ1$32/39, mb3.9/13, MS3.5/4, 1C, Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**0.97**	**4**	⇑*e*P		**Pg**	**07 12 31.3**	**-1.8**
UPD1				*e*S		**Sg**	**07 12 45.1**	**-0.6**
UPA	**Univ. de Panam**	**2.00**	**314**	*e*P		**Pn**	**07 12 48.2**	**-0.1**
UPA				*e*S		**Sn**	**07 13 14.6**	**+1.3**
ACH	**Altos**	**2.12**	**301**	*e*P		**Pn**	**07 12 49.0**	**-0.9**
AZU	**Azuero**	**2.17**	**276**	*e*P		**Pn**	**07 12 49.1**	**-1.6**
TOLC	**Tolima**	**4.04**	**137**	*e*P		**Pn**	**07 13 16.2**	**0.0**
BRU	**Baru**	**4.59**	**286**	*e*P		**Pn**	**07 13 22.5**	**-1.4**
ROSC	**El Rosal**	**4.61**	**126**	P		**Pn**	**07 13 27.1**	**+2.9**
	6.2nm,0.3s,baz=95,slow=22,SNR=33							
ROSC				LR		LR	07 14 51.6	
	comp=Z,147nm,18.0s,baz=337,slow=34							
ROSC	**El Rosal**	**4.61**	**126**	*e*Pn		**Pn**	**07 13 26.2**	**+2.0**
OCAC	**Ocana**	**4.77**	**82**	*e*S		**Sn**	**07 14 22.8**	**+1.1**
RUSC	**La Rusia**	**5.24**	**108**	*e*P		**Pn**	**07 13 33.7**	**+0.9**
OTAV	**Otavalo**	**7.30**	**183**	*e*Pn		**Pn**	**07 14 00.5**	**-0.6**
	9.8nm,0.6s							
SDV	**Santo Domingo**	**7.50**	**79**	P		**Pn**	**07 14 04.4**	**+0.6**
	12nm,0.3s,baz=270,slow=10,SNR=143							
SDV				S		**Sn**	**07 15 25.5**	**-3.3**
	1.6nm,0.3s,baz=141,slow=23,SNR=3.9							
SDV				LR		LR	07 16 57.0	
	comp=Z,197nm,21.9s,baz=26,slow=38							
SDV	**Santo Domingo**	**7.50**	**79**	*e*Pn		**Pn**	**07 14 03.8**	**0.0**
	158nm,0.7s							
SDV				*e*Sn		**Sn**	**07 15 29.2**	**+0.4**
MOAC	**Moa**	**13.36**	**13**	*e*P		**Pn**	**07 15 27.8**	**+3.8**
PCRV	**Puerto La Cruz**	**13.54**	**78**	P		**Pn**	**07 15 25.5**	**-1.1**
	2.7nm,0.3s,baz=214,slow=6.6,SNR=13							
ATAH	**Atahualpa**	**14.48**	**181**	LR		LR	07 21 11.8	
	comp=Z,206nm,20.1s,baz=202,slow=36							
CPD	**Cerro la Pandu**	**15.77**	**48**	*e*Pn		**Pn**	**07 15 52.3**	**-4.3**
CMIG	**Matias Romero**	**18.92**	**302**	LR		LR	07 24 06.4	
	comp=Z,189nm,19.7s,baz=108,slow=37							
NNA	**Nana**	**19.47**	**176**	LR		LR	07 24 58.3	
	comp=Z,139nm,22.0s,baz=337,slow=39							
LPAZ	**La Paz**	**25.68**	**157**	P		**P**	**07 17 44.4**	**-0.1**
	1.4nm,0.6s,mb3.7,baz=333,slow=10.0,SNR=6.7							
LPAZ				LR		LR	07 28 39.7	
	comp=Z,140nm,20.0s,MS3.5,baz=286,slow=38							
LPAZ	**La Paz**	**25.68**	**157**	*e*P		**P**	**07 17 44.0**	**-0.5**
	5.4nm,1.3s,mb3.9							
TKL	**Tuckaleechee C**	**28.43**	**350**	LR		LR	07 30 55.6	
	comp=Z,94nm,18.7s,MS3.4,baz=256,slow=39							
SIV	**San Ignacio**	**28.85**	**144**	P		**P**	**07 18 10.8**	**-2.2**
	1.4nm,0.5s,mb3.9,baz=323,slow=13,SNR=10.0							
FVM	**French Village**	**32.27**	**342**	*e*P		**P**	**07 18 44.0**	**+0.8**
	14nm,0.8s,mb4.8							
TXAR	**Lajitas Array**	**32.36**	**315**	P		**P**	**07 18 46.1**	**+2.0**
	0.5nm,0.7s,mb3.5,baz=134,slow=8.2,SNR=6.7							
ANMO	**Albuquerque**	**37.70**	**320**	*e*P		**P**	**07 19 32.0**	**+2.0**
	2.1nm,0.7s,mb4.0							
LAZ	**Ladron**	**37.79**	**319**	*e*P		**P**	**07 19 34.5**	**+3.7**
SDCO	**Great Sand Dun**	**38.97**	**325**	*e*P		**P**	**07 19 42.2**	**+1.5**
CFAA	**Coronel Fontan**	**40.08**	**167**	P		**P**	**07 19 50.2**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=37,slow=4.6,SNR=4.0							
CFAA	**Coronel Fontan**	**40.08**	**167**	P		**P**	**07 19 50.2**	**+0.2**
PFO	**Pinyon Flat Ob**	**43.88**	**312**	P		**P**	**07 20 21.6**	**+0.6**
	0.6nm,0.5s,mb3.6,baz=324,slow=6.2,SNR=2.6							
PDAR	**Pinedale Array**	**44.66**	**327**	P		**P**	**07 20 28.2**	**+0.9**
	1.2nm,0.9s,mb3.7,baz=128,slow=12,SNR=5.4							
ULM	**Lac du Bonnet**	**45.05**	**344**	P		**P**	**07 20 29.9**	**-0.5**
	2.6nm,0.8s,mb4.1,baz=133,slow=8.5,SNR=5.9							
ULM				LR		LR	07 39 14.0	
	comp=Z,62nm,20.0s,MS3.5,baz=318,slow=36							
LOHW	**Long Hollow**	**45.80**	**327**	*e*P		**P**	**07 20 38.3**	**+2.0**
	1.3nm,0.5s,mb4.1							
SCHQ	**Schefferville**	**47.98**	**9**	P		**P**	**07 20 51.5**	**-1.9**
	2.4nm,1.0s,mb4.2,baz=204,slow=10.0,SNR=3.4							
SCHQ				LR		LR	07 40 24.0	
	comp=Z,69nm,19.9s,MS3.6,baz=106,slow=35							
SCHQ	**Schefferville**	**47.98**	**9**	P		**P**	**07 20 51.5**	**-1.9**
SCHQ				LR		LR	07 40 24.0	
YKA	**Yellowknife Ar**	**60.93**	**342**	P		**P**	**07 22 25.9**	**-1.6**
	0.9nm,0.6s,mb4.1,baz=122,slow=9.1,SNR=10							
YKA	**Yellowknife Ar**	**60.93**	**342**	P		**P**	**07 22 25.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**78.41**	**78**	P		**P**	**07 24 14.5**	**-0.8**
	0.6nm,0.8s,mb3.6,baz=287,slow=7.2,SNR=4.9							
SONM	**Songino Array**	**124.69**	**356**	PKP	PKPdf		07 31 12.8	-1.5
	0.4nm,0.7s,baz=57,slow=5.3,SNR=2.6							
ASAR	**Alice Springs**	**145.41**	**239**	PKPbc	PKPbc		07 31 51.8	-0.8
	0.6nm,0.5s,baz=109,slow=3.5,SNR=5.1							
WRA	**Warramunga Arr**	**146.27**	**245**	PKPbc	PKPbc		07 31 54.5	-0.7
	1.0nm,0.7s,baz=100,slow=2.6,SNR=6.1							

*ISCJB **22** 07:22:45.4±1.9, 473N±0.1×1538E±02, h71km±16km, mb3.6/9, Error ellipse: s-maj=29.2km s-min=11.4km az=84.8*
*MOS **22** 07:22:46.2±1.5, 4734N×15368E, h81km, mb4.1/4, Error ellipse: s-maj=33.8km s-min=17.9km az=73.9*
*IDC **22** 07:22:52.5±4.7, 4719N×15349E, h121km±42km, mb3.3/9, mb1 3.6/10, mb1mx3.4/22, mbtmp3.4/10, Error ellipse: s-maj=27.8km s-min=18.2km az=104.0*
ISC 22 07:22:47.3±1.6, 473N±01×1538E±02, h75km±14km, n20, σ1$06/20, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.69**	**24**	*e*PN		**Pn**	**07 23 41.0**	**-1.0**
SKR				*e*S		**Sn**	**07 24 24.0**	**-0.3**
SKR				pmax	pmax			
	comp=N,30nm,0.5s							
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,150nm,0.5s							
SKR				smax				
	comp=E,90nm,0.5s							
SKR				smax				
	comp=Z,80nm,0.5s							
ASAJ	**Asahikawa**	**8.46**	**252**	P		**Pn**	**07 24 48.8**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=72,slow=28,SNR=3.0							
ASAJ	**Asahikawa**	**8.46**	**252**	PN		**Pn**	**07 24 48.8**	**+1.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.41**	**252**	P		**P**	**07 27 28.6**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.4,baz=55,slow=10,SNR=2.6							
MKAR	**Makanchi Array**	**47.08**	**297**	P		**P**	**07 31 10.7**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.2,baz=64,slow=9.8,SNR=3.2							
YKA	**Yellowknife Ar**	**50.19**	**37**	P		**P**	**07 31 37.0**	**+1.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=294,slow=7.1,SNR=6.2							
YKA	**Yellowknife Ar**	**50.19**	**37**	P		**P**	**07 31 37.0**	**+1.6**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**57.45**	**341**	P		**P**	**07 32 28.3**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.1,baz=34,slow=8.7,SNR=2.8							
ARCES	**ARCESS Array B**	**57.45**	**341**	P		**P**	**07 32 28.3**	**-0.1**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**63.71**	**335**	P		**P**	**07 33 10.8**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=36,slow=7.1,SNR=6.2							
FINES	**FINESS Array B**	**63.71**	**335**	P		**P**	**07 33 10.8**	**-0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**67.83**	**341**	P		**P**	**07 33 37.9**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=26,slow=6.9							
NOA	**NORSAR Array B**	**67.83**	**341**	P		**P**	**07 33 38.1**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=27,slow=6.8,SNR=4.2							
NOA	**NORSAR Array B**	**67.83**	**341**	P		**P**	**07 33 38.1**	**+0.7**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**69.21**	**200**	P		**P**	**07 33 44.1**	**-1.9**
	comp=Z,0.4nm,0.8s,mb3.3,baz=15,slow=6.5,SNR=3.2							
WRA	**Warramunga Arr**	**69.21**	**200**	P		**P**	**07 33 44.1**	**-2.0**
ASAR	**Alice Springs**	**72.90**	**199**	P		**P**	**07 34 08.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=10.0,slow=6.3,SNR=6.0							
TXAR	**Lajitas Array**	**76.81**	**61**	P		**P**	**07 34 32.4**	**+1.4**
	comp=Z,0.6nm,0.9s,mb3.3,baz=289,slow=3.8,SNR=4.6							
TXAR	**Lajitas Array**	**76.81**	**61**	P		**P**	**07 34 32.4**	**+1.5**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CFAA	**Coronel Fontan**	**144.44**	**79**	PKP	PKPdf		07 42 13.4	-1.5
	comp=Z,0.2nm,0.5s,baz=288,slow=3.4,SNR=3.9							

*CSEM **22** 07:27:36.6±1.3, 4055N×2924W, h0km, ML3.0, Error ellipse: s-maj=9.2km s-min=4.6km az=93.0, After PDA*
*PDA **22** 07:27:36.6±1.3, 4055N×2924W, h0km, MD3.9, ML3.0, Error ellipse: s-maj=9.2km s-min=4.6km az=93.0*
SVSA 22 07:27:36.6±1.3, 4055N×2924W, h0km, MD3.9, ML3.0, Error ellipse: s-maj=9.2km s-min=4.6km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**1.74**	**148**	*e*P		Pn	07 28 21.8	+14
STGR	**Santa Cruz**	**1.75**	**147**	*e*P		Pn	07 28 03.3	-4.9
SRBC	**Serra Branca**	**1.77**	**148**	*e*P		Pn	07 28 03.3	-5.2
PCED	**Cedros**	**1.96**	**168**	*e*P		Pn	07 28 06.3	-4.8
PCED				*e*S		Sn	07 28 28.4	-8.0
PCED								
	138nm,0.3s							
PCED	**Cedros**	**1.96**	**168**	*e*P		Pn	07 28 06.3	-4.8
PCED				*e*S		Sn	07 28 28.4	-8.0
ROSA	**Rosais**	**1.98**	**157**	*e*P		Pn	07 28 06.5	-4.9
CALA	**Caldeira**	**2.01**	**168**	*e*P		Pn	07 28 07.2	-4.5
CALA				*e*S		Sn	07 28 29.7	-7.9
PAMA	**Santo Amaro**	**2.04**	**156**	*e*P		Sn	07 28 35.0	-3.3
HOR	**Horta**	**2.07**	**167**	*e*P		Pn	07 28 08.1	-4.5
HOR				*e*S		Sn	07 28 31.0	-8.2
PMAN	**Manadas**	**2.11**	**155**	*e*P		Pn	07 28 08.0	-5.1
PMAN				*e*S		Sn	07 28 32.4	-7.7
PMAN								
	48nm,0.4s							
PMAN	**Manadas**	**2.11**	**155**	*e*P		Pn	07 28 08.0	-5.1
PMAN				*e*S		Sn	07 28 32.4	-7.7
PICO	**Pico**	**2.14**	**163**	*e*P		Pn	07 28 08.8	-4.8
PICO				*e*S		Sn	07 28 33.1	-7.7
PTEI	**Pico do Teixo**	**2.16**	**161**	*e*S		Sn	07 28 34.3	-7.1
PTEI								
	22nm,0.3s							
PCND	**Candelaria**	**2.16**	**164**	*e*P		Pn	07 28 09.9	-4.0
PCND				*e*S		Sn	07 28 33.2	-8.2
PCND								
	48nm,0.3s							
PBOI	**Pico dos Bois**	**2.21**	**162**	*e*P		Pn	07 28 09.7	-4.9
PBOI				*e*S		Sn	07 28 35.0	-7.6
PBOI								
	28nm,0.3s							
PID	**Ribeirinha**	**2.28**	**157**	*e*P		Pn	07 28 10.4	-5.0
PSBA	**Serra de Santa**	**2.31**	**140**	*e*P		Pn	07 28 10.4	-5.5
PSBA				*e*S		Sn	07 28 36.8	-8.3
PSBA								
	64nm,0.3s							
PSBA	**Serra de Santa**	**2.31**	**140**	*e*P		Pn	07 28 10.4	-5.5
PSBA				*e*S		Sn	07 28 36.8	-8.3
ASBA	**Santa Barbara**	**2.35**	**140**	*e*P		Pn	07 28 11.8	-4.6
PVNV	**Vila Nova**	**2.40**	**137**	*e*P		Pn	07 28 12.6	-4.6
PVNV				*e*S		Sn	07 28 39.4	-7.9
PVNV								
	14nm,0.3s							
PVNV	**Vila Nova**	**2.40**	**137**	*e*P		Pn	07 28 12.6	-4.6
PVNV				*e*S		Sn	07 28 39.4	-7.9
ADH	**Angra Heroismo**	**2.44**	**140**	*e*P		Pn	07 28 11.8	-5.9
RIB2	**Ribeirinha**	**2.46**	**139**	*e*P		Pn	07 28 13.7	-4.3
PFAV	**Pico das Favas**	**2.48**	**137**	*e*P		Pn	07 28 13.5	-4.7
PFAV				*e*S		Sn	07 28 41.3	-7.8
PFAV								
	17nm,0.2s							
PFAV	**Pico das Favas**	**2.48**	**137**	*e*P		Pn	07 28 13.5	-4.7
PFAV				*e*S		Sn	07 28 41.3	-7.8
SET4	**Mosteiros**	**3.78**	**134**	*e*P		Pn	07 28 31.3	-4.8
SET2	**Ginetes**	**3.80**	**134**	*e*P		Pn	07 28 31.6	-4.7
PFET	**Feteiras**	**3.83**	**134**	*e*P		Pn	07 28 32.5	-4.2
PSAN	**Santo Antonio**	**3.83**	**133**	*e*P		Pn	07 28 32.4	-4.5
FAC	**Faja de Cima**	**3.93**	**134**	*e*P		Pn	07 28 35.7	-2.5
CML	**Cha da Macela**	**3.99**	**133**	*e*P		Pn	07 28 36.3	-2.7
LFA	**Lagoa do Fogo**	**4.03**	**132**	*e*P		Pn	07 28 35.3	-4.2
MESC	**Monte Escuro**	**4.03**	**132**	*e*P		Pn	07 28 35.2	-4.4
PFAD	**Fenais da Ajud**	**4.07**	**130**	*e*P		Pn	07 28 38

az=79.0
IDC 22 08:02:15.9±8.2, 683S×15064E, h58km±60km, mb4.2/4, mb1 4.4/5, mb1mx3.9/14, mbtmp4.2/5, ML3.0/1, MS3.2/5, Ms1 3.2/5, ms1mx2.6/29, Error ellipse: s-maj=54.0km s-min=49.7km az=74.0

ISC 22 08:02:14.7±3.9, 68S±02×1507E±03, h54km±31km, n17, σ0°47/13, mb4.7/4, MS3.1/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.36**	**233**	P	**Pn**	**08 03 18.3**	**-0.2**
	6.3nm,0.3s,baz=63,slow=7.4,SNR=12						
PMG				S	**Sn**	**08 04 08.7**	**+0.7**
	16nm,0.3s,baz=88,slow=12,SNR=4.6						
CTA	**Charters Tower**	**13.92**	**198**	LR	LR	08 10 19.8	
	comp=Z,76nm,18.7s,baz=45,slow=35						
KAKA	**Kakadu**	**18.91**	**250**	*eP*	**Pn**	**08 06 31.2**	**-0.8**
	8.9nm,0.4s						
WRAB	**Tennant Creek**	**20.56**	**229**	*eP*	**P**	**08 06 48.7**	**-0.1**
	9.6nm,0.8s						
WB2	**Warramunga Arr**	**20.56**	**229**	*i*P	**P**	**08 06 48.5**	**-0.3**
WRA	**Warramunga Arr**	**20.57**	**229**	P	**P**	**08 06 48.7**	**-0.2**
	6.4nm,0.5s,baz=53,slow=10,SNR=29						
GUMO	**Guam**		**21.03**	**344**	LR	LR	08 13 46.3
	comp=Z,42nm,19.6s,MS2.8,baz=100,slow=33						
DZM	**Mont Dzumac**	**21.52**	**137**	LR	LR	08 14 23.5	
	comp=Z,98nm,18.6s,MS3.2,baz=184,slow=34						
AS31	**Alice Springs**	**23.28**	**222**	*eP*	**P**	**08 07 17.5**	**-0.2**
ASAR	**Alice Springs**	**23.29**	**222**	P	**P**	**08 07 17.4**	**-0.3**
	7.9nm,0.9s,mb4.2,baz=56,slow=8.3,SNR=74						
STKA	**Stephens Creek**	**26.39**	**198**	*eP*	**P**	**08 07 46.1**	**+0.2**
	3.1nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**26.39**	**198**	P	**P**	**08 07 46.0**	**+0.2**
	5.7nm,0.9s,mb4.1,baz=22,slow=13,SNR=7.5						
STKA				LR	LR	08 18 48.8	
	comp=Z,58nm,20.8s,MS3.1,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**26.88**	**243**	*eP*	**P**	**08 07 51.0**	**+0.6**
	19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.88**	**243**	P	**P**	**08 07 51.2**	**+0.9**
	9.6nm,0.5s,mb4.5,baz=79,slow=7.3,SNR=51						
KSRS	**Korea Array**	**48.85**	**336**	LR	LR	08 28 35.7	
	comp=Z,40nm,19.3s,MS3.4,baz=221,slow=32						
INK	**Inuvik**	**91.03**	**21**	*eP*	**P**	**08 15 13.6**	**+0.5**
	53nm,0.7s,mb6.0						
TORD	**Torodi Ar. Bea**	**148.82**	**284**	PKPbc	PKPbc	08 21 57.9	+1.7
	2.6nm,0.7s,baz=65,slow=2.9,SNR=17						

NEIC 22 08:03:15.9±4.5, 1496S×16744E, h136km±35km, mb4.7/3, Error ellipse: s-maj=41.2km s-min=30.6km az=203.0
IDC 22 08:03:15.6±5.9, 1499S×16740E, h129km±45km, mb4.0/6, mb1 4.2/7, mb1mx3.9/16, mbtmp4.1/7, Error ellipse: s-maj=42.6km s-min=26.8km az=33.0
ISCJB 22 08:03:16.7±4.3, 1513S±02×1674E±02, h154km±31km, mb4.2/8, Error ellipse: s-maj=38.1km s-min=19.0km az=79.6

ISC 22 08:03:16.9±4.3, 151S±02×1676E±02, h150km±30km, n20, σ0°88/19, mb4.2/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.07**	**188**	P	**Pn**	**08 04 57.5**	**-0.2**
	15nm,0.3s,baz=11,slow=22,SNR=59						
DZM				S	**Sn**	**08 06 16.7**	**-0.1**
	17nm,0.3s,baz=318,slow=23,SNR=9.7						
ARMA	**Armidale**	**21.16**	**221**	*e*P	**P**	**08 07 52.2**	**+2.0**
STKA	**Stephens Creek**	**29.00**	**230**	*i*P	**P**	**08 09 03.7**	**+1.3**
	8.2nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**29.00**	**230**	P	**P**	**08 09 03.9**	**+1.5**
	15nm,0.7s,mb4.8,baz=44,slow=7.8,SNR=25						
STKA				PcP	PcP	08 12 08.6	+1.4
	1.9nm,0.7s,baz=189,slow=2.4,SNR=3.8						
WRA	**Warramunga Arr**	**32.01**	**256**	P	**P**	**08 09 27.8**	**-1.1**
	1.6nm,0.9s,mb3.8,baz=85,slow=8.7,SNR=5.7						
WRA				PcP	PcP	08 12 16.6	+1.5
	0.1nm,0.6s,baz=83,slow=3.1,SNR=5.3						
AS31	**Alice Springs**	**32.81**	**250**	*eP*	**P**	**08 09 35.3**	**-0.6**
ASAR	**Alice Springs**	**32.81**	**250**	P	**P**	**08 09 35.3**	**-0.6**
	4.1nm,0.6s,mb4.4,baz=78,slow=9.0,SNR=27						
ASAR				PcP	PcP	08 12 18.6	+1.2
	0.7nm,0.9s,baz=103,slow=1.9,SNR=4.7						
ASPA	**Alice Springs**	**32.82**	**250**	*eP*	**P**	**08 09 35.3**	**-0.7**
FORT	**Forrest**	**39.37**	**240**	*eP*	**P**	**08 10 31.4**	**-0.2**
	13nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**40.22**	**260**	P	**P**	**08 10 39.1**	**+0.4**
	1.3nm,0.6s,mb3.7,baz=71,slow=9.3,SNR=4.0						
VNDA	**Vanda**		**62.55**	**181**	P	**P**	**08 13 25.3**	**+0.5**
	1.6nm,0.6s,mb4.0,baz=5.2,slow=6.1,SNR=9.8						
VNDA	**Vanda**		**62.55**	**181**	P	**P**	**08 13 25.3**	**+0.5**
QSPA	**South Pole Qui**	**74.98**	**180**	*eP*	**P**	**08 14 41.7**	**+0.1**
	5.6nm,0.7s,mb4.3						
QSPA				*e*pP	pP	08 15 10.6	-7.8
SNAA	**Sanae**	**93.25**	**183**	*e*	**P**	**08 16 14.3**	**-0.1**
SNAA				*e*		08 16 18.0	
VNA3	**Neumayer Olymp**	**93.91**	**181**	*e*	**P**	**08 16 17.7**	**+0.3**
VNA3				*e*		08 16 21.5	
VNA2	**Neumayer--Watz**	**94.17**	**182**	*e*	**P**	**08 16 18.3**	**-0.3**
	baz=194,slow=5.8						
VNA2				*e*		08 16 22.1	
VNA2				*e*		08 16 25.6	
VNA2				*e*		08 16 29.7	
VNA2				*e*		08 16 35.8	
VNA2				*e*		08 16 44.3	
VNA1	**Neumayer--Stat**	**94.47**	**181**	*e*	**P**	**08 16 18.2**	**-1.8**
VNA1				*e*		08 16 21.4	
VNA1				*e*		08 16 25.9	
VNA1				*e*		08 16 31.1	
MKAR	**Makanchi Array**	**97.62**	**316**	P	**P**	**08 16 35.4**	**+1.2**
	0.7nm,0.7s,mb4.2,baz=85,slow=6.7,SNR=3.7						
ARCES	**ARCESS Array B**	**120.62**	**345**	PKP	PKPdf	08 21 50.8	0.0
	0.5nm,0.4s,baz=80,slow=3.0,SNR=6.5						
ARCES	**ARCESS Array B**	**120.62**	**345**	PKP	PKPdf	08 21 50.8	0.0

IDC 22 08:03:13.1±1.2, 2623N×6622E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.6/24, mbtmp3.8/8, Error ellipse: s-maj=27.9km s-min=27.0km az=152.0
NEIC 22 08:03:17.7±1.0, 2625N×6618E, h30km, Error ellipse: s-maj=20.7km s-min=18.9km az=158.0
ISCJB 22 08:03:18.0±3.1, 263N±01×667E±01, h50km±25km, mb3.7/8, Error ellipse: s-maj=24.0km s-min=16.2km az=27.3

ISC 22 08:03:19.8±2.5, 263N±01×666E±01, h48km±21km, n16, σ1°23/18, mb3.7/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRP	**Derazinda**	**6.29**	**30**	P	**Pn**	**08 04 46.5**	**-3.4**
SBDP	**Sheikh Budin**	**7.03**	**31**	P	**Pn**	**08 05 01.1**	**+1.0**
SBDP				S	**Sn**	**08 06 18.0**	**-0.7**
THW	**Thamme Wali**	**7.88**	**34**	P	**Pn**	**08 05 12.3**	**+0.5**
CEP	**Cherat**	**8.81**	**30**	P	**Pn**	**08 05 26.1**	**+1.6**
CHCP	**Chirah Chowk**	**9.35**	**37**	P	**Pn**	**08 05 32.2**	**+0.3**
NDI	**New Delhi**	**9.75**	**74**	*eP*	**Pn**	**08 05 34.0**	**-3.4**
NDI				*e*S	**Sn**	**08 07 24.0**	**-1.5**
MK31	**Makanchi Array**	**23.95**	**27**	*eP*	**P**	**08 08 31.2**	**+1.7**
MK31				*e*pP		08 08 38.8	
MKAR	**Makanchi Array**	**23.95**	**27**	P	**P**	**08 08 30.4**	**+0.9**
	2.4nm,0.7s,mb3.8,baz=217,slow=10,SNR=8.0						
AKTK	**Aktyubinsk**	**24.97**	**347**	P	**P**	**08 08 38.8**	**0.0**
AKTO	**Aktyubinsk**	**24.97**	**347**	P	**P**	**08 08 38.8**	**0.0**
	0.6nm,0.5s,mb3.4,baz=138,slow=7.3,SNR=3.3						
BVAR	**Borovoye Array**	**26.84**	**5**	P	**P**	**08 08 55.7**	**-0.1**
	0.3nm,0.3s,mb3.2,baz=172,slow=12,SNR=3.9						
SONM	**Songino Array**	**37.80**	**45**	P	**P**	**08 10 35.2**	**+3.7**
	0.7nm,0.5s,mb3.7,baz=248,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**44.39**	**334**	P	**P**	**08 11 24.1**	**-1.5**
	0.7nm,0.4s,mb3.7,baz=116,slow=8.7,SNR=7.1						
ARCES	**ARCESS Array B**	**49.41**	**342**	P	**P**	**08 12 03.5**	**-1.3**
	1.3nm,0.7s,mb4.1,baz=134,slow=7.0,SNR=9.2						
TORD	**Torodi Ar. Bea**	**61.90**	**271**	P	**P**	**08 13 33.3**	**-1.0**
	1.7nm,0.8s,mb4.2,baz=63,slow=6.5,SNR=11						
ASAR	**Alice Springs**	**81.89**	**121**	P	**P**	**08 15 35.4**	**+1.3**
	0.4nm,0.8s,mb3.4,baz=320,slow=5.3,SNR=3.7						

IDC 22 08:08:27.2±1.1, 4699N×15508E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, Error ellipse: s-maj=30.1km s-min=25.2km az=10.0
ISCJB 22 08:08:30.8±0.9, 4712N±009×1550E±02, h33km, mb3.9/10, Error ellipse: s-maj=23.1km s-min=11.0km az=40.5
MOS 22 08:08:31.3±0.5, 4709N×15497E, h40km, mb4.3/7, Error ellipse: s-maj=39.7km s-min=16.9km az=93.8

ISC 22 08:08:32.3±6.5, 471N±01×1551E±02, h32km±45km, n19, σ0°34/20, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.65**	**11**	*e*PN	**Pn**	**08 09 26.5**	**0.0**
SKR				*e*S	**Sn**	**08 10 08.0**	**-0.3**
SKR				smax			
	comp=N,130nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**08 17 07.6**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=60,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**08 17 07.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.84**	**37**	P	**P**	**08 17 22.3**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=294,slow=7.1,SNR=3.1						
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**08 17 36.0**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=59,slow=8.1,SNR=9.2						
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**08 17 36.0**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**08 18 21.6**	**+0.2**
	comp=Z,3.0nm,1.0s,mb4.3,baz=39,slow=7.4,SNR=3.1						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**08 18 21.6**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**08 18 21.6**	**+0.2**
AKTO	**Aktyubinsk**	**59.47**	**313**	P	**P**	**08 18 31.9**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=56,slow=5.4,SNR=7.9						
AKTO	**Aktyubinsk**	**59.47**	**313**	P	**P**	**08 18 31.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**08 19 04.5**	**+0.1**
	comp=Z,0.8nm,0.3s,mb4.2,baz=41,slow=6.1,SNR=7.3						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**08 19 04.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.31**	**342**	P	**P**	**08 19 31.1**	**+0.9**
	comp=Z,0.8nm,1.0s,mb3.7,baz=29,slow=4.6,SNR=2.4						
NOA	**NORSAR Array B**	**68.31**	**342**	P	**P**	**08 19 31.1**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.98**	**327**	P	**P**	**08 19 52.3**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=32,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**72.99**	**200**	P	**P**	**08 19 58.2**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=9.0,slow=5.9,SNR=5.0						
TXAR	**Lajitas Array**	**76.16**	**62**	P	**P**	**08 20 17.1**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=305,slow=4.9,SNR=36						
TXAR	**Lajitas Array**	**76.16**	**62**	P	**P**	**08 20 17.1**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

NEIC 22 08:18:23.9±0.4, 4328N×14757E, h10km, Error ellipse: s-maj=11.5km s-min=9.5km az=165.0
MOS 22 08:18:27.0±1.1, 4332N×14751E, h48km, mb4.5/9, Error ellipse: s-maj=17.9km s-min=11.6km az=127.7
ISCJB 22 08:18:28.7±1.1, 4330N±007×14740E±008, h60km±9km, mb4.1/17, Error ellipse: s-maj=12.0km s-min=8.9km az=102.1
JMA 22 08:18:28.2±0.2, 4327N×14741E, h31km, M4.5
IDC 22 08:18:32.4±3.7, 4334N×14741E, h75km±33km, mb3.8/16, mb1 4.0/17, mb1mx3.9/24, mbtmp3.8/17, MS3.0/1, Ms1 3.0/1, ms1mx1.9/42, Error ellipse: s-maj=18.3km s-min=16.8km az=153.0

ISC 22 08:18:29.8±1.1, 4332N±006×14741E±009, h54km±9km, n59, σ0°94/66, mb4.1/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.22**	**273**	P	**Pn**	**08 18 49.6**	**-0.9**
NEM2				*e*S	**Sn**	**08 19 05.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.33**	**303**	*e*PN	**Pn**	**08 18 50.5**	**-1.5**
YUK				*e*S	**Sn**	**08 19 07.0**	**-1.6**
JRA	**Rausu**	**1.77**	**291**	P	**Pn**	**08 18 57.8**	**-0.2**
JRA				*e*S	**Sn**	**08 19 20.0**	**+0.6**
JNK	**Nakash**	**1.98**	**279**	P	**Pn**	**08 19 00.4**	**-0.4**
JNK				*e*S	**Sn**	**08 19 24.1**	**-0.3**
JAK	**Akkeshi**	**2.01**	**262**	P	**Pn**	**08 19 00.9**	**-0.4**
JAK				*e*S	**Sn**	**08 19 25.2**	**-0.1**
JTKR	**Abashiri--Toko**	**2.62**	**286**	P	**Pn**	**08 19 10.5**	**+0.8**
JTKR				*e*S	**Sn**	**08 19 41.5**	**+1.3**
JOB	**Onbets**	**2.65**	**262**	*e*S	**Sn**	**08 19 40.5**	**-0.4**
JAR	**Ashorobuto**	**2.66**	**271**	P	**Pn**	**08 19 10.5**	**+0.4**
JAR				*e*S	**Sn**	**08 19 41.7**	**+0.6**
JMP	**Maruseppu**	**3.02**	**284**	P	**Pn**	**08 19 16.3**	**+1.2**
JCH	**Churui**	**3.05**	**258**	P	**Pn**	**08 19 15.2**	**-0.4**
JCH				*e*S	**Sn**	**08 19 49.1**	**-1.7**
ERM	**Erimo**	**3.40**	**249**	*e*Pn	**Pn**	**08 19 18.6**	**-1.6**
ERM				*e*Sn	**Sn**	**08 19 58.6**	**-0.7**
JKK2	**Kamakawa 2**	**3.43**	**281**	P	**Pn**	**08 19 22.3**	**+1.6**
JFR	**Furan**	**3.52**	**269**	P	**Pn**	**08 19 23.6**	**+1.6**
ASAJ	**Asahikawa**	**3.58**	**284**	P	**Pn**	**08 19 24.8**	**+2.0**
	6.6nm,0.3s,baz=88,slow=10,SNR=22						
ASAJ				LR	LR	08 20 59.6	
	comp=Z,243nm,21.4s,baz=306,slow=41						
ASAJ	**Asahikawa**	**3.58**	**284**	P	**Pn**	**08 19 24.9**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.58**	**255**	P	**Pn**	**08 19 22.9**	**+0.1**
JBT2	**Biratori 2**	**3.74**	**263**	P	**Pn**	**08 19 25.2**	**+0.3**
JSE	**Soyaes**	**3.84**	**297**	P	**Pn**	**08 19 27.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.90**	**319**	*e*PN	**Pn**	**08 19 40.5**	**-0.4**
ULN	**Ulaanbaatar**	**28.37**	**293**	*e*P	**P**	**08 24 19.5**	**+0.7**
SONM	**Songino Array**	**28.81**	**293**	P	**P**	**08 24 24.1**	**+1.3**
	3.8nm,0.7s,mb4.2,baz=84,slow=8.4,SNR=22						
SONM	**Songino Array**	**28.81**	**293**	P	**P**	**08 24 24.1**	**+1.4**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
IMA2	**Indian Mountai**	**38.93**	**34**	*e*P	**P**	**08 25 50.5**	**+0.2**
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**08 26 40.2**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.3,baz=79,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**08 26 40.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**08 26 40.2**	**+0.8**
INK	**Inuvik**	**46.68**	**30**	*e*P	**P**	**08 26 53.1**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=272,slow=6.0,SNR=10						
INK	**Inuvik**	**46.68**	**30**	*e*P	**P**	**08 26 51.8**	**-1.2**
BVAR	**Borovoye Array**	**49.92**	**310**	P	**P**	**08 27 18.5**	**+0.5**
	comp=Z,0.8nm,0.3s,mb4.2,baz=95,slow=9.7,SNR=7.5						
BVAR	**Borovoye Array**	**49.92**	**310**	P	**P**	**08 27 18.5**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**56.05**	**34**	P	**P**	**08 28 02.9**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=302,slow=7.2,SNR=7.8						
YKA	**Yellowknife Ar**	**56.05**	**34**	*i* P	**P**	**08 28 02.9**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**56.05**	**34**	P	**P**	**08 28 02.9**	**-0.3**
AKTK	**Aktyubinsk**	**57.96**	**311**	P	**P**	**08 28 16.7**	**0.0**
AKTO	**Aktyubinsk**	**57.96**	**311**	P	**P**	**08 28 16.7**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=84,slow=6.0,SNR=3.9						
AKTO	**Aktyubinsk**	**57.96**	**311**	P	**P**	**08 28 16.7**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KEV	**Kevo**	**59.18**	**340**	*e*p	**P**	**08 28 23.5**	**-1.6**
ARCES	**ARCESS Array B**	**59.71**	**340**	P	**P**	**08 28 27.9**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.4,baz=48,slow=7.2,SNR=15						
ARCES	**ARCESS Array B**	**59.71**	**340**	P	**P**	**08 28 27.9**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**64.09**	**194**	P	**P**	**08 28 57.9**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=12,slow=6.6,SNR=3.1						
FINES	**FINESS Array B**	**65.34**	**333**	P	**P**	**08 29 05.7**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.7,baz=44,slow=7.9,SNR=23						
FINES	**FINESS Array B**	**65.34**	**333**	*e*P	**P**	**08 29 05.7**	**-0.6**
FINES	**FINESS Array B**	**65.34**	**333**	P	**P**	**08 29 05.7**	**-0.6**
NVAR	**Mina Array Bea**	**67.65**	**58**	P	**P**	**08 29 22.1**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=289,slow=8.3						
ASAR	**Alice Springs**	**67.80**	**193**	P	**P**	**08 29 23.0**	**+0.9**
	comp=Z,0.3nm,0.8s,mb3.4,baz=2.6,slow=6.6,SNR=5.4						
PDAR	**Pinedale Array**	**70.04**	**50**	P	**P**	**08 29 36.0**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=6.0,SNR=7.7						
NB2	**NORSAR Subarra**	**70.07**	**339**	P	**P**	**08 29 35.6**	**-0.5**
	comp=Z,3.0nm,0.5s,mb4.5,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.07**	**339**	P	**P**	**08 29 35.9**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.6,baz=32,slow=6.2,SNR=17						
NOA	**NORSAR Array B**	**70.07**	**339**	P	**P**	**08 29 35.9**	**-0.2**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA	**NORSAR Array B**	**70.07**	**339**	P	**P**	**08 29 35.9**	**-0.2**
AKASG	**Malin Array Be**	**72.04**	**324**	P	**P**	**08 29 47.5**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.5,baz=38,slow=6.0,SNR=14						
AKASG	**Malin Array Be**	**72.04**	**324**	P	**P**	**08 29 47.5**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**72.04**	**324**	P	**P**	**08 29 47.5**	**-0.6**
SCHQ	**Schefferville**	**77.96**	**19**	P	**P**	**08 30 21.8**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=280,slow=8.3,SNR=2.2						
GERES	**GERESS Array B**	**79.62**	**331**	P	**P**	**08 30 28.4**	**-2.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=55,slow=3.7,SNR=3.2						
TXAR	**Lajitas Array**	**82.73**	**56**	P	**P**	**08 30 48.5**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=295,slow=3.7,SNR=24						
TXAR	**Lajitas Array**	**82.73**	**56**	P	**P**	**08 30 48.5**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**115.65**	**322**	PKP	PKPdf	08 37 05.7	-0.3
	comp=Z,0.2nm,0.4s,baz=16,slow=2.4,SNR=5.0						
PMSA	**Palmer Station**	**152.19**	**151**	*e*PKPab	PKPab	08 38 26.9	-2.3

KRSC 22 08:22:46.1±0.6, 5123N×15828E, h5km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.21**	**7**	*e*P	Pg	08 23 09.8	+0.4
RUS				*i* S	Sg	08 23 26.6	+1.5
RUS	**Russkaya**	**1.21**	**7**	*e*P	Pg	08 23 09.8	+0.4
RUS				*i* S	Sg	08 23 26.6	+1.5
GRL	**Gorelyy**	**1.33**	**355**	*e*P	Pn	08 23 11.8	+0.5
GRL				*i* S	Sg	08 23 29.9	+1.0
GRL	**Gorelyy**	**1.33**	**355**	*e*P	Pn	08 23 11.8	+0.5
GRL				*i* S	Sg	08 23 29.9	+1.0
PET	**Petropavlovsk**	**1.81**	**7**	P	Pn	08 23 19.0	+1.1
PET				*i* S	Sn	08 23 42.6	+1.3
PET	**Petropavlovsk**	**1.81**	**7**	P	Pn	08 23 19.0	+1.1
PET				*i* S	Sn	08 23 42.6	+1.3
NLC	**Nalytchevo**	**2.05**	**18**	P	Pn	08 23 22.0	+0.8
NLC				*i* S	Sn	08 23 47.9	+0.7
NLC	**Nalytchevo**	**2.05**	**18**	P	Pn	08 23 22.0	+0.8
NLC				*i* S	Sn	08 23 47.9	+0.7
SDLR	**Sedlovina**	**2.08**	**10**	*e*P	Pn	08 23 22.6	+0.9
SDLR				*i* S	Sn	08 23 48.9	+0.9
SDLR	**Sedlovina**	**2.08**	**10**	*e*P	Pn	08 23 22.6	+0.9
SDLR				*i* S	Sn	08 23 48.9	+0.9
SPN	**Mys Shipunski**	**2.16**	**29**	P	Pn	08 23 24.2	+1.5
SPN				*i* S	Sn	08 23 51.3	+1.5
SPN	**Mys Shipunski**	**2.16**	**29**	P	Pn	08 23 24.2	+1.5
SPN				*i* S	Sn	08 23 51.3	+1.5
GNL	**Ganaly**	**2.48**	**355**	*e*P	Pn	08 23 28.3	+1.2
GNL				*i* S	Sn	08 24 00.0	+2.3
GNL	**Ganaly**	**2.48**	**355**	*e*P	Pn	08 23 28.3	+1.2
GNL				*i* S	Sn	08 24 00.0	+2.3
MKZ	**Mys Kozlova**	**3.93**	**31**	P	Pn	08 23 48.4	+1.3
MKZ				*i* S	Sn	08 24 34.9	+1.3
MKZ	**Mys Kozlova**	**3.93**	**31**	P	Pn	08 23 48.4	+1.3
MKZ				*i* S	Sn	08 24 34.9	+1.3
KBTR	**Krutoberegovo**	**5.67**	**27**	P	Pn	08 24 12.7	+1.8
KBTR	**Krutoberegovo**	**5.67**	**27**	P	Pn	08 24 12.7	+1.8

IDC 22 08:42:43.2±26.0, 2217S×17356W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.1/15, mbtmp4.5/4, 3D, Error ellipse: s-maj=480.2km s-min=137.2km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.47**	**266**	*i*P	P	08 49 58.9	+0.5
	5.5nm,0.3s						
CTA	**Charters Tower**	**37.47**	**266**	P	P	08 49 59.1	+0.7
	8.2nm,0.4s,baz=99,slow=11,SNR=15						
STKA	**Stephens Creek**	**40.86**	**247**	*i*P	P	08 50 27.3	+0.6

THZ	**Tophouse**	**3.52 238**	*e*P		Pn	08 50 34.4	-2.1
DSZ	**Denniston Nort**	**4.25 244**	*e*P		Pn	08 50 44.8	-1.7
WCZ	**Waipu Caves**	**4.49 333**	*e*P		Pn	08 50 49.8	0.0

IDC 22 08:50:05.9±34.0, 4792N×15347E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/22, mbtmp4.0/4, Error ellipse: s-maj=1087.0km s-min=45.2km az=24.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**63.09 335**		P	P	09 00 34.0	-1.1
	3.5nm,1.0s,baz=38,slow=7.0,SNR=3.7						
NOA	**NORSAR Array B**	**67.20 341**		P	P	09 01 01.3	-0.6
	0.5nm,0.5s,baz=30,slow=6.5,SNR=3.0						
HFS	**Hagfors**	**67.45 340**		P	P	09 01 03.4	0.0
	2.3nm,0.7s,baz=36,slow=7.5,SNR=3.7						
TXAR	**Lajitas Array**	**76.71 61**		P	P	09 01 59.0	+0.2
	0.1nm,0.5s,baz=297,slow=5.0,SNR=5.8						

MEX 22 08:59:11.7±0.4, 1685N×9877W, h70km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.76 126**		*i* P	Pn	08 59 26.2	-1.1
PNIG				*i* S	Sn	08 59 37.3	-1.6
ACX	**Acapulco**	**1.10 271**		*i* P	Pn	08 59 30.0	-1.5
ACX				*i* S	Sn	08 59 44.5	-1.8
UTMO	**Huajuapan**	**1.34 43**		*i* P	Pn	08 59 33.6	-1.0
UTMO				*i* S	Sn	08 59 50.1	-1.6
MEIG	**Mezcala**	**1.35 323**		*i* P	Pn	08 59 33.3	-1.3
MEIG				*i* S	Sn	08 59 50.9	-0.9
CAIG	**El Cayaco**	**1.45 278**		*i* P	Pn	08 59 35.0	-1.1
CAIG				*i* S	Sn	08 59 52.7	-1.6

IDC 22 09:00:15.2±2.4, 5233N×3546E, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.5/20, mbtmp3.7/5, ML3.2/4, Error ellipse: s-maj=28.2km s-min=11.9km az=114.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.22 250**		Pn	Pn	09 01 18.8	-2.0
	1.4nm,0.3s,baz=63,slow=15,SNR=6.5						
AKASG				Pg	Pg	09 01 30.0	-6.2
	2.2nm,0.3s,baz=60,slow=16,SNR=7.1						
AKASG				Sn	Sn	09 02 09.1	-1.7
	2.1nm,0.3s,baz=61,slow=21,SNR=4.5						
AKASG				Lg		09 02 25.7	
	4.1nm,0.3s,baz=64,slow=29,SNR=7.9						
FINES	**FINESS Array B**	**10.47 334**		Pn	Pn	09 02 42.1	-4.4
	0.2nm,0.3s,baz=144,slow=12,SNR=7.4						
FINES				Sn	Sn	09 04 32.6	-12
	0.3nm,0.3s,baz=151,slow=24,SNR=5.5						
HFS	**Hagfors**	**14.35 312**		Pn	Pn	09 03 31.9	-7.7
	0.2nm,0.3s,baz=110,slow=12,SNR=3.4						
NOA	**NORSAR Array B**	**15.83 113**		Pn	Pn	09 03 51.3	-8.2
	0.2nm,0.3s,baz=113,slow=13,SNR=3.3						
ARCES	**ARCESS Array B**	**17.88 349**		P	Pn	09 04 24.5	-0.8
	0.8nm,0.3s,baz=156,slow=12,SNR=24						
TORD	**Torodi Ar. Bea**	**47.51 227**		P	P	09 08 50.6	-1.5
	0.7nm,1.0s,baz=22,slow=8.6,SNR=3.1						

*BJI **22** 09:18:50.8, 4605N×13924E, h12km, mB4.9, mb4.7*
*IDC **22** 09:18:51.0±0.7, 3835N×14006E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.6/18, mbtmp4.6/16, ML4.0/2, MS4.1/11, Ms1 4.0/11, ms1mx3.8/23, Error ellipse: s-maj=23.4km s-min=14.1km az=68.0*
*NEIC **22** 09:18:52.8±0.6, 3865N×13997E, h10km, mb4.6/5, Error ellipse: s-maj=15.1km s-min=9.5km az=75.0*
*ISCJB **22** 09:18:54.1±0.4, 3935S×10508E±008, h35km, mb4.6/20, MS4.0/8, Error ellipse: s-maj=11.8km s-min=6.9km az=156.5*

ISC 22 09:18:56.5±0.4, 3965S×10507E±008, h35km, n49, σ1§16/46, mb4.6/20, MS4.0/8, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.88 128**		Pn	**Pn**	**09 21 00.1**	**-2.2**
	4.4nm,0.3s,baz=325,slow=9.3,SNR=13						
PMG				Sn	**Sn**	**09 22 30.9**	**-10**
	2.0nm,0.3s,baz=33,slow=9.9,SNR=1.5						
PMG				Lg		09 23 35.8	
	0.1nm,0.3s,baz=195,slow=21,SNR=1.6						
PMG	**Port Moresby**	**8.88 128**		*e*Pn	**Pn**	**09 21 02.5**	**+0.3**
	100nm,1.0s						
KAKA	**Kakadu**	**11.51 220**		*e*P	**Pn**	**09 21 37.7**	**-0.6**
	137nm,0.5s						
WB2	**Warramunga Arr**	**16.84 199**		*e*P	**Pn**	**09 22 46.8**	**-2.6**
WRA	**Warramunga Arr**	**16.84 199**		Pn	**Pn**	**09 22 47.0**	**-2.5**
	2.1nm,0.3s,baz=17,slow=13,SNR=64						
WRA				Sn	**Sn**	**09 25 49.7**	**-5.8**
	1.5nm,0.3s,baz=11,slow=22,SNR=4.6						
WRA				Lg		09 27 42.1	
	baz=18,slow=25,SNR=3.1						
WRA				LR	LR	09 29 47.7	
	comp=Z,829nm,18.9s,baz=20,slow=39						
CTA	**Charters Tower**	**17.13 160**		*e*P	**Pn**	**09 22 55.0**	**+1.9**
	21nm,0.8s						
CTA	**Charters Tower**	**17.13 160**		P	**Pn**	**09 22 52.5**	**-0.5**
	0.6nm,0.3s,baz=335,slow=14,SNR=12						
CTA				Lg		09 27 54.5	
	0.7nm,0.3s,baz=67,slow=24,SNR=4.3						
CTAO	**Charters Tower**	**17.13 160**		*e*P	**Pn**	**09 22 55.2**	**+2.1**
	20nm,0.7s						
GUMO	**Guam**	**18.07 15**		LR	LR	09 28 57.7	
	comp=Z,350nm,19.1s,baz=69,slow=34						
FITZ	**Fitzroy Crossi**	**19.93 224**		*i*P	**Pn**	**09 23 25.5**	**-1.6**
	91nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.93 224**		P	**Pn**	**09 23 26.0**	**-1.1**
	53nm,0.8s,baz=44,slow=11,SNR=85						
FITZ				S	**S**	**09 26 58.2**	**-9.3**
	16nm,0.7s,baz=121,slow=12,SNR=3.7						
FITZ				Lg		09 29 23.0	
	27nm,0.9s,baz=132,slow=21,SNR=3.0						
FITZ				LR	LR	09 31 47.0	
	comp=Z,637nm,20.1s,baz=46,slow=39						
HNR	**Honiara**	**20.47 106**		P	**P**	**09 23 30.5**	**-0.6**
	132nm,0.9s,baz=116,slow=0.8,SNR=5.8						
AS31	**Alice Springs**	**20.48 196**		*e*P	**P**	**09 23 32.7**	**+1.5**
ASAR	**Alice Springs**	**20.48 196**		P	**P**	**09 23 33.2**	**+2.1**
	106nm,0.7s,baz=30,slow=9.6,SNR=570						
ASAR				S	**S**	**09 27 15.0**	**-3.5**
	5.6nm,0.8s,baz=12,slow=26,SNR=2.8						
ASAR				Lg		09 29 41.9	
	10nm,0.9s,baz=16,slow=24,SNR=2.6						
ASAR				LR	LR	09 31 53.8	
	comp=Z,563nm,21.1s,MS3.9,baz=20,slow=38						
ASAR	**Alice Springs**	**20.48 196**		P	**P**	**09 23 33.2**	**+2.1**
ASAR				S	**S**	**09 27 15.0**	**-3.5**
ASAR				Lg		09 29 41.9	
ASAR				LR	LR	09 31 53.8	
ASPA	**Alice Springs**	**20.48 196**		*e*P	**P**	**09 23 32.7**	**+1.5**
MBWA	**Marble Bar**	**26.14 227**		*e*P	**P**	**09 24 29.1**	**+1.8**
	11nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**27.81 177**		*e*P	**P**	**09 24 50.7**	**+8.4**
	7.3nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**27.81 177**		P	**P**	**09 24 42.8**	**+0.5**
	2.2nm,0.7s,mb3.9,baz=329,slow=18,SNR=4.5						
STKA				Lg		09 33 47.3	
	4.6nm,0.9s,baz=237,slow=22,SNR=1.9						
STKA				LR	LR	09 36 01.5	
	comp=Z,220nm,21.2s,MS3.7,baz=171,slow=37						
STKA	**Stephens Creek**	**27.81 177**		*e*P	**P**	**09 24 43.2**	**+0.9**
JOW	**Kunigami**	**32.67 340**		LR	LR	09 36 14.1	
	comp=Z,145nm,21.9s,MS3.6,baz=262,slow=32						
NWAO	**Narrogin (SRO)**	**35.87 214**		P	**P**	**09 25 53.1**	**+0.1**
	4.7nm,0.8s,mb4.5,baz=6.3,slow=9.2,SNR=2.5						
MJAR	**Matsushiro Arr**	**40.33 358**		LR	LR	09 40 03.6	
	comp=Z,139nm,19.9s,MS3.8,baz=190,slow=32						
PSI	**Prapat**	**41.67 279**		P	**P**	**09 26 41.4**	**-0.2**
	7.0nm,0.6s,mb4.5,baz=117,slow=4.5,SNR=9.6						
KSRS	**Korea Array**	**42.72 346**		P	**P**	**09 26 49.5**	**-0.7**
	0.7nm,0.5s,mb3.7,baz=153,slow=9.3,SNR=4.1						
XAN	**Xi'an**	**47.87 325**		P	**P**	**09 27 36.1**	**+5.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
RPZ	**Rata Peaks**	**48.13 150**		P	**P**	**09 27 34.2**	**+1.2**
	comp=Z,22nm,1.2s,mb5.1,baz=319,slow=8.5,SNR=2.2						
LZH	**Lanzhou**	**52.29 323**		*e*P	**P**	**09 28 05.0**	**+0.5**
LZH				AP	pP	09 28 08.0	-7.0
LZH					AMB	AMB	
	comp=Z,13nm,1.0s,mb4.8						
LZH	**Lanzhou**	**52.29 323**		*e*P	**P**	**09 28 05.0**	**+0.5**
	comp=Z,13nm,1.0s,mb4.8						
LZH				pP	pP	09 28 08.0	-7.0
LZH				sP	sP	09 28 09.0	-10
GTA	**Gaotai**	**56.88 323**		*e*P	**P**	**09 28 38.0**	**+0.2**
GTA				AP	pP	09 28 41.4	-7.0
GTA				XP	sP	09 28 44.3	-8.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
SONM	**Songino Array**	**59.42 334**		P	**P**	**09 28 55.2**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=147,slow=8.2,SNR=3.8						
SONM				LR	LR	09 56 16.2	
	comp=Z,123nm,19.2s,MS4.0,baz=345,slow=38						
JIRN	**Jiri**	**60.66 305**		*e*P	**P**	**09 29 04.8**	**+0.7**
	comp=Z,17nm,0.8s,mb5.2						
GUN	**Gumba**	**61.01 305**		*e*P	**P**	**09 29 06.9**	**+0.5**
KKN	**Kakani**	**61.46 305**		*e*P	**P**	**09 29 09.9**	**+0.4**
	comp=Z,34nm,0.9s,mb5.5						
DMN	**Daman**	**61.53 304**		*e*P	**P**	**09 29 10.5**	**+0.5**
	comp=Z,19nm,0.7s,mb5.3						
GKN	**Gorkha**	**62.07 304**		*e*P	**P**	**09 29 14.1**	**+0.5**
	comp=Z,55nm,1.1s,mb5.6						
KOLN	**Koldanda**	**62.84 304**		*e*P	**P**	**09 29 18.9**	**+0.2**
	comp=Z,16nm,0.8s,mb5.2						
PPT	**Papeete**	**70.09 107**		*e*S	S	09 39 13.5	0.0
	comp=Z,56nm,28.0s						
PPT				*e*LR	LR	09 52 14.4	
	comp=Z,330nm,30.2s						
PPT	**Papeete**	**70.09 107**		LR	LR	09 55 53.7	
	comp=Z,184nm,20.1s,MS4.3,baz=265,slow=32						
MK31	**Makanchi Array**	**71.60 322**		*e*P	**P**	**09 30 13.9**	**-0.3**
MKAR	**Makanchi Array**	**71.60 322**		P	**P**	**09 30 13.8**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.3,baz=98,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**71.60 322**		P	**P**	**09 30 13.8**	**-0.4**
ZAL	**Zalesovo**	**73.70 330**		P	**P**	**09 30 24.4**	**-2.4**
	comp=Z,1.4nm,0.3s,mb4.3,baz=283,slow=3.8,SNR=3.6						
VNDA	**Vanda**	**74.43 175**		P	**P**	**09 30 31.1**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=350,slow=7.4,SNR=3.6						
VNDA				LR	LR	09 59 55.9	
	comp=Z,163nm,20.2s,MS4.3,baz=351,slow=33						
BVAR	**Borovoye Array**	**81.11 325**		P	**P**	**09 31 07.4**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.3,baz=111,slow=8.1,SNR=9.1						
MAW	**Mawson**	**81.49 202**		P	**P**	**09 31 10.2**	**+0.1**
	comp=Z,2.0nm,1.0s,mb4.0,baz=252,slow=20,SNR=2.1						
MAW				LR	LR	10 06 13.1	
	comp=Z,190nm,18.7s,MS4.5,baz=63,slow=35						
TORD	**Torodi Ar. Bea**	**137.90 285**		PKP	PKPdf	09 38 16.3	-1.0
	comp=Z,0.6nm,0.8s,baz=62,slow=3.3,SNR=3.6						
LPAZ	**La Paz**	**145.61 127**		PKPbc	PKPbc	09 38 34.5	+3.2
	comp=Z,5.3nm,0.7s,baz=226,slow=2.3,SNR=22						
LPAZ	**La Paz**	**145.61 127**		*e*PKPdf	PKPdf	09 38 34.0	+3.0

*NIED **22** 09:52:00, 2940N×14070E, h8km, Mw4.1 Best double couple: M0 1.73000×10^15 NP1:φs219.00000°, δ89.00000°, λ-117.00000°. NP2:φs127.00000°, δ27.00000°, λ-2.00000°.*

IDC 22 09:52:43.6±2.8, 2921N×14048E, h41km±25km, mb3.8/5, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, ML4.8/1, MS3.4/1, Ms1 3.4/1, ms1mx1.9/36, Error ellipse: s-maj=33.8km s-min=15.2km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.59 144**		P	Pn	09 53 23.1	+0.1
	198nm,0.3s,baz=8.1,slow=4.9,SNR=90						
CBIJ				S	Sn	09 53 53.5	+0.3
	77nm,0.3s,baz=277,slow=23,SNR=17						
MJAR	**Matsushiro Arr**	**7.56 346**		P	Pn	09 54 31.6	+0.4
	0.1nm,0.3s,baz=145,slow=16,SNR=2.7						
JOW	**Kunigami**	**11.04 261**		LR	LR	09 58 53.0	
	comp=Z,177nm,20.1s,baz=140,slow=34						
WRA	**Warramunga Arr**	**49.22 188**		P	P	10 01 28.4	+0.6
	2.0nm,0.6s,baz=4.1,slow=7.7,SNR=43						
ASAR	**Alice Springs**	**52.95 188**		P	P	10 01 55.2	-0.6
	0.8nm,0.8s,baz=5.9,slow=6.0,SNR=8.4						
YKA	**Yellowknife Ar**	**71.01 28**		P	P	10 03 55.9	-1.2
	0.7nm,0.7s,baz=288,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**75.39 333**		P	P	10 04 22.4	-0.6
	2.1nm,0.9s,baz=61,slow=9.7,SNR=3.5						
TXAR	**Lajitas Array**	**95.53 52**		P	P	10 06 05.2	+0.9
	0.5nm,0.7s,baz=318,slow=2.0,SNR=6.7						
LPAZ	**La Paz**	**150.74 70**		PKPbc	PKPbc	10 12 33.3	+1.9
	2.1nm,0.8s,baz=337,slow=2.9,SNR=9.8						

*SKHL **22** 09:58:39.8±0.7, 4722N×155.18E, h49km±18km, Ms4.9/3, msh5.2/1*
*ISCJB **22** 09:58:43.9±1.2, 4772N×10504×15458E±003, h13km±7km, mb4.8/91, MS4.2/39, Error ellipse: s-maj=6.7km s-min=2.9km az=148.5*
*NEIC **22** 09:58:45.3±0.2, 4774N×15452E, h10km, mb5.0/45, Error ellipse: s-maj=5.5km s-min=3.1km az=159.0*
*GCMT **22** 09:58:45.3±0.3, 4767N×15474E, h17km±1km, MW4.9/66, Moment Tensor Solution. s19,c28; s66,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.48±.15; Mθθ0.78±.09; Mφφ1.70±.10; Mrθ-0.34±.24; Mθφ1.11±.05; Mφr0.07±.23; Best double couple: M0 2.48500×10^16 NP1:φs207.00000°, δ44.00000°, λ-100.00000°. NP2: φs41.00000°, δ47.00000°, λ-80.00000°. Principal axes: T 2.4460, Plg2.0000°, Azm124.0000°; N 0.0800, Plg7.0000°, Azm214.0000°; P -2.5240, Plg83.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **22** 09:58:46.4, 4745N×15404E, h10km, mB4.9, mb4.4, Ms4.7, Msz4.5*
*MOS **22** 09:58:48.7±0.9, 4773N×15446E, h49km, mb4.9/37, MS4.1/17, Error ellipse: s-maj=9.6km s-min=7.2km az=78.4*
*IDC **22** 09:58:50.7±3.5, 4771N×15450E, h53km±32km, mb4.2/22, mb1 4.3/23, mb1mx4.3/27, mbtmp4.2/23, ML4.4/1, MS4.0/23, Ms1 4.0/23, ms1mx3.7/45, Error ellipse: s-maj=15.9km s-min=12.1km az=137.0*

ISC 22 09:58:49.4±0.6, 4777N±004×15455E±003, h38km±5km, h26km±3.6km: pP-P, n374, σ0§73/375, mb4.8/91, MS4.2/39, 54C-60D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.10 19**		*e*P	**Pn**	**09 59 34.5**	**-1.2**
SKR				AMB	AMB	09 59 38.0	
	90nm,0.5s						
SKR				AMB	AMB	09 59 38.0	
	360nm,0.9s						
SKR	**Severo-Kuril's**	**3.10 19**		*e*PN	**Pn**	**09 59 34.5**	**-1.2**
SKR				*e*S	**Sn**	**10 00 19.5**	**+8.0**
SKR				pmax	pmax		
	comp=Z,360nm,0.9s						
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				smax			
	comp=E,6μm,6.0s						
SKR				smax			
	comp=N,660nm,0.9s						
SKR				MLR	MLR		
	comp=N,5μm,12.0s						
SKR				MLR	MLR		
	comp=E,10μm,12.0s						
KUR	**Kuril'sk**	**5.26 244**		*e*P	**Pn**	**10 00 00.5**	**-5.0**
KUR				AMB	AMB	10 00 05.6	
	comp=E,106nm,0.6s						
KUR				AMB	AMB	10 00 05.6	
	comp=E,266nm,0.6s						
KUR				*e*S	**Sn**	**10 01 00.5**	**-4.4**
KUR				A		10 01 16.0	
	comp=E,537nm,0.8s						
KUR				A		10 01 16.0	
	comp=E,376nm,0.8s						
KUR				AMS	AMS	10 02 31.0	
	comp=E,6μm,14.0s						
KUR				AMS	AMS	10 02 31.0	
	comp=E,10μm,14.0s						
KUR				AMS	AMS	10 02 31.0	
	comp=E,8μm,14.0s						
PET	**Petropavlovsk**	**5.88 25**		*e*PN	**Pn**	**10 00 12.5**	**-1.5**
PET				pmax	pmax		
	comp=Z,56nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**5.88 25**		*e*Pn	**Pn**	**10 00 13.2**	**-0.8**
	comp=Z,84nm,0.9s						
PET				*e*Sn	**Sn**	**10 01 20.8**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**7.12 242**		*e*P	**Pn**	**10 00 29.7**	**-1.2**
YUK				*e*S	**Sn**	**10 01 52.7**	**+2.2**
YUK				A		10 01 57.1	
	comp=Z,170nm,0.5s						
YUK				A		10 01 57.1	
	comp=Z,190nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.12 242**		*e*PN	**Pn**	**10 00 29.7**	**-1.2**
YUK				*e*S	**Sn**	**10 01 52.7**	**+2.2**
YUK				smax			
	comp=E,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.05 269**		*i*P	**Pn**	**10 00 44.8**	**+1.1**
YSS				AMB	AMB	10 00 46.4	
	comp=E,30nm,0.7s						
YSS				*e*LQ		10 02 34.0	
YSS				AMS	AMS	10 03 58.0	
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.05 269**		*i*PN	**Pn**	**10 00 44.8**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.05 269**		*e*Pn	**Pn**	**10 00 43.1**	**-0.6**
	comp=Z,42nm,0.6s						
TYV	**Tymovskoe**	**8.37 296**		*e*P	**Pn**	**10 00 49.8**	**+1.7**
TYV				AMB	AMB	10 00 53.0	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	10 00 53.0	
	comp=Z,26nm,0.8s						
TYV				*e*S	**Sn**	**10 02 23.2**	**+2.0**
TYV				A		10 02 30.8	
	comp=Z,53nm,1.0s						
TYV				AMS	AMS	10 04 35.0	
	comp=Z,3μm,16.0s						
TYV				AMS	AMS	10 04 35.0	
	comp=Z,4μm,16.0s						
TYV				AMS	AMS	10 04 35.0	
	comp=Z,3μm,14.0s						
UGL	**Uglegorsk**	**8.41 284**		*e*P	**Pn**	**10 00 53.0**	**+4.4**
UGL				*e*rx	rx	10 01 06.8	
ASAJ	**Asahikawa**	**9.09 251**		P	**Pn**	**10 00 59.3**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=77,slow=18,SNR=18						
ASAJ				LR	LR	10 04 07.7	
	comp=Z,1μm,20.7s,baz=47,slow=35						
ERM	**Erimo**	**9.91 239**		*e*PN	**Pn**	**10 01 08.8**	**-0.5**
ERM				pmax	pmax		
	comp=Z,147nm,1.2s						
ERM	**Erimo**	**9.91 239**		*e*Pn	**Pn**	**10 01 08.8**	**-0.5**
	comp=Z,147nm,1.2s						
ERM				*e*Sn	**Sn**	**10 02 59.9**	**+0.6**
NKL	**Nikolayevsk**	**10.35 307**		*e*L		10 05 04.0	
NKL				AMS	AMS	10 06 22.0	
	comp=Z,1μm,14.0s						
NKL				AMS	AMS	10 06 22.0	
	comp=Z,2μm,14.0s						
MAJO	**Matsushiro**	**16.47 233**		*e*P	**Pn**	**10 02 37.9**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**16.47 233**		Pn	**Pn**	**10 02 32.0**	**-5.6**
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**16.47 233**		P	**Pn**	**10 02 36.3**	**-1.2**
MDJ	**Mudanjiang**	**17.54 269**		P	**Pn**	**10 02 48.8**	**-2.1**
MDJ				S	**S**	**10 06 02.1**	**-10**
MDJ				AMB	AMB		
	comp=Z,11nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,158nm,5.4s						
MDJ				LR	LR		
	comp=N,596nm,19.5s						
MDJ				LR	LR		
	comp=E,284nm,29.8s						
MDJ				LR	LR		
	comp=Z,415nm,31.5s						
YAK	**Yakutsk**	**20.02 325**		*e*P	**P**	**10 03 25.6**	**+6.7**
YAK				*e*		10 03 44.0	
YAK				pmax	pmax		
	comp=Z,37nm,1.0s						
YAK				pmax	pmax		
	comp=N,28nm,1.3s						
YAK				pmax	pmax		
	comp=E,34nm,1.3s						
YAK				MLR	MLR		
	comp=Z,544nm,11.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,394nm,14.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,275nm,12.0s,MS4.0						
CLNS	**Chul'man**	**20.13 308**		*e*P	**P**	**10 03 24.6**	**+4.5**
CLNS				*e*		10 03 39.0	
CLNS				*e*PPP		10 03 46.5	
CLNS				*e*S	**S**	**10 07 02.5**	**-1.5**
CLNS				*e*SS		10 07 28.3	
CLNS				*e*		10 07 38.8	
CLNS				pmax	pmax		
	comp=Z,21nm,1.1s						
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				pmax	pmax		
	comp=E,14nm,1.0s						
CLNS				smax			
	comp=N,10.0nm,1.0s						
CLNS				smax			
	comp=Z,5.0nm,0.9s						
CLNS				smax			
	comp=E,9.0nm,1.0s						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=Z,800nm,13.0s,MS4.2						
CN2	**Changchun**	**20.62 270**		*e*P	**P**	**10 03 23.6**	**-1.7**
CN2				*e*XP	sP	10 03 30.3	-10
CN2				*e*S	**S**	**10 07 08.1**	**-5.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS4.5						
CN2				LR	LR		
	comp=E,600nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=Z,800nm,14.0s,MS4.2						
BILL	**Bilibino**	**21.19 12**		*e*P	**P**	**10 03 32.4**	**+1.0**
BILL				*e*		10 03 47.4	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb3.9						
BILL				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.1						
BILL	**Bilibino**	**21.19 12**		P	**P**	**10 03 30.7**	**-0.8**
	comp=Z,15nm,0.9s,mb4.3						
KSRS	**Korea Array**	**22.04 252**		P	**P**	**10 03 40.4**	**-0.2**
	comp=Z,7.3nm,0.5s,mb4.4,baz=59,slow=10,SNR=37						
KSRS				LR	LR	10 10 55.4	
	comp=Z,466nm,20.6s,MS3.9,baz=57,slow=33						
JNU	**Nakatsue**	**23.08 239**		P	**P**	**10 03 52.5**	**+0.9**
	comp=Z,14nm,0.7s,mb4.5,baz=213,slow=19,SNR=3.4						
JNU				LR	LR	10 12 55.3	
	comp=Z,2μm,18.3s,MS4.5,baz=269,slow=37						
TIXI	**Tiksi**	**26.

BJI LR LR
comp=Z,460nm,16.1s,MS4.2
HHC Hu-ho-hao-te 31.20 273 *e*P **P 10 05 05.9 +1.0**
HHC XP sP 10 05 12.9 -7.4
HHC PP PP 10 06 08.3 -7.4
HHC PCP PcP 10 08 00.8 +1.8
HHC S **S 10 10 11.8 +3.3**
HHC XS sS 10 10 17.8 -8.5
HHC SCP ScP 10 11 42.3 +3.4
HHC AMB AMB
comp=Z,9.0nm,1.4s,mb4.4
HHC AMB AMB
comp=Z,230nm,4.8s
HHC LR LR
comp=N,722nm,14.2s,MS4.6
HHC LR LR
comp=E,656nm,14.1s,MS4.6
HHC LR LR
comp=Z,758nm,13.9s,MS4.5
NJ2 Nanjing 31.23 253 *e*P **P 10 05 05.8 +0.7**
NJ2 AP pP 10 05 09.1 -6.8
NJ2 XP sP 10 05 12.3 -8.2
NJ2 PP PP 10 06 07.9 -8.1
NJ2 S **S 10 10 10.5 +1.6**
NJ2 XS sS 10 10 18.5 -8.2
NJ2 AMB AMB
comp=Z,420nm,4.4s
NJ2 LR LR
comp=N,960nm,13.8s,MS4.7
NJ2 LR LR
comp=E,430nm,12.7s,MS4.7
NJ2 LR LR
comp=Z,670nm,13.6s,MS4.5
ULN Ulaanbaatar 31.50 288 *e*P **P 10 05 07.1 -0.4**
SONM Songino Array 31.93 288 P **P 10 05 10.8 -0.5**
comp=Z,0.5nm,0.5s,baz=55,slow=9.3,SNR=5.0
SONM PcP PcP 10 08 00.6 -0.3
comp=Z,1.0nm,0.6s,baz=113,slow=2.6,SNR=4.7
SONM LR LR 10 17 42.1
comp=Z,214nm,18.9s,MS3.9,baz=264,slow=35
IMA2 Indian Mountai 32.41 37 *e*P **P 10 05 15.6 +0.1**
KDAK Kodiak Island 32.71 52 P **P 10 05 16.6 -1.5**
comp=Z,13nm,0.9s,mb4.8,baz=5.5,slow=11,SNR=4.8
MCK McKinley 34.24 41 *e*P **P 10 05 31.1 -0.4**
MCK pmax pmax
comp=Z,15nm,1.3s,mb4.8
MCK McKinley 34.24 41 *e*P **P 10 05 31.1 -0.4**
comp=Z,15nm,1.3s,mb4.8
SML Sawmill 34.56 45 P **P 10 05 34.0 -0.2**
SML Sawmill 34.56 45 *e*P **P 10 05 33.9 -0.3**
COLA College 34.73 39 P **P 10 05 35.9 +0.2**
COLA pmax pmax
comp=Z,40nm,1.2s,mb5.2
COLA College 34.73 39 *e*P **P 10 05 35.8 0.0**
comp=Z,40nm,1.2s,mb5.2
XAN Xi'an 36.58 265 P **P 10 05 50.8 -0.7**
XAN S **S 10 11 22.4 -9.1**
XAN AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
XAN LR LR
comp=N,394nm,13.4s,MS4.5
XAN LR LR
comp=E,410nm,14.2s,MS4.5
XAN LR LR
comp=Z,582nm,14.4s,MS4.5
EGAK Eagle 37.60 39 *e*P **P 10 05 59.6 -0.6**
comp=Z,7.0nm,0.4s,mb4.7
DAWY Dawson 38.43 40 *e*P **P 10 06 07.1 -0.2**
LZH Lanzhou 38.84 272 *e*P **P 10 06 11.5 +0.9**
LZH AP pP 10 06 14.0 -7.5
LZH XP sP 10 06 16.0 -10
LZH PCP PcP 10 08 23.9 +2.7
LZH *e*S **S 10 12 12.0 +6.2**
LZH XS sS 10 12 20.0 -3.8
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,67nm,4.1s
LZH LR LR
comp=N,887nm,15.4s
LZH LR LR
comp=Z,1μm,16.2s,MS4.9
LZH Lanzhou 38.84 272 *e*P **P 10 06 11.5 +0.9**
LZH 10 07 48.3
LZH 10 08 23.9
LZH *e*S **S 10 12 12.0 +6.2**
LZH SS SS 10 14 54.0 -3.8
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH MLR MLR
comp=Z,1μm,16.2s,MS4.9
LZH Lanzhou 38.84 272 *e*P **P 10 06 11.5 +0.9**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 10 06 14.0 -7.5
LZH sP sP 10 06 16.0 -10
LZH PP PP 10 07 48.3 +8.3
LZH PcP PcP 10 08 23.9 +2.7
LZH *e*S **S 10 12 12.0 +6.2**
LZH sS sS 10 12 20.0 -3.8
LZH SS SS 10 14 54.0 -3.8
LZH LR LR
comp=Z,1μm,16.2s,MS4.9
GTA Gaotai 39.78 279 *e*P **P 10 06 18.3 -0.2**
GTA AP pP 10 06 21.8 -7.6
GTA XP sP 10 06 24.8 -9.2
GTA PP PP 10 07 55.0 +4.7
GTA PCP PcP 10 08 23.0 -1.2
GTA S **S 10 12 23.0 +3.0**
GTA XS sS 10 12 30.6 -7.4
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
GTA AMB AMB
comp=Z,79nm,4.6s
GTA LR LR
comp=N,499nm,16.4s,MS4.6
GTA LR LR
comp=E,355nm,12.9s,MS4.6
GTA LR LR
comp=Z,593nm,14.5s,MS4.6
INK Inuvik 40.27 33 P **P 10 06 23.2 +0.7**
comp=Z,8.8nm,0.5s,mb4.7,baz=293,slow=6.6,SNR=86
INK LR LR 10 26 34.3
comp=Z,185nm,18.3s,MS4.0,baz=235,slow=41
INK Inuvik 40.27 33 *e*P **P 10 06 23.0 +0.5**
comp=Z,320nm,0.6s
CD2 Chengdu 41.94 265 *e*P **P 10 06 35.9 -0.4**
CD2 AP pP 10 06 40.9 -6.4
CD2 XP sP 10 06 43.6 -8.2
CD2 PP PP 10 08 14.8 +1.1
CD2 S **S 10 12 51.4 -0.7**
CD2 XS sS 10 12 58.9 -11
CD2 SS SS 10 15 51.3 -8.3
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,80nm,5.7s
CD2 LR LR
comp=E,420nm,12.0s
CD2 LR LR
comp=Z,530nm,14.1s,MS4.6
ZAL Zalesovo 42.83 305 LR LR 10 25 32.6
comp=Z,299nm,21.4s,MS4.2,baz=41,slow=37
ZAL Zalesovo 42.83 305 P **P 10 06 43.2 -0.3**
ZAL *e* 10 06 59.2
NVS Novosibirsk 43.35 307 *e*P **P 10 06 49.5 +1.7**
WMQ Urumqi 45.47 291 ⇑P **P 10 07 04.1 -0.6**
WMQ AP pP 10 07 08.6 -7.2
WMQ XP sP 10 07 11.1 -9.2
WMQ PCP PcP 10 08 43.6 +0.4
WMQ PP PP 10 08 51.1 -0.4
WMQ S **S 10 13 44.3 +0.7**
WMQ XS sS 10 13 51.9 -10
WMQ AMB AMB
comp=Z,7.0nm,0.4s,mb4.8
WMQ AMB AMB
comp=Z,101nm,5.2s
WMQ LR LR
comp=N,766nm,19.1s,MS4.7
WMQ LR LR
comp=E,335nm,19.1s,MS4.7
WMQ LR LR
comp=Z,247nm,16.6s,MS4.2
QIZ Qiongzhong 46.14 247 P **P 10 07 09.5 -0.5**
QIZ AP pP 10 07 19.5 -1.6
QIZ XP sP 10 07 23.6 -2.0
QIZ S **S 10 13 58.5 +5.2**
QIZ XS sS 10 14 05.8 -5.9
QIZ AMB AMB
comp=Z,26nm,2.0s,mb4.8
QIZ LR LR
comp=N,253nm,15.8s
KMI Kunming 46.39 260 P **P 10 07 11.9 0.0**
KMI AP pP 10 07 18.5 -4.5
KMI XP sP 10 07 21.4 -6.1
KMI PP PP 10 09 02.3 +1.1
KMI S **S 10 14 00.4 +3.6**
KMI XS sS 10 14 09.9 -5.2
KMI AMB AMB
comp=Z,7.0nm,1.5s,mb4.4
KMI AMB AMB
comp=Z,164nm,4.9s
KMI LR LR
comp=N,373nm,15.8s,MS4.5
KMI LR LR
comp=E,282nm,14.7s,MS4.5
KMI LR LR
comp=Z,231nm,15.3s,MS4.2
KMI Kunming 46.39 260 P **P 10 07 11.9 0.0**
KMI *SP sP 10 07 21.4 -6.1
KMI 10 09 02.2
KMI PPP 10 09 41.0
KMI S **S 10 14 00.4 +3.6**
KMI *SS sS 10 14 09.9 -5.2
KMI SS SS 10 17 18.4 -4.3
KMI SSS 10 18 21.5
KMI pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
KMI MLR MLR
comp=Z,230nm,15.3s,MS4.2
KMI Kunming 46.39 260 P **P 10 07 11.9 0.0**
comp=Z,7.0nm,1.5s,mb4.4
KMI pP pP 10 07 18.5 -4.5
KMI sP sP 10 07 21.4 -6.1
KMI PP PP 10 09 02.2 +1.0
KMI PPP 10 09 41.0
KMI S **S 10 14 00.4 +3.6**
KMI sS sS 10 14 09.9 -5.2
KMI SS SS 10 17 18.4 -4.3
KMI SSS 10 18 21.5
KMI LR LR
comp=Z,230nm,15.3s,MS4.2
MK31 Makanchi Array 47.34 297 *e*P **P 10 07 18.0 -1.4**
MKAR Makanchi Array 47.34 297 P **P 10 07 18.1 -1.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=71,slow=7.7,SNR=20
MKAR PcP PcP 10 08 50.0 +0.2
comp=Z,0.5nm,0.5s,baz=83,slow=2.4,SNR=2.3
MKAR LR LR 10 27 35.2
comp=Z,228nm,18.4s,MS4.2,baz=50,slow=36
MKAR Makanchi Array 47.34 297 P **P 10 07 18.1 -1.3**
MKAR 10 08 50.0
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,228nm,18.4s
YKA Yellowknife Ar 49.52 38 P **P 10 07 36.2 +0.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=293,slow=7.0,SNR=28
YKA PcP PcP 10 08 57.1 -0.5
comp=Z,0.6nm,0.4s,baz=303,slow=3.7,SNR=6.9
YKA LR LR 10 32 31.8
comp=Z,135nm,18.1s,MS4.0,baz=290,slow=41
YKA Yellowknife Ar 49.52 38 P **P 10 07 36.2 0.0**
YKA 10 08 57.1
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA MLR MLR
comp=Z,135nm,18.1s
YKA Yellowknife Ar 49.52 38 P **P 10 07 36.2 +0.1**
YKA PcP PcP 10 08 57.1 -0.5
YKA LR LR 10 32 31.8
RES Resolute Bay 49.56 19 *e*P **P 10 07 36.6 +0.1**
comp=Z,95nm,0.6s
BVAR Borovoye Array 50.97 309 P **P 10 07 46.1 -1.0**
comp=Z,2.4nm,0.5s,mb4.4,baz=59,slow=8.0,SNR=18
BVAR PcP PcP 10 09 02.6 -0.3
comp=Z,1.0nm,0.5s,baz=76,slow=1.8,SNR=2.3
BVAR LR LR 10 29 48.4
comp=Z,225nm,21.6s,MS4.2,baz=321,slow=36
BVAR Borovoye Array 50.97 309 P **P 10 07 46.1 -1.0**
BVAR 10 09 02.6
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR MLR MLR
comp=Z,225nm,21.6s
BRVK Borovoye 51.01 309 *e*P **P 10 07 46.5 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 51.01 309 *e*P **P 10 07 46.5 -0.9**
comp=Z,3.7nm,0.7s,mb4.4
LSA Lhasa 51.19 273 P **P 10 07 49.6 +0.8**
LSA pmax pmax
comp=Z,19nm,0.5s,mb5.3
LSA Lhasa 51.19 273 P **P 10 07 49.6 +0.8**
comp=Z,19nm,0.5s,mb5.3
CHTO Chiang Mai 53.30 257 *e*P **P 10 08 04.9 +0.5**
CHTO pmax pmax
comp=Z,20nm,1.0s,mb5.0
CHTO Chiang Mai 53.30 257 *e*P **P 10 08 04.9 +0.4**
comp=Z,20nm,1.0s,mb5.0
A07A Ashnola River, 53.56 55 ⇓P **P 10 08 05.2 -1.2**
baz=59
G03A Yamhill 53.99 60 ⇑P **P 10 08 08.7 -0.8**
baz=54
B07A Winthrop 54.03 55 ⇑P **P 10 08 08.9 -0.8**
baz=54
A08A Turner Farm, O 54.22 54 ⇑P **P 10 08 11.6 +0.5**
baz=54
AAK Ala-Archa 54.26 296 *e*P **P 10 08 10.1 -1.3**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
B08A Colville Reser 54.52 55 ⇓P **P 10 08 12.8 -0.5**
baz=54
A09A Danville 54.58 54 ⇓P **P 10 08 13.9 +0.1**
baz=54
ARU Arti 54.92 318 *e*P **P 10 08 15.2 -1.1**
ARU *e* 10 10 21.0
ARU *e*PPP 10 11 32.9
ARU *e*S **S 10 15 59.2 +4.0**
ARU MLR MLR
comp=Z,200nm,15.0s,MS4.3
ARU MLR MLR
comp=N,100nm,14.0s,MS4.4
ARU MLR MLR
comp=E,200nm,16.0s,MS4.4
B09A Rice 55.13 54 ⇑P **P 10 08 15.6 -2.1**
baz=55
KSH Kashi 55.17 293 *e*P **P 10 08 25.3 +7.3**
KSH *e*AP pP 10 08 30.0 +0.7
KSH *e*XP sP 10 08 33.8 0.0
KSH AMB AMB
comp=Z,748nm,4.0s
E07A Sunnyside 55.25 57 ⇑P **P 10 08 17.5 -1.1**
baz=55
C09A Chrisman Ranch 55.42 55 ⇓P **P 10 08 19.0 -0.8**
baz=55
D08A Wollman Farm, 55.49 56 ⇑P **P 10 08 19.5 -0.8**
baz=55
NEW Newport 55.78 54 LR LR 10 33 08.9
comp=Z,116nm,18.1s,MS4.0,baz=50,slow=37
A11A Hall Mountain, 55.79 53 ⇑P **P 10 08 22.0 -0.5**
baz=56
JIRN Jiri 55.84 275 *e*P **P 10 08 23.5 +0.7**
comp=Z,27nm,0.6s,mb5.5
GUN Gumba 55.88 275 *e*P **P 10 08 23.7 +0.5**
comp=Z,16nm,0.4s,mb5.4
A12A Yaak River Ran 56.19 53 ⇑P **P 10 08 24.5 -0.8**
baz=56
E09A Wood Farm, Sta 56.24 56 ⇓P **P 10 08 25.2 -0.5**
baz=56
F08A Pendleton 56.30 57 ⇓P **P 10 08 25.7 -0.5**
baz=56
KKN Kakani 56.36 276 *e*P **P 10 08 26.5 -0.1**
comp=Z,21nm,0.5s,mb5.4
PKI Pulchoki 56.42 275 *e*P **P 10 08 27.2 +0.2**
comp=Z,19nm,0.6s,mb5.3
M02C Callahan 56.52 63 ⇓P **P 10 08 28.3 +0.6**
baz=56
I06A Prineville 56.57 60 ⇑P **P 10 08 27.7 -0.4**
baz=56
N02C Big Bar 56.59 64 ⇓P **P 10 08 27.8 -0.4**
baz=56
DMN Daman 56.60 276 *e*P **P 10 08 29.1 +0.8**
comp=Z,64nm,0.9s,mb5.6
GKN Gorkha 56.66 276 *e*P **P 10 08 29.2 +0.5**
comp=Z,38nm,0.5s,mb5.7
E10A Myers Farm, Un 56.83 56 ⇑P **P 10 08 29.5 -0.5**
baz=57
F09A S2 Ranch, Elgi 56.85 57 ⇑P **P 10 08 30.2 +0.2**
baz=57
M04C Macdoel 56.90 63 ⇓P **P 10 08 30.0 -0.4**
baz=57
I07A Izee 56.90 59 ⇑P **P 10 08 31.0 +0.5**
baz=57
D11A Klaveano Farm, 56.93 55 ⇑P **P 10 08 29.5 -1.1**
baz=57
C12A Trout Creek 57.01 54 ⇑P **P 10 08 30.7 -0.5**
baz=57
J06A Christmas Vall 57.02 60 ⇑P **P 10 08 30.2 -1.1**
baz=57
WALA Waterton Lakes 57.04 52 *e*P **P 10 08 31.6 +0.2**
comp=Z,4.5nm,0.6s,mb4.7
F10A Beach Ranch, E 57.07 56 ⇑P **P 10 08 31.8 +0.2**
baz=57
H08A Prairie City 57.12 58 ⇓P **P 10 08 31.5 -0.4**
baz=57
B13A Whitefish 57.15 53 P **P 10 08 32.8 +0.6**
baz=57,SNR=11
ARCES ARCESS Array B 57.21 341 P **P 10 08 31.5 -1.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=39,slow=7.2,SNR=3.9
ARCES ARCESS Array B 57.21 341 P **P 10 08 31.5 -1.1**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
K06A Valley Falls 57.23 61 ⇓P **P 10 08 33.0 +0.2**
baz=57
KOLN Koldanda 57.50 277 *e*P **P 10 08 34.0 -0.7**
comp=Z,19nm,0.5s,mb5.4
C13A Hot Springs 57.51 53 ⇑P **P 10 08 34.3 -0.5**
baz=57
I08A Drewsey 57.55 59 P **P 10 08 35.9 +0.9**
baz=57,SNR=5.2
BMO Blue Mountains 57.70 57 *e*P **P 10 08 36.5 +0.5**
comp=Z,14nm,1.4s,mb4.8
HATC Hat Creek Radi 57.71 63 ⇑P **P 10 08 36.1 0.0**
baz=58
F11A Grangeville 57.72 56 ⇓P **P 10 08 36.1 -0.1**
baz=58
K07A Rock Creek Ran 57.89 60 ⇓P **P 10 08 37.0 -0.4**
baz=58
D13A Huson 57.93 54 ⇑P **P 10 08 37.2 -0.5**
baz=58
J08A Circle Bar Ran 57.93 59 ⇓P **P 10 08 37.6 -0.1**
baz=58
I09A Lost Marbles R 57.98 58 ⇓P **P 10 08 37.9 -0.1**
baz=58
MNRC McLaughlin Nat 58.30 66 ⇓P **P 10 08 40.2 0.0**
baz=58
F12A Elk City 58.30 55 P **P 10 08 40.7 +0.4**
baz=58,SNR=7.5
K08A Mann Creek Ran 58.31 60 ⇓P **P 10 08 40.2 -0.1**
baz=58
J09A Fry Pan Ranch, 58.36 59 ⇑P **P 10 08 41.2 +0.6**
baz=58
MSO Missoula 58.37 54 *e*P **P 10 08 40.6 -0.1**
comp=Z,26nm,1.6s,mb5.0
D14A Greenough 58.45 53 P **P 10 08 41.5 +0.2**
baz=58,SNR=17
ORV Oroville 58.46 64 ⇓P **P 10 08 40.0 -1.3**
baz=58
E13A Victor 58.47 54 P **P 10 08 42.2 +0.7**
baz=58,SNR=5.5
H11A Donnelly 58.52 57 P **P 10 08 42.2 +0.4**
baz=58,SNR=14
O05C Quincy 58.56 64 ⇓P **P 10 08 40.7 -1.3**
baz=58
BOK Bokaro 58.60 272 *e*P **P 10 08 42.3 0.0**
BOK AMb AMB 10 08 54.2
comp=Z,13nm,0.8s,mb5.0
OHCM Honcut 58.60 65 *e*P **P 10 08 42.3 0.0**
CHMT Chamberlain Mo 58.69 53 *e*P **P 10 08 43.0 0.0**
L08A Fields 58.72 60 ⇓P **P 10 08 43.1 -0.1**
baz=58
M07A Soldier Meadow 58.73 61 P **P 10 08 44.4 +1.2**
baz=58,SNR=5.5
N06A Buffalo Meadow 58.73 62 ⇓P **P 10 08 43.9 +0.6**
baz=58
K09A Rome 58.77 59 ⇓P **P 10 08 43.5 -0.1**
baz=59
AKTK Aktyubinsk 58.77 312 P **P 10 08 43.1 -0.5**
AKTK LR LR 10 34 19.8
AKTO Aktyubinsk 58.77 312 P **P 10 08 43.1 -0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=65,slow=10,SNR=7.8
AKTO LR LR 10 34 19.8
comp=Z,152nm,19.2s,MS4.1,baz=243,slow=36
AKTO Aktyubinsk 58.77 312 P **P 10 08 43.1 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO MLR MLR
comp=Z,152nm,19.2s,MS4.1
F13A Darby 58.79 55 ⇓P **P 10 08 43.6 -0.1**
baz=59
E14A Clinton 58.87 54 P **P 10 08 44.5 +0.3**
baz=59,SNR=11
BEKR Beckwourth 58.96 64 ⇓P **P 10 08 44.8 0.0**
baz=59
D15A Lincoln 59.01 53 ⇓P **P 10 08 44.4 -0.8**
baz=59
O06A Flanigan 59.09 63 ⇑P **P 10 08 45.8 0.0**
baz=59
N07B Gerlach 59.22 62 ⇓P **P 10 08 47.6 +1.0**
baz=59
L09A Wilkinson Ranc 59.22 60 ⇑P **P 10 08 46.6 -0.1**
baz=59
BDM Black Diamond 59.23 66 ⇓P **P 10 08 45.1 -1.6**
baz=59
F14A Wisdom 59.31 54 ⇓P **P 10 08 47.2 -0.1**
baz=59
E15A Deer Lodge 59.33 53 P **P 10 08 47.7 +0.3**
baz=59,SNR=5.2
LAVA Lava Cap Winer 59.42 65 ⇑P **P 10 08 47.7 -0.3**
baz=59
O07A Toulon 59.66 62 P **P 10 08 50.3 +0.6**
baz=60,SNR=5.1
N08A GE Springer Mi 59.72 61 ⇓P **P 10 08 50.1 0.0**
baz=60
M09A Marrel Ranch, 59.72 60 ⇑P **P 10 08 50.7 +0.6**
baz=60
F15A Butte 59.77 54 P **P 10 08 50.9 +0.5**
baz=60,SNR=11
EGMT Eagleton 59.86 51 ⇑P **P 10 08 51.2 +0.2**
baz=60
N09A Rock Creek Ran 60.04 61 ⇑P **P 10 08 51.9 -0.3**
baz=60
CMB Columbia Colle 60.09 65 ⇓P **P 10 08 53.0 +0.4**
baz=60
HLID Hailey 60.13 57 *e*P **P 10 08 53.2 +0.3**
comp=Z,6.6nm,1.0s,mb4.6
HLID Hailey 60.13 57 P **P 10 08 53.7 +0.7**
baz=60,SNR=7.3
PACP Pacheco Peak 60.18 67 ⇑P **P 10 08 53.0 -0.3**
baz=60
M10A I.L. Ranch, Tu 60.19 60 P **P 10 08 54.6 +1.3**
baz=60,SNR=6.5
G15A Dillon 60.20 55 P **P 10 08 53.4 +0.1**
baz=60,SNR=12
MCMT McKenzie Canyo 60.21 55 *e*P **P 10 08 54.0 +0.5**
R06C Coleville 60.35 64 ⇓P **P 10 08 54.8 +0.4**
baz=60
HAST UC Hastings Re 60.41 67 ⇓P **P 10 08 53.9 -0.9**
baz=60
BMN Battle Mountai 60.48 61 P **P 10 08 56.4 +1.1**
BMN *e* pP 10 09 06.4 -0.3
BMN pmax pmax
comp=Z,21nm,1.2s,mb5.0
BMN Battle Mountai 60.48 61 *e*P **P 10 08 56.0 +0.8**
comp=Z,17nm,1.3s,mb4.9
S06C San Francisco 60.51 65 ⇑P **P 10 08 55.2 -0.3**
baz=60
S05C Merced 60.56 66 ⇑P **P 10 08 55.9 +0.1**
baz=60
O09A Fish Creek Ran 60.66 61 P **P 10 08 57.5 +1.0**
baz=60,SNR=5.8
M11A Holland Ranch, 60.69 60 P **P 10 08 58.2 +1.5**
baz=60,SNR=5.7
N10A Dunphy 60.72 61 ⇑P **P 10 08 56.9 0.0**
baz=60
U04C Hernandez Rese 60.90 67 ⇑P **P 10 08 58.3 +0.1**

	baz=61									
O10A	**Cortez Mining,**	**60.99**	**61**	⇓P		**P**		**10 08 59.8**	**+1.0**
	baz=61									
Q08A	**Gabbs**	**61.05**	**63**	P		**P**		**10 08 59.6**	**+0.5**
	baz=61,SNR=5.6									
P09A	**Austin**	**61.09**	**62**	⇓P		**P**		**10 09 00.1**	**+0.7**
	baz=61									
T06C	**Millerton Lake**	**61.15**	**66**	⇓P		**P**		**10 08 59.6**	**-0.2**
	baz=61									
KCC	**Kaiser Creek**	**61.19**	**65**	⇑P		**P**		**10 08 59.2**	**-0.9**
	baz=61									
M12A	**Wells**	**61.20**	**59**	P		**P**		**10 09 01.4**	**+1.1**
	baz=61,SNR=9.1									
V04C	**Ramage Ranch,**	**61.31**	**68**	⇑P		**P**		**10 09 01.4**	**+0.4**
	baz=61									
PKD	**Parkfield**	**61.32**	**67**	⇓P		**P**		**10 09 00.8**	**-0.2**
	baz=61									
P10A	**Eureka**	**61.44**	**62**	⇓P		**P**		**10 09 01.9**	**0.0**
	baz=61									
N12A	**Clover Valley,**	**61.49**	**60**	⇓P		**P**		**10 09 02.2**	**0.0**
	baz=61									
O11A	**Cowboy Ranch,**	**61.59**	**61**	P		**P**		**10 09 03.7**	**+0.8**
	baz=61,SNR=5.6									
MTUM	**Tungsten Hills**	**61.63**	**65**	*eP*		**P**		**10 09 04.0**	**+0.9**
M13A	**Montello**	**61.67**	**59**	P		**P**		**10 09 04.2**	**+0.8**
	baz=62,SNR=8.3									
PTRM	**Twisselman Ran**	**61.71**	**67**	*eP*		**P**		**10 09 03.3**	**-0.3**
S08C	**White Mtn Res**	**61.78**	**64**	⇑P		**P**		**10 09 04.2**	**+0.1**
	baz=62									
HELL	**Mitchell Peak,**	**61.78**	**66**	P		**P**		**10 09 03.8**	**-0.3**
	baz=62,SNR=6.0									
FLWY	**Flagg Ranch**	**61.87**	**55**	*eP*		**P**		**10 09 05.5**	**+0.8**
RCTC	**Rector, Farmer**	**61.89**	**66**	⇓P		**P**		**10 09 05.0**	**+0.1**
	baz=62									
P11A	**Circle Ranch,**	**61.91**	**61**	⇓P		**P**		**10 09 05.3**	**+0.4**
	baz=62									
DCID1	**Drake Creek**	**61.92**	**55**	P		**P**		**10 09 04.5**	**-0.6**
R09A	**Tonopah**	**61.97**	**63**	P		**P**		**10 09 05.6**	**+0.2**
	baz=62,SNR=11									
N13A	**Wendover, West**	**61.98**	**59**	P		**P**		**10 09 06.3**	**+0.8**
	baz=62,SNR=7.1									
RRI2	**Red Ridge**	**62.01**	**55**	*eP*		**P**		**10 09 06.7**	**+1.1**
	comp=Z,17nm,0.8s,mb5.2									
O12A	**Currie**	**62.04**	**60**	P		**P**		**10 09 06.5**	**+0.6**
	baz=62,SNR=12									
MOOW	**Moose Ponds**	**62.06**	**55**	*eP*		**P**		**10 09 06.8**	**+0.8**
	comp=Z,22nm,1.4s,mb5.1									
SMMC	**Simmler**	**62.06**	**67**	⇑P		**P**		**10 09 06.5**	**+0.5**
	baz=62									
S09A	**Goldfield**	**62.21**	**64**	⇓P		**P**		**10 09 07.1**	**+0.1**
	baz=62									
LOHW	**Long Hollow**	**62.23**	**55**	*eP*		**P**		**10 09 07.0**	**-0.1**
	comp=Z,46nm,1.5s,mb5.4									
REDW	**Red Top Meadow**	**62.26**	**55**	*eP*		**P**		**10 09 08.0**	**+0.7**
	comp=Z,38nm,1.2s,mb5.4									
VES	**Vestal, Richgr**	**62.29**	**66**	⇓P		**P**		**10 09 07.3**	**-0.2**
	baz=62									
Q11A	**Duckwater**	**62.42**	**62**	⇓P		**P**		**10 09 08.2**	**-0.3**
	baz=62									
PKM	**Peak Mountain**	**62.45**	**68**	⇑P		**P**		**10 09 08.5**	**-0.1**
	baz=62									
P12A	**McGill**	**62.46**	**61**	⇓P		**P**		**10 09 08.7**	**0.0**
	baz=62									
LAO	**LASA Array**	**62.55**	**50**	*eP*		**P**		**10 09 09.7**	**+0.4**
	comp=Z,30nm,1.2s,mb5.3									
GRAC	**Grapevine Rang**	**62.59**	**64**	⇑P		**P**		**10 09 09.7**	**+0.1**
	baz=62									
ISA	**Isabella**	**62.78**	**66**	⇓P		**P**		**10 09 10.0**	**-0.8**
	baz=63									
Q12A	**Willow Creek R**	**62.78**	**61**	⇓P		**P**		**10 09 10.9**	**+0.1**
	baz=63									
HWUT	**Hardware Ranch**	**63.00**	**57**	*eP*		**P**		**10 09 13.1**	**+0.8**
	comp=Z,5.9nm,0.5s,mb5.0									
MPMC	**Manual Prospec**	**63.13**	**65**	P		**P**		**10 09 13.4**	**+0.3**
	baz=63,SNR=6.7									
DUG	**Dugway**	**63.21**	**59**	*eP*		**P**		**10 09 14.0**	**+0.3**
DUG				pmax		pmax				
	comp=Z,29nm,1.3s,mb5.2									
DUG	**Dugway**	**63.21**	**59**	*eP*		**P**		**10 09 14.0**	**+0.3**
	comp=Z,29nm,1.3s,mb5.2									
DUG	**Dugway**	**63.21**	**59**	P		**P**		**10 09 14.4**	**+0.7**
	baz=63,SNR=14									
FURC	**Furnace Creek,**	**63.24**	**64**	P		**P**		**10 09 14.1**	**+0.3**
	baz=63,SNR=8.5									
NOQ	**North Oquirrh**	**63.31**	**58**	*eP*		**P**		**10 09 14.9**	**+0.6**
	comp=Z,12nm,0.7s,mb5.2									
OSI	**Osito Adit**	**63.31**	**67**	⇓P		**P**		**10 09 14.2**	**-0.2**
	baz=63									
PDAR	**Pinedale Array**	**63.36**	**55**	P		**P**		**10 09 15.1**	**+0.4**
	comp=Z,6.9nm,0.9s,mb4.8,baz=291,slow=2.5,SNR=45									
FINES	**FINESS Array B**	**63.53**	**335**	P		**P**		**10 09 15.2**	**-0.6**
	comp=Z,2.8nm,0.5s,mb4.6,baz=36,slow=8.2,SNR=34									
FINES	**FINESS Array B**	**63.53**	**335**	P		**P**		**10 09 15.2**	**-0.6**
FINES				pmax		pmax				
	comp=Z,3.0nm,0.5s									
EDW2	**Edwards Air Fo**	**63.59**	**66**	P		**P**		**10 09 16.3**	**+0.1**
	baz=63,SNR=10									
U10A	**Ash Meadows, A**	**63.60**	**64**	⇑P		**P**		**10 09 17.0**	**+0.8**
	baz=63									
JLU	**Jordanelle**	**63.73**	**58**	*eP*		**P**		**10 09 17.9**	**+0.8**
NLU	**North Lily Min**	**63.80**	**59**	*eP*		**P**		**10 09 18.0**	**+0.5**
SHOC	**Shoshone**	**63.97**	**65**	⇑P		**P**		**10 09 18.5**	**-0.2**
	baz=64									
MPU	**Maple Canyon**	**64.01**	**58**	*eP*		**P**		**10 09 19.5**	**+0.5**
	comp=Z,27nm,1.3s,mb5.1									
GSC	**Goldstone**	**64.04**	**65**	P		**P**		**10 09 19.3**	**+0.1**
GSC				*e*		pP		10 09 29.6	-1.0
GSC	**Goldstone**	**64.04**	**65**	*eP*		**P**		**10 09 19.5**	**+0.3**
GSC	**Goldstone**	**64.04**	**65**	⇓P		**P**		**10 09 18.7**	**-0.5**
	baz=64									
BFSC	**Mount Baldy St**	**64.22**	**67**	⇑P		**P**		**10 09 20.2**	**-0.1**
	baz=64									
CIS	**Catalina Islan**	**64.31**	**68**	⇓P		**P**		**10 09 21.1**	**+0.2**
	baz=64									
TUQ	**Turquoise Mtn.**	**64.50**	**65**	⇑P		**P**		**10 09 21.6**	**-0.5**
	baz=64									
VIS	**Vishakhapatnam**	**64.51**	**269**	*eP*		**P**		**10 09 20.8**	**-1.4**
VIS				AMb		AMB		10 09 24.5		
	comp=Z,7.0nm,0.7s,mb4.8									
V11A	**Goodsprings**	**64.53**	**64**	⇑P		**P**		**10 09 22.2**	**-0.2**
	baz=64									
CCUT	**Cedar City**	**64.63**	**62**	*eP*		**P**		**10 09 23.7**	**+0.7**
HEC	**Hector,Ludlow**	**64.65**	**66**	P		**P**		**10 09 23.2**	**+0.1**
	baz=64,SNR=6.3									
BHPL	**Bhopal**	**64.67**	**277**	*eP*		**P**		**10 09 23.3**	**+0.1**
BHPL				AMb		AMB		10 09 24.3		
	comp=Z,9.6nm,0.5s,mb5.1									
MURC	**Murrieta**	**64.93**	**67**	⇑P		**P**		**10 09 25.2**	**+0.2**
	baz=65									
V12A	**Nelson**	**64.95**	**64**	⇑P		**P**		**10 09 25.6**	**+0.5**
	baz=65									
NGP	**Nagpur**	**65.01**	**274**	*eP*		**P**		**10 09 24.7**	**-0.8**
NGP				AMb		AMB		10 09 37.0		
	comp=Z,27nm,0.7s,mb5.4									
OBN	**Obninsk**	**65.02**	**326**	*eP*		**P**		**10 09 24.8**	**-0.7**
OBN				pmax		pmax				
	comp=Z,7.0nm,1.2s,mb4.6									
OBN				MLR		MLR				
	comp=Z,200nm,19.0s,MS4.3									
ULM	**Lac du Bonnet**	**65.11**	**42**	P		**P**		**10 09 25.8**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.4,baz=308,slow=6.6,SNR=8.3									
W12A	**Cal Nev Ari**	**65.23**	**64**	⇓P		**P**		**10 09 26.7**	**-0.2**
	baz=65									
SRU	**San Rafael**	**65.25**	**59**	P		**P**		**10 09 27.6**	**+0.6**
SRU				pmax		pmax				
	comp=Z,19nm,0.8s,mb5.2									
SRU	**San Rafael**	**65.25**	**59**	*eP*		**P**		**10 09 27.6**	**+0.5**
	comp=Z,19nm,0.8s,mb5.2									
PFO	**Pinyon Flat Ob**	**65.39**	**67**	⇑P		**P**		**10 09 27.1**	**-0.8**
	baz=65									
PSI	**Prapat**	**65.40**	**245**	LR		LR		10 43 34.7		
	comp=Z,101nm,18.4s,MS4.0,baz=45,slow=41									
BELC	**Belle Mtn.**	**65.41**	**66**	⇑P		**P**		**10 09 26.9**	**-1.1**
	baz=65									
RSSD	**Black Hills**	**65.42**	**51**	*eP*		**P**		**10 09 28.4**	**+0.2**
RSSD				pmax		pmax				
	comp=Z,22nm,1.2s,mb5.1									
RSSD	**Black Hills**	**65.42**	**51**	*eP*		**P**		**10 09 28.4**	**+0.3**
	comp=Z,22nm,1.2s,mb5.1									
109C	**Camp Elliot, M**	**65.46**	**68**	⇓P		**P**		**10 09 28.0**	**-0.4**
	baz=65									
IRM	**Iron Mountain**	**65.82**	**65**	P		**P**		**10 09 30.7**	**0.0**
	baz=66,SNR=10									
W13A	**Hualapai Mount**	**65.96**	**64**	⇓P		**P**		**10 09 31.1**	**-0.5**
	baz=66									
BC3	**Big Chuckw Mtn**	**65.97**	**66**	⇓P		**P**		**10 09 31.3**	**-0.4**
	baz=66									
SWSC	**Sam W. Stewart**	**66.24**	**67**	⇓P		**P**		**10 09 32.0**	**-1.4**
	baz=66									
DVTC	**Desert V Tower**	**66.24**	**67**	⇑P		**P**		**10 09 32.4**	**-1.0**
	baz=66									
X13A	**Yucca**	**66.33**	**64**	P		**P**		**10 09 34.1**	**+0.1**
	baz=66,SNR=7.5									
PDMCI	**Parker Dam,Lak**	**66.34**	**65**	⇑P		**P**		**10 09 33.3**	**-0.8**
	baz=66									
W14A	**Seligman**	**66.37**	**63**	P		**P**		**10 09 34.9**	**+0.7**
	baz=66,SNR=11									
Y12C	**Blythe**	**66.48**	**65**	⇑P		**P**		**10 09 34.5**	**-0.4**
	baz=66									
AGMN	**Agassiz Refuge**	**66.52**	**43**	*eP*		**P**		**10 09 35.1**	**-0.1**
	comp=Z,16nm,1.4s,mb4.9									
GLA	**Glamis**	**66.77**	**66**	*eP*		**P**		**10 09 37.1**	**+0.3**
GLA	**Glamis**	**66.77**	**66**	P		**P**		**10 09 37.0**	**+0.2**
	baz=67,SNR=8.8									
W15A	**Williams**	**66.88**	**63**	⇓P		**P**		**10 09 37.7**	**+0.2**
	baz=67									
X14A	**Yava**	**66.99**	**64**	P		**P**		**10 09 38.9**	**+0.8**
	baz=67,SNR=7.3									
WUAZ	**Wupatki**	**67.19**	**62**	P		**P**		**10 09 40.1**	**+0.6**
	baz=67,SNR=5.8									
Y14A	**Wickenburg**	**67.28**	**64**	P		**P**		**10 09 40.3**	**+0.3**
	baz=67,SNR=7.2									
X15A	**Humboldt**	**67.37**	**63**	P		**P**		**10 09 41.5**	**+0.9**
	baz=67,SNR=15									
ISCO	**Idaho Springs**	**67.56**	**55**	P		**P**		**10 09 42.8**	**+1.0**
ISCO				pmax		pmax				
	comp=Z,25nm,1.2s,mb5.1									
ISCO	**Idaho Springs**	**67.56**	**55**	*eP*		**P**		**10 09 42.8**	**+1.0**
	comp=Z,25nm,1.3s,mb5.1									
NB2	**NORSAR Subarra**	**67.58**	**342**	P		**P**		**10 09 41.2**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=25,slow=6.5									
NOA	**NORSAR Array B**	**67.58**	**342**	P		**P**		**10 09 41.6**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=8.6									
NOA	**NORSAR Array B**	**67.58**	**342**	P		**P**		**10 09 41.7**	**-0.2**
NOA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
Z14A	**Wintersburg**	**67.71**	**65**	⇓P		**P**		**10 09 43.0**	**+0.3**
	baz=68									
MVCO	**Mesa Verde**	**67.71**	**59**	*eP*		**P**		**10 09 43.2**	**+0.5**
	comp=Z,18nm,1.1s,mb5.0									
MVCO	**Mesa Verde**	**67.71**	**59**	P		**P**		**10 09 43.4**	**+0.6**
	baz=68,SNR=6.4									
CTA	**Charters Tower**	**67.95**	**188**	LR		LR		10 37 33.4		
	comp=Z,50nm,18.9s,MS3.8,baz=228,slow=34									
115A	**Sonoran Desert**	**68.60**	**65**	P		**P**		**10 09 49.3**	**+1.0**
	baz=68,SNR=5.6									
116A	**Eloy**	**69.02**	**64**	⇑P		**P**		**10 09 50.9**	**0.0**
	baz=69									
WB2	**Warramunga Arr**	**69.80**	**200**	*eP*		**P**		**10 09 54.2**	**-1.5**
WB2	**Warramunga Arr**	**69.80**	**200**	*eP*		**P**		**10 10 04.3**	**+8.6**
WRA	**Warramunga Arr**	**69.80**	**200**	P		**P**		**10 09 54.3**	**-1.5**
	comp=Z,4.4nm,0.5s,mb4.6,baz=17,slow=6.7,SNR=24									
WRA				LR		LR		10 44 15.6		
	comp=Z,54nm,18.2s,MS3.8,baz=10.0,slow=39									
WRA	**Warramunga Arr**	**69.80**	**200**	P		**P**		**10 09 54.3**	**-1.4**
WRA				pmax		pmax				
	comp=Z,4.0nm,0.5s									
WRA				MLR		MLR				
	comp=Z,54nm,18.2s									
MDRS	**Chennai**	**69.90**	**267**	*ex*		x		10 09 21.6		
DZM	**Mont Dzumac**	**70.33**	**168**	LR		LR		10 40 13.9		
	comp=Z,113nm,18.7s,MS4.2,baz=28,slow=35									
LAZ	**Ladron**	**70.46**	**60**	*eP*		**P**		**10 10 00.8**	**+1.0**
ANMO	**Albuquerque**	**70.47**	**59**	*eP*		**P**		**10 10 00.6**	**+0.7**
ANMO				pmax		pmax				
	comp=Z,11nm,1.2s									
ANMO	**Albuquerque**	**70.47**	**59**	*eP*		**P**		**10 10 00.6**	**+0.7**
	comp=Z,11nm,1.2s,mb4.7									
FITZ	**Fitzroy Crossi**	**70.50**	**209**	*eP*		**P**		**10 09 59.8**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.5									
FITZ				*e*		pP		10 10 09.2	-2.5
KIV	**Kislovodsk**	**70.78**	**315**	*eP*		**P**		**10 09 58.2**	**-3.6**
KIV				pmax		pmax				
	comp=Z,5.0nm,0.8s,mb4.5									
KIV				MLR		MLR				
	comp=Z,209nm,16.0s,MS4.5									
BNM	**Barren Site**	**70.94**	**60**	*eP*		**P**		**10 10 03.8**	**+1.1**
KAD	**Karad**	**70.97**	**275**	*eP*		**P**		**10 10 03.4**	**+0.6**
KAD				AMb		AMB		10 10 04.4		
	comp=Z,19nm,0.8s,mb5.1									
AKASG	**Malin Array Be**	**71.24**	**327**	P		**P**		**10 10 03.6**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.5,baz=33,slow=6.0,SNR=12									
AKASG	**Malin Array Be**	**71.24**	**327**	P		**P**		**10 10 03.6**	**-0.9**
AKASG				pmax		pmax				
	comp=Z,3.0nm,0.5s									
AKBB	**Malin Array Si**	**71.24**	**327**	*eP*		**P**		**10 10 03.5**	**-1.0**
SCHQ	**Schefferville**	**71.99**	**24**	P		**P**		**10 10 08.8**	**-0.2**
	comp=Z,4.6nm,0.9s,mb4.4,baz=234,slow=13,SNR=3.7									
SCHQ	**Schefferville**	**71.99**	**24**	P		**P**		**10 10 08.8**	**-0.2**
GNI	**Garni**	**72.61**	**311**	LR		LR		10 44 52.9		
	comp=Z,134nm,18.7s,MS4.2,baz=34,slow=38									
GNI	**Garni**	**72.61**	**311**	*eP*		**P**		**10 10 13.4**	**+0.6**
GNI				pmax		pmax				
	comp=Z,5.0nm,1.3s									
MNTX	**Cornudas Mount**	**73.42**	**61**	*eP*		**P**		**10 10 17.8**	**+0.3**
	comp=Z,163nm,1.1s,mb5.9									
AS31	**Alice Springs**	**73.49**	**200**	*eP*		**P**		**10 10 17.7**	**-0.2**
AS31				*e*		pP		10 10 27.5	-2.1
ASAR	**Alice Springs**	**73.49**	**200**	P		**P**		**10 10 17.6**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.5,baz=14,slow=5.3,SNR=44									
ASAR				LR		LR		10 42 01.3		
	comp=Z,45nm,21.9s,MS3.7,baz=259,slow=35									
ASPA	**Alice Springs**	**73.49**	**200**	*eP*		**P**		**10 10 17.7**	**-0.2**
ASPA				*e*		pP		10 10 27.5	-2.1
KWP	**Kalwaria**	**74.44**	**330**	*eP*		**P**		**10 10 24.0**	**+0.5**
KWP				pmax		pmax				
	comp=Z,40nm,0.5s,mb5.6									
KWP	**Kalwaria**	**74.44**	**330**	*eP*		**P**		**10 10 23.9**	**+0.4**
	comp=Z,40nm,0.5s,mb5.6									
STHS	**Stebnicka Huta**	**75.12**	**331**	*eP*		**P**		**10 10 27.9**	**+0.5**
STHS				*e*				10 10 35.1		
STHS				pmax		pmax				
	comp=Z,7.0nm,0.9s,mb4.6									
STHS	**Stebnicka Huta**	**75.12**	**331**	*eP*		**P**		**10 10 27.9**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.6									
STHS				*e*				10 10 35.1		
KOLS	**Kolonicke sedl**	**75.19**	**330**	*eP*		**P**		**10 10 27.7**	**-0.1**
KOLS				*es*		sP		10 10 37.8	-6.1
BURAR	**Bucovina Array**	**75.27**	**327**	⇑*iP*		**P**		**10 10 28.4**	**+0.1**
BURAR	**Bucovina Array**	**75.27**	**327**	⇑P		**P**		**10 10 28.4**	**+0.1**
TRD	**Trivandrum**	**75.41**	**267**	*eP*		**P**		**10 10 29.0**	**-0.1**
TRD				AMb		AMB		10 10 30.8		
	comp=Z,36nm,1.1s,mb5.2									
LPIG	**La Paz**	**75.85**	**70**	LR		LR		10 40 47.4		
	comp=Z,78nm,18.3s,MS4.0,baz=332,slow=33									
CLL	**Collm**	**75.94**	**336**	*iP*		**P**		**10 10 31.6**	**-0.5**
CLL				*e*		pP		10 10 42.0	-1.8
CLL				pmax		pmax				
	comp=Z,8.0nm,0.7s,mb4.8									
CLL	**Collm**	**75.94**	**336**	*iP*		**P**		**10 10 31.6**	**-0.5**
	comp=Z,8.0nm,0.7s,mb4.8									
CLL				*e*	PcP	PcP		10 10 42.0	-2.4
MORC	**Moravsky Berou**	**75.99**	**333**	⇑*iP*		**P**		**10 10 32.8**	**+0.4**
MORC	**Moravsky Berou**	**75.99**	**333**	*eP*		**P**		**10 10 33.0**	**+0.6**
MORC				pmax		pmax				
	comp=Z,8.0nm,1.1s,mb4.6									
MORC	**Moravsky Berou**	**75.99**	**333**	*eP*		**P**		**10 10 32.9**	**+0.4**
	comp=Z,8.0nm,1.1s,mb4.6									
LTX	**Lajitas**	**76.15**	**62**	*eP*		**P**		**10 10 33.8**	**+0.5**
LTX				pmax		pmax				
	comp=Z,34nm,1.2s,mb5.2									
LTX	**Lajitas**	**76.15**	**62**	*eP*		**P**		**10 10 33.8**	**+0.5**
	comp=Z,34nm,1.2s,mb5.2									
TXAR	**Lajitas Array**	**76.15**	**62**	P		**P**		**10 10 33.5**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.8,baz=298,slow=4.8,SNR=226									
TXAR	**Lajitas Array**	**76.15**	**62**	P		**P**		**10 10 33.6**	**+0.3**
TXAR				pmax		pmax				
	comp=Z,7.0nm,0.6s									
KECS	**Kecovo**	**76.18**	**331**	*eP*		**P**		**10 10 33.1**	**-0.4**
KECS				pmax		pmax				
	comp=Z,3.0nm,0.9s,mb4.2									
KECS	**Kecovo**	**76.18**	**331**	*eP*		**P**		**10 10 33.1**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.2									
MLR	**Muntele Rosu**	**76.79**	**326**	LR		LR		10 50 47.3		
	comp=Z,202nm,19.9s,MS4.4,baz=232,slow=41									
MLR	**Muntele Rosu**	**76.79**	**326**	⇓*iP*		**P**		**10 10 37.8**	**+0.9**
MLR	**Muntele Rosu**	**76.79**	**326**	⇓P		**P**		**10 10 37.9**	**+0.9**
MALT	**Malatya**	**77.17**	**314**	*eP*		**P**		**10 10 40.7**	**+1.6**
MALT				pmax		pmax				
	comp=Z,18nm,1.2s,mb4.9									
MALT	**Malatya**	**77.17**	**314**	*eP*		**P**		**10 10 40.1**	**+1.0**
	comp=Z,18nm,1.3s,mb4.8									
JCT	**Junction City**	**77.56**	**58**	*eP*		**P**		**10 10 41.1**	**-0.2**
JCT				pmax		pmax				
	comp=Z,31nm,1.3s,mb5.1									
JCT	**Junction City**	**77.56**	**58**	*eP*		**P**		**10 10 41.4**	**+0.1**
	comp=Z,31nm,1.3s,mb5.1									
GEC2	**GERESS Array S**	**77.96**	**335**	*eP*		**P**		**10 10 33.8**	**-10**
GERES	**GERESS Array B**	**77.96**	**335**	P		**P**		**10 10 43.6**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=39,slow=5.1,SNR=10									
GERES	**GERESS Array B**	**77.96**	**335**	P		**P**		**10 10 43.6**	**+0.1**
GERES				pmax		pmax				
	comp=Z,3.0nm,0.6s									
BRTR	**Keskin Array B**	**78.31**	**317**	P		**P**		**10 10 45.9**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.3,baz=50,slow=4.0,SNR=9.8									
BRTR	**Keskin Array B**	**78.31**	**317**	P		**P**		**10 10 45.9**	**+0.5**
BRTR				pmax		pmax				
	comp=Z,2.0nm,0.6s									
MIB	**Mutribah**	**78.96**	**302**	*eP*		**P**		**10 10 49.2**	**+0.2**
MIB				AMb		AMB		10 10 50.4		
	comp=Z,49nm,0.5s,mb5.7									
NAY	**Al-Naaiem**	**79.43**	**302**	*eP*		**P**		**10 10 51.4**	**-0.2**
NAY				AMb		AMB		10 10 53.4		
	comp=Z,26nm,0.9s,mb5.2									
RDF	**Al-Radifah**	**79.50**	**302**	*eP*		**P**		**10 10 52.3**	**+0.4**
RDF				AMb		AMB		10 10 54.0		
	comp=Z,52nm,0.7s,mb5.6									
CDF	**Champ du Feu**	**80.08**	**339**	*eP*		**P**		**10 10 54.3**	**-0.8**
	comp=Z,40nm,1.4s,mb4.9									
CDF	**Champ du Feu**	**80.08**	**339**	*eP*		**P**		**10 10 54.3**	**-0.8**
CDF				pmax		pmax				
	comp=Z,20nm,1.4s,mb4.8									
CDF	**Champ du Feu**	**80.08**	**339**	*eP*		**P**		**10 10 54.3**	**-0.8**
	comp=Z,20nm,1.4s,mb4.8									
STKA	**Stephens Creek**	**80.13**	**191**	P		**P**		**10 10 53.9**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=338,slow=10.0,SNR=3.1									
STKA	**Stephens Creek**	**80.13**	**191**	P		**P**		**10 10 53.9**	**-1.4**
FORT	**Forrest**	**81.73**	**203**	*eP*		**P**		**10 11 03.3**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.7									
FORT				*e*		pP		10 11 13.4	-2.3
GRR	**Gorron**	**81.88**	**344**	*eP*		**P**		**10 11 04.0**	**-0.7**
PPT	**Papeete**	**81.98**	**127**	*e*LR		LR		10 35 52.0		
	comp=Z,248nm,26.0s,baz=328									
PPT	**Papeete**	**81.98**	**127**	LR		LR		10 43 17.7		
	comp=Z,146nm,18.4s,MS4.4,baz=64,slow=32									
SMF	**Signal de Mont**	**82.55**	**340**	*eP*		**P**		**10 11 07.5**	**-0.7**
	comp=Z,25nm,1.0s,mb4.9									
SMF	**Signal de Mont**	**82.55**	**340**	*eP*		**P**		**10 11 07.5**	**-0.7**
SMF				pmax		pmax				
	comp=Z,13nm,1.0s,mb4.9									
SMF	**Signal de Mont**	**82.55**	**340**	*eP*		**P**		**10 11 07.5**	**-0.7**
	comp=Z,13nm,1.0s,mb4.9									
ASF	**Jabal al Asfar**	**82.78**	**311**	LR		LR		10 51 51.2		
	comp=Z,60nm,20.4s,MS4.0,baz=125,slow=38									
LPG	**La Plagne**	**82.92**	**338**	*eP*		**P**		**10 11 10.5**	**+0.4**
	comp=Z,101nm,1.6s,mb5.3

INK	**Inuvik**	**39.97**	**33**	P	**P**	**10 14 51.7**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**10 15 59.4**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=63,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**10 15 59.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**10 16 25.7**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=59,slow=9.1,SNR=6.2						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**10 16 25.7**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.89**	**202**	P	**P**	**10 18 27.4**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=22,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**73.57**	**201**	P	**P**	**10 18 51.1**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=18,slow=4.9,SNR=7.6						
TXAR	**Lajitas Array**	**75.42**	**63**	P	**P**	**10 19 01.8**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=310,slow=5.3,SNR=7.0						

IDC ***22*** *10:10:27.7±0.9, 4775N×15525E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/25, mbtmp4.0/12, ML3.6/2, Error ellipse: s-maj=25.0km s-min=20.5km az=104.0*

MOS ***22*** *10:10:29.2±0.9, 4779N×155.13E, h21km, mb4.3/7, Error ellipse: s-maj=24.9km s-min=15.8km az=79.4*

ISCJB ***22*** *10:10:30.7±4.1, 478N±0.1×1552E±02, h31km±28km, mb3.9/10, Error ellipse: s-maj=27.1km s-min=13.6km az=65.4*

ISC 22 10:10:33.1±1.8, 478N±01×1552E±02, h36km±15km, n22, σ0§68/22, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.94**	**12**	*e*PN		**Pn**		**10 11 17.0**	**-0.4**
SKR				pmax	pmax				
	comp=Z,80nm,0.5s								
ASAJ	**Asahikawa**	**9.51**	**252**	Pn		**Pn**		**10 12 48.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=19,slow=32,SNR=4.1								
ASAJ	**Asahikawa**	**9.51**	**252**	PN		**Pn**		**10 12 48.2**	**+0.7**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.84**	**234**	Pn		**Pn**		**10 14 25.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=6.7,slow=16,SNR=4.2								
KSRS	**Korea Array**	**22.45**	**253**	P		**P**		**10 15 29.5**	**+0.6**
	comp=Z,5.0nm,1.0s,mb3.9,baz=57,slow=10,SNR=6.8								
ZAL	**Zalesovo**	**43.15**	**305**	P		**P**		**10 18 28.6**	**-1.5**
	comp=Z,0.9nm,0.4s,mb3.8,baz=198,slow=4.8,SNR=3.3								
ZAL	**Zalesovo**	**43.15**	**305**	P		**P**		**10 18 28.6**	**-1.5**
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**47.70**	**297**	P		**P**		**10 19 05.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=73,slow=8.9,SNR=4.8								
MKAR	**Makanchi Array**	**47.70**	**297**	P		**P**		**10 19 05.7**	**-0.5**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**51.27**	**310**	P		**P**		**10 19 33.3**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=58,slow=7.2,SNR=19								
BVAR	**Borovoye Array**	**51.27**	**310**	P		**P**		**10 19 33.3**	**-0.1**
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.4s								
FINES	**FINESS Array B**	**63.67**	**335**	P		**P**		**10 21 01.0**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=37,slow=7.5,SNR=12								
FINES	**FINESS Array B**	**63.67**	**335**	P		**P**		**10 21 01.0**	**+0.3**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**67.67**	**342**	P		**P**		**10 21 27.4**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.3,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**67.67**	**342**	P		**P**		**10 21 27.6**	**+1.2**
	comp=Z,2.6nm,0.9s,mb4.3,baz=26,slow=6.5,SNR=4.6								
NOA	**NORSAR Array B**	**67.67**	**342**	P		**P**		**10 21 27.7**	**+1.2**
NOA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
WRA	**Warramunga Arr**	**69.98**	**201**	P		**P**		**10 21 40.1**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=17,slow=6.7,SNR=6.6								
WRA	**Warramunga Arr**	**69.98**	**201**	P		**P**		**10 21 40.1**	**-0.8**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**71.44**	**327**	P		**P**		**10 21 50.2**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=30,slow=5.7,SNR=6.0								
ASAR	**Alice Springs**	**73.67**	**200**	P		**P**		**10 22 03.0**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=13,slow=5.9,SNR=11								
ASAR	**Alice Springs**	**73.67**	**200**	P		**P**		**10 22 03.1**	**+0.1**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**75.75**	**62**	P		**P**		**10 22 15.4**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=303,slow=5.0,SNR=8.2								

IDC 22 10:19:36.2±1.6, 2921N×14033E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=53.2km s-min=25.4km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.67**	**142**	Pn		Pn	Pn	10 20 21.4	+0.9
	22nm,0.3s,baz=81,slow=21,SNR=11								
CBIJ						Sn	Sn	10 20 52.7	-0.8
	34nm,0.3s,baz=283,slow=23,SNR=11								
MJAR	**Matsushiro Arr**	**7.52**	**347**	Pn		Pn	Pn	10 21 27.4	+0.3
	0.2nm,0.3s,baz=168,slow=13,SNR=4.9								
WRA	**Warramunga Arr**	**49.21**	**187**	P		P	P	10 28 26.3	+0.1
	0.5nm,0.5s,baz=5.0,slow=7.9,SNR=11								
TXAR	**Lajitas Array**	**95.62**	**52**	P		P	P	10 33 03.5	0.0
	0.3nm,0.7s,baz=290,slow=3.0,SNR=4.7								

IDC 22 10:24:29.7±18.0, 700S×12948E, h250km±102km, mb3.4/1, mb1 3.1/4, mb1mx3.0/15, mbtmp3.0/4, MS4.1/1, Ms1 4.1/1, ms1mx2.6/17, Error ellipse: s-maj=195.0km s-min=74.9km az=174.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.65**	**198**	P		Pn	Pn	10 27 08.4	-0.5
	0.1nm,0.3s,baz=36,slow=12,SNR=4.3								
WRA	**Warramunga Arr**	**13.70**	**160**	P		Pn	Pn	10 27 34.2	+0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=21								
ASAR	**Alice Springs**	**17.11**	**166**	P		P	P	10 28 12.6	+0.1
	0.3nm,0.3s,baz=349,slow=12,SNR=47								
STKA	**Stephens Creek**	**27.21**	**157**	P		P	P	10 29 51.0	+0.5
	1.0nm,0.5s,baz=300,slow=8.1,SNR=4.0								
JHJ	**Hachijo jima 2**	**41.08**	**13**	LR		LR	LR	10 46 54.2	
	comp=Z,263nm,19.0s,baz=4.4,slow=33								

IDC ***22*** *10:29:06.9±1.2, 4881N×154.17E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.8/4, Error ellipse: s-maj=53.5km s-min=32.0km az=91.0*

ISCJB ***22*** *10:29:23.7±2.9, 489N±02×1539E±05, h152km±25km, mb3.5/4, Error ellipse: s-maj=55.3km s-min=38.3km az=173.9*

MOS ***22*** *10:29:23.9±0.5, 4888N×15392E, h154km, mb4.0/2, Error ellipse: s-maj=99.9km s-min=38.9km az=75.6*

ISC 22 10:29:24.7±2.8, 489N±02×1540E±05, h148km±24km, n7, σ0§34/7, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.28**	**37**	*e*PN		**Pn**		**10 30 03.0**	**0.0**
FINES	**FINESS Array B**	**62.35**	**335**	P		**P**		**10 39 31.1**	**-0.4**
	0.5nm,0.3s,mb3.8,baz=38,slow=7.2,SNR=4.5								
FINES	**FINESS Array B**	**62.35**	**335**	P		**P**		**10 39 31.1**	**-0.4**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.3s								
HFS	**Hagfors**	**66.65**	**340**	P		**P**		**10 39 59.8**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.0,baz=74,slow=12,SNR=4.8								
HFS	**Hagfors**	**66.65**	**340**	P		**P**		**10 39 59.8**	**+0.4**
HFS				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ASAR	**Alice Springs**	**74.41**	**199**	P		**P**		**10 40 46.5**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=9.4,slow=5.6,SNR=8.8								
TXAR	**Lajitas Array**	**75.96**	**62**	P		**P**		**10 40 55.2**	**0.0**
	comp=Z,0.1nm,0.5s,mb2.7,baz=303,slow=5.5,SNR=3.6								

NIED ***22*** *10:37:00, 4640N×15320E, h53km, Mw5.3 Best double couple: M0 9.28000×10^16 NP1:φ=254.00000°, δ=88.00000°, λ=95.00000°. NP2:φ=9.00000°, δ=5.00000°, λ=25.00000°.*

ISCJB ***22*** *10:37:30.7±0.1, 4615N±003×153.12E±002, h10km, mb5.0/138, MS4.6/46, Error ellipse: s-maj=4.8km s-min=1.8km az=151.4*

BJI ***22*** *10:37:30.9, 4650N×15296E, h6km, mB5.2, mb5.1, Ms4.7, Msz4.5*

IDC ***22*** *10:37:30.7±0.5, 4613N×15305E, h0km, mb4.6/33, mb1 4.7/34, mb1mx4.7/40, mbtmp4.6/34, ML3.9/1, MS4.6/22, Ms1 4.6/22, ms1mx4.2/46, Error ellipse: s-maj=14.5km s-min=11.3km az=150.0*

JMA ***22*** *10:37:32.6±0.9, 4640N×15320E, h30km, M5.1*

NEIC ***22*** *10:37:33.1±0.2, 4624N×15301E, h10km, mb5.1/50, Error ellipse: s-maj=6.7km s-min=3.5km az=163.0*

SKHL ***22*** *10:37:33.6±2.7, 4616N×15319E, h55km±14km, mb6.0/3, mbh5.3/1, Ms4.9/4, msh5.5/2*

GCMT ***22*** *10:37:33.1±0.3, 4616N×15320E, h13km, MW5.0/80, Moment Tensor Solution. s37,c57; s80,c140; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.21±.14; Mθθ -1.48±.10; Mφφ -1.73±.10; Mrθ 0.84±.26; Mφθ -2.35±.08; Mφr 1.13±.25; Best double couple: M0 3.85300×10^16 NP1:φ=227.00000°, δ=34.00000°, λ=96.00000°. NP2: φ=40.00000°, δ=56.00000°, λ=86.00000°. Principal axes: T 3.4840, Plg79.0000°, Azm296.0000°; N 0.7390, Plg3.0000°, Azm43.0000°; P -4.2230, Plg11.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***22*** *10:37:36.4±1.3, 4635N×15293E, h45km, mb5.2/53, MS4.7/23 Error ellipse: s-maj=6.9km s-min=4.8km az=106.8*

SZGRF ***22*** *10:37:41.0, 4727N×15451E, h33km, mb5.4, MS4.8, Kuril Islands, Russia*

ISC 22 10:37:32.4±1.0, 4630N±003×15306E±002, h7km±6km, h20km±2.7km:pP-P, n564, σ1§00/588, mb5.0/138, MS4.6/46, 111C-92D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**256**	⇑*i*P		**Pn**		**10 38 29.5**	**-1.7**
KUR				AMB	AMB	10 38 31.0			
	650nm,0.8s								
KUR				AMB	AMB	10 38 31.0			
	430nm,0.8s								
KUR				AMB	AMB	10 38 31.0			
	2μm,0.8s								
KUR				AMB	AMB	10 38 32.0			
	10μm,2.0s								
KUR				*i* S		**Sn**		**10 39 14.5**	**-1.5**
KUR				A		10 39 23.0			
	12μm,4.0s								
KUR				A		10 39 23.0			
	8μm,4.0s								
KUR				A		10 39 27.6			
	3μm,0.8s								
KUR				A		10 39 27.6			
	4μm,0.8s								
KUR				AMS	AMS	10 40 59.0			
	5μm,12.0s								
KUR				AMS	AMS	10 40 59.0			
	6μm,12.0s								
KUR				AMS	AMS	10 40 59.0			
	12μm,12.0s								
KUR	**Kuril'sk**	**3.78**	**256**	*i* PN		**Pn**		**10 38 29.5**	**-1.7**
KUR				*i* S		**Sn**		**10 39 14.5**	**-1.5**
KUR				pmax	pmax				
	comp=N,650nm,0.8s								
KUR				pmax	pmax				
	comp=E,430nm,0.8s								
KUR				pmax	pmax				
	comp=Z,2μm,0.8s								
KUR				smax					
	comp=Z,10μm,2.0s								
KUR				smax					
	comp=N,12μm,4.0s								
KUR				smax					
	comp=E,8μm,4.0s								
KUR				smax					
	comp=N,3μm,0.8s								
KUR				smax					
	comp=E,4μm,0.8s								
SKR	**Severo-Kuril's**	**4.84**	**24**	*e*P		**Pn**		**10 38 46.5**	**+0.9**
SKR				AMB	AMB	10 38 50.5			
	comp=E,180nm,0.4s								
SKR				AMB	AMB	10 38 50.5			
	comp=E,270nm,1.0s								
SKR				AMB	AMB	10 38 50.5			
	comp=E,670nm,1.0s								
SKR				*e*S		**Sn**		**10 39 39.6**	**-2.3**
SKR				A		10 39 51.0			
	comp=E,3μm,8.0s								
SKR				A		10 39 51.0			
	comp=E,6μm,8.0s								
SKR				A		10 39 51.0			
	comp=E,240nm,0.6s								
SKR				A		10 39 51.0			
	comp=E,160nm,0.6s								
SKR				A		10 39 51.0			
	comp=E,6μm,8.0s								
SKR				A		10 39 51.0			
	comp=E,2μm,8.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,5μm,14.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,10μm,14.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,5μm,14.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,5μm,14.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,11μm,14.0s								
SKR				AMS	AMS	10 41 08.0			
	comp=E,5μm,14.0s								
YUK	**Yuzh-Kuril'sk**	**5.57**	**249**	*e*P		**Pn**		**10 38 56.5**	**+0.8**
YUK				*e*S		**Sn**		**10 39 59.8**	**-0.1**
YUK				A		10 40 09.0			
	comp=E,520nm,0.4s								
YUK				A		10 40 09.0			
	comp=E,1μm,0.5s								
NEM2	**Nemuro 2**	**5.97**	**243**	P		**Pn**		**10 38 59.8**	**-1.4**
NEM2				*e*S		**Sn**		**10 40 04.9**	**-4.9**
JRA	**Rausu**	**6.09**	**250**	P		**Pn**		**10 39 04.1**	**+1.3**
JNK	**Nakash**	**6.51**	**248**	P		**Pn**		**10 39 09.4**	**+0.8**
JNK				*e*S		**Sn**		**10 40 20.5**	**-2.6**
JAK	**Akkeshi**	**6.81**	**244**	P		**Pn**		**10 39 11.6**	**-1.2**
JAK				*e*S		**Sn**		**10 40 24.2**	**-6.4**
JTKR	**Abashiri--Toko**	**6.88**	**253**	P		**Pn**		**10 39 15.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	⇓*e*P		**Pn**		**10 39 22.0**	**+5.0**
YSS				*e*S		**Sn**		**10 40 41.8**	**+3.5**
YSS				*e*LQ				10 41 10.0	
YSS				AMS	AMS			10 43 08.0	
	comp=E,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	⇓*e*PN		**Pn**		**10 39 22.0**	**+5.0**
YSS				*e*S		**Sn**		**10 40 41.8**	**+3.5**
YSS				pmax	pmax				
	comp=Z,140nm,1.0s								
YSS				MLR	MLR				
	comp=Z,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**7.12**	**279**	*e*Pn		**Pn**		**10 39 21.8**	**+4.7**
JAR	**Ashorobuto**	**7.25**	**249**	P		**Pn**		**10 39 19.6**	**+0.8**
JOB	**Onbets**	**7.40**	**246**	P		**Pn**		**10 39 21.2**	**+0.3**
PET	**Petropavlovsk**	**7.65**	**26**	*e*PN		**Pn**		**10 39 24.8**	**+0.6**
PET				pmax	pmax				
	comp=Z,71nm,0.9s								
PET				MLR	MLR				
	comp=Z,1μm,18.0s								
PET	**Petropavlovsk**	**7.65**	**26**	*e*Pn		**Pn**		**10 39 25.7**	**+1.5**
JKK2	**Kamakawa 2**	**7.69**	**255**	P		**Pn**		**10 39 27.2**	**+2.4**
ASAJ	**Asahikawa**	**7.70**	**257**	Pn		**Pn**		**10 39 27.5**	**+2.5**
	comp=Z,5.1nm,0.3s,baz=100,slow=15,SNR=22								
ASAJ	**Asahikawa**	**7.70**	**257**	P		**Pn**		**10 39 27.7**	**+2.7**
ASAJ	**Asahikawa**	**7.70**	**257**	PN		**Pn**		**10 39 27.5**	**+2.5**
ASAJ				pmax	pmax				
	comp=Z,5.0nm,0.3s								
JCH	**Churui**	**7.85**	**245**	P		**Pn**		**10 39 26.7**	**-0.3**
JCH				*e*S		**Sn**		**10 40 50.8**	**-5.4**
JWK2	**Keihoku**	**7.86**	**267**	P		**Pn**		**10 39 32.8**	**+5.7**
UGL	**Uglegorsk**	**7.92**	**295**	*e*PN		**Pn**		**10 39 33.8**	**+5.8**
UGL				S		**Sn**		**10 41 03.0**	**+5.2**
UGL				pmax	pmax				
	comp=Z,180nm,0.8s								
UGL				smax					
	comp=N,95nm,0.6s								
UGL				smax					
	comp=E,95nm,0.6s								
JFR	**Furan**	**8.08**	**251**	P		**Pn**		**10 39 32.6**	**+2.4**
JAB	**Ashibetsu**	**8.18**	**254**	P		**Pn**		**10 39 34.4**	**+2.8**
TYV	**Tymovskoe**	**8.27**	**307**	*e*P		**Pn**		**10 39 37.5**	**+4.8**
TYV				AMB	AMB	10 39 40.0			
	comp=E,72nm,0.8s								
TYV				AMB	AMB	10 39 46.0			
	comp=E,2μm,9.0s								
TYV				AMB	AMB	10 39 46.0			
	comp=E,2μm,11.0s								
TYV				AMS	AMS	10 42 56.0			
	comp=E,4μm,18.0s								
TYV				AMS	AMS	10 42 56.0			
	comp=E,6μm,18.0s								
TYV				AMS	AMS	10 42 56.0			
	comp=E,7μm,18.0s								
ERM	**Erimo**	**8.30**	**242**	*e*PN		**Pn**		**10 39 34.3**	**+1.1**
ERM				pmax	pmax				
	comp=Z,101nm,0.6s								
ERM	**Erimo**	**8.30**	**242**	*e*Pn		**Pn**		**10 39 34.3**	**+1.1**
	comp=Z,100nm,0.6s								
ERM				*e*Sn		**Sn**		**10 40 56.6**	**-11**
JBT2	**Biratori 2**	**8.41**	**249**	P		**Pn**		**10 39 34.9**	**+0.2**
JNB	**Noboribetsu**	**9.42**	**250**	P		**Pn**		**10 39 48.6**	**+0.1**
JKB	**Kayabe**	**9.71**	**247**	P		**Pn**		**10 39 51.2**	**-1.3**
JKB				*e*S		**Sn**		**10 41 32.9**	**-8.9**
JYM2	**Yakumo 2**	**10.02**	**250**	P		**Pn**		**10 39 55.3**	**-1.5**
JANG	**Nango**	**10.28**	**239**	P		**Pn**		**10 39 56.3**	**-4.0**
JANG				*e*S		**Sn**		**10 41 43.4**	**-12**
JTM	**Tenmabayashi**	**10.29**	**242**	P		**Pn**		**10 39 57.7**	**-2.8**
JTM				*e*S		**Sn**		**10 41 45.1**	**-11**
NKL	**Nikolayevsk**	**10.54**	**315**	*e*P		**Pn**		**10 40 07.0**	**+3.2**
NKL				AMB	AMB	10 40 16.2			
	comp=Z,260nm,1.5s								
NKL				AMB	AMB	10 40 16.2			
	comp=Z,320nm,1.5s								
NKL				*e*L				10 43 18.0	
NKL				AMS	AMS	10 44 56.0			
	comp=Z,4μm,16.0s								
NKL				AMS	AMS	10 44 56.0			
	comp=Z,3μm,16.0s								
NKL				AMS	AMS	10 44 56.0			
	comp=Z,7μm,16.0s								
JOSM	**Okushiri--Mats**	**10.62**	**251**	P		**Pn**		**10 40 05.3**	**+0.3**
OFUJ	**Ofunato**	**11.05**	**233**	P		**Pn**		**10 40 06.9**	**-4.0**
JIO	**Ouri**	**11.67**	**232**	P		**Pn**		**10 40 14.5**	**-4.8**
HABR	**Khabarovsk**	**12.40**	**287**	*e*PN		**Pn**		**10 40 34.6**	**+5.3**
HABR				S		**Sn**		**10 42 57.3**	**+10**
JFY	**Yanaizu**	**13.32**	**233**	P		**Pn**		**10 40 39.5**	**-2.5**
KLR	**Kul'dur**	**14.62**	**289**	*e*P		**Pn**		**10 41 00.0**	**+0.4**
MJAR	**Matsushiro Arr**	**14.78**	**234**	Pn		**Pn**		**10 40 58.7**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=15								
MJAR	**Matsushiro Arr**	**14.78**	**234**	P		**Pn**		**10 40 58.7**	**-3.1**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**14.78**	**234**	*e*P		**Pn**		**10 40 58.6**	**-3.2**
MAT	**Matsushiro**	**14.78**	**234**	P		**Pn**		**10 40 58.3**	**-3.5**
JNG	**Nsakai**	**14.94**	**234**	P		**Pn**		**10 41 01.3**	**-2.7**
MDJ	**Mudanjiang**	**16.54**	**273**	P		**Pn**		**10 41 24.6**	**-0.2**
MDJ				AP		pP		10 41 30.4	+1.1
MDJ				S		**Sn**		**10 44 26.8**	**-1.8**
MDJ				AMB	AMB				
	comp=Z,92nm,1.1s								
MDJ				AMB	AMB				
	comp=Z,203nm,3.8s								
MDJ				LR	LR				
	comp=N,774nm,18.0s								
MDJ				LR	LR				
	comp=E,603nm,21.0s								
MDJ				LR	LR				
	comp=Z,2μm,16.5s								
MDJ	**Mudanjiang**	**16.54**	**273**	*e*P		**Pn**		**10 41 25.3**	**+0.5**
	comp=Z,85nm,1.0s								
SEY	**Seymchan**	**16.67**	**359**	*e*P		**Pn**		**10 41 25.6**	**-1.0**
ZEA	**Zeya**	**18.10**	**304**	*e*P		**Pn**		**10 41 42.3**	**-2.1**
ZEA				AMB	AMB	10 41 44.2			
	comp=Z,58nm,1.2s								
ZEA				AMB	AMB	10 41 44.2			
	comp=Z,65nm,1.4s								
ZEA				AMB	AMB	10 41 44.2			
	comp=Z,78nm,1.4s								
ZEA				AMB	AMB	10 41 48.0			
	comp=Z,800nm,6.0s								
ZEA				AMB	AMB	10 41 48.0			
	comp=Z,900nm,5.0s								
CN2	**Changchun**	**19.63**	**273**	*e*P		**Pn**		**10 42 02.1**	**-0.7**
CN2				*e*AP		pP		10 42 05.8	+2.4
CN2				*e*S		**Sn**		**10 45 35.1**	**-8.3**
CN2				AMB	AMB				
	comp=Z,70nm,0.8s								
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,1μm,13.0s								
CN2				LR	LR				
	comp=E,1μm,13.0s								
CN2				LR	LR				
	comp=Z,1μm,16.0s								
CLNS	**Chul'man**	**20.29**	**312**	*e*P		**P**		**10 42 08.5**	**-0.2**
CLNS				*e*PPP				10 42 22.2	
CLNS				*e*S		**S**		**10 45 42.3**	**-14**
CLNS				*e*				10 46 21.8	
CLNS				pmax	pmax				
	comp=E,22nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,28nm,0.9s								
CLNS				pmax	pmax				
	comp=N,26nm,0.8s								
CLNS				smax					
	comp=N,7.0nm,1.1s								
CLNS				smax					
	comp=E,11nm,1.1s								
CLNS				smax					
	comp=Z,8.0nm,1.4s								
CLNS				MLR	MLR				
	comp=Z,4μm,17.0s,MS4.8								
CLNS				MLR	MLR				
	comp=N,500nm,11.0s								
CLNS				MLR	MLR				
	comp=E,1μm,11.0s								
KSRS	**Korea Array**	**20.63**	**254**	P		**P**		**10 42 13.2**	**+0.8**
	comp=E,26nm,0.8s,baz=59,slow=11,SNR=28								
KSRS				LR	LR	10 49 10.0			
	comp=E,724nm,21.2s,MS4.0,baz=64,slow=34								
KS15	**Wonju Array Si**	**20.66**	**254**	*e*Pn		**P**		**10 42 14.2**	**+1.5**
YAK	**Yakutsk**	**20.68**	**328**	*e*P		**P**		**10 42 12.8**	**-0.2**
YAK				*e*				10 42 33.9	
YAK				*e*SS				10 46 30.4	
YAK				pmax	pmax				
	comp=Z,31nm,0.9s								
YAK				pmax	pmax				
	comp=N,21nm,1.5s								
YAK				pmax	pmax				
	comp=E,20nm,1.4s								
YAK				pmax	pmax				
	comp=N,23nm,0.9s								
YAK				pmax	pmax				
	comp=Z,20nm,0.9s

comp=Z,14nm,0.8s,mb4.4
BILL Bilibino 22.84 13 *e*P **P 10 42 35.2 -0.9**
BILL *e* 10 42 43.7
BILL *e*S **S 10 46 39.6 -6.4**
BILL pmax pmax
comp=Z,16nm,0.9s,mb4.5
BILL MLR MLR
comp=Z,1μm,16.0s,MS4.3
BILL Bilibino 22.84 13 *e*P **P 10 42 35.6 -0.5**
comp=Z,23nm,0.9s,mb4.6
CIT Chita 26.21 297 *e*P **P 10 43 05.2 -2.6**
CIT *e* 10 43 45.2
BOD Bodaibo 26.25 310 *e*P **P 10 43 06.0 -2.1**
BOD pmax pmax
comp=Z,21nm,1.3s,mb4.5
BJI Beijing 27.43 270 P **P 10 43 19.3 +0.5**
BJI S **S 10 48 05.5 +6.0**
BJI AMB AMB
comp=Z,42nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,568nm,7.3s
BJI LR LR
comp=N,1μm,16.9s,MS4.6
BJI LR LR
comp=E,589nm,14.4s,MS4.6
BJI LR LR
comp=Z,944nm,18.3s,MS4.4
BJI Beijing 27.43 270 P **P 10 43 19.3 +0.5**
comp=Z,42nm,0.9s,mb5.0
BJI S **S 10 48 05.5 +6.0**
BJI LR LR
comp=Z,940nm,18.3s,MS4.4
BJT Baijiatuau 27.45 270 *e*P **P 10 43 19.4 +0.4**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuau 27.45 270 *e*P **P 10 43 19.4 +0.4**
comp=Z,23nm,0.8s,mb4.8
TIXI Tiksi 27.89 344 *e*P **P 10 43 20.8 -2.1**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
SSE Sheshan 28.90 250 P **P 10 43 33.8 +1.9**
SSE S **S 10 48 28.3 +5.7**
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,175nm,4.9s
SSE LR LR
comp=N,275nm,27.5s,MS3.8
SSE LR LR
comp=E,157nm,27.5s,MS3.8
SSE LR LR
comp=Z,325nm,22.0s
SSE Sheshan 28.90 250 P **P 10 43 33.7 +1.8**
comp=Z,29nm,0.8s,mb5.1
SSE S **S 10 48 28.2 +5.6**
SSE sS sS 10 48 47.0 +21
SSE LR LR
comp=Z,330nm,22.0s,MS3.9
NJ2 Nanjing 29.83 254 *e*P **P 10 43 42.8 +2.7**
NJ2 AP pP 10 43 48.1 +5.9
NJ2 XP sP 10 43 52.3 +9.3
NJ2 PP PP 10 44 40.9 -6.5
NJ2 S **S 10 48 37.5 +0.3**
NJ2 XS sS 10 48 45.5 +5.0
NJ2 AMB AMB
comp=Z,470nm,4.8s
NJ2 LR LR
comp=N,360nm,13.8s,MS4.4
NJ2 LR LR
comp=E,470nm,15.2s,MS4.4
NJ2 LR LR
comp=Z,770nm,14.4s,MS4.5
HHC Hu-ho-hao-te 30.29 275⇓ *i*P **P 10 43 44.3 +0.1**
HHC AP pP 10 43 49.1 +2.9
HHC XP sP 10 43 51.3 +4.3
HHC PP 10 44 41.8
HHC PCP PcP 10 46 44.9 +0.3
HHC S **S 10 48 42.3 -2.1**
HHC SS 10 50 17.3
HHC AMB AMB
comp=Z,52nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,270nm,8.2s
HHC LR LR
comp=N,994nm,15.6s,MS4.7
HHC LR LR
comp=E,853nm,15.1s,MS4.7
HHC LR LR
comp=Z,1μm,15.0s,MS4.7
ULN Ulaanbaatar 31.01 290 *e*P **P 10 43 49.8 -0.8**
ULN pmax pmax
comp=Z,14nm,1.0s,mb4.8
ULN Ulaanbaatar 31.01 290 *e*P **P 10 43 49.8 -0.8**
comp=Z,14nm,0.9s,mb4.8
SONM Songino Array 31.45 290 P **P 10 43 53.9 -0.6**
comp=Z,2.6nm,0.7s,mb4.2,baz=74,slow=8.1,SNR=18
SONM PcP PcP 10 46 47.4 -0.3
comp=Z,2.3nm,0.9s,baz=82,slow=2.5,SNR=5.5
SONM LR LR 10 57 28.3
comp=Z,701nm,19.4s,MS4.3,baz=65,slow=38
SONM Songino Array 31.45 290 P **P 10 43 53.9 -0.5**
SONM 10 46 47.4
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM MLR MLR
comp=Z,701nm,19.4s
BTO Baotou 31.46 275 *e*P **P 10 43 54.5 0.0**
TLY Talaya 32.35 298 *e*P **P 10 44 01.7 -0.7**
TLY *e* 10 45 18.4
TLY *e*SS 10 51 05.1
TLY pmax pmax
comp=Z,19nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.8
TLY Talaya 32.35 298 *e*P **P 10 44 01.5 -0.9**
ZAK Zakamensk 32.84 296⇑ *i*P **P 10 44 06.0 -0.6**
ZAK *e* 10 45 23.3
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
SVW2 Sparrevohn 32.84 44 *e*P **P 10 44 07.6 +0.9**
GUMO Guam 33.33 195 LR LR 10 57 03.3
comp=Z,376nm,18.0s,MS4.2,baz=25,slow=35
WHN Wuhan 33.78 256 *e*P **P 10 44 15.0 +0.1**
IMA2 Indian Mountai 34.20 36 *e*P **P 10 44 18.4 -0.1**
KDAK Kodiak Island 34.42 50 P **P 10 44 18.9 -1.6**
comp=Z,3.7nm,0.5s,mb4.5,baz=276,slow=18,SNR=2.0
XAN Xi'an 35.44 266 P **P 10 44 29.4 +0.2**
XAN S **S 10 50 09.4 +4.9**
XAN AMB AMB
comp=Z,25nm,1.5s,mb4.9
XAN LR LR
comp=N,182nm,14.0s,MS4.3
XAN LR LR
comp=E,366nm,15.4s,MS4.3
XAN LR LR
comp=Z,487nm,17.4s,MS4.3
MCK McKinley 36.02 40 *e*P **P 10 44 34.4 +0.2**
SML Sawmill 36.33 43 *e*P **P 10 44 37.1 +0.3**
COLA College 36.52 38⇑ *e*P **P 10 44 37.5 -1.0**
COLA College 36.52 38 *e*P **P 10 44 38.7 +0.2**
comp=Z,17nm,0.9s,mb4.9
DIV Divide 37.60 44 *e*P **P 10 44 49.0 +1.4**
comp=Z,138nm,1.1s,mb5.6
KRAR Krasnoyarsk 37.83 307 *e*P **P 10 44 48.1 -1.5**
KRAR pmax pmax
comp=Z,17nm,1.0s,mb4.7
LZH Lanzhou 37.86 272⇑ P **P 10 44 51.0 +1.1**
LZH AP pP 10 44 54.5 +2.6
LZH XP sP 10 44 55.5 +2.8
LZH PP PP 10 46 22.4 +6.1
LZH PCP PcP 10 47 05.5 -0.7
LZH *e*S **S 10 50 42.1 +0.6**
LZH XS sS 10 50 49.0 +4.2
LZH AMB AMB
comp=Z,71nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,330nm,4.2s
LZH LR LR
comp=N,886nm,14.4s
LZH LR LR
comp=Z,2μm,15.1s,MS5.0
LZH Lanzhou 37.86 272⇑ P **P 10 44 51.0 +1.1**
LZH 10 46 22.4
LZH 10 47 05.5
LZH *e*S **S 10 50 42.1 +0.6**
LZH SS SS 10 53 16.1 -11
LZH pmax pmax
comp=Z,71nm,1.0s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.1s,MS5.0
LZH Lanzhou 37.86 272⇑ P **P 10 44 51.0 +1.1**
comp=Z,71nm,1.0s,mb5.3
LZH pP pP 10 44 54.5 +2.6
LZH sP sP 10 44 55.5 +2.8
LZH PP PP 10 46 22.4 +6.1
LZH PcP PcP 10 47 05.5 -0.7
LZH *e*S **S 10 50 42.1 +0.6**
LZH sS sS 10 50 49.0 +4.2
LZH SS SS 10 53 16.1 -11
LZH LR LR
comp=Z,2μm,15.1s,MS5.0
GTA Gaotai 39.00 280⇑ *i*P **P 10 45 00.5 +1.0**
GTA AP pP 10 45 04.4 +2.9
GTA XP sP 10 45 07.3 +5.0
GTA PP PP 10 46 34.0 +5.2
GTA PCP PcP 10 47 10.8 +1.1
GTA S **S 10 50 59.0 +0.3**
GTA XS sS 10 51 05.8 +3.8
GTA SS SS 10 53 42.9 -7.6
GTA AMB AMB
comp=Z,54nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,326nm,9.5s
GTA LR LR
comp=N,676nm,15.6s,MS4.7
GTA LR LR
comp=E,546nm,15.2s,MS4.7
GTA LR LR
comp=Z,648nm,16.7s,MS4.5
EGAK Eagle 39.38 38 *e*P **P 10 45 01.9 -0.7**
comp=Z,34nm,1.2s,mb5.0
DAWY Dawson 40.22 39 *e*P **P 10 45 11.8 +2.2**
CD2 Chengdu 40.80 266 P **P 10 45 14.8 +0.4**
CD2 AP pP 10 45 19.3 +2.8
CD2 XP sP 10 45 21.9 +4.6
CD2 PP PP 10 46 52.3 +3.9
CD2 S **S 10 51 24.3 -1.3**
CD2 XS sS 10 51 32.0 +3.0
CD2 SS SS 10 54 19.9 -6.6
CD2 AMB AMB
comp=Z,80nm,1.1s,mb5.3
CD2 AMB AMB
comp=Z,380nm,6.1s
CD2 LR LR
comp=E,420nm,12.0s
CD2 LR LR
comp=Z,530nm,14.1s,MS4.5
GYA Guiyang 41.58 258⇑ *i*P **P 10 45 20.8 0.0**
GYA AP pP 10 45 24.8 +1.9
GYA XP sP 10 45 28.8 +5.1
GYA PP PP 10 47 00.3 +3.5
GYA PCP PcP 10 47 19.9 +1.9
GYA SCP ScP 10 51 08.8 +0.2
GYA S **S 10 51 36.0 -1.2**
GYA SS SS 10 54 33.8 -8.1
GYA SCS ScS 10 55 23.3 -1.7
GYA AMB AMB
comp=Z,80nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,160nm,4.9s
GYA LR LR
comp=N,640nm,15.8s,MS4.8
GYA LR LR
comp=E,740nm,16.4s,MS4.8
GYA LR LR
comp=Z,710nm,16.0s,MS4.6
INK Inuvik 42.05 32 P **P 10 45 24.7 0.0**
comp=Z,7.1nm,0.7s,mb4.4,baz=277,slow=5.8,SNR=51
INK Inuvik 42.05 32 P **P 10 45 24.7 0.0**
INK pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 42.05 32 *e*P **P 10 45 25.1 +0.4**
comp=Z,470nm,0.9s,mb6.1
ZAL Zalesovo 42.86 306 P **P 10 45 29.3 -1.9**
comp=Z,4.8nm,0.9s,mb4.2,baz=43,slow=8.5,SNR=24
ZAL PcP PcP 10 47 21.6 -0.6
comp=Z,2.7nm,0.7s,baz=42,slow=4.4,SNR=6.6
ZAL LR LR 11 05 12.7
comp=Z,3μm,18.1s,MS5.2,baz=38,slow=39
ZAL Zalesovo 42.86 306 P **P 10 45 29.3 -2.0**
ZAL 10 47 21.6
ZAL pmax pmax
comp=Z,5.0nm,0.9s
ZAL MLR MLR
comp=Z,3μm,18.1s
NVS Novosibirsk 43.43 308 *e*P **P 10 45 34.0 -1.9**
NVS *e*S **S 10 51 56.5 -8.0**
NVS pmax pmax
comp=Z,42nm,1.9s,mb4.8
NVS pmax pmax
comp=E,36nm,1.8s
NVS smax
comp=E,33nm,1.9s
QIZ Qiongzhong 44.64 247 P **P 10 45 47.9 +2.3**
QIZ AP pP 10 45 57.3 +10
QIZ S **S 10 52 23.4 +1.4**
QIZ AMB AMB
comp=Z,23nm,1.9s,mb4.7
QIZ AMB AMB
comp=Z,304nm,4.8s
QIZ LR LR
comp=N,444nm,17.0s
QIZ LR LR
comp=Z,359nm,18.6s,MS4.3
WMQ Urumqi 45.05 292⇑ P **P 10 45 49.1 +0.2**
WMQ AP pP 10 45 53.6 +2.6
WMQ XP sP 10 45 56.1 +4.3
WMQ S **S 10 52 31.4 +3.3**
WMQ XS sS 10 52 34.3 +2.8
WMQ AMB AMB
comp=Z,11nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,266nm,6.4s
WMQ LR LR
comp=N,587nm,19.6s,MS4.5
WMQ LR LR
comp=E,241nm,21.9s,MS4.5
WMQ LR LR
comp=Z,581nm,16.3s
KMI Kunming 45.12 260 P **P 10 45 50.0 +0.6**
KMI AP pP 10 45 54.8 +3.3
KMI XP sP 10 45 56.4 +4.1
KMI PP PP 10 47 37.8 +3.0
KMI S **S 10 52 30.4 +1.3**
KMI XS sS 10 52 37.5 +5.0
KMI AMB AMB
comp=Z,23nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,205nm,6.0s
KMI LR LR
comp=N,283nm,17.0s,MS4.5
KMI LR LR
comp=E,446nm,17.0s,MS4.5
KMI LR LR
comp=Z,535nm,16.1s,MS4.6
KMI Kunming 45.12 260 P **P 10 45 50.0 +0.6**
KMI 10 47 37.7
KMI PPP 10 48 21.5
KMI S **S 10 52 30.4 +1.3**
KMI *SS sS 10 52 37.5 +5.0
KMI SSS 10 56 39.8
KMI pmax pmax
comp=Z,23nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,540nm,16.1s,MS4.6
KMI Kunming 45.12 260 P **P 10 45 50.0 +0.6**
comp=Z,23nm,1.1s,mb4.9
KMI pP pP 10 45 54.8 +3.3
KMI sP sP 10 45 56.4 +4.1
KMI PP PP 10 47 37.7 +2.9
KMI PPP 10 48 21.5
KMI S **S 10 52 30.4 +1.3**
KMI sS sS 10 52 37.5 +5.0
KMI SS SS 10 55 48.2 -3.1
KMI SSS 10 56 39.8
KMI LR LR
comp=Z,540nm,16.1s,MS4.6
DLBC Dease Lake 45.94 45 *e*P **P 10 45 57.9 +2.0**
MK31 Makanchi Array 47.11 298 *e*P **P 10 46 04.3 -0.8**
MKAR Makanchi Array 47.11 298 P **P 10 46 04.4 -0.8**
comp=Z,21nm,0.8s,mb5.1,baz=64,slow=8.2,SNR=89
MKAR LR LR 11 07 03.8
comp=Z,1μm,18.7s,MS4.9,baz=69,slow=38
MKAR Makanchi Array 47.11 298 *i* P **P 10 46 04.3 -0.8**
MKAR pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 47.58 304 P **P 10 46 07.5 -1.3**
comp=Z,262nm,0.8s,SNR=17
ALE Alert 50.20 6 P **P 10 46 28.6 -0.2**
comp=Z,68nm,1.0s,mb5.6,SNR=6.8
LSA Lhasa 50.26 273 P **P 10 46 31.3 +2.0**
LSA Lhasa 50.26 273 *e*P **P 10 46 31.6 +2.3**
LSA pmax pmax
comp=Z,22nm,0.8s,mb5.2
LSA Lhasa 50.26 273 *e*P **P 10 46 31.6 +2.3**
comp=Z,22nm,0.8s,mb5.2
NANT Nan 50.80 255⇑ P **P 10 46 32.0 -1.4**
comp=Z,125nm,1.0s,mb5.8
VOSK Vostochnaya 50.94 309 P **P 10 46 33.1 -1.4**
VOSK pmax pmax
comp=Z,19nm,0.9s,mb5.0
BVA0 Borovoye Array 51.12 310 *i* P **P 10 46 34.6 -1.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 51.12 310 P **P 10 46 34.6 -1.1**
comp=Z,7.1nm,0.7s,mb4.7,baz=60,slow=8.8,SNR=39
BVAR PcP PcP 10 47 51.0 -0.4
comp=Z,4.3nm,0.8s,baz=54,slow=7.5,SNR=4.3
BVAR Borovoye Array 51.12 310 P **P 10 46 34.6 -1.2**
BVAR 10 47 51.0
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 51.16 310 P **P 10 46 35.1 -1.0**
comp=Z,160nm,1.1s,mb5.9,SNR=11
BRVK Borovoye 51.16 310 *e*P **P 10 46 35.3 -0.8**
BRVK pmax pmax
comp=Z,28nm,1.0s,mb5.2
BRVK Borovoye 51.16 310 *e*P **P 10 46 35.3 -0.8**
comp=Z,28nm,1.0s,mb5.1
RES Resolute Bay 51.28 18 *e*P **P 10 46 36.3 -0.7**
comp=Z,411nm,1.0s
YKA Yellowknife Ar 51.31 36 P **P 10 46 37.2 0.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=297,slow=7.4,SNR=8.0
YKA Yellowknife Ar 51.31 36 P **P 10 46 37.2 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 51.31 36 P **P 10 46 37.2 0.0**
CHG Chiang Mai 51.98 257⇑ P **P 10 46 43.1 +0.9**
comp=Z,28nm,0.9s,mb5.2
CHTO Chiang Mai 51.98 257 P **P 10 46 42.5 +0.3**
CHTO pmax pmax
comp=Z,17nm,0.9s,mb5.0
CHTO Chiang Mai 51.98 257 *e*P **P 10 46 42.8 +0.6**
comp=Z,17nm,0.8s,mb5.0
CM31 Chiang Mai Arr 52.23 257 *e*P **P 10 46 45.4 +1.3**
comp=Z,7.8nm,0.7s,mb4.8
ULHL Ulahol 53.12 295 P **P 10 46 51.5 +0.8**
SNR=5.8
TKM2 Tokmak 2 53.16 296 P **P 10 46 51.6 +0.6**
SNR=7.6
CHMS Chumysh 53.64 297 P **P 10 46 55.0 +0.4**
SNR=5.5
USP Ospenovka 53.66 297 P **P 10 46 55.0 +0.4**
SNR=28
KBK Karagaybulak 53.71 296 P **P 10 46 55.9 +0.9**
SNR=12
KZA Kyzart 53.83 296 P **P 10 46 57.5 +1.6**
SNR=9.0
AAK Ala-Archa 54.00 297 P **P 10 46 57.6 +0.4**
SNR=14
AAK Ala-Archa 54.00 297 P **P 10 46 56.3 -0.9**
comp=Z,157nm,0.8s,mb6.0,SNR=10
AAK Ala-Archa 54.00 297*c* *i*P **P 10 46 56.2 -1.0**
AAK pmax pmax
comp=Z,22nm,0.8s,mb5.1
AAK Ala-Archa 54.00 297 *e*P **P 10 46 56.5 -0.7**
EKS2 Erkin-Say 54.43 297 P **P 10 47 00.8 +0.6**
SNR=15
AML Almayashu 54.77 296 P **P 10 47 03.7 +0.9**
SNR=13
JIRN Jiri 54.94 275 *e*P **P 10 47 05.5 +1.5**
comp=Z,83nm,0.7s,mb5.8
GUN Gumba 55.00 275 *e*P **P 10 47 05.7 +1.3**
A07A Ashnola River, 55.25 53⇑ P **P 10 47 05.6 -0.6**
baz=55
ARU Arti 55.32 318⇓ *i*P **P 10 47 04.1 -2.6**
ARU *e* 10 49 09.2
ARU *e*S **S 10 54 45.6 -5.5**
ARU *e*SS SS 10 58 36.7 +1.3
ARU pmax pmax
comp=Z,24nm,1.2s,mb5.1
ARU MLR MLR
comp=N,300nm,18.0s,MS4.8
ARU MLR MLR
comp=Z,800nm,18.0s,MS4.8
ARU MLR MLR
comp=E,600nm,17.0s,MS4.8
ARU Arti 55.32 318 *e*P **P 10 47 05.4 -1.3**
comp=E,10nm,0.4s,mb5.2
KKN Kakani 55.49 276 *e*P **P 10 47 09.3 +1.3**
comp=E,78nm,0.9s,mb5.8
PKI Pulchoki 55.54 275 *e*P **P 10 47 09.4 +1.1**
B07A Winthrop 55.71 54⇑ P **P 10 47 06.7 -2.9**
baz=56
DMN Daman 55.72 276 *e*P **P 10 47 11.1 +1.5**
comp=E,132nm,1.0s,mb5.9
GKN Gorkha 55.80 276 *e*P **P 10 47 11.4 +1.2**
comp=E,126nm,0.8s,mb6.0
C07A Waterville 56.17 54⇑ P **P 10 47 12.9 +0.1**
baz=56
KK31 Karatay Array 56.18 299 *i* P **P 10 47 12.6 -0.3**
KK31 pmax pmax
comp=Z,18nm,0.8s,mb5.2
KKAR Karatay Array 56.18 299 *i* P **P 10 47 12.6 -0.3**
KKAR pmax pmax
comp=Z,16nm,0.9s,mb5.0
B08A Colville Reser 56.21 53⇑ P **P 10 47 12.8 -0.3**
baz=56
A09A Danville 56.28 52⇑ P **P 10 47 14.6 +1.0**
baz=56
J02A Umpqua 56.53 60⇓ P **P 10 47 14.6 -0.8**
baz=56
EDM Edmonton 56.66 46 *e*P **P 10 47 16.0 -0.3**
KOLN Koldanda 56.66 277 *e*P **P 10 47 17.6 +1.3**
comp=Z,121nm,0.9s,mb6.0
C08A Higginbotham F 56.69 54⇓ P **P 10 47 15.9 -0.6**
baz=56
B09A Rice 56.83 53⇑ P **P 10 47 17.2 -0.3**
baz=57
E07A Sunnyside 56.92 55⇓ P **P 10 47 16.9 -1.2**
baz=57
K02A Glendale 56.93 61⇓ P **P 10 47 18.4 +0.2**
baz=57
I04A Tendick Farm, 56.99 59⇑ P **P 10 47 19.5 +0.8**
baz=57
C09A Chrisman Ranch 57.11 53⇓ P **P 10 47 18.9 -0.6**
baz=57
D08A Wollman Farm, 57.17 54⇑ P **P 10 47 19.0 -0.9**
baz=57
H05A Madras 57.20 58⇑ P **P 10 47 19.7 -0.5**
baz=57
F07A Phinny Hill Vi 57.25 56⇑ P **P 10 47 20.9 +0.4**
baz=57
E08A Dider Farm, El 57.41 55⇑ P **P 10 47 21.0 -0.6**
baz=57
I05A Bend 57.46 58⇓ P **P 10 47 21.5 -0.5**
baz=57
NEW Newport 57.48 52 P **P 10 47 22.2 +0.1**
comp=Z,1.8nm,0.4s,mb4.4,baz=225,slow=14,SNR=3.0
NEW Newport 57.48 52 P **P 10 47 22.2 +0.1**
NEW pmax pmax
comp=Z,2.0nm,0.4s
NEW Newport 57.48 52 *e*P **P 10 47 22.4 +0.3**
A11A Hall Mountain, 57.50 51⇑ P **P 10 47 22.9 +0.6**
baz=57
D09A Jones Farm, Ri 57.51 54⇓ P **P 10 47 20.7 -1.6**
baz=57
BOK Bokaro 57.62 271 *e*P **P 10 47 23.4 +0.2**
BOK AMb AMB 10 47 25.4
comp=Z,37nm,1.1s,mb5.3
C10A Spilker Farm, 57.63 53⇓ P **P 10 47 21.6 -1.6**
baz=57
H06A Lindquist Farm 57.68 57⇑ P **P 10 47 21.0 -2.5**
baz=58

APA Apatity 57.74 337 ⇓*i*P P 10 47 21.0 -2.9
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1µm,18.0s,MS5.0
KEV Kevo 57.76 341 *e*p P 10 47 22.4 -1.7
comp=Z,1.5nm,0.4s,mb4.4
KEV Kevo 57.76 341 *e*P P 10 47 22.4 -1.7
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
B11A Sandpoint 57.80 52 ⇓P P 10 47 24.0 -0.3
baz=58
E09A Wood Farm, Sta 57.91 55 ⇑P P 10 47 24.3 -0.9
baz=58
F08A Pendleton 57.97 56 ⇑P P 10 47 24.7 -0.9
baz=58
J05A Fort Rock 57.98 59 ⇑P P 10 47 24.8 -0.8
baz=58
YBH Yreka Blue Hor 57.99 61 P P 10 47 25.4 -0.3
comp=Z,3.1nm,0.9s,mb4.3,baz=186,slow=7.6,SNR=2.8
YBH Yreka Blue Hor 57.99 61 P P 10 47 25.4 -0.4
YBH pmax pmax
comp=Z,3.0nm,1.0s
YBH Yreka Blue Hor 57.99 61 ⇑P P 10 47 24.0 -1.8
baz=58
G08A Pilot Rock 58.16 56 ⇓P P 10 47 26.6 -0.2
baz=58
N02C Big Bar 58.16 63 ⇓P P 10 47 26.8 -0.1
baz=58
I06A Prineville 58.21 58 ⇑P P 10 47 28.3 +1.1
baz=58
ARCES ARCESS Array B 58.27 341 P P 10 47 27.0 -0.7
comp=Z,2.0nm,0.5s,mb4.4,baz=29,slow=6.8,SNR=15
ARCES LR LR 11 18 26.9
comp=Z,403nm,18.3s,MS4.6,baz=31,slow=42
M04C Macdoel 58.49 61 ⇓P P 10 47 29.4 +0.2
baz=58
E10A Myers Farm, Un 58.51 54 ⇓P P 10 47 29.8 +0.4
baz=58
F09A S2 Ranch, Elgi 58.51 55 ⇑P P 10 47 30.1 +0.7
baz=58
I07A Izee 58.54 58 ⇓P P 10 47 29.4 -0.2
baz=58
D11A Klaveano Farm, 58.62 53 ⇓P P 10 47 29.2 -1.0
baz=58
J06A Christmas Vall 58.64 59 ⇓P P 10 47 29.1 -1.2
baz=58
AB31 Akbulak array 58.69 310 *i* P P 10 47 29.7 -0.9
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
C12A Trout Creek 58.71 52 ⇓P P 10 47 30.1 -0.7
baz=58
F10A Beach Ranch, E 58.75 55 ⇑P P 10 47 31.1 +0.1
baz=58
WALA Waterton Lakes 58.76 50 *e*P P 10 47 30.9 -0.2
comp=Z,31nm,1.4s,mb5.2
WALA *e* 10 47 43.1
H08A Prairie City 58.77 57 ⇑P P 10 47 31.3 +0.1
baz=59
WDC Whiskeytown Da 58.77 62 ⇑P P 10 47 31.4 +0.2
baz=59
K06A Valley Falls 58.85 59 ⇓P P 10 47 31.2 -0.5
baz=59
B13A Whitefish 58.86 51 P P 10 47 32.4 +0.5
baz=59,SNR=6.8
AKTK Aktyubinsk 59.00 312 P P 10 47 31.5 -1.3
AKTO Aktyubinsk 59.00 312 P P 10 47 31.5 -1.3
comp=Z,4.5nm,0.8s,mb4.6,baz=67,slow=5.7,SNR=12
AKTO Aktyubinsk 59.00 312 P P 10 47 31.5 -1.3
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BSMT Bassoo Peak 59.00 52 *e*P P 10 47 33.7 +0.9
THN Thein Dam 59.13 286 *e*P P 10 47 33.1 -0.5
KTK1 Kautokeino 59.19 341 *e*P P 10 47 33.8 -0.2
KTK1 AMb AMB 10 47 44.3
comp=Z,43nm,2.0s,mb5.1
KTK1 Kautokeino 59.19 341 *e*P P 10 47 33.8 -0.2
comp=Z,43nm,2.0s,mb5.1
I08A Drewsey 59.19 57 ⇑P P 10 47 33.9 -0.2
baz=59
C13A Hot Springs 59.22 52 ⇑P P 10 47 34.3 0.0
baz=59
BMO Blue Mountains 59.36 56 *e*P P 10 47 38.2 +2.9
comp=Z,24nm,1.4s,mb5.0
F11A Grangeville 59.40 54 ⇑P P 10 47 34.9 -0.6
baz=59
K07A Rock Creek Ran 59.51 59 ⇓P P 10 47 36.1 -0.2
baz=59
J08A Circle Bar Ran 59.57 58 ⇓P P 10 47 36.2 -0.5
baz=59
TRO Tromso 59.60 343 *e*P P 10 47 35.0 -1.9
TRO AMb AMB 10 47 37.3
comp=Z,36nm,1.4s,mb5.2
D13A Huson 59.63 52 ⇓P P 10 47 35.5 -1.6
baz=59
I09A Lost Marbles R 59.63 57 ⇓P P 10 47 36.6 -0.6
baz=59
M06C Likely Place G 59.66 61 ⇑P P 10 47 36.2 -1.1
baz=60
MNRC McLaughlin Nat 59.85 64 ⇓P P 10 47 37.2 -1.4
baz=60
K08A Mann Creek Ran 59.94 58 ⇓P P 10 47 39.4 +0.1
baz=60
F12A Elk City 59.98 54 P P 10 47 40.4 +0.8
baz=60,SNR=7.9
J09A Fry Pan Ranch, 60.00 57 ⇓P P 10 47 40.1 +0.4
baz=60
NIL Nilore 60.01 289 P P 10 47 41.9 +2.1
comp=Z,148nm,0.7s,mb6.1,SNR=5.4
ORV Oroville 60.02 63 ⇓P P 10 47 38.8 -1.1
baz=60
WVOR Wild Horse Val 60.03 59 *e*P P 10 47 40.5 +0.6
WVOR *e* 10 47 52.2
WVOR pmax pmax
comp=Z,17nm,1.4s,mb4.9
WVOR Wild Horse Val 60.03 59 *e*P P 10 47 40.5 +0.7
comp=Z,17nm,1.4s,mb4.9
WVOR *e* 10 47 52.2
SUTB Sutter Butte 60.04 63 ⇓P P 10 47 39.6 -0.4
baz=60
MSO Missoula 60.07 52 *e*P P 10 47 40.6 +0.4
comp=Z,25nm,1.3s,mb5.1
O05C Quincy 60.14 62 ⇓P P 10 47 40.8 +0.2
baz=60
D14A Greenough 60.16 52 P P 10 47 40.9 +0.2
baz=60,SNR=7.7
E13A Victor 60.17 53 ⇓P P 10 47 40.8 0.0
baz=60
OHCM Honcut 60.17 63 *e*P P 10 47 40.8 0.0
OHCM *e* 10 47 52.6
H11A Donnelly 60.19 55 P P 10 47 41.4 +0.5
baz=60,SNR=5.2
N06A Buffalo Meadow 60.32 61 ⇑P P 10 47 41.4 -0.5
baz=60
M07A Soldier Meadow 60.34 60 P P 10 47 42.8 +0.8
baz=60,SNR=5.6
L08A Fields 60.35 59 ⇓P P 10 47 41.5 -0.5
baz=60
CHMT Chamberlain Mo 60.40 52 *e*P P 10 47 42.5 +0.1
K09A Rome 60.41 58 ⇓P P 10 47 42.6 +0.1
baz=60
NDI New Delhi 60.45 282 *e*P P 10 47 42.0 -0.8
comp=Z,7.0nm,0.6s,mb4.9
F13A Darby 60.48 53 P P 10 47 43.8 +0.8
baz=60,SNR=5.1
BEKR Beckwourth 60.54 62 ⇓P P 10 47 43.2 -0.1
baz=60
E14A Clinton 60.56 52 ⇓P P 10 47 43.6 0.0
baz=60
O06A Flanigan 60.68 61 ⇓P P 10 47 43.5 -0.8
baz=60
D15A Lincoln 60.72 51 ⇑P P 10 47 43.2 -1.3
baz=60
N07B Gerlach 60.83 60 ⇑P P 10 47 44.5 -0.8
baz=61
L09A Wilkinson Ranc 60.85 59 ⇓P P 10 47 46.0 +0.5
baz=61
JRSC Jasper Ridge 60.87 65 ⇑P P 10 47 43.6 -2.0
baz=61
LAVA Lava Cap Winer 60.98 63 ⇑P P 10 47 46.3 -0.1
baz=61
F14A Wisdom 61.00 53 ⇑P P 10 47 45.9 -0.6
baz=61
E15A Deer Lodge 61.03 52 ⇑P P 10 47 46.0 -0.7
baz=61
O07A Toulon 61.26 61 ⇑P P 10 47 47.5 -0.8
baz=61

N08A GE Springer Mi 61.33 60 ⇓P P 10 47 49.2 +0.5
baz=61
M09A Marrel Ranch, 61.34 59 ⇓P P 10 47 49.0 +0.1
baz=61
S04C Ingram Canyon, 61.38 65 ⇑P P 10 47 48.7 -0.4
baz=61
R05C Kirkwood Meado 61.42 63 ⇓P P 10 47 49.3 -0.1
baz=61
F15A Butte 61.47 52 P P 10 47 50.3 +0.7
baz=61,SNR=7.5
LRM Limekiln Ridge 61.50 52 *e*P P 10 47 50.6 +0.7
EGMT Eagleton 61.59 49 *e*P P 10 47 51.0 +0.6
comp=Z,33nm,1.1s,mb5.4
EGMT *e* 10 48 02.3
EGMT Eagleton 61.59 49 ⇑P P 10 47 50.7 +0.3
baz=61
CMB Columbia Colle 61.64 64 *e*P P 10 47 51.4 +0.5
CMB *e* 10 48 02.9
CMB Columbia Colle 61.64 64 ⇑P P 10 47 50.8 -0.1
baz=61
N09A Rock Creek Ran 61.65 60 ⇓P P 10 47 51.4 +0.5
baz=61
PACP Pacheco Peak 61.71 65 ⇓P P 10 47 51.3 0.0
baz=62
HLID Hailey 61.80 55 *e*P P 10 47 52.6 +0.7
comp=Z,18nm,1.4s,mb5.0
HLID *e* 10 48 03.9
HLID Hailey 61.80 55 ⇓P P 10 47 52.0 +0.1
baz=62
M10A I.L. Ranch, Tu 61.82 58 ⇑P P 10 47 51.9 -0.2
baz=62
G15A Dillon 61.89 53 ⇑P P 10 47 51.6 -1.0
baz=62
MCMT McKenzie Canyo 61.90 54 *e*P P 10 47 52.7 +0.1
MCMT *e* 10 48 04.9
R06C Coleville 61.92 63 ⇓P P 10 47 52.9 +0.2
baz=62
LOF Lofoten 61.93 344 *e*P P 10 47 53.8 +1.0
LOF AMb AMB 10 47 55.4
comp=Z,106nm,1.4s,mb5.8
LOF Lofoten 61.93 344 *e*P P 10 47 53.8 +1.0
comp=Z,106nm,1.4s,mb5.8
S06C San Francisco 62.07 63 ⇑P P 10 47 52.7 -1.1
baz=62
S05C Merced 62.10 64 ⇓P P 10 47 53.2 -0.7
baz=62
O09A Fish Creek Ran 62.27 60 ⇓P P 10 47 54.9 -0.1
baz=62
M11A Holland Ranch, 62.32 58 ⇑P P 10 47 55.5 +0.1
baz=62
N10A Dunphy 62.34 59 ⇑P P 10 47 55.0 -0.5
baz=62
U04C Hernandez Rese 62.43 65 ⇑P P 10 47 55.8 -0.3
baz=62
O10A Cortez Mining, 62.61 59 ⇓P P 10 47 57.5 +0.2
baz=62
Q08A Gabbs 62.64 62 ⇓P P 10 47 57.8 +0.2
baz=62
NVAR Mina Array Bea 62.68 62 P P 10 47 58.4 +0.6
comp=Z,2.9nm,0.8s,mb4.4,baz=294,slow=8.8,SNR=15
P09A Austin 62.69 60 ⇓P P 10 47 57.7 -0.1
baz=62
T06C Millerton Lake 62.70 64 ⇓P P 10 47 57.6 -0.4
baz=62
KCC Kaiser Creek 62.74 64 ⇑P P 10 47 57.2 -1.0
baz=63
PKD Parkfield 62.84 66 ⇑P P 10 47 58.2 -0.7
baz=63
M12A Wells 62.84 58 ⇓P P 10 47 58.4 -0.5
baz=63
P10A Eureka 63.05 60 ⇑P P 10 48 00.8 +0.5
baz=63
Q09A Carvers 63.11 61 ⇑P P 10 48 01.6 +0.9
baz=63
N12A Clover Valley, 63.12 58 ⇑P P 10 48 01.6 +0.8
baz=63
O11A Cowboy Ranch, 63.21 59 ⇑P P 10 48 02.2 +0.8
baz=63
PTRM Twissleman Ran 63.23 66 *e*P P 10 48 02.4 +0.9
PTRM *e* 10 48 13.6
M13A Montello 63.32 57 ⇓P P 10 48 01.8 -0.2
baz=63
HELL Mitchell Peak, 63.33 64 P P 10 48 01.9 -0.3
baz=63,SNR=6.1
S08C White Mtn Res 63.34 63 ⇑P P 10 48 02.5 +0.3
baz=63
RCTC Rector, Farmer 63.43 64 ⇑P P 10 48 03.8 +1.0
baz=63
MOR8 Moi Rana 63.44 343 ⇑*i*P P 10 48 00.8 -2.1
MOR8 AMb AMB 10 48 02.9
comp=Z,58nm,1.3s,mb5.5
MOR8 Moi Rana 63.44 343 ⇑*i*P P 10 48 00.8 -2.1
comp=Z,58nm,1.3s,mb5.5
VIS Vishakhapatnam 63.45 268 *e*P P 10 48 04.2 +1.3
VIS AMb AMB 10 48 06.6
comp=Z,40nm,1.4s,mb5.3
R09A Tonopah 63.55 62 P P 10 48 04.3 +0.7
baz=63,SNR=7.7
TPH Tonopah 63.56 62 *e*P P 10 48 04.6 +0.9
TPH *e* 10 48 16.0
SMMC Simmler 63.59 66 ⇑P P 10 48 04.3 +0.4
baz=63
DCID1 Drake Creek 63.60 54 *e*P P 10 48 06.2 +2.2
N13A Wendover, West 63.61 58 ⇑P P 10 48 04.2 +0.1
baz=63
O12A Currie 63.67 59 P P 10 48 05.2 +0.9
baz=63,SNR=5.5
RRI2 Red Ridge 63.69 54 *e*P P 10 48 05.6 +1.1
RRI2 *e* 10 48 17.5
MOOW Moose Ponds 63.75 53 *e*P P 10 48 06.8 +1.9
comp=Z,20nm,1.2s,mb5.0
MOOW *e* 10 48 17.9
S09A Goldfield 63.78 62 ⇓P P 10 48 04.7 -0.4
baz=64
VES Vestal, Richgr 63.83 65 ⇓P P 10 48 04.7 -0.7
baz=64
BHPL Bhopal 63.83 277 *e*P P 10 48 06.2 +0.7
BHPL AMb AMB 10 48 07.3
comp=Z,90nm,0.9s,mb5.8
PSI Prapat 63.85 244 P P 10 48 05.3 -0.3
comp=Z,6.1nm,0.7s,mb4.7,baz=227,slow=1.9,SNR=7.4
PSI Prapat 63.85 244 P P 10 48 05.3 -0.3
PSI pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LOHW Long Hollow 63.92 53 *e*P P 10 48 07.7 +1.7
LOHW *e* 10 48 18.6
REDW Red Top Meadow 63.94 54 *e*P P 10 48 03.4 -2.7
REDW *e* 10 48 19.2
PKM Peak Mountain 63.96 66 ⇓P P 10 48 06.4 +0.1
baz=64
Q11A Duckwater 64.03 60 ⇓P P 10 48 06.3 -0.5
baz=64
CWC Cottonwood Cre 64.07 64 ⇑P P 10 48 06.3 -0.7
baz=64
P12A McGill 64.08 59 ⇓P P 10 48 05.9 -1.1
baz=64
NGP Nagpur 64.10 274 *e*P P 10 48 07.1 -0.1
NGP AMb AMB 10 48 08.3
comp=Z,54nm,0.8s,mb5.6
GRAC Grapevine Rang 64.16 63 ⇑P P 10 48 08.2 +0.6
baz=64
LAO LASA Array 64.29 49 *e*P P 10 48 09.2 +0.8
ISA Isabella 64.32 65 *e*P P 10 48 08.3 -0.4
ISA Isabella 64.32 65 ⇑P P 10 48 07.7 -1.0
baz=64
Q12A Willow Creek R 64.40 60 ⇑P P 10 48 09.0 -0.1
baz=64
FIA1 FINESS Array S 64.43 335 *e*P P 10 48 08.2 -1.1
FINES FINESS Array B 64.43 335 P P 10 48 08.6 -0.8
comp=Z,12nm,0.6s,mb5.1,baz=36,slow=6.8,SNR=43
FINES LR LR 11 19 16.6
comp=Z,413nm,19.7s,MS4.6,baz=152,slow=39
FINES FINESS Array B 64.43 335 P P 10 48 08.6 -0.8
FINES pmax pmax
comp=Z,12nm,0.6s
FINES MLR MLR
comp=Z,413nm,19.7s
ARVC Arvin 64.44 65 ⇑P P 10 48 09.8 +0.3
baz=64
DAC Darwin (Calif) 64.48 64 *e*P P 10 48 13.9 +4.2
DAC *e**PP pP 10 48 22.0 +10
HWUT Hardware Ranch 64.66 56 *e*P P 10 48 11.7 +0.8
comp=Z,23nm,1.3s,mb5.0
HWUT *e* 10 48 23.2
MPMC Manual Prospec 64.68 64 P P 10 48 11.2 +0.2
baz=64,SNR=5.7
MOS Moscow 64.79 326 *e*P P 10 48 09.8 -1.9

MOS pmax pmax
comp=Z,55nm,1.2s,mb5.5
FURC Furnace Creek, 64.81 63 P P 10 48 12.1 +0.3
baz=65,SNR=9.8
DUG Dugway 64.85 58 *e*P P 10 48 12.6 +0.4
DUG *e* 10 48 24.8
DUG Dugway 64.85 58 P P 10 48 12.7 +0.5
baz=65,SNR=7.1
NOQ North Oquirrh 64.96 57 *e*P P 10 48 13.6 +0.7
comp=Z,12nm,0.8s,mb5.0
NOQ *e* 10 48 25.2
BW06 Boulder Array 65.05 54 *e*P P 10 48 13.7 +0.3
comp=Z,18nm,1.1s,mb5.0
PDAR Pinedale Array 65.05 54 P P 10 48 13.7 +0.2
comp=Z,3.1nm,1.0s,mb4.3,baz=307,slow=2.0,SNR=19
EDW2 Edwards Air Fo 65.13 65 P P 10 48 14.0 +0.1
baz=65,SNR=7.7
U10A Ash Meadows, A 65.17 63 ⇓P P 10 48 14.1 -0.1
baz=65
JLU Jordanelle 65.38 56 *e*P P 10 48 16.9 +1.4
MWC Mount Wilson 65.51 66 *e*P P 10 48 17.3 +0.9
MWC *e**PP pP 10 48 28.6 +10
SHOC Shoshone 65.53 63 ⇓P P 10 48 16.2 -0.3
baz=65
GSC Goldstone 65.59 64 *e*P P 10 48 17.7 +0.7
GSC Goldstone 65.59 64 ⇓P P 10 48 16.3 -0.7
baz=65
DAU Daniels Canyon 65.61 57 P P 10 48 19.1 +2.0
DAU *e**PP pP 10 48 30.2 +11
DAU Daniels Canyon 65.61 57 *e*P P 10 48 18.3 +1.2
MPU Maple Canyon 65.66 57 *e*P P 10 48 18.1 +0.7
MPU *e* 10 48 29.5
OBN Obninsk 65.66 326 ⇓*e*P P 10 48 17.1 -0.3
OBN pmax pmax
comp=Z,25nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
U11A Corn Creek 65.75 62 ⇓P P 10 48 18.9 +0.9
baz=66
BFSC Mount Baldy St 65.75 65 ⇓P P 10 48 17.0 -1.0
baz=66
CIS Catalina Islan 65.82 66 ⇓P P 10 48 18.4 0.0
baz=66
SHPR Sheep Range 65.83 62 *e*P P 10 48 19.2 +0.8
TUQ Turquoise Mtn. 66.06 63 ⇑P P 10 48 19.9 0.0
baz=66
V11A Goodsprings 66.10 63 ⇓P P 10 48 20.5 +0.3
baz=66
HEC Hector,Ludlow 66.20 64 ⇓P P 10 48 20.2 -0.7
baz=66
CCUT Cedar City 66.24 60 *e*P P 10 48 21.9 +0.8
CCUT *e* 10 48 33.5
MSU Marysvale 66.32 59 *e*P P 10 48 27.8 +6.2
MURC Murrieta 66.45 66 ⇑P P 10 48 22.2 -0.3
baz=66
V12A Nelson 66.53 62 ⇑P P 10 48 22.9 -0.1
baz=66,SNR=5.8
W12A Cal Nev Ari 66.80 63 ⇑P P 10 48 25.0 +0.3
baz=67
SRU San Rafael 66.89 57 *e*P P 10 48 25.8 +0.5
SRU *e* 10 48 37.6
PFO Pinyon Flat Ob 66.92 65 ⇑P P 10 48 26.1 +0.7
baz=67
BELC Belle Mtn. 66.95 65 ⇑P P 10 48 26.0 +0.3
baz=67
HYB Hyderabad 66.97 271 *i*P P 10 48 25.5 -0.3
HYB *e* 10 48 36.5
HYB *e*pP pP 10 48 48.0 +20
HYB Hyderabad 66.97 271 *e*P P 10 48 25.5 -0.3
109C Camp Elliot, M 66.98 66 ⇓P P 10 48 25.9 +0.1
baz=67
RSSD Black Hills 67.15 50 *e*P P 10 48 26.5 -0.4
RSSD *e* 10 48 39.2
RSSD pmax pmax
comp=Z,20nm,1.0s,mb5.1
RSSD Black Hills 67.15 50 *e*P P 10 48 26.5 -0.4
comp=Z,20nm,1.0s,mb5.1
RSSD *e* 10 48 39.2
IRM Iron Mountain 67.37 64 ⇑P P 10 48 29.0 +0.7
baz=67,SNR=5.1
VRSR Storozhevoye 67.43 321 *e*P P 10 48 28.8 +0.1
VRSR pmax pmax
comp=Z,20nm,1.2s,mb5.0
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.1s
BC3 Big Chuckw Mtn 67.52 64 ⇓P P 10 48 29.6 +0.3
baz=67
DVTC Desert V Tower 67.77 66 ⇓P P 10 48 30.2 -0.6
baz=68
SWSC Sam W. Stewart 67.77 65 ⇓P P 10 48 30.2 -0.6
baz=68
X13A Yucca 67.90 63 ⇑P P 10 48 31.7 0.0
baz=68,SNR=6.4
PDMCI Parker Dam,Lak 67.91 63 ⇑P P 10 48 29.7 -2.0
baz=68
W14A Seligman 67.95 62 ⇓P P 10 48 31.9 -0.1
baz=68,SNR=7.7
Y12C Blythe 68.03 64 ⇓P P 10 48 30.5 -2.0
baz=68
WB2 Warramunga Arr 68.07 199 *e*P P 10 48 30.8 -1.9
WRA Warramunga Arr 68.07 199 P P 10 48 29.8 -3.0
comp=E,2.3nm,0.9s,mb4.2,baz=16,slow=6.5,SNR=14
WRA Warramunga Arr 68.07 199 P P 10 48 29.8 -2.9
WRA pmax pmax
comp=Z,2.0nm,0.9s
GLA Glamis 68.31 65 *e*P P 10 48 34.2 0.0
GLA Glamis 68.31 65 ⇑P P 10 48 33.9 -0.3
baz=68
W15A Williams 68.47 61 ⇑P P 10 48 35.5 +0.3
baz=68,SNR=7.3
X14A Yava 68.56 62 ⇑P P 10 48 34.8 -1.0
baz=68,SNR=5.9
NB2 NORSAR Subarra 68.64 341 P P 10 48 35.5 -0.8
comp=Z,31nm,1.1s,mb5.2,baz=27,slow=6.5
NOA NORSAR Array B 68.64 341 P P 10 48 35.9 -0.4
comp=Z,8.0nm,0.8s,mb4.7,baz=27,slow=6.3,SNR=20
NOA LR LR 11 23 18.5
comp=Z,354nm,18.6s,MS4.6,baz=45,slow=40
NOA NORSAR Array B 68.64 341 P P 10 48 35.9 -0.4
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA MLR MLR
comp=Z,355nm,18.6s
FITZ Fitzroy Crossi 68.73 208 P P 10 48 34.9 -1.9
comp=Z,2.1nm,0.9s,mb4.1,baz=356,slow=1.5,SNR=4.4
WUAZ Wupatki 68.79 61 *e*P P 10 48 38.7 +1.4
comp=Z,25nm,1.4s,mb5.0
WUAZ Wupatki 68.79 61 ⇓P P 10 48 37.1 -0.1
baz=69
Y14A Wickenburg 68.85 63 ⇑P P 10 48 37.3 -0.3
baz=69,SNR=5.6
HFS Hagfors 68.87 340 P P 10 48 37.0 -0.7
comp=Z,7.6nm,0.5s,mb4.9,baz=53,slow=5.7,SNR=40
HFS Hagfors 68.87 340 P P 10 48 37.0 -0.7
HFS pmax pmax
comp=Z,8.0nm,0.5s
X15A Humboldt 68.95 62 ⇑P P 10 48 37.6 -0.7
baz=69,SNR=6.9
ISCO Idaho Springs 69.24 54 *e*P P 10 48 41.1 +1.1
ISCO *e* 10 48 52.9
Z14A Wintersburg 69.27 63 ⇓P P 10 48 40.2 0.0
baz=69
MVCO Mesa Verde 69.35 58 *e*P P 10 48 40.7 -0.1
comp=Z,38nm,1.5s,mb5.1
MVCO *e* 10 48 53.1
MVCO Mesa Verde 69.35 58 ⇑P P 10 48 40.6 -0.1
baz=69
POO Poona 69.46 276 ⇑*i*P P 10 48 39.0 -2.4
comp=Z,80nm,1.0s,mb5.6
KAD Karad 70.07 274 *e*P P 10 48 45.4 +0.3
KAD AMb AMB 10 48 48.2
comp=Z,32nm,0.9s,mb5.2
115A Sonoran Desert 70.16 63 ⇓P P 10 48 45.7 0.0
baz=70
116A Eloy 70.58 63 ⇑P P 10 48 48.9 +0.7
baz=70
KIV Kislovodsk 71.09 314 *e*P P 10 48 51.5 +0.1
KIV pmax pmax
comp=Z,50nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,721nm,17.0s,MS5.0
ECSD EROS,Sioux Fal 71.23 46 *e*P P 10 48 51.3 -0.9
comp=Z,16nm,1.1s,mb4.8
ECSD *e* 10 49 03.4

TUC	**Tucson**	**71.32**	**63**	*e*P		**P**	**10 48 53.0**	**+0.2**
TUC				*e*			10 49 05.2	
TUC				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.6							
TUC	**Tucson**	**71.32**	**63**	*e*P		**P**	**10 48 53.0**	**+0.2**
	comp=Z,9.7nm,1.3s,mb4.6							
TUC				*e*			10 49 05.2	
ZEI	**Tsey**	**71.33**	**313**	*e*P		**P**	**10 48 52.8**	**-0.1**
ZEI				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.0							
AS31	**Alice Springs**	**71.77**	**198**	*e*P		**P**	**10 48 56.6**	**+1.2**
ASAR	**Alice Springs**	**71.77**	**198**	P		**P**	**10 48 54.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=12,slow=6.1,SNR=15							
ASAR	**Alice Springs**	**71.77**	**198**	P		**P**	**10 48 54.7**	**-0.8**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**71.90**	**326**	P		**P**	**10 48 55.5**	**-0.7**
	comp=Z,26nm,0.6s,mb5.4,baz=34,slow=6.2,SNR=76							
AKASG				LR		LR	11 24 22.2	
	comp=Z,435nm,18.4s,MS4.8,baz=30,slow=39							
AKASG	**Malin Array Be**	**71.90**	**326**	P		**P**	**10 48 55.6**	**-0.7**
AKASG				pmax		pmax		
	comp=Z,27nm,0.6s							
AKASG				MLR		MLR		
	comp=Z,435nm,18.4s							
AKBB	**Malin Array Si**	**71.90**	**326**	*e*P		**P**	**10 48 55.6**	**-0.7**
KIEV	**Kiev**	**71.91**	**326**	*e*P		**P**	**10 48 55.5**	**-0.8**
KIEV				pmax		pmax		
	comp=Z,50nm,0.9s,mb5.4							
KIEV	**Kiev**	**71.91**	**326**	*e*P		**P**	**10 48 55.5**	**-0.9**
	comp=Z,50nm,0.9s,mb5.4							
ANMO	**Albuquerque**	**72.10**	**58**	*e*P		**P**	**10 48 58.1**	**+0.6**
GNI	**Garni**	**72.79**	**310**	P		**P**	**10 49 03.8**	**+2.2**
	comp=Z,11nm,0.6s,mb5.0,baz=13,slow=9.2,SNR=11							
GNI	**Garni**	**72.79**	**310**	*e*P		**P**	**10 49 03.8**	**+2.2**
SOC	**Sochi**	**72.82**	**316**	*e*P		**P**	**10 49 01.7**	**0.0**
SOC				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.3							
SOC				MLR		MLR		
	comp=Z,800nm,18.0s,MS5.0							
ANN	**Anapa**	**72.99**	**318**	*e*P		**P**	**10 49 02.9**	**+0.2**
ANN				*e**PP		pP	10 49 13.3	+8.4
ANN				*e*			10 49 18.8	
ANN				*e*			10 51 46.1	
ANN				*e*S		S	10 58 30.4	+0.4
ANN				pmax		pmax		
	comp=Z,64nm,1.8s,mb5.2							
LVV	**L'vov**	**74.56**	**329**	*e*P		**P**	**10 49 11.6**	**-0.4**
KIS	**Kishinev**	**75.03**	**324**	*e*P		**P**	**10 49 12.0**	**-2.7**
KWP	**Kalwaria**	**75.19**	**329**	*e*P		**P**	**10 49 16.1**	**+0.5**
KWP	**Kalwaria**	**75.19**	**329**	P		**P**	**10 49 16.0**	**+0.4**
KWP				pmax		pmax		
	comp=Z,160nm,1.5s,mb5.7							
OJC	**Ojcow**	**75.70**	**331**	*e*P		**P**	**10 49 18.5**	**0.0**
STHS	**Stebnicka Huta**	**75.89**	**330**	*e*P		**P**	**10 49 20.2**	**+0.6**
STHS				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.9							
STHS	**Stebnicka Huta**	**75.89**	**330**	*e*P		**P**	**10 49 20.2**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9							
KOLS	**Kolonicke sedl**	**75.93**	**329**	*e*P		**P**	**10 49 19.9**	**0.0**
BURAR	**Bucovina Array**	**75.94**	**327**⇑	*i*P		**P**	**10 49 20.4**	**+0.5**
BURAR	**Bucovina Array**	**75.94**	**327**⇑	P		**P**	**10 49 20.4**	**+0.5**
UZH	**Uzhgorod**	**76.18**	**329**⇑	*i*P		**P**	**10 49 21.4**	**+0.1**
UZH				*e*			10 49 29.4	
NIE	**Niedzica**	**76.21**	**330**	*e*P		**P**	**10 49 21.8**	**+0.4**
KSP	**Ksiaz**	**76.29**	**333**	*e*P		**P**	**10 49 21.7**	**-0.2**
OKC	**Ostrava-Krasne**	**76.57**	**332**	*e*P		**P**	**10 49 25.1**	**+1.6**
OKC				AMS		AMS	11 27 40.0	
	comp=Z,600nm,21.0s							
UPC	**Upice**	**76.67**	**333**	*e*P		**P**	**10 49 24.3**	**+0.2**
DPC	**Dobruska-Polom**	**76.71**	**333**	*e*P		**P**	**10 49 24.7**	**+0.4**
DPC				AMS		AMS	11 27 30.0	
	comp=Z,600nm,18.2s							
EKA	**Eskdalemuir Ar**	**76.77**	**346**	P		**P**	**10 49 26.1**	**+1.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=21,slow=5.1,SNR=12							
EKA	**Eskdalemuir Ar**	**76.77**	**346**	P		**P**	**10 49 26.1**	**+1.5**
EKA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CFR	**Carcaliu**	**76.78**	**323**⇓	*i*P		**P**	**10 49 27.5**	**+2.8**
CFR	**Carcaliu**	**76.78**	**323**	P		**P**	**10 49 26.4**	**+1.7**
CFR	**Carcaliu**	**76.78**	**323**⇓	P		**P**	**10 49 27.5**	**+2.8**
VRI	**Vrincioaia**	**76.79**	**325**⇑	*i*P		**P**	**10 49 26.8**	**+2.1**
VRI	**Vrincioaia**	**76.79**	**325**	P		**P**	**10 49 25.2**	**+0.5**
VRI	**Vrincioaia**	**76.79**	**325**⇑	P		**P**	**10 49 26.8**	**+2.1**
MORC	**Moravsky Berou**	**76.82**	**332**⇑	*i*P		**P**	**10 49 25.4**	**+0.5**
MORC	**Moravsky Berou**	**76.82**	**332**	P		**P**	**10 49 25.2**	**+0.3**
PLOR	**Plostina**	**76.83**	**325**⇓	*i*P		**P**	**10 49 26.6**	**+1.6**
CLL	**Collm**	**76.86**	**336**⇑	*i*P		**P**	**10 49 24.7**	**-0.4**
	comp=Z,24nm,1.0s,mb5.1							
CLL				*i*			10 49 29.9	
CLL	**Collm**	**76.86**	**336**⇑	*i*P		**P**	**10 49 24.7**	**-0.4**
	comp=Z,24nm,1.0s,mb5.1							
CLL				*i*	sP	sP	10 49 29.9	+1.8
CLL				LmV			11 26 00.0	
	comp=Z,400nm,19.8s							
KECS	**Kecovo**	**76.94**	**330**	*e*P		**P**	**10 49 24.9**	**-0.7**
KECS				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
KECS	**Kecovo**	**76.94**	**330**	*e*P		**P**	**10 49 24.9**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4							
BRG	**Berggiesshubel**	**76.97**	**335**	*e*P		**P**	**10 49 25.4**	**-0.4**
	comp=Z,6.2nm,1.3s,mb4.4							
PVCC	**Panska Ves**	**77.09**	**334**	*e*P		**P**	**10 49 27.9**	**+1.5**
PVCC				AMS		AMS	11 26 40.0	
MLR	**Muntele Rosu**	**77.41**	**325**	P		**P**	**10 49 28.7**	**+0.5**
	comp=Z,7.1nm,0.6s,mb4.8,baz=158,slow=4.5,SNR=12							
MLR				LR		LR	11 29 17.0	
	comp=Z,353nm,18.2s,MS4.7,baz=254,slow=40							
MLR	**Muntele Rosu**	**77.41**	**325**⇓	*i*P		**P**	**10 49 28.8**	**+0.6**
MLR	**Muntele Rosu**	**77.41**	**325**⇓	P		**P**	**10 49 28.8**	**+0.6**
MALT	**Malatya**	**77.43**	**313**⇓	*i*P		**P**	**10 49 30.5**	**+2.1**
MALT	**Malatya**	**77.43**	**313**	*e*P		**P**	**10 49 29.2**	**+0.8**
VRAC	**Vranov**	**77.53**	**332**	P		**P**	**10 49 29.8**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9,baz=22,slow=2.6,SNR=7.6							
VRAC				LR		LR	11 27 08.5	
	comp=Z,488nm,21.0s,MS4.8,baz=33,slow=38							
VRAC	**Vranov**	**77.53**	**332**⇓	*i*P		**P**	**10 49 29.8**	**+0.9**
DRGR		**77.57**	**328**⇓	*i*P		**P**	**10 49 29.6**	**+0.4**
DRGR		**77.57**	**328**⇓	P		**P**	**10 49 29.6**	**+0.4**
PRU	**Pruhonice**	**77.58**	**334**	*e*P		**P**	**10 49 29.5**	**+0.3**
PRU				AMS		AMS	11 27 10.0	
	comp=Z,700nm,17.0s							
PSZ	**Piszkesteto**	**77.63**	**330**⇓	*i*P		**P**	**10 49 30.5**	**+1.0**
PSZ	**Piszkesteto**	**77.63**	**330**	*e*P		**P**	**10 49 30.4**	**+1.0**
LTX	**Lajitas**	**77.75**	**60**	*e*P		**P**	**10 49 30.2**	**+0.1**
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**10 49 30.3**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=302,slow=4.4,SNR=22							
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**10 49 30.3**	**+0.2**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**10 49 30.3**	**+0.1**
WTSB	**Winterswijk**	**77.91**	**339**	*e*P		**P**	**10 49 31.5**	**+0.5**
NKC	**Novy Kostel**	**77.98**	**335**	*e*P		**P**	**10 49 32.0**	**+0.6**
NKC				AMS		AMS	11 28 30.0	
	comp=Z,700nm,17.8s							
BHD	**Baghdad**	**78.03**	**306**	*ex*		x	10 49 25.0	
ZST	**Bratislava**	**78.34**	**332**	*e*P		**P**	**10 49 35.0**	**+1.6**
	comp=Z,15nm,1.0s,mb4.9							
ZST				LR		LR		
	comp=Z,300nm,19.1s,MS4.6							
KHC	**Kasperske Hory**	**78.63**	**334**	*e*P		**P**	**10 49 35.2**	**+0.2**
KHC				AMS		AMS	11 27 50.0	
	comp=Z,900nm,18.0s							
KHC	**Kasperske Hory**	**78.63**	**334**	*e*P		**P**	**10 49 34.2**	**-0.8**
BRTR	**Keskin Array B**	**78.69**	**317**	P		**P**	**10 49 36.0**	**+0.7**
	comp=Z,6.1nm,1.0s,mb4.5,baz=64,slow=2.9,SNR=26							
BRTR	**Keskin Array B**	**78.69**	**317**	P		**P**	**10 49 36.1**	**+0.8**
BRTR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GZR	**Gura Zlata**	**78.73**	**327**⇓	*i*P		**P**	**10 49 35.6**	**+0.1**
GZR	**Gura Zlata**	**78.73**	**327**	P		**P**	**10 49 36.1**	**+0.6**
GZR	**Gura Zlata**	**78.73**	**327**⇓	P		**P**	**10 49 35.6**	**0.0**
GRA1	**Grafenberg Arr**	**78.81**	**336**	*e*P		**P**	**10 49 36.4**	**+0.4**
	comp=Z,35nm,1.0s,mb5.2							
GRA1				LR		LR		
	comp=Z,500nm,18.8s,MS4.9							
GRF	**Grafenberg Arr**	**78.81**	**336**	*e*P		**P**	**10 49 36.4**	**+0.4**
	comp=Z,35nm,1.0s,mb5.2							
GRF				*e*L			11 27 42.9	
	comp=Z,461nm,18.8s							
GRF	**Grafenberg Arr**	**78.81**	**336**	*e*P		**P**	**10 49 36.4**	**+0.4**
GRF				pmax		pmax		
	comp=Z,35nm,1.0s,mb5.2							
GRF				MLR		MLR		
	comp=Z,500nm,18.8s,MS4.9							
GRF	**Grafenberg Arr**	**78.81**	**336**	*e*P		**P**	**10 49 36.4**	**+0.4**
GRF				pmax		pmax		
	comp=Z,35nm,1.0s,mb5.2							
GRF				MLR		MLR		
	comp=Z,500nm,18.8s,MS4.9							
GERES	**GERESS Array B**	**78.84**	**334**	P		**P**	**10 49 36.4**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.4,baz=39,slow=5.1,SNR=18							
GERES				LR		LR	11 28 32.9	
	comp=Z,651nm,18.7s,MS5.0,baz=162,slow=39							
GERES	**GERESS Array B**	**78.84**	**334**	P		**P**	**10 49 36.4**	**+0.2**
GERES				pmax		pmax		
	comp=Z,3.0nm,0.6s							
GERES				MLR		MLR		
	comp=Z,651nm,18.7s							
MIB	**Mutribah**	**78.86**	**301**	*e*P		**P**	**10 49 36.7**	**+0.4**
MIB				AMb		AMB	10 49 39.0	
	comp=Z,108nm,0.8s,mb5.8							
BZS	**Buzias**	**78.97**	**328**⇑	*i*P		**P**	**10 49 37.3**	**+0.4**
CONA	**Conrad Observa**	**78.98**	**332**⇑	*i*P		**P**	**10 49 37.6**	**+0.7**
	comp=Z,11nm,0.9s,mb4.8							
JCT	**Junction City**	**79.21**	**57**	*e*P		**P**	**10 49 38.8**	**+0.6**
JCT				*e*			10 49 49.3	
JCT				pmax		pmax		
	comp=Z,31nm,1.4s,mb5.0							
JCT	**Junction City**	**79.21**	**57**	*e*P		**P**	**10 49 38.8**	**+0.7**
	comp=Z,31nm,1.4s,mb5.0							
JCT				*e*			10 49 49.3	
HGN	**Heimansgroeve**	**79.23**	**339**	*e*P		**P**	**10 49 38.4**	**+0.1**
	comp=Z,52nm,1.7s,mb5.2							
NAY	**Al-Naaiem**	**79.33**	**301**	*e*P		**P**	**10 49 39.1**	**+0.2**
NAY				AMb		AMB	10 49 41.5	
	comp=Z,32nm,0.8s,mb5.3							
MEM	**Membach**	**79.36**	**339**	P		**P**	**10 49 39.2**	**+0.3**
RDF	**Al-Radifah**	**79.38**	**301**	*e*P		**P**	**10 49 39.6**	**+0.5**
RDF				AMb		AMB	10 49 42.1	
	comp=Z,86nm,0.8s,mb5.7							
PKSM	**Moragy**	**79.54**	**330**⇑	*i*P		**P**	**10 49 40.0**	**0.0**
PKSM	**Moragy**	**79.54**	**330**⇑	P		**P**	**10 49 40.0**	**0.0**
MOA	**Molln**	**79.55**	**333**⇑	*i*P		**P**	**10 49 40.3**	**+0.2**
	comp=Z,10nm,0.9s,mb4.8							
RAR	**Rarotonga**	**79.60**	**136**	LR		LR	11 22 00.9	
	comp=Z,408nm,18.1s,MS4.8,baz=294,slow=34							
ARSA	**Arzberg**	**79.68**	**332**⇑	*i*P		**P**	**10 49 41.2**	**+0.4**
	comp=Z,16nm,1.2s,mb4.8							
BCLA	**Clavier**	**79.70**	**340**	P		**P**	**10 49 42.5**	**+1.6**
SNF	**Seneffe**	**79.86**	**340**	P		**P**	**10 49 43.2**	**+1.5**
DOU	**Dourbes**	**80.17**	**340**	P		**P**	**10 49 43.1**	**-0.4**
BAIF	**Baives**	**80.30**	**340**	*e*P		**P**	**10 49 44.2**	**+0.1**
	comp=Z,54nm,1.3s,mb5.0							
BAIF	**Baives**	**80.30**	**340**	*e*P		**P**	**10 49 44.2**	**+0.1**
BAIF				pmax		pmax		
	comp=Z,27nm,1.3s,mb5.0							
BAIF	**Baives**	**80.30**	**340**	*e*P		**P**	**10 49 44.2**	**+0.1**
	comp=Z,27nm,1.3s,mb5.0							
PERS	**Pernice**	**80.36**	**332**	*e*P		**P**	**10 49 44.7**	**+0.2**
KBA	**Koelnbreinsper**	**80.53**	**333**⇑	*i*P		**P**	**10 49 43.9**	**-1.5**
	comp=Z,6.5nm,0.6s,mb4.8							
KBA				⇑*i*		pP	10 49 47.0	-0.5
	comp=Z,46nm,0.9s							
WATA	**Walderalm**	**80.83**	**335**⇑	*i*P		**P**	**10 49 47.7**	**+0.7**
	comp=Z,20nm,0.6s,mb5.2							
BFO	**Black Forest**	**80.85**	**337**	*e*P		**P**	**10 49 48.0**	**+0.9**
BFO				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.0							
BFO	**Black Forest**	**80.85**	**337**	*e*P		**P**	**10 49 47.4**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0							
WTTA	**Wattenberg**	**80.88**	**335**⇑	*i*P		**P**	**10 49 47.8**	**+0.6**
	comp=Z,26nm,0.5s,mb5.4							
VTS	**Vitosha**	**80.92**	**325**⇓	*i*P		**P**	**10 49 47.5**	**+0.1**
VTS	**Vitosha**	**80.92**	**325**	P		**P**	**10 49 48.2**	**+0.8**
VTS	**Vitosha**	**80.92**	**325**⇓	P		**P**	**10 49 47.5**	**+0.1**
MOTA	**Moosalm**	**80.97**	**335**⇑	*i*P		**P**	**10 49 48.8**	**+1.1**
	comp=Z,38nm,1.1s,mb5.2							
SQTA	**Sankt Quirin**	**81.05**	**335**⇑	*i*P		**P**	**10 49 49.5**	**+1.4**
	comp=Z,21nm,0.9s,mb5.1							
CDF	**Champ du Feu**	**81.06**	**338**	*e*P		**P**	**10 49 48.3**	**+0.1**
	comp=Z,63nm,1.0s,mb5.2							
CDF	**Champ du Feu**	**81.06**	**338**	*e*P		**P**	**10 49 48.3**	**+0.1**
CDF				pmax		pmax		
	comp=Z,32nm,1.0s,mb5.2							
CDF	**Champ du Feu**	**81.06**	**338**	*e*P		**P**	**10 49 48.3**	**+0.1**
	comp=Z,32nm,1.0s,mb5.2							
VISS	**Visnje**	**81.18**	**332**	*i* P		**P**	**10 49 47.9**	**-0.9**
DAVA	**Damuels**	**81.37**	**336**⇑	*i*P		**P**	**10 49 50.3**	**+0.5**
	comp=Z,15nm,0.8s,mb5.0							
DAVOX	**Davos**	**81.83**	**335**	P		**P**	**10 49 52.8**	**+0.6**
	comp=Z,12nm,0.7s,mb4.9,baz=18,slow=12,SNR=10.0							
PPT	**Papeete**	**81.93**	**126**	*e*LR		LR	11 14 51.6	
	comp=Z,450nm,24.8s,baz=328							
PPT	**Papeete**	**81.93**	**126**	LR		LR	11 22 01.1	
	comp=Z,287nm,18.4s,MS4.7,baz=317,slow=33							
VAY	**Velandovo**	**82.25**	**325**	*e*P		**P**	**10 49 53.7**	**-0.8**
ASF	**Jabal al Asfar**	**82.95**	**310**	P		**P**	**10 49 59.1**	**+1.0**
	comp=Z,8.3nm,1.0s,mb4.7,baz=313,slow=2.1,SNR=7.8							
ASF				LR		LR	11 31 27.2	
	comp=Z,215nm,18.2s,MS4.6,baz=73,slow=39							
ASF	**Jabal al Asfar**	**82.95**	**310**	P		**P**	**10 49 59.1**	**+1.0**
ASF				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ASF				MLR		MLR		
	comp=Z,215nm,18.2s							
GRR	**Gorron**	**82.99**	**343**	*e*P		**P**	**10 49 58.3**	**0.0**
	comp=Z,42nm,0.9s,mb5.2							
GRR	**Gorron**	**82.99**	**343**	*e*P		**P**	**10 49 58.3**	**0.0**
GRR				pmax		pmax		
	comp=Z,21nm,0.9s,mb5.2							
GRR	**Gorron**	**82.99**	**343**	*e*P		**P**	**10 49 58.3**	**0.0**
	comp=Z,21nm,0.9s,mb5.2							
MMAI	**Mount Meron Ar**	**83.08**	**311**	P		**P**	**10 50 00.2**	**+1.4**
	comp=Z,25nm,0.9s,mb5.2,baz=36,slow=6.2,SNR=15							
MMAI				LR		LR	11 32 28.6	
	comp=Z,696nm,18.2s,MS5.1,baz=30,slow=40							
SSF	**Saint Saulge**	**83.27**	**340**	*e*P		**P**	**10 49 59.7**	**0.0**
	comp=Z,26nm,0.9s,mb5.0							
SSF	**Saint Saulge**	**83.27**	**340**	*e*P		**P**	**10 49 59.7**	**0.0**
SSF				pmax		pmax		
	comp=Z,13nm,0.9s,mb5.0							
SSF	**Saint Saulge**	**83.27**	**340**	*e*P		**P**	**10 49 59.7**	**0.0**
	comp=Z,13nm,0.9s,mb5.0							
ORIF	**Oris-en-Rattie**	**84.66**	**337**	*e*P		**P**	**10 50 08.0**	**+1.2**
	comp=Z,29nm,0.7s,mb5.2							
ORIF	**Oris-en-Rattie**	**84.66**	**337**	*e*P		**P**	**10 50 08.0**	**+1.2**
ORIF				pmax		pmax		
	comp=Z,14nm,0.7s,mb5.2							
ORIF	**Oris-en-Rattie**	**84.66**	**337**	*e*P		**P**	**10 50 08.0**	**+1.2**
	comp=Z,14nm,0.7s,mb5.2							
EIL	**Elat**	**85.95**	**310**	*e*P		**P**	**10 50 13.6**	**+0.3**
	comp=Z,558nm,1.2s							
IDI	**Anoyia**	**86.33**	**320**	LR		LR	11 32 56.3	
	comp=Z,175nm,19.1s,MS4.5,baz=132,slow=38							
TBI	**Tubuai**	**86.64**	**129**	*e*LR		LR	11 17 05.1	
	comp=Z,296nm,32.5s,baz=324							
ESDC	**Sonseca Array**	**91.97**	**342**	LR		LR	11 32 22.3	
	comp=Z,202nm,20.6s,MS4.5,baz=290,slow=36							
KEST	**Kesra**	**92.05**	**331**	LR		LR	11 39 08.0	
	comp=Z,70nm,18.2s,MS4.1,baz=332,slow=40							
RKT	**Rikitea**	**94.81**	**119**	*e*LR		LR	11 20 44.7	
	comp=Z,340nm,33.8s,baz=334							
ATD	**Arta Tunnel**	**95.26**	**293**	LR		LR	11 38 58.6	
	comp=Z,202nm,18.1s,MS4.6,baz=25,slow=39							
MDT	**Midelt**	**98.70**	**341**	LR		LR	11 43 39.4	
	comp=Z,177nm,19.6s,MS4.6,baz=155,slow=40							
SNAA	**Sanae**	**152.11**	**196**	PKPbc		PKPbc	10 57 25.3	-3.3
	comp=Z,0.8nm,0.7s,baz=208,slow=8.6,SNR=4.9							
SNAA	**Sanae**	**152.11**	**196**	*e*PKPdf		PKPdf	10 57 25.2	+3.2
SNAA				*e*			10 57 29.3	
SNAA				*e*			10 57 31.1	
SNAA				*e*			10 57 36.1	
SNAA				*e*			10 57 38.5	
SNAA				*e*			10 57 43.8	
SNAA				*e*			10 57 48.1	
SNAA				*e*			10 57 53.7	
SNAA				*e*			10 58 08.9	
SNAA	**Sanae**	**152.11**	**196**	*e*PKPdf		PKPdf	10 57 24.0	+2.0
VNA2	**Neumayer--Watz**	**153.56**	**194**	*e*PKPdf		PKPbc	10 57 31.5	-0.3
VNA2				*e*			10 57 36.9	
VNA2				*e*			10 57 40.7	
VNA2				*e*			10 57 42.3	
VNA2				*e*			10 57 45.8	
VNA2				*e*			10 57 53.0	
VNA2				*e*			10 57 54.6	
VNA2				*e*			10 58 03.5	
VNA2				*e*			10 58 06.4	
VNA2				*e*			10 58 10.2	
VNA2				*e*			10 58 18.4	
VNA2				*e*			10 58 23.6	
VNA2				*e*			10 58 36.0	
VNA3	**Neumayer Olymp**	**153.64**	**192**	*e*PKPdf		PKPbc	10 57 31.2	-0.8
VNA3				*e*			10 57 37.3	
VNA3				*e*			10 57 41.4	
VNA3				*e*			10 57 42.6	
VNA3				*e*			10 57 46.2	
VNA3				*e*			10 57 52.9	
VNA3				*e*			10 57 54.6	
VNA3				*e*			10 58 03.4	
VNA3				*e*			10 58 06.9	
VNA3				*e*			10 58 10.4	
VNA3				*e*			10 58 18.3	
VNA3				*e*			10 58 23.8	

ISCJB ***22*** *10:43:39.6±0.4, 47.36N±007×155.19E±008, h10km, mb4.5/46, Error ellipse: s-maj=11.2km s-min=6.4km az=127.0*

IDC ***22*** *10:43:39.8±0.6, 47.34N×155.19E, h0km, mb4.3/26, mb1 4.4/27, mb1mx4.4/32, mbtmp4.3/27, ML4.2/1, Error ellipse: s-maj=16.8km s-min=13.7km az=151.0*

NEIC ***22*** *10:43:41.5±0.4, 47.41N×155.20E, h10km, mb5.0/22, Error ellipse: s-maj=12.0km s-min=7.2km az=158.0*

MOS ***22*** *10:43:43.0±2.4, 47.24N×155.18E, h33km, mb4.7/29, Error ellipse: s-maj=12.1km s-min=7.4km az=88.0*

ISC 22 10:43:41.5±0.4, 4739N±007×15518E±008, h10km, n129, σ1§27/128, mb4.5/46, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time			Res
							h	m	s	ISC
SKR	**Severo-Kuril's**	**3.36**	**10**	*e*PN		**Pn**	**10 44 34.6**			**+0.6**
SKR				pmax		pmax				
	comp=Z,90nm,0.3s									
PET	**Petropavlovsk**	**6.07**	**20**	*e*PN		**Pn**	**10 45 10.0**			**-1.3**
PET				pmax		pmax				
	comp=Z,38nm,0.9s									
PET	**Petropavlovsk**	**6.07**	**20**	*e*PN		**Pn**	**10 45 10.2**			**-1.1**
PET	**Petropavlovsk**	**6.07**	**20**	*e*Pn		**Pn**	**10 45 10.2**			**-1.1**
YSS	**Yuzh-Sakhalins**	**8.48**	**272**⇓	*e*PN		**Pn**	**10 45 48.0**			**+3.6**
YSS				pmax		pmax				
	comp=Z,30nm,1.0s									
YSS	**Yuzh-Sakhalins**	**8.48**	**272**	Pn		**Pn**	**10 45 47.5**			**+3.1**
ASAJ	**Asahikawa**	**9.39**	**254**	Pn		**Pn**	**10 45 56.5**			**-0.4**
	comp=Z,2.5nm,0.3s,baz=91,slow=16,SNR=12									
ASAJ	**Asahikawa**	**9.39**	**254**	PN		**Pn**	**10 45 56.5**			**-0.3**
ASAJ				pmax		pmax				
	comp=Z,3.0nm,0.3s									
MJAR	**Matsushiro Ar**	**16.60**	**235**	Pn		**Pn**	**10 47 30.1**			**-4.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=7.4									
MAJO	**Matsushiro**	**16.60**	**235**	*e*P		**Pn**	**10 47 33.3**			**-1.0**
MAJO				pmax		pmax				
	comp=Z,12nm,0.8s									
MAJO	**Matsushiro**	**16.60**	**235**	*e*P		**Pn**	**10 47 33.3**			**-1.0**
	comp=Z,12nm,0.8s									
MAT	**Matsushiro**	**16.60**	**235**	P		**Pn**	**10 47 28.0**			**-6.3**
BILL	**Bilibino**	**21.47**	**11**	*e*P		**P**	**10 48 32.0**			**+1.9**
BILL				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb3.8									
BILL	**Bilibino**	**21.47**	**11**	*e*P		**P**	**10 48 32.0**			**+1.9**
BILL				*e*			10 48 45.7			
BILL				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb3.8									
BILL	**Bilibino**	**21.47**	**11**	*e*P		**P**	**10 48 29.0**			**-1.2**
	comp=Z,23nm,1.1s,mb4.4									
KSRS	**Korea Array**	**22.34**	**254**	P		**P**	**10 48 41.0**			**+1.6**
	comp=Z,7.3nm,0.9s,mb4.1,baz=48,slow=11,SNR=11	

ISCO Idaho Springs 67.42 55 eP P 10 54 37.1 -0.1
ISCO pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
ISCO Idaho Springs 67.42 55 eP P 10 54 37.1 -0.1
comp=Z,8.1nm,1.3s,mb4.6
NB2 NORSAR Subarra 68.07 342 P P 10 54 40.8 -0.5
comp=Z,6.4nm,0.7s,mb4.8,baz=31,slow=6.5
NOA NORSAR Array B 68.07 342 P P 10 54 40.7 -0.6
comp=Z,1.7nm,0.5s,mb4.4,baz=27,slow=6.5,SNR=7.8
NOA NORSAR Array B 68.07 342 P P 10 54 40.7 -0.6
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 68.07 342 P P 10 54 40.7 -0.6
HFS Hagfors 68.34 340 P P 10 54 43.0 0.0
comp=Z,2.9nm,0.4s,mb4.7,baz=64,slow=3.4,SNR=18
HFS Hagfors 68.34 340 P P 10 54 43.0 0.0
HFS pmax pmax
comp=Z,3.0nm,0.4s
WRA Warramunga Arr 69.59 201 P P 10 54 49.7 -1.1
comp=Z,1.1nm,0.9s,mb3.8,baz=22,slow=6.5,SNR=7.1
WRA Warramunga Arr 69.59 201 P P 10 54 49.7 -1.1
WRA pmax pmax
comp=Z,1.0nm,0.9s
FITZ Fitzroy Crossi 70.38 210 P P 10 54 56.5 +0.8
comp=Z,2.2nm,0.8s,mb4.1,baz=133,slow=6.5,SNR=3.6
AKASG Malin Array Be 71.79 327 P P 10 55 03.6 -0.6
comp=Z,0.7nm,0.3s,mb4.0,baz=30,slow=6.2,SNR=4.9
AKASG Malin Array Be 71.79 327 P P 10 55 03.6 -0.6
AKASG pmax pmax
comp=Z,1.0nm,0.3s
MNTX Cornudas Mount 73.22 61 eP P 10 55 12.4 -0.3
comp=Z,2.6nm,1.1s,mb4.1
ASAR Alice Springs 73.28 200 P P 10 55 12.8 -0.2
comp=Z,1.3nm,0.9s,mb3.9,baz=14,slow=5.5,SNR=12
ASAR Alice Springs 73.28 200 P P 10 55 12.8 -0.2
ASAR pmax pmax
comp=Z,1.0nm,0.9s
LTX Lajitas 75.95 62 eP P 10 55 28.2 -0.3
LTX pmax pmax
comp=Z,11nm,1.4s,mb4.6
LTX Lajitas 75.95 62 eP P 10 55 28.2 -0.3
LTX pmax pmax
comp=Z,11nm,1.4s,mb4.6
LTX Lajitas 75.95 62 eP P 10 55 28.2 -0.3
comp=Z,11nm,1.4s,mb4.6
TXAR Lajitas Array 75.95 62 P P 10 55 28.2 -0.4
comp=Z,1.8nm,0.7s,mb4.1,baz=301,slow=4.4,SNR=20
TXAR Lajitas Array 75.95 62 P P 10 55 28.2 -0.3
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 75.95 62 P P 10 55 28.2 -0.4
EKA Eskdalemuir Ar 76.04 347 P P 10 55 30.7 +1.6
comp=Z,1.8nm,0.5s,mb4.3,baz=16,slow=5.0,SNR=11
EKA Eskdalemuir Ar 76.04 347 P P 10 55 30.7 +1.6
EKA pmax pmax
comp=Z,2.0nm,0.5s
CLL Collm 76.46 337 eP P 10 55 31.0 -0.4
MLR Muntele Rosu 77.34 326 P P 10 55 37.6 +1.2
comp=Z,3.7nm,0.9s,mb4.3,baz=142,slow=13,SNR=3.8
MLR Muntele Rosu 77.34 326 P P 10 55 37.6 +1.2
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 77.34 326 P P 10 55 37.6 +1.2
MLR pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 78.27 335 eP P 10 55 41.5 -0.1
GERES GERESS Array B 78.49 335 P P 10 55 44.5 +1.7
comp=Z,0.5nm,0.5s,mb3.7,baz=26,slow=6.4,SNR=5.2
GERES GERESS Array B 78.49 335 P P 10 55 44.5 +1.7
GERES pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 78.88 318 P P 10 55 45.0 0.0
comp=Z,2.5nm,0.9s,mb4.1,baz=58,slow=4.7,SNR=7.9
BRTR Keskin Array B 78.88 318 P P 10 55 45.0 0.0
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BAIF Baives 79.75 341 eP P 10 55 52.4 +2.7
CDF Champ du Feu 80.59 339 eP P 10 55 57.1 +2.9
comp=Z,66nm,1.5s,mb5.0
CDF Champ du Feu 80.59 339 eP P 10 55 57.1 +2.9
CDF pmax pmax
comp=Z,33nm,1.5s,mb5.0
CDF Champ du Feu 80.59 339 eP P 10 55 57.1 +2.9
CDF pmax pmax
comp=Z,33nm,1.5s,mb5.0
CDF Champ du Feu 80.59 339 eP P 10 55 57.1 +2.9
comp=Z,33nm,1.5s,mb5.0
MEZF Maizieres J'vi 81.03 340 eP P 10 55 59.7 +3.1
comp=Z,45nm,1.0s,mb5.1
MEZF Maizieres J'vi 81.03 340 eP P 10 55 59.7 +3.1
comp=Z,45nm,1.0s,mb5.3
HINF Hinteralfeld 81.25 339 eP P 10 56 00.2 +2.5
DAVOX Davos 81.43 337 P P 10 56 00.8 +2.1
comp=Z,3.6nm,0.7s,mb4.4,baz=114,slow=4.1,SNR=4.0
GRR Gorron 82.36 344 eP P 10 56 06.9 +3.3
comp=Z,122nm,1.3s,mb5.4
GRR Gorron 82.36 344 eP P 10 56 06.9 +3.3
GRR pmax pmax
comp=Z,61nm,1.3s,mb5.4
GRR Gorron 82.36 344 eP P 10 56 06.9 +3.3
comp=Z,61nm,1.3s,mb5.4
LOR Lormes 82.46 341 eP P 10 56 07.2 +3.1
comp=Z,53nm,1.3s,mb5.0
LOR Lormes 82.46 341 eP P 10 56 07.2 +3.1
LOR pmax pmax
comp=Z,26nm,1.3s,mb5.0
LOR Lormes 82.46 341 eP P 10 56 07.2 +3.1
LOR pmax pmax
comp=Z,26nm,1.3s,mb5.0
LOR Lormes 82.46 341 eP P 10 56 07.2 +3.1
comp=Z,26nm,1.3s,mb5.0
AVF Avril sur Loir 83.03 341 eP P 10 56 10.1 +3.0
comp=Z,75nm,1.5s,mb5.2
AVF Avril sur Loir 83.03 341 eP P 10 56 10.1 +3.0
AVF pmax pmax
comp=Z,37nm,1.5s,mb5.2
AVF Avril sur Loir 83.03 341 eP P 10 56 10.1 +3.0
AVF pmax pmax
comp=Z,37nm,1.5s,mb5.2
AVF Avril sur Loir 83.03 341 eP P 10 56 10.1 +3.0
comp=Z,37nm,1.5s,mb5.2
SMF Signal de Mont 83.05 341 eP P 10 56 10.5 +3.3
comp=Z,80nm,1.3s,mb5.3
SMF Signal de Mont 83.05 341 eP P 10 56 10.5 +3.3
SMF pmax pmax
comp=Z,40nm,1.3s,mb5.3
SMF Signal de Mont 83.05 341 eP P 10 56 10.5 +3.3
SMF pmax pmax
comp=Z,40nm,1.3s,mb5.3
SMF Signal de Mont 83.05 341 eP P 10 56 10.5 +3.3
comp=Z,40nm,1.3s,mb5.3
LPL La Plagne 83.42 338 eP P 10 56 13.1 +4.0
comp=Z,40nm,1.2s,mb5.0
LPL La Plagne 83.42 338 eP P 10 56 13.1 +4.0
LPL pmax pmax
comp=Z,20nm,1.2s,mb5.0
LPL La Plagne 83.42 338 eP P 10 56 13.1 +4.0
LPL pmax pmax
comp=Z,20nm,1.2s,mb5.0
LPL La Plagne 83.42 338 eP P 10 56 13.1 +4.0
comp=Z,20nm,1.2s,mb5.0
LPG La Plagne 83.44 338 eP P 10 56 13.4 +4.2
comp=Z,37nm,1.1s,mb5.0
LPG La Plagne 83.44 338 eP P 10 56 13.4 +4.2
LPG pmax pmax
comp=Z,19nm,1.1s,mb5.0
LPG La Plagne 83.44 338 eP P 10 56 13.4 +4.2
LPG pmax pmax
comp=Z,19nm,1.1s,mb5.0
LPG La Plagne 83.44 338 eP P 10 56 13.4 +4.2
comp=Z,18nm,1.1s,mb5.0
MMAI Mount Meron Ar 83.44 313 P P 10 56 09.3 +0.1
comp=Z,2.2nm,0.5s,mb4.5,baz=25,slow=8.1,SNR=4.4
SNAA Sanae 153.55 195 PKPbc PKPbc 11 03 37.5 -2.8
comp=Z,0.8nm,1.0s,baz=260,slow=3.2,SNR=3.6

MOS 22 10:43:52.7±2.9, 47.86N×156.62E, h50km, mb4.8/32, Error ellipse: s-maj=14.6km s-min=7.6km az=105.6
ISCJB 22 10:43:52.9±0.6, 47.54N±0.09×155.50E±0.1, h10km, mb4.5/38, Error ellipse: s-maj=14.2km s-min=11.1km az=119.3
IDC 22 10:43:52.2±0.7, 47.44N×155.15E, h0km, mb4.4/21, mb1 4.6/21, mb1mx4.4/28, mbtmp4.4/21, Error ellipse: s-maj=19.8km s-min=15.3km az=106.0
BJI 22 10:43:53.2, 47.40N×154.90E, h10km, mb4.7
NEIC 22 10:43:54.2±0.6, 47.40N×154.95E, h10km, mb4.8/9, Error ellipse: s-maj=14.3km s-min=12.8km az=100.0
SZGRF 22 10:44:04.1, 48.29N×155.82E, h33km, mb5.0, Kuril Islands, Russia
ISC 22 10:43:54.3±0.6, 47.54N±0.09×155.1E±0.1, h10km, n102, σ1.21/101, mb4.5/38, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KLR Kul'dur 15.56 285 eP Pn 10 47 35.3 +1.6
KLR Kul'dur 15.56 285 eP Pn 10 47 35.3 +1.6
YAK Yakutsk 20.40 325 eP P 10 48 30.1 -1.3
YAK pmax pmax
comp=Z,22nm,1.0s
YAK Yakutsk 20.40 325 eP P 10 48 30.1 -1.3
YAK pmax pmax
comp=Z,22nm,1.0s
YAK Yakutsk 20.40 325 eP P 10 48 31.3 -0.1
comp=Z,16nm,0.5s
CLNS Chul'man 20.54 308 eP P 10 48 33.0 +0.2
CLNS pmax pmax
comp=Z,44nm,0.9s
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS pmax pmax
comp=E,32nm,1.0s
CLNS Chul'man 20.54 308 eP P 10 48 33.0 +0.2
CLNS pmax pmax
comp=Z,44nm,0.9s
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS pmax pmax
comp=E,32nm,1.0s
KSRS Korea Array 22.30 253 P P 10 48 53.0 +1.3
comp=E,12nm,0.9s,mb4.3,baz=52,slow=10,SNR=10.0
BOD Bodaibo 26.52 308 eP P 10 49 29.7 -2.3
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.1
BOD Bodaibo 26.52 308 eP P 10 49 29.7 -2.3
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.1
TIXI Tiksi 27.10 342 eP P 10 49 32.8 -4.4
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
TIXI Tiksi 27.10 342 eP P 10 49 35.4 -1.8
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ULN Ulaanbaatar 31.89 289 eP P 10 50 18.3 -1.4
ULN pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
ULN Ulaanbaatar 31.89 289 eP P 10 50 18.3 -1.4
ULN pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
ULN Ulaanbaatar 31.89 289 eP P 10 50 18.3 -1.4
comp=Z,7.6nm,1.3s,mb4.4
SONM Songino Array 32.32 289 P P 10 50 22.5 -1.0
comp=Z,3.0nm,0.9s,mb4.1,baz=69,slow=9.7,SNR=7.0
SONM Songino Array 32.32 289 P P 10 50 22.5 -1.0
SONM pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 36.90 266 P P 10 51 02.6 -0.5
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.7
KRAR Krasnoyarsk 38.17 307 eP P 10 51 12.1 -1.8
KRAR pmax pmax
comp=Z,32nm,1.2s,mb4.9
KRAR Krasnoyarsk 38.17 307 eP P 10 51 12.1 -1.8
KRAR pmax pmax
comp=Z,32nm,1.2s,mb4.9
LZH Lanzhou 39.18 272 eP P 10 51 23.0 +0.6
LZH AP pP 10 51 31.0 +5.5
LZH XP sP 10 51 36.0 +9.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
INK Inuvik 40.27 33 P P 10 51 29.2 -2.2
comp=Z,2.7nm,0.5s,mb4.3,baz=295,slow=5.2,SNR=17
INK Inuvik 40.27 33 eP P 10 51 31.5 +0.1
comp=Z,107nm,0.5s,mb5.8
ZAL Zalesovo 43.24 306 P P 10 51 53.9 -1.8
comp=Z,1.9nm,0.4s,mb4.2,baz=39,slow=10,SNR=6.8
ZAL Zalesovo 43.24 306 P P 10 51 53.9 -1.8
ZAL pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 47.75 298 eP P 10 52 30.6 -0.8
MKAR Makanchi Array 47.75 298 P P 10 52 31.1 -0.3
comp=Z,3.0nm,0.6s,mb4.5,baz=69,slow=7.2,SNR=22
MKAR Makanchi Array 47.75 298 P P 10 52 31.1 -0.3
MKAR pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 49.49 38 P P 10 52 44.2 -0.6
comp=Z,1.3nm,0.6s,mb4.1,baz=296,slow=7.2,SNR=4.4
YKA Yellowknife Ar 49.49 38 P P 10 52 44.2 -0.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 49.49 38 P P 10 52 44.2 -0.6
BVAR Borovoye Array 51.37 310 P P 10 52 58.8 -0.3
comp=Z,8.8nm,0.4s,mb5.0,baz=57,slow=7.5,SNR=20
BVAR Borovoye Array 51.37 310 P P 10 52 58.8 -0.3
BVAR pmax pmax
comp=Z,9.0nm,0.4s
BRVK Borovoye 51.41 310 eP P 10 52 58.3 -1.1
BRVK pmax pmax
comp=Z,11nm,0.6s,mb5.0
BRVK Borovoye 51.41 310 eP P 10 52 58.2 -1.1
comp=Z,11nm,0.6s,mb5.0
LSA Lhasa 51.55 274 P P 10 53 02.0 +1.6
LSA Lhasa 51.55 274 eP P 10 53 02.5 +2.1
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 51.55 274 eP P 10 53 02.5 +2.1
comp=Z,5.5nm,0.6s,mb4.7
ARU Arti 55.32 318 eP P 10 53 26.9 -1.2
ARU pmax pmax
comp=Z,16nm,0.6s,mb5.2
ARU Arti 55.32 318 eP P 10 53 26.9 -1.2
comp=Z,16nm,0.6s,mb5.2
ARCES ARCESS Array B 57.53 341 P P 10 53 42.6 -1.3
comp=Z,2.2nm,0.7s,mb4.3,baz=19,slow=7.4,SNR=5.4
ARCES ARCESS Array B 57.53 341 P P 10 53 42.6 -1.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
AKTK Aktyubinsk 59.18 312 P P 10 53 55.2 -0.1
AKTO Aktyubinsk 59.18 312 P P 10 53 55.2 -0.1
comp=Z,2.6nm,0.6s,mb4.5,baz=66,slow=5.9,SNR=6.1
AKTO Aktyubinsk 59.18 312 P P 10 53 55.2 -0.2
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
FINES FINESS Array B 63.88 335 P P 10 54 26.9 -0.2
comp=Z,13nm,0.5s,mb5.2,baz=38,slow=8.0,SNR=34
FINES FINESS Array B 63.88 335 P P 10 54 26.9 -0.2
FINES pmax pmax
comp=Z,13nm,0.5s
FINES FINESS Array B 63.88 335 P P 10 54 26.9 -0.2
OBN Obninsk 65.39 326 eP P 10 54 34.7 -2.3
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.1
OBN Obninsk 65.39 326 eP P 10 54 34.7 -2.3
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.1
NOA NORSAR Array B 67.89 342 P P 10 54 53.0 0.0
comp=Z,4.4nm,0.6s,mb4.7,baz=25,slow=6.3,SNR=11
NOA NORSAR Array B 67.89 342 P P 10 54 53.0 0.0
NOA pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 68.17 340 P P 10 54 54.4 -0.3
comp=Z,7.8nm,0.6s,mb4.9,baz=46,slow=4.3,SNR=11
HFS Hagfors 68.17 340 P P 10 54 54.4 -0.3
HFS pmax pmax
comp=Z,8.0nm,0.6s
WRA Warramunga Arr 69.71 201 P P 10 55 02.1 -2.2
comp=Z,0.6nm,0.7s,mb3.6,baz=18,slow=6.5,SNR=6.6
WRA Warramunga Arr 69.71 201 P P 10 55 02.1 -2.2
WRA pmax pmax
comp=Z,1.0nm,0.7s
FITZ Fitzroy Crossi 70.48 210 P P 10 55 08.7 -0.3
comp=Z,2.9nm,0.8s,mb4.3,baz=11,slow=9.1,SNR=7.0
KIV Kislovodsk 71.18 315 eP P 10 55 14.8 +1.5
KIV pmax pmax
comp=Z,35nm,1.1s,mb5.2
KIV Kislovodsk 71.18 315 eP P 10 55 14.8 +1.5
KIV pmax pmax
comp=Z,35nm,1.1s,mb5.2
AKASG Malin Array Be 71.61 327 P P 10 55 15.4 -0.5
comp=Z,2.4nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=4.6
AKASG Malin Array Be 71.61 327 P P 10 55 15.4 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
SOC Sochi 72.87 317 iP P 10 55 25.2 +1.8
SOC Sochi 72.87 317 iP P 10 55 25.2 +1.8
ANN Anapa 72.97 319 eP P 10 55 25.2 +1.2
ANN e*PP pP 10 55 35.8 +8.5
ANN pmax pmax
comp=Z,27nm,0.8s,mb5.2
ANN Anapa 72.97 319 eP P 10 55 25.2 +1.2
ANN e*PP pP 10 55 35.8 +8.5
ANN e 10 58 10.1
ANN pmax pmax
comp=Z,27nm,0.8s,mb5.2
GNI Garni 73.01 311 eP P 10 55 25.5 +1.2
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 73.01 311 eP P 10 55 25.5 +1.2
GNI pmax pmax
comp=Z,13nm,1.3s
ASAR Alice Springs 73.39 200 P P 10 55 25.8 -0.7
comp=Z,1.4nm,0.8s,mb4.0,baz=15,slow=5.4,SNR=11
ASAR Alice Springs 73.39 200 P P 10 55 25.8 -0.7
ASAR pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 75.48 331 eP P 10 55 39.5 +0.9
STHS Stebnicka Huta 75.48 331 eP P 10 55 39.6 +1.0
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 75.48 331 eP P 10 55 39.6 +1.0
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KOLS Kolonicke sedl 75.55 330 eP P 10 55 37.8 -1.3
KSP Ksiaz 75.77 334 eP P 10 55 41.0 +0.7
EKA Eskdalemuir Ar 75.87 347 P P 10 55 42.5 +1.6
comp=Z,2.4nm,0.5s,mb4.4,baz=16,slow=4.8,SNR=13
EKA Eskdalemuir Ar 75.87 347 P P 10 55 42.5 +1.6
EKA pmax pmax
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 75.95 62 P P 10 55 41.3 0.0
comp=Z,1.4nm,0.6s,mb4.1,baz=295,slow=3.2,SNR=6.9
TXAR Lajitas Array 75.95 62 P P 10 55 41.3 0.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s
OKC Ostrava-Krasne 76.10 333 eP P 10 55 44.3 +2.1
DPC Dobruska-Polom 76.20 334 eP P 10 55 44.3 +1.5
CLL Collm 76.28 337 iP P 10 55 43.6 +0.4
comp=Z,24nm,1.3s,mb5.0
BRG Berggiesshubel 76.41 336 e(P) P 10 55 44.4 +0.4
comp=Z,7.4nm,1.2s,mb4.5
BRG Berggiesshubel 76.41 336 P P 10 55 44.4 +0.4
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BRG Berggiesshubel 76.41 336 P P 10 55 44.4 +0.4
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
KECS Kecovo 76.54 331 eP P 10 55 43.2 -1.5
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.54 331 eP P 10 55 43.2 -1.5
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
PRU Pruhonice 77.04 335 eP P 10 55 48.4 +0.9
NKC Novy Kostel 77.40 336 eP P 10 55 50.9 +1.4
KHC Kasperske Hory 78.09 335 P P 10 55 54.0 +0.7
KHC Kasperske Hory 78.09 335 eP P 10 55 51.8 -1.5
GRA1 Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 78.22 337 eP P 10 55 56.2 +2.1
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 78.31 335 P P 10 55 55.7 +1.1
comp=Z,1.3nm,0.6s,mb4.0,baz=56,slow=5.2,SNR=7.8
GERES GERESS Array B 78.31 335 P P 10 55 55.7 +1.1
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.70 318 P P 10 55 57.9 +1.1
comp=Z,8.5nm,1.1s,mb4.6,baz=54,slow=2.3,SNR=13
BRTR Keskin Array B 78.70 318 P P 10 55 57.9 +1.1
BRTR pmax pmax
comp=Z,9.0nm,1.1s
MMAI Mount Meron Ar 83.27 313 P P 10 56 22.1 +1.0
comp=Z,3.6nm,0.6s,mb4.5,baz=65,slow=6.0,SNR=4.8
SNAA Sanae 153.68 196 PKPab PKPab 11 04 02.9 -3.2
comp=Z,0.5nm,0.6s,baz=200,slow=8.5,SNR=3.8

TRN 22 10:49:57.9, 10.41N×62.32W, h5km, MD3.2
ISCJB 22 10:49:58.7±0.7, 10.40N±0.04×62.30W±0.03, h11km±5km, Error ellipse: s-maj=6.2km s-min=3.9km az=133.4
NEIC 22 10:49:58.1, 10.41N×62.32W, h6km, MD3.2(TRN), After TRN.
FUNV 22 10:49:59.7, 10.43N×62.29W, h5km, MW2.8
ISC 22 10:49:58.7±0.6, 10.39N±0.03×62.30W±0.02, h8km±4km, n19, σ0.96/31, 1C, Near coast of Venezuela

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GUIV Guiria 0.26 17 eP Pg 10 50 04.2 +0.2
GUIV eS Sg 10 50 07.7 +0.2
TCE Chacachacare 0.62 61 ⇑iP Pg 10 50 10.2 -0.4
TCE eS Sg 10 50 19.3 +0.6
GUNV Guanoco 0.67 250 eP Pg 10 50 12.2 +0.6
GUNV eS Sg 10 50 23.3 +2.8
TPP Pointe-a-Pierr 0.84 95 eP Pg 10 50 15.2 +0.3
TRN Trinidad (W) 0.92 74 eP Pg 10 50 15.5 -0.8
TRN Trinidad (W) 0.92 74 eP Pg 10 50 14.5 -1.8
CRUV Carupano 0.96 287 eP Pg 10 50 16.1 -1.1
CRUV eS Sg 10 50 28.3 -1.4
TBH Brigand Hill 1.22 86 eP Pb 10 50 21.9 -0.1
ITEV Isla Los Testi 1.26 320 eP Pn 10 50 22.4 -0.2
ITEV eS Sb 10 50 39.6 +0.5
TPR Prospect 1.69 62 eP Pn 10 50 28.3 -0.3
TPR eS Sn 10 50 51.2 +0.8
ORIV Oritupano 1.71 220 eP Pn 10 50 30.4 +1.6
ORIV eS Sn 10 50 52.6 +1.7
GRW Mount Saint Ca 1.86 20 eP Pn 10 50 31.1 +0.1
GRW eS Sn 10 50 54.6 0.0
GRW Mount Saint Ca 1.86 20 eP Pn 10 50 31.1 +0.1
GRW eS Sn 10 50 54.6 0.0
PCRV Puerto La Cruz 2.31 265 eP Pn 10 50 37.2 +0.1
PCRV eS Sn 10 51 05.5 -0.2
GURV El Guri 2.73 197 eS Sn 10 51 16.4 +0.4
CUPV Cœpira 3.45 265 eP Pn 10 50 52.5 -0.2
CUPV eS Sn 10 51 33.4 -0.4
BIRV Birongo 3.91 272 eP Pn 10 51 00.0 +1.0
LUEV Luepa 4.60 170 eS Sn 10 52 00.3 -1.8
CAOV Caicara del Or 5.01 233 eP Pn 10 51 13.4 -0.7
CAOV eS Sn 10 52 09.3 -3.0

ISCJB 22 10:51:01.2±0.5, 44.05N±0.03×8.56W±0.05, h10km, Error ellipse: s-maj=5.4km s-min=3.0km az=55.6
MDD 22 10:51:02.3±0.9, 44.11N×8.83W, h0km, mbLg3.4/17, Error ellipse: s-maj=11.0km s-min=4.7km az=121.0, PRXIMO
CSEM 22 10:51:04.4±0.2, 43.93N×8.61W, h10km, ML4.1/24, Error ellipse: s-maj=3.8km s-min=1.8km az=110.0
LDG 22 10:51:05.0±0.3, 44.06N×8.75W, h15km, Ml3.9/23, Error ellipse: s-maj=7.7km s-min=2.9km az=117.0
NEIC 22 10:51:06.7, 43.88N×8.82W, h14km, MN3.4(MDD), After MDD.
INMG 22 10:51:08.6±0.9, 43.79N×8.86W, h14km±3km, MD3.2, ML3.0, Error ellipse: s-maj=5.9km s-min=2.5km az=109.0
ISC 22 10:51:03.1±0.5, 44.00N±0.02×8.64W±0.05, h10km, n116, σ1.51/203, 5C-3D, Spain

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
EMAZ Mazaricos 1.07 193 ⇑P Pb 10 51 23.7 -0.1
SNR=18
EMAZ S Sg 10 51 35.9 -1.8
126nm,0.1s,SNR=18
EMAZ Mazaricos 1.07 193 P Pb 10 51 23.7 -0.1

	SNR=18							
STS	**Santiago**	**1.11**	**177**	⇑P	**Pb**	**10 51 25.0**	**+0.7**
	52nm,0.1s,SNR=18							
STS				S	**Sb**	**10 51 37.6**	**-1.3**
	83nm,0.1s,SNR=14							
STS	**Santiago**	**1.11**	**177**	P	**Pb**	**10 51 25.0**	**+0.6**
	52nm,0.1s,SNR=18							
EPON	**Pontenova**	**1.27**	**121**	⇓P	**Pn**	**10 51 29.4**	**+2.5**
	48nm,0.2s,SNR=18							
EPON				S	**Sb**	**10 51 46.1**	**+2.5**
	46nm,0.1s,SNR=19							
EPON	**Pontenova**	**1.27**	**121**	P	**Pn**	**10 51 29.4**	**+2.5**
	48nm,0.2s,SNR=18							
EZAM	**Zamans**	**1.84**	**181**	⇑P	**Pn**	**10 51 34.8**	**0.0**
EZAM				S	**Sn**	**10 51 55.2**	**-2.9**
EZAM	**Zamans**	**1.84**	**181**	⇑P	**Pn**	**10 51 34.8**	**0.0**
	29nm,0.1s,SNR=18							
EZAM				S	**Sn**	**10 51 55.2**	**-2.9**
	90nm,0.1s,SNR=4.0							
PCAB	**Cabril**	**2.33**	**169**	*e*Pn	**Pn**	**10 51 42.5**	**+1.1**
PCAB				*e*Sn	**Sn**	**10 52 08.0**	**-2.1**
PCAB								
	137nm,0.1s							
PCAB	**Cabril**	**2.33**	**169**	P	**Pn**	**10 51 42.4**	**+1.0**
PCAB				S	**Sn**	**10 52 08.0**	**-2.1**
PCAB	**Cabril**	**2.33**	**169**	*e*Pn	**Pn**	**10 51 42.5**	**+1.1**
PCAB				*e*Sn	**Sn**	**10 52 08.0**	**-2.1**
	137nm,0.1s							
ECAL	**Calabor**	**2.48**	**145**	P	**Pn**	**10 51 46.2**	**+2.7**
	37nm,0.2s,SNR=57							
ECAL				S	**Sn**	**10 52 14.1**	**+0.2**
	126nm,0.1s,SNR=5.0							
ECAL	**Calabor**	**2.48**	**145**	P	**Pn**	**10 51 46.2**	**+2.6**
	37nm,0.2s,SNR=57							
EARI	**Arriondas**	**2.59**	**104**	⇓P	**Pn**	**10 51 48.1**	**+3.1**
	7.2nm,0.2s,SNR=18							
EARI				S	**Sn**	**10 52 19.1**	**+2.6**
	6.3nm,0.1s,SNR=5.0							
EARI	**Arriondas**	**2.59**	**104**	P	**Pn**	**10 51 48.1**	**+3.1**
	7.2nm,0.2s,SNR=18							
PBRG	**Braganca**	**2.60**	**147**	*e*Pn	**Pn**	**10 51 47.7**	**+2.6**
PBRG				*e*Sn	**Sn**	**10 52 16.5**	**-0.2**
PBRG								
	49nm,0.2s							
PBRG	**Braganca**	**2.60**	**147**	P	**Pn**	**10 51 47.5**	**+2.4**
PBRG				S	**Sn**	**10 52 16.4**	**-0.3**
PBRG	**Braganca**	**2.60**	**147**	*e*Pn	**Pn**	**10 51 47.7**	**+2.6**
PBRG				*e*Sn	**Sn**	**10 52 16.5**	**-0.2**
	49nm,0.2s							
PVRL	**Vila Real**	**2.80**	**166**	*e*Pn	**Pn**	**10 51 49.2**	**+1.2**
PVRL				*e*Sn	**Sn**	**10 52 19.6**	**-2.2**
PVRL								
	121nm,0.1s							
PVRL	**Vila Real**	**2.80**	**166**	*e*Pn	**Pn**	**10 51 49.2**	**+1.2**
PVRL				*e*Sn	**Sn**	**10 52 19.6**	**-2.2**
	121nm,0.1s							
PVIS	**Viseu**	**3.32**	**170**	*e*Pn	**Pn**	**10 51 56.1**	**+1.0**
PVIS				*e*Sn	**Sn**	**10 52 31.5**	**-3.2**
PVIS								
	38nm,0.1s							
PVIS	**Viseu**	**3.32**	**170**	*e*Pn	**Pn**	**10 51 56.1**	**+1.0**
PVIS				*e*Sn	**Sn**	**10 52 31.5**	**-3.2**
	38nm,0.1s							
ELAN	**Lanestosa**	**3.86**	**100**	P	**Pn**	**10 52 05.5**	**+3.0**
	7.3nm,0.1s,SNR=40							
ELAN				S	**Sn**	**10 52 49.1**	**+1.2**
	14nm,0.1s,SNR=5.0							
ELAN	**Lanestosa**	**3.86**	**100**	P	**Pn**	**10 52 05.5**	**+3.0**
	7.3nm,0.1s,SNR=40							
PCBR	**Castelo Branco**	**4.24**	**168**	*e*Pn	**Pn**	**10 52 08.7**	**+0.9**
PCBR				*e*Sn	**Sn**	**10 52 53.5**	**-3.8**
PCBR								
	20nm,0.3s							
PCBR	**Castelo Branco**	**4.24**	**168**	P	**Pn**	**10 52 08.6**	**+0.8**
PCBR				S	**Sn**	**10 52 53.0**	**-4.3**
PCBR	**Castelo Branco**	**4.24**	**168**	*e*Pn	**Pn**	**10 52 08.7**	**+0.9**
PCBR				*e*Sn	**Sn**	**10 52 53.5**	**-3.8**
	20nm,0.3s							
ECRI	**Cripan**	**4.69**	**105**	P	**Pn**	**10 52 17.5**	**+3.6**
	20nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**4.72**	**134**	⇓P	**Pn**	**10 52 17.0**	**+2.7**
	7.7nm,0.2s,SNR=18							
GUD				S	**Sn**	**10 53 08.0**	**-1.1**
	15nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**5.06**	**186**	*e*Pn	**Pn**	**10 52 18.4**	**-0.6**
PMAFR				*e*Sn	**Sn**	**10 53 11.2**	**-6.2**
PMAFR								
	31nm,0.1s							
PMAFR	**Mafra**	**5.06**	**186**	*e*Pn	**Pn**	**10 52 18.4**	**-0.6**
PMAFR				*e*Sn	**Sn**	**10 53 11.2**	**-6.2**
	31nm,0.1s							
PLOU	**Loures**	**5.12**	**184**	*e*Pn	**Pn**	**10 52 19.5**	**-0.3**
PLOU				*e*Sn	**Sn**	**10 53 12.6**	**-6.4**
PLOU								
	14nm,0.2s							
PLOU	**Loures**	**5.12**	**184**	P	**Pn**	**10 52 19.3**	**-0.5**
PLOU				S	**Sn**	**10 53 12.4**	**-6.6**
PLOU	**Loures**	**5.12**	**184**	*e*Pn	**Pn**	**10 52 19.5**	**-0.3**
PLOU				*e*Sn	**Sn**	**10 53 12.6**	**-6.4**
	14nm,0.2s							
PESTR	**Estremoz**	**5.18**	**171**	*e*Pn	**Pn**	**10 52 21.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**10 53 15.6**	**-4.9**
PESTR								
	8.0nm,0.2s							
ELIZ	**Elizondo**	**5.23**	**97**	P	**Pn**	**10 52 24.7**	**+3.3**
ELIZ				S	**Sn**	**10 53 22.1**	**+0.3**
ELIZ	**Elizondo**	**5.23**	**97**	P	**Pn**	**10 52 24.7**	**+3.3**
	2.8nm,0.1s,SNR=7.4							
ELIZ				S	**Sn**	**10 53 22.1**	**+0.3**
	7.5nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**5.24**	**96**	P	**Pn**	**10 52 24.2**	**+2.8**
	3.2nm,0.1s,SNR=14							
EALK				S	**Sn**	**10 53 20.9**	**-1.0**
	31nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**5.27**	**99**	P	**Pn**	**10 52 25.9**	**+4.0**
	2.5nm,0.1s,SNR=7.3							
IUSE				S	**Sn**	**10 53 25.4**	**+2.8**
	3.3nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**5.27**	**99**	P	**Pn**	**10 52 25.9**	**+4.0**
	2.5nm,0.1s,SNR=7.3							
EBAD	**Badajoz**	**5.38**	**166**	P	**Pn**	**10 52 24.3**	**+1.0**
	3.1nm,0.1s,SNR=15							
EBAD				S	**Sn**	**10 53 21.1**	**-4.2**
	12nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.38**	**166**	P	**Pn**	**10 52 24.3**	**+1.0**
	3.1nm,0.1s,SNR=15							
IPRE	**Itoiz**	**5.44**	**100**	P	**Pn**	**10 52 28.1**	**+3.9**
	1.7nm,0.2s,SNR=7.9							
IPRE				S	**Sn**	**10 53 25.8**	**-1.1**
	0.7nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**5.44**	**100**	P	**Pn**	**10 52 28.1**	**+3.9**
	1.7nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**5.46**	**97**	*e*Pn	**Pn**	**10 52 25.5**	**+1.0**
SJPF				*e*Sn	**Sn**	**10 53 23.1**	**-4.3**
	12nm,0.3s							
SJPF	**Ste Jean**	**5.46**	**97**	P	**Pn**	**10 52 25.5**	**+1.0**
SJPF				S	**Sn**	**10 53 23.1**	**-4.3**
	5.8nm,0.3s							
MOE	**Montemor**	**5.47**	**178**	*e*Pn	**Pn**	**10 52 24.8**	**+0.1**
MOE				*e*Sn	**Sn**	**10 53 21.3**	**-6.3**
QUIF	**Quistinic**	**5.47**	**42**	*e*Pn	**Pn**	**10 52 24.7**	**0.0**
QUIF				*e*Sn	**Sn**	**10 53 22.2**	**-5.5**
	20nm,0.3s							
QUIF	**Quistinic**	**5.47**	**42**	*e*Pn	**Pn**	**10 52 24.7**	**0.0**
QUIF				*e*Sn	**Sn**	**10 53 22.2**	**-5.5**
	10nm,0.3s							
ESDC	**Sonseca Array**	**5.55**	**139**	P	**Pn**	**10 52 28.2**	**+2.5**
	9.1nm,0.1s,baz=324,slow=12,SNR=7.9							
ESDC				S	**Sn**	**10 53 28.5**	**-1.1**
	1.1nm,0.1s,baz=317,slow=23,SNR=5.0							
ESDC	**Sonseca Array**	**5.55**	**139**	P	**Pn**	**10 52 28.2**	**+2.4**
	9.1nm,0.1s,SNR=7.9							
ROSF	**Rostrenen**	**5.72**	**39**	*e*Pn	**Pn**	**10 52 27.6**	**-0.5**
ROSF				*e*Sn	**Sn**	**10 53 28.6**	**-5.2**
	9.5nm,0.3s							
ROSF	**Rostrenen**	**5.72**	**39**	*e*Pn	**Pn**	**10 52 27.6**	**-0.5**
ROSF				*e*Sn	**Sn**	**10 53 28.6**	**-5.2**
	4.8nm,0.3s							
ETOR	**Torete**	**5.82**	**121**	P	**Pn**	**10 52 32.1**	**+2.7**
	14nm,0.1s,SNR=31							
ETOR				S	**Sn**	**10 53 36.5**	**+0.4**
	12nm,0.3s,SNR=7.9							
SGMF	**Saint Gilles**	**6.00**	**43**	*e*Pn	**Pn**	**10 52 31.3**	**-0.6**
SGMF				*e*Sn	**Sn**	**10 53 35.7**	**-5.0**
	9.0nm,0.2s							
SGMF	**Saint Gilles**	**6.00**	**43**	*e*Pn	**Pn**	**10 52 31.3**	**-0.6**
SGMF				*e*Sn	**Sn**	**10 53 35.7**	**-5.0**
	4.5nm,0.2s							
EMIN	**Mina Concepcio**	**6.40**	**166**	P	**Pn**	**10 52 38.7**	**+1.3**
	2.6nm,0.1s,SNR=20							
EMIN				S	**Sn**	**10 53 45.8**	**-4.7**
	2.6nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.40**	**166**	P	**Pn**	**10 52 38.7**	**+1.3**
	2.6nm,0.1s,SNR=20							
ESAC	**San Caprasio**	**6.42**	**108**	⇑P	**Pn**	**10 52 40.6**	**+2.9**
	22nm,0.3s,SNR=18							
ESAC				S	**Sn**	**10 53 51.3**	**+0.3**
	18nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**6.42**	**108**	P	**Pn**	**10 52 40.6**	**+2.9**
	22nm,0.3s,SNR=18							
PTEO	**Sao Teotonio**	**6.44**	**181**	*e*Pn	**Pn**	**10 52 38.0**	**0.0**
PTEO				*e*Sn	**Sn**	**10 53 46.0**	**-5.6**
PTEO	**Sao Teotonio**	**6.44**	**181**	P	**Pn**	**10 52 37.7**	**-0.3**
PTEO				S	**Sn**	**10 53 46.0**	**-5.6**
EGRO	**El Granado**	**6.51**	**172**	P	**Pn**	**10 52 39.8**	**+0.8**
	2.0nm,0.1s,SNR=17							
EGRO				S	**Sn**	**10 53 47.8**	**-5.5**
	1.6nm,0.1s,SNR=5.9							
EGRO	**El Granado**	**6.51**	**172**	P	**Pn**	**10 52 39.8**	**+0.8**
	2.0nm,0.1s,SNR=17							
MFF	**Saint Martin d**	**6.54**	**64**	*e*Pn	**Pn**	**10 52 38.7**	**-0.6**
MFF				*e*Sn	**Sn**	**10 53 49.1**	**-4.7**
	11nm,0.3s							
MFF	**Saint Martin d**	**6.54**	**64**	*e*Pn	**Pn**	**10 52 38.7**	**-0.6**
MFF				*e*Sn	**Sn**	**10 53 49.1**	**-4.7**
	5.7nm,0.3s							
EBIE	**Bielsa**	**6.54**	**99**	P	**Pn**	**10 52 43.2**	**+3.9**
	1.7nm,0.1s,SNR=11							
EBIE				S	**Sn**	**10 53 55.6**	**+1.7**
	3.9nm,0.2s,SNR=6.4							
EBIE	**Bielsa**	**6.54**	**99**	P	**Pn**	**10 52 43.2**	**+3.9**
	1.7nm,0.1s,SNR=11							
EADA	**Adamuz**	**6.58**	**151**	P	**Pn**	**10 52 42.0**	**+2.1**
	0.5nm,0.1s,SNR=7.2							
EADA				S	**Sn**	**10 53 51.7**	**-3.3**
	12nm,0.1s,SNR=14							
EADA	**Adamuz**	**6.58**	**151**	P	**Pn**	**10 52 42.0**	**+2.1**
	0.5nm,0.1s,SNR=7.2							
LFF	**La Frestale**	**6.78**	**79**	*e*Pn	**Pn**	**10 52 41.7**	**-0.9**
LFF				*e*Sn	**Sn**	**10 53 54.6**	**-5.3**
	13nm,0.3s							
LFF	**La Frestale**	**6.78**	**79**	*e*Pn	**Pn**	**10 52 41.7**	**-0.9**
LFF				*e*Sn	**Sn**	**10 53 54.6**	**-5.3**
	6.3nm,0.3s							
GRR	**Gorron**	**6.96**	**48**	*e*Pn	**Pn**	**10 52 44.4**	**-0.7**
GRR				*e*Sn	**Sn**	**10 53 58.6**	**-5.8**
	12nm,0.2s							
GRR	**Gorron**	**6.96**	**48**	*e*Pn	**Pn**	**10 52 44.4**	**-0.7**
GRR				*e*Sn	**Sn**	**10 53 58.6**	**-5.8**
	5.8nm,0.2s							
EMOS	**Mosqueruela**	**7.07**	**118**	P	**Pn**	**10 52 50.4**	**+3.8**
	2.3nm,0.1s,SNR=10							
EMOS	**Mosqueruela**	**7.07**	**118**	P	**Pn**	**10 52 50.4**	**+3.8**
	2.3nm,0.1s,SNR=10							
EVIA	**Vianos**	**7.07**	**137**	P	**Pn**	**10 52 48.5**	**+1.9**
	1.4nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**7.30**	**112**	P	**Pn**	**10 52 52.5**	**+2.8**
	2.9nm,0.1s,SNR=6.6							
ERTA	**Horta de San J**	**7.30**	**112**	P	**Pn**	**10 52 52.5**	**+2.8**
RJF	**Les Rejaudoux**	**7.36**	**76**	*e*Pn	**Pn**	**10 52 49.6**	**-1.0**
RJF				*e*Sn	**Sn**	**10 54 08.7**	**-5.5**
	19nm,0.2s							
RJF	**Les Rejaudoux**	**7.36**	**76**	*e*Pn	**Pn**	**10 52 49.6**	**-1.0**
RJF				*e*Sn	**Sn**	**10 54 08.7**	**-5.5**
	9.6nm,0.2s							
FLN	**La Foliniere**	**7.39**	**47**	*e*Sn	**Sn**	**10 54 09.5**	**-5.3**
	11nm,0.4s							
FLN	**La Foliniere**	**7.39**	**47**	*e*Sn	**Sn**	**10 54 09.5**	**-5.3**
	5.7nm,0.4s							
ESPR	**Espera**	**7.43**	**162**	S	**Sn**	**10 54 12.3**	**-3.5**
	8.6nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**7.55**	**133**	P	**Pn**	**10 52 55.5**	**+2.2**
	1.4nm,0.1s,SNR=5.9							
ETOB	**Tobarra**	**7.55**	**133**	P	**Pn**	**10 52 55.5**	**+2.3**
EPOB	**Poblet**	**7.63**	**107**	P	**Pn**	**10 52 56.7**	**+2.4**
	0.9nm,0.1s,SNR=9.1							
EPOB				S	**Sn**	**10 54 20.7**	**-0.2**
	0.4nm,0.1s							
EPOB	**Poblet**	**7.63**	**107**	P	**Pn**	**10 52 56.7**	**+2.3**
EQUE	**Quentar**	**7.85**	**148**	P	**Pn**	**10 53 01.2**	**+3.9**
	0.2nm,0.1s,SNR=7.9							
EQUE				S	**Sn**	**10 54 23.2**	**-3.0**
	3.5nm,0.3s,SNR=4.6							
MTLF	**Montolieu**	**7.90**	**91**	*e*Pn	**Pn**	**10 52 59.5**	**+1.5**
MTLF				*e*Sn	**Sn**	**10 54 21.3**	**-6.2**
	12nm,0.3s							
MTLF	**Montolieu**	**7.90**	**91**	P	**Pn**	**10 52 59.5**	**+1.5**
MTLF				S	**Sn**	**10 54 21.3**	**-6.2**
	6.0nm,0.3s							
TCF	**Toulx Ste Croi**	**8.01**	**70**	*e*Pn	**Pn**	**10 53 00.0**	**+0.5**
TCF				*e*Sn	**Sn**	**10 54 23.0**	**-7.1**
	13nm,0.3s							
TCF	**Toulx Ste Croi**	**8.01**	**70**	*e*Pn	**Pn**	**10 53 00.0**	**+0.5**
TCF				*e*Sn	**Sn**	**10 54 23.0**	**-7.1**
	6.7nm,0.3s							
BGF	**Bois d'Agland**	**8.50**	**68**	*e*Pn	**Pn**	**10 53 05.6**	**-0.6**
BGF				*e*Sn	**Sn**	**10 54 34.8**	**-7.3**
	24nm,0.3s							
BGF	**Bois d'Agland**	**8.50**	**68**	*e*Pn	**Pn**	**10 53 05.6**	**-0.6**
BGF				*e*Sn	**Sn**	**10 54 34.8**	**-7.3**
	12nm,0.3s							
HYF	**Humbligny**	**8.56**	**64**	*e*Pn	**Pn**	**10 53 06.6**	**-0.4**
HYF				*e*Pg	Pn	10 53 42.3	+35
HYF				*e*Sn	**Sn**	**10 54 37.2**	**-6.4**
AVF	**Avril sur Loir**	**8.89**	**67**	*e*Pn	**Pn**	**10 53 11.0**	**-0.6**
AVF				*e*Sn	**Sn**	**10 54 44.2**	**-7.6**
	3.9nm,0.3s							
AVF	**Avril sur Loir**	**8.89**	**67**	*e*Pn	**Pn**	**10 53 11.0**	**-0.6**
AVF				*e*Sn	**Sn**	**10 54 44.2**	**-7.6**
	2.0nm,0.3s							
LASF	**Ste Croix**	**9.01**	**85**	*e*Pn	**Pn**	**10 53 14.5**	**+1.3**
LASF				*e*Sn	**Sn**	**10 54 47.6**	**-7.1**
	10nm,0.3s							
LASF	**Ste Croix**	**9.01**	**85**	P	**Pn**	**10 53 14.5**	**+1.3**
LASF				S	**Sn**	**10 54 47.6**	**-7.1**
	5.1nm,0.3s							
SSF	**Saint Saulge**	**9.06**	**66**	*e*Pn	**Pn**	**10 53 13.1**	**-0.8**
SSF				*e*Sn	**Sn**	**10 54 47.7**	**-8.3**
	3.6nm,0.3s							
SSF	**Saint Saulge**	**9.06**	**66**	*e*Pn	**Pn**	**10 53 13.1**	**-0.8**
SSF				*e*Sn	**Sn**	**10 54 47.7**	**-8.3**
	1.8nm,0.3s							
SMF	**Signal de Mont**	**9.19**	**69**	*e*Pn	**Pn**	**10 53 13.1**	**-2.5**
SMF				*e*Sn	**Sn**	**10 54 51.7**	**-7.4**
	2.6nm,0.2s							
SMF	**Signal de Mont**	**9.19**	**69**	*e*Pn	**Pn**	**10 53 13.1**	**-2.5**
SMF				*e*Sn	**Sn**	**10 54 51.7**	**-7.4**
	1.3nm,0.2s							
LOR	**Lormes**	**9.35**	**65**	*e*Pn	**Pn**	**10 53 16.7**	**-1.2**
LOR				*e*Sn	**Sn**	**10 54 53.3**	**-10**
	4.0nm,0.3s							
LOR	**Lormes**	**9.35**	**65**	P	**Pn**	**10 53 16.7**	**-1.2**
LOR				S	**Sn**	**10 54 53.3**	**-10**
	2.0nm,0.3s							
VIVF	**Saint-Julien-l**	**9.57**	**80**	*e*Pn	**Pn**	**10 53 19.8**	**-1.1**
VIVF				*e*Sn	**Sn**	**10 55 01.3**	**-7.1**
	12nm,0.4s							
VIVF	**Saint-Julien-l**	**9.57**	**80**	*e*Pn	**Pn**	**10 53 19.8**	**-1.1**
VIVF				*e*Sn	**Sn**	**10 55 01.3**	**-7.1**
	5.9nm,0.4s							
ORIF	**Oris-en-Rattie**	**10.43**	**80**	*e*Pn	**Pn**	**10 53 31.8**	**-0.8**
ORIF				*e*Sn	**Sn**	**10 55 21.8**	**-7.7**
	4.8nm,0.5s							
ORIF	**Oris-en-Rattie**	**10.43**	**80**	P	**Pn**	**10 53 31.8**	**-0.8**
ORIF				S	**Sn**	**10 55 21.8**	**-7.7**
	2.4nm,0.5s							
BAIF	**Baives**	**10.66**	**51**	*e*Pn	**Pn**	**10 53 34.8**	**-1.0**
BAIF				*e*Sn	**Sn**	**10 55 28.2**	**-7.0**
	4.0nm,0.4s							
BAIF	**Baives**	**10.66**	**51**	*e*Pn	**Pn**	**10 53 34.8**	**-1.0**
BAIF				*e*Sn	**Sn**	**10 55 28.2**	**-7.0**
	2.0nm,0.4s							
LMR	**La Mourre**	**11.00**	**88**	*e*Sn	**Sn**	**10 55 35.4**	**-8.2**
	3.9nm,0.4s							
LMR	**La Mourre**	**11.00**	**88**	S	**Sn**	**10 55 35.4**	**-8.2**
	1.9nm,0.4s							
GIVF	**Givet**	**11.03**	**52**	*e*Pn	**Pn**	**10 53 39.9**	**-0.9**
GIVF				*e*Sn	**Sn**	**10 55 37.0**	**-7.2**
	12nm,0.3s							
GIVF	**Givet**	**11.03**	**52**	*e*Pn	**Pn**	**10 53 39.9**	**-0.9**
GIVF				*e*Sn	**Sn**	**10 55 37.0**	**-7.2**
	6.0nm,0.3s							

***IDC 22** 11:06:43.3±31.0, **5415S×13953E, h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.7**/10, **mbtmp3.6**/3, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.8**/14, **Error ellipse: s-maj=573.6km s-min=155.3km az=144.0, West of Macquarie Island*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**22.31**	**5**	P	P	11 11 42.5	+0.2
	2.2nm,0.8s,baz=187,slow=14,SNR=4.0						
NWAO	**Narrogin (SRO)**	**26.46**	**314**	LR	LR	11 19 59.5	
	comp=Z,104nm,18.7s,baz=14,slow=30						
ASAR	**Alice Springs**	**30.73**	**350**	P	P	11 12 59.0	-1.0
	0.5nm,0.7s,baz=162,slow=0.9,SNR=3.6						
WRA	**Warramunga Arr**	**34.37**	**351**	P	P	11 13 32.6	+0.7
	3.2nm,0.8s,baz=174,slow=8.0,SNR=8.0						

*IDC **22** 11:09:23.0±17.0, 5024N×17788E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/24, mbtmp3.7/4, MS4.4/2, Ms1 4.4/2, ms1mx3.4/29, Error ellipse: s-maj=356.6km s-min=66.7km az=72.0*

*ISCJB **22** 11:09:26.6±6.4, 502N±0.1×1783E±0.6, h28km±39km, mb3.7/4, MS4.5/2, Error ellipse: s-maj=59.8km s-min=20.3km az=16.2*

*NEIC **22** 11:09:30.4, 5027N×17836E, h15km, ML3.7(AEIC), After AEIC.*

ISC 22 11:09:26.4±6.2, 503N±02×1780E±05, h18**km±39km, **n10, σ0°72/9, mb3.7/4, MS4.5/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.34**	**37**	P	**Pn**	**11 09 50.8**	**+0.6**
AMKA				S	**Sn**	**11 10 07.6**	**0.0**
ATKA	**Atka Island**	**5.24**	**66**	P	**Pn**	**11 10 43.4**	**-0.5**
INK	**Inuvik**	**29.48**	**34**	P	**P**	**11 15 27.9**	**-1.4**
	1.0nm,1.0s,mb3.5,baz=280,slow=6.1,SNR=2.7						
INK	**Inuvik**	**29.48**	**34**	P	**P**	**11 15 27.9**	**-1.4**
YKA	**Yellowknife Ar**	**37.42**	**45**	P	**P**	**11 16 39.3**	**+0.9**
	0.5nm,0.4s,mb3.7,baz=283,slow=8.1,SNR=9.7						
YKA	**Yellowknife Ar**	**37.42**	**45**	P	**P**	**11 16 39.3**	**+0.9**
PDAR	**Pinedale Array**	**48.57**	**69**	P	**P**	**11 18 09.1**	**+0.5**
	0.9nm,0.8s,mb3.9,baz=314,slow=5.3,SNR=7.1						
ZAL	**Zalesovo**	**53.30**	**313**	LR	LR	11 45 15.9	
	comp=Z,452nm,18.0s,MS4.6,baz=34,slow=40						
TXAR	**Lajitas Array**	**60.83**	**78**	P	**P**	**11 19 37.4**	**-0.1**
	0.4nm,0.6s,mb3.8,baz=318,slow=5.6,SNR=5.3						
BRTR	**Keskin Array B**	**85.03**	**333**	LR	LR	12 00 49.0	
	comp=Z,192nm,21.5s,MS4.5,baz=318,slow=36						

*BJI **22** 11:14:53.9, 4403N×14777E, h10km, mB5.7, mb5.7, Ms5.0, Ms24.7*

*NIED **22** 11:15:00, 4400N×14680E, h92km, Mw5.6 Best double couple: M0 2.70000×10^17 NP1:φs 129.00000°, δ85.00000°, λ49.00000°. NP2:φs 33.00000°, δ41.00000°, λ172.00000°.*

*SZGRF **22** 11:15:04.0, 4379N×14686E, h33km, mb6.2, MS4.8, Kuril Islands, Russia*

*MOS **22** 11:15:05.2±0.9, 4412N×14680E, h55km, mb5.8/135, MS4.5/27, Error ellipse: s-maj=6.1km s-min=3.6km az=102.5*

MOS Felt (V) at Malokuril'skoye,(IV) at Kuril'sk, (III) at Yuzhno-Kuril'sk.

*GCMT **22** 11:15:09.6±0.1, 4408N×14675E, h106km±1km, MW5.6/109, Moment Tensor Solution. s93,c179; s109,c277; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr 0.33±.04; Mθθ 1.88±.04; Mφφ -2.21±.04; Mrθ 2.17±.03; Mrφ 1.08±.04; Mθr- 1.16±.03; Best double couple: M0 3.38900×10^17 NP1:φs 29.00000°, δ43.00000°, λ174.00000°. NP2:φs 123.00000°, δ86.00000°, λ47.00000°. Principal axes: T 3.4190, Plg34.0000°, Azm357.0000°; N -0.0590, Plg43.0000°, Azm127.0000°; P -3.3580, Plg28.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BGS **22** 11:15:09.4, 4441N×14823E, h80km, mb5.6*

*ISCJB **22** 11:15:09.5±0.1, 4408N±002×14684E±002, h93km, mb5.5/308, Error ellipse: s-maj=2.7km s-min=1.4km az=135.2*

*NEIC **22** 11:15:09.6±0.5, 4415N×14678E, h80km±4km, mb5.6/180, MW5.6, Error ellipse: s-maj=3.3km s-min=2.2km az=162.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^17Nm; Mrr 0.54; Mθθ 1.52; Mφφ -2.06; Mrθ 2.44; Mφθ 0.29; Mφr -1.63; Best double couple: M0 3.50000×10^17 NP1: φs 132.00000°, δ85.00000°, λ58.00000°. NP2:φs 34.00000°, δ32.00000°, λ171.00000°. Principal axes: T 3.6400, Plg41.0000°, Azm12.0000°; N -0.3500, Plg32.0000°, Azm135.0000°; P -3.3000, Plg32.0000°, Azm248.0000°;*

*NEIC Felt [V] on Shikotan; [IV] at Kuril'sk, Iturup; [III] at Yuzhno-Kuril'sk, Kunashir. Felt at Kushiro, Hokkaido and [III] at Misawa, Honshu. Recorded [4 JMA] in the Bekkai area, [3 JMA] in eastern Hokkaido, [2 JMA] in southwestern Hokkaido

ASAJ				LR	LR	11 17 19.4			
	comp=N,14μm,18.1s,baz=86,slow=43								
ASAJ	**Asahikawa**	**2.99 271**	⇓	P	**Pn**	**11 15 59.9 +3.0**			
ASAJ	**Asahikawa**	**2.99 271**		PN	**Pn**	**11 16 00.0 +3.1**			
ASAJ				pmax	pmax				
	comp=Z,927nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,14μm,18.1s								
JSE	**Soyaes**	**3.09 286**		P	**Pn**	**11 16 01.0 +2.9**			
JSE				*e*S	**Sn**	**11 16 39.2 +5.0**			
JFR	**Furan**	**3.18 253**	⇓	P	**Pn**	**11 16 01.5 +2.1**			
JFR				*e*S	**Sn**	**11 16 39.4 +3.0**			
JAB	**Ashibetsu**	**3.34 260**	⇓	P	**Pn**	**11 16 04.8 +3.2**			
JEM	**Erimo**	**3.40 232**		P	**Pn**	**11 16 02.5 +0.2**			
ERM	**Erimo**	**3.40 232**		Pn	**Pn**	**11 16 04.2 +1.9**			
	comp=Z,130μm,0.4s								
ERM	**Erimo**	**3.40 232**	*c*	*i*PN	**Pn**	**11 15 52.6 -10**			
ERM	**Erimo**	**3.40 232**		*e*Pn	**Pn**	**11 16 02.5 +0.2**			
JNBK	**Urakawa-nobuka**	**3.48 239**	⇓	P	**Pn**	**11 16 03.3 -0.1**			
JWK2	**Keihoku**	**3.65 290**	⇓	P	**Pn**	**11 16 10.1 +4.4**			
JHR	**Hokuryu**	**3.66 265**	⇓	P	**Pn**	**11 16 09.1 +3.3**			
YSS	**Yuzh-Sakhalins**	**3.96 316**	⇑	*i*P	**Pn**	**11 16 13.0 +3.1**			
YSS			⇑	*i*P		11 16 13.0			
YSS				AMB	AMB	11 16 15.2			
	comp=Z,780nm,0.8s								
YSS				AMB	AMB	11 16 15.2			
	comp=Z,320nm,0.8s								
YSS				AMB	AMB	11 16 15.2			
	comp=Z,380nm,0.8s								
YSS				AMB	AMB	11 16 15.2			
	comp=Z,860nm,0.8s								
YSS				AMB	AMB	11 16 15.2			
	comp=Z,360nm,0.8s								
YSS				AMB	AMB	11 16 16.0			
	comp=Z,4μm,4.0s								
YSS				AMB	AMB	11 16 16.0			
	comp=Z,5μm,7.0s								
YSS				*i* S		**Sn**	**11 16 57.6 +2.3**		
YSS				A		11 17 03.0			
	comp=Z,2μm,0.8s								
YSS				A		11 17 03.0			
	comp=Z,2μm,0.8s								
YSS				A		11 17 06.0			
	comp=Z,7μm,3.0s								
YSS				A		11 17 06.0			
	comp=Z,12μm,4.5s								
YSS				*e*LQ		11 17 14.0			
YSS				AMS	AMS	11 18 12.0			
	comp=Z,5μm,8.0s								
YSS	**Yuzh-Sakhalins**	**3.96 316**	α	*i*PN	**Pn**	**11 16 13.0 +3.1**			
YSS				*i* S	**Sn**	**11 16 57.6 +2.3**			
YSS				pmax	pmax				
	comp=N,320nm,0.8s								
YSS				pmax	pmax				
	comp=E,380nm,0.8s								
YSS				pmax	pmax				
	comp=Z,780nm,0.8s								
YSS				pmax	pmax				
	comp=Z,5μm,7.0s								
YSS				pmax	pmax				
	comp=N,4μm,4.0s								
YSS				smax					
	comp=E,2μm,0.8s								
YSS				smax					
	comp=N,7μm,3.0s								
YSS				smax					
	comp=E,12μm,4.5s								
YSS				MLR	MLR				
	comp=Z,5μm,8.0s								
YSS	**Yuzh-Sakhalins**	**3.96 316**		*e*Pn	**Pn**	**11 16 13.0 +3.0**			
JEW	**Eniwo**	**4.08 253**	⇓	P	**Pn**	**11 16 13.8 +2.3**			
JKB	**Kayabe**	**4.77 244**	⇓	P	**Pn**	**11 16 21.1 +0.2**			
JYM2	**Yakumo 2**	**5.10 249**	⇓	P	**Pn**	**11 16 26.3 +1.0**			
JOSM	**Okushiri--Mats**	**5.72 251**		P	**Pn**	**11 16 34.7 +1.0**			
UGL	**Uglegorsk**	**5.88 328**	⇑	*i*P	**Pn**	**11 16 39.5 +3.5**			
UGL				*e*P		11 16 40.0			
UGL				AMB	AMB	11 16 41.0			
	comp=Z,2μm,0.9s								
UGL				AMB	AMB	11 16 41.5			
	comp=Z,1μm,0.7s								
UGL				AMB	AMB	11 16 42.0			
	comp=Z,10μm,2.0s								
UGL				A		11 18 28.0			
	comp=Z,150nm,0.8s								
UGL				A		11 18 28.0			
	comp=Z,670nm,1.0s								
TYV	**Tymovskoe**	**7.26 339**		*e*P	**Pn**	**11 16 56.5 +1.8**			
TYV				AMB	AMB	11 17 04.5			
	comp=Z,516nm,0.8s								
TYV				AMB	AMB	11 17 06.0			
	comp=Z,10μm,4.0s								
TYV				AMB	AMB	11 17 06.0			
	comp=Z,3μm,4.0s								
TYV				AMB	AMB	11 17 06.0			
	comp=Z,8μm,10.0s								
TYV				A		11 18 31.0			
	comp=Z,10μm,9.0s								
TEY	**Ternei**	**7.30 280**		*e*P	**Pn**	**11 16 55.0 -0.3**			
TEY				AMB	AMB	11 16 58.0			
	comp=Z,7μm,8.0s								
TEY				AMB	AMB	11 16 58.0			
	comp=Z,8μm,4.0s								
TEY				AMB	AMB	11 16 58.0			
	comp=Z,2μm,4.5s								
TEY				*e*S	**Sn**	**11 18 19.0 +2.5**			
TEY				A		11 18 26.0			
	comp=Z,9μm,11.0s								
TEY				A		11 18 26.0			
	comp=Z,4μm,5.0s								
TEY				AMS	AMS	11 20 09.0			
	comp=Z,7μm,13.0s								
JAW	**Awa shima**	**8.02 227**		P	**Pn**	**11 17 03.3 -1.8**			
JNS	**Sasagawa**	**8.47 224**		P	**Pn**	**11 17 09.8 -1.4**			
JSD	**Sado**	**8.86 229**		P	**Pn**	**11 17 15.4 -1.1**			
JIZZ	**Izumozaki**	**9.00 225**		P	**Pn**	**11 17 17.6 -0.7**			
JHK	**Hiroka**	**9.06 223**	⇓	P	**Pn**	**11 17 17.3 -1.9**			
SKR	**Severo-Kuril's**	**9.10 41**		*e*P	**Pn**	**11 17 17.8 -1.9**			
SKR				AMB	AMB	11 17 22.5			
	comp=Z,2μm,6.0s								
SKR				AMB	AMB	11 17 22.5			
	comp=Z,80nm,0.5s								
SKR				AMB	AMB	11 17 22.5			
	comp=Z,230nm,0.5s								
SKR				AMB	AMB	11 17 22.5			
	comp=Z,2μm,6.0s								
SKR				*e*S	**Sn**	**11 18 55.5 -4.8**			
SKR				A		11 18 59.0			
	comp=Z,3μm,12.0s								
SKR				A		11 19 06.5			
	comp=Z,620nm,0.5s								
SKR				A		11 19 06.5			
	comp=Z,150nm,0.5s								
SKR				A		11 19 06.5			
	comp=Z,590nm,0.2s								
SKR				AMS	AMS	11 21 14.0			
	comp=Z,3μm,14.0s								
SKR				AMS	AMS	11 21 14.0			
	comp=Z,3μm,14.0s								
SKR				AMS	AMS	11 21 14.0			
	comp=Z,2μm,14.0s								
SKR	**Severo-Kuril's**	**9.10 41**		*e*PN	**Pn**	**11 17 17.8 -1.9**			
SKR				pmax	pmax				
	comp=N,80nm,0.5s								
SKR				pmax	pmax				
	comp=E,80nm,0.5s								
SKR				pmax	pmax				
	comp=Z,230nm,0.5s								
SKR				pmax	pmax				
	comp=N,2μm,6.0s								
SKR				pmax	pmax				
	comp=E,2μm,6.0s								
SKR				pmax	pmax				
	comp=Z,2μm,6.0s								
SKR				MLR	MLR				
	comp=N,3μm,14.0s								
SKR				MLR	MLR				
	comp=Z,3μm,14.0s								
HABR	**Khabarovsk**	**9.18 302**	⇑	*i*PN	**Pn**	**11 17 25.6 +4.8**			
HABR				*e*		11 19 12.6			
HABR				pmax	pmax				
	comp=Z,557nm,0.8s								
JKT	**Katashina**	**9.34 220**	⇓	P	**Pn**	**11 17 21.6 -1.4**			
JJN	**Nakama**	**9.60 226**		P	**Pn**	**11 17 25.1 -1.5**			
NKL	**Nikolayevsk**	**9.85 338**		*i* P	**Pn**	**11 17 29.0 -1.0**			
NKL				AMB	AMB	11 17 30.5			
	comp=Z,4μm,4.0s								
NKL				AMB	AMB	11 17 30.5			
	comp=Z,2μm,4.0s								
NKL				AMB	AMB	11 17 30.5			
	comp=Z,6μm,4.0s								
NKL				AMB	AMB	11 17 32.2			
	comp=Z,280nm,1.1s								
NKL				AMB	AMB	11 17 32.2			
	comp=Z,1μm,1.5s								
NKL				*e*L		11 20 34.5			
NKL				AMS	AMS	11 21 56.0			
	comp=Z,3μm,16.0s								
NKL				AMS	AMS	11 21 56.0			
	comp=Z,5μm,16.0s								
MAJO	**Matsushiro**	**10.02 223**		*e*PN	**Pn**	**11 17 30.3 -1.9**			
MAT	**Matsushiro**	**10.02 223**		P	**Pn**	**11 17 30.2 -2.0**			
MAT				S	**Sn**	**11 19 17.3 -5.4**			
MAT	**Matsushiro**	**10.02 223**		P	**Pn**	**11 17 30.0 -2.2**			
MJAR	**Matsushiro Arr**	**10.02 223**		P	**Pn**	**11 17 30.4 -1.8**			
	comp=Z,24nm,0.3s,baz=28,slow=13,SNR=368								
MJAR				S	**Sn**	**11 19 12.6 -10**			
	comp=Z,8.1nm,0.3s,baz=20,slow=15,SNR=3.3								
MJAR				LR	LR	11 21 47.6			
	comp=Z,3μm,20.1s,baz=50,slow=40								
MJAR	**Matsushiro Arr**	**10.02 223**		P	**Pn**	**11 17 30.4 -1.8**			
MJAR				S	**Sn**	**11 19 12.6 -10**			
JNG	**Nsakai**	**10.18 223**		P	**Pn**	**11 17 32.3 -2.1**			
JGN	**Niukaw**	**10.71 226**		P	**Pn**	**11 17 40.0 -1.7**			
JNY	**Yasuok**	**11.13 221**		P	**Pn**	**11 17 45.2 -2.2**			
JGF	**Kuroka**	**11.18 223**		P	**Pn**	**11 17 45.6 -2.5**			
JGM	**Miyama**	**11.43 226**		P	**Pn**	**11 17 50.2 -1.2**			
KLR	**Kul'dur**	**11.48 301**		*e*PN	**Pn**	**11 17 51.8 -0.3**			
KLR				*e*		11 20 00.0			
HMMJ	**Hamamatsu 2**	**11.61 220**		P	**Pn**	**11 17 50.7 -3.2**			
PET	**Petropavlovsk**	**11.85 37**		*e*PN	**Pn**	**11 17 54.6 -2.5**			
PET				pmax	pmax				
	comp=Z,97nm,0.7s								
PET				MLR	MLR				
	comp=Z,5μm,20.0s								
PET	**Petropavlovsk**	**11.85 37**		*e*Pn	**Pn**	**11 17 54.2 -2.8**			
JFM	**Mihama**	**11.94 227**		P	**Pn**	**11 17 57.5 -0.8**			
JHJ	**Hachijo jima 2**	**12.29 209**		P	**Pn**	**11 18 00.0 -2.9**			
	comp=Z,73nm,0.3s,baz=73,slow=21,SNR=9.6								
JHJ				S	**Sn**	**11 20 06.5 -11**			
	comp=Z,342nm,0.3s,baz=89,slow=23,SNR=11								
JHJ				LR	LR	11 22 54.2			
	comp=Z,2μm,21.9s,baz=35,slow=38								
MDJ	**Mudanjiang**	**12.29 278**		P	**Pn**	**11 18 03.0 0.0**			
MDJ				AMB	AMB				
	comp=Z,301nm,0.9s								
MDJ				AMB	AMB				
	comp=Z,912nm,6.1s								
MDJ				LR	LR				
	comp=N,4μm,10.8s								
MDJ				LR	LR				
	comp=E,2μm,10.8s								
MDJ				LR	LR				
	comp=Z,3μm,15.8s								
MDJ	**Mudanjiang**	**12.29 278**		*e*Pn	**Pn**	**11 18 03.5 +0.5**			
	comp=Z,224nm,0.8s								
JIE	**Ise**	**12.47 222**		P	**Pn**	**11 18 02.5 -2.8**			
JKN2	**Miekihoku**	**12.80 223**		P	**Pn**	**11 18 06.4 -3.3**			
MRT2	**Murotomisaki 2**	**14.56 227**		P	**Pn**	**11 18 30.0 -2.6**			
CN2	**Changchun**	**15.34 276**		*e*P	**Pn**	**11 18 40.8 -1.8**			
CN2				*e*S	**S**	**11 21 30.3 -12**			
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,4μm,13.0s								
CN2				LR	LR				
	comp=E,2μm,13.0s								
CN2				LR	LR				
	comp=Z,3μm,16.0s								
MA2	**Magadan**	**15.63**	**8**	*c i*P	**Pn**	**11 18 45.1 -1.1**			
MA2				*e*S	**S**	**11 21 38.9 -9.0**			
MA2				pmax	pmax				
	comp=N,100nm,0.5s								
MA2				pmax	pmax				
	comp=Z,100nm,0.5s								
MA2				MLR	MLR				
	comp=Z,15μm,16.0s								
MA2	**Magadan**	**15.63**	**8**	*e*P	**Pn**	**11 18 46.2 0.0**			
	comp=Z,87nm,0.6s								
KSRS	**Korea Array**	**15.74 251**		P	**Pn**	**11 18 46.6 -0.9**			
	baz=62,slow=12,SNR=96								
KSRS				S	**S**	**11 21 51.0 +1.0**			
	baz=67,slow=24,SNR=9.7								
KSRS				PcP	PcP	11 23 42.2 +0.6			
	baz=50,slow=0.8,SNR=5.8								
KSRS				LR	LR	11 24 47.8			
	comp=Z,1μm,18.1s,baz=54,slow=37								
KSRS				ScP	ScP	11 27 07.5 +0.3			
	baz=360,slow=1.7,SNR=4.7								
KS15	**Wonju Array Si**	**15.77 251**		*e*Pn	**Pn**	**11 18 45.9 -2.0**			
ZEA	**Zeya**	**15.95 314**		*e*P	**Pn**	**11 18 47.1 -3.1**			
ZEA				AMB	AMB	11 18 49.7			
	comp=Z,80nm,0.7s								
ZEA				AMB	AMB	11 18 49.7			
	comp=Z,84nm,0.7s								
ZEA				AMB	AMB	11 18 52.0			
	comp=Z,700nm,6.0s								
ZEA				AMB	AMB	11 18 52.0			
	comp=Z,1μm,7.0s								
ZEA				*e*S	**S**	**11 21 45.0 -9.4**			
ZEA				A		11 21 50.0			
	comp=Z,6μm,7.0s								
ZEA				A		11 21 50.0			
	comp=Z,5μm,9.0s								
JNU	**Nakatsue**	**16.56 234**		P	**Pn**	**11 18 56.8 -1.0**			
	comp=Z,4.0nm,0.3s,baz=266,slow=23,SNR=24								
JNU				LR	LR	11 25 57.6			
	comp=Z,6μm,18.4s,baz=301,slow=39								
INCN	**Inchon**	**16.61 253**		P	**Pn**	**11 18 57.6 -0.7**			
	SNR=11								
INCN	**Inchon**	**16.61 253**		*e*P	**Pn**	**11 18 57.1 -1.2**			
	comp=Z,296nm,0.8s								
SNY	**Shenyang**	**17.11 270**	⇑	P	**Pn**	**11 19 04.3 -0.1**			
SNY				AP	pP	11 19 12.1 -10			
SNY				XP	sP	11 19 16.4 -18			
SNY				S	**S**	**11 22 16.8 -1.1**			
SNY				XS	sS	11 22 29.4 -18			
SNY				SS		11 22 39.8			
SNY				AMB	AMB				
	comp=Z,295nm,0.8s								
SNY				AMB	AMB				
	comp=Z,2μm,6.6s								
SNY				LR	LR				
	comp=E,2μm,13.7s								
SNY				LR	LR				
	comp=Z,2μm,18.1s								
CBIJ	**Chichi jima**	**17.42 194**		P	**Pn**	**11 19 07.8 -0.5**			
	comp=Z,33nm,0.3s,baz=346,slow=7.5,SNR=15								
CBIJ				S	**S**	**11 22 06.2 -16**			
	comp=Z,31nm,0.3s,baz=271,slow=23,SNR=4.8								
NRGR	**Nerungri**	**18.70 320**		*e*P	**Pn**	**11 19 22.8 -0.8**			
CLNS	**Chul'man**	**18.72 320**		*e*P	**Pn**	**11 19 20.8 -3.0**			
CLNS				*e*S	**S**	**11 22 47.0 -3.4**			
CLNS				pmax	pmax				
	comp=N,60nm,0.7s								
CLNS				pmax	pmax				
	comp=Z,107nm,0.7s								
CLNS				pmax	pmax				
	comp=E,51nm,0.8s								
CLNS				smax					
	comp=N,146nm,1.2s								
CLNS				smax					
	comp=Z,26nm,1.1s								
CLNS				smax					
	comp=E,206nm,1.0s								
CLNS				MLR	MLR				
	comp=E,2μm,14.0s								
CLNS				MLR	MLR				
	comp=Z,900nm,14.0s								
CLNS				MLR	MLR				
	comp=N,500nm,12.0s								
SEY	**Seymchan**	**19.09**	**8**	*c i*P	**Pn**	**11 19 23.9 -4.3**			
HIA	**Hailar**	**19.16 295**		*e*P	**Pn**	**11 19 25.8 -3.3**			
HIA				pmax	pmax				
	comp=Z,79nm,0.7s								
HIA	**Hailar**	**19.16 295**		*e*P	**Pn**	**11 19 25.8 -3.3**			
	comp=Z,79nm,0.7s								
DL2	**Dalian**	**19.50 263**		*i* P	**Pn**	**11 19 31.3 -1.7**			
DL2				S	**S**	**11 23 05.8 -0.2**			
DL2				AMB	AMB				
	comp=Z,330nm,0.8s								
DL2				AMB	AMB				
	comp=Z,1μm,4.4s								
DL2				LR	LR				
	comp=N,500nm,13.0s								
DL2				LR	LR				
	comp=E,490nm,13.6s								
DL2				LR	LR				
	comp=Z,1μm,18.3s								
SMY	**Shemya**	**19.96**	**55**	*e*P	**Pn**	**11 19 36.2 -2.3**			
SMY				pmax	pmax				
	comp=Z,726nm,0.8s								
SMY	**Shemya**	**19.96**	**55**	*e*P	**Pn**	**11 19 36.2 -2.3**			
	comp=Z,726nm,0.8s								
YAK	**Yakutsk**	**20.51 337**	*c*	*i*P	**P**	**11 19 38.3 -3.5**			
YAK				*i* S	**S**	**11 23 17.9 -8.1**			
YAK				pmax	pmax				
	comp=E,45nm,0.9s								
YAK				pmax	pmax				
	comp=Z,309nm,0.9s								
YAK				pmax	pmax				
	comp=N,41nm,1.2s								
YAK				smax					
	comp=E,889nm,2.3s								
YAK				smax					
	comp=Z,121nm,0.9s								
YAK				smax					
	comp=N,318nm,1.2s								
YAK				MLR	MLR				
	comp=N,1μm,15.0s								
YAK				MLR	MLR				
	comp=Z,2μm,15.0s								
YAK				MLR	MLR				
	comp=E,1μm,13.0s								
YAK	**Yakutsk**	**20.51 337**		*e*P	**P**	**11 19 38.4 -3.4**			
	comp=E,326nm,0.7s								
JOW	**Kunigami**	**22.83 227**		P	**P**	**11 20 06.3 -0.1**			
	comp=E,249nm,0.8s,mb5.6,baz=30,slow=8.0,SNR=34								
BJI	**Beijing**	**22.99 270**		P	**P**	**11 20 07.3 -0.6**			
BJI				S	**S**	**11 24 09.1 -1.8**			
BJI				AMB	AMB				
	comp=Z,282nm,0.7s,mb5.7								
BJI				AMB	AMB				
	comp=Z,3μm,4.3s								
BJI				LR	LR				
	comp=N,2μm,15.9s								
BJI				LR	LR				
	comp=E,1μm,15.9s								
BJI				LR	LR				
	comp=Z,2μm,24.3s								
BJI	**Beijing**	**22.99 270**		P	**P**	**11 20 07.3 -0.6**			
	comp=Z,282nm,0.7s,mb5.7								
BJI				pP		11 20 24.9			
BJI				S	**S**	**11 24 09.1 -1.8**			
BJI				sS	sS	11 24 50.8 +5.3			
BJT	**Baijiatuau**	**23.00 270**		*e*P	**P**	**11 20 07.0 -1.0**			
BJT				pmax	pmax				
	comp=Z,480nm,0.9s								
BJT	**Baijiatuau**	**23.00 270**		*e*P	**P**	**11 20 07.0 -1.0**			
	comp=Z,480nm,0.9s,mb5.8								
CIT	**Chita**	**23.37 301**		*e*P	**P**	**11 20 09.8 -1.6**			
CIT				*e*		11 20 33.2			
CIT				*e*		11 20 47.3			
CIT				*e*		11 21 00.2			
CIT				*e*S	**S**	**11 24 08.1 -8.9**			
CIT				pmax	pmax				
	comp=Z,53nm,1.2s,mb4.8								
TIA	**Tai'an**	**23.89 261**	⇓	P	**P**	**11 20 12.8 -3.4**			
TIA				S	**S**	**11 24 24.0 -1.5**			
TIA				AMB	AMB				
	comp=Z,389nm,0.6s,mb5.9								
TIA				AMB	AMB				
	comp=Z,895nm,5.0s								
SSE	**Sheshan**	**23.97 246**		P	**P**	**11 20 17.6 +0.7**			
SSE				S	**S**	**11 24 26.8 0.0**			
SSE				XS	sS	11 24 41.3 -22			
SSE				AMB	AMB				
	comp=Z,99nm,0.9s,mb5.1								
SSE				AMB	AMB				
	comp=Z,2μm,7.2s								
SSE				LR	LR				
	comp=N,1μm,30.9s								
SSE				LR	LR				
	comp=Z,2μm,37.3s								
SSE	**Sheshan**	**23.97 246**		P	**P**	**11 20 17.6 +0.7**			
	comp=Z,99nm,0.9s,mb5.1								
SSE				S	**S**	**11 24 26.7 -0.1**			
SSE				sS	sS	11 24 41.3 -22			
BOD	**Bodaibo**	**24.44 316**		*e*P	**P**	**11 20 17.1 -4.0**			
BOD				pmax	pmax				
	comp=Z,39nm,0.9s,mb4.7								
NJ2	**Nanjing**	**24.94 250**		*e*P	**P**	**11 20 26.8 +1.2**			
NJ2				AP		11 20 31.1			
NJ2				XP	sP	11 20 34.3 -24			
NJ2				PP		11 21 03.9			
NJ2				S	**S**	**11 24 42.5 +0.3**			
NJ2				AMB	AMB				
	comp=Z,1μm,0.8s,mb6.4								
NJ2				AMB	AMB				
	comp=Z,930nm,4.4s								
NJ2				LR	LR				
	comp=N,3μm,12.3s								
NJ2				LR	LR				
	comp=E,2μm,13.2s								
NJ2				LR	LR				
	comp=Z,1μm,14.5s								
HHC	**Hu-ho-hao-te**	**26.03 275**	⇓	*i*P	**P**	**11 20 36.0 +0.4**			
HHC				AP	pP	11 20 40.8 -16			
HHC				XP	sP	11 20 43.3 -25			
HHC				PP		11 21 16.1			
HHC				PCP	PcP	11 24 04.3 +3.1			
HHC				S	**S**	**11 25 00.3 +0.8**			
HHC				AMB	AMB				
	comp=Z,378nm,1.1s,mb5.7								
HHC				AMB	AMB				
	comp=Z,2μm,6.8s								
HHC				LR	LR				
	comp=N,1μm,14.9s								
HHC				LR	LR				
	comp=E,1μm,14.6s								
HHC				LR	LR				
	comp=Z,1μm,15.9s								
BILL	**Bilibino**	**26.05 17**		*e*P	**P**	**11 20 34.4 -1.3**			
BILL				pmax	pmax				
	comp=Z,62nm,1.0s,mb5.0								
BILL				MLR	MLR				
	comp=Z,2μm,19.0s								
BILL	**Bilibino**	**26.05 17**		*e*P	**P**	**11 20 31.4 -4.3**			
	comp=Z,36nm,0.6s,mb5.0								
BTO	**Baotou**	**27.22 275**		*e*P	**P**	**11 20 46.1 -0.1**			
BTO				AMB	AMB				
	comp=Z,134nm,0.9s,mb5.5								
ULN	**Ulaanbaatar**	**27.61 292**	⇓	P	**P**	**11 20 50.6 +0.9**			
	SNR=57								
ULN	**Ulaanbaatar**	**27.61 292**		*e*P	**P**	**11 20 49.7 0.0**			
ULN				pmax	pmax				
	comp=Z,81nm,0.9s,mb5.2								
ULN	**Ulaanbaatar**	**27.61 292**		*e*P	**P**	**11 20 49.7 0.0**			
	comp=Z,81nm,0.9s,mb5.3								
SONM	**Songino Array**	**28.05 292**		P	**P**	**11 20 54.4 +0.8**			
	comp=Z,43nm,0.7s,mb5.1,baz=78,slow=8.3,SNR=136								
SONM				LR	LR	11 32 37.5			
	comp=Z,465nm,21.0s,baz=269,slow=37								
SONM	**Songino Array**	**28.05 292**		P	**P**	**11 20 54.4 +0.8**			
SONM				pmax	pmax				
	comp=Z,43nm,0.7s								
SONM				MLR	MLR				
	comp=Z,465nm,21.0s								
TATO	**Taipei**	**28.09 235**		*e*P	**P**	**11 21 04.6 +11**			
YHNB	**Yeheng**	**28.38 235**		*e*P	**P**	**11 20 57.8 +1.2**			
TIXI	**Tiksi**	**28.90 348**		*e*P	**P**	**11 20 55.5 -5.7**			
TIXI				*e*		11 21 50.9			
TIXI				*e*S	**S**	**11 25 39.7 -5.0**			
TIXI				*e*SS		11 27 14.0			
TIXI				pmax	pmax				
	comp=Z,20nm,0.7s,mb4.9								
TIXI	**Tiksi**	**28.90 348**		*e*P	**P**	**11 20 56.7 -4.5**			
WHN	**Wuhan**	**28.92 253**	⇓	P	**P**	**11 21 01.5 +0.2**			
WHN				S	**S**	**11 25 45.1 +0.2**			
WHN				LR	LR				
	comp=Z,2μm,13.6s								
IRK	**Irkutsk**

comp=Z,720nm,13.0s
ZAK Zakamensk 29.81 298 *e*P **P 11 21 09.1 -0.1**
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.5
QZH Quanzhou 29.87 239⇓*i*P **P 11 21 10.1 +0.4**
QZH S **S 11 26 00.1 +0.3**
QZH AMB AMB
comp=Z,80nm,0.7s,mb5.5
QZH AMB AMB
comp=Z,2μm,3.5s
QZH LR LR
comp=Z,2μm,12.0s
XAN Xi'an 30.81 264 P **P 11 21 18.0 -0.1**
XAN AMB AMB
comp=Z,80nm,0.9s,mb5.5
XAN AMB AMB
comp=Z,402nm,13.4s
XAN LR LR
comp=N,677nm,31.9s
XAN LR LR
comp=E,790nm,25.3s
XAN LR LR
comp=Z,2μm,37.4s
MOY Mondy 31.14 300 *e*P **P 11 21 21.8 +0.8**
MOY pmax pmax
comp=Z,28nm,1.7s,mb4.7
TNA Tin City 32.66 33 *e*P **P 11 21 34.1 -0.2**
comp=Z,112nm,0.7s,mb5.8
LZH Lanzhou 33.48 271 *e*P **P 11 21 42.5 +1.1**
LZH AP pP 11 21 45.4 -18
LZH PP PP 11 22 51.0 -7.8
LZH AMB AMB
comp=Z,43nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,254nm,4.2s
LZH LR LR
comp=N,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.0s
LZH Lanzhou 33.48 271 *e*P **P 11 21 42.5 +1.1**
LZH 11 22 51.0
LZH 11 24 25.1
LZH *e*S **S 11 26 56.0 -0.1**
LZH SS SS 11 29 00.0 -24
LZH pmax pmax
comp=Z,43nm,1.0s,mb5.2
LZH Lanzhou 33.48 271 *e*P **P 11 21 42.5 +1.1**
comp=Z,43nm,1.0s,mb5.2
LZH pP pP 11 21 45.4 -18
LZH sP sP 11 21 46.4 -28
LZH PP PP 11 22 51.0 -7.8
LZH PcP PcP 11 24 25.1 +4.8
LZH *e*S **S 11 26 56.0 -0.1**
LZH sS sS 11 27 02.1 -31
LZH SS SS 11 29 00.0 -24
APYP Conner 33.87 227 *e*P **P 11 21 43.4 -1.4**
GTA Gaotai 34.95 279⇓*i*P **P 11 21 55.5 +1.4**
GTA PP PP 11 23 16.6 +1.5
GTA PCP PcP 11 24 25.8 +1.2
GTA AMB AMB
comp=Z,36nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,496nm,9.5s
GTA LR LR
comp=N,987nm,11.4s
GTA LR LR
comp=E,1μm,12.2s
GTA LR LR
comp=Z,1μm,14.1s
SDPT Sand Point 35.06 52 *e*P **P 11 21 52.5 -2.5**
comp=Z,66nm,0.7s,mb5.6
BCPH Baguio City Da 35.45 227⇓*e*P **P 11 21 57.7 -0.7**
BALP Baler 35.47 225 *e*P **P 11 21 58.6 0.0**
PVCP Virac 36.07 219⇓*i*P **P 11 22 05.6 +1.9**
PVCP Virac 36.07 219 *e*P **P 11 22 04.0 +0.3**
CHGN Chignik 36.15 51 *e*P **P 11 22 02.3 -2.1**
CD2 Chengdu 36.17 263⇑*i*P **P 11 22 04.5 0.0**
CD2 AP pP 11 22 09.3 -17
CD2 XP sP 11 22 11.9 -25
CD2 PP PP 11 23 26.5 -2.0
CD2 PCP PcP 11 24 31.3 +3.1
CD2 SCS ScS 11 32 19.8 +7.9
CD2 AMB AMB
comp=Z,400nm,0.8s,mb6.4
CD2 AMB AMB
comp=Z,740nm,4.1s
CD2 LR LR
comp=N,1μm,13.8s
CD2 LR LR
comp=E,1μm,26.4s
CD2 LR LR
comp=Z,1μm,26.4s
GYA Guiyang 36.75 255⇑*i*P **P 11 22 09.3 -0.2**
GYA AP pP 11 22 13.8 -18
GYA XP sP 11 22 16.9 -25
GYA PP PP 11 23 34.9 0.0
GYA PCP PcP 11 24 33.0 +3.1
GYA S **S 11 27 53.0 +6.7**
GYA SCP ScP 11 28 18.8 +11
GYA PCS PcS 11 28 19.9 +1.9
GYA SCS ScS 11 32 24.0 +8.9
GYA AMB AMB
comp=Z,60nm,0.6s,mb5.7
GYA AMB AMB
comp=Z,1μm,5.2s
GYA LR LR
comp=N,1μm,15.9s
GYA LR LR
comp=E,1μm,15.4s
GYA LR LR
comp=Z,1μm,16.0s
BOAC Boac 37.28 223 *e*P **P 11 22 13.5 -0.5**
SVW2 Sparrevohn 37.45 42 *e*P **P 11 22 15.6 +0.2**
LUBP Lubang 37.84 225 *e*P **P 11 22 18.0 -0.8**
OTRP Odiongan 38.15 221 *e*P **P 11 22 21.9 +0.6**
IMA2 Indian Mountai 38.50 34 *e*P **P 11 22 23.1 -1.1**
MSLP Maasin 38.84 216 *e*P **P 11 22 27.4 +0.3**
SCPH Surigao 38.90 215⇑*e*P **P 11 22 27.7 +0.2**
KDAK Kodiak Island 39.18 48 P **P 11 22 28.3 -1.6**
comp=Z,2μm,0.8s,SNR=84
KDAK Kodiak Island 39.18 48 P **P 11 22 28.9 -1.1**
comp=Z,325nm,0.8s,mb6.2,baz=297,slow=4.3,SNR=120
KDAK Kodiak Island 39.18 48 *e*P **P 11 22 28.8 -1.1**
comp=Z,296nm,0.8s,mb6.2
BUSP Coron 39.34 224 *e*P **P 11 22 31.4 +0.2**
GUIM Jordan 39.40 219 *e*P **P 11 22 31.4 -0.3**
CUYO Cuyo Island 39.94 222 *e*P **P 11 22 36.5 +0.3**
SLKM Skilak Lake 40.11 43 *e*P **P 11 22 36.6 -1.0**
KMI Kunming 40.33 257 P **P 11 22 40.1 +0.7**
KMI AP pP 11 22 47.1 -14
KMI XP sP 11 22 51.3 -21
KMI PP PP 11 24 13.6 -0.4
KMI AMB AMB
comp=Z,88nm,1.3s,mb5.4
KMI AMB AMB
comp=Z,1μm,4.5s
KMI LR LR
comp=N,796nm,19.6s
KMI LR LR
comp=E,415nm,16.3s
KMI LR LR
comp=Z,725nm,24.1s
KMI Kunming 40.33 257 P **P 11 22 40.1 +0.7**
KMI *SP sP 11 22 51.3 -21
KMI 11 24 13.6
KMI PPP 11 24 36.7
KMI S **S 11 28 40.2 +0.1**
KMI SS SS 11 31 38.4 -3.9
KMI pmax pmax
comp=Z,88nm,1.3s,mb5.4
KMI Kunming 40.33 257 P **P 11 22 40.1 +0.7**
comp=Z,88nm,1.3s,mb5.4
KMI pP pP 11 22 47.1 -14
KMI sP sP 11 22 51.3 -21
KMI PP PP 11 24 13.6 -0.4
KMI PPP 11 24 36.7
KMI PcS PcS 11 28 36.6 +4.9
KMI S **S 11 28 40.2 +0.1**
KMI SS SS 11 31 38.4 -3.9
KMI SSS 11 32 01.4
MCK McKinley 40.49 38 P **P 11 22 40.2 -0.5**
MCK pmax pmax
comp=Z,75nm,0.7s,mb5.6
MCK McKinley 40.49 38 *e*P **P 11 22 40.2 -0.5**
comp=Z,75nm,0.7s,mb5.6
PMR Palmer 40.54 41 *e*P **P 11 22 39.9 -1.3**
PMR pmax pmax
comp=Z,129nm,0.8s,mb5.8
PMR Palmer 40.54 41 *e*P **P 11 22 39.9 -1.3**
comp=Z,129nm,0.8s,mb5.8
ZAL Zalesovo 40.54 307 P **P 11 22 39.1 -2.0**
comp=Z,6.8nm,0.5s,mb4.8,baz=48,slow=8.1,SNR=26
ZAL PcP PcP 11 24 41.4 -0.4
comp=Z,19nm,0.8s,baz=10,slow=3.1,SNR=11
ZAL Zalesovo 40.54 307 P **P 11 22 39.2 -2.0**
ZAL 11 24 41.4
ZAL pmax pmax
comp=Z,7.0nm,0.5s
SML Sawmill 40.90 41 *e*P **P 11 22 43.9 -0.2**
COLA College 40.91 36 *e*P **P 11 22 44.1 -0.1**
COLA pmax pmax
comp=Z,278nm,0.8s,mb6.1
COLA College 40.91 36 *e*P **P 11 22 44.1 -0.1**
comp=Z,278nm,0.8s,mb6.1
NVS Novosibirsk 41.24 308 *e*P **P 11 22 45.0 -1.9**
NVS pmax pmax
comp=E,38nm,1.5s
NVS pmax pmax
comp=Z,44nm,1.5s,mb5.1
NVS pmax pmax
comp=N,17nm,1.3s
WMQ Urumqi 41.68 291⇑P **P 11 22 51.5 +1.0**
WMQ AP pP 11 22 56.0 -17
WMQ XP sP 11 22 58.5 -25
WMQ PP PP 11 24 31.3 +2.7
WMQ PCP PcP 11 24 48.6 +3.1
WMQ SCP ScP 11 28 37.3 +10
WMQ S **S 11 29 07.8 +7.6**
WMQ SCS ScS 11 32 52.3 +8.3
WMQ AMB AMB
comp=Z,114nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,393nm,3.5s
WMQ LR LR
comp=N,2μm,20.2s
WMQ LR LR
comp=E,498nm,19.7s
WMQ LR LR
comp=Z,598nm,16.7s
DIV Divide 42.20 42 *e*P **P 11 22 54.9 +0.1**
comp=Z,591nm,0.8s,mb6.4
EYAK Cordova Ski Ar 42.30 43 *e*P **P 11 22 55.4 -0.1**
MENT Mentasta 42.90 39 *e*P **P 11 23 00.9 +0.5**
BATP Bataraza 43.28 224 *e*P **P 11 23 04.5 +1.0**
EGAK Eagle 43.77 36 *e*P **P 11 23 06.4 -1.0**
comp=Z,159nm,0.6s,mb5.9
MK31 Makanchi Array 44.14 297 *i*P **P 11 23 10.4 0.0**
MK31 pmax pmax
comp=Z,25nm,0.4s,mb5.3
MK31 Makanchi Array 44.14 297 *e*P **P 11 23 10.4 0.0**
MKAR Makanchi Array 44.14 297 P **P 11 23 10.3 -0.1**
comp=Z,35nm,0.6s,mb5.3,baz=77,slow=7.3,SNR=190
MKAR LR LR 11 43 27.5
comp=Z,582nm,20.1s,baz=69,slow=38
MKAR Makanchi Array 44.14 297 P **P 11 23 10.3 -0.1**
MKAR pmax pmax
comp=Z,35nm,0.6s
MKAR MLR MLR
comp=Z,582nm,20.1s
DAWY Dawson 44.64 37 *e*P **P 11 23 13.8 -0.6**
KURK Kurchatov 45.07 304 P **P 11 23 16.0 -1.7**
comp=Z,380nm,1.2s,mb6.0,SNR=22
LSA Lhasa 45.90 271 P **P 11 23 25.6 +1.3**
LSA AP pP 11 23 34.6 -12
LSA XP sP 11 23 38.3 -19
LSA PP PP 11 25 11.8 -1.7
LSA SCS ScS 11 33 19.6 +9.1
LSA SS SS 11 33 26.8 -0.4
LSA AMB AMB
comp=Z,110nm,0.9s,mb5.6
LSA LR LR
comp=N,570nm,23.9s
LSA LR LR
comp=E,680nm,19.6s
LSA LR LR
comp=Z,950nm,21.3s
LSA Lhasa 45.90 271 *e*P **P 11 23 26.2 +1.9**
LSA pmax pmax
comp=Z,98nm,0.9s,mb5.5
LSA Lhasa 45.90 271 *e*P **P 11 23 26.2 +2.0**
comp=Z,98nm,0.9s,mb5.5
BAKI Biak 46.14 195 P **P 11 23 25.3 -0.9**
INK Inuvik 46.20 30 P **P 11 23 25.6 -1.0**
comp=Z,122nm,0.5s,mb5.9,baz=292,slow=6.5,SNR=1135
INK Inuvik 46.20 30 *e*P **P 11 23 25.5 -1.1**
comp=Z,4μm,0.5s
KKM Kota Kinabalu 46.44 224 P **P 11 23 30.2 +1.6**
KKM Kota Kinabalu 46.44 224 *e*P **P 11 23 30.1 +1.5**
IMP Imphal 46.78 264 *e*P **P 11 23 31.0 -0.2**
CHG Chiang Mai 47.12 253⇓P **P 11 23 34.0 +0.1**
comp=Z,110nm,0.8s,mb5.6
CHTO Chiang Mai 47.12 253⇑P **P 11 23 35.1 +1.2**
SNR=18
CHTO Chiang Mai 47.12 253 *e*P **P 11 23 34.7 +0.8**
CHTO pmax pmax
comp=Z,72nm,0.7s,mb5.5
CHTO Chiang Mai 47.12 253 *e*P **P 11 23 34.6 +0.8**
comp=Z,72nm,0.7s,mb5.5
TSM Tawau 47.15 221 P **P 11 23 34.8 +0.8**
CM31 Chiang Mai Arr 47.37 253 *e*P **P 11 23 36.9 +1.2**
comp=Z,71nm,0.8s,mb5.5
SKAG Skagway 47.64 43 *e*P **P 11 23 38.1 +0.3**
comp=Z,101nm,1.4s,mb5.5
SHL Shillong 47.78 266⇓*i*P **P 11 23 39.6 +0.7**
SHL *ex* x 11 30 28.0
BDT Bhumibol Dam 48.17 252 P **P 11 23 43.0 +1.1**
SIT Sitka 48.41 46 *e*P **P 11 23 44.6 +0.8**
SIT pmax pmax
comp=Z,111nm,0.9s,mb5.7
SIT Sitka 48.41 46 *e*P **P 11 23 44.6 +0.8**
comp=Z,111nm,0.9s,mb5.7
NST Nakhon Sawan 48.51 249 P **P 11 23 45.0 +0.5**
comp=Z,78nm,0.9s,mb5.6
BVA0 Borovoye Array 49.02 309 *i*P **P 11 23 48.1 -0.4**
BVA0 pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BVAR Borovoye Array 49.02 309 P **P 11 23 47.4 -1.1**
comp=Z,14nm,0.5s,mb5.1,baz=76,slow=10.0,SNR=58
BVAR PcP PcP 11 25 10.8 -0.2
comp=Z,18nm,0.7s,baz=86,slow=3.7,SNR=7.9
BVAR ScP ScP 11 28 56.0 -1.4
comp=Z,3.7nm,0.7s,baz=64,slow=3.8,SNR=3.9
BVAR S **S 11 30 42.2 -3.6**
comp=Z,8.6nm,0.9s,baz=60,slow=12,SNR=6.9
BVAR LR LR 11 48 08.6
comp=Z,587nm,18.4s,baz=319,slow=40
BVAR Borovoye Array 49.02 309 P **P 11 23 47.4 -1.1**
BVAR 11 25 10.8
BVAR S **S 11 30 42.2 -3.6**
BVAR pmax pmax
comp=Z,14nm,0.5s
BVAR smax
comp=N,9.0nm,1.0s
BVAR MLR MLR
comp=Z,587nm,18.5s
BVAR Borovoye Array 49.02 309 P **P 11 23 47.4 -1.1**
BVAR PcP PcP 11 25 10.8 -0.2
BVAR ScP ScP 11 28 56.0 -1.4
BVAR S **S 11 30 42.2 -3.6**
BRVK Borovoye 49.07 309 P **P 11 23 47.1 -1.8**
comp=Z,243nm,0.7s,mb6.2,SNR=12
BRVK Borovoye 49.07 309 P **P 11 23 48.7 -0.1**
SNR=16
BRVK Borovoye 49.07 309 *e*P **P 11 23 48.0 -0.9**
BRVK pmax pmax
comp=Z,27nm,0.8s,mb5.2
BRVK Borovoye 49.07 309 *e*P **P 11 23 48.0 -0.9**
comp=Z,27nm,0.8s,mb5.2
AGT Agartala 49.26 265 *ex* x 11 23 07.0
ULHL Ulahol 49.96 294 P **P 11 23 57.1 +1.5**
SNR=28
TKM2 Tokmak 2 50.07 295 P **P 11 23 57.8 +1.3**
SNR=58
CRAG Craig 50.13 47 *e*P **P 11 23 57.1 +0.2**
comp=Z,74nm,0.6s,mb5.8
WRAK Wrangell Islan 50.17 46 *e*P **P 11 23 57.9 +0.7**
comp=Z,65nm,0.9s,mb5.6
AAI Ambon 50.46 204 P **P 11 23 58.8 -0.6**
DLBC Dease Lake 50.57 43 *e*P **P 11 24 01.5 +1.3**
CHMS Chumysh 50.59 295 P **P 11 24 01.3 +1.0**
SNR=14
KBK Karagaybulak 50.62 295 P **P 11 24 01.8 +1.2**
SNR=76
USP Ospenovka 50.63 296 P **P 11 24 01.5 +0.9**
SNR=53
JIRN Jiri 50.63 272 *e*P **P 11 24 01.7 +1.0**
comp=Z,145nm,0.7s,mb6.1
KZA Kyzart 50.69 294 P **P 11 24 03.4 +2.2**
SNR=32
GUN Gumba 50.71 273 *e*P **P 11 24 02.1 +0.9**
comp=Z,121nm,0.4s,mb6.3
FRU Bishkek 50.75 295 *i*P **P 11 24 02.0 +0.4**
FRU *e*S **S 11 31 11.5 +1.6**
FRU *e* 11 33 42.0
FRU pmax pmax
comp=Z,180nm,1.9s,mb5.8
AAK Ala-Archa 50.93 295 P **P 11 24 04.2 +1.3**
SNR=17
AAK Ala-Archa 50.93 295 P **P 11 24 02.6 -0.3**
comp=Z,523nm,0.5s,SNR=35
AAK Ala-Archa 50.93 295⇓P **P 11 24 03.0 +0.1**
SNR=11
AAK Ala-Archa 50.93 295*c* *i*P **P 11 24 02.3 -0.6**
AAK pmax pmax
comp=Z,39nm,1.3s,mb5.3
AAK Ala-Archa 50.93 295 *e*P **P 11 24 02.5 -0.4**
comp=Z,45nm,0.6s,mb5.7
NNT Nongplab 51.00 247 P **P 11 24 04.5 +1.1**
UCH Uchtor 51.10 295 P **P 11 24 05.1 +0.8**
SNR=16
KKN Kakani 51.21 273 *e*P **P 11 24 05.5 +0.5**
comp=Z,166nm,0.9s,mb6.1
PKI Pulchoki 51.24 273 *e*P **P 11 24 05.6 +0.3**
EKS2 Erkin-Say 51.38 295 P **P 11 24 07.2 +0.9**
SNR=46
DMN Daman 51.44 273 *e*P **P 11 24 07.7 +1.0**
comp=Z,356nm,1.3s,mb6.2
KSH Kashi 51.45 291⇑P **P 11 24 09.3 +2.5**
KSH *e*AP pP 11 24 14.4 -15
KSH *e*XP sP 11 24 17.4 -23
KSH *e*PCS PcS 11 29 16.8 -1.1
KSH *e*S **S 11 31 28.3 +8.8**
KSH *e*XS sS 11 31 37.6 -21
KSH *e*SCS ScS 11 33 48.8 +1.0
KSH AMB AMB
comp=Z,2μm,4.0s
KSH LR LR
comp=Z,3μm,10.6s
GKN Gorkha 51.55 274 *e*P **P 11 24 08.0 +0.5**
comp=Z,119nm,0.4s,mb6.3
AML Almayashu 51.69 295 P **P 11 24 10.2 +1.6**
SNR=37
KOLN Koldanda 52.43 274 *e*P **P 11 24 14.5 +0.4**
comp=Z,65nm,0.3s,mb6.1
ALE Alert 52.73 5 P **P 11 24 13.0 -3.3**
comp=Z,268nm,1.0s,mb6.2,SNR=24
BOK Bokaro 53.17 269 *e*P **P 11 24 19.7 +0.2**
BOK AMb AMB 11 24 23.0
comp=Z,47nm,1.2s,mb5.4
BOK *i*x x 11 26 16.3
KK31 Karatay Array 53.27 297 *i*P **P 11 24 20.6 +0.3**
KK31 pmax pmax
comp=Z,57nm,0.6s,mb5.8
KKAR Karatay Array 53.27 297 *e*P **P 11 24 20.6 +0.3**
KKAR pmax pmax
comp=Z,37nm,0.7s,mb5.5
SOKR Solikamsk 53.29 321*c* *i*P **P 11 24 19.4 -1.0**
SOKR S **S 11 31 43.0 -1.6**
SOKR pmax pmax
comp=Z,60nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,560nm,17.0s
KSM Kuching 53.38 228 *e*P **P 11 24 21.6 +0.5**
ARU Arti 53.85 317 P **P 11 24 23.8 -0.7**
comp=Z,1μm,0.6s,SNR=5.9
ARU Arti 53.85 317 *e*P **P 11 24 22.8 -1.7**
ARU *e* 11 25 26.8
ARU *e* 11 26 24.7
ARU *e*PPP 11 27 33.9
ARU *e*S **S 11 31 54.5 +2.3**
ARU *e*SS SS 11 35 35.2 +0.8
ARU *e*SSS 11 37 33.1
ARU MLR MLR
comp=Z,400nm,18.0s
ARU MLR MLR
comp=N,300nm,17.0s
ARU MLR MLR
comp=E,200nm,17.0s
ARU Arti 53.85 317 *e*P **P 11 24 23.6 -1.0**
LGTI Lohaghat 53.86 278 *i*P **P 11 24 25.3 +0.8**
SPB4 Spitsbergen Ar 54.33 349 *e*P **P 11 24 25.1 -2.9**
KBS Kingsbay 54.33 350 P **P 11 24 25.5 -2.5**
KBS pmax pmax
comp=Z,72nm,1.2s,mb5.6
KBS Kingsbay 54.33 350 *e*P **P 11 24 25.5 -2.5**
comp=Z,68nm,0.9s,mb5.6
SNG Songkhla 54.48 242 P **P 11 24 30.0 +1.0**
comp=Z,270nm,1.0s,mb6.2
KAPI Kappang 54.65 214 P **P 11 24 28.2 -2.1**
comp=Z,194nm,0.6s,mb6.3,SNR=6.8
RES Resolute Bay 54.66 17 P **P 11 24 27.5 -2.9**
RES Resolute Bay 54.66 17 *e*P **P 11 24 27.9 -2.5**
comp=Z,4μm,0.5s
SDNR Sundarnagar 55.01 282 *e*P **P 11 24 34.0 +1.1**
DLH Dalhousie 55.13 284 *e*P **P 11 24 35.0 +1.2**
ALBI Allahabad 55.18 273 *e*P **P 11 24 31.5 -2.6**
THN Thein Dam 55.37 284 *e*P **P 11 24 34.4 -1.1**
YKW3 Yellowknife Ar 55.58 34 *e*P **P 11 24 36.0 -1.0**
YKA Yellowknife AR 55.62 34 P **P 11 24 36.6 -0.7**
comp=Z,59nm,0.7s,mb5.7,baz=301,slow=7.0,SNR=295
YKA LR LR 11 49 27.3
comp=Z,308nm,20.6s,baz=210,slow=37
YKA Yellowknife Ar 55.62 34 P **P 11 24 36.6 -0.7**
YKA pmax pmax
comp=Z,59nm,0.7s
YKA MLR MLR
comp=Z,308nm,20.6s
KULM Kulim 55.91 240 *e*P **P 11 24 40.1 +0.8**
IPM Ipoh 56.31 239 P **P 11 24 43.4 +1.2**
IPM Ipoh 56.31 239 P **P 11 24 41.7 -0.5**
NIL Nilore 56.40 286 P **P 11 24 44.6 +1.8**
comp=Z,264nm,0.6s,mb6.4,SNR=7.8
NDI New Delhi 56.46 279 *e*P **P 11 24 43.0 -0.2**
NDI *ex* x 11 32 22.0
AB31 Akbulak array 56.59 308 *i*P **P 11 24 43.9 -0.2**
AB31 pmax pmax
comp=Z,10.0nm,0.3s,mb5.3
AB31 Akbulak array 56.59 308 *i*P **P 11 24 43.0 -1.1**
KGM Kluang 56.87 235 P **P 11 24 47.9 +1.7**
AKTK Aktyubinsk 57.05 310 P **P 11 24 47.6 +0.2**
AKTO Aktyubinsk 57.05 310 P **P 11 24 47.6 +0.2**
comp=Z,24nm,0.6s,mb5.4,baz=64,slow=8.2,SNR=80
AKTO Aktyubinsk 57.05 310 P **P 11 24 46.5 -0.9**
AKTO pmax pmax
comp=Z,16nm,1.8s,mb4.8
LVZ Lovozero 57.31 335 P **P 11 24 48.0 -1.2**
comp=Z,321nm,0.7s,mb6.5,SNR=5.1
LVZ Lovozero 57.31 335*ce*P **P 11 24 48.2 -1.0**
LVZ *eS* **S 11 32 30.0 -8.2**
LVZ pmax pmax
comp=N,8.0nm,0.7s
LVZ pmax pmax
comp=Z,29nm,0.7s,mb5.4
LVZ pmax pmax
comp=E,6.0nm,0.8s
LVZ smax
comp=N,481nm,4.0s
LVZ smax
comp=Z,453nm,4.0s
LVZ smax
comp=E,137nm,2.2s
LVZ smax
comp=N,231nm,11.6s
LVZ smax
comp=Z,79nm,11.6s
LVZ smax
comp=E,99nm,11.4s
LVZ MLR MLR
comp=Z,491nm,18.0s
LVZ MLR MLR
comp=N,252nm,15.0s
LVZ MLR MLR
comp=E,632nm,19.0s
LVZ Lovozero 57.31 335 *e*P **P 11 24 47.8 -1.4**
APA Apatity 57.89 335⇓*i*P **P 11 24 50.8 -2.5**

APA *i* 11 25 06.4
APA *i* pP 11 25 14.8 -1.9
APA *i* 11 25 44.0
APA *eS* **S** **11 32 40.0 -5.7**
APA *e* 11 34 34.0
APA pmax pmax
comp=Z,27nm,0.7s,mb5.4
COEN Coen 57.92 184 P P 11 24 53.0 -0.6
KAKA Kakadu 58.08 197 *eP* **P 11 24 53.3 -1.3**
comp=Z,44nm,0.5s,mb5.8
KAKA *e* pP 11 25 16.9 -1.2
KEV Kevo 58.23 339 *ep* **P 11 24 52.5 -3.2**
comp=Z,12nm,0.4s,mb5.3
KEV Kevo 58.23 339 *eP* **P 11 24 52.5 -3.2**
KEV pmax pmax
comp=Z,12nm,0.4s,mb5.3
TMCR Tamitsa 58.48 331 *eP* **P 11 24 55.9 -1.5**
TMCR pmax pmax
comp=Z,65nm,0.6s,mb5.8
PGC Sidney 58.58 51 *eP* **P 11 24 57.8 -0.3**
comp=Z,70nm,0.6s,mb5.9
ARCES ARCESS Array B 58.77 339 P **P 11 24 57.8 -1.6**
comp=Z,17nm,0.6s,mb5.3,baz=44,slow=6.7,SNR=83
ARCES LR LR 11 54 27.8
comp=Z,389nm,19.7s,baz=36,slow=40
ARCES ARCESS Array B 58.77 339 P **P 11 24 57.8 -1.6**
ARCES pmax pmax
comp=Z,17nm,0.6s
ARCES MLR MLR
comp=Z,389nm,19.7s
ARE0 ARCESS Array S 58.77 339 *eP* **P 11 24 57.8 -1.6**
B04A Port Angeles 58.87 52 P **P 11 25 00.1 0.0**
baz=59,SNR=6.8
VIS Vishakhapatnam 58.88 265 *eP* **P 11 25 00.8 +0.6**
VIS AMb AMB 11 25 02.1
comp=Z,38nm,0.7s,mb5.6
KMMI Kalianget 58.94 219 P **P 11 25 00.4 -0.2**
A04A Legoe Bay, Lum 58.96 51 ⇑P **P 11 25 00.7 0.0**
baz=59
DAG Danmarks Havn 58.99 356 ⇓*iP* **P 11 24 57.5 -3.5**
comp=Z,50nm,0.9s,mb5.5
DAG Danmarks Havn 58.99 356 ⇓*iP* **P 11 24 57.5 -3.5**
DAG pmax pmax
comp=Z,50nm,0.9s,mb5.5
VDB Vedder Mountai 59.12 50 P **P 11 25 01.2 -0.7**
A05A Maple Falls 59.15 50 P **P 11 25 01.7 -0.4**
baz=59,SNR=7.2
D03A Wishkah Elem. 59.23 53 ⇑P **P 11 25 02.3 -0.3**
baz=59
C04A Brinnon 59.35 52 ⇓P **P 11 25 03.7 +0.3**
baz=59,SNR=8.7
A06A Chilliwack 59.43 50 ⇑P **P 11 25 03.5 -0.5**
baz=59
GNW Green Mountain 59.52 52 *eP* **P 11 25 04.9 +0.3**
B05A Bryant 59.55 51 ⇑P **P 11 25 04.8 0.0**
baz=59,SNR=10
BHPL Bhopal 59.60 274 *eP* **P 11 25 05.2 0.0**
BHPL AMb AMB 11 25 07.9
comp=Z,115nm,1.0s,mb5.9
AJM Ajmer 59.60 279 *eP* **P 11 25 05.7 +0.5**
AJM AMb AMB 11 25 08.0
comp=Z,97nm,0.6s,mb6.0
E03A Lebam 59.66 53 ⇓P **P 11 25 06.1 +0.5**
baz=59
KTK1 Kautokeino 59.71 340 *eP* **P 11 25 03.8 -2.1**
KTK1 AMb AMB 11 25 06.8
comp=Z,73nm,0.5s,mb5.9
KTK1 Kautokeino 59.71 340 *eP* **P 11 25 03.8 -2.1**
comp=Z,73nm,0.5s,mb6.0
NGP Nagpur 59.74 271 ⇓*iP* **P 11 25 05.1 -1.1**
NGP *ex* x 11 25 07.0
comp=Z,89nm,0.7s
RPW Rockport 59.77 50 P **P 11 25 06.0 -0.3**
D04A Dobbs Creek Ra 59.78 52 ⇓P **P 11 25 06.5 0.0**
baz=60
SGF Sodankyl 59.96 337 P **P 11 25 05.4 -2.2**
F03A Seaside 60.01 54 ⇑P **P 11 25 07.7 -0.2**
baz=60
A07A Ashnola River, 60.05 49 P **P 11 25 08.2 -0.1**
baz=60,SNR=35
C05A Tolt Reservoir 60.09 51 P **P 11 25 08.6 +0.1**
baz=60,SNR=10
E04A Onalaska 60.12 53 ⇓P **P 11 25 09.4 +0.7**
baz=60,SNR=7.1
D05A Enumclaw 60.20 52 ⇓P **P 11 25 09.8 +0.5**
baz=60,SNR=7.0
TRO Tromso 60.28 341 *eP* **P 11 25 06.8 -3.0**
TRO AMb AMB 11 25 09.0
comp=Z,54nm,0.6s,mb5.8
TRO Tromso 60.28 341 *eP* **P 11 25 06.8 -3.0**
comp=Z,54nm,0.6s,mb5.8
PNT Penticton 60.32 49 P **P 11 25 09.7 -0.4**
H02A Toledo 60.45 55 ⇓P **P 11 25 11.5 +0.5**
baz=60
WRW Wenatchee Ridg 60.45 51 P **P 11 25 11.0 0.0**
G03A Yamhill 60.51 54 ⇓P **P 11 25 11.8 +0.4**
baz=60
B07A Winthrop 60.53 50 P **P 11 25 11.5 0.0**
baz=60,SNR=49
F04A Amboy 60.66 53 ⇓P **P 11 25 12.6 +0.2**
baz=60,SNR=25
E05A Randle 60.69 52 ⇑P **P 11 25 12.3 -0.3**
baz=60,SNR=11
A08A Turner Farm, O 60.71 49 P **P 11 25 12.6 -0.2**
baz=60,SNR=58
D06A Cle Elum 60.84 51 ⇓P **P 11 25 13.7 0.0**
baz=61,SNR=21
H03A Soap Creek Ran 60.87 55 ⇑P **P 11 25 14.1 +0.3**
baz=61
I02A Mapleton 60.93 56 ⇑P **P 11 25 14.3 +0.1**
baz=61
C07A Waterville 61.00 50 P **P 11 25 14.4 -0.3**
baz=61,SNR=36
B08A Colville Reser 61.02 50 P **P 11 25 14.7 -0.1**
baz=61,SNR=56
G04A Mulino 61.04 54 ⇑P **P 11 25 15.4 +0.5**
baz=61,SNR=5.1
A09A Danville 61.07 49 P **P 11 25 15.4 +0.2**
baz=61,SNR=63
E06A Yakima 61.14 52 ⇑P **P 11 25 16.1 +0.4**
baz=61,SNR=11
EBG Ellensburg 61.16 51 P **P 11 25 16.2 +0.4**
JCJI Jatiwangi 61.19 225 P **P 11 25 17.4 +1.4**
F05A White Salmon 61.24 53 ⇓P **P 11 25 16.7 +0.4**
baz=61,SNR=11
I03A Eugene 61.27 55 ⇓P **P 11 25 17.1 +0.5**
baz=61
EDM Edmonton 61.29 42 P **P 11 25 16.3 -0.4**
EDM Edmonton 61.29 42 *eP* **P 11 25 16.0 -0.7**
D07A Quincy 61.33 51 ⇓P **P 11 25 16.7 -0.2**
baz=61,SNR=21
J02A Umpqua 61.44 56 ⇑P **P 11 25 18.5 +0.8**
baz=61,SNR=8.4
HOOD Mount Hood Mea 61.45 53 *eP* **P 11 25 18.6 +0.8**
C08A Higginbotham F 61.51 50 P **P 11 25 17.9 -0.2**
baz=61,SNR=38
H04A Detroit Lake 61.51 54 P **P 11 25 18.5 +0.4**
baz=61,SNR=11
VFP Flag Point 61.56 53 P **P 11 25 19.0 +0.5**
B09A Rice 61.63 49 P **P 11 25 19.1 +0.1**
baz=61,SNR=40
G05A Wamic 61.69 53 ⇓P **P 11 25 19.8 +0.5**
baz=62,SNR=9.5
F06A Goldendale 61.70 53 ⇓P **P 11 25 19.6 +0.2**
baz=62
E07A Sunnyside 61.77 51 P **P 11 25 20.3 +0.4**
baz=62,SNR=40
J03A Ideyld Park 61.80 56 ⇓P **P 11 25 20.6 +0.4**
baz=62
LEM Lembang 61.81 225 P **P 11 25 19.5 -0.7**
K02A Glendale 61.84 57 ⇑P **P 11 25 20.8 +0.5**
baz=62
I04A Tendick Farm, 61.89 55 ⇑P **P 11 25 21.0 +0.3**
baz=62,SNR=7.7
OD2 Odessa Site #2 61.92 50 P **P 11 25 20.5 -0.4**
C09A Chrisman Ranch 61.92 50 P **P 11 25 20.8 -0.1**
baz=62,SNR=40
D08A Wollman Farm, 62.00 51 P **P 11 25 21.3 -0.1**
baz=62,SNR=39
WRD Warden 62.02 51 P **P 11 25 20.8 -0.8**
HAWA Hanford 62.04 51 *eP* **P 11 25 21.6 -0.2**
comp=Z,80nm,0.9s,mb5.8
G06A Carlson Farm, 62.09 53 ⇓P **P 11 25 22.2 +0.2**
baz=62,SNR=11
H05A Madras 62.09 54 ⇑P **P 11 25 22.3 +0.3**
baz=62,SNR=12
F07A Phinny Hill Vi 62.11 52 P **P 11 25 22.8 +0.6**
baz=62,SNR=57
B10A Chitwood Farm, 62.20 49 P **P 11 25 22.9 +0.1**
baz=62,SNR=13
E08A Dider Farm, El 62.25 51 P **P 11 25 23.2 +0.1**
baz=62,SNR=56
HUMO Hull Mountain 62.25 57 *eP* **P 11 25 23.7 +0.6**
comp=Z,24nm,1.0s,mb5.2
HUMO Hull Mountain 62.25 57 ⇓P **P 11 25 23.7 +0.6**
baz=62
A11A Hall Mountain, 62.27 48 ⇓P **P 11 25 23.8 +0.5**
baz=62,SNR=76
NEW Newport 62.28 49 P **P 11 25 22.9 -0.4**
NEW pmax pmax
comp=Z,72nm,0.8s
NEW Newport 62.28 49 *eP* **P 11 25 23.0 -0.2**
comp=Z,71nm,0.8s,mb5.8
D09A Jones Farm, Ri 62.34 50 ⇓P **P 11 25 23.5 -0.2**
baz=62,SNR=19
I05A Bend 62.35 54 P **P 11 25 24.3 +0.6**
baz=62,SNR=8.9
J04A Umpqua Nationa 62.39 56 ⇑P **P 11 25 24.7 +0.6**
baz=62,SNR=8.4
C10A Spilker Farm, 62.44 49 ⇓P **P 11 25 24.3 0.0**
baz=62,SNR=75
HYB Hyderabad 62.50 268 ⇓*iP* **P 11 25 24.5 -0.3**
HYB *epP* pP 11 25 48.0 -0.5
HYB *ePcP* PcP 11 26 04.8 +1.6
HYB Hyderabad 62.50 268 ⇓*eP* **P 11 25 24.5 -0.3**
H06A Lindquist Farm 62.55 53 ⇑P **P 11 25 25.2 0.0**
baz=62,SNR=14
B11A Sandpoint 62.58 48 P **P 11 25 25.7 +0.4**
baz=62,SNR=25
G07A Ruggs Ranch, H 62.62 53 ⇓P **P 11 25 25.8 +0.2**
baz=62,SNR=13
JCC Jacoby Creek 62.64 59 ⇓P **P 11 25 26.5 +0.8**
baz=62
LOF Lofoten 62.68 342 *eP* **P 11 25 26.3 +0.3**
E09A Wood Farm, Sta 62.75 51 P **P 11 25 26.6 +0.2**
baz=62,SNR=95
KHMM Horse Mountain 62.79 58 *eP* **P 11 25 27.9 +1.2**
F08A Pendleton 62.82 52 P **P 11 25 27.4 +0.5**
baz=63,SNR=41
J05A Fort Rock 62.88 55 ⇑P **P 11 25 28.0 +0.7**
baz=63
YBH Yreka Blue Hor 62.91 57 P **P 11 25 28.4 +0.9**
YBH *e* pP 11 25 52.5 +1.2
YBH pmax pmax
comp=Z,64nm,1.1s
YBH Yreka Blue Hor 62.91 57 *eP* **P 11 25 28.4 +0.9**
comp=Z,52nm,0.9s,mb5.5
YBH Yreka Blue Hor 62.91 57 ⇓P **P 11 25 28.2 +0.7**
baz=63,SNR=15
B12A Libby 62.98 48 P **P 11 25 28.4 +0.5**
baz=63,SNR=11
K04A Chilquin 62.98 56 ⇑P **P 11 25 28.5 +0.5**
baz=63
G08A Pilot Rock 63.02 52 P **P 11 25 28.4 +0.2**
baz=63,SNR=18
M02C Callahan 63.03 58 ⇓P **P 11 25 29.0 +0.8**
baz=63,SNR=11
N02C Big Bar 63.09 58 ⇑P **P 11 25 29.2 +0.5**
baz=63,SNR=5.8
I06A Prineville 63.09 54 P **P 11 25 29.2 +0.5**
baz=63,SNR=13
L04A Klamath Falls 63.15 56 ⇓P **P 11 25 29.6 +0.6**
baz=63,SNR=16
O01C Eel River Cons 63.17 59 ⇑P **P 11 25 30.0 +0.8**
baz=63
LATR Latur 63.29 270 *eP* **P 11 25 29.6 -0.4**
E10A Myers Farm, Un 63.34 50 ⇑P **P 11 25 30.5 +0.1**
baz=63,SNR=50
F09A S2 Ranch, Elgi 63.36 51 P **P 11 25 30.9 +0.5**
baz=63,SNR=67
M04C Macdoel 63.41 57 ⇑P **P 11 25 31.2 +0.4**
baz=63,SNR=18
I07A Izee 63.42 54 P **P 11 25 31.4 +0.5**
baz=63,SNR=20
D11A Klaveano Farm, 63.43 49 P **P 11 25 30.6 -0.3**
baz=63,SNR=70
C12A Trout Creek 63.50 48 P **P 11 25 31.6 +0.2**
baz=63,SNR=50
WALA Waterton Lakes 63.51 46 *eP* **P 11 25 31.5 +0.1**
comp=Z,84nm,0.8s,mb5.6
J06A Christmas Vall 63.54 55 P **P 11 25 32.2 +0.5**
baz=63,SNR=25
M03C McCloud 63.54 57 ⇑P **P 11 25 32.1 +0.4**
baz=63,SNR=12
KIPM Iron Peak 63.58 59 *eP* **P 11 25 32.5 +0.6**
F10A Beach Ranch, E 63.58 51 P **P 11 25 32.1 +0.2**
baz=63,SNR=35
B13A Whitefish 63.63 47 ⇑P **P 11 25 32.6 +0.4**
baz=63,SNR=116
H08A Prairie City 63.64 53 ⇓P **P 11 25 32.6 +0.3**
baz=63,SNR=32
WDC Whiskeytown Da 63.70 58 P **P 11 25 32.9 +0.2**
WDC pmax pmax
comp=Z,50nm,0.9s,mb5.3
WDC Whiskeytown Da 63.70 58 *eP* **P 11 25 32.9 +0.2**
comp=Z,50nm,0.9s,mb5.3
WDC Whiskeytown Da 63.70 58 P **P 11 25 33.0 +0.3**
baz=64,SNR=25
K06A Valley Falls 63.75 55 ⇓P **P 11 25 33.6 +0.6**
baz=64,SNR=21
BSMT Bassoo Peak 63.78 48 *eP* **P 11 25 33.8 +0.5**
O02C Red Bluff 63.79 59 P **P 11 25 34.1 +0.8**
baz=64,SNR=20
P01C Double 8 Ranch 63.87 60 ⇓P **P 11 25 33.9 +0.1**
baz=64,SNR=7.8
CTA Charters Tower 63.93 181 *eP* **P 11 25 33.2 -1.0**
comp=Z,12nm,1.4s,mb4.5
CTA *e* pP 11 25 57.3 -0.7
CTA Charters Tower 63.93 181 *eP* **P 11 25 33.2 -1.0**
CTA *e* pP 11 25 57.3 -0.7
CTA pmax pmax
comp=Z,12nm,1.4s
CTAO Charters Tower 63.93 181 *eP* **P 11 25 33.3 -0.9**
CTAO pmax pmax
comp=Z,20nm,0.9s,mb5.0
CTAO Charters Tower 63.93 181 *eP* **P 11 25 33.3 -0.9**
comp=Z,20nm,0.9s,mb5.0
MOS Moscow 63.95 324 *eP* **P 11 25 31.7 -2.7**
MOS *eS* **S** **11 33 59.4 -3.4**
MOS pmax pmax
comp=Z,216nm,1.8s,mb5.7
MOS pmax pmax
comp=Z,600nm,2.3s,mb6.0
J07A Hines 63.96 54 ⇑P **P 11 25 34.9 +0.5**
baz=64,SNR=24
ABKT Ailbek 63.99 298 P **P 11 25 35.2 +0.6**
comp=Z,404nm,0.7s,mb6.4,SNR=8.2
C13A Hot Springs 64.00 48 ⇑P **P 11 25 35.1 +0.4**
baz=64
MOR8 Moi Rana 64.06 340 ⇑*iP* **P 11 25 31.6 -3.4**
MOR8 AMb AMB 11 25 34.4
comp=Z,174nm,0.7s,mb6.0
MOR8 Moi Rana 64.06 340 ⇑*iP* **P 11 25 31.6 -3.4**
comp=Z,174nm,0.7s,mb6.0
I08A Drewsey 64.06 53 P **P 11 25 35.8 +0.7**
baz=64,SNR=63
M05C Lookout 64.08 57 P **P 11 25 35.7 +0.5**
baz=64,SNR=28
PUL Pulkovo 64.11 330 *eP* **P 11 25 34.0 -1.4**
PUL pmax pmax
comp=Z,240nm,0.6s,mb6.2
PUL pmax pmax
comp=N,595nm,0.9s
PUL pmax pmax
comp=E,625nm,0.9s
PUL MLR MLR
comp=Z,576nm,20.0s
PUL Pulkovo 64.11 330 *eP* **P 11 25 34.7 -0.7**
H09A Durkee 64.12 52 ⇑P **P 11 25 35.9 +0.4**
baz=64,SNR=24
GASB Alder Springs 64.14 59 ⇑P **P 11 25 36.5 +0.9**
baz=64,SNR=20
HATC Hat Creek Radi 64.21 57 P **P 11 25 36.7 +0.7**
baz=64,SNR=16
BMO Blue Mountains 64.22 52 *eP* **P 11 25 36.3 +0.2**
comp=Z,48nm,0.9s,mb5.3
F11A Grangeville 64.23 50 P **P 11 25 36.1 -0.1**
baz=64,SNR=147
MOD Modoc 64.26 56 *eP* **P 11 25 36.7 +0.3**
MOD Modoc 64.26 56 ⇓P **P 11 25 36.7 +0.3**
baz=64,SNR=13
STOK Stokkvaagen 64.26 341 *eP* **P 11 25 35.4 -1.0**
STOK AMb AMB 11 25 38.0
comp=Z,70nm,1.0s,mb5.4
STOK Stokkvaagen 64.26 341 *eP* **P 11 25 35.4 -1.0**
comp=Z,70nm,1.0s,mb5.4
LBCM Butte Creek Ri 64.27 57 P **P 11 25 36.5 +0.1**
HOPS Hopland 64.32 60 *eP* **P 11 25 36.8 +0.1**
HOPS Hopland 64.32 60 ⇑P **P 11 25 36.9 +0.2**
baz=64
O03C Acorn Hollow, 64.36 58 ⇑P **P 11 25 37.0 0.0**
baz=64
FIA1 FINESS Array S 64.38 333 *eP* **P 11 25 35.0 -2.1**
FINES FINESS Array B 64.38 333 P **P 11 25 35.2 -2.0**
comp=Z,111nm,0.6s,mb5.9,baz=46,slow=5.5,SNR=228
FINES LR LR 11 58 09.1
comp=Z,561nm,18.2s,baz=243,slow=40
FINES FINESS Array B 64.38 333 P **P 11 25 35.2 -2.0**
FINES pmax pmax
comp=Z,111nm,0.6s
FINES MLR MLR
comp=Z,561nm,18.2s
FINES FINESS Array B 64.38 333 P **P 11 25 35.2 -2.0**
K07A Rock Creek Ran 64.41 55 P **P 11 25 37.9 +0.6**
baz=64,SNR=41
D13A Huson 64.42 48 ⇓P **P 11 25 37.3 -0.1**
baz=64,SNR=105
J08A Circle Bar Ran 64.45 54 ⇑P **P 11 25 38.0 +0.3**
baz=64
I09A Lost Marbles R 64.50 53 ⇓P **P 11 25 38.3 +0.3**
baz=64,SNR=28
M06C Likely Place G 64.57 57 ⇓P **P 11 25 38.7 +0.2**
baz=64,SNR=11
O04C Chester 64.74 58 P **P 11 25 40.2 +0.7**
baz=64,SNR=24
L07A Adell 64.76 55 P **P 11 25 40.4 +0.8**
baz=64,SNR=32
ELFS Eagle Lake Fie 64.78 57 ⇓P **P 11 25 40.5 +0.7**
baz=64
MNRC McLaughlin Nat 64.78 60 P **P 11 25 40.5 +0.7**
baz=65,SNR=23
WRAB Tennant Creek 64.78 193 P **P 11 25 38.6 -1.2**
comp=Z,359nm,0.7s,mb6.3,SNR=29
WRAB Tennant Creek 64.78 193 *eP* **P 11 25 38.3 -1.5**
WRAB pmax pmax
comp=Z,76nm,1.0s,mb5.5
WRAB Tennant Creek 64.78 193 *eP* **P 11 25 38.3 -1.5**
comp=Z,76nm,1.0s,mb5.5
WB2 Warramunga Arr 64.79 193 *eP* **P 11 25 38.1 -1.7**
WB2 *e* pP 11 26 01.9 -1.8
WRA Warramunga Arr 64.79 193 P **P 11 25 38.1 -1.7**
comp=Z,65nm,0.8s,mb5.5,baz=8.6,slow=6.7,SNR=468
WRA pP pP 11 26 02.3 -1.4
comp=Z,18nm,0.8s,baz=9.7,slow=6.7,SNR=4.6
WRA PKP2bc 11 54 27.9
comp=Z,4.8nm,0.9s,baz=201,slow=2.6,SNR=18
WRA Warramunga Arr 64.79 193 P **P 11 25 38.1 -1.7**
WRA pP pP 11 26 02.3 -1.4
WRA ⇑*e* 11 54 27.9
F12A Elk City 64.81 50 P **P 11 25 40.2 +0.3**
baz=64,SNR=56
OBN Obninsk 64.82 323 P **P 11 25 39.6 -0.4**
comp=Z,813nm,0.7s,SNR=5.5
OBN Obninsk 64.82 323 *diP* **P 11 25 38.4 -1.6**
OBN pmax pmax
comp=Z,131nm,0.9s,mb5.8
OBN MLR MLR
comp=Z,300nm,15.0s
OBN Obninsk 64.82 323 *eP* **P 11 25 39.1 -0.9**
K08A Mann Creek Ran 64.83 54 P **P 11 25 40.6 +0.6**
baz=65,SNR=50
MSO Missoula 64.86 48 *eP* **P 11 25 40.3 0.0**
comp=Z,63nm,0.9s,mb5.5
J09A Fry Pan Ranch, 64.88 53 P **P 11 25 40.9 +0.5**
baz=65,SNR=43
NSHM Saint Helena R 64.89 60 *eP* **P 11 25 40.2 -0.3**
FITZ Fitzroy Crossi 64.90 202 ⇓*iP* **P 11 25 39.9 -0.6**
comp=Z,40nm,0.9s,mb5.2
FITZ *e* pP 11 26 04.7 +0.3
WVOR Wild Horse Val 64.92 55 P **P 11 25 41.0 +0.3**
WVOR pmax pmax
comp=Z,64nm,1.0s,mb5.4
WVOR Wild Horse Val 64.92 55 *eP* **P 11 25 40.8 +0.2**
comp=Z,64nm,0.9s,mb5.5
D14A Greenough 64.94 48 P **P 11 25 40.8 0.0**
baz=65,SNR=105
ORV Oroville 64.95 59 P **P 11 25 40.4 -0.5**
baz=65,SNR=29
E13A Victor 64.97 49 P **P 11 25 40.8 -0.1**
baz=65,SNR=46
SUTB Sutter Butte 64.97 59 P **P 11 25 40.5 -0.5**
baz=65,SNR=22
H11A Donnelly 65.03 51 ⇑P **P 11 25 41.2 -0.2**
baz=65,SNR=87
O05C Quincy 65.06 58 P **P 11 25 41.8 +0.2**
baz=65,SNR=48
CVS Carmenet Viney 65.09 60 ⇑P **P 11 25 41.5 -0.3**
baz=65,SNR=7.2
OHCM Honcut 65.09 59 *eP* **P 11 25 41.4 -0.4**
VRHR Novokhopersk 65.14 318 *eP* **P 11 25 41.8 -0.3**
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s,mb5.7
VRHR pmax pmax
comp=N,1.0nm,0.4s
FARB Farallon Islan 65.15 61 ⇑P **P 11 25 41.9 -0.3**
baz=65
POO Poona 65.16 272 ⇓*ix* x 11 25 39.0
comp=N,100nm,1.0s
CHMT Chamberlain Mo 65.18 48 *eP* **P 11 25 42.0 -0.3**
Q03C Winters 65.19 60 ⇓P **P 11 25 43.4 +0.9**
baz=65,SNR=20
N06A Buffalo Meadow 65.24 57 P **P 11 25 43.1 +0.4**
baz=65,SNR=39
L08A Fields 65.24 55 P **P 11 25 43.2 +0.5**
baz=65,SNR=41
M07A Soldier Meadow 65.24 56 P **P 11 25 43.5 +0.7**
baz=65,SNR=112
K09A Rome 65.29 54 P **P 11 25 43.3 +0.2**
baz=65,SNR=23
F13A Darby 65.30 50 ⇓P **P 11 25 42.6 -0.4**
baz=65,SNR=42
E14A Clinton 65.36 49 ⇓P **P 11 25 43.4 -0.1**
baz=65,SNR=68
BEKR Beckwourth 65.46 58 P **P 11 25 44.2 0.0**
baz=65,SNR=76
Q04C Lincoln 65.46 59 P **P 11 25 44.3 +0.1**
baz=65,SNR=10
D15A Lincoln 65.49 48 ⇓P **P 11 25 44.3 0.0**
baz=65,SNR=31
FFC Flin Flon 65.54 36 P **P 11 25 44.7 0.0**
comp=N,1μm,0.7s,SNR=34
O06A Flanigan 65.60 57 P **P 11 25 45.5 +0.5**
baz=65,SNR=35
P05C Yuba Gap, Truc 65.65 58 ⇑P **P 11 25 45.4 0.0**
baz=65,SNR=15
BDM Black Diamond 65.70 60 ⇓P **P 11 25 45.8 +0.1**
baz=66
KAD Karad 65.72 271 *eP* **P 11 25 45.4 -0.4**
KAD AMb AMB 11 25 49.5
comp=Z,95nm,0.9s,mb5.6
N07B Gerlach 65.73 56 P **P 11 25 46.3 +0.4**
baz=66,SNR=21
L09A Wilkinson Ranc 65.74 54 ⇓P **P 11 25 46.4 +0.5**
baz=66,SNR=43
F14A Wisdom 65.81 49 ⇑P **P 11 25 46.3 -0.1**
baz=66,SNR=24
JRSC Jasper Ridge 65.81 61 ⇓P **P 11 25 46.0 -0.4**
baz=66,SNR=6.6
FCC Fort Churchill 65.81 30 P **P 11 25 45.4 -1.0**
FCC pmax pmax
comp=Z,120nm,0.5s,mb6.0
FCC Fort Churchill 65.81 30 *eP* **P 11 25 45.5 -1.0**
comp=Z,139nm,0.6s,mb6.0
E15A Deer Lodge 65.81 48 ⇑P **P 11 25 46.3 -0.2**
baz=66,SNR=92
MEF Metsahovi 65.84 332 P **P 11 25 44.2 -2.4**
P06A Stead Airport, 65.86 58 ⇑P **P 11 25 47.1 +0.4**
baz=66,SNR=11
LAVA Lava Cap Winer 65.91 59 P **P 11 25 46.9 -0.1**
baz=66,SNR=48
XMIS Christmas Isla 65.92 225 P **P 11 25 46.1 -1.0**
WENL Wente Brothers 65.97 60 ⇑P **P 11 25 47.5 0.0**
baz=66,SNR=7.5
NSS Namsos 66.00 340 *eP* **P 11 25 44.5 -3.1**
NSS AMb AMB 11 25 47.3
comp=Z,58nm,1.0s,mb5.3
NSS Namsos 66.00 340 *eP* **P 11 25 44.5 -3.1**
comp=Z,58nm,1.0s,mb5.4

BNLO Ben Lomond (Sa 66.01 61 ⇑P P 11 25 47.4 -0.4
baz=66,SNR=8.1
R04C Big Horse Ranc 66.09 59 ⇑P P 11 25 47.6 -0.6
baz=66,SNR=6.9
WCN Washoe City 66.17 58 ⇑P P 11 25 49.2 +0.4
baz=66,SNR=27
O07A Toulon 66.17 57 P P 11 25 49.4 +0.6
baz=66,SNR=63
VRSR Storozhevoye 66.23 319 *eP* **P 11 25 48.5 -0.6**
VRSR *eS* S 11 34 31.9 +1.2
VRSR *e* 11 35 38.7
VRSR pmax pmax
comp=Z,100nm,0.7s,mb5.8
VRSR pmax pmax
comp=N,100nm,0.8s
VRSR pmax pmax
comp=E,90nm,0.8s
VRSR smax
comp=N,20nm,0.9s
VRSR smax
comp=Z,5.0nm,0.7s
VRSR smax
comp=E,30nm,1.0s
N08A GE Springer Mi 66.23 56 P P 11 25 49.5 +0.4
baz=66,SNR=61
M09A Marrel Ranch, 66.24 55 ⇑P P 11 25 49.6 +0.4
baz=66,SNR=33
F15A Butte 66.26 49 P P 11 25 49.7 +0.4
baz=66,SNR=76
LRM Limekiln Ridge 66.30 49 *eP* **P 11 25 49.8 +0.3**
EGMT Eagleton 66.31 45 *eP* **P 11 25 49.4 -0.2**
comp=E,136nm,0.6s,mb6.0
EGMT Eagleton 66.31 45 ⇑P P 11 25 49.6 0.0
baz=66,SNR=49
S04C Ingram Canyon, 66.31 60 P P 11 25 49.6 0.0
baz=66,SNR=7.2
VSU Vasula 66.34 330 P P 11 25 48.0 -1.8
VORD Divnogorie 66.34 319 *eP* **P 11 25 44.1 -5.7**
VORD pmax pmax
comp=Z,20nm,1.0s,mb4.9
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.8s
R05C Kirkwood Meado 66.35 59 ⇑P P 11 25 50.1 +0.2
baz=66,SNR=29
DLMT Dillon 66.51 49 *eP* **P 11 25 50.9 0.0**
comp=E,95nm,0.8s,mb5.7
O08A Rochester Mine 66.53 56 ⇑P P 11 25 51.5 +0.5
baz=66
N09A Rock Creek Ran 66.55 55 ⇑P P 11 25 51.6 +0.4
baz=66,SNR=41
P07A Fallon 66.55 57 ⇓P P 11 25 51.7 +0.6
baz=66,SNR=8.4
CMB Columbia Colle 66.57 59 P P 11 25 51.3 0.0
CMB pmax pmax
comp=Z,77nm,0.8s,mb5.6
CMB Columbia Colle 66.57 59 *eP* **P 11 25 51.3 +0.1**
comp=Z,76nm,0.8s,mb5.6
CMB Columbia Colle 66.57 59 P P 11 25 51.4 +0.1
baz=66,SNR=75
HLID Hailey 66.65 51 *eP* **P 11 25 52.1 +0.4**
comp=Z,51nm,0.9s,mb5.4
HLID Hailey 66.65 51 P P 11 25 52.2 +0.5
baz=66,SNR=98
PACP Pacheco Peak 66.65 61 P P 11 25 52.1 +0.4
baz=66,SNR=43
G15A Dillon 66.69 49 P P 11 25 52.1 +0.1
baz=66,SNR=174
SAO San Andreas Ge 66.70 61 *eP* **P 11 25 51.9 -0.2**
SAO pmax pmax
comp=Z,22nm,0.8s,mb5.0
SAO San Andreas Ge 66.70 61 *eP* **P 11 25 51.9 -0.2**
comp=Z,22nm,0.8s,mb5.0
M10A I.L. Ranch, Tu 66.71 54 P P 11 25 52.9 +0.8
baz=66,SNR=62
MCMT McKenzie Canyo 66.71 50 *eP* **P 11 25 51.4 -0.7**
R06C Coleville 66.84 58 P P 11 25 53.6 +0.6
baz=67,SNR=53
HAST UC Hastings Re 66.86 61 ⇓P P 11 25 53.0 -0.2
baz=67,SNR=16
P08A Dixie Valley 66.94 57 ⇓P P 11 25 54.6 +0.9
baz=67,SNR=6.9
Q07A Schurz 66.98 58 ⇑P P 11 25 54.1 +0.3
baz=67,SNR=13
BMN Battle Mountai 66.99 56 P P 11 25 54.4 +0.4
BMN pmax pmax
comp=Z,69nm,0.7s,mb5.6
BMN Battle Mountai 66.99 56 *eP* **P 11 25 54.4 +0.5**
comp=Z,68nm,0.7s,mb5.6
S06C San Francisco 67.00 59 P P 11 25 54.0 +0.1
baz=67,SNR=50
S05C Merced 67.03 60 P P 11 25 54.0 -0.2
baz=67,SNR=55
T05C Eagle Field, D 67.10 60 ⇓P P 11 25 55.1 +0.5
baz=67
O09A Fish Creek Ran 67.18 56 P P 11 25 55.9 +0.7
baz=67,SNR=51
M11A Holland Ranch, 67.20 54 P P 11 25 56.4 +1.1
baz=67,SNR=81
N10A Dunphy 67.24 55 ⇑P P 11 25 55.9 +0.4
baz=67,SNR=32
MAK Makhachkala 67.27 308 *eP* **P 11 25 59.5 +3.8**
MAK *e* pP 11 26 21.2 +1.5
MAK *e* 11 28 20.2
MAK *eS* S 11 34 42.6 -0.6
MAK *e* 11 35 44.5
MAK pmax pmax
comp=Z,497nm,1.5s,mb6.1
V03C Hunter Liggett 67.29 61 ⇑P P 11 25 56.1 +0.3
baz=67,SNR=7.8
R07C Lee Vining 67.36 58 ⇓P P 11 25 57.0 +0.7
baz=67,SNR=7.2
U04C Hernandez Rese 67.37 61 P P 11 25 56.8 +0.5
baz=67,SNR=14
QLMT Earthquake Lak 67.49 49 *eP* **P 11 25 57.5 +0.4**
O10A Cortez Mining, 67.51 55 ⇓P P 11 25 58.0 +0.8
baz=67,SNR=27
Q08A Gabbs 67.56 57 P P 11 25 58.0 +0.4
baz=67,SNR=94
P09A Austin 67.60 56 P P 11 25 58.5 +0.7
baz=67,SNR=31
N11A Elko Archery C 67.63 54 P P 11 25 58.7 +0.7
baz=67,SNR=33
T06C Milleton Lake 67.63 60 P P 11 25 57.5 -0.5
baz=67,SNR=32
KCC Kaiser Creek 67.68 59 ⇓P P 11 25 58.2 0.0
baz=67,SNR=40
M12A Wells 67.72 54 P P 11 25 59.5 +0.9
baz=68,SNR=70
V04C Ramage Ranch, 67.77 62 P P 11 25 59.3 +0.5
baz=68,SNR=10.0
R08A Mina 67.77 58 ⇑P P 11 25 59.2 +0.3
baz=68,SNR=6.8
PKD Parkfield 67.78 61 ⇓P P 11 25 58.8 -0.2
baz=68,SNR=17
MLAC Mammoth Lakes 67.78 59 ⇓P P 11 25 59.7 +0.8
baz=68,SNR=10
U05C Westside ANR, 67.80 61 ⇓P P 11 25 59.6 +0.5
baz=68
YMR Madison River 67.84 49 *eP* **P 11 25 60.0 +0.7**
comp=Z,86nm,0.8s,mb5.6
PALK Pallekele 67.84 258 ⇓P P 11 26 00.0 +0.7
SNR=5.4
PALK Pallekele 67.84 258 *eP* **P 11 25 59.7 +0.4**
P10A Eureka 67.96 56 P P 11 26 00.8 +0.7
baz=68,SNR=16
ELK Elko 67.96 54 P P 11 26 00.6 +0.5
ELK pmax pmax
comp=Z,24nm,0.8s
ELK Elko 67.96 54 *eP* **P 11 26 00.7 +0.7**
YNR Norris Junctio 67.97 49 *eP* **P 11 26 01.4 +1.3**
N12A Clover Valley, 68.01 54 P P 11 26 01.0 +0.6
baz=68,SNR=46
Q09A Carvers 68.03 57 ⇓P P 11 26 00.9 +0.4
baz=68,SNR=20
YFT Old Faithful 68.05 49 *eP* **P 11 26 02.7 +2.0**
O11A Cowboy Ranch, 68.11 55 ⇑P P 11 26 01.4 +0.4
baz=68,SNR=60
MTUM Tungsten Hills 68.12 59 *eP* **P 11 26 01.5 +0.4**
MNGI Mangalore 68.15 267 *ex* x 11 25 44.7
MNGI *e* AMb AMB 11 25 47.3
comp=Z,61nm,0.9s,mb5.4
PTRM Twissleman Ran 68.17 61 *eP* **P 11 26 01.7 +0.3**
M13A Montello 68.19 53 P P 11 26 01.9 +0.4
baz=68,SNR=45
V05C Boulder Hill, 68.23 61 ⇓P P 11 26 02.2 +0.5
baz=68,SNR=5.1
HELL Mitchell Peak, 68.27 60 P P 11 26 01.7 -0.3
baz=68,SNR=138
S08C White Mtn Res 68.27 59 P P 11 26 02.7 +0.7
baz=68,SNR=64
RCTC Rector, Farmer 68.36 60 ⇓P P 11 26 02.0 -0.6
baz=68,SNR=13
FLWY Flagg Ranch 68.37 49 *eP* **P 11 26 03.8 +1.2**
comp=Z,71nm,0.9s,mb5.5
SFJD Kangerlussuaq 68.38 7 *iP* **P 11 26 01.2 -1.5**
DCID1 Drake Creek 68.42 50 *eP* **P 11 26 03.4 +0.5**
P11A Circle Ranch, 68.42 56 ⇑P P 11 26 03.4 +0.4
baz=68,SNR=14
R09A Tonopah 68.47 57 P P 11 26 03.5 +0.2
baz=68,SNR=136
TPH Tonopah 68.48 58 P P 11 26 03.6 +0.3
TPH pmax pmax
comp=Z,110nm,0.8s,mb5.7
TPH Tonopah 68.48 58 *eP* **P 11 26 03.7 +0.4**
N13A Wendover, West 68.49 54 P P 11 26 04.0 +0.7
baz=68,SNR=42
RRI2 Red Ridge 68.51 50 *eP* **P 11 26 04.4 +1.0**
comp=Z,207nm,0.8s,mb6.0
AS31 Alice Springs 68.51 193 *eP* **P 11 26 03.0 -0.5**
AS31 *e* pP 11 26 26.3 -1.3
ASAR Alice Springs 68.51 193 P P 11 26 02.7 -0.8
comp=Z,15nm,0.5s,mb5.1,baz=12,slow=6.6,SNR=305
ASAR pP pP 11 26 26.1 -1.5
comp=Z,15nm,0.7s,baz=9.3,slow=5.1,SNR=8.7
ASAR PKP2bc 11 54 18.6
comp=Z,3.6nm,0.9s,baz=178,slow=2.8,SNR=14
ASAR Alice Springs 68.51 193 P P 11 26 02.7 -0.8
ASAR pP pP 11 26 26.1 -1.5
ASAR ⇑*e* 11 54 18.6
ASPA Alice Springs 68.51 193 *eP* **P 11 26 03.0 -0.5**
ASPA *e* pP 11 26 26.3 -1.3
TIN Tinemaha 68.52 59 ⇑P P 11 26 03.9 +0.4
baz=68,SNR=5.1
SMMC Simmler 68.52 61 ⇑P P 11 26 03.8 +0.3
baz=68,SNR=11
IZAR Zarasai 68.53 328 *iP* **P 11 26 03.5 -0.2**
IZAR AMb AMB 11 26 04.3
comp=Z,48nm,0.6s,mb5.5
O12A Currie 68.56 54 P P 11 26 04.2 +0.5
baz=68,SNR=93
MOOW Moose Ponds 68.56 49 *eP* **P 11 26 04.8 +1.0**
comp=Z,96nm,0.9s,mb5.6
IDID Didziasalis 68.67 328 *iP* **P 11 26 04.4 0.0**
IDID AMb AMB 11 26 05.3
comp=Z,56nm,0.7s,mb5.5
S09A Goldfield 68.71 58 ⇓P P 11 26 04.8 +0.1
baz=68,SNR=94
HVU Hansel Valley 68.72 52 P P 11 26 05.1 +0.3
HVU pmax pmax
comp=Z,74nm,0.8s,mb5.6
HVU Hansel Valley 68.72 52 *eP* **P 11 26 05.3 +0.5**
SNOW Snow King Moun 68.75 50 *eP* **P 11 26 06.1 +1.2**
comp=Z,94nm,0.8s,mb5.7
REDW Red Top Meadow 68.76 50 *eP* **P 11 26 05.8 +0.8**
comp=Z,103nm,0.9s,mb5.7
VES Vestal, Richgr 68.76 60 P P 11 26 04.2 -0.9
baz=68,SNR=29
DGMT Dagmar 68.79 42 *eP* **P 11 26 05.0 -0.2**
DOMB Dombas 68.81 340 *eP* **P 11 26 04.1 -1.3**
DOMB AMb AMB 11 26 08.7
comp=Z,102nm,2.5s,mb5.2
DOMB Dombas 68.81 340 *eP* **P 11 26 04.1 -1.3**
comp=Z,102nm,2.5s,mb5.2
MNK Minsk 68.85 327 *eP* **P 11 26 02.0 -3.6**
PKM Peak Mountain 68.90 62 P P 11 26 06.5 +0.6
baz=69,SNR=21
Q11A Duckwer 68.94 56 P P 11 26 06.2 +0.1
baz=69,SNR=44
P12A McGill 68.97 55 P P 11 26 06.8 +0.4
baz=69,SNR=38
LAO LASA Array 68.99 45 *eP* **P 11 26 06.7 +0.3**
comp=Z,108nm,0.8s,mb5.7
CWC Cottonwood Cre 69.00 59 P P 11 26 06.8 +0.2
baz=69,SNR=21
AHID Auburn Hatcher 69.01 50 *eP* **P 11 26 07.0 +0.4**
comp=Z,57nm,0.9s,mb5.4
GRAC Grapevine Rang 69.08 58 ⇑P P 11 26 07.5 +0.5
baz=69,SNR=96
NB2 NORSAR Subarra 69.12 339 P P 11 26 06.0 -1.3
comp=Z,82nm,0.5s,mb5.8,baz=31,slow=6.5
NOA NORSAR Array B 69.12 339 P P 11 26 05.6 -1.6
comp=Z,98nm,0.6s,mb5.8,baz=32,slow=6.4,SNR=425
NOA LR LR 11 59 47.3
comp=Z,469nm,21.5s,baz=15,slow=39
NOA NORSAR Array B 69.12 339 P P 11 26 05.6 -1.7
NOA pmax pmax
comp=Z,98nm,0.6s
NOA MLR MLR
comp=Z,469nm,21.5s
BGU Big Grassy Mou 69.13 53 *eP* **P 11 26 07.6 +0.3**
HFA0 Hagfors New Ar 69.20 337 P P 11 26 05.7 -2.0
HFS Hagfors 69.20 337 P P 11 26 06.3 -1.5
comp=Z,216nm,0.5s,mb6.2,baz=53,slow=5.9,SNR=649
HFS Hagfors 69.20 337 P P 11 26 06.3 -1.5
HFS pmax pmax
comp=Z,216nm,0.5s
SPUT South Promonto 69.21 52 *eP* **P 11 26 05.1 -2.7**
ISA Isabella 69.26 60 *eP* **P 11 26 07.2 -0.8**
ISA Isabella 69.26 60 ⇓P P 11 26 07.2 -0.9
baz=69,SNR=38
SBC Santa Barbara 69.26 62 ⇓P P 11 26 08.4 +0.3
baz=69,SNR=5.2
KIV Kislovodsk 69.28 311 P P 11 26 09.7 +1.5
comp=Z,3μm,0.6s,SNR=30
KIV Kislovodsk 69.28 311 P P 11 26 09.6 +1.3
SNR=28
KIV Kislovodsk 69.28 311 *eP* **P 11 26 08.0 -0.2**
KIV *eS* S 11 35 08.1 +1.0
KIV pmax pmax
comp=Z,449nm,1.3s,mb6.1
KIV pmax pmax
comp=Z,270nm,0.7s,mb6.2
KIV MLR MLR
comp=Z,410nm,16.0s
KIV Kislovodsk 69.28 311 *eP* **P 11 26 09.3 +1.1**
TRCR Troy Canyon 69.30 56 *eP* **P 11 26 08.7 +0.3**
Q12A Willow Creek R 69.30 55 P P 11 26 08.9 +0.5
baz=69,SNR=52
NAO01 NORSAR Array S 69.37 339 *eP* **P 11 26 07.5 -1.3**
comp=Z,58nm,0.7s,mb5.5
ARVC Arvin 69.38 61 ⇑P P 11 26 08.3 -0.6
baz=69,SNR=17
ZEI Tsey 69.40 310 *eP* **P 11 26 08.6 -0.4**
ZEI *e* pP 11 26 28.7 -4.5
ZEI pmax pmax
comp=Z,91nm,0.6s,mb5.8
DAC Darwin (Calif) 69.41 59 P P 11 26 09.0 0.0
DAC pmax pmax
comp=Z,38nm,0.7s,mb5.3
DAC Darwin (Calif) 69.41 59 *eP* **P 11 26 09.0 0.0**
HWUT Hardware Ranch 69.52 52 *eP* **P 11 26 10.2 +0.5**
comp=Z,72nm,0.8s,mb5.5
MBWA Marble Bar 69.55 207 *eP* **P 11 26 09.6 -0.3**
BSC Santa Cruz Isl 69.59 62 ⇓P P 11 26 09.8 -0.3
baz=69,SNR=5.7
MPMC Manual Prospec 69.61 59 P P 11 26 10.5 +0.3
baz=69,SNR=109
TRD Trivandrum 69.64 262 *eP* **P 11 26 10.8 +0.4**
TRD AMb AMB 11 26 12.4
comp=Z,61nm,0.6s,mb5.6
DUG Dugway 69.73 53 P P 11 26 11.5 +0.5
DUG pmax pmax
comp=Z,100nm,0.9s,mb5.7
DUG Dugway 69.73 53 *eP* **P 11 26 11.5 +0.5**
comp=Z,103nm,0.8s,mb5.7
DUG Dugway 69.73 53 ⇑P P 11 26 11.4 +0.3
baz=70,SNR=152
FURC Furnace Creek, 69.74 59 P P 11 26 11.4 +0.3
baz=70,SNR=174
OSI Osito Adit 69.77 61 ⇑P P 11 26 11.4 +0.1
baz=70,SNR=11
NOQ North Oquirrh 69.83 53 *eP* **P 11 26 12.2 +0.6**
BW06 Boulder Array 69.86 50 *eP* **P 11 26 11.7 -0.1**
comp=Z,81nm,0.9s,mb5.6
PDAR Pinedale Array 69.86 50 P P 11 26 11.8 -0.1
comp=Z,67nm,0.8s,mb5.5,baz=270,slow=2.1,SNR=448
PDAR pP pP 11 26 36.0 -0.1
comp=Z,15nm,0.9s,baz=267,slow=3.0,SNR=2.9
PDAR LR LR 11 58 39.2
comp=Z,274nm,18.6s,baz=101,slow=37
PDAR Pinedale Array 69.86 50 P P 11 26 11.8 -0.1
PDAR pP pP 11 26 36.0 -0.1
LRMC Laurel Mountai 69.86 60 ⇓P P 11 26 11.6 -0.2
baz=70,SNR=16
BLG Laguna Peak 69.88 62 ⇑P P 11 26 11.5 -0.5
baz=70,SNR=11
CTU Camp Tracy 70.01 52 *eP* **P 11 26 13.0 +0.3**
EDW2 Edwards Air Fo 70.06 61 P P 11 26 13.0 0.0
baz=70,SNR=87
U10A Ash Meadows, A 70.09 58 P P 11 26 13.8 +0.6
baz=70,SNR=35
SNCC San Nicolas Is 70.14 63 *eP* **P 11 26 13.6 +0.1**
comp=Z,0.1nm,1.0s
SNCC San Nicolas Is 70.14 63 ⇓P P 11 26 13.5 0.0
baz=70,SNR=9.5
JLU Jordanelle 70.24 52 *eP* **P 11 26 14.6 +0.4**
DECC Green Verdugo 70.25 61 ⇑P P 11 26 14.1 -0.1
baz=70,SNR=5.1
HYA Hoyanger 70.26 341 ⇑*iP* **P 11 26 14.1 -0.1**
HYA AMb AMB 11 26 15.8
comp=Z,128nm,1.0s,mb5.7
HYA Hoyanger 70.26 341 ⇑*iP* **P 11 26 14.1 -0.1**
comp=Z,128nm,1.0s,mb5.7
NLU North Lily Min 70.31 53 *eP* **P 11 26 15.1 +0.5**
MWC Mount Wilson 70.44 61 *eP* **P 11 26 15.2 -0.2**
SHOC Shoshone 70.46 59 P P 11 26 15.5 0.0
baz=70,SNR=37
DAU Daniels Canyon 70.48 52 P P 11 26 16.1 +0.5
DAU Daniels Canyon 70.48 52 *eP* **P 11 26 16.3 +0.7**
GSC Goldstone 70.53 60 *eP* **P 11 26 15.9 0.0**
GSC Goldstone 70.53 60 P P 11 26 15.8 0.0
baz=70,SNR=48
MPU Maple Canyon 70.53 53 *eP* **P 11 26 16.4 +0.5**
FMP Fort Macarthur 70.63 62 ⇑P P 11 26 16.1 -0.4
baz=70
GNI Garni 70.67 307 P P 11 26 18.9 +2.2
comp=Z,22nm,0.6s,mb5.2,baz=341,slow=3.2,SNR=11
GNI Garni 70.67 307 ⇓P P 11 26 19.1 +2.4
SNR=8.6
GNI Garni 70.67 307*c iP* **P 11 26 18.6 +1.9**
GNI pmax pmax
comp=Z,83nm,1.7s
GNI Garni 70.67 307 *eP* **P 11 26 18.5 +1.8**
comp=Z,44nm,0.7s,mb5.4
U11A Corn Creek 70.67 58 ⇑P P 11 26 17.4 +0.6
baz=70,SNR=40
RRX Edison Barstow 70.68 60 ⇑P P 11 26 16.8 -0.1
baz=70
BFSC Mount Baldy St 70.69 61 P P 11 26 16.6 -0.3
baz=70,SNR=52
KONO Kongsberg 70.73 339 P P 11 26 16.8 -0.3
KONO pmax pmax
comp=Z,36nm,0.7s,mb5.3
KONO Kongsberg 70.73 339 *eP* **P 11 26 16.8 -0.3**
SHPR Sheep Range 70.75 58 *eP* **P 11 26 17.7 +0.4**
CIS Catalina Islan 70.75 62 ⇓P P 11 26 16.7 -0.6
baz=70,SNR=26
SCI San Clemente I 70.94 62 P P 11 26 18.2 -0.2
baz=71,SNR=7.1
ARUT Antelope Range 70.94 56 *eP* **P 11 26 18.5 +0.1**
TUQ Turquoise Mtn. 70.98 59 P P 11 26 18.9 +0.3
baz=71,SNR=84
SUW Suwalki 71.00 329 *eP* **P 11 26 18.1 -0.7**
SUW L 11 54 38.5
comp=Z,0.8nm,27.8s
V11A Goodsprings 71.03 58 ⇑P P 11 26 19.1 +0.2
baz=71,SNR=10
BORG Borgarnes 71.03 355 P P 11 26 20.1 +1.2
comp=Z,80nm,0.7s,mb5.6,baz=22,slow=3.4,SNR=24
AKASG Malin Array Be 71.08 323 P P 11 26 18.6 -0.6
comp=Z,142nm,0.7s,mb5.9,baz=39,slow=6.2,SNR=391
AKASG LR LR 12 01 17.4
comp=Z,257nm,18.1s,baz=45,slow=39
AKASG Malin Array Be 71.08 323 P P 11 26 18.6 -0.6
AKASG pmax pmax
comp=Z,142nm,0.7s
AKASG MLR MLR
comp=Z,257nm,18.1s
AKBB Malin Array Si 71.08 323 *eP* **P 11 26 18.4 -0.8**
KIEV Kiev 71.09 323 *eP* **P 11 26 18.4 -0.9**
KIEV pmax pmax
comp=Z,187nm,0.8s,mb6.0
KIEV Kiev 71.09 323 *eP* **P 11 26 18.4 -0.9**
comp=Z,187nm,0.8s,mb6.0
ASK Askoy 71.10 341 *eP* **P 11 26 19.3 -0.1**
SOC Sochi 71.12 313*c iP* **P 11 26 19.4 -0.1**
SOC *eS* S 11 35 29.2 +0.7
SOC *e* 11 36 09.0
SOC pmax pmax
comp=Z,131nm,0.5s,mb6.0
SOC MLR MLR
comp=Z,489nm,19.0s
SOC Sochi 71.12 313 *iP* **P 11 26 19.6 +0.1**
HEC Hector,Ludlow 71.13 60 P P 11 26 19.8 +0.3
baz=71,SNR=31
BBRC Big Bear Sol-O 71.13 60 ⇑P P 11 26 19.6 0.0
baz=71,SNR=7.6
CCUT Cedar City 71.15 56 *eP* **P 11 26 20.2 +0.6**
BER Bergen 71.15 341 *eP* **P 11 26 19.5 -0.1**
BER AMb AMB 11 26 22.5
comp=Z,215nm,1.2s,mb5.9
BER Bergen 71.15 341 *eP* **P 11 26 19.5 -0.1**
comp=Z,215nm,1.2s,mb5.8
U12A Valley of Fire 71.18 57 ⇑P P 11 26 20.3 +0.4
baz=71,SNR=12
MSU Marysvale 71.21 54 *eP* **P 11 26 20.8 +0.7**
TMUT Trail Mountain 71.25 53 *eP* **P 11 26 20.7 +0.4**
ODD1 Odda 71.26 340 *eP* **P 11 26 19.4 -0.9**
ODD1 AMb AMB 11 26 23.4
comp=Z,163nm,2.6s,mb5.4
ODD1 Odda 71.26 340 *eP* **P 11 26 19.4 -0.9**
comp=Z,163nm,2.6s,mb5.4
DIGO Kars 71.27 308 *iP* **P 11 26 16.7 -3.7**
EGD Espegrend 71.28 341 *eP* **P 11 26 20.4 -0.1**
EGD AMb AMB 11 26 24.9
comp=Z,155nm,1.5s,mb5.6
EGD Espegrend 71.28 341 *eP* **P 11 26 20.4 -0.1**
comp=Z,155nm,1.5s,mb5.6
ULM Lac du Bonnet 71.35 37 P P 11 26 19.8 -1.1
comp=Z,36nm,0.6s,mb5.4,baz=314,slow=6.9,SNR=94
ULM pP pP 11 26 44.0 -1.0
comp=Z,10nm,0.4s,baz=315,slow=5.0,SNR=4.9
ULM LR LR 11 58 33.5
comp=Z,339nm,19.8s,baz=336,slow=36
ULM Lac du Bonnet 71.35 37 *eP* **P 11 26 19.6 -1.2**
comp=Z,51nm,0.7s,mb5.5
MURC Murrieta 71.39 61 ⇓P P 11 26 20.8 -0.3
baz=71,SNR=25
V12A Nelson 71.45 58 P P 11 26 21.9 +0.4
baz=71,SNR=40
ANN Anapa 71.46 315 *eP* **P 11 26 18.0 -3.5**
ANN *e**PP pP 11 26 29.3 -16
ANN *eS* S 11 35 33.0 +0.5
ANN *eSS* SS 11 40 09.8 +0.9
ANN pmax pmax
comp=Z,153nm,0.7s,mb5.9
W12A Cal Nev Ari 71.72 58 ⇑P P 11 26 23.2 +0.1
baz=72,SNR=8.1
BLS5 Blasjo 71.73 340 ⇑*iP* **P 11 26 23.9 +0.8**
SRU San Rafael 71.77 53 P P 11 26 23.5 +0.1
SRU pmax pmax
comp=Z,160nm,0.9s,mb5.8
SRU San Rafael 71.77 53 *eP* **P 11 26 23.5 +0.1**
PFO Pinyon Flat Ob 71.85 61 P P 11 26 23.0 -0.9
comp=Z,232nm,1.1s,mb5.9,SNR=27
PFO Pinyon Flat Ob 71.85 61 P P 11 26 22.7 -1.2
PFO pmax pmax
comp=Z,31nm,0.9s,mb5.1
PFO Pinyon Flat Ob 71.85 61 *eP* **P 11 26 22.7 -1.2**
PFO Pinyon Flat Ob 71.85 61 ⇓P P 11 26 23.6 -0.3
baz=72,SNR=11
RWWY Rawlins 71.88 49 *eP* **P 11 26 24.1 +0.1**
RSSD Black Hills 71.88 46 P P 11 26 23.6 -0.4
RSSD pmax pmax
comp=Z,60nm,0.8s,mb5.5
RSSD Black Hills 71.88 46 *eP* **P 11 26 23.6 -0.4**
comp=Z,60nm,0.8s,mb5.5
BELC Belle Mtn. 71.88 60 P P 11 26 23.7 -0.4
baz=72,SNR=28
109C Camp Elliot, M 71.92 62 P P 11 26 24.1 -0.2
baz=72,SNR=19
KMY Karmoy 72.21 340 *eP* **P 11 26 25.8 -0.2**
KMY AMb AMB 11 26 27.4
comp=Z,206nm,0.9s,mb6.0
KMY Karmoy 72.21 340 *eP* **P 11 26 25.8 -0.2**
comp=Z,206nm,0.9s,mb6.0
NEE2 Needles Airpor 72.23 59 ⇑P P 11 26 25.8 -0.4

baz=72
IRM Iron Mountain 72.30 60 P **P** 11 26 26.7 +0.1
baz=72,SNR=68
BAR Barrett 72.33 62 *e*P **P** 11 26 26.3 -0.4
MONP Monument Peak 72.35 61 ⇓P **P** 11 26 26.7 -0.2
baz=72,SNR=5.1
BC3 Big Chuckw Mtn 72.45 60 P **P** 11 26 27.2 -0.2
baz=72,SNR=49
W13A Hualapai Mount 72.46 58 P **P** 11 26 27.7 +0.2
baz=72,SNR=68
SNART Snartemo 72.49 339 *e*P **P** 11 26 27.5 -0.2
SNART AMb AMB 11 26 28.3
comp=Z,173nm,0.8s,mb6.0
VANB Van 72.49 307 P **P** 11 26 30.0 +2.3
DVTC Desert V Tower 72.70 61 ⇑P **P** 11 26 28.8 -0.2
baz=72,SNR=14
SWSC Sam W. Stewart 72.71 61 P **P** 11 26 28.5 -0.4
baz=72,SNR=22
BANOM Banah 72.74 289 ⇑P **P** 11 26 30.0 +0.9
SNR=15
ERZM Erzurum 72.74 309 *i* P **P** 11 26 28.2 -1.0
LRW Lerwick 72.80 344 *e*P **P** 11 26 28.9 -0.6
LRW AMb AMB 11 26 30.0
comp=Z,195nm,2.0s,mb5.6
AGMN Agassiz Refuge 72.80 38 *e*P **P** 11 26 28.1 -1.4
comp=Z,74nm,0.9s,mb5.5
X13A Yucca 72.83 58 ⇓P **P** 11 26 29.9 +0.2
baz=73,SNR=112
PDMCI Parker Dam,Lak 72.83 59 P **P** 11 26 29.7 0.0
baz=73,SNR=42
W14A Seligman 72.87 58 P **P** 11 26 30.7 +0.7
baz=73,SNR=169
Y12C Blythe 72.96 59 P **P** 11 26 30.5 +0.1
baz=73,SNR=43
SIM Simferopol' 73.02 317 *ce*P **P** 11 26 31.0 +0.2
SIM *eS* S 11 35 49.0 -1.3
SIM pmax pmax
comp=Z,93nm,0.7s,mb5.7
SIM MLR MLR
comp=Z,410nm,19.0s
BIDO Bidbid 73.06 286 ⇑P **P** 11 26 34.6 +3.5
SNR=7.2
PHWY Pilot Hill 73.09 49 *e*P **P** 11 26 31.2 0.0
WAR Warsaw 73.20 329 *e*P **P** 11 26 32.4 +0.5
GLA Glamis 73.24 60 *e*P **P** 11 26 32.2 +0.1
GLA Glamis 73.24 60 P **P** 11 26 32.3 +0.2
baz=73,SNR=71
W15A Williams 73.39 57 P **P** 11 26 34.0 +1.1
baz=73,SNR=54
X14A Yava 73.49 58 P **P** 11 26 34.4 +0.8
baz=73,SNR=105
HATD Hatta, Dubai 73.58 289 P **P** 11 26 35.2 +1.2
SNR=15
HOQ Hoqain 73.59 287 ⇓P **P** 11 26 36.1 +2.0
SNR=10
WUAZ Wupatki 73.70 56 *e*P **P** 11 26 35.4 +0.6
comp=Z,64nm,0.9s,mb5.3
WUAZ Wupatki 73.70 56 P **P** 11 26 35.4 +0.7
baz=74,SNR=52
ASHO Ashiyiah 73.72 289 ⇓P **P** 11 26 37.0 +2.0
SNR=6.8
GRSN GIRESUNGRSN 73.74 312 *i* P **P** 11 26 33.0 -2.0
GKP Gorka Klasztor 73.74 331 *e*P **P** 11 26 34.9 -0.2
GKP *e*PcP PcP 11 26 46.7 -3.6
Y14A Wickenburg 73.78 58 P **P** 11 26 35.5 +0.2
baz=74,SNR=99
JMDO Jabal Madar 73.84 286 ⇓P **P** 11 26 37.2 +1.6
SNR=5.7
X15A Humboldt 73.87 58 P **P** 11 26 36.6 +0.8
baz=74,SNR=156
LVV L'vov 73.93 325 *i* P **P** 11 26 35.0 -1.1
LVV *eS* S 11 35 59.0 -1.5
KIS Kishinev 74.02 321 *ce* *i*P **P** 11 26 30.0 -6.7
KIS pmax pmax
comp=Z,600nm,2.0s,mb6.0
KIS Kishinev 74.02 321 ⇑ *i*P **P** 11 26 30.0 -6.7
comp=Z,600nm,2.0s,mb6.0
ISCO Idaho Springs 74.06 50 P **P** 11 26 37.6 +0.7
ISCO pmax pmax
comp=Z,67nm,0.9s,mb5.4
ISCO Idaho Springs 74.06 50 *e*P **P** 11 26 37.6 +0.7
comp=Z,67nm,0.9s,mb5.4
Z14A Wintersburg 74.20 59 ⇓P **P** 11 26 37.7 -0.1
baz=74,SNR=13
BSY Bisya 74.22 286 ⇓P **P** 11 26 39.9 +2.1
SNR=12
MVCO Mesa Verde 74.23 53 *e*P **P** 11 26 38.1 +0.2
comp=Z,79nm,0.9s,mb5.4
MVCO Mesa Verde 74.23 53 P **P** 11 26 38.2 +0.3
baz=74,SNR=68
ARQ Araqi 74.29 287 ⇓P **P** 11 26 40.2 +2.0
SNR=5.7
KWP Kalwaria 74.61 326 *e*P **P** 11 26 40.9 +0.8
KWP *eS* S 11 36 08.2 +0.1
KWP L 11 56 03.7
comp=Z,0.5nm,31.8s
KWP Kalwaria 74.61 326 P **P** 11 26 40.5 +0.4
KWP pmax pmax
comp=Z,370nm,0.8s,mb6.2
KWP Kalwaria 74.61 326 ⇑ *e*P **P** 11 26 40.9 +0.8
KWP *eS* S 11 36 08.2 +0.1
MARD Mardin 74.87 307 *i* P **P** 11 26 38.7 -2.8
MLA1 Latheron 74.92 344 *e*P **P** 11 26 41.4 -0.5
EYMN Ely 74.97 36 *e*P **P** 11 26 41.2 -1.0
ELZG Elazig 75.05 309 *i* P **P** 11 26 43.5 +0.9
115A Sonoran Desert 75.09 59 P **P** 11 26 43.2 +0.3
baz=75,SNR=27
BURAR Bucovina Array 75.14 323 ⇑ *i*P **P** 11 26 43.4 +0.3
BURAR Bucovina Array 75.14 323 ⇑P **P** 11 26 43.4 +0.2
BOYT Boyabat 75.16 314 *i* P **P** 11 26 41.6 -1.7
RSC Scourie 75.23 345 *e*P **P** 11 26 43.1 -0.6
OJC Ojcow 75.28 328 *i* P **P** 11 26 44.4 +0.4
OJC *e*PcP PcP 11 26 58.1 +1.2
KOLS Kolonicke sedl 75.33 326 *e*P **P** 11 26 44.7 +0.4
STHS Stebnicka Huta 75.36 327 *i* P **P** 11 26 45.2 +0.8
STHS pmax pmax
comp=Z,83nm,0.7s,mb5.6
STHS Stebnicka Huta 75.36 327 *i* P **P** 11 26 45.2 +0.8
comp=Z,83nm,0.7s,mb5.6
MVH1 Achvaich 75.44 344 *e*P **P** 11 26 44.2 -0.6
REB Eisghbrachaidh 75.46 345 *e*P **P** 11 26 44.4 -0.6
MALT Malatya 75.49 310 ⇑ *i*P **P** 11 26 46.7 +1.6
MALT Malatya 75.49 310 P **P** 11 26 46.7 +1.6
MALT pmax pmax
comp=Z,18nm,0.6s,mb5.0
MALT Malatya 75.49 310 P **P** 11 26 47.1 +2.0
116A Eloy 75.51 59 P **P** 11 26 45.6 +0.3
baz=75,SNR=31
BHD Baghdad 75.53 302 *ex* x 11 26 38.0
BHD *ex* x 11 36 11.0
BHD *ex* x 11 36 43.0
SDCO Great Sand Dun 75.56 51 *e*P **P** 11 26 46.0 +0.4
UZH Uzhgorod 75.57 326 ⇓ *i*P **P** 11 26 45.3 -0.3
UZH *e* 11 26 53.6
UZH *eS* S 11 36 21.0 +2.3
UZH MLR MLR
comp=Z,800nm,14.0s
MCD Coleburn Disti 75.58 344 *e*P **P** 11 26 45.0 -0.6
CFR Carcaliu 75.70 320 ⇓ *i*P **P** 11 26 47.9 +1.5
CFR Carcaliu 75.70 320 P **P** 11 26 47.9 +1.6
NIE Niedzica 75.73 327 *e*P **P** 11 26 47.3 +0.8
MME1 Meikle Cairn 75.77 344 *e*P **P** 11 26 46.0 -0.7
CTKT Corum 75.80 313 *i* P **P** 11 26 47.4 +0.4
RRR Rubha Reidh 75.81 345 *e*P **P** 11 26 45.5 -1.4
STKA Stephens Creek 75.82 185 ⇑ *i*P **P** 11 26 46.6 -0.4
comp=Z,15nm,0.6s,mb4.9
STKA Stephens Creek 75.82 185 P **P** 11 26 46.3 -0.7
comp=Z,19nm,0.6s,mb5.0,baz=346,slow=7.0,SNR=61
VRI Vrincioaia 75.82 321 ⇓ *i*P **P** 11 26 48.0 +1.0
VRI Vrincioaia 75.82 321 P **P** 11 26 47.7 +0.7
ECSD EROS,Sioux Fal 75.86 42 *e*P **P** 11 26 46.2 -1.0
comp=Z,94nm,0.8s,mb5.6
BALT Daday 75.86 315 *i* P **P** 11 26 47.4 +0.1
RRH Rhenigidale 75.91 346 *e*P **P** 11 26 46.7 -0.8
MDO Dochfour 75.93 344 *e*P **P** 11 26 46.7 -0.9
UMR Umm Al-Rimmam 75.99 298 *e*P **P** 11 26 48.2 +0.2
UMR AMb AMB 11 26 49.1
comp=Z,57nm,0.5s,mb5.6
RAC Raciborz 76.00 329 *e*P **P** 11 26 48.9 +0.9
RAC MLR MLR
comp=Z,600nm,25.4s
KAC Achnashellach 76.05 345 ⇑ *e*P **P** 11 26 47.5 -0.9
MIB Mutribah 76.06 298 *e*P **P** 11 26 48.6 +0.2
MIB AMb AMB 11 26 49.6
comp=Z,69nm,0.7s,mb5.5
KSP Ksiaz 76.07 330 *i* P **P** 11 26 48.7 +0.2
KSP *eS* S 11 36 26.3 +2.0
KSP L 11 57 14.5
comp=Z,1.0nm,31.8s
KSP Ksiaz 76.07 330 ⇑ *i*P **P** 11 26 48.5 0.0
KSP *eS* S 11 36 20.0 -4.3
KSP MLR MLR
comp=Z,1μm,23.6s
KSP Ksiaz 76.07 330 ⇑ *i*P **P** 11 26 48.5 0.0
KSP *eS* S 11 36 20.0 -4.3
TIRR Tirgusor 76.12 320 ⇑ *i*P **P** 11 26 48.9 +0.2
TIRR Tirgusor 76.12 320 P **P** 11 26 48.9 +0.2
TIRR pmax pmax
comp=Z,28nm,0.8s,mb5.0
TIRR Tirgusor 76.12 320 P **P** 11 26 49.1 +0.3
HARR Harsova 76.17 320 P **P** 11 26 49.9 +0.9
OKC Ostrava-Krasne 76.22 329 ⇑ *e*P **P** 11 26 48.4 -0.9
OKC *eS* S 11 36 22.9 -3.0
OKC AMS AMS 12 02 00.0
comp=Z,500nm,20.8s
OKC Ostrava-Krasne 76.22 329 *e*P **P** 11 26 48.4 -0.9
OKC *eS* S 11 36 22.9 -3.0
TUC Tucson 76.25 58 P **P** 11 26 49.4 0.0
TUC pmax pmax
comp=Z,29nm,0.9s,mb5.0
TUC Tucson 76.25 58 *e*P **P** 11 26 49.4 -0.1
comp=Z,29nm,0.9s,mb5.0
KPL Plockton 76.27 345 *e*P **P** 11 26 49.0 -0.6
KPL AMb AMB 11 26 49.9
comp=Z,210nm,0.7s,mb6.0
KSK Scoval 76.34 346 *e*P **P** 11 26 49.1 -0.9
KSB Sheil Bridge 76.34 345 ⇑ *e*P **P** 11 26 49.2 -0.8
QRN Al-Qurain 76.41 297 *e*P **P** 11 26 50.6 +0.3
QRN AMb AMB 11 26 51.6
comp=Z,109nm,0.6s,mb5.8
KECS Kecovo 76.41 327 *e*P **P** 11 26 50.8 +0.4
KECS pmax pmax
comp=Z,29nm,0.8s,mb5.1
KECS Kecovo 76.41 327 *e*P **P** 11 26 50.8 +0.4
comp=Z,29nm,0.8s,mb5.1
UPC Upice 76.45 330 *i* P **P** 11 26 50.8 +0.2
MLR Muntele Rosu 76.46 322 P **P** 11 26 51.1 +0.4
comp=Z,41nm,0.7s,mb5.3,baz=161,slow=7.6,SNR=52
MLR Muntele Rosu 76.46 322 ⇑ *i*P **P** 11 26 50.8 +0.1
MLR Muntele Rosu 76.46 322 P **P** 11 26 51.1 +0.4
MLR pmax pmax
comp=Z,41nm,0.7s
MLR Muntele Rosu 76.46 322 P **P** 11 26 51.3 +0.6
DPC Dobruska-Polom 76.47 330 ⇑ *i*P **P** 11 26 51.4 +0.7
DPC *eS* S 11 36 27.5 -1.1
DPC AMS AMS 12 04 10.0
comp=Z,700nm,21.7s
DPC Dobruska-Polom 76.47 330 ⇑ *i*P **P** 11 26 51.4 +0.7
DPC *eS* S 11 36 27.5 -1.1
LIKS Likavka 76.49 328 *e*P **P** 11 26 51.6 +0.8
LIKS pmax pmax
comp=Z,77nm,0.8s,mb5.5
LIKS Likavka 76.49 328 *e*P **P** 11 26 51.6 +0.8
comp=Z,77nm,0.8s,mb5.5
NAY Al-Naaiem 76.50 298 *e*P **P** 11 26 51.1 +0.2
NAY AMb AMB 11 26 53.6
comp=Z,44nm,1.1s,mb5.1
FORT Forrest 76.51 196 *e*P **P** 11 26 50.1 -0.8
comp=Z,30nm,0.6s,mb5.2
FORT *e* pP 11 27 14.1 -1.4
RDF Al-Radifah 76.52 297 *e*P **P** 11 26 51.3 +0.3
RDF AMb AMB 11 26 52.5
comp=Z,98nm,0.7s,mb5.7
ELDT Eldivan 76.61 314 *i* P **P** 11 26 51.2 -0.3
KAR1 Arisaig 76.69 345 ⇑ *e*P **P** 11 26 51.3 -0.7
CDAG Cicekdag 76.75 313 *i* P **P** 11 26 49.3 -3.0
CLL Collm 76.82 332 ⇑ *i*P **P** 11 26 52.3 -0.4
comp=Z,294nm,0.7s,mb6.1
CLL *eS* S 11 36 24.7 -7.8
CLL *e*PS 11 37 05.0
CLL *e*LR LR 11 52 03.4
CLL *e*L 12 05 51.6
comp=Z,622nm,18.0s
CLL Collm 76.82 332 ⇑ *i*P **P** 11 26 52.3 -0.4
CLL *eS* S 11 36 26.0 -6.5
CLL pmax pmax
comp=Z,291nm,0.7s,mb6.1
CLL Collm 76.82 332 ⇑ *i*P **P** 11 26 52.3 -0.4
comp=Z,291nm,0.7s,mb6.1
CLL *i* 11 27 34.5
CLL *eS* S 11 36 26.0 -6.5
CLL Collm 76.82 332 ⇑ *i*P **P** 11 26 52.3 -0.4
comp=Z,291nm,0.7s,mb6.1
CLL *i* sPcP 11 27 34.5
CLL *eS* S 11 36 26.0 -6.5
CLL *e*ScS ScS 11 37 06.0 +5.2
CLL Lm 12 05 00.0
comp=N,600nm,19.0s
CLL Lm 12 05 00.0
comp=E,300nm,21.2s
CLL Lm 12 05 00.0
comp=Z,500nm,19.5s
DRGR 76.85 324 ⇑ *i*P **P** 11 26 53.2 +0.4
DRGR 76.85 324 P **P** 11 26 52.9 +0.1
BRG Berggiesshubel 76.87 331 ⇑ *i*P **P** 11 26 52.5 -0.5
comp=Z,42nm,0.8s,mb5.2
BRG
comp=N,206nm,15.2s
BRG
comp=E,196nm,18.1s
BRG
comp=Z,371nm,12.7s
PVCC Panska Ves 76.94 331 ⇑ *i*P **P** 11 26 53.7 +0.3
PVCC *eS* S 11 36 30.3 -3.5
PVCC AMS AMS 12 06 20.0
comp=Z,600nm,21.3s
PVCC Panska Ves 76.94 331 ⇑ *i*P **P** 11 26 53.7 +0.3
PVCC *eS* S 11 36 30.3 -3.5
LAZ Ladron 76.98 55 *e*P **P** 11 26 54.3 +0.7
ANMO Albuquerque 76.99 54 P **P** 11 26 54.2 +0.6
ANMO pmax pmax
comp=Z,40nm,1.0s
ANMO Albuquerque 76.99 54 *e*P **P** 11 26 54.2 +0.5
ESY Stoneypath 76.99 343 ⇑ *e*P **P** 11 26 53.1 -0.6
BR131 Keskin Array S 77.06 313 *e*P **P** 11 26 55.0 +1.0
comp=Z,35nm,0.3s,mb5.6
BRTR Keskin Array B 77.06 313 P **P** 11 26 54.6 +0.6
comp=Z,17nm,0.7s,mb4.9,baz=74,slow=3.6,SNR=89
BRTR Keskin Array B 77.06 313 P **P** 11 26 54.6 +0.6
BRTR pmax pmax
comp=Z,17nm,0.7s
EAB Aberfoyle 77.09 344 ⇑ *e*P **P** 11 26 53.7 -0.5
PSZ Piszkesteto 77.10 326 ⇑ *i*P **P** 11 26 54.9 +0.6
PSZ Piszkesteto 77.10 326 *e*P **P** 11 26 54.9 +0.6
PSZ pmax pmax
comp=Z,51nm,0.7s,mb5.4
PSZ Piszkesteto 77.10 326 *e*P **P** 11 26 54.9 +0.6
comp=Z,51nm,0.6s,mb5.4
EDI Edinburgh 77.11 343 *e*P **P** 11 26 53.4 -0.9
EDI AMb AMB 11 27 01.4
comp=Z,135nm,2.3s,mb5.3
EBL Broad Law 77.22 343 ⇑ *e*P **P** 11 26 54.2 -0.7
VRAC Vranov 77.23 329 P **P** 11 26 55.7 +0.7
comp=Z,81nm,0.8s,mb5.5,baz=35,slow=5.2,SNR=54
VRAC Vranov 77.23 329 ⇑ *i*P **P** 11 26 55.5 +0.5
VRAC Vranov 77.23 329 P **P** 11 26 55.7 +0.7
EAU Auchinoon 77.23 343 ⇑ *e*P **P** 11 26 54.7 -0.3
LENM Lemitar 77.24 55 *e*P **P** 11 26 55.7 +0.7
XSO Sourhope Farm 77.31 343 ⇑ *e*P **P** 11 26 54.6 -0.8
SCHQ Schefferville 77.33 19 P **P** 11 26 54.9 -0.7
comp=Z,52nm,0.6s,mb5.4,baz=352,slow=6.1,SNR=90
SCHQ LR LR 12 03 37.7
comp=Z,325nm,20.4s,baz=314,slow=38
SCHQ Schefferville 77.33 19 *e*P **P** 11 26 54.7 -0.9
comp=Z,37nm,0.6s,mb5.3
Y22C IRIS PASSCAL I 77.34 55 ⇑P **P** 11 26 56.4 +0.8
baz=77
LPM Los Pinos Moun 77.34 54 *e*P **P** 11 26 56.0 +0.4
ANTO Ankara 77.39 314 P **P** 11 26 57.2 +1.3
SNR=9.7
ANTO Ankara 77.39 314 ⇓ *i*P **P** 11 26 56.8 +0.9
ANTO Ankara 77.39 314 P **P** 11 26 56.8 +0.9
ANTO pmax pmax
comp=Z,37nm,0.7s,mb5.2
PRU Pruhonice 77.40 331 ⇑ *i*P **P** 11 26 56.2 +0.2
PRU *eS* S 11 36 35.4 -3.4
PRU AMS AMS 12 06 30.0
comp=Z,600nm,14.6s
PRU Pruhonice 77.40 331 ⇑ *i*P **P** 11 26 56.2 +0.2
PRU *eS* S 11 36 35.4 -3.4
BNM Barren Site 77.45 55 *e*P **P** 11 26 56.9 +0.6
PGBU Glenifferbraes 77.48 344 *e*P **P** 11 26 56.0 -0.3
PGBU AMb AMB 11 26 59.3
comp=Z,153nm,1.8s,mb5.4
SMOL Smolenice 77.57 328 *e*P **P** 11 26 57.7 +0.8
EKA Eskdalemuir Ar 77.65 343 P **P** 11 26 56.9 -0.4
comp=Z,94nm,0.6s,mb5.7,baz=22,slow=5.4,SNR=258
EKA Eskdalemuir Ar 77.65 343 P **P** 11 26 56.9 -0.4
EKA pmax pmax
comp=Z,94nm,0.6s
ESK Eskdalemuir 77.67 343 P **P** 11 26 57.8 +0.3
comp=Z,995nm,0.7s,SNR=22
ESK Eskdalemuir 77.67 343 *e*P **P** 11 26 56.9 -0.6
ESK AMb AMB 11 26 58.2
comp=Z,158nm,1.1s,mb5.7
ESK Eskdalemuir 77.67 343 *e*P **P** 11 26 57.1 -0.3
ECK Cauldkaine Hil 77.78 343 ⇑ *e*P **P** 11 26 57.6 -0.5
MOX Moxa 77.85 333 *e*P **P** 11 26 58.1 -0.3
comp=Z,136nm,1.1s,mb5.6
MOX
comp=Z,400nm,17.0s
MOX Moxa 77.85 333 *e*P **P** 11 26 58.1 -0.3
MOX pmax pmax
comp=Z,136nm,1.1s,mb5.6
MOX MLR MLR
comp=Z,400nm,17.0s
XAL Allendale 77.89 342 ⇑ *e*P **P** 11 26 58.0 -0.7
NKC Novy Kostel 77.92 332 ⇑ *i*P **P** 11 26 58.8 0.0
NKC *ex* x 11 36 25.5
NKC AMS AMS 11 59 00.0
comp=Z,800nm,6.6s
NKC Novy Kostel 77.92 332 ⇑ *i*P **P** 11 26 58.8 0.0
NKC *eS* S 11 36 25.5 -19
GZR Gura Zlata 77.93 323 ⇓ *i*P **P** 11 26 59.3 +0.4
GZR Gura Zlata 77.93 323 P **P** 11 26 59.0 +0.2
CBKS Cedar Bluff 77.93 47 *e*P **P** 11 26 57.6 -1.3
CBKS pmax pmax
comp=Z,79nm,0.8s,mb5.5
CBKS Cedar Bluff 77.93 47 *e*P **P** 11 26 57.6 -1.3
comp=Z,79nm,0.8s,mb5.5
ZST Bratislava 77.96 328 *e*P **P** 11 27 00.1 +1.1
ZST pmax pmax
comp=Z,29nm,0.9s,mb5.0
ZST Bratislava 77.96 328 *e*P **P** 11 27 00.1 +1.1
comp=Z,29nm,0.9s,mb5.0
COBT Iskenderun 77.98 310 *i* P **P** 11 26 58.9 -0.3
GMK Mull of Kintyr 78.13 344 *e*P **P** 11 26 59.7 -0.3
ZIMR 78.14 321 P **P** 11 27 00.4 +0.3
SZH Strazhica 78.19 320 *i* P **P** 11 27 01.7 +1.4
WTSB Winterswijk 78.20 336 ⇑ *e*P **P** 11 27 00.1 -0.3
comp=Z,199nm,0.6s,mb6.0
BZS Buzias 78.24 324 ⇑ *i*P **P** 11 27 00.3 -0.3
BZS Buzias 78.24 324 P **P** 11 27 00.5 -0.1
GCD Castle Douglas 78.25 343 ⇑ *e*P **P** 11 27 00.1 -0.6
GAL1 Galloway 78.41 344 P **P** 11 27 01.0 -0.5
GAL1 AMb AMB 11 27 01.9
comp=Z,177nm,0.7s,mb5.9
GAL1 Galloway 78.41 344 *e*P **P** 11 27 00.7 -0.8
GAL1 ⇑ *e*P 11 27 01.0
GAL1 AMb AMB 11 27 01.9
comp=Z,177nm,0.7s,mb5.9
KHC Kasperske Hory 78.47 331 ⇑ *i*P **P** 11 27 02.2 +0.4
KHC pP pP 11 27 27.5 +1.0
KHC *eS* S 11 36 48.3 -1.9
KHC AMS AMS 12 07 10.0
comp=Z,600nm,14.8s
KHC Kasperske Hory 78.47 331 *c* *i*P **P** 11 27 01.7 -0.1
KHC Kasperske Hory 78.47 331 ⇑ *i*P **P** 11 27 02.2 +0.4
KHC *e* pP 11 27 27.5 +1.0
KHC *eS* S 11 36 48.3 -1.9
GCL Cushendall 78.49 344 ⇑ *e*P **P** 11 27 01.5 -0.5
JMB Yambol 78.50 319 P **P** 11 27 03.1 +1.1
CONA Conrad Observa 78.65 329 ⇑ *i*P **P** 11 27 03.4 +0.5
comp=Z,32nm,0.7s,mb5.3,SNR=42
ESKT Eskisehir 78.65 315 *i* P **P** 11 26 58.9 -4.0
GEC2 GERESS Array S 78.66 331 *e*P **P** 11 27 02.5 -0.4
GERES GERESS Array B 78.66 331 P **P** 11 27 02.8 -0.1
comp=Z,28nm,0.8s,mb5.2,baz=32,slow=5.2,SNR=143
GERES pP pP 11 27 28.3 +0.7
comp=Z,6.6nm,0.8s,baz=19,slow=13,SNR=2.9
GERES PKP2ab 11 53 43.6
comp=Z,0.2nm,0.2s,baz=311,slow=6.9,SNR=3.5
GERES LR LR 12 07 11.1
comp=Z,574nm,18.6s,baz=171,slow=40
GERES GERESS Array B 78.66 331 P **P** 11 27 02.8 -0.1
GERES *PP pP 11 27 28.3 +0.7
GERES pmax pmax
comp=Z,28nm,0.8s
GERES GERESS Array B 78.66 331 P **P** 11 27 02.8 -0.1
GERES pP pP 11 27 28.3 +0.7
GERES P'P'ab 11 53 43.6
GRA1 Grafenberg Arr 78.80 332 ⇑ *i*P **P** 11 27 04.1 +0.5
comp=Z,187nm,0.8s,mb6.0
GRF Grafenberg Arr 78.80 332 ⇑ *i*P **P** 11 27 04.1 +0.5
comp=Z,187nm,0.8s,mb6.0
GRF *eL* 12 07 25.8
comp=Z,416nm,20.2s
GRFO Grafenberg 78.80 332 P **P** 11 27 03.7 +0.1
GRFO pmax pmax
comp=Z,150nm,0.8s,mb5.9
GRFO Grafenberg 78.80 332 *e*P **P** 11 27 03.8 +0.2
comp=Z,153nm,0.8s,mb5.9
SCIA State Center 78.87 41 *e*P **P** 11 27 03.3 -0.7
comp=Z,231nm,0.6s,mb6.2
PKSM Moragy 78.99 326 P **P** 11 27 04.0 -0.7
ULDT Uludag 79.05 316 *i* P **P** 11 27 03.6 -1.4
WIM Isle of Man 79.08 343 ⇑ *e*P **P** 11 27 04.3 -0.9
AEU East Anglia Un 79.13 339 *e*P **P** 11 27 05.5 0.0
KBI1 Birley Grange 79.22 341 ⇑ *e*P **P** 11 27 05.7 -0.2
GMM Mts of Mourne 79.25 344 ⇑ *e*P **P** 11 27 05.2 -0.9
MOA Molln 79.30 330 ⇓ *i*P **P** 11 27 06.6 +0.2
comp=Z,32nm,0.7s,mb5.3,SNR=25
DIM Dimitrovgrad 79.32 320 *i* P **P** 11 27 07.3 +0.8
ARSA Arzberg 79.34 329 ⇑ *i*P **P** 11 27 06.7 +0.1
comp=Z,17nm,0.7s,mb5.0,SNR=8.2
KSU1 Kansas State U 79.34 45 *e*P **P** 11 27 05.1 -1.5
comp=Z,50nm,0.6s,mb5.5
JFWS Jewell Farm 79.45 39 P **P** 11 27 05.8 -1.4
JFWS pmax pmax
comp=Z,45nm,0.7s,mb5.4
JFWS Jewell Farm 79.45 39 *e*P **P** 11 27 05.8 -1.4
KWE Weaver Farm 79.51 341 ⇑ *e*P **P** 11 27 07.0 -0.5
HGN Heimansgroeve 79.52 336 ⇑ *e*P **P** 11 27 07.2 -0.4
comp=Z,130nm,1.0s,mb5.7
HGN *eS* S 11 36 38.7 -23
BOLS Boljevac 79.52 323 ⇑ *i*P **P** 11 27 06.4 -1.2
BEBN Eben Emael 79.56 336 P **P** 11 27 07.6 -0.2
SIND Sindeldorf 79.62 333 P **P** 11 27 08.0 -0.2
MEM Membach 79.63 336 P **P** 11 27 08.2 -0.1
PLD Plovdiv 79.66 320 P **P** 11 27 09.4 +1.1
TOD Tromm 79.66 334 P **P** 11 27 08.4 +0.1
AMTX Amarillo 79.76 51 *e*P **P** 11 27 09.2 +0.3
SWS Schriesheim-Wi 79.80 334 P **P** 11 27 09.3 +0.2
ABH Alteburg 79.81 335 P **P** 11 27 09.5 +0.3
WHFO Wadi Hawf 79.83 285 ⇓P **P** 11 27 09.8 +0.5
SNR=8.5
YRC Rhoscolyn 79.90 343 *e*P **P** 11 27 08.9 -0.7
MNTX Cornudas Mount 79.93 55 *e*P **P** 11 27 10.0 +0.2
comp=Z,57nm,0.8s,mb5.5
SBD1 Bryn Du 79.94 342 ⇑ *e*P **P** 11 27 09.9 0.0
UCC Uccle 79.94 337 P **P** 11 27 09.2 -0.7
VTS Vitosha 79.96 321 ⇓ *i*P **P** 11 27 10.5 +0.5
VTS Vitosha 79.96 321 *i* P **P** 11 27 10.4 +0.4
ALN Alexandroupoli 79.97 319 P **P** 11 27 11.0 +1.0
RZN Rozhen 79.98 320 *i* P **P** 11 27 10.8 +0.7
PERS Pernice 80.00 328 *e*P **P** 11 27 10.2 0.0
BCLA Clavier 80.01 336 P **P** 11 27 09.9 -0.4
RDO Rodhopi 80.02 319 *e*P **P** 11 27 11.5 +1.2
HDH Heidenheim-Cha 80.09 332 P **P** 11 27 10.7 0.0
YRE Yr Eifl 80.12 343 *e*P **P** 11 27 10.3 -0.5
RUP Ruppelstein 80.12 335 P **P** 11 27 11.1 +0.3
GDL2 Guadalupe Moun 80.17 55 *e*P **P** 11 27 11.3 +0.2
HLM1 Long Mynd 80.21 342 ⇑ *e*P **P** 11 27 11.0 -0.3
SNF Seneffe 80.22 337 P **P** 11 27 11.0 -0.4
STU Stuttgart 80.26 333 P **P** 11 27 11.6 0.0
STU pmax pmax
comp=Z,78nm,0.9s,mb5.5
STU Stuttgart 80.26 333 *e*P **P** 11 27 11.6 0.0
comp=Z,92nm,0.9s,mb5.6
DSB Dublin 80.27 344 *e*P **P** 11 27 10.8 -0.8
comp=Z,46nm,0.9s,mb5.3
KBA Koelnbreinsper 80.29 330 ⇑ *i*P **P** 11 27 12.2 +0.5
comp=Z,59nm,0.8s,mb5.5,SNR=13

OBKA **Obir** 80.32 329 ⇓*iP* P 11 27 12.3 +0.4
comp=Z,35nm,0.7s,mb5.3,SNR=16
WLF **Walferdange** 80.43 335 P P 11 27 13.0 +0.5
WLF **Walferdange** 80.43 335 *eP* P 11 27 14.1 +1.6
WLF pmax pmax
comp=Z,223nm,1.8s,mb5.7
WLF **Walferdange** 80.43 335 *eP* P 11 27 14.1 +1.6
comp=Z,223nm,1.8s,mb5.7
GIVF **Givet** 80.43 336⇑*iP* P 11 27 11.9 -0.6
comp=Z,62nm,0.7s,mb5.2
GIVF **Givet** 80.43 336⇑*iP* P 11 27 11.9 -0.6
GIVF pmax pmax
comp=Z,31nm,0.7s,mb5.2
GIVF **Givet** 80.43 336⇑*iP* P 11 27 11.9 -0.6
comp=Z,31nm,0.7s,mb5.2
LBG **Lerchenberg** 80.48 333 P P 11 27 12.7 -0.1
BUCH **Bad Urach** 80.49 333 P P 11 27 13.2 +0.4
DOU **Dourbes** 80.50 336 P P 11 27 12.3 -0.5
MMB **Musomiste** 80.51 320 *iP* P 11 27 13.0 +0.1
LANF **Langenberg** 80.52 334 *eP* P 11 27 12.6 -0.4
KKB **Krupnik** 80.59 321 *iP* P 11 27 13.8 +0.5
BAIF **Baives** 80.65 337⇑*iP* P 11 27 13.2 -0.5
comp=Z,42nm,0.7s,mb5.1
BAIF **Baives** 80.65 337⇑*iP* P 11 27 13.2 -0.5
BAIF pmax pmax
comp=Z,21nm,0.7s,mb5.1
BAIF **Baives** 80.65 337⇑*iP* P 11 27 13.2 -0.5
comp=Z,21nm,0.7s,mb5.1
WATA **Walderalm** 80.70 331 *iP* P 11 27 14.2 +0.3
comp=Z,51nm,0.5s,mb5.6,SNR=28
HTR **Trewern Hill** 80.71 342 *eP* P 11 27 14.1 +0.1
MCH1 **Michaelchurch** 80.72 342 P P 11 27 13.9 -0.2
MCH1 AMb AMB 11 27 15.3
comp=Z,98nm,1.2s,mb5.5
MCH1 **Michaelchurch** 80.72 342⇑*eP* P 11 27 13.7 -0.4
MCH1 *eP* 11 27 13.9
MCH1 AMb AMB 11 27 15.3
comp=Z,98nm,1.2s,mb5.5
LJU **Ljubljana** 80.72 328 *eP* P 11 27 14.5 +0.4
CSS **Prodhromos** 80.73 310 *eP* P 11 27 14.5 +0.4
comp=Z,42nm,0.8s,mb5.3
WTTA **Wattenberg** 80.74 331 *iP* P 11 27 14.5 +0.4
comp=Z,61nm,0.5s,mb5.7,SNR=19
ASF **Jabal al Asfar** 80.76 306 P P 11 27 15.9 +1.6
comp=Z,11nm,0.9s,mb4.7,baz=323,slow=0.8,SNR=10
ASF **Jabal al Asfar** 80.76 306 P P 11 27 15.9 +1.6
ASF pmax pmax
comp=Z,11nm,0.9s
MOTA **Moosalm** 80.85 331⇑*iP* P 11 27 14.9 +0.2
comp=Z,66nm,0.7s,mb5.5,SNR=31
PTCC **Patocco-Chiusa** 80.85 329 P P 11 27 14.0 -0.8
SWN1 **Swindon** 80.89 341 *eP* P 11 27 15.3 +0.3
SWN1 AMb AMB 11 27 16.5
comp=Z,201nm,1.0s,mb5.9
GUT **Gutenstein** 80.90 333 P P 11 27 14.9 -0.1
FVI **Forni Avoltri** 80.90 330 P P 11 27 14.9 -0.1
BOJS **Bojanci** 80.90 328 *eP* P 11 27 14.8 -0.2
UBR **Ueberruh** 80.90 332 P P 11 27 15.1 +0.1
SQTA **Sankt Quirin** 80.92 331 *iP* P 11 27 15.3 +0.2
comp=Z,28nm,0.5s,mb5.4,SNR=21
BFO **Black Forest** 80.93 333 P P 11 27 14.7 -0.4
comp=Z,265nm,0.9s,mb6.1,SNR=8.5
BFO **Black Forest** 80.93 333 P P 11 27 14.3 -0.8
BFO pmax pmax
comp=Z,30nm,0.8s,mb5.2
BFO **Black Forest** 80.93 333 *eP* P 11 27 14.4 -0.8
comp=Z,30nm,0.8s,mb5.2
SPAK **Spaichingen-Ko** 80.98 333 P P 11 27 15.9 +0.5
GMNA **Gemona** 81.01 329 P P 11 27 14.8 -0.8
MMAI **Mount Meron Ar** 81.01 308 P P 11 27 16.9 +1.3
comp=Z,27nm,0.5s,mb5.3,baz=44,slow=7.3,SNR=32
HGH **Gray Hill** 81.01 341⇑*eP* P 11 27 15.1 -0.5
PRK **Paraskevi** 81.15 317 *eP* P 11 27 15.5 -0.8
WLS **Welschbruch** 81.17 334 *eP* P 11 27 16.1 -0.3
LOS **Limnos** 81.18 319 P P 11 27 17.3 +0.8
CDF **Champ du Feu** 81.19 334⇑*iP* P 11 27 16.2 -0.3
comp=Z,126nm,1.1s,mb5.4
CDF **Champ du Feu** 81.19 334⇑*iP* P 11 27 16.2 -0.3
CDF pmax pmax
comp=Z,63nm,1.1s,mb5.4
CDF **Champ du Feu** 81.19 334⇑*iP* P 11 27 16.2 -0.3
comp=Z,63nm,1.1s,mb5.4
SKO **Skopje** 81.24 322 *eP* P 11 27 17.6 +0.8
SKO **Skopje** 81.24 322 P P 11 27 18.7 +1.9
VAY **Valandovo** 81.25 321 *eP* P 11 27 15.2 -1.7
VAY **Valandovo** 81.25 321 P P 11 27 16.6 -0.3
SISB **Singen-Schiene** 81.28 333 P P 11 27 18.1 +1.1
NWAO **Narrogin (SRO)** 81.31 205 P P 11 27 15.5 -1.6
NWAO pmax pmax
comp=Z,48nm,1.2s
NWAO **Narrogin (SRO)** 81.31 205 *eP* P 11 27 15.5 -1.6
LIBD **Limburg** 81.32 334 *eP* P 11 27 17.2 0.0
DAVA **Damuels** 81.32 332⇑*iP* P 11 27 17.3 0.0
comp=Z,61nm,0.7s,mb5.6,SNR=12
KIZ **Kirchzarten** 81.39 333 P P 11 27 17.5 -0.1
ECH **Echery** 81.40 334 *eP* P 11 27 16.9 -0.8
FELD **Feldberg im Sc** 81.43 333⇑*eP* P 11 27 17.5 -0.3
BLCB **Balcova** 81.44 316 P P 11 27 18.2 +0.4
WMOK **Wichita Mounta** 81.47 49 P P 11 27 17.6 -0.4
WMOK pmax pmax
comp=Z,49nm,1.0s,mb5.3
WMOK **Wichita Mounta** 81.47 49 *eP* P 11 27 18.7 +0.7
APPI **Appiano** 81.56 331 P P 11 27 17.6 -0.9
HORT **Hortiatis** 81.59 320 P P 11 27 18.8 +0.2
PLG **Polygyros** 81.61 320 *eP* P 11 27 18.5 -0.2
GRG **Griva** 81.62 321 P P 11 27 19.6 +0.8
MOF **Molkenrain** 81.73 334 *eP* P 11 27 18.7 -0.7
THEF **They Montfort** 81.76 335 *eP* P 11 27 19.3 -0.2
DAVOX **Davos** 81.76 332 P P 11 27 20.2 +0.6
comp=Z,33nm,0.5s,mb5.4,baz=357,slow=1.5,SNR=69
CTI **Castel Tesino** 81.78 330 P P 11 27 18.8 -0.8
MEZF **Maizieres J'vi** 81.80 335⇑*iP* P 11 27 19.6 -0.1
comp=Z,112nm,0.9s,mb5.4
MEZF **Maizieres J'vi** 81.80 335⇑*iP* P 11 27 19.6 -0.1
comp=Z,112nm,0.9s,mb5.7
KRUS **Krusevo** 81.81 322 *eP* P 11 27 20.3 +0.4
HAU **Haudompre** 81.84 334⇑*iP* P 11 27 19.4 -0.6
comp=Z,68nm,0.9s,mb5.2
HAU *eR*
comp=Z,648nm,19.2s
HAU **Haudompre** 81.84 334⇑*iP* P 11 27 19.4 -0.6
HAU pmax pmax
comp=Z,34nm,0.9s,mb5.2
HAU **Haudompre** 81.84 334⇑*iP* P 11 27 19.4 -0.6
comp=Z,34nm,0.9s,mb5.2
HINF **Hinteralfeld** 81.85 334⇑*iP* P 11 27 19.3 -0.7
comp=Z,34nm,0.6s,mb5.0
HINF **Hinteralfeld** 81.85 334⇑*iP* P 11 27 19.3 -0.7
HINF pmax pmax
comp=Z,17nm,0.6s,mb5.0
HINF **Hinteralfeld** 81.85 334⇑*iP* P 11 27 19.3 -0.7
comp=Z,17nm,0.6s,mb5.0
BRMO **Bormio** 81.86 331 P P 11 27 20.3 +0.2
BBS **Basel-Blauen** 81.95 333 *eP* P 11 27 20.0 -0.5
HTL **Hartland** 81.99 342 *eP* P 11 27 20.2 -0.6
HTL AMb AMB 11 27 24.4
comp=Z,76nm,1.5s,mb5.3
MABI **Malga Bissina** 82.17 331 P P 11 27 22.7 +1.0
TUE **Stuetta** 82.21 332 P P 11 27 22.4 +0.5
OHR **Ohrid** 82.22 322 *eP* P 11 27 21.3 -0.7
OHR **Ohrid** 82.22 322 P P 11 27 22.1 +0.2
FNA **Florina** 82.22 321 P P 11 27 22.8 +0.8
VAL **Valentia** 82.24 346 *eP* P 11 27 20.2 -1.9
LIT **Litokhoron** 82.27 320 P P 11 27 22.2 0.0
LOMF **Lomont** 82.27 334 *eP* P 11 27 21.9 -0.3
AOS **Alonnisos** 82.36 319 P P 11 27 23.4 +0.7
MAGA **Magasa** 82.37 331 P P 11 27 21.9 -0.9
DYA **Yadsworthy** 82.39 342⇑*eP* P 11 27 22.5 -0.3
XOR **Xorichti** 82.53 319 P P 11 27 23.3 -0.2
ARG **Arkhangelos** 82.56 314 *eP* P 11 27 25.0 +1.3
LTX **Lajitas** 82.66 56 P P 11 27 24.5 +0.3
LTX pmax pmax
comp=Z,90nm,0.8s,mb5.7
LTX **Lajitas** 82.66 56 *eP* P 11 27 24.5 +0.2
comp=Z,90nm,0.8s,mb5.7
TXAR **Lajitas Array** 82.66 56 P P 11 27 24.3 +0.1
comp=Z,65nm,0.7s,mb5.6,baz=298,slow=4.0,SNR=821
TXAR pP pP 11 27 49.2 +0.1
comp=Z,24nm,0.7s,baz=299,slow=5.2,SNR=5.5
TXAR PKKPbc PKKPbc 11 45 48.9 +0.8
comp=Z,1.2nm,1.0s,baz=160,slow=4.0,SNR=6.2
TXAR **Lajitas Array** 82.66 56 P P 11 27 24.3 +0.1
TXAR pP pP 11 27 49.2 +0.1
TXAR PKKPbc PKKPbc 11 45 48.9 +0.8

AAM **Ann Arbor** 82.81 35 *eP* P 11 27 25.0 0.0
AAM pmax pmax
comp=Z,81nm,0.7s,mb5.7
AAM **Ann Arbor** 82.81 35 *eP* P 11 27 25.0 0.0
comp=Z,81nm,0.7s,mb5.7
SLM **Saint Louis** 82.84 41 P P 11 27 24.7 -0.5
SLM pmax pmax
comp=Z,85nm,0.9s,mb5.6
SLM **Saint Louis** 82.84 41 *eP* P 11 27 24.7 -0.5
MEV **Metsovon** 83.10 321 P P 11 27 27.8 +1.3
FLN **La Foliniere** 83.11 339⇑*iP* P 11 27 26.1 -0.4
comp=Z,86nm,0.6s,mb5.5
FLN *eR*
comp=Z,302nm,23.0s
FLN **La Foliniere** 83.11 339⇑*iP* P 11 27 26.1 -0.4
FLN pmax pmax
comp=Z,43nm,0.6s,mb5.5
FLN **La Foliniere** 83.11 339⇑*iP* P 11 27 26.1 -0.4
comp=Z,43nm,0.6s,mb5.5
CABF **La Chapelle** 83.16 334⇑*iP* P 11 27 26.6 -0.2
comp=Z,25nm,0.6s,mb4.9
CABF **La Chapelle** 83.16 334⇑*iP* P 11 27 26.6 -0.2
CABF pmax pmax
comp=Z,13nm,0.6s,mb4.9
CABF **La Chapelle** 83.16 334⇑*iP* P 11 27 26.6 -0.2
comp=Z,12nm,0.6s,mb4.9
AGG **Agios Georgios** 83.20 320 P P 11 27 26.5 -0.5
LOR **Lormes** 83.26 336⇑*iP* P 11 27 26.8 -0.5
comp=Z,92nm,0.9s,mb5.3
LOR *eR*
comp=Z,513nm,22.5s
LOR **Lormes** 83.26 336⇑*iP* P 11 27 26.8 -0.5
LOR pmax pmax
comp=Z,46nm,0.9s,mb5.3
LOR **Lormes** 83.26 336⇑*iP* P 11 27 26.8 -0.5
comp=Z,46nm,0.9s,mb5.3
FVM **French Village** 83.27 42 P P 11 27 26.1 -1.3
FVM pmax pmax
comp=Z,44nm,0.7s,mb5.4
FVM **French Village** 83.27 42 *eP* P 11 27 26.1 -1.2
comp=Z,44nm,0.7s,mb5.4
FSSB **Fossombrone** 83.38 328 P P 11 27 28.3 +0.4
EVR **Evrytania** 83.53 320 *eP* P 11 27 28.4 -0.3
SFI **Santa Sofia** 83.54 329 P P 11 27 29.8 +1.0
SSF **Saint Saulge** 83.55 336⇑*iP* P 11 27 28.4 -0.4
comp=Z,61nm,0.6s,mb5.3
SSF **Saint Saulge** 83.55 336⇑*iP* P 11 27 28.4 -0.4
SSF pmax pmax
comp=Z,30nm,0.6s,mb5.3
SSF **Saint Saulge** 83.55 336⇑*iP* P 11 27 28.4 -0.4
comp=Z,30nm,0.6s,mb5.3
GRR **Gorron** 83.55 339⇑*iP* P 11 27 28.7 -0.1
comp=Z,189nm,0.6s,mb5.8
GRR **Gorron** 83.55 339⇑*iP* P 11 27 28.7 -0.1
GRR pmax pmax
comp=Z,95nm,0.6s,mb5.8
GRR **Gorron** 83.55 339⇑*iP* P 11 27 28.7 -0.1
comp=Z,95nm,0.6s,mb5.8
SEI **Scarperia** 83.60 329 P P 11 27 30.4 +1.3
PMOR **Pomariorio Ree** 83.60 118 *eT* 12 58 54.9
comp=Z,128nm,0.2s
VMG **Vicchio** 83.61 329 P P 11 27 30.3 +1.2
HYF **Humbligny** 83.61 336 *eP* P 11 27 29.2 0.0
GSCL **Gusciola** 83.62 330 P P 11 27 28.7 -0.5
ERBM **Eremo** 83.62 330 P P 11 27 30.5 +1.3
SNTG **Esanatoglia** 83.69 328 P P 11 27 29.6 +0.1
EIL **Elat** 83.73 306 *eP* P 11 27 30.7 +0.9
CRE **Caprese Michel** 83.75 329 P P 11 27 30.4 +0.6
SMF **Signal de Mont** 83.82 335⇑*iP* P 11 27 30.0 -0.2
comp=Z,131nm,0.7s,mb5.6
SMF **Signal de Mont** 83.82 335⇑*iP* P 11 27 30.0 -0.2
SMF pmax pmax
comp=Z,65nm,0.7s,mb5.6
SMF **Signal de Mont** 83.82 335⇑*iP* P 11 27 30.0 -0.2
comp=Z,65nm,0.7s,mb5.6
MSNY **Massena** 83.83 28 *eP* P 11 27 29.2 -1.1
AVF **Avril sur Loir** 83.84 336⇑*iP* P 11 27 30.1 -0.2
comp=Z,100nm,0.7s,mb5.5
AVF **Avril sur Loir** 83.84 336⇑*iP* P 11 27 30.1 -0.2
AVF pmax pmax
comp=Z,50nm,0.7s,mb5.5
AVF **Avril sur Loir** 83.84 336⇑*iP* P 11 27 30.1 -0.2
comp=Z,50nm,0.7s,mb5.5
LPL **La Plagne** 83.92 333⇑*iP* P 11 27 31.1 +0.4
comp=Z,84nm,0.7s,mb5.4
LPL **La Plagne** 83.92 333⇑*iP* P 11 27 31.1 +0.4
LPL pmax pmax
comp=Z,42nm,0.7s,mb5.4
LPL **La Plagne** 83.92 333⇑*iP* P 11 27 31.1 +0.4
comp=Z,42nm,0.7s,mb5.4
LPG **La Plagne** 83.93 333⇑*iP* P 11 27 31.3 +0.5
comp=Z,74nm,0.6s,mb5.4
LPG **La Plagne** 83.93 333⇑*iP* P 11 27 31.3 +0.5
LPG pmax pmax
comp=Z,37nm,0.6s,mb5.4
LPG **La Plagne** 83.93 333⇑*iP* P 11 27 31.3 +0.5
comp=Z,37nm,0.6s,mb5.4
SIUC **Southern Illin** 84.06 41 *eP* P 11 27 31.1 -0.4
JCT **Junction City** 84.08 53 P P 11 27 31.2 -0.3
JCT pmax pmax
comp=Z,85nm,0.8s,mb5.6
JCT **Junction City** 84.08 53 *eP* P 11 27 31.2 -0.3
comp=Z,85nm,0.8s,mb5.6
SGMF **Saint Gilles** 84.10 340 *eP* P 11 27 31.8 +0.2
comp=Z,219nm,0.9s,mb5.7
SGMF **Saint Gilles** 84.10 340 *eP* P 11 27 31.8 +0.2
SGMF pmax pmax
comp=Z,109nm,0.9s,mb5.7
SGMF **Saint Gilles** 84.10 340 *eP* P 11 27 31.8 +0.2
comp=Z,109nm,0.9s,mb5.7
BLO **Bloomington** 84.14 39 P P 11 27 31.4 -0.4
BLO pmax pmax
comp=Z,51nm,0.7s,mb5.5
BLO **Bloomington** 84.14 39 *eP* P 11 27 31.4 -0.4
comp=Z,47nm,0.6s,mb5.5
BGF **Bois d'Agland** 84.20 336⇑*iP* P 11 27 31.9 -0.2
comp=Z,68nm,0.7s,mb5.3
BGF **Bois d'Agland** 84.20 336⇑*iP* P 11 27 31.9 -0.2
BGF pmax pmax
comp=Z,34nm,0.7s,mb5.3
BGF **Bois d'Agland** 84.20 336⇑*iP* P 11 27 31.9 -0.2
comp=Z,34nm,0.7s,mb5.3
ROSF **Rostrenen** 84.20 340 *eP* P 11 27 31.6 -0.5
comp=Z,203nm,0.7s,mb5.8
ROSF **Rostrenen** 84.20 340 *eP* P 11 27 31.6 -0.5
ROSF pmax pmax
comp=Z,101nm,0.7s,mb5.8
ROSF **Rostrenen** 84.20 340 *eP* P 11 27 31.6 -0.5
comp=Z,101nm,0.7s,mb5.8
LONY **Lake Ozonia** 84.26 28 *eP* P 11 27 31.1 -1.3
AQU **L'Aquila** 84.28 327⇑*iP* P 11 27 32.7 +0.2
AQU **L'Aquila** 84.28 327 *eP* P 11 27 32.9 +0.4
comp=Z,36nm,0.9s,mb5.2
BNI **Bardonecchia** 84.35 333 P P 11 27 33.5 +0.6
BNI pmax pmax
comp=Z,22nm,0.7s,mb5.1
BNI **Bardonecchia** 84.35 333 *eP* P 11 27 33.3 +0.4
MIAR **Mount Ida** 84.39 46 P P 11 27 32.9 -0.2
MIAR pmax pmax
comp=Z,81nm,1.0s,mb5.5
MIAR **Mount Ida** 84.39 46 *eP* P 11 27 32.9 -0.2
comp=Z,82nm,0.9s,mb5.6
PPT **Papeete** 84.47 121 *eLQ* 11 50 06.3
comp=Z,807nm,27.0s
PPT *eLR* LR 11 53 35.3
comp=Z,257nm,23.5s
PPT **Papeete** 84.47 121 *eT* 13 00 05.0
comp=Z,28nm,0.3s
PLDF **La Plantade** 84.50 335 *eP* P 11 27 33.8 +0.2
PAE **Paea** 84.54 121 *eT* 13 00 10.1
comp=Z,18nm,0.3s
QUIF **Quistinic** 84.57 340 *eP* P 11 27 33.1 -0.9
comp=Z,107nm,0.6s,mb5.7
QUIF **Quistinic** 84.57 340 *eP* P 11 27 33.1 -0.9
QUIF pmax pmax
comp=Z,54nm,0.6s,mb5.7
QUIF **Quistinic** 84.57 340 *eP* P 11 27 33.1 -0.9
comp=Z,54nm,0.6s,mb5.7
AGO **Saint Agoulin** 84.57 335 *eP* P 11 27 34.5 +0.5
NPS **Neapolis** 84.58 315 *eP* P 11 27 33.0 -1.1
USIN **University of** 84.59 40 *eP* P 11 27 34.1 0.0
comp=Z,79nm,1.0s,mb5.6
MBDF **Montbardon** 84.61 333⇑*iP* P 11 27 33.8 -0.4
comp=Z,62nm,0.6s,mb5.4
MBDF **Montbardon** 84.61 333⇑*iP* P 11 27 33.8 -0.4
MBDF pmax pmax
comp=Z,31nm,0.6s,mb5.4
MBDF **Montbardon** 84.61 333⇑*iP* P 11 27 33.8 -0.4
comp=Z,31nm,0.6s,mb5.4
TCF **Toulx Ste Croi** 84.63 336⇑*iP* P 11 27 34.3 0.0
comp=Z,64nm,0.6s,mb5.4
TCF **Toulx Ste Croi** 84.63 336⇑*iP* P 11 27 34.3 0.0
TCF pmax pmax
comp=Z,32nm,0.6s,mb5.4
TCF **Toulx Ste Croi** 84.63 336⇑*iP* P 11 27 34.3 0.0
comp=Z,32nm,0.6s,mb5.4
SDI **San Donato** 84.66 327 P P 11 27 34.1 -0.4
VLS **Valsamata** 84.69 320 *eP* P 11 27 34.3 -0.3
ORIF **Oris-en-Rattie** 84.73 333⇑*iP* P 11 27 35.0 +0.2
comp=Z,49nm,0.6s,mb5.3
ORIF *eR*
comp=Z,535nm,22.8s
ORIF **Oris-en-Rattie** 84.73 333⇑*iP* P 11 27 35.0 +0.2
ORIF pmax pmax
comp=Z,24nm,0.6s,mb5.3
ORIF **Oris-en-Rattie** 84.73 333⇑*iP* P 11 27 35.0 +0.2
comp=Z,24nm,0.6s,mb5.3
VLI **Veliai** 84.76 318 *eP* P 11 27 33.5 -1.4
ALLY **Alegheny Colle** 84.78 33 *eP* P 11 27 34.7 -0.3
TVO **Taravao** 84.84 121 *eT* 13 00 32.0
comp=Z,7.4nm,0.3s
UALR **University of** 84.84 45 *eP* P 11 27 35.3 -0.1
ITM **Ithomi** 84.87 319 *eP* P 11 27 35.0 -0.5
PYM **Petit Puy Mans** 84.88 335 *eP* P 11 27 36.1 +0.5
IDI **Anoyia** 84.93 316 P P 11 27 35.1 -0.7
comp=Z,75nm,0.6s,mb5.8,baz=29,slow=5.2,SNR=37
NCB **Newcomb** 84.95 28 *eP* P 11 27 35.0 -0.9
comp=Z,41nm,0.8s,mb5.4
MFF **Saint Martin d** 85.00 338 *eP* P 11 27 36.3 +0.1
comp=Z,77nm,0.6s,mb5.5
MFF **Saint Martin d** 85.00 338 *eP* P 11 27 36.3 +0.1
MFF pmax pmax
comp=Z,39nm,0.6s,mb5.5
MFF **Saint Martin d** 85.00 338 *eP* P 11 27 36.3 +0.1
comp=Z,39nm,0.6s,mb5.5
WCI **Wyandotte Cave** 85.01 39 P P 11 27 35.4 -0.8
WCI pmax pmax
comp=Z,86nm,0.8s,mb5.7
WCI **Wyandotte Cave** 85.01 39 *eP* P 11 27 35.6 -0.6
comp=Z,86nm,0.8s,mb5.7
LCHF **La Chataignera** 85.10 338 *eP* P 11 27 37.0 +0.3
SBF **Sospel** 85.15 332⇑*iP* P 11 27 36.1 -0.8
comp=Z,81nm,0.7s,mb5.5
SBF **Sospel** 85.15 332⇑*iP* P 11 27 36.1 -0.8
SBF pmax pmax
comp=Z,40nm,0.7s,mb5.5
SBF **Sospel** 85.15 332⇑*iP* P 11 27 36.1 -0.8
comp=Z,40nm,0.7s,mb5.5
VIVF **Saint-Julien-l** 85.17 334⇑*iP* P 11 27 37.2 +0.2
comp=Z,47nm,0.6s,mb5.3
VIVF **Saint-Julien-l** 85.17 334⇑*iP* P 11 27 37.2 +0.2
VIVF pmax pmax
comp=Z,23nm,0.6s,mb5.3
VIVF **Saint-Julien-l** 85.17 334⇑*iP* P 11 27 37.2 +0.2
comp=Z,23nm,0.6s,mb5.3
LBL **Lubilhac** 85.28 335 *eP* P 11 27 38.0 +0.5
UTMT **University of** 85.33 42 *eP* P 11 27 37.7 -0.1
FRNF **Fournols** 85.34 336 *eP* P 11 27 37.6 -0.3
PKME **Peaks-Kenny Pk** 85.38 25 *eP* P 11 27 37.3 -0.8
comp=Z,22nm,0.8s,mb5.1
TIP **Timpagrande** 85.57 323 *eP* P 11 27 39.2 +0.2
ACCN **Adirondack Com** 85.66 28 *eP* P 11 27 38.6 -0.8
SMRF **Simiane la Rot** 85.67 333 *eP* P 11 27 39.1 -0.4
comp=Z,43nm,0.9s,mb5.1
SMRF **Simiane la Rot** 85.67 333 *eP* P 11 27 39.1 -0.4
comp=Z,43nm,0.9s,mb5.4
FRF **La Foret Royal** 85.68 332 *eP* P 11 27 38.9 -0.7
GVD **Gavdhos** 85.69 316 *eP* P 11 27 40.0 +0.4
GVD **Gavdhos** 85.69 316 *eP* P 11 27 39.5 0.0
comp=Z,70nm,0.7s,mb5.7
RJF **Les Rejaudoux** 85.72 336⇑*iP* P 11 27 39.9 +0.1
comp=Z,92nm,0.8s,mb5.5
RJF *eR*
comp=Z,562nm,22.8s
RJF **Les Rejaudoux** 85.72 336⇑*iP* P 11 27 39.9 +0.1
RJF pmax pmax
comp=Z,46nm,0.8s,mb5.5
RJF **Les Rejaudoux** 85.72 336⇑*iP* P 11 27 39.9 +0.1
comp=Z,46nm,0.8s,mb5.5
HNH **Hanover** 85.84 27 *eP* P 11 27 40.1 -0.2
BINY **Binghamton** 85.88 30 *eP* P 11 27 39.7 -0.8
WVL **Waterville** 85.90 25 *eP* P 11 27 40.5 -0.2
CAF **Calviac** 85.91 336⇑*iP* P 11 27 41.4 +0.7
comp=Z,140nm,0.7s,mb5.7
CAF **Calviac** 85.91 336⇑*iP* P 11 27 41.4 +0.7
CAF pmax pmax
comp=Z,70nm,0.7s,mb5.7
CAF **Calviac** 85.91 336⇑*iP* P 11 27 41.4 +0.7
comp=Z,70nm,0.7s,mb5.7
LMR **La Mourre** 85.93 332⇑*iP* P 11 27 40.4 -0.4
comp=Z,108nm,0.8s,mb5.5
LMR **La Mourre** 85.93 332⇑*iP* P 11 27 40.4 -0.4
LMR pmax pmax
comp=Z,54nm,0.8s,mb5.5
LMR **La Mourre** 85.93 332⇑*iP* P 11 27 40.4 -0.4
comp=Z,54nm,0.8s,mb5.5
WVT **Waverly** 85.99 41 P P 11 27 40.7 -0.4
WVT pmax pmax
comp=Z,41nm,0.7s,mb5.5
WVT **Waverly** 85.99 41 *eP* P 11 27 40.7 -0.4
comp=Z,41nm,0.7s,mb5.5
LASF **Ste Croix** 86.13 334⇑*iP* P 11 27 42.3 +0.5
comp=Z,160nm,1.3s,mb5.5
FFD **Franklin Falls** 86.26 27 *eP* P 11 27 42.1 -0.3
comp=Z,24nm,0.4s,mb5.5
LFF **La Frestale** 86.28 337 *eP* P 11 27 43.1 +0.6
comp=Z,111nm,0.6s,mb5.7
LFF **La Frestale** 86.28 337 *eP* P 11 27 43.1 +0.6
LFF pmax pmax
comp=Z,55nm,0.6s,mb5.7
LFF **La Frestale** 86.28 337 *eP* P 11 27 43.1 +0.6
comp=Z,55nm,0.6s,mb5.7
EMMW **East Machias** 86.43 24 *eP* P 11 27 42.8 -0.4
comp=Z,64nm,1.2s,mb5.4
SSPA **Standing Stone** 86.52 32 *eP* P 11 27 42.8 -0.8
comp=Z,13nm,0.6s,mb5.0
MCWV **Mont Chateau** 86.59 34 *eP* P 11 27 44.1 +0.1
HKT **Hockley** 86.72 51 *eP* P 11 27 44.4 -0.2
HKT pmax pmax
comp=Z,13nm,1.1s,mb4.8
HKT **Hockley** 86.72 51 *eP* P 11 27 44.4 -0.2
comp=Z,13nm,1.1s,mb4.8
PLAL **Pickwick Lake** 86.80 42 *eP* P 11 27 43.9 -1.2
comp=Z,34nm,0.8s,mb5.3
MTLF **Montolieu** 87.30 335⇑*iP* P 11 27 48.0 +0.5
comp=Z,47nm,0.8s,mb5.2
MTLF **Montolieu** 87.30 335⇑*iP* P 11 27 48.0 +0.5
MTLF pmax pmax
comp=Z,23nm,0.8s,mb5.2
MTLF **Montolieu** 87.30 335⇑*iP* P 11 27 48.0 +0.5
comp=Z,23nm,0.8s,mb5.2
WES **Weston** 87.34 27 P P 11 27 47.8 +0.2
WES pmax pmax
comp=Z,36nm,0.8s,mb5.3
WES **Weston** 87.34 27 *eP* P 11 27 47.8 +0.2
LUPA **Lehigh Univers** 87.50 31 *eP* P 11 27 48.2 -0.2
TZTN **Tazewell** 87.63 38 *eP* P 11 27 49.2 +0.1
MVL **Millersville** 87.66 32 *eP* P 11 27 48.8 -0.4
FWV **Forest Hill** 87.95 36 *eP* P 11 27 50.1 -0.4
MLS **Moulis** 87.99 336 *eP* P 11 27 50.9 +0.2
VAE **Valguarnera** 88.00 324 P P 11 27 55.1 +4.3
comp=Z,26nm,0.5s,mb5.8,baz=201,slow=5.5,SNR=5.2
VAE **Valguarnera** 88.00 324 P P 11 27 55.1 +4.3
ELN **Prospectdale** 88.27 36 *eP* P 11 27 51.8 -0.2
RESF **Ens** 88.35 336 *eP* P 11 27 53.4 +1.0
RESF **Ens** 88.35 336 *eP* P 11 27 54.4 +2.0
BLA **Blacksburg** 88.43 36 *eP* P 11 27 52.8 0.0
BLA pmax pmax
comp=Z,55nm,0.9s,mb5.6
BLA **Blacksburg** 88.43 36 *eP* P 11 27 52.8 0.0
comp=Z,54nm,0.9s,mb5.6
EALK **Alkurruntz** 88.50 337 P P 11 27 53.0 -0.2
comp=Z,4.9nm,0.6s,mb4.7
SJPF **Ste Jean** 88.52 337 *eP* P 11 27 52.5 -0.7
comp=Z,24nm,0.8s,mb5.0
SJPF **Ste Jean** 88.52 337 *eP* P 11 27 52.5 -0.7
SJPF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SJPF **Ste Jean** 88.52 337 *eP* P 11 27 52.5 -0.7
comp=Z,12nm,0.8s,mb5.0
EBIE **Bielsa** 88.52 336 P P 11 27 53.7 +0.5
comp=Z,5.3nm,0.6s,mb4.8

ELIZ	**Elizondo**	**88.56**	**337**	P	**P**	**11 27 53.5**	**+0.1**		
ELIZ	comp=Z,3.0nm,0.6s,mb4.5			pmax	pmax				
ELIZ	**Elizondo**	**88.56**	**337**	P	**P**	**11 27 53.5**	**+0.1**		
	comp=Z,2.8nm,0.6s,mb4.5								
MYNC	**Murphy**	**88.59**	**40**	*e*P	**P**	**11 27 53.7**	**+0.1**		
MYNC	comp=Z,33nm,0.9s,mb5.4			pmax	pmax				
MYNC	**Murphy**	**88.59**	**40**	*e*P	**P**	**11 27 53.7**	**+0.1**		
	comp=Z,33nm,0.9s,mb5.4								
EMIR	**Miracle**	**88.81**	**335**	P	**P**	**11 27 55.2**	**+0.6**		
	comp=Z,5.5nm,0.5s,mb4.8								
LRAL	**Lakeview Retre**	**88.90**	**43**	*e*P	**P**	**11 27 54.2**	**-0.8**		
	comp=Z,36nm,1.1s,mb5.3								
TBI	**Tubuai**	**88.93**	**124**	*e*LQ		11 51 54.6			
	comp=Z,840nm,33.8s								
TBI				*e*LR	LR	11 55 48.0			
	comp=Z,354nm,28.8s								
TBI	**Tubuai**	**88.93**	**124**	*e*T		13 05 44.3			
	comp=Z,20nm,0.3s								
ELAN	**Lanestosa**	**89.00**	**339**	P	**P**	**11 27 55.1**	**-0.4**		
	comp=Z,4.2nm,0.5s,mb4.7								
ECRI	**Cripan**	**89.34**	**338**	P	**P**	**11 27 57.5**	**+0.4**		
EARI	**Arriondas**	**89.39**	**340**	P	**P**	**11 27 56.5**	**-0.9**		
	comp=Z,1.8nm,0.5s								
EPOB	**Poblet**	**89.46**	**335**	P	**P**	**11 27 58.0**	**+0.3**		
	comp=Z,2.3nm,0.5s,mb4.5								
ESAC	**San Caprasio**	**89.58**	**336**	P	**P**	**11 27 59.1**	**+0.9**		
	comp=Z,20nm,0.5s,mb5.5								
ERTA	**Horta de San J**	**90.05**	**335**	P	**P**	**11 27 59.6**	**-0.8**		
RPZ	**Rata Peaks**	**90.14**	**163**	P	**P**	**11 28 03.9**	**+3.1**		
	comp=Z,10nm,0.7s,mb5.0,baz=344,slow=2.9,SNR=5.5								
GOGA	**Godfrey**	**90.27**	**40**	*e*P	**P**	**11 28 00.9**	**-0.5**		
GOGA	comp=Z,72nm,1.5s,mb5.6			pmax	pmax				
GOGA	**Godfrey**	**90.27**	**40**	*e*P	**P**	**11 28 00.9**	**-0.6**		
	comp=Z,72nm,1.5s,mb5.6								
ETOS	**Mallorca**	**90.35**	**333**	P	**P**	**11 28 01.8**	**0.0**		
	comp=Z,3.8nm,0.5s,mb4.8								
EMOS	**Mosqueruela**	**90.83**	**336**	P	**P**	**11 28 04.6**	**+0.6**		
	comp=Z,6.1nm,0.6s,mb4.9								
ETOR	**Torete**	**90.87**	**337**	P	**P**	**11 28 04.5**	**+0.3**		
ETOR	comp=Z,9.0nm,0.6s,mb5.1			pmax	pmax				
ETOR	**Torete**	**90.87**	**337**	P	**P**	**11 28 04.5**	**+0.2**		
	comp=Z,9.1nm,0.6s,mb5.1								
PBRG	**Braganca**	**91.18**	**341**	*e*P	**P**	**11 28 04.8**	**-0.8**		
PCAB	**Cabril**	**91.57**	**341**	*e*P	**P**	**11 28 06.3**	**-1.2**		
KEST	**Kesra**	**91.58**	**327**	P	**P**	**11 28 07.4**	**-0.1**		
	comp=Z,5.6nm,0.7s,mb4.9,baz=154,slow=1.9,SNR=8.7								
KEST				LR	LR	12 10 15.1			
	comp=Z,178nm,20.1s,baz=183,slow=36								
GUD	**Guadarrama**	**91.61**	**338**	P	**P**	**11 28 09.8**	**+2.1**		
GUD	comp=Z,8.0nm,0.7s,mb5.1			pmax	pmax				
GUD	**Guadarrama**	**91.61**	**338**	P	**P**	**11 28 09.8**	**+2.1**		
	comp=Z,8.3nm,0.7s,mb5.1								
PVRL	**Vila Real**	**91.91**	**341**	*e*P	**P**	**11 28 08.1**	**-0.9**		
ESDC	**Sonseca Array**	**92.47**	**338**	P	**P**	**11 28 11.3**	**-0.3**		
	comp=Z,11nm,0.7s,mb5.2,baz=18,slow=3.4,SNR=23								
ESDC				pP	pP	11 28 37.2	+0.4		
	comp=Z,8.2nm,0.9s,baz=22,slow=3.9,SNR=3.3								
ESDC				LR	LR	12 12 48.1			
	comp=Z,390nm,19.0s,baz=40,slow=37								
ESDC	**Sonseca Array**	**92.47**	**338**	P	**P**	**11 28 11.1**	**-0.6**		
	comp=Z,8.4nm,0.6s,mb5.2								
ESLA	**Sonseca Array**	**92.47**	**338**	*e*P	**P**	**11 28 11.4**	**-0.2**		
PVIS	**Viseu**	**92.48**	**341**	*e*P	**P**	**11 28 10.9**	**-0.8**		
EVIA	**Vianos**	**93.03**	**336**	P	**P**	**11 28 14.8**	**+0.6**		
EVIA	comp=Z,5.0nm,0.6s,mb5.0			pmax	pmax				
EVIA	**Vianos**	**93.03**	**336**	P	**P**	**11 28 14.8**	**+0.6**		
	comp=Z,4.7nm,0.6s,mb5.0								
PCBR	**Castelo Branco**	**93.22**	**340**	*e*P	**P**	**11 28 13.8**	**-1.3**		
EBAN	**Banos Encina**	**93.83**	**337**	P	**P**	**11 28 17.9**	**0.0**		
EBAN	comp=Z,16nm,0.6s,mb5.5			pmax	pmax				
EBAN	**Banos Encina**	**93.83**	**337**	P	**P**	**11 28 17.9**	**0.0**		
	comp=Z,16nm,0.6s,mb5.5								
EADA	**Adamuz**	**94.05**	**338**	P	**P**	**11 28 18.7**	**-0.2**		
	comp=Z,1.3nm,0.5s,mb4.5								
RKT	**Rikitea**	**97.84**	**115**	*e*LR	LR	11 59 56.9			
	comp=Z,171nm,30.5s								
MDT	**Midelt**	**99.06**	**336**	P	**P**	**11 28 40.9**	**-0.7**		
	comp=Z,3.9nm,0.7s,mb5.0,baz=234,slow=7.4,SNR=5.5								
TORD	**Torodi Ar. Bea**	**114.70**	**322**	Pdiff	Pdif	11 29 52.0	+0.8		
	comp=Z,0.5nm,0.8s,baz=9.3,slow=4.6,SNR=3.8								
TORD				PKP	PKiKP	11 33 39.9	-0.7		
	comp=Z,1.9nm,0.6s,baz=18,slow=2.2,SNR=21								
TORD				PP	PP	11 34 25.0	-14		
	comp=Z,5.6nm,0.3s,baz=33,slow=7.4,SNR=19								
LSZ	**Lusaka**	**120.93**	**279**	PKP	PKPdf	11 33 53.5	+0.9		
	comp=Z,3.4nm,0.5s,baz=20,slow=3.8,SNR=9.7								
LSZ	**Lusaka**	**120.93**	**279**	PKIKP	PKPdf	11 33 53.5	+0.9		
LSZ	comp=Z,3.0nm,0.5s			pmax	pmax				
VNDA	**Vanda**	**121.77**	**176**	PKP	PKPdf	11 33 52.7	-1.5		
	comp=Z,1.4nm,0.6s,baz=321,slow=5.1,SNR=18								
VNDA				PKKPbc	PKKPbc	11 43 52.8	0.0		
	comp=Z,3.5nm,1.1s,baz=123,slow=0.9,SNR=6.9								
LIC	**Lamto**	**123.76**	**326**	*i*P	PKPdf	11 33 57.3	-0.7		
LIC	comp=Z,19nm,0.9s			*e*R					
	comp=Z,258nm,21.5s								
MAW	**Mawson**	**127.72**	**209**	PKP	PKPdf	11 34 04.2	-1.4		
	comp=Z,4.1nm,1.0s,baz=238,slow=10.0,SNR=3.8								
MAW	**Mawson**	**127.72**	**209**	PKIKP	PKPdf	11 34 04.2	-1.4		
MAW	comp=Z,4.0nm,1.0s			pmax	pmax				
TSUM	**Tsumeb**	**131.04**	**284**	SKPbc	SKPbc	11 37 27.0	-0.8		
	comp=Z,3.2nm,0.8s,baz=43,slow=3.4,SNR=4.7								
BOSA	**Boshof**	**131.41**	**268**	PKP	PKPdf	11 34 13.9	+1.4		
	comp=Z,3.1nm,0.6s,baz=67,slow=6.5,SNR=7.6								
BOSA				SKPbc	SKPbc	11 37 27.8	-1.3		
	comp=Z,24nm,0.9s,baz=69,slow=2.6,SNR=16								
QSPA	**South Pole Qui**	**133.89**	**180**	*e*PKPdf	PKPdf	11 34 14.3	-2.9		
SYO	**Syowa Base**	**136.40**	**210**	*e*PKPdf	PKPdf	11 34 20.0	-1.9		
LPAZ	**La Paz**	**139.51**	**58**	PKIKP		11 34 19.1			
	comp=Z,2.4nm,0.7s,baz=28,slow=11,SNR=12								
LPAZ				SKPbc	SKPbc	11 37 53.3	-1.3		
	comp=Z,3.6nm,0.9s,baz=334,slow=5.3,SNR=4.8								
LPAZ	**La Paz**	**139.51**	**58**	*i* PKHKP		11 34 19.1			
LPAZ	comp=Z,2.0nm,0.7s			pmax	pmax				
LVC	**Limon Verde**	**143.68**	**65**	*e*PKPdf	PKPdf	11 34 33.5	-1.6		
NVL	**N'lazarevskaya**	**145.43**	**204**	*d i* PKIKP	PKPdf	11 34 35.7	-2.4		
NVL				*e**PP		11 35 00.0			
NVL	comp=Z,44nm,1.3s			pmax	pmax				
MAIT	**Maitri**	**145.46**	**204**	*e*PKPdf	PKPdf	11 34 36.6	-1.6		
TLL	**Tololo Astrono**	**147.27**	**78**	*e*P	PKPdf	11 34 43.1	+1.8		
SNAA	**Sanae**	**148.76**	**198**	PKPbc	PKPbc	11 34 44.9	-2.7		
	comp=Z,7.0nm,0.9s,baz=136,slow=2.2,SNR=24								
SNAA	**Sanae**	**148.76**	**198**	*e*PKPdf	PKPdf	11 34 42.6	-1.1		
SNAA				*e*		11 34 46.1			
SNAA				*e*		11 34 47.6			
SNAA				*e*		11 34 49.9			
SNAA				*e*		11 34 50.8			
SNAA				*e*		11 34 53.5			
SNAA				*e*		11 34 55.2			
SNAA				*e*		11 35 10.9			
SNAA				*e*		11 35 14.7			
SNAA				*e*		11 35 17.3			
SNAA				*e*		11 35 19.0			
SNAA				*e*		11 35 21.7			
SNAA				*e*		11 35 40.3			
SNAA				*e*		11 36 06.4			
SNAA				*e*		11 36 18.6			
SNAA				*e*		11 36 26.5			
SNAA				*e*		11 36 36.1			
SNAA				*e*		11 36 50.7			
SNAA				*e*		11 38 17.8			
SNAA				*e*		11 38 21.7			
SNAA				*e*		11 38 43.9			
SNAA	**Sanae**	**148.76**	**198**	*e*PKIKP	PKPdf	11 34 42.0	-1.7		
SNAA				*e*		11 34 46.3			
SNAA	**Sanae**	**148.76**	**198**	*e*PKPdf	PKPdf	11 34 42.0	-1.7		
SNAA				*e*PKPbc	PKPbc	11 34 46.3	-1.3		
SNAA				*e*PKPab	PKPab	11 34 49.9	-1.7		
FCH	**Farellones**	**149.38**	**82**	*e*P	PKPdf	11 34 48.9	+4.2		
VNA2	**Neumayer--Watz**	**150.29**	**197**	*e*PKPdf	PKPdf	11 34 44.7	-1.4		
VNA2				*e*		11 34 50.5			
VNA2				*e*		11 34 51.4			
VNA2				*e*		11 34 54.1			
VNA2				*e*		11 34 57.7			
VNA2				*e*		11 35 02.9			
VNA2				*e*		11 35 15.6			
VNA2				*e*		11 35 18.1			
VNA2				*e*		11 35 19.4			
VNA2				*e*		11 35 26.6			
VNA2				*e*		11 35 32.8			
VNA2				*e*		11 35 39.4			
VNA2				*e*		11 35 47.5			
VNA2				*e*		11 36 03.6			
VNA2				*e*		11 36 12.2			
VNA2				*e*		11 36 24.2			
VNA2				*e*		11 36 37.8			
VNA2				*e*		11 36 43.7			
VNA2				*e*		11 37 08.7			
VNA2				*e*		11 37 18.4			
VNA2				*e*		11 38 13.2			
VNA2				*e*		11 38 19.1			
VNA2				*e*		11 38 26.6			
VNA2				*e*		11 38 29.6			
VNA2				*e*		11 38 47.7			
VNA2				*e*		11 38 53.7			
VNA2				*e*		11 39 09.1			
VNA2				*e*		11 41 53.3			
VNA2				*e*		11 41 58.8			
VNA2				*e*		11 42 01.9			
VNA2				*e*		11 42 11.3			
VNA3	**Neumayer Olymp**	**150.50**	**195**	*e*PKPdf	PKPdf	11 34 44.9	-1.6		
VNA3				*e*		11 34 50.5			
VNA3				*e*		11 34 51.7			
VNA3				*e*		11 34 53.9			
VNA3				*e*		11 34 56.2			
VNA3				*e*		11 34 57.8			
VNA3				*e*		11 35 03.2			
VNA3				*e*		11 35 15.6			
VNA3				*e*		11 35 18.1			
VNA3				*e*		11 35 19.6			
VNA3				*e*		11 35 26.8			
VNA3				*e*		11 35 32.9			
VNA3				*e*		11 35 39.5			
VNA3				*e*		11 35 46.9			
VNA3				*e*		11 36 03.6			
VNA3				*e*		11 36 13.5			
VNA3				*e*		11 36 37.3			
VNA3				*e*		11 38 12.5			
VNA3				*e*		11 38 18.2			
VNA3				*e*		11 38 26.7			
VNA3				*e*		11 38 29.5			
VNA3				*e*		11 38 47.6			
VNA3				*e*		11 42 02.3			
VNA3				*e*		11 42 11.4			
VNA3				*e*		11 42 17.2			
VNA1	**Neumayer--Stat**	**150.69**	**197**	*e*PKPdf	PKPdf	11 34 46.9	+0.1		
VNA1				*e*		11 34 52.7			
VNA1				*e*		11 34 57.3			
VNA1				*e*		11 34 59.2			
VNA1				*e*		11 35 04.0			
VNA1				*e*		11 35 16.6			
VNA1				*e*		11 35 20.6			
VNA1				*e*		11 35 25.7			
VNA1				*e*		11 35 31.1			
VNA1				*e*		11 36 05.0			
VNA1				*e*		11 36 14.6			
VNA1				*e*		11 38 28.1			
VNA1				*e*		11 39 08.6			
PLCA	**Paso Flores**	**152.41**	**96**	PKPdf	PKPdf	11 34 48.0	-1.4		
PLCA				PKPbc	PKPbc	11 34 55.6	-0.7		

HLW ***22*** *11:28:07.6, 3658N×2682E, h33km, Mb4.0*
CSEM ***22*** *11:28:07.9±0.1, 3663N×2693E, h137km±1km, Mw3.5, Error ellipse: s-maj=2.0km s-min=1.3km az=169.0*
ISCJB ***22*** *11:28:08.5±0.3, 3650N±003×2693E±003, h146km±4km, mb4.1/3, Error ellipse: s-maj=4.4km s-min=3.3km az=163.7*
NEIC ***22*** *11:28:08.6, 3662N×2682E, h141km, MG3.4(ATH), After ATH.*
ATH ***22*** *11:28:08.6, 3662N×2682E, h141km±4km*
IDC ***22*** *11:28:08.7±1.1, 3650N×2678E, h147km±26km, mb3.9/3, mb1 3.6/6, mb1mx3.4/23, mbtmp3.5/6, Error ellipse: s-maj=35.0km s-min=18.7km az=179.0*
ISK ***22*** *11:28:10.7, 3668N×2693E, h132km, ML3.7*
NIC ***22*** *11:28:11.0±0.2, 3651N×27.12E, h55km, mb4.3, ML3.8, MW3.5*
THE ***22*** *11:28:11.6, 3662N×2683E, h150km*
GII ***22*** *11:28:15.9±0.5, 3620N×2775E, h0km, ML3.4/1*

ISC 22 11:28:09.5±0.3, 3650N±003×2694E±002, h139km±4km, n80, σ1≒32/109, mb4.1/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.57**	**65**	*i* PG	**Pn**	**11 28 30.4**	**+0.4**
BODT	**Bodrum**	**0.64**	**28**	*i* PG	**Pn**	**11 28 30.1**	**-0.3**
BODT				*i* SG	**Sn**	**11 28 45.1**	**-1.2**
ARG	**Arkhangelos**	**1.00**	**106**	*e*P	**Pn**	**11 28 35.0**	**+1.8**
ARG				*e*S	**Sn**	**11 28 53.5**	**+2.2**
MLSB	**Milas**	**1.04**	**40**	PG	**Pn**	**11 28 33.4**	**-0.2**
MLSB				SG	**Sn**	**11 28 49.8**	**-2.2**
SANT	**Santorini**	**1.20**	**264**	*e*Pg	**Pn**	**11 28 34.4**	**-0.7**
SANT	**Santorini**	**1.20**	**264**	*e*Pn	**Pn**	**11 28 34.6**	**-0.5**
SANT	**Santorini**	**1.20**	**264**	*e*Pn	**Pn**	**11 28 34.6**	**-0.5**
SMG	**Samos**	**1.21**	**356**	*e*P	**Pn**	**11 28 33.8**	**-1.5**
YER	**Yerkesik**	**1.25**	**59**	PN	**Pn**	**11 28 36.4**	**+0.7**
YER				SN	**Sn**	**11 28 54.4**	**-1.2**
APE	**Apeiranthos**	**1.27**	**297**	*e*Pg	**Pn**	**11 28 34.8**	**-1.0**
APE	**Apeiranthos**	**1.27**	**297**	*e*P	**Pn**	**11 28 35.0**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.40**	**78**	PN	**Pn**	**11 28 38.7**	**+1.6**
ZKR	**Zakros**	**1.50**	**203**	*e*Pg	**Pn**	**11 28 39.9**	**+1.6**
ZKR				*e*Sg	**Sn**	**11 29 01.3**	**+1.2**
NPS	**Neapolis**	**1.63**	**222**	*e*P	**Pn**	**11 28 40.0**	**+0.3**
NPS				*e*S	**Sn**	**11 29 02.1**	**-0.7**
FETY	**Fethiye**	**1.73**	**85**	PN	**Pn**	**11 28 42.0**	**+1.1**
XRY	**Khrisi**	**1.91**	**212**	*e*P	**Pn**	**11 28 44.0**	**+1.1**
IDI	**Anoyia**	**2.05**	**235**	P	**Pn**	**11 28 44.5**	**-0.2**
	57nm,0.3s,baz=7.4,slow=20,SNR=195						
IDI				S	**Sn**	**11 29 09.9**	**-1.6**
	207nm,0.3s,baz=250,slow=18,SNR=19						
DNZL	**Cakiroluk**	**2.06**	**54**	*i* P	**Pn**	**11 28 51.7**	**+6.9**
DNZL				*i* S	**Sn**	**11 29 17.4**	**+5.6**
DENT	**Denizli**	**2.09**	**53**	*e*PN	**Pn**	**11 28 45.6**	**+0.5**
KSL	**Kastellorizon**	**2.17**	**98**	*e*P	**Pn**	**11 28 46.6**	**+0.6**
GOLH	**Golhisar**	**2.23**	**70**	*i* P	**Pn**	**11 28 47.7**	**+1.0**
GOLH				*i* S	**Sn**	**11 29 14.5**	**-0.9**
SIVA	**Sivas**	**2.27**	**230**	*e*Pn	**Pn**	**11 28 47.8**	**+0.5**
SIVA				*e*Sn	**Sn**	**11 29 16.6**	**+0.3**
ELL	**Elmali**	**2.40**	**83**	*e*PN	**Pn**	**11 28 50.7**	**+1.8**
KHL	**Karahalli**	**2.75**	**48**	*e*PN	**Pn**	**11 28 53.5**	**+0.2**
GVD	**Gavdhos**	**2.85**	**235**	*e*P	**Pn**	**11 28 55.0**	**+0.5**
GVD	**Gavdhos**	**2.85**	**235**	*e*Pn	**Pn**	**11 28 55.4**	**+0.9**
GVD				*e*Sn	**Sn**	**11 29 27.7**	**-1.5**
GVD	**Gavdhos**	**2.85**	**235**	*e*Pn	**Pn**	**11 28 55.4**	**+0.9**
GVD				*e*Sn	**Sn**	**11 29 27.7**	**-1.5**
TKTP	**Tekketepe**	**3.11**	**59**	*i* P	**Pn**	**11 28 57.9**	**0.0**
TKTP				*i* S	**Sn**	**11 29 36.3**	**+1.1**
TKTP	**Tekketepe**	**3.11**	**59**	*i* P	**Pn**	**11 28 57.8**	**0.0**
KYTH	**Kithira**	**3.15**	**267**	*e*P	**Pn**	**11 28 58.0**	**-0.4**
VLI	**Veliai**	**3.23**	**275**	*e*P	**Pn**	**11 28 58.5**	**-0.8**
ITM	**Ithomi**	**4.08**	**281**	*e*P	**Pn**	**11 29 10.0**	**-0.5**
ITM				*e*S	**Sn**	**11 29 53.6**	**-4.2**
HDMB	**Hadim**	**4.48**	**82**	*e*PN	**Pn**	**11 29 17.4**	**+1.6**
KIZT	**Kizilcal**	**4.59**	**57**	*e*PN	**Pn**	**11 29 18.7**	**+1.5**
AKMC	**Akamas**	**4.62**	**107**	P	**Pn**	**11 29 17.8**	**+0.1**
PPCY	**Paphos**	**4.69**	**108**	P	**Pn**	**11 29 18.1**	**-0.4**
EVR	**Evrytania**	**4.73**	**302**	*e*P	**Pn**	**11 29 18.5**	**-0.6**
ALFC	**Alevga**	**4.79**	**105**	P	**Pn**	**11 29 19.8**	**-0.1**
	9.2nm,0.2s						
ALFC				S	**Sn**	**11 30 13.3**	**-1.4**
SZAC	**Souni-Zanaja**	**5.14**	**108**	P	**Pn**	**11 29 25.0**	**+0.4**
	6.2nm,0.3s						
SZAC				S	**Sn**	**11 30 22.1**	**-1.1**
VLS	**Valsamata**	**5.33**	**290**	*e*P	**Pn**	**11 29 25.7**	**-1.4**
HMAT	**Matruh**	**5.39**	**179**	P	**Pn**	**11 29 28.1**	**+0.2**
CSS	**Prodhromos**	**5.42**	**105**	P	**Pn**	**11 29 28.6**	**+0.3**
	1.7nm,0.3s						
CSS				S	**Sn**	**11 30 29.5**	**-0.3**
BRTR	**Keskin Array B**	**6.19**	**57**	P	**Pn**	**11 29 39.5**	**+0.9**
	0.4nm,0.3s,baz=226,slow=13,SNR=6.0						
BRTR	**Keskin Array B**	**6.19**	**57**	P	**Pn**	**11 29 39.5**	**+0.9**
KEK	**Kerkira**	**6.48**	**302**	*e*P	**Pn**	**11 29 42.5**	**0.0**
SWA1		**7.29**	**188**	P	**Pn**	**11 29 53.1**	**-0.2**
SWA1				S	**Sn**	**11 31 10.5**	**-4.1**
SWA2		**7.34**	**190**	P	**Pn**	**11 29 53.9**	**-0.1**
BHL	**Bhannes**	**7.59**	**107**	*e*Pn	**Pn**	**11 29 57.7**	**+0.3**
FYM	**Al Fayyum**	**7.61**	**152**	P	**Pn**	**11 29 59.0**	**+1.4**
FYM				S	**Sn**	**11 31 20.1**	**-2.3**
FYM	**Al Fayyum**	**7.61**	**152**	P	**Pn**	**11 29 59.0**	**+1.4**
AYT	**Al 'Ayyat**	**7.64**	**151**	P	**Pn**	**11 29 59.4**	**+1.3**
KOT	**Kottamia**	**7.72**	**147**	P	**Pn**	**11 30 00.5**	**+1.3**
KOT				S	**Sn**	**11 31 22.4**	**-2.8**
MMA3	**Mount Meron ar**	**7.78**	**114**	P	**Pn**	**11 30 00.2**	**+0.2**
MMA3				S	**Sn**	**11 31 23.9**	**-2.7**
MMAI	**Mount Meron Ar**	**7.78**	**114**	P	**Pn**	**11 30 00.3**	**+0.3**
	4.7nm,0.3s,baz=311,slow=11,SNR=10						
HHAG	**Hagoal**	**7.83**	**145**	P	**Pn**	**11 30 01.7**	**+1.1**
HHAG				S	**Sn**	**11 31 24.5**	**-3.2**
HSAF	**As Saff**	**7.88**	**149**	P	**Pn**	**11 30 02.2**	**+0.9**
RCY	**Rachaya**	**7.88**	**110**	*e*Pn	**Pn**	**11 30 01.1**	**-0.2**
KSDI	**Kefar Szold**	**7.89**	**112**	P	**Pn**	**11 30 01.8**	**+0.3**
KSDI				S	**Sn**	**11 31 24.9**	**-4.3**
SLTI	**Sal'it**	**7.93**	**120**	S	**Sn**	**11 31 27.0**	**-3.2**
GLL	**Jalalah**	**7.98**	**149**	P	**Pn**	**11 30 03.4**	**+0.8**
MMLI	**Mount Malkishu**	**8.09**	**118**	P	**Pn**	**11 30 05.5**	**+1.4**
MMLI				S	**Sn**	**11 31 30.6**	**-3.4**
AMAZ	**Amatzia**	**8.27**	**124**	P	**Pn**	**11 30 07.8**	**+1.3**
AMAZ				S	**Sn**	**11 31 35.2**	**-3.1**
SUZ		**8.27**	**142**	P	**Pn**	**11 30 07.7**	**+1.1**
KZIT	**Kziot**	**8.35**	**130**	P	**Pn**	**11 30 08.4**	**+0.9**
KZIT				S	**Sn**	**11 31 36.6**	**-3.7**
KZIT	**Kziot**	**8.35**	**130**	P	**Pn**	**11 30 08.4**	**+0.9**
YTIR	**Yattir**	**8.51**	**125**	S	**Sn**	**11 31 41.6**	**-2.5**
ZNM		**8.68**	**143**	P	**Pn**	**11 30 13.7**	**+1.8**
HNKL	**Nakhl**	**8.81**	**136**	P	**Pn**	**11 30 14.3**	**+0.5**
HNKL				S	**Sn**	**11 31 48.2**	**-3.3**
ZFRI	**Zfri**	**9.08**	**128**	S	**Sn**	**11 31 55.3**	**-2.5**
PRNI	**Paran**	**9.11**	**130**	P	**Pn**	**11 30 18.8**	**+1.0**
PRNI				S	**Sn**	**11 31 56.0**	**-2.6**
HRFI	**Mount Harif**	**9.35**	**131**	S	**Sn**	**11 32 02.4**	**-2.0**
HFRF	**Wahat Farafira**	**9.39**	**172**	P	**Pn**	**11 30 23.0**	**+1.4**
EIL	**Elat**	**9.56**	**133**	P	**Pn**	**11 30 25.6**	**+1.8**
EIL				S	**Sn**	**11 32 06.9**	**-2.7**
GRB	**Gharib**	**9.57**	**147**	P	**Pn**	**11 30 25.8**	**+1.9**
HHRG	**Al Ghardaqah**	**10.83**	**147**	P	**Pn**	**11 30 43.2**	**+2.7**
GERES	**GERESS Array B**	**15.69**	**326**	P	**Pn**	**11 31 40.3**	**-2.5**
	0.1nm,0.3s,baz=137,slow=10,SNR=4.5						
HFS	**Hagfors**	**25.14**	**344**	P	**P**	**11 33 19.4**	**-2.2**
	4.0nm,0.9s,mb4.0,baz=161,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**41.84**	**58**	P	**P**	**11 35 45.4**	**-0.2**
	1.9nm,0.3s,mb4.2,baz=267,slow=8.6,SNR=41						
ZAL	**Zalesovo**	**43.03**	**47**	P	**P**	**11 35 53.0**	**-2.1**
	2.4nm,0.4s,mb4.2,baz=202,slow=8.7,SNR=5.8						
ZAL	**Zalesovo**	**43.03**	**47**	P	**P**	**11 35 53.0**	**-2.2**

OTT 22 11:50:41.7±0.5, 5977N×6412W, h18km, MN3.0/3, 82km southeast from Killiniq, Qc Boothia Ungava Seismic Zone., Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUQ	**Kuujjuuaa**	**2.78**	**235**	PN	Pn	11 51 24.8	-0.5
KUQ				PG	Pg	11 51 29.9	-5.1
KUQ				SN	Sn	11 51 56.1	-2.3
KUQ				SG	Sg	11 52 04.5	-6.6
KUQ				Trac		11 52 12.4	
	comp=Z,9.6nm,0.1s						
FRB	**Frobisher Bay**	**4.51**	**334**	PN	Pn	11 51 49.0	-0.1
FRB				SN	Sn	11 52 39.0	-2.0
FRB				LG		11 52 57.9	
FRB				Trac		11 53 03.9	
	comp=Z,22nm,0.4s						
SCHQ	**Schefferville**	**5.17**	**198**	PN	Pn	11 51 57.2	-0.9
SCHQ				SN	Sn	11 52 54.2	-3.1
SCHQ				LG		11 53 16.8	
SCHQ				Trac		11 53 26.4	
	comp=Z,40nm,0.9s						
AKVQ	**Akulik**	**7.07**	**285**	PN	Pn	11 52 23.8	-0.5
AKVQ				SN	Sn	11 53 39.1	-5.1
IVKQ	**Ivujivik**	**7.19**	**298**	PN	Pn	11 52 24.4	-1.6
IVKQ				SN	Sn	11 53 38.9	-8.3
INUQ	**Inukj

0.6nm,0.3s,baz=70,slow=11,SNR=4.3
WRA Warramunga Arr 53.89 256 P P 12 28 34.6 +0.2
0.3nm,0.5s,baz=97,slow=6.8,SNR=14
ASAR Alice Springs 54.08 252 P P 12 28 36.1 +0.3
3.4nm,0.6s,baz=89,slow=8.2,SNR=85

ISCJB ***22*** *12:54:57.4±1.2, 4630N±006×15300E±006, h5km±7km, mb4.6/67, MS4.0/21, Error ellipse: s-maj=11.8km s-min=4.3km az=120.8*
IDC ***22*** *12:54:57.6±0.7, 4623N×15304E, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/27, mbtmp4.3/21, ML3.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.6/41, Error ellipse: s-maj=18.8km s-min=15.9km az=156.0*
BJI ***22*** *12:54:58.0, 4645N×15322E, h19km, mB4.9, mb4.6, Ms4.3, Msz4.1*
NEIC ***22*** *12:54:59.8±0.4, 4631N×15300E, h10km, mb4.7/33, Error ellipse: s-maj=10.1km s-min=5.6km az=161.0*
SZGRF ***22*** *12:55:00.1, 4555N×15404E, h33km, mb4.7, East of Kuril Islands, Russia*
SKHL ***22*** *12:55:00.4±1.8, 4620N×153.10E, h51km±18km, mb5.0/3*
MOS ***22*** *12:55:02.6±1.3, 4642N×152.85E, h38km, mb4.7/38, MS4.0/11, Error ellipse: s-maj=8.9km s-min=6.6km az=102.8*
ISC 22 12:55:00.7±1.4, 4638N±006×15299E±006, h15km±8km, h18km±2.9km: pP-P, n192, σ1§07/199, mb4.6/67, MS4.0/21, 14C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.76**	**254**	⇑*i*	P	**Pn**	**12 55 57.0**	**-1.2**
KUR					AMB	AMB	12 55 58.0	
	175nm,0.6s							
KUR					AMB	AMB	12 55 58.0	
	114nm,0.6s							
KUR					AMB	AMB	12 55 58.0	
	456nm,0.6s							
KUR				*i*	S	**Sn**	**12 56 41.0**	**-1.2**
KUR					A		12 56 53.0	
	376nm,0.8s							
KUR					A		12 56 53.0	
	806nm,0.8s							
KUR	**Kuril'sk**	**3.76**	**254**	⇑*i*	PN	**Pn**	**12 55 57.0**	**-1.2**
KUR				*i*	S	**Sn**	**12 56 41.0**	**-1.2**
KUR					pmax	pmax		
	comp=N,170nm,0.6s							
KUR					pmax	pmax		
	comp=E,110nm,0.6s							
KUR					pmax	pmax		
	comp=Z,460nm,0.6s							
KUR					smax			
	comp=N,380nm,0.8s							
KUR					smax			
	comp=E,810nm,0.8s							
SKR	**Severo-Kuril's**	**4.79**	**25**	*e*	P	**Pn**	**12 56 12.5**	**+0.2**
SKR					AMB	AMB	12 56 18.0	
	comp=E,50nm,0.5s							
SKR					AMB	AMB	12 56 18.0	
	comp=E,80nm,0.5s							
SKR					AMB	AMB	12 56 18.0	
	comp=E,150nm,0.5s							
SKR				*e*	S	**Sn**	**12 57 05.5**	**-2.0**
SKR					A		12 57 10.0	
	comp=E,160nm,0.6s							
SKR					A		12 57 10.0	
	comp=E,130nm,0.6s							
SKR					A		12 57 10.0	
	comp=E,80nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.55**	**248**	*e*	P	**Pn**	**12 56 23.3**	**+0.4**
YUK				*e*	S	**Sn**	**12 57 25.0**	**-1.4**
YUK					A		12 57 34.8	
	comp=E,500nm,0.7s							
YUK					A		12 57 34.8	
	comp=E,190nm,0.7s							
NEM2	**Nemuro 2**	**5.96**	**242**		P	**Pn**	**12 56 26.6**	**-1.9**
NEM2				*e*	S	**Sn**	**12 57 29.9**	**-6.7**
JRA	**Rausu**	**6.07**	**249**		P	**Pn**	**12 56 31.1**	**+1.1**
JNK	**Nakash**	**6.49**	**248**		P	**Pn**	**12 56 36.1**	**+0.3**
JAK	**Akkeshi**	**6.81**	**243**		P	**Pn**	**12 56 38.4**	**-1.7**
JTKR	**Abashiri--Toko**	**6.85**	**253**		P	**Pn**	**12 56 42.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	*e*	P	**Pn**	**12 56 49.0**	**+5.4**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	*e*	PN	**Pn**	**12 56 42.4**	**-1.2**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**		Pn	**Pn**	**12 56 50.2**	**+6.5**
JAR	**Ashorobuto**	**7.24**	**248**		P	**Pn**	**12 56 46.5**	**+0.5**
JSE	**Soyaes**	**7.43**	**263**		P	**Pn**	**12 56 48.7**	**+0.1**
PET	**Petropavlovsk**	**7.60**	**27**	*e*	PN	**Pn**	**12 56 52.3**	**+1.4**
JKK2	**Kamakawa 2**	**7.66**	**255**		P	**Pn**	**12 56 53.9**	**+2.1**
ASAJ	**Asahikawa**	**7.67**	**257**		Pn	**Pn**	**12 56 54.8**	**+2.8**
	comp=E,1.5nm,0.3s,baz=106,slow=18,SNR=7.2							
ASAJ					LR	LR	12 59 36.3	
	comp=E,474nm,19.2s,baz=169,slow=36							
JCH	**Churui**	**7.84**	**245**		P	**Pn**	**12 56 53.3**	**-1.0**
JCH				*e*	S	**Sn**	**12 58 15.7**	**-7.1**
TYV	**Tymovskoe**	**8.19**	**307**	*e*	P	**Pn**	**12 57 05.2**	**+6.2**
TYV					AMB	AMB	12 57 07.0	
	comp=E,13nm,0.8s							
TYV					AMB	AMB	12 57 07.0	
	comp=E,29nm,0.8s							
JBT2	**Biratori 2**	**8.39**	**248**		P	**Pn**	**12 57 02.6**	**+0.8**
JKB	**Kayabe**	**9.69**	**247**		P	**Pn**	**12 57 18.2**	**-1.5**
JYM2	**Yakumo 2**	**10.00**	**249**		P	**Pn**	**12 57 23.5**	**-0.4**
JANG	**Nango**	**10.28**	**238**		P	**Pn**	**12 57 23.3**	**-4.4**
JANG				*e*	S	**Sn**	**12 59 09.5**	**-13**
JTM	**Tenmabayashi**	**10.29**	**241**		P	**Pn**	**12 57 24.8**	**-3.1**
MJAR	**Matsushiro Arr**	**14.79**	**234**		Pn	**Pn**	**12 58 29.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=17,slow=14,SNR=5.1							
MAT	**Matsushiro**	**14.79**	**234**		P	**Pn**	**12 58 24.8**	**-4.5**
MDJ	**Mudanjiang**	**16.49**	**272**		P	**Pn**	**12 58 52.1**	**+0.6**
MDJ					AP	pP	12 58 57.6	-0.6
MDJ					XP	sP	12 58 59.0	-1.1
MDJ					S	**Sn**	**13 01 56.8**	**+2.5**
MDJ					AMB	AMB		
	comp=Z,29nm,1.1s							
MDJ					AMB	AMB		
	comp=Z,104nm,4.4s							
MDJ					LR	LR		
	comp=Z,170nm,17.3s							
MDJ	**Mudanjiang**	**16.49**	**272**	*e*	P	**Pn**	**12 58 52.7**	**+1.1**
	comp=Z,25nm,1.1s							
ZEA	**Zeya**	**18.02**	**304**	*e*	P	**Pn**	**12 59 11.3**	**+0.6**
ZEA					AMB	AMB	12 59 17.5	
	comp=Z,28nm,1.2s							
CN2	**Changchun**	**19.58**	**272**	*e*	P	**Pn**	**12 59 29.0**	**-0.5**
CN2					AMB	AMB		
	comp=Z,20nm,0.7s							
CN2					LR	LR		
	comp=N,300nm,14.0s							
CN2					LR	LR		
	comp=E,300nm,14.0s							
CN2					LR	LR		
	comp=Z,300nm,16.0s							
CLNS	**Chul'man**	**20.20**	**311**	*e*	P	**P**	**12 59 29.5**	**-5.5**
CLNS					pmax	pmax		
	comp=N,13nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,22nm,0.9s							
CLNS					pmax	pmax		
	comp=E,17nm,1.0s							
CLNS					MLR	MLR		
	comp=Z,600nm,17.0s,MS4.0							
CLNS					MLR	MLR		
	comp=N,200nm,13.0s,MS4.5							
CLNS					MLR	MLR		
	comp=E,1μm,12.0s,MS4.5							
YAK	**Yakutsk**	**20.59**	**328**	*e*	P	**P**	**12 59 39.4**	**+0.2**
YAK					pmax	pmax		
	comp=Z,20nm,0.6s							
YAK	**Yakutsk**	**20.59**	**328**	*e*	P	**P**	**12 59 39.4**	**+0.2**
	comp=Z,20nm,0.6s							
KSRS	**Korea Array**	**20.61**	**253**		P	**P**	**12 59 40.0**	**+0.7**
	comp=Z,8.6nm,0.7s,baz=56,slow=9.7,SNR=16							
KSRS					LR	LR	13 06 26.1	
	comp=Z,173nm,20.0s,MS3.4,baz=267,slow=33							
JNU	**Nakatsue**	**21.45**	**240**		LR	LR	13 07 39.8	
	comp=Z,355nm,21.1s,MS3.7,baz=69,slow=36							
HIA	**Hailar**	**22.41**	**290**	*e*	P	**P**	**12 59 57.1**	**-1.6**
HIA					pmax	pmax		
	comp=Z,4.0nm,0.7s							
HIA	**Hailar**	**22.41**	**290**	*e*	P	**P**	**12 59 57.1**	**-1.6**
	comp=Z,4.2nm,0.7s,mb4.0							
BILL	**Bilibino**	**22.78**	**13**	*e*	P	**P**	**13 00 01.8**	**-0.8**
BILL					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1							
BILL					MLR	MLR		
	comp=Z,200nm,17.0s,MS3.6							
BILL	**Bilibino**	**22.78**	**13**	*e*	P	**P**	**13 00 02.4**	**-0.2**
	comp=Z,6.8nm,0.7s,mb4.2							
BOD	**Bodaibo**	**26.16**	**310**	*e*	P	**P**	**13 00 32.2**	**-2.3**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1							
NJ2	**Nanjing**	**29.81**	**253**	*e*	P	**P**	**13 01 07.4**	**+0.3**
NJ2					AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1							
HHC	**Hu-ho-hao-te**	**30.24**	**275**	*e*	P	**P**	**13 01 11.3**	**+0.4**
HHC					AP	pP	13 01 15.8	+0.5
HHC					XP	sP	13 01 18.4	+1.3
HHC					PP		13 02 08.5	
HHC					PCP	PcP	13 04 12.8	+1.4
HHC					S	**S**	**13 06 09.3**	**-0.6**
HHC					SS		13 07 44.3	
HHC					AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8							
HHC					AMB	AMB		
	comp=Z,128nm,5.1s							
HHC					LR	LR		
	comp=N,238nm,15.0s,MS4.2							
HHC					LR	LR		
	comp=E,314nm,14.5s,MS4.2							
HHC					LR	LR		
	comp=Z,279nm,14.6s,MS4.0							
ULN	**Ulaanbaatar**	**30.94**	**290**	*e*	P	**P**	**13 01 15.9**	**-1.2**
SONM	**Songino Array**	**31.38**	**290**		P	**P**	**13 01 19.9**	**-1.1**
	comp=Z,0.5nm,0.3s,mb3.8,baz=60,slow=8.1,SNR=6.0							
SONM					LR	LR	13 15 03.9	
	comp=Z,207nm,18.4s,MS3.8,baz=26,slow=38							
SONM	**Songino Array**	**31.38**	**290**		P	**P**	**13 01 19.9**	**-1.1**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.3s							
SONM					MLR	MLR		
	comp=Z,207nm,18.4s							
ZAK	**Zakamensk**	**32.76**	**296**	*e*	P	**P**	**13 01 30.9**	**-2.2**
ZAK					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
GUMO	**Guam**	**33.39**	**194**		LR	LR	13 15 38.8	
	comp=Z,75nm,18.4s,MS3.4,baz=44,slow=37							
IMA2	**Indian Mountai**	**34.16**	**36**	*e*	P	**P**	**13 01 45.5**	**+0.2**
SML	**Sawmill**	**36.30**	**43**	*e*	P	**P**	**13 02 03.4**	**-0.3**
COLA	**College**	**36.48**	**38**	*e*	P	**P**	**13 02 03.8**	**-1.5**
COLA	**College**	**36.48**	**38**	*e*	P	**P**	**13 02 05.7**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7							
LZH	**Lanzhou**	**37.81**	**272**	*e*	P	**P**	**13 02 18.5**	**+1.9**
LZH					AMB	AMB		
	comp=Z,44nm,1.0s,mb5.1							
LZH					AMB	AMB		
	comp=Z,106nm,5.0s							
LZH	**Lanzhou**	**37.81**	**272**	*e*	P	**P**	**13 02 18.5**	**+1.9**
	comp=Z,44nm,1.0s,mb5.1							
LZH					pP	pP	13 02 36.0	+15
LZH					sP	sP	13 02 39.5	+17
GTA	**Gaotai**	**38.95**	**279**		P	**P**	**13 02 27.8**	**+1.7**
GTA					AP	pP	13 02 35.3	+4.7
GTA					XP	sP	13 02 38.6	+6.2
GTA					PP	PP	13 04 01.8	+6.5
GTA					S	**S**	**13 08 31.8**	**+7.7**
GTA					XS	sS	13 08 38.6	+7.1
GTA					AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8							
GTA					AMB	AMB		
	comp=Z,87nm,4.9s							
GTA					LR	LR		
	comp=N,189nm,14.8s,MS4.2							
GTA					LR	LR		
	comp=E,161nm,11.4s,MS4.2							
GTA					LR	LR		
	comp=Z,161nm,17.1s							
EGAK	**Eagle**	**39.35**	**38**	*e*	P	**P**	**13 02 28.7**	**-0.8**
	comp=Z,11nm,1.0s,mb4.5							
CD2	**Chengdu**	**40.76**	**266**		P	**P**	**13 02 40.6**	**-0.6**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7							
CD2					AMB	AMB		
	comp=Z,30nm,4.8s							
GYA	**Guiyang**	**41.55**	**258**	⇑*i*	P	**P**	**13 02 47.5**	**-0.2**
GYA					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8							
INK	**Inuvik**	**42.02**	**32**		P	**P**	**13 02 50.6**	**-0.9**
	comp=Z,5.1nm,0.9s,mb4.1,baz=277,slow=6.8,SNR=18							
INK	**Inuvik**	**42.02**	**32**	*e*	P	**P**	**13 02 51.6**	**+0.1**
	comp=Z,197nm,0.8s							
ZAL	**Zalesovo**	**42.78**	**306**		P	**P**	**13 02 56.2**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.1,baz=48,slow=7.0,SNR=9.6							
ZAL					PcP	PcP	13 04 48.1	-0.8
	comp=Z,1.6nm,0.2s,baz=185,slow=6.3,SNR=4.6							
ZAL					LR	LR	13 22 48.0	
	comp=Z,547nm,18.1s,MS4.5,baz=70,slow=39							
ZAL	**Zalesovo**	**42.78**	**306**		P	**P**	**13 02 56.2**	**-1.5**
ZAL							13 04 48.2	
ZAL					pmax	pmax		
	comp=Z,2.0nm,0.4s							
ZAL					MLR	MLR		
	comp=Z,547nm,18.1s							
WMQ	**Urumqi**	**44.98**	**292**	⇑	P	**P**	**13 03 16.5**	**+1.1**
WMQ					AP	pP	13 03 21.0	+1.0
WMQ					XP	sP	13 03 23.3	+1.5
WMQ					PCP	PcP	13 04 58.5	+2.1
WMQ					PP	PP	13 05 02.5	+2.0
WMQ				*e*	S	**S**	**13 09 53.6**	**+0.3**
WMQ					AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6							
WMQ					AMB	AMB		
	comp=Z,29nm,4.0s							
WMQ					LR	LR		
	comp=N,82nm,19.6s,MS3.8							
WMQ					LR	LR		
	comp=E,83nm,20.0s,MS3.8							
WMQ					LR	LR		
	comp=Z,109nm,16.2s,MS3.9							
KMI	**Kunming**	**45.09**	**260**		P	**P**	**13 03 16.3**	**0.0**
KMI					AP	pP	13 03 20.1	-0.7
KMI					XP	sP	13 03 22.5	-0.1
KMI					PP	PP	13 05 05.1	+3.4
KMI					S	**S**	**13 09 55.1**	**+0.2**
KMI					SS	SS	13 13 06.5	-11
KMI					AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.4							
KMI					AMB	AMB		
	comp=Z,41nm,3.1s							
KMI					LR	LR		
	comp=N,141nm,15.8s,MS4.1							
KMI					LR	LR		
	comp=E,117nm,13.5s,MS4.1							
KMI					LR	LR		
	comp=Z,54nm,21.3s							
KMI	**Kunming**	**45.09**	**260**		P	**P**	**13 03 16.3**	**0.0**
KMI					*SP	sP	13 03 22.5	-0.1
KMI							13 05 05.1	
KMI					S	**S**	**13 09 55.1**	**+0.2**
KMI					SS	SS	13 13 06.5	-11
KMI					pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.4							
KMI					MLR	MLR		
	comp=Z,50nm,21.3s,MS3.4							
KMI	**Kunming**	**45.09**	**260**		P	**P**	**13 03 16.3**	**0.0**
	comp=Z,10.0nm,1.5s,mb4.4							
KMI					pP	pP	13 03 20.1	-0.7
KMI					sP	sP	13 03 22.5	-0.1
KMI					PP	PP	13 05 05.1	+3.4
KMI					S	**S**	**13 09 55.1**	**+0.2**
KMI					SS	SS	13 13 06.5	-11
KMI					LR	LR		
	comp=Z,50nm,21.3s,MS3.4							
MK31	**Makanchi Array**	**47.04**	**298**	*i*	P	**P**	**13 03 30.9**	**-0.7**
MK31					pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
MK31	**Makanchi Array**	**47.04**	**298**	*e*	P	**P**	**13 03 31.0**	**-0.6**
MKAR	**Makanchi Array**	**47.04**	**298**		P	**P**	**13 03 31.2**	**-0.4**
	comp=Z,7.4nm,0.8s,mb4.7,baz=66,slow=7.9,SNR=64							
MKAR					PcP	PcP	13 05 03.0	-0.6
	comp=Z,1.6nm,0.8s,baz=94,slow=3.8,SNR=3.6							
MKAR					LR	LR	13 24 30.1	
	comp=Z,272nm,18.6s,MS4.2,baz=72,slow=38							
MKAR	**Makanchi Array**	**47.04**	**298**		P	**P**	**13 03 31.2**	**-0.4**
MKAR							13 05 03.0	
MKAR					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MKAR					MLR	MLR		
	comp=Z,272nm,18.6s							
LSA	**Lhasa**	**50.21**	**273**		P	**P**	**13 03 58.3**	**+2.3**
LSA					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**50.21**	**273**	*e*	P	**P**	**13 03 58.3**	**+2.3**
	comp=Z,7.5nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**50.61**	**310**	*e*	P	**P**	**13 03 57.6**	**-1.4**
CHKZ					pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0							
CHKZ	**Chkalovo**	**50.61**	**310**	*e*	P	**P**	**13 03 57.5**	**-1.5**
	comp=Z,19nm,0.9s,mb5.0							
BVA0	**Borovoye Array**	**51.03**	**310**	*i*	P	**P**	**13 04 00.9**	**-1.3**
BVA0					pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7							
BVAR	**Borovoye Array**	**51.03**	**310**		P	**P**	**13 04 01.6**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.3,baz=51,slow=7.8,SNR=19							
BVAR					LR	LR	13 27 25.3	
	comp=Z,160nm,18.7s,MS4.1,baz=320,slow=38							
BVAR	**Borovoye Array**	**51.03**	**310**		P	**P**	**13 04 01.6**	**-0.6**
BVAR					pmax	pmax		
	comp=Z,2.0nm,0.5s							
BVAR					MLR	MLR		
	comp=Z,161nm,18.7s							
BRVK	**Borovoye**	**51.07**	**310**	*e*	P	**P**	**13 04 01.5**	**-1.0**
BRVK					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**51.07**	**310**	*e*	P	**P**	**13 04 01.5**	**-1.0**
	comp=Z,4.4nm,0.6s,mb4.6							
YKA	**Yellowknife Ar**	**51.28**	**36**		P	**P**	**13 04 04.0**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=294,slow=7.1,SNR=6.5							
YKA	**Yellowknife Ar**	**51.28**	**36**		P	**P**	**13 04 04.0**	**-0.1**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**51.28**	**36**		P	**P**	**13 04 04.0**	**-0.1**
CHTO	**Chiang Mai**	**51.95**	**257**	*e*	P	**P**	**13 04 09.6**	**+0.5**
CHTO					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**51.95**	**257**	*e*	P	**P**	**13 04 09.6**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**53.92**	**297**	*e*	P	**P**	**13 04 22.9**	**-0.8**
AAK					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**53.92**	**297**	*e*	P	**P**	**13 04 22.9**	**-0.8**
	comp=Z,6.7nm,0.8s,mb4.6							
JIRN	**Jiri**	**54.89**	**275**	*e*	P	**P**	**13 04 32.2**	**+1.5**
	comp=Z,29nm,0.8s,mb5.4							
ARU	**Arti**	**55.23**	**318**	⇑*i*	P	**P**	**13 04 31.6**	**-1.6**
ARU				*e*	S	**S**	**13 12 15.4**	**-0.8**
ARU					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
ARU	**Arti**	**55.23**	**318**	*e*	P	**P**	**13 04 31.3**	**-1.9**
	comp=Z,3.5nm,0.6s,mb4.6							
KKN	**Kakani**	**55.44**	**275**	*e*	P	**P**	**13 04 36.3**	**+1.7**
	comp=Z,27nm,0.7s,mb5.4							
DMN	**Daman**	**55.67**	**275**	*e*	P	**P**	**13 04 37.6**	**+1.3**
GKN	**Gorkha**	**55.75**	**276**	*e*	P	**P**	**13 04 38.0**	**+1.1**
	comp=Z,43nm,0.8s,mb5.5							
KOLN	**Koldanda**	**56.61**	**277**	*e*	P	**P**	**13 04 44.3**	**+1.3**
	comp=Z,40nm,0.8s,mb5.5							
EDM	**Edmonton**	**56.64**	**46**	*e*	P	**P**	**13 04 42.4**	**-0.8**
ARCES	**ARCESS Array B**	**58.18**	**341**		P	**P**	**13 04 53.7**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=33,slow=7.2,SNR=5.5							
ARCES					LR	LR	13 35 52.8	
	comp=Z,89nm,19.1s,MS3.9,baz=229,slow=42							
ARCES	**ARCESS Array B**	**58.18**	**341**		P	**P**	**13 04 53.7**	**-0.4**
ARCES					LR	LR	13 35 52.8	
AB31	**Akbulak array**	**58.60**	**310**		P	**P**	**13 04 56.4**	**-0.7**
AB31					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
AKTK	**Aktyubinsk**	**58.91**	**312**		P	**P**	**13 04 58.5**	**-0.7**
AKTO	**Aktyubinsk**	**58.91**	**312**		P	**P**	**13 04 58.5**	**-0.7**
	comp=Z,2.7nm,0.6s,mb4.5,baz=77,slow=7.8,SNR=8.1							
AKTO	**Aktyubinsk**	**58.91**	**312**		P	**P**	**13 04 58.5**	**-0.7**
AKTO					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
MSO	**Missoula**	**60.06**	**52**	*e*	P	**P**	**13 05 06.6**	**-0.5**
	comp=Z,4.3nm,1.0s,mb4.4							
NDI	**New Delhi**	**60.39**	**282**	*ex*		x	13 05 07.0	
RRI2	**Red Ridge**	**63.68**	**54**	*e*	P	**P**	**13 05 32.5**	**+1.0**
	comp=Z,12nm,0.8s,mb5.0							
FINES	**FINESS Array B**	**64.34**	**335**		P	**P**	**13 05 35.3**	**-0.5**
	comp=Z,6.9nm,0.7s,mb4.8,baz=39,slow=7.3,SNR=20							
FINES					LR	LR	13 37 57.3	
	comp=Z,64nm,18.2s,MS3.9,baz=354,slow=40							
FINES	**FINESS Array B**	**64.34**	**335**		P	**P**	**13 05 35.3**	**-0.6**
FINES					pmax	pmax		
	comp=Z,7.0nm,0.7s							
FINES					MLR	MLR		
	comp=Z,64nm,18.2s							
DUG	**Dugway**	**64.85**	**58**	*e*	P	**P**	**13 05 39.7**	**+0.5**
DUG				*e*			13 05 51.5	
DUG					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
DUG	**Dugway**	**64.85**	**58**	*e*	P	**P**	**13 05 39.7**	**+0.5**
	comp=Z,7.2nm,1.0s,mb4.7							
DUG				*e*			13 05 51.5	
BW06	**Boulder Array**	**65.04**	**54**	*e*	P	**P**	**13 05 40.7**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.6							
PDAR	**Pinedale Array**	**65.04**	**54**		P	**P**	**13 05 40.0**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=162,slow=0.5,SNR=7.4							
SRU	**San Rafael**	**66.89**	**57**	*e*	P	**P**	**13 05 52.6**	**+0.3**
SRU				*e*			13 06 04.3	
SRU					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
SRU	**San Rafael**	**66.89**	**57**	*e*	P	**P**	**13 05 52.6**	**+0.3**
	comp=Z,9.1nm,0.8s,mb4.9							
SRU				*e*			13 06 04.3	
WRA	**Warramunga Arr**	**68.13**	**199**		P	**P**	**13 05 57.3**	**-2.9**
	comp=Z,1.1nm,0.9s,mb3.9,baz=16,slow=6.6,SNR=6.4							
WRA	**Warramunga Ar**	**68.13**	**199**		P	**P**	**13 05 57.3**	**-2.8**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.56**	**341**		P	**P**	**13 06 02.3**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.3,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.56**	**341**		P	**P**	**13 06 02.6**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=18							
NOA					LR	LR	13 40 35.9	
	comp=Z,74nm,18.9s,MS3.9,baz=45,slow=40							
NOA	**NORSAR Array B**	**68.56**	**341**		P	**P**	**13 06 02.7**	**-0.1**
NOA					pmax	pmax		
	comp=Z,3.0nm,0.7s							
NOA					MLR	MLR		
	comp=Z,74nm,18.9s							
KIV	**Kislovodsk**	**71.00**	**314**	*e*	P	**P**	**13 06 17.1**	**-0.8**
KIV					pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0							
KIV					MLR	MLR		
	comp=Z,153nm,17.0s,MS4.3							
AKASG	**Malin

KECS					pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0								
KECS	**Kecovo**	**76.85**	**330**	*eP*	**P**		**13 06 49.6**	**-2.5**
	comp=Z,1.8nm,1.0s,mb4.0								
MLR	**Muntele Rosu**	**77.32**	**325**	P	**P**		**13 06 56.0**	**+1.2**
	comp=Z,4.1nm,0.6s,mb4.6,baz=171,slow=5.1,SNR=7.7								
MLR	**Muntele Rosu**	**77.32**	**325**	⇓*iP*	**P**		**13 06 55.4**	**+0.6**
MLR	**Muntele Rosu**	**77.32**	**325**	P	**P**		**13 06 56.0**	**+1.2**
MLR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
MLR	**Muntele Rosu**	**77.32**	**325**	⇓P	**P**		**13 06 55.4**	**+0.7**
MALT	**Malatya**	**77.34**	**313**	⇓*iP*	**P**		**13 06 57.1**	**+2.2**
MALT	**Malatya**	**77.34**	**313**	*eP*	**P**		**13 06 56.2**	**+1.3**
	comp=Z,2.2nm,0.6s,mb4.3								
VYHS	**Vyhne**	**77.41**	**331**	*eP*	**P**		**13 06 55.8**	**+0.5**
VYHS				pmax	pmax				
	comp=Z,24nm,2.5s,mb4.7								
VYHS	**Vyhne**	**77.41**	**331**	*eP*	**P**		**13 06 55.8**	**+0.5**
	comp=Z,24nm,2.5s,mb4.7								
VRAC	**Vranov**	**77.44**	**332**	⇓*iP*	**P**		**13 06 56.5**	**+1.0**
VRAC	**Vranov**	**77.44**	**332**	⇓P	**P**		**13 06 56.5**	**+1.1**
PRU	**Pruhonice**	**77.49**	**334**	*eP*	**P**		**13 06 56.1**	**+0.4**
LTX	**Lajitas**	**77.75**	**60**	P	**P**		**13 06 57.7**	**+0.5**
LTX				*e*			13 07 09.2		
LTX				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
LTX	**Lajitas**	**77.75**	**60**	P	**P**		**13 06 57.7**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3								
LTX				*e*			13 07 09.2		
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**		**13 06 56.8**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=302,slow=4.7,SNR=16								
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**		**13 06 56.8**	**-0.4**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KHC	**Kasperske Hory**	**78.54**	**334**	*eP*	**P**		**13 07 02.0**	**+0.5**
BRTR	**Keskin Array B**	**78.60**	**317**	P	**P**		**13 07 02.8**	**+0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=66,slow=3.1,SNR=4.4								
BRTR	**Keskin Array B**	**78.60**	**317**	P	**P**		**13 07 02.8**	**+0.9**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
GZR	**Gura Zlata**	**78.64**	**327**	⇑*iP*	**P**		**13 07 02.5**	**+0.4**
GZR	**Gura Zlata**	**78.64**	**327**	⇑P	**P**		**13 07 02.5**	**+0.5**
GRA1	**Grafenberg Arr**	**78.73**	**336**	*eP*	**P**		**13 07 03.5**	**+0.9**
	comp=Z,8.0nm,0.8s,mb4.7								
GRF	**Grafenberg Arr**	**78.73**	**336**	*eP*	**P**		**13 07 03.5**	**+0.9**
	comp=Z,8.0nm,0.8s,mb4.7								
GRF	**Grafenberg Arr**	**78.73**	**336**	*eP*	**P**		**13 07 03.5**	**+0.9**
GRF				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
GRF	**Grafenberg Arr**	**78.73**	**336**	*eP*	**P**		**13 07 03.5**	**+0.9**
GRF				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
GERES	**GERESS Array B**	**78.76**	**334**	P	**P**		**13 07 03.2**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=44,slow=5.9,SNR=10								
GERES				LR	LR		13 45 32.2		
	comp=Z,109nm,18.7s,MS4.2,baz=21,slow=38								
GERES	**GERESS Array B**	**78.76**	**334**	P	**P**		**13 07 03.2**	**+0.5**
GERES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
GERES				MLR	MLR				
	comp=Z,109nm,18.7s								
MIB	**Mutribah**	**78.79**	**301**	*eP*	**P**		**13 07 03.9**	**+1.0**
MIB				AMb	AMB		13 07 05.4		
	comp=Z,53nm,0.7s,mb5.6								
BZS	**Buzias**	**78.89**	**328**	⇑*iP*	**P**		**13 07 02.9**	**-0.5**
BZS	**Buzias**	**78.89**	**328**	⇑P	**P**		**13 07 02.9**	**-0.5**
KBD	**Kabd**	**79.03**	**301**	*eP*	**P**		**13 07 03.9**	**-0.4**
NAY	**Al-Naaiem**	**79.25**	**301**	*eP*	**P**		**13 07 05.9**	**+0.5**
RDF	**Al-Radifah**	**79.30**	**301**	*eP*	**P**		**13 07 06.5**	**+0.8**
RDF				AMb	AMB		13 07 12.4		
	comp=Z,51nm,1.3s,mb5.3								
PKSM	**Moragy**	**79.45**	**330**	⇑*iP*	**P**		**13 07 06.1**	**-0.4**
PKSM	**Moragy**	**79.45**	**330**	⇑P	**P**		**13 07 06.1**	**-0.5**
VTS	**Vitosha**	**80.83**	**325**	⇑*iP*	**P**		**13 07 14.9**	**+0.9**
VTS	**Vitosha**	**80.83**	**325**	⇑P	**P**		**13 07 14.9**	**+1.0**
CDF	**Champ du Feu**	**80.97**	**338**	*eP*	**P**		**13 07 15.0**	**+0.3**
	comp=Z,18nm,0.8s,mb4.7								
CDF	**Champ du Feu**	**80.97**	**338**	*eP*	**P**		**13 07 15.0**	**+0.3**
CDF				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
CDF	**Champ du Feu**	**80.97**	**338**	*eP*	**P**		**13 07 15.0**	**+0.3**
	comp=Z,9.3nm,0.8s,mb4.8								
PPT	**Papeete**	**82.01**	**126**	LR	LR		13 36 10.3		
	comp=Z,130nm,22.0s,MS4.2,baz=346,slow=30								
GRR	**Gorron**	**82.90**	**343**	*eP*	**P**		**13 07 24.3**	**-0.6**
MMAI	**Mount Meron Ar**	**83.00**	**311**	P	**P**		**13 07 26.7**	**+1.3**
	comp=Z,5.4nm,0.7s,mb4.7,baz=41,slow=7.8,SNR=6.3								
SMF	**Signal de Mont**	**83.48**	**339**	*eP*	**P**		**13 07 28.2**	**+0.3**
	comp=Z,42nm,1.2s,mb5.1								
SMF	**Signal de Mont**	**83.48**	**339**	*eP*	**P**		**13 07 28.2**	**+0.3**
SMF				pmax	pmax				
	comp=Z,21nm,1.2s,mb5.0								
SMF	**Signal de Mont**	**83.48**	**339**	*eP*	**P**		**13 07 28.2**	**+0.3**
	comp=Z,21nm,1.2s,mb5.0								
LPG	**La Plagne**	**83.80**	**337**	*eP*	**P**		**13 07 30.9**	**+1.4**
	comp=Z,7.7nm,0.7s,mb4.7								
LPG	**La Plagne**	**83.80**	**337**	*eP*	**P**		**13 07 30.9**	**+1.4**
LPG				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.7								
LPG	**La Plagne**	**83.80**	**337**	*eP*	**P**		**13 07 30.9**	**+1.4**
	comp=Z,3.8nm,0.7s,mb4.6								
ORIF	**Oris-en-Rattie**	**84.57**	**337**	*eP*	**P**		**13 07 34.5**	**+1.1**
	comp=Z,11nm,0.7s,mb4.8								
ORIF	**Oris-en-Rattie**	**84.57**	**337**	*eP*	**P**		**13 07 34.5**	**+1.1**
ORIF				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.8								
ORIF	**Oris-en-Rattie**	**84.57**	**337**	*eP*	**P**		**13 07 34.5**	**+1.1**
	comp=Z,5.7nm,0.7s,mb4.8								
MDT	**Midelt**	**98.62**	**341**	LR	LR		13 56 46.1		
	comp=Z,61nm,19.4s,MS4.1,baz=341,slow=38								
CFAA	**Coronel Fontan**	**145.15**	**80**	PKPbc	PKPbc		13 14 36.0	-1.2	
	comp=Z,0.1nm,0.3s,baz=295,slow=4.9,SNR=4.1								
VNA2	**Neumayer--Watz**	**153.62**	**194**	*e*PKPdf	PKPdf		13 14 55.5	+4.3	
VNA2				*e*			13 15 09.4		
VNA2				*e*			13 15 14.3		
VNA2				*e*			13 15 20.1		
VNA3	**Neumayer Olymp**	**153.71**	**193**	*e*PKPdf	PKPdf		13 14 55.3	+4.0	
VNA3				*e*			13 15 08.9		
VNA3				*e*			13 15 13.4		
VNA3				*e*			13 15 20.1		

IDC ***22*** *13:03:20.2±2.1, 3579N×7105E, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.6/24, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=61.0km s-min=25.6km az=81.0*

ISCJB ***22*** *13:03:31.3±2.6, 36.1N±0.1×71.1E±0.2, h106km±22km, mb3.3/2, Error ellipse: s-maj=37.7km s-min=10.3km az=122.5*

ISC 22 13:03:33.0±2.4, 362N±01×710E±03, h108km±19km, n13, σ0§65/14, mb3.3/2, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.32**	**18**	P	**Pn**	**13 05 03.9**	**+0.3**
	SNR=123						
UCH	**Uchtor**	**6.65**	**23**	P	**Pn**	**13 05 08.4**	**+0.4**
	SNR=15						
SDNR	**Sundarnagar**	**6.77**	**131**	*ex*	**Pn**	**13 04 59.0**	**-11**
SDNR				*eS*	**Sn**	**13 06 25.0**	**-0.3**
EKS2	**Erkin-Say**	**6.84**	**17**	P	**Pn**	**13 05 10.8**	**+0.1**
	SNR=6.3						
AAK	**Ala-Archa**	**7.01**	**21**	P	**Pn**	**13 05 13.4**	**+0.4**
	SNR=11						
CHMS	**Chumysh**	**7.42**	**22**	P	**Pn**	**13 05 19.3**	**+0.8**
	SNR=7.0						
USP	**Ospenovka**	**7.60**	**20**	P	**Pn**	**13 05 20.5**	**-0.4**
	SNR=13						
MKAR	**Makanchi Array**	**13.56**	**35**	Pn	**Pn**	**13 06 38.9**	**-1.9**
	0.1nm,0.3s,baz=207,slow=14,SNR=4.1						
BVAR	**Borovoye Array**	**16.88**	**359**	P	**Pn**	**13 07 22.4**	**-0.1**
	0.4nm,0.3s,baz=170,slow=11,SNR=8.8						
AKTO	**Aktyubinsk**	**17.10**	**331**	P	**Pn**	**13 07 24.6**	**-0.7**
	0.5nm,0.3s,baz=152,slow=8.5,SNR=10						
ZAL	**Zalesovo**	**20.21**	**24**	P	**P**	**13 07 59.5**	**+0.4**
	5.7nm,0.4s,baz=241,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**13 15 40.0**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=324,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**13 15 51.9**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=308,slow=4.7,SNR=7.1						

IDC ***22*** *13:08:15.8±2.6, 2642N×6605E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, Error ellipse: s-maj=64.2km s-min=25.9km az=150.0*

ISCJB ***22*** *13:08:18.4±2.4, 264N±0.3×662E±0.2, h35km, mb3.7/7, Error ellipse: s-maj=53.4km s-min=21.8km az=131.4*

ISC 22 13:08:20.9±2.3, 265N±03×662E±02, h35km, n8, σ0§95/8, mb3.7/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**10.21**	**52**	*eP*	**Pn**	**13 10 43.4**	**-1.4**
MKAR	**Makanchi Array**	**23.96**	**28**	P	**P**	**13 13 32.4**	**+0.5**
	0.7nm,0.6s,mb3.3,baz=212,slow=10.0,SNR=9.7						
BVAR	**Borovoye Array**	**26.72**	**6**	P	**P**	**13 13 58.2**	**+1.3**
	0.5nm,0.6s,mb3.2,baz=172,slow=15,SNR=3.7						
ZAL	**Zalesovo**	**30.71**	**22**	P	**P**	**13 14 32.1**	**-0.3**
	0.8nm,0.2s,mb4.1,baz=120,slow=2.9,SNR=4.1						
SONM	**Songino Array**	**37.92**	**45**	P	**P**	**13 15 36.3**	**+1.5**
	0.3nm,0.3s,mb3.5,baz=238,slow=8.3,SNR=3.9						
FINES	**FINESS Array B**	**44.11**	**334**	P	**P**	**13 16 25.4**	**-0.3**
	0.7nm,0.5s,mb3.6,baz=134,slow=8.0,SNR=4.3						
ARCES	**ARCESS Array B**	**49.16**	**342**	P	**P**	**13 17 04.3**	**-1.0**
	1.2nm,0.7s,mb4.0,baz=127,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**61.58**	**271**	P	**P**	**13 18 34.5**	**-0.2**
	1.4nm,0.8s,mb4.2,baz=65,slow=6.1,SNR=9.0						

IDC ***22*** *13:09:59.3±1.4, 4739N×15602E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx1.9/38, Error ellipse: s-maj=44.1km s-min=34.5km az=28.0*

MOS ***22*** *13:10:01.3±0.6, 4736N×15579E, h24km, mb4.1/2, Error ellipse: s-maj=81.4km s-min=34.9km az=93.0*

ISCJB ***22*** *13:10:03.2±4.9, 474N±0.3×1559E±03, h37km±42km, mb3.6/4, MS3.2/1, Error ellipse: s-maj=49.4km s-min=37.2km az=17.4*

ISC 22 13:10:04.8±4.7, 474N±03×1559E±03, h36km±41km, n8, σ0§27/7, mb3.6/4, MS3.2/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.27**	**2**	*e*PN	**Pn**	**13 10 53.5**	**0.0**
SONM	**Songino Array**	**32.92**	**289**	LR	LR	13 31 03.5	
	comp=Z,47nm,19.4s,MS3.2,baz=210,slow=38						
MKAR	**Makanchi Array**	**48.33**	**298**	P	**P**	**13 18 43.0**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=52,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**48.33**	**298**	P	**P**	**13 18 43.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**13 19 09.5**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=62,slow=7.7,SNR=7.4						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**13 19 09.5**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.49**	**201**	P	**P**	**13 21 33.6**	**0.0**
	comp=Z,0.4nm,1.0s,mb3.3,baz=20,slow=6.7,SNR=4.2						
TXAR	**Lajitas Array**	**75.48**	**63**	P	**P**	**13 21 45.3**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=284,slow=4.4,SNR=4.0						

IDC 22 13:24:28.7±1.2, 860N×8793E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, MS3.8/1, Ms1 3.8/1, ms1mx2.6/38, Error ellipse: s-maj=56.9km s-min=22.4km az=48.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**5.63**	**57**	*eP*	x	13 24 54.4	
PBA				*eS*	x	13 25 04.1	
PBA				*ex*	x	13 25 06.4	
	comp=N,4μm,0.3s						
PBA				*ex*	x	13 25 06.9	
	comp=E,6μm,0.3s						
MKAR	**Makanchi Array**	**38.36**	**354**	P	P	13 31 51.5	+0.2
	comp=E,0.9nm,0.6s,baz=168,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**45.71**	**126**	P	P	13 32 51.8	+0.4
	comp=E,0.8nm,0.5s,baz=326,slow=11,SNR=5.7						
MJAR	**Matsushiro Arr**	**53.34**	**51**	LR	LR	13 59 09.0	
	comp=E,88nm,20.9s,baz=300,slow=39						
WRA	**Warramunga Ar**	**53.76**	**122**	P	P	13 33 51.8	-1.0
	comp=E,0.9nm,0.4s,baz=300,slow=10,SNR=32						
ASAR	**Alice Springs**	**55.19**	**127**	P	P	13 34 05.0	+1.9
	comp=E,0.7nm,0.6s,baz=308,slow=7.1,SNR=15						
TORD	**Torodi Ar. Bea**	**84.44**	**282**	P	P	13 37 03.9	+0.7
	comp=E,1.4nm,0.8s,baz=63,slow=6.2,SNR=7.6						

NEIC ***22*** *13:25:51.7, 2758S×7109W, h24km, ML3.4(GUC), After GUC.*

GUC 22 13:25:51.7±0.7, 2758S×7109W, h24km±5km, MD3.7, ML3.4, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.56**	**25**	⇓*iP*	Pb	13 26 02.5	-0.3
CDCH				*i* S	Sb	13 26 10.4	-0.1
CPCH	**Copiapo**	**0.69**	**71**	⇑*eP*	Pb	13 26 05.1	0.0
CPCH				*i* S	Sb	13 26 14.4	+0.1
CPCH				AML	AML	13 26 16.6	
	comp=E,11μm,0.1s						
CPCH	**Copiapo**	**0.69**	**71**	⇑*eP*	Pb	13 26 05.1	0.0
CPCH				*i* S	Sb	13 26 14.4	+0.1
VACH	**Vallenar**	**1.03**	**163**	*eP*	Pn	13 26 10.1	-0.5
VACH				*i* S	Sb	13 26 23.7	-0.3
VACH				AML	AML	13 26 27.8	
	comp=N,1μm,0.5s						
VACH	**Vallenar**	**1.03**	**163**	*eP*	Pn	13 26 10.1	-0.5
VACH				*i* S	Sb	13 26 23.7	-0.3
TLL	**Tololo Astrono**	**2.59**	**174**	*eP*	Pn	13 26 33.8	+1.8
TLL				*i* S	Sn	13 27 06.1	+3.4
TLL				AML	AML	13 27 19.1	
	comp=E,66nm,0.6s						
TLL	**Tololo Astrono**	**2.59**	**174**	*eP*	Pn	13 26 33.8	+1.8
TLL				*i* S	Sn	13 27 06.1	+3.4

IDC ***22*** *13:26:28.4±19.0, 24.15N×6622E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.7/23, mbtmp4.1/5, Error ellipse: s-maj=368.0km s-min=56.3km az=170.0*

ISCJB ***22*** *13:26:51.7±2.3, 268N±0.3×662E±0.3, h35km, mb3.9/5, Error ellipse: s-maj=49.7km s-min=12.9km az=104.4*

ISC 22 13:26:52.6±2.2, 267N±03×661E±02, h35km, n9, σ1§09/11, mb3.9/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBDP	**Sheikh Budin**	**6.93**	**35**	P	**Pn**	**13 28 31.7**	**+0.1**
SBDP				S	**Sn**	**13 29 50.0**	**+0.8**
THW	**Thamme Wali**	**7.81**	**38**	P	**Pn**	**13 28 43.2**	**-0.5**
CEP	**Cherat**	**8.70**	**34**	P	**Pn**	**13 28 55.7**	**-0.2**
CEP				S	**Sn**	**13 30 32.0**	**-0.7**
CHCP	**Chirah Chowk**	**9.30**	**40**	P	**Pn**	**13 29 03.0**	**-1.2**
MKAR	**Makanchi Array**	**23.80**	**28**	P	**P**	**13 32 02.3**	**+0.2**
	1.8nm,0.7s,mb3.6,baz=206,slow=11,SNR=8.0						
BVAR	**Borovoye Array**	**26.49**	**6**	P	**P**	**13 32 29.6**	**+3.1**
	0.5nm,0.4s,mb3.4,baz=182,slow=9.5,SNR=6.1						
ZAL	**Zalesovo**	**30.52**	**22**	P	**P**	**13 33 05.2**	**+2.7**
	0.9nm,0.4s,mb4.0,baz=239,slow=2.7,SNR=3.7						
FINES	**FINESS Array B**	**43.85**	**334**	P	**P**	**13 34 54.6**	**-0.7**
	3.7nm,1.0s,mb4.1,baz=114,slow=9.2,SNR=4.7						
ARCES	**ARCESS Array B**	**48.91**	**342**	P	**P**	**13 35 34.2**	**-0.8**
	3.6nm,1.0s,mb4.3,baz=137,slow=6.2,SNR=6.6						

ISCJB ***22*** *13:27:16.3±0.8, 1095N±008×6194W±004, h62km±9km, Error ellipse: s-maj=14.0km s-min=6.2km az=166.7*

FUNV ***22*** *13:27:17.1, 1098N×6181W, h34km, MW3.1*

NEIC ***22*** *13:27:19.4, 1108N×6172W, h14km, MD3.0(TRN), After TRN.*

TRN ***22*** *13:27:19.4, 1108N×6172W, h14km, MD3.0*

ISC 22 13:27:17.5±0.7, 1099N±008×6193W±003, h50km±12km, n12, σ0§90/20, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.33**	**149**	*eP*	**Pn**	**13 27 27.2**	**+0.3**
TCE				*eS*	**Sn**	**13 27 33.5**	**-0.2**
GUIV	**Guiria**	**0.45**	**221**	*eP*	**Pn**	**13 27 28.1**	**0.0**
GUIV				*eS*	**Sn**	**13 27 36.0**	**+0.3**
TRN	**Trinidad (W)**	**0.61**	**123**	*eP*	**Pn**	**13 27 29.8**	**-0.4**
TRN				*eS*	**Sn**	**13 27 37.6**	**-1.6**
TPP	**Pointe-a-Pierr**	**0.81**	**145**	*eP*	**Pn**	**13 27 34.4**	**+1.7**
TBH	**Brigand Hill**	**0.98**	**120**	*eP*	**Pn**	**13 27 36.9**	**+1.9**
TPR	**Prospect**	**1.15**	**80**	*eP*	**Pn**	**13 27 37.1**	**-0.1**
TPR				*eS*	**Sn**	**13 27 51.0**	**-0.8**
ITEV	**Isla Los Testi**	**1.24**	**287**	*eP*	**Pn**	**13 27 39.1**	**+0.7**
ITEV				*eS*	**Sn**	**13 27 54.9**	**+0.9**
GUNV	**Guanoco**	**1.29**	**231**	*eP*	**Pn**	**13 27 39.3**	**+0.2**
GUNV				*eS*	**Sn**	**13 27 55.8**	**+0.4**
CUPV	**Cœpira**	**3.91**	**257**	*eP*	**Pn**	**13 28 15.8**	**+0.8**
CUPV				*eS*	**Sn**	**13 28 58.7**	**-0.9**
BIRV	**Birongo**	**4.30**	**264**	*eP*	**Pn**	**13 28 20.3**	**0.0**
BIRV				*eS*	**Sn**	**13 29 07.7**	**-1.5**
CAOV	**Caicara del Or**	**5.66**	**230**	*eP*	**Pn**	**13 28 38.9**	**-0.1**
BAUV	**El Baul**	**6.36**	**252**	*eP*	**Pn**	**13 28 47.3**	**-1.3**

IDC ***22*** *13:29:44.0±4.5, 4563N×15380E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=158.1km s-min=36.3km az=8.0*

MOS ***22*** *13:29:50.7±1.7, 4658N×15384E, h33km, mb4.2/2, Error ellipse: s-maj=72.1km s-min=35.8km az=89.0*

ISCJB ***22*** *13:29:51.8±1.9, 467N±0.3×1540E±0.3, h35km, mb3.7/5, Error ellipse: s-maj=40.9km s-min=23.9km az=122.3*

ISC 22 13:29:53.4±1.9, 466N±03×1540E±03, h35km, n8, σ1§24/8, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.31**	**19**	*e*PN	**Pn**	**13 30 55.7**	**-0.7**
SKR				*e*		13 31 49.5	
MKAR	**Makanchi Array**	**47.52**	**298**	P	**P**	**13 38 23.3**	**-1.8**
	0.4nm,0.6s,mb3.6,baz=64,slow=5.9,SNR=6.5						
BVAR	**Borovoye Array**	**51.39**	**310**	P	**P**	**13 38 54.6**	**0.0**
	1.1nm,0.6s,mb4.0,baz=50,slow=9.5,SNR=8.5						
BVAR	**Borovoye Array**	**51.39**	**310**	P	**P**	**13 38 54.6**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 40 26.8**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=40,slow=8.4,SNR=6.4						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 40 26.8**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.53**	**342**	P	**P**	**13 40 54.8**	**+2.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=26,slow=6.5						
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**13 41 42.4**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=308,slow=3.0,SNR=4.5						

STR ***22*** *13:39:06.2±0.2, 4446N×742E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 22 13:39:05.5±0.1, 4446N×730E, h8km, Md2.3/3, Ml2.3/8, Error ellipse: s-maj=2.0km s-min=0.9km az=83.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOUF	**Mont Tournerai**	**0.45**	**185**	Pg	Pg	13 39 15.2	+1.0
MBDF	**Montbardon**	**0.47**	**305**	*e*Pg	Pg	13 39 14.8	+0.3
MBDF				*e*Sg	Sg	13 39 21.1	+0.5
	29nm,0.2s						
AUTN	**L'Aution**	**0.47**	**169**	Pg	Pg	13 39 14.9	+0.2
AUTN				Sg	Sg	13 39 21.6	+0.8
SAOF	**Saorge**	**0.51**	**159**	Pg	Pg	13 39 15.3	0.0
SAOF				Sg	Sg	13 39 22.3	+0.4
LUCF	**Luceram**	**0.57**	**177**	Pg	Pg	13 39 16.7	+0.2
LUCF				Sg	Sg	13 39 24.7	+0.8
MVIF	**Mont Vial**	**0.57**	**191**	Pg	Pg	13 39 17.5	+0.9
SBF	**Sospel**	**0.60**	**171**	*e*Pg	Pg	13 39 17.0	-0.1
SBF				*e*Sg	Sg	13 39 24.9	-0.1
	26nm,0.3s						
FRF	**La Foret Royal**	**1.01**	**208**	*e*Pg	Pg	13 39 24.6	-0.4
FRF				*e*Sg	Sg	13 39 37.8	-0.4
	14nm,0.2s						
LPG	**La Plagne**	**1.11**	**340**	*e*Pg	Pg	13 39 26.4	-0.4
LPG				*e*Sg	Sg	13 39 41.0	-0.2
	7.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.11**	**295**	*e*Pg	Pg	13 39 26.5	-0.4
ORIF				*e*Sg	Sg	13 39 40.0	-1.4
	6.6nm,0.3s						
LPL	**La Plagne**	**1.13**	**339**	*e*Pg	Pg	13 39 27.1	-0.1
LPL				*e*Sg	Sg	13 39 41.8	-0.1
	9.7nm,0.4s						
LMR	**La Mourre**	**1.26**	**207**	*e*Pg	Pg	13 39 29.2	-0.5
LMR				*e*Sg	Sg	13 39 45.0	-1.1
	11nm,0.2s						
SMRF	**Simiane la Rot**	**1.33**	**249**	*e*Pg	Pg	13 39 30.6	-0.5
SMRF				*e*Sg	Sg	13 39 48.0	-0.4
	5.4nm,0.2s						
VIVF	**Saint-Julien-l**	**1.92**	**283**	*e*Pn	Pn	13 39 36.8	-1.7
VIVF				*e*Sn	Sn	13 39 59.6	-3.2
	2.5nm,0.4s						
CABF	**La Chapelle**

LZH	**Lanzhou**	**39.85**	**273**	*e*P		**P**		**13 53 05.0**	**+1.0**
	comp=Z,19nm,1.0s,mb4.8								
LZH					pP		pP	13 53 07.0	-6.2
LZH					sP		sP	13 53 08.0	-9.0
INK	**Inuvik**	**40.04**	**33**	P		**P**		**13 53 06.1**	**+0.5**
	comp=Z,1.4nm,0.7s,mb3.8,baz=285,slow=7.4,SNR=12								
INK	**Inuvik**	**40.04**	**33**	*e*P		**P**		**13 53 05.6**	**0.0**
	comp=Z,53nm,0.7s,mb5.4								
GTA	**Gaotai**	**40.83**	**280**	*e*P		**P**		**13 53 12.9**	**+0.8**
GTA					AP		pP	13 53 18.3	-3.1
GTA					XP		sP	13 53 21.3	-3.8
GTA					AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.1								
GYA	**Guiyang**	**43.79**	**259**↑	*i*P		**P**		**13 53 35.4**	**-0.8**
GYA					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7								
ZAL	**Zalesovo**	**43.86**	**306**	P		**P**		**13 53 37.0**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.8,baz=48,slow=5.2,SNR=7.1								
ZAL	**Zalesovo**	**43.86**	**306**	P		**P**		**13 53 37.1**	**+0.3**
ZAL					pmax		pmax		
	comp=Z,1.0nm,0.5s								
MK31	**Makanchi Array**	**48.41**	**298**	*e*P		**P**		**13 54 13.3**	**+0.8**
MKAR	**Makanchi Array**	**48.41**	**298**	P		**P**		**13 54 13.1**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.4,baz=62,slow=8.5,SNR=16								
MKAR					LR		LR	14 13 27.5	
	comp=Z,38nm,20.2s,MS3.4,baz=247,slow=35								
YKA	**Yellowknife Ar**	**49.22**	**38**	P		**P**		**13 54 18.6**	**-0.2**
	comp=Z,1.1nm,0.9s,mb3.9,baz=299,slow=8.1,SNR=3.7								
YKA	**Yellowknife Ar**	**49.22**	**38**	P		**P**		**13 54 18.6**	**-0.2**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife A**	**49.22**	**38**	P		**P**		**13 54 18.6**	**-0.2**
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**		**13 54 39.2**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.4,baz=60,slow=8.8,SNR=17								
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**		**13 54 39.2**	**-0.4**
BVAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**		**13 54 39.9**	**0.0**
BRVK					pmax		pmax		
	comp=Z,11nm,0.9s,mb4.8								
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**		**13 54 39.9**	**0.0**
	comp=Z,11nm,0.9s,mb4.8								
LSA	**Lhasa**	**52.21**	**275**	P		**P**		**13 54 43.0**	**+1.6**
LSA	**Lhasa**	**52.21**	**275**	*e*P		**P**		**13 54 43.3**	**+1.9**
LSA					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4								
LSA	**Lhasa**	**52.21**	**275**	*e*P		**P**		**13 54 43.3**	**+1.9**
	comp=Z,2.9nm,0.6s,mb4.4								
AAK	**Ala-Archa**	**55.32**	**297**	*e*P		**P**		**13 55 02.9**	**-1.2**
AAK					pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6								
AAK	**Ala-Archa**	**55.32**	**297**	*e*P		**P**		**13 55 03.5**	**-0.6**
	comp=Z,5.6nm,0.8s,mb4.7								
ARU	**Arti**	**55.88**	**318**	*e*P		**P**		**13 55 06.2**	**-1.9**
ARU				*e*				13 57 07.7	
ARU				*e*PPP				13 58 26.5	
ARU				*e*S		**S**		**14 02 52.2**	**-1.3**
ARU				*e*SS		SS		14 06 39.3	-0.1
ARU	**Arti**	**55.88**	**318**	*e*P		**P**		**13 55 07.1**	**-0.9**
	comp=Z,16nm,0.9s,mb5.0								
ARCES	**ARCESS Array B**	**57.89**	**342**	P		**P**		**13 55 22.4**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.3,baz=8.9,slow=8.6,SNR=4.0								
ARCES					LR		LR	14 24 13.5	
	comp=Z,63nm,19.6s,MS3.7,baz=72,slow=40								
ARCES	**ARCESS Array B**	**57.89**	**342**	P		**P**		**13 55 22.4**	**0.0**
ARCES					pmax		pmax		
	comp=Z,3.0nm,0.8s								
ARCES					MLR		MLR		
	comp=Z,63nm,19.6s								
AKTK	**Aktyubinsk**	**59.77**	**313**	P		**P**		**13 55 35.9**	**+0.5**
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**		**13 55 35.9**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=71,slow=9.9,SNR=5.5								
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**		**13 55 35.9**	**+0.5**
AKTO					pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2								
BW06	**Boulder Array**	**62.76**	**56**	*e*P		**P**		**13 55 56.0**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.3								
PDAR	**Pinedale Array**	**62.76**	**56**	P		**P**		**13 55 56.2**	**+0.6**
	comp=Z,2.2nm,0.9s,mb4.3,baz=302,slow=2.8,SNR=12								
FINES	**FINESS Array B**	**64.30**	**336**	P		**P**		**13 56 05.8**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=48,slow=7.6,SNR=6.8								
FINES	**FINESS Array B**	**64.30**	**336**	P		**P**		**13 56 05.8**	**0.0**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.7s								
NB2	**NORSAR Subarra**	**68.25**	**342**	P		**P**		**13 56 31.2**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.25**	**342**	P		**P**		**13 56 31.6**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.3,baz=25,slow=6.3,SNR=4.9								
NOA					LR		LR	14 29 26.0	
	comp=Z,46nm,18.1s,MS3.8,baz=180,slow=38								
NOA	**NORSAR Array B**	**68.25**	**342**	P		**P**		**13 56 31.6**	**+0.5**
NOA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
NOA					MLR		MLR		
	comp=Z,46nm,18.1s								
HFS	**Hagfors**	**68.54**	**341**	P		**P**		**13 56 32.9**	**0.0**
	comp=Z,8.6nm,1.1s,mb4.6,baz=219,slow=1.9,SNR=5.0								
HFS	**Hagfors**	**68.54**	**341**	P		**P**		**13 56 32.9**	**0.0**
HFS					pmax		pmax		
	comp=Z,9.0nm,1.1s								
WRA	**Warramunga Arr**	**69.80**	**202**	P		**P**		**13 56 38.5**	**-2.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=21,slow=6.6,SNR=6.5								
WRA	**Warramunga Ar**	**69.80**	**202**	P		**P**		**13 56 38.5**	**-2.2**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
KIV	**Kislovodsk**	**71.76**	**316**	*e*P		**P**		**13 56 55.6**	**+2.9**
KIV					pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7								
KIV					MLR		MLR		
	comp=Z,35nm,18.0s,MS3.7								
AKASG	**Malin Array Be**	**72.10**	**328**	P		**P**		**13 56 53.6**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=32,slow=5.9,SNR=5.9								
AKASG	**Malin Array Be**	**72.10**	**328**	P		**P**		**13 56 53.6**	**-1.1**
AKASG					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ASAR	**Alice Springs**	**73.48**	**201**	P		**P**		**13 57 01.0**	**-1.9**
	comp=Z,1.2nm,0.8s,mb3.9,baz=10,slow=6.0,SNR=11								
ASAR	**Alice Springs**	**73.48**	**201**	P		**P**		**13 57 01.0**	**-1.9**
ASAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
LTX	**Lajitas**	**75.44**	**63**	*e*P		**P**		**13 57 14.7**	**+0.4**
LTX					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4								
LTX	**Lajitas**	**75.44**	**63**	*e*P		**P**		**13 57 14.7**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.4								
TXAR	**Lajitas Array**	**75.44**	**63**	P		**P**		**13 57 14.6**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=303,slow=4.4,SNR=30								
TXAR	**Lajitas Array**	**75.44**	**63**	P		**P**		**13 57 14.6**	**+0.3**
TXAR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**76.16**	**348**	P		**P**		**13 57 20.1**	**+1.6**
	comp=Z,2.2nm,1.0s,mb4.0,baz=20,slow=2.3,SNR=2.8								
EKA	**Eskdalemuir Ar**	**76.16**	**348**	P		**P**		**13 57 20.1**	**+1.7**
EKA					pmax		pmax		
	comp=Z,2.0nm,1.0s								
CLL	**Collm**	**76.68**	**337**	*e*PcP		PcP		13 57 31.0	-1.7
KHC	**Kasperske Hory**	**78.50**	**336**	*e*P		**P**		**13 57 32.0**	**+0.5**
GERES	**GERESS Array B**	**78.73**	**336**	LR		LR		14 38 16.4	
	comp=Z,52nm,20.2s,MS3.9,baz=3.2,slow=40								

*CSEM **22** 13:47:46.6, 5900N×1818E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **22** 13:47:46.6, 5900N×1818E, h0km, ML2.6, Mining explosion.*
HEL 22 13:47:47.6±0.1, 5901N×1817E, h0km, ML1.4, ML2.6 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.08**	**267**	*i* P	Pg	13 47 48.6	-0.6
NRTU	**Norrtaelje**	**0.71**	**19**	*i* P	Pg	13 48 00.1	-1.2
NRTU	**Norrtaelje**	**0.71**	**19**	P	Pg	13 48 00.1	-1.1
	baz=147						
VIKU	**Vikbolandet**	**0.92**	**237**	*e*P	Pg	13 48 03.9	-1.3
ESKU	**Eskilstuna**	**0.94**	**284**	*e*P	Pg	13 48 04.4	-1.3
BACU	**Backbrunna**	**1.01**	**328**	*e*P	Pg	13 48 05.6	-1.3
FLYU	**Flymyra**	**1.13**	**353**	*e*P	Pg	13 48 08.0	-1.3
OSTU	**Oestervaala**	**1.33**	**337**	*e*P	Pg	13 48 11.7	-1.4
OSTU	**Oestervaala**	**1.33**	**337**	P	Pg	13 48 11.7	-1.4
	baz=221						
GRAU	**Graesoe**	**1.34**	**8**	*e*P	Pg	13 48 11.8	-1.6
GRAU	**Graesoe**	**1.34**	**8**	P	Pg	13 48 11.8	-1.5
	baz=144						
GOTU	**Gotland**	**1.34**	**171**	*e*P	Pg	13 48 10.8	-2.6
FORU	**Forsmark**	**1.38**	**0**	*e*P	Pg	13 48 12.3	-1.8
AAL	**Aland**	**1.50**	**38**	*e*P	Pn	13 48 14.1	-1.6
LNKU	**Linkoeping**	**1.60**	**242**	*e*P	Pn	13 48 16.1	-1.1
LNKU	**Linkoeping**	**1.60**	**242**	P	Pn	13 48 16.0	-1.1
VSTU	**Vaestervik**	**1.60**	**213**	*e*P	Pn	13 48 16.0	-1.2
VSTU	**Vaestervik**	**1.60**	**213**	P	Pn	13 48 16.0	-1.2
	baz=70						
NRAU	**Nora**	**1.70**	**291**	*e*P	Pn	13 48 18.1	-0.4
ASKU	**Askersund**	**1.73**	**268**	*e*P	Pn	13 48 18.4	-0.6
BYXU	**Byxelkrok**	**1.83**	**200**	*e*P	Pn	13 48 19.9	-0.4
FALU	**Falun**	**1.90**	**323**	*e*P	Pn	13 48 21.5	+0.2
FALU	**Falun**	**1.90**	**323**	P	Pn	13 48 21.5	+0.2
	baz=207						
OSKU	**Oskarshamn**	**2.12**	**212**	*e*P	Pn	13 48 24.7	+0.3
NASU	**Vaermlandsnaes**	**2.58**	**270**	P	Pn	13 48 31.8	+1.2
VXJU	**Vaexsjoe**	**2.71**	**221**	*e*P	Pn	13 48 32.6	+0.2
VXJU	**Vaexsjoe**	**2.71**	**221**	P	Pn	13 48 32.6	+0.2
	baz=224						
RAF	**Rauma**	**2.71**	**40**	*e*P	Pn	13 48 32.4	0.0
RAF				*e*SG	Sg	13 49 10.2	-4.5
RAF				MSG		13 49 13.2	
	comp=Z,0.8nm,0.2s						
MEF	**Metsahovi**	**3.39**	**66**	*e*P	Pn	13 48 42.8	+1.1
KEF	**Keuruu**	**4.58**	**43**	*e*P	Pn	13 48 58.7	+0.6
KEF				*e*S	Sn	13 49 07.2	-1.7
KEF				*e*SG	Sg	13 50 07.8	-6.9
KEF				MSG		13 50 13.4	
	comp=Z,0.6nm,0.2s						
VAF	**Ylistaro**	**4.60**	**27**	*e*P	Pn	13 48 59.6	+1.2
VAF				*e*SG	Sg	13 50 09.4	-6.0
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P	Pn	13 48 59.2	+0.3
FIA0				*e*SG	Sg	13 50 09.4	-7.2
FIA0				MSG		13 50 12.4	
	comp=Z,0.3nm,0.2s						
SUF	**Sumiainen**	**5.39**	**43**	*e*P	Pn	13 49 08.9	-0.4
SUF				*e*S	Sn	13 50 09.9	-2.1

*IDC **22** 13:51:22.4±1.4, 956S×1220E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=111.1km s-min=26.7km az=60.0*
*ISCJB **22** 13:51:34.6±2.2, 975S±0.1×1226E±0.1, h122km±23km, mb3.4/2, Error ellipse: s-maj=19.6km s-min=14.0km az=84.0*
ISC 22 13:51:34.7±2.2, 96S±01×1226E±01, h105km±21km, n9, σ1§30/15, mb3.4/2, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzrov Crossi**	**8.93**	**161**	*e*P	**Pn**	**13 53 42.1**	**+1.3**
	6.5nm,0.9s						
FITZ				*e*S	**Sn**	**13 55 18.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**8.93**	**161**	Pn	**Pn**	**13 53 42.4**	**+1.6**
	0.4nm,0.3s,baz=2.4,slow=12,SNR=15						
FITZ				Sn	**Sn**	**13 55 19.0**	**-0.6**
	0.3nm,0.3s,baz=322,slow=20,SNR=4.1						
KAKA	**Kakadu**	**10.15**	**108**	*e*P	**Pn**	**13 53 56.0**	**-1.4**
	35nm,1.7s						
KAKA				*e*S	**Sn**	**13 55 50.5**	**+1.3**
WRA	**Warramunga Arr**	**15.30**	**133**	Pn	**Pn**	**13 55 03.9**	**-1.0**
	0.2nm,0.3s,baz=302,slow=13,SNR=19						
WRA				Sn	**Sn**	**13 57 49.4**	**-4.6**
	0.2nm,0.3s,baz=299,slow=21,SNR=5.0						
WB2	**Warramunga Arr**	**15.31**	**133**	*e*P	**Pn**	**13 55 04.4**	**-0.6**
WB2				*e*S	**S**	**13 57 49.3**	**-14**
ASPA	**Alice Springs**	**17.66**	**144**	*e*P	**Pn**	**13 55 37.8**	**+3.8**
ASAR	**Alice Springs**	**17.66**	**144**	P	**Pn**	**13 55 36.2**	**+2.2**
	0.6nm,0.3s,baz=327,slow=12,SNR=57						
ASAR				S	**S**	**13 58 50.0**	**-0.9**
	0.1nm,0.3s,baz=311,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**66.67**	**331**	P	**P**	**14 02 13.2**	**-1.0**
	0.2nm,0.4s,mb3.3,baz=138,slow=9.4,SNR=3.8						
VNDA	**Vanda**	**70.84**	**172**	P	**P**	**14 02 41.3**	**+1.3**
	0.4nm,0.4s,mb3.6,baz=314,slow=8.7,SNR=7.1						

*ISCJB **22** 13:55:42.6±0.2, 43.19N±001×005E±002, h13km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=84.8*
*NEIC **22** 13:55:44.9, 4302N×000E, h5km, ML2.8(STR), ML3.1(LDG), MN2.6(MDD), After STR.*
*STR **22** 13:55:44.9±0.1, 4302N×000E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **22** 13:55:45.7±0.1, 4307N×003E, h4km, Md3.2/3, Ml3.1/20, Error ellipse: s-maj=1.5km s-min=1.0km az=119.0*
*CSEM **22** 13:55:45.2±0.0, 4304N×002E, h5km, ML3.1/26, Error ellipse: s-maj=0.7km s-min=0.7km az=120.0*
*MDD **22** 13:55:45.4±0.2, 4303N×001E, h6km±2km, mbLg2.5/13, Error ellipse: s-maj=1.7km s-min=1.2km az=33.0, PRXIMO*
ISC 22 13:55:44.1±0.2, 4312N±001×002E±002, h12km±2km, n133, σ1§07/244, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**150**	Pg	**Pg**	**13 55 47.1**	**+0.5**
LABF	**Labassere**	**0.08**	**150**	Pg	**Pg**	**13 55 47.2**	**+0.6**
LABF				Lg		13 55 48.5	
VIEF	**Viey**	**0.23**	**179**	Pg	**Pg**	**13 55 48.2**	**-0.7**
VIEF	**Viey**	**0.23**	**179**	Pg	**Pg**	**13 55 48.3**	**-0.6**
VIEF				Lg		13 55 50.6	
REYF	**Montagne du Re**	**0.31**	**261**	Pg	**Pg**	**13 55 50.7**	**+0.4**
REYF				Lg		13 55 55.0	
RESF	**Ens**	**0.39**	**143**	Pg	**Pg**	**13 55 51.5**	**-0.2**
RESF	**Ens**	**0.39**	**143**	Pg	**Pg**	**13 55 51.6**	**-0.1**
RESF				Lg		13 55 56.5	
EBIE	**Bielsa**	**0.44**	**168**	Pg	**Pg**	**13 55 52.0**	**-0.7**
	37nm,0.1s,SNR=7.9						
EBIE				Lg		13 55 56.8	
	115nm,0.1s,SNR=451						
EBIE	**Bielsa**	**0.44**	**168**	Pg	**Pg**	**13 55 52.0**	**-0.7**
	37nm,0.1s,SNR=7.9						
EBIE				Lg		13 55 56.8	
	115nm,0.1s,SNR=451						
FDAF	**Les Forges d'A**	**0.52**	**236**	Pg	**Pg**	**13 55 54.0**	**-0.3**
FDAF				Lg		13 56 00.4	
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**13 55 54.9**	**+0.5**
ATE				Sg	**Sg**	**13 56 02.0**	**+0.6**
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**13 55 54.7**	**+0.3**
ATE				Lg		13 56 02.0	
MELF	**Melles**	**0.59**	**114**	Pg	**Pg**	**13 55 55.9**	**+0.3**
MELF	**Melles**	**0.59**	**114**	Pg	**Pg**	**13 55 55.7**	**+0.1**
MELF				Lg		13 56 03.8	
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**13 55 58.2**	**+0.5**
ORDF	**Ordiarp**	**0.71**	**278**	Pg	**Pg**	**13 55 58.6**	**+0.9**
ORDF				Lg		13 56 08.6	
LARF	**Larrau**	**0.74**	**264**	Pg	**Pg**	**13 55 58.8**	**+0.3**
LARF				Lg		13 56 09.2	
MLS	**Moulis**	**0.80**	**101**	Pg	**Pg**	**13 55 59.5**	**-0.1**
MLS				Lg		13 56 12.5	
SJPF	**Ste Jean**	**0.91**	**270**	*e*Pn	**Pn**	**13 56 03.5**	**+0.8**
SJPF				*e*Sg	**Sg**	**13 56 14.5**	**+0.9**
	27nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**270**	*e*Pg	**Pg**	**13 56 01.9**	**+0.2**
SJPF				*e*Pn	**Pn**	**13 56 03.5**	**+0.8**
SJPF				*e*Sg	**Sg**	**13 56 14.5**	**+0.9**
SJPF	**Ste Jean**	**0.91**	**270**	Pg	**Pg**	**13 56 01.9**	**+0.2**
SJPF				Pn	**Pn**	**13 56 03.5**	**+0.8**
SJPF				Lg		13 56 14.5	
	14nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**270**	*e*Pn	**Pn**	**13 56 03.5**	**+0.8**
SJPF				*e*Sg	**Sg**	**13 56 14.5**	**+0.9**
	14nm,0.2s						
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**13 56 02.2**	**+0.2**
SALF				Sg	**Sg**	**13 56 14.7**	**+0.6**
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**13 56 02.0**	**+0.1**
SALF				Lg		13 56 14.2	
OSSF	**Osses**	**0.95**	**279**	Pg	**Pg**	**13 56 02.1**	**-0.2**
OSSF				Lg		13 56 15.7	
IPRE	**Itoiz**	**1.06**	**253**	Pg	**Pg**	**13 56 04.7**	**+0.3**
	8.9nm,0.1s,SNR=7.9						
IPRE				Lg		13 56 19.8	
	44nm,0.4s,SNR=10						
IPRE	**Itoiz**	**1.06**	**253**	Pg	**Pg**	**13 56 04.7**	**+0.3**
	8.9nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.12**	**276**	Pg	**Pg**	**13 56 06.1**	**+0.4**
	5.8nm,0.2s,SNR=7.9						
EALK				Lg		13 56 23.2	
	47nm,0.2s,SNR=13						
ELIZ	**Elizondo**	**1.14**	**273**	Pg	**Pg**	**13 56 06.7**	**+0.8**
	12nm,0.1s,SNR=13						
ELIZ				Lg		13 56 23.6	
	65nm,0.2s,SNR=8.8						
GRBF	**Gourbit**	**1.15**	**103**	Pg	**Pg**	**13 56 06.5**	**+0.4**
IUSE	**Utxeti**	**1.16**	**262**	Pn	**Pn**	**13 56 06.5**	**+0.3**
	1.3nm,0.1s,SNR=5.8						
IUSE				Pg	**Pg**	**13 56 09.5**	**+3.1**
	14nm,0.1s,SNR=37						
IUSE				Lg		13 56 23.0	
	99nm,0.3s,SNR=5.5						
IUSE	**Utxeti**	**1.16**	**262**	Pn	**Pn**	**13 56 06.4**	**+0.2**
	1.3nm,0.1s,SNR=5.8						
PAND	**Andorre**	**1.27**	**117**	Lg		13 56 23.8	
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**13 56 11.2**	**-0.5**
	135nm,0.3s,SNR=7.9						
ESAC				Lg		13 56 29.8	
	451nm,0.2s,SNR=44						
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**13 56 11.2**	**-0.5**
	135nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**13 56 16.0**	**+0.8**
MTLF				*e*Sg	**Sg**	**13 56 36.8**	**+0.6**
	25nm,0.2s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pn	**Pn**	**13 56 12.7**	**+0.2**
MTLF				*e*Pg	**Pg**	**13 56 16.0**	**+0.8**
MTLF				*e*Sg	**Sg**	**13 56 36.8**	**+0.6**
MTLF	**Montolieu**	**1.62**	**81**	Pn	**Pn**	**13 56 12.7**	**+0.2**
MTLF				Pg	**Pg**	**13 56 16.0**	**+0.8**
MTLF				Lg		13 56 36.8	
	13nm,0.2s						
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**13 56 16.0**	**+0.8**
MTLF				*e*Sg	**Sg**	**13 56 36.8**	**+0.6**
	13nm,0.2s						
VALF	**Valcebollere**	**1.64**	**115**	Lg		13 56 38.1	
LRDF	**Laroque-de-Fa**	**1.85**	**95**	Lg		13 56 44.3	
LFF	**La Frestale**	**1.90**	**16**	*e*Pg	**Pg**	**13 56 21.9**	**+1.5**
LFF				*e*Sg	**Sg**	**13 56 47.2**	**+2.2**
	62nm,0.3s						
LFF	**La Frestale**	**1.90**	**16**	*e*Pn	**Pn**	**13 56 17.2**	**+0.9**
LFF				*e*Pg	**Pg**	**13 56 21.9**	**+1.5**
LFF				*e*Sg	**Sg**	**13 56 47.2**	**+2.2**
LFF	**La Frestale**	**1.90**	**16**	Pn	**Pn**	**13 56 17.2**	**+0.9**
LFF				Pg	**Pg**	**13 56 21.9**	**+1.5**
LFF				Lg		13 56 47.2	
	31nm,0.3s						
LFF	**La Frestale**	**1.90**	**16**	*e*Pg	**Pg**	**13 56 21.9**	**+1.5**
LFF				*e*Sg	**Sg**	**13 56 47.2**	**+2.2**
	31nm,0.3s						
ECRI	**Cripan**	**1.93**	**256**	Pg	**Pg**	**13 56 19.3**	**-1.7**
	4.8nm,0.1s,SNR=7.9						
ECRI				Lg		13 56 43.1	
	12nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.93**	**156**	Pg	**Pg**	**13 56 18.9**	**-2.1**
	9.8nm,0.1s,SNR=7.9						
EPOB				Lg		13 56 43.7	
	52nm,0.2s,SNR=33						
EPOB	**Poblet**	**1.93**	**156**	Pg	**Pg**	**13 56 19.0**	**-2.1**
	9.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.17**	**174**	Pn	**Pn**	**13 56 19.9**	**-0.1**
	1.0nm,0.2s,SNR=5.9						
ERTA				Pg	**Pg**	**13 56 23.7**	**-2.0**
	6.6nm,0.3s,SNR=7.9						
ERTA				Sn	**Sn**	**13 56 45.9**	**-1.0**
	7.9nm,0.2s,SNR=7.9						
ERTA				Lg		13 56 50.7	
	22nm,0.1s,SNR=12						
ERTA	**Horta de San J**	**2.17**	**174**	Pn	**Pn**	**13 56 19.9**	**-0.1**
	1.0nm,0.2s,SNR=5.9						
ERTA	**Horta de San J**	**2.17**	**174**	Pg	**Pg**	**13 56 23.7**	**-2.0**
	6.6nm,0.3s,SNR=7.9						
ERTA				Sn	**Sn**	**13 56 45.9**	**-1.0**
	7.9nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**107**	Pn	**Pn**	**13 56 21.4**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
EJON				Pg	**Pg**	**13 56 24.2**	**-2.3**
	2.8nm,0.2s,SNR=9.1						
EJON				Lg		13 56 55.2	
	22nm,0.3s,SNR=4.7						
EJON	**La Jonquera**	**2.21**	**107**	Pn	**Pn**	**13 56 21.4**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**107**	Pg	**Pg**	**13 56 24.2**	**-2.3**
	2.8nm,0.2s,SNR=9.1						
CAF	**Calviac**	**2.33**	**38**	*e*Pg	**Pg**	**13 56 29.7**	**+0.9**
CAF				*e*Sg	**Sg**	**13 57 00.0**	**+0.9**
	20nm,0.2s						
CAF	**Calviac**	**2.33**	**38**	*e*Pg	**Pg**	**13 56 29.7**	**+0.9**
CAF				*e*Sg	**Sg**	**13 57 00.0**	**+0.9**
	9.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.44**	**

ETOS Mallorca 3.95 147 Pn **Pn** **13 56 45.4 +0.9**
0.5nm,0.2s,SNR=7.9
ETOS Sn **Sn** **13 57 28.6 -2.2**
2.1nm,0.3s,SNR=7.9
GUD Guadarrama 3.98 233 Pn **Pn** **13 56 46.0 +1.1**
0.6nm,0.2s,SNR=7.9
GUD Sn **Sn** **13 57 30.7 -0.8**
1.6nm,0.3s,SNR=7.9
BGF Bois d'Agland 3.98 29 *e*Pg **Pg** **13 57 00.1 -0.3**
BGF *e*Sg **Sg** **13 57 52.2 +0.2**
32nm,0.3s
BGF Bois d'Agland 3.98 29 *e*Pn **Pn** **13 56 46.1 +1.1**
BGF *e*Pg **Pg** **13 57 00.1 -0.3**
BGF *e*Sg **Sg** **13 57 52.2 +0.2**
BGF Bois d'Agland 3.98 29 Pn **Pn** **13 56 46.1 +1.1**
BGF Pg **Pg** **13 57 00.1 -0.3**
BGF Lg 13 57 52.2
16nm,0.3s
BGF Bois d'Agland 3.98 29 *e*Pg **Pg** **13 57 00.1 -0.3**
BGF *e*Sg **Sg** **13 57 52.2 +0.2**
16nm,0.3s
EIBI Ibiza 4.21 166 Pn **Pn** **13 56 48.7 +0.7**
8.8nm,0.2s,SNR=4.0
EIBI Ibiza 4.21 166 Pn **Pn** **13 56 48.7 +0.7**
8.8nm,0.2s,SNR=4.0
AVF Avril sur Loir 4.37 32 *e*Pg **Pg** **13 57 06.8 -1.0**
AVF *e*Sg **Sg** **13 58 04.1 -0.3**
6.3nm,0.4s
AVF Avril sur Loir 4.37 32 *e*Pn **Pn** **13 56 51.4 +1.1**
AVF *e*Pg **Pg** **13 57 06.8 -1.0**
AVF *e*Sg **Sg** **13 58 04.1 -0.3**
AVF Avril sur Loir 4.37 32 Pn **Pn** **13 56 51.4 +1.1**
AVF Pg **Pg** **13 57 06.8 -1.0**
AVF Lg 13 58 04.1
3.2nm,0.4s
AVF Avril sur Loir 4.37 32 *e*Pg **Pg** **13 57 06.8 -1.0**
AVF *e*Sg **Sg** **13 58 04.1 -0.3**
3.2nm,0.4s
EBEN Beniarda 4.41 182 Pn **Pn** **13 56 51.2 +0.3**
0.5nm,0.2s,SNR=4.0
EBEN Beniarda 4.41 182 Pn **Pn** **13 56 51.2 +0.3**
0.5nm,0.2s,SNR=4.0
SMF Signal de Mont 4.45 36 *e*Pg **Pg** **13 57 08.6 -0.7**
SMF *e*Sg **Sg** **13 58 06.6 -0.4**
8.4nm,0.5s
SMF Signal de Mont 4.45 36 *e*Pn **Pn** **13 56 52.6 +1.2**
SMF *e*Pg **Pg** **13 57 08.6 -0.7**
SMF *e*Sg **Sg** **13 58 06.6 -0.4**
SMF Signal de Mont 4.45 36 Pn **Pn** **13 56 52.6 +1.2**
SMF Pg **Pg** **13 57 08.6 -0.7**
SMF Lg 13 58 06.6
4.2nm,0.5s
SMF Signal de Mont 4.45 36 *e*Pg **Pg** **13 57 08.6 -0.7**
SMF *e*Sg **Sg** **13 58 06.6 -0.4**
4.2nm,0.5s
HYF Humbligny 4.55 23 *e*Sg **Sg** **13 58 09.8 -0.2**
ESDC Sonseca Array 4.56 222 Pn **Pn** **13 56 53.9 +1.0**
1.9nm,0.1s,baz=41,slow=14,SNR=3.9
ESDC Sn **Sn** **13 57 43.9 -2.0**
1.8nm,0.1s,baz=42,slow=24,SNR=4.2
ESDC Sonseca Array 4.56 222 Pn **Pn** **13 56 53.9 +1.0**
1.9nm,0.1s,SNR=3.9
ESDC Sn **Sn** **13 57 43.9 -1.9**
1.8nm,0.1s,SNR=4.2
ETOB Tobarra 4.62 195 Pn **Pn** **13 56 55.1 +1.4**
1.1nm,0.2s,SNR=7.9
ETOB Sn **Sn** **13 57 44.3 -3.0**
2.3nm,0.3s,SNR=4.2
ETOB Tobarra 4.62 195 Pn **Pn** **13 56 55.1 +1.3**
1.1nm,0.2s,SNR=7.9
ETOB Sn **Sn** **13 57 44.3 -3.1**
2.3nm,0.3s,SNR=4.2
SSF Saint Saulge 4.65 31 *e*Pg **Pg** **13 57 12.5 -0.7**
SSF *e*Sg **Sg** **13 58 13.0 -0.5**
6.4nm,0.4s
SSF Saint Saulge 4.65 31 *e*Pg **Pg** **13 57 12.5 -0.7**
SSF *e*Sg **Sg** **13 58 13.0 -0.5**
3.2nm,0.4s
LOR Lormes 4.96 32 *e*Pg **Pg** **13 57 18.1 -0.9**
LOR *e*Sg **Sg** **13 58 22.5 -0.8**
7.6nm,0.5s
LOR Lormes 4.96 32 *e*Pg **Pg** **13 57 18.1 -0.9**
LOR *e*Sg **Sg** **13 58 22.5 -0.8**
3.8nm,0.5s
ECAL Calabor 5.13 259 Pn **Pn** **13 57 02.7 +2.0**
0.9nm,0.1s,SNR=7.9
ECAL Sn **Sn** **13 57 59.1 -0.8**
3.4nm,0.2s,SNR=7.9
ECAL Calabor 5.13 259 Pn **Pn** **13 57 02.7 +2.0**
0.9nm,0.1s,SNR=7.9
EPON Pontenova 5.24 275 Pn **Pn** **13 57 04.6 +2.3**
0.3nm,0.1s,SNR=7.9
EPON Sn **Sn** **13 58 02.5 -0.2**
1.3nm,0.2s,SNR=7.9
QUIF Quistinic 5.30 336 *e*Pn **Pn** **13 57 04.0 +1.0**
QUIF *e*Sn **Sn** **13 58 02.8 -1.2**
QUIF *e*Sg **Sg** **13 58 33.2 -0.9**
2.8nm,0.3s
QUIF Quistinic 5.30 336 *e*Pn **Pn** **13 57 04.0 +1.0**
QUIF *e*Sn **Sn** **13 58 02.8 -1.2**
QUIF *e*Sg **Sg** **13 58 33.2 -0.9**
1.4nm,0.3s
GRR Gorron 5.31 354 *e*Pg **Pg** **13 57 25.0 -0.7**
GRR *e*Sn **Sn** **13 58 02.8 -1.5**
GRR *e*Sg **Sg** **13 58 33.5 -1.0**
1.7nm,0.2s
GRR Gorron 5.31 354 *e*Pn **Pn** **13 57 04.3 +1.1**
GRR *e*Pg **Pg** **13 57 25.0 -0.7**
GRR *e*Sn **Sn** **13 58 02.8 -1.5**
GRR *e*Sg **Sg** **13 58 33.5 -1.0**
GRR Gorron 5.31 354 Pn **Pn** **13 57 04.3 +1.1**
GRR Pg **Pg** **13 57 25.0 -0.7**
GRR Sn **Sn** **13 58 02.8 -1.5**
GRR Lg 13 58 33.5
0.9nm,0.2s
GRR Gorron 5.31 354 *e*Pn **Pn** **13 57 04.3 +1.1**
GRR Gorron 5.31 354 *e*Pg **Pg** **13 57 25.0 -0.7**
GRR *e*Sn **Sn** **13 58 02.8 -1.5**
GRR *e*Sg **Sg** **13 58 33.5 -1.0**
0.9nm,0.2s
SGMF Saint Gilles 5.45 342 *e*Pg **Pg** **13 57 26.7 -1.7**
SGMF *e*Sn **Sn** **13 58 06.1 -1.6**
SGMF *e*Sg **Sg** **13 58 37.9 -1.0**
2.8nm,0.4s
SGMF Saint Gilles 5.45 342 *e*Pn **Pn** **13 57 05.8 +0.7**
SGMF *e*Pg **Pg** **13 57 26.7 -1.7**
SGMF *e*Sn **Sn** **13 58 06.1 -1.6**
SGMF *e*Sg **Sg** **13 58 37.9 -1.0**
SGMF Saint Gilles 5.45 342 Pn **Pn** **13 57 05.8 +0.7**
SGMF Pg **Pg** **13 57 26.7 -1.7**
SGMF Sn **Sn** **13 58 06.1 -1.6**
SGMF Lg 13 58 37.9
1.4nm,0.4s
SGMF Saint Gilles 5.45 342 *e*Pn **Pn** **13 57 05.8 +0.7**
SGMF Saint Gilles 5.45 342 *e*Pg **Pg** **13 57 26.7 -1.7**
SGMF *e*Sn **Sn** **13 58 06.1 -1.6**
SGMF *e*Sg **Sg** **13 58 37.9 -1.0**
1.4nm,0.4s
FLN La Foliniere 5.66 357 *e*Pg **Pg** **13 57 31.1 -1.3**
FLN *e*Sn **Sn** **13 58 11.1 -1.8**
FLN *e*Sg **Sg** **13 58 44.6 -1.1**
7.8nm,0.5s
FLN La Foliniere 5.66 357 *e*Pn **Pn** **13 57 09.1 +1.1**
FLN *e*Pg **Pg** **13 57 31.1 -1.3**
FLN *e*Sn **Sn** **13 58 11.1 -1.8**
FLN *e*Sg **Sg** **13 58 44.6 -1.1**
FLN La Foliniere 5.66 357 Pn **Pn** **13 57 09.1 +1.1**
FLN Pg **Pg** **13 57 31.1 -1.3**
FLN Sn **Sn** **13 58 11.1 -1.8**
FLN Lg 13 58 44.6
3.9nm,0.5s
FLN La Foliniere 5.66 357 *e*Pn **Pn** **13 57 09.1 +1.1**
FLN La Foliniere 5.66 357 *e*Pg **Pg** **13 57 31.1 -1.3**
FLN *e*Sn **Sn** **13 58 11.1 -1.8**
FLN *e*Sg **Sg** **13 58 44.6 -1.1**
3.9nm,0.5s
ROSF Rostrenen 5.71 337 *e*Pg **Pg** **13 57 31.9 -1.4**
ROSF *e*Sn **Sn** **13 58 12.4 -1.7**
3.3nm,0.3s
ROSF Rostrenen 5.71 337 *e*Pn **Pn** **13 57 09.6 +0.9**
ROSF *e*Pg **Pg** **13 57 31.9 -1.4**
ROSF *e*Sn **Sn** **13 58 12.4 -1.7**
ROSF Rostrenen 5.71 337 Pn **Pn** **13 57 09.6 +0.9**
ROSF Pg **Pg** **13 57 31.9 -1.4**
ROSF Sn **Sn** **13 58 12.4 -1.7**
1.6nm,0.3s
ROSF Rostrenen 5.71 337 *e*Pn **Pn** **13 57 09.6 +0.9**
ROSF Rostrenen 5.71 337 *e*Pg **Pg** **13 57 31.9 -1.4**
ROSF *e*Sn **Sn** **13 58 12.4 -1.7**
1.6nm,0.3s
EADA Adamuz 6.05 217 Pn **Pn** **13 57 14.1 +0.7**
0.2nm,0.1s,SNR=7.9
EADA Sn **Sn** **13 58 18.5 -4.2**
0.3nm,0.2s,SNR=7.9

MAN 22 14:15:07.1, 860N×12560E, h64km, mb2.5, ML4.0, MS3.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.37**	**4**	*e*P	Pn	14 15 19.3	+1.1
BUTP				*e*S	Sn	14 15 30.2	+3.9
BUKP	**Musuan**	**0.89**	**217**	*e*P	Pn	14 15 25.4	+1.5
CGP	**Cagayan de Oro**	**0.90**	**261**	*i*P	Pn	14 15 25.5	+1.5
CGP				*i*S	Sn	14 15 38.7	+2.0
MSLP	**Maasin**	**1.69**	**335**	*e*P	Pn	14 15 35.2	+0.8

*ISCJB **22** 14:15:10.7±0.5, 47.17N×007×15561E±009, h10km, mb4.4/32, MS3.5/8, Error ellipse: s-maj=11.6km s-min=6.2km az=99.4*
*IDC **22** 14:15:10.9±0.7, 4705N×15568E, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, ML3.7/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/33, Error ellipse: s-maj=19.8km s-min=13.6km az=154.0*
*BJI **22** 14:15:11.3, 4758N×15557E, h7km, mB5.0, mb4.6, Ms5.0, Ms24.7*
*NEIC **22** 14:15:12.3±0.4, 47.12N×15559E, h10km, mb4.6/6, Error ellipse: s-maj=11.3km s-min=6.5km az=140.0*
*MOS **22** 14:15:13.9±1.0, 47.17N×15553E, h33km, mb4.5/19, Error ellipse: s-maj=12.3km s-min=8.1km az=90.3*

ISC 22 14:15:12.1±2.6, 4719N±007×15562E±009, h8km±16km, n71,σ0 93/70, mb4.4/32, MS3.5/8, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.51**	**5**	*e*PN	**Pn**	**14 16 05.3**	**-1.6**
PET	**Petropavlovsk**	**6.16**	**17**	*e*PN	**Pn**	**14 16 43.4**	**+0.1**
PET				pmax	pmax		
	comp=Z,42nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**6.16**	**17**	*e*Pn	**Pn**	**14 16 43.0**	**-0.2**
ASAJ	**Asahikawa**	**9.62**	**256**	Pn	**Pn**	**14 17 32.0**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=117,slow=23,SNR=5.0						
ASAJ				LR	LR	14 21 39.6	
	comp=Z,57nm,19.3s,baz=182,slow=40						
ERM	**Erimo**	**10.28**	**244**	*e*PN	**Pn**	**14 17 38.8**	**-1.1**
MAJO	**Matsushiro**	**16.74**	**237**	*e*P	**Pn**	**14 19 05.7**	**-1.2**
MAT	**Matsushiro**	**16.74**	**237**	P	**Pn**	**14 19 06.2**	**-0.7**
MJAR	**Matsushiro Arr**	**16.74**	**237**	Pn	**Pn**	**14 19 06.9**	**0.0**
	baz=35,slow=15,SNR=3.9						
YAK	**Yakutsk**	**20.92**	**325**	*e*P	**P**	**14 19 54.2**	**-0.8**
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,23nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.3s						
YAK	**Yakutsk**	**20.92**	**325**	P	**P**	**14 19 53.5**	**-1.5**
	comp=E,12nm,0.6s						
CLNS	**Chul'man**	**21.06**	**309**	*e*P	**P**	**14 19 56.1**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.4						
CLNS				pmax	pmax		
	comp=N,13nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CN2	**Changchun**	**21.36**	**272**	*e*P	**P**	**14 20 00.6**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**21.61**	**11**	*e*P	**P**	**14 20 02.8**	**+0.4**
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.4						
BILL	**Bilibino**	**21.61**	**11**	*e*P	**P**	**14 20 03.9**	**+1.4**
	comp=Z,24nm,1.1s,mb4.5						
KSRS	**Korea Array**	**22.57**	**255**	P	**P**	**14 20 14.8**	**+2.0**
	comp=Z,4.8nm,1.0s,mb3.9,baz=65,slow=8.7,SNR=5.9						
KSRS				LR	LR	14 28 28.6	
	comp=Z,57nm,18.2s,MS3.0,baz=164,slow=35						
TIXI	**Tiksi**	**27.55**	**342**	*i*P	**P**	**14 20 58.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
TIXI	**Tiksi**	**27.55**	**342**	*e*P	**P**	**14 20 59.0**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.3						
NJ2	**Nanjing**	**31.77**	**255**	*e*P	**P**	**14 21 40.4**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**32.37**	**289**	*e*P	**P**	**14 21 41.2**	**-0.9**
KDAK	**Kodiak Island**	**32.49**	**52**	P	**P**	**14 21 42.2**	**-0.9**
	comp=Z,15nm,0.9s,mb4.8,baz=4.8,slow=12,SNR=3.0						
KDAK	**Kodiak Island**	**32.49**	**52**	P	**P**	**14 21 42.2**	**-0.9**
SONM	**Songino Array**	**32.80**	**290**	P	**P**	**14 21 45.8**	**0.0**
SONM				LR	LR	14 37 20.0	
	comp=Z,64nm,18.0s,MS3.4,baz=139,slow=40						
SONM	**Songino Array**	**32.80**	**290**	P	**P**	**14 21 45.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,65nm,18.0s						
COLA	**College**	**34.72**	**39**	*e*P	**P**	**14 22 02.8**	**+0.3**
EGAK	**Eagle**	**37.58**	**39**	*e*P	**P**	**14 22 26.5**	**-0.5**
	comp=Z,12nm,0.8s,mb4.7						
INK	**Inuvik**	**40.35**	**33**	P	**P**	**14 22 51.8**	**+1.5**
	comp=Z,7.0nm,0.9s,mb4.4,baz=286,slow=6.9,SNR=36						
INK	**Inuvik**	**40.35**	**33**	*e*P	**P**	**14 22 51.5**	**+1.2**
	comp=Z,183nm,0.7s						
GYA	**Guiyang**	**43.49**	**259**	P	**P**	**14 23 16.3**	**+0.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
ZAL	**Zalesovo**	**43.76**	**306**	P	**P**	**14 23 17.9**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.0,baz=35,slow=7.8,SNR=12						
ZAL				PcP	PcP	14 25 04.5	-0.3
	comp=Z,1.4nm,0.7s,baz=33,slow=3.9,SNR=5.3						
ZAL				LR	LR	14 42 20.7	
	comp=Z,75nm,19.2s,MS3.6,baz=82,slow=37						
ZAL	**Zalesovo**	**43.76**	**306**	P	**P**	**14 23 17.9**	**-0.1**
ZAL						14 25 04.5	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,75nm,19.2s						
NVS	**Novosibirsk**	**44.28**	**308**	*e*P	**P**	**14 23 22.6**	**+0.4**
NVS				pmax	pmax		
	comp=Z,22nm,2.1s,mb4.5						
NVS				pmax	pmax		
	comp=N,12nm,2.0s						
NVS				pmax	pmax		
	comp=E,22nm,2.0s						
MK31	**Makanchi Array**	**48.26**	**298**	*e*P	**P**	**14 23 52.6**	**-0.9**
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**14 23 54.1**	**+0.6**
	comp=E,4.8nm,0.8s,mb4.6,baz=68,slow=7.0,SNR=17						
MKAR				PcP	PcP	14 25 20.5	0.0
	comp=E,1.5nm,0.9s,baz=64,slow=2.8,SNR=3.9						
MKAR				LR	LR	14 45 29.8	
	comp=E,57nm,18.8s,MS3.6,baz=344,slow=38						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**14 23 54.1**	**+0.6**
MKAR						14 25 20.5	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,57nm,18.8s						
YKA	**Yellowknife Ar**	**49.53**	**38**	P	**P**	**14 24 03.8**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=294,slow=7.4,SNR=6.7						
YKA	**Yellowknife Ar**	**49.53**	**38**	P	**P**	**14 24 03.8**	**+0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**14 24 21.8**	**+0.7**
	comp=Z,5.3nm,0.6s,mb4.6,baz=52,slow=8.0,SNR=26						
BVAR				PcP	PcP	14 25 33.9	+0.1
	comp=Z,2.0nm,0.8s,baz=103,slow=3.2,SNR=3.7						
BVAR	**Borovoye Array**	**51.90**	**310**	P	**P**	**14 24 21.8**	**+0.7**
BVAR						14 25 33.9	
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**14 24 22.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**51.94**	**310**	*e*P	**P**	**14 24 22.0**	**+0.6**
	comp=Z,6.6nm,0.7s,mb4.7						
LSA	**Lhasa**	**51.96**	**275**	P	**P**	**14 24 23.0**	**+1.4**
SOKR	**Solikamsk**	**54.82**	**322**	*i*P	**P**	**14 24 43.6**	**+1.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**55.17**	**297**	*e*P	**P**	**14 24 44.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NEW	**Newport**	**55.53**	**54**	P	**P**	**14 24 46.6**	**-1.1**
	comp=Z,1.6nm,0.3s,mb4.5,baz=216,slow=14,SNR=3.7						
NEW	**Newport**	**55.53**	**54**	P	**P**	**14 24 46.6**	**-1.1**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARU	**Arti**	**55.84**	**318**	*e*P	**P**	**14 24 50.6**	**+0.7**
ARU				*e*		14 26 56.8	
ARU				*e*S	**S**	**14 32 35.6**	**-1.8**
ARU				*e*SS	SS	14 36 20.3	-2.6
ARU	**Arti**	**55.84**	**318**	*e*P	**P**	**14 24 50.3**	**+0.4**
	comp=Z,18nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**57.99**	**342**	P	**P**	**14 25 06.1**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.5,baz=31,slow=17,SNR=4.0						
ARCES				LR	LR	14 57 12.3	
	comp=Z,50nm,18.6s,MS3.7,baz=51,slow=43						
ARCES	**ARCESS Array B**	**57.99**	**342**	P	**P**	**14 25 06.1**	**+0.9**
ARCES				LR	LR	14 57 12.3	
PDAR	**Pinedale Array**	**63.09**	**55**	P	**P**	**14 25 41.1**	**+1.1**
	comp=Z,1.6nm,0.9s,mb4.1,baz=287,slow=3.2,SNR=9.0						
FINES	**FINESS Array B**	**64.36**	**336**	P	**P**	**14 25 48.3**	**-0.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=32,slow=7.5,SNR=7.2						
FINES	**FINESS Array B**	**64.36**	**336**	P	**P**	**14 25 48.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.35**	**342**	P	**P**	**14 26 14.5**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.3,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.35**	**342**	P	**P**	**14 26 14.8**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.3,baz=25,slow=6.3,SNR=8.4						
NOA	**NORSAR Array B**	**68.35**	**342**	P	**P**	**14 26 14.8**	**+0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**69.52**	**201**	P	**P**	**14 26 19.8**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=19,slow=6.5,SNR=9.8						
WRA	**Warramunga Arr**	**69.52**	**201**	P	**P**	**14 26 19.8**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**71.71**	**316**	*e*P	**P**	**14 26 34.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,29nm,19.0s,MS3.6						
AKASG	**Malin Array Be**	**72.12**	**327**	P	**P**	**14 26 34.9**	**-2.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=27,slow=4.8,SNR=5.5						
ASAR	**Alice Springs**	**73.20**	**201**	P	**P**	**14 26 42.9**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=18,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**73.20**	**201**	P	**P**	**14 26 42.9**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**14 26 59.3**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=296,slow=4.3,SNR=18						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**14 26 59.3**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**78.57**	**336**	*e*P	**P**	**14 27 14.0**	**-0.1**
KHC				pP	pP	14 27 20.0	+3.2
KHC				x	x	14 27 29.5	
KHC	**Kasperske Hory**	**78.57**	**336**	*e*P	**P**	**14 27 14.0**	**-0.1**
KHC				*e*		14 27 20.0	
KHC				*e*		14 27 29.5	
GERES	**GERESS Array B**	**78.79**	**335**	P	**P**	**14 27 15.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=353,slow=5.8,SNR=4.3						
GERES				LR	LR	15 06 48.0	
	comp=Z,40nm,19.3s,MS3.8,baz=280,slow=39						
GERES	**GERESS Array B**	**78.79**	**335**	P	**P**	**14 27 15.0**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,40nm,19.3s						
BRTR	**Keskin Array B**	**79.23**	**318**	P	**P**	**14 27 18.4**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.8,baz=90,slow=4.3,SNR=5.7						
BRTR	**Keskin Array B**	**79.23**	**318**	P	**P**	**14 27 18.4**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNA2	**Neumayer--Watz**	**154.84**	**193**	*e*PKPdf	PKPdf	14 35 16.6	+11
VNA2				*e*		14 35 22.3	
VNA2				*e*		14 35 27.7	
VNA3	**Neumayer Olymp**	**154.88**	**191**	*e*PKPdf	PKPdf	14 35 15.1	+10
VNA3				*e*		14 35 20.7	

WEL 22 14:31:56.7±0.4, 3984S×17880W, h33km, ML4.1/11, Error ellipse: s-maj=3.9km s-min=2.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.90**	**307**	PN	Pn	14 32 40.3	-0.2
PUZ				SN	Sn	14 33 11.6	-2.5
MWZ	**Matawai**	**3.23**	**297**	PN	Pn	14 32 44.3	-0.8
MWZ				SN	Sn	14 33 19.1	-3.3
PXZ	**Pawanui**	**3.34**	**265**	PN	Pn	14 32 46.4	-0.2
PXZ				SN	Sn	14 33 23.3	-1.8
URZ	**Urewera**	**3.55**	**295**	PN	Pn	14 32 48.5	-1.1
URZ				SN	Sn	14 33 28.6	-1.8
BKZ	**Black Stump Fm**	**3.70**	**279**	PN	Pn	14 32 52.3	+0.7
BKZ				SN	Sn	14 33 31.5	-2.6
MRZ	**Mangatainoka R**	**4.38**	**257**	PN	Pn	14 33 00.1	-0.7
MRZ				SN	Sn	14 33 48.1	-2.6
TRWZ	**Traveller**	**4.47**	**248**	PN	Pn	14 33 00.7	-1.5
MTW	**Mount Morrison**	**4.54**	**251**	PN	Pn	14 33 01.6	-1.5
PAWZ	**Paruwai Farm**	**4.66**	**249**	PN	Pn	14 33 03.2	-1.5
MSWZ	**Moikau Station**	**4.79**	**249**	SN	Sn	14 33 58.4	-2.5
MRW	**Makara Radio**	**5.14**	**252**	PN	Pn	14 33 10.2	-1.1
KUZ	**Kuaotunu**	**5.30**	**304**	PN	Pn	14 33 13.2	-0.4
THZ	**Tophouse**	**6.58**	**250**	PN	Pn	14 33 30.8	-0.4

*NEIC **22** 14:33:09.6, 3345S×7305W, h30km, ML3.6(GUC), After GUC.*

GUC 22 14:33:09.6±0.7, 3345S×7305W, h30km±3km, MD4.0, ML3.6, 4C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**1.24**	**92**	*i*P	Pn	14 33 31.3	+0.6
LNV	**Longovilo**	**1.46**	**111**	*i*P	Pn	14 33 34.7	+0.9
LNV				*i*S	Sn	14 33 53.3	+1.5
PACH	**Papudo**	**1.63**	**57**	*e*P	Pn	14 33 37.3	+1.1
PACH				*i*S	Sn	14 33 58.9	+2.7
ROCH	**El Roble**	**1.77**	**75**	*i*S	Sn	14 34 03.2	+3.5
TACH	**Talagante**	**1.77**	**97**	*i*P	Pn	14 33 39.1	+0.9
TACH				*i*S	Sn	14 34 02.0	+2.3
RCDM	**Rinconada Maip**	**1.88**	**92**	*e*P	Pn	14 33 41.0	+1.5
RCDM				*i*S	Sn	14 34 05.5	+3.3
RCDM				AML	AML	14 34 07.6	
	comp=N,493nm,0.4s						
RCDM	**Rinconada Maip**	**1.88**	**92**	*e*P	Pn	14 33 41.0	+1.5
RCDM				S	Sn	14 34 05.5	+3.3
PEL	**Peldehue**	**2.00**	**82**	*e*P	Pn	14 33 43.6	+2.3
PEL				*e*S	Sn	14 34 09.4	+4.1
ANTU	**Antumapu**	**2.02**	**94**	*e*P	Pn	14 33 43.2	+1.6
ANTU				*i*S	Sn	14 34 08.2	+2.4
CHNG	**Los Chungos**	**2.04**	**40**	*e*P	Pn	14 33 43.2	+1.4
CHNG				*i*S	Sn	14 34 08.3	+2.1
SFDO	**San Fernando**	**2.05**

FCH	**Farellones**	**2.31**	**88**	⇑*P*	Pn	14 33 48.6	+3.0
FCH				*i* S	Sn	14 34 17.7	+4.7
FCH				AML	AML	14 34 20.0	
	comp=N,537nm,0.1s						
CICH	**Cipreses**	**2.35**	**112**	*eP*	Pn	14 33 47.8	+1.7
CICH				*i* S	Sn	14 34 16.6	+2.7
LMEL	**Las Melosas**	**2.41**	**100**	*eP*	Pn	14 33 48.7	+1.8
LMEL				*i* S	Sn	14 34 19.1	+3.8
LMEL				AML	AML	14 34 21.6	
	comp=N,489nm,0.3s						
LMEL	**Las Melosas**	**2.41**	**100**	*eP*	Pn	14 33 48.7	+1.8
LMEL				S	Sn	14 34 19.1	+3.8

IDC 22 14:36:10.5±11.0, 508S×15221E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, Error ellipse: s-maj=188.2km s-min=92.6km az=16.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.82**	**228**	P		P	14 41 16.0	+1.1
	0.2nm,0.7s,baz=52,slow=10,SNR=4.2							
ASAR	**Alice Springs**	**25.54**	**222**	P		P	14 41 41.2	+0.3
	0.3nm,0.6s,baz=53,slow=9.7,SNR=7.6							
STKA	**Stephens Creek**	**28.45**	**199**	P		P	14 42 06.8	-0.3
	0.5nm,0.5s,baz=215,slow=12,SNR=2.1							

IDC 22 14:49:32.4±8.9, 4952N×15480E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=456.0km s-min=31.1km az=1.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**31.57**	**286**	P		P	14 55 56.5	0.0
	0.8nm,0.8s,baz=66,slow=8.2,SNR=3.3							
MKAR	**Makanchi Array**	**46.71**	**296**	P		P	14 58 02.6	-0.4
	0.8nm,0.6s,baz=72,slow=8.5,SNR=8.7							
TXAR	**Lajitas Array**	**75.17**	**62**	P		P	15 01 16.8	+0.2
	0.6nm,0.8s,baz=304,slow=5.3,SNR=5.5							

*BJI **22** 14:56:10.5, 1092S×16626E, h18km, mB5.1, mb5.1, Ms4.8, Msz4.4*
*ISCJB **22** 14:56:11.3±1.4, 1168S±006×16625E±005, h45km±12km, mb4.9/34, MS4.3/25, Error ellipse: s-maj=10.7km s-min=7.9km az=64.3*
*IDC **22** 14:56:12.9±1.9, 1160S×16626E, h46km±16km, mb4.4/18, mb1 4.5/21, mb1mx4.5/23, mbtmp4.4/21, ML3.6/2, MS4.3/21, Ms1 4.3/21, ms1mx4.2/29, Error ellipse: s-maj=15.1km s-min=14.9km az=31.0*
*NEIC **22** 14:56:14.2±0.9, 1163S×16628E, h59km±9km, mb4.9/12, MS4.3/2, Error ellipse: s-maj=8.0km s-min=6.8km az=184.0*
*GCMT **22** 14:56:14.2±0.3, 1159S×16605E, h44km, MW5.2/63, Moment Tensor Solution. s60,c86; s63,c89; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.70±.02; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-0.74±.02; $M_{r\theta}$0.06±.02; $M_{\theta\phi}$0.21±.02; $M_{\phi r}$-0.04±.02; Best double couple: $M_0$0.75300×10^{17} NP1:ϕ351.00000°, δ43.00000°, λ96.00000°. NP2: ϕ162.00000°, δ47.00000°, λ84.00000°. Principal axes: T 0.7050, Plg85.0000°, Azm12.0000°; N 0.0950, Plg4.0000°, Azm166.0000°; P -0.8010, Plg2.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 14:56:14.2±1.0, 1166S±006×16628E±005, h55km±9km, h42km±2.2km:pP-P,n81,σ0.91/68, mb4.9/34, MS4.3/25, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.61**	**289**	P		**Pn**	**14 57 48.4**	**-0.3**
	60nm,0.3s,baz=106,slow=3.3,SNR=72							
HNR	**Honiara**	**6.61**	**289**	*e*Pn		**Pn**	**14 57 48.3**	**-0.4**
HNR				*e*Sn		**Sn**	**14 59 03.0**	**+0.4**
DZM	**Mont Dzumac**	**10.35**	**179**	P		**Pn**	**14 58 40.9**	**+0.9**
	1.5nm,0.3s,baz=18,slow=20,SNR=24							
FUNA	**Funafuti**	**13.10**	**77**	*eP*		**Pn**	**14 59 16.4**	**-1.0**
	75nm,0.8s							
PMG	**Port Moresby**	**18.93**	**275**	P		**Pn**	**15 00 31.3**	**-0.3**
	0.3nm,0.3s,baz=192,slow=9.1,SNR=3.6							
CTA	**Charters Tower**	**20.99**	**244**	*eP*		**P**	**15 00 54.1**	**+1.2**
	11nm,0.7s							
CTA	**Charters Tower**	**20.99**	**244**	P		**P**	**15 00 53.3**	**+0.4**
	14nm,0.8s,baz=65,slow=10,SNR=11							
CTA				LR		LR	15 08 00.9	
	comp=Z,1μm,20.1s,MS4.2,baz=53,slow=34							
CTAO	**Charters Tower**	**20.99**	**244**	*eP*		**P**	**15 00 54.0**	**+1.2**
	16nm,0.8s							
AFI	**Afiamalu**	**21.52**	**98**	P		**P**	**15 01 00.2**	**+1.7**
	44nm,1.0s,mb4.9,baz=30,slow=14,SNR=2.6							
AFI				LR		LR	15 07 40.4	
	comp=Z,860nm,19.2s,MS4.2,baz=42,slow=32							
ARMA	**Armidale**	**23.09**	**214**	*eP*		**P**	**15 01 16.0**	**+0.8**
URZ	**Urewera**	**28.20**	**162**	P		**P**	**15 02 01.5**	**-0.1**
	3.2nm,0.4s,mb4.3,baz=315,slow=6.1,SNR=5.4							
URZ				LR		LR	15 11 44.8	
	comp=Z,713nm,20.6s,MS4.2,baz=232,slow=33							
STKA	**Stephens Creek**	**30.36**	**225**	*eP*		**P**	**15 02 21.6**	**+0.8**
	5.7nm,0.6s,mb4.5							
STKA				*e*PCP		PcP	15 05 19.5	-0.1
STKA	**Stephens Creek**	**30.36**	**225**	P		**P**	**15 02 21.6**	**+0.8**
	8.3nm,0.8s,mb4.5,baz=26,slow=8.9,SNR=14							
STKA				PcP		PcP	15 05 18.9	-0.7
	4.9nm,0.7s,baz=5.7,slow=2.5,SNR=4.1							
STKA				LR		LR	15 13 59.6	
	comp=Z,868nm,19.3s,MS4.4,baz=38,slow=35							
SNZO	**South Karori**	**30.45**	**167**	P		**P**	**15 02 20.2**	**-1.3**
WB2	**Warramunga Arr**	**31.76**	**251**	*eP*		**P**	**15 02 32.6**	**-0.5**
WB2				*e*PCP		PcP	15 05 23.5	+0.1
WRA	**Warramunga Arr**	**31.77**	**251**	P		**P**	**15 02 32.9**	**-0.3**
	6.0nm,0.9s,mb4.4,baz=83,slow=9.4,SNR=29							
WRA				PcP		PcP	15 05 23.5	+0.2
	3.9nm,0.8s,baz=80,slow=3.0,SNR=12							
WRA				ScP		ScP	15 09 05.2	+3.2
	1.5nm,1.1s,baz=82,slow=3.3,SNR=4.9							
WRA				LR		LR	15 14 49.6	
	comp=Z,380nm,18.5s,MS4.1,baz=70,slow=35							
RPZ	**Rata Peaks**	**32.20**	**173**	P		**P**	**15 02 36.6**	**-0.4**
	17nm,0.7s,mb5.0,baz=278,slow=4.1,SNR=7.4							
AS31	**Alice Springs**	**32.99**	**244**	*eP*		**P**	**15 02 43.5**	**-0.4**
AS31				*e*PcP		PcP	15 05 41.1	+14
ASAR	**Alice Springs**	**32.99**	**244**	P		**P**	**15 02 43.5**	**-0.4**
	5.2nm,0.8s,mb4.5,baz=69,slow=9.5,SNR=65							
ASAR				PcP		PcP	15 05 26.4	-0.3
	5.7nm,0.9s,baz=80,slow=3.2,SNR=15							
ASAR				ScP		ScP	15 09 09.2	+3.0
	2.5nm,1.1s,baz=86,slow=2.8,SNR=9.1							
ASAR				LR		LR	15 15 16.1	
	comp=Z,665nm,19.8s,MS4.3,baz=75,slow=35							
ASPA	**Alice Springs**	**32.99**	**244**	*eP*		**P**	**15 02 43.5**	**-0.4**
ASPA				*e*PCP		PcP	15 05 41.1	+14
KAKA	**Kakadu**	**33.08**	**265**	*eP*		**P**	**15 02 42.6**	**-2.1**
	9.6nm,0.6s,mb4.9							
KAKA				*e*PCP		PcP	15 05 26.6	-0.4
RAR	**Rarotonga**	**33.85**	**111**	LR		LR	15 13 15.3	
	comp=Z,705nm,21.4s,MS4.4,baz=268,slow=30							
FITZ	**Fitzroy Crossi**	**39.73**	**256**	⇓*iP*		**P**	**15 03 41.7**	**+0.4**
	16nm,0.8s,mb4.8							
FITZ				*e*PCP		PcP	15 05 47.6	+0.7
FITZ	**Fitzroy Crossi**	**39.73**	**256**	P		**P**	**15 03 41.8**	**+0.4**
	11nm,0.9s,mb4.6,baz=68,slow=7.1,SNR=14							
FITZ				PcP		PcP	15 05 47.0	+0.1
	6.8nm,0.9s,baz=20,slow=10,SNR=4.5							
PPT	**Papeete**	**43.04**	**103**	*e*LQ			15 14 36.1	
	840nm,32.5s							
PPT	**Papeete**	**43.04**	**103**	*e*PP		PP	15 05 56.3	+7.1
	81nm,28.2s							
PPT	**Papeete**	**43.04**	**103**	*e*S		**S**	**15 10 47.1**	**+17**
	269nm,26.8s							
PPT				*e*LR		LR	15 16 15.9	
	1μm,28.5s,baz=277							
PPT	**Papeete**	**43.04**	**103**	LR		LR	15 18 49.8	
	comp=Z,327nm,19.5s,MS4.2,baz=270,slow=32							
TBI	**Tubuai**	**43.62**	**112**	*e*S		**S**	**15 10 54.9**	**+16**
	216nm,28.5s							
TBI				*e*LQ			15 14 44.5	
	627nm,30.0s							
TBI				*e*LR		LR	15 16 36.2	
	1μm,27.5s,baz=285							
CBIJ	**Chichi jima**	**45.07**	**329**	LR		LR	15 20 02.6	
	comp=Z,322nm,20.7s,MS4.2,baz=145,slow=32							

JHJ	**Hachijo jima 2**	**51.20**	**331**	LR		LR	15 22 18.7	
	comp=Z,254nm,20.8s,MS4.2,baz=156,slow=31							
TAOE	**Nuku Hiva Isla**	**52.73**	**92**	*e*S		**S**	**15 13 03.5**	**+16**
	874nm,30.3s							
TAOE				*e*LR		LR	15 20 49.7	
	1μm,25.2s							
JOW	**Kunigami**	**53.16**	**317**	LR		LR	15 27 13.3	
	comp=Z,218nm,18.5s,MS4.2,baz=131,slow=35							
MJAR	**Matsushiro Arr**	**54.76**	**332**	P		**P**	**15 05 36.1**	**-2.0**
	2.7nm,0.8s,mb4.4,baz=174,slow=7.9,SNR=4.2							
MJAR				LR		LR	15 26 31.5	
	comp=Z,284nm,19.2s,MS4.3,baz=170,slow=33							
RKT	**Rikitea**	**56.89**	**110**	*e*S		**S**	**15 13 58.8**	**+16**
	127nm,29.0s							
RKT				*e*SS		SS	15 17 50.4	+19
	151nm,38.2s							
RKT				*e*LR		LR	15 22 44.3	
	1μm,26.8s,baz=290							
ASAJ	**Asahikawa**	**59.55**	**340**	LR		LR	15 30 25.4	
	comp=Z,304nm,18.2s,MS4.5,baz=323,slow=34							
VNDA	**Vanda**	**65.89**	**181**	P		**P**	**15 06 53.2**	**-1.0**
	8.8nm,1.1s,mb4.7,baz=360,slow=6.8,SNR=26							
VNDA				LR		LR	15 32 05.3	
	comp=Z,136nm,20.6s,MS4.1,baz=7.4,slow=33							
VNDA	**Vanda**	**65.89**	**181**	*eP*		**P**	**15 06 53.1**	**-1.1**
	11nm,1.0s,mb4.8							
VNDA				LR		LR	15 32 05.3	
SBA	**Scott Base**	**66.19**	**180**	*eP*		**P**	**15 06 55.9**	**-0.2**
	19nm,1.1s,mb5.0							
GYA	**Guiyang**	**69.19**	**304**	⇑*iP*		**P**	**15 07 15.4**	**+0.4**
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
BJI	**Beijing**	**69.29**	**321**	P		**P**	**15 07 14.9**	**-0.7**
BJI				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.7							
BJI				LR		LR		
	comp=N,318nm,14.2s,MS4.8							
BJI				LR		LR		
	comp=E,315nm,14.2s,MS4.8							
BJI				LR		LR		
	comp=Z,176nm,21.3s							
BJI	**Beijing**	**69.29**	**321**	P		**P**	**15 07 14.9**	**-0.7**
	comp=Z,13nm,1.2s,mb4.7							
BJI				LR		LR		
	comp=Z,180nm,21.3s,MS4.3							
XAN	**Xi'an**	**70.92**	**312**	P		**P**	**15 07 25.3**	**-0.3**
XAN				AMB		AMB		
	comp=Z,17nm,1.3s,mb4.8							
KMI	**Kunming**	**71.89**	**301**	P		**P**	**15 07 33.1**	**+1.7**
KMI				AMB		AMB		
	comp=Z,19nm,1.6s,mb4.8							
KMI				AMB		AMB		
	comp=Z,109nm,3.4s							
KMI				LR		LR		
	comp=N,105nm,20.0s,MS4.4							
KMI				LR		LR		
	comp=E,211nm,24.0s,MS4.4							
KMI				LR		LR		
	comp=Z,195nm,20.0s,MS4.4							
KMI	**Kunming**	**71.89**	**301**	P		**P**	**15 07 33.1**	**+1.7**
	comp=Z,19nm,1.6s,mb4.8							
KMI				*p*P		pP	15 07 46.5	-0.2
KMI				*s*P		sP	15 07 51.0	-1.8
KMI				PP		PP	15 10 06.8	-4.8
KMI				S		S	15 16 24.6	-24
KMI				*s*S		sS	15 16 56.5	-17
KMI				SS		SS	15 20 48.4	-37
KMI				SSS			15 23 44.3	
KMI				LR		LR		
	comp=Z,200nm,20.0s,MS4.4							
CHTO	**Chiang Mai**	**72.95**	**294**	*eP*		**P**	**15 07 38.6**	**+0.8**
	comp=Z,40nm,1.5s,mb5.1							
CD2	**Chengdu**	**73.39**	**307**	P		**P**	**15 07 41.6**	**+1.2**
CD2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.3							
CD2				AMB		AMB		
	comp=Z,50nm,4.6s							
LZH	**Lanzhou**	**75.56**	**312**	*eP*		**P**	**15 07 54.0**	**+1.1**
LZH				AMB		AMB		
	comp=Z,56nm,1.5s,mb5.3							
LZH				AMB		AMB		
	comp=Z,120nm,5.4s							
LZH	**Lanzhou**	**75.56**	**312**	*eP*		**P**	**15 07 54.0**	**+1.1**
	comp=Z,56nm,1.5s,mb5.3							
LZH				*p*P		pP	15 08 13.0	+4.7
QSPA	**South Pole Qui**	**78.35**	**180**	*eP*		**P**	**15 08 07.8**	**-0.8**
	comp=Z,47nm,1.0s,mb5.4							
ULN	**Ulaanbaatar**	**79.10**	**324**	*eP*		**P**	**15 08 12.4**	**-0.4**
SONM	**Songino Array**	**79.47**	**324**	P		**P**	**15 08 14.1**	**-0.7**
	comp=Z,5.7nm,1.0s,mb4.5,baz=130,slow=5.3,SNR=19							
GTA	**Gaotai**	**79.86**	**314**	⇑P		**P**	**15 08 17.8**	**+0.9**
GTA				AP		pP	15 08 21.6	-11
GTA				AMB		AMB		
	comp=Z,25nm,1.2s,mb5.0							
GTA				AMB		AMB		
	comp=Z,142nm,4.9s							
GTA				LR		LR		
	comp=N,169nm,12.9s,MS4.7							
GTA				LR		LR		
	comp=E,174nm,16.7s,MS4.7							
GTA				LR		LR		
	comp=Z,186nm,14.8s,MS4.6							
LSA	**Lhasa**	**83.12**	**302**	*eP*		**P**	**15 08 35.2**	**+1.1**
	comp=Z,82nm,2.0s,mb5.4							
YBH	**Yreka Blue Hor**	**83.95**	**45**	P		**P**	**15 08 39.8**	**+1.4**
	comp=Z,4.0nm,0.8s,mb4.6,baz=260,slow=8.9,SNR=5.8							
YBH				LR		LR	15 39 08.4	
	comp=Z,170nm,18.7s,MS4.5,baz=243,slow=31							
MAW	**Mawson**	**84.35**	**202**	P		**P**	**15 08 39.2**	**-1.2**
	comp=Z,13nm,1.2s,mb4.9,baz=95,slow=6.0,SNR=6.7							
MAW				LR		LR	15 39 55.1	
	comp=Z,156nm,21.9s,MS4.3,baz=68,slow=31							
PFO	**Pinyon Flat Ob**	**86.01**	**55**	LR		LR	15 38 47.4	
	comp=Z,228nm,19.1s,MS4.6,baz=298,slow=30							
JIRN	**Jiri**	**86.74**	**299**	*eP*		**P**	**15 08 53.0**	**+0.7**
	comp=Z,65nm,1.2s,mb5.7							
GUN	**Gumba**	**87.07**	**299**	*eP*		**P**	**15 08 54.1**	**+0.2**
PKI	**Pulchoki**	**87.39**	**299**	*eP*		**P**	**15 08 55.8**	**+0.4**
	comp=Z,92nm,1.2s,mb5.9							
KKN	**Kakani**	**87.56**	**299**	*eP*		**P**	**15 08 56.4**	**+0.2**
	comp=Z,44nm,1.0s,mb5.6							
DMN	**Daman**	**87.66**	**299**	*eP*		**P**	**15 08 57.3**	**+0.6**
GKN	**Gorkha**	**88.16**	**299**	*eP*		**P**	**15 08 58.7**	**-0.4**
	comp=Z,32nm,0.5s,mb5.8							
WMQ	**Urumqi**	**89.90**	**315**	⇑*iP*		**P**	**15 09 06.5**	**-0.8**
WMQ				AMB		AMB		
	comp=Z,17nm,0.8s,mb5.4							
WMQ				LR		LR		
	comp=N,68nm,25.1s,MS4.3							
WMQ				LR		LR		
	comp=E,125nm,28.3s,MS4.3							
WMQ				LR		LR		
	comp=Z,127nm,26.7s,MS4.2							
HYB	**Hyderabad**	**91.30**	**287**	*i* P		**P**	**15 09 14.0**	**+0.2**
HYB				*ep*P		pP	15 09 26.0	-3.5
HYB	**Hyderabad**	**91.30**	**287**	*eP*		**P**	**15 09 14.0**	**+0.2**
PDAR	**Pinedale Array**	**93.58**	**47**	P		**P**	**15 09 24.0**	**-0.3**
	comp=Z,0.8nm,0.9s,mb4.2,baz=263,slow=2.4,SNR=5.2							
PDAR				LR		LR	15 46 50.4	
	comp=Z,119nm,19.1s,MS4.4,baz=259,slow=32							
MKAR	**Makanchi Array**	**94.33**	**317**	P		**P**	**15 09 27.1**	**-0.7**
	comp=Z,13nm,0.8s,mb5.4,baz=100,slow=6.3,SNR=58							
MKAR				LR		LR	15 48 40.3	
	comp=Z,87nm,21.8s,MS4.2,baz=268,slow=33							
ZAL	**Zalesovo**	**94.37**	**324**	P		**P**	**15 09 26.2**	**-1.8**
	comp=Z,2.0nm,0.7s,mb4.7,baz=5.5,slow=3.7,SNR=13							
ZAL				LR		LR	15 49 26.3	
	comp=Z,152nm,21.9s,MS4.4,baz=192,slow=34							
ZAL	**Zalesovo**	**94.37**	**324**	P		**P**	**15 09 26.2**	**-1.8**
ZAL				LR		LR	15 49 26.3	
YKA	**Yellowknife Ar**	**95.28**	**27**	P		**P**	**15 09 31.6**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.9,baz=256,slow=4.9,SNR=4.5							
YKA				LR		LR	15 44 40.6	
	comp=Z,99nm,21.7s,MS4.2,baz=215,slow=30							
TXAR	**Lajitas Array**	**95.66**	**61**	P		**P**	**15 09 34.7**	**+0.8**
	comp=Z,0.5nm,0.8s,mb4.0,baz=221,slow=6.6,SNR=5.8							
TXAR	**Lajitas Array**	**95.66**	**61**	P		**P**	**15 09 34.7**	**+0.8**
SNAA	**Sanae**	**96.54**	**183**	*e*		**P**	**15 09 41.9**	**+4.1**
SNAA				*e*			15 09 46.3	
VNA3	**Neumayer Olymp**	**97.24**	**181**	*e*		**P**	**15 09 43.1**	**+2.1**
VNA3				*e*			15 09 47.0	
VNA3				*e*		pP	15 09 55.3	-1.5
VNA2	**Neumayer--Watz**	**97.50**	**182**	*e*		**P**	**15 09 41.7**	**-0.5**
VNA2				*e*			15 09 45.9	
VNA2				*e*		pP	15 09 53.1	-4.8
ARCES	**ARCESS Array B**	**117.06**	**346**	PKiKP		PKiKP	15 14 51.0	-1.9
	comp=Z,1.5nm,0.5s,baz=59,slow=2.4,SNR=7.1							
BOSA	**Boshof**	**125.02**	**222**	PKP		PKPdf	15 15 08.6	+0.3
	comp=Z,4.2nm,0.9s,baz=241,slow=0.9,SNR=6.7							
KMBO	**Kilima Mbogo**	**127.79**	**259**	PKP		PKPdf	15 15 15.0	+1.4
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=2.8							
KEST	**Kesra**	**148.22**	**323**	PKPbc		PKPbc	15 15 52.3	-1.7
	comp=Z,2.4nm,1.0s,baz=202,slow=5.4,SNR=2.0							
TORD	**Torodi Ar. Bea**	**164.87**	**277**	PKP		PKPdf	15 16 11.9	-0.1
	comp=Z,1.3nm,1.0s,baz=87,slow=1.4,SNR=5.1							
TORD				PKPab		PKPab	15 17 09.2	+0.9
	comp=Z,3.1nm,1.0s,baz=78,slow=5.1,SNR=11							

*ISCJB **22** 14:58:19.2±0.6, 46.11N±009×154.8E±0.1, h10km, mb4.0/18, MS3.7/1, Error ellipse: s-maj=15.4km s-min=8.1km az=109.1*
*IDC **22** 14:58:19.0±0.8, 46.11N×154.85E, h0km, mb3.8/14, mb1 4.1/15, mb1mx4.0/25, mbtmp3.9/15, ML4.1/1, Error ellipse: s-maj=22.5km s-min=17.8km az=153.0*
*NEIC **22** 14:58:20.5±0.7, 46.17N×154.92E, h10km, mb4.7/4, Error ellipse: s-maj=16.7km s-min=10.9km az=141.0*
*MOS **22** 14:58:22.5±1.0, 46.10N×154.70E, h33km, mb4.2/11, Error ellipse: s-maj=14.3km s-min=11.9km az=77.9*

ISC 22 14:58:21.3±4.4, 4615N±010×1549E±01, h13km±26km, n50, σ0.98/49, mb4.0/18, MS3.7/1, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.62**	**10**	*e*PN		**Pn**	**14 59 31.5**	**+0.7**
KUR	**Kuril'sk**	**4.98**	**262**	PN		**Pn**	**14 59 32.0**	**-3.8**
YUK	**Yuzh-Kuril'sk**	**6.71**	**255**	*e*PN		**Pn**	**14 59 59.0**	**-0.5**
PET	**Petropavlovsk**	**7.31**	**18**	*e*PN		**Pn**	**15 00 04.2**	**-3.6**
YSS	**Yuzh-Sakhalins**	**8.38**	**280**	*e*PN		**Pn**	**15 00 24.2**	**+1.7**
ASAJ	**Asahikawa**	**8.90**	**261**	Pn		**Pn**	**15 00 29.2**	**-0.4**
	2.2nm,0.3s,baz=357,slow=21,SNR=14							
ASAJ	**Asahikawa**	**8.90**	**261**	PN		**Pn**	**15 00 29.3**	**-0.3**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MAJO	**Matsushiro**	**15.73**	**238**	P		**Pn**	**15 02 01.3**	**-1.3**
MAT	**Matsushiro**	**15.73**	**238**	P		**Pn**	**15 02 07.7**	**+5.1**
KSRS	**Korea Array**	**21.80**	**256**	P		**P**	**15 03 13.7**	**+0.7**
	comp=Z,1.9nm,0.8s,mb3.6,baz=59,slow=11,SNR=4.1							
BILL	**Bilibino**	**22.73**	**11**	*eP*		**P**	**15 03 25.3**	**+2.4**
BILL				pmax		pmax		
	comp=Z,19nm,1.6s,mb4.3							
BILL				MLR		MLR		
	comp=Z,300nm,20.0s,MS3.7							
BILL	**Bilibino**	**22.73**	**11**	*eP*		**P**	**15 03 21.6**	**-1.3**
	comp=Z,18nm,1.3s,mb4.3							
ULN	**Ulaanbaatar**	**32.24**	**291**	*eP*		**P**	**15 04 53.8**	**+4.5**
INK	**Inuvik**	**41.52**	**32**	P		**P**	**15 06 08.3**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=293,slow=9.3,SNR=8.6							
INK	**Inuvik**	**41.52**	**32**	*eP*		**P**	**15 06 09.1**	**+0.9**
	comp=Z,47nm,0.6s,mb5.3							
ZAL	**Zalesovo**	**43.95**	**307**	P		**P**	**15 06 27.9**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=103,slow=4.8,SNR=3.0							
ZAL	**Zalesovo**	**43.95**	**307**	P		**P**	**15 06 27.9**	**-0.1**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZAL	**Zalesovo**	**43.95**	**307**	P		**P**	**15 06 27.9**	**-0.1**
MK31	**Makanchi Array**	**48.29**	**299**	*eP*		**P**	**15 07 01.4**	**-0.8**
MKAR	**Makanchi Array**	**48.29**	**299**	P		**P**	**15 07 01.7**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=62,slow=6.1,SNR=15							
MKAR	**Makanchi Array**	**48.29**	**299**	P		**P**	**15 07 01.7**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**50.69**	**37**	P		**P**	**15 07 20.1**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=292,slow=6.9,SNR=3.9							
YKA	**Yellowknife Ar**	**50.69**	**37**	⇑*eP*		**P**	**15 07 20.1**	**-0.3**
LSA	**Lhasa**	**51.52**	**275**	*eP*		**P**	**15 07 28.7**	**+2.0**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
LSA	**Lhasa**	**51.52**	**275**	*eP*		**P**	**15 07 28.7**	**+2.0**
	comp=Z,5.7nm,0.8s,mb4.5							
BVAR	**Borovoye Array**	**52.17**	**310**	P		**P**	**15 07 30.4**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=48,slow=8.8,SNR=5.2							
BVAR	**Borovoye Array**	**52.17**	**310**	P		**P**	**15 07 30.4**	**-1.2**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
JIRN	**Jiri**	**56.20**	**276**	*eP*		**P**	**15 08 01.1**	**+0.1**
GUN	**Gumba**	**56.26**	**277**	*eP*		**P**	**15 08 02.4**	**+1.0**
ARU	**Arti**	**56.27**	**318**	⇑*eP*		**P**	**15 08 00.1**	**-1.3**
ARU				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
ARU	**Arti**	**56.27**	**318**	*eP*		**P**	**15 08 00.3**	**-1.1**
	comp=Z,4.7nm,0.5s,mb4.8							
GKN	**Gorkha**	**57.06**	**278**	*eP*		**P**	**15 08 07.8**	**+0.7**
	comp=Z,18nm,0.9s,mb5.1							
AKTK	**Aktyub

KUR pmax pmax
comp=Z,530nm,0.6s
KUR smax
comp=N,860nm,0.7s
KUR smax
comp=E,800nm,0.7s
SKR Severo-Kuril's 4.35 23 *e*P **Pn 15 02 05.8 -1.0**
SKR AMB AMB 15 02 06.5
comp=E,90nm,0.4s
SKR *e*S **Sn 15 02 52.0 -4.3**
SKR A 15 03 06.5
comp=E,160nm,0.9s
SKR A 15 03 06.5
comp=E,380nm,0.6s
SKR A 15 03 06.5
comp=E,400nm,0.6s
YUK Yuzh-Kuril'sk 5.97 246 *e*P **Pn 15 02 29.5 +0.4**
YUK *e*S **Sn 15 03 34.5 -1.8**
YUK A 15 03 46.1
comp=E,200nm,0.5s
YUK A 15 03 46.1
comp=E,500nm,0.5s
NEM2 Nemuro 2 6.40 241 P **Pn 15 02 33.4 -1.5**
NEM2 *e*S **Sn 15 03 41.4 -5.4**
JRA Rausu 6.49 248 P **Pn 15 02 37.2 +1.1**
JNK Nakash 6.91 246 P **Pn 15 02 42.5 +0.5**
JNK *e*S **Sn 15 03 58.3 -1.2**
PET Petropavlovsk 7.16 26 *e*PN **Pn 15 02 46.1 +0.8**
PET pmax pmax
comp=Z,161nm,1.0s
PET MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 7.16 26 *e*Pn **Pn 15 02 43.5 -1.8**
comp=Z,104nm,0.8s
PET *e*Sn **Sn 15 04 03.6 -1.9**
JAK Akkeshi 7.24 242 P **Pn 15 02 45.0 -1.5**
JAK *e*S **Sn 15 04 01.4 -6.1**
JTKR Abashiri--Toko 7.25 251 P **Pn 15 02 48.0 +1.3**
YSS Yuzh-Sakhalins 7.33 276 *e*P **Pn 15 02 50.8 +3.0**
YSS AMB AMB 15 02 54.8
comp=Z,60nm,1.0s
YSS *e*S **Sn 15 04 10.5 +0.7**
YSS A 15 04 11.8
comp=Z,90nm,0.8s
YSS Yuzh-Sakhalins 7.33 276 *e*P **Pn 15 02 49.8 +2.1**
YSS *e*Sn **Sn 15 04 10.8 +1.0**
JAR Ashorobuto 7.66 247 P **Pn 15 02 53.1 +0.9**
JAR *e*S **Sn 15 04 16.6 -1.2**
JOB Onbets 7.82 244 P **Pn 15 02 54.2 -0.2**
JOB *e*S **Sn 15 04 18.0 -3.8**
JKK2 Kamakawa 2 8.06 253 P **Pn 15 02 59.6 +1.9**
ASAJ Asahikawa 8.06 255 P **Pn 15 03 00.2 +2.5**
comp=Z,4.5nm,0.3s,baz=64,slow=11,SNR=13
ASAJ LR LR 15 06 48.1
comp=Z,350nm,18.5s,baz=9.7,slow=43
ASAJ Asahikawa 8.06 255 P **Pn 15 02 59.9 +2.2**
TYV Tymovskoe 8.24 304 *e*P **Pn 15 03 02.0 +1.8**
TYV AMB AMB 15 03 09.8
comp=Z,37nm,1.0s
JCH Churui 8.27 244 P **Pn 15 03 00.1 -0.5**
JCH *e*S **Sn 15 04 27.5 -5.3**
JEM Erimo 8.73 241 P **Pn 15 03 07.4 +0.4**
JBT2 Biratori 2 8.81 247 P **Pn 15 03 08.1 +0.1**
JNBK Urakawa-nobuka 8.83 244 P **Pn 15 03 06.8 -1.5**
JNB Noboribetsu 9.81 249 P **Pn 15 03 22.0 +0.3**
JKB Kayabe 10.12 246 P **Pn 15 03 24.4 -1.5**
JKB *e*S **Sn 15 05 10.3 -7.8**
JYM2 Yakumo 2 10.41 249 P **Pn 15 03 29.3 -0.7**
JANG Nango 10.72 238 *e*S **Sn 15 05 21.5 -12**
JTH Tanohata 10.81 235 *e*S **Sn 15 05 23.1 -12**
MA2 Magadan 12.98 354 *e*PN **Pn 15 04 05.5 +0.4**
MA2 pmax pmax
comp=N,20nm,0.5s
MA2 pmax pmax
comp=Z,20nm,0.5s
MAT Matsushiro 15.24 234 P **Pn 15 04 32.2 -3.5**
MJAR Matsushiro Arr 15.24 234 P **Pn 15 04 33.8 -1.9**
comp=Z,0.6nm,0.3s,baz=28,slow=15,SNR=6.3
MJAR Matsushiro Arr 15.24 234 P **Pn 15 04 33.8 -1.8**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MDJ Mudanjiang 16.79 272 P **Pn 15 04 55.8 +0.3**
MDJ AP pP 15 05 00.8 -5.3
MDJ S **Sn 15 08 02.4 +1.4**
MDJ AMB AMB
comp=Z,9.0nm,1.2s
MDJ AMB AMB
comp=Z,199nm,3.8s
MDJ LR LR
comp=N,127nm,16.6s
MDJ LR LR
comp=E,116nm,27.0s
MDJ LR LR
comp=Z,200nm,24.9s
JHJ Hachijo jima 2 17.11 222 P **Pn 15 05 00.8 +1.2**
comp=Z,18nm,0.3s,baz=78,slow=20,SNR=4.1
CN2 Changchun 19.88 272 *e*P **Pn 15 05 31.3 -1.9**
CN2 *e*XP sP 15 05 38.3 -6.1
CN2 *e*S **Sn 15 09 09.0 -6.6**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
YAK Yakutsk 20.47 327 *e*P **P 15 05 35.8 -2.1**
YAK pmax pmax
comp=Z,6.0nm,1.3s
YAK Yakutsk 20.47 327 P **P 15 05 37.0 -0.9**
comp=Z,20nm,0.8s
KSRS Korea Array 21.00 253 P **P 15 05 44.8 +1.2**
comp=Z,1.3nm,0.6s,mb3.4,baz=58,slow=10,SNR=6.1
BILL Bilibino 22.38 13 *e*P **P 15 06 01.1 +2.8**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.1
NJ2 Nanjing 30.20 253 *e*P **P 15 07 11.4 +1.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
HHC Hu-ho-hao-te 30.52 274 *e*P **P 15 07 15.8 +2.7**
HHC AP pP 15 07 20.3 -2.4
HHC XP sP 15 07 22.9 -3.8
HHC PP PP 15 08 16.5 -5.8
HHC PCP PcP 15 10 14.9 +3.3
HHC S **S 15 12 17.3 +4.9**
HHC XS sS 15 12 23.9 -4.3
HHC SS SS 15 13 57.8 -25
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,231nm,5.2s
HHC LR LR
comp=N,247nm,14.9s,MS4.2
HHC LR LR
comp=E,285nm,13.1s,MS4.2
HHC LR LR
comp=Z,231nm,13.9s,MS4.0
SONM Songino Array 31.56 290 LR LR 15 21 13.6
comp=Z,204nm,18.2s,MS3.8,baz=137,slow=38
IMA2 Indian Mountai 33.70 36 *e*P **P 15 07 41.5 +0.5**
SML Sawmill 35.84 44 P **P 15 08 01.1 +1.6**
COLA College 36.03 38 *e*P **P 15 07 59.2 -1.9**
COLA pmax pmax
comp=Z,15nm,0.9s,mb4.9
COLA College 36.03 38 *e*P **P 15 07 59.2 -1.8**
comp=Z,15nm,0.9s,mb4.9
LZH Lanzhou 38.11 272 *e*P **P 15 08 19.5 +0.7**
LZH PP PP 15 09 51.0 +4.8
LZH PCP PcP 15 10 36.4 +3.1
LZH *e*S **S 15 14 13.0 +3.5**
LZH XS sS 15 14 20.0 -5.5
LZH SS SS 15 16 44.0 -13
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,75nm,5.4s
LZH LR LR
comp=N,293nm,14.3s
LZH LR LR
comp=Z,697nm,15.5s,MS4.6
LZH Lanzhou 38.11 272 *e*P **P 15 08 19.5 +0.7**
LZH 15 09 51.0
LZH 15 10 36.4
LZH 15 14 13.0 +3.5
LZH SS SS 15 16 44.0 -13
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH MLR MLR
comp=Z,700nm,15.5s,MS4.6
LZH Lanzhou 38.11 272 *e*P **P 15 08 19.5 +0.7**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 15 08 21.0 -7.5
LZH sP sP 15 08 23.0 -10
LZH PP PP 15 09 51.0 +4.8
LZH PcP PcP 15 10 36.4 +3.1
LZH *e*S **S 15 14 13.0 +3.5**
LZH sS sS 15 14 20.0 -5.5
LZH SS SS 15 16 44.0 -13
LZH LR LR
comp=Z,700nm,15.5s,MS4.6
INK Inuvik 41.56 32 P **P 15 08 48.2 +0.7**
comp=Z,2.2nm,0.4s,mb4.1,baz=284,slow=5.6,SNR=23
INK Inuvik 41.56 32 *e*P **P 15 08 47.7 +0.2**
comp=Z,367nm,1.0s
ZAL Zalesovo 42.83 306 LR LR 15 28 33.3
comp=Z,317nm,18.3s,MS4.2,baz=77,slow=39
QIZ Qiongzhong 45.04 247 P **P 15 09 16.0 +0.5**
QIZ AMB AMB
comp=Z,39nm,2.0s,mb4.9
QIZ LR LR
comp=E,263nm,23.0s
QIZ LR LR
comp=Z,264nm,22.2s,MS4.1
WMQ Urumqi 45.15 291 ⇑ *i*P **P 15 09 18.0 +1.6**
WMQ AP pP 15 09 22.5 -3.7
WMQ XP sP 15 09 25.0 -5.2
WMQ PCP PcP 15 10 59.4 +3.0
WMQ PP PP 15 11 04.1 +1.9
WMQ *e*S **S 15 15 56.1 +2.4**
WMQ XS sS 15 16 03.5 -6.4
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,192nm,4.4s
WMQ LR LR
comp=N,116nm,20.6s,MS4.0
WMQ LR LR
comp=E,142nm,20.6s,MS4.0
WMQ LR LR
comp=Z,106nm,19.6s,MS3.8
KMI Kunming 45.46 260 P **P 15 09 24.8 +6.0**
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb4.5
KMI Kunming 45.46 260 P **P 15 09 24.8 +6.0**
comp=Z,9.0nm,1.2s,mb4.5
MK31 Makanchi Array 47.16 298 *e*P **P 15 09 26.9 -5.3**
MKAR Makanchi Array 47.16 298 LR LR 15 30 16.3
comp=Z,122nm,20.0s,MS3.9,baz=237,slow=37
YKA Yellowknife Ar 50.82 37 P **P 15 09 59.5 -0.8**
comp=Z,0.7nm,0.4s,mb4.0,baz=298,slow=7.1,SNR=9.5
YKA Yellowknife Ar 50.82 37 P **P 15 09 59.5 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 50.82 37 P **P 15 09 59.5 -0.8**
BVAR Borovoye Array 51.05 310 P **P 15 09 59.7 -2.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=76,slow=7.8,SNR=4.7
BVAR PcP PcP 15 11 16.0 -1.6
comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=3.6
BVAR Borovoye Array 51.05 310 P **P 15 09 59.7 -2.3**
BVAR 15 11 16.0
BVAR pmax pmax
comp=Z,1.0nm,0.3s
CHTO Chiang Mai 52.33 257 *e*P **P 15 10 12.1 +0.6**
CHTO pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CHTO Chiang Mai 52.33 257 *e*P **P 15 10 12.1 +0.6**
comp=Z,3.6nm,1.0s,mb4.3
KSH Kashi 54.87 293 *e*P **P 15 10 31.6 +1.4**
KSH *e*AP pP 15 10 37.6 -2.6
KSH *e*XP sP 15 10 39.8 -4.3
KSH *e*PCP PcP 15 11 31.9 -0.1
KSH *e*PP PP 15 12 35.3 +2.1
KSH *e*SCP ScP 15 15 30.3 +2.3
KSH *e*S **S 15 18 09.3 +0.1**
KSH *e*XS sS 15 18 18.6 -7.2
KSH *e*SCS ScS 15 20 17.5 +0.6
KSH *e*SS SS 15 21 52.4 -0.4
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
KEV Kevo 57.45 341 *e*p **P 15 10 56.1 +7.5**
ARCES ARCESS Array B 57.96 341 LR LR 15 38 46.5
comp=Z,134nm,19.4s,MS4.1,baz=212,slow=39
RRI2 Red Ridge 63.23 54 *e*P **P 15 11 29.6 +1.5**
comp=Z,7.5nm,0.8s,mb4.9
FINES FINESS Array B 64.17 335 P **P 15 11 32.2 -2.1**
comp=Z,2.2nm,0.5s,mb4.5,baz=41,slow=7.3,SNR=20
FINES FINESS Array B 64.17 335 P **P 15 11 32.2 -2.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 64.59 54 P **P 15 11 38.0 +0.9**
comp=Z,2.5nm,0.8s,mb4.3,baz=282,slow=2.1,SNR=16
ULM Lac du Bonnet 66.40 41 P **P 15 11 48.2 -0.5**
comp=Z,2.3nm,0.9s,mb4.2,baz=300,slow=6.5,SNR=3.1
SRU San Rafael 66.45 58 *e*P **P 15 11 49.9 +0.9**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SRU San Rafael 66.45 58 *e*P **P 15 11 49.9 +0.8**
comp=Z,4.6nm,0.8s,mb4.6
CTA Charters Tower 66.80 187 P **P 15 11 51.9 +0.6**
comp=Z,2.2nm,0.9s,mb4.2,baz=345,slow=16,SNR=2.7
CTA Charters Tower 66.80 187 P **P 15 11 51.9 +0.6**
CTA pmax pmax
comp=Z,2.0nm,1.0s
NB2 NORSAR Subarra 68.33 341 P **P 15 11 59.4 -1.6**
comp=Z,3.7nm,0.6s,mb4.6,baz=29,slow=6.5
NOA NORSAR Array B 68.33 341 P **P 15 11 59.3 -1.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=26,slow=6.2,SNR=10
NOA NORSAR Array B 68.33 341 P **P 15 11 59.3 -1.7**
NOA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 68.55 199 P **P 15 12 02.0 -0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=18,slow=6.9,SNR=8.4
WRA Warramunga Arr 68.55 199 P **P 15 12 02.0 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 71.70 326 P **P 15 12 19.4 -2.3**
comp=Z,2.2nm,0.5s,mb4.4,baz=33,slow=6.3,SNR=13
AKASG Malin Array Be 71.70 326 P **P 15 12 19.4 -2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 71.71 326 *e*P **P 15 12 19.5 -2.2**
KIEV pmax pmax
comp=Z,22nm,1.6s,mb4.8
ASAR Alice Springs 72.25 199 P **P 15 12 25.6 +0.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=11,slow=5.2,SNR=30
ASAR Alice Springs 72.25 199 P **P 15 12 25.6 +0.7**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 76.59 336 *i* P **P 15 12 59.4 +9.3**
CLL Collm 76.59 336 *i* PcP PcP 15 12 59.4 -2.2
comp=Z,9.0nm,1.0s
TXAR Lajitas Array 77.31 61 P **P 15 12 54.8 +0.6**
comp=Z,5.2nm,0.8s,mb4.5,baz=299,slow=4.3,SNR=32
TXAR Lajitas Array 77.31 61 P **P 15 12 54.8 +0.6**
TXAR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 78.57 317 P **P 15 13 00.8 -0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=67,slow=3.2,SNR=8.7
BRTR Keskin Array B 78.57 317 P **P 15 13 00.9 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 78.59 334 P **P 15 13 00.7 -0.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=257,slow=17,SNR=2.0
PMOR Pomariorio Ree 80.84 123 *e*T 16 43 10.8
comp=Z,12nm,0.2s
PPT Papeete 81.95 126 *e*LR LR 15 39 17.9
comp=Z,112nm,24.2s,baz=319
PPT Papeete 81.95 126 LR LR 15 43 24.9
comp=Z,85nm,20.4s,MS4.1,baz=311,slow=31
TBI Tubuai 86.70 129 *e*T 16 50 33.6
comp=Z,7.3nm,0.3s
CFAA Coronel Fontan 144.78 80 PKP PKPdf 15 20 34.7 -1.7
comp=Z,0.4nm,0.6s,baz=282,slow=1.7,SNR=6.4
SNAA Sanae 152.58 196 *e*PKPdf PKPdf 15 20 53.1 +4.1
VNA2 Neumayer--Watz 154.02 194 *e*PKPdf PKPdf 15 20 57.7 +6.6
VNA2 *e* 15 20 59.8
VNA2 *e* 15 21 04.4
VNA2 *e* 15 21 08.9
VNA2 *e* 15 21 12.8
VNA3 Neumayer Olymp 154.11 192 *e*PKPdf PKPdf 15 20 56.6 +5.4
VNA3 *e* 15 21 03.7
VNA3 *e* 15 21 11.1

MOS ***22*** *15:05:51.8±0.7,3801N×7328E,h139km,mb4.0/4, Error ellipse: s-maj=22.9km s-min=9.6km az=98.1*
ISCJB ***22*** *15:05:52.7±0.5,3805N±003w734E±0.1,h147km±8km, mb3.6/7, Error ellipse: s-maj=14.5km s-min=5.2km az=158.3*
IDC ***22*** *15:05:52.1±5.4,3801N×7341E,h127km±46km,mb3.6/7, mb1 3.7/10,mb1mx3.4/25,mbtmp3.5/10, Error ellipse: s-maj=31.7km s-min=24.2km az=15.0*
NEIC ***22*** *15:05:54.6±0.8,3817N×7340E,h145km±8km,mb4.6/1, Error ellipse: s-maj=12.3km s-min=8.1km az=128.0*

ISC 22 15:05:53.9±0.5,3807N±003w734E±01,h145km±7km,n42, σ0=79/47,mb3.6/7,1C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**4.07**	**3**	P		**Pn**	**15 06 54.7**	**-0.1**
	SNR=35							
UCH	**Uchtor**	**4.24**	**11**	P		**Pn**	**15 06 57.6**	**+0.5**
	SNR=76							
KZA	**Kyzart**	**4.25**	**19**	P		**Pn**	**15 06 57.5**	**+0.2**
	SNR=11							
EKS2	**Erkin-Say**	**4.60**	**3**	P		**Pn**	**15 07 02.4**	**+0.5**
	SNR=128							
AAK	**Ala-Archa**	**4.64**	**10**	P		**Pn**	**15 07 02.8**	**+0.4**
	SNR=22							
AAK	**Ala-Archa**	**4.64**	**10**	*c* iPN		**Pn**	**15 07 01.9**	**-0.5**
AAK				pmax	pmax			
	comp=Z,17nm,0.7s							
AAK	**Ala-Archa**	**4.64**	**10**	*e*P		**Pn**	**15 07 01.8**	**-0.6**
ULHL	**Ulahol**	**4.70**	**27**	P		**Pn**	**15 07 03.4**	**+0.2**
	SNR=31							
KBK	**Karagaybulak**	**4.73**	**14**	P		**Pn**	**15 07 04.2**	**+0.5**
	SNR=9.6							
KBL	**Kabul**	**4.98**	**226**	*e*Pn		**Pn**	**15 07 09.2**	**+2.3**
CHMS	**Chumysh**	**5.03**	**11**	P		**Pn**	**15 07 07.8**	**+0.2**
	SNR=9.8							
TKM2	**Tokmak 2**	**5.13**	**18**	P		**Pn**	**15 07 09.3**	**+0.4**
	SNR=17							
USP	**Ospenovka**	**5.26**	**9**	P		**Pn**	**15 07 10.7**	**+0.1**
	SNR=6.5							
KK31	**Karatay Array**	**5.49**	**337**	*i* PN		**Pn**	**15 07 13.3**	**-0.4**
KK31				pmax	pmax			
	comp=Z,63nm,0.2s							
KKAR	**Karatay Array**	**5.49**	**337**	*e*PN		**Pn**	**15 07 13.3**	**-0.4**
KKAR				pmax	pmax			
	comp=Z,16nm,0.3s							
DLH	**Dalhousie**	**5.89**	**158**	*e*P		**Pn**	**15 07 23.0**	**+3.9**
DLH				*e*S		**Sn**	**15 08 25.0**	**-0.7**
THN	**Thein Dam**	**5.93**	**161**	*e*P		**Pn**	**15 07 20.9**	**+1.4**
THN				*e*S		**Sn**	**15 08 25.0**	**-1.5**
SDNR	**Sundarnagar**	**7.17**	**155**	*ex*		x	15 07 40.5	
SDNR				*e*S		**Sn**	**15 08 51.5**	**-4.9**
KLP	**Kalpa**	**7.63**	**147**	*e*P		**Pn**	**15 07 43.0**	**+0.6**
KLP				*e*S		**Sn**	**15 09 02.8**	**-4.7**
NDI	**New Delhi**	**9.88**	**160**	*e*S		**Sn**	**15 09 54.0**	**-7.7**
KHET	**Khetri**	**10.16**	**168**	*e*P		**Pn**	**15 08 14.8**	**-1.3**
KHET				*e*S		**Sn**	**15 10 00.6**	**-7.9**
SONA	**Sohna**	**10.26**	**162**	*e*P		**Pn**	**15 08 18.1**	**+0.8**
SONA				AMb		AMB	15 08 18.7	
	comp=Z,9.7nm,0.4s							
SONA				*e*S		**Sn**	**15 10 05.1**	**-5.7**
MK31	**Makanchi Array**	**10.91**	**34**	*e*P		**Pn**	**15 08 25.5**	**-0.4**
MKAR	**Makanchi Array**	**10.91**	**34**	P		**Pn**	**15 08 25.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=7.9							
BVAR	**Borovoye Array**	**15.11**	**353**	P		**Pn**	**15 09 18.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=156,slow=9.3,SNR=13							
BVAR	**Borovoye Array**	**15.11**	**353**	P		**Pn**	**15 09 18.6**	**-1.2**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTK	**Aktyubinsk**	**16.53**	**323**	P		**Pn**	**15 09 35.9**	**-1.3**
AKTO	**Aktyubinsk**	**16.53**	**323**	P		**Pn**	**15 09 35.9**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=117,slow=8.2,SNR=11							
AKTO	**Aktyubinsk**	**16.53**	**323**	P		**Pn**	**15 09 35.9**	**-1.3**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**37.30**	**324**	P		**P**	**15 12 52.2**	**+0.4**
	comp=Z,1.1nm,0.4s,mb3.9,baz=113,slow=10,SNR=7.6							
FINES	**FINESS Array B**	**37.30**	**324**	P		**P**	**15 12 52.2**	**+0.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.46**	**336**	P		**P**	**15 13 18.1**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=111,slow=8.2,SNR=12							
ARCES	**ARCESS Array B**	**40.46**	**336**	P		**P**	**15 13 18.1**	**0.0**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.31**	**322**	P		**P**	**15 13 49.1**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.31**	**322**	P		**P**	**15 13 49.5**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.8,baz=93,slow=7.6,SNR=5.1							
NOA	**NORSAR Array B**	**44.31**	**322**	P		**P**	**15 13 49.6**	**+0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**67.67**	**269**	P		**P**	**15 16 35.9**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.0,baz=48,slow=5.9,SNR=19							
INK	**Inuvik**	**72.04**	**10**	P		**P**	**15 17 01.9**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=330,slow=2.7,SNR=6.3							
INK	**Inuvik**	**72.04**	**10**	*e*P		**P**	**15 17 02.1**	**+0.2**
YKA	**Yellowknife Ar**	**79.58**	**4**	P		**P**	**15 17 45.0**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=351,slow=5.4,SNR=6.1							
YKA	**Yellowknife Ar**	**79.58**	**4**	P		**P**	**15 17 45.0**	**+0.2**
WRA	**Warramunga Arr**	**81.22**	**124**	P		**P**	**15 17 53.9**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.1,baz=330,slow=5.1,SNR=4.8							

IDC ***22*** *15:18:16.1±1.1,4593N×15379E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.7/22,mbtmp3.8/7,ML3.5/1,MS4.0/1, Ms1 4.0/1,ms1mx3.0/39, Error ellipse: s-maj=31.2km s-min=26.2km az=88.0*

NEIC 22 15:18:17.7±0.9,4591N×15371E,h10km, Error ellipse: s-maj=31.4km s-min=24.4km az=80.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.08**	**261**	Pn		Pn	15 20 16.1	+1.1
	0.6nm,0.3s,baz=241,slow=19,SNR=4.1							
SONM	**Songino Array**	**32.01**	**291**	P		P	15 24 42.9	-1.3
	0.5nm,0.4s,baz=71,slow=18,SNR=3.7							
INK	**Inuvik**	**42.15**	**32**	LR		LR	15 42 27.5	
	comp=Z,199nm,21.6s,baz=223,slow=34							
FINES	**FINESS Array B**	**64.98**	**335**	P		P	15 28 58.4	+0.7
	1.1nm,0.7s,baz=16,slow=9.9,SNR=4.2							
WRA	**Warramunga Arr**	**67.85**	**200**	P		P	15 29 15.7	-0.5
	0.3nm,0.6s,baz=15,slow=6.9,SNR=4.7							
ASAR	**Alice Springs**	**71.54**	**199**	P		P	15 29 39.7	+0.8
	0.8nm,0.7s,baz=17,slow=5.2,SNR=15							
AKASG	**Malin Array Be**	**72.48**	**327**	P		P	15 29 44.6	+0.2
	0.7nm,0.5s,baz=35,slow=6.0,SNR=4.1							
TXAR	**Lajitas Array**	**77.55**	**61**	P		P	15 30 13.0	-0.8
	0.4nm,0.7s,baz=309,slow=3.9,SNR=4.2							

IDC 22 15:29:49.1±3.0,632S×15080E,h0km,mb3.7/3,mb1 4.0/3, mb1mx3.7/12,mbtmp3.8/3, Error ellipse: s-maj=87.0km s-min=47.2km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAKA	**Kakadu**	**19.18**	**249**	*e*P		Pn	15 34 18.4	+3.3
	4.4nm,0.6s							
WB2	**Warramunga Arr**	**20.95**	**228**	*e*P		P	15 34 33.9	+0.4
WRA	**Warramunga Arr**	**20.95**	**228**	P		P	15 34 34.6	+1.0
	3.1nm,0.8s,baz=53,slow=10,SNR=17							
ASAR	**Alice Springs**	**23.70**	**222**	P		P	15 35 02.4	-0.3
	1.3nm,0.7s,baz=54,slow=9.2,SNR=18							
ASPA	**Alice Springs**	**23.70**	**222**	*e*P		P	15 35 02.8	+0.1
STKA	**Stephens Creek**	**26.84**	**198**	P		P	15 35 31.1	-0.2
	1.9nm,0.9s,baz=28,slow=14,SNR=3.6							
FITZ	**Fitzroy Crossi**	**27.19**	**242**	*e*P		P	15 35 35.3	+0.9
	5.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc		PKPbc	15 49 39.5	+0.9
	0.8nm,0.7s,baz=58,slow=3.2,SNR=4.6							

IDC 22 15:36:14.8±3.0,1005S×10774E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.5/17,mbtmp3.5/4, Error ellipse:

s-maj=148.9km s-min=25.4km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.47**	**114**	P	P	15 42 02.8	+0.3
	0.3nm,0.7s,baz=285,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**28.40**	**122**	P	P	15 42 13.1	+2.2
	0.3nm,0.8s,baz=296,slow=9.1,SNR=5.9						
STKA	**Stephens Creek**	**38.10**	**130**	P	P	15 43 33.5	-1.7
	1.8nm,0.8s,baz=302,slow=9.5,SNR=3.8						
MKAR	**Makanchi Array**	**60.99**	**340**	P	P	15 46 29.9	+0.1
	0.3nm,0.7s,baz=152,slow=6.5,SNR=4.0						

IDC 22 15:38:24.0±0.54.0, 1817S×17171W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/15, mbtmp4.3/3, Error ellipse: s-maj=1046.0km s-min=174.4km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.69**	**260**	*eP*	P	15 45 57.7	-0.1
	2.1nm,0.3s						
STKA	**Stephens Creek**	**44.13**	**243**	*eP*	P	15 46 34.5	+0.3
	4.7nm,1.9s						
STKA	**Stephens Creek**	**44.13**	**243**	P	P	15 46 34.4	+0.2
	1.0nm,0.4s,baz=76,slow=10,SNR=7.4						
WB2	**Warramunga Arr**	**50.83**	**259**	*eP*	P	15 47 26.5	+0.2
WRA	**Warramunga Arr**	**50.84**	**259**	P	P	15 47 26.8	+0.4
	1.8nm,0.3s,baz=98,slow=7.0,SNR=144						
ASAR	**Alice Springs**	**50.85**	**254**	P	P	15 47 26.9	+0.4
	3.2nm,0.7s,baz=90,slow=7.4,SNR=56						
ASPA	**Alice Springs**	**50.85**	**254**	*eP*	P	15 47 26.7	+0.2
FITZ	**Fitzroy Crossi**	**59.26**	**259**	*eP*	P	15 48 29.6	+2.4
	2.8nm,0.5s						

ISCJB 22 15:45:17.5±0.9, 1735S×693W±0.1, h133km±10km, mb4.1/7, Error ellipse: s-maj=18.2km s-min=10.7km az=149.3
NEIC 22 15:45:19.7±0.8, 1731S×6951W, h145km±8km, mb4.1/4, Error ellipse: s-maj=14.3km s-min=12.7km az=85.0
IDC 22 15:45:22.8±2.0, 1725S×6927W, h165km±16km, mb4.1/4, mb1 4.1/4, mb1mx3.6/15, mbtmp4.1/4, Error ellipse: s-maj=40.9km s-min=28.9km az=107.0
ISC 22 15:45:20.0±0.7, 1744S×007×6956W±009, h144km±7km, n23, σ1°13/23, mb4.1/7, 2C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.78**	**50**	P	Pn	15 45 53.6	+1.4
	167nm,0.3s,baz=246,slow=6.8,SNR=3416						
LPAZ	**La Paz**	**1.78**	**50**	⇓*i*Pn	Pn	15 45 53.6	+1.4
ARE	**Arequipa**	**2.09**	**297**	⇑*i*P	Pn	15 45 56.2	+0.4
ARE				*i* S	Sn	15 46 24.2	+0.9
LVC	**Limon Verde**	**5.18**	**173**	*e*P	Pn	15 46 35.4	-0.3
	61nm,0.3s						
CEN1	**Los Morros**	**5.95**	**186**	⇑*i*P	Pn	15 46 46.1	+0.2
ANCH	**Antofagasta**	**6.26**	**187**	⇓*e*P	Pn	15 46 47.5	-2.6
CPN1	**Cerro Paranal**	**7.19**	**186**	*e*P	Pn	15 46 59.4	-3.1
NNA	**Nana**	**8.89**	**307**	*e*Pn	Pn	15 47 23.7	-1.6
NNA				*e*Sn	Sn	15 48 57.2	-6.7
SAML	**Samuel**	**10.47**	**37**	*e*Pn	Pn	15 47 42.6	-3.7
	7.5nm,0.6s						
TRQA	**Tornquist**	**21.59**	**164**	*e*P	P	15 49 59.6	+1.4
	2.6nm,0.5s,mb3.9						
VNA3	**Neumayer Olymp**	**64.10**	**162**	*e*	P	15 55 39.0	+0.3
VNA3				*e*		15 55 41.4	
VNA2	**Neumayer--Watz**	**64.67**	**161**	*e*	P	15 55 42.6	+0.2
VNA2				*e*		15 55 44.8	
SNAA	**Sanae**	**66.30**	**161**	*e*	P	15 55 52.4	-0.5
SNAA				*e*		15 55 54.8	
SNAA	**Sanae**	**66.30**	**161**	*e*P	P	15 55 53.0	+0.1
	1.9nm,0.6s,mb4.1						
TOA0	**Torodi Ar. Sit**	**76.61**	**71**	*e*P	P	15 56 54.0	-0.7
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P	P	15 56 54.0	-0.7
	19nm,0.5s,mb5.0,baz=262,slow=4.9,SNR=179						
VNDA	**Vanda**	**80.72**	**190**	P	P	15 57 18.6	+1.5
	0.4nm,0.6s,mb3.2,baz=129,slow=3.1,SNR=3.3						
TSUM	**Tsumeb**	**81.81**	**108**	*e*P	P	15 57 23.4	+0.4
	2.8nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**87.17**	**341**	P	P	15 57 49.5	-0.3
	1.3nm,0.5s,mb4.0,baz=134,slow=4.8,SNR=19						
YKA	**Yellowknife Ar**	**87.17**	**341**	P	P	15 57 49.5	-0.3
MAW	**Mawson**	**88.38**	**164**	P	P	15 57 56.1	+0.6
	2.6nm,0.6s,mb4.2,baz=195,slow=18,SNR=10						
ASAR	**Alice Springs**	**133.16**	**210**	PKP	PKPdf	16 04 18.8	+0.2
	0.2nm,0.6s,baz=119,slow=1.5,SNR=7.2						
WRA	**Warramunga Arr**	**136.06**	**213**	PKP	PKPdf	16 04 24.6	+0.6
	0.4nm,0.6s,baz=144,slow=1.8,SNR=8.6						

ISCJB 22 15:54:30.5±0.1, 45869N±0009×662E±002, h14km, Error ellipse: s-maj=1.6km s-min=1.3km az=151.1
CSEM 22 15:54:31.7±0.0, 4585N×681E, h5km, ML3.4/35, Error ellipse: s-maj=0.8km s-min=0.8km az=125.0
STR 22 15:54:32.5±0.2, 4582N×676E, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 22 15:54:32.3±0.1, 4586N×678E, h5km, Md3.5/3, Ml3.3/33, Error ellipse: s-maj=1.2km s-min=0.8km az=89.0
NEIC 22 15:54:32.7, 4587N×676E, h14km, ML2.7(ZUR), ML3.0(STR), ML3.3(LDG), After ZUR.
GEN 22 15:54:32.8, 4585N×676E, h6km, ML2.0
ZUR 22 15:54:32.7, 4587N×676E, h14km, ML2.7/18
ROM 22 15:54:32.2±0.3, 4585N×675E, h10km±2km, Md2.6/8, Ml2.6/4, Error ellipse: s-maj=3.4km s-min=3.2km az=144.0
ISC 22 15:54:31.4±0.2, 45866N±0009×666E±001, h9km±2km, n175, σ0°98/339, 24C-9D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.26**	**40**	*i* Sg	Pg	15 54 37.8	+1.2
	2µm,0.2s						
EMV	**Vieux Emosson**	**0.26**	**40**	⇑*i*Pg	Sg	15 54 41.2	+1.1
	2µm,0.2s						
EMV	**Vieux Emosson**	**0.26**	**40**	Pg	Pg	15 54 37.8	+1.2
EMV				Sg	Sg	15 54 41.2	+1.1
MRGE	**Morge**	**0.30**	**109**	Pg	Pg	15 54 37.8	+0.5
MRGE				Sg	Sg	15 54 41.5	+0.2
	571nm,0.2s						
LPL	**La Plagne**	**0.35**	**172**	*e*Pg	Pg	15 54 39.0	+0.6
LPL				*e*Sg	Sg	15 54 43.2	+0.1
	509nm,0.2s						
LPL	**La Plagne**	**0.35**	**172**	*e*Pg	Pg	15 54 39.0	+0.6
LPL				*e*Sg	Sg	15 54 43.2	+0.1
	255nm,0.2s						
SALAN	**Lac Salanfe**	**0.35**	**38**	⇑*i*Pg	Pg	15 54 37.9	-0.5
	361nm,0.1s						
SALAN	**Lac Salanfe**	**0.35**	**38**	⇑*i*P	Pg	15 54 39.4	+1.0
LPG	**La Plagne**	**0.37**	**170**	*e*Pg	Pg	15 54 39.4	+0.6
LPG				*e*Sg	Sg	15 54 44.1	+0.4
	821nm,0.2s						
LPG	**La Plagne**	**0.37**	**170**	*e*Pg	Pg	15 54 39.4	+0.6
LPG				*e*Sg	Sg	15 54 44.1	+0.4
	411nm,0.2s						
GRYON	**Gryon**	**0.50**	**39**	*e*Sg	Pg	15 54 39.4	-1.7
	156nm,0.2s						
GRYON	**Gryon**	**0.50**	**39**	⇑*i*Pg	Pg	15 54 41.6	+0.5
	156nm,0.2s						
GRYON	**Gryon**	**0.50**	**39**	⇑*i*Pg	Pg	15 54 41.6	+0.5
	156nm,0.2s						
GRYON	**Gryon**	**0.50**	**39**	⇑*i*P	Pg	15 54 42.0	+0.9
AIGLE	**Aigle**	**0.52**	**23**	⇑*i*Pg	Pg	15 54 41.2	-0.3
	683nm,0.6s						
AIGLE	**Aigle**	**0.52**	**23**	⇑*i*P	Pg	15 54 42.5	+1.0
LSD	**Ceresole Reale**	**0.54**	**139**	P	Pg	15 54 41.9	0.0
DIX	**Grande Dixence**	**0.57**	**68**	⇓*i*Pg	Pg	15 54 42.3	-0.1
	1µm,0.2s						
DIX	**Grande Dixence**	**0.57**	**68**	*i* P	Pg	15 54 43.1	+0.7
SENIN	**Lac Senin**	**0.67**	**42**	⇑*i*Pg	Pg	15 54 42.5	-1.8
	477nm,0.2s						
SENIN				*e*Sg	Sg	15 54 43.3	-10
	477nm,0.2s						
SENIN	**Lac Senin**	**0.67**	**42**	⇑*i*P	Pg	15 54 45.1	+0.8
GIMEL	**Gimel**	**0.72**	**338**	*e*Pg	Pg	15 54 44.0	-1.4
	870nm,0.2s						
GIMEL	**Gimel**	**0.72**	**338**	*e*P	Pg	15 54 47.2	+1.8
GDM	**Grand'Maison**	**0.76**	**210**	Pg	Pg	15 54 46.5	+0.3
GDM				Sg	Sg	15 54 54.8	-1.3
BNI	**Bardonecchia**	**0.81**	**179**	Pg	Pg	15 54 47.1	0.0
BNI				Sg	Sg	15 54 57.7	0.0
	83nm,0.3s						
BNI	**Bardonecchia**	**0.81**	**179**	*e*P	Pg	15 54 46.9	-0.2
BNI				Pg	Pg	15 54 47.1	0.0
BNI				*e*S	Sg	15 54 57.7	0.0
RSP	**Reno Superiore**	**0.83**	**149**	Pg	Pg	15 54 47.6	+0.2
RSP				Sg	Sg	15 54 57.4	-0.8
	257nm,0.2s						
CABF	**La Chapelle**	**0.84**	**332**	*e*Pg	Pg	15 54 49.4	+1.7
CABF				*e*Sg	Sg	15 55 00.8	+2.1
	232nm,0.2s						
CABF	**La Chapelle**	**0.84**	**332**	*e*Pg	Pg	15 54 49.4	+1.7
CABF				*e*Sg	Sg	15 55 00.8	+2.1
	116nm,0.2s						
LKBD	**Leukerbad**	**0.85**	**52**	⇓*i*Pg	Sg	15 54 54.0	-4.9
	129nm,0.5s						
LKBD	**Leukerbad**	**0.85**	**52**	⇓*i*P	Pg	15 54 48.4	+0.6
GRN	**Grenoble**	**0.90**	**226**	Pg	Pg	15 54 49.8	+1.1
GRN				Sg	Sg	15 55 02.6	+2.3
GRN	**Grenoble**	**0.90**	**226**	Pg	Pg	15 54 49.8	+1.1
GRN				Sg	Sg	15 55 05.9	+5.6
MMK	**Mattmark**	**0.93**	**78**	*e*Pg	Pg	15 54 47.2	-2.1
	428nm,0.4s						
MMK	**Mattmark**	**0.93**	**78**	⇑*i*P	Pg	15 54 48.7	-0.6
MMK	**Mattmark**	**0.93**	**78**	Pg	Pg	15 54 49.1	-0.2
MMK				Sg	Sg	15 55 00.4	-1.0
RRL	**Cesana Torines**	**0.95**	**175**	P	Pg	15 54 49.9	+0.2
ORX	**Oropa**	**0.95**	**104**	P	Pg	15 54 49.1	-0.7
ORO	**Oropa**	**0.96**	**104**	Pg	Pg	15 54 49.5	-0.3
ORO				Sg	Sg	15 55 01.4	-0.9
	101nm,0.2s						
WIMIS	**Wimmis**	**1.04**	**40**	*e*Pg	Pg	15 54 47.6	-3.9
	344nm,0.5s						
WIMIS	**Wimmis**	**1.04**	**40**	*e*P	Pg	15 54 51.9	+0.4
BRANT	**Les Verrieres**	**1.08**	**353**	⇑*i*Pg	Pg	15 54 48.3	-3.9
	658nm,0.4s						
BRANT	**Les Verrieres**	**1.08**	**353**	⇑*i*P	Pg	15 54 53.6	+1.4
ORIF	**Oris-en-Rattie**	**1.09**	**210**	*e*Pg	Pg	15 54 51.8	-0.7
ORIF				*e*Sg	Sg	15 55 07.6	+0.9
	132nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.09**	**210**	*e*Pg	Pg	15 54 51.8	-0.7
ORIF				*e*Sg	Sg	15 55 07.6	+0.9
	66nm,0.4s						
MBDF	**Montbardon**	**1.14**	**176**	*e*Pg	Pg	15 54 53.2	-0.2
MBDF				*e*Sg	Sg	15 55 08.0	-0.2
	86nm,0.3s						
MBDF	**Montbardon**	**1.14**	**176**	*e*Pg	Pg	15 54 53.2	-0.2
MBDF				*e*Sg	Sg	15 55 08.0	-0.2
	43nm,0.3s						
SURF	**Saint Ours**	**1.39**	**175**	Pg	Pg	15 54 57.7	-0.4
SURF				Sg	Sg	15 55 16.7	+0.6
PZZ	**Prazzo**	**1.40**	**167**	P	Pn	15 54 57.1	0.0
DOI	**San Damiano**	**1.42**	**163**	Pg	Pg	15 54 58.0	-0.8
DOI				Sg	Sg	15 55 15.7	-1.6
	121nm,0.3s						
LOMF	**Lomont**	**1.49**	**4**	Pn	Pn	15 54 59.2	+0.8
LOMF	**Lomont**	**1.49**	**4**	Pn	Pn	15 54 56.0	-2.4
BNALP	**Bannalp**	**1.58**	**50**	⇑*i*P	Pn	15 55 01.5	+1.8
BALST	**Balsthal**	**1.64**	**26**	*e*Pn	Pn	15 54 51.9	-8.5
	335nm,0.4s						
BALST	**Balsthal**	**1.64**	**26**	*i* P	Pn	15 55 01.2	+0.8
STV	**Sta Anna Valdi**	**1.69**	**164**	P	Pn	15 55 00.7	-0.5
BBS	**Basel-Blauen**	**1.70**	**20**	Pn	Pn	15 55 02.0	+0.7
ENR	**Entracque**	**1.73**	**161**	P	Pn	15 55 01.3	-0.4
VIVF	**Saint-Julien-l**	**1.73**	**235**	*e*Pg	Pg	15 55 05.6	+1.0
VIVF				*e*Sg	Sg	15 55 27.5	+0.6
	150nm,0.3s						
VIVF	**Saint-Julien-l**	**1.73**	**235**	*e*Pn	Pn	15 55 02.6	+0.9
VIVF				*e*Pg	Pg	15 55 05.6	+1.0
VIVF				*e*Sg	Sg	15 55 27.5	+0.6
VIVF	**Saint-Julien-l**	**1.73**	**235**	*e*Pg	Pg	15 55 05.6	+1.0
VIVF				*e*Sg	Sg	15 55 27.5	+0.6
	75nm,0.3s						
ROB	**Roburent**	**1.79**	**151**	P	Pn	15 55 02.3	-0.2
PCP	**Pian Castagno**	**1.88**	**134**	P	Pn	15 55 03.5	-0.3
TOUF	**Mont Tournerai**	**1.90**	**167**	Pg	Pg	15 55 07.2	-0.7
LLS	**Linth-Limmern**	**1.90**	**58**	⇑*i*P	Pn	15 55 06.4	+2.3
SULZ	**Sulz-Cheisache**	**1.94**	**31**	*e*Pn	Pn	15 55 01.2	-3.4
	397nm,0.3s						
SULZ	**Sulz-Cheisache**	**1.94**	**31**	*i* P	Pn	15 55 04.9	+0.3
AUTN	**L'Aution**	**1.95**	**163**	Pg	Pg	15 55 08.5	-0.3
AUTN	**L'Aution**	**1.95**	**163**	Pg	Pg	15 55 10.0	+1.2
MONE	**Monesi**	**1.95**	**156**	P	Pn	15 55 04.6	-0.1
HINF	**Hinteralfeld**	**1.96**	**4**	*e*Pg	Pg	15 55 09.1	+0.1
HINF				*e*Sg	Sg	15 55 33.6	-0.7
	46nm,0.2s						
HINF	**Hinteralfeld**	**1.96**	**4**	*e*Pn	Pn	15 55 05.0	+0.2
HINF				*e*Pg	Pg	15 55 09.1	+0.1
HINF				*e*Sg	Sg	15 55 33.6	-0.7
HINF	**Hinteralfeld**	**1.96**	**4**	*e*Pg	Pg	15 55 09.1	+0.1
HINF				*e*Sg	Sg	15 55 33.6	-0.7
	23nm,0.2s						
SAOF	**Saorge**	**1.98**	**161**	Pg	Pg	15 55 08.7	-0.8
FIN	**Finale Ligure**	**1.99**	**146**	P	Pn	15 55 04.3	-1.0
MOF	**Molkenrain**	**2.01**	**9**	Pn	Pn	15 55 05.7	+0.1
RORO		**2.02**	**150**	P	Pn	15 55 04.8	-0.9
LUCF	**Luceram**	**2.03**	**166**	Pg	Pg	15 55 10.5	+0.1
SMRF	**Simiane la Rot**	**2.04**	**203**	*e*Pg	Pg	15 55 11.3	+0.7
SMRF				*e*Sg	Sg	15 55 37.0	0.0
	14nm,0.4s						
SMRF	**Simiane la Rot**	**2.04**	**203**	*e*Pn	Pn	15 55 07.1	+1.1
SMRF				*e*Pg	Pg	15 55 11.3	+0.7
SMRF				*e*Sg	Sg	15 55 37.0	0.0
SMRF	**Simiane la Rot**	**2.04**	**203**	*e*Pg	Pg	15 55 11.3	+0.7
SMRF				*e*Sg	Sg	15 55 37.0	0.0
	6.8nm,0.4s						
SBF	**Sospel**	**2.08**	**164**	*e*Pg	Pg	15 55 10.5	-0.8
SBF				*e*Sg	Sg	15 55 36.9	-1.3
	83nm,0.5s						
SBF	**Sospel**	**2.08**	**164**	*e*Pn	Pn	15 55 06.1	-0.4
SBF				*e*Pg	Pg	15 55 10.5	-0.8
SBF				*e*Sg	Sg	15 55 36.9	-1.3
SBF	**Sospel**	**2.08**	**164**	*e*Pg	Pg	15 55 10.5	-0.8
SBF				*e*Sg	Sg	15 55 36.9	-1.3
	41nm,0.5s						
SMF	**Signal de Mont**	**2.10**	**293**	*e*Pg	Pg	15 55 12.6	+0.8
SMF				*e*Sg	Sg	15 55 39.3	+0.2
	88nm,0.3s						
SMF	**Signal de Mont**	**2.10**	**293**	*e*Pn	Pn	15 55 08.1	+1.2
SMF				*e*Pg	Pg	15 55 12.6	+0.8
SMF				*e*Sg	Sg	15 55 39.3	+0.2
SMF	**Signal de Mont**	**2.10**	**293**	*e*Pg	Pg	15 55 12.6	+0.8
SMF				*e*Sg	Sg	15 55 39.3	+0.2
	44nm,0.3s						
PLDF	**La Plantade**	**2.12**	**274**	Pn	Pn	15 55 08.5	+1.4
HAU	**Haudompre**	**2.15**	**354**	*e*Pg	Pg	15 55 12.8	+0.1
HAU				*e*Sn	Sn	15 55 32.7	-1.6
HAU				*e*Sg	Sg	15 55 40.4	-0.2
	80nm,0.3s						
HAU	**Haudompre**	**2.15**	**354**	*e*Pn	Pn	15 55 08.1	+0.6
HAU				*e*Pg	Pg	15 55 12.8	+0.1
HAU				*e*Sn	Sn	15 55 32.7	-1.6
HAU				*e*Sg	Sg	15 55 40.4	-0.2
HAU	**Haudompre**	**2.15**	**354**	*e*Pg	Pg	15 55 12.8	+0.1
HAU				*e*Sn	Sn	15 55 32.7	-1.6
HAU				*e*Sg	Sg	15 55 40.4	-0.2
	40nm,0.3s						
NEGI	**Negi**	**2.15**	**159**	P	Pn	15 55 06.4	-1.1
FELD	**Feldberg im Sc**	**2.21**	**24**	Pn	Pn	15 55 08.1	-0.2
PLONS	**Plons**	**2.22**	**57**	⇑*i*P	Pn	15 55 10.4	+1.9
SLE	**Schleitheim**	**2.28**	**33**	⇑*i*P	Pn	15 55 09.1	-0.2
FRF	**La Foret Royal**	**2.31**	**180**	*e*Pg	Pg	15 55 14.6	-1.0
FRF				*e*Sg	Sg	15 55 44.5	-1.0
	24nm,0.3s						
FRF	**La Foret Royal**	**2.31**	**180**	*e*Pg	Pg	15 55 14.6	-1.0
FRF				*e*Sg	Sg	15 55 44.5	-1.0
	12nm,0.3s						
ECH	**Echery**	**2.38**	**8**	Pn	Pn	15 55 10.0	-0.6
LOR	**Lormes**	**2.39**	**307**	*e*Pg	Pg	15 55 17.5	+0.3
LOR				*e*Sn	Sn	15 55 40.1	0.0
LOR				*e*Sg	Sg	15 55 48.0	-0.1
	34nm,0.2s						
LOR	**Lormes**	**2.39**	**307**	*e*Pn	Pn	15 55 11.3	+0.6
LOR				*e*Pg	Pg	15 55 17.5	+0.3
LOR				*e*Sn	Sn	15 55 40.1	0.0
LOR				*e*Sg	Sg	15 55 48.0	-0.1
LOR	**Lormes**	**2.39**	**307**	*e*Pg	Pg	15 55 17.5	+0.3
LOR				*e*Sn	Sn	15 55 40.1	0.0
LOR				*e*Sg	Sg	15 55 48.0	-0.1
	17nm,0.2s						
THEF	**They Montfort**	**2.41**	**349**	Pn	Pn	15 55 12.0	+1.0
AGO	**Saint Agoulin**	**2.47**	**276**	Pn	Pn	15 55 13.4	+1.5
AGO	**Saint Agoulin**	**2.47**	**276**	Pn	Pn	15 55 12.1	+0.2
AVF	**Avril sur Loir**	**2.47**	**293**	*e*Pg	Pg	15 55 19.6	+0.8
AVF				*e*Sg	Sg	15 55 50.1	-0.7
	36nm,0.3s						
AVF	**Avril sur Loir**	**2.47**	**293**	*e*Pn	Pn	15 55 13.0	+1.1
AVF				*e*Pg	Pg	15 55 19.6	+0.8
AVF				*e*Sg	Sg	15 55 50.1	-0.7
	18nm,0.3s						
AVF	**Avril sur Loir**	**2.47**	**293**	*e*Pg	Pg	15 55 19.6	+0.8
AVF				*e*Sg	Sg	15 55 50.1	-0.7
	18nm,0.3s						
LBL	**Lubilhac**	**2.48**	**256**	Pn	Pn	15 55 14.3	+2.3
SSF	**Saint Saulge**	**2.48**	**300**	*e*Pg	Pg	15 55 19.6	+0.5
SSF	**Saint Saulge**	**2.48**	**300**	*e*Pn	Pn	15 55 13.4	+1.3
SSF				*e*Pg	Pg	15 55 19.6	+0.5
SSF				*e*Sn	Sn	15 55 42.7	+0.1
SSF				*e*Sg	Sg	15 55 52.3	+1.0
SSF	**Saint Saulge**	**2.48**	**300**	*e*Pg	Pg	15 55 19.6	+0.5
SSF				*e*Sn	Sn	15 55 42.7	+0.1
SSF				*e*Sg	Sg	15 55 52.3	+1.0
	8.4nm,0.2s						
LMR	**La Mourre**	**2.53**	**182**	*e*Pg	Pg	15 55 19.3	-0.7
LMR				*e*Sg	Sg	15 55 51.9	-1.0
	20nm,0.5s						
LMR	**La Mourre**	**2.53**	**182**	*e*Pn	Pn	15 55 12.6	-0.2
LMR				*e*Pg	Pg	15 55 19.3	-0.7
LMR				*e*Sg	Sg	15 55 51.9	-1.0
LMR	**La Mourre**	**2.53**	**182**	*e*Pg	Pg	15 55 19.3	-0.7
LMR				*e*Sg	Sg	15 55 51.9	-1.0
	9.8nm,0.5s						
PYM	**Petit Puy Mans**	**2.56**	**269**	Pn	Pn	15 55 15.7	+2.6
CDF	**Champ du Feu**	**2.58**	**9**	*e*Pg	Pg	15 55 20.1	-0.8
CDF				*e*Sn	Sn	15 55 42.7	-2.2
CDF				*e*Sg	Sg	15 55 53.0	-1.4
	12nm,0.2s						
CDF	**Champ du Feu**	**2.58**	**9**	*e*Pn	Pn	15 55 13.4	0.0
CDF				*e*Pg	Pg	15 55 20.1	-0.8
CDF				*e*Sn	Sn	15 55 42.7	-2.2
CDF				*e*Sg	Sg	15 55 53.0	-1.4
CDF	**Champ du Feu**	**2.58**	**9**	*e*Pg	Pg	15 55 20.1	-0.8
CDF				*e*Sn	Sn	15 55 42.7	-2.2
CDF				*e*Sg	Sg	15 55 53.0	-1.4
	6.2nm,0.2s						
SFTF	**Sexfontaines**	**2.59**	**335**	*e*Pg	Pg	15 55 20.5	-0.6
SFTF	**Sexfontaines**	**2.59**	**335**	*e*Pn	Pn	15 55 13.4	-0.1
SFTF				*e*Pg	Pg	15 55 20.5	-0.6
SFTF				*e*Sn	Sn	15 55 44.3	-0.8
SFTF				*e*Sg	Sg	15 55 54.6	0.0
SFTF	**Sexfontaines**	**2.59**	**335**	*e*Pg	Pg	15 55 20.5	-0.6
SFTF				*e*Sn	Sn	15 55 44.3	-0.8
SFTF				*e*Sg	Sg	15 55 54.6	0.0
	19nm,0.2s						
WLS	**Welschbruch**	**2.59**	**10**	Pn	Pn	15 55 13.7	+0.1
DAVA	**Damuels**	**2.64**	**56**	⇑*i*Pn	Pn	15 55 16.0	+1.8
	comp=Z,0.6nm,0.1s						
DAVA				⇓*i*Pg	Pg	15 55 22.0	0.0
	comp=Z,3.0nm,0.2s						
DAVA	**Damuels**	**2.64**	**56**	⇑*i*Pn	Pn	15 55 16.0	+1.8
	0.6nm,0.1s						
DAVA				⇓*i*Pg	Pg	15 55 22.0	0.0
	3.0nm,0.2s						
DAVA				⇑*i*Sg	Sg	15 55 57.2	+1.0
	44nm,0.5s						
DAVA	**Damuels**	**2.64**	**56**	Pg	Pg	15 55 22.0	0.0
DAVA				Sg	Sg	15 55 57.2	+1.0
LASF	**Ste Croix**	**2.67**	**229**	*e*Pg	Pg	15 55 22.2	-0.5
LASF				*e*Sn	Sn	15 55 46.7	-0.5
LASF				*e*Sg	Sg	15 55 58.2	+0.8
	33nm,0.3s						
LASF	**Ste Croix**	**2.67**	**229**	*e*Pn	Pn	15 55 15.5	+0.8
LASF				*e*Pg	Pg	15 55 22.2	-0.5
LASF				*e*Sn	Sn	15 55 46.7	-0.5
LASF				*e*Sg	Sg	15 55 58.2	+0.8
LASF	**Ste Croix**	**2.67**	**229**	*e*Pg	Pg	15 55 22.2	-0.5
LASF				*e*Sn	Sn	15 55 46.7	-0.5
LASF				*e*Sg	Sg	15 55 58.2	+0.8
	16nm,0.3s						
BFO	**Black Forest**	**2.72**	**24**	*e*Pn	Pn	15 55 14.3	-0.9
BFO	**Black Forest**	**2.72**	**24**	*e*Pn	Pn	15 55 14.3	-1.0
BGF	**Bois d'Agland**	**2.74**	**286**	*e*Pg	Pg	15 55 24.5	+0.6
BGF				*e*Sg	Sg	15 56 00.3	+1.0
	91nm,0.4s						
BGF	**Bois d'Agland**	**2.74**	**286**	*e*Pn	Pn	15 55 16.5	+1.0
BGF				*e*Pg	Pg	15 55 24.5	+0.6
BGF				*e*Sg	Sg	15 56 00.3	+1.0
BGF	**Bois d'Agland**	**

GIVF				*e*Sg		**Sg**	**15 56 51.2**	**-2.0**
	3.8nm,0.2s								
BAIF	**Baives**	**4.51**	**339**	*e*Pn		**Pn**	**15 55 39.9**	**0.0**
BAIF				*e*Sg		**Sg**	**15 56 54.4**	**-1.8**
	8.0nm,0.5s								
BAIF	**Baives**	**4.51**	**339**	*e*Pn		**Pn**	**15 55 39.9**	**0.0**
BAIF				*e*Sg		**Sg**	**15 56 54.4**	**-1.8**
	4.0nm,0.5s								
MFF	**Saint Martin d**	**4.78**	**281**	*e*Pg		**Pg**	**15 56 02.2**	**-0.8**
MFF				*e*Sn		**Sn**	**15 56 37.8**	**-1.3**
MFF				*e*Sg		**Sg**	**15 57 04.4**	**-0.5**
	11nm,0.5s								
MFF	**Saint Martin d**	**4.78**	**281**	*e*Pn		**Pn**	**15 55 44.2**	**+0.6**
MFF				*e*Pg		**Pg**	**15 56 02.2**	**-0.8**
MFF				*e*Sn		**Sn**	**15 56 37.8**	**-1.3**
MFF				*e*Sg		**Sg**	**15 57 04.4**	**-0.5**
MFF	**Saint Martin d**	**4.78**	**281**	*e*Pg		**Pg**	**15 56 02.2**	**-0.8**
MFF				*e*Sn		**Sn**	**15 56 37.8**	**-1.3**
MFF				*e*Sg		**Sg**	**15 57 04.4**	**-0.5**
	5.7nm,0.5s								
FLN	**La Foliniere**	**5.65**	**303**	*e*Pg		**Pg**	**15 56 18.1**	**-1.6**
FLN				*e*Sn		**Sn**	**15 56 58.7**	**-2.0**
FLN				*e*Sg		**Sg**	**15 57 31.7**	**-1.3**
	4.5nm,0.3s								
FLN	**La Foliniere**	**5.65**	**303**	*e*Pn		**Pn**	**15 55 56.0**	**+0.3**
FLN				*e*Pg		**Pg**	**15 56 18.1**	**-1.6**
FLN				*e*Sn		**Sn**	**15 56 58.7**	**-2.0**
FLN				*e*Sg		**Sg**	**15 57 31.7**	**-1.3**
FLN	**La Foliniere**	**5.65**	**303**	*e*Pg		**Pg**	**15 56 18.1**	**-1.6**
FLN				*e*Sn		**Sn**	**15 56 58.7**	**-2.0**
FLN				*e*Sg		**Sg**	**15 57 31.7**	**-1.3**
	2.2nm,0.3s								
GRR	**Gorron**	**5.72**	**299**	*e*Pn		**Pn**	**15 55 57.6**	**+1.1**
GRR				*e*Sn		**Sn**	**15 56 59.7**	**-2.5**
GRR				*e*Sg		**Sg**	**15 57 33.7**	**-1.3**
	3.5nm,0.3s								
GRR	**Gorron**	**5.72**	**299**	*e*Pn		**Pn**	**15 55 57.6**	**+1.1**
GRR				*e*Sn		**Sn**	**15 56 59.7**	**-2.5**
GRR				*e*Sg		**Sg**	**15 57 33.7**	**-1.3**
	1.8nm,0.3s								
SGMF	**Saint Gilles**	**6.73**	**294**	*e*Pn		**Pn**	**15 56 11.0**	**+0.5**
SGMF				*e*Sn		**Sn**	**15 57 24.6**	**-2.7**
	1.7nm,0.4s								
SGMF	**Saint Gilles**	**6.73**	**294**	*e*Pn		**Pn**	**15 56 11.0**	**+0.5**
SGMF				*e*Sn		**Sn**	**15 57 24.6**	**-2.7**
	0.9nm,0.4s								
QUIF	**Quistinic**	**7.04**	**290**	*e*Sn		**Sn**	**15 57 31.9**	**-2.9**
	1.0nm,0.3s								
QUIF	**Quistinic**	**7.04**	**290**	*e*Sn		**Sn**	**15 57 31.9**	**-2.9**
	0.5nm,0.3s								
ROSF	**Rostrenen**	**7.21**	**294**	*e*Pn		**Pn**	**15 56 17.4**	**+0.3**
ROSF				*e*Sn		**Sn**	**15 57 35.7**	**-3.5**
	1.6nm,0.3s								
ROSF	**Rostrenen**	**7.21**	**294**	*e*Pn		**Pn**	**15 56 17.4**	**+0.3**
ROSF				*e*Sn		**Sn**	**15 57 35.7**	**-3.5**
	0.8nm,0.3s								

IDC 22 15:55:02.8±1.1,4692N×15598E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=41.3km s-min=26.1km az=149.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.80**	**258**	Pn	Pn	15 57 23.9	-1.1
	0.3nm,0.3s,baz=224,slow=28,SNR=2.2						
MKAR	**Makanchi Array**	**48.60**	**298**	P	P	16 03 47.9	-0.2
	0.8nm,0.7s,baz=61,slow=7.5,SNR=6.4						
YKA	**Yellowknife Ar**	**49.60**	**38**	P	P	16 03 55.6	-0.2
	0.5nm,0.4s,baz=294,slow=7.1,SNR=5.8						
ASAR	**Alice Springs**	**73.03**	**201**	P	P	16 06 34.8	+0.2
	0.3nm,0.6s,baz=21,slow=5.7,SNR=7.9						
TXAR	**Lajitas Array**	**75.68**	**62**	P	P	16 06 49.6	-0.4
	0.2nm,0.4s,baz=306,slow=3.8,SNR=5.0						

IDC 22 16:11:44.2±5.5,553S×15160E,h0km,mb3.7/4,mb1 3.9/5, mb1mx3.7/14,mbtmp3.9/5,ML4.6/1,Error ellipse: s-maj=109.2km s-min=34.5km az=5.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.14**	**116**	Pn	Pn	16 13 57.1	-0.2
	5.7nm,0.3s,baz=268,slow=11,SNR=8.8						
WRA	**Warramunga Arr**	**22.07**	**228**	P	P	16 16 40.2	-0.5
	0.9nm,0.7s,baz=52,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**24.81**	**222**	P	P	16 17 08.2	+0.2
	0.7nm,0.6s,baz=55,slow=9.4,SNR=23						
STKA	**Stephens Creek**	**27.84**	**198**	P	P	16 17 35.3	+0.1
	1.2nm,0.4s,baz=6.2,slow=11,SNR=6.2						
FITZ	**Fitzroy Crossi**	**28.26**	**242**	P	P	16 17 40.5	+1.4
	0.5nm,0.3s,baz=78,slow=9.3,SNR=5.9						

*HLW **22** 16:12:43.0,3476N×2494E,h10km,Mb3.4*
*ISCJB **22** 16:12:44.7±0.4,3462N±003×2484E±006,h74km±5km, mb3.7/9,Error ellipse: s-maj=8.0km s-min=4.4km az=136.7*
*CSEM **22** 16:12:44.8±0.1,3466N×2500E,h60km,mb3.9/6,Error ellipse: s-maj=4.1km s-min=1.7km az=62.0*
*IDC **22** 16:12:44.9±3.1,3472N×2502E,h35km±19km,mb3.7/8, mb1 3.8/11,mb1mx3.6/24,mbtmp3.8/11,ML4.1/2,Error ellipse: s-maj=28.3km s-min=20.7km az=154.0*
*ATH **22** 16:12:46.5,3479N×2472E,h58km±11km,MD3.8/10*
*NEIC **22** 16:12:46.5,3479N×2472E,h58km,mb3.9/1,MD3.8(ATH), After ATH,*
*MOS **22** 16:12:46.7±1.2,3475N×2503E,h78km,mb4.1/6,Error ellipse: s-maj=18.3km s-min=9.1km az=81.9*
ISC 22 16:12:46.2±0.4,3466N±003×2482E±005,h65km±6km,n57, σ1§12/63,mb3.8/9,1C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.63**	**5**	Pn	**Pn**	**16 12 57.4**	**-2.5**
	273nm,0.3s,baz=193,slow=15,SNR=1812						
IDI				Lg		16 13 05.9	
	790nm,0.3s,baz=14,slow=17,SNR=37						
GVD	**Gavdhos**	**0.63**	**287**	*e*P	**Pn**	**16 12 58.8**	**-1.2**
XRY	**Khrisi**	**0.75**	**73**	*e*P	**Pn**	**16 13 02.5**	**+1.2**
NPS	**Neapolis**	**0.88**	**47**	*e*P	**Pn**	**16 13 03.5**	**+0.6**
NPS				*e*S	**Sn**	**16 13 15.9**	**+0.6**
SANT	**Santorini**	**1.78**	**17**	*e*Pn	**Pn**	**16 13 14.3**	**-0.5**
SANT	**Santorini**	**1.78**	**17**	*e*Pn	**Pn**	**16 13 14.3**	**-0.5**
KARP	**Karpathos**	**2.11**	**65**	*e*P	**Pn**	**16 13 21.6**	**+2.4**
KYTH	**Kithira**	**2.18**	**318**	*e*P	**Pn**	**16 13 21.0**	**+0.9**
APE	**Apeiranthos**	**2.47**	**13**	*e*P	**Pn**	**16 13 23.3**	**-0.8**
VLI	**Veliai**	**2.56**	**324**	*e*P	**Pn**	**16 13 25.0**	**-0.4**
VLI				*e*S	**Sn**	**16 13 52.5**	**-3.0**
ARG	**Arkhangelos**	**3.11**	**59**	*e*P	**Pn**	**16 13 33.9**	**+1.1**
ITM	**Ithomi**	**3.44**	**318**	*e*P	**Pn**	**16 13 37.7**	**+0.3**
HMAT	**Matruh**	**4.04**	**151**	ǁP	**Pn**	**16 13 46.2**	**+0.8**
HMAT				S	**Sn**	**16 14 30.4**	**-1.1**
HMAT	**Matruh**	**4.04**	**151**	P	**Pn**	**16 13 46.2**	**+0.7**
VLS	**Valsamata**	**4.90**	**317**	*e*P	**Pn**	**16 13 59.3**	**+2.1**
SWA2		**5.43**	**174**	P	**Pn**	**16 14 05.0**	**+0.5**
SWA1		**5.43**	**172**	P	**Pn**	**16 14 05.7**	**+1.1**
SWA1				S	**Sn**	**16 15 04.8**	**-0.9**
FYM	**Al Fayyum**	**7.23**	**132**	P	**Pn**	**16 14 28.6**	**-0.6**
AYT	**Al 'Ayyat**	**7.29**	**131**	P	**Pn**	**16 14 29.9**	**-0.1**
KOT	**Kottamia**	**7.58**	**127**	P	**Pn**	**16 14 33.9**	**0.0**
GLL	**Jalalah**	**7.73**	**129**	P	**Pn**	**16 14 35.6**	**-0.4**
HHAG	**Hagoal**	**7.74**	**125**	P	**Pn**	**16 14 36.1**	**-0.1**
TIP	**Timpagrande**	**7.88**	**307**	P	**Pn**	**16 14 37.1**	**-0.9**
HFRF	**Wahat Farafira**	**8.06**	**157**	P	**Pn**	**16 14 40.9**	**+0.3**
AMAG	**Maghara**	**8.12**	**117**	P	**Pn**	**16 14 40.0**	**-1.3**
AMAG	**Maghara**	**8.12**	**117**	P	**Pn**	**16 14 40.0**	**-1.4**
BRTR	**Keskin Array B**	**8.66**	**52**	Pn	**Pn**	**16 14 47.0**	**-1.7**
	0.1nm,0.3s,baz=276,slow=14,SNR=2.9						
MMAI	**Mount Meron Ar**	**8.95**	**98**	Pn	**Pn**	**16 14 53.4**	**+0.7**
	2.2nm,0.3s,baz=262,slow=12,SNR=11						
MMAI				Sn	**Sn**	**16 16 26.4**	**-5.6**
	2.5nm,0.3s,baz=282,slow=20,SNR=4.4						
HNKL	**Nakhl**	**9.07**	**119**	P	**Pn**	**16 14 53.6**	**-0.7**
HNKL				S	**Sn**	**16 16 29.9**	**-5.0**
HDK1	**Dakhla**	**9.91**	**155**	ǁP	**Pn**	**16 15 06.2**	**+0.4**
HDK1	**Dakhla**	**9.91**	**155**	P	**Pn**	**16 15 06.2**	**+0.4**
AKRG	**Al Kharijah**	**10.36**	**150**	P	**Pn**	**16 15 12.4**	**+0.4**
GTR	**Jabal at Tayr**	**10.38**	**150**	P	**Pn**	**16 15 12.5**	**+0.3**
KIEV	**Kiev**	**16.34**	**10**	*e*P	**Pn**	**16 16 32.0**	**+0.6**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIEV	**Kiev**	**16.34**	**10**	*e*P	**Pn**	**16 16 32.0**	**+0.6**
	comp=Z,7.3nm,0.8s						
KIEV	**Kiev**	**16.34**	**10**	*e*P	**Pn**	**16 16 32.0**	**+0.6**
	comp=Z,7.3nm,0.8s						
AKASG	**Malin Array Be**	**16.35**	**10**	Pn	**Pn**	**16 16 31.5**	**0.0**
	comp=Z,2.9nm,0.3s,baz=198,slow=11,SNR=14						
AKASG	**Malin Array Be**	**16.35**	**10**	P	**Pn**	**16 16 31.5**	**0.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**16.35**	**10**	Pn	**Pn**	**16 16 31.5**	**0.0**
AKBB	**Malin Array Si**	**16.35**	**10**	*e*P	**Pn**	**16 16 31.0**	**-0.5**
GERES	**GERESS Array B**	**16.40**	**333**	Pn	**Pn**	**16 16 35.1**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=6.1						
HFS	**Hagfors**	**26.50**	**347**	P	**P**	**16 18 16.9**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.5,baz=130,slow=13,SNR=4.2						
HFS	**Hagfors**	**26.50**	**347**	P	**P**	**16 18 16.9**	**-0.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**26.81**	**1**	P	**P**	**16 18 19.1**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.4,baz=163,slow=14,SNR=5.6						
EKA	**Eskdalemuir Ar**	**28.29**	**326**	P	**P**	**16 18 35.6**	**+2.2**
	comp=Z,1.6nm,0.8s,mb3.7,baz=138,slow=8.4,SNR=2.9						
EKA	**Eskdalemuir Ar**	**28.29**	**326**	P	**P**	**16 18 35.7**	**+2.2**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTK	**Aktyubinsk**	**28.79**	**47**	P	**P**	**16 18 36.7**	**-1.3**
AKTK	**Aktyubinsk**	**28.79**	**47**	P	**P**	**16 18 36.7**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO	**Aktyubinsk**	**28.79**	**47**	P	**P**	**16 18 36.7**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=302,slow=9.5,SNR=2.7						
AKTO	**Aktyubinsk**	**28.79**	**47**	P	**P**	**16 18 36.7**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
TORD	**Torodi Ar. Bea**	**29.96**	**230**	P	**P**	**16 18 52.5**	**+4.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=37,slow=9.0,SNR=7.7						
ARCES	**ARCESS Array B**	**34.93**	**0**	P	**P**	**16 19 30.4**	**-1.3**
	comp=Z,2.9nm,0.9s,mb4.2,baz=178,slow=9.2,SNR=4.0						
ARCES	**ARCESS Array B**	**34.93**	**0**	P	**P**	**16 19 30.5**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**44.28**	**56**	P	**P**	**16 20 51.6**	**+2.3**
	comp=Z,1.2nm,0.5s,mb3.9,baz=287,slow=6.5,SNR=8.6						
MKAR	**Makanchi Array**	**44.28**	**56**	P	**P**	**16 20 51.7**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**45.54**	**46**	P	**P**	**16 20 59.8**	**+0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=178,slow=6.5,SNR=3.2						
ZAL	**Zalesovo**	**45.54**	**46**	P	**P**	**16 20 59.8**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*ISCJB **22** 16:21:44.8±0.3,5555N±002×16176E±007,h83km±3km, mb4.0/24,Error ellipse: s-maj=6.3km s-min=3.7km az=29.6*
*MOS **22** 16:21:44.7±1.0,5558N×16170E,h85km,mb4.1/14,Error ellipse: s-maj=17.8km s-min=7.3km az=83.8*
*KRSC **22** 16:21:45.3±0.8,5553N×16177E,h62km±61km,ML4.6*
*IDC **22** 16:21:45.3±7.8,5551N×16142E,h75km±72km,mb3.7/21, mb1 3.9/21,mb1mx3.8/29,mbtmp3.7/21,Error ellipse: s-maj=16.9km s-min=12.3km az=143.0*
*NEIC **22** 16:21:48.2±1.1,5553N×16148E,h103km±10km,mb4.1/4, Error ellipse: s-maj=10.8km s-min=7.6km az=133.0*
ISC 22 16:21:45.6±0.3,5556N±002×16181E±006,h77km±3km, n91,σ1§07/129,mb4.0/24,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.73**	**310**	*i* P	**Pn**	**16 22 01.4**	**+0.1**
ZLN				*e*S	**Sn**	**16 22 12.4**	**-0.6**
ZLN	**Zelenaya**	**0.73**	**310**	*i* P	**Pn**	**16 22 01.4**	**+0.1**
ZLN				*e*S	**Sn**	**16 22 12.4**	**-0.6**
KBTR	**Krutoberegovo**	**0.87**	**41**	*i* P	**Pn**	**16 22 02.5**	**-0.4**
KBTR				*i* S	**Sn**	**16 22 15.4**	**-0.3**
KBTR	**Krutoberegovo**	**0.87**	**41**	*i* P	**Pn**	**16 22 02.5**	**-0.4**
KBTR				*i* S	**Sn**	**16 22 15.4**	**-0.3**
KMNR	**Kamenistaya**	**0.91**	**283**	*i* P	**Pn**	**16 22 03.5**	**+0.1**
KMNR				*i* S	**Sn**	**16 22 17.2**	**+0.6**
KMNR	**Kamenistaya**	**0.91**	**283**	*i* P	**Pn**	**16 22 03.5**	**+0.1**
KMNR				*i* S	**Sn**	**16 22 17.2**	**+0.6**
KRSR	**Krestovskiy**	**0.96**	**314**	*i* P	**Pn**	**16 22 03.7**	**-0.3**
KRSR				*i* S	**Sn**	**16 22 16.9**	**-0.8**
KRSR	**Krestovskiy**	**0.96**	**314**	*i* P	**Pn**	**16 22 03.7**	**-0.3**
KRSR				*i* S	**Sn**	**16 22 16.9**	**-0.8**
KPT	**Kopyto**	**0.98**	**295**	*i* P	**Pn**	**16 22 04.4**	**+0.1**
KPT				*i* S	**Sn**	**16 22 18.1**	**-0.1**
KPT	**Kopyto**	**0.98**	**295**	*i* P	**Pn**	**16 22 04.4**	**+0.1**
KPT				*i* S	**Sn**	**16 22 18.1**	**-0.1**
TUMR	**Tumrok**	**0.99**	**255**	*i* P	**Pn**	**16 22 04.4**	**+0.1**
TUMR				*i* S	**Sn**	**16 22 18.7**	**+0.5**
TUMR	**Tumrok**	**0.99**	**255**	*i* P	**Pn**	**16 22 04.4**	**+0.1**
TUMR				*i* S	**Sn**	**16 22 18.7**	**+0.5**
KLY	**Klyuchi**	**1.00**	**320**	*i* P	**Pn**	**16 22 03.2**	**-1.2**
KLY				*i* S	**Sn**	**16 22 16.9**	**-1.6**
KLY	**Klyuchi**	**1.00**	**320**	*i* P	**Pn**	**16 22 03.2**	**-1.2**
KLY				*i* S	**Sn**	**16 22 16.9**	**-1.6**
MKZ	**Mys Kozlova**	**1.00**	**183**	*i* P	**Pn**	**16 22 03.5**	**-1.0**
MKZ				*i* S	**Sn**	**16 22 16.6**	**-2.0**
MKZ	**Mys Kozlova**	**1.00**	**183**	*i* P	**Pn**	**16 22 03.5**	**-1.0**
MKZ				*i* S	**Sn**	**16 22 16.6**	**-2.0**
BDR	**Baidarnaya**	**1.07**	**342**	*i* P	**Pn**	**16 22 05.5**	**+0.2**
BDR				*i* S	**Sn**	**16 22 20.4**	**+0.4**
BDR	**Baidarnaya**	**1.07**	**342**	*i* P	**Pn**	**16 22 05.5**	**+0.2**
BDR				*i* S	**Sn**	**16 22 20.4**	**+0.4**
SRKR	**Sorokina**	**1.16**	**342**	*i* P	**Pn**	**16 22 06.5**	**+0.1**
SRKR				*e*S	**Sn**	**16 22 21.9**	**0.0**
SRKR	**Sorokina**	**1.16**	**342**	*i* P	**Pn**	**16 22 06.5**	**+0.1**
SRKR				*e*S	**Sn**	**16 22 21.9**	**0.0**
KOZR	**Kozyr**	**1.19**	**296**	PN	**Pn**	**16 22 07.5**	**+0.7**
KOZR				S	**Sn**	**16 22 23.5**	**+0.7**
KOZ	**Kozyrevsk**	**1.20**	**296**	*i* P	**Pn**	**16 22 07.5**	**+0.6**
KOZ				*i* S	**Sn**	**16 22 23.5**	**+0.6**
KOZ	**Kozyrevsk**	**1.20**	**296**	*i* P	**Pn**	**16 22 07.5**	**+0.6**
KOZ				*i* S	**Sn**	**16 22 23.5**	**+0.6**
SRDR	**Sredinnyy**	**1.40**	**304**	*i* P	**Pn**	**16 22 09.5**	**0.0**
SRDR				*i* S	**Sn**	**16 22 27.0**	**-0.5**
SRDR	**Sredinnyy**	**1.40**	**304**	*i* P	**Pn**	**16 22 09.5**	**0.0**
SRDR				*i* S	**Sn**	**16 22 27.0**	**-0.5**
SPN	**Mys Shipunski**	**2.68**	**204**	*i* P	**Pn**	**16 22 25.9**	**-0.6**
SPN				*i* S	**Sn**	**16 22 55.6**	**-2.3**
SPN	**Mys Shipunski**	**2.68**	**204**	*i* P	**Pn**	**16 22 25.9**	**-0.6**
SPN				*i* S	**Sn**	**16 22 55.6**	**-2.3**
NLC	**Nalytchevo**	**2.79**	**212**	*e*P	**Pn**	**16 22 28.7**	**+0.7**
NLC				*i* S	**Sn**	**16 23 00.2**	**-0.5**
NLC	**Nalytchevo**	**2.79**	**212**	*e*P	**Pn**	**16 22 28.7**	**+0.7**
NLC				*i* S	**Sn**	**16 23 00.2**	**-0.5**
AVH	**Avacha**	**2.91**	**219**	*e*P	**Pn**	**16 22 31.0**	**+1.3**
AVH				*i* S	**Sn**	**16 23 04.6**	**+1.0**
AVH	**Avacha**	**2.91**	**219**	*e*P	**Pn**	**16 22 31.0**	**+1.3**
AVH				*i* S	**Sn**	**16 23 04.6**	**+1.0**
GNL	**Ganaly**	**2.92**	**232**	*i* P	**Pn**	**16 22 30.8**	**+1.0**
GNL	**Ganaly**	**2.92**	**232**	*i* P	**Pn**	**16 22 30.8**	**+1.0**
PET	**Petropavlovsk**	**3.14**	**217**	ǁPN	**Pn**	**16 22 33.7**	**+1.0**
PET				*i* S	**Sn**	**16 23 09.9**	**+0.8**
PET				pmax	pmax		
	comp=Z,153nm,0.4s						
PET				smax			
	comp=N,1μm,4.6s						
PET				smax			
	comp=E,567nm,0.5s						
PET				smax			
	comp=N,859nm,0.6s						
PET	**Petropavlovsk**	**3.14**	**217**	*e*Pn	**Pn**	**16 22 33.5**	**+0.8**
PET				Sn	**Sn**	**16 23 08.7**	**-0.4**
PET	**Petropavlovsk**	**3.14**	**217**	*e*P	**Pn**	**16 22 33.6**	**+0.9**
PET				*i* S	**Sn**	**16 23 09.7**	**+0.6**
PET	**Petropavlovsk**	**3.14**	**217**	*e*P	**Pn**	**16 22 33.6**	**+0.9**
PET				*i* S	**Sn**	**16 23 09.7**	**+0.6**
RUS	**Russkaya**	**3.68**	**213**	*e*P	**Pn**	**16 22 41.0**	**+0.9**
RUS				*i* S	**Sn**	**16 23 21.5**	**-0.9**
RUS	**Russkaya**	**3.68**	**213**	*e*P	**Pn**	**16 22 41.0**	**+0.9**
RUS				*i* S	**Sn**	**16 23 21.5**	**-0.9**
GRL	**Gorelyy**	**3.73**	**218**	*e*P	**Pn**	**16 22 42.5**	**+1.7**
GRL	**Gorelyy**	**3.73**	**218**	*e*P	**Pn**	**16 22 42.5**	**+1.7**
SEY	**Seymchan**	**8.82**	**331**	*e*PN	**Pn**	**16 23 50.8**	**+0.5**
BILL	**Bilibino**	**12.70**	**8**	*e*PN	**Pn**	**16 24 43.4**	**+0.3**
BILL				pmax	pmax		
	comp=Z,14nm,1.2s						
BILL	**Bilibino**	**12.70**	**8**	*e*Pn	**Pn**	**16 24 46.6**	**+3.5**
	comp=Z,12nm,1.4s						
YAK	**Yakutsk**	**17.72**	**305**	*e*P	**Pn**	**16 25 49.7**	**+2.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HABR	**Khabarovsk**	**17.85**	**258**	*e*P	**Pn**	**16 25 49.3**	**+0.6**
HABR				*e*S	**S**	**16 29 10.3**	**+2.1**
TIXI	**Tiksi**	**21.32**	**332**	*e*P	**P**	**16 26 26.5**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.0						
TIXI	**Tiksi**	**21.32**	**332**	P	**P**	**16 26 25.1**	**-1.0**
	comp=Z,6.2nm,0.8s,mb4.0						
IMA2	**Indian Mountai**	**23.56**	**46**	*e*P	**P**	**16 26 49.4**	**+0.4**
KDAK	**Kodiak Island**	**24.80**	**66**	P	**P**	**16 27 01.3**	**+1.0**
	comp=Z,5.9nm,0.7s,mb4.1,baz=150,slow=17,SNR=4.1						
MJAR	**Matsushiro Arr**	**24.89**	**230**	P	**P**	**16 27 00.8**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.7,baz=41,slow=8.1,SNR=5.6						
MJAR	**Matsushiro Arr**	**24.89**	**230**	P	**P**	**16 27 00.8**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCK	**McKinley**	**25.58**	**51**	*e*P	**P**	**16 27 08.3**	**+0.9**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
MCK	**McKinley**	**25.58**	**51**	*e*P	**P**	**16 27 08.3**	**+0.8**
	comp=Z,2.4nm,0.9s,mb3.6						
COLA	**College**	**25.98**	**49**	*e*P	**P**	**16 27 10.5**	**-0.5**
KSRS	**Korea Array**	**29.11**	**246**	P	**P**	**16 27 35.9**	**-3.1**
	comp=Z,0.5nm,0.3s,mb3.6,baz=358,slow=17,SNR=5.2						
INK	**Inuvik**	**31.32**	**40**	P	**P**	**16 27 59.3**	**+0.8**
	comp=Z,0.9nm,0.4s,mb3.9,baz=264,slow=7.0,SNR=6.7						
INK	**Inuvik**	**31.32**	**40**	P	**P**	**16 27 59.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**40.69**	**45**	P	**P**	**16 29 19.3**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.7,baz=298,slow=7.7,SNR=3.9						
YKA	**Yellowknife Ar**	**40.69**	**45**	P	**P**	**16 29 19.3**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.02**	**295**	P	**P**	**16 30 15.8**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.6,baz=56,slow=6.8,SNR=5.1						
MKAR	**Makanchi Array**	**48.02**	**295**	P	**P**	**16 30 15.8**	**-1.0**
BVAR	**Borovoye Array**	**49.66**	**308**	P	**P**	**16 30 26.9**	**-2.6**
	comp=Z,1.2nm,0.4s,mb4.1,baz=258,slow=41,SNR=3.6						
BVAR	**Borovoye Array**	**49.66**	**308**	P	**P**	**16 30 26.9**	**-2.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**51.26**	**342**	P	**P**	**16 30 41.2**	**-0.2**
	comp=Z,4.0nm,0.9s,mb4.5,baz=27,slow=11,SNR=6.5						
ARCES	**ARCESS Array B**	**51.26**	**342**	P	**P**	**16 30 41.3**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BW06	**Boulder Array**	**55.48**	**63**	*e*P	**P**	**16 31 14.1**	**+1.7**
	comp=Z,1.3nm,0.5s,mb4.2						
PDAR	**Pinedale Array**	**55.48**	**63**	P	**P**	**16 31 14.4**	**+2.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=330,slow=2.5,SNR=12						
ULM	**Lac du Bonnet**	**56.42**	**49**	P	**P**	**16 31 19.6**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=311,slow=11,SNR=4.1						
AKTK	**Aktyubinsk**	**56.91**	**312**	P	**P**	**16 31 21.4**	**-1.2**
AKTO	**Aktyubinsk**	**56.91**	**312**	P	**P**	**16 31 21.4**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=52,slow=4.5,SNR=5.9						
AKTO	**Aktyubinsk**	**56.91**	**312**	P	**P**	**16 31 21.4**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**58.25**	**337**	P	**P**	**16 31 31.4**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=33,slow=6.8,SNR=9.7						
FINES	**FINESS Array B**	**58.25**	**337**	*i* P	**P**	**16 31 31.3**	**-0.7**
FINES				pmax	pmax		
	comp=

comp=Z,188nm,0.6s
MK31 Makanchi Array 47.36 297 *e*P **P 16 32 36.7 -1.8**
MKAR Makanchi Array 47.36 297 P **P 16 32 37.1 -1.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=66,slow=7.7,SNR=5.0
MKAR Makanchi Array 47.36 297 P **P 16 32 37.1 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 49.54 38 P **P 16 32 55.4 +0.2**
comp=Z,1.9nm,0.6s,mb4.3,baz=294,slow=7.0,SNR=12
YKA PcP PcP 16 34 16.2 -0.3
comp=Z,0.3nm,0.4s,baz=303,slow=4.0,SNR=4.1
YKA Yellowknife Ar 49.54 38 P **P 16 32 55.4 +0.2**
YKA 16 34 16.2
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 49.54 38 P **P 16 32 55.4 +0.2**
YKA PcP PcP 16 34 16.2 -0.3
BVAR Borovoye Array 50.99 309 P **P 16 33 05.5 -0.7**
comp=Z,1.3nm,0.4s,mb4.2,baz=63,slow=8.0,SNR=6.5
BVAR Borovoye Array 50.99 309 P **P 16 33 05.5 -0.7**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
EDM Edmonton 54.91 47 *e*P **P 16 33 34.9 -0.3**
JIRN Jiri 55.85 275 *e*P **P 16 33 42.3 +0.5**
comp=Z,10nm,0.4s,mb5.2
GUN Gumba 55.89 275 *e*P **P 16 33 42.6 +0.4**
KKN Kakani 56.37 276 *e*P **P 16 33 46.2 +0.6**
comp=Z,12nm,0.5s,mb5.2
PKI Pulchoki 56.43 275 *e*P **P 16 33 45.9 -0.1**
DMN Daman 56.61 276 *e*P **P 16 33 48.3 +1.0**
comp=Z,11nm,0.4s,mb5.3
GKN Gorkha 56.67 276 *e*P **P 16 33 47.9 +0.2**
comp=Z,15nm,0.4s,mb5.3
KOLN Koldanda 57.51 277 *e*P **P 16 33 54.0 +0.3**
comp=Z,6.7nm,0.5s,mb4.9
AKTK Aktyubinsk 58.80 312 P **P 16 34 02.5 -0.1**
AKTO Aktyubinsk 58.80 312 P **P 16 34 02.5 -0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=102,slow=8.8,SNR=5.2
AKTO Aktyubinsk 58.80 312 P **P 16 34 02.6 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
HLID Hailey 60.14 57 *e*P **P 16 34 12.7 +0.8**
comp=Z,1.5nm,0.7s,mb4.1
JMIC Jan Mayen 60.95 354 P **P 16 34 17.2 -0.2**
comp=Z,60nm,0.4s,baz=184,slow=6.4,SNR=2.8
RRI2 Red Ridge 62.01 55 *e*P **P 16 34 26.0 +1.4**
comp=Z,11nm,0.7s,mb5.1
HWUT Hardware Ranch 63.01 57 *e*P **P 16 34 31.6 +0.3**
comp=Z,2.7nm,0.6s,mb4.5
BW06 Boulder Array 63.37 55 *e*P **P 16 34 34.2 +0.6**
comp=Z,3.2nm,0.8s,mb4.5
PDAR Pinedale Array 63.37 55 P **P 16 34 34.3 +0.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=278,slow=2.0,SNR=30
FINES FINESS Array B 63.56 335 P **P 16 34 34.4 -0.5**
comp=Z,1.0nm,0.3s,mb4.3,baz=39,slow=7.1,SNR=16
FINES FINESS Array B 63.56 335 P **P 16 34 34.4 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.3s
RSSD Black Hills 65.43 51 *e*P **P 16 34 46.9 -0.2**
RSSD pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
RSSD Black Hills 65.43 51 *e*P **P 16 34 46.9 -0.2**
comp=Z,2.5nm,0.4s,mb4.6
NB2 NORSAR Subarra 67.60 342 P **P 16 35 00.6 -0.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=25,slow=6.5
NOA NORSAR Array B 67.60 342 P **P 16 35 00.5 -0.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=25,slow=6.2,SNR=5.1
NOA NORSAR Array B 67.60 342 P **P 16 35 00.5 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 67.86 340 P **P 16 35 02.2 -0.4**
comp=Z,1.8nm,0.4s,mb4.4,baz=74,slow=6.8,SNR=11
HFS Hagfors 67.86 340 P **P 16 35 02.2 -0.4**
HFS pmax pmax
comp=Z,2.0nm,0.4s
WB2 Warramunga Arr 69.78 200 *e*P **P 16 35 13.0 -1.5**
WRA Warramunga Arr 69.78 200 P **P 16 35 13.1 -1.4**
comp=Z,3.9nm,0.9s,mb4.3,baz=16,slow=6.6,SNR=15
WRA Warramunga Arr 69.78 200 P **P 16 35 13.1 -1.4**
WRA pmax pmax
comp=Z,4.0nm,0.9s
FITZ Fitzroy Crossi 70.49 209 *e*P **P 16 35 17.2 -1.7**
comp=Z,6.1nm,0.9s,mb4.5
FITZ Fitzroy Crossi 70.49 209 P **P 16 35 18.3 -0.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=0.5,slow=6.0,SNR=6.9
AKASG Malin Array Be 71.26 327 P **P 16 35 22.6 -1.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=33,slow=6.2,SNR=5.6
AKASG Malin Array Be 71.26 327 P **P 16 35 22.6 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AS31 Alice Springs 73.47 200 *e*P **P 16 35 36.5 -0.2**
ASAR Alice Springs 73.47 200 P **P 16 35 36.3 -0.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=15,slow=5.6,SNR=22
ASAR Alice Springs 73.47 200 P **P 16 35 36.3 -0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASPA Alice Springs 73.47 200 *e*P **P 16 35 36.5 -0.2**
CLL Collm 75.96 336 *i* P **P 16 35 51.4 +0.3**
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.7
CLL Collm 75.96 336 *i* P **P 16 35 51.4 +0.3**
comp=Z,13nm,1.4s,mb4.7
TXAR Lajitas Array 76.15 62 P **P 16 35 52.8 +0.6**
comp=Z,4.0nm,0.5s,mb4.6,baz=301,slow=4.6,SNR=46
TXAR Lajitas Array 76.15 62 P **P 16 35 52.8 +0.6**
TXAR pmax pmax
comp=Z,4.0nm,0.5s
MLR Muntele Rosu 76.81 326 P **P 16 35 56.3 +0.4**
comp=Z,3.2nm,0.6s,mb4.5,baz=164,slow=7.4,SNR=6.7
MLR Muntele Rosu 76.81 326 P **P 16 35 56.3 +0.4**
MLR pmax pmax
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 77.76 335 *e*P **P 16 36 01.5 +0.2**
GERES GERESS Array B 77.98 335 P **P 16 36 03.0 +0.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=39,slow=4.8,SNR=12
GERES GERESS Array B 77.98 335 P **P 16 36 03.0 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 78.33 318 *e*P **P 16 36 04.2 -0.2**
comp=Z,1.3nm,0.7s,mb4.0
UMR Umm Al-Rimmam 78.95 302 *e*P **P 16 36 08.0 +0.2**
MIB Mutribah 78.98 302 *e*P **P 16 36 08.2 +0.3**
MIB AMb AMB 16 36 08.8
comp=Z,29nm,0.5s,mb5.4
NAY Al-Naaiem 79.45 302 *e*P **P 16 36 10.6 0.0**
NAY AMb AMB 16 36 11.9
comp=Z,12nm,0.6s,mb5.0
RDF Al-Radifah 79.51 302 *e*P **P 16 36 11.4 +0.4**

IDC ***22*** *16:31:25.7*$_{\Xi}$*0.6, 4584N*$_{\times}$*15388E, h0*^{km}*, mb4.3/17, mb1 4.5/19, mb1mx4.4/25, mbtmp4.3/19, ML3.5/2, MS3.6/12, Ms1 3.7/12, ms1mx3.4/36, Error ellipse: s-maj=17.5km s-min=15.4km az=139.0*

ISCJB ***22*** *16:31:26.2*$_{\Xi}$*0.4, 4586N*$_{\perp}$*006*$_{\times}$*15377E*$_{\perp}$*007, h10*^{km}*, mb4.6/58, MS3.7/14, Error ellipse: s-maj=9.6km s-min=5.3km az=114.9*

SKHL ***22*** *16:31:27.7*$_{\Xi}$*3.7, 4600N*$_{\times}$*15380E, h52*^{km}$_{\pm}$*17*^{km}*, mb5.1/2*

NEIC ***22*** *16:31:27.4*$_{\Xi}$*0.3, 4585N*$_{\times}$*15394E, h10*^{km}*, mb4.8/29, Error ellipse: s-maj=8.3km s-min=6.5km az=128.0*

SZGRF ***22*** *16:31:28.9, 4532N*$_{\times}$*15464E, h33*^{km}*, mb4.8, East of Kuril Islands, Russia*

BJI ***22*** *16:31:28.9, 46.10N*$_{\times}$*153.54E, h10*^{km}*, mB5.0, mb4.7, Ms4.3, Msz4.0*

MOS ***22*** *16:31:36.6*$_{\Xi}$*0.9, 4681N*$_{\times}$*153.13E, h41*^{km}*, mb4.8/37, Error ellipse: s-maj=12.2km s-min=6.5km az=110.1*

ISC 22 16:31:30.1$_{\perp}$**2.9, 4609N**$_{\perp}$007$_{\times}$**15375E**$_{\perp}$**008, h19**^{km}$_{\perp}$17^{km}**, n172,** σ**1§13/165, mb4.6/59, MS3.7/14, 10C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.21**	**260**	*e*P	**Pn**	**16 32 30.0**	**-3.2**
KUR				AMB	AMB	16 32 30.7	
	380nm,0.6s						
KUR				*e*S	**Sn**	**16 33 19.5**	**-2.4**
KUR				A		16 33 21.0	
	376nm,0.8s						
KUR				A		16 33 21.0	
	484nm,0.8s						
SKR	**Severo-Kuril's**	**4.86**	**18**	*e*P	**Pn**	**16 32 42.0**	**0.0**
SKR				AMB	AMB	16 32 43.0	
	80nm,0.5s						
SKR				*e*S	**Sn**	**16 33 35.0**	**-2.7**
SKR				A		16 33 39.0	
	160nm,0.7s						
SKR				A		16 33 39.0	
	90nm,0.7s						
SKR	**Severo-Kuril's**	**4.86**	**18**	*e*PN	**Pn**	**16 32 42.0**	**0.0**
SKR				*e*S	**Sn**	**16 33 35.0**	**-2.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=N,160nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.96**	**253**	*e*S	**Sn**	**16 34 02.5**	**-2.3**
YUK				A		16 34 04.4	
	comp=N,400nm,0.5s						
YUK				A		16 34 04.4	
	comp=N,200nm,0.5s						
PET	**Petropavlovsk**	**7.63**	**23**	*e*Pn	**Pn**	**16 33 19.6**	**-0.6**
PET				*e*Sn	**Sn**	**16 34 42.1**	**-4.0**
YSS	**Yuzh-Sakhalins**	**7.63**	**280**⇑	*e*P	**Pn**	**16 33 23.7**	**+3.5**
YSS	**Yuzh-Sakhalins**	**7.63**	**280**	*e*PN	**Pn**	**16 33 21.3**	**+1.1**
ASAJ	**Asahikawa**	**8.13**	**260**	Pn	**Pn**	**16 33 27.1**	**0.0**
	comp=N,0.7nm,0.3s,baz=150,slow=28,SNR=5.1						
ASAJ				LR	LR	16 36 49.1	
	comp=N,236nm,18.6s,baz=175,slow=40						
MA2	**Magadan**	**13.62**	**354**	*e*PN	**Pn**	**16 34 44.1**	**+1.9**
MAJO	**Matsushiro**	**15.06**	**236**	*e*P	**Pn**	**16 35 06.9**	**+5.2**
MAJO				pmax	pmax		
	comp=Z,58nm,1.0s						
MAJO	**Matsushiro**	**15.06**	**236**	*e*P	**Pn**	**16 35 06.9**	**+5.2**
	comp=Z,58nm,1.0s						
MAT	**Matsushiro**	**15.06**	**236**	P	**Pn**	**16 35 06.8**	**+5.1**
MJAR	**Matsushiro Arr**	**15.06**	**236**	Pn	**Pn**	**16 34 57.2**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=5.0						
JHJ	**Hachijo jima 2**	**16.81**	**224**	LR	LR	16 40 59.9	
	comp=Z,100nm,20.3s,baz=52,slow=34						
MDJ	**Mudanjiang**	**17.03**	**274**	P	**Pn**	**16 35 26.1**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,31nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,211nm,5.3s						
MDJ	**Mudanjiang**	**17.03**	**274**	*e*P	**Pn**	**16 35 26.8**	**-0.3**
	comp=Z,26nm,0.9s						
ZEA	**Zeya**	**18.62**	**304**	*e*P	**Pn**	**16 35 42.6**	**-4.1**
ZEA				AMB	AMB	16 35 45.6	
	comp=Z,36nm,1.2s						
CN2	**Changchun**	**20.12**	**274**	*e*P	**P**	**16 36 00.3**	**-2.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
KSRS	**Korea Array**	**21.04**	**255**	P	**P**	**16 36 13.4**	**+0.8**
	comp=Z,5.8nm,0.8s,mb4.0,baz=62,slow=8.6,SNR=9.8						
KSRS				LR	LR	16 43 22.9	
	comp=Z,139nm,18.8s,MS3.4,baz=243,slow=34						
CBIJ	**Chichi jima**	**21.07**	**210**	LR	LR	16 41 38.0	
	comp=Z,88nm,21.7s,MS3.1,baz=345,slow=29						
YAK	**Yakutsk**	**21.11**	**328**	*e*P	**P**	**16 36 11.8**	**-1.7**
YAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.5						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,14nm,1.3s						
YAK				MLR	MLR		
	comp=Z,175nm,25.0s,MS3.3						
YAK				MLR	MLR		
	comp=N,106nm,24.0s,MS3.3						
YAK				MLR	MLR		
	comp=E,123nm,23.0s,MS3.3						
YAK	**Yakutsk**	**21.11**	**328**	*e*P	**P**	**16 36 11.6**	**-1.9**
	comp=E,21nm,0.6s,mb4.7						
BILL	**Bilibino**	**22.94**	**12**	*e*P	**P**	**16 36 30.4**	**-2.6**
BILL				pmax	pmax		
	comp=Z,100nm,5.0s						
BILL	**Bilibino**	**22.94**	**12**	*e*P	**P**	**16 36 32.1**	**-0.8**
	comp=Z,9.9nm,0.9s,mb4.2						
HIA	**Hailar**	**23.00**	**290**	*e*P	**P**	**16 36 30.4**	**-3.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**23.00**	**290**	*e*P	**P**	**16 36 30.4**	**-3.3**
	comp=Z,6.3nm,0.6s,mb4.2						
BOD	**Bodaibo**	**26.75**	**311**	*e*P	**P**	**16 37 04.9**	**-3.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.0						
BJI	**Beijing**	**27.92**	**271**	P	**P**	**16 37 22.9**	**+4.0**
BJI				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
BJI				AMB	AMB		
	comp=Z,217nm,3.1s						
BJI				LR	LR		
	comp=Z,80nm,21.9s,MS3.3						
BJI	**Beijing**	**27.92**	**271**	P	**P**	**16 37 22.9**	**+4.0**
	comp=Z,24nm,1.3s,mb4.7						
BJI				LR	LR		
	comp=Z,80nm,21.9s,MS3.3						
BJT	**Baijiatuan**	**27.93**	**271**	P	**P**	**16 37 21.2**	**+2.1**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuan**	**27.93**	**271**	P	**P**	**16 37 21.2**	**+2.2**
	comp=Z,9.4nm,0.6s,mb4.6						
TIXI	**Tiksi**	**28.22**	**344**	*e*P	**P**	**16 37 18.3**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,147nm,14.0s,MS3.7						
ULN	**Ulaanbaatar**	**31.54**	**290**	*e*P	**P**	**16 37 50.0**	**-1.0**
ULN	**Ulaanbaatar**	**31.54**	**290**	*e*P	**P**	**16 37 50.1**	**-0.8**
	comp=Z,12nm,1.0s,mb4.7						
BTO	**Baotou**	**31.96**	**276**	*e*P	**P**	**16 37 54.5**	**-0.2**
SONM	**Songino Array**	**31.97**	**291**	P	**P**	**16 37 54.2**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.0,baz=64,slow=10,SNR=4.4						
SONM				LR	LR	16 51 33.0	
	comp=Z,124nm,19.1s,MS3.6,baz=130,slow=38						
SONM	**Songino Array**	**31.97**	**291**	P	**P**	**16 37 54.2**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,125nm,19.1s						
GUMO	**Guam**	**33.26**	**196**	LR	LR	16 50 18.2	
	comp=Z,72nm,18.9s,MS3.4,baz=29,slow=34						
ZAK	**Zakamensk**	**33.36**	**296**	*e*P	**P**	**16 38 06.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
IMA2	**Indian Mountai**	**34.08**	**35**	*e*P	**P**	**16 38 13.2**	**0.0**
COLA	**College**	**36.38**	**38**	*e*P	**P**	**16 38 41.6**	**+8.6**
LZH	**Lanzhou**	**38.36**	**273**	*e*P	**P**	**16 38 51.0**	**+1.2**
LZH				AP	pP	16 39 01.0	+5.3
LZH				XP	sP	16 39 05.0	+6.9
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,137nm,4.7s						
LZH	**Lanzhou**	**38.36**	**273**	*e*P	**P**	**16 38 51.0**	**+1.2**
LZH				*PP	pP	16 39 01.0	+5.3
LZH				*SP	sP	16 39 05.0	+6.9
LZH				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LZH	**Lanzhou**	**38.36**	**273**	*e*P	**P**	**16 38 51.0**	**+1.2**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	16 39 01.0	+5.3
LZH				sP	sP	16 39 05.0	+6.9
GTA	**Gaotai**	**39.51**	**280**	⇓P	**P**	**16 39 01.1**	**+1.6**
GTA				AP	pP	16 39 12.5	+7.1
GTA				PP	PP	16 40 35.8	+5.6
GTA				S	S	**16 45 06.5**	**+5.7**
GTA				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,123nm,5.3s						
GTA				LR	LR		
	comp=N,152nm,12.2s,MS4.2						
GTA				LR	LR		
	comp=E,141nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=Z,112nm,12.9s,MS3.9						
INK	**Inuvik**	**41.97**	**32**	P	**P**	**16 39 20.1**	**+0.3**
	comp=Z,2.5nm,0.8s,mb3.9,baz=253,slow=5.3,SNR=7.7						
INK	**Inuvik**	**41.97**	**32**	P	**P**	**16 39 20.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GYA	**Guiyang**	**42.01**	**259**⇑	*i*P	**P**	**16 39 19.4**	**-0.7**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
ZAL	**Zalesovo**	**43.37**	**307**	P	**P**	**16 39 29.5**	**-1.6**
	comp=Z,1.3nm,0.6s,mb3.8,baz=41,slow=7.7,SNR=7.5						
ZAL				PcP	PcP	16 41 18.1	-1.4
	comp=Z,1.0nm,0.9s,baz=9.5,slow=5.4,SNR=5.2						
ZAL				LR	LR	16 59 17.6	
	comp=Z,209nm,18.2s,MS4.1,baz=39,slow=38						
ZAL	**Zalesovo**	**43.37**	**307**	*i* P	**P**	**16 39 29.5**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**43.37**	**307**	P	**P**	**16 39 29.5**	**-1.6**
ZAL				PcP	PcP	16 41 18.1	-1.4
ZAL				LR	LR	16 59 17.6	
NVS	**Novosibirsk**	**43.94**	**308**	*e*P	**P**	**16 39 28.1**	**-7.6**
NVS				pmax	pmax		
	comp=N,13nm,2.0s						
NVS				pmax	pmax		
	comp=Z,21nm,2.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,20nm,2.2s						
MK31	**Makanchi Array**	**47.64**	**298**	*e*P	**P**	**16 40 04.9**	**0.0**
MKAR	**Makanchi Array**	**47.64**	**298**	P	**P**	**16 40 04.8**	**0.0**
	comp=E,2.9nm,0.6s,mb4.5,baz=66,slow=7.3,SNR=18						
MKAR				PcP	PcP	16 41 33.1	-1.3
	comp=E,0.8nm,0.7s,baz=67,slow=4.7,SNR=2.9						
MKAR				LR	LR	17 01 09.1	
	comp=E,148nm,19.1s,MS4.0,baz=253,slow=37						
MKAR	**Makanchi Array**	**47.64**	**298**	*i* P	**P**	**16 40 04.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**47.64**	**298**	P	**P**	**16 40 04.8**	**0.0**
MKAR				PcP	PcP	16 41 33.1	-1.2
MKAR				LR	LR	17 01 09.1	
LSA	**Lhasa**	**50.76**	**274**	P	**P**	**16 40 29.8**	**+1.1**
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**16 40 31.6**	**-0.4**
	comp=Z,3.4nm,1.1s,mb4.2,baz=299,slow=8.1,SNR=6.7						
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**16 40 31.6**	**-0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**16 40 31.6**	**-0.4**
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**16 40 34.2**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.4,baz=53,slow=7.6,SNR=14						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**16 40 34.2**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**51.66**	**310**	*e*P	**P**	**16 40 35.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**51.66**	**310**	*e*P	**P**	**16 40 35.2**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.52**	**297**	*e*P	**P**	**16 40 56.4**	**-0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
JIRN	**Jiri**	**55.44**	**275**	*e*P	**P**	**16 41 04.5**	**+1.2**
	comp=Z,28nm,0.9s,mb5.3						
GUN	**Gumba**	**55.50**	**276**	*e*P	**P**	**16 41 04.7**	**+1.0**
ARU	**Arti**	**55.80**	**318**	*e*P	**P**	**16 41 05.7**	**-0.1**
ARU				*e*		16 41 20.5	
ARU				*e*		16 43 03.7	
ARU				*e*S	PKiKP	16 48 35.1	-0.1
ARU	**Arti**	**55.80**	**318**	*e*P	**P**	**16 41 05.7**	**-0.2**
	comp=Z,15nm,0.6s,mb5.2						
KKN	**Kakani**	**55.99**	**276**	*e*P	**P**	**16 41 08.0**	**+0.8**
	comp=Z,31nm,1.1s,mb5.3						
PKI	**Pulchoki**	**56.04**	**276**	*e*P	**P**	**16 41 07.8**	**+0.2**
GKN	**Gorkha**	**56.30**	**277**	*e*P	**P**	**16 41 10.2**	**+0.8**
	comp=Z,23nm,0.8s,mb5.3						
KOLN	**Koldanda**	**57.16**	**277**	*e*P	**P**	**16 41 16.5**	**+0.9**
	comp=Z,21nm,0.8s,mb5.2						
ARCES	**ARCESS Array B**	**58.62**	**341**	P	**P**	**16 41 25.7**	**-0.1**
	comp=Z,5.9nm,1.0s,mb4.6,baz=35,slow=7.4,SNR=7.1						
ARCES	**ARCESS Array B**	**58.62**	**341**	P	**P**	**16 41 25.7**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.62**	**341**	P	**P**	**16 41 25.7**	**-0.1**
TMCR	**Tamitsa**	**59.12**	**333**	*e*P	**P**	**16 41 29.9**	**+0.6**
TMCR				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
AKTK	**Aktyubinsk**	**59.49**	**312**	P	**P**	**16 41 31.9**	**+0.1**
AKTO	**Aktyubinsk**	**59.49**	**312**	P	**P**	**16 41 31.9**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.5,baz=69,slow=6.7,SNR=12						
AKTO	**Aktyubinsk**	**59.49**	**312**	P	**P**	**16 41 31.9**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KAKA	**Kakadu**	**61.60**	**204**	*e*P	**P**	**16 41 43.6**	**-2.6**
	comp=Z,8.4nm,0.7s,mb5.0						
BW06	**Boulder Array**	**64.78**	**54**	P	**P**	**16 42 06.2**	**-1.1**
	comp=Z,3.1nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**64.78**	**54**	P	**P**	**16 42 06.4**	**-0.9**
	comp=Z,1.1nm,1.0s,mb3.9,baz=289,slow=4.5,SNR=6.4						
FINES	**FINESS Array B**	**64.82**	**335**	P	**P**	**16 42 08.7**	**+1.1**
	comp=Z,2.9nm,0.6s,mb4.5,baz=39,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**64.82**	**335**	P	**P**	**16 42 08.7**	**+1.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**66.10**	**326**	*e*P	**P**	**16 42 14.4**	**-1.4**
OBN				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
CTA	**Charters Tower**	**66.22**	**188**	LR	LR	17 09 52.5	
	comp=Z,54nm,18.1s,MS3.8,baz=229,slow=35						
VRSR	**Storozhevoye**	**67.89**	**322**	*e*P	**P**	**16 42 28.3**	**+1.1**
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**68.03**	**200**	*e*P	**P**	**16 42 25.1**	**-3.0**
WRA	**Warramunga Arr**	**68.04**	**200**	P	**P**	**16 42 25.3**	**-2.8**
	comp=Z,5.7nm,0.8s,mb4.7,baz=17,slow=6.7,SNR=36						
WRA	**Warramunga Arr**	**68.04**	**200**	P	**P**	**16 42 25.3**	**-2.8**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.99**	**342**	P	**P**	**16 42 33.9**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**16 42 33.7**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.3,baz=28,slow=6.3,SNR=10						
NOA				LR	LR	17 13 20.4	
	comp=Z,37nm,21.2s,MS3.6,baz=0.0,slow=36						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**16 42 33.7**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,37nm,21.2s						
NOA	**NORSAR Array B**	**68.99**	**342**	P	**P**	**16 42 33.7**	**-0.4**
NOA				LR	LR	17 13 20.4	
KIV	**Kislovodsk**	**71.58**	**315**	*e*P	**P**	**16 42 51.3**	**+1.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**71.58**	**315**	*e*P	**P**	**16 42 51.3**	**+1.4**
	comp=Z,8.4nm,0.6s,mb4.8						
AS31	**Alice Springs**	**71.73**	**199**	*e*P	**P**	**16 42 49.1**	**-1.7**
ASAR	**Alice Springs**	**71.73**	**199**	P	**P**	**16 42 49.0**	**-1.8**
	comp=Z,5.3nm,0.7s,mb4.6,baz=14,slow=5.0,SNR=107						
ASAR				LR	LR	17 12 41.9	
	comp=Z,38nm,18.6s,MS3.7,baz=352,slow=35						
ASAR	**Alice Springs**	**71.73**

CLL	**Collm**	**77.25**	336	⇑*i*P		**P**		**16 43 23.1**	**+0.2**
	comp=Z,23nm,1.2s,mb5.0								
BRG	**Berggiesshubel**	**77.36**	335	*e*(P)		**P**		**16 43 23.6**	**+0.1**
	comp=Z,5.5nm,1.4s,mb4.3								
KECS	**Kecovo**	**77.36**	330	*e*P		**P**		**16 43 24.0**	**+0.4**
KECS				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
KECS	**Kecovo**	**77.36**	330	*e*P		**P**		**16 43 24.0**	**+0.4**
	comp=Z,3.6nm,1.0s,mb4.3								
TXAR	**Lajitas Array**	**77.43**	61	P		**P**		**16 43 22.9**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=304,slow=4.1,SNR=23								
TXAR	**Lajitas Array**	**77.43**	61	P		**P**		**16 43 23.0**	**-0.9**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MLR	**Muntele Rosu**	**77.86**	325	⇓*i*P		**P**		**16 43 28.0**	**+1.7**
MLR	**Muntele Rosu**	**77.86**	325	⇓P		**P**		**16 43 28.0**	**+1.7**
VYHS	**Vyhne**	**77.92**	331	*e*P		**P**		**16 43 27.0**	**+0.4**
VYHS				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
VYHS	**Vyhne**	**77.92**	331	*e*P		**P**		**16 43 27.0**	**+0.4**
	comp=Z,3.9nm,1.0s,mb4.3								
MALT	**Malatya**	**77.92**	313	⇓*i*P		**P**		**16 43 28.6**	**+1.9**
MALT	**Malatya**	**77.92**	313	⇓P		**P**		**16 43 28.6**	**+1.9**
VRAC	**Vranov**	**77.94**	333	⇑*i*P		**P**		**16 43 26.8**	**0.0**
VRAC	**Vranov**	**77.94**	333	⇑P		**P**		**16 43 26.8**	**0.0**
PRU	**Pruhonice**	**77.97**	334	*e*P		**P**		**16 43 27.6**	**+0.6**
NKC	**Novy Kostel**	**78.37**	336	*e*P		**P**		**16 43 29.6**	**+0.5**
ZST	**Bratislava**	**78.75**	332	*e*P		**P**		**16 43 31.7**	**+0.5**
ZST				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.7								
ZST	**Bratislava**	**78.75**	332	*e*P		**P**		**16 43 31.7**	**+0.5**
	comp=Z,6.5nm,0.7s,mb4.7								
KHC	**Kasperske Hory**	**79.02**	335	*e*P		**P**		**16 43 33.7**	**+0.9**
RAR	**Rarotonga**	**79.11**	136	LR		LR		17 11 39.7	
	comp=Z,116nm,19.3s,MS4.2,baz=278,slow=31								
BRTR	**Keskin Array B**	**79.17**	317	P		**P**		**16 43 34.3**	**+0.7**
	comp=Z,6.2nm,1.1s,mb4.5,baz=66,slow=3.1,SNR=16								
BRTR	**Keskin Array B**	**79.17**	317	*i* P		**P**		**16 43 34.2**	**+0.6**
BRTR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
GRA1	**Grafenberg Arr**	**79.20**	336	*e*P		**P**		**16 43 34.4**	**+0.7**
	comp=Z,9.0nm,0.8s,mb4.8								
GRF	**Grafenberg Arr**	**79.20**	336	*e*P		**P**		**16 43 34.4**	**+0.7**
	comp=Z,9.0nm,0.8s,mb4.8								
GRF	**Grafenberg Arr**	**79.20**	336	*e*P		**P**		**16 43 34.4**	**+0.7**
GRF				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.6								
GRF	**Grafenberg Arr**	**79.20**	336	*e*P		**P**		**16 43 34.4**	**+0.7**
GRF				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
GRFO	**Grafenberg**	**79.20**	336	*e*P		**P**		**16 43 34.5**	**+0.8**
GRFO				pmax	pmax				
	comp=Z,37nm,1.4s,mb5.1								
GRFO	**Grafenberg**	**79.20**	336	*e*P		**P**		**16 43 34.5**	**+0.8**
	comp=Z,37nm,1.4s,mb5.1								
GERES	**GERESS Array B**	**79.24**	334	P		**P**		**16 43 34.4**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=34,slow=5.5,SNR=15								
GERES	**GERESS Array B**	**79.24**	334	P		**P**		**16 43 34.4**	**+0.5**
GERES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BZS	**Buzias**	**79.41**	328	⇑*i*P		**P**		**16 43 35.0**	**+0.2**
BZS	**Buzias**	**79.41**	328	⇑P		**P**		**16 43 35.0**	**+0.1**
BFO	**Black Forest**	**81.23**	337	*e*P		**P**		**16 43 44.7**	**0.0**
BFO				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6								
BFO	**Black Forest**	**81.23**	337	*e*P		**P**		**16 43 44.7**	**0.0**
	comp=Z,6.8nm,0.9s,mb4.6								
VTS	**Vitosha**	**81.36**	325	⇓*i*P		**P**		**16 43 44.8**	**-0.6**
VTS	**Vitosha**	**81.36**	325	⇓P		**P**		**16 43 44.8**	**-0.6**
CDF	**Champ du Feu**	**81.43**	338	*e*P		**P**		**16 43 45.9**	**+0.2**
	comp=Z,29nm,1.1s,mb4.8								
CDF	**Champ du Feu**	**81.43**	338	*e*P		**P**		**16 43 45.9**	**+0.2**
CDF				pmax	pmax				
	comp=Z,15nm,1.1s,mb4.8								
CDF	**Champ du Feu**	**81.43**	338	*e*P		**P**		**16 43 45.9**	**+0.2**
	comp=Z,14nm,1.1s,mb4.8								
GRR	**Gorron**	**83.32**	343	*e*P		**P**		**16 43 55.7**	**+0.1**
	comp=Z,36nm,1.2s,mb5.0								
GRR	**Gorron**	**83.32**	343	*e*P		**P**		**16 43 55.7**	**+0.1**
GRR				pmax	pmax				
	comp=Z,18nm,1.2s,mb5.0								
GRR	**Gorron**	**83.32**	343	*e*P		**P**		**16 43 55.7**	**+0.1**
	comp=Z,18nm,1.2s,mb5.0								
SMF	**Signal de Mont**	**83.93**	340	⇑P		**P**		**16 43 58.9**	**+0.1**
	comp=Z,93nm,1.5s,mb5.4								
SMF	**Signal de Mont**	**83.93**	340	*e*P		**P**		**16 43 58.9**	**+0.1**
SMF				pmax	pmax				
	comp=Z,47nm,1.5s,mb5.4								
SMF	**Signal de Mont**	**83.93**	340	*e*P		**P**		**16 43 58.9**	**+0.1**
	comp=Z,47nm,1.5s,mb5.4								
LPG	**La Plagne**	**84.26**	337	*e*P		**P**		**16 44 01.6**	**+1.2**
	comp=Z,62nm,1.3s,mb5.3								
LPG	**La Plagne**	**84.26**	337	*e*P		**P**		**16 44 01.6**	**+1.2**
LPG				pmax	pmax				
	comp=Z,31nm,1.3s,mb5.3								
LPG	**La Plagne**	**84.26**	337	*e*P		**P**		**16 44 01.6**	**+1.2**
	comp=Z,31nm,1.3s,mb5.3								
CAF	**Calviac**	**85.97**	340	*e*P		**P**		**16 44 09.5**	**+0.5**
CFAA	**Coronel Fontan**	**144.67**	81	PKP		PKPdf		16 51 02.5	-2.9
	comp=Z,0.3nm,0.5s,baz=289,slow=2.6,SNR=5.2								
CFAA	**Coronel Fontan**	**144.67**	81	PKP		PKPdf		16 51 02.5	-2.9
SNAA	**Sanae**	**152.04**	196	PKPbc		PKPbc		16 51 19.7	-4.3
	comp=Z,1.2nm,0.9s,baz=201,slow=2.4,SNR=8.2								
SNAA	**Sanae**	**152.04**	196	*e*PKPdf		PKPdf		16 51 19.7	+2.3
SNAA				*e*				16 51 28.9	
SNAA	**Sanae**	**152.04**	196	PKIKP		PKPdf		16 51 19.7	+2.3
SNAA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
VNA2	**Neumayer--Watz**	**153.47**	194	*e*PKPdf		PKPdf		16 51 21.4	+1.9
VNA2				*e*				16 51 29.9	
VNA3	**Neumayer Olymp**	**153.54**	192	*e*PKPdf		PKPdf		16 51 22.7	+3.1

NIED ***22*** *17:04:00, 40.00N×142.90E, h29km, Mw4.1 Best double couple: M0 1.60000×10^15 NP1:φs 13.00000°, δ51.00000°, λ-102.00000°. NP2:φs 211.00000°, δ40.00000°, λ-76.00000°.*

MOS ***22*** *17:04:44.9±1.1, 39.99N×143.06E, h33km, mb4.3/11, Error ellipse: s-maj=16.7km s-min=9.4km az=87.1*

ISCJB ***22*** *17:04:45.1±0.4, 4004N±004×14307E±005, h35km, mb4.2/23, MS3.2/2, Error ellipse: s-maj=6.7km s-min=4.0km az=97.3*

JMA ***22*** *17:04:45.7±0.1, 4004N×14291E, h21km±2km, M4.3*

JMA Felt I J1.

NEIC ***22*** *17:04:49.0±1.1, 4001N×14295E, h53km±9km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=7.5km az=99.0*

NEIC Recorded [1 JMA] in Iwate Prefecture.

BJI ***22*** *17:04:48.4, 4003N×143.18E, h80km, mB4.6, mb4.3*

IDC ***22*** *17:04:48.7±2.8, 3999N×14293E, h48km±26km, mb3.8/12, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, ML3.6/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/29, Error ellipse: s-maj=24.5km s-min=14.7km az=91.0*

ISC 22 17:04:47.2±0.4, 4006N±004×14296E±005, h35km, n69, σ1§07/67, mb4.2/23, MS3.2/2, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.85**	**262**	P	**Pn**	**17 05 01.1**	**-1.5**
JTH				*e*S	**Sn**	**17 05 11.8**	**-2.1**
MIYJ	**Miyakonagasawa**	**1.00**	**242**	⇑P	**Pn**	**17 05 03.2**	**-1.5**
MIYJ				*e*S	**Sn**	**17 05 16.3**	**-1.3**
JANG	**Nango**	**1.15**	**286**	P	**Pn**	**17 05 05.7**	**-1.1**
JANG				*e*S	**Sn**	**17 05 20.2**	**-1.1**
JKZ	**Kuzumaki**	**1.25**	**267**	P	**Pn**	**17 05 07.4**	**-0.8**
OFUJ	**Ofunato**	**1.40**	**226**	P	**Pn**	**17 05 09.5**	**-0.6**
OFUJ				*e*S	**Sn**	**17 05 27.3**	**0.0**
JOM	**Ohasama**	**1.41**	**246**	P	**Pn**	**17 05 09.8**	**-0.5**
JOM				*e*S	**Sn**	**17 05 28.0**	**+0.3**
JTM	**Tenmabayashi**	**1.62**	**297**	P	**Pn**	**17 05 13.6**	**+0.4**
JMK	**Ichinoseki**	**1.74**	**231**	P	**Pn**	**17 05 15.0**	**+0.1**
JMK				*e*S	**Sn**	**17 05 36.7**	**+0.9**
JAH	**Hinai**	**1.79**	**275**	P	**Pn**	**17 05 15.9**	**+0.4**
JAH				*e*S	**Sn**	**17 05 39.0**	**+2.0**
ERM	**Erimo**	**1.96**	**4**	*e*P	**Pn**	**17 05 20.1**	**+2.2**
ASAJ	**Asahikawa**	**4.07**	**356**	P	**Pn**	**17 05 48.1**	**+1.3**
	1.7nm,0.3s,baz=280,slow=14,SNR=8.9						
ASAJ				LR	LR	17 08 07.7	
	comp=Z,306nm,19.4s,baz=36,slow=48						
YUK	**Yuzh-Kuril'sk**	**4.53**	**28**	P	**Pn**	**17 05 52.0**	**-1.2**
YUK				*e*S	**Sn**	**17 06 43.0**	**-1.5**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,100nm,0.5s						
MJAR	**Matsushiro Arr**	**5.12**	**228**	P	**Pn**	**17 06 03.0**	**+1.6**
	comp=E,8.3nm,0.3s,baz=40,slow=12,SNR=121						
MJAR				LR	LR	17 08 12.4	
	comp=E,445nm,18.8s,baz=140,slow=40						
MJAR	**Matsushiro Arr**	**5.12**	**228**	P	**Pn**	**17 06 03.1**	**+1.7**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,445nm,18.8s						
MAJO	**Matsushiro**	**5.13**	**228**	*e*P	**Pn**	**17 06 03.1**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,70nm,0.5s						
MAJO	**Matsushiro**	**5.13**	**228**	*e*P	**Pn**	**17 06 03.1**	**+1.7**
	comp=Z,70nm,0.5s						
MAT	**Matsushiro**	**5.13**	**228**	P	**Pn**	**17 06 03.0**	**+1.6**
JNU	**Nakatsue**	**11.92**	**238**	LR	LR	17 11 58.2	
	comp=E,151nm,19.8s,baz=88,slow=36						
KSRS	**Korea Array**	**12.03**	**262**	P	**Pn**	**17 07 40.4**	**+4.3**
	baz=70,slow=14,SNR=5.0						
KSRS				LR	LR	17 11 55.5	
	comp=Z,120nm,18.6s,baz=348,slow=36						
YAK	**Yakutsk**	**23.44**	**344**	*e*P	**P**	**17 09 51.0**	**-2.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
YAK	**Yakutsk**	**23.44**	**344**	*e*P	**P**	**17 09 51.0**	**-2.4**
	comp=Z,10nm,0.7s,mb4.4						
HHC	**Hu-ho-hao-te**	**23.84**	**282**	*e*P	**P**	**17 09 58.5**	**+1.4**
HHC				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
HHC				AMB	AMB		
	comp=Z,94nm,5.5s						
BOD	**Bodaibo**	**25.73**	**323**	*e*P	**P**	**17 10 11.1**	**-3.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,2.6s,mb3.7						
GUMO	**Guam**	**26.42**	**176**	LR	LR	17 18 55.4	
	comp=Z,45nm,18.8s,MS3.0,baz=96,slow=32						
ULN	**Ulaanbaatar**	**26.81**	**299**	P	**P**	**17 10 24.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
ULN	**Ulaanbaatar**	**26.81**	**299**	P	**P**	**17 10 24.9**	**+0.9**
	comp=Z,1.3nm,0.6s,mb3.6						
SONM	**Songino Array**	**27.25**	**299**	P	**P**	**17 10 27.6**	**-0.3**
	comp=Z,2.0nm,0.7s,mb3.8,baz=52,slow=9.7,SNR=5.1						
SONM	**Songino Array**	**27.25**	**299**	P	**P**	**17 10 27.6**	**-0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA	**Gaotai**	**32.95**	**283**	*e*P	**P**	**17 11 19.4**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GYA	**Guiyang**	**33.01**	**257**	⇑*i*P	**P**	**17 11 19.0**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**40.86**	**310**	P	**P**	**17 12 25.9**	**+0.4**
	comp=Z,1.9nm,0.6s,mb3.9,baz=21,slow=9.2,SNR=10						
ZAL	**Zalesovo**	**40.86**	**310**	P	**P**	**17 12 26.0**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**43.61**	**300**	*e*P	**P**	**17 12 48.2**	**+0.2**
MKAR	**Makanchi Array**	**43.61**	**300**	P	**P**	**17 12 48.3**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.8,baz=88,slow=9.2,SNR=7.6						
MKAR				LR	LR	17 31 52.2	
	comp=Z,50nm,18.7s,MS3.5,baz=355,slow=37						
MKAR	**Makanchi Array**	**43.61**	**300**	P	**P**	**17 12 48.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,50nm,18.7s						
GUN	**Gumba**	**48.12**	**274**	*e*P	**P**	**17 13 24.5**	**+1.0**
	comp=Z,13nm,0.6s,mb5.1						
KKN	**Kakani**	**48.64**	**274**	*e*P	**P**	**17 13 28.1**	**+0.6**
	comp=Z,12nm,0.7s,mb5.0						
GKN	**Gorkha**	**49.02**	**275**	*e*P	**P**	**17 13 30.5**	**0.0**
BRVK	**Borovoye**	**49.53**	**311**	*e*P	**P**	**17 13 34.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**49.53**	**311**	*e*P	**P**	**17 13 34.7**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.3						
KOLN	**Koldanda**	**49.93**	**275**	*e*P	**P**	**17 13 37.0**	**-0.4**
	comp=Z,9.5nm,1.0s,mb4.8						
INK	**Inuvik**	**51.15**	**28**	P	**P**	**17 13 46.7**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=250,slow=12,SNR=3.7						
INK	**Inuvik**	**51.15**	**28**	*e*P	**P**	**17 13 47.2**	**+0.6**
KAKA	**Kakadu**	**53.40**	**193**	*e*P	**P**	**17 14 03.2**	**-0.1**
	comp=Z,7.7nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**60.07**	**199**	*e*P	**P**	**17 14 50.6**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**60.07**	**199**	P	**P**	**17 14 50.6**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=14,slow=8.0,SNR=8.5						
WB2	**Warramunga Arr**	**60.22**	**189**	*e*P	**P**	**17 14 49.6**	**-2.1**
WRA	**Warramunga Arr**	**60.22**	**189**	P	**P**	**17 14 50.7**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.5,baz=8.1,slow=6.9,SNR=49						
WRA	**Warramunga Arr**	**60.22**	**189**	P	**P**	**17 14 50.7**	**-1.0**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AS31	**Alice Springs**	**63.95**	**189**	*e*P	**P**	**17 15 16.3**	**-0.4**
ASAR	**Alice Springs**	**63.95**	**189**	P	**P**	**17 15 16.2**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=13,slow=10,SNR=29						
ASAR	**Alice Springs**	**63.95**	**189**	P	**P**	**17 15 16.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASPA	**Alice Springs**	**63.95**	**189**	*e*P	**P**	**17 15 16.3**	**-0.4**
FINES	**FINESS Array B**	**66.71**	**332**	P	**P**	**17 15 34.3**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.1,baz=8.8,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**66.71**	**332**	P	**P**	**17 15 34.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**71.87**	**338**	P	**P**	**17 16 06.8**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**71.87**	**338**	P	**P**	**17 16 07.0**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=38,slow=6.0,SNR=5.5						
NOA	**NORSAR Array B**	**71.87**	**338**	P	**P**	**17 16 07.1**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**72.65**	**322**	P	**P**	**17 16 11.2**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=44,slow=6.3,SNR=4.4						
PDAR	**Pinedale Array**	**74.70**	**47**	P	**P**	**17 16 24.2**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=286,slow=3.3,SNR=4.9						
TXAR	**Lajitas Array**	**87.33**	**53**	P	**P**	**17 17 31.4**	**+1.0**
	comp=Z,0.2nm,0.5s,mb3.6,baz=316,slow=3.5,SNR=3.7						
SNAA	**Sanae**	**143.99**	**198**	PKP	PKPdf	17 24 15.4	-3.5
	comp=Z,0.8nm,0.8s,baz=126,slow=3.3,SNR=6.4						
SNAA	**Sanae**	**143.99**	**198**	*e*P	PKPdf	17 24 14.4	-4.5
SNAA	**Sanae**	**143.99**	**198**	*e*P	PKPdf	17 24 14.4	-4.5
SNAA				*e*		17 24 18.1	
SNAA				*e*		17 24 23.1	
SNAA	**Sanae**	**143.99**	**198**	*e*PKPpre		17 24 15.2	
VNA2	**Neumayer--Watz**	**145.56**	**197**	*e*P	PKPdf	17 24 20.4	-1.2
VNA2	**Neumayer--Watz**	**145.56**	**197**	*e*P	PKPdf	17 24 20.4	-1.2
	baz=119,slow=1.4						
VNA2				*e*		17 24 25.8	
VNA2				*e*		17 24 30.5	
VNA3	**Neumayer Olymp**	**145.79**	**195**	*e*P	PKPdf	17 24 20.6	-1.4
VNA3	**Neumayer Olymp**	**145.79**	**195**	*e*P	PKPdf	17 24 20.6	-1.4
VNA3				*e*		17 24 31.7	

ISCJB ***22*** *17:10:58.2±0.8, 5142N±004×16108E±004, h0km, Error ellipse: s-maj=5.8km s-min=3.0km az=30.2*

NEIC ***22*** *17:10:59.0±1.2, 5150N×161.3E, h5km, ML2.6(SZGRF), Error ellipse: s-maj=13.1km s-min=5.2km az=198.0*

IPEC ***22*** *17:10:59.6±0.3, 5148N×1650E, h0km, ML2.0/3, Error ellipse: s-maj=3.2km s-min=2.0km az=96.0*

CSEM ***22*** *17:11:00.8±0.2, 5142N×1615E, h0km, ML3.0/6, Error ellipse: s-maj=3.2km s-min=1.5km az=10.0*

WAR ***22*** *17:11:00.1, 5149N×1609E, ML2.5, Mining Induced*

PRU ***22*** *17:11:00.6, 5141N×1612E, h0km*

ISC 22 17:10:59.2±0.8, 5146N±004×1612E±004, h0km, n23, σ0§78/46, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**170**	⇓*i*Pg	**Pg**	**17 11 12.1**	**+0.9**
KSP				*e*Sg	**Sg**	**17 11 20.8**	**+1.5**
KSP	**Ksiaz**	**0.62**	**170**	*e*Pg	**Pg**	**17 11 12.1**	**+0.9**
KSP				*e*Sg	**Sg**	**17 11 20.5**	**+1.2**
UPC	**Upice**	**0.95**	**184**	*e*PG	**Pg**	**17 11 18.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**17 11 21.0**	**+0.4**
DPC				*e*SG	**Sg**	**17 11 35.6**	**+0.6**
	21nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*Pg	**Pg**	**17 11 21.0**	**+0.4**
DPC				*e*Sg	**Sg**	**17 11 34.8**	**-0.2**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	**Pg**	**17 11 25.7**	**+0.6**
BRG	**Berggiesshubel**	**1.49**	**248**	PN	**Pn**	**17 11 26.8**	**-0.4**
BRG				PG	**Pg**	**17 11 27.4**	**-0.3**
BRG				SG	**Sg**	**17 11 47.7**	**+0.6**
	22nm,0.4s						
PRU	**Pruhonice**	**1.78**	**215**	*e*PG	**Pg**	**17 11 32.8**	**-0.5**
PRU				*e*SG	**Sg**	**17 11 56.5**	**+0.1**
	14nm,0.4s						
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**17 11 32.2**	**-0.8**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**17 11 32.2**	**-0.8**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*Pn	**Pn**	**17 11 32.7**	**-0.3**
MORC				*e*Sg	**Sg**	**17 11 56.7**	**-3.9**
CLL	**Collm**	**1.96**	**267**	*i* Pg	**Pg**	**17 11 35.6**	**-1.1**
CLL				*i* x	x	17 11 40.0	
CLL				*i* Sg	**Sg**	**17 12 01.5**	**-0.6**
CLL				*i* x	x	17 12 10.8	
CLL	**Collm**	**1.96**	**267**	*i* Pg	**Pg**	**17 11 35.6**	**-1.1**
CLL				*i* Sg	**Sg**	**17 12 01.5**	**-0.6**
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*PG	**Pg**	**17 11 38.8**	**-0.1**
OKC				*e*SG	**Sg**	**17 12 05.7**	**-0.1**
	14nm,0.5s						
VRAC	**Vranov**	**2.17**	**172**	*e*Pn	**Pn**	**17 11 36.8**	**+0.2**
VRAC				*e*Sg	**Sg**	**17 12 08.3**	**-0.7**
	7.3nm,0.3s						
KRUC	**Moravsky**	**2.41**	**176**	*e*Pg	**Pg**	**17 11 43.7**	**-1.6**
KRUC				*e*Sg	**Sg**	**17 12 14.5**	**-2.0**
	4.4nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**17 11 43.3**	**+0.4**
NKC				*e*PG	**Pg**	**17 11 49.9**	**+0.3**
NKC				*e*SG	**Sg**	**17 12 24.4**	**+0.7**
	25nm,0.4s						
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**17 11 49.8**	**0.0**
OJC				*e*Sg	**Sg**	**17 12 25.0**	**+1.0**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**17 11 45.7**	**-0.1**
KHC				*e*PG	**Pg**	**17 11 52.0**	**-1.7**
KHC				*e*SN	**Sn**	**17 12 21.0**	**+0.3**
KHC				*e*SG	**Sg**	**17 12 30.7**	**+0.2**
	8.5nm,0.8s						
MOX	**Moxa**	**2.96**	**256**	*e*PG	**Pg**	**17 11 55.1**	**-0.8**
MOX				*e*SG	**Sg**	**17 12 34.8**	**+0.6**
GEC2	**GERESS Array S**	**3.04**	**212**	*e*Pn	**Pn**	**17 11 49.8**	**+1.3**
GEC2				*e*Sg	**Sg**	**17 12 36.7**	**-0.3**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**17 11 56.4**	**+0.4**
GRA1				*e*Sg	**Sg**	**17 12 55.0**	**+0.5**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**17 11 56.4**	**+0.4**
GRF				*e*Sg	**Sg**	**17 12 55.0**	**+0.5**

ISCJB ***22*** *17:12:08.6±0.4, 1.15S±007×24.12W±007, h10km, mb4.6/32, MS3.9/14, Error ellipse: s-maj=10.6km s-min=9.5km az=100.6*

MOS ***22*** *17:12:08.9±1.5, 1.18S×24.15W, h10km, mb4.9/14, Error ellipse: s-maj=18.3km s-min=10.9km az=56.9*

IDC ***22*** *17:12:08.3±0.6, 1.12S×2422W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/23, mbtmp4.3/16, MS3.9/13, Ms1 3.9/13, ms1mx3.8/21, Error ellipse: s-maj=18.3km s-min=16.9km az=60.0*

NEIC ***22*** *17:12:10.1±0.4, 122S×24.17W, h10km, mb4.8/13, Error ellipse: s-maj=12.8km s-min=11.6km az=149.0*

ISC 22 17:12:10.7±0.4, 115S±007×2417W±007, h10km, n82, σ1§19/69, mb4.6/32, MS3.9/14, 1C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**20.46**	**69**	*e*P	**P**	**17 16 47.7**	**-0.7**
	79nm,0.9s						
LIC	**Lamto**	**20.46**	**69**	*e*P	**P**	**17 16 47.7**	**-0.7**
	40nm,0.9s						
TOA0	**Torodi Ar. Sit**	**29.32**	**60**	*e*P	**P**	**17 18 12.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**29.32**	**60**	P	**P**	**17 18 12.5**	**-0.9**
	19nm,1.1s,mb4.8,baz=251,slow=6.6,SNR=43						
TORD				LR	L

comp=Z,2.4nm,0.9s,mb4.2,baz=218,slow=6.4,SNR=3.7
NOA LR LR 17 53 26.2
comp=Z,46nm,18.6s,MS3.7,baz=230,slow=37
KIEV Kiev 68.66 33 *e*P **P 17 23 12.9 -1.2**
KIEV pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KIEV Kiev 68.66 33 *e*P **P 17 23 12.9 -1.2**
comp=Z,4.4nm,0.8s,mb4.4
AKASG Malin Array Be 68.67 33 P **P 17 23 12.9 -1.2**
comp=Z,4.4nm,0.9s,mb4.4,baz=238,slow=7.1,SNR=16
AKASG LR LR 17 56 24.5
comp=Z,61nm,18.6s,MS3.9,baz=220,slow=39
AKBB Malin Array Si 68.67 33 *e*P **P 17 23 12.9 -1.3**
MALT Malatya 69.53 48 *e*P **P 17 23 19.7 +0.2**
MALT pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MALT Malatya 69.53 48 *e*P **P 17 23 19.7 +0.2**
comp=Z,9.9nm,1.0s,mb4.7
VNA2 Neumayer--Watz 70.52 174 *e*P **P 17 23 25.0 -0.6**
VNA2 Neumayer--Watz 70.52 174 *e*P **P 17 23 25.0 -0.6**
baz=119,slow=1.4
VNA2 *e* 17 23 35.5
VNA2 *e* 17 23 39.8
VNA2 *e* 17 23 46.3
VNA3 Neumayer Olymp 70.61 175 *e*P **P 17 23 25.3 -0.9**
VNA3 Neumayer Olymp 70.61 175 *e*P **P 17 23 25.3 -0.9**
VNA3 *e* 17 23 36.3
VNA3 *e* 17 23 40.3
VNA3 *e* 17 23 45.5
ANN Anapa 71.06 41 *e*P **P 17 23 33.1 +4.2**
ANN *e**PP pP 17 23 43.4 +11
ANN *e* 17 26 13.1
ANN *e*S S 17 32 53.5 +8.3
ANN pmax pmax
comp=Z,27nm,1.2s,mb5.0
SNAA Sanae 71.73 173 P **P 17 23 32.1 -0.8**
comp=Z,1.0nm,0.9s,mb3.7,baz=315,slow=4.3,SNR=4.9
SNAA Sanae 71.73 173 *e*P **P 17 23 32.7 -0.2**
SNAA Sanae 71.73 173 *e*P **P 17 23 32.7 -0.2**
SNAA *e* 17 23 42.9
SNAA *e* 17 23 46.4
SNAA *e* 17 23 51.3
SNAA Sanae 71.73 173 *e*P **P 17 23 33.4 +0.5**
SOC Sochi 72.17 43 *i*P **P 17 23 36.5 +0.9**
FINES FINESS Array B 73.16 23 P **P 17 23 41.0 -0.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=268,slow=5.0,SNR=6.6
FINES LR LR 17 54 56.4
comp=Z,59nm,19.5s,MS3.9,baz=178,slow=35
KIV Kislovodsk 74.33 44 *e*P **P 17 23 48.3 -0.1**
KIV *e*S S 17 33 15.7 -6.9
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,44nm,17.0s,MS3.8
OBN Obninsk 74.66 31 *e*P **P 17 23 47.7 -2.6**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GNI Garni 74.75 48 *e*P **P 17 23 51.3 +0.5**
GNI pmax pmax
comp=Z,11nm,1.3s
AGMN Agassiz Refuge 78.76 320 *e*P **P 17 24 11.9 -1.6**
comp=Z,11nm,0.9s,mb4.8
TXAR Lajitas Array 81.41 300 P **P 17 24 27.5 -0.2**
comp=Z,3.8nm,0.9s,mb4.3,baz=114,slow=5.2,SNR=26
LAZ Ladron 84.84 305 *e*P **P 17 24 46.4 +1.0**
AKTO Aktyubinsk 85.89 39 LR LR 18 07 30.5
comp=Z,47nm,19.0s,MS3.9,baz=107,slow=39
ARU Arti 86.92 33⇑*i*P **P 17 24 54.5 -1.3**
ARU *e* 17 28 17.0
ARU *e*PPP 17 30 12.1
ARU *e*S S 17 35 18.0 -16
ARU *e*SS SS 17 41 16.7 +0.3
ARU pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
PDAR Pinedale Array 87.38 313 P **P 17 24 56.5 -1.6**
comp=Z,0.9nm,0.8s,mb4.0,baz=63,slow=6.8,SNR=5.6
PDAR LR LR 17 57 38.6
comp=Z,111nm,19.3s,MS4.3,baz=315,slow=31
QSPA South Pole Qui 88.93 180 *e*P **P 17 25 05.2 -0.2**
comp=Z,19nm,1.3s,mb5.3
YKA Yellowknife Ar 91.21 332 P **P 17 25 14.6 -1.4**
comp=Z,1.8nm,0.8s,mb4.4,baz=92,slow=5.3,SNR=8.4
YKA Yellowknife Ar 91.21 332 *i*P **P 17 25 15.1 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 93.66 37 LR LR 18 08 50.8
comp=Z,54nm,18.2s,MS4.0,baz=319,slow=36
STKA Stephens Creek 144.49 159 *e*P PKPdf 17 31 45.5 -1.7
comp=Z,10nm,0.9s
STKA Stephens Creek 144.49 159 PKP PKPdf 17 31 46.0 -1.2
comp=Z,12nm,0.8s,baz=197,slow=2.6,SNR=23
FITZ Fitzroy Crossi 144.66 124⇓*i*P PKPdf 17 31 46.9 -0.6
comp=Z,28nm,1.0s
FITZ Fitzroy Crossi 144.66 124 PKP PKPdf 17 31 47.2 -0.4
comp=Z,18nm,1.0s,baz=223,slow=6.1,SNR=15
ASPA Alice Springs 147.40 141 *e*P PKPdf 17 31 54.3 +2.1
ASAR Alice Springs 147.40 141 PKPbc PKPbc 17 31 54.5 -0.1
comp=Z,9.2nm,0.8s,baz=209,slow=2.3,SNR=16
AS31 Alice Springs 147.40 141 *e*P PKPdf 17 31 54.3 +2.1
WRA Warramunga Arr 150.28 136 PKPbc PKPbc 17 32 01.9 -0.1
comp=Z,5.6nm,0.9s,baz=242,slow=2.6,SNR=34
WB2 Warramunga Arr 150.28 136 *e*P PKPbc 17 32 01.5 -0.5
WRAB Tennant Creek 150.29 136 *e*PKIKP PKPbc 17 32 02.0 0.0

MOS ***22*** *17:18:30.4±0.7,5303N×10764E,h23km,mb4.3/1,Error ellipse: s-maj=16.3km s-min=9.2km az=57.2*

BYKL 22 17:18:31.2±0.2,5311N×10749E,h16km±24km,6C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OGRR	**Ongureny**	**0.54**	**7**	⇑*i*Pg	Pg	17 18 41.6	-0.3
OGRR				*e*Sg	Sg	17 18 48.8	-0.3
OGRR				Pmax			
	116nm,0.2s						
OGRR				Smax			
	1μm,0.2s						
OGRR	**Ongureny**	**0.54**	**7**	*e*PG	Pg	17 18 41.6	-0.3
OGRR				*e*		17 18 48.9	
OGRR				pmax	pmax		
	comp=Z,209nm,0.1s						
OGRR				smax			
	comp=N,1μm,0.3s						
ZRHB	**Zarechye**	**0.59**	**200**	*e*Pg	Pg	17 18 42.9	0.0
ZRHB				*e*Sg	Sg	17 18 51.5	+0.7
ZRHB				Pmax			
	comp=N,117nm,0.2s						
ZRHB				Smax			
	comp=N,983nm,0.3s						
MXMB	**Maximikha**	**0.77**	**78**⇑	*i*Pg	Pg	17 18 45.1	-1.1
MXMB				*e*Sg	Sg	17 18 55.3	-1.1
MXMB				Pmax			
	comp=N,272nm,0.1s						
MXMB				Smax			
	comp=N,3μm,0.3s						
TRG	**Tyrgan**	**0.78**	**244**⇑	*i*Pg	Pg	17 18 45.2	-1.1
TRG				*e*Sg	Sg	17 18 55.6	-0.9
TRG				*e*Sb	Sb	17 19 00.4	+3.8
TRG				Pmax			
	comp=N,139nm,0.1s						
TRG				Smax			
	comp=N,2μm,0.2s						
TRG	**Tyrgan**	**0.78**	**244**	*e*PG	Pg	17 18 45.2	-1.1
TRG				*e*		17 18 55.6	
TRG				pmax	pmax		
	comp=Z,175nm,0.1s						
TRG				smax			
	comp=E,2μm,0.2s						
TRTB	**Turuntaevo**	**0.89**	**174**⇑	*i*Pg	Pg	17 18 47.2	-1.2
TRTB				*e*Sg	Sg	17 18 58.5	-1.5
TRTB				*e*Sb	Sb	17 19 01.3	+1.5
TRTB				Pmax			
	comp=E,210nm,0.3s						
TRTB				max			
	comp=E,1μm,0.2s						
FFNB	**Fofonovo**	**1.15**	**203**	*e*Pg	Pg	17 18 52.4	-1.1
FFNB				*e*Sg	Sg	17 19 07.5	-1.0
FFNB				Pmax			
	comp=E,470nm,0.1s						
FFNB				Smax			
	comp=E,3μm,0.2s						
KAB	**Kabansk**	**1.18**	**206**	*e*Pg	Pg	17 18 52.8	-1.1
KAB				*e*Sg	Sg	17 19 09.1	-0.2
KAB				Pmax			
	comp=E,128nm,0.1s						
KAB				Smax			
	comp=E,2μm,0.2s						
KAB	**Kabansk**	**1.18**	**206**	*e*PG	Pg	17 18 49.5	-4.4
HRMR	**Khuramsha**	**1.52**	**193**	*e*Sg	Sg	17 19 18.3	-1.9
HRMR				Smax			
	comp=E,2μm,0.2s						
SYVR	**Suvo**	**1.60**	**69**	*e*	Pn	17 18 58.5	-0.3
SYVR				*e*Pg	Pg	17 18 59.6	-2.4
SYVR				*e*Sg	Sg	17 19 20.9	-1.9
SYVR				Pmax			
	comp=E,54nm,0.2s						
SYVR				Smax			
	comp=E,519nm,0.3s						
SYVR	**Suvo**	**1.60**	**69**	*e*PN	Pn	17 18 58.8	0.0
SYVR				*e*		17 19 20.5	
SYVR				pmax	pmax		
	comp=Z,54nm,0.3s						
SYVR				smax			
	comp=E,500nm,0.3s						
BTMB	**Babushkin**	**1.74**	**216**	*e*Pn	Pn	17 19 00.6	-0.1
BTMB				*e*Pg	Pg	17 19 02.4	-2.2
BTMB				*e*Sg	Sg	17 19 24.5	-2.7
BTMB				Pmax			
	comp=E,38nm,0.2s						
BTMB				Smax			
	comp=E,406nm,0.8s						
LSTR	**Listvyanka**	**2.05**	**234**⇑	*i*Pn	Pn	17 19 05.4	+0.5
LSTR				*e*Pg	Pg	17 19 07.2	-3.3
LSTR				*e*Sn	Sn	17 19 30.9	+0.8
LSTR				*e*Sg	Sg	17 19 33.9	-3.2
LSTR				Pmax			
	comp=E,50nm,0.2s						
LSTR				Smax			
	comp=E,305nm,0.3s						
LSTR	**Listvyanka**	**2.05**	**234**	*e*PN	Pn	17 19 05.4	+0.5
LSTR				*e*		17 19 07.2	
LSTR				*e*S	Sn	17 19 30.1	0.0
LSTR				*e*		17 19 33.6	
LSTR				pmax	pmax		
	comp=Z,50nm,0.2s						
LSTR				smax			
	comp=N,416nm,0.5s						
IRK	**Irkutsk**	**2.14**	**247**	*e*Sg	Sg	17 19 37.0	-3.2
IRK				Smax			
	comp=N,1μm,0.2s						
IRK	**Irkutsk**	**2.14**	**247**	*e*PN	Pn	17 19 08.0	+1.7
IRK				*e*		17 19 35.8	
IRK				pmax	pmax		
	comp=Z,65nm,0.2s						
IRK				smax			
	comp=N,1μm,0.3s						
TLY	**Talaya**	**2.76**	**240**	*e*Pn	Pn	17 19 15.2	+0.5
TLY				*e*Sg	Sg	17 19 54.9	-4.9
TLY				Smax			
	comp=N,170nm,0.2s						
TLY	**Talaya**	**2.76**	**240**	*e*PN	Pn	17 19 15.1	+0.4
TLY				*e*		17 19 19.5	
TLY				*e*S	Sn	17 19 47.8	+0.1
TLY				*e*		17 19 54.8	
TLY				pmax	pmax		
	comp=Z,27nm,0.3s						
TLY				smax			
	comp=E,173nm,0.3s						
YLYR	**Ulyunkhan**	**2.80**	**49**⇑	*i*Pn	Pn	17 19 15.6	+0.3
YLYR				*e*Sg	Sg	17 19 57.4	-3.7
YLYR				Smax			
	comp=E,139nm,0.3s						
YLYR	**Ulyunkhan**	**2.80**	**49**	*e*PN	Pn	17 19 15.5	+0.2
YLYR				*e*		17 19 20.3	
YLYR				*e*S	Sn	17 19 49.5	+0.8
YLYR				*e*		17 19 57.2	
YLYR				pmax	pmax		
	comp=Z,21nm,0.3s						
YLYR				smax			
	comp=N,141nm,0.3s						
NIZ	**Nizh Angarsk**	**2.93**	**23**	*e*Sg	Sg	17 20 01.0	-4.2
NIZ				Smax			
	comp=N,110nm,0.2s						
NIZ	**Nizh Angarsk**	**2.93**	**23**	*e*PN	Pn	17 19 17.8	+0.7
NIZ				*e*		17 19 23.9	
NIZ				*e*		17 20 02.9	
NIZ				pmax	pmax		
	comp=Z,20nm,0.3s						
NIZ				smax			
	comp=N,103nm,0.7s						
ARS	**Arshan**	**3.32**	**251**	*e*PN	Pn	17 19 23.9	+1.5
ARS				*e*		17 19 31.1	
ARS				pmax	pmax		
	comp=Z,46nm,0.4s						
KMO	**Kumora**	**3.52**	**36**	*e*Pn	Pn	17 19 25.8	+0.5
KMO				*e*Pg	Pg	17 19 34.2	-4.5
KMO				*e*Sg	Sg	17 20 19.8	-4.6
KMO				Pmax			
	comp=Z,28nm,0.4s						
KMO				Smax			
	comp=Z,63nm,0.4s						
KMO	**Kumora**	**3.52**	**36**	*e*PN	Pn	17 19 25.1	-0.2
KMO				*e*		17 19 33.2	
KMO				*e*S	Sn	17 20 06.9	+0.3
KMO				*e*		17 20 19.1	
KMO				pmax	pmax		
	comp=Z,13nm,0.3s						
KMO				smax			
	comp=N,69nm,1.0s						
ZAK	**Zakamensk**	**3.78**	**225**	*e*Pn	Pn	17 19 29.9	+1.1
ZAK				*e*Sg	Sg	17 20 29.0	-3.7
ZAK				Smax			
	comp=N,55nm,0.3s						
CIT	**Chita**	**3.86**	**104**	*e*	Pn	17 19 28.8	-1.0
CIT				*e*Pg	Pg	17 19 40.2	-4.9
CIT				*e*		17 20 11.4	
CIT				*e*Sg	Sg	17 20 29.8	-5.2
CIT				Pmax			
	comp=N,51nm,0.5s						
CIT				Smax			
	comp=N,188nm,0.3s						
CIT	**Chita**	**3.86**	**104**	*e*PN	Pn	17 19 28.6	-1.2
CIT				*e*		17 19 40.7	
CIT				*e*S	Sn	17 20 14.6	-0.2
CIT				*e*		17 20 30.8	
CIT				pmax	pmax		
	comp=Z,55nm,1.0s						
CIT				smax			
	comp=N,286nm,1.4s						
MOY	**Mondy**	**4.23**	**253**	*e*Pn	Pn	17 19 37.6	+2.6
MOY				*e*Pg	Pg	17 19 46.1	-6.2
MOY				*e*		17 20 27.1	
MOY				*e*Sg	Sg	17 20 41.4	-5.8
MOY				Pmax			
	comp=N,14nm,0.3s						
MOY				Smax			
	comp=N,134nm,1.0s						
MOY	**Mondy**	**4.23**	**253**	*e*PN	Pn	17 19 46.1	+11
MOY				*e*		17 20 41.4	
MOY				pmax	pmax		
	comp=Z,15nm,0.4s						
MOY				smax			
	comp=E,128nm,0.8s						
UKT	**Uakit**	**4.31**	**54**	*e*Pn	Pn	17 19 37.2	+1.1
UKT				*e*Pg	Pg	17 19 48.8	-5.0
UKT				*e*Sg	Sg	17 20 44.7	-5.0
UKT				Pmax			
	comp=E,5.0nm,0.4s						
UKT				Smax			
	comp=E,52nm,0.8s						
KPC	**Khapcheranga**	**4.58**	**136**	*e*Pn	Pn	17 19 38.1	-1.7
KPC				*e*Sg	Sg	17 20 51.8	-6.5
KPC				Smax			
	comp=E,137nm,1.1s						
KPC	**Khapcheranga**	**4.58**	**136**	*e*PN	Pn	17 19 38.2	-1.6
KPC				*e*		17 19 51.5	
KPC				*e*		17 20 51.8	
KPC				pmax	pmax		
	comp=Z,21nm,0.3s						
KPC				smax			
	comp=N,150nm,1.5s						
ORL	**Orlik**	**4.69**	**266**	*e*Pn	Pn	17 19 44.0	+2.7
ORL				*e*Sn	Sn	17 20 37.2	+1.8
ORL				*e*Sg	Sg	17 20 56.6	-5.3
ORL				Smax			
	comp=N,142nm,1.3s						
ORL	**Orlik**	**4.69**	**266**	*e*PN	Pn	17 19 43.8	+2.5
ORL				*e*		17 19 56.5	
ORL				*e*		17 20 55.7	
ORL				pmax	pmax		
	comp=Z,14nm,0.8s						
ORL				smax			
	comp=N,143nm,1.4s						
BOD	**Bodaibo**	**6.00**	**36**	*e*Sg	Sg	17 21 36.3	-7.4
BOD				Smax			
	comp=N,18nm,0.4s						
TUP	**Tupik**	**7.50**	**75**	*e*Pn	Pn	17 20 19.2	-0.8
TUP				*e*		17 20 24.0	
TUP				*e*Sg	Sn	17 22 21.8	+37
TUP				Smax			
	comp=N,96nm,1.5s						
TUP	**Tupik**	**7.50**	**75**	*e*PN	Pn	17 20 19.4	-0.6
TUP				*e*		17 20 44.6	
TUP				*e*		17 22 21.7	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TUP				smax			
	comp=N,79nm,0.5s						

NEIC ***22*** *17:26:03.2, 17.17N×94.35W, h152km, MD3.9(MEX), After MEX.*

MEX 22 17:26:03.2±1.4, 1717N×9435W, h152km±14km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.51**	**262**	*i*P	Pn	17 26 23.7	-1.0
CMIG				*i*S	Sn	17 26 38.9	-2.2
HUIG	**Huatulco**	**2.18**	**231**	*i*P	Pn	17 26 37.9	-2.7
HUIG				*i*S	Sn	17 27 07.3	-1.9
OXX	**Oaxaca**	**2.27**	**268**	*i*P	Pn	17 26 41.0	-0.5
OXX				*i*S	Sn	17 27 10.5	-0.6
VHO	**Vista Hermosa**	**2.28**	**268**	*i*P	Pn	17 26 41.4	-0.3
VHO				*i*S	Sn	17 27 10.4	-0.9
TPIG	**Tehuac#an**	**3.12**	**294**	*i*S	Sn	17 27 27.0	-3.1
UTMO	**Huajuapan**	**3.36**	**282**	*i*P	Pn	17 26 54.6	-0.6
UTMO				*i*S	Sn	17 27 32.9	-2.5

IDC 22 17:26:46.3±1.1, 4670N×15376E, h36km±7km, mb3.5/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=33.4km s-min=25.3km az=24.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.36**	**298**	P	P	17 35 17.2	+0.6
	0.3nm,0.7s,baz=73,slow=6.8,SNR=2.9						
MKAR				pP	pP	17 35 27.9	+0.5
	0.2nm,0.5s,baz=74,slow=8.4,SNR=1.8						
BVAR	**Borovoye Array**	**51.23**	**310**	P	P	17 35 46.1	-0.2
	0.4nm,0.3s,baz=54,slow=8.2,SNR=7.2						
BVAR				pP	pP	17 35 57.3	+0.2
	0.8nm,0.5s,baz=49,slow=6.7,SNR=6.2						
FINES	**FINESS Array B**	**64.27**	**335**	P	P	17 37 15.8	-2.1
	2.7nm,1.0s,baz=39,slow=9.8,SNR=3.6						
FINES				pP	pP	17 37 26.6	-2.3
	0.8nm,0.7s,baz=41,slow=6.1,SNR=1.4						
ASAR	**Alice Springs**	**72.30**	**199**	P	P	17 38 07.5	-0.6
	0.3nm,0.6s,baz=16,slow=5.4,SNR=7.7						
TXAR	**Lajitas Array**	**77.13**	**61**	P	P	17 38 37.1	+1.1
	0.5nm,0.7s,baz=302,slow=2.8,SNR=4.6						
TXAR				pP	pP	17 38 47.9	+0.6
	0.3nm,0.6s,baz=325,slow=4.1,SNR=2.6						

IDC ***22*** *17:30:32.0±0.7, 4721N×15403E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/24, mbtmp4.0/13, ML3.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=22.1km s-min=17.5km az=122.0*

NEIC ***22*** *17:30:33.4±0.6, 4720N×154.14E, h10km, mb4.6/1, Error ellipse: s-maj=16.8km s-min=12.6km az=126.0*

MOS ***22*** *17:30:35.0±1.5, 4725N×15427E, h33km, mb4.3/10, Error ellipse: s-maj=17.7km s-min=13.5km az=70.0*

ISCJB ***22*** *17:30:36.1±1.8, 473N±0.1×1543E±0.1, h38km±14km, mb4.2/17, MS3.4/4, Error ellipse: s-maj=20.7km s-min=11.6km az=102.9*

ISC 22 17:30:38.5±1.5, 474N±01×1544E±01, h44km±12km, n47, σ1§13/45, mb4.2/17, MS3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.51**	**18**	*e*PN	**Pn**	**17 31 29.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.95**	**271**	*e*PN	**Pn**	**17 32 32.8**	**+1.4**
ASAJ	**Asahikawa**	**8.87**	**253**	Pn	**Pn**	**17 32 43.6**	**-0.4**
	0.7nm,0.3s,baz=81,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**8.87**	**253**	PN	**Pn**	**17 32 43.7**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.15**	**234**	Pn	**Pn**	**17 34 16.3**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=42,slow=14,SNR=4.3						
KSRS	**Korea Array**	**21.82**	**253**	P	**P**	**17 35 21.8**	**-5.2**
	comp=Z,2.1nm,0.7s,mb3.7,baz=63,slow=9.1,SNR=2.6						
KSRS				LR	LR	17 43 39.9	
	comp=Z,33nm,18.1s,MS2.8,baz=65,slow=36						
TLY	**Talaya**	**32.68**	**297**	*e*P	**P**	**17 37 12.1**	**+5.6**
TLY				*e*		17 42 24.4	
TLY				MLR	MLR		
	comp=Z,52nm,13.0s,MS3.4						
INK	**Inuvik**	**40.66**	**33**	P	**P**	**17 38 16.1**	**+1.7**
	comp=Z,1.9nm,0.7s,mb3.8,baz=268,slow=5.2,SNR=8.5						
INK	**Inuvik**	**40.66**	**33**	*e*P	**P**	**17 38 15.9**	**+1.5**
ZAL	**Zalesovo**	**42.98**	**306**	P	**P**	**17 38 31.4**	**-2.0**
	comp=Z,0.8nm,0.6s,mb3.6,baz=50,slow=10,SNR=4.9						
ZAL	**Zalesovo**	**42.98**	**306**	P	**P**	**17 38 31.4**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**47.44**	**297**	*e*P	**P**	**17 39 06.8**	**-1.9**
MKAR	**Makanchi Array**	**47.44**	**297**	P	**P**	**17 39 07.1**	**-1.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=66,slow=8.5,SNR=7.4						
MKAR	**Makanchi Array**	**47.44**	**297**	P	**P**	**17 39 07.1**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**17 39 28.9**	**+1.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=293,slow=7.0,SNR=7.2						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**17 39 28.9**	**+1.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.90**	**37**	P	**P**	**17 39 28.9**	**+1.3**
LSA	**Lhasa**	**51.12**	**274**	*e*P	**P**	**17 39 38.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.12**	**274**	*e*P	**P**	**17 39 38.1**	**+1.4**
	comp=Z,4.9nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**51.15**	**310**	P	**P**	**17 39 35.9**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=57,slow=7.6,SNR=9.0						
BVAR	**Borovoye Array**	**51.15**	**310**	P	**P**	**17 39 35.9**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JIRN	**Jiri**	**55.77**	**275**	*e*P	**P**	**17 40 11.7**	**+0.8**
	comp=Z,1.5nm,0.7s,mb5.1						
GUN	**Gumba**	**55.82**	**275**	*e*P	**P**	**17 40 12.9**	**+1.6**
KKN	**Kakani**	**56.30**	**276**	*e*P	**P**	**17 40 15.9**	**+1.2**
	comp=Z,6.4nm,0.6s,mb4.8						
PKI	**Pulchoki**	**56.36**	**275**	*e*P	**P**	**17 40 15.8**	**+0.7**
DMN	**Daman**	**56.54**	**276**	*e*P	**P**	**17 40 17.4**	**+1.0**
GKN	**Gorkha**	**56.60**	**276**	*e*P	**P**	**17 40 17.1**	**+0.3**
	comp=Z,13nm,0.7s,mb5.1						
KOLN	**Koldanda**	**57.45**	**277**	*e*P	**P**	**17 40 23.4**	**+0.6**
	comp=Z,9.9nm,0.8s,mb4.9						
FIA1	**FINESS Array S**	**63.85**	**335**	P	**P**	**17 41 06.2**	**-0.3**
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**17 41 05.8**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.1,baz=42,slow=7.3,SNR=13						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**17 41 05.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**17 41 05.8**	**-0.6**
NB2	**NORSAR Subarra**	**67.92**	**342**	P	**P**	**17 41 32.5**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**17 41 32.9**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.4,baz=26,slow=6.4,SNR=12						
NOA				LR	LR	18 16 21.1	
	comp=Z,31nm,19.6s,MS3.5,baz=235,slow=40						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**17 41 32.9**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,31nm,19.6s						
WRA	**Warramunga Arr**	**69.39**	**200**	P	**P**	**17 41 40.0**	**-1.7**
	comp=Z,1.3nm,0.9s,mb3.9,baz=18,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**69.39**	**200**	P	**P**	**17 41 40.0**	**-1.7**
WRA				pmax	pmax		

comp=Z,1.0nm,0.9s
AKASG **Malin Array Be** 71.52 327 P P 17 41 54.0 -0.7
comp=Z,1.2nm,0.5s,mb4.1,baz=33,slow=6.0,SNR=7.9
AKASG **Malin Array Be** 71.52 327 P P 17 41 54.0 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AS31 Alice Springs 73.08 200 *e*P P 17 42 02.8 -1.3
ASAR Alice Springs 73.08 200 P P 17 42 03.4 -0.6
comp=Z,1.7nm,0.6s,mb4.1,baz=12,slow=5.2,SNR=38
ASAR Alice Springs 73.08 200 P P 17 42 03.4 -0.6
ASAR pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 76.26 336 *e*P P 17 42 22.0 -0.5
TXAR Lajitas Array 76.43 62 P P 17 42 24.6 +1.2
comp=Z,0.9nm,0.7s,mb3.8,baz=308,slow=4.2,SNR=10
TXAR Lajitas Array 76.43 62 P P 17 42 24.6 +1.2
TXAR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.28 335 LR LR 18 19 01.6
comp=Z,50nm,20.9s,MS3.8,baz=282,slow=37
CFAA Coronel Fontan 144.02 80 PKP PKPdf 17 50 06.8 -2.3
comp=Z,0.4nm,0.8s,baz=291,slow=7.6,SNR=6.0

IDC 22 17:33:54.4±3.5, 5323N×3557W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/24, mbtmp3.8/3, Error ellipse: s-maj=105.6km s-min=49.8km az=10.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**44.69**	**328**	P	P	17 42 08.3	-0.8
	1.0nm,0.6s,baz=64,slow=6.0,SNR=4.6						
BVAR	**Borovoye Array**	**57.52**	**44**	P	P	17 43 45.1	-0.4
	0.7nm,0.7s,baz=306,slow=3.5,SNR=3.8						
MKAR	**Makanchi Array**	**67.19**	**41**	P	P	17 44 49.9	-0.5
	1.4nm,1.0s,baz=338,slow=5.2,SNR=4.4						
WRA	**Warramunga Arr**	**145.87**	**17**	PKPbc	PKPbc	17 53 34.9	-0.8
	0.8nm,0.7s,baz=343,slow=3.5,SNR=10.0						
ASAR	**Alice Springs**	**149.41**	**19**	PKPbc	PKPbc	17 53 44.5	-0.9
	0.7nm,0.8s,baz=355,slow=2.7,SNR=8.8						

IDC 22 17:43:53.4±1.3, 4669N×15557E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=44.4km s-min=36.1km az=76.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**52.20**	**310**	P	P	17 53 05.3	-0.6
	0.5nm,0.4s,baz=56,slow=7.8,SNR=6.4						
FINES	**FINESS Array B**	**64.80**	**336**	P	P	17 54 33.5	-0.3
	0.5nm,0.5s,baz=23,slow=7.5,SNR=4.2						
ASAR	**Alice Springs**	**72.72**	**201**	P	P	17 55 23.1	0.0
	0.2nm,0.6s,baz=14,slow=6.0,SNR=5.0						
TXAR	**Lajitas Array**	**76.04**	**62**	P	P	17 55 42.7	+0.1
	0.3nm,0.4s,baz=310,slow=6.4,SNR=3.8						

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*ISCJB **22** 18:04:00.5±0.7, 47.1N±0.1×156.0E±0.2, h29km, mb3.9/12, Error ellipse: s-maj=19.2km s-min=13.1km az=66.0*
*MOS **22** 18:04:00.8±1.1, 47.11N×155.80E, h33km, mb4.1/10, Error ellipse: s-maj=41.1km s-min=15.2km az=86.7*
*IDC **22** 18:04:02.7±0.8, 47.12N×155.90E, h30km±5km, mb3.7/11, mb1 3.9/11, mb1mx3.8/23, mbtmp3.7/11, Error ellipse: s-maj=21.5km s-min=16.1km az=151.0*
ISC 22 18:04:02.6±0.7, 472N±0.1×1559E±0.2, h31km, h31km±.9km:pP-P, n22, σ0.9/97/22, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.53**	**2**	*e*PN	Pn	18 04 57.0	+1.7
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
BILL	**Bilibino**	**21.60**	**11**	P	P	18 08 47.8	-2.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
KSRS	**Korea Array**	**22.76**	**255**	P	P	18 09 03.4	+1.1
	comp=Z,2.7nm,0.9s,mb3.7,baz=60,slow=9.9,SNR=4.3						
INK	**Inuvik**	**40.27**	**33**	P	P	18 11 37.1	+0.5
	comp=Z,1.3nm,0.5s,mb3.9,baz=285,slow=6.0,SNR=14						
INK				pP	pP	18 11 46.0	+0.1
	comp=Z,1.1nm,0.5s,baz=315,slow=8.4,SNR=3.1						
INK	**Inuvik**	**40.27**	**33**	P	P	18 11 37.2	+0.5
INK				*PP	pP	18 11 46.0	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.46**	**298**	P	P	18 12 42.4	+0.2
	comp=Z,0.6nm,0.7s,mb3.8,baz=64,slow=5.5,SNR=5.8						
MKAR	**Makanchi Array**	**48.46**	**298**	P	P	18 12 42.4	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.44**	**38**	P	P	18 12 49.0	-0.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=294,slow=7.1,SNR=8.0						
YKA	**Yellowknife Ar**	**49.44**	**38**	P	P	18 12 49.0	-0.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**52.08**	**310**	P	P	18 13 09.4	-0.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=56,slow=7.0,SNR=8.9						
BVAR				pP	pP	18 13 18.8	-0.2
	comp=Z,1.1nm,0.4s,baz=54,slow=8.0,SNR=6.1						
BVAR	**Borovoye Array**	**52.08**	**310**	P	P	18 13 09.4	-0.2
BVAR				*PP	pP	18 13 18.8	-0.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.09**	**342**	P	P	18 13 52.3	-0.7
	comp=Z,1.6nm,0.7s,mb4.2,baz=37,slow=6.7,SNR=6.9						
ARCES	**ARCESS Array B**	**58.09**	**342**	P	P	18 13 52.3	-0.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**62.94**	**56**	P	P	18 14 26.9	+0.9
	comp=Z,1.1nm,0.9s,mb4.0,baz=301,slow=2.8,SNR=7.6						
PDAR				pP	pP	18 14 36.0	+0.5
	comp=Z,0.9nm,0.8s,baz=338,slow=3.5,SNR=5.1						
FINES	**FINESS Array B**	**64.48**	**336**	P	P	18 14 35.3	-0.9
	comp=Z,1.0nm,0.6s,mb4.0,baz=41,slow=6.1,SNR=7.2						
FINES	**FINESS Array B**	**64.48**	**336**	P	P	18 14 35.3	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.56**	**202**	P	P	18 15 07.5	-1.0
	comp=Z,0.6nm,0.8s,mb3.6,baz=24,slow=6.8,SNR=4.7						
WRA	**Warramunga Arr**	**69.56**	**202**	P	P	18 15 07.5	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.24**	**201**	P	P	18 15 30.8	0.0
	comp=Z,0.6nm,0.9s,mb3.5,baz=19,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**73.24**	**201**	P	P	18 15 30.8	+0.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.60**	**62**	P	P	18 15 45.3	+0.9
	comp=Z,1.3nm,0.8s,mb3.9,baz=302,slow=4.8,SNR=15						
TXAR				pP	pP	18 15 54.0	-0.2
	comp=Z,1.2nm,0.7s,baz=299,slow=4.2,SNR=7.5						
TXAR	**Lajitas Array**	**75.60**	**62**	P	P	18 15 45.3	+0.9
TXAR				*PP	pP	18 15 54.0	-0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*MOS **22** 18:06:59.5±1.8, 40.13N×142.41E, h33km, mb4.1/11, Error ellipse: s-maj=16.5km s-min=9.4km az=85.3*
*ISCJB **22** 18:07:01.0±0.6, 40.12N±0.04×142.46E±0.07, h50km±5km, mb4.1/18, MS3.6/3, Error ellipse: s-maj=8.6km s-min=5.8km az=27.4*
*NIED **22** 18:07:00, 40.10N×142.50E, h38km, Mw4.3 Best double couple: M0 3.03000×10^15 NP1:φ=25.00000°, δ71.00000°, λ98.00000°. NP2:φ=183.00000°, δ21.00000°, λ69.00000°.*
*JMA **22** 18:07:00.8±0.1, 40.12N×142.46E, h35km±1km, M4.2*
JMA Felt I J1.
*BJI **22** 18:07:01.5, 40.17N×142.72E, h76km, mB4.7, mb4.3*
*NEIC **22** 18:07:03.7±0.9, 40.14N×142.46E, h59km±8km, mb4.6/1, MW4.3(NIED), Error ellipse: s-maj=13.8km s-min=8.0km az=118.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.
*IDC **22** 18:07:04.5±2.7, 4009N×14251E, h69km±23km, mb3.6/10, mb1 3.8/13, mb1mx3.6/25, mbtmp3.7/13, MS3.5/8, Ms1 3.5/8, ms1mx3.3/34, Error ellipse: s-maj=27.1km s-min=15.7km az=88.0*

ISC 22 18:07:02.1±0.7, 4012N±004×14243E±006, h43km±5km, n54, σ0.9/95/64, mb4.1/18, MS3.6/3, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.47**	**247**	⇓P	Pn	18 07 11.3	-1.3
JTH				S	Sn	18 07 19.1	-0.9
MIYJ	**Miyakonagasawa**	**0.72**	**221**	⇓P	Pn	18 07 14.5	-1.3
MIYJ				S	Sn	18 07 23.8	-1.9
JANG	**Nango**	**0.74**	**290**	⇓P	Pn	18 07 15.1	-1.0
JANG				S	Sn	18 07 25.1	-1.2
JKZ	**Kuzumaki**	**0.85**	**261**	⇓P	Pn	18 07 17.2	-0.5
JKZ				*e*S	Sn	18 07 29.2	+0.2
JOM	**Ohasama**	**1.09**	**234**	⇓P	Pn	18 07 20.6	-0.3
JOM				S	Sn	18 07 35.3	+0.5
OFUJ	**Ofunato**	**1.20**	**210**	⇓P	Pn	18 07 21.7	-0.6
OFUJ				*e*S	Sn	18 07 37.5	+0.1
JTM	**Tenmabayashi**	**1.23**	**303**	⇓P	Pn	18 07 22.7	-0.1
JTM				*e*S	Sn	18 07 38.9	+0.7
JAH	**Hinai**	**1.38**	**273**	⇓P	Pn	18 07 25.0	+0.2
JAH				S	Sn	18 07 43.0	+1.2
JMK	**Ichinoseki**	**1.50**	**219**	P	Pn	18 07 26.5	0.0
JMK				*e*S	Sn	18 07 45.9	+1.1
ERM	**Erimo**	**1.97**	**16**	*e*P	Pn	18 07 33.5	+0.6
ASAJ	**Asahikawa**	**3.99**	**2**	P	Pn	18 08 02.4	+1.6
	2.3nm,0.3s,baz=306,slow=33,SNR=12						
ASAJ				S	Sn	18 08 55.0	+8.7
	2.0nm,0.3s,baz=342,slow=19,SNR=4.8						
ASAJ				LR	LR	18 10 19.3	
	comp=Z,430nm,18.6s,baz=187,slow=48						
ASAJ	**Asahikawa**	**3.99**	**2**	P	Pn	18 08 02.4	+1.7
ASAJ				S	Sn	18 08 55.0	+8.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.67**	**32**	*e*P	Pn	18 08 10.3	+0.3
YUK				*e*S	Sn	18 08 58.6	-4.3
YUK				smax			
	comp=E,400nm,0.5s						
YUK				smax			
	comp=N,400nm,0.4s						
MAJO	**Matsushiro**	**4.88**	**224**	*e*P	Pn	18 08 15.2	+2.3
MAT	**Matsushiro**	**4.88**	**224**	P	Pn	18 08 15.5	+2.6
MJAR	**Matsushiro Arr**	**4.88**	**224**	P	Pn	18 08 15.6	+2.7
	comp=N,4.1nm,0.3s,baz=32,slow=14,SNR=49						
MJAR				LR	LR	18 10 11.7	
	comp=N,395nm,19.4s,baz=350,slow=38						
MJAR	**Matsushiro Arr**	**4.88**	**224**	P	Pn	18 08 15.6	+2.7
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,395nm,19.4s						
JNU	**Nakatsue**	**11.61**	**237**	LR	LR	18 14 16.0	
	comp=Z,313nm,18.1s,baz=265,slow=37						
KSRS	**Korea Array**	**11.63**	**261**	P	Pn	18 09 50.5	+5.0
	baz=68,slow=14,SNR=3.7						
KSRS				LR	LR	18 13 39.5	
	comp=Z,164nm,20.1s,baz=170,slow=34						
CBIJ	**Chichi jima**	**12.99**	**181**	LR	LR	18 14 55.9	
	comp=Z,90nm,20.6s,baz=167,slow=36						
HHC	**Hu-ho-hao-te**	**23.43**	**282**	*e*P	P	18 12 08.4	+0.9
HHC				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
HHC				AMB	AMB		
	comp=Z,124nm,5.2s						
BOD	**Bodaibo**	**25.43**	**324**	*e*P	P	18 12 24.5	-1.2
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0						
SONM	**Songino Array**	**26.86**	**299**	P	P	18 12 40.0	+1.3
	comp=Z,1.1nm,0.7s,mb3.5,baz=72,slow=8.5,SNR=3.9						
SONM	**Songino Array**	**26.86**	**299**	P	P	18 12 40.0	+1.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**29.10**	**304**	*e*P	P	18 12 57.3	-1.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZAL	**Zalesovo**	**40.50**	**310**	P	P	18 14 36.3	-0.5
	comp=Z,1.1nm,0.7s,mb3.6,baz=25,slow=8.3,SNR=5.2						
ZAL	**Zalesovo**	**40.50**	**310**	P	P	18 14 36.3	-0.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**43.22**	**300**	*e*P	P	18 14 58.1	-0.9
MKAR	**Makanchi Array**	**43.22**	**300**	P	P	18 14 58.7	-0.3
	comp=Z,0.8nm,0.6s,mb3.6,baz=82,slow=10,SNR=8.2						
MKAR				LR	LR	18 33 46.9	
	comp=Z,62nm,19.1s,MS3.5,baz=357,slow=37						
MKAR	**Makanchi Array**	**43.22**	**300**	P	P	18 14 58.7	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,62nm,19.2s						
MKAR	**Makanchi Array**	**43.22**	**300**	P	P	18 14 58.7	-0.3
MKAR				LR	LR	18 33 46.9	
IMA2	**Indian Mountai**	**43.63**	**32**	*e*P	P	18 15 02.8	+0.5
JIRN	**Jiri**	**47.59**	**273**	*e*P	P	18 15 34.4	+0.8
GUN	**Gumba**	**47.71**	**273**	*e*P	P	18 15 34.7	+0.3
	comp=Z,12nm,0.4s,mb5.3						
KKN	**Kakani**	**48.23**	**274**	*e*P	P	18 15 38.6	+0.1
	comp=Z,17nm,0.9s,mb5.1						
DMN	**Daman**	**48.45**	**274**	*e*P	P	18 15 40.1	-0.1
GKN	**Gorkha**	**48.61**	**274**	*e*P	P	18 15 42.4	+1.0
	comp=Z,4.4nm,0.4s,mb4.9						
BVAR	**Borovoye Array**	**49.13**	**311**	P	P	18 15 45.2	-0.2
	comp=Z,2.0nm,0.5s,mb4.5,baz=72,slow=9.1,SNR=16						
BVAR	**Borovoye Array**	**49.13**	**311**	P	P	18 15 45.2	-0.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KOLN	**Koldanda**	**49.52**	**275**	*e*P	P	18 15 48.6	+0.2
	comp=Z,3.5nm,0.6s,mb4.6						
INK	**Inuvik**	**51.29**	**28**	P	P	18 16 01.7	0.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=271,slow=5.9,SNR=6.0						
INK	**Inuvik**	**51.29**	**28**	P	P	18 16 01.7	0.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARU	**Arti**	**54.60**	**317**	*e*P	P	18 16 25.5	-0.7
WRA	**Warramunga Arr**	**60.23**	**189**	P	P	18 17 04.7	-1.1
	comp=Z,1.1nm,0.9s,mb3.9,baz=6.9,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**60.23**	**189**	P	P	18 17 04.7	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**63.95**	**189**	P	P	18 17 30.4	-0.4
	comp=Z,0.4nm,0.7s,mb3.5,baz=359,slow=6.7,SNR=8.9						
FINES	**FINESS Array B**	**66.46**	**332**	P	P	18 17 46.9	-0.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=52,slow=9.0,SNR=4.2						
FINES				LR	LR	18 49 49.3	
	comp=Z,57nm,18.9s,MS3.8,baz=10.0,slow=39						
FINES	**FINESS Array B**	**66.46**	**332**	P	P	18 17 46.9	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,57nm,18.9s						
HUMO	**Hull Mountain**	**67.21**	**53**	*e*P	P	18 17 51.6	-0.2
	comp=Z,5.6nm,0.8s,mb4.7						
NB2	**NORSAR Subarra**	**71.65**	**337**	P	P	18 18 18.3	-0.9
	comp=Z,0.2nm,0.7s,mb3.2,baz=43,slow=6.5						
NOA	**NORSAR Array B**	**71.65**	**337**	P	P	18 18 18.6	-0.6
	comp=Z,1.7nm,0.8s,mb4.0,baz=37,slow=6.0,SNR=5.8						
NOA				LR	LR	18 52 38.6	
	comp=Z,30nm,21.1s,MS3.5,baz=0.0,slow=38						
NOA	**NORSAR Array B**	**71.65**	**337**	P	P	18 18 18.6	-0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,30nm,21.1s						
AKASG	**Malin Array Be**	**72.35**	**322**	P	P	18 18 22.9	-0.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=5.8,SNR=6.0						
AKASG	**Malin Array Be**	**72.35**	**322**	P	P	18 18 22.9	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*NEIC **22** 18:12:17.9±1.5, 3022S×177.37W, h10km, mb4.4/3, Error ellipse: s-maj=31.2km s-min=19.6km az=111.0*
*IDC **22** 18:12:20.9±1.9, 2852S×178.20W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/11, mbtmp4.2/3, Error ellipse: s-maj=46.7km s-min=16.2km az=53.0*
*ISCJB **22** 18:12:26.5±5.2, 290S±0.6×177.6W±0.6, h90km±13km, mb4.2/5, Error ellipse: s-maj=122.9km s-min=35.0km az=76.2*

ISC 22 18:12:28.4±4.4, 291S±0.7×1776W±0.6, h88km±7km, n12, σ1.8/07/11, mb4.2/5, 3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.31**	**233**	Pn	Pn	18 12 39.2	-2.4
	318nm,0.3s,baz=65,slow=21,SNR=17						
RAO				Sn	Sn	18 12 52.0	+0.6
	2μm,0.3s,baz=41,slow=20,SNR=24						
CTA	**Charters Tower**	**33.92**	**277**	*e*P	P	18 19 05.7	+2.6
	2.9nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**35.11**	**255**	*e*P	P	18 19 12.4	-0.9
	1.9nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**35.11**	**255**	P	P	18 19 12.6	-0.7
	2.2nm,0.4s,mb4.3,baz=104,slow=9.8,SNR=6.8						
AS31	**Alice Springs**	**43.51**	**265**	⇓*i*P	P	18 20 22.8	-0.4
ASAR	**Alice Springs**	**43.51**	**265**	P	P	18 20 22.6	-0.6
	1.3nm,0.6s,mb3.9,baz=105,slow=7.6,SNR=38						
ASPA	**Alice Springs**	**43.52**	**265**	⇓*i*P	P	18 20 22.8	-0.4
WB2	**Warramunga Arr**	**44.37**	**271**	⇓*i*P	P	18 20 30.5	+0.5
WRA	**Warramunga Arr**	**44.38**	**271**	P	P	18 20 29.9	-0.2
	3.0nm,0.7s,mb4.2,baz=111,slow=7.8,SNR=33						
QSPA	**South Pole Qui**	**61.04**	**180**	*e*P	P	18 22 33.5	+0.6
	6.6nm,1.1s,mb4.6						
FINES	**FINESS Array B**	**144.00**	**341**	PKP	PKPdf	18 31 54.8	+1.1
	3.7nm,0.6s,baz=62,slow=2.7,SNR=26						
AKASG	**Malin Array Be**	**150.42**	**324**	PKPbc	PKPbc	18 32 11.7	+2.0
	1.2nm,0.5s,baz=48,slow=3.0,SNR=7.3						

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*NEIC **22** 18:16:13.3, 1670N×9956W, h10km, MD3.9(MEX), After MEX.*

MEX 22 18:16:13.3±1.2, 1669N×9956W, h10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.38**	**297**	*i*P	Pg	18 16 19.5	-1.3
ACX				*i*S	Sg	18 16 25.0	-0.9
CAIG	**El Cayaco**	**0.76**	**298**	*i*P	Pg	18 16 26.8	-1.3
CAIG				*i*S	Sg	18 16 38.0	0.0
MEIG	**Mezcala**	**1.23**	**357**	*i*P	Pn	18 16 32.6	-3.8
MEIG				*i*S	Sb	18 16 48.3	-4.2
PNIG	**Pinotepa**	**1.41**	**102**	*i*P	Pn	18 16 35.7	-3.2
PNIG				*i*S	Sn	18 16 52.3	-5.3
PLIG	**Platanillo**	**1.69**	**2**	*i*P	Pn	18 16 40.0	-2.8
PLIG				*i*S	Sn	18 17 00.6	-3.9
PLIG	**Platanillo**	**1.69**	**2**	*i*P	Pn	18 16 40.0	-2.8
PLIG				*i*S	Sn	18 17 02.3	-2.3
UTMO	**Huajuapan**	**2.02**	**56**	*e*P	Pn	18 16 43.1	-4.3
UTMO				*i*S	Sn	18 17 07.6	-5.2
TPIG	**Tehuac#an**	**2.71**	**50**	*i*P	Pn	18 16 54.9	-2.0
TPIG				*i*S	Sn	18 17 25.7	-4.0
OXX	**Oaxaca**	**2.74**	**82**	*e*P	Pn	18 16 56.0	-1.3
IIO	**Organos**	**2.99**	**15**	*i*P	Pn	18 17 05.1	+4.4
IIO				*i*S	Sn	18 17 42.3	+5.7

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*LDG **22** 18:19:23.4±0.1, 4305N×004E, h8km, Md2.4/3, Ml2.3/10, Error ellipse: s-maj=1.1km s-min=1.1km az=150.0*
*STR **22** 18:19:23.0±0.1, 4302N×001W, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 18:19:23.5±0.3, 4302N×001E, h7km±4km, mbLg1.8/12, 1C, Error ellipse: s-maj=2.5km s-min=1.7km az=30.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**60**	Pg	Pg	18 19 25.2	+0.1
LABF				Sg	Sg	18 19 26.5	+0.2
LABF	**Labassere**	**0.05**	**60**	Pg	Pg	18 19 25.2	0.0
LABF				Lg		18 19 26.6	
VIEF	**Viey**	**0.14**	**176**	Pg	Pg	18 19 26.3	-0.2
VIEF	**Viey**	**0.14**	**176**	Pg	Pg	18 19 26.4	-0.1
VIEF				Lg		18 19 28.5	
REYF	**Montagne du Re**	**0.30**	**279**	Pg	Pg	18 19 28.7	-0.7
REYF				Lg		18 19 33.2	
RESF	**Ens**	**0.32**	**132**	Pg	Pg	18 19 29.7	-0.1
RESF				Sg	Sg	18 19 34.6	+0.5
RESF	**Ens**	**0.32**	**132**	Pg	Pg	18 19 29.6	-0.2
RESF				Lg		18 19 34.3	
EBIE	**Bielsa**	**0.35**	**164**	⇑Pg	Pg	18 19 30.0	-0.3
	3.2nm,0.2s,SNR=18						
EBIE				Lg		18 19 34.7	
	45nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.53**	**277**	Pg	Pg	18 19 32.8	-0.9
ATE				Lg		18 19 40.6	
MELF	**Melles**	**0.57**	**105**	Pg	Pg	18 19 34.0	-0.5
MELF				Lg		18 19 42.1	
SALF	**Salau**	**0.90**	**106**	Pg	Pg	18 19 40.2	-0.7
SALF				Lg		18 19 52.2	
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	Pg	18 19 41.0	0.0
SJPF				*e*Sg	Sg	18 19 53.1	+0.2
	6.9nm,0.4s						
SJPF	**Ste Jean**	**0.91**	**276**	Pg	Pg	18 19 41.0	0.0
SJPF				Lg		18 19 53.1	
	3.5nm,0.4s						
ELIZ	**Elizondo**	**1.14**	**278**	Pg	Pg	18 19 47.0	+1.6
	1.0nm,0.2s,SNR=7.9						
ELIZ				Lg		18 20 02.1	
	2.3nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**267**	Pg	Pg	18 19 47.1	+1.6
	1.9nm,0.2s,SNR=7.9						
IUSE				Lg		18 20 01.4	
	2.5nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	Pg	18 19 49.5	+0.1
	5.3nm,0.1s,SNR=7.9						
ESAC				Lg		18 20 07.7	
	69nm,0.3s,SNR=124						
EMIR	**Miracle**	**1.57**	**134**	Pg	Pg	18 19 53.6	-0.1
	SNR=7.9						
EMIR				Lg		18 20 14.2	
	4.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	18 19 53.8	-1.3
MTLF				*e*Sg	Sg	18 20 14.6	-1.8
	5.4nm,0.3s						
MTLF	**Montolieu**	**1.65**	**78**	Pg	Pg	18 19 53.8	-1.3
MTLF				Lg		18 20 14.6	
	2.7nm,0.3s						
EPOB	**Poblet**	**1.85**	**154**	Pg	Pg	18 19 57.5	-1.4
	0.7nm,0.1s,SNR=7.9						
EPOB				Lg		18 20 21.3	
	2.2nm,0.2s,SNR=7.9						
LFF

TCF	**Toulx Ste Croi**	**3.62**	**25**	Pg	Pg	18 20 29.8	-3.2
TCF				Lg		18 21 15.8	
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.83**	**60**	*e*Pg	Pg	18 20 33.9	-3.1
VIVF				*e*Sg	Sg	18 21 22.8	-3.9
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.83**	**60**	Pg	Pg	18 20 33.9	-3.1
VIVF				Lg		18 21 22.8	
	0.4nm,0.3s						

IDC ***22*** *18:43:16.6±0.8,2238S×176.16W,h0km,mb4.0/7, mb1 4.3/8,mb1mx4.2/15,mbtmp4.0/8,ML4.5/1,MS3.8/8, Ms1 3.8/8,ms1mx3.3/34,Error ellipse: s-maj=38.4km s-min=19.5km az=146.0*

ISCJB ***22*** *18:43:20.4±0.6,226S±0.1×1762W±0.1,h35km,mb4.2/9, MS3.8/8,Error ellipse: s-maj=18.8km s-min=13.4km az=108.4*

NEIC ***22*** *18:43:21.1±0.4,2249S×176.16W,h30km,mb4.6/3,Error ellipse: s-maj=15.7km s-min=9.8km az=134.0*

ISC 22 18:43:22.0±0.6,226S±01×1761W±01,h35km,n42, σ0§65/17,mb4.2/9,MS3.8/8,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.56**	**26**	Pn	**Pn**	**18 45 30.3**	**-6.8**
	17nm,0.3s,baz=29,slow=2.9,SNR=21						
AFI				LR	LR	18 48 17.1	
	comp=Z,47nm,20.9s,baz=123,slow=32						
URZ	**Urewera**	**16.67**	**199**	Pn	**Pn**	**18 47 11.9**	**-0.9**
	1.7nm,0.3s,baz=342,slow=5.0,SNR=7.2						
RPZ	**Rata Peaks**	**23.59**	**204**	LR	LR	18 56 57.3	
	comp=Z,418nm,19.6s,MS3.9,baz=279,slow=34						
TBI	**Tubuai**	**24.54**	**97**	*e*LQ		18 53 16.5	
	377nm,28.0s						
TBI	**Tubuai**	**24.54**	**97**	*e*T		19 13 10.2	
	33nm,0.3s						
PAE	**Paea**	**25.37**	**84**	*e*T		19 14 00.5	
	547nm,0.3s						
PPT	**Papeete**	**25.40**	**83**	*e*LQ		18 53 35.3	
	394nm,25.0s						
PPT				*e*LR	LR	18 54 49.9	
	174nm,25.2s,baz=273						
PPT	**Papeete**	**25.40**	**83**	*e*T		19 13 56.6	
	80nm,0.3s						
PPT				*e*T		19 14 02.8	
	68nm,0.4s						
PPT	**Papeete**	**25.40**	**83**	LR	LR	18 55 18.5	
	comp=Z,129nm,19.7s,MS3.5,baz=260,slow=28						
TVO	**Taravao**	**25.64**	**84**	*e*T		19 14 21.4	
	45nm,0.4s						
VAH	**Vaihoa**	**27.89**	**80**	*e*T		19 17 05.5	
	13nm,0.3s						
RKT	**Rikitea**	**37.82**	**99**	*e*T		19 29 47.1	
	5.8nm,0.2s						
STKA	**Stephens Creek**	**38.53**	**247**	*e*P	**P**	**18 50 42.1**	**+1.1**
	4.6nm,1.5s,mb4.0						
STKA	**Stephens Creek**	**38.53**	**247**	P	**P**	**18 50 41.1**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=78,slow=12,SNR=7.3						
STKA				LR	LR	19 04 57.2	
	comp=Z,95nm,18.7s,MS3.6,baz=187,slow=34						
AS31	**Alice Springs**	**45.79**	**258**	*e*P	**P**	**18 51 39.8**	**-0.4**
ASAR	**Alice Springs**	**45.79**	**258**	P	**P**	**18 51 40.3**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=96,slow=7.1,SNR=35						
ASAR				LR	LR	19 09 13.6	
	comp=Z,84nm,18.5s,MS3.7,baz=287,slow=34						
ASPA	**Alice Springs**	**45.79**	**258**	*e*P	**P**	**18 51 40.4**	**+0.2**
WB2	**Warramunga Arr**	**46.08**	**264**	*e*P	**P**	**18 51 42.3**	**-0.2**
WRA	**Warramunga Arr**	**46.09**	**264**	P	**P**	**18 51 42.6**	**0.0**
	0.4nm,0.3s,mb3.8,baz=90,slow=6.1,SNR=35						
VNDA	**Vanda**	**56.00**	**186**	P	**P**	**18 52 58.5**	**+1.5**
	0.8nm,0.9s,mb3.7,baz=18,slow=9.6,SNR=4.5						
QSPA	**South Pole Qui**	**67.49**	**180**	*e*P	**P**	**18 54 15.2**	**+0.9**
	5.4nm,0.2s,mb5.2						
KSRS	**Korea Array**	**79.61**	**318**	LR	LR	19 24 54.8	
	comp=Z,22nm,19.1s,MS3.5,baz=60,slow=31						
MAW	**Mawson**	**80.19**	**199**	LR	LR	19 27 39.5	
	comp=Z,76nm,19.1s,MS4.1,baz=244,slow=33						
YBH	**Yreka Blue Hor**	**80.84**	**37**	LR	LR	19 22 13.1	
	comp=Z,112nm,19.5s,MS4.2,baz=73,slow=29						
NVAR	**Mina Array Bea**	**81.36**	**42**	P	**P**	**18 55 34.7**	**-0.2**
	1.3nm,0.6s,mb4.0,baz=225,slow=9.8,SNR=9.0						
VNA3	**Neumayer Olymp**	**85.94**	**176**	*e*	**P**	**18 55 57.6**	**-0.9**
VNA3				*e*	pP	18 56 05.2	-4.3
VNA3				*e*	pP	18 56 09.8	+0.3
VNA3				*e*		18 56 13.5	
VNA2	**Neumayer--Watz**	**86.40**	**176**	*e*	**P**	**18 56 00.1**	**-0.6**
VNA2				*e*	pP	18 56 08.2	-3.6
VNA2				*e*	pP	18 56 12.9	+1.1
VNA2				*e*		18 56 16.6	
TXAR	**Lajitas Array**	**86.72**	**56**	P	**P**	**18 56 02.8**	**+0.5**
	1.8nm,0.8s,mb4.4,baz=212,slow=7.9,SNR=18						
SRU	**San Rafael**	**86.72**	**45**	*e*P	**P**	**18 56 02.5**	**+0.2**
	3.2nm,0.8s,mb4.6						
NEW	**Newport**	**88.05**	**35**	LR	LR	19 29 48.0	
	comp=Z,73nm,18.7s,MS4.1,baz=1.5,slow=32						
PDAR	**Pinedale Array**	**89.29**	**43**	P	**P**	**18 56 13.8**	**-0.7**
	1.0nm,0.9s,mb4.2,baz=208,slow=2.9,SNR=7.2						
MKAR	**Makanchi Array**	**113.91**	**313**	PKiKP	PKiKP	19 01 56.5	-0.6
	0.4nm,0.7s,baz=95,slow=3.3,SNR=4.5						
ARCES	**ARCESS Array B**	**131.28**	**350**	PKP	PKPdf	19 02 29.9	-0.5
	1.4nm,0.7s,baz=357,slow=1.9,SNR=6.4						
FINES	**FINESS Array B**	**138.26**	**344**	PKP	PKPdf	19 02 43.0	-0.5
	0.6nm,0.5s,baz=62,slow=0.4,SNR=4.4						
FINES	**FINESS Array B**	**138.26**	**344**	PKP	PKPdf	19 02 43.0	-0.5
AKASG	**Malin Array Be**	**145.69**	**331**	PKPbc	PKPbc	19 02 55.7	-1.3
	4.1nm,0.6s,baz=42,slow=4.4,SNR=24						
AKBB	**Malin Array Si**	**145.69**	**331**	*e*PKPdf	PKPdf	19 02 55.3	-1.3
BRTR	**Keskin Array B**	**149.54**	**311**	PKPbc	PKPbc	19 03 07.7	+0.1
	0.8nm,0.7s,baz=148,slow=8.0,SNR=4.4						
CLL	**Collm**	**150.47**	**348**	*e*PKPbc	PKPbc	19 03 09.0	-0.8
CLL				*e*PKPab	PKPab	19 03 17.0	+0.5
BRG	**Berggiesshubel**	**150.70**	**347**	*e*P	PKPdf	19 03 10.2	+5.3
	3.9nm,1.0s						
BRG				*e*		19 03 18.1	
	2.6nm,0.8s						
KHC	**Kasperske Hory**	**152.42**	**346⇑**	*e*PKP	PKPdf	19 03 14.0	+6.5
KHC				*e*PKPAB	PKPab	19 03 22.0	-2.6
GERES	**GERESS Array B**	**152.67**	**346**	PKPbc	PKPbc	19 03 14.5	-0.3
	0.7nm,0.6s,baz=46,slow=3.9,SNR=6.5						

ISCJB ***22*** *18:43:24.0±0.2,4173N±002×2234E±002,h1km,Error ellipse: s-maj=2.3km s-min=2.0km az=133.0*

NEIC ***22*** *18:43:24.6,4179N×2237E,h8km,MD3.1(SOF), MD3.7(ATH),After SOF.*

SKO ***22*** *18:43:24.0,4173N×2234E,h15km,M2.8,ML3.1*

SOF ***22*** *18:43:24.6,4179N×2237E,h8km,MD3.1*

ATH ***22*** *18:43:24.0,4183N×2224E,h28km±27km,MD3.7/7*

CSEM ***22*** *18:43:24.5±0.1,4175N×2232E,h5km,ML3.5,Error ellipse: s-maj=1.4km s-min=1.2km az=54.0*

THE ***22*** *18:43:25.0,4172N×2233E,h1km,ML3.5*

ISC 22 18:43:24.9±0.3,4172N±002×2234E±002,h0km±3km,n78, σ0§93/115,10C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.12**	**260**	*e*Pg	**Pg**	**18 43 27.2**	**0.0**
STIP	**Stip**	**0.12**	**260**	*e*Pg	**Pg**	**18 43 27.2**	**0.0**
STIP				*e*Sg	**Sg**	**18 43 29.5**	**+0.8**
STIP				*e*Lg		18 43 29.6	
	comp=E,4μm,0.2s						
STIP				*e*Lg		18 43 29.7	
	comp=N,4μm,0.3s						
STIP	**Stip**	**0.12**	**260**	*e*Pg	**Pg**	**18 43 27.2**	**0.0**
STIP				*e*Sg	**Sg**	**18 43 29.5**	**+0.8**
STIP				*e*Lg		18 43 29.6	
	comp=N,4μm,0.2s						
VAY	**Valandovo**	**0.43**	**156**	*e*Pg	**Pg**	**18 43 33.3**	**+0.2**
VAY				*e*Sg	**Sg**	**18 43 39.0**	**+0.4**
VAY	**Valandovo**	**0.43**	**156**	*e*Pg	**Pg**	**18 43 33.3**	**+0.2**
VAY				*e*Sg	**Sg**	**18 43 39.1**	**+0.5**
VAY				*e*Lg		18 43 39.5	
	comp=E,5μm,0.4s						
VAY				*e*Lg		18 43 39.8	
	comp=N,3μm,0.3s						
VAY	**Valandovo**	**0.43**	**156**	*e*Pg	**Pg**	**18 43 33.3**	**+0.2**
VAY				*e*Sg	**Sg**	**18 43 39.1**	**+0.4**
KKB	**Krupnik**	**0.57**	**74**	*i* Pg	**Pg**	**18 43 36.9**	**+1.0**
KKB				*i* Sg	**Sg**	**18 43 44.5**	**+1.1**
KNT	**Kendrikon**	**0.69**	**143**	*e*Pg	**Pg**	**18 43 38.4**	**+0.2**
KNT				*e*Sg	**Sg**	**18 43 48.1**	**+0.9**
SKO	**Skopje**	**0.72**	**291**	*e*Pg	**Pg**	**18 43 37.6**	**-1.1**
SKO	**Skopje**	**0.72**	**291**	*e*Pg	**Pg**	**18 43 38.8**	**0.0**
SKO				*e*Sg	**Sg**	**18 43 48.4**	**+0.4**
SKO				*e*Lg		18 43 48.7	
	comp=E,219nm,0.3s						
SKO				*e*Lg		18 43 49.5	
	comp=N,320nm,0.4s						
SKO	**Skopje**	**0.72**	**291**	*e*Pg	**Pg**	**18 43 37.6**	**-1.1**
SKO				*e*Sg	**Sg**	**18 43 48.4**	**+0.3**
GRG	**Griva**	**0.76**	**177**	*e*Pg	**Pg**	**18 43 39.3**	**-0.2**
KRUS	**Krusevo**	**0.89**	**248**	*e*Pg	**Pg**	**18 43 42.4**	**+0.4**
KRUS				*e*Sg	**Sg**	**18 43 54.2**	**+0.6**
KRUS	**Krusevo**	**0.89**	**248**	*e*Pg	**Pg**	**18 43 42.4**	**+0.4**
KRUS				*e*Sg	**Sg**	**18 43 54.1**	**+0.6**
BIA	**Bitola**	**1.03**	**228**	*e*Pg	**Pg**	**18 43 44.2**	**-0.5**
BIA				*e*Sg	**Sg**	**18 43 58.7**	**+0.6**
BIA	**Bitola**	**1.03**	**228**	*e*Pg	**Pg**	**18 43 44.1**	**-0.6**
BIA				*e*Sg	**Sg**	**18 43 58.3**	**+0.2**
BIA				*e*Lg		18 43 58.6	
	comp=E,310nm,0.3s						
BIA				*e*Lg		18 43 58.7	
	comp=N,334nm,0.4s						
BIA	**Bitola**	**1.03**	**228**	*e*Pg	**Pg**	**18 43 44.1**	**-0.6**
BIA				*e*Sg	**Sg**	**18 43 58.7**	**+0.5**
MMB	**Musomiste**	**1.05**	**96**	*i* Pg	**Pg**	**18 43 45.4**	**+0.5**
MMB				*i* Sg	**Sg**	**18 43 59.6**	**+1.1**
VTS	**Vitosha**	**1.09**	**36**	*e*Pg	**Pg**	**18 43 45.3**	**-0.4**
VTS				*e*Sg	**Sg**	**18 44 00.3**	**+0.4**
VTS	**Vitosha**	**1.09**	**36**	*i* Pg	**Pg**	**18 43 45.2**	**-0.5**
VTS				*i* Sg	**Sg**	**18 43 59.3**	**-0.5**
VTS	**Vitosha**	**1.09**	**36⇑**	*i*P	**Pg**	**18 43 45.1**	**-0.6**
VTS	**Vitosha**	**1.09**	**36**	*e*Pg	**Pg**	**18 43 45.3**	**-0.4**
VTS				*e*Sg	**Sg**	**18 44 00.3**	**+0.5**
SRS	**Serrai**	**1.11**	**122**	*e*Pg	**Pg**	**18 43 45.8**	**-0.5**
BARS	**Barje**	**1.17**	**341**	*i* Pg	**Pg**	**18 43 46.6**	**-0.7**
BARS				Sg	**Sg**	**18 44 01.6**	**-0.8**
SOH	**Sokhos**	**1.17**	**139**	*e*Pg	**Pg**	**18 43 47.1**	**-0.3**
SOH				*e*Sg	**Sg**	**18 44 03.8**	**+1.1**
SOH	**Sokhos**	**1.17**	**139**	P	**Pg**	**18 43 47.9**	**+0.5**
SOH				Sg	**Sg**	**18 44 03.2**	**+0.6**
THE	**Thessaloniki**	**1.18**	**156**	*e*Pg	**Pg**	**18 43 46.7**	**-0.8**
FNA	**Florina**	**1.18**	**218**	*e*Pg	**Pg**	**18 43 47.5**	**0.0**
FNA				*e*Sg	**Sg**	**18 44 03.8**	**+0.9**
NVR	**Nevrokopi**	**1.20**	**107**	*e*PN	**Pn**	**18 43 49.2**	**+0.4**
NVR				*e*SN	**Sn**	**18 44 05.3**	**-0.5**
SOF	**Sofiya**	**1.22**	**37**	P	**Pg**	**18 43 49.1**	**+0.9**
SOF				S	**Sg**	**18 44 03.9**	**-0.1**
HORT	**Hortiatis**	**1.25**	**153**	*e*Pg	**Pg**	**18 43 48.2**	**-0.7**
HORT	**Hortiatis**	**1.25**	**153**	*e*Pg	**Pg**	**18 43 48.2**	**-0.7**
OHR	**Ohrid**	**1.31**	**243**	*e*Pg	**Pg**	**18 43 49.4**	**-0.6**
OHR				*e*Sg	**Sg**	**18 44 06.9**	**-0.1**
OHR	**Ohrid**	**1.31**	**243**	*e*Pg	**Pg**	**18 43 49.2**	**-0.8**
OHR				*e*Sg	**Sg**	**18 44 06.8**	**-0.1**
OHR				*e*Lg		18 44 07.6	
	comp=E,438nm,0.5s						
OHR				*e*Lg		18 44 07.8	
	comp=N,314nm,0.7s						
OHR	**Ohrid**	**1.31**	**243**	*e*Pg	**Pg**	**18 43 49.1**	**-0.9**
OHR				*e*Sg	**Sg**	**18 44 06.8**	**-0.1**
KZN	**Kozani**	**1.47**	**197**	*e*PN	**Pn**	**18 43 51.8**	**-0.8**
PLG	**Polygyros**	**1.58**	**148**	*e*Pg	**Pn**	**18 43 53.5**	**-0.5**
PLG	**Polygyros**	**1.58**	**148**	*e*PB	**Pn**	**18 43 53.9**	**-0.2**
PLG				*e*SN	**Sn**	**18 44 16.0**	**+0.8**
PLG	**Polygyros**	**1.58**	**148**	*e*Pg	**Pn**	**18 43 53.5**	**-0.6**
PLG	**Polygyros**	**1.58**	**148**	*e*Pb	**Pn**	**18 43 53.9**	**-0.2**
PLG				*e*Sn	**Sn**	**18 44 16.0**	**+0.8**
PGB	**Panagyurishte**	**1.59**	**58**	*i* Pg	**Pg**	**18 43 54.2**	**-1.2**
PGB				*i* Sg	**Sg**	**18 44 14.4**	**-1.7**
LIT	**Litokhoron**	**1.62**	**176**	*e*Pg	**Pn**	**18 43 54.1**	**-0.5**
RZN	**Rozhen**	**1.78**	**90**	*i* P	**Pn**	**18 43 56.9**	**+0.1**
RZN				Sg	**Sg**	**18 44 21.7**	**-0.3**
PLD	**Plovdiv**	**1.81**	**77**	*e*Pb	**Pb**	**18 43 57.7**	**-1.1**
PLD				*e*Sb	**Sb**	**18 44 21.2**	**-0.7**
PLD	**Plovdiv**	**1.81**	**77**	P	**Pn**	**18 43 58.0**	**+0.8**
PLD				Sg	**Sg**	**18 44 23.7**	**+0.8**
OUR	**Ouranopolis**	**1.85**	**137**	*e*Pb	**Pn**	**18 43 57.0**	**-0.8**
THL	**Klokotos Trika**	**2.16**	**187**	*e*PN	**Pn**	**18 44 01.6**	**-0.5**
DIM	**Dimitrovgrad**	**2.41**	**81**	P	**Pg**	**18 44 10.3**	**-0.7**
DIM				*i* Sg	**Sg**	**18 44 42.6**	**+0.4**
XOR	**Xorichti**	**2.43**	**164**	*e*Pn	**Pn**	**18 44 05.1**	**-0.7**
RDO	**Rodhopi**	**2.47**	**102**	*e*PN	**Pn**	**18 44 06.3**	**0.0**
RDO	**Rodhopi**	**2.47**	**102**	*e*Pn	**Pn**	**18 44 06.0**	**-0.3**
RDO				*e*Pn	**Pn**	**18 44 06.3**	**0.0**
GRUS	**Gruza**	**2.48**	**332**	*i* Pn	**Pn**	**18 44 07.4**	**+0.9**
NEO	**Neokhori**	**2.50**	**164**	*e*PN	**Pn**	**18 44 05.9**	**-0.8**
NEO	**Neokhori**	**2.50**	**164**	*e*PN	**Pn**	**18 44 05.7**	**-1.0**
NEO	**Neokhori**	**2.50**	**164**	*e*Pn	**Pn**	**18 44 05.7**	**-1.0**
NEO				*e*Pn	**Pn**	**18 44 05.9**	**-0.8**
AGG	**Agios Georgios**	**2.69**	**180**	*e*Pn	**Pn**	**18 44 09.0**	**-0.4**
SVIS	**Svilajnac**	**2.71**	**343**	*i* Pn	**Pn**	**18 44 11.5**	**+1.9**
EVR	**Evrytania**	**2.83**	**188**	*e*PB	**Pb**	**18 44 13.1**	**-3.1**
ALLA	**Alexandroupoli**	**2.91**	**105**	*e*Pn	**Pn**	**18 44 12.7**	**-0.3**
DIVS	**Divcibare**	**2.94**	**325**	*e*Pn	**Pn**	**18 44 11.6**	**-1.3**
DIVS	**Divcibare**	**2.94**	**325**	*e*Pn	**Pn**	**18 44 11.6**	**-1.2**
SZH	**Strazhica**	**3.08**	**59**	*i* P	**Pn**	**18 44 17.0**	**+2.3**
SZH				*i* S	**Sg**	**18 45 02.5**	**-1.2**
BZS	**Buzias**	**3.94**	**353⇓**	*i*P	**Pn**	**18 44 24.7**	**-1.8**
BZS	**Buzias**	**3.94**	**353⇓**	P	**Pn**	**18 44 24.7**	**-1.8**
MLR	**Muntele Rosu**	**4.59**	**34⇓**	*i*P	**Pn**	**18 44 38.2**	**+2.7**
MLR	**Muntele Rosu**	**4.59**	**34⇓**	P	**Pn**	**18 44 38.2**	**+2.7**
DRGR		**5.08**	**3⇑**	*i*P	**Pn**	**18 44 43.7**	**+1.5**
DRGR		**5.08**	**3**	⇑P	**Pn**	**18 44 43.7**	**+1.4**
PLOR	**Plostina**	**5.18**	**36⇓**	*i*P	**Pn**	**18 44 44.3**	**+0.7**
VRI	**Vrincioaia**	**5.22**	**36⇑**	*i*P	**Pn**	**18 44 45.0**	**+0.8**
VRI	**Vrincioaia**	**5.22**	**36**	⇑P	**Pn**	**18 44 45.0**	**+0.8**
PKSM	**Moragy**	**5.23**	**331⇑**	*i*P	**Pn**	**18 44 43.5**	**-0.8**
PKSM	**Moragy**	**5.23**	**331**	⇑P	**Pn**	**18 44 43.5**	**-0.8**
CFR	**Carcaliu**	**5.46**	**49⇑**	*i*P	**Pn**	**18 44 45.1**	**-2.3**
BURAR	**Bucovina Array**	**6.24**	**18⇑**	*i*P	**Pn**	**18 44 59.2**	**+1.0**
BURAR	**Bucovina Array**	**6.24**	**18**	⇑P	**Pn**	**18 44 59.2**	**+1.0**
KECS	**Kecvo**	**6.89**	**350**	*e*PN	**Pn**	**18 45 07.1**	**0.0**
VYHS	**Vyhne**	**7.22**	**341**	*e*PN	**Pn**	**18 45 13.6**	**+2.0**

IDC 22 19:06:48.4±1.1,4721N×15595E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/23,mbtmp3.7/7,MS3.4/1,Ms1 3.4/1, ms1mx2.5/33,Error ellipse: s-maj=30.8km s-min=28.7km az=151.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.22**	**33**	P	P	19 14 26.2	-0.4
	0.6nm,0.7s,baz=344,slow=8.9,SNR=5.4						
INK				LR	LR	19 32 04.7	
	comp=Z,48nm,18.3s,baz=275,slow=38						
MKAR	**Makanchi Array**	**48.44**	**298**	P	P	19 15 31.9	-0.6
	0.8nm,0.8s,baz=64,slow=8.2,SNR=6.1						
BVAR	**Borovoye Array**	**52.05**	**310**	P	P	19 16 00.0	+0.2
	0.9nm,0.6s,baz=56,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**64.43**	**336**	P	P	19 17 25.9	-0.6
	0.6nm,0.5s,baz=20,slow=6.1,SNR=7.7						
NOA	**NORSAR Array B**	**68.40**	**342**	P	P	19 17 51.0	-0.9
	0.6nm,0.6s,baz=37,slow=4.5,SNR=2.8						
ASAR	**Alice Springs**	**73.30**	**201**	P	P	19 18 21.6	-0.1
	0.2nm,0.5s,baz=21,slow=5.2,SNR=6.4						
TXAR	**Lajitas Array**	**75.57**	**62**	P	P	19 18 35.1	+0.2
	0.7nm,0.6s,baz=307,slow=4.3,SNR=7.6						

IDC 22 19:10:08.1±0.9,4715N×15612E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/23,mbtmp3.7/7,Error ellipse: s-maj=29.0km s-min=23.1km az=107.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**40.20**	**33**	P	P	19 17 45.9	-0.3
	0.7nm,0.6s,baz=324,slow=6.3,SNR=5.6						
MKAR	**Makanchi Array**	**48.57**	**298**	P	P	19 18 54.4	+1.2
	1.0nm,0.8s,baz=70,slow=7.5,SNR=7.0						
BVAR	**Borovoye Array**	**52.18**	**310**	P	P	19 19 19.6	-0.9
	1.0nm,0.5s,baz=56,slow=7.5,SNR=7.5						
FINES	**FINESS Array B**	**64.53**	**336**	P	P	19 20 45.3	-1.6
	1.0nm,0.5s,baz=42,slow=5.9,SNR=7.1						
WRA	**Warramunga Arr**	**69.61**	**202**	P	P	19 21 18.8	-0.3
	0.3nm,0.7s,baz=22,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**73.28**	**201**	P	P	19 21 41.2	-0.1
	0.3nm,0.7s,baz=17,slow=5.2,SNR=8.8						
TXAR	**Lajitas Array**	**75.49**	**63**	P	P	19 21 54.6	+0.4
	0.7nm,0.6s,baz=303,slow=4.1,SNR=9.4						

IDC ***22*** *19:16:05.6±1.1,4725N×15599E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.8/23,mbtmp3.9/8,Error ellipse: s-maj=29.5km s-min=22.6km az=144.0*

MOS ***22*** *19:16:07.3±0.7,4720N×15575E,h25km,mb4.1/5,Error ellipse: s-maj=50.7km s-min=20.5km az=91.8*

ISCJB ***22*** *19:16:11.2±3.2,474N±02×1559E±02,h51km±26km, mb3.9/8,Error ellipse: s-maj=34.2km s-min=21.8km az=107.4*

ISC 22 19:16:12.2±2.9,473N±02×1559E±02,h48km±24km,n15, σ0§36/15,mb3.9/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.35**	**2**	*e*Pn	**Pn**	**19 17 02.0**	**-0.1**
KSRS	**Korea Array**	**22.81**	**255**	P	**P**	**19 21 11.4**	**+0.5**
	2.8nm,0.8s,mb3.7,baz=60,slow=12,SNR=23						
INK	**Inuvik**	**40.12**	**33**	P	**P**	**19 23 43.1**	**-0.2**
	1.3nm,0.8s,mb3.7,baz=258,slow=4.3,SNR=6.9						
INK	**Inuvik**	**40.12**	**33**	P	**P**	**19 23 43.1**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**19 24 48.8**	**-0.4**
	comp=Z,1.1nm,1.0s,mb3.9,baz=72,slow=5.8,SNR=5.6						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**19 24 48.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**51.96**	**310**	P	**P**	**19 25 16.4**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=38,slow=7.8,SNR=6.8						
BVAR	**Borovoye Array**	**51.96**	**310**	P	**P**	**19 25 16.4**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.92**	**342**	P	**P**	**19 25 59.5**	**0.0**
	comp=Z,6.0nm,1.1s,mb4.5,baz=24,slow=9.1,SNR=3.0						
ARCES	**ARCESS Array B**	**57.92**	**342**	P	**P**	**19 25 59.5**	**0.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FINES	**FINESS Array B**	**64.31**	**336**	P	**P**	**19 26 43.0**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=42,slow=5.9,SNR=8.5						
FINES	**FINESS Array B**	**64.31**	**336**	P	**P**	**19 26 43.0**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**73.41**	**201**	P	**P**	**19 27 38.8**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=20,slow=4.7,SNR=7.3						
TXAR	**Lajitas Array**	**75.52**	**62**	P	**P**	**19 27 52.1**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=293,slow=4.8,SNR=11						
TXAR	**Lajitas Array**	**75.52**	**62**	P	**P**	**19 27 52.1**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 22 19:18:21.6±8.9,1668S×17950W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/13,mbtmp3.9/4,MS3.2/1,Ms1 3.2/1, ms1mx2.6/28,Error ellipse: s-maj=203.0km s-min=46.6km az=33.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.64**	**259**	LR	LR	19 34 52.3	
	comp=Z,46nm,20.9s,baz=230,slow=30						
STKA	**Stephens Creek**	**38.33**	**239**	P	P	19 25 44.5	+0.5
	1.3nm,0.5s,baz=63,slow=8.7,SNR=9.0						
WRA	**Warramunga Arr**	**43.84**	**258**	P	P	19 26 29.7	+0.2
	0.1nm,0.3s,baz=94,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**44.13**	**253**	P	P	19 26 32.0	+0.2
	3.2nm,0.6s,baz=89,slow=7.9,SNR=98						
VNDA	**Vanda**	**61.58**	**185**	P	P	19 28 40.3	-0.4
	0.9nm,1.0s,baz=30,slow=8.2,SNR=4.4						

IDC 22 19:22:06.2±2.1,424N×12371E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=305.8km s-min=22.3km az=63.0,Celebes Sea

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

NB2	**NORSAR Subarra**	**68.09**	**342**	P		**P**		**19 55 56.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=25,slow=6.2								
NOA	**NORSAR Array B**	**68.09**	**342**	P		**P**		**19 55 56.6**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.3,baz=26,slow=6.3,SNR=6.0								
WRA	**Warramunga Arr**	**69.27**	**200**	P		**P**		**19 56 03.1**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=19,slow=6.8,SNR=4.7								
AKASG	**Malin Array Be**	**71.69**	**327**	P		**P**		**19 56 16.9**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=6.3,SNR=5.8								
AKASG	**Malin Array Be**	**71.69**	**327**	P		**P**		**19 56 16.9**	**-1.0**
ASAR	**Alice Springs**	**72.95**	**200**	P		**P**		**19 56 25.1**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=10,slow=5.2,SNR=5.5								
CLL	**Collm**	**76.43**	**336**	*e*P		**P**		**19 56 47.0**	**+1.3**
TXAR	**Lajitas Array**	**76.44**	**62**	P		**P**		**19 56 45.9**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=300,slow=4.6,SNR=12								
BRTR	**Keskin Array B**	**78.70**	**318**	P		**P**		**19 57 00.5**	**+2.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=57,slow=5.3,SNR=3.0								

ISCJB ***22*** *20:00:21.7±1.5,253N±0.1×1415E±04,h141km±22km, mb3.6/7,Error ellipse: s-maj=66.1km s-min=12.6km az=155.7*

IDC ***22*** *20:00:23.5±2.0,2535N×14165E,h144km±29km,mb3.3/6, mb1 3.4/7,mb1mx3.2/19,mbtmp3.3/7,Error ellipse: s-maj=91.1km s-min=14.9km az=83.0*

JMA ***22*** *20:00:24.4±0.2,2537N×14105E,h65km,M4.4*

ISC 22 20:00:23.4±1.4,254N±01×1416E±04,h143km±20km,n18, σ0§57/21,mb3.6/7,1C,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.35**	**24**	P	**Pn**	**20 00 51.2**	**+0.3**
JHHJ				S	**Sn**	**20 01 11.1**	**-0.8**
CBIJ	**Chichi jima**	**1.79**	**18**	P	**Pn**	**20 00 56.9**	**+1.2**
	31nm,0.3s,baz=251,slow=21,SNR=33						
CBIJ				S	**Sn**	**20 01 21.0**	**+0.6**
	84nm,0.3s,baz=246,slow=23,SNR=27						
CBIJ	**Chichi jima**	**1.79**	**18**	P	**Pn**	**20 00 56.7**	**+1.0**
CBIJ				S	**Sn**	**20 01 20.6**	**+0.2**
BSO1	**Boso 1**	**9.25**	**357**	P	**Pn**	**20 02 33.7**	**+0.2**
JOD2	**Odawara 2**	**10.07**	**348**	P	**Pn**	**20 02 45.2**	**+0.7**
JRY	**Ryogami san**	**10.84**	**348**	P	**Pn**	**20 02 54.1**	**-0.5**
JAG	**Ashikaga**	**11.15**	**351**	P	**Pn**	**20 02 57.7**	**-1.0**
JHO	**Hitachi**	**11.22**	**356**	P	**Pn**	**20 02 58.6**	**-1.0**
MJAR	**Matsushiro Arr**	**11.49**	**346**	P	**Pn**	**20 03 03.4**	**+0.3**
	0.4nm,0.3s,baz=154,slow=5.9,SNR=5.6						
JMK	**Ichinoseki**	**13.53**	**359**	P	**Pn**	**20 03 29.5**	**0.0**
WB2	**Warramunga Arr**	**45.60**	**190**	⇑*i*P	**P**	**20 08 28.9**	**-0.2**
WRA	**Warramunga Arr**	**45.60**	**190**	P	**P**	**20 08 29.1**	**-0.1**
	8.7nm,0.6s,mb4.5,baz=8.9,slow=8.6,SNR=144						
ASAR	**Alice Springs**	**49.32**	**189**	P	**P**	**20 08 57.5**	**-0.4**
	0.5nm,0.7s,mb3.3,baz=18,slow=12,SNR=10						
STKA	**Stephens Creek**	**56.94**	**180**	P	**P**	**20 09 53.7**	**+0.1**
	0.7nm,0.5s,mb3.8,baz=24,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**58.93**	**318**	P	**P**	**20 10 08.2**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=75,slow=5.5,SNR=4.5						
FINES	**FINESS Array B**	**79.23**	**334**	P	**P**	**20 12 13.0**	**+0.4**
	0.8nm,0.4s,mb3.7,baz=75,slow=4.8,SNR=11						
AKASG	**Malin Array Be**	**83.66**	**324**	P	**P**	**20 12 35.6**	**-0.4**
	0.1nm,0.3s,mb3.0,baz=46,slow=4.9,SNR=4.7						
NOA	**NORSAR Array B**	**84.99**	**338**	P	**P**	**20 12 43.0**	**+0.4**
	0.9nm,0.8s,mb3.5,baz=37,slow=5.0,SNR=2.6						

ISCJB ***22*** *20:24:32.3±0.9,477N±0.1×1543E±04,h32km,mb3.6/5, MS3.0/1,Error ellipse: s-maj=40.0km s-min=16.2km az=43.9*

MOS ***22*** *20:24:32.5±0.9,4768N×15436E,h33km,mb4.0/2,Error ellipse: s-maj=99.9km s-min=33.5km az=77.9*

IDC ***22*** *20:24:34.5±0.7,4758N×15438E,h32km±5km,mb3.4/5, mb1 3.7/5,mb1mx3.4/22,mbtmp3.4/5,MS3.1/1,Ms1 3.1/1, ms1mx2.3/21,Error ellipse: s-maj=35.0km s-min=18.5km az=120.0*

ISC 22 20:24:34.4±0.9,477N±01×1543E±04,h34km, h34km±.7km:pP-P,n11,σ0§76/10,mb3.6/5,MS3.0/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.18**	**21**	*e*PN	**Pn**	**20 25 20.9**	**-1.1**
SKR				*e*		20 25 58.4	
SONM	**Songino Array**	**31.79**	**288**	LR	LR	20 43 33.3	
	comp=Z,29nm,18.0s,MS3.0,baz=154,slow=36						
FINES	**FINESS Array B**	**63.50**	**335**	P	**P**	**20 35 01.9**	**+0.8**
	0.6nm,0.8s,mb3.8,baz=57,slow=7.0,SNR=4.2						
FINES				pP	pP	20 35 12.1	+0.5
	1.0nm,0.8s,baz=32,slow=7.6,SNR=1.6						
FINES	**FINESS Array B**	**63.50**	**335**	P	**P**	**20 35 01.9**	**+0.8**
FINES				*PP	pP	20 35 12.1	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**63.51**	**55**	P	**P**	**20 35 01.6**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.8,baz=327,slow=2.5,SNR=5.7						
PDAR				pP	pP	20 35 12.4	+0.8
	comp=Z,0.6nm,0.8s,baz=276,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**69.71**	**200**	P	**P**	**20 35 39.7**	**-1.0**
	comp=Z,0.3nm,0.8s,mb3.3,baz=12,slow=6.4,SNR=4.2						
WRA				pP	pP	20 35 49.5	-1.9
	comp=Z,0.5nm,0.6s,baz=15,slow=6.2,SNR=4.4						
WRA	**Warramunga Arr**	**69.71**	**200**	P	**P**	**20 35 39.7**	**-1.0**
WRA				*PP	pP	20 35 49.5	-1.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.40**	**199**	P	**P**	**20 36 03.1**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=17,slow=6.8,SNR=4.9						
ASAR				pP	pP	20 36 13.0	-0.7
	comp=Z,0.9nm,0.7s,baz=13,slow=5.2,SNR=8.7						
ASAR	**Alice Springs**	**73.40**	**199**	P	**P**	**20 36 03.1**	**+0.1**
ASAR				*PP	pP	20 36 13.0	-0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.30**	**62**	P	**P**	**20 36 20.3**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=301,slow=4.7,SNR=7.5						
TXAR				pP	pP	20 36 30.3	-0.1
	comp=Z,0.5nm,0.5s,baz=300,slow=4.1,SNR=5.2						
TXAR	**Lajitas Array**	**76.30**	**62**	P	**P**	**20 36 20.3**	**+0.6**
TXAR				*PP	pP	20 36 30.3	-0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 22 20:35:23.4±2.9,392S×15147E,h0km,mb4.1/3,mb1 4.3/3, mb1mx3.8/14,mbtmp4.1/3,MS3.6/3,Ms1 3.6/3, ms1mx2.9/22,1C,Error ellipse: s-maj=112.7km s-min=40.0km az=121.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**10.04**	**123**	LR	LR	20 41 18.5	
	comp=Z,44nm,18.9s,baz=358,slow=35						
KAKA	**Kakadu**	**20.74**	**244**	*e*P	P	20 40 09.9	+4.3
	14nm,0.6s						
WB2	**Warramunga Arr**	**23.07**	**225**	⇑*i*P	P	20 40 31.1	+0.6
WRA	**Warramunga Arr**	**23.08**	**225**	P	P	20 40 31.2	+0.6
	3.9nm,0.3s,baz=50,slow=10,SNR=99						
ASAR	**Alice Springs**	**25.94**	**219**	P	P	20 40 57.0	-0.4
	0.7nm,0.6s,baz=53,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**28.95**	**239**	P	P	20 41 25.9	+1.5
	1.1nm,0.3s,baz=50,slow=17,SNR=5.7						
AFI	**Afiamalu**	**37.58**	**108**	LR	LR	20 54 08.3	
	comp=Z,467nm,19.9s,baz=159,slow=30						
URZ	**Urewera**	**41.41**	**149**	LR	LR	20 56 46.8	
	comp=Z,96nm,20.5s,baz=105,slow=31						
TORD	**Torodi Ar. Bea**	**148.77**	**289**	PKPbc	PKPbc	20 55 13.1	+0.3
	0.4nm,0.3s,baz=75,slow=2.1,SNR=31						

ISCJB ***22*** *20:58:38.9±0.5,3833S±.005×17600E±008,h230km±4km, mb3.4/4,Error ellipse: s-maj=11.6km s-min=7.3km az=64.1*

IDC ***22*** *20:58:38.7±0.8,3819S×17543E,h181km±15km,mb3.1/3, mb1 3.3/4,mb1mx3.3/9,mbtmp3.1/4,Error ellipse: s-maj=25.5km s-min=17.7km az=115.0*

NEIC ***22*** *20:58:39.2,38.16S×17604E,h226km,MG4.5(WEL),After WEL.*

WEL ***22*** *20:58:40.8±0.3,3814S×17605E,h209km±2km,ML4.5/22, Error ellipse: s-maj=2.7km s-min=2.3km az=0.0*

ISC 22 20:58:39.7±0.5,3833S±.005×17602E±008,h225km±3km, n80,σ0§91/96,mb3.4/4,10C-1D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.63**	**17**	P	**Pn**	**20 59 09.0**	**-1.2**
TGRZ				S	**Sn**	**20 59 31.9**	**-2.1**
TGRZ	**Tauranga**	**0.63**	**17**	PN	**Pn**	**20 59 09.0**	**-1.2**
TGRZ				SN	**S**	**20 59 31.0**	**-2.9**
KRVZ	**Karewarewa**	**0.82**	**201**	PN	**Pn**	**20 59 11.7**	**+0.7**
WTVZ	**West Tongariro**	**0.85**	**203**	P	**Pn**	**20 59 11.8**	**+0.6**
WTVZ	**West Tongariro**	**0.85**	**203**	PN	**Pn**	**20 59 11.8**	**+0.5**
WTVZ				SN	**S**	**20 59 35.9**	**+0.1**
URZ	**Urewera**	**0.86**	**85**	P	**Pn**	**20 59 10.3**	**-1.0**
	26nm,0.3s,baz=283,slow=3.0,SNR=203						
URZ				S	**S**	**20 59 32.3**	**-3.6**
	90nm,0.3s,baz=9.4,slow=23,SNR=74						
URZ	**Urewera**	**0.86**	**85**	⇓PN	**Pn**	**20 59 10.3**	**-1.0**
URZ				SN	**S**	**20 59 32.8**	**-3.1**
URZ				SN	**S**	**20 59 32.9**	**-3.1**
TWVZ	**Taurewa**	**0.87**	**212**	⇑PN	**Pn**	**20 59 11.8**	**+0.5**
TWVZ				SN	**S**	**20 59 35.9**	**-0.1**
OTVZ	**Oturere**	**0.88**	**198**	PN	**Pn**	**20 59 12.2**	**+0.8**
OTVZ				SN	**S**	**20 59 36.8**	**+0.8**
NGZ	**Ngauruhoe**	**0.90**	**201**	P	**Pn**	**20 59 12.1**	**+0.6**
NGZ	**Ngauruhoe**	**0.90**	**201**	PN	**Pn**	**20 59 12.1**	**+0.6**
BKZ	**Black Stump Fm**	**0.91**	**156**	P	**Pn**	**20 59 12.3**	**+0.7**
BKZ	**Black Stump Fm**	**0.91**	**156**	⇑PN	**Pn**	**20 59 12.3**	**+0.7**
HIZ	**Hauiti**	**0.93**	**259**	P	**Pn**	**20 59 11.6**	**-0.1**
HIZ	**Hauiti**	**0.93**	**259**	⇑PN	**Pn**	**20 59 11.6**	**-0.1**
WPVZ	**Whakapapa**	**0.95**	**203**	P	**Pn**	**20 59 12.4**	**+0.6**
WPVZ	**Whakapapa**	**0.95**	**203**	⇑PN	**Pn**	**20 59 12.5**	**+0.8**
TUVZ	**Tukino**	**0.98**	**197**	P	**Pn**	**20 59 12.8**	**+0.9**
TUVZ	**Tukino**	**0.98**	**197**	⇑PN	**Pn**	**20 59 12.8**	**+0.9**
FWVZ	**Far West T-bar**	**0.99**	**202**	P	**Pn**	**20 59 12.6**	**+0.6**
FWVZ	**Far West T-bar**	**0.99**	**202**	PN	**Pn**	**20 59 12.6**	**+0.6**
DRZ	**Dome Shelter**	**1.01**	**201**	P	**Pn**	**20 59 13.2**	**+1.1**
DRZ	**Dome Shelter**	**1.01**	**201**	PN	**Pn**	**20 59 13.2**	**+1.1**
TRVZ	**Turoa**	**1.03**	**201**	PN	**Pn**	**20 59 13.3**	**+1.0**
WNVZ	**Wahianoa**	**1.05**	**198**	P	**Pn**	**20 59 13.3**	**+0.9**
WNVZ	**Wahianoa**	**1.05**	**198**	PN	**Pn**	**20 59 13.3**	**+0.9**
PKVZ	**Pokaka**	**1.09**	**209**	PN	**Pn**	**20 59 13.3**	**+0.6**
MOVZ	**Moawhango**	**1.09**	**191**	P	**Pn**	**20 59 13.2**	**+0.5**
MOVZ	**Moawhango**	**1.09**	**191**	⇑PN	**Pn**	**20 59 13.2**	**+0.5**
MTVZ	**Mangateitei**	**1.14**	**202**	PN	**Pn**	**20 59 13.6**	**+0.7**
MWZ	**Matawai**	**1.18**	**91**	P	**Pn**	**20 59 12.9**	**-0.4**
MWZ	**Matawai**	**1.18**	**91**	PN	**Pn**	**20 59 12.9**	**-0.4**
VRZ	**Vera Road**	**1.27**	**231**	P	**Pn**	**20 59 14.3**	**+0.4**
VRZ	**Vera Road**	**1.27**	**231**	PN	**Pn**	**20 59 14.2**	**+0.4**
KNZ	**Kokohu**	**1.46**	**118**	P	**Pn**	**20 59 16.3**	**+0.9**
KNZ	**Kokohu**	**1.46**	**118**	PN	**Pn**	**20 59 16.3**	**+0.9**
KNZ				SN	**S**	**20 59 42.6**	**-0.7**
WAZ	**Wanganui**	**1.63**	**209**	P	**Pn**	**20 59 17.6**	**+0.8**
TSZ	**Takapari Road**	**1.72**	**182**	P	**Pn**	**20 59 18.7**	**+1.1**
TSZ	**Takapari Road**	**1.72**	**182**	⇑PN	**Pn**	**20 59 18.7**	**+1.2**
NEZ	**North Egmont**	**1.77**	**238**	P	**Pn**	**20 59 19.0**	**+1.0**
PUZ	**Puketiti**	**1.78**	**82**	P	**Pn**	**20 59 17.3**	**-0.8**
PUZ	**Puketiti**	**1.78**	**82**	PN	**Pn**	**20 59 17.3**	**-0.8**
NRZ	**Ngariki Road**	**1.91**	**238**	P	**Pn**	**20 59 20.0**	**+0.7**
MXZ	**Matakaoa Point**	**1.96**	**68**	P	**Pn**	**20 59 18.8**	**-1.0**
MXZ	**Matakaoa Point**	**1.96**	**68**	PN	**Pn**	**20 59 18.8**	**-1.0**
MRZ	**Mangatainoka R**	**2.35**	**188**	P	**Pn**	**20 59 24.3**	**+0.7**
MRZ	**Mangatainoka R**	**2.35**	**188**	PN	**Pn**	**20 59 24.3**	**+0.6**
KIW	**Kapiti Island**	**2.67**	**198**	P	**Pn**	**20 59 27.3**	**+0.3**
KIW				S	**S**	**21 00 03.3**	**-0.9**
KIW	**Kapiti Island**	**2.67**	**198**	PN	**Pn**	**20 59 27.3**	**+0.3**
KIW				SN	**S**	**21 00 03.3**	**-0.8**
MTW	**Mount Morrison**	**2.85**	**188**	P	**Pn**	**20 59 29.2**	**+0.2**
MTW				S	**S**	**21 00 07.1**	**-0.7**
MTW	**Mount Morrison**	**2.85**	**188**	PN	**Pn**	**20 59 29.2**	**+0.1**
MTW				SN	**S**	**21 00 07.1**	**-0.7**
DUWZ	**D'Urville Isla**	**2.95**	**213**	PN	**Pn**	**20 59 30.0**	**-0.1**
MRW	**Makara Radio**	**3.07**	**199**	P	**Pn**	**20 59 31.6**	**+0.2**
MRW	**Makara Radio**	**3.07**	**199**	⇑PN	**Pn**	**20 59 31.6**	**+0.1**
PAWZ	**Paruwai Farm**	**3.08**	**188**	P	**Pn**	**20 59 31.7**	**+0.1**
WEL	**Wellington**	**3.10**	**198**	P	**Pn**	**20 59 32.0**	**+0.1**
MSWZ	**Moikau Station**	**3.13**	**191**	P	**Pn**	**20 59 32.3**	**+0.1**
MSWZ				S	**S**	**21 00 12.5**	**-1.1**
MSWZ	**Moikau Station**	**3.13**	**191**	PN	**Pn**	**20 59 32.3**	**0.0**
MSWZ				SN	**S**	**21 00 12.5**	**-1.1**
SNZO	**South Karori**	**3.14**	**198**	P	**Pn**	**20 59 32.3**	**0.0**
SNZO	**South Karori**	**3.14**	**198**	⇑PN	**Pn**	**20 59 32.3**	**0.0**
TCW	**Tory Channel**	**3.17**	**205**	P	**Pn**	**20 59 32.7**	**0.0**
TCW	**Tory Channel**	**3.17**	**205**	⇑PN	**Pn**	**20 59 32.7**	**0.0**
BHW	**Baring Head**	**3.20**	**196**	P	**Pn**	**20 59 32.9**	**0.0**
NNZ	**Nelson**	**3.53**	**214**	P	**Pn**	**20 59 36.0**	**-0.8**
QRZ	**Quartz Range**	**3.67**	**226**	P	**Pn**	**20 59 36.9**	**-1.6**
QRZ	**Quartz Range**	**3.67**	**226**	PN	**Pn**	**20 59 36.9**	**-1.6**
BSWZ	**Blackbirch Sta**	**3.76**	**205**	P	**Pn**	**20 59 39.5**	**0.0**
THZ	**Tophouse**	**4.18**	**214**	*e*P	**Pn**	**20 59 43.4**	**-1.2**
KHZ	**Kahutara**	**4.50**	**204**	P	**Pn**	**20 59 48.4**	**-0.1**
DSZ	**Denniston Nort**	**4.70**	**222**	*e*P	**Pn**	**20 59 48.9**	**-2.1**
LTZ	**Lake Taylor**	**5.28**	**212**	P	**Pn**	**20 59 57.4**	**-0.9**
MQZ	**McQueen's Vall**	**5.94**	**204**	*e*P	**Pn**	**21 00 05.2**	**-1.4**
RPZ	**Rata Peaks**	**6.56**	**213**	P	**Pn**	**21 00 12.0**	**-2.4**
	1.6nm,0.3s,baz=34,slow=3.6,SNR=4.5						
RPZ				S	**S**	**21 01 24.4**	**-5.6**
	6.1nm,0.3s,baz=274,slow=22,SNR=18						
ODZ	**Otahua Downs**	**7.82**	**209**	*e*P	**Pn**	**21 00 30.3**	**-0.3**
STKA	**Stephens Creek**	**28.78**	**272**	P	**P**	**21 04 17.9**	**+1.2**
	0.9nm,0.3s,mb3.9,baz=98,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**38.61**	**280**	P	**P**	**21 05 40.7**	**-0.5**
	1.0nm,0.6s,mb3.5,baz=121,slow=7.5,SNR=16						
VNDA	**Vanda**	**39.76**	**185**	P	**P**	**21 05 54.0**	**+3.3**
	0.4nm,0.7s,mb3.0,baz=23,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**40.36**	**285**	P	**P**	**21 05 54.2**	**-1.4**
	0.6nm,0.7s,mb3.1,baz=124,slow=8.1,SNR=9.1						
VNA3	**Neumayer Olymp**	**70.65**	**178**	*e*	**P**	**21 09 31.8**	**+0.9**
VNA3				*e*		21 09 33.6	
VNA2	**Neumayer--Watz**	**71.02**	**179**	*e*	**P**	**21 09 33.8**	**+0.7**
VNA2				*e*		21 09 35.5	

IDC ***22*** *21:29:00.2±1.3,4707N×15384E,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.9/22,mbtmp3.9/12,Error ellipse: s-maj=45.6km s-min=21.0km az=82.0*

NEIC ***22*** *21:29:02.2±0.7,4706N×15370E,h10km,mb4.9/1,Error ellipse: s-maj=18.7km s-min=14.1km az=94.0*

ISCJB ***22*** *21:29:04.0±0.9,47.1N±0.1×1538E±02,h35km,mb3.9/14, Error ellipse: s-maj=22.8km s-min=14.9km az=59.8*

MOS ***22*** *21:29:03.6±0.9,47.10N×15372E,h33km,mb4.3/8,Error ellipse: s-maj=29.5km s-min=14.8km az=96.8*

ISC 22 21:29:05.6±0.9,471N±01×1538E±02,h35km,n26, σ0§67/26,mb3.9/14,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**22**	*e*PN	**Pn**	**21 30 01.9**	**-0.8**
SONM	**Songino Array**	**31.65**	**289**	P	**P**	**21 35 25.7**	**+0.2**
	0.1nm,0.3s,mb3.1,baz=65,slow=7.7,SNR=2.6						
INK	**Inuvik**	**41.09**	**33**	*e*P	**P**	**21 36 46.5**	**+0.7**
	20nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**42.79**	**306**	P	**P**	**21 36 58.6**	**-1.1**
	0.6nm,0.4s,mb3.7,baz=68,slow=10,SNR=3.3						
ZAL	**Zalesovo**	**42.79**	**306**	P	**P**	**21 36 58.6**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**21 37 34.8**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=67,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**21 37 34.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.98**	**309**	P	**P**	**21 38 03.9**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=7.5,SNR=17						
BVAR	**Borovoye Array**	**50.98**	**309**	P	**P**	**21 38 03.9**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**57.15**	**341**	*e*p	**P**	**21 38 54.2**	**+5.5**
ARCES	**ARCESS Array B**	**57.65**	**341**	P	**P**	**21 38 51.9**	**-0.4**
	comp=Z,2.7nm,0.9s,mb4.3,baz=37,slow=9.1,SNR=3.4						
ARCES	**ARCESS Array B**	**57.65**	**341**	P	**P**	**21 38 51.9**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**21 39 34.5**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.3,baz=40,slow=7.3,SNR=32						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**21 39 34.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**21 40 01.6**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**21 40 01.6**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=9.1						
NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**21 40 01.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**69.02**	**200**	P	**P**	**21 40 06.3**	**-1.3**
	comp=Z,0.5nm,1.0s,mb3.4,baz=17,slow=6.6,SNR=3.2						
WRA	**Warramunga Arr**	**69.02**	**200**	P	**P**	**21 40 06.3**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.49**	**326**	P	**P**	**21 40 22.5**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=33,slow=6.3,SNR=5.8						
AKASG	**Malin Array Be**	**71.49**	**326**	P	**P**	**21 40 22.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.71**	**199**	P	**P**	**21 40 30.6**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=12,slow=5.5,SNR=6.8						
CLL	**Collm**	**76.32**	**336**	*i* P	**P**	**21 40 51.7**	**+0.8**
	comp=Z,6.0nm,0.7s,mb4.6						
GERES	**GERESS Array B**	**78.32**	**334**	P	**P**	**21 41 02.3**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=19,slow=4.9,SNR=5.0						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**21 41 03.9**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=103,slow=3.9,SNR=3.6						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**21 41 03.9**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

LDG ***22*** *21:39:46.2±0.1,4285N×072W,h2km,Md2.3/3,Ml2.1/5, Error ellipse: s-maj=2.3km s-min=1.1km az=17.0*

STR ***22*** *21:39:48.1±0.4,4314N×052W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 21:39:47.4±0.2,4290N×069W,h0km,mbLg1.6/17,Error ellipse: s-maj=2.2km s-min=1.2km az=20.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDAF	**Les Forges d'A**	**0.12**	**132**	Pg	Pg	21 39 49.1	-0.5
FDAF				Lg		21 39 51.0	
ATE	**Arette**	**0.19**	**357**	Pg	Pg	21 39 50.8	-0.1
ATE				Sg	Sg	21 39 54.3	+0.9
ATE	**Arette**	**0.19**	**357**	Pg	Pg	21 39 50.8	-0.1
ATE				Lg		21 39 54.2	
LARF	**Larrau**	**0.26**	**302**	Pg	Pg	21 39 51.7	-0.7
LARF				Lg		21 39 55.7	
REYF	**Montagne du Re**	**0.28**	**52**	Pg	Pg	21 39 52.5	-0.1
REYF				Lg		21 39 56.9	
ORDF	**Ordiarp**	**0.36**	**330**	Pg	Pg	21 39 53.9	-0.4
ORDF				Sg	Sg	21 39 59.8	+0.8
ORDF	**Ordiarp**	**0.36**	**330**	Pg	Pg	21 39 53.9	-0.4
ORDF				Lg		21 39 59.9	
SJPF	**Ste Jean**	**0.45**	**299**	*e*Pg	Pg	21 39 54.8	-1.2
SJPF				*e*Sg	Sg	21 40 01.2	-0.6
	26nm,0.2s						
SJPF	**Ste Jean**	**0.45**	**299**	Pg	Pg	21 39 54.8	-1.2
SJPF				Lg		21 40 01.2	
	13nm,0.2s						
IPRE	**Itoiz**	**0.50**	**260**	Lg		21 40 04.8	
	7.3nm,0.3s,SNR=7.9						
VIEF	**Viey**	**0.52**	**91**	Pg	Pg	21 39 57.4	0.0
VIEF				Sg	Sg	21 40 04.0	-0.1
VIEF	**Viey**	**0.52**	**91**	Pg	Pg	21 39 56.7	-0.7
VIEF				Lg		21 40 03.8	
OSSF	**Osses**	**0.55**	**310**	Pg	Pg	21 39 57.1	-0.8
OSSF				Lg		21 40 04.8	
LABF	**Labassere**	**0.58**	**75**	Pg	Pg	21 39 57.9	-0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.14**	**18**	*e*PN	**Pn**	**21 49 04.0**	**-0.2**
SKR				*e*		21 49 41.5	
MJAR	**Matsushiro Arr**	**16.45**	**233**	Pn	**Pn**	**21 52 05.2**	**+0.3**
	0.2nm,0.3s,baz=29,slow=9.7,SNR=2.8						
KDAK	**Kodiak Island**	**32.73**	**52**	LR	LR	22 06 56.9	
	comp=Z,36nm,18.6s,MS3.1,baz=95,slow=34						
MKAR	**Makanchi Array**	**47.38**	**297**	P	**P**	**21 56 46.8**	**-0.2**
	0.2nm,0.6s,mb3.2,baz=72,slow=9.3,SNR=3.2						
PDAR	**Pinedale Array**	**63.38**	**55**	P	**P**	**21 58 42.5**	**+0.4**
	1.2nm,0.8s,mb4.1,baz=283,slow=2.9,SNR=9.6						
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**21 58 43.5**	**0.0**
	0.5nm,0.4s,mb3.9,baz=38,slow=7.0,SNR=7.5						
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**21 58 43.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.44**	**200**	P	**P**	**21 59 44.4**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=6.2,SNR=5.5						
GERES	**GERESS Array B**	**78.02**	**335**	P	**P**	**22 00 11.3**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=15,slow=5.5,SNR=3.5						
KEST	**Kesra**	**91.29**	**332**	LR	LR	22 48 26.7	
	comp=Z,27nm,18.9s,MS3.7,baz=258,slow=40						

IDC ***22*** *22:07:28.1±1.2,5129N×178.66E,h0km,mb3.8/9, mb1 4.1/10,mb1mx3.9/25,mbtmp3.9/10,ML4.3/1, Error ellipse: s-maj=32.4km s-min=20.8km az=166.0*

ISCJB ***22*** *22:07:33.1±1.0,513N±0.02×1789E±0.1,h45km±7km, mb4.2/14, Error ellipse: s-maj=28.3km s-min=11.5km az=165.3*

NEIC ***22*** *22:07:34.5±1.3,5126N×178.84E,h45km±10km,mb4.3/1, ML3.7(AEIC),Error ellipse: s-maj=28.2km s-min=12.1km az=178.0*

ISC 22 22:07:34.2±0.9,513N±0.02×1789E±0.1,h40km±7km,n25, σ1§12/26,mb4.2/14,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**73**	P	**Pn**	**22 07 41.4**	**-0.8**
AMKA				S	**Sn**	**22 07 46.9**	**-0.8**
SMY	**Shemya**	**3.28**	**298**	P	**Pn**	**22 08 24.8**	**+1.8**
ATKA	**Atka Island**	**4.40**	**75**	P	**Pn**	**22 08 41.0**	**+2.6**
KDAK	**Kodiak Island**	**17.69**	**57**	P	**Pn**	**22 11 36.4**	**-1.0**
	1.1nm,0.3s,baz=41,slow=14,SNR=7.0						
KDAK	**Kodiak Island**	**17.69**	**57**	P	**Pn**	**22 11 36.4**	**-1.0**
IMA2	**Indian Mountai**	**20.29**	**33**	*e*P	**P**	**22 12 11.2**	**+4.7**
EGAK	**Eagle**	**24.57**	**41**	*e*P	**P**	**22 12 51.2**	**+0.9**
	6.7nm,0.6s,mb4.3						
DAWY	**Dawson**	**25.16**	**44**	P	**P**	**22 12 58.4**	**+2.7**
INK	**Inuvik**	**28.36**	**35**	P	**P**	**22 13 24.5**	**0.0**
	0.6nm,0.4s,mb3.5,baz=257,slow=12,SNR=7.0						
YKA	**Yellowknife Ar**	**36.34**	**46**	P	**P**	**22 14 34.0**	**-0.2**
	1.1nm,0.4s,mb4.0,baz=281,slow=8.0,SNR=12						
YKA	**Yellowknife Ar**	**36.34**	**46**	P	**P**	**22 14 34.0**	**-0.2**
SONM	**Songino Array**	**45.37**	**295**	P	**P**	**22 15 48.5**	**-0.1**
	1.0nm,0.5s,mb3.9,baz=54,slow=9.2,SNR=4.4						
ARCES	**ARCESS Array B**	**57.91**	**349**	P	**P**	**22 17 21.4**	**-0.8**
	2.4nm,0.8s,mb4.3,baz=28,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**58.93**	**307**	P	**P**	**22 17 28.1**	**-1.2**
	0.7nm,0.4s,mb4.0,baz=54,slow=5.9,SNR=25						
TXAR	**Lajitas Array**	**60.10**	**79**	P	**P**	**22 17 38.8**	**+1.4**
	0.4nm,0.6s,mb3.6,baz=298,slow=5.7,SNR=5.0						
FINES	**FINESS Array B**	**65.52**	**346**	P	**P**	**22 18 11.6**	**-1.8**
	1.5nm,0.9s,mb4.0,baz=20,slow=6.1,SNR=4.9						
NOA	**NORSAR Array B**	**67.58**	**354**	P	**P**	**22 18 24.6**	**-1.9**
	1.3nm,0.9s,mb4.0,baz=9.5,slow=6.3,SNR=3.3						
GUN	**Gumba**	**70.53**	**290**	*e*P	**P**	**22 18 45.3**	**+0.4**
	8.9nm,0.6s,mb4.9						
JIRN	**Jiri**	**70.53**	**290**	*e*P	**P**	**22 18 45.3**	**+0.4**
	16nm,0.8s,mb5.0						
KKN	**Kakani**	**70.97**	**291**	*e*P	**P**	**22 18 47.8**	**+0.3**
	5.8nm,0.6s,mb4.7						
PKI	**Pulchoki**	**71.06**	**290**	*e*P	**P**	**22 18 48.4**	**+0.3**
GKN	**Gorkha**	**71.19**	**291**	*e*P	**P**	**22 18 49.0**	**+0.1**
	13nm,0.9s,mb4.9						
DMN	**Daman**	**71.21**	**291**	*e*P	**P**	**22 18 49.5**	**+0.5**
KOLN	**Koldanda**	**71.97**	**292**	*e*P	**P**	**22 18 53.6**	**0.0**
WRA	**Warramunga Arr**	**80.96**	**222**	P	**P**	**22 19 43.2**	**-1.3**
	0.3nm,0.5s,mb3.5,baz=31,slow=5.7,SNR=6.5						

IDC ***22*** *23:09:38.5±0.4,4749N×155.38E,h0km,mb4.8/32, mb1 4.9/34,mb1mx4.9/35,mbtmp4.7/34,ML3.9/2,MS4.2/24, Ms1 4.2/24,ms1mx4.0/40,Error ellipse: s-maj=14.4km s-min=10.7km az=161.0*

BJI ***22*** *23:09:39.7,4767N×155.16E,h8km,mB5.1,mb4.6,Ms4.7, Msz4.5*

NEIC ***22*** *23:09:40.2±2.3,4751N×155.44E,h9km±14km,mb5.1/74, Error ellipse: s-maj=4.5km s-min=2.6km az=167.0*

GCMT ***22*** *23:09:40.2±0.3,4760N×155.73E,h12km,MW4.9/74, Moment Tensor Solution. s27,c38; s74,c126; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.33±.06; Mθθ0.97±.07; Mφφ1.36±.06; Mrθ0.04±.24; Mrφ1.22±.05; Mθφ0.11±.22; Best double couple: Mo2.36800×10^16^ NP1:φ=41.00000°,δ44.00000°,λ-89.00000°. NP2: φ=220.00000°,δ46.00000°,λ-91.00000°. Principal axes: T 2.4030, Plg1.0000°, Azm310.0000°; N -0.0700, Plg1.0000°, Azm220.0000°; P -2.3330, Plg88.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***22*** *23:09:43.7±0.2,4754N±0.04×15549E±0.02,h45km, mb5.0/144,MS4.3/45 Error ellipse: s-maj=5.6km s-min=2.2km az=169.5*

MOS ***22*** *23:09:43.7±1.2,4763N×155.39E,h42km,mb5.2/66, MS4.3/20,Error ellipse: s-maj=7.5km s-min=4.9km az=98.9*

SKHL ***22*** *23:09:44.8±2.8,4788N×154.99E,h57km±12km,Ms4.4/1*

SZGRF ***22*** *23:09:52.4,4841N×153.94E,h33km,mb5.6,Kuril Islands, Russia*

ISC 22 23:09:45.7±0.1,4760N±0.04×15539E±0.02,h47km, h47km±1.4km:pP-P,n624,σ0§86/640,mb5.0/144,MS4.3/45, 82C-60D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.12**	**9**	*e*P	**Pn**	**23 10 28.6**	**-3.8**
SKR				AMB	AMB	23 10 29.5	
	50nm,0.5s						
SKR				*e*S	**Sn**	**23 11 03.5**	**-5.0**
SKR				A		23 11 11.9	
	2μm,0.8s						
SKR				A		23 11 11.9	
	720nm,0.8s						
SKR				AMS	AMS	23 11 50.0	
	5μm,16.0s						
SKR				AMS	AMS	23 11 50.0	
	9μm,16.0s						
SKR				AMS	AMS	23 11 50.0	
	5μm,16.0s						
SKR				AMS	AMS	23 11 50.0	
	6μm,16.0s						
SKR				AMS	AMS	23 11 50.0	
	10μm,16.0s						
SKR				AMS	AMS	23 11 50.0	
	6μm,16.0s						
SKR	**Severo-Kuril's**	**3.12**	**9**	*e*PN	**Pn**	**23 10 28.6**	**-3.8**
SKR				*e*S	**Sn**	**23 11 03.5**	**-5.0**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=E,720nm,0.6s						
SKR				smax			
	comp=N,2μm,1.0s						
SKR				MLR	MLR		
	comp=N,6μm,16.0s						
SKR				MLR	MLR		
	comp=E,10μm,16.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
KUR	**Kuril'sk**	**5.71**	**248**	*e*P	**Pn**	**23 11 06.0**	**-1.9**
KUR				AMB	AMB	23 11 16.0	
	comp=Z,639nm,0.9s						
KUR				*e*S	**Sn**	**23 12 07.0**	**-5.1**
KUR				A		23 12 12.0	
	comp=Z,312nm,0.9s						
KUR				A		23 12 12.0	
	comp=Z,710nm,0.9s						
PET	**Petropavlovsk**	**5.82**	**20**	*e*PN	**Pn**	**23 11 05.4**	**-4.0**
PET				pmax	pmax		
	comp=Z,147nm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**5.82**	**20**	*e*Pn	**Pn**	**23 11 05.5**	**-4.0**
PET				*e*Sn	**Sn**	**23 12 09.7**	**-5.2**
YSS	**Yuzh-Sakhalins**	**8.62**	**270⇑**	*e*P	**Pn**	**23 11 50.0**	**+2.3**
YSS				AMB	AMB	23 11 52.5	
	comp=Z,60nm,1.0s						
YSS				*e*S	**Sn**	**23 13 21.7**	**-1.8**
YSS				*e*LQ		23 14 14.0	
YSS				AMS	AMS	23 16 18.0	
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.62**	**270⇑**	*e*PN	**Pn**	**23 11 50.0**	**+2.3**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*Pn	**Pn**	**23 11 47.1**	**-0.6**
ASAJ	**Asahikawa**	**9.58**	**253**	Pn	**Pn**	**23 11 58.2**	**-2.7**
	comp=Z,1.8nm,0.3s,baz=88,slow=12,SNR=9.4						
ASAJ				LR	LR	23 16 13.1	
	comp=Z,1μm,18.2s,baz=82,slow=41						
MA2	**Magadan**	**12.30**	**349**	PN	**Pn**	**23 12 31.9**	**-6.3**
MA2				*e*		23 15 06.8	
MA2	**Magadan**	**12.30**	**349**	*e*Pn	**Pn**	**23 12 37.4**	**-0.8**
HABR	**Khabarovsk**	**13.63**	**281**	*e*P	**Pn**	**23 13 00.8**	**+4.5**
HABR				S	**Sn**	**23 15 30.6**	**+4.3**
SEY	**Seymchan**	**15.46**	**355**	*e*P	**Pn**	**23 13 16.3**	**-4.3**
KLR	**Kul'dur**	**15.77**	**285**	*e*P	**Pn**	**23 13 20.8**	**-3.7**
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
MJAR	**Matsushiro Arr**	**16.83**	**235**	Pn	**Pn**	**23 13 32.4**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=7.9						
MJAR				LR	LR	23 21 01.7	
	comp=Z,422nm,18.1s,baz=50,slow=41						
MAJO	**Matsushiro**	**16.83**	**235**	*e*P	**Pn**	**23 13 36.2**	**-1.7**
MAT	**Matsushiro**	**16.83**	**235**	P	**Pn**	**23 13 35.6**	**-2.3**
MAT				S	**S**	**23 16 51.0**	**-1.6**
MDJ	**Mudanjiang**	**18.11**	**270**	P	**Pn**	**23 13 53.3**	**-0.3**
MDJ				S	**S**	**23 17 13.6**	**-4.9**
MDJ				AMB	AMB		
	comp=Z,13nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,310nm,5.4s						
MDJ				LR	LR		
	comp=N,329nm,22.5s						
MDJ				LR	LR		
	comp=E,232nm,30.0s						
MDJ				LR	LR		
	comp=Z,588nm,17.2s						
ZEA	**Zeya**	**18.78**	**300**	*e*P	**Pn**	**23 13 56.9**	**-4.9**
ZEA				AMB	AMB	23 14 02.7	
	comp=Z,41nm,1.0s						
YAK	**Yakutsk**	**20.49**	**324**	*e*P	**P**	**23 14 17.6**	**-2.0**
YAK				*e*		23 14 32.9	
YAK				*e*S	**S**	**23 18 01.7**	**-4.6**
YAK				*e*SS		23 18 25.7	
YAK				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,16nm,1.3s						
YAK				smax			
	comp=N,876nm,3.8s						
YAK				smax			
	comp=E,157nm,1.3s						
YAK				MLR	MLR		
	comp=Z,872nm,13.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,509nm,11.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,498nm,11.0s,MS4.3						
YAK	**Yakutsk**	**20.49**	**324**	*e*Pn	**P**	**23 14 17.6**	**-2.0**
CLNS	**Chul'man**	**20.68**	**308**	*e*P	**P**	**23 14 19.0**	**-2.7**
CLNS				*e*		23 14 35.2	
CLNS				*e*PPP		23 14 43.7	
CLNS				*e*S	**S**	**23 18 11.4**	**+1.3**
CLNS				pmax	pmax		
	comp=Z,67nm,0.9s						
CLNS				pmax	pmax		
	comp=N,27nm,1.0s						
CLNS				pmax	pmax		
	comp=E,41nm,1.0s						
CLNS				smax			
	comp=N,27nm,0.9s						
CLNS				smax			
	comp=Z,23nm,1.4s						
CLNS				smax			
	comp=E,30nm,1.1s						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s,MS4.6						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.6						
CN2	**Changchun**	**21.18**	**271**	*e*P	**P**	**23 14 24.0**	**-3.1**
CN2				*e*XP	sP	23 14 31.0	-13
CN2				*e*S	**S**	**23 18 14.0**	**-6.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,900nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,1μm,17.0s,MS4.3						
BILL	**Bilibino**	**21.24**	**11**	*c* *i*P	**P**	**23 14 25.2**	**-2.4**
BILL				*i*		23 14 40.9	
BILL				*i*S	**S**	**23 18 20.1**	**-0.9**
BILL				*i*		23 18 34.2	
BILL				pmax	pmax		
	comp=Z,54nm,1.2s,mb4.8						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.3						
BILL	**Bilibino**	**21.24**	**11**	*e*P	**P**	**23 14 25.2**	**-2.5**
	comp=Z,51nm,0.9s,mb4.8						
KSRS	**Korea Array**	**22.53**	**253**	P	**P**	**23 14 40.2**	**-1.1**
	comp=Z,18nm,0.9s,mb4.5,baz=55,slow=9.8,SNR=26						
INCN	**Inchon**	**23.35**	**255**	*e*P	**P**	**23 14 48.7**	**-1.2**
	comp=Z,20nm,0.5s,mb4.8						
JNU	**Nakatsue**	**23.49**	**241**	LR	LR	23 23 12.1	
	comp=Z,971nm,20.1s,MS4.3,baz=259,slow=35						
HIA	**Hailar**	**23.58**	**287**	*e*P	**P**	**23 14 50.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**23.58**	**287**	*e*P	**P**	**23 14 50.3**	**-1.8**
	comp=Z,5.9nm,0.6s,mb4.2						
BOD	**Bodaibo**	**26.66**	**308**	*e*P	**P**	**23 15 17.1**	**-3.0**
BOD				*e*	pP	23 15 30.9	-1.4
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0						
TIXI	**Tiksi**	**27.12**	**342⇑**	*i*P	**P**	**23 15 21.2**	**-2.9**
TIXI				*e*S	**S**	**23 20 05.3**	**+6.2**
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,677nm,14.0s,MS4.4						
BJI	**Beijing**	**29.04**	**270**	P	**P**	**23 15 40.8**	**-0.4**
BJI				S	**S**	**23 20 35.3**	**+6.0**
BJI				LR	LR		
	comp=N,1μm,15.9s,MS4.6						
BJI				LR	LR		
	comp=E,449nm,15.9s,MS4.6						
BJI				LR	LR		
	comp=Z,736nm,15.9s,MS4.4						
BJI	**Beijing**	**29.04**	**270**	P	**P**	**23 15 40.7**	**-0.5**
BJI				S	**S**	**23 20 35.3**	**+6.0**
BJI				LR	LR		
	comp=Z,740nm,15.9s,MS4.4						
BJT	**Baijiatuau**	**29.05**	**269**	P	**P**	**23 15 41.9**	**+0.5**
SSE	**Sheshan**	**30.85**	**250**	P	**P**	**23 15 54.3**	**-3.0**
SSE				S	**S**	**23 21 04.1**	**+6.4**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,394nm,4.1s						
SSE				LR	LR		
	comp=N,129nm,23.8s,MS3.6						
SSE				LR	LR		
	comp=E,69nm,23.8s,MS3.6						
SSE				LR	LR		
	comp=Z,167nm,20.1s,MS3.7						
SSE	**Sheshan**	**30.85**	**250**	P	**P**	**23 15 54.2**	**-3.1**
	comp=Z,45nm,0.7s,mb5.4						
SSE				S	**S**	**23 21 04.1**	**+6.4**
SSE				LR	LR		
	comp=Z,170nm,20.1s,MS3.7						
NJ2	**Nanjing**	**31.72**	**254**	*e*P	**P**	**23 16 07.8**	**+2.8**
NJ2				AP	pP	23 16 11.1	-6.3
NJ2				XP	sP	23 16 15.3	-7.7
NJ2				PP	PP	23 17 11.9	-5.3
NJ2				S	**S**	**23 21 15.5**	**+4.1**
NJ2				XS	sS	23 21 23.5	-8.7
NJ2				AMB	AMB		
	comp=Z,780nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,14.3s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,16.3s,MS4.6						
HHC	**Hu-ho-hao-te**	**31.78**	**274⇑**	*i*P	**P**	**23 16 05.6**	**+0.1**
HHC				AP	pP	23 16 09.9	-8.0
HHC				XP	sP	23 16 13.0	-10
HHC				PP	PP	23 17 11.1	-6.7
HHC				PCP	PcP	23 18 57.1	+1.3
HHC				S	**S**	**23 21 14.8**	**+2.5**
HHC				XS	sS	23 21 21.3	-12
HHC				SCP	ScP	23 22 37.8	+2.6
HHC				SS	SS	23 23 05.0	-25
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,199nm,4.2s						
HHC				LR	LR		
	comp=N,429nm,12.6s,MS4.6						
HHC				LR	LR		
	comp=E,637nm,14.0s,MS4.6						
HHC				LR	LR		
	comp=Z,632nm,14.7s,MS4.4						
ULN	**Ulaanbaatar**	**32.09**	**289⇑**	*e*P	**P**	**23 16 07.0**	**-1.2**
ULN	**Ulaanbaatar**	**32.09**	**289**	*e*P	**P**	**23 16 07.1**	**-1.1**
IMA2	**Indian Mountai**	**32.20**	**36**	*e*P	**P**	**23 16 08.3**	**-0.9**
SONM	**Songino Array**	**32.52**	**289**	P	**P**	**23 16 10.8**	**-1.2**
	comp=Z,3.2nm,0.9s,mb4.3,baz=92,slow=8.9,SNR=9.5						
SONM				PcP	PcP	23 18 57.9	0.0
	comp=Z,2.9nm,0.8s,baz=53,slow=2.4,SNR=6.4						
SONM				LR	LR	23 31 02.7	
	comp=Z,345nm,19.4s,MS4.1,baz=304,slow=40						
SONM	**Songino Array**	**32.52**	**289**	P	**P**	**23 16 10.8**	**-1.2**
SONM						23 18 57.9	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,345nm,19.4s						
TLY	**Talaya**	**33.17**	**297**	*e*P	**P**	**23 16 15.3**	**-2.4**
TLY				*e*S	**S**	**23 21 34.5**	**+0.5**
TLY				*e*SS	SS	23 24 06.0	+7.7
TLY				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
TLY				MLR	MLR		
	comp=Z,681nm,16.0s,MS4.5						
TLY	**Talaya**	**33.17**	**297**	*e*P	**P**	**23 16 17.4**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8						
TLY				*e*	pP	23 16 29.8	-0.3
ZAK	**Zakamensk**	**33.73**	**295**	*e*P	**P**	**23 16 21.5**	**-1.0**
ZAK				*e*	pP	23 16 34.4	-0.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
MCK	**McKinley**	**34.00**	**41**	*e*P	**P**	**23 16 23.8**	**-1.1**
SML	**Sawmill**	**34.28**	**45**	*e*P	**P**	**23 16 25.9**	**-1.4**
COLA	**College**	**34.51**	**39**	*d* *i*P	**P**	**23 16 28.2**	**-1.1**
COLA	**College**	**34.51**	**39**	*e*P	**P**	**23 16 28.0**	**-1.2**
	comp=Z,47nm,1.0s,mb5.4						
YHNB	**Yeheng**	**35.31**	**242**	P	**P**	**23 16 34.3**	**-1.9**
DIV	**Divide**	**35.55**	**46**	*e*P	**P**	**23 16 36.9**	**-1.4**
	comp=Z,53nm,0.9s,mb5.5						
DIV				*e*	pP	23 16 48.2	-2.5
XAN	**Xi'an**	**37.13**	**266**	P	**P**	**23 16 51.4**	**-0.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.6						
XAN				AMB	AMB		
	comp=Z,166nm,5.5s						
XAN				LR	LR		
	comp=N,295nm,16.4s,MS4.2						
XAN				LR	LR		
	comp=E,178nm,19.2s,MS4.2						
XAN				LR	LR		
	comp=Z,567nm,18.0s,MS4.4						
EGAK	**Eagle**	**37.37**	**39**	*e*P	**P**	**23 16 52.3**	**-1.4**
	comp=Z,41nm,0.8s,mb5.3						
DAWY	**Dawson**	**38.20**	**40**	*e*P	**P**	**23 16 60.0**	**-0.8**
KRAR	**Krasnoyarsk**	**38.32**	**307**	*e*P	**P**	**23 17 00.3**	**-1.5**
KRAR				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.9						
LZH	**Lanzhou**	**39.41**	**272**	*e*P	**P**	**23 17 11.0**	**+0.1**
LZH				AP	pP	23 17 13.5	-10
LZH				PCP	PcP	23 19 19.8	+1.5
LZH				*e*S	**S**	**23 23 12.0**	**+2.9**
LZH				XS	sS	23 23 19.0	-11
LZH				SS	SS	23 25 55.4	-9.1
LZH				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,310nm,4.2s						
LZH				LR	LR		
	comp=E,831nm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.8						
LZH	**Lanzhou**	**39.41**	**272**	*e*P	**P**	**23 17 11.0**	**+0.1**
LZH						23 19 19.8	
LZH				*e*S	**S**	**23 23 12.0**	**+2.9**
LZH				SS	SS	23 25 55.4	-9.1
LZH				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,16.4s,MS4.8						
LZH	**Lanzhou**	**39.41**	**272**	*e*P	**P**	**23 17 11.0**	**+0.1**
	comp=Z,43nm,1.0s,mb5.1						
LZH				pP	pP	23 17 13.5	-10
LZH				sP	sP	23 17 14.5	-15
LZH				PP	PP	23 18 37.5	-4.4
LZH				PcP	PcP	23 19 19.8	+1.5
LZH				*e*S	**S**	**23 23 12.0**	**+2.9**
LZH				sS	sS	23 23 19.0	-11
LZH				SS	SS	23 25 55.4	-9.1
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.8						
INK	**Inuvik**	**40.10**	**33**	P	**P**	**23 17 16.4**	**-0.2**
	comp=Z,25nm,0.8s,mb5.0,baz=290,slow=7.0,SNR=82						
INK				LR	LR	23 36 03.1	
	comp=Z,137nm,18.5s,MS3.8,baz=35,slow=39						
INK	**Inuvik**	**40.10**	**33**	*e*P	**P**	**23 17 16.5**	**-0.1**
GTA	**Gaotai**	**40.37**	**279**	*e*P	**P**	**23 17 19.1**	**+0.3**
GTA				AP	pP	23 17 27.9	-3.6
GTA				XP	sP	23 17 31.9	-5.1
GTA				PP	PP	23 18 56.6	+4.3
GTA				PCP	PcP	23 19 22.5	+1.1
GTA				S	**S**	**23 23 24.8**	**+1.3**
GTA				SS	SS	23 26 19.6	-4.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
GTA				AMB	AMB		
	comp=Z,172nm,5.0s						
GTA				LR	LR		
	comp=N,494nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=E,751nm,17.1s,MS4.7						
GTA				LR	LR		
	comp=Z,652nm,15.6s,MS4.6						
CD2	**Chengdu**	**42.49**	**266**	P	**P**	**23 17 36.8**	**+0.6**
CD2				AP	pP	23 17 41.8	-7.1
CD2				XP	sP	23 17 43.8	-11
CD2				PP	PP	23 19 18.9	+3.6
CD2				PCP	PcP	23 19 30.4	+2.1
CD2				S	**S**	**23 23 57.8**	**+2.8**
CD2				XS	sS	23 24 05.8	-10
CD2				SS	SS	23 27 00.6	-5.1
CD2				SCS	ScS	23 27 35.9	+2.3
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						

comp=N,520nm,15.0s,MS4.6
CD2 LR LR
comp=E,350nm,15.6s,MS4.6
CD2 LR LR
comp=Z,650nm,15.6s,MS4.6
ZAL Zalesovo 43.39 306 P **P** **23 17 41.5 -2.0**
comp=Z,3.8nm,0.5s,mb4.4,baz=40,slow=6.8,SNR=16
ZAL PcP PcP 23 19 30.6 -0.7
comp=Z,5.3nm,1.0s,baz=4.2,slow=2.9,SNR=6.8
ZAL LR LR 23 36 53.1
comp=Z,487nm,19.5s,MS4.4,baz=36,slow=38
GYA Guiyang 43.41 259 ⇓*i*P **P** **23 17 43.9 +0.3**
GYA AP pP 23 17 48.1 -8.3
GYA XP sP 23 17 50.3 -12
GYA PP PP 23 19 28.1 +2.9
GYA PCP PcP 23 19 34.3 +2.9
GYA SCP ScP 23 23 24.4 +5.6
GYA S **S** **23 24 12.6 +4.2**
GYA SS SS 23 27 19.3 -4.3
GYA SCS ScS 23 27 42.9 +3.6
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.2s
GYA LR LR
comp=N,570nm,16.4s,MS4.7
GYA LR LR
comp=E,640nm,16.8s,MS4.7
GYA LR LR
comp=Z,680nm,16.0s,MS4.7
NVS Novosibirsk 43.90 307 *i*P **P** **23 17 46.8 -0.8**
NVS *i* pP 23 17 59.0 -1.4
NVS *i* 23 19 31.0
NVS *e*S **S** **23 24 10.2 -5.5**
NVS pmax pmax
comp=Z,50nm,2.1s,mb4.9
NVS pmax pmax
comp=N,32nm,2.0s
NVS pmax pmax
comp=E,40nm,2.0s
NVS pmax pmax
comp=Z,20nm,1.5s,mb4.6
NVS pmax pmax
comp=N,16nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS smax
comp=N,42nm,2.5s
NVS smax
comp=E,32nm,2.5s
WMQ Urumqi 46.06 292⇑*i*P **P** **23 18 04.8 0.0**
WMQ AP pP 23 18 14.8 -2.8
WMQ XP sP 23 18 18.8 -4.3
WMQ PCP PcP 23 19 40.5 0.0
WMQ PP PP 23 19 53.0 -0.4
WMQ S **S** **23 24 47.5 +0.6**
WMQ XS sS 23 25 03.9 -4.4
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
WMQ AMB AMB
comp=Z,126nm,5.3s
WMQ LR LR
comp=N,559nm,20.7s,MS4.5
WMQ LR LR
comp=E,221nm,22.0s,MS4.5
WMQ LR LR
comp=Z,456nm,17.3s,MS4.5
QIZ Qiongzhong 46.60 248 P **P** **23 18 11.1 +2.0**
QIZ PP PP 23 20 01.4 +2.3
QIZ S **S** **23 25 00.8 +6.1**
QIZ AMB AMB
comp=Z,30nm,1.5s,mb5.0
QIZ LR LR
comp=E,257nm,18.6s
QIZ LR LR
comp=Z,210nm,18.2s,MS4.1
KMI Kunming 46.91 261 P **P** **23 18 14.0 +2.5**
KMI AP pP 23 18 18.0 -6.3
KMI XP sP 23 18 19.8 -10
KMI PP PP 23 20 04.5 +2.2
KMI S **S** **23 25 04.5 +5.4**
KMI XS sS 23 25 11.1 -10
KMI SS SS 23 28 21.3 -4.9
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,167nm,4.5s
KMI LR LR
comp=N,279nm,18.1s,MS4.4
KMI LR LR
comp=E,302nm,19.7s,MS4.4
KMI LR LR
comp=Z,237nm,18.1s,MS4.2
KMI Kunming 46.91 261 P **P** **23 18 14.0 +2.5**
KMI 23 20 04.5
KMI PPP 23 20 50.1
KMI S **S** **23 25 04.5 +5.4**
KMI *SS sS 23 25 11.1 -10
KMI SS SS 23 28 21.2 -5.0
KMI SSS 23 29 35.8
KMI pmax pmax
comp=Z,12nm,1.3s,mb4.7
KMI MLR MLR
comp=Z,240nm,18.1s,MS4.2
KMI Kunming 46.91 261 P **P** **23 18 14.0 +2.5**
comp=Z,12nm,1.3s,mb4.7
KMI pP pP 23 18 18.0 -6.3
KMI sP sP 23 18 19.8 -10
KMI PP PP 23 20 04.5 +2.2
KMI PPP 23 20 50.1
KMI S **S** **23 25 04.5 +5.4**
KMI sS sS 23 25 11.1 -10
KMI SS SS 23 28 21.2 -5.0
KMI SSS 23 29 35.8
KMI LR LR
comp=Z,240nm,18.1s,MS4.2
MK31 Makanchi Array 47.92 298 *e*P **P** **23 18 18.4 -0.9**
MKAR Makanchi Array 47.92 298 P **P** **23 18 18.3 -1.0**
comp=Z,5.1nm,0.8s,mb4.6,baz=65,slow=7.8,SNR=25
MKAR LR LR 23 40 05.8
comp=Z,284nm,18.3s,MS4.3,baz=54,slow=38
MKAR Makanchi Array 47.92 298⇑*i*P **P** **23 18 18.2 -1.1**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 48.18 304 P **P** **23 18 20.8 -0.5**
comp=Z,201nm,0.8s,SNR=14
ALE Alert 48.74 6 P **P** **23 18 25.0 -0.6**
comp=Z,104nm,0.6s,mb6.0,SNR=12
YKW3 Yellowknife Ar 49.28 38 *e*P **P** **23 18 29.2 -0.5**
YKA Yellowknife Ar 49.31 38 P **P** **23 18 29.4 -0.5**
comp=Z,12nm,0.8s,mb4.9,baz=297,slow=7.5,SNR=22
YKA PcP PcP 23 19 51.7 -0.4
comp=Z,4.4nm,0.9s,baz=301,slow=3.4,SNR=5.9
YKA Yellowknife Ar 49.31 38 P **P** **23 18 29.4 -0.6**
YKA 23 19 51.7
YKA pmax pmax
comp=Z,12nm,0.9s
YKA Yellowknife Ar 49.31 38 P **P** **23 18 29.4 -0.5**
YKA PcP PcP 23 19 51.7 -0.4
RES Resolute Bay 49.53 19 *e*P **P** **23 18 30.1 -1.5**
comp=Z,804nm,1.2s
BVAR Borovoye Array 51.51 310 PcP PcP 23 20 00.3 +0.1
comp=Z,7.7nm,0.8s,baz=49,slow=4.4,SNR=6.0
BVAR LR LR 23 42 47.5
comp=Z,523nm,18.4s,MS4.6,baz=320,slow=39
BRVK Borovoye 51.55 310 P **P** **23 18 46.2 -0.7**
comp=Z,176nm,0.6s,SNR=16
BRVK Borovoye 51.55 310 ⇓P **P** **23 18 46.5 -0.4**
SNR=6.4
BRVK Borovoye 51.55 310 *e*P **P** **23 18 46.3 -0.6**
LSA Lhasa 51.77 274 P **P** **23 18 50.3 +1.8**
LSA AMB AMB
comp=Z,30nm,0.9s,mb5.2
LSA Lhasa 51.77 274 *e*P **P** **23 18 50.6 +2.1**
LSA *e* pP 23 19 03.8 +2.3
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.1
LSA Lhasa 51.77 274 *e*P **P** **23 18 50.6 +2.1**
comp=Z,15nm,0.6s,mb5.1
LSA *e* pP 23 19 03.8 +2.3
KBS Kingsbay 51.89 352⇑*e*P **P** **23 18 47.2 -2.2**
B04A Port Angeles 51.97 57 ⇓P **P** **23 18 49.6 -0.4**
baz=52
SPB4 Spitsbergen Ar 52.05 350 *e*P **P** **23 18 50.5 -0.1**
A05A Maple Falls 52.27 56 ⇓P **P** **23 18 51.2 -1.1**
baz=52
C04A Brinnon 52.45 57 ⇑P **P** **23 18 52.3 -1.4**
baz=52
A07A Ashnola River, 53.19 55 P **P** **23 18 58.4 -0.7**
baz=53,SNR=11
C05A Tolt Reservoir 53.20 57 ⇓P **P** **23 18 58.7 -0.4**
baz=53
E04A Onalaska 53.21 58 ⇑P **P** **23 18 58.5 -0.7**
baz=53
D05A Enumclaw 53.30 58 ⇑P **P** **23 19 00.5 +0.6**
baz=53
B07A Winthrop 53.66 55 P **P** **23 19 01.8 -0.7**
baz=54,SNR=5.8
F04A Amboy 53.75 59 ⇓P **P** **23 19 02.2 -1.0**
baz=54
CHTO Chiang Mai 53.82 258 P **P** **23 19 05.4 +1.7**
SNR=6.3
CHTO Chiang Mai 53.82 258 *e*P **P** **23 19 04.5 +0.9**
CHTO pmax pmax
comp=Z,22nm,1.5s,mb4.9
CHTO Chiang Mai 53.82 258 *e*P **P** **23 19 04.5 +0.9**
comp=Z,22nm,1.5s,mb4.9
WPW White Pass 53.82 58 P **P** **23 19 03.6 -0.1**
A08A Turner Farm, O 53.86 54 P **P** **23 19 03.3 -0.6**
baz=54,SNR=11
D06A Cle Elum 53.95 57 ⇓P **P** **23 19 03.6 -1.0**
baz=54
TBM Table Mountain 54.10 57 P **P** **23 19 05.0 -0.7**
C07A Waterville 54.12 56 P **P** **23 19 05.1 -0.7**
baz=54,SNR=6.3
G04A Mulino 54.12 60 ⇑P **P** **23 19 05.5 -0.3**
baz=54
B08A Colville Reser 54.15 55 P **P** **23 19 05.4 -0.7**
baz=54,SNR=9.5
A09A Danville 54.22 54 P **P** **23 19 06.2 -0.3**
baz=54,SNR=15
E06A Yakima 54.24 58 ⇑P **P** **23 19 06.3 -0.3**
baz=54
I03A Eugene 54.34 61 ⇓P **P** **23 19 06.6 -0.9**
baz=54
SOKR Solikamsk 54.40 322 ⇓*i*P **P** **23 19 08.5 +0.7**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.0
SOKR MLR MLR
comp=Z,350nm,17.0s,MS4.5
D07A Quincy 54.44 57 ⇑P **P** **23 19 07.5 -0.7**
baz=54
J02A Umpqua 54.51 62 ⇓P **P** **23 19 08.8 +0.1**
baz=54
H04A Detroit Lake 54.58 60 ⇑P **P** **23 19 09.0 -0.3**
baz=54
EDM Edmonton 54.60 48 *e*P **P** **23 19 01.0 -8.4**
C08A Higginbotham F 54.63 56 P **P** **23 19 08.9 -0.6**
baz=54,SNR=6.3
B09A Rice 54.77 54 P **P** **23 19 09.9 -0.6**
baz=55,SNR=6.0
G05A Wamic 54.77 59 ⇓P **P** **23 19 10.3 -0.3**
baz=55
F06A Goldendale 54.79 58 ⇓P **P** **23 19 10.4 -0.3**
baz=55
AAK Ala-Archa 54.84 297⇑*e*P **P** **23 19 09.2 -1.9**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
AAK Ala-Archa 54.84 297 *e*P **P** **23 19 10.5 -0.6**
E07A Sunnyside 54.87 57 P **P** **23 19 10.9 -0.4**
baz=55,SNR=5.5
J03A Idelyl Park 54.87 62 ⇑P **P** **23 19 11.4 +0.1**
baz=55
I04A Tendick Farm, 54.96 61 ⇓P **P** **23 19 11.7 -0.2**
baz=55
OD2 Odessa Site #2 55.04 56 P **P** **23 19 11.6 -1.0**
C09A Chrisman Ranch 55.05 55 ⇑P **P** **23 19 11.6 -1.0**
baz=55
D08A Wollman Farm, 55.11 56 ⇓P **P** **23 19 12.4 -0.7**
baz=55
HAWA Hanford 55.15 57 *e*P **P** **23 19 12.9 -0.3**
comp=Z,18nm,1.0s,mb5.1
F07A Phinny Hill Vi 55.20 58 ⇑P **P** **23 19 13.1 -0.6**
baz=55
HUMO Hull Mountain 55.32 63 ⇓P **P** **23 19 15.0 +0.5**
baz=55
E08A Dider Farm, El 55.36 57 ⇑P **P** **23 19 13.8 -1.0**
baz=55
I05A Bend 55.42 60 ⇓P **P** **23 19 15.3 +0.1**
baz=55
NEW Newport 55.42 54 P **P** **23 19 14.2 -1.0**
comp=Z,9.1nm,0.9s,mb4.8,baz=285,slow=6.2,SNR=5.9
NEW Newport 55.42 54 P **P** **23 19 14.3 -1.0**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 55.42 54 *e*P **P** **23 19 14.4 -0.9**
ARU Arti 55.43 318 P **P** **23 19 14.0 -1.3**
comp=Z,277nm,0.8s,SNR=20
ARU Arti 55.43 318 ⇓*i*P **P** **23 19 13.8 -1.5**
ARU *e* 23 20 11.2
ARU *e* 23 21 16.5
ARU *e*PPP 23 22 30.5
ARU *e*S **S** **23 26 58.2 +1.6**
ARU *e* 23 28 58.1
ARU *e*SS SS 23 30 42.0 +0.3
ARU pmax pmax
comp=Z,33nm,0.8s,mb5.4
ARU Arti 55.43 318 *e*P **P** **23 19 14.2 -1.1**
A11A Hall Mountain, 55.44 53 P **P** **23 19 15.4 0.0**
baz=55,SNR=8.6
D09A Jones Farm, Ri 55.45 56 P **P** **23 19 14.5 -1.0**
baz=55,SNR=5.3
J04A Umpqua Nationa 55.46 62 P **P** **23 19 16.3 +0.8**
baz=55,SNR=5.9
C10A Spilker Farm, 55.58 55 ⇑P **P** **23 19 15.0 -1.4**
baz=55
VIPM Ingram Point 55.60 60 P **P** **23 19 16.9 +0.3**
H06A Lindquist Farm 55.64 59 P **P** **23 19 16.9 +0.1**
baz=56,SNR=6.0
G07A Ruggs Ranch, H 55.72 58 ⇓P **P** **23 19 17.1 -0.3**
baz=56
B11A Sandpoint 55.74 54 P **P** **23 19 17.2 -0.3**
baz=56,SNR=10
KSH Kashi 55.76 293 *e*P **P** **23 19 20.4 +2.8**
KSH *e*AP pP 23 19 25.1 -5.7
KSH *e*XP sP 23 19 28.1 -8.1
KSH *e*PCP PcP 23 20 20.3 +3.9
KSH *e*PP PP 23 21 27.0 +4.6
KSH *e*SCP ScP 23 24 15.9 +4.5
KSH *e*S **S** **23 27 05.5 +4.5**
KSH *e*XS sS 23 27 15.0 -7.9
KSH *e*SCS ScS 23 29 05.5 +2.7
KSH *e*SS SS 23 30 50.6 +3.7
A12A Yaak River Ran 55.84 53 ⇓P **P** **23 19 18.2 -0.1**
baz=56
DAG Danmarks Havn 55.85 358⇑*i*P **P** **23 19 17.1 -1.2**
comp=Z,27nm,1.3s,mb5.1
DAG Danmarks Havn 55.85 358*i*P **P** **23 19 17.1 -1.2**
DAG pmax pmax
comp=Z,27nm,1.3s,mb5.1
E09A Wood Farm, Sta 55.86 56 P **P** **23 19 17.8 -0.6**
baz=56,SNR=11
F08A Pendleton 55.92 57 ⇑P **P** **23 19 18.2 -0.6**
baz=56
J05A Fort Rock 55.95 61 P **P** **23 19 19.9 +0.9**
baz=56,SNR=9.7
YBH Yreka Blue Hor 55.98 63 P **P** **23 19 19.8 +0.5**
comp=Z,18nm,1.0s,mb5.1,baz=310,slow=1.8,SNR=14
YBH Yreka Blue Hor 55.98 63 *e*P **P** **23 19 20.3 +1.1**
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 55.98 63 P **P** **23 19 20.1 +0.8**
baz=56,SNR=5.3
M02C Callahan 56.09 64 ⇓P **P** **23 19 21.6 +1.5**
baz=56
G08A Pilot Rock 56.11 58 ⇑P **P** **23 19 19.9 -0.3**
baz=56
N02C Big Bar 56.15 65 ⇓P **P** **23 19 21.1 +0.6**
baz=56
I06A Prineville 56.17 60 P **P** **23 19 21.4 +0.8**
baz=56,SNR=5.7
L04A Klamath Falls 56.21 63 ⇓P **P** **23 19 21.1 +0.2**
baz=56
JIRN Jiri 56.41 276 *e*P **P** **23 19 23.7 +1.3**
comp=Z,23nm,0.6s,mb5.4
E10A Myers Farm, Un 56.46 56 ⇑P **P** **23 19 22.3 -0.3**
baz=56
GUN Gumba 56.46 276 *e*P **P** **23 19 23.2 +0.5**
comp=Z,26nm,0.8s,mb5.3
F09A S2 Ranch, Elgi 56.46 57 ⇑P **P** **23 19 22.4 -0.3**
baz=56
M04C Macdoel 56.47 63 ⇓P **P** **23 19 23.6 +0.8**
baz=56
K05A Summer Lake 56.48 61 P **P** **23 19 23.8 +1.0**
baz=56,SNR=8.6
I07A Izee 56.50 59 P **P** **23 19 23.2 +0.2**
baz=56,SNR=5.7
D11A Klaveano Farm, 56.56 55 P **P** **23 19 22.7 -0.7**
baz=56,SNR=11
M03C McCloud 56.60 64 ⇑P **P** **23 19 24.3 +0.5**
baz=56
J06A Christmas Vall 56.61 61 P **P** **23 19 24.2 +0.5**
baz=56,SNR=9.5
C12A Trout Creek 56.65 54 P **P** **23 19 23.8 -0.2**
baz=56,SNR=11
F10A Beach Ranch, E 56.70 56 ⇑P **P** **23 19 24.7 +0.3**
baz=56
WALA Waterton Lakes 56.70 52 *e*P **P** **23 19 24.1 -0.3**
comp=Z,23nm,0.8s,mb5.2
H08A Prairie City 56.73 59 P **P** **23 19 24.8 +0.2**
baz=56,SNR=7.0
WDC Whiskeytown Da 56.76 64 ⇓P **P** **23 19 25.1 +0.3**
baz=57
B13A Whitefish 56.81 53 P **P** **23 19 25.2 0.0**
baz=57,SNR=24
K06A Valley Falls 56.82 61 P **P** **23 19 25.8 +0.5**
baz=57,SNR=11
O02C Red Bluff 56.85 65 ⇓P **P** **23 19 26.1 +0.6**
baz=57
L05A Lakeview 56.92 62 P **P** **23 19 27.2 +1.3**
baz=57,SNR=6.5
BSMT Bassoo Peak 56.94 53 P **P** **23 19 26.1 0.0**
KKN Kakani 56.94 276 *e*P **P** **23 19 27.2 +1.1**
comp=Z,81nm,1.1s,mb5.7
PKI Pulchoki 57.00 276 *e*P **P** **23 19 27.4 +0.9**
comp=Z,58nm,1.2s,mb5.5
J07A Hines 57.03 60 P **P** **23 19 27.8 +1.0**
baz=57,SNR=5.9
KEV Kevo 57.05 341 *e*p **P** **23 19 25.3 -1.6**
comp=Z,2.3nm,0.5s,mb4.5
KEV Kevo 57.05 341 *e*P **P** **23 19 25.3 -1.6**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
M05C Lookout 57.14 63 P **P** **23 19 28.2 +0.7**
baz=57,SNR=5.8
I08A Drewsey 57.15 59 P **P** **23 19 28.1 +0.6**
baz=57,SNR=8.1
C13A Hot Springs 57.16 54 ⇑P **P** **23 19 26.9 -0.7**
baz=57
APA Apatity 57.16 337⇑*e*P **P** **23 19 26.5 -1.2**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,500nm,16.0s,MS4.7
DMN Daman 57.18 276 *e*P **P** **23 19 28.0 +0.2**
comp=Z,77nm,0.9s,mb5.7
GASB Alder Springs 57.21 65 ⇓P **P** **23 19 28.6 +0.6**
baz=57
PMG Port Moresby 57.22 190 LR LR 23 41 11.4
comp=Z,73nm,18.7s,MS3.8,baz=54,slow=33
H09A Durkee 57.22 58 P **P** **23 19 28.4 +0.3**
baz=57,SNR=13
GKN Gorkha 57.24 277 *e*P **P** **23 19 29.1 +0.9**
comp=Z,50nm,0.7s,mb5.7
HATC Hat Creek Radi 57.28 64 ⇑P **P** **23 19 29.0 +0.6**
baz=57
BMO Blue Mountains 57.31 58 *e*P **P** **23 19 28.7 -0.1**
comp=Z,19nm,1.0s,mb5.1
MOD Modoc 57.32 62 *e*Pg **P** **23 19 28.4 -0.3**
MOD Modoc 57.32 62 ⇑P **P** **23 19 28.0 -0.8**
baz=57
LBCM Butte Creek Ri 57.33 64 P **P** **23 19 29.2 +0.4**
K07A Rock Creek Ran 57.48 61 P **P** **23 19 30.4 +0.5**
baz=57,SNR=7.3
J08A Circle Bar Ran 57.53 60 ⇑P **P** **23 19 30.4 +0.1**
baz=57
ARCES ARCESS Array B 57.55 341 P **P** **23 19 29.6 -0.8**
comp=Z,3.0nm,0.5s,mb4.5,baz=39,slow=7.8,SNR=14
ARCES LR LR 23 50 18.6
comp=Z,208nm,18.1s,MS4.3,baz=33,slow=42
ARCES ARCESS Array B 57.55 341 P **P** **23 19 29.6 -0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES MLR MLR
comp=Z,208nm,18.1s
ARE0 ARCESS Array S 57.55 341 *e*P **P** **23 19 30.5 +0.1**
D13A Huson 57.57 54 P **P** **23 19 30.1 -0.4**
baz=57,SNR=10
G11A Walters Elk Ra 57.58 57 ⇓P **P** **23 19 30.0 -0.6**
baz=57
I09A Lost Marbles R 57.59 59 P **P** **23 19 31.0 +0.3**
baz=57,SNR=8.1
M06C Likely Place G 57.64 63 ⇓P **P** **23 19 30.9 -0.1**
baz=58
O04C Chester 57.81 64 ⇑P **P** **23 19 32.1 -0.1**
baz=58
L07A Adell 57.83 61 ⇓P **P** **23 19 32.8 +0.5**
baz=58
MNRC McLaughlin Nat 57.85 66 ⇑P **P** **23 19 33.5 +1.0**
baz=58
K08A Mann Creek Ran 57.90 60 P **P** **23 19 33.6 +0.7**
baz=58,SNR=7.1
F12A Elk City 57.93 56 P **P** **23 19 32.9 -0.1**
baz=58,SNR=12
J09A Fry Pan Ranch, 57.96 59 P **P** **23 19 33.7 +0.4**
baz=58,SNR=14
WVOR Wild Horse Val 57.99 61 *e*P **P** **23 19 34.0 +0.5**
WVOR Wild Horse Val 57.99 61 Pb **P** **23 19 33.5 0.0**
MSO Missoula 58.01 54 *e*P **P** **23 19 33.7 0.0**
comp=Z,17nm,1.1s,mb5.0
ORV Oroville 58.02 65 P **P** **23 19 33.3 -0.3**
baz=58,SNR=6.7
SUTB Sutter Butte 58.04 65 ⇑P **P** **23 19 33.8 0.0**
baz=58
KOLN Koldanda 58.09 277 *e*P **P** **23 19 35.1 +1.0**
comp=Z,58nm,0.9s,mb5.6
D14A Greenough 58.10 54 P **P** **23 19 33.8 -0.4**
baz=58,SNR=13
E13A Victor 58.11 55 P **P** **23 19 34.5 +0.2**
baz=58,SNR=5.7
O05C Quincy 58.13 64 ⇓P **P** **23 19 34.4 0.0**
baz=58
H11A Donnelly 58.14 57 P **P** **23 19 34.5 0.0**
baz=58,SNR=12
OHCM Honcut 58.16 65 *e*P **P** **23 19 34.5 -0.2**
N06A Buffalo Meadow 58.30 63 P **P** **23 19 35.7 0.0**
baz=58,SNR=9.7
M07A Soldier Meadow 58.31 62 P **P** **23 19 36.2 +0.5**
baz=58,SNR=13
L08A Fields 58.31 61 P **P** **23 19 36.0 +0.2**
baz=58,SNR=7.2
CHMT Chamberlain Mo 58.34 54 *e*P **P** **23 19 35.3 -0.6**
K09A Rome 58.37 60 ⇑P **P** **23 19 35.9 -0.2**
baz=58
F13A Darby 58.43 55 P **P** **23 19 36.0 -0.5**
baz=58,SNR=12
E14A Clinton 58.51 54 P **P** **23 19 36.6 -0.5**
baz=58,SNR=20
BEKR Beckwourth 58.52 64 ⇓P **P** **23 19 37.2 0.0**
baz=58
D15A Lincoln 58.66 53 P **P** **23 19 37.9 -0.2**
baz=58,SNR=7.9
O06A Flanigan 58.66 63 ⇓P **P** **23 19 38.4 +0.3**
baz=58
P05C Yuba Gap, Truc 58.72 65 ⇓P **P** **23 19 37.2 -1.3**
baz=58
N07B Gerlach 58.80 62 ⇓P **P** **23 19 39.7 +0.6**
baz=59
F14A Wisdom 58.95 55 ⇑P **P** **23 19 39.8 -0.3**
baz=59
E15A Deer Lodge 58.97 54 ⇓P **P** **23 19 40.0 -0.3**
baz=59
LAVA Lava Cap Winer 58.98 65 P **P** **23 19 40.4 +0.1**
baz=59,SNR=6.9
FFC Flin Flon 59.09 41 P **P** **23 19 41.9 +0.8**
comp=Z,241nm,1.0s,SNR=8.7
O07A Toulon 59.24 63 P **P** **23 19 42.5 +0.3**
baz=59,SNR=7.8
WCN Washoe City 59.24 64 ⇑P **P** **23 19 42.5 +0.3**
baz=59
N08A GE Springer Mi 59.30 62 P **P** **23 19 42.8 +0.2**
baz=59,SNR=8.8
AKTK Aktyubinsk 59.31 312 P **P** **23 19 42.3 -0.4**
AKTK LR LR 23 47 50.8
AKTO Aktyubinsk 59.31 312 P **P** **23 19 42.3 -0.4**
comp=Z,7.4nm,0.6s,mb4.9,baz=8.4,slow=14
AKTO LR LR 23 47 50.8
comp=Z,193nm,18.2s,MS4.3,baz=240,slow=39
AKTO Aktyubinsk 59.31 312 P **P** **23 19 42.3 -0.3**
AKTO pmax pmax

AKTO MLR MLR
comp=Z,7.0nm,0.6s,mb4.9
M09A Marrel Ranch, 59.31 61 ⇑P P 23 19 43.2 +0.5
baz=59
S04C Ingram Canyon, 59.39 67 ⇓P P 23 19 43.6 +0.4
baz=59
F15A Butte 59.41 54 P P 23 19 43.4 +0.1
baz=59,SNR=14
R05C Kirkwood Meado 59.42 65 ⇓P P 23 19 42.1 -1.3
baz=59
LRM Limekiln Ridge 59.45 54 eP P 23 19 43.7 +0.1
EGMT Eagleton 59.53 51 eP P 23 19 44.2 0.0
comp=Z,30nm,1.1s,mb5.2
EGMT Eagleton 59.53 51 P P 23 19 44.2 +0.1
baz=59,SNR=7.3
N09A Rock Creek Ran 59.62 61 ⇑P P 23 19 45.0 +0.2
baz=59
CMB Columbia Colle 59.64 66 eP P 23 19 44.2 -0.7
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.9
CMB Columbia Colle 59.64 66 eP P 23 19 44.2 -0.7
comp=Z,13nm,1.0s,mb4.9
CMB Columbia Colle 59.64 66 P P 23 19 44.7 -0.3
baz=60,SNR=9.0
DLMT Dillon 59.65 55 eP P 23 19 45.2 +0.2
comp=Z,11nm,1.0s,mb4.8
PACP Pacheco Peak 59.73 67 P P 23 19 45.9 +0.4
baz=60,SNR=5.6
SUMG Summit 59.74 5 eP P 23 19 42.5 -3.1
HLID Hailey 59.75 57 eP P 23 19 45.8 +0.1
HLID Hailey 59.75 57 P P 23 19 45.9 +0.2
baz=60,SNR=14
M10A I.L. Ranch, Tu 59.79 60 P P 23 19 46.9 +0.9
baz=60,SNR=14
G15A Dillon 59.83 55 P P 23 19 46.0 -0.2
baz=60,SNR=12
MCMT McKenzie Canyo 59.84 55 P P 23 19 46.3 0.0
R06C Coleville 59.91 65 P P 23 19 47.2 +0.5
baz=60,SNR=7.8
HAST UC Hastings Re 59.95 68 ⇓P P 23 19 46.5 -0.5
baz=60
BMN Battle Mountai 60.06 62 eP P 23 19 48.2 +0.4
BMN pmax pmax
comp=Z,20nm,1.0s,mb5.1
BMN Battle Mountai 60.06 62 eP P 23 19 48.1 +0.3
comp=Z,20nm,1.0s,mb5.1
S06C San Francisco 60.07 65 P P 23 19 48.1 +0.2
baz=60,SNR=11
S05C Merced 60.11 66 ⇓P P 23 19 47.9 -0.2
baz=60
KSM Kuching 60.23 235 eP P 23 19 49.0 +0.1
KSM e pP 23 20 03.0 +0.8
O09A Fish Creek Ran 60.24 62 P P 23 19 49.7 +0.6
baz=60,SNR=7.3
M11A Holland Ranch, 60.28 60 P P 23 19 50.5 +1.2
baz=60,SNR=7.0
V03C Hunter Liggett 60.38 68 ⇓P P 23 19 49.5 -0.5
baz=60
U04C Hernandez Rese 60.45 67 ⇑P P 23 19 50.3 -0.2
baz=60
O10A Cortez Mining, 60.58 61 ⇑P P 23 19 51.6 +0.3
baz=60
Q08A Gabbs 60.62 63 P P 23 19 52.2 +0.6
baz=60,SNR=7.0
QLMT Earthquake Lak 60.63 55 eP P 23 19 52.1 +0.4
NVAR Mina Array Bea 60.67 64 P P 23 19 52.1 +0.2
comp=Z,8.3nm,0.9s,mb4.9,baz=291,slow=7.6
N11A Elko Archery C 60.70 60 ⇓P P 23 19 52.8 +0.6
baz=60
KCC Kaiser Creek 60.75 66 P P 23 19 52.8 +0.3
baz=61,SNR=7.7
M12A Wells 60.80 59 P P 23 19 53.6 +0.7
baz=61,SNR=16
PKD Parkfield 60.86 68 ⇓P P 23 19 53.1 -0.2
baz=61
GCMT Greycliff 60.98 53 eP P 23 19 54.5 +0.4
YMR Madison River 60.99 55 eP P 23 19 54.7 +0.6
comp=Z,11nm,0.6s,mb5.2
P10A Eureka 61.02 62 ⇑P P 23 19 54.7 +0.3
baz=61
ELK Elko 61.04 60 eP P 23 19 54.8 +0.3
ELK pmax pmax
comp=Z,7.0nm,0.7s
ELK Elko 61.04 60 eP P 23 19 54.8 +0.3
comp=Z,6.9nm,0.7s,mb4.9
N12A Clover Valley, 61.09 60 P P 23 19 55.8 +0.9
baz=61,SNR=6.8
YNR Norris Junctio 61.11 54 eP P 23 19 56.6 +1.6
O11A Cowboy Ranch, 61.18 61 P P 23 19 55.8 +0.4
baz=61,SNR=8.5
YFT Old Faithful 61.20 55 eP P 23 19 56.9 +1.4
M13A Montello 61.27 59 ⇑P P 23 19 56.6 +0.5
baz=61
HELL Mitchell Peak, 61.34 66 P P 23 19 56.1 -0.4
baz=61,SNR=12
S08C White Mtn Res 61.34 65 P P 23 19 57.4 +0.8
baz=61,SNR=7.6
P11A Circle Ranch, 61.49 62 ⇓P P 23 19 57.8 +0.3
baz=61
FLWY Flagg Ranch 61.51 55 eP P 23 19 58.5 +0.8
comp=Z,15nm,1.0s,mb5.1
R09A Tonopah 61.54 63 P P 23 19 58.0 +0.1
baz=61,SNR=13
TPH Tonopah 61.55 64 eP P 23 19 58.4 +0.5
TPH pmax pmax
comp=Z,13nm,1.0s,mb5.0
TPH Tonopah 61.55 64 eP P 23 19 58.4 +0.4
comp=Z,13nm,1.0s,mb5.0
N13A Wendover, West 61.57 60 P P 23 19 58.5 +0.4
baz=61,SNR=9.8
RLMT Red Lodge 61.62 53 eP P 23 19 58.9 +0.5
comp=Z,9.4nm,0.6s,mb5.1
O12A Currie 61.63 60 P P 23 19 58.7 +0.2
baz=61,SNR=15
RRI2 Red Ridge 61.63 56 eP P 23 19 59.4 +0.9
MOOW Moose Ponds 61.70 55 eP P 23 19 59.7 +0.8
comp=Z,22nm,1.3s,mb5.1
S09A Goldfield 61.77 64 P P 23 19 59.4 0.0
baz=62,SNR=6.2
HVU Hansel Valley 61.81 58 eP P 23 20 00.3 +0.6
VES Vestal, Richgr 61.84 67 ⇑P P 23 19 59.1 -0.8
baz=62
LOHW Long Hollow 61.86 55 eP P 23 20 00.8 +0.8
comp=Z,30nm,1.3s,mb5.3
SNOW Snow King Moun 61.87 55 eP P 23 20 01.1 +1.0
PKM Peak Mountain 61.98 68 P P 23 20 01.5 +0.6
baz=62,SNR=6.3
Q11A Duckwater 62.00 62 P P 23 20 00.7 -0.3
baz=62,SNR=6.5
P12A McGill 62.05 61 P P 23 20 01.6 +0.3
baz=62,SNR=5.8
CWC Cottonwood Cre 62.07 66 ⇓P P 23 20 01.3 -0.2
baz=62
GRAC Grapevine Rang 62.15 65 ⇑P P 23 20 02.4 +0.5
baz=62
LAO LASA Array 62.23 50 eP P 23 20 03.1 +0.6
SPUT South Promonto 62.30 58 eP P 23 20 00.4 -2.6
ISA Isabella 62.33 67 eP P 23 20 02.5 -0.7
ISA Isabella 62.33 67 ⇓P P 23 20 02.0 -1.1
baz=62
Q12A Willow Creek R 62.37 62 P P 23 20 03.6 +0.2
baz=62,SNR=7.7
DAC Darwin (Calif) 62.48 65 eP P 23 20 04.2 0.0
DAC e pP 23 20 18.1 +0.6
DAC Darwin (Calif) 62.48 65 eP P 23 20 04.2 0.0
HWUT Hardware Ranch 62.62 58 eP P 23 20 05.4 +0.3
comp=Z,23nm,1.4s,mb5.1
MPMC Manual Prospec 62.68 66 P P 23 20 04.8 -0.7
baz=62,SNR=13
FURC Furnace Creek, 62.80 65 P P 23 20 06.7 +0.4
baz=63,SNR=7.8
DUG Dugway 62.81 59 eP P 23 20 06.5 +0.1
DUG pmax pmax
comp=Z,12nm,0.8s,mb5.1
DUG Dugway 62.81 59 eP P 23 20 06.5 +0.1
comp=Z,12nm,0.8s,mb5.1
DUG Dugway 62.81 59 P P 23 20 06.7 +0.3
baz=63,SNR=20
OSI Osito Adit 62.85 68 ⇑P P 23 20 06.9 +0.2
baz=63
BW06 Boulder Array 62.99 55 eP P 23 20 07.5 -0.1
comp=Z,21nm,1.1s,mb5.2
PDAR Pinedale Array 62.99 55 P P 23 20 07.7 +0.1
comp=Z,9.6nm,0.9s,mb4.9,baz=300,slow=2.9,SNR=55
EDW2 Edwards Air Fo 63.14 67 P P 23 20 08.3 -0.3
baz=63,SNR=24
U10A Ash Meadows, A 63.16 65 ⇓P P 23 20 08.5 -0.2
baz=63
DECC Green Verdugo 63.34 68 ⇑P P 23 20 09.1 -0.8
baz=63
NLU North Lily Min 63.40 59 eP P 23 20 10.8 +0.6
KAKA Kakadu 63.43 205 eP P 23 20 09.6 -0.9
comp=Z,8.0nm,0.6s,mb5.0
MWC Mount Wilson 63.52 68 eP P 23 20 11.3 +0.2
SHOC Shoshone 63.53 65 ⇑P P 23 20 10.7 -0.5
baz=63
DAU Daniels Canyon 63.57 58 P P 23 20 07.5 -3.9
DAU Daniels Canyon 63.57 58 eP P 23 20 07.4 -4.0
GSC Goldstone 63.60 66 eP P 23 20 11.6 0.0
GSC Goldstone 63.60 66 P P 23 20 11.7 +0.1
baz=63,SNR=7.2
U11A Corn Creek 63.74 64 ⇓P P 23 20 13.0 +0.5
baz=64
BFSC Mount Baldy St 63.77 67 P P 23 20 12.8 +0.1
baz=64,SNR=6.3
SHPR Sheep Range 63.82 64 eP P 23 20 13.2 +0.2
FIA1 FINESS Array S 63.92 336 eP P 23 20 13.6 -0.1
FIA1 e pP 23 20 26.5 -0.6
FINES FINESS Array B 63.92 336 P P 23 20 13.4 -0.4
comp=Z,25nm,0.8s,mb5.3,baz=40,slow=6.9,SNR=68
FINES LR LR 23 52 13.2
comp=Z,169nm,18.2s,MS4.3,baz=2.6,slow=40
FINES FINESS Array B 63.92 336 i P P 23 20 13.3 -0.4
FINES pmax pmax
comp=Z,25nm,0.8s
ARUT Antelope Range 64.01 62 P P 23 20 14.7 +0.4
ARUT e pP 23 20 32.3 +4.6
SCI San Clemente I 64.03 69 ⇑P P 23 20 13.8 -0.7
baz=64
TUQ Turquoise Mtn. 64.05 65 P P 23 20 14.7 +0.1
baz=64,SNR=6.9
V11A Goodsprings 64.09 65 ⇓P P 23 20 15.0 +0.2
baz=64
HEC Hector,Ludlow 64.20 66 P P 23 20 15.8 +0.2
baz=64,SNR=7.7
MSU Marysvale 64.28 60 eP P 23 20 17.2 +1.1
TMUT Trail Mountain 64.33 59 eP P 23 20 17.2 +0.7
MURC Murrieta 64.47 68 ⇓P P 23 20 16.7 -0.7
baz=64
V12A Nelson 64.52 64 P P 23 20 18.1 +0.5
baz=64,SNR=5.8
MOS Moscow 64.61 326 eP P 23 20 16.3 -1.9
MOS pmax pmax
comp=Z,46nm,0.7s,mb5.6
GMRC Granite Mounta 64.65 66 P P 23 20 18.5 0.0
baz=64,SNR=10.0
W12A Cal Nev Ari 64.79 65 ⇑P P 23 20 19.3 -0.1
baz=65
SRU San Rafael 64.85 59 eP P 23 20 19.9 +0.1
ULM Lac du Bonnet 64.86 42 P P 23 20 19.2 -0.6
comp=Z,8.3nm,0.7s,mb4.9,baz=317,slow=7.2,SNR=16
PFO Pinyon Flat Ob 64.93 67 P P 23 20 19.8 -0.5
comp=Z,1.6nm,0.6s,mb4.2,baz=323,slow=6.5,SNR=5.6
PFO Pinyon Flat Ob 64.93 67 P P 23 20 19.8 -0.5
PFO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
PFO Pinyon Flat Ob 64.93 67 P P 23 20 19.8 -0.6
PFO Pinyon Flat Ob 64.93 67 ⇑P P 23 20 20.6 +0.3
baz=65
BELC Belle Mtn. 64.95 66 ⇓P P 23 20 20.7 +0.3
baz=65
109C Camp Elliot, M 65.00 68 ⇑P P 23 20 20.5 -0.3
baz=65
RSSD Black Hills 65.09 51 eP P 23 20 21.0 -0.3
RSSD pmax pmax
comp=Z,29nm,0.9s,mb5.3
RSSD Black Hills 65.09 51 eP P 23 20 21.0 -0.3
comp=Z,29nm,0.9s,mb5.3
IRM Iron Mountain 65.37 66 P P 23 20 23.0 -0.2
baz=65,SNR=16
OBN Obninsk 65.47 326 P P 23 20 23.5 -0.3
comp=Z,276nm,0.9s,SNR=5.8
OBN Obninsk 65.47 326 ⇑eP P 23 20 23.0 -0.8
OBN i 23 20 43.8
OBN pmax pmax
comp=Z,40nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 65.47 326 eP P 23 20 22.9 -0.9
comp=Z,85nm,1.3s,mb5.6
OBN e pP 23 20 36.2 -1.1
BC3 Big Chuckw Mtn 65.52 66 P P 23 20 24.0 -0.2
baz=65,SNR=7.2
W13A Hualapai Mount 65.52 64 P P 23 20 24.2 +0.1
baz=65,SNR=6.7
DVTC Desert V Tower 65.78 68 ⇓P P 23 20 25.2 -0.6
baz=66
SWSC Sam W. Stewart 65.79 67 ⇑P P 23 20 24.9 -1.0
baz=66
X13A Yucca 65.90 65 P P 23 20 26.4 -0.2
baz=66,SNR=14
PDMCI Parker Dam,Lak 65.90 65 P P 23 20 26.7 +0.1
baz=66,SNR=5.4
W14A Seligman 65.94 64 P P 23 20 27.3 +0.5
baz=66,SNR=16
Y12C Blythe 66.03 66 ⇑P P 23 20 27.7 +0.3
baz=66
VSU Vasula 66.17 333 eP P 23 20 26.6 -1.7
PV10 Paradox Valley 66.21 59 eP P 23 20 28.8 +0.2
AGMN Agassiz Refuge 66.25 44 eP P 23 20 27.9 -1.0
comp=Z,43nm,1.3s,mb5.3
GLA Glamis 66.31 67 eP P 23 20 29.1 -0.2
GLA Glamis 66.31 67 P P 23 20 29.2 0.0
baz=66,SNR=8.4
W15A Williams 66.45 63 P P 23 20 31.2 +1.1
baz=66,SNR=5.2
VRHR Novokhopersk 66.46 321 eP P 23 20 27.4 -2.8
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,4.0nm,1.3s
VRHR pmax pmax
comp=E,40nm,0.8s
X14A Yava 66.55 64 P P 23 20 31.3 +0.6
baz=66,SNR=12
PV01 Paradox Valley 66.64 59 eP P 23 20 31.2 -0.1
WUAZ Wupatki 66.76 62 ⇑P P 23 20 32.9 +0.8
baz=67
Y14A Wickenburg 66.84 65 ⇑P P 23 20 32.2 -0.4
baz=67
X15A Humboldt 66.94 64 P P 23 20 33.9 +0.6
baz=67,SNR=15
ISCO Idaho Springs 67.19 56 eP P 23 20 35.3 +0.5
ISCO pmax pmax
comp=Z,24nm,1.2s,mb5.1
ISCO Idaho Springs 67.19 56 eP P 23 20 35.3 +0.6
comp=Z,24nm,1.2s,mb5.1
Z14A Wiggensburg 67.27 65 ⇓P P 23 20 34.9 -0.4
baz=67
MVCO Mesa Verde 67.31 59 eP P 23 20 35.5 -0.1
comp=Z,20nm,1.3s,mb5.0
MVCO Mesa Verde 67.31 59 P P 23 20 35.7 +0.1
baz=67,SNR=7.0
VRSR Storozhevoye 67.39 322 d iP P 23 20 35.8 -0.3
VRSR pmax pmax
comp=N,50nm,0.9s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR pmax pmax
comp=Z,40nm,0.9s,mb5.5
ABKT Ailbek 67.48 302 P P 23 20 38.8 +2.1
comp=Z,190nm,0.8s,SNR=7.1
VORD Divnogorie 67.54 322 eP P 23 20 35.2 -1.8
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.3
VORD pmax pmax
comp=N,9.0nm,0.6s
CTA Charters Tower 67.87 189 LR LR 23 50 07.8
comp=N,96nm,18.8s,MS4.0,baz=49,slow=36
AFI Afiamalu 67.89 145 LR LR 23 47 33.0
comp=N,165nm,19.8s,MS4.3,baz=56,slow=34
NB2 NORSAR Subarra 67.91 342 P P 23 20 39.2 -0.2
comp=Z,20nm,0.8s,mb5.2,baz=26,slow=6.5
NOA NORSAR Array B 67.91 342 P P 23 20 39.2 -0.2
comp=Z,12nm,0.8s,mb5.0,baz=26,slow=6.4,SNR=43
NOA LR LR 23 55 31.2
comp=Z,149nm,18.6s,MS4.2,baz=20,slow=40
NOA NORSAR Array B 67.91 342 P P 23 20 39.2 -0.2
NOA pmax pmax
comp=Z,12nm,0.8s
NOA MLR MLR
comp=Z,149nm,18.6s
NOA NORSAR Array B 67.91 342 P P 23 20 39.2 -0.2
NOA LR LR 23 55 31.2
115A Sonoran Desert 68.16 65 P P 23 20 41.7 +0.8
baz=68,SNR=6.3
HYB Hyderabad 68.52 273 i P P 23 20 43.5 +0.3
HYB Hyderabad 68.52 273 eP P 23 20 43.5 +0.3
SDCO Great Sand Dun 68.67 57 eP P 23 20 44.2 +0.1
ECSD EROS,Sioux Fal 69.18 48 eP P 23 20 46.2 -1.1
comp=Z,28nm,0.9s,mb5.2
WRAB Tennant Creek 69.83 201 P P 23 20 50.9 -0.4
comp=Z,93nm,1.0s,mb5.7,SNR=6.8
WRAB Tennant Creek 69.83 201 eP P 23 20 50.3 -1.0
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WRAB Tennant Creek 69.83 201 eP P 23 20 50.3 -1.0
comp=Z,9.5nm,0.8s,mb4.8
WB2 Warramunga Arr 69.84 201 eP P 23 20 50.1 -1.2
WB2 Warramunga Arr 69.84 201 eP P 23 20 50.0 -1.4
WRA Warramunga Arr 69.84 201 P P 23 20 49.6 -1.7
comp=Z,9.8nm,0.9s,mb4.7,baz=19,slow=6.5,SNR=40
WRA LR LR 23 49 26.8
comp=Z,54nm,20.4s,MS3.8,baz=40,slow=34
WRA Warramunga Arr 69.84 201 i P P 23 20 50.0 -1.4
WRA pmax pmax
comp=Z,10.0nm,0.9s
LAZ Ladron 70.05 61 eP P 23 20 52.8 +0.1
ANMO Albuquerque 70.07 60 P P 23 20 52.9 +0.2
comp=Z,6.0nm,1.0s,mb4.5,baz=312,slow=7.7,SNR=12
ANMO Albuquerque 70.07 60 P P 23 20 52.9 +0.2
ANMO e pP 23 21 05.5 -0.8
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 70.07 60 eP P 23 20 53.2 +0.4
comp=Z,5.2nm,0.8s,mb4.5
LENM Lemitar 70.31 61 eP P 23 20 54.4 +0.1
BNM Barren Site 70.53 61 eP P 23 20 56.1 +0.6
FITZ Fitzroy Crossi 70.64 210 eP P 23 20 56.2 0.0
comp=Z,13nm,0.9s,mb4.9
SUW Suwalki 70.98 332 eP P 23 20 57.7 -0.6
SUW e pP 23 21 10.5 -1.3
SUW Suwalki 70.98 332 eP P 23 20 58.1 -0.2
SUW e pP 23 21 10.9 -0.9
SUW Suwalki 70.98 332 eP P 23 20 57.2 -1.1
comp=Z,15nm,0.7s,mb5.0
CBKS Cedar Bluff 71.11 53 eP P 23 20 57.6 -1.5
KIV Kislovodsk 71.30 315 P P 23 21 02.8 +2.5
comp=Z,183nm,1.1s,mb5.9,SNR=9.0
KIV Kislovodsk 71.30 315 ⇑P P 23 21 03.0 +2.7
SNR=9.9
KIV Kislovodsk 71.30 315 eP P 23 21 01.2 +0.9
KIV e pP 23 21 17.3 +3.5
KIV eS S 23 30 16.2 +1.8
KIV pmax pmax
comp=Z,49nm,1.2s,mb5.3
KIV pmax pmax
comp=Z,251nm,2.6s,mb5.7
KIV MLR MLR
comp=Z,338nm,18.0s,MS4.7
KIV Kislovodsk 71.30 315 eP P 23 21 00.6 +0.3
comp=Z,22nm,0.8s,mb5.1
KIV e pP 23 21 14.7 +0.8
ZEI Tsey 71.61 314 eP P 23 21 02.0 -0.1
ZEI i pP 23 21 14.9 -0.8
ZEI pmax pmax
comp=Z,20nm,1.2s,mb4.9
AKASG Malin Array Be 71.69 327 P P 23 21 01.8 -0.8
comp=Z,6.1nm,0.6s,mb4.7,baz=32,slow=6.2,SNR=29
AKASG LR LR 23 58 02.7
comp=Z,170nm,18.9s,MS4.3,baz=15,slow=40
AKASG Malin Array Be 71.69 327 i P P 23 21 01.7 -0.9
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 71.69 327 eP P 23 21 01.6 -1.0
AKBB e pP 23 21 15.0 -1.2
KIEV Kiev 71.70 327 eP P 23 21 02.0 -0.7
KIEV e pP 23 21 15.0 -1.2
KIEV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIEV Kiev 71.70 327 eP P 23 21 02.0 -0.7
comp=Z,14nm,0.8s,mb4.9
KIEV e pP 23 21 15.0 -1.2
SCHQ Schefferville 71.92 24 P P 23 21 03.2 -0.7
comp=Z,13nm,0.9s,mb4.9,baz=5.3,slow=7.3,SNR=7.6
SCHQ Schefferville 71.92 24 eP P 23 21 03.8 -0.2
comp=Z,14nm,0.7s,mb5.0
SCIA State Center 72.21 47 eP P 23 21 05.4 -0.3
comp=Z,105nm,1.1s,mb5.7
AMTX Amarillo 72.87 57 eP P 23 21 10.0 +0.4
SOC Sochi 72.98 317 eP P 23 21 11.1 +0.8
SOC e pP 23 21 24.1 +0.2
SOC ePPP 23 25 31.1
SOC eS S 23 30 38.8 +5.1
SOC eSSS 23 38 21.8
SOC pmax pmax
comp=Z,41nm,1.4s,mb5.2
MNTX Cornudas Mount 73.00 62 eP P 23 21 10.4 0.0
comp=Z,17nm,1.2s,mb4.9
ANN Anapa 73.08 319 eP P 23 21 10.6 -0.3
ANN e*PP pP 23 21 20.8 -3.7
ANN e pP 23 21 25.9 +1.4
ANN e 23 23 55.6
ANN eS S 23 30 38.2 +3.5
ANN eSS SS 23 35 23.9 +7.6
ANN pmax pmax
comp=Z,36nm,1.4s,mb5.1
GNI Garni 73.15 311 P P 23 21 11.5 +0.2
comp=Z,24nm,1.1s,mb5.0,baz=174,slow=3.1,SNR=14
GNI Garni 73.15 311 ⇑eP P 23 21 13.7 +2.4
GNI pmax pmax
comp=Z,76nm,1.6s
GDL2 Guadalupe Moun 73.25 61 eP P 23 21 12.3 +0.5
GKP Gorka Klasztor 73.39 335 eP P 23 21 14.2 +1.5
AS31 Alice Springs 73.52 200 eP P 23 21 13.3 -0.2
ASAR Alice Springs 73.52 200 P P 23 21 13.4 -0.1
comp=Z,6.5nm,0.9s,mb4.5,baz=11,slow=5.2,SNR=41
ASAR LR LR 23 52 49.4
comp=Z,68nm,19.2s,MS4.0,baz=356,slow=35
ASAR Alice Springs 73.52 200 P P 23 21 13.4 -0.1
ASAR pmax pmax
comp=Z,7.0nm,0.9s
ASAR MLR MLR
comp=Z,68nm,19.2s
ASPA Alice Springs 73.53 200 eP P 23 21 13.5 0.0
DIGO Kars 73.64 312 i P P 23 21 15.7 +1.5
ARTV Artvin 73.77 314 i P P 23 21 16.0 +1.0
SIM Simferopol' 74.40 321 eP P 23 21 18.4 -0.2
SIM pmax pmax
comp=Z,13nm,1.0s,mb4.8
SIM MLR MLR
comp=Z,120nm,15.0s,MS4.3
WMOK Wichita Mounta 74.60 55 eP P 23 21 19.4 -0.4
WMOK e pP 23 21 32.5 -0.9
WMOK pmax pmax
comp=Z,25nm,1.0s,mb5.1
WMOK Wichita Mounta 74.60 55 eP P 23 21 19.4 -0.4
comp=Z,24nm,1.0s,mb5.1
KWP Kalwaria 74.87 330 eP P 23 21 21.7 +0.3
KIS Kishinev 74.89 325 eP P 23 21 20.0 -1.4
KIS eS 23 31 08.0
KIS LRM 23 57 48.0
comp=Z,200nm,15.0s
ERZM Erzurum 75.02 313 i P P 23 21 24.1 +1.9
OJC Ojcow 75.31 332 eP P 23 21 23.8 -0.1
STHS Stebnicka Huta 75.54 331 eP P 23 21 25.5 +0.3
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STHS Stebnicka Huta 75.54 331 eP P 23 21 25.5 +0.3
comp=Z,9.2nm,0.9s,mb4.7
KOLS Kolonicke sedl 75.62 330 eP P 23 21 25.9 +0.3
HAKT HAKKARI 75.63 310 i P P 23 21 26.8 +1.1
BURAR Bucovina Array 75.72 328 ⇑iP P 23 21 26.7 +0.5
BURAR Bucovina Array 75.72 328 ⇑P P 23 21 26.7 +0.5
LTX Lajitas 75.73 62 eP P 23 21 26.4 +0.1
TXAR Lajitas Array 75.73 62 P P 23 21 26.3 +0.1
comp=Z,34nm,1.0s,mb5.2,baz=298,slow=4.2,SNR=188
TXAR Lajitas Array 75.73 62 P P 23 21 26.3 0.0
TXAR pmax pmax
comp=Z,34nm,1.0s
KSP Ksiaz 75.82 335 eP P 23 21 26.9 +0.1
NIE Niedzica 75.84 332 eP P 23 21 27.1 +0.2
KELT Kelkit 75.86 315 i P P 23 21 28.1 +1.1
UZH Uzhgorod 75.87 330 eP P 23 21 28.0 +0.9
OKC Ostrava-Krasne 76.16 333 eP P 23 21 29.6 +0.9

UPC	**Upice**	**76.20**	**335**	*e*P		**P**	**23 21 29.5**	**+0.6**
DPC	**Dobruska-Polom**	**76.25**	**334**	*e*P		**P**	**23 21 30.1**	**+0.9**
DPC				*e*PCP		PcP	23 21 44.1	+3.0
CLL	**Collm**	**76.32**	**337**	*i* P		**P**	**23 21 29.0**	**-0.6**
CLL				*i*		pP	23 21 44.3	+1.0
CLL				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.0							
CLL	**Collm**	**76.32**	**337**	*i* P		**P**	**23 21 29.0**	**-0.6**
	comp=Z,19nm,0.9s,mb5.0							
CLL				*i* sP		sP	23 21 35.2	-13
CLL				*i* sPcP		pP	23 21 44.3	+1.0
MORC	**Moravsky Berou**	**76.39**	**333**	*e*P		**P**	**23 21 30.3**	**+0.2**
MORC				*e*		pP	23 21 40.3	-3.4
MORC				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.9							
MORC	**Moravsky Berou**	**76.39**	**333**	*e*P		**P**	**23 21 30.3**	**+0.2**
	comp=Z,16nm,1.1s,mb4.9							
MORC				*e*		pP	23 21 40.3	-3.4
BRG	**Berggiesshubel**	**76.45**	**336**	*e*P		**P**	**23 21 30.1**	**-0.3**
	comp=Z,7.5nm,1.4s,mb4.4							
FVM	**French Village**	**76.58**	**48**	*e*P		**P**	**23 21 30.5**	**-0.6**
FVM				pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2							
FVM	**French Village**	**76.58**	**48**	*e*P		**P**	**23 21 30.5**	**-0.6**
	comp=Z,28nm,1.0s,mb5.2							
PVCC	**Panska Ves**	**76.59**	**336**	*e*P		**P**	**23 21 31.9**	**+0.7**
KECS	**Kecovo**	**76.60**	**331**	*e*P		**P**	**23 21 30.7**	**-0.5**
KECS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
KECS	**Kecovo**	**76.60**	**331**	*e*P		**P**	**23 21 30.7**	**-0.5**
	comp=Z,3.0nm,0.9s,mb4.2							
BOYT	**Boyabat**	**76.88**	**318**	*i* P		**P**	**23 21 33.6**	**+0.8**
PRU	**Pruhonice**	**77.08**	**335**	*e*P		**P**	**23 21 34.2**	**+0.2**
PRU				*e*PCP		PcP	23 21 47.2	+2.5
PRU				AMS		AMS	23 55 10.0	
PRU	**Pruhonice**	**77.08**	**335**	*e*P		**P**	**23 21 34.2**	**+0.2**
PRU				*e*pP		pP	23 21 47.2	-0.4
VRAC	**Vranov**	**77.10**	**334**	⇑*i* P		**P**	**23 21 35.0**	**+1.0**
VRAC	**Vranov**	**77.10**	**334**	⇑P		**P**	**23 21 35.0**	**+1.0**
VYHS	**Vyhne**	**77.12**	**332**	*e*P		**P**	**23 21 34.8**	**+0.6**
VYHS	**Vyhne**	**77.12**	**332**	*e*P		**P**	**23 21 34.9**	**+0.7**
VYHS				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
VYHS	**Vyhne**	**77.12**	**332**	*e*P		**P**	**23 21 34.9**	**+0.7**
	comp=Z,5.0nm,1.2s,mb4.3							
JCT	**Junction City**	**77.17**	**59**	*e*P		**P**	**23 21 34.3**	**-0.1**
JCT				pmax		pmax		
	comp=Z,48nm,1.1s,mb5.3							
JCT	**Junction City**	**77.17**	**59**	*e*P		**P**	**23 21 34.3**	**-0.1**
	comp=Z,48nm,1.1s,mb5.3							
MLR	**Muntele Rosu**	**77.24**	**326**	⇑*i* P		**P**	**23 21 36.6**	**+1.8**
ELZG	**Elazig**	**77.28**	**314**	*i* P		**P**	**23 21 26.8**	**-8.3**
MOX	**Moxa**	**77.29**	**337**	*e*P		**P**	**23 21 35.5**	**+0.4**
	comp=Z,23nm,1.6s,mb4.9							
MOX	**Moxa**	**77.29**	**337**	*e*P		**P**	**23 21 35.5**	**+0.4**
MOX				pmax		pmax		
	comp=Z,23nm,1.6s,mb4.9							
PSZ	**Piszkesteto**	**77.29**	**331**	*e*P		**P**	**23 21 35.5**	**+0.4**
PSZ				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
PSZ	**Piszkesteto**	**77.29**	**331**	*e*P		**P**	**23 21 35.5**	**+0.4**
	comp=Z,3.8nm,0.7s,mb4.4							
DRGR		**77.31**	**329**	⇑*i* P		**P**	**23 21 35.7**	**+0.5**
DRGR		**77.31**	**329**	⇑P		**P**	**23 21 35.7**	**+0.5**
MARD	**Mardin**	**77.31**	**312**	*i* P		**P**	**23 21 36.5**	**+1.3**
SIUC	**Southern Illin**	**77.39**	**47**	*e*P		**P**	**23 21 35.7**	**0.0**
NKC	**Novy Kostel**	**77.44**	**337**	*e*P		**P**	**23 21 36.5**	**+0.6**
BALT	**Daday**	**77.47**	**319**	*i* P		**P**	**23 21 35.4**	**-0.7**
CTKT	**Corum**	**77.57**	**318**	*i* P		**P**	**23 21 38.0**	**+1.3**
MIAR	**Mount Ida**	**77.59**	**52**	*e*P		**P**	**23 21 35.8**	**-1.0**
MIAR				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.1							
MIAR	**Mount Ida**	**77.59**	**52**	*e*P		**P**	**23 21 35.8**	**-0.9**
	comp=Z,26nm,1.1s,mb5.1							
VOIR		**77.62**	**327**	⇑*i* P		**P**	**23 21 37.8**	**+0.8**
VOIR		**77.62**	**327**	⇑P		**P**	**23 21 37.8**	**+0.8**
MALT	**Malatya**	**77.69**	**314**	⇓*i* P		**P**	**23 21 39.1**	**+1.7**
MALT	**Malatya**	**77.69**	**314**	⇓P		**P**	**23 21 39.1**	**+1.8**
ZST	**Bratislava**	**77.93**	**333**	*e*P		**P**	**23 21 39.3**	**+0.6**
ZST				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
ZST	**Bratislava**	**77.93**	**333**	*e*P		**P**	**23 21 39.3**	**+0.6**
	comp=Z,6.9nm,1.0s,mb4.5							
USIN	**University of**	**77.96**	**46**	*e*P		**P**	**23 21 39.0**	**+0.2**
HATD	**Hatta, Dubai**	**77.97**	**294**	P		**P**	**23 21 40.2**	**+1.3**
	SNR=5.6							
KHC	**Kasperske Hory**	**78.13**	**335**	*e*P		**P**	**23 21 40.5**	**+0.7**
KHC				*e*PCP		PcP	23 21 53.8	+4.6
KHC				AMS		AMS	23 56 40.0	
KHC	**Kasperske Hory**	**78.13**	**335**	*e*P		**P**	**23 21 40.5**	**+0.7**
KHC				*e*pP		pP	23 21 53.8	+0.3
GRA1	**Grafenberg Arr**	**78.26**	**337**	*e*P		**P**	**23 21 41.1**	**+0.6**
	comp=Z,59nm,1.3s,mb5.4							
GRF	**Grafenberg Arr**	**78.26**	**337**	*e*P		**P**	**23 21 41.1**	**+0.6**
	comp=Z,59nm,1.3s,mb5.4							
GRF	**Grafenberg Arr**	**78.26**	**337**	*e*P		**P**	**23 21 41.1**	**+0.6**
GRF				pmax		pmax		
	comp=Z,59nm,1.3s,mb5.4							
GRF	**Grafenberg Arr**	**78.26**	**337**	*e*P		**P**	**23 21 41.1**	**+0.6**
GRF				pmax		pmax		
	comp=Z,59nm,1.3s,mb5.4							
GRFO	**Grafenberg**	**78.26**	**337**	P		**P**	**23 21 41.6**	**+1.1**
GRFO				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
GRFO	**Grafenberg**	**78.26**	**337**	*e*P		**P**	**23 21 41.6**	**+1.1**
	comp=Z,12nm,0.7s,mb4.9							
GRFO				*e*		pP	23 21 55.8	+1.5
ELDT	**Eldivan**	**78.29**	**319**	*i* P		**P**	**23 21 41.4**	**+0.7**
GEC2	**GERESS Array S**	**78.35**	**335**	*e*P		**P**	**23 21 41.3**	**+0.3**
GERES	**GERESS Array B**	**78.35**	**335**	P		**P**	**23 21 41.5**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=32,slow=5.2,SNR=19							
GERES				LR		LR	00 01 44.5	
	comp=Z,183nm,18.8s,MS4.4,baz=193,slow=40							
WCI	**Wyandotte Cave**	**78.42**	**45**	*e*P		**P**	**23 21 41.3**	**-0.1**
WCI				*e*		pP	23 21 54.5	-0.6
WCI				pmax		pmax		
	comp=Z,73nm,1.0s,mb5.6							
WCI	**Wyandotte Cave**	**78.42**	**45**	*e*P		**P**	**23 21 41.1**	**-0.2**
	comp=Z,73nm,1.0s,mb5.6							
ATAB	**Bozova**	**78.42**	**314**	*i* P		**P**	**23 21 42.7**	**+1.3**
ALLY	**Alegheny Colle**	**78.44**	**39**	*e*P		**P**	**23 21 41.5**	**0.0**
CONA	**Conrad Observa**	**78.55**	**334**	⇑*i* P		**P**	**23 21 43.3**	**+1.3**
	comp=Z,10nm,1.4s,mb4.6							
CDAG	**Cicekdag**	**78.56**	**318**	*i* P		**P**	**23 21 48.4**	**+6.2**
MEM	**Membach**	**78.68**	**341**	P		**P**	**23 21 43.7**	**+0.8**
BZS	**Buzias**	**78.71**	**329**	⇓*i* P		**P**	**23 21 43.3**	**+0.3**
BZS	**Buzias**	**78.71**	**329**	⇓P		**P**	**23 21 43.3**	**+0.3**
BR131	**Keskin Array S**	**78.81**	**318**	*e*P		**P**	**23 21 44.7**	**+1.1**
	comp=Z,8.5nm,0.8s,mb4.7							
BRTR	**Keskin Array B**	**78.82**	**318**	P		**P**	**23 21 44.2**	**+0.7**
	comp=Z,1.7nm,0.4s,mb4.3,baz=92,slow=3.7,SNR=20							
BRTR				LR		LR	00 02 04.6	
	comp=Z,108nm,18.1s,MS4.2,baz=210,slow=40							
BCLA	**Clavier**	**79.01**	**341**	P		**P**	**23 21 45.1**	**+0.5**
AVNT	**Avonos**	**79.02**	**317**	*i* P		**P**	**23 21 45.8**	**+1.1**
ANTO	**Ankara**	**79.08**	**319**	⇓*i* P		**P**	**23 21 46.7**	**+1.7**
ANTO	**Ankara**	**79.08**	**319**	⇓P		**P**	**23 21 46.7**	**+1.7**
MOA	**Molln**	**79.09**	**334**	⇑*i* P		**P**	**23 21 45.8**	**+0.8**
	comp=Z,6.3nm,0.9s,mb4.5							
NATX	**Nacogdoches**	**79.11**	**55**	*e*P		**P**	**23 21 46.0**	**+0.8**
	comp=Z,49nm,0.8s,mb5.5							
NATX				*e*		pP	23 21 58.7	-0.2
SNF	**Seneffe**	**79.15**	**342**	P		**P**	**23 21 45.0**	**-0.4**
ARSA	**Arzberg**	**79.26**	**333**	⇑*i* P		**P**	**23 21 46.9**	**+0.9**
	comp=Z,12nm,1.3s,mb4.7							
WVT	**Waverly**	**79.33**	**47**	*e*P		**P**	**23 21 46.1**	**-0.2**
WVT				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
WVT	**Waverly**	**79.33**	**47**	*e*P		**P**	**23 21 46.1**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9							
STU	**Stuttgart**	**79.63**	**338**	P		**P**	**23 21 48.7**	**+0.7**
PERS	**Pernice**	**79.93**	**333**	*e*P		**P**	**23 21 50.0**	**+0.4**
PERS				*i*		pP	23 21 58.6	-4.7
KBA	**Koelnbreinsper**	**80.06**	**335**	⇑*i* P		**P**	**23 21 51.8**	**+1.5**
	comp=Z,26nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**80.08**	**192**	P		**P**	**23 21 49.3**	**-1.1**
	comp=Z,2.7nm,0.9s,mb4.2,baz=353,slow=9.1,SNR=4.5							
STKA				LR		LR	23 58 26.2	
	comp=Z,140nm,18.3s,MS4.3,baz=26,slow=37							
STKA	**Stephens Creek**	**80.08**	**192**	*e*P		**P**	**23 21 49.6**	**-0.8**
COBT	**Iskenderun**	**80.17**	**314**	*i* P		**P**	**23 21 56.5**	**+5.6**
ESKT	**Eskisehir**	**80.22**	**320**	*i* P		**P**	**23 21 51.1**	**-0.1**
BFO	**Black Forest**	**80.26**	**338**	*e*P		**P**	**23 21 52.2**	**+0.8**
BFO				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
BFO	**Black Forest**	**80.26**	**338**	*e*P		**P**	**23 21 52.2**	**+0.8**
	comp=Z,10.0nm,0.9s,mb4.8							
WTTA	**Wattenberg**	**80.37**	**336**	⇑*i* P		**P**	**23 21 53.4**	**+1.4**
	comp=Z,35nm,1.0s,mb5.2,SNR=7.9							
CDF	**Champ du Feu**	**80.44**	**339**	*e*P		**P**	**23 21 51.6**	**-0.8**
	comp=Z,40nm,1.1s,mb5.0							
CDF	**Champ du Feu**	**80.44**	**339**	*e*P		**P**	**23 21 51.6**	**-0.8**
CDF				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.0							
CDF	**Champ du Feu**	**80.44**	**339**	*e*P		**P**	**23 21 51.6**	**-0.8**
	comp=Z,20nm,1.1s,mb5.0							
MOTA	**Moosalm**	**80.44**	**336**	⇑*i* P		**P**	**23 21 53.5**	**+1.2**
	comp=Z,24nm,1.1s,mb5.1,SNR=11							
ULDT	**Uludag**	**80.45**	**321**	*i* P		**P**	**23 21 53.0**	**+0.6**
KDHN	**Kadinhani**	**80.48**	**318**	*i* P		**P**	**23 21 56.4**	**+3.8**
SQTA	**Sankt Quirin**	**80.53**	**336**	⇑*i* P		**P**	**23 21 54.0**	**+1.1**
	comp=Z,12nm,0.8s,mb4.9,SNR=9.0							
VTS	**Vitosha**	**80.75**	**326**	⇑*i* P		**P**	**23 21 54.4**	**+0.4**
VTS	**Vitosha**	**80.75**	**326**	⇑P		**P**	**23 21 54.4**	**+0.4**
VISS	**Visnje**	**80.76**	**333**	*e*P		**P**	**23 21 55.4**	**+1.3**
DAVA	**Damuels**	**80.82**	**337**	⇑*i* P		**P**	**23 21 55.5**	**+1.1**
	comp=Z,14nm,1.0s,mb4.8							
BOJS	**Bojanci**	**80.91**	**333**	*e*P		**P**	**23 21 55.1**	**+0.2**
PPT	**Papeete**	**81.42**	**128**	LR		LR	23 54 26.9	
	comp=Z,191nm,19.4s,MS4.5,baz=323,slow=33							
FWV	**Forest Hill**	**81.49**	**42**	*e*P		**P**	**23 21 58.0**	**0.0**
TKL	**Tuckaleechee C**	**81.68**	**45**	P		**P**	**23 21 58.9**	**-0.1**
	comp=Z,25nm,1.0s,mb5.1,baz=7.3,slow=0.6,SNR=12							
TKL	**Tuckaleechee C**	**81.68**	**45**	P		**P**	**23 21 58.9**	**-0.1**
TKL				pmax		pmax		
	comp=Z,25nm,1.0s,mb5.1							
TKL	**Tuckaleechee C**	**81.68**	**45**	P		**P**	**23 21 58.9**	**-0.1**
FORT	**Forrest**	**81.80**	**204**	*e*P		**P**	**23 21 59.5**	**-0.1**
	comp=Z,10nm,0.6s,mb4.9							
ELN	**Prospectdale**	**81.81**	**42**	*e*P		**P**	**23 21 59.0**	**-0.6**
GRR	**Gorron**	**82.19**	**344**	*e*P		**P**	**23 22 02.2**	**+0.5**
	comp=Z,132nm,1.4s,mb5.4							
GRR	**Gorron**	**82.19**	**344**	*e*P		**P**	**23 22 02.2**	**+0.5**
GRR				pmax		pmax		
	comp=Z,66nm,1.4s,mb5.4							
GRR	**Gorron**	**82.19**	**344**	*e*P		**P**	**23 22 02.2**	**+0.5**
	comp=Z,66nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**82.90**	**341**	*e*P		**P**	**23 22 04.7**	**-0.6**
	comp=Z,78nm,1.1s,mb5.3							
SMF	**Signal de Mont**	**82.90**	**341**	*e*P		**P**	**23 22 04.7**	**-0.6**
SMF				pmax		pmax		
	comp=Z,39nm,1.1s,mb5.3							
SMF	**Signal de Mont**	**82.90**	**341**	*e*P		**P**	**23 22 04.7**	**-0.6**
	comp=Z,39nm,1.1s,mb5.3							
LPG	**La Plagne**	**83.29**	**338**	*e*P		**P**	**23 22 07.8**	**+0.4**
	comp=Z,79nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.29**	**338**	*e*P		**P**	**23 22 07.8**	**+0.4**
LPG				pmax		pmax		
	comp=Z,40nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.29**	**338**	*e*P		**P**	**23 22 07.8**	**+0.4**
	comp=Z,40nm,1.2s,mb5.3							
ASF	**Jabal al Asfar**	**83.32**	**311**	P		**P**	**23 22 08.8**	**+1.2**
	comp=Z,8.1nm,1.0s,mb4.7,baz=135,slow=3.4							
ASF	**Jabal al Asfar**	**83.32**	**311**	P		**P**	**23 22 08.8**	**+1.3**
ASF				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MMAI	**Mount Meron Ar**	**83.39**	**313**	P		**P**	**23 22 08.3**	**+0.4**
	comp=Z,17nm,1.0s,mb5.0,baz=34,slow=6.1,SNR=17							
JSC	**Jenkinsville**	**84.00**	**44**	*e*P		**P**	**23 22 10.0**	**-1.0**
JSC				*e*		pP	23 22 23.0	-1.8
CAF	**Calviac**	**84.92**	**341**	*e*P		**P**	**23 22 15.0**	**-0.7**
	comp=Z,39nm,1.2s,mb5.1							
CAF	**Calviac**	**84.92**	**341**	*e*P		**P**	**23 22 15.0**	**-0.7**
CAF				pmax		pmax		
	comp=Z,19nm,1.2s,mb5.1							
CAF	**Calviac**	**84.92**	**341**	*e*P		**P**	**23 22 15.0**	**-0.7**
	comp=Z,19nm,1.2s,mb5.1							
EIL	**Elat**	**86.32**	**311**	*e*P		**P**	**23 22 23.0**	**+0.4**
	comp=Z,535nm,1.0s							
EIL				*e*PcP		PcP	23 22 26.6	+1.5
EIL				*e*		pP	23 22 38.2	+1.7
NWAO	**Narrogin (SRO)**	**87.17**	**211**	*e*P		**P**	**23 22 26.3**	**-0.5**
NWAO				*e*PcP		PcP	23 22 29.0	+0.2
NWAO				*e*		pP	23 22 38.7	-2.0
CMIG	**Matias Romero**	**90.20**	**64**	P		**P**	**23 22 40.1**	**-1.0**
	comp=Z,6.0nm,1.0s,mb4.9,baz=34,slow=4.0,SNR=4.9							
ESDC	**Sonseca Array**	**91.19**	**344**	P		**P**	**23 22 44.8**	**-0.8**
	comp=Z,4.9nm,1.0s,mb4.8,baz=2.8,slow=5.1,SNR=9.0							
ESDC				LR		LR	00 09 26.3	
	comp=Z,111nm,18.2s,MS4.3,baz=30,slow=39							
KEST	**Kesra**	**91.65**	**333**	P		**P**	**23 22 48.0**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.5,baz=64,slow=23,SNR=6.6							
KEST				LR		LR	00 11 31.1	
	comp=Z,49nm,19.7s,MS4.0,baz=307,slow=40							
NNA	**Nana**	**123.89**	**69**	PKPdf		PKPdf	23 28 38.1	-0.3
VNDA	**Vanda**	**124.91**	**178**	PKP		PKPdf	23 28 37.8	-2.7
	comp=Z,0.5nm,0.7s,baz=274,slow=3.9,SNR=5.0							
SBA	**Scott Base**	**125.37**	**177**	*e*PKIKP		PKPdf	23 28 39.7	-1.6
LSZ	**Lusaka**	**125.99**	**288**	PKP		PKPdf	23 28 42.9	+0.4
	comp=Z,2.0nm,0.9s,baz=68,slow=6.5,SNR=3.7							
LSZ	**Lusaka**	**125.99**	**288**	PKIKP		PKPdf	23 28 42.9	+0.4
LSZ				pmax		pmax		
	comp=Z,2.0nm,1.0s							
LPAZ	**La Paz**	**132.57**	**64**	PKP		PKPdf	23 28 55.6	+0.6
	comp=Z,1.2nm,0.9s,baz=348,slow=4.5,SNR=4.3							
LPAZ	**La Paz**	**132.57**	**64**	PKIKP		PKPdf	23 28 55.7	+0.7
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**132.57**	**64**	PKP		PKPdf	23 28 55.6	+0.6
LPAZ				*e*PKPdf		PKPdf	23 28 56.2	+1.2
LPAZ				*e*			23 29 23.3	
LVC	**Limon Verde**	**136.81**	**71**	PKPdf		PKPdf	23 29 04.0	+1.0
CFAA	**Coronel Fontan**	**143.32**	**80**	PKP		PKPdf	23 29 12.5	-2.2
	comp=Z,0.2nm,0.4s,baz=231,slow=2.5,SNR=3.8							
SNAA	**Sanae**	**153.79**	**195**	PKPbc		PKPbc	23 29 36.9	-2.7
	comp=Z,1.1nm,1.0s,baz=310,slow=1.8,SNR=4.2							
SNAA				PKPab		PKPab	23 29 50.2	-2.4
	comp=Z,6.1nm,1.0s,baz=119,slow=3.3,SNR=16							
SNAA	**Sanae**	**153.79**	**195**	PKP2		PKPab	23 29 50.2	-2.4
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.0s							

*ISCJB **22** 23:19:54.6±5.0, 262N±0.1×6629E±008, h15km±33km, mb3.8/9, Error ellipse: s-maj=17.3km s-min=12.5km az=4.0*
*IDC **22** 23:19:55.6±2.7, 26.32N×6604E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, Error ellipse: s-maj=61.6km s-min=25.1km az=154.0*
*NEIC **22** 23:20:01.0±1.3, 26.44N×6608E, h35km, mb3.9/2, Error ellipse: s-maj=26.4km s-min=11.6km az=169.0*

ISC 22 23:19:58.0±4.1, 2619N±009×6631E±009, h28km±32km, n28, σ1°01/30, mb3.8/9, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**6.50**	**31**	P		**Pn**	**23 21 36.3**	**+4.5**
SBDP	**Sheikh Budin**	**7.25**	**32**	⇑P		**Pn**	**23 21 43.2**	**+1.2**
SBDP				S		**Sn**	**23 23 02.0**	**-1.4**
SARP	**Sargodha**	**7.98**	**43**	P		**Pn**	**23 21 52.2**	**+0.2**
CEP	**Cherat**	**9.03**	**31**	⇑P		**Pn**	**23 22 07.3**	**+0.9**
CEP				S		**Sn**	**23 23 43.0**	**-4.1**
CHCP	**Chirah Chowk**	**9.58**	**37**	P		**Pn**	**23 22 14.4**	**+0.4**
KOLN	**Koldanda**	**15.50**	**80**	*e*P		**Pn**	**23 23 34.1**	**-0.4**
GKN	**Gorkha**	**16.42**	**80**	*e*P		**Pn**	**23 23 45.4**	**-1.0**
	5.1nm,0.3s							
KKN	**Kakani**	**16.98**	**80**	*e*P		**Pn**	**23 23 53.3**	**-0.2**
PKI	**Pulchoki**	**17.10**	**81**	*e*P		**Pn**	**23 23 54.7**	**-0.2**
	8.2nm,0.4s							
GUN	**Gumba**	**17.52**	**80**	*e*P		**Pn**	**23 23 59.5**	**-0.6**
AAK	**Ala-Archa**	**17.73**	**20**	*e*Pn		**Pn**	**23 24 00.9**	**-1.8**
JIRN	**Jiri**	**17.79**	**81**	*e*P		**Pn**	**23 24 03.4**	**-0.1**
	5.8nm,0.4s							
LSA	**Lhasa**	**22.21**	**75**	P		**P**	**23 24 56.1**	**+4.0**
MK31	**Makanchi Array**	**24.16**	**28**	*e*P		**P**	**23 25 13.2**	**+1.4**
MKAR	**Makanchi Array**	**24.16**	**28**	P		**P**	**23 25 13.6**	**+1.9**
	2.1nm,0.7s,mb3.7,baz=215,slow=11,SNR=15							
MKAR	**Makanchi Array**	**24.16**	**28**	P		**P**	**23 25 13.6**	**+1.9**
KIV	**Kislovodsk**	**26.09**	**319**	P		**P**	**23 25 29.3**	**+0.1**
MALT	**Malatya**	**26.40**	**304**	*e*P		**P**	**23 25 31.2**	**-0.8**
BVAR	**Borovoye Array**	**26.98**	**5**	P		**P**	**23 25 39.0**	**+1.8**
	0.7nm,0.4s,mb3.6,baz=188,slow=7.3,SNR=5.5							
BRVK	**Borovoye**	**27.00**	**5**	*e*P		**P**	**23 25 37.5**	**0.0**
	1.6nm,0.6s,mb3.7							
BR131	**Keskin Array S**	**30.38**	**305**	P		**P**	**23 26 06.2**	**-1.4**
ZAL	**Zalesovo**	**30.93**	**21**	P		**P**	**23 26 11.8**	**-0.6**
	1.2nm,0.4s,mb4.0,baz=245,slow=7.9,SNR=4.0							
SONM	**Songino Array**	**38.05**	**45**	P		**P**	**23 27 16.8**	**+2.9**
	0.5nm,0.3s,mb3.7,baz=264,slow=8.6,SNR=4.3							
PSZ	**Piszkesteto**	**42.15**	**313**	P		**P**	**23 27 47.6**	**-0.3**
FINES	**FINESS Array B**	**44.40**	**334**	P		**P**	**23 28 05.5**	**-0.5**
	1.5nm,0.7s,mb3.8,baz=135,slow=8.8,SNR=8.7							
GERES	**GERESS Array B**	**46.38**	**314**	P		**P**	**23 28 21.6**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=95,slow=9.2,SNR=3.6							
ARCES	**ARCESS Array B**	**49.45**	**342**	P		**P**	**23 28 45.3**	**-0.3**
	1.0nm,0.5s,mb4.1,baz=140,slow=7.8,SNR=7.9							
TORD	**Torodi Ar. Bea**	**61.68**	**271**	P		**P**	**23 30 14.2**	**+0.7**
	1.5nm,0.8s,mb4.2,baz=58,slow=5.1,SNR=7.2							

*IDC **22** 23:49:45.2±1.2, 47.39N×153.01E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=43.8km s-min=31.9km az=98.0*
*MOS **22** 23:49:48.2±1.4, 47.36N×152.55E, h33km, mb4.1/2, Error ellipse: s-maj=85.7km s-min=27.4km az=72.9*
*ISCJB **22** 23:49:52.7±3.8, 47.5N±0.2×152.9E±0.4, h70km±30km, mb3.5/5, Error ellipse: s-maj=47.8km s-min=36.1km az=34.6*

ISC 22 23:49:54.4±3.5, 475N±02×1530E±04, h71km±29km, n8, σ0°51/8, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.83**	**32**	*e*Pn		**Pn**	**23 50 51.0**	**0.0**
YKA	**Yellowknife Ar**	**50.42**	**37**	P		**P**	**23 58 44.2**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=296,slow=6.9,SNR=3.6							
YKA	**Yellowknife Ar**	**50.42**	**37**	P		**P**	**23 58 44.2**	**-0.4**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**63.35**	**335**	P		**P**	**00 00 15.7**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=28,slow=8.6,SNR=8.5							
FINES	**FINESS Array B**	**63.35**	**335**	P		**P**	**00 00 15.7**	**-0.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**67.52**	**341**	P		**P**	**00 00 43.6**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=37,slow=6.7,SNR=2.9							
ASAR	**Alice Springs**	**72.85**	**198**	P		**P**	**00 01 15.5**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=359,slow=5.5,SNR=4.8							
TXAR	**Lajitas Array**	**77.23**	**61**	P		**P**	**00 01 41.1**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.1,baz=292,slow=4.8,SNR=4.2							

IDC 22 23:50:54.1±5.3, 3026S×17796W, h46km±39km, mb3.8/3, mb1 4.0/3, mb1mx3.6/11, mbtmp3.8/3, Error ellipse: s-maj=69.8km s-min=31.9km az=126.0, Kermadec Islands

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

Error ellipse: s-maj=18.3km s-min=11.2km az=74.0
*NEIC **23** 00:06:49.7±0.4, 851S×10634E, h35km, mb4.0/4, Error ellipse: s-maj=12.8km s-min=7.8km az=217.0*
ISC 23 00:06:49.9±0.6, 85S±01×10633E±010, h35km, n16, σ0s36/16, mb3.8/10, South of Java

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COCO	**West Island**	**10.02**	**248**	*e*Pn		**Pn**	**00 09 11.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.05**	**119**	*e*P		**P**	**00 11 31.0**	**+0.3**
	7.6nm,1.3s,mb3.9							
FITZ	**Fitzroy Crossi**	**21.05**	**119**	P		**P**	**00 11 30.3**	**-0.4**
	1.7nm,0.7s,mb3.5,baz=298,slow=6.9,SNR=6.5							
WRA	**Warramunga Arr**	**29.38**	**116**	P		**P**	**00 12 49.5**	**-0.1**
	0.8nm,0.7s,mb3.6,baz=288,slow=11,SNR=9.5							
WRAB	**Tennant Creek**	**29.38**	**116**	*e*P		**P**	**00 12 49.8**	**+0.1**
	1.2nm,0.6s,mb3.8							
WB2	**Warramunga Arr**	**29.39**	**116**	*e*P		**P**	**00 12 49.6**	**-0.1**
WB2	**Warramunga Arr**	**29.39**	**116**	*e*P		**P**	**00 12 49.7**	**-0.1**
NACB	**Ninganchiao**	**35.76**	**24**	P		**P**	**00 13 40.5**	**-4.9**
STKA	**Stephens Creek**	**40.14**	**130**	P		**P**	**00 14 22.2**	**-0.1**
	0.7nm,0.5s,mb3.6,baz=300,slow=12,SNR=3.7							
LSA	**Lhasa**	**40.72**	**340**	*e*P		**P**	**00 14 26.5**	**-0.6**
	2.5nm,0.4s,mb4.2							
SONM	**Songino Array**	**56.11**	**0**	P		**P**	**00 16 26.0**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=180,slow=8.5,SNR=7.1							
MKAR	**Makanchi Array**	**59.09**	**341**	P		**P**	**00 16 46.6**	**0.0**
	0.7nm,0.6s,mb3.9,baz=149,slow=8.9,SNR=13							
BVAR	**Borovoye Array**	**68.51**	**338**	P		**P**	**00 17 48.6**	**-0.1**
	1.5nm,0.5s,mb4.2,baz=145,slow=8.9,SNR=10							
BRVK	**Borovoye**	**68.57**	**338**	*e*P		**P**	**00 17 48.9**	**-0.2**
	0.9nm,0.4s,mb4.0							
VNDA	**Vanda**	**74.60**	**169**	P		**P**	**00 18 25.8**	**+0.4**
BRTR	**Keskin Array B**	**82.34**	**312**	P		**P**	**00 19 08.9**	**+0.9**
	0.7nm,0.8s,mb3.7,baz=99,slow=3.9,SNR=4.4							

*ISCJB **23** 00:13:24.5±4.2, 4589N±007×154.1E±0.1, h4km±25km, mb4.3/27, MS3.2/2, Error ellipse: s-maj=16.0km s-min=10.3km az=71.9*
*BJI **23** 00:13:26.0, 4628N×15396E, h10km, mB5.2, mb4.5*
*NEIC **23** 00:13:27.2±0.3, 4595N×15408E, h10km, mb4.7/10, Error ellipse: s-maj=10.6km s-min=7.5km az=108.0*
*MOS **23** 00:13:29.2±1.1, 4594N×15408E, h35km, mb4.5/17, Error ellipse: s-maj=14.5km s-min=8.4km az=98.8*
*IDC **23** 00:13:32.0±3.8, 4593N×15400E, h46km±35km, mb3.9/16, mb1 4.1/18, mb1mx4.0/27, mbtmp4.0/18, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/36, Error ellipse: s-maj=19.7km s-min=16.5km az=124.0*
ISC 23 00:13:30.4±3.1, 4597N±007×1541E±01, h32km±21km, n88, σ0s79/89, mb4.3/27, MS3.2/2, 14C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.90**	**15**	*e*P		**Pn**	**00 14 40.7**	**-1.0**
SKR				*e*S		**Sn**	**00 15 32.0**	**-5.2**
SKR					smax			
	comp=N,90nm,0.5s							
SKR					smax			
	comp=E,150nm,0.5s							
SKR					smax			
	comp=Z,80nm,0.5s							
ASAJ	**Asahikawa**	**8.38**	**261**	P		**Pn**	**00 15 29.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=190,slow=9.4,SNR=4.1							
ASAJ	**Asahikawa**	**8.38**	**261**	P		**Pn**	**00 15 29.0**	**-0.4**
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**15.21**	**237**	*e*P		**Pn**	**00 17 07.4**	**+4.7**
MAJO					pmax	pmax		
	comp=Z,11nm,0.6s							
MAJO	**Matsushiro**	**15.21**	**237**	*e*Pn		**Pn**	**00 17 07.4**	**+4.7**
	comp=Z,11nm,0.6s							
MAT	**Matsushiro**	**15.21**	**237**	P		**Pn**	**00 17 06.6**	**+3.9**
MJAR	**Matsushiro Arr**	**15.21**	**237**	P		**Pn**	**00 17 04.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=31,slow=9.9,SNR=8.0							
MJAR	**Matsushiro Arr**	**15.21**	**237**	P		**Pn**	**00 17 04.0**	**+1.3**
KLR	**Kul'dur**	**15.43**	**290**	*e*P		**Pn**	**00 17 07.8**	**+2.2**
CN2	**Changchun**	**20.39**	**274**	*e*P		**P**	**00 18 03.3**	**-1.1**
CN2					AMB	AMB		
	comp=Z,10.0nm,1.0s							
KSRS	**Korea Array**	**21.26**	**256**	P		**P**	**00 18 13.4**	**-0.3**
	comp=Z,2.6nm,0.8s,mb3.6,baz=49,slow=14,SNR=4.5							
KSRS					LR	LR	00 25 01.4	
	comp=Z,39nm,21.2s,MS2.8,baz=35,slow=32							
BILL	**Bilibino**	**23.00**	**12**	*e*P		**P**	**00 18 31.6**	**-0.8**
BILL					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7							
GTA	**Gaotai**	**39.80**	**281**	*e*P		**P**	**00 21 01.1**	**+0.8**
GTA					AP	pP	00 21 05.6	-4.2
GTA					XP	sP	00 21 09.0	-4.7
GTA					AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2							
INK	**Inuvik**	**41.94**	**32**	P		**P**	**00 21 18.5**	**+0.6**
	comp=Z,2.8nm,1.0s,mb3.9,baz=156,slow=32,SNR=7.5							
INK	**Inuvik**	**41.94**	**32**	P		**P**	**00 21 18.5**	**+0.5**
INK					pmax	pmax		
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	**41.94**	**32**	*e*P		**P**	**00 21 19.0**	**+1.1**
	comp=Z,52nm,0.7s,mb5.3							
MKAR	**Makanchi Array**	**47.93**	**298**	P		**P**	**00 22 04.5**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=68,slow=7.4,SNR=8.9							
MKAR					LR	LR	00 42 58.2	
	comp=Z,62nm,20.6s,MS3.6,baz=251,slow=37							
MKAR	**Makanchi Array**	**47.93**	**298**	P		**P**	**00 22 04.5**	**-1.1**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MKAR					MLR	MLR		
	comp=Z,62nm,20.6s							
MKAR	**Makanchi Array**	**47.93**	**298**	P		**P**	**00 22 04.5**	**-1.1**
MKAR					LR	LR	00 42 58.2	
YKA	**Yellowknife Ar**	**51.13**	**37**	P		**P**	**00 22 30.5**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=297,slow=7.0,SNR=4.3							
YKA	**Yellowknife Ar**	**51.13**	**37**	P		**P**	**00 22 30.5**	**+0.5**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**	**00 22 35.0**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=66,slow=8.1,SNR=3.7							
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**	**00 22 35.0**	**-0.8**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**	**00 22 35.2**	**-0.9**
BRVK					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**	**00 22 35.1**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**54.81**	**297**	*e*P		**P**	**00 22 56.1**	**-1.0**
	comp=Z,52nm,0.6s,mb5.7							
ARU	**Arti**	**56.06**	**318**	*e*P		**P**	**00 23 05.4**	**-0.8**
ARU					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ARU	**Arti**	**56.06**	**318**	*e*P		**P**	**00 23 05.4**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.6							
PDAR	**Pinedale Array**	**64.64**	**54**	P		**P**	**00 24 05.4**	**+0.6**
	comp=Z,1.5nm,1.0s,mb4.0,baz=298,slow=3.2,SNR=7.5							
FINES	**FINESS Array B**	**65.04**	**335**	P		**P**	**00 24 06.4**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=25,slow=6.3,SNR=12							
FINES	**FINESS Array B**	**65.04**	**335**	P		**P**	**00 24 06.4**	**-1.0**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.7s							
WRAB	**Tennant Creek**	**68.00**	**200**	*e*P		**P**	**00 24 25.5**	**-0.8**
WRAB					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**68.00**	**200**	*e*P		**P**	**00 24 25.5**	**-0.8**
	comp=Z,2.8nm,0.6s,mb4.5							
WB2	**Warramunga Arr**	**68.01**	**200**	*e*P		**P**	**00 24 25.6**	**-0.8**
WRA	**Warramunga Arr**	**68.01**	**200**	P		**P**	**00 24 25.4**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.4,baz=17,slow=6.7,SNR=16							
WRA	**Warramunga Arr**	**68.01**	**200**	P		**P**	**00 24 25.4**	**-1.0**
WRA					pmax	pmax		
	comp=Z,3.0nm,0.7s							
NOA	**NORSAR Array B**	**69.19**	**342**	P		**P**	**00 24 33.3**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=27,slow=6.4,SNR=3.4							
NOA	**NORSAR Array B**	**69.19**	**342**	P		**P**	**00 24 33.3**	**-0.4**
NOA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
AS31	**Alice Springs**	**71.70**	**200**	*e*P		**P**	**00 24 49.0**	**0.0**
ASAR	**Alice Springs**	**71.70**	**200**	P		**P**	**00 24 48.9**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.4,baz=13,slow=4.8,SNR=38							
ASAR	**Alice Springs**	**71.70**	**200**	P		**P**	**00 24 48.9**	**-0.2**
ASAR					pmax	pmax		
	comp=Z,3.0nm,0.7s							
AKASG	**Malin Array Be**	**72.58**	**327**	P		**P**	**00 24 53.6**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.4,baz=29,slow=5.3,SNR=8.1							
AKASG	**Malin Array Be**	**72.58**	**327**	P		**P**	**00 24 53.6**	**-0.7**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.5s							
KWP	**Kalwaria**	**75.85**	**330**	*e*P		**P**	**00 25 12.4**	**-1.0**
KWP				*e*	pP		00 25 23.7	+0.2
KWP					pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9							
KWP	**Kalwaria**	**75.85**	**330**	*e*P		**P**	**00 25 12.4**	**-1.0**
	comp=Z,13nm,0.9s,mb4.9							
KWP				*e*PcP		PcP	00 25 23.7	-2.2
OJC	**Ojcow**	**76.34**	**332**	*e*PX		**P**	**00 25 16.1**	**-0.1**
STHS	**Stebnicka Huta**	**76.54**	**331**	*e*P		**P**	**00 25 17.8**	**+0.5**
STHS				*e*PP		PP	00 27 57.6	-12
KOLS	**Kolonicke sedl**	**76.59**	**330**	*e*P		**P**	**00 25 17.8**	**+0.2**
BURAR	**Bucovina Array**	**76.62**	**327**	*i*P		**P**	**00 25 17.1**	**-0.7**
BURAR	**Bucovina Array**	**76.62**	**327**	*i*P		**P**	**00 25 18.1**	**+0.3**
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**	**00 25 22.0**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.5,baz=304,slow=4.1,SNR=72							
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**	**00 25 22.0**	**+0.7**
TXAR					pmax	pmax		
	comp=Z,4.0nm,0.6s							
TXAR	**Lajitas Array**	**77.26**	**61**	P		**P**	**00 25 22.0**	**+0.7**
MORC	**Moravsky Berou**	**77.45**	**333**	*i*P		**P**	**00 25 22.8**	**+0.4**
MORC	**Moravsky Berou**	**77.45**	**333**	*i*P		**P**	**00 25 22.8**	**+0.4**
CLL	**Collm**	**77.46**	**336**	*i*P		**P**	**00 25 22.0**	**-0.5**
	comp=Z,9.0nm,1.1s,mb4.6							
KECS	**Kecovo**	**77.60**	**330**	*e*P		**P**	**00 25 22.5**	**-0.7**
MLR	**Muntele Rosu**	**78.11**	**326**	*i*P		**P**	**00 25 27.0**	**+0.9**
MLR	**Muntele Rosu**	**78.11**	**326**	*i*P		**P**	**00 25 27.0**	**+1.0**
VYHS	**Vyhne**	**78.15**	**331**	*e*P		**P**	**00 25 26.8**	**+0.5**
MALT	**Malatya**	**78.20**	**314**	*i*P		**P**	**00 25 28.2**	**+1.6**
MALT	**Malatya**	**78.20**	**314**	*i*P		**P**	**00 25 28.2**	**+1.6**
DRGR		**78.25**	**328**	*i*P		**P**	**00 25 26.9**	**0.0**
DRGR		**78.25**	**328**	*i*P		**P**	**00 25 26.9**	**+0.1**
VOIR		**78.50**	**326**	*i*P		**P**	**00 25 29.1**	**+0.8**
VOIR		**78.50**	**326**	*i*P		**P**	**00 25 29.1**	**+0.9**
KHC	**Kasperske Hory**	**79.24**	**335**	*e*P		**P**	**00 25 32.5**	**+0.2**
BR131	**Keskin Array S**	**79.44**	**317**	*e*P		**P**	**00 25 34.4**	**+1.0**
	comp=Z,1.4nm,0.7s,mb4.0							
BR131				*e*PcP		PcP	00 25 43.0	+1.6
BRTR	**Keskin Array B**	**79.44**	**317**	P		**P**	**00 25 33.7**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.1,baz=75,slow=4.0,SNR=12							
BRTR	**Keskin Array B**	**79.44**	**317**	P		**P**	**00 25 33.7**	**+0.3**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**79.46**	**335**	P		**P**	**00 25 33.7**	**+0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=35,slow=4.9,SNR=11							
GERES	**GERESS Array B**	**79.46**	**335**	P		**P**	**00 25 33.7**	**+0.2**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.7s							
VTS	**Vitosha**	**81.61**	**326**	*i*P		**P**	**00 25 45.5**	**+0.5**
VTS	**Vitosha**	**81.61**	**326**	*i*P		**P**	**00 25 45.5**	**+0.5**
CDF	**Champ du Feu**	**81.64**	**338**	*e*P		**P**	**00 25 45.2**	**0.0**
	comp=Z,16nm,1.0s,mb4.6							
CDF	**Champ du Feu**	**81.64**	**338**	*e*P		**P**	**00 25 45.2**	**0.0**
CDF					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
CDF	**Champ du Feu**	**81.64**	**338**	*e*P		**P**	**00 25 45.2**	**0.0**
	comp=Z,8.0nm,1.0s,mb4.6							
GRR	**Gorron**	**83.52**	**344**	*e*P		**P**	**00 25 54.8**	**-0.2**
ASF	**Jabal al Asfar**	**83.74**	**311**	P		**P**	**00 25 56.3**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.3,baz=251,slow=4.8,SNR=5.5							
ASF	**Jabal al Asfar**	**83.74**	**311**	P		**P**	**00 25 56.3**	**+0.2**
ASF					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MMAI	**Mount Meron Ar**	**83.86**	**312**	P		**P**	**00 25 57.6**	**+0.9**
	comp=Z,4.2nm,0.6s,mb4.8,baz=49,slow=5.6,SNR=12							
SMF	**Signal de Mont**	**84.14**	**340**	*e*P		**P**	**00 25 58.3**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.5							
SMF	**Signal de Mont**	**84.14**	**340**	*e*P		**P**	**00 25 58.3**	**+0.1**
SMF					pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
SMF	**Signal de Mont**	**84.14**	**340**	*e*P		**P**	**00 25 58.3**	**+0.1**
	comp=Z,3.1nm,0.7s,mb4.5							
LPG	**La Plagne**	**84.47**	**338**	*e*P		**P**	**00 26 01.0**	**+1.2**
	comp=Z,23nm,1.0s,mb4.9							
LPG	**La Plagne**	**84.47**	**338**	*e*P		**P**	**00 26 01.0**	**+1.2**
LPG					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9							
LPG	**La Plagne**	**84.47**	**338**	*e*P		**P**	**00 26 01.0**	**+1.2**
	comp=Z,11nm,1.0s,mb5.0							
CAF	**Calviac**	**86.18**	**341**	*e*P		**P**	**00 26 08.7**	**+0.3**

*ISCJB **23** 00:15:22.2±0.3, 5520N±002×11066E±004, h10km, mb3.6/2, Error ellipse: s-maj=4.1km s-min=2.3km az=92.4*
*BYKL **23** 00:15:24.6±0.2, 5526N×11064E, h7km±15km*
*MOS **23** 00:15:25.1±1.5, 5525N×11071E, h22km, mb4.6/1, Error ellipse: s-maj=15.0km s-min=8.7km az=69.2*
*IDC **23** 00:15:32.5±6.9, 5495N×11031E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=88.7km s-min=26.9km az=77.0*
*NEIC **23** 00:15:37.9±2.9, 5482N×10941E, h10km, mb3.8/1, Error ellipse: s-maj=47.3km s-min=19.6km az=69.0*
ISC 23 00:15:24.3±0.3, 5523N±002×11066E±004, h10km, n49, σ1s44/82, mb3.6/2, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.46**	**141**	*i*P		**Pg**	**00 15 33.8**	**+0.6**
YLYR				*e*Sg		**Sg**	**00 15 40.8**	**+1.5**
YLYR					Pmax			
	1μm,0.3s							
YLYR					Smax			
	6μm,0.3s							
YLYR	**Ulyunkhan**	**0.46**	**141**	*e*PG		**Pg**	**00 15 33.8**	**+0.6**
YLYR				*e*			00 15 40.5	
YLYR					pmax	pmax		
	comp=Z,1μm,0.2s							
YLYR					smax			
	comp=E,6μm,0.3s							
KMO	**Kumora**	**0.72**	**25**	*e*Pg		**Pg**	**00 15 37.2**	**-1.0**
KMO				*e*			00 15 37.6	
KMO				*e*Sg		**Sg**	**00 15 46.7**	**-1.0**
KMO					max			
	comp=E,93nm,0.1s							
KMO					Smax			
	comp=E,799nm,0.5s							
KMO	**Kumora**	**0.72**	**25**	*e*PG		**Pg**	**00 15 37.4**	**-0.8**
KMO				*e*			00 15 46.6	
KMO					pmax	pmax		
	comp=Z,223nm,0.3s							
KMO					smax			
	comp=N,798nm,0.4s							
NIZ	**Nizh Angarsk**	**0.84**	**311**	*i*Pg		**Pg**	**00 15 39.3**	**-1.1**
NIZ				*e*Sg		**Sg**	**00 15 50.6**	**-0.7**
NIZ				*e*Sb		**Sb**	**00 15 56.0**	**+3.8**
NIZ					Pmax			
	comp=N,380nm,0.2s							
NIZ					max			
	comp=N,1μm,0.3s							
NIZ	**Nizh Angarsk**	**0.84**	**311**	*i*PG		**Pg**	**00 15 39.3**	**-1.1**
NIZ				*e*			00 15 50.9	
NIZ					pmax	pmax		
	comp=Z,496nm,0.4s							
NIZ					smax			
	comp=N,1μm,0.4s							
YOA	**Uoyan**	**1.08**	**33**	*e*Pg		**Pg**	**00 15 44.2**	**-0.9**
YOA				*e*Sg		**Sg**	**00 15 59.1**	**-0.1**
YOA					Pmax			
	comp=N,369nm,0.2s							
YOA					Smax			
	comp=N,2μm,0.4s							
YOA	**Uoyan**	**1.08**	**33**	*i*PG		**Pg**	**00 15 44.3**	**-0.8**
YOA				*i*			00 15 59.2	
YOA					pmax	pmax		
	comp=Z,390nm,0.3s							
YOA					smax			
	comp=N,2μm,0.4s							
SYVR	**Suvo**	**1.62**	**194**	*i*Pg		**Pg**	**00 15 54.5**	**-0.9**
SYVR				*e*Sg		**Sg**	**00 16 16.6**	**+0.1**
SYVR					Pmax			
	comp=N,101nm,0.2s							
SYVR					Smax			
	comp=N,908nm,0.5s							
SYVR	**Suvo**	**1.62**	**194**	*e*PN		**Pn**	**00 15 54.4**	**+1.5**
SYVR				*e*			00 16 17.0	
SYVR					pmax	pmax		
	comp=Z,143nm,0.2s							
SYVR					smax			
	comp=E,885nm,0.4s							
UKT	**Uakit**	**1.71**	**80**	*i*Pg		**Pg**	**00 15 55.2**	**-1.9**
UKT				*e*Sg		**Sg**	**00 16 18.3**	**-1.0**
UKT					Pmax			
	comp=E,171nm,0.5s							
UKT					Smax			
	comp=E,946nm,0.8s							
UKT	**Uakit**	**1.71**	**80**	*e*PN		**Pn**	**00 15 55.1**	**+1.0**
UKT				*e*			00 16 18.3	
UKT					pmax	pmax		
	comp=Z,162nm,0.3s							
UKT					smax			
	comp=N,843nm,0.4s							
SVKR	**Severomuysk**	**1.86**	**60**	*e*Pg		**Pg**	**00 15 58.3**	**-1.7**
SVKR				*e*Sg		**Sg**	**00 16 23.3**	**-0.9**
SVKR					Pmax			
	comp=N,251nm,0.4s							
SVKR					Smax			
	comp=N,4μm,0.6s							
SVKR	**Severomuysk**	**1.86**	**60**	*e*PN		**Pn**	**00 15 57.7**	**+1.5**
SVKR				*e*			00 16 00.9	
SVKR				*e*S		**Sn**	**00 16 23.1**	**+3.3**
SVKR				*e*			00 16 23.9	
SVKR					pmax	pmax		
	comp=Z,250nm,0.5s							
SVKR					smax			
	comp=N,4μm,0.8s							
MXMB	**Maximikha**	**2.27**	**210**	*e*Pg		**Pg**	**00 16 05.6**	**-2.2**
MXMB				*e*Sg		**Sg**	**00 16 37.0**	**-0.3**
MXMB					Pmax			
	comp=N,72nm,0.3s							
MXMB					Smax			
	comp=N,938nm,0.7s							
OGRR	**Ongureny**	**2.40**	**230**	*e*Pn		**Pn**	**00 16 05.4**	**+1.9**
OGRR				*e*Pg		**Pg**	**00 16 07.3**	**-2.9**
OGRR				*e*Sg		**Sg**	**00 16 39.3**	**-2.0**
OGRR					Pmax			
	comp=N,40nm,0.2s							
OGRR					Smax			
	comp=N,443nm,0.2s							
OGRR	**Ongureny**	**2.40**	**230**	*e*PN		**Pn**	**00 16 05.4**	**+1.9**
OGRR				*e*			00 16 08.7	
OGRR				*e*			00 16 39.1	
OGRR					pmax	pmax		
	comp=Z,54nm,0.4s							
OGRR					smax			
	comp=N,521nm,0.5s							
NLYR	**Nelyaty**	**3.11**	**64**	*e*Pn		**Pn**	**00 16 14.7**	**+1.4**
NLYR				*e*Sn		**Sn**	**00 16 51.2**	**+0.7**
NLYR				*e*Sg		**Sg**	**00 17 00.1**	**-4.0**
NLYR					Smax			
	comp=N,45nm,1.1s							
BOD	**Bodaibo**	**3.19**	**34**	*e*Pn		**Pn**	**00 16 13.9**	**-0.5**
BOD				Pg		**Pg**	**00 16 21.6**	**-3.7**
BOD				*e*Sn		**Sn**	**00 16 52.5**	**+0.1**
BOD				*e*Sg		**Sg**	**00 17 01.5**	**-5.1**
BOD					max			
	comp=N,44nm,0.7s							
BOD					Smax			
	comp=N,207nm,1.0s							
ZRHB	**Zarechye**	**3.39**	**219**	*e*Sg		**Sg**	**00 17 10.4**	**-2.9**
ZRHB					Smax			
	comp=N,451nm,0.8s							
TRTB	**Turuntaevo**	**3.51**	**212**	*e*Pn		**Pn**	**00 16 20.9**	**+2.1**
TRTB				*e*Sg		**Sg**	**00 17 14.3**	**-2.6**
TRTB					Smax			
	comp=N,157nm,0.8s							
TRG	**Tyrgan**	**3.55**	**228**	*e*Pn		**Pn**	**00 16 21.1**	**+1.7**
TRG				*e*Sg		**Sg**	**00 17 14.0**	**-4.3**
TRG					Smax			
	comp=N,174nm,0.2s							
TRG	**Tyrgan**	**3.55**	**228**	*e*PN		**Pn**	**00 16 21.0**	**+1.6**
TRG				*e*			00 16 29.4	
TRG				*e*S		**Sn**	**00 17 02.3**	**+0.8**
TRG				*e*			00 17 13.8	
TRG					pmax	pmax		
	comp=Z,16nm,0.4s							
TRG					smax			
	comp=N,172nm,0.3s							
CIT	**Chita**	**3.65**	**151**	*e*Pg		**Pg**	**00 16 29.8**	**-4.4**
CIT				*e*Sg		**Sg**	**00 17 17.2**	**-4.3**
CIT					Pmax			
	comp=N,72nm,0.3s							
CIT					Smax			
	comp=N,435nm,1.1s							
FFNB	**Fofonovo**	**3.94**	**218**		Smax		00 16 25.4	
FFNB					*e*Sg	**Sg**	**00 17 26.3**	**-4.7**
FFNB					Smax			
	comp=N,358nm,0.5s							
CRS	**Chara**	**4.58**	**65**	*e*Pn		**Pn**	**00 16 35.1**	**+1.5**
CRS				*e*Pg		**Pg**	**00 16 46.7**	**-5.3**
CRS				*e*Sg		**Sg**	**00 17 46.8**	**-4.5**
CRS					Pmax			
	comp=N,44nm,0.8s							
CRS					Smax			
	comp=N,343nm,1.3s							
CRS	**Chara**	**4.58**	**65**	*e*PN		**Pn**	**00 16 35.1**	**+1.5**
CRS				*e*			00 16 47.1	
CRS				*e*			00 17 46.4	
CRS					pmax	pmax		
	comp=Z,86nm,1.1s							
CRS					smax			
	comp=E,341nm,2.0s							
IRK	**Irkutsk**	**4.83**	**234**	*e*Sg		**Sg**	**00 17 53.7**	**-5.7**
IRK					Smax			
	comp=E,585nm,0.4s							
TUP	**Tupik**	**5.43**	**95**	*e*Pn		**Pn**	**00 16 46.1**	**+0.8**
TUP				*e*Pg		**Pg**	**00 17 02.5**	**-5.8**
TUP				*e*Sg		**Sg**	**00 18 13.0**	**-5.7**
TUP					Pmax			
	comp=E,34nm,0.3s							
TUP					Smax			
	comp=E,140nm,0.7s							
TUP	**Tupik**	**5.43**	**95**	*e*PN		**Pn**	**00 16 46.0**	**+0.7**
TUP				*e*			00 17 02.0	
TUP				*e*S

ORL pmax pmax
comp=Z,8.0nm,0.8s
ORL smax
comp=N,127nm,0.8s
SONM Songino Array 7.87 201 Pn **Pn 00 17 23.6 +4.9**
comp=N,0.4nm,0.3s,baz=12,slow=12,SNR=9.0
SONM Pg Pn 00 17 49.2 +30
comp=N,0.6nm,0.3s,baz=6.8,slow=16,SNR=5.3
SONM Lg 00 19 33.4
comp=N,2.0nm,0.3s,baz=18,slow=27,SNR=16
SONM Songino Array 7.87 201 PG Px 00 17 49.2
SONM pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 15.02 276 Pn **Pn 00 18 59.4 +2.8**
comp=Z,0.1nm,0.3s,baz=33,slow=11,SNR=18
ZAL Lg 00 23 11.3
comp=Z,0.1nm,0.3s,baz=158,slow=19,SNR=3.5
ZAL Zalesovo 15.02 276 Pn **Pn 00 18 59.4 +2.8**
ZAL Lg 00 23 11.3
MKAR Makanchi Array 19.63 256 P **Pn 00 19 58.9 +4.6**
comp=Z,0.1nm,0.3s,baz=55,slow=9.5,SNR=6.7
BVAR Borovoye Array 23.47 281 P **P 00 20 42.7 +8.6**
comp=Z,0.9nm,0.5s,mb3.4,baz=64,slow=10,SNR=8.0
BRVK Borovoye 23.52 282 *eP* **P 00 20 41.3 +6.6**
comp=Z,2.2nm,0.7s,mb3.7
MALT Malatya 49.94 282 P **P 00 24 26.2 +7.9**
PSZ Piszkesteto 53.03 303 P **P 00 24 51.9 +11**

IDC 23 00:20:08.8±5.2, 1796S×17838W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/13, mbtmp3.7/2, Error ellipse: s-maj=311.2km s-min=77.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.65**	**260**	P	P	00 28 23.9	+0.7
	0.6nm,0.3s,baz=93,slow=8.3,SNR=8.5						
ASAR	**Alice Springs**	**44.80**	**254**	P	P	00 28 24.3	0.0
	0.5nm,0.6s,baz=95,slow=8.3,SNR=7.1						
BRTR	**Keskin Array B**	**144.84**	**315**	PKP	PKPdf	00 39 47.6	-0.1
	0.5nm,0.7s,baz=112,slow=3.3,SNR=4.0						

*IDC **23** 00:20:55.1±1.1, 3654N×6720E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, ML4.1/3, MS3.3/11, Ms1 3.4/11, ms1mx3.2/27, Error ellipse: s-maj=21.6km s-min=19.6km az=172.0*

*NNC **23** 00:20:56.9±2.1, 3687N×6705E, h8km±12km, mb4.2, mpv4.2, Error ellipse: s-maj=15.0km s-min=10.7km az=1.0*

*ISCJB **23** 00:20:56.4±1.3, 3686N±003×6721E±004, h10km±8km, mb4.3/19, MS3.4/8, Error ellipse: s-maj=5.5km s-min=5.4km az=140.1*

*MOS **23** 00:20:59.8±1.4, 3693N×6725E, h33km, mb4.6/14, Error ellipse: s-maj=9.2km s-min=5.4km az=77.4*

*NEIC **23** 00:21:01.4±0.5, 3686N×6732E, h35km, mb4.5/11, Error ellipse: s-maj=11.5km s-min=8.7km az=190.0*

NEIC Felt at Mazar-e Sharif.

*BJI **23** 00:21:03.8, 3696N×6820E, h9km, mB5.2, mb4.6, ML4.4, Ms4.1, Mszs.7*

ISC 23 00:20:58.7±1.6, 3684N±003×6712E±004, h14km±11km, n113, σ1§27/127, mb4.3/20, MS3.4/8, 15C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**4.79**	**20**	PN	**Pn**	**00 22 06.7**	**-3.7**
TAS				S	**Sn**	**00 23 10.5**	**+4.9**
CEP	**Cherat**	**4.94**	**126**	⇑P	**Pn**	**00 22 13.0**	**+0.5**
CEP				S	Sg	00 23 45.0	+7.7
SBDP	**Sheikh Budin**	**5.46**	**145**	P	**Pn**	**00 22 21.2**	**+1.6**
DRP	**Derazinda**	**5.69**	**152**	⇑P	**Pn**	**00 22 23.7**	**+0.9**
CHCP	**Chirah Chowk**	**5.95**	**120**	⇓P	**Pn**	**00 22 26.6**	**+0.3**
KK31	**Karatay Array**	**6.78**	**22**	⇑Pn	**Pn**	**00 22 38.5**	**+0.8**
	26nm,0.5s,baz=216,slow=14,SNR=495						
KK31				⇓Sn	**Sn**	**00 23 55.6**	**+0.9**
	44nm,0.6s						
KK31				⇓Lg		00 24 30.3	
	157nm,0.8s						
KK31	**Karatay Array**	**6.78**	**22**	*e*PN	**Pn**	**00 22 38.4**	**+0.7**
KK31				pmax	pmax		
	comp=Z,49nm,0.4s						
KKAR	**Karatay Array**	**6.78**	**22**	*e*PN	**Pn**	**00 22 38.4**	**+0.7**
KKAR						00 23 55.5	
KKAR				pmax	pmax		
	comp=Z,22nm,0.5s						
KKAR				smax			
	comp=Z,9.0nm,0.3s						
VAN	**Vannovskaya**	**7.26**	**281**	P	**Pn**	**00 22 39.8**	**-4.5**
AML	**Almayashu**	**7.33**	**42**	P	**Pn**	**00 22 46.4**	**+1.1**
	SNR=61						
KSH	**Kashi**	**7.47**	**66**	*e*P	**Pn**	**00 22 43.1**	**-4.1**
KSH				*e*S	**Sn**	**00 23 56.1**	**-16**
KSH				Smax			
	comp=N,473nm,0.6s						
KSH				Smax			
	comp=E,670nm,0.8s						
EKS2	**Erkin-Say**	**7.75**	**39**	P	**Pn**	**00 22 52.3**	**+1.2**
	SNR=9.9						
UCH	**Uchtor**	**7.85**	**44**	P	**Pn**	**00 22 53.5**	**+1.1**
	SNR=25						
AAK	**Ala-Archa**	**8.11**	**42**	P	**Pn**	**00 22 57.1**	**+1.1**
	SNR=36						
AAK	**Ala-Archa**	**8.11**	**42**	*c* *i*P	**Pn**	**00 22 55.8**	**-0.2**
KZA	**Kyzart**	**8.18**	**48**	P	**Pn**	**00 22 58.2**	**+1.3**
	SNR=13						
FRU	**Bishkek**	**8.31**	**42**	*e*P	**Pn**	**00 23 01.0**	**+2.3**
FRU				*i* S	**Sn**	**00 24 34.0**	**+1.6**
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
FRU				smax			
	comp=N,350nm,1.6s						
FRU				pmax	pmax		
	comp=N,510nm,1.8s						
THN	**Thein Dam**	**8.34**	**119**	*e*P	**Pn**	**00 22 57.8**	**-1.3**
KBK	**Karagaybulak**	**8.37**	**44**	P	**Pn**	**00 23 01.2**	**+1.6**
	SNR=52						
DLH	**Dalhousie**	**8.45**	**118**	*e*P	**Pn**	**00 23 00.0**	**-0.7**
CHMS	**Chumysh**	**8.50**	**41**	P	**Pn**	**00 23 02.0**	**+0.7**
	SNR=28						
USP	**Ospenovka**	**8.55**	**39**	P	**Pn**	**00 23 02.5**	**+0.4**
	SNR=16						
TKM2	**Tokmak 2**	**8.90**	**44**	P	**Pn**	**00 23 07.5**	**+0.6**
	SNR=18						
TKM2	**Tokmak 2**	**8.90**	**44**	⇑Pn	**Pn**	**00 23 06.8**	**-0.1**
TKM2	comp=N,2.6nm,0.7s			⇑Sn	**Sn**	**00 24 47.1**	**+0.1**
	comp=N,9.5nm,0.7s						
TKM2				⇓Lg		00 25 40.4	
	comp=N,388nm,2.1s						
TKM2	**Tokmak 2**	**8.90**	**44**	P	**Pn**	**00 23 07.2**	**+0.3**
TKM2						00 24 47.1	
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TKM2				smax			
	comp=Z,63nm,0.7s						
AAA	**Alma-Ata**	**9.90**	**47**	*i* P	**Pn**	**00 23 21.4**	**+0.9**
AAA				*i* S	**Sn**	**00 25 09.7**	**-1.6**
AAA				pmax	pmax		
	comp=Z,322nm,2.0s						
AAA				smax			
	comp=E,257nm,2.2s						
AAA				MLR	MLR		
	comp=Z,2μm,7.2s						
AB31	**Akbulak array**	**13.46**	**339**	Pn	**Pn**	**00 24 06.9**	**-2.4**
	comp=Z,4.7nm,0.6s,baz=157,slow=13,SNR=32						
AB31				⇑Sn	**Sn**	**00 26 38.1**	**-0.5**
	comp=Z,14nm,0.8s						
AB31				⇑Lg		00 28 04.6	
	comp=Z,15nm,0.8s						
MK31	**Makanchi Array**	**15.04**	**44**	⇓Pn	**Pn**	**00 24 28.8**	**-1.9**
	comp=Z,6.6nm,0.7s,baz=241,slow=15,SNR=44						
MK31				⇓Lg		00 28 54.7	
	comp=Z,18nm,1.2s						
MK31	**Makanchi Array**	**15.04**	**44**	*i* P	**Pn**	**00 24 28.8**	**-1.9**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MK31	**Makanchi Array**	**15.04**	**44**	*e*Pn	**Pn**	**00 24 28.8**	**-2.0**
MKAR	**Makanchi Array**	**15.04**	**44**	Pn	**Pn**	**00 24 28.5**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=239,slow=13,SNR=12						
MKAR				LR	LR	00 31 32.0	
	comp=Z,48nm,21.4s,baz=240,slow=42						
MKAR	**Makanchi Array**	**15.04**	**44**	*e*P	**Pn**	**00 24 28.8**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTK	**Aktyubinsk**	**15.08**	**337**	Pn	**Pn**	**00 24 29.7**	**-1.7**
AKTK				Sn	**Sn**	**00 27 19.1**	**+0.9**
AKTK				LR	LR	00 30 46.8	
AKTO	**Aktyubinsk**	**15.08**	**337**	⇓Pn	**Pn**	**00 24 29.4**	**-2.0**
	comp=Z,0.2nm,0.7s						
AKTO				⇑Sn	**Sn**	**00 27 16.6**	**-1.5**
	comp=Z,0.5nm,0.8s						
AKTO				⇑Lg		00 28 54.5	
	comp=Z,5.2nm,2.1s						
AKTO	**Aktyubinsk**	**15.08**	**337**	Pn	**Pn**	**00 24 29.7**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=147,slow=14,SNR=11						
AKTO				Sn	**Sn**	**00 27 19.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=214,slow=21,SNR=3.9						
AKTO				LR	LR	00 30 46.8	
	comp=Z,148nm,19.1s,baz=169,slow=38						
AKTO	**Aktyubinsk**	**15.08**	**337**	P	**Pn**	**00 24 29.7**	**-1.6**
AKTO						00 27 19.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,148nm,19.1s						
VOSK	**Vostochnaya**	**16.11**	**8**	⇓Pn	**Pn**	**00 24 41.6**	**-3.2**
	comp=Z,13nm,1.1s						
VOSK				⇑Sn	**Sn**	**00 27 42.9**	**-0.3**
	comp=Z,11nm,0.9s						
VOSK				⇓Lg		00 29 28.4	
	comp=Z,29nm,1.3s						
VOSK	**Vostochnaya**	**16.11**	**8**	P	**Pn**	**00 24 41.5**	**-3.2**
VOSK						00 27 34.8	
VOSK				pmax	pmax		
	comp=Z,13nm,1.1s						
VOSK				smax			
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**16.14**	**27**	⇑Pn	**Pn**	**00 24 41.9**	**-3.1**
	comp=Z,7.1nm,1.0s						
KURK				⇓Lg		00 29 29.6	
	comp=Z,69nm,1.8s						
KURK	**Kurchatov**	**16.14**	**27**	P	**Pn**	**00 24 45.4**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BVA0	**Borovoye Array**	**16.34**	**7**	⇓Pn	**Pn**	**00 24 45.5**	**-2.2**
	comp=Z,3.2nm,1.1s,baz=181,slow=15,SNR=62						
BVA0				⇓Sn	**Sn**	**00 27 49.1**	**+0.3**
	comp=Z,3.9nm,1.4s,baz=182,slow=19,SNR=3.8						
BVA0				⇓Lg		00 29 36.1	
	comp=Z,8.1nm,1.8s						
BVA0	**Borovoye Array**	**16.34**	**7**	*i* P	**Pn**	**00 24 45.4**	**-2.3**
BVA0				*i*		00 27 40.7	
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVA0				smax			
	comp=Z,6.0nm,1.5s						
BVAR	**Borovoye Array**	**16.34**	**7**	Pn	**Pn**	**00 24 45.4**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=177,slow=10,SNR=30						
BVAR				Sn	**Sn**	**00 27 48.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=183,slow=30,SNR=5.1						
BVAR	**Borovoye Array**	**16.34**	**7**	P	**Pn**	**00 24 45.4**	**-2.3**
BVAR						00 27 48.6	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**16.37**	**7**	*e*P	**Pn**	**00 24 45.3**	**-2.7**
BRVK				*e*		00 27 41.7	
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**16.37**	**7**	*e*Pn	**Pn**	**00 24 45.3**	**-2.7**
	comp=Z,23nm,0.7s						
BRVK				*e*Sn	**Sn**	**00 27 41.7**	**-7.7**
KOLN	**Koldanda**	**16.59**	**118**	*e*P	**Pn**	**00 24 45.3**	**-5.6**
	comp=Z,18nm,0.5s						
KOLN				*e*S	**Sn**	**00 27 46.3**	**-8.6**
WMQ	**Urumqi**	**17.15**	**60**	*e*P	**Pn**	**00 24 55.0**	**-2.8**
GKN	**Gorkha**	**17.20**	**116**	*e*P	**Pn**	**00 24 53.2**	**-5.3**
	comp=Z,94nm,0.8s						
DMN	**Daman**	**17.76**	**116**	*e*P	**Pn**	**00 25 01.0**	**-4.5**
	comp=Z,108nm,1.0s						
KKN	**Kakani**	**17.79**	**115**	*e*P	**Pn**	**00 25 00.6**	**-5.2**
	comp=Z,52nm,0.6s						
GNI	**Garni**	**17.82**	**288**	P	**Pn**	**00 25 09.5**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=229,slow=3.6,SNR=4.4						
GNI				LR	LR	00 34 06.6	
	comp=Z,47nm,21.1s,baz=125,slow=44						
GNI	**Garni**	**17.82**	**288**	*d* *i*P	**Pn**	**00 25 09.8**	**+3.6**
GNI	**Garni**	**17.82**	**288**	*e*Pn	**Pn**	**00 25 07.7**	**+1.5**
	comp=Z,11nm,1.0s						
PKI	**Pulchoki**	**18.00**	**116**	*e*P	**Pn**	**00 25 03.5**	**-5.0**
	comp=Z,51nm,0.7s						
GUN	**Gumba**	**18.15**	**114**	*e*P	**Pn**	**00 25 06.3**	**-4.0**
	comp=Z,101nm,0.8s						
JIRN	**Jiri**	**18.52**	**114**	*e*P	**Pn**	**00 25 10.8**	**-4.0**
	comp=Z,55nm,0.5s						
ZEI	**Tsey**	**18.77**	**296**	*e*P	**Pn**	**00 25 19.2**	**+1.4**
KIV	**Kislovodsk**	**19.88**	**299**	*e*P	**Pn**	**00 25 30.3**	**-0.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,25nm,12.0s						
KIV	**Kislovodsk**	**19.88**	**299**	*e*P	**Pn**	**00 25 31.3**	**+0.2**
	comp=Z,6.2nm,0.7s						
GOF	**Gofitskoye**	**19.91**	**302**	*e*P	**Pn**	**00 25 21.8**	**-10**
ARU	**Arti**	**20.43**	**346**	*e*P	**P**	**00 25 36.1**	**+0.6**
ARU				*e*		00 25 49.5	
ARU				*e*PPP		00 25 59.7	
ARU				*e*S	**S**	**00 29 19.0**	**-4.8**
ARU	**Arti**	**20.43**	**346**	*e*P	**P**	**00 25 36.6**	**+1.1**
	comp=Z,18nm,0.8s						
ZAL	**Zalesovo**	**21.03**	**30**	P	**P**	**00 25 41.1**	**-0.8**
	comp=Z,11nm,0.4s,mb4.5,baz=246,slow=8.7,SNR=32						
ZAL				LR	LR	00 35 25.2	
	comp=Z,120nm,20.2s,MS3.3,baz=150,slow=41						
ZAL	**Zalesovo**	**21.03**	**30**	P	**P**	**00 25 41.1**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,11nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,120nm,20.2s						
NVS	**Novosibirsk**	**21.12**	**26**	*i* P	**P**	**00 25 43.1**	**+0.1**
NVS				*e*S	**S**	**00 29 19.7**	**-18**
NVS				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.3						
NVS				pmax	pmax		
	comp=N,28nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				smax			
	comp=N,19nm,1.5s						
NVS				smax			
	comp=E,22nm,2.0s						
LSA	**Lhasa**	**21.29**	**103**	P	**P**	**00 25 44.4**	**-0.3**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
LSA	**Lhasa**	**21.29**	**103**	*e*P	**P**	**00 25 44.7**	**0.0**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
LSA	**Lhasa**	**21.29**	**103**	*e*P	**P**	**00 25 44.7**	**0.0**
	comp=Z,14nm,0.8s,mb4.3						
HYB	**Hyderabad**	**21.83**	**149**	*i* P	**P**	**00 25 49.0**	**-1.5**
HYB	**Hyderabad**	**21.83**	**149**	*e*P	**P**	**00 25 49.0**	**-1.5**
ASF	**Jabal al Asfar**	**25.28**	**268**	LR	LR	00 38 52.8	
	comp=Z,33nm,18.7s,MS2.9,baz=89,slow=42						
GTA	**Gaotai**	**25.77**	**74**	*e*P	**P**	**00 26 29.9**	**+0.9**
GTA				AP	pP	00 26 34.5	+1.1
GTA				XP	sP	00 26 37.8	+2.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb3.9						
BR131	**Keskin Array S**	**26.35**	**287**	*e*P	**P**	**00 26 34.6**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.5						
BRTR	**Keskin Array B**	**26.35**	**287**	P	**P**	**00 26 34.4**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.6,baz=125,slow=8.8,SNR=5.7						
BRTR	**Keskin Array B**	**26.35**	**287**	P	**P**	**00 26 34.4**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**27.68**	**321**	⇑P	**P**	**00 26 46.8**	**+0.6**
OBN				*e*		00 27 03.3	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
LZH	**Lanzhou**	**29.43**	**80**	*e*P	**P**	**00 27 04.1**	**+2.3**
LZH				AP	pP	00 27 10.3	+4.1
LZH				XP	sP	00 27 14.0	+6.0
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**29.43**	**80**	*e*P	**P**	**00 27 04.1**	**+2.3**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	00 27 10.2	+4.0
LZH				sP	sP	00 27 14.0	+6.0
TLY	**Talaya**	**29.71**	**48**	*e*P	**P**	**00 26 58.4**	**-5.9**
AKASG	**Malin Array Be**	**30.31**	**309**	P	**P**	**00 27 11.6**	**+2.1**
	comp=Z,1.0nm,0.4s,mb3.9,baz=90,slow=7.5,SNR=5.7						
AKASG	**Malin Array Be**	**30.31**	**309**	*i* P	**P**	**00 27 12.6**	**+3.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULN	**Ulaanbaatar**	**31.18**	**57**	P	**P**	**00 27 16.6**	**-0.6**
KWP	**Kalwaria**	**34.29**	**306**	*e*P	**P**	**00 27 46.7**	**+2.2**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KWP	**Kalwaria**	**34.29**	**306**	*e*P	**P**	**00 27 46.7**	**+2.2**
	comp=Z,6.2nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**35.48**	**327**	P	**P**	**00 27 55.2**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=126,slow=9.7,SNR=6.0						
FINES				LR	LR	00 42 06.6	
	comp=Z,64nm,21.9s,MS3.3,baz=189,slow=36						
FINES	**FINESS Array B**	**35.48**	**327**	*i* P	**P**	**00 27 55.2**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**35.48**	**327**	P	**P**	**00 27 55.2**	**+0.5**
FINES				LR	LR	00 42 06.6	
PSZ	**Piszkesteto**	**36.08**	**303**	P	**P**	**00 28 00.4**	**+0.6**
BOD	**Bodaibo**	**37.09**	**40**	*e*P	**P**	**00 28 08.0**	**-0.5**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
ARCES	**ARCESS Array B**	**39.66**	**339**	LR	LR	00 45 21.1	
	comp=Z,122nm,19.6s,MS3.8,baz=123,slow=37						
GERES	**GERESS Array B**	**40.18**	**305**	P	**P**	**00 28 36.2**	**+1.7**
	comp=Z,0.3nm,0.5s,mb3.3,baz=86,slow=8.8,SNR=4.0						
GERES				LR	LR	00 47 02.9	
	comp=Z,75nm,21.6s,MS3.5,baz=83,slow=39						
NB2	**NORSAR Subarra**	**42.23**	**323**	P	**P**	**00 28 50.6**	**-0.7**
	comp=Z,1.9nm,0.8s,mb3.8,baz=98,slow=8.6						
NOA	**NORSAR Array B**	**42.23**	**323**	P	**P**	**00 28 51.1**	**-0.2**
	comp=Z,2.3nm,0.7s,mb3.9,baz=100,slow=8.2,SNR=7.5						
NOA				LR	LR	00 48 07.0	
	comp=Z,56nm,21.2s,MS3.4,baz=85,slow=38						
NOA	**NORSAR Array B**	**42.23**	**323**	P	**P**	**00 28 51.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,56nm,21.2s						
PSI	**Prapat**	**44.77**	**132**	P	**P**	**00 29 10.1**	**-1.7**
	comp=Z,4.5nm,0.5s,mb4.5,baz=323,slow=6.0,SNR=7.8						
PSI	**Prapat**	**44.77**	**132**	P	**P**	**00 29 10.1**	**-1.7**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
YAK	**Yakutsk**	**45.51**	**36**	⇑*e*P	**P**	**00 29 17.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
YAK	**Yakutsk**	**45.51**	**36**	*e*P	**P**	**00 29 17.8**	**+0.1**
	comp=Z,20nm,0.4s,mb5.4						
TIXI	**Tiksi**	**46.64**	**23**	⇓*i*P	**P**	**00 29 25.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TIXI				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
TIXI	**Tiksi**	**46.64**	**23**	*e*P	**P**	**00 29 26.5**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.6						
KSRS	**Korea Array**	**47.71**	**70**	LR	LR	00 53 06.2	
	comp=Z,23nm,20.9s,MS3.1,baz=220,slow=40						
BILL	**Bilibino**	**59.66**	**25**	*e*P	**P**	**00 31 02.3**	**-0.1**
BILL				*e*		00 31 18.6	
BILL				*e*		00 31 50.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
TORD	**Torodi Ar. Bea**	**62.62**	**266**	P	**P**	**00 31 20.8**	**-1.7**
	comp=Z,1.2nm,0.8s,mb4.1,baz=54,slow=5.6,SNR=13						
TORD	**Torodi Ar. Bea**	**62.62**	**266**	P	**P**	**00 31 20.8**	**-1.7**
IMA2	**Indian Mountai**	**72.70**	**16**	*e*P	**P**	**00 32 26.1**	**-0.1**
COLA	**College**	**74.98**	**15**	*e*P	**P**	**00 32 39.7**	**+0.2**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
COLA	**College**	**74.98**	**15**	*e*P	**P**	**00 32 39.7**	**+0.2**
	comp=Z,8.0nm,0.8s,mb4.7						
DAWY	**Dawson**	**77.26**	**12**	P	**P**	**00 32 52.5**	**+0.1**
YKA	**Yellowknife Ar**	**81.00**	**1**	P	**P**	**00 33 12.5**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=354,slow=5.4,SNR=8.1						
YKA				LR	LR	01 14 03.2	
	comp=Z,36nm,18.4s,MS3.8,baz=175,slow=39						
YKA	**Yellowknife Ar**	**81.00**	**1**	⇑*e*P	**P**	**00 33 12.5**	**-0.4**
YKA	**Yellowknife Ar**	**81.00**	**1**	P	**P**	**00 33 12.5**	**-0.4**
YKA				LR	LR	01 14 03.2	
WRAB	**Tennant Creek**	**84.85**	**119**	P	**P**	**00 33 32.1**	**-0.8**

*CSEM **23** 00:26:10.4, 6783N×2021E, h0km, ML2.6, Mining explosion. After UPP*

*UPP **23** 00:26:10.4, 6783N×2021E, h0km, ML2.6, Mining explosion.*

HEL 23 00:26:11.1±0.1, 6784N×2018E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	00 26 13.1	-0.5
KUA				*i* S	Sg	00 26 15.1	-0.2
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 26 18.9	-0.6
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 26 25.3	-0.9
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 26 33.4	-0.6
KIF				*e*S	Sg	00 26 49.9	+0.5
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 26 35.7	-2.1
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	00 26 38.1	-1.2
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 26 38.1	-1.3
	baz=326						
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 26 53.6	+1.2
SGF				*e*S	Sn	00 27 23.1	-0.1

*IDC **23** 00:30:21.6±2.5, 639S×15167E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, ML2.8/1, Error ellipse: s-maj=66.1km s-min=40.8km az=121.0*

*NEIC **23** 00:30:22.7±0.7, 627S×15155E, h10km, mb3.9/3, Error ellipse: s-maj=21.4km s-min=12.0km az=136.0*

*ISCJB **23** 00:30:24.7±1.2, 63S±02×1515E±02, h35km, mb3.8/6, Error ellipse: s-maj=32.0km s-min=18.8km az=103.1*

ISC 23 00:30:26.3±1.2, 63S±02×1516E±02, h35km, n15, σ0§66/14, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**234**	Pn	**Pn**	**00 31 45.0**	**+1.2**
	2.2nm,0.3s,baz=40,slow=13,SNR=4.3						
PMG	**Port Moresby**	**5.36**	**234**	*e*P	**Pn**	**00 31 42.8**	**-1.0**
	15nm,0.6s						
WRAB	**Tennant Creek**	**21.54**	**229**	*e*P	**P**	**00 35 11.8**	**-0.8**
	2.2nm,0.6s,mb3.8						
WB2	**Warramunga Arr**	**21.55**	**229**	*e*P	**P**	**00 35 12.2**	**-0.4**
WRA	**Warramunga Arr**	**21.

	comp=Z,30nm,0.2s							
CRES	**Cresnjev**	**0.90**	**314**	*e*Pn		**Pn**	**00 31 59.6**	**-1.5**
CRES				*i* Sn		**Sn**	**00 32 11.6**	**-2.5**
CRES								
	comp=Z,34nm,0.2s							
GOLS	**Golise**	**0.96**	**327**	*e*Pg		**Pg**	**00 32 00.8**	**-0.1**
GOLS				*i* Sg		**Sg**	**00 32 14.7**	**+1.3**
GOLS								
	comp=Z,12nm,0.1s							
CESS	**Cesta pri Krsk**	**1.00**	**320**	*e*Pg		**Pg**	**00 32 01.7**	**0.0**
LEGS	**Legarje**	**1.05**	**315**	*i* Pg		**Pg**	**00 32 02.5**	**-0.1**
LEGS				*e*Sg		**Sg**	**00 32 17.0**	**+0.7**
VISS	**Visnje**	**1.23**	**299**	*i* Pg		**Pg**	**00 32 05.9**	**-0.3**
KOGS	**Kog**	**1.24**	**356**	*i* Pg		**Pg**	**00 32 05.3**	**-1.0**
NVLJ	**Novalja**	**1.25**	**239**	*i* Pg		**Pg**	**00 32 06.3**	**-0.3**
NVLJ				*i* Sg		**Sg**	**00 32 24.4**	**+1.6**
PDKS	**Podkum**	**1.29**	**312**	*e*Pg		**Pg**	**00 32 06.5**	**-0.7**
PDKS				*i* Sg		**Sg**	**00 32 23.5**	**-0.5**
PDKS								
	comp=Z,10.0nm,0.2s							
VOY	**Vojsko**	**1.93**	**296**	*e*Pn		**Pn**	**00 32 18.3**	**+3.0**
VOY				*e*Sn		**Sn**	**00 32 44.5**	**+4.9**

IDC 23 00:35:16.8±2.6, 1630S×17856W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/13, mbtmp3.9/4, Error ellipse: s-maj=269.3km s-min=26.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.80**	**258**	P	P	00 43 33.2	+0.8
	0.3nm,0.5s,baz=92,slow=6.9,SNR=3.5						
ASAR	**Alice Springs**	**45.11**	**253**	P	P	00 43 34.8	-0.1
	3.4nm,0.6s,baz=88,slow=8.2,SNR=49						
TXAR	**Lajitas Array**	**85.26**	**58**	P	P	00 47 56.2	+0.8
	0.5nm,0.7s,baz=216,slow=5.7,SNR=7.9						
PDAR	**Pinedale Array**	**86.29**	**44**	P	P	00 48 00.8	+0.2
	0.4nm,0.5s,baz=224,slow=4.8,SNR=4.8						

WEL 23 00:52:11.9±0.2, 3897S×17729E, h47km±3km, ML3.5/8, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.30**	**101**	PN	Pn	00 52 20.7	-0.1
KNZ				SN	Sn	00 52 27.6	+0.5
BKZ	**Black Stump Fm**	**0.65**	**252**	PN	Pn	00 52 23.9	-1.0
BKZ				SN	Sn	00 52 33.8	-0.4
MWZ	**Matawai**	**0.66**	**17**	PN	Pn	00 52 24.7	-0.2
MWZ				SN	Sn	00 52 34.9	+0.5
URZ	**Urewera**	**0.72**	**349**	PN	Pn	00 52 25.2	-0.6
URZ				SN	Sn	00 52 35.1	-0.7
PXZ	**Pawanui**	**1.12**	**197**	PN	Pn	00 52 30.4	-0.7
RITZ	**Rihia Road**	**1.12**	**269**	PN	Pn	00 52 31.2	+0.1
RITZ				SN	Sn	00 52 44.5	-0.8
PUZ	**Puketiti**	**1.17**	**41**	PN	Pn	00 52 31.7	-0.2
RATZ	**Rangitukua**	**1.19**	**274**	PN	Pn	00 52 31.9	-0.2
MOVZ	**Moawhango**	**1.27**	**249**	PN	Pn	00 52 33.2	0.0
OTVZ	**Oturere**	**1.28**	**261**	PN	Pn	00 52 33.5	+0.2
KRVZ	**Karewarewa**	**1.29**	**264**	PN	Pn	00 52 33.4	-0.1
TUVZ	**Tukino**	**1.31**	**256**	PN	Pn	00 52 33.9	+0.2
NGZ	**Ngauruhoe**	**1.33**	**260**	PN	Pn	00 52 34.1	+0.1
WTVZ	**West Tongariro**	**1.33**	**263**	PN	Pn	00 52 34.0	0.0
DRZ	**Dome Shelter**	**1.38**	**256**	PN	Pn	00 52 35.0	+0.3
WPVZ	**Whakapapa**	**1.38**	**259**	PN	Pn	00 52 34.7	0.0
FWVZ	**Far West T-bar**	**1.38**	**257**	PN	Pn	00 52 34.6	-0.1
TWVZ	**Taurewa**	**1.45**	**265**	PN	Pn	00 52 35.2	-0.4
TSZ	**Takapari Road**	**1.50**	**223**	PN	Pn	00 52 35.7	-0.6
PKVZ	**Pokaka**	**1.55**	**257**	PN	Pn	00 52 37.0	0.0
MXZ	**Matakaoa Point**	**1.61**	**30**	PN	Pn	00 52 38.0	+0.1
HIZ	**Hauiti**	**1.96**	**283**	PN	Pn	00 52 42.4	-0.2

MOS 23 01:03:39.2±1.8, 4223N×4818E, h23km, mb3.7/1, 1D, Error ellipse: s-maj=25.9km s-min=19.7km az=98.8, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.23**	**149**	*e*PG	Pb	01 03 45.5	+0.5
DRN				*i* S	Sb	01 03 50.5	+1.6
URKR	**Urkarakh**	**0.41**	**262**	⇓*i* PG	Pb	01 03 47.2	-0.6
URKR				*e*S	Sb	01 03 56.2	+2.6
URKR				pmax	pmax		
	comp=Z,33nm,0.2s						
KSMR	**Kasumkent**	**0.62**	**183**	*i* PG	Pb	01 03 53.9	+2.5
KSMR				*i* S	Sb	01 04 05.9	+6.2
KMKR	**Kumukh**	**0.81**	**264**	*i* PG	Pb	01 03 55.0	+0.5
KMKR				*i* S	Sb	01 04 09.0	+4.0
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
AKT	**Akhty**	**0.81**	**204**	*i* PG	Pb	01 03 55.4	+0.7
AKT				*i* S	Sb	01 04 09.7	+4.5
AKT				pmax	pmax		
	comp=Z,32nm,0.2s						
KRNR	**Karanay**	**1.11**	**303**	*e*PG	Pn	01 04 00.4	+1.0
KRNR				*i* S	Sb	01 04 16.7	+2.9

*ISCJB **23** 01:04:45.9±2.9, 407N±02×696E±0.1, h10km, Error ellipse: s-maj=34.2km s-min=8.6km az=48.7*
*NNC **23** 01:04:46.3±1.8, 4051N×6970E, h13km±8km, mb3.3, mpv2.9, Error ellipse: s-maj=13.1km s-min=6.8km az=31.0*
ISC 23 01:04:48.9±2.6, 407N±02×698E±01, h10km, n13, σ0°71/14, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.42**	**13**	Pn	**Pn**	**01 05 29.2**	**+0.6**
	1.4nm,0.2s,baz=199,slow=15,SNR=437						
KK31				⇓Pg	**Pg**	**01 05 34.8**	**-0.5**
	25nm,0.5s,baz=192,slow=17,SNR=18						
KK31				⇓Lg		01 06 11.6	
	208nm,0.4s						
AML	**Almayashu**	**3.26**	**64**	P	**Pn**	**01 05 39.5**	**-0.5**
	SNR=205						
EKS2	**Erkin-Say**	**3.56**	**56**	P	**Pn**	**01 05 46.1**	**+2.0**
	SNR=23						
UCH	**Uchtor**	**3.86**	**66**	P	**Pn**	**01 05 47.7**	**-0.6**
	SNR=11						
AAK	**Ala-Archa**	**4.01**	**60**	P	**Pn**	**01 05 50.7**	**+0.3**
	SNR=14						
KBK	**Karagaybulak**	**4.32**	**62**	P	**Pn**	**01 05 55.0**	**+0.4**
	SNR=15						
USP	**Ospenovka**	**4.33**	**53**	P	**Pn**	**01 05 54.1**	**-0.7**
	SNR=9.8						
CHMS	**Chumysh**	**4.35**	**57**	P	**Pn**	**01 05 54.9**	**-0.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**4.87**	**62**	P	**Pn**	**01 06 01.9**	**-0.2**
	SNR=7.1						
TKM2	**Tokmak 2**	**4.87**	**62**	⇑Pn	**Pn**	**01 06 01.7**	**-0.4**
	0.1nm,0.3s						
TKM2				⇓Pg	**Pg**	**01 06 17.8**	**-4.2**
	0.4nm,0.5s						
TKM2				⇑Lg		01 07 25.6	
	5.1nm,0.7s						
MK31	**Makanchi Array**	**10.88**	**52**	⇓Lg		01 10 38.0	
	3.2nm,0.9s						
AB31	**Akbulak array**	**10.99**	**324**	Pn	**Pn**	**01 07 25.7**	**-0.4**
	0.5nm,0.4s,baz=131,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**01 09 29.2**	**+0.2**
	0.7nm,0.3s						
KURK	**Kurchatov**	**11.72**	**29**	⇑Lg		01 11 06.9	
	5.0nm,0.9s						

*IDC **23** 02:04:07.0±3.3, 4741N×15537E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=98.5km s-min=30.3km az=1.0*
*ISCJB **23** 02:04:08.6±1.3, 478N±0.1×1553E±03, h10km, mb3.7/5, Error ellipse: s-maj=27.0km s-min=14.6km az=45.0*
*MOS **23** 02:04:11.7±0.1, 4525N×156.14E, h176km, mb3.8/3, Error ellipse: s-maj=84.8km s-min=33.6km az=96.2*
ISC 23 02:04:10.2±1.3, 478N±01×1553E±03, h10km, n9, σ0°32/9, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.93**	**10**	*e*P	**Sn**	**02 05 31.9**	**-0.1**
INK	**Inuvik**	**39.95**	**33**	P	**P**	**02 11 45.0**	**+0.3**
	0.9nm,0.9s,mb3.5,baz=259,slow=4.7,SNR=3.6						
INK	**Inuvik**	**39.95**	**33**	P	**P**	**02 11 45.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.80**	**297**	P	**P**	**02 12 47.3**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.4,baz=70,slow=7.1,SNR=4.1						
BVAR	**Borovoye Array**	**51.36**	**310**	P	**P**	**02 13 15.1**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=66,slow=8.9,SNR=5.4						
BVAR	**Borovoye Array**	**51.36**	**310**	P	**P**	**02 13 15.1**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**02 14 42.3**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.2,baz=35,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**02 14 42.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**02 15 55.2**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=289,slow=3.8,SNR=5.8						

*ISCJB **23** 02:07:48.2±1.3, 470N±02×1556E±02, h10km, mb3.9/10, Error ellipse: s-maj=25.2km s-min=16.5km az=103.5*
*IDC **23** 02:07:48.4±3.1, 4697N×15566E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, Error ellipse: s-maj=83.0km s-min=26.4km az=176.0*
*NEIC **23** 02:07:49.6±2.1, 4690N×15563E, h10km, mb3.9/2, Error ellipse: s-maj=58.6km s-min=17.8km az=174.0*
*MOS **23** 02:07:53.6±1.6, 4607N×15564E, h94km, mb3.9/9, Error ellipse: s-maj=32.9km s-min=17.9km az=107.5*
ISC 23 02:07:49.4±1.2, 469N±01×1556E±02, h10km, n23, σ0°77/23, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.81**	**5**	*e*PN	**Pg**	**02 09 02.5**	**+0.2**
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**02 14 22.3**	**-1.4**
	0.5nm,0.7s,mb3.5,baz=69,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**02 14 22.3**	**-1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.60**	**33**	P	**P**	**02 15 28.9**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.5,baz=311,slow=7.1,SNR=6.3						
INK	**Inuvik**	**40.60**	**33**	P	**P**	**02 15 28.9**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**43.94**	**306**	P	**P**	**02 15 57.0**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.7,baz=153,slow=7.3,SNR=3.3						
ZAL	**Zalesovo**	**43.94**	**306**	P	**P**	**02 15 57.1**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**02 16 32.9**	**+1.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=73,slow=9.2,SNR=6.8						
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**02 16 32.9**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.40**	**298**	P	**P**	**02 16 32.9**	**+1.4**
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**02 17 00.1**	**+0.5**
	comp=Z,0.9nm,0.3s,mb4.1,baz=56,slow=8.7,SNR=10.0						
BVAR	**Borovoye Array**	**52.09**	**310**	P	**P**	**02 17 00.1**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**52.13**	**310**	*e*P	**P**	**02 17 00.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**52.13**	**310**	*e*P	**P**	**02 17 00.1**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**55.31**	**298**	*e*P	**P**	**02 17 23.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**55.31**	**298**	*e*P	**P**	**02 17 22.9**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.7						
ARCES	**ARCESS Array B**	**58.27**	**342**	P	**P**	**02 17 43.2**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.3,baz=44,slow=7.2,SNR=5.4						
ARCES	**ARCESS Array B**	**58.27**	**342**	P	**P**	**02 17 43.2**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.27**	**342**	P	**P**	**02 17 43.2**	**-0.9**
FINES	**FINESS Array B**	**64.63**	**336**	P	**P**	**02 18 26.3**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.2,baz=20,slow=6.3,SNR=9.2						
FINES	**FINESS Array B**	**64.63**	**336**	P	**P**	**02 18 26.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**02 19 36.7**	**+0.5**
	comp=Z,0.3nm,0.8s,mb3.3,baz=319,slow=4.5,SNR=3.7						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**02 19 36.7**	**+0.5**

*HLW **23** 02:11:56.5, 3665N×2711E, h33km, Mb3.7*
*CSEM **23** 02:11:57.5±0.1, 3662N×2721E, h136km±1km, MD2.9, Error ellipse: s-maj=2.4km s-min=1.6km az=7.0*
*NEIC **23** 02:11:58.3, 3668N×2708E, h137km, mb3.3/1, After ATH.*
*ISCJB **23** 02:11:58.2±0.6, 3659N±005×2713E±004, h138km±5km, Error ellipse: s-maj=8.1km s-min=5.2km az=156.0*
*ATH **23** 02:11:58.3, 3668N×2708E, h137km±3km*
*ISK **23** 02:11:59.7, 3676N×2717E, h134km, MD2.9*
ISC 23 02:11:59.0±0.6, 3660N±005×2712E±004, h137km±5km, n32, σ0°66/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.39**	**70**	PG	**Pn**	**02 12 18.8**	**+0.5**
DAT				SG	**Sn**	**02 12 32.6**	**-0.3**
BDRM	**Kayabasi**	**0.54**	**29**	*i* P	**Pn**	**02 12 18.9**	**-0.1**
BDRM				*i* S	**Sn**	**02 12 33.6**	**-0.6**
ARG	**Arkhangelos**	**0.90**	**115**	*e*P	**Pn**	**02 12 22.3**	**+0.7**
ARG				*e*S	**Sn**	**02 12 39.6**	**+0.8**
KARP	**Karpathos**	**1.05**	**178**	*e*P	**Pn**	**02 12 23.7**	**+0.8**
YER	**Yerkesik**	**1.08**	**60**	PG	**Pn**	**02 12 23.5**	**+0.3**
YER				SG	**Sn**	**02 12 40.0**	**-1.6**
SMG	**Samos**	**1.13**	**349**	*e*P	**Pn**	**02 12 22.9**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.23**	**82**	PN	**Pn**	**02 12 25.5**	**+0.8**
DALT				SN	**Sn**	**02 12 44.6**	**+0.3**
SANT	**Santorini**	**1.36**	**261**	*i* P	**Pn**	**02 12 26.1**	**+0.1**
SANT				*i* S	**Sn**	**02 12 46.0**	**-0.6**
APE	**Apeiranthos**	**1.36**	**291**	*e*P	**Pn**	**02 12 26.1**	**+0.1**
FETY	**Fethiye**	**1.58**	**88**	PN	**Pn**	**02 12 29.0**	**+0.6**
FETY				SN	**Sn**	**02 12 50.4**	**-0.5**
NPS	**Neapolis**	**1.81**	**223**	*e*P	**Pn**	**02 12 31.3**	**+0.3**
NPS				*e*S	**Sn**	**02 12 55.3**	**-0.3**
DNZL	**Cakiroluk**	**1.89**	**54**	*i* P	**Pn**	**02 12 38.2**	**+6.3**
DNZL				*i* S	**Sn**	**02 13 05.0**	**+7.7**
GOLH	**Golhisar**	**2.06**	**71**	*i* P	**Pn**	**02 12 34.6**	**+0.6**
GOLH				*i* S	**Sn**	**02 13 01.2**	**+0.4**
IDI	**Anoyia**	**2.23**	**235**	P	**Pn**	**02 12 36.6**	**+0.5**
ELL	**Elmali**	**2.25**	**85**	*e*PN	**Pn**	**02 12 36.6**	**+0.3**
PRK	**Paraskevi**	**2.73**	**346**	*e*P	**Pn**	**02 12 41.6**	**-0.7**
GVD	**Gavdhos**	**3.03**	**235**	*e*P	**Pn**	**02 12 47.7**	**+1.6**
VLI	**Veliai**	**3.37**	**273**	*e*P	**Pn**	**02 12 50.4**	**-0.1**
ITM	**Ithomi**	**4.20**	**279**	*e*P	**Pn**	**02 13 02.2**	**+0.7**
BR131	**Keskin Array S**	**6.01**	**57**	*e*Pn	**Pn**	**02 13 26.0**	**+0.4**
	1.0nm,0.5s						
BR131	**Keskin Array S**	**6.01**	**57**	*e*Pn	**Pn**	**02 13 26.0**	**+0.3**
	1.0nm,0.5s						
SWA1		**7.41**	**190**	P	**Pn**	**02 13 43.5**	**-0.9**
SWA1				S	**Sn**	**02 15 02.1**	**-4.9**
SWA2		**7.47**	**191**	P	**Pn**	**02 13 44.2**	**-1.0**
HNAT	**Natroun**	**7.54**	**156**	P	**Pn**	**02 13 45.6**	**-0.5**
KOT	**Kottamia**	**7.73**	**148**	P	**Pn**	**02 13 48.3**	**-0.5**
AMAG	**Maghara**	**7.81**	**138**	P	**Pn**	**02 13 49.5**	**-0.3**
AMAG	**Maghara**	**7.81**	**138**	P	**Pn**	**02 13 49.5**	**-0.3**
GLL	**Jalalah**	**7.99**	**150**	P	**Pn**	**02 13 51.8**	**-0.4**
SUZ		**8.26**	**143**	P	**Pn**	**02 13 55.4**	**-0.5**
HNKL	**Nakhl**	**8.79**	**137**	P	**Pn**	**02 14 02.6**	**-0.3**
HNKL				S	**Sn**	**02 15 34.8**	**-5.4**
HFRF	**Wahat Farafira**	**9.47**	**174**	P	**Pn**	**02 14 11.5**	**-0.6**
HDK1	**Dakhla**	**11.19**	**169**	P	**Pn**	**02 14 36.0**	**+1.1**

*ISCJB **23** 02:15:36.7±0.5, 3913N±002×905W±004, h11km±4km, Error ellipse: s-maj=5.8km s-min=3.4km az=22.4*
*IGIL **23** 02:15:37.8, 3913N×907W, h20km, ML2.1*
*CSEM **23** 02:15:37.5±0.1, 3915N×908W, h5km, ML2.5/8, Error ellipse: s-maj=2.2km s-min=1.5km az=118.0*
*MDD **23** 02:15:38.0±0.4, 3912N×908W, h5km±4km, mbLg2.0/13, Error ellipse: s-maj=4.2km s-min=2.3km az=142.0, PRXIMO*
*INMG **23** 02:15:38.1±0.9, 3912N×907W, h0km±2km, MD2.2, ML1.9, Error ellipse: s-maj=2.1km s-min=1.2km az=114.0*
ISC 23 02:15:37.6±0.5, 3910N±002×904W±004, h12km±3km, n38, σ0°85/67, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.23**	**201**	*e*Pg	**Pg**	**02 15 42.3**	**-0.2**
PLOU				*e*Sg	**Sg**	**02 15 46.0**	**+0.1**
PLOU							
	142nm,0.3s						
PLOU	**Loures**	**0.23**	**201**	*e*Pg	**Pg**	**02 15 42.3**	**-0.2**
PLOU				*e*Sg	**Sg**	**02 15 46.0**	**+0.1**
	142nm,0.3s						
PMAFR	**Mafra**	**0.24**	**232**	*i* Pg	**Pg**	**02 15 41.9**	**-0.7**
PMAFR				*e*Sg	**Sg**	**02 15 45.6**	**-0.4**
PMAFR							
	416nm,0.2s						
PMAFR	**Mafra**	**0.24**	**232**	*e*Sg	**Sg**	**02 15 45.6**	**-0.4**
	416nm,0.2s						
INMG	**Instituto de M**	**0.34**	**191**	*e*Sg	**Sg**	**02 15 50.1**	**+1.2**
ALMR	**Almeirim**	**0.37**	**82**	*e*P	**Pg**	**02 15 45.1**	**+0.2**
ALMR				*e*S	**Sg**	**02 15 50.9**	**+1.0**
ALMR				*e*S	**Sg**	**02 15 50.9**	**+1.0**
ALMR				AML	AML	02 15 52.2	
	comp=N,142nm,0.4s						
ALMR	**Almeirim**	**0.37**	**82**	*e*P	**Pg**	**02 15 45.1**	**+0.2**
ALMR				*e*S	**Sg**	**02 15 50.9**	**+1.1**
MOE	**Montemor**	**0.79**	**137**	*e*P	**Pg**	**02 15 53.4**	**+0.5**
MOE				*e*S	**Sg**	**02 16 04.0**	**+0.7**
PESTR	**Estremoz**	**1.16**	**101**	*e*P	**Pb**	**02 15 59.6**	**+0.1**
PESTR				*e*S	**Sb**	**02 16 15.4**	**+1.0**
PESTR							
	comp=N,30nm,0.4s						
PBEJ	**Beja**	**1.42**	**139**	*e*P	**Pn**	**02 16 03.5**	**+0.4**
PBEJ				*e*S	**Sn**	**02 16 22.8**	**+1.1**
PBEJ							
	comp=N,8.4nm,0.3s						
PCBR	**Castelo Branco**	**1.42**	**58**	*e*P	**Pn**	**02 16 04.1**	**+1.0**
PCBR				*e*S	**Sn**	**02 16 22.8**	**+1.1**
PCBR							
	comp=N,7.7nm,0.3s						
PTEO	**Sao Teotonio**	**1.58**	**171**	*e*Pn	**Pn**	**02 16 05.7**	**+0.4**
PTEO				*e*Sg	**Sg**	**02 16 28.7**	**+0.4**
PTEO							
	comp=N,15nm,0.6s						
PTEO	**Sao Teotonio**	**1.58**	**171**	*e*Pn	**Pn**	**02 16 05.7**	**+0.4**
PTEO				*e*Sg	**Sg**	**02 16 28.7**	**+0.4**
	comp=N,15nm,0.6s						
EBAD	**Badajoz**	**1.62**	**102**	Pn	**Pn**	**02 16 05.5**	**-0.4**
	comp=N,0.2nm,0.0s,SNR=7.9						
EBAD				Pg	**Pg**	**02 16 07.9**	**-0.8**
	comp=N,1.4nm,0.1s,SNR=20						
EBAD				Sn	**Sn**	**02 16 26.9**	**+0.1**
	comp=N,4.4nm,0.1s,SNR=9.0						
EBAD				Lg		02 16 29.6	
	comp=N,58nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.62**	**102**	Pn	**Pn**	**02 16 05.5**	**-0.4**
	comp=N,0.2nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**1.62**	**102**	Pg	**Pg**	**02 16 07.9**	**-0.8**
	comp=N,1.4nm,0.1s,SNR=20						
EBAD				Sn	**Sn**	**02 16 26.9**	**+0.2**
	comp=N,4.4nm,0.1s,SNR=9.0						
PVIS	**Viseu**	**1.84**	**28**	*e*Pn	**Pn**	**02 16 10.3**	**+1.4**
PVIS				*e*Sn	**Sn**	**02 16 32.4**	**+0.4**
PVIS				*e*Sg	**Sg**	**02 16 37.1**	**+0.5**
PVIS							
	comp=N,6.4nm,0.1s						
PVIS	**Viseu**	**1.84**	**28**	Pn	**Pn**	**02 16 10.3**	**+1.4**
PVIS				Sn	**Sn**	**02 16 32.4**	**+0.4**
PVIS				Lg		02 16 37.1	
	comp=N,3.2nm,0.1s						
EGRO	**El Granado**	**1.99**	**141**	Pn	**Pn**	**02 16 11.7**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=10.0						
EGRO				Pg	**Pg**	**02 16 14.8**	**-0.9**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**02 16 34.7**	**-1.2**
	comp=N,1.0nm,0.1s,SNR=9.9						
EGRO				Lg		02 16 41.4	
	comp=N,4.6nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.99**	**141**	Pn	**Pn**	**02 16 11.7**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=10.0						
EGRO	**El Granado**	**1.99**	**141**	Pg	**Pg**	**02 16 14.8**	**-1.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**02 16 34.7**	**-1.2**
	comp=N,1.0nm,0.1s,SNR=9.9						
EMIN	**Mina Concepcio**	**2.29**	**125**	Pn	**Pn**	**02 16 15.5**	**+0.3**
	comp=N,0.1nm,0.1s,SNR=8.5						
EMIN				Pg	**Pg**	**02 16 19.6**	**-1.8**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**02 16 43.8**	**+0.6**
	comp=N,0.6nm,0.1s,SNR=8.4						
EMIN				Lg		02 16 51.6	
	comp=N,4.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.29**	**125**	Pn	**Pn**	**02 16 15.5**	**+0.4**
	comp=N,0.1nm,0.1s,SNR=8.5						
EMIN	**Mina Concepcio**	**2.29**	**125**	Pg	**Pg**	**02 16 19.6**	**-1.9**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**02 16 43.8**	**+0.5**
	comp=N,0.6nm,0.1s,SNR=8.4						
PVRL	**Vila Real**	**2.40**	**25**	*e*Sn	**Sn**	**02 16 45.5**	**-0.3**
PVRL				*e*Sg	**Sg**	**02 16 54.5**	**0.0**
PVRL							
	comp=N,5.5nm,0.1s						
PBRG	**Braganca**	**3.22**	**32**	*e*Pn	**Pn**	**02 16 27.9**	**0.0**
ECAL	**Calabor**	**3.33**	**31**	Pn	**Pn**	**02 16 29.6**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**3.33**	**31**	Pn	**Pn**	**02 16 29.6**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.62**	**104**	Pn	**Pn**	**02 16 33.5**	**+0.1**
	comp

mb1mx3.5/13,**mbtmp3.6**/3,**ML2.7**/1,**Error ellipse: s-maj=150.7km s-min=38.5km az=116.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**215**	Pn	Pn	02 32 00.8	+1.6
	1.5nm,0.3s,baz=245,slow=22,SNR=3.3						
PMG				Sn	Sn	02 33 03.4	+1.3
	2.3nm,0.3s,baz=152,slow=21,SNR=3.4						
WRA	**Warramunga Arr**	**21.52**	**225**	P	P	02 35 28.6	+0.6
	1.2nm,0.5s,baz=50,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**24.40**	**219**	P	P	02 35 57.0	-0.5
	1.0nm,0.7s,baz=56,slow=8.8,SNR=12						
TORD	**Torodi Ar. Bea**	**147.99**	**287**	PKPbc	PKPbc	02 50 25.7	+0.9
	0.3nm,0.6s,baz=102,slow=1.7,SNR=4.4						

NEIC ***23*** *02:36:01.8±0.3,4759N×15408E,h10km,mb4.6/20,Error ellipse: s-maj=10.4km s-min=5.6km az=175.0*
BJI ***23*** *02:36:01.7,4688N×15369E,h6km,mB5.0,mb4.3,Ms3.9,Msz3.6*
ISCJB ***23*** *02:36:07.9±1.2,4774N±008×154.19E±008,h66km±10km,mb4.2/40,Error ellipse: s-maj=13.7km s-min=6.4km az=125.4*
MOS ***23*** *02:36:08.0±0.9,4769N×154.19E,h69km,mb4.5/20,Error ellipse: s-maj=12.8km s-min=9.4km az=68.0*
IDC ***23*** *02:36:13.9±3.7,4766N×15402E,h110km±34km,mb3.7/16,mb1 3.9/18,mb1mx3.8/28,mbtmp3.7/18,MS3.4/10,Ms1 3.5/10,ms1mx3.2/39,Error ellipse: s-maj=17.8km s-min=14.2km az=147.0*

ISC 23 02:36:10.3±1.1,4782N±008×15411E±008,h72km±9km, n82,σ0°77/79,mb4.2/40,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.16**	**24**	*e*PN	**Pn**	**02 36 56.6**	**-1.0**
SKR				*e*S	**Sn**	**02 37 33.9**	**-0.2**
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,230nm,0.5s						
SKR				smax			
	comp=Z,140nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.75**	**268**	*e*PN	**Pn**	**02 38 00.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
ASAJ	**Asahikawa**	**8.83**	**249**	P	**Pn**	**02 38 17.2**	**+2.2**
	comp=Z,1.6nm,0.3s,baz=110,slow=11,SNR=6.5						
ASAJ				LR	LR	02 41 09.9	
	comp=Z,290nm,20.2s,baz=2.2,slow=34						
KLR	**Kul'dur**	**14.88**	**284**	*e*P	**Pn**	**02 39 37.2**	**+0.6**
MJAR	**Matsushiro Arr**	**16.27**	**232**	P	**Pn**	**02 39 53.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=37,slow=8.6,SNR=5.4						
JHJ	**Hachijo jima 2**	**18.24**	**222**	LR	LR	02 46 34.0	
	comp=Z,80nm,18.4s,baz=176,slow=34						
YAK	**Yakutsk**	**19.81**	**325**	*i* P	**Pn**	**02 40 38.3**	**+1.2**
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=Z,31nm,1.0s						
YAK				pmax	pmax		
	comp=E,13nm,1.2s						
CLNS	**Chul'man**	**19.87**	**308**	*e*P	**Pn**	**02 40 36.8**	**-1.0**
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,21nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,33nm,0.9s						
CN2	**Changchun**	**20.32**	**269**	*e*P	**P**	**02 40 40.8**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BILL	**Bilibino**	**21.20**	**13**	*e*P	**P**	**02 40 55.4**	**+5.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
KSRS	**Korea Array**	**21.77**	**251**	P	**P**	**02 40 56.1**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.0,baz=57,slow=11,SNR=13						
KSRS				LR	LR	02 48 09.2	
	comp=Z,69nm,19.9s,baz=50,slow=33						
SONM	**Songino Array**	**31.63**	**288**	LR	LR	02 56 07.3	
	comp=Z,74nm,19.0s,baz=0.0,slow=38						
MCK	**McKinley**	**34.40**	**41**	*e*P	**P**	**02 42 50.1**	**-0.5**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
MCK	**McKinley**	**34.40**	**41**	*e*P	**P**	**02 42 50.1**	**-0.5**
	comp=Z,3.2nm,0.9s,mb4.2						
COLA	**College**	**34.88**	**39**	*e*P	**P**	**02 42 54.7**	**0.0**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
COLA	**College**	**34.88**	**39**	*e*P	**P**	**02 42 54.7**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.6						
EGAK	**Eagle**	**37.75**	**39**	*e*P	**P**	**02 43 18.3**	**-0.8**
	comp=Z,5.8nm,0.6s,mb4.6						
DAWY	**Dawson**	**38.59**	**40**	*e*P	**P**	**02 43 26.5**	**+0.3**
GTA	**Gaotai**	**39.48**	**278**	*e*P	**P**	**02 43 36.8**	**+3.2**
GTA				AP	pP	02 43 41.0	-10
GTA				XP	sP	02 43 44.3	-15
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
INK	**Inuvik**	**40.39**	**33**	P	**P**	**02 43 41.6**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.1,baz=300,slow=6.9,SNR=17						
INK	**Inuvik**	**40.39**	**33**	P	**P**	**02 43 41.7**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**40.39**	**33**	*e*P	**P**	**02 43 41.7**	**+0.5**
	comp=Z,105nm,0.7s						
ZAL	**Zalesovo**	**42.56**	**305**	P	**P**	**02 43 59.5**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.8,baz=54,slow=4.8,SNR=7.7						
ZAL				LR	LR	03 03 47.5	
	comp=Z,99nm,18.2s,baz=38,slow=39						
ZAL	**Zalesovo**	**42.56**	**305**	P	**P**	**02 43 59.6**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,99nm,18.2s						
GYA	**Guiyang**	**42.61**	**257**	P	**P**	**02 43 59.9**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
WMQ	**Urumqi**	**45.17**	**291**	⇑*i*P	**P**	**02 44 18.6**	**-1.3**
WMQ				AP	pP	02 44 23.1	-15
WMQ				XP	sP	02 44 25.6	-20
WMQ				PCP	PcP	02 45 58.1	-1.0
WMQ				PP	PP	02 46 05.6	-1.1
WMQ				S	**S**	**02 50 58.6**	**+4.3**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,127nm,4.6s						
WMQ				LR	LR		
	comp=N,64nm,17.5s						
WMQ				LR	LR		
	comp=E,12nm,18.8s						
WMQ				LR	LR		
	comp=Z,50nm,17.5s						
MK31	**Makanchi Array**	**47.06**	**297**	*e*P	**P**	**02 44 34.1**	**-0.6**
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**	**02 44 33.5**	**-1.2**
	comp=Z,2.9nm,0.8s,mb4.1,baz=65,slow=7.4,SNR=15						
MKAR				LR	LR	03 05 50.9	
	comp=Z,40nm,19.2s,baz=239,slow=38						
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**	**02 44 33.5**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,40nm,19.3s						
YKA	**Yellowknife Ar**	**49.67**	**38**	P	**P**	**02 44 54.9**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=294,slow=7.0,SNR=7.7						
YKA				LR	LR	03 09 38.4	
	comp=Z,34nm,18.7s,baz=90,slow=40						
YKA	**Yellowknife Ar**	**49.67**	**38**	P	**P**	**02 44 54.9**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,34nm,18.7s						
YKA	**Yellowknife Ar**	**49.67**	**38**	P	**P**	**02 44 54.9**	**+0.2**
YKA				LR	LR	03 09 38.4	
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**02 45 02.1**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=57,slow=8.8,SNR=7.9						
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**02 45 02.1**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**02 45 03.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**50.75**	**309**	*e*P	**P**	**02 45 03.9**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.3						
EDM	**Edmonton**	**55.09**	**47**	*e*P	**P**	**02 45 34.9**	**0.0**
YBH	**Yreka Blue Hor**	**56.65**	**63**	P	**P**	**02 45 46.6**	**+0.5**
	comp=Z,5.3nm,1.1s,mb4.5,baz=174,slow=7.9,SNR=3.8						
YBH	**Yreka Blue Hor**	**56.65**	**63**	P	**P**	**02 45 46.6**	**+0.6**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**57.07**	**341**	LR	LR	03 18 54.5	
	comp=Z,38nm,18.7s,baz=122,slow=45						
BMO	**Blue Mountains**	**57.92**	**57**	*e*P	**P**	**02 45 55.3**	**+0.3**
	comp=Z,4.1nm,0.8s,mb4.5						
WVOR	**Wild Horse Val**	**58.63**	**60**	*e*P	**P**	**02 46 00.1**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**58.63**	**60**	*e*P	**P**	**02 46 00.1**	**+0.2**
	comp=Z,4.5nm,1.0s,mb4.5						
HLID	**Hailey**	**60.36**	**57**	*e*P	**P**	**02 46 12.1**	**+0.3**
	comp=Z,3.1nm,1.0s,mb4.3						
BMN	**Battle Mountai**	**60.72**	**61**	*e*P	**P**	**02 46 14.0**	**-0.3**
BMN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BMN	**Battle Mountai**	**60.72**	**61**	*e*P	**P**	**02 46 14.0**	**-0.3**
	comp=Z,4.5nm,1.0s,mb4.5						
QLMT	**Earthquake Lak**	**61.20**	**54**	*e*P	**P**	**02 46 18.4**	**+0.8**
LOHW	**Long Hollow**	**62.45**	**55**	*e*P	**P**	**02 46 26.8**	**+1.0**
	comp=Z,9.6nm,1.5s,mb4.6						
LAO	**LASA Array**	**62.75**	**50**	*e*P	**P**	**02 46 28.5**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.6						
HWUT	**Hardware Ranch**	**63.22**	**57**	*e*P	**P**	**02 46 31.5**	**+0.4**
	comp=Z,6.3nm,1.4s,mb4.3						
FINES	**FINESS Array B**	**63.36**	**335**	P	**P**	**02 46 30.6**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=32,slow=11,SNR=6.4						
DUG	**Dugway**	**63.44**	**59**	*e*P	**P**	**02 46 32.6**	**+0.1**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
DUG	**Dugway**	**63.44**	**59**	*e*P	**P**	**02 46 32.6**	**+0.1**
	comp=Z,6.7nm,1.1s,mb4.5						
BW06	**Boulder Array**	**63.58**	**55**	*e*P	**P**	**02 46 33.2**	**-0.2**
	comp=Z,3.9nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**63.58**	**55**	P	**P**	**02 46 33.8**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.0,baz=304,slow=1.5,SNR=18						
NLU	**North Lily Min**	**64.02**	**59**	*e*P	**P**	**02 46 35.8**	**-0.5**
SRU	**San Rafael**	**65.48**	**58**	*e*P	**P**	**02 46 46.0**	**+0.2**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
SRU	**San Rafael**	**65.48**	**58**	*e*P	**P**	**02 46 46.0**	**+0.2**
	comp=Z,6.9nm,0.9s,mb4.5						
RSSD	**Black Hills**	**65.62**	**51**	*e*P	**P**	**02 46 46.8**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
RSSD	**Black Hills**	**65.62**	**51**	*e*P	**P**	**02 46 46.8**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.2						
PV10	**Paradox Valley**	**66.83**	**58**	*e*P	**P**	**02 46 54.7**	**+0.3**
NOA	**NORSAR Array B**	**67.44**	**341**	LR	LR	03 25 27.3	
	comp=Z,23nm,18.1s,baz=40,slow=44						
HFS	**Hagfors**	**67.69**	**340**	P	**P**	**02 46 59.1**	**-0.8**
	comp=Z,0.8nm,0.4s,mb3.9,baz=351,slow=3.8,SNR=7.1						
HFS	**Hagfors**	**67.69**	**340**	P	**P**	**02 46 59.1**	**-0.8**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ISCO	**Idaho Springs**	**67.77**	**55**	*e*P	**P**	**02 47 00.8**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ISCO	**Idaho Springs**	**67.77**	**55**	*e*P	**P**	**02 47 00.8**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.2						
MVCO	**Mesa Verde**	**67.94**	**59**	*e*P	**P**	**02 47 00.9**	**-0.5**
	comp=Z,2.1nm,1.6s,mb4.5						
WRA	**Warramunga Arr**	**69.74**	**200**	P	**P**	**02 47 09.9**	**-2.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=24,slow=6.1,SNR=4.7						
ANMO	**Albuquerque**	**70.70**	**59**	*e*P	**P**	**02 47 19.0**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	**Albuquerque**	**70.70**	**59**	*e*P	**P**	**02 47 19.0**	**+0.5**
	comp=Z,2.5nm,1.1s,mb4.0						
SCIA	**State Center**	**72.69**	**46**	*e*P	**P**	**02 47 30.4**	**0.0**
	comp=Z,9.3nm,0.5s,mb4.9						
ASAR	**Alice Springs**	**73.43**	**199**	P	**P**	**02 47 33.5**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.0,baz=9.8,slow=4.9,SNR=17						
ASAR				LR	LR	03 18 35.9	
	comp=Z,38nm,19.9s,baz=333,slow=35						
MNTX	**Cornudas Mount**	**73.65**	**61**	*e*P	**P**	**02 47 35.8**	**-0.3**
	comp=Z,1.8nm,0.8s,mb3.9						
EKA	**Eskdalemuir Ar**	**75.46**	**347**	P	**P**	**02 47 46.8**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.8,baz=20,slow=5.4,SNR=4.7						
EKA	**Eskdalemuir Ar**	**75.46**	**347**	P	**P**	**02 47 46.8**	**+0.2**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.39**	**61**	P	**P**	**02 47 52.0**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.4,baz=297,slow=4.3,SNR=76						
TXAR	**Lajitas Array**	**76.39**	**61**	P	**P**	**02 47 52.0**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KHC	**Kasperske Hory**	**77.57**	**335**	*e*P	**P**	**02 47 58.5**	**0.0**
GERES	**GERESS Array B**	**77.79**	**334**	P	**P**	**02 47 59.5**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=32,slow=5.2,SNR=5.4						
GERES	**GERESS Array B**	**77.79**	**334**	P	**P**	**02 47 59.5**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.07**	**317**	P	**P**	**02 48 01.9**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.4,baz=150,slow=2.7,SNR=3.9						
SNAA	**Sanae**	**153.76**	**196**	*e*PKIKP	PKPdf	02 55 52.8	-0.4

MAN 23 02:40:36.3,884N×12627E,h34km,mb2.0,ML3.7,MS1.3, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.65**	**281**	*e*P	Pn	02 40 49.6	+0.6
SCPH	**Surigao**	**1.21**	**321**	⇑*e*P	Pn	02 40 57.0	+0.3
SCPH				*e*S	Sn	02 41 14.4	+2.5
BUKP	**Musuan**	**1.53**	**231**	*e*P	Pn	02 41 01.5	+0.4
CGP	**Cagayan de Oro**	**1.60**	**256**	⇑*i*P	Pn	02 41 02.7	+0.6
CGP				*i* S	Sn	02 41 22.6	+1.0

WEL 23 02:50:04.8±0.3,4025S×17339E,h198km±2km,ML3.5/8, Error ellipse: s-maj=3.8km s-min=2.2km az=0.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.88**	**229**	PN	Pn	02 50 33.1	-0.3
QRZ				SN	Sn	02 50 54.9	-0.8
NNZ	**Nelson**	**0.97**	**181**	PN	Pn	02 50 34.0	0.0
NNZ				SN	Sn	02 50 56.5	-0.2
TCW	**Tory Channel**	**1.17**	**145**	PN	Pn	02 50 35.9	+0.4
TCW				SN	Sn	02 50 59.3	-0.1
KIW	**Kapiti Island**	**1.31**	**118**	PN	Pn	02 50 36.6	0.0
KIW				SN	Sn	02 51 00.1	-1.1
MRW	**Makara Radio**	**1.39**	**135**	PN	Pn	02 50 37.3	0.0
MRW				SN	Sn	02 51 01.8	-0.8
SNZO	**South Karori**	**1.45**	**137**	PN	Pn	02 50 37.7	-0.2
SNZO				SN	Sn	02 51 02.2	-1.3
BSWZ	**Blackbirch Sta**	**1.51**	**166**	PN	Pn	02 50 38.3	0.0
BSWZ				SN	Sn	02 51 04.4	0.0
CAW	**Cannon Point**	**1.54**	**124**	PN	Pn	02 50 38.4	-0.1
THZ	**Tophouse**	**1.56**	**194**	PN	Pn	02 50 38.5	-0.2
MTW	**Mount Morrison**	**1.84**	**120**	PN	Pn	02 50 41.0	-0.5
KHZ	**Kahutara**	**2.17**	**177**	PN	Pn	02 50 43.7	-1.1
MQZ	**McQueen's Vall**	**3.50**	**189**	PN	Pn	02 50 57.6	-2.6

GUC 23 02:58:34.2±0.7,3439S×7022W,h20km±3km,MD3.8, ML2.3,4C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.18**	**292**	⇑*i*P	Pb	02 58 38.7	-0.4
CICH				*i* S	Sb	02 58 42.4	0.0
CACH	**El Canelo**	**0.41**	**310**	⇑*i*P	Pb	02 58 42.4	-0.4
CACH				*i* S	Sb	02 58 48.0	-0.5
CHCH	**Chadas Angostu**	**0.57**	**322**	⇓*i*P	Pb	02 58 45.4	-0.2
CHCH				*i* S	Sb	02 58 53.8	+0.5
ANTU	**Antumapu**	**0.88**	**337**	*i* P	Pb	02 58 50.7	-0.1
ANTU				*i* S	Sb	02 59 03.2	+1.0
ANTU				AML	AML	02 59 04.0	
	comp=E,171nm,0.2s						
RCDM	**Rinconada Maip**	**1.02**	**331**	*e*P	Pb	02 58 52.5	-0.6
RCDM				*i* S	Sb	02 59 06.8	+0.8
RCDM				AML	AML	02 59 08.4	
	comp=E,137nm,0.1s						
CLCH	**Cerro Calan**	**1.02**	**345**	⇑*i*P	Pb	02 58 53.0	-0.2
CLCH				*i* S	Sb	02 59 07.5	+1.4
FCH	**Farellones**	**1.06**	**357**	⇑*i*P	Pb	02 58 53.0	-0.8
FCH				*i* S	Sb	02 59 08.0	+0.8
FCH				AML	AML	02 59 08.6	
	comp=E,110nm,0.2s						
LNV	**Longovilo**	**1.07**	**293**	*e*P	Pn	02 58 53.9	-0.1
LNV				*i* S	Sb	02 59 09.5	+1.8
PEL	**Peldehue**	**1.30**	**343**	*e*P	Pn	02 58 57.3	+0.2
PEL				*i* S	Sn	02 59 15.7	+1.8
PEL				AML	AML	02 59 17.8	
	comp=N,137nm,0.2s						

ISCJB ***23*** *03:46:34.8±3.4,473N±02×1559E±03,h7km±17km, mb3.8/7,Error ellipse: s-maj=36.4km s-min=20.3km az=88.8*
IDC ***23*** *03:46:34.8±2.1,4713N×15589E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/22,mbtmp3.9/7,ML3.1/1,Error ellipse: s-maj=55.7km s-min=29.9km az=173.0*
NEIC ***23*** *03:46:36.9±1.3,4722N×15589E,h10km,mb3.9/1,Error ellipse: s-maj=29.6km s-min=18.3km az=144.0*
MOS ***23*** *03:46:38.6±0.9,4724N×15580E,h33km,mb4.4/4,Error ellipse: s-maj=33.0km s-min=24.6km az=125.4*

ISC 23 03:46:37.2±3.6,473N±02×1559E±03,h12km±18km,n15, σ0°73/15,mb3.8/7,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.43**	**3**	*e*PN	**Pg**	**03 47 43.0**	**0.0**
MJAR	**Matsushiro Arr**	**16.91**	**237**	Pn	**Pn**	**03 50 33.9**	**+0.2**
	0.1nm,0.3s,baz=44,slow=12,SNR=4.3						
SONM	**Songino Array**	**32.94**	**290**	P	**P**	**03 53 10.2**	**-1.3**
	0.3nm,0.5s,mb3.4,baz=43,slow=11,SNR=3.0						
ZAL	**Zalesovo**	**43.85**	**306**	P	**P**	**03 54 41.9**	**-1.4**
	1.0nm,0.4s,mb3.9,baz=179,slow=13,SNR=3.8						
ZAL	**Zalesovo**	**43.85**	**306**	P	**P**	**03 54 41.9**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**48.37**	**298**	*e*P	**P**	**03 55 19.7**	**+0.9**
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**03 55 19.6**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.3,baz=69,slow=8.2,SNR=4.1						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**03 55 46.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**03 55 46.7**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**57.98**	**342**	P	**P**	**03 56 30.0**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=36,slow=7.8,SNR=5.0						
ARCES	**ARCESS Array B**	**57.98**	**342**	P	**P**	**03 56 30.0**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**03 57 13.3**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=49,slow=5.8,SNR=6.6						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**03 57 13.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.37**	**336**	P	**P**	**03 57 13.3**	**+0.4**
TXAR	**Lajitas Array**	**75.60**	**62**	P	**P**	**03 58 21.5**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=308,slow=4.8,SNR=4.8						

NIED ***23*** *03:51:00,2240N×12570E,h38km,Mw3.8 Best double couple: M04.76000×10^14 NP1:ϕ149.00000°,δ76.00000°, λ-71.00000°. NP2:ϕ274.00000°,δ23.00000°, λ-143.00000°.*

JMA 23 03:51:21.9±0.4,2244N×12566E,h49km,M3.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**2.32**	**354**	P	Pn	03 51 58.8	+1.2
HATJ	**Hateruma jima**	**2.34**	**314**	*e*S	Sn	03 52 25.7	+0.2
JKRS	**Kuro-shima**	**2.35**	**320**	P	Pn	03 51 59.2	+1.3
JKRS				*e*S	Sn	03 52 27.7	+2.2
JTJ	**Tarama**	**2.36**	**338**	P	Pn	03 51 59.5	+1.4
JTJ				*e*S	Sn	03 52 28.0	+2.1
JIJ	**Ishigaki jima**	**2.37**	**324**	P	Pn	03 51 59.3	+1.0
JIJ				*e*S	Sn	03 52 26.7	+0.6
JMJ	**Miyako jima 2**	**2.39**	**352**	P	Pn	03 51 59.7	+1.2
IRIF	**Iriomote-Funau**	**2.59**	**317**	P	Pn	03 52 02.7	+1.4
IRIF				*e*S	Sn	03 52 33.3	+1.8
YOJ	**Yonaguni jima**	**3.16**	**310**	*e*S	Sn	03 52 46.2	+0.7
JKE	**Kume jima 2**	**4.00**	**15**	P	Pn	03 52 20.6	-0.1
JKE				*e*S	Sn	03 53 05.9	-0.4
JAGN	**Aguni-jima**	**4.38**	**19**	P	Pn	03 52 26.5	+0.7
JAGN				*e*S	Sn	03 53 14.4	-1.0

IDC ***23*** *04:04:48.6±3.7,268S×14147E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.7/12,mbtmp3.8/4,ML3.9/1,MS3.4/4,Ms1 3.4/4, ms1mx2.8/22,Error ellipse: s-maj=126.7km s-min=23.7km az=96.0*
ISCJB ***23*** *04:04:55.0±1.8,272S±010×1407E±04,h35km,mb4.0/4, MS3.3/3,Error ellipse: s-maj=57.1km s-min=13.4km az=9.7*
NEIC ***23*** *04:04:56.3±1.6,272S×14088E,h35km,mb3.9/1,Error ellipse: s-maj=51.0km s-min=13.3km az=95.0*

ISC 23 04:04:56.4±1.8,272S±010×1409E±04,h35km,n11, σ0°97/10,mb4.0/4,MS3.3/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.99**	**220**	*e*P	**Pn**	**04 07 57.4**	**-1.1**
	11nm,0.5s						
WB2	**Warramunga Arr**	**18.28**	**200**	*e*P	**Pn**	**04 09 06.8**	**-0.4**
WRA	**Warramunga Arr**	**18.28**	**200**	P	**Pn**	**04 09 07.4**	**+0.2**
	0.4nm,0.3s,baz=21,slow=12,SNR=9.5						
WRA				LR	LR	04 16 31.9	
	comp=Z,131nm,18.2s,baz=35,slow=38						
FITZ	**Fitzroy Crossi**	**21.39**	**223**	*e*P	**P**	**04 09 42.3**	**+1.3**
	3.9nm,0.7s,mb3.9						
FITZ	**Fitzroy

mb1 4.5/22,mb1mx4.4/26,mbtmp4.4/22,ML3.9/5,MS3.7/17, Ms1 3.7/17,ms1mx3.5/37,Error ellipse: s-maj=15.8km s-min=7.9km az=177.0

ISCJB ***23*** *04:37:35.4±0.2,3991N±002×4268E±002,h10km, mb4.5/72,MS3.8/19,Error ellipse: s-maj=2.4km s-min=2.1km az=1.9*

CSEM ***23*** *04:37:35.0±0.0,3986N×4267E,h14km,mb4.8/11,Error ellipse: s-maj=1.5km s-min=1.2km az=178.0*

MOS ***23*** *04:37:37.1±1.7,3999N×4271E,h21km,mb4.7/34,Error ellipse: s-maj=4.9km s-min=3.3km az=130.6*

SZGRF ***23*** *04:37:46.4,4025N×4225E,h33km,mb4.7,Turkey*

ISC 23 04:37:37.0±0.2,3993N±002×4271E±002,h10km, (h16km±1.0km:pP-P),n330,σ1§41/362,mb4.5/72,MS3.8/19, 26C-17D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.41**	**149**	*i* Pg	**Pg**	**04 37 43.1**	**-2.0**
DIGO	**Kars**	**0.70**	**46**	*i* P	**Pg**	**04 37 49.3**	**-1.3**
DIGO				*i* S	**Sg**	**04 38 03.7**	**+3.9**
KARS	**Kars**	**0.74**	**23**	PG	**Pg**	**04 37 49.6**	**-1.7**
KARS				SG	**Sg**	**04 38 00.4**	**-0.6**
KARS	**Kars**	**0.74**	**23**	Pg	**Pg**	**04 37 49.4**	**-1.9**
KARS				Sg	**Sg**	**04 38 00.4**	**-0.6**
ERZM	**Erzurum**	**1.04**	**269**	*i* P	**Pg**	**04 37 52.6**	**-4.3**
EZM	**Erzurum**	**1.04**	**269**	PG	**Pg**	**04 37 53.0**	**-4.0**
CLDR	**Caldiran**	**1.22**	**130**	PN	**Pn**	**04 37 58.2**	**-1.9**
CLDR				SN	**Sn**	**04 38 18.4**	**+1.8**
CLDR	**Caldiran**	**1.22**	**130**	Pn	**Pn**	**04 37 59.5**	**-0.6**
CLDR				*e*Sn	**Sn**	**04 38 18.4**	**+1.8**
ERE	**Yerevan**	**1.37**	**79**	P	**Pn**	**04 38 01.0**	**-1.2**
ARTV	**Artvin**	**1.39**	**335**	*i* P	**Pn**	**04 37 59.9**	**-2.6**
ARTV				*i* S	**Sn**	**04 38 20.8**	**-0.1**
TVAN	**Van**	**1.50**	**159**	*i* P	**Pn**	**04 38 02.4**	**-1.6**
GNI	**Garni**	**1.57**	**81**	PN	**Pn**	**04 38 04.8**	**-0.2**
GNI	**Garni**	**1.57**	**81**	Pn	**Pn**	**04 38 05.6**	**+0.6**
	59nm,0.3s,baz=299,slow=3.4,SNR=226						
GNI				Lg		04 38 27.1	
	199nm,0.3s,baz=117,slow=16,SNR=7.3						
GNI	**Garni**	**1.57**	**81**	*e*Pn	**Pn**	**04 38 05.7**	**+0.7**
GNI				*e*Pg	**Pg**	**04 38 09.8**	**+2.6**
GNI	**Garni**	**1.57**	**81**	*e*Pg	**Pg**	**04 38 05.7**	**-1.5**
BCA	**Borcka**	**1.73**	**332**	PN	**Pn**	**04 38 05.4**	**-1.7**
BCA				SN	**Sn**	**04 38 28.6**	**-0.6**
BCA	**Borcka**	**1.73**	**332**	Pn	**Pn**	**04 38 06.0**	**-1.1**
BCA				*e*Sn	**Sn**	**04 38 28.6**	**-0.6**
BCA				Sg	**Sg**	**04 38 30.0**	**-2.5**
KZR	**Kazreti**	**1.94**	**41**	P	**Pn**	**04 38 11.1**	**+1.1**
KZR				S	**Sn**	**04 38 37.5**	**+3.0**
BTMT	**Batman**	**1.98**	**209**	PN	**Pn**	**04 38 10.3**	**-0.2**
BINT	**Bingol**	**2.02**	**239**	PN	**Pn**	**04 38 09.3**	**-1.8**
BINT	**Bingol**	**2.02**	**239**	Pn	**Pn**	**04 38 10.3**	**-0.8**
EZC	**Erzincan**	**2.24**	**266**	PN	**Pn**	**04 38 17.3**	**+3.2**
EZC	**Erzincan**	**2.24**	**266**	Pn	**Pg**	**04 38 18.8**	**-1.1**
MACK	**Trabzon**	**2.46**	**295**	*i* P	**Pn**	**04 38 18.4**	**+1.2**
MACK				*i* S	**Sn**	**04 38 50.8**	**+3.4**
HKR	**Hakkari**	**2.48**	**161**	PN	**Pn**	**04 38 17.8**	**+0.4**
HKR	**Hakkari**	**2.48**	**161**	Pn	**Pn**	**04 38 18.5**	**+1.1**
KTUT	**Trabzon**	**2.48**	**296**	PN	**Pn**	**04 38 15.6**	**-1.9**
HAKT	**HAKKARI**	**2.49**	**162**	*i* P	**Pn**	**04 38 18.3**	**+0.7**
HAKT				*i* S	**Sg**	**04 38 56.2**	**-0.9**
DUS	**Dusheti**	**2.63**	**34**	P	**Pn**	**04 38 21.9**	**+2.3**
DUS				S	**Sn**	**04 38 46.8**	**-4.7**
KELT	**Kelkit**	**2.66**	**276**	*i* P	**Pn**	**04 38 20.4**	**+0.4**
KELT				*i* S	**Sb**	**04 38 57.6**	**+0.1**
CUKT	**Cukurca**	**2.77**	**165**	PN	**Pn**	**04 38 20.8**	**-0.6**
PTK	**Pertek**	**2.77**	**249**	PN	**Pn**	**04 38 19.5**	**-2.0**
PTK	**Pertek**	**2.77**	**249**	Pn	**Pn**	**04 38 20.5**	**-1.0**
DIY	**Diyarbakir**	**2.81**	**224**	PN	**Pn**	**04 38 20.6**	**-1.3**
DIY	**Diyarbakir**	**2.81**	**224**	Pn	**Pn**	**04 38 22.6**	**+0.7**
GRS	**Goris**	**2.83**	**98**	P	**Pn**	**04 38 25.0**	**+2.8**
CHVG	**Ch'k'valeri**	**2.83**	**351**	P	**Pb**	**04 38 25.7**	**-1.9**
CHVG				S	**Sg**	**04 39 15.3**	**+7.4**
ZEI	**Tsey**	**2.98**	**17**	*e*PN	**Pn**	**04 38 26.4**	**+2.1**
ZEI				*e*		04 38 32.5	
ZEI				pmax	pmax		
	comp=Z,229nm,0.6s						
ZEI				pmax	pmax		
	comp=Z,316nm,0.5s						
ZEI	**Tsey**	**2.98**	**17**	*e*Pn	**Pn**	**04 38 26.4**	**+2.1**
	comp=Z,229nm,0.6s						
MARD	**Mardin**	**3.02**	**211**	*i* P	**Pn**	**04 38 22.5**	**-2.3**
MARD				*i* S	**Sn**	**04 39 04.9**	**+3.9**
ELZG	**Elazig**	**3.23**	**245**	*i* P	**Pn**	**04 38 27.3**	**-0.5**
GRSN	**GIRESUNGRSN**	**3.54**	**288**	*i* P	**Pn**	**04 38 33.2**	**+1.2**
MSL	**Mosul**	**3.65**	**175**	*ex*	x	04 38 39.0	
MSL				*i* x	x	04 38 48.0	
MSL				*i* x	x	04 38 58.0	
MSL				*i* x	x	04 39 32.0	
MSL				*i* x	x	04 39 45.0	
MSL	**Mosul**	**3.65**	**175**	P	x	04 38 34.0	
MSL				S	x	04 39 19.0	
MYA	**Malataya**	**3.70**	**246**	*e*PN	**Pn**	**04 38 32.2**	**-2.0**
MYA	**Malataya**	**3.70**	**246**	Pn	**Pn**	**04 38 32.9**	**-1.3**
MALT	**Malatya**	**3.70**	**246**	*e*PN	**Pn**	**04 38 32.8**	**-1.5**
MALT				*e*		04 38 48.0	
MALT	**Malatya**	**3.70**	**246**	*e*Pg	**Pg**	**04 38 48.0**	**0.0**
KIV	**Kislovodsk**	**4.02**	**360**	*e*PN	**Pn**	**04 38 38.5**	**-0.2**
KIV				*e*S	**Sn**	**04 39 27.1**	**+1.2**
KIV				pmax	pmax		
	comp=Z,39nm,1.0s						
KIV				MLR	MLR		
	comp=Z,440nm,6.0s						
KIV	**Kislovodsk**	**4.02**	**360**	*e*Pn	**Pn**	**04 38 37.7**	**-1.0**
KIV				*e*Pg	**Pg**	**04 38 50.5**	**-3.6**
KIV	**Kislovodsk**	**4.02**	**360**	*e*Pn	**Pn**	**04 38 37.7**	**-1.0**
KIV	**Kislovodsk**	**4.02**	**360**	P	**Pn**	**04 38 40.4**	**+1.7**
	SNR=84						
KIV	**Kislovodsk**	**4.02**	**360**	*e*Pg	**Pg**	**04 38 50.5**	**-3.6**
KIV				*e*Sn	**Sn**	**04 39 27.1**	**+1.2**
	comp=Z,440nm,6.0s						
ATAB	**Bozova**	**4.24**	**236**	*i* P	**Pn**	**04 38 39.4**	**-2.2**
ATAB				*i* S	**Sb**	**04 39 47.8**	**+5.0**
SOC	**Sochi**	**4.29**	**329**	*e*PN	**Pn**	**04 38 40.2**	**-2.1**
SOC				*e*		04 39 30.4	
SOC				*e*SS		04 39 42.5	
SOC				pmax	pmax		
	comp=Z,111nm,0.9s						
SOC				MLR	MLR		
	comp=Z,780nm,10.0s						
SOC	**Sochi**	**4.29**	**329**	*e*Pn	**Pn**	**04 38 40.2**	**-2.1**
	comp=Z,111nm,0.9s						
SOC				*e*Sn	**Sn**	**04 39 30.4**	**-1.9**
MAK	**Makhachkala**	**4.71**	**48**	*e*PN	**Pn**	**04 38 48.0**	**0.0**
MAK				*e*S	**Sn**	**04 39 44.2**	**+1.5**
MAK				pmax	pmax		
	comp=Z,600nm,1.1s						
MAK				MLR	MLR		
	comp=Z,2μm,9.0s						
MAK	**Makhachkala**	**4.71**	**48**	*e*Pn	**Pn**	**04 38 48.0**	**0.0**
	comp=Z,600nm,1.1s						
MAK				*e*Sn	**Sn**	**04 39 44.2**	**+1.5**
	comp=Z,2μm,9.0s						
GAZ	**Gaziantep**	**5.12**	**239**	*e*PN	**Pn**	**04 38 54.1**	**+0.4**
GAZ	**Gaziantep**	**5.12**	**239**	Pn	**Pn**	**04 38 54.3**	**+0.6**
GOF	**Gofitskoye**	**5.13**	**3**	*e*PN	**Pn**	**04 38 56.6**	**+2.7**
GOF				*i* S	**Sn**	**04 39 51.4**	**-1.8**
GOF				pmax	pmax		
	comp=Z,20nm,1.2s						
GOF				smax			
	comp=N,130nm,1.7s						
GOF				smax			
	comp=E,360nm,1.7s						
GOF	**Gofitskoye**	**5.13**	**3**	*e*Pn	**Pn**	**04 38 56.6**	**+2.7**
	comp=E,20nm,1.2s						
GOF				*i* Sn	**Sn**	**04 39 51.4**	**-1.8**
KMRS	**Kahramanmaras**	**5.15**	**244**	*e*PN	**Pn**	**04 38 53.3**	**-0.8**
KVT	**Kavak**	**5.21**	**285**	*e*PN	**Pn**	**04 38 54.6**	**-0.4**
KVT	**Kavak**	**5.21**	**285**	Pn	**Pn**	**04 38 55.0**	**0.0**
BNN	**Bunyan**	**5.43**	**261**	*e*PN	**Pn**	**04 38 58.0**	**0.0**
CTKT	**Corum**	**6.10**	**279**	*i* P	**Pn**	**04 39 10.2**	**+3.0**
BOYT	**Boyabat**	**6.12**	**287**	*i* P	**Pn**	**04 39 09.1**	**+1.6**
AVNT	**Avonos**	**6.20**	**262**	*i* P	**Pn**	**04 39 07.4**	**-1.1**
CORM	**Corum**	**6.21**	**275**	*e*PN	**Pn**	**04 39 08.2**	**-0.5**
ANN	**Anapa**	**6.24**	**323**	*e*P	**Pn**	**04 39 09.7**	**+0.5**
ANN				*e*S	**Sn**	**04 40 21.4**	**+0.8**
ANN				pmax	pmax		
	comp=Z,81nm,0.8s						
ANN				MLR	MLR		
	comp=Z,516nm,12.0s						
ANN	**Anapa**	**6.24**	**323**	*e*P	**Pn**	**04 39 09.7**	**+0.5**
	comp=Z,81nm,0.8s						
CDAG	**Cicekdag**	**6.43**	**270**	*i* P	**Pb**	**04 39 25.2**	**-3.8**
CDAG				*i* S	**Sg**	**04 41 01.0**	**-2.5**
KARA	**Karaisali**	**6.56**	**248**	*e*PN	**Pn**	**04 39 13.3**	**-0.3**
BHD	**Baghdad**	**6.78**	**168**	*ex*	x	04 39 11.0	
BHD				*ex*	x	04 39 38.5	
BHD				*ex*	x	04 40 23.0	
BHD				*ex*	x	04 41 02.0	
BHD	**Baghdad**	**6.78**	**168**	P	x	04 39 17.0	
BHD				S	x	04 40 37.0	
KAMT	**Kaman**	**6.97**	**268**	*e*PN	**Pn**	**04 39 19.9**	**+0.8**
KAMT	**Kaman**	**6.97**	**268**	Pn	**Pn**	**04 39 21.0**	**+1.9**
BR131	**Keskin Array S**	**6.99**	**271**	*e*Pn	**Pn**	**04 39 19.5**	**+0.1**
BR131				*e*Sn	**Sn**	**04 40 38.4**	**-0.5**
BR131	**Keskin Array S**	**6.99**	**271**	*e*Pn	**Pn**	**04 39 19.5**	**+0.1**
BR131				*e*Sn	**Sn**	**04 40 38.4**	**-0.5**
BRTR	**Keskin Array B**	**6.99**	**271**	Pn	**Pn**	**04 39 18.5**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=92,slow=10,SNR=6.9						
BRTR				Pg	**Pb**	**04 39 40.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=104,slow=15,SNR=12						
SUDU	**Sudak**	**7.56**	**314**	*e*P	**Pn**	**04 39 26.3**	**-0.9**
SUDU				*e*S	**Sn**	**04 40 55.4**	**+2.5**
SUDU				smax			
	comp=E,50nm,0.9s						
ANTO	**Ankara**	**7.63**	**273**	*e*PN	**Pn**	**04 39 28.3**	**+0.1**
ANTO	**Ankara**	**7.63**	**273**	*i*P	**Pb**	**04 39 47.4**	**-2.0**
ANTO	**Ankara**	**7.63**	**273**	*e*P	**Pn**	**04 39 26.9**	**-1.3**
ANTO				pmax	pmax		
	comp=Z,27nm,0.9s						
ANTO	**Ankara**	**7.63**	**273**	*e*Pn	**Pn**	**04 39 26.9**	**-1.3**
	comp=Z,27nm,0.9s						
ANTO				*e*Pb	**Pb**	**04 39 47.5**	**-1.8**
ALU	**Alushta**	**7.78**	**310**	*e*P	**Pn**	**04 39 27.9**	**-2.3**
ALU				*e*S	**Sn**	**04 40 57.0**	**-1.3**
ALU				pmax	pmax		
	comp=Z,30nm,0.7s						
ALU				smax			
	comp=N,90nm,0.9s						
HWQ	**Hawqa**	**7.81**	**226**	*e*Pn	**Pn**	**04 39 32.1**	**+1.4**
YAL	**Yalta**	**7.81**	**308**	*e*P	**Pn**	**04 39 29.7**	**-1.0**
YAL				*e*S	**Sn**	**04 40 59.4**	**+0.1**
YAL				pmax	pmax		
	comp=Z,38nm,1.0s						
YAL				smax			
	comp=N,15nm,1.1s						
YAL				smax			
	comp=E,20nm,0.9s						
YAL	**Yalta**	**7.81**	**308**	*e*P	**Pn**	**04 39 29.7**	**-1.0**
	comp=E,38nm,1.0s						
SIM	**Simferopol'**	**8.10**	**311**	*e*P	**Pn**	**04 39 35.3**	**+0.7**
SIM				*e*S	**Sn**	**04 41 11.2**	**+5.0**
SIM				pmax	pmax		
	comp=Z,38nm,1.0s						
SIM	**Simferopol'**	**8.10**	**311**	*e*P	**Pn**	**04 39 35.3**	**+0.7**
	comp=Z,38nm,1.0s						
BHL	**Bhannes**	**8.25**	**225**	*e*Pn	**Pn**	**04 39 39.8**	**+3.1**
ASF	**Jabal al Asfar**	**9.06**	**213**	Pn	**Pn**	**04 39 47.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=265,slow=14,SNR=15						
ASF				Lg		04 42 16.3	
	comp=Z,0.4nm,0.3s,baz=101,slow=22,SNR=3.6						
ASF				LR	LR	04 43 44.9	
	comp=Z,295nm,20.1s,baz=263,slow=41						
MMAI	**Mount Meron Ar**	**9.07**	**223**	Pn	**Pn**	**04 39 47.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=63,slow=16,SNR=3.3						
MMAI				Lg		04 42 33.5	
	comp=Z,1.2nm,0.3s,baz=43,slow=26,SNR=3.9						
ISP	**Isparta**	**9.74**	**262**	*e*P	**Pn**	**04 39 58.1**	**+0.9**
TIRR	**Tirgusor**	**11.53**	**298**	*i*P	**Pn**	**04 40 22.5**	**+0.8**
TIRR	**Tirgusor**	**11.53**	**298**	⇑P	**Pn**	**04 40 22.5**	**+0.9**
VRSR	**Storozhevoye**	**11.55**	**349**	*e*P	**Pn**	**04 40 21.5**	**-0.5**
VRSR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRSR				MLR	MLR		
	comp=Z,210nm,18.0s						
VRSR				MLR	MLR		
	comp=N,230nm,32.0s						
VRSR				MLR	MLR		
	comp=E,30nm,11.0s						
VRSR	**Storozhevoye**	**11.55**	**349**	*e*P	**Pn**	**04 40 21.5**	**-0.5**
	comp=E,230nm,32.0s						
EIL	**Elat**	**12.05**	**214**	*e*Pn	**Pn**	**04 40 30.6**	**+1.8**
EIL	**Elat**	**12.05**	**214**	*e*Pn	**Pn**	**04 40 30.6**	**+1.8**
MLR	**Muntele Rosu**	**13.52**	**300**	Pn	**Pn**	**04 40 48.6**	**-0.2**
	comp=E,0.1nm,0.3s,baz=134,slow=8.2,SNR=6.3						
MLR	**Muntele Rosu**	**13.52**	**300**	*i*P	**Pn**	**04 40 50.0**	**+1.2**
MLR	**Muntele Rosu**	**13.52**	**300**	§P	**Pn**	**04 40 50.0**	**+1.2**
AKASG	**Malin Array Be**	**14.33**	**323**	Pn	**Pn**	**04 40 56.5**	**-3.4**
	comp=E,1.6nm,0.3s,baz=135,slow=10.0,SNR=27						
AKASG	**Malin Array Be**	**14.33**	**323**	*i* P	**Pn**	**04 40 58.0**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	**Malin Array Be**	**14.33**	**323**	Pn	**Pn**	**04 40 56.5**	**-3.4**
AKASG	**Malin Array Be**	**14.33**	**323**	*i* P	**Pn**	**04 40 58.0**	**-1.9**
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**14.33**	**323**	*e*Pn	**Pn**	**04 40 57.4**	**-2.5**
KIEV	**Kiev**	**14.33**	**323**	*e*P	**Pn**	**04 40 57.9**	**-2.0**
KIEV				pmax	pmax		
	comp=Z,18nm,0.9s						
KIEV	**Kiev**	**14.33**	**323**	*e*Pn	**Pn**	**04 40 57.9**	**-2.1**
	comp=Z,18nm,0.9s						
KIEV	**Kiev**	**14.33**	**323**	*e*P	**Pn**	**04 40 57.9**	**-2.0**
	comp=Z,18nm,0.9s						
BURAR	**Bucovina Array**	**14.77**	**307**	⇑*i*P	**Pn**	**04 41 03.7**	**-2.2**
BURAR	**Bucovina Array**	**14.77**	**307**	⇑P	**Pn**	**04 41 03.7**	**-2.2**
IDI	**Anoyia**	**14.86**	**257**	Pn	**Pn**	**04 41 06.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=4.3						
IDI				LR	LR	04 46 44.9	
	comp=Z,172nm,19.6s,baz=92,slow=37						
VTS	**Vitosha**	**14.91**	**287**	⇑*i*P	**Pn**	**04 41 16.4**	**+8.6**
VTS	**Vitosha**	**14.91**	**287**	⇑P	**Pn**	**04 41 16.4**	**+8.7**
AKTK	**Aktyubinsk**	**15.03**	**41**	Pn	**Pn**	**04 41 06.8**	**-2.6**
AKTK				LR	LR	04 48 30.3	
AKTK	**Aktyubinsk**	**15.03**	**41**	Pn	**Pn**	**04 41 06.8**	**-2.6**
AKTO	**Aktyubinsk**	**15.03**	**41**	Pn	**Pn**	**04 41 06.8**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=239,slow=12,SNR=28						
AKTO				LR	LR	04 48 30.3	
	comp=Z,153nm,21.6s,baz=50,slow=43						
AB31	**Akbulak array**	**15.38**	**47**	*i* P	**Pn**	**04 41 12.3**	**-1.8**
AB31				pmax	pmax		
	comp=Z,48nm,1.4s						
AB31	**Akbulak array**	**15.38**	**47**	*i* P	**Pn**	**04 41 12.3**	**-1.8**
	comp=Z,48nm,1.4s						
OBN	**Obninsk**	**15.74**	**347**	⇑*e*P	**Pn**	**04 41 16.1**	**-2.6**
OBN				*e*S	**Sn**	**04 44 10.2**	**-3.0**
OBN				pmax	pmax		
	comp=Z,41nm,1.0s						
OBN	**Obninsk**	**15.74**	**347**	P	**Pn**	**04 41 16.2**	**-2.5**
DRGR		**16.06**	**302**	§*i*P	**Pn**	**04 41 23.6**	**+0.7**
MOS	**Moscow**	**16.18**	**350**	*e*P	**Pn**	**04 41 19.6**	**-4.8**
MOS				*e*S	**Sn**	**04 44 31.4**	**+7.6**
MOS				pmax	pmax		
	comp=Z,119nm,1.3s						
BZS	**Buzias**	**16.48**	**297**	§*i*P	**Pn**	**04 41 31.4**	**+3.1**
BZS	**Buzias**	**16.48**	**297**	§P	**Pn**	**04 41 31.4**	**+3.1**
LVV	**L'vov**	**16.48**	**313**	*e*P	**Pn**	**04 41 31.0**	**+2.7**
UZH	**Uzhgorod**	**16.98**	**308**	*e*P	**Pn**	**04 41 35.2**	**+0.7**
KOLS	**Kolonicke sedl**	**17.11**	**308**	*e*P	**Pn**	**04 41 34.5**	**-1.7**
KWP	**Kalwaria**	**17.15**	**311**	*e*P	**Pn**	**04 41 36.5**	**-0.2**
MNK	**Minsk**	**17.68**	**330**	*e*P	**Pn**	**04 41 38.0**	**-5.3**
STHS	**Stebnicka Huta**	**17.92**	**309**	*e*P	**Pn**	**04 41 47.8**	**+1.5**
STHS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
STHS	**Stebnicka Huta**	**17.92**	**309**	*e*P	**Pn**	**04 41 47.8**	**+1.5**
	comp=Z,8.8nm,1.0s						
KECS	**Kecovo**	**18.04**	**306**	*e*P	**Pn**	**04 41 44.4**	**-3.3**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KECS	**Kecovo**	**18.04**	**306**	*e*P	**Pn**	**04 41 44.4**	**-3.3**
	comp=Z,3.4nm,1.1s						
PSZ	**Piszkesteto**	**18.23**	**303**	⇑*i*P	**Pn**	**04 41 50.0**	**-0.1**
PSZ	**Piszkesteto**	**18.23**	**303**	*e*P	**Pn**	**04 41 47.5**	**-2.6**
	comp=Z,17nm,1.1s						
NIE	**Niedzica**	**18.48**	**308**	*e*P	**Pn**	**04 41 51.9**	**-1.3**
PKSM	**Moragy**	**18.64**	**298**	§*i*P	**Pn**	**04 41 57.7**	**+2.6**
PKSM	**Moragy**	**18.64**	**298**	§P	**Pn**	**04 41 57.6**	**+2.6**
VYHS	**Vyhne**	**19.08**	**305**	*e*P	**Pn**	**04 42 01.0**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VYHS	**Vyhne**	**19.08**	**305**	*e*P	**Pn**	**04 42 01.0**	**+0.6**
	comp=Z,10nm,1.4s						
OJC	**Ojcow**	**19.10**	**310**	*e*P	**Pn**	**04 41 57.8**	**-2.9**
SUW	**Suwalki**	**19.30**	**323**	*e*P	**Pn**	**04 42 00.3**	**-2.8**
SUW				pmax	pmax		
	comp=Z,161nm,1.1s						
SUW	**Suwalki**	**19.30**	**323**	*e*P	**Pn**	**04 42 00.2**	**-2.8**
	comp=Z,162nm,1.1s						
SUW	**Suwalki**	**19.30**	**323**	*e*P	**Pn**	**04 42 00.3**	**-2.8**
	comp=Z,161nm,1.1s						
ARU	**Arti**	**19.52**	**27**	⇑*i*P	**Pn**	**04 42 03.9**	**-1.8**
ARU				*e*S	**Sn**	**04 45 44.6**	**-0.2**
ARU				pmax	pmax		
	comp=Z,20nm,1.1s						
ARU				MLR	MLR		
	comp=Z,400nm,17.0s						
ARU				MLR	MLR		
	comp=N,300nm,16.0s						
ARU				MLR	MLR		
	comp=E,300nm,18.0s						
ARU	**Arti**	**19.52**	**27**	*e*P	**Pn**	**04 42 03.5**	**-2.2**
	comp=E,24nm,0.9s						
ARU	**Arti**	**19.52**	**27**	*i* P	**Pn**	**04 42 03.9**	**-1.8**
	comp=E,20nm,1.1s						
JAVC	**Velka Javorina**	**19.93**	**305**	P	**Pn**	**04 42 10.8**	**+0.3**
OKC	**Ostrava-Krasne**	**19.95**	**308**	*e*P	**Pn**	**04 42 09.0**	**-1.8**
TIP	**Timpagrande**	**20.01**	**276**	*e*P	**P**	**04 42 10.7**	**+0.9**
TIP	**Timpagrande**	**20.01**	**276**	*e*P	**P**	**04 42 10.7**	**+0.9**
ZST	**Bratislava**	**20.11**	**303**	*e*P	**P**	**04 42 13.0**	**+2.2**
ZST				pmax	pmax		
	comp=Z,20nm,1.1s						
ZST	**Bratislava**	**20.11**	**303**	*e*P	**P**	**04 42 13.0**	**+2.2**
	comp=Z,20nm,1.1s						
MORC	**Moravsky Berou**	**20.29**	**307**	⇑*i*P	**P**	**04 42 13.4**	**+0.5**
MORC	**Moravsky Berou**	**20.29**	**307**	*e*P	**P**	**04 42 13.4**	**+0.5**
	comp=Z,3.6nm,0.8s						
MORC	**Moravsky Berou**	**20.29**	**307**	*e*P	**P**	**04 42 13.4**	**+0.5**
	comp=Z,3.6nm,0.8s						
KOGS	**Kog**	**20.31**	**297**	*i* P	**P**	**04 42 12.7**	**-0.4**
KOGS	**Kog**	**20.31**	**297**	*e*P	**P**	**04 42 12.9**	**-0.2**
KOGS	**Kog**	**20.31**	**297**	*e*P	**P**	**04 42 12.9**	**-0.2**
SOP	**Sopron**	**20.34**	**301**	P	**P**	**04 42 14.8**	**+1.4**
CUC	**Castrocucco**	**20.59**	**279**	P	**P**	**04 42 20.2**	**+4.0**
VRAC	**Vranov**	**20.73**	**306**	P	**P**	**04 42 19.6**	**+2.0**
	comp=Z,19nm,1.1s,baz=114,slow=11,SNR=11						
VRAC	**Vranov**	**20.73**	**306**	⇑*i*P	**P**	**04 42 19.6**	**+1.9**
VRAC	**Vranov**	**20.73**	**306**	*e*P	**P**	**04 42 19.1**	**+1.4**
KRUC	**Moravsky**	**20.79**	**305**	P	**P**	**04 42 18.4**	**+0.1**
GROS	**Grobnik**	**20.82**	**297**	*e*P	**P**	**04 42 18.2**	**-0.4**
CONA	**Conrad Observa**	**20.85**	**301**	§*i*P	**P**	**04 42 19.1**	**+0.1**
	comp=Z,43nm,1.4s,SNR=12						
ARSA	**Arzberg**	**20.94**	**299**	§*i*P	**P**	**04 42 20.1**	**+0.3**
	comp=Z,19nm,1.0s						
KK31	**Karatay Array**	**21.02**	**72**	*i* P	**P**	**04 42 21.8**	**+1.1**
KK31				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.7						
KK31	**Karatay Array**	**21.02**	**72**	*i* P	**P**	**04 42 21.8**	**+1.1**
	comp=Z,26nm,0.7s,mb4.7						
KKAR	**Karatay Array**	**21.02**	**72**	P	**P**	**04 42 21.8**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.5						
KKAR	**Karatay Array**	**21.02**	**72**	P	**P**	**04 42 21.8**	**+1.1**
	comp=Z,19nm,0.8s,mb4.5						
BSY	**Bisya**	**21.08**	**140**	P	**P**	**04 42 20.8**	**-0.7**
	SNR=14						
PERS	**Pernice**	**21.11**	**298**	*e*P	**P**	**04 42 22.3**	**+0.6**
BSYO	**Bisya**	**21.11**	**140**	P	**P**	**04 42 20.8**	**-1.0**
	SNR=14						
VSU	**Vasula**	**21.18**	**336**	P	**P**	**04 42 23.2**	**+0.7**
VSU	**Vasula**	**21.18**	**336**	*e*P	**P**	**04 42 23.0**	**+0.5**
DPC	**Dobruska-Polom**	**21.23**	**308**	*e*P	**P**	**04 42 24.8**	**+1.8**
SMDO	**Samad**	**21.25**	**138**	⇑P	**P**	**04 42 22.7**	**-0.5**
	SNR=7.4						
KSP	**Ksiaz**	**21.41**	**309**	*e*P	**P**	**04 42 24.0**	**-1.0**
KSP				*e**PP		04 42 27.4	
KSP				*e*S	**S**	**04 46 25.0**	**+2.5**
KSP	**Ksiaz**	**21.41**	**309**	*e*P	**P**	**04 42 24.0**	**-1.0

comp=Z,5.2nm,0.8s,mb4.0,baz=152,slow=8.6,SNR=7.4
FINES LR LR 04 52 36.2
comp=Z,154nm,20.4s,MS3.5,baz=164,slow=38
FINES FINESS Array B 23.84 340 *i* P **P 04 42 48.5 -1.8**
FINES pmax pmax
comp=Z,5.0nm,0.8s
SQTA Sankt Quirin 23.84 298⇓ *i* P **P 04 42 50.4 +0.1**
comp=Z,27nm,0.8s,mb4.7,SNR=9.6
FUR Furstenfeldbru 23.92 301 *e*P **P 04 42 51.9 +0.8**
comp=Z,26nm,1.0s,mb4.6
FUR Furstenfeldbru 23.92 301 *e*P **P 04 42 51.9 +0.8**
FUR pmax pmax
comp=Z,26nm,1.0s,mb4.6
MOTA Moosalm 23.93 299⇓ *i* P **P 04 42 50.9 -0.2**
comp=Z,49nm,1.0s,mb4.9,SNR=21
WHFO Wadi Hawf 23.93 153⇓P **P 04 42 49.7 -1.5**
SNR=6.7
AAK Ala-Archa 23.96 73 P **P 04 42 53.3 +1.8**
SNR=5.2
AAK Ala-Archa 23.96 73 P **P 04 42 52.3 +0.8**
SNR=6.2
AAK Ala-Archa 23.96 73⇑ *e*P **P 04 42 52.6 +1.1**
AAK pmax pmax
comp=Z,11nm,1.0s,mb4.2
AAK Ala-Archa 23.96 73 *e*P **P 04 42 52.2 +0.8**
comp=Z,13nm,1.0s,mb4.3
FRU Bishkek 24.04 73 *e*P **P 04 42 53.5 +1.3**
FRU pmax pmax
comp=Z,170nm,2.5s,mb5.0
CHMS Chumysh 24.13 72 P **P 04 42 54.3 +1.4**
SNR=6.2
MOX Moxa 24.19 307 P **P 04 42 55.5 +2.0**
GRA1 Grafenberg Arr 24.22 304 *e*P **P 04 42 55.6 +1.8**
comp=Z,37nm,1.3s,mb4.7
GRF Grafenberg Arr 24.22 304 *e*P **P 04 42 55.6 +1.8**
comp=Z,37nm,1.3s,mb4.7
GRF Grafenberg Arr 24.22 304 *e*P **P 04 42 55.6 +1.8**
GRF pmax pmax
comp=Z,37nm,1.3s,mb4.7
GRF Grafenberg Arr 24.22 304 *e*P **P 04 42 55.6 +1.8**
GRF pmax pmax
comp=Z,37nm,1.3s,mb4.7
KBK Karagaybulak 24.30 73 P **P 04 42 56.6 +2.1**
SNR=9.8
DAVOX Davos 24.71 297 P **P 04 42 57.6 -0.6**
comp=Z,19nm,0.9s,mb4.6,baz=119,slow=8.0,SNR=18
DAVA Damuels 24.75 298⇑ *i* P **P 04 42 58.1 -0.5**
comp=Z,32nm,1.2s,mb4.7
TKM2 Tokmak 2 24.75 72 P **P 04 43 00.6 +2.0**
SNR=20
TKM2 Tokmak 2 24.75 72 P **P 04 42 59.3 +0.6**
TKM2 pmax pmax
comp=Z,47nm,1.1s,mb4.9
TUE Stuetta 25.06 296 P **P 04 43 02.3 +0.9**
CLZ Clausthal 25.25 309 *e*P **P 04 43 06.6 +3.4**
comp=Z,23nm,1.0s,mb4.7
CLZ Clausthal 25.25 309 *e*P **P 04 43 06.6 +3.4**
CLZ pmax pmax
comp=Z,23nm,1.0s,mb4.7
STU Stuttgart 25.38 302 *e*P **P 04 43 05.9 +1.6**
comp=Z,36nm,1.1s,mb4.8
STU Stuttgart 25.38 302 P **P 04 43 05.8 +1.5**
KSH Kashi 25.51 80 *e*P **P 04 43 09.0 +3.5**
KSH *e*AP pP 04 43 14.0 +5.4
KSH *e*XP sP 04 43 17.9 +8.1
KSH *e*PP 04 43 49.1
KSH *e*PCP PcP 04 46 39.5 +2.5
KSH *e*S **S 04 47 35.4 +2.6**
KSH *e*XS sS 04 47 43.8 +5.9
KSH *e*PCS PcS 04 50 20.4 +2.9
KSH AMB AMB
comp=Z,634nm,3.3s
KSH LR LR
comp=N,958nm,4.7s
KSH LR LR
comp=E,697nm,4.0s
KSH LR LR
comp=Z,441nm,10.2s,MS4.3
BFO Black Forest 25.89 300 *e*P **P 04 43 13.4 +4.4**
comp=Z,14nm,1.2s,mb4.4
BFO Black Forest 25.89 300 *e*P **P 04 43 13.4 +4.4**
BFO pmax pmax
comp=Z,14nm,1.2s,mb4.4
TNS Taunus Mts 26.08 305 *e*P **P 04 43 13.6 +2.9**
comp=Z,17nm,1.1s,mb4.5
TNS Taunus Mts 26.08 305 *e*P **P 04 43 13.6 +2.9**
TNS pmax pmax
comp=Z,17nm,1.1s,mb4.5
SBF Sospel 26.43 290 *e*P **P 04 43 14.2 +0.3**
comp=Z,54nm,0.8s,mb4.8
KEST Kesra 26.59 272 P **P 04 43 16.9 +1.5**
comp=Z,3.3nm,0.9s,mb3.9,baz=339,slow=9.4,SNR=5.0
KEST LR LR 04 55 10.6
comp=Z,74nm,18.9s,MS3.2,baz=354,slow=40
CDF Champ du Feu 26.60 300 *e*P **P 04 43 16.4 +1.0**
LPG La Plagne 26.85 294⇑ *i* P **P 04 43 18.9 +1.2**
comp=Z,46nm,1.2s,mb4.6
MBDF Montbardon 26.86 292 *e*P **P 04 43 19.1 +1.4**
comp=Z,14nm,0.8s,mb4.3
LPL La Plagne 26.86 294⇑ *i* P **P 04 43 19.0 +1.2**
comp=Z,40nm,1.2s,mb4.5
BNI Bardonecchia 26.91 293 *e*P **P 04 43 16.9 -1.3**
BNI pmax pmax
comp=Z,11nm,0.9s,mb4.4
BNI Bardonecchia 26.91 293 *e*P **P 04 43 16.9 -1.3**
comp=Z,11nm,0.9s,mb4.4
BNI Bardonecchia 26.91 293 *e*P **P 04 43 16.9 -1.3**
comp=Z,11nm,0.9s,mb4.4
FRF La Foret Royal 27.02 290 *e*P **P 04 43 20.0 +0.8**
comp=Z,18nm,0.9s,mb4.3
HFS Hagfors 27.13 328 P **P 04 43 18.8 -1.4**
comp=Z,10nm,0.8s,mb4.4,baz=134,slow=8.5,SNR=9.7
HFS Hagfors 27.13 328 P **P 04 43 18.8 -1.4**
HFS pmax pmax
comp=Z,11nm,0.8s
LMR La Mourre 27.14 289 *e*P **P 04 43 20.9 +0.6**
comp=Z,53nm,1.3s,mb4.6
KURK Kurchatov 27.20 55 P **P 04 43 18.7 -2.1**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
CABF La Chapelle 27.31 296 *e*P **P 04 43 20.7 -1.1**
comp=Z,139nm,1.6s,mb4.9
ORIF Oris-en-Rattie 27.48 293 *e*P **P 04 43 22.8 -0.6**
comp=Z,45nm,1.5s,mb4.5
ATD Arta Tunnel 28.28 180 LR LR 04 55 37.8
comp=Z,126nm,18.4s,MS3.5,baz=288,slow=38
KONO Kongsberg 28.62 325⇑ *e*P **P 04 43 32.2 -1.3**
NB2 NORSAR Subarra 28.65 328 P **P 04 43 31.5 -2.3**
comp=Z,4.1nm,0.9s,mb4.2,baz=125,slow=9.3
NOA NORSAR Array B 28.65 328 P **P 04 43 31.6 -2.2**
comp=Z,1.7nm,0.7s,mb3.9,baz=126,slow=8.9,SNR=5.9
NOA LR LR 04 55 56.3
comp=Z,132nm,18.8s,MS3.6,baz=135,slow=38
NOA NORSAR Array B 28.65 328 P **P 04 43 31.6 -2.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,132nm,18.8s
MK31 Makanchi Array 29.34 63 *i* P **P 04 43 40.4 +0.5**
MK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
MK31 Makanchi Array 29.34 63 *e*P **P 04 43 39.6 -0.3**
MK31 Makanchi Array 29.34 63 *e*P **P 04 43 39.6 -0.3**
MKAR Makanchi Array 29.34 63 P **P 04 43 40.8 +0.9**
comp=Z,5.1nm,0.8s,mb4.3,baz=272,slow=6.8,SNR=26
MKAR Makanchi Array 29.34 63 *i* P **P 04 43 40.7 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
NVS Novosibirsk 30.73 47 *i* P **P 04 43 52.9 +0.7**
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,19nm,1.6s
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.8
NVS pmax pmax
comp=Z,21nm,2.3s,mb4.6
NVS pmax pmax
comp=N,15nm,2.4s
NVS pmax pmax
comp=E,38nm,2.8s
ARCES ARCESS Array B 31.04 348 P **P 04 43 55.7 +0.7**
comp=E,2.5nm,0.7s,mb4.1,baz=40,slow=9.6,SNR=3.8
ARCES LR LR 04 56 59.9
comp=E,149nm,19.6s,MS3.7,baz=150,slow=38
ARCES ARCESS Array B 31.04 348 P **P 04 43 55.7 +0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,149nm,19.6s
ARCES ARCESS Array B 31.04 348 P **P 04 43 55.7 +0.7**
ARCES LR LR 04 56 59.9
WMQ Urumqi 33.41 68⇑ P **P 04 44 16.8 +1.1**
WMQ XP sP 04 44 21.8 +1.8
WMQ PP PP 04 45 28.4 -2.8
WMQ PCP PcP 04 46 58.0 +0.9
WMQ S **S 04 49 38.5 +1.7**
WMQ XS sS 04 49 40.9 -1.0
WMQ AMB AMB
comp=Z,13nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,193nm,4.8s
WMQ LR LR
comp=N,76nm,19.0s,MS3.7
WMQ LR LR
comp=E,121nm,16.2s,MS3.7
WMQ LR LR
comp=Z,109nm,16.2s,MS3.7
EKA Eskdalemuir Ar 33.84 313 P **P 04 44 17.7 -1.8**
comp=Z,6.9nm,0.8s,mb4.7,baz=103,slow=8.6,SNR=13
EKA Eskdalemuir Ar 33.84 313 P **P 04 44 17.7 -1.8**
EKA pmax pmax
comp=Z,7.0nm,0.8s
ESDC Sonseca Array 35.54 285 P **P 04 44 33.3 -0.8**
comp=Z,4.2nm,0.8s,mb4.4,baz=66,slow=8.6,SNR=15
JMIC Jan Mayen 40.38 337 LR LR 05 02 59.5
comp=Z,127nm,18.0s,MS3.8,baz=79,slow=38
KMBO Kilima Mbogo 41.16 188 LR LR 05 01 36.5
comp=Z,225nm,18.1s,MS4.1,baz=283,slow=35
ZAK Zakamensk 42.86 55 *e*P **P 04 45 35.6 +0.2**
ZAK *e* 04 47 23.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.6
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.8
GTA Gaotai 43.30 72 *e*P **P 04 45 40.0 +1.1**
GTA AP pP 04 45 44.4 +2.4
GTA XP sP 04 45 47.3 +4.0
GTA PP PP 04 47 17.3 -2.2
GTA S **S 04 52 05.8 -0.4**
GTA XS sS 04 52 12.6 +1.2
GTA SS SS 04 55 10.6 -9.0
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,81nm,5.3s
GTA LR LR
comp=N,221nm,22.4s,MS4.3
GTA LR LR
comp=E,354nm,23.2s,MS4.3
GTA LR LR
comp=Z,154nm,11.4s
TOA0 Torodi Ar. Sit 44.79 245 *e*P **P 04 45 50.1 -0.8**
TORD Torodi Ar. Bea 44.79 245 P **P 04 45 48.2 -2.7**
comp=Z,5.6nm,1.0s,mb4.4,baz=39,slow=7.4,SNR=24
SONM Songino Array 45.40 58 P **P 04 45 55.7 0.0**
comp=Z,1.2nm,0.8s,mb3.8,baz=277,slow=9.5,SNR=5.5
SONM LR LR 05 07 26.0
comp=Z,237nm,18.4s,MS4.2,baz=262,slow=39
SONM Songino Array 45.40 58 P **P 04 45 55.7 -0.1**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,237nm,18.4s
ULN Ulaanbaatar 45.83 58⇑ *e*P **P 04 45 58.9 -0.2**
ULN Ulaanbaatar 45.83 58 *e*P **P 04 45 59.3 +0.2**
comp=Z,14nm,1.0s,mb4.8
ULN Ulaanbaatar 45.83 58 *e*P **P 04 45 59.3 +0.2**
comp=Z,14nm,1.0s,mb4.8
LZH Lanzhou 47.50 74 *e*P **P 04 46 08.5 -3.7**
LZH AP pP 04 46 13.1 -2.3
LZH XP sP 04 46 15.6 -1.0
LZH PP PP 04 47 59.8 -3.7
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,52nm,6.7s
LZH LR LR
comp=E,307nm,15.2s
LZH LR LR
comp=Z,415nm,18.4s,MS4.4
LZH Lanzhou 47.50 74 *e*P **P 04 46 08.5 -3.7**
LZH *PP pP 04 46 13.1 -2.3
LZH *SP sP 04 46 15.6 -1.0
LZH 04 47 59.7
LZH pmax pmax
comp=Z,21nm,1.4s,mb4.9
LZH MLR MLR
comp=Z,420nm,18.4s,MS4.4
LZH Lanzhou 47.50 74 *e*P **P 04 46 08.5 -3.7**
comp=Z,21nm,1.4s,mb4.9
LZH pP pP 04 46 13.1 -2.3
LZH sP sP 04 46 15.6 -1.0
LZH PP PP 04 47 59.7 -3.8
LZH LR LR
comp=Z,420nm,18.4s,MS4.4
BOD Bodaibo 47.78 43⇑ *i* P **P 04 46 13.5 -0.9**
BOD pmax pmax
comp=Z,23nm,0.9s,mb5.2
CD2 Chengdu 49.70 80 *e*P **P 04 46 28.8 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
TIXI Tiksi 51.49 24⇑ *e*P **P 04 46 41.8 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KMI Kunming 51.82 87 P **P 04 46 42.6 -2.5**
KMI XP sP 04 46 51.0 +1.5
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
KMI LR LR
comp=Z,33nm,22.3s,MS3.3
KMI Kunming 51.82 87 P **P 04 46 42.6 -2.5**
comp=Z,7.0nm,1.3s,mb4.4
KMI sP sP 04 46 51.0 +1.5
KMI LR LR
comp=Z,30nm,22.3s,MS3.3
LIC Lamto 54.34 245⇑ *i* P **P 04 47 04.0 +0.3**
comp=Z,39nm,0.9s,mb5.0
YAK Yakutsk 54.34 35 *e*P **P 04 47 02.5 -1.2**
YAK pmax pmax
comp=Z,15nm,1.3s,mb4.8
BJI Beijing 54.71 64 P **P 04 47 04.4 -2.0**
BJI AMB AMB
comp=Z,3.0nm,0.5s,mb4.6
BJI Beijing 54.71 64 P **P 04 47 04.4 -2.0**
comp=Z,3.0nm,0.5s,mb4.6
CN2 Changchun 59.25 57 *e*P **P 04 47 38.5 -0.1**
SEY Seymchan 63.25 29⇑ *e*P **P 04 48 06.1 +0.4**
KSRS Korea Array 64.01 62 P **P 04 48 09.2 -1.4**
comp=Z,6.9nm,0.9s,mb4.7,baz=288,slow=6.6,SNR=11
BILL Bilibino 64.38 20 *e*P **P 04 48 12.2 -0.9**
BILL *e* pP 04 48 16.0 -0.3
BILL *e* 04 48 45.1
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SCHQ Schefferville 68.13 324 LR LR 05 18 09.8
comp=Z,53nm,21.0s,MS3.8,baz=125,slow=36
BOSA Boshof 70.10 196 P **P 04 48 48.5 -0.9**
comp=Z,3.3nm,0.9s,mb4.3,baz=1.9,slow=14,SNR=3.4
BOSA LR LR 05 18 03.6
comp=Z,65nm,18.3s,MS3.9,baz=189,slow=35
MJAR Matsushiro Arr 71.36 58 P **P 04 48 56.4 -0.6**
comp=Z,4.5nm,1.0s,mb4.3,baz=314,slow=7.4,SNR=7.6
MJAR Matsushiro Arr 71.36 58 P **P 04 48 56.4 -0.7**
MJAR pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 76.30 349 LR LR 05 24 17.7
comp=Z,53nm,18.1s,MS3.9,baz=45,slow=37
YKA Yellowknife Ar 76.30 349 *i* P **P 04 49 33.5 +7.4**
YKA pmax pmax
comp=Z,1.0nm,0.9s
EDM Edmonton 84.94 346 *e*P **P 04 50 10.9 -1.4**
TKL Tuckaleechee C 90.08 319 LR LR 05 29 02.6
comp=Z,58nm,18.7s,MS4.0,baz=41,slow=34
PDAR Pinedale Array 93.94 340 P **P 04 50 55.1 +0.2**
comp=Z,0.1nm,0.5s,mb3.5,baz=224,slow=53,SNR=2.1
PDAR LR LR 05 38 25.6
comp=Z,67nm,18.0s,MS4.1,baz=66,slow=39

IDC 23 04:59:57.8±5.5, **3082S**×**13810E**, **h0**km, **mb1 3.1**/3, **mb1mx3.1**/12, **mbtmp2.8**/3, **ML2.6**/3, **Error ellipse:**
s-maj=110.5km s-min=18.3km az=37.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.17**	**110**	Pn	Pn	05 00 48.9	0.0
	0.1nm,0.3s,baz=309,slow=14,SNR=3.7						
STKA				Sn	Sn	05 01 25.9	-1.4
	1.5nm,0.3s,baz=309,slow=11,SNR=4.7						
STKA				Lg		05 01 38.4	
	2.5nm,0.3s,baz=345,slow=21,SNR=7.4						
ASAR	**Alice Springs**	**8.04**	**331**	Pn	Pn	05 01 56.0	+0.2
	0.1nm,0.3s,baz=148,slow=11,SNR=6.7						
ASAR				Sn	Sn	05 03 27.7	+0.2
	0.1nm,0.3s,baz=156,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**11.35**	**342**	Pn	Pn	05 02 41.7	+0.5
	0.2nm,0.3s,baz=160,slow=12,SNR=3.0						

BJI ***23*** *05:19:54.6, 2469N*×*12503E, h111*km*, mB5.0, mb4.5*
ISCJB ***23*** *05:20:00.9*±*0.2, 2525N*±*003*×*12452E*±*003, h111*km±*2*km*, mb4.6/42, Error ellipse: s-maj=6.1km s-min=3.5km az=119.6*
NIED ***23*** *05:20:00, 2520N*×*124.40E, h86*km*, Mw4.4 Best double couple: M*o*4.21000*×*10*^{15} *NP1:*ϕ*=81.00000°, δ83.00000°, λ-93.00000°. NP2:*ϕ*=286.00000°, δ8.00000°, λ-65.00000°.*
IDC ***23*** *05:20:02.5*±*0.6, 2534N*×*12458E, h113*km±*5*km*, mb4.3/13, mb1 4.4/16, mb1mx4.3/23, mbtmp4.3/16, MS3.2/5, Ms1 3.2/5, ms1mx2.8/30, Error ellipse: s-maj=11.9km s-min=10.7km az=74.0*
NEIC ***23*** *05:20:02.6*±*0.5, 2530N*×*124.46E, h111*km±*5*km*, mb4.7/29, Error ellipse: s-maj=5.5km s-min=4.8km az=110.0*
MOS ***23*** *05:20:02.3*±*0.9, 2533N*×*124.45E, h124km, mb4.5/24, Error ellipse: s-maj=11.6km s-min=7.7km az=104.7*
JMA ***23*** *05:20:02.6*±*0.1, 2520N*×*124.43E, h103*km±*3*km*, mb4.2*
ISC 23 05:20:01.9±**0.2, 2527N**±**003**×**12450E**±**003, h103**km±**2**km**, h116**km±**3.1**km**: pP-P, n126,** σ**1**ϕ**04**/**143, mb4.6**/**42, 3C-1D, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.66**	**164**	P	**Pn**	**05 20 19.6**	**+0.3**
JTJ				*e*S	**Sn**	**05 20 32.5**	**+0.2**
JMJ	**Miyako jima 2**	**0.85**	**122**	P	**Pn**	**05 20 22.0**	**+0.9**
JMJ				*e*S	**Sn**	**05 20 36.5**	**+1.1**
JIJ	**Ishigaki jima**	**0.96**	**200**	P	**Pn**	**05 20 21.7**	**-0.5**
JIJ				S	**Sn**	**05 20 35.8**	**-1.7**
JOGS	**Gusukube**	**0.97**	**122**	P	**Pn**	**05 20 23.4**	**+1.2**
JOGS				*e*S	**Sn**	**05 20 39.2**	**+1.7**
JKRS	**Kuro-shima**	**1.12**	**204**	P	**Pn**	**05 20 23.7**	**-0.3**
JKRS				*e*S	**Sn**	**05 20 39.4**	**-1.2**
IRIF	**Iriomote-Funau**	**1.17**	**217**	P	**Pn**	**05 20 24.0**	**-0.5**
IRIF				*e*S	**Sn**	**05 20 40.2**	**-1.3**
HATJ	**Hateruma jima**	**1.37**	**208**	P	**Pn**	**05 20 26.6**	**-0.2**
HATJ				*e*S	**Sn**	**05 20 44.7**	**-0.9**
YOJ	**Yonaguni jima**	**1.58**	**239**	P	**Pn**	**05 20 29.4**	**+0.1**
YOJ				*e*S	**Sn**	**05 20 49.0**	**-1.1**
JKE	**Kume jima 2**	**2.31**	**63**	P	**Pn**	**05 20 39.9**	**+1.3**
TATO	**Taipei**	**2.75**	**264**	*e*Pn	**Pn**	**05 20 45.8**	**+1.3**
JAGN	**Aguni-jima**	**2.79**	**61**	P	**Pn**	**05 20 46.2**	**+1.2**
JAGN				*e*S	**Sn**	**05 21 19.2**	**+1.1**
NACB	**Ninganchiao**	**2.86**	**248**	*e*Pn	**Pn**	**05 20 45.4**	**-0.6**
NACB				*e*Sn	**Sn**	**05 21 16.9**	**-2.9**
YHNB	**Yeheng**	**2.90**	**259**	*e*Pn	**Pn**	**05 20 47.9**	**+1.5**
YHNB				*e*Sn	**Sn**	**05 21 22.3**	**+1.6**
JIH	**Iheya**	**3.57**	**60**	P	**Pn**	**05 20 56.5**	**+1.1**
JIH				*e*S	**Sn**	**05 21 36.0**	**-0.7**
JOW	**Kunigami**	**3.73**	**65**	P	**Pn**	**05 20 57.9**	**+0.4**
	36nm,0.3s,baz=223,slow=9.3,SNR=130						
JOW				S	**Sn**	**05 21 39.2**	**-1.3**
	44nm,0.3s,baz=122,slow=24,SNR=6.1						
JOW	**Kunigami**	**3.73**	**65**	P	**Pn**	**05 20 57.7**	**+0.2**
JOW				*e*S	**Sn**	**05 21 39.5**	**-1.0**
JTK	**Tokunoshima**	**4.70**	**57**	P	**Pn**	**05 21 10.4**	**-0.2**
JTK				*e*S	**Sn**	**05 22 02.4**	**-1.7**
JAM	**Amami Oshima**	**5.53**	**54**	P	**Pn**	**05 21 21.4**	**-0.4**
JAM				*e*S	**Sn**	**05 22 21.5**	**-2.5**
JMZ	**Minamidaito 2**	**6.09**	**83**	P	**Pn**	**05 21 27.3**	**-2.1**
JMZ				*e*S	**Sn**	**05 22 30.1**	**-7.6**
JNU	**Nakatsue**	**9.60**	**34**	LR	LR	05 26 03.0	
	comp=Z,312nm,20.1s,baz=166,slow=38						
KSRS	**Korea Array**	**12.49**	**13**	P	**Pn**	**05 22 56.1**	**+0.2**
	baz=188,slow=13,SNR=29						
KSRS				LR	LR	05 28 21.1	
	comp=Z,32nm,18.5s,baz=210,slow=40						
XAN	**Xi'an**	**16.10**	**306**	P	**Pn**	**05 23 45.3**	**+3.1**
XAN				AMB	AMB		
	comp=Z,12nm,1.0s						
GYA	**Guiyang**	**16.10**	**278**	P	**Pn**	**05 23 45.5**	**+3.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,60nm,5.8s						
GYA				LR	LR		
	comp=N,180nm,18.4s						
GYA				LR	LR		
	comp=E,210nm,19.8s						
GYA				LR	LR		
	comp=Z,170nm,19.4s						
MAJO	**Matsushiro**	**16.24**	**43**	*e*P	**Pn**	**05 23 45.1**	**+1.2**
MAT	**Matsushiro**	**16.24**	**43**	P	**Pn**	**05 23 43.8**	**-0.1**
MJAR	**Matsushiro Arr**	**16.24**	**43**	P	**Pn**	**05 23 44.5**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=221,slow=9.3,SNR=24						
MJAR	**Matsushiro Arr**	**16.24**	**43**	P	**Pn**	**05 23 44.5**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CN2	**Changchun**	**18.50**	**2**	*e*P	**P**	**05 24 11.8**	**+1.9**
CN2				AMB	AMB		
	comp=Z,70nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
KMI	**Kunming**	**19.70**	**274**	P	**P**	**05 24 25.1**	**+2.2**
KMI				AMB	AMB		
	comp=Z,13nm,1.0s						
KMI	**Kunming**	**19.70**	**274**	P	**P**	**05 24 25.1**	**+2.2**
	comp=Z,13nm,1.0s						
KMI				pP		05 24 34.2	
KKM	**Kota Kinabalu**	**20.70**	**204**	*e*P	**P**	**05 24 34.0**	**+0.2**
LZH	**Lanzhou**	**20.74**	**306**	*e*P	**P**	**05 24 35.5**	**+1.3**
LZH				AMB	AMB		
	comp=Z,19nm,1.2s						
LZH	**Lanzhou**	**20.74**	**306**	*e*P	**P**	**05 24 35.5**	**+1.3**
	comp=Z,19nm,1.2s						
LZH				pP		05 24 38.7	
LZH				sP	sP	05 24 41.6	-25
ASAJ	**Asahikawa**	**23.88**	**34**	P	**P**	**05 25 04.4**	**-1.4**
	comp=Z,11nm,0.4s,mb4.6,baz=97,slow=9.4,SNR=11						
ASAJ				LR	LR	05 34 03.2	
	comp=Z,46nm,20.4s,baz=49,slow=35						
HIA	**Hailar**	**24.24**	**352**	*e*P	**P**	**05 25 08.1**	**-1.0**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
HIA	**Hailar**	**24.24**	**352**	*e*P	**P**	**05 25 08.1**	**-1.0**
	comp=Z,15nm,0.8s,mb4.4						
GTA	**Gaotai**	**25.07**	**310**	*e*P	**P**	**05 25 17.9**	**+1.2**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**26.43**	**333**	*e*P	**P**	**05 25 28.4**	**-0.5**
ULN				*e**PP	pP	05 25 55.6	+3.9
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
ULN	**Ulaanbaatar**	**26.43**	**333**	*e*P	**P**	**05 25 28.4**	**-0.5**
	comp=Z,5.1nm,1.0s,mb3.9						
ULN				*e*pP	pP	05 25 55.5	+3.9
SONM	**Songino Array**	**26.68**	**332**	P	**P**	**05 25 30.0**	**-1.2**
	comp=Z,1.3nm,0.4s,mb3.8,baz=151,slow=9.9,SNR=11						
SONM				pP	pP	05 25 56.4	+2.4
	comp=Z,2.9nm,0.9s,baz=138,slow=8.2,SNR=4.3						
SONM				PcP	PcP	05 28 52.0	-0.2
	comp=Z,0.8nm,0.4s,baz=156,slow=5.2,SNR=4.4						
SONM				LR	LR	05 36 27.5	
	comp=Z,42nm,18.9s,baz=191,slow=37						
SONM	**Songino Array**	**26.68**	**332**	P	**P**	**05 25 30.0**	**-1.2**
SONM				**PP	pP	05 25 56.4	+2.5
SONM						05 28 52.0	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,42nm,18.9s						
WMQ	**Urumqi**	**35.15**	**311**	⇑P	**P**	**05 26 45.5**	**-0.1**

WMQ AP pP 05 27 11.0 +2.1
WMQ XP sP 05 27 24.8 +4.0
WMQ PP PP 05 28 07.8 +0.6
WMQ PCP PcP 05 29 15.3 +0.6
WMQ S **S** **05 32 09.3 -1.6**
WMQ XS sS 05 32 54.5 +3.1
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,112nm,4.6s
WMQ LR LR
comp=N,20nm,22.8s
WMQ LR LR
comp=Z,14nm,16.5s
PET Petropavlovsk 37.72 34 *e*P **P** **05 27 07.2 -0.3**
PET pmax pmax
comp=Z,19nm,0.5s,mb5.2
PET Petropavlovsk 37.72 34 *e*P **P** **05 27 07.2 -0.3**
comp=Z,19nm,0.5s,mb5.2
KAKA Kakadu 38.54 168⇓ *i*P **P** **05 27 13.9 -0.4**
comp=Z,24nm,0.6s,mb5.2
MK31 Makanchi Array 39.71 314 *e*P **P** **05 27 23.3 -0.8**
MKAR Makanchi Array 39.71 314 P **P** **05 27 23.4 -0.7**
comp=Z,6.7nm,0.5s,mb4.7,baz=101,slow=9.8,SNR=101
MKAR PcP PcP 05 29 28.7 0.0
comp=Z,1.0nm,0.6s,baz=132,slow=1.5,SNR=4.3
MKAR Makanchi Array 39.71 314 *e*P **P** **05 27 23.4 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 39.71 314 P **P** **05 27 23.4 -0.7**
MKAR PcP PcP 05 29 28.7 0.0
ULHL Ulahol 42.95 306 P **P** **05 27 51.6 +1.0**
SNR=9.9
FITZ Fitzroy Crossi 43.13 178⇑ *i*P **P** **05 27 51.6 -0.4**
comp=Z,30nm,0.7s,mb5.1
TKM2 Tokmak 2 43.51 306 P **P** **05 27 56.2 +1.1**
SNR=21
KBK Karagaybulak 43.95 306 P **P** **05 27 59.7 +1.1**
SNR=9.6
CHMS Chumysh 44.14 306 P **P** **05 28 00.7 +0.7**
SNR=6.4
UCH Uchtor 44.22 305 P **P** **05 28 02.8 +2.0**
SNR=19
AAK Ala-Archa 44.28 306 *e*P **P** **05 28 00.7 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
AAK Ala-Archa 44.28 306 *e*P **P** **05 28 00.7 -0.5**
comp=Z,5.6nm,0.7s,mb4.4
AML Almayashu 44.82 305 P **P** **05 28 07.2 +1.7**
SNR=9.2
WRAB Tennant Creek 45.94 167 *e*P **P** **05 28 14.5 +0.1**
WRAB pmax pmax
comp=Z,29nm,0.8s,mb5.1
WRAB Tennant Creek 45.94 167 *e*P **P** **05 28 14.5 +0.1**
comp=Z,28nm,0.8s,mb5.0
WRA Warramunga Arr 45.95 167 P **P** **05 28 14.5 0.0**
comp=Z,30nm,0.7s,mb5.2,baz=350,slow=8.2,SNR=117
WRA pP pP 05 28 39.8 +1.1
comp=Z,4.4nm,0.8s,baz=348,slow=8.1,SNR=2.9
WRA Warramunga Arr 45.95 167 P **P** **05 28 14.5 +0.1**
WRA *PP pP 05 28 39.8 +1.1
WRA pmax pmax
comp=Z,30nm,0.7s
WRA pmax pmax
comp=Z,4.0nm,0.8s
WB2 Warramunga Arr 45.95 167⇑ *i*P **P** **05 28 14.8 +0.3**
TIXI Tiksi 46.47 2 *e*P **P** **05 28 16.8 -1.7**
TIXI pmax pmax
comp=Z,40nm,1.8s,mb4.8
TIXI Tiksi 46.47 2 *e*P **P** **05 28 16.8 -1.8**
comp=Z,40nm,1.8s,mb4.8
KKAR Karatay Array 47.24 306 *e*P **P** **05 28 24.6 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
BVA0 Borovoye Array 48.78 319 *i*P **P** **05 28 35.6 -0.7**
BRVK Borovoye 48.85 319 *e*P **P** **05 28 36.2 -0.7**
BRVK *e* 05 29 59.0
BRVK pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
BRVK Borovoye 48.85 319 *e*P **P** **05 28 36.2 -0.6**
comp=Z,6.7nm,0.4s,mb4.9
BRVK *e*PcP PcP 05 29 59.0 -1.0
AS31 Alice Springs 49.49 169 *e*P **P** **05 28 42.5 +0.7**
ASAR Alice Springs 49.49 169 P **P** **05 28 42.5 +0.7**
comp=Z,19nm,0.5s,mb5.3,baz=355,slow=14,SNR=303
ASAR LR LR 05 48 54.2
comp=Z,44nm,19.7s,baz=150,slow=35
ASPA Alice Springs 49.49 169 *e*P **P** **05 28 42.5 +0.7**
AB31 Akbulak array 54.86 314 *i*P **P** **05 29 21.2 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
FORT Forrest 55.84 176 *e*P **P** **05 29 29.1 +0.6**
comp=Z,12nm,0.6s,mb5.1
ARU Arti 56.08 322 *e*P **P** **05 29 29.0 -1.2**
ARU pmax pmax
comp=Z,15nm,0.5s,mb5.3
ARU Arti 56.08 322 *e*P **P** **05 29 29.0 -1.2**
comp=Z,15nm,0.5s,mb5.3
KLBR Kellerberrin 56.91 187 *e*P **P** **05 29 35.9 -0.2**
comp=Z,8.8nm,0.6s,mb5.0
STKA Stephens Creek 59.13 163 *e*P **P** **05 29 51.8 +0.2**
comp=Z,4.8nm,0.8s,mb4.6
STKA Stephens Creek 59.13 163 P **P** **05 29 51.0 -0.6**
comp=Z,3.8nm,0.5s,mb4.7,baz=335,slow=7.8,SNR=13
STKA pP pP 05 30 18.5 +1.6
comp=Z,2.1nm,0.7s,baz=3.6,slow=8.4,SNR=2.5
SDPT Sand Point 61.17 39 *e*P **P** **05 30 04.1 -1.5**
comp=Z,21nm,0.6s,mb5.3
IMA2 Indian Mountai 63.88 27 *e*P **P** **05 30 23.5 0.0**
SLKM Skilak Lake 66.06 33 *e*P **P** **05 30 37.0 -0.6**
MCK McKinley 66.15 29 *e*P **P** **05 30 38.5 +0.3**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
MCK McKinley 66.15 29 *e*P **P** **05 30 38.5 +0.3**
comp=Z,6.5nm,0.7s,mb4.6
PMR Palmer 66.40 31 *e*P **P** **05 30 39.5 -0.3**
PMR pmax pmax
comp=Z,14nm,0.6s,mb5.0
PMR Palmer 66.40 31 *e*P **P** **05 30 39.5 -0.3**
comp=Z,14nm,0.6s,mb5.0
COLA College 66.43 28 *e*P **P** **05 30 40.6 +0.6**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
COLA College 66.43 28 *e*P **P** **05 30 40.6 +0.6**
comp=Z,6.8nm,0.7s,mb4.6
SML Sawmill 66.74 31 *e*P **P** **05 30 41.9 -0.1**
GOF Gofitskoye 66.75 310 *e*P **P** **05 30 37.2 -4.9**
KIV Kislovodsk 67.25 309 *e*P **P** **05 30 45.9 +0.7**
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KIV Kislovodsk 67.25 309 *e*P **P** **05 30 45.9 +0.7**
comp=Z,6.5nm,0.7s,mb4.6
KEV Kevo 69.09 338 *e*p **P** **05 30 54.8 -1.9**
comp=Z,1.3nm,0.4s,mb4.1
KEV Kevo 69.09 338 *e*P **P** **05 30 54.8 -1.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
EGAK Eagle 69.25 27 *e*P **P** **05 30 57.6 -0.1**
comp=Z,8.1nm,0.7s,mb4.7
ARCES ARCESS Array B 69.66 338 P **P** **05 30 58.5 -1.7**
comp=Z,1.7nm,0.8s,mb4.0,baz=79,slow=8.4,SNR=11
ARCES ARCESS Array B 69.66 338 P **P** **05 30 58.6 -1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
DAWY Dawson 70.18 28 *e*P **P** **05 31 03.7 +0.3**
INK Inuvik 71.08 23 *e*P **P** **05 31 08.5 -0.4**
comp=Z,236nm,0.7s
MALT Malatya 71.89 304 *e*P **P** **05 31 14.2 +0.5**
MALT pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
MALT Malatya 71.89 304 *e*P **P** **05 31 14.2 +0.5**
comp=Z,4.1nm,0.7s,mb4.4
FINES FINESS Array B 72.02 330 P **P** **05 31 13.7 -0.8**
comp=Z,3.0nm,0.4s,mb4.4,baz=63,slow=5.5,SNR=36
FINES FINESS Array B 72.02 330 P **P** **05 31 13.7 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.4s
SKAG Skagway 73.53 32 *e*P **P** **05 31 24.6 +1.1**
comp=Z,26nm,0.9s,mb5.0
AKASG Malin Array Be 74.06 319 P **P** **05 31 25.1 -1.4**
comp=Z,0.9nm,0.4s,mb3.9,baz=59,slow=6.6,SNR=5.1
AKASG pP pP 05 31 53.7 +0.9
comp=Z,0.9nm,0.5s,baz=57,slow=5.5,SNR=2.5
AKASG Malin Array Be 74.06 319 P **P** **05 31 25.2 -1.3**
AKASG *PP pP 05 31 53.7 +0.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 74.06 319 P **P** **05 31 25.1 -1.4**
AKASG pP pP 05 31 53.7 +0.9
AKBB Malin Array Si 74.06 319 *e*P **P** **05 31 25.2 -1.3**
BR131 Keskin Array S 74.94 307 *e*P **P** **05 31 31.6 -0.1**
comp=Z,1.0nm,0.5s,mb3.8
BRTR Keskin Array B 74.94 307 P **P** **05 31 31.9 +0.3**
comp=Z,2.8nm,0.6s,mb4.2,baz=85,slow=4.7,SNR=20
BRTR pP pP 05 32 00.8 +2.8
comp=Z,1.6nm,0.8s,baz=104,slow=5.2,SNR=3.4
BRTR Keskin Array B 74.94 307 P **P** **05 31 32.0 +0.3**
BRTR *PP pP 05 32 00.9 +2.9
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KWP Kalwaria 78.33 319 *e*P **P** **05 31 50.6 -0.1**
KWP pmax pmax
comp=Z,11nm,0.9s,mb4.6
KWP Kalwaria 78.33 319 *e*P **P** **05 31 50.6 -0.1**
comp=Z,11nm,0.9s,mb4.6
NB2 NORSAR Subarra 78.66 333 P **P** **05 31 51.5 -1.0**
comp=Z,1.6nm,0.5s,mb4.1,baz=53,slow=6.2
NOA NORSAR Array B 78.66 333 P **P** **05 31 51.0 -1.5**
comp=Z,2.6nm,0.7s,mb4.2,baz=56,slow=5.5,SNR=8.7
NOA NORSAR Array B 78.66 333 P **P** **05 31 51.0 -1.5**
NOA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 80.78 24 P **P** **05 32 03.8 -0.2**
comp=Z,9.1nm,0.5s,mb4.9,baz=304,slow=5.4,SNR=80
YKA pP pP 05 32 32.6 +1.9
comp=Z,2.6nm,0.7s,baz=310,slow=5.1,SNR=3.6
YKA Yellowknife Ar 80.78 24 P **P** **05 32 03.8 -0.2**
YKA *PP pP 05 32 32.6 +1.9
YKA pmax pmax
comp=Z,9.0nm,0.5s
YKA pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 81.25 321 *e*P **P** **05 32 06.3 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MORC Moravsky Berou 81.25 321 *e*P **P** **05 32 06.2 -0.2**
comp=Z,3.8nm,0.9s,mb4.2
GERES GERESS Array B 83.89 322 P **P** **05 32 19.7 -0.5**
comp=Z,3.1nm,0.8s,mb4.2,baz=57,slow=4.9,SNR=16
GERES GERESS Array B 83.89 322 P **P** **05 32 19.7 -0.5**
GERES pmax pmax
comp=Z,3.0nm,0.9s
EDM Edmonton 87.16 31 *e*P **P** **05 32 37.2 +0.8**
NEW Newport 88.37 36 *e*P **P** **05 32 43.2 +1.0**
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 88.37 36 *e*P **P** **05 32 43.2 +1.1**
comp=Z,5.0nm,0.7s,mb4.7
HLID Hailey 92.76 39 *e*P **P** **05 33 04.7 +2.1**
comp=Z,2.3nm,0.8s,mb4.6

NEIC ***23*** *05:30:11.0, 1595N×97.13W, h17km, MD3.8(MEX), After MEX.*

MEX 23 05:30:11.2±0.9, 1596N×9714W, h20km±79km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.05**	**295**	*i* P	Pb	05 30 27.3	-3.3
PNIG				*i* S	Sb	05 30 40.3	-3.5
VHO	**Vista Hermosa**	**1.17**	**19**	*i* P	Pn	05 30 29.0	-3.5
VHO				*i* S	Sb	05 30 43.0	-4.5
OXX	**Oaxaca**	**1.19**	**19**	*i* P	Pn	05 30 30.0	-2.6
OXX				*i* S	Sb	05 30 44.0	-3.9
UTMO	**Huajupapan**	**1.97**	**341**	*i* P	Pn	05 30 41.9	-1.5
UTMO				*i* S	Sn	05 31 04.2	-3.3
CMIG	**Matias Romero**	**2.44**	**62**	*i* P	Pn	05 30 46.8	-3.0
CMIG				*i* S	Sn	05 31 16.2	-2.8
TPIG	**Tehuac#an**	**2.46**	**355**	*e*P	Pn	05 30 49.4	-0.7
TPIG				*i* S	Sn	05 31 16.6	-3.0

ISCJB ***23*** *05:44:15.4±2.0, 4629N±007×15481E±007, h1km±12km, mb4.3/36, Error ellipse: s-maj=13.4km s-min=7.0km az=125.9*
NEIC ***23*** *05:44:17.9±0.4, 4618N×15478E, h10km, mb4.5/12, Error ellipse: s-maj=11.6km s-min=6.0km az=156.0*
IDC ***23*** *05:44:17.3±0.7, 4639N×15489E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.2/25, mbtmp4.0/17, ML4.0/1, Error ellipse: s-maj=20.9km s-min=15.1km az=160.0*
BJI ***23*** *05:44:19.8, 4691N×15435E, h7km, mB5.1, mb4.6*
MOS ***23*** *05:44:21.9±1.4, 4634N×15455E, h54km, mb4.4/15, Error ellipse: s-maj=12.8km s-min=9.0km az=79.6*

ISC 23 05:44:18.3±2.4, 4649N±007×15481E±007, h3km±15km, h18km±1.1km: pP-P, n81, σ1°04/82, mb4.3/36, 4C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.28**	**11**	*e*PN	**Pn**	**05 45 27.5**	**+3.2**
PET	**Petropavlovsk**	**7.00**	**19**	Pn	**Pn**	**05 46 05.6**	**+4.0**
PET				*e*Sn	**Sn**	**05 47 21.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.29**	**278**	*e*PN	**Pn**	**05 46 16.1**	**-3.3**
ASAJ	**Asahikawa**	**8.93**	**259**	Pn	**Pn**	**05 46 28.2**	**+0.2**
	1.8nm,0.3s,baz=95,slow=22,SNR=4.4						
ASAJ	**Asahikawa**	**8.93**	**259**	PN	**Pn**	**05 46 28.2**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.89**	**237**	Pn	**Pn**	**05 47 58.1**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=33,slow=12,SNR=6.2						
MAJO	**Matsushiro**	**15.89**	**237**	*e*P	**Pn**	**05 47 58.9**	**-3.8**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**15.89**	**237**	*e*P	**Pn**	**05 47 58.9**	**-3.8**
	comp=Z,14nm,0.9s						
MAJO				*e*		05 48 06.1	
MAT	**Matsushiro**	**15.89**	**237**	P	**Pn**	**05 47 59.2**	**-3.5**
MDJ	**Mudanjiang**	**17.74**	**273**	*e*P	**Pn**	**05 48 23.9**	**-2.3**
	comp=Z,10nm,0.7s						
YAK	**Yakutsk**	**21.18**	**326**	*e*P	**P**	**05 49 03.2**	**-1.4**
YAK				pmax	pmax		
	comp=Z,45nm,2.5s,mb4.4						
KSRS	**Korea Array**	**21.85**	**255**	P	**P**	**05 49 12.2**	**+0.4**
	comp=Z,3.7nm,0.8s,mb3.8,baz=64,slow=10,SNR=6.3						
BILL	**Bilibino**	**22.40**	**11**⇑ *i*P		**P**	**05 49 19.3**	**+1.6**
BILL				*e*		05 53 11.4	
BILL				*e*S	**S**	**05 53 25.8**	**+1.3**
BILL				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.2						
BILL	**Bilibino**	**22.40**	**11**	*e*P	**P**	**05 49 18.8**	**+1.1**
	comp=Z,10nm,0.9s,mb4.3						
TIXI	**Tiksi**	**28.05**	**343**	*e*P	**P**	**05 50 08.8**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
ULN	**Ulaanbaatar**	**32.08**	**290**	*e*P	**P**	**05 50 46.7**	**+0.3**
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**05 50 50.2**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=70,slow=7.0,SNR=2.7						
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**05 50 50.2**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**35.62**	**38**	*i* P	**P**	**05 51 17.6**	**+0.5**
EGAK	**Eagle**	**38.48**	**38**	*e*P	**P**	**05 51 39.6**	**-1.8**
	comp=Z,9.9nm,1.0s,mb4.5						
LZH	**Lanzhou**	**39.06**	**273**	*e*P	**P**	**05 51 49.5**	**+3.2**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
LZH	**Lanzhou**	**39.06**	**273**	*e*P	**P**	**05 51 49.5**	**+3.2**
	comp=Z,17nm,1.2s,mb4.7						
LZH				pP	pP	05 51 55.1	+7.7
LZH				sP	sP	05 51 58.3	+10
GTA	**Gaotai**	**40.16**	**280**	*e*P	**P**	**05 51 56.8**	**+1.3**
GTA				AP	pP	05 52 02.3	+5.7
GTA				XP	sP	05 52 05.3	+8.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
INK	**Inuvik**	**41.24**	**32**	P	**P**	**05 52 04.9**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.1,baz=292,slow=7.4,SNR=32						
INK	**Inuvik**	**41.24**	**32**	*e*P	**P**	**05 52 04.8**	**+0.4**
	comp=Z,141nm,0.9s						
WMQ	**Urumqi**	**46.10**	**292**⇑ *i*P		**P**	**05 52 43.5**	**-0.1**
WMQ				AP	pP	05 52 48.0	+3.4
WMQ				XP	sP	05 52 50.5	+5.4
WMQ				PCP	PcP	05 54 19.6	-0.2
WMQ				PP	PP	05 54 32.1	+0.5
WMQ				S	**S**	**05 59 28.8**	**-1.1**
WMQ				XS	sS	05 59 36.0	+4.3
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,136nm,3.5s						
MK31	**Makanchi Array**	**48.09**	**298**	*e*P	**P**	**05 52 58.9**	**-0.2**
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**05 52 59.1**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=69,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**05 52 59.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.43**	**37**	P	**P**	**05 53 17.2**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=294,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**50.43**	**37**	P	**P**	**05 53 17.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**05 53 27.9**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=69,slow=8.4,SNR=7.4						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**05 53 27.9**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**05 53 28.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**05 53 28.3**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**54.99**	**297**⇑ *e*P		**P**	**05 53 49.5**	**-1.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**54.99**	**297**	*e*P	**P**	**05 53 49.6**	**-1.1**
	comp=Z,18nm,1.7s,mb4.8						
EDM	**Edmonton**	**55.65**	**47**	*e*P	**P**	**05 53 54.4**	**-1.1**
ARU	**Arti**	**55.98**	**318**⇓ *i*P		**P**	**05 53 57.6**	**-0.3**
ARU				*e*		05 56 04.9	
ARU				*e*S	**S**	**06 01 46.2**	**-0.5**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**55.98**	**318**	*e*P	**P**	**05 53 57.3**	**-0.6**
	comp=Z,10nm,0.7s,mb5.0						
JIRN	**Jiri**	**56.13**	**276**	*e*P	**P**	**05 53 59.9**	**+1.0**
GUN	**Gumba**	**56.19**	**276**	*e*P	**P**	**05 54 00.2**	**+0.9**
KKN	**Kakani**	**56.67**	**277**	*e*P	**P**	**05 54 04.1**	**+1.3**
	comp=Z,18nm,0.6s,mb5.3						
PKI	**Pulchoki**	**56.72**	**276**	*e*P	**P**	**05 54 04.0**	**+0.8**
DMN	**Daman**	**56.91**	**277**	*e*P	**P**	**05 54 05.8**	**+1.3**
	comp=Z,27nm,0.8s,mb5.4						
GKN	**Gorkha**	**56.98**	**277**	*e*P	**P**	**05 54 05.9**	**+0.9**
	comp=Z,26nm,0.8s,mb5.3						
KOLN	**Koldanda**	**57.84**	**278**	*e*P	**P**	**05 54 12.1**	**+1.1**
	comp=Z,20nm,0.9s,mb5.2						
AKTK	**Aktyubinsk**	**59.76**	**313**	P	**P**	**05 54 24.5**	**+0.1**
AKTO	**Aktyubinsk**	**59.76**	**313**	P	**P**	**05 54 24.5**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.4,baz=73,slow=7.4,SNR=10						
AKTO	**Aktyubinsk**	**59.76**	**313**	P	**P**	**05 54 24.5**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**61.52**	**63**	P	**P**	**05 54 35.7**	**-0.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=292,slow=9.6,SNR=4.3						
LAO	**LASA Array**	**63.24**	**50**	*e*P	**P**	**05 54 48.4**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.6						
DUG	**Dugway**	**63.72**	**59**	*e*P	**P**	**05 54 51.3**	**+0.2**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
DUG	**Dugway**	**63.72**	**59**	*e*P	**P**	**05 54 51.3**	**+0.2**
	comp=Z,1.8nm,0.9s,mb4.1						
BW06	**Boulder Array**	**63.95**	**55**	*e*P	**P**	**05 54 52.0**	**-0.6**
	comp=Z,4.4nm,1.3s,mb4.3						
PDAR	**Pinedale Array**	**63.95**	**55**	P	**P**	**05 54 51.8**	**-0.8**
	comp=Z,1.5nm,1.0s,mb4.0,baz=287,slow=1.9,SNR=9.2						
MPU	**Maple Canyon**	**64.53**	**58**	*e*P	**P**	**05 54 57.3**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**05 54 56.6**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=51,slow=7.0,SNR=8.2						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**05 54 56.6**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SRU	**San Rafael**	**65.77**	**58**	*e*P	**P**	**05 55 04.5**	**0.0**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
SRU	**San Rafael**	**65.77**	**58**	*e*P	**P**	**05 55 04.5**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2						
ISCO	**Idaho Springs**	**68.14**	**55**	*e*P	**P**	**05 55 19.9**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**68.14**	**55**	*e*P	**P**	**05 55 19.9**	**+0.3**
	comp=Z,3.6nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**68.67**	**201**	P	**P**	**05 55 23.3**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=9.7,slow=6.5,SNR=5.7						
WRA	**Warramunga Arr**	**68.67**	**201**	P	**P**	**05 55 24.0**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.67**	**201**	P	**P**	**05 55 23.3**	**+0.5**
NB2	**NORSAR Subarra**	**68.84**	**342**	P	**P**	**05 55 27.8**	**+3.9**
	comp=Z,0.1nm,0.6s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.84**	**342**	P	**P**	**05 55 24.8**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=26,slow=6.4,SNR=4.2						
NOA	**NORSAR Array B**	**68.84**	**342**	P	**P**	**05 55 24.8**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.35**	**200**	P	**P**	**05 55 43.6**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=16,slow=5.1,SNR=13						
ASAR	**Alice Springs**	**72.35**	**200**	P	**P**	**05 55 43.6**	**-1.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.60**	**62**	P	**P**	**05 56 09.4**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=304,slow=4.3,SNR=22						
TXAR	**Lajitas Array**	**76.60**	**62**	P	**P**	**05 56 09.5**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**77.17**	**337**	*e*P	**P**	**05 56 13.0**	**-0.3**
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**	**05 56 24.5**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=34,slow=5.0,SNR=7.3						
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**	**05 56 24.5**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**79.37**	**318**	P	**P**	**05 56 25.8**	**+0.3**
	comp=Z,1.3nm,1.0s,mb3.8,baz=50,slow=3.9,SNR=5.6						
BRTR	**Keskin Array B**	**79.37**	**318**⇑ *e*P		**P**	**05 56 25.7**	**+0.2**
SNAA	**Sanae**	**152.62**	**195**	*e*PKPdf	PKPbc	06 04 14.8	-1.4
SNAA				*e*		06 04 23.0	
VNA2	**Neumayer--Watz**	**154.03**	**193**	*e*PKPdf	PKPdf	06 04 08.9	-2.3
VNA2				*e*		06 04 13.4	
VNA2				*e*		06 04 22.6	
VNA2				*e*		06 04 29.6	
VNA2				*e*		06 04 31.9	
VNA2				*e*		06 04 35.3	
VNA2				*e*		06 04 52.8	
VNA2				*e*		06 05 03.2	
VNA3	**Neumayer Olymp**	**154.09**	**191**	*e*PKPdf	PKPab	06 04 29.3	-3.6
VNA3				*e*		06 04 31.5	

NEIC ***23*** *05:45:58.7±0.6, 4828N×15368E, h10km, mb4.2/1, Error ellipse: s-maj=20.1km s-min=11.0km az=148.0*
ISCJB ***23*** *05:46:05.1±1.2, 4831N±0.1×1538E±0.1, h79km±10km, mb4.0/11, Error ellipse: s-maj=23.1km s-min=7.6km az=99.7*
MOS ***23*** *05:46:05.3±1.1, 4829N×15372E, h81km, mb4.0/8, Error ellipse: s-maj=22.9km s-min=12.2km az=61.4*
IDC ***23*** *05:46:09.2±3.9, 4814N×15368E, h105km±38km, mb3.7/10, mb1 4.0/12, mb1mx3.7/25, mbtmp3.7/12, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=24.8km s-min=17.6km az=163.0*

ISC 23 05:46:06.8±1.1, 4831N±01×1538E±01, h81km±9km, n31, σ0°91/31, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.85**	**32**	*e*PN	**Pn**	**05 46 48.5**	**-1.7**
SKR				*e*S	**Sn**	**05 47 23.5**	**-0.1**
SKR				pmax	pmax		
	comp=N,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,180nm,0.5s						
SKR				smax			
	comp=N,480nm,0.5s						
SKR				smax			
	comp=E,540nm,0.5s						
SKR		

	comp=Z,79nm,0.8s								
PET					smax				
	comp=E,259nm,0.8s								
PET					smax				
	comp=N,188nm,0.6s								
PET					MLR	MLR			
	comp=Z,100nm,11.0s								
YSS	**Yuzh-Sakhalins**	**7.55**	**264**		PN	**Pn**	**05 47 56.0**	**+1.9**
ASAJ	**Asahikawa**	**8.78**	**246**		P	**Pn**	**05 48 12.3**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=88,slow=14,SNR=2.6								
ASAJ	**Asahikawa**	**8.78**	**246**		PN	**Pn**	**05 48 12.3**	**+1.3**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**16.38**	**230**		P	**Pn**	**05 49 50.0**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=58,slow=17,SNR=2.9								
MJAR					LR	LR	05 56 38.0		
	comp=Z,94nm,18.5s,baz=40,slow=39								
IMA2	**Indian Mountai**	**32.32**	**37**	*eP*		**P**	**05 52 28.5**	**+0.3**
COLA	**College**	**34.67**	**40**	*eP*		**P**	**05 52 49.4**	**+0.8**
COLA					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.0								
COLA	**College**	**34.67**	**40**	*eP*		**P**	**05 52 49.4**	**+0.8**
	comp=Z,1.4nm,0.4s,mb4.1								
INK	**Inuvik**	**40.13**	**33**		P	**P**	**05 53 35.3**	**+0.6**
	comp=Z,6.1nm,0.5s,mb4.7,baz=296,slow=7.0,SNR=38								
INK	**Inuvik**	**40.13**	**33**		P	**P**	**05 53 35.3**	**+0.6**
INK					pmax	pmax			
	comp=Z,6.0nm,0.5s								
MK31	**Makanchi Array**	**46.63**	**296**	*eP*		**P**	**05 54 25.3**	**-1.7**
MKAR	**Makanchi Array**	**46.63**	**296**		P	**P**	**05 54 26.5**	**-0.5**
	comp=Z,1.7nm,0.7s,mb3.9,baz=63,slow=7.6,SNR=6.8								
MKAR	**Makanchi Array**	**46.63**	**296**		P	**P**	**05 54 26.5**	**-0.5**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**49.44**	**38**		P	**P**	**05 54 48.9**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=294,slow=6.9,SNR=4.7								
YKA	**Yellowknife Ar**	**49.44**	**38**		P	**P**	**05 54 48.9**	**+0.2**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**49.44**	**38**		P	**P**	**05 54 48.9**	**+0.3**
BVAR	**Borovoye Array**	**50.22**	**309**		P	**P**	**05 54 54.3**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=69,slow=4.8,SNR=3.7								
BVAR	**Borovoye Array**	**50.22**	**309**		P	**P**	**05 54 54.3**	**-0.3**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NVAR	**Mina Array Bea**	**61.35**	**63**		P	**P**	**05 56 14.9**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=302,slow=8.4,SNR=12								
FINES	**FINESS Array B**	**62.83**	**335**		P	**P**	**05 56 24.1**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=42,slow=6.8,SNR=6.5								
FINES	**FINESS Array B**	**62.83**	**335**		P	**P**	**05 56 24.1**	**+0.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
PDAR	**Pinedale Array**	**63.50**	**55**		P	**P**	**05 56 28.6**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=298,slow=2.2,SNR=15								
ASAR	**Alice Springs**	**73.80**	**199**		P	**P**	**05 57 31.6**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.4,baz=12,slow=5.8,SNR=5.4								
ASAR	**Alice Springs**	**73.80**	**199**		P	**P**	**05 57 31.6**	**-0.9**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**76.37**	**61**		P	**P**	**05 57 47.8**	**+0.5**
	comp=Z,2.9nm,0.6s,mb4.2,baz=301,slow=4.3,SNR=22								
TXAR	**Lajitas Array**	**76.37**	**61**		P	**P**	**05 57 47.8**	**+0.5**
TXAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
GERES	**GERESS Array B**	**77.26**	**334**		P	**P**	**05 57 52.6**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=22,slow=4.3,SNR=4.1								
GERES	**GERESS Array B**	**77.26**	**334**		P	**P**	**05 57 52.6**	**+0.3**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CFAA	**Coronel Fontan**	**144.27**	**78**		PKP	PKPdf	06 05 30.4	-3.0	
	comp=Z,0.1nm,0.5s,baz=263,slow=5.2,SNR=4.7								
CFAA	**Coronel Fontan**	**144.27**	**78**		PKP	PKPdf	06 05 30.4	-3.0	

NEIC ***23*** *05:57:31.8, 1598N×9790W, h17km, MD3.8(MEX), After MEX.*

MEX 23 05:57:32.8±0.8, 1606N×9789W, h15km±21km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**326**	*i* P		Pg	05 57 40.0	-1.0
PNIG				*i* S		Sg	05 57 45.9	-0.5
VHO	**Vista Hermosa**	**1.50**	**48**	*i* P		Pn	05 57 55.4	-3.8
VHO				*i* S		Sn	05 58 13.8	-4.7
OXX	**Oaxaca**	**1.51**	**48**	*e*P		Pn	05 57 56.0	-3.3
OXX				*i* S		Sn	05 58 14.5	-4.2
UTMO	**Huajuapan**	**1.76**	**3**	*i* P		Pn	05 58 00.4	-2.3
UTMO				*i* S		Sn	05 58 19.9	-5.0
ACX	**Acapulco**	**2.10**	**293**	*e*P		Pn	05 58 09.0	+1.6
TPIG	**Tehuac#an**	**2.40**	**12**	*i* P		Pn	05 58 09.1	-2.5
TPIG				*i* S		Sn	05 58 37.1	-3.5
MEIG	**Mezcala**	**2.49**	**319**	*i* P		Pn	05 58 10.0	-2.7
MEIG				*i* S		Sn	05 58 38.6	-4.2
PLIG	**Platanillo**	**2.79**	**327**	*e*P		Pn	05 58 13.9	-2.9
PLIG				*i* S		Sn	05 58 45.7	-4.5
PLIG	**Platanillo**	**2.79**	**327**	*i* P		Pn	05 58 16.9	+0.1
PLIG				*i* S		Sn	05 58 48.2	-2.0

WEL 23 06:07:20.9±0.4, 3679S×17724E, h208km±3km, ML3.7/7, Error ellipse: s-maj=6.3km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.15**	**133**		PN	Pn	06 07 52.4	-0.1
MXZ					SN	Sn	06 08 17.7	+0.5
URZ	**Urewera**	**1.48**	**184**		PN	Pn	06 07 55.2	+0.1
URZ					SN	Sn	06 08 21.6	-0.2
PUZ	**Puketiti**	**1.52**	**148**		PN	Pn	06 07 55.3	-0.2
PUZ					SN	Sn	06 08 21.9	-0.5
MWZ	**Matawai**	**1.56**	**172**		PN	Pn	06 07 56.3	+0.4
MWZ					SN	Sn	06 08 22.6	-0.5
KNZ	**Kokohu**	**2.26**	**171**		PN	Pn	06 08 02.8	+0.1
BKZ	**Black Stump Fm**	**2.45**	**194**		PN	Pn	06 08 05.1	+0.4
PXZ	**Pawanui**	**3.25**	**185**		PN	Pn	06 08 13.6	-0.3

ISCJB ***23*** *06:13:19.9±2.3, 47.1N±0.1×1539E±0.1, h16km±17km, mb4.2/20, MS3.2/1, Error ellipse: s-maj=21.8km s-min=9.6km az=93.1*

NEIC ***23*** *06:13:19.9±1.2, 4709N×15385E, h10km, mb3.6/1, Error ellipse: s-maj=29.9km s-min=11.0km az=128.0*

MOS ***23*** *06:13:21.4±1.2, 47.12N×153.75E, h27km, mb4.4/9, Error ellipse: s-maj=15.6km s-min=10.3km az=73.5*

IDC ***23*** *06:13:26.4±4.8, 47.18N×15388E, h57km±43km, mb3.7/12, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/34, Error ellipse: s-maj=25.3km s-min=22.0km az=155.0*

ISC 23 06:13:22.9±2.4, 471N±01×1539E±01, h25km±18km, n45, σ1§20/45, mb4.2/20, MS3.2/1, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.84**	**22**	*e*PN		**Pn**	**06 14 21.0**	**+0.6**
ASAJ	**Asahikawa**	**8.47**	**253**		P	**Pn**	**06 15 26.6**	**+2.7**
	0.9nm,0.3s,baz=90,slow=18,SNR=3.6								
ASAJ	**Asahikawa**	**8.47**	**253**		PN	**Pn**	**06 15 26.7**	**+2.7**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**9.21**	**240**	*e*PN		**Pn**	**06 15 33.2**	**-0.9**
MJAR	**Matsushiro Arr**	**15.73**	**233**		P	**Pn**	**06 17 00.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=23,slow=4.4,SNR=2.6								
MAJO	**Matsushiro**	**15.73**	**233**	*e*P		**Pn**	**06 17 01.2**	**-1.6**
MAJO					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MAJO	**Matsushiro**	**15.73**	**233**	*e*Pn		**Pn**	**06 17 01.2**	**-1.6**
	comp=Z,2.0nm,0.6s								
KSRS	**Korea Array**	**21.42**	**253**		P	**P**	**06 18 09.8**	**+0.9**
	comp=Z,2.1nm,0.5s,mb3.7,baz=68,slow=9.1,SNR=4.4								
BILL	**Bilibino**	**21.90**	**12**	*e*P		**P**	**06 18 16.5**	**+2.4**
BILL				*e*			06 22 09.4		
BILL					pmax	pmax			
	comp=Z,11nm,2.2s,mb3.9								
TIXI	**Tiksi**	**27.25**	**343**	*e*P		**P**	**06 19 04.6**	**-0.4**
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.7s,mb3.8								
ULN	**Ulaanbaatar**	**31.27**	**289**	*e*P		**P**	**06 19 40.3**	**-0.4**
SONM	**Songino Array**	**31.71**	**289**		P	**P**	**06 19 44.3**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=73,slow=9.2,SNR=4.6								
SONM					LR	LR	06 34 31.1		
	comp=Z,53nm,18.2s,MS3.2,baz=69,slow=40								
SONM	**Songino Array**	**31.71**	**289**		P	**P**	**06 19 44.3**	**-0.2**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM					MLR	MLR			
	comp=Z,53nm,18.2s								
COLA	**College**	**35.51**	**39**	*i*P		**P**	**06 20 18.3**	**+0.7**
INK	**Inuvik**	**41.04**	**33**		P	**P**	**06 21 03.3**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.5,baz=313,slow=9.3,SNR=10								
INK	**Inuvik**	**41.04**	**33**		P	**P**	**06 21 03.3**	**-0.9**
INK					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MK31	**Makanchi Array**	**47.23**	**297**	*e*P		**P**	**06 21 52.8**	**-1.0**
MKAR	**Makanchi Array**	**47.23**	**297**		P	**P**	**06 21 52.9**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=69,slow=7.6,SNR=13								
MKAR	**Makanchi Array**	**47.23**	**297**		P	**P**	**06 21 52.9**	**-0.9**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**51.02**	**309**		P	**P**	**06 22 20.9**	**-1.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=61,slow=6.9,SNR=7.0								
BVAR	**Borovoye Array**	**51.02**	**309**		P	**P**	**06 22 20.9**	**-1.9**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ARU	**Arti**	**55.09**	**318**	*i*P		**P**	**06 22 51.4**	**-1.4**
ARU				*e*PPP			06 26 03.3		
ARU				*e*S		**S**	**06 30 33.3**	**-0.6**
ARU				*e*SS		SS	06 34 16.0	-1.8
ARU				*e*SSS			06 36 21.9		
ARU					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
JIRN	**Jiri**	**55.44**	**275**	*e*P		**P**	**06 22 57.1**	**+1.8**
GUN	**Gumba**	**55.49**	**275**	*e*P		**P**	**06 22 56.7**	**+1.0**
	comp=Z,7.2nm,0.4s,mb5.1								
KKN	**Kakani**	**55.98**	**276**	*e*P		**P**	**06 23 00.5**	**+1.3**
	comp=Z,11nm,0.6s,mb5.1								
PKI	**Pulchoki**	**56.03**	**275**	*e*P		**P**	**06 23 00.7**	**+1.2**
DMN	**Daman**	**56.21**	**276**	*e*P		**P**	**06 23 02.4**	**+1.6**
	comp=Z,30nm,0.8s,mb5.3								
GKN	**Gorkha**	**56.28**	**276**	*e*P		**P**	**06 23 02.6**	**+1.3**
	comp=Z,18nm,0.6s,mb5.3								
KOLN	**Koldanda**	**57.13**	**277**	*e*P		**P**	**06 23 08.8**	**+1.4**
FINES	**FINESS Array B**	**63.92**	**335**		P	**P**	**06 23 52.6**	**-1.1**
	comp=Z,1.8nm,0.3s,mb4.5,baz=38,slow=7.5,SNR=32								
FINES	**FINESS Array B**	**63.92**	**335**		P	**P**	**06 23 52.6**	**-1.1**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.3s								
OBN	**Obninsk**	**65.29**	**326**	*e*P		**P**	**06 24 01.7**	**-0.9**
OBN				*e*			06 24 34.4		
OBN					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
NB2	**NORSAR Subarra**	**68.03**	**341**		P	**P**	**06 24 19.4**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.4,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.03**	**341**		P	**P**	**06 24 19.8**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.5,baz=26,slow=6.3,SNR=13								
NOA	**NORSAR Array B**	**68.03**	**341**		P	**P**	**06 24 19.8**	**-0.4**
NOA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**71.52**	**327**		P	**P**	**06 24 40.2**	**-1.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=34,slow=6.1,SNR=5.5								
AKASG	**Malin Array Be**	**71.52**	**327**		P	**P**	**06 24 42.0**	**+0.4**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ASAR	**Alice Springs**	**72.74**	**199**		P	**P**	**06 24 49.0**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=9.7,slow=5.5,SNR=6.0								
ASAR	**Alice Springs**	**72.74**	**199**		P	**P**	**06 24 49.9**	**+1.0**
TXAR	**Lajitas Array**	**76.84**	**61**		P	**P**	**06 25 11.9**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=293,slow=3.9,SNR=11								
TXAR	**Lajitas Array**	**76.84**	**61**		P	**P**	**06 25 12.0**	**-0.7**
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**78.34**	**334**		P	**P**	**06 25 20.5**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=29,slow=6.6,SNR=4.2								
BRTR	**Keskin Array B**	**78.47**	**317**		P	**P**	**06 25 21.9**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=107,slow=3.0,SNR=3.9								
BRTR	**Keskin Array B**	**78.47**	**317**		P	**P**	**06 25 22.7**	**+1.0**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
CFAA	**Coronel Fontan**	**144.40**	**79**		PKP	PKPdf	06 32 53.6	-3.3	
	comp=Z,0.3nm,0.5s,baz=257,slow=3.3,SNR=4.9								

IDC 23 06:19:21.2±1.1, 4650N×15345E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=46.7km s-min=29.7km az=114.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**50.99**	**37**		P	P	06 28 24.7	0.0
	0.9nm,0.6s,baz=294,slow=6.8,SNR=5.1							
FINES	**FINESS Array B**	**64.37**	**335**		P	P	06 29 58.1	-0.8
	1.8nm,1.0s,baz=37,slow=5.4,SNR=3.9							
ASAR	**Alice Springs**	**72.04**	**199**		P	P	06 30 47.0	+0.1
	0.5nm,0.5s,baz=11,slow=5.6,SNR=8.8							
TXAR	**Lajitas Array**	**77.42**	**61**		P	P	06 31 18.1	-0.1
	0.7nm,0.6s,baz=302,slow=4.6,SNR=12							

IDC 23 06:31:28.4±1.3, 4788N×15404E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=41.5km s-min=37.7km az=73.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.99**	**297**		P	P	06 39 59.2	-2.0
	0.2nm,0.4s,baz=64,slow=6.3,SNR=4.4							
FINES	**FINESS Array B**	**63.28**	**335**		P	P	06 42 00.0	+1.1
	1.3nm,0.7s,baz=27,slow=9.4,SNR=4.2							
ASAR	**Alice Springs**	**73.48**	**199**		P	P	06 43 03.1	+0.4
	0.3nm,0.6s,baz=21,slow=4.7,SNR=5.0							
TXAR	**Lajitas Array**	**76.39**	**61**		P	P	06 43 19.0	-0.6
	0.2nm,0.6s,baz=306,slow=4.2,SNR=3.9							

BJI ***23*** *07:15:14.3, 4839N×2163E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.4*

MOS ***23*** *07:15:18.5±1.0, 4824N×2256E, h9km, mb4.8/24, Error ellipse: s-maj=4.6km s-min=3.6km az=33.2*

NAO ***23*** *07:15:18.7±3.9, 4826N×2345E, ML3.0*

ISCJB ***23*** *07:15:19.2±0.4, 4839N±002×2254E±002, h15km±2km, mb4.6/40, MS3.7/20, Error ellipse: s-maj=2.5km s-min=1.9km az=13.4*

PRU ***23*** *07:15:19.6, 48.16N×2256E, h0km, M4.8*

IDC ***23*** *07:15:19.1±0.5, 4821N×2259E, h0km, mb4.3/16, mb1 4.4/24, mb1mx4.4/28, mbtmp4.3/24, ML4.2/9, MS3.5/17, Ms1 3.5/17, ms1mx3.4/37, Error ellipse: s-maj=8.6km s-min=6.4km az=13.0*

CSEM ***23*** *07:15:20.1±0.1, 4820N×2252E, h20km, Mes3.1, Error ellipse: s-maj=2.2km s-min=1.1km az=8.0*

NEIC ***23*** *07:15:20.6, 4820N×2246E, h10km, mb4.8/13, ML4.3(BRA), ML4.6(BUC), After BUC.*

NEIC Slight damage at Beregdaroc and in many other towns of Szabolcs-Szatmar-Bereg. Also slight damage at Berehove and Muzhiyevo, Ukraine. Felt at Mukacheve, Ukraine and at Baia Mare, Romania.

IPEC ***23*** *07:15:21.9±0.3, 4827N×2259E, h27km±2km, ML4.4/4, Error ellipse: s-maj=2.0km s-min=1.9km az=2.0*

SZGRF ***23*** *07:15:21.5, 4804N×2254E, h10km, mb4.0, Ukraine - Moldova - Southwestern Russia region*

ISC 23 07:15:20.6±0.4, 4835N±002×2259E±002, h13km±2km, h14km±1.4km: pP-P, n387, σ1§28/469, mb4.6/40, MS3.7/20, 31C-19D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZH	**Uzhgorod**	**0.34**	**325**	*e*P		**Pg**	**07 15 28.3**	**+0.7**
UZH				*i*			07 15 35.2	
UZH				smax				
	comp=N,38μm,0.8s							
UZH	**Uzhgorod**	**0.34**	**325**	*e*P		**Pg**	**07 15 28.0**	**+0.4**
UZH	**Uzhgorod**	**0.34**	**325**	P		**Pg**	**07 15 28.3**	**+0.7**
KOLS	**Kolonicke sedl**	**0.62**	**340**	*i* PG		**Pg**	**07 15 35.3**	**+2.6**
KOLS				*e*SG		**Sg**	**07 15 47.0**	**+6.0**
KOLS	**Kolonicke sedl**	**0.62**	**340**	*i* P		**Pg**	**07 15 35.3**	**+2.6**
KOLS				*e*			07 15 47.0	
KOLS					pmax	pmax			
	comp=N,39μm,0.6s							
RAK	**Rakhov**	**1.11**	**105**		P	**Pb**	**07 15 41.0**	**-0.8**
KWP	**Kalwaria**	**1.29**	**3**	*e*Pg		**Pg**	**07 15 46.3**	**+0.9**
KWP				*e*Sg		**Sg**	**07 15 58.2**	**-3.9**
KWP	**Kalwaria**	**1.29**	**3**	*e*Pg		**Pg**	**07 15 46.3**	**+0.9**
KWP				*e*Sg		**Sg**	**07 16 05.1**	**+3.0**
STHS	**Stebnicka Huta**	**1.39**	**321**	*e*PG		**Pg**	**07 15 49.6**	**+2.3**
STHS				*e*SN		**Sg**	**07 16 08.6**	**+3.2**
STHS					pmax	pmax			
	comp=N,3μm,0.5s							
STHS	**Stebnicka Huta**	**1.39**	**321**		P	**Pn**	**07 15 46.7**	**+1.0**
STHS	**Stebnicka Huta**	**1.39**	**321**	*e*Pg		**Pg**	**07 15 49.6**	**+2.3**
STHS				*e*Sn		**Sg**	**07 16 08.6**	**+3.2**
KECS	**Kecovo**	**1.41**	**276**	*e*PG		**Pg**	**07 15 48.0**	**+0.3**
KECS				*e*SN		**Sn**	**07 16 06.2**	**+1.8**
KECS	**Kecovo**	**1.41**	**276**	*e*P		**Pg**	**07 15 48.0**	**+0.3**
KECS				*e*			07 16 06.2	
KECS					pmax	pmax			
	comp=N,4μm,0.7s							
DRGR		**1.56**	**177**	*i*P		**Pn**	**07 15 46.4**	**-1.7**
DRGR		**1.56**	**177**	S		**Sn**	**07 16 05.5**	**-2.6**
DRGR		**1.56**	**177**	P		**Pn**	**07 15 46.4**	**-1.7**
DRGR				S		**Sn**	**07 16 05.5**	**-2.6**
DRGR		**1.56**	**177**	P		**Pn**	**07 15 46.6**	**-1.5**
KSV	**Kosov**	**1.65**	**90**	P		**Pn**	**07 15 49.8**	**+0.5**
LVV	**L'vov**	**1.75**	**32**	*e*P		**Pn**	**07 15 52.0**	**+1.3**
LVV				*e*S		**Sn**	**07 16 16.0**	**+3.1**
NIE	**Niedzica**	**1.85**	**306**	*e*P		**Pn**	**07 15 53.6**	**+1.6**
NIE				*e*S		**Sg**	**07 16 20.2**	**+0.2**
NIE	**Niedzica**	**1.85**	**306**	P		**Pn**	**07 15 53.4**	**+1.4**
PSZ	**Piszkesteto**	**1.86**	**258**	*i*P		**Pn**	**07 15 51.3**	**-0.8**
PSZ	**Piszkesteto**	**1.86**	**258**	*e*Pn		**Pn**	**07 15 51.6**	**-0.5**
PSZ				*e*Sg		**Sg**	**07 16 18.9**	**-1.5**
PSZ	**Piszkesteto**	**1.86**	**258**	*e*Pn		**Pn**	**07 15 51.7**	**-0.4**
PSZ				*e*SB		**Sb**	**07 16 19.0**	**+1.5**
PSZ	**Piszkesteto**	**1.86**	**258**	*e*Pn		**Pn**	**07 15 51.5**	**-0.6**
PSZ				*e*Sn		**Sb**	**07 16 19.0**	**+1.5**
BURAR	**Bucovina Array**	**1.91**	**112**	*i*P		**Pn**	**07 15 52.7**	**-0.2**
BURAR	**Bucovina Array**	**1.91**	**112**	S		**Sn**	**07 16 17.9**	**+1.1**
BURAR	**Bucovina Array**	**1.91**	**112**	P		**Pn**	**07 15 52.7**	**-0.2**
BURAR				S		**Sn**	**07 16 17.9**	**+1.1**
BURAR	**Bucovina Array**	**1.91**	**112**	P		**Pn**	**07 15 52.5**	**-0.4**
BURAR	**Bucovina Array**	**1.91**	**112**	P		**Pn**	**07 15 52.5**	**-0.4**
LIKS	**Likavka**	**2.41**	**288**	*e*PN		**Pn**	**07 16 00.2**	**+0.4**
VYHS	**Vyhne**	**2.50**	**275**	*e*PN		**Pn**	**07 16 01.4**	**+0.3**
VYHS				*e*PG		**Pg**	**07 16 08.0**	**-0.6**
VYHS				*e*SG		**Sg**	**07 16 42.3**	**+1.2**
VYHS	**Vyhne**	**2.50**	**275**	*e*P		**Pn**	**07 16 01.4**	**+0.3**
VYHS					pmax	pmax			
	comp=N,387nm,0.7s							
VYHS	**Vyhne**	**2.50**	**275**	P		**Pn**	**07 16 00.2**	**-0.9**
VYHS	**Vyhne**	**2.50**	**275**	*i*Pn		**Pn**	**07 16 01.3**	**+0.2**
VYHS	**Vyhne**	**2.50**	**275**	*e*Pg		**Pg**	**07 16 08.0**	**-0.6**
VYHS				*e*Sn		**Sn**	**07 16 30.9**	**-0.6**
BUD	**Budapest**	**2.55**	**251**	*e*Pn		**Pn**	**07 16 00.6**	**-1.1**
BUD				*e*Sg		**Sg**	**07 16 48.9**	**+6.3**
BUD	**Budapest**	**2.55**	**251**	P		**Pn**	**07 16 00.0**	**-1.7**
BUD	**Budapest**	**2.55**	**251**	*e*Pn		**Pn**	**07 16 00.5**	**-1.2**
OJC	**Ojcow**	**2.62**	**317**	*e*P		**Pn**	**07 16 03.4**	**+0.8**
OJC				*e*S		**Sg**	**07 16 44.1**	**-0.6**
OJC	**Ojcow**	**2.62**	**317**	*e*Pn		**Pn**	**07 16 03.3**	**+0.7**
OJC	**Ojcow**	**2.62**	**317**	P		**Pn**	**07 16 03.6**	**+1.0**
BZS	**Buzias**	**2.81**	**194**	*i*P		**Pn**	**07 16 03.6**	**-1.7**
BZS	**Buzias**	**2.81**	**194**	S		**Sn**	**07 16 36.0**	**-3.1**
BZS	**Buzias**	**2.81**	**194**	P		**Pn**	**07 16 03.6**	**-1.7**
BZS				S		**Sn**	**07 16 36.0**	**-3.1**
BZS	**Buzias**	**2.81**	**194**	P		**Pn**	**07 16 03.7**	**-1.6**
PKSG		**2.98**	**253**	*e*P		**Pn**	**07 16 04.1**	**-1.1**
OKC	**Ostrava-Krasne**	**3.28**	**299**	*e*PN		**Pn**	**07 16 12.7**	**+1.0**
OKC				*e*SN		**Sn**	**07 16 50.4**	**-0.1**
JAVC	**Velka Javorina**	**3.31**	**281**	P		**Pn**	**07 16 11.6**	**-0.5**
JAVC	**Velka Javorina**	**3.31**	**281**	*e*Pn		**Pn**	**07 16 12.7**	**+0.7**
JAVC				*e*Sn		**Sn**	**07 16 52.7**	**+1.5**
	comp=N,1μm,2.1s							
RAC	**Raciborz**	**3.36**	**303**	*e*Pg		**Pg**	**07 16 24.8**	**-0.3**
RAC				*e*Sg		**Sg**	**07 17 09.8**	**+1.1**
PKSM	**Moragy**	**3.43**	**233**	*i*P		**Pn**	**07 16 11.5**	**-2.3**
PKSM	**Moragy**	**3.43**	**233**	S		**Sb**	**07 17 00.5**	**-2.4**
PKSM	**Moragy**	**3.43**	**233**	P		**Pn**	**07 16 11.6**	**-2.2**
PKSM	**Moragy**	**3.43**	**233**	*e*Pn

KIEV pmax pmax
comp=Z,249nm,0.6s
KIEV Kiev 4.91 59 *e*Pn **Pn 07 16 33.9 -0.2**
comp=Z,249nm,0.6s
KIEV *e*Sn **Sn 07 17 28.6 -2.2**
AKASG Malin Array Be 4.92 59 Pn **Pn 07 16 34.0 -0.2**
comp=Z,20nm,0.3s,baz=245,slow=13,SNR=61
AKASG Sn **Sn 07 17 30.2 -0.9**
comp=Z,94nm,0.3s,baz=243,slow=24,SNR=7.2
AKASG Lg 07 17 48.3
comp=Z,284nm,0.3s,baz=234,slow=28,SNR=17
AKASG Malin Array Be 4.92 59 P **Pn 07 16 34.1 -0.2**
AKASG 07 17 30.2
AKASG pmax pmax
comp=Z,20nm,0.3s
AKASG smax
comp=N,94nm,0.3s
AKASG Malin Array Be 4.92 59 Pn **Pn 07 16 34.0 -0.3**
AKASG Sn **Sn 07 17 30.2 -0.9**
AKBB Malin Array Si 4.92 59 *e*Pn **Pn 07 16 33.9 -0.4**
AKBB *e*Sn **Sn 07 17 29.9 -1.2**
AKBB Malin Array Si 4.92 59 *e*Pn **Pn 07 16 33.9 -0.4**
AKBB *e*Sn **Sn 07 17 29.9 -1.2**
BBLS Bajina Basta - 5.00 207 *i* Pn **Pn 07 16 36.9 +1.6**
PRU Pruhonice 5.53 290 *e*PN **Pn 07 16 43.2 +0.6**
PRU *e*SN **Sn 07 17 45.0 -1.0**
PRU *e*SG **Sg 07 18 16.6 -1.5**
comp=N,226nm,1.0s
PRU Pruhonice 5.53 290 *e*Pn **Pn 07 16 43.2 +0.6**
comp=N,226nm,1.0s
PRU *e*Sn **Sn 07 17 45.0 -1.0**
PRU *e*Sg **Sg 07 18 16.6 -1.5**
PRU Pruhonice 5.53 290 *e*Pn **Pn 07 16 43.2 +0.6**
comp=N,226nm,1.0s
PRU *e*Sn **Sn 07 17 45.0 -1.0**
BARS Barje 5.55 186 *i* Pn **Pn 07 16 41.8 -1.2**
SZH Strazhica 5.59 154 *i* P **Pn 07 16 42.6 -0.9**
MOA Molln 5.60 268⇑ *i*P **Pn 07 16 44.0 +0.4**
comp=N,11nm,0.4s
MOA Molln 5.60 268 *e*Pn **Pn 07 16 44.2 +0.6**
PRA Prague 5.62 291 PN **Pn 07 16 43.0 -0.8**
PRA *ex* x 07 18 03.0
PVCC Panska Ves 5.67 296 *e*PN **Pn 07 16 45.2 +0.7**
PVCC *e*SN **Sn 07 17 48.2 -1.3**
SUW Suwalki 5.68 4 *e*Pn **Pn 07 16 46.3 +1.5**
SUW *e*Pg **Pg 07 17 14.5 +5.0**
SUW *e*Sg **Sg 07 18 29.1 +6.0**
OBKA Obir 5.76 254⇓ *i*P **Pn 07 16 46.0 +0.3**
comp=N,12nm,0.5s
OBKA Obir 5.76 254 Pn **Pn 07 16 46.0 +0.2**
comp=N,12nm,0.5s
VTS Vitosha 5.77 175⇑ *i*P **Pn 07 16 44.7 -1.3**
VTS Vitosha 5.77 175 *i* P **Pn 07 16 43.8 -2.2**
GEC2 GERESS Array S 5.92 278 *e*Pn **Pn 07 16 48.8 +0.8**
GERES GERESS Array B 5.92 278 Pn **Pn 07 16 48.8 +0.9**
comp=N,52nm,0.3s,baz=93,slow=14,SNR=896
GERES Sn **Sn 07 17 54.3 -1.3**
comp=N,8.2nm,0.3s,baz=93,slow=24,SNR=8.4
GERES LR LR 07 19 08.9
comp=N,296nm,20.4s,baz=98,slow=39
GERES GERESS Array B 5.92 278 P **Pn 07 16 48.8 +0.8**
GERES 07 17 54.3
GERES pmax pmax
comp=Z,52nm,0.3s
GERES smax
comp=N,8.0nm,0.3s
GERES MLR MLR
comp=Z,296nm,20.4s
GERES GERESS Array B 5.92 278 Pn **Pn 07 16 48.8 +0.9**
GERES Sn **Sn 07 17 54.3 -1.3**
GERES LR LR 07 19 08.9
KHC Kasperske Hory 6.01 281 *e*PN **Pn 07 16 49.7 +0.4**
KHC *e*SN **Sn 07 17 54.2 -3.8**
KHC x x 07 18 11.5
KHC Kasperske Hory 6.01 281 *e*P **Pn 07 16 49.7 +0.4**
KHC *e* 07 17 54.2
KHC Kasperske Hory 6.01 281 *e*Pn **Pn 07 16 49.7 +0.4**
KHC *e*Sn **Sn 07 17 54.2 -3.8**
KHC *e* 07 18 11.5
PRD Provadia 6.15 145 *e*P **Pn 07 16 45.8 -5.3**
BRG Berggiesshubel 6.16 297 *e*Pn **Pn 07 16 54.7 +3.4**
BRG Berggiesshubel 6.16 297 PN **Pn 07 16 54.1 +2.8**
BRG PG **Pg 07 17 22.2 +3.6**
BRG SG **Sg 07 18 36.0 -2.3**
comp=Z,62nm,1.2s
BRG
comp=N,389nm,8.1s
BRG
comp=E,598nm,7.0s
BRG
comp=Z,764nm,6.2s
BRG Berggiesshubel 6.16 297 Pn **Pn 07 16 54.1 +2.8**
comp=Z,62nm,1.3s
BRG Pg **Pg 07 17 22.2 +3.6**
BRG Sg **Sg 07 18 36.0 -2.3**
VOY Vojsko 6.36 252 *e*(Pn) **Pn 07 16 55.3 +1.2**
VOY *e* 07 17 01.3
VOY *e* 07 17 21.8
VOY *e* 07 17 27.3
VOY *e* 07 18 07.3
VOY *e* 07 18 16.0
KBA Koelnbreinsper 6.37 262⇑ *i*P **Pn 07 16 54.4 +0.2**
comp=Z,18nm,0.4s,SNR=14
KBA Koelnbreinsper 6.37 262 *e*Pn **Pn 07 16 54.5 +0.4**
WET Wettzell 6.47 281 *e*Pn **Pn 07 16 56.1 +0.5**
WET *e*Sn **Sn 07 18 07.3 -2.0**
CLL Collm 6.87 299 *e*P **Pn 07 17 02.0 +0.9**
CLL *i* 07 18 16.7
CLL Collm 6.87 299 *i* Pn **Pn 07 17 02.0 +0.9**
CLL *i* 07 18 16.7
CLL *e*Sg **Sg 07 19 04.0 +2.8**
CLL Collm 6.87 299 *e*Pn **Pn 07 17 02.0 +0.9**
CLL *i* Sn **Sn 07 18 16.7 -2.5**
CLL *i* x x 07 18 30.5
CLL *e*Sg **Sg 07 19 04.0 +2.8**
comp=Z,146nm,1.1s
NKC Novy Kostel 6.90 290 *e*PN **Pn 07 17 01.9 +0.5**
NKC *e*SG **Sg 07 19 00.3 -1.6**
comp=Z,401nm,1.7s
TANN Tannenbergstha 6.93 291 *e*Pn **Pn 07 17 03.0 +1.2**
WERN Wernitzgruen 6.95 290 *e*Pn **Pn 07 17 03.1 +0.9**
WERN *e*Sn **Sn 07 18 20.9 -0.2**
ROTZ Rotzenmuhle 6.97 286 *e*Pn **Pn 07 17 02.4 0.0**
ROTZ *e*Sn **Sn 07 18 20.6 -1.0**
MNK Minsk 6.98 26 *e*P **Pn 07 16 58.0 -4.5**
GUNZ Gunzen 7.00 291 *e*Pn **Pn 07 17 03.8 +1.0**
GUNZ *e*Sn **Sn 07 18 23.8 +1.6**
VAY Valandovo 7.03 180 *e*Pn **Pn 07 17 01.3 -1.9**
VAY *e*Sn **Sb 07 18 48.4 +2.1**
VAY Valandovo 7.03 180 *e*Pn **Pn 07 17 01.2 -2.0**
WERD Werda 7.03 291 *e*Pn **Pn 07 17 03.8 +0.5**
MANZ Manzenberg 7.07 287 *e*Pn **Pn 07 17 04.8 +1.1**
MANZ *e*Sn **Sn 07 18 23.2 -0.7**
IDID Didziasalis 7.43 19 *i* P **Pn 07 17 08.3 -0.5**
IDID AMb AMB 07 17 09.1
comp=Z,3μm,0.5s
IDID *e*S Sn 07 19 08.6 +36
WTTA Wattenberg 7.46 266⇓ *i*P **Pn 07 17 10.9 +1.8**
comp=Z,18nm,0.8s
WATA Walderalm 7.48 266⇓ *i*P **Pn 07 17 08.9 -0.6**
comp=Z,23nm,0.9s
MOX Moxa 7.51 292 *e*Pn **Pn 07 17 10.9 +1.1**
MOX Moxa 7.51 292 *e*PN **Pn 07 17 10.8 +1.0**
MOX
comp=Z,600nm,14.0s
MOX Moxa 7.51 292 P **Pn 07 17 11.9 +2.1**
FUR Furstenfeldbru 7.56 273 P **Pn 07 17 10.5 0.0**
GRA1 Grafenberg Arr 7.60 284 *e*P **Pn 07 17 11.4 +0.4**
GRF Grafenberg Arr 7.60 284 *e*Pn **Pn 07 17 11.4 +0.4**
IZAR Zarasai 7.75 16 *e*P **Pn 07 17 13.4 +0.3**
IZAR AMb AMB 07 17 14.9
comp=Z,2μm,0.3s
IZAR *e*S Sn 07 19 26.8 +46
SQTA Sankt Quirin 7.75 266⇑ *i*P **Pn 07 17 15.1 +2.0**
comp=Z,10nm,0.5s
MOTA Moosalm 7.79 267⇓ *i*P **Pn 07 17 17.2 +3.4**
comp=Z,6.4nm,0.5s
SEV Sevastopol' 8.54 112 *e*P **Pn 07 17 21.2 -2.8**
SEV *e*S **Sn 07 18 54.9 -5.3**
SEV pmax pmax
comp=Z,5.0nm,0.7s
SEV smax
comp=N,10.0nm,0.6s
SEV smax
comp=E,12nm,0.8s
CLZ Clausthal 8.60 299 *e*Pn **Pn 07 17 26.2 +1.5**
DAVA Damuels 8.62 268⇓ *i*P **Pn 07 17 25.2 +0.1**
comp=E,21nm,0.7s,SNR=11
DAVA Damuels 8.62 268 *e*Pn **Pn 07 17 25.3 +0.2**
DAVA Damuels 8.62 268 P **Pn 07 17 26.0 +0.9**
SIM Simferopol' 8.63 109 *ce*P **Pn 07 17 26.6 +1.4**
SIM S **Sn 07 19 10.4 +8.1**
SIM pmax pmax
comp=Z,31nm,0.6s
SIM MLR MLR
comp=Z,450nm,20.0s
SIM Simferopol' 8.63 109 *e*P **Pn 07 17 26.6 +1.4**
comp=Z,31nm,0.6s
DAVOX Davos 8.74 264 Pn **Pn 07 17 27.6 +0.9**
baz=69,slow=10,SNR=11
YAL Yalta 8.87 112 *e*P **Pn 07 17 19.6 -8.9**
YAL pmax pmax
comp=Z,16nm,0.8s
ALU Alushta 8.93 110 *e*P **Pn 07 17 27.9 -1.4**
ALU *e*S **Sn 07 19 07.8 -2.0**
ALU pmax pmax
comp=Z,50nm,0.7s
ALU smax
comp=N,80nm,0.7s
TUE Stuetta 9.18 263 P **Pn 07 17 34.3 +1.6**
SUDU Sudak 9.21 107 *e*P **Pn 07 17 30.1 -3.1**
SUDU *e*S **Sn 07 19 12.8 -3.9**
SUDU pmax pmax
comp=Z,15nm,0.7s
SUDU smax
comp=N,2.0nm,0.7s
SUDU smax
comp=E,75nm,0.7s
BFO Black Forest 9.50 275 *e*P **Pn 07 17 36.9 -0.2**
BFO pmax pmax
comp=Z,21nm,0.6s
BFO Black Forest 9.50 275 *e*Pn **Pn 07 17 36.9 -0.2**
comp=Z,21nm,0.6s
BFO Black Forest 9.50 275 P **Pn 07 17 39.0 +1.9**
BYXU Byxelkrok 9.57 341 P **Pn 07 17 37.5 -0.6**
COP Copenhagen 9.64 323 *i* P **Pn 07 17 38.9 -0.2**
COP Copenhagen 9.64 323 *e*P **Pn 07 17 38.9 -0.2**
GOTU Gotland 9.66 347 P **Pn 07 17 40.0 +0.7**
OSKU Oskarshamn 9.69 339 P **Pn 07 17 38.7 -1.0**
VXJU Vaexsjoe 9.76 334 P **Pn 07 17 39.9 -0.8**
ASPU Aespoe 9.78 341 P **Pn 07 17 40.0 -0.9**
VSTU Vaestervik 10.01 341 P **Pn 07 17 43.3 -0.8**
CDF Champ du Feu 10.19 276 *e*P **Pn 07 17 45.1 -1.5**
comp=Z,19nm,0.7s
CDF Champ du Feu 10.19 276 *e*P **Pn 07 17 45.1 -1.5**
CDF pmax pmax
comp=Z,10.0nm,0.7s
CDF Champ du Feu 10.19 276 *e*P **Pn 07 17 45.1 -1.5**
comp=Z,9.6nm,0.7s
BALT Daday 10.24 128 *i* P **Pn 07 17 42.9 -4.4**
SGKT Sivrigoynuk 10.30 136 *i* P **Pn 07 17 42.7 -5.4**
VSU Vasula 10.43 12 Pn **Pn 07 17 50.6 +0.8**
VSU Sn **Sn 07 19 43.2 -3.3**
VSU Vasula 10.43 12 *c i*P **Pn 07 17 50.3 +0.5**
HINF Hinteralfeld 10.55 273 *e*P **Pn 07 17 51.4 -0.1**
comp=Z,8.0nm,0.4s
HINF Hinteralfeld 10.55 273 *e*P **Pn 07 17 51.4 -0.1**
HINF pmax pmax
comp=Z,4.0nm,0.4s
HINF Hinteralfeld 10.55 273 *e*P **Pn 07 17 51.4 -0.1**
comp=Z,4.0nm,0.4s
LNKU Linkoeping 10.76 340 P **Pn 07 17 52.9 -1.4**
VIKU Vikbolandet 10.76 343 P **Pn 07 17 53.8 -0.5**
ANN Anapa 10.82 104 *e*P **Pn 07 17 45.4 -10**
ANN *e*S **Sn 07 19 52.7 -3.4**
ANN pmax pmax
comp=Z,58nm,1.1s
ANN MLR MLR
comp=Z,238nm,8.0s
HAU Haudompre 10.86 274 *e*P **Pn 07 17 55.6 -0.1**
comp=Z,20nm,0.7s
HAU *e*R
comp=Z,186nm,21.2s
HAU Haudompre 10.86 274 *e*P **Pn 07 17 55.6 -0.1**
HAU pmax pmax
comp=Z,10.0nm,0.6s
HAU Haudompre 10.86 274 *e*P **Pn 07 17 55.6 -0.1**
comp=Z,9.8nm,0.7s
OBN Obninsk 10.99 47⇑ *i*P **Pn 07 17 56.7 -0.8**
OBN *e*SS 07 20 13.9
OBN pmax pmax
comp=Z,50nm,1.2s
OBN MLR MLR
comp=Z,200nm,14.0s
NYNU Nynaeshamn 11.01 347 P **Pn 07 17 57.5 -0.4**
ELDT Eldivan 11.03 131 *i* P **Pn 07 17 56.5 -1.5**
VRSR Storozhevoye 11.11 69 *e*P **Pn 07 17 56.7 -2.5**
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,290nm,19.0s
VRSR MLR MLR
comp=N,180nm,22.0s
VRSR MLR MLR
comp=E,150nm,17.0s
BOYT Boyabat 11.14 124 *i* P **Pn 07 17 57.2 -2.4**
LPG La Plagne 11.20 261 *e*P **Pn 07 18 01.6 +1.2**
comp=E,32nm,0.7s
LPG La Plagne 11.20 261 *e*P **Pn 07 18 01.6 +1.2**
LPG pmax pmax
comp=Z,16nm,0.7s
LPG La Plagne 11.20 261 *e*P **Pn 07 18 01.6 +1.2**
comp=Z,16nm,0.7s
LPL La Plagne 11.21 261 *e*P **Pn 07 18 01.8 +1.3**
comp=Z,13nm,0.4s
LPL La Plagne 11.21 261 *e*P **Pn 07 18 01.8 +1.3**
LPL pmax pmax
comp=Z,6.0nm,0.4s
LPL La Plagne 11.21 261 *e*P **Pn 07 18 01.8 +1.3**
comp=Z,6.3nm,0.4s
CABF La Chapelle 11.31 267 *e*P **Pn 07 18 02.0 +0.2**
comp=Z,16nm,0.7s
CABF La Chapelle 11.31 267 *e*P **Pn 07 18 02.0 +0.2**
CABF pmax pmax
comp=Z,8.0nm,0.7s
CABF La Chapelle 11.31 267 *e*P **Pn 07 18 02.0 +0.2**
comp=Z,7.8nm,0.7s
BNI Bardonecchia 11.41 259 *e*P **Pn 07 18 05.2 +1.9**
BNI pmax pmax
comp=Z,6.0nm,0.6s
BNI Bardonecchia 11.41 259 *e*Pn **Pn 07 18 05.2 +1.8**
comp=Z,6.1nm,0.6s
BNI Bardonecchia 11.41 259 *e*Pn **Pn 07 18 05.2 +1.9**
comp=Z,6.1nm,0.6s
ESKU Eskilstuna 11.50 344 P **Pn 07 18 03.6 -0.8**
ASKU Askersund 11.52 339 P **Pn 07 18 03.3 -1.4**
NRTU Norrtaelje 11.59 350 P **Pn 07 18 05.2 -0.5**
CTKT Corum 11.63 127 *i* P **Pn 07 18 05.3 -1.0**
BR131 Keskin Array S 11.72 133 *e*Pn **Pn 07 18 09.3 +1.9**
comp=Z,1.6nm,0.7s
BR131 Keskin Array S 11.72 133 *e*Pn **Pn 07 18 09.3 +1.8**
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 11.72 133 Pn **Pn 07 18 08.1 +0.6**
comp=Z,0.1nm,0.3s,baz=335,slow=9.3,SNR=5.7
BRTR Keskin Array B 11.72 133 *i* P **Pn 07 18 09.8 +2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 11.72 133 *i* P **Pn 07 18 09.8 +2.3**
comp=Z,1.0nm,0.6s
NASU Vaermlandsnaes 11.96 336 P **Pn 07 18 09.6 -1.2**
BACU Backbrunna 11.96 347 P **Pn 07 18 09.7 -1.1**
ORIF Oris-en-Rattie 11.99 260 *e*P **Pn 07 18 11.7 +0.5**
comp=Z,30nm,0.4s
ORIF *e*R
comp=Z,92nm,18.5s
ORIF Oris-en-Rattie 11.99 260 *e*P **Pn 07 18 11.7 +0.5**
comp=Z,15nm,0.4s
NRAU Nora 12.08 341 P **Pn 07 18 10.7 -1.7**
baz=166
FLYU Flymyra 12.12 349 P **Pn 07 18 12.0 -0.9**
GRAU Graesoe 12.24 350 P **Pn 07 18 12.9 -1.7**
OSTU Oestervaala 12.32 347 P **Pn 07 18 14.2 -1.5**
FORU Forsmark 12.33 350 P **Pn 07 18 14.9 -1.0**
VRHR Novokhopersk 12.62 70 *e*P **Pn 07 18 23.8 +4.0**
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,60nm,1.2s
VRHR Novokhopersk 12.62 70 *e*P **Pn 07 18 23.8 +4.0**
comp=E,2.0nm,0.7s
FALU Falun 12.78 345 P **Pn 07 18 20.3 -1.7**
baz=159
SMF Signal de Mont 12.79 269 *e*P **Pn 07 18 21.3 -0.9**
VIVF Saint-Julien-l 12.80 261 *e*P **Pn 07 18 21.1 -1.2**
comp=E,9.3nm,0.4s
VIVF Saint-Julien-l 12.80 261 *e*P **Pn 07 18 21.1 -1.2**
VIVF pmax pmax
comp=Z,5.0nm,0.4s
VIVF Saint-Julien-l 12.80 261 *e*P **Pn 07 18 21.1 -1.2**
comp=Z,4.7nm,0.4s
HFS Hagfors 12.89 340 Pn **Pn 07 18 21.1 -2.3**
baz=144,slow=16
HFS Sn **Sn 07 20 40.4 -6.3**
baz=148,slow=28
HFS Hagfors 12.89 340 Pn **Pn 07 18 20.2 -3.3**
comp=Z,1.7nm,0.3s,baz=154,slow=11,SNR=39
HFS Sn **Sn 07 20 39.9 -6.8**
comp=Z,2.1nm,0.3s,baz=149,slow=25,SNR=4.4
HFS LR LR 07 23 23.0
comp=Z,181nm,20.8s,baz=314,slow=37
HFS Hagfors 12.89 340 Pn **Pn 07 18 21.1 -2.4**
SNR=5.3
HFA0 Hagfors New Ar 12.90 340 Pn **Pn 07 18 20.8 -2.8**
SSF Saint Saulge 12.92 271 *e*P **Pn 07 18 24.9 +1.0**
comp=Z,4.4nm,0.4s
SSF Saint Saulge 12.92 271 *e*P **Pn 07 18 24.9 +1.0**
SSF pmax pmax
comp=Z,2.0nm,0.4s
SSF Saint Saulge 12.92 271 *e*P **Pn 07 18 24.9 +1.0**
comp=Z,2.2nm,0.4s
AVF Avril sur Loir 13.09 270 *e*P **Pn 07 18 24.6 -1.6**
comp=Z,14nm,0.6s
AVF Avril sur Loir 13.09 270 *e*P **Pn 07 18 24.6 -1.6**
AVF pmax pmax
comp=Z,7.0nm,0.6s
AVF Avril sur Loir 13.09 270 *e*P **Pn 07 18 24.6 -1.6**
comp=Z,7.0nm,0.6s
IDI Anoyia 13.16 172 LR LR 07 23 12.8
comp=Z,61nm,21.0s,baz=100,slow=36
FIA0 FINESS Array S 13.27 7 Pn **Pn 07 18 24.9 -3.8**
baz=176,slow=14
FIA0 Sn **Sn 07 20 47.0 -9.2**
baz=189,slow=18
FINES FINESS Array B 13.27 7 Pn **Pn 07 18 25.2 -3.6**
comp=Z,6.0nm,0.3s,baz=177,slow=13,SNR=170
FINES Sn **Sn 07 20 49.3 -6.9**
comp=Z,3.2nm,0.3s,baz=182,slow=22,SNR=6.1
FINES Lg 07 22 12.1
comp=Z,0.7nm,0.3s,baz=169,slow=23,SNR=2.4
FINES LR LR 07 24 08.1
comp=Z,207nm,18.9s,baz=191,slow=39
FINES FINESS Array B 13.27 7 *i* P **Pn 07 18 25.2 -3.5**
FINES pmax pmax
comp=Z,13nm,0.3s
FINES FINESS Array B 13.27 7 Pn **Pn 07 18 25.2 -3.6**
FINES Sn **Sn 07 20 49.3 -6.9**
FINES Lg 07 22 12.1
FINES LR LR 07 24 08.1
FIA1 FINESS Array S 13.28 7 *e*Pn **Pn 07 18 25.2 -3.5**
FIA1 *e*Sn **Sn 07 20 47.7 -8.5**
GRSN GIRESUNGRSN 13.39 118 *i* P **Pn 07 18 25.1 -5.2**
BGF Bois d'Agland 13.48 270 *e*P **Pn 07 18 31.2 -0.4**
comp=Z,20nm,0.6s
BGF Bois d'Agland 13.48 270 *e*P **Pn 07 18 31.2 -0.4**
BGF pmax pmax
comp=Z,10.0nm,0.6s
BGF Bois d'Agland 13.48 270 *e*P **Pn 07 18 31.2 -0.4**
comp=Z,10nm,0.6s
KONO Kongsberg 13.62 331 *e*P **Pn 07 18 31.8 -1.7**
LASF Ste Croix 13.65 259 *e*P **Pn 07 18 32.5 -1.4**
comp=Z,8.9nm,0.5s
LASF Ste Croix 13.65 259 *e*P **Pn 07 18 32.5 -1.4**
comp=Z,4.4nm,0.5s
HUDU Hudiksvall 13.77 349 P **Pn 07 18 32.7 -2.8**
NAO01 NORSAR Array S 14.21 336 *e*Pn **Pn 07 18 37.8 -3.7**
comp=Z,9.7nm,0.5s
NB2 NORSAR Subarra 14.29 337 Pn **Pn 07 18 38.8 -3.7**
baz=145,slow=14
NB2 NORSAR Subarra 14.29 337 P **Pn 07 18 38.9 -3.6**
comp=Z,2.7nm,0.4s,baz=155,slow=10
NOA NORSAR Array B 14.29 337 Pn **Pn 07 18 38.6 -3.9**
comp=Z,3.1nm,0.3s,baz=151,slow=12,SNR=18
NOA NORSAR Array B 14.29 337 P **Pn 07 18 38.6 -3.9**
NOA pmax pmax
comp=Z,3.0nm,0.3s
GOF Gofitskoye 14.40 96 *e*P **Pn 07 18 35.4 -8.8**
GOF pmax pmax
comp=Z,30nm,0.9s
BLS5 Blasjo 14.56 326 *e*P **Pn 07 18 45.7 -0.6**
KIV Kislovodsk 14.60 100 *e*P **Pn 07 18 46.4 -0.4**
KIV *e*S **Sn 07 21 29.9 +1.5**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,85nm,10.0s
KIV Kislovodsk 14.60 100 P **Pn 07 18 46.2 -0.6**
KIV Kislovodsk 14.60 100 *e*P **Pn 07 18 46.4 -0.4**
comp=Z,20nm,1.1s
DOMB Dombas 15.69 336 *e*P **Pn 07 18 58.9 -2.5**
ZEI Tsey 15.91 103 *e*P **Pn 07 19 03.8 -0.4**
NSS Namsos 17.21 344 *e*P **Pn 07 19 15.3 -5.4**
EKA Eskdalemuir Ar 17.31 303 P **Pn 07 19 20.6 -1.3**
comp=Z,0.2nm,0.3s,baz=102,slow=13,SNR=3.9
GNI Garni 17.82 109 LR LR 07 27 52.9
comp=Z,103nm,19.5s,baz=98,slow=42
GNI Garni 17.82 109⇑ *i*P **Pn 07 19 32.1 +3.9**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI MLR MLR
comp=Z,100nm,17.0s
TMCR Tamitsa 17.94 22 *e*P **Pn 07 19 23.8 -5.9**
TMCR pmax pmax
comp=Z,72nm,1.1s
MMAI Mount Meron Ar 18.10 143 LR LR 07 27 36.6
comp=Z,76nm,18.1s,baz=60,slow=41
MOR8 Moi Rana 18.38 349 *e*P **Pn 07 19 32.3 -2.8**
MOR8 AMb AMB 07 19 39.3
comp=Z,33nm,0.6s
MOR8 Moi Rana 18.38 349 *e*P **Pn 07 19 32.3 -2.8**
comp=Z,33nm,0.6s
MOR8 Moi Rana 18.38 349 *e*P **Pn 07 19 32.3 -2.8**
comp=Z,33nm,0.6s,SNR=42
STOK Stokkvaagen 18.72 348 *e*P **Pn 07 19 38.5 -0.8**
STOK AMb AMB 07 19 41.1
comp=Z,79nm,1.5s
STOK Stokkvaagen 18.72 348 *e*P **Pn 07 19 38.5 -0.8**
comp=Z,79nm,1.5s
STOK Stokkvaagen 18.72 348 *e*P **Pn 07 19 38.5 -0.8**
comp=Z,79nm,1.5s,SNR=41
APA0 Apatity Array 20.03 12 P **P 07 19 51.4 -1.8**
baz=196,slow=14
APA Apatity 20.05 12⇑ *i*P **P 07 19 50.4 -3.0**
APA *i* 07 19 52.0
APA *i* 07 23 44.7
APA pmax pmax
comp=Z,40nm,0.9s
APA MLR MLR
comp=Z,1μm,9.0s
LOF Lofoten 20.36 350 *e*P **P 07 19 58.5 +1.7**
LVZ Lovozero 20.54 13⇑ *i*P **P 07 19 57.9 -0.8**
LVZ pmax pmax
comp=Z,24nm,0.8s
LVZ MLR MLR
comp=Z,100nm,15.0s,MS3.3
KTK1 Kautokeino 20.73 1 *e*P **P 07 20 00.1 -0.7**
ESDC Sonseca Array 20.89 255 P **P 07 20 02.9 +0.3**
comp=Z,0.2nm,0.3s,baz=98,slow=17,SNR=3.4
ESDC LR LR 07 28 42.5
comp=Z,71nm,21.1s,MS3.0,baz=355,slow=38
ARA0 ARCESS Array S 21.30 3 P **P 07 20 06.2 -0.8**
baz=180,slow=12
ARCES ARCESS Array B 21.30 3 P **P 07 20 05.7 -1.3**
comp=Z,24nm,0.4s,mb4.9,baz=182,slow=12,SNR=285
ARCES LR LR 07 28 50.2
comp=Z,283nm,20.0s,MS3.7,baz=355,slow=38
ARCES ARCESS Array B 21.30 3 P **P 07 20 05.7 -1.3**
ARCES pmax pmax
comp=Z,24nm,0.4s

ARCES					MLR	MLR		
	comp=Z,283nm,20.0s							
ARCES	**ARCESS Array B**	**21.30**	**3**	P	**P**	**07 20 05.7 -1.3**		
ARCES					LR	LR	07 28 50.2	
ARE0	**ARCESS Array S**	**21.30**	**3**	*eP*	**P**	**07 20 06.3 -0.7**		
TRO	**Tromso**	**21.43**	**356**	*eP*	**P**	**07 20 07.2 -1.1**		
TRO				AMb	AMB	07 20 08.6		
	comp=Z,28nm,0.4s,mb5.0							
TRO	**Tromso**	**21.43**	**356**	*eP*	**P**	**07 20 07.2 -1.1**		
	comp=Z,28nm,0.4s,mb5.0,SNR=35							
KEV	**Kevo**	**21.58**	**4**	*eP*	**P**	**07 20 09.2 -0.8**		
KEV				pmax	pmax			
	comp=Z,47nm,0.5s,mb5.2							
KEV	**Kevo**	**21.58**	**4**	*eP*	**P**	**07 20 09.2 -0.8**		
	comp=Z,47nm,0.5s,mb5.2							
SOKR	**Solikamsk**	**22.77**	**48**	*c iP*	**P**	**07 20 24.6 +1.9**		
SOKR				S	**S**	**07 24 30.5 -1.0**		
SOKR				pmax	pmax			
	comp=Z,40nm,0.9s,mb4.8							
AKTK	**Aktyubinsk**	**23.02**	**71**	P	**P**	**07 20 25.1 -0.2**		
AKTK				LR	LR	07 31 09.3		
AKTO	**Aktyubinsk**	**23.02**	**71**	P	**P**	**07 20 25.1 -0.2**		
	comp=Z,5.6nm,0.6s,mb4.2,baz=276,slow=7.7,SNR=20							
AKTO				LR	LR	07 31 09.4		
	comp=Z,45nm,18.0s,MS3.0,baz=116,slow=41							
AKTO	**Aktyubinsk**	**23.02**	**71**	P	**P**	**07 20 25.2 -0.2**		
AKTO				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.2							
AKTO				MLR	MLR			
	comp=Z,45nm,18.0s,MS3.0							
ARU	**Arti**	**23.17**	**56**	⇑*iP*	**P**	**07 20 25.4 -1.5**		
ARU				*ePPP*		07 20 58.6		
ARU				*eS*	**S**	**07 24 38.7 +0.7**		
ARU				*eSSS*		07 25 23.2		
ARU				pmax	pmax			
	comp=Z,53nm,0.8s,mb5.0							
ARU	**Arti**	**23.17**	**56**	*eP*	**P**	**07 20 24.9 -2.0**		
	comp=Z,48nm,0.7s,mb5.0							
MDT	**Midelt**	**25.65**	**243**	P	**P**	**07 20 50.9 +0.8**		
	comp=Z,3.2nm,0.8s,mb3.9,baz=56,slow=6.3,SNR=6.0							
JMIC	**Jan Mayen**	**27.00**	**338**	LR	LR	07 31 52.1		
	comp=Z,146nm,18.1s,MS3.6,baz=82,slow=37							
BRVK	**Borovoye**	**30.12**	**63**	*eP*	**P**	**07 21 30.4 +0.4**		
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**30.12**	**63**	*eP*	**P**	**07 21 30.4 +0.4**		
	comp=Z,8.2nm,0.9s,mb4.5							
BRVK	**Borovoye**	**30.12**	**63**	P	**P**	**07 21 32.0 +2.0**		
BVAR	**Borovoye Array**	**30.19**	**63**	P	**P**	**07 21 30.8 +0.2**		
	comp=Z,2.5nm,0.6s,mb4.1,baz=273,slow=7.6,SNR=19							
BVAR				LR	LR	07 34 05.8		
	comp=Z,225nm,19.9s,MS3.8,baz=133,slow=37							
BVAR	**Borovoye Array**	**30.19**	**63**	P	**P**	**07 21 30.8 +0.2**		
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BVAR				MLR	MLR			
	comp=Z,225nm,19.9s							
KBS	**Kingsbay**	**30.95**	**356**	*eP*	**P**	**07 21 38.0 +0.7**		
AAK	**Ala-Archa**	**36.25**	**79**	*c iP*	**P**	**07 22 24.5 +1.1**		
AAK				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
AAK				MLR	MLR			
	comp=Z,100nm,19.0s,MS3.6							
AAK	**Ala-Archa**	**36.25**	**79**	*eP*	**P**	**07 22 24.5 +1.1**		
	comp=Z,12nm,1.0s,mb4.8							
AAK	**Ala-Archa**	**36.25**	**79**	P	**P**	**07 22 24.6 +1.2**		
NVS	**Novosibirsk**	**37.17**	**57**	*i P*	**P**	**07 22 33.1 +1.8**		
NVS				pmax	pmax			
	comp=Z,14nm,0.8s,mb4.8							
NVS				pmax	pmax			
	comp=N,9.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**39.15**	**213**	P	**P**	**07 22 48.2 +0.2**		
	comp=N,1.9nm,0.7s,mb3.9,baz=15,slow=8.8,SNR=11							
TORD				LR	LR	07 39 05.0		
	comp=N,42nm,18.9s,MS3.3,baz=300,slow=36							
MK31	**Makanchi Array**	**39.42**	**69**	*eP*	**P**	**07 22 51.0 +0.8**		
MK31	**Makanchi Array**	**39.42**	**69**	P	**P**	**07 22 51.1 +0.9**		
MKAR	**Makanchi Array**	**39.42**	**69**	P	**P**	**07 22 51.1 +0.9**		
	comp=N,3.1nm,0.7s,mb4.2,baz=298,slow=7.1,SNR=27							
MKAR				LR	LR	07 39 42.3		
	comp=N,86nm,20.1s,MS3.6,baz=293,slow=37							
MKAR	**Makanchi Array**	**39.42**	**69**	*i P*	**P**	**07 22 51.0 +0.8**		
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**39.42**	**69**	P	**P**	**07 22 51.1 +0.9**		
MKAR				LR	LR	07 39 42.3		
WMQ	**Urumqi**	**44.17**	**70**	⇑*iP*	**P**	**07 23 30.8 +1.7**		
WMQ				AP	pP	07 23 35.3 +2.2		
WMQ				XP	sP	07 23 37.8 +3.1		
WMQ				PP	PP	07 25 15.0 +3.0		
WMQ				SCP	ScP	07 29 02.9 -2.6		
WMQ				S	**S**	**07 30 02.0 +0.1**		
WMQ				AMB	AMB			
	comp=Z,7.0nm,0.6s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,134nm,3.7s							
WMQ				LR	LR			
	comp=N,150nm,18.6s,MS4.0							
WMQ				LR	LR			
	comp=E,113nm,22.0s,MS4.0							
WMQ				LR	LR			
	comp=Z,90nm,18.1s,MS3.7							
TIXI	**Tiksi**	**49.66**	**24**	⇑*iP*	**P**	**07 24 12.3 +0.3**		
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.7							
TIXI				MLR	MLR			
	comp=Z,100nm,19.0s,MS3.8							
ZAK	**Zakamensk**	**50.11**	**55**	*eP*	**P**	**07 24 16.5 +1.1**		
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.2							
KOLN	**Koldanda**	**50.82**	**91**	*eP*	**P**	**07 24 22.0 +1.2**		
GKN	**Gorkha**	**51.36**	**90**	*eP*	**P**	**07 24 25.7 +0.9**		
	comp=Z,54nm,1.2s,mb5.3							
BOD	**Bodaibo**	**51.65**	**43**	⇑*iP*	**P**	**07 24 27.0 0.0**		
BOD				pmax	pmax			
	comp=Z,5.0nm,1.4s,mb4.2							
KKN	**Kakani**	**51.93**	**90**	*eP*	**P**	**07 24 29.9 +0.8**		
	comp=Z,14nm,0.6s,mb5.0							
DMN	**Daman**	**51.93**	**90**	*eP*	**P**	**07 24 30.4 +1.3**		
PKI	**Pulchoki**	**52.16**	**90**	*eP*	**P**	**07 24 31.7 +0.9**		
GUN	**Gumba**	**52.25**	**89**	*eP*	**P**	**07 24 32.6 +1.1**		
SCHQ	**Schefferville**	**52.30**	**313**	P	**P**	**07 24 32.4 +0.5**		
	comp=Z,8.6nm,1.1s,mb4.6,baz=50,slow=11,SNR=3.9							
SCHQ	**Schefferville**	**52.30**	**313**	P	**P**	**07 24 32.4 +0.5**		
SONM	**Songino Array**	**53.20**	**57**	P	**P**	**07 24 40.1 +1.5**		
	comp=Z,9.4nm,0.8s,mb4.8,baz=295,slow=8.7,SNR=48							
SONM				LR	LR	07 48 12.5		
	comp=Z,27nm,20.8s,MS3.3,baz=190,slow=37							
SONM	**Songino Array**	**53.20**	**57**	P	**P**	**07 24 40.1 +1.6**		
SONM				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SONM				MLR	MLR			
	comp=Z,27nm,20.8s							
ULN	**Ulaanbaatar**	**53.55**	**56**	⇑*iP*	**P**	**07 24 42.4 +1.3**		
ULN	**Ulaanbaatar**	**53.55**	**56**	*eP*	**P**	**07 24 41.0 -0.1**		
	comp=Z,3.3nm,0.9s,mb4.3							
GTA	**Gaotai**	**54.17**	**69**	*eP*	**P**	**07 24 46.9 +1.2**		
GTA				AP	pP	07 24 51.5 +1.8		
GTA				XP	sP	07 24 54.8 +3.5		
GTA				PP	PP	07 25 51.9 +4.6		
GTA				S	**S**	**07 32 21.8 -0.5**		
GTA				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.4							
GTA				AMB	AMB			
	comp=Z,74nm,4.2s							
GTA				LR	LR			
	comp=N,209nm,13.7s,MS4.4							
GTA				LR	LR			
	comp=E,158nm,15.2s,MS4.4							
GTA				LR	LR			
	comp=Z,140nm,16.7s,MS4.1							
LSA	**Lhasa**	**54.59**	**84**	*eP*	**P**	**07 24 50.3 +1.6**		
LSA				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb5.0							
LSA	**Lhasa**	**54.59**	**84**	*eP*	**P**	**07 24 50.3 +1.6**		
	comp=Z,9.2nm,0.6s,mb5.0							
YAK	**Yakutsk**	**55.63**	**33**	⇑*iP*	**P**	**07 24 56.8 +0.6**		
YAK				pmax	pmax			
	comp=Z,200nm,5.0s							
YAK				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.9							
LZH	**Lanzhou**	**58.73**	**69**	*eP*	**P**	**07 25 19.8 +1.7**		
LZH				AP	pP	07 25 22.9 +0.7		
LZH				XP	sP	07 25 24.3 +0.5		
LZH				PP	PP	07 27 30.8 +2.8		
LZH				AMB	AMB			
	comp=Z,22nm,1.3s,mb5.0							
LZH				AMB	AMB			
	comp=Z,153nm,6.2s							
LZH				LR	LR			
	comp=E,495nm,15.7s							
LZH				LR	LR			
	comp=Z,743nm,18.5s,MS4.8							
LZH	**Lanzhou**	**58.73**	**69**	*eP*	**P**	**07 25 19.7 +1.6**		
LZH				*PP	pP	07 25 22.9 +0.7		
LZH				*SP	sP	07 25 24.3 +0.5		
LZH						07 27 30.8		
LZH				pmax	pmax			
	comp=Z,22nm,1.3s,mb5.0							
LZH				MLR	MLR			
	comp=Z,740nm,18.5s,MS4.8							
LZH	**Lanzhou**	**58.73**	**69**	*eP*	**P**	**07 25 19.7 +1.6**		
	comp=Z,22nm,1.3s,mb5.0							
LZH				pP	pP	07 25 22.9 +0.7		
LZH				sP	sP	07 25 24.3 +0.5		
LZH				PP	PP	07 27 30.8 +2.8		
LZH				LR	LR			
	comp=Z,740nm,18.5s,MS4.8							
BILL	**Bilibino**	**60.79**	**15**	*eP*	**P**	**07 25 33.2 +0.9**		
BILL				*eSS	SS	07 37 47.5 -0.5		
BILL				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6							
CD2	**Chengdu**	**62.04**	**74**	*eP*	**P**	**07 25 42.0 +1.2**		
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.0							
SEY	**Seymchan**	**62.15**	**23**	*eP*	**P**	**07 25 42.0 +0.5**		
INK	**Inuvik**	**62.30**	**350**	P	**P**	**07 25 42.9 +0.4**		
	comp=Z,20nm,1.4s,mb5.1,baz=20,slow=9.8,SNR=26							
INK	**Inuvik**	**62.30**	**350**	P	**P**	**07 25 42.9 +0.4**		
INK				pmax	pmax			
	comp=Z,20nm,1.4s							
YKA	**Yellowknife Ar**	**64.37**	**340**	P	**P**	**07 25 57.2 +1.0**		
	comp=Z,5.0nm,0.8s,mb4.6,baz=27,slow=6.1,SNR=22							
YKA	**Yellowknife Ar**	**64.37**	**340**	P	**P**	**07 25 57.2 +1.0**		
YKA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
YKA	**Yellowknife Ar**	**64.37**	**340**	P	**P**	**07 25 57.2 +1.0**		
KMI	**Kunming**	**65.29**	**79**	P	**P**	**07 26 04.8 +2.6**		
KMI				AP	pP	07 26 08.6 +2.2		
KMI				XP	sP	07 26 11.0 +3.1		
KMI				AMB	AMB			
	comp=Z,14nm,1.0s,mb5.0							
KMI	**Kunming**	**65.29**	**79**	P	**P**	**07 26 04.7 +2.5**		
KMI				*PP	pP	07 26 08.6 +2.2		
KMI				*SP	sP	07 26 11.0 +3.1		
KMI				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0							
KMI				MLR	MLR			
	comp=Z,30nm,30.9s,MS3.3							
KMI	**Kunming**	**65.29**	**79**	P	**P**	**07 26 04.7 +2.5**		
	comp=Z,14nm,1.0s,mb5.0							
KMI				pP	pP	07 26 08.6 +2.2		
KMI				sP	sP	07 26 11.0 +3.1		
KMI				LR	LR			
	comp=Z,30nm,30.9s,MS3.3							
IMA2	**Indian Mountai**	**65.88**	**358**	*eP*	**P**	**07 26 08.1 +2.0**		
IMA2	**Indian Mountai**	**65.88**	**358**	P	**P**	**07 26 08.4 +2.4**		
CN2	**Changchun**	**66.03**	**51**	*eP*	**P**	**07 26 07.1 +0.1**		
EGAK	**Eagle**	**66.50**	**352**	*eP*	**P**	**07 26 08.4 -1.6**		
	comp=Z,2.8nm,0.7s,mb4.4							
GYA	**Guiyang**	**66.93**	**76**	P	**P**	**07 26 14.3 +1.6**		
GYA				AP	pP	07 26 18.8 +1.9		
GYA				XP	sP	07 26 21.6 +3.2		
GYA				PCP	PcP	07 26 43.5 +2.3		
GYA				PP	PP	07 28 43.8 +3.7		
GYA				S	S	07 35 05.3 -0.2		
GYA				SKS		07 36 07.6		
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
GYA				AMB	AMB			
	comp=Z,70nm,4.8s							
GYA				LR	LR			
	comp=N,240nm,18.4s,MS4.6							
GYA				LR	LR			
	comp=E,210nm,18.9s,MS4.6							
GYA				LR	LR			
	comp=Z,190nm,19.0s,MS4.3							
DAWY	**Dawson**	**67.04**	**352**	*eP*	**P**	**07 26 15.0 +1.6**		
DAWY	**Dawson**	**67.04**	**352**	P	**P**	**07 26 15.1 +1.7**		
ULM	**Lac du Bonnet**	**68.47**	**323**	P	**P**	**07 26 23.0 +0.6**		
	comp=Z,2.3nm,0.8s,mb4.2,baz=53,slow=1.3,SNR=3.6							
KSRS	**Korea Array**	**71.90**	**54**	P	**P**	**07 26 44.6 +1.2**		
	comp=Z,2.6nm,0.8s,mb4.2,baz=323,slow=4.5,SNR=4.1							
ASAJ	**Asahikawa**	**73.95**	**40**	LR	LR	08 02 27.8		
	comp=Z,118nm,18.8s,MS4.2,baz=330,slow=38							
KDAK	**Kodiak Island**	**74.16**	**357**	P	**P**	**07 26 58.0 +1.1**		
	comp=Z,18nm,0.7s,mb5.1,baz=357,slow=6.8,SNR=12							
KDAK	**Kodiak Island**	**74.16**	**357**	P	**P**	**07 26 58.0 +1.1**		
EGMT	**Eagleton**	**75.49**	**329**	*eP*	**P**	**07 27 06.0 +1.4**		
	comp=Z,3.9nm,0.6s,mb4.5							
BOSA	**Boshof**	**76.64**	**178**	P	**P**	**07 27 11.1 0.0**		
	comp=Z,2.7nm,0.8s,mb4.2,baz=-4.7,slow=5.7,SNR=4.9							
BOSA	**Boshof**	**76.64**	**178**	P	**P**	**07 27 11.1 0.0**		
BOSA				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
MJAR	**Matsushiro Arr**	**77.92**	**48**	LR	LR	08 03 45.0		
	comp=Z,82nm,19.4s,MS4.1,baz=230,slow=37							
SNOW	**Snow King Moun**	**79.79**	**327**	P	**P**	**07 27 31.4 +2.8**		
PDAR	**Pinedale Array**	**79.96**	**326**	P	**P**	**07 27 31.6 +2.1**		
	comp=Z,1.1nm,1.0s,mb3.7,baz=82,slow=3.3,SNR=4.2							
PDAR				LR	LR	08 02 26.9		
	comp=Z,62nm,18.2s,MS4.0,baz=243,slow=35							
DUG	**Dugway**	**83.39**	**327**	*eP*	**P**	**07 27 50.2 +2.6**		
DUG				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.2							
DUG	**Dugway**	**83.39**	**327**	*eP*	**P**	**07 27 50.1 +2.5**		
	comp=Z,3.2nm,1.1s,mb4.3							
TXAR	**Lajitas Array**	**88.94**	**315**	P	**P**	**07 28 15.2 +0.3**		
	comp=Z,1.4nm,1.0s,mb4.2,baz=64,slow=5.7,SNR=8.6							
TXAR	**Lajitas Array**	**88.94**	**315**	P	**P**	**07 28 15.2 +0.3**		
TXAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							

*ISCJB **23** 07:15:47.0±0.6, 42.15N±003×793W±007, h10km±8km, Error ellipse: s-maj=8.3km s-min=5.5km az=26.9*
*INMG **23** 07:15:48.7±1.1, 42.11N×795W, h8km±5km, ML2.1, Error ellipse: s-maj=2.6km s-min=2.2km az=92.0*
*MDD **23** 07:15:48.3±0.3, 42.13N×793W, h0km, mbLg2.5/9, Error ellipse: s-maj=3.0km s-min=2.8km az=51.0, PRXIMO*

ISC 23 07:15:47.4±0.6, 4213N±003×792W±005, h16km±6km, n14, σ0°81/17, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PCAB	**Cabril**	**0.42**	**190**	*ePg*		**Pg**	**07 15 56.4 +0.4**	
PCAB				*eSg*		**Sg**	**07 16 02.0 +0.3**	
PCAB								
	412nm,0.1s							
EZAM	**Zamans**	**0.57**	**272**	Pg		**Pg**	**07 15 58.9 +0.2**	
	14nm,0.1s,SNR=7.9							
EZAM				Lg			07 16 06.5	
	41nm,0.2s,SNR=7.9							
ERUA	**La Rua**	**0.64**	**65**	Pg		**Pg**	**07 15 59.0 -1.0**	
	43nm,0.1s,SNR=8.9							
ERUA				Lg			07 16 04.9	
	67nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**0.86**	**170**	*eP*		**Pg**	**07 16 04.2 0.0**	
PVRL				*eS*		**Sg**	**07 16 15.2 -0.4**	
PVRL								
	130nm,0.1s							
STS	**Santiago**	**0.89**	**329**	⇑Pg		**Pg**	**07 16 04.9 +0.2**	
	36nm,0.1s,SNR=18							
STS				Lg			07 16 16.2	
	22nm,0.1s,SNR=11							
ECAL	**Calabor**	**0.90**	**101**	Pg		**Pg**	**07 16 04.9 0.0**	
	5.2nm,0.1s,SNR=15							
ECAL				Lg			07 16 17.7	
	28nm,0.1s,SNR=25							
PBRG	**Braganca**	**0.94**	**110**	*eP*		**Pg**	**07 16 06.2 +0.6**	
PBRG				*eS*		**Sg**	**07 16 18.7 +0.8**	
PBRG								
	28nm,0.1s							
EMAZ	**Mazaricos**	**1.13**	**317**	Pg		**Pg**	**07 16 08.5 -0.8**	
	4.4nm,0.1s							
EMAZ				Lg			07 16 23.7	
	14nm,0.1s,SNR=14							
EPON	**Pontenova**	**1.33**	**25**	Pg		**Pg**	**07 16 13.3 +0.3**	
	1.0nm,0.1s,SNR=5.8							
EPON				Lg			07 16 30.0	
	7.4nm,0.2s,SNR=14							
PVIS	**Viseu**	**1.41**	**179**	*eS*		**Sn**	**07 16 31.3 +0.6**	
PVIS								
	25nm,0.1s							
PVIS	**Viseu**	**1.41**	**179**	Sn		**Sn**	**07 16 31.3 +0.6**	
	12nm,0.1s							
PCBR	**Castelo Branco**	**2.31**	**171**	*eSg*		**Sg**	**07 17 00.1 -1.6**	
PCBR								
	2.4nm,0.1s							
PCBR	**Castelo Branco**	**2.31**	**171**	Lg			07 17 00.1	
	1.2nm,0.1s							
EARI	**Arriondas**	**2.32**	**59**	Pn		**Pn**	**07 16 26.4 +1.5**	
	0.1nm,0.1s,SNR=7.9							
EARI				Sn		**Sn**	**07 16 51.7 -1.5**	
	1.4nm,0.3s,SNR=7.9							
EARI				Lg			07 17 03.6	
	0.8nm,0.2s,SNR=7.9							

IDC 23 08:00:15.7±1.1, 4669N×15474E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/24, mbtmpb3.8/7, MS2.6/1, Ms1 2.6/1, ms1mx2.4/27, Error ellipse: s-maj=30.6km s-min=25.2km az=172.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSRS	**Korea Array**	**21.85**	**255**	LR		LR	08 13 57.8	
	comp=Z,16nm,20.6s,baz=335,slow=38							
SONM	**Songino Array**	**32.41**	**290**	P		P	08 06 47.6	+0.5
	0.5nm,0.3s,baz=227,slow=30,SNR=7.0							
INK	**Inuvik**	**41.11**	**32**	P		P	08 08 01.2	-0.1
	1.1nm,0.9s,baz=324,slow=0.5,SNR=5.0							
MKAR	**Makanchi Array**	**47.96**	**298**	P		P	08 08 54.6	-1.5
	1.0nm,0.9s,baz=64,slow=11,SNR=5.9							
BVAR	**Borovoye Array**	**51.76**	**310**	P		P	08 09 24.7	-0.2
	0.8nm,0.4s,baz=46,slow=8.5,SNR=5.0							
FINES	**FINESS Array B**	**64.57**	**335**	P		P	08 10 54.4	-0.2
	0.8nm,0.5s,baz=34,slow=5.7,SNR=6.5							
ASAR	**Alice Springs**	**72.52**	**200**	P		P	08 11 44.5	+0.1
	0.4nm,0.7s,baz=7.7,slow=5.0,SNR=7.6							
TXAR	**Lajitas Array**	**76.55**	**62**	P		P	08 12 07.5	-0.2
	1.2nm,0.8s,baz=297,slow=4.0,SNR=13							

NEIC 23 08:06:46.1±2.4, 5202N×17947E, h193km±21km, mb3.9/2, Error ellipse: s-maj=46.5km s-min=17.6km az=154.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SMY	**Shemya**	**3.37**	**284**	*ePn*		Pn	08 07 39.5	-0.2
INK	**Inuvik**	**27.56**	**36**	P		P	08 12 15.4	+0.4
	46nm,1.1s							
MAJO	**Matsushiro**	**32.84**	**258**	*eP*		P	08 13 01.8	+0.3
	1.5nm,0.5s							
SNOW	**Snow King Moun**	**46.02**	**72**	*eP*		P	08 14 49.1	-1.0
	2.2nm,0.6s							
GOGA	**Godfrey**	**68.45**	**63**	*eP*		P	08 17 28.0	+0.8
	22nm,1.5s							
KWP	**Kalwaria**	**76.82**	**345**	*eP*		P	08 18 15.2	-1.3
	24nm,0.4s							
MBWA	**Marble Bar**	**89.51**	**234**	P		P	08 19 21.1	-0.2
	20nm,0.7s							

IGQ 23 08:32:48.6, 039N×7989W, h12km±6km, Mb4.1, Ms3.9, Error ellipse: s-maj=6.1km s-min=3.4km az=73.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PINO	**Pino**	**1.39**	**113**	P		Pn	08 33 14.8	+0.9
PINO				S		Sn	08 33 34.6	+2.4
GGP	**Refugio Guagua**	**1.41**	**113**	P		Pn	08 33 15.0	+0.9
YANA	**Yana**	**1.41**	**111**	P		Pn	08 33 15.0	+0.8
JUA2	**San Juan 2**	**1.42**	**115**	P		Pn	08 33 15.3	+1.1
COTA	**Cotacachi**	**1.55**	**92**	P		Pn	08 33 17.6	+1.5
COTA				S		Sn	08 33 40.4	+4.2
CAMI	**Rancho Maria**	**1.74**	**127**	P		Pn	08 33 21.6	+2.9
VC1	**Cotopaxi 1**	**1.81**	**125**	P		Pn	08 33 22.3	+2.8
TAMB	**Tambo**	**1.86**	**125**	P		Pn	08 33 23.3	+3.0
ANTI	**Antisana**	**1.92**	**116**	P		Pn	08 33 25.1	+4.0
CAYR	**Refugio Cayamb**	**1.92**	**101**	P		Pn	08 33 24.8	+3.6
CAYA	**Cayambe**	**1.93**	**99**	P		Pn	08 33 24.3	+3.1
PISA	**Pisayambo**	**2.08**	**134**	P		Pn	08 33 25.2	+1.8
ULBA	**Ulba**	**2.35**	**141**	P		Pn	08 33 31.3	+4.2
ARRY	**Arrayan**	**2.37**	**143**	P		Pn	08 33 30.9	+3.6
PATA	**Patacocha**	**2.38**	**142**	P		Pn	08 33 31.4	+3.9

NEIC 23 08:33:08.1, 5842N×15283W, h52km, ML3.7(AEIC), ML4.1(PMR), After AEIC., Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KDAK	**Kodiak Island**	**0.65**	**168**	P		Pn	08 33 20.9	-0.4
KDAK				S		Sn	08 33 30.3	-0.5
AUL	**Augustine Lava**	**1.02**	**342**	P		Pn	08 33 25.8	-0.3
SEW	**Seward**	**2.42**	**44**	P		Pn	08 33 43.8	-1.4
SLKM	**Skilak Lake**	**2.48**	**31**	P		Pn	08 33 45.1	-0.9
SVW2	**Sparrevohn**	**3.03**	**334**	P		Pn	08 33 52.3	-1.2
FIB	**Fire Island**	**3.06**	**25**	P		Pn	08 33 54.0	0.0
RC01	**Rabbit Creek A**	**3.10**	**29**	P		Pn	08 33 53.6	-0.9
PMR	**Palmer**	**3.68**	**29**	P		Pn	08 34 01.0	-1.5
CHGN	**Chignik**	**3.70**	**237**	*eP*		Pn	08 34 01.7	-1.0
GHO	**Glory Hole Cre**	**3.89**	**28**	P		Pn	08 34 04.2	-1.1
SML	**Sawmill**	**4.08**	**32**	P		Pn	08 34 06.7	-1.2
EYAK	**Cordova Ski Ar**	**4.19**	**56**	P		Pn	08 34 08.5	-1.0
DIV	**Divide**	**4.48**	**50**	P		Pn	08 34 12.5	-1.0
RAGM	**Ragged Mountai**	**4.61**	**61**	P		Pn	08 34 14.2	-1.0
BMRM	**Bremner River**	**4.89**	**55**	P		Pn

BILL	**Bilibino**	**21.23**	**10**	*e*P		**P**	**09 07 05.0**	**+1.1**
BILL				*e*			09 07 22.0	
BILL					pmax	pmax		
	comp=Z,14nm,1.2s,mb4.2							
KSRS	**Korea Array**	**23.02**	**254**	P		**P**	**09 07 23.6**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.6,baz=59,slow=9.8,SNR=4.1							
JNU	**Nakatsue**	**23.91**	**242**	LR		LR	09 15 00.6	
	comp=Z,77nm,21.5s,MS3.1,baz=270,slow=32							
HIA	**Hailar**	**24.12**	**288**	*e*P		**P**	**09 07 34.1**	**+0.5**
TIXI	**Tiksi**	**27.38**	**342**	⇑*i*P		**P**	**09 08 02.8**	**-0.3**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.1							
ULN	**Ulaanbaatar**	**32.63**	**289**	*e*P		**P**	**09 08 50.8**	**+1.2**
KRAR	**Krasnoyarsk**	**38.81**	**307**	*e*P		**P**	**09 09 42.3**	**-0.3**
INK	**Inuvik**	**39.89**	**33**	P		**P**	**09 09 51.7**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=242,slow=8.0,SNR=10							
INK	**Inuvik**	**39.89**	**33**	P		**P**	**09 09 51.7**	**+0.1**
INK					pmax	pmax		
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**39.89**	**33**	P		**P**	**09 09 51.7**	**+0.1**
MK31	**Makanchi Array**	**48.44**	**298**	*e*P		**P**	**09 10 59.6**	**-0.5**
MKAR	**Makanchi Array**	**48.44**	**298**	P		**P**	**09 10 58.7**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=59,slow=7.7,SNR=12							
MKAR					LR	LR	09 32 57.2	
	comp=Z,34nm,19.5s,MS3.3,baz=220,slow=38							
MKAR	**Makanchi Array**	**48.44**	**298**	⇑*e*P		**P**	**09 11 00.6**	**+0.5**
MKAR	**Makanchi Array**	**48.44**	**298**	P		**P**	**09 10 58.7**	**-1.4**
MKAR					LR	LR	09 32 57.2	
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**09 11 26.5**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=58,slow=7.1,SNR=13							
BVAR	**Borovoye Array**	**51.98**	**310**	P		**P**	**09 11 26.5**	**-0.4**
BVAR					pmax	pmax		
	comp=Z,2.0nm,0.5s							
EDM	**Edmonton**	**54.27**	**48**	*e*P		**P**	**09 11 43.6**	**-0.2**
AAK	**Ala-Archa**	**55.36**	**297**	*c i*P		**P**	**09 11 51.3**	**-0.3**
AAK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**55.36**	**297**	*e*P		**P**	**09 11 51.3**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2							
ARU	**Arti**	**55.86**	**318**	⇑*i*P		**P**	**09 11 55.1**	**-0.1**
ARU				*e*			09 14 01.3	
ARU				*e*S		**S**	**09 19 41.4**	**+0.7**
ARU				*e*SS		SS	09 23 27.3	+0.8
ARU					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
ARU	**Arti**	**55.86**	**318**	*e*P		**P**	**09 11 54.9**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.5							
PMG	**Port Moresby**	**57.22**	**191**	*e*P		**P**	**09 12 01.7**	**-3.2**
PMG					pmax	pmax		
	comp=Z,3.0nm,0.6s							
PMG	**Port Moresby**	**57.22**	**191**	*e*P		**P**	**09 12 01.7**	**-3.2**
	comp=Z,2.6nm,0.6s,mb4.4							
ARCES	**ARCESS Array B**	**57.82**	**342**	P		**P**	**09 12 08.6**	**-0.5**
	comp=Z,7.0nm,1.0s,mb4.6,baz=33,slow=7.6,SNR=5.7							
ARCES	**ARCESS Array B**	**57.82**	**342**	P		**P**	**09 12 08.6**	**-0.5**
ARCES					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ARCES	**ARCESS Array B**	**57.82**	**342**	P		**P**	**09 12 08.6**	**-0.5**
MCMT	**McKenzie Canyo**	**59.46**	**56**	P		**P**	**09 12 20.4**	**-0.1**
AKTK	**Aktyubinsk**	**59.77**	**313**	P		**P**	**09 12 22.9**	**+0.2**
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**	**09 12 22.9**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=59,slow=12,SNR=3.5							
AKTO	**Aktyubinsk**	**59.77**	**313**	P		**P**	**09 12 22.9**	**+0.3**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**62.60**	**56**	P		**P**	**09 12 42.9**	**+1.0**
	comp=Z,0.9nm,0.9s,mb3.9,baz=318,slow=2.0,SNR=6.4							
FINES	**FINESS Array B**	**64.23**	**336**	P		**P**	**09 12 50.6**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.2,baz=47,slow=7.6,SNR=8.8							
FINES	**FINESS Array B**	**64.23**	**336**	*i* P		**P**	**09 12 50.7**	**-1.9**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ULM	**Lac du Bonnet**	**64.57**	**43**	P		**P**	**09 12 54.8**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=324,slow=8.7,SNR=3.1							
OBN	**Obninsk**	**65.85**	**327**	*e*P		**P**	**09 13 02.7**	**-0.4**
OBN				*e*			09 13 33.5	
OBN				*e*			09 15 25.2	
OBN				*e*SS		SS	09 26 00.2	-2.9
OBN					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
AGMN	**Agassiz Refuge**	**65.95**	**44**	*e*P		**P**	**09 13 04.3**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.2							
NOA	**NORSAR Array B**	**68.17**	**342**	P		**P**	**09 13 18.1**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=25,slow=6.3,SNR=3.4							
NOA					LR	LR	09 46 53.9	
	comp=Z,35nm,19.8s,MS3.6,baz=265,slow=39							
NOA	**NORSAR Array B**	**68.17**	**342**	P		**P**	**09 13 18.1**	**+0.2**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
NOA					MLR	MLR		
	comp=Z,35nm,19.8s							
WRA	**Warramunga Arr**	**69.95**	**202**	P		**P**	**09 13 28.2**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.5,baz=19,slow=7.1,SNR=5.0							
WRA	**Warramunga Arr**	**69.95**	**202**	*i* P		**P**	**09 13 29.3**	**+0.4**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MDRS	**Chennai**	**70.99**	**269**	*ex*		x	09 13 13.1	
KIV	**Kislovodsk**	**71.75**	**316**	*e*P		**P**	**09 13 42.0**	**+2.1**
KIV					pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6							
AKASG	**Malin Array Be**	**72.06**	**328**	P		**P**	**09 13 40.2**	**-1.5**
	comp=Z,0.7nm,0.4s,mb4.0,baz=33,slow=5.5,SNR=5.3							
AKASG	**Malin Array Be**	**72.06**	**328**	*i* P		**P**	**09 13 40.7**	**-1.0**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**72.06**	**328**	P		**P**	**09 13 40.2**	**-1.5**
GNI	**Garni**	**73.61**	**312**	*e*P		**P**	**09 13 53.3**	**+2.4**
GNI					pmax	pmax		
	comp=Z,18nm,1.7s							
ASAR	**Alice Springs**	**73.62**	**201**	P		**P**	**09 13 50.2**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=7.2,slow=5.8,SNR=12							
ASAR	**Alice Springs**	**73.62**	**201**	P		**P**	**09 13 50.3**	**-0.7**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**75.30**	**63**	P		**P**	**09 14 01.2**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=298,slow=4.2,SNR=15							
TXAR	**Lajitas Array**	**75.30**	**63**	P		**P**	**09 14 01.2**	**+0.5**
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
KHC	**Kasperske Hory**	**78.44**	**336**	*e*P		**P**	**09 14 18.0**	**-0.4**
GERES	**GERESS Array B**	**78.66**	**336**	P		**P**	**09 14 20.1**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=2.3,SNR=4.6							
GERES					LR	LR	09 57 01.1	
	comp=Z,102nm,18.3s,MS4.2,baz=91,slow=42							
BRTR	**Keskin Array B**	**79.24**	**319**	P		**P**	**09 14 22.8**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=73,slow=4.1,SNR=5.5							
BRTR	**Keskin Array B**	**79.24**	**319**	*e*P		**P**	**09 14 23.7**	**+0.8**

IDC ***23*** *09:12:04.9±5.8, 552S×1534E, h43km±51km, mb3.6/5, mb1 3.8/6, mb1mx3.6/16, mbtmp3.7/6, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=41.2km s-min=31.8km az=20.0*

ISCJB ***23*** *09:12:05.0±4.2, 56S±02×1534E±02, h55km±36km, mb3.8/5, Error ellipse: s-maj=32.8km s-min=26.0km az=6.9*

NEIC ***23*** *09:12:08.1±2.3, 566S×1539E, h71km±20km, mb4.4/1, Error ellipse: s-maj=19.4km s-min=14.9km az=181.0*

ISC 23 09:12:07.9±3.4, 56S±02×1534E±02, h66km±29km, n11, σ0§19/8, mb3.6/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.23**	**238**	P	**Pn**	**09 13 50.8**	**0.0**
	1.8nm,0.3s,baz=39,slow=5.9,SNR=4.9						
CTA	**Charters Tower**	**15.96**	**205**	LR	LR	09 20 19.3	
	comp=Z,48nm,18.9s,baz=51,slow=31						
DZM	**Mont Dzumac**	**20.66**	**144**	P	**P**	**09 16 42.1**	**0.0**
	8.1nm,0.9s,baz=283,slow=14,SNR=7.4						
WB2	**Warramunga Arr**	**23.35**	**231**	P	**P**	**09 17 10.3**	**-0.2**
WRA	**Warramunga Arr**	**23.36**	**231**	P	**P**	**09 17 10.4**	**-0.1**
	1.0nm,1.1s,mb3.0,baz=55,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**25.96**	**224**	P	**P**	**09 17 34.4**	**+0.2**
	0.9nm,0.8s,mb3.2,baz=56,slow=9.3,SNR=7.2						
FITZ	**Fitzroy Crossi**	**29.80**	**243**	P	**P**	**09 18 08.5**	**+0.1**
	2.1nm,0.8s,mb3.8,baz=54,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**81.33**	**319**	P	**P**	**09 24 17.0**	**-0.1**
	1.2nm,0.6s,mb3.9,baz=97,slow=6.1,SNR=12						
EGAK	**Eagle**	**84.88**	**23**	*e*P	**P**	**09 24 35.6**	**+0.1**
	1.5nm,0.4s,mb4.3						
JCT	**Junction City**	**107.31**	**60**	*e*PKP	PKiKP	09 30 26.8	+0.1
TORD	**Torodi Ar. Bea**	**151.11**	**287**	PKPbc	PKPbc	09 31 53.7	+0.3
	1.5nm,0.7s,baz=64,slow=2.2,SNR=9.5						

HLW ***23*** *09:31:34.3, 3135N×3542E, h15km, Mb2.8*

ISCJB ***23*** *09:31:36.0±0.4, 3115N±002×3522E±005, h0km, Error ellipse: s-maj=6.9km s-min=2.6km az=43.8*

CSEM ***23*** *09:31:35.2±0.1, 3115N×3524E, h2km, ML1.9, Error ellipse: s-maj=4.4km s-min=1.9km az=112.0, Mining explosion.*

GII ***23*** *09:31:35.3±0.3, 3116N×3522E, h0km±1km, ML1.9/3*

ISC 23 09:31:36.5±0.4, 3115N±002×3521E±005, h0km, n20, σ0§94/30, 1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.21**	**39**	Pg	**Pg**	**09 31 39.5**	**-0.9**
MZDA				Sg	**Sg**	**09 31 43.6**	**+0.4**
YTIR	**Yattir**	**0.23**	**339**	Pg	**Pg**	**09 31 41.0**	**+0.2**
MASH	**Mash'abbe Sade**	**0.40**	**248**	Pg	**Pg**	**09 31 43.5**	**-0.5**
MASH				Sg	**Sg**	**09 31 50.6**	**+1.4**
DSI	**Dead Sea**	**0.44**	**19**	Pg	**Pg**	**09 31 45.4**	**+0.4**
DSI				Sg	**Sg**	**09 31 53.5**	**+2.8**
RTMI	**Retamim**	**0.46**	**258**	Pg	**Pg**	**09 31 45.6**	**+0.4**
DRGI	**Dragot**	**0.47**	**19**	Pg	**Pg**	**09 31 44.9**	**-0.6**
DRGI				Sg	**Sg**	**09 31 52.9**	**+1.3**
ZFRI	**Zfri**	**0.59**	**183**	Pg	**Pg**	**09 31 47.2**	**-0.7**
PRNI	**Paran**	**0.81**	**193**	Pg	**Pg**	**09 31 52.6**	**+0.5**
PRNI				Sg	**Sg**	**09 32 05.6**	**+3.0**
HRFI	**Mount Harif**	**1.12**	**188**	Pg	**Pg**	**09 31 58.0**	**+0.1**
HRFI				Sg	**Sg**	**09 32 13.6**	**+1.1**
HRFI	**Mount Harif**	**1.12**	**188**	Pg	**Pg**	**09 31 58.0**	**+0.1**
HRFI				Sg	**Sg**	**09 32 13.5**	**+1.1**
KMTI	**Karmit**	**1.12**	**202**	Pg	**Pg**	**09 31 58.4**	**+0.4**
HMDT	**Nahal Hemdat**	**1.13**	**14**	Pg	**Pg**	**09 31 57.3**	**-0.9**
MMLI	**Mount Malkishu**	**1.30**	**8**	Pg	**Pg**	**09 32 00.6**	**-0.8**
MMLI				Sg	**Sg**	**09 32 18.6**	**+0.5**
EIL	**Elat**	**1.49**	**189**	Pn	**Pn**	**09 32 03.6**	**-0.9**
EIL				Sn	**Sn**	**09 32 25.1**	**+0.4**
HNKL	**Nakhl**	**1.61**	**221**	P	**Pn**	**09 32 04.8**	**-1.4**
HNKL				S	**Sn**	**09 32 28.0**	**+0.3**
AMAG	**Maghara**	**1.79**	**254**	P	**Pn**	**09 32 07.7**	**-1.0**
MMC4	**Mount Meron ar**	**1.86**	**5**	Pn	**Pn**	**09 32 09.5**	**-0.1**
MMB3	**Mount Meron ar**	**1.87**	**5**	Pn	**Pn**	**09 32 09.6**	**-0.2**
SUZ		**2.43**	**238**	⇓P	**Pn**	**09 32 16.3**	**-1.2**
HDHB	**Dhahab**	**2.47**	**192**	P	**Pn**	**09 32 17.0**	**-1.0**

IDC ***23*** *09:34:56.3±7.5, 659S×15106E, h118km±50km, mb3.4/4, mb1 3.5/5, mb1mx3.3/14, mbtmp3.4/5, MS2.8/2, Ms1 2.8/2, ms1mx2.4/19, Error ellipse: s-maj=57.6km s-min=47.4km az=81.0*

NEIC 23 09:34:55.5±4.6, 643S×15099E, h118km±26km, mb4.0/2, Error ellipse: s-maj=52.6km s-min=37.5km az=94.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**232**	P	Pn	09 36 06.1	+0.2
	1.3nm,0.3s,baz=5.0,slow=18,SNR=3.8						
PMG				S	Sn	09 37 01.0	+0.5
	1.6nm,0.3s,baz=324,slow=14,SNR=3.3						
HNR	**Honiara**	**9.36**	**109**	LR	LR	09 39 23.7	
	comp=Z,48nm,21.4s,baz=359,slow=29						
CTA	**Charters Tower**	**14.33**	**198**	LR	LR	09 43 08.7	
	comp=Z,48nm,18.3s,baz=224,slow=35						
WB2	**Warramunga Arr**	**21.01**	**229**	*e*P	P	09 39 29.1	-0.5
WRA	**Warramunga Arr**	**21.02**	**229**	P	P	09 39 29.3	-0.4
	1.2nm,0.5s,baz=57,slow=11,SNR=13						
AS31	**Alice Springs**	**23.73**	**222**	*e*P	P	09 39 57.3	+0.5
ASAR	**Alice Springs**	**23.74**	**222**	P	P	09 39 57.2	+0.4
	0.7nm,0.4s,baz=55,slow=9.3,SNR=23						
ASPA	**Alice Springs**	**23.74**	**222**	*e*P	P	09 39 57.3	+0.5
STKA	**Stephens Creek**	**26.79**	**198**	*e*P	P	09 40 24.9	+0.5
	1.2nm,0.4s						
STKA	**Stephens Creek**	**26.79**	**198**	P	P	09 40 25.0	+0.5
	2.6nm,0.8s,baz=7.2,slow=10,SNR=7.3						
FITZ	**Fitzroy Crossi**	**27.31**	**243**	*e*P	P	09 40 30.4	+1.4
	4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.31**	**243**	P	P	09 40 30.9	+1.9
	1.5nm,0.7s,baz=89,slow=9.3,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc	PKPbc	09 54 30.9	+1.2
	1.2nm,0.7s,baz=58,slow=3.0,SNR=7.4						

NEIC ***23*** *09:36:43.0±0.4, 4689N×15473E, h10km, mb4.4/4, Error ellipse: s-maj=10.8km s-min=7.4km az=129.0*

ISCJB ***23*** *09:36:46.3±0.5, 4683N±007×15470E±009, h45km, mb4.4/31, MS3.7/7, Error ellipse: s-maj=11.6km s-min=6.3km az=109.4*

MOS ***23*** *09:36:46.8±1.1, 4690N×15458E, h51km, mb4.5/26, Error ellipse: s-maj=12.7km s-min=10.0km az=91.7*

IDC ***23*** *09:36:48.1±0.5, 4688N×15474E, h46km±4km, mb4.0/17, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, MS3.6/7, Ms1 3.6/7, ms1mx3.1/33, Error ellipse: s-maj=13.6km s-min=12.3km az=158.0*

ISC 23 09:36:48.5±0.5, 4695N±007×15474E±009, h47km, h47km±1.2km:pP-P, n79, σ1§17/79, mb4.4/31, MS3.7/7, 5C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.85**	**13**	*e*PN	**Pn**	**09 37 42.2**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**6.88**	**248**	PN	**Pn**	**09 38 24.8**	**-2.0**
YUK				S	**Sn**	**09 39 43.5**	**-0.3**
YUK				*smax*			
	comp=N,270nm,0.3s						
YUK				*smax*			
	comp=E,230nm,0.5s						
YUK				*smax*			
	comp=N,290nm,0.5s						
ASAJ	**Asahikawa**	**8.98**	**256**	P	**Pn**	**09 38 55.2**	**-0.3**
	comp=N,3.5nm,0.3s,baz=88,slow=17,SNR=12						
ASAJ				LR	LR	09 43 02.7	
	comp=N,83nm,19.2s,baz=82,slow=42						
ERM	**Erimo**	**9.63**	**243**	*e*PN	**Pn**	**09 39 12.4**	**+8.0**
MAJO	**Matsushiro**	**16.10**	**236**	*e*P	**Pn**	**09 40 27.7**	**-3.8**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**16.10**	**236**	*e*Pn	**Pn**	**09 40 27.7**	**-3.8**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**16.10**	**236**	P	**Pn**	**09 40 27.4**	**-4.1**
MJAR	**Matsushiro Arr**	**16.10**	**236**	P	**Pn**	**09 40 30.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=34,slow=14,SNR=6.5						
MJAR	**Matsushiro Arr**	**16.10**	**236**	P	**Pn**	**09 40 30.0**	**-1.5**
YAK	**Yakutsk**	**20.77**	**326**	*e*P	**P**	**09 41 20.6**	**-4.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSRS	**Korea Array**	**21.92**	**254**	P	**P**	**09 41 41.1**	**+3.4**
	comp=Z,4.8nm,0.8s,mb4.0,baz=56,slow=9.1,SNR=9.9						
BILL	**Bilibino**	**21.96**	**12**	*e*P	**P**	**09 41 36.1**	**-2.1**
BILL				*e*		09 41 51.0	
BILL				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
BILL	**Bilibino**	**21.96**	**12**	*e*P	**P**	**09 41 37.8**	**-0.4**
	comp=Z,14nm,0.8s,mb4.4						
BOD	**Bodaibo**	**26.72**	**309**	*e*P	**P**	**09 42 21.1**	**-2.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.9						
TIXI	**Tiksi**	**27.60**	**343**	*e*P	**P**	**09 42 28.4**	**-2.9**
TIXI				*e*	pP	09 42 39.8	-3.8
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
TIXI	**Tiksi**	**27.60**	**343**	*e*P	**P**	**09 42 29.3**	**-2.0**
	comp=Z,87nm,1.8s,mb5.1						
SONM	**Songino Array**	**32.32**	**290**	P	**P**	**09 43 11.9**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=71,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**32.32**	**290**	P	**P**	**09 43 11.9**	**-1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	**Talaya**	**33.08**	**297**	*e*P	**P**	**09 43 18.7**	**-0.9**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TLY				MLR	MLR		
	comp=Z,88nm,15.0s,MS3.6						
ZAK	**Zakamensk**	**33.60**	**295**	*e*P	**P**	**09 43 23.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
COLA	**College**	**35.29**	**39**	⇑*i*P	**P**	**09 43 38.9**	**+0.1**
INK	**Inuvik**	**40.89**	**33**	P	**P**	**09 44 26.0**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.2,baz=295,slow=6.4,SNR=36						
INK				pP	pP	09 44 38.6	0.0
	comp=Z,3.7nm,0.8s,baz=266,slow=5.7,SNR=6.5						
INK	**Inuvik**	**40.89**	**33**	P	**P**	**09 44 26.0**	**+0.1**
INK				*P	pP	09 44 38.6	0.0
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**09 44 46.3**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.3,baz=50,slow=11,SNR=3.3						
ZAL				LR	LR	10 03 58.6	
	comp=Z,61nm,19.4s,MS3.5,baz=53,slow=38						
ZAL	**Zalesovo**	**43.41**	**306**	P	**P**	**09 44 46.3**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,61nm,19.4s						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**09 45 20.2**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=66,slow=8.6,SNR=8.2						
MKAR				pP	pP	09 45 33.8	-0.6
	comp=Z,1.3nm,0.7s,baz=72,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**09 45 20.2**	**-1.2**
MKAR				*PP	pP	09 45 33.8	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	**51.37**	**274**	*e*P	**P**	**09 45 48.5**	**+0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.37**	**274**	*e*P	**P**	**09 45 48.5**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**09 45 49.8**	**-0.1**
	comp=Z,4.5nm,0.4s,mb4.7,baz=59,slow=7.4,SNR=26						
BVAR				pP	pP	09 46 02.3	-0.7
	comp=Z,2.1nm,0.4s,baz=55,slow=7.1,SNR=6.1						
BVAR	**Borovoye Array**	**51.59**	**310**	P	**P**	**09 45 49.8**	**-0.1**
BVAR				*PP	pP	09 46 02.3	-0.7
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**09 45 49.8**	**-0.4**
BRVK				*e*PP	pP	09 46 03.2	-0.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	**Borovoye**	**51.63**	**310**	*e*P	**P**	**09 45 49.8**	**-0.4**
	comp=Z,2.1nm,0.4s,mb4.4						
BRVK				*e*pP	pP	09 46 03.2	-0.1
AAK	**Ala-Archa**	**54.74**	**297**	*c i*P	**P**	**09 46 13.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ARU	**Arti**	**55.61**	**318**	⇑*i*P	**P**	**09 46 19.2**	**-0.2**
ARU				*e*		09 47 18.7	
ARU				*e*		09 48 22.9	
ARU				*e*S	**S**	**09 54 01.6**	**-0.2**
ARU				*e*SS	SS	09 57 48.4	+1.0
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
GUN	**Gumba**	**56.09**	**276**	*e*P	**P**	**09 46 24.6**	**+1.8**
KKN	**Kakani**	**56.58**	**276**	*e*P	**P**	**09 46 28.1**	**+1.8**
PKI	**Pulchoki**	**56.63**	**276**	*e*P	**P**	**09 46 29.1**	**+2.5**
DMN	**Daman**	**56.81**	**276**	*e*P	**P**	**09 46 30.5**	**+2.6**
	comp=Z,31nm,0.9s,mb5.3						
GKN	**Gorkha**	**56.88**	**277**	*e*P	**P**	**09 46 29.9**	**+1.5**
KOLN	**Koldanda**	**57.73**	**277**	*e*P	**P**	**09 46 36.3**	**+1.9**
	comp=Z,14nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**09 46 35.2**	**-1.3**
	comp=Z,5.3nm,0.9s,mb4.6,baz=38,slow=8.0,SNR=5.7						
ARCES				LR	LR	10 17 27.8	
	comp=Z,41nm,18.9s,MS3.6,baz=354,slow=42						
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**09 46 35.2**	**-1.3**
ARCES				LR	LR	10 17 27.8	
AKTO	**Aktyubinsk**	**59.42**	**312**	LR	LR	10 15 23.0	
	comp=Z,55nm,19.4s,MS3.7,baz=335,slow=39						
PDAR	**Pinedale Array**	**63.73**	**55**	P	**P**	**09 47 14.3**	**-0.9**
	comp=Z,2.0nm,0.9s,mb4.1,baz=296,slow=2.9,SNR=12						
PDAR				pP	pP	09 47 28.2	-0.5
	comp=Z,1.2nm,0.9s,baz=299,slow=2.4,SNR=4.9						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**09 47 19.2**	**+0.1**
	comp=Z,3.6nm,0.4s,mb4.8,baz=40,slow=6.9,SNR=60						
FINES				pP	pP	09 47 31.4	-1.2
	comp=Z,3.9nm,0.4s,baz=41,slow=7.3,SNR=6.6						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**09 47 19.3**	**+0.1**
FINES				*PP	pP	09 47 31.4	-1.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**09 47 19

comp=Z,0.7nm,0.4s,baz=46,slow=5.8,SNR=2.9
GERES LR LR 10 26 44.1
comp=Z,82nm,19.3s,MS4.1,baz=111,slow=38
GERES GERESS Array B 78.76 335 P **P** **09 48 46.5 +0.5**
GERES *PP pP 09 48 59.7 -0.1
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES MLR MLR
comp=Z,82nm,19.3s
BRTR Keskin Array B 79.00 318 P **P** **09 48 47.4 0.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=57,slow=4.6,SNR=4.1
BRTR Keskin Array B 79.00 318 P **P** **09 48 47.4 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CDF Champ du Feu 80.89 339 *eP* **P** **09 49 01.4 +3.9**
GRR Gorron 82.70 344 *eP* **P** **09 49 10.9 +3.9**

IDC 23 09:39:28.2±1.1, 4695N×15475E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, ML3.6/1, Error ellipse: s-maj=34.5km s-min=26.7km az=145.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.99**	**256**	Pn	Pn	09 41 40.9	+1.6
	0.6nm,0.3s,baz=95,slow=17,SNR=3.8						
INK	**Inuvik**	**40.88**	**33**	P	P	09 47 12.0	0.0
	1.5nm,1.1s,baz=298,slow=7.4,SNR=4.1						
BVAR	**Borovoye Array**	**51.60**	**310**	P	P	09 48 35.7	-0.6
	1.0nm,0.4s,baz=62,slow=7.2,SNR=4.7						
FINES	**FINESS Array B**	**64.33**	**335**	P	P	09 50 04.8	-0.9
	2.0nm,0.6s,baz=41,slow=7.5,SNR=9.7						
ASAR	**Alice Springs**	**72.76**	**200**	P	P	09 50 58.0	-0.4
	0.6nm,0.8s,baz=12,slow=5.3,SNR=5.0						
TXAR	**Lajitas Array**	**76.41**	**62**	P	P	09 51 19.8	+0.2
	0.9nm,0.5s,baz=302,slow=4.1,SNR=10.0						

*ISCJB **23** 09:39:55.9±0.4, 3841N±002×2201E±004, h10km, Error ellipse: s-maj=4.9km s-min=3.2km az=19.7*
*NEIC **23** 09:39:55.3, 3840N×2202E, h10km, ML3.3(ATH), After ATH.*
*THE **23** 09:39:55.1, 3836N×2213E, h10km, ML3.3*
*CSEM **23** 09:39:55.2±0.1, 3838N×2197E, h2km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.6km az=78.0*
*ATH **23** 09:39:55.3, 3840N×2202E, h10km±4km, MD3.4/14, ML3.3*
ISC 23 09:39:56.1±0.4, 3841N±002×2202E±004, h10km, n26, σ1§14/36, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.53**	**342**	⇑*i*P	**Pg**	**09 40 05.2**	**-1.2**
EVR				*e*S	**Sg**	**09 40 14.3**	**+0.9**
RLS	**Riolos of Patr**	**0.56**	**231**	*e*P	**Pg**	**09 40 05.1**	**-1.8**
RLS				*e*S	**Sg**	**09 40 14.6**	**+0.3**
AGG	**Agios Georgios**	**0.66**	**21**	*e*Pg	**Pg**	**09 40 07.1**	**-1.7**
AGG				*e*Sg	**Sg**	**09 40 18.4**	**+1.0**
LKR	**Lokris**	**0.80**	**72**	*e*P	**Pg**	**09 40 09.5**	**-2.1**
MGER	**Gerania Oros**	**1.06**	**113**	*e*PN	**Pn**	**09 40 16.8**	**-0.2**
THL	**Klokotos Trika**	**1.15**	**360**	*e*PG	**Pb**	**09 40 16.9**	**-1.2**
THL				*e*SB	**Sb**	**09 40 33.3**	**+0.2**
ITM	**Ithomi**	**1.23**	**184**	*e*PB	**Pn**	**09 40 17.0**	**-2.3**
ITM				*e*SB	**Sb**	**09 40 35.9**	**+0.6**
NEO	**Neokhori**	**1.30**	**46**	*e*PB	**Pn**	**09 40 19.7**	**-0.5**
NEO				*e*SB	**Sb**	**09 40 37.5**	**+0.3**
XOR	**Xorichti**	**1.32**	**43**	*e*Pg	**Pn**	**09 40 19.9**	**-0.7**
XOR				*e*Sg	**Sb**	**09 40 38.2**	**+0.3**
NAIG	**Nisos Aigina**	**1.33**	**119**	*e*PB	**Pb**	**09 40 20.5**	**-0.6**
ATH	**Athens Observa**	**1.41**	**108**	*e*PB	**Pn**	**09 40 22.4**	**+0.7**
KVR	**Kavouri**	**1.50**	**112**	*e*PB	**Pn**	**09 40 24.0**	**+1.0**
PTL	**Penteli**	**1.50**	**103**	*e*PG	**Pn**	**09 40 23.5**	**+0.5**
MEV	**Metsovon**	**1.51**	**336**	*e*Pg	**Pn**	**09 40 23.3**	**+0.2**
JAN	**Janina**	**1.54**	**324**	*e*PG	**Pn**	**09 40 24.0**	**+0.4**
LIT	**Litokhoron**	**1.73**	**12**	*e*Pb	**Pn**	**09 40 26.4**	**+0.2**
VLI	**Veliai**	**1.84**	**156**	*e*PB	**Pn**	**09 40 27.6**	**-0.1**
KZN	**Kozani**	**1.91**	**354**	*e*PG	**Pn**	**09 40 30.5**	**+1.9**
KEK	**Kerkira**	**2.17**	**308**	*e*PN	**Pn**	**09 40 34.0**	**+1.8**
KYTH	**Kithira**	**2.27**	**159**	*e*PN	**Pn**	**09 40 36.0**	**+2.3**
GRG	**Griva**	**2.56**	**6**	*e*Pn	**Pn**	**09 40 38.0**	**+0.4**
SOH	**Sokhos**	**2.62**	**23**	*e*Pn	**Pn**	**09 40 38.6**	**+0.2**
KNT	**Kendrikon**	**2.83**	**14**	*e*Pn	**Pn**	**09 40 41.7**	**+0.4**
OHR	**Ohrid**	**2.86**	**341**	*e*Pn	**Pg**	**09 40 48.2**	**-2.6**
OHR				*e*Sn	**Sg**	**09 41 21.4**	**-6.5**
VAY	**Valandovo**	**2.94**	**8**	*e*Pn	**Pn**	**09 40 46.2**	**+3.4**
VAY				*e*Sn	**Sn**	**09 41 17.6**	**-0.6**
VAY	**Valandovo**	**2.94**	**8**	*e*Pn	**Pn**	**09 40 46.1**	**+3.3**
VAY				*e*Sn	**Sn**	**09 41 17.5**	**-0.6**

WEL 23 09:40:21.1±0.2, 3887S×17546E, h123km±1km, ML3.6/13, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.20**	**185**	PN	Pn	09 40 38.0	-0.1
TWVZ				SN	Sn	09 40 50.5	-0.3
TWVZ				SN	Sn	09 40 50.9	+0.1
RATZ	**Rangitukua**	**0.24**	**89**	PN	Pn	09 40 38.1	-0.1
RATZ				SN	Sn	09 40 50.6	-0.4
WTVZ	**West Tongariro**	**0.26**	**157**	PN	Pn	09 40 38.2	-0.1
WTVZ				SN	Sn	09 40 51.5	+0.4
WATZ	**Wairara**	**0.27**	**53**	PN	Pn	09 40 38.5	+0.2
WATZ				SN	Sn	09 40 51.6	+0.5
NGZ	**Ngauruhoe**	**0.32**	**160**	PN	Pn	09 40 38.5	0.0
FWVZ	**Far West T-bar**	**0.39**	**169**	PN	Pn	09 40 38.9	+0.2
DRZ	**Dome Shelter**	**0.41**	**168**	PN	Pn	09 40 39.0	+0.2
TUVZ	**Tukino**	**0.42**	**159**	PN	Pn	09 40 39.0	+0.1
PKVZ	**Pokaka**	**0.43**	**192**	PN	Pn	09 40 38.8	-0.1
TRVZ	**Turoa**	**0.43**	**171**	PN	Pn	09 40 39.2	+0.2
WNVZ	**Wahianoa**	**0.47**	**167**	PN	Pn	09 40 39.4	+0.3
MTVZ	**Mangateitei**	**0.51**	**179**	PN	Pn	09 40 39.4	0.0
MOVZ	**Moawhango**	**0.58**	**157**	PN	Pn	09 40 39.5	-0.4
HIZ	**Hauiti**	**0.59**	**307**	PN	Pn	09 40 39.9	-0.1
VRZ	**Vera Road**	**0.60**	**245**	PN	Pn	09 40 39.9	-0.1
BKZ	**Black Stump Fm**	**0.86**	**110**	PN	Pn	09 40 41.8	-0.3
WAZ	**Wanganui**	**0.95**	**202**	PN	Pn	09 40 43.0	+0.1
TSZ	**Takapari Road**	**1.25**	**162**	PN	Pn	09 40 46.1	+0.2
WPHZ	**Waipukurau**	**1.41**	**148**	PN	Pn	09 40 47.8	0.0
URZ	**Urewera**	**1.43**	**65**	PN	Pn	09 40 47.6	-0.3
PXZ	**Pawanui**	**1.59**	**137**	PN	Pn	09 40 49.7	0.0
MWZ	**Matawai**	**1.71**	**72**	PN	Pn	09 40 51.7	+0.5
KNZ	**Kokohu**	**1.73**	**96**	PN	Pn	09 40 51.4	0.0
MRZ	**Mangatainoka R**	**1.79**	**177**	PN	Pn	09 40 51.4	-0.7
BFZ	**Birch Farm**	**1.91**	**162**	PN	Pn	09 40 52.9	-0.6
KIW	**Kapiti Island**	**2.03**	**192**	PN	Pn	09 40 54.0	-1.0
CAW	**Cannon Point**	**2.25**	**188**	PN	Pn	09 40 56.6	-1.2
MTW	**Mount Morrison**	**2.28**	**179**	PN	Pn	09 40 56.7	-1.5
PUZ	**Puketiti**	**2.34**	**71**	PN	Pn	09 40 58.7	-0.2
MRW	**Makara Radio**	**2.42**	**194**	PN	Pn	09 40 58.5	-1.5
TCW	**Tory Channel**	**2.51**	**201**	PN	Pn	09 40 59.5	-1.5
TRWZ	**Traveller**	**2.53**	**176**	PN	Pn	09 40 59.8	-1.5
MSWZ	**Moikau Station**	**2.54**	**184**	PN	Pn	09 40 59.9	-1.7
NNZ	**Nelson**	**2.83**	**214**	PN	Pn	09 41 03.8	-1.5
QRZ	**Quartz Range**	**2.98**	**228**	PN	Pn	09 41 05.6	-1.6
THZ	**Tophouse**	**3.48**	**213**	PN	Pn	09 41 12.2	-1.7
KHZ	**Kahutara**	**3.83**	**202**	PN	Pn	09 41 15.9	-2.6

*NEIC **23** 09:46:16.2±0.9, 4747N×15242E, h10km, mb3.8/1, Error ellipse: s-maj=30.4km s-min=9.0km az=133.0*
*JMA **23** 09:46:16.2±0.7, 4682N×15267E, h30km, M4.5*
*ISCJB **23** 09:46:22.0±1.7, 4659N±02×15211E±02, h105km±17km, mb3.5/7, Error ellipse: s-maj=31.6km s-min=13.9km az=109.1*
*MOS **23** 09:46:23.2±1.8, 4707N×15225E, h101km, mb3.9/4, Error ellipse: s-maj=31.6km s-min=15.5km az=53.4*
*IDC **23** 09:46:24.2±4.4, 4684N×15240E, h100km±40km, mb3.4/8, mb1 3.6/9, mb1mx3.4/24, mbtmp3.5/9, Error ellipse: s-maj=28.5km s-min=23.2km az=143.0*
ISC 23 09:46:22.9±1.5, 4660N±02×15211E±02, h96km±15km, n35, σ1§28/42, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.57**	**237**	P	**Pn**	**09 47 42.0**	**-1.3**
NEM2				*e*S	**Sn**	**09 48 45.6**	**-0.4**
JRA	**Rausu**	**5.62**	**244**	P	**Pn**	**09 47 45.8**	**+1.8**
JNK	**Nakash**	**6.06**	**243**	P	**Pn**	**09 47 50.9**	**+1.0**
JTKR	**Abashiri--Toko**	**6.38**	**249**	P	**Pn**	**09 47 56.3**	**+2.1**
JAK	**Akkeshi**	**6.41**	**238**	P	**Pn**	**09 47 53.6**	**-1.0**
JAK				*e*S	**Sn**	**09 49 05.8**	**-0.5**
JAR	**Ashorobuto**	**6.80**	**244**	P	**Pn**	**09 48 01.2**	**+1.3**
JAR				*e*S	**Sn**	**09 49 20.8**	**+5.0**
JOB	**Onbets**	**6.97**	**241**	P	**Pn**	**09 48 02.3**	**0.0**
JOB				*e*S	**Sn**	**09 49 21.0**	**+0.9**
ASAJ	**Asahikawa**	**7.17**	**253**	P	**Pn**	**09 48 08.8**	**+3.8**
	1.0nm,0.3s,baz=13,slow=27,SNR=6.3						
ASAJ	**Asahikawa**	**7.17**	**253**	PN	**Pn**	**09 48 08.8**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.17**	**251**	P	**Pn**	**09 48 07.5**	**+2.5**
JCH	**Churui**	**7.42**	**241**	P	**Pn**	**09 48 08.0**	**-0.5**
JCH				*e*S	**Sn**	**09 49 29.9**	**-1.2**
ERM	**Erimo**	**7.91**	**238**	*e*PN	**Pn**	**09 48 19.9**	**+4.9**
JBT2	**Biratori 2**	**7.95**	**245**	P	**Pn**	**09 48 15.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**7.99**	**241**	P	**Pn**	**09 48 15.0**	**-1.1**
JKB	**Kayabe**	**9.26**	**243**	P	**Pn**	**09 48 32.5**	**-0.9**
JKB				*e*S	**Sn**	**09 50 13.1**	**-2.7**
JYM2	**Yakumo 2**	**9.55**	**246**	P	**Pn**	**09 48 37.0**	**-0.3**
JANG	**Nango**	**9.91**	**235**	P	**Pn**	**09 48 39.0**	**-3.3**
JANG				*e*S	**Sn**	**09 50 25.4**	**-6.3**
MAJO	**Matsushiro**	**14.46**	**231**	*e*P	**Pn**	**09 49 50.4**	**+7.6**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAJO	**Matsushiro**	**14.46**	**231**	*e*Pn	**Pn**	**09 49 50.4**	**+7.6**
	comp=Z,1.8nm,0.4s						
MJAR	**Matsushiro Arr**	**14.46**	**231**	P	**Pn**	**09 49 50.8**	**+8.0**
	comp=Z,0.5nm,0.3s,baz=45,slow=10,SNR=5.1						
MJAR	**Matsushiro Arr**	**14.46**	**231**	P	**Pn**	**09 49 50.8**	**+8.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.11**	**252**	P	**P**	**09 50 54.5**	**+5.6**
	comp=Z,2.3nm,0.7s,baz=50,slow=10,SNR=5.9						
INCN	**Inchon**	**20.95**	**253**	*e*P	**P**	**09 51 03.2**	**+5.4**
	comp=Z,5.2nm,0.4s						
INK	**Inuvik**	**42.13**	**32**	P	**P**	**09 54 03.6**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=294,slow=12,SNR=6.5						
INK	**Inuvik**	**42.13**	**32**	P	**P**	**09 54 03.6**	**-2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.41**	**297**	P	**P**	**09 54 40.6**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=65,slow=6.9,SNR=3.8						
FINES	**FINESS Array B**	**63.88**	**334**	P	**P**	**09 56 44.7**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=36,slow=7.1,SNR=8.8						
FINES	**FINESS Array B**	**63.88**	**334**	P	**P**	**09 56 44.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.15**	**341**	P	**P**	**09 57 11.8**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**09 57 11.2**	**-1.3**
	comp=Z,1.1nm,0.4s,mb4.0,baz=27,slow=6.5,SNR=5.7						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**09 57 11.3**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.86**	**198**	P	**P**	**09 57 37.1**	**+1.8**
	comp=Z,0.3nm,0.7s,mb3.2,baz=14,slow=6.9,SNR=4.5						
BRTR	**Keskin Array B**	**78.03**	**316**	P	**P**	**09 58 11.9**	**+1.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=42,slow=7.1,SNR=2.9						
TXAR	**Lajitas Array**	**78.15**	**60**	P	**P**	**09 58 11.3**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=297,slow=5.0,SNR=9.0						
TXAR	**Lajitas Array**	**78.15**	**60**	P	**P**	**09 58 11.4**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*LDG **23** 09:48:02.4±0.3, 4301N×005W, h2km, Md1.9/2, Ml1.8/2, Error ellipse: s-maj=37.5km s-min=2.6km az=179.0*
STR 23 09:48:01.5±0.1, 4303N×009W, h4km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.12**	**82**	Pg	Pg	09 48 04.3	+0.4
LABF				Sg	Sg	09 48 06.4	+0.8
VIEF	**Viey**	**0.17**	**150**	Pg	Pg	09 48 05.2	+0.4
VIEF				Sg	Sg	09 48 07.8	+0.8
REYF	**Montagne du Re**	**0.23**	**280**	Pg	Pg	09 48 05.9	0.0
REYF				Sg	Sg	09 48 09.5	+0.7
EPF	**Esparros**	**0.32**	**90**	*e*Pg	Pg	09 48 07.8	+0.2
EPF				*e*Sg	Sg	09 48 11.5	-0.2
	13nm,0.2s						
RESF	**Ens**	**0.39**	**125**	Pg	Pg	09 48 09.0	+0.1
RESF				Sg	Sg	09 48 14.6	+0.7
ATE	**Arette**	**0.45**	**277**	Pg	Pg	09 48 10.0	-0.2
ATE				Sg	Sg	09 48 16.6	+0.6
SJPF	**Ste Jean**	**0.84**	**276**	*e*Pg	Pg	09 48 18.7	+1.2
SJPF				*e*Sg	Sg	09 48 29.8	+1.4
	3.2nm,0.3s						
MTLF	**Montolieu**	**1.72**	**79**	*e*Pg	Pg	09 48 34.1	-0.3
MTLF				*e*Sg	Sg	09 48 55.0	-1.6
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**4.49**	**32**	*e*P	Pn	09 49 14.8	+4.6
	16nm,0.8s						
ORIF	**Oris-en-Rattie**	**4.70**	**64**	*e*P	Pn	09 49 20.9	+7.7
	3.8nm,0.5s						
LPL	**La Plagne**	**5.49**	**61**	*e*P	Pn	09 49 17.5	-6.6
	6.8nm,0.5s						
LPG	**La Plagne**	**5.50**	**61**	*e*P	Pn	09 49 17.6	-6.5
	15nm,0.7s						

*NEIC **23** 10:07:54.4±0.4, 4724N×15362E, h10km, mb4.7/16, Error ellipse: s-maj=10.8km s-min=6.2km az=148.0*
*MOS **23** 10:07:55.8±1.0, 4729N×15358E, h28km, mb4.6/27, Error ellipse: s-maj=12.6km s-min=6.9km az=88.1*
*ISCJB **23** 10:07:56.9±0.9, 4725N±006×15372E±007, h41km±7km, mb4.5/49, MS3.5/5, Error ellipse: s-maj=11.2km s-min=5.1km az=103.8*
*IDC **23** 10:08:02.0±3.5, 4719N×15353E, h75km±32km, mb4.0/21, mb1 4.2/23, mb1mx4.2/26, mbtmp4.0/23, MS3.6/6, Ms1 3.6/6, ms1mx3.2/37, Error ellipse: s-maj=15.8km s-min=13.1km az=128.0*
ISC 23 10:07:59.8±0.8, 4729N±006×15370E±008, h51km±6km, n132, σ1§10/129, mb4.5/49, MS3.5/5, 13C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.75**	**24**	*e*PN	**Pn**	**10 08 54.0**	**-1.1**
SKR				*e*S	**Sn**	**10 09 37.5**	**-0.4**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
SKR				smax			
	comp=N,630nm,0.8s						
SKR				smax			
	comp=E,320nm,0.6s						
SKR				smax			
	comp=Z,190nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.39**	**242**	PN	**Pn**	**10 09 34.9**	**+3.7**
PET	**Petropavlovsk**	**6.56**	**27**	*e*PN	**Pn**	**10 09 34.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,45nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET	**Petropavlovsk**	**6.56**	**27**	*e*Pn	**Pn**	**10 09 32.5**	**-1.2**
	comp=Z,50nm,0.9s						
PET				*e*Sn	**Sn**	**10 10 46.2**	**-0.9**
YSS	**Yuzh-Sakhalins**	**7.48**	**271**	*e*PN	**Pn**	**10 09 50.0**	**+3.8**
YSS				*e*S	**Sn**	**10 11 13.0**	**+3.4**
YSS	**Yuzh-Sakhalins**	**7.48**	**271**	*e*Pn	**Pn**	**10 09 48.8**	**+2.6**
ASAJ	**Asahikawa**	**8.40**	**252**	P	**Pn**	**10 10 00.8**	**+2.0**
	comp=Z,5.1nm,0.3s,baz=76,slow=12,SNR=32						
ASAJ				LR	LR	10 13 01.1	
	comp=Z,314nm,19.2s,baz=352,slow=36						
ERM	**Erimo**	**9.18**	**239**	*e*PN	**Pn**	**10 10 10.0**	**+0.5**
KLR	**Kul'dur**	**14.74**	**286**	*e*P	**Pn**	**10 11 28.0**	**+2.8**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MJAR	**Matsushiro Arr**	**15.73**	**233**	P	**Pn**	**10 11 37.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=29,slow=12,SNR=6.3						
MJAR	**Matsushiro Arr**	**15.73**	**233**	P	**Pn**	**10 11 37.0**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.73**	**233**	*e*P	**Pn**	**10 11 35.2**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**15.73**	**233**	*e*P	**Pn**	**10 11 35.2**	**-2.7**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**15.73**	**233**	P	**Pn**	**10 11 35.4**	**-2.5**
MDJ	**Mudanjiang**	**16.96**	**270**	*e*P	**Pn**	**10 11 53.8**	**+0.3**
	comp=Z,7.2nm,0.5s						
YAK	**Yakutsk**	**20.09**	**326**	*e*P	pP	10 12 41.4	+0.7
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,16nm,2.2s						
KSRS	**Korea Array**	**21.35**	**252**	P	**P**	**10 12 41.5**	**-1.1**
	comp=E,5.1nm,0.8s,mb3.9,baz=62,slow=11,SNR=10						
BILL	**Bilibino**	**21.77**	**13**	⇑*i*P	**P**	**10 12 47.7**	**+0.5**
BILL				*e*		10 16 47.7	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
JNU	**Nakatsue**	**22.34**	**239**	LR	LR	10 21 29.4	
	comp=Z,113nm,18.2s,MS3.3,baz=79,slow=36						
BOD	**Bodaibo**	**25.96**	**309**	*e*P	**P**	**10 13 26.0**	**-1.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.9						
TIXI	**Tiksi**	**27.07**	**343**	⇑*i*P	**P**	**10 13 37.8**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
SONM	**Songino Array**	**31.54**	**289**	P	**P**	**10 14 14.4**	**-2.6**
	comp=Z,0.9nm,0.6s,mb3.8,baz=55,slow=9.6,SNR=3.7						
SONM				LR	LR	10 27 57.2	
	comp=Z,103nm,20.1s,MS3.5,baz=203,slow=38						
SONM	**Songino Array**	**31.54**	**289**	P	**P**	**10 14 14.4**	**-2.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,103nm,20.1s						
SVW2	**Sparrevohn**	**31.82**	**45**	*e*P	**P**	**10 14 20.4**	**+0.8**
IMA2	**Indian Mountai**	**33.13**	**36**	*e*P	**P**	**10 14 31.4**	**+0.3**
PMR	**Palmer**	**34.93**	**45**	*e*P	**P**	**10 14 46.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
PMR	**Palmer**	**34.93**	**45**	*e*P	**P**	**10 14 46.8**	**+0.2**
	comp=Z,8.7nm,1.0s,mb4.6						
MCK	**McKinley**	**34.98**	**41**	*e*P	**P**	**10 14 47.0**	**-0.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MCK	**McKinley**	**34.98**	**41**	*e*P	**P**	**10 14 47.0**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.4						
SML	**Sawmill**	**35.30**	**44**	*e*P	**P**	**10 14 50.3**	**+0.5**
COLA	**College**	**35.46**	**39**	*e*P	**P**	**10 14 51.8**	**+0.6**
COLA				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
COLA	**College**	**35.46**	**39**	*e*P	**P**	**10 14 51.8**	**+0.6**
	comp=Z,25nm,0.8s,mb5.2						
EGAK	**Eagle**	**38.33**	**39**	*e*P	**P**	**10 15 15.5**	**0.0**
	comp=Z,21nm,0.9s,mb4.9						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**10 15 38.4**	**+0.8**
	comp=Z,7.7nm,0.6s,mb4.5,baz=281,slow=7.2,SNR=67						
INK	**Inuvik**	**40.98**	**33**	P	**P**	**10 15 38.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
INK	**Inuvik**	**40.98**	**33**	*e*P	**P**	**10 15 38.4**	**+0.8**
	comp=Z,307nm,0.9s						
ZAL	**Zalesovo**	**42.64**	**305**	P	**P**	**10 15 49.8**	**-1.4**
	comp=Z,1.6nm,0.3s,mb4.2,baz=55,slow=9.2,SNR=4.7						
ZAL	**Zalesovo**	**42.64**	**305**	P	**P**	**10 15 49.8**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK31	**Makanchi Array**	**47.05**	**297**	*e*P	**P**	**10 16 25.0**	**-1.3**
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**10 16 24.6**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=67,slow=7.4,SNR=12						
MKAR				PcP	PcP	10 17 57.0	-0.7
	comp=Z,1.3nm,0.6s,baz=46,slow=3.3,SNR=6.9						
MKAR				LR	LR	10 35 44.5	
	comp=Z,54nm,18.6s,MS3.5,baz=236,slow=35						
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**10 16 24.7**	**-1.6**
MKAR						10 17 57.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,54nm,18.6s						
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**10 16 24.6**	**-1.6**
MKAR				PcP	PcP	10 17 57.0	-0.7
MKAR				LR	LR	10 35 44.5	
RES	**Resolute Bay**	**50.20**	**19**	*e*P	**P**	**10 16 50.5**	**+0.1**
	comp=Z,145nm,0.6s						
YKA	**Yellowknife Ar**	**50.25**	**37**	P	**P**	**10 16 51.4**	**+0.6**
	comp=Z,7.6nm,0.7s,mb4.9,baz=296,slow=7.0,SNR=33						
YKA				PcP	PcP	10 18 08.8	-0.4
	comp=Z,1.1nm,0.7s,baz=302,slow=3.9,SNR=4.8						
YKA	**Yellowknife Ar**	**50.25**	**37**	⇑*e*P	**P**	**10 16 51.4**	**+0.6**
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**10 16 54.3**	**-0.9**
	comp=Z,1.1nm,0.3s,mb4.2,baz=60,slow=7.4,SNR=9.0						
BVAR				PcP	PcP	10 18 10.9	-0.5
	comp=Z,1.5nm,0.7s,baz=62,slow=3.5,SNR=4.9						
BVAR

NOA	**NORSAR Array B**	**67.85**	**341**	P		**P**		**10 18 52.3**	**-0.3**
	comp=Z,8.1nm,0.7s,mb4.9,baz=26,slow=6.3,SNR=28								
NOA				LR		LR		10 53 23.7	
	comp=Z,45nm,19.1s,MS3.7,baz=20,slow=40								
NOA	**NORSAR Array B**	**67.85**	**341**	P		**P**		**10 18 52.3**	**-0.3**
NOA				pmax		pmax			
	comp=Z,8.0nm,0.7s								
NOA				MLR		MLR			
	comp=Z,45nm,19.1s								
ISCO	**Idaho Springs**	**68.30**	**55**	*e*P		**P**		**10 18 56.2**	**+0.7**
ISCO				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb4.0								
ISCO	**Idaho Springs**	**68.30**	**55**	*e*P		**P**		**10 18 56.2**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.1								
WRA	**Warramunga Arr**	**69.16**	**199**	P		**P**		**10 18 58.5**	**-2.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=16,slow=6.7,SNR=12								
WRA				LR		LR		10 44 41.8	
	comp=Z,40nm,21.7s,MS3.6,baz=95,slow=32								
MDRS	**Chennai**	**69.30**	**267**	*e*P		**P**		**10 19 03.8**	**+2.1**
KAD	**Karad**	**70.44**	**275**	*ex*		x		10 18 16.0	
KAD				AMb		AMB		10 18 22.5	
	comp=Z,7.1nm,0.7s,mb4.7								
KIV	**Kislovodsk**	**70.71**	**314**⇑	*e*P		**P**		**10 19 11.6**	**+1.2**
KIV				pmax		pmax			
	comp=Z,14nm,1.3s,mb4.7								
ANMO	**Albuquerque**	**71.20**	**59**⇑	*i*P		**P**		**10 19 14.9**	**+1.6**
AKASG	**Malin Array Be**	**71.32**	**326**	P		**P**		**10 19 12.6**	**-1.5**
	comp=Z,4.0nm,0.5s,mb4.6,baz=37,slow=6.5,SNR=19								
AKASG	**Malin Array Be**	**71.32**	**326**	P		**P**		**10 19 12.6**	**-1.5**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.5s								
AKASG	**Malin Array Be**	**71.32**	**326**	P		**P**		**10 19 12.6**	**-1.5**
AKBB	**Malin Array Si**	**71.32**	**326**	*e*P		**P**		**10 19 12.8**	**-1.3**
KIEV	**Kiev**	**71.33**	**326**	*e*P		**P**		**10 19 12.8**	**-1.3**
KIEV				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.8								
KIEV	**Kiev**	**71.33**	**326**	*e*P		**P**		**10 19 12.8**	**-1.3**
	comp=Z,13nm,1.0s,mb4.8								
GNI	**Garni**	**72.49**	**311**	*e*P		**P**		**10 19 22.8**	**+1.8**
GNI				pmax		pmax			
	comp=Z,11nm,1.3s								
SCHQ	**Schefferville**	**72.66**	**23**	P		**P**		**10 19 21.9**	**-0.1**
	comp=Z,7.2nm,0.9s,mb4.6,baz=274,slow=7.2,SNR=6.4								
ASAR	**Alice Springs**	**72.85**	**199**	P		**P**		**10 19 22.5**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=10,slow=5.5,SNR=48								
ASAR	**Alice Springs**	**72.85**	**199**	P		**P**		**10 19 22.5**	**-0.7**
ASAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KWP	**Kalwaria**	**74.57**	**329**	*e*P		**P**		**10 19 33.9**	**+0.7**
OJC	**Ojcow**	**75.04**	**331**	*e*P		**P**		**10 19 35.8**	**-0.2**
STHS	**Stebnicka Huta**	**75.25**	**330**	*e*P		**P**		**10 19 38.2**	**+1.0**
STHS	**Stebnicka Huta**	**75.25**	**330**	*e*P		**P**		**10 19 38.3**	**+1.1**
STHS				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
STHS	**Stebnicka Huta**	**75.25**	**330**	*e*P		**P**		**10 19 38.3**	**+1.1**
	comp=Z,6.8nm,0.7s,mb4.7								
KOLS	**Kolonicke sedl**	**75.31**	**329**	*e*P		**P**		**10 19 38.0**	**+0.5**
BURAR	**Bucovina Array**	**75.36**	**327**⇓	*i*P		**P**		**10 19 38.0**	**+0.2**
BURAR	**Bucovina Array**	**75.36**	**327**	⇓P		**P**		**10 19 38.0**	**+0.1**
UPC	**Upice**	**75.98**	**334**	*e*P		**P**		**10 19 40.6**	**-0.8**
DPC	**Dobruska-Polom**	**76.02**	**333**	*e*P		**P**		**10 19 42.3**	**+0.7**
CLL	**Collm**	**76.14**	**336**	*i*P		**P**		**10 19 42.4**	**+0.1**
CLL				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
CLL	**Collm**	**76.14**	**336**	*i*P		**P**		**10 19 42.4**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9								
MORC	**Moravsky Berou**	**76.15**	**332**⇑	*i*P		**P**		**10 19 43.0**	**+0.7**
MORC	**Moravsky Berou**	**76.15**	**332**	*e*P		**P**		**10 19 42.7**	**+0.4**
	comp=Z,5.7nm,0.7s,mb4.6								
PLOR	**Plostina**	**76.28**	**325**⇑	*i*P		**P**		**10 19 41.4**	**-1.7**
KECS	**Kecovo**	**76.31**	**330**	*e*P		**P**		**10 19 43.5**	**+0.3**
KECS				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
KECS	**Kecovo**	**76.31**	**330**	*e*P		**P**		**10 19 43.5**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.3								
VYHS	**Vyhne**	**76.85**	**331**	*e*P		**P**		**10 19 46.9**	**+0.6**
MLR	**Muntele Rosu**	**76.85**	**325**⇑	*i*P		**P**		**10 19 47.8**	**+1.5**
MLR	**Muntele Rosu**	**76.85**	**325**⇑	P		**P**		**10 19 47.9**	**+1.5**
TXAR	**Lajitas Array**	**76.88**	**61**	P		**P**		**10 19 46.8**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=300,slow=4.9,SNR=30								
TXAR	**Lajitas Array**	**76.88**	**61**	P		**P**		**10 19 46.8**	**+0.4**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
PRU	**Pruhonice**	**76.88**	**334**	*e*P		**P**		**10 19 47.2**	**+0.8**
MALT	**Malatya**	**77.08**	**313**⇓	*i*P		**P**		**10 19 49.3**	**+1.7**
MALT	**Malatya**	**77.08**	**313**	*e*P		**P**		**10 19 49.1**	**+1.5**
	comp=Z,9.5nm,0.9s,mb4.7								
KHC	**Kasperske Hory**	**77.93**	**334**	*e*P		**P**		**10 19 53.3**	**+1.0**
KHC	**Kasperske Hory**	**77.93**	**334**⇑	*i*P		**P**		**10 19 53.6**	**+1.3**
GERES	**GERESS Array B**	**78.15**	**334**	P		**P**		**10 19 53.4**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=27,slow=5.0,SNR=7.7								
GERES	**GERESS Array B**	**78.15**	**334**	P		**P**		**10 19 53.4**	**-0.1**
GERES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BR131	**Keskin Array S**	**78.27**	**317**	*e*P		**P**		**10 19 55.0**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.5								
BRTR	**Keskin Array B**	**78.27**	**317**	P		**P**		**10 19 55.0**	**+0.8**
	comp=Z,6.1nm,0.8s,mb4.6,baz=57,slow=4.6,SNR=25								
BRTR	**Keskin Array B**	**78.27**	**317**	*i*P		**P**		**10 19 55.0**	**+0.8**
BRTR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
STKA	**Stephens Creek**	**79.55**	**190**	P		**P**		**10 19 59.7**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=26,slow=4.4,SNR=4.1								
STKA	**Stephens Creek**	**79.55**	**190**	P		**P**		**10 19 59.7**	**-1.6**
VTS	**Vitosha**	**80.36**	**325**⇑	*i*P		**P**		**10 20 06.3**	**+0.7**
VTS	**Vitosha**	**80.36**	**325**	⇑P		**P**		**10 20 06.3**	**+0.7**
CFAA	**Coronel Fontan**	**144.50**	**79**	PKP		PKPdf		10 27 28.1	-2.4
	comp=Z,1.6nm,0.6s,baz=277,slow=3.1,SNR=17								
VNA2	**Neumayer--Watz**	**154.63**	**194**	*e*PKPdf		PKPbc		10 27 57.9	+2.9
VNA2				*e*				10 28 07.9	
VNA2				*e*				10 28 17.0	
VNA3	**Neumayer Olymp**	**154.71**	**193**	*e*PKPdf		PKPbc		10 27 57.6	+2.5
VNA3				*e*				10 28 07.7	
VNA3				*e*				10 28 17.2	

MAN 23 10:21:45.3, 862N×12561E, h31km, mb3.0, ML4.4, MS0.5, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.91**	**217**	*e*P	Pn	10 22 02.0	+0.1
BUKP				*e*S	Sn	10 22 10.3	-3.6
CGP	**Cagayan de Oro**	**0.92**	**260**⇑	*e*P	Pn	10 22 02.0	0.0
CGP				*i* S	Sn	10 22 14.5	+0.4
SCPH	**Surigao**	**1.17**	**354**⇑	*e*P	Pn	10 22 05.5	+0.1
KCP	**Kidapawan**	**1.68**	**198**⇑	*e*P	Pn	10 22 12.6	+0.2
KCP				*i* S	Sn	10 22 33.6	+0.7
MSLP	**Maasin**	**1.68**	**334**	*e*P	Pn	10 22 12.3	-0.2
MATI	**Mati**	**1.78**	**159**	*e*P	Pn	10 22 14.1	+0.2
TBP	**Tagbilaran**	**2.03**	**302**	*e*P	Pn	10 22 17.8	+0.5
TBP				*e*S	Sn	10 22 40.8	-0.7
DCPH	**Dipolog City**	**2.23**	**269**	*e*P	Pn	10 22 20.5	+0.4
DCPH				*e*S	Sn	10 22 46.9	+0.3
SNPH	**Sibulan**	**2.45**	**287**	*e*P	Pn	10 22 25.0	+1.9
SNPH				*e*S	Sn	10 22 52.0	0.0

CASC 23 10:31:26.3±3.3, 843N×8294W, h7km±9km, MD4.0, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.32**	**314**	*e*P	Pg	10 31 32.5	0.0
ACR				*e*S	Sg	10 31 37.7	+1.0
DVD	**David**	**0.48**	**89**	*e*P	Pg	10 31 36.2	+0.6
DVD				*e*S	Sg	10 31 43.9	+2.0
BRU	**Baru**	**0.53**	**45**⇑	*i*P	Pg	10 31 37.9	+1.4
BRU				*e*S	Sg	10 31 46.8	+3.4
CNI	**Changuinola**	**1.07**	**23**⇓	*i*P	Pg	10 31 45.8	-1.0
LCR2	**La Lucha 2**	**1.68**	**321**⇑	*e*P	Pn	10 31 56.1	0.0
LCR2				*e*S	Sn	10 32 19.1	+1.3
LAJ	**Bijagual**	**1.84**	**321**	*e*P	Pn	10 31 59.0	+0.7
LAJ				*e*S	Sn	10 32 27.1	+5.1
SJS	**Escuela Geolog**	**1.86**	**324**	*e*P	Pn	10 31 58.7	+0.1
SJS				*e*S	Sn	10 32 23.6	+1.2
PRS1	**Puriscal**	**2.06**	**319**	*e*P	Pn	10 31 59.5	-1.8
PRS1				*e*S	Sn	10 32 26.4	-0.8
JCR	**Jicaral**	**2.57**	**304**	*e*P	Pn	10 32 07.9	-0.5
FORC	**Fortuna**	**2.65**	**320**	*i*P	Pn	10 32 10.4	+1.0
FORC				*i* S	Sn	10 32 46.7	+4.8
AZU	**Azuero**	**2.71**	**103**	*e*P	Pn	10 32 10.2	-0.2
AZU				*e*S	Sn	10 32 43.3	-0.1
ACH	**Altos**	**2.98**	**85**	*e*P	Pn	10 32 14.2	+0.1
ACH				*e*S	Sn	10 32 50.0	-0.1

*ISCJB **23** 10:42:57.7±0.2, 3721N±0.002×81.94W±0.002, h0km, mb4.2/18, Error ellipse: s-maj=3.3km s-min=2.2km az=165.5*
*NEIC **23** 10:42:57.4, 37.16N×8198W, h0km, mb4.3/15, MN4.3(BLA), After BLA.*
NEIC Probable collapse event. Felt at Raven.
*IDC **23** 10:42:58.4±0.6, 3720N×8179W, h0km, mb4.0/13, mb1 4.2/16, mb1mx4.1/25, mbtmp4.1/16, ML3.2/3, Error ellipse: s-maj=15.4km s-min=7.2km az=131.0*

ISC 23 10:42:59.2±0.2, 3722N±0.002×8192W±0.002, h0km, n78, σ1°23/114, mb4.2/18, 1D, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELN	**Prospectdale**	**0.93**	**89**	*e*Pg	**Pg**	**10 43 16.4**	**-0.6**
ELN				*e*Sg	**Sg**	**10 43 28.9**	**-0.1**
FWV	**Forest Hill**	**0.95**	**67**	*e*Pg	**Pg**	10 43 17.1	-0.3
FWV				*e*Sg	**Sg**	10 43 32.1	+2.4
BLA	**Blacksburg**	**1.19**	**90**	*e*Pg	**Pg**	10 43 21.0	-1.1
BLA				*e*Sg	**Sg**	10 43 37.5	0.0
TZTN	**Tazewell**	**1.47**	**243**	*e*Pn	**Pn**	10 43 26.3	-0.6
TZTN				*e*Sn	**Sn**	10 43 48.5	+1.6
VWCC	**Virginia Weste**	**1.55**	**88**⇓	*i*P	**Pn**	10 43 27.4	-0.5
VWCC				*e*S	**Sn**	10 43 47.8	-0.9
TKL	**Tuckaleechee C**	**2.16**	**224**	Pn	**Pn**	**10 43 37.3**	**+0.9**
	18nm,0.3s,baz=74,slow=16,SNR=210						
TKL				Lg		10 44 07.8	
	78nm,0.3s,baz=1.3,slow=15,SNR=20						
LHS	**Liberty Hill**	**2.88**	**161**	*e*Pn	**Pn**	**10 43 46.4**	**+0.1**
LHS				*e*Pg	**Pg**	10 43 50.4	-4.0
LHS				*e*Sn	**Sn**	10 44 23.4	+1.7
MCWV	**Mont Chateau**	**2.93**	**33**	*e*Pn	**Pn**	10 43 48.0	+1.0
MCWV				*e*S	**Sb**	10 44 29.4	+0.8
WCI	**Wyandotte Cave**	**3.62**	**288**	*e*Pn	**Pn**	10 43 58.1	+1.7
WCI				*e*S	**Sb**	10 44 48.7	+0.4
CBN	**Corbin**	**3.73**	**73**	*e*Pn	**Pn**	10 44 02.6	+4.6
CBN				*e*Pg	**Pg**	10 44 12.2	+1.5
CBN				*e*Sg	**Sg**	10 44 56.5	-2.6
CNNC	**Cliffs of the**	**3.81**	**120**	*e*Pn	**Pn**	10 43 59.3	+0.2
CNNC				*e*S	**Sb**	10 44 55.0	+1.2
COW	**Cow Castle Cre**	**3.96**	**165**	*e*Pn	**Pn**	10 44 00.5	-0.6
COW				*e*Pg	**Pg**	10 44 10.1	-4.9
COW				*e*Sn	**Sn**	10 44 43.1	-5.1
COW				*e*Sg	**Sg**	10 45 01.9	-4.4
GOGA	**Godfrey**	**4.00**	**199**	*e*Pn	**Pn**	10 44 02.0	+0.2
GOGA				*e*Pg	**Pb**	10 44 10.6	0.0
GOGA				*e*Sn	**Sn**	10 44 47.6	-1.8
BLO	**Bloomington**	**4.12**	**300**	*e*Pn	**Pn**	10 44 04.6	+1.3
BLO				*e*Pg	**Pg**	10 44 13.2	-4.9
BLO				*e*Sg	**Sg**	10 45 08.6	-3.0
NHSC	**New Hope**	**4.34**	**160**	*e*Pn	**Pn**	10 44 05.7	-0.7
NHSC				*e*Pg	**Pg**	10 44 14.8	-7.6
NHSC				*e*Sn	**Sn**	10 44 57.5	-0.2
NHSC				*e*Sg	**Sg**	10 45 12.3	-6.4
USIN	**University of**	**4.63**	**281**	*e*Pn	**Pn**	10 44 11.7	+1.3
USIN				*e*Pg	**Pg**	10 44 21.0	-6.9
USIN				*e*Sg	**Sg**	10 45 22.4	-5.5
ALLY	**Alegheny Colle**	**4.63**	**17**	*e*Pn	**Pn**	10 44 10.9	+0.5
ALLY				*e*Pg	**Pb**	10 44 21.0	-0.3
ALLY				*e*Sg	**Sg**	10 45 25.9	-2.1
SSPA	**Standing Stone**	**4.64**	**41**	*e*Pn	**Pn**	10 44 11.3	+0.8
SSPA				*e*Pg	**Pb**	10 44 19.6	-1.8
WVT	**Waverly**	**4.88**	**259**	*e*Pn	**Pn**	10 44 14.5	+0.7
WVT				*e*Pg	**Pb**	10 44 23.3	-2.2
WVT				*e*Sg	**Sg**	10 45 28.6	-7.2
MVL	**Millersville**	**5.17**	**56**	*e*P	**Pb**	10 44 26.4	-4.1
MVL				*e*S	**Sb**	10 45 34.4	+1.4
AAM	**Ann Arbor**	**5.25**	**346**	*e*Pn	**Pn**	10 44 20.4	+1.5
	307nm,0.9s						
AAM				*e*Pg	**Pg**	10 44 31.3	-8.5
AAM				*e*Sn	**Sn**	10 45 20.2	+0.1
AAM				*e*Sg	**Sg**	10 45 38.3	-10
PLAL	**Pickwick Lake**	**5.46**	**248**	*e*Pn	**Pn**	10 44 22.2	+0.4
	30nm,0.6s						
UTMT	**University of**	**5.65**	**263**	*e*Pn	**Pn**	**10 44 24.9**	**+0.6**
	112nm,0.8s						
SIUC	**Southern Illin**	**5.83**	**277**	*e*Pn	**Pn**	**10 44 27.1**	**+0.2**
	68nm,0.6s						
SIUC				*e*Sg	**Sg**	10 45 57.8	-8.7
OXF	**Oxford**	**6.66**	**248**	*e*Pn	**Pn**	10 44 37.4	-0.8
	44nm,0.6s						
OXF				*e*Sg	**Sb**	10 46 15.5	-0.3
SLM	**Saint Louis**	**6.73**	**285**	Pn	**Pn**	10 44 39.9	+0.7
	47nm,0.6s						
SLM				*e*Pb	**Pb**	10 44 57.7	+0.7
SLM				*e*Sg	**Sg**	10 46 27.7	-7.6
BINY	**Binghamton**	**6.75**	**41**	*e*Pn	**Pn**	10 44 39.8	+0.3
	28nm,0.7s						
FVM	**French Village**	**6.80**	**279**	*e*Pn	**Pn**	**10 44 40.6**	**+0.4**
	51nm,0.8s						
FVM				*e*Pg	**Pb**	10 44 59.5	+1.3
FVM				*e*Sn	**Sn**	10 45 57.5	-0.8
JFWS	**Jewell Farm**	**8.55**	**314**	*e*Pn	**Pn**	10 45 03.0	-1.2
	48nm,0.7s						
UALR	**University of**	**8.79**	**257**	*e*Pn	**Pn**	**10 45 07.1**	**-0.4**
	11nm,0.6s						
ACCN	**Adirondack Com**	**8.81**	**43**	*e*Pn	**Pn**	10 45 07.5	-0.3
ACCN				*e*Sg	**Sg**	10 47 32.6	-9.4
MIAR	**Mount Ida**	**9.83**	**258**	*e*Pn	**Pn**	10 45 21.3	-0.4
	19nm,0.6s						
MIAR				*e*Sn	**Sn**	10 47 10.0	-2.7
SCIA	**State Center**	**9.90**	**302**	*e*Pn	**Pn**	10 45 21.0	-1.6
	48nm,0.8s						
KSU1	**Kansas State U**	**11.72**	**284**	*e*Pn	**Pn**	10 45 46.2	-1.4
	31nm,0.7s						
WMOK	**Wichita Mounta**	**13.88**	**265**	*e*Pn	**Pn**	10 46 14.8	-2.3
	11nm,0.8s						
CBKS	**Cedar Bluff**	**14.14**	**282**	*e*Pn	**Pn**	**10 46 18.0**	**-2.7**
	47nm,1.0s						
AGMN	**Agassiz Refuge**	**15.06**	**322**	*e*P	**Pn**	**10 46 28.1**	**-5.1**
	7.9nm,0.6s						
AMTX	**Amarillo**	**16.16**	**268**	*e*P	**Pn**	**10 46 45.4**	**-2.2**
	24nm,0.9s						
JCT	**Junction City**	**16.30**	**251**	*e*P	**Pn**	**10 46 52.8**	**+3.4**
	18nm,0.9s						
ULM	**Lac du Bonnet**	**16.44**	**327**	Pn	**Pn**	**10 46 46.8**	**-4.3**
	0.2nm,0.3s,baz=135,slow=15,SNR=4.7						
ULM				Lg		10 51 26.8	
	0.2nm,0.3s,baz=46,slow=10.0,SNR=3.2						
ULM	**Lac du Bonnet**	**16.44**	**327**	Pn	**Pn**	**10 46 46.8**	**-4.3**
ULM				Lg		10 51 26.8	
PHWY	**Pilot Hill**	**18.66**	**290**	*e*P	**Pn**	**10 47 17.5**	**-1.4**
ISCO	**Idaho Springs**	**18.71**	**285**	*e*P	**Pn**	**10 47 20.1**	**+0.6**
	5.9nm,0.8s						
SDCO	**Great Sand Dun**	**18.72**	**279**	*e*P	**Pn**	**10 47 20.0**	**+0.5**
	9.2nm,0.9s						
TXAR	**Lajitas Array**	**19.79**	**253**	Pn	**Pn**	**10 47 31.3**	**-1.1**
	0.1nm,0.3s,baz=72,slow=12,SNR=37						
ANMO	**Albuquerque**	**19.95**	**271**	P	**Pn**	**10 47 35.1**	**+0.7**
	5.1nm,0.8s,baz=86,slow=12,SNR=23						
ANMO	**Albuquerque**	**19.95**	**271**	*e*P	**Pn**	**10 47 35.4**	**+1.0**
	5.8nm,0.9s						
LAO	**LASA Array**	**20.34**	**305**	*e*P	**P**	**10 47 38.3**	**+1.4**
	10nm,0.8s						
SCHQ	**Schefferville**	**20.41**	**26**	P	**P**	**10 47 37.4**	**-0.4**
	11nm,1.0s,baz=216,slow=9.8,SNR=4.7						
SCHQ				Lg		10 53 39.5	
	16nm,0.9s,baz=328,slow=16,SNR=6.2						
LAZ	**Ladron**	**20.63**	**270**	*e*P	**P**	**10 47 42.8**	**+2.7**
PV01	**Paradox Valley**	**21.10**	**281**	*e*P	**P**	**10 47 48.0**	**+2.8**
PV10	**Paradox Valley**	**21.44**	**281**	*e*P	**P**	**10 47 51.6**	**+2.8**
PDAR	**Pinedale Array**	**21.84**	**293**	P	**P**	**10 47 53.4**	**+0.2**
	1.8nm,0.7s,mb3.6,baz=89,slow=9.8,SNR=14						
PDAR				Lg		10 54 36.6	
	4.2nm,0.9s,baz=84,slow=32,SNR=7.4						
RLMT	**Red Lodge**	**21.98**	**300**	*e*P	**P**	**10 47 55.4**	**+0.8**
	22nm,0.8s,mb4.6						
GCMT	**Greycliff**	**22.39**	**301**	*e*P	**P**	**10 47 59.1**	**+0.1**
LOHW	**Long Hollow**	**22.69**	**295**	*e*P	**P**	**10 48 03.0**	**+0.8**
	4.3nm,0.8s,mb4.0						
FLWY	**Flagg Ranch**	**22.82**	**297**	*e*P	**P**	**10 48 04.7**	**+1.2**
	6.8nm,0.8s,mb4.2						
YFT	**Old Faithful**	**22.96**	**297**	*e*P	**P**	**10 48 08.2**	**+3.1**
HWUT	**Hardware Ranch**	**23.27**	**290**	*e*P	**P**	**10 48 08.3**	**0.0**
	9.0nm,0.9s,mb4.3						
WUAZ	**Wupatki**	**23.74**	**275**	*e*P	**P**	**10 48 15.3**	**+2.1**
	7.9nm,0.8s,mb4.3						
DLMT	**Dillon**	**24.34**	**299**	*e*P	**P**	**10 48 19.9**	**+1.3**
	18nm,1.0s,mb4.5						
NEW	**Newport**	**27.88**	**305**	P	**P**	**10 48 50.3**	**-0.3**
	3.1nm,0.7s,mb4.3,baz=110,slow=9.8,SNR=8.4						
SDV	**Santo Domingo**	**30.00**	**157**	P	**P**	**10 49 10.4**	**+0.9**
	1.7nm,0.6s,mb4.0,baz=11,slow=6.5,SNR=4.3						
YKA	**Yellowknife Ar**	**32.29**	**332**	P	**P**	**10 49 29.2**	**-0.4**
	0.8nm,0.8s,mb3.7,baz=119,slow=8.9,SNR=5.5						
INK	**Inuvik**	**41.98**	**334**	P	**P**	**10 50 51.1**	**-0.7**
	1.0nm,0.7s,mb3.6,baz=12,slow=3.3,SNR=6.9						
LPAZ	**La Paz**	**54.78**	**164**	P	**P**	**10 52 30.6**	**-0.1**
	3.7nm,0.9s,mb4.4,baz=349,slow=7.0,SNR=14						
LPAZ	**La Paz**	**54.78**	**164**	*e*P	**P**	**10 52 30.7**	**+0.1**
	5.0nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**61.33**	**22**	P	**P**	**10 53 14.6**	**-2.0**
	3.2nm,0.8s,mb4.5,baz=288,slow=5.0,SNR=3.8						
FINES	**FINESS Array B**	**65.81**	**30**	P	**P**	**10 53 45.4**	**-0.8**
	1.8nm,0.7s,mb4.4,baz=249,slow=9.4,SNR=5.0						
AKASG	**Malin Array Be**	**73.64**	**38**	P	**P**	**10 54 32.9**	**-1.5**
	0.3nm,0.4s,mb3.7,baz=304,slow=5.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**77.14**	**83**	P	**P**	**10 54 52.3**	**-2.2**
	1.4nm,0.9s,mb4.1,baz=299,slow=8.6,SNR=7.2						
BRTR	**Keskin Array B**	**83.24**	**44**	P	**P**	**10 55 27.9**	**+0.5**
	0.8nm,0.7s,mb4.1,baz=291,slow=3.8,SNR=3.8						
BRVK	**Borovoye**	**86.91**	**16**	*e*P	**P**	**10 55 46.0**	**+0.1**
	2.4nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**144.01**	**265**	*e*P	PKPdf	11 02 34.4	-2.2
	3.5nm,0.7s						
STKA	**Stephens Creek**	**144.01**	**265**	PKP	PKPdf	11 02 34.4	-2.2
	4.5nm,0.7s,baz=56,slow=3.2,SNR=12						
WB2	**Warramunga Arr**	**144.07**	**288**	*e*P	PKPdf	11 02 34.7	-2.0
WRA	**Warramunga Arr**	**144.08**	**289**	PKP	PKPdf	11 02 34.7	-2.0
	2.2nm,0.8s,baz=46,slow=4.1,SNR=21						
ASAR	**Alice Springs**	**146.50**	**284**	PKPbc	PKPbc	11 02 42.0	-0.4
	1.4nm,0.7s,baz=65,slow=2.7,SNR=14						

*IDC **23** 10:46:00.4±0.9, 4684N×15553E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, ML4.1/1, Error ellipse: s-maj=29.3km s-min=20.8km az=134.0*
*ISCJB **23** 10:46:03.7±0.8, 470N±0.1×1553E±0.2, h35km, mb3.7/7, Error ellipse: s-maj=22.2km s-min=11.9km az=85.0*
*MOS **23** 10:46:03.3±1.1, 4696N×15520E, h33km, mb4.1/5, Error ellipse: s-maj=33.1km s-min=18.0km az=67.4*

ISC 23 10:46:05.6±0.8, 470N±0.1×1554E±0.2, h35km, n16, σ0°87/16, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.71**	**7**	*e*PN	**Pn**	**10 46 59.0**	**-1.4**
ASAJ	**Asahikawa**	**9.44**	**257**	Pn	**Pn**	**10 48 18.6**	**-0.4**
	2.2nm,0.3s,baz=65,slow=28,SNR=17						
ASAJ	**Asahikawa**	**9.44**	**257**	PN	**Pn**	**10 48 18.7**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.51**	**237**	Pn	**Pn**	**10 49 50.4**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=32,slow=14,SNR=6.0						
KSRS	**Korea Array**	**22.38**	**255**	P	**P**	**10 51 01.6**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.4,baz=263,slow=25,SNR=3.6						

KNDC	**Almaty**	**4.87**	**260**	⇓Pn		**Pn**	**11 05 58.3**	**+1.6**
	comp=Z,307nm,0.8s								
KNDC				⇓Pg		**Pn**	**11 06 13.2**	**+17**
	comp=Z,6μm,1.6s								
KNDC				⇓Lg			11 07 12.2		
	comp=Z,9μm,0.8s								
ULHL	**Ulahol**	**5.69**	**252**	P		**Pn**	**11 06 08.4**	**+0.5**
	SNR=141								
TKM2	**Tokmak 2**	**5.91**	**260**	P		**Pn**	**11 06 11.5**	**+0.4**
	SNR=66								
TKM2	**Tokmak 2**	**5.91**	**260**	⇑Pn		**Pn**	**11 06 11.4**	**+0.4**
	comp=Z,13nm,0.7s								
TKM2				⇑Pg		Pn	11 06 33.4	+22	
	comp=Z,188nm,0.8s								
TKM2				⇑Lg			11 07 48.2		
	comp=Z,736nm,1.1s								
KZA	**Kyzart**	**6.44**	**253**	P		**Pn**	**11 06 20.1**	**+1.9**
	SNR=26								
KBK	**Karagaybulak**	**6.45**	**258**	P		**Pn**	**11 06 19.1**	**+0.7**
	SNR=40								
CHMS	**Chumysh**	**6.49**	**262**	P		**Pn**	**11 06 19.4**	**+0.4**
	SNR=11								
USP	**Ospenovka**	**6.61**	**264**	P		**Pn**	**11 06 20.8**	**+0.2**
	SNR=59								
FRU	**Bishkek**	**6.63**	**261**	*e*P		**Pn**	**11 06 21.5**	**+0.6**
FRU				pmax		pmax			
	comp=Z,360nm,1.5s								
AKAR	**Aktash**	**6.66**	**23**	*e*P		**Pn**	**11 06 25.0**	**+3.8**
AKAR				*e*			11 07 40.4		
UKR	**Ust'-Kan**	**6.72**	**7**	*e*P		**Pn**	**11 06 24.8**	**+2.7**
UKR				*e*			11 07 39.8		
AAK	**Ala-Archa**	**6.77**	**259**	P		**Pn**	**11 06 23.7**	**+0.8**
	SNR=34								
AAK	**Ala-Archa**	**6.77**	**259**	Pn		**Pn**	**11 06 22.1**	**-0.7**
	comp=Z,472nm,0.4s,SNR=40								
AAK	**Ala-Archa**	**6.77**	**259**	*c i*P		**Pn**	**11 06 23.1**	**+0.3**
AAK				pmax		pmax			
	comp=Z,38nm,1.7s								
AAK	**Ala-Archa**	**6.77**	**259**	*e*Pn		**Pn**	**11 06 23.0**	**+0.2**
AAK				*e*Sn		**Sn**	**11 07 36.5**	**-2.8**
UCH	**Uchtor**	**6.89**	**256**	P		**Pn**	**11 06 26.3**	**+1.9**
	SNR=29								
KURK	**Kurchatov**	**7.25**	**334**	Pn		**Pn**	**11 06 29.8**	**+0.4**
	comp=Z,855nm,0.5s,SNR=17								
KURK	**Kurchatov**	**7.25**	**334**	⇑Pn		**Pn**	**11 06 29.3**	**0.0**
	comp=Z,36nm,0.7s								
KURK				⇑Pg		Pn	11 06 55.1	+26	
	comp=Z,182nm,0.8s								
KURK				⇑Lg			11 08 30.9		
	comp=Z,3μm,1.0s								
KURK	**Kurchatov**	**7.25**	**334**	P		**Pn**	**11 06 28.5**	**-0.9**
KURK				pmax		pmax			
	comp=Z,25nm,0.7s								
EKS2	**Erkin-Say**	**7.27**	**261**	P		**Pn**	**11 06 30.0**	**+0.3**
	SNR=14								
KSH	**Kashi**	**7.37**	**232**	*e*P		**Pn**	**11 06 35.9**	**+4.9**
KSH				*e*S		**Sn**	**11 07 58.8**	**+4.9**
KSH				LR		LR			
	comp=Z,4μm,11.2s								
AML	**Almayashu**	**7.50**	**257**	P		**Pn**	**11 06 34.5**	**+1.8**
	SNR=15								
KK31	**Karatay Array**	**9.50**	**267**	Pn		**Pn**	**11 06 59.9**	**-0.3**
	comp=Z,25nm,0.5s,baz=77,slow=13,SNR=242								
KK31				⇑Pg		Pn	11 07 37.9	+38	
	comp=Z,66nm,0.6s,baz=74,slow=14,SNR=4.3								
KK31				⇑Lg			11 09 37.1		
	comp=Z,709nm,0.7s								
KK31	**Karatay Array**	**9.50**	**267**	*i* P		**Pn**	**11 06 59.9**	**-0.4**
KK31				pmax		pmax			
	comp=Z,18nm,0.3s								
KKAR	**Karatay Array**	**9.50**	**267**	*e*P		**Pn**	**11 06 59.9**	**-0.4**
KKAR				pmax		pmax			
	comp=Z,6.0nm,0.4s								
ZAL	**Zalesovo**	**9.71**	**4**	Sn		**Sn**	**11 08 49.0**	**-2.4**
	comp=Z,48nm,0.3s,baz=141,slow=18,SNR=4.8								
ZAL				Lg			11 09 50.9		
	comp=Z,23nm,0.3s,baz=20,slow=8.1,SNR=3.7								
NVS	**Novosibirsk**	**10.58**	**359**	*e*P		**Pn**	**11 07 14.6**	**-0.4**
VOSK	**Vostochnaya**	**11.85**	**320**	⇑Pn		**Pn**	**11 07 30.8**	**-1.6**
	comp=Z,142nm,1.1s								
VOSK				⇑Sn		**Sn**	**11 09 38.5**	**-5.3**
	comp=Z,158nm,0.9s								
VOSK				⇑Lg			11 10 53.3		
	comp=Z,1μm,1.1s								
VOSK	**Vostochnaya**	**11.85**	**320**	P		**Pn**	**11 07 30.4**	**-2.0**
VOSK							11 09 36.1		
VOSK				pmax		pmax			
	comp=Z,149nm,1.1s								
VOSK				smax					
	comp=Z,150nm,1.0s								
BVA0	**Borovoye Array**	**12.31**	**320**	⇓Pn		**Pn**	**11 07 38.2**	**-0.6**
	comp=Z,11nm,0.6s,baz=129,slow=11,SNR=408								
BVA0				⇑Sn		**Sn**	**11 09 51.0**	**-4.3**
	comp=Z,38nm,1.2s,baz=159,slow=31,SNR=4.7								
BVA0				⇓Lg			11 11 07.5		
	comp=Z,344nm,1.8s,baz=131,slow=27,SNR=4.3								
BVA0	**Borovoye Array**	**12.31**	**320**	*i* P		**Pn**	**11 07 37.3**	**-1.5**
BVA0							11 09 51.8		
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.4s								
BVA0				smax					
	comp=Z,5.0nm,0.6s								
BVAR	**Borovoye Array**	**12.31**	**320**	Pn		**Pn**	**11 07 38.4**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=127,slow=12,SNR=49								
BVAR				Sn		**Sn**	**11 09 51.6**	**-3.7**
	comp=Z,11nm,0.3s,baz=129,slow=20,SNR=5.9								
BVAR				Lg			11 11 13.6		
	comp=Z,10nm,0.3s,baz=133,slow=33,SNR=5.9								
BVAR				LR		LR	11 12 32.0		
	comp=Z,3μm,20.5s,baz=140,slow=38								
BVAR	**Borovoye Array**	**12.31**	**320**	P		**Pn**	**11 07 38.4**	**-0.4**
BVAR							11 09 51.6		
BVAR				pmax		pmax			
	comp=Z,4.0nm,0.3s								
BVAR				smax					
	comp=N,11nm,0.3s								
BVAR				MLR		MLR			
	comp=Z,3μm,20.5s								
BRVK	**Borovoye**	**12.39**	**320**	Pn		**Pn**	**11 07 39.0**	**-0.7**
	comp=Z,1μm,0.5s,SNR=14								
BRVK	**Borovoye**	**12.39**	**320**	*e*Pn		**Pn**	**11 07 39.3**	**-0.5**
BRVK				*e*Sn		**Sn**	**11 09 44.0**	**-13**
CHKZ	**Chkalovo**	**12.65**	**323**	⇑Pn		**Pn**	**11 07 41.9**	**-1.4**
	comp=Z,152nm,0.9s								
CHKZ				⇑Sn		**Sn**	**11 10 01.7**	**-1.7**
	comp=Z,140nm,1.1s								
CHKZ				⇓Lg			11 11 18.2		
	comp=Z,1μm,1.5s								
CHKZ	**Chkalovo**	**12.65**	**323**	*e*P		**Pn**	**11 07 42.3**	**-1.0**
CHKZ				pmax		pmax			
	comp=Z,86nm,0.6s								
CHKZ	**Chkalovo**	**12.65**	**323**	*e*Pn		**Pn**	**11 07 42.2**	**-1.0**
	comp=Z,86nm,0.6s								
GTA	**Gaotai**	**13.08**	**106**	*e*P		**Pn**	**11 07 47.3**	**-1.9**
GTA				AP			11 07 52.8		
GTA				XP			11 07 56.8		
GTA				S		**Sn**	**11 10 11.4**	**-2.5**
GTA				XS			11 10 20.9		
GTA				SS			11 10 28.1		
GTA				SCS		ScS	11 20 27.4	-1.7	
GTA				AMB		AMB			
	comp=Z,4.0nm,0.9s								
GTA				AMB		AMB			
	comp=Z,57nm,4.6s								
GTA				LR		LR			
	comp=N,3μm,13.7s								
GTA				LR		LR			
	comp=E,3μm,12.2s								
GTA				LR		LR			
	comp=Z,3μm,12.9s								
DLH	**Dalhousie**	**13.12**	**209**	*e*P		**Pn**	**11 07 50.0**	**+0.2**
DLH				*ex*		x	11 10 06.0		
KRAR	**Krasnoyarsk**	**13.17**	**24**	*e*P		**Pn**	**11 07 47.7**	**-2.8**
KRAR				MLR		MLR			
	comp=Z,3μm,19.0s								
NIL	**Nilore**	**13.27**	**220**	Pn		**Pn**	**11 07 51.7**	**-0.1**
	comp=Z,704nm,0.6s,SNR=8.1								
THN	**Thein Dam**	**13.31**	**210**	*e*P		**Pn**	**11 07 52.3**	**0.0**
THN				*ex*		x	11 10 14.2		
SDNR	**Sundarnagar**	**13.76**	**204**	*e*P		**Pn**	**11 07 58.9**	**+0.4**
SDNR				*ex*		x	11 10 18.5		
MOY	**Mondy**	**13.82**	**51**	*e*P		**Pn**	**11 08 01.3**	**+2.0**
MOY				pmax		pmax			
	comp=Z,80nm,2.0s								
BHK	**Bhakra**	**14.00**	**206**	*ex*		x	11 09 30.0		
BHK				*ex*		x	11 10 35.0		
ZAK	**Zakamensk**	**14.70**	**58**	⇑*i*P		**Pn**	**11 08 12.2**	**+0.8**
ZAK				pmax		pmax			
	comp=Z,20nm,1.0s								
LGTI	**Lohaghat**	**15.03**	**191**	*e*P		**Pn**	**11 08 18.5**	**+2.8**
TLY	**Talaya**	**15.34**	**54**	*e*P		**Pn**	**11 08 23.7**	**+3.8**
TLY				*e*S		**Sn**	**11 11 08.4**	**-0.8**
TLY				pmax		pmax			
	comp=Z,19nm,1.0s								
TLY				MLR		MLR			
	comp=Z,2μm,17.0s								
TLY	**Talaya**	**15.34**	**54**	*e*P		**Pn**	**11 08 24.4**	**+4.5**
	comp=Z,22nm,1.1s								
LSA	**Lhasa**	**15.76**	**155**	*e*P		**Pn**	**11 08 26.8**	**+1.5**
LSA				pmax		pmax			
	comp=Z,88nm,0.8s								
LSA	**Lhasa**	**15.76**	**155**	*e*P		**Pn**	**11 08 26.8**	**+1.5**
	comp=Z,88nm,0.8s								
IRK	**Irkutsk**	**15.91**	**53**	*e*P		**Pn**	**11 08 22.8**	**-4.5**
IRK				*e*S		**Sn**	**11 11 23.8**	**+0.9**
IRK				pmax		pmax			
	comp=Z,180nm,0.1s								
SONM	**Songino Array**	**16.26**	**69**	Pn		**Pn**	**11 08 30.9**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=260,slow=14,SNR=51								
SONM				pP		pP	11 08 36.6	-4.2	
	comp=Z,5.0nm,0.3s,baz=268,slow=12,SNR=95								
SONM				Lg			11 13 21.3		
	comp=Z,0.5nm,0.3s,baz=273,slow=30,SNR=5.9								
SONM				LR		LR	11 15 33.6		
	comp=Z,5μm,19.3s,baz=269,slow=40								
GKN	**Gorkha**	**16.26**	**176**	*e*P		**Pn**	**11 08 30.6**	**-1.2**
	comp=Z,330nm,0.8s								
NDI	**New Delhi**	**16.36**	**200**	*ex*		x	11 08 29.2		
NDI				*e*S		**Sn**	**11 11 42.0**	**+8.2**
GUN	**Gumba**	**16.44**	**173**	*e*P		**Pn**	**11 08 34.2**	**+0.2**
	comp=Z,432nm,1.1s								
KOLN	**Koldanda**	**16.47**	**180**	*e*P		**Pn**	**11 08 30.4**	**-4.0**
	comp=Z,269nm,1.1s								
KKN	**Kakani**	**16.51**	**175**	*e*P		**Pn**	**11 08 33.9**	**-1.0**
	comp=Z,161nm,0.7s								
DMN	**Daman**	**16.68**	**175**	*e*P		**Pn**	**11 08 34.9**	**-2.2**
	comp=Z,112nm,0.8s								
ULN	**Ulaanbaatar**	**16.70**	**69**	*c i*P		**Pn**	**11 08 37.8**	**+0.5**
ULN	**Ulaanbaatar**	**16.70**	**69**	*e*P		**Pn**	**11 08 37.7**	**+0.3**
	comp=Z,29nm,0.9s								
PKI	**Pulchoki**	**16.74**	**174**	*e*P		**Pn**	**11 08 35.4**	**-2.4**
	comp=Z,242nm,1.1s								
AB31	**Akbulak array**	**16.88**	**295**	⇑Pn		**Pn**	**11 08 35.8**	**-3.8**
	comp=Z,30nm,0.6s								
AB31				⇓Lg			11 13 32.3		
	comp=Z,1μm,1.8s								
AB31	**Akbulak array**	**16.88**	**295**	P		**Pn**	**11 08 35.7**	**-3.9**
AB31				pmax		pmax			
	comp=Z,8.0nm,0.5s								
LZH	**Lanzhou**	**17.52**	**111**	⇑P		**Pn**	**11 08 47.5**	**-0.1**
LZH				AP		pP	11 08 53.6	-1.2	
LZH				XP		sP	11 08 57.5	-0.3	
LZH				PP			11 09 02.3		
LZH				S		**Sn**	**11 12 00.4**	**-1.5**
LZH				XS		sS	11 12 08.9	-11	
LZH				SS			11 12 21.5		
LZH				AMB		AMB			
	comp=Z,135nm,1.3s								
LZH				AMB		AMB			
	comp=Z,441nm,4.2s								
LZH				LR		LR			
	comp=N,3μm,10.2s								
LZH				LR		LR			
	comp=Z,4μm,12.1s								
LZH	**Lanzhou**	**17.52**	**111**	⇑P		**Pn**	**11 08 47.5**	**-0.1**
	comp=Z,135nm,1.3s								
LZH				pP		pP	11 08 53.6	-1.2	
LZH				sP		sP	11 08 57.5	-0.3	
LZH				PP			11 09 02.3		
LZH				S		**Sn**	**11 12 00.4**	**-1.5**
LZH				sS		sS	11 12 08.9	-11	
LZH				SS			11 12 21.5		
AKTK	**Aktyubinsk**	**18.30**	**299**	P		**Pn**	**11 08 56.3**	**-0.9**
AKTK				LR		LR	11 16 22.4		
AKTO	**Aktyubinsk**	**18.30**	**299**	⇑Pn		**Pn**	**11 08 55.5**	**-1.6**
	comp=Z,8.0nm,1.6s								
AKTO				⇑Sn		**Sn**	**11 12 19.2**	**-1.5**
	comp=Z,5.4nm,1.8s								
AKTO				⇑Lg			11 14 17.0		
	comp=Z,24nm,1.6s								
AKTO	**Aktyubinsk**	**18.30**	**299**	P		**Pn**	**11 08 56.3**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=101,slow=12,SNR=24								
AKTO				LR		LR	11 16 22.4		
	comp=Z,4μm,18.1s,baz=323,slow=38								
AKTO	**Aktyubinsk**	**18.30**	**299**	P		**Pn**	**11 08 56.3**	**-0.8**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.3s								
AKTO				MLR		MLR			
	comp=Z,4μm,18.1s								
SVE	**Sverdlovsk**	**19.10**	**319**	⇑*i*P		**Pn**	**11 09 06.0**	**-0.9**
SVE				*e*S		**Sn**	**11 12 40.0**	**-0.2**
SVE				pmax		pmax			
	comp=Z,150nm,1.5s								
SVE				MLR		MLR			
	comp=Z,6μm,10.0s								
AJM	**Ajmer**	**19.15**	**205**	*e*P		**Pn**	**11 09 06.0**	**-1.5**
SHL	**Shillong**	**19.86**	**157**	⇓*i*P		**Pn**	**11 09 14.0**	**-2.0**
SHL				*e*S		**Sn**	**11 12 58.8**	**+0.2**
BTO	**Baotou**	**19.86**	**91**	*e*P		**Pn**	**11 09 14.3**	**-1.7**
BTO				S		**Sn**	**11 12 57.3**	**-1.3**
BTO				LR		LR			
	comp=N,588nm,4.5s								
BTO				LR		LR			
	comp=E,539nm,12.9s								
ARU	**Arti**	**19.91**	**316**	Pn		**Pn**	**11 09 15.2**	**-1.3**
	comp=E,762nm,1.0s,SNR=7.5								
ARU	**Arti**	**19.91**	**316**	⇑*i*P		**Pn**	**11 09 14.8**	**-1.7**
ARU				*e*S		**Sn**	**11 12 59.1**	**-0.5**
ARU				pmax		pmax			
	comp=Z,112nm,0.9s								
ARU				MLR		MLR			
	comp=Z,2μm,17.0s								
ARU				MLR		MLR			
	comp=N,700nm,16.0s								
ARU				MLR		MLR			
	comp=E,1μm,15.0s								
ARU	**Arti**	**19.91**	**316**	*e*P		**Pn**	**11 09 14.8**	**-1.7**
	comp=E,115nm,0.9s								
ABKT	**Ailbek**	**20.12**	**260**	P		**P**	**11 09 17.0**	**-0.1**
	comp=E,366nm,0.8s,SNR=12								
VAN	**Vannovskaya**	**20.12**	**260**	*e*P		**P**	**11 09 16.1**	**-1.0**
VAN				*i* S		**S**	**11 13 05.5**	**+3.4**
BOK	**Bokaro**	**20.52**	**174**	*e*P		**P**	**11 09 21.7**	**+0.2**
BOK				AMb		AMB	11 09 32.9		
	comp=Z,145nm,1.4s								
ORR	**Orenburg**	**20.53**	**301**	*e*P		**P**	**11 09 20.9**	**-0.6**
ORR				*e*			11 09 29.7		
ORR				S		**S**	**11 13 03.8**	**-6.3**
ORR				pmax		pmax			
	comp=Z,150nm,2.0s								
ORR				MLR		MLR			
	comp=Z,5μm,26.0s,MS4.8								
CD2	**Chengdu**	**20.79**	**123**	P		**P**	**11 09 24.9**	**+0.6**
CD2				AP			11 09 31.6		
CD2				XP		sP	11 09 35.3	+1.7	
CD2				PP			11 09 47.3		
CD2				S		**S**	**11 13 11.3**	**-3.9**
CD2				XS		sS	11 13 21.5	-3.9	
CD2				SS			11 13 42.8		
CD2				AMB		AMB			
	comp=Z,50nm,0.8s								
CD2				AMB		AMB			
	comp=Z,220nm,4.2s								
CD2				LR		LR			
	comp=N,2μm,13.3s,MS4.9								
CD2				LR		LR			
	comp=E,2μm,12.7s,MS4.9								
CD2				LR		LR			
	comp=Z,4μm,14.9s,MS4.9								
HHC	**Hu-ho-hao-te**	**20.89**	**90**	⇑*i*P		**P**	**11 09 26.5**	**+1.0**
HHC				AP			11 09 32.9		
HHC				XP		sP	11 09 36.6	+1.8	
HHC				PP			11 09 49.5		
HHC				S		**S**	**11 13 15.0**	**-2.3**
HHC				XS		sS	11 13 25.8	-1.7	
HHC				SS			11 13 47.1		
HHC				SCP		ScP	11 17 06.6	-1.7	
HHC				AMB		AMB			
	comp=Z,40nm,1.5s								
HHC				LR		LR			
	comp=N,2μm,12.8s,MS4.9								
HHC				LR		LR			
	comp=E,2μm,12.6s,MS4.9								
HHC				LR		LR			
	comp=Z,2μm,14.6s,MS4.7								
IMP	**Imphal**	**21.22**	**153**	*e*P		**P**	**11 09 29.0**	**0.0**
JBP	**Jabalpur**	**21.25**	**189**	⇓*i*P		**P**	**11 09 30.6**	**+1.2**
AGT	**Agartala**	**21.30**	**160**	*e*P		**P**	**11 09 33.0**	**+3.1**
CIT	**Chita**	**21.36**	**58**	*e*P		**P**	**11 09 30.9**	**+0.3**
CIT				*e*			11 09 38.6		
CIT				*e*			11 09 56.6		
CIT				pmax		pmax			
	comp=Z,223nm,2.4s,mb5.1								
BHPL	**Bhopal**	**21.57**	**195**	*e*P		**P**	**11 09 31.4**	**-1.4**
BHPL				AMb		AMB	11 09 44.0		
	comp=Z,190nm,1.9s,mb5.2								
CAL	**Calcutta**	**22.04**	**168**	*ex*		x	11 09 46.3		
CAL				*ex*		x	11 13 44.5		
XAN	**Xi'an**	**22.11**	**109**	P		**P**	**11 09 37.8**	**-0.7**
XAN				PP			11 10 02.9		
XAN				S		**S**	**11 13 35.4**	**-5.7**
XAN				AMB		AMB			
	comp=Z,25nm,1.8s,mb4.3								
XAN				AMB		AMB			
	comp=Z,237nm,9.7s								
XAN				LR		LR			
	comp=N,1μm,9.3s								
XAN				LR		LR			
	comp=E,864nm,10.2s								
XAN				LR		LR			
	comp=Z,1μm,15.5s								
SOKR	**Solikamsk**	**22.27**	**323**	*c i*P		**P**	**11 09 40.1**	**-0.2**
SOKR				S		**S**	**11 13 43.5**	**-0.8**
SOKR				pmax		pmax			
	comp=Z,350nm,1.1s,mb5.7								
SOKR				MLR		MLR			
	comp=Z,2μm,16.0s,MS4.5								
BOD	**Bodaibo**	**23.22**	**44**	*e*P		**P**	**11 09 50.1**	**-0.2**
BOD				*e*			11 10 00.0		
BOD				pmax		pmax			
	comp=Z,35nm,1.2s,mb4.7								
BOD				pmax		pmax			
	comp=Z,163nm,1.2s,mb5.3								
NGP	**Nagpur**	**23.36**	**191**	*ex*		x	11 09 50.7		
	comp=Z,37nm,0.6s								
NGP				*ex*		x	11 14 05.2		
BJI	**Beijing**	**24.48**	**89**	P		**P**	**11 10 02.8**	**+0.7**
BJI				AMB		AMB			
	comp=Z,19nm,0.8s,mb4.6								
BJI				AMB		AMB			
	comp=Z,353nm,4.8s								
BJI				LR		LR			
	comp=N,2μm,14.2s,MS5.1								
BJI				LR		LR			
	comp=E,3μm,12.0s,MS5.1								
BJI				LR		LR			
	comp=Z,1μm,24.2s								
BJI	**Beijing**	**24.48**	**89**	P		**P**	**11 10 02.8**	**+0.7**
	comp=Z,19nm,0.8s,mb4.6								
BJI				S		**S**	**11 14 33.1**	**+12**
BJI				LR		LR			
	comp=Z,1μm,24.2s,MS4.3								
BJT	**Baijiatuau**	**24.48**	**89**	*e*P		**P**	**11 10 03.4**	**+1.2**
BJT				pmax		pmax			
	comp=Z,29nm,0.8s								
BJT				MLR		MLR			
	comp=Z,2μm,19.0s								
BJT	**Baijiatuau**	**24.48**	**89**	*e*P		**P**	**11 10 03.4**	**+1.3**
	comp=Z,29nm,0.8s,mb4.8								
BJT				LR		LR			
	comp=Z,2μm,19.0s,MS4.6								
KMI	**Kunming**	**24.68**	**134**	P		**P**	**11 10 04.1**	**+0.1**
KMI				AP			11 10 10.3		
KMI				XP		sP	11 10 13.3	-0.3	
KMI				PP			11 10 43.9		
KMI				S		**S**	**11 14 22.3**	**-2.1**
KMI				XS		sS	11 14 37.3	+1.7	
KMI				AMB		AMB			
	comp=Z,17nm,1.0s,mb4.5								
KMI				AMB		AMB			
	comp=Z,209nm,4.7s								
KMI				LR		LR			
	comp=N,804nm,12.6s,MS4.7								
KMI				LR		LR			
	comp=E,1μm,14.3s,MS4.7								
KMI				LR		LR			
	comp=Z,1μm,14.7s,MS4.5								
KMI	**Kunming**	**24.68**	**134**	P		**P**	**11 10 04.1**	**+0.1**
KMI				*SP		sP	11 10 13.2	-0.4	
KMI							11 10 43.9		
KMI				PPP			11 10 54.2		
KMI				S		**S**	**11 14 22.3**	**-2.1**
KMI				*SS		sS	11 14 37.2	+1.6	
KMI				pmax		pmax			
	comp=Z,17nm,1.0s,mb4.5								
KMI				MLR		MLR			
	comp=Z,1μm,14.7s,MS4.5								
KMI	**Kunming**	**24.68**	**134**	P		**P**	**11 10 04.1**	**+0.1**
	comp=Z,17nm,1.0s,mb4.5								
KMI				pP			11 10 10.3		
KMI				sP		sP	11 10 13.2	-0.4	
KMI				PP			11 10 43.9		
KMI				PPP			11 10 54.2		
KMI				S		**S**	**11 14 22.3**	**-2.1**
KMI				sS		sS	11 14 37.2	+1.6	
KMI				LR		LR			
	comp=Z,1μm,14.7s,MS4.5								
HIA	**Hailar**	**25.14**	**66**	⇑*i*P		**P**	**11 10 09.0**	**+0.8**
HIA	**Hailar**	**25.14**	**66**	*e*P		**P**	**11 10 09.8**	**+1.6**
	comp=Z,82nm,1.6s,mb5.0								
HIA				LR		LR			
	comp=Z,3μm,20.0s,MS4.7								
GYA	**Guiyang**	**25.78**	**126**	⇑*i*P		**P**	**11 10 14.1**	**+0.1**
GYA				AP		pP	11 10 22.4	+1.6	
GYA				XP		sP	11 10 25.0	+1.4	
GYA				PP			11 10 56.5		
GYA				PCP		PcP	11 13 46.0	+2.7	
GYA				S		**S**	**11 14 41.0**	**-0.9**
GYA				XS		sS	11 14 52.4	-0.8	
GYA				PCS		PcS	11 17 22.6	-1.4	
GYA				AMB		AMB			
	comp=Z,80nm,1.0s,mb5.2								
GYA				AMB		AMB			
	comp=Z,420nm,5.1s								
GYA				LR		LR			
	comp=N,940nm,15.3s,MS4.6								
GYA				LR		LR			
	comp=E,800nm,13.2s,MS4.6								
GYA				LR		LR			
	comp=Z,860nm,15.9s,MS4.4								
MAK	**Makhachkala**	**25.98**	**280**	*e*P		**P**	**11 10 15.3**	**-0.5**
MAK				*e*			11 10 50.2		
MAK				*i*			11 13 46.9		
MAK				*e*S		**S**	**11 14 46.2**	**+1.1**
MAK				pmax		pmax			
	comp=Z,546nm,1.3s,mb5.9								
MAK				MLR		MLR			
	comp=Z,3μm,17.0s,MS4.9								
LATR	**Latur**	**26.44**	**

ZEI e*PP pP 11 10 46.2 +0.2
ZEI i 11 11 40.5
CLNS Chul'man 28.66 49 eP **P** **11 10 44.2 +4.4**
CLNS pmax pmax
comp=Z,23nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,25nm,1.2s
CM31 Chiang Mai Arr 28.81 148 eP **P** **11 10 41.7 +0.5**
comp=E,9.3nm,0.5s,mb4.8
CM31 LR LR
comp=Z,478nm,21.0s,MS4.1
GNI Garni 28.84 275 P **P** **11 10 41.7 +0.3**
comp=Z,5.2nm,0.5s,mb4.5,baz=104,slow=6.8,SNR=7.8
GNI LR LR 11 23 43.8
comp=Z,490nm,20.9s,MS4.1,baz=230,slow=39
GNI Garni 28.84 275 *c* iP **P** **11 10 42.7 +1.3**
GNI pmax pmax
comp=Z,52nm,1.7s
GNI Garni 28.84 275 eP **P** **11 10 42.7 +1.3**
comp=Z,71nm,0.9s,mb5.4
GNI LR LR
comp=Z,565nm,20.0s,MS4.2
KIV Kislovodsk 29.11 284 eP **P** **11 10 43.6 -0.2**
KIV eS **S** **11 15 38.9 +4.5**
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,2µm,15.0s,MS4.8
KIV Kislovodsk 29.11 284 PFAKE 11 11 00.0 +16
KIV LR LR
comp=Z,643nm,19.0s,MS4.3
SNY Shenyang 29.17 81 eP **P** **11 10 46.3 +1.9**
SNY LR LR
comp=N,853nm,12.6s,MS5.1
SNY LR LR
comp=E,3µm,14.4s,MS5.1
SNY LR LR
comp=Z,3µm,10.7s,MS5.2
NANT Nan 29.19 145 ⇑P **P** **11 10 44.0 -0.5**
comp=Z,65nm,1.0s,mb5.3
KARS Kars 29.85 277 eP **P** **11 10 51.7 +1.4**
CN2 Changchun 29.91 76 eP **P** **11 10 52.3 +1.4**
CN2 eXP sP 11 11 02.3 +1.7
CN2 eS **S** **11 15 46.1 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3µm,14.0s,MS5.2
CN2 LR LR
comp=E,3µm,14.0s,MS5.2
CN2 LR LR
comp=Z,4µm,17.0s,MS5.1
NJ2 Nanjing 30.11 102 eP **P** **11 10 54.8 +2.1**
NJ2 AP pP 11 11 01.1 +1.6
NJ2 XP sP 11 11 04.3 +1.9
NJ2 PP PP 11 11 53.9 -6.9
NJ2 S **S** **11 15 50.5 +0.4**
NJ2 XS sS 11 16 02.5 +1.1
NJ2 AMB AMB
comp=Z,2µm,4.7s
NJ2 LR LR
comp=N,2µm,14.5s,MS4.9
NJ2 LR LR
comp=E,1µm,16.6s,MS4.9
NJ2 LR LR
comp=Z,380nm,15.6s,MS4.1
AGRB Hanur-Agry 30.30 275 eP **P** **11 10 46.0 -8.4**
VANB Van 30.40 273 eP **P** **11 10 53.0 -2.2**
BCA Borcka 30.61 280 eP **P** **11 10 59.2 +2.2**
CUKT Cukurca 30.80 271 eP **P** **11 11 00.5 +1.7**
MOS Moscow 31.08 308 eP **P** **11 10 59.8 -1.4**
MOS e pP 11 11 07.0 -1.1
MOS e 11 12 06.2
MOS ePPP 11 12 20.1
MOS e 11 21 25.6
MOS pmax pmax
comp=Z,137nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,4µm,13.0s,MS5.3
MDRS Chennai 31.23 186 ex x 11 13 38.1
SOC Sochi 31.28 284 eP **P** **11 11 00.0 -3.0**
SOC e 11 12 12.5
SOC eS **S** **11 16 03.7 -4.7**
SOC pmax pmax
comp=Z,4.0nm,0.2s,mb4.9
SOC MLR MLR
comp=Z,2µm,18.0s,MS4.8
ERZM Erzurum 31.34 277 *i* P **P** **11 11 05.3 +1.8**
EZM Erzurum 31.34 277 eP **P** **11 11 05.6 +2.1**
OBN Obninsk 31.67 307 *c* iP **P** **11 11 05.8 -0.6**
OBN *i* *PP pP 11 11 13.0 -0.3
OBN e 11 12 11.2
OBN e 11 13 56.0
OBN pmax pmax
comp=Z,117nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,2µm,15.0s,MS5.0
OBN Obninsk 31.67 307 eP **P** **11 11 05.8 -0.6**
comp=Z,129nm,1.4s,mb5.6
OBN e pP 11 11 12.8 -0.4
OBN LR LR
comp=Z,945nm,20.0s,MS4.5
YAK Yakutsk 31.99 40 eP **P** **11 11 10.1 +0.8**
YAK *i* *PP pP 11 11 19.1 +2.9
YAK e 11 12 19.1
YAK i 11 13 59.5
YAK eS **S** **11 16 26.2 +6.7**
YAK pmax pmax
comp=Z,25nm,0.7s,mb5.2
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,32nm,1.6s
YAK pmax pmax
comp=Z,36nm,0.8s,mb5.2
YAK pmax pmax
comp=N,157nm,2.7s
YAK pmax pmax
comp=E,212nm,2.5s
YAK smax
comp=E,103nm,14.5s
YAK smax
comp=N,19nm,10.7s
YAK MLR MLR
comp=Z,840nm,15.0s,MS4.5
YAK MLR MLR
comp=E,631nm,16.0s
YAK Yakutsk 31.99 40 eP **P** **11 11 08.1 -1.2**
comp=E,74nm,0.8s,mb5.6
YAK e 11 11 18.9
MIB Mutribah 32.01 255 eP **P** **11 11 09.3 -0.2**
MIB AMb AMB 11 11 10.3
comp=Z,112nm,0.5s,mb6.0
KBD Kabd 32.14 254 eP **P** **11 11 10.7 +0.1**
KBD AMb AMB 11 11 11.7
comp=Z,303nm,0.4s
QRN Al-Qurain 32.25 253 eP **P** **11 11 11.8 +0.2**
SSE Sheshan 32.29 101 P **P** **11 11 07.2 -4.7**
comp=Z,46nm,2.4s,mb4.9
SSE S **S** **11 16 22.5 -1.7**
SSE sS sS 11 16 33.5 -2.0
SSE LR LR
comp=Z,430nm,19.3s,MS4.2
GZH Guangzhou 32.31 121 P **P** **11 11 09.1 -3.0**
GZH S **S** **11 16 18.3 -6.2**
GZH LR LR
comp=N,885nm,12.1s,MS4.8
GZH LR LR
comp=E,850nm,11.9s,MS4.8
GZH LR LR
comp=Z,2µm,14.3s,MS4.9
RDF Al-Radifah 32.40 254 eP **P** **11 11 12.5 -0.3**
RDF AMb AMB 11 11 14.0
comp=Z,101nm,0.6s,mb5.8
NAY Al-Naaiem 32.41 255 eP **P** **11 11 12.7 -0.3**
NAY AMb AMB 11 11 13.9
comp=Z,97nm,0.5s,mb5.9
ANN Anapa 32.52 287 eP **P** **11 11 18.4 +4.5**
ANN ePPP 11 12 30.6
ANN eS **S** **11 16 36.0 +8.3**
ANN pmax pmax
comp=Z,38nm,0.9s,mb5.3
ANN MLR MLR
comp=Z,847nm,14.0s,MS4.6
MDJ Mudanjiang 32.55 73 P **P** **11 11 14.3 +0.1**
MDJ S **S** **11 16 28.6 +0.3**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,175nm,5.9s
MDJ LR LR
comp=N,1µm,12.7s,MS5.2
MDJ LR LR
comp=E,3µm,14.9s,MS5.2
MDJ LR LR
comp=Z,4µm,16.6s,MS5.2
MDJ Mudanjiang 32.55 73 PFAKE 11 11 30.0 +16
MDJ LR LR
comp=Z,2µm,20.0s,MS4.9
KELT Kelkit 32.75 278 *i* P **P** **11 11 17.7 +1.8**
MARD Mardin 32.81 273 *i* P **P** **11 11 17.5 +1.1**
KLR Kul'dur 32.96 64 eP **P** **11 11 15.3 -2.4**
INCN Inchon 32.99 87 PFAKE 11 11 30.0 +12
INCN LR LR
comp=Z,633nm,20.0s,MS4.3
PTK Pertek 33.14 276 eP **P** **11 11 20.6 +1.3**
QIZ Qiongzhong 33.43 130 P **P** **11 11 22.9 +1.1**
QIZ S **S** **11 16 41.1 -0.7**
QIZ XS sS 11 16 51.5 -1.7
QIZ AMB AMB
comp=Z,145nm,3.0s
QIZ LR LR
comp=E,837nm,18.6s
QIZ LR LR
comp=Z,776nm,11.0s
QIZ Qiongzhong 33.43 130 PFAKE 11 11 30.0 +8.2
QIZ LR LR
comp=Z,700nm,19.0s,MS4.4
ELZG Elazig 33.59 276 *i* P **P** **11 11 25.1 +1.8**
KSRS Korea Array 33.93 86 P **P** **11 11 26.4 +0.2**
comp=Z,7.1nm,0.7s,mb4.7,baz=285,slow=8.8,SNR=20
KSRS LR LR 11 27 31.2
comp=Z,314nm,18.9s,MS4.1,baz=294,slow=40
MALT Malatya 34.06 276 ⇑*i* P **P** **11 11 28.9 +1.5**
MALT Malatya 34.06 276 eP **P** **11 11 28.8 +1.4**
MALT e pP 11 11 34.9 +0.7
SVSK Karacayir 34.44 279 eP **P** **11 11 27.0 -3.6**
LVZ Lovozero 34.64 330 eP **P** **11 11 31.3 -1.1**
LVZ MLR MLR
comp=Z,800nm,16.0s,MS4.5
SIM Simferopol' 34.74 289 P **P** **11 11 32.9 -0.3**
SIM pmax pmax
comp=Z,23nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,930nm,17.0s,MS4.6
TIXI Tiksi 34.94 23 eP **P** **11 11 29.5 -5.4**
TIXI e 11 11 40.2
TIXI e 11 11 43.3
TIXI eS **S** **11 16 58.5 -6.7**
TIXI pmax pmax
comp=Z,12nm,0.6s,mb5.0
TIXI MLR MLR
comp=Z,2µm,13.0s,MS5.1
TIXI Tiksi 34.94 23 eP **P** **11 11 30.2 -4.7**
TIXI e 11 11 43.5
APA Apatity 35.00 329 ⇑*i* P **P** **11 11 35.0 -0.4**
APA *i* 11 11 43.8
APA eS **S** **11 17 07.0 +0.9**
APA pmax pmax
comp=Z,14nm,0.8s,mb4.9
APA MLR MLR
comp=Z,2µm,13.0s,MS5.0
GZT Gaziantep 35.09 275 *i* P **P** **11 11 37.0 +0.7**
HABR Khabarovsk 35.24 65 eP **P** **11 11 35.7 -1.9**
BOYT Boyabat 35.35 283 *i* P **P** **11 11 37.1 -1.4**
KMRS Kahramanmaras 35.50 275 eP **P** **11 11 39.9 +0.1**
CTKT Corum 35.73 282 *i* P **P** **11 11 41.3 -0.4**
KOZT Kozan 36.28 276 eP **P** **11 11 45.2 -1.2**
BALT Daday 36.37 284 *i* P **P** **11 11 47.7 +0.5**
COBT Iskenderun 36.40 274 *i* P **P** **11 11 49.7 +2.2**
YHNB Yeheng 36.41 110 eP **P** **11 11 48.8 +1.2**
AKASG Malin Array Be 36.54 300 P **P** **11 11 47.9 -0.7**
comp=Z,13nm,0.7s,mb4.9,baz=68,slow=8.5,SNR=36
AKASG pP pP 11 11 54.3 -1.3
comp=Z,31nm,0.6s,baz=66,slow=8.5,SNR=25
AKASG sP sP 11 11 56.6 -1.7
comp=Z,31nm,0.6s,baz=66,slow=8.5,SNR=25
AKASG Malin Array Be 36.54 300 *i* P **P** **11 11 47.9 -0.8**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 36.54 300 P **P** **11 11 47.9 -0.7**
AKASG pP pP 11 11 54.3 -1.3
AKASG sP sP 11 11 56.6 -1.7
AKBB Malin Array Si 36.54 300 eP **P** **11 11 47.7 -1.0**
AKBB e pP 11 11 54.4 -1.2
KIEV Kiev 36.55 300 eP **P** **11 11 47.7 -1.1**
KIEV e pP 11 11 54.5 -1.2
KIEV pmax pmax
comp=Z,46nm,0.8s,mb5.4
KIEV MLR MLR
comp=Z,846nm,20.0s,MS4.5
KIEV Kiev 36.55 300 eP **P** **11 11 47.7 -1.1**
comp=Z,46nm,0.8s,mb5.4
KIEV e pP 11 11 54.5 -1.2
KIEV LR LR
comp=Z,846nm,20.0s,MS4.5
ELDT Eldivan 36.74 282 *i* P **P** **11 11 51.5 +1.1**
MNK Minsk 36.75 306 eP **P** **11 11 47.0 -3.5**
BR131 Keskin Array S 36.89 281 eP **P** **11 11 51.6 -0.1**
comp=Z,9.6nm,0.5s,mb4.9
BR131 e pP 11 11 59.1 +0.6
BR131 LR LR
comp=Z,312nm,20.0s,MS4.1
BRTR Keskin Array B 36.89 281 P **P** **11 11 52.0 +0.3**
comp=Z,7.9nm,0.5s,mb4.8,baz=92,slow=7.0,SNR=46
BRTR pP pP 11 11 57.6 -1.0
comp=Z,16nm,0.6s,baz=91,slow=7.8,SNR=16
BRTR LR LR 11 30 17.1
comp=Z,585nm,18.5s,MS4.4,baz=49,slow=42
BRTR Keskin Array B 36.89 281 ⇑eP **P** **11 11 52.0 +0.3**
PALK Pallekele 36.94 185 eP **P** **11 11 51.8 -0.3**
comp=Z,36nm,0.9s,mb5.2
VSU Vasula 37.00 313 *c* iP **P** **11 11 52.5 -0.1**
FIA1 FINESS Array S 37.27 318 eP **P** **11 11 54.4 -0.4**
FINES FINESS Array B 37.27 318 P **P** **11 11 54.6 -0.2**
comp=Z,16nm,0.4s,mb5.2,baz=106,slow=10,SNR=200
FINES pP pP 11 12 01.1 -0.7
comp=Z,13nm,0.6s,baz=99,slow=9.8,SNR=6.2
FINES LR LR 11 27 41.5
comp=Z,915nm,18.6s,MS4.6,baz=111,slow=37
FINES FINESS Array B 37.27 318 P **P** **11 11 54.6 -0.2**
FINES *PP pP 11 12 01.1 -0.7
FINES pmax pmax
comp=Z,16nm,0.4s
FINES pmax pmax
comp=Z,13nm,0.6s
FINES MLR MLR
comp=Z,915nm,18.6s
ANTO Ankara 37.43 281 PFAKE 11 12 10.0 +14
ANTO LR LR
comp=Z,575nm,20.0s,MS4.4
SGKT Sivrigoynuk 37.66 283 *i* P **P** **11 11 59.6 +1.4**
KIS Kishinev 37.70 294 eP **P** **11 11 57.0 -1.5**
KIS e 11 12 06.0
KIS e 11 13 25.0
KIS e 11 14 12.0
KIS eS **S** **11 17 43.0 -4.3**
KIS MLR MLR
comp=N,600nm,15.0s,MS4.7
KIS MLR MLR
comp=E,600nm,15.0s,MS4.7
KIS MLR MLR
comp=Z,1µm,15.0s,MS4.7
KIS Kishinev 37.70 294 ePP PP 11 13 25.0 +0.3
KIS Kishinev 37.70 294 ePcP PcP 11 14 12.0 -3.4
KIS eS **S** **11 17 43.0 -4.3**
KIS eLQ 11 26 45.0
KIS LRM 11 30 40.0
comp=Z,600nm,15.0s
KEV Kevo 37.80 332 eP **P** **11 11 58.6 -0.8**
comp=Z,9.0nm,0.4s,mb4.8
KEV LR LR
comp=Z,610nm,22.0s,MS4.4
ASF Jabal al Asfar 38.09 268 P **P** **11 12 02.9 +1.0**
comp=Z,7.5nm,0.8s,mb4.5,baz=305,slow=5.2,SNR=11
ASF pP pP 11 12 08.5 -0.3
ASF Jabal al Asfar 38.09 268 P **P** **11 12 02.9 +1.1**
ASF *PP pP 11 12 08.5 -0.3
ASF pmax pmax
comp=Z,8.0nm,0.8s
ASF pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 38.27 331 P **P** **11 12 03.4 0.0**
comp=Z,14nm,0.5s,mb4.9,baz=90,slow=8.1,SNR=96
ARCES pP pP 11 12 08.5 -1.8
comp=Z,56nm,0.9s,baz=81,slow=8.3,SNR=11
ARCES sP sP 11 12 11.7 -1.4
comp=Z,57nm,1.0s,baz=93,slow=8.5,SNR=18
ARCES LR LR 11 28 48.8
comp=Z,767nm,20.2s,MS4.5,baz=104,slow=38
ARCES ARCESS Array B 38.27 331 P **P** **11 12 03.4 0.0**
ARCES *SP sP 11 12 11.7 -1.4
ARCES pmax pmax
comp=Z,14nm,0.5s
ARCES pmax pmax
comp=Z,56nm,1.0s
ARCES pmax pmax
comp=Z,57nm,1.0s
ARCES MLR MLR
comp=Z,767nm,20.2s
ARCES ARCESS Array B 38.27 331 P **P** **11 12 03.4 0.0**
ARCES pP pP 11 12 08.5 -1.8
ARCES sP sP 11 12 11.7 -1.4
ARCES LR LR 11 28 48.8
ARE0 ARCESS Array S 38.27 331 eP **P** **11 12 03.5 +0.1**
ARE0 e 11 12 12.2
KDHN Kadinhani 38.47 280 *i* P **P** **11 12 04.4 -0.6**
MMAI Mount Meron Ar 38.73 270 LR LR 11 32 14.7
comp=Z,216nm,18.8s,MS4.0,baz=60,slow=42
ESKT Eskisehir 38.94 282 *i* P **P** **11 12 08.8 -0.1**
KTK1 Kautokeino 38.99 330 eP **P** **11 12 09.5 +0.1**
KTK1 AMb AMB 11 12 11.5
comp=Z,45nm,1.7s,mb4.9
KTK1 Kautokeino 38.99 330 eP **P** **11 12 09.5 +0.1**
comp=Z,45nm,1.7s,mb4.9
SUW Suwalki 39.52 306 eP **P** **11 12 13.7 -0.1**
SUW pmax pmax
comp=Z,44nm,0.6s,mb5.4
SUW Suwalki 39.52 306 eP **P** **11 12 13.7 -0.2**
comp=Z,44nm,0.6s,mb5.4
JOW Kunigami 39.81 101 P **P** **11 12 15.4 -0.8**
comp=Z,22nm,0.7s,mb5.0,baz=271,slow=4.6,SNR=6.4
JOW LR LR 11 29 14.3
comp=Z,396nm,20.4s,MS4.2,baz=326,slow=37
BURAR Bucovina Array 39.86 296 ⇑*i* P **P** **11 12 16.7 +0.1**
BURAR Bucovina Array 39.86 296 ⇑P **P** **11 12 16.7 0.0**
ULDT Uludag 39.88 284 *i* P **P** **11 12 20.7 +3.8**
ISP Isparta 39.90 280 ⇑*i* P **P** **11 12 16.6 -0.4**
ISP Isparta 39.90 280 eP **P** **11 12 17.2 +0.2**
comp=Z,35nm,0.7s,mb5.2
TKTP Tekketepe 39.95 280 *i* P **P** **11 12 17.1 -0.3**
LVV L'vov 39.98 300 eP **P** **11 12 17.2 -0.5**
LVV e pP 11 12 25.6 +1.0
MLR Muntele Rosu 40.06 293 P **P** **11 12 18.7 +0.4**
comp=Z,11nm,0.7s,mb4.7,baz=155,slow=18,SNR=17
MLR Muntele Rosu 40.06 293 ⇑*i* P **P** **11 12 18.7 +0.4**
MLR Muntele Rosu 40.06 293 ⇑P **P** **11 12 18.7 +0.4**
TRO Tromso 40.58 331 eP **P** **11 12 21.7 -0.9**
YSS Yuzh-Sakhalins 40.66 65 eP **P** **11 12 25.3 +2.0**
YSS pmax pmax
comp=Z,100nm,5.0s
YSS MLR MLR
comp=Z,700nm,16.0s,MS4.6
KWP Kalwaria 40.86 300 eP **P** **11 12 24.9 0.0**
KWP pmax pmax
comp=Z,137nm,0.9s,mb5.6
KWP Kalwaria 40.86 300 eP **P** **11 12 24.9 0.0**
comp=Z,137nm,0.9s,mb5.6
EIL Elat 40.86 266 eP **P** **11 12 25.6 +0.6**
comp=Z,686nm,1.0s,mb6.2
KOLS Kolonicke sedl 41.34 299 eP **P** **11 12 28.7 -0.2**
KOLS ePP PP 11 14 05.6 +1.2
UZH Uzhgorod 41.42 298 e **P** **11 12 29.4 -0.1**
ASAJ Asahikawa 41.54 69 LR LR 11 31 24.7
comp=Z,2µm,18.8s,MS5.0,baz=152,slow=39
KULM Kulim 41.64 154 eP **P** **11 12 31.0 -0.3**
KULM e pP 11 12 37.8 -0.5
MAJO Matsushiro 41.68 81 PFAKE 11 12 40.0 +8.3
MAJO LR LR
comp=Z,772nm,19.0s,MS4.6
MJAR Matsushiro Arr 41.68 81 P **P** **11 12 30.7 -1.0**
comp=Z,2.6nm,0.8s,baz=298,slow=9.7,SNR=6.5
MJAR LR LR 11 31 06.4
comp=Z,483nm,19.5s,MS4.4,baz=290,slow=38
MJAR Matsushiro Arr 41.68 81 P **P** **11 12 30.7 -1.0**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR MLR MLR
comp=Z,483nm,19.5s
DRGR 41.74 296 ⇓*i* P **P** **11 12 32.7 +0.5**
DRGR 41.74 296 ⇓P **P** **11 12 32.7 +0.6**
STHS Stebnicka Huta 41.84 300 eP **P** **11 12 32.0 -0.9**
STHS e 11 12 41.7
STHS e 11 14 14.4
STHS pmax pmax
comp=Z,15nm,0.9s,mb4.6
STHS Stebnicka Huta 41.84 300 eP **P** **11 12 32.0 -0.9**
comp=Z,15nm,0.9s,mb4.6
STHS e 11 12 41.7
STHS ePP PP 11 14 14.4 +4.6
MOR8 Moi Rana 42.28 326 ⇑*i* P **P** **11 12 35.2 -1.3**
MOR8 AMb AMB 11 12 37.5
comp=Z,74nm,1.3s,mb5.2
MOR8 esP sP 11 12 44.5 -1.8
MOR8 Moi Rana 42.28 326 ⇑*i* P **P** **11 12 35.2 -1.3**
comp=Z,74nm,1.3s,mb5.2
NIE Niedzica 42.41 300 eP **P** **11 12 38.6 +1.0**
OJC Ojcow 42.49 301 eP **P** **11 12 38.1 -0.1**
SEY Seymchan 42.51 39 ⇑*i* P **P** **11 12 38.8 +0.4**
LOF Lofoten 42.51 329 eP **P** **11 12 39.6 +1.2**
KECS Kecovo 42.60 299 eP **P** **11 12 39.4 +0.2**
KECS e pP 11 12 46.1 -0.1
KECS e 11 14 23.3
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KECS Kecovo 42.60 299 eP **P** **11 12 39.4 +0.2**
comp=Z,7.5nm,0.8s,mb4.5
KECS e pP 11 12 46.1 -0.1
KECS ePP PP 11 14 23.3 +5.2
ERM Erimo 42.73 71 PFAKE 11 12 50.0 +10
ERM LR LR
comp=Z,548nm,20.0s,MS4.4
STOK Stokkvaagen 42.84 326 eP **P** **11 12 40.6 -0.5**
STOK esP sP 11 12 50.0 -0.9
BZS Buzias 42.87 294 ⇑*i* P **P** **11 12 41.5 +0.2**
BZS Buzias 42.87 294 ⇑P **P** **11 12 41.5 +0.2**
VTS Vitosha 42.96 290 ⇑*i* P **P** **11 12 42.5 +0.4**
VTS Vitosha 42.96 290 ⇑P **P** **11 12 42.5 +0.4**
PSZ Piszkesteto 43.16 298 ⇑*i* P **P** **11 12 44.4 +0.7**
PSZ Piszkesteto 43.16 298 eP **P** **11 12 45.8 +2.1**
PSZ e*PP pP 11 12 51.0 +0.3
PSZ Piszkesteto 43.16 298 eP **P** **11 12 44.0 +0.3**
comp=Z,9.7nm,0.7s,mb4.6
PSZ e pP 11 12 50.9 +0.2
PSZ Piszkesteto 43.16 298 ‖eP **P** **11 12 44.9 +1.2**
HFS Hagfors 43.43 317 P **P** **11 12 45.3 -0.6**
comp=Z,39nm,0.6s,mb5.3,baz=81,slow=8.9,SNR=9.1
HFS Hagfors 43.43 317 P **P** **11 12 45.3 -0.6**
HFS pmax pmax
comp=Z,39nm,0.6s
HFS Hagfors 43.43 317 P **P** **11 12 45.3 -0.6**
NSS Namsos 43.48 323 eP **P** **11 12 44.6 -1.8**
NSS epP pP 11 12 51.5 -1.8
PSI Prapat 43.49 157 P **P** **11 12 45.4 -1.0**
comp=Z,9.7nm,0.6s,mb4.8,baz=347,slow=8.0,SNR=12
PSI Prapat 43.49 157 P **P** **11 12 45.4 -0.9**
PSI pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
OKC Ostrava-Krasne 43.62 301 ⇑AMS AMS 11 31 20.0
comp=Z,2µm,12.5s
VYHS Vyhne 43.64 299 eP **P** **11 12 47.8 +0.3**
VYHS e pP 11 12 54.0 -0.6
VYHS e 11 14 27.6
VYHS pmax pmax
comp=Z,125nm,3.0s
VYHS Vyhne 43.64 299 eP **P** **11 12 47.8 +0.3**
comp=Z,125nm,3.0s
VYHS e pP 11 12 54.0 -0.6

VYHS *e*PP PP 11 14 27.6 -1.6
KNT Kendrikon 43.77 288 *e*P **P 11 12 47.9 -0.6**
APE Apeiranthos 43.77 281⇑*i*P **P 11 12 48.4 -0.2**
APE Apeiranthos 43.77 281⇑P **P 11 12 48.4 -0.2**
BUD Budapest 43.87 298⇓*e*P **P 11 12 43.7 -5.7**
BSD Bornholm Skovb 43.95 310 *i* P **P 11 12 49.1 -1.0**
comp=Z,5.3nm,0.3s,mb4.8
BSD Bornholm Skovb 43.95 310 *i* P **P 11 12 49.1 -1.0**
BSD pmax pmax
comp=Z,5.0nm,0.3s,mb4.7
MORC Moravsky Berou 44.01 302⇓*i*P **P 11 12 50.8 +0.3**
MORC Moravsky Berou 44.01 302 *e*P **P 11 12 51.0 +0.4**
comp=Z,15nm,0.7s,mb4.8
MORC *e* pP 11 12 57.3 -0.3
GRUS Gruza 44.12 293 *i* P **P 11 12 50.6 -0.8**
NB2 NORSAR Subarra 44.44 319 P **P 11 12 53.5 -0.5**
comp=Z,57nm,0.6s,mb5.5,baz=79,slow=8.6
NOA NORSAR Array B 44.44 319 P **P 11 12 53.6 -0.3**
comp=Z,49nm,0.6s,mb5.4,baz=78,slow=8.0,SNR=146
NOA pP pP 11 12 59.2 -1.8
comp=Z,51nm,0.6s,baz=78,slow=7.8,SNR=23
NOA LR LR 11 31 55.2
comp=Z,587nm,22.0s,MS4.5,baz=75,slow=37
NOA NORSAR Array B 44.44 319 P **P 11 12 53.7 -0.3**
NOA *PP pP 11 12 59.2 -1.8
NOA pmax pmax
comp=Z,49nm,0.6s
NOA pmax pmax
comp=Z,51nm,0.6s
NOA MLR MLR
comp=Z,587nm,22.0s
NOA NORSAR Array B 44.44 319 P **P 11 12 53.6 -0.3**
NOA pP pP 11 12 59.2 -1.9
NOA LR LR 11 31 55.2
JHJ Hachijo jima 2 44.51 85 LR LR 11 32 46.3
comp=Z,322nm,18.5s,MS4.3,baz=331,slow=38
SMOL Smolenice 44.51 300 *e*P **P 11 12 55.3 +0.8**
DIVS Divcibare 44.51 293 *i* P **P 11 12 54.4 -0.1**
DIVS Divcibare 44.51 293 *e*P **P 11 12 54.4 -0.2**
DPC Dobruska-Polom 44.56 303⇑*i*P **P 11 12 55.6 +0.6**
DPC *e*pP pP 11 13 01.1 -0.9
DPC AMS AMS 11 32 00.0
comp=Z,2μm,13.8s
PKSM Moragy 44.58 296⇓*i*P **P 11 12 54.8 -0.3**
PKSM Moragy 44.58 296⇓P **P 11 12 54.8 -0.2**
NAO01 NORSAR Array S 44.64 318 *e*P **P 11 12 54.9 -0.7**
comp=Z,40nm,0.5s,mb5.5
NAO01 *e* pP 11 13 01.6 -1.1
UPC Upice 44.70 303⇑*i*P **P 11 12 56.6 +0.6**
UPC *e*pP pP 11 13 01.5 -1.6
VRAC Vranov 44.75 301 P **P 11 12 56.8 +0.4**
comp=Z,8.1nm,0.7s,mb4.7,baz=63,slow=9.8,SNR=7.0
VRAC Vranov 44.75 301 P **P 11 12 56.8 +0.4**
VRAC pmax pmax
comp=Z,8.0nm,0.7s
ZST Bratislava 44.82 300 *e*P **P 11 12 58.0 +1.0**
ZST *e*pP pP 11 13 04.0 -0.1
ZST *e*PP PP 11 14 49.6 +7.7
ZST Bratislava 44.82 300 *e*P **P 11 12 58.0 +1.0**
ZST *e* pP 11 13 04.0 -0.1
ZST *e* 11 14 49.6
ZST pmax pmax
comp=Z,28nm,0.9s,mb5.1
ZST MLR MLR
comp=Z,500nm,17.1s,MS4.5
ZST Bratislava 44.82 300 *e*P **P 11 12 58.0 +1.0**
comp=Z,28nm,0.9s,mb5.1
ZST *e* pP 11 13 04.0 -0.1
ZST *e*PP PP 11 14 49.6 +7.7
ZST LR LR
comp=Z,500nm,17.1s,MS4.5
IDI Anoyia 45.09 279 LR LR 11 35 58.2
comp=Z,288nm,18.2s,MS4.2,baz=83,slow=42
AGG Agios Georgios 45.10 286 *e*P **P 11 12 57.7 -1.5**
DOMB Dombas 45.23 320 *e*P **P 11 12 59.9 -0.3**
DOMB AMb AMB 11 13 00.7
comp=Z,57nm,0.8s,mb5.5
DOMB *e*pP pP 11 13 06.3 -1.0
DOMB Dombas 45.23 320 *e*P **P 11 12 59.9 -0.3**
comp=Z,57nm,0.8s,mb5.5
SOP Sopron 45.35 299⇑*e*P **P 11 13 01.8 +0.6**
RUE Ruedersdorf 45.37 306 *e*P **P 11 13 01.5 +0.1**
comp=Z,50nm,0.6s,mb5.5
KONO Kongsberg 45.55 317⇑*i*P **P 11 13 02.7 -0.1**
KONO Kongsberg 45.55 317 *e*P **P 11 13 03.0 +0.2**
comp=Z,78nm,1.1s,mb5.5
KONO LR LR
comp=Z,753nm,19.0s,MS4.7
CONA Conrad Observa 45.70 300⇑*i*P **P 11 13 05.0 +1.0**
comp=Z,30nm,1.2s,mb5.1
PRU Pruhonice 45.76 303⇑*i*P **P 11 13 04.9 +0.4**
PRU *e*pP pP 11 13 10.5 -1.0
PRU AMS AMS 11 32 40.0
comp=Z,2μm,13.7s
BRG Berggiesshubel 45.81 304 *e*P **P 11 13 05.2 +0.3**
comp=Z,21nm,0.9s,mb5.1
BRG Berggiesshubel 45.81 304⇑*i*P **P 11 13 05.0 +0.1**
comp=Z,12nm,0.9s,mb4.8
BRG *e* 11 14 48.1
comp=Z,13nm,1.5s
BRG
comp=N,415nm,17.5s
BRG
comp=E,1μm,14.0s
BRG
comp=Z,2μm,15.3s
BRG Berggiesshubel 45.81 304⇑*i*P **P 11 13 05.0 +0.1**
BRG *e* 11 14 48.1
BRG pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRG MLR MLR
comp=Z,2μm,15.3s,MS5.1
BRG Berggiesshubel 45.81 304⇑*i*P **P 11 13 05.0 +0.1**
comp=Z,12nm,0.9s,mb4.8
BRG *e* 11 14 48.1
BRG LR LR
comp=Z,2μm,15.3s,MS5.1
FBE Freiberg 46.15 304 *e*P **P 11 13 08.0 +0.5**
comp=Z,45nm,0.7s,mb5.5
ARSA Arzberg 46.16 299⇑*i*P **P 11 13 08.0 +0.3**
comp=Z,7.3nm,0.6s,mb4.8
ARSA Arzberg 46.16 299⇑*i* pP 11 13 14.4 -0.3
comp=Z,19nm,0.8s
ARSA Arzberg 46.16 299 pP 11 13 14.4 -0.3
comp=Z,19nm,0.8s
ARSA Arzberg 46.16 299 P **P 11 13 08.0 +0.3**
ARSA *e* pP 11 13 14.4 -0.3
CLL Collm 46.22 305 *e*P **P 11 13 08.1 0.0**
comp=Z,70nm,0.6s,mb5.8
CLL Collm 46.22 305⇑*i*P **P 11 13 08.2 +0.1**
CLL *i* *SP sP 11 13 17.4 -0.5
CLL pmax pmax
comp=Z,68nm,0.6s,mb5.8
CLL MLR MLR
comp=Z,3μm,14.5s,MS5.4
CLL Collm 46.22 305⇑*i*P **P 11 13 08.2 +0.1**
comp=Z,68nm,0.6s,mb5.8
CLL *i* pP pP 11 13 15.0 -0.1
CLL *i* sP sP 11 13 17.4 -0.5
CLL LR LR
comp=Z,3μm,14.5s,MS5.4
CLL Collm 46.22 305⇑*i*P **P 11 13 08.2 +0.1**
comp=Z,68nm,0.6s,mb5.8
CLL *i* pP pP 11 13 15.0 -0.1
CLL *i* sP sP 11 13 17.4 -0.5
DOBS Dobrina 46.63 297 *i* P **P 11 13 11.3 0.0**
DOBS *e*pP pP 11 13 18.1 -0.3
KHC Kasperske Hory 46.66 302⇑*e*P **P 11 13 11.6 +0.1**
KHC *e*pP pP 11 13 18.5 -0.1
KHC AMS AMS 11 33 20.0
comp=Z,1μm,13.7s
PERS Pernice 46.66 298 *e*P **P 11 13 11.6 0.0**
MUD Monsted U'grnd 46.67 313 *i* P **P 11 13 12.2 +0.6**
comp=Z,23nm,0.5s,mb5.4
MUD *i* pP 11 13 19.1 +0.4
MUD Monsted U'grnd 46.67 313 *i* P **P 11 13 12.2 +0.6**
MUD *i* pP 11 13 19.1 +0.4
MUD pmax pmax
comp=Z,23nm,0.5s,mb5.4
GEC2 GERESS Array S 46.69 302 *e*P **P 11 13 12.2 +0.4**
comp=Z,26nm,1.4s,mb5.0
GEC2 *e*pP pP 11 13 18.7 -0.1
GEC2 GERESS Array S 46.69 302 *e*P **P 11 13 12.2 +0.4**
GEC2 *e**PP pP 11 13 18.7 -0.1
GEC2 pmax pmax
comp=Z,26nm,1.4s,mb5.0
GERES GERESS Array B 46.69 302 P **P 11 13 12.2 +0.5**
comp=Z,4.7nm,0.6s,mb4.6,baz=64,slow=7.6,SNR=40
GERES pP pP 11 13 17.7 -1.2
comp=Z,5.6nm,0.8s,baz=76,slow=5.6,SNR=7.1
GERES LR LR 11 33 45.3
comp=Z,692nm,20.0s,MS4.6,baz=254,slow=37
GERES GERESS Array B 46.69 302 P **P 11 13 12.2 +0.4**
GERES *PP pP 11 13 17.7 -1.1
GERES pmax pmax
comp=Z,5.0nm,0.6s
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,692nm,20.0s
MOA Molln 46.72 300⇑*e*P **P 11 13 12.6 +0.6**
comp=Z,26nm,1.7s,mb4.9
CRES Cresnjev 46.77 297 *i* P **P 11 13 12.3 -0.1**
TANN Tannenbergstha 46.86 304 *e*P **P 11 13 13.0 -0.1**
comp=Z,24nm,0.9s,mb5.1
ODD1 Odda 46.92 318 *e*P **P 11 13 13.4 -0.2**
NKC Novy Kostel 46.93 304⇑*e*P **P 11 13 13.0 -0.7**
NKC *e*pP pP 11 13 20.2 -0.5
WERD Werda 46.94 304 *e*P **P 11 13 14.0 +0.3**
comp=Z,21nm,0.8s,mb5.1
WERD *e*pP pP 11 13 20.6 -0.2
GUNZ Gunzen 46.95 304 *e*P **P 11 13 14.4 +0.6**
comp=Z,30nm,0.7s,mb5.3
WERN Wernitzgruen 46.95 304 *e*P **P 11 13 14.1 +0.2**
comp=Z,21nm,0.8s,mb5.1
PDKS Podkum 46.97 298 P **P 11 13 14.1 +0.2**
BOJS Bojanci 47.03 297 *i* P **P 11 13 14.6 +0.2**
OBKA Obir 47.07 298⇑*i*P **P 11 13 15.0 +0.2**
comp=Z,19nm,0.6s,mb5.2
OBKA Obir 47.07 298⇓*i* pP 11 13 23.8 +2.0
comp=Z,35nm,0.8s
OBKA Obir 47.07 298 pP 11 13 23.8 +2.0
comp=Z,35nm,0.8s
OBKA Obir 47.07 298 P **P 11 13 14.9 +0.2**
OBKA *e* 11 13 23.8
WET Wettzell 47.08 302 *e*P **P 11 13 15.3 +0.5**
comp=Z,15nm,0.9s,mb4.9
WET *e*pP pP 11 13 21.9 0.0
WET Wettzell 47.08 302 *e*P **P 11 13 15.3 +0.5**
WET *e**PP pP 11 13 21.9 0.0
WET pmax pmax
comp=Z,15nm,0.9s,mb4.9
VISS Visnje 47.17 297 *e*P **P 11 13 15.7 +0.1**
MANZ Manzenberg 47.23 304 *e*P **P 11 13 16.6 +0.6**
comp=Z,16nm,1.2s,mb4.8
ROTZ Rotzenmuhle 47.25 303 *e*P **P 11 13 16.7 +0.5**
comp=Z,28nm,1.3s,mb5.0
ROTZ *e*pP pP 11 13 23.4 +0.2
BILL Bilibino 47.26 31⇑*i*P **P 11 13 17.1 +0.9**
BILL *e* 11 13 26.3
BILL *e* 11 14 55.2
BILL *e*SS SS 11 23 34.7 -0.8
BILL pmax pmax
comp=Z,18nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,1μm,17.0s,MS5.0
BILL Bilibino 47.26 31 *e*P **P 11 13 16.7 +0.5**
comp=Z,48nm,1.1s,mb5.3
BILL LR LR
comp=Z,497nm,19.0s,MS4.5
LJU Ljubljana 47.27 298 *e*P **P 11 13 16.3 -0.1**
MOX Moxa 47.27 305 *e*P **P 11 13 16.3 -0.1**
comp=Z,29nm,0.8s,mb5.3
MOX *e*pP pP 11 13 23.3 -0.1
MOX Moxa 47.27 305 *e*P **P 11 13 16.5 +0.1**
comp=Z,50nm,1.1s,mb5.4
MOX *e* pP 11 13 23.3 -0.1
MOX
comp=Z,2μm,16.0s
MOX Moxa 47.27 305 *e*P **P 11 13 16.5 +0.1**
MOX *e* pP 11 13 23.3 -0.1
MOX pmax pmax
comp=Z,50nm,1.1s,mb5.4
MOX MLR MLR
comp=Z,2μm,16.0s,MS5.3
CLZ Clausthal 47.56 306 *e*P **P 11 13 18.8 +0.2**
comp=Z,21nm,0.6s,mb5.3
CLZ Clausthal 47.56 306 *e*P **P 11 13 18.8 +0.2**
CLZ pmax pmax
comp=Z,21nm,0.6s,mb5.3
KBA Koelnbreinsper 47.60 299⇑*i*P **P 11 13 19.2 +0.4**
comp=Z,13nm,0.5s,mb5.2
KBA Koelnbreinsper 47.60 299⇑*i* pP 11 13 28.3 +2.4
comp=Z,33nm,0.9s
KBA Koelnbreinsper 47.60 299 pP 11 13 28.3 +2.4
comp=Z,33nm,0.9s
KBA Koelnbreinsper 47.60 299 P **P 11 13 19.2 +0.4**
KBA *e* 11 13 28.3
CADS Cadrg 47.70 298 *e*P **P 11 13 18.8 -0.8**
CADS *e*pP pP 11 13 25.4 -1.3
GRA1 Grafenberg Arr 47.87 303 *e*P **P 11 13 21.8 +0.8**
comp=Z,43nm,0.8s,mb5.5
GRA1 LR LR
comp=Z,1μm,20.3s,MS4.9
GRF Grafenberg Arr 47.87 303 *e*P **P 11 13 21.8 +0.8**
comp=Z,43nm,0.8s,mb5.5
GRF *e*L 11 34 28.8
comp=Z,1μm,20.3s
GRF Grafenberg Arr 47.87 303 *e*P **P 11 13 21.8 +0.8**
GRF pmax pmax
comp=Z,43nm,0.8s,mb5.5
GRF MLR MLR
comp=Z,1μm,20.3s,MS4.9
GRF Grafenberg Arr 47.87 303 *e*P **P 11 13 21.8 +0.8**
GRF pmax pmax
comp=Z,43nm,0.8s,mb5.5
GRF MLR MLR
comp=Z,1μm,20.3s,MS4.9
GRFO Grafenberg 47.87 303 *e*P **P 11 13 21.6 +0.6**
GRFO pmax pmax
comp=Z,100nm,1.5s,mb5.6
GRFO MLR MLR
comp=Z,2μm,21.0s,MS5.0
GRFO Grafenberg 47.87 303 *e*P **P 11 13 21.6 +0.6**
comp=Z,100nm,1.5s,mb5.6
GRFO LR LR
comp=Z,2μm,21.0s,MS5.0
GTTG Gvttingen 47.91 306 *e*P **P 11 13 21.8 +0.5**
comp=Z,72nm,0.6s,mb5.9
FVI Forni Avoltri 48.15 299 P **P 11 13 22.8 -0.3**
UBBA Unterbreizbach 48.16 305 *e*P **P 11 13 23.1 -0.1**
comp=Z,23nm,1.1s,mb5.1
FUR Furstenfeldbru 48.44 302 *e*P **P 11 13 26.3 +0.9**
comp=Z,56nm,1.1s,mb5.5
FUR Furstenfeldbru 48.44 302 *e*P **P 11 13 26.3 +0.9**
FUR pmax pmax
comp=Z,56nm,1.1s,mb5.5
WTTA Wattenberg 48.59 300⇑*i*P **P 11 13 27.0 +0.5**
comp=Z,57nm,0.6s,mb5.8
KSM Kuching 48.79 143 *e*P **P 11 13 28.8 +0.7**
KSM *e* pP 11 13 34.1 -1.1
TIP Timpagrande 48.85 288 *e*P **P 11 13 28.3 -0.3**
TNS Taunus Mts 49.31 305 *e*P **P 11 13 32.3 +0.3**
comp=Z,20nm,0.6s,mb5.3
TNS Taunus Mts 49.31 305 *e*P **P 11 13 32.3 +0.3**
TNS pmax pmax
comp=Z,20nm,0.6s,mb5.3
TOD Tromm 49.35 304 *e*P **P 11 13 31.8 -0.5**
STU Stuttgart 49.45 303 *e*P **P 11 13 33.2 0.0**
comp=Z,26nm,0.9s,mb5.3
STU Stuttgart 49.45 303 P **P 11 13 30.8 -2.4**
SNTG Esanatoglia 49.50 295 P **P 11 13 33.5 0.0**
JMIC Jan Mayen 49.54 335 LR LR 11 37 47.5
comp=Z,484nm,18.8s,MS4.5,baz=84,slow=40
CBIJ Chichi jima 49.59 90 LR LR 11 37 36.8
comp=Z,368nm,20.1s,MS4.4,baz=94,slow=40
DAVA Damuels 49.66 301⇑*i*P **P 11 13 35.0 +0.2**
comp=Z,27nm,1.1s,mb5.2
DAVA ⇓*i* pP 11 13 42.3 +0.4
comp=Z,22nm,0.7s
DAVA Damuels 49.66 301 P **P 11 13 35.0 +0.2**
DAVA *e* pP 11 13 42.3 +0.4
BRMO Bormio 49.71 300 P **P 11 13 34.8 -0.3**
ASS Assisi 49.77 295 P **P 11 13 35.9 +0.3**
ASS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
ASS Assisi 49.77 295 P **P 11 13 35.9 +0.3**
comp=Z,4.2nm,1.1s,mb4.4
DAVOX Davos 49.88 300 P **P 11 13 36.5 +0.1**
comp=Z,18nm,0.5s,mb5.3,baz=90,slow=5.9,SNR=38
DAVOX pP pP 11 13 42.6 -0.9
comp=Z,40nm,0.9s,baz=68,slow=4.2,SNR=14
SFI Santa Sofia 49.91 296 P **P 11 13 37.5 +0.9**
ABH Alteburg 49.98 305 *e*P **P 11 13 36.7 -0.4**
DAG Danmarks Havn 50.05 343⇓*i*P **P 11 13 36.8 -0.9**
comp=Z,15nm,0.7s,mb5.1
DAG Danmarks Havn 50.05 343⇓*i*P **P 11 13 36.8 -0.9**
DAG pmax pmax
comp=Z,15nm,0.7s,mb5.1
VMG Vicchio 50.08 296 P **P 11 13 39.3 +1.4**
comp=Z,18nm,0.6s,mb5.3
SEI Scarperia 50.16 297 P **P 11 13 40.0 +1.5**
comp=Z,177nm,0.8s,mb6.1
BFO Black Forest 50.16 303 *e*P **P 11 13 38.5 0.0**
comp=Z,18nm,0.8s,mb5.2
BFO Black Forest 50.16 303 *e*P **P 11 13 38.5 0.0**
BFO pmax pmax
comp=Z,18nm,0.8s,mb5.2
ZCCA Zocca 50.27 297 P **P 11 13 40.7 +1.4**
comp=Z,48nm,1.2s,mb5.4
RUP Ruppelstein 50.34 305 *e*P **P 11 13 40.2 +0.3**
CSNT Castellina Chi 50.47 296 P **P 11 13 40.3 -0.6**
GSCL Gusciola 50.52 297 P **P 11 13 42.7 +1.5**
comp=Z,37nm,1.4s,mb5.1
LRW Lerwick 50.54 320 *e*P **P 11 13 41.0 -0.4**
LRW AMb AMB 11 13 52.5
comp=Z,92nm,1.6s,mb5.5
MEM Membach 50.57 306 AP pP 11 13 48.7 0.0
ERBM Eremo 50.60 297 P **P 11 13 41.7 -0.1**
comp=Z,145nm,1.8s,mb5.6
WAL1 Walls 50.70 320 *e*P **P 11 13 42.5 -0.1**
VLC Villacollemand 50.73 297 *e*P **P 11 13 43.7 +0.8**
VLC *e* 11 13 52.4
CDF Champ du Feu 50.76 303⇑P **P 11 13 42.6 -0.5**
comp=Z,17nm,0.6s,mb4.8
CDF Champ du Feu 50.76 303⇑*i*P **P 11 13 42.6 -0.5**
CDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CDF Champ du Feu 50.76 303⇑*i*P **P 11 13 42.6 -0.5**
comp=Z,8.4nm,0.6s,mb4.8
GRFL Gerfalco 50.82 296 P **P 11 13 43.2 -0.3**
WLF Walferange 50.89 305 *e*P **P 11 13 44.4 +0.4**
comp=Z,27nm,1.0s,mb5.1
BBS Basel-Blauen 51.04 302 *e*P **P 11 13 44.0 -1.1**
BCLA Clavier 51.06 306 P **P 11 13 45.6 +0.3**
BCLA AP pP 11 13 51.6 -0.9
MOF Molkenrain 51.09 303 *e*P **P 11 13 45.7 +0.1**
HINF Hinteralfeld 51.28 303⇑*i*P **P 11 13 46.5 -0.5**
comp=Z,17nm,0.6s,mb4.8
HINF Hinteralfeld 51.28 303⇑*i*P **P 11 13 46.5 -0.5**
HINF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
HINF Hinteralfeld 51.28 303⇑*i*P **P 11 13 46.5 -0.5**
comp=Z,8.4nm,0.6s,mb4.8
GIVF Givet 51.47 306⇑*i*P **P 11 13 48.5 +0.1**
comp=Z,106nm,1.3s,mb5.3
GIVF Givet 51.47 306⇑*i*P **P 11 13 48.5 +0.1**
GIVF pmax pmax
comp=Z,53nm,1.3s,mb5.3
GIVF Givet 51.47 306⇑*i*P **P 11 13 48.5 +0.1**
comp=Z,53nm,1.3s,mb5.3
HAU Haudompre 51.50 303⇑*i*P **P 11 13 48.1 -0.5**
comp=Z,31nm,0.9s,mb4.9
HAU *e*R
comp=Z,632nm,20.8s
HAU Haudompre 51.50 303⇑*i*P **P 11 13 48.1 -0.5**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,630nm,20.8s,MS4.6
HAU Haudompre 51.50 303⇑*i*P **P 11 13 48.1 -0.5**
comp=Z,15nm,0.9s,mb4.9
HAU LR LR
comp=Z,630nm,20.8s,MS4.6
LOMF Lomont 51.50 302 *e*P **P 11 13 48.7 +0.1**
THEF They Montfort 51.62 304 *e*P **P 11 13 49.7 +0.2**
BAIF Baives 51.85 306⇑*i*P **P 11 13 51.3 +0.1**
comp=Z,21nm,0.5s,mb5.0
BAIF Baives 51.85 306⇑*i*P **P 11 13 51.3 +0.1**
BAIF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BAIF Baives 51.85 306⇑*i*P **P 11 13 51.3 +0.1**
comp=Z,10nm,0.5s,mb5.0
MEZF Maizieres J'vi 52.05 304⇑*i*P **P 11 13 53.0 +0.3**
comp=Z,121nm,0.8s,mb5.6
MEZF Maizieres J'vi 52.05 304⇑*i*P **P 11 13 53.0 +0.3**
comp=Z,121nm,0.8s,mb5.9
OG01 Vacheresse 52.05 301 *e*P **P 11 13 52.7 -0.1**
DAV Davao City (W) 52.09 123 PFAKE 11 14 00.0 +7.0
DAV LR LR
comp=Z,583nm,20.0s,MS4.6
CABF La Chapelle 52.29 302⇑*i*P **P 11 13 54.1 -0.4**
comp=Z,36nm,0.8s,mb5.0
CABF La Chapelle 52.29 302⇑*i*P **P 11 13 54.1 -0.4**
CABF pmax pmax
comp=Z,18nm,0.8s,mb5.0
CABF La Chapelle 52.29 302⇑*i*P **P 11 13 54.1 -0.4**
comp=Z,18nm,0.8s,mb5.0
MLA1 Latheron 52.31 318⇑*e*P **P 11 13 54.6 0.0**
RSL Roselend 52.39 300 *e*P **P 11 13 55.2 0.0**
LPG La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
comp=Z,224nm,0.7s,mb5.9
LPG La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
LPG pmax pmax
comp=Z,112nm,0.7s,mb5.9
LPG La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
comp=Z,112nm,0.7s,mb5.9
LPL La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
comp=Z,309nm,0.7s,mb6.0
LPL La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
LPL pmax pmax
comp=Z,155nm,0.7s,mb6.0
LPL La Plagne 52.40 300⇑*i*P **P 11 13 55.9 +0.6**
comp=Z,154nm,0.7s,mb6.0
DGAR Diego Garcia 52.41 194 PFAKE 11 14 10.0 +15
DGAR LR LR
comp=Z,279nm,19.0s,MS4.3
MCD Coleburn Disti 52.56 317⇑*e*P **P 11 13 56.5 -0.1**
OG22 Abries 52.60 299 *e*P **P 11 13 56.8 0.0**
SAOF Saorge 52.62 298 *e*P **P 11 13 56.9 0.0**
BNI Bardonecchia 52.66 300 *e*P **P 11 13 57.4 +0.2**
BNI pmax pmax
comp=Z,47nm,0.8s,mb5.5
BNI Bardonecchia 52.66 300 *e*P **P 11 13 57.4 +0.2**
comp=Z,47nm,0.8s,mb5.5
AUTN L'Aution 52.69 298 *e*P **P 11 13 57.3 -0.2**
SBF Sospel 52.75 298⇑*i*P **P 11 13 57.8 -0.1**
comp=Z,342nm,1.3s,mb5.8
SBF Sospel 52.75 298⇑*i*P **P 11 13 57.8 -0.1**
SBF pmax pmax
comp=Z,171nm,1.3s,mb5.8
SBF Sospel 52.75 298⇑*i*P **P 11 13 57.8 -0.1**
comp=Z,171nm,1.3s,mb5.8
MBDF Montbardon 52.75 299⇑*i*P **P 11 13 57.2 -0.7**
comp=Z,91nm,0.8s,mb5.5
MBDF Montbardon 52.75 299⇑*i*P **P 11 13 57.2 -0.7**
MBDF pmax pmax
comp=Z,46nm,0.8s,mb5.5
MBDF Montbardon 52.75 299⇑*i*P **P 11 13 57.2 -0.7**
comp=Z,46nm,0.8s,mb5.5
TOUF Mont Tournerai 52.80 298 *e*P **P 11 13 58.2 -0.1**
MVH1 Achvaich 52.87 318⇑*e*P **P 11 13 58.3 -0.4**
GDM Grand'Maison 52.94 300 *e*P **P 11 13 59.2 -0.1**
ESY Stoneypath 52.97 315 *e*P **P 11 13 59.0 -0.5**
GRN Grenoble 53.15 300 *e*P **P 11 14 01.2 +0.4**
RSC Scourie 53.15 319⇑*e*P **P 11 14 01.1 +0.3**
MDO Dochfour 53.16 318⇑*e*P **P 11 14 00.6 -0.4**
ORIF Oris-en-Rattie 53.22 300⇑*i*P **P 11 14 01.0 -0.4**
comp=Z,106nm,0.8s,mb5.5
ORIF *e*R
comp=Z,1μm,17.8s
ORIF Oris-en-Rattie 53.22 300⇑*i*P **P 11 14 01.0 -0.4**
ORIF pmax pmax
comp=Z,53nm,0.8s,mb5.5
ORIF Oris-en-Rattie 53.22 300⇑*i*P **P 11 14 01.0 -0.4**
comp=Z,53nm,0.8s,mb5.5
XAL Allendale 53.24 314 *e*P **P 11 14 00.8 -0.7**
EBL Broad Law 53.25 315 *e*P **P 11 14 01.0 -0.6**
EDI Edinburgh 53.26 315 *e*P **P 11 14 01.1 -0.5**
EDI AMb AMB 11 14 11.7
comp=Z,109nm,1.9s,mb5.5
REB Eisghbrachaidh 53.30 319⇑*e*P **P 11 14 01.9 -0.1**
LOR Lormes 53.33 303⇑*i*P **P 11 14 01.1 -1.1**
comp=Z,27nm,0.7s,mb5.0
LOR *e*R
comp=Z,702nm,21.8s
LOR Lormes 53.33 303⇑*i*P **P 11 14 01.1 -1.1**

LOR pmax pmax
comp=Z,14nm,0.7s,mb5.0
LOR MLR MLR
comp=Z,700nm,21.8s,MS4.7
LOR Lormes 53.33 303⇑ *iP* **P 11 14 01.1 -1.1**
comp=Z,14nm,0.7s,mb5.0
LOR LR LR
comp=Z,700nm,21.8s,MS4.7
FRF La Foret Royal 53.40 298⇑ *iP* **P 11 14 02.1 -0.6**
comp=Z,46nm,0.8s,mb5.2
FRF La Foret Royal 53.40 298⇑ *iP* **P 11 14 02.1 -0.6**
FRF pmax pmax
comp=Z,23nm,0.8s,mb5.2
FRF La Foret Royal 53.40 298⇑ *iP* **P 11 14 02.1 -0.6**
comp=Z,23nm,0.8s,mb5.2
EAU Auchinoon 53.42 315 *eP* **P 11 14 02.6 -0.2**
EKA Eskdalemuir Ar 53.51 315 P **P 11 14 03.0 -0.5**
comp=Z,9.5nm,0.5s,mb5.0,baz=70,slow=7.7,SNR=58
EKA pP pP 11 14 08.9 -1.8
comp=Z,18nm,0.7s,baz=59,slow=7.5,SNR=12
EKA Eskdalemuir Ar 53.51 315 P **P 11 14 03.0 -0.5**
EKA *PP pP 11 14 08.9 -1.8
EKA pmax pmax
comp=Z,10.0nm,0.5s
EKA pmax pmax
comp=Z,18nm,0.7s
ESK Eskdalemuir 53.54 315 *eP* **P 11 14 03.2 -0.5**
ESK AMb AMB 11 14 11.8
comp=Z,108nm,2.2s,mb5.4
KAC Achnashellach 53.59 318 *eP* **P 11 14 03.4 -0.7**
LMR La Mourre 53.60 298⇑ *iP* **P 11 14 03.6 -0.5**
comp=Z,38nm,1.0s,mb5.0
LMR La Mourre 53.60 298⇑ *iP* **P 11 14 03.6 -0.5**
LMR pmax pmax
comp=Z,19nm,1.0s,mb5.0
LMR La Mourre 53.60 298⇑ *iP* **P 11 14 03.6 -0.5**
comp=Z,19nm,1.0s,mb5.0
SMF Signal de Mont 53.64 303⇑ *iP* **P 11 14 03.8 -0.7**
comp=Z,52nm,0.9s,mb5.2
SMF Signal de Mont 53.64 303⇑ *iP* **P 11 14 03.8 -0.7**
SMF pmax pmax
comp=Z,26nm,0.9s,mb5.2
SMF Signal de Mont 53.64 303⇑ *iP* **P 11 14 03.8 -0.7**
comp=Z,26nm,0.9s,mb5.2
SSF Saint Saulge 53.64 303⇑ *iP* **P 11 14 03.5 -1.0**
comp=Z,19nm,0.7s,mb4.8
SSF Saint Saulge 53.64 303⇑ *iP* **P 11 14 03.5 -1.0**
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SSF Saint Saulge 53.64 303⇑ *iP* **P 11 14 03.5 -1.0**
comp=Z,9.4nm,0.7s,mb4.8
KSB Sheil Bridge 53.78 318 *eP* **P 11 14 04.9 -0.6**
KPL Plockton 53.83 318 *eP* **P 11 14 05.2 -0.7**
AVF Avril sur Loir 53.86 303⇑ *iP* **P 11 14 05.4 -0.7**
comp=Z,125nm,1.5s,mb5.3
AVF Avril sur Loir 53.86 303⇑ *iP* **P 11 14 05.4 -0.7**
AVF pmax pmax
comp=Z,63nm,1.5s,mb5.3
AVF Avril sur Loir 53.86 303⇑ *iP* **P 11 14 05.4 -0.7**
comp=Z,62nm,1.5s,mb5.3
SMRF Simiane la Rot 53.87 299⇑ *iP* **P 11 14 05.9 -0.2**
comp=Z,37nm,0.9s,mb5.0
SMRF Simiane la Rot 53.87 299⇑ *iP* **P 11 14 05.9 -0.2**
comp=Z,37nm,0.9s,mb5.3
KWE Weaver Farm 53.88 312 *eP* **P 11 14 05.9 -0.4**
VIVF Saint-Julien-l 54.00 300⇑ *iP* **P 11 14 06.7 -0.4**
comp=Z,55nm,0.8s,mb5.3
VIVF Saint-Julien-l 54.00 300⇑ *iP* **P 11 14 06.7 -0.4**
VIVF pmax pmax
comp=Z,28nm,0.8s,mb5.2
VIVF Saint-Julien-l 54.00 300⇑ *iP* **P 11 14 06.7 -0.4**
comp=Z,28nm,0.8s,mb5.2
RRH Rhenigidale 54.06 319⇑ *eP* **P 11 14 07.5 0.0**
KAR1 Arisaig 54.11 317 *eP* **P 11 14 07.6 -0.4**
GELF Grande-Etoile 54.26 298 *eP* **P 11 14 08.4 -0.6**
BGF Bois d'Agland 54.28 303⇑ *iP* **P 11 14 08.6 -0.6**
comp=Z,49nm,0.8s,mb5.2
BGF Bois d'Agland 54.28 303⇑ *iP* **P 11 14 08.6 -0.6**
BGF pmax pmax
comp=Z,24nm,0.8s,mb5.2
BGF Bois d'Agland 54.28 303⇑ *iP* **P 11 14 08.6 -0.6**
comp=Z,24nm,0.8s,mb5.2
TCF Toulx Ste Croi 54.80 303⇑ *iP* **P 11 14 12.6 -0.3**
comp=Z,58nm,0.8s,mb5.3
TCF Toulx Ste Croi 54.80 303⇑ *iP* **P 11 14 12.6 -0.3**
TCF pmax pmax
comp=Z,29nm,0.8s,mb5.4
TCF Toulx Ste Croi 54.80 303⇑ *iP* **P 11 14 12.6 -0.3**
comp=Z,29nm,0.8s,mb5.4
LASF Ste Croix 54.89 300⇑ *iP* **P 11 14 13.6 0.0**
comp=Z,82nm,0.9s,mb5.5
MCH1 Michaelchurch 54.99 311 *eP* **P 11 14 13.7 -0.6**
MCH1 *eP* 11 14 13.7
MCH1 AMb AMB 11 14 27.1
comp=Z,78nm,1.4s,mb5.5
HGH Gray Hill 55.06 311 *eP* **P 11 14 14.1 -0.7**
HTR Trewern Hill 55.10 311 *eP* **P 11 14 15.1 0.0**
FLN La Foliniere 55.16 307 *eP* **P 11 14 14.6 -0.9**
comp=Z,55nm,0.7s,mb5.4
FLN *eR*
comp=Z,2μm,19.0s
FLN La Foliniere 55.16 307 *eP* **P 11 14 14.6 -0.9**
FLN pmax pmax
comp=Z,27nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,2μm,19.0s,MS5.1
FLN La Foliniere 55.16 307 *eP* **P 11 14 14.6 -0.9**
comp=Z,28nm,0.7s,mb5.4
FLN LR LR
comp=Z,2μm,19.0s,MS5.1
GRR Gorron 55.57 306 *eP* **P 11 14 17.6 -0.8**
comp=Z,25nm,0.6s,mb5.2
GRR Gorron 55.57 306 *eP* **P 11 14 17.6 -0.8**
GRR pmax pmax
comp=Z,13nm,0.6s,mb5.1
GRR Gorron 55.57 306 *eP* **P 11 14 17.6 -0.8**
comp=Z,12nm,0.6s,mb5.1
CAF Calviac 55.57 302⇑ *iP* **P 11 14 19.0 +0.5**
comp=Z,18nm,0.8s,mb4.9
CAF Calviac 55.57 302⇑ *iP* **P 11 14 19.0 +0.5**
CAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CAF Calviac 55.57 302⇑ *iP* **P 11 14 19.0 +0.5**
comp=Z,8.8nm,0.8s,mb4.8
KEST Kesra 55.68 289 LR LR 11 42 22.5
comp=Z,85nm,18.9s,MS3.9,baz=1.4,slow=40
RJF Les Rejaudoux 55.71 302⇑ *iP* **P 11 14 19.6 +0.1**
comp=Z,51nm,0.8s,mb5.3
RJF *eR*
comp=Z,1μm,17.5s
RJF Les Rejaudoux 55.71 302⇑ *iP* **P 11 14 19.6 +0.1**
RJF pmax pmax
comp=Z,26nm,0.8s,mb5.3
RJF MLR MLR
comp=Z,1μm,17.5s,MS5.0
RJF Les Rejaudoux 55.71 302⇑ *iP* **P 11 14 19.6 +0.1**
comp=Z,26nm,0.8s,mb5.3
RJF LR LR
comp=Z,1μm,17.5s,MS5.0
MFF Saint Martin d 56.05 304 *eP* **P 11 14 21.2 -0.7**
comp=Z,27nm,0.6s,mb5.1
MFF Saint Martin d 56.05 304 *eP* **P 11 14 21.2 -0.7**
MFF pmax pmax
comp=Z,13nm,0.6s,mb5.1
MFF Saint Martin d 56.05 304 *eP* **P 11 14 21.2 -0.7**
comp=Z,13nm,0.6s,mb5.2
MTLF Montolieu 56.29 300⇑ *iP* **P 11 14 23.5 -0.1**
comp=Z,50nm,1.1s,mb5.1
MTLF Montolieu 56.29 300⇑ *iP* **P 11 14 23.5 -0.1**
MTLF pmax pmax
comp=Z,25nm,1.1s,mb5.2
MTLF Montolieu 56.29 300⇑ *iP* **P 11 14 23.5 -0.1**
comp=Z,25nm,1.1s,mb5.2
LFF La Frestale 56.37 302 *eP* **P 11 14 24.3 +0.1**
comp=Z,77nm,0.7s,mb5.5
LFF La Frestale 56.37 302 *eP* **P 11 14 24.3 +0.1**
LFF pmax pmax
comp=Z,38nm,0.7s,mb5.5
LFF La Frestale 56.37 302 *eP* **P 11 14 24.3 +0.1**
comp=Z,38nm,0.7s,mb5.5
SGMF Saint Gilles 56.61 307 *eP* **P 11 14 25.5 -0.4**
comp=Z,77nm,0.8s,mb5.5
SGMF Saint Gilles 56.61 307 *eP* **P 11 14 25.5 -0.4**
SGMF pmax pmax
comp=Z,39nm,0.8s,mb5.5
SGMF Saint Gilles 56.61 307 *eP* **P 11 14 25.5 -0.4**
comp=Z,38nm,0.8s,mb5.5

BORG Borgarnes 56.67 330 LR LR 11 41 42.5
comp=Z,273nm,18.3s,MS4.4,baz=30,slow=39
VALF Valcebollere 56.91 299 *eP* **P 11 14 28.3 +0.3**
ROSF Rostrenen 56.98 307⇑ *iP* **P 11 14 28.0 -0.5**
comp=Z,59nm,0.7s,mb5.4
ROSF Rostrenen 56.98 307⇑ *iP* **P 11 14 28.0 -0.5**
ROSF pmax pmax
comp=Z,30nm,0.7s,mb5.4
ROSF Rostrenen 56.98 307⇑ *iP* **P 11 14 28.0 -0.5**
comp=Z,30nm,0.7s,mb5.4
QUIF Quistinic 57.14 307⇑ *iP* **P 11 14 29.1 -0.5**
comp=Z,43nm,0.6s,mb5.4
QUIF Quistinic 57.14 307⇑ *iP* **P 11 14 29.1 -0.5**
QUIF pmax pmax
comp=Z,22nm,0.6s,mb5.4
QUIF Quistinic 57.14 307⇑ *iP* **P 11 14 29.1 -0.5**
comp=Z,22nm,0.6s,mb5.3
MLS Moulis 57.19 300 *eP* **P 11 14 29.5 -0.5**
TNA Tin City 57.48 28 PFAKE 11 14 40.0 +7.9
TNA LR LR
comp=Z,219nm,20.0s,MS4.3
EPF Esparros 57.62 300⇑ *iP* **P 11 14 32.1 -1.0**
comp=Z,35nm,0.6s,mb5.3
EPF Esparros 57.62 300⇑ *iP* **P 11 14 32.1 -1.0**
EPF pmax pmax
comp=Z,18nm,0.6s,mb5.3
EPF Esparros 57.62 300⇑ *iP* **P 11 14 32.1 -1.0**
comp=Z,18nm,0.6s,mb5.3
EBIE Bielsa 57.93 300 P P **11 14 35.6 +0.4**
comp=Z,33nm,0.9s,mb5.4
SJPF Ste Jean 58.54 301 *eP* **P 11 14 39.8 +0.3**
comp=Z,47nm,1.1s,mb5.2
SJPF Ste Jean 58.54 301 *eP* **P 11 14 39.8 +0.3**
SJPF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SJPF Ste Jean 58.54 301 *eP* **P 11 14 39.8 +0.3**
comp=Z,24nm,1.0s,mb5.2
EMOS Mosqueruela 59.59 298 P pP 11 14 56.6 +2.6
comp=Z,34nm,0.6s
ECRI Cripan 59.61 301 P pP 11 14 57.5 +3.4
ETOR Torete 60.33 299 P pP 11 15 01.2 +2.1
ETOR pmax pmax
comp=Z,14nm,0.7s,mb5.1
ETOR Torete 60.33 299 P pP 11 15 01.2 +2.1
comp=Z,14nm,0.7s
EBEN Beniarda 60.37 297 P pP 11 15 02.3 +2.9
EANR 'Ain N'Sour 61.09 293 P pP 11 15 03.0 -1.3
KMBO Kilima Mbogo 61.13 236 P **P 11 14 58.5 +1.2**
comp=Z,2.0nm,0.5s,mb4.5,baz=48,slow=24,SNR=4.9
KMBO pP pP 11 15 03.4 -1.1
comp=Z,5.1nm,0.7s,baz=28,slow=11,SNR=3.8
KMBO LR LR 11 44 53.6
comp=Z,336nm,19.5s,MS4.5,baz=91,slow=39
KMBO Kilima Mbogo 61.13 236 P **P 11 14 58.5 +1.2**
KMBO *PP pP 11 15 03.4 -1.1
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO MLR MLR
comp=Z,336nm,19.5s
KMBO Kilima Mbogo 61.13 236 *eP* **P 11 14 57.5 +0.3**
comp=Z,7.1nm,0.8s,mb4.8
KMBO *e* pP 11 15 03.8 -0.8
KMBO LR LR
comp=Z,344nm,21.0s,MS4.5
ETOB Tobarra 61.25 297 P pP 11 15 06.7 +1.3
comp=Z,3.6nm,0.5s
ETRT Tiaret 61.28 293 P **P 11 14 59.0 +0.7**
RES Resolute Bay 61.33 360 *eP* pP 11 15 07.5 +1.6
EMUR La Murta 61.52 296 P **P 11 15 00.1 +0.2**
comp=Z,26nm,0.7s,mb5.5
IMA2 Indian Mountai 61.54 23 *eP* **P 11 14 59.5 -0.6**
GUD Guadarrama 61.74 300 P pP 11 15 09.2 +0.5
GUD pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
GUD Guadarrama 61.74 300 P pP 11 15 09.2 +0.5
comp=Z,5.9nm,0.5s
EVIA Vianos 61.86 298 P pP 11 15 12.3 +2.8
EVIA pmax pmax
comp=Z,15nm,0.6s,mb5.3
EVIA Vianos 61.86 298 P pP 11 15 12.3 +2.8
comp=Z,15nm,0.6s
ESDC Sonseca Array 62.18 299 P **P 11 15 04.1 -0.3**
comp=Z,7.1nm,0.7s,mb4.9,baz=48,slow=7.2,SNR=17
ESDC pP pP 11 15 10.3 -1.3
comp=Z,16nm,0.6s,baz=51,slow=7.1,SNR=17
ESDC LR LR 11 44 02.4
comp=Z,516nm,18.0s,MS4.7,baz=20,slow=38
ESLA Sonseca Array 62.18 299 *eP* **P 11 15 04.2 -0.2**
ESLA *e* pP 11 15 11.0 -0.6
EHUE Huescar 62.40 297 P pP 11 15 14.2 +1.1
EHUE pmax pmax
comp=Z,26nm,1.0s,mb5.3
EHUE Huescar 62.40 297 P pP 11 15 14.2 +1.1
comp=Z,26nm,1.0s
PAB San Pablo 62.50 299 P **P 11 15 06.8 +0.3**
PAB pmax pmax
comp=Z,18nm,0.8s,mb5.2
PAB San Pablo 62.50 299 PFAKE 11 15 20.0 +13
PAB LR LR
comp=Z,755nm,20.0s,MS4.9
PBRG Braganca 62.65 303 *eP* pP 11 15 15.2 +0.5
EQES Quesada 62.72 297 P pP 11 15 17.6 +2.3
comp=Z,4.4nm,0.5s
EBAN Banos Encina 62.96 298 P pP 11 15 19.5 +2.7
EBAN pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
EBAN Banos Encina 62.96 298 P pP 11 15 19.5 +2.7
comp=Z,7.8nm,0.6s
ECOG Cogollos-Vega 63.34 297 P pP 11 15 20.0 +0.6
ECOG pmax pmax
comp=Z,12nm,0.7s,mb5.1
ECOG Cogollos-Vega 63.34 297 P pP 11 15 19.9 +0.6
comp=Z,12nm,0.7s
EADA Adamuz 63.46 298 P pP 11 15 21.6 +1.5
comp=Z,1.9nm,0.5s
PVRL Vila Real 63.55 303 *eP* pP 11 15 20.5 -0.2
ELUQ Luque 63.62 298 P pP 11 15 21.4 +0.2
ELUQ pmax pmax
comp=Z,39nm,0.8s,mb5.5
ELUQ Luque 63.62 298 P pP 11 15 21.4 +0.1
comp=Z,39nm,0.8s
ERON Agron 63.65 297 P pP 11 15 23.1 +1.7
comp=Z,31nm,0.9s
PVIS Viseu 63.99 302 *eP* pP 11 15 23.5 -0.2
COLA College 64.05 22 *eP* **P 11 15 17.2 +0.4**
COLA pmax pmax
comp=Z,54nm,1.0s,mb5.5
COLA MLR MLR
comp=Z,524nm,19.0s,MS4.7
COLA College 64.05 22 *eP* **P 11 15 17.2 +0.4**
comp=Z,54nm,1.0s,mb5.5
COLA LR LR
comp=Z,524nm,19.0s,MS4.7
PCBR Castelo Branco 64.26 301 *eP* pP 11 15 26.6 +1.1
INK Inuvik 64.36 14 LR LR 11 45 14.1
comp=Z,516nm,20.7s,MS4.7,baz=165,slow=38
INK Inuvik 64.36 14 *eP* **P 11 15 19.0 +0.2**
comp=Z,3μm,1.0s
INK *e* pP 11 15 25.9 -0.2
EMIJ Mijas 64.54 297 P pP 11 15 25.9 -1.4
comp=Z,26nm,0.8s
SVW2 Sparrevohn 64.60 27 *eP* **P 11 15 21.2 +0.8**
EBAD Badajoz 64.63 300 P pP 11 15 27.4 -0.5
comp=Z,18nm,1.0s
MCK McKinley 64.64 23 *eP* **P 11 15 21.0 +0.4**
comp=Z,5.9nm,0.7s,mb4.7
MCK LR LR
comp=Z,200nm,21.0s,MS4.3
PESTR Estremoz 64.92 300 *eP* pP 11 15 30.4 +0.6
comp=Z,60nm,1.7s
EMIN Mina Concepcio 65.02 299 P pP 11 15 30.2 -0.2
comp=Z,48nm,0.8s
EJIF Jimena Fronter 65.06 297 P pP 11 15 30.0 -0.7
EJIF pmax pmax
comp=Z,19nm,0.8s,mb5.2
EJIF Jimena Fronter 65.06 297 P pP 11 15 30.0 -0.7
comp=Z,19nm,0.8s
MOE Montemor 65.60 301 *eP* pP 11 15 34.9 +0.7
PBEJ Beja 65.61 300 *eP* pP 11 15 34.2 0.0
comp=Z,53nm,1.4s
EGRO El Granado 65.67 299 P pP 11 15 34.2 -0.5
comp=Z,2.9nm,0.8s
EGAK Eagle 65.81 19 *eP* **P 11 15 28.1 -0.1**
comp=Z,9.3nm,0.3s,mb5.3

EGAK *e* pP 11 15 35.3 -0.3
EGAK LR LR
comp=Z,637nm,20.0s,MS4.8
PMR Palmer 66.26 25 *eP* **P 11 15 30.7 -0.4**
PMR 11 15 40.1
PMR pmax pmax
comp=Z,50nm,1.1s,mb5.5
PMR Palmer 66.26 25 *eP* **P 11 15 30.6 -0.5**
comp=Z,9.5nm,0.8s,mb4.9
PMR LR LR
comp=Z,500nm,17.0s,MS4.8
SML Sawmill 66.33 24 *eP* **P 11 15 31.5 -0.1**
DAWY Dawson 66.83 19 *eP* **P 11 15 34.6 -0.2**
CHGN Chignik 67.09 32 *eP* **P 11 15 35.2 -1.3**
DIV Divide 67.61 23 *eP* **P 11 15 39.9 +0.2**
comp=Z,45nm,0.6s,mb5.7
DIV LR LR
comp=Z,1μm,21.0s,MS5.1
KDAK Kodiak Island 68.11 29 P **P 11 15 43.6 +0.7**
comp=Z,393nm,0.6s,SNR=10
KDAK Kodiak Island 68.11 29 LR LR 11 48 21.7
comp=Z,519nm,18.4s,MS4.8,baz=329,slow=38
KDAK Kodiak Island 68.11 29 *eP* **P 11 15 43.6 +0.7**
KDAK *e* pP 11 15 50.0 -0.2
KDAK LR LR
comp=Z,89nm,19.0s,MS4.0
SKAG Skagway 71.79 20 *eP* **P 11 16 05.4 -0.1**
comp=Z,74nm,1.7s,mb5.3
SKAG LR LR
comp=Z,200nm,17.0s,MS4.5
KAKA Kakadu 72.03 129 *eP* **P 11 16 05.9 -1.0**
comp=Z,11nm,0.6s,mb5.0
KAKA *e* pP 11 16 13.2 -1.1
YKW3 Yellowknife Ar 72.53 9 *eP* **P 11 16 09.3 -0.6**
YKA Yellowknife Ar 72.59 9 P **P 11 16 09.7 -0.5**
comp=Z,17nm,0.6s,mb5.2,baz=340,slow=6.0,SNR=101
YKA pP pP 11 16 15.7 -1.9
comp=Z,48nm,1.0s,baz=340,slow=5.9,SNR=19
YKA Yellowknife Ar 72.59 9 P **P 11 16 09.7 -0.6**
YKA *PP pP 11 16 15.7 -1.9
YKA pmax pmax
comp=Z,17nm,0.6s
YKA pmax pmax
comp=Z,49nm,1.0s
YKA Yellowknife Ar 72.59 9 P **P 11 16 09.7 -0.5**
YKA pP pP 11 16 15.7 -1.9
FITZ Fitzroy Crossi 73.02 138 *eP* **P 11 16 12.3 -0.5**
comp=Z,14nm,0.6s,mb5.1
FITZ *e* pP 11 16 19.2 -1.0
FITZ Fitzroy Crossi 73.02 138 P **P 11 16 11.7 -1.1**
comp=Z,8.3nm,0.6s,mb4.8,baz=0.7,slow=4.9,SNR=34
FITZ pP pP 11 16 18.0 -2.2
comp=Z,12nm,1.0s,baz=356,slow=7.0,SNR=7.4
SIT Sitka 73.92 21 PFAKE 11 16 30.0 +12
SIT LR LR
comp=Z,718nm,19.0s,MS5.0
TOA0 Torodi Ar. Sit 75.13 274 *eP* **P 11 16 24.4 -0.8**
TOA0 *e* pP 11 16 31.5 -1.0
TORD Torodi Ar. Bea 75.13 274 P **P 11 16 24.4 -0.7**
comp=Z,13nm,0.5s,mb5.1,baz=41,slow=5.1,SNR=159
TORD pP pP 11 16 30.8 -1.7
comp=Z,51nm,1.0s,baz=43,slow=5.1,SNR=41
TORD LR LR 11 54 50.6
comp=Z,150nm,20.1s,MS4.3,baz=330,slow=40
LSZ Lusaka 77.75 234 *eP* **P 11 16 39.6 -0.4**
comp=Z,51nm,1.4s,mb5.3
LSZ *e* pP 11 16 46.5 -0.9
LSZ LR LR
comp=Z,167nm,20.0s,MS4.4
SCHQ Schefferville 78.10 343 P **P 11 16 40.8 -1.1**
comp=Z,2.8nm,0.4s,mb4.5,baz=30,slow=6.4,SNR=16
SCHQ pP pP 11 16 47.9 -1.5
comp=Z,10.0nm,1.0s,baz=52,slow=5.3,SNR=3.9
SCHQ LR LR 11 54 46.3
comp=Z,280nm,18.9s,MS4.6,baz=343,slow=38
PMG Port Moresby 78.36 115 *eP* **P 11 16 43.6 +0.3**
PMG Port Moresby 78.36 115 PFAKE 11 16 50.0 +6.7
PMG LR LR
comp=Z,294nm,20.0s,MS4.6
WRAB Tennant Creek 78.98 132 P **P 11 16 46.9 +0.1**
comp=Z,262nm,0.6s,mb6.3,SNR=26
WRAB Tennant Creek 78.98 132 *eP* **P 11 16 46.1 -0.7**
WRAB *e* pP 11 16 53.2 -1.0
WRAB pmax pmax
comp=Z,28nm,0.6s,mb5.4
WRAB Tennant Creek 78.98 132 *eP* **P 11 16 46.0 -0.7**
comp=Z,28nm,0.6s,mb5.4
WRAB *e* pP 11 16 53.2 -1.0
WRA Warramunga Arr 78.98 132 P **P 11 16 46.3 -0.5**
comp=Z,20nm,0.6s,mb5.2,baz=335,slow=5.3,SNR=278
WRA pP pP 11 16 51.6 -2.6
comp=Z,34nm,1.0s,baz=332,slow=5.4,SNR=26
WRA PKKPbc PKKPbc 11 35 38.5 -0.7
comp=Z,0.7nm,0.9s,baz=142,slow=2.1,SNR=5.1
WRA LR LR 11 53 18.0
comp=Z,94nm,20.6s,MS4.1,baz=345,slow=37
WRA Warramunga Arr 78.98 132 P **P 11 16 46.3 -0.5**
WRA *PP pP 11 16 51.6 -2.6
WRA pmax pmax
comp=Z,20nm,0.6s
WRA pmax pmax
comp=Z,35nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA MLR MLR
comp=Z,94nm,20.6s
WB2 Warramunga Arr 78.99 132⇑ *iP* **P 11 16 46.2 -0.6**
WB2 *i* pP 11 16 53.5 -0.8
FFC Flin Flon 81.26 3 P **P 11 16 58.7 -0.4**
comp=Z,679nm,0.8s,SNR=34
MUN Mundaring 81.54 152 *eP* **P 11 16 58.9 -1.6**
MUN *e* pP 11 17 06.2 -1.8
EDM Edmonton 81.81 10 *eP* **P 11 17 01.6 -0.4**
EDM *e* pP 11 17 07.6 -1.9
AS31 Alice Springs 81.82 134 *eP* **P 11 17 01.2 -0.8**
ASPA Alice Springs 81.82 134 *eP* **P 11 17 01.2 -0.8**
ASAR Alice Springs 81.82 134 P **P 11 17 01.4 -0.6**
comp=Z,9.9nm,0.6s,mb4.9,baz=331,slow=5.2,SNR=145
ASAR pP pP 11 17 07.0 -2.5
comp=Z,12nm,0.8s,baz=330,slow=4.7,SNR=21
ASAR Alice Springs 81.82 134 P **P 11 17 01.4 -0.6**
ASAR *PP pP 11 17 07.0 -2.5
ASAR pmax pmax
comp=Z,10.0nm,0.6s
ASAR pmax pmax
comp=Z,12nm,0.8s
NWAO Narrogin (SRO) 82.75 152 *eP* **P 11 17 12.1 +5.2**
NWAO pmax pmax
comp=Z,25nm,1.0s
NWAO Narrogin (SRO) 82.75 152 *eP* **P 11 17 12.1 +5.2**
comp=Z,25nm,1.0s,mb5.2
A04A Legoe Bay, Lum 84.58 17 ⇓P **P 11 17 16.4 +0.1**
baz=84
LIC Lamto 84.67 273⇑ *iP* **P 11 17 15.8 -0.9**
comp=Z,139nm,1.2s,mb5.7
LIC *eR*
comp=Z,247nm,18.5s
LIC Lamto 84.67 273⇑ *iP* **P 11 17 15.8 -0.9**
comp=Z,70nm,1.2s,mb5.7
LIC LR LR
comp=Z,120nm,18.5s,MS4.3
A07A Ashnola River, 84.73 16 ⇓P **P 11 17 17.0 0.0**
baz=84,SNR=8.0
B04A Port Angeles 85.03 18 ⇓P **P 11 17 18.4 -0.2**
baz=85
A08A Turner Farm, O 85.03 15 ⇓P **P 11 17 18.6 +0.1**
baz=85,SNR=7.1
FORT Forrest 85.04 143⇑ *iP* **P 11 17 16.9 -1.7**
comp=Z,23nm,0.6s,mb5.5
FORT *i* pP 11 17 24.6 -1.5
A09A Danville 85.14 14 ⇑P **P 11 17 19.1 +0.1**
baz=85
JCW Jim Creek 85.24 17 P **P 11 17 19.9 +0.3**
B07A Winthrop 85.34 16 P **P 11 17 20.3 +0.2**
baz=85,SNR=8.8
A11A Hall Mountain, 85.53 13 ⇑P **P 11 17 21.0 0.0**
baz=85
B08A Colville Reser 85.59 15 P **P 11 17 21.6 +0.2**
baz=85,SNR=12
GNW Green Mountain 85.65 18 *eP* **P 11 17 23.1 +1.5**
A12A Yaak River Ran 85.67 13 ⇓P **P 11 17 21.8 +0.1**
baz=85
NLW Nelson Butte 85.67 16 P **P 11 17 22.2 +0.5**
B09A Rice 85.75 14 ⇓P **P 11 17 21.8 -0.3**
baz=85,SNR=6.5
C05A Tolt Reservoir 85.76 17 ⇑P **P 11 17 21.7 -0.5**

baz=85
WALA Waterton Lakes 85.80 11 *e*P **P 11 17 21.7 -0.7**
comp=Z,47nm,1.1s,mb5.6
WALA *e* pP 11 17 28.6 -1.4
ULM Lac du Bonnet 85.86 360 P **P 11 17 20.6 -2.0**
comp=Z,4.6nm,0.7s,mb4.8,baz=344,slow=7.5,SNR=9.5
ULM pP pP 11 17 27.3 -2.9
comp=Z,14nm,1.0s,baz=357,slow=4.6,SNR=7.5
ULM LR LR 12 02 31.4
comp=Z,228nm,18.4s,MS4.6,baz=358,slow=40
ULM Lac du Bonnet 85.86 360 *e*P **P 11 17 20.4 -2.3**
comp=Z,27nm,1.1s,mb5.4
ULM *e* pP 11 17 27.0 -3.2
ULM LR LR
comp=Z,579nm,20.0s,MS5.0
CTA Charters Tower 85.88 123⇑ *i*P **P 11 17 22.1 -0.7**
comp=Z,6.5nm,1.9s,mb4.5
CTA *i* pP 11 17 29.4 -0.9
CTA Charters Tower 85.88 123 P **P 11 17 21.6 -1.2**
comp=Z,6.2nm,0.6s,mb5.0,baz=333,slow=6.9,SNR=11
CTA pP pP 11 17 27.8 -2.5
comp=Z,29nm,1.2s,baz=322,slow=5.7,SNR=8.6
CTA Charters Tower 85.88 123⇑ *i*P **P 11 17 22.1 -0.7**
CTA *i* pP 11 17 29.4 -0.9
CTA pmax pmax
comp=Z,7.0nm,1.9s
CTAO Charters Tower 85.88 123 *e*P **P 11 17 22.2 -0.6**
CTAO pmax pmax
comp=Z,47nm,1.3s,mb5.6
CTAO Charters Tower 85.88 123 *e*P **P 11 17 22.2 -0.6**
comp=Z,47nm,1.3s,mb5.6
CTAO *e* pP 11 17 28.7 -1.6
B10A Chitwood Farm, 86.03 14⇑P **P 11 17 23.1 -0.4**
baz=86
NEW Newport 86.08 14 LR LR 11 56 41.7
comp=Z,273nm,20.0s,MS4.7,baz=229,slow=36
NEW Newport 86.08 14 *e*P **P 11 17 23.2 -0.6**
NEW *e* pP 11 17 29.7 -1.6
NEW pmax pmax
comp=Z,31nm,1.0s
NEW MLR MLR
comp=Z,390nm,20.0s
NEW Newport 86.08 14 *e*P **P 11 17 23.2 -0.5**
comp=Z,31nm,1.0s,mb5.5
NEW *e* pP 11 17 29.7 -1.6
NEW LR LR
comp=Z,390nm,20.0s,MS4.8
C07A Waterville 86.09 16⇑P **P 11 17 23.3 -0.6**
baz=86,SNR=6.6
WTV Waterville 86.11 16 P **P 11 17 23.6 -0.4**
B12A Libby 86.13 13⇓P **P 11 17 23.7 -0.3**
baz=86
C08A Higginbotham F 86.20 15⇓P **P 11 17 24.3 0.0**
baz=86
C09A Chrisman Ranch 86.32 15⇓P **P 11 17 25.0 0.0**
baz=86,SNR=8.4
B13A Whitefish 86.39 12⇑P **P 11 17 25.0 -0.3**
baz=86,SNR=5.6
D06A Cle Elum 86.41 16⇑P **P 11 17 25.0 -0.4**
baz=86
C10A Spilker Farm, 86.48 14⇑P **P 11 17 25.6 -0.1**
baz=86
TBM Table Mountain 86.49 16 P **P 11 17 26.0 +0.2**
FMW Mount Fremont 86.49 17 P **P 11 17 26.3 +0.5**
D07A Quincy 86.59 16⇑P **P 11 17 26.1 -0.2**
baz=86
E05A Randle 86.83 17⇓P **P 11 17 27.5 0.0**
baz=86
BSMT Bassoo Peak 86.85 12 *e*P **P 11 17 27.6 +0.1**
C12A Trout Creek 86.89 13⇑P **P 11 17 27.7 0.0**
baz=87,SNR=12
D08A Wollman Farm, 86.92 15⇓P **P 11 17 28.0 +0.1**
baz=87
LBTB Lobatse 86.93 230 *e*P **P 11 17 27.5 -0.5**
LBTB *e* pP 11 17 34.3 -1.2
LBTB pmax pmax
comp=Z,77nm,1.1s,mb5.8
LBTB MLR MLR
comp=Z,292nm,20.0s,MS4.7
LBTB Lobatse 86.93 230 *e*P **P 11 17 27.5 -0.5**
comp=Z,77nm,1.1s,mb5.8
LBTB *e* pP 11 17 34.2 -1.2
LBTB LR LR
comp=Z,292nm,20.0s,MS4.7
E06A Yakima 87.01 17⇑P **P 11 17 28.4 +0.1**
baz=87
D09A Jones Farm, Ri 87.03 15⇓P **P 11 17 28.1 -0.3**
baz=87
C13A Hot Springs 87.05 12⇓P **P 11 17 28.6 +0.1**
baz=87,SNR=31
MXC Moxie City 87.11 16 P **P 11 17 29.6 +0.7**
TSUM Tsumeb 87.17 240 *e*P **P 11 17 28.2 -1.0**
comp=Z,19nm,0.9s,mb5.3
TSUM *e* pP 11 17 35.7 -0.9
TSUM LR LR
comp=Z,309nm,20.0s,MS4.7
E07A Sunnyside 87.22 16⇑P **P 11 17 29.4 0.0**
baz=87
EGMT Eagleton 87.35 9 *e*P **P 11 17 29.2 -0.7**
comp=Z,51nm,1.0s,mb5.7
EGMT LR LR
comp=Z,356nm,19.0s,MS4.8
EGMT Eagleton 87.35 9⇓P **P 11 17 29.4 -0.6**
baz=87,SNR=7.0
D11A Klaveano Farm, 87.39 13 P **P 11 17 29.8 -0.4**
baz=87,SNR=7.6
E08A Dider Farm, El 87.44 15⇑P **P 11 17 30.3 -0.1**
baz=87
E09A Wood Farm, Sta 87.59 15⇓P **P 11 17 30.8 -0.3**
baz=87
D13A Huson 87.64 12⇑P **P 11 17 31.2 -0.2**
baz=87,SNR=5.3
F06A Goldendale 87.79 17⇑P **P 11 17 31.8 -0.3**
baz=88
D14A Greenough 87.80 12 P **P 11 17 31.6 -0.5**
baz=88,SNR=8.2
E10A Myers Farm, Un 87.80 14⇑P **P 11 17 32.1 -0.1**
baz=88
AGMN Agassiz Refuge 87.81 360 *e*P **P 11 17 30.6 -1.6**
comp=Z,28nm,1.1s,mb5.4
G04A Mulino 87.96 18⇑P **P 11 17 32.5 -0.4**
baz=88
D15A Lincoln 87.97 11⇑P **P 11 17 32.6 -0.4**
baz=88
CHMT Chamberlain Mo 88.00 11 *e*P **P 11 17 32.5 -0.6**
CHMT *e* pP 11 17 39.5 -1.1
EYMN Ely 88.06 357 *e*P **P 11 17 32.4 -1.0**
comp=Z,58nm,1.1s,mb5.7
F08A Pendleton 88.16 15⇓P **P 11 17 33.5 -0.4**
baz=88
F10A Beach Ranch, E 88.28 14⇑P **P 11 17 34.1 -0.3**
baz=88,SNR=8.9
E13A Victor 88.32 12 P **P 11 17 34.0 -0.6**
baz=88,SNR=5.1
F09A S2 Ranch, Elgi 88.41 15⇓P **P 11 17 34.7 -0.4**
baz=88
E14A Clinton 88.45 12 P **P 11 17 35.0 -0.2**
baz=88,SNR=8.7
G07A Ruggs Ranch, H 88.50 16⇓P **P 11 17 35.0 -0.5**
baz=88
H04A Detroit Lake 88.52 18⇑P **P 11 17 35.3 -0.2**
baz=88
F11A Grangeville 88.54 14 P **P 11 17 35.4 -0.3**
baz=88,SNR=11
E15A Deer Lodge 88.56 11 P **P 11 17 35.4 -0.4**
baz=88,SNR=6.8
G08A Pilot Rock 88.61 16⇑P **P 11 17 35.6 -0.4**
baz=88
F12A Elk City 88.82 13⇑P **P 11 17 36.4 -0.6**
baz=88
H06A Lindquist Farm 88.87 17⇑P **P 11 17 36.6 -0.6**
baz=88
F13A Darby 88.94 12 P **P 11 17 37.1 -0.4**
baz=89,SNR=14
G11A Walters Elk Ra 89.00 14⇑P **P 11 17 37.1 -0.8**
baz=89
F14A Wisdom 89.06 12⇓P **P 11 17 37.8 -0.3**
baz=89
F15A Butte 89.15 11⇓P **P 11 17 38.3 -0.2**
baz=89,SNR=6.0
LRM Limekiln Ridge 89.18 11 *e*P **P 11 17 38.5 -0.2**
I05A Bend 89.22 18⇓P **P 11 17 38.5 -0.3**
baz=89
LCCM Lewis and Clar 89.24 11 P **P 11 17 38.7 -0.3**
I04A Tendick Farm, 89.31 18⇓P **P 11 17 39.1 -0.2**
baz=89
BMO Blue Mountains 89.34 15 PFAKE 11 17 50.0 +11
BMO LR LR
comp=Z,300nm,19.0s,MS4.7
LONY Lake Ozonia 89.37 345 *e*P **P 11 17 38.3 -1.2**
LONY *e* pP 11 17 46.3 -0.7
H08A Prairie City 89.41 16⇓P **P 11 17 39.7 -0.1**
baz=89
J02A Umpqua 89.45 19⇑P **P 11 17 39.6 -0.3**
baz=89
H09A Durkee 89.46 15⇑P **P 11 17 40.2 +0.2**
baz=89
GCMT Greycliff 89.56 9 *e*P **P 11 17 40.2 -0.2**
GCMT *e* pP 11 17 47.0 -1.0
J03A Ideyld Park 89.59 19⇓P **P 11 17 40.9 +0.3**
baz=89
DLMT Dillon 89.61 11 *e*P **P 11 17 41.3 +0.6**
comp=Z,42nm,1.1s,mb5.7
I06A Prineville 89.65 17⇓P **P 11 17 41.8 +0.9**
baz=89
I07A Izee 89.67 16⇓P **P 11 17 41.3 +0.4**
baz=89
H11A Donnelly 89.72 14⇑P **P 11 17 40.9 -0.3**
baz=89
G15A Dillon 89.81 11⇓P **P 11 17 41.8 +0.2**
baz=90
J04A Umppqua Nationa 89.91 18⇑P **P 11 17 42.5 +0.4**
baz=90
BOSA Boshof 89.96 228 P **P 11 17 41.2 -1.1**
comp=Z,2.0nm,0.4s,mb4.8,baz=20,slow=3.9,SNR=17
BOSA pP pP 11 17 48.0 -1.8
comp=Z,14nm,1.0s,baz=36,slow=5.6,SNR=12
BOSA LR LR 12 03 11.7
comp=Z,193nm,19.1s,MS4.5,baz=29,slow=39
BOSA Boshof 89.96 228 P **P 11 17 41.2 -1.1**
BOSA *PP pP 11 17 48.1 -1.7
BOSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.8
BOSA pmax pmax
comp=Z,14nm,1.0s,mb5.2
BOSA Boshof 89.96 228 *e*P **P 11 17 41.6 -0.7**
comp=Z,38nm,1.3s,mb5.6
BOSA *e* pP 11 17 48.3 -1.5
BOSA LR LR
comp=Z,240nm,20.0s,MS4.6
I08A Drewsey 90.02 16⇓P **P 11 17 43.1 +0.5**
baz=90,SNR=6.0
K02A Glendale 90.03 20⇑P **P 11 17 43.5 +0.8**
baz=90
J05A Fort Rock 90.06 18⇓P **P 11 17 43.0 +0.2**
baz=90
MCMT McKenzie Canyo 90.10 12 *e*P **P 11 17 43.2 +0.2**
I09A Lost Marbles R 90.11 15⇓P **P 11 17 43.3 +0.3**
baz=90
HUMO Hull Mountain 90.31 19⇑P **P 11 17 44.4 +0.4**
baz=90
J06A Christmas Vall 90.33 17⇓P **P 11 17 44.7 +0.7**
baz=90,SNR=6.5
J07A Hines 90.38 16⇓P **P 11 17 45.2 +0.9**
baz=90,SNR=10
YMR Madison River 90.51 10 *e*P **P 11 17 45.2 +0.3**
comp=Z,28nm,1.2s,mb5.5
YMR LR LR
comp=Z,838nm,19.0s,MS5.2
J08A Circle Bar Ran 90.57 16⇑P **P 11 17 45.4 +0.3**
baz=90,SNR=6.2
K04A Chilguin 90.59 18⇓P **P 11 17 45.6 +0.3**
baz=90
GLMI Grayling 90.66 352 PFAKE 11 17 30.0 -16
GLMI LR LR
comp=Z,466nm,20.0s,MS4.9
K05A Summer Lake 90.67 18⇓P **P 11 17 45.8 +0.1**
baz=90,SNR=9.1
LKWY Lake 90.68 10 PFAKE 11 18 00.0 +14
LKWY LR LR
comp=Z,243nm,20.0s,MS4.6
J09A Fry Pan Ranch, 90.72 15 P **P 11 17 46.4 +0.5**
baz=90,SNR=5.2
YFT Old Faithful 90.74 10 *e*P **P 11 17 48.3 +2.3**
YFT *e* pP 11 17 55.3 +1.8
WES Weston 90.83 342 PFAKE 11 18 00.0 +14
WES LR LR
comp=Z,800nm,21.0s,MS5.1
K07A Rock Creek Ran 91.05 17⇑P **P 11 17 47.8 +0.4**
baz=91,SNR=6.2
HLID Hailey 91.09 13 *e*P **P 11 17 48.1 +0.5**
HLID *e* pP 11 17 54.8 -0.3
HLID Hailey 91.09 13⇓P **P 11 17 48.1 +0.5**
baz=91
FLWY Flagg Ranch 91.12 10 *e*P **P 11 17 49.0 +1.3**
FLWY *e* pP 11 17 56.0 +0.8
K08A Mann Creek Ran 91.17 16⇑P **P 11 17 48.6 +0.7**
baz=91
L05A Lakeview 91.33 18⇑P **P 11 17 48.9 +0.2**
baz=91
K09A Rome 91.35 16⇓P **P 11 17 48.8 0.0**
baz=91
M04C Macdoel 91.36 19⇑P **P 11 17 49.0 +0.2**
baz=91
WVOR Wild Horse Val 91.42 16 *e*P **P 11 17 49.9 +0.8**
WVOR *e**PP pP 11 17 57.1 +0.5
WVOR pmax pmax
comp=Z,31nm,1.1s,mb5.5
WVOR Wild Horse Val 91.42 16 *e*P **P 11 17 49.9 +0.7**
comp=Z,31nm,1.1s,mb5.5
WVOR *e* pP 11 17 56.8 +0.2
WVOR LR LR
comp=Z,200nm,22.0s,MS4.5
MOOW Moose Ponds 91.44 10 *e*P **P 11 17 48.1 -1.1**
comp=Z,19nm,1.3s,mb5.3
M02C Callahan 91.49 20⇓P **P 11 17 49.7 +0.2**
baz=91
DCID1 Drake Creek 91.54 11 *e*P **P 11 17 52.5 +2.9**
DCID1 *e* pP 11 17 58.5 +1.3
MOD Modoc 91.58 18⇓P **P 11 17 50.3 +0.4**
baz=91
LOHW Long Hollow 91.59 10 *e*P **P 11 17 50.5 +0.6**
comp=Z,18nm,1.2s,mb5.3
LOHW *e* pP 11 17 57.5 +0.1
L07A Adell 91.68 17⇓P **P 11 17 51.0 +0.7**
baz=91
L08A Fields 91.72 16⇓P **P 11 17 51.0 +0.5**
baz=91,SNR=5.8
RSSD Black Hills 91.73 5 *e*P **P 11 17 50.6 0.0**
RSSD pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
RSSD Black Hills 91.73 5 *e*P **P 11 17 50.6 0.0**
comp=Z,10nm,0.6s,mb5.3
M03C McCloud 91.77 19⇑P **P 11 17 51.5 +0.7**
baz=91
M05C Lookout 91.92 18⇓P **P 11 17 51.8 +0.4**
baz=92
L09A Wilkinson Ranc 92.01 16⇓P **P 11 17 52.5 +0.7**
baz=92
M06C Likely Place G 92.21 18⇑P **P 11 17 53.1 +0.3**
baz=92
M07A Soldier Meadow 92.32 17⇓P **P 11 17 54.0 +0.7**
baz=92,SNR=5.4
WDC Whiskeytown Da 92.33 20⇑P **P 11 17 54.0 +0.7**
baz=92
AHID Auburn Hatcher 92.36 11 PFAKE 11 18 00.0 +6.5
AHID LR LR
comp=Z,304nm,20.0s,MS4.7
HATC Hat Creek Radi 92.36 19⇓P **P 11 17 54.3 +0.8**
baz=92
LBCM Butte Creek Ri 92.37 19 P **P 11 17 54.1 +0.6**
STKA Stephens Creek 92.43 134 *e*P **P 11 17 52.2 -1.6**
comp=Z,7.1nm,0.6s,mb5.2
STKA *i* pP 11 17 59.6 -1.7
STKA Stephens Creek 92.43 134 P **P 11 17 52.5 -1.3**
comp=Z,8.1nm,0.6s,mb5.2,baz=316,slow=5.5,SNR=18
STKA pP pP 11 17 58.8 -2.5
comp=Z,38nm,1.1s,baz=309,slow=7.4,SNR=13
STKA LR LR 12 05 31.3
comp=Z,135nm,19.6s,MS4.4,baz=209,slow=40
BW06 Boulder Array 92.56 10 PFAKE 11 18 10.0 +16
BW06 LR LR
comp=Z,337nm,19.0s,MS4.8
PDAR Pinedale Array 92.56 10 P **P 11 17 54.2 -0.2**
comp=Z,1.5nm,0.5s,mb4.7,baz=44,slow=3.2,SNR=26
PDAR pP pP 11 17 59.6 -2.2
comp=Z,2.1nm,0.6s,baz=41,slow=3.4,SNR=12
PDAR LR LR 12 05 51.4
comp=Z,198nm,19.2s,MS4.6,baz=2.4,slow=40
M09A Marrel Ranch, 92.63 16⇑P **P 11 17 55.7 +1.0**
baz=92
M10A I.L. Ranch, Tu 92.71 15⇑P **P 11 17 56.0 +0.9**
baz=92
N06A Buffalo Meadow 92.79 18⇑P **P 11 17 56.3 +0.9**
baz=92
O04C Chester 92.92 19⇓P **P 11 17 56.9 +0.9**
baz=93
M11A Holland Ranch, 92.93 14⇓P **P 11 17 56.9 +0.8**
baz=93,SNR=5.4
N07B Gerlach 92.94 17⇓P **P 11 17 57.1 +1.0**
baz=93
JFWS Jewell Farm 93.02 355 P **P 11 17 55.4 -1.1**
JFWS pmax pmax
comp=Z,34nm,0.9s,mb5.8
JFWS Jewell Farm 93.02 355 *e*P **P 11 17 55.7 -0.8**
JFWS *e* pP 11 18 02.7 -1.3
JFWS LR LR
comp=Z,702nm,19.0s,MS5.1
HVU Hansel Valley 93.09 12 *e*P **P 11 17 57.8 +1.0**
M12A Wells 93.10 14 P **P 11 17 58.0 +1.1**
baz=93,SNR=6.0
N08A GE Springer Mi 93.11 16⇑P **P 11 17 58.1 +1.1**
baz=93
N09A Rock Creek Ran 93.17 16⇓P **P 11 17 58.1 +1.0**
baz=93
M13A Montello 93.28 13⇑P **P 11 17 58.3 +0.6**
baz=93,SNR=8.1
O05C Quincy 93.30 19⇑P **P 11 17 58.2 +0.4**
baz=93
O06A Flanigan 93.35 18⇑P **P 11 17 58.3 +0.3**
baz=93
HWUT Hardware Ranch 93.44 11 PFAKE 11 18 10.0 +12
HWUT LR LR
comp=Z,307nm,19.0s,MS4.8
BEKR Beckwourth 93.52 18⇓P **P 11 17 59.5 +0.7**
baz=93
N11A Elko Archery C 93.54 15⇓P **P 11 17 59.2 +0.3**
baz=93
O07A Toulon 93.56 17⇑P **P 11 17 59.6 +0.6**
baz=93
N12A Clover Valley, 93.63 14⇓P **P 11 17 59.9 +0.7**
baz=93
BMN Battle Mountai 93.63 16 PFAKE 11 18 10.0 +11
BMN LR LR
comp=Z,529nm,21.0s,MS5.0
ELK Elko 93.70 14 PFAKE 11 18 10.0 +10
ELK LR LR
comp=Z,238nm,19.0s,MS4.7
O09A Fish Creek Ran 93.89 16⇓P **P 11 18 01.1 +0.6**
baz=94
P05C Yuba Gap, Truc 94.00 19⇑P **P 11 18 01.7 +0.7**
baz=94
SCIA State Center 94.15 358 PFAKE 11 18 10.0 +8.3
SCIA LR LR
comp=Z,558nm,19.0s,MS5.0
WCN Washoe City 94.19 18⇓P **P 11 18 02.8 +0.9**
baz=94
O11A Cowboy Ranch, 94.22 15 P **P 11 18 02.8 +0.8**
baz=94,SNR=5.6
O12A Currie 94.25 14 P **P 11 18 03.0 +0.8**
baz=94,SNR=7.3
Q04C Lincoln 94.26 19⇑P **P 11 18 02.4 +0.2**
baz=94
LAVA Lava Cap Winer 94.49 19⇑P **P 11 18 04.2 +1.0**
baz=94
P10A Eureka 94.56 15⇓P **P 11 18 04.6 +1.0**
baz=94
DUG Dugway 94.64 12 *e*P **P 11 18 04.6 +0.7**
comp=Z,26nm,1.1s,mb5.6
DUG *e* pP 11 18 11.5 0.0
DUG LR LR
comp=Z,202nm,20.0s,MS4.6
DUG Dugway 94.64 12 P **P 11 18 04.7 +0.8**
baz=94,SNR=7.4
DAU Daniels Canyon 94.65 11 *e*P pP 11 18 15.2 +3.7
R05C Kirkwood Meado 94.69 18⇑P **P 11 18 04.9 +0.7**
baz=94
NLU North Lily Min 94.98 12 *e*P **P 11 18 05.0 -0.5**
NLU *e* pP 11 18 13.4 +0.3
MPU Maple Canyon 94.99 12 PFAKE 11 18 20.0 +14
MPU LR LR
comp=Z,602nm,22.0s,MS5.0
P12A McGill 94.99 14⇓P **P 11 18 06.0 +0.4**
baz=95
Q08A Gabbs 95.01 17⇓P **P 11 18 06.4 +0.8**
baz=95
CMB Columbia Colle 95.26 19 PFAKE 11 18 20.0 +13
CMB LR LR
comp=Z,356nm,19.0s,MS4.9
CMB Columbia Colle 95.26 19⇓P **P 11 18 07.2 +0.4**
baz=95
SUR Sutherland 95.28 229 PFAKE 11 18 20.0 +13
SUR LR LR
comp=Z,90nm,20.0s,MS4.2
HDIL Hopedale 95.31 355 PFAKE 11 18 20.0 +13
HDIL LR LR
comp=Z,348nm,20.0s,MS4.8
NVAR Mina Array Bea 95.34 17 P **P 11 18 08.0 +0.8**
comp=Z,1.0nm,0.6s,mb4.5,baz=334,slow=6.0
Q12A Willow Creek R 95.43 14⇑P **P 11 18 08.2 +0.6**
baz=95
R08A Mina 95.46 17⇑P **P 11 18 08.1 +0.4**
baz=95
Q11A Duckwater 95.47 15⇑P **P 11 18 08.4 +0.6**
baz=95
S06C San Francisco 95.53 18⇓P **P 11 18 08.6 +0.6**
baz=95
R09A Tonopah 95.78 16⇓P **P 11 18 09.6 +0.5**
baz=96
ISCO Idaho Springs 95.90 7 *e*P **P 11 18 10.4 +0.7**
ISCO LR LR
comp=Z,288nm,19.0s,MS4.8
TPH Tonopah 95.91 16 PFAKE 11 18 20.0 +10
TPH LR LR
comp=Z,187nm,20.0s,MS4.6
PACP Pacheco Peak 96.03 20⇑P **P 11 18 10.9 +0.6**
baz=96
CBN Corbin 96.10 345 PFAKE 11 18 20.0 +9.4
CBN LR LR
comp=Z,664nm,21.0s,MS5.1
KCC Kaiser Creek 96.19 18⇑P **P 11 18 11.5 +0.5**
baz=96
S09A Goldfield 96.25 16⇑P **P 11 18 11.7 +0.5**
baz=96
MTUM Tungsten Hills 96.32 18 *e*P **P 11 18 07.3 -4.3**
MVU Marysvale 96.38 12 PFAKE 11 18 20.0 +8.1
MVU LR LR
comp=Z,285nm,19.0s,MS4.8
T06C Millerton Lake 96.40 19⇑P **P 11 18 12.3 +0.3**
baz=96
HELL Mitchell Peak, 96.87 18⇑P **P 11 18 14.5 +0.4**
baz=96
PV10 Paradox Valley 96.95 10 *e*P **P 11 18 15.5 +1.1**
V03C Hunter Liggett 96.98 20⇓P **P 11 18 16.0 +1.4**
baz=97
KSU1 Kansas State U 97.01 0 *e*P **P 11 18 13.7 -1.1**
comp=Z,6.3nm,0.8s,mb5.1
KSU1 LR LR
comp=Z,331nm,19.0s,MS4.8
RCTC Rector, Farmer 97.17 18⇓P **P 11 18 17.8 +2.4**
baz=97
CBKS Cedar Bluff 97.24 3 PFAKE 11 18 30.0 +14
CBKS LR LR
comp=Z,600nm,21.0s,MS5.1
PV01 Paradox Valley 97.24 10 *e*P **P 11 18 16.2 +0.5**
PV01 *e* pP 11 18 23.7 +0.4
WCI Wyandotte Cave 97.36 352 *e*P **P 11 18 15.2 -1.1**
WCI pmax pmax
comp=Z,16nm,0.9s,mb5.5
WCI Wyandotte Cave 97.36 352 *e*P **P 11 18 15.2 -1.1**
comp=Z,16nm,0.9s,mb5.5
DAC Darwin (Calif) 97.56 17 PFAKE 11 18 30.0 +13
DAC LR LR
comp=Z,213nm,21.0s,MS4.6
SDCO Great Sand Dun 97.95 7 PFAKE 11 18 30.0 +11
SDCO LR LR
comp=Z,432nm,21.0s,MS4.9
MVCO Mesa Verde 98.17 10 PFAKE 11 18 30.0 +10
MVCO LR LR
comp=Z,303nm,21.0s,MS4.8
WUAZ Wupatki 99.44 12 PFAKE 11 18 40.0 +14
WUAZ LR LR
comp=Z,172nm,20.0s,MS4.5
W14A Seligman 99.46 14⇓P **P 11 18 27.7 +2.0**
baz=99
FUNA Funafuti 99.94 92 PFAKE 11 18 40.0 +12
FUNA LR LR
comp=Z,2μm,19.0s,MS5.7
SCI San Clemente I 100.52 19⇓P Pdif 11 18 30.9 +0.4
baz=100
ANMO Albuquerque 100.63 8 *e*P Pdif 11 18 31.9 +1.0

ANMO					MLR	MLR			
	comp=Z,387nm,21.0s								
PLAL	**Pickwick Lake**	**100.75**	**353**		PFAKE		11 18 40.0	+8.5	
PLAL					LR	LR			
	comp=Z,494nm,19.0s,MS5.0								
AMTX	**Amarillo**	**101.07**	**4**		PFAKE		11 18 40.0	+7.1	
AMTX					LR	LR			
	comp=Z,291nm,20.0s,MS4.8								
OXF	**Oxford**	**101.32**	**354**		PFAKE		11 18 50.0	+16	
OXF					LR	LR			
	comp=Z,518nm,19.0s,MS5.1								
WMOK	**Wichita Mounta**	**101.33**	**2**	*e*Pdif	Pdif	Pdif	11 18 42.3	+8.3	
WMOK					LR	LR			
	comp=Z,344nm,20.0s,MS4.9								
MIAR	**Mount Ida**	**101.51**	**358**		PFAKE		11 18 50.0	+15	
MIAR					LR	LR			
	comp=Z,481nm,19.0s,MS5.0								
LRAL	**Lakeview Retre**	**102.58**	**352**		PFAKE		11 18 50.0	+10	
LRAL					LR	LR			
	comp=Z,447nm,20.0s,MS5.0								
TUC	**Tucson**	**102.67**	**12**		PFAKE		11 18 50.0	+10	
TUC					LR	LR			
	comp=Z,238nm,19.0s,MS4.7								
JCT	**Junction City**	**105.55**	**3**		PFAKE		11 23 20.0	+14	
JCT					LR	LR			
	comp=Z,248nm,20.0s,MS4.8								
HKT	**Hockley**	**106.13**	**359**		PFAKE		11 23 20.0	+13	
HKT					LR	LR			
	comp=Z,482nm,20.0s,MS5.0								
LTX	**Lajitas**	**106.45**	**7**		PFAKE		11 23 20.0	+12	
LTX					LR	LR			
	comp=Z,336nm,20.0s,MS4.9								
TXAR	**Lajitas Array**	**106.45**	**7**		Pdiff	Pdif	11 18 56.4	-0.5	
	comp=Z,0.1nm,0.3s,baz=282,slow=38,SNR=2.5								
DWPF	**Disney**	**106.66**	**346**		PFAKE		11 23 20.0	+12	
DWPF					LR	LR			
	comp=Z,394nm,19.0s,MS5.0								
CASY	**Casey**	**112.17**	**169**		PFAKE		11 23 30.0	+12	
CASY					LR	LR			
	comp=Z,343nm,22.0s,MS4.9								
TEIG	**Tepich**	**115.38**	**351**		PFAKE		11 23 40.0	+15	
TEIG					LR	LR			
	comp=Z,315nm,21.0s,MS4.9								
SYO	**Syowa Base**	**117.55**	**196**⇑	*e*PKPdf	PKPdf		11 23 26.6	-2.2	
SYO	**Syowa Base**	**117.55**	**196**⇓	*ep*PKPdf	pPKPdf		11 23 33.6	-2.9	
SDV	**Santo Domingo**	**122.15**	**329**	*e*PKPdf	PKPdf		11 23 34.5	-3.2	
SDV				*ep*PKPdf	pPKPdf		11 23 43.9	-1.5	
SDV					LR	LR			
	comp=Z,94nm,20.0s,MS4.4								
JTS	**JuntasAbangare**	**124.70**	**346**		PFAKE		11 23 50.0	+7.5	
JTS					LR	LR			
	comp=Z,99nm,20.0s,MS4.5								
TAOE	**Nuku Hiva Isla**	**128.31**	**60**	*e*LR	LR	LR	12 04 13.1		
	comp=Z,786nm,23.4s								
PPT	**Papeete**	**128.33**	**77**	*e*LR	LR	LR	12 04 12.7		
	comp=Z,271nm,24.5s								
SNAA	**Sanae**	**130.21**	**204**	*e*PKPdf	PKPdf		11 23 52.4	-0.7	
SNAA				*e*			11 23 59.2		
SNAA				*e*			11 27 25.3		
SNAA				*e*			11 27 48.3		
SNAA				*e*			11 27 53.9		
SNAA				*e*			11 28 13.9		
VNDA	**Vanda**	**130.35**	**164**		PFAKE		11 24 00.0	+6.7	
VNDA					LR	LR			
	comp=Z,214nm,20.0s,MS4.8								
VNA2	**Neumayer--Watz**	**131.36**	**206**	*e*PKPdf	PKPdf		11 23 53.5	-1.7	
	baz=60,slow=2.1								
VNA2				*e*			11 23 54.6		
VNA2				*e*			11 24 00.6		
VNA2				*e*			11 24 01.8		
VNA2				*e*			11 24 05.6		
VNA2				*e*			11 24 08.5		
VNA2				*e*			11 24 14.2		
VNA2				*e*			11 27 18.2		
VNA2				*e*			11 27 30.6		
VNA2				*e*			11 27 32.9		
VNA2				*e*			11 28 10.3		
VNA3	**Neumayer Olymp**	**132.16**	**206**	*e*PKPdf	PKPdf		11 23 54.6	-2.2	
VNA3				*e*			11 23 56.0		
VNA3				*e*			11 24 01.8		
VNA3				*e*			11 24 03.2		
VNA3				*e*			11 24 07.2		
VNA3				*e*			11 27 21.7		
VNA3				*e*			11 27 34.8		
VNA3				*e*			11 27 45.3		
TBI	**Tubuai**	**132.19**	**82**	*e*LR	LR	LR	12 06 00.2		
	comp=Z,169nm,23.5s								
OTAV	**Otavalo**	**132.86**	**335**		PFAKE		11 24 10.0	+12	
OTAV					LR	LR			
	comp=Z,80nm,20.0s,MS4.4								
QSPA	**South Pole Qui**	**134.05**	**180**	*e*PKPdf	PKPdf		11 23 58.9	-1.4	
QSPA					LR	LR			
	comp=Z,229nm,19.0s,MS4.9								
HOPE	**Hope Point**	**140.74**	**233**		PFAKE		11 24 20.0	+7.4	
HOPE					LR	LR			
	comp=Z,287nm,20.0s,MS5.0								
RKT	**Rikitea**	**142.11**	**69**	*e*LR	LR	LR	12 10 35.4		
	comp=Z,100nm,25.8s								
LPAZ	**La Paz**	**143.23**	**310**	PKhKP			11 24 12.9		
	comp=Z,2.1nm,1.0s,baz=34,slow=11,SNR=5.6								
LPAZ	**La Paz**	**143.23**	**310**	*e*PKPdf	PKPdf		11 24 13.0	-4.1	
LPAZ					LR	LR			
	comp=Z,206nm,20.0s,MS4.9								
ARE	**Arequipa**	**145.16**	**315**⇑	*i*PKIKP	PKPdf		11 24 20.8	+0.3	
ARE				*i*			11 24 28.0		
LVC	**Limon Verde**	**148.69**	**305**	*e*PKPdf	PKPdf		11 24 27.5	+1.1	
LVC				*e*PKPab	PKPab		11 24 34.8	+0.9	
TRQA	**Tornquist**	**153.43**	**271**	*e*PKPbc	PKPbc		11 24 41.0	-0.2	
TRQA					LR	LR			
	comp=Z,135nm,20.0s,MS4.8								
EFI	**East Falkland**	**153.49**	**240**	*e*PKIKP	PKPdf		11 24 39.5	+5.8	

*NEIC **23** 11:05:59.6, 42.99N×2.14E, h5km, ML2.7(STR), After STR.*
*STR **23** 11:05:59.6±0.3, 42.99N×2.14E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 23 11:05:58.9±0.5, 42.79N×291E, h19km, Md2.2/1, Ml2.1/3, Error ellipse: s-maj=10.3km s-min=5.9km az=137.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRDF	**Laroque-de-Fa**	**0.31**	**299**	Pg	Pg	11 06 05.7	0.0
LRDF				Sg	Sg	11 06 10.0	-0.4
FILF	**Fillols**	**0.34**	**229**	Pg	Pg	11 06 08.6	+2.3
FILF				Sg	Sg	11 06 15.4	+4.2
MTLF	**Montolieu**	**0.75**	**318**	*e*Pg	Pg	11 06 15.9	+2.2
MTLF				*e*Sn	Sn	11 06 23.6	-1.7
MTLF				*e*Sg	Sg	11 06 26.5	+2.8
	4.7nm,0.2s						
MTLF	**Montolieu**	**0.75**	**318**	*e*Pn	Pn	11 06 13.5	-1.0
MTLF				*e*Pg	Pg	11 06 15.9	+2.2
MTLF				*e*Sn	Sn	11 06 23.6	-1.7
MTLF				*e*Sg	Sg	11 06 26.5	+2.8
LASF	**Ste Croix**	**1.46**	**28**	*e*Pg	Pg	11 06 26.5	-0.6
LASF				*e*Sg	Sg	11 06 46.1	0.0
	1.8nm,0.2s						
LASF	**Ste Croix**	**1.46**	**28**	*e*Pn	Pn	11 06 21.9	-2.3
LASF				*e*Pg	Pg	11 06 26.5	-0.6
LASF				*e*Sg	Sg	11 06 46.1	0.0
CAF	**Calviac**	**2.22**	**344**	*e*Sg	Sg	11 07 09.3	-1.2
	2.3nm,0.2s						
VIVF	**Saint-Julien-l**	**2.43**	**31**	*e*Sg	Sg	11 07 16.9	-0.1
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.71**	**339**	*e*Sg	Sg	11 07 21.9	-4.1

*ISCJB **23** 11:06:08.7±5.3, 63S±03×1470E±04, h89km±37km, mb3.8/2, Error ellipse: s-maj=72.8km s-min=36.1km az=117.8*
*IDC **23** 11:06:09.8±7.8, 630S×1470E, h87km±74km, mb3.6/2, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/25, Error ellipse: s-maj=75.8km s-min=54.4km az=127.0*

ISC 23 11:06:09.8±5.2, 63S±03×1470E±04, h83km±38km, n9, σ0§54/8, mb3.8/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.11**	**177**	P	**Pn**	**11 06 56.5**	**-0.1**
	5.3nm,0.3s,baz=339,slow=5.5,SNR=16						
PMG				S	**Sn**	**11 07 32.9**	**+0.2**
	9.4nm,0.3s,baz=349,slow=22,SNR=6.2						

KAKA	**Kakadu**	**15.71**	**245**	*e*P		**Pn**	**11 09 46.5**	**+0.4**	
	12nm,1.2s								
WB2	**Warramunga Arr**	**18.31**	**221**	*e*P		**Pn**	**11 10 17.5**	**-0.6**	
WRA	**Warramunga Arr**	**18.32**	**221**	P		**Pn**	**11 10 17.8**	**-0.4**	
	0.3nm,0.3s,baz=40,slow=12,SNR=14								
ASAR	**Alice Springs**	**21.39**	**215**	P		**P**	**11 10 50.8**	**+0.2**	
	0.6nm,0.4s,mb3.3,baz=52,slow=9.2,SNR=10								
FITZ	**Fitzroy Crossi**	**23.92**	**239**	*e*P		**P**	**11 11 15.7**	**-0.2**	
	15nm,0.9s,mb4.3								
FITZ	**Fitzroy Crossi**	**23.92**	**239**	P		**P**	**11 11 16.6**	**+0.7**	
	4.3nm,0.4s,mb4.1,baz=68,slow=7.9,SNR=31								
RAO	**Raoul Island**	**40.21**	**129**	LR		LR	11 27 55.3		
	comp=Z,123nm,19.4s,baz=68,slow=32								
TORD	**Torodi Ar. Bea**	**145.16**	**284**	PKPbc		PKPbc	11 25 37.0	-0.3	
	0.4nm,0.6s,baz=74,slow=3.8,SNR=4.2								

*NEIC **23** 11:17:24.9, 19.16N×64.57W, h58km, MD3.6(RSPR), After RSPR.*

RSPR 23 11:17:24.9, 19.16N×64.57W, h58km±15km, MD3.5/9, MD3.5/9, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.41**	**222**⇑	*e*P	Pn	11 17 47.4	-0.9
MTP				*e*S	Sn	11 18 05.2	-0.8
CBYP	**Canovanas**	**1.51**	**234**⇑	*e*P	Pn	11 17 48.6	-1.0
HUMP	**Col San Antoni**	**1.58**	**230**⇑	*e*P	Pn	11 17 49.8	-0.9
HUMP				*e*S	Sn	11 18 09.3	-0.8
CPD	**Cerro la Pandu**	**1.70**	**229**⇑	*e*P	Pn	11 17 52.0	-0.2
CPD				*e*S	Sn	11 18 12.0	-0.9
SJG	**San Juan**	**1.83**	**235**⇑	*e*P	Pn	11 17 58.6	-0.3
SJG				*e*S	Sn	11 18 14.7	-1.4
CELP	**Cerrillos**	**2.19**	**241**⇑	*e*P	Pn	11 17 58.1	-0.9
CELP				*e*S	Sn	11 18 24.7	-0.3
AOPR	**Arecibo Observ**	**2.23**	**249**⇑	*e*P	Pn	11 17 58.9	-0.5
AOPR				*e*S	Sn	11 18 25.1	-0.6
LRS	**Lares**	**2.33**	**249**⇑	*e*P	Pn	11 18 00.2	-0.6
LRS				*e*S	Sn	11 18 27.8	-0.4
LSP	**Las Mesas**	**2.58**	**248**⇑	*e*P	Pn	11 18 03.2	-1.0
LSP				*e*S	Sn	11 18 33.7	-0.7
CRPR	**Cabo Rojo, PR**	**2.67**	**245**⇓	*e*P	Pn	11 18 05.0	-0.5

*MOS **23** 11:17:24.7±1.9, 46.97N×153.89E, h33km, mb4.5/13, Error ellipse: s-maj=16.0km s-min=10.8km az=77.7*
*ISCJB **23** 11:17:28.6±1.3, 47.02N±009×153.7E±0.1, h68km±11km, mb4.0/18, Error ellipse: s-maj=19.0km s-min=9.3km az=86.3*
*IDC **23** 11:17:32.7±3.8, 47.14N×153.57E, h86km±34km, mb3.9/18, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, MS3.9/3, Ms1 3.8/3, ms1mx3.1/39, Error ellipse: s-maj=17.8km s-min=13.5km az=115.0*

ISC 23 11:17:31.3±1.2, 47.06N±009×153.7E±01, h78km±10km, n56, σ1§12/57, mb4.0/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.97**	**23**	*e*PN	**Pn**	**11 18 25.5**	**-4.3**
YUK	**Yuzh-Kuril'sk**	**6.25**	**244**	PN	**Pn**	**11 19 08.5**	**+7.6**
PET	**Petropavlovsk**	**6.78**	**26**	*e*PN	**Pn**	**11 19 07.9**	**-0.2**
PET				pmax	pmax		
	comp=Z,25nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.46**	**273**	*e*PN	**Pn**	**11 19 18.8**	**+1.4**
JMP	**Maruseppu**	**7.85**	**251**	P	**Pn**	**11 19 23.3**	**+0.6**
JMP				*e*S	Sn	11 21 27.5	+38
ASAJ	**Asahikawa**	**8.30**	**253**	P	**Pn**	**11 19 29.8**	**+1.0**
	comp=Z,4.5nm,0.3s,baz=86,slow=13,SNR=15						
ASAJ	**Asahikawa**	**8.30**	**253**	P	**Pn**	**11 19 30.4**	**+1.6**
ASAJ	**Asahikawa**	**8.30**	**253**	PN	**Pn**	**11 19 29.8**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JWK2	**Keihoku**	**8.35**	**262**	P	**Pn**	**11 19 32.9**	**+3.4**
JEM	**Erimo**	**9.03**	**240**	P	**Pn**	**11 19 36.8**	**-2.1**
JEM				*e*S	**Sn**	**11 21 10.2**	**-8.7**
JEW	**Eniwo**	**9.63**	**248**	P	**Pn**	**11 19 46.2**	**-0.8**
JEW				*e*S	Sn	11 22 10.4	+37
JSH	**Shimam**	**10.62**	**250**	P	**Pn**	**11 20 00.9**	**+0.3**
JOT	**Ohata**	**10.68**	**242**	P	**Pn**	**11 19 56.4**	**-4.9**
JOT				*e*S	**Sn**	**11 21 47.0**	**-12**
JTM	**Tenmabayashi**	**11.03**	**240**	P	**Pn**	**11 20 00.1**	**-6.0**
JTM				*e*S	**Sn**	**11 21 54.8**	**-13**
JOM	**Ohasama**	**11.77**	**234**	P	**Pn**	**11 20 08.2**	**-8.9**
JOM				*e*S	**Sn**	**11 22 11.0**	**-15**
KLR	**Kul'dur**	**14.78**	**287**	*e*P	**Pn**	**11 20 57.9**	**+1.8**
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=E,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,5μm,13.0s						
MAT	**Matsushiro**	**15.56**	**233**	P	**Pn**	**11 21 03.2**	**-2.9**
MAT	**Matsushiro**	**15.56**	**233**	P	**Pn**	**11 21 04.7**	**-1.4**
MJAR	**Matsushiro Arr**	**15.56**	**233**	P	**Pn**	**11 21 02.3**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=11,SNR=6.6						
KSRS	**Korea Array**	**21.25**	**252**	P	**P**	**11 22 11.5**	**+0.6**
	comp=Z,6.7nm,1.0s,mb3.9,baz=59,slow=11,SNR=7.6						
INK	**Inuvik**	**41.19**	**33**	P	**P**	**11 25 08.7**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.4,baz=288,slow=5.8,SNR=33						
INK	**Inuvik**	**41.19**	**33**	P	**P**	**11 25 08.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**42.75**	**306**	LR	LR	11 43 43.9	
	comp=Z,104nm,18.2s,baz=149,slow=37						
MKAR	**Makanchi Array**	**47.13**	**297**	P	**P**	**11 25 54.4**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.4,baz=65,slow=8.1,SNR=3.0						
MKAR				PcP	PcP	11 27 25.6	-0.5
	comp=Z,0.6nm,0.6s,baz=87,slow=2.6,SNR=3.5						
MKAR	**Makanchi Array**	**47.13**	**297**	P	**P**	**11 25 54.4**	**-1.2**
MKAR						11 27 25.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.45**	**37**	P	**P**	**11 26 21.0**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.4,baz=295,slow=7.2,SNR=14						
YKA	**Yellowknife Ar**	**50.45**	**37**	P	**P**	**11 26 21.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**50.95**	**309**	P	**P**	**11 26 24.3**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=66,slow=8.3,SNR=4.0						
BVAR	**Borovoye Array**	**50.95**	**309**	P	**P**	**11 26 24.3**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**11 27 12.7**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.3,baz=20,slow=8.7,SNR=3.5						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**11 27 12.7**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**58.80**	**312**	LR	LR	11 54 42.1	
	comp=Z,78nm,18.1s,baz=291,slow=38						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**11 27 54.2**	**-1.7**
	comp=Z,1.1nm,0.4s,mb4.0,baz=31,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**11 27 54.2**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**64.26**	**54**	P	**P**	**11 27 58.5**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.2,baz=230,slow=14,SNR=2.7						
NB2	**NORSAR Subarra**	**68.06**	**341**	P	**P**	**11 28 21.8**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.1,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**11 28 22.1**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=9.4						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**11 28 22.1**	**-0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**68.30**	**340**	P	**P**	**11 28 23.7**	**-0.3**
	comp=Z,5.4nm,0.5s,mb4.6,baz=55,slow=5.6,SNR=24						
HFS	**Hagfors**	**68.30**	**340**	P	**P**	**11 28 23.7**	**-0.3**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**68.93**	**199**	P	**P**	**11 28 28.2**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=17,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**68.93**	**199**	P	**P**	**11 28 28.2**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**69.59**	**208**	P	**P**	**11 28 32.8**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.2,baz=332,slow=3.0,SNR=5.4						
AKASG	**Malin Array Be**	**71.50**	**326**	P	**P**	**11 28 42.8**	**-0.8**
	comp=Z,2.1nm,0.5s,mb4.2,baz=32,slow=6.0,SNR=8.1						
AKASG	**Malin Array Be**	**71.50**	**326**	P	**P**	**11 28 42.8**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						

ASAR	**Alice Springs**	**72.62**	**199**	P		**P**	**11 28 51.9**	**+1.6**	
	comp=Z,2.5nm,0.7s,mb4.2,baz=9.9,slow=5.9,SNR=37								
ASAR				LR		LR	12 01 40.6		
	comp=Z,77nm,18.1s,baz=320,slow=36								
ASAR	**Alice Springs**	**72.62**	**199**	P		**P**	**11 28 51.9**	**+1.6**	
ASAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ASAR				MLR		MLR			
	comp=Z,77nm,18.1s								
EKA	**Eskdalemuir Ar**	**76.13**	**347**	P		**P**	**11 29 11.4**	**+0.8**	
	comp=Z,1.9nm,1.0s,mb3.8,baz=200,slow=9.7,SNR=3.1								
EKA	**Eskdalemuir Ar**	**76.13**	**347**	P		**P**	**11 29 11.5**	**+0.9**	
EKA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TXAR	**Lajitas Array**	**77.02**	**61**	P		**P**	**11 29 15.7**	**+0.1**	
	comp=Z,1.7nm,0.9s,mb3.8,baz=297,slow=4.5,SNR=13								
TXAR	**Lajitas Array**	**77.02**	**61**	P		**P**	**11 29 15.7**	**+0.1**	
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MLR	**Muntele Rosu**	**77.03**	**325**	P		**P**	**11 29 16.4**	**+0.7**	
	comp=Z,3.1nm,0.5s,mb4.3,baz=180,slow=4.8,SNR=5.1								
MLR	**Muntele Rosu**	**77.03**	**325**	P		**P**	**11 29 16.4**	**+0.7**	
MLR				pmax		pmax			
	comp=Z,3.0nm,0.5s								
BRTR	**Keskin Array B**	**78.42**	**317**	P		**P**	**11 29 23.9**	**+0.5**	
	comp=Z,2.3nm,0.9s,mb3.9,baz=55,slow=4.0,SNR=8.7								
BRTR	**Keskin Array B**	**78.42**	**317**	P		**P**	**11 29 23.9**	**+0.5**	
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CFAA	**Coronel Fontan**	**144.57**	**79**	PKP		PKPdf	11 36 57.1	-1.6	
	comp=Z,0.9nm,0.6s,baz=290,slow=3.9,SNR=12								

*ISCJB **23** 11:32:18.6±2.1, 47.2N±0.1×153.9E±0.2, h59km±19km, mb3.7/9, Error ellipse: s-maj=33.3km s-min=9.1km az=90.9*
*MOS **23** 11:32:19.4±1.3, 47.22N×153.77E, h69km, mb4.1/6, Error ellipse: s-maj=29.8km s-min=17.2km az=63.5*
*IDC **23** 11:32:24.8±4.5, 47.18N×153.57E, h101km±42km, mb3.4/8, mb1 3.7/9, mb1mx3.5/24, mbtmp3.5/9, Error ellipse: s-maj=33.8km s-min=16.3km az=118.0*

ISC 23 11:32:21.2±1.8, 47.2N±01×153.6E±02, h68km±16km, n21, σ1§21/22, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.73**	**22**	*e*PN	**Pn**	**11 33 15.5**	**-0.8**
SKR				*e*S	**Sn**	**11 33 59.0**	**0.0**
SKR				smax			
	comp=N,180nm,0.3s						
SKR				smax			
	comp=E,110nm,0.4s						
KUR	**Kuril'sk**	**4.68**	**247**	PN	**Pn**	**11 33 38.0**	**+8.7**
KUR				S	**Sn**	**11 34 25.0**	**+2.7**
KUR				pmax	pmax		
	comp=Z,270nm,0.6s						
KUR				smax			
	comp=N,970nm,0.8s						
KUR				smax			
	comp=E,1μm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.66**	**272**	*e*PN	**Pn**	**11 34 10.0**	**0.0**
ASAJ	**Asahikawa**	**8.55**	**253**	P	**Pn**	**11 34 20.8**	**-1.4**
	comp=E,1.9nm,0.3s,baz=69,slow=9.7,SNR=10						
ASAJ	**Asahikawa**	**8.55**	**253**	PN	**Pn**	**11 34 20.8**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**21.50**	**252**	P	**P**	**11 37 04.3**	**+0.1**
	comp=Z,2.7nm,1.0s,mb3.5,baz=51,slow=9.9,SNR=4.7						
BILL	**Bilibino**	**21.79**	**12**	*e*P	pP	11 37 26.1	+4.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.7						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**11 39 58.7**	**+1.9**
	comp=Z,0.8nm,0.5s,mb3.8,baz=341,slow=11,SNR=14						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**11 39 58.7**	**+1.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**11 41 11.5**	**+1.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=295,slow=6.9,SNR=5.3						
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**11 41 11.5**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**11 42 44.8**	**-1.7**
	comp=Z,0.9nm,0.5s,mb3.9,baz=33,slow=6.2,SNR=8.0						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**11 42 44.8**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.96**	**341**	P	**P**	**11 43 12.4**	**-0.4**
	comp=Z,0.2nm,0.7s,mb3.1,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**11 43 12.5**	**-0.3**
	comp=Z,1.2nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=3.9						
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**11 43 12.5**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.16**	**200**	P	**P**	**11 43 19.1**	**-1.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=20,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**69.16**	**200**	P	**P**	**11 43

JTH	**Tanohata**	**9.37**	**234**	P		**Pn**	**11 39 48.5**	**-3.1**
JTH				*eS*		**Sn**	**11 41 27.3**	**-8.0**
JOSM	**Okushiri--Mats**	**9.61**	**251**	P		**Pn**	**11 39 55.6**	**+0.7**
OFUJ	**Ofunato**	**10.07**	**231**	P		**Pn**	**11 39 58.7**	**-2.5**
OFUJ				*eS*		**Sn**	**11 41 46.0**	**-6.7**
JRG	**Rokugo**	**10.43**	**235**	P		**Pn**	**11 40 04.1**	**-2.0**
JIO	**Ouri**	**10.70**	**229**	P		**Pn**	**11 40 07.2**	**-2.6**
JIO				*eS*		**Sn**	**11 41 58.7**	**-9.3**
MJAR	**Matsushiro Arr**	**13.80**	**232**	P		**Pn**	**11 41 00.0**	**+8.1**
	comp=Z,1.1nm,0.3s,baz=34,slow=9.0,SNR=14							
MJAR	**Matsushiro Arr**	**13.80**	**232**	P		**Pn**	**11 41 00.0**	**+8.1**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAT	**Matsushiro**	**13.80**	**232**	P		**Pn**	**11 41 00.5**	**+8.6**
KSRS	**Korea Array**	**19.62**	**253**	P		**Pn**	**11 42 05.8**	**+1.2**
	baz=57,slow=11,SNR=14							
KSRS				LR	LR		11 48 34.6	
	comp=Z,39nm,21.5s,baz=30,slow=33							
YAK	**Yakutsk**	**20.52**	**330**	*eP*		**P**	**11 42 13.1**	**+0.7**
YAK				pmax	pmax			
	comp=Z,20nm,0.8s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,6.0nm,0.9s							
INK	**Inuvik**	**42.87**	**32**	P		**P**	**11 45 31.5**	**0.0**
	comp=E,1.6nm,0.6s,mb4.0,baz=294,slow=7.1,SNR=18							
INK	**Inuvik**	**42.87**	**32**	P		**P**	**11 45 31.5**	**0.0**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**11 45 59.5**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=62,slow=6.7,SNR=3.6							
MKAR				PcP	PcP		11 47 34.3	+0.5
	comp=Z,0.5nm,0.6s,baz=68,slow=2.0,SNR=4.8							
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**11 45 59.5**	**-0.6**
MKAR							11 47 34.3	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**52.17**	**36**	P		**P**	**11 46 43.2**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=295,slow=7.5,SNR=4.6							
YKA	**Yellowknife Ar**	**52.17**	**36**	P		**P**	**11 46 43.2**	**-0.4**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**63.69**	**61**	P		**P**	**11 48 05.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=6.0,SNR=3.1							
FINES	**FINESS Array B**	**64.37**	**334**	P		**P**	**11 48 05.8**	**-2.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=129,slow=6.1,SNR=5.5							
FINES	**FINESS Array B**	**64.37**	**334**	P		**P**	**11 48 05.8**	**-2.9**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**66.03**	**53**	P		**P**	**11 48 19.6**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=268,slow=1.5,SNR=6.3							
WRA	**Warramunga Arr**	**67.42**	**198**	P		**P**	**11 48 29.6**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=15,slow=6.7,SNR=9.5							
WRA	**Warramunga Arr**	**67.42**	**198**	P		**P**	**11 48 29.6**	**+1.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**68.69**	**341**	P		**P**	**11 48 34.8**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=6.8,SNR=3.0							
ASAR	**Alice Springs**	**71.12**	**197**	P		**P**	**11 48 53.4**	**+2.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=12,slow=5.8,SNR=8.4							
AKASG	**Malin Array Be**	**71.69**	**326**	P		**P**	**11 48 53.1**	**-1.5**
	comp=Z,0.7nm,0.3s,mb4.1,baz=37,slow=6.1,SNR=4.8							
AKASG	**Malin Array Be**	**71.69**	**326**	P		**P**	**11 48 53.1**	**-1.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
STKA	**Stephens Creek**	**77.97**	**189**	P		**P**	**11 49 33.5**	**+2.6**
	comp=Z,1.3nm,0.7s,mb3.9,baz=166,slow=22,SNR=3.3							
TXAR	**Lajitas Array**	**78.75**	**59**	P		**P**	**11 49 36.0**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=288,slow=4.6,SNR=10							
TXAR	**Lajitas Array**	**78.75**	**59**	P		**P**	**11 49 36.1**	**+0.9**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**78.76**	**333**	P		**P**	**11 49 34.2**	**-1.0**
	comp=Z,0.5nm,0.3s,mb3.9,baz=44,slow=5.9,SNR=4.6							
GERES	**GERESS Array B**	**78.76**	**333**	P		**P**	**11 49 34.2**	**-1.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASF	**Jabal al Asfar**	**82.47**	**309**	LR	LR		12 33 21.8	
	comp=Z,23nm,19.2s,baz=359,slow=41							

IDC ***23*** *11:45:39.0±2.5,5259N×159.10E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/24, mbtmp3.8/7, Error ellipse: s-maj=81.5km s-min=22.3km az=4.0*
MOS ***23*** *11:45:42.7±2.2, 5234N×159.38E, h65km, mb4.1/5, Error ellipse: s-maj=24.1km s-min=8.7km az=83.9*
MOS Felt (III) at Petropavlovsk-Kamchatskiy.
ISCJB ***23*** *11:45:47.3±0.6, 5270N±004×15956E±008, h63km±5km, mb3.9/9, Error ellipse: s-maj=9.6km s-min=5.0km az=79.2*
KRSC ***23*** *11:45:48.2±0.6, 5272N×15963E, h43km±32km, ML4.3*
NEIC ***23*** *11:45:49.5±1.4, 5294N×15903E, h74km±10km, MD4.1(KRSC), Error ellipse: s-maj=29.8km s-min=19.1km az=184.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

ISC 23 11:45:48.2±0.6,5267N±005×15951E±008,h59km±5km, n58,σ1ᵒ25/93,mb3.9/9,1C-1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.51**	**349**	*i* P	**Pn**	**11 45 59.5**	**-0.7**
NLC				*i* S	**Sn**	**11 46 07.7**	**-1.2**
NLC	**Nalytchevo**	**0.51**	**349**	*i* P	**Pn**	**11 45 59.5**	**-0.7**
NLC				*i* S	**Sn**	**11 46 07.7**	**-1.2**
SPN	**Mys Shipunski**	**0.53**	**36**	*i* P	**Pn**	**11 45 59.2**	**-1.2**
SPN				*i* S	**Sn**	**11 46 06.9**	**-2.3**
SPN	**Mys Shipunski**	**0.53**	**36**	*i* P	**Pn**	**11 45 59.2**	**-1.2**
SPN				*i* S	**Sn**	**11 46 06.9**	**-2.3**
PET	**Petropavlovsk**	**0.63**	**305**	||*i* PN	**Pn**	**11 46 01.3**	**-0.2**
PET				*i* S	**Sn**	**11 46 10.7**	**-0.6**
PET				pmax	pmax		
	comp=E,2μm,0.3s						
PET				pmax	pmax		
	comp=E,2μm,0.2s						
PET				pmax	pmax		
	comp=Z,6μm,0.2s						
PET				pmax	pmax		
	comp=Z,5μm,0.4s						
PET				pmax	pmax		
	comp=N,2μm,0.4s						
PET				smax			
	comp=E,11μm,0.3s						
PET				smax			
	comp=E,12μm,0.6s						
PET				smax			
	comp=N,10μm,0.4s						
PET				smax			
	comp=N,11μm,0.4s						
PET	**Petropavlovsk**	**0.63**	**305**	P	**Pn**	**11 46 00.6**	**-0.9**
PET	**Petropavlovsk**	**0.63**	**305**	*i* P	**Pn**	**11 46 01.2**	**-0.3**
PET				*i* S	**Sn**	**11 46 10.6**	**-0.7**
PET	**Petropavlovsk**	**0.63**	**305**	*i* P	**Pn**	**11 46 01.2**	**-0.3**
PET				*i* S	**Sn**	**11 46 10.6**	**-0.7**
RUS	**Russkaya**	**0.66**	**249**	*i* P	**Pn**	**11 46 01.8**	**0.0**
RUS				*i* S	**Sn**	**11 46 11.5**	**-0.3**
RUS	**Russkaya**	**0.66**	**249**	*i* P	**Pn**	**11 46 01.8**	**0.0**
RUS				*i* S	**Sn**	**11 46 11.5**	**-0.3**
INSR	**Institute**	**0.68**	**306**	P	**Pn**	**11 46 01.7**	**-0.4**
INSR				*i* S	**Sn**	**11 46 11.5**	**-0.8**
INSR	**Institute**	**0.68**	**306**	P	**Pn**	**11 46 01.7**	**-0.4**
INSR				*i* S	**Sn**	**11 46 11.5**	**-0.8**
AVH	**Avacha**	**0.76**	**322**	*i* P	**Pn**	**11 46 03.3**	**+0.2**
AVH				*i* S	**Sn**	**11 46 14.4**	**+0.4**
AVH	**Avacha**	**0.76**	**322**	*i* P	**Pn**	**11 46 03.3**	**+0.2**
AVH				*i* S	**Sn**	**11 46 14.4**	**+0.4**
GRL	**Gorelyy**	**0.89**	**263**	*i* P	**Pn**	**11 46 05.8**	**+1.1**
GRL				*i* S	**Sn**	**11 46 18.0**	**+1.2**
GRL	**Gorelyy**	**0.89**	**263**	*i* P	**Pn**	**11 46 05.8**	**+1.1**
GRL				*i* S	**Sn**	**11 46 18.0**	**+1.2**
GNL	**Ganaly**	**1.40**	**318**	*i* P	**Pn**	**11 46 11.9**	**+0.5**
GNL				*i* S	**Sn**	**11 46 29.0**	**+0.1**
GNL	**Ganaly**	**1.40**	**318**	*i* P	**Pn**	**11 46 11.9**	**+0.5**
GNL				*i* S	**Sn**	**11 46 29.0**	**+0.1**
MKZ	**Mys Kozlova**	**2.31**	**34**	P	**Pn**	**11 46 22.3**	**-1.5**
MKZ				*i* S	**Sn**	**11 46 46.7**	**-4.3**
MKZ	**Mys Kozlova**	**2.31**	**34**	P	**Pn**	**11 46 22.3**	**-1.5**
MKZ				*i* S	**Sn**	**11 46 46.7**	**-4.3**
TUMR	**Tumrok**	**2.65**	**8**	*eP*	**Pn**	**11 46 29.2**	**+0.8**
TUMR				*eS*	**Sn**	**11 46 58.5**	**-0.8**
TUMR	**Tumrok**	**2.65**	**8**	*eP*	**Pn**	**11 46 29.2**	**+0.8**
TUMR				*eS*	**Sn**	**11 46 58.5**	**-0.8**
KMNR	**Kamenistaya**	**3.12**	**8**	P	**Pn**	**11 46 36.9**	**+2.0**
KMNR				*i* S	**Sn**	**11 47 12.3**	**+1.3**
KMNR	**Kamenistaya**	**3.12**	**8**	P	**Pn**	**11 46 36.9**	**+2.0**
KMNR				*i* S	**Sn**	**11 47 12.3**	**+1.3**
KPT	**Kopyto**	**3.33**	**7**	P	**Pn**	**11 46 38.5**	**+0.8**
KPT	**Kopyto**	**3.33**	**7**	P	**Pn**	**11 46 38.5**	**+0.8**
KOZ	**Kozyrevsk**	**3.40**	**3**	P	**Pn**	**11 46 38.9**	**+0.2**
KOZR	**Kozyr**	**3.41**	**4**	PN	**Pn**	**11 46 38.9**	**0.0**
ZLN	**Zelenaya**	**3.44**	**12**	*eP*	**Pn**	**11 46 41.4**	**+2.2**
ZLN				*eS*	**Sn**	**11 47 19.2**	**+0.5**
ZLN	**Zelenaya**	**3.44**	**12**	*eP*	**Pn**	**11 46 41.4**	**+2.2**
ZLN				*eS*	**Sn**	**11 47 19.2**	**+0.5**
KRSR	**Krestovskiy**	**3.61**	**9**	P	**Pn**	**11 46 42.6**	**+1.0**
KRSR				*i* S	**Sn**	**11 47 21.3**	**-1.6**
KRSR	**Krestovskiy**	**3.61**	**9**	P	**Pn**	**11 46 42.6**	**+1.0**
KRSR				*i* S	**Sn**	**11 47 21.3**	**-1.6**
SRDR	**Sredinnyy**	**3.66**	**2**	*eP*	**Pn**	**11 46 42.7**	**+0.5**
SRDR	**Sredinnyy**	**3.66**	**2**	*eP*	**Pn**	**11 46 42.7**	**+0.5**
KLY	**Klyuchi**	**3.71**	**10**	P	**Pn**	**11 46 44.2**	**+1.2**
KLY				*i* S	**Sn**	**11 47 26.2**	**+0.8**
KLY	**Klyuchi**	**3.71**	**10**	P	**Pn**	**11 46 44.2**	**+1.2**
KLY				*i* S	**Sn**	**11 47 26.2**	**+0.8**
BDR	**Baidarnaya**	**4.03**	**13**	P	**Pn**	**11 46 49.1**	**+1.8**
BDR				*i* S	**Sn**	**11 47 33.3**	**+0.1**
BDR	**Baidarnaya**	**4.03**	**13**	P	**Pn**	**11 46 49.1**	**+1.8**
BDR				*i* S	**Sn**	**11 47 33.3**	**+0.1**
KBTR	**Krutoberegovo**	**4.04**	**27**	P	**Pn**	**11 46 48.3**	**+0.9**
KBTR				*i* S	**Sn**	**11 47 31.2**	**-2.2**
KBTR	**Krutoberegovo**	**4.04**	**27**	P	**Pn**	**11 46 48.3**	**+0.9**
KBTR				*i* S	**Sn**	**11 47 31.2**	**-2.2**
SRKR	**Sorokina**	**4.11**	**13**	P	**Pn**	**11 46 50.4**	**+2.0**
SRKR				*i* S	**Sn**	**11 47 35.3**	**+0.2**
SRKR	**Sorokina**	**4.11**	**13**	P	**Pn**	**11 46 50.4**	**+2.0**
SRKR				*i* S	**Sn**	**11 47 35.3**	**+0.2**
BILL	**Bilibino**	**15.76**	**9**	*eP*	**Pn**	**11 49 23.8**	**-2.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TIXI	**Tiksi**	**23.32**	**336**	||*i* P	**P**	**11 50 47.7**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,17nm,2.5s,mb4.0						
INK	**Inuvik**	**34.42**	**37**	P	**P**	**11 52 29.0**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=257,slow=8.6,SNR=16						
INK	**Inuvik**	**34.42**	**37**	P	**P**	**11 52 29.0**	**-0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**34.42**	**37**	P	**P**	**11 52 29.0**	**-0.8**
MKAR	**Makanchi Array**	**48.02**	**296**	P	**P**	**11 54 18.1**	**-3.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=54,slow=6.2,SNR=8.4						
MKAR	**Makanchi Array**	**48.02**	**296**	*i* P	**P**	**11 54 18.7**	**-2.6**
BVAR	**Borovoye Array**	**50.38**	**308**	P	**P**	**11 54 36.2**	**-3.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=58,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**56.22**	**69**	P	**P**	**11 55 24.1**	**+1.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=290,slow=6.3,SNR=3.6						
PDAR	**Pinedale Array**	**59.04**	**50**	P	**P**	**11 55 36.3**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=340,slow=2.3,SNR=6.4						
FINES	**FINESS Array B**	**60.37**	**336**	P	**P**	**11 55 45.1**	**-6.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=38,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**60.37**	**336**	*i* P	**P**	**11 55 45.0**	**-6.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**71.13**	**66**	P	**P**	**11 56 59.6**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=299,slow=4.6,SNR=12						
TXAR	**Lajitas Array**	**71.13**	**66**	P	**P**	**11 56 59.6**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**74.77**	**337**	P	**P**	**11 57 20.8**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=40,slow=5.2,SNR=4.7						
GERES	**GERESS Array B**	**74.77**	**337**	P	**P**	**11 57 20.8**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 23 11:46:30.4±1.6,4651N×15484E,h0km,mb3.9/11, mb1 4.1/12,mb1mx4.0/26,mbtmp4.0/12,ML3.9/1, MS3.9/2,Ms1 3.9/2,ms1mx2.6/45,Error ellipse: s-maj=50.5km s-min=18.2km az=167.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.95**	**259**	Pn	Pn	11 48 40.2	-0.7
	1.6nm,0.3s,baz=162,slow=32,SNR=14						
ASAJ				LR	LR	11 51 56.9	
	comp=Z,117nm,18.7s,baz=358,slow=36						
MJAR	**Matsushiro Arr**	**15.92**	**237**	Pn	Pn	11 50 11.9	-3.7
	0.2nm,0.3s,baz=36,slow=12,SNR=5.3						
KSRS	**Korea Array**	**21.87**	**255**	P	P	11 51 26.6	+1.8
	2.1nm,0.6s,baz=58,slow=10,SNR=6.9						
INK	**Inuvik**	**41.22**	**32**	P	P	11 54 17.8	+0.9
	2.8nm,0.6s,baz=288,slow=7.6,SNR=21						
MKAR	**Makanchi Array**	**48.11**	**298**	P	P	11 55 11.4	-0.5
	1.1nm,0.7s,baz=69,slow=8.5,SNR=9.1						
YKA	**Yellowknife Ar**	**50.41**	**37**	P	P	11 55 28.9	-0.6
	2.1nm,0.8s,baz=296,slow=7.3,SNR=5.4						
BVAR	**Borovoye Array**	**51.93**	**310**	P	P	11 55 40.5	-0.4
	0.6nm,0.6s,baz=52,slow=9.6,SNR=3.7						
YBH	**Yreka Blue Hor**	**56.80**	**62**	LR	LR	12 15 31.0	
	comp=Z,576nm,19.5s,baz=248,slow=31						
AKTO	**Aktyubinsk**	**59.77**	**313**	P	P	11 56 36.8	-0.4
	0.8nm,0.5s,baz=51,slow=5.0,SNR=4.6						
PDAR	**Pinedale Array**	**63.92**	**55**	P	P	11 57 04.8	-0.3
	0.5nm,0.9s,baz=292,slow=4.7,SNR=4.6						
FINES	**FINESS Array B**	**64.76**	**336**	P	P	11 57 09.7	-0.9
	1.2nm,0.6s,baz=39,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**76.57**	**62**	P	P	11 58 22.3	-0.3
	1.0nm,0.7s,baz=306,slow=4.3,SNR=10						
GERES	**GERESS Array B**	**79.19**	**335**	P	P	11 58 36.3	-0.9
	0.3nm,0.4s,baz=46,slow=5.8,SNR=3.8						
BRTR	**Keskin Array B**	**79.38**	**318**	P	P	11 58 38.3	+0.1
	0.7nm,0.6s,baz=25,slow=3.3,SNR=4.1						

IDC 23 11:46:33.2±8.2,1114S×16462E,h86km±60km,mb4.0/3, mb1 4.1/4,mb1mx3.8/15,mbtmp4.1/4,ML4.2/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/27,Error ellipse: s-maj=61.1km s-min=45.5km az=84.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.90**	**290**	P	Pn	11 47 44.4	0.0
	10.0nm,0.3s,baz=259,slow=3.6,SNR=3.0						
HNR				S	Sn	11 48 40.7	+0.9
	24nm,0.3s,baz=263,slow=13,SNR=4.2						
CTA	**Charters Tower**	**19.78**	**241**	LR	LR	11 55 55.9	
	comp=Z,65nm,21.7s,baz=230,slow=28						
AFI	**Afiamalu**	**23.20**	**99**	LR	LR	11 57 49.8	
	comp=Z,150nm,21.5s,baz=70,slow=29						
STKA	**Stephens Creek**	**29.62**	**222**	*eP*	P	11 52 29.7	-0.5
	2.9nm,0.8s						
STKA	**Stephens Creek**	**29.62**	**222**	P	P	11 52 30.1	-0.1
	3.1nm,0.7s,baz=38,slow=11,SNR=8.7						
WB2	**Warramunga Arr**	**30.40**	**250**	*eP*	P	11 52 38.0	+0.9
WRA	**Warramunga Arr**	**30.41**	**250**	P	P	11 52 37.9	+0.6
	2.9nm,0.8s,baz=79,slow=9.0,SNR=16						
WRA				PcP	PcP	11 55 35.9	+1.0
	1.0nm,1.0s,baz=75,slow=3.1,SNR=4.9						
ASAR	**Alice Springs**	**31.76**	**243**	P	P	11 52 49.4	+0.3
	3.8nm,0.9s,baz=74,slow=9.3,SNR=29						
ASAR				PcP	PcP	11 55 38.4	-0.1
	0.8nm,0.8s,baz=57,slow=2.7,SNR=7.8						

ISCJB ***23*** *11:49:17.3±0.7, 1395N±005×145.1E±0.1, h120km±6km, mb4.4/35, Error ellipse: s-maj=17.3km s-min=8.2km az=14.9*
MOS ***23*** *11:49:17.1±1.1, 1396N×14508E, h119km, mb4.7/10, Error ellipse: s-maj=22.3km s-min=10.3km az=89.2*
IDC ***23*** *11:49:17.3±0.6, 1395N×14525E, h108km±5km, mb4.1/19, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, MS3.5/8, Ms1 3.5/8, ms1mx3.1/36, Error ellipse: s-maj=19.9km s-min=10.9km az=93.0*
NEIC ***23*** *11:49:18.2±0.6, 1398N×145.15E, h116km±5km, mb4.7/17, Error ellipse: s-maj=11.0km s-min=5.0km az=102.0*
NEIC Felt at Santa Rita, Tamuning and Yigo. Also felt at Rota, Northern Mariana Islands.

ISC 23 11:49:18.2±0.7,1399N±005×1451E±01,h113km±6km,n71, σ0ᵒ78/65,mb4.4/35,4D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.47**	**212**	P	**Pn**	**11 49 35.7**	**+0.6**
	3μm,0.3s,baz=142,slow=4.3,SNR=1344						
GUMO				S	**Sn**	**11 49 47.9**	**0.0**
	7μm,0.3s,baz=116,slow=20,SNR=102						
GUMO	**Guam**	**0.47**	**212**	*eP*g	**Pn**	**11 49 35.8**	**+0.6**
GUMO				*eS*g	**Sn**	**11 49 44.5**	**-3.5**
CBIJ	**Chichi jima**	**13.33**	**349**	LR	LR	11 57 12.1	
	comp=Z,191nm,19.9s,baz=88,slow=36						
JOW	**Kunigami**	**20.28**	**312**	LR	LR	12 01 38.5	
	comp=Z,57nm,18.9s,baz=142,slow=36						
MJAR	**Matsushiro Arr**	**23.30**	**346**	P	**P**	**11 54 16.1**	**+0.2**
	4.5nm,0.7s,mb3.9,baz=176,slow=9.7,SNR=9.3						
MJAR				LR	LR	12 02 45.1	
	comp=Z,147nm,18.5s,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**23.30**	**346**	P	**P**	**11 54 16.1**	**+0.2**
MJAR				LR	LR	12 02 45.1	
MAJO	**Matsushiro**	**23.30**	**346**	*eP*	**P**	**11 54 15.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
MAJO	**Matsushiro**	**23.30**	**346**	*eP*	**P**	**11 54 15.8**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.2						
MAT	**Matsushiro**	**23.30**	**346**	P	**P**	**11 54 15.2**	**-0.6**
HNR	**Honiara**	**27.53**	**147**	LR	LR	12 03 12.7	
	comp=Z,139nm,21.1s,baz=360,slow=30						
KSRS	**Korea Array**	**27.94**	**330**	P	**P**	**11 54 58.0**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.4,baz=3.9,slow=16,SNR=5.2						
KAKA	**Kakadu**	**29.36**	**206**	*eP*	**P**	**11 55 09.7**	**-0.6**
	comp=Z,14nm,0.9s,mb4.6						
ASAJ	**Asahikawa**	**30.10**	**356**	LR	LR	12 08 32.4	
	comp=Z,67nm,18.1s,baz=298,slow=38						
CTA	**Charters Tower**	**33.88**	**178**	P	**P**	**11 55 49.7**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.2,baz=347,slow=12,SNR=3.4						
CTA	**Charters Tower**	**33.88**	**178**	P	**P**	**11 55 49.7**	**-0.3**
WRAB	**Tennant Creek**	**35.34**	**198**	*eP*	**P**	**11 56 01.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**35.34**	**198**	*eP*	**P**	**11 56 01.9**	**-0.6**
	comp=Z,16nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**35.35**	**198**	||*iP*	**P**	**11 56 02.5**	**0.0**
WRA	**Warramunga Arr**	**35.35**	**198**	P	**P**	**11 56 02.1**	**-0.4**
	comp=Z,18nm,0.8s,mb5.0,baz=23,slow=9.0,SNR=69						
WRA				PcP	PcP	11 58 31.6	+1.3
	comp=Z,1.9nm,0.7s,baz=6.6,slow=3.2,SNR=7.6						
WRA				ScP	ScP	12 02 04.4	-1.2
	comp=Z,1.2nm,1.0s,baz=22,slow=3.6,SNR=5.1						
WRA				LR	LR	12 09 56.9	
	comp=Z,56nm,20.0s,baz=175,slow=35						
WRA	**Warramunga Arr**	**35.35**	**198**	P	**P**	**11 56 02.1**	**-0.5**
WRA						11 58 31.6	
FITZ	**Fitzroy Crossi**	**37.23**	**212**	||*iP*	**P**	**11 56 19.1**	**+0.5**
	comp=Z,18nm,0.9s,mb5.0						
AS31	**Alice Springs**	**39.00**	**196**	*eP*	**P**	**11 56 33.6**	**+0.2**
ASAR	**Alice Springs**	**39.00**	**196**	P	**P**	**11 56 33.5**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.4,baz=24,slow=10,SNR=58						
ASAR				PcP	PcP	11 58 42.0	+0.5
	comp=Z,2.1nm,0.9s,baz=19,slow=2.8,SNR=5.9						
ASAR				LR	LR	12 11 15.3	
	comp=Z,61nm,19.4s,baz=5.1,slow=34						
ASAR	**Alice Springs**	**39.00**	**196**	P	**P**	**11 56 33.6**	**+0.2**
ASAR						11 58 42.0	
ASPA	**Alice Springs**	**39.00**	**196**	*eP*	**P**	**11 56 33.6**	**+0.2**
STKA	**Stephens Creek**	**45.73**	**184**	||*iP*	**P**	**11 57 27.2**	**-0.7**
	comp=Z,8.9nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**45.73**	**184**	P	**P**	**11 57 26.5**	**-1.4**
	comp=Z,10.0nm,0.8s,mb4.6,baz=348,slow=7.8,SNR=18						
SONM	**Songino Array**	**46.55**	**325**	P	**P**	**11 57 35.9**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.6,baz=139,slow=9.0,SNR=3.2						
SONM				ScP	ScP	12 02 49.6	-0.1
	comp=Z,1.3nm,1.0s,baz=151,slow=3.4,SNR=5.4						
FORT	**Forrest**	**47.44**	**200**	||*iP*	**P**	**11 57 41.9**	**+0.6**
	comp=Z,32nm,0.9s,mb5.1						
ZAK	**Zakamensk**	**49.65**	**326**	*eP*	**P**	**11 57 59.0**	**+0.9**
ZAK				*e*	pP	11 58 24.7	-0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TOO	**Toolangi**	**51.28**	**180**	*eP*	**P**	**11 58 11.3**	**+0.8**
	comp=Z,12nm,1.1s,mb4.8						
**TOO

mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/41, Error ellipse: s-maj=30.3km s-min=24.1km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.80**	**258**	Pn	Pn	12 02 34.0	+4.1
	0.4nm,0.3s,baz=50,slow=16,SNR=3.4						
SONM	**Songino Array**	**32.38**	**290**	P	P	12 06 50.9	-1.7
	0.2nm,0.3s,baz=81,slow=9.1,SNR=3.4						
ZAL	**Zalesovo**	**43.59**	**306**	P	P	12 08 27.0	-0.2
	0.7nm,0.5s,baz=35,slow=4.0,SNR=3.0						
MKAR	**Makanchi Array**	**47.95**	**298**	P	P	12 09 01.5	-0.2
	0.5nm,0.5s,baz=69,slow=7.6,SNR=6.9						
AKTO	**Aktyubinsk**	**59.63**	**313**	LR	LR	12 35 41.7	
	comp=Z,57nm,18.3s,baz=324,slow=36						
PDAR	**Pinedale Array**	**64.04**	**55**	P	P	12 10 56.2	-0.6
	0.5nm,0.8s,baz=140,slow=3.5,SNR=3.5						
FINES	**FINESS Array B**	**64.67**	**335**	P	P	12 11 00.3	-0.8
	0.6nm,0.4s,baz=43,slow=7.3,SNR=9.2						
NOA	**NORSAR Array B**	**68.76**	**342**	P	P	12 11 28.3	+1.1
	0.6nm,0.4s,baz=32,slow=6.5,SNR=2.7						
ASAR	**Alice Springs**	**72.34**	**200**	P	P	12 11 49.4	+0.4
	0.4nm,0.7s,baz=5.9,slow=5.0,SNR=7.9						
TXAR	**Lajitas Array**	**76.70**	**61**	P	P	12 12 14.2	-0.1
	0.8nm,0.7s,baz=300,slow=3.9,SNR=13						

MAN 23 12:02:01.4, 1032N×12379E, h8km, mb2.9, ML4.3, MS2.4, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.63**	**173**	*e*P	Pg	12 02 13.1	-0.5
TBP				*e*S	Sg	12 02 16.9	-4.9
MSLP	**Maasin**	**1.07**	**100**	*e*P	Pg	12 02 21.9	-0.1
MSLP				*e*S	Sg	12 02 37.4	+1.5
SNPH	**Sibulan**	**1.11**	**209**	*i* P	Pg	12 02 23.5	+0.7
SNPH				*i* S	Sg	12 02 39.3	+2.0
GUIM	**Jordan**	**1.22**	**285**	*e*P	Pb	12 02 23.9	-0.8
GUIM				*e*S	Sb	12 02 41.1	+0.6

IDC 23 12:07:02.9±0.9, 4687N×15467E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=27.9km s-min=21.8km az=116.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.92**	**256**	Pn	Pn	12 09 16.9	+3.9
	0.9nm,0.3s,baz=221,slow=26,SNR=6.4						
MJAR	**Matsushiro Arr**	**16.02**	**236**	Pn	Pn	12 10 48.7	-0.8
	0.1nm,0.3s,baz=36,slow=9.0,SNR=2.9						
INK	**Inuvik**	**40.98**	**33**	P	P	12 14 46.8	-0.5
	2.9nm,1.2s,baz=293,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**47.84**	**298**	P	P	12 15 41.6	-0.6
	0.3nm,0.5s,baz=68,slow=8.2,SNR=6.4						
BVAR	**Borovoye Array**	**51.61**	**310**	P	P	12 16 10.9	-0.1
	0.9nm,0.4s,baz=50,slow=8.8,SNR=7.4						
FINES	**FINESS Array B**	**64.38**	**335**	P	P	12 17 40.0	-0.6
	1.1nm,0.4s,baz=39,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**68.99**	**201**	P	P	12 18 09.1	-0.9
	0.3nm,0.7s,baz=21,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**72.67**	**200**	P	P	12 18 33.4	+1.0
	0.5nm,0.7s,baz=16,slow=5.3,SNR=7.8						
TXAR	**Lajitas Array**	**76.50**	**62**	P	P	12 18 54.7	0.0
	0.7nm,0.5s,baz=306,slow=5.1,SNR=17						

MEX 23 12:09:13.4±1.3, 1780N×10123W, h9km±15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.29**	**229**	*i* P	Pg	12 09 17.8	-1.3
ZIIG				*i* S	Sg	12 09 23.7	+0.7
CAIG	**El Cayaco**	**1.19**	**129**	*i* P	Pb	12 09 33.0	-3.1
CAIG				*i* S	Sb	12 09 47.2	-4.3
MEIG	**Mezcala**	**1.54**	**85**	*i* P	Pn	12 09 37.9	-3.2
MEIG				*i* S	Sn	12 09 55.4	-5.9
PLIG	**Platanillo**	**1.75**	**70**	*i* P	Pn	12 09 41.4	-2.5
PLIG				*i* S	Sn	12 10 01.3	-5.1
MMIG	**Aquila**	**2.07**	**284**	*i* P	Pn	12 09 45.1	-3.2
MMIG				*i* S	Sn	12 10 09.9	-4.4
UTMO	**Huajuapan**	**3.27**	**89**	*i* P	Pn	12 10 01.7	-3.1
UTMO				*i* S	Sn	12 10 39.6	-4.2

*MOS **23** 12:11:38.9±0.8, 4699N×155.19E, h33km, mb4.2/7, Error ellipse: s-maj=65.0km s-min=22.5km az=93.7*
*ISCJB **23** 12:11:40.6±0.8, 469N±0.1×1547E±0.2, h33km, mb3.8/10, Error ellipse: s-maj=21.0km s-min=14.4km az=109.1*
*IDC **23** 12:11:44.4±5.1, 4688N×15466E, h51km±46km, mb3.5/10, mb1 3.8/11, mb1mx3.6/24, mbtmp3.6/11, ML3.7/1, Error ellipse: s-maj=24.7km s-min=18.9km az=109.0*

ISC 23 12:11:44.1±3.2, 469N±01×1547E±02, h50km±28km, n20, σ0§53/20, mb3.8/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.88**	**14**	*e*PN	**Pn**	**12 12 35.0**	**-6.2**
ASAJ	**Asahikawa**	**8.92**	**256**	P	**Pn**	**12 13 50.0**	**-0.3**
	1.0nm,0.3s,baz=20,slow=21,SNR=11						
ASAJ	**Asahikawa**	**8.92**	**256**	PN	**Pn**	**12 13 50.1**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.86**	**254**	P	**P**	**12 16 33.7**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.6,baz=63,slow=9.4,SNR=5.0						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**12 19 21.5**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=137,slow=30,SNR=8.1						
INK	**Inuvik**	**40.93**	**33**	P	**P**	**12 19 21.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**12 19 41.1**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=92,slow=3.3,SNR=3.3						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**12 19 41.1**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**12 20 16.1**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=74,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**12 20 16.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**12 20 45.0**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.3,baz=59,slow=7.3,SNR=11						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**12 20 45.0**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**12 22 14.5**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=38,slow=7.2,SNR=16						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**12 22 14.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.40**	**342**	P	**P**	**12 22 41.0**	**+0.5**
	comp=Z,1.3nm,0.9s,mb4.0,baz=30,slow=5.7,SNR=3.5						
NOA	**NORSAR Array B**	**68.40**	**342**	P	**P**	**12 22 41.0**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**69.04**	**200**	P	**P**	**12 22 43.6**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=24,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**72.72**	**200**	P	**P**	**12 23 07.2**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=16,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**12 23 29.1**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=300,slow=4.8,SNR=18						
TXAR	**Lajitas Array**	**76.48**	**62**	P	**P**	**12 23 29.1**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **23** 12:16:59.7±0.9, 4724N×153.75E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=29.0km s-min=18.3km az=149.0*
*ISCJB **23** 12:17:06.7±1.9, 474N±0.1×1539E±0.2, h64km±15km, mb3.8/10, Error ellipse: s-maj=28.2km s-min=9.9km az=100.1*
*MOS **23** 12:17:06.5±1.9, 4728N×153.83E, h70km, mb4.2/6, Error ellipse: s-maj=23.5km s-min=15.2km az=61.0*

ISC 23 12:17:08.6±1.6, 475N±01×1538E±02, h66km±13km, n21, σ1§16/22, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.56**	**24**	*e*PN	**Pn**	**12 18 01.2**	**-0.1**
SKR				*e*S	**Sn**	**12 18 41.0**	**-1.2**
SKR					pmax	pmax	
	comp=Z,150nm,0.5s						
SKR					smax		
	comp=N,150nm,0.5s						
SKR					smax		
	comp=E,150nm,0.5s						
SKR					smax		
	comp=Z,90nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.56**	**270**	*e*PN	**Pn**	**12 18 58.6**	**+2.5**
ASAJ	**Asahikawa**	**8.53**	**251**	Pn	**Pn**	**12 19 10.3**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=108,slow=19,SNR=4.2						
ASAJ	**Asahikawa**	**8.53**	**251**	PN	**Pn**	**12 19 10.3**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.90**	**232**	Pn	**Pn**	**12 20 42.7**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=31,slow=8.2,SNR=2.8						
KSRS	**Korea Array**	**21.48**	**252**	P	**P**	**12 21 49.3**	**-2.3**
	comp=Z,0.5nm,0.7s,mb3.0,baz=54,slow=11,SNR=2.6						
KDAK	**Kodiak Island**	**33.28**	**52**	P	**P**	**12 23 39.2**	**-0.4**
	comp=Z,1.1nm,1.1s,mb4.6,baz=285,slow=12,SNR=4.1						
INK	**Inuvik**	**40.79**	**33**	P	**P**	**12 24 44.9**	**+1.6**
	comp=Z,1.4nm,0.5s,mb4.0,baz=300,slow=6.9,SNR=33						
INK	**Inuvik**	**40.79**	**33**	P	**P**	**12 24 44.9**	**+1.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**12 25 32.5**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=65,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**50.06**	**37**	P	**P**	**12 25 57.5**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=295,slow=7.0,SNR=5.1						
YKA	**Yellowknife Ar**	**50.06**	**37**	P	**P**	**12 25 57.5**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**12 26 02.9**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.8,baz=51,slow=10,SNR=3.3						
BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**12 26 02.9**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.61**	**335**	P	**P**	**12 27 32.5**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.0,baz=30,slow=7.3,SNR=6.8						
FINES	**FINESS Array B**	**63.61**	**335**	P	**P**	**12 27 32.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**12 27 58.8**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=26,slow=6.5,SNR=3.2						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**12 27 58.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.04**	**199**	P	**P**	**12 28 29.9**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=22,slow=6.1,SNR=7.1						
ASAR	**Alice Springs**	**73.04**	**199**	P	**P**	**12 28 30.0**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.72**	**61**	P	**P**	**12 28 53.5**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=306,slow=5.2,SNR=11						

*CSEM **23** 12:21:32.2±0.1, 3186N×4949E, h14km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.2km az=48.0*
*THR **23** 12:21:32.2±1.0, 3179N×4951E, h18km±9km, ML3.8*
*MOS **23** 12:21:33.2±1.4, 3192N×4937E, h33km, mb4.3/3, Error ellipse: s-maj=22.5km s-min=16.3km az=101.9*
*NEIC **23** 12:21:34.0, 3190N×4950E, h8km, mb3.6/1, ML3.8(THR), MN4.0(TEH), After TEH.*
*TEH **23** 12:21:34.2, 3187N×4948E, h8km, Mn4.0*
*ISCJB **23** 12:21:35.6±0.3, 3189N±002×4951E±002, h68km±6km, mb3.8/8, Error ellipse: s-maj=3.4km s-min=3.3km az=174.3*
*IDC **23** 12:21:36.6±4.5, 3203N×4935E, h45km±42km, mb3.8/8, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, ML3.6/3, Error ellipse: s-maj=36.7km s-min=17.2km az=158.0*

ISC 23 12:21:34.1±0.7, 3190N±002×4951E±002, h13km±4km, n84, σ1§11/192, mb3.9/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.63**	**290**	*e*Pg	**Pg**	**12 21 45.7**	**-0.7**
SHGR	**Shooshtar-Gavs**	**0.63**	**290**	Pg	**Pg**	**12 21 45.0**	**-1.4**
IPIR	**Pirpir**	**1.41**	**56**	*e*Pg	**Pg**	**12 21 58.9**	**-2.3**
IPIR				*e*Pg	**Pg**	**12 21 59.6**	**-1.6**
IPIR				*e*Pg	**Pg**	**12 22 00.1**	**-1.1**
IPIR				*e*Sg	**Sg**	**12 22 19.2**	**-0.4**
IPIR				*e*Sg	**Sg**	**12 22 19.3**	**-0.3**
IPIR	**Pirpir**	**1.41**	**56**	Pg	**Pg**	**12 22 00.1**	**-1.1**
IPIR				Sg	**Sg**	**12 22 19.2**	**-0.4**
IPIR	**Pirpir**	**1.41**	**56**	*e*Pg	**Pg**	**12 21 58.9**	**-2.3**
IPIR				*e*Sg	**Sg**	**12 22 19.2**	**-0.4**
IKLH	**Kalahroud**	**2.25**	**50**	*e*Pn	**Pn**	**12 22 12.7**	**+1.6**
IKLH				*e*Pn	**Pn**	**12 22 13.0**	**+1.9**
IKLH				*e*Pn	**Pn**	**12 22 13.2**	**+2.1**
IKLH				*e*Sn	**Sn**	**12 22 40.1**	**+1.4**
IKLH				*e*Sn	**Sn**	**12 22 40.3**	**+1.6**
IKLH	**Kalahroud**	**2.25**	**50**	Pn	**Pn**	**12 22 12.6**	**+1.5**
IKLH				Sn	**Sn**	**12 22 40.0**	**+1.3**
IGAR	**Garneh**	**2.31**	**81**	*e*Pn	**Pn**	**12 22 11.5**	**-0.4**
IGAR				*e*Pn	**Pn**	**12 22 12.1**	**+0.2**
IGAR				*e*Pn	**Pn**	**12 22 12.7**	**+0.8**
IGAR				*e*Sn	**Sn**	**12 22 39.2**	**-1.0**
IGAR				*e*Sn	**Sn**	**12 22 39.3**	**-0.9**
IZEF	**Zefreh**	**2.59**	**67**	*e*Pn	**Pn**	**12 22 16.8**	**+1.1**
IZEF				*e*Pn	**Pn**	**12 22 17.6**	**+1.9**
IZEF				*e*Pn	**Pn**	**12 22 18.1**	**+2.4**
IZEF				*e*Sn	**Sn**	**12 22 48.2**	**+1.2**
IZEF				*e*Sn	**Sn**	**12 22 48.3**	**+1.3**
IZEF	**Zefreh**	**2.59**	**67**	Pn	**Pn**	**12 22 17.5**	**+1.8**
IZEF				Sn	**Sn**	**12 22 48.1**	**+1.1**
ASAO	**Ashtian**	**2.68**	**9**	*e*Pn	**Pn**	**12 22 18.4**	**+1.5**
ASAO	**Ashtian**	**2.68**	**9**	Pn	**Pn**	**12 22 18.0**	**+1.1**
MIB	**Mutribah**	**2.80**	**222**	*e*P	**Pn**	**12 22 19.1**	**+0.6**
MIB				AML	AML	12 23 08.4	
	comp=Z,175nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.80**	**214**	*e*P	**Pn**	**12 22 19.0**	**+0.4**
IKOM	**Komasi**	**2.82**	**324**	*e*Pn	**Pn**	**12 22 19.7**	**+0.8**
IKOM				*e*Pn	**Pn**	**12 22 19.7**	**+0.8**
IKOM				*e*Pn	**Pn**	**12 22 19.7**	**+0.8**
IKOM				*e*Sn	**Sn**	**12 22 53.2**	**+0.4**
IKOM				*e*Sn	**Sn**	**12 22 53.4**	**+0.6**
IKOM	**Komasi**	**2.82**	**324**	Pn	**Pn**	**12 22 19.7**	**+0.8**
IKOM				Sn	**Sn**	**12 22 53.4**	**+0.6**
NASN	**Na'in**	**2.94**	**71**	*e*Pn	**Pn**	**12 22 21.6**	**+1.2**
NASN	**Na'in**	**2.94**	**71**	Pn	**Pn**	**12 22 21.0**	**+0.5**
NASN				Sg	**Sg**	**12 23 08.0**	**-0.5**
NASN	**Na'in** SNR=52	**2.94**	**71**	*e*Pn	**Pn**	**12 22 21.6**	**+1.1**
NASN				Sg	**Sg**	**12 23 08.0**	**-0.5**
KBD	**Kabd**	**3.13**	**210**	*e*P	**Pn**	**12 22 23.6**	**+0.5**
KBD				*e*S	**Sn**	**12 23 00.2**	**-0.1**
KBD				AML	AML	12 23 01.8	
	comp=Z,602nm,0.3s						
NAY	**Al-Naaiem**	**3.28**	**217**	*e*P	**Pn**	**12 22 25.8**	**+0.6**
NAY				*e*S	**Sn**	**12 23 05.8**	**+1.7**
ISFB	**Sefidab**	**3.36**	**42**	*e*Pn	**Pn**	**12 22 26.3**	**+0.1**
ISFB				*e*Pn	**Pn**	**12 22 26.8**	**+0.6**
ISFB				*e*Pn	**Pn**	**12 22 27.4**	**+1.2**
ISFB				*e*Sn	**Sn**	**12 23 06.4**	**+0.4**
ISFB				*e*Sn	**Sn**	**12 23 06.5**	**+0.5**
ISFB	**Sefidab**	**3.36**	**42**	Pn	**Pn**	**12 22 26.2**	**0.0**
ISFB				Sn	**Sn**	**12 23 06.3**	**+0.3**
RDF	**Al-Radifah**	**3.41**	**210**	*e*P	**Pn**	**12 22 27.7**	**+0.8**
RDF				AML	AML	12 23 12.1	
	comp=Z,299nm,0.3s						
QRN	**Al-Qurain**	**3.43**	**204**	*e*P	**Pn**	**12 22 27.6**	**+0.4**
QRN				AML	AML	12 23 10.0	
	comp=Z,242nm,0.3s						
IGHG	**Ghaleghazi**	**3.46**	**315**	*e*Pn	**Pn**	**12 22 28.3**	**+0.7**
IGHG				*e*Pn	**Pn**	**12 22 28.4**	**+0.8**
IGHG				*e*Pn	**Pn**	**12 22 29.0**	**+1.4**
IGHG				*e*Sn	**Sn**	**12 23 08.2**	**-0.3**
IGHG				*e*Sn	**Sn**	**12 23 08.7**	**+0.2**
IGHG	**Ghaleghazi**	**3.46**	**315**	Pn	**Pn**	**12 22 28.2**	**+0.6**
IGHG				*e*Sn	**Sn**	**12 23 08.2**	**-0.3**
IRAZ	**Razeghan**	**3.52**	**6**	*e*Pn	**Pn**	**12 22 29.0**	**+0.5**
IRAZ				*e*Pn	**Pn**	**12 22 30.1**	**+1.6**
IRAZ				*e*Pn	**Pn**	**12 22 30.6**	**+2.1**
IRAZ				*e*Sn	**Sn**	**12 23 10.1**	**+0.2**
IRAZ				*e*Sn	**Sn**	**12 23 10.3**	**+0.4**
ISAD	**Sadrabad**	**3.56**	**89**	*e*Pn	**Pn**	**12 22 30.0**	**+1.0**
ISAD				*e*Pn	**Pn**	**12 22 30.6**	**+1.6**
ISAD				*e*Sn	**Sn**	**12 23 11.1**	**+0.2**
ISAD				*e*Sn	**Sn**	**12 23 11.1**	**+0.2**
ISAD	**Sadrabad**	**3.56**	**89**	*e*Pn	**Pn**	**12 22 30.0**	**+1.0**
ISAD				Sn	**Sn**	**12 23 11.0**	**+0.1**
IVRN	**Varamin**	**3.61**	**30**	*e*Pn	**Pn**	**12 22 30.1**	**+0.4**
IVRN				*e*Pn	**Pn**	**12 22 31.1**	**+1.4**
IVRN				*e*Pn	**Pn**	**12 22 31.1**	**+1.4**
IVRN				*e*Sn	**Sn**	**12 23 12.4**	**+0.2**
IVRN				*e*Sn	**Sn**	**12 23 12.5**	**+0.3**
IVRN	**Varamin**	**3.61**	**30**	Pn	**Pn**	**12 22 30.0**	**+0.3**
IVRN				*e*Sn	**Sn**	**12 23 12.4**	**+0.2**
SNGE	**Sanandaj**	**3.66**	**331**	*e*Pn	**Pn**	**12 22 31.1**	**+0.6**
SNGE				AML	AML	12 23 38.3	
	comp=N,146nm,0.6s						
SNGE	**Sanandaj** SNR=52	**3.66**	**331**	*e*Pn	**Pn**	**12 22 31.0**	**+0.6**
IPAR	**Pars**	**3.67**	**123**	*e*Pn	**Pn**	**12 22 31.0**	**+0.5**
IPAR				*e*Pn	**Pn**	**12 22 31.2**	**+0.7**
IPAR				*e*Pn	**Pn**	**12 22 31.7**	**+1.2**
IPAR				*e*Sn	**Sn**	**12 23 13.4**	**-0.3**
IPAR				*e*Sn	**Sn**	**12 23 14.1**	**+0.4**
IPAR	**Pars**	**3.67**	**123**	Pn	**Pn**	**12 22 30.9**	**+0.4**
IPAR				Sn	**Sn**	**12 23 13.3**	**-0.4**
IPAR	**Pars**	**3.67**	**123**	Pn	**Pn**	**12 22 30.9**	**+0.4**
IPAR				*e*Sn	**Sn**	**12 23 13.4**	**-0.3**
ILIN	**Laeen**	**3.69**	**326**	*e*Pn	**Pn**	**12 22 31.1**	**+0.3**
ILIN				*e*Pn	**Pn**	**12 22 31.7**	**+0.9**
ILIN				*e*Pn	**Pn**	**12 22 31.9**	**+1.1**
ILIN				*e*Sn	**Sn**	**12 23 13.8**	**-0.4**
ILIN				*e*Sn	**Sn**	**12 23 13.9**	**-0.3**
ILIN	**Laeen**	**3.69**	**326**	Pn	**Pn**	**12 22 31.8**	**+1.0**
ILIN				*e*Sn	**Sn**	**12 23 13.8**	**-0.4**
IDHR	**Dehrash**	**3.83**	**318**	*e*Pn	**Pn**	**12 22 32.8**	**+0.1**
IDHR				*e*Pn	**Pn**	**12 22 33.3**	**+0.6**
IDHR				*e*Pn	**Pn**	**12 22 33.9**	**+1.2**
IDHR				*e*Sn	**Sn**	**12 23 16.8**	**-0.7**
IDHR				*e*Sn	**Sn**	**12 23 16.8**	**-0.7**
IDHR	**Dehrash**	**3.83**	**318**	Pn	**Pn**	**12 22 32.7**	**0.0**
IDHR				Sn	**Sn**	**12 23 16.7**	**-0.8**
IMHD	**Mahdasht**	**3.90**	**14**	*e*Pn	**Pn**	**12 22 33.3**	**-0.4**
IMHD				*e*Pn	**Pn**	**12 22 33.9**	**+0.2**
IMHD				*e*Sn	**Sn**	**12 23 19.4**	**0.0**
IMHD				*e*Sn	**Sn**	**12 23 19.5**	**+0.1**
IMHD	**Mahdasht**	**3.90**	**14**	*e*Pn	**Pn**	**12 22 33.3**	**-0.4**
IMHD				Sn	**Sn**	**12 23 19.3**	**-0.1**
IMOK	**Mook**	**3.97**	**135**	*e*Pn	**Pn**	**12 22 34.4**	**-0.2**
IMOK				*e*Pn	**Pn**	**12 22 34.9**	**+0.3**
IMOK				*e*Pn	**Pn**	**12 22 35.1**	**+0.5**
IMOK				*e*Sn	**Sn**	**12 23 20.1**	**-0.9**
IMOK				*e*Sn	**Sn**	**12 23 20.2**	**-0.8**
IMOK	**Mook**	**3.97**	**135**	*e*Pn	**Pn**	**12 22 34.4**	**-0.2**
IMOK				*e*Sn	**Sn**	**12 23 20.2**	**-0.8**
ISRV	**Sarvestan**	**3.99**	**128**	*e*Pn	**Pn**	**12 22 35.1**	**+0.1**
ISRV				*e*Pn	**Pn**	**12 22 35.5**	**+0.5**
ISRV				*e*Pn	**Pn**	**12 22 35.5**	**+0.5**
ISRV				*e*Sn	**Sn**	**12 23 21.0**	**-0.7**
ISRV				*e*Sn	**Sn**	**12 23 21.2**	**-0.5**
ISRV	**Sarvestan**	**3.99**	**128**	Pn	**Pn**	**12 22 35.0**	**0.0**
ISRV				*e*Sn	**Sn**	**12 23 21.0**	**-0.7**
THKV	**Tehran--Karaj**	**4.17**	**16**	*e*Pn	**Pn**	**12 22 38.9**	**+1.5**
THKV	**Tehran--Karaj**	**4.17**	**16**	Pn	**Pn**	**12 22 38.0**	**+0.6**
ICHK	**Chekchek**	**4.18**	**84**	*e*Pn	**Pn**	**12 22 37.7**	**+0.2**
ICHK				*e*Pn	**Pn**	**12 22 38.2**	**+0.7**
ICHK				*e*Sn	**Sn**	**12 23 25.7**	**-0.5**
ICHK	**Chekchek**	**4.18**	**84**	Pn	**Pn**	**12 22 37.6**	**+0.1**
ICHK				*e*Sn	**Sn**	**12 23 25.7**	**-0.5**
CHTH	**Charan**	**4.22**	**18**	*e*Pn	**Pn**	**12 22 39.3**	**+1.1**
CHTH	**Charan**	**4.22**	**18**	Pn	**Pn**	**12 22 39.0**	**+0.8**
IDMV	**Damavand**	**4.23**	**29**	*e*Pn	**Pn**	**12 22 39.1**	**+0.8**
IDMV				*e*Pn	**Pn**	**12 22 39.8**	**+1.5**
IDMV				*e*Pn	**Pn**	**12 22 39.8**	**+1.5**
IDMV				*e*Sn	**Sn**	**12 23 27.1**	**-0.5**
IDMV				*e*Sn	**Sn**	**12 23 27.3**	**-0.3**
IDMV	**Damavand**	**4.23**	**29**	Pn	**Pn**	**12 22 39.0**	**+0.7**
IDMV				*e*Sn	**Sn**	**12 23 27.1**	**-0.5**
DAMV	**Damavand**	**4.25**	**28**	*e*Pn	**Pn**	**12 22 39.8**	**+1.2**
DAMV				*e*Sg	**Sg**	**12 23 47.1**	**-3.5**
DAMV	**Damavand**	**4.25**	**28**	Pn	**Pn**	**12 22 39.0**	**+0.4**
DAMV				Sg	**Sg**	**12 23 47.0**	**-3.7**
DAMV	**Damavand** SNR=52	**4.25**	**28**	*e*Pn	**Pn**	**12 22 39.8**	**+1.2**
DAMV				Sg	**Sg**	**12 23 47.0**	**-3.7**

WRA	**Warramunga Arr**	**18.26**	**221**	P		**Pn**	**12 27 14.1**	**-0.6**
	0.1nm,0.3s,baz=42,slow=12,SNR=13							
ASAR	**Alice Springs**	**21.34**	**214**	P		**P**	**12 27 48.9**	**+0.7**
	0.4nm,0.3s,mb3.2,baz=55,slow=8.9,SNR=16							
ASAR				LR		LR	12 37 20.6	
	comp=Z,41nm,19.2s,MS2.8,baz=263,slow=40							
ASPA	**Alice Springs**	**21.35**	**214**	*eP*		**P**	**12 27 48.2**	**0.0**
FITZ	**Fitzroy Crossi**	**23.82**	**238**	*eP*		**P**	**12 28 12.3**	**-1.6**
	5.4nm,0.9s,mb4.0							
FITZ	**Fitzroy Crossi**	**23.82**	**238**	P		**P**	**12 28 11.8**	**-2.1**
	2.0nm,0.8s,mb3.6,baz=67,slow=15,SNR=3.9							
STKA	**Stephens Creek**	**25.98**	**190**	P		**P**	**12 28 33.0**	**-0.5**
	1.7nm,0.7s,mb3.7,baz=29,slow=13,SNR=4.6							
MKAR	**Makanchi Array**	**77.59**	**321**	P		**P**	**12 34 57.4**	**+0.8**
	0.1nm,0.4s,mb3.1,baz=105,slow=8.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**145.01**	**284**	PKP		PKPdf	12 42 39.6	+2.0
	1.4nm,0.7s,baz=83,slow=3.5,SNR=8.6							

CASC 23 12:23:18.8±1.2,1407N×9121W,h98km±52km,MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTR	**El Retiro**	**1.53**	**96**	*eP*		x	12 23 47.5	
SBLS	**San Blas**	**1.56**	**98**	*eP*		x	12 23 48.0	
SBLS				*eS*		x	12 24 10.0	
MRL	**Marmol**	**1.77**	**56**	*eP*		Pn	12 23 48.9	+0.6
LFRS	**El Faro**	**2.13**	**102**	*eP*		x	12 23 55.6	
LFRS				*eS*		x	12 24 22.0	

WEL 23 12:28:19.7±0.3,3669S×17715E,h33km,ML3.7/6, Error ellipse: s-maj=2.2km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WIZ	**White Island**	**0.84**	**178**	P*		Pb	12 28 34.1	-1.7
WIZ				S*		Sb	12 28 44.3	-2.5
MYRZ	**Mayor Island**	**0.94**	**231**	P*		Pb	12 28 35.7	-1.8
MYRZ				S*		Sb	12 28 48.5	-1.1
KUZ	**Kuaotunu**	**1.15**	**267**	PN		Pn	12 28 39.0	-0.4
KUZ				SN		Sn	12 28 53.0	-1.1
TGRZ	**Tauranga**	**1.26**	**214**	P*		Pb	12 28 40.6	-2.3
MXZ	**Matakaoa Point**	**1.27**	**134**	P*		Pb	12 28 40.7	-2.4
MXZ				S*		Sb	12 28 56.2	-2.8
URZ	**Urewera**	**1.57**	**181**	P*		Pb	12 28 44.7	-3.3
PUZ	**Puketiti**	**1.64**	**148**	PN		Pn	12 28 48.3	+2.2
MWZ	**Matawai**	**1.67**	**170**	P*		Pb	12 28 46.7	-3.1
WCZ	**Waipu Caves**	**2.39**	**287**	PN		Pn	12 28 57.4	+0.9
HIZ	**Hauiti**	**2.58**	**224**	PN		Pn	12 28 58.4	-0.7

*HLW **23** 12:30:49.6,2988N×3674E,h13km,Mb2.6*
*ISCJB **23** 12:30:53.1±0.9,2987N±005×3618E±006,h0km, Error ellipse: s-maj=8.1km s-min=6.1km az=69.9*
*CSEM **23** 12:30:54.2±0.2,2982N×3608E,h2km,ML2.5, Error ellipse: s-maj=4.9km s-min=2.8km az=119.0, Mining explosion.*
*GII **23** 12:30:55.4±0.6,2997N×3605E,h0km,ML2.5/7*

ISC 23 12:30:53.2±1.0,2987N±005×3622E±006,h0km,n24, σ0§59/30, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AQBJ	**Aqaba**	**1.03**	**262**	Pg		**Pg**	**12 31 13.6**	**+0.6**
HRFI	**Mount Harif**	**1.04**	**279**	Pg		**Pg**	**12 31 12.9**	**-0.2**
HRFI				Sg		**Sg**	**12 31 26.4**	**-0.3**
HRFI	**Mount Harif**	**1.04**	**279**	Pg		**Pg**	**12 31 12.9**	**-0.3**
HRFI				Sg		**Sg**	**12 31 26.4**	**-0.3**
EIL	**Elat**	**1.12**	**260**	Pg		**Pg**	**12 31 15.3**	**+0.5**
EIL				Sg		**Sg**	**12 31 29.8**	**+0.5**
ZFRI	**Zfri**	**1.13**	**307**	Pg		**Pg**	**12 31 13.8**	**-1.1**
ZFRI	**Zfri**	**1.13**	**307**	Pg		**Pg**	**12 31 14.2**	**-0.7**
ZFRI	**Zfri**	**1.13**	**307**	Pg		**Pg**	**12 31 14.2**	**-0.7**
MBH	**Mount Berech**	**1.14**	**266**	Pg		**Pg**	**12 31 15.7**	**+0.6**
PRNI	**Paran**	**1.16**	**295**	Pg		**Pg**	**12 31 15.1**	**-0.3**
PRNI				Sg		**Sg**	**12 31 29.6**	**-0.9**
KMTI	**Karmit**	**1.32**	**280**	Pg		**Pg**	**12 31 18.3**	**-0.2**
RMNI	**Mount Ramon**	**1.46**	**300**	Pg		**Pg**	**12 31 20.9**	**-0.2**
RMNI	**Mount Ramon**	**1.46**	**300**	Pg		**Pg**	**12 31 20.8**	**-0.3**
MZDA	**Masada**	**1.61**	**333**	Pn		**Pn**	**12 31 22.5**	**-0.4**
MZDA				Sn		**Sn**	**12 31 44.5**	**+0.1**
SVTA	**Shivta**	**1.74**	**308**	Pn		**Pn**	**12 31 24.7**	**+0.1**
YTIR	**Yattir**	**1.77**	**328**	Pn		**Pn**	**12 31 25.1**	**+0.1**
HDHB	**Dhahab**	**1.81**	**231**	P		**Pn**	**12 31 24.9**	**-0.7**
DSI	**Dead Sea**	**1.84**	**337**	Pn		**Pn**	**12 31 26.7**	**+0.7**
DRGI	**Dragot**	**1.86**	**338**	Pn		**Pn**	**12 31 26.2**	**-0.1**
HNKL	**Nakhl**	**1.95**	**272**	P		**Pn**	**12 31 27.8**	**+0.3**
HNKL				S		**Sn**	**12 31 56.1**	**+3.4**
HKAT	**Jabal Katrina**	**2.37**	**236**	P		**Pn**	**12 31 32.9**	**-0.4**
HMDT	**Nahal Hemdat**	**2.45**	**346**	Pn		**Pn**	**12 31 34.8**	**+0.4**
SHRM		**2.69**	**223**	P		**Pn**	**12 31 36.9**	**-0.9**
AMAG	**Maghara**	**2.72**	**287**	P		**Pn**	**12 31 38.8**	**+0.7**
SUZ		**2.94**	**270**	P		**Pn**	**12 31 41.4**	**+0.2**

MAN 23 12:39:45.9,1216N×12552E,h37km,mb3.1,ML4.4,MS2.2, 1C,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.56**	**188**	*eP*		Pn	12 39 58.4	+1.1
BESP				*eS*		Sn	12 40 07.7	+2.4
CNP	**Catarman**	**0.91**	**293**	*eP*		Pn	12 40 02.6	+0.5
CNP				*eS*		Sn	12 40 15.5	+1.5
PLP	**Palo**	**1.12**	**208**	*eP*		Pn	12 40 02.4	-2.6
PLP				*eS*		Sn	12 40 19.7	+0.5
PVCP	**Virac**	**1.95**	**317**	*eP*		Pn	12 40 16.9	+0.4
MSLP	**Maasin**	**2.11**	**198**	*eP*		Pn	12 40 21.3	+2.7
SCPH	**Surigao**	**2.36**	**181⇑**	*eP*		Pn	12 40 23.1	+1.1
GUIM	**Jordan**	**3.25**	**242**	*eP*		Pn	12 40 36.1	+1.8
OTRP	**Odiongan**	**3.42**	**274**	*eP*		Pn	12 40 38.1	+1.4

*NIED **23** 12:52:00,4650N×15320E,h14km,Mw4.1 Best double couple: M0 1.65000×10^15 NP1:φ§189.00000°,δ84.00000°, λ134.00000°. NP2:φ§285.00000°,δ44.00000°,λ9.00000°.*
*JMA **23** 12:52:25.5±0.6,4654N×15318E,h30km,M4.4*
*MOS **23** 12:52:27.8±1.1,4612N×15313E,h40km,mb4.3/10, Error ellipse: s-maj=18.6km s-min=12.2km az=73.3*
*IDC **23** 12:52:30.6±0.7,4607N×15323E,h47km±7km,mb3.7/11, mb1 3.8/13,mb1mx3.6/26,mbtmp3.7/13,ML3.9/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/38, Error ellipse: s-maj=21.8km s-min=16.6km az=116.0*
*ISCJB **23** 12:52:31.4±1.4,4549N±0.1×1528E±0.1,h79km±14km, mb3.8/13, Error ellipse: s-maj=23.9km s-min=9.6km az=121.1*

ISC 23 12:52:31.3±1.2,460N±01×1529E±01,h56km±11km, h50km±2.0km:pP-P,n49,σ1§26/56,mb3.9/13,MS3.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**5.12**	**23**	*e*PN		**Pn**	**12 53 41.1**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**5.40**	**251**	*e*PN		**Pn**	**12 53 51.0**	**+1.8**
YUK				pmax		pmax		
	comp=Z,270nm,0.3s							
NEM2	**Nemuro 2**	**5.78**	**245**	P		**Pn**	**12 53 53.2**	**-1.2**
NEM2				*eS*		**Sn**	**12 54 58.4**	**-1.0**
JRA	**Rausu**	**5.93**	**252**	P		**Pn**	**12 53 57.7**	**+1.3**
JNK	**Nakash**	**6.34**	**250**	P		**Pn**	**12 54 02.7**	**+0.6**
JNK				*eS*		**Sn**	**12 55 14.4**	**+1.3**
JAK	**Akkeshi**	**6.63**	**246**	P		**Pn**	**12 54 04.9**	**-1.1**
JAK				*eS*		**Sn**	**12 55 19.3**	**-0.9**
JTKR	**Abashiri--Toko**	**6.73**	**255**	P		**Pn**	**12 54 08.8**	**+1.4**
JAR	**Ashorobuto**	**7.09**	**251**	P		**Pn**	**12 54 12.9**	**+0.6**
JAR				*eS*		**Sn**	**12 55 34.3**	**+2.8**
JOB	**Onbets**	**7.22**	**248**	P		**Pn**	**12 54 14.1**	**-0.1**
JOB				*eS*		**Sn**	**12 55 34.3**	**-0.5**
JKK2	**Kamakawa 2**	**7.55**	**257**	P		**Pn**	**12 54 20.2**	**+1.6**
ASAJ	**Asahikawa**	**7.57**	**259**	P		**Pn**	**12 54 20.8**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=148,slow=29,SNR=11							
ASAJ				LR		LR	12 58 07.9	
	comp=Z,114nm,18.1s,baz=253,slow=43							
JCH	**Churui**	**7.67**	**247**	P		**Pn**	**12 54 19.9**	**-0.4**
JCH				*eS*		**Sn**	**12 55 43.9**	**-1.8**
JEM	**Erimo**	**8.11**	**244**	*eS*		**Sn**	**12 55 55.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**8.23**	**247**	*eS*		**Sn**	**12 55 55.7**	**-3.7**
JBT2	**Biratori 2**	**8.24**	**251**	P		**Pn**	**12 54 29.2**	**+1.1**
JNB	**Noboribetsu**	**9.25**	**252**	P		**Pn**	**12 54 42.4**	**+0.4**
JNB				*eS*		**Sn**	**12 56 24.2**	**-0.4**
JKB	**Kayabe**	**9.53**	**249**	P		**Pn**	**12 54 44.4**	**-1.4**
JKB				*eS*		**Sn**	**12 56 27.9**	**-3.5**
JANG	**Nango**	**10.07**	**240**	*eS*		**Sn**	**12 56 37.8**	**-6.8**
JTM	**Tenmabayashi**	**10.10**	**243**	P		**Pn**	**12 54 51.4**	**-2.1**
JTM				*eS*		**Sn**	**12 56 39.7**	**-5.6**
JTH	**Tanohata**	**10.14**	**237**	*eS*		**Sn**	**12 56 39.4**	**-6.9**
JRG	**Rokugo**	**11.21**	**238**	*eS*		**Sn**	**12 57 04.2**	**-8.3**
JIO	**Ouri**	**11.44**	**233**	*eS*		**Sn**	**12 57 09.0**	**-9.1**
MJAR	**Matsushiro Arr**	**14.56**	**235**	P		**Pn**	**12 55 54.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=35,slow=17,SNR=5.5							
KSRS	**Korea Array**	**20.48**	**254**	LR		LR	13 04 45.5	
	comp=Z,42nm,19.8s,MS2.8,baz=50,slow=36							
JNU	**Nakatsue**	**21.25**	**240**	LR		LR	13 05 34.4	
	comp=Z,129nm,21.4s,MS3.3,baz=117,slow=36							
BILL	**Bilibino**	**23.12**	**13**	*eP*		**P**	**12 57 31.7**	**-0.8**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.0							
BOD	**Bodaibo**	**26.36**	**311**	*eP*		**P**	**12 58 00.6**	**-1.5**
BOD				pmax		pmax		
	comp=Z,9.0nm,2.9s,mb3.8							
INK	**Inuvik**	**42.33**	**32**	P		**P**	**13 00 17.9**	**-1.7**
	comp=Z,1.5nm,1.0s,mb3.6,baz=258,slow=2.0,SNR=6.1							
INK	**Inuvik**	**42.33**	**32**	P		**P**	**13 00 17.9**	**-1.7**
INK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MKAR	**Makanchi Array**	**47.17**	**298**	P		**P**	**13 00 59.2**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=66,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	**47.17**	**298**	P		**P**	**13 00 59.2**	**+1.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**51.23**	**310**	P		**P**	**13 01 29.4**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=58,slow=8.9,SNR=8.5							
BVAR	**Borovoye Array**	**51.23**	**310**	P		**P**	**13 01 29.4**	**+0.3**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**58.50**	**341**	P		**P**	**13 02 20.1**	**-1.6**
	comp=Z,5.4nm,0.9s,mb4.6,baz=19,slow=7.7,SNR=3.6							
ARCES	**ARCESS Array B**	**58.50**	**341**	P		**P**	**13 02 20.1**	**-1.5**
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AKTO	**Aktyubinsk**	**59.12**	**312**	P		**P**	**13 02 27.9**	**+1.9**
	comp=Z,1.0nm,0.5s,mb4.1,baz=48,slow=8.7,SNR=4.9							
AKTO	**Aktyubinsk**	**59.12**	**312**	P		**P**	**13 02 27.9**	**+1.9**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.64**	**335**	P		**P**	**13 03 03.1**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.4,baz=43,slow=7.0,SNR=10							
FINES	**FINESS Array B**	**64.64**	**335**	P		**P**	**13 03 03.2**	**+0.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**67.79**	**199**	P		**P**	**13 03 23.4**	**+0.2**
	comp=Z,0.3nm,1.0s,mb3.3,baz=17,slow=6.9,SNR=3.1							
WRA				pP		pP	13 03 37.3	-1.4
	comp=Z,1.1nm,0.9s,baz=18,slow=6.9,SNR=6.0							
WRA	**Warramunga Arr**	**67.79**	**199**	P		**P**	**13 03 23.4**	**+0.2**
WRA				*PP		pP	13 03 37.3	-1.3
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**68.88**	**341**	P		**P**	**13 03 30.4**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=29,slow=6.4,SNR=2.8							
NOA	**NORSAR Array B**	**68.88**	**341**	P		**P**	**13 03 30.4**	**+0.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**71.48**	**198**	P		**P**	**13 03 47.8**	**+1.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=11,slow=7.5,SNR=3.4							
ASAR				pP		pP	13 04 00.8	-0.7
	comp=Z,1.1nm,0.9s,baz=21,slow=6.0,SNR=6.7							
ASAR	**Alice Springs**	**71.48**	**198**	P		**P**	**13 03 47.8**	**+1.9**
ASAR				*PP		pP	13 04 00.8	-0.7
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**72.08**	**326**	P		**P**	**13 03 50.2**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=5.9,SNR=4.8							
AKASG	**Malin Array Be**	**72.08**	**326**	P		**P**	**13 03 50.2**	**+0.7**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**77.95**	**60**	P		**P**	**13 04 22.4**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=298,slow=4.4,SNR=6.0							
TXAR				pP		pP	13 04 36.8	-2.3
	comp=Z,0.8nm,0.5s,baz=306,slow=4.5,SNR=9.2							
TXAR	**Lajitas Array**	**77.95**	**60**	P		**P**	**13 04 22.4**	**-1.0**
TXAR				*PP		pP	13 04 36.8	-2.3
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							

*BJI **23** 13:01:13.8,590S×14790E,h98km,mB5.2,mb4.7*
*ISCJB **23** 13:01:14.4±1.2,592S±005×14780E±007,h98km±11km, mb4.5/24, Error ellipse: s-maj=11.9km s-min=6.9km az=56.9*
*NEIC **23** 13:01:15.8±0.3,589S×14787E,mb4.8/14, Error ellipse: s-maj=8.9km s-min=6.6km az=104.0*
*IDC **23** 13:01:15.7±0.7,597S×14772E,h96km±5km,mb4.2/12, mb1 4.3/16,mb1mx4.3/19,mbtmp4.3/16,MS3.3/9, Ms1 3.2/9,ms1mx3.1/23, Error ellipse: s-maj=14.9km s-min=7.4km az=98.0*

ISC 23 13:01:15.0±1.0,591S±005×14786E±007,h88km±9km, h100km±2.0km:pP-P,n50,σ0§94/53,mb4.5/24,3C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**191**	P		**Pn**	**13 02 08.2**	**+0.4**
	28nm,0.3s,baz=323,slow=6.6,SNR=88							
PMG				S		**Sn**	**13 02 47.3**	**-1.3**
	72nm,0.3s,baz=207,slow=22,SNR=8.1							
PMG				LR		LR	13 03 37.6	
	comp=Z,368nm,21.2s,baz=246,slow=41							
PMG	**Port Moresby**	**3.54**	**191**	*e*Pn		**Pn**	**13 02 08.2**	**+0.4**
PMG				*e*Sn		**Sn**	**13 02 48.5**	**-0.2**
HNR	**Honiara**	**12.48**	**107**	P		**Pn**	**13 04 10.1**	**+0.8**
	3.9nm,0.3s,baz=224,slow=1.4,SNR=4.0							
CTA	**Charters Tower**	**14.18**	**186**	*e*P		**Pn**	**13 04 34.7**	**+3.0**
	4.6nm,0.9s							
CTA	**Charters Tower**	**14.18**	**186**	P		**Pn**	**13 04 32.1**	**+0.5**
	0.2nm,0.3s,baz=0.0,slow=16,SNR=2.6							
CTA				LR		LR	13 09 20.0	
	comp=Z,88nm,19.8s,baz=221,slow=34							
KAKA	**Kakadu**	**16.64**	**245⇑**	*i*P		**Pn**	**13 05 02.4**	**-0.3**
	57nm,0.5s							
WRAB	**Tennant Creek**	**19.15**	**222**	*e*P		**Pn**	**13 05 31.5**	**-1.5**
	39nm,0.6s							
WRAB				*e*S		**S**	**13 08 56.1**	**-7.5**
WB2	**Warramunga Arr**	**19.16**	**222**	*e*P		**Pn**	**13 05 31.7**	**-1.4**
WB2				*e*S		**S**	**13 08 56.8**	**-6.9**
WRA	**Warramunga Arr**	**19.16**	**222**	P		**Pn**	**13 05 31.2**	**-2.0**
	4.0nm,0.3s,baz=49,slow=11,SNR=351							
WRA				S		**S**	**13 08 58.0**	**-5.9**
	0.5nm,0.3s,baz=53,slow=22,SNR=5.5							
WRA				PcP		PcP	13 09 52.3	+0.7
	0.2nm,0.3s,baz=38,slow=2.3,SNR=6.3							
WRA				LR		LR	13 12 57.3	
	comp=Z,29nm,20.6s,baz=165,slow=37							
WRA				ScP		ScP	13 13 19.0	-0.5
	0.0nm,0.3s,baz=44,slow=2.7,SNR=5.0							
GUMO	**Guam**	**19.59**	**351**	LR		LR	13 12 41.9	
	comp=Z,45nm,18.8s,baz=69,slow=35							
AS31	**Alice Springs**	**22.18**	**216⇑**	*i*P		**P**	**13 06 04.6**	**+0.8**
AS31				*e*S		**S**	**13 10 02.2**	**-0.3**
ASAR	**Alice Springs**	**22.18**	**216**	P		**P**	**13 06 04.8**	**+0.9**
	18nm,0.6s,mb4.6,baz=51,slow=8.7,SNR=360							
ASAR				PcP		PcP	13 09 58.2	+0.9
	5.2nm,0.7s,baz=52,slow=2.5,SNR=14							
ASAR				S		**S**	**13 10 02.6**	**+0.1**
	4.1nm,0.7s,baz=26,slow=23,SNR=9.2							
ASAR				LR		LR	13 15 37.2	
	comp=Z,42nm,19.5s,baz=28,slow=39							
ASPA	**Alice Springs**	**22.18**	**216⇑**	*i*P		**P**	**13 06 04.6**	**+0.7**
ASPA				*e*S		**S**	**13 10 02.2**	**-0.4**
DZM	**Mont Dzumac**	**24.11**	**134**	P		**P**	**13 06 21.8**	**-0.5**
	9.7nm,0.6s,mb4.3,baz=107,slow=14,SNR=13							
DZM				LR		LR	13 14 21.1	
	comp=Z,78nm,21.7s,baz=32,slow=32							
ARMA	**Armidale**	**24.64**	**172**	*e*P		**P**	**13 06 28.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.84**	**239**	*e*P		**P**	**13 06 30.0**	**+0.9**
	112nm,0.4s,mb5.7							
FITZ				*e*			13 06 52.1	
FITZ				*e*S		**S**	**13 10 46.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**24.84**	**239**	P		**P**	**13 06 29.5**	**+0.4**
	78nm,0.5s,mb5.4,baz=60,slow=8.4,SNR=135							
FITZ				LR		LR	13 17 06.7	
	comp=Z,83nm,20.6s,baz=88,slow=38							

STKA	**Stephens Creek**	**26.49**	**192**	*e*P		**P**	**13 06 43.9**	**-0.1**
	3.1nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**26.49**	**192**	P		**P**	**13 06 44.3**	**+0.3**
	3.2nm,0.4s,mb4.1,baz=358,slow=7.8,SNR=24							
STKA				LR		LR	13 17 14.7	
	comp=Z,68nm,21.4s,baz=214,slow=36							
FORT	**Forrest**	**30.95**	**215**	*e*P		**P**	**13 07 23.9**	**+0.3**
	16nm,0.6s,mb4.9							
MBWA	**Marble Bar**	**31.18**	**238**	*e*P		**P**	**13 07 26.3**	**+0.7**
	8.6nm,0.7s,mb4.6							
CBIJ	**Chichi jima**	**33.26**	**351**	P		**P**	**13 07 44.4**	**+0.5**
	80nm,0.7s,mb5.7,baz=282,slow=19,SNR=4.4							
CBIJ				LR		LR	13 18 27.3	
	comp=Z,370nm,21.9s,baz=198,slow=31							
KLBR	**Kellerberrin**	**38.03**	**224**	*e*P		**P**	**13 08 24.9**	**+0.3**
	14nm,0.9s,mb4.8							
NWAO	**Narrogin (SRO)**	**39.17**	**223**	P		**P**	**13 08 34.3**	**+0.1**
	4.3nm,0.7s,mb4.4,baz=60,slow=16,SNR=3.3							
MUN	**Mundaring**	**39.33**	**225**	*e*P		**P**	**13 08 37.1**	**+1.6**
URZ	**Urewera**	**41.73**	**145**	P		**P**	**13 08 55.3**	**0.0**
	7.1nm,0.8s,mb4.4,baz=90,slow=2.0,SNR=3.5							
MJAR	**Matsushiro Arr**	**43.18**	**349**	P		**P**	**13 09 06.8**	**-0.2**
	12nm,0.8s,mb4.7,baz=173,slow=7.7,SNR=25							
MJAR				pP		pP	13 09 30.4	+2.4
	6.5nm,0.9s,baz=174,slow=8.3,SNR=4.5							
MAJO	**Matsushiro**	**43.18**	**349**	*e*P		**P**	**13 09 07.1**	**0.0**
	7.7nm,0.6s,mb4.6							
MAT	**Matsushiro**	**43.18**	**349**	P		**P**	**13 09 07.1**	**+0.1**
KSRS	**Korea Array**	**46.98**	**338**	P		**P**	**13 09 37.6**	**+0.6**
	4.4nm,0.8s,mb4.2,baz=158,slow=9.1,SNR=8.3							
LZH	**Lanzhou**	**58.70**	**319**	*e*P		**P**	**13 11 06.5**	**+3.2**
LZH				AMB		AMB		
	comp=Z,16nm,1.1s,mb5.0							
LZH	**Lanzhou**	**58.70**	**319**	*e*P		**P**	**13 11 06.5**	**+3.2**
	comp=Z,16nm,1.1s,mb5.0							
LZH				pP		pP	13 11 10.8	-15
LZH				sP		sP	13 11 14.2	-21
HIA	**Hailar**	**60.16**	**339**	*e*P		**P**	**13 11 13.7**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.6							
GTA	**Gaotai**	**63.22**	**320**	*e*P		**P**	**13 11 35.1**	**+1.2**
GTA				AMB		AMB		
	comp=Z,2.0nm,0.8s,mb4.1							
SONM	**Songino Array**	**64.74**	**330**	P		**P**	**13 11 44.3**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.2,baz=143,slow=6.1,SNR=14							
SONM				pP		pP	13 12 08.1	+1.8
	comp=Z,3.4nm,1.2s,baz=144,slow=5.3,SNR=2.8							
VNDA	**Vanda**	**71.95**	**177**	P		**P**	**13 12 28.9**	**-0.1**
	comp=Z,10nm,0.6s,mb4.8,baz=330,slow=6.5,SNR=54							
VNDA	**Vanda**	**71.95**	**177**	*e*P		**P**	**13 12 28.8**	**-0.1**
	comp=Z,12nm,1.0s,mb4.7							
MKAR	**Makanchi Array**	**77.97**	**320**	P		**P**	**13 13 02.1**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.0,baz=98,slow=8.4,SNR=28							
MKAR				pP		pP	13 13 28.2	+1.6
	comp=Z,0.6nm,0.6s,baz=87,slow=7.4,SNR=2.5							
MKAR	**Makanchi Array**	**77.97**	**320**	P		**P**	**13 13 02.1**	**-1.4**
MKAR				pP		pP	13 13 28.2	+1.6
ZAL	**Zalesovo**	**79.39**	**328**	P		**P**	**13 13 10.0**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.0,baz=3.9,slow=3.5,SNR=8.2							
AAK	**Ala-Archa**	**81.88**	**314**	*e*P		**P**	**13 13 23.9**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.2							
MAW	**Mawson**	**82.66**	**203**	P		**P**	**13 13 27.4**	**-1.3**
	comp=Z,2.2nm,0.6s,mb4.2,baz=71,slow=16,SNR=8.9							
QSPA	**South Pole Qui**	**84.06**	**180**	*e*P		**P**	**13 13 35.5**	**-0.4**
	comp=Z,23nm,0.9s,mb5.0							
COLA	**College**	**84.73**	**23**	*e*P		**P**	**13 13 37.1**	**-2.2**
	comp=Z,6.6nm,0.9s,mb4.6							
DAWY	**Dawson**	**87.83**	**25**	*e*P		**P**	**13 13 54.4**	**-0.1**
VNA2	**Neumayer--Watz**	**101.56**	**188**	*e*		PKiKP	13 19 19.4	-1.2
	baz=6.0,slow=0.5							

comp=Z,0.4nm,0.6s,mb3.5,baz=15,slow=5.5,SNR=7.7
TXAR Lajitas Array 77.51 61 P **P 13 30 54.8 +0.5**
comp=Z,0.3nm,0.7s,mb3.4,baz=302,slow=5.7,SNR=5.8
GERES GERESS Array B 78.73 334 P **P 13 31 02.1 +1.0**
comp=Z,0.3nm,0.3s,mb3.6,baz=37,slow=5.0,SNR=3.5

CSEM ***23*** *13:20:47.9±0.4, 5837N×1374E, h2km, ML2.5, Error ellipse: s-maj=15.5km s-min=8.4km az=95.0, Suspected Mining explosion.*

UPP 23 13:20:49.7, 5840N×1378E, h0km, ML2.5, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NASU	**Vaermlandsnaes**	**0.61**	**330**	P	Pg	13 21 01.2	-0.2
ASKU	**Askersund**	**0.74**	**48**	P	Pg	13 21 03.6	-0.3
LNKU	**Linkoeping**	**0.93**	**100**	P	Pg	13 21 07.1	-0.4

NAO ***23*** *13:21:22.0, 3822N×2192E, h33km, mb3.3*
SKO ***23*** *13:21:38.6, 3991N×2093E, h63km, M4.0, ML4.2*
SOF ***23*** *13:21:38.7, 3994N×2064E, h6km, MD3.8*
BJI ***23*** *13:21:39.8, 4014N×2040E, h40km, mB5.1, mb4.9*
MOS ***23*** *13:21:39.7±1.2, 4000N×2046E, h21km, mb4.3/12, Error ellipse: s-maj=4.3km s-min=3.0km az=97.4*
PRU ***23*** *13:21:40.9, 4013N×2139E, h0km*
ISCJB ***23*** *13:21:41.5±0.2, 4001N±001×2053E±002, h33km, mb4.1/15, MS3.4/4, Error ellipse: s-maj=2.3km s-min=1.5km az=76.1*
PDG ***23*** *13:21:42.0±0.4, 4006N×2063E, h22km±1km*
ATH ***23*** *13:21:41.3, 4008N×2058E, h33km±2km, MD4.2/21, ML4.5*
NEIC ***23*** *13:21:41.3, 4008N×2058E, h33km, MD4.4(PDG), ML4.5(ATH), After ATH.*
TIR ***23*** *13:21:42.4, 4006N×2059E, h21km, Ml4.2*
CSEM ***23*** *13:21:42.3±0.0, 4012N×2050E, h35km, mb4.1/4, Ms3.1, Error ellipse: s-maj=1.2km s-min=0.9km az=43.0*
THE ***23*** *13:21:43.0, 4006N×2066E, h14km, ML4.2*
IDC ***23*** *13:21:43.6±1.6, 4009N×2068E, h51km±15km, mb3.9/14, mb1 4.1/24, mb1mx4.0/32, mbtmp4.0/24, ML3.9/10, MS3.4/8, Ms1 3.4/8, ms1mx3.1/41, Error ellipse: s-maj=13.9km s-min=11.9km az=45.0*

ISC 23 13:21:43.2±0.3, 4000N±002×2057E±002, h32km±3km, n325, σ1§29/383, mb4.1/15, MS3.4/4, 45C-24D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.15**	**10**	*i* Pg	**Pb**	**13 21 47.1**	**-2.1**
LSK				*i* Sg	**Sb**	13 21 49.0	-4.3
JAN	**Janina**	**0.41**	**147**	⇓*i* PB	**Pb**	**13 21 51.6**	**-0.7**
JAN				*e*SB	**Sb**	13 21 59.0	+0.4
SRN	**Sarande**	**0.45**	**255**	*i* Pg	**Pb**	**13 21 52.6**	**-0.4**
SRN				*i* Sg	**Sb**	**13 22 01.4**	**+1.7**
IGT	**Igoumenitsa**	**0.50**	**201**	*e*Pg	**Pb**	**13 21 53.7**	**0.0**
IGT	**Igoumenitsa**	**0.50**	**201**	P	**Pb**	**13 21 53.2**	**-0.6**
TPE	**Tepelena**	**0.52**	**305**	*i* Pg	**Pb**	**13 21 52.9**	**-1.1**
TPE				*i* Sg	**Sb**	**13 22 04.2**	**+2.8**
MEV	**Metsovon**	**0.56**	**113**	*e*Pg	**Pb**	**13 21 53.4**	**-1.2**
MEV	**Metsovon**	**0.56**	**113**	P	**Pb**	**13 21 52.8**	**-1.8**
MEV	**Metsovon**	**0.56**	**113**	*e*Pg	**Pb**	**13 21 53.4**	**-1.2**
KBN	**Korca**	**0.64**	**15**	*i* Pg	**Pb**	**13 21 54.1**	**-2.0**
KBN				*i* Sg	**Sb**	**13 22 04.4**	**-0.4**
KEK	**Kerkira**	**0.66**	**244**	*e*PN	**Pn**	**13 21 55.5**	**-0.7**
VLO	**Vlora**	**0.94**	**300**	*i* Pg	**Pn**	**13 22 01.9**	**+1.7**
VLO				*i* Sg	**Sn**	**13 22 18.0**	**+5.5**
KZN	**Kozani**	**0.97**	**71**	⇓*i* PN	**Pn**	**13 21 59.5**	**-1.1**
OHR	**Ohrid**	**1.12**	**9**	*e*Pg	**Pn**	**13 22 02.3**	**-0.3**
OHR				*e*Sg	**Sn**	**13 22 17.4**	**+0.4**
OHR				*e*Lg		13 22 19.2	
	comp=E,10μm,0.6s						
OHR				*e*Lg		13 22 19.4	
	comp=N,10μm,0.9s						
OHR	**Ohrid**	**1.12**	**9**	P	**Pn**	**13 22 01.9**	**-0.7**
OHR	**Ohrid**	**1.12**	**9**	*e*Pg	**Pn**	**13 22 02.1**	**-0.5**
OHR				*e*Sg	**Sn**	**13 22 17.4**	**+0.4**
BIA	**Bitola**	**1.17**	**29**	*e*Pg	**Pn**	**13 22 02.6**	**-0.7**
BIA				*e*Sg	**Sn**	**13 22 17.1**	**-1.1**
BIA				*e*Lg		13 22 19.4	
	comp=E,4μm,0.4s						
BIA				*e*Lg		13 22 20.0	
	comp=N,6μm,0.4s						
BIA	**Bitola**	**1.17**	**29**	P	**Pn**	**13 22 01.9**	**-1.4**
BIA	**Bitola**	**1.17**	**29**	*e*Pg	**Pn**	**13 22 02.8**	**-0.5**
BIA				*e*Sg	**Sn**	**13 22 18.5**	**+0.4**
THL	**Klokotos Trika**	**1.20**	**111**	⇑*i*PN	**Pn**	**13 22 03.5**	**-0.2**
TIR	**Tirane**	**1.45**	**339**	*e*Pg	**Pn**	**13 22 08.5**	**+1.4**
TIR	**Tirane**	**1.45**	**339**	P	**Pn**	**13 22 08.3**	**+1.2**
EVR	**Evrytania**	**1.45**	**138**	⇑*i*PN	**Pn**	**13 22 08.8**	**+1.7**
LIT	**Litokhoron**	**1.48**	**86**	*e*Pg	**Pn**	**13 22 07.2**	**-0.4**
LIT				*e*Sg	**Sn**	**13 22 26.5**	**+0.7**
LIT	**Litokhoron**	**1.48**	**86**	P	**Pn**	**13 22 07.8**	**+0.2**
LIT				*e*Sg	**Sn**	**13 22 26.5**	**+0.7**
AGG	**Agios Georgios**	**1.68**	**125**	*e*Pb	**Pb**	**13 22 11.9**	**-1.5**
AGG	**Agios Georgios**	**1.68**	**125**	P	**Pn**	**13 22 11.4**	**+1.1**
AGG	**Agios Georgios**	**1.68**	**125**	*e*Pb	**Pb**	**13 22 11.9**	**-1.6**
PHP	**Peshkopia**	**1.68**	**357**	*i* Pg	**Pn**	**13 22 12.4**	**+2.0**
PHP				*i* Sg	**Sn**	**13 22 35.5**	**+4.7**
GRG	**Griva**	**1.69**	**55**	*e*Pg	**Pn**	**13 22 10.0**	**-0.5**
GRG	**Griva**	**1.69**	**55**	P	**Pn**	**13 22 09.8**	**-0.7**
LCI	**Lecce**	**1.91**	**281**	Pn	**Pn**	**13 22 13.5**	**0.0**
LCI				Sn	**Sn**	**13 22 44.3**	**+7.9**
THE	**Thessaloniki**	**1.94**	**70**	*e*Pb	**Pn**	**13 22 13.3**	**-0.6**
THE	**Thessaloniki**	**1.94**	**70**	P	**Pn**	**13 22 13.9**	**0.0**
VAY	**Valandovo**	**2.02**	**49**	*e*Pb	**Pn**	**13 22 14.3**	**-0.6**
VAY	**Valandovo**	**2.02**	**49**	*e*Pg	**Pn**	**13 22 14.4**	**-0.5**
VAY				*e*Sg	**Sn**	**13 22 37.7**	**-1.3**
VAY				*e*Lg		13 22 47.2	
	comp=E,1μm,0.6s						
VAY				*e*Lg		13 22 48.1	
	comp=N,4μm,0.9s						
VAY	**Valandovo**	**2.02**	**49**	P	**Pn**	**13 22 13.8**	**-1.1**
HORT	**Hortiatis**	**2.03**	**72**	*e*Pb	**Pn**	**13 22 14.4**	**-0.7**
HORT	**Hortiatis**	**2.03**	**72**	P	**Pn**	**13 22 15.1**	**0.0**
RLS	**Riolos of Patr**	**2.06**	**160**	*e*PN	**Pn**	**13 22 15.8**	**+1.2**
SKO	**Skopje**	**2.08**	**18**	*e*Pn	**Pn**	**13 22 16.9**	**+1.1**
SKO	**Skopje**	**2.08**	**18**	*e*Pg	**Pn**	**13 22 17.1**	**+1.3**
SKO				*e*Sg	**Sn**	**13 22 43.9**	**+3.4**
SKO				*e*Lg		13 22 45.6	
	comp=E,3μm,0.8s						
SKO				*e*Lg		13 22 48.0	
	comp=N,2μm,0.5s						
SKO				*e*Lg		13 22 52.6	
SKO	**Skopje**	**2.08**	**18**	P	**Pn**	**13 22 16.7**	**+0.9**
SKO	**Skopje**	**2.08**	**18**	*e*Pg	**Pn**	**13 22 17.0**	**+1.2**
SKO				*e*Sg	**Sn**	**13 22 43.9**	**+3.4**
STIP	**Stip**	**2.09**	**36**	*e*Pn	**Pn**	**13 22 16.3**	**+0.4**
STIP	**Stip**	**2.09**	**36**	*e*Pg	**Pn**	**13 22 16.5**	**+0.5**
STIP				*e*Sg	**Sn**	**13 22 42.8**	**+2.0**
STIP				*e*Lg		13 22 52.4	
	comp=N,450nm,0.7s						
STIP				*e*Lg		13 22 54.1	
	comp=E,667nm,0.8s						
STIP	**Stip**	**2.09**	**36**	*e*Pg	**Pn**	**13 22 16.4**	**+0.4**
STIP				*e*Sg	**Sn**	**13 22 42.8**	**+1.9**
PUK	**Puka**	**2.10**	**346**	*i* Pn	**Pn**	**13 22 17.4**	**+1.3**
PUK				*i* Sn	**Sn**	**13 22 50.1**	**+9.0**
KNT	**Kendrikon**	**2.12**	**56**	*e*Pn	**Pn**	**13 22 15.8**	**-0.6**
KNT	**Kendrikon**	**2.12**	**56**	P	**Pn**	**13 22 15.5**	**-0.9**
KNT	**Kendrikon**	**2.12**	**56**	*e*Pn	**Pn**	**13 22 15.8**	**-0.6**
XOR	**Xorichti**	**2.12**	**107**	*e*Pn	**Pn**	**13 22 17.0**	**+0.6**
XOR	**Xorichti**	**2.12**	**107**	P	**Pn**	**13 22 16.6**	**+0.2**
XOR	**Xorichti**	**2.12**	**107**	*e*Pn	**Pn**	**13 22 17.0**	**+0.6**
NEO	**Neokhori**	**2.17**	**108**	⇑*i*PN	**Pn**	**13 22 17.4**	**+0.4**
NEO				*e*SN	**Sn**	**13 22 44.5**	**+1.8**
ULC	**Ulcinj**	**2.20**	**333**	⇑*i*Pn	**Pn**	**13 22 18.0**	**+0.6**
ULC				*e*Sn	**Sn**	**13 22 45.2**	**+1.7**
PLG	**Polygyros**	**2.24**	**80**	*e*Pn	**Pn**	**13 22 17.4**	**-0.6**
PLG				*e*Sn	**Sn**	**13 22 44.9**	**+0.4**
PLG	**Polygyros**	**2.24**	**80**	*e*Pn	**Pn**	**13 22 17.3**	**-0.7**
PLG				*e*Sn	**Sn**	**13 22 43.0**	**-1.5**
SOH	**Sokhos**	**2.28**	**68**	*e*Pn	**Pn**	**13 22 18.5**	**-0.1**
SOH	**Sokhos**	**2.28**	**68**	P	**Pn**	**13 22 18.9**	**+0.3**
LKR	**Lokris**	**2.32**	**125**	*e*PN	**Pn**	**13 22 20.1**	**+1.0**
BCI	**Bajram Curri**	**2.39**	**351**	*i* Pn	**Pn**	**13 22 22.1**	**+2.0**
SRS	**Serrai**	**2.56**	**63**	*e*Pn	**Pn**	**13 22 21.9**	**-0.6**
SRS	**Serrai**	**2.56**	**63**	P	**Pn**	**13 22 23.3**	**+0.9**
TTG	**Podgorica**	**2.62**	**338**	⇑*i*Pn	**Pn**	**13 22 23.4**	**+0.2**
TTG				*e*Sn	**Sn**	**13 22 56.2**	**+2.3**
BUM	**Brajici-Budva**	**2.62**	**332**	⇑*i*Pn	**Pn**	**13 22 23.3**	**+0.1**
BUM				*e*Sn	**Sn**	**13 22 55.3**	**+1.4**
PVY	**Plav**	**2.63**	**350**	⇓*i*Pn	**Pn**	**13 22 24.3**	**+1.0**
PVY				*e*Sn	**Sn**	**13 22 55.8**	**+1.7**
KKB	**Krupnik**	**2.67**	**45**	*i* P	**Pn**	**13 22 24.2**	**+0.3**
KKB	**Krupnik**	**2.67**	**45**	P	**Pn**	**13 22 24.1**	**+0.2**
AOS	**Alonnisos**	**2.69**	**107**	*e*Pn	**Pn**	**13 22 24.3**	**+0.1**
NVR	**Nevrokopi**	**2.85**	**61**	*e*PB	**Pn**	**13 22 27.6**	**+1.3**
MMB	**Musomiste**	**2.88**	**56**	*i* P	**Pn**	**13 22 26.7**	**-0.1**
MMB	**Musomiste**	**2.88**	**56**	P	**Pn**	**13 22 26.5**	**-0.3**
HCY	**Herceg Novi**	**2.90**	**328**	⇑*i*Pn	**Pn**	**13 22 26.8**	**-0.3**
HCY				*e*Sn	**Sn**	**13 23 02.1**	**+1.3**
MGER	**Gerania Oros**	**2.91**	**133**	*e*PN	**Pn**	**13 22 28.2**	**+1.0**
IVA	**Berane**	**2.91**	**350**	⇓*i*Pn	**Pn**	**13 22 28.3**	**+1.1**
IVA				*e*Sn	**Sn**	**13 23 02.6**	**+1.5**
BARS	**Barje**	**2.97**	**18**	*i* Pn	**Pn**	**13 22 29.3**	**+1.3**
BARS				*i* Sn	**Sn**	**13 23 04.3**	**+1.7**
ITM	**Ithomi**	**3.01**	**159**	⇑*i*PN	**Pn**	**13 22 29.9**	**+1.3**
BAI	**Bari**	**3.02**	**293**	*e*Pn	**Pn**	**13 22 28.1**	**-0.6**
NKY	**Niksic**	**3.05**	**338**	⇑*i*Pn	**Pn**	**13 22 29.3**	**+0.2**
NKY				*e*Sn	**Sn**	**13 23 05.8**	**+1.4**
TIP	**Timpagrande**	**3.05**	**256**	*e*Pn	**Pn**	**13 22 29.1**	**-0.1**
TIP	**Timpagrande**	**3.05**	**256**	*e*Pn	**Pn**	**13 22 29.1**	**-0.1**
SG1	**Sgolgore (BA)**	**3.08**	**287**	*e*Pn	**Pn**	**13 22 29.2**	**-0.4**
ATH	**Athens Observa**	**3.18**	**129**	⇑*i*PN	**Pn**	**13 22 32.1**	**+1.1**
ATH				*e*SN	**Sn**	**13 23 08.2**	**+0.4**
TREB	**Trebinje**	**3.18**	**329**	P	**Pn**	**13 22 30.6**	**-0.4**
NAIG	**Nisos Aigina**	**3.20**	**134**	*e*PN	**Pn**	**13 22 31.3**	**+0.1**
PTL	**Penteli**	**3.23**	**126**	*e*PN	**Pn**	**13 22 32.8**	**+1.2**
VTS	**Vitosha**	**3.27**	**37**	*i* P	**Pn**	**13 22 32.8**	**+0.7**
VTS				*i* S	**Sn**	**13 23 10.0**	**+0.2**
VTS	**Vitosha**	**3.27**	**37**	⇓*i*P	**Pn**	**13 22 33.0**	**+0.9**
VTS	**Vitosha**	**3.27**	**37**	⇓P	**Pn**	**13 22 33.0**	**+0.9**
VTS	**Vitosha**	**3.27**	**37**	*e*Pn	**Pn**	**13 22 33.0**	**+0.9**
BRY	**Bratogost**	**3.27**	**333**	⇑*i*Pn	**Pn**	**13 22 32.0**	**-0.2**
BRY				*e*Sn	**Sn**	**13 23 11.5**	**+1.5**
SJES	**Sjenica**	**3.30**	**352**	Pn	**Pn**	**13 22 33.8**	**+1.2**
KVR	**Kavouri**	**3.31**	**130**	*e*PN	**Pn**	**13 22 34.0**	**+1.3**
UPM	**Unac-Piva**	**3.43**	**339**	*e*Pn	**Pn**	**13 22 35.4**	**+1.0**
UPM				*e*Sn	**Sn**	**13 23 15.3**	**+1.3**
PLE	**Pljevlja**	**3.44**	**346**	⇑*i*Pn	**Pn**	**13 22 34.8**	**+0.3**
PLE				*e*Sn	**Sn**	**13 23 15.1**	**+0.9**
CDT	**Castel del Mon**	**3.44**	**290**	*e*Pn	**Pn**	**13 22 34.2**	**-0.4**
LOS	**Limnos**	**3.47**	**90**	P	**Pn**	**13 22 35.4**	**+0.5**
LIA	**Limnos Island**	**3.55**	**90**	*e*PN	**Pn**	**13 22 36.4**	**+0.4**
RZN	**Rozhen**	**3.57**	**61**	*i* P	**Pn**	**13 22 36.6**	**+0.3**
RZN	**Rozhen**	**3.57**	**61**	P	**Pn**	**13 22 36.9**	**+0.6**
STON	**Ston**	**3.59**	**324**	*i* Pn	**Pn**	**13 22 35.6**	**-1.0**
STON				*i* Sn	**Sn**	**13 23 15.2**	**-2.5**
STON	**Ston**	**3.59**	**324**	*i* Pn	**Pn**	**13 22 35.5**	**-1.0**
STON				*i* Sn	**Sn**	**13 23 15.2**	**-2.6**
CUC	**Castrocucco**	**3.65**	**271**	P	**Pn**	**13 22 39.6**	**+2.2**
PGB	**Panagyurishte**	**3.72**	**46**	P	**Pn**	**13 22 39.1**	**+0.7**
PLD	**Plovdiv**	**3.77**	**55**	*i* P	**Pn**	**13 22 39.0**	**0.0**
PLD				*i* S	Sn	13 23 48.5	+26
PLD	**Plovdiv**	**3.77**	**55**	P	**Pn**	**13 22 40.1**	**+1.1**
PLD	**Plovdiv**	**3.77**	**55**	*e*Pn	**Pn**	**13 22 40.0**	**+1.0**
VLI	**Veliai**	**3.77**	**150**	⇓*i*PN	**Pn**	**13 22 39.4**	**+0.3**
GRUS	**Gruza**	**3.89**	**2**	P	**Pn**	**13 22 41.6**	**+1.0**
FGMS	**Monte Sant'Ang**	**3.89**	**297**	Pn	**Pn**	**13 22 40.5**	**-0.2**
MS1	**Monte Sant'Ang**	**3.90**	**297**	*e*Pn	**Pn**	**13 22 40.6**	**-0.2**
RDO	**Rodhopi**	**3.96**	**72**	*e*PN	**Pn**	**13 22 40.6**	**-1.0**
BOLS	**Boljevac**	**3.96**	**15**	⇑*i*Pn	**Pn**	**13 22 41.2**	**-0.5**
BOLS	**Boljevac**	**3.96**	**15**	Pn	**Pn**	**13 22 41.2**	**-0.5**
SOI	**Samo**	**4.01**	**243**	Pn	**Pn**	**13 22 41.7**	**-0.6**
DIVS	**Divcibare**	**4.12**	**354**	*e*Pn	**Pn**	**13 22 43.8**	**0.0**
DIVS	**Divcibare**	**4.12**	**354**	*e*Pn	**Pn**	**13 22 43.5**	**-0.3**
DIVS	**Divcibare**	**4.12**	**354**	*e*Pn	**Pn**	**13 22 43.5**	**-0.3**
KYTH	**Kithira**	**4.20**	**152**	*e*PN	**Pn**	**13 22 47.0**	**+2.1**
ALN	**Alexandroupoli**	**4.28**	**76**	*e*Pn	**Pn**	**13 22 45.6**	**-0.4**
DIM	**Dimitrovgrad**	**4.28**	**60**	P	**Pn**	**13 22 46.3**	**+0.3**
SVIS	**Svilajnac**	**4.32**	**6**	*e*Pn	**Pn**	**13 22 46.6**	**0.0**
EZN	**Ezine**	**4.43**	**90**	*e*Pn	**Pn**	**13 22 45.9**	**-2.3**
PRK	**Paraskevi**	**4.47**	**98**	*e*PN	**Pn**	**13 22 49.9**	**+1.2**
PVL	**Pavlikeni**	**4.80**	**47**	*i* P	**Pn**	**13 22 53.0**	**-0.3**
PVL				*i* Sg	Sn	13 24 13.0	+25
APE	**Apeiranthos**	**4.87**	**125**	*e*Pn	**Pn**	**13 22 55.0**	**+0.8**
APE	**Apeiranthos**	**4.87**	**125**	⇑*i*P	**Pn**	**13 22 55.0**	**+0.8**
APE	**Apeiranthos**	**4.87**	**125**	*e* *i*P	**Pn**	**13 22 54.9**	**+0.7**
APE	**Apeiranthos**	**4.87**	**125**	*i* Pn	**Pn**	**13 22 54.9**	**+0.7**
CANB	**Canakkale**	**4.99**	**88**	*e*P	**Pn**	**13 22 55.2**	**-0.6**
EDRB	**Edirne**	**5.03**	**67**	*e*P	**Pn**	**13 22 55.3**	**-1.1**
MIDA	**Miranda**	**5.06**	**291**	Pn	**Pn**	**13 22 58.0**	**+1.2**
RKY	**Sarkoy-Tekirda**	**5.10**	**80**	*e*P	**Pn**	**13 22 56.3**	**-1.0**
JMB	**Yambol**	**5.16**	**60**	P	**Pn**	**13 22 59.4**	**+1.2**
RFI	**Roccamonfina**	**5.17**	**287**	Pn	**Pn**	**13 22 59.8**	**+1.5**
SZH	**Strazhica**	**5.18**	**49**	*i* P	**Pn**	**13 22 59.6**	**+1.2**
FGSL	**Fruska Gora**	**5.18**	**354**	Pn	**Pn**	**13 22 52.9**	**-5.6**
BLCB	**Balcova**	**5.28**	**106**	*e*P	**Pn**	**13 23 00.5**	**+0.6**
SANT	**Santorini**	**5.29**	**132**	*e*Pn	**Pn**	**13 23 00.5**	**+0.5**
	comp=E,170nm,0.5s						
SANT	**Santorini**	**5.29**	**132**	*e*Pn	**Pn**	**13 23 00.5**	**+0.5**
	comp=E,170nm,0.5s						
SMG	**Samos**	**5.40**	**113**	*e*PN	**Pn**	**13 23 03.0**	**+1.5**
MRMT	**Marmara Adasi**	**5.41**	**81**	*e*P	**Pn**	**13 22 59.5**	**-2.1**
BZS	**Buzias**	**5.67**	**7**	⇓*i*P	**Pn**	**13 23 04.6**	**-0.5**
IDI	**Anoyia**	**5.82**	**143**	P	**Pn**	**13 23 05.7**	**-1.5**
	comp=E,3.0nm,0.3s,baz=327,slow=15,SNR=28						
IDI				S	**Sn**	**13 24 09.0**	**-3.9**
	comp=E,24nm,0.3s,baz=285,slow=23,SNR=7.0						
GVD	**Gavdhos**	**5.87**	**150**	*e*Pn	**Pn**	**13 23 07.7**	**-0.2**
	comp=E,72nm,0.5s						
GVD				*e*Sn	**Sn**	**13 24 11.0**	**-3.0**
GVD	**Gavdhos**	**5.87**	**150**	*e*Pn	**Pn**	**13 23 07.7**	**-0.1**
	comp=E,72nm,0.5s						
GVD				*e*Sn	**Sn**	**13 24 11.0**	**-3.0**
AQU	**L'Aquila**	**5.89**	**296**	⇓*i*P	**Pn**	**13 23 09.2**	**+1.0**
AQU	**L'Aquila**	**5.89**	**296**	⇓P	**Pn**	**13 23 09.2**	**+1.0**
PRD	**Provadia**	**6.04**	**56**	*i* P	**Pn**	**13 23 09.3**	**-0.9**
BODT	**Bodrum**	**6.05**	**117**	*e*P	**Pn**	**13 23 13.0**	**+2.7**
CERT	**Cerreto**	**6.06**	**291**	Pn	**Pn**	**13 23 12.2**	**+1.7**
MTUR	**Matau**	**6.18**	**31**	⇓*i*P	**Pn**	**13 23 13.6**	**+1.4**
MTUR	**Matau**	**6.18**	**31**	⇓P	**Pn**	**13 23 13.6**	**+1.3**
NPS	**Neapolis**	**6.20**	**138**	*e*PN	**Pn**	**13 23 12.9**	**+0.5**
NVLJ	**Novalja**	**6.21**	**319**	*i* Pn	**Pn**	**13 23 12.2**	**-0.4**
NVLJ				*i* Sn	**Sn**	**13 24 18.6**	**-3.9**
PKSM	**Moragy**	**6.37**	**348**	⇑*i*P	**Pn**	**13 23 14.4**	**-0.3**
PKSM	**Moragy**	**6.37**	**348**	⇑P	**Pn**	**13 23 14.4**	**-0.3**
PKSM	**Moragy**	**6.37**	**348**	*e*Pn	**Pn**	**13 23 13.4**	**-1.3**
PKSM	**Moragy**	**6.37**	**348**	P	**Pn**	**13 23 14.4**	**-0.3**
ISK	**Istanbul-Kandi**	**6.56**	**78**	*e*P	**Pn**	**13 23 16.6**	**-0.8**
ASS	**Assisi**	**6.68**	**300**	P	**Pn**	**13 23 20.0**	**+1.0**
BOJS	**Bojanci**	**6.75**	**326**	*e*Pn	**Pn**	**13 23 19.0**	**-0.9**
BOJS				*e*Sn	**Sn**	**13 24 30.3**	**-5.3**
BOJS							
	comp=Z,47nm,0.6s						
BOJS	**Bojanci**	**6.75**	**326**	*e*Pn	**Pn**	**13 23 19.0**	**-0.9**
BOJS				*e*Sn	**Sn**	**13 24 30.3**	**-5.3**
YLV	**Yalova**	**6.76**	**82**	*e*P	**Pn**	**13 23 20.3**	**+0.2**
MLR	**Muntele Rosu**	**6.76**	**34**	P	**Pn**	**13 23 20.3**	**+0.1**
	comp=Z,4.2nm,0.3s,baz=248,slow=4.1,SNR=37						
MLR	**Muntele Rosu**	**6.76**	**34**	⇑*i*P	**Pn**	**13 23 23.7**	**+3.5**
MLR	**Muntele Rosu**	**6.76**	**34**	P	**Pn**	**13 23 22.5**	**+2.3**
PSN	**Preselentsi**	**6.77**	**55**	*e*P	**Pn**	**13 23 20.0**	**-0.3**
IZI	**Iznik**	**6.83**	**84**	*e*P	**Pn**	**13 23 19.3**	**-1.8**
MURB	**Monte Urbino**	**6.85**	**301**	Pn	**Pn**	**13 23 22.5**	**+1.2**
KARP	**Karpathos**	**6.86**	**128**	*e*PN	**Pn**	**13 23 21.0**	**-0.5**
CRES	**Cresnjev**	**6.92**	**329**	*i* Pn	**Pn**	**13 23 21.4**	**-1.0**
CRES				*e*Sn	**Sn**	**13 24 34.8**	**-5.2**
DRGR		**6.96**	**12**	⇑*i*P	**Pn**	**13 23 24.6**	**+1.7**
DRGR		**6.96**	**12**	⇑P	**Pn**	**13 23 24.6**	**+1.4**
DENT	**Denizli**	**6.98**	**106**	*e*P	**Pn**	**13 23 24.5**	**+1.4**
ADVT	**Abdulvahap**	**7.03**	**84**	*e*P	**Pn**	**13 23 22.4**	**-1.4**
ARG	**Arkhangelos**	**7.06**	**120**	*e*PN	**Pn**	**13 23 27.9**	**+3.7**
CEY	**Cerknica**	**7.29**	**324**	P	**Pn**	**13 23 27.4**	**0.0**
PDKS	**Podkum**	**7.30**	**328**	*e*Pn	**Pn**	**13 23 26.1**	**-1.4**
TIRR	**Tirgusor**	**7.33**	**50**	⇑*i*P	**Pn**	**13 23 29.2**	**+1.3**
TIRR	**Tirgusor**	**7.33**	**50**	⇑P	**Pn**	**13 23 29.2**	**+1.3**
VRI	**Vrincioaia**	**7.40**	**36**	⇓*i*P	**Pn**	**13 23 31.0**	**+2.1**
VRI	**Vrincioaia**	**7.40**	**36**	⇓P	**Pn**	**13 23 31.1**	**+2.1**
FETY	**Fethiye**	**7.49**	**114**	*e*P	**Pn**	**13 23 32.9**	**+2.7**
BUD	**Budapest**	**7.56**	**352**	*e*Pn	**Pn**	**13 23 32.7**	**+1.6**
BUD				*e*Sn	**Sn**	**13 25 03.8**	**+8.1**
TRI	**Trieste**	**7.58**	**321**	P	**Pn**	**13 23 31.1**	**-0.3**
CFR	**Carcaliu**	**7.61**	**45**	⇑*i*P	**Pn**	**13 23 29.9**	**-1.9**
VOY	**Vojsko**	**7.76**	**323**	*e*Pn	**Pn**	**13 23 33.3**	**-0.5**
VOY				*e*Sn	**Sn**	**13 24 55.7**	**-4.8**
OBKA	**Obir**	**7.84**	**328**	⇓*i*Pn	**Pn**	**13 23 36.1**	**+1.1**
	comp=Z,13nm,0.5s,SNR=8.5						
OBKA	**Obir**	**7.84**	**328**	⇑*i*Pn	**Pn**	**13 23 34.5**	**-0.6**
	comp=Z,13nm,0.5s,SNR=8.5						
SHUT	**Suhut-Afyon**	**7.88**	**97**	*e*P	**Pn**	**13 23 37.1**	**+1.6**
PSZ	**Piszkesteto**	**7.93**	**357**	⇑*i*P	**Pn**	**13 23 36.5**	**+0.3**
PSZ	**Piszkesteto**	**7.93**	**357**	⇑P	**Pn**	**13 23 36.5**	**+0.3**
PSZ	**Piszkesteto**	**7.93**	**357**	*e*Pn	**Pn**	**13 23 36.4**	**+0.2**
PSZ				*e*Sn	**Sn**	**13 24 58.9**	**-5.8**
ESKT	**Eskisehir**	**7.94**	**90**	*e*P	**Pn**	**13 23 37.7**	**+1.4**
ISP	**Isparta**	**8.05**	**102**	*e*P	**Pn**	**13 23 38.4**	**+0.6**
ISP	**Isparta**	**8.05**	**102**	*e*P	**Pn**	**13 23 38.5**	**+0.7**
ARSA	**Arzberg**	**8.11**	**335**	⇓*i*Pn	**Pn**	**13 23 37.7**	**-1.1**
	comp=Z,17nm,0.5s						
ARSA	**Arzberg**	**8.11**	**335**	Pn	**Pn**	**13 23 37.6**	**-1.1**
ARSA				P		13 23 43.0	
SOP	**Sopron**	**8.21**	**341**	*e*	**Pn**	**13 23 43.1**	**+3.1**
BURAR	**Bucovina Array**	**8.32**	**22**	⇓*i*P	**Pn**	**13 23 43.2**	**+1.7**
BURAR	**Bucovina Array**	**8.32**	**22**	⇓P	**Pn**	**13 23 43.2**	**+1.7**
KECS	**Kecovo**	**8.48**	**360**	*e*PN	**Pn**	**13 23 44.5**	**+0.8**
VYHS	**Vyhne**	**8.58**	**352**	*e*PN	**Pn**	**13 23 45.7**	**+0.6**
VYHS				*e*SN	**Sn**	**13 25 15.9**	**-4.9**
CONA	**Conrad Observa**	**8.62**	**338**	⇑*e*Pn	**Pn**	**13 23 44.9**	**-0.7**
	comp=Z,3.9nm,0.5s						
CONA				⇓*i*Sn	**Sn**	**13 25 20.5**	**-1.1**
	comp=Z,24nm,1.3s

BAIF Baives 15.29 317 *e*P Pn 13 25 12.8 -3.8
ASF Jabal al Asfar 15.33 116 P Pn 13 25 15.9 -1.2
comp=Z,0.6nm,0.3s,baz=173,slow=6.6,SNR=6.8
ASF LR LR 13 32 16.8
comp=Z,54nm,20.8s,baz=248,slow=41
ASF Jabal al Asfar 15.33 116 P Pn 13 25 15.9 -1.2
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,54nm,20.8s
EIL Elat 15.66 127 P Pn 13 25 21.4 0.0
KIV Kislovodsk 16.91 69 *e*P Pn 13 25 36.3 -1.0
KIV *e*S Sn 13 28 42.9 -1.2
KIV pmax pmax
comp=Z,22nm,1.2s
KIV MLR MLR
comp=Z,57nm,11.0s
KIV Kislovodsk 16.91 69 *e*P Pn 13 25 36.3 -1.0
comp=Z,22nm,1.2s
VORD Divnogorie 17.05 44 *e*P Pn 13 25 36.7 -2.4
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
VORD Divnogorie 17.05 44 *e*P Pn 13 25 36.7 -2.4
comp=E,8.0nm,0.6s
GOF Gofitskoye 17.30 66 *e*P Pn 13 25 49.1 +7.0
ZEI Tsey 17.72 73 *e*P Pn 13 25 43.9 -3.4
VRHR Novokhopersk 18.39 46 *e*P Pn 13 25 55.7 +0.2
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=N,2.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR Novokhopersk 18.39 46 *e*P Pn 13 25 55.7 +0.2
comp=E,2.0nm,0.8s
GNI Garni 18.49 82 P Pn 13 25 55.5 -1.4
comp=E,0.8nm,0.3s,baz=157,slow=7.6,SNR=5.9
GNI LR LR 13 33 06.1
comp=E,82nm,21.9s,baz=155,slow=37
GNI Garni 18.49 82⇑ *i*P Pn 13 25 55.4 -1.5
GNI pmax pmax
comp=Z,28nm,1.7s
OBN Obninsk 18.51 30⇑ *e*P Pn 13 25 55.5 -1.5
OBN *e*S Sn 13 29 20.1 -2.8
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 18.51 30 *e*P Pn 13 25 55.5 -1.5
comp=Z,11nm,0.6s
VSU Vasula 18.90 10 *c i*P Pn 13 25 58.8 -2.9
VSU Vasula 18.90 10 P Pn 13 25 59.6 -2.1
HFS Hagfors 20.61 350 P P 13 26 17.0 -2.6
comp=Z,8.5nm,0.5s,baz=156,slow=11,SNR=58
HFS LR LR 13 34 14.8
comp=Z,141nm,21.8s,MS3.3,baz=60,slow=37
HFS Hagfors 20.61 350 P P 13 26 17.0 -2.6
HFS pmax pmax
comp=Z,9.0nm,0.5s
HFS MLR MLR
comp=Z,141nm,21.8s
FINES FINESS Array B 21.73 7 P P 13 26 28.5 -3.2
comp=Z,3.6nm,0.4s,mb4.1,baz=171,slow=12,SNR=22
FINES LR LR 13 35 43.1
comp=Z,159nm,19.1s,MS3.4,baz=356,slow=39
FINES FINESS Array B 21.73 7 *i*P P 13 26 29.1 -2.6
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 21.73 7 P P 13 26 28.5 -3.2
FINES FINESS Array B 21.73 7 *i*P P 13 26 29.1 -2.6
comp=Z,4.0nm,0.4s,mb4.2
NB2 NORSAR Subarra 21.84 348 P P 13 26 30.8 -2.1
comp=Z,0.6nm,0.5s,mb3.3,baz=157,slow=10
NOA NORSAR Array B 21.84 348 P P 13 26 30.7 -2.2
comp=Z,4.1nm,0.4s,mb4.2,baz=165,slow=11,SNR=14
NOA LR LR 13 35 48.0
comp=Z,102nm,19.4s,MS3.2,baz=180,slow=39
NOA NORSAR Array B 21.84 348 P P 13 26 30.7 -2.2
NOA pmax pmax
comp=Z,4.0nm,0.4s
NOA MLR MLR
comp=Z,102nm,19.4s
EKA Eskdalemuir Ar 21.99 322 P P 13 26 34.5 +0.1
comp=Z,3.2nm,0.7s,mb3.9,baz=116,slow=9.9,SNR=5.3
EKA Eskdalemuir Ar 21.99 322 P P 13 26 34.6 +0.2
EKA pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 21.99 322 P P 13 26 34.5 +0.1
AKTK Aktyubinsk 28.09 56 P P 13 27 27.9 -4.0
AKTO Aktyubinsk 28.09 56 P P 13 27 27.9 -4.0
comp=Z,1.1nm,0.3s,mb3.9,baz=264,slow=5.5,SNR=6.9
AKTO Aktyubinsk 28.09 56 P P 13 27 27.9 -4.0
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
ARCES ARCESS Array B 29.71 4 P P 13 27 43.2 -3.1
comp=Z,1.8nm,0.5s,mb4.1,baz=188,slow=10,SNR=24
ARCES LR LR 13 40 41.9
comp=Z,140nm,19.9s,MS3.6,baz=16,slow=38
ARCES ARCESS Array B 29.71 4 P P 13 27 43.2 -3.1
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,140nm,20.0s
ARCES ARCESS Array B 29.71 4 P P 13 27 43.2 -3.1
TORD Torodi Ar. Bea 31.49 217 P P 13 28 02.1 +0.2
comp=Z,1.9nm,0.8s,mb4.0,baz=33,slow=9.0,SNR=12
BVAR Borovoye Array 35.94 52 P P 13 28 38.3 -2.4
comp=Z,0.8nm,0.6s,mb3.8,baz=228,slow=1.8,SNR=4.9
BVAR Borovoye Array 35.94 52 P P 13 28 38.3 -2.3
BVAR pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 40.02 68 *d i*P P 13 29 13.2 -1.8
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.1
AAK Ala-Archa 40.02 68 *i*P P 13 29 13.2 -1.8
comp=Z,7.0nm,1.7s,mb4.1
LIC Lamto 40.74 221 *e*P P 13 29 22.3 +1.3
MKAR Makanchi Array 44.34 60 P P 13 29 47.5 -2.8
comp=Z,5.4nm,0.5s,mb4.5,baz=287,slow=7.3,SNR=52
MKAR Makanchi Array 44.34 60 *e*P P 13 29 47.7 -2.5
ZAL Zalesovo 44.45 49 P P 13 29 48.8 -2.4
comp=Z,2.7nm,0.4s,mb4.3,baz=178,slow=4.9,SNR=9.0
ZAL Zalesovo 44.45 49 P P 13 29 48.8 -2.4
ZAL pmax pmax
comp=Z,3.0nm,0.4s
SCHQ Schefferville 57.15 317 P P 13 31 24.9 -1.8
comp=Z,2.0nm,0.6s,mb4.3,baz=59,slow=12,SNR=4.4
SCHQ Schefferville 57.15 317 P P 13 31 24.9 -1.9
SONM Songino Array 59.28 51 P P 13 31 39.3 -2.3
comp=Z,1.9nm,0.8s,mb4.2,baz=288,slow=8.0,SNR=8.7
SONM Songino Array 59.28 51 P P 13 31 39.3 -2.4
SONM pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 59.67 51⇑ *i*P P 13 31 42.1 -2.2
BOSA Boshof 68.40 176 P P 13 32 40.2 -1.4
comp=Z,1.4nm,0.6s,mb4.2,baz=357,slow=9.7,SNR=4.6
BOSA Boshof 68.40 176 P P 13 32 40.3 -1.4
BOSA pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
CN2 Changchun 72.62 47 *e*P P 13 33 05.3 -2.1
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
PDAR Pinedale Array 86.06 326 P P 13 34 19.5 -1.2
comp=Z,0.4nm,0.5s,mb3.9,baz=60,slow=6.3,SNR=2.6
ANMO Albuquerque 90.85 319 *e*P P 13 34 44.9 +1.5
WRA Warramunga Arr 120.56 91 PKP PKPdf 13 40 28.6 -2.9
comp=Z,0.2nm,0.5s,baz=314,slow=1.7,SNR=8.6
ASAR Alice Springs 122.32 95 PKP PKPdf 13 40 32.4 -2.5
comp=Z,0.8nm,0.7s,baz=298,slow=1.3,SNR=10
ASAR Alice Springs 122.32 95 PKIKP PKPdf 13 40 32.4 -2.5
ASAR pmax pmax
comp=Z,1.0nm,0.7s

*IDC **23** 13:24:49.4±0.5,5372N×16488W,h0km,mb4.3/26, mb1 4.4/27,mb1mx4.4/33,mbtmp4.3/27,ML4.1/1,MS3.8/9, Ms1 3.8/9,ms1mx3.3/35,Error ellipse: s-maj=15.9km s-min=11.0km az=8.0*
*BJI **23** 13:24:54.8,5476N×16452W,h31km,mB4.9,mb4.7,Ms4.7, Ms24.2*
*ISCJB **23** 13:24:56.5±0.4,5396N±004×16469W±004,h56km±4km, mb4.5/47,MS4.0/13,Error ellipse: s-maj=7.5km s-min=3.8km az=11.7*
*NEIC **23** 13:24:56.4±0.6,5381N×16469W,h45km±5km,mb4.8/14, ML4.4(AEIC),Error ellipse: s-maj=8.1km s-min=4.1km az=171.0*
ISC 23 13:24:57.5±0.5,5394N±005×16475W±004,h52km±4km, h51km±3.4km:pP-P,n248,σ0977/240,mb4.5/47,MS4.0/13, 52C-55D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
AKUT	**Akutan**	**0.63**	**288**	P	**Pn**	**13 25 10.1**	**-0.4**
AKUT				S	**Sn**	**13 25 21.9**	**+2.1**
AKLV	**Akutan Long Va**	**0.74**	**288**	P	**Pn**	**13 25 11.4**	**-0.4**
AKLV				S	**Sn**	**13 25 24.7**	**+2.4**
UNV	**Unalaska Valle**	**1.04**	**265**	P	**Pn**	**13 25 13.7**	**-2.1**
FALS	**False Pass**	**1.21**	**40**	P	**Pn**	**13 25 18.3**	**+0.3**
OKCD	**Okmok Cone D**	**2.06**	**257**	P	**Pn**	**13 25 28.7**	**-1.0**
OKCE	**Okmok Cone E**	**2.09**	**257**	P	**Pn**	**13 25 29.5**	**-0.7**
SDPT	**Sand Point**	**2.86**	**59**	P	**Pn**	**13 25 40.1**	**-0.5**
CHGN	**Chignik**	**4.34**	**54**	*e*P	**Pn**	**13 26 00.5**	**-0.4**
SPIA	**Saint Paul Isl**	**4.50**	**318**	P	**Pn**	**13 26 06.1**	**+3.0**
KDAK	**Kodiak Island**	**7.85**	**56**	Pn	**Pn**	**13 26 47.5**	**-1.6**
	2.5nm,0.3s,baz=177,slow=4.7,SNR=18						
KDAK	**Kodiak Island**	**7.85**	**56**	Pn	**Pn**	**13 26 47.5**	**-1.6**
SVW2	**Sparrevohn**	**8.70**	**31**	*e*P	**Pn**	**13 27 03.0**	**+2.3**
SLKM	**Skilak Lake**	**10.25**	**44**	*e*Pn	**Pn**	**13 27 22.3**	**+0.4**
PMR	**Palmer**	**11.30**	**41**	*e*Pn	**Pn**	**13 27 36.3**	**0.0**
SML	**Chawmill**	**11.74**	**41**	*e*Pn	**Pn**	**13 27 39.9**	**-2.3**
EYAK	**Cordova Ski Ar**	**12.21**	**50**	*e*Pn	**Pn**	**13 27 47.4**	**-1.2**
DIV	**Divide**	**12.45**	**47**	*e*Pn	**Pn**	**13 27 50.6**	**-1.3**
IMA2	**Indian Mountai**	**13.33**	**20**	*e*Pn	**Pn**	**13 28 07.8**	**+3.9**
COLA	**College**	**13.87**	**31**	*e*Pn	**Pn**	**13 28 09.7**	**-1.6**
EGAK	**Eagle**	**16.08**	**38**	*e*P	**Pn**	**13 28 39.6**	**-0.5**
DAWY	**Dawson**	**16.41**	**42**	*e*P	**Pn**	**13 28 44.8**	**+0.6**
INK	**Inuvik**	**20.50**	**33**	P	**P**	**13 29 30.4**	**-0.8**
	4.1nm,0.5s,baz=249,slow=11,SNR=42						
INK				PcP	PcP	13 33 40.9	-0.2
	3.1nm,0.6s,baz=170,slow=3.2,SNR=5.5						
INK				LR	LR	13 38 13.0	
	comp=Z,397nm,21.2s,MS3.8,baz=69,slow=39						
INK	**Inuvik**	**20.50**	**33**	*e*P	**P**	**13 29 29.9**	**-1.2**
YKA	**Yellowknife Ar**	**27.10**	**51**	P	**P**	**13 30 35.6**	**+0.3**
	2.8nm,0.5s,mb4.0,baz=273,slow=10,SNR=19						
YKA				PcP	PcP	13 33 54.6	-0.5
	1.9nm,0.7s,baz=271,slow=2.1,SNR=7.3						
YKA				LR	LR	13 42 03.7	
	comp=Z,129nm,18.6s,MS3.5,baz=270,slow=38						
I03A	**Eugene**	**28.62**	**93**	⇓P	**P**	**13 30 49.9**	**+1.0**
	baz=28						
F05A	**White Salmon**	**28.63**	**88**	⇓P	**P**	**13 30 49.6**	**+0.6**
	baz=28						
B08A	**Colville Reser**	**28.63**	**82**	⇓P	**P**	**13 30 49.4**	**+0.3**
	baz=28						
A09A	**Danville**	**28.78**	**81**	⇓P	**P**	**13 30 50.8**	**+0.4**
	baz=29						
D07A	**Quincy**	**28.83**	**85**	⇑P	**P**	**13 30 50.4**	**-0.4**
	baz=29						
H04A	**Detroit Lake**	**28.86**	**91**	⇑P	**P**	**13 30 51.2**	**+0.2**
	baz=29						
G05A	**Wamic**	**29.06**	**89**	⇑P	**P**	**13 30 52.5**	**-0.3**
	baz=29						
C08A	**Higginbotham F**	**29.08**	**83**	⇑P	**P**	**13 30 52.1**	**-0.9**
	baz=29						
F06A	**Goldendale**	**29.10**	**88**	⇑P	**P**	**13 30 52.6**	**-0.6**
	baz=29						
I04A	**Tendick Farm,**	**29.23**	**93**	⇑P	**P**	**13 30 53.9**	**-0.5**
	baz=29						
C09A	**Chrisman Ranch**	**29.53**	**83**	⇓P	**P**	**13 30 56.7**	**-0.3**
	baz=29						
I05A	**Bend**	**29.70**	**91**	⇑P	**P**	**13 30 58.3**	**-0.1**
	baz=30						
H06A	**Lindquist Farm**	**29.93**	**90**	⇑P	**P**	**13 31 00.8**	**+0.3**
	baz=30						
NEW	**Newport**	**29.97**	**81**	P	**P**	**13 30 60.0**	**-1.0**
	4.6nm,0.8s,mb4.2,baz=283,slow=7.5,SNR=8.7						
NEW				LR	LR	13 41 21.8	
	comp=Z,62nm,18.6s,MS3.3,baz=96,slow=33						
EDM	**Edmonton**	**29.98**	**70**	*e*P	**P**	**13 31 00.3**	**-0.7**
G07A	**Ruggs Ranch, H**	**30.02**	**88**	⇓P	**P**	**13 31 00.5**	**-0.9**
	baz=30						
A11A	**Hall Mountain,**	**30.08**	**79**	⇑P	**P**	**13 31 02.1**	**+0.2**
	baz=30						
JCC	**Jacoby Creek**	**30.09**	**99**	⇑P	**P**	**13 31 01.5**	**-0.5**
	baz=30						
J05A	**Fort Rock**	**30.22**	**93**	⇑P	**P**	**13 31 04.1**	**+1.0**
	baz=30						
YBH	**Yreka Blue Hor**	**30.29**	**96**	P	**P**	**13 31 03.8**	**+0.1**
	2.4nm,0.7s,mb4.0,baz=202,slow=4.8,SNR=6.2						
YBH				LR	LR	13 39 48.1	
	comp=Z,309nm,19.4s,MS4.0,baz=309,slow=30						
YBH	**Yreka Blue Hor**	**30.29**	**96**	⇓P	**P**	**13 31 04.3**	**+0.5**
	baz=30						
G08A	**Pilot Rock**	**30.43**	**88**	⇓P	**P**	**13 31 05.0**	**0.0**
	baz=30						
I06A	**Prineville**	**30.45**	**91**	⇓P	**P**	**13 31 05.3**	**+0.2**
	baz=30						
K05A	**Summer Lake**	**30.76**	**93**	⇓P	**P**	**13 31 09.4**	**+1.6**
	baz=31						
M04C	**Macdoel**	**30.77**	**96**	⇓P	**P**	**13 31 07.7**	**-0.3**
	baz=31						
I07A	**Izee**	**30.79**	**90**	P	**P**	**13 31 08.7**	**+0.6**
	baz=31,SNR=5.7						
F09A	**S2 Ranch, Elgi**	**30.82**	**86**	⇓P	**P**	**13 31 09.1**	**+0.7**
	baz=31						
J06A	**Christmas Vall**	**30.88**	**92**	P	**P**	**13 31 09.8**	**+0.9**
	baz=31,SNR=9.3						
H08A	**Prairie City**	**31.03**	**89**	⇑P	**P**	**13 31 10.2**	**0.0**
	baz=31						
D11A	**Klaveano Farm,**	**31.04**	**83**	⇑P	**P**	**13 31 09.8**	**-0.6**
	baz=31						
L05A	**Lakeview**	**31.20**	**94**	⇓P	**P**	**13 31 12.4**	**+0.6**
	baz=31						
J07A	**Hines**	**31.31**	**91**	⇑P	**P**	**13 31 12.6**	**-0.1**
	baz=31						
I08A	**Drsney**	**31.44**	**89**	P	**P**	**13 31 14.1**	**+0.3**
	baz=31,SNR=8.6						
M05C	**Lookout**	**31.44**	**96**	⇓P	**P**	**13 31 14.8**	**+0.9**
	baz=31						
H09A	**Durkee**	**31.54**	**88**	⇓P	**P**	**13 31 15.4**	**+0.6**
	baz=31						
HATC	**Hat Creek Radi**	**31.60**	**97**	⇑P	**P**	**13 31 16.1**	**+0.8**
	baz=31						
MOD	**Modoc**	**31.60**	**94**	⇓P	**P**	**13 31 15.9**	**+0.6**
	baz=31						
K07A	**Rock Creek Ran**	**31.75**	**92**	⇓P	**P**	**13 31 17.6**	**+1.0**
	baz=32						
C13A	**Hot Springs**	**31.75**	**81**	⇑P	**P**	**13 31 16.7**	**+0.1**
	baz=32						
F11A	**Grangeville**	**31.76**	**84**	⇑P	**P**	**13 31 15.7**	**-1.0**
	baz=32						
O03C	**Acorn Hollow,**	**31.79**	**98**	⇑P	**P**	**13 31 17.1**	**+0.2**
	baz=32						
J08A	**Circle Bar Ran**	**31.81**	**90**	P	**P**	**13 31 17.6**	**+0.5**
	baz=32,SNR=11						
HOPS	**Hopland**	**31.84**	**101**	⇓P	**P**	**13 31 18.1**	**+0.7**
	baz=32						
I09A	**Lost Marbles R**	**31.89**	**89**	⇓P	**P**	**13 31 18.1**	**+0.3**
	baz=32						
M06C	**Likely Place G**	**31.93**	**95**	⇓P	**P**	**13 31 19.1**	**+0.9**
	baz=32						
G11A	**Walters Elk Ra**	**31.96**	**85**	⇑P	**P**	**13 31 17.7**	**-0.8**
	baz=32						
L07A	**Adell**	**32.10**	**93**	P	**P**	**13 31 20.7**	**+1.0**
	baz=32,SNR=6.1						
O04C	**Chester**	**32.13**	**97**	⇓P	**P**	**13 31 20.2**	**+0.2**
	baz=32						
K08A	**Mann Creek Ran**	**32.18**	**91**	P	**P**	**13 31 20.9**	**+0.6**
	baz=32,SNR=16						
J09A	**Fry Pan Ranch,**	**32.24**	**90**	⇑P	**P**	**13 31 21.8**	**+0.8**
	baz=32						
WVOR	**Wild Horse Val**	**32.27**	**92**	*e*P	**P**	**13 31 21.2**	**+0.1**
	9.4nm,0.9s,mb4.6						
F12A	**Elk City**	**32.36**	**84**	⇓P	**P**	**13 31 22.4**	**+0.5**
	baz=32						
ORV	**Oroville**	**32.39**	**98**	⇓P	**P**	**13 31 22.9**	**+0.8**
	baz=32						
SUTB	**Sutter Butte**	**32.43**	**99**	⇓P	**P**	**13 31 22.1**	**-0.5**
	baz=32						
O05C	**Quincy**	**32.46**	**97**	⇑P	**P**	**13 31 22.8**	**-0.1**
	baz=32						
H11A	**Donnelly**	**32.49**	**86**	⇓P	**P**	**13 31 22.9**	**-0.2**
	baz=32						
L08A	**Fields**	**32.59**	**92**	P	**P**	**13 31 24.2**	**+0.3**
	baz=32,SNR=12						
M07A	**Soldier Meadow**	**32.59**	**94**	P	**P**	**13 31 24.9**	**+0.9**
	baz=32,SNR=12						
N06A	**Buffalo Meadow**	**32.60**	**95**	P	**P**	**13 31 24.7**	**+0.7**
	baz=32,SNR=5.9						
CVS	**Carmenet Viney**	**32.63**	**101**	⇓P	**P**	**13 31 23.8**	**-0.5**
	baz=32						
K09A	**Rome**	**32.65**	**91**	⇑P	**P**	**13 31 24.6**	**+0.2**
	baz=32						
D14A	**Greenough**	**32.68**	**81**	⇓P	**P**	**13 31 24.8**	**+0.1**
	baz=32						
Q04C	**Lincoln**	**32.93**	**99**	⇑P	**P**	**13 31 26.5**	**-0.5**
	baz=33						
O06A	**Flanigan**	**32.97**	**96**	⇑P	**P**	**13 31 27.3**	**0.0**
	baz=33						
E14A	**Clinton**	**33.04**	**82**	⇓P	**P**	**13 31 28.2**	**+0.3**
	baz=33						
P05C	**Yuba Gap, Truc**	**33.07**	**98**	⇑P	**P**	**13 31 28.7**	**+0.5**
	baz=33						
N07B	**Gerlach**	**33.09**	**94**	P	**P**	**13 31 29.1**	**+0.8**
	baz=33,SNR=9.5						
L09A	**Wilkinson Ranc**	**33.09**	**92**	⇓P	**P**	**13 31 28.5**	**+0.1**
	baz=33						
LAVA	**Lava Cap Winer**	**33.36**	**99**	⇓P	**P**	**13 31 31.1**	**+0.5**
	baz=33						
E15A	**Deer Lodge**	**33.53**	**81**	⇓P	**P**	**13 31 32.2**	**0.0**
	baz=33						
O07A	**Toulon**	**33.53**	**95**	P	**P**	**13 31 33.0**	**+0.8**
	baz=33,SNR=9.6						
N08A	**GE Springer Mi**	**33.58**	**94**	⇑P	**P**	**13 31 32.6**	**0.0**
	baz=33						
M09A	**Marrel Ranch,**	**33.58**	**92**	P	**P**	**13 31 33.2**	**+0.6**
	baz=33,SNR=6.9						
R05C	**Kirkwood Meado**	**33.78**	**98**	⇑P	**P**	**13 31 33.9**	**-0.4**
	baz=34						
N09A	**Rock Creek Ran**	**33.90**	**93**	⇑P	**P**	**13 31 36.0**	**+0.7**
	baz=34						
M10A	**I.L. Ranch, Tu**	**34.06**	**91**	⇑P	**P**	**13 31 36.9**	**+0.1**
	baz=34						
HLID	**Hailey**	**34.09**	**87**	⇑P	**P**	**13 31 36.8**	**-0.2**
	baz=34						
R06C	**Coleville**	**34.27**	**98**	⇑P	**P**	**13 31 39.3**	**+0.8**
	baz=34						
G15A	**Dillon**	**34.31**	**83**	⇓P	**P**	**13 31 38.6**	**-0.4**
	baz=34						
EGMT	**Eagleton**	**34.37**	**77**	⇓P	**P**	**13 31 38.2**	**-1.2**
	baz=34						
S06C	**San Francisco**	**34.46**	**99**	⇑P	**P**	**13 31 40.1**	**-0.1**
	baz=34						
HAST	**UC Hastings Re**	**34.50**	**103**	⇓P	**P**	**13 31 39.7**	**-0.8**
	baz=34						
O09A	**Fish Creek Ran**	**34.52**	**94**	P	**P**	**13 31 41.5**	**+0.7**
	baz=34,SNR=8.3						
S05C	**Merced**	**34.55**	**100**	⇓P	**P**	**13 31 41.7**	**+0.7**
	baz=34						
M11A	**Holland Ranch,**	**34.56**	**91**	⇑P	**P**	**13 31 41.5**	**+0.5**
	baz=34						
O10A	**Cortez Mining,**	**34.85**	**93**	⇑P	**P**	**13 31 44.0**	**+0.4**
	baz=35						
Q08A	**Gabbs**	**34.94**	**96**	P	**P**	**13 31 44.2**	**-0.1**
	baz=35,SNR=11						
P09A	**Austin**	**34.95**	**95**	⇓P	**P**	**13 31 45.4**	**+0.9**
	baz=35						
NVAR	**Mina Array Bea**	**35.00**	**97**	P	**P**	**13 31 45.1**	**+0.2**
	5.3nm,0.8s,mb4.5,baz=298,slow=7.2,SNR=20						
NVAR				PcP	PcP	13 34 16.7	+0.6
	1.3nm,0.7s,baz=299,slow=3.9,SNR=6.0						
M12A	**Wells**	**35.09**	**90**	⇓P	**P**	**13 31 45.8**	**+0.2**
	baz=35						
T06C	**Millerton Lake**	**35.14**	**100**	⇑P	**P**	**13 31 46.2**	**+0.1**
	baz=35						
KCC	**Kaiser Creek**	**35.15**	**99**	⇓P	**P**	**13 31 45.7**	**-0.4**
	baz=35						
R08A	**Mina**	**35.17**	**97**	⇑P	**P**	**13 31 46.9**	**+0.5**
	baz=35						
MLAC	**Mammoth Lakes**	**35.22**	**99**	⇑P	**P**	**13 31 46.7**	**-0.1**
	baz=35						
P10A	**Eureka**	**35.30**	**94**	⇓P	**P**	**13 31 48.2**	**+0.7**
	baz=35						
N12A	**Clover Valley,**	**35.36**	**91**	P	**P**	**13 31 48.4**	**+0.4**
	baz=35,SNR=7.7						
Q09A	**Carvers**	**35.39**	**96**	⇑P	**P**	**13 31 48.6**	**+0.3**
	baz=35						
V04C	**Ramage Ranch,**	**35.42**	**103**	⇓P	**P**	**13 31 48.9**	**+0.4**
	baz=35						
O11A	**Cowboy Ranch,**	**35.45**	**93**	⇑P	**P**	**13 31 48.9**	**+0.1**
	baz=35						
M13A	**Montello**	**35.56**	**90**	⇑P	**P**	**13 31 50.0**	**+0.2**
	baz=35						
HELL	**Mitchell Peak,**	**35.76**	**100**	P	**P**	**13 31 51.4**	**0.0**
	baz=36,SNR=6.2						
R09A	**Tonopah**	**35.85**	**96**	P	**P**	**13 31 52.2**	**0.0**
	baz=36,SNR=22						
N13A	**Wendover, West**	**35.85**	**90**	⇑P	**P**	**13 31 52.1**	**-0.1**
	baz=36						
RCTC	**Rector, Farmer**	**35.89**	**101**	⇑P	**P**	**13 31 52.4**	**-0.1**
	baz=36						
O12A	**Currie**	**35.91**	**92**	P	**P**	**13 31 52.9**	**+0.3**
	baz=36,SNR=6.7						
S09A	**Goldfield**	**36.10**	**97**	P	**P**	**13 31 54.5**	**+0.1**
	baz=36,SNR=7.2						
Q11A	**Duckwater**	**36.29**	**94**	P	**P**	**13 31 56.3**	**+0.4**
	baz=36,SNR=14						
VES	**Vestal, Richgr**	**36.31**	**101**	⇓P	**P**	**13 31 54.5**	**-1.7**
	baz=36						
P12A	**McGill**	**36.32**	**93**	P	**P**	**13 31 56.3**	**+0.1**
	baz=36,SNR=13						
GRAC	**Grapevine Rang**	**36.51**	**98**	⇓P	**P**	**13 31 57.8**	**0.0**
	baz=36						
PKM	**Peak Mountain**	**36.55**	**103**	⇑P	**P**	**13 31 57.7**	**-0.4**
	baz=36						
Q12A	**Willow Creek R**	**36.65**	**93**	P	**P**	**13 31 59.4**	**+0.4**
	baz=36,SNR=6.8						
TRCR	**Troy Canyon**	**36.65**	**95**	*e*P	**P**	**13 31 59.2**	**+0.2**
DAC	**Darwin (Calif)**	**36.87**	**99**	*e*P	**P**	**13 32 00.8**	**-0.1**
	12nm,1.1s,mb4.6						
MPMC	**Manual Prospec**	**37.09**	**99**	P	**P**	**13 32 03.2**	**+0.5**
	baz=37,SNR=12						
DUG	**Dugway**	**37.09**	**90**	⇓P	**P**	**13 32 03.0**	**+0.2**
	baz=37						
FURC	**Furnace Creek,**	**37.17**	**98**	P	**P**	**13 32 03.9**	**+0.5**
	baz=37,SNR=14						
OSI	**Osito Adit**	**37.38**	**102**	⇓P	**P**	**13 32 05.7**	**+0.5**
	baz=37						
PDAR	**Pinedale Array**	**37.43**	**84**	P	**P**	**13 32 04.5**	**-1.1**
	0.7nm,0.5s,mb3.7,baz=293,slow=3.4,SNR=7.9						
U10A	**Ash Meadows, A**	**37.52**	**98**	⇓P	**P**	**13 32 06.3**	**0.0**
	baz=37						
SHOC	**Shoshone**	**37.90**	**98**	P	**P**	**13 32 09.9**	**+0.2**
	baz=38,SNR=7.4						
SNCC	**San Nicolas Is**	**37.91**	**104**	⇓P	**P**	**13 32 08.9**	**-0.8**
	baz=38						
GSC	**Goldstone**	**38.01**	**100**	*e*P	**P**	**13 32 10.6**	**0.0**
GSC	**Goldstone**	**38.01**	**100**	P	**P**	**13 32 10.7**	**+0.2**
	baz=38,SNR=13						
BFSC	**Mount Baldy St**	**38.27**	**102**	⇓P	**P**	**13 32 12.4**	**-0.3**
	baz=38,SNR=5.5						
TUQ	**Turquoise Mtn.**	**38.43**	**99**	⇑P	**P**	**13 32 14.4**	**+0.3**
	baz=38						
V11A	**Goodsprings**	**38.44**	**98**	⇑P	**P**	**13 32 15.4**	**+1.2**
	baz=38						
U12A	**Valley of Fire**	**38.56**	**96**	P	**P**	**13 32 15.5**	**+0.4**
	baz=38,SNR=12						
HEC	**Hector,Ludlow**	**38.62**	**100**	P	**P**	**13 32 15.7**	**0.0**
	baz=38,SNR=5.8						
BBRC	**Big Bear Sol-O**	**38.68**	**101**	⇑P	**P**	**13 32 17.0**	**+0.8**
	baz=38						
V12A	**Nelson**	**38.86**	**97**	P	**P**	**13 32 17.7**	**+0.1**
	baz=39,SNR=10						
MURC	**Murrieta**	**38.99**

MONP	**Monument Peak**	**39.95**	**102**	⇓P		**P**	**13 32 26.9**	**+0.2**
	baz=40							
BC3	**Big Chuckw Mtn**	**39.96**	**100**	⇑P		**P**	**13 32 25.7**	**-1.2**
	baz=40							
X13A	**Yucca**	**40.25**	**98**	P		**P**	**13 32 29.0**	**-0.2**
	baz=40,SNR=9.5							
W14A	**Seligman**	**40.25**	**96**	P		**P**	**13 32 29.4**	**+0.1**
	baz=40,SNR=8.0							
PDMCI	**Parker Dam,Lak**	**40.27**	**98**	P		**P**	**13 32 29.2**	**-0.2**
	baz=40,SNR=6.0							
SWSC	**Sam W. Stewart**	**40.28**	**101**	P		**P**	**13 32 29.1**	**-0.3**
	baz=40,SNR=5.0							
DVTC	**Desert V Tower**	**40.30**	**102**	⇓P		**P**	**13 32 29.4**	**-0.3**
	baz=40							
Y12C	**Blythe**	**40.44**	**99**	P		**P**	**13 32 30.6**	**-0.2**
	baz=40,SNR=9.0							
W15A	**Williams**	**40.76**	**96**	⇓P		**P**	**13 32 33.6**	**+0.2**
	baz=40							
GLA	**Glamis**	**40.76**	**100**	*e*P		**P**	**13 32 32.8**	**-0.6**
GLA	**Glamis**	**40.76**	**100**	P		**P**	**13 32 33.4**	**0.0**
	baz=40,SNR=11							
X14A	**Yava**	**40.89**	**97**	P		**P**	**13 32 34.5**	**0.0**
	baz=41,SNR=17							
ULM	**Lac du Bonnet**	**40.96**	**66**	P		**P**	**13 32 32.9**	**-2.2**
	1.0nm,0.4s,mb3.8,baz=270,slow=3.0,SNR=3.0							
ULM				PcP		PcP	13 34 33.0	-1.5
	3.4nm,0.6s,baz=316,slow=5.7,SNR=4.7							
ULM				LR		LR	13 49 12.2	
	comp=Z,84nm,20.8s,MS3.6,baz=38,slow=36							
WUAZ	**Wupatki**	**41.05**	**94**	P		**P**	**13 32 35.8**	**0.0**
	baz=41,SNR=12							
Y14A	**Wickenburg**	**41.19**	**98**	P		**P**	**13 32 36.7**	**-0.3**
	baz=41,SNR=13							
X15A	**Humboldt**	**41.26**	**96**	P		**P**	**13 32 38.0**	**+0.4**
	baz=41,SNR=10							
MVCO	**Mesa Verde**	**41.59**	**90**	⇑P		**P**	**13 32 39.2**	**-1.1**
	baz=41							
Z14A	**Wintersburg**	**41.64**	**98**	⇓P		**P**	**13 32 39.9**	**-0.8**
	baz=41							
MJAR	**Matsushiro Arr**	**42.51**	**270**	P		**P**	**13 32 46.8**	**-1.0**
	2.0nm,0.7s,mb4.0,baz=40,slow=7.1,SNR=5.0							
MJAR				LR		LR	13 47 41.4	
	comp=Z,184nm,20.4s,MS4.0,baz=60,slow=32							
115A	**Sonoran Desert**	**42.53**	**98**	P		**P**	**13 32 48.3**	**+0.4**
	baz=42,SNR=7.8							
116A	**Eloy**	**42.94**	**98**	⇑P		**P**	**13 32 51.0**	**-0.2**
	baz=43,SNR=5.5							
TUC	**Tucson**	**43.66**	**97**	*e*P		**P**	**13 32 56.5**	**-0.5**
	4.5nm,0.9s,mb4.2							
ANMO	**Albuquerque**	**44.34**	**91**	P		**P**	**13 33 01.8**	**-0.7**
	1.2nm,0.8s,mb3.6,baz=317,slow=11,SNR=3.6							
ANMO				PcP		PcP	13 34 46.4	+0.6
	2.2nm,0.6s,baz=303,slow=2.9,SNR=11							
ANMO	**Albuquerque**	**44.34**	**91**	P		**P**	**13 33 01.8**	**-0.7**
ANMO				PcP		PcP	13 34 46.4	+0.6
MNTX	**Cornudas Mount**	**47.28**	**93**	*e*P		**P**	**13 33 25.5**	**-0.1**
	7.6nm,0.8s,mb4.7							
DAG	**Danmarks Havn**	**47.79**	**10**	⇑*i*P		**P**	**13 33 29.9**	**+0.3**
	8.0nm,0.6s,mb4.9							
KSRS	**Korea Array**	**47.95**	**279**	P		**P**	**13 33 27.4**	**-3.4**
	2.5nm,0.9s,mb4.2,baz=54,slow=7.1,SNR=2.8							
WMOK	**Wichita Mounta**	**49.02**	**85**	*e*P		**P**	**13 33 37.5**	**-1.6**
	10nm,0.7s,mb5.0							
LTX	**Lajitas**	**50.01**	**94**	*e*P		**P**	**13 33 46.2**	**-0.4**
	18nm,0.8s,mb5.2							
TXAR	**Lajitas Array**	**50.01**	**94**	P		**P**	**13 33 46.1**	**-0.5**
	15nm,0.6s,mb5.2,baz=300,slow=5.4,SNR=220							
TXAR				PcP		PcP	13 35 05.6	-0.3
	1.5nm,0.6s,baz=226,slow=1.2,SNR=6.1							
TXAR				LR		LR	13 51 33.6	
	comp=Z,79nm,20.3s,MS3.7,baz=5.0,slow=32							
JCT	**Junction City**	**51.45**	**90**	*e*P		**P**	**13 33 56.1**	**-1.4**
	17nm,0.7s,mb5.1							
SCHQ	**Schefferville**	**52.36**	**46**	P		**P**	**13 34 04.1**	**-0.1**
	7.7nm,1.2s,mb4.5,baz=0.0,slow=11,SNR=3.4							
SONM	**Songino Array**	**52.85**	**302**	P		**P**	**13 34 07.7**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=42,slow=7.2,SNR=5.3							
SONM				PcP		PcP	13 35 17.1	+0.6
	1.6nm,0.5s,baz=44,slow=2.3,SNR=7.7							
BJI	**Beijing**	**52.93**	**289**	P		**P**	**13 34 11.0**	**+2.6**
KEV	**Kevo**	**56.32**	**355**	*e*p		**P**	**13 34 31.9**	**-1.1**
	5.0nm,0.6s,mb4.7							
ARCES	**ARCESS Array B**	**56.61**	**356**	P		**P**	**13 34 35.2**	**+0.1**
	5.0nm,0.8s,mb4.6,baz=12,slow=7.4,SNR=14							
ARCES	**ARCESS Array B**	**56.61**	**356**	P		**P**	**13 34 35.2**	**+0.1**
GTA	**Gaotai**	**62.19**	**299**	*e*P		**P**	**13 35 13.4**	**-0.1**
GTA				AP		pP	13 35 25.8	-2.0
GTA				XP		sP	13 35 31.8	-1.9
GTA				PP		PP	13 37 33.8	+3.1
GTA				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.4							
GTA				AMB		AMB		
	comp=Z,50nm,6.1s							
GTA				LR		LR		
	comp=N,108nm,9.9s							
GTA				LR		LR		
	comp=E,164nm,13.3s							
GTA				LR		LR		
	comp=Z,106nm,12.5s,MS4.2							
LZH	**Lanzhou**	**62.53**	**294**	*e*P		**P**	**13 35 18.8**	**+3.0**
LZH				AP		pP	13 35 25.0	-5.2
LZH				XP		sP	13 35 26.8	-9.2
LZH				*e*PP		PP	13 37 38.3	+4.5
LZH				AMB		AMB		
	comp=Z,19nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,47nm,8.3s							
LZH				LR		LR		
	comp=E,395nm,16.2s							
LZH				LR		LR		
	comp=Z,427nm,18.5s,MS4.6							
LZH	**Lanzhou**	**62.53**	**294**	*e*P		**P**	**13 35 18.7**	**+2.9**
	comp=Z,19nm,1.5s,mb5.0							
LZH				pP		pP	13 35 25.0	-5.2
LZH				sP		sP	13 35 26.7	-9.3
LZH				*e*PP		PP	13 37 38.3	+4.5
LZH				LR		LR		
	comp=Z,430nm,18.5s,MS4.7							
BVAR	**Borovoye Array**	**63.98**	**327**	P		**P**	**13 35 26.0**	**+0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=35,slow=7.3,SNR=13							
FINES	**FINESS Array B**	**64.64**	**354**	P		**P**	**13 35 29.6**	**-0.1**
	comp=Z,2.6nm,0.5s,mb4.5,baz=23,slow=6.7,SNR=24							
MKAR	**Makanchi Array**	**64.69**	**316**	P		**P**	**13 35 29.6**	**-0.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=53,slow=6.9,SNR=8.0							
NB2	**NORSAR Subarra**	**65.32**	**2**	P		**P**	**13 35 34.3**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.4,baz=359,slow=6.2							
NOA	**NORSAR Array B**	**65.32**	**2**	P		**P**	**13 35 34.3**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=359,slow=6.3,SNR=6.5							
HFS	**Hagfors**	**66.27**	**1**	P		**P**	**13 35 40.1**	**-0.2**
	comp=Z,5.6nm,0.4s,mb5.0,baz=42,slow=4.6,SNR=50							
CD2	**Chengdu**	**66.48**	**290**	*e*P		**P**	**13 35 44.5**	**+2.9**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
GYA	**Guiyang**	**68.25**	**285**	⇓*i*P		**P**	**13 35 53.4**	**+0.6**
GYA				AP		pP	13 36 07.9	+0.6
GYA				XP		sP	13 36 13.5	+0.4
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
GYA				AMB		AMB		
	comp=Z,70nm,4.8s							
GYA				LR		LR		
	comp=N,240nm,19.7s,MS4.5							
GYA				LR		LR		
	comp=E,170nm,19.0s,MS4.5							
GYA				LR		LR		
	comp=Z,180nm,19.4s,MS4.3							
AKTK	**Aktyubinsk**	**69.97**	**332**	P		**P**	**13 36 03.6**	**+0.1**
AKTO	**Aktyubinsk**	**69.97**	**332**	P		**P**	**13 36 03.6**	**+0.1**
	comp=Z,4.6nm,0.6s,mb4.6,baz=41,slow=6.4,SNR=25							
EKA	**Eskdalemuir Ar**	**70.04**	**11**	P		**P**	**13 36 04.4**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.5,baz=348,slow=3.8,SNR=14							
PMOR	**Pomariorio Ree**	**70.17**	**163**	*e*T			14 52 14.7	
	comp=Z,18nm,0.2s							
KMI	**Kunming**	**71.51**	**287**	P		**P**	**13 36 12.8**	**0.0**
KMI				AP		pP	13 36 27.6	+0.2
KMI				XP		sP	13 36 32.3	-0.9
KMI				AMB		AMB		
	comp=Z,8.0nm,1.2s,mb4.5							
KMI				AMB		AMB		
	comp=Z,65nm,4.3s							
KMI				LR		LR		
	comp=N,140nm,15.9s,MS4.4							
KMI				LR		LR		
	comp=E,119nm,16.7s,MS4.4							
KMI				LR		LR		
	comp=Z,129nm,27.3s							
KMI	**Kunming**	**71.51**	**287**	P		**P**	**13 36 12.8**	**0.0**
	comp=Z,8.0nm,1.2s,mb4.5							
KMI				pP		pP	13 36 27.6	+0.2
KMI				sP		sP	13 36 32.2	-1.0
KMI				PPP			13 40 34.0	
KMI				S		S	13 45 24.0	-3.7
KMI				sS		sS	13 45 43.2	-9.0
KMI				SS		SS	13 49 58.0	-5.4
KMI				SSS			13 53 07.0	
KMI				LR		LR		
	comp=Z,130nm,27.3s,MS4.1							
PPT	**Papeete**	**72.40**	**165**	*e*LR		LR	13 58 12.0	
	comp=Z,171nm,23.2s,baz=358							
PPT	**Papeete**	**72.40**	**165**	LR		LR	14 03 10.2	
	comp=Z,161nm,18.3s,MS4.3,baz=86,slow=32							
AKASG	**Malin Array Be**	**75.07**	**351**	P		**P**	**13 36 33.0**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=13,slow=5.8,SNR=11							
GERES	**GERESS Array B**	**77.58**	**1**	P		**P**	**13 36 46.7**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=19,slow=4.5,SNR=5.5							
TBI	**Tubuai**	**78.09**	**166**	*e*LR		LR	14 00 54.5	
	comp=Z,170nm,27.8s,baz=341							
GUN	**Gumba**	**78.34**	**302**	*e*P		**P**	**13 36 53.1**	**+0.9**
	comp=Z,28nm,0.8s,mb5.2							
JIRN	**Jiri**	**78.39**	**301**	*e*P		**P**	**13 36 53.7**	**+1.2**
	comp=Z,4.5nm,0.2s,mb5.0							
KKN	**Kakani**	**78.74**	**302**	*e*P		**P**	**13 36 54.7**	**+0.2**
PKI	**Pulchoki**	**78.86**	**302**	*e*P		**P**	**13 36 55.7**	**+0.6**
GKN	**Gorkha**	**78.89**	**302**	*e*P		**P**	**13 36 55.7**	**+0.4**
	comp=Z,24nm,0.8s,mb5.2							
DMN	**Daman**	**78.98**	**302**	*e*P		**P**	**13 36 56.4**	**+0.7**
KOLN	**Koldanda**	**79.60**	**303**	*e*P		**P**	**13 36 59.7**	**+0.6**
	comp=Z,22nm,0.8s,mb5.1							
RKT	**Rikitea**	**80.94**	**152**	*e*LR		LR	14 02 08.4	
	comp=Z,152nm,28.8s,baz=345							
SDV	**Santo Domingo**	**85.31**	**81**	*e*P		**P**	**13 37 27.9**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.7							
BRTR	**Keskin Array B**	**85.37**	**346**	P		**P**	**13 37 28.8**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.2,baz=11,slow=2.9,SNR=2.6							
WB2	**Warramunga Arr**	**90.17**	**235**	*e*P		**P**	**13 37 50.2**	**-2.0**
WRA	**Warramunga Arr**	**90.17**	**235**	P		**P**	**13 37 50.1**	**-2.1**
	comp=Z,0.8nm,0.6s,mb4.2,baz=35,slow=5.8,SNR=19							
HYB	**Hyderabad**	**90.78**	**301**	*i* P		**P**	**13 37 55.0**	**0.0**
HYB	**Hyderabad**	**90.78**	**301**	*e*P		**P**	**13 37 55.0**	**0.0**
FITZ	**Fitzroy Crossi**	**93.05**	**243**	*e*P		**P**	**13 38 04.5**	**-1.0**
	comp=Z,5.8nm,0.9s,mb5.0							
AS31	**Alice Springs**	**93.55**	**234**	*e*P		**P**	**13 38 06.3**	**-1.5**
ASAR	**Alice Springs**	**93.55**	**234**	P		**P**	**13 38 06.0**	**-1.9**
	comp=Z,1.2nm,0.7s,mb4.5,baz=29,slow=4.4,SNR=22							
ASAR				LR		LR	14 17 12.4	
	comp=Z,50nm,18.5s,MS4.0,baz=357,slow=34							
ASPA	**Alice Springs**	**93.55**	**234**	*e*P		**P**	**13 38 06.3**	**-1.5**
BOSA	**Boshof**	**153.65**	**340**	PKPbc		PKPbc	13 44 49.0	-1.4
	comp=Z,2.3nm,0.8s,baz=4.7,slow=5.1,SNR=5.6							
MAW	**Mawson**	**153.85**	**220**	PKPbc		PKPbc	13 44 47.7	-3.2
	comp=Z,1.5nm,0.5s,baz=110,slow=6.2,SNR=7.7							
MAW				PKPab		PKPab	13 44 59.5	-4.6
	comp=Z,2.8nm,0.7s,baz=339,slow=7.2,SNR=4.2							
VNA3	**Neumayer Olymp**	**159.49**	**157**	*e*PKPdf		PKPdf	13 44 45.6	-4.6
VNA3				*e*			13 45 23.4	
VNA3				*e*			13 45 29.9	
VNA3				*e*			13 45 34.3	
VNA2	**Neumayer--Watz**	**160.23**	**158**	*e*PKPdf		PKPdf	13 44 46.6	-4.5
VNA2				*e*			13 45 27.7	
VNA2				*e*			13 45 34.7	
VNA2				*e*			13 45 36.2	
VNA2				*e*			13 45 39.1	
SNAA	**Sanae**	**160.54**	**163**	PKPab		PKPab	13 45 28.5	-4.5
	comp=Z,0.8nm,1.0s,baz=260,slow=6.8,SNR=5.6							

JMA 23 13:27:53.9±0.2, 3130N×14129E, h49km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
JHJ2	**Mitsune**	**2.20**	**326**	S		Sn	13	28	55.4	+1.6
CBIJ	**Chichi jima**	**4.26**	**169**	P		Pn	13	28	57.5	+1.3
JHO	**Hitachi**	**5.33**	**354**	P		Pn	13	29	13.2	+2.3
JHO				*e*S		Sn	13	30	10.7	-0.3
JAG	**Ashikaga**	**5.33**	**344**	P		Pn	13	29	13.1	+2.1

*NIED **23** 13:30:00, 46.50N×153.40E, h20km, Mw4.6 Best double couple: M0 8.67000×10^15 NP1:φs=25.00000°, δ75.00000°, λ=154.00000°. NP2:φs=287.00000°, δ64.00000°, λ=17.00000°.*
*IDC **23** 13:30:19.3±0.5, 45.88N×153.74E, h0km, mb4.4/27, mb1 4.6/29, mb1mx4.5/35, mbtmp4.4/29, ML3.9/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/31, Error ellipse: s-maj=15.3km s-min=12.3km az=158.0*
*BJI **23** 13:30:20.2, 46.17N×153.47E, h7km, mB5.1, mb4.7, Ms4.3, Ms24.0*
*SKHL **23** 13:30:20.3±2.6, 45.90N×153.70E, h52km±17km, mb5.2/5*
*ISCJB **23** 13:30:21.6±0.3, 45.82N±0.05×153.53E±0.04, h28km, mb4.7/80, MS3.9/10, Error ellipse: s-maj=7.3km s-min=3.1km az=132.4*
*NEIC **23** 13:30:21.1±0.3, 45.95N×153.75E, h10km, mb4.8/35, Error ellipse: s-maj=7.6km s-min=5.1km az=168.0*
*JMA **23** 13:30:21.6±0.7, 46.47N×153.36E, h30km, M4.9*
*MOS **23** 13:30:24.1±1.4, 45.87N×153.50E, h49km, mb4.8/44, Error ellipse: s-maj=8.8km s-min=6.9km az=111.1*
*SZGRF **23** 13:30:35.7, 47.39N×154.93E, h33km, mb5.1, Kuril Islands, Russia*

ISC 23 13:30:23.7±0.3, 4589N±0.04×15356E±0.04, h29km, h29km±3.5km; pP-P, n220, σ1§31/234, mb4.7/80, MS3.9/10, 23C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
KUR	**Kuril'sk**	**4.05**	**263**	*e*PN		**Pn**	**13**	**31**	**21.3**	**-2.4**
KUR				*e*S		**Sn**	**13**	**32**	**09.0**	**-1.1**
KUR				pmax		pmax				
	comp=Z,680nm,0.6s									
KUR				smax						
	comp=N,2μm,0.8s									
KUR				smax						
	comp=E,340nm,0.8s									
SKR	**Severo-Kuril's**	**5.09**	**19**	*e*P		**Pn**	**13**	**31**	**35.5**	**-2.6**
SKR				AMB		AMB	13	31	40.1	
	comp=E,160nm,0.6s									
SKR				AMB		AMB	13	31	40.1	
	comp=E,150nm,0.4s									
SKR				*e*S		**Sn**	**13**	**32**	**30.0**	**-5.9**
SKR				A			13	32	48.5	
	comp=E,330nm,0.6s									
SKR				A			13	32	48.5	
	comp=E,240nm,0.6s									
SKR				A			13	32	48.5	
	comp=E,100nm,0.6s									
SKR				AMS		AMS	13	34	12.0	
	comp=E,2μm,14.0s									
SKR				AMS		AMS	13	34	12.0	
	comp=E,3μm,14.0s									
YUK	**Yuzh-Kuril'sk**	**5.76**	**254**	*e*P		**Pn**	**13**	**31**	**48.0**	**+0.7**
YUK				AMB		AMB	13	31	52.0	
	comp=E,320nm,0.3s									
YUK				*e*S		**Sn**	**13**	**32**	**49.5**	**-2.9**
YUK				A			13	32	55.0	
	comp=E,380nm,0.5s									
YUK				A			13	32	55.0	
	comp=E,550nm,0.5s									
NEM2	**Nemuro 2**	**6.12**	**248**	P		**Pn**	**13**	**31**	**50.3**	**-1.8**
NEM2				*e*S		**Sn**	**13**	**32**	**56.4**	**-4.7**
JRA	**Rausu**	**6.30**	**255**	P		**Pn**	**13**	**31**	**54.8**	**+0.2**
JRA				*e*S		**Sn**	**13**	**33**	**06.3**	**+0.8**
JNK	**Nakash**	**6.70**	**253**	P		**Pn**	**13**	**31**	**59.9**	**-0.2**
JNK				*e*S		**Sn**	**13**	**33**	**13.5**	**-2.0**
JAK	**Akkeshi**	**6.97**	**249**	P		**Pn**	**13**	**32**	**02.0**	**-1.8**
JAK				*e*S		**Sn**	**13**	**33**	**17.9**	**-4.1**
JTKR	**Abashiri--Toko**	**7.11**	**258**	P		**Pn**	**13**	**32**	**05.9**	**+0.1**
JAR	**Ashorobuto**	**7.45**	**253**	P		**Pn**	**13**	**32**	**10.0**	**-0.4**
JAR				*e*S		**Sn**	**13**	**33**	**32.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**7.54**	**282**	⇑*i*P		**Pn**	**13**	**32**	**15.0**	**+3.3**
YSS				AMB		AMB	13	32	16.7	
	comp=E,90nm,1.0s									
YSS				*e*rx		rx	13	32	25.0	
YSS				AMS		AMS	13	35	45.0	
	comp=E,400nm,16.0s									
YSS	**Yuzh-Sakhalins**	**7.54**	**282**	⇑*i*PN		**Pn**	**13**	**32**	**15.0**	**+3.3**
YSS				pmax		pmax				
	comp=Z,90nm,1.0s									
YSS				MLR		MLR				
	comp=Z,400nm,16.0s									
YSS	**Yuzh-Sakhalins**	**7.54**	**282**	*e*Pn		**Pn**	**13**	**32**	**14.7**	**+3.0**
	comp=Z,44nm,0.8s									
JOB	**Onbets**	**7.57**	**250**	P		**Pn**	**13**	**32**	**11.4**	**-0.7**
PET	**Petropavlovsk**	**7.88**	**23**	*e*PN		**Pn**	**13**	**32**	**12.9**	**-3.4**
PET				MLR		MLR				
	comp=Z,400nm,17.0s									
PET	**Petropavlovsk**	**7.88**	**23**	*e*Pn		**Pn**	**13**	**32**	**12.8**	**-3.5**
	comp=Z,22nm,0.4s									
PET				*e*Sn		**Sn**	**13**	**33**	**35.6**	**-8.8**
JKK2	**Kamakawa 2**	**7.94**	**259**	P		**Pn**	**13**	**32**	**17.8**	**+0.7**
ASAJ	**Asahikawa**	**7.97**	**261**	Pn		**Pn**	**13**	**32**	**17.8**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=348,slow=30,SNR=12									
ASAJ				LR		LR	13	35	20.7	
	comp=Z,305nm,19.4s,baz=72,slow=37									
JCH	**Churui**	**8.02**	**250**	P		**Pn**	**13**	**32**	**16.9**	**-1.3**
JCH				*e*S		**Sn**	**13**	**33**	**43.4**	**-4.4**
JFR	**Furan**	**8.29**	**255**	P		**Pn**	**13**	**32**	**22.6**	**+0.6**
ERM	**Erimo**	**8.44**	**246**	*e*PN		**Pn**	**13**	**32**	**26.5**	**+2.5**
JBT2	**Biratori 2**	**8.60**	**253**	P		**Pn**	**13**	**32**	**25.3**	**-0.9**
TYV	**Tymovskoe**	**8.80**	**308**	*e*P		**Pn**	**13**	**32**	**31.5**	**+2.6**
TYV				AMB		AMB	13	32	35.7	
	comp=Z,11nm,0.8s									
TYV				AMB		AMB	13	32	35.7	
	comp=Z,22nm,0.8s									
JKB	**Kayabe**	**9.88**	**251**	P		**Pn**	**13**	**32**	**41.8**	**-2.0**
JKB				*e*S		**Sn**	**13**	**34**	**25.6**	**-8.1**
JYM2	**Yakumo 2**	**10.22**	**253**	P		**Pn**	**13**	**32**	**47.4**	**-1.0**
JANG	**Nango**	**10.38**	**242**	P		**Pn**	**13**	**32**	**46.4**	**-4.2**
JANG				*e*S		**Sn**	**13**	**34**	**35.7**	**-10**
JTM	**Tenmabayashi**	**10.42**	**245**	P		**Pn**	**13**	**32**	**48.0**	**-3.2**
JTM				*e*S		**Sn**	**13**	**34**	**38.1**	**-8.8**
JTH	**Tanohata**	**10.43**	**239**	P		**Pn**	**13**	**32**	**46.4**	**-4.9**
JTH				*e*S		**Sn**	**13**	**34**	**36.6**	**-10**
NKL	**Nikolayevsk**	**11.07**	**316**	*e*L			13	36	42.0	
NKL				AMS		AMS	13	39	14.0	
	comp=Z,2μm,14.0s									
JIO	**Ouri**	**11.70**	**235**	P		**Pn**	**13**	**33**	**04.1**	**-4.6**
JIO				*e*S		**Sn**	**13**	**35**	**03.9**	**-14**
HABR	**Khabarovsk**	**12.85**	**288**	*e*PN		**Pn**	**13**	**33**	**21.6**	**-2.8**
MA2	**Magadan**	**13.81**	**354**	*e*P		**Pn**	**13**	**33**	**37.4**	**-0.1**
MAJO	**Matsushiro**	**14.83**	**236**	*e*P		**Pn**	**13**	**33**	**59.1**	**+7.7**
MAJO				pmax		pmax				
	comp=Z,61nm,1.1s									
MAJO	**Matsushiro**	**14.83**	**236**	*e*P		**Pn**	**13**	**33**	**59.1**	**+7.8**
	comp=Z,60nm,1.1s									
MAT	**Matsushiro**	**14.83**	**236**	P		**Pn**	**13**	**33**	**51.2**	**-0.2**
MJAR	**Matsushiro Arr**	**14.83**	**236**	Pn		**Pn**	**13**	**33**	**49.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=30,slow=14,SNR=4.7									
MJAR				LR		LR	13	38	35.5	
	comp=Z,218nm,20.7s,baz=50,slow=33									
KLR	**Kul'dur**	**15.09**	**291**	*e*P		**Pn**	**13**	**33**	**52.0**	**-2.8**
MDJ	**Mudanjiang**	**16.91**	**274**	P		**Pn**	**13**	**34**	**18.8**	**+0.6**
MDJ				AMB		AMB				
	comp=Z,47nm,1.1s									
MDJ				AMB		AMB				
	comp=Z,164nm,4.5s									
MDJ				LR		LR				
	comp=N,202nm,26.4s									
MDJ				LR		LR				
	comp=E,80nm,32.4s									
MDJ	**Mudanjiang**	**16.91**	**274**	*e*P		**Pn**	**13**	**34**	**18.7**	**+0.5**
	comp=E,47nm,0.9s									
ZEA	**Zeya**	**18.62**	**304**	*e*P		**Pn**	**13**	**34**	**36.5**	**-2.8**
ZEA				AMB		AMB	13	34	42.6	
	comp=E,15nm,0.8s									
CN2	**Changchun**	**20.00**	**274**	*e*P		**Pn**	**13**	**34**	**52.8**	**-3.0**
CN2				AMB		AMB				
	comp=Z,20nm,0.8s									
CN2				AMB		AMB				
	comp=Z,200nm,4.0s									
CLNS	**Chul'man**	**20.82**	**312**	*e*P		**P**	**13**	**35**	**02.4**	**-0.4**
CLNS				*e*			13	35	16.2	
CLNS				*e*PPP			13	35	20.5	
CLNS				*e*S		**S**	**13**	**38**	**56.4**	**+2.8**
CLNS				*e*SS			13	39	35.1	
CLNS				pmax		pmax				
	comp=Z,36nm,1.1s									
CLNS				pmax		pmax				
	comp=N,17nm,1.0s									
CLNS				pmax		pmax				
	comp=E,19nm,1.0s									
CLNS				pmax		pmax				
	comp=Z,22nm,0.9s									
CLNS				pmax		pmax				
	comp=N,20nm,1.0s									
CLNS				pmax		pmax				
	comp=E,18nm,1.0s									
CLNS				smax						
	comp=N,14nm,1.2s									
CLNS				smax						
	comp=E,17nm,0.9s									
CLNS				smax						
	comp=Z,4.0nm,0.9s									
CLNS				MLR		MLR				
	comp=Z,200nm,14.0s,MS3.6									
CLNS				MLR		MLR				
	comp=N,100nm,12.0s,MS4.5									
CLNS				MLR		MLR				
	comp=E,2μm,14.0s,MS4.5									

HHC				AMB	AMB				
	comp=Z,111nm,5.8s								
HHC				LR	LR				
	comp=N,277nm,13.8s,MS4.2								
HHC				LR	LR				
	comp=E,214nm,13.5s,MS4.2								
HHC				LR	LR				
	comp=Z,216nm,12.5s,MS4.0								
ULN	**Ulaanbaatar**	**31.48**	**291**	*e*P	**P**		**13 36 42.7**	**-0.1**	
ULN				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.6								
ULN	**Ulaanbaatar**	**31.48**	**291**	*e*P	**P**		**13 36 42.7**	**-0.1**	
	comp=Z,9.1nm,0.9s,mb4.6								
SONM	**Songino Array**	**31.92**	**291**	P	**P**		**13 36 46.5**	**-0.1**	
	comp=Z,1.7nm,0.6s,mb4.0,baz=72,slow=9.0,SNR=5.6								
SONM	**Songino Array**	**31.92**	**291**	P	**P**		**13 36 46.5**	**-0.2**	
SONM				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TLY	**Talaya**	**32.85**	**299**	*e*P	**P**		**13 36 54.5**	**-0.4**	
TLY				*e*S	**S**		**13 42 04.8**	**-5.6**	
TLY				*e*SS	SS		13 44 26.0	-6.4	
TLY				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
TLY				MLR	MLR				
	comp=Z,162nm,18.0s,MS3.8								
IMA2	**Indian Mountai**	**34.33**	**35**	*e*P	**P**		**13 37 07.0**	**-0.7**	
KDAK	**Kodiak Island**	**34.42**	**50**	P	**P**		**13 37 05.7**	**-2.8**	
	comp=Z,8.8nm,0.6s,mb4.8,baz=334,slow=7.8,SNR=8.0								
XAN	**Xi'an**	**35.76**	**267**	P	**P**		**13 37 21.9**	**+1.9**	
XAN				AMB	AMB				
	comp=Z,13nm,1.2s,mb4.7								
COLA	**College**	**36.63**	**38**	⇑*i*P	**P**		**13 37 26.7**	**-0.8**	
COLA	**College**	**36.63**	**38**	*e*P	**P**		**13 37 27.1**	**-0.3**	
	comp=Z,7.2nm,0.8s,mb4.5								
LZH	**Lanzhou**	**38.23**	**273**	⇑P	**P**		**13 37 43.5**	**+2.5**	
LZH				AMB	AMB				
	comp=Z,35nm,1.3s,mb4.9								
LZH				AMB	AMB				
	comp=Z,153nm,4.2s								
LZH	**Lanzhou**	**38.23**	**273**	⇑P	**P**		**13 37 43.5**	**+2.5**	
	comp=Z,35nm,1.3s,mb4.9								
LZH				pP	pP		13 37 59.8	+10	
LZH				sP	sP		13 38 06.4	+13	
GTA	**Gaotai**	**39.42**	**280**	P	**P**		**13 37 53.3**	**+2.3**	
GTA				AMB	AMB				
	comp=Z,15nm,1.0s,mb4.7								
GTA				AMB	AMB				
	comp=Z,142nm,3.4s								
GTA				LR	LR				
	comp=N,170nm,14.8s,MS4.2								
GTA				LR	LR				
	comp=E,272nm,18.6s,MS4.2								
GTA				LR	LR				
	comp=Z,148nm,17.1s,MS3.9								
EGAK	**Eagle**	**39.49**	**38**	*e*P	**P**		**13 37 50.3**	**-1.3**	
	comp=Z,36nm,0.6s,mb5.3								
GYA	**Guiyang**	**41.84**	**259**	⇑*i*P	**P**		**13 38 12.0**	**+1.1**	
GYA				AMB	AMB				
	comp=Z,20nm,1.0s,mb4.7								
INK	**Inuvik**	**42.22**	**32**	P	**P**		**13 38 14.1**	**0.0**	
	comp=Z,3.3nm,0.5s,mb4.2,baz=284,slow=7.1,SNR=44								
INK	**Inuvik**	**42.22**	**32**	P	**P**		**13 38 14.1**	**0.0**	
INK				pmax	pmax				
	comp=Z,3.0nm,0.5s								
INK	**Inuvik**	**42.22**	**32**	*e*P	**P**		**13 38 14.0**	**0.0**	
	comp=Z,260nm,0.9s								
ZAL	**Zalesovo**	**43.38**	**307**	P	**P**		**13 38 22.8**	**-0.7**	
	comp=Z,2.1nm,0.3s,mb4.3,baz=17,slow=4.5,SNR=6.0								
ZAL	**Zalesovo**	**43.38**	**307**	P	**P**		**13 38 22.8**	**-0.7**	
ZAL				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**47.62**	**298**	P	**P**		**13 38 56.7**	**-0.3**	
	comp=Z,8.3nm,0.9s,mb4.8,baz=62,slow=6.4,SNR=23								
MKAR	**Makanchi Array**	**47.62**	**298**	P	**P**		**13 38 56.7**	**-0.3**	
MKAR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MKAR	**Makanchi Array**	**47.62**	**298**	P	**P**		**13 38 56.7**	**-0.3**	
LSA	**Lhasa**	**50.63**	**274**	P	**P**		**13 39 22.4**	**+2.3**	
LSA	**Lhasa**	**50.63**	**274**	*e*P	**P**		**13 39 24.0**	**+3.9**	
LSA				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8								
LSA	**Lhasa**	**50.63**	**274**	*e*P	**P**		**13 39 24.0**	**+3.9**	
	comp=Z,7.8nm,0.7s,mb4.8								
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**		**13 39 23.3**	**-1.2**	
CHKZ				pmax	pmax				
	comp=Z,12nm,0.6s,mb5.0								
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**		**13 39 23.3**	**-1.3**	
	comp=Z,12nm,0.6s,mb5.0								
YKA	**Yellowknife Ar**	**51.44**	**36**	P	**P**		**13 39 25.1**	**-1.0**	
	comp=Z,4.4nm,0.7s,mb4.5,baz=296,slow=7.1,SNR=16								
YKA	**Yellowknife Ar**	**51.44**	**36**	P	**P**		**13 39 25.1**	**-1.0**	
YKA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
RES	**Resolute Bay**	**51.56**	**18**	*e*P	**P**		**13 39 30.8**	**+3.8**	
	comp=Z,134nm,0.5s								
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**		**13 39 27.3**	**-0.4**	
	comp=Z,4.9nm,0.6s,mb4.6,baz=55,slow=8.3,SNR=17								
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**		**13 39 27.3**	**-0.4**	
BVAR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BRVK	**Borovoye**	**51.69**	**310**	*e*P	**P**		**13 39 27.6**	**-0.4**	
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.5s,mb4.8								
BRVK	**Borovoye**	**51.69**	**310**	*e*P	**P**		**13 39 27.6**	**-0.4**	
	comp=Z,6.5nm,0.5s,mb4.8								
AAK	**Ala-Archa**	**54.50**	**297**	*c i*P	**P**		**13 39 48.5**	**-0.2**	
AAK				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5								
AAK	**Ala-Archa**	**54.50**	**297**	*e*P	**P**		**13 39 48.7**	**0.0**	
	comp=Z,6.2nm,0.9s,mb4.5								
GUN	**Gumba**	**55.39**	**276**	*e*P	**P**		**13 39 57.5**	**+2.4**	
	comp=Z,35nm,0.9s,mb5.4								
ARU	**Arti**	**55.86**	**318**	⇓*i*P	**P**		**13 39 58.3**	**-0.2**	
ARU				*e*			13 41 59.2		
ARU				*e*S	**S**		**13 47 44.2**	**+0.2**	
ARU				*e*SS	SS		13 51 25.9	-3.9	
ARU				pmax	pmax				
	comp=Z,12nm,0.8s,mb5.0								
KKN	**Kakani**	**55.88**	**276**	*e*P	**P**		**13 40 01.0**	**+2.3**	
	comp=Z,20nm,0.7s,mb5.3								
PKI	**Pulchoki**	**55.92**	**276**	*e*P	**P**		**13 40 01.3**	**+2.3**	
DMN	**Daman**	**56.11**	**276**	*e*P	**P**		**13 40 02.3**	**+2.0**	
	comp=Z,30nm,0.8s,mb5.4								
GKN	**Gorkha**	**56.19**	**277**	*e*P	**P**		**13 40 02.2**	**+1.3**	
	comp=Z,48nm,1.0s,mb5.5								
KOLN	**Koldanda**	**57.06**	**277**	*e*P	**P**		**13 40 09.8**	**+2.8**	
YBH	**Yreka Blue Hor**	**57.88**	**61**	P	**P**		**13 40 12.1**	**-0.8**	
	comp=Z,2.7nm,0.9s,mb4.3,baz=261,slow=11,SNR=5.0								
YBH	**Yreka Blue Hor**	**57.88**	**61**	P	**P**		**13 40 12.1**	**-0.8**	
YBH				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ARCES	**ARCESS Array B**	**58.77**	**341**	P	**P**		**13 40 19.1**	**+0.1**	
	comp=Z,3.5nm,0.7s,mb4.5,baz=35,slow=7.2,SNR=7.7								
ARCES	**ARCESS Array B**	**58.77**	**341**	P	**P**		**13 40 19.2**	**+0.1**	
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.7s								
AKTK	**Aktyubinsk**	**59.53**	**312**	P	**P**		**13 40 25.0**	**+0.7**	
AKTO	**Aktyubinsk**	**59.53**	**312**	P	**P**		**13 40 25.0**	**+0.7**	
	comp=Z,3.4nm,0.6s,mb4.5,baz=56,slow=5.8,SNR=4.6								
AKTO	**Aktyubinsk**	**59.53**	**312**	P	**P**		**13 40 25.0**	**+0.7**	
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
NDI	**New Delhi**	**60.88**	**282**	*e*P	**P**		**13 40 33.0**	**-0.6**	
CMB	**Columbia Colle**	**61.51**	**64**	*e*P	**P**		**13 40 36.7**	**-1.1**	
CMB				pmax	pmax				
	comp=Z,4.0nm,1.3s,mb4.4								
CMB	**Columbia Colle**	**61.51**	**64**	*e*P	**P**		**13 40 36.7**	**-1.2**	
	comp=Z,4.4nm,1.3s,mb4.4								
HLID	**Hailey**	**61.74**	**56**	*e*P	**P**		**13 40 39.0**	**-0.4**	
	comp=Z,2.7nm,0.8s,mb4.4								
NVAR	**Mina Array Bea**	**62.56**	**62**	P	**P**		**13 40 44.2**	**-0.7**	
	comp=Z,4.0nm,0.7s,mb4.7,baz=297,slow=8.0,SNR=6.8								
NVAR	**Mina Array Bea**	**62.56**	**62**	P	**P**		**13 40 44.2**	**-0.7**	
SNOW	**Snow King Moun**	**63.89**	**54**	*e*P	**P**		**13 40 54.3**	**+0.6**	
	comp=Z,7.6nm,0.9s,mb4.7								
REDW	**Red Top Meadow**	**63.90**	**54**	*e*P	**P**		**13 40 54.2**	**+0.5**	
	comp=Z,21nm,1.3s,mb5.0								
HWUT	**Hardware Ranch**	**64.61**	**56**	*e*P	**P**		**13 40 58.1**	**-0.3**	
	comp=Z,3.5nm,0.7s,mb4.5								
DUG	**Dugway**	**64.78**	**58**	*e*P	**P**		**13 40 59.2**	**-0.3**	
DUG				pmax	pmax				
	comp=Z,10.0nm,1.3s,mb4.7								
DUG	**Dugway**	**64.78**	**58**	*e*P	**P**		**13 40 59.1**	**-0.4**	
	comp=Z,10nm,1.3s,mb4.7								
FINES	**FINESS Array B**	**64.95**	**335**	P	**P**		**13 41 00.5**	**-0.1**	
	comp=Z,6.1nm,0.7s,mb4.8,baz=40,slow=6.1,SNR=14								
FINES	**FINESS Array B**	**64.95**	**335**	P	**P**		**13 41 00.5**	**-0.2**	
FINES				pmax	pmax				
	comp=Z,6.0nm,0.7s								
FINES	**FINESS Array B**	**64.95**	**335**	P	**P**		**13 41 00.5**	**-0.1**	
BW06	**Boulder Array**	**65.01**	**54**	*e*P	**P**		**13 41 00.4**	**-0.6**	
	comp=Z,4.0nm,0.8s,mb4.5								
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**		**13 41 00.3**	**-0.7**	
	comp=Z,3.5nm,0.8s,mb4.4,baz=280,slow=2.3,SNR=29								
OBN	**Obninsk**	**66.20**	**326**	⇑*e*P	**P**		**13 41 09.3**	**+0.6**	
OBN				*e*			13 41 30.3		
OBN				*e*			13 41 38.5		
OBN				*e*			13 43 32.8		
OBN				*e*SS	SS		13 54 08.4	-3.4	
OBN				pmax	pmax				
	comp=Z,16nm,1.1s,mb5.0								
OBN				MLR	MLR				
	comp=Z,200nm,21.0s,MS4.3								
SRU	**San Rafael**	**66.83**	**57**	*e*P	**P**		**13 41 12.5**	**-0.2**	
SRU				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.9								
SRU	**San Rafael**	**66.83**	**57**	*e*P	**P**		**13 41 12.5**	**-0.2**	
	comp=Z,8.8nm,0.7s,mb4.9								
RSSD	**Black Hills**	**67.15**	**50**	*e*P	**P**		**13 41 13.7**	**-1.1**	
RSSD				pmax	pmax				
	comp=Z,3.0nm,0.4s,mb4.7								
RSSD	**Black Hills**	**67.15**	**50**	*e*P	**P**		**13 41 13.7**	**-1.0**	
	comp=Z,2.6nm,0.4s,mb4.6								
WRAB	**Tennant Creek**	**67.79**	**200**	*e*P	**P**		**13 41 18.7**	**-0.1**	
WRAB				pmax	pmax				
	comp=Z,18nm,1.4s,mb4.9								
WRAB	**Tennant Creek**	**67.79**	**200**	*e*P	**P**		**13 41 18.7**	**-0.1**	
	comp=Z,18nm,1.4s,mb4.9								
WB2	**Warramunga Arr**	**67.80**	**200**	*e*P	**P**		**13 41 18.8**	**0.0**	
WB2				*e*	pP		13 41 28.7	+0.7	
WRA	**Warramunga Arr**	**67.80**	**200**	P	**P**		**13 41 18.2**	**-0.6**	
	comp=Z,1.8nm,0.8s,mb4.2,baz=16,slow=6.8,SNR=21								
WRA	**Warramunga Arr**	**67.80**	**200**	P	**P**		**13 41 18.2**	**-0.7**	
WRA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
PV10	**Paradox Valley**	**68.18**	**57**	*e*P	**P**		**13 41 21.3**	**+0.1**	
FITZ	**Fitzroy Crossi**	**68.53**	**209**	*e*P	pP		13 41 34.2	+1.6	
	comp=Z,5.4nm,1.1s								
PV01	**Paradox Valley**	**68.62**	**57**	*e*P	**P**		**13 41 23.2**	**-0.8**	
NB2	**NORSAR Subarra**	**69.14**	**341**	P	**P**		**13 41 27.4**	**+0.1**	
	comp=Z,3.7nm,0.6s,mb4.5,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**69.14**	**341**	P	**P**		**13 41 27.5**	**+0.2**	
	comp=Z,4.6nm,0.6s,mb4.6,baz=26,slow=6.3,SNR=18								
NOA	**NORSAR Array B**	**69.14**	**341**	P	**P**		**13 41 27.5**	**+0.2**	
NOA				pmax	pmax				
	comp=Z,5.0nm,0.6s								
NOA	**NORSAR Array B**	**69.14**	**341**	P	**P**		**13 41 27.5**	**+0.2**	
ISCO	**Idaho Springs**	**69.20**	**54**	*e*P	**P**		**13 41 27.7**	**+0.1**	
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
ISCO	**Idaho Springs**	**69.20**	**54**	*e*P	**P**		**13 41 27.7**	**+0.1**	
	comp=Z,3.0nm,0.8s,mb4.3								
MVCO	**Mesa Verde**	**69.28**	**58**	*e*P	**P**		**13 41 27.4**	**-0.7**	
	comp=Z,7.6nm,1.1s,mb4.5								
HFS	**Hagfors**	**69.37**	**340**	P	**P**		**13 41 28.8**	**+0.1**	
	comp=Z,4.5nm,0.5s,mb4.7,baz=50,slow=4.6,SNR=14								
HFS	**Hagfors**	**69.37**	**340**	P	**P**		**13 41 28.8**	**+0.1**	
HFS				pmax	pmax				
	comp=Z,5.0nm,0.5s								
GOF	**Gofitskoye**	**70.65**	**315**	*e*P	**P**		**13 41 43.1**	**+6.5**	
SDCO	**Great Sand Dun**	**70.66**	**56**	*e*P	**P**		**13 41 36.4**	**-0.2**	
AS31	**Alice Springs**	**71.49**	**199**	*e*P	**P**		**13 41 43.7**	**+2.1**	
AS31				*e*	pP		13 41 52.9	+2.1	
ASAR	**Alice Springs**	**71.49**	**199**	P	**P**		**13 41 42.1**	**+0.5**	
	comp=Z,1.5nm,0.7s,mb4.0,baz=14,slow=6.3,SNR=22								
ASAR	**Alice Springs**	**71.49**	**199**	P	**P**		**13 41 42.2**	**+0.6**	
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ASPA	**Alice Springs**	**71.49**	**199**	*e*P	**P**		**13 41 43.7**	**+2.1**	
ASPA				*e*	pP		13 41 52.9	+2.1	
KIV	**Kislovodsk**	**71.62**	**315**	⇑*e*P	**P**		**13 41 43.5**	**+1.1**	
KIV				pmax	pmax				
	comp=Z,11nm,0.6s,mb5.0								
KIV	**Kislovodsk**	**71.62**	**315**	*e*P	**P**		**13 41 44.1**	**+1.6**	
	comp=Z,12nm,0.7s,mb4.9								
ANMO	**Albuquerque**	**72.03**	**58**	P	**P**		**13 41 44.6**	**-0.3**	
	comp=Z,2.7nm,0.8s,mb4.2,baz=313,slow=8.1,SNR=10								
ANMO	**Albuquerque**	**72.03**	**58**	⇓*i*P	**P**		**13 41 43.3**	**-1.5**	
ANMO	**Albuquerque**	**72.03**	**58**	*e*P	**P**		**13 41 44.6**	**-0.3**	
	comp=Z,2.7nm,0.8s,mb4.2								
AKASG	**Malin Array Be**	**72.44**	**327**	LR	LR		14 15 32.4		
	comp=Z,87nm,21.5s,MS4.0,baz=10.0,slow=37								
AKBB	**Malin Array Si**	**72.44**	**327**	*e*P	**P**		**13 41 46.1**	**-1.2**	
KIEV	**Kiev**	**72.45**	**327**	*e*P	**P**		**13 41 46.4**	**-1.0**	
KIEV				pmax	pmax				
	comp=Z,87nm,0.8s,mb5.7								
KIEV	**Kiev**	**72.45**	**327**	*e*P	**P**		**13 41 46.4**	**-1.0**	
	comp=Z,87nm,0.8s,mb5.7								
GNI	**Garni**	**73.33**	**311**	*e*P	**P**		**13 41 54.9**	**+2.3**	
GNI				pmax	pmax				
	comp=Z,18nm,2.5s								
ANN	**Anapa**	**73.53**	**318**	*e*P	**P**		**13 41 59.8**	**+6.1**	
ANN				pmax	pmax				
	comp=Z,24nm,0.7s,mb5.2								
KWP	**Kalwaria**	**75.72**	**330**	*e*P	**P**		**13 42 07.8**	**+1.3**	
STHS	**Stebnicka Huta**	**76.42**	**330**	*e*P	**P**		**13 42 10.9**	**+0.5**	
STHS				*e*PCP	PcP		13 42 27.1	+5.0	
KOLS	**Kolonicke sedl**	**76.46**	**329**	*e*P	**P**		**13 42 16.6**	**+5.9**	
KOLS				*e*PCP	PcP		13 42 32.5	+10	
BURAR	**Bucovina Array**	**76.48**	**327**	⇓*i*P	**P**		**13 42 11.4**	**+0.6**	
BURAR	**Bucovina Array**	**76.48**	**327**	⇓P	**P**		**13 42 11.4**	**+0.6**	
WMOK	**Wichita Mounta**	**76.62**	**54**	*e*P	**P**		**13 42 10.3**	**-1.3**	
WMOK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
WMOK	**Wichita Mounta**	**76.62**	**54**	*e*P	**P**		**13 42 10.3**	**-1.3**	
	comp=Z,2.4nm,0.8s,mb4.2								
EKA	**Eskdalemuir Ar**	**77.25**	**347**	P	**P**		**13 42 15.1**	**0.0**	
	comp=Z,2.1nm,0.5s,mb4.3,baz=21,slow=5.2,SNR=9.2								
EKA	**Eskdalemuir Ar**	**77.25**	**347**	P	**P**		**13 42 15.1**	**0.0**	
EKA				pmax	pmax				
	comp=Z,2.0nm,0.5s								
CLL	**Collm**	**77.38**	**336**	*e*P	**P**		**13 42 16.0**	**+0.1**	
CLL				*es*PcP			13 42 31.0		
LTX	**Lajitas**	**77.65**	**61**	*e*P	**P**		**13 42 16.8**	**-0.6**	
LTX				pmax	pmax				
	comp=Z,16nm,1.3s,mb4.8								
LTX	**Lajitas**	**77.65**	**61**	*e*P	**P**		**13 42 16.8**	**-0.5**	
	comp=Z,16nm,1.3s,mb4.8								
TXAR	**Lajitas Array**	**77.65**	**61**	P	**P**		**13 42 16.7**	**-0.7**	
	comp=Z,4.5nm,0.8s,mb4.4,baz=301,slow=4.0,SNR=46								
TXAR	**Lajitas Array**	**77.65**	**61**	P	**P**		**13 42 16.7**	**-0.7**	
TXAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
TXAR	**Lajitas Array**	**77.65**	**61**	P	**P**		**13 42 16.7**	**-0.7**	
MLR	**Muntele Rosu**	**77.95**	**325**	P	**P**		**13 42 19.7**	**+0.6**	
	comp=Z,5.8nm,0.7s,mb4.6,baz=276,slow=3.8,SNR=6.3								
MLR	**Muntele Rosu**	**77.95**	**325**	⇑P	**P**		**13 42 20.0**	**+1.0**	
MLR	**Muntele Rosu**	**77.95**	**325**	⇑P	**P**		**13 42 20.0**	**+0.9**	
MALT	**Malatya**	**77.97**	**313**	⇑*i*P	**P**		**13 42 21.4**	**+2.3**	
MALT	**Malatya**	**77.97**	**313**	*e*P	**P**		**13 42 21.3**	**+2.2**	
	comp=Z,3.2nm,0.6s,mb4.4								
VYHS	**Vyhne**	**78.03**	**331**	*e*P	**P**		**13 42 20.0**	**+0.5**	
VYHS				*e*PCP	PcP		13 42 34.9	+5.8	
STKA	**Stephens Creek**	**78.15**	**190**	P	**P**		**13 42 21.4**	**+1.2**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=321,slow=8.8,SNR=3.5								
KHC	**Kasperske Hory**	**79.15**	**335**	*e*P	**P**		**13 42 26.0**	**+0.3**	
KHC				pP	PcP		13 42 30.0	-4.0	
KHC	**Kasperske Hory**	**79.15**	**335**	*e*P	**P**		**13 42 26.0**	**+0.3**	
KHC				*e*			13 42 30.0		
BRTR	**Keskin Array B**	**79.23**	**317**	P	**P**		**13 42 27.4**	**+1.3**	
	comp=Z,2.1nm,0.8s,mb4.1,baz=92,slow=3.7,SNR=8.4								
BRTR	**Keskin Array B**	**79.23**	**317**	P	**P**		**13 42 27.4**	**+1.3**	
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GRA2	**Grafenberg Arr**	**79.33**	**336**	*e*P	**P**		**13 42 31.1**	**+4.5**	
	comp=Z,1.1nm,0.8s,mb4.8								
GRFO	**Grafenberg**	**79.34**	**336**	*e*P	**P**		**13 42 26.3**	**-0.4**	
	comp=Z,12nm,0.8s,mb4.9								
GRFO	**Grafenberg**	**79.34**	**336**	*e*P	**P**		**13 42 26.3**	**-0.4**	
GRFO				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9								
GERES	**GERESS Array B**	**79.37**	**334**	P	**P**		**13 42 27.1**	**+0.2**	
	comp=Z,0.9nm,0.4s,mb4.0,baz=20,slow=4.4,SNR=7.0								
GERES	**GERESS Array B**	**79.37**	**334**	P	**P**		**13 42 27.1**	**+0.3**	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BZS	**Buzias**	**79.51**	**328**	⇑*i*P	**P**		**13 42 27.9**	**+0.3**	
BZS	**Buzias**	**79.51**	**328**	⇑P	**P**		**13 42 27.9**	**+0.3**	
KBA	**Koelnbreinsper**	**81.05**	**334**	⇑*i*P	**P**		**13 42 38.9**	**+3.0**	
	comp=Z,10.0nm,0.5s,mb5.0								
KBA	**Koelnbreinsper**	**81.05**	**334**	⇓*i*P	**P**		**13 42 34.6**	**-1.3**	
	comp=Z,10.0nm,0.5s,mb5.0								
WTTA	**Wattenberg**	**81.40**	**335**	⇑*i*P	**P**		**13 42 41.3**	**+3.5**	
	comp=Z,8.6nm,0.5s,mb5.0								
WTTA	**Wattenberg**	**81.40**	**335**	⇑*i*P	**P**		**13 42 37.9**	**+0.1**	
	comp=Z,8.6nm,0.5s,mb5.0								
MOTA	**Moosalm**	**81.49**	**335**	⇑*i*P	**P**		**13 42 39.5**	**+1.3**	
	comp=Z,5.3nm,0.6s,mb4.7								
SQTA	**Sankt Quirin**	**81.57**	**335**	⇑*e*P	**P**		**13 42 43.7**	**+5.1**	
	comp=Z,4.0nm,0.6s,mb4.5								
SQTA	**Sankt Quirin**	**81.57**	**335**	⇓*e*P	**P**		**13 42 40.6**	**+1.9**	
	comp=Z,4.0nm,0.6s,mb4.5								
CDF	**Champ du Feu**	**81.57**	**338**	*e*P	**P**		**13 42 39.2**	**+0.5**	
GRR	**Gorron**	**83.48**	**343**	*e*P	**P**		**13 42 49.1**	**+0.5**	
MMAI	**Mount Meron Ar**	**83.62**	**312**	P	**P**		**13 42 50.8**	**+1.5**	
	comp=Z,2.2nm,0.4s,mb4.6,baz=47,slow=6.1,SNR=5.6								
SMF	**Signal de Mont**	**84.08**	**340**	*e*P	**P**		**13 42 52.1**	**+0.4**	
	comp=Z,41nm,1.1s,mb5.2								
SMF	**Signal de Mont**	**84.08**	**340**	*e*P	**P**		**13 42 52.1**	**+0.4**	
SMF				pmax	pmax				
	comp=Z,21nm,1.1s,mb5.2								
SMF	**Signal de Mont**	**84.08**	**340**	*e*P	**P**		**13 42 52.1**	**+0.4**	
	comp=Z,20nm,1.1s,mb5.2								
LPG	**La Plagne**	**84.40**	**337**	*e*P	**P**		**13 42 54.8**	**+1.5**	
	comp=Z,26nm,1.0s,mb5.0								
LPG	**La Plagne**	**84.40**	**337**	*e*P	**P**		**13 42 54.8**	**+1.5**	
LPG				pmax	pmax				
	comp=Z,13nm,1.0s,mb5.0								
LPG	**La Plagne**	**84.40**	**337**	*e*P	**P**		**13 42 54.8**	**+1.5**	
	comp=Z,13nm,1.0s,mb5.0								
RJF	**Les Rejaudoux**	**85.89**	**341**	*e*P	**P**		**13 43 01.4**	**+0.6**	
	comp=Z,39nm,1.1s,mb5.2								
RJF	**Les Rejaudoux**	**85.89**	**341**	*e*P	**P**		**13 43 01.4**	**+0.6**	
RJF				pmax	pmax				
	comp=Z,19nm,1.1s,mb5.2								
RJF	**Les Rejaudoux**	**85.89**	**341**	*e*P	**P**		**13 43 01.4**	**+0.6**	
	comp=Z,19nm,1.1s,mb5.2								
IDI	**Anoyia**	**86.87**	**320**	P	**P**		**13 43 08.3**	**+2.7**	
	comp=Z,6.1nm,0.6s,mb5.0,baz=12,slow=6.1,SNR=6.2								
CFAA	**Coronel Fontan**	**144.84**	**81**	PKP	PKPdf		13 49 55.4	-2.4	
	comp=Z,0.6nm,0.4s,baz=279,slow=3.9,SNR=9.5								
SNAA	**Sanae**	**151.81**	**196**	PKP	PKPdf		13 50 09.5	+0.3	
	comp=Z,0.6nm,1.0s,baz=208,slow=7.4,SNR=4.2								
SNAA				PKPbc	PKPbc		13 50 14.6	-0.9	
	comp=Z,0.4nm,0.9s,baz=246,slow=14,SNR=6.4								
SNAA	**Sanae**	**151.81**	**196**	*e*PKPdf	PKPdf		13 50 13.8	+4.7	
SNAA				*e*			13 50 25.1

SOI Pg Pn 13 32 46.9 -0.3
BLIT Baltah 3.26 283 *i* P Pn 13 32 44.0 -3.4
JOPP Joppolo 3.51 42 Pg Pn 13 32 50.5 -0.3
504nm,0.7s
PLAC Placanica 3.72 48 Pg Pn 13 32 53.8 +0.1
338nm,0.6s
GHAT Ghardimaou 3.74 279 *i* P Pn 13 32 50.0 -4.1
GRI Girifalco 3.96 44 P Pn 13 32 57.0 0.0
CARO Carolei 4.16 38 Pg Pn 13 32 58.6 -1.2
759nm,0.6s
SERS Sersale 4.25 44 Pg Pn 13 33 01.5 +0.4
630nm,1.0s
TIP Timpagrande 4.39 43 Pg Pn 13 33 03.3 +0.3
TIP Timpagrande 4.39 43 *e*Pn Pn 13 33 03.2 +0.3
TIP Timpagrande 4.39 43 *e*Pn Pn 13 33 03.2 +0.2
ABSA Djebel 'Ababsia 4.40 275 P Pn 13 33 00.0 -3.0
VSL Villasalto 4.45 322 Pg Pn 13 33 01.2 -2.6
251nm,0.8s
VSL Villasalto 4.45 322 *e*Pn Pn 13 33 01.2 -2.6
VSL *e*Sn Sn 13 33 48.5 -7.8
CMAH Djebel Manchou 4.47 279 P Pn 13 33 01.0 -3.0
CUC Castrocucco 4.58 29 Pg Pn 13 33 04.6 -1.0
307nm,0.7s
CUC Castrocucco 4.58 29 Pg Pn 13 33 04.6 -1.0
CUC P 13 33 04.9
CMPR Campora 4.69 23 Pg Pn 13 33 05.9 -1.1
254nm,0.7s
SIRI Monte Sirino - 4.76 29 Pg Pn 13 33 07.7 -0.4
217nm,0.6s
MTSN Montesano sull 4.79 27 Pg Pn 13 33 08.4 -0.1
356nm,1.0s
CDRU Civita di Ruta 4.84 22 Pg Pn 13 33 08.2 -1.0
152nm,0.9s
SLCN Sala Consilina 4.86 25 Pg Pn 13 33 09.1 -0.3
395nm,0.6s
SLCN Sala Consilina 4.86 25 Pg Pn 13 33 09.1 -0.3
SLCN P 13 33 09.3
SCHR S. Chirico Rap 4.86 30 Pg Pn 13 33 11.0 +1.6
147nm,0.8s
MCEL Monticello 4.86 27 Pg Pn 13 33 09.9 +0.5
228nm,0.8s
SGO Sicignano 4.91 22 Pg Pn 13 33 10.0 -0.1
54nm,0.4s
ORI Oriolo Calabro 4.91 34 Pg Pn 13 33 11.5 +1.4
ORI P 13 33 12.7
ORI Oriolo Calabro 4.91 34 P Pn 13 33 12.7 +2.6
CAEH 'Ain El Ouahch 4.94 281 P Pn 13 33 08.0 -2.5
DGI Dorgali Grotta 5.01 330 Pg Pn 13 33 09.5 -2.0
230nm,0.5s
CKFL Kef-Lekhel 5.01 276 P Pn 13 33 10.0 -1.5
MCRV Calabrutti - M 5.07 20 Pg Pn 13 33 12.7 +0.4
134nm,0.7s
CSSN Cassano Irpino 5.11 18 Pg Pn 13 33 12.7 -0.1
84nm,0.4s
CSSN Cassano Irpino 5.11 18 Pg Pn 13 33 12.7 -0.1
CSSN P 13 33 12.8
MRLC Muro Lucano 5.14 22 Pg Pn 13 33 13.7 +0.4
140nm,0.6s
MRLC Muro Lucano 5.14 22 Pg Pn 13 33 13.7 +0.4
MRLC P 13 33 14.3
MRLC Muro Lucano 5.14 22 P Pn 13 33 14.3 +1.0
CRAC Craco 5.15 32 Pg Pn 13 33 15.7 +2.3
CASM Ain Smara 5.19 274 P Pn 13 33 12.5 -1.5
CTEI Djebel Teioual 5.26 272 P Pn 13 33 14.0 -0.9
CAFE Carife 5.32 19 Pg Pn 13 33 16.2 +0.5
1µm,3.1s
RFI Roccamonfina 5.34 9 Pg Pn 13 33 16.2 +0.3
19nm,1.2s
RFI Roccamonfina 5.34 9 P Pn 13 33 15.9 0.0
RFI Pg Pn 13 33 16.2 +0.3
MIGL Miglionico 5.35 30 Pg Pn 13 33 19.6 +3.4
PSB1 Pescosannita 5.40 15 Pg Pn 13 33 17.2 +0.4
307nm,1.3s
PSB1 Pescosannita 5.40 15 Pg Pn 13 33 17.2 +0.4
PSB1 P 13 33 17.6
SGTA Sant Agata di 5.46 20 Pg Pn 13 33 18.5 +0.9
169nm,0.7s
SGG Gregorio Mates 5.48 12 Pg Pn 13 33 19.2 +1.3
121nm,0.6s
SGG Gregorio Mates 5.48 12 P Pn 13 33 17.6 -0.3
SGG Pg Pn 13 33 19.2 +1.3
VAGA Valle Agricola 5.48 11 Pg Pn 13 33 18.1 +0.1
FG4 Candela 5.50 21 Pg Pn 13 33 18.9 +0.8
36nm,0.2s
FG4 Candela 5.50 21 Pg Pn 13 33 18.9 +0.8
FG4 P 13 33 19.1
GIUL Giuliano Di Ro 5.53 3 Pg Pn 13 33 18.3 -0.3
114nm,0.6s
FG5 Orsara di Pugl 5.57 19 Pg Pn 13 33 20.2 +1.1
76nm,0.8s
FG5 Orsara di Pugl 5.57 19 Pg Pn 13 33 20.2 +1.1
FG5 P 13 33 20.5
SG1 Sgolgore (BA) 5.65 31 *e*P Pn 13 33 20.2 0.0
AMUR Altamura 5.67 30 Pg Pn 13 33 21.5 +0.9
115nm,0.9s
DFRA Djebel Bou Aff 5.70 277 P Pn 13 33 19.5 -1.4
CMER Merouana 5.70 268 P Pn 13 33 23.0 +2.0
SDI San Donato 5.72 7 Pg Pn 13 33 21.6 +0.4
48nm,1.2s
SDI San Donato 5.72 7 P Pn 13 33 21.7 +0.5
GUAR Guarcino 5.77 3 P Pn 13 33 23.8 +1.9
NOCI Noci 5.77 33 Pg Pn 13 33 21.1 -0.8
103nm,0.9s
VVLD Villa Vallelon 5.87 5 Pg Pn 13 33 23.2 0.0
79nm,0.7s
VVLD Villa Vallelon 5.87 5 Pg Pn 13 33 23.2 0.0
VVLD P 13 33 24.3
VVLD Villa Vallelon 5.87 5 P Pn 13 33 24.3 +1.1
CERT Cerreto 5.92 1 P Pn 13 33 26.2 +2.3
BAI Bari 5.96 30 *e*P Pn 13 33 25.2 +0.8
CKHR Kef el Ahmar 5.99 272 P Pn 13 33 17.0 -7.9
RGNG Rignano Grg 6.02 20 Pg Pn 13 33 25.6 +0.3
RGNG Rignano Grg 6.02 20 P Pn 13 33 25.5 +0.2
TOLF Tolfa 6.07 354 Pg Pn 13 33 25.7 -0.3
33nm,0.7s
TOLF Tolfa 6.07 354 Pg Pn 13 33 25.7 -0.3
TOLF P 13 33 26.1
TOLF Tolfa 6.07 354 P Pn 13 33 26.1 +0.1
SET Setif 6.08 274 P Pn 13 33 25.0 -1.1
FGMS Monte Sant'Ang 6.15 22 P Pn 13 33 28.1 +0.9
AQU L'Aquila 6.33 3 *e*P Pn 13 33 32.4 +2.8
MAON Monte Argentar 6.54 348 Pg Pn 13 33 32.7 +0.2
5.0nm,0.4s
MAON Monte Argentar 6.54 348 P Pn 13 33 32.8 +0.3
KEK Kerkira 6.58 54 *e*P Pn 13 33 31.7 -1.3
LATE Laterza 6.63 353 P Pn 13 33 35.5 +1.7
AKF Akfadou 6.76 278 P Pn 13 33 37.0 +1.6
SACS San Casciano d 6.86 354 Pg Pn 13 33 38.6 +1.7
ARCI Arcidosso 6.91 351 Pg Pn 13 33 39.9 +2.4
CORF Corte 6.91 336 P Pn 13 33 37.4 -0.1
CORF S Sn 13 33 55.2 -1.6
ASS Assisi 7.03 359 P Pn 13 33 43.4 +4.2
RLS Riolos of Patr 7.14 71 *e*P Pn 13 33 40.9 +0.1
JAN Janina 7.26 58 *e*P Pn 13 33 43.0 +0.6
GRFL Gerfalco 7.27 349 Pg Pn 13 33 43.3 +0.8
26nm,0.4s
AKET Djebel Ketaf 7.31 273 P Pn 13 33 41.0 -2.0
ITM Ithomi 7.35 78 *e*P Pn 13 33 44.9 +1.3
CSNT Castellina Chi 7.54 351 Pg Pn 13 33 48.3 +2.1
CSNT P 13 33 48.4
CSNT Castellina Chi 7.54 351 P Pn 13 33 48.4 +2.2
EVR Evrytania 7.65 65 *e*P Pn 13 33 47.5 -0.2
ADJB Djebel Djouab 7.66 274 P Pn 13 33 49.0 +1.1
SFI Santa Sofia 7.91 354 P Pn 13 33 55.2 +3.9
ABA Alger-Bouzarea 7.99 278 P Pn 13 33 48.0 -4.4
OHR Ohrid 8.00 48 *e*Pn Pn 13 33 47.8 -4.7
OHR *e*Sn Sn 13 35 15.8 -7.9
THL Klokotos Trika 8.03 61 *e*P Pn 13 33 51.7 -1.3
EMHD Djebel Mahouad 8.05 274 P Pn 13 33 59.0 +5.7
VLI Veliai 8.13 82 *e*P Pn 13 33 50.0 -4.2
IMI Imperia 8.76 336 P Pn 13 34 02.3 -0.7
ETOS Mallorca 8.80 298 P Pn 13 34 03.5 0.0
ETOS Mallorca 8.80 298 P Pn 13 34 03.5 -0.1
LMR La Mourre 8.80 328 *e*Pn Pn 13 34 00.9 -2.7
LMR *e*Sn Sn 13 35 36.1 -7.4
24nm,0.9s
NEO Neokhori 8.82 65 *e*P Pn 13 34 03.3 -0.4
SBF Sospel 8.88 333 *e*Pg Pn 13 34 38.8 +34
SBF *e*Sn Sn 13 35 35.5 -10
76nm,0.7s
SBF Sospel 8.88 333 *e*Pn Pn 13 34 02.9 -1.7
SBF *e*Pg Pn 13 34 38.8 +34
SBF *e*Sn Sn 13 35 35.5 -10

FRF La Foret Royal 8.93 329 *e*Pg Pn 13 34 41.6 +36
FRF *e*Sn Sn 13 35 40.2 -6.4
36nm,0.9s
FRF La Foret Royal 8.93 329 *e*Pn Pn 13 34 02.9 -2.4
FRF *e*Pg Pn 13 34 41.6 +36
FRF *e*Sn Sn 13 35 40.2 -6.4
FRF La Foret Royal 8.93 329 *e*Sn Sn 13 35 40.2 -6.4
18nm,0.9s
LUCF Luceram 8.94 333 P Pn 13 34 04.1 -1.3
SAOF Saorge 8.95 334 P Pn 13 34 04.0 -1.5
AUTN L'Aution 9.00 334 P Pn 13 34 05.8 -0.4
MVIF Mont Vial 9.01 332 P Pn 13 34 05.1 -1.3
TOUF Mont Tournerai 9.08 333 P Pn 13 34 06.7 -0.6
EBNR Beni Rached 9.20 275 P Pn 13 34 03.0 -6.0
VAY Valandovo 9.22 52 *e*Pn Pn 13 34 08.0 -1.3
VAY *e*Sn Sn 13 35 43.9 -10
VAY Valandovo 9.22 52 *e*Pn Pn 13 34 07.9 -1.4
TAVF Tavernes 9.23 327 P Pn 13 34 06.6 -2.8
GELF Grande-Etoile 9.33 324 P Pn 13 34 09.4 -1.4
PLG Polygyros 9.37 59 *e*P Pn 13 34 11.0 -0.2
ETRT Tiaret 9.46 270 P Pn 13 34 14.0 +1.5
EANR 'Ain N'Sour 9.56 273 P Pn 13 34 12.0 -2.0
BOJS Bojanci 9.64 10 *e*Pn Pn 13 34 16.0 +1.1
SURF Saint Ours 9.64 333 P Pn 13 34 14.9 -0.1
EIBI Ibiza 9.66 292 P Pn 13 34 15.0 -0.3
85nm,0.3s
DIVS Divcibare 9.72 32 *i* P Pn 13 34 14.4 -1.7
SMRF Simiane la Rot 9.72 327 *e*Pn Pn 13 34 14.8 -1.4
IDI Anoyia 9.79 91 Pn Pn 13 34 18.6 +1.6
2.8nm,0.3s,baz=262,slow=19,SNR=11
IDI Sn Sn 13 36 02.3 -5.2
5.6nm,0.3s,baz=338,slow=22,SNR=7.1
OG25 Le Caire 9.83 330 P Pn 13 34 17.0 -0.6
MBDF Montbardon 9.87 334 *e*Pn Pn 13 34 18.9 +0.8
MBDF *e*Sn Sn 13 36 02.0 -7.6
43nm,0.6s
MBDF *e*Sg Sn 13 37 10.8 +61
14nm,0.8s
MBDF Montbardon 9.87 334 *e*Pn Pn 13 34 18.9 +0.8
MBDF *e*Sn Sn 13 36 02.0 -7.6
21nm,0.6s
OG22 Abries 9.89 335 P Pn 13 34 19.7 +1.3
CRES Cresnjev 9.98 10 *e*Pn Pn 13 34 21.1 +1.4
LJU Ljubljana 10.09 6 P Pn 13 34 23.7 +2.6
BNI Bardonecchia 10.18 334 *e*Pn Pn 13 34 23.4 +1.0
BNI *e*Sn Sn 13 36 10.4 -6.9
BNI Bardonecchia 10.18 334 *e*Pn Pn 13 34 23.4 +1.0
BNI *e*Sn Sn 13 36 10.4 -6.9
GOLS Golise 10.19 11 *i* Pn Pn 13 34 23.9 +1.4
APE Apeiranthos 10.22 80 *e*P Pn 13 34 24.9 +2.0
VTS Vitosha 10.33 47 P Pn 13 34 25.8 +1.4
ORIF Oris-en-Rattie 10.37 331 *e*Pn Pn 13 34 24.1 -0.8
LPG La Plagne 10.55 336 *e*Pn Pn 13 34 29.3 +1.9
OBKA Obir 10.55 6⇑*i*Pn Pn 13 34 29.2 +1.8
comp=Z,44nm,1.5s
LPL La Plagne 10.57 336 *e*Pn Pn 13 34 31.3 +3.6
LASF Ste Croix 10.61 322 *e*Pn Pn 13 34 25.6 -2.7
EMIR Miracle 10.63 307 P Pn 13 34 26.4 -2.1
7.9nm,0.3s
TUE Stuetta 10.77 347 P Pn 13 34 32.9 +2.4
EBEN Beniarda 10.78 288 P Pn 13 34 33.0 +2.3
187nm,1.6s
EBEN Beniarda 10.78 288 P Pn 13 34 33.0 +2.3
187nm,1.6s
VIVF Saint-Julien-l 10.82 327 *e*Pn Pn 13 34 31.2 +0.1
DAVOX Davos 10.98 349 Pn Pn 13 34 33.8 +0.4
baz=164,slow=18,SNR=2.9
MTLF Montolieu 11.00 315 *e*Pn Pn 13 34 30.4 -3.2
MTLF *e*Sn Sn 13 36 27.3 -10
6.2nm,0.4s
MTLF Montolieu 11.00 315 *e*Pn Pn 13 34 30.4 -3.2
MTLF *e*Sn Sn 13 36 27.3 -10
3.1nm,0.4s
KBA Koelnbreinsper 11.05 2⇑*e*Pn Pn 13 34 32.5 -1.8
comp=Z,36nm,1.5s
KBA Koelnbreinsper 11.05 2⇑*e*Pn Pn 13 34 35.4 +1.1
36nm,1.5s
KBA Koelnbreinsper 11.05 2 Pn Pn 13 34 32.5 -1.8
KBA P 13 34 39.0
KBA Koelnbreinsper 11.05 2 P Pn 13 34 39.0 +4.7
CART Cartagena 11.26 282 *e*Pn Pn 13 34 35.1 -2.0
38nm,0.5s
CART Cartagena 11.26 282 *e*Pn Pn 13 34 35.1 -2.0
38nm,0.5s
SQTA Sankt Quirin 11.26 354⇑*i*Pn Pn 13 34 44.9 +7.8
comp=Z,10nm,0.5s
SQTA Sankt Quirin 11.26 354⇓*i*Pn Pn 13 34 44.5 +7.3
10nm,0.5s
WTTA Wattenberg 11.27 356⇑*i*Pn Pn 13 34 43.5 +6.2
comp=Z,33nm,1.1s
WTTA Wattenberg 11.27 356⇓*i*Pn Pn 13 34 35.1 -2.2
33nm,1.1s
EMOS Mosqueruela 11.38 296 P Pn 13 34 41.2 +2.4
45nm,0.8s
EMOS Mosqueruela 11.38 296 P Pn 13 34 41.2 +2.4
45nm,0.8s
ARSA Arzberg 11.39 9⇑*e*Pn Pn 13 34 39.9 +0.9
comp=Z,25nm,1.5s
MOTA Moosalm 11.39 354⇑*i*Pn Pn 13 34 46.0 +7.1
comp=Z,14nm,0.6s
MOTA Moosalm 11.39 354⇑*i*Pn Pn 13 34 41.4 +2.5
14nm,0.6s
EMUR La Murta 11.46 283 P Pn 13 34 40.5 +0.5
20nm,0.4s
EMUR La Murta 11.46 283 P Pn 13 34 40.5 +0.5
20nm,0.4s
DAVA Damuels 11.48 350⇑*i*Pn Pn 13 34 47.4 +7.3
comp=Z,24nm,0.8s
DAVA Damuels 11.48 350⇓*i*Pn Pn 13 34 46.0 +5.9
24nm,0.8s
ETOB Tobarra 11.80 287 P Pn 13 34 47.3 +2.8
17nm,0.5s
ETOB Tobarra 11.80 287 P Pn 13 34 47.3 +2.8
17nm,0.5s
MOA Molln 11.86 4⇑*i*Pn Pn 13 34 47.4 +2.0
comp=Z,46nm,1.1s
ESAC San Caprasio 11.87 303 P Pn 13 34 45.0 -0.5
22nm,0.4s
EBIE Bielsa 11.90 308 P Pn 13 34 45.3 -0.7
16nm,0.7s
SOP Sopron 11.96 12⇓*e*P Pn 13 34 47.3 +0.5
SOP Sopron 11.96 12 P Pn 13 34 50.1 +3.3
CONA Conrad Observa 12.10 10⇓*i*Pn Pn 13 34 49.3 +0.6
38nm,1.4s
ENIJ Nijar 12.20 279 P Pn 13 34 50.6 +0.6
ENIJ pmax pmax
comp=Z,10.0nm,0.4s
ENIJ Nijar 12.20 279 P Pn 13 34 50.6 +0.6
comp=Z,10nm,0.4s
ENIJ Nijar 12.20 279 P Pn 13 34 50.6 +0.6
comp=Z,10nm,0.4s
EHUE Huescar 12.53 283 P Pn 13 34 56.3 +1.7
EHUE pmax pmax
comp=Z,4.0nm,0.4s
EHUE Huescar 12.53 283 P Pn 13 34 56.3 +1.7
comp=Z,4.3nm,0.4s
EHUE Huescar 12.53 283 P Pn 13 34 56.3 +1.7
comp=Z,4.3nm,0.4s
EVIA Vianos 12.54 287 P Pn 13 34 56.8 +2.2
EVIA pmax pmax
comp=Z,8.0nm,0.6s
EVIA Vianos 12.54 287 P Pn 13 34 56.8 +2.1
comp=Z,8.3nm,0.6s
EVIA Vianos 12.54 287 P Pn 13 34 56.8 +2.2
comp=Z,8.3nm,0.6s
ZST Bratislava 12.55 13 *e*PN Pn 13 34 55.1 +0.2
HINF Hinteralfeld 12.61 341 *e*P Pn 13 34 59.1 +3.5
comp=Z,9.8nm,0.5s
HINF Hinteralfeld 12.61 341 *e*P Pn 13 34 59.1 +3.5
HINF pmax pmax
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 12.61 341 *e*P Pn 13 34 59.1 +3.5
comp=Z,4.9nm,0.5s
ETOR Torete 12.66 297 P Pn 13 34 56.7 +0.3
ETOR pmax pmax
comp=Z,4.0nm,0.6s
ETOR Torete 12.66 297 P Pn 13 34 56.7 +0.3
comp=Z,4.1nm,0.6s
ETOR Torete 12.66 297 P Pn 13 34 56.7 +0.3
comp=Z,4.1nm,0.6s
EBER Berja 12.74 279 P Pn 13 35 01.6 +4.1
comp=Z,40nm,1.0s
EBER Berja 12.74 279 P Pn 13 35 01.6 +4.1
comp=Z,40nm,1.0s
GERES GERESS Array B 12.83 2 Pn Pn 13 34 58.8 +0.2
comp=Z,0.4nm,0.3s,baz=168,slow=14,SNR=11
GERES LR LR 13 41 26.8
comp=Z,531nm,18.6s,baz=192,slow=45
EQES Quesada 12.91 283 P Pn 13 35 00.6 +0.8
comp=Z,113nm,1.0s
EQES Quesada 12.91 283 P Pn 13 35 00.6 +0.9
comp=Z,113nm,1.0s
PSZ Piszkesteto 12.97 21⇓*e*P Pn 13 35 07.1 +6.6
SJPF Ste Jean 12.99 307 *e*Pn Pn 13 34 59.4 -1.4
SJPF *e*Sn Sn 13 37 17.1 -8.9
comp=Z,23nm,0.5s
CDF Champ du Feu 13.06 343 *e*P Pn 13 35 03.7 +1.9
comp=Z,20nm,0.7s
CDF Champ du Feu 13.06 343 *e*P Pn 13 35 03.7 +1.9
CDF pmax pmax
comp=Z,10.0nm,0.7s
CDF Champ du Feu 13.06 343 *e*P Pn 13 35 03.7 +1.9
comp=Z,10nm,0.7s
SSF Saint Saulge 13.07 330 *e*P Pn 13 35 05.7 +3.8
comp=Z,7.8nm,0.6s
SSF Saint Saulge 13.07 330 *e*P Pn 13 35 05.7 +3.8
SSF pmax pmax
comp=Z,4.0nm,0.6s
SSF Saint Saulge 13.07 330 *e*P Pn 13 35 05.7 +3.8
comp=Z,3.9nm,0.6s
KHC Kasperske Hory 13.11 2 *e*P Pn 13 35 05.8 +3.3
KHC x x 13 35 20.0
KHC AMS AMS 13 40 40.0
KHC Kasperske Hory 13.11 2 *e*P Pn 13 35 05.8 +3.3
KHC MLR MLR
comp=N,600nm,19.0s
KHC Kasperske Hory 13.11 2 *e*P Pn 13 35 05.8 +3.3
comp=N,600nm,19.0s
WET Wettzell 13.11 360 P Pn 13 35 06.0 +3.5
VYHS Vyhne 13.21 18 *e*PN Pn 13 35 07.2 +3.4
VYHS Vyhne 13.21 18 *e*Pn Pn 13 35 07.3 +3.5
EALK Alkurruntz 13.22 307 P Pn 13 35 03.5 -0.5
comp=N,30nm,0.6s
EALK Alkurruntz 13.22 307 P Pn 13 35 03.5 -0.5
comp=N,30nm,0.6s
ECOG Cogollos-Vega 13.29 280 P Pn 13 35 07.2 +2.3
ECOG pmax pmax
comp=Z,30nm,0.8s
ECOG Cogollos-Vega 13.29 280 P Pn 13 35 07.2 +2.4
comp=Z,30nm,0.8s
ECOG Cogollos-Vega 13.29 280 P Pn 13 35 07.2 +2.3
comp=Z,30nm,0.8s
EGUA Guajares 13.29 278 P Pn 13 35 06.7 +1.8
EGUA pmax pmax
comp=Z,3.0nm,0.5s
EGUA Guajares 13.29 278 P Pn 13 35 06.7 +1.8
comp=Z,2.7nm,0.5s
EGUA Guajares 13.29 278 P Pn 13 35 06.7 +1.8
comp=Z,2.7nm,0.5s
JAVC Velka Javorina 13.30 14 P Pn 13 35 08.3 +3.3
ERON Agron 13.48 279 P Pn 13 35 08.9 +1.4
comp=Z,4.6nm,0.4s
ERON Agron 13.48 279 P Pn 13 35 08.9 +1.4
comp=Z,4.6nm,0.4s
EBAN Banos Encina 13.49 284 P Pn 13 35 09.2 +1.5
EBAN pmax pmax
comp=Z,14nm,0.6s
EBAN Banos Encina 13.49 284 P Pn 13 35 09.2 +1.5
comp=Z,14nm,0.6s
EBAN Banos Encina 13.49 284 P Pn 13 35 09.2 +1.5
comp=Z,14nm,0.6s
VRAC Vranov 13.55 10 Pn Pn 13 35 14.6 +6.2
comp=Z,0.5nm,0.3s,baz=193,slow=11,SNR=15
VRAC LR LR 13 40 16.4
comp=Z,526nm,19.8s,baz=200,slow=37
VRAC Vranov 13.55 10⇑*i*P Pn 13 35 14.6 +6.1
VRAC Vranov 13.55 10 ⇑P Pn 13 35 14.6 +6.1
KECS Kecovo 13.65 22 *e*PN Pn 13 35 15.1 +5.3
MLR Muntele Rosu 13.66 42 Pn Pn 13 35 09.1 -0.9
comp=Z,0.7nm,0.3s,baz=142,slow=7.6,SNR=5.4
MLR Muntele Rosu 13.66 42⇓*i*P Pn 13 35 10.7 +0.6
MLR Muntele Rosu 13.66 42 ⇓P Pn 13 35 10.7 +0.7
GRA2 Grafenberg Arr 13.67 356 *e*Pn Pn 13 35 15.7 +5.6
GRFO Grafenberg 13.71 355 *e*Pn Pn 13 35 16.0 +5.3
GRFO *e*L 13 41 26.3
comp=Z,1µm,13.8s
ELOJ Sierra Loja 13.75 280 P Pn 13 35 14.1 +2.8
ELOJ pmax pmax
comp=Z,9.0nm,0.6s
ELOJ Sierra Loja 13.75 280 P Pn 13 35 14.1 +2.8
comp=Z,9.3nm,0.6s
ELOJ Sierra Loja 13.75 280 P Pn 13 35 14.1 +2.8
comp=Z,9.3nm,0.6s
ESDC Sonseca Array 13.81 290 Pn Pn 13 35 12.2 +0.1
comp=Z,1.7nm,0.3s,baz=96,slow=14,SNR=12
ESDC LR LR 13 40 29.3
comp=Z,341nm,18.8s,baz=105,slow=38
ESDC Sonseca Array 13.81 290 P Pn 13 35 11.7 -0.5
comp=Z,4.8nm,0.3s
ESDC Sonseca Array 13.81 290 P Pn 13 35 11.6 -0.5
comp=Z,4.8nm,0.3s
ELUQ Luque 13.85 281 P Pn 13 35 15.1 +2.6
ELUQ pmax pmax
comp=Z,16nm,0.6s
ELUQ Luque 13.85 281 P Pn 13 35 15.1 +2.5
comp=Z,16nm,0.6s
ELUQ Luque 13.85 281 P Pn 13 35 15.1 +2.6
comp=Z,16nm,0.6s
PRU Pruhonice 14.01 4 *e*P Pn 13 35 17.0 +2.3
PRU AMS AMS 13 40 50.0
comp=Z,900nm,17.6s
PRU Pruhonice 14.01 4 *e*P Pn 13 35 17.0 +2.3
comp=Z,900nm,17.6s
PAB San Pablo 14.09 290 *e*P Pn 13 35 17.1 +1.3
PAB pmax pmax
comp=Z,18nm,1.0s
PAB San Pablo 14.09 290 *e*P Pn 13 35 17.1 +1.3
comp=Z,18nm,1.0s
EADA Adamuz 14.12 284 P Pn 13 35 15.7 -0.5
comp=Z,13nm,1.0s
EADA Adamuz 14.12 284 P Pn 13 35 15.7 -0.5
comp=Z,13nm,1.0s
MORC Moravsky Berou 14.15 12⇓*i*P Pn 13 35 22.2 +5.4
MORC Moravsky Berou 14.15 12 *e*Pn Pn 13 35 18.0 +1.3
MORC Moravsky Berou 14.15 12 *e*Pn Pn 13 35 18.0 +1.2
GUD Guadarrama 14.16 294 P Pn 13 35 17.2 +0.4
GUD pmax pmax
comp=Z,6.0nm,0.5s
GUD Guadarrama 14.16 294 P Pn 13 35 17.1 +0.4
comp=Z,5.7nm,0.5s
GUD Guadarrama 14.16 294 P Pn 13 35 17.2 +0.4
comp=Z,6.0nm,0.5s
ISP Isparta 14.20 77 *e*P Pn 13 35 20.3 +2.9
NKC Novy Kostel 14.21 359 AMS AMS 13 42 00.0
comp=Z,2µm,10.0s
OKC Ostrava-Krasne 14.32 14 *e*P Pn 13 35 22.2 +3.1
OKC AMS AMS 13 43 00.0
comp=Z,800nm,11.7s
OKC Ostrava-Krasne 14.32 14 *e*P Pn 13 35 22.2 +3.1
comp=Z,800nm,11.7s
NIE Niedzica 14.44 20 *e*P Pn 13 35 29.2 +8.5
DPC Dobruska-Polom 14.53 9 *e*P Pn 13 35 28.0 +6.1
DPC AMS AMS 13 42 40.0
comp=Z,1µm,13.4s
KOLS Kolonicke sedl 14.62 25 *e*Pn Pn 13 35 30.2 +7.1
MOX Moxa 14.64 357 *e*P Pn 13 35 30.8 +7.4
comp=Z,38nm,1.5s
MOX LR LR
comp=Z,600nm,15.0s
MOX Moxa 14.64 357 *e*P Pn 13 35 30.8 +7.4
MOX pmax pmax
comp=Z,38nm,1.5s
MOX MLR MLR
comp=Z,600nm,15.0s
UPC Upice 14.65 8 *e*P Pn 13 35 27.3 +3.8
BURAR Bucovina Array 14.76 35⇓*i*P Pn 13 35 32.0 +7.0
BURAR Bucovina Array 14.76 35 ⇓P Pn 13 35 32.0 +7.0
MDT Midelt 14.81 263 Pn Pn 13 35 23.4 -2.3
comp=Z,0.6nm,0.3s,baz=73,slow=16,SNR=13
MDT LR LR 13 41 54.2
comp=Z,1µm,19.4s,baz=66,slow=41
BRG Berggiesshubel 14.86 3 *e*P Pn 13 35 31.5 +5.1
comp=Z,7.8nm,1.3s
BRG
comp=N,1µm,13.3s
BRG
comp=E,479nm,18.8s
BRG
comp=Z,403nm,15.0s
OJC Ojcow 15.04 17 *e*P Pn 13 35 34.4 +5.5
ESPR Espera 15.12 279 P Pn 13 35 35.5 +5.6

comp=Z,26nm,1.1s
CLL Collm 15.28 0 *e*Pn **Pn 13 35 35.0 +3.0**
CLL Collm 15.28 0 *i* P **Pn 13 35 35.4 +3.4**
CLL pmax pmax
comp=Z,33nm,1.6s
CLL MLR MLR
comp=Z,2µm,11.8s
CLL Collm 15.28 0 *i* P **Pn 13 35 35.4 +3.4**
comp=Z,33nm,1.6s
CLL *i* 13 35 38.3
CLL Collm 15.28 0 *i* (P) **Pn 13 35 35.4 +3.4**
comp=Z,33nm,1.6s
CLL *i* sP sP 13 35 38.3 +1.2
CLL *i* PP 13 35 39.8
DOU Dourbes 15.30 339 P **Pn 13 35 38.4 +6.1**
KWP Kalwaria 15.37 25 *e*P **Pn 13 35 38.7 +5.6**
KWP pmax pmax
comp=Z,52nm,1.4s
KWP Kalwaria 15.37 25 *e*P **Pn 13 35 38.7 +5.6**
comp=Z,52nm,1.4s
BAIF Baives 15.38 338 *e*P **Pn 13 35 38.3 +4.9**
comp=Z,64nm,0.9s
BAIF Baives 15.38 338 *e*P **Pn 13 35 38.3 +4.9**
BAIF pmax pmax
comp=Z,32nm,0.9s
BAIF Baives 15.38 338 *e*P **Pn 13 35 38.3 +4.9**
comp=Z,32nm,0.9s
LDF La Druitiere 15.80 327 *e*P **Pn 13 35 43.4 +4.6**
comp=Z,138nm,0.8s
LDF La Druitiere 15.80 327 *e*P **Pn 13 35 43.4 +4.6**
LDF pmax pmax
comp=Z,69nm,0.8s
LDF La Druitiere 15.80 327 *e*P **Pn 13 35 43.4 +4.6**
comp=Z,69nm,0.8s
GRR Gorron 15.99 325 *e*P **Pn 13 35 43.7 +2.5**
comp=Z,110nm,0.9s
GRR Gorron 15.99 325 *e*P **Pn 13 35 43.7 +2.5**
GRR pmax pmax
comp=Z,55nm,0.9s
GRR Gorron 15.99 325 *e*P **Pn 13 35 43.7 +2.5**
comp=Z,55nm,0.9s
FLN La Foliniere 16.09 326 *e*P **Pn 13 35 46.1 +3.6**
comp=Z,194nm,0.8s
FLN La Foliniere 16.09 326 *e*P **Pn 13 35 46.1 +3.6**
FLN pmax pmax
comp=Z,97nm,0.8s
FLN La Foliniere 16.09 326 *e*P **Pn 13 35 46.1 +3.6**
comp=Z,97nm,0.8s
KIS Kishinev 16.16 42 *e*P **Pn 13 35 44.0 +0.5**
KIS *e*S **Sn 13 38 39.0 -4.4**
KIS MLR MLR
comp=N,500nm,17.0s
KIS MLR MLR
comp=Z,600nm,17.0s
KIS Kishinev 16.16 42 *e*P **Pn 13 35 44.0 +0.5**
KIS *e*S **Sn 13 38 39.0 -4.4**
KIS LRM 13 43 16.0
comp=Z,500nm,17.0s
BRTR Keskin Array B 16.78 71 Pn **Pn 13 35 52.3 +0.9**
comp=Z,0.2nm,0.3s,baz=257,slow=9.7,SNR=13
BRTR LR LR 13 43 26.6
comp=Z,324nm,19.9s,baz=282,slow=41
BRTR Keskin Array B 16.78 71⇑ *e*P **Pn 13 35 55.4 +4.0**
SIM Simferopol' 18.39 55 P **Pn 13 36 15.7 +4.2**
SIM S **Sn 13 39 41.3 +3.8**
SIM pmax pmax
comp=Z,14nm,0.8s
SIM MLR MLR
comp=Z,250nm,17.0s
MMAI Mount Meron Ar 18.78 93 P **Pn 13 36 15.1 -1.1**
comp=Z,1.6nm,0.3s,baz=278,slow=12,SNR=10
KIEV Kiev 18.79 34 *e*P **Pn 13 36 14.5 -1.8**
KIEV pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 18.79 34 *e*P **Pn 13 36 14.5 -1.9**
comp=Z,9.7nm,0.6s
KIEV Kiev 18.79 34 *e*P **Pn 13 36 14.5 -1.8**
comp=Z,9.7nm,0.6s
AKASG Malin Array Be 18.81 34 P **Pn 13 36 13.4 -3.0**
comp=Z,1.1nm,0.3s,baz=229,slow=9.9,SNR=23
AKASG Malin Array Be 18.81 34 P **Pn 13 36 13.5 -3.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 18.81 34 *e*P **Pn 13 36 14.3 -2.2**
SUW Suwalki 19.36 19 *e*P **Pn 13 36 20.0 -3.2**
EIL Elat 19.56 103 *e*Pn **Pn 13 36 29.7 +4.1**
comp=Z,176nm,0.7s
ASF Jabal al Asfar 20.23 94 P **P 13 36 32.2 +0.6**
comp=Z,1.1nm,0.4s,baz=90,slow=1.0,SNR=2.8
ASF Jabal al Asfar 20.23 94 P **P 13 36 32.2 +0.6**
ASF pmax pmax
comp=Z,1.0nm,0.4s
MALT Malatya 20.45 76⇑ *i*P **P 13 36 35.8 +1.7**
MALT Malatya 20.45 76 *e*P **P 13 36 35.8 +1.8**
ANN Anapa 20.57 57 *e*P **P 13 36 34.4 -1.0**
ANN *e*S **S 13 40 23.4 -2.8**
ANN *e*SSS 13 41 02.5
ANN pmax pmax
comp=Z,52nm,0.7s
ANN Anapa 20.57 57 *e*P **P 13 36 34.4 -1.0**
comp=Z,52nm,0.7s
MNK Minsk 21.17 25 *e*P **P 13 36 34.0 -7.9**
SOC Sochi 21.88 62 *e*P **P 13 36 49.0 -0.4**
SOC *e* 13 37 18.3
SOC *e*S **S 13 40 51.6 -0.3**
SOC *e*SSS 13 41 36.0
SOC pmax pmax
comp=Z,8.0nm,0.5s,mb4.4
SOC Sochi 21.88 62 *e*P **P 13 36 49.0 -0.4**
comp=Z,8.0nm,0.5s,mb4.4
EKA Eskdalemuir Ar 22.23 335 P **P 13 36 52.2 -1.0**
comp=Z,8.8nm,0.7s,mb4.3,baz=154,slow=11,SNR=15
EKA Eskdalemuir Ar 22.23 335 P **P 13 36 52.2 -1.0**
EKA pmax pmax
comp=Z,9.0nm,0.7s
KIV Kislovodsk 24.06 62 *e*P **P 13 37 11.5 -0.4**
KIV *e*S **S 13 41 28.8 -1.4**
KIV pmax pmax
comp=Z,29nm,1.2s,mb4.7
KIV Kislovodsk 24.06 62 *e*P **P 13 37 11.7 -0.2**
comp=Z,83nm,1.3s,mb5.1
KIV Kislovodsk 24.06 62 *e*P **P 13 37 11.5 -0.4**
comp=Z,29nm,1.2s,mb4.7
HFS Hagfors 24.13 1 P **P 13 37 09.6 -2.9**
comp=Z,13nm,0.7s,mb4.6,baz=168,slow=11,SNR=6.6
HFS LR LR 13 47 39.1
comp=Z,145nm,18.2s,MS3.5,baz=188,slow=39
HFS Hagfors 24.13 1 P **P 13 37 09.6 -2.9**
HFS pmax pmax
comp=Z,13nm,0.7s
HFS MLR MLR
comp=Z,145nm,18.2s
HFA0 Hagfors New Ar 24.14 1 P **P 13 37 11.3 -1.3**
VSU Vasula 24.24 18 *e*P **P 13 37 15.2 +1.7**
VOR Voronezh 24.43 42 *e*P **P 13 37 15.0 -0.2**
VOR pmax pmax
comp=Z,160nm,1.5s,mb5.3
VOR Voronezh 24.43 42 *e*P **P 13 37 15.0 -0.2**
comp=Z,160nm,1.5s,mb5.3
GOF Gofitskoye 24.50 59 *e*P **P 13 37 23.2 +7.3**
GOF pmax pmax
comp=Z,50nm,0.7s,mb5.2
ZEI Tsey 24.79 65 *e*P **P 13 37 19.6 +1.0**
ZEI *e* 13 37 48.9
ZEI *e*S **S 13 41 41.2 -0.7**
ZEI pmax pmax
comp=Z,13nm,0.8s,mb4.7
ZEI smax
comp=N,12nm,0.8s
ZEI Tsey 24.79 65 *e*P **P 13 37 19.6 +1.0**
comp=N,13nm,0.8s,mb4.7
TOA0 Torodi Ar. Sit 24.91 207 *e*P **P 13 37 20.2 +0.5**
TOA0 Torodi Ar. Sit 24.91 207 *e*P **P 13 37 20.2 +0.5**
TORD Torodi Ar. Bea 24.91 207 P **P 13 37 19.1 -0.6**
comp=N,6.9nm,0.9s,mb4.4,baz=25,slow=9.7,SNR=23
TORD LR LR 13 48 01.9
comp=N,467nm,19.0s,MS4.0,baz=15,slow=39
NB2 NORSAR Subarra 25.06 358 P **P 13 37 19.4 -1.6**
comp=Z,6.5nm,0.8s,mb4.4,baz=159,slow=10
NOA NORSAR Array B 25.06 358 P **P 13 37 19.1 -1.9**
comp=Z,3.8nm,0.6s,mb4.3,baz=180,slow=8.3,SNR=14
NOA NORSAR Array B 25.06 358 P **P 13 37 19.1 -1.9**
NOA pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 25.07 33⇑ *e*P **P 13 37 21.6 +0.5**
OBN *e* 13 37 52.7
OBN pmax pmax
comp=Z,44nm,1.8s,mb4.9
OBN MLR MLR
comp=Z,300nm,16.0s,MS3.9
OBN Obninsk 25.07 33 *e*P **P 13 37 21.6 +0.5**
comp=Z,44nm,1.8s,mb4.9
GNI Garni 25.32 71 P **P 13 37 24.9 +1.5**
comp=Z,22nm,1.0s,mb4.9,baz=353,slow=9.9,SNR=10
GNI LR LR 13 48 24.8
comp=Z,304nm,20.0s,MS3.8,baz=66,slow=39
GNI Garni 25.32 71 *e i*P **P 13 37 25.1 +1.7**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI MLR MLR
comp=Z,300nm,21.0s
GNI Garni 25.32 71 *e*P **P 13 37 26.2 +2.9**
comp=Z,75nm,1.4s,mb5.2
VRHR Novokhopersk 25.48 45 *e*P **P 13 37 24.2 -0.6**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
VRHR pmax pmax
comp=N,2.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 25.48 45 *e*P **P 13 37 24.2 -0.6**
comp=E,2.0nm,0.9s,mb3.9
MOS Moscow 25.93 33 *e*P **P 13 37 26.2 -2.7**
FINES FINESS Array B 26.78 14 P **P 13 37 35.2 -1.3**
comp=E,6.3nm,0.7s,mb4.4,baz=190,slow=9.0,SNR=12
FINES LR LR 13 48 44.5
comp=E,166nm,18.8s,MS3.6,baz=192,slow=38
FINES FINESS Array B 26.78 14 P **P 13 37 35.3 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES MLR MLR
comp=Z,166nm,18.8s
LIC Lamto 33.92 213 *e*P **P 13 38 40.0 +0.3**
comp=Z,109nm,1.4s,mb5.3
LIC Lamto 33.92 213 *e*P **P 13 38 40.0 +0.3**
comp=Z,54nm,1.4s,mb5.3
ARCES ARCESS Array B 34.27 8 P **P 13 38 40.6 -2.2**
comp=Z,5.9nm,0.7s,mb4.7,baz=185,slow=7.2,SNR=17
ARCES LR LR 13 54 41.0
comp=Z,449nm,18.2s,MS4.2,baz=15,slow=40
ARCES ARCESS Array B 34.27 8 P **P 13 38 40.6 -2.2**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES MLR MLR
comp=Z,449nm,18.2s
AKTK Aktyubinsk 35.31 52 P **P 13 38 51.0 -0.8**
AKTK Aktyubinsk 35.31 52 P **P 13 38 51.0 -0.8**
comp=Z,3.0nm,0.5s,mb4.5
AKTO Aktyubinsk 35.31 52 P **P 13 38 51.0 -0.8**
comp=Z,3.3nm,0.5s,mb4.5,baz=263,slow=8.7,SNR=7.9
AKTO Aktyubinsk 35.31 52 P **P 13 38 51.0 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ARU Arti 36.72 42⇑ *i*P **P 13 39 04.4 +0.6**
ARU *e* 13 40 26.6
ARU *e*S **S 13 44 47.6 -0.7**
ARU *e*SS SS 13 47 18.8 -10
ARU pmax pmax
comp=Z,37nm,1.7s,mb4.8
ARU Arti 36.72 42 *e*P **P 13 39 04.8 +1.0**
comp=Z,14nm,0.8s,mb4.7
ARU Arti 36.72 42 *i* P **P 13 39 04.4 +0.6**
comp=Z,37nm,1.7s,mb4.8
SVE Sverdlovsk 37.92 41 *e*P **P 13 39 13.0 -1.1**
BVAR Borovoye Array 43.13 48 P **P 13 39 57.0 -0.1**
comp=Z,4.7nm,0.7s,mb4.3,baz=253,slow=4.5,SNR=6.7
BVAR Borovoye Array 43.13 48 P **P 13 39 57.0 -0.1**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 43.37 143 LR LR 14 00 02.7
comp=Z,436nm,18.3s,MS4.4,baz=300,slow=39
KMBO Kilima Mbogo 43.37 143⇑ *e*P **P 13 40 07.6 +8.5**
SUMG Summit 44.70 340 *e*P **P 13 40 09.0 -0.7**
NVS Novosibirsk 50.55 45 *e*P **P 13 40 53.6 -1.6**
NVS pmax pmax
comp=Z,16nm,1.7s,mb4.7
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS Novosibirsk 50.55 45 *e*P **P 13 40 53.6 -1.6**
comp=E,5.0nm,1.2s,mb4.3
MKAR Makanchi Array 51.57 55 P **P 13 41 02.2 -0.7**
comp=E,3.5nm,0.7s,mb4.4,baz=279,slow=5.1,SNR=11
MKAR Makanchi Array 51.57 55⇑ *e*P **P 13 41 03.2 +0.3**
ZAL Zalesovo 51.60 46 P **P 13 41 02.5 -0.6**
comp=E,2.2nm,0.6s,mb4.3,baz=169,slow=10,SNR=4.7
ZAL LR LR 14 06 40.0
comp=E,177nm,19.2s,MS4.1,baz=200,slow=40
ZAL Zalesovo 51.60 46 P **P 13 41 02.5 -0.6**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL MLR MLR
comp=Z,177nm,19.2s
SCHQ Schefferville 55.86 317 P **P 13 41 33.0 -1.4**
comp=Z,4.9nm,0.9s,mb4.5,baz=19,slow=13,SNR=3.5
SCHQ Schefferville 55.86 317 P **P 13 41 33.0 -1.4**
WMQ Urumqi 56.09 57 *e*P **P 13 41 34.8 -1.2**
MATP Matopo 58.05 163 LR LR 14 06 18.9
comp=Z,132nm,21.7s,MS4.0,baz=308,slow=36
TLY Talaya 63.15 44 *e*P **P 13 42 29.6 +4.9**
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,174nm,18.0s,MS4.3
TLY Talaya 63.15 44 *e*P **P 13 42 25.8 +1.1**
comp=Z,8.7nm,1.1s,mb4.8
ZAK Zakamensk 63.49 46 *e*P **P 13 42 24.6 -2.3**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb4.0
TIXI Tiksi 63.71 19⇑ *e*P **P 13 42 28.5 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
TIXI MLR MLR
comp=Z,200nm,18.0s,MS4.3
BOSA Boshof 65.34 168 P **P 13 42 38.1 -0.9**
comp=Z,3.7nm,0.9s,mb4.6,baz=340,slow=6.6,SNR=5.6
BOSA LR LR 14 12 23.1
comp=Z,222nm,18.7s,MS4.4,baz=347,slow=37
BOSA Boshof 65.34 168 P **P 13 42 38.1 -0.9**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BOSA MLR MLR
comp=Z,222nm,18.7s,MS4.4
BOD Bodaibo 65.73 35 *e*P **P 13 42 39.8 -1.7**
BOD pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
GTA Gaotai 66.17 58 *e*P **P 13 42 45.4 +1.0**
GTA AP 13 42 49.6
GTA XP sP 13 42 53.0 +8.6
GTA PP PP 13 45 13.8 +3.9
GTA S S 13 51 29.1 -5.0
GTA XS sS 13 51 38.6 +4.4
GTA SS SS 13 55 45.8 -3.9
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,66nm,5.3s
GTA LR LR
comp=N,116nm,11.4s,MS4.6
GTA LR LR
comp=E,217nm,16.0s,MS4.6
GTA LR LR
comp=Z,114nm,15.2s,MS4.2
SONM Songino Array 66.46 47 P **P 13 42 45.5 -0.8**
comp=Z,7.6nm,1.1s,mb4.8,baz=288,slow=7.5,SNR=18
SONM LR LR 14 15 11.0
comp=Z,181nm,19.1s,MS4.3,baz=334,slow=39
SONM Songino Array 66.46 47 P **P 13 42 45.5 -0.7**
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM MLR MLR
comp=Z,181nm,19.1s
ULN Ulaanbaatar 66.84 47 *e*P **P 13 42 49.9 +1.3**
ULN pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
ULN Ulaanbaatar 66.84 47 *e*P **P 13 42 49.9 +1.3**
comp=Z,5.2nm,1.2s,mb4.6
YAK Yakutsk 69.87 27⇑ *e*P **P 13 43 09.1 +1.5**
YAK pmax pmax
comp=Z,26nm,1.2s,mb5.2
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.4
YAK Yakutsk 69.87 27 *e*P **P 13 43 08.8 +1.2**
comp=Z,16nm,0.8s,mb5.2
LZH Lanzhou 70.58 59 *e*P **P 13 43 12.5 +0.5**
LZH AP 13 43 15.8
LZH XP sP 13 43 17.3 +5.3
LZH *e*PP PP 13 45 49.5 +1.4
LZH *e*S S 13 52 20.6 -6.0
LZH XS sS 13 52 28.5 +1.8
LZH *e*SS SS 13 56 51.4 -6.4
LZH AMB AMB
comp=Z,23nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,103nm,7.7s
LZH LR LR
comp=N,458nm,15.7s
LZH LR LR
comp=Z,736nm,16.3s,MS5.0
LZH Lanzhou 70.58 59 *e*P **P 13 43 12.5 +0.5**
LZH *PP 13 43 15.8
LZH *SP sP 13 43 17.2 +5.2
LZH *e* 13 45 49.5
LZH *e*S S 13 52 20.6 -6.0
LZH *e*SS SS 13 56 51.4 -6.4
LZH pmax pmax
comp=Z,23nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,740nm,16.3s,MS5.0
LZH Lanzhou 70.58 59 *e*P **P 13 43 12.5 +0.5**
comp=Z,23nm,1.2s,mb5.2
LZH pP 13 43 15.8
LZH sP sP 13 43 17.2 +5.2
LZH *e*PP PP 13 45 49.5 +1.4
LZH *e*S S 13 52 20.6 -6.0
LZH sS sS 13 52 28.5 +1.8
LZH *e*SS SS 13 56 51.4 -6.4
LZH LR LR
comp=Z,740nm,16.3s,MS5.0
INK Inuvik 73.00 348 P **P 13 43 26.3 -0.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=50,slow=10,SNR=5.2
INK Inuvik 73.00 348 P **P 13 43 26.3 -0.2**
INK pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 73.18 337 P **P 13 43 24.9 -2.7**
comp=Z,1.0nm,0.6s,mb4.1,baz=40,slow=5.8,SNR=6.8
YKA LR LR 14 13 52.9
comp=Z,125nm,19.1s,MS4.2,baz=125,slow=34
HHC Hu-ho-hao-te 73.21 52 *e*P **P 13 43 27.4 -0.4**
HHC AP 13 43 32.1
HHC PP PP 13 46 12.0 +1.3
HHC AMB AMB
comp=Z,17nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,90nm,6.2s
CD2 Chengdu 73.21 64 *e*P **P 13 43 28.6 +0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
ULM Lac du Bonnet 73.66 321 P **P 13 43 29.8 -0.6**
comp=Z,2.1nm,0.6s,mb4.3,baz=1.0,slow=18,SNR=4.3
ULM LR LR 14 12 20.5
comp=Z,83nm,20.0s,MS4.0,baz=55,slow=33
BILL Bilibino 74.34 10 *e*P **P 13 43 35.9 +1.5**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
BILL Bilibino 74.34 10 *e*P **P 13 43 33.7 -0.7**
comp=Z,5.6nm,0.9s,mb4.6
KMI Kunming 75.56 69 P **P 13 43 44.4 +2.9**
KMI AP 13 43 50.6
KMI XP sP 13 43 52.0 +10
KMI S S 13 53 18.9 -4.5
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.9
KMI LR LR
comp=N,99nm,17.6s,MS4.3
KMI LR LR
comp=E,92nm,19.2s,MS4.3
KMI LR LR
comp=Z,126nm,21.6s,MS4.2
KMI Kunming 75.56 69 P **P 13 43 44.4 +2.9**
KMI *PP 13 43 50.6
KMI *SP sP 13 43 52.0 +10
KMI S S 13 53 18.9 -4.5
KMI pmax pmax
comp=Z,11nm,1.2s,mb4.9
KMI MLR MLR
comp=Z,130nm,21.6s,MS4.2
KMI Kunming 75.56 69 P **P 13 43 44.4 +2.9**
comp=Z,11nm,1.2s,mb4.9
KMI pP 13 43 50.6
KMI sP sP 13 43 52.0 +10
KMI S S 13 53 18.9 -4.5
KMI LR LR
comp=Z,130nm,21.6s,MS4.2
SEY Seymchan 76.19 18⇑ *e*P **P 13 43 48.4 +3.3**
BJI Beijing 76.57 50 P **P 13 43 46.0 -1.2**
GYA Guiyang 77.77 66 P **P 13 43 56.8 +2.8**
GYA AP 13 44 01.3
GYA XP sP 13 44 03.8 +10
GYA PCP PcP 13 44 07.9 +3.9
GYA PP PP 13 46 53.0 +3.7
GYA SKS 13 54 05.0
GYA AMB AMB
comp=Z,10.0nm,0.2s,mb5.6
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,340nm,18.9s,MS4.8
GYA LR LR
comp=E,310nm,19.0s,MS4.8
GYA LR LR
comp=Z,380nm,19.4s,MS4.7
MCK McKinley 79.53 352 *e*P **P 13 44 02.5 -1.2**
MCK pmax pmax
comp=Z,13nm,1.6s,mb4.6
MCK McKinley 79.53 352 *e*P **P 13 44 02.5 -1.2**
comp=Z,13nm,1.6s,mb4.6
MDJ Mudanjiang 81.39 40 P **P 13 44 13.6 0.0**
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,68nm,4.6s
MDJ LR LR
comp=N,91nm,28.3s,MS4.0
MDJ LR LR
comp=E,30nm,28.3s,MS4.0
MDJ LR LR
comp=Z,86nm,29.6s,MS3.9
NJ2 Nanjing 83.11 55 *e*P **P 13 44 25.4 +2.7**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.6
SAML Samuel 84.14 255 *e*P **P 13 44 32.6 +4.7**
comp=Z,2.7nm,1.0s,mb4.4
KSRS Korea Array 85.31 46 LR LR 14 25 05.5
comp=Z,75nm,18.1s,MS4.1,baz=205,slow=37
PDAR Pinedale Array 85.66 321 P **P 13 44 36.4 +0.8**
comp=Z,0.9nm,0.7s,mb4.0,baz=60,slow=3.6,SNR=6.6
ISCO Idaho Springs 85.69 317 *e*P **P 13 44 37.6 +1.8**
ISCO pmax pmax
comp=Z,19nm,1.7s,mb5.0
ISCO Idaho Springs 85.69 317 *e*P **P 13 44 37.6 +1.9**
comp=Z,19nm,1.7s,mb4.9
SDCO Great Sand Dun 87.06 316 *e*P **P 13 44 43.8 +1.3**
comp=Z,4.7nm,0.9s,mb4.7
JCT Junction City 88.54 307 *e*P **P 13 44 51.8 +2.2**
JCT pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
JCT Junction City 88.54 307 *e*P **P 13 44 51.8 +2.2**
comp=Z,4.4nm,0.8s,mb4.7
SRU San Rafael 88.83 319 *e*P **P 13 44 52.1 +1.2**
SRU pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
SRU San Rafael 88.83 319 *e*P **P 13 44 52.0 +1.1**
comp=Z,3.8nm,0.9s,mb4.6
TXAR Lajitas Array 91.79 309 P **P 13 45 04.6 -0.2**
comp=Z,1.0nm,1.0s,mb4.1,baz=98,slow=3.7,SNR=4.5
TXAR LR LR 14 23 48.3
comp=Z,110nm,18.6s,MS4.3,baz=180,slow=34
TXAR Lajitas Array 91.79 309 P **P 13 45 04.6 -0.2**
TXAR LR LR 14 23 48.3
LPAZ La Paz 92.40 252 LR LR 14 25 06.5
comp=Z,75nm,18.4s,MS4.2,baz=236,slow=35
JOW Kunigami 92.72 54 LR LR 14 29 24.3
comp=Z,95nm,19.2s,MS4.3,baz=354,slow=37
VNA2 Neumayer--Watz 107.64 187 *e*PKPdf PKiKP 13 50 18.4 -5.6
VNA2 *e* 13 50 30.1

VNA3	**Neumayer Olymp**	**108.17**	**188**	*e*PKPdf	PKiKP	13 50 17.1	-7.9
VNA3				*e*		13 50 28.8	
WRA	**Warramunga Arr**	**126.61**	**89**	PKP	PKPdf	13 51 00.2	0.0
	comp=Z,0.7nm,0.8s,baz=320,slow=1.8,SNR=6.1						
WRA	**Warramunga Arr**	**126.61**	**89**	PKIKP	PKPdf	13 51 00.2	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**128.06**	**93**	PKP	PKPdf	13 51 02.5	-0.6
	comp=Z,0.6nm,0.9s,baz=319,slow=1.3,SNR=6.3						
ASAR	**Alice Springs**	**128.06**	**93**	PKIKP	PKPdf	13 51 02.5	-0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

CSEM ***23*** *13:55:43.4±0.4, 3594N×1269E, h32km, MD3.0/16, ML3.6/4, Error ellipse: s-maj=7.2km s-min=3.2km az=19.0, After ROM*

ROM 23 13:55:43.4±0.4, 3594N×1269E, h32km, Md3.0/16, Ml3.6/9, Error ellipse: s-maj=7.2km s-min=3.2km az=19.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTS	**Pantelleria**	**1.03**	**327**	Pg	Pn	13 56 02.3	+0.7
	260nm,0.3s						
WDD	**Wield Dalam**	**1.49**	**92**	Pg	Pn	13 56 08.7	+0.8
WDD				Sg	Sn	13 56 27.2	+0.9
	897nm,0.7s						
FAVR	**Favara**	**1.54**	**31**	Pg	Pn	13 56 10.1	+1.5
	142nm,0.5s						
CLTB	**Caltabellotta**	**1.69**	**14**	Pg	Pn	13 56 09.9	-0.7
	235nm,0.4s						
RAFF	**Raffo Rosso**	**1.86**	**46**	Pg	Pn	13 56 13.9	+1.0
	307nm,0.7s						
HMDC	**Modica**	**1.97**	**58**	Pg	Pn	13 56 14.8	+0.3
HMDC				Sg	Sn	13 56 38.0	0.0
	297nm,0.5s						
CORL	**Corleone**	**2.01**	**14**	Pg	Pn	13 56 15.6	+0.6
HVZN	**Vizzini**	**2.05**	**52**	Pg	Pn	13 56 16.0	+0.5
HVZN				Sg	Sn	13 56 40.8	+0.9
	614nm,0.4s						
PZI	**Palazzolo**	**2.13**	**58**	Pg	Pn	13 56 17.7	+1.0
	197nm,0.1s						
HAVL	**Avola**	**2.21**	**62**	Pg	Pn	13 56 18.3	+0.5
HAVL				Sg	Sn	13 56 43.8	-0.2
	247nm,0.3s						
SSY	**Sortino**	**2.27**	**57**	Pg	Pn	13 56 19.5	+0.9
	424nm,0.4s						
CSLB	**Castelbuono**	**2.27**	**28**	Pg	Pn	13 56 19.9	+1.2
	52nm,0.2s						
GIB	**Gibilmanna**	**2.31**	**27**	Pg	Pn	13 56 20.4	+1.3
	445nm,0.8s						
GALF	**Gagliano Caste**	**2.32**	**40**	Pg	Pn	13 56 21.3	+2.0
	654nm,0.7s						
MMME	**Mongiuffi-Meli**	**2.86**	**45**	Pg	Pn	13 56 28.0	+1.3
	90nm,0.4s						
MTTG	**Motta San Giov**	**3.17**	**49**	Pg	Pn	13 56 32.6	+1.7
	80nm,0.5s						
SOI	**Samo**	**3.43**	**51**	Pg	Pn	13 56 36.0	+1.4
	16nm,0.4s						

IDC ***23*** *14:07:27.3±0.8, 4650N×15300E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.7/7, MS3.6/3, Ms1 3.6/3, ms1mx2.6/39, Error ellipse: s-maj=29.6km s-min=22.5km az=133.0*

MOS ***23*** *14:07:30.7±1.7, 4645N×15302E, h33km, mb4.0/5, Error ellipse: s-maj=41.4km s-min=24.0km az=67.2*

ISCJB ***23*** *14:07:36.4±2.4, 465N±0.1×1528E±02, h86km±22km, mb3.5/6, Error ellipse: s-maj=32.9km s-min=11.5km az=91.3*

ISC 23 14:07:36.7±2.1, 465N±02×1529E±02, h73km±19km, n17, σ0§95/15, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.68**	**26**	*e*PN	**Pn**	**14 08 42.1**	**-2.7**
SKR				*e*S	**Sn**	**14 09 41.9**	**+4.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
ASAJ	**Asahikawa**	**7.64**	**255**	Pn	**Pn**	**14 09 25.5**	**+0.2**
	comp=E,0.3nm,0.3s,baz=51,slow=14,SNR=3.5						
KSRS	**Korea Array**	**20.58**	**253**	P	**P**	**14 12 10.2**	**+0.6**
	comp=E,1.0nm,0.8s,baz=54,slow=11,SNR=2.9						
CBIJ	**Chichi jima**	**21.16**	**207**	LR	LR	14 19 38.2	
	comp=E,120nm,19.5s,baz=155,slow=34						
ZAL	**Zalesovo**	**42.63**	**306**	LR	LR	14 35 23.9	
	comp=E,80nm,18.9s,baz=264,slow=39						
MKAR	**Makanchi Array**	**46.91**	**297**	P	**P**	**14 15 59.9**	**+0.1**
	comp=E,0.7nm,0.9s,mb3.4,baz=68,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	**46.91**	**297**	P	**P**	**14 15 59.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKTO	**Aktyubinsk**	**58.76**	**312**	LR	LR	14 45 29.1	
	comp=Z,67nm,19.3s,baz=141,slow=39						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**14 18 02.7**	**-0.9**
	comp=Z,2.0nm,0.9s,mb3.9,baz=39,slow=11,SNR=6.4						
FINES	**FINESS Array B**	**64.18**	**335**	P	**P**	**14 18 02.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**65.00**	**54**	P	**P**	**14 18 09.4**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.4,baz=302,slow=2.8,SNR=5.1						
WRA	**Warramunga Arr**	**68.25**	**199**	P	**P**	**14 18 28.8**	**-0.9**
	comp=Z,0.6nm,1.0s,mb3.4,baz=18,slow=6.9,SNR=5.8						
WRA	**Warramunga Arr**	**68.25**	**199**	P	**P**	**14 18 28.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**71.95**	**198**	P	**P**	**14 18 52.6**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.6,baz=7,slow=5.5,SNR=14						
ASAR	**Alice Springs**	**71.95**	**198**	P	**P**	**14 18 52.7**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**14 19 26.2**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=307,slow=4.1,SNR=9.8						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**14 19 26.2**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***23*** *14:22:50.9±0.9, 467N±0.1×1546E±02, h10km, mb3.9/14, Error ellipse: s-maj=18.9km s-min=11.4km az=93.7*

IDC ***23*** *14:22:51.0±0.9, 4667N×15474E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/23, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=25.9km s-min=19.7km az=163.0*

NEIC ***23*** *14:22:52.5±0.7, 4665N×15464E, h10km, mb4.7/1, Error ellipse: s-maj=20.8km s-min=15.3km az=189.0*

MOS ***23*** *14:22:57.2±1.5, 4676N×15436E, h57km, mb4.1/9, Error ellipse: s-maj=27.4km s-min=17.0km az=118.6*

ISC 23 14:22:52.9±0.9, 468N±01×1547E±02, h10km, n28, σ0§93/28, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.97**	**14**	*e*PN	**Pg**	**14 24 15.2**	**+6.2**
ASAJ	**Asahikawa**	**8.89**	**257**	Pn	**Pn**	**14 25 01.8**	**+0.3**
	0.8nm,0.3s,baz=56,slow=29,SNR=6.8						
ASAJ	**Asahikawa**	**8.89**	**257**	PN	**Pn**	**14 25 01.8**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.83**	**254**	P	**P**	**14 27 46.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.4,baz=57,slow=11,SNR=3.4						
BOD	**Bodaibo**	**26.75**	**309**	*e*P	**P**	**14 28 31.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.6s,mb3.7						
TIXI	**Tiksi**	**27.69**	**343**	*e*P	**P**	**14 28 38.8**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.0						
SONM	**Songino Array**	**32.30**	**290**	P	**P**	**14 29 21.7**	**-0.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=68,slow=10,SNR=2.6						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**14 30 55.7**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=86,slow=5.3,SNR=3.7						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**14 30 55.7**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**14 30 55.7**	**-0.2**
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**14 31 30.4**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=74,slow=6.6,SNR=9.5						
MKAR	**Makanchi Array**	**47.84**	**298**	P	**P**	**14 31 30.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**14 31 56.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**14 31 56.0**	**-0.3**
	comp=Z,5.6nm,0.5s,mb4.8						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**14 32 47.2**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.2,baz=46,slow=7.0,SNR=5.0						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**14 32 47.2**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**14 32 47.2**	**+0.6**
PDAR	**Pinedale Array**	**63.84**	**55**	P	**P**	**14 33 25.6**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=291,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**14 33 30.2**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.3,baz=38,slow=6.4,SNR=8.7						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**14 33 30.2**	**+1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**14 33 30.2**	**+1.0**
NOA	**NORSAR Array B**	**68.48**	**342**	P	**P**	**14 33 56.2**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=6.4,SNR=2.8						
NOA	**NORSAR Array B**	**68.48**	**342**	P	**P**	**14 33 56.2**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.64**	**200**	P	**P**	**14 34 19.6**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=13,slow=5.3,SNR=12						
ASAR	**Alice Springs**	**72.64**	**200**	P	**P**	**14 34 19.6**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.53**	**62**	P	**P**	**14 34 43.0**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=307,slow=4.7,SNR=20						
TXAR	**Lajitas Array**	**76.53**	**62**	P	**P**	**14 34 43.0**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRG	**Berggiesshubel**	**76.94**	**336**	*e*(P)	**P**	**14 34 47.1**	**+1.5**
	comp=Z,4.2nm,1.1s,mb4.3						

IDC 23 14:32:14.8±3.5, 951S×10731E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=169.3km s-min=30.3km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**29.04**	**122**	P	P	14 38 17.1	+0.4
	0.2nm,0.7s,baz=299,slow=7.5,SNR=4.0						
SONM	**Songino Array**	**57.10**	**359**	P	P	14 42 02.9	0.0
	0.4nm,0.5s,baz=174,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**60.34**	**340**	P	P	14 42 26.2	+0.7
	0.8nm,0.6s,baz=148,slow=7.9,SNR=11						
BVAR	**Borovoye Array**	**69.78**	**337**	P	P	14 43 26.0	-0.9
	0.6nm,0.6s,baz=133,slow=10,SNR=4.8						

IDC 23 14:34:27.5±2.6, 932S×10760E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, MS3.8/2, Ms1 3.8/2, ms1mx2.5/39, Error ellipse: s-maj=126.2km s-min=19.3km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.90**	**115**	P	P	14 40 19.4	+0.3
	0.1nm,0.4s,baz=286,slow=12,SNR=3.3						
WRA				LR	LR	14 50 45.7	
	comp=Z,36nm,18.6s,baz=60,slow=35						
ASAR	**Alice Springs**	**28.90**	**123**	P	P	14 40 28.6	+0.6
	0.3nm,0.5s,baz=299,slow=7.8,SNR=8.5						
STKA	**Stephens Creek**	**38.67**	**130**	P	P	14 41 53.0	+0.1
	0.4nm,0.3s,baz=320,slow=7.9,SNR=3.1						
SONM	**Songino Array**	**56.91**	**359**	P	P	14 44 14.4	+0.2
	0.8nm,0.5s,baz=174,slow=8.2,SNR=9.1						
MKAR	**Makanchi Array**	**60.25**	**340**	P	P	14 44 37.6	0.0
	1.6nm,0.6s,baz=146,slow=8.1,SNR=19						
BVAR	**Borovoye Array**	**69.72**	**337**	P	P	14 45 39.1	0.0
	1.0nm,0.6s,baz=152,slow=9.2,SNR=4.7						
PPT	**Papeete**	**99.25**	**110**	LR	LR	15 30 41.5	
	comp=Z,227nm,20.2s,baz=309,slow=34						

IDC 23 14:37:01.9±1.1, 4589N×15405E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML3.6/1, MS2.5/1, Ms1 2.5/1, ms1mx1.5/46, Error ellipse: s-maj=35.4km s-min=30.0km az=152.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.31**	**262**	Pn	Pn	14 39 04.0	+0.5
	0.8nm,0.3s,baz=64,slow=13,SNR=5.7						
ASAJ				LR	LR	14 41 49.0	
	comp=Z,37nm,21.5s,baz=166,slow=35						
MKAR	**Makanchi Array**	**47.92**	**298**	P	P	14 45 41.5	-0.4
	0.7nm,0.9s,baz=66,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**67.92**	**200**	P	P	14 48 01.6	-0.8
	0.5nm,0.6s,baz=16,slow=7.0,SNR=5.4						
WRA	**Warramunga Arr**	**67.92**	**200**	P	P	14 48 01.6	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**71.60**	**199**	P	P	14 48 25.4	+0.4
	comp=Z,0.6nm,0.6s,baz=14,slow=4.8,SNR=12						
ASAR	**Alice Springs**	**71.60**	**199**	P	P	14 48 25.5	+0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.35**	**61**	P	P	14 48 58.7	+0.2
	comp=Z,0.4nm,0.6s,baz=307,slow=4.3,SNR=7.3						

MOS ***23*** *14:37:20.4±0.3, 4349N×15298E, h33km, mb4.1/5, Error ellipse: s-maj=99.9km s-min=42.5km az=83.4*

IDC ***23*** *14:37:38.3±0.9, 4680N×15262E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, Error ellipse: s-maj=32.1km s-min=22.2km az=103.0*

ISCJB ***23*** *14:37:49.6±1.8, 468N±02×1526E±02, h103km±16km, mb3.5/7, Error ellipse: s-maj=31.0km s-min=14.5km az=95.5*

ISC 23 14:37:51.3±1.6, 469N±01×1526E±02, h104km±14km, n14, σ0§91/14, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.49**	**30**	*e*PN	**Pn**	**14 38 57.5**	**+0.4**
ASAJ	**Asahikawa**	**7.52**	**252**	Pn	**Pn**	**14 39 37.4**	**-0.9**
	1.2nm,0.3s,baz=52,slow=9.6,SNR=6.5						
KSRS	**Korea Array**	**20.47**	**252**	P	**P**	**14 42 23.3**	**+2.7**
	1.1nm,0.8s,baz=54,slow=11,SNR=4.9						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**14 45 29.8**	**-0.4**
	0.6nm,0.6s,mb3.5,baz=307,slow=4.6,SNR=7.0						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**14 45 29.8**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.55**	**297**	P	**P**	**14 46 08.6**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.3,baz=73,slow=5.9,SNR=3.6						
FINES	**FINESS Array B**	**63.78**	**334**	P	**P**	**14 48 11.0**	**-1.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=6.6,SNR=9.5						
FINES	**FINESS Array B**	**63.78**	**334**	P	**P**	**14 48 11.0**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.00**	**341**	P	**P**	**14 48 39.5**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.00**	**341**	P	**P**	**14 48 39.6**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.0,baz=27,slow=6.4,SNR=4.7						
NOA	**NORSAR Array B**	**68.00**	**341**	P	**P**	**14 48 39.6**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**68.50**	**198**	P	**P**	**14 48 41.4**	**-0.9**
	comp=Z,0.4nm,0.9s,mb3.2,baz=19,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**72.20**	**198**	P	**P**	**14 49 05.4**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=13,slow=6.0,SNR=7.7						
TXAR	**Lajitas Array**	**77.76**	**60**	P	**P**	**14 49 37.0**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.0,baz=316,slow=5.0,SNR=3.0						

NDI ***23*** *14:39:29.4±3.8, 3467N×7259E, h10km, ML3.1*

IDC ***23*** *14:39:33.9±1.0, 3441N×7361E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/24, mbtmp3.6/8, ML3.4/3, Error ellipse: s-maj=26.4km s-min=23.2km az=72.0*

ISCJB ***23*** *14:39:39.3±0.6, 3458N±004×7362E±009, h54km±10km, mb3.4/4, Error ellipse: s-maj=12.1km s-min=6.7km az=157.8*

ISC 23 14:39:40.7±0.5, 3449N±003×7361E±009, h51km±9km, n20, σ1§17/26, mb3.4/4, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.88**	**199**	P	**Pn**	**14 39 55.7**	**-1.1**
CEP	**Cherat**	**1.56**	**245**	P	**Pn**	**14 40 07.6**	**+1.6**
SARP	**Sargodha**	**2.68**	**197**	P	**Pn**	**14 40 23.0**	**+1.6**
THN	**Thein Dam**	**2.71**	**139**	*e*P	**Pn**	**14 40 22.6**	**+0.9**
THN				*e*S	**Sn**	**14 41 02.8**	**+10**
DLH	**Dalhousie**	**2.77**	**134**	*e*P	**Pn**	**14 40 25.0**	**+2.5**
DLH				*e*S	**Sn**	**14 41 06.0**	**+11**
SDNR	**Sundarnagar**	**4.11**	**136**	*e*P	**Pn**	**14 40 41.1**	**+0.2**
SDNR				*e*S	**Sn**	**14 41 35.2**	**+7.5**
KLP	**Kalpa**	**4.89**	**126**	*e*P	**Pn**	**14 40 52.4**	**+0.7**
KLP				*ex*	x	14 41 50.6	
KLP				AML	AML	14 42 19.8	
	comp=N,169nm,0.8s						
KLP				AML	AML	14 42 26.0	
	comp=E,159nm,0.5s						
NDI	**New Delhi**	**6.56**	**151**	*ex*	x	14 42 36.0	
KHET	**Khetri**	**6.67**	**163**	*e*P	**Pn**	**14 41 15.1**	**-1.0**
KHET				*e*S	**Sn**	**14 42 29.2**	**-1.5**
KHET				AML	AML	14 42 37.7	
	comp=N,6.3nm,0.3s						
KHET				AML	AML	14 43 14.1	
	comp=E,19nm,0.6s						
KUDL	**Kundal**	**6.79**	**158**	*e*P	**Pn**	**14 41 16.5**	**-1.2**
KUDL				*e*S	**Sn**	**14 42 31.3**	**-2.3**
KUDL				AML	AML	14 42 35.2	
	comp=N,3.8nm,0.3s						
KUDL				AML	AML	14 42 35.5	
	comp=E,3.7nm,0.1s						
KUDL				AML	AML	14 43 17.3	
	comp=N,9.5nm,0.5s						
KUDL				AML	AML	14 43 22.2	
	comp=E,13nm,0.4s						
TKM2	**Tokmak 2**	**8.56**	**10**	⇑P	**Pn**	**14 41 43.0**	**+1.2**
	comp=E,0.2nm,0.5s						
TKM2				⇓S	**Sn**	**14 43 16.8**	**-0.2**
	comp=E,1.3nm,0.9s						
KK31	**Karatay Array**	**8.93**	**345**	⇑P	**Pn**	**14 41 47.0**	**0.0**
	comp=E,2.8nm,0.4s,baz=158,slow=12,SNR=27						
KK31				⇑S	**Sn**	**14 43 25.6**	**-0.5**
	comp=E,4.5nm,0.6s,baz=156,slow=22						
MKAR	**Makanchi Array**	**13.93**	**26**	Pn	**Pn**	**14 42 54.8**	**-0.5**
	comp=E,0.0nm,0.3s,baz=207,slow=13,SNR=3.0						
BVAR	**Borovoye Array**	**18.67**	**354**	P	**Pn**	**14 43 54.8**	**-0.4**
	comp=E,0.2nm,0.3s,baz=158,slow=9.3,SNR=6.9						
AKTO	**Aktyubinsk**	**19.58**	**329**	P	**Pn**	**14 44 03.6**	**-2.5**
	comp=E,0.2nm,0.3s,baz=130,slow=7.9,SNR=3.1						
ZAL	**Zalesovo**	**20.98**	**19**	P	**P**	**14 44 18.7**	**-0.9**
	comp=E,1.6nm,0.4s,baz=255,slow=7.6,SNR=3.9						
SONM	**Songino Array**	**27.82**	**51**	P	**P**	**14 45 25.7**	**+0.6**
	comp=E,0.1nm,0.6s,mb2.6,baz=243,slow=9.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**67.84**	**271**	P	**P**	**14 50 34.5**	**+0.9**
	comp=E,0.8nm,0.6s,mb4.0,baz=47,slow=5.6,SNR=9.4						
WRA	**Warramunga Arr**	**79.12**	**123**	P	**P**	**14 51 40.1**	**+0.3**
	comp=E,0.4nm,0.5s,mb3.6,baz=305,slow=7.0,SNR=9.0						
ASAR	**Alice Springs**	**81.36**	**126**	P	**P**	**14 51 52.6**	**+0.8**
	comp=E,0.3nm,0.7s,mb3.3,baz=309,slow=5.2,SNR=9.8						

SKHL ***23*** *14:45:37.7±1.7, 4619N×15533E, h51km±18km, Ms4.7/2*

IDC ***23*** *14:45:39.9±0.5, 4641N×15481E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.4/30, mbtmp4.3/27, ML4.2/2, MS4.1/22, Ms1 4.1/22, ms1mx3.8/43, Error ellipse: s-maj=15.4km s-min=11.7km az=142.0*

ISCJB ***23*** *14:45:40.0±0.3, 4652N±005×15487E±006, h10km, mb4.6/71, MS4.2/30, Error ellipse: s-maj=7.9km s-min=4.5km az=119.0*

NEIC ***23*** *14:45:41.6±0.3, 4651N×15488E, h10km, mb4.8/29, Error ellipse: s-maj=8.2km s-min=5.3km az=151.0*

GCMT ***23*** *14:45:41.6±0.3, 4655N×15511E, h12km, MW4.8/82, Moment Tensor Solution. s16,c20; s82,c126; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.39±.05; Mθθ 1.36±.06; Mϕϕ 1.03±.05; Mrθ 0.89±.22; Mϕϕ 0.73±.04; Mθr~0.23±.28; Best double couple: M₀2.32400×10¹⁶ NP1:ϕs40.00000°, δ39.00000°, λ-110.00000°. NP2: ϕs246.00000°, δ54.00000°, λ-74.00000°. Principal axes: T 2.0180, Plg8.0000°, Azm325.0000°; N 0.6110, Plg13.0000°, Azm57.0000°; P -2.6300, Plg75.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***23*** *14:45:41.8, 4701N×15479E, h10km, mB5.0, mb4.6, Ms4.7, Msz4.4*

MOS ***23*** *14:45:43.0±1.1, 4638N×15481E, h36km, mb4.8/44, MS4.1/13, Error ellipse: s-maj=8.6km s-min=6.9km az=100.5*

SZGRF ***23*** *14:46:00.1, 4740N×15348E, h33km, mb5.1, Kuril Islands, Russia*

ISC 23 14:45:41.8±0.3, 4656N±005×15492E±006, h10km, (h18km±1.2km: pP-P), n177, σ0§99/172, mb4.6/71, MS4.2/30, 7C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.20**	**10**	*e*P	**Pn**	**14 46 44.6**	**-1.3**
SKR				AMB	AMB	14 46 51.0	
	80nm,0.5s						
SKR				AMB	AMB	14 46 51.0	
	150nm,0.5s						
SKR				*e*S	**Sn**	**14 47 34.0**	**-1.0**
SKR				A		14 47 48.5	
	150nm,0.5s						
SKR				A		14 47 48.5	
	90nm,0.5s						
KUR	**Kuril'sk**	**5.10**	**257**	*e*P	**Pn**	**14 46 52.5**	**-5.7**
KUR				AMB	AMB	14 46 57.0	
	456nm,0.6s						
KUR				*e*S	**Sn**	**14 47 50.0**	**-7.1**
KUR				A		14 47 57.5	
	537nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.87**	**252**	*e*P	**Pn**	**14 47 22.0**	**-0.5**
YUK				AMB	AMB	14 47 23.5	
	360nm,0.3s						
YUK				*e*S	**Sn**	**14 48 39.5**	**-1.2**
YUK				A		14 48 42.5	
	540nm,0.5s						
YUK				A		14 48 42.5	

MDJ LR LR
comp=N,527nm,11.8s
MDJ LR LR
comp=E,344nm,11.8s
MDJ LR LR
comp=Z,478nm,13.6s
MDJ Mudanjiang 17.81 273 *e*Pn **Pn 14 49 48.0 -1.8**
comp=Z,31nm,1.0s
CLNS Chul'man 21.09 310 *e*P **P 14 50 26.8 +0.5**
CLNS pmax pmax
comp=Z,17nm,0.8s,mb4.4
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.6
CLNS MLR MLR
comp=Z,900nm,13.0s,MS4.3
CLNS MLR MLR
comp=E,2µm,14.0s,MS4.6
YAK Yakutsk 21.16 326 *e*P **P 14 50 26.2 -0.9**
YAK *e* 14 54 24.2
YAK pmax pmax
comp=Z,35nm,1.4s,mb4.5
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=E,24nm,1.4s
YAK MLR MLR
comp=Z,546nm,21.0s,MS3.9
YAK MLR MLR
comp=N,363nm,22.0s,MS3.9
YAK MLR MLR
comp=E,399nm,23.0s,MS3.9
YAK Yakutsk 21.16 326 *e*P **P 14 50 25.2 -1.9**
comp=E,18nm,0.6s,mb4.6
CBIJ Chichi jima 21.89 212 LR LR 14 57 45.2
comp=E,259nm,19.8s,MS3.6,baz=41,slow=33
KSRS Korea Array 21.94 255 P **P 14 50 33.1 -2.3**
comp=E,15nm,0.7s,mb4.5,baz=56,slow=11,SNR=30
KSRS LR LR 14 58 43.4
comp=E,192nm,21.0s,MS3.5,baz=58,slow=36
BILL Bilibino 22.32 11 *e*P **P 14 50 38.8 -0.7**
BILL *e* 14 50 46.3
BILL *e* 14 54 33.5
BILL pmax pmax
comp=Z,30nm,1.0s,mb4.7
BILL Bilibino 22.32 11 *e*P **P 14 50 38.5 -0.9**
comp=Z,17nm,0.5s,mb4.7
INCN Inchon 22.79 257 P **P 14 50 44.4 0.0**
comp=Z,56nm,1.1s,mb4.9
BOD Bodaibo 27.07 310 *e*P **P 14 51 20.3 -4.1**
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.1
TIXI Tiksi 28.01 343 *e*P **P 14 51 28.5 -4.4**
TIXI *e*S **S 14 56 13.2 -3.9**
TIXI pmax pmax
comp=Z,34nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,366nm,14.0s,MS4.1
BJI Beijing 28.72 271 P **P 14 51 42.9 +3.7**
BJI S **S 14 56 34.0 +5.7**
BJI AMB AMB
comp=Z,12nm,0.8s,mb4.7
BJI LR LR
comp=N,504nm,13.6s,MS4.4
BJI LR LR
comp=E,493nm,15.0s,MS4.4
BJI LR LR
comp=Z,212nm,12.5s,MS4.0
BJI Beijing 28.72 271 P **P 14 51 42.9 +3.7**
comp=Z,12nm,0.8s,mb4.7
BJI S **S 14 56 34.0 +5.7**
BJI LR LR
comp=Z,210nm,12.5s,MS4.0
BJT Baijiatuan 28.73 271 P **P 14 51 38.6 -0.7**
HHC Hu-ho-hao-te 31.55 276⇑ *i*P **P 14 52 05.8 +1.6**
HHC AP pP 14 52 10.4 +3.1
HHC XP sP 14 52 12.8 +4.3
HHC XS sS 14 57 28.3 +11
HHC AMB AMB
comp=Z,23nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,118nm,7.3s
HHC LR LR
comp=N,513nm,13.1s,MS4.5
HHC LR LR
comp=E,523nm,13.1s,MS4.5
HHC LR LR
comp=Z,491nm,13.5s,MS4.3
ULN Ulaanbaatar 32.13 290⇑ *e*P **P 14 52 09.7 +0.3**
SONM Songino Array 32.57 290 P **P 14 52 12.0 -1.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=74,slow=6.7,SNR=7.8
SONM LR LR 15 05 59.4
comp=Z,486nm,19.6s,MS4.2,baz=265,slow=38
SONM Songino Array 32.57 290 P **P 14 52 12.0 -1.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,486nm,19.6s
SONM Songino Array 32.57 290 P **P 14 52 12.0 -1.1**
SONM LR LR 15 05 59.4
KDAK Kodiak Island 33.26 51 P **P 14 52 18.9 -0.3**
comp=Z,5.3nm,0.7s,mb4.6,baz=309,slow=11,SNR=4.8
KDAK LR LR 15 05 23.1
comp=Z,316nm,20.2s,MS4.0,baz=257,slow=35
TLY Talaya 33.37 298 *e*P **P 14 52 19.5 -0.7**
TLY *e*S **S 14 57 35.8 -5.2**
TLY pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TLY MLR MLR
comp=Z,465nm,18.0s,MS4.2
TLY Talaya 33.37 298 *e*P **P 14 52 18.7 -1.5**
comp=Z,5.1nm,0.6s,mb4.6
ZAK Zakamensk 33.88 296 *e*P **P 14 52 23.3 -1.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
GUMO Guam 33.94 198 LR LR 15 03 32.0
comp=Z,151nm,20.6s,MS3.7,baz=34,slow=32
MCK McKinley 34.99 40 *e*P **P 14 52 35.4 +1.1**
MCK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
MCK McKinley 34.99 40 *e*P **P 14 52 35.4 +1.1**
comp=Z,7.0nm,1.4s,mb4.4
SML Sawmill 35.25 43 *e*P **P 14 52 36.5 0.0**
COLA College 35.52 38 *e*P **P 14 52 38.2 -0.6**
COLA College 35.52 38 P **P 14 52 39.0 +0.2**
comp=Z,3.3nm,0.8s,mb4.3
LZH Lanzhou 39.14 273⇑ P **P 14 53 10.6 +1.1**
LZH AMB AMB
comp=Z,39nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,252nm,6.9s
LZH LR LR
comp=E,439nm,14.7s
LZH LR LR
comp=Z,587nm,17.8s,MS4.5
LZH Lanzhou 39.14 273⇑ P **P 14 53 10.6 +1.1**
comp=Z,39nm,1.5s,mb4.9
LZH pP pP 14 53 30.1 +18
LZH sP sP 14 53 54.5 +41
LZH LR LR
comp=Z,590nm,17.8s,MS4.5
GTA Gaotai 40.23 280 *e*P **P 14 53 19.8 +1.2**
GTA AP pP 14 53 25.5 +3.8
GTA XP sP 14 53 28.8 +5.9
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.2
INK Inuvik 41.15 32 P **P 14 53 27.5 +1.4**
comp=Z,3.4nm,0.6s,mb4.2,baz=296,slow=6.6,SNR=35
INK Inuvik 41.15 32 *e*P **P 14 53 26.7 +0.6**
comp=Z,131nm,0.7s,mb5.7
SIT Sitka 42.55 49 P **P 14 53 36.5 -1.2**
SIT pmax pmax
comp=Z,51nm,1.2s,mb5.1
SIT Sitka 42.55 49 P **P 14 53 36.5 -1.2**
comp=Z,51nm,1.2s,mb5.1
ZAL Zalesovo 43.74 306 P **P 14 53 46.9 -0.4**
comp=Z,2.0nm,0.3s,mb4.3,baz=46,slow=5.4,SNR=6.8
ZAL LR LR 15 13 38.7
comp=Z,501nm,19.8s,MS4.4,baz=40,slow=38
ZAL Zalesovo 43.74 306 P **P 14 53 46.9 -0.4**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL MLR MLR
comp=Z,501nm,19.8s
NVS Novosibirsk 44.29 308 *e*P **P 14 53 51.4 -0.3**
WMQ Urumqi 46.15 292⇑ *i*P **P 14 54 07.5 +1.0**
WMQ AP pP 14 54 12.0 +2.4
WMQ XP sP 14 54 14.5 +3.7
WMQ PCP PcP 14 55 44.3 +1.9
WMQ PP PP 14 55 55.8 +1.2
WMQ S **S 15 00 52.0 -0.4**
WMQ XS sS 15 00 59.6 +2.0
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,105nm,4.6s
WMQ LR LR
comp=N,400nm,19.6s,MS4.4
WMQ LR LR
comp=E,97nm,20.8s,MS4.4
WMQ LR LR
comp=Z,303nm,19.6s,MS4.2
MK31 Makanchi Array 48.13 298 *i*P **P 14 54 21.7 -0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MK31 Makanchi Array 48.13 298 *e*P **P 14 54 21.4 -0.5**
MKAR Makanchi Array 48.13 298 P **P 14 54 21.6 -0.2**
comp=Z,3.3nm,0.5s,mb4.6,baz=67,slow=7.3,SNR=55
MKAR LR LR 15 15 33.4
comp=Z,318nm,18.1s,MS4.3,baz=62,slow=37
MKAR Makanchi Array 48.13 298 *e*P **P 14 54 21.7 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 50.33 37 P **P 14 54 39.4 +0.7**
comp=Z,3.8nm,0.5s,mb4.7,baz=295,slow=7.1,SNR=28
YKA PcP PcP 14 55 56.9 -0.5
comp=Z,0.4nm,0.5s,baz=300,slow=3.4,SNR=4.5
YKA LR LR 15 17 45.3
comp=Z,73nm,19.6s,MS3.7,baz=225,slow=38
YKA Yellowknife Ar 50.33 37 P **P 14 54 39.4 +0.7**
YKA 14 55 56.9
YKA pmax pmax
comp=Z,4.0nm,0.5s
YKA MLR MLR
comp=Z,73nm,19.7s
RES Resolute Bay 50.62 19 *e*P **P 14 54 41.3 +0.4**
comp=Z,215nm,0.9s
CHKZ Chkalovo 51.50 311 *e*P **P 14 54 47.4 -0.1**
CHKZ pmax pmax
comp=Z,24nm,0.6s,mb5.3
CHKZ Chkalovo 51.50 311 *e*P **P 14 54 47.4 -0.2**
comp=Z,24nm,0.6s,mb5.3
LSA Lhasa 51.53 275 P **P 14 54 50.0 +2.3**
LSA Lhasa 51.53 275 *e*P **P 14 54 49.8 +2.1**
LSA pmax pmax
comp=Z,12nm,0.8s,mb4.9
LSA Lhasa 51.53 275 *e*P **P 14 54 49.8 +2.1**
comp=Z,12nm,0.8s,mb4.9
VOSK Vostochnaya 51.77 310 P **P 14 54 49.3 -0.3**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVA0 Borovoye Array 51.94 310 *i*P **P 14 54 50.5 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BVAR Borovoye Array 51.94 310 P **P 14 54 51.0 +0.2**
comp=Z,5.9nm,0.5s,mb4.8,baz=54,slow=7.8,SNR=55
BVAR LR LR 15 18 28.6
comp=Z,309nm,19.2s,MS4.3,baz=319,slow=38
BVAR Borovoye Array 51.94 310 P **P 14 54 51.0 +0.2**
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BVAR MLR MLR
comp=Z,309nm,19.2s
BRVK Borovoye 51.98 310 *e*P **P 14 54 50.8 -0.3**
BRVK pmax pmax
comp=Z,12nm,0.7s,mb4.9
BRVK Borovoye 51.98 310 *e*P **P 14 54 50.8 -0.3**
comp=Z,12nm,0.7s,mb4.9
AAK Ala-Archa 55.03 297 *e*P **P 14 55 13.4 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AAK Ala-Archa 55.03 297 *e*P **P 14 55 13.4 -0.1**
comp=Z,5.7nm,0.9s,mb4.6
EDM Edmonton 55.55 47 *e*P **P 14 55 16.6 -0.6**
HNR Honiara 55.92 174 LR LR 15 15 54.1
comp=Z,181nm,20.6s,MS4.1,baz=360,slow=32
ARU Arti 55.99 318⇓ *i*P **P 14 55 20.3 -0.1**
ARU *e* 14 56 19.4
ARU *e* 14 57 20.8
ARU *e*S **S 15 03 11.3 +2.8**
ARU pmax pmax
comp=Z,19nm,0.7s,mb5.2
ARU Arti 55.99 318 *e*P **P 14 55 19.7 -0.7**
comp=Z,21nm,0.7s,mb5.3
PMG Port Moresby 56.14 189 LR LR 15 16 01.9
comp=Z,121nm,19.2s,MS4.0,baz=40,slow=32
JIRN Jiri 56.20 276 *e*P **P 14 55 23.0 +1.1**
GUN Gumba 56.26 276 *e*P **P 14 55 23.7 +1.4**
YBH Yreka Blue Hor 56.73 63 P **P 14 55 26.7 +1.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=319,slow=5.7,SNR=9.0
YBH Yreka Blue Hor 56.73 63 P **P 14 55 26.7 +1.0**
YBH pmax pmax
comp=Z,3.0nm,0.7s
KKN Kakani 56.74 277 *e*P **P 14 55 27.2 +1.4**
comp=Z,27nm,0.6s,mb5.5
PKI Pulchoki 56.79 276 *e*P **P 14 55 27.5 +1.4**
comp=Z,18nm,0.6s,mb5.3
DMN Daman 56.98 277 *e*P **P 14 55 29.1 +1.7**
comp=Z,38nm,0.8s,mb5.5
GKN Gorkha 57.05 277 *e*P **P 14 55 29.2 +1.2**
comp=Z,28nm,0.7s,mb5.4
KOLN Koldanda 57.91 278 *e*P **P 14 55 35.3 +1.3**
comp=Z,42nm,1.1s,mb5.4
KEV Kevo 57.93 341 *e*p **P 14 55 34.0 -0.2**
comp=Z,4.9nm,0.6s,mb4.7
KEV Kevo 57.93 341 *e*P **P 14 55 34.0 -0.2**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARCES ARCESS Array B 58.44 341 P **P 14 55 38.5 +0.8**
comp=Z,3.3nm,0.6s,mb4.5,baz=30,slow=7.7,SNR=19
ARCES LR LR 15 24 04.5
comp=Z,349nm,21.1s,MS4.5,baz=34,slow=39
ARCES ARCESS Array B 58.44 341 P **P 14 55 38.6 +0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,349nm,21.1s
AB31 Akbulak array 59.50 311 *i*P **P 14 55 45.2 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTK Aktyubinsk 59.77 313 P **P 14 55 46.9 -0.1**
AKTK PcP PcP 14 56 32.6 -1.1
AKTO Aktyubinsk 59.77 313 P **P 14 55 46.9 -0.1**
comp=Z,3.7nm,0.5s,mb4.6,baz=61,slow=8.8,SNR=12
AKTO PcP PcP 14 56 32.6 -1.1
comp=Z,2.8nm,0.6s,baz=65,slow=5.4,SNR=3.5
AKTO Aktyubinsk 59.77 313 P **P 14 55 46.9 -0.1**
AKTO 14 56 32.6
AKTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORR Orenburg 60.66 315 *e*P **P 14 55 52.7 -0.4**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KULM Kulim 62.12 246 *e*P **P 14 56 03.4 +0.5**
DUG Dugway 63.62 59 *e*P **P 14 56 13.9 +1.0**
DUG pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
DUG Dugway 63.62 59 *e*P **P 14 56 13.9 +1.0**
comp=Z,2.3nm,0.5s,mb4.5
PDAR Pinedale Array 63.85 55 P **P 14 56 15.6 +1.1**
comp=Z,2.0nm,0.6s,mb4.4,baz=299,slow=2.9,SNR=15
FIA1 FINESS Array S 64.73 336 *e*P **P 14 56 19.8 -0.4**
FINES FINESS Array B 64.73 336 P **P 14 56 19.5 -0.7**
comp=Z,4.9nm,0.5s,mb4.8,baz=45,slow=6.3,SNR=32
FINES LR LR 15 26 10.2
comp=Z,292nm,21.4s,MS4.4,baz=154,slow=38
FINES FINESS Array B 64.73 336 *i*P **P 14 56 19.5 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.5s
PSI Prapat 65.13 246 P **P 14 56 23.4 +0.6**
comp=Z,1.9nm,0.6s,mb4.3,baz=32,slow=8.8,SNR=4.6
PSI Prapat 65.13 246 P **P 14 56 23.4 +0.6**
PSI pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SRU San Rafael 65.67 58 *e*P **P 14 56 27.1 +0.8**
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SRU San Rafael 65.67 58 *e*P **P 14 56 27.1 +0.9**
comp=Z,6.4nm,0.7s,mb4.8
ULM Lac du Bonnet 65.85 42 P **P 14 56 27.5 +0.1**
comp=Z,2.2nm,0.7s,mb4.3,baz=316,slow=10,SNR=3.0
ULM LR LR 15 25 13.4
comp=Z,97nm,18.3s,MS4.0,baz=339,slow=36
RSSD Black Hills 65.99 51 *e*P **P 14 56 28.7 +0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
RSSD Black Hills 65.99 51 *e*P **P 14 56 28.7 +0.3**
comp=Z,3.4nm,0.6s,mb4.5
OBN Obninsk 66.16 326 *e*P **P 14 56 29.1 -0.4**
OBN *e* 14 58 53.2
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
WRA Warramunga Arr 68.76 201 P **P 14 56 44.0 -1.9**
comp=Z,0.7nm,0.6s,mb3.8,baz=17,slow=6.4,SNR=11
WRA Warramunga Arr 68.76 201 P **P 14 56 44.0 -1.9**
WRA pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 68.80 342 P **P 14 56 45.4 -0.8**
comp=Z,2.9nm,0.7s,mb4.3,baz=30,slow=6.5
NOA NORSAR Array B 68.80 342 P **P 14 56 45.8 -0.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=11
NOA NORSAR Array B 68.80 342 P **P 14 56 45.8 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.8s
FITZ Fitzroy Crossi 69.58 210 P **P 14 56 51.0 0.0**
comp=Z,1.8nm,0.9s,mb4.0,baz=30,slow=8.1,SNR=4.1
ANMO Albuquerque 70.87 59⇑ *e*P **P 14 56 58.4 -0.5**
KIV Kislovodsk 71.82 315 *e*P **P 14 57 03.8 -0.8**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KIV MLR MLR
comp=Z,141nm,18.0s,MS4.3
KIV Kislovodsk 71.82 315 *e*P **P 14 57 05.8 +1.1**
comp=Z,7.1nm,0.6s,mb4.8
ZEI Tsey 72.09 314 *e*P **P 14 57 05.1 -1.2**
ZEI *e* 14 57 21.3
AKASG Malin Array Be 72.39 327 P **P 14 57 06.6 -1.5**
comp=Z,4.0nm,0.6s,mb4.6,baz=32,slow=6.1,SNR=9.8
AKASG LR LR 15 31 18.2
comp=Z,170nm,19.1s,MS4.3,baz=40,slow=38
AKASG Malin Array Be 72.39 327 *i*P **P 14 57 08.6 +0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 72.39 327 P **P 14 57 06.6 -1.5**
AKASG LR LR 15 31 18.2
KIEV Kiev 72.40 327 *e*P **P 14 57 07.3 -0.8**
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIEV Kiev 72.40 327 *e*P **P 14 57 07.3 -0.8**
comp=Z,5.0nm,0.6s,mb4.6
AS31 Alice Springs 72.44 200 *e*P **P 14 57 07.6 -0.8**
ASAR Alice Springs 72.44 200 P **P 14 57 07.5 -0.9**
comp=Z,1.3nm,0.6s,mb4.0,baz=12,slow=5.6,SNR=28
ASAR LR LR 15 24 12.3
comp=Z,84nm,19.9s,MS4.0,baz=3.4,slow=32
SCHQ Schefferville 72.99 24 P **P 14 57 11.7 +0.1**
comp=Z,3.6nm,0.8s,mb4.4,baz=236,slow=16,SNR=4.0
SOC Sochi 73.52 317 *e*P **P 14 57 15.1 +0.4**
SOC *e* 14 59 56.5
SOC *e*PPP 15 01 46.4
SOC *e*S S 15 06 44.5 0.0
SOC *e* 15 07 28.5
SOC *e*SS SS 15 11 25.3 -1.8
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GNI Garni 73.59 311 LR LR 15 33 08.4
comp=Z,257nm,18.8s,MS4.5,baz=23,slow=39
GNI Garni 73.59 311 *e*P **P 14 57 16.4 +1.2**
GNI pmax pmax
comp=Z,13nm,1.2s
BURAR Bucovina Array 76.42 328⇑ *i*P **P 14 57 32.0 +0.5**
LTX Lajitas 76.50 62 *e*P **P 14 57 29.9 -2.0**
LTX pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LTX Lajitas 76.50 62 *e*P **P 14 57 29.9 -2.1**
comp=Z,4.5nm,0.7s,mb4.5
TXAR Lajitas Array 76.50 62 P **P 14 57 32.5 +0.5**
comp=Z,3.0nm,0.6s,mb4.4,baz=303,slow=4.4,SNR=33
TXAR Lajitas Array 76.50 62 P **P 14 57 32.5 +0.6**
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 76.50 62 P **P 14 57 32.5 +0.5**
CLL Collm 77.14 337 *e*pP pP 14 57 39.0 +0.1
MLR Muntele Rosu 77.93 326 LR LR 15 31 31.1
comp=Z,201nm,21.3s,MS4.4,baz=55,slow=35
MLR Muntele Rosu 77.93 326⇓ *i*P **P 14 57 41.4 +1.4**
MALT Malatya 78.19 314 *e*P **P 14 57 43.0 +1.6**
MALT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MALT Malatya 78.19 314 *e*P **P 14 57 43.0 +1.6**
comp=Z,3.2nm,0.6s,mb4.4
KHC Kasperske Hory 78.94 335 *e*P **P 14 57 45.3 -0.3**
STKA Stephens Creek 79.00 192 P **P 14 57 43.3 -2.6**
comp=Z,0.8nm,0.6s,mb3.9,baz=352,slow=7.1,SNR=4.6
STKA Stephens Creek 79.00 192 P **P 14 57 43.3 -2.5**
GRA2 Grafenberg Arr 79.09 337 *e*P **P 14 57 53.2 +6.8**
comp=Z,15nm,1.0s,mb4.9
GRFO Grafenberg 79.09 337 *e*P **P 14 57 53.7 +7.3**
comp=Z,19nm,1.1s,mb4.9
GRFO Grafenberg 79.09 337 *e*P **P 14 57 53.7 +7.3**
GRFO pmax pmax
comp=Z,19nm,1.1s,mb4.9
GERES GERESS Array B 79.16 335 P **P 14 57 46.3 -0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=32,slow=5.6,SNR=8.3
GERES GERESS Array B 79.16 335 P **P 14 57 46.3 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
BR131 Keskin Array S 79.37 318 P **P 14 57 47.2 -0.7**
comp=Z,9.8nm,0.3s,mb5.2
BRTR Keskin Array B 79.37 318 P **P 14 57 48.2 +0.3**
comp=Z,1.4nm,0.8s,mb3.9,baz=52,slow=4.8,SNR=5.9
BRTR LR LR 15 38 40.9
comp=Z,66nm,21.6s,MS3.9,baz=114,slow=40
BRTR Keskin Array B 79.37 318 *i*P **P 14 57 48.9 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CDF Champ du Feu 81.29 339 *e*P **P 14 57 58.1 -0.2**
comp=Z,10nm,0.7s,mb4.6
CDF Champ du Feu 81.29 339 *e*P **P 14 57 58.1 -0.2**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CDF Champ du Feu 81.29 339 *e*P **P 14 57 58.1 -0.2**
comp=Z,5.1nm,0.6s,mb4.6
GRR Gorron 83.10 344 *e*P **P 14 58 07.7 -0.1**
ASF Jabal al Asfar 83.76 311 LR LR 15 39 24.8
comp=Z,79nm,19.6s,MS4.1,baz=292,slow=38
SMF Signal de Mont 83.77 340 *e*P **P 14 58 11.0 -0.2**
comp=Z,30nm,1.0s,mb5.1
SMF Signal de Mont 83.77 340 *e*P **P 14 58 11.0 -0.2**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.1
SMF Signal de Mont 83.77 340 *e*P **P 14 58 11.0 -0.2**
comp=Z,15nm,1.0s,mb5.1
MMAI Mount Meron Ar 83.86 313 LR LR 15 39 37.9
comp=Z,99nm,19.1s,MS4.2,baz=55,slow=39
LPG La Plagne 84.14 338 *e*P **P 14 58 14.1 +1.0**
comp=Z,18nm,0.9s,mb4.9
LPG La Plagne 84.14 338 *e*P **P 14 58 14.1 +1.0**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LPG La Plagne 84.14 338 *e*P **P 14 58 14.1 +1.0**
comp=Z,9.1nm,0.9s,mb4.9
RJF Les Rejaudoux 85.56 342 *e*P **P 14 58 20.4 +0.2**
TBI Tubuai 85.82 130 *e*LR LR 15 24 54.4
comp=Z,280nm,32.0s,baz=324
RKT Rikitea 93.81 120 *e*LR LR 15 28 45.2
comp=Z,229nm,32.2s,baz=322
SNAA Sanae 152.71 195 PKPbc PKPbc 15 05 35.5 -3.3
comp=Z,0.9nm,0.9s,baz=16,slow=22,SNR=6.1
SNAA Sanae 152.71 195 PKIKP PKPdf 15 05 35.5 +3.8
SNAA pmax pmax
comp=Z,1.0nm,0.9s
VNA2 Neumayer--Watz 154.12 193 *e*PKPdf PKPbc 15 05 45.6 +3.8
VNA2 *e* 15 05 53.0
VNA3 Neumayer Olymp 154.17 191 *e*PKPdf PKPbc 15 05 44.9 +3.0
VNA3 *e* 15 05 52.8

*ISCJB **23** 14:47:40.8± 1.9, 4304N± 009× 009W± 007, h12km± 18km,*
Error ellipse: s-maj=16.2km s-min=7.1km az=148.3

*STR **23** 14:47:41.3±0.2, 4303N×0.11W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **23** 14:47:41.3±0.1, 4304N×009W, h10km, ML1.9, Error ellipse: s-maj=1.5km s-min=0.6km az=168.0*
*LDG **23** 14:47:41.2±0.0, 4303N×009W, h8km, Md2.0/2, Error ellipse: s-maj=0.9km s-min=0.4km az=168.0*

ISC 23 14:47:41.2±1.7, 4304N±010×009W±007, h11km±17km, n6, σ0§04/12, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.12**	**85**	Pg		**Pg**		**14 47 44.1**	**-0.1**
LABF				Sg		**Sg**		**14 47 46.3**	**0.0**
VIEF	**Viey**	**0.17**	**151**	Pg		**Pg**		**14 47 45.1**	**+0.1**
VIEF				Sg		**Sg**		**14 47 47.6**	**0.0**
EPF	**Esparros**	**0.32**	**91**	*e*Pg		**Pg**		**14 47 47.5**	**0.0**
EPF				*e*Sg		**Sg**		**14 47 51.8**	**0.0**
	8.9nm,0.2s								
EPF	**Esparros**	**0.32**	**91**	*e*Pg		**Pg**		**14 47 47.5**	**0.0**
EPF				*e*Sg		**Sg**		**14 47 51.8**	**0.0**
	4.4nm,0.2s								
ETSF	**Etsaut**	**0.37**	**248**	*e*Pg		**Pg**		**14 47 48.5**	**0.0**
ETSF				*e*Sg		**Sg**		**14 47 53.5**	**0.0**
	9.7nm,0.3s								
ETSF	**Etsaut**	**0.37**	**248**	*e*Pg		**Pg**		**14 47 48.5**	**0.0**
ETSF				*e*Sg		**Sg**		**14 47 53.5**	**0.0**
	4.8nm,0.3s								

*IDC **23** 14:50:48.0±0.8, 1274N×143.61E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=26.5km s-min=18.1km az=83.0*
*NEIC **23** 14:50:49.2±0.4, 1274N×143.63E, h10km, mb4.6/5, Error ellipse: s-maj=14.2km s-min=9.4km az=90.0*
*ISCJB **23** 14:50:51.3±3.5, 1274N±009×1437E±02, h42km±37km, mb4.3/12, Error ellipse: s-maj=36.1km s-min=14.3km az=167.5*

ISC 23 14:50:52.8±7.1, 1276N±008×1437E±01, h35km±52km, n16, σ0§69/15, mb4.3/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.39**	**54**	Pn		**Pn**		**14 51 15.4**	**-0.1**
	11nm,0.3s,baz=187,slow=16,SNR=3.9								
GUMO				Sn		**Sn**		**14 51 32.5**	**-0.1**
	17nm,0.3s,baz=40,slow=22,SNR=4.1								
HNR	**Honiara**	**27.31**	**143**	P		**P**		**14 56 35.4**	**+1.3**
	39nm,0.4s,mb5.3,baz=256,slow=7.2,SNR=4.0								
CTAO	**Charters Tower**	**32.74**	**176**	P		**P**		**14 57 14.8**	**-7.3**
	7.2nm,1.1s,mb4.5								
WRAB	**Tennant Creek**	**33.77**	**196**	*e*P		**P**		**14 57 30.5**	**-0.7**
	6.5nm,1.1s,mb4.5								
WRA	**Warramunga Arr**	**33.79**	**196**	P		**P**		**14 57 30.8**	**-0.5**
	1.5nm,0.7s,mb4.0,baz=20,slow=9.7,SNR=12								
ASAR	**Alice Springs**	**37.46**	**195**	P		**P**		**14 58 03.1**	**+0.4**
	0.8nm,0.8s,mb3.6,baz=21,slow=7.9,SNR=4.3								
STKA	**Stephens Creek**	**44.43**	**183**	P		**P**		**14 58 60.0**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=8.7,slow=13,SNR=4.2								
STKA	**Stephens Creek**	**44.43**	**183**	*e*P		**P**		**14 58 59.4**	**-0.8**
ULN	**Ulaanbaatar**	**46.43**	**326**	*e*P		**P**		**14 59 16.3**	**+0.3**
	1.7nm,0.7s,mb4.1								
SONM	**Songino Array**	**46.77**	**326**	P		**P**		**14 59 20.0**	**+1.3**
	1.1nm,0.6s,mb4.0,baz=146,slow=7.7,SNR=11								
YAK	**Yakutsk**	**50.22**	**351**	P		**P**		**14 59 44.4**	**-0.9**
	14nm,0.9s,mb5.0								
NWAO	**Narrogin (SRO)**	**52.00**	**208**	P		**P**		**14 59 52.2**	**-6.4**
	65nm,1.8s,mb5.3								
MKAR	**Makanchi Array**	**61.31**	**317**	P		**P**		**15 01 04.9**	**+0.2**
	0.5nm,0.8s,mb3.7,baz=90,slow=8.5,SNR=4.3								
BVAR	**Borovoye Array**	**69.88**	**322**	P		**P**		**15 01 59.5**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=105,slow=7.2,SNR=6.7								
LPAZ	**La Paz**	**148.99**	**100**	PKPbc		PKPbc		15 10 40.2	+3.2
	0.9nm,0.7s,baz=276,slow=3.7,SNR=4.4								
LPAZ	**La Paz**	**148.99**	**100**	PKPbc		PKPbc		15 10 40.2	+3.2

*NEIC **23** 14:57:16.3, 17.17N×95.11W, h218km, MD4.2(MEX), After MEX.*

MEX 23 14:57:16.3±1.2, 1717N×9511W, h218km±57km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.54**	**267**	*i* P		Pn		14 57 51.5	-0.5
OXX				*i* S		S		14 58 18.0	-1.9
VHO	**Vista Hermosa**	**1.55**	**267**	*i* P		Pn		14 57 51.2	-0.9
VHO				*i* S		S		14 58 17.4	-2.7
HUIG	**Huatulco**	**1.69**	**215**	*i* P		Pn		14 57 51.5	-1.8
HUIG				*i* S		S		14 58 19.7	-2.5
TPIG	**Tehuac#an**	**2.48**	**300**	*i* P		Pn		14 57 59.0	-2.1
TPIG				*i* S		S		14 58 32.1	-4.1
UTMO	**Huajuapan**	**2.65**	**285**	*i* P		Pn		14 58 03.1	+0.1
UTMO				*i* S		S		14 58 36.7	-2.9
PPM	**Popocatepetl**	**3.84**	**300**	*i* P		Pn		14 58 15.1	-1.7
PPM				*i* S		S		14 59 03.6	-0.9

*NIED **23** 15:00:00, 4690N×153.10E, h32km, Mw4.5 Best double couple: M0 7.19000×10^15 NP1:φs233.00000°, δ55.00000°, λ129.00000°. NP2:φs358.00000°, δ50.00000°, λ48.00000°.*
*BJI **23** 15:00:28.3, 4705N×153.15E, h22km, mB4.9, mb4.8, Ms4.4, Msz4.2*
*NEIC **23** 15:00:30.0±0.2, 4696N×1526 9E, h10km, mb5.0/45, Error ellipse: s-maj=5.9km s-min=3.8km az=157.0*
*JMA **23** 15:00:32.9±0.9, 4693N×153.14E, h30km, M5.2*
*MOS **23** 15:00:33.4±0.9, 4697N×1526 9E, h47km, mb5.0/41, Error ellipse: s-maj=9.2km s-min=6.1km az=91.1*
*ISCJB **23** 15:00:34.3±0.5, 4691N±003×1527 0E±003, h56km±5km, mb4.8/103, MS3.9/8, Error ellipse: s-maj=5.9km s-min=3.0km az=140.6*
*SKHL **23** 15:00:34.1±2.1, 4697N×1528 8E, h51km±19km, Ms4.3/1, msh5.9/1*
*IDC **23** 15:00:36.4±0.6, 4700N×1526 6E, h59km±5km, mb4.2/27, mb1 4.4/27, mb1mx4.4/30, mbtmp4.3/27, MS3.9/3, Ms1 3.9/3, ms1mx3.2/38, Error ellipse: s-maj=13.0km s-min=9.6km az=144.0*
*SZGRF **23** 15:00:37.4, 4700N×151 23E, h33km, mb5.2, Kuril Islands, Russia*

ISC 23 15:00:36.4±0.4, 4702N±003×15263E±003, h55km±4km, h60km±2.2km:pP-P, n471, σ0§89/481, mb4.8/103, MS4.0/7, 78C-79D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**243**	*e*P		**Pn**		**15 01 31.4**	**-0.5**
KUR					AMB	AMB		15 01 33.0	
	175nm,0.6s								
KUR					AMB	AMB		15 01 33.0	
	289nm,0.6s								
KUR					AMB	AMB		15 01 33.0	
	456nm,0.6s								
KUR				*e*S		**Sn**		**15 02 16.0**	**+1.1**
KUR				A				15 02 19.8	
	9μm,2.0s								
KUR				A				15 02 19.8	
	10μm,2.0s								
KUR				A				15 02 36.0	
	2μm,0.7s								
KUR				A				15 02 36.0	
	688nm,0.7s								
KUR	**Kuril'sk**	**3.76**	**243**	*e*PN		**Pn**		**15 01 31.4**	**-0.5**
KUR				*i* S		**Sn**		**15 02 16.0**	**+1.1**
KUR					pmax	pmax			
	comp=N,170nm,0.6s								
KUR					pmax	pmax			
	comp=E,290nm,0.6s								
KUR					pmax	pmax			
	comp=Z,460nm,0.6s								
KUR					smax				
	comp=N,9μm,2.0s								
KUR					smax				
	comp=E,10μm,2.0s								
KUR					smax				
	comp=N,2μm,0.7s								
KUR					smax				
	comp=E,690nm,0.7s								
SKR	**Severo-Kuril's**	**4.33**	**31**	*e*P		**Pn**		**15 01 39.5**	**-0.1**
SKR					AMB	AMB		15 01 44.5	
	comp=E,150nm,0.5s								
SKR				*e*S		**Sn**		**15 02 27.0**	**-1.8**
SKR				A				15 02 40.1	
	comp=E,460nm,0.5s								
SKR				A				15 02 40.1	
	comp=E,370nm,0.5s								
SKR				A				15 02 40.1	
	comp=E,230nm,0.5s								
SKR	**Severo-Kuril's**	**4.33**	**31**	*e*PN		**Pn**		**15 01 39.5**	**-0.1**
SKR				*e*S		**Sn**		**15 02 27.0**	**-1.8**
SKR					pmax	pmax			
	comp=Z,150nm,0.5s								
SKR					smax				
	comp=N,460nm,0.5s								
SKR					smax				
	comp=E,370nm,0.5s								
SKR					smax				
	comp=Z,230nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.61**	**240**	*e*P		**Pn**		**15 01 59.2**	**+1.9**
YUK					AMB	AMB		15 02 01.2	
	comp=Z,420nm,0.2s								
YUK				A				15 03 29.5	
	comp=Z,2μm,0.5s								
YUK				A				15 03 31.0	
	comp=Z,6μm,1.0s								
YUK				A				15 03 31.0	
	comp=Z,4μm,1.0s								
YUK	**Yuzh-Kuril'sk**	**5.61**	**240**	*e*PN		**Pn**		**15 01 59.2**	**+1.9**
YUK				*e*S		**Sn**		**15 03 10.9**	**+11**
YUK					smax				
	comp=E,2μm,0.5s								
YUK					smax				
	comp=N,6μm,1.0s								
YUK					smax				
	comp=E,4μm,1.0s								
NEM2	**Nemuro 2**	**6.08**	**236**	P		**Pn**		**15 02 03.3**	**-0.4**
NEM2				*e*S		**Sn**		**15 03 10.4**	**-1.6**
JRA	**Rausu**	**6.11**	**242**	P		**Pn**		**15 02 06.8**	**+2.7**
JNK	**Nakash**	**6.55**	**241**	P		**Pn**		**15 02 12.1**	**+2.0**
JNK				*e*S		**Sn**		**15 03 25.6**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.76**	**273**	⇑*i* P		**Pn**		**15 02 17.6**	**+4.7**
YSS					AMB	AMB		15 02 19.0	
	comp=E,140nm,0.7s								
YSS				*e*S		**Sn**		**15 03 34.0**	**+5.5**
YSS					AMS	AMS		15 04 49.0	
	comp=E,1μm,14.0s								
YSS					AMS	AMS		15 04 49.0	
	comp=E,1μm,15.0s								
YSS					AMS	AMS		15 04 49.0	
	comp=E,900nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.76**	**273**	⇑*i* PN		**Pn**		**15 02 17.6**	**+4.7**
YSS				*e*S		**Sn**		**15 03 34.0**	**+5.5**
YSS					pmax	pmax			
	comp=Z,140nm,0.7s								
YSS					MLR	MLR			
	comp=N,900nm,15.0s								
YSS					MLR	MLR			
	comp=Z,1μm,15.0s								
YSS					MLR	MLR			
	comp=E,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**6.76**	**273**	*e*P		**Pn**		**15 02 17.5**	**+4.6**
	comp=E,137nm,0.9s								
JTKR	**Abashiri--Toko**	**6.85**	**247**	P		**Pn**		**15 02 17.0**	**+2.9**
JAK	**Akkeshi**	**6.91**	**237**	P		**Pn**		**15 02 14.4**	**-0.6**
JAK				*e*S		**Sn**		**15 03 30.2**	**-2.1**
PET	**Petropavlovsk**	**7.15**	**31**	*e*PN		**Pn**		**15 02 21.3**	**+3.0**
PET					pmax	pmax			
	comp=Z,59nm,0.6s								
PET					MLR	MLR			
	comp=Z,400nm,17.0s								
PET	**Petropavlovsk**	**7.15**	**31**	*e*Pn		**Pn**		**15 02 18.2**	**-0.1**
	comp=Z,34nm,0.5s								
PET				*e*Sn		**Sn**		**15 03 36.1**	**-2.1**
JMP	**Maruseppu**	**7.18**	**249**	P		**Pn**		**15 02 22.2**	**+3.6**
JAR	**Ashorobuto**	**7.29**	**243**	P		**Pn**		**15 02 22.0**	**+1.9**
JAR				*e*S		**Sn**		**15 03 44.2**	**+2.8**
UGL	**Uglegorsk**	**7.38**	**290**	⇑*i* P		**Pn**		**15 02 27.0**	**+5.6**
UGL					AMB	AMB		15 02 28.0	
	comp=Z,310nm,0.8s								
JOB	**Onbets**	**7.47**	**240**	P		**Pn**		**15 02 23.5**	**+0.8**
JOB				*e*S		**Sn**		**15 03 45.7**	**-0.3**
TYV	**Tymovskoe**	**7.61**	**304**	*e*P		**Pn**		**15 02 28.8**	**+4.2**
TYV					AMB	AMB		15 02 31.0	
	comp=Z,79nm,1.0s								
TYV					AMB	AMB		15 02 31.0	
	comp=Z,138nm,1.0s								
ASAJ	**Asahikawa**	**7.62**	**251**	P		**Pn**		**15 02 28.0**	**+3.3**
	comp=Z,8.4nm,0.3s,baz=66,slow=12,SNR=52								
ASAJ					LR		LR	15 05 14.5	
	comp=Z,837nm,18.3s,baz=232,slow=36								
ASAJ	**Asahikawa**	**7.62**	**251**	P		**Pn**		**15 02 29.3**	**+4.6**
JKK2	**Kamakawa 2**	**7.63**	**249**	P		**Pn**		**15 02 28.6**	**+3.8**
JWK2	**Keihoku**	**7.64**	**261**	P		**Pn**		**15 02 31.6**	**+6.5**
JCH	**Churui**	**7.92**	**240**	P		**Pn**		**15 02 28.8**	**-0.1**
JCH				*e*S		**Sn**		**15 03 55.4**	**-1.7**
JFR	**Furan**	**8.08**	**245**	P		**Pn**		**15 02 33.5**	**+2.5**
JAB	**Ashibetsu**	**8.14**	**248**	P		**Pn**		**15 02 35.8**	**+4.0**
ERM	**Erimo**	**8.41**	**237**	Pn		**Pn**		**15 02 36.0**	**+0.4**
	comp=Z,770nm,0.7s,SNR=20								
ERM	**Erimo**	**8.41**	**237**	*c* iPN		**Pn**		**15 02 36.1**	**+0.5**
JEM	**Erimo**	**8.41**	**237**	P		**Pn**		**15 02 36.3**	**+0.7**
JBT2	**Biratori 2**	**8.43**	**244**	P		**Pn**		**15 02 37.2**	**+1.4**
JNBK	**Urakawa-nobuka**	**8.48**	**240**	P		**Pn**		**15 02 36.2**	**-0.4**
JNBK				*e*S		**Sn**		**15 04 07.8**	**-3.1**
JEW	**Eniwo**	**8.96**	**246**	P		**Pn**		**15 02 45.1**	**+2.0**
JNB	**Noboribetsu**	**9.42**	**245**	P		**Pn**		**15 02 50.0**	**+0.7**
JKB	**Kayabe**	**9.75**	**242**	P		**Pn**		**15 02 53.2**	**-0.7**
JKB				*e*S		**Sn**		**15 04 37.1**	**-4.7**
NKL	**Nikolayevsk**	**9.83**	**313**	*e*P		**Pn**		**15 02 56.5**	**+1.6**
NKL					AMB	AMB		15 02 58.5	
	comp=Z,180nm,1.3s								
NKL					AMB	AMB		15 02 58.5	
	comp=Z,220nm,1.3s								
NKL					AMB	AMB		15 02 58.5	
	comp=Z,260nm,1.3s								
NKL				*e*L				15 05 52.0	
NKL					AMS	AMS		15 07 54.0	
	comp=Z,2μm,14.0s								
JYM2	**Yakumo 2**	**10.03**	**245**	P		**Pn**		**15 02 57.6**	**0.0**
JSR	**Shiriuchi**	**10.33**	**242**	P		**Pn**		**15 03 00.5**	**-1.3**
JTM	**Tenmabayashi**	**10.41**	**237**	P		**Pn**		**15 03 00.4**	**-2.5**
JTM				*e*S		**Sn**		**15 04 50.3**	**-7.6**
JANG	**Nango**	**10.43**	**234**	P		**Pn**		**15 03 00.0**	**-3.2**
JANG				*e*S		**Sn**		**15 04 49.0**	**-9.5**
JTH	**Tanohata**	**10.54**	**232**	P		**Pn**		**15 03 01.8**	**-2.9**
JTH				*e*S		**Sn**		**15 04 50.8**	**-10**
JOSM	**Okushiri--Mats**	**10.60**	**247**	P		**Pn**		**15 03 05.6**	**+0.1**
OFUJ	**Ofunato**	**11.27**	**229**	P		**Pn**		**15 03 10.6**	**-4.1**
OFUJ				*e*S		**Sn**		**15 05 10.1**	**-9.0**
TEY	**Ternei**	**11.32**	**266**	*e*P		**Pn**		**15 03 13.0**	**-2.4**
JRG	**Rokugo**	**11.60**	**233**	P		**Pn**		**15 03 16.6**	**-2.5**
JYW	**Yuwa**	**11.73**	**235**	P		**Pn**		**15 03 19.1**	**-1.8**
JIO	**Ouri**	**11.91**	**228**	P		**Pn**		**15 03 19.0**	**-4.3**
JIO				*e*S		**Sn**		**15 05 24.1**	**-11**
HABR	**Khabarovsk**	**11.93**	**283**	*e*PN		**Pn**		**15 03 32.0**	**+8.4**
HABR				S		**Sn**		**15 05 47.4**	**+12**
HABR					pmax	pmax			
	comp=Z,58nm,1.5s								
MA2	**Magadan**	**12.63**	**356**	*c* iPN		**Pn**		**15 03 35.7**	**+2.5**
MA2					pmax	pmax			
	comp=N,400nm,0.5s								
MA2					pmax	pmax			
	comp=Z,700nm,0.5s								
MA2	**Magadan**	**12.63**	**356**	*e*Pn		**Pn**		**15 03 35.5**	**+2.3**
	comp=Z,76nm,0.6s								
JYA	**Atsumi**	**12.67**	**233**	P		**Pn**		**15 03 30.8**	**-2.9**
JFK	**Kawauchi**	**12.98**	**226**	*e*S		**Sn**		**15 05 49.4**	**-11**
JFY	**Yanaizu**	**13.55**	**230**	P		**Pn**		**15 03 43.2**	**-2.5**
JHK	**Hiroka**	**14.03**	**231**	P		**Pn**		**15 03 48.9**	**-3.3**
KLR	**Kul'dur**	**14.12**	**287**	*e*P		**Pn**		**15 03 56.4**	**+3.0**
JAG	**Ashikaga**	**14.43**	**228**	P		**Pn**		**15 03 54.5**	**-3.0**
MAT	**Matsushiro**	**14.99**	**231**	P		**Pn**		**15 04 01.7**	**-3.0**
MJAR	**Matsushiro Arr**	**14.99**	**231**	P		**Pn**		**15 04 02.1**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=25,slow=13,SNR=12								
MJAR	**Matsushiro Arr**	**14.99**	**231**	P		**Pn**		**15 04 02.1**	**-2.6**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**15.95**	**360**	⇑*e*P		**Pn**		**15 04 19.6**	**+2.5**
MDJ	**Mudanjiang**	**16.23**	**270**	P		**Pn**		**15 04 22.3**	**+1.6**
MDJ				S		**S**		**15 07 14.9**	**-15**
MDJ					AMB	AMB			
	comp=Z,15nm,0.8s								
MDJ					AMB	AMB			
	comp=E,160nm,4.6s								
MDJ					LR	LR			
	comp=N,128nm,23.1s								
MDJ					LR	LR			
	comp=E,165nm,25.4s								
MDJ					LR	LR			
	comp=Z,277nm,29.4s								
MDJ	**Mudanjiang**	**16.23**	**270**	*e*Pn		**Pn**		**15 04 21.4**	**+0.7**
	comp=Z,34nm,0.9s								
ZEA	**Zeya**	**17.47**	**302**	*e*P		**Pn**		**15 04 35.8**	**-0.3**
ZEA					AMB	AMB		15 04 38.9	
	comp=Z,20nm,0.8s								
CN2	**Changchun**	**19.32**	**270**	*e*P		**Pn**		**15 04 55.4**	**-3.0**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.7s								
CLNS	**Chul'man**	**19.59**	**310**	*e*P		**Pn**		**15 05 03.0**	**+1.3**
CLNS					pmax	pmax			
	comp=E,16nm,1.0s								
CLNS					pmax	pmax			
	comp=Z,25nm,1.0s								
CLNS					pmax	pmax			
	comp=N,15nm,0.9s								
CLNS					MLR	MLR			
	comp=E,1μm,14.0s								
CLNS					MLR	MLR			
	comp=Z,700nm,14.0s								
CLNS					MLR	MLR			
	comp=N,100nm,12.0s								
YAK	**Yakutsk**	**19.92**	**327**	*e*P		**Pn**		**15 05 05.5**	**0.0**
YAK					pmax	pmax			
	comp=Z,37nm,1.0s								
YAK					pmax	pmax			
	comp=N,15nm,1.2s								
YAK					pmax	pmax			
	comp=E,17nm,1.1s								
YAK					MLR	MLR			
	comp=E,190nm,21.0s								
YAK					MLR	MLR			
	comp=Z,299nm,21.0s								
YAK					MLR	MLR			
	comp=N,201nm,18.0s								
YAK	**Yakutsk**	**19.92**	**327**	*e*P		**Pn**		**15 05 04.5**	**-1.0**
	comp=N,83nm,1.0s								
KSRS	**Korea Array**	**20.57**	**251**	P		**P**		**15 05 10.4**	**0.0**
	comp=N,16nm,0.9s,baz=57,slow=10,SNR=19								
KSRS					PcP	PcP		15 09 20.1	+0.4
	comp=N,2.9nm,0.8s,baz=318,slow=3.4,SNR=6.3								
KSRS					LR	LR		15 12 03.7	
	comp=N,180nm,19.4s,MS3.5,baz=11,slow=33								
SNY	**Shenyang**	**21.32**	**267**	⇓P		**P**		**15 05 18.8**	**+0.2**
SNY					AMB	AMB			
	comp=Z,16nm,0.7s,mb4.5								
SNY					LR	LR			
	comp=N,347nm,14.7s,MS4.1								
SNY					LR	LR			
	comp=E,553nm,17.4s,MS4.1								
SNY					LR	LR			
	comp=Z,458nm,21.6s,MS3.8								
INCN	**Inchon**	**21.39**	**253**	*e*P		**P**		**15 05 18.8**	**-0.6**
	comp=Z,60nm,0.8s,mb5.0								
JNU	**Nakatsue**	**21.58**	**238**	P		**P**		**15 05 21.1**	**-0.3**
	comp=Z,32nm,0.8s,mb4.8,baz=277,slow=26,SNR=5.2								
JNU					LR	LR		15 13 18.1	
	comp=Z,377nm,18.9s,MS3.8,baz=80,slow=35								
HIA	**Hailar**	**21.97**	**288**	*e*P		**P**		**15 05 24.1**	**-1.4**
HIA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
HIA	**Hailar**	**21.97**	**288**	*e*P		**P**		**15 05 24.1**	**-1.4**
	comp=Z,8.8nm,0.9s,mb4.2								
BILL	**Bilibino**	**22.21**	**14**	⇑*i* P		**P**		**15 05 27.9**	**-0.1**
BILL				*e**PP				15 05 42.2	
BILL				*e**SP		sP		15 05 53.6	+6.2
BILL				*e*				15 09 18.0	
BILL					pmax	pmax			
	comp=Z,23nm,2.5s,mb4.2								
BOD	**Bodaibo**	**25.56**	**309**	*e*P		**P**		**15 05 59.5**	**-0.5**
BOD					pmax	pmax			
	comp=Z,9.0nm,2.2s,mb3.9								
TIXI	**Tiksi**	**27.12**	**344**	*e*P		**P**		**15 06 13.3**	**-0.8**
TIXI					pmax	pmax			
	comp=Z,9.0nm,2.5s,mb3.9								
BJI	**Beijing**	**27.15**	**269**	P		**P**		**15 06 17.9**	**+3.5**
BJI					AMB	AMB			
	comp=Z,20nm,0.9s,mb4.7								
BJI					LR	LR			
	comp=N,318nm,14.3s,MS4.3								
BJI					LR	LR			
	comp=E,463nm,13.5s,MS4.3								
BJI					LR	LR			
	comp=Z,294nm,19.5s								
BJI	**Beijing**	**27.15**	**269**	P		**P**		**15 06 17.9**	**+3.5**
	comp=Z,20nm,0.9s,mb4.7								
BJI					S	**S**		**15 10 42.9**	**-6.0**
BJI					LR	LR			
	comp=Z,290nm,19.5s,MS3.9								
BJT	**Baijiatuao**	**27.17**	**268**	*e*P		**P**		**15 06 17.3**	**+2.8**
BJT					pmax	pmax			
	comp=Z,9.0nm,0.4s								
BJT	**Baijiatuao**	**27.17**	**268**	*e*P		**P**		**15 06 17.3**	**+2.8**
	comp=Z,9.2nm,0.4s,mb4.7								
NJ2	**Nanjing**	**29.76**	**252**	*e*P		**P**		**15 06 40.4**	**+2.8**
NJ2					AMB	AMB			
	comp=Z,30nm,0.5s,mb5.3								
HHC	**Hu-ho-hao-te**	**29.95**	**273**	*e*P		**P**		**15 06 40.9**	**+1.7**
HHC					S	**S**		**15 11 37.3**	**+4.4**
HHC					SS	SS		15 13 14.8	-27
HHC					AMB	AMB			
	comp=Z,20nm,1.2s,mb4.7								
HHC					AMB	AMB			
	comp=Z,173nm,5.5s								
HHC					LR	LR			
	comp=N,202nm,13.8s,MS4.1								
HHC					LR	LR			
	comp=E,248nm,14.5s,MS4.1								
HHC					LR	LR			
	comp=Z,234nm,14.1s,MS4.0								
SONM	**Songino Array**	**30.93**	**289**	P		**P**		**15 06 47.2**	**-0.8**
	comp=Z,1.4nm,0.7s,mb3.9,baz=68,slow=8.9,SNR=11								
SONM					PcP	PcP		15 09 42.6	-0.6
	comp=Z,1.4nm,0.9s,baz=159,slow=2.9,SNR=4.1								
SONM	**Songino Array**	**30.93**	**289**	P		**P**		**15 06 47.2**	**-0.7**
SONM								15 09 42.6	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ZAK	**Zakamensk**	**32.27**	**295**	*e*P		**P**		**15 06 59.2**	**-0.5**
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.0								
SVW2	**Sparrevohn**	**32.54**	**45**	*e*P		**P**		**15 07 01.6**	**-0.4**
IMA2	**Indian Mountai**	**33.78**	**36**	*e*P		**P**		**15 07 12.4**	**-0.5**
KDAK	**Kodiak

comp=Z,1.0nm,0.4s
ZAL Zalesovo 42.20 305 P P 15 08 23.0 -0.7
ZAL PcP PcP 15 10 17.3 +0.2
WMQ Urumqi 44.52 291 ⇑P P 15 08 43.4 +0.9
WMQ AP pP 15 08 47.9 -9.0
WMQ XP sP 15 08 50.3 -13
WMQ PCP PcP 15 10 26.1 +1.2
WMQ PP PP 15 10 28.9 +1.8
WMQ *e*S **S 15 15 18.9 +5.0**
WMQ AMB AMB
comp=Z,6.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,129nm,5.0s
WMQ LR LR
comp=N,105nm,19.6s,MS4.0
WMQ LR LR
comp=E,121nm,16.6s,MS4.0
WMQ LR LR
comp=Z,234nm,19.0s,MS4.1
KMI Kunming 44.97 259 P P 15 08 46.8 +0.8
KMI AP pP 15 08 56.0 -4.5
KMI XP sP 15 08 58.3 -8.6
KMI AMB AMB
comp=Z,16nm,1.0s,mb4.8
KMI Kunming 44.97 259 P P 15 08 46.8 +0.8
comp=Z,16nm,1.0s,mb4.8
KMI pP pP 15 08 56.0 -4.5
KMI sP sP 15 08 58.3 -8.6
MKAR Makanchi Array 46.53 297 P P 15 08 57.8 -0.5
comp=Z,2.5nm,0.7s,mb4.2,baz=69,slow=8.1,SNR=21
MKAR PcP PcP 15 10 31.9 0.0
comp=Z,2.9nm,0.6s,baz=72,slow=2.4,SNR=15
MKAR Makanchi Array 46.53 297 P P 15 08 57.8 -0.5
MKAR 15 10 31.9
MKAR pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.94 303 P P 15 09 00.6 -0.9
comp=Z,35nm,0.5s,mb5.5,SNR=5.5
LSA Lhasa 49.93 273 P P 15 09 27.0 +2.5
LSA AMB AMB
comp=Z,20nm,0.6s,mb5.3
LSA Lhasa 49.93 273 *e*P **P 15 09 26.5 +2.0**
LSA pmax pmax
comp=Z,13nm,0.6s,mb5.1
LSA Lhasa 49.93 273 *e*P **P 15 09 26.4 +1.9**
comp=Z,13nm,0.6s,mb5.1
CHKZ Chkalovo 50.01 310 *e*P **P 15 09 23.5 -1.6**
CHKZ *e* 15 10 42.3
CHKZ pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
CHKZ Chkalovo 50.01 310 *e*P **P 15 09 23.5 -1.6**
comp=Z,5.1nm,0.4s,mb4.9
CHKZ *e*PcP PcP 15 10 42.3 -2.1
BVAR Borovoye Array 50.43 309 P P 15 09 27.5 -0.8
comp=Z,1.7nm,0.4s,mb4.4,baz=57,slow=7.5,SNR=19
BVAR PcP PcP 15 10 45.2 -0.8
comp=Z,4.7nm,0.4s,baz=87,slow=2.6,SNR=17
BVAR Borovoye Array 50.43 309 P P 15 09 27.5 -0.8
BVAR 15 10 45.2
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 50.47 309 *e*P **P 15 09 27.5 -1.1**
BRVK *e* 15 10 45.3
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 50.47 309 *e*P **P 15 09 27.5 -1.1**
comp=Z,2.9nm,0.6s,mb4.5
BRVK *e*PcP PcP 15 10 45.3 -0.8
YKA Yellowknife Ar 50.91 37 P P 15 09 30.9 -0.9
comp=Z,3.0nm,0.5s,mb4.5,baz=296,slow=7.1,SNR=18
YKA pP pP 15 09 46.6 +0.1
comp=Z,10.0nm,0.8s,baz=298,slow=7.2,SNR=17
YKA PcP PcP 15 10 46.5 -1.2
comp=Z,2.9nm,0.6s,baz=303,slow=3.8,SNR=10
YKA Yellowknife Ar 50.91 37 P P 15 09 30.9 -1.0
YKA *PP pP 15 09 46.6 0.0
YKA 15 10 46.5
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 50.91 37 P P 15 09 30.9 -1.0
YKA pP pP 15 09 46.6 +0.1
YKA PcP PcP 15 10 46.5 -1.2
CHTO Chiang Mai 51.86 256 *e*P **P 15 09 40.1 +1.1**
CHTO pmax pmax
comp=Z,17nm,0.8s,mb5.0
CHTO Chiang Mai 51.86 256 *e*P **P 15 09 40.1 +1.1**
comp=Z,17nm,0.8s,mb5.0
ARU Arti 54.59 317 ⇑*i*P **P 15 09 58.2 -0.9**
ARU *e* 15 10 59.4
ARU *e* 15 12 02.9
ARU *e*S **S 15 17 33.5 -1.1**
ARU *e*SS SS 15 21 16.4 -1.4
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
JIRN Jiri 54.60 274 *e*P **P 15 10 00.6 +1.5**
comp=Z,5.7nm,0.2s,mb5.2
GUN Gumba 54.65 274 *e*P **P 15 10 00.6 +1.1**
comp=Z,27nm,0.6s,mb5.5
A07A Ashnola River, 55.05 53 ⇓P **P 15 10 02.2 -0.2**
baz=55
KKN Kakani 55.13 275 *e*P **P 15 10 04.0 +1.0**
comp=Z,29nm,0.7s,mb5.4
D05A Enumclaw 55.19 56 ⇓P **P 15 10 03.2 -0.2**
baz=55
PKI Pulchoki 55.19 274 *e*P **P 15 10 04.6 +1.2**
comp=Z,25nm,0.8s,mb5.3
DMN Daman 55.37 275 *e*P **P 15 10 05.8 +1.1**
comp=Z,59nm,0.8s,mb5.7
GKN Gorkha 55.44 275 *e*P **P 15 10 06.0 +0.8**
comp=Z,29nm,0.5s,mb5.6
B07A Winthrop 55.52 54 ⇑P **P 15 10 05.5 -0.3**
baz=55
A08A Turner Farm, O 55.71 53 ⇓P **P 15 10 07.3 +0.2**
baz=56
D06A Cle Elum 55.83 55 ⇓P **P 15 10 08.0 0.0**
baz=56
C07A Waterville 55.99 55 ⇓P **P 15 10 08.6 -0.5**
baz=56
B08A Colville Reser 56.01 54 P **P 15 10 09.0 -0.3**
baz=56,SNR=5.1
G04A Mulino 56.02 58 ⇑P **P 15 10 09.4 0.0**
baz=56
A09A Danville 56.07 53 P **P 15 10 09.8 +0.1**
baz=56,SNR=6.6
F05A White Salmon 56.22 57 ⇑P **P 15 10 10.7 -0.1**
baz=56
KOLN Koldanda 56.29 276 *e*P **P 15 10 12.4 +1.1**
comp=Z,35nm,0.9s,mb5.4
D07A Quincy 56.32 55 ⇑P **P 15 10 11.0 -0.5**
baz=56
EDM Edmonton 56.37 46 *e*P **P 15 10 10.7 -1.1**
EDM *e* pP 15 10 26.0 -0.7
J02A Umpqua 56.43 60 ⇓P **P 15 10 12.8 +0.5**
baz=56
H04A Detroit Lake 56.49 58 ⇓P **P 15 10 12.5 -0.2**
baz=56
C08A Higginbotham F 56.50 54 ⇑P **P 15 10 12.4 -0.4**
baz=56
B09A Rice 56.62 53 ⇓P **P 15 10 13.2 -0.5**
baz=56
G05A Wamic 56.67 58 ⇑P **P 15 10 13.9 -0.1**
baz=56
E07A Sunnyside 56.75 56 ⇑P **P 15 10 14.3 -0.2**
baz=56
J03A Ideyld Park 56.79 60 ⇓P **P 15 10 15.5 +0.7**
baz=57
I04A Tendick Farm, 56.87 59 ⇑P **P 15 10 15.6 +0.2**
baz=57
C09A Chrisman Ranch 56.91 54 ⇑P **P 15 10 15.1 -0.6**
baz=57
KEV Kevo 56.98 340 *e*p **P 15 10 14.8 -1.4**
D08A Wollman Farm, 56.98 55 ⇑P **P 15 10 15.9 -0.3**
baz=57
H05A Madras 57.07 58 ⇓P **P 15 10 17.0 +0.1**
baz=57
F07A Phinny Hill Vi 57.09 56 ⇓P **P 15 10 17.3 +0.3**
baz=57
E08A Dider Farm, El 57.24 55 ⇓P **P 15 10 17.9 -0.1**
baz=57
NEW Newport 57.27 53 P **P 15 10 17.4 -0.8**
comp=Z,2.1nm,0.6s,mb4.3,baz=339,slow=2.9,SNR=5.9
NEW PcP PcP 15 11 11.7 -0.3
comp=Z,1.6nm,0.6s,baz=326,slow=4.1,SNR=4.2
NEW Newport 57.27 53 P **P 15 10 17.4 -0.9**
NEW 15 11 11.7
NEW pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 57.27 53 P **P 15 10 17.4 -0.8**
NEW PcP PcP 15 11 11.7 -0.3
A11A Hall Mountain, 57.28 52 ⇑P **P 15 10 18.4 +0.1**
baz=57
BOK Bokaro 57.31 271 *e*P **P 15 10 18.6 0.0**
BOK AMb AMB 15 10 21.7
comp=Z,14nm,0.9s,mb5.0
D09A Jones Farm, Ri 57.32 54 ⇓P **P 15 10 17.6 -1.0**
baz=57
I05A Bend 57.33 59 ⇓P **P 15 10 18.8 +0.1**
baz=57
J04A Umpqua Nationa 57.38 60 ⇓P **P 15 10 18.3 -0.7**
baz=57
C10A Spilker Farm, 57.43 53 ⇑P **P 15 10 18.8 -0.6**
baz=57
ARCES ARCESS Array B 57.49 341 P P 15 10 19.5 -0.3
comp=Z,1.7nm,0.6s,mb4.2,baz=28,slow=6.7,SNR=12
ARCES PcP PcP 15 11 11.8 -1.1
comp=Z,5.2nm,0.8s,baz=23,slow=6.6,SNR=7.6
ARCES ARCESS Array B 57.49 341 P P 15 10 19.5 -0.3
ARCES 15 11 11.8
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 57.49 341 P P 15 10 19.5 -0.3
ARCES PcP PcP 15 11 11.8 -1.1
H06A Lindquist Farm 57.54 58 ⇑P **P 15 10 20.2 +0.1**
baz=57
B11A Sandpoint 57.58 52 ⇓P **P 15 10 20.5 +0.1**
baz=57
G07A Ruggs Ranch, H 57.61 57 ⇓P **P 15 10 20.4 -0.2**
baz=57
F08A Pendleton 57.80 56 ⇑P **P 15 10 21.9 -0.1**
baz=58
J05A Fort Rock 57.87 59 ⇑P **P 15 10 23.2 +0.8**
baz=58
YBH Yreka Blue Hor 57.91 62 P **P 15 10 23.3 +0.6**
comp=Z,1.9nm,0.7s,mb4.3,baz=303,slow=23,SNR=6.0
YBH Yreka Blue Hor 57.91 62 P **P 15 10 23.3 +0.6**
YBH pmax pmax
comp=Z,2.0nm,0.7s
G08A Pilot Rock 58.00 56 ⇑P **P 15 10 23.5 +0.1**
baz=58
M02C Callahan 58.02 62 ⇑P **P 15 10 24.4 +0.8**
baz=58
I06A Prineville 58.08 58 ⇑P **P 15 10 24.8 +0.9**
baz=58
N02C Big Bar 58.09 63 ⇓P **P 15 10 23.9 -0.1**
baz=58
AKTK Aktyubinsk 58.30 311 P **P 15 10 26.3 +0.8**
AKTK PcP PcP 15 11 15.6 -0.4
AKTO Aktyubinsk 58.30 311 P **P 15 10 26.3 +0.8**
comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=4.8,SNR=4.3
AKTO PcP PcP 15 11 15.6 -0.4
comp=Z,4.5nm,0.8s,baz=72,slow=4.5,SNR=5.3
AKTO Aktyubinsk 58.30 311 P **P 15 10 26.3 +0.8**
AKTO 15 11 15.6
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
E10A Myers Farm, Un 58.33 54 ⇑P **P 15 10 25.7 0.0**
baz=58
F09A S2 Ranch, Elgi 58.34 55 ⇑P **P 15 10 26.0 +0.3**
baz=58
K05A Summer Lake 58.40 60 ⇑P **P 15 10 27.0 +0.9**
baz=58
M04C Macdoel 58.40 61 ⇑P **P 15 10 26.2 0.0**
baz=58
I07A Izee 58.40 58 ⇓P **P 15 10 26.8 +0.6**
baz=58
D11A Klaveano Farm, 58.42 53 ⇓P **P 15 10 25.9 -0.4**
baz=58
C12A Trout Creek 58.50 52 ⇓P **P 15 10 27.1 +0.3**
baz=58
J06A Christmas Vall 58.52 59 ⇑P **P 15 10 27.2 +0.2**
baz=58
M03C McCloud 58.53 62 ⇑P **P 15 10 27.5 +0.4**
baz=58
F10A Beach Ranch, E 58.57 55 ⇑P **P 15 10 28.3 +1.0**
baz=58
H08A Prairie City 58.62 57 ⇑P **P 15 10 27.9 +0.2**
baz=58
B13A Whitefish 58.64 51 P **P 15 10 28.4 +0.6**
baz=58,SNR=9.4
WDC Whiskeytown Da 58.70 63 ⇓P **P 15 10 28.1 -0.2**
baz=58
L05A Lakeview 58.84 60 ⇑P **P 15 10 29.8 +0.6**
baz=59
E11A Bogner Ranch, 58.91 54 ⇑P **P 15 10 29.3 -0.4**
baz=59
J07A Hines 58.94 58 ⇑P **P 15 10 31.0 +1.1**
baz=59
C13A Hot Springs 59.00 52 ⇑P **P 15 10 30.8 +0.4**
baz=59
I08A Drewsey 59.05 57 ⇑P **P 15 10 31.3 +0.6**
baz=59
M05C Lookout 59.07 61 ⇓P **P 15 10 31.4 +0.6**
baz=59
H09A Durkee 59.11 56 ⇓P **P 15 10 31.8 +0.7**
baz=59
GASB Alder Springs 59.15 64 ⇓P **P 15 10 32.0 +0.7**
baz=59
F11A Grangeville 59.22 54 ⇓P **P 15 10 31.6 -0.2**
baz=59
MOD Modoc 59.24 60 P **P 15 10 32.4 +0.4**
baz=59,SNR=5.6
K07A Rock Creek Ran 59.39 59 P **P 15 10 33.6 +0.6**
baz=59,SNR=7.2
C14A Swan Lake 59.39 51 ⇓P **P 15 10 33.4 +0.4**
baz=59
D13A Huson 59.42 52 ⇑P **P 15 10 33.3 +0.1**
baz=59
J08A Circle Bar Ran 59.43 58 P **P 15 10 33.9 +0.6**
baz=59,SNR=5.3
G11A Walters Elk Ra 59.45 55 P **P 15 10 33.6 +0.2**
baz=59,SNR=5.5
I09A Lost Marbles R 59.48 57 ⇓P **P 15 10 34.4 +0.8**
baz=59
M06C Likely Place G 59.56 61 ⇓P **P 15 10 34.7 +0.5**
baz=59
H10A Noah's Angus R 59.67 56 ⇑P **P 15 10 35.4 +0.4**
baz=60
O04C Chester 59.74 62 ⇓P **P 15 10 35.9 +0.5**
baz=60
L07A Adel 59.74 60 ⇓P **P 15 10 36.1 +0.6**
baz=60
F12A Elk City 59.80 54 P **P 15 10 36.4 +0.5**
baz=60,SNR=7.3
K08A Mann Creek Ran 59.81 58 P **P 15 10 36.7 +0.8**
baz=60,SNR=7.3
J09A Fry Pan Ranch, 59.86 58 ⇓P **P 15 10 36.7 +0.4**
baz=60
MSO Missoula 59.86 52 *e*P **P 15 10 35.9 -0.3**
comp=Z,15nm,1.2s,mb4.9
WVOR Wild Horse Val 59.90 59 *e*P **P 15 10 36.2 -0.3**
WVOR *e* pP 15 10 52.8 +1.2
WVOR pmax pmax
comp=Z,12nm,0.9s,mb4.9
WVOR Wild Horse Val 59.90 59 *e*P **P 15 10 36.2 -0.3**
comp=Z,12nm,0.9s,mb4.9
WVOR *e* pP 15 10 52.8 +1.2
D14A Greenough 59.94 52 P **P 15 10 36.7 -0.1**
baz=60,SNR=15
ORV Oroville 59.96 63 ⇑P **P 15 10 36.1 -0.8**
baz=60
E13A Victor 59.96 53 P **P 15 10 37.0 +0.1**
baz=60,SNR=5.5
SUTB Sutter Butte 59.98 63 ⇓P **P 15 10 37.0 -0.1**
baz=60
H11A Donnelly 60.02 55 P **P 15 10 37.2 -0.1**
baz=60,SNR=13
O05C Quincy 60.06 62 ⇑P **P 15 10 37.0 -0.6**
baz=60
CHMT Chamberlain Mo 60.18 52 *e*P **P 15 10 37.9 -0.6**
L08A Fields 60.22 59 P **P 15 10 39.2 +0.4**
baz=60,SNR=8.4
N06A Buffalo Meadow 60.23 61 P **P 15 10 38.7 -0.1**
baz=60,SNR=6.0
M07A Soldier Meadow 60.23 60 P **P 15 10 39.5 +0.7**
baz=60,SNR=12
K09A Rome 60.27 58 ⇓P **P 15 10 39.2 +0.1**
baz=60
F13A Darby 60.29 54 P **P 15 10 38.8 -0.4**
baz=60,SNR=5.4
E14A Clinton 60.36 53 P **P 15 10 39.8 +0.1**
baz=60,SNR=8.8
BEKR Beckwourth 60.46 62 P **P 15 10 40.5 +0.2**
baz=60,SNR=6.5
D15A Lincoln 60.49 52 ⇓P **P 15 10 40.8 +0.2**
baz=60
O06A Flanigan 60.59 62 ⇓P **P 15 10 41.6 +0.3**
baz=60
N07B Gerlach 60.72 60 ⇓P **P 15 10 42.4 +0.2**
baz=60
E15A Deer Lodge 60.81 52 P **P 15 10 42.9 +0.1**
baz=61,SNR=9.8
LAVA Lava Cap Winer 60.91 63 ⇑P **P 15 10 43.0 -0.4**
baz=61
O07A Toulon 61.16 61 P **P 15 10 45.6 +0.5**
baz=61,SNR=8.9
N08A GE Springer Mi 61.22 60 P **P 15 10 45.8 +0.3**
baz=61,SNR=6.8
M09A Marrel Ranch, 61.22 59 ⇓P **P 15 10 46.3 +0.8**
baz=61
F15A Butte 61.26 53 P **P 15 10 46.0 +0.2**
baz=61,SNR=13
S04C Ingram Canyon, 61.34 65 ⇓P **P 15 10 45.3 -1.0**
baz=61
EGMT Eagleton 61.34 49 *e*P **P 15 10 45.9 -0.4**
comp=Z,15nm,1.0s,mb5.1
EGMT Eagleton 61.34 49 ⇓P **P 15 10 46.1 -0.2**
baz=61
N09A Rock Creek Ran 61.54 60 ⇑P **P 15 10 48.3 +0.7**
baz=61
CMB Columbia Colle 61.58 64 ⇑P **P 15 10 47.7 -0.3**
baz=61
HLID Hailey 61.63 56 P **P 15 10 48.6 +0.3**
baz=61,SNR=8.6
PACP Pacheco Peak 61.67 65 ⇓P **P 15 10 48.5 0.0**
baz=61
G15A Dillon 61.69 53 ⇓P **P 15 10 48.3 -0.4**
baz=62,SNR=10
M10A I.L. Ranch, Tu 61.69 59 ⇑P **P 15 10 49.2 +0.4**
baz=62,SNR=8.1
R06C Coleville 61.85 63 ⇑P **P 15 10 50.5 +0.8**
baz=62
HAST UC Hastings Re 61.90 66 ⇓P **P 15 10 49.8 -0.3**
baz=62
S06C San Francisco 62.01 64 P **P 15 10 50.6 -0.2**
baz=62,SNR=5.6
S05C Merced 62.05 64 ⇓P **P 15 10 50.9 -0.2**
baz=62
O09A Fish Creek Ran 62.16 60 ⇓P **P 15 10 52.3 +0.4**
baz=62
M11A Holland Ranch, 62.19 58 P **P 15 10 53.0 +1.0**
baz=62,SNR=5.8
N10A Dunphy 62.22 59 ⇑P **P 15 10 53.3 +1.0**
baz=62
O10A Cortez Mining, 62.49 60 ⇑P **P 15 10 55.2 +1.1**
baz=62
Q08A Gabbs 62.55 62 ⇑P **P 15 10 54.9 +0.4**
baz=62
NVAR Mina Array Bea 62.60 62 P **P 15 10 54.8 0.0**
comp=Z,4.0nm,0.7s,mb4.7,baz=302,slow=8.4,SNR=20
N11A Elko Archery C 62.61 59 ⇑P **P 15 10 54.1 -0.7**
baz=62
T06C Millerton Lake 62.65 64 ⇓P **P 15 10 55.2 +0.1**
baz=62
KCC Kaiser Creek 62.69 64 ⇑P **P 15 10 53.8 -1.5**
baz=62
M12A Wells 62.70 58 P **P 15 10 56.5 +1.1**
baz=62,SNR=6.4
R08A Mina 62.77 62 ⇓P **P 15 10 56.2 +0.2**
baz=62
GCMT Greycliff 62.81 51 *e*P **P 15 10 56.5 +0.2**
P10A Eureka 62.95 60 ⇑P **P 15 10 57.3 +0.2**
baz=63
N12A Clover Valley, 62.99 58 ⇓P **P 15 10 57.9 +0.5**
baz=63
Q09A Carvers 63.02 61 ⇓P **P 15 10 57.5 0.0**
baz=63
O11A Cowboy Ranch, 63.09 59 P **P 15 10 58.5 +0.5**
baz=63,SNR=6.0
M13A Montello 63.17 57 ⇑P **P 15 10 59.2 +0.6**
baz=63
VIS Vishakhapatnam 63.19 268 *e*P **P 15 10 59.6 +0.9**
VIS AMb AMB 15 11 00.5
comp=Z,26nm,0.6s,mb5.5
AJM Ajmer 63.19 281 *ex* x 15 10 48.4
AJM AMb AMB 15 11 00.1
comp=Z,20nm,1.2s,mb5.1
HELL Mitchell Peak, 63.28 64 P **P 15 10 58.8 -0.5**
baz=63,SNR=8.4
RCTC Rector, Farmer 63.38 65 ⇓P **P 15 10 59.2 -0.8**
baz=63
P11A Circle Ranch, 63.41 60 ⇓P **P 15 11 00.5 +0.3**
baz=63
BHPL Bhopal 63.46 276 *e*P **P 15 11 01.1 +0.7**
BHPL AMb AMB 15 11 02.3
comp=Z,42nm,0.8s,mb5.6
R09A Tonopah 63.47 62 P **P 15 11 00.6 0.0**
baz=63,SNR=11
N13A Wendover, West 63.48 58 ⇓P **P 15 11 00.3 -0.3**
baz=63
RRI2 Red Ridge 63.50 54 *e*P **P 15 11 01.6 +0.8**
comp=Z,30nm,0.7s,mb5.5
O12A Currie 63.54 59 P **P 15 11 01.4 +0.3**
baz=63,SNR=11
MOOW Moose Ponds 63.56 54 *e*P **P 15 11 01.3 +0.2**
comp=Z,2.8nm,0.6s,mb4.5
MOOW *e* pP 15 11 16.6 +0.4
FINES FINESS Array B 63.66 334 P **P 15 11 00.9 -0.9**
comp=Z,6.6nm,0.4s,mb5.0,baz=38,slow=7.0,SNR=58
FINES PcP PcP 15 11 36.3 -1.3
comp=Z,2.3nm,0.4s,baz=58,slow=4.8,SNR=5.2
FINES FINESS Array B 63.66 334 *i*P **P 15 11 00.9 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.4s
S09A Goldfield 63.71 62 P **P 15 11 02.1 0.0**
baz=64,SNR=5.5
LOHW Long Hollow 63.72 54 *e*P **P 15 11 02.6 +0.4**
comp=Z,31nm,1.6s,mb5.1
REDW Red Top Meadow 63.75 54 *e*P **P 15 11 02.7 +0.3**
comp=Z,37nm,1.3s,mb5.3
NGP Nagpur 63.76 273 *e*P **P 15 11 02.2 -0.3**
NGP AMb AMB 15 11 03.4
comp=Z,24nm,1.2s,mb5.1
VES Vestal, Richgr 63.79 65 ⇓P **P 15 11 02.2 -0.4**
baz=64
PSI Prapat 63.90 244 P **P 15 11 03.5 +0.1**
comp=Z,3.5nm,0.7s,mb4.5,baz=311,slow=4.1,SNR=6.6
PSI Prapat 63.90 244 P **P 15 11 03.5 +0.1**
PSI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
PSI Prapat 63.90 244 P **P 15 11 03.5 +0.1**
Q11A Duckwater 63.92 60 ⇓P **P 15 11 03.8 +0.2**
baz=64
P12A McGill 63.96 59 ⇓P **P 15 11 04.8 +1.1**
baz=64
LAO LASA Array 64.03 49 *e*P **P 15 11 03.9 -0.4**
comp=Z,26nm,1.0s,mb5.2
LAO *e* pP 15 11 19.9 +0.5
Q12A Willow Creek R 64.29 60 ⇓P **P 15 11 06.5 +0.5**
baz=64
TRCR Troy Canyon 64.29 61 *e*P **P 15 11 04.8 -1.1**
TRCR *e* pP 15 11 21.4 +0.3
MPMC Manual Prospec 64.62 64 P **P 15 11 08.4 +0.3**
baz=64,SNR=5.9
DUG Dugway 64.71 58 *e*P **P 15 11 08.9 +0.2**
DUG *e* pP 15 11 25.2 +1.3
DUG pmax pmax
comp=Z,14nm,1.0s,mb5.0
DUG Dugway 64.71 58 *e*P **P 15 11 08.8 +0.2**
comp=Z,14nm,1.0s,mb5.0
DUG *e* pP 15 11 25.1 +1.3
DUG Dugway 64.71 58 P **P 15 11 09.1 +0.4**
baz=64,SNR=12
FURC Furnace Creek, 64.74 63 P **P 15 11 09.0 +0.1**
baz=64,SNR=5.7
OSI Osito Adit 64.80 66 ⇑P **P 15 11 09.7 +0.4**
baz=65
PDAR Pinedale Array 64.86 54 P **P 15 11 09.4 -0.2**
comp=Z,10nm,0.8s,mb4.9,baz=285,slow=1.6,SNR=79
OBN Obninsk 64.90 325 ⇑*e*P **P 15 11 09.1 -0.8**
OBN *e* 15 11 37.1
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.8
EDW2 Edwards Air Fo 65.09 65 ⇑P **P 15 11 11.1 -0.1**
baz=65
U10A Ash Meadows, A 65.10 63 ⇓P **P 15 11 11.2 0.0**
baz=65
DECC Green Verdugo 65.29 66 ⇑P **P 15 11 12.2 -0.2**
baz=65
NLU North Lily Min 65.30 57 *e*P **P 15 11 12.6 +0.1**
GSC Goldstone 65.54 64 ⇑P **P 15 11 14.5 +0.5**
baz=65

U11A	**Corn Creek**	**65.67**	**62**	⇓P		**P**	**15 11 15.8**	**+0.9**
	baz=65								
BFSC	**Mount Baldy St**	**65.71**	**65**	⇑P		**P**	**15 11 15.7**	**+0.5**
	baz=66								
TUQ	**Turquoise Mtn.**	**65.99**	**63**	⇓P		**P**	**15 11 17.2**	**+0.2**
	baz=66								
V11A	**Goodsprings**	**66.03**	**63**	⇓P		**P**	**15 11 17.4**	**+0.2**
	baz=66								
U12A	**Valley of Fire**	**66.17**	**62**	⇓P		**P**	**15 11 18.5**	**+0.3**
	baz=66								
TMUT	**Trail Mountain**	**66.23**	**57**	*e*P		**P**	**15 11 18.3**	**-0.2**
TMUT				*e*		pP	15 11 34.7	+0.9
MURC	**Murrieta**	**66.42**	**66**	⇓P		**P**	**15 11 19.8**	**+0.1**
	baz=66								
V12A	**Nelson**	**66.45**	**62**	⇑P		**P**	**15 11 20.1**	**+0.2**
	baz=66								
ULM	**Lac du Bonnet**	**66.53**	**41**	P		**P**	**15 11 19.1**	**-1.4**
	comp=Z,3.5nm,0.6s,mb4.6,baz=320,slow=6.0,SNR=6.7								
GMRC	**Granite Mounta**	**66.59**	**64**	⇓P		**P**	**15 11 21.1**	**+0.3**
	baz=66								
HYB	**Hyderabad**	**66.66**	**271**	*i* P		**P**	**15 11 21.0**	**-0.3**
HYB	**Hyderabad**	**66.66**	**271**	*e*P		**P**	**15 11 21.0**	**-0.3**
W12A	**Cal Nev Ari**	**66.73**	**63**	⇓P		**P**	**15 11 22.1**	**+0.4**
	baz=66								
SRU	**San Rafael**	**66.75**	**57**	*e*P		**P**	**15 11 21.6**	**-0.2**
SRU					pmax	pmax			
	comp=Z,20nm,0.8s,mb5.2								
SRU	**San Rafael**	**66.75**	**57**	*e*P		**P**	**15 11 21.6**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2								
BELC	**Belle Mtn.**	**66.90**	**65**	⇑P		**P**	**15 11 22.2**	**-0.5**
	baz=67								
RSSD	**Black Hills**	**66.90**	**50**	*e*P		**P**	**15 11 22.2**	**-0.6**
RSSD				*e*		pP	15 11 34.7	-3.3
RSSD					pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0								
RSSD	**Black Hills**	**66.90**	**50**	*e*P		**P**	**15 11 22.2**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0								
RSSD				*e*		pP	15 11 34.7	-3.4
IRM	**Iron Mountain**	**67.32**	**64**	P		**P**	**15 11 25.2**	**-0.2**
	baz=67,SNR=5.6								
MONP	**Monument Peak**	**67.38**	**66**	⇑P		**P**	**15 11 25.3**	**-0.5**
	baz=67								
W13A	**Hualapai Mount**	**67.46**	**62**	⇓P		**P**	**15 11 26.7**	**+0.4**
	baz=67								
BC3	**Big Chuckw Mtn**	**67.47**	**64**	⇑P		**P**	**15 11 26.1**	**-0.2**
	baz=67								
DVTC	**Desert V Tower**	**67.73**	**66**	⇓P		**P**	**15 11 27.1**	**-0.9**
	baz=68								
SWSC	**Sam W. Stewart**	**67.73**	**65**	⇑P		**P**	**15 11 27.3**	**-0.7**
	baz=68								
X13A	**Yucca**	**67.83**	**63**	P		**P**	**15 11 28.5**	**-0.2**
	baz=68,SNR=6.1								
PDMCI	**Parker Dam,Lak**	**67.84**	**63**	⇓P		**P**	**15 11 28.8**	**+0.1**
	baz=68								
W14A	**Seligman**	**67.87**	**62**	P		**P**	**15 11 29.1**	**+0.2**
	baz=68,SNR=9.5								
NB2	**NORSAR Subarra**	**67.87**	**341**	P		**P**	**15 11 28.1**	**-0.8**
	comp=Z,18nm,0.7s,mb5.2,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**15 11 27.8**	**-1.1**
	comp=Z,18nm,0.7s,mb5.2,baz=27,slow=6.3,SNR=60								
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**15 11 27.8**	**-1.1**
NOA					pmax	pmax			
	comp=Z,18nm,0.7s								
Y12C	**Blythe**	**67.98**	**64**	⇓P		**P**	**15 11 29.9**	**+0.3**
	baz=68								
PV10	**Paradox Valley**	**68.10**	**57**	*e*P		**P**	**15 11 30.8**	**+0.4**
GLA	**Glamis**	**68.26**	**65**	⇓P		**P**	**15 11 31.7**	**+0.4**
	baz=68								
W15A	**Williams**	**68.38**	**61**	⇓P		**P**	**15 11 32.6**	**+0.5**
	baz=68								
X14A	**Yava**	**68.49**	**62**	⇑P		**P**	**15 11 33.6**	**+0.9**
	baz=68								
PV01	**Paradox Valley**	**68.54**	**57**	*e*P		**P**	**15 11 32.7**	**-0.4**
WB2	**Warramunga Arr**	**68.66**	**198**	*e*P		**P**	**15 11 32.3**	**-1.5**
WRA	**Warramunga Arr**	**68.66**	**198**	P		**P**	**15 11 32.6**	**-1.2**
	comp=Z,2.2nm,0.5s,mb4.3,baz=15,slow=6.7,SNR=45								
WRA					pP	pP	15 11 49.3	+0.2
	comp=Z,1.8nm,0.6s,baz=15,slow=6.5,SNR=5.3								
WRA	**Warramunga Arr**	**68.66**	**198**	P		**P**	**15 11 32.6**	**-1.2**
WRA					*PP	pP	15 11 49.3	+0.2
WRA					pmax	pmax			
	comp=Z,2.0nm,0.5s								
WUAZ	**Wupatki**	**68.69**	**61**	⇑P		**P**	**15 11 34.8**	**+0.8**
	baz=68								
Y14A	**Wickenburg**	**68.78**	**63**	⇓P		**P**	**15 11 34.9**	**+0.3**
	baz=68								
X15A	**Humboldt**	**68.87**	**62**	P		**P**	**15 11 35.6**	**+0.5**
	baz=69,SNR=8.3								
ISCO	**Idaho Springs**	**69.05**	**54**	*e*P		**P**	**15 11 36.5**	**+0.2**
ISCO					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
ISCO	**Idaho Springs**	**69.05**	**54**	*e*P		**P**	**15 11 36.5**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8								
Z14A	**Wintersburg**	**69.21**	**63**	⇑P		**P**	**15 11 37.8**	**+0.6**
	baz=69								
MVCO	**Mesa Verde**	**69.21**	**58**	*e*P		**P**	**15 11 36.9**	**-0.4**
	comp=Z,8.2nm,0.8s,mb4.7								
MVCO	**Mesa Verde**	**69.21**	**58**	P		**P**	**15 11 37.0**	**-0.2**
	baz=69,SNR=8.6								
FITZ	**Fitzroy Crossi**	**69.23**	**207**	⇓*i*P		**P**	**15 11 37.4**	**0.0**
	comp=Z,11nm,0.8s,mb4.8								
GOF	**Gofitskoye**	**69.40**	**314**	*e*P		**P**	**15 11 34.0**	**-4.4**
KAD	**Karad**	**69.73**	**274**	*e*P		**P**	**15 11 41.0**	**+0.6**
KAD					AMb	AMB	15 11 42.4		
	comp=Z,18nm,0.7s,mb5.2								
115A	**Sonoran Desert**	**70.10**	**63**	⇓P		**P**	**15 11 43.6**	**+0.8**
	baz=70								
KIV	**Kislovodsk**	**70.38**	**314**	*e*P		**P**	**15 11 37.2**	**-7.2**
KIV					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
KIV					MLR	MLR			
	comp=Z,230nm,17.0s,MS4.5								
116A	**Eloy**	**70.51**	**63**	⇑P		**P**	**15 11 46.0**	**+0.8**
	baz=70								
SDCO	**Great Sand Dun**	**70.55**	**55**	*e*P		**P**	**15 11 45.0**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.3								
ZEI	**Tsey**	**70.64**	**312**	*e*P		**P**	**15 11 45.8**	**-0.2**
AKASG	**Malin Array Be**	**71.14**	**326**	P		**P**	**15 11 48.2**	**-0.8**
	comp=Z,11nm,0.4s,mb5.2,baz=33,slow=6.2,SNR=55								
AKASG	**Malin Array Be**	**71.14**	**326**	P		**P**	**15 11 48.2**	**-0.9**
AKASG					pmax	pmax			
	comp=Z,11nm,0.4s								
AKASG	**Malin Array Be**	**71.14**	**326**	P		**P**	**15 11 48.2**	**-0.8**
AKBB	**Malin Array Si**	**71.14**	**326**	*e*P		**P**	**15 11 47.8**	**-1.3**
KIEV	**Kiev**	**71.15**	**326**	*e*P		**P**	**15 11 47.3**	**-1.8**
KIEV					pmax	pmax			
	comp=Z,23nm,0.8s,mb5.2								
KIEV	**Kiev**	**71.15**	**326**	*e*P		**P**	**15 11 47.3**	**-1.8**
	comp=Z,23nm,0.8s,mb5.2								
ANMO	**Albuquerque**	**71.97**	**58**	*d*⇓P		**P**	**15 11 54.6**	**+0.6**
MNGI	**Mangalore**	**72.35**	**270**	*e*P		**P**	**15 11 56.8**	**+0.5**
MNGI					AMb	AMB	15 12 26.8		
	comp=Z,40nm,1.2s,mb5.2								
AS31	**Alice Springs**	**72.36**	**198**	*e*P		**P**	**15 11 56.4**	**0.0**
ASAR	**Alice Springs**	**72.36**	**198**	P		**P**	**15 11 56.5**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.6,baz=12,slow=5.3,SNR=111								
ASAR					pP	pP	15 12 13.0	+1.2	
	comp=Z,2.3nm,0.5s,baz=12,slow=5.8,SNR=7.3								
ASAR	**Alice Springs**	**72.36**	**198**	P		**P**	**15 11 56.5**	**+0.1**
ASAR					*PP	pP	15 12 13.0	+1.2	
ASAR					pmax	pmax			
	comp=Z,5.0nm,0.7s								
ASPA	**Alice Springs**	**72.36**	**198**	*e*P		**P**	**15 11 56.4**	**0.0**
SCHQ	**Schefferville**	**73.19**	**23**	P		**P**	**15 12 00.2**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.4,baz=28,slow=4.3,SNR=4.2								
SCIA	**State Center**	**73.96**	**45**	*e*P		**P**	**15 12 04.8**	**-1.1**
	comp=Z,15nm,0.5s,mb5.2								
SCIA				*e*		pP	15 12 21.4	+0.1	
KWP	**Kalwaria**	**74.42**	**329**	*e*P		**P**	**15 12 08.8**	**+0.3**
OJC	**Ojcow**	**74.93**	**331**	*e*P		**P**	**15 12 11.2**	**-0.2**
STHS	**Stebnicka Huta**	**75.12**	**330**	*e*P		**P**	**15 12 12.8**	**+0.3**
STHS					pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9								
STHS	**Stebnicka Huta**	**75.12**	**330**	*e*P		**P**	**15 12 12.8**	**+0.3**
	comp=Z,11nm,0.7s,mb4.9								
KOLS	**Kolonicke sedl**	**75.17**	**329**	*e*P		**P**	**15 12 12.5**	**-0.3**
KOLS	**Kolonicke sedl**	**75.17**	**329**	*e*P		**P**	**15 12 12.6**	**-0.2**
BURAR	**Bucovina Array**	**75.18**	**326**	⇑*i*P		**P**	**15 12 13.0**	**+0.1**
BURAR	**Bucovina Array**	**75.18**	**326**	⇑P		**P**	**15 12 13.0**	**+0.1**
UPC	**Upice**	**75.89**	**333**	*e*P		**P**	**15 12 16.8**	**-0.2**
DPC	**Dobruska-Polom**	**75.94**	**333**	*e*P		**P**	**15 12 16.8**	**-0.4**
MORC	**Moravsky Berou**	**76.05**	**332**	*e*P		**P**	**15 12 17.4**	**-0.5**
MORC					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8								
MORC	**Moravsky Berou**	**76.05**	**332**	*e*P		**P**	**15 12 17.4**	**-0.4**
	comp=Z,11nm,0.8s,mb4.8								
CLL	**Collm**	**76.08**	**335**	*i* P		**P**	**15 12 17.1**	**-1.0**
CLL					pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1								
CLL	**Collm**	**76.08**	**335**	*i* P		**P**	**15 12 17.1**	**-1.0**
	comp=Z,17nm,0.7s,mb5.1								
KECS	**Kecovo**	**76.18**	**329**	*e*P		**P**	**15 12 18.4**	**-0.2**
KECS					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
KECS	**Kecovo**	**76.18**	**329**	*e*P		**P**	**15 12 18.4**	**-0.2**
	comp=Z,5.2nm,1.0s,mb4.4								
WMOK	**Wichita Mounta**	**76.47**	**53**	*e*P		**P**	**15 12 18.8**	**-1.4**
WMOK					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
WMOK	**Wichita Mounta**	**76.47**	**53**	*e*P		**P**	**15 12 18.8**	**-1.4**
	comp=Z,8.7nm,1.0s,mb4.6								
MLR	**Muntele Rosu**	**76.66**	**325**	⇓*i*P		**P**	**15 12 22.2**	**+0.9**
MLR	**Muntele Rosu**	**76.66**	**325**	⇓P		**P**	**15 12 22.2**	**+0.9**
MALT	**Malatya**	**76.73**	**313**	*e*P		**P**	**15 12 22.9**	**+1.2**
MALT					pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7								
MALT	**Malatya**	**76.73**	**313**	*e*P		**P**	**15 12 22.9**	**+1.2**
	comp=Z,12nm,1.1s,mb4.8								
VYHS	**Vyhne**	**76.73**	**330**	*e*P		**P**	**15 12 21.9**	**+0.2**
VYHS					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
VYHS	**Vyhne**	**76.73**	**330**	*e*P		**P**	**15 12 21.9**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.4								
PRU	**Pruhonice**	**76.80**	**334**	*e*P		**P**	**15 12 21.5**	**-0.6**
DRGR		**76.81**	**327**	⇓*i*P		**P**	**15 12 22.4**	**+0.2**
DRGR		**76.81**	**327**	⇓P		**P**	**15 12 22.4**	**+0.2**
NKC	**Novy Kostel**	**77.20**	**335**	*e*P		**P**	**15 12 24.0**	**-0.4**
TXAR	**Lajitas Array**	**77.65**	**60**	P		**P**	**15 12 26.5**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.8,baz=298,slow=4.7,SNR=102								
TXAR					pP	pP	15 12 42.1	-0.3	
	comp=Z,5.1nm,0.6s,baz=300,slow=4.9,SNR=12								
TXAR	**Lajitas Array**	**77.65**	**60**	P		**P**	**15 12 26.5**	**-0.4**
TXAR					*PP	pP	15 12 42.1	-0.3	
TXAR					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KHC	**Kasperske Hory**	**77.85**	**334**	*e*P		**P**	**15 12 27.8**	**-0.2**
KHC	**Kasperske Hory**	**77.85**	**334**	⇓*e*P		**P**	**15 12 27.7**	**-0.3**
BR131	**Keskin Array S**	**77.97**	**316**	*e*P		**P**	**15 12 29.1**	**+0.5**
	comp=Z,6.3nm,0.8s,mb4.6								
BRTR	**Keskin Array B**	**77.97**	**316**	P		**P**	**15 12 28.8**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=69,slow=4.2,SNR=27								
BRTR	**Keskin Array B**	**77.97**	**316**	P		**P**	**15 12 28.8**	**+0.2**
BRTR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
GRA2	**Grafenberg Arr**	**78.03**	**335**	*e*P		**P**	**15 12 29.0**	**0.0**
	comp=Z,18nm,0.9s,mb5.0								
GRFO	**Grafenberg**	**78.04**	**336**	*e*P		**P**	**15 12 29.2**	**+0.2**
	comp=Z,16nm,0.7s,mb5.1								
GRFO	**Grafenberg**	**78.04**	**336**	*e*P		**P**	**15 12 29.2**	**+0.2**
GRFO					pmax	pmax			
	comp=Z,16nm,0.7s,mb5.1								
GERES	**GERESS Array B**	**78.07**	**334**	P		**P**	**15 12 28.7**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.4,baz=35,slow=5.3,SNR=20								
GERES	**GERESS Array B**	**78.07**	**334**	P		**P**	**15 12 28.7**	**-0.5**
GERES					pmax	pmax			
	comp=Z,3.0nm,0.6s								
GRB1	**Grafenberg Arr**	**78.19**	**335**	*e*P		**P**	**15 12 30.0**	**+0.2**
	comp=Z,18nm,1.0s,mb5.0								
MIB	**Mutribah**	**78.24**	**301**	*e*P		**P**	**15 12 30.6**	**+0.4**
MIB					AMb	AMB	15 12 31.4		
	comp=Z,84nm,0.7s,mb5.8								
KBD	**Kabd**	**78.50**	**300**	*e*P		**P**	**15 12 32.0**	**+0.5**
MEM	**Membach**	**78.58**	**339**	P		**P**	**15 12 31.8**	**-0.3**
NAY	**Al-Naaiem**	**78.71**	**301**	*e*P		**P**	**15 12 32.7**	**0.0**
NAY					AMb	AMB	15 12 33.9		
	comp=Z,26nm,0.8s,mb5.2								
RDF	**Al-Radifah**	**78.77**	**300**	*e*P		**P**	**15 12 33.5**	**+0.5**
BCLA	**Clavier**	**78.93**	**339**	P		**P**	**15 12 33.6**	**-0.4**
JCT	**Junction City**	**79.06**	**57**	*e*P		**P**	**15 12 33.2**	**-1.4**
JCT					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
JCT	**Junction City**	**79.06**	**57**	*e*P		**P**	**15 12 33.2**	**-1.4**
	comp=Z,8.6nm,0.6s,mb4.9								
STKA	**Stephens Creek**	**79.16**	**190**	P		**P**	**15 12 34.6**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1,baz=27,slow=12,SNR=4.6								
DOU	**Dourbes**	**79.40**	**340**	P		**P**	**15 12 36.0**	**-0.5**
WLF	**Walferdange**	**79.42**	**339**	P		**P**	**15 12 33.8**	**-2.8**
PERS	**Pernice**	**79.58**	**332**	*e*P		**P**	**15 12 37.2**	**-0.3**
GOLS	**Golise**	**79.97**	**331**	*i* P		**P**	**15 12 39.0**	**-0.6**
VTS	**Vitosha**	**80.16**	**325**	⇑*i*P		**P**	**15 12 40.9**	**+0.3**
VTS	**Vitosha**	**80.16**	**325**	⇑P		**P**	**15 12 40.9**	**+0.3**
CDF	**Champ du Feu**	**80.28**	**337**	*e*P		**P**	**15 12 40.3**	**-1.0**
	comp=Z,50nm,1.2s,mb5.0								
CDF	**Champ du Feu**	**80.28**	**337**	*e*P		**P**	**15 12 40.3**	**-1.0**
CDF					pmax	pmax			
	comp=Z,25nm,1.2s,mb5.0								
CDF	**Champ du Feu**	**80.28**	**337**	*e*P		**P**	**15 12 40.3**	**-1.0**
	comp=Z,25nm,1.2s,mb5.0								
FORT	**Forrest**	**80.55**	**201**	*e*P		**P**	**15 12 42.9**	**+0.2**
	comp=Z,18nm,0.7s,mb5.1								
GRR	**Gorron**	**82.21**	**343**	*e*P		**P**	**15 12 50.4**	**-1.1**
PPT	**Papeete**	**82.58**	**126**	*e*LR		LR	15 38 21.8		
	comp=Z,200nm,25.2s								
SMF	**Signal de Mont**	**82.80**	**339**	*e*P		**P**	**15 12 53.7**	**-0.9**
	comp=Z,39nm,1.0s,mb5.1								
SMF	**Signal de Mont**	**82.80**	**339**	*e*P		**P**	**15 12 53.7**	**-0.9**
SMF					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1								
SMF	**Signal de Mont**	**82.80**	**339**	*e*P		**P**	**15 12 53.7**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1								
LPG	**La Plagne**	**83.11**	**337**	*e*P		**P**	**15 12 56.2**	**0.0**
	comp=Z,54nm,1.3s,mb5.1								
LPG	**La Plagne**	**83.11**	**337**	*e*P		**P**	**15 12 56.2**	**0.0**
LPG					pmax	pmax			
	comp=Z,27nm,1.3s,mb5.1								
LPG	**La Plagne**	**83.11**	**337**	*e*P		**P**	**15 12 56.2**	**0.0**
	comp=Z,27nm,1.3s,mb5.1								
RJF	**Les Rejaudoux**	**84.61**	**340**	*e*P		**P**	**15 13 02.7**	**-1.1**
GOGA	**Godfrey**	**85.39**	**44**	*e*P		**P**	**15 13 06.3**	**-1.4**
GOGA					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
GOGA	**Godfrey**	**85.39**	**44**	*e*P		**P**	**15 13 06.3**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.8								
RKT	**Rikiea**	**95.41**	**118**	*e*LR		LR	15 43 57.0		
	comp=Z,126nm,31.2s								
TORD	**Torodi Ar. Bea**	**114.69**	**329**	PKP		PKiKP	15 19 09.6	-0.9	
	comp=Z,0.6nm,0.7s,baz=24,slow=2.5,SNR=5.0								
VNDA	**Vanda**	**124.39**	**178**	PKP		PKPdf	15 19 26.7	-2.4	
	comp=Z,1.5nm,0.9s,baz=300,slow=6.9,SNR=5.7								
VNDA	**Vanda**	**124.39**	**178**	PKIKP		PKPdf	15 19 26.7	-2.4	
VNDA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
MAW	**Mawson**	**132.26**	**211**	PKP		PKPdf	15 19 41.8	-2.3	
	comp=Z,2.3nm,0.8s,baz=61,slow=23,SNR=4.8								
MAW	**Mawson**	**132.26**	**211**	PKIKP		PKPdf	15 19 41.8	-2.3	
MAW					pmax	pmax			
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**134.50**	**62**	PKP		PKPdf	15 19 49.5	+1.1	
	comp=Z,0.6nm,0.6s,baz=34,slow=3.6,SNR=3.5								
LPAZ	**La Paz**	**134.50**	**62**	PKP		PKPdf	15 19 49.5	+1.1	
CFAA	**Coronel Fontan**	**145.26**	**78**	PKPbc		PKPbc	15 20 06.0	-1.6	
	comp=Z,1.1nm,0.7s,baz=288,slow=3.7,SNR=20								
CFAA	**Coronel Fontan**	**145.26**	**78**	PKPbc		PKPbc	15 20 06.0	-1.6	
SNAA	**Sanae**	**152.72**	**197**	PKPbc		PKPbc	15 20 23.9	-3.0	
	comp=Z,1.5nm,0.7s,baz=243,slow=1.6,SNR=17								
SNAA	**Sanae**	**152.72**	**197**	*e*PKPdf		PKPdf	15 20 23.7	+3.9	
SNAA				*e*			15 20 25.5		
SNAA				*e*			15 20 38.4		
SNAA	**Sanae**	**152.72**	**197**	PKIKP		PKPdf	15 20 23.9	+4.1	
SNAA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
VNA2	**Neumayer--Watz**	**154.18**	**195**	*e*PKPdf		PKPdf	15 20 27.7	+5.8	
VNA2				*e*			15 20 30.2		
VNA2				*e*			15 20 37.7		
VNA2				*e*			15 20 42.1		
VNA2				*e*			15 20 46.5		
VNA2				*e*			15 20 48.9		
VNA3	**Neumayer Olymp**	**154.28**	**193**	*e*PKPdf		PKPdf	15 20 27.6	+5.6	
VNA3				*e*			15 20 41.5		
VNA3				*e*			15 20 45.4		

*IDC **23** 15:09:52.7±0.4, 4700N×15561E, h0km, mb4.8/31, mb1 4.9/33, mb1mx4.9/35, mbtmp4.8/33, ML4.4/2, MS4.2/18, Ms1 4.2/18, ms1mx3.9/35, Error ellipse: s-maj=13.2km s-min=11.0km az=140.0*

*BJI **23** 15:09:52.6, 4724N×15558E, h8km, mB5.1, mb4.7, Ms4.6, Msz4.3*

*ISCJB **23** 15:09:53.1±0.1, 4691N±003×15554E±002, h15km, mb5.0/142, MS4.3/34, Error ellipse: s-maj=4.8km s-min=1.9km az=149.1*

*GCMT **23** 15:09:54.3±0.3, 47.14N×155.72E, h12km, MW4.9/80, Moment Tensor Solution. s25,c28; s80,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.56±.06; $M_{\theta\theta}$1.65±.07; $M_{\phi\phi}$0.90±.06; $M_{r\theta}$0.08±.28; $M_{\theta\phi}$0.94±.05; $M_{r\phi}$0.79±.30; Best double couple: M_o2.53800×10^{16} NP1:ϕ_s66.00000°,δ40.00000°,λ-73.00000°. NP2: ϕ_s224.00000°,δ52.00000°,λ-104.00000°. Principal axes: T 2.3400, Plg6.0000°, Azm324.0000°; N 0.3930, Plg11.0000°, Azm233.0000°; P -2.7350, Plg77.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 15:09:54.3±0.2, 4702N×155.55E, h10km, mb5.0/69, MS4.4/1 Error ellipse: s-maj=5.6km s-min=3.5km az=150.0*

*SKHL **23** 15:09:56.6±2.3, 4733N×155.29E, h55km±14km, Ms4.5/1, msh5.3/1*

*JMA **23** 15:09:57.5±0.8, 4772N×154.82E, h30km, M5.3*

*MOS **23** 15:09:57.8±1.2, 4704N×155.55E, h49km, mb5.2/69, MS4.2/15, Error ellipse: s-maj=8.6km s-min=5.5km az=105.7*

*SZGRF **23** 15:09:58.2, 46.75N×155.88E, h18km, mb5.1, East of Kuril Islands, Russia*

ISC 23 15:09:55.4±0.1, 4701N±003×15551E±002, h16km, h16km±6km:pP-P, n578, σ0.896/588, mb5.0/142, MS4.3/34, 89C-87D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.70**	**6**	*e*P	**Pn**	**15 10 48.0**	**-3.8**
SKR				AMB	AMB	15 10 52.0	
	80nm,0.5s						
SKR				AMB	AMB	15 10 52.0	
	90nm,0.5s						
SKR				*e*S	**Sn**	**15 11 26.0**	**-9.0**
SKR				A		15 11 47.5	
	4μm,3.0s						
SKR				A		15 11 47.5	
	2μm,2.0s						
SKR				A		15 11 47.5	
	4μm,3.0s						
SKR				A		15 11 47.5	
	2μm,2.0s						
SKR				A		15 11 47.5	
	1μm,0.9s						
SKR				A		15 11 47.5	
	1μm,0.7s						
SKR				AMS	AMS	15 12 56.0	
	3μm,12.0s						
SKR				AMS	AMS	15 12 56.0	
	8μm,12.0s						
SKR				AMS	AMS	15 12 56.0	
	3μm,12.0s						
SKR				AMS	AMS	15 12 56.0	
	8μm,12.0s						
SKR				AMS	AMS	15 12 56.0	
	11μm,12.0s						
SKR				AMS	AMS	15 12 56.0	
	10μm,12.0s						
KUR	**Kuril'sk**	**5.60**	**254**	⇓*i*P	**Pn**	**15 11 16.0**	**-2.0**
KUR				AMB	AMB	15 11 17.0	
	608nm,0.6s						
KUR				*e*S	**Sn**	**15 12 17.5**	**-4.5**
KUR				A		15 12 19.0	
	2μm,0.9s						
KUR				A		15 12 19.0	
	568nm,0.9s						
PET	**Petropavlovsk**	**6.35**	**17**	*e*PN	**Pn**	**15 11 24.7**	**-3.6**
PET				pmax	pmax		
	comp=Z,103nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET	**Petropavlovsk**	**6.35**	**17**	*e*Pn	**Pn**	**15 11 24.1**	**-4.2**
	comp=Z,44nm,0.5s						
PET				*e*Sn	**Sn**	**15 12 29.5**	**-11**
NEM2	**Nemuro 2**	**7.80**	**246**	P	**Pn**	**15 11 46.2**	**-2.0**
NEM2				*e*S	**Sn**	**15 13 07.2**	**-9.0**
JRA	**Rausu**	**7.92**	**251**	P	**Pn**	**15 11 50.1

JFY Yanaizu 15.12 236 P **Pn** **15 13 24.9 -3.3**
JSD Sado 15.54 241 P **Pn** **15 13 30.5 -3.2**
KLR Kul'dur 16.01 287 *e*P **Pn** **15 13 40.0 +0.2**
KLR MLR MLR
comp=E,1µm,12.0s
KLR MLR MLR
comp=Z,6µm,12.0s
MAJO Matsushiro 16.58 237 *e*P **Pn** **15 13 44.5 -2.6**
MAJO pmax pmax
comp=Z,110nm,0.9s
MAJO Matsushiro 16.58 237 *e*Pn **Pn** **15 13 44.4 -2.7**
comp=Z,112nm,0.9s
MAJO *e* 15 13 52.9
MAT Matsushiro 16.58 237 P **Pn** **15 13 44.0 -3.1**
MAT *e*S **Sn** **15 16 57.6 +6.8**
MAT Matsushiro 16.58 237 P **Pn** **15 13 44.8 -2.3**
MJAR Matsushiro Arr 16.58 237 Pn **Pn** **15 13 45.0 -2.1**
comp=Z,0.8nm,0.3s,baz=30,slow=13,SNR=40
MJAR LR LR 15 20 43.2
comp=Z,304nm,18.2s,baz=40,slow=39
MJAR Matsushiro Arr 16.58 237 P **Pn** **15 13 45.0 -2.1**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,305nm,18.2s
MDJ Mudanjiang 18.20 272 P **Pn** **15 14 07.5 +0.2**
MDJ AP pP 15 14 10.8 -1.3
MDJ XP sP 15 14 12.3 -1.9
MDJ S **Sn** **15 17 31.3 +1.2**
MDJ AMB AMB
comp=Z,8.0nm,0.8s
MDJ AMB AMB
comp=Z,159nm,8.8s
MDJ LR LR
comp=N,283nm,11.1s
MDJ LR LR
comp=E,421nm,13.9s
MDJ LR LR
comp=Z,636nm,13.6s
MDJ Mudanjiang 18.20 272 *e*Pn **Pn** **15 14 07.3 0.0**
comp=Z,14nm,0.8s
ZEA Zeya 19.15 301 *e*P **Pn** **15 14 13.9 -5.0**
ZEA AMB AMB 15 14 18.2
comp=Z,46nm,1.0s
YAK Yakutsk 21.02 325*c i*P **P** **15 14 35.3 -3.0**
YAK *e* 15 14 53.5
YAK *e*S **S** **15 18 22.2 -10**
YAK *i* SS 15 18 45.4
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=Z,34nm,1.2s,mb4.5
YAK pmax pmax
comp=E,19nm,1.4s
YAK smax
comp=N,326nm,3.9s
YAK smax
comp=Z,316nm,3.4s
YAK smax
comp=E,272nm,2.4s
YAK MLR MLR
comp=Z,648nm,25.0s,MS3.9
YAK MLR MLR
comp=N,306nm,23.0s,MS3.9
YAK MLR MLR
comp=E,552nm,26.0s,MS3.9
YAK Yakutsk 21.02 325 *e*Pn **P** **15 14 35.7 -2.6**
comp=E,62nm,0.7s,mb5.0
YAK *e*S **S** **15 18 21.8 -10**
CLNS Chul'man 21.11 309 *e*P **P** **15 14 39.7 +0.4**
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,22nm,0.7s
CN2 Changchun 21.29 272 *e*P **P** **15 14 39.5 -1.6**
CN2 *e*XP sP 15 14 46.0 -1.9
CN2 *e*S **S** **15 18 29.0 -8.0**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.1
CN2 LR LR
comp=E,500nm,15.0s,MS4.1
CN2 LR LR
comp=Z,600nm,16.0s,MS4.1
BILL Bilibino 21.80 11 *e*P **P** **15 14 44.2 -2.4**
BILL *e* 15 15 04.3
BILL *e*S **S** **15 18 42.4 -4.6**
BILL *e*SS 15 19 05.3
BILL pmax pmax
comp=Z,33nm,0.7s,mb4.9
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.0
BILL Bilibino 21.80 11 *e*P **P** **15 14 43.6 -3.0**
comp=Z,52nm,0.9s,mb5.0
KSRS Korea Array 22.45 255 P **P** **15 14 54.1 +0.6**
comp=Z,24nm,0.8s,mb4.7,baz=60,slow=9.3,SNR=27
KSRS LR LR 15 23 02.7
comp=Z,188nm,18.2s,MS3.6,baz=244,slow=35
JNU Nakatsue 23.28 242 LR LR 15 23 44.1
comp=Z,528nm,18.7s,MS4.0,baz=95,slow=36
INCN Inchon 23.29 256 *e*P **P** **15 15 04.8 +2.3**
comp=Z,42nm,1.0s,mb4.8
SNY Shenyang 23.29 269 ⇓P **P** **15 15 05.0 +2.5**
SNY AMB AMB
comp=Z,23nm,2.5s,mb4.2
SNY AMB AMB
comp=Z,471nm,4.5s
SNY LR LR
comp=N,527nm,9.6s
SNY LR LR
comp=E,770nm,15.0s
SNY LR LR
comp=Z,582nm,12.6s,MS4.2
HIA Hailar 23.84 289 *e*P **P** **15 15 05.2 -2.6**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA Hailar 23.84 289 *e*P **P** **15 15 05.2 -2.6**
comp=Z,4.1nm,0.4s,mb4.2
BOD Bodaibo 27.10 309 *e*P **P** **15 15 34.0 -3.3**
BOD pmax pmax
comp=Z,13nm,1.2s,mb4.3
TIXI Tiksi 27.70 342 *e*P **P** **15 15 40.2 -2.6**
TIXI *e*S **S** **15 20 26.9 +2.6**
TIXI pmax pmax
comp=Z,14nm,0.7s,mb4.7
TIXI MLR MLR
comp=Z,519nm,12.0s,MS4.3
TIXI Tiksi 27.70 342 *e*P **P** **15 15 41.2 -1.6**
comp=Z,14nm,0.6s,mb4.8
BJI Beijing 29.12 271 P **P** **15 15 56.8 +1.4**
BJI S **S** **15 20 44.1 -2.5**
BJI AMB AMB
comp=Z,20nm,0.9s,mb4.8
BJI LR LR
comp=E,388nm,15.2s
BJI LR LR
comp=Z,251nm,17.3s,MS3.9
BJI Beijing 29.12 271 P **P** **15 15 56.7 +1.3**
BJI S **S** **15 20 44.1 -2.5**
BJI pmax pmax
comp=Z,20nm,0.9s,mb4.8
BJI MLR MLR
comp=Z,250nm,17.3s,MS3.9
BJI Beijing 29.12 271 P **P** **15 15 56.7 +1.3**
comp=Z,20nm,0.9s,mb4.8
BJI S **S** **15 20 44.1 -2.5**
BJI LR LR
comp=Z,250nm,17.3s,MS3.9
SVW2 Sparrevohn 31.14 45 *e*P **P** **15 16 12.4 -0.9**
NJ2 Nanjing 31.65 255 *e*P **P** **15 16 20.4 +2.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
HHC Hu-ho-hao-te 31.91 275 *e*P **P** **15 16 21.8 +1.7**
HHC AP pP 15 16 26.0 +1.0
HHC XP sP 15 16 28.9 +1.8
HHC PP PP 15 17 28.3 -3.9
HHC PCP PcP 15 19 13.1 +2.8
HHC S **S** **15 21 31.3 +0.9**
HHC XS sS 15 21 36.8 -1.8
HHC SCP ScP 15 22 53.8 +0.8
HHC SS SS 15 23 20.9 -26
HHC AMB AMB
comp=Z,25nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,173nm,4.9s
HHC LR LR
comp=N,409nm,14.1s,MS4.5
HHC LR LR
comp=E,516nm,13.1s,MS4.5
HHC LR LR
comp=Z,499nm,13.7s,MS4.4
ULN Ulaanbaatar 32.36 290 *e*P **P** **15 16 23.5 -0.5**
ULN *e* 15 19 11.9
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ULN Ulaanbaatar 32.36 290 *e*P **P** **15 16 23.5 -0.5**
comp=Z,5.2nm,0.8s,mb4.4
ULN *e*PcP PcP 15 19 11.9 +0.3
IMA2 Indian Mountai 32.63 36 *e*P **P** **15 16 24.9 -1.5**
KDAK Kodiak Island 32.66 51 P **P** **15 16 24.7 -1.9**
comp=Z,22nm,0.8s,mb5.2,baz=314,slow=4.7,SNR=12
KDAK Kodiak Island 32.66 51 P **P** **15 16 24.7 -2.0**
SONM Songino Array 32.79 290 P **P** **15 16 27.6 -0.2**
comp=Z,5.3nm,0.9s,mb4.5,baz=62,slow=9.4,SNR=16
SONM PcP PcP 15 19 12.4 -0.3
comp=Z,3.9nm,0.9s,baz=93,slow=2.2,SNR=8.5
SONM LR LR 15 30 20.8
comp=Z,428nm,18.9s,MS4.2,baz=267,slow=37
SONM Songino Array 32.79 290 P **P** **15 16 27.6 -0.2**
SONM 15 19 12.4
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,428nm,18.9s
TLY Talaya 33.52 298 *e*P **P** **15 16 36.8 +2.7**
TLY *e* 15 24 27.0
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,308nm,18.0s,MS4.1
SLKM Skilak Lake 33.76 46 *e*P **P** **15 16 34.3 -1.9**
ZAK Zakamensk 34.05 295 *e*P **P** **15 16 36.8 -2.0**
ZAK *e* 15 16 48.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
PMR Palmer 34.27 44 *e*P **P** **15 16 38.8 -1.8**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMR Palmer 34.27 44 *e*P **P** **15 16 38.9 -1.7**
comp=Z,9.5nm,0.7s,mb4.8
MCK McKinley 34.39 41 *e*P **P** **15 16 40.4 -1.3**
MCK pmax pmax
comp=Z,17nm,1.0s,mb4.9
MCK McKinley 34.39 41 *e*P **P** **15 16 40.4 -1.3**
comp=Z,16nm,1.0s,mb4.9
GUMO Guam 34.49 198 LR LR 15 28 23.4
comp=Z,123nm,19.2s,MS3.7,baz=55,slow=32
GUMO Guam 34.49 198 P **P** **15 16 42.6 0.0**
SML Sawmill 34.64 44 *e*P **P** **15 16 42.8 -1.1**
COLA College 34.91 39 ⇓*i*P **P** **15 16 44.4 -1.8**
COLA College 34.91 39 *e*P **P** **15 16 44.9 -1.3**
comp=Z,55nm,0.9s,mb5.5
DIV Divide 35.90 45 *e*P **P** **15 16 53.6 -1.2**
comp=Z,71nm,0.9s,mb5.6
MENT Mentasta 36.75 42 *e*P **P** **15 17 01.6 -0.3**
XAN Xi'an 37.17 267 P **P** **15 17 07.4 +1.8**
XAN AMB AMB
comp=Z,14nm,1.5s,mb4.6
EGAK Eagle 37.77 39 *e*P **P** **15 17 08.9 -1.8**
comp=Z,65nm,0.9s,mb5.4
DAWY Dawson 38.59 40 *e*P **P** **15 17 16.3 -1.2**
KRAR Krasnoyarsk 38.74 307 *e*P **P** **15 17 18.4 -0.4**
KRAR pmax pmax
comp=Z,52nm,0.9s,mb5.3
LZH Lanzhou 39.52 273 ⇑P **P** **15 17 27.4 +2.1**
LZH AP pP 15 17 30.8 +0.4
LZH XP sP 15 17 32.1 -0.3
LZH *e*PP PP 15 19 01.9 +5.8
LZH *e*S **S** **15 23 28.8 +1.8**
LZH XS sS 15 23 35.3 0.0
LZH *e*SS SS 15 26 14.8 -6.9
LZH AMB AMB
comp=Z,54nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,165nm,5.9s
LZH LR LR
comp=N,907nm,13.5s
LZH LR LR
comp=Z,1µm,15.6s,MS4.9
LZH Lanzhou 39.52 273 ⇑P **P** **15 17 27.4 +2.1**
LZH *e* 15 19 01.9
LZH *e*S **S** **15 23 28.7 +1.7**
LZH *e*SS SS 15 26 14.7 -7.0
LZH pmax pmax
comp=Z,54nm,1.4s,mb5.1
LZH MLR MLR
comp=Z,1µm,15.6s,MS4.9
LZH Lanzhou 39.52 273 ⇑P **P** **15 17 27.4 +2.1**
comp=Z,54nm,1.4s,mb5.1
LZH pP pP 15 17 30.7 +0.3
LZH sP sP 15 17 32.1 -0.3
LZH *e*PP PP 15 19 01.9 +5.8
LZH *e*S **S** **15 23 28.7 +1.7**
LZH sS sS 15 23 35.2 -0.1
LZH *e*SS SS 15 26 14.7 -7.0
LZH LR LR
comp=Z,1µm,15.6s,MS4.9
INK Inuvik 40.55 33 P **P** **15 17 33.6 -0.3**
comp=Z,25nm,0.6s,mb5.0,baz=289,slow=6.7,SNR=174
INK Inuvik 40.55 33 *e*P **P** **15 17 33.2 -0.6**
comp=Z,2µm,1.0s
GTA Gaotai 40.55 280 *e*P **P** **15 17 35.9 +2.1**
GTA AP pP 15 17 40.3 +1.4
GTA XP sP 15 17 43.8 +2.9
GTA PP PP 15 19 13.0 +5.7
GTA PCP PcP 15 19 37.0 +1.0
GTA S **S** **15 23 46.0 +3.6**
GTA XS sS 15 23 53.6 +2.9
GTA SS SS 15 26 41.8 -0.4
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,150nm,4.9s
GTA LR LR
comp=N,279nm,13.7s,MS4.5
GTA LR LR
comp=E,319nm,12.5s,MS4.5
GTA LR LR
comp=Z,333nm,12.9s,MS4.4
SKAG Skagway 41.30 46 *e*P **P** **15 17 40.6 +0.5**
comp=Z,20nm,0.8s,mb4.8
SIT Sitka 41.95 50 P **P** **15 17 44.5 -0.9**
CD2 Chengdu 42.54 267 P **P** **15 17 52.0 +1.8**
CD2 AP pP 15 17 56.5 +1.3
CD2 XP sP 15 17 59.0 +1.8
CD2 PP PP 15 19 33.8 +5.0
CD2 S **S** **15 24 14.0 +2.1**
CD2 XS sS 15 24 21.6 +1.4
CD2 SS SS 15 27 18.1 -3.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,250nm,6.9s
CD2 LR LR
comp=N,230nm,12.0s,MS4.5
CD2 LR LR
comp=E,340nm,14.7s,MS4.5
CD2 LR LR
comp=Z,260nm,13.2s,MS4.3
GYA Guiyang 43.38 259 ⇓*i*P **P** **15 17 58.4 +1.4**
GYA AP pP 15 18 02.8 +0.8
GYA XP sP 15 18 05.8 +1.7
GYA PP PP 15 19 42.3 +4.5
GYA PCP PcP 15 19 48.3 +2.9
GYA SCP ScP 15 23 38.4 +2.4
GYA S **S** **15 24 26.8 +2.6**
GYA SS SS 15 27 33.3 -4.8
GYA SCS ScS 15 27 57.0 +0.7
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,540nm,15.8s,MS4.7
GYA LR LR
comp=E,640nm,16.0s,MS4.7
GYA LR LR
comp=Z,680nm,16.4s,MS4.6
ZAL Zalesovo 43.80 306 P **P** **15 17 59.6 -0.7**
comp=Z,6.9nm,0.5s,mb4.6,baz=47,slow=8.6,SNR=32
ZAL PcP PcP 15 19 46.4 -0.4
comp=Z,6.5nm,0.7s,baz=54,slow=3.4,SNR=6.7
ZAL LR LR 15 37 52.7
comp=Z,637nm,19.1s,MS4.5,baz=41,slow=38
ZAL Zalesovo 43.80 306 P **P** **15 17 59.7 -0.7**
ZAL 15 19 46.4
ZAL pmax pmax
comp=Z,7.0nm,0.5s
ZAL MLR MLR
comp=Z,637nm,19.1s
ZAL Zalesovo 43.80 306 P **P** **15 17 59.6 -0.7**
ZAL PcP PcP 15 19 46.4 -0.4
ZAL LR LR 15 37 52.7
NVS Novosibirsk 44.33 308 *e*P **P** **15 18 03.1 -1.5**
NVS *i* 15 19 48.0
NVS *i* S **S** **15 24 30.4 -7.7**
NVS pmax pmax
comp=Z,22nm,1.0s,mb4.8
NVS pmax pmax
comp=N,25nm,1.8s
NVS pmax pmax
comp=E,18nm,1.1s
NVS smax
comp=N,21nm,2.2s
NVS smax
comp=E,20nm,1.7s
WMQ Urumqi 46.36 292 ⇑*i*P **P** **15 18 22.8 +2.1**
WMQ AP pP 15 18 27.3 +1.5
WMQ XP sP 15 18 29.8 +2.0
WMQ PCP PcP 15 19 58.5 +2.9
WMQ PP PP 15 20 11.6 +2.1
WMQ SCP ScP 15 23 49.9 +1.6
WMQ PCS PcS 15 23 51.6 +1.4
WMQ S **S** **15 25 08.5 +1.1**
WMQ XS sS 15 25 16.1 +0.3
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,223nm,3.9s
WMQ LR LR
comp=N,539nm,21.4s,MS4.5
WMQ LR LR
comp=E,195nm,21.4s,MS4.5
WMQ LR LR
comp=Z,250nm,17.6s,MS4.2
QIZ Qiongzhong 46.47 249 P **P** **15 18 24.1 +2.5**
QIZ S **S** **15 25 10.5 +1.5**
QIZ AMB AMB
comp=Z,27nm,1.7s,mb4.9
QIZ LR LR
comp=Z,172nm,19.0s,MS4.0
KMI Kunming 46.91 261 P **P** **15 18 25.9 +0.9**
KMI AP pP 15 18 32.4 +2.3
KMI AMB AMB
comp=Z,16nm,1.3s,mb4.8
KMI Kunming 46.91 261 P **P** **15 18 25.9 +0.9**
comp=Z,16nm,1.3s,mb4.8
KMI pP pP 15 18 32.4 +2.3
MK31 Makanchi Array 48.27 298 *e*P **P** **15 18 35.4 -0.2**
MK31 *e* 15 20 01.3
MKAR Makanchi Array 48.27 298 P **P** **15 18 35.1 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=69,slow=6.1,SNR=39
MKAR PcP PcP 15 20 02.2 -0.2
comp=Z,4.4nm,0.6s,baz=62,slow=2.9,SNR=7.4
MKAR ScP ScP 15 23 56.0 -0.4
comp=Z,1.6nm,0.9s,baz=72,slow=4.0,SNR=4.6
KURK Kurchatov 48.58 304 P **P** **15 18 37.5 -0.5**
comp=Z,531nm,0.8s,SNR=10
ALE Alert 49.31 6 P **P** **15 18 43.3 -0.3**
comp=Z,146nm,0.7s,mb6.1,SNR=9.3
YKA Yellowknife Ar 49.72 37 P **P** **15 18 46.1 -0.7**
comp=Z,17nm,0.7s,mb5.2,baz=294,slow=7.1,SNR=47
YKA Yellowknife Ar 49.72 37 ⇑*e*P **P** **15 18 46.0 -0.7**
RES Resolute Bay 50.06 19 *e*P **P** **15 18 48.7 -0.6**
comp=Z,747nm,0.9s
CHKZ Chkalovo 51.51 311 *e*P **P** **15 18 59.3 -0.9**
CHKZ pmax pmax
comp=Z,42nm,0.6s,mb5.5
CHKZ Chkalovo 51.51 311 *e*P **P** **15 18 59.3 -1.0**
comp=Z,42nm,0.6s,mb5.5
BVAR Borovoye Array 51.95 310 P **P** **15 19 03.8 +0.2**
comp=Z,17nm,0.6s,mb5.1,baz=55,slow=7.4,SNR=68
BVAR PcP PcP 15 20 15.8 -0.1
comp=Z,6.3nm,0.6s,baz=66,slow=4.5,SNR=6.0
BVAR LR LR 15 42 28.7
comp=Z,366nm,19.4s,MS4.4,baz=322,slow=38
BVAR Borovoye Array 51.95 310 P **P** **15 19 03.8 +0.3**
BVAR 15 20 15.8
BVAR pmax pmax
comp=Z,17nm,0.6s
BVAR MLR MLR
comp=Z,366nm,19.4s
BRVK Borovoye 51.99 310 P **P** **15 19 04.0 +0.2**
comp=Z,204nm,0.7s,SNR=27
BRVK Borovoye 51.99 310 *e*P **P** **15 19 03.5 -0.3**
BRVK *e* 15 20 14.6
BRVK pmax pmax
comp=Z,22nm,0.7s,mb5.2
BRVK Borovoye 51.99 310 *e*P **P** **15 19 03.5 -0.4**
comp=Z,22nm,0.7s,mb5.2
BRVK *e*PcP PcP 15 20 14.6 -1.5
KBS Kingsbay 52.48 352 *e*P **P** **15 19 06.2 -1.3**
KBS pmax pmax
comp=Z,35nm,0.8s,mb5.3
KBS Kingsbay 52.48 352 *e*P **P** **15 19 06.2 -1.3**
comp=Z,35nm,0.8s,mb5.3
SPB4 Spitsbergen Ar 52.64 350 *e*P **P** **15 19 07.4 -1.3**
E04A Onalaska 53.44 58 ⇓P **P** **15 19 13.9 -0.7**
baz=53
C05A Tolt Reservoir 53.45 57 ⇓P **P** **15 19 13.2 -1.3**
baz=53
A07A Ashnola River, 53.46 55 ⇑P **P** **15 19 13.3 -1.4**
baz=53
D05A Enumclaw 53.55 57 ⇓P **P** **15 19 15.3 0.0**
baz=53
CHTO Chiang Mai 53.78 258 *e*P **P** **15 19 18.6 +1.6**
CHTO pmax pmax
comp=Z,25nm,0.9s,mb5.1
CHTO Chiang Mai 53.78 258 *e*P **P** **15 19 18.6 +1.6**
comp=Z,26nm,0.9s,mb5.2
B07A Winthrop 53.92 55 ⇑P **P** **15 19 17.0 -1.1**
baz=54
F04A Amboy 53.98 59 ⇑P **P** **15 19 17.2 -1.3**
baz=54
E05A Randle 54.02 58 ⇓P **P** **15 19 17.8 -1.0**
baz=54
CM31 Chiang Mai Arr 54.03 258 *e*P **P** **15 19 20.8 +2.0**
comp=Z,27nm,0.9s,mb5.2
A08A Turner Farm, O 54.13 54 P **P** **15 19 18.9 -0.7**
baz=54,SNR=5.8
H03A Soap Creek Ran 54.15 60 ⇑P **P** **15 19 19.7 0.0**
baz=54
TKM2 Tokmak 2 54.35 297 P **P** **15 19 22.9 +1.7**
SNR=11
C07A Waterville 54.38 56 ⇑P **P** **15 19 20.6 -0.8**
baz=54
B08A Colville Reser 54.42 55 P **P** **15 19 21.1 -0.6**
baz=54,SNR=5.1
A09A Danville 54.50 54 P **P** **15 19 21.9 -0.4**
baz=54,SNR=7.2
J02A Umpqua 54.71 62 ⇓P **P** **15 19 24.4 +0.6**
baz=54
SVE Sverdlovsk 54.75 318 *e*P **P** **15 19 24.0 -0.1**
USP Ospenovka 54.82 298 P **P** **15 19 25.9 +1.3**
SNR=20
KBK Karagaybulak 54.89 297 P **P** **15 19 26.4 +1.2**
SNR=11
C08A Higginbotham F 54.90 55 ⇓P **P** **15 19 24.3 -0.9**
baz=55
SOKR Solikamsk 54.91 322*c i*P **P** **15 19 25.4 +0.1**
SOKR pmax pmax
comp=Z,40nm,1.5s,mb5.2
EDM Edmonton 54.94 47 *e*P **P** **15 19 23.9 -1.6**
FRU Bishkek 54.99 298 *e*P **P** **15 19 27.0 +1.1**
F06A Goldendale 55.02 58 ⇓P **P** **15 19 25.4 -0.7**
baz=55
B09A Rice 55.04 54 ⇑P **P** **15 19 25.6 -0.6**
baz=55,SNR=5.2
J03A Ideyld Park 55.08 62 ⇑P **P** **15 19 26.5 0.0**
baz=55
E07A Sunnyside 55.12 57 ⇑P **P** **15 19 26.6 -0.1**
baz=55

I04A	Tendick Farm,	55.17	61	⇑P		P		15 19 27.3	+0.2
	baz=55								
AAK	Ala-Archa	55.18	297	P		P		15 19 28.3	+1.1
	SNR=15								
AAK	Ala-Archa	55.18	297	P		P		15 19 27.2	0.0
	comp=Z,150nm,0.6s,SNR=12								
AAK	Ala-Archa	55.18	297	*e*P		P		15 19 27.1	-0.1
AAK					pmax		pmax		
	comp=Z,12nm,0.6s,mb5.1								
AAK	Ala-Archa	55.18	297	*e*P		P		15 19 27.1	-0.1
	comp=Z,12nm,0.6s,mb5.1								
C09A	Chrisman Ranch	55.32	55	⇑P		P		15 19 27.4	-0.8
	baz=55								
D08A	Wollman Farm,	55.37	56	⇓P		P		15 19 27.5	-1.0
	baz=55								
L02A	Cave Junction	55.38	63	⇓P		P		15 19 29.0	+0.4
	baz=55								
G06A	Carlson Farm,	55.41	59	⇑P		P		15 19 28.2	-0.7
	baz=55								
F07A	Phinny Hill Vi	55.45	58	⇓P		P		15 19 28.4	-0.7
	baz=55								
HUMO	Hull Mountain	55.51	62	⇑P		P		15 19 29.6	0.0
	baz=55								
EKS2	Erkin-Say	55.60	298	P		P		15 19 31.7	+1.5
	SNR=10								
I05A	Bend	55.64	60	⇑P		P		15 19 30.8	+0.2
	baz=55								
J04A	Umpqua Nationa	55.66	61	⇓P		P		15 19 31.3	+0.6
	baz=55								
A11A	Hall Mountain,	55.73	53	⇑P		P		15 19 31.0	-0.2
	baz=56								
C10A	Spilker Farm,	55.85	54	⇑P		P		15 19 31.2	-0.8
	baz=56								
H06A	Lindquist Farm	55.87	59	⇓P		P		15 19 31.8	-0.4
	baz=56								
JCC	Jacoby Creek	55.88	65	⇓P		P		15 19 31.8	-0.5
	baz=56								
ARU	Arti	55.92	318	P		P		15 19 32.4	-0.1
	comp=Z,449nm,0.6s,SNR=21								
ARU	Arti	55.92	318	⇓*i*P		P		15 19 32.4	-0.1
ARU				*e*				15 20 29.3	
ARU				*e*				15 21 32.6	
ARU				*e*PPP				15 22 48.4	
ARU				*e*S		S		**15 27 19.4**	**-0.2**
ARU				*e*SSS				15 33 16.4	
ARU					pmax		pmax		
	comp=Z,33nm,0.6s,mb5.5								
ARU	Arti	55.92	318	*e*P		P		15 19 32.1	-0.5
	comp=Z,30nm,0.6s,mb5.5								
G07A	Ruggs Ranch, H	55.95	58	⇓P		P		15 19 33.3	+0.5
	baz=56								
KSH	Kashi	56.06	294	*e*P		P		**15 19 35.6**	**+2.0**
KSH				*e*AP		pP		15 19 40.1	+1.3
KSH				*e*XP		sP		15 19 43.9	+3.2
KSH				*e*PCP		PcP		15 20 35.4	+3.8
KSH				*e*PP		PP		15 21 40.9	+2.4
KSH				*e*SCP		ScP		15 24 32.8	+2.7
KSH				*e*S		S		**15 27 22.1**	**+0.6**
KSH				*e*XS		sS		15 27 32.8	+2.7
KSH				*e*SCS		ScS		15 29 21.6	-0.6
KSH				LR		LR			
	comp=Z,441nm,10.2s,MS4.8								
E09A	Wood Farm, Sta	56.12	56	⇑P		P		15 19 33.8	-0.1
	baz=56								
J05A	Fort Rock	56.16	61	⇑P		P		15 19 34.5	+0.3
	baz=56								
YBH	Yreka Blue Hor	56.17	63	⇑P		P		15 19 34.9	+0.6
	baz=56								
K04A	Chilquin	56.25	62	⇑P		P		15 19 35.5	+0.6
	baz=56								
M02C	Callahan	56.27	64	⇑P		P		15 19 36.0	+0.9
	baz=56								
N02C	Big Bar	56.33	64	⇑P		P		15 19 36.0	+0.6
	baz=56								
G08A	Pilot Rock	56.35	58	⇑P		P		15 19 35.5	-0.1
	baz=56								
I06A	Prineville	56.39	60	⇓P		P		15 19 36.7	+0.8
	baz=56								
L04A	Klamath Falls	56.41	62	⇓P		P		15 19 36.9	+0.9
	baz=56								
DAG	Danmarks Havn	56.44	358	⇑*i*P		P		15 19 35.2	-1.0
	comp=Z,9.0nm,0.8s,mb4.8								
DAG	Danmarks Havn	56.44	358	⇑*i*P		P		15 19 35.2	-1.0
DAG					pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8								
GUN	Gumba	56.61	276	*e*P		P		15 19 40.4	+2.9
	comp=Z,22nm,0.5s,mb5.4								
PMG	Port Moresby	56.66	190	*e*P		P		15 19 38.1	+0.3
PMG					pmax		pmax		
	comp=Z,27nm,1.2s								
PMG	Port Moresby	56.66	190	*e*P		P		15 19 38.1	+0.3
	comp=Z,27nm,1.2s,mb5.2								
M04C	Macdoel	56.67	63	⇓P		P		15 19 38.6	+0.7
	baz=56								
K05A	Summer Lake	56.69	61	⇓P		P		15 19 38.8	+0.8
	baz=56,SNR=7.6								
E10A	Myers Farm, Un	56.72	56	⇓P		P		15 19 37.8	-0.4
	baz=56								
I07A	Izee	56.73	59	⇓P		P		15 19 38.6	+0.3
	baz=56,SNR=5.2								
M03C	McCloud	56.79	63	⇑P		P		15 19 39.4	+0.7
	baz=57								
J06A	Christmas Vall	56.83	60	P		P		15 19 39.4	+0.4
	baz=57,SNR=6.7								
D11A	Klaveano Farm,	56.83	55	P		P		15 19 38.1	-0.9
	baz=57,SNR=6.5								
C12A	Trout Creek	56.93	54	⇑P		P		15 19 39.2	-0.5
	baz=57								
WDC	Whiskeytown Da	56.94	64	⇑P		P		15 19 40.2	+0.4
	baz=57								
H08A	Prairie City	56.96	58	⇑P		P		15 19 39.6	-0.4
	baz=57								
O02C	Red Bluff	57.03	65	⇓P		P		15 19 40.8	+0.4
	baz=57								
B13A	Whitefish	57.09	53	P		P		15 19 40.9	0.0
	baz=57,SNR=12								
KKN	Kakani	57.09	277	*e*P		P		15 19 42.6	+1.7
	comp=Z,24nm,0.6s,mb5.4								
P01C	Double 8 Ranch	57.10	66	⇑P		P		15 19 41.2	+0.2
	baz=57								
L05A	Lakeview	57.12	62	⇓P		P		15 19 41.6	+0.6
	baz=57,SNR=7.3								
PKI	Pulchoki	57.15	276	*e*P		P		15 19 42.7	+1.4
	comp=Z,12nm,0.6s,mb5.1								
LVZ	Lovozero	57.17	337	*e*P		P		15 19 40.6	-0.8
LVZ					pmax		pmax		
	comp=Z,43nm,1.4s,mb5.3								
J07A	Hines	57.25	60	⇓P		P		15 19 42.6	+0.6
	baz=57								
DMN	Daman	57.33	277	*e*P		P		15 19 44.5	+2.0
	comp=Z,31nm,0.7s,mb5.4								
M05C	Lookout	57.34	63	⇓P		P		15 19 43.1	+0.5
	baz=57,SNR=6.2								
I08A	Drewsey	57.38	59	⇑P		P		15 19 43.4	+0.5
	baz=57,SNR=5.7								
GASB	Alder Springs	57.38	65	⇑P		P		15 19 44.0	+1.1
	baz=57								
GKN	Gorkha	57.40	277	*e*P		P		15 19 44.5	+1.5
	comp=Z,29nm,0.6s,mb5.5								
C13A	Hot Springs	57.44	53	⇓P		P		15 19 42.8	-0.5
	baz=57								
H09A	Durkee	57.46	58	⇑P		P		15 19 44.0	+0.5
	baz=57								
HATC	Hat Creek Radi	57.47	63	⇓P		P		15 19 43.9	+0.4
	baz=57								
MOD	Modoc	57.53	62	*e*P		P		15 19 44.0	0.0
	comp=Z,6.6nm,1.0s,mb4.6								
MOD	Modoc	57.53	62	P		P		15 19 44.3	+0.4
	baz=57,SNR=7.4								
BMO	Blue Mountains	57.56	57	*e*P		P		15 19 43.8	-0.3
	comp=Z,27nm,1.8s,mb5.0								
O03C	Acorn Hollow,	57.60	64	⇓P		P		15 19 44.9	+0.4
	baz=57								
F11A	Grangeville	57.61	56	⇓P		P		15 19 44.4	-0.1
	baz=57								
K07A	Rock Creek Ran	57.69	60	⇓P		P		15 19 45.7	+0.6
	baz=58								
APA	Apatity	57.74	337	⇓*i*P		P		15 19 44.0	-1.4
APA					pmax		pmax		
	comp=Z,47nm,1.3s,mb5.4								
J08A	Circle Bar Ran	57.76	59	⇓P		P		15 19 45.8	+0.3
	baz=58								
I09A	Lost Marbles R	57.82	58	⇑P		P		15 19 46.3	+0.3
	baz=58								
G11A	Walters Elk Ra	57.83	56	⇑P		P		15 19 46.0	-0.1
	baz=58								
M06C	Likely Place G	57.83	62	⇓P		P		15 19 46.8	+0.7
	baz=58								
D13A	Huson	57.85	54	⇓P		P		15 19 46.0	-0.2
	baz=58								
O04C	Chester	57.99	64	⇓P		P		15 19 47.8	+0.6
	baz=58,SNR=6.7								
MNRC	McLaughlin Nat	58.01	66	⇑P		P		15 19 48.4	+1.1
	baz=58								
L07A	Adell	58.04	61	⇓P		P		15 19 47.9	+0.3
	baz=58								
K08A	Mann Creek Ran	58.12	60	P		P		15 19 48.8	+0.6
	baz=58,SNR=5.3								
ARCES	ARCESS Array B	58.14	342	P		P		15 19 47.5	-0.7
	comp=Z,14nm,0.8s,mb5.1,baz=29,slow=7.3,SNR=29								
ARCES					LR		LR	15 47 56.6	
	comp=Z,430nm,21.1s,MS4.5,baz=43,slow=39								
ARCES	ARCESS Array B	58.14	342	P		P		15 19 47.5	-0.7
ARCES					pmax		pmax		
	comp=Z,14nm,0.8s								
ARCES					MLR		MLR		
	comp=Z,430nm,21.1s								
ARE0	ARCESS Array S	58.14	342	*e*P		P		15 19 47.7	-0.5
J09A	Fry Pan Ranch,	58.19	59	P		P		15 19 49.1	+0.5
	baz=58,SNR=5.6								
F12A	Elk City	58.19	55	P		P		15 19 48.5	-0.1
	baz=58,SNR=10								
ORV	Oroville	58.19	65	P		P		15 19 48.1	-0.5
	baz=58,SNR=6.7								
SUTB	Sutter Butte	58.21	65	⇑P		P		15 19 48.3	-0.4
	baz=58								
KOLN	Koldanda	58.25	278	*e*P		P		15 19 50.6	+1.6
	comp=Z,31nm,0.9s,mb5.3								
MSO	Missoula	58.29	54	*e*P		P		15 19 48.9	-0.4
	comp=Z,16nm,1.4s,mb4.8								
O05C	Quincy	58.31	64	P		P		15 19 50.0	+0.6
	baz=58,SNR=5.8								
OHCM	Honcut	58.33	65	*e*P		P		15 19 49.3	-0.3
D14A	Greenough	58.38	53	P		P		15 19 49.6	-0.3
	baz=58,SNR=12								
E13A	Victor	58.38	54	P		P		15 19 50.1	+0.2
	baz=58,SNR=5.5								
H11A	Donnelly	58.39	57	P		P		15 19 49.9	-0.1
	baz=58,SNR=19								
Q03C	Winters	58.43	66	⇓P		P		15 19 51.1	+0.8
	baz=58								
N06A	Buffalo Meadow	58.50	63	P		P		15 19 51.2	+0.4
	baz=58,SNR=7.5								
M07A	Soldier Meadow	58.51	62	P		P		15 19 51.5	+0.7
	baz=58,SNR=15								
L08A	Fields	58.53	60	P		P		15 19 51.5	+0.5
	baz=58,SNR=8.2								
K09A	Rome	58.59	60	⇑P		P		15 19 51.1	-0.3
	baz=58								
F13A	Darby	58.69	55	P		P		15 19 51.6	-0.5
	baz=58,SNR=7.6								
BEKR	Beckwourth	58.71	64	P		P		15 19 52.3	+0.1
	baz=58,SNR=14								
E14A	Clinton	58.78	54	P		P		15 19 52.5	-0.2
	baz=58,SNR=8.2								
O06A	Flanigan	58.85	63	P		P		15 19 53.6	+0.4
	baz=59,SNR=7.5								
TMCR	Tamitsa	58.86	333	*e*P		P		15 19 53.1	-0.2
TMCR					pmax		pmax		
	comp=Z,28nm,0.6s,mb5.5								
P05C	Yuba Gap, Truc	58.90	64	⇓P		P		15 19 53.1	-0.4
	baz=59								
BDM	Black Diamond	58.93	66	⇑P		P		15 19 53.7	-0.1
	baz=59								
D15A	Lincoln	58.94	53	⇓P		P		15 19 53.6	-0.3
	baz=59,SNR=5.0								
L09A	Wilkinson Ranc	59.03	60	⇑P		P		15 19 54.7	+0.2
	baz=59								
P06A	Stead Airport,	59.10	64	⇑P		P		15 19 55.4	+0.4
	baz=59								
LAVA	Lava Cap Winer	59.15	65	P		P		15 19 55.2	0.0
	baz=59,SNR=9.9								
WENL	Wente Brothers	59.20	66	⇑P		P		15 19 56.2	+0.5
	baz=59								
F14A	Wisdom	59.22	54	⇓P		P		15 19 55.7	0.0
	baz=59								
BNLO	Ben Lomond (Sa	59.24	67	⇑P		P		15 19 56.3	+0.4
	baz=59								
E15A	Deer Lodge	59.25	54	P		P		15 19 55.8	-0.1
	baz=59,SNR=8.8								
BOK	Bokaro	59.28	273	*e*P		P		15 19 56.6	+0.4
BOK					AMb		AMB	15 19 59.2	
	comp=Z,18nm,0.9s,mb5.1								
R04C	Big Horse Ranc	59.33	65	⇓P		P		15 19 56.5	0.0
	baz=59								
WCN	Washoe City	59.42	64	P		P		15 19 57.6	+0.5
	baz=59,SNR=5.8								
O07A	Toulon	59.43	63	P		P		15 19 57.8	+0.6
	baz=59,SNR=13								
FFC	Flin Flon	59.47	41	P		P		15 19 56.7	-0.8
	comp=Z,167nm,0.9s,mb6.1,SNR=5.5								
N08A	GE Springer Mi	59.51	62	P		P		15 19 58.0	+0.3
	baz=59,SNR=8.6								
M09A	Marrel Ranch,	59.52	61	⇓P		P		15 19 58.2	+0.3
	baz=59								
S04C	Ingram Canyon,	59.55	66	⇓P		P		15 19 58.7	+0.7
	baz=59								
R05C	Kirkwood Meado	59.59	65	⇓P		P		15 19 58.7	+0.4
	baz=59								
F15A	Butte	59.69	54	⇑P		P		15 19 59.0	0.0
	baz=59,SNR=11								
AKTK	Aktyubinsk	59.77	313	P		P		15 19 59.8	+0.3
AKTK					PcP		PcP	15 20 45.9	-0.3
AKTO	Aktyubinsk	59.77	313	P		P		15 19 59.8	+0.3
	comp=Z,12nm,0.6s,mb5.1,baz=64,slow=6.5,SNR=30								
AKTO					PcP		PcP	15 20 45.9	-0.3
	comp=Z,8.6nm,0.8s,baz=37,slow=0.8,SNR=6.1								
AKTO	Aktyubinsk	59.77	313	P		P		15 19 59.8	+0.3
AKTO								15 20 45.9	
AKTO					pmax		pmax		
	comp=Z,12nm,0.6s,mb5.1								
CMB	Columbia Colle	59.81	65	P		P		15 20 00.3	+0.5
	baz=60,SNR=9.4								
N09A	Rock Creek Ran	59.83	61	⇓P		P		15 20 00.4	+0.4
	baz=60								
EGMT	Eagleton	59.83	51	*e*P		P		15 19 59.0	-1.0
	comp=Z,10nm,0.9s,mb4.8								
EGMT	Eagleton	59.83	51	⇑P		P		15 19 59.7	-0.3
	baz=60								
PACP	Pacheco Peak	59.88	67	⇓P		P		15 20 00.6	+0.3
	baz=60								
KSM	Kuching	59.96	235	*e*P		P		15 20 02.1	+1.3
HLID	Hailey	59.99	57	*e*P		P		15 20 00.8	-0.3
	comp=Z,5.8nm,1.1s,mb4.5								
HLID	Hailey	59.99	57	P		P		15 20 01.4	+0.3
	baz=60,SNR=8.2								
M10A	I.L. Ranch, Tu	60.00	60	P		P		15 20 01.8	+0.7
	baz=60,SNR=11								
R06C	Coleville	60.09	64	P		P		15 20 02.4	+0.7
	baz=60,SNR=6.8								
G15A	Dillon	60.10	55	⇓P		P		15 20 01.5	-0.3
	baz=60								
MCMT	McKenzie Canyo	60.11	55	*e*P		P		15 19 57.5	-4.4
P08A	Dixie Valley	60.20	63	⇓P		P		15 20 03.1	+0.5
	baz=60								
Q07A	Schurz	60.23	64	⇑P		P		15 20 03.1	+0.4
	baz=60								
S06C	San Francisco	60.24	65	P		P		15 20 03.2	+0.4
	baz=60,SNR=11								
BMN	Battle Mountai	60.27	61	*e*P		P		15 20 02.2	-0.8
BMN					pmax		pmax		
	comp=Z,13nm,1.0s,mb4.9								
BMN	Battle Mountai	60.27	61	*e*P		P		15 20 02.2	-0.8
	comp=Z,13nm,1.0s,mb4.9								
S05C	Merced	60.27	66	⇑P		P		15 20 03.3	+0.3
	baz=60								
T05C	Eagle Field, D	60.33	67	⇓P		P		15 20 04.0	+0.6
	baz=60								
O09A	Fish Creek Ran	60.45	62	⇓P		P		15 20 04.6	+0.4
	baz=60								
M11A	Holland Ranch,	60.50	60	⇑P		P		15 20 05.2	+0.6
	baz=60								
U04C	Hernandez Rese	60.59	67	⇑P		P		15 20 06.0	+0.8
	baz=60								
ORR	Orenburg	60.63	315	*e*P		P		15 20 05.1	-0.3
ORR					pmax		pmax		
	comp=Z,40nm,1.5s,mb5.3								
O10A	Chez Mining,	60.79	61	⇓P		P		15 20 07.1	+0.6
	baz=61								
Q08A	Gabbs	60.81	63	P		P		15 20 07.0	+0.3
	baz=61,SNR=8.6								
NVAR	Mina Array Bea	60.85	64	P		P		15 20 06.8	-0.2
	comp=Z,6.8nm,0.8s,mb4.8,baz=294,slow=8.8								
P09A	Austin	60.86	62	⇓P		P		15 20 07.6	+0.5
	baz=61								
T06C	Millerton Lake	60.87	66	⇓P		P		15 20 07.1	0.0
	baz=61								
KCC	Kaiser Creek	60.91	65	P		P		15 20 07.8	+0.4
	baz=61,SNR=5.6								
N11A	Elko Archery C	60.92	60	⇑P		P		15 20 07.9	+0.5
	baz=61								
R08A	Mina	61.02	64	⇓P		P		15 20 08.7	+0.6
	baz=61								
M12A	Wells	61.03	59	⇓P		P		15 20 08.5	+0.4
	baz=61,SNR=5.5								
P10A	Eureka	61.23	62	⇓P		P		15 20 10.0	+0.5
	baz=61								
GCMT	Greycliff	61.27	53	*e*P		P		15 20 10.0	+0.2
Q09A	Carvers	61.28	63	⇑P		P		15 20 10.3	+0.4
	baz=61								
N12A	Clover Valley,	61.31	60	⇓P		P		15 20 10.5	+0.5
	baz=61								
MTUM	Tungsten Hills	61.36	65	*e*P		P		15 20 11.0	+0.5
NIL	Nilore	61.38	290	P		P		15 20 13.7	+3.2
	comp=Z,79nm,0.8s,mb5.9,SNR=5.0								
O11A	Cowboy Ranch,	61.39	61	⇑P		P		15 20 10.8	+0.2
	baz=61,SNR=5.1								
PTRM	Twissleman Ran	61.40	67	P		P		15 20 10.6	-0.1
V05C	Boulder Hill,	61.46	67	⇑P		P		15 20 11.5	+0.4
	baz=61								
YFT	Old Faithful	61.47	54	*e*P		P		15 20 12.8	+1.7
HELL	Mitchell Peak,	61.50	66	P		P		15 20 11.0	-0.4
	baz=61,SNR=12								
RCTC	Rector, Farmer	61.60	66	⇓P		P		15 20 12.0	0.0
	baz=61								
R09A	Tonopah	61.72	63	P		P		15 20 13.0	+0.1
	baz=62,SNR=16								
SMMC	Simmler	61.75	68	⇑P		P		15 20 13.4	+0.3
	baz=62								
TIN	Tinemaha	61.76	65	⇓P		P		15 20 13.4	+0.3
	baz=62								
N13A	Wendover, West	61.80	59	⇓P		P		15 20 13.4	+0.1
	baz=62								
O12A	Currie	61.85	60	P		P		15 20 14.1	+0.4
	baz=62,SNR=12								
RRI2	Red Ridge	61.89	56	*e*P		P		15 20 14.3	+0.3
	comp=Z,22nm,0.9s,mb5.3								
S09A	Goldfield	61.95	64	P		P		15 20 14.6	+0.2
	baz=62,SNR=6.1								
VES	Vestal, Richgr	61.99	67	⇑P		P		15 20 13.9	-0.8
	baz=62								
LOHW	Long Hollow	62.13	55	*e*P		P		15 20 16.4	+0.8
	comp=Z,12nm,1.2s,mb4.9								
PKM	Peak Mountain	62.13	68	⇓P		P		15 20 14.8	-0.7
	baz=62								
REDW	Red Top Meadow	62.15	55	*e*P		P		15 20 16.6	+0.9
	comp=Z,18nm,0.9s,mb5.2								
Q11A	Duckwater	62.20	62	⇑P		P		15 20 16.1	0.0
	baz=62								
CWC	Cottonwood Cre	62.24	65	⇑P		P		15 20 16.6	+0.2
	baz=62								
P12A	McGill	62.25	61	⇓P		P		15 20 16.5	+0.1
	baz=62								
GRAC	Grapevine Rang	62.32	65	⇓P		P		15 20 17.4	+0.5
	baz=62								
ISA	Isabella	62.49	66	⇓P		P		15 20 17.1	-0.8
	baz=62								
LAO	LASA Array	62.54	50	*e*P		P		15 20 18.4	+0.1
	comp=Z,24nm,0.9s,mb5.3								
Q12A	Willow Creek R	62.58	61	⇓P		P		15 20 18.5	0.0
	baz=62								
ARVC	Arvin	62.61	67	⇓P		P		15 20 18.8	0.0
	baz=62								
KULM	Kulim	62.68	246	*e*P		P		15 20 19.9	+0.7
MPMC	Manual Prospec	62.85	65	P		P		15 20 20.5	+0.1
	baz=63,SNR=8.4								
HWUT	Hardware Ranch	62.86	57	*e*P		P		15 20 20.3	-0.1
	comp=Z,9.7nm,1.3s,mb4.8								
KAKA	Kakadu	62.94	205	*e*P		P		15 20 20.9	-0.1
	comp=Z,14nm,0.6s,mb5.3								
FURC	Furnace Creek,	62.98	65	⇓P		P		15 20 21.3	0.0
	baz=63,SNR=6.3								
OSI	Osito Adit	63.00	67	⇑P		P		15 20 21.8	+0.4
	baz=63								
DUG	Dugway	63.04	59	P		P		15 20 21.9	+0.3
	baz=63,SNR=8.6								
BLG	Laguna Peak	63.11	68	⇑P		P		15 20 21.7	-0.4
	baz=63								
PDAR	Pinedale Array	63.26	55	P		P		15 20 22.9	-0.2
	comp=Z,9.3nm,0.9s,mb4.9,baz=295,slow=2.3,SNR=59								
EDW2	Edwards Air Fo	63.29	67	P		P		15 20 23.4	0.0
	baz=63,SNR=5.3								
U10A	Ash Meadows, A	63.34	64	⇓P		P		15 20 24.1	+0.4
	baz=63,SNR=6.2								
DECC	Green Verdugo	63.48	67	⇑P		P		15 20 24.3	-0.3
	baz=63								
SHOC	Shoshone	63.70	65	⇑P		P		15 20 26.2	+0.1
	baz=64								
GSC	Goldstone	63.76	66	⇑P		P		15 20 26.1	-0.3
	baz=64								
BFSC	Mount Baldy St	63.91	67	⇓P		P		15 20 27.5	0.0
	baz=64								
U11A	Corn Creek	63.92	64	⇑P		P		15 20 27.4	-0.1
	baz=64								
TUQ	Turquoise Mtn.	64.22	65	⇓P		P		15 20 29.4	-0.1
	baz=64								
V11A	Goodsprings	64.27	64	P		P		15 20 30.0	+0.2
	baz=64,SNR=5.8								
BBRC	Big Bear Sol-O	64.36	67	⇓P		P		15 20 31.0	+0.6
	baz=64								
HEC	Hector,Ludlow	64.36	66	⇑P		P		15 20 30.4	0.0
	baz=64								
U12A	Valley of Fire	64.43	63	⇑P		P		15 20 31.3	+0.5
	baz=64								
FIA1	FINESS Array S	64.49	336	*e*P		P		15 20 30.2	-1.0
FINES	FINESS Array B	64.49	336	P		P		15 20 30.5	-0.7
	comp=Z,6.0nm,0.6s,mb4.8,baz=37,slow=5.9,SNR=36								
FINES					LR		LR	15 50 47.8	
	comp=Z,

PSI	**Prapat**	**65.68**	**246**	P		**P**	**15 20 40.2**	**+1.2**
W13A	**Hualapai Mount**	**65.70**	**64**	⇑P		**P**	**15 20 39.5**	**+0.3**
	baz=66							
OBN	**Obninsk**	**66.01**	**327**	*e*P		**P**	**15 20 40.0**	**-1.1**
OBN				*e*			15 23 03.9	
OBN				*e*S		S	15 29 26.1	-2.1
OBN				pmax	pmax			
	comp=Z,16nm,1.4s,mb4.9							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s,MS4.1							
X13A	**Yucca**	**66.07**	**64**	P		**P**	**15 20 41.4**	**-0.1**
	baz=66,SNR=6.9							
PDMCI	**Parker Dam,Lak**	**66.07**	**65**	⇑P		**P**	**15 20 41.4**	**-0.1**
	baz=66							
W14A	**Seligman**	**66.12**	**64**	P		**P**	**15 20 42.2**	**+0.4**
	baz=66,SNR=10							
Y12C	**Blythe**	**66.20**	**66**	⇓P		**P**	**15 20 42.1**	**-0.2**
	baz=66							
PV10	**Paradox Valley**	**66.44**	**59**	*e*P		**P**	**15 20 44.3**	**+0.4**
GLA	**Glamis**	**66.47**	**66**	P		**P**	**15 20 44.1**	**+0.1**
	baz=66,SNR=5.0							
AGMN	**Agassiz Refuge**	**66.62**	**44**	*e*P		**P**	**15 20 43.7**	**-1.3**
	comp=Z,26nm,1.1s,mb5.2							
W15A	**Williams**	**66.64**	**63**	⇑P		**P**	**15 20 45.8**	**+0.6**
	baz=66							
X14A	**Yava**	**66.73**	**64**	⇓P		**P**	**15 20 46.0**	**+0.3**
	baz=66,SNR=5.5							
PV01	**Paradox Valley**	**66.88**	**59**	*e*P		**P**	**15 20 46.6**	**0.0**
WUAZ	**Wupatki**	**66.96**	**62**	⇓P		**P**	**15 20 47.5**	**+0.3**
	baz=67							
Y14A	**Wickenburg**	**67.02**	**65**	P		**P**	**15 20 47.5**	**0.0**
	baz=67,SNR=6.2							
X15A	**Humboldt**	**67.12**	**64**	P		**P**	**15 20 48.9**	**+0.7**
	baz=67,SNR=10							
CTAO	**Charters Tower**	**67.31**	**189**	*e*P		**P**	**15 20 49.0**	**-0.4**
Z14A	**Wintersburg**	**67.44**	**65**	⇑P		**P**	**15 20 50.3**	**+0.1**
	baz=67							
ISCO	**Idaho Springs**	**67.45**	**56**	*e*P		**P**	**15 20 50.1**	**-0.2**
ISCO				pmax	pmax			
	comp=Z,15nm,1.2s,mb4.9							
ISCO	**Idaho Springs**	**67.45**	**56**	*e*P		**P**	**15 20 50.1**	**-0.1**
	comp=Z,15nm,1.2s,mb4.9							
MVCO	**Mesa Verde**	**67.54**	**59**	*e*P		**P**	**15 20 50.9**	**0.0**
	comp=Z,8.7nm,1.2s,mb4.7							
MVCO	**Mesa Verde**	**67.54**	**59**	⇓P		**P**	**15 20 51.1**	**+0.2**
	baz=67,SNR=5.6							
ABKT	**Ailbek**	**67.87**	**302**	P		**P**	**15 20 54.4**	**+1.5**
	comp=Z,92nm,0.8s,mb5.9,SNR=6.0							
VRSR	**Storozhevoye**	**67.91**	**323**	*e*P		**P**	**15 20 53.4**	**+0.2**
VRSR				pmax	pmax			
	comp=N,20nm,0.7s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.7s							
VRSR				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
115A	**Sonoran Desert**	**68.33**	**65**	⇑P		**P**	**15 20 56.1**	**+0.3**
	baz=68,SNR=5.4							
NB2	**NORSAR Subarra**	**68.50**	**342**	P		**P**	**15 20 56.1**	**-0.8**
	comp=Z,6.9nm,0.8s,mb4.7,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**68.50**	**342**	P		**P**	**15 20 56.1**	**-0.7**
	comp=Z,11nm,0.9s,mb4.9,baz=26,slow=6.4,SNR=17							
NOA				LR		LR	15 54 56.3	
	comp=Z,145nm,18.8s,MS4.2,baz=35,slow=40							
NOA	**NORSAR Array B**	**68.50**	**342**	P		**P**	**15 20 56.1**	**-0.8**
NOA				pmax	pmax			
	comp=Z,11nm,0.9s							
NOA				MLR	MLR			
	comp=Z,145nm,18.8s							
116A	**Eloy**	**68.75**	**65**	⇓P		**P**	**15 20 58.7**	**+0.3**
	baz=68							
WRAB	**Tennant Creek**	**69.31**	**201**	*e*P		**P**	**15 21 01.0**	**-0.9**
WB2	**Warramunga Arr**	**69.32**	**201**	*e*P		**P**	**15 21 01.5**	**-0.5**
WRA	**Warramunga Arr**	**69.32**	**201**	P		**P**	**15 21 01.5**	**-0.5**
	comp=Z,6.6nm,0.7s,mb4.7,baz=21,slow=7.0,SNR=56							
WRA	**Warramunga Arr**	**69.32**	**201**	*i* P		**P**	**15 21 01.5**	**-0.5**
WRA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**70.17**	**210**	*e*P		**P**	**15 21 07.9**	**+0.7**
	comp=Z,14nm,1.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**70.17**	**210**	P		**P**	**15 21 07.3**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=9.6,slow=15,SNR=14							
ANMO	**Albuquerque**	**70.29**	**60**	*e*P		**P**	**15 21 06.8**	**-1.1**
MDRS	**Chennai**	**70.52**	**268**	*e*x		x	15 20 01.1	
GOF	**Gofitskoye**	**70.79**	**316**	*e*P		**P**	**15 21 07.4**	**-3.6**
GOF				pmax	pmax			
	comp=Z,50nm,0.6s,mb5.6							
POO	**Poona**	**71.06**	**277**	*e*P		**P**	**15 21 13.0**	**+0.3**
SUW	**Suwalki**	**71.54**	**333**	P		**P**	**15 21 12.9**	**-2.6**
SUW				pmax	pmax			
	comp=Z,40nm,1.3s,mb5.2							
SUW	**Suwalki**	**71.54**	**333**	P		**P**	**15 21 12.9**	**-2.6**
	comp=Z,40nm,1.3s,mb5.2							
KAD	**Karad**	**71.69**	**276**	*e*P		**P**	**15 21 17.4**	**+1.0**
KAD				AMb	AMB		15 21 18.3	
	comp=Z,20nm,0.5s,mb5.3							
KIV	**Kislovodsk**	**71.78**	**316**	*e*P		**P**	**15 21 16.5**	**-0.5**
KIV				pmax	pmax			
	comp=Z,28nm,1.0s,mb5.2							
KIV				MLR	MLR			
	comp=Z,230nm,18.0s,MS4.5							
KIV	**Kislovodsk**	**71.78**	**316**	*e*P		**P**	**15 21 17.8**	**+0.9**
	comp=Z,24nm,0.9s,mb5.1							
ZEI	**Tsey**	**72.07**	**314**	*e*P		**P**	**15 21 18.8**	**0.0**
ZEI				*e*			15 21 35.0	
ZEI				*e*			15 23 56.3	
ZEI				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**	**15 21 18.6**	**-1.0**
	comp=Z,6.3nm,0.7s,mb4.7,baz=33,slow=6.2,SNR=16							
AKASG				LR		LR	15 57 27.0	
	comp=Z,169nm,18.5s,MS4.3,baz=35,slow=40							
AKASG	**Malin Array Be**	**72.23**	**327**	P		**P**	**15 21 18.6**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,169nm,18.5s							
AKBB	**Malin Array Si**	**72.23**	**327**	*e*P		**P**	**15 21 17.6**	**-2.1**
KIEV	**Kiev**	**72.24**	**327**	*e*P		**P**	**15 21 17.6**	**-2.1**
KIEV				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9							
KIEV	**Kiev**	**72.24**	**327**	*e*P		**P**	**15 21 17.6**	**-2.2**
	comp=Z,9.6nm,0.6s,mb4.9							
SCHQ	**Schefferville**	**72.42**	**24**	P		**P**	**15 21 21.1**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.3,baz=356,slow=13,SNR=2.7							
SCHQ				LR		LR	15 56 06.1	
	comp=Z,92nm,19.6s,MS4.1,baz=96,slow=38							
AS31	**Alice Springs**	**73.00**	**201**	*e*P		**P**	**15 21 24.7**	**+0.4**
ASAR	**Alice Springs**	**73.00**	**201**	P		**P**	**15 21 24.8**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=13,slow=5.5,SNR=66							
ASAR				LR		LR	15 49 12.5	
	comp=Z,109nm,20.8s,MS4.1,baz=10,slow=32							
ASPA	**Alice Springs**	**73.01**	**201**	*e*P		**P**	**15 21 24.7**	**+0.4**
AMTX	**Amarillo**	**73.12**	**57**	*e*P		**P**	**15 21 23.9**	**-1.1**
	comp=Z,7.5nm,0.9s,mb4.6							
SOC	**Sochi**	**73.47**	**317**	*e*P		**P**	**15 21 28.0**	**+1.0**
SOC				*e*			15 21 44.5	
SOC				*e*PPP			15 26 00.4	
SOC				pmax	pmax			
	comp=Z,12nm,0.7s,mb4.9							
ANN	**Anapa**	**73.57**	**319**	*e*P		**P**	**15 21 23.9**	**-3.8**
ANN				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.2							
GNI	**Garni**	**73.60**	**312**	P		**P**	**15 21 29.8**	**+2.0**
	comp=Z,11nm,0.7s,mb4.9,baz=41,slow=5.3,SNR=8.1							
GNI	**Garni**	**73.60**	**312**	*e*P		**P**	**15 21 27.9**	**+0.1**
GNI				pmax	pmax			
	comp=Z,21nm,1.5s							
GNI	**Garni**	**73.60**	**312**	*e*P		**P**	**15 21 30.2**	**+2.4**
	comp=Z,19nm,0.8s,mb5.1							
PALK	**Pallekele**	**74.36**	**264**	*e*P		**P**	**15 21 33.0**	**+0.7**
	comp=Z,17nm,1.1s,mb4.9							
MBWA	**Marble Bar**	**75.14**	**214**	P		**P**	**15 21 36.6**	**-0.1**
	comp=Z,8.9nm,0.8s,mb4.8							
KWP	**Kalwaria**	**75.42**	**330**	*e*P		**P**	**15 21 38.5**	**+0.1**
OJC	**Ojcow**	**75.87**	**332**	*e*P		**P**	**15 21 40.5**	**-0.4**
LTX	**Lajitas**	**75.92**	**62**	P		**P**	**15 21 41.2**	**-0.1**
LTX				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**15 21 41.2**	**0.0**
	comp=Z,13nm,0.8s,mb4.9,baz=297,slow=4.0,SNR=129							
TXAR	**Lajitas Array**	**75.92**	**62**	P		**P**	**15 21 41.3**	**0.0**
TXAR				pmax	pmax			
	comp=Z,13nm,0.8s							
STHS	**Stebnicka Huta**	**76.10**	**331**	*e*P		**P**	**15 21 42.8**	**+0.6**
STHS				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
STHS	**Stebnicka Huta**	**76.10**	**331**	*e*P		**P**	**15 21 42.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.8							
KOLS	**Kolonicke sedl**	**76.17**	**330**	*e*P		**P**	**15 21 42.4**	**-0.3**
BURAR	**Bucovina Array**	**76.26**	**328**	⇑*i*P		**P**	**15 21 43.3**	**+0.1**
UZH	**Uzhgorod**	**76.42**	**330**	*e*P		**P**	**15 21 43.3**	**-0.8**
OKC	**Ostrava-Krasne**	**76.72**	**333**	*e*pP		pP	15 21 49.9	-1.2
UPC	**Upice**	**76.77**	**335**	*e*P		**P**	**15 21 46.2**	**+0.2**
UPC				*e*pP		pP	15 21 51.3	-0.1
DPC	**Dobruska-Polom**	**76.81**	**335**	*e*P		**P**	**15 21 46.7**	**+0.4**
DPC				*e*pP		pP	15 21 51.4	-0.3
CLL	**Collm**	**76.89**	**337**	⇑*i*P		**P**	**15 21 46.6**	**-0.1**
CLL				*i*		pP	15 21 51.1	-1.0
CLL				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.0							
CLL	**Collm**	**76.89**	**337**	⇑*i*P		**P**	**15 21 46.6**	**-0.1**
	comp=Z,24nm,1.3s,mb5.0							
CLL				*i*		pP	15 21 51.1	-1.0
CLL	**Collm**	**76.89**	**337**	⇑*i*P		**P**	**15 21 46.6**	**-0.1**
	comp=Z,24nm,1.3s,mb5.0							
CLL				*i* pP		pP	15 21 51.1	-1.0
	comp=Z,26nm,0.7s							
CLL				*e*(sPcP)			15 22 06.0	
MORC	**Moravsky Berou**	**76.96**	**334**	*e*P		**P**	**15 21 47.2**	**+0.1**
MORC				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8							
MORC	**Moravsky Berou**	**76.96**	**334**	*e*P		**P**	**15 21 47.2**	**+0.1**
	comp=Z,9.2nm,0.7s,mb4.8							
BRG	**Berggiesshubel**	**77.03**	**336**	*e*P		**P**	**15 21 47.4**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.3							
BRG				*e*		pP	15 21 51.8	-1.1
	comp=Z,7.7nm,1.4s							
BRG				*e*			15 22 06.4	
	comp=Z,3.6nm,0.8s							
KECS	**Kecovo**	**77.16**	**331**	*e*P		**P**	**15 21 48.0**	**-0.2**
KECS				*e*		pP	15 21 52.6	-1.0
KECS				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
KECS	**Kecovo**	**77.16**	**331**	*e*P		**P**	**15 21 48.0**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.5							
KECS				*e*		pP	15 21 52.6	-1.0
PVCC	**Panska Ves**	**77.16**	**336**	*e*pP		pP	15 21 52.8	-0.8
PLOR	**Plostina**	**77.21**	**326**	⇑*i*P		**P**	**15 21 49.4**	**+0.9**
JCT	**Junction City**	**77.39**	**59**	*e*P		**P**	**15 21 49.0**	**-0.6**
JCT				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
JCT	**Junction City**	**77.39**	**59**	*e*P		**P**	**15 21 49.0**	**-0.6**
	comp=Z,5.9nm,0.6s,mb4.7							
PRU	**Pruhonice**	**77.65**	**335**	*e*P		**P**	**15 21 50.9**	**-0.1**
PRU				*e*pP		pP	15 21 55.9	-0.5
TIRR	**Tirgusor**	**77.68**	**324**	⇓*i*P		**P**	**15 21 56.0**	**+4.8**
VYHS	**Vyhne**	**77.68**	**332**	*e*P		**P**	**15 21 51.5**	**+0.3**
VYHS				*e*pP		pP	15 21 56.0	-0.5
MLR	**Muntele Rosu**	**77.78**	**326**	P		**P**	**15 21 52.5**	**+0.8**
	comp=Z,6.4nm,0.5s,mb4.8,baz=154,slow=7.0,SNR=11							
MLR	**Muntele Rosu**	**77.78**	**326**	⇑*i*P		**P**	**15 21 52.7**	**+1.0**
MLR	**Muntele Rosu**	**77.78**	**326**	P		**P**	**15 21 52.5**	**+0.8**
MLR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
PSZ	**Piszkesteto**	**77.84**	**331**	*e*P		**P**	**15 21 49.4**	**-2.7**
PSZ				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
PSZ	**Piszkesteto**	**77.84**	**331**	*e*P		**P**	**15 21 49.4**	**-2.7**
	comp=Z,10nm,0.9s,mb4.8							
MOX	**Moxa**	**77.86**	**337**	*e*P		**P**	**15 21 52.9**	**+0.7**
	comp=Z,14nm,0.8s,mb4.9							
MOX	**Moxa**	**77.86**	**337**	*e*P		**P**	**15 21 52.9**	**+0.7**
MOX				pmax	pmax			
	comp=Z,14nm,0.8s,mb4.9							
NKC	**Novy Kostel**	**78.01**	**337**	*e*pP		pP	15 21 58.0	-0.4
MALT	**Malatya**	**78.16**	**314**	*e*P		**P**	**15 21 55.6**	**+1.7**
MALT				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8							
MALT	**Malatya**	**78.16**	**314**	*e*P		**P**	**15 21 55.6**	**+1.8**
	comp=Z,12nm,1.0s,mb4.8							
ZST	**Bratislava**	**78.49**	**333**	*e*P		**P**	**15 21 56.8**	**+1.1**
	comp=Z,7.8nm,0.6s,mb4.8							
ZST				LR	LR			
	comp=Z,200nm,21.2s,MS4.4							
KHC	**Kasperske Hory**	**78.70**	**336**	*e*P		**P**	**15 21 57.1**	**+0.3**
KHC				*e*pP		pP	15 22 02.5	+0.3
GRA2	**Grafenberg Arr**	**78.83**	**337**	*e*P		**P**	**15 21 58.2**	**+0.7**
	comp=Z,34nm,0.9s,mb5.3							
GRA2				*e*pP		pP	15 22 03.4	+0.5
GEC2	**GERESS Array S**	**78.92**	**335**	*e*P		**P**	**15 22 03.7**	**+5.7**
	comp=Z,8.0nm,0.8s,mb4.7							
GEC2	**GERESS Array S**	**78.92**	**335**	*e*P		**P**	**15 22 03.7**	**+5.7**
GEC2				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
GERES	**GERESS Array B**	**78.92**	**335**	P		**P**	**15 21 58.0**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=36,slow=5.6,SNR=12							
GERES				LR	LR		15 59 38.7	
	comp=Z,352nm,19.8s,MS4.7,baz=85,slow=38							
GERES	**GERESS Array B**	**78.92**	**335**	P		**P**	**15 21 58.0**	**0.0**
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GERES				MLR	MLR			
	comp=Z,352nm,19.8s							
GRB1	**Grafenberg Arr**	**78.99**	**337**	*e*P		**P**	**15 21 58.8**	**+0.4**
	comp=Z,25nm,0.9s,mb5.1							
GRB1				*e*pP		pP	15 22 04.1	+0.3
BZS	**Buzias**	**79.25**	**329**	⇓*i*P		**P**	**15 22 00.0**	**+0.1**
MEM	**Membach**	**79.26**	**341**	P		**P**	**15 22 00.1**	**+0.2**
BR131	**Keskin Array S**	**79.31**	**318**	*e*P		**P**	**15 22 00.4**	**+0.3**
	comp=Z,5.9nm,0.8s,mb4.6							
BRTR	**Keskin Array B**	**79.31**	**318**	P		**P**	**15 22 00.7**	**+0.5**
	comp=Z,3.6nm,1.0s,mb4.3,baz=58,slow=3.1,SNR=15							
BRTR	**Keskin Array B**	**79.31**	**318**	P		**P**	**15 22 00.7**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
STKA	**Stephens Creek**	**79.52**	**192**	P		**P**	**15 22 01.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=0.9,slow=7.3,SNR=3.8							
STKA				LR	LR		15 55 25.3	
	comp=Z,136nm,20.1s,MS4.3,baz=25,slow=34							
STKA	**Stephens Creek**	**79.52**	**192**	*e*P		**P**	**15 22 00.8**	**-0.5**
TAOE	**Nuku Hiva Isla**	**79.56**	**115**	*e*LR		LR	15 22 10.5	
	comp=Z,834nm,24.3s							
BCLA	**Clavier**	**79.60**	**341**	P		**P**	**15 22 07.6**	**+5.8**
MIB	**Mutribah**	**79.92**	**303**	*e*P		**P**	**15 22 04.0**	**+0.5**
MIB				AMb	AMB		15 22 04.7	
	comp=Z,49nm,0.6s,mb5.6							
DOU	**Dourbes**	**80.06**	**341**	P		**P**	**15 22 09.7**	**+5.5**
NAY	**Al-Naaiem**	**80.39**	**303**	*e*P		**P**	**15 22 06.3**	**+0.4**
NAY				AMb	AMB		15 22 07.1	
	comp=Z,25nm,0.7s,mb5.2							
RDF	**Al-Radifah**	**80.45**	**302**	*e*P		**P**	**15 22 07.1**	**+0.7**
RDF				AMb	AMB		15 22 07.7	
	comp=Z,50nm,0.7s,mb5.6							
PERS	**Pernice**	**80.49**	**334**	*i* P		**P**	**15 22 12.0**	**+5.5**
GROS	**Grobnik**	**80.53**	**333**	P		**P**	**15 22 12.1**	**+5.3**
GOLS	**Golise**	**80.90**	**333**	*e*P		**P**	**15 22 13.7**	**+5.0**
PPT	**Papeete**	**81.00**	**128**	*e*LR		LR	15 22 41.1	
	comp=Z,308nm,22.5s,baz=326							
PPT	**Papeete**	**81.00**	**128**	*e*LR		LR	15 46 50.2	
	comp=Z,292nm,23.0s,baz=327							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P		**P**	**15 22 09.0**	**-0.4**
	comp=Z,27nm,0.9s,mb4.9							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P		**P**	**15 22 09.0**	**-0.4**
CDF				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.9							
CDF	**Champ du Feu**	**81.02**	**339**	*e*P		**P**	**15 22 09.0**	**-0.4**
	comp=Z,14nm,0.9s,mb4.9							
GCIS	**Gornji Cirnik**	**81.03**	**333**	*e*P		**P**	**15 22 14.3**	**+4.9**
LEGS	**Legarje**	**81.05**	**333**	*e*P		**P**	**15 22 14.5**	**+5.0**
CRES	**Cresnjev**	**81.11**	**333**	*i* P		**P**	**15 22 15.0**	**+5.1**
VTS	**Vitosha**	**81.28**	**326**	⇓*i*P		**P**	**15 22 10.6**	**-0.2**
GRR	**Gorron**	**82.78**	**344**	*e*P		**P**	**15 22 19.3**	**+0.6**
	comp=Z,122nm,1.4s,mb5.5							
GRR	**Gorron**	**82.78**	**344**	*e*P		**P**	**15 22 19.3**	**+0.6**
GRR				pmax	pmax			
	comp=Z,61nm,1.4s,mb5.4							
GRR	**Gorron**	**82.78**	**344**	*e*P		**P**	**15 22 19.3**	**+0.6**
	comp=Z,61nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**83.48**	**341**	*e*P		**P**	**15 22 21.9**	**-0.4**
	comp=Z,104nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**83.48**	**341**	*e*P		**P**	**15 22 21.9**	**-0.4**
SMF				pmax	pmax			
	comp=Z,52nm,1.4s,mb5.4							
SMF	**Signal de Mont**	**83.48**	**341**	*e*P		**P**	**15 22 21.9**	**-0.4**
	comp=Z,52nm,1.4s,mb5.4							
ASF	**Jabal al Asfar**	**83.77**	**312**	P		**P**	**15 22 24.6**	**+0.9**
	comp=Z,8.5nm,0.9s,mb4.9,baz=268,slow=3.1,SNR=11							
ASF	**Jabal al Asfar**	**83.77**	**312**	P		**P**	**15 22 24.6**	**+0.8**
ASF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MMAI	**Mount Meron Ar**	**83.86**	**313**	P		**P**	**15 22 25.5**	**+1.3**
	comp=Z,12nm,0.7s,mb5.2,baz=40,slow=7.0,SNR=20							
LPG	**La Plagne**	**83.87**	**338**	*e*P		**P**	**15 22 25.1**	**+0.9**
	comp=Z,20nm,0.6s,mb5.1							
LPG	**La Plagne**	**83.87**	**338**	*e*P		**P**	**15 22 25.1**	**+0.9**
LPG				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb5.1							
LPG	**La Plagne**	**83.87**	**338**	*e*P		**P**	**15 22 25.1**	**+0.9**
	comp=Z,10nm,0.6s,mb5.1							
BNI	**Bardonecchia**	**84.30**	**338**	*e*P		**P**	**15 22 27.2**	**+0.7**
BNI				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.2							
BNI	**Bardonecchia**	**84.30**	**338**	*e*P		**P**	**15 22 27.2**	**+0.8**
	comp=Z,19nm,1.0s,mb5.2							
RJF	**Les Rejaudoux**	**85.26**	**342**	*e*P		**P**	**15 22 31.2**	**-0.1**
	comp=Z,45nm,1.1s,mb5.2							
RJF	**Les Rejaudoux**	**85.26**	**342**	*e*P		**P**	**15 22 31.2**	**-0.1**
RJF				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.2							
RJF	**Les Rejaudoux**	**85.26**	**342**	*e*P		**P**	**15 22 31.2**	**-0.1**
	comp=Z,22nm,1.1s,mb5.2							
TBI	**Tubuai**	**85.81**	**131**	*e*LR		LR	15 49 05.2	
	comp=Z,386nm,31.2s,baz=314							
NWAO	**Narrogin (SRO)**	**86.71**	**211**	P		**P**	**15 22 38.2**	**-0.2**
	comp=Z,11nm,0.8s,mb5.1,baz=42,slow=7.6,SNR=3.7							
NWAO	**Narrogin (SRO)**	**86.71**	**211**	P		**P**	**15 22 35.4**	**-3.1**
NWAO				pmax	pmax			
	comp=Z,32nm,1.3s							
NWAO	**Narrogin (SRO)**	**86.71**	**211**	P		**P**	**15 22 35.4**	**-3.1**
	comp=Z,32nm,1.3s,mb5.4							
ESDC	**Sonseca Array**	**91.77**	**344**	LR		LR	16 09 13.7	
	comp=Z,155nm,19.2s,MS4.5,baz=30,slow=39							
KEST	**Kesra**	**92.21**	**333**	P		**P**	**15 23 03.9**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.4,baz=350,slow=6.1,SNR=3.4							
KEST				LR		LR	16 09 08.6	
	comp=Z,71nm,20.4s,MS4.1,baz=324,slow=38							
RKT	**Rikitea**	**93.68**	**120**	*e*LR		LR	15 52 39.8	
	comp=Z,196nm,33.5s,baz=316							
TORD	**Torodi Ar. Bea**	**115.68**	**332**	PKP		PKPdf	15 28 35.6	-1.2
	comp=Z,1.1nm,1.0s,baz=360,slow=3.3,SNR=4.6							
VNDA	**Vanda**	**124.32**	**178**	PKP		PKPdf	15 28 51.6	-1.9
	comp=Z,1.1nm,0.7s,baz=335,slow=3.9,SNR=7.8							
VNDA	**Vanda**	**124.32**	**178**	PKIKP		PKPdf	15 28 51.6	-1.9
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**132.75**	**65**	PKHKP			15 28 52.6	
MAW	**Mawson**	**133.28**	**212**	PKP		PKPdf	15 29 09.5	-1.0
	comp=Z,3.7nm,0.6s,baz=97,slow=12,SNR=11							
MAW	**Mawson**	**133.28**	**212**	PKIKP		PKPdf	15 29 09.5	-1.0
MAW				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LBTB	**Lobatse**	**134.83**	**281**	*e*PKIKP		PKPdf	15 29 13.3	-0.1
SIV	**San Ignacio**	**136.73**	**57**	PKP		PKPdf	15 29 17.0	0.0
	comp=Z,2.0nm,0.8s,baz=299,slow=1.7,SNR=12							
QSPA	**South Pole Qui**	**136.75**	**180**	*e*PKPdf		PKPdf	15 29 14.8	-2.2
LVC	**Limon Verde**	**136.92**	**71**	PKP		PKPdf	15 29 18.2	+0.9
	comp=Z,44nm,0.6s,baz=270,slow=23,SNR=3.9							
BOSA	**Boshof**	**137.41**	**277**	PKP		PKPdf	15 29 19.8	+1.6
	comp=Z,4.6nm,1.0s,baz=242,slow=3.0,SNR=6.2							
BOSA	**Boshof**	**137.41**	**277**	PKIKP		PKPdf	15 29 19.8	+1.6
BOSA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SYO	**Syowa Base**	**142.00**	**212**	⇑*e*X			15 29 20.6	
USHA	**

CMCH	**Combarbala**	**1.07**	**139**⇑	*i*P		**Pg**	**15 25 45.1**	**-0.6**
CMCH				*i* S		**Sg**	**15 25 57.6**	**-2.0**
CMCH				AML	AML		15 26 00.5	
	comp=N,58μm,0.4s							
CMCH	**Combarbala**	**1.07**	**139**⇑	*i*P		**Pg**	**15 25 45.1**	**-0.6**
CMCH				*i* S		**Sg**	**15 25 57.6**	**-2.0**
CHNG	**Los Chungos**	**1.54**	**170**⇓	*i*P		**Pn**	**15 25 53.5**	**+0.9**
CHNG				*i* S		**Sn**	**15 26 12.8**	**+0.1**
VACH	**Vallenar**	**2.01**	**28**⇑	*i*P		**Pn**	**15 26 00.5**	**+1.3**
VACH				*i* S		**Sn**	**15 26 24.7**	**+0.3**
VACH				AML	AML		15 26 33.5	
	comp=N,19μm,0.4s							
VACH	**Vallenar**	**2.01**	**28**⇑	*i*P		**Pn**	**15 26 00.5**	**+1.3**
VACH				*i* S		**Sn**	**15 26 24.7**	**+0.3**
PTCH	**Petorca**	**2.04**	**158**⇓	*i*P		**Pn**	**15 26 00.8**	**+1.3**
PTCH				*i* S		**Sn**	**15 26 24.8**	**-0.3**
PTCH				AML	AML		15 26 30.9	
	comp=E,10μm,0.4s							
PTCH	**Petorca**	**2.04**	**158**⇓	*i*P		**Pn**	**15 26 00.8**	**+1.3**
PTCH				*i* S		**Sn**	**15 26 24.8**	**-0.3**
PACH	**Papudo**	**2.19**	**171**	*i* P		**Pn**	**15 26 02.1**	**+0.5**
PEL	**Peldehue**	**2.93**	**161**	*e*P		**Pn**	**15 26 13.1**	**+1.2**
PEL				*i* S		**Sn**	**15 26 47.2**	**0.0**
PEL				AML	AML		15 26 59.6	
	comp=E,7μm,0.5s							
PEL	**Peldehue**	**2.93**	**161**	*e*P		**Pn**	**15 26 13.1**	**+1.2**
PEL				*i* S		**Sn**	**15 26 47.2**	**0.0**
ZON	**Zonda**	**2.95**	**114**	*e*P		**Pn**	**15 26 13.6**	**+1.6**
CLCH	**Cerro Calan**	**3.21**	**160**⇓	*e*P		**Pn**	**15 26 16.7**	**+1.0**
CLCH				*i* S		**Sn**	**15 26 53.7**	**-0.4**
CLCH				AML	AML		15 27 10.4	
	comp=E,4μm,0.4s							
FCH	**Farellones**	**3.23**	**157**	*e*P		**Pn**	**15 26 18.6**	**+2.7**
FCH				AML	AML		15 27 06.8	
	comp=E,2μm,0.5s							
RCDM	**Rinconada Maip**	**3.23**	**165**	*i* P		**Pn**	**15 26 18.1**	**+2.2**
RCDM				*i* S		**Sn**	**15 26 55.1**	**+0.6**
RCDM				AML	AML		15 27 08.9	
	comp=E,2μm,0.7s							
RCDM	**Rinconada Maip**	**3.23**	**165**	*i* P		**Pn**	**15 26 18.1**	**+2.2**
RCDM				*i* S		**Sn**	**15 26 55.1**	**+0.6**
CPCH	**Copiapo**	**3.26**	**24**	*e*P		**Pn**	**15 26 16.0**	**-0.4**
CFAA	**Coronel Fontan**	**3.32**	**113**	Pn		**Pn**	**15 26 17.7**	**+0.6**
	comp=E,10nm,0.3s,baz=301,slow=9.3,SNR=165							
CFAA				Sn		**Sn**	**15 26 58.7**	**+2.1**
	comp=E,7.1nm,0.3s,baz=322,slow=8.5,SNR=4.4							
CFAA	**Coronel Fontan**	**3.32**	**113**	Pn		**Pn**	**15 26 17.7**	**+0.6**
CFAA				Sn		**Sn**	**15 26 58.7**	**+2.1**
CDCH	**Caldera**	**3.40**	**15**	*i* P		**Pn**	**15 26 17.6**	**-0.6**
LVC	**Limon Verde**	**8.15**	**19**	Pn		**Pn**	**15 27 21.5**	**-2.0**
	comp=E,0.9nm,0.3s,baz=278,slow=0.8,SNR=10							
LVC				LR		LR	15 30 22.5	
	comp=E,181nm,20.2s,baz=270,slow=37							
LVC	**Limon Verde**	**8.15**	**19**	*e*Pn		**Pn**	**15 27 21.0**	**-2.5**
	comp=E,25nm,0.6s							
LVC				Pn		**Pn**	**15 27 21.5**	**-2.0**
LVC				*e*Sn		**Sn**	**15 29 09.6**	**+14**
LVC				LR		LR	15 30 22.6	
TRQA	**Tornquist**	**11.19**	**136**	*e*P		**Pn**	**15 28 04.0**	**-1.1**
	comp=E,34nm,0.6s							
LPAZ	**La Paz**	**14.41**	**14**	Pn		**Pn**	**15 28 50.8**	**+1.5**
	comp=E,0.4nm,0.3s,baz=185,slow=9.8,SNR=11							
SIV	**San Ignacio**	**17.37**	**37**	P		**Pn**	**15 29 27.2**	**-0.4**
	comp=E,0.4nm,0.3s,baz=221,slow=9.7,SNR=18							
SAML	**Samuel**	**22.79**	**23**	*e*P		**P**	**15 30 27.0**	**-0.9**
	comp=E,3.0nm,0.7s,mb3.8							
EFI	**East Falkland**	**23.61**	**158**	*e*P		**P**	**15 30 34.6**	**-1.8**
VNA3	**Neumayer Olymp**	**52.66**	**159**	*e*		**P**	**15 34 37.7**	**-1.9**
VNA3				*e*		pP	15 34 40.2	-2.3
VNA3				*e*			15 34 53.2	
VNA2	**Neumayer--Watz**	**53.30**	**158**	*e*		**P**	**15 34 43.0**	**-1.3**
	baz=291,slow=8.6							
VNA2				*e*		pP	15 34 46.0	-1.2
VNA2				*e*			15 35 00.1	
SNAA	**Sanae**	**54.88**	**159**	P		**P**	**15 34 54.3**	**-1.6**
	comp=E,1.7nm,0.8s,mb4.2,baz=303,slow=7.5,SNR=13							
SNAA	**Sanae**	**54.88**	**159**	*e*		**P**	**15 34 54.4**	**-1.5**
SNAA				*e*		pP	15 34 56.7	-2.1
SNAA	**Sanae**	**54.88**	**159**	*e*P		**P**	**15 34 54.0**	**-1.8**
	comp=E,4.4nm,0.8s,mb4.5							
QSPA	**South Pole Qui**	**59.86**	**180**	*e*P		**P**	**15 35 30.6**	**-0.4**
	comp=E,5.3nm,0.6s,mb4.8							
TXAR	**Lajitas Array**	**66.67**	**330**	P		**P**	**15 36 16.6**	**+0.4**
	comp=E,0.2nm,0.6s,mb3.3,baz=140,slow=5.9,SNR=3.3							
TXAR				pP		pP	15 36 26.1	+7.0
	comp=E,1.4nm,0.8s,baz=151,slow=8.2,SNR=13							
MAW	**Mawson**	**76.61**	**164**	P		**P**	**15 37 14.4**	**-1.6**
	comp=E,1.2nm,0.5s,mb4.1,baz=190,slow=7.8,SNR=8.6							
TORD	**Torodi Ar. Bea**	**82.81**	**70**	P		**P**	**15 37 48.5**	**-1.1**
	comp=E,3.0nm,0.7s,mb4.5,baz=263,slow=4.7,SNR=15							
WRA	**Warramunga Arr**	**124.00**	**210**	PKP		PKPdf	15 44 23.0	-0.7
	comp=E,0.2nm,0.5s,baz=154,slow=1.7,SNR=11							
BVAR	**Borovoye Array**	**144.43**	**40**	PKP		PKPdf	15 44 59.7	-2.0
	comp=E,1.3nm,0.5s,baz=287,slow=2.5,SNR=13							
ZAL	**Zalesovo**	**151.01**	**29**	PKPbc	PKPbc		15 45 17.9	-0.4
	comp=E,5.6nm,0.7s,baz=160,slow=1.9,SNR=25							
MKAR	**Makanchi Array**	**154.12**	**43**	PKPbc	PKPbc		15 45 23.9	-1.3
	comp=E,1.1nm,0.7s,baz=310,slow=2.0,SNR=8.8							

IDC ***23*** *15:29:46.4±1.1, 47.47N×153.43E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, Error ellipse: s-maj=34.6km s-min=25.5km az=135.0*
MOS ***23*** *15:29:49.6±2.2, 47.69N×153.74E, h33km, mb4.1/4, Error ellipse: s-maj=30.6km s-min=14.8km az=53.1*
ISCJB ***23*** *15:29:53.1±1.8, 47.5N±0.1×153.5E±0.2, h60km±15km, mb3.7/8, Error ellipse: s-maj=32.3km s-min=9.2km az=83.3*

ISC 23 15:29:55.1±1.6,**475N**±0.1×**1536E**±0.2,**h66**km±12km,**n18,** σ0**88**/18,**mb3.6**/8,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.58**	**27**	*e*	**Sn**	**15 31 28.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**6.41**	**240**	PN	**Pn**	**15 31 27.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.37**	**270**	*i* PN	**Pn**	**15 31 40.8**	**+0.9**
ASAJ	**Asahikawa**	**8.37**	**250**	Pn	**Pn**	**15 31 53.7**	**0.0**
	0.5nm,0.3s,baz=79,slow=10,SNR=4.8						
ASAJ	**Asahikawa**	**8.37**	**250**	PN	**Pn**	**15 31 53.7**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.79**	**232**	Pn	**Pn**	**15 33 32.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=34,slow=9.2,SNR=6.4						
KSRS	**Korea Array**	**21.32**	**251**	P	**P**	**15 34 35.4**	**-1.0**
	comp=Z,1.5nm,0.8s,mb3.4,baz=57,slow=9.4,SNR=4.0						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**15 37 31.5**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=238,slow=4.3,SNR=4.5						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**15 37 31.5**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**15 40 17.2**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.1,baz=38,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**15 40 17.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**67.59**	**341**	P	**P**	**15 40 43.6**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=37,slow=6.7,SNR=2.7						
NOA	**NORSAR Array B**	**67.59**	**341**	P	**P**	**15 40 43.6**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**73.04**	**199**	P	**P**	**15 41 17.0**	**-0.9**
	comp=Z,0.1nm,0.6s,mb2.8,baz=15,slow=5.6,SNR=4.1						
TXAR	**Lajitas Array**	**76.86**	**61**	P	**P**	**15 41 40.8**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=304,slow=5.3,SNR=6.4						
BRTR	**Keskin Array B**	**78.03**	**317**	P	**P**	**15 41 47.5**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.5,baz=64,slow=5.6,SNR=4.3						
BRTR	**Keskin Array B**	**78.03**	**317**	P	**P**	**15 41 47.5**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MMAI	**Mount Meron Ar**	**82.52**	**312**	P	**P**	**15 42 11.2**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.3,baz=49,slow=5.6,SNR=5.5						

NEIC 23 15:57:38.0,5812N×15364W,h48km,ML3.5(AEIC),
ML3.6(PMR)**, After AEIC., Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.66**	**121**	P	Pn	15 57 50.4	-0.7
KDAK				S	Sn	15 58 00.3	-0.2
AUL	**Augustine Lava**	**1.27**	**5**	P	Pn	15 57 59.1	-0.1
SEW	**Seward**	**2.93**	**46**	P	Pn	15 58 19.9	-2.1
SLKM	**Skilak Lake**	**2.96**	**35**	P	Pn	15 58 21.0	-1.4
SVW2	**Sparrevohn**	**3.14**	**343**	*e*P	Pn	15 58 23.7	-1.2
CHGN	**Chignik**	**3.18**	**237**	*e*P	Pn	15 58 24.1	-1.3
FIB	**Fire Island**	**3.52**	**28**	P	Pn	15 58 29.8	-0.3
RC01	**Rabbit Creek A**	**3.57**	**32**	P	Pn	15 58 29.5	-1.3
PMR	**Palmer**	**4.16**	**31**	P	Pn	15 58 36.9	-1.9
SML	**Sawmill**	**4.56**	**34**	*e*Pn	Pn	15 58 41.1	-3.2
EYAK	**Cordova Ski Ar**	**4.71**	**56**	*e*Pn	Pn	15 58 44.2	-2.3
DIV	**Divide**	**5.00**	**50**	*e*Pn	Pn	15 58 47.9	-2.5
	117nm,1.2s						
RAGM	**Ragged Mountai**	**5.13**	**60**	P	Pn	15 58 50.6	-1.6
TRF	**Thorofare Moun**	**5.59**	**16**	P	Pn	15 58 57.6	-1.0
KTH	**Kantishna Hill**	**5.61**	**13**	P	Pn	15 58 58.4	-0.4
MCK	**McKinley**	**6.08**	**20**	P	Pn	15 59 03.4	-1.8
PAX	**Paxson**	**6.31**	**36**	P	Pn	15 59 06.7	-1.7
MENT	**Mentasta**	**6.87**	**41**	*e*Pn	Pn	15 59 13.5	-2.6
COLA	**College**	**7.31**	**20**	*e*Pn	Pn	15 59 18.6	-3.6
	4.3nm,0.6s						
COLA				*e*Sn	Sn	16 00 35.1	-8.7
PNL	**Peninsula**	**7.54**	**72**	P	Pn	15 59 23.4	-1.9
IMA2	**Indian Mountai**	**7.97**	**360**	P	Pn	15 59 29.6	-1.6
UNV	**Unalaska Valle**	**8.39**	**245**	*e*Pn	Pn	15 59 34.4	-2.4
TNA	**Tin City**	**10.04**	**324**	*e*Pn	Pn	15 59 59.9	+0.5
INK	**Inuvik**	**13.57**	**33**	*e*Pn	Pn	16 00 40.3	-7.3

IDC 23 15:59:10.1±1.2,**4636N×15320E,h0km,mb3.7**/7,
mb1 3.8/8,**mb1mx3.6**/24,**mbtmp3.7**/8,**ML3.1**/1,**MS3.4**/2,
Ms1 3.4/2,**ms1mx2.5**/31,**Error ellipse: s-maj=32.4km s-min=29.2km az=88.0,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.81**	**257**	Pn	Pn	16 01 06.9	+1.9
	0.3nm,0.3s,baz=173,slow=27,SNR=2.9						
TGY	**Tagaytay City**	**42.02**	**231**	LR	LR	16 22 31.8	
	comp=Z,5.6nm,20.3s,baz=252,slow=33						
MKAR	**Makanchi Array**	**47.17**	**298**	P	P	16 07 43.5	-0.8
	0.8nm,0.8s,baz=70,slow=8.1,SNR=4.8						
BVAR	**Borovoye Array**	**51.15**	**310**	P	P	16 08 13.8	-1.0
	0.4nm,0.5s,baz=39,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**64.42**	**335**	P	P	16 09 47.8	-0.2
	0.7nm,0.6s,baz=15,slow=7.9,SNR=5.5						
NOA	**NORSAR Array B**	**68.61**	**341**	P	P	16 10 14.6	-0.3
	0.4nm,0.5s,baz=14,slow=5.0,SNR=2.7						
BORG	**Borgarnes**	**69.15**	**357**	LR	LR	16 42 45.2	
	comp=Z,269nm,20.9s,baz=298,slow=38						
ASAR	**Alice Springs**	**71.86**	**199**	P	P	16 10 34.4	-0.3
	0.2nm,0.8s,baz=2.9,slow=5.6,SNR=4.5						
AKASG	**Malin Array Be**	**71.90**	**326**	P	P	16 10 34.6	-0.4
	1.5nm,0.4s,baz=36,slow=6.4,SNR=7.8						
TXAR	**Lajitas Array**	**77.63**	**61**	P	P	16 11 08.8	+0.6
	0.2nm,0.6s,baz=303,slow=5.7,SNR=3.8						

NIED ***23*** *16:00:00, 47.20N×153.60E, h20km, Mw4.7 Best double couple: M0 1.48000×10^16 NP1:φs128.00000°, δ77.00000°, λ-50.00000°. NP2:φs233.00000°, δ41.00000°, λ-160.00000°.*
BJI ***23*** *16:00:18.7, 47.42N×153.91E, h10km, mB5.0, mb5.0, Ms4.4, Msz4.2*
SKHL ***23*** *16:00:25.8±2.2, 47.20N×153.60E, h51km±19km, mb5.8/7*
JMA ***23*** *16:00:27.4±0.7, 47.23N×153.64E, h30km, M5.6*
MOS ***23*** *16:00:29.5±1.0, 47.39N×153.12E, h62km, mb5.2/55, MS4.0/14, Error ellipse: s-maj=8.0km s-min=4.8km az=99.4*
ISCJB ***23*** *16:00:29.0±0.4, 47.37N±0.03×153.15E±0.03, h56km±4km, mb5.0/164, MS4.1/30, Error ellipse: s-maj=4.8km s-min=2.5km az=140.0*
SZGRF ***23*** *16:00:30.3, 47.94N×152.38E, h33km, mb5.3, Kuril Islands, Russia*
GCMT ***23*** *16:00:31.7±0.4, 47.40N×153.37E, h56km±1km, MW4.9/66, Moment Tensor Solution. s47,c62; s66,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.22±.12; Mθθ-0.28±.11; Mφφ-1.94±.10; Mrθ0.44±.07; Mrφ-1.48±.08; Mθφ0.96±.07; Best double couple: M02.72600×10^16 NP1:φs214.00000°, δ34.00000°, λ.95.00000°. NP2: φs27.00000°, δ56.00000°, λ.86.00000°. Principal axes: T 2.4350, Plg78.0000°, Azm285.0000°; N 0.5800, Plg3.0000°, Azm29.0000°; P -3.0170, Plg11.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *16:00:31.7±0.7, 47.41N×153.11E, h67km±6km, mb5.0/82 Error ellipse: s-maj=4.8km s-min=3.3km az=155.0*
IDC ***23*** *16:00:35.5±2.7, 47.41N×153.06E, h100km±23km, mb4.4/28, mb1 4.6/30, mb1mx4.6/31, mbtmp4.5/30, MS4.0/14, Ms1 4.0/14, ms1mx3.6/31, Error ellipse: s-maj=12.4km s-min=9.4km az=139.0*

ISC 23 16:00:31.8±0.4,**4748N**±0.03×**15305E**±0.03,**h64**km±3km,
h60km±1.5km**:pP-P,n608,**σ0**92**/630,**mb5.0**/163,**113C-76D,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.79**	**31**	*e*P	**Pn**	**16 01 26.0**	**-1.7**
SKR				AMB	AMB	16 01 32.0	
	230nm,0.5s						
SKR				*e*S	**Sn**	**16 02 09.5**	**-1.5**
SKR				A		16 02 15.0	
	510nm,0.2s						
SKR				A		16 02 15.0	
	820nm,0.4s						
SKR				A		16 02 15.0	
	180nm,0.4s						
KUR	**Kuril'sk**	**4.23**	**240**⇑	*i*P	**Pn**	**16 01 32.0**	**-1.8**
KUR				AMB	AMB	16 01 33.5	
	228nm,0.6s						
KUR				AMB	AMB	16 01 33.5	
	327nm,0.6s						
KUR				AMB	AMB	16 01 33.5	
	1μm,0.6s						
KUR				*e*S	**Sn**	**16 02 23.3**	**+1.4**
KUR				A		16 02 39.5	
	7μm,0.8s						
KUR				A		16 02 39.5	
	3μm,0.8s						
KUR	**Kuril'sk**	**4.23**	**240**⇑	*i*PN	**Pn**	**16 01 32.0**	**-1.8**
KUR				*i* S	**Sn**	**16 02 23.3**	**+1.4**
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,330nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				smax			
	comp=N,7μm,0.8s						
KUR				smax			
	comp=E,3μm,0.8s						
KUR				smax			
	comp=N,16μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**6.09**	**238**	*e*P	**Pn**	**16 02 00.5**	**+1.3**
YUK				AMB	AMB	16 02 09.0	
	comp=N,630nm,0.4s						
YUK				AMB	AMB	16 02 09.0	
	comp=N,350nm,0.4s						
YUK				AMB	AMB	16 02 09.0	
	comp=N,850nm,0.4s						
YUK				*e*S	**Sn**	**16 03 08.5**	**+1.0**
YUK				A		16 03 34.0	
	comp=N,3μm,0.4s						
YUK				A		16 03 34.0	
	comp=N,5μm,0.8s						
YUK				A		16 03 34.0	
	comp=N,12μm,0.8s						
YUK				A		16 03 34.0	
	comp=N,4μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.09**	**238**	PN	**Pn**	**16 02 00.5**	**+1.3**
YUK				*e*S	**Sn**	**16 03 08.5**	**+1.0**
YUK				pmax	pmax		
	comp=N,630nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,850nm,0.4s						
YUK				smax			
	comp=E,4μm,0.5s						
YUK				smax			
	comp=N,3μm,0.4s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,12μm,0.8s						
JRA	**Rausu**	**6.58**	**240**	P	**Pn**	**16 02 07.1**	**+1.2**
NEM2	**Nemuro 2**	**6.58**	**234**	P	**Pn**	**16 02 04.0**	**-1.9**
NEM2				*e*S	**Sn**	**16 03 15.5**	**-4.0**
PET	**Petropavlovsk**	**6.61**	**31**	*e*PN	**Pn**	**16 02 06.4**	**+0.1**
PET				pmax	pmax		
	comp=Z,42nm,0.6s						
PET	**Petropavlovsk**	**6.61**	**31**	*e*Pn	**Pn**	**16 02 06.4**	**+0.1**
	comp=Z,42nm,0.6s						
PET				*e*Sn	**Sn**	**16 03 19.2**	**-1.1**
JNK	**Nakash**	**7.03**	**239**	P	**Pn**	**16 02 12.4**	**+0.4**
JNK				*e*S	**Sn**	**16 03 31.7**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.03**	**270**⇓	*i*P	**Pn**	**16 02 16.0**	**+3.9**
YSS				AMB	AMB	16 02 19.0	
	comp=Z,710nm,0.8s						
YSS				*e*S	**Sn**	**16 03 30.4**	**-0.2**
YSS				A		16 03 38.8	
	comp=Z,220nm,0.7s						
YSS				A		16 03 38.8	
	comp=Z,300nm,0.7s						
YSS				AMS	AMS	16 05 07.0	
	comp=Z,2μm,15.0s						
YSS				AMS	AMS	16 05 07.0	
	comp=Z,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.03**	**270**	*e*Pn	**Pn**	**16 02 16.1**	**+4.0**
	comp=Z,639nm,0.6s						
YSS				*e*Sn	**Sn**	**16 03 35.1**	**+4.5**
JTKR	**Abashiri--Toko**	**7.29**	**245**	P	**Pn**	**16 02 17.5**	**+1.8**
JAK	**Akkeshi**	**7.40**	**236**	P	**Pn**	**16 02 15.5**	**-1.6**
JAK				*e*S	**Sn**	**16 03 35.2**	**-4.5**
UGL	**Uglegorsk**	**7.50**	**286**	*e*P	**Pn**	**16 02 23.5**	**+5.0**
UGL				AMB	AMB	16 02 25.0	
	comp=Z,400nm,0.7s						
UGL				*e*S	**Sn**	**16 03 51.0**	**+8.8**
UGL				A		16 03 55.5	
	comp=Z,110nm,0.6s						
UGL				A		16 03 55.5	
	comp=Z,72nm,0.6s						
UGL	**Uglegorsk**	**7.50**	**286**	*e*PN	**Pn**	**16 02 23.5**	**+5.0**
UGL				S	**Sn**	**16 03 51.0**	**+8.8**
UGL				pmax	pmax		
	comp=Z,400nm,0.7s						
UGL				smax			
	comp=N,110nm,0.6s						
UGL				smax			
	comp=E,72nm,0.6s						
TYV	**Tymovskoe**	**7.61**	**300**	*e*P	**Pn**	**16 02 23.2**	**+3.2**
TYV				AMB	AMB	16 02 27.8	
	comp=E,391nm,1.0s						
TYV				*e*S	**Sn**	**16 03 50.5**	**+5.8**
TYV				A		16 03 53.5	
	comp=E,176nm,1.0s						
JMP	**Maruseppu**	**7.62**	**246**	P	**Pn**	**16 02 22.4**	**+2.4**
JAR	**Ashorobuto**	**7.75**	**241**	P	**Pn**	**16 02 23.2**	**+1.3**
JAR				*e*S	**Sn**	**16 03 49.4**	**+1.1**
JOB	**Onbets**	**7.95**	**238**	P	**Pn**	**16 02 24.3**	**-0.4**
JOB				*e*S	**Sn**	**16 03 50.9**	**-2.2**
JWK2	**Keihoku**	**8.01**	**258**	P	**Pn**	**16 02 30.8**	**+5.4**
ASAJ	**Asahikawa**	**8.04**	**249**	P	**Pn**	**16 02 29.4**	**+3.6**
	comp=E,14nm,0.3s,baz=88,slow=11,SNR=41						
ASAJ				LR	LR	16 05 20.6	
	comp=E,1μm,21.0s,baz=64,slow=36						
ASAJ	**Asahikawa**	**8.04**	**249**	P	**Pn**	**16 02 29.3**	**+3.4**
JKK2	**Kamakawa 2**	**8.06**	**247**	P	**Pn**	**16 02 28.8**	**+2.6**
JCH	**Churui**	**8.40**	**238**	P	**Pn**	**16 02 29.5**	**-1.3**
JCH				*e*S	**Sn**	**16 04 00.4**	**-3.8**
JFR	**Furan**	**8.54**	**243**	P	**Pn**	**16 02 34.6**	**+2.0**
JAB	**Ashibetsu**	**8.58**	**246**	P	**Pn**	**16 02 35.8**	**+2.6**
JBT2	**Biratori 2**	**8.89**	**242**	P	**Pn**	**16 02 37.4**	**-0.1**
JEM	**Erimo**	**8.90**	**236**	P	**Pn**	**16 02 36.9**	**-0.8**
ERM	**Erimo**	**8.91**	**236**	Pn	**Pn**	**16 02 37.2**	**-0.5**
	comp=E,2μm,0.5s,SNR=18						
ERM	**Erimo**	**8.91**	**236**	PN	**Pn**	**16 02 39.3**	**+1.6**
ERM	**Erimo**	**8.91**	**236**	*e*Pn	**Pn**	**16 02 36.9**	**-0.8**
	comp=E,188nm,0.5s						
JNBK	**Urakawa-nobuka**	**8.97**	**238**	P	**Pn**	**16 02 36.6**	**-1.9**
JEW	**Eniwo**	**9.41**	**245**	P	**Pn**	**16 02 46.3**	**+1.7**
NKL	**Nikolayevsk**	**9.74**	**310**	*e*P	**Pn**	**16 02 50.0**	**+1.0**
NKL				AMB	AMB	16 02 52.0	
	comp=E,220nm,1.3s						
NKL				AMB	AMB	16 02 52.0	
	comp=E,530nm,1.3s						
NKL				*e*L		16 06 06.0	
NKL				AMS	AMS	16 07 40.0	
	comp=E,1μm,15.0s						
JNB	**Noboribetsu**	**9.87**	**244**	P	**Pn**	**16 02 50.2**	**-0.7**
JKB	**Kayabe**	**10.22**	**241**	P	**Pn**	**16 02 53.3**	**-2.3**
JKB				*e*S	**Sn**	**16 04 41.6**	**-6.9**
JSH	**Shimam**	**10.39**	**247**	P	**Pn**	**16 02 58.1**	**+0.1**
JYM2	**Yakumo 2**	**10.48**	**244**	P	**Pn**	**16 02 58.1**	**-1.1**
JOT	**Ohata**	**10.52**	**239**	P	**Pn**	**16 02 56.1**	**-3.6**
JTM	**Tenmabayashi**	**10.90**	**237**	P	**Pn**	**16 03 01.5**	**-3.4**
JTM				*e*S	**Sn**	**16 04 54.3**	**-11**
JANG	**Nango**	**10.93**	**234**	P	**Pn**	**16 03 00.5**	**-4.8**
JANG				*e*S	**Sn**	**16 04 54.7**	**-11**
JTH	**Tanohata**	**11.05**	**231**	P	**Pn**	**16 03 01.9**	**-5.1**
JTH				*e*S	**Sn**	**16 04 56.3**	**-13**
TEY	**Ternei**	**11.65**	**264**	*e*P	**Pn**	**16 03 18.0**	**+2.9**
TEY				*e*L		16 06 42.0	
JOM	**Ohasama**	**11.69**	**231**	P	**Pn**	**16 03 10.9**	**-4.8**
OFUJ	**Ofunato**	**11.79**	**229**	*e*S	**Sn**	**16 05 14.6**	**-12**
JRG	**Rokugo**	**12.10**	**233**	P	**Pn**	**16 03 16.8**	**-4.5**
HABR	**Khabarovsk**	**12.11**	**281**⇓	*e*PN	**

comp=Z,80nm,0.9s
ZEA Zeya 17.48 301 *e*P **Pn** **16 04 31.1 0.0**
ZEA AMB AMB 16 04 32.5
comp=Z,31nm,0.8s
ZEA AMB AMB 16 04 32.5
comp=Z,41nm,0.8s
ZEA AMB AMB 16 04 32.5
comp=Z,22nm,0.9s
JWT Wachi 17.95 234 P **Pn** **16 04 35.0 -1.8**
JAD Aida 18.88 235 P **Pn** **16 04 47.0 -1.1**
JWZ Kozaga 19.12 229 P **Pn** **16 04 50.1 -0.8**
CLNS Chul'man 19.52 309 *e*P **Pn** **16 04 57.3 +1.6**
CLNS pmax pmax
comp=N,36nm,0.9s
CLNS pmax pmax
comp=E,59nm,0.9s
CLNS pmax pmax
comp=Z,107nm,0.9s
CLNS MLR MLR
comp=E,2μm,13.0s
CLNS MLR MLR
comp=Z,700nm,13.0s
CLNS MLR MLR
comp=N,200nm,14.0s
CN2 Changchun 19.61 269 *e*P **Pn** **16 04 54.6 -2.1**
CN2 *e*XP sP 16 05 01.0 -15
CN2 *e*S **S** **16 08 29.4 -3.2**
CN2 AMB AMB
comp=Z,40nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,500nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
YAK Yakutsk 19.69 326 *e*P **Pn** **16 04 57.5 -0.2**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,400nm,22.0s
YAK MLR MLR
comp=N,300nm,19.0s
YAK MLR MLR
comp=E,300nm,24.0s
YAK Yakutsk 19.69 326 *e*Pn **Pn** **16 04 56.5 -1.2**
comp=E,82nm,0.9s
KSRS Korea Array 20.99 251 P **P** **16 05 10.9 +1.2**
comp=E,68nm,1.0s,baz=51,slow=11,SNR=35
KSRS PcP PcP 16 09 15.0 +0.2
comp=E,2.6nm,0.7s,baz=349,slow=1.8,SNR=6.7
KSRS LR LR 16 12 09.3
comp=E,249nm,21.3s,baz=39,slow=33
SNY Shenyang 21.64 266 ⇓P **P** **16 05 17.6 +0.9**
SNY S **S** **16 09 08.4 -4.3**
SNY AMB AMB
comp=Z,30nm,0.7s,mb4.8
SNY AMB AMB
comp=Z,229nm,3.6s
SNY LR LR
comp=N,429nm,12.6s
SNY LR LR
comp=E,766nm,19.2s
SNY LR LR
comp=Z,653nm,16.2s
BILL Bilibino 21.70 13 *e*P **P** **16 05 16.8 -0.5**
BILL *e* 16 05 55.2
BILL *e*S **S** **16 09 13.6 -0.2**
BILL *e* 16 09 20.5
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
BILL MLR MLR
comp=Z,300nm,16.0s
BILL Bilibino 21.70 13 *e*P **P** **16 05 15.4 -1.9**
comp=Z,16nm,0.9s,mb4.5
INCN Inchon 21.80 252 *e*P **P** **16 05 18.7 +0.2**
comp=Z,123nm,0.8s,mb5.4
JNU Nakatsue 22.07 237 P **P** **16 05 22.4 +1.1**
comp=Z,48nm,0.8s,mb5.0,baz=219,slow=19,SNR=8.5
JNU LR LR 16 13 15.3
comp=Z,568nm,21.8s,baz=77,slow=34
HIA Hailar 22.10 287 *e*P **P** **16 05 21.2 -0.5**
HIA Hailar 22.10 287 *e*P **P** **16 05 20.0 -1.7**
comp=Z,40nm,1.2s,mb4.7
BOD Bodaibo 25.50 308 *e*P **P** **16 05 52.6 -1.5**
BOD *e* pP 16 06 09.2 -0.3
BOD pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
TIXI Tiksi 26.76 343 *e*P **P** **16 06 02.3 -3.2**
TIXI *e* 16 06 22.6
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI MLR MLR
comp=Z,304nm,15.0s
TIXI Tiksi 26.76 343 *e*P **P** **16 06 03.4 -2.1**
comp=Z,18nm,1.3s,mb4.4
BJI Beijing 27.45 268 P **P** **16 06 14.5 +2.8**
BJI AMB AMB
comp=Z,14nm,1.4s,mb4.3
BJI AMB AMB
comp=Z,203nm,3.6s
BJI LR LR
comp=N,297nm,17.5s
BJI LR LR
comp=E,415nm,22.6s
BJI LR LR
comp=Z,412nm,21.9s
BJI Beijing 27.45 268 P **P** **16 06 14.5 +2.8**
comp=Z,14nm,1.4s,mb4.3
BJI S S 16 10 18.9 -29
BJI LR LR
comp=Z,410nm,21.9s
JOW Kunigami 28.33 232 P **P** **16 06 19.4 0.0**
comp=Z,26nm,0.7s,mb5.0,baz=307,slow=4.5,SNR=6.6
JOW LR LR 16 17 45.2
comp=Z,139nm,19.3s,baz=29,slow=36
SSE Sheshan 29.33 248 P **P** **16 06 26.3 -2.1**
SSE S **S** **16 11 18.1 +1.0**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,270nm,3.7s
SSE LR LR
comp=N,92nm,26.1s
SSE LR LR
comp=E,112nm,26.5s
SSE LR LR
comp=Z,178nm,26.1s
SSE Sheshan 29.33 248 P **P** **16 06 26.3 -2.1**
comp=Z,30nm,0.7s,mb5.1
SSE S **S** **16 11 18.1 +1.0**
SSE LR LR
comp=Z,180nm,26.1s
NJ2 Nanjing 30.18 252 *e*P **P** **16 06 37.8 +1.9**
NJ2 AP pP 16 06 41.1 -10
NJ2 XP sP 16 06 44.3 -15
NJ2 PP PP 16 07 36.9 -8.0
NJ2 S **S** **16 11 35.5 +5.1**
NJ2 XS sS 16 11 43.5 -14
NJ2 LR LR
comp=N,2μm,17.5s
NJ2 LR LR
comp=E,2μm,15.6s
NJ2 LR LR
comp=Z,860nm,14.6s
HHC Hu-ho-hao-te 30.21 273 ⇑P **P** **16 06 37.3 +1.2**
HHC AP pP 16 06 41.6 -10
HHC XP sP 16 06 44.3 -15
HHC PP PP 16 07 33.3 -12
HHC PCP PcP 16 09 38.5 +2.8
HHC S **S** **16 11 35.6 +4.7**
HHC SCP ScP 16 13 19.5 +7.1
HHC AMB AMB
comp=Z,47nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,143nm,8.4s
HHC LR LR
comp=N,302nm,13.9s
HHC LR LR
comp=E,354nm,15.1s
HHC LR LR
comp=Z,373nm,14.8s
ULN Ulaanbaatar 30.63 288 *e*P **P** **16 06 40.0 +0.2**
ULN Ulaanbaatar 30.63 288 *e*P **P** **16 06 39.3 -0.6**
comp=Z,5.7nm,0.8s,mb4.5
SONM Songino Array 31.06 288 P **P** **16 06 45.0 +1.3**
comp=Z,3.4nm,0.6s,mb4.3,baz=68,slow=8.0,SNR=27
SONM PcP PcP
comp=Z,2.4nm,0.7s,baz=115,slow=1.7,SNR=7.1
SONM Songino Array 31.06 288 P **P** **16 06 45.0 +1.3**
SONM 16 09 37.4
SONM pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 31.82 296 *e*P **P** **16 06 51.0 +0.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
TLY MLR MLR
comp=Z,406nm,18.0s
TLY Talaya 31.82 296 *e*P **P** **16 06 50.4 +0.1**
comp=Z,5.8nm,0.7s,mb4.5
IMA2 Indian Mountai 33.24 37 *e*P **P** **16 07 02.4 -0.4**
IMA2 *e*PcP PcP 16 09 42.9 -1.0
KDAK Kodiak Island 33.68 52 P **P** **16 07 06.0 -0.6**
comp=Z,23nm,0.7s,mb5.2,baz=282,slow=5.9,SNR=14
WHN Wuhan 34.08 254 ⇑P **P** **16 07 09.8 -0.2**
GUMO Guam 34.47 194 LR LR 16 20 45.0
comp=Z,113nm,19.4s,baz=87,slow=35
MCK McKinley 35.13 41 *e*P **P** **16 07 18.6 -0.5**
MCK pmax pmax
comp=Z,12nm,1.1s,mb4.7
MCK McKinley 35.13 41 *e*P **P** **16 07 18.6 -0.5**
comp=Z,12nm,1.1s,mb4.7
QZH Quanzhou 35.32 243 ⇑*i*P **P** **16 07 21.4 +0.6**
QZH AMB AMB
comp=Z,170nm,1.2s,mb5.8
SML Sawmill 35.48 44 *e*P **P** **16 07 21.5 -0.6**
XAN Xi'an 35.54 264 P **P** **16 07 22.6 0.0**
XAN AMB AMB
comp=Z,25nm,0.9s,mb5.1
XAN LR LR
comp=N,82nm,19.3s
XAN LR LR
comp=E,200nm,14.8s
XAN LR LR
comp=Z,273nm,20.4s
COLA College 35.60 39 *e*P **P** **16 07 23.3 +0.2**
COLA pmax pmax
comp=Z,22nm,0.8s,mb5.1
COLA College 35.60 39 *e*P **P** **16 07 23.2 +0.1**
comp=Z,22nm,0.8s,mb5.2
LZH Lanzhou 37.83 271 ⇓P **P** **16 07 44.5 +2.4**
LZH AP pP 16 07 47.8 -10
LZH XP sP 16 07 49.3 -16
LZH PP PP 16 09 13.5 +4.0
LZH S **S** **16 13 34.8 +6.3**
LZH AMB AMB
comp=Z,49nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,158nm,4.9s
LZH LR LR
comp=N,1μm,13.2s
LZH LR LR
comp=Z,1μm,15.4s
LZH Lanzhou 37.83 271 ⇓P **P** **16 07 44.5 +2.4**
LZH 16 09 13.5
LZH S **S** **16 13 34.7 +6.2**
LZH SS SS 16 16 09.6 -7.0
LZH pmax pmax
comp=Z,49nm,1.2s,mb5.1
LZH MLR MLR
comp=Z,1μm,15.4s
LZH Lanzhou 37.83 271 ⇓P **P** **16 07 44.5 +2.4**
comp=Z,49nm,1.2s,mb5.1
LZH pP pP 16 07 47.8 -10
LZH sP sP 16 07 49.2 -16
LZH PP PP 16 09 13.5 +4.0
LZH S **S** **16 13 34.7 +6.2**
LZH sS sS 16 13 41.5 -14
LZH SS SS 16 16 09.6 -7.0
LZH LR LR
comp=Z,1μm,15.4s
EGAK Eagle 38.46 39 *e*P **P** **16 07 46.0 -1.4**
comp=Z,14nm,0.8s,mb4.8
GTA Gaotai 38.82 278 *e*P **P** **16 07 51.4 +1.0**
GTA AP pP 16 07 55.8 -11
GTA XP sP 16 07 59.4 -14
GTA PP PP 16 09 26.8 +6.5
GTA S **S** **16 13 51.0 +7.5**
GTA XS sS 16 13 57.9 -13
GTA SS SS 16 16 36.0 -0.7
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,83nm,5.3s
GTA LR LR
comp=N,144nm,16.0s
GTA LR LR
comp=E,156nm,14.1s
GTA LR LR
comp=Z,293nm,17.5s
CD2 Chengdu 40.91 264 ⇑*i*P **P** **16 08 08.1 +0.4**
CD2 AP pP 16 08 12.6 -11
CD2 PP PP 16 09 45.8 +2.8
CD2 S **S** **16 14 19.0 +4.4**
CD2 AMB AMB
comp=Z,60nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,300nm,18.0s
CD2 LR LR
comp=E,230nm,21.4s
CD2 LR LR
comp=Z,320nm,16.3s
INK Inuvik 41.06 33 P **P** **16 08 10.0 +1.0**
comp=Z,21nm,0.7s,mb4.9,baz=294,slow=6.9,SNR=88
INK LR LR 16 25 14.1
comp=Z,133nm,19.5s,baz=38,slow=36
INK Inuvik 41.06 33 P **P** **16 08 10.0 +1.0**
INK pmax pmax
comp=Z,21nm,0.7s
INK MLR MLR
comp=Z,133nm,19.5s
INK Inuvik 41.06 33 *e*P **P** **16 08 09.3 +0.3**
comp=Z,1μm,1.0s
GYA Guiyang 41.84 257 ⇑*i*P **P** **16 08 15.5 +0.2**
GYA AP pP 16 08 19.8 -12
GYA XP sP 16 08 22.9 -16
GYA PP PP 16 09 56.3 +3.2
GYA PCP PcP 16 10 13.3 +3.1
GYA SCP ScP 16 14 02.3 +7.4
GYA S **S** **16 14 34.0 +5.6**
GYA SS SS 16 17 33.6 -3.0
GYA SCS ScS 16 18 17.8 +5.7
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,5.0s
GYA LR LR
comp=N,580nm,15.6s
GYA LR LR
comp=E,680nm,16.2s
GYA LR LR
comp=Z,690nm,16.4s
ZAL Zalesovo 42.17 305 P **P** **16 08 17.2 -0.8**
comp=Z,3.4nm,0.5s,mb4.2,baz=40,slow=7.3,SNR=12
ZAL PcP PcP 16 10 11.5 +0.2
comp=Z,5.4nm,0.4s,baz=35,slow=3.3,SNR=12
ZAL LR LR 16 27 48.9
comp=Z,494nm,19.2s,baz=27,slow=39
ZAL Zalesovo 42.17 305 P **P** **16 08 17.2 -0.9**
ZAL 16 10 11.5
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,494nm,19.2s
WMQ Urumqi 44.63 291 ⇑*i*P **P** **16 08 38.8 +1.0**
WMQ PCP PcP 16 10 20.8 +1.2
WMQ PP PP 16 10 24.8 +1.8
WMQ PPP 16 11 05.5
WMQ *e*S **S** **16 15 10.3 +1.0**
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,72nm,4.9s
WMQ LR LR
comp=N,205nm,21.3s
WMQ LR LR
comp=E,170nm,23.2s
WMQ LR LR
comp=Z,294nm,18.4s
QIZ Qiongzhong 45.10 246 P **P** **16 08 41.1 -0.5**
QIZ S **S** **16 15 20.3 +4.2**
QIZ LR LR
comp=Z,182nm,17.1s
KMI Kunming 45.34 259 P **P** **16 08 44.1 +0.6**
KMI AP pP 16 08 48.0 -12
KMI XP sP 16 08 49.6 -17
KMI PP PP 16 10 28.4 -2.1
KMI S **S** **16 15 24.8 +5.3**
KMI SS SS 16 18 38.9 -4.8
KMI SSS 16 19 38.9
KMI AMB AMB
comp=Z,31nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,47nm,3.1s
KMI LR LR
comp=N,184nm,18.0s
KMI LR LR
comp=E,155nm,19.2s
KMI LR LR
comp=Z,146nm,20.4s
KMI Kunming 45.34 259 P **P** **16 08 44.1 +0.6**
KMI 16 10 28.4
KMI S **S** **16 15 24.7 +5.2**
KMI SS SS 16 18 38.9 -4.8
KMI SSS 16 19 38.9
KMI pmax pmax
comp=Z,31nm,1.3s,mb5.0
KMI MLR MLR
comp=Z,150nm,20.4s
KMI Kunming 45.34 259 P **P** **16 08 44.1 +0.6**
comp=Z,31nm,1.3s,mb5.0
KMI pP pP 16 08 48.0 -12
KMI sP sP 16 08 49.6 -17
KMI PP PP 16 10 28.4 -2.1
KMI S **S** **16 15 24.7 +5.2**
KMI SS SS 16 18 38.9 -4.8
KMI SSS 16 19 38.9
KMI LR LR
comp=Z,150nm,20.4s
MK31 Makanchi Array 46.58 297 *e*P **P** **16 08 52.2 -1.0**
MK31 *e* 16 10 25.8
MKAR Makanchi Array 46.58 297 P **P** **16 08 52.5 -0.7**
comp=Z,4.2nm,0.6s,mb4.6,baz=67,slow=7.3,SNR=24
MKAR PcP PcP 16 10 25.7 -0.7
comp=Z,7.0nm,0.8s,baz=60,slow=3.8,SNR=8.6
MKAR Makanchi Array 46.58 297 P **P** **16 08 52.6 -0.6**
MKAR 16 10 25.7
MKAR pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 46.93 303 P **P** **16 08 55.6 -0.4**
comp=Z,141nm,0.7s,mb6.0,SNR=6.8
CHKZ Chkalovo 49.94 310 *e*P **P** **16 09 17.1 -2.0**
CHKZ *e* 16 10 37.1
CHKZ pmax pmax
comp=Z,17nm,0.8s,mb5.1
CHKZ Chkalovo 49.94 310 *e*P **P** **16 09 17.1 -2.0**
comp=Z,17nm,0.8s,mb5.1
CHKZ *e*PcP PcP 16 10 37.1 -1.4
RES Resolute Bay 50.16 19 *e*P **P** **16 09 20.4 -0.4**
comp=Z,169nm,0.6s
LSA Lhasa 50.20 272 P **P** **16 09 23.0 +1.9**
LSA Lhasa 50.20 272 *e*P **P** **16 09 23.1 +2.0**
LSA *e* 16 10 40.9
LSA pmax pmax
comp=Z,29nm,0.6s,mb5.5
LSA Lhasa 50.20 272 *e*P **P** **16 09 23.1 +2.1**
comp=Z,29nm,0.6s,mb5.5
LSA *e*PcP PcP 16 10 40.9 +1.4
VOSK Vostochnaya 50.20 308 P **P** **16 09 19.5 -1.6**
VOSK pmax pmax
comp=Z,11nm,1.0s,mb4.8
BVA0 Borovoye Array 50.37 309 *i* P **P** **16 09 21.3 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 50.37 309 P **P** **16 09 22.0 -0.4**
comp=Z,4.0nm,0.6s,mb4.6,baz=69,slow=8.1,SNR=25
BVAR PcP PcP 16 10 39.5 -0.6
comp=Z,4.8nm,0.4s,baz=69,slow=2.2,SNR=12
BVAR Borovoye Array 50.37 309 P **P** **16 09 22.0 -0.4**
BVAR 16 10 39.5
BVAR pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 50.37 37 P **P** **16 09 22.3 0.0**
comp=Z,32nm,0.8s,mb5.4,baz=299,slow=7.3,SNR=57
YKA PcP PcP 16 10 39.3 -0.8
comp=Z,3.6nm,0.8s,baz=301,slow=3.4,SNR=7.1
YKA Yellowknife Ar 50.37 37 P **P** **16 09 22.3 -0.1**
YKA 16 10 39.3
YKA pmax pmax
comp=Z,32nm,0.9s
YKA Yellowknife Ar 50.37 37 P **P** **16 09 22.3 0.0**
YKA PcP PcP 16 10 39.3 -0.8
BRVK Borovoye 50.41 309 P **P** **16 09 22.8 +0.1**
comp=Z,72nm,0.8s,mb5.8,SNR=9.0
BRVK Borovoye 50.41 309 P **P** **16 09 22.4 -0.2**
SNR=13
BRVK Borovoye 50.41 309 *e*P **P** **16 09 22.0 -0.7**
BRVK *e* 16 10 39.3
BRVK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BRVK Borovoye 50.41 309 *e*P **P** **16 09 22.0 -0.6**
comp=Z,8.4nm,0.7s,mb4.9
BRVK *e*PcP PcP 16 10 39.3 -0.9
NANT Nan 51.11 255 ⇑P **P** **16 09 26.0 -1.9**
comp=Z,362nm,1.0s
KKTK Khon Kaen 51.53 250 ⇓P **P** **16 09 32.4 +1.3**
comp=Z,401nm,0.8s
CHG Chiang Mai 52.25 256 ⇑P **P** **16 09 37.5 +1.1**
comp=Z,62nm,0.9s,mb5.5
CHTO Chiang Mai 52.25 256 ⇑P **P** **16 09 37.6 +1.2**
SNR=16
CHTO Chiang Mai 52.25 256 *e*P **P** **16 09 37.2 +0.8**
CHTO pmax pmax
comp=Z,47nm,0.8s,mb5.5
CHTO Chiang Mai 52.25 256 *e*P **P** **16 09 37.2 +0.8**
comp=Z,47nm,0.8s,mb5.5
SHL Shillong 52.35 268 ⇑*i*P **P** **16 09 38.5 +1.3**
SHL *ex* x 16 10 37.0
B04A Port Angeles 53.36 56 ⇓P **P** **16 09 45.1 +0.5**
baz=53
AAK Ala-Archa 53.48 296 *e*P **P** **16 09 44.0 -1.5**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK Ala-Archa 53.48 296 *e*P **P** **16 09 44.4 -1.1**
comp=Z,3.3nm,0.6s,mb4.4
SOKR Solikamsk 53.51 321 *d*i*P* **P** **16 09 45.6 -0.1**
SOKR pmax pmax
comp=Z,30nm,1.5s,mb5.0
ARU Arti 54.45 317 P **P** **16 09 51.2 -1.4**
comp=Z,136nm,0.5s,mb6.1,SNR=8.3
ARU Arti 54.45 317 ⇓*i*P **P** **16 09 50.9 -1.7**
ARU *e* 16 10 50.9
ARU *e* 16 11 51.9
ARU *e*PPP 16 13 07.5
ARU *e*S **S** **16 17 23.7 -2.8**
ARU *e*SS SS 16 21 02.2 -7.3
ARU *e*SSS 16 23 15.2
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.9
ARU Arti 54.45 317 *e*P **P** **16 09 51.2 -1.4**
comp=Z,11nm,0.5s,mb5.0
ARU *e*PcP PcP 16 10 54.2 -1.2
A07A Ashnola River, 54.55 54 ⇓P **P** **16 09 53.2 -0.1**
baz=54
C05A Tolt Reservoir 54.58 56 ⇑P **P** **16 09 54.0 +0.5**
baz=54
JIRN Jiri 54.85 274 *e*P **P** **16 09 56.8 +1.3**
GUN Gumba 54.90 274 *e*P **P** **16 09 56.7 +0.9**
comp=Z,30nm,0.4s,mb5.6
B07A Winthrop 55.02 54 ⇓P **P** **16 09 56.0 -0.7**
baz=55
A08A Turner Farm, O 55.21 53 ⇓P **P** **16 09 58.2 +0.2**
baz=55
D06A Cle Elum 55.34 56 ⇑P **P** **16 09 58.6 -0.3**
baz=55
KKN Kakani 55.38 275 *e*P **P** **16 10 00.3 +1.0**
comp=Z,32nm,0.6s,mb5.5
PKI Pulchoki 55.44 274 *e*P **P** **16 10 00.5 +0.8**
comp=Z,18nm,0.5s,mb5.4

C07A Waterville 55.49 55 ⇑P P 16 09 59.7 -0.4
baz=55
B08A Colville Reser 55.51 54 ⇑P P 16 10 01.0 +0.8
baz=55
A09A Danville 55.57 53 P P 16 10 01.6 +1.0
baz=55,SNR=5.3
DMN Daman 55.62 275 *e*P **P 16 10 02.3 +1.3**
comp=Z,72nm,0.8s,mb5.7
KK31 Karatay Array 55.62 298 *i* P **P 16 10 00.0 -1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 55.62 298 *i* P **P 16 10 00.0 -1.0**
GKN Gorkha 55.68 275 *e*P **P 16 10 02.2 +0.8**
comp=Z,54nm,0.6s,mb5.8
I03A Eugene 55.78 60 ⇓P P 16 10 01.9 -0.3
baz=56
D07A Quincy 55.82 55 ⇓P P 16 10 03.0 +0.6
baz=56
EDM Edmonton 55.84 46 *e*P **P 16 10 02.2 -0.4**
C08A Higginbotham F 56.00 54 ⇓P P 16 10 03.4 -0.3
baz=56
B09A Rice 56.12 53 ⇑P P 16 10 05.1 +0.5
baz=56
E07A Sunnyside 56.26 56 ⇑P P 16 10 05.2 -0.3
baz=56
I04A Tendick Farm, 56.40 60 ⇓P P 16 10 06.3 -0.3
baz=56
C09A Chrisman Ranch 56.41 54 ⇑P P 16 10 06.0 -0.6
baz=56
D08A Wollman Farm, 56.49 55 ⇑P P 16 10 07.5 +0.3
baz=56
KOLN Koldanda 56.53 276 *e*P **P 16 10 08.4 +0.9**
comp=Z,27nm,0.6s,mb5.5
F07A Phinny Hill Vi 56.60 57 ⇓P P 16 10 08.3 +0.3
baz=56
KEV Kevo 56.65 340 *e*p **P 16 10 05.6 -2.7**
E08A Dider Farm, El 56.74 56 ⇑P P 16 10 08.7 -0.3
baz=56
NEW Newport 56.77 53 P P 16 10 09.2 0.0
comp=Z,5.4nm,0.8s,mb4.7,baz=326,slow=5.5,SNR=7.5
NEW PcP PcP 16 11 03.6 -0.8
comp=Z,3.3nm,0.9s,baz=287,slow=2.8,SNR=4.3
NEW Newport 56.77 53 P P 16 10 09.2 0.0
NEW 16 11 03.7
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 56.77 53 *e*P **P 16 10 07.7 -1.5**
comp=Z,11nm,1.1s,mb4.8
D09A Jones Farm, Ri 56.83 55 ⇓P P 16 10 07.8 -1.8
baz=57
I05A Bend 56.85 59 ⇑P P 16 10 10.1 +0.3
baz=57
PMG Port Moresby 56.87 187 LR LR 16 29 42.2
comp=Z,64nm,20.6s,baz=41,slow=31
C10A Spilker Farm, 56.93 54 ⇑P P 16 10 10.3 0.0
baz=57
H06A Lindquist Farm 57.05 58 ⇑P P 16 10 11.8 +0.6
baz=57
B11A Sandpoint 57.08 52 ⇓P P 16 10 11.9 +0.6
baz=57
G07A Ruggs Ranch, H 57.12 57 ⇑P P 16 10 12.0 +0.3
baz=57
ARCES ARCESS Array B 57.16 341 P P 16 10 10.6 -1.4
comp=Z,1.4nm,0.3s,mb4.4,baz=32,slow=7.6,SNR=16
ARCES PcP PcP 16 11 04.8 -1.1
comp=Z,2.6nm,0.7s,baz=64,slow=5.5,SNR=4.5
ARCES ARCESS Array B 57.16 341 P P 16 10 10.6 -1.3
ARCES 16 11 04.9
ARCES pmax pmax
comp=Z,1.0nm,0.4s
F08A Pendleton 57.31 56 ⇓P P 16 10 13.3 +0.3
baz=57
G08A Pilot Rock 57.51 57 ⇑P P 16 10 14.4 0.0
baz=57
I06A Prineville 57.59 59 ⇓P P 16 10 15.3 +0.3
baz=57
BOK Bokaro 57.60 271 *e*P **P 16 10 15.7 +0.7**
BOK AMb AMB 16 10 17.3
comp=Z,18nm,0.7s,mb5.2
L04A Klamath Falls 57.66 61 ⇑P P 16 10 15.9 +0.4
baz=58
E10A Myers Farm, Un 57.83 55 ⇓P P 16 10 16.4 -0.3
baz=58
F09A S2 Ranch, Elgi 57.85 56 ⇓P P 16 10 16.2 -0.6
baz=58
I07A Izee 57.92 58 ⇓P P 16 10 16.4 -0.8
baz=58
D11A Klaveano Farm, 57.92 54 ⇑P P 16 10 17.0 -0.3
baz=58
K05A Summer Lake 57.92 60 ⇓P P 16 10 17.1 -0.2
baz=58
AB31 Akbulak array 57.93 309 *i* P **P 16 10 16.6 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
C12A Trout Creek 57.99 53 P P 16 10 18.2 +0.4
baz=58,SNR=5.5
WALA Waterton Lakes 58.01 51 *e*P **P 16 10 17.9 -0.1**
comp=Z,16nm,0.7s,mb5.2
J06A Christmas Vall 58.04 59 ⇓P P 16 10 17.6 -0.5
baz=58
M03C McCloud 58.07 62 ⇑P P 16 10 18.4 +0.1
baz=58
F10A Beach Ranch, E 58.07 55 ⇑P P 16 10 15.7 -2.7
baz=58
B13A Whitefish 58.13 52 P P 16 10 19.4 +0.7
baz=58,SNR=11
H08A Prairie City 58.13 57 P P 16 10 19.4 +0.7
baz=58,SNR=6.1
AKTK Aktyubinsk 58.21 311 P P 16 10 18.5 -0.8
AKTK PcP PcP 16 11 09.7 -0.5
AKTK LR LR 16 37 57.5
AKTO Aktyubinsk 58.21 311 P P 16 10 18.5 -0.8
comp=Z,2.2nm,0.5s,mb4.4,baz=65,slow=9.5,SNR=7.9
AKTO PcP PcP 16 11 09.7 -0.5
comp=Z,6.4nm,0.6s,baz=75,slow=2.8,SNR=9.6
AKTO LR LR 16 37 57.5
comp=Z,323nm,18.6s,baz=239,slow=38
AKTO Aktyubinsk 58.21 311 P P 16 10 18.5 -0.8
AKTO 16 11 09.7
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO MLR MLR
comp=Z,323nm,18.6s
L05A Lakeview 58.37 61 ⇓P P 16 10 21.4 +1.0
baz=58
J07A Hines 58.46 59 ⇑P P 16 10 21.1 +0.1
baz=58
C13A Hot Springs 58.49 52 ⇑P P 16 10 20.7 -0.6
baz=58,SNR=5.8
I08A Drewsey 58.56 58 ⇑P P 16 10 21.5 -0.2
baz=58
M05C Lookout 58.60 62 ⇓P P 16 10 22.5 +0.4
baz=58
H09A Durkee 58.62 57 ⇑P P 16 10 21.9 -0.2
baz=58,SNR=7.1
F11A Grangeville 58.72 55 ⇓P P 16 10 22.0 -0.9
baz=58
MOD Modoc 58.77 61 ⇑P P 16 10 23.3 +0.1
baz=59
KSM Kuching 58.88 232 *e*P **P 16 10 24.5 +0.5**
K07A Rock Creek Ran 58.91 59 ⇑P P 16 10 23.7 -0.5
baz=59
D13A Huson 58.91 53 P P 16 10 24.1 -0.1
baz=59,SNR=5.8
J08A Circle Bar Ran 58.95 58 ⇑P P 16 10 24.2 -0.2
baz=59
G11A Walters Elk Ra 58.95 55 P P 16 10 24.9 +0.4
baz=59,SNR=5.2
I09A Lost Marbles R 58.99 57 ⇑P P 16 10 23.4 -1.4
baz=59
M06C Likely Place G 59.09 61 ⇓P P 16 10 24.1 -1.4
baz=59
F12A Elk City 59.30 54 P P 16 10 27.6 +0.8
baz=59,SNR=7.9
MSO Missoula 59.36 53 *e*P **P 16 10 27.3 0.0**
comp=Z,19nm,1.2s,mb5.0
MSO *e* pP 16 10 42.3 -1.9
J09A Fry Pan Ranch, 59.37 58 ⇑P P 16 10 26.9 -0.5
baz=59
WVOR Wild Horse Val 59.42 59 *e*P **P 16 10 28.3 +0.6**
WVOR *e* pP 16 10 43.6 -1.0
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WVOR Wild Horse Val 59.42 59 *e*P **P 16 10 28.3 +0.6**
comp=Z,6.4nm,0.8s,mb4.7
WVOR *e* pP 16 10 43.6 -1.0
D14A Greenough 59.44 52 P P 16 10 27.9 +0.1
baz=59,SNR=20
E13A Victor 59.46 53 P P 16 10 28.6 +0.6
baz=59,SNR=6.1
ORV Oroville 59.49 63 ⇑P P 16 10 27.8 -0.4
baz=59
H11A Donnelly 59.52 56 P P 16 10 28.8 +0.4
baz=59,SNR=8.1
O05C Quincy 59.59 63 ⇓P P 16 10 27.6 -1.3
baz=59
CHMT Chamberlain Mo 59.67 52 *e*P **P 16 10 29.1 -0.3**
FARB Farallon Islan 59.73 66 ⇑P P 16 10 30.7 +0.8
baz=60
L08A Fields 59.74 59 ⇑P P 16 10 30.1 +0.1
baz=60
M07A Soldier Meadow 59.75 61 P P 16 10 30.6 +0.6
baz=60,SNR=9.8
N06A Buffalo Meadow 59.76 61 ⇑P P 16 10 30.5 +0.5
baz=60
F13A Darby 59.79 54 P P 16 10 30.5 +0.2
baz=60,SNR=8.7
K09A Rome 59.79 59 ⇑P P 16 10 30.4 +0.1
baz=60
E14A Clinton 59.85 53 P P 16 10 31.8 +1.1
baz=60,SNR=12
D15A Lincoln 59.99 52 ⇑P P 16 10 31.6 0.0
baz=60
BEKR Beckwourth 59.99 63 ⇓P P 16 10 31.5 -0.1
baz=60
O06A Flanigan 60.12 62 ⇓P P 16 10 31.8 -0.7
baz=60
NDI New Delhi 60.22 281 *e*P **P 16 10 32.0 -1.2**
F14A Wisdom 60.30 53 ⇓P P 16 10 33.5 -0.2
baz=60
E15A Deer Lodge 60.31 53 P P 16 10 33.9 +0.1
baz=60,SNR=12
LAVA Lava Cap Winer 60.45 64 ⇓P P 16 10 34.7 -0.1
baz=60
O07A Toulon 60.69 61 ⇑P P 16 10 36.6 +0.2
baz=60,SNR=6.0
WCN Washoe City 60.71 63 ⇓P P 16 10 37.0 +0.5
baz=60
M09A Marrel Ranch, 60.74 60 ⇓P P 16 10 37.2 +0.5
baz=60
N08A GE Springer Mi 60.74 60 ⇓P P 16 10 37.6 +0.8
baz=60
F15A Butte 60.76 53 P P 16 10 37.5 +0.7
baz=60,SNR=16
EGMT Eagleton 60.82 50 *e*P **P 16 10 37.1 -0.2**
comp=Z,30nm,1.0s,mb5.4
EGMT Eagleton 60.82 50 P P 16 10 37.8 +0.5
baz=61,SNR=8.0
R05C Kirkwood Meado 60.89 63 ⇑P P 16 10 38.3 +0.5
baz=61
CMB Columbia Colle 61.12 64 ⇑P P 16 10 39.6 +0.3
baz=61
HLID Hailey 61.14 56 *e*P **P 16 10 39.6 +0.2**
comp=Z,8.3nm,1.1s,mb4.8
HLID Hailey 61.14 56 P P 16 10 40.2 +0.8
baz=61,SNR=5.8
G15A Dillon 61.19 54 P P 16 10 40.2 +0.5
baz=61,SNR=13
M10A I.L. Ranch, Tu 61.21 59 ⇓P P 16 10 40.7 +0.8
baz=61,SNR=5.5
KULM Kulm 61.35 244 *e*P **P 16 10 41.7 +0.8**
R06C Coleville 61.38 63 ⇑P P 16 10 41.1 0.0
baz=61
S06C San Francisco 61.55 64 ⇓P P 16 10 43.1 +0.9
baz=61
O09A Fish Creek Ran 61.69 61 P P 16 10 45.0 +1.8
baz=62,SNR=5.6
M11A Holland Ranch, 61.70 59 ⇓P P 16 10 43.7 +0.5
baz=62
U04C Hernandez Rese 61.95 66 ⇑P P 16 10 46.1 +1.2
baz=62
O10A Cortez Mining, 62.02 60 ⇓P P 16 10 46.8 +1.4
baz=62
Q08A Gabbs 62.08 62 ⇑P P 16 10 46.4 +0.6
baz=62
N11A Elko Archery C 62.13 59 ⇑P P 16 10 46.9 +0.8
baz=62
NVAR Mina Array Bea 62.14 63 P P 16 10 46.7 +0.6
comp=Z,1.7nm,0.5s,mb4.4,baz=294,slow=9.2,SNR=9.5
NVAR Mina Array Bea 62.14 63 P P 16 10 46.7 +0.6
M12A Wells 62.22 58 P P 16 10 47.9 +1.1
baz=62,SNR=5.7
KCC Kaiser Creek 62.23 64 ⇓P P 16 10 47.4 +0.6
baz=62
YNR Norris Junctio 62.46 53 *e*P **P 16 10 48.9 +0.6**
P10A Eureka 62.47 61 ⇓P P 16 10 49.2 +0.8
baz=62
N12A Clover Valley, 62.51 59 ⇑P P 16 10 49.8 +1.1
baz=62
Q09A Carvers 62.55 62 ⇓P P 16 10 49.8 +0.9
baz=62
O11A Cowboy Ranch, 62.62 60 P P 16 10 51.0 +1.6
baz=62,SNR=5.4
KAKA Kakadu 62.68 203 *e*P **P 16 10 48.0 -1.8**
comp=Z,11nm,0.6s,mb5.2
M13A Montello 62.69 58 ⇑P P 16 10 50.9 +1.1
baz=62
HELL Mitchell Peak, 62.83 65 ⇑P P 16 10 50.5 -0.3
baz=63
N13A Wendover, West 62.99 58 ⇓P P 16 10 52.4 +0.5
baz=63
R09A Tonopah 63.00 62 P P 16 10 53.2 +1.3
baz=63,SNR=7.4
RRI2 Red Ridge 63.00 55 *e*P **P 16 10 53.7 +1.8**
comp=Z,14nm,0.6s,mb5.3
O12A Currie 63.06 59 ⇑P P 16 10 52.8 +0.5
baz=63,SNR=5.7
S09A Goldfield 63.24 63 ⇓P P 16 10 53.8 +0.3
baz=63
REDW Red Top Meadow 63.25 54 P P 16 10 54.9 +1.3
comp=Z,45nm,1.3s,mb5.4
VES Vestal, Richgr 63.33 65 ⇓P P 16 10 54.8 +0.7
baz=63
FIA1 FINESS Array S 63.37 335 *e*P **P 16 10 53.1 -1.2**
FINES FINESS Array B 63.37 335 P P 16 10 53.1 -1.3
comp=Z,10nm,0.4s,mb5.3,baz=38,slow=6.5,SNR=108
FINES FINESS Array B 63.37 335 P P 16 10 53.1 -1.2
FINES pmax pmax
comp=Z,10.0nm,0.4s
AJM Ajmer 63.39 281 *e*P **P 16 10 54.2 -0.2**
AJM AMb AMB 16 10 56.2
comp=Z,13nm,0.7s,mb5.2
Q11A Duckwater 63.45 61 ⇓P P 16 10 55.2 +0.3
baz=63
P12A McGill 63.48 60 ⇓P P 16 10 55.4 +0.3
baz=63
VIS Vishakhapatnam 63.49 268 *e*P **P 16 10 56.2 +1.1**
VIS AMb AMB 16 10 56.6
comp=Z,23nm,0.3s,mb5.7
LAO LASA Array 63.51 49 *e*P **P 16 10 55.8 +0.5**
comp=Z,34nm,0.8s,mb5.4
CWC Cottonwood Cre 63.56 64 ⇑P P 16 10 55.7 +0.1
baz=63
GRAC Grapevine Rang 63.62 63 ⇓P P 16 10 55.8 -0.2
baz=63
BHPL Bhopal 63.70 276 *e*P **P 16 10 56.8 +0.3**
BHPL AMb AMB 16 10 58.2
comp=Z,62nm,0.7s,mb5.7
Q12A Willow Creek R 63.81 60 ⇑P P 16 10 57.0 -0.3
baz=64
HWUT Hardware Ranch 64.00 56 *e*P **P 16 10 58.9 +0.3**
comp=Z,16nm,1.1s,mb5.0
MPMC Manual Prospec 64.17 64 ⇓P P 16 11 00.3 +0.7
baz=64
DUG Dugway 64.22 58 P P 16 11 00.7 +0.7
DUG pmax pmax
comp=Z,25nm,1.4s,mb5.0
DUG Dugway 64.22 58 *e*P **P 16 11 00.7 +0.7**
comp=Z,25nm,1.4s,mb5.0
DUG *e* pP 16 11 15.4 -1.6
DUG Dugway 64.22 58 P P 16 11 01.4 +1.4
baz=64,SNR=7.3
FURC Furnace Creek, 64.28 63 ⇓P P 16 11 00.4 +0.1
baz=64
PDAR Pinedale Array 64.35 54 P P 16 11 00.8 0.0
comp=Z,8.3nm,0.9s,mb4.8,baz=283,slow=2.0,SNR=49
OSI Osito Adit 64.36 66 ⇓P P 16 11 01.0 +0.1
baz=64
PSI Prapat 64.36 244 LR LR 16 43 33.5
comp=Z,163nm,18.0s,baz=349,slow=40
SFJD Kangerlussuaq 64.44 10 *i* P **P 16 11 00.6 -0.8**
EDW2 Edwards Air Fo 64.64 65 ⇑P P 16 11 02.5 -0.2
baz=64
U10A Ash Meadows, A 64.64 63 ⇓P P 16 11 03.6 +1.0
baz=64
OBN Obninsk 64.69 325 *e*P **P 16 11 01.4 -1.6**
OBN *e* 16 11 34.9
OBN *e* 16 13 24.0
OBN *e*SS SS 16 23 49.2 -0.9
OBN pmax pmax
comp=Z,30nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s
JLU Jordanelle 64.74 57 *e*P **P 16 11 03.2 -0.1**
NLU North Lily Min 64.81 58 *e*P **P 16 11 04.4 +0.6**
MPU Maple Canyon 65.02 58 *e*P **P 16 11 06.1 +0.9**
comp=Z,5.8nm,0.6s,mb4.8
MPU *e* pP 16 11 21.0 -1.2
GSC Goldstone 65.08 64 ⇑P P 16 11 05.4 -0.2
baz=65
U11A Corn Creek 65.20 63 ⇑P P 16 11 07.0 +0.7
baz=65
TUQ Turquoise Mtn. 65.53 64 ⇑P P 16 11 08.6 +0.1
baz=65
U12A Valley of Fire 65.71 62 ⇓P P 16 11 10.6 +1.0
baz=66
TMUT Trail Mountain 65.75 58 *e*P **P 16 11 10.4 +0.6**
MURC Murrieta 65.97 66 ⇑P P 16 11 11.2 -0.1
baz=66
V12A Nelson 65.99 63 ⇓P P 16 11 11.8 +0.4
baz=66
ULM Lac du Bonnet 66.00 41 P P 16 11 10.9 -0.6
comp=Z,6.8nm,0.6s,mb4.9,baz=318,slow=6.4,SNR=14
GMRC Granite Mounta 66.13 64 ⇑P P 16 11 12.5 +0.1
baz=66
SRU San Rafael 66.26 58 *e*P **P 16 11 12.9 -0.3**
SRU *e* pP 16 11 29.6 -0.7
SRU pmax pmax
comp=Z,18nm,0.9s,mb5.1
SRU San Rafael 66.26 58 *e*P **P 16 11 12.9 -0.3**
comp=Z,18nm,0.9s,mb5.1
SRU *e* pP 16 11 29.6 -0.8
RSSD Black Hills 66.39 50 *e*P **P 16 11 13.6 -0.4**
RSSD pmax pmax
comp=Z,33nm,0.9s,mb5.4
RSSD Black Hills 66.39 50 *e*P **P 16 11 13.6 -0.4**
comp=Z,33nm,0.9s,mb5.4
BELC Belle Mtn. 66.45 65 ⇓P P 16 11 14.2 -0.1
baz=66
VRSR Storozhevoye 66.51 321 *e*P **P 16 11 14.1 -0.7**
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.9s
IRM Iron Mountain 66.86 64 P P 16 11 17.0 0.0
baz=67,SNR=5.9
HYB Hyderabad 66.94 271 *i* P **P 16 11 17.0 -0.5**
HYB Hyderabad 66.94 271 *e*P **P 16 11 17.0 -0.5**
W13A Hualapai Mount 66.99 63 ⇑P P 16 11 18.0 +0.2
baz=67
BC3 Big Chuckw Mtn 67.01 65 ⇑P P 16 11 17.6 -0.4
baz=67
X13A Yucca 67.37 63 P P 16 11 20.4 +0.2
baz=67,SNR=6.0
PDMCI Parker Dam,Lak 67.38 64 ⇑P P 16 11 20.2 -0.1
baz=67
W14A Seligman 67.40 62 P P 16 11 21.1 +0.7
baz=67,SNR=8.7
AGMN Agassiz Refuge 67.42 42 *e*P **P 16 11 19.0 -1.5**
comp=N,11nm,0.8s,mb5.0
Y12C Blythe 67.52 64 ⇓P P 16 11 20.8 -0.4
baz=67
NB2 NORSAR Subarra 67.53 341 P P 16 11 20.9 -0.3
comp=Z,47nm,1.2s,mb5.4,baz=25,slow=6.5
NOA NORSAR Array B 67.53 341 P P 16 11 21.1 -0.2
comp=Z,15nm,0.8s,mb5.1,baz=26,slow=6.3,SNR=36
NOA NORSAR Array B 67.53 341 P P 16 11 21.1 -0.1
NOA pmax pmax
comp=Z,15nm,0.8s
LATR Latur 67.60 273 *e*P **P 16 11 19.2 -2.5**
PV10 Paradox Valley 67.61 57 *e*P **P 16 11 22.4 +0.7**
PV10 *e* pP 16 11 38.4 -0.5
NAO01 NORSAR Array S 67.78 341 *e*P **P 16 11 21.9 -0.8**
comp=Z,20nm,0.8s,mb5.2
GLA Glamis 67.81 65 ⇓P P 16 11 23.2 +0.3
baz=68
W15A Williams 67.91 62 ⇓P P 16 11 24.1 +0.5
baz=68
X14A Yava 68.02 63 ⇓P P 16 11 25.1 +0.8
baz=68,SNR=5.6
PV01 Paradox Valley 68.05 57 *e*P **P 16 11 24.1 -0.4**
WUAZ Wupatki 68.21 61 ⇑P P 16 11 26.0 +0.5
baz=68
Y14A Wickenburg 68.31 63 ⇑P P 16 11 25.8 -0.4
baz=68
X15A Humboldt 68.40 62 P P 16 11 27.6 +0.9
baz=68,SNR=7.3
ISCO Idaho Springs 68.55 54 *e*P **P 16 11 27.9 +0.3**
ISCO *e* pP 16 11 45.0 +0.2
ISCO pmax pmax
comp=Z,20nm,1.3s,mb4.9
ISCO Idaho Springs 68.55 54 *e*P **P 16 11 27.9 +0.3**
comp=Z,20nm,1.3s,mb4.9
ISCO *e* pP 16 11 45.0 +0.2
MVCO Mesa Verde 68.73 58 *e*P **P 16 11 28.5 -0.2**
comp=Z,13nm,1.0s,mb4.8
MVCO *e* pP 16 11 45.0 -0.9
MVCO Mesa Verde 68.73 58 ⇓P P 16 11 28.5 -0.2
baz=68,SNR=6.0
WRAB Tennant Creek 69.17 199 *e*P **P 16 11 29.3 -2.2**
WB2 Warramunga Arr 69.18 199 *e*P **P 16 11 29.8 -1.7**
WB2 *e* 16 11 54.0
WRA Warramunga Arr 69.18 199 P P 16 11 29.8 -1.7
comp=Z,5.7nm,0.7s,mb4.6,baz=18,slow=6.8,SNR=57
WRA PcP PcP 16 11 54.1 -0.9
comp=Z,4.3nm,0.8s,baz=6.1,slow=5.2,SNR=14
WRA LR LR 16 37 19.0
comp=Z,69nm,20.1s,baz=65,slow=32
WRA Warramunga Arr 69.18 199 P P 16 11 29.8 -1.7
WRA 16 11 54.1
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA MLR MLR
comp=Z,69nm,20.1s
GOF Gofitskoye 69.29 315 *e*P **P 16 11 27.2 -5.0**
GOF pmax pmax
comp=Z,60nm,1.0s,mb5.5
115A Sonoran Desert 69.64 64 ⇑P P 16 11 34.9 +0.6
baz=69
FITZ Fitzroy Crossi 69.76 208 ⇑*i*P **P 16 11 34.2 -0.9**
comp=Z,16nm,0.9s,mb5.0
KAD Karad 69.98 274 *e*P **P 16 11 36.7 +0.3**
KAD AMb AMB 16 11 37.5
comp=Z,52nm,0.6s,mb5.7
116A Eloy 70.05 63 ⇓P P 16 11 36.9 0.0
baz=70
KIV Kislovodsk 70.27 314 *e*P **P 16 11 38.2 0.0**
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,157nm,15.0s
KIV Kislovodsk 70.27 314 *e*P **P 16 11 37.7 -0.5**
comp=Z,16nm,0.8s,mb5.0
AKASG Malin Array Be 70.92 326 P P 16 11 41.5 -0.7
comp=Z,6.0nm,0.4s,mb4.9,baz=34,slow=6.4,SNR=39
AKASG Malin Array Be 70.92 326 P P 16 11 41.5 -0.7
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 70.92 326 P P 16 11 41.5 -0.7
AKBB Malin Array Si 70.92 326 P P 16 11 41.1 -1.1
AKBB Malin Array Si 70.92 326 *e*P **P 16 11 40.5 -1.7**
KIEV Kiev 70.93 326 *e*P **P 16 11 41.0 -1.3**
KIEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KIEV Kiev 70.93 326 *e*P **P 16 11 41.0 -1.3**
comp=Z,8.6nm,0.6s,mb4.9
ANMO Albuquerque 71.49 58 *e*P **P 16 11 44.1 -1.5**
GNI Garni 72.03 310 *c i*P **P 16 11 48.6 -0.3**
GNI pmax pmax
comp=Z,26nm,2.1s
GNI Garni 72.03 310 *e*P **P 16 11 50.2 +1.3**
comp=Z,12nm,0.8s,mb4.9
CBKS Cedar Bluff 72.43 52 P P 16 11 50.5 -0.8
CBKS pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
CBKS Cedar Bluff 72.43 52 *e*P **P 16 11 48.9 -2.4**
comp=Z,4.5nm,0.5s,mb4.7
SCHQ Schefferville 72.66 23 P P 16 11 52.2 -0.4
comp=Z,15nm,0.8s,mb5.0,baz=349,slow=6.1,SNR=10

AS31	**Alice Springs**	**72.88**	**198**	⇑*iP*		**P**		**16 11 53.3**	**-0.6**
ASAR	**Alice Springs**	**72.88**	**198**	P		**P**		**16 11 53.5**	**-0.5**
	comp=Z,13nm,0.8s,mb4.9,baz=11,slow=5.3,SNR=164								
ASAR	**Alice Springs**	**72.88**	**198**	P		**P**		**16 11 53.5**	**-0.4**
ASAR				pmax		pmax			
	comp=Z,13nm,0.8s								
ASPA	**Alice Springs**	**72.88**	**198**	⇑*iP*		**P**		**16 11 53.3**	**-0.6**
SCIA	**State Center**	**73.44**	**45**	*eP*		**P**		**16 11 56.6**	**-0.6**
	comp=Z,81nm,0.8s,mb5.7								
KSU1	**Kansas State U**	**73.86**	**49**	*eP*		**P**		**16 11 57.6**	**-2.0**
	comp=Z,7.5nm,0.6s,mb4.8								
KWP	**Kalwaria**	**74.18**	**329**	*eP*		**P**		**16 11 59.6**	**-2.0**
KWP				pmax		pmax			
	comp=Z,49nm,0.5s,mb5.7								
AMTX	**Amarillo**	**74.25**	**55**	*eP*		**P**		**16 12 01.6**	**-0.4**
	comp=Z,30nm,0.9s,mb5.2								
OJC	**Ojcow**	**74.67**	**331**	*eP*		**P**		**16 12 04.3**	**-0.1**
STHS	**Stebnicka Huta**	**74.87**	**330**	*eP*		**P**		**16 12 06.4**	**+0.9**
STHS				pmax		pmax			
	comp=Z,11nm,0.7s,mb4.9								
STHS	**Stebnicka Huta**	**74.87**	**330**	*eP*		**P**		**16 12 06.4**	**+0.9**
	comp=Z,11nm,0.7s,mb4.9								
KOLS	**Kolonicke sedl**	**74.92**	**329**	*eP*		**P**		**16 12 05.7**	**-0.2**
BURAR	**Bucovina Array**	**74.96**	**326**	⇓*iP*		**P**		**16 12 06.4**	**+0.3**
BURAR	**Bucovina Array**	**74.96**	**326**	⇓P		**P**		**16 12 06.4**	**+0.4**
OKC	**Ostrava-Krasne**	**75.53**	**332**	*eP*		**P**		**16 12 09.4**	**0.0**
UPC	**Upice**	**75.62**	**333**	*eP*		**P**		**16 12 10.0**	**+0.2**
DPC	**Dobruska-Polom**	**75.66**	**333**	*eP*		**P**		**16 12 10.2**	**+0.1**
DPC				*e*pP		pP		16 12 16.5	-11
BANOM	**Banah**	**75.66**	**293**	⇑P		**P**		**16 12 10.7**	**+0.6**
	SNR=9.2								
MORC	**Moravsky Berou**	**75.78**	**332**	⇑*iP*		**P**		**16 12 10.8**	**0.0**
CLL	**Collm**	**75.79**	**335**	*eP*		**P**		**16 12 10.4**	**-0.4**
	comp=Z,56nm,1.1s,mb5.4								
CLL	**Collm**	**75.79**	**335**	⇑*iP*		**P**		**16 12 10.3**	**-0.5**
CLL				pmax		pmax			
	comp=Z,56nm,1.1s,mb5.4								
CLL	**Collm**	**75.79**	**335**	⇑*iP*		**P**		**16 12 10.3**	**-0.5**
	comp=Z,56nm,1.1s,mb5.4								
VRI	**Vrincioaia**	**75.83**	**325**	⇑*iP*		**P**		**16 12 11.7**	**+0.6**
VRI	**Vrincioaia**	**75.83**	**325**	⇑P		**P**		**16 12 11.7**	**+0.6**
BOYT	**Boyabat**	**75.91**	**317**	*iP*		**P**		**16 12 12.2**	**+0.7**
BRG	**Berggiesshubel**	**75.91**	**335**	*eP*		**P**		**16 12 11.0**	**-0.5**
	comp=Z,20nm,1.3s,mb4.9								
BRG	**Berggiesshubel**	**75.91**	**335**	*iP*		**P**		**16 12 10.9**	**-0.6**
	comp=Z,12nm,1.3s,mb4.7								
KECS	**Kecovo**	**75.93**	**330**	*iP*		**P**		**16 12 11.6**	**0.0**
KECS				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
KECS	**Kecovo**	**75.93**	**330**	*iP*		**P**		**16 12 11.6**	**0.0**
	comp=Z,7.1nm,1.1s,mb4.5								
WMOK	**Wichita Mounta**	**75.96**	**54**	*eP*		**P**		**16 12 11.0**	**-0.8**
WMOK				*e*		pP		16 12 25.6	-3.7
WMOK				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.8								
WMOK	**Wichita Mounta**	**75.96**	**54**	*eP*		**P**		**16 12 11.0**	**-0.8**
	comp=Z,10nm,0.8s,mb4.8								
WMOK				*e*		pP		16 12 25.6	-3.7
CLZ	**Clausthal**	**76.03**	**337**	*eP*		**P**		**16 12 12.4**	**+0.2**
	comp=Z,49nm,1.1s,mb5.3								
CLZ	**Clausthal**	**76.03**	**337**	*eP*		**P**		**16 12 12.4**	**+0.2**
CLZ				pmax		pmax			
	comp=Z,49nm,1.1s,mb5.3								
PVCC	**Panska Ves**	**76.03**	**334**	*eP*		**P**		**16 12 11.6**	**-0.6**
FBE	**Freiberg**	**76.03**	**335**	*eP*		**P**		**16 12 12.0**	**-0.2**
	comp=Z,27nm,1.2s,mb5.0								
IBBN	**Ibbenburen**	**76.26**	**339**	*eP*		**P**		**16 12 13.5**	**0.0**
	comp=Z,39nm,1.0s,mb5.3								
GTTG	**Gvttingen**	**76.40**	**337**	*eP*		**P**		**16 12 14.4**	**+0.1**
	comp=Z,14nm,0.6s,mb5.1								
MLR	**Muntele Rosu**	**76.45**	**325**	⇓*iP*		**P**		**16 12 15.3**	**+0.7**
MLR	**Muntele Rosu**	**76.45**	**325**	⇓P		**P**		**16 12 15.3**	**+0.7**
VYHS	**Vyhne**	**76.47**	**331**	*iP*		**P**		**16 12 14.7**	**0.0**
VYHS				pmax		pmax			
	comp=Z,12nm,1.3s,mb4.7								
VYHS	**Vyhne**	**76.47**	**331**	*iP*		**P**		**16 12 14.7**	**0.0**
	comp=Z,12nm,1.3s,mb4.7								
VRAC	**Vranov**	**76.49**	**332**	⇑P		**P**		**16 12 15.3**	**+0.5**
BALT	**Daday**	**76.51**	**318**	*iP*		**P**		**16 12 15.8**	**+0.9**
PRU	**Pruhonice**	**76.52**	**334**	*eP*		**P**		**16 12 14.8**	**-0.2**
HATD	**Hatta, Dubai**	**76.56**	**292**	⇓P		**P**		**16 12 15.8**	**+0.7**
	SNR=10								
DRGR		**76.58**	**327**	⇓*iP*		**P**		**16 12 15.5**	**+0.2**
CTKT	**Corum**	**76.59**	**316**	*iP*		**P**		**16 12 16.4**	**+1.0**
PSZ	**Piszkesteto**	**76.61**	**330**	⇓*iP*		**P**		**16 12 15.8**	**+0.3**
PSZ	**Piszkesteto**	**76.61**	**330**	⇓P		**P**		**16 12 15.8**	**+0.3**
MALT	**Malatya**	**76.63**	**313**	*eP*		**P**		**16 12 16.4**	**+0.8**
MALT				pmax		pmax			
	comp=Z,13nm,0.7s,mb5.0								
MALT	**Malatya**	**76.63**	**313**	*eP*		**P**		**16 12 16.4**	**+0.8**
	comp=Z,13nm,0.7s,mb5.0								
HOQ	**Hoqain**	**76.70**	**290**	⇑P		**P**		**16 12 16.6**	**+0.6**
	SNR=5.2								
ASHO	**Ashiyiah**	**76.70**	**292**	⇓P		**P**		**16 12 16.5**	**+0.5**
	SNR=8.2								
TANN	**Tannenbergstha**	**76.74**	**335**	*eP*		**P**		**16 12 16.1**	**-0.1**
	comp=Z,23nm,1.6s,mb4.9								
WERD	**Werda**	**76.76**	**335**	*eP*		**P**		**16 12 15.9**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8								
MOX	**Moxa**	**76.77**	**336**	*eP*		**P**		**16 12 16.1**	**-0.3**
	comp=Z,30nm,1.1s,mb5.1								
MOX	**Moxa**	**76.77**	**336**	*eP*		**P**		**16 12 16.1**	**-0.3**
MOX				pmax		pmax			
	comp=Z,34nm,1.1s,mb5.2								
WTSB	**Winterswijk**	**76.81**	**339**	⇑*eP*		**P**		**16 12 16.2**	**-0.4**
	comp=Z,43nm,0.9s,mb5.4								
GUNZ	**Gunzen**	**76.83**	**335**	*eP*		**P**		**16 12 16.7**	**0.0**
	comp=Z,16nm,1.0s,mb4.9								
WERN	**Wenitzgruen**	**76.88**	**335**	*eP*		**P**		**16 12 17.0**	**0.0**
	comp=Z,39nm,1.2s,mb5.2								
NKC	**Novy Kostel**	**76.91**	**335**	*eP*		**P**		**16 12 16.7**	**-0.5**
SMOL	**Smolenice**	**76.92**	**331**	*iP*		**P**		**16 12 18.1**	**+0.9**
UBBA	**Unterbreizbach**	**77.05**	**337**	*eP*		**P**		**16 12 17.7**	**-0.3**
	comp=Z,10.0nm,0.8s,mb4.8								
JMDO	**Jabal Madar**	**77.06**	**289**	P		**P**		**16 12 18.9**	**+0.9**
	SNR=13								
LTX	**Lajitas**	**77.17**	**61**	*eP*		**P**		**16 12 18.4**	**-0.2**
LTX				*e*		pP		16 12 35.4	-0.8
LTX				pmax		pmax			
	comp=Z,20nm,0.9s,mb5.0								
LTX	**Lajitas**	**77.17**	**61**	*eP*		**P**		**16 12 18.4**	**-0.2**
	comp=Z,20nm,0.9s,mb5.0								
LTX				*e*		pP		16 12 34.9	-1.2
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**		**16 12 18.3**	**-0.3**
	comp=Z,6.9nm,0.6s,mb4.8,baz=298,slow=4.6,SNR=81								
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**		**16 12 18.3**	**-0.3**
TXAR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
BUG	**Bochum--Univer**	**77.18**	**339**	*eP*		**P**		**16 12 18.5**	**-0.2**
	comp=Z,54nm,1.2s,mb5.3								
MANZ	**Manzenberg**	**77.23**	**335**	*eP*		**P**		**16 12 19.0**	**+0.1**
	comp=Z,25nm,1.2s,mb5.0								
ZST	**Bratislava**	**77.30**	**332**	*eP*		**P**		**16 12 19.5**	**+0.1**
	comp=Z,18nm,1.2s,mb4.9								
ZST						LR		LR	
	comp=Z,200nm,21.5s								
BSY	**Bisya**	**77.38**	**290**	P		**P**		**16 12 20.7**	**+0.9**
	SNR=5.2								
ARQ	**Aragi**	**77.38**	**291**	P		**P**		**16 12 20.8**	**+0.9**
	SNR=6.7								
ROTZ	**Rotzenmuhle**	**77.40**	**335**	*eP*		**P**		**16 12 20.0**	**+0.1**
	comp=Z,21nm,0.9s,mb5.1								
ARMA	**Armidale**	**77.54**	**181**	*eP*		**P**		**16 12 20.2**	**-0.5**
KHC	**Kasperske Hory**	**77.57**	**334**	*eP*		**P**		**16 12 21.0**	**+0.1**
KHC				*ex*		x		16 12 24.6	
GRA2	**Grafenberg Arr**	**77.74**	**336**	*eP*		**P**		**16 12 21.9**	**+0.1**
	comp=Z,62nm,1.0s,mb5.5								
GRFO	**Grafenberg**	**77.74**	**336**	*eP*		**P**		**16 12 22.2**	**+0.4**
	comp=Z,52nm,1.1s,mb5.4								
GRFO	**Grafenberg**	**77.74**	**336**	*eP*		**P**		**16 12 22.2**	**+0.4**
GRFO				pmax		pmax			
	comp=Z,52nm,1.1s,mb5.4								
WET	**Wettzell**	**77.76**	**335**	*eP*		**P**		**16 12 22.2**	**+0.3**
	comp=Z,29nm,1.1s,mb5.1								
WET	**Wettzell**	**77.76**	**335**	*eP*		**P**		**16 12 22.2**	**+0.3**
WET				pmax		pmax			
	comp=Z,29nm,1.1s,mb5.1								
GEC2	**GERESS Array S**	**77.79**	**334**	*eP*		**P**		**16 12 21.9**	**-0.2**
	comp=Z,9.0nm,0.7s,mb4.8								
GEC2	**GERESS Array S**	**77.79**	**334**	*eP*		**P**		**16 12 21.9**	**-0.2**
GEC2				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
GERES	**GERESS Array B**	**77.79**	**334**	P		**P**		**16 12 21.9**	**-0.2**
	comp=Z,7.0nm,0.6s,mb4.8,baz=38,slow=5.3,SNR=39								
GERES	**GERESS Array B**	**77.79**	**334**	P		**P**		**16 12 21.9**	**-0.2**
GERES				pmax		pmax			
	comp=Z,7.0nm,0.6s								
BR131	**Keskin Array S**	**77.83**	**317**	*eP*		**P**		**16 12 23.2**	**+0.9**
	comp=Z,5.7nm,0.8s,mb4.5								
BRTR	**Keskin Array B**	**77.83**	**317**	P		**P**		**16 12 23.1**	**+0.8**
	comp=Z,8.4nm,1.0s,mb4.6,baz=57,slow=4.6,SNR=23								
BRTR	**Keskin Array B**	**77.83**	**317**	⇓*eP*		**P**		**16 12 23.2**	**+0.9**
SGKT	**Sivrigoynuk**	**77.88**	**318**	*iP*		**P**		**16 12 23.5**	**+0.9**
GRB1	**Grafenberg Arr**	**77.89**	**335**	*eP*		**P**		**16 12 22.7**	**+0.1**
	comp=Z,54nm,1.2s,mb5.3								
CONA	**Conrad Observa**	**77.94**	**332**	⇑*iP*		**P**		**16 12 22.9**	**0.0**
	comp=Z,1.6nm,0.9s,mb4.0,SNR=11								
CONA	**Conrad Observa**	**77.94**	**332**			**P**		**16 12 23.8**	**+0.9**
	comp=Z,12nm,0.8s,mb4.9								
BZS	**Buzias**	**77.98**	**327**	⇑*iP*		**P**		**16 12 22.7**	**-0.4**
BZS	**Buzias**	**77.98**	**327**	⇑P		**P**		**16 12 22.7**	**-0.5**
TNS	**Taunus Mts**	**78.00**	**338**	*eP*		**P**		**16 12 23.2**	**-0.1**
	comp=Z,34nm,1.1s,mb5.2								
TNS	**Taunus Mts**	**78.00**	**338**	*eP*		**P**		**16 12 23.2**	**-0.1**
TNS				pmax		pmax			
	comp=Z,34nm,1.1s,mb5.2								
ANTO	**Ankara**	**78.11**	**317**	⇑*iP*		**P**		**16 12 25.3**	**+1.4**
ANTO	**Ankara**	**78.11**	**317**	⇑P		**P**		**16 12 25.3**	**+1.4**
HGN	**Heimansgroeve**	**78.13**	**339**	⇑*eP*		**P**		**16 12 23.8**	**-0.2**
	comp=Z,32nm,1.1s,mb5.2								
BEBN	**Eben Emael**	**78.16**	**340**	P		**P**		**16 12 23.9**	**-0.2**
UMR	**Umm Al-Rimmam**	**78.22**	**301**	*eP*		**P**		**16 12 24.9**	**+0.4**
MIB	**Mutribah**	**78.25**	**301**	*eP*		**P**		**16 12 25.1**	**+0.5**
MIB				AMb		AMB		16 12 26.0	
	comp=Z,130nm,0.8s,mb5.9								
MEM	**Membach**	**78.25**	**339**	P		**P**		**16 12 24.5**	**-0.2**
TOD	**Tromm**	**78.47**	**337**	*eP*		**P**		**16 12 25.9**	**0.0**
MOA	**Molln**	**78.50**	**333**	⇑*iP*		**P**		**16 12 26.2**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8								
KBD	**Kabd**	**78.51**	**301**	*eP*		**P**		**16 12 26.4**	**+0.4**
PKSM	**Moragy**	**78.52**	**330**	⇓*iP*		**P**		**16 12 25.2**	**-0.9**
ABH	**Alteburg**	**78.55**	**338**	*eP*		**P**		**16 12 26.1**	**-0.2**
JCT	**Junction City**	**78.57**	**57**	*eP*		**P**		**16 12 25.8**	**-0.6**
JCT				*e*		pP		16 12 42.3	-1.7
JCT				pmax		pmax			
	comp=Z,33nm,1.1s,mb5.2								
JCT	**Junction City**	**78.57**	**57**	*eP*		**P**		**16 12 25.8**	**-0.6**
	comp=Z,33nm,1.2s,mb5.1								
JCT				*e*		pP		16 12 42.2	-1.7
BCLA	**Clavier**	**78.60**	**340**	P		**P**		**16 12 26.7**	**+0.1**
SIUC	**Southern Illin**	**78.63**	**46**	*eP*		**P**		**16 12 25.7**	**-1.0**
	comp=Z,5.4nm,0.5s,mb4.7								
SIUC				*e*		pP		16 12 43.5	-0.7
ARSA	**Arzberg**	**78.64**	**332**	⇑*iP*		**P**		**16 12 27.2**	**+0.4**
	comp=Z,7.2nm,0.6s,mb4.8								
QRN	**Al-Qurain**	**78.70**	**300**	*eP*		**P**		**16 12 27.3**	**+0.2**
QRN				AMb		AMB		16 12 28.3	
	comp=Z,70nm,0.4s,mb5.9								
NAY	**Al-Naaiem**	**78.72**	**301**	*eP*		**P**		**16 12 27.5**	**+0.2**
NAY				AMb		AMB		16 12 28.5	
	comp=Z,44nm,0.8s,mb5.4								
BLO	**Bloomington**	**78.75**	**43**	*eP*		**P**		**16 12 26.4**	**-1.0**
BLO				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
BLO	**Bloomington**	**78.75**	**43**	*eP*		**P**		**16 12 26.4**	**-1.0**
	comp=Z,9.5nm,0.8s,mb4.8								
SNF	**Seneffe**	**78.75**	**340**	P		**P**		**16 12 27.5**	**+0.1**
RDF	**Al-Radifah**	**78.78**	**301**	*eP*		**P**		**16 12 27.9**	**+0.3**
RDF				AMb		AMB		16 12 29.3	
	comp=Z,96nm,0.7s,mb5.9								
MIAR	**Mount Ida**	**78.90**	**51**	P		**P**		**16 12 27.3**	**-0.9**
MIAR				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.0								
MIAR	**Mount Ida**	**78.90**	**51**	*eP*		**P**		**16 12 26.7**	**-1.5**
	comp=Z,19nm,1.1s,mb4.9								
DOU	**Dourbes**	**79.07**	**340**	P		**P**		**16 12 28.7**	**-0.4**
WLF	**Walferdange**	**79.09**	**339**	P		**P**		**16 12 30.9**	**+1.6**
USIN	**University of**	**79.17**	**45**	*eP*		**P**		**16 12 29.4**	**-0.3**
	comp=Z,26nm,0.9s,mb5.2								
USIN				*e*		pP		16 12 45.7	-1.6
ESKT	**Eskisehir**	**79.28**	**318**	*iP*		**P**		**16 12 30.6**	**+0.3**
GROS	**Grobnik**	**79.35**	**332**	*eP*		**P**		**16 12 30.4**	**-0.3**
KBA	**Koelnbreinsper**	**79.47**	**333**	*iP*		**P**		**16 12 32.2**	**+0.9**
	comp=Z,29nm,0.6s,mb5.4,SNR=16								
OBKA	**Obir**	**79.61**	**332**	⇑*iP*		**P**		**16 12 31.8**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.8								
WCI	**Wyandotte Cave**	**79.61**	**44**	*eP*		**P**		**16 12 31.2**	**-0.9**
WCI				pmax		pmax			
	comp=Z,24nm,0.9s,mb5.1								
WCI	**Wyandotte Cave**	**79.61**	**44**	*eP*		**P**		**16 12 31.2**	**-0.9**
	comp=Z,24nm,0.9s,mb5.1								
STKA	**Stephens Creek**	**79.66**	**190**	*eP*		**P**		**16 12 31.0**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**79.66**	**190**	P		**P**		**16 12 31.2**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.3,baz=16,slow=6.5,SNR=5.8								
GOLS	**Golise**	**79.71**	**331**	*eP*		**P**		**16 12 31.9**	**-0.6**
BFO	**Black Forest**	**79.77**	**337**	P		**P**		**16 12 33.1**	**+0.2**
	comp=Z,152nm,1.1s,mb5.8,SNR=6.4								
BFO	**Black Forest**	**79.77**	**337**	*eP*		**P**		**16 12 32.7**	**-0.2**
	comp=Z,40nm,1.2s,mb5.2								
BFO	**Black Forest**	**79.77**	**337**	*eP*		**P**		**16 12 32.7**	**-0.2**
BFO				pmax		pmax			
	comp=Z,40nm,1.2s,mb5.2								
WATA	**Walderalm**	**79.77**	**335**	⇑*iP*		**P**		**16 12 33.5**	**+0.6**
	comp=Z,13nm,0.5s,mb5.1								
WTTA	**Wattenberg**	**79.82**	**334**	⇑*iP*		**P**		**16 12 34.0**	**+0.8**
	comp=Z,30nm,0.6s,mb5.4								
LEGS	**Legarje**	**79.86**	**332**	*eP*		**P**		**16 12 32.9**	**-0.5**
PDKS	**Podkum**	**79.86**	**332**	*iP*		**P**		**16 12 33.0**	**-0.4**
DIVS	**Divcibare**	**79.88**	**328**	*eP*		**P**		**16 12 33.1**	**-0.5**
MOTA	**Moosalm**	**79.90**	**335**	*iP*		**P**		**16 12 34.1**	**+0.5**
	comp=Z,61nm,1.3s,mb5.4,SNR=14								
CRES	**Cresnjev**	**79.92**	**331**	*eP*		**P**		**16 12 33.0**	**-0.7**
VTS	**Vitosha**	**79.95**	**325**	*eP*		**P**		**16 12 34.1**	**+0.1**
VTS	**Vitosha**	**79.95**	**325**	⇑*iP*		**P**		**16 12 34.0**	**+0.1**
CDF	**Champ du Feu**	**79.97**	**338**	⇑*iP*		**P**		**16 12 33.9**	**-0.1**
	comp=Z,60nm,1.0s,mb5.2								
CDF	**Champ du Feu**	**79.97**	**338**	⇑*iP*		**P**		**16 12 33.9**	**-0.1**
CDF				pmax		pmax			
	comp=Z,30nm,1.0s,mb5.2								
CDF	**Champ du Feu**	**79.97**	**338**	⇑*iP*		**P**		**16 12 33.9**	**-0.1**
	comp=Z,30nm,1.0s,mb5.2								
SQTA	**Sankt Quirin**	**79.98**	**335**	⇑*iP*		**P**		**16 12 34.7**	**+0.7**
	comp=Z,26nm,1.0s,mb5.1								
VISS	**Visnje**	**80.14**	**332**	*iP*		**P**		**16 12 34.3**	**-0.7**
ECH	**Echery**	**80.18**	**338**	*eP*		**P**		**16 12 34.7**	**-0.5**
FELD	**Feldberg im Sc**	**80.27**	**337**	*eP*		**P**		**16 12 35.4**	**-0.3**
BOJS	**Bojanci**	**80.28**	**331**	*iP*		**P**		**16 12 35.3**	**-0.4**
DAVA	**Damuels**	**80.30**	**336**	⇑*iP*		**P**		**16 12 36.0**	**+0.2**
	comp=Z,20nm,0.9s,mb5.1								
THEF	**They Montfort**	**80.47**	**338**	*eP*		**P**		**16 12 36.3**	**-0.4**
MOF	**Molkenrain**	**80.53**	**338**	*eP*		**P**		**16 12 36.3**	**-0.7**
WVT	**Waverly**	**80.56**	**46**	*eP*		**P**		**16 12 36.3**	**-0.9**
WVT				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
WVT	**Waverly**	**80.56**	**46**	*eP*		**P**		**16 12 36.3**	**-0.9**
	comp=Z,14nm,0.8s,mb4.9								
TKTP	**Tekketepe**	**80.72**	**318**	*iP*		**P**		**16 12 38.5**	**+0.4**
OXF	**Oxford**	**81.06**	**48**	*eP*		**P**		**16 12 38.4**	**-1.5**
OXF				pmax		pmax			
	comp=Z,65nm,1.2s,mb5.4								
OXF	**Oxford**	**81.06**	**48**	*eP*		**P**		**16 12 38.4**	**-1.5**
	comp=Z,65nm,1.2s,mb5.4								
FORT	**Forrest**	**81.08**	**202**	*eP*		**P**		**16 12 39.5**	**-0.5**
	comp=Z,20nm,0.7s,mb5.1								
VAY	**Valandovo**	**81.28**	**325**	*eP*		**P**		**16 12 40.7**	**-0.4**
KNT	**Kendrikon**	**81.29**	**324**	*eP*		**P**		**16 12 40.9**	**-0.2**
PLAL	**Pickwick Lake**	**81.35**	**47**	*eP*		**P**		**16 12 40.0**	**-1.4**
	comp=Z,12nm,0.8s,mb4.9								
GRR	**Gorron**	**81.86**	**343**	⇑*iP*		**P**		**16 12 43.9**	**-0.2**
	comp=Z,293nm,1.7s,mb5.6								
GRR	**Gorron**	**81.86**	**343**	⇑*iP*		**P**		**16 12 43.9**	**-0.2**
GRR				pmax		pmax			
	comp=Z,147nm,1.7s,mb5.6								
GRR	**Gorron**	**81.86**	**343**	⇑*iP*		**P**		**16 12 43.9**	**-0.2**
	comp=Z,146nm,1.7s,mb5.6								
SMF	**Signal de Mont**	**82.47**	**339**	⇑*iP*		**P**		**16 12 47.2**	**-0.1**
	comp=Z,101nm,1.3s,mb5.3								
SMF	**Signal de Mont**	**82.47**	**339**	⇑*iP*		**P**		**16 12 47.2**	**-0.1**
SMF				pmax		pmax			
	comp=Z,51nm,1.3s,mb5.3								
SMF	**Signal de Mont**	**82.47**	**339**	⇑*iP*		**P**		**16 12 47.2**	**-0.1**
	comp=Z,51nm,1.3s,mb5.3								
PPT	**Papeete**	**82.62**	**126**	LR		LR		16 42 40.0	
	comp=Z,231nm,20.0s,baz=313,slow=31								
FWV	**Forest Hill**	**82.62**	**40**	*eP*		**P**		**16 12 47.1**	**-1.0**
LPG	**La Plagne**	**82.80**	**337**	⇑*iP*		**P**		**16 12 49.9**	**+0.9**
	comp=Z,43nm,0.9s,mb5.2								
LPG	**La Plagne**	**82.80**	**337**	⇑*iP*		**P**		**16 12 49.9**	**+0.9**
LPG				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.2								
LPG	**La Plagne**	**82.80**	**337**	⇑*iP*		**P**		**16 12 49.9**	**+0.9**
	comp=Z,22nm,0.9s,mb5.2								
ELN	**Prospectdale**	**82.94**	**40**	*eP*		**P**		**16 12 47.2**	**-2.6**
PLDF	**La Plantade**	**83.16**	**339**	*eP*		**P**		**16 12 50.9**	**+0.1**
AGO	**Saint Agoulin**	**83.20**	**339**	*eP*		**P**		**16 12 51.8**	**+0.7**
BNI	**Bardonecchia**	**83.23**	**337**	*eP*		**P**		**16 12 51.6**	**+0.4**
BNI				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.8								
BNI	**Bardonecchia**	**83.23**	**337**	*eP*		**P**		**16 12 51.5**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8								
ORIF	**Oris-en-Rattie**	**83.57**	**337**	⇑*iP*		**P**		**16 12 53.6**	**+0.6**
	comp=Z,40nm,0.9s,mb5.3								
ORIF	**Oris-en-Rattie**	**83.57**	**337**	⇑*iP*		**P**		**16 12 53.6**	**+0.6**
ORIF				pmax		pmax			
	comp=Z,20nm,0.9s,mb5.2								
ORIF	**Oris-en-Rattie**	**83.57**	**337**	⇑*iP*		**P**		**16 12 53.6**	**+0.6**
	comp=Z,20nm,0.9s,mb5.2								
KLBR	**Kellerberrin**	**84.86**	**210**	*eP*		**P**		**16 12 58.2**	**-1.3**
	comp=Z,15nm,0.8s,mb5.2								
EIL	**Eilat**	**85.20**	**310**	*eP*		**P**		**16 13 01.9**	**+0.7**
	comp=Z,638nm,0.7s								
ESDC	**Sonseca Array**	**90.85**	**342**	P		**P**		**16 13 27.9**	**-0.3**
	comp=Z,0.4nm,0.3s,mb4.2,baz=4.6,slow=4.7,SNR=5.6								
KEST	**Kesra**	**91.02**	**331**	P		**P**		**16 13 29.7**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.6,baz=296,slow=4.8,SNR=5.5								
KEST						LR		LR	
	comp=Z,44nm,19.7s,baz=45,slow=37								
TORD	**Torodi Ar. Bea**	**114.45**	**329**	PKiKP		PKiKP		16 19 03.1	-1.3
	comp=Z,0.4nm,0.5s,baz=12,slow=2.8,SNR=5.8								
VNDA	**Vanda**	**124.84**	**178**	PK

1.3nm,0.3s,baz=153,slow=9.5,SNR=11
ASAJ Asahikawa 7.98 254 PN **Pn** **16 14 46.6 +0.5**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 20.92 253 P **P** **16 17 30.6 -1.6**
comp=Z,1.2nm,0.5s,baz=65,slow=9.4,SNR=5.2
SONM Songino Array 31.44 289 P **P** **16 19 09.8 -0.9**
comp=Z,0.1nm,0.4s,mb3.0,baz=73,slow=6.9,SNR=4.2
MKAR Makanchi Array 47.04 297 P **P** **16 21 19.8 -0.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=65,slow=8.6,SNR=11
MKAR Makanchi Array 47.04 297 P **P** **16 21 19.8 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 50.94 309 P **P** **16 21 50.0 -0.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=56,slow=7.3,SNR=9.0
BVAR Borovoye Array 50.94 309 P **P** **16 21 50.0 -0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
JIRN Jiri 55.07 275 *eP* **P** **16 22 22.3 +1.3**
GUN Gumba 55.12 275 *eP* **P** **16 22 22.9 +1.5**
KKN Kakani 55.61 275 *eP* **P** **16 22 25.9 +1.0**
comp=Z,8.1nm,0.7s,mb4.9
PKI Pulchoki 55.66 275 *eP* **P** **16 22 25.8 +0.5**
DMN Daman 55.84 275 *eP* **P** **16 22 27.1 +0.5**
comp=Z,6.9nm,0.5s,mb4.9
GKN Gorkha 55.91 276 *eP* **P** **16 22 27.5 +0.4**
comp=Z,8.3nm,0.5s,mb5.0
KOLN Koldanda 56.77 277 *eP* **P** **16 22 33.9 +0.7**
ARCES ARCESS Array B 57.87 341 P **P** **16 22 39.9 -1.0**
comp=Z,2.9nm,0.9s,mb4.3,baz=31,slow=13,SNR=3.1
ARCES ARCESS Array B 57.87 341 P **P** **16 22 39.9 -1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 64.07 335 P **P** **16 23 22.9 -0.2**
comp=Z,1.3nm,0.4s,mb4.3,baz=38,slow=7.2,SNR=17
FINES FINESS Array B 64.07 335 P **P** **16 23 22.9 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 68.25 341 P **P** **16 23 49.9 +0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=27,slow=6.5
NOA NORSAR Array B 68.25 341 P **P** **16 23 50.6 +0.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=28,slow=6.3,SNR=5.1
NOA NORSAR Array B 68.25 341 P **P** **16 23 50.6 +0.8**
NOA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 68.57 199 P **P** **16 23 50.9 -1.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=17,slow=6.5,SNR=3.4
AKASG Malin Array Be 71.60 326 P **P** **16 24 10.1 -0.4**
comp=Z,1.9nm,0.4s,mb4.3,baz=33,slow=6.2,SNR=12
AKASG Malin Array Be 71.60 326 P **P** **16 24 10.1 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
TXAR Lajitas Array 77.37 61 P **P** **16 24 44.5 +0.6**
comp=Z,0.4nm,0.6s,mb3.5,baz=292,slow=4.2,SNR=5.3
GERES GERESS Array B 78.49 334 P **P** **16 24 49.7 -0.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=18,slow=0.4,SNR=4.2

BJI ***23*** *16:23:07.2, 6.65S×127.29E, h482km, mB4.9, mb4.7*
MOS ***23*** *16:23:12.4±1.0, 6.00S×126.43E, h462km, mb4.4/14, Error ellipse: s-maj=17.7km s-min=7.6km az=113.7*
ISCJB ***23*** *16:23:14.8±0.6, 6.03S±004×12653E±006, h494km±7km, mb4.4/49, Error ellipse: s-maj=9.6km s-min=4.8km az=133.2*
NEIC ***23*** *16:23:15.1±0.5, 6.10S×126.42E, h482km±7km, mb4.5/20, Error ellipse: s-maj=8.7km s-min=4.5km az=66.0*
IDC ***23*** *16:23:15.4±1.5, 6.11S×126.49E, h485km±17km, mb4.0/13, mb1 4.2/16, mb1mx4.1/20, mbtmp4.1/16, Error ellipse: s-maj=17.8km s-min=7.9km az=74.0*

ISC 23 16:23:15.8±0.5, 6.08S±004×12658E±006, h493km±7km, n119, σ0§80/115, mb4.4/49, 13C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.87**	**34**	P	**P**	**16 24 25.3**	**0.0**
	831nm,0.6s						
WSI	**Waingapu**	**7.17**	**240**	P	**P**	**16 25 05.1**	**+1.7**
	710nm,0.7s						
PCI	**Palu**	**8.47**	**307**	P	**P**	**16 25 22.1**	**+5.3**
	66nm,0.9s						
KAKA	**Kakadu**	**8.77**	**139⇓**	*iP*	**P**	**16 25 20.4**	**+0.4**
	43nm,0.5s						
KAKA				*eS*	**S**	**16 26 50.6**	**-11**
FITZ	**Fitzroy Crossi**	**11.98**	**184⇓**	*iP*	**P**	**16 25 53.9**	**-0.2**
	194nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.98**	**184**	P	**P**	**16 25 53.9**	**-0.2**
DAV	**Davao City (W)**	**13.10**	**356**	P	**P**	**16 26 06.7**	**+0.7**
	174nm,0.7s						
WRAB	**Tennant Creek**	**15.71**	**152⇑**	*iP*	**P**	**16 26 32.5**	**-0.9**
WRA	**Warramunga Arr**	**15.71**	**152**	P	**P**	**16 26 32.9**	**-0.5**
	11nm,0.3s,baz=339,slow=10,SNR=536						
WRA				S	**S**	**16 29 17.7**	**+1.3**
	1.8nm,0.3s,baz=330,slow=17,SNR=6.5						
WB2	**Warramunga Arr**	**15.71**	**152⇓**	*iP*	**P**	**16 26 32.9**	**-0.6**
WB2				*eS*	**S**	**16 29 14.4**	**-2.2**
KKM	**Kota Kinabalu**	**15.88**	**319**	*eP*	**P**	**16 26 34.0**	**-1.1**
MBWA	**Marble Bar**	**16.39**	**203**	*eP*	**P**	**16 26 38.8**	**-1.8**
	18nm,0.5s						
KSM	**Kuching**	**17.89**	**294**	*eP*	**P**	**16 26 53.8**	**-1.7**
AS31	**Alice Springs**	**18.85**	**159**	*eP*	**P**	**16 27 05.0**	**+0.8**
ASPA	**Alice Springs**	**18.85**	**159⇓**	*iP*	**P**	**16 27 05.0**	**+0.8**
ASPA				*eS*	**S**	**16 30 10.4**	**0.0**
ASAR	**Alice Springs**	**18.85**	**159**	P	**P**	**16 27 04.8**	**+0.6**
	28nm,0.3s,baz=340,slow=14,SNR=2806						
ASAR				S	**S**	**16 30 10.3**	**-0.1**
	0.3nm,0.3s,baz=346,slow=20,SNR=10						
ASAR				ScP	ScP	16 33 55.5	+1.2
	0.6nm,0.3s,baz=346,slow=1.8,SNR=6.3						
ASAR	**Alice Springs**	**18.85**	**159**	P	**P**	**16 27 04.8**	**+0.6**
ASAR				S	**S**	**16 30 10.3**	**-0.1**
LEM	**Lembang**	**18.86**	**267**	P	**P**	**16 27 04.4**	**+0.1**
	150nm,0.8s						
CTAO	**Charters Tower**	**23.64**	**128**	*eP*	**P**	**16 27 48.6**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
CTAO	**Charters Tower**	**23.64**	**128**	*eP*	**P**	**16 27 48.6**	**+1.0**
	comp=Z,6.2nm,0.9s,mb4.0						
KGM	**Kluang**	**24.58**	**288**	P	**P**	**16 27 57.2**	**+1.4**
FORT	**Forrest**	**24.61**	**177⇓**	*iP*	**P**	**16 27 56.1**	**0.0**
	comp=Z,74nm,0.5s,mb5.4						
KLBR	**Kellerberrin**	**26.69**	**197**	*eP*	**P**	**16 28 13.9**	**-0.6**
	comp=Z,14nm,0.3s,mb4.9						
PPI	**Padang Panjang**	**26.72**	**281**	P	**P**	**16 28 15.1**	**+0.3**
	comp=Z,61nm,1.1s,mb4.9						
MUN	**Mundaring**	**27.53**	**199**	*eP*	**P**	**16 28 21.4**	**-0.5**
IPM	**Ipoh**	**27.59**	**292**	P	**P**	**16 28 22.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**28.09**	**197**	P	**P**	**16 28 26.8**	**0.0**
	comp=Z,25nm,0.5s,mb4.9,baz=27,slow=7.7,SNR=37						
NWAO	**Narrogin (SRO)**	**28.09**	**197**	*eP*	**P**	**16 28 26.3**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,21nm,0.6s						
NWAO	**Narrogin (SRO)**	**28.09**	**197**	*eP*	**P**	**16 28 26.3**	**-0.6**
	comp=Z,21nm,0.6s,mb4.8						
KULM	**Kulim**	**28.24**	**293**	*eP*	**P**	**16 28 27.4**	**-0.8**
PSI	**Prapat**	**28.99**	**287**	P	**P**	**16 28 33.6**	**-1.1**
	comp=Z,22nm,0.6s,mb4.8,baz=111,slow=7.7,SNR=29						
STKA	**Stephens Creek**	**29.25**	**153⇓**	*iP*	**P**	**16 28 37.8**	**+0.8**
	comp=Z,16nm,0.4s,mb4.8						
STKA				*e*		16 29 55.0	
STKA	**Stephens Creek**	**29.25**	**153**	P	**P**	**16 28 37.9**	**+0.9**
	comp=Z,20nm,0.4s,mb4.8,baz=330,slow=8.5,SNR=94						
STKA	**Stephens Creek**	**29.25**	**153**	*eP*	**P**	**16 28 37.5**	**+0.5**
STKA				*ePP*		16 29 54.3	
YHNB	**Yeheng**	**30.98**	**351**	P	**P**	**16 28 50.9**	**-1.0**
TOO	**Toolangi**	**35.77**	**154**	*eP*	**P**	**16 29 34.6**	**+2.2**
	comp=Z,6.8nm,0.6s,mb4.2						
TOO	**Toolangi**	**35.77**	**154**	*eP*	**P**	**16 29 34.6**	**+2.2**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
CBIJ	**Chichi jima**	**36.27**	**24**	P	**P**	**16 29 36.0**	**-0.7**
	comp=Z,61nm,0.7s,mb5.1,baz=271,slow=14,SNR=4.5						
CM31	**Chiang Mai Arr**	**36.57**	**312**	*eP*	**P**	**16 29 39.3**	**+0.2**
	comp=Z,4.1nm,0.6s,mb4.0						
CHG	**Chiang Mai**	**36.80**	**313**	P	**P**	**16 29 41.1**	**+0.2**
CHTO	**Chiang Mai**	**36.80**	**313**	*eP*	**P**	**16 29 40.7**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
CHTO	**Chiang Mai**	**36.80**	**313**	*eP*	**P**	**16 29 40.7**	**-0.3**
	comp=Z,7.2nm,0.9s,mb4.1						
NJ2	**Nanjing**	**38.63**	**349**	*eP*	**P**	**16 29 55.8**	**-0.1**
NJ2				AP	pP	16 31 27.1	+2.7
NJ2				PP	PP	16 31 39.9	+0.9
NJ2				S	**S**	**16 35 16.5**	**+0.1**
NJ2				XS	sS	16 38 00.5	+2.2
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
XAN	**Xi'an**	**43.26**	**338**	P	**P**	**16 30 32.3**	**-0.6**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.2						
KSRS	**Korea Array**	**43.33**	**2**	P	**P**	**16 30 34.2**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.4,baz=174,slow=9.1,SNR=7.9						
KSRS				PcP	PcP	16 32 12.5	+1.2
	comp=Z,2.6nm,0.8s,baz=186,slow=3.0,SNR=5.3						
MJAR	**Matsushiro Arr**	**43.77**	**14**	P	**P**	**16 30 36.5**	**-0.4**
	comp=Z,6.6nm,0.7s,mb4.2,baz=190,slow=8.3,SNR=18						
MAJO	**Matsushiro**	**43.78**	**14**	*eP*	**P**	**16 30 35.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
MAJO	**Matsushiro**	**43.78**	**14**	*eP*	**P**	**16 30 35.7**	**-1.2**
	comp=Z,11nm,0.7s,mb4.4						
MAT	**Matsushiro**	**43.78**	**14**	P	**P**	**16 30 36.9**	**0.0**
LZH	**Lanzhou**	**47.06**	**335**	*eP*	**P**	**16 31 03.3**	**+1.2**
LZH				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,127nm,4.0s						
LZH	**Lanzhou**	**47.06**	**335**	*eP*	**P**	**16 31 03.2**	**+1.1**
LZH				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
PALK	**Pallekele**	**47.65**	**286**	*eP*	**P**	**16 31 06.8**	**+0.3**
	comp=Z,6.3nm,0.8s,mb4.0						
LSA	**Lhasa**	**49.22**	**318**	P	**P**	**16 31 20.0**	**+1.7**
LSA	**Lhasa**	**49.22**	**318**	*eP*	**P**	**16 31 19.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
LSA	**Lhasa**	**49.22**	**318**	*eP*	**P**	**16 31 19.5**	**+1.2**
	comp=Z,14nm,0.6s,mb4.5						
JIRN	**Jiri**	**51.45**	**313⇑**	*iP*	**P**	**16 31 35.1**	**+0.5**
GTA	**Gaotai**	**51.59**	**334**	*eP*	**P**	**16 31 36.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.6						
GUN	**Gumba**	**51.81**	**313⇑**	*iP*	**P**	**16 31 37.6**	**+0.4**
	comp=Z,111nm,0.7s,mb5.3						
PKI	**Pulchoki**	**51.97**	**312⇑**	*iP*	**P**	**16 31 38.4**	**0.0**
	comp=Z,45nm,0.6s,mb5.0						
KKN	**Kakani**	**52.19**	**312⇑**	*iP*	**P**	**16 31 39.9**	**0.0**
	comp=Z,36nm,0.5s,mb5.0						
DMN	**Daman**	**52.21**	**312⇑**	*iP*	**P**	**16 31 40.5**	**+0.4**
	comp=Z,52nm,0.7s,mb4.9						
GKN	**Gorkha**	**52.78**	**312⇑**	*iP*	**P**	**16 31 44.3**	**+0.1**
	comp=Z,71nm,0.4s,mb5.4						
HYB	**Hyderabad**	**52.87**	**297**	*iP*	**P**	**16 31 44.0**	**-0.8**
HYB	**Hyderabad**	**52.87**	**297**	*eP*	**P**	**16 31 44.0**	**-0.8**
KOLN	**Koldanda**	**53.42**	**311⇑**	*iP*	**P**	**16 31 49.1**	**+0.3**
	comp=Z,57nm,0.7s,mb5.0						
HABR	**Khabarovsk**	**54.83**	**7**	*eP*	**P**	**16 31 56.9**	**-1.8**
ULN	**Ulaanbaatar**	**56.40**	**344**	*eP*	**P**	**16 32 10.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
ULN	**Ulaanbaatar**	**56.40**	**344**	*eP*	**P**	**16 32 10.2**	**+0.6**
	comp=Z,9.5nm,1.2s,mb4.0						
SONM	**Songino Array**	**56.56**	**344**	P	**P**	**16 32 11.8**	**+1.1**
	comp=Z,2.1nm,0.6s,mb3.7,baz=164,slow=7.1,SNR=22						
SONM				PcP	PcP	16 33 00.9	+0.5
	comp=Z,1.4nm,0.6s,baz=153,slow=3.8,SNR=7.7						
ZAK	**Zakamensk**	**59.74**	**343**	*eP*	**P**	**16 32 30.6**	**-1.7**
ZAK				*e*		16 33 12.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
BOD	**Bodaibo**	**64.50**	**353**	*eP*	**P**	**16 33 03.9**	**+0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
MK31	**Makanchi Array**	**65.63**	**328⇑**	*iP*	**P**	**16 33 10.6**	**+0.1**
MKAR	**Makanchi Array**	**65.63**	**328**	P	**P**	**16 33 10.7**	**+0.3**
	comp=Z,7.4nm,0.4s,mb4.6,baz=118,slow=8.3,SNR=60						
MKAR	**Makanchi Array**	**65.63**	**328**	*eP*	**P**	**16 33 10.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	**Tokmak 2**	**67.14**	**322**	P	**P**	**16 33 20.7**	**+0.8**
	SNR=5.1						
UCH	**Uchtor**	**67.44**	**321**	P	**P**	**16 33 23.1**	**+1.4**
	SNR=5.4						
AAK	**Ala-Archa**	**67.67**	**321**	P	**P**	**16 33 24.1**	**+1.0**
	SNR=8.0						
AAK	**Ala-Archa**	**67.67**	**321⇑**	*eP*	**P**	**16 33 22.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**67.67**	**321⇑**	*eP*	**P**	**16 33 22.9**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.3						
AML	**Almayashu**	**67.91**	**320**	P	**P**	**16 33 25.8**	**+1.2**
	SNR=5.8						
YAK	**Yakutsk**	**67.95**	**2**	*eP*	**P**	**16 33 24.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
YAK	**Yakutsk**	**67.95**	**2**	*eP*	**P**	**16 33 24.6**	**-0.3**
	comp=Z,7.3nm,0.6s,mb4.5						
USP	**Ospenovka**	**68.00**	**322**	P	**P**	**16 33 25.7**	**+0.5**
	SNR=6.4						
ZAL	**Zalesovo**	**69.29**	**335**	P	**P**	**16 33 33.2**	**+0.3**
	comp=Z,5.4nm,0.4s,mb4.4,baz=343,slow=5.9,SNR=34						
NVS	**Novosibirsk**	**70.58**	**335⇑**	*iP*	**P**	**16 33 39.9**	**-0.7**
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
VNDA	**Vanda**	**73.78**	**172**	P	**P**	**16 33 59.2**	**-0.1**
	comp=E,0.6nm,0.6s,mb3.3,baz=313,slow=6.9,SNR=7.6						
VNDA	**Vanda**	**73.78**	**172**	P	**P**	**16 33 59.2**	**-0.1**
VOSK	**Vostochnaya**	**75.03**	**329**	P	**P**	**16 34 06.1**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
BVA0	**Borovoye Array**	**75.50**	**329**	*i* P	**P**	**16 34 08.5**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
BVAR	**Borovoye Array**	**75.50**	**329**	P	**P**	**16 34 09.0**	**+0.1**
	comp=Z,8.9nm,0.6s,mb4.5,baz=126,slow=9.0,SNR=44						
BRVK	**Borovoye**	**75.57**	**329**	*eP*	**P**	**16 34 08.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.5						
BRVK	**Borovoye**	**75.57**	**329**	*eP*	**P**	**16 34 08.9**	**-0.4**
	comp=Z,18nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**75.72**	**329**	*eP*	**P**	**16 34 09.9**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**75.72**	**329**	*eP*	**P**	**16 34 09.9**	**-0.3**
	comp=Z,13nm,0.9s,mb4.5						
TIXI	**Tiksi**	**77.59**	**1**	*eP*	**P**	**16 34 19.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
AB31	**Akbulak array**	**79.69**	**322**	P	**P**	**16 34 31.0**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
AKTK	**Aktyubinsk**	**81.28**	**323**	P	**P**	**16 34 40.0**	**0.0**
AKTO	**Aktyubinsk**	**81.28**	**323**	P	**P**	**16 34 40.0**	**0.0**
	comp=Z,6.6nm,0.5s,mb4.4,baz=106,slow=7.5,SNR=40						
ARU	**Arti**	**83.15**	**329⇑**	*iP*	**P**	**16 34 49.0**	**-0.4**
ARU				*e*	pP	16 36 37.0	-0.5
ARU				*e*		16 38 10.2	
ARU				*eS*	S	16 44 22.4	-5.6
ARU				*eSS*	SS	16 50 13.3	+7.2
ARU				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
ARU	**Arti**	**83.15**	**329**	*eP*	**P**	**16 34 49.1**	**-0.4**
	comp=Z,4.6nm,0.4s,mb4.4						
RDF	**Al-Radifah**	**83.38**	**300**	*eP*	**P**	**16 34 50.6**	**0.0**
RDF				AMb	AMB	16 34 51.6	
	comp=Z,24nm,0.6s,mb4.9						
NAY	**Al-Naaiem**	**83.70**	**300**	*eP*	**P**	**16 34 52.1**	**-0.1**
NAY				AMb	AMB	16 34 53.1	
	comp=Z,24nm,0.7s,mb4.8						
MIB	**Mutribah**	**83.72**	**301**	*eP*	**P**	**16 34 52.3**	**0.0**
MIB				AMb	AMB	16 34 53.3	
	comp=Z,30nm,0.7s,mb4.9						
MALT	**Malatya**	**92.28**	**308**	*eP*	**P**	**16 35 33.1**	**+0.5**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	**Malatya**	**92.28**	**308**	*eP*	**P**	**16 35 33.1**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**96.10**	**309**	P	**P**	**16 35 49.2**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.8,baz=125,slow=6.5,SNR=3.6						
BOSA	**Boshof**	**96.98**	**240**	P	**P**	**16 35 53.5**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=175,slow=21,SNR=3.2						
BOSA	**Boshof**	**96.98**	**240**	P	**P**	**16 35 53.5**	**-0.5**
ARCES	**ARCESS Array B**	**99.54**	**340**	PKiKP	PKiKP	16 40 30.9	-0.5
	comp=Z,2.7nm,0.9s,baz=123,slow=1.5,SNR=8.8						
YKA	**Yellowknife Ar**	**108.41**	**25**	PKiKP	PKiKP	16 40 47.4	-0.2
	comp=Z,0.4nm,0.5s,baz=298,slow=2.1,SNR=4.1						
YKA	**Yellowknife Ar**	**108.41**	**25**	PKPdf	PKiKP	16 40 47.4	-0.2
GERES	**GERESS Array B**	**109.53**	**320**	PKiKP	PKiKP	16 40 48.7	-1.1
	comp=Z,0.6nm,0.6s,baz=54,slow=2.3,SNR=5.0						
PDAR	**Pinedale Array**	**118.64**	**44**	PKiKP	PKiKP	16 41 08.4	+1.2
	comp=Z,0.5nm,0.4s,baz=108,slow=1.8,SNR=9.8						
TORD	**Torodi Ar. Bea**	**125.30**	**282**	PKP	PKPdf	16 41 21.1	+1.1
	comp=Z,3.5nm,0.6s,baz=74,slow=2.0,SNR=23						
TXAR	**Lajitas Array**	**127.34**	**58**	PKP	PKPdf	16 41 26.2	+2.3
	comp=Z,0.4nm,0.4s,baz=203,slow=2.7,SNR=13						
TXAR				SKPbc		16 43 58.6	
	comp=Z,0.4nm,0.7s,baz=276,slow=1.1,SNR=7.6						
SCHQ	**Schefferville**	**130.20**	**10**	PKP	PKPdf	16 41 30.7	+1.4
	comp=Z,1.9nm,0.4s,baz=210,slow=20,SNR=3.1						
TKL	**Tuckaleechee C**	**139.46**	**39**	PKP	PKPdf	16 41 49.2	+2.6
	comp=Z,3.3nm,0.5s,baz=142,slow=1.8,SNR=5.0						
TKL	**Tuckaleechee C**	**139.46**	**39**	PKP	PKPdf	16 41 49.2	+2.6
LPAZ	**La Paz**	**153.43**	**147**	PKPbc	PKPbc	16 42 21.1	+3.4
	comp=Z,1.0nm,0.4s,baz=33,slow=4.8,SNR=10.0						

ISCJB ***23*** *16:29:59.9±0.3, 22.61N±003×102.50E±003, h10km, mb4.2/19, MS3.6/6, Error ellipse: s-maj=4.7km s-min=3.1km az=101.8*
IDC ***23*** *16:30:01.2±0.8, 22.66N×102.38E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/23, mbtmp4.0/11, MS3.7/6, Ms1 3.7/6, ms1mx3.0/40, Error ellipse: s-maj=43.5km s-min=15.8km az=65.0*
NEIC ***23*** *16:30:02.1±0.3, 22.66N×102.38E, h10km, mb4.5/10, Error ellipse: s-maj=7.7km s-min=5.5km az=91.0*
BJI ***23*** *16:30:02.1, 22.80N×102.44E, h9km, mB4.5, mb4.0, ML4.3, Ms4.4, Msz4.0*

ISC 23 16:30:01.6±0.3, 2260N±002×10240E±002, h10km, n59, σ1§34/75, mb4.2/19, MS3.6/6, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCVN	**Lai Chau**	**0.90**	**129**	*ePG*	**Pg**	**16 30 20.5**	**+1.6**
LCVN				*eSG*	**Sg**	**16 30 32.6**	**+2.0**
SLVN	**Son La**	**1.88**	**132**	*ePG*	**Pg**	**16 30 39.2**	**+1.4**
SLVN				*eSG*	**Sg**	**16 31 05.3**	**+3.1**
KMI	**Kunming**	**2.53**	**7**	P	**Pn**	**16 30 42.6**	**-0.1**
KMI				PG	**Pg**	**16 30 49.0**	**-1.1**
KMI				S	**Sn**	**16 31 14.6**	**+1.1**
KMI				SG	**Sg**	**16 31 22.5**	**-0.3**
KMI				Smax			
	comp=N,825nm,1.3s						
KMI				Smax			
	comp=E,927nm,1.5s						
KMI	**Kunming**	**2.53**	**7**	Pn	**Pn**	**16 30 42.6**	**-0.1**
KMI				Pg	**Pg**	**16 30 49.0**	**-1.1**
KMI				Sn	**Sn**	**16 31 14.6**	**+1.1**
KMI				Sg	**Sg**	**16 31 22.5**	**-0.3**
HBVN	**Hoa-Binh**	**3.27**	**122**	*ePG*	**Pg**	**16 31 02.9**	**-1.4**
HBVN				*eSG*	**Sg**	**16 31 46.5**	**0.0**
HNV	**Hanoi**	**3.52**	**116**	*ePN*	**Pn**	**16 30 56.9**	**+0.6**
HNV				*e*		16 30 04.0	
	comp=Z,1μm,1.0s						
HNV				*ePG*	**Pg**	**16 31 07.4**	**-1.6**
HNV				*eSG*	**Sg**	**16 31 52.3**	**-2.2**
MTZV	**Met**	**3.80**	**105**	*ePN*	**Pn**	**16 31 00.9**	**+0.6**
MTZV				*ePG*	**Pg**	**16 31 12.3**	**-2.2**
MTZV				*eSG*	**Sg**	**16 32 00.1**	**-3.7**
DSV	**Doi Son**	**3.88**	**120**	*ePg*	**Pg**	**16 31 15.4**	**-0.6**
DSV				*eSG*	**Sg**	**16 32 06.0**	**-0.4**
NANT	**Nan**	**4.11**	**203**	*iP*	**Pn**	**16 31 02.0**	**-2.4**
	comp=Z,2μm,1.0s						
YTV	**Yen Tu**	**4.26**	**109**	*ePG*	**Pg**	**16 31 21.9**	**-1.4**
YTV				*eSG*	**Sg**	**16 32 16.2**	**-2.2**
CHTO	**Chiang Mai**	**4.97**	**221**	*ePn*	**Pn**	**16 31 16.6**	**+0.2**
CHTO				*ePg*	**Pg**	**16 31 34.8**	**-2.0**
CHTO				*eSg*	**Sg**	**16 32 39.6**	**-1.6**
CM31	**Chiang Mai Arr**	**5.25**	**219**	*ePn*	**Pn**	**16 31 20.6**	**+0.4**
CM31				*ePg*	**Pg**	**16 31 39.6**	**-2.5**
CM31				*eSg*	**Sg**	**16 32 48.5**	**-1.6**
GYA	**Guiyang**	**5.46**	**44**	P	**Pn**	**16 31 24.3**	**+1.3**
GYA				S	**Sn**	**16 32 33.5**	**+7.7**
GYA				SG	**Sg**	**16 32 54.3**	**-2.6**
GYA				Smax			
	comp=N,360nm,0.9s						
GYA				Smax			
	comp=E,400nm,0.9s						
GYA				LR	LR		
	comp=N,1μm,7.2s						
GYA				LR	LR		
	comp=E,860nm,8.7s						
GYA				LR	LR		
	comp=Z,1μm,5.7s						
BDT	**Bhumibol Dam**	**6.22**	**212**	P	**Pn**	**16 31 34.0**	**+0.6**
	comp=Z,33nm,1.0s						
KKTK	**Khon

comp=Z,19nm,1.1s,mb4.9
MBWA Marble Bar 46.67 158 P P 16 38 33.0 +2.6
comp=Z,10nm,1.1s,mb4.7
WRA Warramunga Arr 52.54 141 P P 16 39 17.1 +2.0
comp=Z,2.0nm,0.7s,mb4.2,baz=331,slow=8.3,SNR=13
ASAR Alice Springs 55.26 144 P P 16 39 36.1 +1.1
comp=Z,0.6nm,0.8s,mb3.7,baz=323,slow=7.2,SNR=6.6
NWAO Narrogin (SRO) 57.01 165 P P 16 39 49.0 +1.5
comp=Z,10.0nm,1.0s,mb4.8
AKASG Malin Array Be 62.29 317 P P 16 40 23.7 -0.2
comp=Z,0.9nm,0.5s,mb4.2,baz=79,slow=6.4,SNR=4.6
AKASG Malin Array Be 62.29 317 P P 16 40 23.7 -0.2
FINES FINESS Array B 63.89 329 P P 16 40 32.9 -1.7
comp=Z,1.4nm,0.6s,mb4.1,baz=102,slow=8.6,SNR=4.7
ARE0 ARCESS Array S 64.44 338 P P 16 40 38.5 +0.3
NB2 NORSAR Subarra 71.06 329 P P 16 41 17.4 -2.5
comp=Z,4.0nm,1.2s,mb4.2,baz=79,slow=6.2
NOA NORSAR Array B 71.06 329 P P 16 41 19.9 0.0
comp=Z,1.0nm,0.7s,mb3.9,baz=78,slow=6.1,SNR=4.1
NOA NORSAR Array B 71.06 329 P P 16 41 19.9 0.0
GERES GERESS Array B 72.50 316 P P 16 41 31.7 +3.1
comp=Z,0.3nm,0.5s,mb3.5,baz=61,slow=8.0,SNR=2.9
YKA Yellowknife Ar 90.24 16 LR LR 17 23 41.4
comp=Z,32nm,18.0s,MS3.8,baz=195,slow=36
RPZ Rata Peaks 91.10 138 LR LR 17 20 59.8
comp=Z,106nm,22.0s,MS4.2,baz=231,slow=34
SDV Santo Domingo 147.97 347 *e*PKPbc PKPbc 16 49 48.8 +1.6

IDC 23 16:39:49.4±4.2, 3023S×17763W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/12, mbtmp4.1/4, Error ellipse: s-maj=153.9km s-min=47.7km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**34.09**	**279**	P		P	16 46 36.5	+0.9
	5.4nm,0.8s,baz=125,slow=11,SNR=6.6							
STKA	**Stephens Creek**	**34.83**	**257**	P		P	16 46 42.6	+0.6
	2.2nm,0.6s,baz=86,slow=8.0,SNR=2.9							
ASAR	**Alice Springs**	**43.44**	**267**	P		P	16 47 53.8	-0.3
	0.3nm,0.4s,baz=103,slow=7.6,SNR=22							
WB2	**Warramunga Arr**	**44.40**	**272**	*e*P		P	16 48 00.8	-1.0
WRA	**Warramunga Arr**	**44.41**	**272**	P		P	16 48 01.8	-0.1
	1.2nm,0.4s,baz=110,slow=8.1,SNR=29							
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc		PKPbc	16 59 26.7	-1.5
	1.1nm,0.4s,baz=60,slow=4.5,SNR=16							

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*ISCJB **23** 16:45:12.5±1.5, 650N±009×1240E±0.1, h569km±22km, mb3.9/15, Error ellipse: s-maj=24.3km s-min=9.9km az=131.6*
*NEIC **23** 16:45:13.2±1.1, 648N×12399E, h560km±16km, mb4.2/6, Error ellipse: s-maj=18.3km s-min=7.5km az=67.0*
*IDC **23** 16:45:14.7±2.2, 646N×12392E, h577km±26km, mb3.1/10, mb1 3.2/10, mb1mx3.0/23, mbtmp3.1/10, Error ellipse: s-maj=55.0km s-min=10.6km az=68.0*
ISC 23 16:45:13.6±1.5, 650N±009×1240E±02, h564km±20km, n25, σ0°79/25, mb3.9/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**7.72**	**267**	*e*P		P	**16 47 08.9**	**-0.1**
KSM	**Kuching**	**14.51**	**250**	*e*P		P	**16 48 17.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.50**	**176**	P		P	**16 49 48.3**	**-0.9**
	0.6nm,0.3s,mb3.7,baz=213,slow=23,SNR=6.7							
WRA	**Warramunga Arr**	**28.19**	**159**	P		P	**16 50 21.3**	**-0.2**
	0.9nm,0.3s,mb3.8,baz=330,slow=11,SNR=18							
WRA				PcP		PcP	16 53 16.6	+0.1
	0.4nm,0.5s,baz=335,slow=2.4,SNR=8.7							
WRA				ScP		ScP	16 56 03.2	-1.1
	1.1nm,1.2s,baz=342,slow=3.3,SNR=4.8							
WB2	**Warramunga Arr**	**28.19**	**159**	*e*P		P	**16 50 20.7**	**-0.8**
AS31	**Alice Springs**	**31.51**	**162**	*e*P		P	**16 50 50.7**	**+0.6**
ASAR	**Alice Springs**	**31.51**	**162**	P		P	**16 50 50.8**	**+0.6**
	1.9nm,0.5s,mb3.9,baz=338,slow=6.8,SNR=76							
ASAR				PcP		PcP	16 53 25.6	+0.2
	0.5nm,0.5s,baz=348,slow=2.7,SNR=10							
ASPA	**Alice Springs**	**31.51**	**162**	*e*P		P	**16 50 50.7**	**+0.6**
MAJO	**Matsushiro**	**32.62**	**22**	P		P	**16 50 59.7**	**+0.2**
	11nm,1.1s,mb4.3							
MDJ	**Mudanjiang**	**38.28**	**6**	P		P	**16 51 45.5**	**-0.8**
	18nm,1.2s,mb4.5							
LSA	**Lhasa**	**38.55**	**311**	*e*P		P	**16 51 50.6**	**+2.1**
	1.6nm,0.6s,mb3.7							
NWAO	**Narrogin (SRO)**	**39.73**	**189**	P		P	**16 51 58.3**	**+0.3**
	6.9nm,0.7s,mb4.3,baz=27,slow=9.4,SNR=6.9							
NWAO	**Narrogin (SRO)**	**39.73**	**189**	*e*P		P	**16 51 57.9**	**-0.1**
	31nm,1.4s,mb4.7							
STKA	**Stephens Creek**	**41.71**	**157**	P		P	**16 52 14.5**	**+0.8**
	1.5nm,0.6s,mb3.7,baz=334,slow=17,SNR=5.5							
STKA	**Stephens Creek**	**41.71**	**157**	*e*P		P	**16 52 13.8**	**+0.1**
SONM	**Songino Array**	**43.83**	**343**	P		P	**16 52 30.6**	**+0.3**
	0.3nm,0.4s,mb3.2,baz=176,slow=10.0,SNR=3.6							
SONM				PcP		PcP	16 54 03.7	-0.3
	0.3nm,0.7s,baz=145,slow=5.3,SNR=3.2							
MKAR	**Makanchi Array**	**53.73**	**325**	P		P	**16 53 44.3**	**+0.9**
	2.9nm,0.5s,mb3.9,baz=121,slow=8.4,SNR=23							
MKAR				PcP		PcP	16 54 39.4	-1.0
	0.6nm,0.6s,baz=117,slow=3.7,SNR=3.8							
MKAR	**Makanchi Array**	**53.73**	**325**	P		P	**16 53 44.3**	**+0.9**
MKAR				PcP		PcP	16 54 39.4	-1.0
BVAR	**Borovoye Array**	**63.51**	**327**	P		P	**16 54 49.3**	**+0.2**
	1.1nm,0.8s,mb3.4,baz=149,slow=12,SNR=6.3							
BRVK	**Borovoye**	**63.58**	**327**	*e*P		P	**16 54 49.7**	**+0.1**
	3.7nm,0.9s,mb3.8							
AKTK	**Aktyubinsk**	**69.79**	**322**	P		P	**16 55 27.2**	**-0.6**
AKTO	**Aktyubinsk**	**69.79**	**322**	P		P	**16 55 27.2**	**-0.6**
	2.1nm,0.7s,mb3.8,baz=170,slow=8.4,SNR=7.7							
ARU	**Arti**	**71.14**	**328**	*e*P		P	**16 55 34.5**	**-1.2**
	2.9nm,0.6s,mb4.0							
ARE0	**ARCESS Array S**	**86.91**	**340**	P		P	**16 57 00.2**	**+1.1**
FINES	**FINESS Array B**	**88.10**	**332**	P		P	**16 57 03.2**	**-1.4**
	4.2nm,1.1s,mb4.1,baz=146,slow=39,SNR=3.3							

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*ISCJB **23** 17:00:33.0±1.0, 474N±0.1×1520E±02, h10km, mb4.3/21, MS3.4/2, Error ellipse: s-maj=23.1km s-min=6.6km az=100.8*
*MOS **23** 17:00:35.4±0.8, 4731N×15223E, h38km, mb4.5/13, Error ellipse: s-maj=14.9km s-min=11.5km az=86.5*
*NEIC **23** 17:00:37.0±0.6, 4754N×15160E, h10km, mb4.4/7, Error ellipse: s-maj=17.0km s-min=10.1km az=171.0*
*IDC **23** 17:00:51.1±3.8, 4669N×15123E, h160km±38km, mb3.6/12, mb1 3.7/14, mb1mx3.6/23, mbtmp3.5/14, MS3.3/3, Ms1 3.3/3, ms1mx2.8/34, Error ellipse: s-maj=25.5km s-min=15.1km az=9.0*
ISC 23 17:00:36.8±0.7, 476N±01×1517E±01, h10km, n54, σ1°08/55, mb4.3/21, MS3.4/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.55**	**229**	*e*PN		Pn	**17 01 24.0**	**-7.9**
SKR	**Severo-Kuril's**	**4.23**	**42**	*e*PN		Pn	**17 01 38.0**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**5.41**	**230**	*e*PN		Pn	**17 01 56.1**	**-1.4**
YSS	**Yuzh-Sakhalins**	**6.09**	**267**	PN		Pn	**17 02 15.8**	**+9.0**
YSS				pmax		pmax		
	comp=Z,29nm,1.1s							
YSS	**Yuzh-Sakhalins**	**6.09**	**267**	P		Pn	**17 02 15.8**	**+9.1**
	comp=Z,29nm,1.1s							
PET	**Petropavlovsk**	**7.01**	**37**	*e*Pn		Pn	**17 02 18.8**	**-0.7**
PET				*e*Sn		Sn	**17 03 38.9**	**-0.4**
ASAJ	**Asahikawa**	**7.23**	**244**	P		Pn	**17 02 25.4**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=49,slow=13,SNR=5.4							
ASAJ				LR		LR	17 05 13.1	
	comp=Z,111nm,18.3s,baz=163,slow=40							
YAK	**Yakutsk**	**19.04**	**327**	P		Pn	**17 05 00.6**	**+0.9**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.4s							
YAK	**Yakutsk**	**19.04**	**327**	P		Pn	**17 05 00.6**	**+1.0**
	comp=Z,8.9nm,0.4s							
KSRS	**Korea Array**	**20.15**	**248**	P		P	**17 05 06.3**	**-4.7**
	baz=57,slow=10,SNR=5.6							
SONM	**Songino Array**	**30.11**	**287**	P		P	**17 06 46.9**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=78,slow=13,SNR=2.5							
SONM				LR		LR	17 20 30.5	
	comp=Z,53nm,18.4s,MS3.2,baz=132,slow=39							
LZH	**Lanzhou**	**36.88**	**270**	*e*P		P	**17 07 45.5**	**+0.1**
LZH				*SP		sP	17 07 53.1	+3.4
LZH				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.8							
LZH	**Lanzhou**	**36.88**	**270**	*e*P		P	**17 07 45.5**	**+0.1**
	comp=Z,17nm,1.1s,mb4.8							
LZH				pP		pP	17 07 50.2	+1.7
LZH				sP		sP	17 07 53.1	+3.4
ZAL	**Zalesovo**	**41.30**	**305**	P		P	**17 08 23.6**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=59,slow=6.4,SNR=3.1							
ZAL	**Zalesovo**	**41.30**	**305**	P		P	**17 08 23.6**	**+1.2**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**41.45**	**33**	P		P	**17 08 20.1**	**-3.5**
	comp=Z,46nm,0.7s,mb5.2							
MK31	**Makanchi Array**	**45.65**	**296**	*e*P		P	**17 08 58.0**	**+0.5**
MKAR	**Makanchi Array**	**45.65**	**296**	P		P	**17 08 58.3**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.0,baz=64,slow=7.4,SNR=13							
MKAR				LR		LR	17 29 46.6	
	comp=Z,72nm,19.4s,MS3.6,baz=240,slow=38							
MKAR	**Makanchi Array**	**45.65**	**296**	P		P	**17 08 58.3**	**+0.8**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MKAR				MLR		MLR		
	comp=Z,72nm,19.4s							
CHKZ	**Chkalovo**	**49.10**	**309**	*e*P		P	**17 09 24.4**	**+0.1**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**49.10**	**309**	*e*P		P	**17 09 24.4**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.5							
LSA	**Lhasa**	**49.24**	**271**	*e*P		P	**17 09 24.5**	**-0.9**
LSA				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.5							
LSA	**Lhasa**	**49.24**	**271**	*e*P		P	**17 09 24.5**	**-0.9**
	comp=Z,7.0nm,1.3s,mb4.5							
BVAR	**Borovoye Array**	**49.53**	**308**	P		P	**17 09 28.4**	**+0.8**
	comp=Z,0.8nm,0.5s,mb4.8,baz=31,slow=8.9,SNR=3.8							
BVAR	**Borovoye Array**	**49.53**	**308**	P		P	**17 09 28.4**	**+0.8**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**49.57**	**308**	P		P	**17 09 28.0**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
BRVK	**Borovoye**	**49.57**	**308**	P		P	**17 09 28.0**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.4							
AAK	**Ala-Archa**	**52.55**	**295**	*e*P		P	**17 09 50.6**	**+0.3**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**52.55**	**295**	*e*P		P	**17 09 50.5**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.1							
KKN	**Kakani**	**54.42**	**274**	*e*P		P	**17 10 03.4**	**-0.7**
	comp=Z,6.2nm,0.6s,mb4.7							
PKI	**Pulchoki**	**54.48**	**273**	*e*P		P	**17 10 03.5**	**-1.0**
DMN	**Daman**	**54.66**	**274**	*e*P		P	**17 10 05.2**	**-0.6**
GKN	**Gorkha**	**54.72**	**274**	*e*P		P	**17 10 05.2**	**-1.0**
	comp=Z,10nm,0.7s,mb5.0							
KOLN	**Koldanda**	**55.57**	**275**	*e*P		P	**17 10 11.7**	**-0.7**
	comp=Z,8.7nm,0.7s,mb4.9							
ARCES	**ARCESS Array B**	**56.69**	**340**	P		P	**17 10 20.0**	**-0.4**
	comp=Z,8.9nm,1.1s,mb4.7,baz=37,slow=9.1,SNR=4.1							
ARCES	**ARCESS Array B**	**56.69**	**340**	P		P	**17 10 20.0**	**-0.3**
ARCES				pmax		pmax		
	comp=Z,9.0nm,1.1s							
FINES	**FINESS Array B**	**62.81**	**334**	P		P	**17 11 02.6**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.4,baz=43,slow=6.5,SNR=12							
FINES	**FINESS Array B**	**62.81**	**334**	P		P	**17 11 02.6**	**+0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**62.91**	**62**	P		P	**17 11 05.2**	**+2.1**
	baz=294,slow=8.8							
PDAR	**Pinedale Array**	**65.03**	**53**	P		P	**17 11 19.6**	**+2.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=266,slow=7.9,SNR=7.1							
NB2	**NORSAR Subarra**	**67.07**	**340**	P		P	**17 11 29.1**	**-1.1**
	comp=Z,7.3nm,1.2s,mb4.6,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**67.07**	**340**	P		P	**17 11 29.8**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=4.4							
NOA	**NORSAR Array B**	**67.07**	**340**	P		P	**17 11 29.8**	**-0.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**67.07**	**340**	P		P	**17 11 29.8**	**-0.4**
PFO	**Pinyon Flat Ob**	**67.22**	**65**	P		P	**17 11 32.1**	**+0.9**
	comp=Z,2.5nm,0.4s,mb4.6,baz=308,slow=9.2,SNR=8.0							
PFO	**Pinyon Flat Ob**	**67.22**	**65**	P		P	**17 11 32.1**	**+0.9**
PFO				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.7							
AKASG	**Malin Array Be**	**70.25**	**325**	P		P	**17 11 49.5**	**-0.6**
	comp=Z,3.4nm,0.5s,mb4.6,baz=34,slow=6.2,SNR=18							
AKASG	**Malin Array Be**	**70.25**	**325**	P		P	**17 11 49.6**	**-0.5**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ASAR	**Alice Springs**	**72.74**	**197**	P		P	**17 11 54.6**	**-11**
	comp=Z,0.4nm,0.8s,mb3.4,baz=13,slow=6.4,SNR=4.4							
CLL	**Collm**	**75.24**	**335**	*e*P		P	**17 12 20.0**	**+0.3**
GERES	**GERESS Array B**	**77.22**	**333**	P		P	**17 12 30.9**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=28,slow=6.0,SNR=5.1							
GERES	**GERESS Array B**	**77.22**	**333**	P		P	**17 12 30.9**	**-0.1**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**77.92**	**60**	P		P	**17 12 36.9**	**+2.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=300,slow=4.0,SNR=13							
TXAR	**Lajitas Array**	**77.92**	**60**	P		P	**17 12 36.9**	**+2.0**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							

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*ISCJB **23** 17:05:14.4±1.4, 224S±02×174.3W±02, h100km, mb4.1/6, Error ellipse: s-maj=31.1km s-min=21.4km az=61.2*
*NEIC **23** 17:05:14.3±6.2, 2225S×17423W, h86km±64km, mb4.6/3, Error ellipse: s-maj=83.6km s-min=20.6km az=163.0*
*IDC **23** 17:05:23.6±19.0, 2261S×17523W, h99km±104km, mb3.8/5, mb1 4.0/5, mb1mx3.6/15, mbtmp3.8/5, ML5.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/32, Error ellipse: s-maj=275.9km s-min=119.9km az=71.0*
ISC 23 17:05:15.8±1.4, 224S±02×1742W±02, h100km, n16, σ0°51/15, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**7.62**	**206**	P		Pn	**17 07 04.0**	**0.0**
	79nm,0.3s,baz=266,slow=22,SNR=2.8							
HNR	**Honiara**	**27.97**	**293**	LR		LR	17 19 09.6	
	comp=Z,96nm,19.6s,baz=181,slow=30							
CTA	**Charters Tower**	**36.89**	**266**	*e*P		P	**17 12 14.8**	**+0.1**
	3.0nm,0.3s,mb4.7							
CTA	**Charters Tower**	**36.89**	**266**	P		P	**17 12 14.8**	**+0.2**
	3.6nm,0.4s,mb4.7,baz=98,slow=13,SNR=14							
CTAO	**Chatham Tower**	**36.89**	**266**	*e*P		P	**17 12 14.5**	**-0.1**
	4.1nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**40.26**	**247**	P		P	**17 12 42.9**	**+0.1**
	1.1nm,0.5s,mb3.9,baz=86,slow=12,SNR=6.3							
STKA	**Stephens Creek**	**40.26**	**247**	P		P	**17 12 42.9**	**+0.1**
AS31	**Alice Springs**	**47.59**	**258**	*e*P		P	**17 13 41.4**	**0.0**
ASAR	**Alice Springs**	**47.59**	**258**	P		P	**17 13 41.4**	**0.0**
	1.1nm,0.4s,mb4.0,baz=95,slow=7.3,SNR=33							
ASPA	**Alice Springs**	**47.59**	**258**	*e*P		P	**17 13 41.4**	**-0.1**
WB2	**Warramunga Arr**	**47.88**	**263**	*e*P		P	**17 13 43.3**	**-0.4**
WB2	**Warramunga Arr**	**47.88**	**263**	*e*P		P	**17 13 43.3**	**-0.6**
WRAB	**Tennant Creek**	**47.89**	**263**	*e*P		P	**17 13 43.1**	**-0.6**
	1.6nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**47.90**	**263**	P		P	**17 13 43.6**	**-0.2**
	1.0nm,0.3s,mb4.1,baz=103,slow=8.3,SNR=66							
FITZ	**Fitzroy Crossi**	**56.32**	**263**	P		P	**17 14 47.7**	**+1.5**
	1.6nm,0.9s,mb4.0,baz=75,slow=12,SNR=4.3							
MCMT	**McKenzie Canyo**	**87.14**	**39**	P		P	**17 17 50.5**	**-0.1**

IDC 23 17:10:30.6±3.3, 1533N×12266E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=291.9km s-min=26.0km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.88**	**161**	P		P	17 17 40.1	-0.7
	0.5nm,0.3s,baz=342,slow=9.1,SNR=18							
ASAR	**Alice Springs**	**40.28**	**164**	P		P	17 18 10.4	+1.1
	0.6nm,0.4s,baz=341,slow=7.1,SNR=23							
MKAR	**Makanchi Array**	**45.90**	**322**	P		P	17 18 54.8	0.0
	0.2nm,0.3s,baz=115,slow=8.0,SNR=5.9							

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*ISCJB **23** 17:20:57.6±1.5, 3877N±009×204E±0.1, h31km±6km, Error ellipse: s-maj=18.3km s-min=8.4km az=84.9*
*ATH **23** 17:20:57.1, 3871N×2051E, h10km, MD3.0/3*
*CSEM **23** 17:20:59.2±0.1, 3884N×2054E, h25km, ML2.8, Error ellipse: s-maj=3.3km s-min=2.1km az=58.0*
*THE **23** 17:21:00.3, 3892N×2063E, h8km, ML2.8*
ISC 23 17:20:57.9±1.5, 3879N±009×204E±01, h29km±6km, n11, σ0°93/19, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKD	**Levkas**	**0.21**	**112**	*e*Pg		Pb	**17 21 04.5**	**+0.4**
LKD				*e*Sg		Sb	**17 21 07.9**	**-0.4**
IGT	**Igoumenitsa**	**0.75**	**356**	*e*Pg		Pb	**17 21 12.4**	**0.0**
IGT				*e*Sg		Sb	**17 21 22.7**	**+0.4**
IGT	**Igoumenitsa**	**0.75**	**356**	*e*Pg		Pb	**17 21 12.4**	**0.0**
IGT				*e*Sg		Sb	**17 21 22.7**	**+0.4**
JAN	**Janina**	**0.94**	**22**	*e*PB		Pb	**17 21 15.5**	**-0.1**
KEK	**Kerkira**	**1.04**	**333**	*e*PB		Pb	**17 21 18.6**	**+1.3**
EVR	**Evrytania**	**1.11**	**83**	*e*PB		Pb	**17 21 16.7**	**-1.7**
MEV	**Metsovon**	**1.19**	**32**	*e*Pg		Pn	**17 21 18.6**	**0.0**
MEV				*e*Sg		Sn	**17 21 33.2**	**-0.5**
MEV	**Metsovon**	**1.19**	**32**	*e*Pg		Pn	**17 21 18.5**	**0.0**
MEV				*e*Sg		Sn	**17 21 33.2**	**-0.5**
AGG	**Agios Georgios**	**1.52**	**80**	*e*Pg		Pn	**17 21 24.4**	**+1.2**
AGG				*e*Sg		Sn	**17 21 42.8**	**+0.8**
STON	**Ston**	**4.57**	**334**	*i* Pn		Pn	**17 22 04.0**	**-1.1**
STON				*i* Sn		Sn	**17 22 53.2**	**-3.9**
STON	**Ston**	**4.57**	**334**	*i* Pn		Pn	**17 22 03.9**	**-1.1**
STON				*i* Sn		Sn	**17 22 53.2**	**-3.9**

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*IDC **23** 17:36:56.8±0.4, 4603N×15463E, h0km, mb4.4/23, mb1 4.6/25, mb1mx4.5/29, mbtmp4.4/25, ML3.9/2, MS3.7/10, Ms1 3.8/10, ms1mx3.4/30, Error ellipse: s-maj=15.0km s-min=11.8km az=133.0*
*ISCJB **23** 17:36:56.8±0.3, 4604N±004×15458E±005, h10km, mb4.7/87, MS3.8/17, Error ellipse: s-maj=6.6km s-min=4.1km az=124.3*
*BJI **23** 17:36:58.2, 4662N×15448E, h10km, mB4.9, mb4.6, Ms4.1, Msz3.9*
*NEIC **23** 17:36:58.4±0.2, 4603N×15457E, h10km, mb4.9/40, Error ellipse: s-maj=6.2km s-min=4.2km az=142.0*
*MOS **23** 17:37:02.1±1.3, 4594N×15443E, h53km, mb4.9/47, Error ellipse: s-maj=8.3km s-min=6.1km az=106.2*
*SKHL **23** 17:37:03.1±1.7, 4630N×15430E, h56km±14km, mb4.9/4*
*SZGRF **23** 17:37:04.9, 4668N×15587E, h33km, mb4.9, East of Kuril Islands, Russia*
ISC 23 17:36:57.4±1.7, 4615N±004×15459E±005, h2km±10km, n237, σ1°05/233, mb4.7/87, MS3.8/17, 15C-13D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.65**	**12**	*e*P		Pn	**17 38 08.5**	**-0.2**
SKR				AMB		AMB	17 38 11.0	
	80nm,0.5s							
SKR				AMB		AMB	17 38 11.0	
	100nm,0.6s							
SKR				*e*S		Sn	**17 38 58.0**	**-5.3**
SKR				A			17 39 04.5	
	220nm,0.5s							
SKR				A			17 39 04.5	
	150nm,0.5s							
SKR				A			17 39 04.5	
	90nm,0.5s							
KUR	**Kuril'sk**	**4.80**	**261**	*e*P		Pn	**17 38 10.0**	**-0.7**
KUR				AMB		AMB	17 38 11.5	
	175nm,0.6s							
KUR				AMB		AMB	17 38 11.5	
	152nm,0.6s							
KUR				AMB		AMB	17 38 11.5	
	304nm,0.6s							
KUR				*e*S		Sn	**17 38 59.0**	**-7.9**
KUR				A			17 39 03.0	
	532nm,0.6s							
KUR				A			17 39 03.0	
	608nm,0.6s							
KUR	**Kuril'sk**	**4.80**	**261**	*e*P		Pn	**17 38 10.0**	**-0.7**
KUR				*i* S		Sn	**17 38 59.0**	**-7.9**
KUR				pmax		pmax		
	comp=N,170nm,0.6s							
KUR				pmax		pmax		
	comp=E,150nm,0.6s							
KUR				pmax		pmax		
	comp=Z,300nm,0.6s							
KUR				smax				
	comp=N,530nm,0.6s							
KUR				smax				
	comp=E,610nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.53**	**254**	*e*P		Pn	**17 38 34.9**	**+0.4**
YUK				*e*S		Sn	**17 39 43.0**	**-6.6**
YUK				A			17 39 49.5	
	comp=E,600nm,0.4s							
YUK				A			17 39 49.5	
	comp=E,280nm,0.4s							
PET	**Petropavlovsk**	**7.37**	**19**	*e*P		Pn	**17 38 44.7**	**-1.3**
PET				pmax		pmax		
	comp=Z,21nm,0.5s							
PET				MLR		MLR		
	comp=Z,300nm,20.0s							
PET	**Petropavlovsk**	**7.37**	**19**	*e*Pn		Pn	**17 38 43.6**	**-2.4**
PET				*e*Sn		Sn	**17 39 59.8**	**-10**
YSS	**Yuzh-Sakhalins**	**8.20**	**280**	*e*P		Pn	**17 39 00.0**	**+2.6**
YSS				AMB		AMB	17 39 02.0	
	comp=Z,70nm,1.1s							
YSS				*e*S		Sn	**17 40 29.3**	**-1.4**
YSS				AMS		AMS	17 43 13.0	
	comp=Z,400nm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.20**	**280**	*e*P		Pn	**17 39 00.0**	**+2.6**
YSS				*e*S		Sn	**17 40 29.3**	**-1.4**
YSS				pmax		pmax		
	comp=Z,70nm,1.1s							
YSS				MLR

comp=Z,12nm,0.8s,mb4.3
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax
comp=N,24nm,1.0s
CLNS smax
comp=E,12nm,1.0s
CLNS smax
comp=Z,8.0nm,1.0s
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.6
CLNS MLR MLR
comp=E,2µm,13.0s,MS4.6
CLNS MLR MLR
comp=Z,600nm,13.0s,MS4.2
YAK Yakutsk 21.38 327 *e*P **P 17 41 44.4 -1.8**
YAK *e* 17 45 35.3
YAK pmax pmax
comp=Z,31nm,0.9s,mb4.6
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,23nm,1.4s
YAK MLR MLR
comp=N,158nm,16.0s,MS3.6
YAK MLR MLR
comp=Z,184nm,16.0s,MS3.6
YAK MLR MLR
comp=E,81nm,13.0s,MS3.6
YAK Yakutsk 21.38 327 *e*P **P 17 41 43.0 -3.3**
comp=E,35nm,0.8s,mb4.7
KSRS Korea Array 21.62 256 P **P 17 41 49.7 +1.0**
comp=E,3.8nm,0.7s,mb3.9,baz=61,slow=9.4,SNR=9.4
KSRS LR LR 17 49 52.1
comp=E,51nm,21.6s,MS2.9,baz=153,slow=36
INCN Inchon 22.47 257 P **P 17 41 58.1 +0.2**
comp=E,35nm,0.8s,mb4.8
SNY Shenyang 22.65 270 ⇑P **P 17 41 59.1 -0.7**
SNY AMB AMB
comp=Z,16nm,0.6s,mb4.6
SNY AMB AMB
comp=Z,219nm,4.8s
SNY LR LR
comp=N,174nm,12.9s,MS3.9
SNY LR LR
comp=E,259nm,13.2s,MS3.9
SNY LR LR
comp=Z,253nm,11.4s,MS3.9
BILL Bilibino 22.77 11 ⇑*i*P **P 17 41 59.9 -1.1**
BILL *e* 17 42 14.8
BILL *e* 17 42 20.5
BILL *e* 17 45 49.8
BILL *e*S **S 17 46 09.3 -1.8**
BILL pmax pmax
comp=Z,69nm,1.4s,mb4.9
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.4
BILL Bilibino 22.77 11 *e*P **P 17 41 59.8 -1.2**
comp=Z,55nm,1.1s,mb4.9
HIA Hailar 23.53 290 *e*P **P 17 42 05.7 -3.4**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 23.53 290 *e*P **P 17 42 05.7 -3.4**
comp=Z,7.7nm,0.7s,mb4.2
BOD Bodaibo 27.16 310 ⇓*i*P **P 17 42 40.5 -1.6**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.4
TIXI Tiksi 28.34 343 *e*P **P 17 42 51.3 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
BJI Beijing 28.50 272 P **P 17 42 57.8 +3.7**
BJT Baijiatuau 28.52 272 P **P 17 42 56.8 +2.5**
BJT pmax pmax
comp=Z,15nm,0.9s
BJT Baijiatuau 28.52 272 P **P 17 42 56.8 +2.6**
comp=Z,15nm,0.9s,mb4.7
HHC Hu-ho-hao-te 31.36 276 *e*P **P 17 43 21.3 +1.8**
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,152nm,5.3s
ULN Ulaanbaatar 32.07 291 *e*P **P 17 43 25.5 -0.1**
SVW2 Sparrevohn 32.21 44 *e*P **P 17 43 27.8 +0.9**
SONM Songino Array 32.50 291 P **P 17 43 29.0 -0.5**
comp=Z,6.9nm,1.2s,mb4.5,baz=96,slow=5.6,SNR=5.4
SONM PcP PcP 17 46 12.4 -4.0
comp=Z,1.1nm,0.6s,baz=123,slow=2.8,SNR=4.9
SONM LR LR 17 56 52.8
comp=Z,83nm,20.3s,MS3.4,baz=51,slow=37
SONM Songino Array 32.50 291 P **P 17 43 29.0 -0.4**
SONM 17 46 12.4
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,83nm,20.3s
TLY Talaya 33.37 298 *e*P **P 17 43 37.1 +0.1**
TLY *e* 17 44 45.5
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,230nm,14.0s,MS4.0
TLY Talaya 33.37 298 P **P 17 43 35.0 -2.0**
comp=Z,9.0nm,0.8s,mb4.8
KDAK Kodiak Island 33.70 50 P **P 17 43 39.2 -0.7**
comp=Z,29nm,0.7s,mb5.3,baz=298,slow=4.8,SNR=23
KDAK Kodiak Island 33.70 50 P **P 17 43 39.2 -0.7**
IMA2 Indian Mountai 33.70 35 *e*P **P 17 43 40.3 +0.4**
IMA2 *e*PcP PcP 17 46 19.4 -0.3
SLKM Skilak Lake 34.81 45 P **P 17 43 49.6 0.0**
PMR Palmer 35.33 43 *e*P **P 17 43 53.7 -0.3**
PMR pmax pmax
comp=Z,13nm,1.0s,mb4.8
PMR Palmer 35.33 43 *e*P **P 17 43 53.7 -0.4**
comp=Z,13nm,1.0s,mb4.8
MCK McKinley 35.46 40 *e*P **P 17 43 55.3 +0.2**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MCK McKinley 35.46 40 *e*P **P 17 43 55.3 +0.2**
comp=Z,7.0nm,1.2s,mb4.5
SML Sawmill 35.71 43 *e*P **P 17 43 58.0 +0.7**
COLA College 35.98 38 ⇓*i*P **P 17 43 58.7 -0.9**
COLA College 35.98 38 *e*P **P 17 44 00.3 +0.6**
comp=Z,19nm,1.0s,mb5.0
EGAK Eagle 38.84 38 *e*P **P 17 44 24.1 +0.2**
comp=Z,25nm,1.0s,mb4.9
EGAK *e* 17 44 34.0
LZH Lanzhou 38.94 274 ⇓P **P 17 44 26.9 +2.2**
LZH AP 17 44 34.5
LZH XP sP 17 44 38.3 +13
LZH AMB AMB
comp=Z,32nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,128nm,4.0s
LZH Lanzhou 38.94 274 ⇓P **P 17 44 26.9 +2.2**
comp=Z,32nm,1.5s,mb4.8
LZH pP 17 44 34.5
LZH sP sP 17 44 38.2 +13
DAWY Dawson 39.66 39 *e*P **P 17 44 31.6 +0.8**
GTA Gaotai 40.08 281 *e*P **P 17 44 35.6 +1.4**
GTA AP 17 44 41.1
GTA XP sP 17 44 44.4 +9.4
GTA PCP PcP 17 46 39.8 +0.8
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.3
INK Inuvik 41.62 32 P **P 17 44 48.1 +1.2**
comp=Z,12nm,0.6s,mb4.7,baz=296,slow=6.7,SNR=69
INK Inuvik 41.62 32 *e*P **P 17 44 47.9 +1.0**
comp=Z,434nm,0.9s,mb6.1
GYA Guiyang 42.60 259 ⇑*i*P **P 17 44 54.6 -0.3**
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.0
ZAL Zalesovo 43.81 307 P **P 17 45 04.6 -0.1**
comp=Z,2.7nm,0.5s,mb4.2,baz=41,slow=7.8,SNR=15
ZAL PcP PcP 17 46 51.4 +0.1
comp=Z,4.0nm,1.1s,baz=70,slow=2.5,SNR=6.4
ZAL Zalesovo 43.81 307 P **P 17 45 04.6 -0.1**
ZAL 17 46 51.4
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL pmax pmax
comp=Z,4.0nm,1.1s
ZAL Zalesovo 43.81 307 P **P 17 45 04.6 -0.1**
ZAL PcP PcP 17 46 51.4 +0.1
NVS Novosibirsk 44.37 308 *e*P **P 17 45 08.5 -0.7**
NVS *i* 17 46 52.6
NVS *e*S **S 17 51 40.8 -3.6**
NVS pmax pmax
comp=Z,22nm,2.1s,mb4.5
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
NVS pmax pmax
comp=E,1.0nm,0.4s
NVS smax
comp=N,12nm,1.6s
NVS smax
comp=E,3.0nm,1.0s
WMQ Urumqi 46.10 292 ⇑*i*P **P 17 45 23.3 +0.4**
WMQ AP 17 45 27.8
WMQ XP sP 17 45 30.3 +6.6
WMQ PCP PcP 17 47 00.0 +0.8
WMQ PP PP 17 47 11.5 +0.6
WMQ S **S 17 52 07.8 -1.6**
WMQ XS sS 17 52 15.4 +5.1
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,129nm,4.9s
WMQ LR LR
comp=N,86nm,15.6s,MS3.9
WMQ LR LR
comp=E,70nm,15.6s,MS3.9
WMQ LR LR
comp=Z,83nm,15.0s,MS3.8
MKAR Makanchi Array 48.13 298 LR LR 18 06 39.1
comp=Z,102nm,18.3s,MS3.8,baz=234,slow=37
KURK Kurchatov 48.55 305 P **P 17 45 40.1 -1.9**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
YKA Yellowknife Ar 50.80 37 P **P 17 45 59.7 +0.6**
comp=Z,4.4nm,0.8s,mb4.5,baz=295,slow=7.2,SNR=12
YKA PcP PcP 17 47 14.7 -1.4
comp=Z,1.8nm,0.7s,baz=304,slow=3.6,SNR=6.8
YKA Yellowknife Ar 50.80 37 P **P 17 45 59.7 +0.5**
YKA 17 47 14.7
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 50.80 37 P **P 17 45 59.7 +0.6**
YKA PcP PcP 17 47 14.7 -1.4
RES Resolute Bay 51.08 19 *e*P **P 17 46 02.1 +0.7**
comp=Z,525nm,1.1s
LSA Lhasa 51.34 275 P **P 17 46 05.3 +2.1**
LSA Lhasa 51.34 275 *e*P **P 17 46 05.3 +2.1**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.1
LSA Lhasa 51.34 275 *e*P **P 17 46 05.3 +2.1**
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 51.60 311 *e*P **P 17 46 04.2 -1.0**
CHKZ pmax pmax
comp=Z,21nm,0.7s,mb5.2
CHKZ Chkalovo 51.60 311 *e*P **P 17 46 04.2 -1.0**
comp=Z,21nm,0.7s,mb5.2
BVA0 Borovoye Array 52.03 310 *i* P **P 17 46 07.9 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 52.03 310 P **P 17 46 08.5 +0.1**
comp=Z,4.0nm,0.5s,mb4.6,baz=58,slow=7.8,SNR=41
BVAR PcP PcP 17 47 20.0 -0.7
comp=Z,2.8nm,0.8s,baz=46,slow=4.3,SNR=5.5
BVAR Borovoye Array 52.03 310 P **P 17 46 08.5 +0.1**
BVAR 17 47 20.0
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 52.07 310 *e*P **P 17 46 08.7 0.0**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 52.07 310 *e*P **P 17 46 08.7 0.0**
comp=Z,10.0nm,0.8s,mb4.8
CM31 Chiang Mai Arr 53.23 258 P **P 17 46 15.3 -2.0**
AAK Ala-Archa 55.02 297 *e*P **P 17 46 29.8 -0.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
AAK Ala-Archa 55.02 297 *e*P **P 17 46 29.8 -0.5**
comp=Z,4.9nm,0.8s,mb4.6
PMG Port Moresby 55.70 189 LR LR 18 06 16.9
comp=Z,48nm,21.6s,MS3.5,baz=354,slow=32
JIRN Jiri 56.02 276 *e*P **P 17 46 39.1 +1.6**
GUN Gumba 56.08 276 *e*P **P 17 46 39.1 +1.1**
ARU Arti 56.15 318 ⇑*i*P **P 17 46 38.4 0.0**
ARU *e* 17 48 44.4
ARU *e*S **S 17 54 30.8 +2.4**
ARU pmax pmax
comp=Z,13nm,0.6s,mb5.1
ARU Arti 56.15 318 *e*P **P 17 46 38.0 -0.4**
comp=Z,20nm,0.6s,mb5.3
KKN Kakani 56.57 277 *e*P **P 17 46 42.7 +1.3**
comp=Z,21nm,0.6s,mb5.4
PKI Pulchoki 56.62 276 *e*P **P 17 46 42.9 +1.1**
comp=Z,20nm,0.8s,mb5.2
DMN Daman 56.80 277 *e*P **P 17 46 44.4 +1.3**
comp=Z,60nm,0.9s,mb5.7
GKN Gorkha 56.88 277 *e*P **P 17 46 44.7 +1.0**
comp=Z,18nm,0.5s,mb5.3
KOLN Koldanda 57.74 278 *e*P **P 17 46 50.9 +1.2**
comp=Z,25nm,0.8s,mb5.3
KEV Kevo 58.25 341 *e*p **P 17 46 52.6 -0.7**
comp=Z,2.3nm,0.5s,mb4.5
KEV Kevo 58.25 341 *e*P **P 17 46 52.6 -0.7**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ARCES ARCESS Array B 58.76 341 P **P 17 46 57.0 +0.2**
comp=Z,4.9nm,0.9s,mb4.5,baz=30,slow=6.3,SNR=13
ARCES LR LR 18 13 30.1
comp=Z,93nm,19.8s,MS3.9,baz=275,slow=37
ARCES ARCESS Array B 58.76 341 P **P 17 46 57.0 +0.1**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,93nm,19.8s
ARE0 ARCESS Array S 58.76 341 P **P 17 46 56.6 -0.2**
KSM Kuching 58.94 235 *e*P **P 17 46 57.9 -0.2**
AB31 Akbulak array 59.60 311 P **P 17 47 02.4 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ORR Orenburg 60.80 315 *e*P **P 17 47 11.0 +0.1**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KULM Kulim 61.75 246 *e*P **P 17 47 17.7 +0.4**
NVAR Mina Array Bea 61.80 63 P **P 17 47 18.4 +0.7**
comp=Z,1.7nm,0.6s,mb4.3,baz=299,slow=8.1,SNR=5.6
NVAR Mina Array Bea 61.80 63 P **P 17 47 18.4 +0.7**
KAKA Kakadu 61.89 205 *e*P **P 17 47 17.2 -1.1**
comp=Z,12nm,0.6s,mb5.2
PDAR Pinedale Array 64.27 54 P **P 17 47 34.6 +0.5**
comp=Z,3.9nm,0.9s,mb4.5,baz=290,slow=2.4,SNR=23
PSI Prapat 64.75 246 P **P 17 47 37.6 +0.4**
comp=Z,1.5nm,0.3s,mb4.5,baz=203,slow=6.3,SNR=4.3
PSI Prapat 64.75 246 P **P 17 47 37.6 +0.3**
PSI pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
FIA1 FINESS Array S 65.02 335 *e*P **P 17 47 39.1 +0.1**
FINES FINESS Array B 65.02 335 P **P 17 47 38.8 -0.3**
comp=Z,3.6nm,0.5s,mb4.7,baz=33,slow=7.2,SNR=34
FINES FINESS Array B 65.02 335 *i* P **P 17 47 38.7 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.5s
SRU San Rafael 66.08 58 *e*P **P 17 47 46.2 +0.3**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SRU San Rafael 66.08 58 *e*P **P 17 47 46.2 +0.4**
comp=Z,5.4nm,0.7s,mb4.7
ULM Lac du Bonnet 66.31 41 P **P 17 47 47.1 -0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=329,slow=8.4,SNR=5.2
ULM LR LR 18 14 34.9
comp=Z,78nm,19.4s,MS3.9,baz=15,slow=34
CTA Charters Tower 66.35 189 P **P 17 47 46.1 -1.4**
comp=Z,3.4nm,0.8s,mb4.4,baz=7.9,slow=12,SNR=4.0
CTA Charters Tower 66.35 189 P **P 17 47 46.2 -1.4**
CTA pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 66.38 326 *e*P **P 17 47 46.7 -1.1**
OBN *e* 17 48 15.2
OBN *e*SS SS 18 00 53.2 -1.8
OBN pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
RSSD Black Hills 66.43 50 *e*P **P 17 47 48.0 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
RSSD Black Hills 66.43 50 *e*P **P 17 47 48.0 -0.1**
comp=Z,5.3nm,0.7s,mb4.7
PV10 Paradox Valley 67.43 58 *e*P **P 17 47 55.5 +1.0**
WRAB Tennant Creek 68.28 201 ⇑*i*P **P 17 47 58.4 -1.4**
WRAB Tennant Creek 68.28 201 *e*P **P 17 47 58.6 -1.2**
comp=Z,7.1nm,0.8s,mb4.8
WB2 Warramunga Arr 68.28 201 *e*P **P 17 47 58.8 -1.1**
WRA Warramunga Arr 68.29 201 P **P 17 47 58.9 -1.0**
comp=Z,4.6nm,0.7s,mb4.6,baz=20,slow=6.9,SNR=12
WRA Warramunga Arr 68.29 201 *i* P **P 17 47 56.0 -3.9**
WRA pmax pmax
comp=Z,5.0nm,0.7s
ISCO Idaho Springs 68.46 55 *e*P **P 17 48 01.6 +0.6**
ISCO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ISCO Idaho Springs 68.46 55 *e*P **P 17 48 01.6 +0.6**
comp=Z,3.1nm,0.6s,mb4.5
DZM Mont Dzumac 68.74 168 LR LR 18 14 34.0
comp=Z,87nm,18.7s,MS4.0,baz=345,slow=33
FITZ Fitzroy Crossi 69.11 210 *e*P **P 17 48 04.6 -0.4**
comp=Z,5.3nm,0.8s,mb4.5
NB2 NORSAR Array B 69.13 342 P **P 17 48 05.0 -0.1**
comp=Z,10nm,1.1s,mb4.7,baz=32,slow=6.9
NOA NORSAR Array B 69.13 342 P **P 17 48 05.0 -0.2**
comp=Z,2.5nm,0.7s,mb4.2,baz=26,slow=6.2,SNR=8.3
NOA LR LR 18 18 37.0
comp=Z,47nm,21.5s,MS3.7,baz=275,slow=36
NOA NORSAR Array B 69.13 342 P **P 17 48 05.0 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,47nm,21.5s
NOA NORSAR Array B 69.13 342 P **P 17 48 05.0 -0.2**
NOA LR LR 18 18 37.0
POO Poona 70.54 277 *e*P **P 17 48 11.0 -2.8**
GOF Gofitskoye 70.98 316 *e*P **P 17 48 12.4 -4.1**
GOF pmax pmax
comp=Z,30nm,0.6s,mb5.4
ANMO Albuquerque 71.27 59 ⇓*i*P **P 17 48 17.3 -1.0**
KIV Kislovodsk 71.95 315 *e*P **P 17 48 22.3 -0.1**
KIV pmax pmax
comp=Z,19nm,1.1s,mb4.9
KIV Kislovodsk 71.95 315 *e*P **P 17 48 24.5 +2.2**
comp=Z,11nm,0.8s,mb4.8
AS31 Alice Springs 71.97 200 *e*P **P 17 48 21.7 -0.7**
ASAR Alice Springs 71.97 200 P **P 17 48 22.5 0.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=17,slow=6.1,SNR=19
ASAR Alice Springs 71.97 200 P **P 17 48 22.5 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ZEI Tsey 72.22 314 *e*P **P 17 48 24.3 +0.3**
ZEI pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
AKASG Malin Array Be 72.61 327 P **P 17 48 26.1 -0.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=33,slow=6.0,SNR=14
AKASG Malin Array Be 72.61 327 *i* P **P 17 48 26.1 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 72.63 327 *e*P **P 17 48 24.8 -1.6**
KIEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIEV Kiev 72.63 327 *e*P **P 17 48 24.8 -1.6**
comp=Z,6.9nm,0.8s,mb4.6
SCHQ Schefferville 73.46 24 P **P 17 48 29.4 -2.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=238,slow=13,SNR=2.2
SCIA State Center 73.61 46 *e*P **P 17 48 31.6 -0.6**
comp=Z,11nm,0.5s,mb5.0
GNI Garni 73.70 311 *e*P **P 17 48 32.6 -0.2**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 73.70 311 *e*P **P 17 48 32.6 -0.2**
comp=Z,9.9nm,0.8s,mb4.8
KWP Kalwaria 75.86 330 *e*P **P 17 48 45.9 +0.6**
STHS Stebnicka Huta 76.55 331 *e*P **P 17 48 50.0 +0.8**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.55 331 *e*P **P 17 48 50.0 +0.8**
comp=Z,5.8nm,0.8s,mb4.6
KOLS Kolonicke sedl 76.61 330 *e*P **P 17 48 49.5 0.0**
BURAR Bucovina Array 76.65 327 ⇑*i*P **P 17 48 50.2 +0.4**
TXAR Lajitas Array 76.89 61 P **P 17 48 51.4 +0.3**
comp=Z,5.8nm,0.6s,mb4.7,baz=304,slow=4.1,SNR=89
TXAR Lajitas Array 76.89 61 P **P 17 48 51.4 +0.3**
TXAR pmax pmax
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 76.89 61 P **P 17 48 51.4 +0.3**
UPC Upice 77.28 334 *e*P **P 17 48 52.4 -0.9**
DPC Dobruska-Polom 77.32 334 *e*P **P 17 48 51.9 -1.6**
DPC *e*pP 17 48 58.3
CLL Collm 77.44 336 *i* P **P 17 48 53.8 -0.4**
CLL *i* 17 48 59.1
CLL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLL Collm 77.44 336 *i* P **P 17 48 53.8 -0.4**
comp=Z,10.0nm,0.7s,mb4.8
CLL *i* pP 17 48 59.1
MORC Moravsky Berou 77.45 333 ⇓*i*P **P 17 48 54.3 +0.1**
MORC Moravsky Berou 77.45 333 ⇓P **P 17 48 54.3 +0.1**
BRG Berggiesshubel 77.56 336 *e*P **P 17 48 54.9 0.0**
comp=Z,18nm,1.9s,mb4.7
KECS Kecovo 77.61 331 *e*P **P 17 48 55.2 +0.1**
KECS Kecovo 77.61 331 *e*P **P 17 48 55.3 +0.2**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 77.61 331 *e*P **P 17 48 55.3 +0.2**
comp=Z,2.8nm,1.0s,mb4.2
MLR Muntele Rosu 78.14 326 ⇑*i*P **P 17 48 58.8 +0.7**
MLR Muntele Rosu 78.14 326 ⇑P **P 17 48 58.8 +0.6**
VYHS Vyhne 78.15 332 *e*P **P 17 48 58.6 +0.4**
PRU Pruhonice 78.17 335 *e*P **P 17 48 58.4 +0.1**
MALT Malatya 78.31 314 ⇓*i*P **P 17 48 59.9 +0.8**
MALT Malatya 78.31 314 ⇓P **P 17 48 59.9 +0.9**
STKA Stephens Creek 78.54 191 P **P 17 48 59.4 -0.9**
comp=Z,1.6nm,0.9s,mb4.0,baz=324,slow=20,SNR=4.0
STKA Stephens Creek 78.54 191 P **P 17 48 59.8 -0.6**
NKC Novy Kostel 78.56 336 *e*P **P 17 49 00.5 +0.1**
NKC *e*pP 17 49 04.0
KHC Kasperske Hory 79.22 335 *e*P **P 17 49 04.8 +0.7**
KHC *e*pP 17 49 09.6
GRA2 Grafenberg Arr 79.38 337 *e*P **P 17 49 05.2 +0.3**
comp=Z,18nm,1.0s,mb5.0
GRFO Grafenberg 79.39 337 *e*P **P 17 49 05.7 +0.7**
comp=Z,8.0nm,0.8s,mb4.7
GRFO Grafenberg 79.39 337 *e*P **P 17 49 05.7 +0.7**
GRFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GERES GERESS Array B 79.44 335 P **P 17 49 05.5 +0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=23,slow=4.8,SNR=11
GERES LR LR 18 29 16.9
comp=Z,86nm,18.9s,MS4.1,baz=268,slow=40
GERES GERESS Array B 79.44 335 P **P 17 49 05.5 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,86nm,18.9s
BR131 Keskin Array S 79.53 318 *e*P **P 17 49 06.2 +0.5**
comp=Z,3.1nm,0.8s,mb4.3
BRTR Keskin Array B 79.53 318 P **P 17 49 06.5 +0.8**
comp=Z,3.6nm,0.9s,mb4.3,baz=57,slow=4.6,SNR=19
BRTR Keskin Array B 79.53 318 ⇑*e*P **P 17 49 06.5 +0.8**
GRB1 Grafenberg Arr 79.54 336 *e*P **P 17 49 06.1 +0.3**
comp=Z,12nm,1.1s,mb4.7
BZS Buzias 79.67 329 ⇑*i*P **P 17 49 06.8 +0.3**
BZS Buzias 79.67 329 ⇑P **P 17 49 06.8 +0.3**
PKSM Moragy 80.20 331 ⇓*i*P **P 17 49 09.3 -0.1**
PKSM Moragy 80.20 331 ⇓P **P 17 49 09.2 -0.1**

BCLA	**Clavier**	**80.21**	**341**	P	pP	17 49 15.0 +5.0
SNF	**Seneffe**	**80.36**	**341**	AP	pP	17 49 12.0 +1.2
SNF	**Seneffe**	**80.36**	**341**	P	pP	17 49 16.2 +5.4
PPT	**Papeete**	**80.97**	**127**	LR	LR	18 22 37.3
	comp=Z,135nm,19.6s,MS4.3,baz=342,slow=34					
KBA	**Koelnbreinsper**	**81.14**	**334**	*i*P	**P**	**17 49 15.5 +1.1**
	comp=Z,29nm,0.8s,mb5.3					
BFO	**Black Forest**	**81.40**	**338**	*e*P	**P**	**17 49 14.0 -1.8**
BFO				pmax	pmax	
	comp=Z,11nm,1.0s,mb4.7					
BFO	**Black Forest**	**81.40**	**338**	*e*P	**P**	**17 49 14.0 -1.8**
	comp=Z,11nm,1.0s,mb4.8					
WTTA	**Wattenberg**	**81.47**	**335**	*i*P	**P**	**17 49 17.4 +1.2**
	comp=Z,10nm,0.6s,mb5.0					
MOTA	**Moosalm**	**81.55**	**336**	*i*P	**P**	**17 49 17.5 +0.9**
	comp=Z,10nm,0.8s,mb4.8					
CDF	**Champ du Feu**	**81.60**	**339**	*e*P	**P**	**17 49 16.9 +0.1**
	comp=Z,53nm,1.3s,mb5.0					
CDF	**Champ du Feu**	**81.60**	**339**	*e*P	**P**	**17 49 16.9 +0.1**
CDF				pmax	pmax	
	comp=Z,26nm,1.3s,mb5.0					
CDF	**Champ du Feu**	**81.60**	**339**	*e*P	**P**	**17 49 16.9 +0.1**
	comp=Z,26nm,1.3s,mb5.0					
VTS	**Vitosha**	**81.65**	**326**	*i*P	**P**	**17 49 17.3 +0.2**
VTS	**Vitosha**	**81.65**	**326**	*i*P	**P**	**17 49 17.3 +0.2**
GRR	**Gorron**	**83.44**	**344**	*e*P	**P**	**17 49 27.3 +0.8**
SMF	**Signal de Mont**	**84.09**	**340**	*e*P	**P**	**17 49 29.8 0.0**
	comp=Z,32nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**84.09**	**340**	*e*P	**P**	**17 49 29.8 0.0**
SMF				pmax	pmax	
	comp=Z,16nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**84.09**	**340**	*e*P	**P**	**17 49 29.8 0.0**
	comp=Z,16nm,1.0s,mb5.1					
LPG	**La Plagne**	**84.44**	**338**	*e*P	**P**	**17 49 32.7 +1.2**
	comp=Z,32nm,1.0s,mb5.1					
LPG	**La Plagne**	**84.44**	**338**	*e*P	**P**	**17 49 32.7 +1.2**
LPG				pmax	pmax	
	comp=Z,16nm,1.0s,mb5.1					
LPG	**La Plagne**	**84.44**	**338**	*e*P	**P**	**17 49 32.7 +1.2**
	comp=Z,16nm,1.0s,mb5.1					
NWAO	**Narrogin (SRO)**	**85.64**	**211**	P	**P**	**17 49 34.7 -2.9**
NWAO				pmax	pmax	
	comp=Z,16nm,1.1s					
NWAO	**Narrogin (SRO)**	**85.64**	**211**	P	**P**	**17 49 34.7 -2.9**
	comp=Z,16nm,1.1s,mb5.2					
TBI	**Tubuai**	**85.72**	**130**	*e*T		17 50 05.1
	comp=Z,36nm,0.3s					
CAF	**Calviac**	**86.12**	**341**	*e*P	**P**	**17 49 40.4 +0.4**
	comp=Z,14nm,0.6s,mb5.1					
CAF	**Calviac**	**86.12**	**341**	*e*P	**P**	**17 49 40.4 +0.4**
CAF				pmax	pmax	
	comp=Z,7.0nm,0.6s,mb5.1					
CAF	**Calviac**	**86.12**	**341**	*e*P	**P**	**17 49 40.4 +0.4**
	comp=Z,7.3nm,0.6s,mb5.1					
EIL	**Elat**	**86.86**	**311**	P	**P**	**17 49 45.6 +2.0**
	comp=Z,206nm,1.0s					
TORD	**Torodi Ar. Bea**	**116.13**	**330**	PKP	PKPdf	17 55 40.9 -1.3
	comp=Z,0.5nm,0.5s,baz=28,slow=1.4,SNR=4.5					
LPAZ	**La Paz**	**133.70**	**64**	PKP	PKPdf	17 56 16.3 +0.6
	comp=Z,0.5nm,0.5s,baz=124,slow=3.9,SNR=3.8					
LPAZ	**La Paz**	**133.70**	**64**	PKIKP	PKPdf	17 56 16.3 +0.6
LPAZ				pmax	pmax	
	comp=Z,1.0nm,0.5s					
CFAA	**Coronel Fontan**	**144.09**	**81**	PKP	PKPdf	17 56 31.7 -3.0
	comp=Z,0.3nm,0.6s,baz=287,slow=5.4,SNR=6.6					
USHA	**Ushuaia**	**151.68**	**124**	PKPbc	PKPbc	17 56 50.6 -2.9
	comp=Z,12nm,0.9s,baz=273,slow=6.0,SNR=5.0					
SNAA	**Sanae**	**152.25**	**195**	PKPbc	PKPbc	17 56 51.3 -3.4
	comp=Z,1.9nm,0.9s,baz=152,slow=3.7,SNR=11					
SNAA				PKPab	PKPab	17 57 02.4 -2.1
	comp=Z,2.5nm,0.8s,baz=176,slow=3.7,SNR=7.8					
SNAA	**Sanae**	**152.25**	**195**	*e*PKPdf	PKPbc	17 56 51.1 -3.6
SNAA				*e*		17 56 56.0
SNAA				*e*		17 57 00.0
SNAA	**Sanae**	**152.25**	**195**	*e*PKPbc	PKPbc	17 56 50.7 -4.0
VNA2	**Neumayer--Watz**	**153.66**	**193**	*e*PKPdf	PKPdf	17 56 45.4 -4.7
VNA2				*e*		17 56 55.2
VNA2				*e*		17 57 01.1
VNA2				*e*		17 57 08.4
VNA3	**Neumayer Olymp**	**153.71**	**191**	*e*PKPdf	PKPdf	17 56 46.4 -3.8
VNA3				*e*		17 56 54.8
VNA3				*e*		17 57 07.8

IDC 23 17:47:54.6±4.9, 4708N×15286E, h94km±42km, mb3.5/7, mb1 3.6/9, mb1mx3.4/25, mbtmp3.5/9, MS3.4/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=37.5km s-min=23.7km az=107.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.78**	**251**	P	Pn	17 49 43.7	-1.4
	0.9nm,0.3s,baz=89,slow=16,SNR=8.2						
MJAR	**Matsushiro Arr**	**15.15**	**231**	P	Pn	17 51 24.5	+1.1
	0.3nm,0.3s,baz=43,slow=8.7,SNR=5.9						
KSRS	**Korea Array**	**20.73**	**251**	P	P	17 52 29.2	+1.7
	1.2nm,0.6s,baz=53,slow=12,SNR=7.8						
INK	**Inuvik**	**41.47**	**33**	P	P	17 55 32.0	-0.2
	0.9nm,0.7s,baz=217,slow=9.3,SNR=3.5						
ZAL	**Zalesovo**	**42.30**	**305**	LR	LR	18 15 26.1	
	comp=Z,40nm,18.4s,baz=13,slow=39						
MKAR	**Makanchi Array**	**46.64**	**297**	P	P	17 56 13.1	-0.4
	0.5nm,0.6s,baz=70,slow=6.2,SNR=6.7						
FINES	**FINESS Array B**	**63.67**	**335**	P	P	17 58 15.4	-0.5
	0.9nm,0.6s,baz=35,slow=7.0,SNR=6.0						
NB2	**NORSAR Subarra**	**67.86**	**341**	P	P	17 58 42.6	-0.2
	comp=Z,1.2nm,0.7s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.86**	**341**	P	P	17 58 42.7	-0.1
	comp=Z,2.0nm,0.7s,baz=26,slow=6.3,SNR=4.9						
AKASG	**Malin Array Be**	**71.18**	**326**	P	P	17 59 02.2	-1.0
	comp=Z,1.3nm,0.4s,baz=34,slow=6.1,SNR=6.5						
ASAR	**Alice Springs**	**72.47**	**198**	P	P	17 59 10.6	-0.4
	comp=Z,0.3nm,0.6s,baz=12,slow=6.1,SNR=7.0						

IDC 23 17:55:00.9±10.0, 566S×15445E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/12, mbtmp3.6/3, Error ellipse: s-maj=166.7km s-min=101.6km az=29.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.17**	**232**	P	P	18 00 20.1	+1.3
	0.4nm,0.6s,baz=55,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**26.68**	**226**	P	P	18 00 41.9	+0.3
	0.2nm,0.5s,baz=55,slow=9.8,SNR=7.6						
STKA	**Stephens Creek**	**28.73**	**203**	P	P	18 00 59.1	-0.8
	0.9nm,0.6s,baz=45,slow=11,SNR=2.9						

*IDC **23** 18:17:26.6±0.8, 4666N×15473E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, ML3.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/36, Error ellipse: s-maj=20.9km s-min=17.5km az=151.0*

*ISCJB **23** 18:17:27.3±4.3, 467N±0.1×1547E±02, h16km±29km, mb4.0/17, Error ellipse: s-maj=22.3km s-min=12.5km az=98.5*

*NEIC **23** 18:17:28.1±0.5, 4666N×15465E, h10km, mb4.3/3, Error ellipse: s-maj=14.1km s-min=12.2km az=171.0*

*MOS **23** 18:17:30.7±1.0, 4674N×15457E, h41km, mb4.4/12, Error ellipse: s-maj=20.2km s-min=13.1km az=93.6*

ISC 23 18:17:31.6±4.4, 468N±01×1547E±02, h33km±31km, n34, σ0=84/34, mb4.0/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.04**	**13**	*e*Pn	**Pn**	**18 18 30.0**	**-1.2**
ASAJ	**Asahikawa**	**8.90**	**257**	Pn	**Pn**	**18 19 38.4**	**+0.5**
	1.1nm,0.3s,baz=102,slow=31,SNR=12						
ASAJ				LR	LR	18 22 25.7	
	comp=Z,51nm,21.4s,baz=353,slow=34						
KSRS	**Korea Array**	**21.84**	**254**	P	**P**	**18 22 22.2**	**+1.1**
	3.2nm,0.9s,mb3.8,baz=64,slow=11,SNR=5.8						
BILL	**Bilibino**	**22.16**	**12**	*e*P	**P**	**18 22 26.0**	**+1.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**32.35**	**290**	P	**P**	**18 23 56.9**	**-0.9**
	comp=Z,0.3nm,0.8s,mb3.2,baz=65,slow=8.5,SNR=2.6						
INK	**Inuvik**	**41.06**	**33**	P	**P**	**18 25 12.1**	**+0.1**
	comp=Z,1.5nm,0.8s,mb3.6,baz=183,slow=7.3,SNR=4.6						
INK	**Inuvik**	**41.06**	**33**	P	**P**	**18 25 12.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**18 25 30.9**	**-1.0**
	comp=Z,1.5nm,0.3s,mb4.2,baz=84,slow=4.4,SNR=4.5						
ZAL	**Zalesovo**	**43.50**	**306**	P	**P**	**18 25 30.9**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**18 26 06.1**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=72,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**18 26 06.1**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**18 26 06.1**	**-0.5**
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**18 26 31.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.25**	**311**	*e*P	**P**	**18 26 31.2**	**-0.9**
	comp=Z,4.3nm,0.6s,mb4.6						
LSA	**Lhasa**	**51.35**	**274**	*e*P	**P**	**18 26 34.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**51.35**	**274**	*e*P	**P**	**18 26 34.1**	**+1.2**
	comp=Z,3.3nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**51.69**	**310**	P	**P**	**18 26 35.6**	**+0.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=56,slow=7.6,SNR=21						
BVAR	**Borovoye Array**	**51.69**	**310**	P	**P**	**18 26 35.6**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**51.73**	**310**	*e*P	**P**	**18 26 35.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.73**	**310**	*e*P	**P**	**18 26 35.2**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**58.20**	**341**	P	**P**	**18 27 22.6**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=31,slow=8.5,SNR=7.9						
ARCES	**ARCESS Array B**	**58.20**	**341**	P	**P**	**18 27 22.6**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**63.86**	**55**	P	**P**	**18 28 00.7**	**-0.2**
	comp=Z,0.8nm,0.9s,mb3.8,baz=282,slow=2.7,SNR=6.0						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**18 28 05.2**	**+0.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=37,slow=7.5,SNR=23						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**18 28 05.2**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.57**	**342**	P	**P**	**18 28 32.7**	**+1.7**
	comp=Z,9.5nm,1.2s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**18 28 32.1**	**+1.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.3,SNR=3.3						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**18 28 32.1**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.88**	**201**	P	**P**	**18 28 31.6**	**-1.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=21,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**72.57**	**200**	P	**P**	**18 28 55.3**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=18,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**72.57**	**200**	P	**P**	**18 28 55.3**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.54**	**62**	P	**P**	**18 29 19.2**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=301,slow=4.1,SNR=33						
TXAR	**Lajitas Array**	**76.54**	**62**	P	**P**	**18 29 19.2**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**76.54**	**62**	P	**P**	**18 29 19.2**	**+0.7**

*NIED **23** 18:35:00, 3500N×139.10E, h8km, Mw3.9 Best double couple: M0 7.75000×10^14 NP1: ϕ=87.00000°, δ=84.00000°, λ=157.00000°. NP2: ϕ=179.00000°, δ=68.00000°, λ=7.00000°.*

*IDC **23** 18:35:01.2±0.7, 3498N×139.13E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/27, Error ellipse: s-maj=25.7km s-min=9.2km az=72.0*

*ISCJB **23** 18:35:02.6±0.7, 3498N±003×13921E±006, h18km±5km, mb3.9/8, Error ellipse: s-maj=8.9km s-min=5.6km az=152.4*

*NEIC **23** 18:35:02.7±0.6, 3501N×139.11E, h10km, mb4.1/1, Error ellipse: s-maj=20.0km s-min=10.9km az=67.0*

NEIC Recorded [3 JMA] in Shizuoka, [2 JMA] in Kanagawa and [1 JMA] in Chiba, Tokyo and Yamanashi Prefectures.

*JMA **23** 18:35:03.8±0.1, 3500N×139.12E, h7km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕ=164.00000°, δ=55.00000°, λ=-13.00000°. NP2: ϕ=261.00000°, δ=80.00000°, λ=-145.00000°. Principal axes: T Plg16.0000°, Azm28.0000°; N Plg53.0000°, Azm275.0000°; P Plg32.0000°, Azm128.0000°;*

JMA Felt III J1.

ISC 23 18:35:03.0±0.6, 3498N±003×13918E±006, h12km±4km, n22, σ0=82/27, mb3.9/8, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.09**	**311**	↓P	**Pg**	**18 35 05.5**	**-0.2**
KTJJ	**Kamata 2**	**0.11**	**238**	↑P	**Pg**	**18 35 05.9**	**0.0**
JOD2	**Odawara 2**	**0.29**	**345**	↑P	**Pg**	**18 35 09.2**	**+0.4**
JOD2				S	**Sg**	**18 35 13.4**	**+0.6**
JIM2	**Oshima 3**	**0.34**	**142**	↓P	**Pg**	**18 35 11.3**	**+1.5**
JIZS	**Izushimoda**	**0.36**	**223**	↑P	**Pg**	**18 35 10.5**	**+0.3**
JIZS				S	**Sg**	**18 35 15.4**	**+0.3**
JYN	**Shimob**	**0.73**	**315**	↓P	**Pg**	**18 35 16.6**	**-0.5**
JYN				S	**Sg**	**18 35 26.0**	**-0.6**
SHZ3	**Shizuoka 3**	**0.80**	**276**	↓P	**Pg**	**18 35 18.4**	**0.0**
SHZ3				S	**Sg**	**18 35 29.2**	**+0.4**
MJAR	**Matsushiro Arr**	**1.74**	**333**	Pg	**Pg**	**18 35 33.5**	**-2.9**
	53nm,0.3s,baz=159,slow=14,SNR=255						
MJAR				Lg		18 35 55.2	
	121nm,0.3s,baz=134,slow=33,SNR=27						
MAJO	**Matsushiro**	**1.74**	**333**	*e*P	**Pn**	**18 35 33.8**	**+0.7**
MAJO				*e*S	**Sn**	**18 35 54.9**	**-0.4**
MAT	**Matsushiro**	**1.74**	**333**	P	**Pn**	**18 35 33.8**	**+0.7**
MAT				S	**Sn**	**18 35 56.2**	**+0.9**
JHJ	**Hachijo jima 2**	**1.93**	**165**	Pg	**Pg**	**18 35 37.4**	**-2.5**
	261nm,0.3s,baz=12,slow=4.6,SNR=14						
JHJ				Lg		18 36 03.6	
	117nm,0.3s,baz=12,slow=24,SNR=6.2						
JHJ				LR	LR	18 36 04.2	
	comp=Z,1μm,21.9s,baz=238,slow=32						
ASAJ	**Asahikawa**	**9.49**	**15**	Pn	**Pn**	**18 37 18.9**	**-0.7**
	0.6nm,0.3s,baz=206,slow=32,SNR=5.6						
ASAJ				LR	LR	18 41 07.3	
	comp=Z,75nm,20.1s,baz=210,slow=38						
MKAR	**Makanchi Array**	**43.70**	**304**	P	**P**	**18 43 07.3**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=97,slow=9.9,SNR=3.8						
KDAK	**Kodiak Island**	**49.83**	**41**	P	**P**	**18 43 55.9**	**0.0**
	10nm,1.1s,mb4.8,baz=66,slow=15,SNR=4.5						
CHKZ	**Chkalovo**	**50.41**	**314**	*e*P	**P**	**18 44 00.9**	**+0.7**
	2.5nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**50.63**	**313**	P	**P**	**18 44 01.6**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=98,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**54.81**	**186**	P	**P**	**18 44 31.9**	**-1.0**
	1.0nm,0.4s,mb4.2,baz=1.7,slow=7.6,SNR=31						
INK	**Inuvik**	**57.03**	**26**	P	**P**	**18 44 48.5**	**-0.2**
	0.6nm,0.5s,mb3.9,baz=260,slow=7.0,SNR=4.3						
ASAR	**Alice Springs**	**58.54**	**186**	P	**P**	**18 44 60.0**	**+0.6**
	0.3nm,0.5s,mb3.6,baz=17,slow=12,SNR=7.6						
NVAR	**Mina Array Bea**	**77.67**	**52**	P	**P**	**18 46 59.9**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=286,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**77.67**	**52**	P	**P**	**18 46 59.9**	**+0.4**
LPAZ	**La Paz**	**149.29**	**60**	PKPbc	PKPbc	18 54 52.9	+1.2
	0.9nm,0.8s,baz=35,slow=3.7,SNR=3.9						

IDC 23 18:41:08.6±0.9, 4650N×15549E, h96km±7km, mb3.5/4, mb1 3.7/4, mb1mx3.2/23, mbtmp3.5/4, Error ellipse: s-maj=28.5km s-min=24.7km az=93.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**52.28**	**310**	P	P	18 50 09.5	-0.6
	0.7nm,0.4s,baz=58,slow=7.1,SNR=8.8						
FINES	**FINESS Array B**	**64.95**	**336**	P	P	18 51 37.9	-0.1
	2.0nm,0.8s,baz=143,slow=32,SNR=6.2						
FINES				pP	pP	18 52 01.1	-0.9
	0.6nm,0.5s,baz=46,slow=8.2,SNR=1.9						
ASAR	**Alice Springs**	**72.52**	**201**	P	P	18 52 24.9	0.0
	0.4nm,0.7s,baz=21,slow=4.7,SNR=6.1						
ASAR				pP	pP	18 52 49.5	0.0
	0.6nm,0.7s,baz=20,slow=5.9,SNR=4.8						
TXAR	**Lajitas Array**	**76.17**	**62**	P	P	18 52 46.2	0.0
	0.6nm,0.6s,baz=305,slow=3.3,SNR=8.8						
TXAR				pP	pP	18 53 11.3	+0.4
	0.7nm,0.6s,baz=296,slow=4.3,SNR=6.1						

*STR **23** 18:44:32.0±0.7, 4391N×769E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 23 18:44:32.1±0.1, 4392N×770E, h10km, Md2.1/3, Ml2.0/5, Error ellipse: s-maj=2.3km s-min=1.8km az=53.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.13**	**304**	Pg	Pg	18 44 35.3	+0.2
SAOF				Sg	Sg	18 44 37.1	-0.1
SBF	**Sospel**	**0.20**	**255**	*e*Pg	Pg	18 44 36.6	+0.3
SBF				*e*Sg	Sg	18 44 39.1	0.0
	29nm,0.2s						
AUTN	**L'Aution**	**0.21**	**292**	Pg	Pg	18 44 36.7	+0.2
AUTN				Sg	Sg	18 44 39.9	+0.4
LUCF	**Luceram**	**0.26**	**265**	Pg	Pg	18 44 37.5	+0.2
LUCF				Sg	Sg	18 44 41.0	+0.2
TOUF	**Mont Tournerai**	**0.34**	**287**	Pg	Pg	18 44 37.5	-1.4
MVIF	**Mont Vial**	**0.40**	**268**	Pg	Pg	18 44 39.8	-0.1
FRF	**La Foret Royal**	**0.84**	**246**	*e*Pg	Pg	18 44 48.1	-0.2
FRF				*e*Sg	Sg	18 44 59.0	-0.3
	4.7nm,0.2s						
LMR	**La Mourre**	**1.04**	**237**	*e*Pg	Pg	18 44 51.7	-0.4
LMR				*e*Sg	Sg	18 45 05.0	-0.7
	2.9nm,0.2s						
MBDF	**Montbardon**	**1.05**	**321**	*e*Pg	Pg	18 44 52.0	-0.3
MBDF				*e*Sg	Sg	18 45 05.6	-0.4
	1.8nm,0.2s						
SMRF	**Simiane la Rot**	**1.54**	**273**	*e*Pg	Pg	18 45 00.0	-1.6
SMRF				*e*Sg	Sg	18 45 21.2	-0.3
	6.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.65**	**308**	*e*Pg	Pg	18 45 02.7	-1.0
ORIF				*e*Sg	Sg	18 45 24.6	-0.4
	1.7nm,0.3s						
PGF	**Pioggiola**	**1.66**	**145**	*e*Pn	Pn	18 45 00.1	-1.2
PGF				*e*Sn	Sn	18 45 19.2	-3.5
	0.5nm,0.2s						

*ISCJB **23** 18:55:26.7±0.3, 1403N±006×4722W±005, h10km, mb4.4/32, MS3.7/4, Error ellipse: s-maj=9.3km s-min=7.3km az=136.7*

*IDC **23** 18:55:26.7±0.5, 1406N×4722W, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/27, mbtmp4.2/20, MS3.7/4, Ms1 3.7/4, ms1mx3.3/29, Error ellipse: s-maj=17.8km s-min=12.5km az=131.0*

*NEIC **23** 18:55:28.2±0.3, 1396N×4725W, h10km, mb4.7/14, Error ellipse: s-maj=8.0km s-min=6.6km az=154.0*

ISC 23 18:55:28.7±0.3, 1401N±006×4722W±005, h10km, n50, σ0=90/49, mb4.4/32, MS3.7/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**14.19**	**264**	*e*P	**Pn**	**18 58 48.3**	**-1.3**
TRN	**Trinidad (W)**	**14.25**	**258**	*e*P	**Pn**	**18 58 53.0**	**+2.5**
CPD	**Cerro la Pandu**	**18.41**	**285**	P	**Pn**	**18 59 43.3**	**-0.6**
SDV	**Santo Domingo**	**23.50**	**260**	P	**P**	**19 00 38.1**	**-0.7**
	5.3nm,0.7s,mb4.1,baz=105,slow=3.2,SNR=8.4						
SDV	**Santo Domingo**	**23.50**	**260**	*e*P	**P**	**19 00 35.9**	**-2.9**
	6.9nm,0.8s,mb4.1						
SAML	**Samuel**	**27.77**	**216**	*e*P	**P**	**19 01 17.1**	**-0.5**
	17nm,1.2s,mb4.5						
SIV	**San Ignacio**	**32.80**	**205**	P	**P**	**19 02 02.2**	**+0.1**
	3.6nm,1.0s,mb4.2,baz=45,slow=13,SNR=9.3						
LPAZ	**La Paz**	**36.51**	**215**	P	**P**	**19 02 35.5**	**+1.3**
	4.3nm,0.8s,mb4.3,baz=21,slow=9.0,SNR=17						
LPAZ				LR	LR	19 16 40.7	
	comp=Z,66nm,19.5s,MS3.4,baz=273,slow=35						
LPAZ	**La Paz**	**36.51**	**215**	*e*P	**P**	**19 02 34.6**	**+0.4**
	21nm,1.5s,mb4.7						
ATAH	**Atahualpa**	**37.32**	**238**	P	**P**	**19 02 43.7**	**+2.7**
	25nm,0.9s,mb5.1,baz=58,slow=6.3,SNR=15						
ARE	**Arequipa**	**38.62**	**219**	*e*P	**P**	**19 02 51.0**	**-1.0**
NNA	**Nana**	**39.10**	**230**	P	**P**	**19 02 55.0**	**-1.1**
	2.9nm,0.3s,mb4.4,baz=76,slow=19,SNR=4.6						
TKL	**Tuckaleechee C**	**39.23**	**310**	P	**P**	**19 02 57.3**	**+0.2**
	4.7nm,0.8s,mb4.3,baz=118,slow=5.2,SNR=5.0						
LVC	**Limon Verde**	**42.14**	**211**	P	**P**	**19 03 22.0**	**+0.8**
	6.6nm,1.0s,mb4.2,baz=90,slow=12						
LIC	**Lamto**	**42.20**	**96**	*e*P	**P**	**19 03 22.3**	**+0.7**
	38nm,1.4s,mb4.5						
LIC	**Lamto**	**42.20**	**96**	*e*P	**P**	**19 03 22.3**	**+0.7**
	19nm,1.4s,mb4.5						
PLAL	**Pickwick Lake**	**42.26**	**307**	*e*P	**P**	**19 03 23.1**	**+1.0**
	8.2nm,0.8s,mb4.4						
WVT	**Waverly**	**42.46**	**309**	*e*P	**P**	**19 03 24.4**	**+0.6**
	9.0nm,1.0s,mb4.3						
OXF	**Oxford**	**43.15**	**306**	*e*P	**P**	**19 03 30.8**	**+1.4**
	32nm,1.1s,mb5.0						
SCHQ	**Schefferville**	**43.52**	**344**	LR	LR	19 17 27.4	
	comp=Z,123nm,19.2s,MS3.8,ba

Msz4.6

*GCMT **23** 19:20:10.0±0.2,1976N×155.91W,h46km±1km,MW5.2/88, Moment Tensor Solution. s53,c74; s88,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.74±.21; $M_{\theta\theta}$=1.43±.17; $M_{\phi\phi}$=1.30±.17; $M_{r\theta}$=-0.91±.16; $M_{r\phi}$=-5.02±.14; $M_{\theta\phi}$=-4.31±.17; Best double couple: M=7.08700×10^{16} NP1:ϕ_s98.00000°,δ48.00000°,λ-157.00000°. NP2: ϕ_s352.00000°,δ73.00000°,λ-44.00000°. Principal axes: T 7.0510, Plg16.0000°, Azm50.0000°; N 0.0620, Plg43.0000°, Azm155.0000°; P -7.1230, Plg43.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 19:20:10.0, 1989N×155.97W, h38km, mb5.1/64, MD5.0(HVO), After HVO.*

NEIC Felt [V] at Hawi, Holualoa, Honoka'a, Kailua Kona, Kapaau, Kamuela, Kealakekua, 'O'okala, Pa'auilo, Papa'aloa and Waikoloa; [IV] at Captain Cook, Hakalau, Honaunau, Honomu, Laupahoehoe, Ninole and Pahala; [III] at Hilo. Felt [IV] at Haiku and [III] at Hana, Kahului, Kihei, Kula, Lahaina, Makawao, Paia and Wailuku, Maui. Felt [III] on Lana'i and at Kaunakakai, Moloka'i. Also felt [III] at Honolulu and in much of southern O'ahu.

ISC 23 19:20:07.2±0.9,**1980N**×004×**15621W**×003,**h11**km±5km, **h38**km±2.6km:**pP-P,n403,σ0.81**/392,**mb5.0**/94,**MS4.5**/29, **56C-50D,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POHA	**Pohakuloa**	**0.64**	**93**	*e*Pg	**Pg**	**19 20 19.4**	**-0.3**
KHU	**Kahuku**	**0.78**	**134**	*e*P	**Pg**	**19 20 22.8**	**+0.4**
HKL	**Haleakala**	**0.91**	**357**	*e*P	**Pg**	**19 20 24.3**	**-0.5**
STCH	**Steam Cracks**	**1.10**	**112**	*e*P	**Pb**	**19 20 25.2**	**-3.0**
HON	**Honolulu**	**2.26**	**312**	*e*Pn	**Pn**	**19 20 44.3**	**-0.2**
HON				*e*Sn	**Sn**	**19 21 07.0**	**-5.3**
KIP	**Kipapa**	**2.34**	**314**	*e*Pn	**Pn**	**19 20 45.0**	**-0.6**
KIP				*e*Sn	**Sn**	**19 21 08.5**	**-5.7**
TAOE	**Nuku Hiva Isla**	**32.57**	**149**	*e*LR	LR	19 35 11.2	
	3μm,24.6s,baz=355						
HOPS	**Hopland**	**34.37**	**49**	⇑P	**P**	**19 26 53.8**	**-0.3**
	baz=34						
HAST	**UC Hastings Re**	**34.53**	**54**	⇓P	**P**	**19 26 54.1**	**-1.3**
	baz=34						
CVS	**Carmenet Viney**	**34.55**	**50**	⇓P	**P**	**19 26 55.9**	**+0.2**
	baz=34						
SAO	**San Andreas Ge**	**34.73**	**53**	*e*P	**P**	**19 26 56.9**	**-0.3**
SAO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SAO	**San Andreas Ge**	**34.73**	**53**	*e*P	**P**	**19 26 56.9**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.8						
MNRC	**McLaughlin Nat**	**34.77**	**50**	⇓P	**P**	**19 26 57.8**	**+0.3**
	baz=34						
WENL	**Wente Brothers**	**34.80**	**52**	⇓P	**P**	**19 26 57.7**	**-0.1**
	baz=34						
BDM	**Black Diamond**	**34.84**	**51**	⇑P	**P**	**19 26 57.2**	**-1.0**
	baz=35						
GASB	**Alder Springs**	**34.89**	**48**	⇓P	**P**	**19 26 58.0**	**-0.6**
	baz=35						
PACP	**Pacheco Peak**	**34.94**	**53**	⇑P	**P**	**19 26 58.9**	**-0.1**
	baz=35						
Q03C	**Winters**	**34.98**	**50**	⇑P	**P**	**19 26 59.1**	**-0.4**
	baz=35						
N02C	**Big Bar**	**34.99**	**46**	⇑P	**P**	**19 26 59.3**	**-0.2**
	baz=35						
O02C	**Red Bluff**	**35.06**	**47**	P	**P**	**19 27 01.5**	**+1.4**
	baz=35,SNR=7.5						
S04C	**Ingram Canyon,**	**35.08**	**52**	P	**P**	**19 27 00.8**	**+0.6**
	baz=35,SNR=10						
U04C	**Hernandez Rese**	**35.11**	**54**	⇓P	**P**	**19 27 00.9**	**+0.4**
	baz=35						
PKD	**Parkfield**	**35.17**	**55**	P	**P**	**19 27 01.1**	**+0.1**
	baz=35,SNR=5.4						
SUTB	**Sutter Butte**	**35.38**	**49**	⇑P	**P**	**19 27 02.2**	**-0.6**
	baz=35						
WDC	**Whiskeytown Da**	**35.41**	**47**	⇑P	**P**	**19 27 01.9**	**-1.2**
	baz=35						
L02A	**Cave Junction**	**35.42**	**44**	⇓P	**P**	**19 27 02.1**	**-1.1**
	baz=35						
PKM	**Peak Mountain**	**35.43**	**57**	⇑P	**P**	**19 27 01.6**	**-1.7**
	baz=35						
O03C	**Acorn Hollow,**	**35.52**	**48**	⇓P	**P**	**19 27 02.8**	**-1.2**
	baz=35						
Q04C	**Lincoln**	**35.52**	**50**	⇑P	**P**	**19 27 02.5**	**-1.6**
	baz=35						
ORV	**Oroville**	**35.71**	**49**	P	**P**	**19 27 05.5**	**-0.1**
	baz=36,SNR=10						
S05C	**Merced**	**35.77**	**53**	⇑P	**P**	**19 27 05.7**	**-0.4**
	baz=36						
YBH	**Yreka Blue Hor**	**35.81**	**45**	P	**P**	**19 27 06.3**	**-0.2**
	comp=Z,17nm,1.0s,mb4.9,baz=198,slow=6.5,SNR=14						
YBH	**Yreka Blue Hor**	**35.81**	**45**	*e*P	**P**	**19 27 07.4**	**+0.9**
YBH				pmax	pmax		
	comp=Z,25nm,1.1s						
YBH	**Yreka Blue Hor**	**35.81**	**45**	*e*P	**P**	**19 27 07.4**	**+0.9**
	comp=Z,25nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**35.81**	**45**	P	**P**	**19 27 07.8**	**+1.3**
	baz=36,SNR=6.8						
LAVA	**Lava Cap Winer**	**35.95**	**51**	P	**P**	**19 27 07.8**	**+0.1**
	baz=36,SNR=9.4						
CMB	**Columbia Colle**	**35.96**	**52**	*e*P	**P**	**19 27 07.5**	**-0.3**
CMB				pmax	pmax		
	comp=Z,81nm,2.1s,mb5.3						
CMB	**Columbia Colle**	**35.96**	**52**	*e*P	**P**	**19 27 07.5**	**-0.3**
	comp=Z,81nm,2.1s,mb5.3						
CMB	**Columbia Colle**	**35.96**	**52**	P	**P**	**19 27 07.8**	**0.0**
	baz=36,SNR=7.3						
M03C	**McCloud**	**36.00**	**46**	P	**P**	**19 27 09.3**	**+1.2**
	baz=36,SNR=5.3						
T06C	**Millerton Lake**	**36.13**	**54**	P	**P**	**19 27 09.3**	**0.0**
	baz=36,SNR=11						
OSI	**Osito Adit**	**36.23**	**58**	⇓P	**P**	**19 27 10.5**	**+0.3**
	baz=36						
HATC	**Hat Creek Radi**	**36.25**	**47**	⇓P	**P**	**19 27 10.6**	**+0.3**
	baz=36						
P05C	**Yuba Gap, Truc**	**36.25**	**50**	P	**P**	**19 27 10.5**	**+0.2**
	baz=36,SNR=5.2						
VES	**Vestal, Richgr**	**36.27**	**56**	P	**P**	**19 27 09.9**	**-0.6**
	baz=36,SNR=7.5						
ARVC	**Arvin**	**36.28**	**57**	⇑P	**P**	**19 27 10.3**	**-0.2**
	baz=36						
O05C	**Quincy**	**36.28**	**49**	⇓P	**P**	**19 27 09.9**	**-0.6**
	baz=36						
S06C	**San Francisco**	**36.31**	**52**	P	**P**	**19 27 10.9**	**+0.1**
	baz=36,SNR=14						
O04C	**Chester**	**36.31**	**48**	⇑P	**P**	**19 27 11.1**	**+0.3**
	baz=36						
M04C	**Macdoel**	**36.41**	**45**	⇓P	**P**	**19 27 12.6**	**+0.9**
	baz=36						
J03A	**Ideyld Park**	**36.42**	**42**	⇓P	**P**	**19 27 12.8**	**+1.0**
	baz=36						
DECC	**Green Verdugo**	**36.46**	**59**	⇓P	**P**	**19 27 12.1**	**0.0**
	baz=36						
KCC	**Kaiser Creek**	**36.52**	**54**	P	**P**	**19 27 12.8**	**+0.1**
	baz=36,SNR=6.2						
HELL	**Mitchell Peak,**	**36.55**	**55**	P	**P**	**19 27 12.9**	**0.0**
	baz=36,SNR=17						
L04A	**Klamath Falls**	**36.55**	**45**	⇓P	**P**	**19 27 13.8**	**+0.9**
	baz=36						
ELFS	**Eagle Lake Fie**	**36.68**	**48**	⇑P	**P**	**19 27 14.2**	**+0.3**
	baz=36						
ISA	**Isabella**	**36.70**	**57**	*e*P	**P**	**19 27 13.7**	**-0.4**
	comp=Z,0.1nm,1.3s						
ISA	**Isabella**	**36.70**	**57**	P	**P**	**19 27 14.2**	**+0.1**
	baz=36,SNR=9.0						
M05C	**Lookout**	**36.70**	**46**	⇑P	**P**	**19 27 14.4**	**+0.3**
	baz=36						
R06C	**Coleville**	**36.82**	**52**	⇑P	**P**	**19 27 14.7**	**-0.4**
	baz=37,SNR=6.8						
WCN	**Washoe City**	**36.87**	**50**	⇑P	**P**	**19 27 14.8**	**-0.7**
	baz=37,SNR=8.9						
EDW2	**Edwards Air Fo**	**36.88**	**58**	P	**P**	**19 27 15.0**	**-0.7**
	baz=37,SNR=11						
P06A	**Stead Airport,**	**36.90**	**50**	⇓P	**P**	**19 27 15.8**	**-0.1**
	baz=37						
R07C	**Lee Vining**	**36.97**	**52**	⇑P	**P**	**19 27 16.0**	**-0.5**
	baz=37						
MLAC	**Mammoth Lakes**	**36.98**	**53**	⇑P	**P**	**19 27 17.3**	**+0.7**
	baz=37						
BFSC	**Mount Baldy St**	**37.00**	**59**	⇑P	**P**	**19 27 16.4**	**-0.3**
	baz=37						
M06C	**Likely Place G**	**37.09**	**47**	P	**P**	**19 27 18.2**	**+0.8**
	baz=37,SNR=5.3						
O06A	**Flanigan**	**37.13**	**49**	P	**P**	**19 27 18.4**	**+0.6**
	baz=37,SNR=8.2						
109C	**Camp Elliot, M**	**37.18**	**61**	⇓P	**P**	**19 27 18.5**	**+0.3**
	baz=37						
MURC	**Murrieta**	**37.24**	**60**	P	**P**	**19 27 18.8**	**+0.1**
	baz=37,SNR=10.0						
LRMC	**Laurel Mountai**	**37.27**	**57**	P	**P**	**19 27 19.0**	**0.0**
	baz=37,SNR=9.0						
N06A	**Buffalo Meadow**	**37.35**	**48**	P	**P**	**19 27 20.4**	**+0.7**
	baz=37,SNR=6.5						
K05A	**Summer Lake**	**37.46**	**44**	⇓P	**P**	**19 27 21.5**	**+0.9**
	baz=37						
J05A	**Fort Rock**	**37.49**	**43**	⇓P	**P**	**19 27 21.8**	**+1.0**
	baz=37						
MOD	**Modoc**	**37.50**	**46**	*e*P	**P**	**19 27 21.4**	**+0.5**
	comp=Z,21nm,1.2s,mb4.8						
MOD	**Modoc**	**37.50**	**46**	P	**P**	**19 27 21.7**	**+0.8**
	baz=37,SNR=11						
MPMC	**Manual Prospec**	**37.57**	**56**	P	**P**	**19 27 21.7**	**+0.1**
	baz=37,SNR=12						
PPT	**Papeete**	**37.70**	**170**	*e*S	**S**	**19 33 07.0**	**-5.6**
PPT	comp=Z,169nm,27.8s						
	comp=Z,844nm,25.0s			*e*LQ		19 35 26.8	
PPT				*e*LR	LR	19 37 36.7	
	comp=Z,1μm,25.8s,baz=347						
PPT	**Papeete**	**37.70**	**170**	LR	LR	19 39 22.3	
	comp=Z,563nm,20.8s,MS4.3,baz=347,slow=31						
MONP	**Monument Peak**	**37.75**	**62**	P	**P**	**19 27 23.3**	**+0.3**
	baz=38,SNR=14						
O07A	**Toulon**	**37.81**	**49**	P	**P**	**19 27 24.1**	**+0.5**
	baz=38,SNR=10.0						
PFO	**Pinyon Flat Ob**	**37.85**	**60**	P	**P**	**19 27 23.5**	**-0.4**
	comp=Z,8.4nm,0.9s,mb4.5,baz=255,slow=2.8,SNR=9.0						
PFO	**Pinyon Flat Ob**	**37.85**	**60**	P	**P**	**19 27 23.7**	**-0.2**
	baz=38,SNR=7.7						
I05A	**Bend**	**37.88**	**42**	⇑P	**P**	**19 27 24.3**	**+0.1**
	baz=38						
GRAC	**Grapevine Rang**	**37.92**	**55**	⇑P	**P**	**19 27 23.3**	**-1.1**
	baz=38						
GSC	**Goldstone**	**37.93**	**58**	*e*P	**P**	**19 27 24.3**	**-0.2**
GSC	**Goldstone**	**37.93**	**58**	P	**P**	**19 27 24.5**	**0.0**
	baz=38,SNR=14						
N07B	**Gerlach**	**37.97**	**48**	P	**P**	**19 27 26.0**	**+1.1**
	baz=38,SNR=9.0						
DVTC	**Desert V Tower**	**37.97**	**62**	P	**P**	**19 27 25.6**	**+0.7**
	baz=38,SNR=5.6						
KDAK	**Kodiak Island**	**38.03**	**3**	P	**P**	**19 27 25.9**	**+0.5**
	comp=Z,7.8nm,0.8s,mb4.5,baz=228,slow=7.1,SNR=4.1						
KDAK	**Kodiak Island**	**38.03**	**3**	P	**P**	**19 27 25.9**	**+0.5**
Q08A	**Gabbs**	**38.05**	**52**	P	**P**	**19 27 25.8**	**+0.2**
	baz=38,SNR=19						
M07A	**Soldier Meadow**	**38.07**	**47**	P	**P**	**19 27 26.6**	**+0.9**
	baz=38,SNR=7.0						
FURC	**Furnace Creek,**	**38.17**	**56**	P	**P**	**19 27 27.3**	**+0.7**
	baz=38,SNR=7.4						
J06A	**Christmas Vall**	**38.18**	**44**	P	**P**	**19 27 27.3**	**+0.6**
	baz=38,SNR=7.1						
HEC	**Hector,Ludlow**	**38.20**	**59**	⇓P	**P**	**19 27 26.8**	**0.0**
	baz=38						
L07A	**Adell**	**38.20**	**46**	P	**P**	**19 27 27.8**	**+1.0**
	baz=38,SNR=7.8						
S09A	**Goldfield**	**38.23**	**54**	P	**P**	**19 27 27.1**	**0.0**
	baz=38,SNR=11						
SWSC	**Sam W. Stewart**	**38.27**	**62**	⇓P	**P**	**19 27 26.5**	**-0.9**
	baz=38						
BELC	**Belle Mtn.**	**38.30**	**60**	P	**P**	**19 27 27.7**	**0.0**
	baz=38,SNR=26						
I06A	**Prineville**	**38.45**	**43**	P	**P**	**19 27 30.3**	**+1.3**
	baz=38,SNR=6.8						
SHOC	**Shoshone**	**38.48**	**57**	⇑P	**P**	**19 27 29.0**	**-0.2**
	baz=38						
R09A	**Tonopah**	**38.50**	**53**	P	**P**	**19 27 29.5**	**+0.1**
	baz=38,SNR=5.8						
K07A	**Rock Creek Ran**	**38.54**	**45**	P	**P**	**19 27 30.6**	**+0.8**
	baz=38,SNR=11						
N08A	**GE Springer Mi**	**38.56**	**49**	P	**P**	**19 27 30.4**	**+0.5**
	baz=38,SNR=11						
U10A	**Ash Meadows, A**	**38.57**	**56**	P	**P**	**19 27 30.5**	**+0.5**
	baz=38,SNR=12						
Q09A	**Carvers**	**38.60**	**52**	⇓P	**P**	**19 27 30.3**	**+0.1**
	baz=38						
F05A	**White Salmon**	**38.62**	**40**	⇑P	**P**	**19 27 30.5**	**+0.2**
	baz=38						
TUQ	**Turquoise Mtn.**	**38.66**	**58**	P	**P**	**19 27 30.8**	**+0.1**
	baz=38,SNR=13						
BC3	**Big Chuckw Mtn**	**38.68**	**61**	P	**P**	**19 27 30.9**	**0.0**
	baz=38,SNR=7.8						
C04A	**Brinnon**	**38.73**	**36**	⇓P	**P**	**19 27 31.8**	**+0.6**
	baz=38						
GMRC	**Granite Mounta**	**38.73**	**59**	P	**P**	**19 27 31.0**	**-0.3**
	baz=38,SNR=9.1						
H06A	**Lindquist Farm**	**38.74**	**42**	P	**P**	**19 27 32.5**	**+1.1**
	baz=38,SNR=5.3						
J07A	**Hines**	**38.79**	**44**	⇑P	**P**	**19 27 32.4**	**+0.6**
	baz=38						
WVOR	**Wild Horse Val**	**38.85**	**46**	*e*P	**P**	**19 27 32.0**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**38.85**	**46**	*e*P	**P**	**19 27 32.0**	**-0.2**
	comp=Z,15nm,1.0s,mb4.7						
L08A	**Fields**	**38.95**	**47**	P	**P**	**19 27 33.8**	**+0.6**
	baz=39,SNR=15						
F06A	**Goldendale**	**38.97**	**40**	⇓P	**P**	**19 27 33.7**	**+0.4**
	baz=39						
I07A	**Izee**	**38.97**	**43**	⇓P	**P**	**19 27 33.7**	**+0.3**
	baz=39						
D05A	**Enumclaw**	**38.99**	**38**	⇑P	**P**	**19 27 34.6**	**+1.1**
	baz=39						
N09A	**Rock Creek Ran**	**39.02**	**49**	⇓P	**P**	**19 27 33.6**	**-0.1**
	baz=39						
IRM	**Iron Mountain**	**39.02**	**60**	P	**P**	**19 27 33.3**	**-0.4**
	baz=38,SNR=12						
O09A	**Fish Creek Ran**	**39.02**	**50**	P	**P**	**19 27 34.3**	**+0.6**
	baz=39,SNR=7.0						
K08A	**Mann Creek Ran**	**39.07**	**46**	P	**P**	**19 27 35.0**	**+0.9**
	baz=39,SNR=20						
BMN	**Battle Mountai**	**39.09**	**50**	*e*P	**P**	**19 27 34.6**	**+0.3**
BMN				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
BMN	**Battle Mountai**	**39.09**	**50**	*e*P	**P**	**19 27 34.6**	**+0.3**
	comp=Z,25nm,1.3s,mb4.8						
GLA	**Glamis**	**39.10**	**62**	*e*P	**P**	**19 27 32.5**	**-1.9**
GLA	**Glamis**	**39.10**	**62**	P	**P**	**19 27 34.5**	**+0.2**
	baz=39,SNR=8.1						
V11A	**Goodsprings**	**39.14**	**57**	P	**P**	**19 27 35.3**	**+0.6**
	baz=39,SNR=5.6						
E06A	**Yakima**	**39.24**	**39**	⇓P	**P**	**19 27 36.6**	**+1.1**
	baz=39						
M09A	**Marrel Ranch,**	**39.28**	**48**	P	**P**	**19 27 37.1**	**+1.3**
	baz=39,SNR=5.5						
U11A	**Corn Creek**	**39.31**	**56**	⇓P	**P**	**19 27 36.7**	**+0.6**
	baz=39						
J08A	**Circle Bar Ran**	**39.33**	**45**	P	**P**	**19 27 37.1**	**+0.7**
	baz=39,SNR=12						
L09A	**Wilkinson Ranc**	**39.35**	**47**	⇑P	**P**	**19 27 36.7**	**+0.2**
	baz=39						
P10A	**Eureka**	**39.37**	**51**	⇑P	**P**	**19 27 37.1**	**+0.4**
	baz=39						
G07A	**Ruggs Ranch, H**	**39.41**	**41**	P	**P**	**19 27 37.7**	**+0.7**
	baz=39,SNR=6.6						
C05A	**Tolt Reservoir**	**39.44**	**37**	⇑P	**P**	**19 27 37.4**	**+0.2**
	baz=39						
Y12C	**Blythe**	**39.46**	**61**	P	**P**	**19 27 37.6**	**+0.2**
	baz=39,SNR=6.0						
W12A	**Cal Nev Ari**	**39.47**	**58**	⇑P	**P**	**19 27 37.5**	**0.0**
	baz=39						
I08A	**Drewsey**	**39.51**	**44**	⇑P	**P**	**19 27 38.4**	**+0.6**
	baz=39,SNR=7.0						
F07A	**Phinny Hill Vi**	**39.55**	**40**	⇑P	**P**	**19 27 38.6**	**+0.4**
	baz=39						
O10A	**Cortez Mining,**	**39.56**	**50**	⇓P	**P**	**19 27 38.1**	**-0.2**
	baz=39						
K09A	**Rome**	**39.57**	**46**	P	**P**	**19 27 38.9**	**+0.6**
	baz=39,SNR=6.2						
V12A	**Nelson**	**39.58**	**58**	⇓P	**P**	**19 27 38.5**	**+0.1**
	baz=39,SNR=8.7						
D06A	**Cle Elum**	**39.66**	**38**	⇓P	**P**	**19 27 40.1**	**+1.1**
	baz=39						
H08A	**Prairie City**	**39.70**	**43**	P	**P**	**19 27 40.3**	**+0.9**
	baz=40,SNR=5.1						
Q11A	**Duckwater**	**39.74**	**53**	P	**P**	**19 27 40.2**	**+0.5**
	baz=40,SNR=13						
TBM	**Table Mountain**	**39.79**	**38**	P	**P**	**19 27 41.4**	**+1.3**
J09A	**Fry Pan Ranch,**	**39.81**	**45**	⇓P	**P**	**19 27 40.6**	**+0.3**
	baz=40,SNR=11						
G08A	**Pilot Rock**	**39.87**	**42**	P	**P**	**19 27 41.3**	**+0.5**
	baz=40,SNR=13						
PDMCI	**Parker Dam,Lak**	**39.87**	**60**	⇑P	**P**	**19 27 40.8**	**0.0**
	baz=40						
P11A	**Circle Ranch,**	**39.87**	**51**	⇑P	**P**	**19 27 41.1**	**+0.3**
	baz=40,SNR=8.1						
E07A	**Sunnyside**	**39.92**	**40**	⇑P	**P**	**19 27 41.6**	**+0.4**
	baz=40						
A05A	**Maple Falls**	**39.94**	**35**	⇓P	**P**	**19 27 42.0**	**+0.6**
	baz=40						
M10A	**I.L. Ranch, Tu**	**39.95**	**48**	P	**P**	**19 27 42.3**	**+0.8**
	baz=40,SNR=7.3						
U12A	**Valley of Fire**	**39.98**	**57**	P	**P**	**19 27 42.2**	**+0.5**
	baz=40,SNR=7.2						
I09A	**Lost Marbles R**	**40.07**	**44**	⇓P	**P**	**19 27 42.7**	**+0.2**
	baz=40,SNR=6.0						
GBB	**Gable Butte**	**40.08**	**40**	P	**P**	**19 27 43.6**	**+1.0**
O11A	**Cowboy Ranch,**	**40.12**	**51**	⇑P	**P**	**19 27 42.7**	**-0.2**
	baz=40						
D07A	**Quincy**	**40.16**	**39**	⇑P	**P**	**19 27 43.4**	**+0.1**
	baz=40						
ETW	**Entiat**	**40.17**	**38**	P	**P**	**19 27 44.4**	**+1.1**
X13A	**Yucca**	**40.17**	**60**	P	**P**	**19 27 43.2**	**-0.2**
	baz=40,SNR=14						
F08A	**Pendleton**	**40.21**	**41**	⇓P	**P**	**19 27 43.9**	**+0.3**
	baz=40,SNR=5.3						
W13A	**Hualapai Mount**	**40.22**	**59**	P	**P**	**19 27 44.1**	**+0.4**
	baz=40,SNR=12						
N11A	**Elko Archery C**	**40.28**	**50**	⇑P	**P**	**19 27 44.7**	**+0.4**
	baz=40						
A06A	**Chilliwack**	**40.33**	**35**	⇑P	**P**	**19 27 46.3**	**+1.7**
	baz=40						
E08A	**Dider Farm, El**	**40.37**	**40**	P	**P**	**19 27 46.0**	**+1.0**
	baz=40,SNR=6.7						
C07A	**Waterville**	**40.37**	**38**	P	**P**	**19 27 45.8**	**+0.9**
	baz=40,SNR=5.1						
NLW	**Nelson Butte**	**40.41**	**37**	P	**P**	**19 27 46.0**	**+0.7**
Q12A	**Willow Creek R**	**40.41**	**53**	P	**P**	**19 27 45.8**	**+0.5**
	baz=40,SNR=6.7						
H09A	**Durkee**	**40.41**	**43**	P	**P**	**19 27 45.9**	**+0.6**
	baz=40,SNR=6.8						
WTV	**Waterville**	**40.43**	**38**	P	**P**	**19 27 46.1**	**+0.6**
M11A	**Holland Ranch,**	**40.45**	**49**	P	**P**	**19 27 46.9**	**+1.3**
	baz=40,SNR=5.0						
EPH	**Ephrata**	**40.47**	**39**	P	**P**	**19 27 46.5**	**+0.7**
P12A	**McGill**	**40.48**	**52**	P	**P**	**19 27 46.0**	**+0.2**
	baz=40,SNR=9.9						
Z14A	**Wintersburg**	**40.70**	**62**	⇓P	**P**	**19 27 47.5**	**-0.2**
	baz=40						
F09A	**S2 Ranch, Elgi**	**40.71**	**42**	P	**P**	**19 27 48.7**	**+0.9**
	baz=40,SNR=6.6						
D08A	**Wollman Farm,**	**40.72**	**39**	P	**P**	**19 27 48.4**	**+0.5**
	baz=40,SNR=5.2						
B07A	**Winthrop**	**40.73**	**37**	P	**P**	**19 27 49.0**	**+1.0**
	baz=40,SNR=7.2						
Y14A	**Wickenburg**	**40.74**	**61**	P	**P**	**19 27 47.8**	**-0.3**
	baz=40,SNR=13						
N12A	**Clover Valley,**	**40.80**	**50**	P	**P**	**19 27 49.2**	**+0.7**
	baz=40,SNR=8.2						
O12A	**Currie**	**40.83**	**51**	P	**P**	**19 27 49.1**	**+0.3**
	baz=41,SNR=9.8						
W14A	**Seligman**	**40.89**	**59**	P	**P**	**19 27 49.3**	**+0.1**
	baz=41,SNR=9.6						
SLKM	**Skilak Lake**	**40.89**	**5**	*e*P	**P**	**19 27 49.7**	**+0.4**
A07A	**Ashnola River,**	**40.90**	**36**	P	**P**	**19 27 50.3**	**+0.9**
	baz=41,SNR=5.9						
X14A	**Yava**	**40.92**	**60**	P	**P**	**19 27 49.3**	**-0.2**
	baz=41,SNR=11						
E09A	**Wood Farm, Sta**	**40.93**	**41**	⇑P	**P**	**19 27 50.1**	**+0.5**
	baz=41						
C08A	**Higginbotham F**	**41.01**	**38**	P	**P**	**19 27 51.0**	**+0.7**
	baz=41,SNR=11						
OD2	**Odessa Site #2**	**41.01**	**39**	P	**P**	**19 27 50.6**	**+0.4**
M12A	**Wells**	**41.06**	**49**	P	**P**	**19 27 51.3**	**+0.6**
	baz=41,SNR=11						
D09A	**Jones Farm, Ri**	**41.09**	**40**	⇓P	**P**	**19 27 51.3**	**+0.4**
	baz=41						
B08A	**Colville Reser**	**41.13**	**37**	P	**P**	**19 27 51.4**	**+0.2**
	baz=41,SNR=9.3						
ARUT	**Antelope Range**	**41.14**	**55**	*e*P	**P**	**19 27 51.7**	**+0.3**
CCUT	**Cedar City**	**41.15**	**55**	*e*P	**P**	**19 27 51.7**	**+0.3**
115A	**Sonoran Desert**	**41.21**	**63**	P	**P**	**19 27 52.3**	**+0.4**
	baz=41,SNR=7.9						
F10A	**Beach Ranch, E**	**41.26**	**42**	⇓P	**P**	**19 27 52.5**	**+0.2**
	baz=41						
SVW2	**Sparrevohn**	**41.26**	**0**	*e*P	**P**	**19 27 51.8**	**-0.5**
X15A	**Humboldt**	**41.45**	**60**	P	**P**	**19 27 54.0**	**+0.2**
	baz=41,SNR=20						
C09A	**Chrisman Ranch**	**41.47**	**39**	P	**P**	**19 27 54.6**	**+0.6**
	baz=41,SNR=6.9						
A08A	**Turner Farm, O**	**41.47**	**37**	P	**P**	**19 27 54.6**	**+0.6**
	baz=41,SNR=14						
H11A	**Donnelly**	**41.50**	**44**	P	**P**	**19 27 54.5**	**+0.1**
	baz=41,SNR=14						
W15A	**Williams**	**41.54**	**59**	⇑P	**P**	**19 27 54.6**	**0.0**
	baz=41						
M13A	**Montello**	**41.58**	**49**	⇓P	**P**	**19 27 55.5**	**+0.5**
	baz=41						
G11A	**Walters Elk Ra**	**41.62**	**43**	⇑P	**P**	**19 27 55.6**	**+0.3**
	baz=41						
116A	**Eloy**	**41.63**	**63**	⇓P	**P**	**19 27 55.4**	**+0.1**
	baz=41						
B09A	**Rice**	**41.84**	**38**	⇓P	**P**	**19 27 57.4**	**+0.3**
	baz=42						
A09A	**Danville**	**41.87**	**37**	⇑P	**P**	**19 27 57.5**	**+0.2**
	baz=42,SNR=5.1						
**

baz=43,SNR=15
F14A Wisdom 43.65 44 ⇓P P 19 28 12.0 +0.3
baz=43
SRU San Rafael 43.67 54 *eP* **P 19 28 11.7 -0.2**
SRU pmax pmax
comp=Z,34nm,0.8s,mb5.1
SRU San Rafael 43.67 54 *eP* **P 19 28 11.7 -0.3**
comp=Z,34nm,0.8s,mb5.1
MSO Missoula 43.68 42 *eP* **P 19 28 11.2 -0.8**
comp=Z,12nm,1.1s,mb4.5
E14A Clinton 43.80 43 P **P 19 28 13.0 0.0**
baz=44,SNR=30
DLMT Dillon 44.00 44 *eP* **P 19 28 14.4 -0.1**
comp=Z,47nm,1.0s,mb5.2
B13A Whitefish 44.00 40 ⇓P **P 19 28 15.0 +0.5**
baz=44
G15A Dillon 44.00 45 P **P 19 28 14.6 0.0**
baz=44,SNR=14
D14A Greenough 44.05 42 P **P 19 28 14.6 -0.4**
baz=44,SNR=12
CHMT Chamberlain Mo 44.15 42 *eP* **P 19 28 15.3 -0.5**
MCK McKinley 44.18 5 *eP* **P 19 28 15.1 -0.9**
MCK pmax pmax
comp=Z,13nm,1.2s,mb4.5
MCK McKinley 44.18 5 *eP* **P 19 28 15.1 -0.9**
comp=Z,13nm,1.2s,mb4.5
RRI2 Red Ridge 44.20 48 *eP* **P 19 28 15.9 -0.2**
comp=Z,34nm,1.0s,mb5.0
F15A Butte 44.23 44 P **P 19 28 16.6 +0.1**
baz=44,SNR=21
E15A Deer Lodge 44.35 43 ⇓P **P 19 28 17.0 -0.4**
baz=44,SNR=7.6
REDW Red Top Meadow 44.53 48 *eP* **P 19 28 18.8 0.0**
comp=Z,79nm,1.2s,mb5.4
QLMT Earthquake Lak 44.59 46 *eP* **P 19 28 19.7 +0.4**
WALA Waterton Lakes 44.63 39 *eP* **P 19 28 19.6 +0.1**
comp=Z,29nm,0.9s,mb5.1
SNOW Snow King Moun 44.63 48 *eP* **P 19 28 19.4 -0.2**
comp=Z,39nm,0.9s,mb5.2
LCCM Lewis and Clar 44.63 44 P **P 19 28 19.6 0.0**
D15A Lincoln 44.66 42 P **P 19 28 19.8 0.0**
baz=44,SNR=18
PV10 Paradox Valley 44.66 55 *eP* **P 19 28 19.3 -0.6**
MOOW Moose Ponds 44.72 47 *eP* **P 19 28 20.2 -0.2**
comp=Z,9.9nm,0.8s,mb4.7
FLWY Flagg Ranch 44.85 47 *eP* **P 19 28 21.9 +0.6**
comp=Z,24nm,0.8s,mb5.1
YFT Old Faithful 44.87 46 *eP* **P 19 28 22.1 +0.6**
MVCO Mesa Verde 44.88 57 *eP* **P 19 28 21.6 -0.1**
comp=Z,42nm,1.4s,mb5.1
MVCO Mesa Verde 44.88 57 ⇓P **P 19 28 21.6 0.0**
baz=45,SNR=11
PV01 Paradox Valley 44.98 56 *eP* **P 19 28 21.9 -0.6**
PDAR Pinedale Array 45.27 49 P **P 19 28 23.9 -0.8**
comp=Z,12nm,0.9s,mb4.7,baz=245,slow=4.7,SNR=63
PDAR LR LR 19 43 39.9
comp=Z,364nm,20.6s,MS4.3,baz=336,slow=31
COLA College 45.40 5 ⇑*iP* **P 19 28 24.1 -1.6**
LAZ Ladron 45.62 61 *eP* **P 19 28 27.3 -0.2**
DAWY Dawson 45.67 10 *eP* **P 19 28 26.8 -1.1**
LENM Lemitar 45.73 61 *eP* **P 19 28 28.0 -0.4**
Y22C IRIS PASSCAL I 45.77 61 ⇓P **P 19 28 29.0 +0.3**
baz=46
BNM Barren Site 46.02 61 *eP* **P 19 28 30.2 -0.4**
LPM Los Pinos Moun 46.03 61 *eP* **P 19 28 30.5 -0.2**
EGAK Eagle 46.06 9 *eP* **P 19 28 30.8 -0.2**
comp=Z,27nm,1.1s,mb5.1
ANMO Albuquerque 46.23 60 ⇑*iP* **P 19 28 31.3 -1.0**
ANMO Albuquerque 46.23 60 *eP* **P 19 28 32.0 -0.3**
comp=Z,10nm,1.1s,mb4.7
EGMT Eagleton 46.76 42 *eP* **P 19 28 35.9 -0.6**
comp=Z,35nm,1.2s,mb5.2
EGMT Eagleton 46.76 42 P **P 19 28 36.7 +0.2**
baz=46,SNR=6.5
EDM Edmonton 46.84 34 *eP* **P 19 28 36.0 -1.1**
MNTX Cornudas Mount 46.92 65 *eP* **P 19 28 37.0 -0.7**
comp=Z,24nm,1.2s,mb5.0
SDCO Great Sand Dun 47.32 57 *eP* **P 19 28 40.2 -0.6**
comp=Z,20nm,1.0s,mb5.0
RKT Rikitea 47.42 153 *eS* **S 19 35 37.5 +1.8**
comp=Z,69nm,25.2s
RKT *eLQ* 19 39 58.5
comp=Z,492nm,27.0s
RKT *eLR* LR 19 42 08.7
comp=Z,586nm,28.5s,baz=331
ISCO Idaho Springs 47.54 54 *eP* **P 19 28 42.2 -0.3**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ISCO Idaho Springs 47.54 54 *eP* **P 19 28 42.2 -0.3**
comp=Z,6.3nm,1.0s,mb4.6
PET Petropavlovsk 47.97 325 *eP* **P 19 28 47.5 +1.7**
PET *e* 19 35 57.3
PET *e* 19 40 18.3
LTX Lajitas 48.39 68 *eP* **P 19 28 49.2 +0.1**
LTX pmax pmax
comp=Z,33nm,1.1s,mb5.3
LTX Lajitas 48.39 68 *eP* **P 19 28 49.2 +0.1**
comp=Z,33nm,1.1s,mb5.3
TXAR Lajitas Array 48.39 68 P **P 19 28 49.3 +0.2**
comp=Z,7.5nm,0.8s,mb4.8,baz=260,slow=8.2,SNR=107
TXAR LR LR 19 44 18.9
comp=Z,438nm,21.6s,MS4.4,baz=40,slow=30
LAO LASA Array 48.63 45 *eP* **P 19 28 51.0 0.0**
comp=Z,38nm,1.0s,mb5.4
RSSD Black Hills 49.50 48 *eP* **P 19 28 56.0 -1.6**
RSSD pmax pmax
comp=Z,20nm,1.1s,mb5.1
RSSD Black Hills 49.50 48 *eP* **P 19 28 56.0 -1.6**
comp=Z,20nm,1.1s,mb5.1
INK Inuvik 50.54 11 P **P 19 29 04.0 -1.5**
comp=Z,9.9nm,0.8s,mb4.8,baz=196,slow=8.8,SNR=44
INK LR LR 19 48 59.9
comp=Z,459nm,18.0s,MS4.5,baz=58,slow=34
INK Inuvik 50.54 11 *eP* **P 19 29 03.7 -1.9**
comp=Z,1μm,1.3s
YKA Yellowknife Ar 51.31 23 P **P 19 29 10.3 -1.0**
comp=Z,1.9nm,0.5s,mb4.3,baz=234,slow=7.6,SNR=19
YKA PcP PcP 19 30 24.6 -1.5
comp=Z,0.7nm,0.5s,baz=243,slow=3.3,SNR=4.4
YKA LR LR 19 47 58.1
comp=Z,252nm,18.7s,MS4.3,baz=210,slow=33
YKA Yellowknife Ar 51.31 23 P **P 19 29 10.3 -1.0**
YKA 19 30 24.7
YKA Yellowknife Ar 51.31 23 P **P 19 29 10.3 -1.0**
YKA PcP PcP 19 30 24.6 -1.5
YKA LR LR 19 47 58.1
JCT Junction City 51.71 66 *eP* **P 19 29 12.5 -1.8**
JCT pmax pmax
comp=Z,11nm,0.9s,mb4.8
JCT Junction City 51.71 66 *eP* **P 19 29 12.5 -1.8**
comp=Z,11nm,0.9s,mb4.8
CBKS Cedar Bluff 51.94 56 *eP* **P 19 29 14.5 -1.6**
CBKS pmax pmax
comp=Z,39nm,1.2s,mb5.2
CBKS Cedar Bluff 51.94 56 *eP* **P 19 29 14.5 -1.5**
comp=Z,39nm,1.2s,mb5.2
HNR Honiara 52.03 240 LR LR 19 47 33.0
comp=Z,489nm,19.5s,MS4.5,baz=1.3,slow=32
WMOK Wichita Mounta 52.52 61 *eP* **P 19 29 17.8 -2.6**
BILL Bilibino 53.64 343 *eP* **P 19 29 28.1 -0.5**
BILL *e* 19 29 42.8
BILL *e* 19 30 31.5
BILL *e* 19 31 28.1
BILL *eS* **S 19 36 58.7 -3.4**
BILL pmax pmax
comp=Z,69nm,2.3s,mb5.2
BILL Bilibino 53.64 343 *eP* **P 19 29 28.0 -0.6**
comp=Z,84nm,1.6s,mb5.4
KSU1 Kansas State U 54.39 56 *eP* **P 19 29 32.6 -1.5**
comp=Z,35nm,1.1s,mb5.2
HKT Hockley 55.17 67 *eP* **P 19 29 38.0 -1.7**
HKT pmax pmax
comp=Z,17nm,1.5s,mb4.8
HKT Hockley 55.17 67 *eP* **P 19 29 38.0 -1.8**
comp=Z,18nm,1.5s,mb4.9
DZM Mont Dzumac 55.35 223 LR LR 19 48 26.9
comp=Z,366nm,19.1s,MS4.5,baz=116,slow=31
SEY Seymchan 55.38 334 *eP* **P 19 29 40.6 -0.7**
ULM Lac du Bonnet 56.13 42 P **P 19 29 43.7 -2.9**
comp=Z,2.7nm,0.6s,mb4.5,baz=278,slow=11,SNR=8.3
ULM LR LR 19 51 23.0
comp=Z,227nm,19.6s,MS4.3,baz=306,slow=34
ULM Lac du Bonnet 56.13 42 *eP* **P 19 29 44.0 -2.6**
comp=Z,25nm,1.1s,mb5.2
GUMO Guam 56.55 273 LR LR 19 49 17.0
comp=Z,255nm,20.1s,MS4.3,baz=80,slow=31
MIAR Mount Ida 56.82 61 *eP* **P 19 29 51.1 -0.4**
MIAR pmax pmax
comp=Z,22nm,1.1s,mb5.1
MIAR Mount Ida 56.82 61 *eP* **P 19 29 51.1 -0.5**
comp=Z,22nm,1.1s,mb5.1
SCIA State Center 57.10 52 *eP* **P 19 29 51.8 -1.7**
comp=Z,37nm,1.0s,mb5.4
UALR University of 57.82 61 *eP* **P 19 29 56.7 -1.9**
comp=Z,12nm,1.0s,mb4.9
MJAR Matsushiro Arr 59.13 301 P **P 19 30 09.2 +1.5**
comp=Z,36nm,1.1s,mb5.3,baz=96,slow=4.3,SNR=39
MAJO Matsushiro 59.13 301 *eP* **P 19 30 08.3 +0.5**
MAJO pmax pmax
comp=Z,89nm,1.3s,mb5.6
MAJO Matsushiro 59.13 301 *eP* **P 19 30 08.3 +0.6**
comp=Z,89nm,1.3s,mb5.6
MAT Matsushiro 59.13 301 P **P 19 30 09.2 +1.4**
MAT *eS* **S 19 38 16.6 +1.7**
FVM French Village 59.24 57 *eP* **P 19 30 06.6 -1.9**
FVM pmax pmax
comp=Z,19nm,1.0s,mb5.1
FVM French Village 59.24 57 *eP* **P 19 30 06.6 -1.9**
comp=Z,19nm,1.0s,mb5.1
JFWS Jewell Farm 59.32 51 *eP* **P 19 30 07.0 -2.1**
JFWS pmax pmax
comp=Z,29nm,1.1s,mb5.2
JFWS Jewell Farm 59.32 51 *eP* **P 19 30 07.0 -2.1**
comp=Z,29nm,1.1s,mb5.2
SIUC Southern Illin 60.20 57 P **P 19 30 14.0 -1.2**
comp=Z,27nm,1.0s,mb5.2
OXF Oxford 60.25 61 *eP* **P 19 30 13.0 -2.5**
OXF pmax pmax
comp=Z,64nm,1.0s,mb5.6
OXF Oxford 60.25 61 *eP* **P 19 30 13.0 -2.5**
comp=Z,64nm,1.0s,mb5.6
HABR Khabarovsk 61.41 315 *eP* **P 19 30 22.6 -0.8**
HABR *eS* **S 19 38 42.4 -1.7**
WVT Waverly 61.41 59 *eP* **P 19 30 20.7 -2.7**
WVT pmax pmax
comp=Z,14nm,1.0s,mb5.0
WVT Waverly 61.41 59 *eP* **P 19 30 20.7 -2.7**
comp=Z,14nm,1.0s,mb5.0
LRAL Lakeview Retre 62.40 62 *eP* **P 19 30 28.3 -1.7**
comp=Z,26nm,1.1s,mb5.3
TKL Tuckaleechee C 64.74 59 LR LR 19 55 09.6
comp=Z,354nm,18.2s,MS4.6,baz=47,slow=33
MDJ Mudanjiang 65.24 311 P **P 19 30 49.8 +1.1**
MDJ PCP PcP 19 31 21.8 +0.7
MDJ S S 19 39 35.8 +3.8
MDJ AMB AMB
comp=Z,23nm,1.5s,mb5.0
MDJ AMB AMB
comp=Z,93nm,5.3s
MDJ LR LR
comp=N,103nm,26.5s,MS4.2
MDJ LR LR
comp=E,182nm,24.8s,MS4.2
MDJ LR LR
comp=Z,337nm,35.4s
MDJ Mudanjiang 65.24 311 *eP* **P 19 30 49.2 +0.4**
comp=Z,76nm,1.6s,mb5.5
YAK Yakutsk 65.26 330 *dP* **P 19 30 47.3 -1.6**
YAK pmax pmax
comp=Z,69nm,0.9s,mb5.7
YAK Yakutsk 65.26 330 *eP* **P 19 30 47.2 -1.7**
comp=Z,49nm,0.9s,mb5.5
GOGA Godfrey 65.28 62 *eP* **P 19 30 47.3 -1.7**
GOGA pmax pmax
comp=Z,35nm,1.1s,mb5.3
GOGA Godfrey 65.28 62 *eP* **P 19 30 47.3 -1.7**
comp=Z,35nm,1.1s,mb5.3
TIXI Tiksi 66.61 341 *eP* **P 19 30 56.1 -1.5**
TIXI pmax pmax
comp=Z,35nm,1.5s,mb5.2
TIXI Tiksi 66.61 341 *eP* **P 19 30 56.1 -1.5**
comp=Z,35nm,1.5s,mb5.2
ELN Prospectdale 66.95 57 *eP* **P 19 30 58.2 -1.5**
KSRS Korea Array 67.24 303 P **P 19 31 02.7 +1.1**
comp=Z,9.5nm,0.9s,mb4.8,baz=93,slow=6.0,SNR=13
CLNS Chul'man 67.61 324 *eP* **P 19 31 01.5 -2.4**
CLNS pmax pmax
comp=Z,35nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CN2 Changchun 68.28 310 *eP* **P 19 31 07.5 -0.6**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CTA Charters Tower 68.89 238 LR LR 19 55 43.1
comp=Z,307nm,21.7s,MS4.5,baz=55,slow=31
BOD Bodaibo 73.36 326 *eP* **P 19 31 37.4 -1.6**
BOD pmax pmax
comp=Z,36nm,1.5s,mb5.1
SCHQ Schefferville 73.71 37 LR LR 20 00 10.9
comp=Z,171nm,18.0s,MS4.4,baz=163,slow=33
SSE Sheshan 73.92 298 P **P 19 31 46.0 +3.7**
SSE S S 19 41 21.0 +6.9
SSE AMB AMB
comp=Z,22nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,211nm,4.1s
SSE LR LR
comp=N,56nm,24.6s,MS3.8
SSE LR LR
comp=E,19nm,24.6s,MS3.8
SSE LR LR
comp=Z,269nm,25.0s,MS4.4
SSE Sheshan 73.92 298 P **P 19 31 46.0 +3.7**
comp=Z,22nm,1.0s,mb5.0
SSE S S 19 41 21.0 +6.9
SSE LR LR
comp=Z,270nm,25.0s,MS4.4
NJ2 Nanjing 75.62 299 *eP* **P 19 31 55.4 +3.3**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
BJI Beijing 75.77 308 P **P 19 31 52.8 -0.2**
BJI AMB AMB
comp=Z,22nm,1.3s,mb4.9
BJI AMB AMB
comp=Z,320nm,4.7s
BJI LR LR
comp=N,82nm,39.1s,MS4.1
BJI LR LR
comp=E,180nm,37.1s,MS4.1
BJI LR LR
comp=Z,257nm,33.2s,MS4.3
BJI Beijing 75.77 308 P **P 19 31 52.8 -0.2**
comp=Z,22nm,1.3s,mb4.9
BJI S S 19 41 47.9 +13
BJI LR LR
comp=Z,260nm,33.2s,MS4.3
KAKA Kakadu 77.28 251 *eP* **P 19 32 02.7 +1.2**
comp=Z,14nm,1.1s,mb4.8
WRAB Tennant Creek 78.64 244 *eP* **P 19 32 08.3 -0.8**
WB2 Warramunga Arr 78.64 244 *eP* **P 19 32 09.6 +0.5**
WRA Warramunga Arr 78.65 244 P **P 19 32 09.6 +0.4**
comp=Z,8.5nm,0.8s,mb4.8,baz=61,slow=5.8,SNR=89
WRA LR LR 20 07 24.6
comp=Z,372nm,18.1s,MS4.8,baz=70,slow=36
STKA Stephens Creek 78.65 230 *eP* **P 19 32 10.3 +1.1**
comp=Z,4.1nm,0.7s,mb4.5
STKA Stephens Creek 78.65 230 P **P 19 32 10.3 +1.1**
comp=Z,4.6nm,0.7s,mb4.5,baz=43,slow=5.5,SNR=13
STKA LR LR 20 02 17.3
comp=Z,627nm,20.5s,MS4.9,baz=25,slow=32
HHC Hu-ho-hao-te 78.95 309 ⇓P **P 19 32 10.6 -0.2**
HHC XP sP 19 32 17.8 +1.8
HHC PP PP 19 35 11.0 +1.4
HHC S S 19 42 07.8 -1.5
HHC SKS 19 42 21.1
HHC SS SS 19 47 15.6 +1.1
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,138nm,4.9s
HHC LR LR
comp=N,197nm,17.9s,MS4.7
HHC LR LR
comp=E,224nm,19.7s,MS4.7
HHC LR LR
comp=Z,208nm,19.1s,MS4.5
ULN Ulaanbaatar 79.95 317 *eP* **P 19 32 15.4 -0.9**
ULN Ulaanbaatar 79.95 317 *eP* **P 19 32 16.3 0.0**
comp=Z,33nm,1.5s,mb5.0
BTO Baotou 80.14 310 *eP* **P 19 32 17.3 0.0**
DAG Danmarks Havn 80.35 9 ⇑*iP* **P 19 32 16.5 -1.9**
comp=Z,12nm,1.0s,mb4.8
DAG Danmarks Havn 80.35 9 ⇑*eP* **P 19 32 16.5 -1.9**
DAG pmax pmax
comp=Z,12nm,1.0s,mb4.8
DAG Danmarks Havn 80.35 9 ⇑*eP* **P 19 32 16.5 -1.9**
comp=Z,12nm,1.0s,mb4.8
SONM Songino Array 80.38 317 P **P 19 32 18.6 0.0**
comp=Z,4.6nm,1.0s,mb4.4,baz=73,slow=3.4,SNR=23
AS31 Alice Springs 80.64 241 *eP* **P 19 32 21.0 +1.0**
ASAR Alice Springs 80.64 241 P **P 19 32 21.1 +1.1**
comp=Z,12nm,0.9s,mb4.8,baz=60,slow=6.3,SNR=125
ASAR LR LR 20 06 17.1
comp=Z,422nm,18.4s,MS4.8,baz=54,slow=34
ASPA Alice Springs 80.65 241 *eP* **P 19 32 21.0 +1.0**
ROSC El Rosal 80.75 88 LR LR 19 59 53.3
comp=Z,168nm,19.3s,MS4.4,baz=203,slow=30
TLY Talaya 80.78 322 *eP* **P 19 32 20.6 -0.1**
TLY pmax pmax
comp=Z,23nm,1.4s,mb4.9
ZAK Zakamensk 81.45 320 *i* **P 19 32 24.4 +0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
SDV Santo Domingo 82.91 83 *eP* **P 19 32 32.1 +0.1**
comp=Z,16nm,0.8s,mb5.1
XAN Xi'an 83.04 304 P **P 19 32 32.4 -0.2**
XAN AMB AMB
comp=Z,17nm,1.7s,mb4.8
KRAR Krasnoyarsk 84.85 328 *eP* **P 19 32 41.1 -0.8**
KRAR pmax pmax
comp=Z,17nm,1.5s,mb5.0
FITZ Fitzroy Crossi 85.41 249 *eP* **P 19 32 46.8 +2.1**
comp=Z,8.9nm,0.9s,mb4.9
FITZ Fitzroy Crossi 85.41 249 LR LR 20 06 19.6
comp=Z,267nm,20.9s,MS4.6,baz=260,slow=32
LZH Lanzhou 86.23 307 ⇑P **P 19 32 49.4 +0.6**
LZH AP pP 19 33 00.5 +8.0
LZH XP sP 19 33 04.5 +11
LZH PP PP 19 36 11.8 +2.4
LZH SKS 19 43 09.8
LZH *eS* S 19 43 19.6 -4.1
LZH XS sS 19 43 39.3 +9.3
LZH SS SS 19 49 02.6 0.0
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,112nm,9.3s
LZH LR LR
comp=Z,747nm,18.2s,MS5.1
LZH Lanzhou 86.23 307 ⇑P **P 19 32 49.4 +0.6**
LZH *PP pP 19 33 00.5 +8.0
LZH 19 36 11.7
LZH 19 43 09.8
LZH *eS* S 19 43 19.6 -4.1
LZH SS SS 19 49 02.6 0.0
LZH pmax pmax
comp=Z,27nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,750nm,18.2s,MS5.1
LZH Lanzhou 86.23 307 ⇑P **P 19 32 49.4 +0.6**
comp=Z,27nm,1.5s,mb5.3
LZH pP pP 19 33 00.5 +8.0
LZH sP sP 19 33 04.5 +11
LZH PP PP 19 36 11.7 +2.3
LZH SKS 19 43 09.8
LZH *eS* S 19 43 19.6 -4.1
LZH sS sS 19 43 39.2 +9.2
LZH SS SS 19 49 02.6 0.0
LZH LR LR
comp=Z,750nm,18.2s,MS5.1
GYA Guiyang 87.45 297 ⇓*iP* **P 19 32 55.3 +0.6**
GYA AP pP 19 33 07.8 +9.3
GYA XP sP 19 33 12.4 +13
GYA PP PP 19 36 23.3 +4.1
GYA SKS 19 43 18.0
GYA S S 19 43 32.5 -3.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,110nm,5.2s
GYA LR LR
comp=N,340nm,19.4s,MS5.0
GYA LR LR
comp=E,410nm,19.8s,MS5.0
GYA LR LR
comp=Z,400nm,19.7s,MS4.8
GTA Gaotai 87.89 311 *eP* **P 19 32 57.1 +0.3**
GTA AP pP 19 33 07.8 +7.2
GTA XP sP 19 33 11.6 +10
GTA S S 19 43 38.0 -1.7
GTA SS SS 19 49 26.3 -0.6
GTA AMB AMB
comp=Z,17nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,152nm,6.1s
GTA LR LR
comp=N,170nm,19.0s,MS4.7
GTA LR LR
comp=E,173nm,14.5s,MS4.7
GTA LR LR
comp=Z,196nm,20.5s
CD2 Chengdu 88.22 302 *eP* **P 19 32 57.9 -0.5**
CD2 AP pP 19 33 08.5 +6.3
CD2 XP sP 19 33 12.4 +8.9
CD2 SKS 19 43 21.8
CD2 S S 19 43 38.1 -4.7
CD2 XS sS 19 43 55.8 +6.7
CD2 SS SS 19 49 30.8 -0.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,220nm,25.2s,MS4.7
CD2 LR LR
comp=E,290nm,22.8s,MS4.7
CD2 LR LR
comp=Z,230nm,22.8s,MS4.5
ZAL Zalesovo 89.90 329 P **P 19 33 06.1 -0.2**
comp=Z,5.7nm,1.0s,mb4.9,baz=58,slow=6.4,SNR=33
NVS Novosibirsk 90.13 330 *iP* **P 19 33 06.7 -0.6**
NVS pmax pmax
comp=Z,56nm,1.4s,mb5.7
NVS pmax pmax
comp=N,15nm,2.0s
NVS pmax pmax
comp=E,29nm,1.4s
ARCES ARCESS Array B 90.91 359 P **P 19 33 08.5 -2.4**
comp=E,3.0nm,0.8s,mb4.7,baz=40,slow=4.7,SNR=8.0
ARCES ARCESS Array B 90.91 359 P **P 19 33 08.5 -2.4**
KMI Kunming 91.23 297 P **P 19 33 10.3 -2.1**
KMI AP pP 19 33 24.1 +7.8
KMI XP sP 19 33 29.3 +12
KMI PP PP 19 36 47.1 -2.3
KMI S S 19 44 04.9 -5.9
KMI XS sS 19 44 29.3 +12
KMI SS SS 19 50 15.4 +0.2
KMI AMB AMB
comp=Z,13nm,1.6s,mb5.0
KMI AMB AMB
comp=Z,95nm,7.2s
KMI LR LR
comp=N,175nm,24.0s,MS4.5
KMI LR LR
comp=E,184nm,28.6s,MS4.5
KMI LR LR
comp=Z,228nm,32.3s,MS4.4
KMI Kunming 91.23 297 P **P 19 33 10.2 -2.2**
KMI *PP pP 19 33 24.1 +7.8
KMI 19 36 47.1
KMI PPP 19 38 50.0
KMI S S 19 44 04.9 -5.9
KMI PS PS 19 45 25.1 +4.8
KMI SS SS 19 50 15.4 +0.2
KMI pmax pmax
comp=Z,13nm,1.6s,mb5.0
KMI MLR MLR
comp=Z,230nm,32.3s,MS4.4
KMI Kunming 91.23 297 P **P 19 33 10.2 -2.2**
comp=Z,13nm,1.6s,mb5.0
KMI pP pP 19 33 24.1 +7.8
KMI sP sP 19 33 29.2 +12
KMI PP PP 19 36 47.1 -2.3
KMI PPP 19 38 50.0
KMI S S 19 44 04.9 -5.9

KMI					sS	sS	19 44 29.3	+12
KMI					PS	PS	19 45 25.1	+4.8
KMI					SS	SS	19 50 15.4	+0.2
KMI					LR	LR		
	comp=Z,230nm,32.3s,MS4.4							
LPAZ	**La Paz**	**93.64**	**106**		P	**P**	**19 33 22.6**	**-1.0**
	comp=Z,0.3nm,0.4s,mb4.0,baz=227,slow=16,SNR=2.0							
LPAZ					LR	LR	20 07 30.2	
	comp=Z,124nm,21.8s,MS4.3,baz=128,slow=30							
WMQ	**Urumqi**	**93.87**	**319**	⇑	P	**P**	**19 33 24.0**	**-0.6**
WMQ					AP	pP	19 33 34.8	+6.3
WMQ					XP	sP	19 33 38.6	+8.8
WMQ					PP	PP	19 37 13.3	+3.1
WMQ					SKS		19 43 54.5	
WMQ					*e*S	S	19 44 29.5	-4.9
WMQ					XS	sS	19 44 46.8	+6.1
WMQ					AMB	AMB		
	comp=Z,4.0nm,0.6s,mb5.0							
WMQ					AMB	AMB		
	comp=Z,46nm,4.7s							
WMQ					LR	LR		
	comp=N,133nm,20.5s,MS4.4							
WMQ					LR	LR		
	comp=E,62nm,23.6s,MS4.4							
WMQ					LR	LR		
	comp=Z,261nm,20.5s,MS4.7							
MKAR	**Makanchi Array**	**95.36**	**324**		P	**P**	**19 33 31.3**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.4,baz=45,slow=5.8,SNR=6.9							
MKAR	**Makanchi Array**	**95.36**	**324**	*i*	P	**P**	**19 33 31.2**	**-0.3**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**95.36**	**324**		P	**P**	**19 33 31.3**	**-0.2**
FINES	**FINESS Array B**	**99.02**	**359**		P	**P**	**19 33 45.7**	**-2.3**
	comp=Z,0.8nm,0.6s,mb4.4,baz=90,slow=1.9,SNR=5.7							
FINES	**FINESS Array B**	**99.02**	**359**	*i*	P	**P**	**19 33 47.0**	**-1.0**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MIR	**Mirnyy**	**116.24**	**205**	*e*	P	Pdif	19 35 10.5	+5.9
MIR					pmax	pmax		
	comp=Z,300nm,1.0s							
MAW	**Mawson**	**126.23**	**197**		PKP	PKPdf	19 39 08.9	-0.9
	comp=Z,1.6nm,0.9s,baz=276,slow=19,SNR=2.9							
TORD	**Torodi Ar. Bea**	**140.70**	**35**		PKhKP		19 39 28.4	
	comp=Z,0.2nm,0.4s,baz=350,slow=3.6,SNR=7.2							
TORD					PKP	PKPdf	19 39 35.8	-1.1
	comp=Z,2.6nm,0.9s,baz=333,slow=3.0,SNR=11							
TORD	**Torodi Ar. Bea**	**140.70**	**35**		PKP	PKPdf	19 39 35.8	-1.1
KMBO	**Kilima Mbogo**	**157.24**	**323**		PKP	PKPdf	19 40 04.3	+1.2
	comp=Z,1.1nm,0.3s,baz=183,slow=23,SNR=3.0							

IGQ 23 19:46:27.0, 337S×7780W, h12km±5km, Mb4.8, Ms4.7, 1D, Error ellipse: s-maj=26.8km s-min=5.6km az=161.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATA	**Patacocha**	**1.96**	**341**	P		Pn	19 47 03.0	+3.0
ARRY	**Arrayan**	**1.96**	**341**	P		Pn	19 47 02.4	+2.3
ULBA	**Ulba**	**2.00**	**342**	P		Pn	19 47 03.0	+2.4
RETU	**Refugio**	**2.01**	**341**	P		Pn	19 47 04.6	+3.9
RETU				S		Sn	19 47 29.2	+3.3
RUN5	**Runtun**	**2.04**	**342**	P		Pn	19 47 02.8	+1.7
RUN5				S		Sn	19 47 29.0	+2.5
JUIV	**Juive**	**2.04**	**341**	⇓P		Pn	19 47 04.8	+3.6
JUIV				S		Sn	19 47 29.5	+2.9
IGUA	**Igualata**	**2.05**	**336**	P		Pn	19 47 05.5	+4.2
IGUA				S		Sn	19 47 31.1	+4.5
PISA	**Pisayambo**	**2.37**	**346**	P		Pn	19 47 08.1	+2.4
PISA				S		Sn	19 47 39.7	+5.1

IDC 23 19:47:37.9±2.4, 627S×15114E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, ML1.9/1, Error ellipse: s-maj=64.3km s-min=36.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.03**	**231**	Pn		Pn	19 48 54.7	+0.2
	0.3nm,0.3s,baz=131,slow=16,SNR=2.4							
PMG				Sn		Sn	19 49 54.5	+1.1
	2.2nm,0.3s,baz=162,slow=21,SNR=4.2							
WB2	**Warramunga Arr**	**21.23**	**229**	*e*P		P	19 52 25.9	+0.6
WRA	**Warramunga Arr**	**21.24**	**229**	P		P	19 52 26.8	+1.4
	1.3nm,0.7s,baz=54,slow=10,SNR=16							
ASAR	**Alice Springs**	**23.96**	**222**	P		P	19 52 53.9	+0.1
	1.4nm,0.5s,baz=57,slow=8.8,SNR=32							
STKA	**Stephens Creek**	**27.00**	**198**	P		P	19 53 21.0	-0.4
	1.3nm,0.5s,baz=18,slow=7.1,SNR=4.1							
FITZ	**Fitzroy Crossi**	**27.52**	**242**	*e*P		P	19 53 26.8	+0.8
	1.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.52**	**242**	P		P	19 53 26.0	-0.1
	1.3nm,0.6s,baz=47,slow=8.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc		PKPbc	20 07 29.2	+1.1
	0.3nm,0.6s,baz=90,slow=2.5,SNR=3.9							

*BJI **23** 19:54:06.8, 48.10N×153.90E, h10km, mB5.1, mb4.4*
*ISCJB **23** 19:54:12.5±1.0, 48.14N±0.07°×153.94E±0.10, h69km±8km, mb4.2/24, Error ellipse: s-maj=14.8km s-min=5.6km az=96.7*
*MOS **23** 19:54:13.0±1.2, 48.10N×153.95E, h76km, mb4.4/15, Error ellipse: s-maj=13.9km s-min=10.9km az=74.8*
*NEIC **23** 19:54:15.8±1.2, 48.11N×153.89E, h85km±11km, mb4.6/5, Error ellipse: s-maj=12.1km s-min=8.0km az=149.0*
*IDC **23** 19:54:17.9±3.6, 48.06N×153.79E, h102km±32km, mb3.7/17, mb1 4.0/18, mb1mx3.8/26, mbtmp3.8/18, MS3.2/1, Ms1 3.2/1, ms1mx2.6/45, Error ellipse: s-maj=16.2km s-min=13.4km az=124.0*

ISC 23 19:54:14.7±0.8, 4818N±0.07°×15393E±0.10, h73km±7km, n68, σ0.9s96/66, mb4.2/24, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.88**	**29**	*e*PN		**Pn**	**19 54 57.5**	**-0.9**
SKR				*e*S		**Sn**	**19 55 31.0**	**-0.9**
SKR				pmax	pmax			
	comp=N,90nm,0.5s							
SKR				pmax	pmax			
	comp=Z,150nm,0.5s							
SKR				smax				
	comp=N,1μm,0.3s							
SKR				smax				
	comp=E,920nm,0.3s							
PET	**Petropavlovsk**	**5.71**	**30**	*e*PN		**Pn**	**19 55 37.2**	**+0.4**
PET				*e*S		**Sn**	**19 56 40.8**	**-0.1**
PET				pmax	pmax			
	comp=Z,22nm,0.4s							
PET	**Petropavlovsk**	**5.71**	**30**	*e*P		**Pn**	**19 55 37.2**	**+0.3**
	comp=Z,22nm,0.4s							
PET				*e*S		**Sn**	**19 56 40.8**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**6.97**	**237**	PN		**Pn**	**19 55 53.0**	**-1.2**
YUK				*e*S		**Sn**	**19 57 12.5**	**+0.5**
YUK				smax				
	comp=E,290nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.66**	**265**	⇑*i*PN		**Pn**	**19 56 05.5**	**+1.9**
YSS				pmax	pmax			
	comp=Z,60nm,0.6s							
YSS	**Yuzh-Sakhalins**	**7.66**	**265**	*e*P		**Pn**	**19 56 05.7**	**+2.1**
	comp=Z,97nm,0.8s							
ASAJ	**Asahikawa**	**8.86**	**247**	P		**Pn**	**19 56 21.3**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=70,slow=14,SNR=22							
ASAJ				LR		LR	19 59 22.1	
	comp=Z,168nm,20.6s,baz=349,slow=35							
KLR	**Kul'dur**	**14.68**	**282**	*e*P		**Pn**	**19 57 38.0**	**-0.4**
MJAR	**Matsushiro Arr**	**16.40**	**231**	P		**Pn**	**19 57 55.1**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=51,SNR=4.0							
YAK	**Yakutsk**	**19.45**	**324**	*e*P		**Pn**	**19 58 39.3**	**+2.1**
YAK				pmax	pmax			
	comp=Z,19nm,0.7s							
YAK				pmax	pmax			
	comp=N,13nm,1.7s							
YAK				pmax	pmax			
	comp=E,13nm,1.3s							
YAK	**Yakutsk**	**19.45**	**324**	P		**Pn**	**19 58 35.7**	**-1.5**
	comp=E,25nm,0.6s							
CN2	**Changchun**	**20.21**	**268**	*e*P		**P**	**19 58 42.3**	**-1.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.0s							
BILL	**Bilibino**	**20.87**	**13**	*e*P		pP	19 59 02.2	-3.6
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KSRS	**Korea Array**	**21.78**	**250**	P		**P**	**19 59 00.5**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.1,baz=54,slow=9.8,SNR=16							
SONM	**Songino Array**	**31.41**	**287**	P		**P**	**20 00 28.3**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.3,baz=90,slow=8.6,SNR=3.3							
SONM	**Songino Array**	**31.41**	**287**	P		**P**	**20 00 28.3**	**-0.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
IMA2	**Indian Mountai**	**32.33**	**37**	*e*P		**P**	**20 00 37.4**	**+0.6**
INK	**Inuvik**	**40.15**	**33**	P		**P**	**20 01 44.5**	**+1.0**
	comp=Z,5.1nm,0.6s,mb4.5,baz=295,slow=7.6,SNR=33							
INK	**Inuvik**	**40.15**	**33**	P		**P**	**20 01 44.5**	**+1.0**
INK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZAL	**Zalesovo**	**42.26**	**305**	P		**P**	**20 02 00.3**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.7,baz=118,slow=3.7,SNR=3.0							
ZAL				PcP	PcP		20 03 53.6	+0.1
	comp=Z,0.9nm,0.5s,baz=28,slow=4.0,SNR=4.9							
ZAL	**Zalesovo**	**42.26**	**305**	P		**P**	**20 02 00.4**	**-0.4**
ZAL							20 03 53.6	
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**	**20 02 37.1**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.1,baz=67,slow=8.2,SNR=20							
MKAR				PcP	PcP		20 04 08.9	-0.1
	comp=Z,0.6nm,0.6s,baz=67,slow=2.1,SNR=4.2							
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**	**20 02 37.2**	**+0.3**
MKAR							20 04 08.9	
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P		**P**	**20 02 59.7**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P		**P**	**20 02 59.7**	**-1.5**
	comp=Z,4.2nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**50.39**	**309**	P		**P**	**20 03 03.7**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=60,slow=8.0,SNR=9.9							
BVAR				PcP	PcP		20 04 21.9	-0.1
	comp=Z,1.0nm,0.5s,baz=62,slow=3.4,SNR=4.6							
BVAR	**Borovoye Array**	**50.39**	**309**	P		**P**	**20 03 03.7**	**-0.8**
BVAR							20 04 21.9	
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LSA	**Lhasa**	**50.76**	**273**	P		**P**	**20 03 08.6**	**+1.3**
LSA	**Lhasa**	**50.76**	**273**	*e*P		**P**	**20 03 08.2**	**+0.9**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**50.76**	**273**	*e*P		**P**	**20 03 08.2**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.6							
CHTO	**Chiang Mai**	**52.99**	**256**	*e*P		**P**	**20 03 23.7**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
CHTO	**Chiang Mai**	**52.99**	**256**	*e*P		**P**	**20 03 23.7**	**-0.3**
	comp=Z,6.1nm,0.8s,mb4.7							
JIRN	**Jiri**	**55.39**	**274**	*e*P		**P**	**20 03 41.9**	**+0.5**
GUN	**Gumba**	**55.44**	**275**	*e*P		**P**	**20 03 42.6**	**+0.9**
	comp=Z,7.6nm,0.4s,mb5.1							
KKN	**Kakani**	**55.91**	**275**	*e*P		**P**	**20 03 45.4**	**+0.3**
	comp=Z,7.7nm,0.5s,mb5.0							
PKI	**Pulchoki**	**55.97**	**275**	*e*P		**P**	**20 03 46.0**	**+0.5**
DMN	**Daman**	**56.15**	**275**	*e*P		**P**	**20 03 47.6**	**+0.8**
GKN	**Gorkha**	**56.20**	**276**	*e*P		**P**	**20 03 47.3**	**+0.1**
	comp=Z,12nm,0.6s,mb5.1							
ARCES	**ARCESS Array B**	**56.69**	**341**	P		**P**	**20 03 51.4**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.3,baz=28,slow=9.6,SNR=3.7							
ARCES	**ARCESS Array B**	**56.69**	**341**	P		**P**	**20 03 51.4**	**+0.8**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KOLN	**Koldanda**	**57.05**	**276**	*e*P		**P**	**20 03 53.6**	**+0.4**
FINES	**FINESS Array B**	**62.99**	**335**	P		**P**	**20 04 32.5**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=42,slow=7.6,SNR=8.9							
FINES	**FINESS Array B**	**62.99**	**335**	P		**P**	**20 04 32.6**	**-1.2**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
HWUT	**Hardware Ranch**	**63.12**	**57**	*e*P		**P**	**20 04 36.0**	**+1.3**
	comp=Z,1.8nm,0.7s,mb4.1							
PDAR	**Pinedale Array**	**63.46**	**55**	P		**P**	**20 04 38.0**	**+1.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=285,slow=2.2,SNR=16							
NB2	**NORSAR Subarra**	**67.06**	**341**	P		**P**	**20 04 59.4**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.7,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**67.06**	**341**	P		**P**	**20 04 59.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.6,baz=40,slow=4.9,SNR=3.0							
NOA	**NORSAR Array B**	**67.06**	**341**	P		**P**	**20 04 59.3**	**-0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**70.04**	**200**	P		**P**	**20 05 17.0**	**-1.8**
	comp=Z,1.6nm,0.7s,mb4.0,baz=16,slow=6.3,SNR=15							
WRA	**Warramunga Arr**	**70.04**	**200**	P		**P**	**20 05 17.0**	**-1.8**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ANMO	**Albuquerque**	**70.61**	**59**	P		**P**	**20 05 23.7**	**+1.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=272,slow=5.8,SNR=3.9							
ANMO	**Albuquerque**	**70.61**	**59**	P		**P**	**20 05 23.7**	**+1.4**
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**70.67**	**209**	P		**P**	**20 05 21.0**	**-1.5**
	comp=Z,1.6nm,0.9s,mb3.9,baz=81,slow=11,SNR=7.2							
AS31	**Alice Springs**	**73.74**	**199**	*e*P		**P**	**20 05 39.4**	**-1.6**
ASAR	**Alice Springs**	**73.74**	**199**	P		**P**	**20 05 40.2**	**-0.7**
	comp=Z,2.8nm,1.0s,mb4.0,baz=13,slow=5.6,SNR=30							
ASAR	**Alice Springs**	**73.74**	**199**	P		**P**	**20 05 40.3**	**-0.6**
ASAR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**75.39**	**336**	*e*P		**P**	**20 05 50.0**	**-0.5**
TXAR	**Lajitas Array**	**76.31**	**61**	P		**P**	**20 05 56.6**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.2,baz=300,slow=4.2,SNR=32							
TXAR	**Lajitas Array**	**76.31**	**61**	P		**P**	**20 05 56.6**	**+0.9**
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
GERES	**GERESS Array B**	**77.41**	**334**	P		**P**	**20 06 01.9**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=36,slow=5.3,SNR=6.7							
GERES	**GERESS Array B**	**77.41**	**334**	P		**P**	**20 06 01.9**	**0.0**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**77.73**	**317**	P		**P**	**20 06 03.9**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.4,baz=36,slow=6.4,SNR=4.1							
BRTR	**Keskin Array B**	**77.73**	**317**	P		**P**	**20 06 03.9**	**+0.2**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**114.14**	**330**	PKP		PKiKP	20 12 44.9	-0.8
	comp=Z,0.5nm,0.5s,baz=17,slow=2.1,SNR=14							
CFAA	**Coronel Fontan**	**144.17**	**78**	PKP		PKPdf	20 13 39.5	-2.6
	comp=Z,0.3nm,0.4s,baz=283,slow=4.0,SNR=4.6							
CFAA	**Coronel Fontan**	**144.17**	**78**	PKP		PKPdf	20 13 39.5	-2.6
VNA2	**Neumayer--Wazi**	**155.53**	**195**	*e*		PKPab	20 14 23.5	-2.5
VNA2				*e*			20 14 26.8	
VNA3	**Neumayer Olymp**	**155.61**	**193**	*e*		PKPab	20 14 23.0	-3.4
VNA3				*e*			20 14 26.6	

*NIED **23** 20:04:00, 4760N×154.70E, h26km, Mw5.4 Best double couple: M0 1.46000×10^17 NP1:φs50.00000°, δ70.00000°, λ131.00000°. NP2:φs161.00000°, δ44.00000°, λ29.00000°.*
*SKHL **23** 20:04:40.3±1.4, 4696N×155.13E, h51km±18km, mb6.1/6, mbh5.9/3, Ms5.4/7, msh6.4/4*
*BJI **23** 20:04:44.7, 4781N×15441E, h19km, mB5.5, mb5.6, Ms5.4, Msz5.2*
*ISCJB **23** 20:04:45.4±0.1, 4748N±0.002×15429E±0.02, h13km, mb5.7/304, MS5.0/210, Error ellipse: s-maj=3.1km s-min=1.5km az=148.7*
*NEIC **23** 20:04:46.6±1.6, 4754N×154.20E, h10km±9km, mb5.7/147, MS5.0/160, MW5.4, Error ellipse: s-maj=3.5km s-min=2.3km az=169.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; Mrr 1.51; Mθθ -0.37; Mφφ -1.13; Mrθ 0.34; Mθφ -0.73; Mrφ 0.18; Best double couple: M0 1.60000×10^17 NP1:φs39.00000°, δ52.00000°, λ99.00000°. NP2:φs204.00000°, δ39.00000°, λ79.00000°. Principal axes: T 1.5700, Plg80.0000°, Azm352.0000°; N 0.0500, Plg7.0000°, Azm213.0000°; P -1.6100, Plg6.0000°, Azm122.0000°;*
*GCMT **23** 20:04:46.6±0.1, 4752N×154.62E, h28km, MW5.5/98, Moment Tensor Solution. s85,c169; s98,c248; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr 1.78±.03; Mθθ -0.32±.02; Mφφ -1.45±.02; Mrθ 0.54±.04; Mθφ -1.02±.02; Mrφ 1.01±.04; Best double couple: M0 2.23200×10^17 NP1:φs29.00000°, δ60.00000°, λ88.00000°. NP2:φs212.00000°, δ30.00000°, λ93.00000°.*
Principal axes: T 2.0970, Plg75.0000°, Azm295.0000°; N 0.2770, Plg1.0000°, Azm30.0000°; P -2.3680, Plg15.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*BGS **23** 20:04:49.0, 4799N×154.36E, h10km, mb5.8*
*MOS **23** 20:04:51.1±1.1, 4752N×154.15E, h56km, mb5.8/104, MS5.1/75, Error ellipse: s-maj=6.4km s-min=3.6km az=107.4*
*IDC **23** 20:04:52.2±2.1, 4761N×154.15E, h51km±18km, mb5.0/29, mb1 5.1/30, mb1mx5.1/31, mbtmp5.0/30, ML4.7/1, MS4.9/38, Ms1 4.9/38, ms1mx4.7/45, Error ellipse: s-maj=12.6km s-min=9.4km az=136.0*
*SZGRF **23** 20:04:59.7, 4888N×153.13E, h33km, mb6.0, MS5.2, Kuril Islands, Russia*

ISC 23 20:04:47.6±0.8, 4764N±0.002×15419E±0.002, h14km±5km, h14km±1.1km:pP-P, n1380, σ0.8s84/1332, mb5.7/304, MS5.0/209, 387C-127D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.30**	**22**	*e*P		**Pn**	**20 05 39.0**	**+0.2**
SKR				AMB	AMB	20 05 46.5	
	2μm,1.0s						
SKR				AMB	AMB	20 05 46.5	
	2μm,1.0s						
SKR				AMB	AMB	20 05 46.5	
	4μm,1.0s						
SKR				AMB	AMB	20 05 52.0	
	10μm,6.0s						
SKR				AMB	AMB	20 05 52.0	
	10μm,6.0s						
SKR				AMB	AMB	20 05 52.0	
	10μm,6.0s						
SKR				AMB	AMB	20 05 52.0	
	10μm,6.0s						
SKR				*e*S	**Sn**	**20 06 22.0**	**+4.2**
SKR				A		20 06 26.0	
	12μm,2.0s						
SKR				A		20 06 26.0	
	34μm,2.0s						
SKR				A		20 06 26.0	
	7μm,2.0s						
SKR				A		20 06 26.0	
	13μm,2.0s						
SKR				A		20 06 26.0	
	35μm,2.0s						
SKR				A		20 06 26.0	
	8μm,2.0s						
SKR				A		20 06 36.5	
	8μm,0.5s						
SKR				A		20 06 36.5	
	5μm,0.5s						
SKR				A		20 06 36.5	
	2μm,1.0s						
SKR				AMS	AMS	20 07 14.0	
	30μm,14.0s						
SKR				AMS	AMS	20 07 14.0	
	33μm,14.0s						
SKR				AMS	AMS	20 07 14.0	
	38μm,12.0s						
SKR				AMS	AMS	20 07 14.0	
	31μm,14.0s						
SKR				AMS	AMS	20 07 14.0	
	33μm,14.0s						
SKR				AMS	AMS	20 07 14.0	
	36μm,12.0s						
KUR	**Kuril'sk**	**4.99**	**244**	⇑*i*P		**Pn**	**20 05 59.8**	**-2.2**
KUR				AMB	AMB	20 06 05.0	
	304nm,0.6s						
KUR				AMB	AMB	20 06 05.0	
	327nm,0.6s						
KUR				AMB	AMB	20 06 05.0	
	167nm,0.6s						
KUR				AMB	AMB	20 06 12.0	
	8μm,5.0s						
KUR				*e*S	**Sn**	**20 07 00.5**	**+1.0**
KUR				A		20 07 05.0	
	46μm,2.0s						
KUR				A		20 07 05.0	
	48μm,2.0s						
KUR				A		20 07 23.3	
	5μm,0.6s						
KUR				A		20 07 23.3	
	5μm,0.6s						
KUR				AMS	AMS	20 08 53.0	
	11μm,12.0s						
KUR				AMS	AMS	20 08 53.0	
	13μm,12.0s						
KUR				AMS	AMS	20 08 53.0	
	16μm,12.0s						
KUR	**Kuril'sk**	**4.99**	**244**	⇑*i*PN		**Pn**	**20 05 59.8**	**-2.2**
KUR				pmax	pmax			
	comp=N,300nm,0.6s							
KUR				pmax	pmax			
	comp=E,330nm,0.6s							
KUR				pmax	pmax			
	comp=Z,170nm,0.6s							
KUR				pmax	pmax			
	comp=N,8μm,5.0s							
KUR				pmax	pmax			
	comp=E,12μm,5.0s							
KUR				pmax	pmax			
	comp=Z,8μm,5.0s							
KUR				MLR	MLR			
	comp=N,11μm,12.0s							
KUR				MLR	MLR			
	comp=E,13μm,12.0s							
KUR				MLR	MLR			
	comp=Z,16μm,12.0s							
PET	**Petropavlovsk**	**6.10**	**26**	⇑*i*PN		**Pn**	**20 06 17.6**	**+0.3**
PET				pmax	pmax			
	comp=Z,556nm,1.3s							
PET				pmax	pmax			
	comp=N,619nm,1.2s							
PET				pmax	pmax			
	comp=E,355nm,1.2s							
PET				MLR	MLR			
	comp=Z,6μm,21.0s							
PET	**Petropavlovsk**	**6.10**	**26**	*e*Pn		**Pn**	**20 06 17.5**	**+0.2**
	comp=Z,393nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.84**	**241**	*e*P		**Pn**	**20 06 29.9**	**+2.4**
YUK				AMB	AMB	20 06 37.0	
	comp=Z,420nm,0.4s							
YUK				AMB	AMB	20 06 37.0	
	comp=Z,620nm,0.5s							
YUK				AMB	AMB	20 06 37.0	
	comp=Z,1μm,0.5s							
YUK				*e*S	**Sn**	**20 07 49.0**	**+3.9**
YUK				A		20 08 05.0	
	comp=Z,15μm,3.0s							
YUK				A		20 08 05.0	
	comp=Z,33μm,2.8s							
YUK				A		20 08 18.5	
	comp=Z,6μm,0.7s							
YUK				A		20 08 18.5	
	comp=Z,3μm,0.6s							
YUK				AMS	AMS	20 08 45.0	
	comp=Z,22μm,16.0s							
YUK				AMS	AMS	20 08 45.0	
	comp=Z,31μm,20.0s							
YUK	**Yuzh-Kuril'sk**	**6.84**	**241**	*e*PN		**Pn**	**20 06 29.9**	**+2.4**

YSS	**Yuzh-Sakhalins**	**7.81 269**	⇓	*i*P	**Pn**	**20 06 45.4**	**+4.7**
YSS				AMB	AMB	20 06 47.6	
	comp=E,620nm,1.1s						
YSS				*e*S	**Sn**	**20 08 14.0**	**+5.1**
YSS				*e*LQ		20 08 46.0	
YSS				AMS	AMS	20 09 42.0	
	comp=E,22µm,16.0s						
YSS				AMS	AMS	20 09 42.0	
	comp=E,16µm,16.0s						
YSS				AMS	AMS	20 09 42.0	
	comp=E,17µm,17.0s						
YSS				AMS	AMS	20 09 42.0	
	comp=E,18µm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.81 269**	⇓	*i*PN	**Pn**	**20 06 45.4**	**+4.7**
YSS				*e*S	**Sn**	**20 08 14.0**	**+5.1**
YSS				pmax	pmax		
	comp=Z,620nm,1.1s						
YSS				MLR	MLR		
	comp=Z,18µm,16.0s						
YSS				MLR	MLR		
	comp=E,17µm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.81 269**		*e*Pn	**Pn**	**20 06 45.4**	**+4.6**
	comp=E,328nm,0.6s						
JTKR	**Abashiri--Toko**	**8.06 247**		P	**Pn**	**20 06 46.6**	**+2.3**
JAK	**Akkeshi**	**8.14 239**		P	**Pn**	**20 06 44.9**	**-0.4**
JAK				*e*S	**Sn**	**20 08 13.5**	**-3.6**
UGL	**Uglegorsk**	**8.21 285**		*e*P	**Pn**	**20 06 52.0**	**+5.8**
UGL				AMB	AMB	20 06 54.0	
	comp=E,2µm,1.5s						
UGL				AMB	AMB	20 06 54.0	
	comp=E,210nm,0.4s						
UGL				AMS	AMS	20 10 24.0	
	comp=E,18µm,14.0s						
UGL				AMS	AMS	20 10 24.0	
	comp=E,26µm,14.0s						
UGL				AMS	AMS	20 10 24.0	
	comp=E,21µm,14.0s						
TYV	**Tymovskoe**	**8.21 297**		*e*P	**Pn**	**20 06 51.8**	**+5.5**
TYV				AMB	AMB	20 06 56.0	
	comp=E,3µm,5.0s						
TYV				AMB	AMB	20 06 56.0	
	comp=E,66nm,1.0s						
TYV				AMB	AMB	20 06 56.0	
	comp=E,276nm,1.0s						
TYV				AMS	AMS	20 10 28.0	
	comp=E,23µm,15.0s						
TYV				AMS	AMS	20 10 28.0	
	comp=E,13µm,16.0s						
JMP	**Maruseppu**	**8.39 248**		P	**Pn**	**20 06 51.4**	**+2.7**
JSE	**Soyaes**	**8.47 256**		P	**Pn**	**20 06 55.4**	**+5.5**
JAR	**Ashorobuto**	**8.51 243**		P	**Pn**	**20 06 51.0**	**+0.6**
JAR				*e*S	**Sn**	**20 08 27.6**	**+1.4**
JOB	**Onbets**	**8.70 241**		P	**Pn**	**20 06 52.9**	**-0.1**
JOB				*e*S	**Sn**	**20 08 28.7**	**-2.1**
JWK2	**Keihoku**	**8.80 259**		P	**Pn**	**20 07 01.1**	**+6.8**
ASAJ	**Asahikawa**	**8.82 251**		P	**Pn**	**20 06 58.4**	**+3.7**
	comp=E,8.6nm,0.3s,baz=78,slow=12,SNR=50						
ASAJ				LR	LR	20 10 11.5	
	comp=E,10µm,18.4s,baz=331,slow=36						
ASAJ	**Asahikawa**	**8.82 251**		P	**Pn**	**20 06 58.3**	**+3.7**
ASAJ	**Asahikawa**	**8.82 251**		PN	**Pn**	**20 06 58.4**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,10µm,18.4s						
JKK2	**Kamakawa 2**	**8.84 249**		P	**Pn**	**20 06 57.8**	**+2.9**
JCH	**Churui**	**9.15 241**		P	**Pn**	**20 06 58.8**	**-0.4**
JCH				*e*S	**Sn**	**20 08 38.1**	**-3.8**
OKH	**Okha**	**9.29 314**		*e*P	**Pn**	**20 07 03.5**	**+2.5**
OKH				*e*S	**Sn**	**20 08 51.9**	**+6.7**
OKH				A		20 08 53.0	
	comp=Z,1µm,0.9s						
OKH				*e*LQ		20 09 43.8	
OKH				AMS	AMS	20 12 06.2	
	comp=E,23µm,12.0s						
OKH				AMS	AMS	20 12 06.2	
	comp=E,10µm,11.0s						
OKH				AMS	AMS	20 12 06.2	
	comp=E,19µm,13.0s						
OKH	**Okha**	**9.29 314**		*e*PN	**Pn**	**20 07 03.5**	**+2.5**
OKH				*e*S	**Sn**	**20 08 51.9**	**+6.7**
OKH				MLR	MLR		
	comp=Z,23µm,12.0s						
JFR	**Furan**	**9.30 246**		P	**Pn**	**20 07 03.0**	**+1.8**
JAB	**Ashibetsu**	**9.35 248**		P	**Pn**	**20 07 05.0**	**+3.1**
JEM	**Erimo**	**9.64 238**		P	**Pn**	**20 07 05.1**	**-0.8**
ERM	**Erimo**	**9.64 238**		Pn	**Pn**	**20 07 06.1**	**+0.2**
	comp=Z,2µm,0.4s,SNR=26						
ERM	**Erimo**	**9.64 238**		*e*Pn	**Pn**	**20 07 06.4**	**+0.5**
	comp=Z,185nm,0.5s						
JBT2	**Biratori 2**	**9.66 244**		P	**Pn**	**20 07 07.0**	**+0.9**
NKL	**Nikolayevsk**	**10.24 308**		*e*P	**Pn**	**20 07 15.0**	**+1.0**
NKL				AMB	AMB	20 07 18.7	
	comp=Z,330nm,1.1s						
NKL				AMB	AMB	20 07 18.7	
	comp=Z,580nm,1.1s						
NKL				AMB	AMB	20 07 18.7	
	comp=Z,740nm,1.1s						
NKL				AMB	AMB	20 07 20.0	
	comp=Z,2µm,8.0s						
NKL				AMB	AMB	20 07 20.0	
	comp=Z,2µm,5.0s						
NKL				*e*L		20 10 06.0	
NKL				AMS	AMS	20 12 00.0	
	comp=Z,8µm,15.0s						
NKL				AMS	AMS	20 12 00.0	
	comp=Z,14µm,15.0s						
JNB	**Noboribetsu**	**10.64 246**		P	**Pn**	**20 07 19.3**	**-0.3**
JNB				*e*S	**Sn**	**20 09 13.5**	**-5.0**
JKB	**Kayabe**	**10.97 243**		P	**Pn**	**20 07 22.3**	**-1.8**
JKB				*e*S	**Sn**	**20 09 19.0**	**-7.7**
JYM2	**Yakumo 2**	**11.25 246**		P	**Pn**	**20 07 27.3**	**-0.6**
JOT	**Ohata**	**11.27 241**		P	**Pn**	**20 07 25.9**	**-2.3**
JSR	**Shiriuchi**	**11.56 243**		P	**Pn**	**20 07 30.8**	**-1.3**
JTM	**Tenmabayashi**	**11.63 239**		P	**Pn**	**20 07 30.1**	**-3.1**
JTM				*e*S	**Sn**	**20 09 31.4**	**-11**
JANG	**Nango**	**11.65 236**		P	**Pn**	**20 07 29.0**	**-4.4**
JANG				*e*S	**Sn**	**20 09 31.1**	**-12**
JTH	**Tanohata**	**11.76 234**		*e*S	**Sn**	**20 09 33.4**	**-13**
JOSM	**Okushiri--Mats**	**11.82 247**		P	**Pn**	**20 07 34.8**	**-0.9**
MA2	**Magadan**	**12.13 352**		*e*PN	**Pn**	**20 07 41.1**	**+1.1**
MA2				pmax	pmax		
	comp=Z,200nm,1.0s						
MA2				pmax	pmax		
	comp=N,200nm,1.1s						
MA2				MLR	MLR		
	comp=Z,10µm,16.0s						
MA2	**Magadan**	**12.13 352**		*e*Pn	**Pn**	**20 07 43.0**	**+3.0**
	comp=Z,136nm,0.9s						
JOM	**Ohasama**	**12.40 234**		P	**Pn**	**20 07 41.1**	**-2.6**
TEY	**Ternei**	**12.43 264**		*e*P	**Pn**	**20 07 47.0**	**+2.9**
TEY				AMB	AMB	20 07 48.5	
	comp=Z,220nm,1.3s						
TEY				AMB	AMB	20 07 48.5	
	comp=Z,280nm,1.7s						
TEY				AMB	AMB	20 07 56.3	
	comp=Z,3µm,7.0s						
TEY				AMB	AMB	20 07 56.3	
	comp=Z,3µm,7.0s						
TEY				*e*L		20 10 35.0	
TEY				AMS	AMS	20 12 22.0	
	comp=Z,4µm,15.0s						
TEY				AMS	AMS	20 12 22.0	
	comp=Z,8µm,16.0s						
TEY				AMS	AMS	20 12 22.0	
	comp=Z,14µm,17.0s						
OFUJ	**Ofunato**	**12.48 231**		P	**Pn**	**20 07 40.2**	**-4.6**
OFUJ				*e*S	**Sn**	**20 09 50.1**	**-13**
JRG	**Rokugo**	**12.82 235**		P	**Pn**	**20 07 43.5**	**-5.8**
HABR	**Khabarovsk**	**12.84 281**	⇑	*i*PN	**Pn**	**20 07 55.8**	**+6.2**
HABR				*e*		20 10 25.5	
HABR				pmax	pmax		
	comp=Z,336nm,1.7s						
JIO	**Ouri**	**13.12 230**		P	**Pn**	**20 07 49.5**	**-3.9**
JIO				*e*S	**Sn**	**20 10 07.2**	**-12**
JMM	**Marumori**	**13.85 230**		P	**Pn**	**20 08 00.4**	**-3.0**
JYA	**Atsumi**	**13.89 235**		P	**Pn**	**20 07 59.8**	**-4.2**
JFK	**Kawauchi**	**14.19 229**		P	**Pn**	**20 08 03.3**	**-4.7**
JFK				*e*S	**Sn**	**20 10 31.9**	**-13**
JFY	**Yanaizu**	**14.76 231**		P	**Pn**	**20 08 12.2**	**-3.7**
KLR	**Kul'dur**	**14.98 284**		*e*P	**Pn**	**20 08 19.0**	**+0.2**
KLR				pmax	pmax		
	comp=E,660nm,2.0s						
KLR				pmax	pmax		
	comp=Z,510nm,2.0s						
KLR				pmax	pmax		
	comp=E,2µm,12.0s						
KLR				pmax	pmax		
	comp=Z,4µm,12.0s						
KLR				MLR	MLR		
	comp=Z,57µm,13.0s						
SEY	**Seymchan**	**15.37 357**		*e*P	**Pn**	**20 08 22.7**	**-1.2**
SEY	**Seymchan**	**15.37 357**		*e*P	**Pn**	**20 08 22.8**	**-1.1**
MJAR	**Matsushiro Arr**	**16.20 233**		P	**Pn**	**20 08 31.5**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=28,slow=12,SNR=46						
MJAR				LR	LR	20 14 47.6	
	comp=Z,2µm,19.1s,baz=65,slow=37						
MJAR	**Matsushiro Arr**	**16.20 233**		P	**Pn**	**20 08 31.5**	**-3.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,2µm,19.1s						
MAJO	**Matsushiro**	**16.20 233**		*e*P	**Pn**	**20 08 31.6**	**-3.2**
MAJO				pmax	pmax		
	comp=Z,230nm,1.1s						
MAJO	**Matsushiro**	**16.20 233**		*e*P	**Pn**	**20 08 31.6**	**-3.2**
	comp=Z,231nm,1.1s						
MAT	**Matsushiro**	**16.20 233**		P	**Pn**	**20 08 30.6**	**-4.2**
MAT				*e*S	**Sn**	**20 11 29.0**	**-5.2**
MAT	**Matsushiro**	**16.20 233**		P	**Pn**	**20 08 31.3**	**-3.5**
JRY	**Ryogami san**	**16.23 230**		P	**Pn**	**20 08 33.8**	**-1.4**
MDJ	**Mudanjiang**	**17.30 269**		P	**Pn**	**20 08 48.4**	**-0.2**
MDJ				AP	pP	20 08 52.8	-1.3
MDJ				XP	sP	20 08 54.3	-1.7
MDJ				S	**Sn**	**20 12 01.6**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,114nm,2.8s						
MDJ				LR	LR		
	comp=N,4µm,17.7s						
MDJ				LR	LR		
	comp=E,2µm,21.4s						
MDJ				LR	LR		
	comp=Z,7µm,15.3s						
MDJ	**Mudanjiang**	**17.30 269**		*e*P	**Pn**	**20 08 48.5**	**-0.2**
	comp=Z,118nm,0.9s						
JGF	**Kuroka**	**17.36 232**		P	**Pn**	**20 08 48.1**	**-1.3**
ZEA	**Zeya**	**18.07 300**		*e*P	**Pn**	**20 08 55.7**	**-2.4**
ZEA				AMB	AMB	20 09 04.9	
	comp=Z,94nm,1.0s						
ZEA				AMB	AMB	20 09 04.9	
	comp=Z,270nm,1.2s						
ZEA				AMB	AMB	20 09 04.9	
	comp=Z,280nm,1.2s						
ZEA				AMB	AMB	20 09 07.0	
	comp=Z,1µm,5.0s						
ZEA				AMB	AMB	20 09 07.0	
	comp=Z,2µm,6.0s						
ZEA				AMB	AMB	20 09 07.0	
	comp=Z,2µm,7.0s						
ZEA				*e*S	**Sn**	**20 12 20.0**	**+0.6**
ZEA				A		20 12 32.0	
	comp=Z,600nm,7.0s						
ZEA				A		20 12 32.0	
	comp=Z,1µm,8.0s						
JHJ	**Hachijo jima 2**	**18.14 222**		LR	LR	20 15 44.7	
	comp=Z,1µm,20.3s,baz=55,slow=36						
JWT	**Wachi**	**18.67 235**		P	**Pn**	**20 09 04.2**	**-1.3**
JAD	**Aida**	**19.61 237**		P	**Pn**	**20 09 16.1**	**-0.7**
YAK	**Yakutsk**	**20.00 325**		*e*P	**P**	**20 09 21.2**	**+1.6**
YAK				*e*		20 09 36.3	
YAK				*e*S	**S**	**20 13 02.2**	**-1.8**
YAK				pmax	pmax		
	comp=Z,331nm,1.0s						
YAK				pmax	pmax		
	comp=N,169nm,1.2s						
YAK				pmax	pmax		
	comp=E,206nm,1.2s						
YAK				pmax	pmax		
	comp=Z,397nm,1.4s						
YAK				pmax	pmax		
	comp=N,821nm,2.4s						
YAK				pmax	pmax		
	comp=E,1µm,3.0s						
YAK				smax			
	comp=E,682nm,2.3s						
YAK				smax			
	comp=N,588nm,2.4s						
YAK				MLR	MLR		
	comp=Z,3µm,17.0s						
YAK				MLR	MLR		
	comp=N,3µm,19.0s						
YAK				MLR	MLR		
	comp=E,3µm,19.0s						
YAK	**Yakutsk**	**20.00 325**		*e*P	**P**	**20 09 20.3**	**+0.6**
	comp=E,349nm,0.9s						
YAK				LR	LR		
	comp=Z,4µm,20.0s						
CLNS	**Chul'man**	**20.03 308**		*e*P	**P**	**20 09 23.2**	**+3.2**
CLNS				*e*		20 09 38.3	
CLNS				*e*PPP		20 09 46.4	
CLNS				*e*		20 13 25.9	
CLNS				*e*SS		20 13 39.4	
CLNS				pmax	pmax		
	comp=Z,293nm,0.9s						
CLNS				pmax	pmax		
	comp=N,152nm,1.0s						
CLNS				pmax	pmax		
	comp=E,172nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,7µm,15.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,4µm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,7µm,17.0s,MS5.2						
NRGR	**Nerungri**	**20.07 308**		*i*P	**P**	**20 09 22.6**	**+2.1**
NRGR				S	**S**	**20 12 58.4**	**-7.2**
NRGR				smax			
	comp=E,6.0nm,0.2s						
JHS	**Saijyo**	**20.17 239**		P	**P**	**20 09 22.9**	**+1.4**
CN2	**Changchun**	**20.38 270**		*e*P	**P**	**20 09 22.4**	**-1.4**
CN2				*e*S	**S**	**20 13 03.5**	**-8.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,5µm,17.0s,MS5.1						
CN2				LR	LR		
	comp=E,6µm,17.0s,MS5.1						
CN2				LR	LR		
	comp=Z,7µm,17.0s,MS5.1						
JMN	**Monobe**	**20.66 235**		P	**P**	**20 09 28.4**	**+1.5**
BILL	**Bilibino**	**21.37 12**	⇑	*i*P	**P**	**20 09 32.9**	**-1.6**
BILL				*e*S	**S**	**20 13 29.6**	**-1.6**
BILL				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.0						
BILL				MLR	MLR		
	comp=Z,6µm,17.0s,MS5.0						
BILL	**Bilibino**	**21.37 12**		*e*P	**P**	**20 09 32.3**	**-2.2**
	comp=Z,64nm,0.9s,mb5.0						
BILL				LR	LR		
	comp=Z,5µm,20.0s,MS4.9						
KSRS	**Korea Array**	**21.77 252**		P	**P**	**20 09 39.9**	**+1.0**
	comp=Z,296nm,1.0s,mb5.7,baz=56,slow=10,SNR=268						
KSRS				PcP	PcP	20 13 38.5	-0.4
	comp=Z,5.3nm,1.0s,baz=103,slow=0.9,SNR=4.9						
KSRS				LR	LR	20 18 02.6	
	comp=Z,3µm,18.1s,MS4.8,baz=56,slow=36						
SNY	**Shenyang**	**22.42 266**		P	**P**	**20 09 44.4**	**-1.4**
SNY				S	**S**	**20 13 50.0**	**-1.8**
SNY				AMB	AMB		
	comp=Z,47nm,1.1s,mb4.8						
SNY				AMB	AMB		
	comp=Z,746nm,12.0s						
SNY				LR	LR		
	comp=N,2µm,15.9s,MS5.2						
SNY				LR	LR		
	comp=E,7µm,16.5s,MS5.2						
SNY				LR	LR		
	comp=Z,8µm,15.9s,MS5.3						
INCN	**Inchon**	**22.59 253**		*e*P	**P**	**20 09 48.3**	**+0.8**
	comp=Z,463nm,1.1s,mb5.8						
INCN				LR	LR		
	comp=Z,3µm,19.0s,MS4.8						
HIA	**Hailar**	**22.80 287**		*e*P	**P**	**20 09 47.4**	**-2.3**
HIA				pmax	pmax		
	comp=Z,43nm,0.9s						
HIA				MLR	MLR		
	comp=Z,6µm,19.0s						
HIA	**Hailar**	**22.80 287**		*e*P	**P**	**20 09 47.4**	**-2.3**
	comp=Z,43nm,0.9s,mb4.9						
HIA				LR	LR		
	comp=Z,6µm,19.0s,MS5.1						
JNU	**Nakatsue**	**22.81 239**		P	**P**	**20 09 50.6**	**+0.8**
	comp=Z,143nm,0.9s,mb5.4,baz=270,slow=24,SNR=10						
JNU				LR	LR	20 18 17.9	
	comp=Z,6µm,21.3s,MS5.0,baz=76,slow=35						
JNU	**Nakatsue**	**22.81 239**		P	**P**	**20 09 50.6**	**+0.7**
DL2	**Dalian**	**25.11 262**		P	**P**	**20 10 11.5**	**-0.4**
DL2				S	**S**	**20 14 38.1**	**+2.0**
DL2				PCS	PcS	20 17 22.6	-3.7
DL2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
DL2				AMB	AMB		
	comp=Z,280nm,4.2s						
DL2				LR	LR		
	comp=N,1µm,14.0s,MS4.7						
DL2				LR	LR		
	comp=E,1µm,12.4s,MS4.7						
DL2				LR	LR		
	comp=Z,1µm,17.5s						
UNV	**Unalaska Valle**	**25.38 61**		PFAKE			20 10 30.0	+16
UNV				LR	LR		
	comp=Z,4µm,21.0s,MS5.0						
BOD	**Bodaibo**	**26.01 308**	⇑	*i*P	**P**	**20 10 19.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.8						
CIT	**Chita**	**26.33 295**		*e*P	**P**	**20 10 22.7**	**-0.2**
CIT				pmax	pmax		
	comp=Z,156nm,1.9s,mb5.2						
TIXI	**Tiksi**	**26.84 343**		*e*P	**P**	**20 10 23.3**	**-4.2**
TIXI				*e*S	**S**	**20 14 53.8**	**-10**
TIXI				pmax	pmax		
	comp=Z,38nm,1.2s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,6µm,15.0s,MS5.2						
TIXI	**Tiksi**	**26.84 343**		*e*P	**P**	**20 10 25.1**	**-2.4**
TIXI				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
TNA	**Tin City**	**26.89 34**		*e*P	**P**	**20 10 28.4**	**+0.5**
	comp=Z,49nm,0.9s,mb5.0						
TNA				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
BJI	**Beijing**	**28.23 269**		P	**P**	**20 10 40.3**	**+0.3**
BJI				S	**S**	**20 15 28.4**	**+3.1**
BJI				AMB	AMB		
	comp=Z,33nm,2.3s,mb4.6						
BJI				AMB	AMB		
	comp=Z,408nm,3.2s						
BJI				LR	LR		
	comp=N,5µm,17.8s,MS5.3						
BJI				LR	LR		
	comp=E,6µm,16.6s,MS5.3						
BJI				LR	LR		
	comp=Z,4µm,21.1s,MS5.0						
BJI	**Beijing**	**28.23 269**		P	**P**	**20 10 40.2**	**+0.2**
BJI				S	**S**	**20 15 28.4**	**+3.1**
BJI				pmax	pmax		
	comp=Z,33nm,2.3s,mb4.6						
BJI				MLR	MLR		
	comp=Z,4µm,21.1s,MS5.0						
BJI	**Beijing**	**28.23 269**		P	**P**	**20 10 40.2**	**+0.2**
	comp=Z,33nm,2.3s,mb4.6						
BJI				S	**S**	**20 15 28.4**	**+3.1**
BJI				LR	LR		
	comp=Z,4µm,21.1s,MS5.0						
BJT	**Baijiatuau**	**28.25 268**		*e*P	**P**	**20 10 40.2**	**+0.1**
BJT				pmax	pmax		
	comp=Z,44nm,0.9s						
BJT				MLR	MLR		
	comp=Z,5µm,19.0s						
BJT	**Baijiatuau**	**28.25 268**		*e*P	**P**	**20 10 40.2**	**+0.1**
	comp=Z,44nm,0.9s,mb5.1						
BJT				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
JOW	**Kunigami**	**29.04 234**		P	**P**	**20 10 49.6**	**+2.4**
	comp=Z,15nm,0.5s,mb5.0,baz=339,slow=5.5,SNR=5.5						
MIDW	**Midway**	**29.39 121**		PFAKE			20 11 00.0	+10
MIDW				LR	LR		
	comp=Z,4µm,20.0s,MS5.0						
TIA	**Tai'an**	**29.58 261**		*e*P	**P**	**20 10 52.0**	**0.0**
TIA				S	**S**	**20 15 44.0**	**-2.5**
TIA				AMB	AMB		
	comp=Z,88nm,1.4s,mb5.3						
TIA				LR	LR		
	comp=N,1µm,15.0s,MS4.9						
TIA				LR	LR		
	comp=E,1µm,12.0s,MS4.9						
SSE	**Sheshan**	**30.11 249**		P	**P**	**20 10 57.9**	**+1.3**
SSE				S	**S**	**20 15 58.0**	**+3.2**
SSE				AMB	AMB		
	comp=Z,132nm,1.1s,mb5.6						
SSE				AMB	AMB		
	comp=Z,277nm,3.5s						
SSE				LR	LR		
	comp=N,2µm,22.8s,MS4.7						
SSE				LR	LR		
	comp=E,765nm,23.1s,MS4.7						
SSE				LR	LR		
	comp=Z,1µm,19.8s,MS4.5						
SSE	**Sheshan**	**30.11 249**		P	**P**	**20 10 57.9**	**+1.3**
	comp=Z,132nm,1.1s,mb5.6						
SSE				S	**S**	**20 15 58.0**	**+3.2**
SSE				LR	LR		
	comp=Z,1µm,19.8s,MS4.5						
NJ2	**Nanjing**	**30.96 253**		*e*P	**P**	**20 11 05.8**	**+1.6**
NJ2				AP	pP	20 11 09.1	+0.5
NJ2				XP	sP	20 11 12.9	+2.5
NJ2				PP	PP	20 12 07.3	-6.8
NJ2				S	**S**	**20 16 07.5**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,2µm,4.8s						
NJ2				LR	LR		
	comp=N,1µm,13.5s,MS4.9						
NJ2				LR	LR		
	comp=E,1µm,13.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,640nm,15.4s,MS4.4						
HHC	**Hu-ho-hao-te**	**30.97 273**	⇑	*i*P	**P**	**20 11 04.1**	**-0.2**
HHC				AP	pP	20 11 08.5	-0.2
HHC				XP	sP	20 11 11.1	+0.6
HHC				PP	PP	20 12 07.0	-7.2
HHC				PCP	PcP	20 13 59.5	-0.8
HHC				S	**S**	**20 16 07.5**	**-0.9**
HHC				SS	SS	20 17 51.6	-29
HHC				AMB	AMB		
	comp=Z,99nm,1.2s,mb5.5						
HHC				AMB	AMB		
	comp=Z,389nm,7.0s						
HHC				LR	LR		
	comp=N,3µm,14.9s,MS5.2						
HHC				LR	LR		
	comp=E,3µm,14.4s,MS5.2						
HHC				LR	LR		
	comp=Z,3µm,14.2s,MS5.1						
ULN	**Ulaanbaatar**	**31.31 288**		PFAKE			20 11 20.0	+13
ULN				LR	LR		
	comp=Z,4µm,20.0s,MS5.1						
SVW2	**Sparrevohn**	**31.35 46**		*e*P	**P**	**20 11 08.2**	**+0.6**
SONM	**Songino Array**	**31.74 288**		P	**P**	**20 11 10.6**	**-0.5**
	comp=Z,12nm,0.9s,mb4.7,baz=70,slow=7.9,SNR=57						
SONM				PcP	PcP	20 14 01.9	-0.5
	comp=Z,9.9nm,0.9s,baz=97,slow=2.4,SNR=9.2						
SONM				ScP	ScP	20 17 41.7	-3.5
	comp=Z,2.8nm,1.0s,baz=46,slow=4.3,SNR=5.2						
SONM				LR	LR	20 25 02.6	
	comp=Z,5µm,18.8s,MS5.2,baz=82,slow=38						
IRK	**Irkutsk**	**31.94 297**		*e*P	**P**	**20 11 11.5**	**-1.3**
IRK				*e*		20 13 59.0	
IRK				*e*		20 16 10.7	
IRK				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.1						
BTO	**Baotou**	**32.12 274**		*e*P	**P**	**20 11 13.3**	**-1.1**
TLY	**Talaya**	**32.44 296**	*c*	*i*P	**P**	**20 11 16.3**	**-0.9**
TLY				*e*		20 14 04.0	
TLY				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.2						
TLY				MLR	MLR		
	comp=Z,6µm,17.0s,MS5.4						
TLY	**Talaya**	**32.44 296**		*e*P	**P**	**20 11 15.1**	**-2.1**
TLY				LR	LR		
	comp=Z,2µm,19.0s,MS4.7						
IMA2	**Indian Mountai**	**32.66 37**		*e*P	**P**	**20 11 19.3**	**+0.2**
KDAK	**Kodiak Island**	**32.98 52**		P	**P**	**20 11 21.1**	**-0.8**
	comp=Z,26nm,1.0s,mb5.1,baz=345,slow=6.3,SNR=6.1						
KDAK				LR	LR	20 23 57.6	
	comp=Z,2µm,21.9s,MS4.8,baz=263,slow=35						

KDAK **Kodiak Island 32.98 52** *e*P **P** **20 11 19.4 -2.5**
comp=Z,69nm,1.1s,mb5.5
KDAK LR LR
comp=Z,945nm,22.0s,MS4.5
ZAK Zakamensk 32.98 294⇑ *i*P **P** **20 11 21.3 -0.6**
ZAK pmax pmax
comp=Z,16nm,1.3s,mb4.8
MOY Mondy 34.04 297 *e*P **P** **20 11 31.0 -0.2**
MOY pmax pmax
comp=Z,41nm,1.7s,mb5.1
TATO Taipei 34.33 240 PFAKE 20 11 40.0 +6.3
TATO LR LR
comp=Z,2μm,20.0s,MS4.8
PMR Palmer 34.45 45 *e*P **P** **20 11 40.9 +6.2**
PMR pmax pmax
comp=Z,17nm,1.0s,mb4.9
PMR MLR MLR
comp=Z,2μm,19.0s,MS4.8
PMR Palmer 34.45 45 *e*P **P** **20 11 40.9 +6.2**
comp=Z,17nm,1.0s,mb4.9
PMR LR LR
comp=Z,2μm,19.0s,MS4.8
MCK McKinley 34.50 41 *e*P **P** **20 11 34.5 -0.6**
MCK pmax pmax
comp=Z,40nm,1.2s,mb5.2
MCK MLR MLR
comp=Z,985nm,19.0s,MS4.6
MCK McKinley 34.50 41 *e*P **P** **20 11 34.5 -0.6**
comp=Z,40nm,1.2s,mb5.2
MCK LR LR
comp=Z,985nm,19.0s,MS4.6
SML Sawmill 34.82 45 *e*P **P** **20 11 37.6 -0.3**
GUMO Guam 34.82 196 LR LR 20 24 10.3
comp=Z,731nm,18.5s,MS4.5,baz=244,slow=33
GUMO Guam 34.82 196 PFAKE 20 11 50.0 +12
GUMO LR LR
comp=Z,1μm,19.0s,MS4.6
WHN Wuhan 34.87 255⇑ *i*P **P** **20 11 38.6 +0.3**
WHN LR LR
comp=Z,4μm,14.4s,MS5.3
COLA College 34.99 39 *e*P **P** **20 11 39.8 +0.5**
COLA pmax pmax
comp=Z,80nm,1.0s,mb5.6
COLA College 34.99 39⇑ *i*P **P** **20 11 37.6 -1.7**
COLA LR LR
comp=Z,1μm,19.0s,MS4.6
QZH Quanzhou 36.09 244⇑ *i*P **P** **20 11 49.6 +0.8**
QZH S **S** **20 17 30.0 +2.4**
QZH AMB AMB
comp=Z,290nm,1.3s,mb6.0
QZH AMB AMB
comp=Z,1μm,5.1s
QZH LR LR
comp=N,2μm,17.1s,MS5.2
QZH LR LR
comp=E,3μm,15.3s,MS5.2
QZH LR LR
comp=Z,3μm,14.4s,MS5.3
DIV Divide 36.10 46 *e*P **P** **20 11 48.5 -0.4**
comp=Z,81nm,0.6s,mb5.8
DIV LR LR
comp=Z,5μm,21.0s,MS5.3
XAN Xi'an 36.33 265 P **P** **20 11 51.0 +0.1**
XAN PP PP 20 13 17.4 +3.9
XAN AMB AMB
comp=Z,163nm,1.3s,mb5.8
XAN AMB AMB
comp=Z,435nm,11.5s
XAN LR LR
comp=N,2μm,14.7s,MS5.3
XAN LR LR
comp=E,3μm,15.7s,MS5.3
XAN LR LR
comp=Z,4μm,15.1s,MS5.3
MENT Mentasta 36.88 42 *e*P **P** **20 11 56.8 +1.2**
KRAR Krasnoyarsk 37.65 306 *e*P **P** **20 12 01.7 -0.4**
KRAR pmax pmax
comp=Z,50nm,1.0s,mb5.2
EGAK Eagle 37.85 39 *e*P **P** **20 12 03.3 -0.5**
comp=Z,84nm,1.0s,mb5.4
EGAK LR LR
comp=Z,1μm,19.0s,MS4.7
LZH Lanzhou 38.60 271⇑P **P** **20 12 10.3 +0.2**
LZH AP pP 20 12 13.5 -1.1
LZH PP PP 20 13 41.8 +3.3
LZH S **S** **20 18 06.4 +0.6**
LZH SS SS 20 20 44.5 -11
LZH AMB AMB
comp=Z,124nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,619nm,5.3s
LZH LR LR
comp=N,4μm,14.2s
LZH LR LR
comp=Z,6μm,16.4s,MS5.5
LZH Lanzhou 38.60 271⇑P **P** **20 12 10.2 +0.1**
LZH 20 13 41.8
LZH S **S** **20 18 06.4 +0.6**
LZH SS SS 20 20 44.5 -11
LZH pmax pmax
comp=Z,124nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,6μm,16.4s,MS5.5
LZH Lanzhou 38.60 271⇑P **P** **20 12 10.2 +0.1**
comp=Z,124nm,1.2s,mb5.5
LZH pP pP 20 12 13.5 -1.1
LZH sP sP 20 12 14.9 -1.5
LZH PP PP 20 13 41.8 +3.3
LZH S **S** **20 18 06.4 +0.6**
LZH sS sS 20 18 11.6 -1.6
LZH SS SS 20 20 44.5 -11
LZH LR LR
comp=Z,6μm,16.4s,MS5.5
DAWY Dawson 38.69 40 *e*P **P** **20 12 10.7 -0.1**
GTA Gaotai 39.56 279 *e*P **P** **20 12 18.3 +0.1**
GTA AP pP 20 12 22.8 +0.1
GTA XP sP 20 12 25.8 +1.3
GTA PCP PcP 20 14 26.1 +0.7
GTA SCP ScP 20 18 10.8 -2.8
GTA PCS PcS 20 18 16.9 +1.6
GTA SCS ScS 20 22 23.6 -2.3
GTA AMB AMB
comp=Z,46nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,287nm,6.1s
GTA LR LR
comp=N,2μm,16.7s,MS5.3
GTA LR LR
comp=E,3μm,16.0s,MS5.3
GTA LR LR
comp=Z,3μm,17.1s,MS5.2
INK Inuvik 40.51 33 P **P** **20 12 26.8 +0.7**
comp=Z,48nm,0.8s,mb5.2,baz=285,slow=6.9,SNR=70
INK Inuvik 40.51 33 *e*P **P** **20 12 26.6 +0.6**
comp=Z,2μm,0.9s
SKAG Skagway 41.52 47 *e*P **P** **20 12 33.3 -1.0**
comp=Z,177nm,1.0s,mb5.7
CD2 Chengdu 41.69 265⇑ *i*P **P** **20 12 36.1 +0.4**
CD2 AP pP 20 12 40.8 +0.5
CD2 XP sP 20 12 43.3 +1.2
CD2 PP PP 20 14 15.9 +3.8
CD2 PCP PcP 20 14 33.8 +1.5
CD2 S **S** **20 18 51.9 -0.1**
CD2 SS SS 20 21 51.6 -5.9
CD2 SCS ScS 20 22 37.0 -1.6
CD2 AMB AMB
comp=Z,550nm,1.1s,mb6.1
CD2 AMB AMB
comp=Z,740nm,4.7s
CD2 LR LR
comp=N,2μm,15.6s,MS5.3
CD2 LR LR
comp=E,3μm,15.6s,MS5.3
CD2 LR LR
comp=Z,4μm,16.2s,MS5.4
SIT Sitka 42.23 50 PFAKE 20 12 50.0 +10
SIT LR LR
comp=Z,2μm,22.0s,MS5.0
GYA Guiyang 42.62 258⇑ *i*P **P** **20 12 43.8 +0.4**
GYA PP PP 20 14 25.6 +3.4
GYA PCP PcP 20 14 37.4 +2.0
GYA SCP ScP 20 18 27.0 +1.3
GYA S **S** **20 19 01.9 -3.9**
GYA SS SS 20 22 09.3 -6.7
GYA SCS ScS 20 22 43.9 -0.5
GYA AMB AMB
comp=Z,340nm,1.1s,mb6.0
GYA AMB AMB
comp=Z,500nm,4.7s
GYA LR LR
comp=N,1μm,16.5s,MS5.1
GYA LR LR
comp=E,2μm,16.2s,MS5.1
GYA LR LR
comp=Z,960nm,19.2s,MS4.7
ZAL Zalesovo 42.71 305 P **P** **20 12 43.1 -0.9**
comp=Z,10nm,0.8s,mb4.6,baz=43,slow=7.1,SNR=59
ZAL PcP PcP 20 14 35.9 +0.2
comp=Z,16nm,1.0s,baz=39,slow=3.6,SNR=9.7
ZAL LR LR 20 32 32.5
comp=Z,5μm,18.1s,MS5.5,baz=42,slow=39
ZAL Zalesovo 42.71 305 P **P** **20 12 43.2 -0.9**
ZAL 20 14 35.9
ZAL pmax pmax
comp=Z,10.0nm,0.8s
ZAL MLR MLR
comp=Z,5μm,18.1s
NVS Novosibirsk 43.24 307 *i* P **P** **20 12 45.2 -3.2**
NVS *i* 20 14 33.2
NVS *i* S **S** **20 19 11.3 -3.6**
NVS *i* SS SS 20 22 43.3 +15
NVS pmax pmax
comp=Z,110nm,2.2s,mb5.2
NVS pmax pmax
comp=N,43nm,1.9s
NVS pmax pmax
comp=E,85nm,2.0s
NVS pmax pmax
comp=Z,106nm,1.8s,mb5.3
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,70nm,1.5s
NVS smax
comp=N,35nm,1.7s
NVS smax
comp=E,24nm,1.7s
TGY Tagaytay City 43.36 231 P **P** **20 12 50.2 +0.9**
comp=E,87nm,0.3s,baz=311,slow=9.3,SNR=5.3
TGY Tagaytay City 43.36 231 P **P** **20 12 50.2 +0.9**
TGY pmax pmax
comp=Z,87nm,0.3s
WRAK Wrangell Islan 44.00 50 PFAKE 20 13 10.0 +16
WRAK LR LR
comp=Z,2μm,21.0s,MS4.9
WMQ Urumqi 45.30 291⇑ *i*P **P** **20 13 04.4 -0.4**
WMQ AP pP 20 13 08.9 -0.5
WMQ XP sP 20 13 11.4 +0.2
WMQ PCP PcP 20 14 43.9 -0.5
WMQ PP PP 20 14 51.4 +0.6
WMQ S **S** **20 19 44.5 -0.3**
WMQ XS sS 20 19 52.3 0.0
WMQ AMB AMB
comp=Z,45nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,206nm,3.9s
WMQ LR LR
comp=N,3μm,16.6s,MS5.3
WMQ LR LR
comp=E,2μm,16.6s,MS5.3
WMQ LR LR
comp=Z,3μm,17.3s,MS5.3
QIZ Qiongzhong 45.87 247 P **P** **20 13 10.9 +1.5**
QIZ AP pP 20 13 13.8 -0.1
QIZ XP sP 20 13 19.3 +3.6
QIZ S **S** **20 19 53.4 +0.3**
QIZ XS sS 20 20 03.8 +3.2
QIZ SCS ScS 20 23 02.6 -2.3
QIZ AMB AMB
comp=Z,61nm,1.5s,mb5.3
QIZ AMB AMB
comp=Z,316nm,6.2s
QIZ LR LR
comp=N,1μm,17.2s
QIZ LR LR
comp=Z,2μm,17.1s,MS5.1
QIZ Qiongzhong 45.87 247 PFAKE 20 13 20.0 +11
QIZ LR LR
comp=Z,1μm,19.0s,MS4.9
KMI Kunming 46.13 260⇑P **P** **20 13 12.3 +0.9**
KMI AP pP 20 13 15.3 -0.7
KMI PCP PcP 20 14 49.3 +2.0
KMI S **S** **20 19 54.0 -2.8**
KMI SCS ScS 20 23 05.8 -0.8
KMI SS SS 20 23 13.5 -8.4
KMI AMB AMB
comp=Z,228nm,1.2s,mb6.0
KMI AMB AMB
comp=Z,830nm,3.5s
KMI LR LR
comp=N,2μm,18.5s,MS5.2
KMI LR LR
comp=E,1μm,18.5s,MS5.2
KMI LR LR
comp=Z,1μm,19.1s,MS4.8
KMI Kunming 46.13 260⇑P **P** **20 13 12.2 +0.8**
KMI 20 14 49.3
KMI 20 15 42.8
KMI PPP
KMI S **S** **20 19 54.0 -2.8**
KMI *SS sS 20 20 01.0 -3.3
KMI 20 23 05.7
KMI SS SS 20 23 13.5 -8.4
KMI SSS 20 24 17.3
KMI pmax pmax
comp=Z,228nm,1.2s,mb6.0
KMI MLR MLR
comp=Z,1μm,19.1s,MS4.8
KMI Kunming 46.13 260⇑P **P** **20 13 12.2 +0.8**
comp=Z,228nm,1.2s,mb6.0
KMI pP pP 20 13 15.2 -0.8
KMI sP sP 20 13 16.6 -1.1
KMI PcP PcP 20 14 49.3 +2.0
KMI PPP 20 15 42.8
KMI S **S** **20 19 54.0 -2.8**
KMI sS sS 20 20 01.0 -3.3
KMI ScS ScS 20 23 05.7 -0.9
KMI SS SS 20 23 13.5 -8.4
KMI SSS 20 24 17.3
KMI LR LR
comp=Z,1μm,19.1s,MS4.8
MK31 Makanchi Array 47.19 297 *e*P **P** **20 13 18.4 -1.3**
MKAR Makanchi Array 47.19 297 P **P** **20 13 18.6 -1.1**
comp=Z,82nm,0.9s,mb5.7,baz=65,slow=7.4,SNR=245
MKAR PcP PcP 20 14 50.7 -0.4
comp=Z,13nm,1.0s,baz=44,slow=4.6,SNR=3.4
MKAR ScP ScP 20 18 38.8 -5.7
comp=Z,3.3nm,1.0s,baz=84,slow=3.8,SNR=3.9
MKAR LR LR 20 34 34.7
comp=Z,2μm,18.2s,MS5.0,baz=46,slow=38
MKAR Makanchi Array 47.19 297 *i* P **P** **20 13 18.6 -1.1**
MKAR pmax pmax
comp=Z,82nm,0.9s
MKAR Makanchi Array 47.19 297 P **P** **20 13 18.6 -1.1**
MKAR PcP PcP 20 14 50.7 -0.4
MKAR ScP ScP 20 18 38.8 -5.7
MKAR LR LR 20 34 34.7
DAV Davao City (W) 47.21 220 PFAKE 20 13 30.0 +10
DAV LR LR
comp=Z,671nm,19.0s,MS4.6
KURK Kurchatov 47.49 303 P **P** **20 13 20.4 -1.7**
KURK pmax pmax
comp=Z,112nm,1.1s,mb5.7
ALE Alert 48.79 6 P **P** **20 13 31.0 -1.1**
comp=Z,490nm,0.9s,mb6.5,SNR=44
POHA Pohakuloa 49.11 107 PFAKE 20 13 50.0 +15
POHA LR LR
comp=Z,3μm,19.0s,MS5.3
RES Resolute Bay 49.76 19 *e*P **P** **20 13 39.0 -0.5**
comp=Z,3μm,1.3s
YKA Yellowknife Ar 49.77 37 P **P** **20 13 39.7 +0.1**
comp=Z,24nm,1.0s,mb5.2,baz=298,slow=7.6,SNR=44
YKA PcP PcP 20 14 59.7 -0.7
comp=Z,12nm,1.0s,baz=298,slow=3.4,SNR=11
YKA Yellowknife Ar 49.77 37 P **P** **20 13 39.7 +0.1**
YKA 20 14 59.7
YKA pmax pmax
comp=Z,24nm,1.0s
YKA Yellowknife Ar 49.77 37 P **P** **20 13 39.7 +0.1**
YKA PcP PcP 20 14 59.7 -0.7
CHKZ Chkalovo 50.43 310 *e*P **P** **20 13 42.3 -2.3**
CHKZ pmax pmax
comp=Z,50nm,1.0s,mb5.5
CHKZ Chkalovo 50.43 310 *e*P **P** **20 13 42.3 -2.3**
comp=Z,50nm,1.0s,mb5.5
VOSK Vostochnaya 50.71 309 P **P** **20 13 45.1 -1.6**
VOSK pmax pmax
comp=Z,42nm,1.1s,mb5.3
BVAO Borovoye Array 50.87 309 *i* P **P** **20 13 46.8 -1.1**
BVAR Borovoye Array 50.87 309 P **P** **20 13 46.8 -1.1**
comp=Z,17nm,0.7s,mb5.1,baz=56,slow=7.5,SNR=89
BVAR PcP PcP 20 15 04.3 -0.1
comp=Z,19nm,1.0s,baz=78,slow=3.6,SNR=6.4
BVAR Borovoye Array 50.87 309 P **P** **20 13 46.8 -1.1**
BVAR 20 15 04.3
BVAR pmax pmax
comp=Z,17nm,0.7s
BRVK Borovoye 50.91 309 *e*P **P** **20 13 46.7 -1.5**
comp=Z,33nm,0.8s,mb5.3
BRVK *e*PcP PcP 20 15 03.4 -1.2
BRVK LR LR
comp=Z,982nm,20.0s,MS4.8
LSA Lhasa 50.96 273 P **P** **20 13 50.3 +1.7**
LSA Lhasa 50.96 273 *e*P **P** **20 13 50.7 +2.1**
LSA pmax pmax
comp=Z,223nm,1.0s,mb6.0
LSA MLR MLR
comp=Z,2μm,21.0s,MS5.2
LSA Lhasa 50.96 273 *e*P **P** **20 13 50.7 +2.1**
comp=Z,223nm,1.0s,mb6.0
LSA LR LR
comp=Z,2μm,21.0s,MS5.2
KBS Kingsbay 51.73 351 *e* P **P** **20 13 53.0 -1.4**
KBS *e*S **S** **20 21 17.4 +1.7**
KBS AMS AMS 20 35 01.6
comp=Z,1μm,25.1s,MS4.8
NANT Nan 51.90 255⇑P **P** **20 13 54.0 -1.6**
comp=Z,588nm,1.0s,mb6.5
IMP Imphal 52.26 266 *e*P **P** **20 13 58.0 -0.4**
KKTK Khon Kaen 52.32 251 P **P** **20 14 00.0 +1.3**
comp=Z,494nm,0.9s,mb6.4
KKM Kota Kinabalu 52.61 230 P **P** **20 14 02.8 +1.8**
A05A Maple Falls 52.91 55⇓P **P** **20 14 02.3 -0.9**
baz=53
CHG Chiang Mai 53.04 257 P **P** **20 14 05.3 +1.2**
comp=Z,150nm,1.2s,mb5.8
CHTO Chiang Mai 53.04 257 *e*P **P** **20 14 05.1 +1.0**
comp=Z,255nm,1.3s,mb6.0
CHTO LR LR
comp=Z,1μm,19.0s,MS5.0
C04A Brinnon 53.11 57⇓P **P** **20 14 04.8 +0.2**
baz=53
SHL Shillong 53.13 269 *i* P **P** **20 14 06.0 +1.2**
SHL *e*S **S** **20 21 36.0 +1.3**
A06A Chilliwack 53.20 55⇑P **P** **20 14 04.2 -1.1**
baz=53
ULHL Ulahol 53.26 295 P **P** **20 14 06.1 +0.4**
SNR=9.6
TSM Tawau 53.26 227 P **P** **20 14 06.7 +1.0**
TKM2 Tokmak 2 53.27 296 P **P** **20 14 05.8 -0.1**
SNR=26
TKM2 Tokmak 2 53.27 296 P **P** **20 14 05.2 -0.6**
TKM2 pmax pmax
comp=Z,62nm,1.1s,mb5.5
CM31 Chiang Mai Arr 53.29 257 PFAKE 20 14 20.0 +14
CM31 LR LR
comp=Z,1μm,20.0s,MS4.9
SVE Sverdlovsk 53.68 317 *e*P **P** **20 14 09.0 +0.2**
SVE MLR MLR
comp=E,2μm,16.0s
SVE MLR MLR
comp=Z,3μm,16.0s,MS5.4
CHMS Chumysh 53.74 297 P **P** **20 14 08.9 -0.4**
SNR=36
USP Ospenovka 53.74 297 P **P** **20 14 08.9 -0.3**
SNR=95
KBK Karagaybulak 53.81 296 P **P** **20 14 09.5 -0.3**
SNR=45
A07A Ashnola River, 53.83 54⇓P **P** **20 14 09.4 -0.5**
baz=54,SNR=15
C05A Tolt Reservoir 53.85 56 P **P** **20 14 10.3 +0.3**
baz=54,SNR=5.2
E04A Onalaska 53.87 58⇓P **P** **20 14 10.2 0.0**
baz=54
FRU Bishkek 53.91 296 *e*P **P** **20 14 10.2 -0.3**
FRU *i* 20 15 16.5
FRU pmax pmax
comp=Z,150nm,1.4s,mb5.7
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.5
D05A Enumclaw 53.96 57⇓P **P** **20 14 10.7 -0.1**
baz=54
KZA Kyzart 53.96 295 P **P** **20 14 11.7 +0.9**
SNR=29
AAK Ala-Archa 54.10 296 P **P** **20 14 11.7 -0.2**
SNR=50
AAK Ala-Archa 54.10 296 *e*P **P** **20 14 10.4 -1.5**
AAK pmax pmax
comp=Z,64nm,1.0s,mb5.5
AAK MLR MLR
comp=Z,562nm,19.0s,MS4.7
AAK Ala-Archa 54.10 296 *e*P **P** **20 14 10.4 -1.5**
comp=Z,64nm,1.0s,mb5.5
AAK LR LR
comp=Z,562nm,19.0s,MS4.7
BDT Bhumibol Dam 54.13 256 P **P** **20 14 13.5 +1.4**
TURI Tura 54.19 270 *e*P **P** **20 14 10.5 -2.0**
WRW Wenatchee Ridg 54.21 56 P **P** **20 14 13.0 +0.4**
B07A Winthrop 54.30 55 P **P** **20 14 13.6 +0.2**
baz=54,SNR=10
UCH Uchtor 54.32 296 P **P** **20 14 14.1 +0.6**
SNR=8.7
NLW Nelson Butte 54.39 55 P **P** **20 14 14.4 +0.5**
F04A Amboy 54.42 58⇑P **P** **20 14 14.7 +0.5**
baz=54
A08A Turner Farm, O 54.49 54 P **P** **20 14 14.6 -0.1**
baz=54,SNR=24
EKS2 Erkin-Say 54.52 297 P **P** **20 14 14.7 -0.2**
SNR=32
NST Nakhon Sawan 54.54 253⇑P **P** **20 14 16.0 +0.9**
comp=Z,75nm,1.1s,mb5.6
D06A Cle Elum 54.60 56⇑P **P** **20 14 15.2 -0.3**
baz=54,SNR=7.7
SLGI Shiliguri 54.73 272 *ex* x 20 14 16.0
TBM Table Mountain 54.76 56 P **P** **20 14 17.2 +0.6**
C07A Waterville 54.76 56 P **P** **20 14 16.2 -0.4**
baz=55,SNR=12
B08A Colville Reser 54.79 55⇑P **P** **20 14 16.4 -0.5**
baz=55,SNR=21
A09A Danville 54.85 54⇑P **P** **20 14 17.0 -0.4**
baz=55,SNR=20
ARU Arti 54.86 317 P **P** **20 14 16.2 -1.2**
comp=Z,209nm,1.0s,mb6.1,SNR=13
ARU Arti 54.86 317⇑ *i*P **P** **20 14 14.5 -2.9**
ARU *e* 20 15 15.2
ARU *e* 20 16 16.0
ARU *e*S **S** **20 21 56.3 -1.8**
ARU pmax pmax
comp=Z,40nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.1
ARU MLR MLR
comp=N,1μm,21.0s,MS5.0
ARU MLR MLR
comp=E,1μm,21.0s,MS5.0
ARU Arti 54.86 317 *e*P **P** **20 14 15.5 -1.9**
comp=E,44nm,1.0s,mb5.4
ARU LR LR
comp=Z,478nm,20.0s,MS4.6
AML Almayashu 54.88 296 P **P** **20 14 18.0 +0.5**
SNR=19
E06A Yakima 54.90 57⇑P **P** **20 14 17.8 +0.1**
baz=55
KSH Kashi 55.00 292⇑P **P** **20 14 18.9 +0.5**
KSH *e*AP pP 20 14 24.4 +1.4
KSH *e*XP sP 20 14 27.6 +2.8
KSH *e*PCP PcP 20 15 15.8 -4.2
KSH *e*PP PP 20 16 25.3 +3.8
KSH *e*S **S** **20 21 58.5 -1.5**
KSH *e*XS sS 20 22 08.5 +0.9
KSH *e*SCS ScS 20 24 04.0 -3.2
KSH AMB AMB
comp=Z,2μm,4.0s
D07A Quincy 55.09 56 P **P** **20 14 19.3 +0.2**
baz=55,SNR=6.5
EDM Edmonton 55.17 47 *e*P **P** **20 14 19.4 -0.3**
J02A Umpqua 55.20 62⇓P **P** **20 14 20.1 +0.2**

baz=55
H04A Detroit Lake 55.26 60 ⇓P P 20 14 20.2 -0.1
baz=55
C08A Higginbotham F 55.27 55 ⇓P P 20 14 19.9 -0.5
baz=55,SNR=13
B09A Rice 55.40 54 ⇓P P 20 14 21.2 -0.1
baz=55,SNR=11
G05A Wamic 55.45 59 ⇑P P 20 14 21.1 -0.6
baz=55
F06A Goldendale 55.45 58 ⇓P P 20 14 21.2 -0.4
baz=55
E07A Sunnyside 55.52 57 ⇑P P 20 14 21.7 -0.5
baz=55,SNR=8.5
J03A Ideyld Park 55.56 61 ⇑P P 20 14 22.7 +0.2
baz=55
K02A Glendale 55.60 62 ⇓P P 20 14 22.9 +0.2
baz=56
JIRN Jiri 55.61 275 ⇑*i*P P 20 14 24.2 +1.4
comp=Z,62nm,0.4s,mb6.0
I04A Tendick Farm, 55.65 61 ⇑P P 20 14 23.2 +0.1
baz=56,SNR=7.0
GUN Gumba 55.66 275 ⇑*i*P P 20 14 24.1 +1.0
comp=Z,126nm,0.5s,mb6.2
OD2 Odessa Site #2 55.69 55 P P 20 14 23.1 -0.2
C09A Chrisman Ranch 55.69 55 P P 20 14 23.5 +0.1
baz=56,SNR=11
D08A Wollman Farm, 55.76 56 P P 20 14 23.9 0.0
baz=56,SNR=8.5
DAG Danmarks Havn 55.79 358 ⇑*i*P P 20 14 23.6 -0.5
comp=Z,25nm,1.2s,mb5.1
DAG Danmarks Havn 55.79 358 ⇑*i*P P 20 14 23.6 -0.5
DAG pmax pmax
comp=Z,25nm,1.2s,mb5.1
HAWA Hanford 55.80 57 *e*P P 20 14 23.9 -0.3
comp=Z,32nm,1.1s,mb5.3
HAWA LR LR
comp=Z,653nm,21.0s,MS4.7
H05A Madras 55.84 59 ⇑P P 20 14 24.3 -0.1
baz=56,SNR=5.2
G06A Carlson Farm, 55.84 58 ⇓P P 20 14 24.5 0.0
baz=56
F07A Phinny Hill Vi 55.87 57 ⇑P P 20 14 24.6 0.0
baz=56
L02A Cave Junction 55.89 63 ⇓P P 20 14 25.7 +0.8
baz=56
B10A Chitwood Farm, 55.98 54 ⇓P P 20 14 25.6 +0.1
baz=56
E08A Dider Farm, El 56.01 56 P P 20 14 25.9 +0.2
baz=56,SNR=8.9
HUMO Hull Mountain 56.02 62 PFAKE 20 14 40.0 +14
HUMO LR LR
comp=Z,1μm,20.0s,MS5.0
HUMO Hull Mountain 56.02 62 ⇓P P 20 14 26.3 +0.6
baz=56
NEW Newport 56.05 54 P P 20 14 25.9 -0.1
comp=Z,22nm,1.0s,mb5.1,baz=314,slow=5.6,SNR=16
NEW PcP PcP 20 15 24.1 0.0
comp=Z,6.0nm,0.9s,baz=255,slow=4.1,SNR=3.6
NEW LR LR 20 39 40.9
comp=Z,594nm,19.2s,MS4.7,baz=307,slow=37
NEW Newport 56.05 54 P P 20 14 25.9 -0.1
NEW 20 15 24.1
NEW pmax pmax
comp=Z,22nm,1.0s
NEW MLR MLR
comp=Z,594nm,19.2s
NEW Newport 56.05 54 *e*P P 20 14 26.1 +0.1
comp=Z,129nm,1.7s,mb5.7
NEW LR LR
comp=Z,627nm,21.0s,MS4.7
A11A Hall Mountain, 56.06 53 ⇑P P 20 14 26.1 0.0
baz=56,SNR=13
D09A Jones Farm, Ri 56.10 55 P P 20 14 26.3 0.0
baz=56,SNR=8.3
I05A Bend 56.10 60 ⇑P P 20 14 26.6 +0.3
baz=56,SNR=6.5
KKN Kakani 56.14 275 ⇑*i*P P 20 14 27.5 +0.9
comp=Z,526nm,1.0s,mb6.5
J04A Umpqua Nationa 56.15 61 ⇓P P 20 14 26.8 +0.2
baz=56
KTRM Thompson Ridge 56.17 63 P P 20 14 28.1 +1.3
PKI Pulchoki 56.19 275 ⇑*i*P P 20 14 27.8 +0.8
comp=Z,515nm,1.1s,mb6.5
C10A Spilker Farm, 56.21 54 ⇓P P 20 14 26.7 -0.5
baz=56
KKAR Karatay Array 56.22 299 P P 20 14 25.6 -1.6
KKAR pmax pmax
comp=Z,13nm,0.7s,mb5.1
H06A Lindquist Farm 56.31 59 P P 20 14 28.5 +0.7
baz=56,SNR=8.4
B11A Sandpoint 56.37 53 P P 20 14 28.4 +0.2
baz=56,SNR=6.2
DMN Daman 56.37 275 ⇑*i*P P 20 14 29.3 +1.0
comp=Z,1μm,1.0s
G07A Ruggs Ranch, H 56.38 58 ⇓P P 20 14 28.2 -0.1
baz=56
GKN Gorkha 56.43 276 ⇑*i*P P 20 14 29.5 +0.8
comp=Z,888nm,1.0s,mb6.7
E09A Wood Farm, Sta 56.51 56 ⇓P P 20 14 28.8 -0.5
baz=56,SNR=12
F08A Pendleton 56.58 57 ⇓P P 20 14 30.2 +0.5
baz=56
J05A Fort Rock 56.64 61 ⇑P P 20 14 30.7 +0.6
baz=56,SNR=12
YBH Yreka Blue Hor 56.68 63 P P 20 14 31.7 +1.2
comp=Z,24nm,1.1s,mb5.2,baz=265,slow=2.8,SNR=15
YBH LR LR 20 34 42.2
comp=Z,818nm,21.4s,MS4.8,baz=332,slow=32
YBH Yreka Blue Hor 56.68 63 *e*P P 20 14 31.4 +0.9
YBH pmax pmax
comp=Z,105nm,1.6s
YBH MLR MLR
comp=Z,1μm,21.0s
YBH Yreka Blue Hor 56.68 63 *e*P P 20 14 31.4 +1.0
comp=Z,105nm,1.6s,mb5.6
YBH LR LR
comp=Z,1μm,21.0s,MS5.0
YBH Yreka Blue Hor 56.68 63 ⇓P P 20 14 31.3 +0.9
baz=56,SNR=6.0
K04A Chilquin 56.74 61 ⇑P P 20 14 31.4 +0.5
baz=57
KEV Kevo 56.75 341 *e*P P 20 14 29.2 -1.8
KEV LR LR
comp=Z,3μm,20.0s,MS5.4
B12A Libby 56.77 53 ⇓P P 20 14 31.5 +0.5
baz=57
G08A Pilot Rock 56.77 57 ⇑P P 20 14 30.5 -0.6
baz=57,SNR=7.6
M02C Callahan 56.80 63 ⇓P P 20 14 31.1 -0.2
baz=57
APA Apatity 56.81 337 ⇑*i*P P 20 14 30.0 -1.4
APA *e* 20 22 28.0
APA *e* 20 24 06.0
APA pmax pmax
comp=Z,54nm,1.4s,mb5.4
APA MLR MLR
comp=Z,3μm,18.0s,MS5.4
I06A Prineville 56.85 59 ⇑P P 20 14 31.8 +0.1
baz=57,SNR=8.6
L04A Klamath Falls 56.91 62 ⇓P P 20 14 32.1 0.0
baz=57,SNR=7.5
HNR Honiara 57.04 173 LR LR 20 35 17.6
comp=Z,526nm,19.3s,MS4.7,baz=0.5,slow=32
HNR Honiara 57.04 173 PFAKE 20 14 40.0 +7.0
HNR LR LR
comp=Z,1μm,20.0s,MS5.0
NNT Nongplab 57.09 251 P P 20 14 35.5 +2.1
E10A Myers Farm, Un 57.10 55 ⇓P P 20 14 32.9 -0.6
baz=57,SNR=18
F09A S2 Ranch, Elgi 57.12 56 ⇑P P 20 14 33.5 0.0
baz=57,SNR=8.5
PMG Port Moresby 57.13 188 PFAKE 20 14 40.0 +6.4
PMG LR LR
comp=Z,618nm,20.0s,MS4.7
K05A Summer Lake 57.17 61 ⇓P P 20 14 33.8 -0.1
baz=57,SNR=8.9
M04C Macdoel 57.17 62 ⇑P P 20 14 34.4 +0.5
baz=57,SNR=9.2
I07A Izee 57.17 59 ⇑P P 20 14 34.0 0.0
baz=57,SNR=9.9
D11A Klaveano Farm, 57.20 54 P P 20 14 33.7 -0.4
baz=57,SNR=25
ARCES ARCESS Array B 57.26 341 P P 20 14 33.2 -1.4
comp=Z,13nm,0.8s,mb5.0,baz=28,slow=6.3,SNR=16
ARCES LR LR 20 42 54.5
comp=Z,3μm,20.7s,MS5.3,baz=31,slow=40
ARCES ARCESS Array B 57.26 341 P P 20 14 33.2 -1.4
ARCES pmax pmax
comp=Z,13nm,0.8s
ARCES MLR MLR
comp=Z,3μm,20.7s
ARCES ARCESS Array B 57.26 341 P P 20 14 33.2 -1.4
ARCES LR LR 20 42 54.5
C12A Trout Creek 57.28 53 P P 20 14 34.8 +0.1
baz=57,SNR=16
KOLN Koldanda 57.28 277 ⇑*i*P P 20 14 35.8 +1.1
comp=Z,466nm,0.9s,mb6.5
J06A Christmas Vall 57.29 60 ⇑P P 20 14 34.9 +0.1
baz=57,SNR=13
M03C McCloud 57.31 63 ⇓P P 20 14 35.5 +0.6
baz=57
WALA Waterton Lakes 57.31 51 *e*P P 20 14 34.8 -0.1
comp=Z,74nm,1.3s,mb5.6
H08A Prairie City 57.39 58 ⇓P P 20 14 35.9 +0.4
baz=57,SNR=9.6
B13A Whitefish 57.42 52 ⇑P P 20 14 35.8 0.0
baz=57,SNR=24
LASM Arnica Sink 57.44 62 P P 20 14 36.8 +0.9
WDC Whiskeytown Da 57.47 64 *e*P P 20 14 35.6 -0.5
WDC pmax pmax
comp=Z,24nm,1.2s,mb5.1
WDC Whiskeytown Da 57.47 64 *e*P P 20 14 35.6 -0.4
comp=Z,24nm,1.2s,mb5.1
WDC Whiskeytown Da 57.47 64 P P 20 14 36.8 +0.7
baz=57,SNR=7.4
O02C Red Bluff 57.57 64 ⇓P P 20 14 37.5 +0.8
baz=57,SNR=5.7
P01C Double 8 Ranch 57.66 65 ⇑P P 20 14 37.6 +0.2
baz=58
J07A Hines 57.71 59 ⇑P P 20 14 38.2 +0.4
baz=58,SNR=11
LTIM Timbered Crate 57.75 63 P P 20 14 38.9 +0.9
C13A Hot Springs 57.78 53 ⇓P P 20 14 38.6 +0.3
baz=58,SNR=7.9
I08A Drewsey 57.82 59 ⇑P P 20 14 38.9 +0.4
baz=58,SNR=6.6
M05C Lookout 57.84 62 ⇓P P 20 14 39.0 +0.3
baz=58,SNR=8.9
H09A Durkee 57.88 57 ⇑P P 20 14 39.3 +0.4
baz=58,SNR=21
TMCR Tamitsa 57.90 332 *e*P P 20 14 38.6 -0.4
TMCR pmax pmax
comp=Z,36nm,0.7s,mb5.5
GASB Alder Springs 57.93 65 ⇑P P 20 14 39.6 +0.4
baz=58,SNR=6.0
BMO Blue Mountains 57.97 57 *e*P P 20 14 39.5 0.0
comp=Z,43nm,1.1s,mb5.4
BMO LR LR
comp=Z,736nm,22.0s,MS4.8
HATC Hat Creek Radi 57.98 63 ⇑P P 20 14 39.9 +0.2
baz=58
F11A Grangeville 57.99 55 P P 20 14 40.0 +0.3
baz=58,SNR=18
MOD Modoc 58.02 61 *e*P P 20 14 40.4 +0.6
comp=Z,14nm,0.8s,mb5.0
MOD LR LR
comp=Z,540nm,20.0s,MS4.7
MOD Modoc 58.02 61 ⇑P P 20 14 40.5 +0.6
baz=58,SNR=13
HOPS Hopland 58.11 66 PFAKE 20 14 50.0 +9.4
HOPS LR LR
comp=Z,695nm,19.0s,MS4.8
O03C Acorn Hollow, 58.14 64 ⇑P P 20 14 40.5 -0.2
baz=58
K07A Rock Creek Ran 58.16 60 ⇓P P 20 14 41.5 +0.6
baz=58,SNR=10
D13A Huson 58.20 53 P P 20 14 41.6 +0.4
baz=58,SNR=14
J08A Circle Bar Ran 58.21 59 ⇓P P 20 14 41.8 +0.5
baz=58,SNR=16
I09A Lost Marbles R 58.26 58 P P 20 14 42.1 +0.6
baz=58,SNR=19
M06C Likely Place G 58.34 62 ⇑P P 20 14 42.5 +0.3
baz=58,SNR=5.1
BOK Bokaro 58.37 271 *e*P P 20 14 43.2 +0.9
BOK AMb AMB 20 14 45.3
comp=Z,192nm,1.0s,mb6.1
AB31 Akbulak array 58.42 310 P P 20 14 41.0 -1.7
AB31 pmax pmax
comp=Z,11nm,0.7s,mb5.0
LGTI Lohaghat 58.44 280 *e*P P 20 14 43.0 +0.2
O04C Chester 58.51 63 ⇓P P 20 14 43.0 -0.3
baz=58,SNR=7.0
L07A Adel 58.52 61 ⇑P P 20 14 44.1 +0.7
baz=58,SNR=11
ELFS Eagle Lake Fie 58.54 63 ⇓P P 20 14 43.6 +0.1
baz=58,SNR=9.8
TRO Tromso 58.55 343 *e*P P 20 14 42.1 -1.5
TRO *e*S S 20 22 39.0 -7.9
TRO AMS AMS 20 46 10.8
comp=Z,875nm,17.5s,MS4.9
MNRC McLaughlin Nat 58.57 65 ⇓P P 20 14 44.1 +0.4
baz=58
F12A Elk City 58.58 55 ⇓P P 20 14 43.6 -0.2
baz=58,SNR=33
K08A Mann Creek Ran 58.58 60 ⇑P P 20 14 44.0 +0.1
baz=58,SNR=20
J09A Fry Pan Ranch, 58.63 59 ⇓P P 20 14 44.3 +0.1
baz=58,SNR=20
MSO Missoula 58.64 53 *e*P P 20 14 44.2 0.0
comp=Z,113nm,1.5s,mb5.7
MSO LR LR
comp=Z,426nm,20.0s,MS4.6
WVOR Wild Horse Val 58.67 60 *e*P P 20 14 45.0 +0.5
WVOR pmax pmax
comp=Z,155nm,1.7s,mb5.8
WVOR MLR MLR
comp=Z,966nm,19.0s,MS4.9
WVOR Wild Horse Val 58.67 60 *e*P P 20 14 45.0 +0.5
comp=Z,155nm,1.7s,mb5.8
WVOR LR LR
comp=Z,966nm,19.0s,MS4.9
AKTO Aktyubinsk 58.68 312 P P 20 14 43.0 -1.6
AKTO pmax pmax
comp=Z,3.0nm,1.6s
D14A Greenough 58.72 53 ⇓P P 20 14 44.6 -0.2
baz=59,SNR=38
ORV Oroville 58.73 64 ⇓P P 20 14 44.3 -0.6
baz=59,SNR=13
E13A Victor 58.74 54 ⇓P P 20 14 45.0 +0.1
baz=59,SNR=21
SUTB Sutter Butte 58.76 65 ⇑P P 20 14 44.3 -0.7
baz=59
H11A Donnelly 58.79 56 ⇑P P 20 14 45.3 0.0
baz=59,SNR=65
O05C Quincy 58.83 63 ⇑P P 20 14 45.5 -0.1
baz=59,SNR=6.5
OHCM Honcut 58.88 64 *e*P P 20 14 44.9 -0.9
CHMT Chamberlain Mo 58.96 53 *e*P P 20 14 46.4 -0.1
Q03C Winters 58.98 65 ⇑P P 20 14 47.0 +0.4
baz=59
L08A Fields 58.99 60 ⇑P P 20 14 46.9 +0.2
baz=59,SNR=23
N06A Buffalo Meadow 59.00 62 ⇑P P 20 14 46.8 +0.1
baz=59,SNR=13
M07A Soldier Meadow 59.00 61 ⇑P P 20 14 46.8 0.0
baz=59,SNR=31
K09A Rome 59.04 59 ⇓P P 20 14 47.1 0.0
baz=59,SNR=5.4
F13A Darby 59.06 55 ⇑P P 20 14 46.7 -0.5
baz=59,SNR=32
E14A Clinton 59.14 54 ⇓P P 20 14 47.5 -0.2
baz=59,SNR=15
BEKR Beckwourth 59.23 63 ⇑P P 20 14 48.3 -0.1
baz=59,SNR=18
Q04C Lincoln 59.25 65 ⇓P P 20 14 48.3 -0.2
baz=59
DLH Dalhousie 59.28 286 *e*P P 20 14 50.0 +1.3
D15A Lincoln 59.28 53 ⇓P P 20 14 48.6 -0.1
baz=59,SNR=12
SDNR Sundarnagar 59.29 284 *e*P P 20 14 48.5 -0.2
O06A Flanigan 59.37 63 ⇑P P 20 14 49.1 -0.2
baz=59,SNR=13
P05C Yuba Gap, Truc 59.43 64 ⇓P P 20 14 50.1 +0.4
baz=59
N07B Gerlach 59.50 62 ⇑P P 20 14 50.4 +0.2
baz=59,SNR=12
L09A Wilkinson Ranc 59.50 60 ⇓P P 20 14 50.8 +0.6
baz=59,SNR=7.7
BDM Black Diamond 59.50 66 ⇓P P 20 14 50.7 +0.5
baz=59
THN Thein Dam 59.51 286 *e*P P 20 14 48.6 -1.7
ORR Orenburg 59.55 314 *e*P P 20 14 50.6 0.0
ORR pmax pmax
comp=Z,40nm,1.2s,mb5.3
ORR MLR MLR
comp=Z,3μm,16.0s,MS5.5
F14A Wisdom 59.58 54 ⇑P P 20 14 50.7 -0.1
baz=59,SNR=10
KSM Kuching 59.59 233 *e*P P 20 14 51.7 +0.8
E15A Deer Lodge 59.60 53 ⇓P P 20 14 50.3 -0.6
baz=59,SNR=38
P06A Stead Airport, 59.62 63 ⇓P P 20 14 50.7 -0.3
baz=60
LAVA Lava Cap Winer 59.69 64 P P 20 14 51.7 +0.2
baz=60,SNR=14
SUMG Summit 59.76 4 *e*P P 20 14 52.5 +0.5
comp=Z,191nm,1.0s,mb6.1
WENL Wente Brothers 59.77 66 ⇓P P 20 14 52.8 +0.7
baz=60
BNLO Ben Lomond (Sa 59.82 67 ⇑P P 20 14 53.1 +0.7
baz=60
O07A Toulon 59.94 62 ⇓P P 20 14 53.4 +0.2
baz=60,SNR=20
WCN Washoe City 59.95 63 ⇑P P 20 14 53.2 0.0
baz=60,SNR=9.2
N08A GE Springer Mi 59.99 61 ⇑P P 20 14 53.9 +0.3
baz=60,SNR=14
M09A Marrel Ranch, 59.99 60 ⇑P P 20 14 53.8 +0.2
baz=60,SNR=15
F15A Butte 60.04 54 P P 20 14 54.3 +0.4
baz=60,SNR=50
ALBI Allahabad 60.10 276 *e*P P 20 14 53.0 -1.4
S04C Ingram Canyon, 60.11 66 ⇑P P 20 14 54.2 -0.3
baz=60
EGMT Eagleton 60.13 50 *e*P P 20 14 54.2 -0.3
comp=Z,92nm,1.2s,mb5.7
EGMT LR LR
comp=Z,1μm,21.0s,MS4.9
EGMT Eagleton 60.13 50 ⇑P P 20 14 54.3 -0.2
baz=60,SNR=15
DLMT Dillon 60.28 54 *e*P P 20 14 55.9 +0.3
comp=Z,216nm,1.6s,mb5.9
N09A Rock Creek Ran 60.31 61 ⇓P P 20 14 56.2 +0.5
baz=60,SNR=8.6
P07A Fallon 60.32 63 ⇑P P 20 14 55.5 -0.3
baz=60
NIL Nilore 60.33 289 P P 20 14 56.3 +0.4
comp=Z,344nm,0.9s,mb6.4,SNR=19
CMB Columbia Colle 60.36 65 P P 20 14 55.8 -0.3
CMB pmax pmax
comp=Z,48nm,1.3s,mb5.4
CMB Columbia Colle 60.36 65 PFAKE 20 15 10.0 +14
CMB LR LR
comp=Z,793nm,22.0s,MS4.8
CMB Columbia Colle 60.36 65 ⇑P P 20 14 55.8 -0.3
baz=60,SNR=9.3
HLID Hailey 60.41 57 *e*P P 20 14 56.6 +0.1
comp=Z,58nm,1.4s,mb5.4
HLID LR LR
comp=Z,812nm,19.0s,MS4.9
HLID Hailey 60.41 57 ⇑P P 20 14 56.7 +0.3
baz=60,SNR=28
PACP Pacheco Peak 60.45 66 ⇓P P 20 14 56.5 -0.3
baz=60
M10A I.L. Ranch, Tu 60.47 60 ⇑P P 20 14 57.3 +0.4
baz=60,SNR=28
G15A Dillon 60.47 54 ⇓P P 20 14 56.8 -0.1
baz=60,SNR=22
MCMT McKenzie Canyo 60.48 55 P P 20 14 57.3 +0.3
KAPI Kappang 60.55 220 P P 20 14 56.2 -1.2
comp=Z,343nm,1.3s,mb6.3,SNR=8.0
R06C Coleville 60.62 64 ⇓P P 20 14 58.3 +0.4
baz=60,SNR=11
HAST UC Hastings Re 60.68 67 ⇓P P 20 14 58.3 0.0
baz=60
P08A Dixie Valley 60.71 62 ⇓P P 20 14 59.1 +0.6
baz=61
BMN Battle Mountai 60.75 61 *e*P P 20 14 59.3 +0.5
BMN pmax pmax
comp=Z,20nm,0.7s,mb5.4
BMN MLR MLR
comp=Z,768nm,21.0s,MS4.8
BMN Battle Mountai 60.75 61 *e*P P 20 14 59.2 +0.5
comp=Z,20nm,0.7s,mb5.4
BMN LR LR
comp=Z,768nm,21.0s,MS4.8
S06C San Francisco 60.78 65 ⇓P P 20 14 58.9 -0.1
baz=61,SNR=12
S05C Merced 60.83 65 ⇑P P 20 14 58.5 -0.8
baz=61,SNR=7.2
O09A Fish Creek Ran 60.94 61 ⇓P P 20 15 00.5 +0.5
baz=61,SNR=21
NDI New Delhi 60.95 282 *e*P P 20 15 00.0 -0.1
comp=Z,10.0nm,1.0s,mb4.9
M11A Holland Ranch, 60.96 59 ⇑P P 20 15 00.9 +0.7
baz=61,SNR=26
N10A Dunphy 60.99 60 ⇓P P 20 15 00.5 +0.1
baz=61
R07C Lee Vining 61.14 64 ⇑P P 20 15 02.0 +0.5
baz=61,SNR=5.3
U04C Hernandez Rese 61.17 67 ⇓P P 20 15 02.0 +0.3
baz=61
QLMT Earthquake Lak 61.26 54 *e*P P 20 15 02.8 +0.5
O10A Cortez Mining, 61.27 61 ⇑P P 20 15 02.9 +0.6
baz=61,SNR=15
Q08A Gabbs 61.33 63 ⇑P P 20 15 03.1 +0.4
baz=61,SNR=16
P09A Austin 61.36 62 ⇓P P 20 15 03.0 +0.1
baz=61
N11A Elko Archery C 61.38 60 ⇓P P 20 15 03.1 0.0
baz=61,SNR=11
T06C Millerton Lake 61.42 65 ⇓P P 20 15 02.8 -0.5
baz=61
KCC Kaiser Creek 61.46 65 ⇑P P 20 15 03.6 0.0
baz=61,SNR=7.5
M12A Wells 61.48 59 ⇑P P 20 15 03.9 +0.2
baz=61,SNR=34
R08A Mina 61.55 63 ⇓P P 20 15 04.7 +0.5
baz=61
MLAC Mammoth Lakes 61.56 64 ⇑P P 20 15 04.8 +0.5
baz=61
GCMT Greycliff 61.60 52 *e*P P 20 15 05.2 +0.7
YMR Madison River 61.62 54 PFAKE 20 15 20.0 +15
YMR LR LR
comp=Z,816nm,21.0s,MS4.9
P10A Eureka 61.72 61 ⇓P P 20 15 05.5 +0.2
baz=62,SNR=9.2
ELK Elko 61.72 60 *e*P P 20 15 05.8 +0.5
ELK pmax pmax
comp=Z,157nm,1.8s
ELK MLR MLR
comp=Z,812nm,20.0s
ELK Elko 61.72 60 *e*P P 20 15 05.8 +0.5
comp=Z,157nm,1.8s,mb5.8
ELK LR LR
comp=Z,812nm,20.0s,MS4.9
YNR Norris Junctio 61.74 54 *e*P P 20 15 07.3 +1.8
N12A Clover Valley, 61.77 59 ⇓P P 20 15 06.0 +0.3
baz=62,SNR=18
Q09A Carvers 61.79 62 ⇓P P 20 15 05.8 0.0
baz=62,SNR=5.2
YFT Old Faithful 61.83 54 *e*P P 20 15 08.1 +2.0
O11A Cowboy Ranch, 61.87 60 ⇑P P 20 15 06.8 +0.5
baz=62,SNR=14
MTUM Tungsten Hills 61.91 64 *e*P P 20 15 06.4 -0.2
M13A Montello 61.95 59 ⇓P P 20 15 06.8 -0.1
baz=62,SNR=13
LKWY Lake 61.99 54 PFAKE 20 15 20.0 +13
LKWY LR LR
comp=Z,869nm,19.0s,MS4.9
V05C Boulder Hill, 62.04 67 ⇓P P 20 15 07.4 -0.1
baz=62
KULM Kulim 62.12 245 *e*P P 20 15 08.8 +0.7
FLWY Flagg Ranch 62.14 54 *e*P P 20 15 09.4 +1.2
comp=Z,126nm,1.3s,mb5.9
RCTC Rector, Farmer 62.16 66 ⇑P P 20 15 08.2 -0.1
baz=62
P11A Circle Ranch, 62.18 61 ⇑P P 20 15 08.4 -0.1
baz=62,SNR=5.5
DCID1 Drake Creek 62.19 55 *e*P P 20 15 09.6 +1.0
R09A Tonopah 62.24 63 ⇓P P 20 15 08.7 -0.2
baz=62,SNR=13
RLMT Red Lodge 62.25 53 *e*P P 20 15 10.1 +1.2
comp=Z,174nm,1.6s,mb5.9
RLMT LR LR
comp=Z,723nm,20.0s,MS4.8
N13A Wendover, West 62.25 59 ⇓P P 20 15 08.9 0.0
baz=62,SNR=8.2
TPH Tonopah 62.26 63 *e*P P 20 15 09.4 +0.5
TPH pmax pmax
comp=Z,72nm,1.3s,mb5.6

TPH MLR MLR
comp=Z,656nm,22.0s,MS4.8
TPH Tonopah 62.26 63 *e*P **P 20 15 09.4 +0.5**
comp=Z,72nm,1.3s,mb5.6
TPH LR LR
comp=Z,656nm,22.0s,MS4.8
RRI2 Red Ridge 62.28 55 *e*P **P 20 15 09.8 +0.7**
comp=Z,88nm,0.8s,mb5.9
O12A Currie 62.31 60 ⇓P **P 20 15 09.3 -0.1**
baz=62,SNR=19
MOOW Moose Ponds 62.33 55 *e*P **P 20 15 10.2 +0.8**
comp=Z,111nm,1.5s,mb5.8
SMMC Simmler 62.34 67 ⇓P **P 20 15 09.4 -0.1**
baz=62
HVU Hansel Valley 62.47 57 *e*P **P 20 15 10.2 -0.2**
HVU pmax pmax
comp=Z,33nm,1.1s,mb5.4
HVU Hansel Valley 62.47 57 *e*P **P 20 15 10.2 -0.2**
comp=Z,33nm,1.1s,mb5.4
S09A Goldfield 62.48 63 ⇑P **P 20 15 10.0 -0.4**
baz=62,SNR=11
LOHW Long Hollow 62.50 55 *e*P **P 20 15 11.5 +0.9**
comp=Z,209nm,1.6s,mb6.0
SNOW Snow King Moun 62.52 55 *e*P **P 20 15 11.8 +1.1**
comp=Z,182nm,1.4s,mb6.0
IPM Ipoh 62.52 244 P **P 20 15 11.8 +1.0**
REDW Red Top Meadow 62.53 55 *e*P **P 20 15 11.9 +1.2**
comp=Z,148nm,1.1s,mb6.0
VES Vestal, Richgr 62.56 66 ⇑P **P 20 15 10.6 -0.4**
baz=62
Q11A Duckwater 62.70 61 ⇓P **P 20 15 11.9 0.0**
baz=62,SNR=7.6
PKM Peak Mountain 62.72 67 ⇑P **P 20 15 12.4 +0.4**
baz=63
P12A McGill 62.73 61 ⇓P **P 20 15 12.1 -0.1**
baz=63,SNR=14
JBP Jabalpur 62.77 275⇑ *e*P **P 20 15 14.8 +2.4**
JBP *ex* x 20 15 16.6
comp=Z,327nm,1.2s
AHID Auburn Hatcher 62.78 56 *e*P **P 20 15 13.3 +0.8**
comp=Z,74nm,1.3s,mb5.7
AHID LR LR
comp=Z,688nm,20.0s,MS4.8
CWC Cottonwood Cre 62.79 65 ⇑P **P 20 15 12.6 0.0**
baz=63,SNR=5.4
LAO LASA Array 62.82 50 *e*P **P 20 15 13.4 +0.6**
comp=Z,427nm,1.8s,mb6.3
LAO LR LR
comp=Z,1μm,20.0s,MS5.1
GRAC Grapevine Rang 62.86 64 ⇑P **P 20 15 13.3 +0.3**
baz=63
BGU Big Grassy Mou 62.88 58 *e*P **P 20 15 13.4 +0.2**
ISA Isabella 63.05 66 *e*P **P 20 15 13.5 -0.8**
ISA LR LR
comp=Z,161nm,22.0s,MS4.2
ISA Isabella 63.05 66 ⇓P **P 20 15 14.2 -0.1**
baz=63
Q12A Willow Creek R 63.06 61 ⇓P **P 20 15 14.3 0.0**
baz=63,SNR=14
TRCR Troy Canyon 63.06 62 *e*P **P 20 15 14.3 0.0**
KGM Kluang 63.11 240 P **P 20 15 16.2 +1.6**
KAKA Kakadu 63.13 204 *e*P **P 20 15 13.3 -1.5**
comp=Z,50nm,1.4s,mb5.5
ARVC Arvin 63.18 67 ⇑P **P 20 15 14.4 -0.7**
baz=63
DAC Darwin (Calif) 63.19 65 *e*P **P 20 15 14.7 -0.5**
comp=Z,78nm,1.9s,mb5.5
DAC LR LR
comp=Z,879nm,22.0s,MS4.9
HWUT Hardware Ranch 63.27 57 *e*P **P 20 15 15.8 +0.1**
comp=Z,65nm,1.2s,mb5.6
HWUT LR LR
comp=Z,628nm,21.0s,MS4.8
MPMC Manual Prospec 63.40 65 ⇑P **P 20 15 16.1 -0.5**
baz=63,SNR=15
DUG Dugway 63.48 59 *e*P **P 20 15 17.5 +0.4**
DUG pmax pmax
comp=Z,68nm,1.2s,mb5.7
DUG MLR MLR
comp=Z,526nm,20.0s,MS4.7
DUG Dugway 63.48 59 *e*P **P 20 15 17.4 +0.3**
comp=Z,68nm,1.2s,mb5.7
DUG LR LR
comp=Z,526nm,20.0s,MS4.7
DUG Dugway 63.48 59 ⇓P **P 20 15 16.9 -0.2**
baz=63,SNR=40
FURC Furnace Creek, 63.52 64 ⇑P **P 20 15 17.0 -0.4**
baz=63,SNR=12
FIA1 FINESS Array S 63.55 335 *e*P **P 20 15 16.7 -0.9**
FINES FINESS Array B 63.55 335 P **P 20 15 16.2 -1.4**
comp=Z,42nm,0.8s,mb5.5,baz=40,slow=6.7,SNR=134
FINES LR LR 20 46 56.1
comp=Z,2μm,19.7s,MS5.2,baz=31,slow=40
FINES FINESS Array B 63.55 335 P **P 20 15 16.2 -1.4**
FINES pmax pmax
comp=Z,42nm,0.8s
FINES MLR MLR
comp=Z,2μm,19.7s
NOQ North Oquirrh 63.58 58 *e*P **P 20 15 18.5 +0.7**
comp=Z,43nm,0.8s,mb5.5
OSI Osito Adit 63.58 67 ⇑P **P 20 15 17.3 -0.5**
baz=63
PUL Pulkovo 63.61 332 *e*P **P 20 15 16.0 -1.9**
BW06 Boulder Array 63.63 55 PFAKE 20 15 30.0 +12
BW06 LR LR
comp=Z,603nm,20.0s,MS4.8
PDAR Pinedale Array 63.63 55 P **P 20 15 18.3 +0.2**
comp=Z,36nm,1.1s,mb5.3,baz=302,slow=2.8,SNR=51
PDAR LR LR 20 41 55.3
comp=Z,416nm,21.2s,MS4.6,baz=336,slow=35
LRMC Laurel Mountai 63.66 66 ⇓P **P 20 15 17.4 -0.9**
baz=64,SNR=11
CTU Camp Tracy 63.77 58 *e*P **P 20 15 19.3 +0.3**
comp=Z,179nm,1.8s,mb5.8
EDW2 Edwards Air Fo 63.86 66 ⇑P **P 20 15 19.3 -0.4**
baz=64,SNR=17
U10A Ash Meadows, A 63.87 64 ⇓P **P 20 15 19.9 +0.2**
baz=64,SNR=12
JLU Jordanelle 64.00 58 *e*P **P 20 15 21.0 +0.5**
DECC Green Verdugo 64.07 67 ⇑P **P 20 15 21.0 +0.1**
baz=64
NLU North Lily Min 64.07 59 *e*P **P 20 15 21.3 +0.3**
AJM Ajmer 64.11 282 *i*P **P 20 15 21.0 -0.3**
AJM *e*P 20 15 21.2
AJM AMb AMB 20 15 23.4
comp=Z,240nm,0.9s,mb6.2
MOS Moscow 64.13 326 *e*P **P 20 15 20.7 -0.7**
MOS pmax pmax
comp=Z,65nm,1.3s,mb5.5
SFJD Kangerlussuaq 64.15 11 *i*P **P 20 15 21.1 -0.4**
SFJD *i* 20 15 55.7
SFJD Kangerlussuaq 64.15 11 *i*P **P 20 15 21.1 -0.4**
SFJD *i* 20 15 55.7
SFJD LR LR
comp=Z,2μm,19.0s,MS5.4
DAU Daniels Canyon 64.23 58 P **P 20 15 23.2 +1.1**
DAU Daniels Canyon 64.23 58 *e*P **P 20 15 22.8 +0.7**
SHOC Shoshone 64.24 64 ⇑P **P 20 15 22.1 -0.1**
baz=64
VIS Vishakhapatnam 64.27 268 *i*P **P 20 15 21.0 -1.3**
VIS *e*P 20 15 23.1
VIS AMb AMB 20 15 25.2
comp=Z,128nm,1.0s,mb5.9
MPU Maple Canyon 64.28 58 *e*P **P 20 15 23.0 +0.6**
comp=Z,66nm,1.3s,mb5.5
MPU LR LR
comp=Z,930nm,22.0s,MS4.9
GSC Goldstone 64.32 65 *e*P **P 20 15 22.4 -0.2**
GSC Goldstone 64.32 65 P **P 20 15 22.8 +0.2**
baz=64,SNR=11
NSS Namsos 64.34 343 *e*P **P 20 15 21.6 -1.2**
U11A Corn Creek 64.44 63 ⇓P **P 20 15 24.0 +0.6**
baz=64
BHPL Bhopal 64.44 277 *e*P **P 20 15 23.6 +0.2**
BFSC Mount Baldy St 64.49 67 ⇑P **P 20 15 23.6 -0.2**
baz=64,SNR=6.5
CIS Catalina Islan 64.58 68 ⇑P **P 20 15 24.6 +0.2**
baz=64
ARUT Antelope Range 64.70 61 *e*P **P 20 15 25.5 +0.4**
ARUT Antelope Range 64.70 61 *e*P **P 20 15 25.4 +0.2**
TUQ Turquoise Mtn. 64.77 65 ⇓P **P 20 15 25.1 -0.5**
baz=65,SNR=14
NGP Nagpur 64.78 274 *e*P **P 20 15 25.1 -0.5**
NGP *ex* x 20 15 27.7
comp=Z,376nm,1.1s
NGP *e*S **S 20 24 06.8 +0.9**
V11A Goodsprings 64.80 64 ⇑P **P 20 15 25.4 -0.4**
baz=65,SNR=11
CCUT Cedar City 64.91 61 *e*P **P 20 15 26.8 +0.3**
HEC Hector,Ludlow 64.92 65 ⇓P **P 20 15 25.9 -0.6**
baz=65
U12A Valley of Fire 64.95 63 ⇓P **P 20 15 26.3 -0.4**
baz=65
MVU Marysvale 64.95 60 PFAKE 20 15 40.0 +13
MVU LR LR
comp=Z,767nm,20.0s,MS4.9
MSU Marysvale 64.96 60 *e*P **P 20 15 27.2 +0.4**
OBN Obninsk 64.99 326 *e*P **P 20 15 25.5 -1.5**
OBN *e* 20 15 57.6
OBN *e* 20 17 47.9
OBN *e*S S 20 24 07.0 -1.5
OBN *e*SS SS 20 28 18.8 -1.6
OBN pmax pmax
comp=Z,73nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,1μm,15.0s,MS5.2
OBN Obninsk 64.99 326 *e*P **P 20 15 25.6 -1.4**
OBN LR LR
comp=Z,409nm,19.0s,MS4.6
TMUT Trail Mountain 65.00 59 *e*P **P 20 15 27.4 +0.3**
MURC Murrieta 65.20 67 ⇓P **P 20 15 27.4 -1.0**
baz=65,SNR=7.1
V12A Nelson 65.23 64 ⇑P **P 20 15 28.3 -0.2**
baz=65,SNR=13
GMRC Granite Mounta 65.36 65 ⇓P **P 20 15 28.8 -0.6**
baz=65,SNR=16
ULM Lac du Bonnet 65.37 42 P **P 20 15 28.4 -1.1**
comp=Z,8.7nm,0.9s,mb4.8,baz=303,slow=9.4,SNR=8.1
ULM LR LR 20 45 03.7
comp=Z,693nm,18.7s,MS4.9,baz=297,slow=37
W12A Cal Nev Ari 65.50 64 ⇓P **P 20 15 29.7 -0.6**
baz=65
SRU San Rafael 65.52 58 *e*P **P 20 15 30.6 +0.1**
PFO Pinyon Flat Ob 65.66 66 LR LR 20 37 31.9
comp=Z,748nm,21.4s,MS4.9,baz=288,slow=30
PFO Pinyon Flat Ob 65.66 66 *e*P **P 20 15 31.2 -0.1**
PFO pmax pmax
comp=Z,5.0nm,1.2s
PFO MLR MLR
comp=Z,190nm,22.0s
PFO Pinyon Flat Ob 65.66 66 *e*P **P 20 15 31.2 -0.1**
comp=Z,4.6nm,1.2s
PFO LR LR
comp=Z,190nm,22.0s
PFO Pinyon Flat Ob 65.66 66 ⇑P **P 20 15 30.7 -0.6**
baz=66
BELC Belle Mtn. 65.68 66 P **P 20 15 31.2 -0.3**
baz=66,SNR=9.0
RSSD Black Hills 65.69 51 *e*P **P 20 15 31.2 -0.4**
109C Camp Elliot, M 65.73 67 ⇓P **P 20 15 31.3 -0.5**
baz=66
VSU Vasula 65.77 333 *e*P **P 20 15 31.7 -0.3**
VSU Vasula 65.77 333 *e*P **P 20 15 31.8 -0.2**
VRHR Novokhopersk 65.92 320 *e*P **P 20 15 33.5 +0.5**
VRHR pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=N,2.0nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.4s
VRHR MLR MLR
comp=Z,780nm,14.0s,MS5.1
VRHR MLR MLR
comp=N,10.0nm,17.0s,MS4.3
VRHR MLR MLR
comp=E,150nm,12.0s,MS4.3
IRM Iron Mountain 66.09 65 ⇑P **P 20 15 33.6 -0.6**
baz=66,SNR=20
MONP Monument Peak 66.16 67 ⇓P **P 20 15 34.4 -0.2**
baz=66
W13A Hualapai Mount 66.23 64 ⇑P **P 20 15 34.7 -0.3**
baz=66,SNR=12
BC3 Big Chuckw Mtn 66.25 66 ⇓P **P 20 15 34.5 -0.6**
baz=66,SNR=11
DVTC Desert V Tower 66.51 67 ⇓P **P 20 15 37.1 +0.3**
baz=66
SWSC Sam W. Stewart 66.51 66 ⇓P **P 20 15 36.7 -0.1**
baz=66
X13A Yucca 66.61 64 ⇑P **P 20 15 37.0 -0.5**
baz=66,SNR=20
PDMCI Parker Dam,Lak 66.62 64 ⇓P **P 20 15 37.3 -0.2**
baz=66,SNR=16
W14A Seligman 66.64 63 ⇓P **P 20 15 37.8 +0.2**
baz=66,SNR=28
Y12C Blythe 66.75 65 ⇓P **P 20 15 38.0 -0.3**
baz=67,SNR=5.4
ABKT Ailbek 66.78 301 P **P 20 15 38.6 +0.1**
comp=E,190nm,0.9s,mb6.1,SNR=9.0
AGMN Agassiz Refuge 66.78 43 *e*P **P 20 15 37.6 -1.0**
comp=E,65nm,1.4s,mb5.5
AGMN LR LR
comp=Z,807nm,19.0s,MS5.0
VRSR Storozhevoye 66.87 322 *e*P **P 20 15 38.8 -0.3**
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,60nm,1.1s
VRSR pmax pmax
comp=E,50nm,1.1s
VRSR MLR MLR
comp=N,640nm,18.0s,MS5.3
VRSR MLR MLR
comp=Z,1μm,18.0s,MS5.2
VRSR MLR MLR
comp=E,1μm,19.0s,MS5.3
PV10 Paradox Valley 66.87 58 *e*P **P 20 15 39.6 +0.5**
VORD Divnogorie 67.01 321 *e*P **P 20 15 36.8 -3.2**
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.5
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,40nm,0.7s
GLA Glamis 67.04 66 *e*P **P 20 15 40.3 +0.1**
GLA Glamis 67.04 66 ⇓P **P 20 15 40.0 -0.1**
baz=67,SNR=12
W15A Williams 67.15 63 ⇓P **P 20 15 41.1 +0.2**
baz=67,SNR=6.2
X14A Yava 67.26 63 ⇑P **P 20 15 41.8 +0.2**
baz=67,SNR=16
PV01 Paradox Valley 67.31 58 *e*P **P 20 15 41.8 -0.1**
WUAZ Wupatki 67.46 62 *e*P **P 20 15 43.2 +0.4**
WUAZ LR LR
comp=Z,707nm,22.0s,MS4.8
WUAZ Wupatki 67.46 62 ⇓P **P 20 15 42.9 0.0**
baz=67,SNR=10
Y14A Wickenburg 67.55 64 ⇓P **P 20 15 43.0 -0.5**
baz=67,SNR=12
NB2 NORSAR Subarra 67.63 342 P **P 20 15 43.1 -0.8**
comp=Z,471nm,2.5s,mb6.1,baz=25,slow=6.2
NOA NORSAR Array B 67.63 342 P **P 20 15 43.4 -0.5**
comp=Z,20nm,1.0s,mb5.1,baz=26,slow=6.4,SNR=28
NOA LR LR 20 51 40.2
comp=Z,1μm,18.9s,MS5.2,baz=10.0,slow=42
NOA NORSAR Array B 67.63 342 P **P 20 15 43.4 -0.5**
NOA pmax pmax
comp=Z,20nm,1.0s
NOA MLR MLR
comp=Z,1μm,18.9s
X15A Humboldt 67.64 63 ⇓P **P 20 15 44.1 +0.1**
baz=68,SNR=26
HYB Hyderabad 67.71 272⇑ *i*P **P 20 15 44.0 -0.4**
HYB Hyderabad 67.71 272⇑ *e*P **P 20 15 44.0 -0.4**
CTA Charters Tower 67.78 188 *e*P **P 20 15 42.9 -2.0**
comp=Z,18nm,1.0s,mb5.1
CTA Charters Tower 67.78 188 LR LR 20 42 18.3
comp=Z,326nm,19.9s,MS4.5,baz=12,slow=33
CTA Charters Tower 67.78 188 *e*P **P 20 15 42.9 -2.0**
CTA pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 67.78 188 *e*P **P 20 15 42.6 -2.3**
CTAO pmax pmax
comp=Z,46nm,1.2s,mb5.4
CTAO MLR MLR
comp=Z,317nm,20.0s,MS4.5
CTAO Charters Tower 67.78 188 *e*P **P 20 15 42.6 -2.3**
comp=Z,46nm,1.2s,mb5.4
CTAO LR LR
comp=Z,317nm,20.0s,MS4.5
ISCO Idaho Springs 67.83 55 PFAKE 20 16 00.0 +15
ISCO LR LR
comp=Z,612nm,20.0s,MS4.8
NAO01 NORSAR Array S 67.87 342 *e*P **P 20 15 44.9 -0.6**
comp=Z,31nm,1.1s,mb5.3
HFA0 Hagfors New Ar 67.88 340 P **P 20 15 44.4 -1.1**
BORG Borgarnes 67.91 358 *e*P **P 20 15 46.5 +0.8**
comp=Z,179nm,1.1s,mb6.0
Z14A Wintersburg 67.98 64 ⇓P **P 20 15 45.6 -0.6**
baz=68
MVCO Mesa Verde 67.98 59 *e*P **P 20 15 45.4 -0.7**
MVCO LR LR
comp=Z,776nm,21.0s,MS4.9
MVCO Mesa Verde 67.98 59 ⇓P **P 20 15 45.9 -0.3**
baz=68,SNR=16
LATR Latur 68.36 274 *e*P **P 20 15 46.1 -2.4**
AFI Afiamalu 68.39 144 PFAKE 20 16 00.0 +11
AFI LR LR
comp=Z,1μm,19.0s,MS5.2
MNK Minsk 68.63 330 *e*P **P 20 15 47.0 -3.2**
115A Sonoran Desert 68.87 64 ⇑P **P 20 15 52.0 +0.3**
baz=69,SNR=12
EYMN Ely 69.02 41 P **P 20 15 51.9 -0.7**
comp=Z,58nm,1.7s,mb5.2
EYMN LR LR
comp=Z,799nm,20.0s,MS5.0
MAK Makhachkala 69.05 311 *i*P **P 20 15 51.4 -1.4**
MAK *e* 20 16 13.0
MAK *i*S S 20 24 56.1 -1.3
MAK *e*SSS 20 32 29.4
MAK pmax pmax
comp=Z,363nm,1.7s,mb6.0
MAK MLR MLR
comp=Z,4μm,18.0s,MS5.7
KONO Kongsberg 69.23 342 *e*S S 20 24 58.7 -0.9
KONO Kongsberg 69.23 342 *e*P **P 20 15 52.6 -1.3**
KONO LR LR
comp=Z,2μm,19.0s,MS5.4
116A Eloy 69.29 64 ⇓P **P 20 15 54.4 +0.1**
baz=69
SDCO Great Sand Dun 69.32 56 *e*P **P 20 15 54.4 -0.1**
SDCO LR LR
comp=Z,828nm,20.0s,MS5.0
WRAB Tennant Creek 69.58 200 *e*P **P 20 15 53.7 -2.4**
WRAB Tennant Creek 69.58 200 *e*P **P 20 15 54.3 -1.8**
WRAB LR LR
comp=Z,153nm,20.0s,MS4.2
WB2 Warramunga Arr 69.59 200⇑ *i*P **P 20 15 54.6 -1.6**
WRA Warramunga Arr 69.59 200 P **P 20 15 54.6 -1.5**
comp=Z,55nm,1.1s,mb5.4,baz=18,slow=6.3,SNR=119
WRA PKP2bc 20 44 00.3
comp=Z,1.4nm,1.0s,baz=197,slow=3.0,SNR=6.5
WRA Warramunga Arr 69.59 200 *i*P **P 20 15 54.5 -1.7**
WRA pmax pmax
comp=Z,55nm,1.1s
WRA Warramunga Arr 69.59 200 P **P 20 15 54.6 -1.5**
WRA ⇑*e* 20 44 00.3
MDRS Chennai 69.65 267 *ex* x 20 15 58.1
MDRS *ex* x 20 18 52.1
GOF Gofitskoye 69.72 315 *e*P **P 20 15 51.8 -5.2**
GOF pmax pmax
comp=Z,160nm,1.0s,mb5.9
TUC Tucson 70.02 64 *e*P **P 20 15 58.3 -0.5**
comp=Z,40nm,1.6s,mb5.1
TUC LR LR
comp=Z,430nm,20.0s,MS4.7
POO Poona 70.10 276⇑ *i*P **P 20 15 58.0 -1.3**
comp=Z,160nm,1.0s,mb5.9
DZM Mont Dzumac 70.25 168 LR LR 20 43 00.6
comp=Z,1μm,19.5s,MS5.2,baz=38,slow=33
FITZ Fitzroy Crossi 70.27 209⇑ *i*P **P 20 16 00.0 -0.4**
comp=Z,52nm,1.2s,mb5.3
FITZ Fitzroy Crossi 70.27 209 P **P 20 16 00.0 -0.3**
comp=Z,30nm,1.1s,mb5.2,baz=27,slow=7.3,SNR=30
FITZ LR LR 20 46 32.9
comp=Z,129nm,19.2s,MS4.2,baz=144,slow=36
SUW Suwalki 70.57 332 *e*P **P 20 16 01.2 -1.0**
comp=Z,0.3nm,1.4s
SUW L 20 48 59.4
comp=Z,1.3nm,21.4s
SUW Suwalki 70.57 332 *e*P **P 20 16 01.2 -1.0**
SUW pmax pmax
comp=Z,300nm,1.4s,mb6.0
SUW MLR MLR
comp=Z,1μm,21.4s,MS5.2
KIV Kislovodsk 70.71 315 *e*P **P 20 16 03.3 +0.3**
KIV *e*PPP 20 20 22.7
KIV *e*S S 20 25 20.3 +3.4
KIV pmax pmax
comp=Z,76nm,1.1s,mb5.5
KIV pmax pmax
comp=Z,320nm,2.1s,mb5.9
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.4
KIV Kislovodsk 70.71 315 *e*P **P 20 16 03.4 +0.4**
KIV LR LR
comp=Z,485nm,20.0s,MS4.8
LAZ Ladron 70.73 60 *e*P **P 20 16 03.8 +0.6**
KAD Karad 70.74 275 *e*P **P 20 16 03.5 +0.2**
KAD AMb AMB 20 16 07.5
comp=Z,121nm,1.3s,mb5.7
ANMO Albuquerque 70.74 59 LR LR 20 43 30.3
comp=Z,475nm,21.5s,MS4.7,baz=105,slow=33
ANMO Albuquerque 70.74 59 *e*P **P 20 16 03.4 +0.2**
ANMO LR LR
comp=Z,566nm,20.0s,MS4.8
LENM Lemitar 71.00 60 *e*P **P 20 16 05.5 +0.7**
ZEI Tsey 71.00 313 *e*P **P 20 16 04.7 -0.1**
ZEI pmax pmax
comp=Z,48nm,1.2s,mb5.3
LPM Los Pinos Moun 71.09 60 *e*P **P 20 16 05.8 +0.4**
BNM Barren Site 71.21 60 *e*P **P 20 16 05.9 -0.1**
AKASG Malin Array Be 71.22 327 P **P 20 16 05.5 -0.6**
comp=Z,7.5nm,0.4s,mb5.0,baz=35,slow=6.3,SNR=130
AKASG LR LR 20 49 48.8
comp=Z,1μm,21.0s,MS5.2,baz=35,slow=38
AKASG Malin Array Be 71.22 327 P **P 20 16 05.5 -0.6**
AKASG LR LR 20 49 48.8
AKBB Malin Array Si 71.22 327 *e*P **P 20 16 04.6 -1.5**
KIEV Kiev 71.23 327 *e*P **P 20 16 04.7 -1.5**
KIEV pmax pmax
comp=Z,79nm,1.1s,mb5.6
KIEV MLR MLR
comp=Z,2μm,19.0s,MS5.3
KIEV Kiev 71.23 327 *e*P **P 20 16 04.7 -1.5**
comp=Z,79nm,1.1s,mb5.6
KIEV LR LR
comp=Z,2μm,19.0s,MS5.3
CBKS Cedar Bluff 71.73 52 P **P 20 16 08.2 -1.0**
CBKS pmax pmax
comp=Z,92nm,1.4s,mb5.5
CBKS Cedar Bluff 71.73 52 PFAKE 20 16 20.0 +11
CBKS LR LR
comp=Z,551nm,20.0s,MS4.8
SCHQ Schefferville 72.21 24 P **P 20 16 11.9 -0.2**
comp=Z,22nm,0.9s,mb5.1,baz=352,slow=7.3,SNR=12
SCHQ LR LR 20 51 59.9
comp=Z,673nm,19.6s,MS4.9,baz=346,slow=39
SCHQ Schefferville 72.21 24 *e*P **P 20 16 11.7 -0.4**
comp=Z,27nm,0.9s,mb5.2
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.2
SOC Sochi 72.40 316 *e*P **P 20 16 12.7 -0.5**
SOC *e*S S 20 25 37.6 +1.2
SOC *e* 20 26 13.9
SOC *e*SS SS 20 30 19.1 +4.4
SOC pmax pmax
comp=Z,280nm,2.0s,mb5.8
SOC pmax pmax
comp=Z,74nm,0.9s,mb5.6
SOC MLR MLR
comp=Z,3μm,20.0s,MS5.5
ANN Anapa 72.51 318 *c i*P **P 20 16 12.9 -1.0**
ANN *e*S S 20 25 39.4 +1.7
ANN pmax pmax
comp=Z,113nm,1.3s,mb5.6
GNI Garni 72.52 311 LR LR 20 52 00.6
comp=Z,3μm,19.1s,MS5.5,baz=231,slow=39
GNI Garni 72.52 311 *c i*P **P 20 16 14.3 +0.4**
GNI pmax pmax
comp=Z,96nm,1.5s
GNI Garni 72.52 311⇑ *i*P **P 20 16 14.4 +0.5**
GNI LR LR
comp=Z,3μm,19.0s,MS5.5
WAR Warsaw 72.76 332 *e*P **P 20 16 16.4 +1.0**
WAR L 20 52 52.6
comp=Z,1.5nm,21.1s
SCIA State Center 72.77 46 *e*P **P 20 16 15.2 -0.2**
comp=Z,56nm,0.6s,mb5.7
SCIA LR LR
comp=Z,1μm,22.0s,MS5.2

RGN Rugen 72.96 337 *e*P P **20 16 17.0 +0.4**
comp=Z,548nm,1.4s,mb6.3
KARS Kars 73.01 312 *e*P P **20 16 16.0 -0.8**
DIGO Kars 73.01 312 *i* P P **20 16 18.3 +1.4**
GKP Gorka Klasztor 73.02 335 *e*P P **20 16 16.7 -0.2**
comp=Z,0.4nm,1.2s
GKP L 20 53 40.2
comp=Z,3.3nm,19.8s
GKP Gorka Klasztor 73.02 335 *e*P P **20 16 16.7 -0.2**
GKP pmax pmax
comp=Z,400nm,1.2s,mb6.2
GKP MLR MLR
comp=Z,3μm,19.8s,MS5.6
BCA Borcka 73.11 313 *e*P P **20 16 16.0 -1.4**
ARTV Artvin 73.16 313 *i* P P **20 16 18.5 +0.8**
KSU1 Kansas State U 73.16 50 PFAKE 20 16 30.0 +12
KSU1 LR LR
comp=Z,1μm,19.0s,MS5.2
AS31 Alice Springs 73.28 199 *e*P P **20 16 18.4 -0.1**
ASAR Alice Springs 73.28 199 P P **20 16 18.1 -0.4**
comp=Z,53nm,1.0s,mb5.4,baz=9.9,slow=5.0,SNR=200
ASAR LR LR 20 45 45.3
comp=Z,460nm,21.5s,MS4.7,baz=19,slow=34
ASAR Alice Springs 73.28 199 P P **20 16 18.1 -0.4**
ASAR pmax pmax
comp=Z,53nm,1.0s
ASAR MLR MLR
comp=Z,461nm,21.5s
ASPA Alice Springs 73.28 199 *e*P P **20 16 18.4 -0.1**
MVH1 Achvaich 73.29 348⇑*e*P P **20 16 17.8 -0.7**
JFWS Jewell Farm 73.42 44 PFAKE 20 16 30.0 +11
JFWS LR LR
comp=Z,820nm,20.0s,MS5.0
AMTX Amarillo 73.52 56 *e*P P **20 16 19.6 -0.2**
AMTX LR LR
comp=Z,926nm,22.0s,MS5.0
PALK Pallekele 73.54 263 *e*P P **20 16 20.2 +0.2**
comp=Z,79nm,1.1s,mb5.6
PALK LR LR
comp=Z,107nm,20.0s,MS4.1
CLDR Caldiran 73.69 311 *e*P P **20 16 19.7 -1.2**
MNTX Cornudas Mount 73.69 61 *e*P P **20 16 20.7 -0.2**
MNTX LR LR
comp=Z,478nm,19.0s,MS4.8
MME1 Meikle Cairn 73.71 347⇑*e*P P **20 16 20.3 -0.7**
MDO Dochfour 73.79 348⇑*e*P P **20 16 20.9 -0.5**
LVV L'vov 73.82 329 *e*P P **20 16 20.3 -1.3**
AGRB Hanur-Agry 73.84 311 *e*P P **20 16 20.4 -1.3**
KAC Achnashellach 73.86 349⇑*e*P P **20 16 21.5 -0.3**
SIM Simferopol' 73.86 320*ce*P P **20 16 21.5 -0.4**
SIM S S 20 25 51.4 -1.6
SIM pmax pmax
comp=Z,89nm,0.9s,mb5.7
SIM MLR MLR
comp=Z,2μm,16.0s,MS5.5
KPL Plockton 74.06 349 *e*P P **20 16 22.8 -0.2**
KPL AMb AMB 20 16 24.2
comp=Z,149nm,1.1s,mb5.8
KSB Sheil Bridge 74.16 349⇑*e*P P **20 16 23.4 -0.2**
KTUT Trabzon 74.36 314 *e*P P **20 16 23.4 -1.4**
VANB Van 74.37 310 *e*P P **20 16 27.7 +2.8**
KIS Kishinev 74.39 325 *e*P P **20 16 23.0 -2.0**
KIS *e*S S 20 25 54.0 -5.0
KIS *e*PS 20 26 18.0
KIS pmax pmax
comp=Z,450nm,1.3s,mb6.2
KIS MLR MLR
comp=N,1μm,14.0s,MS5.5
KIS MLR MLR
comp=E,1μm,14.0s,MS5.5
KIS MLR MLR
comp=Z,2μm,14.0s,MS5.6
KIS Kishinev 74.39 325 *e*P P **20 16 23.0 -2.0**
comp=Z,450nm,1.3s,mb6.2
ERZM Erzurum 74.41 313 *i* P P **20 16 25.5 +0.4**
EZM Erzurum 74.41 313 *e*P P **20 16 27.2 +2.1**
TVAN Van 74.41 310 *i* P P **20 16 27.7 +2.6**
KWP Kalwaria 74.44 330 *e*P P **20 16 25.5 +0.3**
comp=Z,0.6nm,1.3s
KWP L 20 50 44.5
comp=Z,1.5nm,22.9s
KAR1 Arisaig 74.49 349⇑*e*P P **20 16 24.9 -0.6**
RUE Ruedersdorf 74.69 336 *e*P P **20 16 26.8 +0.1**
comp=Z,202nm,1.1s,mb6.0
IAS Iasi 74.72 325⇓*i*P P **20 16 27.1 +0.2**
IAS Iasi 74.72 325 ⇓P P **20 16 27.1 +0.3**
OJC Ojcow 74.90 332 *e*P P **20 16 27.7 -0.2**
HKR Hakkari 74.96 310 *e*P P **20 16 29.2 +0.9**
HAKT HAKKARI 74.99 310 *i* P P **20 16 29.3 +0.9**
EAB Aberfoyle 75.00 348 *e*P P **20 16 28.2 -0.2**
ESY Stoneypath 75.00 347⇑*e*P P **20 16 27.9 -0.6**
STHS Stebnicka Huta 75.12 330 *i* P P **20 16 29.7 +0.6**
STHS pmax pmax
comp=Z,83nm,1.1s,mb5.6
STHS Stebnicka Huta 75.12 330 *i* P P **20 16 29.7 +0.6**
comp=Z,83nm,1.1s,mb5.6
GRSN GIRESUNGRSN 75.13 315 *i* P P **20 16 29.5 +0.3**
MBWA Marble Bar 75.16 213 PFAKE 20 16 40.0 +11
MBWA LR LR
comp=Z,180nm,21.0s,MS4.3
TRD Trivandrum 75.16 266 *e*P P **20 16 29.4 -0.1**
TRD AMb AMB 20 16 31.7
comp=Z,99nm,0.8s,mb5.8
KOLS Kolonicke sedl 75.18 329 *i* P P **20 16 29.3 -0.2**
WMOK Wichita Mounta 75.24 55 *e*P P **20 16 29.2 -0.7**
WMOK MLR MLR
comp=Z,592nm,20.0s,MS4.9
BURAR Bucovina Array 75.25 327⇓*i*P P **20 16 30.2 +0.3**
BURAR Bucovina Array 75.25 327 ⇓P P **20 16 30.2 +0.2**
KELT Kelkit 75.26 314 *i* P P **20 16 31.8 +1.9**
CUKT Cukurca 75.28 309 *e*P P **20 16 30.2 +0.1**
EZC Erzincan 75.29 313 *e*P P **20 16 32.8 +2.7**
PGBU Glenifferbraes 75.38 348 *e*P P **20 16 30.6 -0.1**
PGBU AMb AMB 20 16 31.6
comp=Z,127nm,1.2s,mb5.7
NIE Niedzica 75.42 331 *e*P P **20 16 31.4 +0.5**
UZH Uzhgorod 75.43 329⇓*i*P P **20 16 29.7 -1.3**
UZH *e* 20 16 45.7
UZH *e*S S 20 26 10.0 -0.6
RAC Raciborz 75.52 332 *e*P P **20 16 31.9 +0.4**
RAC MLR MLR
comp=Z,3μm,19.6s,MS5.6
BINT Bingol 75.63 312 *e*P P **20 16 33.6 +1.5**
BTMT Batman 75.65 311 *e*P P **20 16 33.6 +1.4**
ESK Eskdalemuir 75.67 347 *e*P P **20 16 31.7 -0.7**
ESK AMb AMB 20 16 33.5
comp=Z,99nm,2.0s,mb5.4
HDIL Hopedale 75.70 45 PFAKE 20 16 40.0 +7.5
HDIL LR LR
comp=Z,978nm,19.0s,MS5.1
OKC Ostrava-Krasne 75.75 332⇑*i*P P **20 16 32.8 0.0**
OKC AMS AMS 20 55 30.0
comp=Z,2μm,16.7s
ECK Cauldkaine Hil 75.79 347⇑*e*P P **20 16 32.2 -0.8**
UPC Upice 75.82 334⇑*i*P P **20 16 33.2 0.0**
DPC Dobruska-Polom 75.86 334⇑*i*P P **20 16 33.7 +0.3**
DPC AMS AMS 20 54 40.0
comp=Z,2μm,18.1s
CLL Collm 75.96 336 *e*P P **20 16 33.6 -0.4**
comp=Z,236nm,1.0s,mb6.1
CLL Collm 75.96 336⇑*i*P P **20 16 33.7 -0.3**
CLL *i* 20 16 48.8
CLL pmax pmax
comp=Z,238nm,1.0s,mb6.1
CLL MLR MLR
comp=Z,2μm,19.1s,MS5.3
CLL Collm 75.96 336⇑*i*P P **20 16 33.7 -0.3**
comp=Z,238nm,1.0s,mb6.1
CLL *i* 20 16 48.8
CLL LR LR
comp=Z,2μm,19.1s,MS5.3
CLL Collm 75.96 336⇑*i*P P **20 16 33.7 -0.3**
comp=Z,238nm,1.0s,mb6.1
CLL *i* sPcP 20 16 48.8
CLL *ex* x 20 17 06.0
CLL Lm 20 54 00.0
comp=Z,2μm,19.1s
DIKM Dikmen 75.97 317 *e*P P **20 16 35.0 +0.9**
MORC Moravsky Berou 76.00 333⇑*i*P P **20 16 34.8 +0.6**
MORC Moravsky Berou 76.00 333 P P **20 16 34.5 +0.3**
MORC pmax pmax
comp=Z,170nm,1.1s,mb5.9
MORC Moravsky Berou 76.00 333⇑P P **20 16 34.9 +0.7**
KVT Kavak 76.06 317 *e*P P **20 16 35.9 +1.4**

BRG Berggiesshubel 76.09 335 *e*P P **20 16 34.5 -0.2**
comp=Z,105nm,1.2s,mb5.6
BRG Berggiesshubel 76.09 335⇑*i*P P **20 16 34.4 -0.3**
comp=Z,63nm,1.2s,mb5.4
BRG *i* 20 16 49.9
comp=Z,17nm,1.0s
BRG
comp=N,526nm,15.6s
BRG
comp=E,759nm,14.0s
BRG
comp=Z,1μm,17.0s
LPIG La Paz 76.12 70 LR LR 20 48 16.7
comp=Z,246nm,18.1s,MS4.6,baz=25,slow=34
LIKS Likavka 76.14 331 *i* P P **20 16 35.7 +0.7**
LIKS pmax pmax
comp=Z,107nm,1.2s,mb5.7
LIKS Likavka 76.14 331 *i* P P **20 16 35.7 +0.7**
comp=Z,107nm,1.2s,mb5.7
VRI Vrincioaia 76.14 325⇑*i*P P **20 16 35.4 +0.4**
VRI Vrincioaia 76.14 325 ⇑P P **20 16 35.4 +0.4**
PTK Pertek 76.16 313 *e*P P **20 16 36.9 +1.8**
CFR Carcaliu 76.16 324⇓*i*P P **20 16 35.5 +0.4**
CFR Carcaliu 76.16 324 ⇓P P **20 16 35.5 +0.4**
CLZ Clausthal 76.17 338 *e*P P **20 16 35.8 +0.6**
comp=Z,229nm,1.2s,mb6.0
CLZ Clausthal 76.17 338 *e*P P **20 16 35.8 +0.6**
CLZ pmax pmax
comp=Z,229nm,1.2s,mb6.0
KECS Kecovo 76.17 330 *i* P P **20 16 35.2 0.0**
KECS pmax pmax
comp=Z,42nm,1.0s,mb5.3
KECS Kecovo 76.17 330 *i* P P **20 16 35.2 0.0**
comp=Z,42nm,1.0s,mb5.3
FBE Freiberg 76.21 336 *e*P P **20 16 35.4 0.0**
comp=Z,178nm,1.1s,mb5.9
PVCC Panska Ves 76.22 335⇑*i*P P **20 16 35.5 0.0**
PVCC AMS AMS 20 53 40.0
comp=Z,2μm,19.4s
BZK Bozkurt 76.29 318 *e*P P **20 16 36.6 +0.7**
BOYT Boyabat 76.31 318 *i* P P **20 16 37.7 +1.7**
BANOM Banah 76.31 293 ⇑P P **20 16 36.3 +0.4**
SNR=25
GAL1 Galloway 76.33 348 *e*P P **20 16 35.6 -0.5**
GAL1 AMb AMB 20 16 37.2
comp=Z,168nm,1.3s,mb5.8
BYBT Boyabat 76.34 318 *e*P P **20 16 37.4 +1.3**
IBBN Ibbenburen 76.39 340 *e*P P **20 16 36.6 +0.2**
comp=Z,140nm,1.1s,mb5.8
LTX Lajitas 76.42 61 *e*P P **20 16 36.4 -0.2**
LTX pmax pmax
comp=Z,51nm,1.1s,mb5.4
LTX MLR MLR
comp=Z,507nm,20.0s,MS4.8
LTX Lajitas 76.42 61 *e*P P **20 16 36.4 -0.2**
comp=Z,51nm,1.1s,mb5.4
LTX LR LR
comp=Z,507nm,20.0s,MS4.8
TXAR Lajitas Array 76.42 61 P P **20 16 36.5 -0.1**
comp=Z,26nm,0.9s,mb5.2,baz=294,slow=4.0,SNR=77
TXAR LR LR 20 46 13.2
comp=Z,359nm,20.7s,MS4.7,baz=275,slow=32
TXAR Lajitas Array 76.42 61 P P **20 16 36.5 -0.1**
TXAR pmax pmax
comp=Z,26nm,0.9s
TXAR MLR MLR
comp=Z,359nm,20.7s
TOKT Tokat 76.42 316 *e*P P **20 16 37.1 +0.5**
DIY Diyarbakir 76.52 312 *e*P P **20 16 38.0 +0.9**
SVSK Karacayir 76.52 315 *e*P P **20 16 38.6 +1.5**
GTTG Gyttingen 76.55 338 *e*P P **20 16 37.7 +0.4**
comp=Z,124nm,1.3s,mb5.7
TIRR Tirgusor 76.65 323⇓*i*P P **20 16 38.2 +0.3**
TIRR Tirgusor 76.65 323 P P **20 16 37.7 -0.2**
TIRR pmax pmax
comp=Z,140nm,1.1s,mb5.8
TIRR Tirgusor 76.65 323 ⇓P P **20 16 38.2 +0.4**
HARR Harsova 76.65 324 P P **20 16 37.4 -0.5**
ELZG Elazig 76.67 313 *i* P P **20 16 39.7 +1.7**
PRA Prague 76.67 335 ⇑P P **20 16 37.0 -1.0**
PRA *ex* x 20 16 54.0
MARD Mardin 76.68 311 *i* P P **20 16 39.8 +1.7**
VRAC Vranov 76.70 333⇑*i*P P **20 16 38.7 +0.5**
VRAC Vranov 76.70 333 ⇑P P **20 16 38.7 +0.5**
VYHS Vyhne 76.71 331 *i* P P **20 16 38.6 +0.4**
VYHS pmax pmax
comp=Z,65nm,1.2s,mb5.4
VYHS Vyhne 76.71 331 *i* P P **20 16 38.6 +0.4**
comp=Z,65nm,1.2s,mb5.4
PRU Pruhonice 76.71 335⇑*i*P P **20 16 38.4 +0.2**
PRU LR LR
comp=Z,2μm,19.1s,MS5.5
SLM Saint Louis 76.74 47 *e*P P **20 16 36.8 -1.6**
SLM pmax pmax
comp=Z,24nm,0.3s,mb5.6
SLM Saint Louis 76.74 47 *e*P P **20 16 36.8 -1.6**
comp=Z,24nm,0.3s,mb5.6
MLR Muntele Rosu 76.76 325⇑*i*P P **20 16 38.7 +0.2**
MLR Muntele Rosu 76.76 325 ⇑P P **20 16 38.7 +0.2**
JAVC Velka Javorina 76.76 332 P P **20 16 39.7 +1.2**
DRGR 76.86 328⇑*i*P P **20 16 39.1 0.0**
DRGR 76.86 328 ⇑P P **20 16 39.1 +0.1**
PSZ Piszkesteto 76.86 330⇑*i*P P **20 16 39.9 +0.8**
PSZ Piszkesteto 76.86 330 ⇑P P **20 16 39.9 +0.8**
PSZ Piszkesteto 76.86 330⇑*e*P P **20 16 39.6 +0.5**
AAM Ann Arbor 76.88 40 *e*P P **20 16 39.1 -0.1**
AAM pmax pmax
comp=Z,44nm,0.9s,mb5.4
AAM MLR MLR
comp=Z,1μm,22.0s,MS5.2
AAM Ann Arbor 76.88 40 *e*P P **20 16 39.1 -0.1**
comp=Z,44nm,0.9s,mb5.4
AAM LR LR
comp=Z,1μm,22.0s,MS5.2
BIDO Bidbid 76.90 290 ⇓P P **20 16 40.1 +0.8**
SNR=24
BALT Daday 76.91 319 *i* P P **20 16 40.5 +1.2**
TANN Tannenbergstha 76.91 336 *e*P P **20 16 39.6 +0.2**
comp=Z,61nm,1.1s,mb5.4
WERD Werda 76.93 336 *e*P P **20 16 39.7 +0.2**
comp=Z,113nm,1.2s,mb5.7
WTSB Winterswijk 76.93 340⇑*e*P P **20 16 39.4 0.0**
comp=Z,175nm,1.1s,mb5.9
MOX Moxa 76.94 337 *e*P P **20 16 39.6 +0.1**
comp=Z,104nm,1.0s,mb5.7
MOX Moxa 76.94 337 *e*P P **20 16 39.5 0.0**
comp=Z,148nm,1.3s,mb5.8
MOX
comp=Z,1μm,22.0s
MOX Moxa 76.94 337 *e*P P **20 16 39.5 0.0**
MOX pmax pmax
comp=Z,148nm,1.3s,mb5.8
MOX MLR MLR
comp=Z,1μm,22.0s,MS5.2
KRUC Moravsky 76.98 333 P P **20 16 39.9 +0.1**
GUNZ Gunzen 77.00 336 *e*P P **20 16 40.2 +0.3**
comp=Z,111nm,1.1s,mb5.7
CTKT Corum 77.00 317 *i* P P **20 16 40.8 +1.0**
WBK Wadi Bani Khal 77.02 289 ⇑P P **20 16 41.8 +1.9**
SNR=11
TOS Tosya 77.02 318 *e*P P **20 16 40.8 +0.8**
WERN Wernitzgruen 77.05 336 *e*P P **20 16 40.5 +0.3**
comp=Z,122nm,1.0s,mb5.8
NKC Novy Kostel 77.08 336⇑*i*P P **20 16 40.5 +0.2**
NKC AMS AMS 20 58 30.0
comp=Z,2μm,14.5s
MALT Malatya 77.09 313⇑*i*P P **20 16 42.2 +1.8**
MALT Malatya 77.09 313 P P **20 16 41.7 +1.3**
MALT pmax pmax
comp=Z,150nm,1.1s,mb5.8
MALT Malatya 77.09 313 ⇑P P **20 16 42.1 +1.8**
SMOL Smolenice 77.14 332 *i* P P **20 16 41.4 +0.7**
FVM French Village 77.15 47 *e*P P **20 16 40.1 -0.6**
FVM pmax pmax
comp=Z,34nm,1.0s,mb5.2
FVM French Village 77.15 47 *e*P P **20 16 40.1 -0.6**
comp=Z,34nm,1.0s,mb5.2
UBBA Unterbreizbach 77.20 338 *e*P P **20 16 41.3 +0.3**
comp=Z,165nm,1.6s,mb5.7
HATD Hatta, Dubai 77.21 293 P P **20 16 41.8 +0.7**
SNR=31
SMDO Samad 77.28 290 ⇑P P **20 16 42.8 +1.3**
SNR=21
BUG Bochum--Univer 77.30 340 *e*P P **20 16 41.6 0.0**
comp=Z,154nm,1.1s,mb5.8

MTUR Matau 77.32 326⇓*i*P P **20 16 42.2 +0.5**
ASHO Ashiyiah 77.36 293 ⇓P P **20 16 42.1 +0.2**
SNR=30
HOQ Hoqain 77.37 291 ⇓P P **20 16 42.9 +0.9**
SNR=48
KBI1 Birley Grange 77.39 345⇑*e*P P **20 16 41.7 -0.4**
MANZ Manzenberg 77.40 336 *e*P P **20 16 42.4 +0.3**
comp=Z,92nm,1.1s,mb5.6
CORM Corum 77.43 317 *e*P P **20 16 43.0 +0.8**
SAFT Safranbolu 77.46 319 *e*P P **20 16 43.6 +1.2**
AEU East Anglia Un 77.49 344 *e*P P **20 16 42.7 +0.1**
ZST Bratislava 77.53 332 *i* P P **20 16 43.5 +0.7**
ZST Bratislava 77.53 332 *i* P P **20 16 43.6 +0.8**
comp=Z,95nm,1.1s,mb5.6
ZST LR LR
comp=Z,4μm,19.0s,MS5.7
BUD Budapest 77.53 331⇑*e*P P **20 16 43.5 +0.7**
YOZ Yozgat 77.53 316 *e*P P **20 16 43.7 +0.9**
CANT Cankiri 77.55 318 *e*P P **20 16 44.5 +1.5**
URFA Urfa 77.57 313 *e*P P **20 16 44.9 +1.8**
ROTZ Rotzenmuhle 77.57 336 *e*P P **20 16 43.7 +0.6**
comp=Z,142nm,1.1s,mb5.8
KWE Weaver Farm 77.67 345 *e*P P **20 16 43.5 -0.1**
BUC1 Bucharest 77.69 325 P P **20 16 44.0 +0.3**
BUC1 Bucharest 77.69 325 P P **20 16 45.2 +1.5**
ARMA Armidale 77.73 182 *e*P P **20 16 43.4 -0.6**
ELDT Eldivan 77.73 318 *i* P P **20 16 45.5 +1.5**
JMDO Jabal Madar 77.74 290 P P **20 16 45.0 +0.9**
SNR=19
KHC Kasperske Hory 77.76 335⇑*i*P P **20 16 44.5 +0.4**
KHC pP pP 20 16 49.0 +0.1
KHC AMS AMS 20 54 30.0
comp=Z,2μm,19.5s
KHC Kasperske Hory 77.76 335 *e*P P **20 16 43.0 -1.1**
KHC Kasperske Hory 77.76 335⇑*i*P P **20 16 44.5 +0.4**
KHC *e* pP 20 16 49.0 +0.1
KHC LR LR
comp=Z,2μm,19.5s,MS5.5
JCT Junction City 77.83 58 *e*P P **20 16 43.8 -0.7**
JCT pmax pmax
comp=Z,59nm,1.2s,mb5.4
JCT MLR MLR
comp=Z,607nm,20.0s,MS4.9
JCT Junction City 77.83 58 *e*P P **20 16 43.8 -0.8**
comp=Z,59nm,1.2s,mb5.4
JCT LR LR
comp=Z,607nm,20.0s,MS4.9
BNN Bunyan 77.91 315 *e*P P **20 16 45.6 +0.6**
GRFO Grafenberg 77.91 336 *e*P P **20 16 45.6 +0.6**
comp=Z,222nm,1.0s,mb6.0
GRFO *e*L 20 54 26.7
comp=Z,1μm,20.8s
GRFO Grafenberg 77.91 336 *e*P P **20 16 45.6 +0.6**
GRFO pmax pmax
comp=Z,222nm,1.0s,mb6.0
GRFO MLR MLR
comp=Z,1μm,20.8s,MS5.2
WET Wettzell 77.95 335 *e*P P **20 16 45.8 +0.6**
comp=Z,188nm,1.1s,mb5.9
WET Wettzell 77.95 335 *e*P P **20 16 45.8 +0.6**
WET pmax pmax
comp=Z,188nm,1.1s,mb5.9
KDZE Karadeniz Ereo 77.95 320 *e*P P **20 16 44.4 -0.8**
SIUC Southern Illin 77.96 46 *e*P P **20 16 44.7 -0.5**
comp=Z,83nm,1.1s,mb5.6
GEC2 GERESS Array S 77.98 335 *e*P P **20 16 45.5 +0.1**
comp=Z,73nm,1.0s,mb5.6
GEC2 GERESS Array S 77.98 335 *e*P P **20 16 45.5 +0.1**
GEC2 pmax pmax
comp=Z,73nm,1.0s,mb5.6
GERES GERESS Array B 77.98 335 P P **20 16 45.4 +0.1**
comp=Z,30nm,0.8s,mb5.3,baz=33,slow=4.8,SNR=209
GERES LR LR 20 55 23.2
comp=Z,3μm,18.6s,MS5.6,baz=17,slow=39
GERES GERESS Array B 77.98 335 P P **20 16 45.4 0.0**
GERES pmax pmax
comp=Z,30nm,0.8s
GERES MLR MLR
comp=Z,3μm,18.6s
CDAG Cicekdag 77.99 317 *i* P P **20 16 46.8 +1.4**
SBD1 Bryn Du 78.01 346⇑*e*P P **20 16 44.9 -0.7**
ARQ Araqi 78.04 291 ⇓P P **20 16 46.9 +1.2**
SNR=24
BSY Bisya 78.05 291 ⇑P P **20 16 47.1 +1.4**
SNR=77
BLO Bloomington 78.10 44 *e*P P **20 16 45.3 -0.7**
BLO pmax pmax
comp=Z,17nm,0.6s,mb5.2
BLO Bloomington 78.10 44 *e*P P **20 16 45.3 -0.7**
comp=Z,17nm,0.6s,mb5.1
PRD Provadia 78.10 323 *i* P PcP 20 16 55.9 +0.3
TNS Taunus Mts 78.14 338 *e*P P **20 16 46.6 +0.3**
comp=Z,139nm,1.1s,mb5.8
TNS Taunus Mts 78.14 338 *e*P P **20 16 46.6 +0.3**
TNS pmax pmax
comp=Z,139nm,1.1s,mb5.8
CONA Conrad Observa 78.15 333⇑*i*P P **20 16 47.2 +0.9**
comp=Z,92nm,1.1s,mb5.6,SNR=58
SOP Sopron 78.15 332⇑*e*P P **20 16 47.2 +0.9**
MSNY Massena 78.19 33 *e*P P **20 16 45.2 -1.4**
MIAR Mount Ida 78.20 51 *e*P P **20 16 45.9 -0.7**
MIAR pmax pmax
comp=Z,38nm,1.1s,mb5.2
MIAR MLR MLR
comp=Z,942nm,19.0s,MS5.1
MIAR Mount Ida 78.20 51 *e*P P **20 16 45.9 -0.6**
comp=Z,38nm,1.1s,mb5.2
MIAR LR LR
comp=Z,942nm,19.0s,MS5.1
BR131 Keskin Array S 78.25 317 *e*P P **20 16 47.2 +0.4**
comp=Z,76nm,0.9s,mb5.6
BR131 LR LR
comp=Z,556nm,19.0s,MS4.9
BRTR Keskin Array B 78.25 317 P P **20 16 47.3 +0.5**
comp=Z,81nm,1.0s,mb5.6,baz=66,slow=3.0,SNR=255
BRTR PP PP 20 19 48.0 +4.4
comp=Z,2.6nm,1.0s,baz=96,slow=3.7,SNR=4.4
BRTR LR LR 20 56 23.8
comp=Z,634nm,18.9s,MS5.0,baz=211,slow=40
BRTR Keskin Array B 78.25 317 *i* P P **20 16 47.2 +0.4**
BRTR pmax pmax
comp=Z,81nm,1.0s
HGN Heimansgroeve 78.25 340⇑*e*P P **20 16 46.2 -0.6**
comp=Z,188nm,1.3s,mb5.8
HGN *e*S S 20 26 40.0 -1.3
HGN *e*SS SS 20 32 24.4 +41
BZS Buzias 78.26 328⇓*i*P P **20 16 46.9 0.0**
BZS Buzias 78.26 328 ⇓P P **20 16 46.9 0.0**
GZT Gaziantep 78.26 313 *i* P P **20 16 48.4 +1.5**
BEBN Eben Emael 78.28 340 P P **20 16 47.0 0.0**
SGKT Sivrigoynuk 78.28 319 *i* P P **20 16 48.0 +1.0**
HLM1 Long Mynd 78.32 346⇑*e*P P **20 16 46.9 -0.4**
MEM Membach 78.37 340 P P **20 16 47.5 -0.1**
KMRS Kahramanmaras 78.47 314 *e*P P **20 16 49.4 +1.3**
KAMT Kaman 78.50 317 *e*P P **20 16 48.8 +0.6**
ANTO Ankara 78.52 318 ⇓P P **20 16 49.6 +1.3**
SNR=33
ANTO Ankara 78.52 318⇑*i*P P **20 16 49.5 +1.2**
ANTO Ankara 78.52 318 P P **20 16 49.1 +0.8**
ANTO pmax pmax
comp=Z,130nm,1.0s,mb5.8
ANTO Ankara 78.52 318 ⇑P P **20 16 49.5 +1.1**
ANTO LR LR
comp=Z,827nm,20.0s,MS5.1
USIN University of 78.52 45 *e*P P **20 16 48.1 -0.2**
comp=Z,150nm,1.1s,mb5.8
ZIMR 78.53 325⇓*i*P P **20 16 48.3 -0.1**
ZIMR 78.53 325 ⇓P P **20 16 48.3 -0.1**
CRAR CRAIOVA 78.56 326 P P **20 16 49.4 +0.8**
UCC Uccle 78.57 341 P P **20 16 48.4 -0.2**
GAZ Gaziantep 78.58 313 *e*P P **20 16 49.8 +1.1**
HENT Hendek 78.58 320 *i* P P **20 16 48.6 -0.1**
LONY Lake Ozonia 78.62 33 PFAKE 20 17 00.0 +11
LONY LR LR
comp=Z,649nm,19.0s,MS5.0
TOD Tromm 78.62 338⇑*e*P P **20 16 48.9 0.0**
SIND Sindeldorf 78.65 337 P P **20 16 49.2 +0.1**
ABH Alteburg 78.68 339⇑*e*P P **20 16 49.1 -0.1**
MOA Molln 78.71 334⇑*i*P P **20 16 49.7 +0.3**
comp=Z,65nm,0.9s,mb5.5,SNR=44
BCLA Clavier 78.71 340 P P **20 16 49.4 0.0**
SWS Schriesheim-Wi 78.76 338 P P **20 16 50.1 +0.4**
PKSM Moragy 78.77 330⇑*i*P P **20 16 49.2 -0.5**
UMR Umm Al-Rimmam 78.80 302 *e*P P **20 16 50.0 +0.2**
UMR AMb AMB 20 16 51.5

comp=Z,541nm,1.0s,mb6.4
MIB Mutribah 78.83 302 *eP* **P 20 16 50.4 +0.4**
MIB AMb AMB 20 16 51.6
comp=Z,747nm,0.9s,mb6.6
MCH1 Michaelchurch 78.84 346 *eP* **P 20 16 50.0 -0.2**
MCH1 AMb AMB 20 16 52.1
comp=Z,85nm,1.7s,mb5.4
ARSA Arzberg 78.86 333⇑*iP* **P 20 16 50.7 +0.5**
comp=Z,104nm,1.2s,mb5.6,SNR=23
SNF Seneffe 78.86 341 P **P 20 16 50.2 0.0**
PVL Pavlikeni 78.91 325 *i* P **P 20 16 49.8 -0.7**
ALLY Alegheny Colle 78.92 38 *eP* **P 20 16 50.1 -0.5**
ALLY *e* 20 17 04.0
WCI Wyandotte Cave 78.96 44 *eP* **P 20 16 50.3 -0.5**
WCI pmax pmax
comp=Z,120nm,1.0s,mb5.8
WCI MLR MLR
comp=Z,1μm,19.0s,MS5.2
WCI Wyandotte Cave 78.96 44 *eP* **P 20 16 50.3 -0.5**
comp=Z,120nm,1.0s,mb5.8
WCI LR LR
comp=Z,1μm,19.0s,MS5.2
RUP Ruppelstein 78.97 339⇑*eP* **P 20 16 50.7 -0.1**
KOZT Kozan 79.01 315 *eP* **P 20 16 52.1 +1.1**
KLYT Kilyos 79.03 321 *eP* **P 20 16 51.0 -0.2**
JMB Yambol 79.04 323 *eP* **P 20 16 51.3 +0.1**
JMB Yambol 79.04 323 *i* P **P 20 16 50.8 -0.4**
KBD Kabd 79.09 301 *eP* **P 20 16 51.9 +0.4**
KBD AMb AMB 20 16 53.3
comp=Z,2μm,1.0s
SWN1 Swindon 79.11 345 *eP* **P 20 16 51.8 +0.2**
SWN1 AMb AMB 20 16 53.9
comp=Z,322nm,1.1s,mb6.2
GIVF Givet 79.12 340⇑*iP* **P 20 16 51.4 -0.2**
comp=Z,280nm,1.3s,mb5.7
GIVF Givet 79.12 340⇑*iP* **P 20 16 51.4 -0.2**
GIVF pmax pmax
comp=Z,140nm,1.3s,mb5.7
GIVF Givet 79.12 340⇑*iP* **P 20 16 51.4 -0.2**
comp=Z,140nm,1.3s,mb5.7
HRT Hereke 79.12 320 *eP* **P 20 16 51.0 -0.6**
HGH Gray Hill 79.16 346⇑*eP* **P 20 16 51.2 -0.7**
DOU Dourbes 79.18 341 P **P 20 16 51.5 -0.4**
ISK Istanbul-Kandi 79.18 321 *eP* **P 20 16 50.2 -1.7**
HDH Heidenheim-Cha 79.19 337 P **P 20 16 52.4 +0.4**
UTMT University of 79.21 47 *eP* **P 20 16 52.1 0.0**
comp=Z,120nm,0.9s,mb5.8
WLF Walferdange 79.22 340 *eP* **P 20 16 52.7 +0.5**
comp=Z,138nm,1.5s,mb5.7
WLF Walferdange 79.22 340 P **P 20 16 52.9 +0.7**
WLF Walferdange 79.22 340 *eP* **P 20 16 52.4 +0.2**
WLF pmax pmax
comp=Z,225nm,1.8s,mb5.8
WLF Walferdange 79.22 340 *eP* **P 20 16 52.4 +0.2**
comp=Z,225nm,1.8s,mb5.8
MENF Mencas 79.27 342 *eP* **P 20 16 52.4 0.0**
FUR Furstenfeldbru 79.28 336 *eP* **P 20 16 53.0 +0.5**
comp=Z,249nm,1.1s,mb6.0
FUR Furstenfeldbru 79.28 336 *eP* **P 20 16 53.0 +0.5**
FUR pmax pmax
comp=Z,249nm,1.1s,mb6.0
QRN Al-Qurain 79.28 301 *eP* **P 20 16 52.9 +0.4**
QRN AMb AMB 20 16 54.3
comp=Z,516nm,1.0s,mb6.4
OSMT Osmaniye 79.29 320 *eP* **P 20 16 52.3 -0.2**
STU Stuttgart 79.29 337 *eP* **P 20 16 52.8 +0.2**
comp=Z,148nm,1.1s,mb5.8
STU Stuttgart 79.29 337 *eP* **P 20 16 52.8 +0.2**
STU pmax pmax
comp=Z,88nm,1.2s,mb5.6
NAY Al-Naaiem 79.30 302 *eP* **P 20 16 52.6 0.0**
NAY AMb AMB 20 16 54.2
comp=Z,370nm,1.0s,mb6.3
BAIF Baives 79.30 341⇑*iP* **P 20 16 52.5 -0.1**
comp=Z,206nm,1.2s,mb5.6
BAIF Baives 79.30 341⇑*iP* **P 20 16 52.5 -0.1**
BAIF pmax pmax
comp=Z,103nm,1.2s,mb5.6
BAIF Baives 79.30 341⇑*iP* **P 20 16 52.5 -0.1**
comp=Z,103nm,1.2s,mb5.6
NCB Newcomb 79.31 33 PFAKE 20 17 00.0 +7.3
NCB LR LR
comp=Z,957nm,19.0s,MS5.2
KOGS Kog 79.34 332 *i* P **P 20 16 52.6 -0.3**
RDF Al-Radifah 79.36 301 *eP* **P 20 16 53.3 +0.3**
RDF AMb AMB 20 16 54.9
comp=Z,961nm,0.9s,mb6.7
CTT Catalca 79.38 321 *eP* **P 20 16 52.7 -0.4**
ADVT Abdulvahap 79.41 320 *eP* **P 20 16 53.9 +0.6**
LANF Langenberg 79.45 338⇑*eP* **P 20 16 53.7 +0.2**
YLV Yalova 79.46 320 *eP* **P 20 16 53.0 -0.5**
LBG Lerchenberg 79.49 337 P **P 20 16 54.1 +0.4**
EDRB Edirne 79.50 323 *eP* **P 20 16 53.8 +0.1**
PERS Pernice 79.53 333 *i* P **P 20 16 54.0 +0.1**
SVIS Svilajnac 79.54 328 P **P 20 16 53.5 -0.4**
BUCH Bad Urach 79.54 337 P **P 20 16 54.5 +0.5**
BORA Eskisehir 79.55 319 *i* P **P 20 16 54.3 +0.3**
KARA Karaisali 79.55 315 *eP* **P 20 16 55.1 +1.1**
COBT Iskenderun 79.56 314 *i* P **P 20 16 55.3 +1.2**
GROS Grobnik 79.57 332 *i* P **P 20 16 53.9 -0.2**
GEMT Gemlik 79.64 321 *eP* **P 20 16 54.0 -0.5**
ESKT Eskisehir 79.67 319 *eP* **P 20 16 54.6 -0.1**
ESKT Eskisehir 79.67 319 *i* P **P 20 16 54.3 -0.4**
KBA Koelnbreinsper 79.67 334 *i* P **P 20 16 55.3 +0.6**
comp=Z,198nm,0.8s,mb6.1,SNR=134
KIZT Kizilcal 79.73 318 *eP* **P 20 16 55.5 +0.5**
OBKA Obir 79.82 333⇑*iP* **P 20 16 55.6 +0.1**
comp=Z,48nm,1.1s,mb5.4,SNR=12
STR Strasbourg 79.83 338⇑*eP* **P 20 16 55.9 +0.4**
WVT Waverly 79.89 47 *eP* **P 20 16 55.3 -0.5**
WVT pmax pmax
comp=Z,26nm,0.9s,mb5.2
WVT MLR MLR
comp=Z,1μm,22.0s,MS5.1
WVT Waverly 79.89 47 *eP* **P 20 16 55.3 -0.5**
comp=Z,26nm,0.9s,mb5.2
WVT LR LR
comp=Z,1μm,22.0s,MS5.1
ULDT Uludag 79.91 320 *i* P **P 20 16 56.5 +0.6**
KDHN Kadinhani 79.91 318 *i* P **P 20 16 56.4 +0.5**
BFO Black Forest 79.92 338 P **P 20 16 56.9 +0.9**
comp=Z,638nm,1.1s,mb6.5,SNR=28
BFO Black Forest 79.92 338 *eP* **P 20 16 55.9 -0.1**
BFO pmax pmax
comp=Z,150nm,1.1s,mb5.8
BFO Black Forest 79.92 338 *eP* **P 20 16 56.2 +0.2**
comp=Z,160nm,1.1s,mb5.9
BFO LR LR
comp=Z,275nm,21.0s,MS4.6
PKME Peaks-Kenny Pk 79.92 30 PFAKE 20 17 10.0 +14
PKME LR LR
comp=Z,1μm,22.0s,MS5.2
PGB Panagyurishte 79.93 325 *i* P **P 20 16 54.5 -1.6**
HTY Hatay 79.94 313 *eP* **P 20 16 56.1 0.0**
KRTS Karatas 79.95 314 *eP* **P 20 16 57.1 +1.0**
STKA Stephens Creek 79.95 191 *eP* **P 20 16 54.7 -1.5**
comp=Z,11nm,1.1s,mb4.7
STKA Stephens Creek 79.95 191 P **P 20 16 55.0 -1.2**
comp=Z,13nm,1.1s,mb4.8,baz=11,slow=5.2,SNR=12
STKA LR LR 20 52 32.8
comp=Z,498nm,18.7s,MS4.9,baz=17,slow=36
WATA Walderalm 79.95 335 *i* P **P 20 16 57.0 +0.8**
comp=Z,243nm,1.1s,mb6.0,SNR=41
GUT Gutenstein 79.95 337 P **P 20 16 56.5 +0.3**
WTTA Wattenberg 80.00 335 *i* P **P 20 16 57.2 +0.8**
comp=Z,290nm,1.0s,mb6.2,SNR=73
SPAK Spaichingen-Ko 80.01 337⇑*eP* **P 20 16 56.8 +0.3**
UBR Ueberruh 80.05 336 P **P 20 16 57.2 +0.5**
GCIS Gornji Cirnik 80.06 332 *i* P **P 20 16 56.5 -0.2**
GRUS Gruza 80.07 328 *i* P **P 20 16 56.2 -0.6**
MOTA Moosalm 80.08 336 *i* P **P 20 16 57.4 +0.5**
comp=Z,243nm,1.0s,mb6.1,SNR=101
PLD Plovdiv 80.10 324 *eP* **P 20 16 56.5 -0.5**
PLD Plovdiv 80.10 324 P **P 20 16 56.8 -0.2**
CDF Champ du Feu 80.11 338⇑*iP* **P 20 16 57.1 +0.1**
comp=Z,375nm,1.1s,mb5.9
CDF Champ du Feu 80.11 338⇑*iP* **P 20 16 57.1 +0.1**
CDF pmax pmax
comp=Z,188nm,1.1s,mb5.9
CDF Champ du Feu 80.11 338⇑*iP* **P 20 16 57.1 +0.1**
comp=Z,188nm,1.1s,mb5.9
MERS Mersin 80.12 315 *eP* **P 20 16 57.7 +0.6**
BINY Binghamton 80.15 35 *eP* **P 20 16 55.2 -2.0**
comp=Z,737nm,2.6s,mb6.2
BINY LR LR
comp=Z,982nm,20.0s,MS5.2
CRES Cresnjev 80.15 332 *eP* **P 20 16 56.9 -0.4**
DIVS Divcibare 80.15 328 *i* P **P 20 16 56.8 -0.5**
DIVS Divcibare 80.15 328 *eP* **P 20 16 56.9 -0.4**
MFT Murefte 80.16 322 *eP* **P 20 16 55.5 -1.8**
SQTA Sankt Quirin 80.16 335 *i* P **P 20 16 58.0 +0.7**
comp=Z,205nm,1.1s,mb6.0,SNR=86
SISC Sisak 80.17 331 P **P 20 16 56.4 -0.9**
LJU Ljubljana 80.25 333 *eP* **P 20 16 57.1 -0.6**
VTS Vitosha 80.26 326 *eP* **P 20 16 57.9 +0.1**
VTS Vitosha 80.26 326⇑*iP* **P 20 16 58.4 +0.5**
VTS Vitosha 80.26 326 *i* P **P 20 16 57.3 -0.6**
KONT Konya--Tatoy 80.27 317 *eP* **P 20 16 58.5 +0.6**
FVI Forni Avoltri 80.28 334 P **P 20 16 57.3 -0.6**
PTCC Patocco-Chiusa 80.28 334 P **P 20 16 57.1 -0.8**
SART Tekirdag 80.28 322 *i* P **P 20 16 55.1 -2.9**
RKY Sarkoy-Tekirda 80.29 322 *eP* **P 20 16 56.0 -1.9**
ECH Echery 80.32 338⇑*eP* **P 20 16 58.3 +0.1**
SISB Singen-Schiene 80.35 337 P **P 20 16 58.7 +0.4**
KIZ Kirchzarten 80.37 338 P **P 20 16 58.4 0.0**
OXF Oxford 80.38 49 PFAKE 20 17 10.0 +12
OXF LR LR
comp=Z,815nm,19.0s,MS5.1
STEIN Stein am Rhein 80.39 337⇑*iP* **P 20 16 57.3 -1.2**
comp=Z,459nm,1.2s,mb6.3
STEIN Stein am Rhein 80.39 337⇑*iP* **P 20 16 58.7 +0.2**
SLE Schleitheim 80.40 337⇑*iP* **P 20 16 58.4 -0.2**
comp=Z,202nm,1.1s,mb6.0
FELD Feldberg im Sc 80.42 338⇑*eP* **P 20 16 58.8 +0.1**
GMNA Gemona 80.43 334 P **P 20 16 57.9 -0.9**
RZN Rozhen 80.44 324 *i* P **P 20 16 58.0 -0.8**
VOY Vojsko 80.45 333 *eP* **P 20 16 57.8 -1.1**
VOY *e* 20 17 19.8
VOY *e* 20 17 46.7
TRULL Truellikon 80.46 337⇑*iP* **P 20 16 58.7 -0.2**
comp=Z,388nm,1.2s,mb6.2
TRULL Truellikon 80.46 337⇑*iP* **P 20 16 59.1 +0.2**
DAVA Damuels 80.47 336⇑*iP* **P 20 16 59.5 +0.6**
comp=Z,140nm,1.0s,mb5.8,SNR=54
HKT Hockley 80.48 56 *eP* **P 20 16 58.5 -0.5**
comp=Z,5.0nm,1.1s
HKT LR LR
comp=Z,572nm,19.0s
WEIN Weingarten 80.49 337⇑*iP* **P 20 16 59.5 +0.4**
comp=Z,487nm,1.4s,mb6.2
WEIN Weingarten 80.49 337⇑*iP* **P 20 16 59.2 +0.1**
BOJS Bojanci 80.50 332 *eP* **P 20 16 58.7 -0.4**
DYA Yadsworthy 80.51 346⇑*eP* **P 20 16 59.1 -0.1**
BBLS Bajina Basta - 80.56 329 *i* P **P 20 17 00.0 +0.6**
FLACH Flaach 80.56 337⇑*iP* **P 20 16 59.5 +0.1**
LIENZ Alp Oberkamor 80.57 337⇑*iP* **P 20 16 59.2 -0.3**
comp=Z,281nm,1.5s,mb6.0
LIENZ Alp Oberkamor 80.57 337⇑*iP* **P 20 16 59.9 +0.4**
MEZF Maizieres J'vi 80.57 340⇑*iP* **P 20 16 59.7 +0.2**
comp=Z,440nm,1.2s,mb6.0
MEZF Maizieres J'vi 80.57 340⇑*iP* **P 20 16 59.7 +0.2**
comp=Z,440nm,1.2s,mb6.3
RDO Rodhopi 80.58 323 *eP* **P 20 16 59.8 +0.3**
SHUT Suhut-Afyon 80.60 319 *eP* **P 20 17 00.5 +0.9**
THEF They Montfort 80.60 339⇑*eP* **P 20 16 59.8 +0.1**
WILA Wila 80.61 337⇑*iP* **P 20 16 59.5 -0.2**
comp=Z,369nm,1.2s,mb6.2
WILA Wila 80.61 337⇑*iP* **P 20 17 00.0 +0.3**
TAOE Nuku Hiva Isla 80.63 114 *e*SS SS 20 31 57.2 -22
comp=Z,986nm,31.5s
TAOE *e*LR LR 20 42 02.2
comp=Z,4μm,22.1s,baz=333
GDZ Gediz 80.63 320 *i* P **P 20 16 59.1 -0.7**
MOF Molkenrain 80.67 338⇑*eP* **P 20 17 00.0 0.0**
PLAL Pickwick Lake 80.68 47 *eP* **P 20 16 59.1 -1.0**
comp=Z,39nm,1.2s,mb5.2
PLAL LR LR
comp=Z,745nm,22.0s,MS5.0
BTOK Tokmak 80.70 321 *i* P **P 20 17 00.3 +0.1**
MCWV Mont Chateau 80.70 39 *eP* **P 20 16 59.8 -0.4**
comp=Z,207nm,1.5s,mb5.8
MCWV *e* 20 17 13.6
MCWV LR LR
comp=Z,2μm,20.0s,MS5.3
SSPA Standing Stone 80.70 37 *eP* **P 20 16 59.8 -0.4**
comp=Z,148nm,1.8s,mb5.6
SSPA LR LR
comp=Z,797nm,19.0s,MS5.1
SULZ Sulz-Cheisache 80.72 337⇑*iP* **P 20 16 59.9 -0.4**
comp=Z,577nm,1.2s,mb6.4
SULZ Sulz-Cheisache 80.72 337⇑*iP* **P 20 17 00.5 +0.2**
HAU Haudompre 80.72 339⇑*iP* **P 20 17 00.1 -0.2**
comp=Z,291nm,1.2s,mb5.8
HAU *eR*
comp=Z,1μm,21.8s
HAU Haudompre 80.72 339⇑*iP* **P 20 17 00.1 -0.2**
HAU pmax pmax
comp=Z,145nm,1.2s,mb5.8
HAU MLR MLR
comp=Z,1μm,21.8s,MS5.2
HAU Haudompre 80.72 339⇑*iP* **P 20 17 00.1 -0.2**
comp=Z,145nm,1.2s,mb5.8
HAU LR LR
comp=Z,1μm,21.8s,MS5.2
ZUR Zurich 80.74 337⇑*iP* **P 20 17 00.3 -0.1**
comp=Z,551nm,1.2s,mb6.3
ZUR Zurich 80.74 337⇑*iP* **P 20 17 00.7 +0.3**
HINF Hinteralfeld 80.77 338⇑*iP* **P 20 17 00.2 -0.4**
comp=Z,169nm,1.2s,mb5.5
HINF Hinteralfeld 80.77 338⇑*iP* **P 20 17 00.2 -0.4**
HINF pmax pmax
comp=Z,84nm,1.2s,mb5.5
HINF Hinteralfeld 80.77 338⇑*iP* **P 20 17 00.2 -0.4**
comp=Z,84nm,1.2s,mb5.5
PLONS Plons 80.82 336⇑*iP* **P 20 17 00.5 -0.4**
comp=Z,843nm,3.1s
PLONS Plons 80.82 336⇑*iP* **P 20 17 01.2 +0.3**
APPI Appiano 80.83 335 P **P 20 17 00.2 -0.7**
CANB Canakkale 80.90 322 *eP* **P 20 17 00.6 -0.6**
CANB Canakkale 80.90 322 *i* P **P 20 17 03.2 +1.9**
MMB Musomiste 80.92 325 *i* P **P 20 17 01.0 -0.4**
KKB Krupnik 80.93 325 *i* P **P 20 16 59.0 -2.4**
BBS Basel-Blauen 80.93 338 P **P 20 17 02.1 +0.7**
DAVOX Davos 80.93 336⇑*iP* **P 20 17 00.7 -0.8**
comp=Z,204nm,1.2s,mb5.9
DAVOX Davos 80.93 336⇑*iP* **P 20 17 02.2 +0.7**
FUORN Ofenpass 80.97 336⇑*iP* **P 20 17 01.2 -0.5**
comp=Z,285nm,1.2s,mb6.1
FUORN Ofenpass 80.97 336⇑*iP* **P 20 17 02.7 +1.0**
BALST Balsthal 81.00 338⇑*iP* **P 20 17 02.1 +0.3**
comp=Z,714nm,1.2s,mb6.5
HDMB Hadim 81.01 316 *eP* **P 20 17 01.3 -0.5**
IKL Isikli 81.03 315 *eP* **P 20 17 02.0 0.0**
PLE Pljevlja 81.03 328⇑*iP* **P 20 17 02.4 +0.4**
BOURR Bourrignon 81.07 338⇑*iP* **P 20 17 02.2 0.0**
comp=Z,228nm,1.1s,mb6.0
BOURR Bourrignon 81.07 338⇑*iP* **P 20 17 02.5 +0.3**
NVR Nevrokopi 81.07 324 *eP* **P 20 17 04.0 +1.8**
BRMO Bormio 81.08 336 P **P 20 17 03.0 +0.8**
MUO Muotathal 81.10 337⇑*iP* **P 20 17 02.5 +0.2**
comp=Z,413nm,1.4s,mb6.2
MUO Muotathal 81.10 337⇑*iP* **P 20 17 02.8 +0.5**
CTI Castel Tesino 81.10 335 P **P 20 17 01.7 -0.7**
LLS Linth-Limmern 81.11 337⇑*iP* **P 20 17 02.7 +0.3**
comp=Z,334nm,2.5s,mb5.8
LLS Linth-Limmern 81.11 337⇑*iP* **P 20 17 02.8 +0.4**
TKTP Tekketepe 81.12 318 *i* P **P 20 17 02.7 +0.3**
KVTX Kingsville 81.13 59 PFAKE 20 17 10.0 +7.5
KVTX LR LR
comp=Z,711nm,19.0s,MS5.0
ISP Isparta 81.20 318 *eP* **P 20 17 02.5 -0.3**
ISP Isparta 81.20 318*c iP* **P 20 17 02.5 -0.3**
LOMF Lomont 81.21 338⇑*eP* **P 20 17 03.3 +0.4**
BERNI Berninapass 81.23 336⇑*iP* **P 20 17 02.8 -0.2**
comp=Z,254nm,1.7s,mb5.9
BERNI Berninapass 81.23 336⇑*iP* **P 20 17 03.8 +0.8**
KHL Karahalli 81.24 319 *eP* **P 20 17 04.0 +1.0**
BNALP Bannalp 81.24 337⇑*iP* **P 20 17 02.8 -0.3**
comp=Z,644nm,3.7s
BNALP Bannalp 81.24 337⇑*iP* **P 20 17 03.5 +0.4**
IVA Berane 81.25 328⇑*iP* **P 20 17 02.9 -0.2**
UPM Unac-Piva 81.31 329⇑*iP* **P 20 17 02.9 -0.6**
VDL Val di Lei 81.32 336⇑*iP* **P 20 17 03.5 0.0**
comp=Z,498nm,2.0s,mb6.1
VDL Val di Lei 81.32 336⇑*iP* **P 20 17 04.2 +0.7**
TUE Stuetta 81.36 336 P **P 20 17 04.5 +0.8**
HASLI Hasliberg 81.42 337⇑*iP* **P 20 17 03.8 -0.2**
comp=Z,374nm,1.7s,mb6.0
HASLI Hasliberg 81.42 337⇑*iP* **P 20 17 04.4 +0.4**
MABI Malga Bissina 81.42 335 P **P 20 17 03.9 -0.1**
STIP Stip 81.42 326 *eP* **P 20 17 03.0 -1.0**
PVY Plav 81.47 328⇑*iP* **P 20 17 03.0 -1.2**
SKO Skopje 81.47 326 *eP* **P 20 17 04.8 +0.6**
HWQ Hawqa 81.50 312 *eP* **P 20 17 04.6 +0.2**
FLN La Foliniere 81.50 343⇑*iP* **P 20 17 04.2 -0.3**
comp=Z,289nm,1.3s,mb5.8
FLN *eR*
comp=Z,1μm,19.2s
FLN La Foliniere 81.50 343⇑*iP* **P 20 17 04.2 -0.3**
FLN pmax pmax
comp=Z,144nm,1.3s,mb5.7
FLN MLR MLR
comp=Z,1μm,19.3s,MS5.3
FLN La Foliniere 81.50 343⇑*iP* **P 20 17 04.2 -0.3**
comp=Z,144nm,1.3s,mb5.8
FLN LR LR
comp=Z,1μm,19.3s,MS5.3
FORT Forrest 81.52 203 *eP* **P 20 17 03.3 -1.2**
comp=Z,44nm,1.1s,mb5.3
FUSIO Fusio 81.56 337⇑*iP* **P 20 17 03.9 -0.9**
comp=Z,353nm,1.4s,mb6.1
FUSIO Fusio 81.56 337⇑*iP* **P 20 17 05.5 +0.7**
LDF La Druitiere 81.59 343⇑*iP* **P 20 17 04.5 -0.5**
comp=Z,159nm,1.3s,mb5.5
LDF La Druitiere 81.59 343⇑*iP* **P 20 17 04.5 -0.5**
LDF pmax pmax
comp=Z,79nm,1.3s,mb5.5
LDF La Druitiere 81.59 343⇑*iP* **P 20 17 04.5 -0.5**
comp=Z,79nm,1.3s,mb5.5
VAY Valandovo 81.60 325 *eP* **P 20 17 04.3 -0.6**
VAY Valandovo 81.60 325 *eP* **P 20 17 04.2 -0.8**
VAY Valandovo 81.60 325 P **P 20 17 04.4 -0.6**
TZTN Tazewell 81.61 44 *eP* **P 20 17 04.6 -0.4**
comp=Z,64nm,1.2s,mb5.4
TZTN LR LR
comp=Z,786nm,21.0s,MS5.0
KNT Kendrikon 81.61 325 *eP* **P 20 17 05.2 +0.2**
NKY Niksic 81.62 328 *eP* **P 20 17 04.0 -1.1**
BRANT Les Verrieres 81.68 338⇑*iP* **P 20 17 04.2 -1.2**
comp=Z,726nm,3.5s
BRANT Les Verrieres 81.68 338⇑*iP* **P 20 17 05.9 +0.5**
BRY Bratogost 81.71 329⇑*iP* **P 20 17 04.1 -1.4**
WES Weston 81.74 32 PFAKE 20 17 20.0 +14
WES LR LR
comp=Z,1μm,19.0s,MS5.3
LIA Limnos Island 81.77 323 *eP* **P 20 17 05.6 -0.3**
TTG Podgorica 81.87 328⇑*iP* **P 20 17 05.2 -1.2**
PRK Paraskevi 81.87 322 *eP* **P 20 17 06.2 -0.2**
LKBD Leukerbad 81.90 337⇑*iP* **P 20 17 04.4 -2.2**
comp=Z,213nm,1.1s,mb6.0
LKBD Leukerbad 81.90 337⇑*iP* **P 20 17 07.0 +0.4**
DENT Denizli 81.93 319 *eP* **P 20 17 06.9 +0.1**
GRR Gorron 81.93 344⇑*iP* **P 20 17 06.7 0.0**
comp=Z,530nm,1.3s,mb6.0
GRR Gorron 81.93 344⇑*iP* **P 20 17 06.7 0.0**
GRR pmax pmax
comp=Z,265nm,1.3s,mb6.0
GRR Gorron 81.93 344⇑*iP* **P 20 17 06.7 0.0**
comp=Z,265nm,1.3s,mb6.0
BHL Bhannes 81.94 312 *eP* **P 20 17 07.0 +0.3**
MUGIO Muggio 81.95 336⇑*iP* **P 20 17 05.5 -1.3**
comp=Z,316nm,1.2s,mb6.1
MUGIO Muggio 81.95 336⇑*iP* **P 20 17 06.6 -0.2**
GRG Griva 81.97 325 *eP* **P 20 17 06.7 -0.3**
DNZL Cakirozluk 81.98 319 *i* P **P 20 17 14.9 +7.9**
FWV Forest Hill 82.00 41 *eP* **P 20 17 06.9 -0.2**
LOR Lormes 82.00 340⇑*iP* **P 20 17 06.9 -0.2**
comp=Z,226nm,1.2s,mb5.7
LOR *eR*
comp=Z,2μm,20.8s
LOR Lormes 82.00 340⇑*iP* **P 20 17 06.9 -0.2**
LOR pmax pmax
comp=Z,113nm,1.2s,mb5.7
LOR MLR MLR
comp=Z,2μm,20.8s,MS5.4
LOR Lormes 82.00 340⇑*iP* **P 20 17 06.9 -0.2**
comp=Z,113nm,1.2s,mb5.7
LOR LR LR
comp=Z,2μm,20.8s,MS5.4
SENIN Lac Senin 82.01 338⇑*iP* **P 20 17 05.8 -1.3**
comp=Z,396nm,2.6s,mb5.9
SENIN Lac Senin 82.01 338⇑*iP* **P 20 17 07.7 +0.6**
STON Ston 82.03 329 *i* P **P 20 17 04.6 -2.7**
PLG Polygyros 82.07 324 *eP* **P 20 17 06.8 -0.6**
PLG Polygyros 82.07 324 *eP* **P 20 17 06.2 -1.3**
CABF La Chapelle 82.08 338⇑*iP* **P 20 17 07.8 +0.3**
comp=Z,195nm,1.3s,mb5.6
CABF La Chapelle 82.08 338⇑*iP* **P 20 17 07.8 +0.3**
CABF pmax pmax
comp=Z,98nm,1.3s,mb5.6
CABF La Chapelle 82.08 338⇑*iP* **P 20 17 07.8 +0.3**
comp=Z,98nm,1.3s,mb5.6
PPT Papeete 82.09 127 *e*S S 20 27 08.6 -13
comp=Z,1μm,31.0s
PPT *e*LR LR 20 42 49.5
comp=Z,2μm,21.8s,baz=325
PPT Papeete 82.09 127 LR LR 20 46 21.5
comp=Z,1μm,20.6s,MS5.2,baz=346,slow=30
BUM Brajici-Budva 82.11 328⇑*iP* **P 20 17 06.3 -1.3**
MAMC Mammari 82.11 315 P **P 20 17 07.5 -0.2**
AIGLE Aigle 82.12 338⇑*iP* **P 20 17 05.9 -1.8**
comp=Z,199nm,1.3s,mb5.9
AIGLE Aigle 82.12 338⇑*iP* **P 20 17 08.0 +0.3**
HCY Herceg Novi 82.12 329⇑*iP* **P 20 17 06.6 -1.1**
MMK Mattmark 82.12 337⇑*iP* **P 20 17 05.9 -1.8**
comp=Z,417nm,2.2s,mb6.0
MMK Mattmark 82.12 337⇑*iP* **P 20 17 08.7 +1.0**
KDAG Bornova 82.16 321 *i* P **P 20 17 08.2 +0.3**
GRYON Gryon 82.16 338⇑*iP* **P 20 17 06.6 -1.3**
comp=Z,292nm,2.2s,mb5.8
GRYON Gryon 82.16 338⇑*iP* **P 20 17 08.4 +0.5**
RCY Rachaya 82.19 312 *eP* **P 20 17 08.5 +0.4**
OG01 Vacheresse 82.20 338⇑*eP* **P 20 17 08.5 +0.4**
TKL Tuckaleechee C 82.22 44 P **P 20 17 07.9 -0.3**
comp=Z,36nm,1.0s,mb5.3,baz=288,slow=3.2,SNR=23
TKL LR LR 20 53 34.0
comp=Z,1μm,21.9s,MS5.2,baz=328,slow=36
TKL Tuckaleechee C 82.22 44 P **P 20 17 07.9 -0.4**
TKL pmax pmax
comp=Z,36nm,1.0s,mb5.3
TKL MLR MLR
comp=Z,1μm,21.9s,MS5.2
CSS Prodhromos 82.23 315⇑*iP* **P 20 17 08.6 +0.3**
CSS Prodhromos 82.23 315 *eP* **P 20 17 08.0 -0.3**
CSS Prodhromos 82.23 315⇑*eP* **P 20 17 08.6 +0.3**
DIX Grande Dixence 82.24 337⇑*iP* **P 20 17 07.1 -1.3**
comp=Z,267nm,1.1s,mb6.1
DIX Grande Dixence 82.24 337⇑*iP* **P 20 17 09.4 +1.0**
BLCB Balcova 82.27 321 *eP* **P 20 17 07.8 -0.8**
SSF Saint Saulge 82.28 340⇑*iP* **P 20 17 08.4 -0.1**
comp=Z,97nm,1.1s,mb5.3
SSF Saint Saulge 82.28 340⇑*iP* **P 20 17 08.4 -0.1**
SSF pmax pmax
comp=Z,49nm,1.1s,mb5.3
SSF Saint Saulge 82.28 340⇑*iP* **P 20 17 08.4 -0.1**
comp=Z,49nm,1.1s,mb5.3
ULC Ulcinj 82.28 328⇑*iP* **P 20 17 07.9 -0.7**
ELN Prospectdale 82.32 41 *eP* **P 20 17 07.9 -0.8**
BIA Bitola 82.33 326 *eP* **P 20 17 07.4 -1.5**
ELL Elmali 82.37 318 *eP* **P 20 17 09.4 +0.4**
SGMF Saint Gilles 82.38 345⇑*iP* **P 20 17 09.1 0.0**
comp=Z,322nm,1.2s,mb5.8
SGMF Saint Gilles 82.38 345⇑*iP* **P 20 17 09.1 0.0**
SGMF pmax pmax
comp=Z,161nm,1.2s,mb5.8
SGMF Saint Gilles 82.38 345⇑*iP* **P 20 17 09.1 0.0**
comp=Z,161nm,1.2s,mb5.8
EMV Vieux Emosson 82.39 338⇑*iP* **P 20 17 07.7 -1.4**
comp=Z,425nm,2.4s,mb6.0
EMV Vieux Emosson 82.39 338⇑*iP* **P 20 17 09.8 +0.7**
ALFC Alevga 82.42 315⇑*iP* **P 20 17 08.6 -0.7**
comp=Z,2.1nm,0.7s
ALFC Alevga 82.42 315⇑*eP* **P 20 17 08.6 -0.7**
ROSF Rostrenen 82.43 345⇑*iP* **P 20 17 09.4 +0.1**
comp=Z,410nm,1.1s,mb6.0
ROSF Rostrenen 82.43 345⇑*iP* **P 20 17 09.4 +0.1**
ROSF pmax pmax
comp=Z,205nm,1.1s,mb6.0
ROSF Rostrenen 82.43 345⇑*iP* **P 20 17 09.4 +0.1**
comp=Z,205nm,1.1s,mb6.0
OHR Ohrid 82.45 326 *eP* **P 20 17 08.0 -1.5**
BLA Blacksburg 82.48 41 *eP* **P 20 17 09.2 -0.4**
BLA pmax pmax
comp=Z,71nm,1.0s,mb5.5

BLA MLR MLR
comp=Z,759nm,20.0s,MS5.1
BLA Blacksburg 82.48 41 *e*P **P 20 17 09.2 -0.4**
comp=Z,71nm,1.0s,mb5.5
BLA LR LR
comp=Z,759nm,20.0s,MS5.1
ORO Oropa 82.51 337 P **P 20 17 10.1 +0.3**
AVF Avril sur Loir 82.57 340⇑*i*P **P 20 17 10.2 +0.1**
comp=Z,464nm,1.3s,mb6.1
AVF Avril sur Loir 82.57 340⇑*i*P **P 20 17 10.2 +0.1**
AVF pmax pmax
comp=Z,232nm,1.3s,mb6.0
AVF Avril sur Loir 82.57 340⇑*i*P **P 20 17 10.2 +0.1**
comp=Z,232nm,1.3s,mb6.0
SMF Signal de Mont 82.59 340⇑*i*P **P 20 17 10.4 +0.2**
comp=Z,744nm,1.3s,mb6.3
SMF Signal de Mont 82.59 340⇑*i*P **P 20 17 10.4 +0.2**
SMF pmax pmax
comp=Z,372nm,1.3s,mb6.3
SMF Signal de Mont 82.59 340⇑*i*P **P 20 17 10.4 +0.2**
comp=Z,372nm,1.3s,mb6.3
LIT Litokhoron 82.68 325 *e*P **P 20 17 09.1 -1.6**
PPCY Paphos 82.76 315⇑P **P 20 17 10.5 -0.6**
PPCY Paphos 82.76 315⇑*i*P **P 20 17 10.5 -0.6**
LRAL Lakeview Retre 82.77 48 *e*P **P 20 17 10.0 -1.2**
comp=Z,20nm,1.1s,mb5.0
LRAL LR LR
comp=Z,817nm,20.0s,MS5.1
OG05 Jujurieux 82.77 339 *e*P **P 20 17 11.4 +0.3**
KZN Kozani 82.78 325 *e*P **P 20 17 10.5 -0.7**
RSM Repubblica di 82.79 333 P **P 20 17 12.0 +0.8**
RSL Roselend 82.81 338⇑*e*P **P 20 17 11.8 +0.5**
QUIF Quistinic 82.81 345⇑*i*P **P 20 17 11.2 -0.1**
comp=Z,73nm,1.0s,mb5.3
QUIF Quistinic 82.81 345⇑*i*P **P 20 17 11.2 -0.1**
QUIF pmax pmax
comp=Z,36nm,1.0s,mb5.4
QUIF Quistinic 82.81 345⇑*i*P **P 20 17 11.2 -0.1**
comp=Z,36nm,1.0s,mb5.4
ZCCA Zocca 82.85 334 P **P 20 17 13.1 +1.6**
BGF Bois d'Agland 82.90 341⇑*i*P **P 20 17 11.9 +0.1**
comp=Z,211nm,1.3s,mb5.7
BGF Bois d'Agland 82.90 341⇑*i*P **P 20 17 11.9 +0.1**
BGF pmax pmax
comp=Z,106nm,1.3s,mb5.7
BGF Bois d'Agland 82.90 341⇑*i*P **P 20 17 11.9 +0.1**
comp=Z,106nm,1.3s,mb5.7
FSSB Fossombrone 82.90 333 P **P 20 17 12.0 +0.2**
LPL La Plagne 82.94 338⇑*i*P **P 20 17 12.9 +0.9**
comp=Z,295nm,1.2s,mb5.9
LPL La Plagne 82.94 338⇑*i*P **P 20 17 12.9 +0.9**
LPL pmax pmax
comp=Z,147nm,1.2s,mb5.9
LPL La Plagne 82.94 338⇑*i*P **P 20 17 12.9 +0.9**
comp=Z,147nm,1.2s,mb5.9
ERBM Eremo 82.95 335 P **P 20 17 09.1 -2.9**
LPG La Plagne 82.95 338⇑*i*P **P 20 17 13.2 +1.1**
comp=Z,417nm,1.2s,mb6.0
LPG La Plagne 82.95 338⇑*i*P **P 20 17 13.2 +1.1**
LPG pmax pmax
comp=Z,209nm,1.2s,mb6.0
LPG La Plagne 82.95 338⇑*i*P **P 20 17 13.2 +1.1**
comp=Z,208nm,1.2s,mb6.0
GSCL Gusciola 82.96 335 P **P 20 17 13.0 +0.9**
CBN Corbin 82.97 38 PFAKE 20 17 20.0 +7.9
CBN LR LR
comp=Z,1μm,20.0s,MS5.2
SFI Santa Sofia 82.99 334 P **P 20 17 13.3 +1.0**
SEI Scarperia 83.00 334 P **P 20 17 13.9 +1.6**
VMG Vicchio 83.03 334 P **P 20 17 14.1 +1.6**
NEO Neokhori 83.07 324 *e*P **P 20 17 11.4 -1.3**
RSP Reno Superiore 83.14 337 P **P 20 17 12.7 -0.3**
VLC Villacollemand 83.19 335 *e*P **P 20 17 13.6 +0.3**
comp=Z,52nm,0.9s,mb5.6
BDRM Kayabasi 83.20 320 *i* P **P 20 17 13.2 -0.2**
CRE Caprese Michel 83.22 333 P **P 20 17 13.8 +0.3**
SNTG Esanatoglia 83.25 333 P **P 20 17 13.8 +0.2**
PLDF La Plantade 83.28 340⇑*e*P **P 20 17 14.5 +0.7**
TCF Toulx Ste Croi 83.30 341⇑*i*P **P 20 17 14.0 +0.1**
comp=Z,205nm,1.1s,mb5.8
TCF Toulx Ste Croi 83.30 341⇑*i*P **P 20 17 14.0 +0.1**
TCF pmax pmax
comp=Z,102nm,1.1s,mb5.8
TCF Toulx Ste Croi 83.30 341⇑*i*P **P 20 17 14.0 +0.1**
comp=Z,102nm,1.1s,mb5.8
AGO Saint Agoulin 83.31 340 *e*P **P 20 17 14.6 +0.7**
BNI Bardonecchia 83.39 337 *e*P **P 20 17 15.0 +0.7**
BNI pmax pmax
comp=Z,93nm,1.1s,mb5.7
BNI Bardonecchia 83.39 337 *e*P **P 20 17 15.0 +0.7**
comp=Z,92nm,1.1s,mb5.7
GDM Grand'Maison 83.39 338⇑*e*P **P 20 17 15.5 +1.2**
GRN Grenoble 83.45 338⇑*e*P **P 20 17 15.8 +1.2**
MFF Saint Martin d 83.50 343⇑*i*P **P 20 17 14.9 0.0**
comp=Z,179nm,1.2s,mb5.8
MFF Saint Martin d 83.50 343⇑*i*P **P 20 17 14.9 0.0**
MFF pmax pmax
comp=Z,89nm,1.2s,mb5.8
MFF Saint Martin d 83.50 343⇑*i*P **P 20 17 14.9 0.0**
comp=Z,89nm,1.2s,mb5.8
ASS Assisi 83.51 333 P **P 20 17 15.3 +0.3**
OG22 Abries 83.53 337⇑*e*P **P 20 17 15.5 +0.5**
CSNT Castellina Chi 83.56 334 P **P 20 17 15.1 -0.1**
LCHF La Chataignera 83.56 343⇑*e*P **P 20 17 15.5 +0.3**
PYM Petit Puy Mans 83.63 340 *e*P **P 20 17 16.3 +0.7**
MBDF Montbardon 83.67 337⇑*i*P **P 20 17 16.0 +0.3**
comp=Z,120nm,1.0s,mb5.7
MBDF Montbardon 83.67 337⇑*i*P **P 20 17 16.0 +0.3**
MBDF pmax pmax
comp=Z,60nm,1.0s,mb5.7
MBDF Montbardon 83.67 337⇑*i*P **P 20 17 16.0 +0.3**
comp=Z,60nm,1.0s,mb5.7
JAN Janina 83.69 326 *e*P **P 20 17 15.8 -0.1**
ORIF Oris-en-Rattie 83.72 338⇑*i*P **P 20 17 16.8 +0.8**
comp=Z,276nm,1.1s,mb6.0
ORIF *e*R
comp=Z,1μm,23.0s
ORIF Oris-en-Rattie 83.72 338⇑*i*P **P 20 17 16.8 +0.8**
ORIF pmax pmax
comp=Z,138nm,1.1s,mb6.0
ORIF Oris-en-Rattie 83.72 338⇑*i*P **P 20 17 16.8 +0.8**
comp=Z,138nm,1.1s,mb6.0
LKR Lokris 83.72 324 *e*P **P 20 17 14.6 -1.4**
DOI San Damiano 83.75 337 P **P 20 17 14.8 -1.4**
WHFO Wadi Hawf 83.76 290⇑P **P 20 17 16.1 -0.1**
SNR=9.8
RBK Rabkut 83.79 289⇓P **P 20 17 16.0 -0.4**
SNR=7.8
RGNG Rignano Grg 83.81 330 P **P 20 17 15.7 -0.8**
SURF Saint Ours 83.88 337⇑*e*P **P 20 17 17.8 +0.9**
AQU L'Aquila 83.92 332⇑*i*P **P 20 17 18.1 +1.1**
AQU L'Aquila 83.92 332 P **P 20 17 17.2 +0.2**
AQU pmax pmax
comp=Z,110nm,1.0s,mb5.9
AQU L'Aquila 83.92 332⇑P **P 20 17 18.1 +1.1**
GRFL Gerfalco 83.94 334 P **P 20 17 16.9 -0.3**
EVR Evrytania 83.96 325 *e*P **P 20 17 16.0 -1.3**
APE Apeiranthos 84.02 321 *e*P **P 20 17 15.9 -1.7**
LBL Lubilhac 84.06 340 *e*P **P 20 17 18.5 +0.7**
FRNF Fournols 84.07 340 *e*P **P 20 17 18.0 +0.2**
VIVF Saint-Julien-l 84.08 339⇑*i*P **P 20 17 18.3 +0.5**
comp=Z,237nm,1.2s,mb5.9
VIVF Saint-Julien-l 84.08 339⇑*i*P **P 20 17 18.3 +0.5**
VIVF pmax pmax
comp=Z,119nm,1.2s,mb5.9
VIVF Saint-Julien-l 84.08 339⇑*i*P **P 20 17 18.3 +0.5**
comp=Z,118nm,1.2s,mb5.9
FIAM Fiamignano 84.08 332 P **P 20 17 17.9 0.0**
IMI Imperia 84.12 336 P **P 20 17 18.0 -0.1**
SAOF Saorge 84.14 336 *e*P **P 20 17 18.1 -0.1**
AUTN L'Aution 84.17 337⇑*e*P **P 20 17 19.1 +0.8**
OG25 Le Caire 84.18 338⇑*e*P **P 20 17 19.1 +0.7**
OG25 Le Caire 84.18 338 *e*P **P 20 17 19.4 +1.0**
GOGA Godfrey 84.20 45 PFAKE 20 17 30.0 +12
GOGA LR LR
comp=Z,1μm,20.0s,MS5.3
TOUF Mont Tournerai 84.20 337⇑*e*P **P 20 17 18.9 +0.4**
FG5 Orsara di Pugl 84.27 330 P **P 20 17 19.5 +0.7**
SBF Sospel 84.29 337⇑*i*P **P 20 17 18.7 -0.2**
comp=Z,444nm,1.2s,mb6.2
SBF Sospel 84.29 337⇑*i*P **P 20 17 18.7 -0.2**
comp=Z,222nm,1.2s,mb6.2
FG4 Candela 84.32 330 P **P 20 17 19.1 0.0**
MVIF Mont Vial 84.34 337⇑*e*P **P 20 17 19.4 +0.2**
BRAL Brewton 84.36 49 *e*P **P 20 17 19.3 0.0**
comp=Z,79nm,0.9s,mb5.8
BRAL LR LR
comp=Z,985nm,19.0s,MS5.2
SDI San Donato 84.37 331 P **P 20 17 18.9 -0.4**
RJF Les Rejaudoux 84.39 341⇑*i*P **P 20 17 19.3 -0.1**
comp=Z,190nm,1.6s,mb5.7
RJF *e*R
comp=Z,1μm,19.8s
RJF Les Rejaudoux 84.39 341⇑*i*P **P 20 17 19.3 -0.1**
RJF pmax pmax
comp=Z,95nm,1.6s,mb5.7
RJF MLR MLR
comp=Z,1μm,19.8s,MS5.4
RJF Les Rejaudoux 84.39 341⇑*i*P **P 20 17 19.3 -0.1**
comp=Z,95nm,1.6s,mb5.7
RJF LR LR
comp=Z,1μm,19.8s,MS5.4
REVF Revere 84.42 337⇑*e*P **P 20 17 19.7 +0.1**
JSC Jenkinsville 84.53 43 P **P 20 17 20.5 +0.4**
JSC Jenkinsville 84.53 43 *e*P **P 20 17 19.8 -0.3**
STOF St-Etienne Org 84.57 338 *e*P **P 20 17 20.8 +0.5**
LHS Liberty Hill 84.57 43 *e*P **P 20 17 20.2 -0.2**
CAF Calviac 84.62 341 *e*P **P 20 17 21.0 +0.4**
comp=Z,42nm,0.9s,mb5.2
CAF Calviac 84.62 341 *e*P **P 20 17 21.0 +0.4**
CAF pmax pmax
comp=Z,21nm,0.9s,mb5.3
CAF Calviac 84.62 341 *e*P **P 20 17 21.0 +0.4**
comp=Z,21nm,0.9s,mb5.3
SMRF Simiane la Rot 84.67 338⇑*i*P **P 20 17 21.6 +0.7**
comp=Z,310nm,1.3s,mb6.0
SMRF Simiane la Rot 84.67 338⇑*i*P **P 20 17 21.6 +0.7**
comp=Z,310nm,1.3s,mb6.3
RFI Roccamonfina 84.68 331 P **P 20 17 21.4 +0.5**
FRF La Foret Royal 84.78 337⇑*i*P **P 20 17 21.3 -0.1**
comp=Z,292nm,1.4s,mb5.9
FRF La Foret Royal 84.78 337⇑*i*P **P 20 17 21.3 -0.1**
FRF pmax pmax
comp=Z,146nm,1.4s,mb5.9
FRF La Foret Royal 84.78 337⇑*i*P **P 20 17 21.3 -0.1**
comp=Z,146nm,1.4s,mb5.9
RLS Riolos of Patr 84.84 324 *e*P **P 20 17 21.3 -0.4**
TAVF Tavernes 84.89 337 *e*P **P 20 17 22.5 +0.6**
LFF La Frestale 84.90 341⇑*i*P **P 20 17 21.5 -0.5**
comp=Z,24nm,0.7s,mb5.2
LFF La Frestale 84.90 341⇑*i*P **P 20 17 21.5 -0.5**
LFF pmax pmax
comp=Z,12nm,0.6s,mb5.2
LFF La Frestale 84.90 341⇑*i*P **P 20 17 21.5 -0.5**
comp=Z,12nm,0.6s,mb5.2
PRAF Pradon 84.94 338 *e*P **P 20 17 23.2 +1.0**
LASF Ste Croix 85.01 339 *e*P **P 20 17 23.2 +0.6**
comp=Z,97nm,1.4s,mb5.4
LMR La Mourre 85.03 337⇑*i*P **P 20 17 22.7 0.0**
comp=Z,422nm,1.2s,mb6.2
LMR La Mourre 85.03 337⇑*i*P **P 20 17 22.7 0.0**
LMR pmax pmax
comp=Z,211nm,1.2s,mb6.2
LMR La Mourre 85.03 337⇑*i*P **P 20 17 22.7 0.0**
comp=Z,211nm,1.2s,mb6.1
PGF Pioggiola 85.07 335⇑*i*P **P 20 17 22.7 -0.2**
comp=Z,242nm,1.4s,mb5.8
PGF Pioggiola 85.07 335⇑*i*P **P 20 17 22.7 -0.2**
PGF pmax pmax
comp=Z,121nm,1.4s,mb5.8
PGF Pioggiola 85.07 335⇑*i*P **P 20 17 22.7 -0.2**
comp=Z,121nm,1.4s,mb5.8
CNNC Cliffs of the 85.25 40 *e*P **P 20 17 23.9 +0.2**
comp=Z,26nm,0.7s,mb5.5
CNNC LR LR
comp=Z,947nm,19.0s,MS5.2
CORF Corte 85.26 335⇑*e*P **P 20 17 23.7 -0.1**
GELF Grande-Etoile 85.27 338 *e*P **P 20 17 23.8 0.0**
TDS Terranova Siba 85.35 329 P **P 20 17 21.4 -2.9**
KLBR Kellerberrin 85.39 211 *e*P **P 20 17 22.9 -1.6**
comp=Z,60nm,1.4s,mb5.5
VLI Veliai 85.40 323 *e*P **P 20 17 20.0 -4.5**
COW Cow Castle Cre 85.53 43 *e*P **P 20 17 25.6 +0.4**
TIP Timpagrande 85.62 328 *e*P **P 20 17 25.2 -0.5**
EIL Elat 85.69 310 *e*P **P 20 17 25.7 -0.2**
comp=Z,3μm,1.4s
NHSC New Hope 86.00 43 PFAKE 20 17 40.0 +13
NHSC LR LR
comp=Z,853nm,21.0s,MS5.1
MTLF Montolieu 86.09 340 *e*P **P 20 17 27.4 -0.5**
comp=Z,42nm,1.1s,mb5.3
MTLF Montolieu 86.09 340 *e*P **P 20 17 27.4 -0.5**
MTLF pmax pmax
comp=Z,21nm,1.1s,mb5.3
MTLF Montolieu 86.09 340 *e*P **P 20 17 27.4 -0.5**
comp=Z,21nm,1.1s,mb5.3
MLS Moulis 86.71 341 *e*P **P 20 17 28.7 -2.3**
NWAO Narrogin (SRO) 86.79 210 LR LR 20 53 22.1
comp=Z,341nm,21.2s,MS4.7,baz=128,slow=34
NWAO Narrogin (SRO) 86.79 210 PFAKE 20 17 40.0 +8.6
NWAO LR LR
comp=Z,377nm,21.0s,MS4.8
SOI Samo 86.86 328 P **P 20 17 31.3 -0.4**
TBI Tubuai 86.89 130 *e*S S 20 28 04.2 -5.5
comp=Z,778nm,30.5s
TBI *e*SS SS 20 33 43.5 -8.4
comp=Z,249nm,29.0s
TBI *e*LR LR 20 44 34.3
comp=Z,2μm,23.8s,baz=325
RESF Ens 87.02 341 *e*P **P 20 17 33.2 +0.7**
ETSF Etsaut 87.13 342 *e*P **P 20 17 32.5 -0.5**
comp=Z,33nm,1.0s,mb5.2
ETSF Etsaut 87.13 342 *e*P **P 20 17 32.5 -0.5**
ETSF pmax pmax
comp=Z,17nm,1.0s,mb5.2
ETSF Etsaut 87.13 342 *e*P **P 20 17 32.5 -0.5**
comp=Z,17nm,1.0s,mb5.2
HAVL Avola 88.18 328 P **P 20 17 37.7 -0.4**
PBRG Braganca 89.36 346 *e*P **P 20 17 43.2 -0.4**
DWPF Disney 89.55 47 PFAKE 20 18 00.0 +16
DWPF LR LR
comp=Z,730nm,19.0s,MS5.1
PVRL Vila Real 90.03 346 *e*P **P 20 17 46.5 -0.3**
comp=Z,95nm,1.3s,mb6.0
SNZO South Karori 90.41 165 PFAKE 20 18 00.0 +11
SNZO LR LR
comp=Z,739nm,20.0s,MS5.1
PVIS Viseu 90.60 346 *e*P **P 20 17 49.1 -0.3**
ESDC Sonseca Array 90.92 343 P **P 20 17 49.4 -1.5**
comp=Z,14nm,1.0s,mb5.2,baz=10,slow=4.4,SNR=26
ESDC LR LR 21 05 30.1
comp=Z,845nm,18.8s,MS5.2,baz=15,slow=40
ESLA Sonseca Array 90.92 343 PFAKE 20 18 00.0 +9.1
ESLA LR LR
comp=Z,7μm,19.0s,MS6.1
PAB San Pablo 91.12 344 PFAKE 20 18 00.0 +8.2
PAB LR LR
comp=Z,1μm,20.0s,MS5.3
KEST Kesra 91.24 332 P **P 20 17 52.5 +0.1**
comp=Z,16nm,1.0s,mb5.3,baz=288,slow=2.0,SNR=25
KEST LR LR 21 03 12.8
comp=Z,626nm,20.0s,MS5.0,baz=185,slow=38
PCBR Castelo Branco 91.39 346 *e*P **P 20 17 52.4 -0.7**
TEIG Tepich 92.32 56 PFAKE 20 18 10.0 +13
TEIG LR LR
comp=Z,507nm,19.0s,MS5.0
PESTR Estremoz 92.36 346 *e*P **P 20 17 56.9 -0.7**
comp=Z,40nm,1.4s,mb5.5
PBEJ Beja 93.23 346 *e*P **P 20 18 01.3 -0.3**
comp=Z,85nm,1.6s,mb5.9
RKT Rikitea 94.77 119 *e*PS PS 20 30 35.1 -4.3
comp=Z,480nm,29.2s
RKT Rikitea 94.77 119 *e*SS SS 20 35 40.6 -5.0
comp=Z,380nm,26.2s
RKT *e*LR LR 20 48 05.9
comp=Z,1μm,33.8s,baz=321
ATD Arta Tunnel 95.45 294 LR LR 21 04 12.8
comp=Z,344nm,20.4s,MS4.8,baz=174,slow=37
TGUH Tegucigalpa,Un 97.80 59 PFAKE 20 18 30.0 +7.6
TGUH LR LR
comp=Z,518nm,21.0s,MS5.0
JTS JuntasAbangare 102.16 60 PFAKE 20 18 50.0 +8.1
JTS LR LR
comp=Z,55nm,20.0s,MS4.1
KMBO Kilima Mbogo 108.71 290 PFAKE 20 23 30.0 +14
KMBO LR LR
comp=Z,833nm,19.0s,MS5.3
SDV Santo Domingo 111.16 48 PFAKE 20 23 30.0 +9.3
SDV LR LR
comp=Z,257nm,22.0s,MS4.8
OTAV Otavalo 114.04 60 PFAKE 20 23 40.0 +14
OTAV LR LR
comp=Z,217nm,21.0s,MS4.7
TORD Torodi Ar. Bea 114.70 330 PKP PKiKP 20 23 26.5 -1.0
comp=Z,4.1nm,1.0s,baz=9.4,slow=2.1,SNR=20
TORD PKKPbc PKKPbc 20 34 08.8 +3.9
comp=Z,2.4nm,1.0s,baz=210,slow=3.9,SNR=8.6
CASY Casey 118.40 199 PFAKE 20 23 40.0 +5.4
CASY LR LR
comp=Z,288nm,20.0s,MS4.9
MSKU Masuku 122.92 311 PFAKE 20 23 50.0 +6.7
MSKU LR LR
comp=Z,24nm,20.0s
LIC Lamto 123.32 335 *e*PKIKP PKPdf 20 23 43.3 -0.8
comp=Z,60nm,1.1s
LIC *e*R
comp=Z,821nm,21.2s
LIC Lamto 123.32 335 *e*PKPdf PKPdf 20 23 43.3 -0.8
LIC LR LR
comp=Z,410nm,21.3s,MS5.1
NNA Nana 124.62 68 PFAKE 20 24 00.0 +13
NNA LR LR
comp=Z,63nm,22.0s,MS4.2
VNDA Vanda 124.97 178 PKP PKPdf 20 23 44.0 -3.3
comp=Z,3.4nm,1.0s,baz=117,slow=2.3,SNR=8.0
VNDA Vanda 124.97 178 *e*P PKPdf 20 23 43.3 -3.9
VNDA LR LR
comp=Z,206nm,19.0s,MS4.8
LSZ Lusaka 125.21 287 *e*PKIKP PKPdf 20 23 47.2 -0.5
LSZ MLR MLR
comp=Z,671nm,19.0s,MS5.3
SBA Scott Base 125.45 177 PFAKE 20 24 00.0 +12
SBA LR LR
comp=Z,429nm,20.0s,MS5.1
SAML Samuel 130.15 52 *e*PKPdf PKPdf 20 23 56.2 -0.9
SAML LR LR
comp=Z,457nm,22.0s,MS5.1
LPAZ La Paz 133.28 63 PKP PKPdf 20 24 03.3 +0.3
comp=Z,3.1nm,1.1s,baz=344,slow=3.1,SNR=11
LPAZ La Paz 133.28 63 *e*PKPdf PKPdf 20 24 03.2 +0.2
LPAZ LR LR
comp=Z,301nm,21.0s,MS5.0
MAW Mawson 133.34 212 PKP PKPdf 20 24 00.3 -2.8
comp=Z,3.5nm,0.9s,baz=192,slow=1.0,SNR=5.3
MAW Mawson 133.34 212 PKIKP PKPdf 20 24 00.3 -2.8
MAW pmax pmax
comp=Z,4.0nm,0.9s
LBTB Lobatse 133.83 281 *e*PKIKP PKPdf 20 24 03.4 -0.7
LBTB MLR MLR
comp=Z,520nm,19.0s,MS5.3
TSUM Tsumeb 134.85 294 PFAKE 20 24 20.0 +14
TSUM LR LR
comp=Z,492nm,22.0s,MS5.2
BOSA Boshof 136.44 277 PKP PKPdf 20 24 08.0 -1.0
comp=Z,2.6nm,0.9s,baz=76,slow=3.5,SNR=3.5
BOSA Boshof 136.44 277 PKP PKPdf 20 24 08.0 -1.0
BOSA LR LR
comp=Z,446nm,20.0s,MS5.2
QSPA South Pole Qui 137.37 180 *e*PKPdf PKPdf 20 24 07.1 -3.6
QSPA LR LR
comp=Z,355nm,21.0s,MS5.1
LVC Limon Verde 137.55 69 PFAKE 20 24 20.0 +9.0
LVC LR LR
comp=Z,344nm,19.0s,MS5.1
SUR Sutherland 141.78 276 PFAKE 20 24 30.0 +11
SUR LR LR
comp=Z,156nm,19.0s,MS4.8
CFAA Coronel Fontan 144.10 79 PKP PKPdf 20 24 19.3 -3.5
comp=Z,2.0nm,1.0s,baz=292,slow=3.1,SNR=18
CFAA Coronel Fontan 144.10 79 PKP PKPdf 20 24 19.3 -3.5
CAM3 Guarapari 150.63 29 (P) PKPdf 20 24 34.3 +0.7
CAM3 *i* 20 24 38.6
CAM3 *i* 20 24 44.5
CAM3 *i* 20 24 50.5
CAM3 *i* 20 24 54.6
CAM3 *i* 20 25 02.3
CAM3 *i* 20 25 20.7
NVL N'lazarevskaya 150.75 204c *i*PKIKP PKPdf 20 24 35.3 +1.5
NVL pmax pmax
comp=Z,66nm,1.4s
NVL MLR MLR
comp=Z,673nm,20.0s,MS5.4
CAM4 Nova Friburgo 151.41 34 (P) PKPdf 20 24 34.3 -0.5
CAM4 *i* 20 24 40.2
CAM4 *i* 20 24 44.6
CAM4 *i* 20 24 50.5
CAM4 *i* 20 24 54.6
TRQA Tornquist 152.03 83 *e*PKPbc PKPbc 20 24 40.3 -2.0
TRQA LR LR
comp=Z,781nm,20.0s,MS5.5
PMSA Palmer Station 153.28 144 PKPbc PKPbc 20 24 42.1 -3.0
comp=Z,20nm,1.0s,baz=218,slow=5.7,SNR=3.7
PMSA PKPab PKPab 20 24 55.3 -1.7
comp=Z,26nm,1.0s,baz=224,slow=6.0,SNR=4.1
PMSA Palmer Station 153.28 144 *e*PKPbc PKPbc 20 24 41.9 -3.1
SNAA Sanae 153.61 196 PKPbc PKPbc 20 24 42.5 -3.3
comp=Z,5.2nm,1.1s,baz=109,slow=3.1,SNR=14
SNAA PKPab PKPab 20 24 55.8 -2.6
comp=Z,8.5nm,1.1s,baz=153,slow=1.2,SNR=11
SNAA Sanae 153.61 196 *e*PKPdf PKPbc 20 24 42.3 -3.5
SNAA *e* 20 24 48.0
SNAA *e* 20 24 55.6
SNAA *e* 20 28 29.8
SNAA Sanae 153.61 196 *e*PKPbc PKPbc 20 24 41.6 -4.2
VNA2 Neumayer--Watz 155.04 194 *e*PKPdf PKPdf 20 24 46.0 +5.9
VNA2 *e* 20 24 51.2
VNA2 *e* 20 25 01.9
VNA2 *e* 20 28 39.6
VNA3 Neumayer Olymp 155.12 192 *e*PKPdf PKPdf 20 24 45.7 +5.5
VNA3 *e* 20 24 52.0
VNA3 *e* 20 25 01.5
VNA3 *e* 20 28 39.4
VNA1 Neumayer--Stat 155.43 194 *e*PKPdf PKPdf 20 24 46.8 +6.2
VNA1 *e* 20 25 04.0
VNA1 *e* 20 28 38.8
EFI East Falkland 158.83 113 PFAKE 20 24 50.0 +5.1
EFI LR LR
comp=Z,313nm,20.0s,MS5.2

STR ***23*** *20:11:30.3±0.2, 4268N×041W, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 23 20:11:29.2±0.1, 4285N×031W, h10km, Md2.1/2, Ml2.0/1, Error ellipse: s-maj=4.0km s-min=1.1km az=4.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
ETSF	**Etsaut**	**0.19**	**284**	*e*Pg	Pg		20 11 33.4		+0.2
ETSF				*e*Sg	Sg		20 11 36.1		+0.2
	36nm,0.2s								
VIEF	**Viey**	**0.25**	**83**	Pg	Pg		20 11 34.3		0.0
VIEF				Sg	Sg		20 11 37.4		-0.3
ATE	**Arette**	**0.37**	**309**	Pg	Pg		20 11 36.7		+0.3
ATE				Sg	Sg		20 11 41.2		-0.1
EPF	**Esparros**	**0.51**	**70**	*e*Pg	Pg		20 11 39.3		+0.2
EPF				*e*Sg	Sg		20 11 46.0		+0.1
	3.8nm,0.2s								
SJPF	**Ste Jean**	**0.72**	**291**	*e*Sg	Sg		20 11 52.1		-0.4
SJPF				*e*Sn	Sg		20 11 54.4		+1.9
	4.0nm,0.2s								
MTLF	**Montolieu**	**1.92**	**74**	*e*Pg	Pg		20 12 04.2		-1.7
MTLF				*e*Sg	Sg		20 12 30.1		-0.7
	1.6nm,0.2s								
LFF	**La Frestale**	**2.22**	**20**	*e*Pg	Pg		20 12 10.3		-1.4

IDC 23 20:20:20.8±3.2, 459S×15278E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=132.2km s-min=43.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**23.56**	**228**	P	P		20 25 33.0		0.0
	0.9nm,0.5s,baz=53,slow=9.8,SNR=17								
ASAR	**Alice Springs**	**26.29**	**222**	P	P		20 25 58.6		+0.8
	0.2nm,0.4s,baz=59,slow=8.2,SNR=5.0								
FITZ	**Fitzroy Crossi**	**29.74**	**241**	P	P		20 26 28.6		-0.1
	0.9nm,0.3s,baz=55,slow=7.8,SNR=8.6								
TORD	**Torodi Ar. Bea**	**150.22**	**288**	PKPbc	PKPbc		20 40 14.7		+1.0
	0.4nm,0.4s,baz=69,slow=2.0,SNR=16								

UPP ***23*** *20:26:05.7, 67.90N×20.16E, h17km, ML2.7, Suspected*

Mining explosion.
*CSEM **23** 20:26:05.7, 67.90N×20.16E, h17km, ML2.7, Suspected Mining explosion. After UPP*

HEL 23 20:26:06.4±0.2, 6785N×2017E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**33**	*i* P	Pg	20 26 07.4	-1.3
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	Pg	20 26 13.8	-0.8
LANU	**Lannavaara**	**0.72**	**73**	*i* P	Pg	20 26 19.4	-0.8
LANU	**Lannavaara** baz=294	**0.72**	**73**	P	Pg	20 26 19.4	-0.7
DUNU	**Dundret**	**0.75**	**168**	*i* P	Pg	20 26 20.3	-0.5
DUNU	**Dundret** baz=36	**0.75**	**168**	P	Pg	20 26 20.3	-0.5
SALU	**Saltoluokta**	**0.79**	**234**	*i* P	Pg	20 26 20.7	-0.9
MASU	**Masugnsbyn**	**0.81**	**119**	*i* P	Pg	20 26 20.6	-1.3
MASU	**Masugnsbyn**	**0.81**	**119**	P	Pg	20 26 20.5	-1.4
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	20 26 29.4	+0.3
KIF				*e*S	Sg	20 26 45.0	+0.6
PAJU	**Pajala**	**1.41**	**125**	*e*P	Pn	20 26 30.8	-2.5
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	20 26 32.2	-2.7
ERTU	**Ertsjaerv** baz=332	**1.52**	**148**	P	Pn	20 26 32.2	-2.7
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	20 26 36.6	-1.1
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	20 26 47.9	+0.7
SGF	**Sodankyl**	**2.47**	**97**	*e*P	Pn	20 26 49.6	+1.8
SGF				*e*S	Sn	20 27 19.3	+0.6

*ISCJB **23** 20:42:36.1±1.2, 16N±02×995E±02, h179km±9km, mb3.9/7, Error ellipse: s-maj=39.8km s-min=16.7km az=108.2*
*IDC **23** 20:42:37.2±1.2, 153N×99.38E, h176km±7km, mb3.5/6, mb1 3.7/6, mb1mx3.3/22, mbtmp3.5/6, Error ellipse: s-maj=52.9km s-min=13.7km az=54.0*
*NEIC **23** 20:42:38.0±1.0, 166N×99.53E, h180km±8km, mb4.3/2, Error ellipse: s-maj=26.1km s-min=11.1km az=55.0*

ISC 23 20:42:37.6±1.1, 16N±02×995E±02, h174km±9km, n11, σ0§41/12, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat** 80nm,0.3s,baz=153,slow=9.0,SNR=154	**1.29**	**334**	P	**Pn**	**20 43 07.8**	**+0.8**
PSI	9.8nm,0.3s,baz=191,slow=8.5,SNR=20			S	**Sn**	**20 43 29.3**	**-0.4**
KULM	**Kulim**	**3.81**	**18**	*e*P	**Pn**	**20 43 35.8**	**-0.3**
FITZ	**Fitzroy Crossi** 6.2nm,1.6s,mb4.1	**32.37**	**128**	*e*P	**P**	**20 48 50.9**	**+0.3**
FITZ	**Fitzroy Crossi** 2.1nm,0.8s,mb3.9,baz=320,slow=10,SNR=5.2	**32.37**	**128**	P	**P**	**20 48 50.1**	**-0.5**
WRA	**Warramunga Arr** 8.5nm,0.5s,mb4.7,baz=302,slow=9.1,SNR=87	**40.35**	**124**	P	**P**	**20 49 58.4**	**+0.2**
WRA	0.5nm,0.8s,baz=316,slow=2.6,SNR=5.2			PcP	PcP	20 51 58.1	+0.1
WRAB	**Tennant Creek** 8.7nm,0.6s,mb4.6	**40.36**	**124**	*e*P	**P**	**20 49 58.4**	**+0.2**
WB2	**Warramunga Arr**	**40.36**	**124**	*e*P	**P**	**20 49 58.1**	**-0.2**
ASAR	**Alice Springs** 0.8nm,0.5s,mb3.6,baz=298,slow=7.6,SNR=17	**41.86**	**129**	P	**P**	**20 50 10.2**	**-0.3**
SONM	**Songino Array** 0.5nm,0.5s,mb3.5,baz=188,slow=9.7,SNR=7.5	**46.41**	**6**	P	**P**	**20 50 47.0**	**+0.4**
MKAR	**Makanchi Array** 0.5nm,0.3s,mb3.6,baz=159,slow=8.6,SNR=11	**47.41**	**344**	P	**P**	**20 50 54.7**	**+0.3**
BRTR	**Keskin Array B** 0.6nm,0.5s,mb3.5,baz=111,slow=6.3,SNR=4.9	**70.52**	**312**	P	**P**	**20 53 32.9**	**-0.6**

CASC 23 20:48:56.3±1.4, 909N×8086W, h21km±7km, MD3.8, 2C-5D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINA	**Piqa, Costa Ab**	**0.80**	**78**	⇑*i*P	Pb	20 49 11.2	-0.3
PINA				*e*S	Sb	20 49 23.0	+1.1
ZANG	**Zanguenga, Cho**	**0.98**	**98**	*e*P	Pb	20 49 13.8	-0.8
ZANG				*e*S	Sb	20 49 27.6	+0.4
ACH	**Altos**	**1.01**	**115**	⇓*e*P	Pb	20 49 14.2	-0.9
ACH				*e*S	Sb	20 49 28.4	+0.5
ACLA	**Agua Clara, Si**	**1.17**	**76**	⇑*i*P	Pn	20 49 16.3	-1.1
ACLA				*e*S	Sb	20 49 32.9	+0.5
UPA	**Univ. de Panam**	**1.31**	**95**	*e*P	Pn	20 49 18.8	-0.6
UPA				*e*S	Sn	20 49 36.7	+0.5
AZU	**Azuero**	**1.41**	**156**	⇓*i*P	Pn	20 49 20.2	-0.5
AZU				*e*S	Sn	20 49 39.4	+0.8
CNI	**Changuinola**	**1.67**	**281**	⇓*e*P	Pn	20 49 23.5	-0.8
CNI				*e*S	Sn	20 49 45.6	+0.5
DVD	**David**	**1.71**	**248**	⇓*e*P	Pn	20 49 24.8	0.0
DVD				*e*S	Sn	20 49 47.2	+1.3
BRU	**Baru**	**1.71**	**261**	⇓*e*P	Pn	20 49 25.1	+0.3
BRU				*e*S	Sn	20 49 48.4	+2.3
PTP	**Ponta Puerca**	**17.36**	**57**	*e*P		20 49 31.4	
PTP				*e*S		20 49 59.7	

*ISCJB **23** 20:58:34.0±0.5, 35.28N±004×27.20E±007, h37km±13km, Error ellipse: s-maj=9.8km s-min=7.4km az=168.8*
*CSEM **23** 20:58:33.4±0.2, 35.26N×27.28E, h30km, MD3.5, Error ellipse: s-maj=6.0km s-min=2.5km az=154.0*
*ATH **23** 20:58:35.5, 35.49N×26.94E, h29km±1km, MD3.5/8*
*NEIC **23** 20:58:35.5, 35.49N×26.94E, h29km, MD3.5(ATH), After ATH.*
*HLW **23** 20:58:42.3, 34.77N×27.38E, h33km, Mb3.7*

ISC 23 20:58:35.3±0.7, 3531N±004×2705E±006, h27km±6km, n19, σ0§97/23, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.25**	**21**	⇓*i*PB	**Pb**	**20 58 41.5**	**-0.3**
KARP				*e*SB	**Sb**	**20 58 46.4**	**+0.2**
NPS	**Neapolis**	**1.18**	**268**	⇑*i*PN	**Pn**	**20 58 56.8**	**+0.8**
XRY	**Khrísi**	**1.20**	**249**	*e*PN	**Pn**	**20 58 57.7**	**+1.4**
ARG	**Arkhangelos**	**1.25**	**44**	*e*PN	**Pn**	**20 58 58.5**	**+1.4**
ARG				*e*SN	**Sn**	**20 59 14.8**	**+1.7**
NISR	**Nisiros**	**1.30**	**3**	*e*PN	**Pn**	**20 58 57.5**	**-0.1**
SANT	**Santorini**	**1.67**	**310**	*e*P	**Pn**	**20 59 01.8**	**-1.0**
SANT	**Santorini**	**1.67**	**310**	*e*P	**Pn**	**20 59 01.8**	**-1.0**
BODT	**Bodrum**	**1.76**	**7**	*e*Sn	**Sn**	**20 59 25.9**	**+0.4**
APE	**Apeiranthos**	**2.14**	**325**	*e*PN	**Pn**	**20 59 08.6**	**-0.7**
APE				*e*SN	**Sn**	**20 59 32.7**	**-2.2**
SMG	**Samos**	**2.40**	**356**	*e*PN	**Pn**	**20 59 11.9**	**-0.9**
GVD	**Gavdhos**	**2.48**	**260**	*e*PN	**Pn**	**20 59 15.0**	**+1.1**
VLI	**Veliai**	**3.62**	**294**	*e*PN	**Pn**	**20 59 30.3**	**+0.7**
KIZT	**Kizilcal**	**5.25**	**46**	*e*P	**Pn**	**20 59 51.1**	**-0.9**
SWA1		**6.14**	**191**	P	**Pn**	**21 00 04.5**	**+0.3**
SWA1				S	**Sn**	**21 01 04.7**	**-8.8**
SWA2		**6.20**	**193**	P	**Pn**	**21 00 05.5**	**+0.5**
AMAG	**Maghara**	**6.96**	**130**	P	**Pn**	**21 00 15.0**	**-0.5**
SUZ		**7.32**	**137**	P	**Pn**	**21 00 19.6**	**-0.8**
HFRF	**Wahat Farafira**	**8.21**	**172**	P	**Pn**	**21 00 32.4**	**-0.2**
GTR	**Jabal at Tayr**	**10.23**	**162**	P	**Pn**	**21 00 58.9**	**-1.4**

PRE 23 21:14:53.1±1.6, 2174S×3330E, h5km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.09**	**258**	*e*P	Pn	21 15 43.4	+0.8
MSNA				*e*S	Sn	21 16 21.5	+1.6
MSNA	comp=Z,350nm,0.2s			AML	AML	21 16 32.9	
PRYS	**Parys**	**7.48**	**225**	*e*P	Pn	21 16 44.0	+1.2
PRYS				*e*S	Sn	21 18 04.5	-3.5
PRYS	comp=Z,6.5nm,0.5s			AML	AML	21 18 26.5	
LBTB	**Lobatse**	**7.79**	**244**	*e*P	Pn	21 16 47.4	+0.4
LBTB				*e*S	Sn	21 18 11.8	-3.8
LBTB	comp=Z,21nm,0.6s			AML	AML	21 19 03.8	
KSD	**Kokstad**	**9.43**	**201**	*e*P	Pn	21 17 11.4	+1.8
KSD				*e*S	Sn	21 18 51.1	-4.8
KSD	comp=Z,3.4nm,0.6s			AML	AML	21 19 14.6	
BOSA	**Boshof**	**9.99**	**225**	*e*P	Pn	21 17 19.1	+1.9
BOSA				*e*S	Sn	21 19 05.2	-4.5
BOSA	comp=Z,7.5nm,0.6s			AML	AML	21 20 21.0	
UPI	**Upington**	**12.75**	**236**	*e*P	Pn	21 17 56.0	+1.1
UPI				*e*S	Sn	21 20 10.5	-6.7
UPI				AML	AML	21 20 24.7	
	comp=Z,3.7nm,0.6s						

IDC 23 21:16:00.3±3.0, 4722N×15551E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=89.9km s-min=29.2km az=3.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik** 1.5nm,0.8s,baz=279,slow=8.1,SNR=5.4	**40.37**	**33**	P	P	21 23 39.3	-0.5
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=63,slow=7.3,SNR=8.1	**48.18**	**298**	P	P	21 24 42.1	-0.2
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=282,slow=4.5,SNR=3.7	**63.14**	**55**	P	P	21 26 30.1	+0.3
FINES	**FINESS Array B** 0.5nm,0.3s,baz=35,slow=6.8,SNR=6.5	**64.31**	**336**	P	P	21 26 36.9	-0.6
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=308,slow=5.0,SNR=14	**75.83**	**62**	P	P	21 27 48.3	+0.1

*IDC **23** 21:22:56.9±0.8, 46.35N×154.67E, h0km, mb3.9/12, mb1 4.2/13, mb1mx4.0/22, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=23.3km s-min=18.1km az=145.0*
*ISCJB **23** 21:22:57.0±0.7, 46.4N±0.1×154.8E±0.1, h10km, mb4.0/18, Error ellipse: s-maj=18.6km s-min=9.7km az=111.0*
*NEIC **23** 21:22:58.6±0.6, 46.36N×154.70E, h10km, mb4.5/2, Error ellipse: s-maj=17.0km s-min=11.0km az=141.0*
*MOS **23** 21:23:01.9±1.0, 46.41N×154.49E, h49km, mb4.2/12, Error ellipse: s-maj=21.2km s-min=14.8km az=76.4*

ISC 23 21:22:58.8±0.7, 464N±01×1548E±01, h10km, n39, σ1§21/39, mb4.0/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa** 0.8nm,0.3s,baz=64,slow=24,SNR=5.7	**8.93**	**259**	Pn	**Pn**	**21 25 06.9**	**-0.9**
ASAJ	**Asahikawa**	**8.93**	**259**	PN	**Pn**	**21 25 06.9**	**-0.9**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
MAJO	**Matsushiro**	**15.87**	**237**	*e*P	**Pn**	**21 26 40.2**	**-2.0**
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,mb3.6,baz=60,slow=11,SNR=5.9	**21.85**	**255**	P	**P**	**21 27 53.2**	**+1.8**
BILL	**Bilibino**	**22.45**	**11**	*e*P	**P**	**21 27 56.0**	**-1.8**
BILL	comp=Z,5.0nm,0.9s,mb3.9			pmax	pmax		
SONM	**Songino Array** comp=Z,0.3nm,0.7s,mb3.4,baz=62,slow=9.0,SNR=3.5	**32.55**	**290**	P	**P**	**21 29 28.1**	**-1.9**
INK	**Inuvik** comp=Z,2.9nm,0.7s,mb4.0,baz=300,slow=6.9,SNR=13	**41.28**	**32**	P	**P**	**21 30 45.0**	**+0.8**
INK	**Inuvik**	**41.28**	**32**	P	**P**	**21 30 45.0**	**+0.8**
INK	comp=Z,3.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,1.8nm,0.7s,mb4.2,baz=64,slow=8.3,SNR=11	**48.13**	**298**	P	**P**	**21 31 37.8**	**-1.1**
MKAR	**Makanchi Array**	**48.13**	**298**	P	**P**	**21 31 37.8**	**-1.1**
MKAR	comp=Z,2.0nm,0.7s			pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.7s,mb4.0,baz=293,slow=6.9,SNR=3.3	**50.46**	**37**	P	**P**	**21 31 56.8**	**+0.1**
YKA	**Yellowknife Ar**	**50.46**	**37**	P	**P**	**21 31 56.8**	**+0.1**
YKA	comp=Z,1.0nm,0.7s			pmax	pmax		
LSA	**Lhasa**	**51.47**	**275**	*e*P	**P**	**21 32 06.5**	**+2.2**
LSA	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
LSA	**Lhasa** comp=Z,3.3nm,0.6s,mb4.4	**51.47**	**275**	*e*P	**P**	**21 32 06.5**	**+2.2**
ARU	**Arti**	**56.03**	**318**	*e*P	**P**	**21 32 36.9**	**-0.8**
ARU	comp=Z,3.0nm,0.5s,mb4.6			pmax	pmax		
ARU	**Arti** comp=Z,3.2nm,0.5s,mb4.6	**56.03**	**318**	*e*P	**P**	**21 32 36.9**	**-0.8**
JIRN	**Jiri**	**56.15**	**276**	*e*P	**P**	**21 32 40.3**	**+1.8**
GUN	**Gumba**	**56.21**	**276**	*e*P	**P**	**21 32 41.8**	**+2.9**
PKI	**Pulchoki**	**56.74**	**276**	*e*P	**P**	**21 32 42.8**	**0.0**
DMN	**Daman**	**56.93**	**277**	*e*P	**P**	**21 32 45.1**	**+1.0**
GKN	**Gorkha** comp=Z,5.6nm,0.4s,mb4.9	**57.00**	**277**	*e*P	**P**	**21 32 45.3**	**+0.7**
KOLN	**Koldanda** comp=Z,8.3nm,0.9s,mb4.8	**57.86**	**278**	*e*P	**P**	**21 32 51.5**	**+0.9**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.9s,mb3.9,baz=306,slow=3.5,SNR=4.3	**63.97**	**55**	P	**P**	**21 33 32.6**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.0nm,0.4s,mb4.2,baz=35,slow=7.4,SNR=20	**64.82**	**336**	P	**P**	**21 33 36.6**	**-1.1**
FINES	**FINESS Array B**	**64.82**	**336**	P	**P**	**21 33 36.6**	**-1.1**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,mb3.7,baz=15,slow=6.9,SNR=7.7	**68.62**	**201**	P	**P**	**21 34 00.3**	**-1.7**
WRA	**Warramunga Arr**	**68.62**	**201**	P	**P**	**21 34 00.3**	**-1.7**
WRA	comp=Z,1.0nm,0.6s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,0.2nm,0.7s,mb3.2,baz=30,slow=6.5	**68.90**	**342**	P	**P**	**21 34 05.0**	**+1.3**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,mb3.8,baz=26,slow=6.5,SNR=4.2	**68.90**	**342**	P	**P**	**21 34 04.5**	**+0.8**
NOA	**NORSAR Array B**	**68.90**	**342**	P	**P**	**21 34 04.5**	**+0.8**
NOA	comp=Z,1.0nm,0.6s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,1.0nm,0.9s,mb3.7,baz=14,slow=6.5,SNR=6.6	**72.31**	**200**	P	**P**	**21 34 24.2**	**-0.3**
ASAR	**Alice Springs**	**72.31**	**200**	P	**P**	**21 34 24.3**	**-0.2**
ASAR	comp=Z,1.0nm,0.9s			pmax	pmax		
TXAR	**Lajitas Array** comp=Z,1.1nm,0.6s,mb4.0,baz=304,slow=4.2,SNR=20	**76.61**	**62**	P	**P**	**21 34 50.0**	**+0.5**
TXAR	**Lajitas Array**	**76.61**	**62**	P	**P**	**21 34 50.0**	**+0.5**
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax		
KHC	**Kasperske Hory**	**79.02**	**335**	*e*P	**P**	**21 35 02.5**	**-0.5**
GERES	**GERESS Array B** comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=4.6,SNR=4.9	**79.24**	**335**	P	**P**	**21 35 03.7**	**-0.5**
GERES	**GERESS Array B**	**79.24**	**335**	P	**P**	**21 35 03.7**	**-0.5**
GERES	comp=Z,1.0nm,0.6s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.6nm,0.7s,mb3.6,baz=36,slow=6.2,SNR=4.2	**79.42**	**318**	P	**P**	**21 35 05.3**	**+0.2**
BRTR	**Keskin Array B**	**79.42**	**318**	P	**P**	**21 35 05.4**	**+0.2**
BRTR	comp=Z,1.0nm,0.7s			pmax	pmax		

*IDC **23** 21:25:09.9±1.1, 29.60S×72.26W, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=38.5km s-min=25.1km az=70.0*
*ISCJB **23** 21:25:13.4±0.9, 29.44S±003×71.91W±009, h36km±11km, mb3.8/4, Error ellipse: s-maj=13.0km s-min=5.3km az=8.8*
*NEIC **23** 21:25:14.1, 29.44S×71.77W, h40km, mb3.9/1, MD4.2(GUC), After GUC.*
*GUC **23** 21:25:14.1±0.8, 29.44S×71.77W, h40km±4km, MD4.2, ML4.3*

ISC 23 21:25:13.9±1.5, 2943S±003×7183W±009, h23km±10km, n34, σ0§76/46, mb3.8/4, 9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.69**	**133**	⇓*i*P	**Pb**	**21 25 26.7**	**-0.7**
LSCH				*i* S	**Sb**	**21 25 36.9**	**+0.3**
LSCH	comp=N,4μm,0.6s			AML	AML	21 25 39.5	
LSCH	**La Serena**	**0.69**	**133**	⇓*i*P	**Pb**	**21 25 26.7**	**-0.7**
LSCH				*i* S	**Sb**	**21 25 36.9**	**+0.3**
TLL	**Tololo Astrono**	**1.15**	**130**	⇓*i*P	**Pn**	**21 25 34.6**	**-0.1**
TLL				*i* S	**Sb**	**21 25 49.8**	**+0.1**
TLL	comp=N,6μm,0.6s			AML	AML	21 26 00.5	
TLL	**Tololo Astrono**	**1.15**	**130**	⇓*i*P	**Pn**	**21 25 34.6**	**-0.1**
TLL				*i* S	**Sb**	**21 25 49.8**	**+0.1**
VACH	**Vallenar**	**1.27**	**48**	*e*P	**Pn**	**21 25 35.9**	**-0.4**
VACH				*i* S	**Sn**	**21 25 52.7**	**+0.1**
VACH	comp=E,16μm,0.6s			AML	AML	21 26 00.1	
VACH	**Vallenar**	**1.27**	**48**	*e*P	**Pn**	**21 25 35.9**	**-0.4**
VACH				*i* S	**Sn**	**21 25 52.7**	**+0.1**
OVCH	**Ovalle**	**1.29**	**155**	*e*P	**Pn**	**21 25 36.0**	**-0.6**
OVCH				*i* S	**Sn**	**21 25 53.3**	**+0.2**
OVCH	comp=N,7μm,0.4s			AML	AML	21 25 55.6	
OVCH	**Ovalle**	**1.29**	**155**	*e*P	**Pn**	**21 25 36.0**	**-0.6**
OVCH				*i* S	**Sn**	**21 25 53.3**	**+0.2**
CMCH	**Combarbala**	**1.88**	**158**	⇓*i*P	**Pn**	**21 25 44.4**	**-0.3**
CMCH				*i* S	**Sn**	**21 26 07.6**	**0.0**
CMCH				AML	AML	21 26 18.1	
CMCH	**Combarbala** comp=E,16μm,0.6s	**1.88**	**158**	⇓*i*P	**Pn**	**21 25 44.4**	**-0.3**
CMCH				*i* S	**Sn**	**21 26 07.6**	**0.0**
CHNG	**Los Chungos**	**2.46**	**173**	*e*P	**Pn**	**21 25 51.9**	**-0.7**
CDCH	**Caldera**	**2.51**	**21**	*e*P	**Pn**	**21 25 51.1**	**-2.3**
PTCH	**Petorca**	**2.92**	**165**	⇓*i*P	**Pn**	**21 25 59.0**	**-0.1**
PTCH				*i* S	**Sn**	**21 26 32.6**	**-0.9**
PTCH	comp=N,2μm,0.4s			AML	AML	21 26 51.7	
PTCH	**Petorca**	**2.92**	**165**	⇓*i*P	**Pn**	**21 25 59.0**	**-0.1**
PTCH				*i* S	**Sn**	**21 26 32.6**	**-0.9**
PACH	**Papudo**	**3.11**	**174**	*e*P	**Pn**	**21 26 01.9**	**+0.3**
CFAA	**Coronel Fontan** comp=N,1.6nm,0.3s,baz=307,slow=12,SNR=56	**3.78**	**126**	Pn	**Pn**	**21 26 14.7**	**+3.9**
CFAA	comp=N,5.5nm,0.3s,baz=22,slow=21,SNR=12			Sn	**Sn**	**21 27 09.4**	**+15**
PEL	**Peldehue**	**3.83**	**165**	*e*P	**Pn**	**21 26 11.2**	**-0.2**
PEL				*i* S	**Sn**	**21 26 55.0**	**-0.7**
FCH	**Farellones**	**4.10**	**162**	*e*P	**Pn**	**21 26 16.5**	**+1.3**
FCH				*i* S	**Sn**	**21 27 02.7**	**+0.3**
CLCH	**Cerro Calan**	**4.10**	**165**	*e*P	**Pn**	**21 26 16.3**	**+1.1**
CHCH	**Chadas Angostu**	**4.60**	**168**	⇓*i*P	**Pn**	**21 26 21.7**	**-0.3**
CACH	**El Canelo**	**4.79**	**168**	*e*P	**Pn**	**21 26 24.8**	**+0.2**
CICH	**Cipreses**	**5.02**	**167**	*e*P	**Pn**	**21 26 28.0**	**+0.2**
LVC	**Limon Verde** comp=N,0.3nm,0.3s,baz=270,slow=8.4,SNR=2.2	**7.28**	**22**	Pn	**Pn**	**21 27 03.9**	**+5.0**
TRQA	**Tornquist** comp=N,5.5nm,0.7s	**11.88**	**139**	*e*P	**Pn**	**21 28 02.9**	**+1.1**
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=177,slow=7.5,SNR=17	**13.52**	**15**	Pn	**Pn**	**21 28 26.4**	**+2.0**
SIV	**San Ignacio** comp=N,0.3nm,0.3s,baz=226,slow=12,SNR=16	**16.64**	**39**	Pn	**Pn**	**21 29 05.4**	**-0.3**
SAML	**Samuel**	**21.93**	**23**	*e*P	**P**	**21 30 05.2**	**-0.5**
SNAA	comp=N,3.4nm,0.8s,mb3.8 **Sanae** comp=N,0.8nm,1.0s,mb3.7,baz=291,slow=7.8,SNR=3.9	**55.76**	**159**	P	**P**	**21 34 48.5**	**-0.4**
TXAR	**Lajitas Array** comp=N,0.2nm,0.6s,mb3.4,baz=150,slow=11,SNR=3.2	**65.87**	**330**	P	**P**	**21 35 57.9**	**+0.2**
TORD	**Torodi Ar. Bea** comp=N,2.9nm,0.9s,mb4.3,baz=254,slow=4.7,SNR=14	**82.50**	**70**	P	**P**	**21 37 35.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**82.50**	**70**	P	**P**	**21 37 35.5**	**+0.7**
WRA	**Warramunga Arr** comp=N,0.3nm,0.8s,baz=137,slow=1.7,SNR=4.1	**124.81**	**210**	PKP	PKPdf	21 44 10.6	-1.3
ZAL	**Zalesovo** comp=N,2.7nm,0.7s,baz=173,slow=2.7,SNR=16	**150.20**	**28**	PKPbc	PKPbc	21 45 03.4	+0.4
ZAL	**Zalesovo**	**150.20**	**28**	PKPbc	PKPbc	21 45 03.4	+0.4

IDC 23 21:36:49.8±1.3, 2836N×8322E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=55.5km s-min=29.6km az=55.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=182,slow=11,SNR=5.5	**18.42**	**358**	P	Pn	21 41 06.2	-0.3
ARCES	**ARCESS Array B** 2.6nm,0.9s,baz=102,slow=8.4,SNR=3.3	**52.57**	**338**	P	P	21 46 04.9	-0.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=322,slow=6.3,SNR=6.6	**68.88**	**128**	P	P	21 47 56.7	+0.4
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=62,slow=5.7,SNR=4.3	**76.51**	**278**	P	P	21 48 42.1	+0.4

*BJI **23** 21:57:25.4, 1.11S×132.65E, h18km, mb4.8*
*NEIC **23** 21:57:27.3±0.5, 1.31S×132.18E, h10km, mb4.3/6, Error ellipse: s-maj=19.3km s-min=9.1km az=64.0*
*ISCJB **23** 21:57:29.1±0.5, 1.45S±007×132.0E±0.1, h33km, mb4.5/19, MS3.3/2, Error ellipse: s-maj=18.1km s-min=6.9km az=130.0*
*IDC **23** 21:57:32.3±3.6, 1.35S×132.16E, h47km±36km, mb4.0/10, mb1 4.2/12, mb1mx4.0/19, mbtmp4.1/12, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/23, Error ellipse: s-maj=36.1km s-min=12.0km az=72.0*

ISC 23 21:57:30.6±2.5, 142S±006×1321E±01, h29km±19km, n40, σ1§05/42, mb4.5/19, MS3.3/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu** 29nm,0.8s	**11.22**	**178**	*e*P	**Pn**	**22 00 07.7**	**-1.3**
KAKA				*e*S	**Sn**	**22 02 08.2**	**-5.2**
PMG	**Port Moresby** 0.6nm,0.3s,baz=301,slow=7.6,SNR=5.5	**16.97**	**118**	P	**Pn**	**22 01 26.9**	**+1.1**
FITZ	**Fitzroy Crossi** 9.6nm,0.7s	**17.74**	**200**	*e*P	**Pn**	**22 01 31.9**	**-3.4**
FITZ				*e*S	**Sn**	**22 04 40.6**	**-12**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=12,slow=18,SNR=5.6	**17.74**	**200**	P	**Pn**	**22 01 33.0**	**-2.4**
FITZ	0.3nm,0.3s,baz=76,slow=16,SNR=3.3			S	**Sn**	**22 04 41.8**	**-10**
FITZ	comp=Z,104nm,18.7s,baz=38,slow=40			LR	LR	22 09 16.8	
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=352,slow=12,SNR=27	**18.54**	**173**	P	**Pn**	**22 01 44.8**	**-0.4**
WRA	0.4nm,0.3s,baz=357,slow=23,SNR=4.8			S	**Sn**	**22 04 59.6**	**-12**
WB2	**Warramunga Arr**	**18.54**	**173**	*e*P	**Pn**	**22 01 44.5**	**-0.7**
GUMO	**Guam** comp=Z,106nm,21.3s,baz=294,slow=31	**19.58**	**40**	LR	LR	22 07 36.5	
KSM	**Kuching**	**21.95**	**277**	*e*P	**P**	**22 02 24.6**	**+2.8**
AS31	**Alice Springs**	**22.18**	**176**	*e*P	**P**	**22 02 24.7**	**+0.4**
AS31				*e*S	**S**	**22 06 26.5**	**-0.6**
ASAR	**Alice Springs** 12nm,0.8s,mb4.4,baz=9.9,slow=10,SNR=30	**22.18**	**176**	P	**P**	**22 02 25.1**	**+0.8**
ASAR	2.5nm,0.9s,baz=357,slow=26,SNR=5.2			S	**S**	**22 06 28.4**	**+1.3**
ASPA	**Alice Springs**	**22.18**	**176**	*e*P	**P**	**22 02 24.7**	**+0.4**
ASPA				*e

TORD	**Torodi Ar. Bea**	**129.53**	**286**	PKP	PKPdf	22	16	36.8 +0.3
	comp=Z,0.6nm,0.7s,baz=98,slow=1.7,SNR=5.3							
LPAZ	**La Paz**	**153.40**	**132**	PKPbc	PKPbc	22	17	26.9 +0.9
	comp=Z,0.8nm,0.9s,baz=31,slow=4.9,SNR=4.2							

IGQ ***23*** *22:26:57.0, 174S×78.15W, h187km±3km, Mb4.6, Ms4.4, Error ellipse: s-maj=4.4km s-min=2.8km az=37.5*
ISCJB ***23*** *22:27:00.1±0.2, 164S±003×78.13W±005, h167km±2km, mb4.2/36, Error ellipse: s-maj=8.8km s-min=5.1km az=176.3*
IDC ***23*** *22:27:01.9±0.8, 157S×7786W, h168km±7km, mb3.8/15, mb1 4.0/20, mb1mx4.0/25, mbtmp3.9/20, Error ellipse: s-maj=18.6km s-min=9.8km az=62.0*
NEIC ***23*** *22:27:01.7±0.2, 157S×7793W, mb4.4/21, MD4.6(IGQ), Error ellipse: s-maj=8.9km s-min=5.3km az=67.0*
NEIC Felt lightly at Guayaquil.

ISC 23 22:27:01.0±0.2, 165S±003×7812W±005, h163km±2km, h169km±1.4km:pP-P, n124, σ0§92/119, mb4.2/36, 2C-25D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATA	**Patacocha**	**0.35**	**295**	ǁP	**Pn**	**22 27 22.7**	**-0.5**
ULBA	**Ulba**	**0.35**	**305**	ǁP	**Pn**	**22 27 22.5**	**-0.7**
ARRY	**Arrayan**	**0.36**	**293**	ǁP	**Pn**	**22 27 22.3**	**-0.9**
RETU	**Refugio**	**0.38**	**301**	ǁP	**Pn**	**22 27 23.1**	**-0.2**
RETU				S	**Sn**	**22 27 40.5**	**+0.2**
RUN5	**Runtun**	**0.38**	**308**	ǁP	**Pn**	**22 27 22.7**	**-0.6**
RUN5				S	**Sn**	**22 27 40.0**	**-0.4**
JUIV	**Juive**	**0.41**	**303**	ǁP	**Pn**	**22 27 22.7**	**-0.7**
BILB	**Tungurahua vol**	**0.43**	**299**	ǁP	**Pn**	**22 27 23.0**	**-0.4**
BILB				S	**Sn**	**22 27 40.9**	**+0.2**
IGUA	**Igualata**	**0.54**	**287**	ǁP	**Pn**	**22 27 23.7**	**-0.3**
IGUA				S	**Sn**	**22 27 46.2**	**+4.6**
PISA	**Pisayambo**	**0.65**	**336**	ǁP	**Pn**	**22 27 24.4**	**-0.2**
TAMB	**Tambo**	**0.98**	**345**	ǁP	**Pn**	**22 27 26.9**	**+0.1**
CAMI	**Rancho Maria**	**1.04**	**338**	ǁP	**Pn**	**22 27 27.4**	**+0.1**
VC1	**Cotopaxi 1**	**1.04**	**344**	ǁP	**Pn**	**22 27 27.5**	**+0.2**
NAS1	**Nasa**	**1.07**	**341**	ǁP	**Pn**	**22 27 28.1**	**+0.5**
ANTI	**Antisana**	**1.19**	**358**	ǁP	**Pn**	**22 27 28.6**	**0.0**
JUA2	**San Juan 2**	**1.51**	**341**	ǁP	**Pn**	**22 27 31.4**	**-0.2**
GGP	**Refugio Guagua**	**1.54**	**342**	ǁP	**Pn**	**22 27 31.8**	**-0.2**
PINO	**Pino**	**1.56**	**342**	ǁP	**Pn**	**22 27 32.1**	**-0.1**
YANA	**Yana**	**1.59**	**343**	ǁP	**Pn**	**22 27 32.1**	**-0.3**
LAV3	**Lava3-Reventad**	**1.62**	**18**	ǁP	**Pn**	**22 27 32.2**	**-0.5**
LAV3				S	**Sn**	**22 27 57.2**	**+0.1**
CONE	**Cono NE Rev Vo**	**1.64**	**17**	ǁP	**Pn**	**22 27 32.6**	**-0.3**
CONE				S	**Sn**	**22 27 59.2**	**+1.6**
CAYR	**Refugio Cayamb**	**1.66**	**4**	ǁP	**Pn**	**22 27 33.5**	**+0.3**
CAYR				S	**Sn**	**22 27 59.8**	**+1.9**
CAYA	**Cayambe**	**1.71**	**4**	ǁP	**Pn**	**22 27 34.0**	**+0.3**
CAYA				S	**Sn**	**22 28 00.8**	**+1.9**
OTAV	**Otavalo**	**1.90**	**350**	*e*Pn	**Pn**	**22 27 35.3**	**-0.5**
OTAV				*e*Sn	**Sn**	**22 28 03.1**	**+0.5**
COTA	**Cotacachi**	**1.98**	**354**	ǁP	**Pn**	**22 27 36.9**	**+0.2**
MAG1	**Magdalena**	**2.28**	**313**	ǁP	**Pn**	**22 27 38.8**	**-1.2**
MAG1				S	**Sn**	**22 28 05.7**	**-4.6**
JAMA	**Jama**	**2.50**	**303**	P	**Pn**	**22 27 40.7**	**-2.0**
CHIS	**Cerro-Chispas-**	**2.67**	**283**	ǁP	**Pn**	**22 27 43.0**	**-1.8**
ATAH	**Atahualpa**	**5.32**	**183**	P	**Pn**	**22 28 21.4**	**+2.6**
	32nm,0.3s,baz=5.7,slow=8.2,SNR=89						
ATAH				S	**Sn**	**22 29 20.4**	**+0.7**
	18nm,0.3s,baz=45,slow=5.6,SNR=5.6						
ROSC	**El Rosal**	**7.49**	**30**	P	**Pn**	**22 28 47.1**	**-0.4**
	1.8nm,0.3s,baz=273,slow=17,SNR=4.4						
ROSC	**El Rosal**	**7.49**	**30**	Pn	**Pn**	**22 28 43.7**	**-3.8**
NNA	**Nana**	**10.35**	**173**	P	**Pn**	**22 29 25.2**	**-0.1**
	7.3nm,0.3s,baz=327,slow=9.9,SNR=12						
NNA				S	**Sn**	**22 31 09.9**	**-10**
	15nm,0.3s,baz=147,slow=20,SNR=14						
NNA	**Nana**	**10.35**	**173**	P	**Pn**	**22 29 25.2**	**-0.1**
NNA				S	**Sn**	**22 31 09.8**	**-10**
SDV	**Santo Domingo**	**12.85**	**35**	P	**Pn**	**22 29 56.2**	**-1.6**
	1.4nm,0.3s,baz=241,slow=11,SNR=19						
JTS	**JuntasAbangare**	**13.67**	**330**	*e*Pn	**Pn**	**22 30 09.8**	**+1.6**
	5.3nm,0.6s						
ARE	**Arequipa**	**16.10**	**156**	*e*P	**Pn**	**22 30 41.0**	**+2.8**
SAML	**Samuel**	**16.54**	**117**	*e*P	**Pn**	**22 30 40.3**	**-3.2**
	14nm,0.5s						
SAML				*e*S	**S**	**22 33 48.0**	**+0.7**
LPAZ	**La Paz**	**17.56**	**146**	P	**Pn**	**22 30 56.1**	**+0.3**
	2.1nm,0.3s,baz=330,slow=13,SNR=85						
PCRV	**Puerto La Cruz**	**17.84**	**49**	P	**Pn**	**22 30 58.6**	**-0.5**
	1.0nm,0.3s,baz=192,slow=10,SNR=3.5						
SIV	**San Ignacio**	**22.03**	**131**	P	**P**	**22 31 42.1**	**-0.4**
	19nm,0.8s,mb4.6,baz=320,slow=11,SNR=82						
LVC	**Limon Verde**	**22.68**	**157**	P	**P**	**22 31 49.9**	**+1.3**
	15nm,0.7s,mb4.5,baz=270,slow=6.0,SNR=15						
CMIG	**Matias Romero**	**24.90**	**319**	P	**P**	**22 32 10.3**	**+1.5**
	3.8nm,0.5s,mb4.2,baz=129,slow=4.6,SNR=8.5						
CMIG	**Matias Romero**	**24.90**	**319**	P	**P**	**22 32 10.3**	**+1.5**
TRQA	**Tornquist**	**39.15**	**160**	*e*P	**P**	**22 34 12.4**	**-0.2**
	8.5nm,0.9s,mb4.4						
TXAR	**Lajitas Array**	**39.33**	**324**	P	**P**	**22 34 15.8**	**+1.6**
	0.4nm,0.5s,mb3.4,baz=147,slow=7.9,SNR=13						
TXAR				pP	pP	22 34 52.9	+3.5
	1.1nm,0.9s,baz=133,slow=7.5,SNR=5.0						
TXAR				PcP	PcP	22 36 21.2	+1.8
	0.6nm,0.6s,baz=150,slow=5.8,SNR=6.3						
SIUC	**Southern Illin**	**40.49**	**346**	P	**P**	**22 34 22.9**	**-0.9**
WMOK	**Wichita Mounta**	**41.06**	**334**	*e*P	**P**	**22 34 29.1**	**+0.7**
	1.4nm,0.6s,mb3.8						
RCBR	**Riachuelo**	**42.32**	**97**	*e*P	**P**	**22 34 38.2**	**-0.5**
	19nm,1.0s,mb4.7						
ANMO	**Albuquerque**	**45.06**	**327**	P	**P**	**22 35 02.6**	**+2.1**
	3.7nm,0.6s,mb4.2,baz=142,slow=8.2,SNR=17						
ANMO				pP	pP	22 35 39.4	+2.8
	4.5nm,0.8s,baz=151,slow=9.0,SNR=7.5						
SDCO	**Great Sand Dun**	**46.67**	**330**	*e*P	**P**	**22 35 15.3**	**+2.1**
	1.9nm,0.6s,mb3.9						
EYMN	**Ely**	**50.76**	**348**	*e*P	**P**	**22 35 43.0**	**-1.2**
	4.1nm,0.7s,mb4.2						
RSSD	**Black Hills**	**51.12**	**336**	P	**P**	**22 35 47.2**	**+0.2**
PDAR	**Pinedale Array**	**52.51**	**331**	P	**P**	**22 35 58.0**	**+0.7**
	0.5nm,0.6s,mb3.4,baz=120,slow=8.5,SNR=4.7						
PDAR				PcP	PcP	22 37 05.7	+0.2
	0.5nm,0.7s,baz=195,slow=4.6,SNR=3.6						
ULM	**Lac du Bonnet**	**53.90**	**346**	P	**P**	**22 36 06.2**	**-1.2**
	2.8nm,0.4s,mb4.4,baz=164,slow=8.7,SNR=13						
NVAR	**Mina Array Bea**	**54.40**	**321**	P	**P**	**22 36 12.7**	**+1.6**
	1.0nm,0.6s,mb3.7,baz=128,slow=5.8,SNR=3.5						
NVAR				pP	pP	22 36 50.8	+2.5
	1.0nm,0.7s,baz=135,slow=9.0,SNR=3.2						
NEW	**Newport**	**60.15**	**331**	P	**P**	**22 36 51.7**	**+0.4**
YKA	**Yellowknife Ar**	**69.65**	**343**	P	**P**	**22 37 51.9**	**-0.8**
	0.8nm,0.5s,mb3.7,baz=140,slow=6.2,SNR=7.9						
LIC	**Lamto**	**73.39**	**83**	⇑*i*P	**P**	**22 38 14.5**	**-0.6**
	16nm,0.8s,mb4.5						
LIC	**Lamto**	**73.39**	**83**	⇑*i*P	**P**	**22 38 14.5**	**-0.6**
	8.0nm,0.8s,mb4.5						
RES	**Resolute Bay**	**76.89**	**355**	P	**P**	**22 38 33.7**	**-1.5**
ESDC	**Sonseca Array**	**78.91**	**49**	P	**P**	**22 38 48.4**	**+2.2**
	0.9nm,0.7s,mb3.5,baz=271,slow=4.5,SNR=4.1						
INK	**Inuvik**	**79.37**	**342**	P	**P**	**22 38 49.2**	**+0.4**
	2.0nm,0.6s,mb3.9,baz=73,slow=5.0,SNR=15						
INK	**Inuvik**	**79.37**	**342**	*e*P	**P**	**22 38 48.9**	**+0.2**
	54nm,0.5s,mb5.4						
EGAK	**Eagle**	**80.31**	**337**	*e*P	**P**	**22 38 54.0**	**+0.2**
	3.8nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**80.46**	**76**	P	**P**	**22 38 53.8**	**-0.8**
	2.1nm,0.5s,mb4.0,baz=284,slow=6.1,SNR=52						
VNA3	**Neumayer Olymp**	**81.61**	**162**	*e*	**P**	**22 39 01.0**	**+0.3**
ETSF	**Etsaut**	**82.02**	**46**	*e*P	**P**	**22 39 02.3**	**-0.5**
VNA2	**Neumayer--Watz**	**82.21**	**162**	*e*	**P**	**22 39 03.9**	**+0.1**
	baz=308,slow=5.7						
EKA	**Eskdalemuir Ar**	**82.83**	**34**	P	**P**	**22 39 06.0**	**-1.0**
	4.3nm,0.9s,mb4.2,baz=252,slow=4.5,SNR=5.8						
LFF	**La Frestale**	**83.28**	**45**	*e*P	**P**	**22 39 09.2**	**-0.1**
	29nm,1.0s,mb4.7						
LFF	**La Frestale**	**83.28**	**45**	*e*P	**P**	**22 39 09.2**	**-0.1**
	15nm,1.0s,mb4.7						
SNAA	**Sanae**	**83.83**	**162**	*e*	**P**	**22 39 11.5**	**-0.6**
SNAA	**Sanae**	**83.83**	**162**	*e*P	**P**	**22 39 12.5**	**+0.4**
	5.0nm,0.8s,mb4.3						
RJF	**Les Rejaudoux**	**83.88**	**44**	*e*P	**P**	**22 39 12.1**	**-0.3**
MTLF	**Montolieu**	**84.10**	**46**	*e*P	**P**	**22 39 13.3**	**-0.2**
	32nm,1.2s,mb4.6						
MTLF	**Montolieu**	**84.10**	**46**	*e*P	**P**	**22 39 13.3**	**-0.2**
	16nm,1.2s,mb4.6						
TCF	**Toulx Ste Croi**	**84.50**	**43**	*e*P	**P**	**22 39 15.0**	**-0.5**
	7.4nm,0.8s,mb4.2						
TCF	**Toulx Ste Croi**	**84.50**	**43**	*e*P	**P**	**22 39 15.0**	**-0.5**
	3.7nm,0.8s,mb4.2						
BGF	**Bois d'Agland**	**84.97**	**43**	*e*P	**P**	**22 39 17.5**	**-0.4**
	16nm,0.9s,mb4.5						
BGF	**Bois d'Agland**	**84.97**	**43**	*e*P	**P**	**22 39 17.5**	**-0.4**
	7.9nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**85.35**	**43**	*e*P	**P**	**22 39 18.9**	**-0.9**
SSF	**Saint Saulge**	**85.49**	**43**	*e*P	**P**	**22 39 20.5**	**0.0**
	2.8nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**85.49**	**43**	*e*P	**P**	**22 39 20.5**	**0.0**
	1.4nm,0.6s,mb3.9						
BAIF	**Baives**	**86.32**	**40**	*e*P	**P**	**22 39 24.1**	**-0.5**
MEZF	**Maizieres J'vi**	**86.69**	**41**	*e*P	**P**	**22 39 26.0**	**-0.4**
	11nm,0.7s,mb4.5						
MEZF	**Maizieres J'vi**	**86.69**	**41**	*e*P	**P**	**22 39 26.0**	**-0.4**
	11nm,0.7s,mb4.8						
GIVF	**Givet**	**86.72**	**40**	*e*P	**P**	**22 39 26.4**	**-0.1**
	23nm,0.9s,mb4.7						
GIVF	**Givet**	**86.72**	**40**	*e*P	**P**	**22 39 26.4**	**-0.1**
	11nm,0.9s,mb4.7						
ORIF	**Oris-en-Rattie**	**86.90**	**45**	*e*P	**P**	**22 39 27.0**	**-0.3**
	6.9nm,0.7s,mb4.3						
ORIF	**Oris-en-Rattie**	**86.90**	**45**	*e*P	**P**	**22 39 27.0**	**-0.3**
	3.5nm,0.7s,mb4.3						
CABF	**La Chapelle**	**87.20**	**43**	*e*P	**P**	**22 39 28.5**	**-0.3**
FRF	**La Foret Royal**	**87.33**	**46**	*e*P	**P**	**22 39 28.9**	**-0.5**
HINF	**Hinteralfeld**	**87.83**	**42**	*e*P	**P**	**22 39 31.9**	**+0.1**
SBF	**Sospel**	**87.92**	**46**	*e*P	**P**	**22 39 31.7**	**-0.5**
	16nm,0.7s,mb4.6						
SBF	**Sospel**	**87.92**	**46**	*e*P	**P**	**22 39 31.7**	**-0.5**
	7.8nm,0.7s,mb4.7						
CDF	**Champ du Feu**	**88.16**	**42**	*e*P	**P**	**22 39 32.9**	**-0.4**
	7.7nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**88.16**	**42**	*e*P	**P**	**22 39 32.9**	**-0.4**
	3.8nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**88.41**	**180**	*e*P	**P**	**22 39 35.9**	**+1.4**
	7.1nm,0.5s,mb4.8						
KEST	**Kesra**	**88.89**	**54**	P	**P**	**22 39 36.0**	**-0.8**
	1.2nm,0.8s,mb3.9,baz=67,slow=12,SNR=4.1						
PGF	**Pioggiola**	**88.98**	**48**	*e*P	**P**	**22 39 37.5**	**+0.3**
GERES	**GERESS Array B**	**92.43**	**41**	P	**P**	**22 39 53.6**	**+0.4**
	0.6nm,0.6s,mb3.8,baz=259,slow=3.5,SNR=5.6						
BRG	**Berggiesshubel**	**92.58**	**39**	*e*P	**P**	**22 39 54.7**	**+0.8**
	2.3nm,0.9s,mb4.3						
SBA	**Scott Base**	**93.55**	**191**	P	**P**	**22 39 56.9**	**-1.5**
VNDA	**Vanda**	**94.64**	**191**	P	**P**	**22 40 04.7**	**+1.3**
	0.7nm,0.8s,mb4.0,baz=113,slow=7.7,SNR=3.4						
VNDA	**Vanda**	**94.64**	**191**	P	**P**	**22 40 02.6**	**-0.8**
TSUM	**Tsumeb**	**94.85**	**109**	*e*P	**P**	**22 40 05.2**	**+0.9**
ZRNK	**Zerenda**	**122.06**	**23**	*e*PKPdf	PKPdf	22 45 36.1	0.0
ZAL	**Zalesovo**	**126.02**	**12**	PKP	PKPdf	22 45 43.8	+0.1
	1.1nm,0.5s,baz=268,slow=1.8,SNR=3.3						
STKA	**Stephens Creek**	**129.73**	**225**	PKP	PKPdf	22 45 52.0	+1.2
	2.1nm,0.8s,baz=31,slow=4.0,SNR=4.6						
MKAR	**Makanchi Array**	**131.90**	**18**	PKP	PKPdf	22 45 54.8	-0.1
	0.4nm,0.4s,baz=307,slow=3.1,SNR=15						
SONM	**Songino Array**	**133.83**	**356**	PKP	PKPdf	22 45 59.4	+0.9
	0.4nm,0.6s,baz=301,slow=0.4,SNR=7.1						
ASAR	**Alice Springs**	**139.96**	**229**	PKhKP		22 46 02.4	
	0.5nm,0.4s,baz=119,slow=3.7,SNR=7.5						
ASAR				PKP	PKPdf	22 46 10.7	+0.9
	1.4nm,0.6s,baz=108,slow=1.8,SNR=13						
WB2	**Warramunga Arr**	**141.60**	**234**	*e*P		22 46 08.5	
WRA	**Warramunga Arr**	**141.61**	**234**	PKhKP		22 46 08.1	
	1.5nm,0.8s,baz=115,slow=2.3,SNR=24						
WRA				PKP	PKPdf	22 46 13.4	+0.6
	2.3nm,0.7s,baz=111,slow=2.1,SNR=24						
KAKA	**Kakadu**	**146.48**	**244**	*e*P	PKPdf	22 46 23.8	+2.5
	9.3nm,0.9s						
KOLN	**Kodaira**	**148.68**	**32**	*e*P	PKPbc	22 46 29.7	+0.8
	2.2nm,0.3s						
GKN	**Gorkha**	**149.04**	**31**	*e*P	PKPbc	22 46 30.8	+1.0
	5.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**149.47**	**229**	*e*P	PKPbc	22 46 32.4	+1.6
	11nm,0.8s						
KKN	**Kakani**	**149.54**	**30**	*e*P	PKPbc	22 46 32.2	+1.2
	8.2nm,0.4s						
DMN	**Daman**	**149.60**	**30**	*e*P	PKPbc	22 46 32.5	+1.4
	11nm,0.3s						
GUN	**Gumba**	**149.73**	**29**	*e*P	PKPbc	22 46 33.0	+1.5
	12nm,0.4s						
PKI	**Pulchoki**	**149.78**	**30**	*e*P	PKPbc	22 46 33.0	+1.4
JIRN	**Jiri**	**150.09**	**29**	*e*P	PKPbc	22 46 33.7	+1.4
HYB	**Hyderabad**	**152.23**	**54**	*i* PKP	PKPab	22 46 47.5	-0.2
HYB	**Hyderabad**	**152.23**	**54**	*e*P	PKPab	22 46 47.5	-0.2

MAN 23 22:42:03.5, 1723N×12159E, h31km, mb3.3, ML4.5, MS1.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.36**	**142**	*e*P	Pb	22 42 14.1	+2.3
CAUP				*e*S	Sb	22 42 20.9	+3.4
APYP	**Conner**	**0.71**	**332**	*e*P	Pn	22 42 17.4	+0.1
APYP				*e*S	Sb	22 42 28.4	+1.5
PALP	**Palanan**	**0.81**	**102**	*e*P	Pn	22 42 19.1	+0.4
ABRA	**Dolores**	**0.94**	**297**	*e*P	Pn	22 42 20.1	-0.4
BCPH	**Baguio City Da**	**1.28**	**229**	⇑*i*P	Pn	22 42 25.1	-0.2
BCPH				*i* S	Sn	22 42 41.0	-0.4
BALP	**Baler**	**1.48**	**181**	*e*P	Pn	22 42 28.1	+0.2

IDC 23 22:49:29.4±6.1, 4667N×15462E, h53km±53km, mb3.5/6, mb1 3.8/7, mb1mx3.5/22, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=34.8km s-min=22.3km az=91.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.84**	**258**	P	Pn	22 51 34.6	+0.2
	0.5nm,0.3s,baz=68,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**47.30**	**298**	P	P	22 58 01.4	-0.9
	0.3nm,0.5s,baz=71,slow=7.5,SNR=8.8						
FINES	**FINESS Array B**	**64.55**	**335**	P	P	22 59 60.0	-1.0
	1.0nm,0.4s,baz=38,slow=7.0,SNR=12						
NOA	**NORSAR Array B**	**68.64**	**342**	P	P	23 00 27.8	+0.8
	1.0nm,0.7s,baz=28,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**68.78**	**200**	P	P	23 00 27.5	-0.4
	0.5nm,0.9s,baz=15,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**72.47**	**200**	P	P	23 00 51.0	+0.6
	0.4nm,0.5s,baz=26,slow=4.7,SNR=5.3						
TXAR	**Lajitas Array**	**76.62**	**62**	P	P	23 01 14.4	-0.1
	0.9nm,0.7s,baz=309,slow=4.7,SNR=13						

NIED ***23*** *22:59:00, 46.50N×154.20E, h8km, Mw5.0 Best double couple: M0 3.43000×10^16 NP1:ϕ§220.00000°, δ73.00000°, λ-100.00000°. NP2:ϕ§71.00000°, δ20.00000°, λ-61.00000°.*
ISCJB ***23*** *22:59:28.6±0.2, 45.96N±004×154.53E±004, h10km, mb4.8/132, MS4.2/39, Error ellipse: s-maj=5.9km s-min=2.8km az=126.0*
NEIC ***23*** *22:59:30.4±2.4, 46.06N×154.61E, h8km±14km, mb4.8/58, Error ellipse: s-maj=6.1km s-min=3.9km az=153.0*
GCMT ***23*** *22:59:30.4±0.3, 46.15N×154.72E, h14km±1km, MW4.9/76, Moment Tensor Solution. s28,c43; s76,c117; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.80±.16; Mθθ 1.77±.11; Mϕϕ 1.03±.10; Mrθ 0.88±.21; Mrϕ 1.54±.06; Mθϕ 0.33±.23; Best double couple: M0 3.04000×10^16 NP1:ϕ§46.00000°, δ37.00000°, λ-99.00000°. NP2: ϕ§238.00000°, δ54.00000°, λ-83.00000°. Principal axes: T 3.1180, Plg9.0000°, Azm323.0000°; N -0.1550, Plg6.0000°, Azm53.0000°; P -2.9630, Plg80.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***23*** *22:59:31.0, 46.35N×154.20E, h8km, mB4.9, mb4.6, Ms4.5, Msz4.2*
JMA ***23*** *22:59:32.0±0.8, 46.53N×154.23E, h30km, M5.4*
IDC ***23*** *22:59:33.8±6.1, 46.05N×154.57E, h33km±46km, mb4.2/21, mb1 4.4/22, mb1mx4.3/26, mbtmp4.2/22, ML4.4/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/37, Error ellipse: s-maj=16.3km s-min=12.3km az=139.0*
SKHL ***23*** *22:59:33.6±1.8, 45.64N×154.22E, h50km±19km, Ms4.6/1, msh5.9/1*
MOS ***23*** *22:59:33.6±1.2, 46.12N×154.49E, h42km, mb5.0/61, MS4.1/16, Error ellipse: s-maj=7.4km s-min=5.0km az=104.8*
SZGRF ***23*** *22:59:44.5, 47.56N×153.54E, h33km, mb5.1, Kuril Islands, Russia*

ISC 23 22:59:29.1±0.9, 4609N±004×15451E±004, h0km±5km, n358, σ1§10/387, mb4.9/132, MS4.2/39, 28C-19D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.72**	**13**	*e*PN	**Pn**	**23 00 41.0**	**-0.5**
SKR				MLR	MLR		
	comp=Z,6μm,14.0s						
KUR	**Kuril'sk**	**4.74**	**262**	*i* P	**Pn**	**23 00 39.9**	**-1.8**
KUR				AMB	AMB	23 00 42.0	
	comp=Z,110nm,0.6s						
KUR				AMB	AMB	23 00 42.0	
	comp=Z,530nm,0.6s						
KUR				*e*S	**Sn**	**23 01 31.0**	**-6.3**
KUR				A		23 01 37.0	
	comp=Z,1μm,0.7s						
KUR				A		23 01 37.0	
	comp=Z,1μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.46**	**255**	*e*P	**Pn**	**23 01 06.6**	**+1.2**
YUK				AMB	AMB	23 01 07.0	
	comp=Z,290nm,0.5s						
YUK				*e*S	**Sn**	**23 02 15.0**	**-4.8**
YUK				A		23 02 23.2	
	comp=Z,730nm,0.5s						
YUK				A		23 02 23.2	
	comp=Z,1μm,0.5s						
YUK				A		23 02 32.5	
	comp=Z,3μm,2.0s						
YUK				A		23 02 32.5	
	comp=Z,4μm,2.0s						
NEM2	**Nemuro 2**	**6.81**	**250**	P	**Pn**	**23 01 08.8**	**-1.4**
NEM2				*e*S	**Sn**	**23 02 20.0**	**-8.5**
JRA	**Rausu**	**6.99**	**255**	P	**Pn**	**23 01 13.1**	**+0.4**
JNK	**Nakash**	**7.40**	**254**	P	**Pn**	**23 01 18.0**	**-0.2**
PET	**Petropavlovsk**	**7.45**	**20**	*e*PN	**Pn**	**23 01 18.8**	**-0.1**
PET				MLR	MLR		
	comp=Z,800nm,15.0s						
PET	**Petropavlovsk**	**7.45**	**20**	*e*Pn	**Pn**	**23 01 18.5**	**-0.4**
PET				*e*Sn	**Sn**	**23 02 33.9**	**-10**
JAK	**Akkeshi**	**7.66**	**250**	P	**Pn**	**23 01 20.3**	**-1.6**
JAK				*e*S	**Sn**	**23 02 40.7**	**-8.7**
JTKR	**Abashiri--Toko**	**7.80**	**258**	P	**Pn**	**23 01 24.8**	**+1.0**
JAR	**Ashorobuto**	**8.15**	**254**	P	**Pn**	**23 01 28.8**	**+0.3**
JAR				*e*S	**Sn**	**23 02 54.0**	**-7.3**
YSS	**Yuzh-Sakhalins**	**8.16**	**280**	*i* P	**Pn**	**23 01 31.3**	**+2.6**
YSS				AMB	AMB	23 01 35.6	
	comp=Z,120nm,1.0s						
YSS				AMS	AMS	23 05 58.0	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	23 05 58.0	
	comp=Z,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.16**	**280**	*e*Pn	**Pn**	**23 01 31.8**	**+3.2**
	comp=Z,104nm,0.8s						
JMP	**Maruseppu**	**8.17**	**259**	P	**Pn**	**23 01 30.6**	**+1.8**
JOB	**Onbets**	**8.27**	**251**	P	**Pn**	**23 01 29.3**	**-0.9**
JOB				*e*S	**Sn**	**23 02 55.1**	**-9.2**
JKK2	**Kamakawa 2**	**8.63**	**259**	P	**Pn**	**23 01 36.3**	**+1.2**
ASAJ	**Asahikawa**	**8.66**	**261**	Pn	**Pn**	**23 01 37.4**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=85,slow=9.5,SNR=18						
ASAJ				LR	LR	23 05 15.7	
	comp=Z,342nm,19.1s,baz=64,slow=39						
ASAJ	**Asahikawa**	**8.66**	**261**	P	**Pn**	**23 01 37.3**	**+1.8**
JCH	**Churui**	**8.71**	**250**	P	**Pn**	**23 01 35.6**	**-0.7**
JFR	**Furan**	**8.99**	**255**	P	**Pn**	**23 01 41.4**	**+1.3**
JEM	**Erimo**	**9.13**	**248**	*e*S	**Sn**	**23 03 16.1**	**-9.4**
ERM	**Erimo**	**9.13**	**248**	*e*PN	**Pn**	**23 01 44.1**	**+2.1**
ERM				pmax	pmax		
	comp=Z,116nm,1.1s						
ERM	**Erimo**	**9.13**	**248**	*e*Pn	**Pn**	**23 01 44.1**	**+2.0**
	comp=Z,116nm,1.1s						
ERM				*e*Sn	**Sn**	**23 03 18.4**	**-7.1**
JNBK	**Urakawa-nobuka**	**9.27**	**250**	P	**Pn**	**23 01 42.5**	**-1.4**
JNB

comp=N,300nm,13.0s,MS4.8
CLNS MLR MLR
comp=E,3µm,18.0s,MS4.8
CBIJ Chichi jima 21.34 212 LR LR 23 13 02.8
comp=E,8.1nm,18.1s,baz=148,slow=38
YAK Yakutsk 21.40 327 *eP* **P** **23 04 16.1 -2.2**
YAK *eS* **S** **23 08 07.7 -8.9**
YAK pmax pmax
comp=Z,39nm,1.1s,mb4.7
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,22nm,1.3s
YAK smax
comp=E,394nm,3.1s
YAK smax
comp=N,329nm,3.7s
YAK MLR MLR
comp=Z,500nm,16.0s,MS4.0
YAK MLR MLR
comp=N,442nm,15.0s,MS4.0
YAK MLR MLR
comp=E,238nm,15.0s,MS4.0
YAK Yakutsk 21.40 327 *eP* **P** **23 04 16.7 -1.6**
comp=E,21nm,0.4s,mb4.8
KSRS Korea Array 21.55 256 P **P** **23 04 20.8 +0.9**
comp=E,4.5nm,0.6s,mb4.0,baz=62,slow=9.7,SNR=10
KSRS LR LR 23 12 59.9
comp=E,151nm,18.1s,MS3.4,baz=174,slow=37
JNU Nakatsue 22.24 243 LR LR 23 11 42.1
comp=E,606nm,21.8s,MS4.0,baz=253,slow=33
INCN Inchon 22.41 257 *eP* **P** **23 04 30.4 +1.3**
comp=E,14nm,0.3s,mb4.9
SNY Shenyang 22.59 270 ⇑P **P** **23 04 32.0 +0.9**
SNY S **S** **23 08 41.9 +2.1**
SNY AMB AMB
comp=Z,23nm,0.9s,mb4.7
SNY AMB AMB
comp=Z,314nm,8.1s
SNY LR LR
comp=N,302nm,15.9s,MS4.1
SNY LR LR
comp=E,508nm,14.4s,MS4.1
SNY LR LR
comp=Z,627nm,13.8s,MS4.2
BILL Bilibino 22.84 11 *eP* **P** **23 04 32.8 -0.8**
BILL *e* 23 04 39.0
BILL *e* 23 04 46.9
BILL *e* 23 08 21.8
BILL pmax pmax
comp=Z,86nm,1.5s,mb5.1
BILL MLR MLR
comp=Z,400nm,18.0s,MS3.9
BILL Bilibino 22.84 11 *eP* **P** **23 04 32.0 -1.6**
comp=Z,113nm,1.3s,mb5.2
HIA Hailar 23.50 290 *eP* **P** **23 04 38.6 -2.0**
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 23.50 290 *eP* **P** **23 04 38.6 -2.1**
comp=Z,12nm,0.8s,mb4.5
BOD Bodaibo 27.16 310 *eP* **P** **23 05 11.7 -2.3**
BOD pmax pmax
comp=Z,16nm,1.8s,mb4.5
TIXI Tiksi 28.38 343 *eP* **P** **23 05 21.5 -3.4**
TIXI *eS* **S** **23 10 09.4 -3.3**
TIXI pmax pmax
comp=Z,17nm,1.4s,mb4.7
TIXI MLR MLR
comp=Z,451nm,16.0s,MS4.2
TIXI Tiksi 28.38 343 *eP* **P** **23 05 22.9 -2.0**
comp=Z,9.1nm,0.9s,mb4.6
BJI Beijing 28.45 272 P **P** **23 05 28.8 +3.2**
BJI S **S** **23 10 18.3 +4.5**
BJI AMB AMB
comp=Z,21nm,1.9s,mb4.6
BJI LR LR
comp=N,412nm,15.4s,MS4.3
BJI LR LR
comp=E,435nm,16.6s,MS4.3
BJI LR LR
comp=Z,535nm,17.3s,MS4.2
BJI Beijing 28.45 272 P **P** **23 05 28.7 +3.1**
BJI S **S** **23 10 18.3 +4.5**
BJI pmax pmax
comp=Z,21nm,1.9s,mb4.6
BJI MLR MLR
comp=Z,540nm,17.3s,MS4.2
BJI Beijing 28.45 272 P **P** **23 05 28.7 +3.1**
comp=Z,21nm,1.9s,mb4.6
BJI S **S** **23 10 18.3 +4.5**
BJI LR LR
comp=Z,540nm,17.3s,MS4.2
BJT Baijiatuau 28.46 272 *eP* **P** **23 05 28.8 +3.1**
BJT pmax pmax
comp=Z,17nm,0.7s
BJT Baijiatuau 28.46 272 *eP* **P** **23 05 28.8 +3.2**
comp=Z,17nm,0.7s,mb5.0
NJ2 Nanjing 30.75 256 *eP* **P** **23 05 51.8 +5.9**
NJ2 AP 23 05 58.1
NJ2 PP PP 23 06 52.3 -2.9
NJ2 S **S** **23 10 51.5 +1.6**
NJ2 LR LR
comp=N,1µm,14.4s,MS4.9
NJ2 LR LR
comp=E,1µm,14.2s,MS4.9
NJ2 LR LR
comp=Z,240nm,15.3s,MS4.0
HHC Hu-ho-hao-te 31.32 276 ⇑*iP* **P** **23 05 52.9 +2.0**
HHC AP 23 05 57.3
HHC XP sP 23 06 00.0 +9.0
HHC PP PP 23 06 55.3 -6.2
HHC PCP PcP 23 08 49.3 +4.2
HHC S **S** **23 10 57.9 -0.9**
HHC XS sS 23 11 04.9 +6.0
HHC SCP ScP 23 12 29.5 +0.2
HHC SS SS 23 12 44.3 -28
HHC AMB AMB
comp=Z,22nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,286nm,7.2s
HHC LR LR
comp=N,397nm,13.5s,MS4.3
HHC LR LR
comp=E,276nm,13.2s,MS4.3
HHC LR LR
comp=Z,391nm,14.5s,MS4.2
ULN Ulaanbaatar 32.03 291 *eP* **P** **23 05 58.4 +1.2**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.8
ULN Ulaanbaatar 32.03 291 *eP* **P** **23 05 58.4 +1.1**
comp=Z,12nm,0.9s,mb4.8
SVW2 Sparrevohn 32.29 44 *eP* **P** **23 06 00.0 +0.5**
SONM Songino Array 32.47 291 P **P** **23 06 00.8 -0.2**
comp=Z,7.8nm,1.1s,mb4.5,baz=81,slow=8.5,SNR=8.6
SONM PcP PcP 23 08 47.6 -0.6
comp=Z,2.1nm,1.0s,baz=67,slow=1.8,SNR=4.8
SONM LR LR 23 19 43.7
comp=Z,298nm,18.8s,MS4.0,baz=203,slow=37
SONM Songino Array 32.47 291 P **P** **23 06 00.8 -0.3**
SONM 23 08 47.6
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM MLR MLR
comp=Z,298nm,18.8s
TLY Talaya 33.34 299 *eP* **P** **23 06 09.0 +0.3**
TLY *e* 23 07 35.1
TLY *eSS* SS 23 13 49.5 -4.3
TLY pmax pmax
comp=Z,11nm,1.4s,mb4.6
TLY MLR MLR
comp=Z,694nm,14.0s,MS4.5
TLY Talaya 33.34 299 *eP* **P** **23 06 08.5 -0.2**
comp=Z,4.2nm,0.6s,mb4.5
KDAK Kodiak Island 33.78 50 P **P** **23 06 11.3 -1.2**
comp=Z,8.8nm,0.5s,mb5.0,baz=244,slow=4.9,SNR=12
KDAK Kodiak Island 33.78 50 P **P** **23 06 11.3 -1.2**
IMA2 Indian Mountai 33.78 35 *eP* **P** **23 06 12.3 -0.2**
ZAK Zakamensk 33.84 296 *eP* **P** **23 06 11.2 -1.8**
ZAK *e* 23 14 06.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
YHNB Yeheng 34.08 243 P **P** **23 06 15.3 +0.2**
PMR Palmer 35.41 43 *eP* **P** **23 06 26.4 -0.2**
PMR pmax pmax
comp=Z,17nm,1.2s,mb4.8
PMR Palmer 35.41 43 *eP* **P** **23 06 26.4 -0.3**
comp=Z,17nm,1.2s,mb4.8
MCK McKinley 35.54 40 *eP* **P** **23 06 27.7 0.0**
comp=Z,6.1nm,0.9s,mb4.4
SML Sawmill 35.79 43 *eP* **P** **23 06 29.6 -0.3**
COLA College 36.06 38 *eP* **P** **23 06 31.1 -1.1**
COLA College 36.06 38 *eP* **P** **23 06 32.4 +0.2**
comp=Z,12nm,0.7s,mb4.8
XAN Xi'an 36.44 267 P **P** **23 06 35.9 +0.5**
XAN AMB AMB
comp=Z,8.0nm,1.6s,mb4.3
XAN AMB AMB
comp=Z,106nm,6.8s
XAN LR LR
comp=N,131nm,13.1s,MS4.1
XAN LR LR
comp=E,149nm,13.3s,MS4.1
XAN LR LR
comp=Z,246nm,14.0s,MS4.1
DIV Divide 37.05 44 *eP* **P** **23 06 40.3 -0.3**
comp=Z,28nm,0.6s,mb5.2
ENH Enshi 38.21 262 P **P** **23 06 50.8 +0.3**
LZH Lanzhou 38.89 274 ⇓P **P** **23 06 57.0 +0.8**
LZH AP 23 07 04.5
LZH XP sP 23 07 07.8 +12
LZH PP PP 23 08 30.1 +5.0
LZH *eS* **S** **23 12 53.0 -2.2**
LZH XS sS 23 13 05.3 +10
LZH *eSS* SS 23 15 35.6 -11
LZH AMB AMB
comp=Z,43nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,158nm,5.2s
LZH LR LR
comp=N,957nm,13.3s
LZH LR LR
comp=Z,2µm,17.4s,MS4.9
LZH Lanzhou 38.89 274 ⇓P **P** **23 06 57.0 +0.8**
LZH *SP sP 23 07 07.8 +12
LZH 23 08 30.1
LZH *eS* **S** **23 12 53.0 -2.2**
LZH *eSS* SS 23 15 35.6 -11
LZH pmax pmax
comp=Z,43nm,1.5s,mb4.9
LZH MLR MLR
comp=Z,2µm,17.4s,MS4.9
LZH Lanzhou 38.89 274 ⇓P **P** **23 06 57.0 +0.8**
comp=Z,43nm,1.5s,mb4.9
LZH pP 23 07 04.5
LZH sP sP 23 07 07.8 +12
LZH PP PP 23 08 30.1 +5.0
LZH *eS* **S** **23 12 53.0 -2.2**
LZH sS sS 23 13 05.2 +10
LZH *eSS* SS 23 15 35.6 -11
LZH LR LR
comp=Z,2µm,17.4s,MS4.9
EGAK Eagle 38.92 38 *eP* **P** **23 06 55.7 -0.7**
comp=Z,13nm,0.6s,mb4.7
DAWY Dawson 39.74 39 *eP* **P** **23 07 03.8 +0.5**
GTA Gaotai 40.04 281 P **P** **23 07 07.9 +2.1**
GTA AP 23 07 16.9
GTA PP PP 23 08 43.4 +5.8
GTA PCP PcP 23 09 11.6 +0.8
GTA PCS PcS 23 13 02.3 +1.3
GTA S **S** **23 13 11.1 -1.4**
GTA XS sS 23 13 25.5 +13
GTA SS SS 23 16 02.6 -6.7
GTA AMB AMB
comp=Z,19nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,184nm,3.8s
GTA LR LR
comp=N,257nm,13.3s,MS4.3
GTA LR LR
comp=E,188nm,12.5s,MS4.3
GTA LR LR
comp=Z,355nm,12.9s,MS4.4
INK Inuvik 41.70 32 P **P** **23 07 19.8 +0.3**
comp=Z,10nm,0.7s,mb4.7,baz=287,slow=6.3,SNR=45
INK Inuvik 41.70 32 *eP* **P** **23 07 19.8 +0.3**
comp=Z,399nm,0.8s
CD2 Chengdu 41.80 267 P **P** **23 07 21.3 +1.0**
CD2 AP 23 07 28.6
CD2 XP sP 23 07 32.0 +12
CD2 PP PP 23 09 01.5 +4.7
CD2 S **S** **23 13 37.1 -1.6**
CD2 XS sS 23 13 49.3 +10
CD2 SS SS 23 16 38.1 -6.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,280nm,15.6s,MS4.3
CD2 LR LR
comp=E,200nm,15.6s,MS4.3
CD2 LR LR
comp=Z,380nm,14.4s,MS4.4
GYA Guiyang 42.53 259 ⇑*iP* **P** **23 07 27.0 +0.7**
GYA AP 23 07 38.9
GYA PP PP 23 09 10.3 +5.6
GYA PCP PcP 23 09 21.4 +2.5
GYA SCP ScP 23 13 08.1 -2.8
GYA S **S** **23 13 48.1 -1.4**
GYA SS SS 23 16 51.5 -7.3
GYA SCS ScS 23 17 24.9 -4.4
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,180nm,5.0s
GYA LR LR
comp=N,540nm,16.4s,MS4.6
GYA LR LR
comp=E,460nm,16.8s,MS4.6
GYA LR LR
comp=Z,640nm,17.0s,MS4.6
ZAL Zalesovo 43.80 307 P **P** **23 07 36.2 -0.3**
comp=Z,2.3nm,0.4s,mb4.2,baz=65,slow=7.1,SNR=11
ZAL PcP PcP 23 09 23.0 -0.2
comp=Z,3.7nm,1.0s,baz=27,slow=3.5,SNR=7.3
ZAL LR LR 23 26 53.7
comp=Z,306nm,19.8s,MS4.2,baz=43,slow=37
ZAL Zalesovo 43.80 307 P **P** **23 07 36.2 -0.3**
ZAL 23 09 23.0
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,306nm,19.8s
ZAL Zalesovo 43.80 307 P **P** **23 07 36.2 -0.3**
ZAL PcP PcP 23 09 23.0 -0.2
ZAL LR LR 23 26 53.7
NVS Novosibirsk 44.36 308 *iP* **P** **23 07 39.9 -1.1**
NVS *i* PPP 23 10 08.5
NVS *eS* **S** **23 14 06.0 -10**
NVS pmax pmax
comp=Z,22nm,2.2s,mb4.5
NVS pmax pmax
comp=N,28nm,1.9s
NVS pmax pmax
comp=E,21nm,1.5s
NVS smax
comp=N,23nm,1.8s
NVS smax
comp=E,5.0nm,1.4s
DLBC Dease Lake 45.36 46 *eP* **P** **23 07 50.0 +1.0**
QIZ Qiongzhong 45.49 249 *eP* **P** **23 07 52.1 +2.0**
QIZ S **S** **23 14 34.4 +1.6**
QIZ LR LR
comp=N,187nm,19.7s
QIZ LR LR
comp=Z,182nm,15.5s,MS4.1
WMQ Urumqi 46.07 292 ⇑*iP* **P** **23 07 56.3 +1.7**
WMQ PCP PcP 23 09 33.5 +2.5
WMQ PP PP 23 09 44.5 +2.0
WMQ S **S** **23 14 41.8 +0.7**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,41nm,7.4s
WMQ LR LR
comp=N,352nm,21.2s,MS4.3
WMQ LR LR
comp=E,165nm,25.6s,MS4.3
WMQ LR LR
comp=Z,256nm,16.5s
KMI Kunming 46.09 261 P **P** **23 07 55.3 +0.6**
KMI AP 23 08 05.0
KMI XP sP 23 08 10.1 +15
KMI PP PP 23 09 47.8 +5.2
KMI S **S** **23 14 38.3 -3.0**
KMI XS sS 23 14 54.4 +13
KMI SS SS 23 17 53.1 -13
KMI AMB AMB
comp=Z,12nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,80nm,6.1s
KMI LR LR
comp=N,211nm,12.6s,MS4.3
KMI LR LR
comp=E,170nm,16.6s,MS4.3
KMI LR LR
comp=Z,151nm,16.6s,MS4.0
KMI Kunming 46.09 261 P **P** **23 07 55.2 +0.5**
KMI *PP 23 08 05.0
KMI *SP sP 23 08 10.1 +15
KMI 23 09 47.8
KMI PPP 23 10 29.5
KMI S **S** **23 14 38.2 -3.1**
KMI *SS sS 23 14 54.4 +13
KMI SS SS 23 17 53.1 -13
KMI SSS 23 19 01.8
KMI pmax pmax
comp=Z,12nm,1.0s,mb4.9
KMI MLR MLR
comp=Z,150nm,16.6s,MS4.0
KMI Kunming 46.09 261 P **P** **23 07 55.2 +0.5**
comp=Z,12nm,1.0s,mb4.9
KMI pP 23 08 05.0
KMI sP sP 23 08 10.1 +15
KMI PP PP 23 09 47.8 +5.2
KMI PPP 23 10 29.5
KMI S **S** **23 14 38.2 -3.1**
KMI sS sS 23 14 54.4 +13
KMI SS SS 23 17 53.1 -13
KMI SSS 23 19 01.8
KMI LR LR
comp=Z,150nm,16.6s,MS4.0
MK31 Makanchi Array 48.11 298 *eP* **P** **23 08 10.7 +0.2**
MK31 *e* 23 09 37.8
MKAR Makanchi Array 48.11 298 P **P** **23 08 10.6 +0.1**
comp=Z,8.1nm,0.7s,mb4.9,baz=65,slow=6.4,SNR=59
MKAR LR LR 23 29 10.8
comp=Z,296nm,19.7s,MS4.3,baz=316,slow=37
MKAR Makanchi Array 48.11 298 *iP* **P** **23 08 10.6 +0.1**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 48.11 298 P **P** **23 08 10.6 +0.1**
MKAR LR LR 23 29 10.8
KURK Kurchatov 48.54 305 P **P** **23 08 13.3 -0.5**
comp=Z,104nm,0.8s,mb5.9,SNR=5.6
KURK Kurchatov 48.54 305 P **P** **23 08 12.7 -1.1**
KURK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YKA Yellowknife Ar 50.88 37 P **P** **23 08 31.4 -0.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=294,slow=7.2,SNR=9.2
YKA PcP PcP 23 09 47.3 -0.9
comp=Z,0.8nm,0.6s,baz=307,slow=3.5,SNR=4.0
YKA Yellowknife Ar 50.88 37 P **P** **23 08 31.4 -0.3**
YKA 23 09 47.3
YKA pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 51.16 19 *eP* **P** **23 08 33.8 0.0**
comp=Z,374nm,0.9s
LSA Lhasa 51.28 275 P **P** **23 08 37.3 +2.6**
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
LSA Lhasa 51.28 275 *eP* **P** **23 08 36.8 +2.1**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.0
LSA Lhasa 51.28 275 *eP* **P** **23 08 36.8 +2.1**
comp=Z,17nm,0.8s,mb5.0
CHKZ Chkalovo 51.60 311 *eP* **P** **23 08 36.5 -0.6**
CHKZ *e* 23 09 49.8
CHKZ pmax pmax
comp=Z,19nm,0.8s,mb5.1
CHKZ Chkalovo 51.60 311 *eP* **P** **23 08 36.5 -0.6**
comp=Z,19nm,0.8s,mb5.1
CHKZ *ePcP PcP 23 09 49.8 -1.1
BVA0 Borovoye Array 52.03 310 *eP* **P** **23 08 40.6 +0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
BVAR Borovoye Array 52.03 310 LR LR 23 30 50.5
comp=Z,219nm,21.8s,MS4.2,baz=324,slow=36
BRVK Borovoye 52.07 310 P **P** **23 08 41.4 +0.8**
comp=Z,80nm,0.6s,mb5.8,SNR=6.2
BRVK Borovoye 52.07 310 *eP* **P** **23 08 40.7 +0.1**
BRVK *e* 23 09 52.7
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 52.07 310 *eP* **P** **23 08 40.7 +0.1**
comp=Z,9.9nm,0.8s,mb4.8
BRVK *ePcP PcP 23 09 52.7 0.0
ZRNK Zerenda 52.80 311 *eP* **P** **23 08 45.8 -0.2**
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZRNK Zerenda 52.80 311 *eP* **P** **23 08 45.8 -0.2**
comp=Z,7.8nm,0.7s,mb4.8
CHTO Chiang Mai 52.92 258 *eP* **P** **23 08 47.0 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHTO Chiang Mai 52.92 258 *eP* **P** **23 08 47.0 0.0**
comp=Z,6.0nm,0.9s,mb4.5
CM31 Chiang Mai Arr 53.17 258 *eP* **P** **23 08 50.1 +1.3**
comp=Z,15nm,0.6s,mb5.1
AAK Ala-Archa 55.00 297 *eP* **P** **23 09 01.7 -0.4**
AAK pmax pmax
comp=Z,19nm,1.7s,mb4.8
AAK Ala-Archa 55.00 297 *eP* **P** **23 09 04.0 +2.0**
comp=Z,6.2nm,0.7s,mb4.8
KSH Kashi 55.80 294 *eP* **P** **23 09 11.3 +3.4**
KSH *eAP 23 09 19.1
KSH *eXP sP 23 09 22.9 +15
KSH *ePCP PcP 23 10 12.8 +5.8
KSH *ePP PP 23 11 19.5 +7.2
KSH *eSCP ScP 23 14 09.9 +2.7
KSH *eS* **S** **23 16 53.6 -2.3**
KSH *eXS sS 23 17 03.3 +7.2
KSH *eSCS ScS 23 18 58.1 -0.3
KSH LR LR
comp=Z,441nm,10.2s,MS4.8
GUN Gumba 56.03 276 *eP* **P** **23 09 10.9 +1.4**
comp=Z,18nm,0.4s,mb5.4
EDM Edmonton 56.07 46 *eP* **P** **23 09 09.4 -0.4**
ARU Arti 56.15 318 P **P** **23 09 10.7 +0.3**
comp=Z,203nm,0.4s,SNR=13
ARU Arti 56.15 318 ⇑*iP* **P** **23 09 09.5 -0.9**
ARU *e* 23 10 04.9
ARU *e* 23 11 10.4
ARU *ePPP 23 12 30.0
ARU *eS* **S** **23 16 58.0 -2.6**
ARU *e* 23 18 58.8
ARU *eSSS 23 22 44.8
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
ARU Arti 56.15 318 *eP* **P** **23 09 10.0 -0.4**
comp=Z,18nm,0.6s,mb5.3
KKN Kakani 56.52 277 *eP* **P** **23 09 14.4 +1.4**
comp=Z,71nm,1.2s,mb5.6
PKI Pulchoki 56.57 276 *eP* **P** **23 09 14.3 +0.9**
comp=Z,61nm,1.2s,mb5.5
DMN Daman 56.75 277 *eP* **P** **23 09 16.2 +1.5**
comp=Z,124nm,1.0s,mb5.9
NEW Newport 56.80 53 LR LR 23 30 19.3
comp=Z,84nm,20.3s,MS3.8,baz=323,slow=32
NEW Newport 56.80 53 P **P** **23 09 14.5 -0.5**
GKN Gorkha 56.83 277 *eP* **P** **23 09 16.4 +1.2**
comp=Z,78nm,1.0s,mb5.7
KOLN Koldanda 57.69 278 *eP* **P** **23 09 22.7 +1.4**
comp=Z,73nm,1.1s,mb5.6
WALA Waterton Lakes 58.11 51 *eP* **P** **23 09 24.4 +0.1**
comp=Z,3.5nm,0.6s,mb4.6
APA Apatity 58.33 337 ⇓*eP* **P** **23 09 24.6 -1.2**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
BOK Bokaro 58.64 273 *eP* **P** **23 09 29.2 +1.2**
BOK AMb AMB 23 09 35.0
comp=Z,7.3nm,0.7s,mb4.8
ARCES ARCESS Array B 58.79 341 P **P** **23 09 28.7 -0.4**
comp=Z,1.8nm,0.4s,mb4.5,baz=25,slow=7.1,SNR=8.7
ARCES LR LR 23 37 36.6
comp=Z,210nm,20.3s,MS4.2,baz=43,slow=39

ARCES	**ARCESS Array B**	**58.79**	**341**	P	**P**	**23 09 28.7**	**-0.3**		
ARCES	comp=Z,2.0nm,0.4s			pmax	pmax				
ARCES	comp=Z,210nm,20.3s			MLR	MLR				
ARCES	**ARCESS Array B**	**58.79**	**341**	P	**P**	**23 09 28.7**	**-0.4**		
ARCES				LR	LR	23 37 36.6			
ARE0	**ARCESS Array S**	**58.79**	**341**	P	**P**	**23 09 29.1**	**+0.1**		
MSO	**Missoula**	**59.39**	**53**	*eP*	**P**	**23 09 32.5**	**-0.7**		
	comp=Z,5.8nm,1.0s,mb4.6								
AB31	**Akbulak array**	**59.59**	**311**	P	**P**	**23 09 33.8**	**-0.8**		
AB31	comp=Z,1.0nm,0.4s,mb4.2			pmax	pmax				
AKTO	**Aktyubinsk**	**59.89**	**313**	⇓P	**P**	**23 09 37.2**	**+0.6**		
	comp=Z,0.7nm,1.4s								
AKTO	**Aktyubinsk**	**59.89**	**313**	P	**P**	**23 09 34.9**	**-1.7**		
ORR	**Orenburg**	**60.80**	**315**	*eP*	**P**	**23 09 44.1**	**+1.3**		
ORR				*e*		23 09 53.2			
ORR	comp=Z,20nm,1.3s,mb5.1			pmax	pmax				
ORR	comp=Z,330nm,17.0s,MS4.5			MLR	MLR				
CMB	**Columbia Colle**	**60.82**	**64**	*eP*	**P**	**23 09 41.9**	**-1.1**		
CMB				*e*		23 10 26.6			
CMB	comp=Z,11nm,1.6s,mb4.7			pmax	pmax				
CMB	**Columbia Colle**	**60.82**	**64**	*eP*	**P**	**23 09 41.9**	**-1.1**		
	comp=Z,11nm,1.6s,mb4.7								
CMB				*e*PcP	PcP	23 10 26.6	-0.2		
HLID	**Hailey**	**61.08**	**56**	*eP*	**P**	**23 09 45.2**	**+0.5**		
	comp=Z,6.6nm,1.3s,mb4.6								
HLID				*e*PcP	PcP	23 10 28.2	+0.4		
KAKA	**Kakadu**	**61.81**	**205**	*eP*	**P**	**23 09 49.2**	**-0.5**		
	comp=Z,18nm,1.0s,mb5.3								
NVAR	**Mina Array Bea**	**61.88**	**63**	P	**P**	**23 09 49.5**	**-0.7**		
	comp=Z,1.6nm,0.8s,mb4.3,baz=287,slow=7.4,SNR=6.5								
HWUT	**Hardware Ranch**	**63.94**	**56**	*eP*	**P**	**23 10 04.1**	**+0.3**		
	comp=Z,1.4nm,0.6s,mb4.4								
DUG	**Dugway**	**64.11**	**58**	*eP*	**P**	**23 10 04.7**	**-0.2**		
DUG	comp=Z,14nm,1.5s,mb5.0			pmax	pmax				
DUG	**Dugway**	**64.11**	**58**	*eP*	**P**	**23 10 04.7**	**-0.3**		
	comp=Z,14nm,1.5s,mb5.0								
BW06	**Boulder Array**	**64.35**	**54**	*eP*	**P**	**23 10 06.3**	**-0.2**		
	comp=Z,5.2nm,1.1s,mb4.7								
PDAR	**Pinedale Array**	**64.35**	**54**	P	**P**	**23 10 06.7**	**+0.1**		
	comp=Z,3.2nm,0.8s,mb4.6,baz=286,slow=1.9,SNR=20								
VIS	**Vishakhapatnam**	**64.46**	**269**	*eP*	**P**	**23 10 07.9**	**+0.6**		
AJM	**Ajmer**	**64.65**	**282**	*eP*	**P**	**23 10 09.9**	**+1.4**		
AJM	comp=Z,31nm,1.4s,mb5.4			AMb	AMB	23 10 12.0			
BHPL	**Bhopal**	**64.86**	**278**	*eP*	**P**	**23 10 10.5**	**+0.6**		
BHPL				AMb	AMB	23 10 13.2			
	comp=Z,26nm,1.0s,mb5.4								
FIA1	**FINESS Array S**	**65.05**	**335**	P	**P**	**23 10 12.3**	**+1.2**		
FINES	**FINESS Array B**	**65.05**	**335**	P	**P**	**23 10 10.2**	**-0.9**		
	comp=Z,2.8nm,0.4s,mb4.9,baz=45,slow=6.2,SNR=54								
FINES				LR	LR	23 39 42.8			
	comp=Z,182nm,21.9s,MS4.2,baz=0.7,slow=37								
FINES	**FINESS Array B**	**65.05**	**335**	*i* P	**P**	**23 10 10.1**	**-1.0**		
FINES	comp=Z,3.0nm,0.4s			pmax	pmax				
MSU	**Marysvale**	**65.56**	**59**	P	**P**	**23 10 15.4**	**+1.0**		
CTAO	**Charters Tower**	**66.28**	**188**	P	**P**	**23 10 18.9**	**-0.2**		
ULM	**Lac du Bonnet**	**66.39**	**41**	P	**P**	**23 10 17.8**	**-1.9**		
	comp=Z,2.6nm,0.8s,mb4.5,baz=309,slow=7.5,SNR=4.2								
OBN	**Obninsk**	**66.40**	**326**	*eP*	**P**	**23 10 18.4**	**-1.4**		
OBN				*e*		23 12 43.1			
OBN				*e*SS	SS	23 23 25.0	-2.3		
OBN	comp=Z,35nm,1.7s,mb5.3			pmax	pmax				
OBN	comp=Z,100nm,18.0s,MS4.1			MLR	MLR				
OBN	**Obninsk**	**66.40**	**326**	*eP*	**P**	**23 10 20.2**	**+0.4**		
RSSD	**Black Hills**	**66.51**	**50**	*eP*	**P**	**23 10 20.2**	**-0.3**		
RSSD	comp=Z,6.0nm,0.9s,mb4.8			pmax	pmax				
RSSD	**Black Hills**	**66.51**	**50**	*eP*	**P**	**23 10 20.2**	**-0.3**		
	comp=Z,6.4nm,0.9s,mb4.8								
PV10	**Paradox Valley**	**67.51**	**58**	P	**P**	**23 10 28.1**	**+1.2**		
PV01	**Paradox Valley**	**67.95**	**58**	P	**P**	**23 10 29.1**	**-0.6**		
HYB	**Hyderabad**	**67.99**	**273**	*i* P	**P**	**23 10 31.0**	**+1.1**		
HYB	**Hyderabad**	**67.99**	**273**	*eP*	**P**	**23 10 31.0**	**+1.1**		
WRAB	**Tennant Creek**	**68.20**	**200**	P	**P**	**23 10 30.2**	**-1.1**		
	comp=Z,66nm,1.1s,mb5.8,SNR=6.3								
WRAB	**Tennant Creek**	**68.20**	**200**	*eP*	**P**	**23 10 30.8**	**-0.5**		
WRAB	**Tennant Creek**	**68.20**	**200**	*eP*	**P**	**23 10 30.9**	**-0.3**		
	comp=Z,8.7nm,0.9s,mb5.0								
WB2	**Warramunga Arr**	**68.21**	**200**	*eP*	**P**	**23 10 30.6**	**-0.7**		
WB2	**Warramunga Arr**	**68.21**	**200**	*eP*	**P**	**23 10 30.7**	**-0.7**		
WRA	**Warramunga Arr**	**68.22**	**200**	P	**P**	**23 10 30.8**	**-0.6**		
	comp=Z,4.6nm,0.8s,mb4.8,baz=20,slow=6.9,SNR=18								
WRA	**Warramunga Arr**	**68.22**	**200**	*i* P	**P**	**23 10 30.7**	**-0.6**		
WRA	comp=Z,5.0nm,0.8s			pmax	pmax				
VRSR	**Storozhevoye**	**68.22**	**322**	*eP*	**P**	**23 10 31.7**	**+0.3**		
VRSR	comp=N,10.0nm,0.9s			pmax	pmax				
VRSR	comp=Z,9.0nm,0.9s,mb5.0			pmax	pmax				
VRSR	comp=E,10.0nm,1.2s			pmax	pmax				
ISCO	**Idaho Springs**	**68.54**	**55**	*eP*	**P**	**23 10 33.3**	**-0.1**		
ISCO	comp=Z,3.0nm,0.6s,mb4.7			pmax	pmax				
ISCO	**Idaho Springs**	**68.54**	**55**	*eP*	**P**	**23 10 33.3**	**-0.1**		
	comp=Z,3.2nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**69.03**	**209**	*eP*	**P**	**23 10 36.7**	**+0.3**		
	comp=Z,5.5nm,1.0s,mb4.7								
FITZ	**Fitzroy Crossi**	**69.03**	**209**	P	**P**	**23 10 35.6**	**-0.8**		
	comp=Z,1.8nm,0.8s,mb4.4,baz=7.6,slow=13,SNR=5.4								
NB2	**NORSAR Subarra**	**69.16**	**342**	P	**P**	**23 10 36.8**	**-0.5**		
	comp=Z,4.6nm,0.6s,mb4.9,baz=31,slow=6.5								
NOA	**NORSAR Array B**	**69.16**	**342**	P	**P**	**23 10 36.9**	**-0.4**		
	comp=Z,2.5nm,0.5s,mb4.7,baz=27,slow=6.4,SNR=7.0								
NOA				LR	LR	23 45 02.8			
	comp=Z,107nm,18.5s,MS4.1,baz=0.0,slow=39								
NOA	**NORSAR Array B**	**69.16**	**342**	P	**P**	**23 10 36.9**	**-0.4**		
NOA	comp=Z,3.0nm,0.5s			pmax	pmax				
NOA	comp=Z,107nm,18.5s			MLR	MLR				
SDCO	**Great Sand Dun**	**70.00**	**56**	*eP*	**P**	**23 10 42.8**	**+0.4**		
	comp=Z,3.2nm,0.9s,mb4.5								
POO	**Poona**	**70.49**	**277**	*eP*	**P**	**23 10 45.5**	**+0.1**		
KAD	**Karad**	**71.09**	**275**	*eP*	**P**	**23 10 49.6**	**+0.5**		
KAD	comp=Z,18nm,1.4s,mb5.0			AMb	AMB	23 10 52.4			
ANMO	**Albuquerque**	**71.35**	**59**	P	**P**	**23 10 50.9**	**+0.2**		
AS31	**Alice Springs**	**71.90**	**200**	*eP*	**P**	**23 10 54.2**	**+0.2**		
ASAR	**Alice Springs**	**71.90**	**200**	P	**P**	**23 10 54.1**	**+0.2**		
	comp=Z,5.1nm,1.0s,mb4.6,baz=10,slow=5.0,SNR=29								
ASAR				LR	LR	23 44 47.3			
	comp=Z,62nm,18.4s,MS3.9,baz=356,slow=38								
ASAR	**Alice Springs**	**71.90**	**200**	P	**P**	**23 10 54.2**	**+0.2**		
ASAR	comp=Z,5.0nm,1.0s			pmax	pmax				
ASAR	comp=Z,62nm,18.4s			MLR	MLR				
KIV	**Kislovodsk**	**71.95**	**315**	*eP*	**P**	**23 10 53.5**	**-0.8**		
KIV				*e*		23 11 14.6			
KIV				*e*S	S	23 20 17.0	+0.4		
KIV	comp=Z,21nm,0.9s,mb5.3			pmax	pmax				
KIV	**Kislovodsk**	**71.95**	**315**	P	**P**	**23 10 55.9**	**+1.6**		
	comp=Z,33nm,1.2s,mb5.3								
ZEI	**Tsey**	**72.22**	**314**	*eP*	**P**	**23 10 56.2**	**+0.3**		
ZEI	comp=Z,13nm,1.1s,mb5.0			pmax	pmax				
AKASG	**Malin Array Be**	**72.63**	**327**	P	**P**	**23 10 57.3**	**-1.1**		
	comp=Z,2.2nm,0.4s,mb4.6,baz=33,slow=6.2,SNR=17								
AKASG				LR	LR	23 43 55.5			
	comp=Z,157nm,19.7s,MS4.3,baz=30,slow=37								
AKASG	**Malin Array Be**	**72.63**	**327**	*i* P	**P**	**23 10 57.7**	**-0.7**		
AKASG	comp=Z,2.0nm,0.4s			pmax	pmax				
AKBB	**Malin Array Si**	**72.63**	**327**	*eP*	**P**	**23 10 57.4**	**-1.0**		
KIEV	**Kiev**	**72.64**	**327**	*eP*	**P**	**23 10 57.6**	**-0.8**		
KIEV	comp=Z,12nm,1.1s,mb4.9			pmax	pmax				
KIEV	**Kiev**	**72.64**	**327**	*eP*	**P**	**23 10 57.6**	**-0.8**		
	comp=Z,12nm,1.1s,mb5.0								
SCHQ	**Schefferville**	**73.54**	**23**	LR	LR	23 46 26.8			
	comp=Z,69nm,20.0s,MS3.9,baz=298,slow=38								
SOC	**Sochi**	**73.67**	**317**	*eP*	**P**	**23 11 04.0**	**-0.5**		
SOC				*e*		23 13 48.8			
SOC				*e*S	S	23 20 32.4	-3.7		
SOC				*e*		23 21 15.4			
SOC				*e*SS	SS	23 25 17.1	-2.1		
SOC	comp=Z,11nm,0.7s,mb5.0			pmax	pmax				
GNI	**Garni**	**73.70**	**311**	*eP*	**P**	**23 11 04.7**	**+0.1**		
GNI	comp=Z,44nm,1.6s			pmax	pmax				
GNI	**Garni**	**73.70**	**311**	*eP*	**P**	**23 11 06.4**	**+1.7**		
	comp=Z,51nm,1.4s,mb5.4								
ANN	**Anapa**	**73.82**	**319**	*eP*	**P**	**23 11 02.2**	**-3.2**		
ANN				*e*S	S	23 20 33.3	-4.5		
ANN	comp=Z,27nm,1.1s,mb5.2			pmax	pmax				
KWP	**Kalwaria**	**75.89**	**330**	*eP*	**P**	**23 11 17.6**	**+0.3**		
WMOK	**Wichita Mounta**	**75.96**	**54**	P	**P**	**23 11 16.8**	**-1.0**		
OJC	**Ojcow**	**76.36**	**332**	*eP*	**P**	**23 11 19.7**	**-0.4**		
STHS	**Stebnicka Huta**	**76.57**	**331**	*i* P	**P**	**23 11 21.5**	**+0.3**		
STHS				*e*		23 11 31.8			
STHS	comp=Z,12nm,1.6s,mb4.8			pmax	pmax				
STHS	**Stebnicka Huta**	**76.57**	**331**	*i* P	**P**	**23 11 21.5**	**+0.3**		
	comp=Z,12nm,1.6s,mb4.8								
STHS				*e*		23 11 31.8			
KOLS	**Kolonicke sedl**	**76.63**	**330**	*eP*	**P**	**23 11 21.1**	**-0.4**		
BURAR	**Bucovina Array**	**76.67**	**327**⇑	*i*P	**P**	**23 11 21.7**	**-0.1**		
BURAR	**Bucovina Array**	**76.67**	**327**⇑	P	**P**	**23 11 21.7**	**-0.1**		
UZH	**Uzhgorod**	**76.88**	**330**	*eP*	**P**	**23 11 21.0**	**-2.0**		
NIE	**Niedzica**	**76.88**	**331**	*eP*	**P**	**23 11 23.3**	**+0.3**		
NIE	**Niedzica**	**76.88**	**331**	*eP*	**P**	**23 11 23.9**	**+0.9**		
LTX	**Lajitas**	**76.97**	**61**	P	**P**	**23 11 23.5**	**0.0**		
LTX	comp=Z,20nm,1.5s,mb5.0			pmax	pmax				
LTX	**Lajitas**	**76.97**	**61**	P	**P**	**23 11 23.5**	**0.0**		
	comp=Z,20nm,1.5s,mb5.0								
TXAR	**Lajitas Array**	**76.97**	**61**	P	**P**	**23 11 23.3**	**-0.1**		
	comp=Z,4.8nm,0.7s,mb4.8,baz=302,slow=4.1,SNR=47								
TXAR	**Lajitas Array**	**76.97**	**61**	P	**P**	**23 11 23.3**	**-0.2**		
TXAR	comp=Z,5.0nm,0.7s			pmax	pmax				
OKC	**Ostrava-Krasne**	**77.23**	**333**	*eP*	**P**	**23 11 25.2**	**+0.3**		
UPC	**Upice**	**77.30**	**334**	*eP*	**P**	**23 11 24.3**	**-1.1**		
UPC				*e*PCP	PcP	23 11 36.7	+0.7		
DPC	**Dobruska-Polom**	**77.35**	**334**	*eP*	**P**	**23 11 26.1**	**+0.5**		
DPC				*e*pP		23 11 30.9			
CLL	**Collm**	**77.47**	**336**	*eP*	**P**	**23 11 25.4**	**-0.9**		
	comp=Z,31nm,1.3s,mb5.3								
CLL	**Collm**	**77.47**	**336**⇑	*i*P	**P**	**23 11 25.8**	**-0.5**		
CLL				*i*		23 11 31.4			
CLL	comp=Z,37nm,1.7s,mb5.2			pmax	pmax				
CLL	**Collm**	**77.47**	**336**⇑	*i*P	**P**	**23 11 25.8**	**-0.5**		
	comp=Z,37nm,1.7s,mb5.2								
CLL				*i*		23 11 29.5			
CLL				*i*		23 11 31.4			
CLL	**Collm**	**77.47**	**336**⇑	*i*P	**P**	**23 11 25.8**	**-0.5**		
	comp=Z,37nm,1.7s,mb5.2								
CLL				*i* pP		23 11 29.5			
CLL				*i* sP	sP	23 11 31.4	+5.0		
	comp=Z,31nm,1.3s								
CLL				*i* PcP	PcP	23 11 36.2	-0.5		
MORC	**Moravsky Berou**	**77.47**	**333**⇑	*i*P	**P**	**23 11 26.5**	**+0.2**		
MORC	**Moravsky Berou**	**77.47**	**333**⇑	P	**P**	**23 11 26.5**	**+0.2**		
VRI	**Vrincioaia**	**77.54**	**326**⇓	*i*P	**P**	**23 11 27.9**	**+1.2**		
CFR	**Carcaliu**	**77.55**	**324**⇑	*i*P	**P**	**23 11 28.2**	**+1.5**		
PLOR	**Plostina**	**77.59**	**326**⇓	*i*P	**P**	**23 11 31.7**	**+4.8**		
BRG	**Berggiesshubel**	**77.59**	**336**	*eP*	**P**	**23 11 26.3**	**-0.6**		
	comp=Z,20nm,1.6s,mb5.0								
BRG	**Berggiesshubel**	**77.59**	**336**	*eP*	**P**	**23 11 26.1**	**-0.9**		
	comp=Z,12nm,1.6s,mb4.8								
KECS	**Kecovo**	**77.63**	**331**	*eP*	**P**	**23 11 26.7**	**-0.5**		
KECS	comp=Z,3.0nm,0.9s,mb4.4			pmax	pmax				
KECS	**Kecovo**	**77.63**	**331**	*eP*	**P**	**23 11 26.7**	**-0.5**		
	comp=Z,3.0nm,0.9s,mb4.4								
CLZ	**Clausthal**	**77.69**	**338**	*eP*	**P**	**23 11 27.8**	**+0.3**		
	comp=Z,23nm,1.2s,mb5.2								
CLZ	**Clausthal**	**77.69**	**338**	*eP*	**P**	**23 11 27.8**	**+0.3**		
CLZ	comp=Z,23nm,1.2s,mb5.2			pmax	pmax				
FBE	**Freiberg**	**77.71**	**336**	*eP*	**P**	**23 11 27.1**	**-0.5**		
	comp=Z,20nm,1.3s,mb5.1								
PVCC	**Panska Ves**	**77.71**	**335**	*eP*	**P**	**23 11 28.0**	**+0.3**		
TIRR	**Tirgusor**	**78.02**	**324**⇓	*i*P	**P**	**23 11 29.5**	**+0.1**		
TIRR	**Tirgusor**	**78.02**	**324**⇓	P	**P**	**23 11 29.5**	**+0.1**		
GTTG	**Gvttingen**	**78.06**	**338**	*eP*	**P**	**23 11 29.7**	**+0.1**		
	comp=Z,24nm,1.4s,mb5.1								
MLR	**Muntele Rosu**	**78.16**	**326**⇓	*i*P	**P**	**23 11 31.2**	**+1.1**		
MLR	**Muntele Rosu**	**78.16**	**326**⇓	P	**P**	**23 11 31.2**	**+1.1**		
VYHS	**Vyhne**	**78.17**	**332**	*i* P	**P**	**23 11 30.1**	**-0.1**		
VYHS	comp=Z,5.0nm,1.2s,mb4.5			pmax	pmax				
VYHS	**Vyhne**	**78.17**	**332**	*i* P	**P**	**23 11 30.1**	**-0.1**		
	comp=Z,5.1nm,1.2s,mb4.5								
VRAC	**Vranov**	**78.18**	**333**⇓	*i*P	**P**	**23 11 30.1**	**-0.2**		
VRAC	**Vranov**	**78.18**	**333**⇓	P	**P**	**23 11 30.1**	**-0.2**		
PRU	**Pruhonice**	**78.20**	**335**	*eP*	**P**	**23 11 30.4**	**0.0**		
PRU				*e*pP		23 11 35.2			
DRGR		**78.29**	**328**⇑	*i*P	**P**	**23 11 30.1**	**-0.7**		
DRGR		**78.29**	**328**⇑	P	**P**	**23 11 30.1**	**-0.7**		
MALT	**Malatya**	**78.31**	**314**⇑	*i*P	**P**	**23 11 32.9**	**+1.9**		
MALT	**Malatya**	**78.31**	**314**⇑	P	**P**	**23 11 32.9**	**+2.0**		
PSZ	**Piszkesteto**	**78.32**	**331**	*eP*	**P**	**23 11 31.7**	**+0.7**		
PSZ	comp=Z,3.0nm,0.6s,mb4.6			pmax	pmax				
PSZ	**Piszkesteto**	**78.32**	**331**	*eP*	**P**	**23 11 31.6**	**+0.6**		
	comp=Z,2.6nm,0.6s,mb4.5								
WERD	**Werda**	**78.43**	**336**	*eP*	**P**	**23 11 31.4**	**-0.2**		
	comp=Z,23nm,1.6s,mb5.1								
MOX	**Moxa**	**78.44**	**337**	*eP*	**P**	**23 11 31.5**	**-0.2**		
	comp=Z,15nm,1.2s,mb5.0								
MOX	**Moxa**	**78.44**	**337**	*eP*	**P**	**23 11 29.6**	**-2.1**		
	comp=Z,17nm,1.4s,mb5.0								
MOX	**Moxa**	**78.44**	**337**	*eP*	**P**	**23 11 29.6**	**-2.1**		
MOX	comp=Z,17nm,1.4s,mb5.0			pmax	pmax				
JCT	**Junction City**	**78.47**	**58**	*eP*	**P**	**23 11 31.4**	**-0.4**		
JCT	comp=Z,3.0nm,0.7s,mb4.5			pmax	pmax				
STKA	**Stephens Creek**	**78.48**	**191**	LR	LR	23 42 45.8			
	comp=Z,86nm,21.2s,MS4.0,baz=26,slow=33								
GUNZ	**Gunzen**	**78.50**	**336**	*eP*	**P**	**23 11 32.2**	**+0.2**		
	comp=Z,12nm,1.1s,mb4.8								
WERN	**Wernitzgruen**	**78.56**	**336**	*eP*	**P**	**23 11 32.3**	**0.0**		
	comp=Z,34nm,1.9s,mb5.0								
NKC	**Novy Kostel**	**78.59**	**336**	*eP*	**P**	**23 11 32.0**	**-0.5**		
BUG	**Bochum-Univer**	**78.83**	**340**	*eP*	**P**	**23 11 33.6**	**-0.2**		
	comp=Z,53nm,1.8s,mb5.3								
MANZ	**Manzenberg**	**78.90**	**336**	*eP*	**P**	**23 11 34.3**	**+0.1**		
	comp=Z,16nm,1.2s,mb4.9								
ZST	**Bratislava**	**79.00**	**333**	*eP*	**P**	**23 11 36.1**	**+1.3**		
ROTZ	**Rotzenmuhle**	**79.07**	**336**	*eP*	**P**	**23 11 35.4**	**+0.2**		
	comp=Z,13nm,1.2s,mb4.8								
KHC	**Kasperske Hory**	**79.25**	**335**	*eP*	**P**	**23 11 36.4**	**+0.3**		
KHC				*e*pP		23 11 41.5			
GRA2	**Grafenberg Arr**	**79.41**	**337**	*eP*	**P**	**23 11 36.9**	**-0.1**		
	comp=Z,21nm,1.1s,mb5.1								
GRFO	**Grafenberg**	**79.42**	**337**	*eP*	**P**	**23 11 37.3**	**+0.3**		
	comp=Z,29nm,1.1s,mb5.2								
GRFO	**Grafenberg**	**79.42**	**337**	*eP*	**P**	**23 11 37.3**	**+0.3**		
GRFO	comp=Z,29nm,1.1s,mb5.2			pmax	pmax				
WET	**Wettzell**	**79.44**	**336**	*eP*	**P**	**23 11 37.6**	**+0.4**		
	comp=Z,18nm,1.4s,mb4.9								
WET	**Wettzell**	**79.44**	**336**	*eP*	**P**	**23 11 37.6**	**+0.4**		
WET	comp=Z,18nm,1.4s,mb4.9			pmax	pmax				
GERES	**GERESS Array B**	**79.47**	**335**	P	**P**	**23 11 37.2**	**-0.1**		
	comp=Z,1.2nm,0.8s,mb4.0,baz=31,slow=6.4,SNR=9.4								
GERES				LR	LR	23 48 43.1			
	comp=Z,129nm,19.3s,MS4.3,baz=90,slow=37								
GERES	**GERESS Array B**	**79.47**	**335**	P	**P**	**23 11 37.2**	**-0.1**		
GERES	comp=Z,1.0nm,0.8s			pmax	pmax				
GERES	comp=Z,129nm,19.3s			MLR	MLR				
BR131	**Keskin Array S**	**79.53**	**318**	*eP*	**P**	**23 11 37.9**	**+0.2**		
	comp=Z,6.1nm,1.0s,mb4.5								
BRTR	**Keskin Array B**	**79.53**	**318**	P	**P**	**23 11 38.4**	**+0.7**		
	comp=Z,4.4nm,1.0s,mb4.3,baz=64,slow=2.9,SNR=18								
BRTR				PP	PP	23 14 39.6	+1.7		
	comp=Z,1.6nm,0.9s,baz=83,slow=3.0,SNR=4.4								
BRTR				LR	LR	23 53 44.9			
	comp=Z,78nm,19.5s,MS4.1,baz=30,slow=41								
BRTR	**Keskin Array B**	**79.53**	**318**⇑	*eP*	**P**	**23 11 38.4**	**+0.7**		
GRB1	**Grafenberg Arr**	**79.57**	**336**	*eP*	**P**	**23 11 38.4**	**+0.5**		
	comp=Z,28nm,1.6s,mb4.9								
CONA	**Conrad Observa**	**79.63**	**333**⇑	*i*P	**P**	**23 11 39.0**	**+0.8**		
	comp=Z,7.1nm,1.0s,mb4.5								
TNS	**Taunus Mts**	**79.66**	**339**	*eP*	**P**	**23 11 40.3**	**+1.9**		
	comp=Z,18nm,1.2s,mb4.9								
TNS	**Taunus Mts**	**79.66**	**339**	*eP*	**P**	**23 11 40.3**	**+1.9**		
TNS	comp=Z,18nm,1.2s,mb4.9			pmax	pmax				
BZS	**Buzias**	**79.69**	**328**⇑	*i*P	**P**	**23 11 38.4**	**-0.1**		
BZS	**Buzias**	**79.69**	**328**⇑	P	**P**	**23 11 38.4**	**-0.1**		
MIB	**Mutribah**	**79.84**	**302**	*eP*	**P**	**23 11 39.6**	**+0.3**		
MIB				AMb	AMB	23 11 41.3			
	comp=Z,61nm,0.8s,mb5.6								
MEM	**Membach**	**79.90**	**340**	P	**P**	**23 11 42.4**	**+2.7**		
MOA	**Molln**	**80.19**	**334**⇓	*eP*	**P**	**23 11 41.6**	**+0.3**		
	comp=Z,9.9nm,1.3s,mb4.6								
PKSM	**Moragy**	**80.22**	**331**⇓	*i*P	**P**	**23 11 40.0**	**-1.4**		
PKSM	**Moragy**	**80.22**	**331**⇓	P	**P**	**23 11 40.0**	**-1.4**		
BCLA	**Clavier**	**80.24**	**341**	P	**P**	**23 11 46.6**	**+5.0**		
NAY	**Al-Naaiem**	**80.30**	**302**	*eP*	**P**	**23 11 42.0**	**+0.1**		
NAY				AMb	AMB	23 11 43.9			
	comp=Z,35nm,1.0s,mb5.2								
ARSA	**Arzberg**	**80.34**	**333**⇑	*eP*	**P**	**23 11 41.2**	**-0.9**		
	comp=Z,8.1nm,1.6s,mb4.4								
RDF	**Al-Radifah**	**80.36**	**302**	*eP*	**P**	**23 11 42.6**	**+0.5**		
RDF				AMb	AMB	23 11 44.5			
	comp=Z,72nm,1.1s,mb5.5								
PPT	**Papeete**	**80.98**	**127**	LR	LR	23 41 17.4			
	comp=Z,232nm,19.2s,MS4.5,baz=337,slow=31								
KBA	**Koelnbreinsper**	**81.16**	**334**⇓	*eP*	**P**	**23 11 47.7**	**+1.3**		
	comp=Z,30nm,0.9s,mb5.1								
OBKA	**Obir**	**81.30**	**333**⇑	*i*P	**P**	**23 11 50.3**	**+3.1**		
	comp=Z,8.7nm,1.3s,mb4.6								
BFO	**Black Forest**	**81.44**	**338**	*eP*	**P**	**23 11 48.1**	**+0.2**		
	comp=Z,15nm,1.2s,mb4.9								
BFO	**Black Forest**	**81.44**	**338**	*eP*	**P**	**23 11 48.1**	**+0.2**		
BFO	comp=Z,15nm,1.2s,mb4.9			pmax	pmax				
WTTA	**Wattenberg**	**81.50**	**335**⇑	*i*P	**P**	**23 11 49.0**	**+0.7**		
	comp=Z,10nm,0.5s,mb5.1								
GRUS	**Gruza**	**81.50**	**328**	*i* P	**P**	**23 11 52.3**	**+4.1**		
MOTA	**Moosalm**	**81.58**	**336**⇑	*i*P	**P**	**23 11 49.1**	**+0.5**		
	comp=Z,21nm,1.2s,mb5.2								
DIVS	**Divcibare**	**81.58**	**329**	*i* P	**P**	**23 11 48.1**	**-0.6**		
CDF	**Champ du Feu**	**81.63**	**339**	*eP*	**P**	**23 11 43.9**	**-5.0**		
	comp=Z,45nm,1.2s,mb5.2								
SQTA	**Sankt Quirin**	**81.66**	**336**⇓	*i*P	**P**	**23 11 50.2**	**+1.1**		
	comp=Z,16nm,1.2s,mb5.0								
VTS	**Vitosha**	**81.67**	**326**⇑	*i*P	**P**	**23 11 48.8**	**-0.3**		
VTS	**Vitosha**	**81.67**	**326**⇑	P	**P**	**23 11 48.9**	**-0.3**		
DAVA	**Damuels**	**81.98**	**337**⇓	*eP*	**P**	**23 11 46.4**	**-4.4**		
	comp=Z,14nm,1.1s,mb5.0								
GRR	**Gorron**	**83.48**	**344**	*eP*	**P**	**23 11 53.4**	**-5.2**		
	comp=Z,111nm,1.4s,mb5.6								
SMF	**Signal de Mont**	**84.12**	**340**	*eP*	**P**	**23 11 57.0**	**-4.9**		
	comp=Z,65nm,1.3s,mb5.4				

STKA Stephens Creek 27.02 200 P **P** 23 12 31.3 +0.8
FITZ Fitzroy Crossi 28.17 244 P **P** 23 12 40.4 -0.3
1.6nm,0.6s,mb3.9,baz=45,slow=11,SNR=6.9
MBWA Marble Bar 34.45 242 *e*P pP 23 13 43.0 -3.0
3.6nm,0.4s
RAO Raoul Island 36.26 132 P **P** 23 13 50.3 -1.2
293nm,0.4s,baz=7.4,slow=7.6,SNR=4.5
SONM Songino Array 67.38 329 P **P** 23 17 42.7 -0.6
0.5nm,0.5s,mb3.8,baz=133,slow=6.3,SNR=5.2
LSA Lhasa 68.58 305 *e*P **P** 23 17 51.4 +0.5
0.9nm,0.3s,mb4.2
TORD Torodi Ar. Bea 150.05 285 PKPbc PKPbc 23 26 40.0 +1.6
1.0nm,0.7s,baz=73,slow=2.8,SNR=10

LDG ***23*** *23:11:54.7±0.1, 4301N×000W, h2km, Md2.1/2, Ml1.9/1, Error ellipse: s-maj=2.0km s-min=1.1km az=155.0*
STR ***23*** *23:11:54.6±0.0, 4301N×001W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 23 23:11:55.1±0.4, 4300N×000W, h0km, mbLg1.1/6, Error ellipse: s-maj=2.6km s-min=1.9km az=113.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**49**	Pg	Pg	23 11 56.4	-0.1
LABF				Sg	Sg	23 11 57.6	+0.2
LABF	**Labassere**	**0.07**	**49**	Pg	Pg	23 11 56.4	-0.1
LABF				Lg		23 11 57.6	
VIEF	**Viey**	**0.12**	**171**	Pg	Pg	23 11 57.4	+0.1
VIEF				Sg	Sg	23 11 59.4	+0.5
VIEF	**Viey**	**0.12**	**171**	Pg	Pg	23 11 57.5	+0.1
VIEF				Lg		23 11 59.5	
EPF	**Esparros**	**0.25**	**83**	*e*Pg	Pg	23 11 59.4	-0.5
EPF				*e*Sg	Sg	23 12 03.3	+0.1
	5.5nm,0.2s						
EPF	**Esparros**	**0.25**	**83**	Pg	Pg	23 11 59.4	-0.5
EPF				Lg		23 12 03.3	
	2.8nm,0.2s						
EBIE	**Bielsa**	**0.33**	**161**	Pg	Pg	23 12 01.2	-0.2
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg		23 12 05.7	
	5.9nm,0.1s,SNR=16						
ETSF	**Etsaut**	**0.42**	**256**	*e*Pg	Pg	23 12 02.9	-0.3
ETSF				*e*Sg	Sg	23 12 08.4	-0.3
	3.8nm,0.2s						
ETSF	**Etsaut**	**0.42**	**256**	Pg	Pg	23 12 02.9	-0.3
ETSF				Lg		23 12 08.4	
	1.9nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**195**	Pg	Pg	23 12 19.0	-1.5
	0.6nm,0.1s,SNR=4.0						
ESAC				Lg		23 12 40.0	
	6.8nm,0.2s,SNR=7.8						
EMIR	**Miracle**	**1.57**	**133**	Lg		23 12 44.0	
	0.1nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**77**	*e*Pg	Pg	23 12 25.7	-1.2
MTLF				*e*Sg	Sg	23 12 47.1	-1.3
	2.0nm,0.3s						
MTLF	**Montolieu**	**1.66**	**77**	Pg	Pg	23 12 25.7	-1.2
MTLF				Lg		23 12 47.1	
	1.0nm,0.3s						
EPOB	**Poblet**	**1.83**	**154**	Lg		23 12 53.1	
	0.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.06**	**173**	Lg		23 13 01.7	
	0.8nm,0.2s,SNR=7.9						

BJI ***23*** *23:18:21.6, 4731N×15439E, h28km, mB5.1, mb4.4, Ms4.4, Msz4.1*
NEIC ***23*** *23:18:22.4±0.3, 4678N×15388E, h10km, mb4.4/31, Error ellipse: s-maj=9.7km s-min=6.7km az=158.0*
ISCJB ***23*** *23:18:23.8±0.3, 4678N±005×15388E±005, h30km, mb4.5/66, MS3.9/7, Error ellipse: s-maj=7.9km s-min=4.0km az=118.0*
SKHL ***23*** *23:18:24.0±2.0, 4686N×15381E, h52km±14km, msh6.0/1*
MOS ***23*** *23:18:25.2±1.4, 4685N×15373E, h38km, mb4.5/36, Error ellipse: s-maj=9.2km s-min=6.4km az=95.0*
IDC ***23*** *23:18:28.0±4.2, 4687N×15375E, h54km±38km, mb3.9/18, mb1 4.1/19, mb1mx4.0/25, mbtmp3.9/19, ML4.1/1, MS3.9/4, Ms1 3.9/4, ms1mx3.2/31, Error ellipse: s-maj=17.4km s-min=14.4km az=116.0*
SZGRF ***23*** *23:18:29.1, 4703N×15425E, h33km, mb5.0, Kuril Islands, Russia*
ISC 23 23:18:26.5±0.3, 4690N±005×15387E±006, h34km, h34km±3.6km: pP-P, n185, σ1°18/187, mb4.5/66, MS3.9/7, 15C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.07**	**21**	*e*P	**Pn**	**23 19 26.5**	**+0.2**
SKR				AMB	AMB	23 19 32.0	
	330nm,0.9s						
SKR				*e*S	**Sn**	**23 20 11.9**	**-0.8**
SKR				A		23 20 15.9	
	240nm,0.6s						
SKR				A		23 20 15.9	
	170nm,0.6s						
SKR				A		23 20 15.9	
	90nm,0.5s						
KUR	**Kuril'sk**	**4.50**	**250**	⇑*i*P	**Pn**	**23 19 30.0**	**-2.1**
KUR				AMB	AMB	23 19 32.2	
	76nm,0.5s						
KUR				AMB	AMB	23 19 32.2	
	152nm,0.5s						
KUR				AMB	AMB	23 19 32.2	
	319nm,0.5s						
KUR				*i* S	**Sn**	**23 20 21.0**	**-2.2**
KUR				A		23 20 34.5	
	795nm,0.8s						
KUR				A		23 20 34.5	
	323nm,0.8s						
KUR	**Kuril'sk**	**4.50**	**250**	⇑*i*PN	**Pn**	**23 19 30.0**	**-2.1**
KUR				*i* S	**Sn**	**23 20 21.0**	**-2.2**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,320nm,0.5s						
KUR				smax			
	comp=N,800nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.32**	**246**	*e*P	**Pn**	**23 19 56.5**	**-0.6**
YUK				AMB	AMB	23 19 57.0	
	comp=E,280nm,0.4s						
YUK				A		23 21 33.8	
	comp=E,510nm,0.5s						
YUK				A		23 21 33.8	
	comp=E,610nm,0.6s						
YUK				A		23 21 44.1	
	comp=E,5μm,2.0s						
YUK				A		23 21 44.1	
	comp=E,2μm,2.0s						
PET	**Petropavlovsk**	**6.86**	**25**	*e*PN	**Pn**	**23 20 11.9**	**+7.3**
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET	**Petropavlovsk**	**6.86**	**25**	*e*Pn	**Pn**	**23 20 08.2**	**+3.6**
PET				*e*Sn	**Sn**	**23 21 19.7**	**-1.8**
YSS	**Yuzh-Sakhalins**	**7.61**	**274**	*e*PN	**Pn**	**23 20 21.5**	**+6.6**
YSS				pmax	pmax		
	comp=Z,28nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.61**	**274**	*e*Pn	**Pn**	**23 20 21.5**	**+6.6**
	comp=Z,28nm,0.6s						
TYV	**Tymovskoe**	**8.39**	**302**	*e*P	**Pn**	**23 20 28.2**	**+2.7**
TYV				AMB	AMB	23 20 30.8	
	comp=Z,66nm,1.2s						
ASAJ	**Asahikawa**	**8.39**	**255**	P	**Pn**	**23 20 27.1**	**+1.5**
	comp=Z,2.7nm,0.3s,baz=87,slow=21,SNR=9.8						
ASAJ	**Asahikawa**	**8.39**	**255**	PN	**Pn**	**23 20 27.1**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**9.08**	**241**	*e*PN	**Pn**	**23 20 35.9**	**+0.9**
ERM				pmax	pmax		
	comp=Z,55nm,0.6s						
ERM	**Erimo**	**9.08**	**241**	*e*Pn	**Pn**	**23 20 35.9**	**+0.9**
	comp=Z,55nm,0.6s						
ERM				*e*Sn	**Sn**	**23 22 16.5**	**+0.5**
HABR	**Khabarovsk**	**12.78**	**284**	*e*PN	**Pn**	**23 21 20.5**	**-5.2**
MA2	**Magadan**	**12.83**	**353**	PN	**Pn**	**23 21 28.8**	**+2.4**
KLR	**Kul'dur**	**14.96**	**287**	*e*P	**Pn**	**23 21 59.7**	**+4.3**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MAJO	**Matsushiro**	**15.58**	**234**	*e*P	**Pn**	**23 22 04.1**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAJO	**Matsushiro**	**15.58**	**234**	*e*Pn	**Pn**	**23 22 04.1**	**+0.7**
	comp=Z,6.3nm,0.3s						
MAT	**Matsushiro**	**15.58**	**234**	P	**Pn**	**23 22 04.0**	**+0.5**
MJAR	**Matsushiro Arr**	**15.58**	**234**	P	**Pn**	**23 21 59.9**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=5.1						
MJAR	**Matsushiro Arr**	**15.58**	**234**	P	**Pn**	**23 21 59.9**	**-3.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.08**	**271**	*e*Pn	**Pn**	**23 22 23.1**	**+0.7**
ZEA	**Zeya**	**18.25**	**302**	*e*P	**Pn**	**23 22 36.8**	**-0.2**
ZEA				AMB	AMB	23 22 38.2	
	comp=Z,12nm,1.0s						
CLNS	**Chul'man**	**20.32**	**310**	*e*P	**P**	**23 22 58.6**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,16nm,0.7s						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,400nm,14.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,100nm,12.0s,MS3.9						
CLNS				MLR	MLR		
	comp=E,300nm,11.0s,MS3.9						
YAK	**Yakutsk**	**20.48**	**326**	*e*P	**P**	**23 23 05.3**	**+4.0**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
KSRS	**Korea Array**	**21.34**	**253**	P	**P**	**23 23 10.6**	**+0.1**
	comp=Z,2.6nm,0.6s,mb3.8,baz=61,slow=9.3,SNR=9.4						
BILL	**Bilibino**	**22.13**	**12**	*e*P	**P**	**23 23 26.0**	**+7.0**
BILL				*e**PP		23 23 42.6	
BILL				*e*		23 27 12.7	
BILL				*e*S	**S**	**23 27 25.5**	**+4.5**
BILL				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
BILL	**Bilibino**	**22.13**	**12**	*e*P	**P**	**23 23 20.7**	**+1.6**
	comp=Z,2.1nm,0.5s,mb3.8						
JNU	**Nakatsue**	**22.24**	**240**	LR	LR	23 32 41.4	
	comp=Z,280nm,19.6s,MS3.7,baz=270,slow=38						
HIA	**Hailar**	**22.81**	**289**	P	**P**	**23 23 24.8**	**-1.4**
BOD	**Bodaibo**	**26.30**	**309**	*e*P	**P**	**23 23 57.0**	**-1.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb3.9						
NJ2	**Nanjing**	**30.54**	**254**	*e*P	**P**	**23 24 35.8**	**-0.7**
NJ2				AP	pP	23 24 45.1	-1.4
NJ2				XP	sP	23 24 48.9	-1.7
NJ2				AMB	AMB		
	comp=Z,1μm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,14.4s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,13.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,750nm,14.6s,MS4.5						
ULN	**Ulaanbaatar**	**31.34**	**289**	*e*P	**P**	**23 24 42.1**	**-1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**31.34**	**289**	*e*P	**P**	**23 24 42.1**	**-1.5**
	comp=Z,1.8nm,0.7s,mb4.0						
SONM	**Songino Array**	**31.77**	**289**	P	**P**	**23 24 45.2**	**-2.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=60,slow=7.9,SNR=7.4						
SONM				LR	LR	23 39 11.2	
	comp=Z,219nm,18.2s,MS3.9,baz=2.0,slow=39						
SONM	**Songino Array**	**31.77**	**289**	P	**P**	**23 24 45.2**	**-2.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,219nm,18.2s						
MCK	**McKinley**	**35.20**	**40**	*e*P	**P**	**23 25 17.0**	**-0.3**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MCK	**McKinley**	**35.20**	**40**	*e*P	**P**	**23 25 17.0**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1						
COLA	**College**	**35.70**	**38**	*e*P	**P**	**23 25 21.5**	**-0.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
COLA	**College**	**35.70**	**38**	*e*P	**P**	**23 25 21.5**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5						
LZH	**Lanzhou**	**38.40**	**272**	*e*P	**P**	**23 25 48.0**	**+3.5**
LZH				AP	pP	23 25 53.3	-1.3
LZH				XP	sP	23 25 56.1	-2.6
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.40**	**272**	*e*P	**P**	**23 25 48.0**	**+3.5**
	comp=Z,20nm,1.2s,mb4.7						
LZH				pP	pP	23 25 53.2	-1.4
LZH				sP	sP	23 25 56.1	-2.6
EGAK	**Eagle**	**38.56**	**39**	*e*P	**P**	**23 25 44.8**	**-1.0**
	comp=Z,5.7nm,1.1s,mb4.2						
GTA	**Gaotai**	**39.46**	**279**	*e*P	**P**	**23 25 53.8**	**+0.5**
GTA				AP	pP	23 25 58.0	-5.4
GTA				XP	sP	23 26 01.3	-6.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.1						
INK	**Inuvik**	**41.25**	**33**	P	**P**	**23 26 07.8**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.0,baz=284,slow=6.6,SNR=7.3						
INK	**Inuvik**	**41.25**	**33**	*e*P	**P**	**23 26 08.1**	**-0.1**
	comp=Z,76nm,0.7s,mb5.4						
ZAL	**Zalesovo**	**42.96**	**306**	P	**P**	**23 26 20.3**	**-1.8**
	comp=Z,1.5nm,0.5s,mb4.0,baz=21,slow=7.6,SNR=8.8						
ZAL				LR	LR	23 45 32.6	
	comp=Z,104nm,18.1s,MS3.8,baz=58,slow=38						
ZAL	**Zalesovo**	**42.96**	**306**	P	**P**	**23 26 20.3**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,104nm,18.2s						
ZAL	**Zalesovo**	**42.96**	**306**	P	**P**	**23 26 20.3**	**-1.8**
ZAL				LR	LR	23 45 32.6	
NVS	**Novosibirsk**	**43.51**	**308**	*i* P	**P**	**23 26 24.6**	**-2.0**
DLBC	**Dease Lake**	**45.12**	**46**	P	**P**	**23 26 42.7**	**+3.3**
MK31	**Makanchi Array**	**47.33**	**298**	*e*P	**P**	**23 26 55.4**	**-1.4**
MKAR	**Makanchi Array**	**47.33**	**298**	P	**P**	**23 26 55.3**	**-1.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=66,slow=7.1,SNR=28						
MKAR				LR	LR	23 47 59.1	
	comp=Z,109nm,18.9s,MS3.8,baz=247,slow=38						
MKAR	**Makanchi Array**	**47.33**	**298**	P	**P**	**23 26 55.3**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,109nm,18.9s						
YKA	**Yellowknife Ar**	**50.50**	**37**	P	**P**	**23 27 20.2**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=292,slow=7.4,SNR=3.1						
YKA	**Yellowknife Ar**	**50.50**	**37**	‖*e*P	pP	23 27 32.7	+1.3
RES	**Resolute Bay**	**50.53**	**19**	*e*P	**P**	**23 27 22.9**	**+1.6**
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**23 27 20.8**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**23 27 20.8**	**-2.1**
	comp=Z,3.7nm,0.7s,mb4.4						
LSA	**Lhasa**	**50.78**	**274**	P	**P**	**23 27 25.3**	**+2.1**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**50.78**	**274**	*e*P	**P**	**23 27 25.1**	**+1.9**
LSA				*e*		23 27 39.9	
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**50.78**	**274**	*e*P	**P**	**23 27 25.1**	**+1.9**
	comp=Z,9.6nm,0.8s,mb4.8						
LSA				*e*		23 27 39.9	
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**23 27 24.4**	**-1.7**
	comp=Z,1.2nm,0.4s,mb4.2,baz=58,slow=7.3,SNR=7.0						
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**23 27 24.4**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**54.23**	**297**	*e*P	**P**	**23 27 47.1**	**-1.7**
ARU	**Arti**	**55.25**	**318**	⇑*i*P	**P**	**23 27 54.2**	**-2.0**
ARU				*e*		23 30 01.2	
ARU				*e*PPP		23 31 10.2	
ARU				*e*S	**S**	**23 35 32.2**	**-5.3**
ARU				*e*		23 37 35.7	
ARU				*e*SS	SS	23 39 14.2	-7.7
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARU	**Arti**	**55.25**	**318**	*e*P	**P**	**23 27 54.6**	**-1.5**
	comp=Z,11nm,0.6s,mb5.1						
JIRN	**Jiri**	**55.45**	**275**	*e*P	**P**	**23 27 58.9**	**+1.3**
GUN	**Gumba**	**55.50**	**275**	*e*P	**P**	**23 27 58.9**	**+0.9**
	comp=Z,12nm,0.4s,mb5.2						
KKN	**Kakani**	**55.99**	**276**	*e*P	**P**	**23 28 02.6**	**+1.1**
PKI	**Pulchoki**	**56.04**	**275**	*e*P	**P**	**23 28 03.0**	**+1.2**
	comp=Z,25nm,1.0s,mb5.2						
DMN	**Daman**	**56.22**	**276**	*e*P	**P**	**23 28 04.3**	**+1.2**
	comp=Z,54nm,1.0s,mb5.5						
GKN	**Gorkha**	**56.29**	**276**	*e*P	**P**	**23 28 04.6**	**+1.0**
	comp=Z,52nm,0.9s,mb5.6						
KOLN	**Koldanda**	**57.15**	**277**	*e*P	**P**	**23 28 10.5**	**+0.8**
	comp=Z,34nm,0.9s,mb5.4						
KEV	**Kevo**	**57.38**	**341**	*e*p	**P**	**23 28 06.5**	**-4.8**
	comp=Z,3.3nm,0.6s,mb4.5						
KEV	**Kevo**	**57.38**	**341**	*e*P	**P**	**23 28 06.5**	**-4.8**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**	**23 28 12.7**	**-2.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=26,slow=8.6,SNR=9.3						
ARCES	**ARCESS Array B**	**57.88**	**341**	P	**P**	**23 28 12.7**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WALA	**Waterton Lakes**	**57.95**	**51**	*e*P	**P**	**23 28 15.0**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.4						
CMB	**Columbia Colle**	**60.87**	**64**	*e*P	**P**	**23 28 34.9**	**-0.6**
CMB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
CMB	**Columbia Colle**	**60.87**	**64**	*e*P	**P**	**23 28 34.9**	**-0.6**
	comp=Z,0.8nm,0.5s,mb4.1						
HLID	**Hailey**	**61.00**	**56**	*e*P	**P**	**23 28 36.5**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.1						
HWUT	**Hardware Ranch**	**63.86**	**56**	*e*P	**P**	**23 28 55.9**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.2						
DUG	**Dugway**	**64.06**	**58**	*e*P	**P**	**23 28 57.0**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
DUG	**Dugway**	**64.06**	**58**	*e*P	**P**	**23 28 57.0**	**+0.2**
	comp=Z,3.1nm,1.0s,mb4.3						
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**	**23 28 56.0**	**-1.2**
	comp=Z,2.8nm,0.3s,mb4.7,baz=38,slow=7.2,SNR=79						
FINES	**FINESS Array B**	**64.13**	**335**	⇑*e*P	**P**	**23 28 56.0**	**-1.3**
BW06	**Boulder Array**	**64.24**	**54**	*e*P	**P**	**23 28 57.8**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**64.24**	**54**	P	**P**	**23 28 57.9**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=302,slow=2.1,SNR=14						
RSSD	**Black Hills**	**66.33**	**50**	*e*P	**P**	**23 29 11.3**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RSSD	**Black Hills**	**66.33**	**50**	*e*P	**P**	**23 29 11.3**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.4						
PV10	**Paradox Valley**	**67.45**	**58**	*e*P	**P**	**23 29 19.0**	**+0.3**
PV10				*e*	pP	23 29 29.9	+0.6
PV01	**Paradox Valley**	**67.89**	**58**	P	**P**	**23 29 19.8**	**-1.6**
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**	**23 29 22.8**	**-0.9**
	comp=Z,3.0nm,0.5s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**23 29 22.9**	**-0.8**
	comp=Z,3.1nm,0.6s,mb4.5,baz=26,slow=6.4,SNR=14						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**23 29 22.9**	**-0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ISCO	**Idaho Springs**	**68.43**	**55**	*e*P	**P**	**23 29 25.5**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ISCO	**Idaho Springs**	**68.43**	**55**	*e*P	**P**	**23 29 25.4**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**68.81**	**200**	*e*P	**P**	**23 29 27.8**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**68.81**	**200**	*e*P	**P**	**23 29 27.8**	**+0.6**
	comp=Z,4.6nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**68.82**	**200**	P	**P**	**23 29 26.2**	**-1.1**
WRA	**Warramunga Arr**	**68.82**	**200**	P	**P**	**23 29 25.3**	**-2.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=19,slow=6.7,SNR=8.1						
WRA	**Warramunga Arr**	**68.82**	**200**	P	**P**	**23 29 25.3**	**-2.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**69.52**	**209**	P	**P**	**23 29 29.6**	**-2.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=11,slow=10,SNR=2.6						
SDCO	**Great Sand Dun**	**69.92**	**56**	P	**P**	**23 29 34.4**	**+0.4**
KIV	**Kislovodsk**	**71.07**	**315**	*e*P	**P**	**23 29 40.5**	**-0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KIV	**Kislovodsk**	**71.07**	**315**	*e*P	**P**	**23 29 40.7**	**-0.3**
	comp=Z,7.8nm,0.9s,mb4.6						
SUW	**Suwalki**	**71.11**	**332**	P	**P**	**23 29 40.0**	**-1.3**
ANMO	**Albuquerque**	**71.31**	**59**	*e*P	**P**	**23 29 42.9**	**+0.4**
ANMO	**Albuquerque**	**71.31**	**59**	*e*P	**P**	**23 29 42.7**	**+0.1**
	comp=Z,5.5nm,1.5s,mb4.3						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**23 29 43.7**	**-1.3**
	comp=Z,2.4nm,0.5s,mb4.4,baz=34,slow=6.3,SNR=16						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**23 29 43.7**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**23 29 43.7**	**-1.3**
KIEV	**Kiev**	**71.72**	**327**	*e*P	**P**	**23 29 43.9**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KIEV	**Kiev**	**71.72**	**327**	*e*P	**P**	**23 29 43.9**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**72.51**	**199**	P	**P**	**23 29 49.5**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.2,baz=14,slow=5.4,SNR=22						
ASAR	**Alice Springs**	**72.51**	**199**	P	**P**	**23 29 49.5**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	**Stebnicka Huta**	**75.65**	**330**	*e*P	**P**	**23 30 09.1**	**+1.1**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
STHS	**Stebnicka Huta**	**75.65**	**330**	*e*P	**P**	**23 30 09.1**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.4						
KOLS	**Kolonicke sedl**	**75.70**	**329**	*e*P	**P**	**23 30 09.7**	**+1.3**
BURAR	**Bucovina Array**	**75.75**	**327**	⇓*i*P	**P**	**23 30 08.8**	**+0.2**
BURAR	**Bucovina Array**	**75.75**	**327**	⇓P	**P**	**23 30 08.8**	**+0.2**
WMOK	**Wichita Mounta**	**75.85**	**54**	*e*P	**P**	**23 30 08.5**	**-0.7**
WMOK				*e*	pP	23 30 19.2	-0.8
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**75.85**	**54

	comp=Z,8.0nm,1.2s,mb4.5								
MALT	**Malatya**	**77.43**	**313**	*e*P		**P**		**23 30 19.4**	**+1.3**
	comp=Z,7.6nm,1.2s,mb4.5								
ZST	**Bratislava**	**78.08**	**332**	*e*P		**P**		**23 30 23.1**	**+1.4**
ZST				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
ZST	**Bratislava**	**78.08**	**332**	*e*P		**P**		**23 30 23.1**	**+1.4**
	comp=Z,6.5nm,1.2s,mb4.4								
KHC	**Kasperske Hory**	**78.33**	**335**	*e*P		**P**		**23 30 24.9**	**+1.8**
GRA2	**Grafenberg Arr**	**78.49**	**336**	*e*P		**P**		**23 30 25.3**	**+1.3**
	comp=Z,33nm,1.7s,mb5.0								
GRFO	**Grafenberg**	**78.50**	**336**	*e*P		**P**		**23 30 25.0**	**+1.0**
	comp=Z,6.0nm,0.7s,mb4.6								
GRFO	**Grafenberg**	**78.50**	**336**	*e*P		**P**		**23 30 25.0**	**+1.0**
GRFO				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
GERES	**GERESS Array B**	**78.55**	**334**	P		**P**		**23 30 23.8**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=35,slow=5.7,SNR=9.9								
GERES	**GERESS Array B**	**78.55**	**334**	P		**P**		**23 30 23.8**	**-0.5**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BR131	**Keskin Array S**	**78.64**	**317**	*e*P		**P**		**23 30 25.5**	**+0.7**
	comp=Z,4.0nm,1.0s,mb4.3								
BRTR	**Keskin Array B**	**78.64**	**317**	P		**P**		**23 30 25.7**	**+0.9**
	comp=Z,4.3nm,1.0s,mb4.3,baz=34,slow=2.2,SNR=13								
BRTR	**Keskin Array B**	**78.64**	**317**⇑	*e*P		**P**		**23 30 26.0**	**+1.2**
GRB1	**Grafenberg Arr**	**78.65**	**336**	*e*P		**P**		**23 30 26.1**	**+1.2**
	comp=Z,17nm,1.4s,mb4.8								
BZS	**Buzias**	**78.77**	**328**	⇓*i*P		**P**		**23 30 25.8**	**+0.3**
BZS	**Buzias**	**78.77**	**328**	⇓P		**P**		**23 30 25.8**	**+0.3**
MIB	**Mutribah**	**79.03**	**302**	*e*P		**P**		**23 30 27.0**	**0.0**
MIB				AMb		AMB		23 30 29.6	
	comp=Z,29nm,0.6s,mb5.4								
PKSM	**Moragy**	**79.30**	**330**⇑	*i*P		**P**		**23 30 28.1**	**-0.3**
PKSM	**Moragy**	**79.30**	**330**⇑	P		**P**		**23 30 28.1**	**-0.3**
NAY	**Al-Naaiem**	**79.50**	**302**	*e*P		**P**		**23 30 29.7**	**+0.2**
NAY				AMb		AMB		23 30 32.1	
	comp=Z,8.4nm,0.7s,mb4.8								
RDF	**Al-Radifah**	**79.55**	**301**	*e*P		**P**		**23 30 30.5**	**+0.7**
KBA	**Koelnbreinsper**	**80.24**	**334**⇓	*i*P		**P**		**23 30 34.9**	**+1.4**
	comp=Z,17nm,0.8s,mb5.1								
WTTA	**Wattenberg**	**80.58**	**335**⇓	*i*P		**P**		**23 30 37.1**	**+1.7**
	comp=Z,6.3nm,0.5s,mb4.8								
MOTA	**Moosalm**	**80.66**	**335**⇑	*i*P		**P**		**23 30 36.1**	**+0.3**
	comp=Z,5.3nm,0.6s,mb4.6								
CDF	**Champ du Feu**	**80.72**	**338**	*e*P		**P**		**23 30 36.0**	**-0.1**
	comp=Z,14nm,0.9s,mb4.6								
SQTA	**Sankt Quirin**	**80.74**	**335**⇓	*i*P		**P**		**23 30 37.8**	**+1.6**
	comp=Z,5.0nm,0.7s,mb4.5								
VTS	**Vitosha**	**80.75**	**325**⇓	*i*P		**P**		**23 30 37.5**	**+1.2**
VTS	**Vitosha**	**80.75**	**325**⇓	P		**P**		**23 30 37.5**	**+1.2**
GRR	**Gorron**	**82.58**	**343**	*e*P		**P**		**23 30 46.5**	**+0.6**
SMF	**Signal de Mont**	**83.21**	**340**	*e*P		**P**		**23 30 49.4**	**+0.2**
	comp=Z,44nm,1.2s,mb5.1								
LPG	**La Plagne**	**83.55**	**337**	*e*P		**P**		**23 30 50.9**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.6								
CAF	**Calviac**	**85.25**	**340**	*e*P		**P**		**23 30 59.4**	**-0.1**
LPAZ	**La Paz**	**133.81**	**63**	PKP		PKPdf		23 37 41.7	+2.0
	comp=Z,0.2nm,0.4s,baz=225,slow=5.7,SNR=2.7								
CFAA	**Coronel Fontan**	**144.46**	**80**	PKP		PKPdf		23 37 56.2	-2.8
	comp=Z,0.5nm,0.7s,baz=303,slow=3.2,SNR=5.6								
CFAA	**Coronel Fontan**	**144.46**	**80**	PKP		PKPdf		23 37 56.2	-2.9

*IDC **24** 00:01:49.7±2.4, 4681N×15304E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=62.1km s-min=25.9km az=167.0*
*ISCJB **24** 00:01:53.0±2.0, 466N±02×153.1E±02, h44km±12km, mb3.8/10, Error ellipse: s-maj=36.7km s-min=8.4km az=99.3*
*MOS **24** 00:01:53.5±0.8, 4664N×15286E, h46km, mb4.2/6, Error ellipse: s-maj=22.3km s-min=15.9km az=73.0*

ISC 24 00:01:55.1±1.9, 465N±02×1531E±02, h52km±11km, n21, σ0§90/23, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUR	**Kuril'sk**	**3.87**	**252**	*e*PN		**Pn**	**00**	**02**	**50.0**	**-2.1**
KUR				*i* S		**Sn**	**00**	**03**	**38.0**	**+1.7**
KUR				pmax		pmax				
	comp=Z,150nm,0.7s									
KUR				smax						
	comp=N,260nm,0.7s									
KUR				smax						
	comp=E,120nm,0.7s									
SKR	**Severo-Kuril's**	**4.61**	**25**	*e*PN		**Pn**	**00**	**03**	**02.2**	**-0.1**
SKR				*e*S		**Sn**	**00**	**03**	**55.0**	**+0.5**
SKR				smax						
	comp=N,170nm,0.5s									
SKR				smax						
	comp=E,90nm,0.5s									
SKR				smax						
	comp=Z,90nm,0.5s									
ASAJ	**Asahikawa**	**7.78**	**256**	Pn		**Pn**	**00**	**03**	**45.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=323,slow=20,SNR=2.4									
ASAJ	**Asahikawa**	**7.78**	**256**	PN		**Pn**	**00**	**03**	**45.6**	**-0.1**
ASAJ				pmax		pmax				
	comp=Z,1.0nm,0.3s									
INK	**Inuvik**	**41.84**	**32**	P		**P**	**00**	**09**	**39.8**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=286,slow=4.2,SNR=5.6									
INK	**Inuvik**	**41.84**	**32**	P		**P**	**00**	**09**	**39.8**	**-0.1**
INK				pmax		pmax				
	comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**47.02**	**298**	P		**P**	**00**	**10**	**21.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=74,slow=11,SNR=6.7									
BVAR	**Borovoye Array**	**50.98**	**310**	P		**P**	**00**	**10**	**51.4**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=48,slow=7.3,SNR=6.8									
ARCES	**ARCESS Array B**	**58.05**	**341**	P		**P**	**00**	**11**	**41.2**	**-1.6**
	comp=Z,3.6nm,0.9s,mb4.4,baz=46,slow=5.2,SNR=3.7									
ARCES	**ARCESS Array B**	**58.05**	**341**	P		**P**	**00**	**11**	**41.2**	**-1.6**
ARCES				pmax		pmax				
	comp=Z,4.0nm,0.9s									
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**	**00**	**12**	**24.1**	**-0.5**
	comp=Z,0.7nm,0.5s,mb4.0,baz=35,slow=7.0,SNR=11									
FINES	**FINESS Array B**	**64.23**	**335**	P		**P**	**00**	**12**	**24.1**	**-0.5**
FINES				pmax		pmax				
	comp=Z,1.0nm,0.5s									
NB2	**NORSAR Subarra**	**68.42**	**341**	P		**P**	**00**	**12**	**51.7**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=26,slow=6.5									
NOA	**NORSAR Array B**	**68.42**	**341**	P		**P**	**00**	**12**	**51.8**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.3,baz=28,slow=6.4,SNR=5.8									
NOA	**NORSAR Array B**	**68.42**	**341**	P		**P**	**00**	**12**	**51.8**	**+0.3**
NOA				pmax		pmax				
	comp=Z,2.0nm,0.4s									
AKASG	**Malin Array Be**	**71.72**	**326**	P		**P**	**00**	**13**	**11.5**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.2,SNR=4.2									
AKASG	**Malin Array Be**	**71.72**	**326**	P		**P**	**00**	**13**	**11.5**	**-0.1**
AKASG				pmax		pmax				
	comp=Z,1.0nm,0.4s									
TXAR	**Lajitas Array**	**77.61**	**60**	P		**P**	**00**	**13**	**46.9**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=306,slow=3.5,SNR=3.8									
BRTR	**Keskin Array B**	**78.53**	**317**	P		**P**	**00**	**13**	**52.0**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=111,slow=1.8,SNR=5.7									
BRTR	**Keskin Array B**	**78.53**	**317**	P		**P**	**00**	**13**	**52.0**	**+1.1**
BRTR				pmax		pmax				
	comp=Z,1.0nm,0.8s									
GERES	**GERESS Array B**	**78.64**	**334**	P		**P**	**00**	**13**	**51.2**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=28,slow=6.0,SNR=4.2									

*CSEM **24** 00:18:03.9, 6783N×2020E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **24** 00:18:03.9, 6783N×2020E, h0km, ML2.6, Mining explosion.*

HEL 24 00:18:04.5±0.1, 6783N×2020E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUA	**Kurravaara**	**0.14**	**23**	*i* P		Pg	00	18	06.7	-0.4
KUA				*i* S		Sg	00	18	08.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P		Pg	00	18	12.3	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P		Pg	00	18	17.4	-0.8
LANU	**Lannavaara** baz=304	**0.71**	**71**	P		Pg	00	18	17.4	-0.7
DUNU	**Dundret**	**0.72**	**168**	*i* P		Pg	00	18	17.3	-1.1
DUNU	**Dundret** baz=66	**0.72**	**168**	P		Pg	00	18	17.3	-1.1
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P		Pg	00	18	18.8	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P		Pg	00	18	18.9	-0.8
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P		Pg	00	18	26.7	-0.9
KIF				*e*S		Sg	00	18	43.2	+0.1
PAJU	**Pajala**	**1.39**	**124**	*e*P		Pg	00	18	29.0	-2.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P		Pn	00	18	31.0	-1.6
ERTU	**Ertsjaerv** baz=330	**1.50**	**148**	P		Pn	00	18	31.0	-1.6
HARU	**Harads**	**1.70**	**169**	*e*P		Pn	00	18	34.7	-0.7
HARU	**Harads** baz=340	**1.70**	**169**	P		Pn	00	18	34.7	-0.7
SGF	**Sodankyl**	**2.45**	**96**	*e*P		Pn	00	18	45.4	-0.4
SGF				*e*S		Sn	00	19	16.9	+0.5
KEV	**Kevo**	**3.14**	**49**	*e*P		Pn	00	18	55.0	-0.2
KEV				*e*S		Sn	00	19	33.9	+0.4
KU4	**Liikasenvaara**	**3.95**	**107**	*e*PG		Pg	00	19	15.5	-4.8
KU4				*e*SG		Sg	00	20	07.9	-3.5
MSF	**Maaselka**	**3.98**	**115**	*e*P		Pn	00	19	07.2	+0.4

*CSEM **24** 00:19:53.9, 6785N×2021E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **24** 00:19:53.9, 6785N×2021E, h0km, ML3.2, Mining explosion.*

HEL 24 00:19:54.7±0.1, 6785N×2017E, h0km, ML1.9, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUA	**Kurravaara**	**0.12**	**31**	*i* P		Pg	00	19	56.3	-0.7
NIKU	**Nikkaluokta**	**0.43**	**273**	*i* P		Pg	00	20	02.4	-0.5
LANU	**Lannavaara**	**0.71**	**73**	*i* P		Pg	00	20	07.2	-1.2
LANU	**Lannavaara** baz=302	**0.71**	**73**	P		Pg	00	20	07.2	-1.2
DUNU	**Dundret**	**0.75**	**168**	*i* P		Pg	00	20	07.7	-1.3
DUNU	**Dundret** baz=67	**0.75**	**168**	P		Pg	00	20	07.7	-1.3
SALU	**Saltoluokta**	**0.79**	**234**	*i* P		Pg	00	20	08.9	-1.0
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P		Pg	00	20	08.8	-1.2
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	00	20	16.6	-0.8
KIF				*e*S		Sg	00	20	32.5	-0.2
PAJU	**Pajala**	**1.41**	**125**	*e*P		Pn	00	20	19.4	-2.2
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P		Pn	00	20	21.4	-1.7
ERTU	**Ertsjaerv** baz=347	**1.52**	**148**	P		Pn	00	20	21.4	-1.7
HARU	**Harads**	**1.72**	**169**	*e*P		Pn	00	20	25.2	-0.8
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P		Pn	00	20	36.9	+1.4
SGF	**Sodankyl**	**2.46**	**97**	*e*P		Pn	00	20	36.9	+0.8
SGF				*e*S		Sn	00	21	07.7	+0.8
SGF				MSG			00	21	12.6	
	comp=Z,5.1nm,0.1s									
KEV	**Kevo**	**3.13**	**49**	*e*P		Pn	00	20	46.3	+0.9
KEV				*e*S		Sn	00	21	23.4	-0.1
KEV				MSG			00	21	29.5	
	comp=Z,2.3nm,0.3s									
OUL	**Oulu**	**3.60**	**138**	*e*P		Pn	00	20	53.0	+1.2
OUL				*e*S		Sn	00	21	33.6	-1.4
OUL				MSG			00	21	44.6	
	comp=Z,2.3nm,0.3s									
KU4	**Liikasenvaara**	**3.97**	**108**	*e*P		Pn	00	20	56.2	-0.5
KU4				*e*S		Sn	00	21	42.9	-1.1
MSF	**Maaselka**	**4.00**	**115**	*e*S		Sn	00	21	43.0	-1.9
MSF				MSG			00	22	01.5	
	comp=Z,1.7nm,0.3s									

*ISCJB **24** 00:25:25.2±0.8, 470N±0.1×1557E±0.1, h10km, mb4.2/13, MS3.5/1, Error ellipse: s-maj=19.2km s-min=11.9km az=109.2*
*IDC **24** 00:25:25.4±1.1, 4695N×15569E, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.8/23, mbtmp3.9/7, MS3.1/2, Ms1 3.1/2, ms1mx2.4/44, Error ellipse: s-maj=31.1km s-min=27.2km az=133.0*
*NEIC **24** 00:25:27.0±0.6, 4697N×15566E, h10km, mb4.3/4, Error ellipse: s-maj=14.0km s-min=8.8km az=143.0*
*MOS **24** 00:25:29.7±0.9, 4698N×15563E, h45km, mb4.3/10, Error ellipse: s-maj=21.3km s-min=14.0km az=90.9*

ISC 24 00:25:26.8±0.8, 470N±01×1557E±02, h10km, n34, σ0§60/32, mb4.2/13, MS3.5/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
ASAJ	**Asahikawa**	**9.61**	**257**	LR		LR	00	31	02.6	
	comp=Z,40nm,20.8s,baz=321,slow=35									
MAJO	**Matsushiro**	**16.66**	**237**	P		**Pn**	**00**	**29**	**19.9**	**-0.5**
YAK	**Yakutsk**	**21.09**	**325**	*e*P		**P**	**00**	**30**	**10.6**	**-0.7**
YAK				pmax		pmax				
	comp=Z,16nm,0.3s,mb4.8									
YAK	**Yakutsk**	**21.09**	**325**	*e*P		**P**	**00**	**30**	**10.6**	**-0.7**
	comp=Z,16nm,0.3s,mb4.8									
BILL	**Bilibino**	**21.79**	**11**	P		**P**	**00**	**30**	**18.6**	**-0.2**
BILL	**Bilibino**	**21.79**	**11**	P		**P**	**00**	**30**	**18.6**	**-0.2**
HIA	**Hailar**	**23.94**	**289**	*e*P		**P**	**00**	**30**	**40.8**	**-0.3**
HIA				pmax		pmax				
	comp=Z,5.0nm,0.3s									
HIA	**Hailar**	**23.94**	**289**	*e*P		**P**	**00**	**30**	**40.8**	**-0.3**
	comp=Z,5.1nm,0.3s,mb4.4									
COLA	**College**	**34.85**	**39**	P		**P**	**00**	**32**	**18.0**	**-0.1**
INK	**Inuvik**	**40.50**	**33**	P		**P**	**00**	**33**	**06.1**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.8,baz=299,slow=8.9,SNR=8.2									
INK	**Inuvik**	**40.50**	**33**	*e*P		**P**	**00**	**33**	**06.0**	**+0.1**
	comp=Z,45nm,0.7s,mb5.3									
ZAL	**Zalesovo**	**43.89**	**306**	LR		LR	00	53	38.6	
	comp=Z,56nm,18.4s,MS3.5,baz=216,slow=38									
YKA	**Yellowknife Ar**	**49.67**	**38**	P		**P**	**00**	**34**	**18.4**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=297,slow=7.2,SNR=4.4									
YKA	**Yellowknife Ar**	**49.67**	**38**	P		**P**	**00**	**34**	**18.4**	**-0.3**
YKA				pmax		pmax				
	comp=Z,1.0nm,0.7s									
YKA	**Yellowknife Ar**	**49.67**	**38**	P		**P**	**00**	**34**	**18.4**	**-0.3**
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P		**P**	**00**	**34**	**33.5**	**+0.2**
CHKZ				pmax		pmax				
	comp=Z,3.0nm,0.8s,mb4.3									
CHKZ	**Chkalovo**	**51.60**	**311**	*e*P		**P**	**00**	**34**	**33.5**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.3									
LSA	**Lhasa**	**52.00**	**275**	*e*P		**P**	**00**	**34**	**36.6**	**+0.3**
LSA				pmax		pmax				
	comp=Z,2.0nm,0.4s,mb4.4									
LSA	**Lhasa**	**52.00**	**275**	*e*P		**P**	**00**	**34**	**36.6**	**+0.2**
	comp=Z,1.7nm,0.4s,mb4.3									
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**00**	**34**	**37.8**	**+1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=56,slow=8.0,SNR=11									
BVAR	**Borovoye Array**	**52.04**	**310**	P		**P**	**00**	**34**	**37.8**	**+1.2**
BVAR				pmax		pmax				
	comp=Z,1.0nm,0.5s									
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**00**	**34**	**38.3**	**+1.4**
BRVK				pmax		pmax				
	comp=Z,2.0nm,0.6s,mb4.2									
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**00**	**34**	**38.2**	**+1.4**
	comp=Z,1.5nm,0.6s,mb4.1									
ARU	**Arti**	**56.00**	**318**	*e*P		**P**	**00**	**35**	**05.5**	**0.0**
ARU				pmax		pmax				
	comp=Z,2.0nm,0.6s,mb4.3									
ARU	**Arti**	**56.00**	**318**	*e*P		**P**	**00**	**35**	**05.5**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2									
ARCES	**ARCESS Array B**	**58.18**	**342**	P		**P**	**00**	**35**	**20.6**	**-0.4**
	comp=Z,3.6nm,1.0s,mb4.4,baz=37,slow=7.9,SNR=3.2									
ARCES	**ARCESS Array B**	**58.18**	**342**	P		**P**	**00**	**35**	**20.6**	**-0.4**
ARCES				pmax		pmax				
	comp=Z,4.0nm,1.0s									
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**00**	**36**	**03.0**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=41,slow=6.1,SNR=5.9									
FINES	**FINESS Array B**	**64.54**	**336**	P		**P**	**00**	**36**	**03.1**	**-0.9**
FINES				pmax		pmax				
	comp=Z,1.0nm,0.8s									
WRA	**Warramunga Arr**	**69.35**	**201**	P		**P**	**00**	**36**	**34.4**	**-0.2**
	comp=Z,1.0nm,1.0s,mb3.7,baz=22,slow=6.6,SNR=5.6									
WRA	**Warramunga Arr**	**69.35**	**201**	P		**P**	**00**	**36**	**34.4**	**-0.2**
WRA				pmax		pmax				
	comp=Z,1.0nm,1.0s									
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**00**	**37**	**13.8**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=298,slow=4.2,SNR=11									
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**00**	**37**	**13.8**	**+0.6**
TXAR				pmax		pmax				
	comp=Z,1.0nm,0.8s									
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**00**	**37**	**13.8**	**+0.5**

MOS 24 00:38:39.6±0.2, 4312N×4586E, h131km, mb3.7/1, 4C-3D, Error ellipse: s-maj=41.8km s-min=18.2km az=5.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
SNJR	**Sundja**	**0.77**	**267**⇓	*i*P		Pn	00	39	01.5	+0.9
SNJR				*i* S		Sn	00	39	16.2	-0.3
VLKR	**Vladikavkaz**	**0.87**	**266**⇑	*i*P		Pn	00	39	02.5	+1.1
VLKR				*i* S		Sn	00	39	17.4	-0.6
TRKR	**Terskaya**	**1.02**	**307**⇑	*i*P		Pn	00	39	03.2	+0.4
TRKR				*i* S		Sn	00	39	18.6	-1.8
ARNR	**Ardon**	**1.16**	**274**	*e*P		Pn	00	39	04.8	+0.7
ARNR				*i* S		Sn	00	39	21.9	-0.9
LACR	**Lac**	**1.19**	**256**⇑	*i*P		Pn	00	39	05.0	+0.6
LACR				*i* S		Sn	00	39	22.2	-1.0
PRTR	**Priterechnaya**	**1.31**	**299**⇑	*i*P		Pn	00	39	06.4	+0.7
PRTR				*i* S		Sn	00	39	24.2	-1.4
KORR	**Kora**	**1.31**	**269**⇓	*i*P		Pn	00	39	06.8	+1.1
KORR				*i* S		Sn	00	39	25.1	-0.5
DUS	**Dusheti**	**1.34**	**220**	P		Pn	00	39	11.1	+5.1
DUS				S		Sn	00	39	28.3	+2.2
ZEI	**Tsey**	**1.48**	**257**	*e*P		Pn	00	39	08.2	+0.6
ZEI				*e*			00	39	26.9	
ZEI				pmax		pmax				
	comp=Z,16nm,0.1s									
ZEI				smax						
	comp=N,54nm,0.2s									
DIGR	**Digorskoe uzhe**	**1.69**	**263**⇓	*i*P		Pn	00	39	10.7	+0.8
DIGR				*i* S		Sn	00	39	31.2	-1.8
ONI	**Oni**	**1.85**	**254**	P		Sn	00	39	38.0	+1.5
ONI				S			00	39	15.3	

*ISCJB **24** 00:40:38.2±4.2, 4589N±007×1543E±0.1, h3km±26km, mb4.0/22, MS3.5/3, Error ellipse: s-maj=14.0km s-min=10.1km az=97.0*
*IDC **24** 00:40:39.1±0.8, 4588N×15422E, h0km, mb3.9/16, mb1 4.0/16, mb1mx4.0/25, mbtmp3.9/16, MS3.2/4, Ms1 3.2/4, ms1mx2.6/35, Error ellipse: s-maj=20.3km s-min=19.6km az=153.0*
*NEIC **24** 00:40:41.2±0.4, 4592N×154.31E, h10km, mb4.4/6, Error ellipse: s-maj=9.2km s-min=7.2km az=145.0*
*MOS **24** 00:40:42.6±1.0, 4591N×154.19E, h33km, mb4.2/16, Error ellipse: s-maj=12.7km s-min=9.4km az=109.7*

ISC 24 00:40:45.2±1.4, 4595N±007×1543E±01, h39km±12km, n66, σ0§75/65, mb4.0/22, MS3.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUR	**Kuril'sk**	**4.54**	**263**	P		**Pn**	**00**	**41**	**47.0**	**-4.4**
KUR				*e*S		**Sn**	**00**	**42**	**37.0**	**-5.9**
KUR				smax						
	comp=N,140nm,0.8s									
KUR				smax						
	comp=E,220nm,0.8s									
PET	**Petropavlovsk**	**7.63**	**20**	P		**Pn**	**00**	**42**	**32.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.00**	**281**	P		**Pn**	**00**	**42**	**39.2**	**+0.3**
ASAJ	**Asahikawa**	**8.46**	**262**	LR		LR	00	46	27.9	
	comp=E,29nm,19.1s,baz=318,slow=41									
ERM	**Erimo**	**8.91**	**248**	*e*P		**Pn**	**00**	**42**	**52.3**	**+0.9**
ERM				pmax		pmax				
	comp=Z,3.0nm,0.4s									
ERM	**Erimo**	**8.91**	**248**	*e*Pn		**Pn**	**00**	**42**	**52.3**	**+0.9**
	comp=Z,3.3nm,0.4s									
YAK	**Yakutsk**	**21.42**	**328**	P		**P**	**00**	**45**	**29.2**	**-0.5**
BILL	**Bilibino**	**23.00**	**12**	P		**P**	**00**	**45**	**47.5**	**+0.9**
BILL	**Bilibino**	**23.00**	**12**	P		**P**	**00**	**45**	**47.5**	**+0.9**
HIA	**Hailar**	**23.38**	**291**	P		**P**	**00**	**45**	**50.6**	**+0.1**
ULN	**Ulaanbaatar**	**31.91**	**291**	*e*P		**P**	**00**	**47**	**06.0**	**-0.9**
ULN				pmax		pmax				
	comp=Z,1.0nm,0.4s,mb4.0									
ULN	**Ulaanbaatar**	**31.91**	**291**	*e*P		**P**	**00**	**47**	**06.0**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.1									
SONM	**Songino Array**	**32.35**	**291**	P		**P**	**00**	**47**	**08.6**	**-2.1**
	comp=Z,0.2nm,0.7s,mb3.1,baz=82,slow=9.8,SNR=2.4									

TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**		**00 52 34.5**	**-0.5**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MORC	**Moravsky Berou**	**77.51**	**333**	P	**P**		**00 52 37.2**	**+0.5**
PSZ	**Piszkesteto**	**78.34**	**331**	*e*P	**P**		**00 52 42.4**	**+1.0**
PSZ				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
PSZ	**Piszkesteto**	**78.34**	**331**	*e*P	**P**		**00 52 42.4**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.2								
BRTR	**Keskin Array B**	**79.51**	**318**	P	**P**		**00 52 48.2**	**+0.5**
	comp=Z,1.0nm,1.0s,mb3.7,baz=26,slow=3.1,SNR=5.1								
BRTR	**Keskin Array B**	**79.51**	**318**	P	**P**		**00 52 48.3**	**+0.5**
BRTR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
GERES	**GERESS Array B**	**79.52**	**335**	P	**P**		**00 52 46.6**	**-1.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=34,slow=3.6,SNR=4.1								
TAU	**Tasmania Unive**	**88.69**	**185**	P	**P**		**00 53 34.2**	**-0.2**

IDC 24 00:47:38.9±4.5, 4680N×15339E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=154.6km s-min=39.5km az=9.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.09**	**297**	P	P	00 56 12.1	-0.4
	0.6nm,0.7s,baz=60,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**64.08**	**335**	P	P	00 58 14.0	-0.7
	1.4nm,0.8s,baz=55,slow=7.2,SNR=5.1						
NB2	**NORSAR Subarra**	**68.25**	**341**	P	P	00 58 41.9	+0.5
	comp=Z,1.4nm,0.6s,baz=30,slow=6.5						
AKASG	**Malin Array Be**	**71.61**	**326**	P	P	00 59 02.1	0.0
	comp=Z,0.5nm,0.5s,baz=32,slow=6.1,SNR=5.1						
TXAR	**Lajitas Array**	**77.31**	**61**	P	P	00 59 35.4	+0.2
	comp=Z,0.3nm,0.5s,baz=300,slow=4.9,SNR=4.3						

*ISCJB **24** 00:55:54.3±0.2, 4639N×1406E×001, h15km±2km, Error ellipse: s-maj=2.3km s-min=1.4km az=18.2*
*LJU **24** 00:55:54.9, 4637N×1406E, h10km, ML2.6*
*NEIC **24** 00:55:54.0, 4630N×1410E, h10km, ML2.7(LJU), ML2.8(ROM), ML2.9(SZGRF), After ROM.*
NEIC Felt [IV] at Bled, Bohinjska Bela and Gorje.
*CSEM **24** 00:55:55.2±0.0, 4636N×1404E, h11km, ML3.3/16, Error ellipse: s-maj=1.0km s-min=0.6km az=5.0*
*SZGRF **24** 00:55:56.7, 4638N×1404E, h10km, mb2.7, Northwestern Balkan Peninsula*
*LDG **24** 00:55:56.0±0.1, 4633N×1408E, h10km, Ml3.1/2, Error ellipse: s-maj=3.9km s-min=3.0km az=13.0*
*PRU **24** 00:55:59.4, 4658N×1420E, h0km*

ISC 24 00:55:55.4±0.2, 4638N±001×1405E±001, h7km±2km, n126, σ1§09/216, 36C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORS	**Gorjuse**	**0.07**	**213**	⇓*i*Pg	**Pg**	**00 55 57.7**	**+0.4**
GORS				*i* Sg	**Sg**	**00 55 59.0**	**+0.4**
GORS							
	comp=Z,1μm,0.1s						
GORS	**Gorjuse**	**0.07**	**213**	⇓*i*Pg	**Pg**	**00 55 57.7**	**+0.4**
GORS				*i* Sg	**Sg**	**00 55 59.0**	**+0.4**
	comp=Z,1μm,0.1s						
CADS	**Cadrg**	**0.27**	**235**	*i* Pg	**Pg**	**00 56 00.5**	**-0.2**
CADS				*i* Sg	**Sg**	**00 56 04.0**	**-0.3**
CADS							
	comp=Z,639nm,0.1s						
CADS	**Cadrg**	**0.27**	**235**	*i* Pg	**Pg**	**00 56 00.5**	**-0.2**
CADS				*i* Sg	**Sg**	**00 56 04.0**	**-0.2**
	comp=Z,639nm,0.1s						
MOZS	**Mozjanca**	**0.28**	**108**	⇑*i*Pg	**Pg**	**00 56 01.6**	**+0.6**
MOZS				*i* Sg	**Sg**	**00 56 06.2**	**+1.4**
DRE	**Drenchia**	**0.35**	**234**	⇓*i*Pg	**Pg**	**00 56 01.9**	**-0.4**
DRE				*i* Sg	**Sg**	**00 56 07.0**	**+0.1**
OBKA	**Obir**	**0.37**	**69**	⇓*i*Pg	**Pg**	**00 56 03.0**	**+0.4**
	comp=Z,39nm,0.1s,SNR=196						
OBKA				⇑*i*Sg	**Sg**	**00 56 08.9**	**+1.5**
	comp=Z,341nm,0.2s						
VOJS	**Vojsko**	**0.37**	**199**	⇓*i*Pg	**Pg**	**00 56 02.1**	**-0.4**
LSR	**Lussari**	**0.38**	**285**	⇑*i*Pg	**Pg**	**00 56 02.8**	**+0.1**
LSR				*i* Sg	**Sg**	**00 56 08.8**	**+1.1**
ROBS	**Robic**	**0.40**	**250**	⇑*i*Pg	**Pg**	**00 56 02.8**	**-0.4**
ROBS				*i* Sg	**Sg**	**00 56 08.5**	**0.0**
ROBS							
	comp=Z,400nm,0.2s						
ROBS	**Robic**	**0.40**	**250**	⇑*i*Pg	**Pg**	**00 56 02.8**	**-0.4**
ROBS				*i* Sg	**Sg**	**00 56 08.5**	**0.0**
ROBS	**Robic**	**0.40**	**250**	⇑*i*Pg	**Pg**	**00 56 02.8**	**-0.4**
ROBS				*i* Sg	**Sg**	**00 56 08.5**	**0.0**
	comp=Z,400nm,0.2s						
LJU	**Ljubljana**	**0.47**	**135**	⇑*i*Pg	**Pg**	**00 56 04.8**	**+0.3**
LJU				*i* Sg	**Sg**	**00 56 11.0**	**+0.3**
LJU							
	comp=Z,417nm,0.1s						
LJU	**Ljubljana**	**0.47**	**135**	⇑*i*Pg	**Pg**	**00 56 04.8**	**+0.3**
LJU				*i* Sg	**Sg**	**00 56 11.0**	**+0.3**
LJU	**Ljubljana**	**0.47**	**135**	⇑*i*Pg	**Pg**	**00 56 04.8**	**+0.3**
LJU				*i* Sg	**Sg**	**00 56 11.0**	**+0.3**
	comp=Z,417nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.48**	**273**	Pg	**Pg**	**00 56 04.3**	**-0.5**
PTCC				Sg	**Sg**	**00 56 12.1**	**+1.0**
JAVS	**Javornik**	**0.49**	**179**	⇓*i*Pg	**Pg**	**00 56 04.2**	**-0.7**
JAVS				*e*Sg	**Sg**	**00 56 11.9**	**+0.7**
JAVS							
	comp=Z,120nm,0.1s						
JAVS	**Javornik**	**0.49**	**179**	⇓*i*Pg	**Pg**	**00 56 04.2**	**-0.6**
JAVS				*e*Sg	**Sg**	**00 56 11.9**	**+0.7**
	comp=Z,120nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.53**	**122**	⇑*i*Pg	**Pg**	**00 56 06.0**	**+0.4**
VNDS				*i* Sg	**Sg**	**00 56 13.5**	**+1.0**
COLI	**Coloredo**	**0.53**	**242**	⇑*i*Pg	**Pg**	**00 56 04.6**	**-1.1**
COLI				*i* Sg	**Sg**	**00 56 12.7**	**+0.1**
GMNA	**Gemona**	**0.58**	**260**	Pg	**Pg**	**00 56 07.4**	**+0.9**
GMNA				Sg	**Sg**	**00 56 16.6**	**+2.6**
GMNA	**Gemona**	**0.58**	**260**	Sg	**Sg**	**00 56 16.6**	**+2.6**
BAD	**Bernadia**	**0.58**	**256**	⇓*e*Pg	**Pg**	**00 56 05.8**	**-0.8**
BAD				*e*Sg	**Sg**	**00 56 15.2**	**+1.0**
PLRO	**Paularo**	**0.65**	**285**	⇓*e*Pg	**Pg**	**00 56 07.7**	**-0.2**
PLRO				*e*Sg	**Sg**	**00 56 17.1**	**+0.8**
BOO	**Bordano**	**0.66**	**265**	*e*Pg	**Pg**	**00 56 07.3**	**-0.9**
BUA	**Buia**	**0.67**	**256**	⇓*i*Pg	**Pg**	**00 56 07.6**	**-0.6**
BUA				*i* Sg	**Sg**	**00 56 18.2**	**+1.3**
ZAVS	**Zavodnje**	**0.67**	**85**	*i* Pg	**Pg**	**00 56 08.3**	**-0.1**
ZAVS				*i* Sg	**Sg**	**00 56 17.9**	**+0.7**
CEY	**Cerknica**	**0.69**	**158**	*i* Pg	**Pg**	**00 56 07.9**	**-0.9**
CEY				*i* Sg	**Sg**	**00 56 17.6**	**-0.2**
CEY							
	comp=Z,173nm,0.1s						
CEY	**Cerknica**	**0.69**	**158**	*i* Pg	**Pg**	**00 56 07.9**	**-0.9**
CEY				*i* Sg	**Sg**	**00 56 17.6**	**-0.2**
CEY	**Cerknica**	**0.69**	**158**	*i* Pg	**Pg**	**00 56 07.9**	**-0.8**
CEY				*i* Sg	**Sg**	**00 56 17.6**	**-0.1**
	comp=Z,173nm,0.1s						
TRI	**Trieste**	**0.70**	**197**	Pg	**Pg**	**00 56 07.8**	**-1.1**
TRI				Sg	**Sg**	**00 56 18.5**	**+0.5**
PDKS	**Podkum**	**0.73**	**116**	⇑*i*Pg	**Pg**	**00 56 09.6**	**+0.2**
PDKS				*e*Sg	**Sg**	**00 56 19.6**	**+0.7**
PDKS							
	comp=Z,60nm,0.1s						
PDKS	**Podkum**	**0.73**	**116**	⇑*i*Pg	**Pg**	**00 56 09.6**	**+0.2**
PDKS				*e*Sg	**Sg**	**00 56 19.6**	**+0.7**
PDKS	**Podkum**	**0.73**	**116**	⇑*i*Pg	**Pg**	**00 56 09.6**	**+0.2**
	comp=Z,60nm,0.1s						
MPRI	**Monte Prat**	**0.75**	**260**	⇓*e*Pg	**Pg**	**00 56 09.0**	**-0.8**
MPRI				*e*Sg	**Sg**	**00 56 21.0**	**+1.4**
ZOU	**Zoufplan**	**0.77**	**284**	⇓*i*Pg	**Pg**	**00 56 09.9**	**-0.3**
ZOU				*i* Sg	**Sg**	**00 56 21.5**	**+1.3**
PERS	**Pernice**	**0.78**	**70**	⇑*i*Pg	**Pg**	**00 56 10.5**	**+0.1**
PERS				*e*Sg	**Sg**	**00 56 20.4**	**-0.1**
PERS							
	comp=Z,120nm,0.2s						
PERS	**Pernice**	**0.78**	**70**	⇑*i*Pg	**Pg**	**00 56 10.5**	**+0.1**
PERS				*e*Sg	**Sg**	**00 56 20.4**	**-0.1**
PERS	**Pernice**	**0.78**	**70**	⇑*i*Pg	**Pg**	**00 56 10.5**	**+0.1**
	comp=Z,120nm,0.2s						
PERS				*e*Sg	**Sg**	**00 56 20.4**	**-0.1**
	comp=Z,120nm,0.2s						
BISS	**Bistriski jare**	**0.79**	**70**	*i* Pg	**Pg**	**00 56 10.6**	**0.0**
BISS				*i* Sg	**Sg**	**00 56 21.2**	**+0.4**
BISS							
	comp=Z,218nm,0.1s						
BISS	**Bistriski jare**	**0.79**	**70**	*i* Pg	**Pg**	**00 56 10.6**	**0.0**
BISS				*i* Sg	**Sg**	**00 56 21.2**	**+0.4**
BISS	**Bistriski jare**	**0.79**	**70**	*i* Pg	**Pg**	**00 56 10.6**	**0.0**
BISS				*i* Sg	**Sg**	**00 56 21.2**	**+0.4**
	comp=Z,218nm,0.1s						
VISS	**Visnje**	**0.80**	**136**	*i* Pg	**Pg**	**00 56 10.7**	**0.0**
VISS				*e*Sg	**Sg**	**00 56 20.1**	**-0.9**
VISS							
	comp=Z,135nm,0.2s						
VISS	**Visnje**	**0.80**	**136**	*i* Pg	**Pg**	**00 56 10.6**	**-0.1**
VISS				*e*Sg	**Sg**	**00 56 20.1**	**-0.9**
	comp=Z,135nm,0.2s						
TLI	**Talmassons**	**0.81**	**236**	⇑*e*Pg	**Pg**	**00 56 10.1**	**-0.8**
SKDS	**Skadanscina**	**0.83**	**182**	*i* Pg	**Pg**	**00 56 09.9**	**-1.5**
KBA	**Koelnbreinsper**	**0.85**	**325**	⇑*i*Pg	**Pg**	**00 56 12.1**	**+0.3**
	SNR=7.5						
KBA				⇓*i*Sg	**Sg**	**00 56 23.3**	**+0.4**
	comp=Z,105nm,0.2s						
KBA	**Koelnbreinsper**	**0.85**	**325**	*e*Pg	**Pg**	**00 56 12.0**	**+0.2**
KBA				*e*Sg	**Sg**	**00 56 23.3**	**+0.4**
KNDS	**Knezji Dol**	**0.88**	**165**	*i* Pg	**Pg**	**00 56 11.0**	**-1.3**
KNDS				*e*Sg	**Sg**	**00 56 24.1**	**+0.3**
KNDS							
	comp=Z,74nm,0.2s						
KNDS	**Knezji Dol**	**0.88**	**165**	*i* Pg	**Pg**	**00 56 11.0**	**-1.4**
KNDS				*e*Sg	**Sg**	**00 56 24.1**	**+0.3**
	comp=Z,74nm,0.2s						
FVI	**Forni Avoltri**	**0.91**	**284**	Pg	**Pg**	**00 56 12.1**	**-0.7**
FVI				Sg	**Sg**	**00 56 24.3**	**-0.3**
CSMI	**Casera Mimoias**	**0.98**	**278**	⇓*i*Pg	**Pg**	**00 56 13.8**	**-0.4**
CSMI				Sg	**Sg**	**00 56 29.2**	**+2.3**
LEGS	**Legarje**	**0.98**	**116**	*i* Pg	**Pg**	**00 56 14.1**	**-0.1**
LEGS				*e*Sg	**Sg**	**00 56 27.0**	**+0.1**
GROS	**Grobnik**	**1.00**	**85**	⇑*i*Pg	**Pg**	**00 56 14.1**	**-0.6**
GROS							
	comp=Z,24nm,0.1s						
GROS	**Grobnik**	**1.00**	**85**	⇑*i*Pg	**Pg**	**00 56 14.1**	**-0.6**
	comp=Z,24nm,0.1s						
DOBS	**Dobrina**	**1.01**	**103**	*i* Pg	**Pg**	**00 56 14.4**	**-0.4**
MLNI	**Malnisio**	**1.03**	**258**	⇓*i*Pg	**Pg**	**00 56 14.5**	**-0.7**
MLNI				*i* Sg	**Sg**	**00 56 30.7**	**+2.2**
CESS	**Cesta pri Krsk**	**1.06**	**112**	*i* Pg	**Pg**	**00 56 15.6**	**-0.1**
CESS				*e*Sg	**Sg**	**00 56 29.4**	**-0.1**
CRES	**Cresnjev**	**1.12**	**119**	*i* Pg	**Pg**	**00 56 16.8**	**-0.2**
CRES				*e*Sg	**Sg**	**00 56 31.9**	**+0.4**
GOLS	**Golise**	**1.15**	**108**	*i* Pg	**Pg**	**00 56 17.4**	**-0.2**
GOLS				*e*Sg	**Sg**	**00 56 33.1**	**+0.6**
GOLS							
	comp=Z,89nm,0.3s						
GOLS	**Golise**	**1.15**	**108**	*i* Pg	**Pg**	**00 56 17.4**	**-0.2**
GOLS				*e*Sg	**Sg**	**00 56 33.1**	**+0.6**
GOLS	**Golise**	**1.15**	**108**	*i* Pg	**Pg**	**00 56 17.4**	**-0.1**
GOLS				*e*Sg	**Sg**	**00 56 33.1**	**+0.6**
	comp=Z,89nm,0.3s						
CAE	**Caneva**	**1.18**	**252**	⇑*i*Pg	**Pg**	**00 56 18.1**	**-0.1**
CAE				*i* Sg	**Sg**	**00 56 36.0**	**+2.5**
CSO	**Casso**	**1.20**	**266**	*e*Pg	**Pg**	**00 56 17.4**	**-1.1**
CSO				*e*Sg	**Sg**	**00 56 37.1**	**+2.9**
GCIS	**Gornji Cirnik**	**1.21**	**115**	*i* Pg	**Pg**	**00 56 18.4**	**-0.2**
GCIS				*e*Sg	**Sg**	**00 56 34.6**	**+0.3**
GCIS							
	comp=Z,67nm,0.2s						
GCIS	**Gornji Cirnik**	**1.21**	**115**	*i* Pg	**Pg**	**00 56 18.4**	**-0.2**
GCIS				*e*Sg	**Sg**	**00 56 34.6**	**+0.3**
	comp=Z,67nm,0.2s						
BOJS	**Bojanci**	**1.21**	**136**	*i* Pg	**Pg**	**00 56 18.1**	**-0.5**
BOJS				*e*Sg	**Sg**	**00 56 34.0**	**-0.3**
BOJS	**Bojanci**	**1.21**	**136**	*i* Pg	**Pg**	**00 56 18.1**	**-0.6**
BOJS				*e*Sg	**Sg**	**00 56 34.0**	**-0.4**
AFL	**Alpe Faloria**	**1.30**	**277**	⇓*e*Pg	**Pg**	**00 56 20.0**	**-0.4**
SEST	**Monte Rota**	**1.32**	**287**	Pg	**Pg**	**00 56 20.1**	**-0.6**
SEST				Sg	**Sg**	**00 56 37.4**	**-0.5**
ARSA	**Arzberg**	**1.33**	**49**	⇑*i*Sg	**Sn**	**00 56 37.7**	**-0.7**
	comp=Z,22nm,0.2s						
ARSA	**Arzberg**	**1.33**	**49**	⇓*i*Pg	**Pg**	**00 56 20.8**	**-0.2**
	comp=Z,8.0nm,0.2s,SNR=6.7						
ARSA				⇑*i*Sn	**Sn**	**00 56 37.7**	**-0.7**
	comp=Z,22nm,0.2s						
ARSA	**Arzberg**	**1.33**	**49**	*e*Pg	**Pg**	**00 56 20.7**	**-0.3**
ARSA				*e*Sg	**Sg**	**00 56 37.7**	**-0.6**
FAU	**Forcella Aurin**	**1.45**	**265**	*e*Pg	**Pg**	**00 56 22.7**	**-0.4**
MTLO	**Montello**	**1.48**	**248**	⇑*i*Pg	**Pg**	**00 56 22.6**	**-1.1**
MOA	**Molln**	**1.48**	**6**	⇑*i*Pg	**Pg**	**00 56 23.5**	**-0.3**
	comp=Z,4.6nm,0.1s,SNR=41						
MOA				⇑*i*Sg	**Sg**	**00 56 45.4**	**+2.5**
	comp=Z,14nm,0.2s						
MOA	**Molln**	**1.48**	**6**	*e*Pg	**Pg**	**00 56 23.4**	**-0.3**
MOA				*e*Sg	**Sg**	**00 56 45.8**	**+2.9**
KOGS	**Kog**	**1.52**	**87**	*i* Pn	**Pn**	**00 56 23.0**	**0.0**
KOGS	**Kog**	**1.52**	**87**	*i* Pg	**Pg**	**00 56 23.2**	**-1.4**
CGRP	**Cima Grappa**	**1.65**	**253**	⇓*e*Pg	**Pg**	**00 56 25.1**	**-1.8**
CGRP				*e*Sg	**Sg**	**00 56 48.6**	**+0.3**
CTI	**Castel Tesino**	**1.70**	**260**	Pg	**Pg**	**00 56 25.6**	**-2.4**
CTI				Sg	**Sg**	**00 56 47.2**	**-2.9**
SISC	**Sisak**	**1.86**	**119**	*i* Sg	**Sg**	**00 56 56.5**	**+1.4**
SISC	**Sisak**	**1.86**	**119**	*i* Sg	**Sg**	**00 56 56.4**	**+1.3**
WTTA	**Wattenberg**	**1.88**	**299**	⇓*e*Pn	**Pn**	**00 56 28.5**	**+0.5**
	comp=Z,9.2nm,0.2s,SNR=24						
WTTA				⇑*e*Sg	**Sg**	**00 56 56.5**	**+0.7**
	comp=Z,44nm,0.5s						
WTTA	**Wattenberg**	**1.88**	**299**	*e*Pn	**Pn**	**00 56 28.1**	**+0.1**
WTTA				*e*Sg	**Sg**	**00 56 54.9**	**-1.0**
WTTA	**Wattenberg**	**1.88**	**299**	Pn	**Pn**	**00 56 28.5**	**+0.5**
	comp=Z,9.2nm,0.2s,SNR=24						
WTTA				Sg	**Sg**	**00 56 56.5**	**+0.6**
	comp=Z,44nm,0.5s						
NVLJ	**Novalja**	**1.91**	**162**	*i* Pn	**Pn**	**00 56 29.8**	**+1.5**
NVLJ				*i* Sn	**Sn**	**00 56 55.8**	**+3.3**
WATA	**Walderalm**	**1.95**	**300**	⇓*e*Pn	**Pn**	**00 56 31.4**	**+2.5**
	comp=Z,11nm,0.2s,SNR=7.5						
WATA				⇑*i*Sg	**Sg**	**00 56 58.6**	**+0.5**
	comp=Z,12nm,0.2s						
WATA	**Walderalm**	**1.95**	**300**	Pn	**Pn**	**00 56 31.4**	**+2.5**
	comp=Z,11nm,0.2s,SNR=7.5						
WATA				Sg	**Sg**	**00 56 58.6**	**+0.5**
	comp=Z,12nm,0.2s						
APPI	**Appiano**	**1.96**	**274**	Pg	**Pg**	**00 56 30.4**	**-2.5**
APPI				Sg	**Sg**	**00 56 54.3**	**-4.0**
CONA	**Conrad Observa**	**1.98**	**38**	⇑*e*Pn	**Pn**	**00 56 30.6**	**+1.3**
	comp=Z,3.4nm,0.3s,SNR=10						
CONA				⇑*i*Sg	**Sg**	**00 56 59.8**	**+0.8**
	comp=Z,4.4nm,0.3s						
SQTA	**Sankt Quirin**	**2.13**	**294**	⇑*e*Pn	**Pn**	**00 56 34.5**	**+3.2**
	comp=Z,26nm,0.4s,SNR=22						
SQTA				⇑*i*Sg	**Sg**	**00 57 06.3**	**+2.5**
	comp=Z,20nm,0.4s						
SQTA	**Sankt Quirin**	**2.13**	**294**	⇑*e*Pn	**Pn**	**00 56 34.5**	**+3.2**
SQTA				*i* Sg	**Sg**	**00 57 06.3**	**+2.5**
MOTA	**Moosalm**	**2.24**	**297**	⇓*e*Pn	**Pn**	**00 56 36.2**	**+3.3**
	comp=Z,3.1nm,0.3s						
MOTA				⇑*i*Sg	**Sg**	**00 57 07.1**	**-0.4**
	comp=Z,7.3nm,0.4s						
GEC2	**GERESS Array S**	**2.48**	**355**	*e*Pn	**Pn**	**00 56 37.2**	**+1.0**
GEC2				*e*Sg	**Sg**	**00 57 15.0**	**0.0**
ZST	**Bratislava**	**2.76**	**48**	*e*PG	**Pg**	**00 56 47.9**	**-0.4**
ZST				*e*SG	**Sg**	**00 57 19.7**	**-4.3**
KHC	**Kasperske Hory**	**2.77**	**354**	*e*PN	**Pn**	**00 56 41.4**	**+1.2**
KHC				*e*PG	**Pg**	**00 56 46.3**	**-2.2**
KHC				*e*SG	**Sg**	**00 57 23.0**	**-1.4**
	comp=Z,14nm,0.6s						
WET	**Wettzell**	**2.88**	**344**	*e*Pn	**Pn**	**00 56 44.0**	**+2.3**
DAVA	**Damuels**	**3.00**	**289**	⇑*i*Pn	**Pn**	**00 56 45.5**	**+2.0**
	comp=Z,5.8nm,0.5s						
DAVA				⇓*i*Sg	**Sg**	**00 57 34.0**	**+2.0**
	comp=Z,8.6nm,0.4s						
DAVA	**Damuels**	**3.00**	**289**	*e*Pn	**Pn**	**00 56 45.4**	**+2.0**
SMOL	**Smolenice**	**3.13**	**46**	*e*PG	**Pg**	**00 56 55.0**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.61**	**341**	*e*Pn	**Pn**	**00 56 52.1**	**+0.4**
ROTZ				*e*Sn	**Sn**	**00 57 34.6**	**+0.1**
PRU	**Pruhonice**	**3.62**	**5**	*e*PG	**Pg**	**00 57 01.7**	**-3.2**
MANZ	**Manzenberg**	**3.84**	**341**	*e*Pn	**Pn**	**00 56 56.2**	**+1.4**
MANZ				*e*Sg	**Sg**	**00 57 57.2**	**-1.4**
NKC	**Novy Kostel**	**4.00**	**345**	*e*SG	**Sg**	**00 58 01.2**	**-2.7**
	comp=Z,9.3nm,0.4s						
WERN	**Wernitzgruen**	**4.07**	**345**	*e*Sg	**Sg**	**00 58 06.1**	**+0.1**
GUNZ	**Gunzen**	**4.15**	**345**	*e*Sg	**Sg**	**00 58 08.6**	**0.0**
WERD	**Werda**	**4.23**	**345**	*e*Sg	**Sg**	**00 58 11.9**	**+0.5**
BRG	**Berggiesshubel**	**4.50**	**359**	SG	**Sg**	**00 58 17.5**	**-2.4**
	comp=Z,1.8nm,0.5s						
BRG	**Berggiesshubel**	**4.50**	**359**	SG	**Sg**	**00 58 27.1**	**+7.2**
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**4.98**	**352**	*i* Sg	**Sg**	**00 58 32.9**	**-2.4**
	comp=Z,12nm,0.8s						
CDF	**Champ du Feu**	**5.03**	**296**	*e*Pn	**Pn**	**00 57 11.2**	**-0.1**
CDF				*e*Pg	**Pg**	**00 57 27.8**	**-4.0**
LPG	**La Plagne**	**5.17**	**263**	*e*Pn	**Pn**	**00 57 13.4**	**+0.2**
LPL	**La Plagne**	**5.18**	**263**	*e*Pn	**Pn**	**00 57 11.8**	**-1.5**
SBF	**Sospel**	**5.32**	**244**	*e*Pn	**Pn**	**00 57 13.5**	**-1.7**
SBF				*e*Sn	**Sn**	**00 58 12.9**	**-3.8**
	comp=Z,6.0nm,0.4s						
SBF	**Sospel**	**5.32**	**244**	*e*Pn	**Pn**	**00 57 13.5**	**-1.7**
SBF				*e*Sn	**Sn**	**00 58 12.9**	**-3.8**
	comp=Z,3.0nm,0.4s						
MBDF	**Montbardon**	**5.38**	**255**	*e*Pn	**Pn**	**00 57 14.8**	**-1.2**
HAU	**Haudompre**	**5.50**	**290**	*e*Pn	**Pn**	**00 57 17.5**	**-0.2**
CABF	**La Chapelle**	**5.51**	**275**	*e*Pn	**Pn**	**00 57 17.4**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.91**	**259**	*e*P	**Pn**	**00 57 25.1**	**+1.7**
	comp=Z,3.9nm,0.5s						
FRF	**La Foret Royal**	**5.96**	**244**	*e*Pn	**Pn**	**00 57 22.2**	**-1.9**
LMR	**La Mourre**	**6.17**	**243**	*e*Sn	**Sn**	**00 58 32.5**	**-5.1**
LMR				*e*Sg	**Sg**	**00 59 06.3**	**-7.1**
	comp=Z,1.8nm,0.2s						
LMR	**La Mourre**	**6.17**	**243**	*e*Sn	**Sn**	**00 58 32.5**	**-5.1**
LMR				*e*Sg	**Sg**	**00 59 06.3**	**-7.1**
	comp=Z,0.9nm,0.2s						
LOR	**Lormes**	**7.05**	**281**	*e*Pg	**Pg**	**00 58 05.9**	**-4.6**
SMF	**Signal de Mont**	**7.05**	**276**	*e*Pn	**Pn**	**00 57 37.9**	**-1.1**
SMF				*e*Pg	**Pg**	**00 58 06.2**	**-4.3**
AVF	**Avril sur Loir**	**7.39**	**277**	*e*Pn	**Pn**	**00 57 42.8**	**-0.8**

JMA 24 00:58:47.2±0.1, 3752N×13603E, h11km±2km, M3.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**0.78**	**65**	P	Pg	00 59 02.3	+0.1
JHG				eS	Sg	00 59 12.8	+0.4
JJH	**Hakui**	**0.84**	**134**	P	Pg	00 59 03.4	-0.1
JJH				eS	Sg	00 59 15.1	+0.6
JSZ	**Suzu**	**1.06**	**93**	P	Pb	00 59 06.9	-0.7
JSZ				eS	Sg	00 59 21.2	-0.3
JKG	**Kaga**	**1.26**	**169**	P	Pn	00 59 10.7	-0.1
JKG				eS	Sb	00 59 27.4	+0.1
JTT	**Ttatey**	**1.39**	**131**	P	Pn	00 59 13.2	+0.7
JTT				eS	Sn	00 59 30.7	-0.1
JGN	**Niukaw**	**1.66**	**141**	P	Pn	00 59 15.5	-0.7
JGN				eS	Sn	00 59 37.9	+0.5
MAT	**Matsushiro**	**2.00**	**119**	P	Pn	00 59 21.2	+0.3
MAT				eS	Sn	00 59 50.0	+4.2

*MOS **24** 01:15:45.9±1.4, 4248N×4362E, h19km, mb3.6/1, Error ellipse: s-maj=19.2km s-min=7.2km az=84.9*
*ISCJB **24** 01:15:46.4±0.5, 4258N±003×4347E±004, h10km, Error ellipse: s-maj=4.9km s-min=3.5km az=84.0*
*CSEM **24** 01:15:46.0±0.4, 4247N×4353E, h2km, mb3.6, Error ellipse: s-maj=7.0km s-min=3.4km az=175.0*

ISC 24 01:15:46.4±1.1, 4254N±004×4345E±007, h5km±12km, n18, σ0§93/27, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.37**	**15**	*i* Pg	**Pg**	**01 15 52.8**	**-0.7**
ZEI	**Tsey**	**0.40**	**55**	⇓*i*PG	**Pg**	**01 15 53.8**	**-0.3**
ZEI				*e*		01 15 59.6	
ZEI				pmax	pmax		
	comp=Z,76nm,0.1s						
ZEI				smax			
	comp=N,50nm,0.2s						
ZEI	**Tsey**	**0.40**	**55**	*i* P

comp=Z,49nm,19.3s,MS3.8,baz=280,slow=34
ASF Jabal al Asfar 69.36 45 LR LR 02 02 00.0
comp=Z,52nm,21.6s,MS3.7,baz=46,slow=34
GERES GERESS Array B 70.55 19 LR LR 02 02 53.6
comp=Z,69nm,19.3s,MS3.9,baz=275,slow=34
BR131 Keskin Array S 72.20 37 *eP* **P 01 34 29.3 -0.2**
4.5nm,1.0s,mb4.3
BRTR Keskin Array B 72.20 37 P **P 01 34 29.9 +0.4**
0.5nm,0.6s,mb3.6,baz=198,slow=7.4,SNR=4.3
AKASG Malin Array Be 77.81 26 P **P 01 34 60.0 -2.0**
0.6nm,0.5s,mb3.8,baz=220,slow=5.2,SNR=5.9
AKASG Malin Array Be 77.81 26 P **P 01 34 60.0 -2.0**
GNI Garni 79.17 42 LR LR 02 10 22.5
comp=Z,32nm,18.7s,MS3.7,baz=47,slow=36
HFS Hagfors 80.61 14 LR LR 02 13 13.9
comp=Z,97nm,18.6s,MS4.2,baz=67,slow=37
NOA NORSAR Array B 80.81 12 LR LR 02 10 32.5
comp=Z,33nm,18.0s,MS3.7,baz=0.0,slow=35
ELN Prospectdale 83.24 312 P **P 01 35 31.2 +0.2**
FINES FINESS Array B 84.96 18 LR LR 02 12 47.0
comp=Z,76nm,18.0s,MS4.1,baz=183,slow=35
ARCES ARCESS Array B 91.26 13 LR LR 02 18 50.1
comp=Z,66nm,20.8s,MS4.1,baz=234,slow=37
AKTO Aktyubinsk 92.36 37 LR LR 02 21 10.6
comp=Z,36nm,18.1s,MS3.9,baz=69,slow=38
ULM Lac du Bonnet 98.36 320 LR LR 02 12 07.1
comp=Z,71nm,20.9s,MS4.1,baz=13,slow=30
ASAR Alice Springs 128.30 141 PKP PKPdf 01 42 13.9 +2.8
0.6nm,0.9s,baz=186,slow=1.9,SNR=5.1

*ISCJB **24** 01:56:38.4±0.3,5143N×002×1609E×002,h0km,mb3.1/1, Error ellipse: s-maj=3.3km s-min=1.8km az=19.1*
*NEIC **24** 01:56:39.9±0.4,5152N×1610E,h5km,ML3.3(SZGRF), Error ellipse: s-maj=5.2km s-min=4.2km az=192.0*
*BGR **24** 01:56:39.5±0.6,5152N×1615E,h1km,ML3.2, Error ellipse: s-maj=7.8km s-min=3.3km az=8.0*
*IPEC **24** 01:56:39.0±0.2,5156N×1620E,h0km,ML2.6/4, Error ellipse: s-maj=1.5km s-min=1.3km az=12.0*
*CSEM **24** 01:56:40.7±0.1,5144N×1609E,h0km,ML3.5/8, Error ellipse: s-maj=2.6km s-min=1.4km az=20.0*
*IDC **24** 01:56:41.3±0.7,5147N×1588E,h0km,mb3.4/1,mb1 3.5/9, mb1mx3.4/24,mbtmp3.4/9,ML3.3/8, Error ellipse: s-maj=14.8km s-min=6.6km az=105.0*
*PRU **24** 01:56:41.5,5144N×1604E,h0km*
*WAR **24** 01:56:43,5146N×1608E,ML2.8,Mining Induced*
*VIE **24** 01:56:43.4±0.5,5124N×1597E,h0km,mb2.6/6,ML3.1/6, Error ellipse: s-maj=3.1km s-min=2.3km az=20.0 74 km WNW of Breslau Suspected Mining induced.*
*LDG **24** 01:56:44.7±0.9,5111N×1591E,h1km,Ml3.3/2, Error ellipse: s-maj=24.4km s-min=7.9km az=20.0,Suspected Mining induced.*

ISC 24 01:56:39.7±0.3,5149N±002×1609E±002,h0km,n92, σ1s03/153,mb3.1/1,8C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UPC	**Upice**	**0.98**	**183**	*e*Pg		**Pg**	**01 56 59.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pg		**Pg**	**01 57 01.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG		**Pg**	**01 57 01.9**	**+0.3**
DPC				*e*SG		**Sg**	**01 57 16.0**	**-0.5**
	95nm,0.4s							
DPC	**Dobruska-Polom**	**1.15**	**172**	Pg		**Pg**	**01 57 01.8**	**+0.2**
DPC				*e*Sg		**Sg**	**01 57 16.0**	**-0.5**
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG		**Pg**	**01 57 06.1**	**+0.4**
PVCC				*e*SG		**Sg**	**01 57 23.9**	**+0.7**
	528nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pn		**Pn**	**01 57 05.9**	**+0.1**
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pg		**Pg**	**01 57 06.1**	**+0.4**
PVCC				*e*Sg		**Sg**	**01 57 23.9**	**+0.7**
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn		**Pn**	**01 57 07.4**	**-0.2**
BRG				*e*Sg		**Sg**	**01 57 28.5**	**+1.2**
BRG	**Berggiesshubel**	**1.48**	**246**	PN		**Pn**	**01 57 08.6**	**+1.0**
BRG				SG		**Sg**	**01 57 28.5**	**+1.2**
	125nm,0.3s							
PRU	**Pruhonice**	**1.79**	**214**	*e*PN		**Pn**	**01 57 11.6**	**-0.2**
PRU				*e*PG		**Pg**	**01 57 13.0**	**-1.0**
PRU				*e*SG		**Sg**	**01 57 35.6**	**-1.7**
	59nm,0.4s							
PRU	**Pruhonice**	**1.79**	**214**	*e*Pg		**Pg**	**01 57 13.0**	**-1.0**
FBE	**Freiberg**	**1.81**	**253**	*e*Pn		**Pn**	**01 57 13.2**	**+1.2**
FBE				*e*Sg		**Sg**	**01 57 38.2**	**+0.4**
CLL	**Collm**	**1.94**	**266**	*e*Pn		**Pn**	**01 57 13.8**	**-0.1**
CLL				*i* Pg		**Pg**	**01 57 16.8**	**-0.1**
CLL				*e*Sg		**Sg**	**01 57 43.0**	**+1.0**
CLL	**Collm**	**1.94**	**266**	*i* Pn		**Pn**	**01 57 13.6**	**-0.3**
CLL				*i* Pg		**Pg**	**01 57 16.8**	**-0.1**
CLL				*e*Sg		**Sg**	**01 57 43.0**	**+1.0**
	comp=Z,67nm,0.4s							
RAC	**Raciborz**	**1.94**	**136**	*e*Pg		**Pg**	**01 57 16.6**	**-0.2**
RAC				*e*Sg		**Sg**	**01 57 40.8**	**-1.2**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn		**Pn**	**01 57 14.0**	**0.0**
MORC	**Moravsky Berou**	**1.95**	**151**	⇓*i*P		**Pn**	**01 57 13.9**	**0.0**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn		**Pn**	**01 57 14.0**	**+0.1**
MORC				*e*Sn		**Sn**	**01 57 40.9**	**+1.9**
MORC	**Moravsky Berou**	**1.95**	**151**	Pn		**Pn**	**01 57 14.0**	**+0.1**
MORC				*e*Sn		**Sn**	**01 57 40.9**	**+1.8**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pn		**Pn**	**01 57 16.0**	**-0.2**
OKC				*e*Sg		**Sg**	**01 57 46.0**	**-1.4**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG		**Pg**	**01 57 19.0**	**-1.1**
OKC				*e*SG		**Sg**	**01 57 45.9**	**-1.5**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pg		**Pg**	**01 57 19.0**	**-1.1**
OKC				Sg		**Sg**	**01 57 46.0**	**-1.4**
VRAC	**Vranov**	**2.21**	**171**	Pn		**Pn**	**01 57 18.3**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=340,slow=15,SNR=28							
VRAC				Lg			01 57 49.2	
	comp=Z,10nm,0.3s,baz=71,slow=19,SNR=9.8							
VRAC	**Vranov**	**2.21**	**171**	*e*Pn		**Pn**	**01 57 17.8**	**+0.3**
VRAC	**Vranov**	**2.21**	**171**	⇓*i*P		**Pn**	**01 57 18.3**	**+0.8**
VRAC				*e*Sg		**Sg**	**01 57 49.5**	**-1.0**
	comp=Z,20nm,0.2s							
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn		**Pn**	**01 57 21.1**	**+0.4**
KRUC				*e*Sg		**Sg**	**01 57 57.8**	**-0.1**
	comp=Z,32nm,0.3s							
TANN	**Tannenbergstha**	**2.53**	**246**	*e*Pn		**Pn**	**01 57 22.5**	**+0.5**
TANN				*e*Sg		**Sg**	**01 58 00.5**	**-0.5**
WERD	**Werda**	**2.61**	**248**	*e*Pn		**Pn**	**01 57 23.5**	**+0.5**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN		**Pn**	**01 57 23.8**	**+0.5**
NKC				*e*PG		**Pg**	**01 57 30.1**	**+0.1**
NKC				*e*SG		**Sg**	**01 58 03.9**	**-0.1**
	comp=Z,116nm,0.3s							
OJC	**Ojcow**	**2.67**	**117**	*e*Pn		**Pn**	**01 57 22.6**	**-1.3**
OJC				*e*Pg		**Pg**	**01 57 30.0**	**-0.9**
OJC				*e*Sg		**Sg**	**01 58 06.0**	**-0.5**
OJC	**Ojcow**	**2.67**	**117**	*e*Pn		**Pn**	**01 57 22.6**	**-1.3**
OJC	**Ojcow**	**2.67**	**117**	*e*Pn		**Pn**	**01 57 22.8**	**-1.1**
JAVC	**Velka Javorina**	**2.82**	**158**	*e*Sg		**Sg**	**01 58 11.8**	**+1.5**
	comp=Z,23nm,0.5s							
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN		**Pn**	**01 57 26.3**	**-0.1**
KHC				*e*PG		**Pg**	**01 57 32.9**	**-1.5**
KHC				*e*SN		**Sn**	**01 58 01.6**	**+0.1**
KHC				*e*SG		**Sg**	**01 58 09.8**	**-1.6**
	comp=Z,29nm,0.3s							
MOX	**Moxa**	**2.94**	**255**	*e*Pn		**Pn**	**01 57 27.8**	**+0.1**
MOX				*e*Pg		**Pg**	**01 57 36.5**	**+0.4**
MOX				*e*Sg		**Sg**	**01 58 15.7**	**+1.4**
MOX	**Moxa**	**2.94**	**255**	*e*PN		**Pn**	**01 57 28.2**	**+0.5**
MOX				*e*PG		**Pg**	**01 57 36.5**	**+0.4**
MOX				*e*SG		**Sg**	**01 58 15.7**	**+1.4**
MOX	**Moxa**	**2.94**	**255**	*e*Pn		**Pn**	**01 57 28.2**	**+0.5**
MOX				*e*Pg		**Pg**	**01 57 36.5**	**+0.4**
MOX				*e*Sg		**Sg**	**01 58 15.7**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.01**	**237**	*e*Pn		**Pn**	**01 57 29.1**	**+0.5**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn		**Pn**	**01 57 30.2**	**+1.0**
GEC2				*e*Pg		**Pg**	**01 57 36.5**	**-1.7**
GEC2				*e*Sn		**Sn**	**01 58 07.4**	**+0.9**
GEC2				*e*Sg		**Sg**	**01 58 15.2**	**-2.7**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn		**Pn**	**01 57 30.2**	**+1.0**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pg		**Pg**	**01 57 36.5**	**-1.7**
GERES	**GERESS Array B**	**3.06**	**211**	Pn		**Pn**	**01 57 29.8**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=31,slow=12,SNR=63							
GERES				Pg		**Pg**	**01 57 36.4**	**-1.9**
	comp=Z,9.6nm,0.3s,baz=30,slow=16,SNR=84							
GERES				Lg			01 58 15.1	
	comp=Z,10nm,0.3s,baz=36,slow=27,SNR=9.7							
GERES	**GERESS Array B**	**3.06**	**211**	Pg		**Pg**	**01 57 36.4**	**-1.8**
WET	**Wettzell**	**3.12**	**222**	*e*Pn		**Pn**	**01 57 30.2**	**+0.2**
ZST	**Bratislava**	**3.36**	**168**	*e*SG		**Sg**	**01 58 26.6**	**-1.0**
NIE	**Niedzica**	**3.40**	**126**	*e*P		**Pg**	**01 57 44.1**	**-0.8**
NIE				*e*S		**Sg**	**01 58 29.3**	**+0.3**
VYHS	**Vyhne**	**3.48**	**148**	*e*PG		**Pg**	**01 57 44.7**	**-1.7**
VYHS				*e*SG		**Sg**	**01 58 33.3**	**+1.8**
CONA	**Conrad Observa**	**3.56**	**182**	*i* Pn		**Pn**	**01 57 37.3**	**+1.1**
	SNR=9.7							
CONA				⇑*i*Sg		**Sg**	**01 58 32.6**	**-1.6**
	comp=Z,17nm,0.3s							
GRF	**Grafenberg Arr**	**3.58**	**242**	*e*Sg		**Sg**	**01 58 34.8**	**0.0**
BSD	**Bornholm Skovb**	**3.70**	**350**	*i* P		**Pn**	**01 57 37.7**	**-0.4**
BSD				*i*			01 57 44.3	
BSD				*i* S		**Sn**	**01 58 20.4**	**-2.0**
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn		**Pn**	**01 57 40.4**	**+0.5**
	SNR=14							
MOA				⇑*i*Sg		**Sg**	**01 58 42.1**	**-0.5**
	comp=Z,27nm,0.5s							
MOA	**Molln**	**3.83**	**199**	Pn		**Pn**	**01 57 40.4**	**+0.6**
	comp=Z,14nm,1.0s							
MOA				Sg		**Sg**	**01 58 42.1**	**-0.5**
	comp=Z,27nm,0.5s							
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN		**Pn**	**01 57 41.8**	**+1.1**
STHS				*e*PG		**Pg**	**01 57 53.6**	**-0.7**
STHS				*e*SG		**Sg**	**01 58 50.1**	**+5.4**
KECS	**Kecovo**	**4.13**	**135**	*e*PG		**Pg**	**01 58 00.2**	**+1.3**
KECS				*e*SG		**Sg**	**01 58 57.4**	**+4.9**
ARSA	**Arzberg**	**4.26**	**185**	⇓*i*Pn		**Pn**	**01 57 46.4**	**+0.7**
ARSA				⇑*i*Sg		**Sg**	**01 58 55.3**	**-1.0**
	comp=Z,26nm,0.6s							
ARSA	**Arzberg**	**4.26**	**185**	Pn		**Pn**	**01 57 46.4**	**+0.7**
ARSA				Sg		**Sg**	**01 58 55.3**	**-1.1**
	comp=Z,26nm,0.6s							
PSZ	**Piszkesteto**	**4.34**	**144**	⇑*i*P		**Pn**	**01 57 45.5**	**-1.4**
KWP	**Kalwaria**	**4.61**	**111**	*e*Pn		**Pn**	**01 57 50.2**	**-0.3**
KWP				*e*Pg		**Pg**	**01 58 08.3**	**+0.3**
KWP				Sn		**Sn**	**01 58 47.2**	**+2.3**
KWP	**Kalwaria**	**4.61**	**111**	*e*Pn		**Pn**	**01 57 50.2**	**-0.4**
KWP	**Kalwaria**	**4.61**	**111**	*e*Pg		**Pg**	**01 58 08.3**	**+0.3**
KOLS	**Kolonicke sedl**	**4.72**	**120**	*e*PN		**Pn**	**01 57 52.4**	**+0.3**
KOLS				*e*PG		**Pg**	**01 58 10.2**	**0.0**
KOLS				*e*SG		**Sg**	**01 59 14.3**	**+2.9**
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*Pn		**Pn**	**01 57 53.3**	**+0.7**
KBA				⇑*i*Sg		**Sg**	**01 59 12.1**	**-0.5**
	comp=Z,7.3nm,0.3s							
KBA	**Koelnbreinsper**	**4.76**	**203**	Pn		**Pn**	**01 57 53.3**	**+0.6**
KBA				Sg		**Sg**	**01 59 12.1**	**-0.6**
	comp=Z,7.3nm,0.3s							
PERS	**Pernice**	**4.90**	**188**	*i* Pn		**Pn**	**01 57 56.2**	**+1.7**
KOGS	**Kog**	**5.04**	**179**	*i* Pn		**Pn**	**01 57 57.6**	**+1.1**
PKSM	**Moragy**	**5.54**	**161**	⇑*i*P		**Pn**	**01 58 03.6**	**+0.2**
BOJS	**Bojanci**	**6.01**	**186**	*i* Pn		**Pn**	**01 58 11.2**	**+1.4**
RUP	**Ruppelstein**	**6.02**	**256**	*e*Pn		**Pn**	**01 58 10.7**	**+0.8**
DAVOX	**Davos**	**6.22**	**223**	Pn		**Pn**	**01 58 13.9**	**+1.2**
	baz=95,slow=15,SNR=7.2							
DRGR		**6.40**	**135**	⇓*i*P		**Pn**	**01 58 15.8**	**+0.7**
CDF	**Champ du Feu**	**6.46**	**245**	*e*Pn		**Pn**	**01 58 16.4**	**+0.4**
CDF				*e*Sg		**Sg**	**02 00 01.5**	**-5.8**
	comp=Z,16nm,0.9s							
CDF	**Champ du Feu**	**6.46**	**245**	*e*Pn		**Pn**	**01 58 16.4**	**+0.4**
CDF				*e*Sg		**Sg**	**02 00 01.5**	**-5.8**
	comp=Z,8.2nm,0.9s							
HINF	**Hinteralfeld**	**7.03**	**242**	*e*Pn		**Pn**	**01 58 24.1**	**+0.3**
BURAR	**Bucovina Array**	**7.09**	**120**	⇓*i*P		**Pn**	**01 58 24.8**	**+0.2**
HAU	**Haudompre**	**7.21**	**245**	*e*Pn		**Pn**	**01 58 24.3**	**-1.9**
THEF	**They Montfort**	**7.30**	**247**	*e*Pn		**Pn**	**01 58 27.2**	**-0.3**
BAIF	**Baives**	**7.67**	**264**	*e*Pn		**Pn**	**01 58 24.3**	**+1.7**
BAIF				*e*Sn		**Sn**	**01 59 51.8**	**-8.3**
	comp=Z,1.6nm,0.3s							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		**Pn**	**01 58 42.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=4.4							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		**Pn**	**01 58 42.2**	**+0.8**
LPL	**La Plagne**	**8.61**	**230**	*e*Pn		**Pn**	**01 58 46.5**	**+1.0**
LPG	**La Plagne**	**8.62**	**230**	*e*Pn		**Pn**	**01 58 46.1**	**+0.5**
HFS	**Hagfors**	**8.77**	**352**	Pn		**Pn**	**01 58 46.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=161,slow=14,SNR=7.4							
LOR	**Lormes**	**9.02**	**247**	*e*Pn		**Pn**	**01 58 49.4**	**-1.8**
SSF	**Saint Saulge**	**9.34**	**247**	*e*Pn		**Pn**	**01 58 54.3**	**-1.2**
SSF				*e*Sn		**Sn**	**02 00 29.9**	**-11**
AVF	**Avril sur Loir**	**9.57**	**246**	*e*Pn		**Pn**	**01 58 57.4**	**-1.3**
SBF	**Sospel**	**9.60**	**221**	*e*Pn		**Pn**	**01 59 00.0**	**+1.0**
NOA	**NORSAR Array B**	**9.95**	**346**	Pn		**Pn**	**01 59 01.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=176,slow=12,SNR=1.6							
PGF	**Pioggiola**	**10.16**	**211**	*e*Pn		**Pn**	**01 59 04.8**	**-2.0**
FRF	**La Foret Royal**	**10.17**	**222**	*e*Pn		**Pn**	**01 59 07.9**	**+1.0**
FINES	**FINESS Array B**	**11.39**	**25**	Pn		**Pn**	**01 59 22.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=18							
FINES				Sn		**Sn**	**02 01 24.0**	**-7.5**
	comp=Z,0.2nm,0.3s,baz=211,slow=20,SNR=4.2							
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn		**Pn**	**02 00 55.0**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=196,slow=12,SNR=11							
TORD	**Torodi Ar. Bea**	**39.97**	**202**	P		**P**	**02 04 15.8**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.1,baz=14,slow=7.4,SNR=4.7							

*MOS **24** 01:57:18.7±1.3,5636N×117.15E,h2km,mb4.3/1, Error ellipse: s-maj=38.5km s-min=29.4km az=78.3*

BYKL 24 01:57:19.1±0.2,5634N×11716E,h12km±15km,2C-1D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NLYR	**Nelyaty**	**0.82**	**281**	*e*Pg		Pg	01 57 33.6	-1.4
NLYR				*e*Sg		Sg	01 57 44.6	-1.2
NLYR				*e*Sb		Sb	01 57 49.9	+3.5
NLYR				Pmax				
	11nm,0.3s							
NLYR				max				
	81nm,0.7s							
CRS	**Chara**	**0.83**	**47**	⇑*i*Pg		Pg	01 57 34.0	-1.2
CRS				*e*Sg		Sg	01 57 44.9	-1.1
CRS				Pmax				
	61nm,0.2s							
CRS				Smax				
	552nm,0.5s							
CRS	**Chara**	**0.83**	**47**	*e*PG		Pg	01 57 33.9	-1.3
CRS				*e*			01 57 44.5	
CRS				pmax	pmax			
	comp=Z,102nm,0.3s							
CRS				smax				
	comp=E,553nm,0.5s							
KHNR	**Khani**	**1.66**	**68**	*e*Pg		Pg	01 57 49.0	-2.0
KHNR				*e*Sg		Sg	01 58 10.4	-2.2
SVKR	**Severomuysk**	**2.02**	**265**	*e*Pg		Pg	01 57 55.1	-2.8
SVKR				*e*Sg		Sg	01 58 22.4	-1.8
SVKR				Pmax				
	comp=E,128nm,0.2s							
SVKR				Smax				
	comp=E,448nm,0.8s							
SVKR	**Severomuysk**	**2.02**	**265**	*e*PN		Pn	01 57 55.0	+2.0
SVKR				*e*			01 57 55.0	
SVKR				*e*S		Sn	01 58 16.9	-1.3
SVKR				*e*			01 58 21.8	
SVKR				pmax	pmax			
	comp=Z,116nm,0.3s							
SVKR				smax				
	comp=N,446nm,0.9s							
UKT	**Uakit**	**2.16**	**248**	*e*Pn		Pn	01 57 55.6	+0.7
UKT				*e*Pg		Pg	01 57 57.7	-2.9
UKT				*e*Sg		Sg	01 58 25.8	-2.9
UKT				Pmax				
	comp=N,32nm,0.3s							
UKT				Smax				
	comp=N,164nm,0.3s							
UKT	**Uakit**	**2.16**	**248**	*e*PN		Pn	01 57 57.6	+2.7
UKT				*e*			01 58 25.8	
UKT				pmax	pmax			
	comp=Z,31nm,0.3s							
UKT				smax				
	comp=N,166nm,0.3s							
BOD	**Bodaibo**	**2.27**	**312**	*e*Pg		Pg	01 57 59.5	-3.2
BOD				*e*Sg		Sg	01 58 29.0	-3.2
BOD				Pmax				
	comp=N,105nm,0.3s							
BOD				Smax				
	comp=N,749nm,0.6s							
BOD	**Bodaibo**	**2.27**	**312**	⇑*e*PN		Pn	01 57 56.4	0.0
BOD				*i*			01 57 59.0	
BOD				*e*			01 58 28.7	
BOD				pmax	pmax			
	comp=Z,105nm,0.4s							
BOD				smax				
	comp=N,743nm,0.5s							
TUP	**Tupik**	**2.50**	**139**	*e*Pn		Pn	01 58 00.5	+1.0
TUP				*e*Pg		Pg	01 58 03.2	-3.7
TUP				*e*Sg		Sg	01 58 36.5	-2.8
TUP				Pmax				
	comp=N,46nm,0.2s							
TUP				Smax				
	comp=N,254nm,0.4s							
TUP	**Tupik**	**2.50**	**139**	*e*PN		Pn	01 58 03.4	+3.9
TUP				*e*S		Sn	01 58 30.5	+0.7
TUP				*e*			01 58 36.6	
TUP				pmax	pmax			
	comp=Z,71nm,0.4s							
TUP				smax				
	comp=N,257nm,0.4s							
KMO	**Kumora**	**3.37**	**265**	*e*Pn		Pn	01 58 12.3	+0.8
KMO				*e*			01 58 22.8	
KMO				*e*Sg		Sg	01 59 03.6	-3.7
KMO				Smax				
	comp=N,94nm,1.1s							
YLYR	**Ulyunkhan**	**3.71**	**249**	⇓*i*Pn		Pn	01 58 17.0	+0.9
YLYR				*e*Pg		Pg	01 58 24.8	-5.3
YLYR				*e*Sg		Sg	01 59 14.4	-3.7
YLYR				Pmax				
	comp=N,11nm,0.4s							
YLYR				Smax				
	comp=N,100nm,0.9s							
NIZ	**Nizh Angarsk**	**4.31**	**266**	*e*		Pn	01 58 38.7	+14
NIZ				*e*Sg		Sg	01 59 32.9	-4.6
NIZ				Smax				
	comp=N,53nm,0.6s							
CIT	**Chita**	**4.82**	**208**	*e*Sg		Sg	01 59 48.2	-5.6
CIT				Smax				
	comp=N,118nm,0.6s							
SYVR	**Suvo**	**4.92**	**240**	*e*Pn		Pn	01 58 33.4	+0.6
SYVR				*e*Pg		Pg	01 58 47.8	-5.5
SYVR				*e*Sg		Sg	01 59 53.1	-4.0
SYVR				Smax				
	comp=N,83nm,1.0s							
KROS	**Kirovskiy**	**5.91**	**105**	*e*Pn		Pn	01 58 44.5	-1.9
KROS				*e*Pg		Pg	01 59 03.0	-9.3
KROS				*e*Sn		Sn	01 59 49.7	-4.4
KROS				*e*Sg		Sg	02 00 19.5	-9.3
KROS				Pmax				
	comp=N,3.0nm,0.5s							
KROS				Smax				
	comp=N,22nm,0.6s							
OGRR	**Ongureny**	**6.13**	**248**	*e*Sg		Sg	02 00 28.4	-7.5
OGRR				Smax				
	comp=N,14nm,0.5s							
KPC	**Khapcheranga**	**7.24**	**205**	*e*Sg		Sg	02 01 02.3	-9.3
KPC				Smax				
	comp=N,41nm,1.4s							

WEL 24 02:04:49.5±0.3,3796S×17617E,h188km±2km,ML3.8/7, Error ellipse: s-maj=3.0km s-min=2.6km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.80**	**112**	PN		Pn	02 05 16.5	-0.2
URZ				SN		Sn	02 05 37.7	0.0
MWZ	**Matawai**	**1.14**	**110**	PN		Pn	02 05 19.0	+0.1
MWZ				SN		Sn	02 05 41.6	-0.2
HIZ	**Hauiti**	**1.17**	**241**	PN		Pn	02 05 19.3	0.0
BKZ	**Black Stump Fm**	**1.23**	**168**	PN		Pn	02 05 19.8	+0.1
BKZ				SN		Sn	02 05 43.2	0.0
FWVZ	**Far West T-bar**	**1.38**	**200**	PN		Pn	02 05 21.5	+0.5
MOVZ	**Moawhango**	**1.48**	**193**	PN		Pn	02 05 21.8	-0.1
KNZ	**Kokohu**	**1.59**	**132**	PN		Pn	02 05 23.2	+0.3
TSZ	**Takapari Road**	**2.10**	**184**	PN		Pn	02 05 27.8	-0.4
WPHZ	**Waipukurau**	**2.12**	**174**	PN		Pn	02 05 28.2	-0.1
MSWZ	**Moikau Station**	**3.52**	**191**	PN		Pn	02 05 42.1	-2.7
TCW	**Tory Channel**	**3.56**	**204**	PN		Pn	02 05 43.1	-2.2
TCW				SN		Sn	02 06 25.3	-3.7
THZ	**Tophouse**	**4.55**	**212**	PN		Pn	02 05 56.1	-1.7
KHZ	**Kahutara**	**4.89**	**203**	PN		Pn	02 05 58.8	-3.3

*NIED **24** 02:34:00,4680N×152.70E,h35km,Mw4.1 Best double couple: M0 1.40000×10^15 NP1:ϕs121.00000°,δ85.00000°, λ-38.00000°. NP2:ϕs215.00000°,δ52.00000°, λ-174.00000°.*
*IDC **24** 02:34:43.6±1.0,4676N×15239E,h0km,mb3.8/11, mb1 4.0/11,mb1mx3.9/21,mbtmp3.8/11,MS3.1/4, Ms1 3.1/4,ms1mx2.9/29, Error ellipse: s-maj=28.9km s-min=23.1km az=174.0*
*NEIC **24** 02:34:45.2±0.7,4678N×15238E,h10km,mb4.1/1, Error ellipse: s-maj=20.5km s-min=14.5km az=175.0*
*ISCJB **24** 02:34:53.2±1.5,462N±0.1×1524E±0.1,h113km±15km, mb3.7/12, Error ellipse: s-maj=24.5km s-min=12.7km az=118.1*
*MOS **24** 02:34:53.1±1.4,4672N×15230E,h92km,mb4.1/6, Error ellipse: s-maj=18.3km s-min=15.4km az=59.7*

ISC 24 02:34:52.8±1.0,464N±01×1525E±01,h90km±9km,n45, σ1s31/50,mb3.7/12,1C,Kuril Islands

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

comp=Z,1.0nm,0.5s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 68.44 341 P **P** **02 45 44.2 -0.9**
comp=Z,1.2nm,0.5s,mb4.0,baz=27,slow=6.3,SNR=4.8
NOA NORSAR Array B 68.44 341 P **P** **02 45 44.2 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 68.44 341 P **P** **02 45 44.2 -0.9**
AKASG Malin Array Be 71.61 326 P **P** **02 46 03.7 -0.8**
comp=Z,1.3nm,0.3s,mb4.2,baz=34,slow=6.2,SNR=6.3
AKASG Malin Array Be 71.61 326 P **P** **02 46 03.7 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.61 326 P **P** **02 46 03.7 -0.8**
ASAR Alice Springs 71.73 198 P **P** **02 46 09.2 +4.1**
comp=Z,0.4nm,0.6s,mb3.4,baz=13,slow=7.2,SNR=6.5
BURAR Bucovina Array 75.66 326⇑*iP* **P** **02 46 28.4 +0.2**
TXAR Lajitas Array 78.05 60 P **P** **02 46 43.5 +2.0**
comp=Z,0.7nm,0.6s,mb3.5,baz=299,slow=4.4,SNR=11
TXAR Lajitas Array 78.05 60 P **P** **02 46 43.6 +2.0**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.36 316 P **P** **02 46 44.2 +0.9**
comp=Z,0.9nm,0.9s,mb3.5,baz=74,slow=1.8,SNR=4.5
BRTR Keskin Array B 78.36 316 P **P** **02 46 44.2 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 78.59 334 P **P** **02 46 44.3 -0.3**
comp=Z,0.3nm,0.5s,mb3.4,baz=36,slow=5.0,SNR=4.4

IDC 24 02:44:40.5±3.4, 4653N×15304E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/22, mbtmp3.9/7, Error ellipse: s-maj=111.1km s-min=29.3km az=8.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.99**	**298**	P	P	02 53 12.3	-1.0
	1.0nm,0.8s,baz=62,slow=8.4,SNR=4.8						
FINES	**FINESS Array B**	**64.22**	**335**	P	P	02 55 16.7	-0.4
	0.9nm,0.8s,baz=21,slow=5.9,SNR=5.4						
PDAR	**Pinedale Array**	**64.92**	**54**	P	P	02 55 22.4	+0.7
	0.5nm,0.9s,baz=301,slow=1.9,SNR=3.7						
NOA	**NORSAR Array B**	**68.42**	**341**	P	P	02 55 43.8	-0.3
	0.8nm,0.7s,baz=29,slow=6.3,SNR=2.4						
AKASG	**Malin Array Be**	**71.70**	**326**	P	P	02 56 03.4	-0.8
	1.5nm,0.4s,baz=33,slow=6.1,SNR=9.3						
TXAR	**Lajitas Array**	**77.64**	**60**	P	P	02 56 38.4	-0.4
	0.3nm,0.5s,baz=285,slow=3.5,SNR=7.0						
MMAI	**Mount Meron Ar**	**82.92**	**311**	P	P	02 57 08.8	+1.6
	2.1nm,0.7s,baz=46,slow=4.8,SNR=4.3						

*CSEM **24** 02:51:05.7, 67.18N×2067E, h6km, ML2.7, Mining explosion. After UPP*
*UPP **24** 02:51:05.7, 67.18N×2067E, h6km, ML2.7, Mining explosion.*

HEL 24 02:51:06.0±0.0, 6718N×2066E, h0km, ML2.7(UPP), 2D, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**211**	⇓*iP*	Pg	02 51 07.3	-0.1
DUNU	**Dundret**	**0.07**	**211**	⇓P	Pg	02 51 07.3	0.0
	baz=102						
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	02 51 16.7	-0.6
ERTU	**Ertsjaerv**	**0.87**	**135**	*i* P	Pg	02 51 21.5	-1.2
ERTU	**Ertsjaerv**	**0.87**	**135**	P	Pg	02 51 21.5	-1.2
	baz=28						
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	02 51 22.7	-1.1
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	02 51 23.5	-1.1
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	02 51 24.1	-1.3
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	02 51 24.1	-1.3
	baz=287						
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	02 51 24.6	-1.2
HARU	**Harads**	**1.03**	**173**	P	Pg	02 51 24.6	-1.1
	baz=334						
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	02 51 36.6	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	02 51 38.6	-0.2
KIF				*e*S	Sn	02 52 01.8	-0.8
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	02 51 40.0	-0.1
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	02 51 45.0	-0.1
SGF				*e*S	Sn	02 52 14.6	+0.7

*THE **24** 02:58:20.3, 3822N×2225E, h10km, ML3.6*
*ATH **24** 02:58:21.1, 3833N×2211E, h13km±2km, MD3.6/18, ML3.3*
*ISCJB **24** 02:58:21.8±0.3, 3831N±002×2215E±002, h10km, mb3.7/4, Error ellipse: s-maj=2.9km s-min=2.3km az=98.9*
*NEIC **24** 02:58:21.1, 3833N×2211E, h13km, ML3.3(ATH), After ATH.*
*IDC **24** 02:58:21.7±1.1, 3820N×2218E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML2.9/2, Error ellipse: s-maj=21.8km s-min=19.0km az=132.0*
*CSEM **24** 02:58:22.6±0.1, 3836N×2219E, h2km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.5km az=52.0*

ISC 24 02:58:22.5±0.3, 3830N±002×2216E±002, h10km, n61, σ1§24/85, mb3.7/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.60**	**246**	*e*PG	**Pg**	**02 58 32.0**	**-2.2**
RLS				*e*SB	**Sg**	**02 58 40.4**	**-1.7**
EVR	**Evrytania**	**0.67**	**336**	*e*PB	**Pg**	**02 58 33.4**	**-2.1**
EVR				*e*SB	**Sg**	**02 58 42.4**	**-1.9**
AGG	**Agios Georgios**	**0.73**	**10**	*e*Pg	**Pg**	**02 58 34.4**	**-2.3**
AGG				*e*Sg	**Sg**	**02 58 47.1**	**+1.0**
LKR	**Lokris**	**0.74**	**62**	*e*PG	**Pg**	**02 58 35.5**	**-1.4**
LKR				*e*SB	**Sg**	**02 58 47.0**	**+0.4**
MGER	**Gerania Oros**	**0.92**	**110**	*e*PN	**Pg**	**02 58 40.0**	**-0.3**
ITM	**Ithomi**	**1.14**	**190**	*e*PG	**Pb**	**02 58 42.3**	**-2.0**
ITM				*e*SB	**Sb**	**02 58 59.5**	**+0.4**
NAIG	**Nisos Aigina**	**1.18**	**117**	*e*PB	**Pb**	**02 58 45.0**	**0.0**
NAIG				*e*SB	**Sb**	**02 59 00.5**	**+0.2**
LKD	**Levkas**	**1.25**	**289**	*e*Pg	**Pn**	**02 58 43.9**	**-2.2**
LKD	**Levkas**	**1.25**	**289**	*e*Pg	**Pn**	**02 58 43.8**	**-2.3**
THL	**Klokotos Trika**	**1.27**	**355**	*e*PB	**Pn**	**02 58 45.1**	**-1.1**
THL				*e*SB	**Sb**	**02 58 51.5**	**-1.3**
ATH	**Athens Observa**	**1.27**	**105**	*e*PB	**Pg**	**02 58 46.0**	**-0.9**
ATH				*e*SB	**Sg**	**02 59 03.9**	**+0.5**
NEO	**Neokhori**	**1.30**	**39**	*e*PG	**Pn**	**02 58 45.3**	**-1.4**
NEO				*e*SB	**Sg**	**02 59 04.0**	**-0.4**
XOR	**Xorichti**	**1.33**	**37**	*e*Pg	**Pn**	**02 58 45.9**	**-1.2**
KVR	**Kavouri**	**1.35**	**110**	*e*PB	**Pb**	**02 58 47.6**	**-0.4**
PTL	**Penteli**	**1.36**	**100**	*e*PG	**Pn**	**02 58 47.5**	**-0.1**
PTL	**Penteli**	**1.36**	**100**	*e*Pb	**Pb**	**02 58 47.0**	**-1.1**
PTL				*e*Pg	**Pn**	**02 58 47.5**	**-0.1**
PTL	**Penteli**	**1.36**	**100**	*e*Pg	**Pn**	**02 58 47.5**	**-0.1**
MEV	**Metsovon**	**1.65**	**334**	*e*Pb	**Pn**	**02 58 51.5**	**0.0**
JAN	**Janina**	**1.69**	**323**	*e*PG	**Pn**	**02 58 52.3**	**+0.1**
VLI	**Veliai**	**1.70**	**158**	*e*PN	**Pn**	**02 58 52.2**	**0.0**
LIT	**Litokhoron**	**1.81**	**8**	*e*Pb	**Pn**	**02 58 53.1**	**-0.7**
IGT	**Igoumenitsa**	**1.88**	**311**	*e*Pn	**Pn**	**02 58 56.0**	**+1.3**
IGT				*e*Sn	**Sg**	**02 59 21.5**	**-1.6**
KZN	**Kozani**	**2.02**	**351**	*e*PN	**Pn**	**02 58 56.7**	**0.0**
KYTH	**Kithira**	**2.13**	**161**	*e*PN	**Pb**	**02 59 00.0**	**-1.3**
LSK	**Leskovik**	**2.21**	**327**	*i* Pn	**Pb**	**02 59 01.7**	**-0.8**
LSK				*i* Sn	**Sg**	**02 59 33.1**	**-0.4**
PLG	**Polygyros**	**2.29**	**25**	*e*Pn	**Pn**	**02 58 59.5**	**-0.9**
PLG	**Polygyros**	**2.29**	**25**	*e*PB	**Pn**	**02 58 59.7**	**-0.7**
SRN	**Sarande**	**2.31**	**314**	*i* Pn	**Pn**	**02 59 01.6**	**+1.1**
SRN				*i* Sn	**Sb**	**02 59 31.8**	**-0.9**
KEK	**Kerkira**	**2.32**	**308**	*e*PN	**Pn**	**02 59 01.5**	**+0.8**
HORT	**Hortiatis**	**2.40**	**17**	*e*Pn	**Pn**	**02 59 00.8**	**-1.1**
GRG	**Griva**	**2.66**	**4**	*e*Pn	**Pn**	**02 59 04.8**	**-0.5**
SOH	**Sokhos**	**2.68**	**20**	*e*Pn	**Pn**	**02 59 05.6**	**-0.1**
BIA	**Bitola**	**2.79**	**347**	*i* Pn	**Pn**	**02 59 07.6**	**+0.4**
BIA				*e*Sn	**Sb**	**02 59 46.4**	**-0.3**
BIA	**Bitola**	**2.79**	**347**	*i* Pn	**Pn**	**02 59 07.5**	**+0.3**
BIA				*e*Sn	**Sb**	**02 59 46.3**	**-0.4**
KNT	**Kendrikon**	**2.91**	**11**	*e*Pn	**Pn**	**02 59 09.0**	**+0.1**
OHR	**Ohrid**	**3.00**	**340**	*e*Pn	**Pb**	**02 59 16.8**	**+0.8**
VAY	**Valandovo**	**3.03**	**6**	*e*Pn	**Pn**	**02 59 10.7**	**+0.1**
VAY				*e*Sn	**Sn**	**02 59 47.4**	**+0.5**
VAY	**Valandovo**	**3.03**	**6**	*e*Pn	**Pn**	**02 59 10.6**	**+0.1**
VAY				*e*Sn	**Sn**	**02 59 47.3**	**+0.4**
NVR	**Nevrokopi**	**3.31**	**23**	P	**Pn**	**02 59 17.7**	**+3.3**
STIP	**Stip**	**3.39**	**0**	*i* Pn	**Pn**	**02 59 15.8**	**+0.4**
STIP				*e*Sn	**Sn**	**02 59 57.1**	**+1.4**
STIP	**Stip**	**3.39**	**0**	*i* Pn	**Pn**	**02 59 15.8**	**+0.4**
STIP				*e*Sn	**Sn**	**02 59 57.0**	**+1.3**
IDI	**Anoyia**	**3.72**	**143**	Pn	**Pn**	**02 59 20.8**	**+0.7**
	0.7nm,0.3s,baz=353,slow=18,SNR=12						
IDI				Sn	**Sn**	**03 00 03.9**	**0.0**
	3.7nm,0.3s,baz=336,slow=15,SNR=3.9						
NPS	**Neapolis**	**4.11**	**137**	P	**Pn**	**02 59 28.6**	**+3.3**
PUK	**Puka**	**4.12**	**336**	*i* Pn	**Pn**	**02 59 27.7**	**+2.2**
PUK				*i* Sn	**Sn**	**03 00 17.9**	**+4.2**
TIP	**Timpagrande**	**4.32**	**283**	P	**Pn**	**02 59 29.7**	**+1.5**
BCI	**Bajram Curri**	**4.36**	**339**	*i* Pn	**Pn**	**02 59 31.4**	**+2.5**
BCI				*i* Sn	**Sn**	**03 00 23.7**	**+4.0**
CUC	**Castrocucco**	**5.21**	**291**	P	**Pn**	**02 59 44.2**	**+3.6**
SLCN	**Sala Consilina**	**5.47**	**294**	Pn	**Pn**	**02 59 45.7**	**+1.6**
SGO	**Sicignano**	**5.77**	**295**	Pn	**Pn**	**02 59 49.8**	**+1.7**
FGMS	**Monte Sant'Ang**	**5.86**	**307**	Pn	**Pn**	**02 59 49.6**	**+0.2**
FGMS				Sn	**Sn**	**03 00 51.4**	**-5.1**
RGNG	**Rignano Grg**	**6.07**	**306**	Pn	**Pn**	**02 59 52.1**	**-0.2**
RGNG				Sn	**Sn**	**03 00 55.5**	**-6.3**
FG5	**Orsara di Pugl**	**6.09**	**301**	Pn	**Pn**	**02 59 54.1**	**+1.6**
SGG	**Gregorio Mates**	**6.74**	**300**	Pn	**Pn**	**03 00 03.6**	**+2.2**
SDI	**San Donato**	**7.26**	**301**	Pn	**Pn**	**03 00 10.5**	**+1.9**
MLR	**Muntele Rosu**	**7.71**	**20**	Pn	**Pn**	**03 00 17.8**	**+2.9**
	baz=288,slow=16						
BRTR	**Keskin Array B**	**9.05**	**77**	Pn	**Pn**	**03 00 35.5**	**+2.3**
	0.2nm,0.3s,baz=261,slow=13,SNR=6.1						
ESDC	**Sonseca Array**	**20.34**	**282**	P	**P**	**03 02 58.4**	**-0.4**
	1.6nm,0.6s,baz=79,slow=11,SNR=7.3						
EKA	**Eskdalemuir Ar**	**24.09**	**323**	P	**P**	**03 03 41.4**	**+3.3**
	2.7nm,1.1s,mb3.6,baz=116,slow=8.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**03 04 39.9**	**+0.1**
	0.7nm,0.5s,mb3.8,baz=35,slow=9.1,SNR=18						
MKAR	**Makanchi Array**	**44.13**	**59**	P	**P**	**03 06 30.3**	**-0.8**
	0.9nm,0.5s,mb3.8,baz=271,slow=7.5,SNR=8.6						
SONM	**Songino Array**	**59.38**	**51**	P	**P**	**03 08 26.5**	**+1.5**
	0.7nm,1.0s,mb3.6,baz=302,slow=8.3,SNR=4.2						

*NEIC **24** 03:36:33.9±0.4, 4861N×15461E, h10km, mb4.2/5, Error ellipse: s-maj=12.8km s-min=7.6km az=139.0*
*BJI **24** 03:36:33.8, 4860N×15460E, h10km, mB4.9, mb4.4, Ms3.8, Msz3.4*
*ISCJB **24** 03:36:38.7±1.0, 4870N±008×1547E±0.1, h61km±8km, mb4.2/21, Error ellipse: s-maj=17.0km s-min=5.6km az=88.4*
*MOS **24** 03:36:38.9±1.4, 4864N×15471E, h66km, mb4.2/10, Error ellipse: s-maj=17.3km s-min=9.5km az=64.0*
*IDC **24** 03:36:39.1±5.2, 4865N×15461E, h48km±49km, mb3.7/14, mb1 3.9/15, mb1mx3.8/25, mbtmp3.7/15, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/33, Error ellipse: s-maj=20.2km s-min=14.7km az=130.0*

ISC 24 03:36:40.7±0.8, 4875N±008×1547E±01, h63km±7km, n47, σ0§83/48, mb4.2/21, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.15**	**25**	*e*PN	**Pn**	**03 37 13.5**	**-0.8**
SKR				*e*S	**Sn**	**03 37 39.5**	**-0.4**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=E,920nm,0.5s						
SKR				smax			
	comp=Z,400nm,0.5s						
PET	**Petropavlovsk**	**4.97**	**29**	*e*PN	**Pn**	**03 37 54.2**	**+1.5**
PET				*e*S	**Sn**	**03 38 49.0**	**+0.2**
PET				pmax	pmax		
	comp=Z,21nm,0.5s						
PET				smax			
	comp=N,196nm,0.5s						
PET	**Petropavlovsk**	**4.97**	**29**	*e*Pn	**Pn**	**03 37 52.5**	**-0.3**
KUR	**Kuril'sk**	**5.83**	**235**	PN	**Pn**	**03 38 03.0**	**-1.5**
KUR				*e*S	**Sn**	**03 39 11.5**	**+1.6**
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.21**	**262**	*e*PN	**Pn**	**03 38 40.5**	**+3.4**
ASAJ	**Asahikawa**	**9.53**	**245**	P	**Pn**	**03 38 57.9**	**+2.8**
	comp=E,5.2nm,0.3s,baz=75,slow=15,SNR=31						
ASAJ				LR	LR	03 42 21.9	
	comp=E,73nm,21.2s,baz=92,slow=36						
ERM	**Erimo**	**10.52**	**234**	*e*PN	**Pn**	**03 39 07.8**	**-0.9**
MJAR	**Matsushiro Arr**	**17.14**	**231**	P	**Pn**	**03 40 32.3**	**-3.6**
	comp=E,0.3nm,0.3s,baz=24,slow=12,SNR=3.4						
KSRS	**Korea Array**	**22.43**	**250**	P	**P**	**03 41 34.2**	**0.0**
	comp=E,3.1nm,0.6s,mb3.9,baz=47,slow=10,SNR=8.4						
SONM	**Songino Array**	**31.70**	**287**	LR	LR	03 56 40.1	
	comp=E,80nm,18.1s,baz=31,slow=38						
INK	**Inuvik**	**39.41**	**34**	P	**P**	**03 44 04.8**	**+0.4**
	comp=E,0.7nm,0.4s,mb3.8,baz=272,slow=3.2,SNR=13						
INK	**Inuvik**	**39.41**	**34**	*e*P	**P**	**03 44 04.4**	**+0.1**
	comp=E,60nm,0.5s,mb5.6						
ZAL	**Zalesovo**	**42.33**	**304**	PcP	PcP	03 46 20.6	-0.3
	comp=E,1.4nm,0.3s,baz=50,slow=12,SNR=5.8						
WMQ	**Urumqi**	**45.20**	**290**	*i*P	**P**	**03 44 51.0**	**-0.4**
WMQ				AP	pP	03 44 55.5	-12
WMQ				XP	sP	03 44 58.0	-17
WMQ				PCP	PcP	03 46 30.5	-0.1
WMQ				PP	PP	03 46 38.0	0.0
WMQ				*e*S	**S**	**03 51 31.1**	**+4.5**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,101nm,5.2s						
WMQ				LR	LR		
	comp=N,44nm,19.2s						
WMQ				LR	LR		
	comp=E,32nm,19.2s						
WMQ				LR	LR		
	comp=Z,31nm,19.2s						
MKAR	**Makanchi Array**	**46.97**	**296**	P	**P**	**03 45 05.0**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=65,slow=7.3,SNR=7.8						
MKAR				PcP	PcP	03 46 37.1	+0.3
	comp=Z,1.4nm,1.0s,baz=63,slow=4.2,SNR=3.6						
MKAR				LR	LR	04 05 22.7	
	comp=Z,33nm,19.8s,baz=234,slow=37						
MKAR	**Makanchi Array**	**46.97**	**296**	P	**P**	**03 45 05.0**	**-0.3**
MKAR						03 46 37.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,33nm,19.8s						
RES	**Resolute Bay**	**48.60**	**19**	*e*P	**P**	**03 45 18.1**	**+0.2**
	comp=Z,89nm,0.9s,mb5.8						
YKA	**Yellowknife Ar**	**48.70**	**38**	P	**P**	**03 45 18.8**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=300,slow=7.8,SNR=4.3						
YKA	**Yellowknife Ar**	**48.70**	**38**	P	**P**	**03 45 18.8**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**48.70**	**38**	P	**P**	**03 45 18.8**	**+0.1**
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P	**P**	**03 45 28.3**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P	**P**	**03 45 28.3**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.1						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**03 45 30.9**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.9,baz=56,slow=7.6,SNR=4.5						
BVAR				PcP	PcP	03 46 48.9	-0.4
	comp=Z,1.4nm,0.6s,baz=85,slow=2.6,SNR=7.6						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**03 45 30.9**	**-0.8**
BVAR						03 46 48.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	**Chiang Mai**	**53.60**	**257**	*e*P	**P**	**03 45 56.1**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**53.60**	**257**	*e*P	**P**	**03 45 56.1**	**+0.7**
	comp=Z,6.6nm,1.0s,mb4.5						
BMO	**Blue Mountains**	**57.11**	**58**	*e*P	**P**	**03 46 21.0**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**58.17**	**312**	P	**P**	**03 46 27.8**	**-0.3**
AKTK				PcP	PcP	03 47 18.8	-0.2
AKTO	**Aktyubinsk**	**58.17**	**312**	P	**P**	**03 46 27.8**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=54,slow=8.7,SNR=3.1						
AKTO				PcP	PcP	03 47 18.8	-0.2
	comp=Z,0.4nm,0.4s,baz=68,slow=6.4,SNR=3.6						
HLID	**Hailey**	**59.54**	**57**	*e*P	**P**	**03 46 37.8**	**+0.2**
	comp=Z,2.5nm,1.3s,mb4.1						
DUG	**Dugway**	**62.64**	**59**	*e*P	**P**	**03 46 59.3**	**+0.7**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
DUG	**Dugway**	**62.64**	**59**	*e*P	**P**	**03 46 59.2**	**+0.7**
	comp=Z,2.0nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**62.67**	**335**	P	**P**	**03 46 58.7**	**0.0**
	comp=Z,3.7nm,1.1s,mb4.4,baz=46,slow=8.0,SNR=6.0						
FINES	**FINESS Array B**	**62.67**	**335**	P	**P**	**03 46 58.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**62.74**	**56**	P	**P**	**03 46 59.9**	**+0.7**
	comp=Z,2.0nm,0.8s,mb4.3,baz=311,slow=2.1,SNR=14						
PDAR				LR	LR	04 15 59.6	
	comp=Z,58nm,19.4s,baz=283,slow=38						
NOA	**NORSAR Array B**	**66.67**	**342**	P	**P**	**03 47 24.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=25,slow=6.3,SNR=3.6						
NOA				LR	LR	04 21 21.6	
	comp=Z,31nm,20.2s,baz=290,slow=40						
NOA	**NORSAR Array B**	**66.67**	**342**	P	**P**	**03 47 24.5**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,31nm,20.2s						
WRA	**Warramunga Arr**	**70.75**	**200**	P	**P**	**03 47 48.9**	**-1.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=19,slow=6.7,SNR=7.7						
WRA	**Warramunga Arr**	**70.75**	**200**	P	**P**	**03 47 48.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**71.40**	**209**	P	**P**	**03 47 53.8**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=46,slow=1.7,SNR=5.8						
ASAR	**Alice Springs**	**74.44**	**200**	P	**P**	**03 48 11.7**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=13,slow=5.1,SNR=23						
ASAR	**Alice Springs**	**74.44**	**200**	P	**P**	**03 48 11.7**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**03 48 19.2**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=295,slow=4.9,SNR=20						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**03 48 19.2**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.64**	**317**	P	**P**	**03 48 31.1**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.7,baz=86,slow=4.1,SNR=4.3						
BRTR	**Keskin Array B**	**77.64**	**317**	P	**P**	**03 48 31.1**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**113.88**	**331**	PKiKP	PKiKP	03 55 11.7	-0.6
	comp=Z,0.2nm,0.9s,baz=26,slow=1.9,SNR=4.4						

*ISCJB **24** 04:25:28.9±1.2, 1270N±003×126.17E±004, h3km±7km, mb4.6/64, MS3.8/18, Error ellipse: s-maj=5.9km s-min=4.7km az=7.4*
*IDC **24** 04:25:30.4±0.5, 1266N×12606E, h0km, mb4.4/21, mb1 4.5/22, mb1mx4.5/28, mbtmp4.4/22, ML4.1/1, MS3.7/12, Ms1 3.6/12, ms1mx3.5/25, Error ellipse: s-maj=28.7km s-min=12.0km az=69.0*
*BJI **24** 04:25:31.0, 1260N×12637E, h27km, mB5.0, mb4.8, Ms4.3, Msz4.1*
*MAN **24** 04:25:31.8, 1281N×126.14E, h41km, mb4.4, ML5.2, MS4.7*
*MOS **24** 04:25:33.1±0.9, 1265N×126.17E, h33km, mb5.0/22, Error ellipse: s-maj=17.5km s-min=6.9km az=120.1*
*NEIC **24** 04:25:33.2±4.1, 1268N×126.16E, h18km±25km, mb4.8/20, Error ellipse: s-maj=9.5km s-min=5.6km az=72.0*

ISC 24 04:25:31.4±1.3, 1268N±003×12613E±004, h6km±7km, h33km±3.4km:pP-P, n142, σ1§03/144, mb4.6/64, MS3.8/18, 9C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.44**	**263**	*e*P	**Pn**	**04 25 56.9**	**-1.0**
CNP				*e*S	**Sn**	**04 26 15.4**	**-1.7**
PLP	**Palo**	**1.88**	**217**	*e*P	**Pn**	**04 26 03.0**	**-1.0**
PLP				*e*S	**Sn**	**04 26 25.7**	**-2.3**
PVCP	**Virac**	**2.13**	**296**	⇓*iP*	**Pn**	**04 26 05.1**	**-2.4**
PVCP				*i* S	**Sn**	**04 26 30.0**	**-4.1**
PVCP	**Virac**	**2.13**	**296**	*e*P	**Pn**	**04 26 05.2**	**-2.2**
PVCP				*e*S	**Sn**	**04 26 29.6**	**-4.5**
OCLP	**Ormoc**	**2.20**	**223**	*e*P	**Sn**	**04 26 39.1**	**+3.2**
MMPH	**Masbate**	**2.47**	**263**	*e*P	**Pn**	**04 26 12.7**	**+0.7**
MSLP	**Maasin**	**2.82**	**206**	*e*P	**Pn**	**04 26 18.2**	**+1.3**
MSLP				*e*S	**Sn**	**04 26 52.6**	**+1.4**
SCPH	**Surigao**	**2.95**	**192**	⇑*e*P	**Pn**	**04 26 19.4**	**+0.7**
RCP	**Roxas**	**3.49**	**252**	⇑*e*P	**Pn**	**04 26 26.6**	**+0.5**
GUIM	**Jordan**	**4.03**	**240**	*e*P	**Pn**	**04 26 33.3**	**-0.2**
OTRP	**Odiongan**	**4.03**	**266**	*e*P	**Pn**	**04 26 32.5**	**-1.0**
BOAC	**Boac**	**4.25**	**281**	*e*P	**Pn**	**04 26 35.4**	**-1.2**
POLP	**Polilio Island**	**4.55**	**297**	*e*P	**Pg**	**04 26 56.9**	**-1.8**
BALP	**Baler**	**5.36**	**305**	*e*P	**Pn**	**04 26 50.1**	**-1.7**
**LUBP

CD2 AP pP 04 31 28.3 +8.1
CD2 XP sP 04 31 32.3 +11
CD2 PP 04 32 07.3
CD2 S **S** **04 35 56.3 -3.0**
CD2 XS sS 04 36 11.3 +8.8
CD2 SS 04 37 16.3
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,190nm,13.2s,MS4.0
CD2 LR LR
comp=E,190nm,13.2s,MS4.0
CD2 LR LR
comp=Z,120nm,10.8s,MS3.7
BJI Beijing 28.63 344 P **P** **04 31 28.5 0.0**
BJI S **S** **04 36 17.5 +0.1**
BJI AMB AMB
comp=Z,9.0nm,0.6s,mb4.7
BJI LR LR
comp=N,65nm,19.9s,MS3.5
BJI LR LR
comp=E,87nm,18.9s,MS3.5
BJI LR LR
comp=Z,104nm,22.8s,MS3.4
BJI Beijing 28.63 344 P **P** **04 31 28.5 0.0**
comp=Z,9.0nm,0.6s,mb4.7
BJI S **S** **04 36 17.5 +0.1**
BJI LR LR
comp=Z,100nm,22.8s,MS3.4
PSI Prapat 28.66 252 LR LR 04 43 04.9
comp=Z,177nm,19.5s,MS3.7,baz=232,slow=37
FITZ Fitzroy Crossi 30.59 181 *e*P **P** **04 31 46.0 +0.1**
comp=Z,38nm,0.9s,mb5.2
LZH Lanzhou 30.76 323 *e*P **P** **04 31 48.5 +1.2**
LZH AP pP 04 31 58.4 +9.1
LZH XP sP 04 32 02.3 +12
LZH *e*PP PP 04 32 49.3 -7.4
LZH *e*S **S** **04 36 48.4 -2.4**
LZH XS sS 04 37 04.5 +11
LZH AMB AMB
comp=Z,23nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,107nm,5.3s
LZH LR LR
comp=N,638nm,13.2s
LZH LR LR
comp=Z,1μm,17.3s,MS4.6
LZH Lanzhou 30.76 323 *e*P **P** **04 31 48.5 +1.2**
LZH *PP pP 04 31 58.4 +9.1
LZH *SP sP 04 32 02.3 +12
LZH *e* 04 32 49.2
LZH *e*S **S** **04 36 48.4 -2.4**
LZH *SS sS 04 37 04.5 +11
LZH *e*SS SS 04 38 32.1 -30
LZH pmax pmax
comp=Z,23nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,1μm,17.3s,MS4.6
LZH Lanzhou 30.76 323 *e*P **P** **04 31 48.5 +1.2**
comp=Z,23nm,1.2s,mb4.9
LZH pP pP 04 31 58.4 +9.1
LZH sP sP 04 32 02.3 +12
LZH *e*PP PP 04 32 49.2 -7.5
LZH *e*S **S** **04 36 48.4 -2.4**
LZH sS sS 04 37 04.5 +11
LZH *e*SS SS 04 38 32.1 -30
LZH LR LR
comp=Z,1μm,17.3s,MS4.6
HHC Hu-ho-hao-te 30.83 338 *e*P **P** **04 31 50.3 +2.3**
HHC AP pP 04 31 59.8 +10
HHC PP PP 04 32 53.1 -4.5
HHC PCP PcP 04 34 46.5 +1.5
HHC S **S** **04 36 52.1 +0.1**
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,106nm,5.2s
HHC LR LR
comp=N,170nm,13.0s,MS4.1
HHC LR LR
comp=E,198nm,14.0s,MS4.1
HHC LR LR
comp=Z,161nm,15.1s,MS3.8
WRAB Tennant Creek 33.40 166 *e*P **P** **04 32 08.7 -1.9**
WRA Warramunga Arr 33.41 166 P **P** **04 32 09.9 -0.7**
comp=Z,5.1nm,0.9s,mb4.5,baz=344,slow=10.0,SNR=21
WRA PcP PcP 04 34 52.6 +0.5
comp=Z,2.0nm,0.9s,baz=349,slow=3.3,SNR=7.0
WB2 Warramunga Arr 33.41 166 *e*P **P** **04 32 09.3 -1.4**
GTA Gaotai 35.35 324 *e*P **P** **04 32 28.3 +0.8**
GTA AP pP 04 32 32.0 +2.6
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
LSA Lhasa 36.56 303 P **P** **04 32 39.3 +1.5**
LSA Lhasa 36.56 303 *e*P **P** **04 32 39.6 +1.8**
LSA pmax pmax
comp=Z,23nm,1.1s,mb4.9
LSA Lhasa 36.56 303 *e*P **P** **04 32 39.6 +1.8**
comp=Z,23nm,1.1s,mb4.9
AS31 Alice Springs 36.91 168 *e*P **P** **04 32 41.5 +0.7**
ASAR Alice Springs 36.91 168 P **P** **04 32 41.2 +0.4**
comp=Z,2.2nm,0.6s,mb4.1,baz=348,slow=9.0,SNR=33
ASAR PcP PcP 04 35 02.5 +0.2
comp=Z,1.6nm,0.7s,baz=360,slow=4.3,SNR=5.5
ASAR LR LR 04 49 29.0
comp=Z,59nm,19.1s,MS3.4,baz=173,slow=39
ASAR Alice Springs 36.91 168 P **P** **04 32 41.3 +0.5**
ASAR 04 35 02.5
YSS Yuzh-Sakhalins 36.92 19 *e*P **P** **04 32 47.0 +6.1**
YSS *e* 04 33 01.5
CTA Charters Tower 38.11 148 P **P** **04 32 51.5 +0.5**
comp=Z,2.9nm,0.7s,mb4.2,baz=318,slow=14,SNR=3.3
CTA LR LR 04 49 50.7
comp=Z,71nm,20.1s,MS3.5,baz=216,slow=38
ULN Ulaanbaatar 38.53 339⇑ *e*P **P** **04 32 54.6 +0.1**
SONM Songino Array 38.73 339 P **P** **04 32 56.4 +0.2**
comp=Z,5.3nm,0.8s,mb4.3,baz=155,slow=9.0,SNR=33
BOK Bokaro 39.66 292 *e*P **P** **04 33 03.9 -0.1**
BOK AMb AMB 04 33 08.1
comp=Z,25nm,1.5s,mb4.7
HNR Honiara 40.14 122 LR LR 04 46 07.4
comp=Z,83nm,20.1s,MS3.6,baz=357,slow=31
JIRN Jiri 40.15 298 *e*P **P** **04 33 08.7 +0.7**
comp=Z,14nm,0.7s,mb4.8
GUN Gumba 40.47 298 *e*P **P** **04 33 11.5 +0.8**
comp=Z,56nm,1.0s,mb5.2
CIT Chita 40.53 348 *e*P **P** **04 33 11.5 +0.3**
PKI Pulchoki 40.80 298 *e*P **P** **04 33 13.0 -0.4**
KKN Kakani 40.96 298 *e*P **P** **04 33 14.8 +0.1**
DMN Daman 41.07 298 *e*P **P** **04 33 15.6 0.0**
VIS Vishakhapatnam 41.54 282 *e*P **P** **04 33 20.3 +0.8**
VIS AMb AMB 04 33 25.6
comp=Z,25nm,1.8s,mb4.5
GKN Gorkha 41.56 298 *e*P **P** **04 33 19.7 0.0**
KOLN Koldanda 42.41 297 *e*P **P** **04 33 26.3 -0.3**
comp=Z,26nm,1.0s,mb4.8
TLY Talaya 42.94 340 *e*P **P** **04 33 31.4 +0.5**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
TLY MLR MLR
comp=Z,120nm,14.0s,MS3.9
FORT Forrest 43.25 178 *e*P **P** **04 33 34.3 +0.9**
comp=Z,60nm,0.8s,mb5.4
FORT *e* 04 34 16.8
MDRS Chennai 44.69 276 *ex* x 04 34 08.0
WMQ Urumqi 45.27 321⇑ *i*P **P** **04 33 51.0 +1.4**
WMQ AP pP 04 34 01.0 +9.4
WMQ XP sP 04 34 05.0 +13
WMQ PCP PcP 04 35 31.3 +1.9
WMQ PP PP 04 35 37.4 +2.0
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,114nm,5.0s
WMQ LR LR
comp=N,53nm,18.1s,MS3.6
WMQ LR LR
comp=E,33nm,19.4s,MS3.6
WMQ LR LR
comp=Z,76nm,19.4s,MS3.6
NGP Nagpur 45.69 287 *e*P **P** **04 33 55.4 +2.4**
NGP AMb AMB 04 33 56.4
comp=Z,33nm,1.4s,mb5.1

HYB Hyderabad 46.10 282 *i* P **P** **04 33 59.0 +2.8**
HYB Hyderabad 46.10 282 *e*P **P** **04 33 59.0 +2.8**
STKA Stephens Creek 46.72 162 *e*P **P** **04 34 01.8 +0.8**
comp=Z,7.2nm,0.8s,mb4.7
STKA Stephens Creek 46.72 162 P **P** **04 34 02.0 +1.0**
comp=Z,8.4nm,0.7s,mb4.8,baz=342,slow=7.9,SNR=23
BHPL Bhopal 47.32 290 *e*P **P** **04 34 05.6 -0.1**
BHPL AMb AMB 04 34 09.2
comp=Z,25nm,1.0s,mb5.1
TRD Trivandrum 48.46 270 *e*P **P** **04 34 14.3 -0.2**
TRD AMb AMB 04 34 17.6
comp=Z,8.8nm,0.3s,mb5.2
YAK Yakutsk 49.34 2 *e*P **P** **04 34 20.4 -0.9**
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
MK31 Makanchi Array 50.05 322 *e*P **P** **04 34 27.2 +0.5**
MKAR Makanchi Array 50.05 322 P **P** **04 34 27.3 +0.6**
comp=Z,7.5nm,0.8s,mb4.8,baz=114,slow=8.9,SNR=27
MKAR Makanchi Array 50.05 322 *i* P **P** **04 34 27.1 +0.4**
MKAR pmax pmax
comp=Z,31nm,1.1s
AJM Ajmer 50.10 294 *e*P **P** **04 34 29.0 +1.9**
AJM AMb AMB 04 34 30.7
comp=Z,33nm,1.1s,mb5.3
ZAL Zalesovo 52.47 331 P **P** **04 34 45.3 +0.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=2.8,slow=7.8,SNR=17
NVS Novosibirsk 53.74 331 *i* P **P** **04 34 53.6 -0.6**
NVS pmax pmax
comp=Z,18nm,1.1s,mb4.9
NVS pmax pmax
comp=N,16nm,1.5s
NVS pmax pmax
comp=E,15nm,1.3s
KURK Kurchatov 54.03 325 P **P** **04 34 55.9 -0.4**
KURK pmax pmax
comp=Z,18nm,1.1s,mb4.9
KK31 Karatay Array 56.49 314 *i* P **P** **04 35 14.3 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KKAR Karatay Array 56.49 314 *i* P **P** **04 35 14.3 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
TIXI Tiksi 58.96 1 *e*P **P** **04 35 30.3 -1.2**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.1
TIXI Tiksi 58.96 1 *e*P **P** **04 35 30.5 -1.0**
comp=Z,16nm,1.0s,mb5.0
BVA0 Borovoye Array 59.62 325 P **P** **04 35 35.7 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
BVAR Borovoye Array 59.62 325 P **P** **04 35 36.2 +0.1**
comp=Z,6.6nm,0.9s,mb4.7,baz=120,slow=8.8,SNR=18
BVAR PcP PcP 04 36 22.4 -0.8
comp=Z,2.6nm,0.9s,baz=122,slow=5.4,SNR=4.3
BRVK Borovoye 59.70 325 *e*P **P** **04 35 36.5 -0.1**
BRVK pmax pmax
comp=Z,20nm,1.2s,mb5.0
BRVK Borovoye 59.70 325 *e*P **P** **04 35 36.5 -0.1**
comp=Z,20nm,1.2s,mb5.0
CHKZ Chkalovo 59.73 325 *e*P **P** **04 35 36.0 -0.8**
CHKZ pmax pmax
comp=Z,20nm,1.5s,mb4.9
CHKZ Chkalovo 59.73 325 *e*P **P** **04 35 36.0 -0.9**
comp=Z,20nm,1.5s,mb4.9
BILL Bilibino 61.14 16 *e*P **P** **04 35 44.1 -2.4**
comp=Z,16nm,0.9s,mb5.1
AB31 Akbulak array 64.98 319 *i* P **P** **04 36 11.6 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ARU Arti 67.16 326⇑ *e*P **P** **04 36 25.2 -0.8**
ARU pmax pmax
comp=Z,18nm,1.6s,mb4.8
ARU Arti 67.16 326 *e*P **P** **04 36 25.1 -0.9**
comp=Z,9.8nm,0.8s,mb4.9
KDAK Kodiak Island 74.73 33 P **P** **04 37 11.8 -0.2**
comp=Z,8.1nm,0.9s,mb4.6,baz=16,slow=9.3,SNR=4.6
GNI Garni 75.40 308 P **P** **04 37 17.4 +1.6**
comp=Z,1.8nm,0.3s,mb4.5,baz=64,slow=11,SNR=4.3
GNI Garni 75.40 308 *e*P **P** **04 37 16.2 +0.4**
GNI pmax pmax
comp=Z,16nm,1.4s
PMR Palmer 76.45 29 *e*P **P** **04 37 21.2 -0.6**
PMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PMR Palmer 76.45 29 *e*P **P** **04 37 21.2 -0.6**
comp=Z,6.3nm,1.0s,mb4.5
MCK McKinley 76.49 27 *e*P **P** **04 37 21.4 -0.6**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 76.49 27 *e*P **P** **04 37 21.4 -0.6**
comp=Z,6.6nm,1.0s,mb4.5
KIV Kislovodsk 76.62 312 *e*P **P** **04 37 23.5 +0.7**
KIV *e* 04 37 32.2
KIV pmax pmax
comp=Z,11nm,0.8s,mb4.8
KIV Kislovodsk 76.62 312 *e*P **P** **04 37 23.8 +1.0**
comp=Z,7.4nm,0.6s,mb4.8
COLA College 76.93 26 *e*P **P** **04 37 23.9 -0.6**
COLA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
COLA College 76.93 26 *e*P **P** **04 37 23.9 -0.7**
comp=Z,2.1nm,0.7s,mb4.2
OBN Obninsk 79.47 324⇓ *e*P **P** **04 37 37.6 -1.0**
OBN *e* 04 40 36.9
OBN *e*S S 04 47 38.2 -2.1
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
EGAK Eagle 79.79 26 *e*P **P** **04 37 40.1 -0.3**
comp=Z,7.9nm,1.2s,mb4.5
MALT Malatya 80.48 307 *e*P **P** **04 37 44.9 +0.8**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MALT Malatya 80.48 307 *e*P **P** **04 37 44.9 +0.8**
comp=Z,6.2nm,0.9s,mb4.5
DAWY Dawson 80.66 26 *e*P **P** **04 37 45.2 +0.2**
ARCES ARCESS Array B 81.90 340 P **P** **04 37 51.5 -0.2**
comp=Z,6.8nm,1.0s,mb4.5,baz=64,slow=10,SNR=6.1
INK Inuvik 82.11 22 P **P** **04 37 52.4 -0.4**
comp=Z,6.4nm,1.0s,mb4.5,baz=280,slow=6.3,SNR=12
INK Inuvik 82.11 22 *e*P **P** **04 37 52.4 -0.3**
comp=Z,289nm,1.1s
ASF Jabal al Asfar 82.72 301 P **P** **04 37 55.9 0.0**
comp=Z,1.3nm,0.7s,mb4.1,baz=102,slow=6.3,SNR=4.2
FINES FINESS Array B 83.72 332 P **P** **04 38 01.1 0.0**
comp=Z,3.1nm,1.0s,mb4.4,baz=92,slow=20,SNR=4.4
MMAI Mount Meron Ar 83.81 302 P **P** **04 38 03.0 +1.5**
comp=Z,0.8nm,0.4s,mb4.2,baz=65,slow=7.2,SNR=3.2
BR131 Keskin Array S 83.91 309 *e*P **P** **04 38 02.1 +0.1**
BRTR Keskin Array B 83.91 309 P **P** **04 38 02.0 0.0**
comp=Z,1.4nm,0.7s,mb4.2,baz=117,slow=4.3,SNR=6.2
BRTR Keskin Array B 83.91 309⇑ *e*P **P** **04 38 01.6 -0.5**
AKASG Malin Array Be 84.62 321 P **P** **04 38 04.3 -1.4**
comp=Z,0.8nm,0.5s,mb4.1,baz=63,slow=5.4,SNR=7.5
AKASG Malin Array Be 84.62 321 *i* P **P** **04 38 05.0 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 84.62 321 P **P** **04 38 04.3 -1.4**
MLR Muntele Rosu 88.07 316 P **P** **04 38 22.6 -0.1**
comp=Z,2.3nm,0.8s,mb4.5,baz=140,slow=6.8,SNR=4.0
KMBO Kilima Mbogo 89.15 269 P **P** **04 38 28.1 +0.4**
comp=Z,1.2nm,0.4s,mb4.6,baz=158,slow=10,SNR=4.1
KMBO Kilima Mbogo 89.15 269 *i* P **P** **04 38 32.2 +4.5**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
RES Resolute Bay 89.16 10 *e*P **P** **04 38 27.5 -0.2**
comp=Z,171nm,0.8s
YKA Yellowknife Ar 91.62 24 LR LR 05 20 20.2
comp=Z,25nm,20.5s,MS3.6,baz=160,slow=36
MAW Mawson 91.90 200 LR LR 05 22 04.4
comp=Z,34nm,18.3s,MS3.8,baz=301,slow=37
VNDA Vanda 92.32 173 P **P** **04 38 40.8 -1.7**
comp=Z,0.9nm,0.8s,mb4.1,baz=313,slow=3.7,SNR=4.5
CPD Cerro la Pandu 147.25 22 *e*PKP2 PKPab 04 45 16.3 -1.0
SDV Santo Domingo 152.86 39 *e*PKPdf PKPdf 04 45 23.7 +1.6
SDV *e*PKPbc PKPbc 04 45 30.4 +1.1
LPAZ La Paz 165.73 106 PKPab PKPab 04 46 40.1 +4.0
comp=Z,1.7nm,0.9s,baz=288,slow=3.2,SNR=5.9
LPAZ La Paz 165.73 106 *e*PKPab PKPab 04 46 40.0 +3.9

*ISCJB **24** 04:30:37.5±1.5, 46.30N±0.06×154.25E±0.05, h2km±9km, mb4.5/70, MS3.9/10, Error ellipse: s-maj=10.4km s-min=5.0km az=136.4*
*IDC **24** 04:30:38.5±0.6, 46.29N×154.25E, h0km, mb4.2/22, mb1 4.4/23, mb1mx4.4/29, mbtmp4.2/23, ML4.1/1, MS3.6/4,*

Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=17.8km s-min=14.1km az=147.0
*NEIC **24** 04:30:40.0±0.3, 46.25N×154.12E, h10km, mb4.6/26, Error ellipse: s-maj=9.0km s-min=5.5km az=161.0*
*BJI **24** 04:30:39.0, 46.52N×154.06E, h6km, mB4.8, mb4.5, Ms4.3, Msz3.9*
*MOS **24** 04:30:41.9±1.3, 46.30N×154.15E, h33km, mb4.6/32, Error ellipse: s-maj=10.5km s-min=7.5km az=97.9*
ISC 24 04:30:42.0±1.7, 46.33N±0.06×154.25E±0.05, h18km±10km, h14km±.9km: pP-P, n137, σ1s04/141, mb4.5/70, MS3.9/10, 3C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.60**	**258**	⇓*i*PN	**Pn**	**04 31 47.0**	**-3.6**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,240nm,0.5s						
PET	**Petropavlovsk**	**7.28**	**21**	*e*PN	**Pn**	**04 32 27.2**	**-0.2**
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
ASAJ	**Asahikawa**	**8.52**	**259**	Pn	**Pn**	**04 32 45.0**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=102,slow=19,SNR=5.3						
ASAJ				LR	LR	04 36 24.0	
	comp=Z,118nm,20.3s,baz=182,slow=41						
KLR	**Kul'dur**	**15.39**	**289**	*e*P	**Pn**	**04 34 20.8**	**+2.7**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MAT	**Matsushiro**	**15.48**	**237**	P	**Pn**	**04 34 18.0**	**-1.3**
MAT				*e*S	**Sn**	**04 37 13.0**	**+2.7**
MJAR	**Matsushiro Arr**	**15.48**	**237**	Pn	**Pn**	**04 34 12.7**	**-6.6**
	comp=Z,3nm,0.3s,baz=51,slow=12,SNR=3.0						
CN2	**Changchun**	**20.46**	**273**	*e*P	**P**	**04 35 19.1**	**+0.6**
CLNS	**Chul'man**	**20.89**	**311**	*e*P	**P**	**04 35 24.1**	**+1.0**
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,125nm,13.6s						
CLNS				pmax	pmax		
	comp=E,1μm,12.7s						
CLNS				MLR	MLR		
	comp=Z,300nm,14.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s						
KSRS	**Korea Array**	**21.44**	**255**	P	**P**	**04 35 29.2**	**+0.2**
	comp=N,2.0nm,0.9s,mb3.5,baz=40,slow=5.8,SNR=3.8						
SNY	**Shenyang**	**22.41**	**270**	⇓P	**P**	**04 35 38.8**	**-0.7**
SNY				AP		04 35 44.0	
SNY				XP	sP	04 35 47.8	+0.6
SNY				PP		04 36 06.5	
SNY				S	**S**	**04 39 44.1**	**-1.0**
SNY				XS	sS	04 39 50.0	-3.6
SNY				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.7						
SNY				AMB	AMB		
	comp=Z,152nm,6.5s						
SNY				LR	LR		
	comp=Z,223nm,16.8s,MS3.7						
BILL	**Bilibino**	**22.63**	**12**	*e*P	**P**	**04 35 42.9**	**+1.1**
BILL				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.6						
BOD	**Bodaibo**	**26.86**	**310**	*e*P	**P**	**04 36 18.5**	**-3.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.9						
TIXI	**Tiksi**	**28.09**	**343**	*e*P	**P**	**04 36 30.5**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,21nm,2.5s,mb4.3						
BJI	**Beijing**	**28.27**	**271**	P	**P**	**04 36 30.0**	**-4.1**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
BJI	**Beijing**	**28.27**	**271**	P	**P**	**04 36 30.0**	**-4.1**
	comp=Z,9.0nm,0.6s,mb4.6						
NJ2	**Nanjing**	**30.64**	**255**	*e*P	**P**	**04 36 55.4**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
HHC	**Hu-ho-hao-te**	**31.11**	**275**	*e*P	**P**	**04 36 59.3**	**0.0**
HHC				AP	pP	04 37 03.6	-1.3
HHC				XP	sP	04 37 06.3	-0.9
HHC				PP	PP	04 38 00.8	-8.8
HHC				S	**S**	**04 42 03.3**	**-0.7**
HHC				XS	sS	04 42 09.5	-3.7
HHC				SS	SS	04 43 46.5	-31
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,113nm,6.1s						
HHC				LR	LR		
	comp=N,136nm,13.6s,MS4.0						
HHC				LR	LR		
	comp=E,212nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=Z,180nm,14.2s,MS3.9						
ULN	**Ulaanbaatar**	**31.78**	**290**	*e*P	**P**	**04 37 05.8**	**+0.6**
SONM	**Songino Array**	**32.22**	**290**	P	**P**	**04 37 06.9**	**-2.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=69,slow=8.8,SNR=4.8						
SONM	**Songino Array**	**32.22**	**290**	P	**P**	**04 37 06.9**	**-2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAK	**Zakamensk**	**33.57**	**296**	*e*P	**P**	**04 37 18.1**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
IMA2	**Indian Mountai**	**33.68**	**35**	*e*P	**P**	**04 37 21.8**	**0.0**
PMR	**Palmer**	**35.35**	**44**	*e*P	**P**	**04 37 36.0**	**-0.3**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
PMR	**Palmer**	**35.35**	**44**	*e*P	**P**	**04 37 36.0**	**-0.3**
	comp=Z,9.3nm,1.1s,mb4.6						
MCK	**McKinley**	**35.46**	**40**	*e*P	**P**	**04 37 37.0**	**-0.2**
MCK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
MCK	**McKinley**	**35.46**	**40**	*e*P	**P**	**04 37 37.0**	**-0.2**
	comp=Z,12nm,1.2s,mb4.7						
SML	**Sawmill**	**35.73**	**43**	*e*P	**P**	**04 37 39.4**	**-0.1**
COLA	**College**	**35.98**	**38**	*c*P	**P**	**04 37 41.3**	**-0.3**
COLA	**College**	**35.98**	**38**	*e*P	**P**	**04 37 41.8**	**+0.1**
	comp=Z,23nm,1.0s,mb5.0						
LZH	**Lanzhou**	**38.69**	**273**	*e*P	**P**	**04 38 05.8**	**+1.1**
LZH				AP	pP	04 38 09.0	-1.4
LZH				XP	sP	04 38 10.5	-2.1
LZH				*e*PP	PP	04 39 40.8	+7.5
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,69nm,5.4s						
LZH				LR	LR		
	comp=E,446nm,13.0s						
LZH				LR	LR		
	comp=Z,689nm,17.5s,MS4.5						
LZH	**Lanzhou**	**38.69**	**273**	*e*P	**P**	**04 38 05.7**	**+1.0**
LZH				*e*		04 39 40.8	
LZH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
LZH				MLR	MLR		
	comp=Z,690nm,17.5s,MS4.5						
LZH	**Lanzhou**	**38.69**	**273**	*e*P	**P**	**04 38 05.7**	**+1.0**
	comp=Z,20nm,1.2s,mb4.7						
LZH				pP	pP	04 38 09.0	-1.4
LZH				sP	sP	04 38 10.5	-2.1
LZH				*e*PP	PP	04 39 40.8	+7.5
LZH				LR	LR		
	comp=Z,690nm,17.5s,MS4.5						
EGAK	**Eagle**	**38.84**	**38**	*e*P	**P**	**04 38 05.3**	**-0.6**
	comp=Z,20nm,1.1s,mb4.8						
DAWY	**Dawson**	**39.66**	**39**	*e*P	**P**	**04 38 12.9**	**+0.1**
GTA	**Gaotai**	**39.82**	**280**	P	**P**	**04 38 14.9**	**+0.9**
GTA				AP	pP	04 38 18.6	-1.2
GTA				XP	sP	04 38 20.3	-1.7
GTA				PP	PP	04 39 50.3	+4.7
GTA				S	**S**	**04 44 18.4**	**+0.9**
GTA				XS	sS	04 44 26.4	-0.5
GTA				SS	SS	04 47 07.6	-6.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
GTA				AMB	AMB		
	comp=Z,130nm,5.3s						
GTA				LR	LR		
	comp=N,111nm,15.2s,MS4.0						

GTA LR LR
comp=E,137nm,15.6s,MS4.0
GTA LR LR
comp=Z,113nm,14.8s,MS3.8
INK Inuvik 41.58 32 P **P** **04 38 28.9 +0.3**
comp=Z,4.0nm,0.5s,mb4.3,baz=297,slow=5.1,SNR=25
INK Inuvik 41.58 32 *eP* **P** **04 38 28.9 +0.3**
comp=Z,155nm,0.6s,mb5.8
CD2 Chengdu 41.63 267 *eP* **P** **04 38 27.8 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
GYA Guiyang 42.40 259 P **P** **04 38 35.4 +0.1**
GYA AP pP 04 38 39.4 -1.7
GYA XP sP 04 38 42.6 -0.7
GYA PP PP 04 40 16.0 +2.4
GYA PCP PcP 04 40 29.6 +1.3
GYA S **S** **04 44 55.6 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.5s
GYA LR LR
comp=N,340nm,16.4s,MS4.4
GYA LR LR
comp=E,240nm,16.8s,MS4.4
GYA LR LR
comp=Z,280nm,16.0s,MS4.2
DLBC Dease Lake 45.32 46 *eP* **P** **04 39 02.2 +3.5**
WMQ Urumqi 45.81 292 *iP* **P** **04 39 03.6 +0.9**
WMQ AP pP 04 39 08.1 -0.3
WMQ XP sP 04 39 10.6 -0.1
WMQ PCP PcP 04 40 41.6 +1.7
WMQ PP PP 04 40 51.4 +1.3
WMQ SCP ScP 04 44 32.8 +0.8
WMQ S **S** **04 45 46.6 +1.0**
WMQ XS sS 04 45 54.0 -1.1
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,54nm,4.4s
WMQ LR LR
comp=N,52nm,19.7s,MS3.5
WMQ LR LR
comp=E,32nm,19.7s,MS3.5
WMQ LR LR
comp=Z,76nm,20.2s,MS3.6
KMI Kunming 45.95 261 P **P** **04 39 03.0 -0.7**
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
KMI Kunming 45.95 261 P **P** **04 39 03.0 -0.7**
comp=Z,8.0nm,1.2s,mb4.5
MKAR Makanchi Array 47.83 298 P **P** **04 39 17.4 -1.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=74,slow=8.2,SNR=16
MKAR LR LR 05 00 24.1
comp=Z,125nm,18.1s,MS3.9,baz=244,slow=37
MKAR Makanchi Array 47.83 298 *i* P **P** **04 39 17.3 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 50.79 37 P **P** **04 39 40.8 -0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=301,slow=7.1,SNR=5.0
YKA Yellowknife Ar 50.79 37 *i* P **P** **04 39 40.7 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s
CHKZ Chkalovo 51.30 311 P **P** **04 39 43.3 -1.6**
CHKZ Chkalovo 51.30 311 *eP* **P** **04 39 43.8 -1.1**
comp=Z,8.2nm,0.6s,mb4.8
BVA0 Borovoye Array 51.73 310 *i* P **P** **04 39 47.8 -0.3**
BVAR Borovoye Array 51.73 310 P **P** **04 39 47.7 -0.5**
comp=Z,2.2nm,0.4s,mb4.4,baz=60,slow=7.9,SNR=13
BVAR Borovoye Array 51.73 310 P **P** **04 39 47.7 -0.4**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 51.77 310 *eP* **P** **04 39 48.2 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 51.77 310 *eP* **P** **04 39 48.2 -0.2**
comp=Z,5.2nm,0.6s,mb4.6
AAK Ala-Archa 54.73 297 *iP* **P** **04 40 10.2 0.0**
AAK pmax pmax
comp=Z,24nm,2.5s,mb4.8
AAK Ala-Archa 54.73 297 *eP* **P** **04 40 10.2 0.0**
comp=Z,5.5nm,0.7s,mb4.7
JIRN Jiri 55.77 276 *eP* **P** **04 40 18.8 +1.1**
comp=Z,16nm,0.7s,mb5.2
GUN Gumba 55.83 276 *eP* **P** **04 40 19.2 +1.1**
comp=Z,10nm,0.4s,mb5.2
ARU Arti 55.85 318 *iP* **P** **04 40 17.5 -0.8**
ARU *e* 04 41 14.3
ARU *e* 04 42 16.9
ARU *eS* **S** **04 48 03.5 -1.2**
ARU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ARU Arti 55.85 318 *eP* **P** **04 40 17.8 -0.5**
comp=Z,12nm,0.6s,mb5.1
KKN Kakani 56.31 276 *eP* **P** **04 40 23.0 +1.4**
PKI Pulchoki 56.36 276 *eP* **P** **04 40 22.5 +0.6**
DMN Daman 56.55 276 *eP* **P** **04 40 24.5 +1.2**
GKN Gorkha 56.62 277 *eP* **P** **04 40 24.9 +1.1**
comp=Z,11nm,0.5s,mb5.2
KOLN Koldanda 57.48 277 *eP* **P** **04 40 30.9 +1.0**
comp=Z,26nm,1.0s,mb5.2
KEV Kevo 58.00 341 *ep* **P** **04 40 32.2 -1.3**
APA Apatity 58.03 337 *eP* **P** **04 40 33.0 -0.7**
APA *i* 04 40 45.4
APA pmax pmax
comp=Z,25nm,1.2s,mb5.1
ARCES ARCESS Array B 58.50 341 P **P** **04 40 36.8 -0.3**
comp=Z,7.4nm,0.9s,mb4.7,baz=27,slow=7.7,SNR=9.1
ARCES ARCESS Array B 58.50 341 P **P** **04 40 36.8 -0.2**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 59.30 311 *i* P **P** **04 40 42.4 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
MSO Missoula 59.39 53 *eP* **P** **04 40 43.1 -0.1**
AKTO Aktyubinsk 59.59 313 P **P** **04 40 44.0 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,2.1s,mb3.5
HRY Holter Researc 60.62 52 *eP* **P** **04 40 53.8 +2.2**
CMB Columbia Colle 60.88 64 *eP* **P** **04 40 53.8 +0.4**
CMB pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
CMB Columbia Colle 60.88 64 *eP* **P** **04 40 53.8 +0.4**
comp=Z,4.7nm,1.2s,mb4.5
HLID Hailey 61.09 56 *eP* **P** **04 40 54.8 0.0**
comp=Z,3.1nm,1.1s,mb4.3
NVAR Mina Array Bea 61.93 63 P **P** **04 41 00.5 +0.1**
comp=Z,2.2nm,0.9s,mb4.3,baz=302,slow=5.9,SNR=7.6
QLMT Earthquake Lak 62.00 53 *eP* **P** **04 41 01.3 +0.3**
RRI2 Red Ridge 62.99 55 *eP* **P** **04 41 09.0 +1.4**
MOOW Moose Ponds 63.06 54 *eP* **P** **04 41 08.3 +0.3**
comp=Z,5.3nm,1.1s,mb4.6
LOHW Long Hollow 63.23 54 *eP* **P** **04 41 09.7 +0.6**
comp=Z,5.6nm,1.2s,mb4.6
SNOW Snow King Moun 63.23 54 *eP* **P** **04 41 10.9 +1.7**
comp=Z,12nm,1.1s,mb4.9
REDW Red Top Meadow 63.24 54 *eP* **P** **04 41 10.1 +0.8**
comp=Z,8.9nm,1.1s,mb4.8
DUG Dugway 64.13 58 *eP* **P** **04 41 14.6 -0.5**
DUG pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DUG Dugway 64.13 58 *eP* **P** **04 41 14.6 -0.5**
comp=Z,3.8nm,1.0s,mb4.4
BW06 Boulder Array 64.35 54 *eP* **P** **04 41 16.2 -0.4**
comp=Z,3.7nm,1.1s,mb4.3
PDAR Pinedale Array 64.35 54 P **P** **04 41 16.2 -0.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=279,slow=2.9,SNR=11
FINES FINESS Array B 64.75 335 P **P** **04 41 17.9 -1.2**
comp=Z,2.3nm,0.7s,mb4.3,baz=38,slow=6.1,SNR=9.1
FINES LR LR 05 13 09.7
comp=Z,63nm,20.5s,MS3.8,baz=241,slow=39
FINES FINESS Array B 64.75 335 P **P** **04 41 18.0 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,63nm,20.5s
SRU San Rafael 66.17 58 *eP* **P** **04 41 27.5 -0.9**
SRU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SRU San Rafael 66.17 58 *eP* **P** **04 41 27.5 -0.9**
comp=Z,8.0nm,1.1s,mb4.7
ULM Lac du Bonnet 66.32 41 P **P** **04 41 28.2 -1.1**
comp=Z,1.9nm,0.7s,mb4.2,baz=278,slow=16,SNR=2.7
RSSD Black Hills 66.49 50 *eP* **P** **04 41 29.9 -0.5**
RSSD pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RSSD Black Hills 66.49 50 *eP* **P** **04 41 29.9 -0.5**
comp=Z,3.7nm,1.0s,mb4.4
GLA Glamis 67.54 65 *eP* **P** **04 41 37.2 +0.1**
PHWY Pilot Hill 67.61 53 *eP* **P** **04 41 44.8 +7.2**
SMCO Snowmass 68.19 56 *eP* **P** **04 41 43.2 +2.0**
comp=Z,2.2nm,0.8s,mb4.2
WB2 Warramunga Arr 68.38 200 *eP* **P** **04 41 40.8 -1.5**
WRA Warramunga Arr 68.38 200 P **P** **04 41 40.8 -1.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=19,slow=6.5,SNR=7.8
WRA Warramunga Arr 68.38 200 P **P** **04 41 40.8 -1.6**
WRA pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 68.54 55 *eP* **P** **04 41 43.5 +0.1**
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ISCO Idaho Springs 68.54 55 *eP* **P** **04 41 43.5 +0.1**
comp=Z,3.1nm,1.0s,mb4.2
MVCO Mesa Verde 68.63 58 *eP* **P** **04 41 45.0 +1.0**
comp=Z,5.8nm,1.0s,mb4.5
NB2 NORSAR Subarra 68.88 342 P **P** **04 41 44.8 -0.7**
comp=Z,0.8nm,0.4s,mb4.0,baz=30,slow=6.5
NOA NORSAR Array B 68.88 342 P **P** **04 41 44.6 -0.8**
comp=Z,1.1nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=4.2
NOA NORSAR Array B 68.88 342 P **P** **04 41 44.6 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 69.12 340 P **P** **04 41 45.8 -1.2**
comp=Z,3.2nm,0.5s,mb4.5,baz=46,slow=6.4,SNR=15
HFS Hagfors 69.12 340 P **P** **04 41 45.8 -1.2**
HFS pmax pmax
comp=Z,3.0nm,0.5s
FITZ Fitzroy Crossi 69.15 209 P **P** **04 41 46.4 -0.8**
comp=Z,4.2nm,1.1s,mb4.3,baz=11,slow=8.7,SNR=4.2
GOF Gofitskoye 70.68 316 *eP* **P** **04 41 58.0 +1.4**
ANMO Albuquerque 71.38 59 *eP* **P** **04 42 00.8 0.0**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 71.38 59 *eP* **P** **04 42 00.8 0.0**
comp=Z,3.5nm,1.2s,mb4.2
KIV Kislovodsk 71.65 315 *eP* **P** **04 42 01.7 -0.8**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AS31 Alice Springs 72.07 200 *eP* **P** **04 42 03.7 -1.3**
ASAR Alice Springs 72.07 200 P **P** **04 42 04.5 -0.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=10,slow=4.9,SNR=19
ASAR Alice Springs 72.07 200 P **P** **04 42 04.6 -0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
GNI Garni 73.40 311 *eP* **P** **04 42 14.5 +1.6**
GNI pmax pmax
comp=Z,11nm,1.7s
MNTX Cornudas Mount 74.29 61 *eP* **P** **04 42 17.6 -0.5**
comp=Z,3.4nm,1.1s,mb4.2
KIS Kishinev 75.48 325 *e* **P** **04 42 28.0 +3.0**
TXAR Lajitas Array 77.01 61 P **P** **04 42 33.1 -0.6**
comp=Z,2.5nm,0.7s,mb4.3,baz=305,slow=4.2,SNR=36
TXAR Lajitas Array 77.01 61 P **P** **04 42 33.1 -0.5**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 77.86 326 P **P** **04 42 38.8 +0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=16,slow=8.2,SNR=3.4
MLR Muntele Rosu 77.86 326 P **P** **04 42 38.8 +0.4**
MLR pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 77.88 333 P **P** **04 42 36.9 -1.6**
comp=Z,3.2nm,0.5s,mb4.5,baz=196,slow=14,SNR=2.5
VRAC Vranov 77.88 333 P **P** **04 42 36.9 -1.6**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
GERES GERESS Array B 79.17 335 P **P** **04 42 43.6 -2.0**
comp=Z,0.3nm,0.5s,mb3.5,baz=338,slow=9.5,SNR=3.6
BRTR Keskin Array B 79.23 317 P **P** **04 42 47.4 +1.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=64,slow=5.3,SNR=4.0
BRTR Keskin Array B 79.23 317 P **P** **04 42 47.4 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
PPT Papeete 81.28 127 LR LR 05 13 51.2
comp=Z,38nm,18.8s,MS3.8,baz=346,slow=32
CDF Champ du Feu 81.34 338 *eP* **P** **04 42 57.6 +0.3**
comp=Z,34nm,1.5s,mb4.8
GRR Gorron 83.19 344 *eP* **P** **04 43 07.3 +0.3**
comp=Z,90nm,1.6s,mb5.2
MMAI Mount Meron Ar 83.68 312 P **P** **04 43 10.5 +1.0**
comp=Z,0.5nm,0.3s,mb4.2,baz=46,slow=10,SNR=2.8
SMF Signal de Mont 83.83 340 *eP* **P** **04 43 10.6 +0.3**
LPG La Plagne 84.17 338 *eP* **P** **04 43 13.3 +1.2**
comp=Z,9.6nm,0.9s,mb4.6
CAF Calviac 85.87 341 *eP* **P** **04 43 20.6 +0.1**
SNAA Sanae 152.37 195 *e*PKIKP PKPdf 04 50 33.3 +3.4
VNA2 Neumayer--Watz 153.79 194 *e*PKPdf PKPdf 04 50 30.0 -2.0
VNA2 *e* 04 50 33.2
VNA2 *e* 04 50 37.8
VNA2 *e* 04 50 41.6
VNA2 *e* 04 50 50.9
VNA2 *e* 04 50 53.0
VNA2 *e* 04 50 57.8
VNA2 *e* 04 51 10.3
VNA2 *e* 04 51 13.0

BJI **24** *04:37:35.9,3608N×151.2E,h23km,mB5.0,mb4.8,Ms5.0, Msz4.8*
IDC **24** *04:37:38.0±0.9,3633N×1567E,h0km,mb4.2/13, mb1 4.3/21,mb1mx4.2/31,mbtmp4.2/21,ML4.4/8,MS3.2/6, Ms1 3.2/6,ms1mx2.9/35,Error ellipse: s-maj=18.2km s-min=15.9km az=177.0*
ISCJB **24** *04:37:38.8±0.5,3625N±002×1590E±002,h15km±4km, mb4.4/32,MS3.8/4, Error ellipse: s-maj=3.2km s-min=2.0km az=61.0*
MOS **24** *04:37:39.7±1.1,3637N×1588E,h15km,mb4.5/19,Error ellipse: s-maj=4.6km s-min=2.5km az=83.4*
ROM **24** *04:37:39.7±0.2,3623N×1580E,h12km±2km,Ml4.6/45, Error ellipse: s-maj=2.2km s-min=1.8km az=41.0*
PDG **24** *04:37:40.2±0.3,3676N×1513E,h11km±1km*
NEIC **24** *04:37:40.0,3626N×1576E,h11km,mb4.4/15, ML4.7(ROM),After ROM.*
NEIC Felt on Malta.
CSEM **24** *04:37:41.0±0.1,3629N×1588E,h40km,mb4.4/13,ML5.9/7, Ms3.1, Error ellipse: s-maj=2.1km s-min=0.9km az=28.0*
PRU **24** *04:37:42.5,3662N×1609E,h0km,M4.4*
HLW **24** *04:37:44.4,3676N×1674E,h33km,Mb4.5*
GII **24** *04:37:56.2±0.0,3525N×1740E,h0km,mb5.3/8,ML5.4/8*
ISC 24 04:37:39.7±0.5,**3626N**±002×**1586E**±002,**h7**km±3km,
h20km±1.3km**:pP-P,n532,**σ**1s27**/599,**mb4.4**/32,**MS3.8**/4,**
27C-35D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAVL	**Avola**	**0.92**	**320**	Pg	**Pg**	**Pg**	**04 37 57.1**	**-0.1**
HAVL				Sg	**Sg**	**Sg**	**04 38 09.2**	**+0.1**
	52μm,0.4s							
HAVL	**Avola**	**0.92**	**320**	P	**Pg**	**Pg**	**04 37 56.1**	**-1.1**
HAVL	**Avola**	**0.92**	**320**	Pg	**Pg**	**Pg**	**04 37 57.1**	**-0.1**
HAVL				Sg	**Sg**	**Sg**	**04 38 09.2**	**+0.1**
	52μm,0.4s							
PZI	**Palazzolo**	**1.08**	**318**	Pg	**Pg**	**Pg**	**04 37 59.3**	**-1.1**
SSY	**Sortino**	**1.09**	**325**	Pg	**Pg**	**Pg**	**04 38 00.2**	**-0.5**
SSY				Sg	**Sg**	**Sg**	**04 38 14.2**	**-0.7**
	34μm,0.2s							
SSY	**Sortino**	**1.09**	**325**	P	**Pg**	**Pg**	**04 37 59.8**	**-0.9**
SSY	**Sortino**	**1.09**	**325**	Pg	**Pg**	**Pg**	**04 38 00.2**	**-0.5**
SSY				Sg	**Sg**	**Sg**	**04 38 14.2**	**-0.7**
	34μm,0.2s							
HMDC	**Modica**	**1.11**	**309**	Pg	**Pg**	**Pg**	**04 37 59.1**	**-1.9**
HMDC				Sg	**Sg**	**Sg**	**04 38 12.8**	**-2.6**
	13μm,0.4s							
HMDC	**Modica**	**1.11**	**309**	P	**Pb**	**Pb**	**04 37 59.3**	**-1.9**
AGST	**Augusta-Monte**	**1.12**	**333**	Pg	**Pg**	**Pg**	**04 38 00.5**	**-0.6**
AGST	**Augusta-Monte**	**1.12**	**333**	P	**Pb**	**Pb**	**04 38 00.3**	**-1.0**
WDD	**Wield Dalam**	**1.15**	**251**	Pg	**Pg**	**Pg**	**04 38 00.1**	**-1.6**
WDD				Sg	**Sg**	**Sg**	**04 38 14.6**	**-2.0**
	28μm,0.7s							
WDD	**Wield Dalam**	**1.15**	**251**	P	**Pb**	**Pb**	**04 37 59.0**	**-2.8**
HAGA	**Augusta**	**1.17**	**331**	Pg	**Pg**	**Pg**	**04 38 01.5**	**-0.6**
HAGA				Sg	**Sg**	**Sg**	**04 38 16.2**	**-1.1**
	37μm,0.4s							
HVZN	**Vizzini**	**1.30**	**315**	Pg	**Pn**	**Pn**	**04 38 02.3**	**-1.9**
HVZN				Sg	**Sb**	**Sb**	**04 38 19.1**	**-2.2**
	25μm,0.6s							
RAFF	**Raffo Rosso**	**1.54**	**309**	Pg	**Pn**	**Pn**	**04 38 06.3**	**-1.2**
RAFF				Sg	**Sn**	**Sn**	**04 38 25.7**	**-2.1**
	16μm,0.8s							
VAE Valguarnera 1.68 317 Pn **Pn** **04 38 10.0 +0.5**
113nm,0.3s,baz=278,slow=2.6,SNR=130
VAE Sn **Sn** **04 38 27.7 -3.6**
373nm,0.3s,baz=101,slow=19,SNR=12
VAE Valguarnera 1.68 317 Pn **Pn** **04 38 10.0 +0.5**
VAE Sn **Sn** **04 38 27.7 -3.6**
VAE Valguarnera 1.68 317 Sn **Sn** **04 38 27.7 -3.6**
MMME Mongiuffi-Meli 1.74 344 Pg **Pn** **04 38 11.0 +0.6**
MMME Sg **Sn** **04 38 31.9 -0.9**
8μm,0.5s
MTTG Motta San Giov 1.75 356 Pg **Pn** **04 38 10.3 -0.1**
GALF Gagliano Caste 1.78 325 Pg **Pn** **04 38 11.1 +0.2**
GALF Sg **Sn** **04 38 33.9 +0.1**
22μm,0.6s
SOI Samo 1.82 5 Pg **Pn** **04 38 11.7 +0.3**
SOI Sg **Sn** **04 38 34.8 +0.1**
2μm,0.7s
SOI Samo 1.82 5 P **Pn** **04 38 11.5 +0.1**
MNO Monte Soro 1.91 331 Pg **Pn** **04 38 13.4 +0.7**
MNO Monte Soro 1.91 331 P **Pn** **04 38 13.3 +0.6**
MSI Messina ING 1.96 353 Pg **Pn** **04 38 13.4 +0.1**
MSI Messina ING 1.96 353 P **Pn** **04 38 13.6 +0.3**
SCLL Scilla 2.00 357 Pg **Pn** **04 38 13.7 -0.2**
488nm,0.5s
SCLL Scilla 2.00 357 P **Pn** **04 38 14.1 +0.2**
MSRU Castanea 2.02 352 Pg **Pn** **04 38 14.3 +0.1**
MSRU Sg **Sn** **04 38 39.5 -0.2**
9μm,0.4s
FAVR Favara 2.03 300 Pg **Pn** **04 38 13.6 -0.7**
FAVR Favara 2.03 300 P **Pn** **04 38 13.5 -0.8**
CSLB Castelbuono 2.21 320 Pg **Pn** **04 38 16.7 -0.1**
2μm,0.4s
CSLB Castelbuono 2.21 320 P **Pn** **04 38 16.6 -0.2**
VPL Vulcano Piano 2.23 342 Pg **Pn** **04 38 17.4 +0.4**
VPL Sg **Sn** **04 38 44.9 +0.1**
13μm,0.5s
PLAC Placanica 2.24 12 Pg **Pn** **04 38 18.9 +1.7**
485nm,0.8s
MCT Mte Cammarata 2.25 308 Pg **Pn** **04 38 18.8 +1.5**
1μm,1.0s
MCT Mte Cammarata 2.25 308 P **Pn** **04 38 18.2 +0.9**
GIB Gibilmanna 2.26 320 Pg **Pn** **04 38 17.6 +0.1**
GIB Sg **Sn** **04 38 46.5 +0.8**
7μm,0.7s
LLI Lipari 2.30 342 Pg **Pn** **04 38 19.1 +1.1**
LLI Sg **Sn** **04 38 47.4 +0.8**
25μm,0.7s
JOPP Joppolo 2.34 1 Pg **Pn** **04 38 19.1 +0.5**
2μm,0.8s
SLNA Salina 2.44 341 Pg **Pn** **04 38 20.2 +0.2**
CLTB Caltabellotta 2.49 303 Pg **Pn** **04 38 19.3 -1.4**
861nm,0.4s
IFIL Filicudi I Eol 2.52 336 Pg **Pn** **04 38 20.7 -0.4**
18μm,0.5s
GRI Girifalco 2.60 10 Pg **Pn** **04 38 23.4 +1.3**
885nm,0.5s
GRI Girifalco 2.60 10 P **Pn** **04 38 23.2 +1.1**
CORL Corleone 2.61 309 Pg **Pn** **04 38 22.4 +0.1**
2μm,0.6s
MPG Monte Pellegri 2.75 314 P **Pn** **04 38 24.4 +0.1**
SERS Sersale 2.85 13 Pg **Pn** **04 38 27.0 +1.4**
548nm,0.4s
TIP Timpagrande 3.00 14 Pg **Pn** **04 38 28.7 +1.0**
520nm,0.8s
TIP Timpagrande 3.00 14 *e*Pn **Pn** **04 38 28.7 +1.0**
TIP *e*Sn **Sn** **04 39 03.4 -0.5**
CARO Carolei 3.00 5 Pg **Pn** **04 38 28.4 +0.7**
2μm,0.6s
PTS Pantelleria 3.16 281 Pg **Pn** **04 38 28.1 -1.7**
200nm,0.2s
PTS Pantelleria 3.16 281 P **Pn** **04 38 28.0 -1.8**
ERC Erice 3.16 305 Pg **Pn** **04 38 28.7 -1.1**
3μm,1.0s
ERC Erice 3.16 305 P **Pn** **04 38 28.8 -1.0**
USI Ustica 3.24 320 Pg **Pn** **04 38 29.8 -1.2**
2μm,0.5s
USI Ustica 3.24 320 P **Pn** **04 38 29.6 -1.4**
ORI Oriolo Calabro 3.83 7 Pg **Pn** **04 38 40.2 +1.2**
988nm,0.6s
SIRI Monte Sirino - 3.92 0 Pg **Pn** **04 38 40.5 +0.2**
881nm,0.8s
SCHR S. Chirico Rap 3.94 2 Pg **Pn** **04 38 41.1 +0.5**
253nm,0.7s
MTSN Montesano sull 4.00 359 Pg **Pn** **04 38 41.5 +0.1**
MCEL Monticello 4.06 359 Pg **Pn** **04 38 42.7 +0.5**
474nm,0.6s
CMPR Campora 4.08 354 Pg **Pn** **04 38 42.5 0.0**
376nm,0.4s
CRAC Craco 4.13 6 Pg **Pn** **04 38 44.8 +1.7**
751nm,0.7s
SLCN Sala Consilina 4.13 358 Pg **Pn** **04 38 43.3 +0.1**
SLCN Sala Consilina 4.13 358 P **Pn** **04 38 40.4 -2.8**
CDRU Civita di Ruta 4.25 354 Pg **Pn** **04 38 45.5 +0.7**
212nm,0.4s
SGO Sicignano 4.32 354 Pg **Pn** **04 38 46.9 +1.1**
79nm,0.3s
SGO Sicignano 4.32 354 P **Pn** **04 38 46.7 +0.9**
SCTE Santa Cesarea 4.33 28 Pg **Pn** **04 38 45.5 -0.4**
407nm,0.3s
MIGL Miglionico 4.37 6 Pg **Pn** **04 38 46.7 +0.3**
2μm,0.8s
LCI Lecce 4.44 23 Pg **Pn** **04 38 46.8 -0.7**
120nm,0.2s
LCI Lecce 4.44 23 P **Pn** **04 38 46.7 -0.8**
MRLC Muro Lucano 4.50 356 Pg **Pn** **04 38 49.6 +1.3**
200nm,0.5s
MRLC Muro Lucano 4.50 356 P **Pn** **04 38 49.8 +1.5**
MCRV Calabrutti - M 4.55 353 Pg **Pn** **04 38 50.0 +1.0**
246nm,0.6s
SG1 Sgolgore (BA) 4.62 8 *e*Pn **Pn** **04 38 48.9 -1.0**
NOCI Noci 4.62 11 Pg **Pn** **04 38 48.6 -1.4**
646nm,0.3s
KEK Kerkira 4.65 41 Pg **Pn** **04 38 49.8 -0.5**
681nm,0.6s
KEK Kerkira 4.65 41 *eP* **Pn** **04 38 49.2 -1.1**
KEK *eS* **Sn** **04 39 33.0 -12**
KEK Kerkira 4.65 41 P **Pn** **04 38 49.5 -0.8**
AMUR Altamura 4.68 7 Pg **Pn** **04 38 49.8 -0.9**
340nm,0.3s
PALZ Palazzo San Ge 4.68 1 Pg **Pn** **04 38 51.1 +0.3**
762nm,1.1s
SNAL S. Angelo Dei 4.69 354 Pg **Pn** **04 38 53.1 +2.2**
642nm,0.9s
VULT Monte Vulture 4.69 358 Pg **Pn** **04 38 51.8 +0.9**
318nm,0.7s
PE1 Pezze di Greco 4.70 15 *e*Pn **Pn** **04 38 49.6 -1.5**
CAFE Carife 4.79 354 Pg **Pn** **04 38 53.7 +1.5**
508nm,1.1s
IGT Igoumenitsa 4.82 46 *eP* **Pn** **04 38 53.0 +0.3**
IGT Igoumenitsa 4.82 46 P **Pn** **04 38 52.5 -0.2**
CDT Castel del Mon 4.83 4 *e*Pn **Pn** **04 38 51.8 -1.0**
RLS Riolos of Patr 4.83 66 *eP* **Pn** **04 38 54.6 +1.8**
FG4 Candela 4.88 357 Pg **Pn** **04 38 54.9 +1.5**
186nm,0.5s
FG4 Candela 4.88 357 P **Pn** **04 38 54.6 +1.2**
SRN Sarande 4.88 41 *i* Pn **Pn** **04 38 53.0 -0.4**
SGTA Sant Agata di 4.89 356 Pg **Pn** **04 38 54.9 +1.3**
BAI Bari 4.91 9 *e*Pn **Pn** **04 38 52.7 -1.2**
ITM Ithomi 4.96 78 *eP* **Pn** **04 38 56.6 +2.0**
ITM Ithomi 4.96 78 P **Pn** **04 38 57.2 +2.6**
PSB1 Pescosannita 5.03 351 Pg **Pn** **04 38 56.9 +1.4**
252nm,1.0s
FG5 Orsara di Pugl 5.04 355 Pg **Pn** **04 38 55.9 +0.2**
101nm,0.6s
FG5 Orsara di Pugl 5.04 355 P **Pn** **04 38 56.0 +0.3**
TPE Tepelena 5.19 38 *i* Pn **Pn** **04 38 57.0 -0.7**
JAN Janina 5.21 48 *eP* **Pn** **04 38 58.3 +0.3**
JAN *eS* **Sn** **04 39 49.1 -9.2**
SACR S. Croce Del S 5.21 350 Pg **Pn** **04 38 59.8 +1.8**
114nm,1.1s
RFI Roccamonfina 5.24 344 P **Pn** **04 39 00.4 +1.9**
MOCO Biccari - m.te 5.27 346 Pg **Pn** **04 38 58.7 -0.2**
138nm,0.6s
KEST Kesra 5.30 266 Pn **Pn** **04 38 58.5 -0.8**
2.6nm,0.3s,baz=40,slow=3.8,SNR=123
KEST Sn **Sn** **04 39 56.1 -4.5**
5.8nm,0.3s,baz=238,slow=23,SNR=12
KEST LR LR 04 41 55.4
comp=Z,97nm,18.1s,baz=222,slow=50
BSSO Busso 5.37 350 Pg **Pn** **04 39 02.6 +2.3**
146nm,0.8s
LSK Leskovik 5.39 42 *i* Pn **Pn** **04 39 00.4 -0.1**
RGNG Rignano Grg 5.41 358 Pg **Pn** **04 39 00.8 0.0**
RGNG Rignano Grg 5.41 358 P **Pn** **04 39 00.6 -0.2**
EVR Evrytania 5.42 59 *eP* **Pn** **04 39 03.7 +2.8**

CIGN Sant'Elia a Pi 5.44 352 Pg Pn 04 39 03.1 +1.9
152nm,1.0s
CIGN Sant'Elia a Pi 5.44 352 P Pn 04 39 03.5 +2.3
FGMS Monte Sant'Ang 5.44 1 Pg Pn 04 39 00.5 -0.7
150nm,0.6s
FGMS Monte Sant'Ang 5.44 1 P Pn 04 39 00.6 -0.6
MSAG Monte S. Angel 5.45 0 Pg Pn 04 39 00.7 -0.6
246nm,0.6s
MSAG Monte S. Angel 5.45 0 P Pn 04 39 00.6 -0.7
SGRT San Giovanni R 5.49 359 Pg Pn 04 39 01.5 -0.4
93nm,0.7s
SGRT San Giovanni R 5.49 359 P Pn 04 39 01.6 -0.3
MEV Metsovon 5.51 49 eP Pn 04 39 03.6 +1.4
MEV Metsovon 5.51 49 eP Pn 04 38 59.1 -3.1
MEV Metsovon 5.51 49 P Pn 04 39 03.0 +0.8
FG2 Serracapriola 5.57 355 Pg Pn 04 39 04.1 +1.2
78nm,0.3s
TRIV Trivento 5.59 350 Pg Pn 04 39 06.1 +2.8
115nm,0.6s
GIUL Giuliano Di Ro 5.67 340 Pg Pn 04 39 06.0 +1.7
31nm,0.7s
SDI San Donato 5.67 344 Pg Pn 04 39 07.4 +3.0
VLI Veliai 5.72 83 eP Pn 04 39 07.7 +2.6
KBN Korca 5.83 40 i Pn Pn 04 39 07.3 +0.8
KBN Korca 5.83 40 i Pg Pn 04 39 04.9 -1.6
KBN i Sg Sn 04 40 14.0 +0.4
AGG Agios Georgios 5.83 60 eP Pn 04 39 09.4 +2.8
AGG Agios Georgios 5.83 60 eP Pn 04 39 08.6 +2.0
AGG Agios Georgios 5.83 60 P Pn 04 39 08.8 +2.2
THL Klokotos Trika 5.88 54⇑iP Pn 04 39 09.0 +1.8
INTR Introdacqua 5.94 346 Pg Pn 04 39 11.7 +3.6
TIR Tirane 5.97 30 Pg Pn 04 39 07.5 -1.0
206nm,0.7s
TIR Tirane 5.97 30 eP Pn 04 39 08.4 -0.1
TIR Tirane 5.97 30 P Pn 04 39 07.4 -1.1
VSL Villasalto 6.06 304 Pg Pn 04 39 07.9 -1.8
69nm,0.3s
VSL Villasalto 6.06 304 ePn Pn 04 39 07.5 -2.1
VSL eSn Sn 04 40 13.0 -6.3
VSL Villasalto 6.06 304 ePn Pn 04 39 07.5 -2.2
VSL eSn Sn 04 40 13.0 -6.3
KZN Kozani 6.16 47 eP Pn 04 39 12.3 +1.2
LKR Lokris 6.16 65 eP Pn 04 39 12.3 +1.1
OHR Ohrid 6.20 37 eP Pn 04 39 11.3 -0.3
OHR Ohrid 6.20 37 eP Pn 04 39 07.2 -4.5
OHR Ohrid 6.20 37 i Pn Pn 04 39 11.5 -0.1
OHR i Sn Sn 04 40 18.8 -3.9
OHR Ohrid 6.20 37 P Pn 04 39 11.9 +0.3
ULC Ulcinj 6.28 24⇑iPn Pn 04 39 12.2 -0.5
ULC eSn Sn 04 40 20.8 -3.9
AQU L'Aquila 6.38 343⇓iP Pn 04 39 18.7 +4.6
AQU L'Aquila 6.38 343 ePn Pn 04 39 13.9 -0.2
AQU L'Aquila 6.38 343 eP Pn 04 39 13.9 -0.2
BIA Bitola 6.40 40 eP Pn 04 39 14.3 0.0
BIA Bitola 6.40 40 eP Pn 04 39 10.7 -3.6
BIA Bitola 6.40 40 i Pn Pn 04 39 14.3 -0.1
BIA Bitola 6.40 40 P Pn 04 39 14.0 -0.3
BUM Brajici-Budva 6.48 20⇓iPn Pn 04 39 13.8 -1.6
BUM eSn Sn 04 40 24.1 -5.6
LIT Litokhoron 6.48 52 eP Pn 04 39 16.4 +0.9
LIT Litokhoron 6.48 52 eP Pn 04 39 12.7 -2.8
ATH Athens Observa 6.51 72 eP Pn 04 39 17.9 +2.0
HCY Herceg Novi 6.51 18⇑iPn Pn 04 39 13.3 -2.6
HCY eSn Sn 04 40 24.7 -5.8
KVR Kavouri 6.52 74 eP Pn 04 39 18.0 +2.0
PUK Puka 6.57 27 i Pn Pn 04 39 15.6 -1.2
PUK Puka 6.57 27 i Pg Pn 04 39 20.4 +3.6
NEO Neokhori 6.58 60 eP Pn 04 39 18.2 +1.4
XOR Xorichti 6.58 60 eP Pn 04 39 18.4 +1.5
XOR Xorichti 6.58 60 eP Pn 04 39 09.0 -7.9
KARN Karanos 6.61 95 eP Pn 04 39 19.1 +1.9
KARN Karanos 6.61 95 eP Pn 04 39 22.3 +5.1
PTL Penteli 6.64 72 eP Pn 04 39 21.0 +3.3
TTG Podgorica 6.70 22⇓iPn Pn 04 39 16.8 -1.7
TTG eSn Sn 04 40 30.6 -4.6
TREB Trebinje 6.73 16 P Pn 04 39 16.9 -2.0
STON Ston 6.76 12 i Pn Pn 04 39 16.8 -2.5
STON i Sn Sn 04 40 28.8 -7.7
GVD Gavdhos 6.86 99 eP Pn 04 39 23.3 +2.7
GVD Gavdhos 6.86 99 eP Pn 04 39 24.9 +4.2
GVD Gavdhos 6.86 99 ePn Pn 04 39 22.9 +2.2
117nm,0.3s
GVD eSn Sn 04 40 32.7 -6.3
GVD Gavdhos 6.86 99 eSn Sn 04 40 32.7 -6.3
OFFI Offida 6.88 347 Pg Pn 04 39 24.0 +3.1
BCI Bajram Curri 6.92 27 i Pn Pn 04 39 21.3 -0.2
GRG Griva 6.95 46 eP Pn 04 39 21.9 0.0
GRG Griva 6.95 46 eP Pn 04 39 17.7 -4.2
GRG Griva 6.95 46 P Pn 04 39 21.6 -0.3
BRY Bratogost 6.95 17⇓iPn Pn 04 39 19.7 -2.3
BRY eSn Sn 04 40 34.9 -6.4
NKY Niksic 6.98 19⇑iPn Pn 04 39 20.7 -1.6
NKY eSn Sn 04 40 36.0 -6.1
THE Thessaloniki 7.08 50 P Pn 04 39 23.7 -0.1
PVY Plav 7.08 25⇑iPn Pn 04 39 23.3 -0.5
PVY eSn Sn 04 40 40.5 -4.1
HORT Hortiatis 7.15 51 eP Pn 04 39 24.8 +0.1
HORT Hortiatis 7.15 51 eP Pn 04 39 23.7 -1.0
HORT Hortiatis 7.15 51 P Pn 04 39 25.4 +0.8
SKO Skopje 7.17 36 i Pn Pn 04 39 25.7 +0.8
SKO Skopje 7.17 36 P Pn 04 39 24.7 -0.2
PLG Polygyros 7.24 53 eP Pn 04 39 26.3 +0.3
PLG Polygyros 7.24 53⇑iP Pn 04 39 26.1 +0.1
VAY Valandovo 7.28 44 eP Pn 04 39 25.5 -1.0
VAY Valandovo 7.28 44 i Pn Pn 04 39 25.8 -0.7
VAY i Sn Sn 04 40 43.3 -6.1
VAY Valandovo 7.28 44 P Pn 04 39 25.4 -1.1
IVA Berane 7.30 24⇑iPn Pn 04 39 26.5 -0.3
IVA eSn Sn 04 40 45.4 -4.6
UPM Unac-Piva 7.32 18⇓iPn Pn 04 39 25.6 -1.4
UPM eSn Sn 04 40 44.4 -6.1
STIP Stip 7.33 40 i Pn Pn 04 39 27.2 0.0
SNTG Esanatoglia 7.34 343 Pg Pn 04 39 31.7 +4.4
KNT Kendrikon 7.37 46 eP Pn 04 39 27.4 -0.3
KNT Kendrikon 7.37 46 eP Pn 04 39 25.8 -1.8
KNT Kendrikon 7.37 46 P Pn 04 39 27.3 -0.4
CING Cingoli 7.40 345 Pg Pn 04 39 32.1 +4.0
CING Cingoli 7.40 345 P Pn 04 39 31.9 +3.8
IDI Anoyia 7.41 95 Pn Pn 04 39 30.6 +2.4
4.2nm,0.3s,baz=277,slow=14,SNR=37
IDI Sn Sn 04 40 49.5 -3.0
38nm,0.3s,baz=175,slow=22,SNR=13
SOH Sokhos 7.43 50 eP Pn 04 39 28.9 +0.4
SOH Sokhos 7.43 50 P Pn 04 39 29.1 +0.5
PLE Pljevlja 7.57 20⇑iPn Pn 04 39 29.8 -0.6
PLE eSn Sn 04 40 50.8 -5.7
OUR Ouranopolis 7.58 55 eP Pn 04 39 31.0 +0.5
SRS Serrai 7.75 49 eP Pn 04 39 32.8 -0.2
SRS Serrai 7.75 49 P Pn 04 39 32.9 -0.1
APE Apeiranthos 7.82 81 eP Pn 04 39 34.6 +0.8
KKB Krupnik 7.93 43 i P Pn 04 39 35.5 +0.1
NPS Neapolis 7.99 94 eP Pn 04 39 39.9 +3.6
NVR Nevrokopi 8.06 48 eP Pn 04 39 38.8 +1.6
BBLS Bajina Basta - 8.07 19 i Pn Pn 04 39 37.4 0.0
MMB Musomiste 8.12 47 i P Pn 04 39 38.0 0.0
LOS Limnos 8.15 60 P Pn 04 39 39.2 +0.9
NVLJ Novalja 8.33 355 i Pn Pn 04 39 41.4 +0.6
NVLJ i Sn Sn 04 41 11.9 -3.3
DIVS Divcibare 8.45 21 i Pn Pn 04 39 40.6 -1.8
DIVS Divcibare 8.45 21 eP Pn 04 39 41.7 -0.8
GRUS Gruza 8.48 25 i Pn Pn 04 39 38.9 -4.0
VTS Vitosha 8.51 40 eP Pn 04 39 43.3 0.0
VTS Vitosha 8.51 40⇓iP Pn 04 39 43.3 0.0
VTS Vitosha 8.51 40 i P Pn 04 39 43.2 -0.1
RZN Rozhen 8.77 49 i P Pn 04 39 46.8 -0.1
RDO Rodhopi 9.00 54 eP Pn 04 39 49.8 -0.3
RDO Rodhopi 9.00 54 P Pn 04 39 50.0 -0.1
PLD Plovdiv 9.01 47 P Pn 04 39 52.4 +2.2
SVIS Svilajnac 9.01 25 i Pn Pn 04 39 48.1 -2.1
KDZ Kurdzhali 9.19 51 i P Pn 04 39 51.0 -1.6
KARP Karpathos 9.20 91 eP Pn 04 39 53.9 +1.0
RAVA Ravarino 9.22 338 P Pn 04 39 52.5 -0.6
ALN Alexandroupoli 9.22 57 eP Pn 04 39 53.8 +0.6
CEY Cerknica 9.53 354 P Pn 04 39 58.3 +0.9
LJU Ljubljana 9.83 355 P Pn 04 40 02.0 +0.6
SBF Sospel 9.96 322 eP Pn 04 40 03.3 0.0
55nm,0.7s
SBF Sospel 9.96 322 eP Pn 04 40 03.3 0.0
SBF pmax pmax
comp=Z,27nm,0.7s
SBF Sospel 9.96 322 eP Pn 04 40 03.3 0.0
comp=Z,28nm,0.7s
LMR La Mourre 10.08 317 eP Pn 04 40 04.9 +0.1
FRF La Foret Royal 10.15 319 eP Pn 04 40 05.4 -0.5
PKSM Moragy 10.16 11⇓iP Pn 04 40 04.5 -1.5
PKSM Moragy 10.16 11 ⇓P Pn 04 40 04.5 -1.5
KOGS Kog 10.19 2 P Pn 04 40 06.1 -0.2
CTI Castel Tesino 10.28 343 P Pn 04 40 08.9 +1.3
OBKA Obir 10.29 355⇓iPn Pn 04 40 08.4 +0.7
comp=Z,7.6nm,0.8s
OBKA ⇑iSn Sn 04 42 01.1 -2.2
comp=Z,6.9nm,0.8s
OBKA Obir 10.29 355⇓iPn Pn 04 40 08.4 +0.7
comp=Z,7.6nm,0.8s
PTCC Patocco-Chiusa 10.31 350 P Pn 04 40 08.4 +0.4
BZS Buzias 10.31 23⇓iP Pn 04 40 06.7 -1.3
BZS Buzias 10.31 23 ⇓P Pn 04 40 06.7 -1.4
SWA2 10.68 128 P Pn 04 40 13.1 0.0
SWA2 S Sn 04 42 03.1 -10
SWA1 10.83 127 P Pn 04 40 15.1 -0.1
ETOS Mallorca 10.87 293 P Pn 04 40 17.8 +2.2
comp=Z,2.2nm,0.2s
ETOS S Sn 04 42 12.5 -5.1
ETOS Mallorca 10.87 293 P Pn 04 40 17.8 +2.1
comp=Z,2.2nm,0.2s
MBDF Montbardon 10.92 324 eP Pn 04 40 18.8 +2.4
comp=Z,97nm,0.8s
MBDF Montbardon 10.92 324 eP Pn 04 40 18.8 +2.4
MBDF pmax pmax
comp=Z,48nm,0.8s
MBDF Montbardon 10.92 324 eP Pn 04 40 18.8 +2.4
comp=Z,48nm,0.8s
KBA Koelnbreinsper 10.97 351⇓iPn Pn 04 40 17.7 +0.6
comp=Z,17nm,1.3s
KBA Koelnbreinsper 10.97 351⇓iP Pn 04 40 17.7 +0.6
KBA pmax pmax
comp=Z,17nm,1.3s
ARSA Arzberg 10.99 359⇑iSn Sn 04 42 16.8 -3.7
ARSA Arzberg 10.99 359⇓iPn Pn 04 40 16.4 -0.9
comp=Z,13nm,1.2s
ARSA ⇑iSn Sn 04 42 17.2 -3.2
ARSA Arzberg 10.99 359⇓iPn Pn 04 40 16.4 -0.9
comp=Z,13nm,1.2s
ARSA i Sn Sn 04 42 16.8 -3.7
SMRF Simiane la Rot 11.01 318 eP Pn 04 40 18.7 +1.1
BNI Bardonecchia 11.21 324 eP Pn 04 40 20.3 0.0
TUE Stuetta 11.31 336 P Pn 04 40 26.0 +4.3
DAVOX Davos 11.42 339 Pn Pn 04 40 25.3 +2.0
baz=140,slow=18,SNR=3.3
SOP Sopron 11.43 2⇑eP Pn 04 40 24.1 +0.8
WTTA Wattenberg 11.44 345⇓iPn Pn 04 40 26.6 +3.1
SQTA Sankt Quirin 11.49 344⇓iPn Pn 04 40 27.4 +3.3
comp=Z,10nm,0.6s
SQTA Sankt Quirin 11.49 344⇑iPn Pn 04 40 24.0 -0.1
comp=Z,10nm,0.6s
SQTA Sankt Quirin 11.49 344⇓iP Pn 04 40 27.4 +3.3
SQTA pmax pmax
comp=Z,10.0nm,0.6s
ORIF Oris-en-Rattie 11.50 322 eP Pn 04 40 25.4 +1.2
comp=Z,13nm,0.5s
ORIF eR
comp=Z,313nm,21.0s
ORIF Oris-en-Rattie 11.50 322 eP Pn 04 40 25.4 +1.2
ORIF pmax pmax
comp=Z,7.0nm,0.5s
ORIF Oris-en-Rattie 11.50 322 eP Pn 04 40 25.4 +1.2
comp=Z,6.7nm,0.5s
LPG La Plagne 11.51 326 eP Pn 04 40 26.1 +1.7
comp=Z,36nm,0.8s
LPG La Plagne 11.51 326 eP Pn 04 40 26.1 +1.7
LPG pmax pmax
comp=Z,18nm,0.8s
LPG La Plagne 11.51 326 eP Pn 04 40 26.1 +1.7
comp=Z,18nm,0.8s
WATA Walderalm 11.52 345⇓iPn Pn 04 40 27.6 +3.1
comp=Z,6.4nm,0.5s
WATA Walderalm 11.52 345⇓iP Pn 04 40 27.6 +3.1
WATA pmax pmax
comp=Z,6.0nm,0.5s
LPL La Plagne 11.53 326 eP Pn 04 40 26.4 +1.6
comp=Z,29nm,0.8s
LPL La Plagne 11.53 326 eP Pn 04 40 26.4 +1.6
LPL pmax pmax
comp=Z,14nm,0.8s
LPL La Plagne 11.53 326 eP Pn 04 40 26.4 +1.6
comp=Z,14nm,0.8s
MOTA Moosalm 11.63 344⇓iPn Pn 04 40 29.3 +3.3
comp=Z,36nm,0.9s
MOTA Moosalm 11.63 344⇓iPn Pn 04 40 28.2 +2.2
comp=Z,36nm,0.9s
MOTA Moosalm 11.63 344⇓iP Pn 04 40 29.3 +3.2
MOTA pmax pmax
comp=Z,36nm,0.9s
MOA Molln 11.64 355⇑iSn Sn 04 42 34.2 -2.4
MOA Molln 11.64 355⇓iPn Pn 04 40 26.4 +0.1
comp=Z,24nm,0.9s
MOA ⇑iSn Sn 04 42 35.4 -1.1
MOA Molln 11.64 355⇓iPn Pn 04 40 26.4 +0.1
comp=Z,24nm,0.9s
MOA i Sn Sn 04 42 34.1 -2.4
CONA Conrad Observa 11.66 0⇓iPn Pn 04 40 27.0 +0.5
comp=Z,6.0nm,0.9s
DRGR 11.71 24⇓iP Pn 04 40 26.2 -0.9
DRGR 11.71 24 ⇓P Pn 04 40 26.2 -0.9
ISP Isparta 11.82 78 eP Pn 04 40 32.0 +3.4
EIBI Ibiza 11.83 288 P Pn 04 40 29.4 +0.6
comp=Z,2.3nm,0.2s
EIBI Ibiza 11.83 288 P Pn 04 40 29.4 +0.5
comp=Z,2.3nm,0.2s
DAVA Damuels 11.88 340⇓iPn Pn 04 40 33.5 +3.9
comp=Z,10nm,0.7s
DAVA ⇑iSn Sn 04 42 43.0 +0.6
DAVA Damuels 11.88 340⇓iPn Pn 04 40 34.1 +4.5
comp=Z,10nm,0.7s
DAVA i Sn Sn 04 42 43.0 +0.6
MLR Muntele Rosu 11.96 36 Pn Pn 04 40 31.0 +0.4
comp=Z,1.2nm,0.3s,baz=168,slow=15,SNR=17
MLR Muntele Rosu 11.96 36⇑iP Pn 04 40 31.1 +0.4
MLR Muntele Rosu 11.96 36 ⇑P Pn 04 40 31.1 +0.5
ZST Bratislava 11.97 4 ePN Pn 04 40 29.2 -1.5
ZST Bratislava 11.97 4 eP Pn 04 40 29.3 -1.4
PSZ Piszkesteto 12.03 13⇑iP Pn 04 40 30.2 -1.3
PSZ Piszkesteto 12.03 13 ePn Pn 04 40 29.2 -2.3
PSZ P 04 40 33.1
PSZ Piszkesteto 12.03 13 eP Pn 04 40 29.0 -2.5
PSZ Piszkesteto 12.03 13 ePn Pn 04 40 29.2 -2.3
PSZ Piszkesteto 12.03 13 P Pn 04 40 33.1 +1.6
VYHS Vyhne 12.42 9 ePn Pn 04 40 36.4 -0.5
VYHS P 04 40 40.2
VYHS eSn Sn 04 42 46.5 -9.1
EMIR Miracle 12.48 301 P Pn 04 40 40.1 +2.4
comp=Z,1.1nm,0.3s
EMIR Miracle 12.48 301 P Pn 04 40 40.1 +2.4
comp=Z,1.1nm,0.3s
TIRR Tirgusor 12.59 46⇓iP Pn 04 40 39.1 -0.1
TIRR Tirgusor 12.59 46 ⇓P Pn 04 40 39.1 -0.1
EPOB Poblet 12.60 298 P Pn 04 40 41.9 +2.6
comp=Z,2.8nm,0.6s
EPOB Poblet 12.60 298 P Pn 04 40 41.9 +2.6
comp=Z,2.8nm,0.6s
VRI Vrincioaia 12.62 37⇑iP Pn 04 40 39.8 +0.3
VRI Vrincioaia 12.62 37 ⇑P Pn 04 40 39.8 +0.2
JAVC Velka Javorina 12.66 5 P Pn 04 40 44.1 +3.9
CABF La Chapelle 12.67 328 eP Pn 04 40 41.7 +1.5
comp=Z,57nm,0.9s
CABF La Chapelle 12.67 328 eP Pn 04 40 41.7 +1.5
CABF pmax pmax
comp=Z,28nm,0.9s
CABF La Chapelle 12.67 328 eP Pn 04 40 41.7 +1.5
comp=Z,28nm,0.9s
GEC2 GERESS Array S 12.68 354 ePn Pn 04 40 39.4 -1.0
GERES GERESS Array B 12.68 354 Pn Pn 04 40 39.2 -1.3
comp=Z,0.7nm,0.3s,baz=172,slow=13,SNR=25
GERES GERESS Array B 12.68 354 P Pn 04 40 39.2 -1.2
GERES pmax pmax
comp=Z,1.0nm,0.3s
KECS Kecovo 12.68 14 ePN Pn 04 40 40.0 -0.5
CFR Carcaliu 12.88 42⇑iP Pn 04 40 40.6 -2.5
KHC Kasperske Hory 12.97 353 eP Pn 04 40 43.9 -0.5
KHC P 04 40 47.1
KHC e 04 40 51.2
EBEN Beniarda 13.01 286 P Pn 04 40 47.9 +3.0
comp=Z,9.6nm,0.6s
EBEN Beniarda 13.01 286 P Pn 04 40 47.8 +2.9
comp=Z,9.6nm,0.6s
WET Wettzell 13.06 351 ePn Pn 04 40 46.7 +1.0
UZH Uzhgorod 13.24 19 eP Pn 04 40 42.0 -6.1
BURAR Bucovina Array 13.30 29⇓iP Pn 04 40 49.6 +0.6
HINF Hinteralfeld 13.34 333 eP Pn 04 40 50.9 +1.5
comp=Z,9.3nm,0.7s
HINF Hinteralfeld 13.34 333 eP Pn 04 40 50.9 +1.5
HINF pmax pmax
comp=Z,5.0nm,0.7s
HINF Hinteralfeld 13.34 333 eP Pn 04 40 50.9 +1.5
comp=Z,4.7nm,0.7s
EMOS Mosqueruela 13.46 293 P Pn 04 40 51.9 +0.8
comp=Z,8.0nm,0.7s
EMOS Mosqueruela 13.46 293 P Pn 04 40 51.8 +0.7
comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 13.51 18 P Pn 04 40 54.9 +3.1
NIE Niedzica 13.55 13 eP Pn 04 41 04.4 +12
MORC Moravsky Berou 13.57 5⇑iP Pn 04 40 52.5 -0.1
MORC Moravsky Berou 13.57 5 ePn Pn 04 40 52.1 -0.5
HAU Haudompre 13.68 332 eP Pn 04 40 55.4 +1.3
comp=Z,12nm,0.7s
HAU eR
comp=Z,129nm,19.5s
HAU Haudompre 13.68 332 eP Pn 04 40 55.4 +1.3
HAU pmax pmax
comp=Z,6.0nm,0.7s
HAU Haudompre 13.68 332 eP Pn 04 40 55.4 +1.3
comp=Z,5.8nm,0.7s
CDF Champ du Feu 13.69 335 eP Pn 04 40 54.8 +0.6
EBIE Bielsa 13.72 303 P Pn 04 40 59.7 +5.0
comp=Z,0.7nm,0.4s
SMF Signal de Mont 13.73 323 eP Pn 04 40 54.9 +0.2
comp=Z,11nm,0.6s
SMF Signal de Mont 13.73 323 eP Pn 04 40 54.9 +0.2
SMF pmax pmax
comp=Z,5.0nm,0.6s
SMF Signal de Mont 13.73 323 eP Pn 04 40 54.9 +0.2
comp=Z,5.4nm,0.6s
STHS Stebnicka Huta 13.73 15 ePN Pn 04 40 57.0 +2.3
EMUR La Murta 13.75 282 P Pn 04 40 56.3 +1.3
comp=Z,3.5nm,0.4s
EMUR La Murta 13.75 282 P Pn 04 40 56.3 +1.3
comp=Z,3.5nm,0.4s
ROTZ Rotzenmuhle 13.76 350 ePn Pn 04 41 03.0 +7.8
ESAC San Caprasio 13.81 298 P Pn 04 40 59.1 +3.2
comp=Z,14nm,0.4s
GRFO Grafenberg 13.84 347 ePn Pn 04 41 03.6 +7.3
HFRF Wahat Farafira 13.95 127 P Pn 04 40 58.1 +0.4
ETOB Tobarra 14.03 285 P Pn 04 41 01.7 +2.8
comp=Z,3.8nm,0.4s
ETOB Tobarra 14.03 285 P Pn 04 41 01.7 +2.8
comp=Z,3.8nm,0.4s
HNAT Natroun 14.04 114 P Pn 04 40 57.2 -1.7
AVF Avril sur Loir 14.07 322 eP Pn 04 40 59.3 -0.1
comp=Z,19nm,0.9s
AVF Avril sur Loir 14.07 322 eP Pn 04 40 59.3 -0.1
AVF pmax pmax
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 14.07 322 eP Pn 04 40 59.3 -0.1
comp=Z,9.7nm,0.9s
BGF Bois d'Agland 14.16 321 eP Pn 04 41 01.0 +0.3
comp=Z,51nm,1.0s
BGF Bois d'Agland 14.16 321 eP Pn 04 41 01.0 +0.3
BGF pmax pmax
comp=Z,26nm,1.0s
BGF Bois d'Agland 14.16 321 eP Pn 04 41 01.0 +0.3
comp=Z,26nm,1.0s
LOR Lormes 14.16 325 eP Pn 04 41 00.4 -0.3
comp=Z,36nm,1.2s
LOR eR
comp=Z,208nm,18.8s
LOR Lormes 14.16 325 eP Pn 04 41 00.4 -0.3
LOR pmax pmax
comp=Z,18nm,1.2s
LOR Lormes 14.16 325 eP Pn 04 41 00.4 -0.3
comp=Z,18nm,1.2s
SSF Saint Saulge 14.18 323 eP Pn 04 41 01.4 +0.4
comp=Z,34nm,1.1s
SSF Saint Saulge 14.18 323 eP Pn 04 41 01.4 +0.4
SSF pmax pmax
comp=Z,17nm,1.1s
SSF Saint Saulge 14.18 323 eP Pn 04 41 01.4 +0.4
comp=Z,17nm,1.1s
OJC Ojcow 14.24 10 eP Pn 04 41 10.8 +9.0
WERN Wernitzgruen 14.25 351 ePn Pn 04 41 09.3 +7.5
KWP Kalwaria 14.27 18 eP Pn 04 41 04.4 +2.3
KWP e 04 41 12.6
CSS Prodhromos 14.28 90 ePn Pn 04 41 02.7 +0.4
CSS Prodhromos 14.28 90 ePn Pn 04 41 02.7 +0.4
AYT Al 'Ayyat 14.40 113 P Pn 04 41 02.1 -1.8
BR131 Keskin Array S 14.44 71 ePn Pn 04 41 06.3 +1.7
BRTR Keskin Array B 14.44 71 Pn Pn 04 41 06.2 +1.7
comp=Z,0.4nm,0.3s,baz=254,slow=11,SNR=22
BRTR Keskin Array B 14.44 71⇑eP Pn 04 41 08.6 +4.1
KMPD K-Podol'skiy 14.56 29 P Pn 04 41 07.0 +0.9
BRG Berggiesshubel 14.68 355 iP Pn 04 41 13.3 +5.6
comp=Z,3.7nm,0.9s
BRG Berggiesshubel 14.68 355 iP Pn 04 41 13.3 +5.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
MOX Moxa 14.70 349 ePN Pn 04 41 12.2 +4.2
HSAF As Saff 14.74 112 P Pn 04 41 06.5 -2.1
KOT Kottamia 14.79 111 P Pn 04 41 07.1 -2.2
LVV L'vov 14.80 21 eP Pn 04 41 09.2 -0.2
GLL Jalalah 14.88 112 P Pn 04 41 08.7 -1.7
HHAG Hagoal 14.99 110 P Pn 04 41 09.9 -2.0
CLL Collm 15.18 353 e(P) Pn 04 41 18.0 +3.5
EQES Quesada 15.20 281 P Pn 04 41 17.0 +2.3
comp=Z,13nm,0.6s
EQES Quesada 15.20 281 P Pn 04 41 17.0 +2.3
comp=Z,13nm,0.6s
AMAG Maghara 15.52 106 P Pn 04 41 16.3 -2.7
SUZ 15.60 109 P Pn 04 41 17.8 -2.2
HDK1 Dakhla 15.77 129 P Pn 04 41 23.3 +1.1
ZNM 15.86 111 P Pn 04 41 21.7 -1.6
ZNM S Sn 04 43 59.8 -20
GIVF Givet 15.98 333 eP Pn 04 41 24.9 0.0
comp=Z,42nm,1.0s
GIVF Givet 15.98 333 eP Pn 04 41 24.9 0.0
GIVF pmax pmax
comp=Z,21nm,1.0s
GIVF Givet 15.98 333 eP Pn 04 41 24.9 0.0
comp=Z,21nm,1.0s
ESDC Sonseca Array 16.00 288 LR LR 04 47 43.2
comp=Z,89nm,19.4s,baz=75,slow=38
OFRI 'Ofer 16.19 97 Pn Pn 04 41 26.7 -1.0
KZIT Kziot 16.34 104 Pn Pn 04 41 27.8 -1.8
KZIT Sn Sn 04 44 15.2 -16
SLTI Sal'it 16.36 99 Pn Pn 04 41 29.0 -0.8
SLTI Sn Sn 04 44 17.1 -14
GRB Gharib 16.37 114 P Pn 04 41 29.3 -0.7
BUG Bochum--Univer 16.37 341 P Pn 04 41 32.3 +2.3
MMA0 Mount Meron ar 16.41 96 Pn Pn 04 41 30.9 +0.4
MMAI Mount Meron Ar 16.41 96 Pn Pn 04 41 30.3 -0.1
comp=Z,6.6nm,0.3s,baz=283,slow=11,SNR=18
MMAI Sn Sn 04 44 24.8 -7.9
comp=Z,7.5nm,0.3s,baz=303,slow=24,SNR=5.0
MMAI LR LR 04 50 23.3
comp=Z,12nm,19.1s,baz=85,slow=46
HNKL Nakhl 16.44 107 P Pn 04 41 29.5 -1.3
AKRG Al Kharijah 16.50 126 P Pn 04 41 32.8 +1.2
AMAZ Amatzia 16.51 101 Pn Pn 04 41 30.8 -0.9
AMAZ Sn Sn 04 44 19.1 -16
GTR Jabal at Tayr 16.53 126 P Pn 04 41 33.5 +1.5
KSDI Kefar Szold 16.57 95 Pn Pn 04 41 32.7 +0.3
KSDI Sn Sn 04 44 24.2 -12
MMLI Mount Malkishu 16.60 98 Pn Pn 04 41 32.7 -0.2
MMLI Sn Sn 04 44 23.6 -14
YTIR Yattir 16.73 101 Pn Pn 04 41 33.9 -0.6
YTIR Sn Sn 04 44 25.2 -15
HMDT Nahal Hemdat 16.74 98 Pn Pn 04 41 34.1 -0.6
HMDT Sn Sn 04 44 27.5 -13
DSI Dead Sea 16.86 100 Pn Pn 04 41 35.5 -0.7
DSI Sn Sn 04 44 29.1 -15
DRGI Dragot 16.86 100 Pn Pn 04 41 35.3 -0.9
DRGI Sn Sn 04 44 29.6 -14
MZDA Masada 16.95 101 Pn Pn 04 41 36.7 -0.6
MZDA Sn Sn 04 44 30.3 -15
LDF La Druitiere 17.02 321 eP Pn 04 41 37.6 -0.6
comp=Z,20nm,0.8s
LDF La Druitiere 17.02 321 eP Pn 04 41 37.6 -0.6
LDF pmax pmax
comp=Z,10.0nm,0.8s
LDF La Druitiere 17.02 321 eP Pn 04 41 37.6 -0.6
comp=Z,9.8nm,0.8s
PRNI Paran 17.05 105 Pn Pn 04 41 37.7 -0.8

PRNI					Sn	**Sn**	**04 44 31.7**	**-17**
HRFI	**Mount Harif**	**17.21**	**106**		Pn	**Pn**	**04 41 40.1**	**-0.4**
HRFI					Sn	**Sn**	**04 44 35.0**	**-17**
MDT	**Midelt**	**17.21**	**264**		P	**Pn**	**04 41 41.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=66,slow=13,SNR=11							
MDT					LR	LR	04 48 27.6	
	comp=Z,87nm,21.7s,baz=20,slow=38							
EIL	**Elat**	**17.31**	**107**		Pn	**Pn**	**04 41 40.6**	**-1.2**
EIL	**Elat**	**17.31**	**107**	*e*Pn		**Pn**	**04 41 42.1**	**+0.3**
KIEV	**Kiev**	**17.34**	**30**	*e*P		**Pn**	**04 41 42.1**	**-0.1**
KIEV					pmax	pmax		
	comp=Z,11nm,0.6s							
KIEV	**Kiev**	**17.34**	**30**	*e*Pn		**Pn**	**04 41 42.1**	**-0.1**
	comp=Z,11nm,0.6s							
KIEV	**Kiev**	**17.34**	**30**	*e*P		**Pn**	**04 41 42.1**	**-0.1**
	comp=Z,11nm,0.6s							
AKASG	**Malin Array Be**	**17.35**	**30**	P		**Pn**	**04 41 41.5**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=223,slow=10,SNR=25							
AKASG	**Malin Array Be**	**17.35**	**30**	P		**Pn**	**04 41 41.5**	**-0.8**
AKASG					pmax	pmax		
	comp=Z,4.0nm,0.3s							
AKBB	**Malin Array Si**	**17.35**	**30**	*e*P		**Pn**	**04 41 42.0**	**-0.3**
TR1		**17.38**	**113**	P		**Pn**	**04 41 43.2**	**+0.5**
SHRM		**17.57**	**113**	P		**Pn**	**04 41 46.2**	**+1.1**
ASF	**Jabal al Asfar**	**17.87**	**97**	P		**Pn**	**04 41 49.2**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=179,slow=4.7,SNR=6.0							
ASF					S	**Sn**	**04 44 53.9**	**-14**
	comp=Z,0.6nm,0.3s,baz=189,slow=15,SNR=5.8							
MALT	**Malatya**	**18.07**	**77**	⇓*i*P		**Pn**	**04 41 55.9**	**+4.6**
MALT	**Malatya**	**18.07**	**77**	*e*Pn		**Pn**	**04 41 53.7**	**+2.4**
SGMF	**Saint Gilles**	**18.10**	**317**	*e*P		**Pn**	**04 41 51.0**	**-0.6**
QUIF	**Quistinic**	**18.25**	**316**	*e*P		**Pn**	**04 41 53.1**	**-0.3**
ANN	**Anapa**	**18.45**	**56**	*e*P		**Pn**	**04 41 56.5**	**+0.6**
ANN					eS	**Sn**	**04 45 22.9**	**+0.7**
ANN					pmax	pmax		
	comp=Z,56nm,0.9s							
ANN	**Anapa**	**18.45**	**56**	*e*P		**Pn**	**04 41 56.5**	**+0.6**
	comp=Z,56nm,0.9s							
SUW	**Suwalki**	**18.47**	**14**	*e*P		**Pn**	**04 41 56.2**	**0.0**
ROSF	**Rostrenen**	**18.54**	**317**	*e*P		**Pn**	**04 41 55.9**	**-1.1**
SOC	**Sochi**	**19.67**	**61**	*e*P		**Pn**	**04 42 10.2**	**-0.4**
SOC					pmax	pmax		
	comp=Z,30nm,0.8s							
SOC	**Sochi**	**19.67**	**61**	*e*P		**Pn**	**04 42 10.2**	**-0.4**
	comp=Z,30nm,0.8s							
KIV	**Kislovodsk**	**21.85**	**61**	*e*P		**P**	**04 42 33.7**	**+0.9**
KIV				*i*			04 42 44.5	
KIV				*e*			04 42 58.1	
KIV					pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5							
KIV	**Kislovodsk**	**21.85**	**61**	*e*P		**P**	**04 42 34.2**	**+1.4**
	comp=Z,28nm,1.1s,mb4.6							
KIV	**Kislovodsk**	**21.85**	**61**	*e*P		**P**	**04 42 33.7**	**+0.9**
	comp=Z,21nm,1.1s,mb4.5							
PYA	**Pyatigorsk**	**22.13**	**61**	*e*P		**P**	**04 42 37.1**	**+1.3**
VRSR	**Storozhevoye**	**22.40**	**41**	*e*P		**P**	**04 42 40.2**	**+1.5**
VRSR					pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3							
VRSR					pmax	pmax		
	comp=N,20nm,0.9s							
VRSR					pmax	pmax		
	comp=E,30nm,0.8s							
ZEI	**Tsey**	**22.53**	**65**	*e*P		**P**	**04 42 39.9**	**-0.2**
ZEI				*e**PP			04 42 44.8	
ZEI					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1							
ZEI	**Tsey**	**22.53**	**65**	*e*P		**P**	**04 42 39.9**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.1							
GNI	**Garni**	**22.98**	**71**	*e*P		**P**	**04 42 46.5**	**+1.6**
GNI	**Garni**	**22.98**	**71**	*e*P		**P**	**04 42 45.7**	**+0.8**
	comp=Z,12nm,1.0s,mb4.3							
GNI	**Garni**	**22.98**	**71**	*e*P		**P**	**04 42 45.7**	**+0.8**
	comp=Z,12nm,1.0s,mb4.3							
EKA	**Eskdalemuir Ar**	**23.09**	**332**	P		**P**	**04 42 43.8**	**-2.2**
	comp=Z,2.0nm,0.7s,mb3.6,baz=145,slow=10,SNR=6.1							
EKA	**Eskdalemuir Ar**	**23.09**	**332**	P		**P**	**04 42 43.8**	**-2.2**
EKA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
VSU	**Vasula**	**23.35**	**14**	*e*P		**P**	**04 42 46.7**	**-2.0**
OBN	**Obninsk**	**23.61**	**30**	⇑*e*P		**P**	**04 42 50.4**	**-1.0**
OBN					pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4							
HFS	**Hagfors**	**23.93**	**357**	P		**P**	**04 42 51.6**	**-2.7**
	comp=Z,7.2nm,0.6s,mb4.3,baz=168,slow=7.6,SNR=8.2							
HFS	**Hagfors**	**23.93**	**357**	P		**P**	**04 42 51.6**	**-2.8**
HFS					pmax	pmax		
	comp=Z,7.0nm,0.6s							
HFA0	**Hagfors New Ar**	**23.94**	**357**	P		**P**	**04 42 51.9**	**-2.5**
NB2	**NORSAR Subarra**	**24.98**	**355**	P		**P**	**04 43 01.5**	**-2.4**
	comp=Z,2.3nm,0.6s,mb3.9,baz=152,slow=11							
NOA	**NORSAR Array B**	**24.98**	**355**	P		**P**	**04 43 01.4**	**-2.5**
	comp=Z,5.0nm,0.9s,mb4.1,baz=170,slow=9.5,SNR=6.0							
NOA	**NORSAR Array B**	**24.98**	**355**	P		**P**	**04 43 01.4**	**-2.5**
NOA					pmax	pmax		
	comp=Z,5.0nm,0.9s							
FINES	**FINESS Array B**	**26.02**	**11**	P		**P**	**04 43 12.2**	**-1.2**
	comp=Z,21nm,0.8s,mb4.7,baz=165,slow=7.9,SNR=28							
FINES	**FINESS Array B**	**26.02**	**11**	P		**P**	**04 43 12.2**	**-1.2**
FINES					pmax	pmax		
	comp=Z,21nm,0.8s							
TOA0	**Torodi Ar. Sit**	**26.30**	**213**	*e*P		**P**	**04 43 15.6**	**-0.2**
TOA0	**Torodi Ar. Sit**	**26.30**	**213**	*e*P		**P**	**04 43 15.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**26.30**	**213**	P		**P**	**04 43 14.8**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.4,baz=18,slow=10,SNR=6.7							
TORD					LR	LR	04 55 17.3	
	comp=Z,97nm,18.8s,MS3.4,baz=0.0,slow=40							
ARCES	**ARCESS Array B**	**33.75**	**6**	P		**P**	**04 44 19.8**	**-2.1**
	comp=Z,4.6nm,0.6s,mb4.6,baz=185,slow=9.1,SNR=21							
ARCES	**ARCESS Array B**	**33.75**	**6**	P		**P**	**04 44 19.8**	**-2.1**
ARCES					pmax	pmax		
	comp=Z,5.0nm,0.6s							
ARCES	**ARCESS Array B**	**33.75**	**6**	P		**P**	**04 44 19.8**	**-2.1**
ARE0	**ARCESS Array S**	**33.75**	**6**	*e*P		**P**	**04 44 19.2**	**-2.7**
ARE0	**ARCESS Array S**	**33.75**	**6**	*e*P		**P**	**04 44 19.2**	**-2.7**
KEV	**Kevo**	**34.10**	**7**	*e*p		**P**	**04 44 22.5**	**-2.4**
	comp=Z,2.9nm,0.6s,mb4.4							
KEV	**Kevo**	**34.10**	**7**	*e*P		**P**	**04 44 22.5**	**-2.4**
KEV					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
ARU	**Arti**	**34.96**	**41**	⇑*i*P		**P**	**04 44 31.6**	**-0.8**
ARU				*e*			04 45 43.9	
ARU				*e*S		**S**	**04 50 04.5**	**+0.2**
ARU				*e*SS		SS	04 52 22.5	-13
ARU					pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6							
ARU	**Arti**	**34.96**	**41**	*e*P		**P**	**04 44 31.8**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.6							
ARU	**Arti**	**34.96**	**41**	*e*P		**P**	**04 44 31.8**	**-0.6**
	comp=Z,3.1nm,0.4s,mb4.6							
LIC	**Lamto**	**35.49**	**218**	*e*P		**P**	**04 44 33.6**	**-3.3**
	comp=Z,25nm,1.2s,mb4.7							
LIC				*e*R				
	comp=Z,81nm,19.0s							
LIC	**Lamto**	**35.49**	**218**	*e*P		**P**	**04 44 33.6**	**-3.3**
	comp=Z,13nm,1.2s,mb4.7							
LIC					LR	LR		
	comp=Z,40nm,19.0s,MS3.2							
BRVK	**Borovoye**	**41.13**	**48**	*e*P		**P**	**04 45 24.2**	**-0.2**
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1							
BRVK	**Borovoye**	**41.13**	**48**	*e*P		**P**	**04 45 24.1**	**-0.2**
	comp=Z,4.5nm,0.9s,mb4.1							
BRVK	**Borovoye**	**41.13**	**48**	*e*P		**P**	**04 45 24.1**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.1							
BVAR	**Borovoye Array**	**41.19**	**48**	P		**P**	**04 45 25.3**	**+0.4**
	comp=Z,2.7nm,0.9s,mb3.9,baz=251,slow=4.5,SNR=9.9							
BVAR	**Borovoye Array**	**41.19**	**48**	P		**P**	**04 45 25.3**	**+0.4**
BVAR					pmax	pmax		
	comp=Z,3.0nm,0.9s							
CHKZ	**Chkalovo**	**41.34**	**47**	*e*P		**P**	**04 45 26.8**	**+0.6**
NVS	**Novosibirsk**	**48.69**	**45**	*e*P		**P**	**04 46 25.0**	**+0.4**
MK31	**Makanchi Array**	**49.47**	**56**	*e*P		**P**	**04 46 29.8**	**-0.8**
MKAR	**Makanchi Array**	**49.47**	**56**	P		**P**	**04 46 30.4**	**-0.2**
	comp=Z,3.3nm,0.6s,mb4.5,baz=279,slow=7.1,SNR=27							
MKAR	**Makanchi Array**	**49.47**	**56**	⇑*e*P		**P**	**04 46 30.3**	**-0.3**
ZAL	**Zalesovo**	**49.72**	**46**	P		**P**	**04 46 32.9**	**+0.4**
	comp=Z,3.7nm,0.8s,mb4.5,baz=199,slow=7.8,SNR=19							
ZAL	**Zalesovo**	**49.72**	**46**	P		**P**	**04 46 32.9**	**+0.4**
ZAL					pmax	pmax		
	comp=Z,4.0nm,0.8s							
WMQ	**Urumqi**	**53.94**	**58**	⇑*i*P		**P**	**04 47 06.1**	**+2.1**
WMQ					AP	pP	04 47 12.1	+6.0
WMQ					XP	sP	04 47 15.1	+8.2
WMQ					PCP	PcP	04 48 11.1	+1.8
WMQ					PP	PP	04 49 09.1	+3.9
WMQ					SCP	ScP	04 52 06.6	-1.2
WMQ					S	**S**	**04 54 39.4**	**-0.4**
WMQ					AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5							
WMQ					AMB	AMB		
	comp=Z,123nm,5.1s							
GTA	**Gaotai**	**64.01**	**59**	*e*P		**P**	**04 48 14.5**	**+0.6**
GTA					AP	pP	04 48 19.9	+3.9
GTA					XP	sP	04 48 21.6	+4.8
GTA					AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4							
SONM	**Songino Array**	**64.53**	**48**	P		**P**	**04 48 17.4**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=286,slow=8.0,SNR=10							
SONM	**Songino Array**	**64.53**	**48**	P		**P**	**04 48 17.4**	**+0.1**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
ULN	**Ulaanbaatar**	**64.92**	**48**	*e*P		**P**	**04 48 19.2**	**-0.6**
ULN					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4							
ULN	**Ulaanbaatar**	**64.92**	**48**	*e*P		**P**	**04 48 19.2**	**-0.6**
	comp=Z,3.6nm,1.0s,mb4.4							
ULN	**Ulaanbaatar**	**64.92**	**48**	*e*P		**P**	**04 48 19.2**	**-0.6**
	comp=Z,3.6nm,1.0s,mb4.4							
BOSA	**Boshof**	**65.13**	**171**	LR		LR	05 20 48.8	
	comp=Z,69nm,18.4s,MS3.9,baz=179,slow=40							
LZH	**Lanzhou**	**68.39**	**61**	*e*P		**P**	**04 48 43.3**	**+1.3**
LZH					AP	pP	04 48 49.8	+5.6
LZH					XP	sP	04 48 52.8	+7.9
LZH					*e*PP	PP	04 51 16.5	+3.7
LZH					AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9							
LZH					AMB	AMB		
	comp=Z,51nm,7.6s							
LZH					LR	LR		
	comp=N,349nm,15.8s							
LZH					LR	LR		
	comp=Z,397nm,18.3s,MS4.7							
LZH	**Lanzhou**	**68.39**	**61**	*e*P		**P**	**04 48 43.2**	**+1.2**
LZH					*PP	pP	04 48 49.7	+5.5
LZH				*e*			04 51 16.5	
LZH					pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9							
LZH					MLR	MLR		
	comp=Z,400nm,18.3s,MS4.7							
LZH	**Lanzhou**	**68.39**	**61**	*e*P		**P**	**04 48 43.2**	**+1.2**
	comp=Z,19nm,1.4s,mb4.9							
LZH					pP	pP	04 48 49.7	+5.5
LZH					sP	sP	04 48 52.8	+7.9
LZH					*e*PP	PP	04 51 16.5	+3.7
LZH					LR	LR		
	comp=Z,400nm,18.3s,MS4.7							
CD2	**Chengdu**	**70.95**	**65**	*e*P		**P**	**04 48 58.3**	**+0.5**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
HHC	**Hu-ho-hao-te**	**71.18**	**53**	*e*P		**P**	**04 48 59.1**	**-0.1**
HHC					PP	PP	04 51 40.3	+3.4
HHC					S	S	04 58 12.6	-3.9
HHC					AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8							
HHC					AMB	AMB		
	comp=Z,64nm,6.5s							
HIA	**Hailar**	**71.47**	**42**	*e*P		**P**	**04 49 00.6**	**-0.3**
KMI	**Kunming**	**73.24**	**71**	P		**P**	**04 49 13.8**	**+2.3**
KMI					AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5							
KMI	**Kunming**	**73.24**	**71**	P		**P**	**04 49 13.7**	**+2.2**
KMI					pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
KMI	**Kunming**	**73.24**	**71**	P		**P**	**04 49 13.7**	**+2.2**
	comp=Z,8.0nm,1.2s,mb4.5							
INK	**Inuvik**	**73.26**	**349**	P		**P**	**04 49 10.3**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=12,slow=5.7,SNR=7.4							
INK	**Inuvik**	**73.26**	**349**	P		**P**	**04 49 10.3**	**-1.3**
INK					pmax	pmax		
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**73.26**	**349**	*e*P		**P**	**04 49 10.3**	**-1.3**
	comp=Z,37nm,0.7s,mb5.4							
INK	**Inuvik**	**73.26**	**349**	*e*P		**P**	**04 49 10.3**	**-1.3**
	comp=Z,37nm,0.7s,mb5.4							
YKA	**Yellowknife Ar**	**73.86**	**338**	P		**P**	**04 49 14.2**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=43,slow=6.0,SNR=4.4							
YKA	**Yellowknife Ar**	**73.86**	**338**	⇑*e*P		**P**	**04 49 14.1**	**-1.1**
YKA	**Yellowknife Ar**	**73.86**	**338**	P		**P**	**04 49 14.2**	**-1.0**
BJI	**Beijing**	**74.56**	**52**	P		**P**	**04 49 17.6**	**-1.7**
GYA	**Guiyang**	**75.48**	**68**	P		**P**	**04 49 24.8**	**+0.2**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CN2	**Changchun**	**77.89**	**44**	*e*P		**P**	**04 49 37.3**	**-0.8**
DAWY	**Dawson**	**78.11**	**349**	*e*P		**P**	**04 49 38.6**	**-0.8**
DAWY	**Dawson**	**78.11**	**349**	*e*P		**P**	**04 49 38.6**	**-0.8**
MCK	**McKinley**	**79.61**	**353**	*e*P		**P**	**04 49 46.5**	**-1.2**
MCK					pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1							
MCK	**McKinley**	**79.61**	**353**	*e*P		**P**	**04 49 46.5**	**-1.2**
	comp=Z,2.6nm,1.1s,mb4.1							
MCK	**McKinley**	**79.61**	**353**	*e*P		**P**	**04 49 46.5**	**-1.2**
	comp=Z,2.6nm,1.1s,mb4.1							
NJ2	**Nanjing**	**80.99**	**57**	*e*P		**P**	**04 49 55.4**	**+0.3**
NJ2					AMB	AMB		
	comp=Z,40nm,0.5s							
PSI	**Prapat**	**82.76**	**92**	P		**P**	**04 50 05.1**	**+0.7**
	comp=Z,1.8nm,0.4s,mb4.4,baz=321,slow=7.8,SNR=5.0							
PSI	**Prapat**	**82.76**	**92**	P		**P**	**04 50 05.1**	**+0.7**
PSI					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
YSS	**Yuzh-Sakhalins**	**84.46**	**33**	*e*P		**P**	**04 50 12.3**	**-0.8**
YSS					pmax	pmax		
	comp=Z,14nm,0.5s,mb5.3							
YSS	**Yuzh-Sakhalins**	**84.46**	**33**	*e*P		**P**	**04 50 12.3**	**-0.8**
	comp=Z,14nm,0.5s,mb5.3							
YSS	**Yuzh-Sakhalins**	**84.46**	**33**	*e*P		**P**	**04 50 12.3**	**-0.8**
	comp=Z,14nm,0.5s,mb5.3							

*NEIC **24** 04:58:52.5, 3209S×7142W, h40km, MD3.6(GUC), After GUC.*
GUC 24 04:58:52.5±0.9, 3209S×7142W, h40km±2km, MD3.6, ML2.9, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.21**	**340**	*e*P	Pn	04 59 00.1	+0.1
CHNG				*i* S	Sn	04 59 05.5	+0.4
PTCH	**Petorca**	**0.45**	**114**	⇑*i*P	Pn	04 59 03.2	+0.7
PTCH				*i* S	Sn	04 59 10.4	+0.8
PTCH				AML	AML	04 59 10.9	
	comp=N,6μm,0.2s						
PACH	**Papudo**	**0.45**	**182**	⇓*i*P	Pn	04 59 02.9	+0.3
PACH				*i* S	Sn	04 59 10.1	+0.4
IHA	**Instituto Hidr**	**0.96**	**191**	⇑*i*P	Pn	04 59 10.0	+0.6
IHA				*i* S	Sn	04 59 22.6	+0.7
CMCH	**Combarbala**	**0.97**	**21**	⇓*i*P	Pn	04 59 10.4	+0.8
CMCH				*i* S	Sn	04 59 23.7	+1.4
CMCH				AML	AML	04 59 26.7	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**0.97**	**21**	⇓*i*P	Pn	04 59 10.4	+0.8
CMCH				*i* S	Sn	04 59 23.7	+1.4
PEL	**Peldehue**	**1.22**	**150**	⇑*i*P	Pn	04 59 14.2	+1.1
PEL				*i* S	Sn	04 59 30.4	+2.0
PEL				AML	AML	04 59 35.7	
	comp=N,279nm,0.6s						
PEL	**Peldehue**	**1.22**	**150**	⇑*i*P	Pn	04 59 14.2	+1.1
PEL				*i* S	Sn	04 59 30.4	+2.0
RCDM	**Rinconada Maip**	**1.49**	**160**	*e*P	Pn	04 59 17.9	+1.1
RCDM				*i* S	Sn	04 59 37.0	+2.0
RCDM				AML	AML	04 59 38.9	
	comp=N,185nm,0.2s						
RCDM	**Rinconada Maip**	**1.49**	**160**	*e*P	Pn	04 59 17.9	+1.1
RCDM				*i* S	Sn	04 59 37.0	+2.0
FCH	**Farellones**	**1.56**	**143**	⇓*e*P	Pn	04 59 19.4	+1.6
FCH				*i* S	Sn	04 59 39.1	+2.4
FCH				AML	AML	04 59 39.7	
	comp=E,119nm,0.3s						
ANTU	**Antumapu**	**1.62**	**156**	⇑*i*P	Pn	04 59 19.8	+1.2
ANTU				*i* S	Sn	04 59 40.7	+2.5
ANTU				AML	AML	04 59 46.8	
	comp=E,129nm,0.2s						
ANTU	**Antumapu**	**1.62**	**156**	⇑*i*P	Pn	04 59 19.8	+1.2
ANTU				*i* S	Sn	04 59 40.7	+2.5
CHCH	**Chadas Angostu**	**1.95**	**161**	*e*P	Pn	04 59 24.7	+1.6
TLL	**Tololo Astrono**	**1.98**	**15**	*e*P	Pn	04 59 26.6	+3.0
TLL				*i* S	Sn	04 59 51.6	+4.4
TLL				AML	AML	05 00 00.8	
	comp=N,67nm,0.5s						
TLL	**Tololo Astrono**	**1.98**	**15**	*e*P	Pn	04 59 26.6	+3.0
TLL				*i* S	Sn	04 59 51.6	+4.4

*STR **24** 05:07:56.4±0.2, 4288N×090W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 24 05:07:57.5±0.5, 4293N×087W, h2km, Md1.7/2, Ml1.3/1, Error ellipse: s-maj=24.4km s-min=3.3km az=17.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.14**	**322**	Pg	Pg	05 07 59.8	-0.3
LARF				Sg	Sg	05 08 02.5	+0.6
ATE	**Arette**	**0.20**	**40**	Pg	Pg	05 08 01.5	+0.2
ATE				Sg	Sg	05 08 05.0	+1.0
ETSF	**Etsaut**	**0.23**	**98**	*e*Pg	Pg	05 08 01.9	-0.1
ETSF				*e*Sg	Sg	05 08 05.2	+0.2
	6.7nm,0.3s						
SJPF	**Ste Jean**	**0.32**	**305**	*e*Pg	Pg	05 08 03.7	+0.2
SJPF				*e*Sg	Sg	05 08 07.1	-0.5
	16nm,0.3s						
EPF	**Esparros**	**0.90**	**83**	*e*Pg	Pg	05 08 14.7	0.0
EPF				*e*Sg	Sg	05 08 25.6	-0.7
	0.7nm,0.2s						

*IDC **24** 05:22:54.1±9.7, 528S×15154E, h53km±70km, mb3.7/3, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=109.3km s-min=58.9km az=127.0*
NEIC 24 05:22:51.1±5.3, 525S×15184E, h41km±33km, mb3.8/2, Error ellipse: s-maj=50.8km s-min=41.5km az=75.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**228**	P	Pn	05 24 20.3	+0.1
	0.8nm,0.3s,baz=279,slow=17,SNR=3.0						
PMG				S	Sn	05 25 27.8	-2.2
	0.8nm,0.3s,baz=168,slow=20,SNR=5.0						
CTAO	**Charters Tower**	**15.72**	**200**	*e*P	Pn	05 26 29.5	0.0
	11nm,1.1s						
WRAB	**Tennant Creek**	**22.42**	**228**	*e*P	P	05 27 46.9	+0.8
	2.2nm,0.7s						
WRA	**Warramunga Arr**	**22.43**	**228**	P	P	05 27 47.6	+1.4
	3.1nm,0.9s,baz=52,slow=9.6,SNR=15						
AS31	**Alice Springs**	**25.18**	**222**	*e*P	P	05 28 13.3	+0.7
ASAR	**Alice Springs**	**25.18**	**222**	P	P	05 28 12.2	-0.3
	2.2nm,0.8s,baz=57,slow=8.9,SNR=27						
FITZ	**Fitzroy Crossi**	**28.61**	**241**	P	P	05 28 42.6	-0.8
	2.5nm,0.9s,baz=64,slow=7.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.53**	**287**	PKPbc	PKPbc	05 42 37.7	+1.8
	0.7nm,0.8s,baz=50,slow=2.3,SNR=4.3						

*ISCJB **24** 05:26:56.6±1.0, 199S±0.1×17772W±0.10, h546km±16km, mb4.5/11, Error ellipse: s-maj=21.9km s-min=12.3km az=130.3*
*IDC **24** 05:26:56.7±1.6, 1992S×17762W, h534km±18km, mb3.9/8, mb1 4.0/11, mb1mx3.6/20, mbtmp3.9/11, Error ellipse: s-maj=28.2km s-min=12.3km az=150.0*
*NEIC **24** 05:26:57.2±0.8, 1997S×17764W, h545km±10km, mb4.6/10, Error ellipse: s-maj=19.4km s-min=8.5km az=153.0*
ISC 24 05:26:57.2±1.0, 200S±01×17762W±010, h540km±14km, n33, σ0°77/31, mb4.5/11, 7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.27**	**43**	P	**P**	**05 28 56.9**	**-0.3**
	10nm,0.3s,baz=200,slow=20,SNR=11						
AFI				S	**S**	**05 30 31.3**	**-4.4**
	2.5nm,0.3s,baz=41,slow=19,SNR=5.7						
AFI	**Afiamalu**	**8.27**	**43**	*e*Pn	**P**	**05 28 56.7**	**-0.5**
	52nm,0.6s						
AFI				*e*S	**S**	**05 30 34.6**	**-1.1**
DZM	**Mont Dzumac**	**15.02**	**259**	P	**P**	**05 30 07.6**	**+0.8**
	1.9nm,0.3s,baz=84,slow=20,SNR=17						
URZ	**Urewera**	**18.72**	**193**	P	**P**	**05 30 41.9**	**-0.1**
	4.8nm,0.3s,baz=343,slow=0.7,SNR=24						
CTA	**Charters Tower**	**33.90**	**264**	⇓*i*P	**P**	**05 32 55.8**	**+0.6**
	24nm,0.4s,mb5.1						
CTA	**Charters Tower**	**33.90**	**264**	P	**P**	**05 32 55.8**	**+0.6**
	32nm,0.5s,mb5.1,baz=92,slow=9.9,SNR=51						
CTAO	**Charters Tower**	**33.90**	**264**	*e*P	**P**	**05 32 55.9**	**+0.7**
	31nm,0.6s,mb5.0						
PMG	**Port Moresby**	**35.59**	**282**	P	**P**	**05 33 09.3**	**-0.1**
	33nm,0.8s,mb4.9,baz=68,slow=2.8,SNR=7.9						
PMG	**Port Moresby**	**35.59**	**282**	*e*P	**P**	**05 33 09.6**	**+0.2**
	28nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**38.31**	**244**	⇓*i*P	**P**	**05 33 32.8**	**+1.

comp=Z,86nm,18.9s,MS3.1,baz=70,slow=37
KSRS Korea Array 24.68 4 LR LR 05 56 32.6
comp=Z,19nm,19.2s,MS2.6,baz=237,slow=35
FITZ Fitzroy Crossi 30.64 181 P **P** **05 48 24.1 +1.3**
1.9nm,0.9s,mb3.9,baz=348,slow=8.8,SNR=7.0
WRA Warramunga Arr 33.48 166 P **P** **05 48 46.2 -1.5**
0.4nm,0.4s,mb3.7,baz=345,slow=9.5,SNR=3.9
ASAR Alice Springs 36.98 168 P **P** **05 49 17.7 -0.2**
0.3nm,0.6s,mb3.3,baz=353,slow=8.8,SNR=7.1
ASAR PcP PcP 05 51 39.0 +0.1
0.5nm,0.8s,baz=335,slow=2.1,SNR=4.2
SONM Songino Array 38.66 339 P **P** **05 49 32.6 +0.5**
0.4nm,0.5s,mb3.4,baz=157,slow=9.0,SNR=4.8
STKA Stephens Creek 46.79 162 P **P** **05 50 37.7 -0.3**
0.6nm,0.3s,mb4.0,baz=319,slow=11,SNR=3.5
MKAR Makanchi Array 49.97 322 P **P** **05 51 03.0 +0.5**
1.2nm,0.7s,mb4.0,baz=116,slow=8.8,SNR=7.4

IDC 24 05:52:49.2±5.2, 1590S×17558W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.3/3, Error ellipse: s-maj=171.0km s-min=102.2km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.98**	**240**	P	P	06 00 42.3	+0.4
	1.7nm,0.6s,baz=74,slow=9.9,SNR=5.8						
WRA	**Warramunga Arr**	**47.69**	**257**	P	P	06 01 28.0	+0.5
	0.7nm,0.5s,baz=94,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**47.96**	**252**	P	P	06 01 29.6	0.0
	7.9nm,0.5s,baz=88,slow=8.2,SNR=158						
ASAR				PcP	PcP	06 02 58.4	+0.5
	0.2nm,0.5s,baz=101,slow=3.9,SNR=4.2						
ASPA	**Alice Springs**	**47.97**	**252**	*e*P	P	06 01 29.6	0.0

*ISCJB **24** 05:53:47.1±0.6, 458N±0.1×1540E±02, h10km, mb4.1/16, Error ellipse: s-maj=16.1km s-min=15.3km az=19.1*
*IDC **24** 05:53:47.4±0.7, 4588N×15397E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.0/10, MS2.7/2, Ms1 2.7/2, ms1mx2.1/38, Error ellipse: s-maj=24.4km s-min=20.7km az=114.0*
*NEIC **24** 05:53:48.8±0.5, 4588N×15403E, h10km, mb4.4/4, Error ellipse: s-maj=15.5km s-min=12.7km az=88.0*
*BJI **24** 05:53:49.6, 4671N×15395E, h11km, mB5.0, mb4.4*
ISC 24 05:53:48.8±0.6, 459N±01×1540E±02, h10km, n21, σ0§89/20, mb4.1/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.30**	**262**	LR	LR	05 58 45.4	
	comp=Z,74nm,21.9s,baz=181,slow=36						
MAT	**Matsushiro**	**15.11**	**237**	P	**Pn**	**05 57 28.2**	**+5.9**
SONM	**Songino Array**	**32.24**	**291**	P	**P**	**06 00 16.8**	**-0.5**
	0.5nm,0.8s,mb3.4,baz=57,slow=10,SNR=3.5						
LZH	**Lanzhou**	**38.57**	**274**	*e*P	**P**	**06 01 13.5**	**+1.8**
LZH				AP	pP	06 01 17.3	+2.5
LZH				XP	sP	06 01 19.5	+3.4
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.57**	**274**	*e*P	**P**	**06 01 13.5**	**+1.8**
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	06 01 17.2	+2.4
LZH				sP	sP	06 01 19.5	+3.4
GTA	**Gaotai**	**39.75**	**281**	*e*P	**P**	**06 01 23.1**	**+1.5**
GTA				AP	pP	06 01 26.8	+2.1
GTA				XP	sP	06 01 28.8	+2.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
INK	**Inuvik**	**42.04**	**32**	P	**P**	**06 01 39.6**	**-0.9**
	comp=Z,1.4nm,0.9s,mb3.6,baz=302,slow=15,SNR=3.6						
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**06 02 53.1**	**-1.3**
	comp=Z,5.1nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**06 02 56.3**	**-1.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=51,slow=5.9,SNR=5.9						
BRVK	**Borovoye**	**51.95**	**310**	*e*P	**P**	**06 02 57.2**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**06 03 18.7**	**-0.2**
	comp=Z,4.3nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**64.74**	**54**	P	**P**	**06 04 28.1**	**+0.8**
	comp=Z,1.0nm,0.9s,mb3.8,baz=333,slow=1.7,SNR=6.8						
WB2	**Warramunga Arr**	**67.91**	**200**	*e*P	**P**	**06 04 46.9**	**-0.6**
WRA	**Warramunga Arr**	**67.91**	**200**	P	**P**	**06 04 47.3**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.4,baz=16,slow=6.4,SNR=18						
AS31	**Alice Springs**	**71.59**	**199**	*e*P	**P**	**06 05 09.4**	**-0.8**
ASAR	**Alice Springs**	**71.59**	**199**	P	**P**	**06 05 10.6**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=15,slow=5.4,SNR=35						
AKASG	**Malin Array Be**	**72.63**	**327**	P	**P**	**06 05 16.1**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=32,slow=5.9,SNR=6.5						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**06 05 44.4**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=294,slow=4.8,SNR=16						
CLL	**Collm**	**77.52**	**336**	*i* P	**P**	**06 05 45.2**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**79.47**	**317**	P	**P**	**06 05 56.6**	**+1.2**
	comp=Z,1.3nm,0.9s,mb3.9,baz=57,slow=4.6,SNR=5.9						
GERES	**GERESS Array B**	**79.52**	**335**	P	**P**	**06 05 56.1**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=36,slow=7.0,SNR=5.1						

*IDC **24** 06:18:20.6±2.3, 5168N×17954E, h0km, mb3.5/5, mb1 4.0/6, mb1mx3.7/25, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=82.4km s-min=28.2km az=2.0*
*ISCJB **24** 06:18:34.9±1.3, 522N±03×1796E±02, h126km±18km, mb3.4/5, Error ellipse: s-maj=48.4km s-min=18.6km az=148.9*
*NEIC **24** 06:18:36.0, 5194N×17961E, h138km, MG3.1(AEIC), After AEIC.*
ISC 24 06:18:35.8±1.3, 523N±03×1796E±02, h120km±18km, n8, σ0§81/10, mb3.4/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.90**	**190**	*e*Pg	**Pn**	**06 18 57.0**	**+0.2**
AMKA				S	**Sn**	**06 19 12.2**	**-0.5**
AMKA				*e*Sg	**Sn**	**06 19 12.3**	**-0.4**
ATKA	**Atka Island**	**3.84**	**88**	P	**Pn**	**06 19 34.5**	**+1.3**
KDAK	**Kodiak Island**	**16.83**	**60**	P	**Pn**	**06 22 22.3**	**-1.8**
	0.9nm,0.3s,baz=232,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**35.37**	**47**	P	**P**	**06 25 20.4**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=283,slow=7.1,SNR=5.6						
NVAR	**Mina Array Bea**	**44.45**	**83**	P	**P**	**06 26 35.1**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=295,slow=9.5,SNR=3.6						
SONM	**Songino Array**	**45.34**	**295**	P	**P**	**06 26 42.2**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=46,slow=8.3,SNR=4.2						
PDAR	**Pinedale Array**	**47.01**	**72**	P	**P**	**06 26 54.2**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=329,slow=4.5,SNR=9.0						
TXAR	**Lajitas Array**	**59.52**	**81**	P	**P**	**06 28 26.3**	**-0.1**
	0.1nm,0.3s,mb3.3,baz=308,slow=6.0,SNR=4.2						

KRSC 24 06:23:59.6±0.8, 5521N×16294E, h22km±21km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.96**	**227**	*e*P	Pb	06 24 17.2	-0.3
MKZ				*e*S	Sb	06 24 30.1	+0.4
MKZ	**Mys Kozlova**	**0.96**	**227**	*e*P	Pb	06 24 17.2	-0.3
MKZ				*e*S	Sb	06 24 30.1	+0.4
KBTR	**Krutoberegovo**	**1.00**	**356**	*e*P	Pb	06 24 17.2	-1.1
KBTR				*e*S	Sb	06 24 29.8	-1.2
KBTR	**Krutoberegovo**	**1.00**	**356**	*e*P	Pb	06 24 17.2	-1.1
KBTR				*e*S	Sb	06 24 29.8	-1.2
ZLN	**Zelenaya**	**1.46**	**305**	*e*P	Pn	06 24 25.4	+0.8
ZLN				*e*S	Sn	06 24 44.4	+1.4
ZLN	**Zelenaya**	**1.46**	**305**	*e*P	Pn	06 24 25.4	+0.8
ZLN				*e*S	Sn	06 24 44.4	+1.4
TUMR	**Tumrok**	**1.60**	**274**	*e*P	Pn	06 24 27.7	+1.1
TUMR				*e*S	Sn	06 24 48.4	+1.8
TUMR	**Tumrok**	**1.60**	**274**	*e*P	Pn	06 24 27.7	+1.1
TUMR				*e*S	Sn	06 24 48.4	+1.8
KMNR	**Kamenistaya**	**1.63**	**291**	*e*P	Pn	06 24 28.3	+1.3
KMNR				*e*S	Sn	06 24 49.2	+1.9
KMNR	**Kamenistaya**	**1.63**	**291**	*e*P	Pn	06 24 28.3	+1.3
KMNR				*e*S	Sn	06 24 49.2	+1.9
KLY	**Klyuchi**	**1.70**	**311**	*i* P	Pn	06 24 27.2	-0.7
KLY				*e*S	Sn	06 24 47.4	-1.6
KLY	**Klyuchi**	**1.70**	**311**	*i* P	Pn	06 24 27.2	-0.7
KLY				*e*S	Sn	06 24 47.4	-1.6
KPT	**Kopyto**	**1.72**	**297**	*e*P	Pn	06 24 29.9	+1.7
KPT				*e*S	Sn	06 24 51.8	+2.3
KPT	**Kopyto**	**1.72**	**297**	*e*P	Pn	06 24 29.9	+1.7
KPT				*e*S	Sn	06 24 51.8	+2.3
SRKR	**Sorokina**	**1.76**	**326**	*i* P	Pn	06 24 29.4	+0.7
SRKR				*e*S	Sn	06 24 51.0	+0.6
SRKR	**Sorokina**	**1.76**	**326**	*i* P	Pn	06 24 29.4	+0.7
SRKR				*e*S	Sn	06 24 51.0	+0.6
KOZ	**Kozyrevsk**	**1.94**	**297**	*e*P	Pn	06 24 33.3	+2.1
KOZ				*e*S	Sn	06 24 58.3	+3.5
KOZ	**Kozyrevsk**	**1.94**	**297**	*e*P	Pn	06 24 33.3	+2.1
KOZ				*e*S	Sn	06 24 58.3	+3.5
SRDR	**Sredinnyy**	**2.13**	**303**	*i* P	Pn	06 24 35.9	+2.0
SRDR				*e*S	Sn	06 25 02.5	+2.8
SRDR	**Sredinnyy**	**2.13**	**303**	*i* P	Pn	06 24 35.9	+2.0
SRDR				*e*S	Sn	06 25 02.5	+2.8
SPN	**Mys Shipunski**	**2.72**	**220**	P	Pn	06 24 42.4	+0.4
SPN				*e*S	Sn	06 25 14.1	-0.2
SPN	**Mys Shipunski**	**2.72**	**220**	P	Pn	06 24 42.4	+0.4
SPN				*e*S	Sn	06 25 14.1	-0.2
NLC	**Nalytchevo**	**2.94**	**227**	*e*P	Pn	06 24 46.3	+1.3
NLC				*e*S	Sn	06 25 20.9	+1.4
NLC	**Nalytchevo**	**2.94**	**227**	*e*P	Pn	06 24 46.3	+1.3
NLC				*e*S	Sn	06 25 20.9	+1.4
AVH	**Avacha**	**3.14**	**233**	*e*P	Pn	06 24 50.1	+2.3
AVH				*e*S	Sn	06 25 27.1	+2.5
AVH	**Avacha**	**3.14**	**233**	*e*P	Pn	06 24 50.1	+2.3
AVH				*e*S	Sn	06 25 27.1	+2.5
GNL	**Ganaly**	**3.29**	**245**	*e*P	Pn	06 24 51.6	+1.8
GNL	**Ganaly**	**3.29**	**245**	*e*P	Pn	06 24 51.6	+1.8
PET	**Petropavlovsk**	**3.34**	**231**	S	Sn	06 25 32.5	+3.0
PET	**Petropavlovsk**	**3.34**	**231**	S	Sn	06 25 32.5	+3.0
RUS	**Russkaya**	**3.82**	**225**	P	Pn	06 24 58.4	+1.3
RUS				S	Sn	06 25 41.6	+0.2
RUS	**Russkaya**	**3.82**	**225**	P	Pn	06 24 58.4	+1.3
RUS				S	Sn	06 25 41.6	+0.2
GRL	**Gorelyy**	**3.92**	**229**	P	Pn	06 25 01.9	+3.4
GRL	**Gorelyy**	**3.92**	**229**	P	Pn	06 25 01.9	+3.4

*BJI **24** 06:25:26.3, 2685S×14141E, h24km, mb4.8*
*ISCJB **24** 06:25:29.4±0.6, 2715S±005×1410E±01, h33km, mb4.3/11, MS4.1/2, Error ellipse: s-maj=14.5km s-min=7.1km az=178.9*
*NEIC **24** 06:25:31.9±0.6, 2785S×14091E, h35km, mb4.6/4, Error ellipse: s-maj=13.0km s-min=7.7km az=75.0*
*IDC **24** 06:25:32.0±4.0, 2785S×14089E, h35km±32km, mb4.0/7, mb1 4.1/10, mb1mx4.0/16, mbtmp4.1/10, ML3.9/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/28, Error ellipse: s-maj=27.3km s-min=12.5km az=97.0*
ISC 24 06:25:31.6±3.0, 279S±005×14085E±010, h28km±23km, n25, σ0§73/28, mb4.3/11, MS4.1/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.08**	**137**	Pn	**Pn**	**06 27 40.1**	**-0.6**
	1.1nm,0.3s,baz=286,slow=7.4,SNR=2.7						
PMG				LR	LR	06 31 11.8	
	comp=Z,380nm,20.7s,baz=34,slow=38						
KAKA	**Kakadu**	**12.90**	**220**	*e*P	**Pn**	**06 28 32.1**	**-0.9**
	23nm,0.6s						
KAKA				*e*S	**Sn**	**06 30 54.1**	**-1.4**
GUMO	**Guam**	**16.76**	**14**	LR	LR	06 34 48.8	
	comp=Z,156nm,20.0s,baz=162,slow=33						
CTA	**Charters Tower**	**17.98**	**163**	P	**Pn**	**06 29 38.9**	**-0.6**
	0.2nm,0.3s,baz=3.1,slow=7.6,SNR=3.1						
WRAB	**Tennant Creek**	**18.18**	**200**	*e*P	**Pn**	**06 29 41.9**	**+0.1**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**06 33 03.4**	**-0.5**
WB2	**Warramunga Arr**	**18.19**	**200**	*e*P	**Pn**	**06 29 42.8**	**+0.9**
WRA	**Warramunga Arr**	**18.19**	**200**	P	**Pn**	**06 29 42.1**	**+0.1**
	1.5nm,0.3s,baz=22,slow=12,SNR=28						
WRA				S	**Sn**	**06 33 05.2**	**+1.0**
	0.1nm,0.3s,baz=17,slow=22,SNR=4.8						
WRA				Lg		06 35 12.7	
	0.0nm,0.3s,baz=23,slow=31,SNR=3.3						
WRA				LR	LR	06 37 07.5	
	comp=Z,560nm,18.9s,baz=20,slow=38						
FITZ	**Fitzroy Crossi**	**21.30**	**223**	*e*P	**P**	**06 30 17.7**	**+1.7**
	12nm,0.6s,mb4.4						
FITZ				*e*S	**S**	**06 34 07.1**	**-4.0**
FITZ	**Fitzroy Crossi**	**21.30**	**223**	P	**P**	**06 30 15.7**	**-0.2**
	3.0nm,0.8s,mb3.7,baz=39,slow=13,SNR=7.9						
FITZ				S	**S**	**06 34 07.8**	**-3.2**
	3.4nm,0.9s,baz=184,slow=17,SNR=3.2						
AS31	**Alice Springs**	**21.81**	**197**	*e*P	**P**	**06 30 22.0**	**+0.6**
ASAR	**Alice Springs**	**21.81**	**197**	P	**P**	**06 30 21.9**	**+0.5**
	7.3nm,1.0s,mb4.1,baz=28,slow=9.9,SNR=24						
ASAR				S	**S**	**06 34 21.6**	**+0.6**
	1.8nm,1.0s,baz=16,slow=24,SNR=2.8						
ASPA	**Alice Springs**	**21.81**	**197**	*e*P	**P**	**06 30 22.0**	**+0.6**
STKA	**Stephens Creek**	**28.94**	**179**	P	**P**	**06 31 28.2**	**-0.1**
	2.6nm,0.9s,mb4.0,baz=344,slow=9.9,SNR=5.4						
PSI	**Prapat**	**42.27**	**277**	P	**P**	**06 33 23.2**	**+0.7**
	4.6nm,0.9s,mb4.1,baz=103,slow=5.1,SNR=5.6						
XAN	**Xi'an**	**47.39**	**323**	P	**P**	**06 34 03.1**	**-0.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
LZH	**Lanzhou**	**51.85**	**322**	*e*P	**P**	**06 34 37.3**	**+0.1**
LZH				AP	pP	06 34 42.5	-3.3
LZH				XP	sP	06 34 45.1	-4.1
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
LZH	**Lanzhou**	**51.85**	**322**	*e*P	**P**	**06 34 37.2**	**0.0**
	comp=Z,17nm,1.2s,mb4.8						
LZH				pP	pP	06 34 42.5	-3.3
LZH				sP	sP	06 34 45.1	-4.1
GTA	**Gaotai**	**56.42**	**322**	P	**P**	**06 35 11.3**	**+0.8**
GTA				AP	pP	06 35 16.0	-3.2
GTA				XP	sP	06 35 18.3	-4.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
MK31	**Makanchi Array**	**71.17**	**322**	*e*P	**P**	**06 36 47.7**	**0.0**
MKAR	**Makanchi Array**	**71.17**	**322**	P	**P**	**06 36 47.4**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.3,baz=103,slow=7.0,SNR=15						
ZAL	**Zalesovo**	**73.09**	**329**	P	**P**	**06 36 57.9**	**-1.3**
	comp=Z,1.5nm,0.3s,mb4.5,baz=92,slow=3.3,SNR=5.4						
CHKZ	**Chkalovo**	**80.67**	**325**	*e*P	**P**	**06 37 37.0**	**-4.9**
	comp=Z,12nm,1.2s,mb4.7						
MAW	**Mawson**	**82.85**	**202**	P	**P**	**06 37 52.9**	**-0.4**
	comp=Z,2.1nm,1.1s,mb4.1,baz=72,slow=6.4,SNR=3.6						
MAW				LR	LR	07 12 47.9	
	comp=Z,134nm,19.0s,MS4.3,baz=232,slow=34						
YKA	**Yellowknife Ar**	**99.17**	**27**	LR	LR	07 24 56.5	
	comp=Z,39nm,19.0s,MS3.9,baz=205,slow=36						
LPAZ	**La Paz**	**145.66**	**124**	PKPbc	PKPbc	06 45 08.0	+0.4
	comp=Z,2.6nm,0.8s,baz=267,slow=1.3,SNR=14						

*ISCJB **24** 06:32:07.9±0.4, 2415S±0.1×1760W±0.1, h10km, mb4.8/16, MS4.2/6, Error ellipse: s-maj=15.5km s-min=13.1km az=115.5*
*IDC **24** 06:32:07.4±0.8, 2401S×17593W, h0km, mb4.6/8, mb1 4.8/8, mb1mx4.5/16, mbtmp4.6/8, MS4.2/8, Ms1 4.2/8, ms1mx3.8/31, Error ellipse: s-maj=31.4km s-min=22.4km az=170.0*
*NEIC **24** 06:32:25.3±4.4, 2411S×17610W, h143km±38km, mb4.7/9, Error ellipse: s-maj=18.0km s-min=16.7km az=107.0*
ISC 24 06:32:09.4±0.4, 242S±01×1759W±01, h10km, n50, σ0§85/32, mb4.8/16, MS4.2/6, 2C-1D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.92**	**22**	Pn	**Pn**	**06 34 38.3**	**-7.4**
	10nm,0.3s,baz=289,slow=2.9,SNR=11						
AFI				Sn	**Sn**	**06 36 32.5**	**-15**
	4.7nm,0.3s,baz=235,slow=16,SNR=3.7						
RAR	**Rarotonga**	**15.19**	**82**	Pn	**Pn**	**06 35 33.9**	**-10**
	9.4nm,0.3s,baz=270,slow=7.3,SNR=16						
RAR				LR	LR	06 40 00.2	
	comp=Z,589nm,21.2s,baz=271,slow=31						
URZ	**Urewera**	**15.26**	**201**	Sn	**Sn**	**06 38 22.7**	**-11**
	1.5nm,0.3s,baz=314,slow=18,SNR=7.0						
URZ				LR	LR	06 40 29.8	
	comp=Z,352nm,19.7s,baz=42,slow=33						
DZM	**Mont Dzumac**	**16.35**	**274**	Pn	**Pn**	**06 36 06.9**	**+7.8**
	0.4nm,0.3s,baz=75,slow=19,SNR=7.2						
RPZ	**Rata Peaks**	**22.25**	**206**	LR	LR	06 45 49.5	
	comp=Z,578nm,18.1s,MS4.0,baz=199,slow=37						
TBI	**Tubuai**	**24.23**	**94**	*e*LR	LR	06 43 06.2	
	558nm,28.2s,baz=269						
TBI	**Tubuai**	**24.23**	**94**	*e*T		07 02 09.5	
	12nm,0.4s						
PAE	**Paea**	**25.42**	**80**	*e*T		07 03 51.9	
	21nm,0.3s						
PPT	**Papeete**	**25.45**	**80**	*e*LR	LR	06 43 37.0	
	715nm,27.5s,baz=249						
PPT	**Papeete**	**25.45**	**80**	LR	LR	06 45 16.6	
	comp=Z,394nm,20.9s,MS3.9,baz=274,slow=31						
CTA	**Charters Tower**	**35.20**	**269**	*e*P	**P**	**06 39 03.6**	**-0.1**
	12nm,0.8s,mb4.9						
CTA	**Charters Tower**	**35.20**	**269**	P	**P**	**06 39 04.4**	**+0.7**
	16nm,0.8s,mb5.0,baz=102,slow=11,SNR=11						
CTAO	**Charters Tower**	**35.20**	**269**	*e*P	**P**	**06 39 03.1**	**-0.6**
	21nm,0.9s,mb5.1						
RKT	**Rikitea**	**37.44**	**97**	*e*LR	LR	06 49 10.0	
	319nm,29.2s,baz=255						
RKT	**Rikitea**	**37.44**	**97**	*e*T		07 18 55.9	
	2.4nm,0.4s						
PMG	**Port Moresby**	**38.12**	**286**	P	**P**	**06 39 27.4**	**-1.2**
	68nm,1.0s,mb5.3,baz=99,slow=4.3,SNR=6.5						
ASAR	**Alice Springs**	**45.66**	**260**	P	**P**	**06 40 30.5**	**+0.3**
	7.9nm,0.8s,mb4.7,baz=99,slow=8.8,SNR=5.2						
ASAR				LR	LR	06 58 59.8	
	comp=Z,461nm,18.8s,MS4.5,baz=90,slow=35						
WRA	**Warramunga Arr**	**46.10**	**265**	P	**P**	**06 40 32.5**	**-1.2**
	1.3nm,0.3s,mb4.3,baz=97,slow=8.2,SNR=6.3						
WRA				LR	LR	06 59 27.2	
	comp=Z,399nm,18.3s,MS4.4,baz=90,slow=36						
SBA	**Scott Base**	**54.38**	**184**	*e*P	**P**	**06 41 37.0**	**+0.6**
	11nm,1.1s,mb4.7						
VNDA	**Vanda**	**54.47**	**186**	P	**P**	**06 41 37.5**	**+0.5**
	2.2nm,0.9s,mb4.1,baz=359,slow=7.1,SNR=13						
FITZ	**Fitzroy Crossi**	**54.52**	**264**	LR	LR	07 05 05.3	
	comp=Z,401nm,18.3s,MS4.5,baz=50,slow=36						
QSPA	**South Pole Qui**	**65.93**	**180**	⇑*i*P	**P**	**06 42 55.8**	**+0.2**
	3.6nm,0.9s,mb4.4						
MAW	**Mawson**	**78.78**	**200**	*e*P	**P**	**06 44 13.7**	**+1.3**
	12nm,1.0s,mb4.8						
KSRS	**Korea Array**	**80.88**	**318**	LR	LR	07 15 57.0	
	comp=Z,79nm,18.0s,MS4.1,baz=170,slow=32						
SNAA	**Sanae**	**84.31**	**178**	*e*P	**P**	**06 44 40.4**	**-1.1**
	6.7nm,1.0s,mb4.7						
VNA3	**Neumayer Olymp**	**84.38**	**176**	*e*	**P**	**06 44 40.8**	**-1.1**
VNA3				*e*		06 44 47.1	
VNA3				*e*		06 44 54.9	
VNA3				*e*		06 45 01.3	
VNA3				*e*		06 45 19.1	
MDJ	**Mudanjiang**	**84.60**	**324**	P	**P**	**06 44 42.9**	**-0.1**
	13nm,0.8s,mb5.1						
VNA2	**Neumayer--Watz**	**84.84**	**176**	*e*	**P**	**06 44 43.4**	**-0.8**
	baz=178,slow=3.6						
VNA2				*e*	pP	06 44 47.6	0.0
VNA2				*e*		06 44 57.7	
VNA2				*e*		06 45 04.0	
VNA2				*e*		06 45 21.2	
VNA1	**Neumayer--Stat**	**85.06**	**176**	*e*	**P**	**06 44 52.3**	**+7.0**
VNA1				*e*		06 44 58.3	
VNA1				*e*		06 45 05.7	
VNA1				*e*		06 45 12.0	
VNA1				*e*		06 45 32.5	
ARUT	**Antelope Range**	**85.06**	**45**	*e*P	**P**	**06 44 45.9**	**+0.6**
MSU	**Marysvale**	**86.29**	**45**	*e*P	**P**	**06 44 52.4**	**+1.0**
PSI	**Prapat**	**86.71**	**275**	P	**P**	**06 44 54.2**	**+0.7**
	8.9nm,0.9s,mb5.0,baz=177,slow=8.3,SNR=8.7						
PSI	**Prapat**	**86.71**	**275**	P	**P**	**06 44 54.2**	**+0.7**
MNTX	**Cornudas Mount**	**87.33**	**54**	*e*P	**P**	**06 44 56.0**	**-0.6**
	9.4nm,1.1s,mb4.9						
TXAR	**Lajitas Array**	**87.44**	**56**	P	**P**	**06 44 56.9**	**-0.2**
	3.1nm,1.0s,mb4.5,baz=217,slow=7.0,SNR=22						
LAZ	**Ladron**	**87.45**	**50**	*e*P	**P**	**06 44 57.1**	**-0.1**
LPM	**Los Pinos Moun**	**87.76**	**51**	*e*P	**P**	**06 44 58.7**	**+0.1**
PDAR	**Pinedale Array**	**90.32**	**42**	P	**P**	**06 45 09.7**	**-1.0**
	1.2nm,1.0s,mb4.2,baz=224,slow=4.1,SNR=5.5						
NANT	**Nan**	**91.75**	**290**	⇓P	**P**	**06 45 17.5**	**+0.2**
	112nm,1.0s,mb6.2						
CHG	**Chiang Mai**	**93.27**	**289**	⇑P	**P**	**06 45 26.4**	**+2.1**
	15nm,1.0s,mb5.4						
CHTO	**Chiang Mai**	**93.27**	**289**	*e*P	**P**	**06 45 26.9**	**+2.6**
	11nm,0.9s,mb5.3						
BVAR	**Borovoye Array**	**123.09**	**319**	PKP	PKPdf	06 51 05.2	-0.9
	1.4nm,0.9s,baz=120,slow=5.3,SNR=5.3						
ARCES	**ARCESS Array B**	**132.84**	**350**	PKP	PKPdf	06 51 22.9	-1.9
	4.3nm,1.0s,baz=28,slow=5.5,SNR=4.1						
AKASG	**Malin Array Be**	**147.13**	**330**	PKPbc	PKPbc	06 51 51.6	-1.1
	1.7nm,0.5s,baz=37,slow=3.5,SNR=10						
BR131	**Keskin Array S**	**150.67**	**309**	*e*PKPbc	PKPbc	06 52 01.9	+0.2
BRTR	**Keskin Array B**	**150.67**	**309**	PKPbc	PKPbc	06 52 01.5	-0.2
	3.1nm,0.9s,baz=69,slow=

WRAB Tennant Creek 21.78 139 *e*P **P 06 38 16.2 +0.7**
60nm,0.9s,mb5.0
WB2 Warramunga Arr 21.79 139 *e*P **P 06 38 16.2 +0.6**
WB2 *e*S **S 06 42 10.8 -3.9**
ASPA Alice Springs 24.32 146 *e*P **P 06 38 42.3 +1.2**
AS31 Alice Springs 24.32 146 *e*P **P 06 38 42.3 +1.2**
ASAR Alice Springs 24.32 146 P **P 06 38 42.9 +1.8**
30nm,0.9s,mb4.7,baz=314,slow=7.3,SNR=95
ASAR PcP PcP 06 42 20.4 +0.2
1.5nm,0.8s,baz=338,slow=2.5,SNR=3.9
ASAR LR LR 06 49 23.1
comp=Z,909nm,18.5s,MS4.3,baz=324,slow=39
ASAR Alice Springs 24.32 146 P **P 06 38 42.9 +1.8**
ASAR 06 42 20.4
QIZ Qiongzhong 24.46 338 P **P 06 38 41.9 -0.5**
QIZ AP 06 38 47.9
QIZ XP sP 06 38 56.6 +0.8
QIZ S **S 06 43 05.0 +4.6**
QIZ XS sS 06 43 19.3 +3.3
QIZ AMB AMB
comp=Z,90nm,1.2s,mb5.1
QIZ AMB AMB
comp=Z,206nm,6.7s
QIZ LR LR
comp=N,435nm,16.1s
QIZ LR LR
comp=Z,629nm,15.0s,MS4.2
QIZ Qiongzhong 24.46 338 *e*P **P 06 38 43.2 +0.8**
comp=Z,131nm,1.2s,mb5.2
KKTK Khon Kaen 25.75 321 P **P 06 38 55.5 +1.4**
NST Nakhon Sawan 27.05 316 P **P 06 39 07.0 +1.2**
GZH Guangzhou 27.29 348 P **P 06 39 06.8 -1.2**
GZH S **S 06 43 46.5 +1.3**
GZH LR LR
comp=N,303nm,19.0s,MS4.1
GZH LR LR
comp=E,412nm,17.1s,MS4.1
GZH LR LR
comp=Z,458nm,15.9s,MS4.1
KLBR Kellerberrin 27.75 183 *e*P **P 06 39 12.0 -0.1**
comp=Z,85nm,1.1s,mb5.3
FORT Forrest 28.14 164 *e*P **P 06 39 16.0 +0.4**
comp=Z,45nm,0.7s,mb5.2
PMG Port Moresby 28.23 103 P **P 06 39 17.2 +0.8**
comp=Z,21nm,0.9s,mb4.8,baz=287,slow=5.4,SNR=5.7
PMG Port Moresby 28.23 103⇓*e*P **P 06 39 16.7 +0.3**
PMG Port Moresby 28.23 103 *e*P **P 06 39 17.1 +0.8**
comp=Z,64nm,0.9s,mb5.2
MUN Mundaring 28.24 186 *e*P **P 06 39 15.8 -0.7**
NANT Nan 28.93 321 ⇓P **P 06 39 22.0 -0.6**
comp=Z,125nm,1.0s,mb5.6
NWAO Narrogin (SRO) 29.10 184 P **P 06 39 24.5 +0.4**
comp=Z,58nm,0.9s,mb5.3,baz=4.2,slow=9.7,SNR=20
NWAO LR LR 06 50 38.4
comp=Z,467nm,18.9s,MS4.1,baz=134,slow=36
NWAO Narrogin (SRO) 29.10 184 *e*P **P 06 39 24.6 +0.5**
NWAO pmax pmax
comp=Z,77nm,1.0s
NWAO Narrogin (SRO) 29.10 184 *e*P **P 06 39 24.6 +0.5**
comp=Z,77nm,1.0s,mb5.4
CM31 Chiang Mai Arr 29.81 318 *e*P **P 06 39 31.8 +1.4**
comp=Z,46nm,1.4s,mb5.0
CHG Chiang Mai 30.07 319 ⇑P **P 06 39 33.8 +1.1**
comp=Z,26nm,1.5s,mb4.7
CHTO Chiang Mai 30.07 319 *e*P **P 06 39 34.4 +1.7**
CHTO pmax pmax
comp=Z,46nm,1.4s,mb5.0
CHTO Chiang Mai 30.07 319 *e*P **P 06 39 34.4 +1.7**
comp=Z,46nm,1.4s,mb5.0
GUMO Guam 30.66 55 LR LR 06 52 40.6
comp=Z,196nm,18.9s,MS3.8,baz=248,slow=38
CTA Charters Tower 30.89 124 LR LR 06 52 22.1
comp=Z,456nm,18.3s,MS4.2,baz=36,slow=37
CTAO Charters Tower 30.89 124 *e*P **P 06 39 41.4 +1.5**
CTAO pmax pmax
comp=Z,11nm,0.8s,mb4.7
CTAO Charters Tower 30.89 124 *e*P **P 06 39 41.4 +1.5**
comp=Z,11nm,0.8s,mb4.8
GYA Guiyang 32.41 339 P **P 06 39 54.5 +1.2**
GYA AP pP 06 40 03.8 +0.9
GYA XP sP 06 40 07.8 +0.9
GYA PP PP 06 41 06.0 -0.9
GYA S **S 06 45 09.3 +3.7**
GYA XS sS 06 45 24.8 +3.5
GYA SCS ScS 06 50 21.8 +1.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,180nm,5.0s
GYA LR LR
comp=N,480nm,16.8s,MS4.4
GYA LR LR
comp=E,510nm,16.0s,MS4.4
GYA LR LR
comp=Z,570nm,15.8s,MS4.4
KMI Kunming 32.89 332 ⇑P **P 06 40 00.3 +2.8**
KMI AP pP 06 40 10.4 +3.3
KMI XP sP 06 40 14.1 +3.1
KMI PP PP 06 41 10.8 -1.3
KMI S **S 06 45 16.5 +3.5**
KMI XS sS 06 45 32.4 +3.6
KMI AMB AMB
comp=Z,33nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,218nm,3.5s
KMI LR LR
comp=N,673nm,15.0s,MS4.5
KMI LR LR
comp=E,508nm,16.7s,MS4.5
KMI LR LR
comp=Z,640nm,12.5s,MS4.5
KMI Kunming 32.89 332 ⇑P **P 06 40 00.2 +2.7**
KMI *PP pP 06 40 10.4 +3.3
KMI *SP sP 06 40 14.1 +3.1
KMI 06 41 10.8
KMI PPP 06 41 28.6
KMI S **S 06 45 16.5 +3.5**
KMI *SS sS 06 45 32.4 +3.6
KMI SS SS 06 47 16.9 -18
KMI pmax pmax
comp=Z,33nm,1.3s,mb5.1
KMI MLR MLR
comp=Z,640nm,12.5s,MS4.5
KMI Kunming 32.89 332 ⇑P **P 06 40 00.2 +2.7**
comp=Z,33nm,1.3s,mb5.1
KMI pP pP 06 40 10.4 +3.3
KMI sP sP 06 40 14.1 +3.1
KMI PP PP 06 41 10.8 -1.3
KMI PPP 06 41 28.6
KMI S **S 06 45 16.5 +3.5**
KMI sS sS 06 45 32.4 +3.6
KMI SS SS 06 47 16.9 -18
KMI SSS 06 47 41.3
KMI LR LR
comp=Z,640nm,12.5s,MS4.5
SSE Sheshan 34.68 3 P **P 06 40 14.9 +1.8**
SSE XP sP 06 40 27.5 +0.8
SSE PP PP 06 41 34.1 +2.1
SSE S **S 06 45 44.1 +3.3**
SSE XS sS 06 45 59.0 +2.4
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,301nm,4.4s
SSE LR LR
comp=N,77nm,23.7s,MS3.6
SSE LR LR
comp=E,95nm,23.7s,MS3.6
SSE LR LR
comp=Z,115nm,23.1s,MS3.5
SSE Sheshan 34.68 3 P **P 06 40 14.9 +1.8**
comp=Z,30nm,0.7s,mb5.3
SSE sP sP 06 40 27.5 +0.8
SSE PP PP 06 41 34.1 +2.1
SSE S **S 06 45 44.1 +3.3**
SSE sS sS 06 45 59.0 +2.4
SSE LR LR
comp=Z,120nm,23.1s,MS3.6
STKA Stephens Creek 34.96 146⇑*i*P **P 06 40 16.7 +1.2**
comp=Z,42nm,1.0s,mb5.3
STKA Stephens Creek 34.96 146 P **P 06 40 16.9 +1.4**
comp=Z,28nm,0.8s,mb5.2,baz=316,slow=9.2,SNR=34
STKA LR LR 06 55 53.5
comp=Z,849nm,18.4s,MS4.5,baz=124,slow=39
NJ2 Nanjing 35.59 359 *e*P **P 06 40 23.0 +2.1**
NJ2 AP pP 06 40 33.3 +2.8
NJ2 XP sP 06 40 36.6 +2.1
NJ2 PP PP 06 41 45.8 +3.7
NJ2 S **S 06 45 57.0 +2.3**
NJ2 XS sS 06 46 14.0 +3.4
NJ2 AMB AMB
comp=Z,170nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,240nm,10.2s
NJ2 LR LR
comp=N,950nm,21.1s,MS4.7
NJ2 LR LR
comp=E,1μm,24.5s,MS4.7
NJ2 LR LR
comp=Z,760nm,20.2s,MS4.5
CD2 Chengdu 37.51 338⇑*i*P **P 06 40 37.9 +0.6**
CD2 AP pP 06 40 47.8 +0.9
CD2 XP sP 06 40 51.8 +0.9
CD2 PP PP 06 42 11.4 +8.2
CD2 S **S 06 46 24.9 +0.9**
CD2 AMB AMB
comp=Z,90nm,1.0s,mb5.5
CD2 AMB AMB
comp=Z,110nm,3.7s
CD2 LR LR
comp=N,300nm,6.5s
CD2 LR LR
comp=E,260nm,9.1s
CD2 LR LR
comp=Z,250nm,7.7s
CBIJ Chichi jima 37.79 34 LR LR 06 55 24.5
comp=Z,191nm,21.6s,MS3.9,baz=167,slow=35
XAN Xi'an 38.83 346 P **P 06 40 48.9 +0.5**
XAN AP pP 06 40 58.6 +0.5
XAN AMB AMB
comp=Z,12nm,1.7s,mb4.3
XAN AMB AMB
comp=Z,107nm,4.9s
XAN LR LR
comp=N,191nm,16.2s,MS4.2
XAN LR LR
comp=E,230nm,15.3s,MS4.2
XAN LR LR
comp=Z,416nm,16.2s,MS4.3
SHL Shillong 39.44 319⇑*i*P **P 06 40 55.0 +1.5**
SHL *ex* x 06 47 12.0
VIS Vishakhapatnam 41.40 302 *e*P **P 06 41 09.9 +0.3**
VIS AMb AMB 06 41 13.7
comp=Z,76nm,1.2s,mb5.2
KSRS Korea Array 41.76 10 P **P 06 41 11.8 -0.9**
comp=Z,13nm,1.0s,mb4.5,baz=188,slow=10,SNR=26
KSRS PcP PcP 06 43 09.6 +1.0
comp=Z,4.9nm,0.9s,baz=181,slow=3.6,SNR=6.0
KSRS LR LR 07 00 18.3
comp=Z,171nm,18.6s,MS4.0,baz=187,slow=39
LZH Lanzhou 42.17 341⇑P **P 06 41 17.5 +1.5**
LZH AP pP 06 41 27.1 +1.3
LZH XP sP 06 41 31.4 +1.7
LZH PP PP 06 42 59.8 +5.8
LZH S **S 06 47 35.6 +1.8**
LZH XS sS 06 47 51.9 +2.0
LZH AMB AMB
comp=Z,52nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,176nm,6.7s
LZH LR LR
comp=N,1μm,14.5s
LZH LR LR
comp=Z,2μm,17.7s,MS5.0
LZH Lanzhou 42.17 341⇑P **P 06 41 17.5 +1.5**
LZH *PP pP 06 41 27.1 +1.3
LZH *SP sP 06 41 31.4 +1.7
LZH 06 42 59.8
LZH S **S 06 47 35.6 +1.8**
LZH *SS sS 06 47 51.9 +2.0
LZH pmax pmax
comp=Z,52nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,2μm,17.7s,MS5.0
LZH Lanzhou 42.17 341⇑P **P 06 41 17.5 +1.5**
comp=Z,52nm,1.4s,mb5.0
LZH pP pP 06 41 27.1 +1.3
LZH sP sP 06 41 31.4 +1.7
LZH PP PP 06 42 59.8 +5.8
LZH S **S 06 47 35.6 +1.8**
LZH sS sS 06 47 51.9 +2.0
LZH LR LR
comp=Z,2μm,17.7s,MS5.0
BOK Bokaro 42.52 312 *e*P **P 06 41 17.4 -1.4**
BOK AMb AMB 06 41 23.3
comp=Z,53nm,1.5s,mb5.0
LSA Lhasa 42.81 323 P **P 06 41 22.3 +1.1**
LSA AP pP 06 41 30.0 -0.9
LSA XP sP 06 41 35.1 +0.2
LSA PP PP 06 43 02.0 +1.2
LSA PCP PcP 06 43 10.1 -1.9
LSA S **S 06 47 48.0 +4.8**
LSA XS sS 06 48 06.0 +6.8
LSA SCS ScS 06 51 18.8 -0.8
LSA AMB AMB
comp=Z,60nm,1.4s,mb5.1
LSA AMB AMB
comp=Z,200nm,4.7s
LSA LR LR
comp=E,640nm,21.0s
LSA LR LR
comp=Z,390nm,19.5s,MS4.3
LSA Lhasa 42.81 323 *e*P **P 06 41 23.7 +2.5**
LSA pmax pmax
comp=Z,84nm,1.3s,mb5.3
LSA Lhasa 42.81 323 *e*P **P 06 41 23.6 +2.4**
comp=Z,84nm,1.3s,mb5.3
BJT Baijiatuao 43.64 357 *e*P **P 06 41 27.8 -0.1**
BJT *e*PP pP 06 41 38.7 +1.1
BJT pmax pmax
comp=Z,72nm,1.3s
BJT Baijiatuao 43.64 357 *e*P **P 06 41 27.8 -0.1**
comp=Z,72nm,1.3s,mb5.2
BJT *e*pP pP 06 41 38.7 +1.1
BJI Beijing 43.66 357 P **P 06 41 27.6 -0.4**
BJI AMB AMB
comp=Z,141nm,2.0s,mb5.3
BJI AMB AMB
comp=Z,195nm,4.7s
BJI LR LR
comp=N,356nm,15.9s,MS4.5
BJI LR LR
comp=E,284nm,15.6s,MS4.5
BJI LR LR
comp=Z,162nm,19.7s,MS3.9
BJI Beijing 43.66 357 P **P 06 41 27.6 -0.4**
comp=Z,141nm,2.0s,mb5.3
BJI S **S 06 47 46.5 -9.1**
BJI SS SS 06 51 01.4 -10
BJI LR LR
comp=Z,160nm,19.7s,MS3.9
MJAR Matsushiro Arr 43.79 22 P **P 06 41 27.6 -1.5**
comp=Z,10nm,1.1s,mb4.5,baz=200,slow=7.5,SNR=12
MJAR LR LR 06 57 37.8
comp=Z,222nm,21.2s,MS4.0,baz=200,slow=33
MAJO Matsushiro 43.79 22 *e*P **P 06 41 29.2 +0.1**
MAT Matsushiro 43.79 22 P **P 06 41 27.5 -1.6**
JIRN Jiri 44.64 316 *e*P **P 06 41 37.3 +1.4**
comp=Z,156nm,1.1s,mb5.8
HHC Hu-ho-hao-te 44.93 352 ⇓P **P 06 41 39.1 +0.9**
HHC AP pP 06 41 49.9 +1.9
HHC XP sP 06 41 52.8 +0.8
HHC PP PP 06 43 25.3 +1.8
HHC S **S 06 48 15.8 +1.7**
HHC XS sS 06 48 31.3 +1.0
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,100nm,6.8s
HHC LR LR
comp=N,260nm,16.7s,MS4.4
HHC LR LR
comp=E,304nm,16.7s,MS4.4
HHC LR LR
comp=Z,227nm,20.1s,MS4.1
BTO Baotou 44.94 350 *e*P **P 06 41 37.5 -0.8**
GUN Gumba 45.01 316 *e*P **P 06 41 40.1 +1.2**
comp=Z,218nm,1.1s,mb5.9
PKI Pulchoki 45.13 316 *e*P **P 06 41 40.7 +0.9**
comp=Z,84nm,1.0s,mb5.5
KKN Kakani 45.35 316 *e*P **P 06 41 42.5 +0.9**
comp=Z,115nm,1.1s,mb5.6
DMN Daman 45.36 316 *e*P **P 06 41 42.6 +0.9**
comp=Z,130nm,1.0s,mb5.7
HYB Hyderabad 45.37 299⇑*i*P **P 06 41 41.0 -0.7**
comp=Z,60nm,1.0s,mb5.4
HYB *e*S **S 06 48 18.0 -2.5**
HYB Hyderabad 45.37 299⇑*e*P **P 06 41 41.0 -0.7**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.4
HYB Hyderabad 45.37 299⇑*e*P **P 06 41 41.0 -0.7**
comp=Z,60nm,1.0s,mb5.4
SNY Shenyang 45.52 4 ⇑P **P 06 41 40.9 -2.0**
SNY AP pP 06 41 49.3 -3.4
SNY XP sP 06 41 55.4 -1.2
SNY S **S 06 48 17.3 -5.3**
SNY AMB AMB
comp=Z,14nm,1.6s,mb4.6
SNY AMB AMB
comp=Z,59nm,6.1s
SNY LR LR
comp=N,267nm,20.0s
SNY LR LR
comp=Z,316nm,15.7s,MS4.4
GKN Gorkha 45.93 316 *e*P **P 06 41 46.8 +0.6**
comp=Z,140nm,1.1s,mb5.8
TAU Tasmania Unive 46.28 151 *e*P **P 06 41 47.8 -1.1**
TAU pmax pmax
comp=Z,61nm,1.2s,mb5.4
TAU Tasmania Unive 46.28 151 *e*P **P 06 41 47.8 -1.1**
comp=Z,61nm,1.2s,mb5.4
KOLN Koldanda 46.52 315 *e*P **P 06 41 51.5 +0.7**
comp=Z,96nm,0.9s,mb5.7
GTA Gaotai 46.54 339 ⇑P **P 06 41 52.3 +1.4**
GTA AP pP 06 42 02.0 +1.2
GTA XP sP 06 42 05.6 +0.9
GTA PP PP 06 43 42.6 +2.1
GTA S **S 06 48 40.8 +3.5**
GTA XS sS 06 48 56.6 +3.2
GTA SS SS 06 52 00.8 -2.6
GTA AMB AMB
comp=Z,38nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,214nm,7.6s
GTA LR LR
comp=N,302nm,14.5s,MS4.6
GTA LR LR
comp=E,383nm,13.7s,MS4.6
GTA LR LR
comp=Z,402nm,17.1s,MS4.4
NGP Nagpur 46.55 304 *e*P **P 06 41 51.2 +0.2**
NGP AMb AMB 06 41 53.2
comp=Z,96nm,0.7s,mb5.8
BHPL Bhopal 48.85 305 *e*P **P 06 42 07.7 -1.2**
BHPL AMb AMB 06 42 11.3
comp=Z,50nm,1.4s,mb5.4
MDJ Mudanjiang 49.01 10 P **P 06 42 08.8 -1.3**
MDJ AP pP 06 42 17.8 -2.2
MDJ XP sP 06 42 21.6 -2.3
MDJ PCP PcP 06 43 33.3 -0.4
MDJ PP PP 06 44 02.0 -1.7
MDJ SCP ScP 06 47 25.9 -0.4
MDJ PCS PcS 06 47 29.5 -0.5
MDJ S **S 06 49 09.9 -2.4**
MDJ AMB AMB
comp=Z,18nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,133nm,4.6s
MDJ LR LR
comp=N,87nm,28.0s,MS3.8
MDJ LR LR
comp=E,87nm,27.7s,MS3.8
MDJ LR LR
comp=Z,202nm,24.0s,MS4.0
MDJ Mudanjiang 49.01 10 *e*P **P 06 42 09.6 -0.5**
comp=Z,88nm,1.4s,mb5.6
MDJ *e*pP pP 06 42 19.3 -0.7
DZM Mont Dzumac 49.17 116 LR LR 07 03 11.8
comp=Z,291nm,18.7s,MS4.3,baz=206,slow=36
KAD Karad 49.19 297 *e*P **P 06 42 11.3 -0.2**
KAD AMb AMB 06 42 17.0
comp=Z,28nm,2.0s,mb4.9
ASAJ Asahikawa 52.03 21 P **P 06 42 33.5 +0.7**
comp=Z,22nm,0.9s,mb5.1,baz=106,slow=30,SNR=3.6
ASAJ LR LR 07 04 10.2
comp=Z,167nm,19.6s,MS4.1,baz=345,slow=36
ULN Ulaanbaatar 52.50 350*c i*P **P 06 42 35.5 -0.9**
ULN Ulaanbaatar 52.50 350 *e*P **P 06 42 36.3 0.0**
comp=Z,9.9nm,0.7s,mb4.8
SONM Songino Array 52.59 349 P **P 06 42 36.9 -0.2**
comp=Z,9.3nm,0.9s,mb4.7,baz=162,slow=8.4,SNR=12
AJM Ajmer 52.59 308 *e*P **P 06 42 36.9 -0.2**
AJM AMb AMB 06 42 39.3
comp=Z,33nm,1.6s,mb5.0
KLR Kul'dur 53.85 10 *e*P **P 06 42 38.8 -7.5**
KLR *e* 06 43 56.0
WMQ Urumqi 55.22 332⇑*i*P **P 06 42 56.8 +0.6**
WMQ AP pP 06 43 06.8 +0.6
WMQ XP sP 06 43 11.0 +0.9
WMQ PCP PcP 06 43 57.4 +0.5
WMQ PP PP 06 45 01.8 +2.0
WMQ SCP ScP 06 47 52.3 -0.8
WMQ S **S 06 50 36.1 -1.3**
WMQ AMB AMB
comp=Z,26nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,120nm,3.6s
WMQ LR LR
comp=N,213nm,17.0s,MS4.3
WMQ LR LR
comp=E,115nm,17.0s,MS4.3
WMQ LR LR
comp=Z,143nm,17.0s,MS4.1
ZAK Zakamensk 55.65 348 *e*P **P 06 42 58.5 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
CIT Chita 55.76 356 *e*P **P 06 42 57.9 -2.2**
CIT *e* 06 43 10.1
TLY Talaya 56.80 348 *e*P **P 06 43 07.5 0.0**
TLY *e*S **S 06 50 54.0 -4.5**
TLY pmax pmax
comp=Z,17nm,1.6s,mb4.8
TLY Talaya 56.80 348 *e*P **P 06 43 07.3 -0.2**
IRK Irkutsk 57.21 349 *e*P **P 06 43 12.3 +1.8**
IRK pmax pmax
comp=Z,34nm,0.6s,mb5.5
MOY Mondy 57.36 347 *e*P **P 06 43 11.7 +0.2**
MOY pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
MK31 Makanchi Array 59.97 331 *i* P **P 06 43 28.9 -0.8**
MK31 pmax pmax
comp=Z,19nm,0.8s,mb5.2
MK31 Makanchi Array 59.97 331 *e*P **P 06 43 29.2 -0.4**
MKAR Makanchi Array 59.97 331 P **P 06 43 29.3 -0.4**
comp=Z,12nm,0.8s,mb5.0,baz=135,slow=7.5,SNR=58
MKAR Makanchi Array 59.97 331⇑*e*P **P 06 43 29.2 -0.5**
RPZ Rata Peaks 60.49 139 P **P 06 43 34.3 +1.1**
comp=Z,71nm,0.9s,mb5.7,baz=334,slow=2.6,SNR=10.0
AAK Ala-Archa 61.39 324*ce*P **P 06 43 37.8 -1.6**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.8
AAK Ala-Archa 61.39 324 *e*P **P 06 43 38.5 -0.9**
comp=Z,5.8nm,0.9s,mb4.7
BOD Bodaibo 61.51 357 *e*P **P 06 43 38.4 -1.7**
BOD pmax pmax
comp=Z,47nm,1.4s,mb5.4
URZ Urewera 62.71 131 P **P 06 43 48.6 +0.4**
comp=Z,23nm,0.8s,mb5.4,baz=59,slow=3.9,SNR=7.7
CASY Casey 62.73 184 *e*P **P 06 43 47.5 -0.8**
comp=Z,15nm,1.0s,mb5.1
ZAL Zalesovo 64.28 338 P **P 06 43 57.4 -1.2**
comp=Z,6.8nm,0.8s,mb4.7,baz=333,slow=5.0,SNR=42
KURK Kurchatov 64.46 333 P **P 06 43 58.8 -1.0**
comp=Z,148nm,1.1s,mb5.9,SNR=13
KURK Kurchatov 64.46 333 P **P 06 43 58.2 -1.6**
KURK pmax pmax
comp=Z,14nm,1.0s,mb5.0
RAO Raoul Island 64.51 121 LR LR 07 10 05.7
comp=Z,305nm,21.8s,MS4.5,baz=185,slow=34
NVS Novosibirsk 65.56 338 *i* P **P 06 44 04.2 -2.7**
NVS pmax pmax
comp=Z,26nm,1.6s,mb5.0
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax

comp=E,13nm,1.3s
YAK Yakutsk 66.07 5 *e*P **P** 06 44 08.9 **-1.3**
YAK *e**PP pP 06 44 18.6 -1.7
YAK pmax pmax
comp=Z,17nm,0.5s,mb5.3
YAK Yakutsk 66.07 5 *e*P **P** **06 44 08.9 -1.2**
comp=Z,17nm,0.5s,mb5.3
YAK *e*pP pP 06 44 18.6 -1.8
BVA0 Borovoye Array 69.84 331 *i* P **P** **06 44 31.8 -2.1**
BVA0 pmax pmax
comp=Z,8.0nm,2.0s,mb4.3
BRVK Borovoye 69.92 331 P **P** **06 44 33.2 -1.1**
comp=Z,65nm,1.2s,mb5.4,SNR=6.1
BRVK Borovoye 69.92 331 *e*P **P** **06 44 32.7 -1.6**
BRVK *e**PP pP 06 44 42.5 -2.1
BRVK pmax pmax
comp=Z,56nm,1.8s,mb5.2
BRVK Borovoye 69.92 331 *e*P **P** **06 44 32.7 -1.6**
comp=Z,56nm,1.8s,mb5.2
BRVK *e*pP pP 06 44 42.5 -2.0
CHKZ Chkalovo 70.13 332 *e*P **P** **06 44 34.0 -1.7**
CHKZ *e**PP pP 06 44 43.9 -2.0
CHKZ pmax pmax
comp=Z,29nm,1.4s,mb5.0
CHKZ Chkalovo 70.13 332 *e*P **P** **06 44 34.0 -1.7**
comp=Z,29nm,1.4s,mb5.0
CHKZ *e*pP pP 06 44 43.9 -2.0
SEY Seymchan 71.04 15‖ *e*P **P** **06 44 40.1 -1.1**
OPO Ambohidratompo 71.87 252 P **P** **06 44 46.5 +0.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=40,slow=4.6,SNR=4.6
AB31 Akbulak array 73.48 324 *i* P **P** **06 44 53.4 -2.4**
AB31 pmax pmax
comp=Z,21nm,1.1s,mb5.0
MAW Mawson 74.26 199 P **P** **06 45 00.2 -0.2**
comp=Z,8.3nm,1.0s,mb4.6,baz=36,slow=5.7,SNR=6.5
MAW Mawson 74.26 199 *e*P **P** **06 45 00.0 -0.3**
MAW *e* 06 47 44.5
MAW pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 74.26 199 *e*P **P** **06 45 00.0 -0.3**
comp=Z,11nm,1.0s,mb4.8
MAW *e*PP PP 06 47 44.5 -1.8
AKTO Aktyubinsk 75.12 325 P **P** **06 45 03.7 -1.6**
AKTO pmax pmax
comp=Z,3.0nm,1.8s
SVE Sverdlovsk 76.63 331 *e*P **P** **06 45 11.0 -2.9**
VNDA Vanda 77.11 171 P **P** **06 45 16.7 +0.1**
comp=Z,11nm,0.8s,mb4.8,baz=314,slow=6.2,SNR=41
VNDA LR LR 07 19 22.4
comp=Z,257nm,18.0s,MS4.6,baz=337,slow=36
VNDA Vanda 77.11 171 *e*P **P** **06 45 16.9 +0.3**
VNDA *e**PP pP 06 45 26.5 -0.5
VNDA pmax pmax
comp=Z,28nm,1.2s
VNDA Vanda 77.11 171 *e*P **P** **06 45 16.9 +0.2**
comp=Z,28nm,1.2s,mb5.1
VNDA *e*pP pP 06 45 26.5 -0.4
ARU Arti 77.46 330⇑ *i*P **P** **06 45 16.0 -2.6**
ARU *e* pP 06 45 25.9 -3.1
ARU *e* 06 48 10.3
ARU *e*PPP 06 49 55.6
ARU *e*S S 06 55 04.6 -2.5
ARU *e*SS SS 07 00 00.9 -5.4
ARU pmax pmax
comp=Z,31nm,1.3s,mb5.1
ARU Arti 77.46 330 *e*P **P** **06 45 16.1 -2.5**
comp=Z,46nm,1.4s,mb5.2
ARU *e*pP pP 06 45 26.2 -2.7
SBA Scott Base 78.10 171 *e*P **P** **06 45 23.4 +1.2**
SBA pmax pmax
comp=Z,29nm,1.1s,mb5.1
SBA Scott Base 78.10 171 *e*P **P** **06 45 23.4 +1.2**
comp=Z,29nm,1.1s,mb5.1
BILL Bilibino 78.69 16 *e*P **P** **06 45 29.5 +4.1**
BILL *e*S S 06 55 11.4 -9.0
BILL pmax pmax
comp=Z,29nm,1.7s,mb4.9
BILL Bilibino 78.69 16 P **P** **06 45 21.9 -3.5**
comp=Z,38nm,1.4s,mb5.1
SOKR Solikamsk 79.70 333⇑ *i*P **P** **06 45 29.4 -1.6**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb4.9
GNI Garni 80.67 312 *e*P **P** **06 45 36.0 -0.2**
ZEI Tsey 81.87 314 *e*P **P** **06 45 41.6 -0.9**
ZEI *i* pP 06 45 51.0 -2.0
ZEI *e* 06 45 56.6
ZEI *e* 06 48 47.0
ZEI pmax pmax
comp=Z,12nm,1.3s,mb4.7
KMBO Kilima Mbogo 81.99 269 P **P** **06 45 44.5 +1.3**
comp=Z,4.4nm,0.7s,mb4.5,baz=61,slow=7.6,SNR=14
KMBO LR LR 07 18 27.5
comp=Z,198nm,21.8s,MS4.4,baz=88,slow=33
KMBO Kilima Mbogo 81.99 269 *e*P **P** **06 45 44.2 +1.0**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 81.99 269 *e*P **P** **06 45 44.2 +1.0**
comp=Z,8.7nm,1.1s,mb4.6
SYO Syowa Base 82.84 201⇑ *e*P **P** **06 45 45.3 -2.3**
SYO Syowa Base 82.84 201⇑ *e*pP pP 06 45 55.0 -3.0
MALT Malatya 85.15 309 *e*P **P** **06 45 59.1 -0.3**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MALT Malatya 85.15 309 *e*P **P** **06 45 59.1 -0.3**
comp=Z,2.1nm,0.7s,mb4.4
QSPA South Pole Qui 86.22 180 *e*P **P** **06 46 04.7 0.0**
comp=Z,45nm,1.1s,mb5.6
EIL Elat 86.93 300 *e*P **P** **06 46 08.0 -0.2**
comp=Z,13nm,1.4s,mb5.0
EIL *e*pP pP 06 46 16.5 -2.1
SDPT Sand Point 87.50 34 *e*P **P** **06 46 10.8 -0.1**
comp=Z,213nm,1.4s
BR131 Keskin Array S 89.03 310 *e*P **P** **06 46 16.5 -1.7**
comp=Z,1.3nm,0.7s,mb4.4
BRTR Keskin Array B 89.03 310 P **P** **06 46 16.4 -1.7**
comp=Z,2.0nm,0.8s,mb4.5,baz=115,slow=5.6,SNR=11
BRTR PP PP 06 49 47.5 -0.7
comp=Z,0.8nm,0.8s,baz=163,slow=4.5,SNR=3.9
LSZ Lusaka 90.10 255 *e*P **P** **06 46 23.5 +0.3**
comp=Z,0.3nm,0.9s
LSZ *e*pP pP 06 46 33.2 -0.5
SVW2 Sparrevohn 90.88 29 *e*P **P** **06 46 27.2 +0.4**
BOSA Boshof 91.78 241 P **P** **06 46 31.5 +0.5**
comp=Z,4.9nm,0.9s,mb4.8,baz=56,slow=5.2,SNR=5.2
BOSA LR LR 07 20 38.2
comp=Z,168nm,21.6s,MS4.5,baz=149,slow=31
BOSA Boshof 91.78 241 *e*P **P** **06 46 31.5 +0.5**
BOSA *e**PP pP 06 46 41.0 -0.5
BOSA pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
BOSA Boshof 91.78 241 *e*P **P** **06 46 31.5 +0.5**
comp=Z,4.1nm,1.0s,mb4.7
BOSA *e*pP pP 06 46 41.0 -0.5
LBTB Lobatse 91.79 245 *e*P **P** **06 46 31.4 +0.4**
LBTB pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LBTB Lobatse 91.79 245 *e*P **P** **06 46 31.4 +0.4**
comp=Z,6.3nm,0.7s,mb5.0
APA Apatity 91.86 337⇑ *e*P **P** **06 46 37.1 +5.8**
APA *i* 06 46 54.2
APA pmax pmax
comp=Z,22nm,1.2s,mb5.4
KDAK Kodiak Island 92.13 32 *e*P **P** **06 46 33.8 +1.3**
IMA2 Indian Mountai 92.17 24 *e*P **P** **06 46 33.0 +0.2**
AKASG Malin Array Be 92.91 320 P **P** **06 46 33.2 -3.0**
comp=Z,0.2nm,0.3s,mb4.0,baz=83,slow=3.5,SNR=7.6
AKASG LR LR 07 34 28.2
comp=Z,102nm,18.6s,MS4.3,baz=305,slow=40
AKASG Malin Array Be 92.91 320 P **P** **06 46 33.2 -3.0**
AKASG LR LR 07 34 28.1
PMR Palmer 94.01 29 *e*P **P** **06 46 39.6 -1.7**
PMR pmax pmax
comp=Z,53nm,2.1s,mb5.6
PMR Palmer 94.01 29 *e*P **P** **06 46 39.6 -1.7**
comp=Z,53nm,2.1s,mb5.6
MCK McKinley 94.11 26 *e*P **P** **06 46 41.6 -0.1**
MCK *e**PP pP 06 46 51.0 -1.3
MCK pmax pmax
comp=Z,13nm,1.0s,mb5.3
MCK McKinley 94.11 26 *e*P **P** **06 46 41.6 -0.2**
comp=Z,13nm,1.0s,mb5.3
MCK *e*pP pP 06 46 51.0 -1.3
SML Sawmill 94.39 28 *e*P **P** **06 46 43.3 +0.3**
SML *e**PP pP 06 46 52.7 -0.8
COLA College 94.57 25 *e*P **P** **06 46 42.9 -1.0**
COLA *e**PP pP 06 46 52.8 -1.6
COLA pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
COLA College 94.57 25 *e*P **P** **06 46 42.9 -1.0**
comp=Z,9.3nm,0.9s,mb5.2
COLA *e*pP pP 06 46 52.8 -1.6
MLR Muntele Rosu 95.00 315 PP PP 06 50 36.4 +1.2
comp=Z,4.8nm,1.1s,baz=354,slow=2.1,SNR=6.2
DIV Divide 95.64 29 *e*P **P** **06 46 49.5 +0.8**
comp=Z,155nm,1.1s
DIV *e*pP pP 06 46 59.0 -0.3
SNAA Sanae 96.12 196 *e*P **P** **06 46 50.8 -0.1**
SNAA *e**PP pP 06 47 00.9 -0.5
EGAK Eagle 97.43 25 *e*P **P** **06 46 57.0 +0.2**
comp=Z,24nm,1.1s,mb5.5
EGAK *e*pP pP 06 47 06.8 -0.6
DAWY Dawson 98.29 26 *e*P **P** **06 47 01.2 +0.5**
DAWY *e*pP pP 06 47 11.2 -0.1
INK Inuvik 99.77 21 P Pdif 06 47 07.2 -0.2
comp=Z,8.3nm,1.2s,baz=302,slow=6.1,SNR=7.0
HFS Hagfors 100.98 331 PKiKP PKiKP 06 51 40.4 +2.4
comp=Z,0.0nm,0.9s,baz=70,slow=4.9,SNR=5.2
GERES GERESS Array B 103.06 319 PKiKP PKiKP 06 51 41.4 -0.3
comp=Z,0.4nm,0.2s,baz=57,slow=4.9,SNR=4.7
TORD Torodi Ar. Bea 117.72 283 PKP PKPdf 06 52 09.8 +0.4
comp=Z,1.7nm,0.7s,baz=78,slow=1.7,SNR=11
HLID Hailey 118.28 42 *e*PKPdf PKPdf 06 52 12.2 +1.8
HRY Holter Researc 118.55 38 *e*PKPdf PKPdf 06 52 15.2 +4.3
DLMT Dillon 118.69 39 *e*PKPdf PKPdf 06 52 13.6 +2.4
EGMT Eagleton 119.14 35 *e*PKPdf PKPdf 06 52 12.2 +0.2
HVU Hansel Valley 120.11 43 *e*PKiKP PKPdf 06 52 16.0 +2.1
SHPR Sheep Range 120.38 49 *e*PKPdf PKPdf 06 52 16.7 +2.3
REDW Red Top Meadow 120.71 41 *e*PKPdf PKPdf 06 52 16.8 +1.7
DUG Dugway 120.73 45 *e*PKiKP PKPdf 06 52 17.0 +1.9
HWUT Hardware Ranch 121.01 43 *e*PKPdf PKPdf 06 52 17.4 +1.7
DAU Daniels Canyon 121.73 44 *e*PKiKP PKPdf 06 52 17.8 +0.8
BW06 Boulder Array 121.82 41 *e*PKPdf PKPdf 06 52 19.2 +2.0
PDAR Pinedale Array 121.82 41 PKP PKPdf 06 52 18.1 +0.9
comp=Z,1.9nm,1.0s,baz=333,slow=0.3,SNR=8.5
LAO LASA Array 121.89 35 *e*PKPdf PKPdf 06 52 19.4 +2.0
WUAZ Wupatki 123.60 49 *e*PKPdf PKPdf 06 52 23.3 +2.7
RSSD Black Hills 124.59 37 *e*PKiKP PKPdf 06 52 23.4 +0.9
ULM Lac du Bonnet 124.98 27 PKP PKPdf 06 52 23.3 0.0
comp=Z,4.0nm,1.0s,baz=214,slow=1.1,SNR=2.5
ISCO Idaho Springs 125.85 42 *e*PKiKP PKPdf 06 52 26.9 +2.0
SDCO Great Sand Dun 126.92 44 *e*PKPdf PKPdf 06 52 29.9 +2.9
ANMO Albuquerque 127.50 48 *e*PKPdf PKPdf 06 52 29.4 +1.3
BNM Barren Site 127.72 49 *e*PKPdf PKPdf 06 52 30.4 +1.9
MNTX Cornudas Mount 129.69 51 *e*PKPdf PKPdf 06 52 34.4 +2.1
TXAR Lajitas Array 132.00 53 PKP PKPdf 06 52 39.0 +2.4
comp=Z,1.5nm,0.9s,baz=253,slow=3.0,SNR=12
BLO Bloomington 137.64 30 *e*PKiKP PKPdf 06 52 47.9 +0.7
PLAL Pickwick Lake 139.87 36 *e*PKPdf PKPdf 06 52 52.1 +0.9
FWV Forest Hill 141.61 26 *e*PKPdf PKPdf 06 52 55.9 +1.5
LRAL Lakeview Retre 141.87 37 *e*PKPdf PKPdf 06 52 55.5 +0.6
BRAL Brewton 143.22 40 *e*PKPdf PKPdf 06 52 58.5 +1.2
GOGA Godfrey 143.62 33 *e*PKiKP PKPdf 06 52 57.5 -0.5
LHS Liberty Hill 144.16 29 *e*PKiKP PKPdf 06 52 57.9 -1.0
CNNC Cliffs of the 144.84 25 *e*PKPdf PKPdf 06 53 00.2 +0.2
NHSC New Hope 145.57 30 *e*PKPdf PKPdf 06 53 02.5 +1.2
LVC Limon Verde 152.61 163 *e*PKPab PKPab 06 53 32.9 +2.7
LPAZ La Paz 158.79 160 PKP PKPdf 06 53 22.4 +1.5
comp=Z,2.0nm,1.1s,baz=63,slow=2.3,SNR=6.4
LPAZ PKPab PKPab 06 53 59.9 +3.2
comp=Z,12nm,0.9s,baz=158,slow=1.8,SNR=16
LPAZ La Paz 158.79 160 *e*PKPdf PKPdf 06 53 23.8 +3.0
LPAZ *e*PKPab PKPab 06 53 59.8 +3.1
OTAV Otavalo 161.92 101 *e*PKPdf PKPdf 06 53 28.1 +3.7
ROSC El Rosal 166.36 85 PKP PKPdf 06 53 30.7 +2.4
comp=Z,2.4nm,0.6s,baz=105,slow=19,SNR=4.6

NEIC ***24*** *06:44:36.0±0.6, 6.15S×15151E, h10km, mb4.7/9, Error ellipse: s-maj=23.6km s-min=10.6km az=124.0*
ISCJB ***24*** *06:44:42.4±3.4, 62S±0.1×1513E±0.2, h70km±28km, mb4.2/15, Error ellipse: s-maj=29.4km s-min=16.9km az=38.2*
IDC ***24*** *06:44:43.2±3.2, 622S×15138E, h62km±26km, mb3.9/10, mb1 4.1/11, mb1mx4.0/16, mbtmp4.0/11, ML3.3/1, Error ellipse: s-maj=27.8km s-min=14.5km az=118.0*
ISC 24 06:44:42.0±2.4, 62S±01×1515E±01, h56km±20km, n26, σ0 96/25, mb4.4/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**233**	P			**Pn**	**06 45 59.5**	**+0.5**
	6.2nm,0.3s,baz=86,slow=8.3,SNR=16								
PMG				S			**Sn**	**06 46 59.8**	**+0.9**
	7.2nm,0.3s,baz=86,slow=3.4,SNR=3.7								
KAKA	**Kakadu**	**19.84**	**250**	*e*P			**Pn**	**06 49 07.8**	**-2.3**
	15nm,0.5s								
WB2	**Warramunga Arr**	**21.52**	**229**	*e*P			**P**	**06 49 23.6**	**-2.7**
WB2	**Warramunga Arr**	**21.52**	**229**	*e*P			**P**	**06 49 24.0**	**-2.3**
WRA	**Warramunga Arr**	**21.53**	**229**	P			**P**	**06 49 25.5**	**-0.9**
	5.4nm,1.1s,mb3.9,baz=57,slow=11,SNR=8.6								
WRA				S			**S**	**06 53 22.7**	**+0.8**
	2.2nm,1.3s,baz=56,slow=17,SNR=4.5								
AS31	**Alice Springs**	**24.23**	**222**	*e*P			**P**	**06 49 53.7**	**+0.2**
ASAR	**Alice Springs**	**24.23**	**222**	P			**P**	**06 49 53.5**	**0.0**
	8.4nm,0.7s,mb4.3,baz=55,slow=8.8,SNR=77								
ASPA	**Alice Springs**	**24.24**	**222**	*e*P			**P**	**06 49 53.7**	**+0.2**
STKA	**Stephens Creek**	**27.18**	**199**	*e*P			**P**	**06 50 21.0**	**+0.8**
	7.1nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**27.18**	**199**	P			**P**	**06 50 21.2**	**+1.0**
	9.1nm,0.8s,mb4.4,baz=11,slow=9.6,SNR=21								
FITZ	**Fitzroy Crossi**	**27.83**	**242**	*e*P			**P**	**06 50 26.2**	**+0.2**
	4.3nm,0.5s,mb4.3								
FITZ				*i*				06 50 33.7	
FITZ	**Fitzroy Crossi**	**27.83**	**242**	P			**P**	**06 50 26.4**	**+0.4**
	2.3nm,0.5s,mb4.1,baz=80,slow=9.7,SNR=15								
MBWA	**Marble Bar**	**34.13**	**241**	*e*P			**P**	**06 51 28.1**	**+6.7**
	14nm,0.6s,mb5.1								
SONM	**Songino Array**	**66.78**	**329**	P			**P**	**06 55 28.6**	**+1.0**
	2.4nm,0.6s,mb4.4,baz=149,slow=4.8,SNR=19								
VNDA	**Vanda**	**71.52**	**178**	P			**P**	**06 55 56.1**	**-0.8**
	1.2nm,0.8s,mb3.9,baz=326,slow=7.1,SNR=8.0								
MKAR	**Makanchi Array**	**80.48**	**319**	P			**P**	**06 56 48.6**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=104,slow=7.7,SNR=4.8								
ZAL	**Zalesovo**	**81.56**	**327**	P			**P**	**06 56 53.8**	**+0.2**
	1.2nm,0.6s,mb4.0,baz=357,slow=3.9,SNR=5.0								
MCK	**McKinley**	**82.64**	**23**	*e*P			**P**	**06 56 58.6**	**-0.6**
	7.5nm,0.9s,mb4.7								
COLA	**College**	**83.62**	**22**	*e*P			**P**	**06 57 03.4**	**-0.9**
	8.1nm,0.7s,mb5.0								
QSPA	**South Pole Qui**	**83.80**	**180**	*e*P			**P**	**06 57 05.6**	**+0.4**
	5.7nm,1.1s,mb4.6								
EGAK	**Eagle**	**86.14**	**23**	*e*P			**P**	**06 57 17.3**	**+0.3**
	12nm,1.1s,mb5.0								
BVAR	**Borovoye Array**	**89.53**	**323**	P			**P**	**06 57 32.3**	**-0.8**
	1.0nm,0.6s,mb4.3,baz=101,slow=6.3,SNR=5.4								
YKA	**Yellowknife Ar**	**97.26**	**28**	P			**P**	**06 58 10.3**	**+1.6**
	1.0nm,0.7s,mb4.3,baz=270,slow=5.0,SNR=5.3								
GERES	**GERESS Array B**	**124.50**	**327**	PKP			PKPdf	07 03 37.7	+2.8
	0.4nm,0.3s,baz=350,slow=5.4,SNR=3.6								
TOA0	**Torodi Ar. Sit**	**149.41**	**285**	*e*PKPbc			PKPbc	07 04 26.0	+1.3
TORD	**Torodi Ar. Bea**	**149.41**	**285**	PKPbc			PKPbc	07 04 25.8	+1.1
	4.7nm,0.6s,baz=63,slow=2.5,SNR=28								

IDC 24 06:48:38.1±3.0, 631S×15168E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=127.5km s-min=39.4km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**235**	P			Pn	06 50 01.6	+1.3
	0.9nm,0.3s,baz=45,slow=8.6,SNR=2.3								
PMG				S			Sn	06 51 03.6	+0.1
	4.6nm,0.3s,baz=63,slow=16,SNR=5.4								
WRA	**Warramunga Arr**	**21.62**	**230**	P			P	06 53 31.7	+2.0
	0.3nm,0.4s,baz=55,slow=9.6,SNR=4.1								
ASAR	**Alice Springs**	**24.29**	**223**	P			P	06 53 56.6	-0.4
	0.7nm,0.5s,baz=57,slow=9.3,SNR=5.3								
FITZ	**Fitzroy Crossi**	**27.97**	**243**	P			P	06 54 29.8	-0.5
	1.0nm,0.6s,baz=87,slow=17,SNR=2.9								
TORD	**Torodi Ar. Bea**	**149.67**	**285**	PKPbc			PKPbc	07 08 30.6	+1.0
	0.7nm,0.7s,baz=70,slow=2.8,SNR=4.8								

IDC 24 07:02:03.6±9.1, 598S×15112E, h74km±63km, mb3.1/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.2/4, ML2.5/1, Error ellipse: s-maj=117.0km s-min=57.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**229**	P			Pn	07 03 18.7	-0.1
	1.3nm,0.3s,baz=45,slow=19,SNR=2.7								
PMG				S			Sn	07 04 19.1	+1.7
	4.9nm,0.3s,baz=164,slow=21,SNR=7.0								
WRA	**Warramunga Arr**	**21.42**	**228**	P			P	07 06 44.2	-1.2
	0.5nm,0.8s,baz=52,slow=10,SNR=3.4								
ASAR	**Alice Springs**	**24.16**	**222**	P			P	07 07 13.1	+0.3
	0.8nm,0.5s,baz=56,slow=9.2,SNR=11								
FITZ	**Fitzroy Crossi**	**27.63**	**242**	P			P	07 07 44.4	+0.2
	0.6nm,0.6s,baz=48,slow=14,SNR=3.2								
TORD	**Torodi Ar. Bea**	**149.05**	**286**	PKPbc			PKPbc	07 21 44.4	+1.2
	0.5nm,0.7s,baz=75,slow=2.7,SNR=3.5								

IDC 24 07:03:32.0±2.8, 650S×15118E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/20, Error ellipse: s-maj=71.2km s-min=44.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.91**	**234**	Sn			Sn	07 05 43.8	-0.8
	1.2nm,0.3s,baz=18,slow=20,SNR=2.3								
PMG				LR			LR	07 06 28.8	
	comp=Z,89nm,19.0s,baz=128,slow=36								
WRA	**Warramunga Arr**	**21.11**	**229**	P			P	07 08 18.3	+0.1
	0.6nm,0.4s,baz=54,slow=9.7,SNR=7.6								
ASAR	**Alice Springs**	**23.81**	**222**	P			P	07 08 46.6	0.0
	0.5nm,0.4s,baz=54,slow=9.6,SNR=9.0								
STKA	**Stephens Creek**	**26.78**	**198**	P			P	07 09 13.9	+0.3
	0.7nm,0.4s,baz=34,slow=12,SNR=4.5								
FITZ	**Fitzroy Crossi**	**27.44**	**243**	P			P	07 09 19.9	+0.5
	1.6nm,0.5s,baz=71,slow=8.2,SNR=8.4								
TORD	**Torodi Ar. Bea**	**149.23**	**285**	PKPbc			PKPbc	07 23 23.3	+0.7
	0.2nm,0.8s,baz=108,slow=3.2,SNR=2.3								

NEIC ***24*** *07:36:36.3±1.8, 638S×15125E, h10km, mb4.2/2, Error ellipse: s-maj=43.1km s-min=27.2km az=152.0*
ISCJB ***24*** *07:36:47.0±5.2, 67S±0.4×1508E±0.3, h88km±33km, mb3.7/4, Error ellipse: s-maj=64.1km s-min=38.7km az=144.7*
IDC ***24*** *07:36:48.4±8.1, 676S×15089E, h82km±57km, mb3.6/5, mb1 3.7/6, mb1mx3.5/14, mbtmp3.6/6, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/22, Error ellipse: s-maj=55.9km s-min=43.1km az=40.0*
ISC 24 07:36:48.2±5.1, 67S±0.4×1509E±0.3, h83km±32km, n12, σ0 38/12, mb3.7/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.56**	**234**	P			**Pn**	**07 37 54.9**	**+0.1**
	1.8nm,0.3s,baz=23,slow=7.7,SNR=4.1								
PMG				S			**Sn**	**07 38 46.5**	**0.0**
	1.7nm,0.3s,baz=180,slow=20,SNR=3.5								
WRAB	**Tennant Creek**	**20.75**	**229**	*e*P			**P**	**07 41 21.8**	**-0.4**
	3.0nm,0.8s								
WB2	**Warramunga Arr**	**20.75**	**229**	*e*P			**P**	**07 41 21.9**	**-0.3**
WRA	**Warramunga Arr**	**20.76**	**229**	P			**P**	**07 41 22.0**	**-0.3**
	2.0nm,0.6s,baz=55,slow=10,SNR=13								
AS31	**Alice Springs**	**23.46**	**222**	*e*P			**P**	**07 41 50.5**	**+0.4**
ASAR	**Alice Springs**	**23.46**	**222**	P			**P**	**07 41 50.4**	**+0.1**
	1.4nm,0.4s,mb3.6,baz=56,slow=8.8,SNR=40								
ASAR				LR			LR	07 50 09.3	
	comp=Z,87nm,20.1s,baz=174,slow=34								
STKA	**Stephens Creek**	**26.48**	**198**	P			**P**	**07 42 18.3**	**+0.6**
	1.0nm,0.4s,mb3.6,baz=15,slow=11,SNR=8.9								
STKA	**Stephens Creek**	**52.15**	**198**	P			**P**	**07 42 18.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.10**	**243**	‖ *i* P			**P**	**07 42 23.3**	**+0.1**
	5.4nm,0.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**27.10**	**243**	P			**P**	**07 42 23.8**	**+0.7**
	4.0nm,0.6s,mb4.1,baz=59,slow=8.1,SNR=24								
VNDA	**Vanda**	**70.99**	**177**	P			**P**	**07 47 56.4**	**-0.5**
	0.4nm,0.8s,mb3.3,baz=333,slow=6.5,SNR=3.9								
TORD	**Torodi Ar. Bea**	**149.04**	**284**	PKPbc			PKPbc	07 56 27.4	+0.8
	0.5nm,0.6s,baz=62,slow=3.3,SNR=3.6								

IDC 24 07:49:58.1±6.8, 4689N×15573E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=267.9km s-min=27.1km az=6.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.47**	**298**	P			P	07 58 41.9	-0.5
	0.4nm,0.7s,baz=54,slow=6.2,SNR=3.6								
BVAR	**Borovoye Array**	**52.15**	**310**	P			P	07 59 10.1	-0.2
	0.7nm,0.5s,baz=66,slow=8.4,SNR=5.3								
NVAR	**Mina Array Bea**	**60.77**	**64**	P			P	08 00 12.5	+0.8
	0.4nm,0.6s,baz=313,slow=8.5,SNR=2.0								
PDAR	**Pinedale Array**	**63.20**	**55**	P			P	08 00 28.1	0.0
	0.5nm,0.8s,baz=292,slow=4.8,SNR=5.5								
TXAR	**Lajitas Array**	**75.85**	**62**	P			P	08 01 46.1	-0.1
	0.9nm,0.7s,baz=304,slow=4.7,SNR=14								

ISCJB ***24*** *08:01:13.7±2.2, 168S±02×174.1W±02, h93km±23km, mb4.2/6, Error ellipse: s-maj=43.7km s-min=18.2km az=103.1*
NEIC ***24*** *08:01:14.7±1.2, 1691S×17403W, h90km±12km, mb4.2/1, Error ellipse: s-maj=24.7km s-min=9.6km az=135.0*
IDC ***24*** *08:01:14.5±3.0, 1694S×17400W, h87km±28km, mb4.0/6, mb1 4.2/7, mb1mx3.9/16, mbtmp4.0/7, Error ellipse: s-maj=42.6km s-min=16.5km az=140.0*
ISC 24 08:01:14.7±2.0, 169S±02×1740W±02, h87km±21km, n13, σ0 29/12, mb4.2/6, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.71**	**36**	P			**Pn**	**08 02 09.7**	**0.0**
	30nm,0.3s,baz=46,slow=5.3,SNR=60								
AFI				S			**Sn**	**08 02 46.5**	**-5.8**
	69nm,0.3s,baz=302,slow=19,SNR=13								
URZ	**Urewera**	**22.62**	**198**	P			**P**	**08 06 08.1**	**-0.2**
	13nm,0.6s,mb4.5,baz=333,slow=4.2,SNR=8.6								
ARMA	**Armidale**	**34.06**	**241**	*e*P			**P**	**08 07 50.8**	**+0.2**
STKA	**Stephens Creek**	**42.77**	**241**	‖ *i* P			**P**	**08 09 04.2**	**+0.6**
	3.6nm,1.0s,mb4.1								
STKA	**Stephens Creek**	**42.77**	**241**	P			**P**	**08 09 04.0**	**+0.5**
	3.6nm,0.6s,mb4.3,baz=80,slow=8.5,SNR=16								
WRA	**Warramunga Arr**	**48.94**	**258**	P			**P**	**08 09 51.8**	**-0.2**
	1.0nm,0.4s,mb4.1,baz=96,slow=7.0,SNR=24								
AS31	**Alice Springs**	**49.09**	**253**‖ *i* P				**P**	**08 09 53.1**	**-0.1**
ASAR	**Alice Springs**	**49.09**	**253**	P			**P**	**08 09 53.1**	**-0.1**
	12nm,0.6s,mb5.0,baz=87,slow=8.6,SNR=284								
ASPA	**Alice Springs**	**49.09**	**253**‖ *i* P				**P**	**08 09 53.1**	**-0.1**
TXAR	**Lajitas Array**	**81.95**	**56**

*IDC **24** 08:20:17.7±1.8, 9 20N×12 738E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=122.4km s-min=22.1km az=72.0*

*ISCJB **24** 08:20:19.1±1.6, 9.15N±007×12 696E±008, h19km±12km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=11.3km az=118.9*

*MAN **24** 08:20:25.6, 9 06N×12 648E, h1km, mb3.1, ML4.4, MS3.6*

ISC 24 08:20:20.5±2.6, 916N±006×12687E±008, h14km±17km, n12, σ1§08/15, mb3.7/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.25**	**261**	*e*P	**Pn**	**08 20 42.1**	**-1.4**
SCPH	**Surigao**	**1.49**	**294**	*e*P	**Pn**	**08 20 48.6**	**+1.6**
SCPH				*e*S	**Sn**	**08 21 06.0**	**-0.2**
BUKP	**Musuan**	**2.20**	**235**	*e*P	**Pn**	**08 20 57.7**	**+1.1**
BUKP				*e*S	**Sn**	**08 21 23.4**	**-0.1**
MSLP	**Maasin**	**2.21**	**296**	*e*P	**Pb**	**08 21 00.6**	**+0.5**
PLP	**Palo**	**2.72**	**317**	*e*P	**Pb**	**08 21 09.8**	**+0.8**
PLP				*i* S	**Sb**	**08 21 41.1**	**-1.1**
CNP	**Catarman**	**3.97**	**327**	*e*P	**Pn**	**08 21 21.2**	**+0.2**
PVCP	**Virac**	**5.15**	**329**	*e*P	**Pb**	**08 21 47.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**27.12**	**183**	P	**P**	**08 26 03.4**	**+0.4**
	1.8nm,0.6s,mb3.8,baz=349,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**29.84**	**166**	P	**P**	**08 26 26.2**	**-1.1**
	0.5nm,0.5s,mb3.5,baz=349,slow=9.5,SNR=6.0						
ASAR	**Alice Springs**	**33.34**	**168**	P	**P**	**08 26 56.8**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=352,slow=6.6,SNR=9.2						
MKAR	**Makanchi Array**	**53.26**	**323**	P	**P**	**08 29 39.4**	**+0.7**
	0.6nm,0.5s,mb3.8,baz=123,slow=7.2,SNR=7.7						
ARCES	**ARCESS Array B**	**85.43**	**340**	P	**P**	**08 32 58.9**	**+1.2**
	0.9nm,0.7s,mb4.0,baz=62,slow=6.2,SNR=3.0						

IDC 24 09:03:00.9±8.0, 599S×15070E, h89km±56km, mb3.4/3, mb1 3.6/4, mb1mx3.3/15, mbtmp3.4/4, ML2.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=96.7km s-min=54.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88**	**226**	P	**Pn**	09 04 12.6	+0.7
	0.7nm,0.3s,baz=49,slow=11,SNR=2.2						
PMG				S	**Sn**	09 05 07.5	+0.3
	4.2nm,0.3s,baz=90,slow=21,SNR=7.5						
WB2	**Warramunga Arr**	**21.09**	**227**	*e*P	P	09 07 36.8	-1.2
WRA	**Warramunga Arr**	**21.10**	**227**	P	P	09 07 38.3	+0.2
	0.9nm,0.5s,baz=53,slow=10,SNR=24						
DZM	**Mont Dzumac**	**22.07**	**138**	LR	LR	09 13 49.3	
	comp=Z,82nm,20.1s,baz=60,slow=29						
ASAR	**Alice Springs**	**23.88**	**221**	P	P	09 08 06.4	+0.3
	1.9nm,0.7s,baz=57,slow=8.9,SNR=36						
ASPA	**Alice Springs**	**23.88**	**221**	*e*P	P	09 08 07.1	+1.0
FITZ	**Fitzroy Crossi**	**27.26**	**242**	*e*P	P	09 08 38.0	+1.3
	3.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.26**	**242**	P	P	09 08 37.7	+1.0
	1.3nm,0.6s,baz=48,slow=11,SNR=7.8						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	PKPbc	09 22 37.7	+0.1
	0.4nm,0.7s,baz=90,slow=2.9,SNR=2.7						

*ISCJB **24** 09:03:24.0±0.7, 3830N±002×2206E±003, h8km±4km, mb3.8/7, MS4.3/1, Error ellipse: s-maj=4.3km s-min=3.1km az=133.2*

*THE **24** 09:03:23.8, 3825N×2220E, h10km, ML3.7*

*IDC **24** 09:03:23.2±1.1, 3838N×2202E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, ML3.6/3, MS3.6/2, Ms1 3.6/2, ms1mx2.6/38, Error ellipse: s-maj=21.3km s-min=19.2km az=118.0*

*ATH **24** 09:03:24.5, 3832N×2204E, h17km±1km, MD3.7/18, ML3.5*

*CSEM **24** 09:03:24.8±0.1, 3833N×2208E, h2km, ML3.7, Error ellipse: s-maj=1.5km s-min=1.2km az=52.0*

*MOS **24** 09:03:26.2±0.8, 3836N×2215E, h24km, mb4.0/6, Error ellipse: s-maj=12.4km s-min=5.9km az=87.7*

*NEIC **24** 09:03:26.0, 3830N×2202E, h10km, ML3.5(ATH), ML4.1(THE), After ATH.*

*SOF **24** 09:03:26.9, 3841N×2235E, h18km, MD3.0*

*HLW **24** 09:03:50.5, 3686N×2405E, h22km, Mb3.5*

ISC 24 09:03:24.6±0.6, 3829N±002×2208E±003, h4km±4km, n88, σ1§26/111, mb3.8/7, MS4.3/1, 1C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**244**	*e*PN	**Pg**	**09 03 34.8**	**-0.1**
RLS				*e*SN	**Sg**	**09 03 42.7**	**+0.9**
EVR	**Evrytania**	**0.66**	**341**	*e*PB	**Pb**	**09 03 36.4**	**-2.3**
EVR				*e*SN	**Sg**	**09 03 45.3**	**-0.5**
AGG	**Agios Georgios**	**0.76**	**15**	*e*Pg	**Pg**	**09 03 38.2**	**-0.9**
AGG				*e*Sg	**Sg**	**09 03 49.4**	**+0.5**
LKR	**Lokris**	**0.81**	**63**	*e*PB	**Pb**	**09 03 39.8**	**-1.4**
LKR				*e*SN	**Sg**	**09 03 52.1**	**+1.5**
ITM	**Ithomi**	**1.12**	**186**	*e*PN	**Pn**	**09 03 45.8**	**-1.2**
ITM				*e*SN	**Sn**	**09 04 01.5**	**-1.3**
LKD	**Levkas**	**1.19**	**291**	*e*Pg	**Pg**	**09 03 45.9**	**-1.5**
LKD				*e*Sg	**Sg**	**09 04 08.3**	**+5.4**
NAIG	**Nisos Aigina**	**1.23**	**115**	*e*PN	**Pn**	**09 03 49.0**	**+0.4**
THL	**Klokotos Trika**	**1.27**	**358**	*e*PN	**Pn**	**09 03 48.3**	**-0.8**
THL				*e*SN	**Sn**	**09 04 04.7**	**-2.0**
ATH	**Athens Observa**	**1.33**	**103**	*e*PN	**Pn**	**09 03 50.6**	**+0.6**
ATH				*e*SN	**Sn**	**09 04 08.8**	**+0.7**
XOR	**Xorichti**	**1.38**	**39**	*e*Pg	**Pg**	**09 03 50.0**	**-1.1**
KVR	**Kavouri**	**1.41**	**109**	*e*PN	**Pn**	**09 03 51.5**	**+0.4**
PTL	**Penteli**	**1.43**	**99**	*e*PN	**Pn**	**09 03 52.0**	**+0.7**
MEV	**Metsovon**	**1.63**	**336**	*e*Pb	**Pb**	**09 03 54.2**	**-1.0**
JAN	**Janina**	**1.67**	**325**	*e*PN	**Pn**	**09 03 55.0**	**+0.4**
JAN				*e*SN	**Sn**	**09 04 15.8**	**-0.6**
VLI	**Veliai**	**1.71**	**156**	⇑*i*PN	**Pn**	**09 03 56.0**	**+0.8**
VLI				*e*SN	**Sn**	**09 04 19.2**	**+1.7**
LIT	**Litokhoron**	**1.83**	**10**	*e*Pb	**Pb**	**09 03 56.3**	**-2.4**
KZN	**Kozani**	**2.03**	**353**	*e*PN	**Pn**	**09 04 00.5**	**+1.0**
KZN				*e*SN	**Sn**	**09 04 26.0**	**+0.7**
KYTH	**Kithira**	**2.15**	**159**	*e*PN	**Pn**	**09 04 03.0**	**+1.8**
LSK	**Leskovik**	**2.18**	**329**	*i* Pn	**Pn**	**09 04 04.5**	**+2.8**
KEK	**Kerkira**	**2.27**	**309**	*e*PN	**Pn**	**09 04 04.1**	**+1.2**
KEK				*e*SN	**Sn**	**09 04 31.0**	**-0.4**
PLG	**Polygyros**	**2.33**	**27**	*e*Pn	**Pn**	**09 04 02.8**	**-1.0**
PLG	**Polygyros**	**2.33**	**27**	*e*PN	**Pn**	**09 04 03.0**	**-0.8**
PLG				*e*SN	**Sn**	**09 04 32.6**	**-0.3**
HORT	**Hortiatis**	**2.44**	**19**	*e*Pn	**Pn**	**09 04 04.2**	**-0.9**
GRG	**Griva**	**2.67**	**5**	*e*Pn	**Pn**	**09 04 08.1**	**-0.3**
SOH	**Sokhos**	**2.71**	**21**	*e*Pn	**Pn**	**09 04 08.7**	**-0.2**
BIA	**Bitola**	**2.79**	**348**	*i* Pn	**Pn**	**09 04 11.7**	**+1.7**
BIA				*i* Sn	**Sn**	**09 04 46.1**	**+2.1**
BIA	**Bitola**	**2.79**	**348**	*i* Pn	**Pn**	**09 04 11.6**	**+1.6**
BIA				*i* Sn	**Sn**	**09 04 46.1**	**+2.1**
LIA	**Limnos Island**	**2.90**	**55**	*e*PN	**Pn**	**09 04 11.5**	**0.0**
KNT	**Kendrikon**	**2.94**	**12**	*e*Pn	**Pn**	**09 04 11.9**	**-0.1**
OHR	**Ohrid**	**2.98**	**341**	*e*Pn	**Pn**	**09 04 14.3**	**+1.6**
OHR	**Ohrid**	**2.98**	**341**	*i* Pn	**Pn**	**09 04 14.2**	**+1.5**
OHR				*i* Sn	**Sn**	**09 04 52.5**	**+3.6**
OHR	**Ohrid**	**2.98**	**341**	*e*Pn	**Pn**	**09 04 14.3**	**+1.6**
OHR				*i* Sn	**Sn**	**09 04 52.4**	**+3.5**
APE	**Apeiranthos**	**3.00**	**113**	⇓*i*P	**Pn**	**09 04 14.4**	**+1.5**
VAY	**Valandovo**	**3.05**	**7**	*e*Pn	**Pn**	**09 04 12.6**	**-1.0**
VAY	**Valandovo**	**3.05**	**7**	*i* Pn	**Pn**	**09 04 13.1**	**-0.5**
VAY				*i* Sn	**Sn**	**09 04 50.3**	**-0.2**
VAY	**Valandovo**	**3.05**	**7**	*i* Pn	**Pn**	**09 04 13.0**	**-0.6**
VAY				*i* Sn	**Sn**	**09 04 50.3**	**-0.2**
SRS	**Serrai**	**3.05**	**22**	*e*Pn	**Pn**	**09 04 13.2**	**-0.4**
KRUS	**Krusevo**	**3.14**	**349**	*i* Pn	**Pn**	**09 04 17.1**	**+2.3**
NVR	**Nevrokopi**	**3.35**	**24**	*e*PN	**Pn**	**09 04 18.9**	**+1.2**
STIP	**Stip**	**3.40**	**1**	*i* Pn	**Pn**	**09 04 19.0**	**+0.6**
STIP	**Stip**	**3.40**	**1**	*i* Pn	**Pn**	**09 04 18.9**	**+0.5**
MMB	**Musomiste**	**3.53**	**21**	*i* P	**Pn**	**09 04 19.3**	**-0.9**
KKB	**Krupnik**	**3.65**	**12**	*i* P	**Pn**	**09 04 21.5**	**-0.4**
IDI	**Anoyia**	**3.75**	**142**	Pn	**Pn**	**09 04 23.5**	**+0.2**
	3.4nm,0.3s,baz=303,slow=15,SNR=15						
IDI				Sn	**Sn**	**09 05 07.5**	**-0.4**
	6.2nm,0.3s,baz=46,slow=19,SNR=3.5						
IDI	**Anoyia**	**3.75**	**142**	Pn	**Pn**	**09 04 23.5**	**+0.2**
IDI				Sn	**Sn**	**09 05 07.4**	**-0.5**
SMG	**Samos**	**3.80**	**97**	P	**Pn**	**09 04 25.9**	**+1.9**
RDO	**Rodhopi**	**3.91**	**42**	*e*PN	**Pn**	**09 04 26.8**	**+1.5**
RZN	**Rozhen**	**3.95**	**30**	*e*P	**Pn**	**09 04 27.5**	**+1.5**
KDZ	**Kurdzhali**	**4.22**	**36**	*e*P	**Pn**	**09 04 27.9**	**-1.8**
TIP	**Timpagrande**	**4.25**	**284**	P	**Pn**	**09 04 31.3**	**+1.2**
VTS	**Vitosha**	**4.38**	**11**	*i* P	**Pn**	**09 04 32.9**	**+1.0**
VTS				*i* S	**Sn**	**09 05 22.0**	**-1.4**
VTS	**Vitosha**	**4.38**	**11**	⇓*i*P	**Pn**	**09 04 31.7**	**-0.2**
VTS	**Vitosha**	**4.38**	**11**	*e*Pn	**Pn**	**09 04 31.7**	**-0.2**
SG1	**Sgolgore (BA)**	**4.89**	**303**	*e*Pn	**Pn**	**09 04 39.0**	**+0.2**
CDT	**Castel del Mon**	**5.27**	**304**	*e*Pn	**Pn**	**09 04 44.4**	**+0.2**
SGO	**Sicignano**	**5.71**	**295**	Pn	**Pn**	**09 04 51.4**	**+1.2**
FGMS	**Monte Sant'Ang**	**5.81**	**308**	Pn	**Pn**	**09 04 51.9**	**+0.4**
BBLS	**Bajina Basta -**	**5.92**	**341**	*i* Pn	**Pn**	**09 04 54.8**	**+1.7**
BBLS				Sn	**Sn**	**09 06 01.7**	**+0.3**
DIVS	**Divcibare**	**6.01**	**345**	*i* Pn	**Pn**	**09 04 55.8**	**+1.5**
DIVS				Sn	**Sn**	**09 06 03.6**	**+0.1**
SDI	**San Donato**	**7.21**	**301**	Pn	**Pn**	**09 05 12.8**	**+2.1**
MLR	**Muntele Rosu**	**7.75**	**21**	Pn	**Pn**	**09 05 19.1**	**+0.9**
	0.6nm,0.3s,baz=184,slow=11,SNR=4.1						
MLR				LR	LR	09 08 25.2	
	comp=Z,90nm,19.4s,baz=60,slow=39						
MLR	**Muntele Rosu**	**7.75**	**21**	⇓*i*P	**Pn**	**09 05 19.1**	**+0.9**
MLR	**Muntele Rosu**	**7.75**	**21**	P	**Pn**	**09 05 19.1**	**+0.9**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,90nm,19.4s						
BRTR	**Keskin Array B**	**9.11**	**77**	Pn	**Pn**	**09 05 37.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=271,slow=12,SNR=3.9						
SWA2		**9.45**	**162**	⇓P	**Pn**	**09 05 40.3**	**-1.2**
SWA2				S	Sn	09 07 01.3	-27
SWA1		**9.50**	**160**	P	**Pn**	**09 05 41.2**	**-0.9**
VYHS	**Vyhne**	**10.47**	**348**	*e*SN	**Sn**	**09 07 49.7**	**-3.4**
HFRF	**Wahat Farafira**	**12.28**	**153**	⇓P	**Pn**	**09 06 18.1**	**-2.2**
AKASG	**Malin Array Be**	**13.40**	**20**	Pn	**Pn**	**09 06 37.3**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=209,slow=13,SNR=2.1						
AKASG	**Malin Array Be**	**13.40**	**20**	P	**Pn**	**09 06 37.3**	**+1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HDK1	**Dakhla**	**14.14**	**152**	P	**Pn**	**09 06 43.0**	**-2.7**
AKRG	**Al Kharijah**	**14.61**	**148**	P	**Pn**	**09 06 48.7**	**-3.3**
ESDC	**Sonseca Array**	**20.27**	**282**	P	**P**	**09 07 59.7**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=78,slow=11,SNR=5.8						
HFS	**Hagfors**	**22.50**	**349**	P	**P**	**09 08 21.6**	**-3.5**
	comp=Z,1.5nm,0.4s,mb3.8,baz=134,slow=11,SNR=7.0						
HFS	**Hagfors**	**22.50**	**349**	P	**P**	**09 08 21.6**	**-3.5**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**23.31**	**5**	P	**P**	**09 08 31.0**	**-2.6**
	comp=Z,3.4nm,1.1s,mb3.7,baz=190,slow=7.1,SNR=3.4						
FINES	**FINESS Array B**	**23.31**	**5**	P	**P**	**09 08 31.0**	**-2.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NB2	**NORSAR Subarra**	**23.77**	**347**	P	**P**	**09 08 36.2**	**-2.0**
	comp=Z,2.4nm,0.8s,mb3.7,baz=170,slow=12						
NOA	**NORSAR Array B**	**23.77**	**347**	P	**P**	**09 08 35.5**	**-2.7**
	comp=Z,2.2nm,0.8s,mb3.6,baz=172,slow=12,SNR=4.2						
NOA	**NORSAR Array B**	**23.77**	**347**	P	**P**	**09 08 35.5**	**-2.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.06**	**323**	P	**P**	**09 08 40.0**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.1,baz=121,slow=10,SNR=9.1						
EKA	**Eskdalemuir Ar**	**24.06**	**323**	P	**P**	**09 08 40.0**	**-0.8**
EKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.91**	**221**	P	**P**	**09 09 42.2**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=30,slow=8.7,SNR=7.4						
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**09 11 33.5**	**-1.2**
	comp=Z,1.2nm,0.4s,mb4.0,baz=278,slow=7.1,SNR=8.5						
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**09 11 33.5**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**59.44**	**51**	P	**P**	**09 13 26.8**	**-1.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=281,slow=7.8,SNR=2.0						
SONM	**Songino Array**	**59.44**	**51**	P	**P**	**09 13 26.8**	**-1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS	**Korea Array**	**78.31**	**51**	LR	LR	09 51 16.9	
	comp=Z,121nm,18.1s,MS4.3,baz=252,slow=37						

RSPR 24 09:11:59.5, 1959N×6431W, h3km±27km, MD3.6/3, MD3.6/3, 3C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.90**	**218**	⇑*e*P	**Pn**	09 12 29.0	-3.7
MTP	**Monte Pirata**	**1.90**	**218**	*e*S	**Sn**	09 12 53.8	-3.4
HUMP	**Col San Antoni**	**2.05**	**225**	⇑*e*P	**Pn**	09 12 32.2	-2.7
HUMP	**Col San Antoni**	**2.05**	**225**	*e*S	**Sn**	09 12 57.6	-3.4
AOPR	**Arecibo Observ**	**2.62**	**242**	⇑*e*P	**Pn**	09 12 40.7	-2.0
AOPR	**Arecibo Observ**	**2.62**	**242**	*e*S	**Sn**	09 13 11.3	-3.8

IDC 24 09:24:17.2±1.0, 4647N×15489E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=34.4km s-min=21.0km az=165.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.98**	**259**	Pn	**Pn**	09 26 28.1	0.0
	0.3nm,0.3s,baz=61,slow=19,SNR=2.8						
KSRS	**Korea Array**	**21.90**	**255**	P	P	09 29 15.2	+3.4
	1.9nm,0.8s,baz=57,slow=11,SNR=5.1						
SONM	**Songino Array**	**32.58**	**290**	P	P	09 30 49.5	-0.8
	0.3nm,0.7s,baz=67,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	09 32 58.5	-0.6
	0.7nm,0.8s,baz=59,slow=7.8,SNR=4.5						
YKA	**Yellowknife Ar**	**50.42**	**37**	P	P	09 33 16.2	-0.2
	1.0nm,0.7s,baz=294,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**61.47**	**63**	P	P	09 34 36.2	+0.6
	0.5nm,0.7s,baz=295,slow=8.6,SNR=3.4						
PDAR	**Pinedale Array**	**63.92**	**55**	P	P	09 34 51.5	-0.4
	0.5nm,0.8s,baz=333,slow=1.7,SNR=4.3						
FINES	**FINESS Array B**	**64.81**	**336**	P	P	09 34 58.0	+0.3
	0.8nm,0.6s,baz=35,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**72.34**	**200**	P	P	09 35 45.1	+0.3
	0.3nm,0.8s,baz=14,slow=5.3,SNR=5.4						
TXAR	**Lajitas Array**	**76.56**	**62**	P	P	09 36 09.0	-0.4
	0.6nm,0.8s,baz=290,slow=4.4,SNR=8.5						

IDC 24 09:25:01.0±8.9, 680S×15157E, h64km±64km, mb3.4/4, mb1 3.6/5, mb1mx3.3/15, mbtmp3.5/5, ML2.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/22, Error ellipse: s-maj=58.2km s-min=51.8km az=58.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**239**	P	Pn	09 26 14.5	0.0
	0.5nm,0.3s,baz=210,slow=20,SNR=3.3						
PMG				S	Sn	09 27 12.9	+1.1
	0.8nm,0.3s,baz=152,slow=17,SNR=2.8						
HNR	**Honiara**	**8.69**	**108**	LR	LR	09 29 26.9	
	comp=Z,36nm,22.0s,baz=359,slow=31						
KAKA	**Kakadu**	**19.74**	**251**	*e*P	Pn	09 29 34.3	+6.8
	5.0nm,0.6s						
WB2	**Warramunga Arr**	**21.21**	**230**	*e*P	P	09 29 45.7	+4.3
WRA	**Warramunga Arr**	**21.22**	**230**	P	P	09 29 41.7	+0.2
	0.9nm,0.7s,baz=56,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.86**	**223**	P	P	09 30 09.4	+1.0
	1.1nm,0.7s,baz=63,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**26.63**	**199**	*e*P	pP	09 30 45.7	-3.2
	1.5nm,0.6s						
STKA	**Stephens Creek**	**26.63**	**199**	P	P	09 30 33.6	+0.1
	1.2nm,1.0s,baz=11,slow=11,SNR=1.6						
FITZ	**Fitzroy Crossi**	**27.66**	**244**	*e*P	P	09 30 43.4	+0.7
	5.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.66**	**244**	P	P	09 30 42.5	-0.3
	2.5nm,0.8s,baz=51,slow=5.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.69**	**284**	PKPbc	PKPbc	09 44 44.3	+0.9
	0.7nm,0.7s,baz=92,slow=2.4,SNR=4.4						

IDC 24 09:25:43.6±0.9, 4632N×15498E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/23, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=34.4km s-min=19.3km az=158.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.01**	**260**	Pn	Pn	09 27 56.0	+1.1
	1.0nm,0.3s,baz=93,slow=25,SNR=5.7						
KSRS	**Korea Array**	**21.92**	**256**	P	P	09 30 39.5	+1.1
	2.5nm,0.8s,baz=56,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**48.28**	**299**	P	P	09 34 24.7	-1.8
	1.1nm,0.7s,baz=64,slow=6.1,SNR=7.7						
YKA	**Yellowknife Ar**	**50.50**	**37**	P	P	09 34 43.0	-0.4
	1.1nm,0.7s,baz=296,slow=7.1,SNR=4.1						
NVAR	**Mina Array Bea**	**61.49**	**63**	P	P	09 36 02.5	+0.4
	0.5nm,0.6s,baz=289,slow=9.1,SNR=3.8						
PDAR	**Pinedale Array**	**63.96**	**55**	P	P	09 36 18.7	+0.1
	0.4nm,0.8s,baz=276,slow=2.6,SNR=4.0						
FINES	**FINESS Array B**	**64.98**	**336**	P	P	09 36 25.6	+0.3
	3.0nm,0.9s,baz=36,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**72.22**	**200**	P	P	09 37 10.2	-0.3
	0.5nm,0.8s,baz=13,slow=4.9,SNR=6.5						
TXAR	**Lajitas Array**	**76.58**	**62**	P	P	09 37 35.8	0.0
	0.9nm,0.8s,baz=294,slow=4.3,SNR=9.4						

IDC 24 09:28:38.5±8.4, 652S×15118E, h74km±60km, mb3.3/4, mb1 3.5/5, mb1mx3.3/14, mbtmp3.3/5, ML2.1/1, Error ellipse: s-maj=57.7km s-min=50.3km az=73.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.91**	**234**	P	Pn	09 29 49.9	+0.2
	0.5nm,0.3s,baz=220,slow=7.9,SNR=2.0						
PMG				S	Sn	09 30 46.7	+1.4
	0.8nm,0.3s,baz=78,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**21.11**	**229**	P	P	09 33 16.8	-0.2
	0.6nm,0.6s,baz=50,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**23.80**	**222**	P	P	09 33 45.1	+0.7
	0.8nm,0.7s,baz=56,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**26.77**	**198**	P	P	09 34 10.0	-1.3
	1.2nm,0.9s,baz=26,slow=13,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.44**	**243**	P	P	09 34 18.2	+0.9
	2.5nm,0.9s,baz=78,slow=10.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.24**	**285**	PKPbc	PKPbc	09 48 20.0	+1.4
	0.3nm,0.6s,baz=63,slow=3.5,SNR=3.3						

IDC 24 09:31:14.2±18.0, 2381S×17955E, h614km±113km, mb3.0/4, mb1 3.2/5, mb1mx2.9/13, mbtmp3.0/5, Error ellipse: s-maj=296.7km s-min=25.7km az=44.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.56**	**188**	P	P	09 34 17.7	+0.1
	0.5nm,0.3s,baz=344,slow=7.4,SNR=6.2						
CTA	**Charters Tower**	**31.06**	**270**	P	P	09 36 44.4	+0.3
	5.9nm,0.3s,baz=104,slow=8.3,SNR=17						
ASAR	**Alice Springs**	**41.64**	**261**	P	P	09 38 11.3	+0.7
	0.5nm,0.5s,baz=95,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**42.00**	**266**	P	P	09 38 13.2	-0.1
	0.7nm,0.3s,baz=104,slow=5.5,SNR=70						
VNDA	**Vanda**	**54.44**	**185**	P	P	09 39 44.7	-0.6
	0.4nm,0.4s,baz=12,slow=7.4,SNR=5.6						

*IDC **24** 09:32:10.9±3.0, 4675N×15509E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/23, mbtmp3.9/9, Error ellipse: s-maj=81.5km s-min=22.3km az=175.0*

*ISCJB **24** 09:32:11.2±2.7, 4694N±005×15505E±02, h10km, mb4.0/10, Error ellipse: s-maj=73.6km s-min=18.6km az=168.6*

*NEIC **24** 09:32:12.6±2.0, 4679N×15507E, h10km, mb4.7/1, Error ellipse: s-maj=55.1km s-min=13.8km az=174.0*

ISC 24 09:32:13.2±2.7, 470N±005×1551E±02, h10km, n11, σ0§51/11, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.52**	**290**	P	**P**	**09 38 44.4**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=62,slow=6.7,SNR=3.5						
INK	**Inuvik**	**40.76**	**33**	P	**P**	**09 39 54.5**	**+0.2**
	1.6nm,0.6s,mb3.9,baz=266,slow=6.0,SNR=13						
ZAL	**Zalesovo**	**43.59**	**306**	P	**P**	**09 40 16.1**	**-1.3**
	1.0nm,0.4s,mb3.9,baz=321,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**09 40 52.3**	**-0.2**
	1.1nm,0.8s,mb4.0,baz=67,slow=5.2,SNR=4.6						
YKA	**

mb4.7/69,MS3.9/26,Error ellipse: s-maj=8.8km s-min=4.3km az=136.3

IDC ***24*** *09:35:11.2±0.5,4658N×15369E,h0km,mb4.4/22, mb1 4.5/23,mb1mx4.5/27,mbtmp4.4/23,ML3.9/1,MS3.8/17, Ms1 3.8/17,ms1mx3.5/45,Error ellipse: s-maj=16.0km s-min=13.1km az=139.0*

BJI ***24*** *09:35:12.4,4738N×15396E,h14km,mB4.9,mb4.3,Ms4.4, Msz4.1*

NEIC ***24*** *09:35:13.2±0.2,4657N×15365E,h10km,mb4.8/36,Error ellipse: s-maj=7.0km s-min=4.4km az=152.0*

SKHL ***24*** *09:35:14.5±1.0,4655N×15379E,h54km±13km,Ms4.5/3, msh5.9/1*

MOS ***24*** *09:35:16.8±1.4,4655N×15359E,h53km,mb4.8/35,Error ellipse: s-maj=8.6km s-min=7.7km az=76.9*

ISC 24 09:35:15.0±1.4,**4669N**±005×**15372E**±005,**h19**km±8km, **h23**km±3.7km:**pP-P,n195,**σ1§**11**/200,**mb4.7**/69,**MS3.9**/26, **7C-13D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.30**	**21**	*e*P	**Pn**	**09 36 19.0**	**-0.4**
SKR					AMB AMB	09 36 25.5	
	230nm,0.9s						
SKR				*e*S	**Sn**	**09 37 08.0**	**-1.1**
SKR				A		09 37 28.5	
	460nm,0.9s						
SKR				A		09 37 28.5	
	330nm,0.9s						
SKR				A		09 37 28.5	
	170nm,0.9s						
KUR	**Kuril'sk**	**4.33**	**253**	⇑*i*P	**Pn**	**09 36 17.4**	**-2.4**
KUR					AMB AMB	09 36 19.3	
	258nm,0.6s						
KUR					AMB AMB	09 36 19.3	
	198nm,0.6s						
KUR					AMB AMB	09 36 19.3	
	570nm,0.6s						
KUR					AMB AMB	09 36 29.0	
	2μm,1.6s						
KUR				*i* S	**Sn**	**09 37 05.0**	**-4.8**
KUR				A		09 37 10.0	
	4μm,2.0s						
KUR				A		09 37 10.0	
	7μm,2.0s						
KUR				A		09 37 15.4	
	2μm,0.7s						
KUR				A		09 37 15.4	
	516nm,0.7s						
KUR					AMS AMS	09 38 16.0	
	5μm,11.0s						
KUR					AMS AMS	09 38 16.0	
	5μm,11.0s						
KUR	**Kuril'sk**	**4.33**	**253**	⇑*i*PN	**Pn**	**09 36 17.4**	**-2.4**
KUR				*i* S	**Sn**	**09 37 05.0**	**-4.8**
KUR				pmax	pmax		
	comp=N,260nm,0.6s						
KUR				pmax	pmax		
	comp=E,200nm,0.6s						
KUR				pmax	pmax		
	comp=Z,570nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR				smax			
	comp=N,4μm,2.0s						
KUR				smax			
	comp=E,7μm,2.0s						
KUR				smax			
	comp=N,2μm,0.7s						
KUR				smax			
	comp=E,520nm,0.7s						
KUR				MLR	MLR		
	comp=N,5μm,11.0s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**6.14**	**247**	*e*P	**Pn**	**09 36 44.8**	**+0.2**
YUK					AMB AMB	09 36 47.0	
	comp=Z,190nm,0.5s						
YUK					AMB AMB	09 36 47.0	
	comp=Z,380nm,0.5s						
YUK					AMB AMB	09 36 51.5	
	comp=Z,5μm,1.0s						
YUK				*i* S	**Sn**	**09 37 52.6**	**-1.7**
YUK				A		09 37 54.9	
	comp=Z,2μm,0.8s						
YUK				A		09 37 54.9	
	comp=Z,290nm,0.5s						
YUK				A		09 38 11.9	
	comp=Z,8μm,2.0s						
YUK				A		09 38 11.9	
	comp=Z,5μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.14**	**247**	*e*PN	**Pn**	**09 36 44.8**	**+0.2**
YUK				*i* S	**Sn**	**09 37 52.6**	**-1.7**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				smax			
	comp=N,200nm,0.8s						
YUK				smax			
	comp=E,290nm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,8μm,2.0s						
PET	**Petropavlovsk**	**7.10**	**25**	*e*PN	**Pn**	**09 36 57.4**	**-0.4**
PET				pmax	pmax		
	comp=Z,29nm,0.6s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
PET	**Petropavlovsk**	**7.10**	**25**	*e*Pn	**Pn**	**09 36 53.3**	**-4.5**
PET				*e*Sn	**Sn**	**09 38 17.2**	**-0.7**
YSS	**Yuzh-Sakhalins**	**7.53**	**276**	*e*P	**Pn**	**09 37 08.0**	**+4.3**
YSS					AMB AMB	09 37 12.0	
	comp=Z,30nm,0.9s						
YSS				*e*S	**Sn**	**09 38 32.0**	**+3.5**
YSS				A		09 38 36.0	
	comp=Z,50nm,0.9s						
YSS				*e*LQ		09 38 39.0	
YSS				AMS	AMS	09 40 10.0	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	09 40 10.0	
	comp=Z,800nm,14.0s						
YSS				AMS	AMS	09 40 10.0	
	comp=Z,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.53**	**276**	*e*Pn	**Pn**	**09 37 06.3**	**+2.6**
	comp=Z,39nm,0.7s						
UGL	**Uglegorsk**	**8.19**	**291**	*e*P	**Pn**	**09 37 20.0**	**+7.2**
UGL					AMB AMB	09 37 22.0	
	comp=Z,48nm,0.8s						
UGL					AMS AMS	09 41 00.0	
	comp=Z,3μm,13.0s						
UGL					AMS AMS	09 41 00.0	
	comp=Z,2μm,13.0s						
UGL					AMS AMS	09 41 00.0	
	comp=Z,2μm,13.0s						
ASAJ	**Asahikawa**	**8.24**	**256**	Pn	**Pn**	**09 37 15.6**	**+2.2**
	comp=Z,4.9nm,0.3s,baz=95,slow=15,SNR=28						
ASAJ				Sn	**Sn**	**09 38 55.8**	**+10**
	comp=Z,0.3nm,0.3s,baz=96,slow=28,SNR=1.5						
ASAJ				LR	LR	09 40 05.4	
	comp=Z,454nm,20.9s,baz=197,slow=36						
ASAJ	**Asahikawa**	**8.24**	**256**	PN	**Pn**	**09 37 15.6**	**+2.2**
ASAJ						09 38 55.8	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,454nm,20.9s						
TYV	**Tymovskoe**	**8.42**	**304**	*e*P	**Pn**	**09 37 20.8**	**+4.9**
TYV					AMB AMB	09 37 40.2	
	comp=Z,31nm,1.0s						
TYV					AMB AMB	09 37 40.2	
	comp=Z,69nm,1.0s						
TYV					AMS AMS	09 41 10.0	
	comp=Z,2μm,14.0s						
TYV					AMS AMS	09 41 10.0	
	comp=Z,3μm,12.0s						
ERM	**Erimo**	**8.89**	**242**	*e*PN	**Pn**	**09 37 21.3**	**-1.1**
ERM				pmax	pmax		
	comp=Z,97nm,0.8s						
ERM	**Erimo**	**8.89**	**242**	*e*Pn	**Pn**	**09 37 21.3**	**-1.1**
	comp=Z,97nm,0.8s						
ERM				*e*Sn	**Sn**	**09 38 54.5**	**-7.5**
KLR	**Kul'dur**	**14.93**	**288**	*e*P	**Pn**	**09 38 47.3**	**+2.3**
KLR					MLR MLR		
	comp=N,600nm,12.5s						
KLR					MLR MLR		
	comp=E,500nm,12.5s						
KLR					MLR MLR		
	comp=Z,2μm,12.5s						
MAJO	**Matsushiro**	**15.38**	**234**	*e*P	**Pn**	**09 38 48.0**	**-2.9**
MAT	**Matsushiro**	**15.38**	**234**	P	**Pn**	**09 38 44.8**	**-6.1**
MJAR	**Matsushiro Arr**	**15.38**	**234**	Pn	**Pn**	**09 38 47.3**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=35,slow=13,SNR=9.2						
MJAR					LR LR	09 44 59.3	
	comp=Z,319nm,18.9s,baz=40,slow=38						
MJAR	**Matsushiro Arr**	**15.38**	**234**	P	**Pn**	**09 38 47.3**	**-3.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR					MLR MLR		
	comp=Z,319nm,19.0s						
MDJ	**Mudanjiang**	**16.98**	**272**	P	**Pn**	**09 39 10.8**	**-0.6**
MDJ				AP	pP	09 39 15.6	-3.0
MDJ				XP	sP	09 39 17.3	-3.7
MDJ				S	**Sn**	**09 42 19.9**	**+0.3**
MDJ				XS	sS	09 42 34.8	-3.1
MDJ				SCP	ScP	09 47 32.0	+1.2
MDJ				PCS	PcS	09 47 33.3	+0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,70nm,4.0s						
MDJ				LR	LR		
	comp=N,301nm,15.2s						
MDJ				LR	LR		
	comp=E,218nm,20.0s						
MDJ				LR	LR		
	comp=Z,357nm,15.7s						
MDJ	**Mudanjiang**	**16.98**	**272**	*e*P	**Pn**	**09 39 13.5**	**+2.1**
	comp=Z,18nm,0.9s						
JHJ	**Hachijo jima 2**	**17.22**	**223**	LR	LR	09 45 52.3	
	comp=Z,182nm,19.8s,baz=30,slow=38						
CN2	**Changchun**	**20.07**	**272**	*e*P	**P**	**09 39 47.1**	**-0.1**
CN2				*e*S	**S**	**09 43 26.3**	**-5.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s,MS4.1						
CN2				LR	LR		
	comp=E,400nm,12.0s,MS4.1						
CN2				LR	LR		
	comp=Z,400nm,13.0s,MS4.0						
YAK	**Yakutsk**	**20.60**	**327**	⇓*e*P	**P**	**09 39 51.9**	**-1.0**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**20.60**	**327**	*e*P	**P**	**09 39 52.7**	**-0.2**
	comp=Z,10nm,0.5s						
KSRS	**Korea Array**	**21.18**	**253**	P	**P**	**09 39 58.9**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.0,baz=59,slow=10,SNR=17						
CBIJ	**Chichi jima**	**21.58**	**209**	LR	LR	09 47 20.0	
	comp=Z,88nm,20.6s,MS3.1,baz=94,slow=34						
JNU	**Nakatsue**	**22.05**	**240**	LR	LR	09 48 07.3	
	comp=Z,811nm,21.0s,MS4.1,baz=106,slow=35						
SNY	**Shenyang**	**22.05**	**268**	⇑P	**P**	**09 40 09.3**	**+0.8**
SNY				AP		09 40 14.3	
SNY				XP	sP	09 40 17.3	+0.9
SNY				PP		09 40 36.3	
SNY				S	**S**	**09 44 08.8**	**-2.1**
SNY				XS	sS	09 44 17.9	-1.8
SNY				SS		09 44 49.9	
SNY				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.5						
SNY				AMB	AMB		
	comp=Z,106nm,3.7s						
SNY				LR	LR		
	comp=N,377nm,12.0s,MS4.2						
SNY				LR	LR		
	comp=E,512nm,14.9s,MS4.2						
SNY				LR	LR		
	comp=Z,461nm,11.6s,MS4.1						
BILL	**Bilibino**	**22.36**	**12**	⇓*e*P	**P**	**09 40 10.0**	**-1.8**
BILL				*e*S	**S**	**09 44 07.1**	**-10**
BILL				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,400nm,21.0s,MS3.8						
BILL	**Bilibino**	**22.36**	**12**	*e*P	**P**	**09 40 12.0**	**+0.2**
	comp=Z,21nm,1.0s,mb4.5						
HIA	**Hailar**	**22.78**	**289**	⇓*e*P	**P**	**09 40 16.0**	**-0.3**
BJI	**Beijing**	**27.89**	**270**	P	**P**	**09 41 03.9**	**+0.3**
BJI				S	**S**	**09 45 46.3**	**+0.1**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.2						
BJI				AMB	AMB		
	comp=Z,133nm,4.9s						
BJI				LR	LR		
	comp=N,298nm,14.8s,MS4.2						
BJI				LR	LR		
	comp=E,351nm,15.4s,MS4.2						
BJI				LR	LR		
	comp=Z,170nm,19.9s,MS3.6						
BJI	**Beijing**	**27.89**	**270**	P	**P**	**09 41 03.9**	**+0.3**
	comp=Z,3.0nm,0.5s,mb4.2						
BJI				S	**S**	**09 45 46.3**	**+0.1**
BJI				LR	LR		
	comp=Z,170nm,19.9s,MS3.6						
SSE	**Sheshan**	**29.47**	**250**	P	**P**	**09 41 22.6**	**+5.0**
SSE				AP	pP	09 41 25.5	+2.1
SSE				S	**S**	**09 46 21.1**	**+10**
SSE				XS	sS	09 46 26.6	+6.1
SSE				AMB	AMB		
	comp=Z,35nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,182nm,4.1s						
SSE				LR	LR		
	comp=N,123nm,25.5s,MS3.5						
SSE				LR	LR		
	comp=E,92nm,25.5s,MS3.5						
SSE				LR	LR		
	comp=Z,126nm,25.0s,MS3.4						
SSE	**Sheshan**	**29.47**	**250**	P	**P**	**09 41 22.6**	**+5.0**
	comp=Z,35nm,0.6s,mb5.3						
SSE				pP	pP	09 41 25.5	+2.1
SSE				S	**S**	**09 46 21.1**	**+10**
SSE				sS	sS	09 46 26.6	+6.1
SSE				LR	LR		
	comp=Z,130nm,25.0s,MS3.5						
HHC	**Hu-ho-hao-te**	**30.71**	**275**	*e*P	**P**	**09 41 29.6**	**+0.9**
HHC				AP	pP	09 41 34.1	-0.4
HHC				PP	PP	09 42 30.5	-7.6
HHC				PCP	PcP	09 44 29.4	+3.2
HHC				S	**S**	**09 46 30.3**	**-0.2**
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,81nm,5.4s						
HHC				LR	LR		
	comp=N,358nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=E,401nm,14.0s,MS4.3						
HHC				LR	LR		
	comp=Z,342nm,14.2s,MS4.2						
ULN	**Ulaanbaatar**	**31.31**	**290**	⇓*e*P	**P**	**09 41 37.6**	**+3.7**
ULN	**Ulaanbaatar**	**31.31**	**290**	*e*P	**P**	**09 41 39.3**	**+5.3**
	comp=Z,7.1nm,1.2s,mb4.4						
SONM	**Songino Array**	**31.75**	**290**	P	**P**	**09 41 37.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=76,slow=7.1,SNR=2.7						
SONM				PcP	PcP	09 44 28.1	-0.8
	comp=Z,0.8nm,0.7s,baz=122,slow=2.5,SNR=3.8						
SONM	**Songino Array**	**31.75**	**290**	P	**P**	**09 41 37.7**	**-0.1**
SONM						09 44 28.1	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TLY	**Talaya**	**32.58**	**298**	⇓*i*P	**P**	**09 41 45.4**	**+0.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TLY	**Talaya**	**32.58**	**298**	*e*P	**P**	**09 41 45.5**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1						
ZAK	**Zakamensk**	**33.08**	**295**	*e*P	**P**	**09 41 48.5**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
KDAK	**Kodiak Island**	**33.82**	**51**	P	**P**	**09 41 54.9**	**-1.0**
	comp=Z,9.6nm,0.7s,mb4.8,baz=344,slow=2.7,SNR=7.8						
GUMO	**Guam**	**33.82**	**196**	LR	LR	09 54 40.5	
	comp=Z,109nm,18.6s,MS3.6,baz=75,slow=35						
PMR	**Palmer**	**35.36**	**44**	*e*P	**P**	**09 42 09.0**	**-0.2**
PMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
PMR	**Palmer**	**35.36**	**44**	*e*P	**P**	**09 42 09.0**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.5						
SML	**Sawmill**	**35.73**	**44**	*e*P	**P**	**09 42 12.2**	**-0.2**
XAN	**Xi'an**	**35.93**	**266**	P	**P**	**09 42 15.3**	**+1.2**
XAN					AMB AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**35.93**	**38**	*d*P	**P**	**09 42 12.6**	**-1.5**
COLA	**College**	**35.93**	**38**	*e*P	**P**	**09 42 14.9**	**+0.8**
	comp=Z,7.4nm,0.7s,mb4.7						
LZH	**Lanzhou**	**38.31**	**272**	*e*P	**P**	**09 42 35.3**	**+1.0**
LZH				AP	pP	09 42 44.5	+4.3
LZH				XP	sP	09 42 50.8	+8.3
LZH				PP	PP	09 44 06.5	+4.5
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,62nm,5.6s						
LZH				LR	LR		
	comp=N,483nm,13.6s						
LZH				LR	LR		
	comp=Z,789nm,17.8s,MS4.6						
LZH	**Lanzhou**	**38.31**	**272**	*e*P	**P**	**09 42 35.2**	**+0.9**
LZH				*SP	sP	09 42 50.7	+8.2
LZH						09 44 06.5	
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,790nm,17.8s,MS4.6						
LZH	**Lanzhou**	**38.31**	**272**	*e*P	**P**	**09 42 35.2**	**+0.9**
	comp=Z,21nm,1.3s,mb4.7						
LZH				pP	pP	09 42 44.5	+4.3
LZH				sP	sP	09 42 50.7	+8.2
LZH				PP	PP	09 44 06.5	+4.5
LZH				LR	LR		
	comp=Z,790nm,17.8s,MS4.6						
GTA	**Gaotai**	**39.39**	**279**	*e*P	**P**	**09 42 45.3**	**+1.9**
GTA				AP	pP	09 42 49.0	-0.3
GTA				XP	sP	09 42 50.9	-0.7
GTA				PP	PP	09 44 20.1	+6.2
GTA				PCP	PcP	09 44 52.4	+1.0
GTA				S	**S**	**09 48 45.8**	**+1.9**
GTA				XS	sS	09 48 53.5	-0.1
GTA				SS	SS	09 51 32.8	-5.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0						
GTA				AMB	AMB		
	comp=Z,90nm,6.5s						
GTA				LR	LR		
	comp=N,213nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=E,151nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=Z,147nm,13.7s,MS4.0						
CD2	**Chengdu**	**41.29**	**266**	P	**P**	**09 43 00.1**	**+1.0**
CD2					AMB AMB		
	comp=Z,20nm,0.5s,mb5.0						
CD2					AMB AMB		
	comp=Z,40nm,4.4s						
INK	**Inuvik**	**41.48**	**32**	P	**P**	**09 43 01.4**	**+0.7**
	comp=Z,2.7nm,0.9s,mb3.9,baz=305,slow=5.2,SNR=8.5						
INK	**Inuvik**	**41.48**	**32**	P	**P**	**09 43 01.4**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GYA	**Guiyang**	**42.11**	**258**	P	**P**	**09 43 06.5**	**+0.7**
GYA				AP	pP	09 43 10.8	-0.9
GYA				XP	sP	09 43 13.8	-0.3
GYA				PCP	PcP	09 45 02.9	+2.7
GYA				S	**S**	**09 49 26.5**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,340nm,15.4s,MS4.5						
GYA				LR	LR		
	comp=E,310nm,15.6s,MS4.5						
GYA				LR	LR		
	comp=Z,290nm,15.8s,MS4.3						
ZAL	**Zalesovo**	**43.00**	**306**	P	**P**	**09 43 11.6**	**-1.5**
	comp=Z,1.0nm,0.5s,mb3.9,baz=57,slow=5.1,SNR=3.1						
ZAL				LR	LR	10 02 28.9	
	comp=Z,125nm,18.2s,MS3.9,baz=35,slow=38						
ZAL	**Zalesovo**	**43.00**	**306**	P	**P**	**09 43 11.6**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,125nm,18.2s						
ZAL	**Zalesovo**	**43.00**	**306**	P	**P**	**09 43 11.6**	**-1.5**
ZAL				LR	LR	10 02 28.9	
NVS	**Novosibirsk**	**43.56**	**308**	*e*P	**P**	**09 43 15.8**	**-1.8**
WMQ	**Urumqi**	**45.34**	**292**	⇓P	**P**	**09 43 32.3**	**+0.5**
WMQ				AP	pP	09 43 36.8	-0.9
WMQ				XP	sP	09 43 39.3	-0.8
WMQ				PCP	PcP	09 45 12.4	+1.2
WMQ				PP	PP	09 45 19.0	+1.1
WMQ				S	**S**	**09 50 11.5**	**-0.1**
WMQ				XS	sS	09 50 19.3	-2.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,93nm,4.1s						
WMQ				LR	LR		
	comp=N,241nm,18.0s,MS4.2						
WMQ				LR	LR		
	comp=E,83nm,16.7s,MS4.2						
WMQ				LR	LR		
	comp=Z,115nm,16.7s,MS3.9						
KMI	**Kunming**	**45.64**	**260**	P	**P**	**09 43 40.0**	**+5.8**
KMI				S	**S**	**09 50 22.4**	**+6.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
KMI				LR	LR		
	comp=Z,54nm,21.3s,MS3.5						
KMI	**Kunming**	**45.64**	**260**	P	**P**	**09 43 40.0**	**+5.8**
	comp=Z,6.0nm,0.8s,mb4.6						
KMI				S	**S**	**09 50 22.4**	**+6.4**
KMI				LR	LR		
	comp=Z,50nm,21.3s,MS3.4						
MKAR	**Makanchi Array**	**47.34**	**298**	P	**P**	**09 43 46.5**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.3,baz=68,slow=7.6,SNR=30						
MKAR	**Makanchi Array**	**47.34**	**298**	P	**P**	**09 43 46.6**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**50.69**	**274**	*e*P	**P**	**09 44 15.9**	**+2.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
LSA	**Lhasa**	**50.69**	**274**	*e*P	**P**	**09 44 15.9**	**+2.7**
	comp=Z,7.5nm,0.4s,mb5.0						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**09 44 13.7**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=296,slow=7.0,SNR=9.9						
YKA				PcP	PcP	09 45 29.8	-0.7
	comp=Z,0.5nm,0.5s,baz=303,slow=3.7,SNR=4.4						
YKA				LR	LR	10 07 33.8	
	comp=Z,46nm,18.6s,MS3.5,baz=235,slow=38						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**09 44 13.7**	**+0.2**
YKA						09 45 29.8	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				MLR	MLR		
	comp=Z,46nm,18.6s						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**09 44 13.7**	**+0.3**
YKA				PcP	PcP	09 45 29.8	-0.7
YKA				LR	LR	10 07 33.8	
RES	**Resolute Bay**	**50.77**	**19**	*e*P	**P**	**09 44 14.2**	**+0.4**
	comp=Z,240nm,0.9s						
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**	**09 44 12.5**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**	**09 44 12.4**	**-1.5**
	comp=Z,19nm,1.2s,mb4.9						
BVAR	**Borovoye Array**	**51.22**	**310**	P	**P**	**09 44 16.2**	**-1.0**
	comp=Z,2.3nm,0.5s,mb4.4,baz=45,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**51.22**	**310**	P	**P**	**09 44 16.2**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**51.26**	**310**	*e*P	**P**	**09 44 16.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**51.26**	**310**	*e*P	**P**	**09 44 16.4**	**-1.1**

comp=Z,4.6nm,0.6s,mb4.6
AAK Ala-Archa 54.24 297 *e*P P **09 44 38.6 -0.9**
AAK *e* 09 45 40.6
AAK pmax pmax
comp=Z,13nm,1.4s,mb4.7
AAK Ala-Archa 54.24 297 *e*P P **09 44 38.6 -0.9**
comp=Z,13nm,1.4s,mb4.7
AAK *e*PcP PcP 09 45 40.6 -3.1
KSH Kashi 55.06 293 *e*P P **09 44 47.0 +1.5**
KSH *e*AP pP 09 44 51.1 -0.4
KSH *e*XP sP 09 44 54.3 +0.4
KSH *e*PCP PcP 09 45 48.0 +1.1
KSH *e*PP PP 09 46 51.1 +2.4
KSH *e*SCP ScP 09 49 45.0 +0.5
KSH *e*PCS PcS 09 49 46.8 +0.1
KSH *e*S **S** **09 52 26.3 -0.7**
KSH *e*XS sS 09 52 34.1 -2.9
KSH *e*SCS ScS 09 54 32.5 -1.3
KSH *e*SS SS 09 56 10.0 -0.8
ARU Arti 55.34 318 *i*P P **09 44 46.2 -1.3**
ARU *e* 09 46 53.2
ARU *e*S **S** **09 52 25.9 -4.8**
ARU *e*SS SS 09 56 14.6 -0.6
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARU Arti 55.34 318 *e*P P **09 44 46.3 -1.2**
comp=Z,5.0nm,0.5s,mb4.8
JIRN Jiri 55.37 275 *e*P P **09 44 48.8 +1.1**
comp=Z,21nm,0.4s,mb5.5
GUN Gumba 55.42 275 *e*P P **09 44 48.8 +0.7**
KKN Kakani 55.91 276 *e*P P **09 44 52.3 +0.7**
comp=Z,78nm,1.1s,mb5.7
PKI Pulchoki 55.96 275 *e*P P **09 44 53.3 +1.4**
comp=Z,62nm,1.2s,mb5.5
EDM Edmonton 56.06 46 *e*P P **09 44 52.8 +0.1**
DMN Daman 56.14 276 *e*P P **09 44 54.7 +1.5**
comp=Z,109nm,1.1s,mb5.8
GKN Gorkha 56.21 276 *e*P P **09 44 54.2 +0.4**
comp=Z,80nm,1.0s,mb5.7
KOLN Koldanda 57.07 277 *e*P P **09 45 00.8 +0.9**
comp=Z,70nm,1.0s,mb5.6
YBH Yreka Blue Hor 57.41 62 P P **09 45 01.6 -0.7**
comp=Z,3.5nm,1.0s,mb4.3,baz=355,slow=4.6,SNR=3.5
YBH Yreka Blue Hor 57.41 62 P P **09 45 01.6 -0.6**
YBH pmax pmax
comp=Z,4.0nm,1.0s
KEV Kevo 57.54 341 *e*p P **09 44 59.0 -4.2**
comp=Z,6.0nm,0.8s,mb4.7
KEV Kevo 57.54 341 *e*P P **09 44 59.0 -4.2**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ARCES ARCESS Array B 58.05 341 P P **09 45 05.2 -1.6**
comp=Z,1.6nm,0.8s,mb4.1,baz=35,slow=7.4,SNR=6.4
ARCES LR LR 10 15 07.5
comp=Z,113nm,18.6s,MS4.0,baz=258,slow=41
ARCES ARCESS Array B 58.05 341 P P **09 45 05.2 -1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,113nm,18.6s
BMO Blue Mountains 58.77 56 *e*P P **09 45 12.7 +1.0**
comp=Z,11nm,1.5s,mb4.7
AKTK Aktyubinsk 59.08 312 P P **09 45 12.8 -1.2**
AKTO Aktyubinsk 59.08 312 P P **09 45 12.8 -1.2**
comp=Z,0.8nm,0.5s,mb4.0,baz=53,slow=9.7,SNR=4.3
AKTO Aktyubinsk 59.08 312 P P **09 45 12.8 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NDI New Delhi 60.82 282 *ex* P **09 45 26.0 +0.1**
LRM Limekiln Ridge 60.90 53 *e*P P **09 45 27.5 +1.1**
HLID Hailey 61.20 56 *e*P P **09 45 29.4 +1.0**
KAKA Kakadu 62.13 204 *e*P P **09 45 33.2 -1.6**
comp=Z,5.3nm,0.6s,mb4.8
KAKA Kakadu 62.13 204 *e*P pP 09 45 43.0 +2.1
comp=Z,11nm,0.7s
RRI2 Red Ridge 63.09 55 *e*P P **09 45 42.2 +1.1**
comp=Z,9.4nm,0.8s,mb5.0
SNOW Snow King Moun 63.33 54 *e*P P **09 45 43.5 +0.8**
REDW Red Top Meadow 63.34 54 *e*P P **09 45 43.7 +0.9**
comp=Z,24nm,1.4s,mb5.1
HWUT Hardware Ranch 64.07 56 *e*P P **09 45 48.7 +1.1**
comp=Z,4.9nm,1.0s,mb4.5
DUG Dugway 64.26 58 *e*P P **09 45 49.8 +1.0**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
DUG Dugway 64.26 58 *e*P P **09 45 49.8 +1.0**
comp=Z,7.0nm,1.0s,mb4.7
FINES FINESS Array B 64.28 335 P P **09 45 48.0 -1.0**
comp=Z,4.0nm,0.6s,mb4.7,baz=36,slow=7.6,SNR=28
FINES LR LR 10 17 08.8
comp=Z,114nm,18.3s,MS4.1,baz=14,slow=39
FINES FINESS Array B 64.28 335 *i*P P **09 45 48.2 -0.8**
FINES pmax pmax
comp=Z,4.0nm,0.6s
PDAR Pinedale Array 64.45 54 P P **09 45 49.5 -0.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=291,slow=1.9,SNR=24
OBN Obninsk 65.60 326↑ *e*P P **09 45 58.0 +0.4**
OBN *e*S S 09 54 33.6 -8.5
OBN pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
ULM Lac du Bonnet 66.30 41 P P **09 46 01.4 -0.6**
comp=Z,3.1nm,0.8s,mb4.4,baz=296,slow=8.7,SNR=3.8
ULM LR LR 10 16 46.9
comp=Z,74nm,20.2s,MS3.9,baz=16,slow=38
SRU San Rafael 66.30 58 *e*P P **09 46 02.7 +0.6**
SRU *e**PP pP 09 46 12.5 +4.3
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SRU San Rafael 66.30 58 *e*P P **09 46 02.6 +0.6**
comp=Z,8.9nm,0.9s,mb4.8
SRU *e*pP pP 09 46 12.5 +4.3
CTA Charters Tower 66.80 188 LR LR 10 11 08.5
comp=Z,51nm,18.9s,MS3.8,baz=230,slow=32
PV10 Paradox Valley 67.65 57 *e*P P **09 46 11.8 +1.1**
NB2 NORSAR Subarra 68.45 341 P P **09 46 15.0 -0.5**
comp=Z,6.5nm,0.6s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 68.42 341 P P **09 46 15.3 -0.2**
comp=Z,5.6nm,0.6s,mb4.8,baz=27,slow=6.3,SNR=24
NOA NORSAR Array B 68.42 341 P P **09 46 15.3 -0.2**
NOA pmax pmax
comp=Z,6.0nm,0.6s
NOA NORSAR Array B 68.42 341 P P **09 46 15.3 -0.3**
WB2 Warramunga Arr 68.59 200 *e*P P **09 46 14.3 -2.2**
WB2 Warramunga Arr 68.59 200 *e*P pP 09 46 25.3 +2.6
WRA Warramunga Arr 68.59 200 P P **09 46 14.8 -1.8**
comp=Z,4.6nm,0.8s,mb4.4,baz=17,slow=6.5,SNR=20
WRA LR LR 10 12 23.2
comp=Z,73nm,20.3s,MS3.9,baz=15,slow=33
ISCO Idaho Springs 68.64 54 *e*P P **09 46 18.1 +1.2**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ISCO Idaho Springs 68.64 54 *e*P P **09 46 18.1 +1.3**
comp=Z,5.8nm,1.0s,mb4.5
ISCO *e*pP pP 09 46 27.5 +4.5
FITZ Fitzroy Crossi 69.28 209 *e*P P **09 46 20.3 -0.6**
comp=Z,5.3nm,0.6s,mb4.7
FITZ Fitzroy Crossi 69.28 209 *e*P pP 09 46 30.4 +3.3
comp=Z,15nm,0.9s
FITZ Fitzroy Crossi 69.28 209 P P **09 46 19.8 -1.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=352,slow=5.0,SNR=5.1
ANMO Albuquerque 71.51 59‖ *e*P P **09 46 35.1 +0.6**
ANMO Albuquerque 71.51 59 *e*P P **09 46 35.4 +0.9**
AKASG Malin Array Be 71.83 327 P P **09 46 35.4 -1.0**
comp=Z,8.8nm,0.8s,mb4.7,baz=33,slow=6.2,SNR=12
AKASG Malin Array Be 71.83 327 *i*P P **09 46 35.4 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AS31 Alice Springs 72.28 199 *e*P P **09 46 38.4 -0.7**
ASAR Alice Springs 72.28 199 P P **09 46 38.5 -0.6**
comp=Z,6.9nm,0.8s,mb4.7,baz=11,slow=5.6,SNR=53
ASAR LR LR 10 18 17.1
comp=Z,59nm,18.5s,MS3.9,baz=253,slow=36
ASAR Alice Springs 72.28 199 P P **09 46 38.5 -0.6**
ASAR pmax pmax
comp=Z,7.0nm,0.8s
ASAR MLR MLR
comp=Z,59nm,18.5s
ASPA Alice Springs 72.28 199 *e*P P **09 46 38.4 -0.7**
ASPA Alice Springs 72.28 199 *e*P pP 09 46 48.9 +3.6
GNI Garni 72.89 311 *de*P P **09 46 44.2 +1.5**
GNI pmax pmax
comp=Z,20nm,1.7s
MNTX Cornudas Mount 74.44 60 *e*P P **09 46 52.3 +0.5**
comp=Z,4.5nm,1.0s,mb4.3
MNTX *e*pP pP 09 47 02.2 +4.2
BURAR Bucovina Array 75.87 327‖ *i*P P **09 46 57.6 -2.5**
MORC Moravsky Berou 76.69 333‖ *i*P P **09 47 04.0 -0.7**
MORC Moravsky Berou 76.69 333 *e*P P **09 47 04.4 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MORC Moravsky Berou 76.69 333 *e*P P **09 47 04.4 -0.3**
comp=Z,3.8nm,0.7s,mb4.4
CLL Collm 76.70 336 *i*P P **09 47 04.3 -0.5**
CLL *e* 09 47 15.0
CLL pmax pmax
comp=Z,11nm,0.6s,mb5.0
CLL Collm 76.70 336 *i*P P **09 47 04.3 -0.5**
comp=Z,11nm,0.6s,mb5.0
CLL *e*PcP PcP 09 47 15.0 -1.1
LTX Lajitas 77.16 61 *e*P P **09 47 07.7 +0.3**
LTX pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LTX Lajitas 77.16 61 *e*P P **09 47 07.7 +0.4**
comp=Z,8.8nm,0.7s,mb4.8
TXAR Lajitas Array 77.16 61 P P **09 47 07.5 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=300,slow=4.1,SNR=109
TXAR Lajitas Array 77.16 61 P P **09 47 07.6 +0.2**
TXAR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 77.36 325‖ *i*P P **09 47 09.5 +1.0**
MALT Malatya 77.50 313‖ *i*P P **09 47 11.1 +1.8**
MALT Malatya 77.50 313 *e*P P **09 47 10.6 +1.3**
MALT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MALT Malatya 77.50 313 *e*P P **09 47 10.6 +1.3**
comp=Z,10nm,0.8s,mb4.8
VOIR 77.75 326↑ *i*P P **09 47 08.4 -2.3**
KHC Kasperske Hory 78.48 335↑ *e*P P **09 47 14.6 -0.1**
JCT Junction City 78.61 58 *e*P P **09 47 15.6 +0.1**
JCT *e**PP pP 09 47 25.7 +4.0
GERES GERESS Array B 78.70 334 P P **09 47 15.6 -0.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=36,slow=5.6,SNR=9.3
GERES GERESS Array B 78.70 334 P P **09 47 15.6 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.6s
BR131 Keskin Array S 78.72 317 *e*P P **09 47 17.1 +1.0**
comp=Z,4.1nm,0.9s,mb4.4
BRTR Keskin Array B 78.72 317 P P **09 47 16.5 +0.4**
comp=Z,1.6nm,0.6s,mb4.2,baz=108,slow=4.1,SNR=10
BRTR Keskin Array B 78.72 317 *i*P P **09 47 17.0 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 78.96 190 P P **09 47 13.9 -3.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=52,slow=4.1,SNR=3.0
STKA LR LR 10 22 02.3
comp=Z,72nm,19.1s,MS4.0,baz=24,slow=36
CDF Champ du Feu 80.87 338 *e*P P **09 47 27.5 -0.2**
PPT Papeete 81.78 126 LR LR 10 19 30.7
comp=Z,354nm,19.1s,MS4.7,baz=22,slow=32
GRR Gorron 82.75 343 *e*P P **09 47 37.4 -0.2**
comp=Z,239nm,1.8s,mb5.6
GRR Gorron 82.75 343 *e*P P **09 47 37.4 -0.2**
GRR pmax pmax
comp=Z,119nm,1.8s,mb5.6
GRR Gorron 82.75 343 *e*P P **09 47 37.4 -0.2**
comp=Z,119nm,1.8s,mb5.6
SMF Signal de Mont 83.37 340 *e*P P **09 47 40.7 -0.1**
comp=Z,29nm,0.9s,mb5.0
SMF Signal de Mont 83.37 340 *e*P P **09 47 40.7 -0.1**
SMF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SMF Signal de Mont 83.37 340 *e*P P **09 47 40.7 -0.1**
comp=Z,15nm,0.9s,mb5.0
LPG La Plagne 83.71 337 *e*P P **09 47 43.3 +0.8**
comp=Z,52nm,1.6s,mb5.1
LPG La Plagne 83.71 337 *e*P P **09 47 43.3 +0.8**
LPG pmax pmax
comp=Z,26nm,1.6s,mb5.1
LPG La Plagne 83.71 337 *e*P P **09 47 43.3 +0.8**
comp=Z,26nm,1.6s,mb5.1
RJF Les Rejaudoux 85.18 341 *e*P P **09 47 49.9 -0.1**
comp=Z,100nm,1.6s,mb5.4
RJF Les Rejaudoux 85.18 341 *e*P P **09 47 49.9 -0.1**
RJF pmax pmax
comp=Z,50nm,1.6s,mb5.4
RJF Les Rejaudoux 85.18 341 *e*P P **09 47 49.9 -0.1**
comp=Z,50nm,1.6s,mb5.4
KEST Kesra 91.93 332 LR LR 10 39 32.5
comp=Z,26nm,18.5s,MS3.7,baz=189,slow=42
MAW Mawson 132.36 211 *e*P PKPdf 09 54 26.8 -1.1
comp=Z,2.1nm,1.3s
MAW Mawson 132.36 211 *e*P PKPdf 09 54 36.1 +8.2
comp=Z,2.3nm,0.7s
MAW Mawson 132.36 211 PKP PKPdf 09 54 26.5 -1.4
comp=Z,1.6nm,0.8s,baz=27,slow=2.3,SNR=4.4
MAW Mawson 132.36 211 PKIKP PKPdf 09 54 26.5 -1.4
MAW pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 134.00 63 PKP PKPdf 09 54 30.8 -0.2
comp=Z,0.6nm,0.7s,baz=316,slow=4.8,SNR=4.1
LPAZ La Paz 134.00 63 PKIKP PKPdf 09 54 30.8 -0.1
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
CFAA Coronel Fontan 144.59 80 PKP PKPdf 09 54 46.6 -3.6
comp=Z,0.7nm,0.9s,baz=307,slow=3.2,SNR=8.7
VNA2 Neumayer--Watz 154.04 194 *e*PKPdf PKPdf 09 55 07.3 +2.0
VNA2 *e* 09 55 11.1
VNA2 *e* 09 55 14.0
VNA2 *e* 09 55 21.3
VNA2 *e* 09 55 24.8
VNA2 *e* 09 55 27.3
VNA2 *e* 09 55 31.1
VNA2 *e* 09 55 35.5
VNA2 *e* 09 55 38.5
VNA2 *e* 09 55 42.2
VNA2 *e* 09 55 52.0
VNA2 *e* 09 56 03.8
VNA2 *e* 09 56 12.4
VNA2 *e* 09 59 08.5
VNA2 *e* 09 59 20.8
VNA2 *e* 09 59 35.1
VNA2 *e* 09 59 45.4
VNA3 Neumayer Olymp 154.12 192 *e*PKPdf PKPdf 09 55 07.3 +1.9
VNA3 *e* 09 55 11.3
VNA3 *e* 09 55 14.3
VNA3 *e* 09 55 21.1
VNA3 *e* 09 55 24.7
VNA3 *e* 09 55 27.7
VNA3 *e* 09 55 31.0
VNA3 *e* 09 55 34.9
VNA3 *e* 09 55 38.4
VNA3 *e* 09 55 41.9
VNA3 *e* 09 55 52.6
VNA3 *e* 09 56 03.7
VNA3 *e* 09 56 12.0
VNA3 *e* 09 59 08.8
VNA3 *e* 09 59 21.5
VNA3 *e* 09 59 34.1
VNA3 *e* 09 59 45.1

*NEIC **24** 09:37:09.1±2.0, 6.26S×151.53E, h10km, mb4.4/2, Error ellipse: s-maj=51.0km s-min=30.3km az=134.0*
*ISCJB **24** 09:37:15.8±5.3, 6.65S×104.4×151.3E±0.3, h60km±36km, mb4.0/4, Error ellipse: s-maj=71.2km s-min=39.2km az=122.7*
*IDC **24** 09:37:17.3±8.9, 6.46S×151.24E, h58km±64km, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp3.9/5, ML2.5/1, Error ellipse: s-maj=58.2km s-min=53.7km az=86.0*
ISC 24 09:37:17.0±5.2, 6.55S×104.7×151.3E±0.3, h55km±35km, n12, σ0§64/14, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**235**	P		**Pn**		**09 38 30.0**	**0.0**
	1.4nm,0.3s,baz=8.1,slow=7.1,SNR=3.8								
PMG				S		**Sn**		**09 39 27.3**	**+0.4**
	2.3nm,0.3s,baz=294,slow=15,SNR=3.0								
PMG	**Port Moresby**	**5.04**	**235**	P		**Pn**		**09 38 30.0**	**0.0**
PMG				*e*Sn		**Sn**		**09 39 26.7**	**-0.2**
PMG				S		**Sn**		**09 39 27.3**	**+0.4**
WB2	**Warramunga Arr**	**21.22**	**229**	*e*P		**P**		**09 41 58.1**	**-0.1**
WRA	**Warramunga Arr**	**21.23**	**229**	P		**P**		**09 41 57.3**	**-1.0**
	2.5nm,0.6s,mb3.7,baz=54,slow=10,SNR=13								
AS31	**Alice Springs**	**23.92**	**223**	*e*P		**P**		**09 42 18.8**	**-7.0**
ASAR	**Alice Springs**	**23.92**	**223**	P		**P**		**09 42 25.2**	**-0.6**
	2.9nm,0.7s,mb3.8,baz=54,slow=9.2,SNR=33								
ASPA Alice Springs 23.92 223 *e*P P **09 42 18.1 -7.7**
STKA Stephens Creek 26.84 199 *e*P P **09 42 53.3 +1.0**
2.5nm,0.5s,mb4.0
STKA Stephens Creek 26.84 199 P P **09 42 52.5 +0.2**
2.0nm,0.6s,mb3.9,baz=35,slow=12,SNR=5.2
FITZ Fitzroy Crossi 27.58 243 *e*P P **09 42 59.9 +1.0**
7.2nm,0.6s,mb4.5
FITZ Fitzroy Crossi 27.58 243 P P **09 42 59.5 +0.7**
3.5nm,0.6s,mb4.2,baz=85,slow=7.4,SNR=12
TORD Torodi Ar. Bea 149.38 285 PKPbc PKPbc 09 57 00.2 +0.4
1.5nm,0.6s,baz=68,slow=3.2,SNR=8.5

*STR **24** 09:45:39.1±0.5, 44.38N×7.55E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 24 09:45:38.4±0.2, 4443N×751E, h6km, Md2.2/2, Ml2.2/4, Error ellipse: s-maj=4.1km s-min=1.6km az=82.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.44**	**188**	Pg		Pg	Pg	09 45 46.8	-0.1
AUTN				Sg		Sg	Sg	09 45 52.7	0.0
SAOF	**Saorge**	**0.45**	**176**	Pg		Pg	Pg	09 45 46.8	-0.2
TOUF	**Mont Tournerai**	**0.46**	**204**	Pg		Pg	Pg	09 45 46.9	-0.4
LUCF	**Luceram**	**0.55**	**192**	Pg		Pg	Pg	09 45 48.8	-0.2
LUCF				Sg		Sg	Sg	09 45 55.7	-0.5
SBF	**Sospel**	**0.57**	**185**	*e*Pg		Pg	Pg	09 45 49.5	+0.1
SBF				*e*Sg		Sg	Sg	09 45 56.5	-0.3
	11nm,0.2s								
MVIF	**Mont Vial**	**0.59**	**206**	Pg		Pg	Pg	09 45 50.3	+0.5
MBDF	**Montbardon**	**0.60**	**299**	*e*Pg		Pg	Pg	09 45 49.9	-0.1
MBDF				*e*Sg		Sg	Sg	09 45 58.2	+0.3
	5.8nm,0.2s								
FRF	**La Foret Royal**	**1.07**	**216**	*e*Pg		Pg	Pg	09 45 58.9	-0.1
FRF				*e*Sg		Sg	Sg	09 46 12.1	-0.8
	5.9nm,0.2s								
LPG	**La Plagne**	**1.19**	**333**	*e*Pg		Pg	Pg	09 46 01.1	-0.2
LPL	**La Plagne**	**1.22**	**333**	*e*Pg		Pg	Pg	09 46 01.7	0.0
ORIF	**Oris-en-Rattie**	**1.26**	**293**	*e*Pg		Pg	Pg	09 46 01.9	-0.7
ORIF				*e*Sg		Sg	Sg	09 46 18.5	-0.4
	2.6nm,0.3s								
LMR	**La Mourre**	**1.31**	**214**	*e*Pg		Pg	Pg	09 46 02.6	-1.0
LMR				*e*Sn		Sn	Sg	09 46 18.5	-2.6
LMR				*e*Sg		Sg	Sg	09 46 20.0	-0.7
	7.0nm,0.2s								
SMRF	**Simiane la Rot**	**1.47**	**253**	*e*Pg		Pg	Pg	09 46 06.2	-0.3
SMRF				*e*Sg		Sg	Sg	09 46 26.2	+0.7
	3.2nm,0.3s								

IGQ 24 10:15:27.5, 104S×7828W, h16km±4km, Mb4.0, Ms3.8, 8C-7D, Error ellipse: s-maj=2.3km s-min=0.7km az=9.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.11**	**260**	‖P		Pg	Pg	10 15 31.4	+0.5
TAMB	**Tambo**	**0.35**	**346**	‖P		Pg	Pg	10 15 35.5	+0.7
RUN5	**Runtun**	**0.40**	**201**	P		Pg	Pg	10 15 36.1	+0.5
VC1	**Cotopaxi 1**	**0.41**	**343**	‖P		Pg	Pg	10 15 36.7	+0.8
JUIV	**Juive**	**0.42**	**206**	P		Pg	Pg	10 15 36.5	+0.4
JUIV				S		Sg	Sg	10 15 42.1	+0.3
CAMI	**Rancho Maria**	**0.42**	**328**	‖P		Pg	Pg	10 15 36.9	+0.8
ULBA	**Ulba**	**0.43**	**197**	‖P		Pg	Pg	10 15 36.1	0.0
RETU	**Refugio**	**0.44**	**202**	‖P		Pg	Pg	10 15 36.9	+0.6
RETU				S		Sg	Sg	10 15 42.2	-0.1
NAS1	**Nasa**	**0.45**	**334**	‖P		Pg	Pg	10 15 37.5	+1.0
IGUA	**Igualata**	**0.57**	**219**	‖P		Pg	Pg	10 15 39.8	+1.0
IGUA				S		Sg	Sg	10 15 47.3	+0.9
ANTI	**Antisana**	**0.60**	**11**	↑P		Pg	Pg	10 15 39.5	+0.2
JUA2	**San Juan 2**	**0.88**	**338**	‖P		Pb	Pb	10 15 45.3	+0.8
JUA2				S		Sb	Sb	10 15 57.2	+1.2
GGP	**Refugio Guagua**	**0.92**	**340**	↑P		Pb	Pb	10 15 45.8	+0.7
GGP				S		Sb	Sb	10 15 56.0	-1.0
PINO	**Pino**	**0.94**	**339**	‖P		Pb	Pb	10 15 46.3	+0.9
PINO				S		Sb	Sb	10 15 58.0	+0.4
YANA	**Yana**	**0.96**	**342**	↑P		Pb	Pb	10 15 46.5	+0.7
YANA				S		Sb	Sb	10 15 58.9	+0.6
CAYR	**Refugio Cayamb**	**1.08**	**15**	↑P		Pb	Pb	10 15 48.8	+0.9
CAYR				S		Sb	Sb	10 16 03.1	+1.3
CAYA	**Cayambe**	**1.14**	**15**	‖P		Pn	Pn	10 15 49.8	+1.0
CAYA				S		Sb	Sb	10 16 06.0	+2.5

*CSEM **24** 10:16:14.4±0.4, 37.35N×4.375E, h5km, MD3.5, Error ellipse: s-maj=9.4km s-min=3.8km az=122.0*
ISK 24 10:16:14.5, 3739N×4369E, h5km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.16**	**205**	*i*PG		Pg	Pg	10 16 18.1	+0.4
CUKT				*i*SG		Sg	Sg	10 16 21.4	+1.6
HAKT	**HAKKARI**	**0.16**	**4**	*i*P		Pg	Pg	10 16 19.5	+1.7
HAKT				*i*S		Sg	Sg	10 16 23.3	+3.4
HKR	**Hakkari**	**0.19**	**11**	PG		Pg	Pg	10 16 19.3	+1.1
SIRT	**Sirnak**	**1.00**	**276**	PG		Pg	Pg	10 16 35.0	+1.2
SIRT				SG		Sg	Sg	10 16 49.8	+3.0
TVAN	**Van**	**1.16**	**349**	*i*P		Pg	Pg	10 16 37.5	+0.9
TVAN				*i*S		Sg	Sg	10 16 56.4	+4.8
VANB	**Van**	**1.22**	**349**	PN		Pn	Pn	10 16 38.6	+0.3
CLDR	**Caldiran**	**1.75**	**6**	*e*PN		Pn	Pn	10 16 47.8	+2.2
BTMT	**Batman**	**1.92**	**295**	*e*PN		Pn	Pn	10 16 51.5	+3.7
AGRB	**Hanur-Agry**	**2.25**	**346**	*e*PN		Pn	Pn	10 16 54.8	+2.5
MARD	**Mardin**	**2.32**	**269**	*i*P		Pn	Pn	10 16 56.1	+2.7
MARD				*i*S		Sn	Sn	10 17 30.2	+7.8
PTK	**Pertek**	**3.71**	**295**	*e*PN		Pn	Pn	10 17 15.5	+3.1

*ISCJB **24** 10:19:39.6±1.4, 64.62N±0.005×310E±0.2, h0km, Error ellipse: s-maj=13.7km s-min=6.0km az=32.7*
*HEL **24** 10:19:40.2±0.4, 64.60N×3.108E, h0km, ML2.4, Explosion*
*IDC **24** 10:19:44.5±3.1, 64.66N×3.155E, h0km, mb1 3.2/4, mb1mx3.1/21, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=44.7km s-min=9.5km az=100.0*
ISC 24 10:19:42.3±1.4, 6466N±0.005×308E±0.2, h0km, n8, σ1§24/15, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.45**	**248**	*e*P		**Pn**		**10 20 07.9**	**-1.8**
KJN				*e*S		**Sg**		**10 20 28.2**	**-0.6**
MSF	**Maaselka**	**1.45**	**331**	*e*P		**Pn**		**10 20 07.4**	**-2.4**
MSF				*e*S		**Sg**		**10 20 28.5**	**-0.4**
KU4	**Liikasenvaara**	**1.78**	**344**	*e*P		**Pn**		**10 20 13.4**	**-0.9**
KU4				*e*S		**Sn**		**10 20 37.5**	**-0.2**
KU4				MSG				10 20 41.9	
	comp=Z,26nm,0.1s								
OUL	**Oulu**	**2.12**	**284**	*e*P		**Pn**		**10 20 18.9**	**-0.1**
OUL				*e*S		**Sn**		**10 20 46.3**	**+0.3**
OUL				MSG				10 20 53.9	
	comp=Z,29nm,0.1s								
FINES	**FINESS Array B**	**3.87**	**216**	Pn		**Pn**		**10 20 47.4**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=15,SNR=13								
FINES				Pg		**Pg**		**10 20 55.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=9.2								
FINES				Sn		**Sn**		**10 21 35.0**	**+5.9**
	comp=Z,0.3nm,0.3s,baz=49,slow=27,SNR=6.8								
FINES				Lg				10 21 46.5	
	comp=Z,0.6nm,0.3s,baz=49,slow=30,SNR=7.0								
ARCES	**ARCESS Array B**	**5.31**	**340**	Pn		**Pn**		**10 21 04.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=150,slow=13,SNR=24								
ARCES				Sn		**Sn**		**10 22 05.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=129,slow=19,SNR=5.6								
ARCES				Lg				10 22 26.6	
	comp=Z,0.7nm,0.3s,baz=152,slow=31,SNR=6.0								
HFS	**Hagfors**	**9.12**	**248**	Pn		**Pn**		**10 21 56.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=51,slow=13,SNR=5.5								
NOA	**NORSAR Array B**	**9.63**	**257**	Pn		**Pn**		**10 22 03.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=72,slow=11,SNR=2.9								

*ISCJB **24** 10:25:25.9±1.7, 32.21S±0.007×177.6W±0.3, h72km±17km, mb3.9/2, Error ellipse: s-maj=42.4km s-min=7.3km az=23.0*
*IDC **24** 10:25:26.0±2.6, 3.186S×178.64W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, ML4.2/2, Error ellipse: s-maj=64.2km s-min=22.4km az=117.0*
ISC 24 10:25:29.3±2.0, 321S±0.1×178.0W±0.5, h57km±22km, n19, σ1§42/22, mb3.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**2**	Pn	**Pn**	**10 26 10.7**	**-1.4**
	44nm,0.3s,baz=251,slow=22,SNR=2.3						
RAO				Sn	**Sn**	**10 26 45.7**	**+0.6**
	153nm,0.3s,baz=118,slow=22,SNR=3.7						
MXZ	**Matakaoa Point**	**6.23**	**208**	PN	**Pn**	**10 27 01.5**	**+2.9**
PUZ	**Puketiti**	**6.69**	**206**	PN	**Pn**	**10 27 04.9**	**-0.1**
PUZ				SN	**Sn**	**10 28 18.8**	**-1.0**
MWZ	**Matawai**	**7.21**	**209**	PN	**Pn**	**10 27 13.9**	**+1.9**
URZ	**Urewera**	**7.32**	**212**	Pn	**Pn**	**10 27 15.0**	**+1.5**
	4.3nm,0.3s,baz=295,slow=0.2,SNR=32						
URZ				Sn	**Sn**	**10 28 35.2**	**-0.1**
	3.2nm,0.3s,baz=166,slow=22,SNR=9.1						
URZ	**Urewera**	**7.32**	**212**	*e*PN	**Pn**	**10 27 12.8**	**-0.8**
URZ				SN	**Sn**	**10 28 34.8**	**-0.4**
WCZ	**Waipu Caves**	**7.40**	**237**	PN	**Pn**	**10 27 19.1**	**+4.4**
OUZ	**Omahuta**	**7.65**	**244**	PN	**Pn**	**10 27 21.6**	**+3.6**
KNZ	**Kokohu**	**7.74**	**206**	PN	**Pn**	**10 27 20.9**	**+1.5**
BKZ	**Black Stump Fm**	**8.34**	**211**	PN	**Pn**	**10 27 28.1**	**+0.5**
MRZ	**Mangatainoka R**	**9.98**	**209**	SN	**Sn**	**10 29 32.4**	**-7.9**
CAW	**Cannon Point**	**10.56**	**210**	PN	**Pn**	**10 27 54.6**	**-3.3**
NNZ	**Nelson**	**11.42**	**215**	SN	**Sn**	**10 30 07.1**	**-8.3**
THZ	**Tophouse**	**12.06**	**214**	PN	**Pn**	**10 28 14.7**	**-3.5**
KHZ	**Kahutara**	**12.29**	**211**	SN	**Sn**	**10 30 25.7**	**-11**
MQZ	**McQueen's Vall**	**13.72**	**210**	SN	**Sn**	**10 30 58.2**	**-13**
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**	**10 33 23.4**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=102,slow=7.4,SNR=16						
WRA	**Warramunga Arr**	**44.17**	**274**	P	**P**	**10 33 32.2**	**-0.1**
	1.2nm,0.3s,mb4.1,baz=114,slow=7.7,SNR=30						
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	PKPbc	10 45 06.2	+1.4
	0.9nm,0.5s,baz=11,slow=2.8,SNR=4.4						

IDC 24 10:39:47.0±4.8, 795S×6815E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, MS3.7/6, Ms1 3.7/6, ms1mx3.4/19, Error ellipse: s-maj=157.1km s-min=28.2km az=59.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.52**	**281**	LR	LR	10 56 12.3	
	comp=Z,66nm,19.9s,baz=87,slow=31						
BOSA	**Boshof**	**45.29**	**237**	LR	LR	11 05 11.6	
	comp=Z,105nm,18.2s,baz=257,slow=34						
MKAR	**Makanchi Array**	**55.98**	**12**	P	P	10 49 25.8	-1.0
	0.7nm,0.8s,baz=198,slow=7.4,SNR=3.1						
AKTO	**Aktyubinsk**	**58.81**	**352**	P	P	10 49 47.5	+0.4
	0.5nm,0.5s,baz=173,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**64.67**	**112**	P	P	10 50 25.8	-0.8
	0.4nm,1.0s,baz=287,slow=6.5,SNR=4.8						
ASAR				LR	LR	11 16 42.3	
	comp=Z,38nm,18.5s,baz=350,slow=34						
WRA	**Warramunga Arr**	**64.99**	**108**	P	P	10 50 30.5	+1.8
	0.9nm,1.0s,baz=276,slow=6.6,SNR=4.2						
SONM	**Songino Array**	**65.00**	**27**	P	P	10 50 29.7	+0.9
	0.4nm,0.5s,baz=207,slow=6.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**69.25**	**287**	LR	LR	11 20 04.1	
	comp=Z,46nm,19.4s,baz=65,slow=35						
FINES	**FINESS Array B**	**76.54**	**341**	LR	LR	11 27 08.5	
	comp=Z,59nm,18.4s,baz=2.4,slow=37						
GUMO	**Guam**	**79.09**	**75**	LR	LR	11 21 54.4	
	comp=Z,86nm,20.5s,baz=34,slow=32						

IDC 24 10:41:01.6±2.6, 794S×6849E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/19, Error ellipse: s-maj=94.4km s-min=28.9km az=57.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**55.86**	**11**	P	P	10 50 40.0	-0.9
	0.6nm,0.7s,baz=188,slow=7.4,SNR=3.9						
AKTO	**Aktyubinsk**	**58.84**	**352**	P	P	10 51 00.9	-1.1
	0.8nm,0.5s,baz=194,slow=8.4,SNR=4.0						
ASAR	**Alice Springs**	**64.36**	**112**	P	P	10 51 39.8	+0.6
	0.2nm,0.6s,baz=277,slow=6.0,SNR=4.9						
WRA	**Warramunga Arr**	**64.67**	**108**	P	P	10 51 41.5	+0.3
	1.2nm,0.9s,baz=283,slow=6.2,SNR=5.9						
WRA				LR	LR	11 13 45.5	
	comp=Z,47nm,20.6s,baz=135,slow=30						
SONM	**Songino Array**	**64.83**	**27**	P	P	10 51 43.6	+1.3
	1.0nm,0.6s,baz=220,slow=5.6,SNR=6.5						
PDAR	**Pinedale Array**	**145.27**	**357**	PKPbc	PKPbc	11 00 41.5	+0.5
	0.5nm,0.9s,baz=18,slow=0.5,SNR=4.0						
NVAR	**Mina Array Bea**	**149.03**	**10**	PKPbc	PKPbc	11 00 52.6	+1.0
	0.9nm,0.8s,baz=251,slow=1.9,SNR=4.2						

IDC 24 10:44:38.9±2.4, 081S×12761E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, Error ellipse: s-maj=201.5km s-min=27.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.12**	**161**	P	P	10 49 14.6	+0.3
	0.2nm,0.5s,baz=344,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**23.53**	**165**	P	P	10 49 50.9	+0.1
	0.3nm,0.7s,baz=343,slow=9.9,SNR=9.7						
MKAR	**Makanchi Array**	**61.78**	**326**	P	P	10 54 59.5	+0.2
	0.2nm,0.3s,baz=117,slow=7.4,SNR=4.1						

WEL 24 10:45:54.3±0.2, 3971S×17463E, h134km±2km, ML3.5/15, 15C-11D, Error ellipse: s-maj=1.7km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.28**	**100**	⇑PN	Pn	10 46 13.1	+0.3
WAZ				SN	Sn	10 46 26.3	-0.5
VRZ	**Vera Road**	**0.59**	**10**	⇓PN	Pn	10 46 14.2	-0.2
VRZ				SN	Sn	10 46 28.2	-1.4
PKVZ	**Pokaka**	**0.69**	**53**	⇓PN	Pn	10 46 14.8	-0.2
MTVZ	**Mangateitei**	**0.72**	**64**	⇓PN	Pn	10 46 15.1	-0.2
TRVZ	**Turoa**	**0.82**	**60**	⇓PN	Pn	10 46 16.0	0.0
WNVZ	**Wahianoa**	**0.84**	**63**	PN	Pn	10 46 16.2	+0.1
DRZ	**Dome Shelter**	**0.84**	**59**	PN	Pn	10 46 16.3	+0.1
FWVZ	**Far West T-bar**	**0.84**	**58**	⇑PN	Pn	10 46 16.1	-0.1
TWVZ	**Taurewa**	**0.89**	**45**	⇓PN	Pn	10 46 16.2	-0.4
TUVZ	**Tukino**	**0.91**	**61**	PN	Pn	10 46 16.9	+0.1
MOVZ	**Moawhango**	**0.92**	**71**	⇓PN	Pn	10 46 16.3	-0.5
NGZ	**Ngauruhoe**	**0.92**	**55**	PN	Pn	10 46 16.7	-0.1
WTVZ	**West Tongariro**	**0.95**	**52**	⇓PN	Pn	10 46 17.0	-0.1
TSZ	**Takapari Road**	**1.08**	**109**	PN	Pn	10 46 18.3	0.0
KIW	**Kapiti Island**	**1.17**	**170**	PN	Pn	10 46 19.1	-0.1
MRZ	**Mangatainoka R**	**1.20**	**143**	⇑PN	Pn	10 46 19.4	-0.1
HIZ	**Hauiti**	**1.21**	**8**	⇓PN	Pn	10 46 19.3	-0.3
RATZ	**Rangitukua**	**1.22**	**47**	⇓PN	Pn	10 46 20.0	+0.3
DUWZ	**D'Urville Isla**	**1.22**	**206**	⇑PN	Pn	10 46 19.7	0.0
WATZ	**Wairara**	**1.31**	**41**	⇓PN	Pn	10 46 20.9	+0.2
TIWZ	**Tintock**	**1.44**	**138**	⇑PN	Pn	10 46 21.9	0.0
CAW	**Cannon Point**	**1.44**	**167**	⇑PN	Pn	10 46 22.0	+0.1
MRW	**Makara Radio**	**1.52**	**178**	⇑PN	Pn	10 46 22.9	0.0
TCW	**Tory Channel**	**1.53**	**190**	⇑PN	Pn	10 46 23.0	0.0
BKZ	**Black Stump Fm**	**1.54**	**70**	⇓PN	Pn	10 46 22.6	-0.5
WEL	**Wellington**	**1.58**	**176**	⇑PN	Pn	10 46 23.4	-0.1
MTW	**Mount Morrison**	**1.59**	**156**	⇑PN	Pn	10 46 23.5	-0.3
SNZO	**South Karori**	**1.60**	**178**	⇑PN	Pn	10 46 23.6	-0.2
BHW	**Baring Head**	**1.71**	**174**	⇑PN	Pn	10 46 24.8	-0.2
MSWZ	**Moikau Station**	**1.77**	**165**	⇑PN	Pn	10 46 25.5	-0.2
PAWZ	**Paruwai Farm**	**1.78**	**160**	⇑PN	Pn	10 46 25.6	-0.3
NNZ	**Nelson**	**1.79**	**212**	PN	Pn	10 46 25.7	-0.2
TRWZ	**Traveller**	**1.87**	**155**	PN	Pn	10 46 26.5	-0.4
QRZ	**Quartz Range**	**1.96**	**235**	PN	Pn	10 46 27.5	-0.5
CMWZ	**Cape Campbell**	**2.06**	**189**	PN	Pn	10 46 29.7	+0.4
BSWZ	**Blackbirch Sta**	**2.08**	**196**	PN	Pn	10 46 29.4	-0.1
URZ	**Urewera**	**2.41**	**54**	PN	Pn	10 46 32.2	-1.4
THZ	**Tophouse**	**2.44**	**212**	PN	Pn	10 46 34.0	+0.1
KNZ	**Kokohu**	**2.46**	**75**	PN	Pn	10 46 33.2	-1.0
KHZ	**Kahutara**	**2.83**	**197**	⇑PN	Pn	10 46 38.5	-0.3
DSZ	**Denniston Nort**	**2.96**	**226**	PN	Pn	10 46 39.8	-0.7
PUZ	**Puketiti**	**3.27**	**61**	PN	Pn	10 46 43.1	-1.4
LTZ	**Lake Taylor**	**3.55**	**209**	PN	Pn	10 46 47.4	-0.9
MXZ	**Matakaoa Point**	**3.59**	**54**	PN	Pn	10 46 47.5	-1.2
MQZ	**McQueen's Vall**	**4.26**	**200**	PN	Pn	10 46 55.2	-2.5

*ISCJB **24** 11:01:03.8±0.4, 4311N×002×002E±003, h7km, Error ellipse: s-maj=3.7km s-min=2.9km az=134.3*
*STR **24** 11:01:05.2±0.0, 4301N×000E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **24** 11:01:05.3±0.1, 4303N×002W, h10km, ML2.5/6, Error ellipse: s-maj=2.5km s-min=1.6km az=163.0*
*LDG **24** 11:01:05.1±0.1, 4302N×001W, h6km, Md2.3/3, Ml2.3/7, Error ellipse: s-maj=1.9km s-min=1.3km az=171.0*
*MDD **24** 11:01:05.7±0.3, 4301N×001E, h7km±3km, mbLg1.7/11, Error ellipse: s-maj=2.1km s-min=1.7km az=13.0, PRXIMO*

ISC 24 11:01:04.6±0.5, 4305N±003×001E±003, h15km±7km, n41, σ0°73/53, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**97**	Pg	**Pg**	**11 01 07.2**	**-0.1**
LABF	**Labassere**	**0.05**	**97**	Pg	**Pg**	**11 01 07.2**	**-0.1**
LABF				Lg		11 01 08.6	
VIEF	**Viey**	**0.17**	**177**	Pg	**Pg**	**11 01 08.4**	**-0.4**
VIEF	**Viey**	**0.17**	**177**	Pg	**Pg**	**11 01 08.4**	**-0.4**
VIEF				Lg		11 01 10.6	
EPF	**Esparros**	**0.24**	**95**	*e*Pg	**Pg**	**11 01 10.2**	**+0.3**
EPF				*e*Sg	**Sg**	**11 01 14.2**	**+0.7**
	40nm,0.2s						
EPF	**Esparros**	**0.24**	**95**	*e*Pg	**Pg**	**11 01 10.2**	**+0.3**
EPF				*e*Sg	**Sg**	**11 01 14.2**	**+0.7**
	20nm,0.2s						
RESF	**Ens**	**0.34**	**135**	Pg	**Pg**	**11 01 11.5**	**-0.2**
RESF				Sg	**Sg**	**11 01 16.5**	**+0.1**
RESF	**Ens**	**0.34**	**135**	Pg	**Pg**	**11 01 11.7**	**0.0**
RESF				Lg		11 01 16.5	
EBIE	**Bielsa**	**0.38**	**165**	⇑Pg	**Pg**	**11 01 12.1**	**-0.2**
	4.1nm,0.0s,SNR=18						
EBIE				Lg		11 01 16.7	
	32nm,0.1s,SNR=12						
EBIE	**Bielsa**	**0.38**	**165**	Pg	**Pg**	**11 01 12.1**	**-0.2**
	4.1nm,0.0s,SNR=18						
EBIE				Lg		11 01 16.7	
	32nm,0.1s,SNR=12						
ETSF	**Etsaut**	**0.45**	**250**	*e*Pg	**Pg**	**11 01 13.5**	**0.0**
ETSF				*e*Sg	**Sg**	**11 01 19.1**	**-0.4**
	28nm,0.3s						
ETSF	**Etsaut**	**0.45**	**250**	*e*Pg	**Pg**	**11 01 13.5**	**0.0**
ETSF				*e*Sg	**Sg**	**11 01 19.1**	**-0.4**
	14nm,0.3s						
ATE	**Arette**	**0.52**	**274**	Pg	**Pg**	**11 01 15.1**	**+0.2**
ATE	**Arette**	**0.52**	**274**	Pg	**Pg**	**11 01 15.0**	**+0.1**
ATE				Lg		11 01 22.9	
MELF	**Melles**	**0.58**	**108**	Pg	**Pg**	**11 01 16.0**	**0.0**
MELF				Lg		11 01 24.3	
LARF	**Larrau**	**0.73**	**269**	Lg		11 01 29.5	
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**11 01 21.6**	**-0.6**
SJPF				*e*Sg	**Sg**	**11 01 32.7**	**-1.4**
	6.6nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**11 01 21.6**	**-0.6**
SJPF				*e*Sg	**Sg**	**11 01 32.7**	**-1.4**
	3.3nm,0.2s						
SALF	**Salau**	**0.91**	**108**	Pg	**Pg**	**11 01 22.5**	**+0.2**
SALF	**Salau**	**0.91**	**108**	Pg	**Pg**	**11 01 22.5**	**+0.1**
SALF				Lg		11 01 34.1	
ELIZ	**Elizondo**	**1.13**	**276**	Pg	**Pg**	**11 01 28.2**	**+1.7**
	0.5nm,0.1s,SNR=4.0						
ELIZ				Lg		11 01 44.9	
	1.0nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**265**	Pg	**Pg**	**11 01 29.6**	**+2.8**
	0.2nm,0.0s,SNR=7.9						
IUSE				Lg		11 01 44.0	
	1.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**11 01 31.8**	**+0.7**
	2.5nm,0.1s,SNR=7.9						
ESAC				Lg		11 01 50.4	
	11nm,0.1s,SNR=14						
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**11 01 31.8**	**+0.7**
	2.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**11 01 35.3**	**0.0**
	0.4nm,0.1s,SNR=4.8						
EMIR				Lg		11 01 56.6	
	1.9nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**11 01 35.3**	**0.0**
	0.4nm,0.1s,SNR=4.8						
MTLF	**Montolieu**	**1.64**	**79**	*e*Pn	**Pn**	**11 01 33.2**	**+0.2**
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**11 01 36.3**	**+0.2**
MTLF				*e*Sg	**Sg**	**11 01 57.5**	**+0.1**
	3.2nm,0.2s						
MTLF	**Montolieu**	**1.64**	**79**	Pn	**Pn**	**11 01 33.2**	**+0.2**
MTLF				Pg	**Pg**	**11 01 36.3**	**+0.2**
MTLF				Lg		11 01 57.5	
	1.6nm,0.2s						
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**11 01 36.3**	**+0.2**
MTLF				*e*Sg	**Sg**	**11 01 57.5**	**+0.1**
	1.6nm,0.2s						
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**11 01 39.8**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg		11 02 03.7	
	2.0nm,0.1s,SNR=6.3						
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**11 01 39.8**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**11 01 42.5**	**+0.3**
LFF				*e*Sg	**Sg**	**11 02 08.6**	**+1.0**
	9.3nm,0.3s						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**11 01 42.5**	**+0.3**
LFF				*e*Sg	**Sg**	**11 02 08.6**	**+1.0**
	4.7nm,0.3s						
ERTA	**Horta de San J**	**2.11**	**173**	Lg		11 02 11.3	
	0.1nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**11 01 49.0**	**-1.4**
CAF				*e*Sg	**Sg**	**11 02 21.3**	**-0.1**
	2.4nm,0.2s						
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**11 01 49.0**	**-1.4**
CAF				*e*Sg	**Sg**	**11 02 21.3**	**-0.1**
	1.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Sg	**Sg**	**11 02 24.3**	**-0.6**
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Sg	**Sg**	**11 02 24.3**	**-0.6**
	1.1nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Sg	**Sg**	**11 02 39.9**	**-0.4**
	1.7nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Sg	**Sg**	**11 02 39.9**	**-0.4**
	0.9nm,0.2s						

IDC 24 11:03:08.8±1.9, 291N×12506E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=187.6km s-min=25.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.47**	**159**	P	P	11 08 29.3	-0.1
	0.8nm,0.5s,baz=337,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.79**	**162**	P	P	11 09 00.7	+1.2
	0.2nm,0.7s,baz=340,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	11 12 58.2	0.0
	0.3nm,0.4s,baz=123,slow=7.5,SNR=7.7						

MAN 24 11:15:45.8, 971N×12546E, h5km, mb3.4, ML4.6, MS1.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.08**	**22**	⇑*e*P	Pg	11 15 48.0	+0.6
MSLP	**Maasin**	**0.73**	**306**	*e*P	Pg	11 15 59.5	-0.2
MSLP				*e*S	Sg	11 16 07.9	-1.2
BUTP	**Butuan**	**0.75**	**168**	*e*P	Pg	11 16 00.5	+0.3
CGP	**Cagayan de Oro**	**1.46**	**211**	⇑*i*P	Pn	11 16 11.0	-1.7
CGP				*i* S	Sb	11 16 33.0	+0.9
PLP	**Palo**	**1.52**	**342**	*e*P	Pn	11 16 13.3	-0.3
PLP				*e*S	Sn	11 16 29.8	-4.0
BUKP	**Musuan**	**1.86**	**192**	*e*P	Pn	11 16 18.0	-0.2

IDC 24 11:53:11.4±0.9, 4663N×15487E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, Error ellipse: s-maj=39.7km s-min=22.2km az=106.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**41.11**	**32**	P	P	12 00 56.5	-0.5
	1.0nm,0.8s,baz=272,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**64.66**	**336**	P	P	12 03 49.9	-1.1
	1.2nm,0.5s,baz=54,slow=7.8,SNR=8.4						
WRA	**Warramunga Arr**	**68.81**	**201**	P	P	12 04 16.5	-0.9
	0.4nm,0.8s,baz=22,slow=6.5,SNR=3.9						
HFS	**Hagfors**	**68.99**	**340**	P	P	12 04 18.7	+0.1
	1.2nm,0.4s,baz=72,slow=9.3,SNR=8.9						
ASAR	**Alice Springs**	**72.49**	**200**	P	P	12 04 40.7	+0.8
	0.6nm,0.7s,baz=14,slow=5.3,SNR=9.1						
TXAR	**Lajitas Array**	**76.49**	**62**	P	P	12 05 03.3	+0.1
	1.0nm,0.6s,baz=304,slow=4.8,SNR=17						

*IDC **24** 12:02:05.8±0.7, 4608N×15426E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.1/28, mbtmp4.1/21, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/51, Error ellipse: s-maj=18.8km s-min=15.8km az=162.0*
*BJI **24** 12:02:06.8, 4665N×15425E, h8km, mB4.9, mb4.4*
*NEIC **24** 12:02:07.3±0.5, 4608N×15423E, h10km, mb4.6/7, Error ellipse: s-maj=11.8km s-min=7.9km az=150.0*
*ISCJB **24** 12:02:09.5±0.6, 4613N±009×15424E±009, h35km, mb4.3/37, MS3.3/2, Error ellipse: s-maj=14.2km s-min=8.1km az=131.3*
*MOS **24** 12:02:09.0±1.1, 4604N×15404E, h33km, mb4.3/23, Error ellipse: s-maj=13.6km s-min=10.1km az=117.3*

ISC 24 12:02:11.6±0.6, 4624N±010×15427E±009, h35km, n76, σ1°91/76, mb4.3/37, MS3.3/2, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.59**	**260**	*e*PN	**Pn**	**12 03 13.0**	**-5.6**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
ASAJ	**Asahikawa**	**8.52**	**260**	Pn	**Pn**	**12 04 10.9**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=125,slow=19,SNR=3.7						
ASAJ	**Asahikawa**	**8.52**	**260**	PN	**Pn**	**12 04 11.0**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.44**	**289**	*e*P	**Pn**	**12 05 47.2**	**+0.5**
MJAR	**Matsushiro Arr**	**15.44**	**237**	Pn	**Pn**	**12 05 42.6**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=3.3						
KSRS	**Korea Array**	**21.42**	**255**	P	**P**	**12 06 57.1**	**+0.6**
	comp=Z,1.8nm,0.8s,mb3.5,baz=54,slow=10,SNR=5.0						
BILL	**Bilibino**	**22.72**	**12**	⇑*e*P	**P**	**12 07 12.6**	**+2.2**
BILL				pmax	pmax		
	comp=Z,26nm,1.8s,mb4.4						
BILL	**Bilibino**	**22.72**	**12**	*e*P	**P**	**12 07 10.0**	**-0.4**
	comp=Z,24nm,1.3s,mb4.5						
BOD	**Bodaibo**	**26.93**	**310**	*e*P	**P**	**12 07 46.7**	**-2.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.8						
TIXI	**Tiksi**	**28.19**	**343**	*e*P	**P**	**12 07 57.6**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
HHC	**Hu-ho-hao-te**	**31.13**	**276**	⇑P	**P**	**12 08 27.8**	**+0.9**
HHC				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,82nm,4.9s						
SONM	**Songino Array**	**32.26**	**291**	P	**P**	**12 08 37.6**	**+0.8**
	comp=Z,1.8nm,1.0s,mb3.9,baz=61,slow=7.5,SNR=5.6						
SONM				LR	LR	12 21 11.1	
	comp=Z,38nm,18.9s,MS3.1,baz=3.6,slow=36						
SONM	**Songino Array**	**32.26**	**291**	P	**P**	**12 08 37.6**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,38nm,18.9s						
ZAK	**Zakamensk**	**33.62**	**296**	*e*P	**P**	**12 08 46.2**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
KDAK	**Kodiak Island**	**33.81**	**50**	P	**P**	**12 08 48.8**	**-1.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=282,slow=2.9,SNR=4.5						
COLA	**College**	**36.05**	**38**	*e*P	**P**	**12 09 10.7**	**+1.1**
LZH	**Lanzhou**	**38.71**	**273**	*e*P	**P**	**12 09 33.3**	**+1.1**
LZH				AP	pP	12 09 38.1	-4.3
LZH				XP	sP	12 09 41.3	-5.3
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.71**	**273**	*e*P	**P**	**12 09 33.2**	**+1.0**
LZH				*SP	sP	12 09 41.2	-5.4
LZH				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.71**	**273**	*e*P	**P**	**12 09 33.2**	**+1.0**
	comp=Z,18nm,1.2s,mb4.7						
LZH				pP	pP	12 09 38.1	-4.3
LZH				sP	sP	12 09 41.2	-5.4
GTA	**Gaotai**	**39.84**	**280**	P	**P**	**12 09 42.8**	**+1.1**
GTA				AP	pP	12 09 47.6	-4.3
GTA				XP	sP	12 09 50.5	-5.6
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.2						
INK	**Inuvik**	**41.66**	**32**	P	**P**	**12 09 57.5**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.7,baz=258,slow=11,SNR=6.8						
INK	**Inuvik**	**41.66**	**32**	*e*P	**P**	**12 09 57.8**	**+1.1**
	comp=Z,103nm,1.0s,mb5.4						
ZAL	**Zalesovo**	**43.58**	**307**	P	**P**	**12 10 11.3**	**-0.8**
	comp=Z,1.1nm,0.6s,mb3.8,baz=48,slow=23,SNR=4.1						
ZAL				LR	LR	12 27 45.6	
	comp=Z,47nm,19.0s,MS3.4

	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.97**	**342**	P	**P**	**12**	**13**	**15.5 +2.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.97**	**342**	P	**P**	**12**	**13**	**13.6 +0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=26,slow=6.3,SNR=6.3							
NOA	**NORSAR Array B**	**68.97**	**342**	P	**P**	**12**	**13**	**13.6 +0.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**68.97**	**342**	P	**P**	**12**	**13**	**13.6 +0.3**
HFS	**Hagfors**	**69.22**	**340**	P	**P**	**12**	**13**	**14.6 -0.2**
	comp=Z,2.5nm,0.4s,mb4.5,baz=49,slow=6.8,SNR=19							
HFS	**Hagfors**	**69.22**	**340**	P	**P**	**12**	**13**	**14.6 -0.2**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**	**12**	**13**	**30.6 -1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=16,slow=5.1,SNR=10.0							
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**	**12**	**13**	**30.7 -0.9**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**72.42**	**327**	P	**P**	**12**	**13**	**33.7 -0.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=31,slow=6.3,SNR=5.9							
AKASG	**Malin Array Be**	**72.42**	**327**	P	**P**	**12**	**13**	**33.7 -0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**72.42**	**327**	P	**P**	**12**	**13**	**33.7 -0.6**
EKA	**Eskdalemuir Ar**	**77.03**	**347**	P	**P**	**12**	**14**	**05.8 +4.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=24,slow=5.1,SNR=14							
EKA	**Eskdalemuir Ar**	**77.03**	**347**	P	**P**	**12**	**14**	**05.8 +4.9**
EKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**12**	**14**	**01.3 +0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=305,slow=4.5,SNR=13							
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**12**	**14**	**01.3 +0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**79.27**	**335**	P	**P**	**12**	**14**	**12.6 -0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=322,slow=6.2,SNR=5.1							
GERES	**GERESS Array B**	**79.27**	**335**	P	**P**	**12**	**14**	**12.6 -0.7**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**79.31**	**318**	P	**P**	**12**	**14**	**13.4 -0.1**
	comp=Z,1.8nm,1.0s,mb4.0,baz=83,slow=3.1,SNR=5.9							
BRTR	**Keskin Array B**	**79.31**	**318**	P	**P**	**12**	**14**	**13.5 -0.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,1.0s							

*ISCJB **24** 12:05:19.7±0.6, 2296N±003×10427E±005, h10km, Error ellipse: s-maj=7.5km s-min=3.6km az=128.6*
*BJI **24** 12:05:20.8, 2306N×10420E, h15km, ML3.9, Ms3.6, Msz3.4*

ISC 24 12:05:20.6±0.5, 2300N±003×10422E±005, h10km, n10, σ0§96/25, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLVN	**Son La**	**1.69**	**190**	*e*PG		**Pg**	**12 05 53.0**	**+0.1**
SLVN				*e*SG		**Sg**	**12 06 15.3**	**+0.5**
HBVN	**Hoa-Binh**	**2.41**	**154**	*e*PG		**Pg**	**12 06 05.2**	**-1.5**
HBVN				*e*SG		**Sg**	**12 06 37.2**	**-0.7**
HNV	**Hanoi**	**2.44**	**143**	*e*PG		**Pg**	**12 06 06.8**	**-0.5**
HNV				*e*SG		**Sg**	**12 06 40.1**	**+1.2**
MTZV	**Met**	**2.44**	**126**	*e*PN		**Pn**	**12 06 01.6**	**+1.0**
MTZV				*e*PG		**Pg**	**12 06 07.7**	**+0.2**
MTZV				*e*SG		**Sg**	**12 06 39.3**	**+0.2**
KMI	**Kunming**	**2.51**	**328**	P		**Pn**	**12 06 02.6**	**+1.2**
KMI				PG		**Pg**	**12 06 07.8**	**-0.8**
KMI				SG		**Sg**	**12 06 40.3**	**-0.8**
KMI				Smax				
	comp=N,202nm,1.0s							
KMI				Smax				
	comp=E,229nm,0.9s							
DSV	**Doi Son**	**2.91**	**145**	*e*Pn		**Pn**	**12 06 07.2**	**+0.4**
DSV				*e*PG		**Pg**	**12 06 15.0**	**-1.3**
DSV				*e*SG		**Sg**	**12 06 53.0**	**-0.9**
YTV	**Yen Tu**	**2.96**	**128**	*e*PN		**Pn**	**12 06 08.8**	**+1.2**
YTV				*e*PG		**Pg**	**12 06 17.1**	**-0.2**
YTV				*e*SG		**Sg**	**12 06 56.1**	**+0.5**
PLV	**Phu-Lien**	**3.13**	**134**	*e*PN		**Pn**	**12 06 10.9**	**+1.0**
PLV				*e*Pg		**Pg**	**12 06 19.8**	**-0.8**
PLV				*e*SG		**Sg**	**12 07 00.7**	**-0.4**
GYA	**Guiyang**	**4.10**	**32**	P		**Pn**	**12 06 23.5**	**+0.2**
GYA				PG		**Pg**	**12 06 37.6**	**-1.5**
GYA				Smax				
	comp=N,220nm,1.1s							
GYA				Smax				
	comp=E,270nm,1.1s							
CD2	**Chengdu**	**7.89**	**357**	*e*P		**Pn**	**12 07 18.3**	**+3.0**
CD2				S		**Sn**	**12 08 48.9**	**+4.3**
CD2				Smax				
	comp=N,30nm,1.2s							
CD2				Smax				
	comp=E,30nm,1.4s							

*NEIC **24** 12:15:33.8±3.3, 7773N×20.13E, h10km, Error ellipse: s-maj=84.5km s-min=10.3km az=52.0*
*ISCJB **24** 12:15:34.6±1.0, 7748N×006×182E±0.4, h1km±9km, Error ellipse: s-maj=17.9km s-min=5.4km az=123.2*
*NAO **24** 12:15:35.3±2.2, 7762N×19.18E, h11km±20km, ML2.7*
*CSEM **24** 12:15:35.7±99.0, 7765N×1929E, h10km, ML2.7*
*BER **24** 12:15:37.8±4.4, 7762N×1901E, h0km±21km, MD2.1, ML2.7, ML2.7(NAO)*

ISC 24 12:15:36.0±1.1, 7754N±006×185E±05, h5km±9km, n12, σ0§98/20, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPA0	**Spitsbergen Ar**	**0.78**	**326**	Pg		**Pg**	**12 15 51.6**	**+0.6**
	baz=133,slow=22							
SPA0				Lg			12 16 01.8	
	baz=125,slow=37							
SPB4	**Spitsbergen Ar**	**0.79**	**326**	*e*P		**Pg**	**12 15 51.1**	**0.0**
SPB4				*e*S		**Sg**	**12 16 01.6**	**+0.4**
SPB4	**Spitsbergen Ar**	**0.79**	**326**	*e*P		**Pg**	**12 15 51.1**	**+0.1**
HOPEN	**Hopen**	**1.80**	**122**	*e*P		**Pn**	**12 16 08.4**	**+0.8**
HOPEN				*e*S		**Sn**	**12 16 30.9**	**+0.1**
HOPEN				AML		AML	12 16 31.8	
	comp=N,594nm,0.3s							
KBS	**Kingsbay**	**1.94**	**319**	Pn		**Pn**	**12 16 08.3**	**-1.2**
KBS				Pg		**Pg**	**12 16 11.8**	**-1.2**
KBS				Lg			12 16 36.1	
KBS	**Kingsbay**	**1.94**	**319**	*e*P		**Pn**	**12 16 08.3**	**-1.2**
KBS				*e*S		**Sn**	**12 16 36.3**	**+2.1**
KBS				AML		AML	12 16 37.1	
	comp=Z,54nm,0.3s							
KBS	**Kingsbay**	**1.94**	**319**	Pn		**Pn**	**12 16 08.3**	**-1.2**
KBS				Pg		**Pg**	**12 16 11.8**	**-1.2**
KBS				*e*Sn		**Sn**	**12 16 34.7**	**+0.5**
KBS				Lg			12 16 36.1	
KBS	**Kingsbay**	**1.94**	**319**	Pg		**Pg**	**12 16 11.8**	**-1.2**
BJO	**Bjornoya**	**3.06**	**177**	*e*Sg		**Sg**	**12 17 15.0**	**+0.8**
BJO				AML		AML	12 17 19.6	
	comp=Z,23nm,0.3s							
BJO	**Bjornoya**	**3.06**	**177**	*e*Sg		**Sg**	**12 17 15.0**	**+0.8**
	comp=Z,23nm,0.3s,SNR=90							
BJO1	**Bjornoya**	**3.06**	**177**	*e*P		**Pn**	**12 16 33.0**	**+8.0**
BJO1				*e*S		**Sn**	**12 17 15.0**	**+13**
ARA0	**ARCESS Array S**	**8.28**	**163**	Pn		**Pn**	**12 17 35.0**	**-1.7**
	baz=1.2,slow=11							
ARA0				Sn		**Sn**	**12 19 02.1**	**-8.5**
	baz=2.5,slow=22							

IDC 24 12:18:04.7±9.7, 6600S×15152E, h60km±67km, mb3.3/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=112.1km s-min=63.6km az=151.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.49**	**232**	P		Pn	12 19 23.7	-0.2
	1.3nm,0.3s,baz=26,slow=8.9,SNR=5.3							
PMG				S		Sn	12 20 27.1	+1.4
	1.9nm,0.3s,baz=167,slow=14,SNR=4.0							
WRA	**Warramunga Arr**	**21.70**	**229**	P		P	12 22 50.2	-0.5
	0.3nm,0.5s,baz=56,slow=9.5,SNR=6.8							
ASAR	**Alice Springs**	**24.41**	**222**	P		P	12 23 17.6	+0.1
	1.3nm,0.5s,baz=57,slow=9.1,SNR=33							
ASPA	**Alice Springs**	**24.41**	**222**	*e*P		P	12 23 19.0	+1.5
STKA	**Stephens Creek**	**27.37**	**199**	P		P	12 23 45.3	+1.0
	0.6nm,0.4s,baz=20,slow=12,SNR=3.3							
FITZ	**Fitzroy Crossi**	**27.97**	**242**	*e*P		P	12 23 58.2	+8.6
	8.1nm,1.2s							

IGQ 24 12:18:11.0, 130S×8043W, h12km±11km, Mb4.2, Ms4.0, 6C-1D, Error ellipse: s-maj=8.8km s-min=2.9km az=168.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHIS	**Cerro-Chispas-**	**0.39**	**310**	⇑P		Pg	12 18 18.4	-0.3
JAMA	**Jama**	**1.06**	**12**	⇑P		Pb	12 18 31.2	0.0
JAMA				S		Sb	12 18 46.5	+1.6
IGUA	**Igualata**	**1.80**	**96**	P		Pn	12 18 44.5	+2.6
BILB	**Tungurahua vol**	**1.94**	**94**	P		Pn	12 18 46.9	+3.2
JUIV	**Juive**	**1.97**	**94**	P		Pn	12 18 47.1	+2.9
ARRY	**Arrayan**	**1.98**	**96**	⇓P		Pn	12 18 47.1	+2.8
RETU	**Refugio**	**1.99**	**94**	P		Pn	12 18 49.3	+4.8
PATA	**Patacocha**	**2.01**	**96**	⇑P		Pn	12 18 47.9	+3.2
RUN5	**Runtun**	**2.01**	**93**	P		Pn	12 18 47.0	+2.3
CAMI	**Rancho Maria**	**2.02**	**72**	P		Pn	12 18 47.4	+2.5
ULBA	**Ulba**	**2.03**	**94**	P		Pn	12 18 47.8	+2.8
ULBA				S		Sn	12 19 15.1	+4.8
PISA	**Pisayambo**	**2.06**	**83**	⇑P		Pn	12 18 48.7	+3.3
NAS1	**Nasa**	**2.06**	**71**	P		Pn	12 18 48.2	+2.8
JUA2	**San Juan 2**	**2.12**	**59**	P		Pn	12 18 48.1	+1.8
VC1	**Cotopaxi 1**	**2.13**	**72**	P		Pn	12 18 49.4	+3.0
VC1				S		Sn	12 19 22.1	+9.3
PINO	**Pino**	**2.15**	**58**	P		Pn	12 18 48.0	+1.4
TAMB	**Tambo**	**2.15**	**74**	⇑P		Pn	12 18 49.7	+3.1
GGP	**Refugio Guagua**	**2.15**	**59**	P		Pn	12 18 48.3	+1.7
YANA	**Yana**	**2.20**	**58**	P		Pn	12 18 48.6	+1.3
ANTI	**Antisana**	**2.42**	**70**	⇑P		Pn	12 18 53.8	+3.5
ANTI				S		Sn	12 19 28.9	+8.9
COTA	**Cotacachi**	**2.65**	**52**	P		Pn	12 18 56.5	+3.0
CAYR	**Refugio Cayamb**	**2.75**	**62**	P		Pn	12 18 58.7	+3.8
CAYR				S		Sn	12 19 38.5	+10
CAYA	**Cayambe**	**2.79**	**61**	P		Pn	12 18 59.4	+3.9
CONE	**Cono NE Rev Vo**	**3.04**	**66**	P		Pn	12 19 06.4	+7.4

*BJI **24** 12:31:08.1, 626S×15092E, h44km, mB5.8, mb5.2, Ms5.7, Msz5.6*
*NEIC **24** 12:31:09.5±0.1, 600S×15048E, h24km, mb5.4/44, ME5.1, MS5.8/177, MW5.8, Error ellipse: s-maj=5.3km s-min=4.1km az=118.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^17 Nm; Mrr 5.41; Mθθ -5.18; Mφφ -0.23; Mrθ 4.60; Mθφ 0.18; Mφr -0.73; Best double couple: Mo 7.10000×10^17 NP1:φs 97.00000°, δ 66.00000°, λ 94.00000°. NP2:φs 268.00000°, δ 25.00000°, λ 82.00000°. Principal axes: T 7.1800, Plg69.0000°, Azm14.0000°; N -0.2500, Plg3.0000°, Azm275.0000°; P -6.9300, Plg21.0000°, Azm184.0000°; Broadband fault plane solution: P waves. NP1:φs 275.00000°, δ 25.00000°, λ 90.00000°. NP2:φs 95.00000°, δ 65.00000°, λ 90.00000°. Principal axes: T Plg70.0000°, Azm5.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm185.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kimbe.
*IDC **24** 12:31:09.7±2.1, 602S×15050E, h25km±13km, mb4.9/24, mb1 5.1/26, mb1mx5.0/27, mbtmp5.0/26, ML4.4/2, MS5.6/29, Ms1 5.6/29, ms1mx5.4/37 Error ellipse: s-maj=14.9km s-min=10.6km az=93.0*
*MOS **24** 12:31:09.7±1.3, 597S×15038E, h33km, mb5.4/26, MS5.7/32, Error ellipse: s-maj=8.6km s-min=5.9km az=82.9*
*GCMT **24** 12:31:09.4±0.1, 643S×15062E, h32km, MW5.9/107, Moment Tensor Solution. s105, c236; s107, c346; Duration: 2§2 Moment tensor: Scale 10^18 Nm; Mrr 0.72±.01; Mθθ -0.85±.01; Mφφ 0.13±.01; Mrθ 0.50±.01; Mθφ -0.10±.01; Mφr 0.02±.01; Best double couple: Mo 0.93800×10^18 NP1:φs 262.00000°, δ 29.00000°, λ 86.00000°. NP2:φs 87.00000°, δ 61.00000°, λ 92.00000°. Principal axes: T 0.8660, Plg74.0000°, Azm3.0000°; N 0.1440, Plg2.0000°, Azm266.0000°; P -1.0100, Plg16.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **24** 12:31:11.5±0.1, 607S±003×15036E±002, h48km, mb5.2/81, MS5.7/214 Error ellipse: s-maj=4.1km s-min=3.3km az=112.3*

ISC 24 12:31:13.5±0.1, 610S±003×15043E±002, h50km, h50km±2.9km:pP-P, n676, σ0§84/433, mb5.2/81, MS5.7/214, 86C-103D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.61**	**224**	Pn		**Pn**	**12 32 20.5**	**-0.1**
	88nm,0.3s,baz=54,slow=6.2,SNR=246							
PMG				Sn		**Sn**	**12 33 13.0**	**+0.1**
	222nm,0.3s,baz=67,slow=15,SNR=14							
PMG				LR		LR	12 33 38.6	
	comp=Z,27μm,18.2s,baz=26,slow=32							
PMG	**Port Moresby**	**4.61**	**224**	*d*iP		**Pn**	**12 32 21.5**	**+0.9**
PMG	**Port Moresby**	**4.61**	**224**	*e*Pn		**Pn**	**12 32 21.0**	**+0.3**
HNR	**Honiara**	**9.99**	**110**	Pn		**Pn**	**12 33 34.0**	**-0.3**
	16nm,0.3s,baz=167,slow=0.4,SNR=8.7							
HNR				Sn		**Sn**	**12 35 22.6**	**-2.4**
	4.5nm,0.3s,baz=98,slow=4.5,SNR=1.4							
HNR				LR		LR	12 36 29.6	
	comp=Z,19μm,20.0s,baz=353,slow=32							
HNR	**Honiara**	**9.99**	**110**	*e*P		**Pn**	**12 33 32.4**	**-1.9**
HNR				pmax		pmax		
	comp=Z,413nm,0.9s							
HNR	**Honiara**	**9.99**	**110**	*e*Pn		**Pn**	**12 33 32.4**	**-1.9**
	comp=Z,413nm,0.9s							
CTA	**Charters Tower**	**14.48**	**196**	⇓*i*P		**Pn**	**12 34 34.0**	**-1.5**
	comp=Z,177nm,1.1s							
CTA				*e*S		**Sn**	**12 37 34.6**	**+20**
CTA	**Charters Tower**	**14.48**	**196**	Pn		**Pn**	**12 34 34.0**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=21,slow=15,SNR=43							
CTA				Sn		**Sn**	**12 37 25.4**	**+11**
	comp=Z,0.3nm,0.3s,baz=291,slow=14,SNR=1.5							
CTA				LR		LR	12 40 06.8	
	comp=Z,20μm,18.7s,baz=15,slow=37							
CTA	**Charters Tower**	**14.48**	**196**	⇓*i*P		**Pn**	**12 34 34.0**	**-1.5**
CTA				pmax		pmax		
	comp=Z,177nm,1.1s							
CTAO	**Charters Tower**	**14.48**	**196**	*e*Pn		**Pn**	**12 34 35.2**	**-0.2**
CTAO				*e*pPn			12 34 43.3	
KAKA	**Kakadu**	**18.92**	**248**	*e*P		**Pn**	**12 35 30.5**	**-0.6**
	comp=Z,139nm,0.6s							
KAKA				*e*S		**S**	**12 39 01.6**	**-0.7**
GUMO	**Guam**	**20.33**	**344**	P		**P**	**12 35 44.1**	**-1.3**
	comp=Z,917nm,1.2s,baz=174,slow=8.7,SNR=9.7							
GUMO				S		**S**	**12 39 44.3**	**+14**
	comp=Z,142nm,1.2s,baz=17,slow=19,SNR=2.0							
GUMO				LR		LR	12 42 04.8	
	comp=Z,20μm,21.2s,MS5.5,baz=326,slow=32							
GUMO	**Guam**	**20.33**	**344**	*e*P		**P**	**12 35 46.3**	**+0.9**
GUMO				LR		LR		
	comp=Z,20μm,21.0s,MS5.4							
WRAB	**Tennant Creek**	**20.81**	**227**	*d*iP		**P**	**12 35 50.7**	**+0.1**
WRAB	**Tennant Creek**	**20.81**	**227**	*e*P		**P**	**12 35 51.6**	**+1.0**
WRAB				*e*			12 36 01.8	
WRAB				LR		LR		
	comp=Z,4μm,20.0s,MS4.8							
WB2	**Warramunga Arr**	**20.82**	**227**	⇓*i*P		**P**	**12 35 50.9**	**+0.2**
WB2				*e*S		**S**	**12 39 34.0**	**-6.2**
WRA	**Warramunga Arr**	**20.83**	**227**	P		**P**	**12 35 49.8**	**-1.0**
	comp=Z,39nm,0.4s,baz=52,slow=11,SNR=250							
WRA				S		**S**	**12 39 38.2**	**-2.2**
	comp=Z,25nm,0.9s,baz=50,slow=19,SNR=14							
WRA				ScP		ScP	12 43 33.5	+3.2
	comp=Z,6.2nm,0.6s,baz=50,slow=2.4,SNR=6.3							
WRA				LR		LR	12 44 25.7	
	comp=Z,14μm,19.6s,MS5.3,baz=50,slow=38							
WRA	**Warramunga Arr**	**20.83**	**227**	P		**P**	**12 35 49.8**	**-1.0**
WRA				S		**S**	**12 39 38.2**	**-2.1**
DZM	**Mont Dzumac**	**22.17**	**137**	P		**P**	**12 36 04.7**	**-0.5**
	comp=Z,66nm,0.8s,mb5.1,baz=338,slow=11,SNR=27							
DZM				LR		LR	12 43 23.7	
	comp=Z,20μm,21.1s,MS5.5,baz=76,slow=33							
AS31	**Alice Springs**	**23.62**	**221**	⇓*i*P		**P**	**12 36 20.4**	**+0.5**
AS31				*e*S		**S**	**12 40 37.2**	**+6.5**
ASAR	**Alice Springs**	**23.62**	**221**	P		**P**	**12 36 20.4**	**+0.5**
	comp=Z,39nm,0.5s,mb5.1,baz=54,slow=8.9,SNR=340							
ASAR				ScP		ScP	12 43 41.2	+3.7
	comp=Z,9.7nm,1.0s,baz=37,slow=3.6,SNR=4.4							
ASAR				LR		LR	12 45 42.5	
	comp=Z,13μm,20.3s,MS5.4,baz=61,slow=37							
ASPA	**Alice Springs**	**23.62**	**221**	⇓*i*P		**P**	**12 36 20.4**	**+0.5**
ASPA				*e*S		**S**	**12 40 37.2**	**+6.5**
ARMA	**Armidale**	**24.21**	**177**	*e*P		**P**	**12 36 24.2**	**-1.2**
ARMA				*e*S		**S**	**12 40 40.7**	**+0.4**
STKA	**Stephens Creek**	**26.94**	**197**	*e*P		**P**	**12 36 49.5**	**-0.6**
	comp=Z,70nm,0.6s,mb5.4							
STKA				*e*S		**S**	**12 41 19.1**	**-4.5**
STKA	**Stephens Creek**	**26.94**	**197**	P		**P**	**12 36 49.5**	**-0.6**
	comp=Z,132nm,0.9s,mb5.5,baz=14,slow=11,SNR=38							
STKA				LR		LR	12 47 50.0	
	comp=Z,17μm,20.1s,MS5.6,baz=300,slow=37							
FITZ	**Fitzroy Crossi**	**26.97**	**242**	⇑*i*P		**P**	**12 36 50.6**	**+0.3**
	comp=Z,231nm,0.7s,mb5.8							
FITZ				*e*S		**S**	**12 41 26.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**26.97**	**242**	P		**P**	**12 36 50.9**	**+0.6**
	comp=Z,34nm,0.4s,mb5.2,baz=66,slow=8.0,SNR=148							
FITZ				LR		LR	12 48 25.3	
	comp=Z,11μm,18.7s,MS5.4,baz=67,slow=38							
RIV	**Riverview**	**27.60**	**179**	*e*P		**P**	**12 36 58.4**	**+2.4**
DAV	**Davao City (W)**	**28.04**	**297**	PFAKE			12 37 10.0	+10
DAV				LR		LR		
	comp=Z,9μm,19.0s,MS5.4							
FUNA	**Funafuti**	**28.63**	**97**	PFAKE			12 37 10.0	+4.9
FUNA				LR		LR		
	comp=Z,8μm,20.0s,MS5.3							
CNB	**Canberra Magne**	**29.09**	**182**	*e*P		**P**	**12 37 08.3**	**-0.9**
	comp=Z,116nm,1.2s,mb5.5							
CNB				*e*S		sS	12 42 17.7	-1.5
TOO	**Toolangi**	**31.64**	**187**	*e*P		**P**	**12 37 31.9**	**+0.1**
	comp=Z,36nm,1.1s,mb5.1							
TOO				*e*S		**S**	**12 42 40.5**	**+3.0**
TOO	**Toolangi**	**31.64**	**187**	*e*P		**P**	**12 37 31.9**	**+0.1**
TOO				*e*S		**S**	**12 42 40.5**	**+3.0**
TOO				pmax		pmax		
	comp=Z,36nm,1.1s,mb5.1							
FORT	**Forrest**	**32.31**	**218**	*e*P		**P**	**12 37 37.7**	**+0.1**
	comp=Z,124nm,0.9s,mb5.7							
MBWA	**Marble Bar**	**33.28**	**240**	*e*P		**P**	**12 37 46.7**	**+0.6**
	comp=Z,98nm,0.9s,mb5.7							
MBWA				LR		LR		
	comp=Z,16μm,20.0s,MS5.7							
CBIJ	**Chichi jima**	**33.95**	**347**	LR		LR	12 50 16.2	
	comp=Z,14μm,21.8s,MS5.7,baz=353,slow=34							
TAU	**Tasmania Unive**	**36.76**	**184**	P		**P**	**12 38 15.4**	**-0.7**
TAU				*e**PP		pP	12 38 23.5	-5.7
TAU				pmax		pmax		
	comp=Z,157nm,1.1s,mb5.8							
TAU				MLR		MLR		
	comp=Z,7μm,20.0s,MS5.4							
TAU	**Tasmania Unive**	**36.76**	**184**	P		**P**	**12 38 15.4**	**-0.7**
	comp=Z,158nm,1.1s,mb5.8							
TAU				*e*pP		pP	12 38 23.5	-5.7
TAU				LR		LR		
	comp=Z,7μm,20.0s,MS5.4							
RAO	**Raoul Island**	**37.71**	**131**	LR		LR	12 51 29.3	
	comp=Z,5μm,18.9s,MS5.3,baz=142,slow=32							
RAO	**Raoul Island**	**37.71**	**131**	PFAKE			12 38 30.0	+5.8
RAO				LR		LR		
	comp=Z,6μm,19.0s,MS5.4							
AFI	**Afiamalu**	**37.97**	**105**	P		**P**	**12 38 25.1**	**-1.2**
	comp=Z,63nm,0.8s,mb5.4,baz=82,slow=15,SNR=8.0							
AFI				LR		LR	12 51 29.6	
	comp=Z,5μm,19.5s,MS5.3,baz=275,slow=32							
AFI	**Afiamalu**	**37.97**	**105**	*e*P		**P**	**12 38 25.2**	**-1.1**
AFI				pmax		pmax		
	comp=Z,119nm,1.0s,mb5.6							
AFI				MLR		MLR		
	comp=Z,5μm,20.0s,MS5.3							
AFI	**Afiamalu**	**37.97**	**105**	*e*P		**P**	**12 38 25.2**	**-1.2**
	comp=Z,119nm,1.0s,mb5.6							
AFI				LR		LR		
	comp=Z,5μm,20.0s,MS5.3							
KLBR	**Kellerberrin**	**39.70**	**226**	⇓*i*P		**P**	**12 38 40.7**	**-0.1**
	comp=Z,346nm,1.5s,mb5.9							
KLBR				*e*S		**S**	**12 44 41.9**	**+1.0**
URZ	**Urewera**	**40.13**	**147**	P		**P**	**12 38 43.7**	**-0.6**
	comp=Z,8.5nm,0.6s,mb4.6,baz=59,slow=1.8,SNR=6.3							
URZ				LR		LR	12 52 41.1	
	comp=Z,14μm,21.4s,MS5.8,baz=318,slow=32							
JHJ	**Hachijo jima 2**	**40.30**	**346**	LR		LR	12 55 02.8	
	comp=Z,9μm,18.7s,MS5.6,baz=185,slow=36							
KSM	**Kuching**	**40.76**	**279**	*e*P		**P**	**12 38 50.2**	**+0.7**
NWAO	**Narrogin (SRO)**	**40.80**	**225**	P		**P**	**12 38 49.2**	**-0.7**
	comp=Z,16nm,1.0s,mb4.6,baz=11,slow=3.4,SNR=5.6							
NWAO	**Narrogin (SRO)**	**40.80**	**225**	*e*P		**P**	**12 38 51.5**	**+1.5**
	comp=Z,157nm,1.4s,mb5.5							
NWAO				LR		LR		
	comp=Z,11μm,19.0s,MS5.8							
MUN	**Mundaring**	**41.02**	**227**	*e*P		**P**	**12 38 52.8**	**+1.0**
MUN				*e*S		**S**	**12 45 02.9**	**+2.3**
SNZO	**South Karori**	**41.20**	**152**	PFAKE			12 39 00.0	+6.8
SNZO				LR		LR		
	comp=Z,14μm,19.0s,MS5.9							
RPZ	**Rata Peaks**	**41.62**	**157**	P		**P**	**12 38 56.7**	**0.0**
	comp=Z,6.6nm,0.5s,mb4.5,baz=292,slow=5.4,SNR=3.8							
RPZ				LR		LR	12 53 49.5	
	comp=Z,10μm,20.5s,MS5.7,baz=315,slow=33							
YHNB	**Yeheng**	**41.67**	**318**	*e*P	

QIZ LR LR
comp=N,3μm,21.8s
QIZ LR LR
comp=Z,4μm,21.2s,MS5.3
QIZ Qiongzhong 47.14 303 *e*P **P 12 39 40.1 -0.6**
QIZ LR LR
comp=Z,4μm,21.0s,MS5.4
KSRS Korea Array 48.15 336 P **P 12 39 49.2 +0.7**
comp=Z,18nm,0.7s,mb5.2,baz=153,slow=8.0,SNR=66
KSRS LR LR 12 58 05.6
comp=Z,7μm,21.3s,MS5.6,baz=106,slow=34
KS15 Wonju Array Si 48.16 336 *e*P **P 12 39 49.3 +0.7**
ERM Erimo 48.34 353 PFAKE 12 40 00.0 +10
ERM LR LR
comp=Z,1μm,20.0s,MS4.9
NJ2 Nanjing 48.42 324 *e*P **P 12 39 53.4 +2.7**
NJ2 AP pP 12 40 07.1 +2.9
NJ2 PP PP 12 41 44.9 +1.3
NJ2 S **S 12 46 50.0 +2.3**
NJ2 XS sS 12 47 08.5 -1.9
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,2μm,10.8s
NJ2 LR LR
comp=N,13μm,19.8s,MS6.1
NJ2 LR LR
comp=E,15μm,20.4s,MS6.1
NJ2 LR LR
comp=Z,18μm,19.2s,MS6.1
INCN Inchon 48.71 335 *e*P **P 12 39 52.3 -0.6**
comp=Z,127nm,1.5s,mb5.7
INCN LR LR
comp=Z,5μm,20.0s,MS5.5
WHN Wuhan 50.21 319 P **P 12 40 08.5 +4.2**
WHN LR LR
comp=N,4μm,19.0s,MS5.7
WHN LR LR
comp=E,5μm,18.0s,MS5.7
ASAJ Asahikawa 50.48 353 P **P 12 40 06.2 -0.2**
comp=E,18nm,0.7s,mb5.2,baz=208,slow=6.6
ASAJ LR LR 13 00 35.2
comp=E,6μm,21.1s,MS5.6,baz=181,slow=35
VLA Vladivostok 51.80 343 *de*P **P 12 40 16.0 -0.2**
VLA *e* 12 42 12.6
VLA *e*S **S 12 47 33.3 -1.4**
VLA pmax pmax
comp=Z,112μm,2.8s
DL2 Dalian 52.13 332⇑ *i*P **P 12 40 19.3 +0.6**
DL2 S **S 12 47 43.3 +4.0**
DL2 XS sS 12 48 05.9 +3.7
DL2 SS SS 12 51 14.1 -2.9
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,560nm,7.9s
DL2 LR LR
comp=N,2μm,21.3s,MS5.1
DL2 LR LR
comp=E,1μm,20.3s,MS5.1
DL2 LR LR
comp=Z,2μm,22.5s,MS5.1
TIA Tai'an 52.41 326 *e*P **P 12 40 19.4 -1.4**
TIA S **S 12 47 52.1 +9.0**
TIA AMB AMB
comp=Z,269nm,5.0s
TIA LR LR
comp=N,2μm,21.4s,MS5.2
TIA LR LR
comp=E,2μm,19.6s,MS5.2
COCO West Island 53.19 259 PFAKE 12 40 40.0 +13
COCO LR LR
comp=Z,487nm,21.0s
YSS Yuzh-Sakhalins 53.26 353 *e*P **P 12 40 25.0 -2.0**
YSS *e*PPP 12 43 32.0
YSS *e*S **S 12 47 52.0 -2.7**
YSS *e*PS 12 48 16.0
YSS *e*SS SS 12 51 34.0 -0.8
YSS MLR MLR
comp=Z,4μm,18.0s,MS5.5
YSS MLR MLR
comp=N,3μm,19.0s
YSS Yuzh-Sakhalins 53.26 353⇓ *e*P **P 12 40 20.4 -6.6**
YSS LR LR
comp=Z,4μm,22.0s,MS5.5
GYA Guiyang 53.35 309 P **P 12 40 29.5 +1.8**
GYA AP pP 12 40 44.8 +3.5
GYA XP sP 12 40 49.4 +2.3
GYA PCP PcP 12 41 37.3 +2.7
GYA PP PP 12 42 32.9 +4.6
GYA SCP ScP 12 45 29.3 +1.3
GYA PCS PcS 12 45 34.8 +1.2
GYA S **S 12 47 57.8 +1.9**
GYA XS sS 12 48 20.9 +2.1
GYA SCS ScS 12 50 12.5 -0.3
GYA SS SS 12 51 38.0 +1.8
GYA AMB AMB
comp=Z,790nm,4.9s
GYA LR LR
comp=N,1μm,18.8s,MS5.4
GYA LR LR
comp=E,3μm,17.3s,MS5.4
GYA LR LR
comp=Z,2μm,17.6s,MS5.3
MDJ Mudanjiang 53.86 342 P **P 12 40 31.3 -0.1**
MDJ AP pP 12 40 42.9 -2.2
MDJ XP sP 12 40 47.9 -2.9
MDJ PP PP 12 42 32.6 -0.2
MDJ SCP ScP 12 45 31.3 +1.0
MDJ PCS PcS 12 45 35.9 +0.1
MDJ S **S 12 48 04.5 +1.7**
MDJ XS sS 12 48 23.3 -2.4
MDJ AMB AMB
comp=Z,1μm,6.2s
MDJ LR LR
comp=N,3μm,27.0s,MS5.3
MDJ LR LR
comp=E,1μm,25.5s,MS5.3
MDJ LR LR
comp=Z,5μm,22.5s,MS5.5
MDJ Mudanjiang 53.86 342 *e*P **P 12 40 31.4 0.0**
comp=Z,17nm,0.6s,mb5.2
MDJ LR LR
comp=Z,5μm,22.0s,MS5.6
CN2 Changchun 54.56 338 *e*P **P 12 40 39.3 +2.8**
CN2 *e*S **S 12 48 13.3 +1.0**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.2
CN2 LR LR
comp=E,1μm,17.0s,MS5.2
CN2 LR LR
comp=Z,2μm,19.0s,MS5.2
BJT Baijiatuau 55.70 328 *e*P **P 12 40 46.0 +1.3**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 55.70 328 *e*P **P 12 40 46.0 +1.3**
comp=Z,13nm,0.6s,mb5.1
BJT LR LR
comp=Z,5μm,20.0s,MS5.6
BJI Beijing 55.71 328 P **P 12 40 43.5 -1.3**
BJI AP pP 12 40 57.1 -1.5
BJI XP sP 12 41 03.3 -1.0
BJI AMB AMB
comp=Z,37nm,2.0s,mb5.1
BJI AMB AMB
comp=Z,1μm,4.5s
BJI LR LR
comp=N,6μm,18.6s,MS5.7
BJI LR LR
comp=E,3μm,20.9s,MS5.7
BJI LR LR
comp=Z,5μm,26.7s
BJI Beijing 55.71 328 P **P 12 40 43.5 -1.3**
comp=Z,37nm,2.0s,mb5.1
BJI pP pP 12 40 57.1 -1.5
BJI sP sP 12 41 03.3 -1.0
BJI S **S 12 48 38.9 +11**
BJI SS SS 12 52 38.7 +25
BJI LR LR
comp=Z,5μm,26.7s,MS5.4
KMI Kunming 55.79 306 P **P 12 40 46.3 +0.9**
KMI AP pP 12 41 01.8 +2.6
KMI XP sP 12 41 08.9 +4.0
KMI PCP PcP 12 41 44.3 +0.3
KMI PP PP 12 42 51.4 +1.2
KMI SCP ScP 12 45 39.3 +0.5
KMI PCS PcS 12 45 45.4 +1.1
KMI S **S 12 48 29.3 +0.6**
KMI XS sS 12 48 54.3 +2.5
KMI SCS ScS 12 50 29.1 -1.1
KMI SS SS 12 52 13.3 -1.4
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,597nm,8.5s
KMI LR LR
comp=N,2μm,23.5s,MS5.4
KMI LR LR
comp=E,2μm,18.6s,MS5.4
KMI LR LR
comp=Z,3μm,19.6s,MS5.4
KMI Kunming 55.79 306 P **P 12 40 46.3 +0.9**
KMI *PP pP 12 41 01.7 +2.5
KMI 12 41 44.2
KMI 12 42 51.4
KMI PPP 12 44 11.5
KMI S **S 12 48 29.3 +0.6**
KMI PS 12 48 49.6
KMI 12 50 29.1
KMI SS SS 12 52 13.3 -1.4
KMI SSS 12 54 23.1
KMI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,3μm,19.6s,MS5.4
KMI Kunming 55.79 306 P **P 12 40 46.3 +0.9**
comp=Z,8.0nm,1.0s,mb4.7
KMI pP pP 12 41 01.7 +2.5
KMI sP sP 12 41 08.9 +4.0
KMI PcP PcP 12 41 44.2 +0.2
KMI PP PP 12 42 51.4 +1.2
KMI PPP 12 44 11.5
KMI ScP ScP 12 45 39.3 +0.5
KMI PcS PcS 12 45 45.4 +1.1
KMI S **S 12 48 29.3 +0.6**
KMI PS 12 48 49.6
KMI sS sS 12 48 54.2 +2.4
KMI ScS ScS 12 50 29.1 -1.1
KMI SS SS 12 52 13.3 -1.4
KMI SSS 12 54 23.1
KMI LR LR
comp=Z,3μm,19.6s,MS5.4
XAN Xi'an 55.98 318 P **P 12 40 47.5 +0.8**
XAN AP pP 12 40 58.1 -2.4
XAN S **S 12 48 36.8 +5.6**
XAN SS SS 12 52 22.8 +5.2
XAN AMB AMB
comp=Z,26nm,0.7s,mb5.4
XAN AMB AMB
comp=Z,842nm,14.3s
XAN LR LR
comp=N,1μm,18.0s,MS5.4
XAN LR LR
comp=E,2μm,19.7s,MS5.4
XAN LR LR
comp=Z,6μm,20.2s,MS5.7
HABR Khabarovsk 56.00 348 *e*P **P 12 40 41.0 -5.9**
HABR *e*S **S 12 48 25.4 -6.1**
CM31 Chiang Mai Arr 56.32 297 PFAKE 12 41 00.0 +11
CM31 LR LR
comp=Z,2μm,21.0s,MS5.1
CHTO Chiang Mai 56.45 297 *e*P **P 12 40 49.6 -0.5**
CHTO *e**PP pP 12 41 01.5 -2.4
CHTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CHTO MLR MLR
comp=Z,2μm,20.0s,MS5.2
CHTO Chiang Mai 56.45 297 *e*P **P 12 40 49.6 -0.5**
comp=Z,11nm,0.9s,mb4.9
CHTO *e*pP pP 12 41 01.5 -2.3
CHTO LR LR
comp=Z,2μm,20.0s,MS5.2
KIP Kipapa 57.47 60 *e*P **P 12 40 57.4 +0.1**
KIP LR LR
comp=Z,5μm,19.0s,MS5.7
CD2 Chengdu 57.83 312 P **P 12 41 01.3 +1.5**
CD2 AP pP 12 41 17.3 +3.7
CD2 PCP PcP 12 41 52.5 +0.6
CD2 PP PP 12 43 12.3 +4.0
CD2 S **S 12 48 55.5 -0.1**
CD2 XS sS 12 49 22.8 +4.1
CD2 SCS ScS 12 50 41.6 -3.4
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.6
CD2 AMB AMB
comp=Z,1μm,8.8s
CD2 LR LR
comp=N,4μm,27.6s,MS5.5
CD2 LR LR
comp=E,3μm,29.9s,MS5.5
CD2 LR LR
comp=Z,1μm,16.7s
HHC Hu-ho-hao-te 58.77 326⇑ *i*P **P 12 41 06.4 0.0**
HHC AP pP 12 41 22.4 +2.2
HHC PP PP 12 43 18.0 +1.4
HHC SCP ScP 12 45 49.4 -2.5
HHC S **S 12 49 08.1 +0.3**
HHC XS sS 12 49 33.8 +2.8
HHC SCS ScS 12 50 46.5 -5.4
HHC SS SS 12 53 04.6 +3.1
HHC AMB AMB
comp=Z,22nm,1.7s,mb4.9
HHC AMB AMB
comp=Z,910nm,8.6s
HHC LR LR
comp=N,4μm,17.8s,MS5.7
HHC LR LR
comp=E,4μm,17.9s,MS5.7
HHC LR LR
comp=Z,7μm,17.8s,MS5.8
KHU Kahuku 58.78 63 *e*P **P 12 41 06.1 -0.4**
POHA Pohakuloa 59.03 63 *e*P **P 12 41 08.2 -0.1**
comp=Z,243nm,0.9s,mb6.2
POHA LR LR
comp=Z,6μm,19.0s,MS5.7
PET Petropavlovsk 59.31 6 *e*P **P 12 41 16.7 +6.6**
PET *e*S S 12 49 42.2 +27
PET pmax pmax
comp=Z,1μm,19.2s
PET Petropavlovsk 59.31 6 PFAKE 12 41 20.0 +10
PET LR LR
comp=Z,7μm,20.0s,MS5.8
BTO Baotou 59.47 325 *e*P **P 12 41 11.3 +0.1**
PPT Papeete 59.60 107 *e*S **S 12 49 18.0 -0.5**
comp=Z,5μm,26.2s
PPT *e*LQ 12 56 12.0
comp=Z,14μm,31.8s
PPT *e*LR LR 12 58 47.5
comp=Z,2μm,25.2s
TBI Tubuai 60.19 113 *e*S **S 12 49 26.9 +0.7**
comp=Z,3μm,27.0s
TBI *e*SS SS 12 53 31.4 +7.5
comp=Z,2μm,25.2s
TBI *e*LQ 12 56 47.5
comp=Z,10μm,35.0s
TBI *e*LR LR 12 59 03.1
comp=Z,2μm,31.5s
LZH Lanzhou 60.55 317⇓ P **P 12 41 19.6 +1.0**
LZH AP pP 12 41 33.0 +0.5
LZH XP sP 12 41 38.3 +0.1
LZH PP PP 12 43 35.6 +3.1
LZH S **S 12 49 31.3 +0.5**
LZH XS sS 12 49 53.6 -0.5
LZH SS SS 12 53 31.5 +2.0
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,347nm,7.6s
LZH LR LR
comp=N,3μm,15.6s
LZH LR LR
comp=Z,4μm,18.4s,MS5.6
LZH Lanzhou 60.55 317⇓ P **P 12 41 19.6 +1.0**
LZH *PP pP 12 41 33.0 +0.5
LZH 12 43 35.6
LZH S **S 12 49 31.2 +0.4**
LZH *SS sS 12 49 53.6 -0.5
LZH SS SS 12 53 31.5 +2.0
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,4μm,18.4s,MS5.6
LZH Lanzhou 60.55 317⇓ P **P 12 41 19.6 +1.0**
comp=Z,83nm,1.5s,mb5.6
LZH pP pP 12 41 33.0 +0.5
LZH sP sP 12 41 38.2 0.0
LZH PP PP 12 43 35.6 +3.1
LZH S **S 12 49 31.2 +0.4**
LZH sS sS 12 49 53.6 -0.5
LZH SS SS 12 53 31.5 +2.0
LZH LR LR
comp=Z,4μm,18.4s,MS5.6
DRV Dumont d'Urvil 60.89 185 P **P 12 41 20.0 -1.0**
DRV S **S 12 49 44.0 +8.9**
DRV SS SS 12 53 47.0 +12
DRV L 12 56 00.0
DRV R 13 00 00.0
HIA Hailar 61.29 338 *e*P **P 12 41 22.9 -0.8**
HIA pmax pmax
comp=Z,78nm,0.6s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 61.29 338 *e*P **P 12 41 22.9 -0.8**
comp=Z,78nm,0.6s,mb6.0
HIA LR LR
comp=Z,5μm,19.0s,MS5.7
SMY Shemya 61.96 16 PFAKE 12 41 40.0 +12
SMY LR LR
comp=Z,5μm,20.0s,MS5.7
SHL Shillong 64.96 302 *e*P **P 12 41 48.0 +0.1**
SHL *ex* x 12 50 36.0
MA2 Magadan 65.47 0 PFAKE 12 42 00.0 +8.7
MA2 LR LR
comp=Z,5μm,20.0s,MS5.7
ULN Ulaanbaatar 65.88 330⇑ *e*P **P 12 41 53.3 -0.6**
ULN Ulaanbaatar 65.88 330 *e*P **P 12 41 53.9 -0.1**
comp=Z,7.8nm,0.6s,mb4.9
ULN LR LR
comp=Z,4μm,20.0s,MS5.6
CIT Chita 65.89 336 *e*P **P 12 41 54.3 +0.3**
CIT *e* pP 12 42 05.5 -2.5
CIT *e* 12 46 01.3
CASY Casey 66.09 196 *e*P **P 12 42 02.0 +6.7**
CASY Casey 66.09 196 P **P 12 41 55.0 -0.3**
comp=Z,101nm,1.1s,mb5.8
CASY *e*pP pP 12 42 01.4 -7.9
CASY LR LR
comp=Z,5μm,21.0s,MS5.7
CLNS Chul'man 66.11 345 *e*P **P 12 41 48.2 -7.2**
CLNS *e* 12 42 19.1
CLNS *e*S S 12 50 32.8 -7.3
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,13nm,1.8s
CLNS pmax pmax
comp=Z,18nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax
comp=N,360nm,11.6s
CLNS smax
comp=Z,804nm,13.6s
CLNS smax
comp=E,509nm,10.3s
SONM Songino Array 66.19 329 P **P 12 41 55.8 -0.1**
comp=E,8.8nm,0.9s,mb4.8,baz=150,slow=6.2,SNR=19
SONM PKPPKP 13 10 34.0
comp=E,1.0nm,1.0s,baz=264,slow=0.1,SNR=4.5
SONM LR LR 13 11 15.4
comp=E,3μm,20.5s,MS5.5,baz=138,slow=36
LSA Lhasa 67.05 306 P **P 12 42 02.0 +0.6**
LSA Lhasa 67.05 306 *e*P **P 12 42 01.5 +0.1**
LSA pmax pmax
comp=Z,32nm,1.2s,mb5.2
LSA MLR MLR
comp=Z,3μm,20.0s,MS5.5
LSA Lhasa 67.05 306 *e*P **P 12 42 01.5 +0.1**
comp=Z,32nm,1.2s,mb5.2
LSA LR LR
comp=Z,3μm,20.0s,MS5.5
TAOE Nuku Hiva Isla 68.80 97 *e*S S 12 51 11.6 -0.8
comp=Z,3μm,26.2s
TAOE *e*LR LR 13 03 14.6
comp=Z,6μm,22.8s
SEY Seymchan 68.85 1⇓ *e*P **P 12 42 08.2 -4.5**
ZAK Zakamensk 69.40 330 *e*P **P 12 42 15.3 -0.8**
ZAK *e* 12 46 22.2
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BOK Bokaro 69.57 298 *e*P **P 12 42 15.1 -2.1**
UNV Unalaska Valle 69.79 26 PFAKE 12 42 30.0 +11
UNV LR LR
comp=Z,14μm,20.0s,MS6.2
YAK Yakutsk 69.80 350 *c i*P **P 12 42 16.5 -2.1**
YAK pmax pmax
comp=Z,36nm,1.0s,mb5.3
YAK Yakutsk 69.80 350 *e*P **P 12 42 17.2 -1.4**
comp=Z,25nm,0.8s,mb5.2
YAK LR LR
comp=Z,2μm,20.0s,MS5.4
TLY Talaya 70.04 331 *c i*P **P 12 42 19.2 -0.9**
TLY *e* 12 44 56.0
TLY *e*PPP 12 46 37.0
TLY *e* 12 52 15.7
TLY pmax pmax
comp=Z,21nm,2.3s,mb4.7
TLY Talaya 70.04 331⇑ *i*P **P 12 42 19.5 -0.6**
TLY LR LR
comp=Z,770nm,22.0s,MS4.9
IRK Irkutsk 70.11 332 *e*P **P 12 42 20.8 +0.3**
IRK pmax pmax
comp=Z,47nm,2.5s,mb5.0
BOD Bodaibo 70.19 340 *e*P **P 12 42 19.3 -1.6**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.8
VIS Vishakhapatnam 70.32 291 *e*P **P 12 42 21.7 -0.1**
VIS AMb AMB 12 43 20.1
comp=Z,29nm,1.4s,mb5.0
JIRN Jiri 70.45 302 *e*P **P 12 42 23.2 +0.6**
comp=Z,16nm,0.6s,mb5.2
GUN Gumba 70.79 302 *e*P **P 12 42 25.2 +0.6**
comp=Z,49nm,0.6s,mb5.6
PALK Pallekele 70.82 280 *e*P **P 12 42 25.3 +0.5**
comp=Z,12nm,0.6s
PALK LR LR
comp=Z,256nm,19.0s
PKI Pulchoki 71.09 302 *e*P **P 12 42 26.6 +0.2**
KKN Kakani 71.26 302 *e*P **P 12 42 27.1 -0.4**
MOY Mondy 71.33 330 *e*P **P 12 42 26.9 -1.0**
MOY pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
DMN Daman 71.36 302 *e*P **P 12 42 28.2 +0.2**
comp=Z,26nm,0.7s,mb5.3
VNDA Vanda 71.63 177 P **P 12 42 29.8 0.0**
comp=Z,7.0nm,0.6s,mb4.8,baz=330,slow=6.7,SNR=102
VNDA LR LR 13 12 36.1
comp=Z,3μm,18.7s,MS5.5,baz=293,slow=35
VNDA Vanda 71.63 177 *e*P **P 12 42 29.3 -0.4**
VNDA *e**PP pP 12 42 35.9 -8.0
VNDA pmax pmax
comp=Z,68nm,1.3s
VNDA MLR MLR
comp=Z,3μm,19.0s
VNDA Vanda 71.63 177 *e*P **P 12 42 29.2 -0.5**
comp=Z,68nm,1.3s,mb5.4
VNDA *e*pP pP 12 42 35.9 -8.0
VNDA LR LR
comp=Z,3μm,19.0s,MS5.6
GKN Gorkha 71.87 302 *e*P **P 12 42 31.1 0.0**
comp=Z,24nm,0.6s,mb5.3
SBA Scott Base 72.22 176 *e*P **P 12 42 34.4 +1.2**

comp=Z,104nm,1.5s,mb5.5
SBA ep P pP 12 42 41.0 -6.5
SBA LR LR
comp=Z,2µm,20.0s,MS5.3
MDRS Chennai 72.26 286 ex x 12 42 39.2
KOLN Koldanda 72.68 301 eP **P 12 42 36.0 0.0**
comp=Z,22nm,0.8s,mb5.2
RKT Rikitea 73.48 112 eS S 12 52 07.9 +1.4
comp=Z,2µm,28.5s
RKT eSS SS 12 56 45.9 -3.8
comp=Z,876nm,31.2s
RKT eLQ 13 01 43.7
comp=Z,4µm,38.8s
RKT eLR LR 13 05 27.1
comp=Z,2µm,34.0s
TRD Trivandrum 74.67 281 eP **P 12 42 47.2 -0.5**
TRD AMb AMB 12 43 16.4
comp=Z,54nm,1.8s,mb5.2
HYB Hyderabad 74.70 290 i P **P 12 42 47.5 -0.3**
HYB Hyderabad 74.70 290 eP **P 12 42 47.5 -0.3**
BILL Bilibino 74.81 6⇓ eP **P 12 42 45.5 -3.0**
BILL pmax pmax
comp=Z,34nm,2.5s,mb4.8
BILL Bilibino 74.81 6 eP **P 12 42 46.8 -1.7**
comp=Z,26nm,1.1s,mb5.1
BILL LR LR
comp=Z,3µm,22.0s,MS5.6
WMQ Urumqi 75.12 318 ⇑P **P 12 42 50.0 -0.2**
WMQ PCP PcP 12 43 03.6 0.0
WMQ AP pP 12 43 05.5 +1.0
WMQ XP sP 12 43 11.5 +1.4
WMQ PP PP 12 45 41.0 +2.2
WMQ S S 12 52 22.0 -2.8
WMQ SKS 12 52 48.8
WMQ XS sS 12 52 50.8 +2.0
WMQ SCS ScS 12 52 53.8 -4.9
WMQ AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
WMQ AMB AMB
comp=Z,414nm,5.0s
WMQ LR LR
comp=N,2µm,20.0s,MS5.6
WMQ LR LR
comp=E,2µm,20.9s,MS5.6
WMQ LR LR
comp=Z,3µm,20.8s,MS5.5
LGTI Lohaghat 75.97 302 eP **P 12 42 55.3 +0.2**
BHPL Bhopal 76.94 295 eP **P 12 43 00.4 -0.2**
DGAR Diego Garcia 77.35 264 PFAKE 12 43 10.0 +7.1
DGAR LR LR
comp=Z,461nm,20.0s,MS4.8
MNGI Mangalore 77.44 285 i P **P 12 43 03.5 +0.1**
MNGI i S S 12 52 54.8 +4.4
TNA Tin City 77.69 16 PFAKE 12 43 10.0 +5.2
TNA LR LR
comp=Z,2µm,20.0s,MS5.5
NDI New Delhi 78.35 301 ex **P 12 43 08.0 -0.5**
KDAK Kodiak Island 78.40 27 P **P 12 43 06.2 -2.5**
comp=Z,4.2nm,0.9s,mb4.4,baz=259,slow=5.2,SNR=3.9
KDAK Kodiak Island 78.40 27 P **P 12 43 06.2 -2.5**
KDAK eP 12 43 14.8
KDAK LR LR
comp=Z,834nm,20.0s,MS5.1
KAD Karad 78.78 289 eP **P 12 43 10.2 -0.6**
TIXI Tiksi 78.89 353 eP **P 12 43 07.2 -4.2**
TIXI e pP 12 43 20.1 -5.7
TIXI e 12 46 05.7
TIXI eS S 12 53 04.9 -1.0
TIXI eSS SS 12 58 08.9 -2.6
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.5
TIXI Tiksi 78.89 353⇓ i P **P 12 43 08.6 -2.8**
TIXI LR LR
comp=Z,2µm,19.0s,MS5.5
SVW2 Sparrevohn 78.94 24 eP **P 12 43 10.0 -1.7**
POO Poona 79.31 290 eP **P 12 43 12.0 -1.7**
comp=Z,60nm,1.2s,mb5.4
POO ex x 12 44 25.9
MK31 Makanchi Array 79.77 320 eP **P 12 43 16.0 -0.2**
MKAR Makanchi Array 79.77 320 P **P 12 43 14.9 -1.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=101,slow=6.7,SNR=14
MKAR PKKPbc PKKPbc 13 02 01.8 -0.5
comp=Z,0.7nm,0.7s,baz=326,slow=1.7,SNR=5.2
MKAR LR LR 13 17 47.0
comp=Z,4µm,20.5s,MS5.7,baz=101,slow=35
MKAR Makanchi Array 79.77 320 P **P 12 43 14.9 -1.3**
MKAR PKKPbc PKKPbc 13 02 01.8 -0.5
MKAR LR LR 13 17 47.0
AJM Ajmer 80.10 298 eP **P 12 43 16.0 -2.0**
AJM AMb AMB 12 43 33.8
comp=Z,24nm,0.8s,mb5.2
SLKM Skilak Lake 80.84 26 eP **P 12 43 19.4 -2.6**
ZAL Zalesovo 80.94 327 P **P 12 43 20.5 -2.0**
comp=Z,5.1nm,0.6s,mb4.6,baz=355,slow=6.2,SNR=24
ZAL PKPPKP 13 10 06.6
comp=Z,0.8nm,0.5s,baz=195,slow=3.7,SNR=5.0
ZAL LR LR 13 20 05.9
comp=Z,4µm,19.1s,MS5.7,baz=351,slow=36
ZAL Zalesovo 80.94 327 P **P 12 43 20.5 -2.0**
ZAL P'P' 13 10 06.6
ZAL LR LR 13 20 05.9
PMR Palmer 81.84 25 eP **P 12 43 24.3 -3.0**
PMR pmax pmax
comp=Z,48nm,1.4s,mb5.2
PMR MLR MLR
comp=Z,3µm,20.0s,MS5.6
PMR Palmer 81.84 25 eP **P 12 43 24.2 -3.0**
comp=Z,48nm,1.4s,mb5.2
PMR LR LR
comp=Z,3µm,20.0s,MS5.6
KSH Kashi 82.00 311 eP **P 12 43 30.6 +2.5**
KSH eAP pP 12 43 44.1 +1.5
KSH eXP sP 12 43 49.1 +1.0
KSH ePP PP 12 46 42.1 +5.9
KSH eS S 12 53 39.6 +1.1
KSH eSKS 12 53 44.3
KSH eXS sS 12 54 05.1 +2.4
KSH eSS SS 12 59 09.3 +11
KSH AMB AMB
comp=Z,2µm,4.0s
KSH LR LR
comp=N,8µm,20.8s
KSH LR LR
comp=E,2µm,8.2s
KSH LR LR
comp=Z,2µm,10.0s
NVS Novosibirsk 82.14 327 eP **P 12 43 20.4 -8.4**
NVS eS S 12 53 37.4 -2.5
NVS pmax pmax
comp=Z,86nm,2.8s,mb5.2
NVS pmax pmax
comp=E,80nm,2.7s
NVS pmax pmax
comp=Z,30nm,1.9s,mb4.9
NVS pmax pmax
comp=N,22nm,2.5s
NVS pmax pmax
comp=E,18nm,2.0s
NVS smax
comp=N,85nm,3.7s
NVS smax
comp=E,150nm,3.6s
SML Sawmill 82.28 25 eP **P 12 43 27.6 -2.0**
MCK McKinley 82.97 23 eP **P 12 43 30.3 -2.8**
MCK LR LR
comp=Z,3µm,20.0s,MS5.7
DIV Divide 83.06 26 eP **P 12 43 31.1 -2.5**
comp=Z,29nm,1.1s,mb5.2
DIV LR LR
comp=Z,7µm,21.0s,MS6.0
MAW Mawson 83.47 203 eP **P 12 43 35.3 -0.4**
comp=Z,16nm,1.1s,mb5.0
MAW Mawson 83.47 203 P **P 12 43 35.4 -0.3**
comp=Z,3.7nm,0.5s,mb4.7,baz=86,slow=7.2,SNR=26
MAW LR LR 13 17 50.1
comp=Z,4µm,21.4s,MS5.8,baz=84,slow=34
MAW Mawson 83.47 203 eP **P 12 43 35.3 -0.4**
MAW pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 83.85 314⇑ eP **P 12 43 35.7 -2.0**
AAK MLR MLR
comp=Z,1µm,21.0s,MS5.3
QSPA South Pole Qui 83.87 180 eP **P 12 43 36.9 -0.9**
QSPA epP pP 12 43 45.3 -7.0
QSPA LR LR
comp=Z,3µm,20.0s,MS5.6
COLA College 83.93 22⇑ i P **P 12 43 34.9 -3.2**
COLA College 83.93 22 eP **P 12 43 34.4 -3.8**
comp=Z,20nm,0.8s,mb5.3
COLA LR LR
comp=Z,3µm,20.0s,MS5.6
MENT Mentasta 84.71 25 eP **P 12 43 41.4 -0.6**
EGAK Eagle 86.48 24 eP **P 12 43 48.1 -2.7**
comp=Z,30nm,1.0s,mb5.5
EGAK LR LR
comp=Z,5µm,20.0s,MS5.9
SIT Sitka 86.61 32 PFAKE 12 44 00.0 +8.5
SIT LR LR
comp=Z,9µm,20.0s,MS6.2
DAWY Dawson 86.94 24 eP **P 12 43 51.5 -1.5**
WRAK Wrangell Islan 88.03 33 PFAKE 12 44 10.0 +12
WRAK LR LR
comp=Z,6µm,20.0s,MS6.0
CHKZ Chkalovo 88.87 324 eP **P 12 43 59.2 -3.1**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
CHKZ Chkalovo 88.87 324 eP **P 12 43 59.2 -3.1**
comp=Z,4.0nm,0.6s,mb4.9
BVAR Borovoye Array 88.87 323 P **P 12 44 00.1 -2.1**
comp=Z,2.1nm,0.7s,mb4.6,baz=113,slow=5.3,SNR=14
BVAR LR LR 13 26 29.8
comp=Z,2µm,18.3s,MS5.7,baz=137,slow=37
BRVK Borovoye 88.94 324 eP **P 12 44 01.7 -0.9**
BRVK Borovoye 88.94 324 PFAKE 12 44 10.0 +7.4
BRVK LR LR
comp=Z,990nm,19.0s,MS5.2
INK Inuvik 90.51 21 P **P 12 44 07.2 -2.8**
comp=Z,16nm,1.0s,mb5.3,baz=250,slow=5.0,SNR=23
INK LR LR 13 23 20.3
comp=Z,4µm,19.3s,MS5.8,baz=253,slow=35
INK Inuvik 90.51 21 eP **P 12 44 07.5 -2.4**
comp=Z,705nm,1.1s
KCPM Cahto Peak 90.77 50 eP **P 12 44 11.0 -0.2**
KCPM ePP PP 12 47 44.2 -2.9
P01C Double 8 Ranch 90.93 51⇑ P **P 12 44 12.0 +0.1**
baz=91
HOPS Hopland 91.08 51 PFAKE 12 44 20.0 +7.4
HOPS LR LR
comp=Z,6µm,20.0s,MS6.1
K02A Glendale 91.22 47⇓ P **P 12 44 13.3 +0.1**
baz=91
GASB Alder Springs 91.43 50⇓ P **P 12 44 14.7 +0.5**
baz=91
O02C Red Bluff 91.44 50⇓ P **P 12 44 14.6 +0.4**
baz=91,SNR=7.8
M02C Callahan 91.53 49⇓ P **P 12 44 14.9 +0.3**
baz=92
MNRC McLaughlin Nat 91.55 51⇓ P **P 12 44 14.8 0.0**
baz=92
COR Corvallis 91.58 46 PFAKE 12 44 20.0 +5.1
COR LR LR
comp=Z,5µm,21.0s,MS5.9
HUMO Hull Mountain 91.59 48 eP **P 12 44 14.8 -0.2**
comp=Z,18nm,0.8s,mb5.4
HUMO Hull Mountain 91.59 48 P **P 12 44 15.3 +0.3**
baz=92,SNR=5.9
SYO Syowa Base 91.66 200⇓ eP **P 12 44 13.8 -1.5**
SYO Syowa Base 91.66 200⇓ eP **P 12 44 20.8 +5.5**
WDC Whiskeytown Da 91.67 50 eP **P 12 44 15.3 -0.1**
comp=Z,68nm,1.9s,mb5.7
WDC LR LR
comp=Z,5µm,22.0s,MS5.9
WDC Whiskeytown Da 91.67 50⇑ P **P 12 44 15.3 -0.1**
baz=92
YBH Yreka Blue Hor 91.67 48 LR LR 13 22 26.8
comp=Z,7µm,18.8s,MS6.1,baz=273,slow=34
YBH Yreka Blue Hor 91.67 48 eP **P 12 44 15.2 -0.1**
YBH pmax pmax
comp=Z,12nm,1.0s
YBH MLR MLR
comp=Z,6µm,19.0s
YBH Yreka Blue Hor 91.67 48 eP **P 12 44 15.2 -0.1**
comp=Z,12nm,1.0s,mb5.2
YBH LR LR
comp=Z,6µm,19.0s,MS6.1
YBH Yreka Blue Hor 91.67 48 P **P 12 44 15.6 +0.3**
baz=92
WENL Wente Brothers 91.95 53⇓ P **P 12 44 16.9 +0.2**
baz=92
O03C Acorn Hollow, 91.99 50⇓ P **P 12 44 16.6 -0.2**
baz=92
M03C McCloud 92.06 49 P **P 12 44 17.4 +0.2**
baz=92,SNR=8.7
SUTB Sutter Butte 92.10 51⇑ P **P 12 44 16.9 -0.4**
baz=92
SAO San Andreas Ge 92.11 53 PFAKE 12 44 30.0 +13
SAO LR LR
comp=Z,6µm,19.0s,MS6.1
I04A Tendick Farm, 92.13 46⇑ P **P 12 44 17.2 -0.2**
baz=92
C04A Brinnon 92.18 42⇓ P **P 12 44 18.2 +0.5**
baz=92
V03C Hunter Liggett 92.20 54⇑ P **P 12 44 18.3 +0.5**
baz=92
S04C Ingram Canyon, 92.28 53⇑ P **P 12 44 18.0 -0.1**
baz=92
J04A Umpqua Nationa 92.28 47⇓ P **P 12 44 18.2 0.0**
baz=92
M04C Macdoel 92.33 48 P **P 12 44 18.6 +0.2**
baz=92,SNR=6.4
L04A Klamath Falls 92.33 48⇓ P **P 12 44 18.1 -0.3**
baz=92
OHCM Honcut 92.34 51 eP **P 12 44 18.1 -0.3**
ORV Oroville 92.35 51 P **P 12 44 18.2 -0.2**
baz=92,SNR=10
K04A Chilquin 92.50 48⇑ P **P 12 44 19.3 +0.1**
baz=92
U04C Hernandez Rese 92.60 54⇑ P **P 12 44 20.6 +0.9**
baz=93
R04C Big Horse Ranc 92.66 52⇓ P **P 12 44 19.6 -0.3**
baz=93
O04C Chester 92.75 50⇑ P **P 12 44 20.6 +0.3**
baz=93
PKD Parkfield 92.75 54⇓ P **P 12 44 20.5 +0.2**
baz=93
M05C Lookout 92.80 49 P **P 12 44 20.7 +0.1**
baz=93,SNR=5.8
O05C Quincy 92.84 50 P **P 12 44 20.8 +0.1**
baz=93,SNR=7.2
LAVA Lava Cap Winer 92.86 52 P **P 12 44 20.9 +0.1**
baz=93,SNR=13
P05C Yuba Gap, Truc 93.02 51 P **P 12 44 22.0 +0.5**
baz=93,SNR=8.5
ELFS Eagle Lake Fie 93.05 50⇓ P **P 12 44 21.8 +0.1**
baz=93
S05C Merced 93.05 53 P **P 12 44 22.1 +0.3**
baz=93,SNR=8.4
CMB Columbia Colle 93.07 52 eP **P 12 44 20.3 -1.5**
comp=Z,18nm,1.1s,mb5.4
CMB LR LR
comp=Z,6µm,19.0s,MS6.1
CMB Columbia Colle 93.07 52⇑ P **P 12 44 21.7 -0.1**
baz=93,SNR=15
L05A Lakeview 93.10 48⇓ P **P 12 44 21.8 -0.1**
baz=93
K05A Summer Lake 93.12 48⇑ P **P 12 44 22.3 +0.2**
baz=93
U05C Westside ANR, 93.13 54⇓ P **P 12 44 22.4 +0.3**
baz=93
SMMC Simmler 93.13 55⇓ P **P 12 44 22.4 +0.3**
baz=93
BEKR Beckwourth 93.26 50 P **P 12 44 22.8 +0.1**
baz=93,SNR=13
M06C Likely Place G 93.29 49⇓ P **P 12 44 22.9 +0.1**
baz=93
SNCC San Nicolas Is 93.34 57 PFAKE 12 44 30.0 +7.0
SNCC LR LR
comp=Z,7µm,21.0s,MS6.1
R05C Kirkwood Meado 93.38 52⇑ P **P 12 44 23.3 +0.1**
baz=93
S06C San Francisco 93.48 52 P **P 12 44 23.9 +0.2**
baz=94,SNR=18
MOD Modoc 93.48 48 eP **P 12 44 23.5 -0.2**
MOD LR LR
comp=Z,8µm,19.0s,MS6.2
MOD Modoc 93.48 48 P **P 12 44 23.7 +0.1**
baz=94,SNR=9.6
T06C Millerton Lake 93.52 53 P **P 12 44 23.8 -0.1**
baz=94,SNR=16
P06A Stead Airport, 93.60 51⇓ P **P 12 44 24.5 +0.3**
baz=94
WCN Washoe City 93.67 51 P **P 12 44 24.8 +0.2**
baz=94,SNR=15
O06A Flanigan 93.69 50⇓ P **P 12 44 24.6 0.0**
baz=94
H06A Lindquist Farm 93.70 46⇑ P **P 12 44 24.6 -0.1**
baz=94
J06A Christmas Vall 93.71 47 P **P 12 44 24.4 -0.3**
baz=94,SNR=6.2
I06A Prineville 93.72 46⇑ P **P 12 44 25.0 +0.2**
baz=94
N06A Buffalo Meadow 93.74 50 P **P 12 44 25.0 +0.1**
baz=94,SNR=6.5
RCTC Rector, Farmer 93.83 54⇑ P **P 12 44 25.4 +0.1**
baz=94
R06C Coleville 93.85 52⇑ P **P 12 44 25.4 +0.1**
baz=94,SNR=11
KCC Kaiser Creek 93.85 53 P **P 12 44 25.5 +0.2**
baz=94,SNR=16
WAKR Walker 93.86 52 eP **P 12 44 25.6 +0.2**
VES Vestal, Richgr 93.92 55⇑ P **P 12 44 25.3 -0.4**
baz=94
A07A Ashnola River, 94.03 41⇓ P **P 12 44 26.1 -0.1**
baz=94
HELL Mitchell Peak, 94.04 54⇑ P **P 12 44 26.2 0.0**
baz=94,SNR=10
ARVC Arvin 94.07 55⇓ P **P 12 44 26.2 -0.2**
baz=94
OSI Osito Adit 94.12 56⇑ P **P 12 44 27.2 +0.6**
baz=94
R07C Lee Vining 94.13 52⇓ P **P 12 44 27.0 +0.3**
baz=94
C07A Waterville 94.13 43⇑ P **P 12 44 27.2 +0.5**
baz=94
B07A Winthrop 94.15 42⇓ P **P 12 44 27.0 +0.2**
baz=94
D07A Quincy 94.15 43⇓ P **P 12 44 27.0 +0.2**
baz=94
E07A Sunnyside 94.19 44⇑ P **P 12 44 27.1 +0.2**
baz=94
G07A Ruggs Ranch, H 94.22 45⇑ P **P 12 44 26.8 -0.2**
baz=94
I07A Izee 94.25 46⇓ P **P 12 44 27.1 -0.1**
baz=94
MLAC Mammoth Lakes 94.26 53⇑ P **P 12 44 27.1 -0.2**
baz=94
M07A Soldier Meadow 94.29 49⇑ P **P 12 44 27.5 +0.1**
baz=94,SNR=5.8
CIS Catalina Islan 94.29 57⇑ P **P 12 44 27.5 +0.1**
baz=94,SNR=6.3
K07A Rock Creek Ran 94.33 48⇓ P **P 12 44 27.4 -0.1**
baz=94
J07A Hines 94.33 47⇓ P **P 12 44 27.6 0.0**
baz=94
P07A Fallon 94.36 51⇓ P **P 12 44 27.8 +0.1**
baz=94
Q07A Schurz 94.38 51⇓ P **P 12 44 28.1 +0.3**
baz=94
N07B Gerlach 94.39 50 P **P 12 44 28.1 +0.3**
baz=94,SNR=7.5
HAWA Hanford 94.40 44 PFAKE 12 44 40.0 +12
HAWA LR LR
comp=Z,5µm,20.0s,MS6.0
ISA Isabella 94.40 55 eP **P 12 44 28.2 +0.3**
ISA LR LR
comp=Z,6µm,20.0s,MS6.1
ISA Isabella 94.40 55 P **P 12 44 28.2 +0.3**
baz=94,SNR=7.6
DECC Green Verdugo 94.41 56⇓ P **P 12 44 28.0 0.0**
baz=94,SNR=6.0
O07A Toulon 94.42 50 P **P 12 44 28.2 +0.2**
baz=94,SNR=8.0
MWC Mount Wilson 94.64 56 eP **P 12 44 29.9 +0.9**
B08A Colville Reser 94.67 42⇑ P **P 12 44 29.4 +0.3**
baz=95
TIN Tinemaha 94.70 53⇓ P **P 12 44 29.5 +0.3**
baz=95
G08A Pilot Rock 94.72 45⇓ P **P 12 44 29.3 0.0**
baz=95
E08A Dider Farm, El 94.73 44⇓ P **P 12 44 29.1 -0.4**
baz=95
NVAR Mina Array Bea 94.74 52 P **P 12 44 29.7 +0.2**
comp=Z,15nm,0.8s,mb5.5,baz=264,slow=7.8,SNR=75
NVAR Mina Array Bea 94.74 52 P **P 12 44 29.7 +0.2**
EDW2 Edwards Air Fo 94.74 56⇓ P **P 12 44 29.9 +0.5**
baz=95,SNR=8.8
WVOR Wild Horse Val 94.76 48 eP **P 12 44 29.3 -0.2**
WVOR pmax pmax
comp=Z,74nm,2.0s,mb5.8
WVOR MLR MLR
comp=Z,6µm,19.0s,MS6.1
WVOR Wild Horse Val 94.76 48 eP **P 12 44 29.3 -0.2**
comp=Z,74nm,2.0s,mb5.8
WVOR LR LR
comp=Z,6µm,19.0s,MS6.1
CWC Cottonwood Cre 94.78 54⇑ P **P 12 44 29.6 -0.1**
baz=95
C08A Higginbotham F 94.82 43⇓ P **P 12 44 29.8 0.0**
baz=95
F08A Pendleton 94.88 45⇑ P **P 12 44 30.1 0.0**
baz=95
R08A Mina 94.89 52⇓ P **P 12 44 30.2 0.0**
baz=95,SNR=15
K08A Mann Creek Ran 94.89 48⇓ P **P 12 44 30.3 +0.2**
baz=95
J08A Circle Bar Ran 94.94 47⇑ P **P 12 44 30.4 +0.1**
baz=95
L08A Fields 94.96 48⇓ P **P 12 44 30.8 +0.4**
baz=95
BFSC Mount Baldy St 94.97 56⇑ P **P 12 44 30.4 -0.1**
baz=95,SNR=8.4
P08A Dixie Valley 95.00 51⇑ P **P 12 44 31.0 +0.4**
baz=95
LRMC Laurel Mountai 95.03 55 P **P 12 44 31.4 +0.6**
baz=95,SNR=22
N08A GE Springer Mi 95.03 50 P **P 12 44 30.9 +0.2**
baz=95,SNR=11
DAC Darwin (Calif) 95.16 54 eP **P 12 44 31.8 +0.4**
DAC LR LR
comp=Z,8µm,20.0s,MS6.2
A09A Danville 95.20 41⇓ P **P 12 44 31.3 -0.3**
baz=95
MPMC Manual Prospec 95.23 54 P **P 12 44 32.1 +0.4**
baz=95,SNR=11
D09A Jones Farm, Ri 95.28 43⇑ P **P 12 44 31.7 -0.3**
baz=95
MURC Murrieta 95.31 57⇓ P **P 12 44 32.4 +0.4**
baz=95,SNR=5.1
109C Camp Elliot, M 95.34 58⇑ P **P 12 44 32.8 +0.6**
baz=95
C09A Chrisman Ranch 95.34 43⇓ P **P 12 44 32.1 -0.2**
baz=95
E09A Wood Farm, Sta 95.36 44⇓ P **P 12 44 31.7 -0.6**
baz=95
GRAC Grapevine Rang 95.38 53⇓ P **P 12 44 32.8 +0.4**
baz=95
K09A Rome 95.45 48⇓ P **P 12 44 32.3 -0.4**
baz=95
L09A Wilkinson Ranc 95.45 48⇑ P **P 12 44 32.5 -0.2**
baz=95
J09A Fry Pan Ranch, 95.46 47⇓ P **P 12 44 32.9 +0.1**
baz=96
F09A S2 Ranch, Elgi 95.48 45⇓ P **P 12 44 33.1 +0.3**
baz=96
N09A Rock Creek Ran 95.49 50⇑ P **P 12 44 33.0 +0.1**
baz=96
I09A Lost Marbles R 95.51 46⇓ P **P 12 44 32.8 -0.2**
baz=96
S09A Goldfield 95.54 53 P **P 12 44 33.3 +0.2**
baz=96,SNR=40
TPH Tonopah 95.56 52 PFAKE 12 44 40.0 +6.8
TPH LR LR
comp=Z,6µm,19.0s,MS6.1
BBRC Big Bear Sol-O 95.58 56⇑ P **P 12 44 33.7 +0.4**
baz=96,SNR=8.9
M09A Marrel Ranch, 95.58 49⇓ P **P 12 44 33.3 0.0**
baz=96
H09A Durkee 95.60 46⇑ P **P 12 44 33.6 +0.2**
baz=96
Q09A Carvers 95.64 52⇓ P **P 12 44 34.0 +0.5**
baz=96
BAR Barrett 95.69 58 eP **P 12 44 34.2 +0.4**
R09A Tonopah 95.69 52 P **P 12 44 34.2 +0.4**
baz=96,SNR=14
BMN Battle Mountai 95.70 50 eP **P 12 44 35.8 +1.9**
BMN LR LR
comp=Z,5µm,22.0s,MS5.9
O09A Fish Creek Ran 95.71 50 P **P 12 44 34.3 +0.4**

baz=96,SNR=12
P09A Austin 95.71 51 ⇓P P 12 44 34.2 +0.3
baz=96
GSC Goldstone 95.74 55 eP P 12 44 34.6 +0.6
GSC Goldstone 95.74 55 P P 12 44 34.8 +0.8
baz=96,SNR=7.9
FURC Furnace Creek, 95.76 54 P P 12 44 34.4 +0.2
baz=96,SNR=12
BMO Blue Mountains 95.86 46 eP P 12 44 33.8 -0.7
BMO LR LR
comp=Z,4μm,22.0s,MS5.9
MONP Monument Peak 95.91 58 ⇓P P 12 44 35.7 +0.9
baz=96,SNR=10
PFO Pinyon Flat Ob 95.93 57 P P 12 44 35.2 +0.3
comp=Z,24nm,1.0s,mb5.6,baz=274,slow=3.4,SNR=19
PFO LR LR 13 21 14.7
comp=Z,6μm,20.2s,MS6.0,baz=297,slow=31
PFO Pinyon Flat Ob 95.93 57 eP P 12 44 35.4 +0.5
PFO pmax pmax
comp=Z,19nm,0.9s,mb5.5
PFO MLR MLR
comp=Z,1μm,20.0s,MS5.5
PFO Pinyon Flat Ob 95.93 57 eP P 12 44 35.4 +0.5
comp=Z,19nm,0.9s,mb5.5
PFO LR LR
comp=Z,1μm,20.0s,MS5.5
PFO Pinyon Flat Ob 95.93 57 ⇓P P 12 44 35.3 +0.4
baz=96,SNR=13
F10A Beach Ranch, E 95.97 44 ⇑P P 12 44 34.2 -0.9
baz=96
ARU Arti 96.07 326 eP P 12 44 33.2 -2.3
ARU e 12 48 25.0
ARU ePPP 12 50 29.1
ARU eS SKSac 12 55 06.5 -1.3
ARU eSP SP 12 57 06.9 -2.6
ARU ePS PS 12 57 17.2 +1.4
ARU eSS SS 13 02 24.4 +2.0
ARU MLR MLR
comp=Z,6μm,21.0s,MS6.0
ARU MLR MLR
comp=N,2μm,19.0s,MS5.9
ARU MLR MLR
comp=E,4μm,20.0s,MS5.9
ARU Arti 96.07 326⇑eP P 12 44 33.0 -2.5
ARU LR LR
comp=Z,2μm,20.0s,MS5.5
HEC Hector,Ludlow 96.10 56 P P 12 44 36.3 +0.7
baz=96,SNR=14
NEW Newport 96.14 42 LR LR 13 24 08.1
comp=Z,5μm,19.3s,MS6.0,baz=252,slow=33
NEW Newport 96.14 42 PFAKE 12 44 40.0 +4.2
NEW LR LR
comp=Z,5μm,19.0s,MS6.0
DVTC Desert V Tower 96.17 58 ⇓P P 12 44 36.6 +0.6
baz=96
U10A Ash Meadows, A 96.19 54 ⇑P P 12 44 36.6 +0.5
baz=96,SNR=6.2
SHOC Shoshone 96.20 55 ⇓P P 12 44 36.4 +0.3
baz=96
AKTO Aktyubinsk 96.20 320 PKiKP PKiKP 12 49 13.0 -1.2
comp=Z,1.6nm,0.7s,baz=27,slow=2.3,SNR=3.4
AKTO LR LR 13 27 51.2
comp=Z,5μm,20.6s,MS6.0,baz=114,slow=35
P10A Eureka 96.24 51 ⇑P P 12 44 37.2 +0.9
baz=96
O10A Cortez Mining, 96.24 50 ⇑P P 12 44 36.6 +0.3
baz=96
N10A Dunphy 96.26 50 ⇑P P 12 44 37.0 +0.6
baz=96
BELC Belle Mtn. 96.33 57 P P 12 44 37.7 +1.0
baz=96,SNR=19
SWSC Sam W. Stewart 96.44 58 ⇑P P 12 44 37.7 +0.5
baz=96,SNR=6.7
TUQ Turquoise Mtn. 96.46 55 P P 12 44 38.0 +0.7
baz=96,SNR=8.6
GMRC Granite Mounta 96.65 56 P P 12 44 39.1 +0.9
baz=97,SNR=14
A11A Hall Mountain, 96.67 41 ⇓P P 12 44 38.5 +0.3
baz=97
BC3 Big Chuckw Mtn 96.76 57 ⇑P P 12 44 39.3 +0.6
baz=97,SNR=15
H11A Donnelly 96.78 46 ⇓P P 12 44 38.5 -0.2
baz=97
P11A Circle Ranch, 96.78 51 ⇑P P 12 44 39.0 +0.2
baz=97
M11A Holland Ranch, 96.83 49 ⇓P P 12 44 39.5 +0.5
baz=97
Q11A Duckwater 96.83 52 P P 12 44 39.4 +0.4
baz=97,SNR=16
N11A Elko Archery C 96.85 50 ⇓P P 12 44 39.6 +0.5
baz=97
O11A Cowboy Ranch, 96.88 50 ⇑P P 12 44 39.4 +0.2
baz=97,SNR=9.8
V11A Goodsprings 96.88 55 ⇓P P 12 44 39.6 +0.4
baz=97,SNR=7.3
U11A Corn Creek 96.95 54 ⇓P P 12 44 39.9 +0.4
baz=97
IRM Iron Mountain 97.04 56 ⇑P P 12 44 40.4 +0.5
baz=97,SNR=17
SHPR Sheep Range 97.13 54 eP P 12 44 40.8 +0.5
B12A Libby 97.17 42 ⇓P P 12 44 40.7 +0.2
baz=97
ELK Elko 97.22 50 PFAKE 12 44 50.0 +9.3
ELK LR LR
comp=Z,5μm,22.0s,MS5.9
C12A Trout Creek 97.22 43 ⇓P P 12 44 41.1 +0.4
baz=97
GLA Glamis 97.26 58 eP P 12 44 42.4 +1.5
GLA Glamis 97.26 58 ⇓P P 12 44 41.8 +0.9
baz=97
W12A Cal Nev Ari 97.32 55 ⇑P P 12 44 42.4 +1.2
baz=97
V12A Nelson 97.35 55 ⇓P P 12 44 41.6 +0.3
baz=97
N12A Clover Valley, 97.38 50 ⇑P P 12 44 41.1 -0.4
baz=97,SNR=6.1
P12A McGill 97.44 51 ⇑P P 12 44 42.6 +0.9
baz=97,SNR=10
Q12A Willow Creek R 97.48 52 ⇓P P 12 44 42.0 0.0
baz=98,SNR=13
M12A Wells 97.48 49 ⇑P P 12 44 42.2 +0.3
baz=98
NEE2 Needles Airpor 97.50 56 ⇑P P 12 44 42.2 +0.1
baz=98
Y12C Blythe 97.54 57 ⇑P P 12 44 42.4 +0.2
baz=98,SNR=8.3
O12A Currie 97.58 50 ⇑P P 12 44 42.4 0.0
baz=98,SNR=5.8
U12A Valley of Fire 97.63 54 ⇑P P 12 44 42.8 +0.2
baz=98
YKA Yellowknife Ar 97.67 28 P P 12 44 40.1 -2.6
comp=Z,3.4nm,0.9s,mb4.8,baz=275,slow=4.6,SNR=8.4
YKA PKiKP PKiKP 12 49 16.1 -0.7
comp=Z,1.3nm,0.7s,baz=273,slow=1.5,SNR=3.5
YKA LR LR 13 27 20.3
comp=Z,2μm,20.0s,MS5.5,baz=250,slow=34
C13A Hot Springs 97.84 43 ⇑P P 12 44 43.0 -0.5
baz=98
PDMCI Parker Dam,Lak 97.88 56 ⇑P P 12 44 43.8 +0.1
baz=98,SNR=14
HLID Hailey 97.90 47 eP P 12 44 43.6 -0.2
HLID LR LR
comp=Z,6μm,19.0s,MS6.1
HLID Hailey 97.90 47 ⇑P P 12 44 43.5 -0.3
baz=98
B13A Whitefish 97.91 42 ⇑P P 12 44 43.3 -0.5
baz=98
F13A Darby 97.99 45 P P 12 44 43.2 -1.0
baz=98,SNR=5.4
N13A Wendover, West 98.01 50 ⇓P P 12 44 43.8 -0.5
baz=98
M13A Montello 98.05 49 P P 12 44 44.5 0.0
baz=98,SNR=7.8
W13A Hualapai Mount 98.12 56 ⇓P P 12 44 45.2 +0.4
baz=98,SNR=6.2
X13A Yucca 98.15 56 ⇑P P 12 44 45.5 +0.5
baz=98,SNR=9.7
NVL N'lazarevskaya 98.48 193 *c i*P P 12 44 53.0 +6.6
NVL *i* S SKSac 12 55 19.0 -1.2
NVL *i* 12 56 07.4
NVL pmax pmax
comp=Z,21nm,1.4s,mb5.5
NVL MLR MLR
comp=Z,4μm,20.0s,MS6.0
NVL MLR MLR
comp=E,2μm,17.0s
ARUT Antelope Range 98.54 53 eP P 12 44 45.8 -0.9

D14A Greenough 98.56 43 ⇓P P 12 44 47.0 +0.2
baz=98
W14A Seligman 98.78 55 ⇓P P 12 44 48.5 +0.7
baz=99
Y14A Wickenburg 98.81 57 ⇓P P 12 44 48.3 +0.4
baz=99,SNR=5.2
Z14A Wintersburg 98.85 57 ⇓P P 12 44 48.8 +0.7
baz=99
X14A Yava 98.92 56 ⇓P P 12 44 49.1 +0.7
baz=99,SNR=6.1
DUG Dugway 99.06 50 PFAKE 12 45 00.0 +11
DUG LR LR
comp=Z,4μm,22.0s,MS5.8
DUG Dugway 99.06 50 ⇓P P 12 44 49.8 +0.8
baz=99
HVU Hansel Valley 99.09 49 eP P 12 44 50.7 +1.5
E15A Deer Lodge 99.16 44 ⇑P P 12 44 49.3 -0.1
baz=99
D15A Lincoln 99.23 43 ⇓P P 12 44 50.2 +0.4
baz=99
F15A Butte 99.27 45 ⇓P P 12 44 49.8 -0.2
baz=99
G15A Dillon 99.28 45 ⇑P P 12 44 50.1 +0.1
baz=99
115A Sonoran Desert 99.43 58 ⇑P P 12 44 51.3 +0.6
baz=99,SNR=5.0
W15A Williams 99.44 55 ⇑P P 12 44 51.3 +0.6
baz=99
X15A Humboldt 99.46 56 ⇓P P 12 44 51.5 +0.7
baz=99
MVU Marysvale 99.52 52 PFAKE 12 45 00.0 +9.0
MVU LR LR
comp=Z,6μm,19.0s,MS6.2
MSU Marysvale 99.55 52 eP Pdif 12 44 52.6 +1.4
HRY Holter Researc 99.72 44 ePdif Pdif 12 44 54.7 +2.8
116A Eloy 99.87 58 ⇑P Pdif 12 44 53.9 +1.2
baz=100
MPU Maple Canyon 99.97 51 PFAKE 12 45 00.0 +7.0
MPU LR LR
comp=Z,6μm,22.0s,MS6.0
HWUT Hardware Ranch 100.00 49 PFAKE 12 45 00.0 +6.8
HWUT LR LR
comp=Z,4μm,21.0s,MS5.9
JLU Jordanelle 100.10 50 ePdif Pdif 12 44 53.5 -0.1
RRI2 Red Ridge 100.15 47 ePdif Pdif 12 44 54.0 +0.2
WUAZ Wupatki 100.18 55 ePdif Pdif 12 44 55.2 +1.2
WUAZ LR LR
comp=Z,5μm,20.0s,MS6.0
WUAZ Wupatki 100.18 55 ⇑P Pdif 12 44 54.9 +0.9
TMUT Trail Mountain 100.30 51 ePdif Pdif 12 44 55.1 +0.6
AHID Auburn Hatcher 100.33 48 ePdif Pdif 12 44 54.3 -0.3
AHID LR LR
comp=Z,3μm,21.0s,MS5.8
YMR Madison River 100.38 46 PFAKE 12 45 00.0 +5.1
YMR LR LR
comp=Z,6μm,22.0s,MS6.0
SNAA Sanae 100.42 188 eP Pdif 12 44 53.8 -1.2
SNAA pmax pmax
comp=Z,27nm,1.4s
SNAA Sanae 100.42 188 eP Pdif 12 44 53.8 -1.2
comp=Z,26nm,1.4s
MOOW Moose Ponds 100.56 47 ePdif Pdif 12 44 56.4 +0.7
SNOW Snow King Moun 100.56 47 ePdif Pdif 12 44 56.4 +0.7
TUC Tucson 100.65 58 PFAKE 12 45 10.0 +14
TUC LR LR
comp=Z,3μm,19.0s,MS5.8
SRU San Rafael 100.83 51 eP Pdif 12 44 56.8 -0.1
EGMT Eagleton 101.07 42 PFAKE 12 45 10.0 +12
EGMT LR LR
comp=Z,4μm,20.0s,MS5.9
EGMT Eagleton 101.07 42 ⇓P Pdif 12 44 58.4 +0.5
baz=101
BW06 Boulder Array 101.46 48 ePdif Pdif 12 44 58.8 -0.9
BW06 LR LR
comp=Z,4μm,19.0s,MS5.9
PDAR Pinedale Array 101.46 48 P Pdif 12 44 58.5 -1.2
comp=Z,3.1nm,0.9s,baz=245,slow=2.4,SNR=19
PDAR PKKP PKKPbc 13 01 15.5 +8.0
comp=Z,0.4nm,0.7s,baz=100,slow=4.7,SNR=3.6
RLMT Red Lodge 101.56 45 PFAKE 12 45 10.0 +10
RLMT LR LR
comp=Z,5μm,20.0s,MS6.0
VNA3 Neumayer Olymp 101.69 186 ePdiff Pdif 12 44 59.6 -1.1
VNA3 e 12 45 07.8
VNA3 e 12 45 15.7
VNA3 e 12 45 21.4
VNA3 e 12 49 45.7
VNA2 Neumayer--Watz 101.71 187 ePdiff Pdif 12 45 00.3 -0.5
VNA2 e 12 45 08.2
VNA2 e 12 45 15.4
VNA2 e 12 45 21.6
VNA2 e 12 49 27.4
VNA2 e 12 49 31.7
VNA2 e 12 49 36.9
PV10 Paradox Valley 102.01 52 eP Pdif 12 45 01.9 -0.3
PV01 Paradox Valley 102.39 52 ePdif Pdif 12 45 04.1 +0.3
MVCO Mesa Verde 102.48 53 ePdif Pdif 12 45 03.7 -0.5
comp=Z,3.8nm,0.6s
MVCO LR LR
comp=Z,4μm,21.0s,MS6.0
MVCO Mesa Verde 102.48 53 ⇓P Pdif 12 45 05.0 +0.8
baz=102
LAO LASA Array 103.57 44 PFAKE 12 45 20.0 +11
LAO LR LR
comp=Z,3μm,20.0s,MS5.8
MAK Makhachkala 103.59 313 eP Pdif 12 45 05.4 -3.7
MAK e 12 55 42.1
ANMO Albuquerque 104.21 56 PKKP PKKPbc 13 01 19.1 +20
comp=Z,1.3nm,0.8s,baz=51,slow=3.9,SNR=4.7
ANMO Albuquerque 104.21 56 ePdif Pdif 12 45 14.2 +2.3
ANMO LR LR
comp=Z,2μm,20.0s,MS5.7
KBS Kingsbay 104.33 352 PFAKE 12 45 20.0 +7.6
KBS LR LR
comp=Z,2μm,19.0s,MS5.6
ISCO Idaho Springs 104.60 51 PFAKE 12 45 20.0 +6.4
ISCO LR LR
comp=Z,3μm,19.0s,MS5.9
PMSA Palmer Station 104.83 165 PFAKE 12 45 20.0 +5.4
PMSA LR LR
comp=Z,2μm,19.0s,MS5.6
SDCO Great Sand Dun 104.83 53 PFAKE 12 45 20.0 +5.3
SDCO LR LR
comp=Z,8μm,20.0s,MS6.2
MNTX Cornudas Mount 105.25 59 PFAKE 12 49 40.0 +10
MNTX LR LR
comp=Z,3μm,20.0s,MS5.8
RSSD Black Hills 105.37 46 PFAKE 12 49 40.0 +9.3
RSSD LR LR
comp=Z,3μm,20.0s,MS5.8
GNI Garni 105.90 310 PFAKE 12 49 40.0 +8.3
GNI LR LR
comp=Z,2μm,20.0s,MS5.6
BJO Bjornoya 106.14 348 AMS AMS 13 32 40.2
comp=Z,1μm,22.2s,MS5.5
LTX Lajitas 106.82 61 PFAKE 12 49 40.0 +6.6
LTX LR LR
comp=Z,7μm,20.0s,MS6.2
TXAR Lajitas Array 106.82 61 Pdiff Pdif 12 45 26.3 +2.8
comp=Z,0.3nm,0.8s,baz=254,slow=3.6,SNR=4.0
TXAR PKiKP PKiKP 12 49 33.6 +0.2
comp=Z,0.8nm,0.9s,baz=191,slow=1.3,SNR=4.4
TXAR PKKP PKKPbc 13 01 08.4 +17
comp=Z,1.2nm,0.9s,baz=117,slow=6.2,SNR=6.3
TXAR Lajitas Array 106.82 61 Pdif Pdif 12 45 26.3 +2.8
TXAR PKPdf PKiKP 12 49 33.6 +0.2
TXAR PKKP PKKPbc 13 01 08.4 +17
KEV Kevo 106.84 342 PFAKE 12 49 40.0 +6.6
KEV LR LR
comp=Z,2μm,21.0s,MS5.6
KIV Kislovodsk 106.97 314 PFAKE 12 49 40.0 +6.4
KIV LR LR
comp=Z,553nm,21.0s,MS5.1
ARCES ARCESS Array B 107.40 342 PKiKP PKiKP 12 49 32.2 -2.3
comp=Z,3.1nm,0.8s,baz=96,slow=2.2,SNR=12
ARCES PKKPbc PKKPbc 13 00 52.8 +3.1
comp=Z,0.8nm,0.6s,baz=132,slow=1.8,SNR=3.7
ARCES ARCESS Array B 107.40 342 PKPdf PKiKP 12 49 32.2 -2.3
ARCES PKKPbc PKKPbc 13 00 52.8 +3.1
AMTX Amarillo 108.13 55 PFAKE 12 49 50.0 +14
AMTX LR LR
comp=Z,3μm,22.0s,MS5.9
OBN Obninsk 108.52 326 *e* PP 12 50 05.1 +3.1
OBN *e*PS PS 12 59 18.0 -9.3

OBN *e*SS SS 13 05 35.3 +21
OBN MLR MLR
comp=Z,4μm,20.0s,MS5.9
OBN Obninsk 108.52 326 PFAKE 12 49 50.0 +13
OBN LR LR
comp=Z,957nm,21.0s,MS5.3
CBKS Cedar Bluff 109.24 51 PFAKE 12 49 50.0 +12
CBKS LR LR
comp=Z,7μm,21.0s,MS6.2
TRO Tromso 109.25 344 *e*PP PP 12 50 06.2 -1.1
TRO *e* 12 59 31.3
TRO *e*SS SS 13 05 32.4 +8.2
TRO AMS AMS 13 35 04.0
comp=Z,1μm,28.1s,MS5.3
ULM Lac du Bonnet 109.72 39 PKiKP PKiKP 12 49 36.5 -2.2
comp=Z,5.8nm,0.7s,baz=290,slow=3.5,SNR=9.3
ULM Lac du Bonnet 109.72 39 PKPdf PKiKP 12 49 36.5 -2.2
ULM LR LR
comp=Z,6μm,21.0s,MS6.1
JCT Junction City 110.10 60 eP PKiKP 12 49 39.4 -0.1
JCT LR LR
comp=Z,6μm,20.0s,MS6.2
AGMN Agassiz Refuge 110.22 41 PFAKE 12 49 50.0 +10
AGMN LR LR
comp=Z,4μm,19.0s,MS6.0
WMOK Wichita Mounta 110.52 55 PFAKE 12 49 50.0 +10
WMOK LR LR
comp=Z,2μm,19.0s,MS5.8
ANN Anapa 110.53 316 *i* PKiKP PKiKP 12 49 38.5 -1.8
ANN *e* 12 50 14.5
ANN *e* 12 56 16.6
ANN *e*SP SP 12 59 41.7 +0.6
ANN pmax pmax
comp=Z,13nm,0.9s
ECSD EROS,Sioux Fal 110.72 46 PFAKE 12 49 50.0 +9.3
ECSD LR LR
comp=Z,3μm,20.0s,MS5.9
FINES FINESS Array B 111.24 335 PKiKP PKiKP 12 49 40.2 -1.4
comp=Z,1.4nm,0.7s,baz=18,slow=0.6,SNR=3.4
KSU1 Kansas State U 111.60 50 PFAKE 12 49 50.0 +7.7
KSU1 LR LR
comp=Z,5μm,20.0s,MS6.1
KVTX Kingsville 112.01 63 PFAKE 12 49 50.0 +6.9
KVTX LR LR
comp=Z,5μm,19.0s,MS6.2
KMBO Kilima Mbogo 112.91 266 PFAKE 12 50 00.0 +15
KMBO LR LR
comp=Z,991nm,21.0s,MS5.4
EYMN Ely 113.13 40 PFAKE 12 49 50.0 +4.8
EYMN LR LR
comp=Z,3μm,20.0s,MS5.8
SCIA State Center 113.56 47 eP PKiKP 12 49 45.6 -0.4
SCIA LR LR
comp=Z,3μm,20.0s,MS5.9
HKT Hockley 113.57 60 PFAKE 12 50 00.0 +14
HKT LR LR
comp=Z,7μm,20.0s,MS6.3
AKASG Malin Array Be 114.15 323 PKP PKiKP 12 49 46.2 -0.9
comp=Z,3.7nm,0.6s,baz=66,slow=2.1,SNR=13
KIEV Kiev 114.16 323 PFAKE 12 50 00.0 +13
KIEV LR LR
comp=Z,3μm,19.0s,MS5.9
BR131 Keskin Array S 114.39 311 eP PKiKP 12 49 46.5 -1.2
BR131 LR LR
comp=Z,863nm,21.0s,MS5.3
BRTR Keskin Array B 114.39 311 PKP PKiKP 12 49 47.0 -0.7
comp=Z,2.5nm,0.8s,baz=106,slow=2.7,SNR=12
NSS Namsos 114.65 342 *e*SS SS 13 06 37.2 +1.2
NSS AMS AMS 13 42 56.8
comp=Z,3μm,20.0s,MS5.9
MIAR Mount Ida 114.80 55 PFAKE 12 50 00.0 +12
MIAR LR LR
comp=Z,4μm,22.0s,MS6.0
ANTO Ankara 114.99 311 PFAKE 12 50 00.0 +11
ANTO LR LR
comp=Z,1μm,22.0s,MS5.4
EIL Elat 115.11 300 eP PKiKP 12 49 49.4 +0.4
JFWS Jewell Farm 115.43 45 PFAKE 12 50 00.0 +10
JFWS LR LR
comp=Z,4μm,20.0s,MS6.0
KIS Kishinev 115.71 320 *e*PP PP 12 50 57.0 +3.6
KIS Kishinev 115.71 320 *e*PS PS 13 00 34.0 -0.5
UALR University of 115.75 54 eP PKPdf 12 49 50.3 0.0
FVM French Village 116.58 51 *e*PKIKP PKPdf 12 49 51.3 -0.6
BOSA Boshof 116.96 234 PKP PKPdf 12 49 52.9 +0.3
comp=Z,2.8nm,0.7s,baz=304,slow=0.5,SNR=8.4
BOSA Boshof 116.96 234 PKP PKPdf 12 49 52.9 +0.3
BOSA LR LR
comp=Z,3μm,20.0s,MS5.8
HFS Hagfors 116.99 337 PKP PKPdf 12 49 51.7 -0.9
comp=Z,2.3nm,0.7s,baz=0.0,slow=7.4,SNR=4.7
MATP Matopo 117.17 243 PKKPbc PKKPbc 13 00 21.9 +4.8
comp=Z,2.0nm,0.7s,baz=289,slow=9.7,SNR=3.8
NB2 NORSAR Subarra 117.30 339 PKPdf PKPdf 12 49 51.8 -1.5
baz=43,slow=1.9
NB2 NORSAR Subarra 117.30 339 PKPdf PKPdf 12 49 51.8 -1.5
comp=Z,3.0nm,0.7s,baz=43,slow=1.9
NOA NORSAR Array B 117.30 339 PKP PKPdf 12 49 52.4 -0.8
comp=Z,2.5nm,0.7s,baz=48,slow=1.9,SNR=6.7
NOA NORSAR Array B 117.30 339 PKP PKPdf 12 49 52.4 -0.8
MOL Molde 117.44 342 AMS AMS 13 44 16.5
comp=Z,3μm,19.6s,MS5.8
EFI East Falkland 117.49 160 PFAKE 12 50 00.0 +6.4
EFI LR LR
comp=Z,297nm,19.0s,MS4.9
SFJD Kangerlussuaq 117.51 9 PFAKE 12 50 00.0 +6.4
SFJD LR LR
comp=Z,2μm,22.0s,MS5.8
NAO01 NORSAR Array S 117.56 339 PFAKE 12 50 00.0 +6.3
NAO01 LR LR
comp=Z,4μm,19.0s,MS6.1
BURAR Bucovina Array 117.76 321⇑*i*P PKPdf 12 49 55.1 +1.0
BURAR Bucovina Array 117.76 321 ⇑P PKPdf 12 49 55.1 +0.9
LBTB Lobatse 118.10 238 PFAKE 12 50 10.0 +15
LBTB LR LR
comp=Z,1μm,19.0s,MS5.5
MLR Muntele Rosu 118.11 319 PKP PKPdf 12 49 54.4 -0.4
comp=Z,6.5nm,0.8s,baz=257,slow=6.8,SNR=6.8
MLR Muntele Rosu 118.11 319 ⇓*i*P PKPdf 12 49 53.4 -1.4
MLR Muntele Rosu 118.11 319 ⇓P PKPdf 12 49 53.4 -1.4
OXF Oxford 118.17 54 PFAKE 12 50 00.0 +5.1
OXF LR LR
comp=Z,3μm,22.0s,MS5.8
GLMI Grayling 118.66 42 PFAKE 12 50 10.0 +14
GLMI LR LR
comp=Z,4μm,19.0s,MS6.0
SUR Sutherland 118.70 228 PFAKE 12 50 10.0 +14
SUR LR LR
comp=Z,1μm,21.0s,MS5.5
KONO Kongsberg 118.85 339 PFAKE 12 50 10.0 +14
KONO LR LR
comp=Z,3μm,20.0s,MS6.0
LSZ Lusaka 118.97 249 PKKPbc PKKPbc 13 00 12.1 +1.4
comp=Z,2.9nm,0.8s,baz=331,slow=5.5,SNR=3.3
LSZ Lusaka 118.97 249 *e*PKIKP PKPdf 12 49 56.9 +0.4
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.7
KOLS Kolonicke sedl 118.98 324 *e*PKP PKPdf 12 49 56.9 +0.4
WVT Waverly 119.04 52 *e*PKIKP PKPdf 12 49 54.8 -1.8
WVT *e* 12 50 09.7
WVT MLR MLR
comp=Z,5μm,22.0s,MS6.1
UZH Uzhgorod 119.11 323 *e*PKIKP PKPdf 12 49 58.4 +1.7
PLAL Pickwick Lake 119.13 53 PFAKE 12 50 10.0 +13
PLAL LR LR
comp=Z,3μm,20.0s,MS5.9
BLO Bloomington 119.21 48 *e*PKIKP PKPdf 12 49 56.4 -0.5
HOPE Hope Point 119.56 175 PFAKE 12 50 10.0 +12
HOPE LR LR
comp=Z,374nm,19.0s,MS5.0
WCI Wyandotte Cave 119.65 49 *e*PKIKP PKPdf 12 49 57.1 -0.7
WCI MLR MLR
comp=Z,5μm,20.0s,MS6.2
BER Bergen 119.78 341 AMS AMS 13 45 08.2
comp=Z,3μm,21.2s,MS5.9
AAM Ann Arbor 120.23 44 *e*PKIKP PKPdf 12 49 58.1 -0.8
AAM MLR MLR
comp=Z,3μm,20.0s,MS5.9
LRAL Lakeview Retre 120.46 55 *e*PKPdf PKPdf 12 49 58.5 -0.8
LRAL *ep*PKPdf pPKPdf 12 50 13.4 -1.1
LRAL LR LR
comp=Z,3μm,19.0s,MS6.0
BZS Buzias 120.84 320⇓*i*P PKPdf 12 49 59.2 -0.9
BZS Buzias 120.84 320 ⇓P PKPdf 12 49 59.2 -0.9
PSZ Piszkesteto 120.86 323⇑*e*PKP PKPdf 12 49 50.4 -10

BRAL Brewton 120.87 58 PFAKE 12 50 10.0 +10
BRAL LR LR
comp=Z,3µm,22.0s,MS5.9
OKC Ostrava-Krasne 120.91 326 *e*SP SP 13 01 14.7 -0.8
OKC AMS AMS 13 42 10.0
comp=Z,2µm,24.4s
VTS Vitosha 121.03 317 ⇑ *i*P PKPdf 12 49 59.8 -0.6
VTS Vitosha 121.03 317 ⇑P PKPdf 12 49 59.8 -0.6
BORG Borgarnes 121.17 356 *e*PKPdf PKPdf 12 50 00.8 +0.1
MORC Moravsky Berou 121.28 326 ⇓ *i*P PKPdf 12 50 00.8 -0.1
MORC Moravsky Berou 121.28 326 PKIKP PKPdf 12 50 01.2 +0.3
MORC *e* 12 50 06.8
MORC Moravsky Berou 121.28 326 ⇓P PKPdf 12 50 00.8 -0.1
KSP Ksiaz 121.38 328 *e*PKIKP PKPdf 12 50 01.2 +0.1
KSP *e* 12 50 11.4
TEIG Tepich 121.42 70 PFAKE 12 50 10.0 +8.8
TEIG LR LR
comp=Z,1µm,19.0s,MS5.6
DPC Dobruska-Polom 121.63 327 *e*PKPdf PKPdf 12 50 01.6 0.0
DPC *e*SP SP 13 01 18.7 -3.2
DPC AMS AMS 13 43 10.0
comp=Z,3µm,22.5s
UPC Upice 121.71 328 *e*PKPdf PKPdf 12 50 02.1 +0.4
TZTN Tazewell 122.24 50 *e*PKPdf PKPdf 12 50 02.3 -0.4
TZTN LR LR
comp=Z,8µm,21.0s,MS6.3
PKSM Moragy 122.42 322 ⇑ *i*P PKPdf 12 50 02.8 -0.3
PKSM Moragy 122.42 322 ⇑P PKPdf 12 50 02.8 -0.3
PVCC Panska Ves 122.47 328 *e*PKPdf PKPdf 12 50 03.3 +0.1
BRG Berggiesshubel 122.59 329 *e*PKPdf PKPdf 12 50 02.9 -0.5
BRG *ep*PKPdf pPKPdf 12 50 13.4 -5.2
BRG Berggiesshubel 122.59 329 *e*PKP PKPdf 12 50 03.0 -0.5
comp=Z,6.8nm,0.9s
BRG *e* 12 50 13.8
comp=Z,7.8nm,1.1s
BRG PP PP 12 51 43.0 +2.1
BRG *e* 13 01 35.0
BRG SS SS 13 08 40.0 +21
BRG
comp=N,1µm,21.6s
BRG
comp=E,1µm,21.5s
BRG
comp=Z,2µm,20.0s
BRG Berggiesshubel 122.59 329 *e*PKIKP PKPdf 12 50 03.0 -0.4
BRG *e* 12 50 13.8
BRG 12 51 43.0
BRG *e* 13 01 35.0
BRG SS SS 13 08 40.0 +21
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=N,1µm,21.6s,MS5.7
BRG MLR MLR
comp=E,1µm,21.5s,MS5.7
BRG MLR MLR
comp=Z,2µm,20.0s,MS5.9
BRG Berggiesshubel 122.59 329 *e*PKP PKPdf 12 50 03.0 -0.5
BRG *e* 12 50 13.8
BRG PP PP 12 51 43.0 +2.1
BRG *e* 13 01 35.0
BRG SS SS 13 08 40.0 +21
BRG LR LR
comp=Z,2µm,20.0s,MS5.9
TGUH Tegucigalpa,Un 122.76 77 PFAKE 12 50 10.0 +6.3
TGUH LR LR
comp=Z,2µm,19.0s,MS5.9
PRU Pruhonice 122.79 328 *e*PKPdf PKPdf 12 50 03.5 -0.3
PRU *e*SP SP 13 01 35.2 +3.1
PRU AMS AMS 13 44 40.0
comp=Z,3µm,20.5s
CLL Collm 122.81 330 *e*PKPdf PKPdf 12 50 02.7 -1.1
comp=Z,10.0nm,0.9s
CLL *ep*PKPdf pPKPdf 12 50 14.0 -5.0
CLL *e*PP PP 12 51 45.3 +2.9
CLL *e*PPP 12 54 17.9
CLL *e*SKKSac SKKSac 12 58 39.3 +2.1
CLL *e*PS PS 13 01 43.8 +5.5
CLL *e*PPS 13 03 05.2
CLL *e*SS SS 13 08 39.3 +18
CLL *e*SSS 13 13 15.7
CLL *e*LR LR 13 30 36.0
CLL *e*L 13 43 51.7
comp=Z,3µm,22.0s
CLL Collm 122.81 330 *i* PKIKP PKPdf 12 50 03.2 -0.6
CLL *e* 12 50 14.0
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL MLR MLR
comp=Z,3µm,18.4s,MS6.0
CLL Collm 122.81 330 *i* PKP PKPdf 12 50 03.2 -0.6
CLL *e* 12 50 14.0
CLL LR LR
comp=Z,3µm,18.4s,MS6.0
CLL Collm 122.81 330 *i* PKPdf PKPdf 12 50 03.2 -0.6
comp=Z,10.0nm,0.8s
CLL *es*PKPdf 12 50 14.0
CLL *ex* x 12 50 26.0
CLL *e*PP PP 12 51 48.0 +5.6
CLL *e*PPP 12 54 24.0
CLL *e*SKKSac SKKSac 12 58 36.0 -1.2
CLL *e*PSKS 13 01 36.0
CLL *e*PPS 13 03 02.0
CLL *e*SS SS 13 08 48.0 +26
CLL *e*SSS 13 13 18.0
CLL *ex* x 13 14 36.0
CLL Lm 13 46 00.0
comp=N,2µm,18.4s
CLL Lm 13 46 00.0
comp=E,2µm,18.3s
CLL Lm 13 46 00.0
comp=Z,3µm,18.4s
FBE Freiberg 122.86 329 *e*PKPdf PKPdf 12 50 03.8 -0.1
FBE *ep*PKPdf pPKPdf 12 50 13.8 -5.3
SCHQ Schefferville 122.96 25 PKP PKPdf 12 50 03.3 -0.8
comp=Z,6.8nm,0.7s,baz=248,slow=2.5,SNR=12
SCHQ Schefferville 122.96 25 *e*P PKPdf 12 50 03.3 -0.9
SCHQ LR LR
comp=Z,4µm,20.0s,MS6.1
GOGA Godfrey 123.23 54 PFAKE 12 50 10.0 +5.4
GOGA LR LR
comp=Z,3µm,21.0s,MS6.0
NRDL Niedersach Rie 123.47 332 *e*PKPdf PKPdf 12 50 05.0 -0.1
TANN Tannenbergstha 123.62 329 *e*PKPdf PKPdf 12 50 05.0 -0.4
WERD Werda 123.68 329 *e*PKPdf PKPdf 12 50 05.3 -0.2
GUNZ Gunzen 123.72 329 *e*PKPdf PKPdf 12 50 05.5 -0.1
NKC Novy Kostel 123.74 329 *e*PKPdf PKPdf 12 50 05.0 -0.6
NKC *ep*PKP pPKPdf 12 50 14.5 -6.3
NKC *e*SP SP 13 01 44.2 +3.7
NKC AMS AMS 13 43 20.0
comp=Z,4µm,23.2s
NKC Novy Kostel 123.74 329 *e*PKP PKPdf 12 50 05.0 -0.6
NKC *e* 12 50 14.5
NKC *e* 13 01 44.2
WERN Wernitzgruen 123.74 329 *e*PKPdf PKPdf 12 50 05.9 +0.3
CLZ Clausthal 123.77 331 *e*PKPdf PKPdf 12 50 06.0 +0.3
KHC Kasperske Hory 123.79 327 *e*PKPdf PKPdf 12 50 05.2 -0.5
KHC *ep*PKP pPKPdf 12 50 13.2 -7.7
KHC *ex* x 12 54 13.0
KHC *e*PS PS 13 01 47.2 +0.3
KHC AMS AMS 13 44 30.0
comp=Z,3µm,19.8s
KHC Kasperske Hory 123.79 327 *e*PKIKP PKPdf 12 50 05.2 -0.5
KHC *e* 12 50 13.2
KHC *e* 13 01 47.2
KHC MLR MLR
comp=Z,3µm,19.8s,MS6.0
GEC2 GERESS Array S 123.89 327 *e*PKPdf PKPdf 12 50 05.7 -0.2
GEC2 *ep*PKPdf pPKPdf 12 50 15.8 -5.2
GERES GERESS Array B 123.89 327 PKP PKPdf 12 50 05.6 -0.3
comp=Z,5.1nm,0.6s,baz=70,slow=1.7,SNR=39
MCWV Mont Chateau 123.90 46 *e*PKPdf PKPdf 12 50 05.5 -0.4
MCWV LR LR
comp=Z,4µm,20.0s,MS6.1
MOX Moxa 123.91 330 *e*PKPdf PKPdf 12 50 05.2 -0.8
MOX Moxa 123.91 330 *e*PKP PKPdf 12 50 06.4 +0.4
MOX
comp=Z,2µm,21.0s
FWV Forest Hill 123.97 48 *e*PKPdf PKPdf 12 50 05.5 -0.6
MANZ Manzenberg 124.06 329 *e*PKPdf PKPdf 12 50 06.5 +0.3
ELN Prospectdale 124.14 49 *e*PKPdf PKPdf 12 50 04.7 -1.7
WET Wettzell 124.16 328 *e*PKPdf PKPdf 12 50 06.6 +0.2
WET *ep*PKPdf pPKPdf 12 50 16.8 -4.8
BLA Blacksburg 124.39 49 *e*PKIKP PKPdf 12 50 06.5 -0.4
BLA MLR MLR
comp=Z,6µm,20.0s,MS6.3
GRA1 Grafenberg Arr 124.70 329 *e*PKPdf PKPdf 12 50 07.1 -0.4
GRA1 *ep*PKPdf pPKPdf 12 50 17.8 -4.8
GRA1 *e*PP PP 12 51 58.7 +3.7
GRA1 *e*SKPdf SKPdf 12 54 14.4 +36
GRA1 *e*SP SP 13 01 58.4 +9.4
GRA1 *e*SS SS 13 09 08.2 +23
GRA1 LR LR
comp=Z,3µm,21.7s,MS5.9
GRF Grafenberg Arr 124.70 329 *e*PKPdf PKPdf 12 50 07.1 -0.4
GRF *ep*PKPdf pPKPdf 12 50 17.8 -4.8
GRF *e*PP PP 12 51 58.7 +3.7
GRF *e*SKPdf SKPdf 12 54 14.4 +36
GRF *e*SP SP 13 01 58.4 +9.4
GRF *e*SS SS 13 09 08.2 +23
GRF *e*L 13 45 19.0
comp=Z,3µm,21.7s
GRF Grafenberg Arr 124.70 329 *e*PKIKP PKPdf 12 50 07.1 -0.4
GRF *e* 12 50 17.8
GRF *e* 12 51 58.7
GRF *e*SP SP 13 01 58.4 +9.4
GRF *e*SS SS 13 09 08.2 +23
GRF MLR MLR
comp=Z,3µm,21.7s,MS5.9
GRFO Grafenberg 124.70 329 PFAKE 12 50 20.0 +13
GRFO LR LR
comp=Z,3µm,20.0s,MS5.9
JSC Jenkinsville 124.72 52 *e*PKIKP PKPdf 12 50 07.6 +0.1
SSPA Standing Stone 124.87 44 *e*PKPdf PKPdf 12 50 07.4 -0.4
SSPA LR LR
comp=Z,3µm,20.0s,MS5.9
LHS Liberty Hill 125.02 52 *e*PKIKP PKPdf 12 50 08.4 +0.3
JTS JuntasAbangare 125.08 82 PFAKE 12 50 20.0 +12
JTS LR LR
comp=Z,293nm,20.0s,MS5.0
LONY Lake Ozonia 125.17 38 PFAKE 12 50 20.0 +12
LONY LR LR
comp=Z,4µm,21.0s,MS6.0
VOY Vojsko 125.35 324 *e*PKPdf PKPdf 12 50 08.7 0.0
VOY *e* 12 50 17.7
VOY *e* 12 50 34.4
BINY Binghamton 125.46 41 PFAKE 12 50 20.0 +11
BINY LR LR
comp=Z,4µm,21.0s,MS6.1
FUR Furstenfeldbru 125.59 327 *e*PKPdf PKPdf 12 50 09.7 +0.5
NCB Newcomb 125.72 39 *e*PKPdf PKPdf 12 50 09.0 -0.4
NCB LR LR
comp=Z,4µm,20.0s,MS6.1
TNS Taunus Mts 125.75 331 *e*PKPdf PKPdf 12 50 09.0 -0.5
NHSC New Hope 125.95 53 PFAKE 12 50 20.0 +10
NHSC LR LR
comp=Z,2µm,19.0s,MS5.9
MVL Millersville 126.21 44 *e*PKPdf PKPdf 12 50 10.1 -0.2
CBN Corbin 126.25 46 *e*PKPdf PKPdf 12 50 10.5 +0.1
CBN LR LR
comp=Z,4µm,22.0s,MS6.0
DWPF Disney 126.30 60 PFAKE 12 50 20.0 +9.5
DWPF LR LR
comp=Z,2µm,20.0s,MS5.9
STU Stuttgart 126.31 329 *e*PKPdf PKPdf 12 50 11.2 +0.7
EKA Eskdalemuir Ar 126.55 342 PKhKP 12 49 56.4
comp=Z,1.2nm,0.8s,baz=72,slow=2.3,SNR=3.9
EKA PKP PKPdf 12 50 10.8 -0.2
comp=Z,3.1nm,0.7s,baz=16,slow=3.1,SNR=6.0
EKA Eskdalemuir Ar 126.55 342 PKIKP PKPdf 12 50 10.8 -0.2
ESK Eskdalemuir 126.58 342 PFAKE 12 50 20.0 +8.9
ESK LR LR
comp=Z,498nm,19.0s,MS5.2
TRQA Tornquist 126.72 148 PFAKE 12 50 20.0 +8.7
TRQA LR LR
comp=Z,1µm,20.0s,MS5.6
TIP Timpagrande 126.88 315 *e*PKPdf PKPdf 12 50 11.6 0.0
CNNC Cliffs of the 127.01 50 PFAKE 12 50 20.0 +8.1
CNNC LR LR
comp=Z,4µm,20.0s,MS6.0
BFO Black Forest 127.03 329 *e*PKPdf PKPdf 12 50 10.6 -1.3
BFO LR LR
comp=Z,1µm,19.0s,MS5.6
DAVOX Davos 127.19 327 PKP PKPdf 12 50 12.1 -0.1
comp=Z,8.6nm,0.7s,baz=342,slow=6.1,SNR=7.6
TSUM Tsumeb 127.20 240 *e*PKPdf PKPdf 12 50 13.9 +1.6
TSUM LR LR
comp=Z,2µm,19.0s,MS5.8
WLF Walferdange 127.22 332 *e*PKPdf PKPdf 12 50 13.2 +0.9
PKME Peaks-Kenny Pk 127.95 35 PFAKE 12 50 20.0 +6.3
PKME LR LR
comp=Z,3µm,20.0s,MS5.9
HINF Hinteralfeld 128.12 329 *e*PKIKP PKPdf 12 50 11.4 -2.6
HRV Harvard--Oak R 128.14 39 PFAKE 12 50 20.0 +6.0
HRV LR LR
comp=Z,5µm,20.0s,MS6.2
WES Weston 128.36 39 PFAKE 12 50 20.0 +5.5
WES LR LR
comp=Z,4µm,20.0s,MS6.0
MEZF Maizieres J'vi 128.54 331 *e*PKIKP PKPdf 12 50 11.8 -3.0
CABF La Chapelle 129.31 329 *e*PKIKP PKPdf 12 50 13.6 -2.7
comp=Z,38nm,0.9s
NNA Nana 129.67 111 PFAKE 12 50 30.0 +13
NNA LR LR
comp=Z,249nm,19.0s,MS4.9
LPL La Plagne 129.69 327 *e*PKIKP PKPdf 12 50 14.1 -2.9
LPG La Plagne 129.69 327 *e*PKIKP PKPdf 12 50 14.4 -2.6
LOR Lormes 129.98 331 *e*PKIKP PKPdf 12 50 14.6 -2.9
comp=Z,18nm,0.8s
LOR *eR*
comp=Z,3µm,20.5s
LOR *eR*
comp=Z,3µm,21.0s
LOR Lormes 129.98 331 *e*PKPdf PKPdf 12 50 14.6 -2.9
LOR LR LR
comp=Z,3µm,21.0s,MS5.9
BNI Bardonecchia 130.01 327 *e*PKIKP PKPdf 12 50 17.7 +0.1
BNI *e* 12 50 29.4
BNI Bardonecchia 130.01 327 *e*PKPdf PKPdf 12 50 17.7 +0.1
MBDF Montbardon 130.17 326 *e*PKIKP PKPdf 12 50 15.1 -2.8
comp=Z,8.3nm,0.7s
PGF Pioggiola 130.22 323 *e*PKIKP PKPdf 12 50 15.2 -2.8
comp=Z,28nm,0.7s
SSF Saint Saulge 130.30 331 *e*PKIKP PKPdf 12 50 15.2 -2.9
comp=Z,9.1nm,0.7s
SBF Sospel 130.34 325 *e*PKIKP PKPdf 12 50 15.4 -2.8
comp=Z,85nm,1.0s
SMF Signal de Mont 130.42 330 *e*PKIKP PKPdf 12 50 15.3 -3.1
ORIF Oris-en-Rattie 130.53 327 *e*PKIKP PKPdf 12 50 15.7 -2.9
comp=Z,108nm,1.8s
AVF Avril sur Loir 130.56 331 *e*PKIKP PKPdf 12 50 15.7 -2.9
comp=Z,33nm,1.2s
OTAV Otavalo 130.87 95 PFAKE 12 50 30.0 +11
OTAV LR LR
comp=Z,1µm,19.0s,MS5.6
BGF Bois d'Agland 130.97 331 *e*PKIKP PKPdf 12 50 16.2 -3.2
TCF Toulx Ste Croi 131.47 331 *e*PKIKP PKPdf 12 50 17.0 -3.4
comp=Z,28nm,1.0s
LVC Limon Verde 132.09 128 PFAKE 12 50 30.0 +8.5
LVC LR LR
comp=Z,1µm,20.0s,MS5.6
LASF Ste Croix 132.17 328 *e*PKIKP PKPdf 12 50 18.8 -2.9
comp=Z,23nm,1.0s
ROSF Rostrenen 132.34 336 *e*PKIKP PKPdf 12 50 18.7 -3.3
KEST Kesra 133.70 315 PKP PKPdf 12 50 26.1 +1.6
comp=Z,3.2nm,0.8s,baz=252,slow=1.7,SNR=7.7
KEST SKPbc SKPbc 12 53 51.1 +2.0
comp=Z,2.0nm,0.7s,baz=42,slow=3.4,SNR=5.7
TRIS Tristan da Cun 134.12 199 PFAKE 12 50 40.0 +15
TRIS LR LR
comp=Z,2µm,19.0s,MS5.8
EPF Esparros 134.74 329 *e*PKIKP PKPdf 12 50 23.6 -2.9
ROSC El Rosal 135.44 89 PKP PKPdf 12 50 29.1 +1.2
comp=Z,11nm,0.6s,baz=87,slow=16,SNR=4.4
SJPF Ste Jean 135.47 330 *e*PKIKP PKPdf 12 50 25.0 -2.9
comp=Z,51nm,1.2s
LPAZ La Paz 135.83 121 *e*PKPdf PKPdf 12 50 29.7 +1.1
comp=Z,4.3nm,0.8s,baz=355,slow=3.7,SNR=13
LPAZ La Paz 135.83 121 *e*PKPdf PKPdf 12 50 30.4 +1.8
LPAZ LR LR
comp=Z,617nm,19.0s,MS5.3
BBSR BB Station 138.12 47 PFAKE 12 50 40.0 +7.2
BBSR LR LR
comp=Z,4µm,22.0s,MS6.2
SDV Santo Domingo 139.21 84 PFAKE 12 50 50.0 +15
SDV LR LR
comp=Z,536nm,19.0s,MS5.3
ESLA Sonseca Array 139.40 329 PFAKE 12 50 50.0 +15
ESLA LR LR
comp=Z,11µm,21.0s,MS6.6
PAB San Pablo 139.69 329 PFAKE 12 50 50.0 +14
PAB LR LR
comp=Z,2µm,19.0s,MS5.8
CPD Cerro la Pandu 142.62 68 *e*PKIKP PKPdf 12 50 41.9 +1.0
SAML Samuel 143.31 114 *e*PKPpre 12 50 38.9
SAML LR LR
comp=Z,966nm,19.0s,MS5.6
MDT Midelt 144.70 322 PKP PKPdf 12 50 43.4 -1.2
comp=Z,4.1nm,0.7s,baz=98,slow=4.6,SNR=12
LZG Guadaloupe-1 146.91 70 *e*P PKPdf 12 50 50.2 +1.9
TBG Guadaloupe-3 147.10 70 *e*P PKPdf 12 50 51.1 +2.4
MGG Marie-Galante 147.39 70 *e*P PKPdf 12 50 52.1 +3.0
DEG La Desirade 147.53 69 *e*P PKPdf 12 50 51.8 +2.4
SHEL Horse Pasture 147.80 227 PFAKE 12 51 00.0 +10
SHEL LR LR
comp=Z,459nm,21.0s,MS5.2
TOA0 Torodi Ar. Sit 148.42 285 *e*PKPdf PKPdf 12 50 50.9 +0.1
TORD Torodi Ar. Bea 148.42 285 PKP PKPdf 12 50 50.3 -0.5
comp=Z,68nm,0.7s,baz=56,slow=2.6,SNR=97
TORD PKPbc PKPbc 12 50 54.9 +0.5
comp=Z,68nm,0.7s,baz=58,slow=3.1,SNR=252
CAM4 Nova Friburgo 148.99 156 *e*P PKPdf 12 50 56.4 +4.6
CAM4 *i* 12 50 58.8
CAM4 *i* 12 51 05.1
CAM4 *i* 12 51 12.3
CAM4 *i* 12 51 23.4
BBGH Gun Hill 149.64 74 PFAKE 12 51 00.0 +7.2
BBGH LR LR
comp=Z,3µm,21.0s,MS6.0
CAM3 Guarapari 151.25 158 ⇓ *i*P PKPdf 12 51 00.7 +5.4
CAM3 *i* 12 51 04.3
CAM3 *i* 12 51 15.1
CAM3 *i* 12 51 30.8
LIC Lamto 155.60 272 *e*PKIKP PKPdf 12 50 58.7 -2.9
comp=Z,21nm,0.7s
LIC *eR*
comp=Z,3µm,22.8s
LIC Lamto 155.60 272 *e*PKPdf PKPdf 12 50 58.7 -2.9
LIC LR LR
comp=Z,1µm,22.8s,MS5.7
ASCN Ascension 159.40 228 PFAKE 12 51 20.0 +14
ASCN LR LR
comp=Z,496nm,21.0s,MS5.3

NEIC ***24*** *12:35:14.2±0.2, 5.92S×150.59E, h10km, mb5.2/7, Error ellipse: s-maj=9.0km s-min=6.0km az=118.0*
ISCJB ***24*** *12:35:17.4±2.0, 6.03S±006×150.55E±008, h41km±18km, mb4.8/23, Error ellipse: s-maj=12.9km s-min=10.1km az=41.7*
IDC ***24*** *12:35:20.3±1.8, 6.12S×150.52E, h53km±15km, mb4.6/20, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, ML4.2/2, Error ellipse: s-maj=14.9km s-min=10.3km az=123.0*
ISC 24 12:35:21.3±1.6, 609S±006×15052E±007, h62km±15km, n75, σ0 95/43, mb4.8/23, 10D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**225**	P	**Pn**	**12 36 29.2**	**-0.3**
	39nm,0.3s,baz=6.3,slow=3.5,SNR=14						
PMG				S	**Sn**	**12 37 21.5**	**-1.1**
	95nm,0.3s,baz=72,slow=16,SNR=4.4						
CTA	**Charters Tower**	**14.52**	**196**	*e*P	**Pn**	**12 38 43.5**	**+0.1**
	41nm,1.7s						
CTA	**Charters Tower**	**14.52**	**196**	P	**Pn**	**12 38 44.0**	**+0.6**
	1.1nm,0.3s,baz=2.1,slow=15,SNR=4.7						
GUMO	**Guam**	**20.34**	**344**	P	**P**	**12 39 54.6**	**+2.3**
	452nm,1.1s,baz=151,slow=9.7,SNR=5.4						
WB2	**Warramunga Arr**	**20.89**	**227**	*e*P	**P**	**12 39 58.8**	**+0.4**
WRA	**Warramunga Arr**	**20.90**	**227**	P	**P**	**12 39 58.9**	**+0.4**
	33nm,0.4s,baz=51,slow=10,SNR=18						
WRA				S	**S**	**12 43 47.9**	**-0.2**
	15nm,1.2s,baz=51,slow=19,SNR=4.9						
WRA				PcP	PcP	12 44 05.5	+1.2
	9.3nm,0.8s,baz=48,slow=2.1,SNR=4.7						
WRA				ScP	ScP	12 47 38.7	+3.1
	7.6nm,1.1s,baz=54,slow=2.8,SNR=7.0						
DZM	**Mont Dzumac**	**22.12**	**137**	P	**P**	**12 40 11.0**	**-0.5**
	32nm,0.8s,mb4.8,baz=23,slow=8.9,SNR=9.8						
AS31	**Alice Springs**	**23.69**	**221**	*e*P	**P**	**12 40 28.2**	**+1.0**
ASAR	**Alice Springs**	**23.69**	**221**	P	**P**	**12 40 28.2**	**+0.9**
	9.9nm,0.5s,mb4.5,baz=53,slow=9.1,SNR=9.3						
ASAR				ScP	ScP	12 47 46.0	+3.3
	2.8nm,0.8s,baz=62,slow=3.1,SNR=5.9						
ASPA	**Alice Springs**	**23.69**	**221**	*e*P	**P**	**12 40 28.2**	**+0.9**
STKA	**Stephens Creek**	**26.98**	**197**	*e*P	**P**	**12 40 56.5**	**-0.6**
	18nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**26.98**	**197**	P	**P**	**12 40 56.6**	**-0.6**
	27nm,0.9s,mb4.8,baz=25,slow=12,SNR=3.7						
STKA				ScP	ScP	12 47 58.4	+6.2
	10nm,0.9s,baz=55,slow=4.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**27.06**	**242**	*e*P	**P**	**12 40 57.6**	**-0.2**
	82nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.06**	**242**	P	**P**	**12 40 57.8**	**0.0**
	19nm,0.5s,mb4.9,baz=65,slow=9.1,SNR=8.4						
AFI	**Afiamalu**	**37.89**	**105**	P	**P**	**12 42 32.0**	**-0.3**
	36nm,1.1s,mb5.0,baz=315,slow=5.7,SNR=3.6						
URZ	**Urewera**	**40.09**	**147**	P	**P**	**12 42 50.4**	**-0.3**
	6.9nm,1.0s,mb4.3,baz=243,slow=2.3,SNR=2.3						
JNU	**Nakatsue**	**43.22**	**336**	P	**P**	**12 43 17.1**	**+0.9**
	44nm,0.9s,mb5.2,baz=200,slow=20,SNR=4.5						
MJAR	**Matsushiro Arr**	**43.94**	**346**	ScP	ScP	12 48 54.3	+1.1
	7.6nm,1.0s,baz=186,slow=4.5,SNR=9.8						
MAJO	**Matsushiro**	**43.95**	**346**	*e*P	**P**	**12 43 21.1**	**-0.9**
	23nm,1.1s,mb4.8						
KSRS	**Korea Array**	**48.17**	**336**	P	**P**	**12 43 56.1**	**+0.8**
	15nm,0.8s,mb5.0,baz=155,slow=8.2,SNR=17						
KHU	**Kahuku**	**58.70**	**63**	*e*P	**P**	**12 45 12.7**	**+0.3**
HIA	**Hailar**	**61.31**	**338**	*e*P	**P**	**12 45 29.6**	**-0.7**
	15nm,0.7s,mb5.2						
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**12 46 03.2**	**+0.6**
	6.0nm,0.9s,mb4.6,baz=144,slow=4.9,SNR=7.0						
VNDA	**Vanda**	**71.65**	**177**	P	**P**	**12 46 36.0**	**-0.2**
	4.0nm,0.9s,mb4.3,baz=328,slow=9.6,SNR=6.1						
MKAR	**Makanchi Array**	**79.81**	**320**	P	**P**	**12 47 22.1**	**-0.7**
	4.0nm,1.0s,mb4.3,baz=94,slow=5.6,SNR=2.8						
MKAR				PKKPbc	PKKPbc	13 06 09.5	+1.0
	0.4nm,0.7s,baz=343,slow=1.5,SNR=3.9						
MKAR	**Makanchi Array**	**79.81**	**320**	P	**P**	**12 47 22.1**	**-0.7**
MKAR				PKKPbc	PKKPbc	13 06 09.5	+1.0
ZAL	**Zalesovo**	**80.98**	**327**	P	**P**	**12 47 28.2**	**-0.9**
	1.8nm,0.5s,mb4.2,baz=35,slow=4.8,SNR=4.0						
MCK	**McKinley**	**82.92**	**23**	*e*P	**P**	**12 47 35.8**	**-3.5**
	18nm,1.2s,mb5.0						
QSPA	**South Pole Qui**	**83.88**	**180** ⇓	*i*P	**P**	**12 47 45.1**	**+0.8**
	51nm,1.3s,mb5.5						
EGAK	**Eagle**	**86.43**	**24**	*e*P	**P**	**12 47 55.7**	**-1.3**
DAWY	**Dawson**	**86.88**	**24**	*e*P	**P**	**12 47 57.2**	**-2.0**
BVAR	**Borovoye Array**	**88.91**	**323**	P	**P**	**12 48 07.6**	**-1.3**
	1.3nm,0.7s,mb4.4,baz=137,slow=7.3,SNR=3.5						
INK	**Inuvik**	**90.46**	**21**	P	**P**	**12 48 14.7**	**-1.4**
	6.4nm,0.9s,mb4.9,baz=304,slow=6.3,SNR=7.1						
YBH	**Yreka Blue Hor**	**91.60**	**48**	P	**P**	**12 48 21.7**	**+0.3**
	9.7nm,1.0s,mb5.1,baz=202,slow=0.8,SNR=8.4						
CMB	**Columbia Colle**	**92.99**	**52**	*e*P	**P**	**12 48 28.2**	**+0.4**
	7.4nm,1.0s,mb5.1						
ISA	**Isabella**	**94.32**	**55**	*e*P	**P**	**12 48 34.2**	**+0.3**
NVAR	**Mina Array Bea**	**94.66**	**52**	P	**P**	**12 48 36.7**	**+1.2**
	9.8nm,0.8s,mb5.3,baz=265,slow=7.5,SNR=26						
NVAR	**Mina Array Bea**	**94.66**	**52**	P	**P**	**12 48 36.7**	**+1.2**
GSC	**Goldstone**	**95.65**	**55**	*e*P	**P**	**12 48 40.8**	**+0.8**
PFO	**Pinyon Flat Ob**	**95.84**	**57**	P	**P**	**12 48 42.7**	**+1.8**
	14nm,0.9s,mb5.4,baz=286,slow=3.3,SNR=16						
YKA	**Yellowknife Ar**	**97.61**	**28**	P	**P**	**12 48 47.9**	**-1.0**
	1.9nm,0.8s,mb4.7,baz=275,slow=4.8,SNR=5.5						
YKA	**Yellowknife Ar**	**97.61**	**28**	P	**P**	**12 48 47.9**	**-1.0**
PDAR	**Pinedale Array**	**101.39**	**48**	P	Pdif	12 49 05.6	-0.1
	2.2nm,0.9s,baz=248,slow=2.5,SNR=8.1						
PDAR				PKiKP	PKiKP	12 53 30.0	+0.3
	0.9nm,0.8s,baz=249,slow=0.5,SNR=4.5						
PV01	**Paradox Valley**	**102.31**	**52**	*e*P	Pdif	12 49 09.8	0.0
TXAR	**Lajitas Array**	**106.73**	**61**	PKiKP	PKiKP	12 53 41.1	+1.6
	1.0nm,0.9s,baz=264,slow=1.3,SNR=4.7						

TXAR					PKKPab	PKKPab	13 05 14.8	+1.1
	0.4nm,0.8s,baz=111,slow=5.1,SNR=3.5							
ARCES	**ARCESS Array B**	**107.41**	**342**		PKiKP	PKiKP	12 53 40.4	-0.4
	4.3nm,1.0s,baz=75,slow=1.9,SNR=9.7							
ARCES	**ARCESS Array B**	**107.41**	**342**		PKPdf	PKiKP	12 53 40.4	-0.4
ULM	**Lac du Bonnet**	**109.66**	**39**		PKiKP	PKiKP	12 53 44.5	-0.5
	3.9nm,0.8s,baz=11,slow=1.6,SNR=4.8							
ECSD	**EROS,Sioux Fal**	**110.65**	**46**	*e*P		PKiKP	12 53 46.5	-0.4
AKASG	**Malin Array Be**	**114.19**	**323**		PKP	PKiKP	12 53 53.5	-0.1
	1.1nm,0.6s,baz=65,slow=2.3,SNR=4.9							
BR131	**Keskin Array S**	**114.44**	**311**	*e*P		PKiKP	12 53 53.2	-0.8
BRTR	**Keskin Array B**	**114.44**	**311**		PKP	PKiKP	12 53 54.1	+0.1
	2.1nm,0.9s,baz=142,slow=4.2,SNR=6.4							
UALR	**University of**	**115.67**	**54**	*e*P		PKPdf	12 53 57.3	+0.8
MLR	**Muntele Rosu**	**118.15**	**319**		PKP	PKPdf	12 54 01.5	+0.3
	3.8nm,0.7s,baz=88,slow=5.0,SNR=4.3							
MLR	**Muntele Rosu**	**118.15**	**319**	⇓*i*P		PKPdf	12 54 01.0	-0.2
MLR	**Muntele Rosu**	**118.15**	**319**	⇓P		PKPdf	12 54 01.0	-0.2
BLO	**Bloomington**	**119.13**	**48**	*e*P		PKPdf	12 54 03.2	+0.2
STHS	**Stebnicka Huta**	**119.40**	**325**	*e*PKP		PKPdf	12 54 07.2	+3.6
WCI	**Wyandotte Cave**	**119.58**	**49**	*e*P		PKPdf	12 54 03.9	-0.1
LRAL	**Lakeview Retre**	**120.38**	**55**	*e*P		PKPdf	12 54 06.3	+0.8
BZS	**Buzias**	**120.89**	**320**	⇓*i*P		PKPdf	12 54 06.7	+0.2
BZS	**Buzias**	**120.89**	**320**	⇓P		PKPdf	12 54 06.7	+0.3
VTS	**Vitosha**	**121.07**	**317**	⇓*i*P		PKPdf	12 54 07.2	+0.4
VYHS	**Vyhne**	**121.23**	**324**	*e*PKP		PKPdf	12 54 07.6	+0.5
MORC	**Moravsky Berou**	**121.31**	**326**	⇓*i*P		PKPdf	12 54 08.0	+0.7
MORC	**Moravsky Berou**	**121.31**	**326**	⇓P		PKPdf	12 54 08.0	+0.7
PKSM	**Moragy**	**122.46**	**322**	⇓*i*P		PKPdf	12 54 10.0	+0.5
PKSM	**Moragy**	**122.46**	**322**	⇓P		PKPdf	12 54 10.0	+0.5
BRG	**Berggiesshubel**	**122.62**	**329**	*e*P		PKPdf	12 54 10.5	+0.7
	6.0nm,1.0s							
CLL	**Collm**	**122.84**	**330**	*e*PKPdf		PKPdf	12 54 11.0	+0.8
	comp=Z,13nm,1.2s							
FWV	**Forest Hill**	**123.89**	**48**	*e*P		PKPdf	12 54 12.8	+0.5
GEC2	**GERESS Array S**	**123.92**	**327**	*e*P		PKPdf	12 54 12.5	+0.2
GERES	**GERESS Array B**	**123.92**	**327**		PKP	PKPdf	12 54 12.6	+0.3
	comp=Z,4.0nm,0.7s,baz=48,slow=2.0,SNR=12							
LHS	**Liberty Hill**	**124.94**	**52**	*e*P		PKPdf	12 54 15.2	+1.0
TORD	**Torodi Ar. Bea**	**148.50**	**285**		PKPbc	PKPbc	12 55 01.6	+0.7
	comp=Z,49nm,0.8s,baz=99,slow=3.1,SNR=38							

KRSC 24 12:35:49.9±1.0, 5205N×16020E, h5km±5km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.05**	**354**	*e*P	Pg	12 36 10.2	+0.1
SPN				*i* S	Sg	12 36 25.4	+1.6
SPN	**Mys Shipunski**	**1.05**	**354**	*e*P	Pg	12 36 10.2	+0.1
SPN				*i* S	Sg	12 36 25.4	+1.6
RUS	**Russkaya**	**1.11**	**291**	*e*P	Pg	12 36 10.8	-0.3
RUS				*i* S	Sg	12 36 26.8	+1.3
RUS	**Russkaya**	**1.11**	**291**	*e*P	Pg	12 36 10.8	-0.3
RUS				*i* S	Sg	12 36 26.8	+1.3
NLC	**Nalytchevo**	**1.24**	**335**	*i* P	Pg	12 36 14.0	+0.4
NLC				*i* S	Sg	12 36 32.0	+2.3
NLC	**Nalytchevo**	**1.24**	**335**	*i* P	Pg	12 36 14.0	+0.4
NLC				*i* S	Sg	12 36 32.0	+2.3
PET	**Petropavlovsk**	**1.36**	**317**	*e*P	Pn	12 36 15.5	0.0
PET				*e*S	Sb	12 36 34.5	+1.0
PET	**Petropavlovsk**	**1.36**	**317**	*e*P	Pn	12 36 15.5	0.0
PET				*e*S	Sb	12 36 34.5	+1.0
GRL	**Gorelyy**	**1.40**	**292**	*e*P	Pn	12 36 16.5	+0.4
GRL				*e*S	Sb	12 36 35.8	+1.1
GRL	**Gorelyy**	**1.40**	**292**	*e*P	Pn	12 36 16.5	+0.4
GRL				*e*S	Sb	12 36 35.8	+1.1
AVH	**Avacha**	**1.51**	**324**	*e*P	Pn	12 36 18.4	+0.8
AVH				*e*S	Sn	12 36 39.0	+1.4
AVH	**Avacha**	**1.51**	**324**	*e*P	Pn	12 36 18.4	+0.8
AVH				*e*S	Sn	12 36 39.0	+1.4
GNL	**Ganaly**	**2.14**	**321**	*e*P	Pn	12 36 27.6	+1.3
GNL	**Ganaly**	**2.14**	**321**	*e*P	Pn	12 36 27.6	+1.3
TUMR	**Tumrok**	**3.24**	**359**	P	Pn	12 36 42.1	+0.7
TUMR	**Tumrok**	**3.24**	**359**	P	Pn	12 36 42.1	+0.7
KMNR	**Kamenistaya**	**3.71**	**0**	P	Pn	12 36 48.6	+0.7
KMNR	**Kamenistaya**	**3.71**	**0**	P	Pn	12 36 48.6	+0.7
ZLN	**Zelenaya**	**3.99**	**5**	P	Pn	12 36 53.8	+2.1
ZLN	**Zelenaya**	**3.99**	**5**	P	Pn	12 36 53.8	+2.1
KOZ	**Kozyrevsk**	**4.02**	**357**	P	Pn	12 36 53.9	+1.8
KOZ	**Kozyrevsk**	**4.02**	**357**	P	Pn	12 36 53.9	+1.8
SRDR	**Sredinnyy**	**4.29**	**356**	P	Pn	12 36 56.7	+0.9
SRDR	**Sredinnyy**	**4.29**	**356**	P	Pn	12 36 56.7	+0.9
SRKR	**Sorokina**	**4.65**	**7**	P	Pn	12 37 03.8	+3.1
SRKR	**Sorokina**	**4.65**	**7**	P	Pn	12 37 03.8	+3.1

*MDD **24** 12:39:53.0±0.9, 3651N×987W, h0km, mbLg2.9/8, Error ellipse: s-maj=9.4km s-min=5.8km az=79.0, PRXIMO*
*CSEM **24** 12:39:52.3±0.2, 3635N×983W, h15km, ML4.0/4, Error ellipse: s-maj=5.9km s-min=1.7km az=99.0*
*ISCJB **24** 12:39:52.2±0.6, 3652N±003×970W±004, h10km, Error ellipse: s-maj=5.0km s-min=3.8km az=150.7*
*NEIC **24** 12:39:55.2, 3663N×993W, h15km, MN3.3(MDD), After MDD.*
*CNRM **24** 12:39:55.8, 3641N×982W, h28km, MD3.6*
*INMG **24** 12:39:56.9±1.0, 3661N×980W, h10km, MD2.8, ML2.8, Error ellipse: s-maj=4.7km s-min=2.5km az=66.0*
*IGIL **24** 12:39:57.2, 3650N×990W, h38km, ML3.5*

ISC 24 12:39:54.0±0.6, 3657N±003×972W±004, h10km, n70, σ1§34/113, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.26**	**39**	*e*P	**Pn**	**12 40 19.1**	**+1.4**
PTEO				*e*S	**Sb**	**12 40 35.7**	**+1.6**
PTEO							
	99nm,0.3s						
EGRO	**El Granado**	**2.03**	**61**	P	**Pn**	**12 40 29.8**	**+1.5**
	4.2nm,0.1s,SNR=18						
EGRO				S	**Sn**	**12 40 54.3**	**+0.5**
	36nm,0.1s,SNR=17						
EGRO	**El Granado**	**2.03**	**61**	P	**Pn**	**12 40 29.8**	**+1.5**
	4.2nm,0.1s,SNR=18						
PBEJ	**Beja**	**2.08**	**45**	*e*Pn	**Pn**	**12 40 30.2**	**+1.3**
PBEJ				*e*Sn	**Sn**	**12 40 55.0**	**+0.2**
PBEJ							
	30nm,0.2s						
LIS	**Lisbon**	**2.19**	**12**	*e*P	**Pn**	**12 40 31.5**	**+0.9**
LIS				*e*S	**Sn**	**12 40 56.9**	**-0.8**
LIS				*e*S	**Sn**	**12 40 57.0**	**-0.7**
LIS				AML	AML	12 40 58.4	
	comp=E,264nm,0.2s						
LIS	**Lisbon**	**2.19**	**12**	*e*P	**Pn**	**12 40 31.5**	**+1.0**
LIS				*e*S	**Sn**	**12 40 56.9**	**-0.8**
MOE	**Montemor**	**2.23**	**29**	*e*Pn	**Pn**	**12 40 32.5**	**+1.4**
MOE				*e*Sn	**Sn**	**12 40 58.9**	**+0.2**
PLOU	**Loures**	**2.36**	**11**	*e*Pn	**Pn**	**12 40 33.4**	**+0.6**
PLOU				*e*Sn	**Sn**	**12 41 00.9**	**-0.8**
PLOU							
	comp=E,78nm,0.4s						
PLOU	**Loures**	**2.36**	**11**	*e*Pn	**Pn**	**12 40 33.4**	**+0.6**
PLOU				*e*Sn	**Sn**	**12 41 00.9**	**-0.8**
	comp=E,78nm,0.4s						
PMAFR	**Mafra**	**2.41**	**8**	*e*Pn	**Pn**	**12 40 33.8**	**+0.3**
PMAFR				*e*Sn	**Sn**	**12 41 01.4**	**-1.6**
PMAFR							
	comp=E,150nm,0.3s						
PMAFR	**Mafra**	**2.41**	**8**	*e*Pn	**Pn**	**12 40 33.8**	**+0.3**
PMAFR				*e*Sn	**Sn**	**12 41 01.4**	**-1.6**
	comp=E,150nm,0.3s						
EMIN	**Mina Concepcio**	**2.71**	**63**	P	**Pn**	**12 40 38.8**	**+1.1**
	comp=E,1.7nm,0.1s,SNR=23						
EMIN				S	**Sn**	**12 41 10.5**	**-0.1**
	comp=E,14nm,0.1s,SNR=7.2						
EMIN	**Mina Concepcio**	**2.71**	**63**	P	**Pn**	**12 40 38.8**	**+1.1**
	comp=E,1.7nm,0.1s,SNR=23						
PESTR	**Estremoz**	**2.85**	**36**	*e*Pn	**Pn**	**12 40 40.3**	**+0.7**
PESTR				*e*Sn	**Sn**	**12 41 13.3**	**-0.6**
PESTR							
	comp=E,22nm,0.2s						
PESTR	**Estremoz**	**2.85**	**36**	*e*Pn	**Pn**	**12 40 40.3**	**+0.7**
PESTR				*e*Sn	**Sn**	**12 41 13.3**	**-0.6**
	comp=E,22nm,0.2s						
EBAD	**Badajoz**	**3.06**	**44**	P	**Pn**	**12 40 43.4**	**+0.9**
	comp=E,5.5nm,0.1s,SNR=12						
EBAD				S	**Sn**	**12 41 18.8**	**-0.3**
	comp=E,59nm,0.2s						
EBAD	**Badajoz**	**3.06**	**44**	P	**Pn**	**12 40 43.4**	**+0.9**
	comp=E,5.5nm,0.1s,SNR=12						
ESPR	**Espera**	**3.12**	**83**	P	**Pn**	**12 40 44.8**	**+1.6**
	comp=E,21nm,0.1s,SNR=8.2						
ESPR				S	**Sn**	**12 41 20.6**	**0.0**
	comp=E,325nm,0.3s,SNR=7.0						
ESPR	**Espera**	**3.12**	**83**	P	**Pn**	**12 40 44.8**	**+1.5**
	comp=E,21nm,0.1s,SNR=8.2						
EJIF	**Jimena Fronter**	**3.43**	**91**	P	**Pn**	**12 40 49.5**	**+2.0**
	comp=E,1.9nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**12 41 30.4**	**+2.2**
	comp=E,13nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.71**	**28**	*e*Pn	**Pn**	**12 40 52.7**	**+1.3**
PCBR				*e*Sn	**Sn**	**12 41 33.6**	**-1.6**
PCBR							
	comp=E,16nm,0.2s						
PCBR	**Castelo Branco**	**3.71**	**28**	*e*Pn	**Pn**	**12 40 52.7**	**+1.3**
PCBR				*e*Sn	**Sn**	**12 41 33.6**	**-1.6**
	comp=E,16nm,0.2s						
EMIJ	**Mijas**	**3.98**	**89**	P	**Pn**	**12 40 56.1**	**+1.0**
	comp=E,0.1nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**12 41 41.1**	**-0.8**
	comp=E,8.6nm,0.2s,SNR=6.9						
PVIS	**Viseu**	**4.38**	**18**	*e*Pn	**Pn**	**12 41 00.9**	**+0.3**
PVIS				*e*Sn	**Sn**	**12 41 50.2**	**-1.5**
PVIS							
	comp=E,13nm,0.1s						
EADA	**Adamuz**	**4.40**	**67**	P	**Pn**	**12 41 02.5**	**+1.7**
	comp=E,6.3nm,0.2s,SNR=30						
EADA				S	**Sn**	**12 41 49.9**	**-2.2**
	comp=E,2.7nm,0.1s						
EADA	**Adamuz**	**4.40**	**67**	P	**Pn**	**12 41 02.5**	**+1.7**
	comp=E,6.3nm,0.2s,SNR=30						
ELUQ	**Luque**	**4.47**	**76**	P	**Pn**	**12 41 03.1**	**+1.2**
	comp=E,3.0nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**12 41 53.9**	**-0.1**
	comp=E,7.8nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**4.50**	**81**	S	**Sn**	**12 41 56.7**	**+2.0**
	comp=E,3.0nm,0.1s,SNR=7.9						
MIF	**Mishlifen**	**4.85**	**129**	P	**Pn**	**12 41 06.0**	**-1.1**
MIF				S	**Sn**	**12 41 57.0**	**-6.3**
MIF	**Mishlifen**	**4.85**	**129**	*i* P	**Pn**	**12 41 06.0**	**-1.1**
EGUA	**Guajares**	**4.95**	**85**	P	**Pn**	**12 41 11.9**	**+3.4**
EGUA				S	**Sn**	**12 42 05.8**	**0.0**
EGUA	**Guajares**	**4.95**	**85**	P	**Pn**	**12 41 11.9**	**+3.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**12 42 05.8**	**0.0**
	comp=E,2.9nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.95**	**18**	*e*Sn	**Sn**	**12 42 01.5**	**-4.3**
PVRL							
	comp=E,20nm,0.1s						
PVRL	**Vila Real**	**4.95**	**18**	S	**Sn**	**12 42 01.5**	**-4.3**
	comp=E,10nm,0.1s						
EBAN	**Banos Encina**	**4.99**	**70**	P	**Pn**	**12 41 10.4**	**+1.4**
	comp=E,5.9nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**12 42 05.0**	**-1.7**
	comp=E,8.5nm,0.1s,SNR=7.9						
KIB	**El Ksiba**	**5.01**	**142**	P	**Pn**	**12 41 07.5**	**-1.7**
KIB				S	**Sn**	**12 42 01.0**	**-6.2**
KIB	**El Ksiba**	**5.01**	**142**	*i* P	**Pn**	**12 41 07.5**	**-1.7**
CIA	**Chichaoua**	**5.05**	**171**	P	**Pn**	**12 41 07.0**	**-2.9**
CIA				S	**Sn**	**12 42 00.0**	**-8.3**
CIA	**Chichaoua**	**5.05**	**171**	*i* P	**Pn**	**12 41 07.0**	**-2.9**
EQUE	**Quentar**	**5.08**	**81**	P	**Pn**	**12 41 11.9**	**+1.8**
	comp=E,1.2nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**12 42 08.8**	**0.0**
	comp=E,2.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.08**	**81**	P	**Pn**	**12 41 11.9**	**+1.8**
	comp=E,1.2nm,0.2s,SNR=7.9						
TZC	**Tazercounte**	**5.16**	**148**	P	**Pn**	**12 41 08.0**	**-3.3**
TZC				S	**Sn**	**12 42 03.5**	**-7.3**
TZC	**Tazercounte**	**5.16**	**148**	*i* P	**Pn**	**12 41 08.0**	**-3.3**
CZD	**Col de Zad**	**5.22**	**131**	P	**Pn**	**12 41 11.5**	**-0.6**
CZD				S	**Sn**	**12 42 05.5**	**-6.9**
CZD	**Col de Zad**	**5.22**	**131**	*i* P	**Pn**	**12 41 11.5**	**-0.6**
PCAB	**Cabril**	**5.30**	**14**	*e*Sn	**Sn**	**12 42 12.3**	**-2.1**
EALB	**Alboran**	**5.44**	**95**	S	**Sn**	**12 42 14.6**	**-3.2**
	comp=E,19nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.45**	**13**	P	**Pn**	**12 41 14.2**	**-1.1**
	comp=E,0.9nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**12 42 13.3**	**-4.7**
	comp=E,6.1nm,0.2s,SNR=4.9						
ELOB	**Lobios**	**5.45**	**13**	P	**Pn**	**12 41 14.2**	**-1.1**
	comp=E,0.9nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.45**	**75**	P	**Pn**	**12 41 16.2**	**+0.9**
	comp=E,1.5nm,0.2s,SNR=11						
EQES				S	**Sn**	**12 42 16.8**	**-1.2**
	comp=E,2.2nm,0.1s						
EQES	**Quesada**	**5.45**	**75**	P	**Pn**	**12 41 16.2**	**+0.9**
	comp=E,1.5nm,0.2s,SNR=11						
EBER	**Berja**	**5.50**	**85**	S	**Sn**	**12 42 20.1**	**+0.9**
	comp=E,3.7nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.50**	**54**	P	**Pn**	**12 41 17.2**	**+1.2**
	comp=E,6.2nm,0.1s,baz=239,slow=13,SNR=19						
ESDC				S	**Sn**	**12 42 17.9**	**-1.3**
	comp=E,1.7nm,0.1s,baz=241,slow=23,SNR=43						
ESDC	**Sonseca Array**	**5.50**	**54**	P	**Pn**	**12 41 17.2**	**+1.2**
	comp=E,6.2nm,0.1s,SNR=19						
OUK	**Oukaimeden**	**5.56**	**163**	P	**Pn**	**12 41 14.5**	**-2.4**
OUK				S	**Sn**	**12 42 13.0**	**-7.8**
OUK	**Oukaimeden**	**5.56**	**163**	*i* P	**Pn**	**12 41 14.5**	**-2.4**
PBRG	**Braganca**	**5.72**	**23**	*e*Pn	**Pn**	**12 41 20.0**	**+1.0**
PBRG				*e*Sn	**Sn**	**12 42 21.3**	**-3.4**
PBRG							
	comp=E,6.9nm,0.3s						
EHUE	**Huescar**	**5.83**	**76**	S	**Sn**	**12 42 25.6**	**-1.7**
	comp=E,3.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.84**	**22**	P	**Pn**	**12 41 21.3**	**+0.6**
	comp=E,2.9nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**12 42 23.7**	**-4.1**
	comp=E,15nm,0.5s,SNR=4.9						
ECAL	**Calabor**	**5.84**	**22**	P	**Pn**	**12 41 21.3**	**+0.6**
	comp=E,2.9nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.96**	**45**	S	**Sn**	**12 42 28.3**	**-2.4**
	comp=E,6.6nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.09**	**68**	P	**Pn**	**12 41 24.9**	**+0.7**
	comp=E,0.8nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**12 42 28.5**	**-5.4**
	comp=E,1.2nm,0.1s,SNR=6.1						
ZFT	**Errachidia**	**6.34**	**134**	P	**Pn**	**12 41 27.0**	**-0.5**
ZFT				S	**Sn**	**12 42 34.5**	**-5.5**
ZFT	**Errachidia**	**6.34**	**134**	*i* P	**Pn**	**12 41 27.0**	**-0.5**
EMAZ	**Mazaricos**	**6.40**	**5**	P	**Pn**	**12 41 27.4**	**-0.9**
	comp=E,11nm,0.2s,SNR=10						
EMAZ				S	**Sn**	**12 42 33.9**	**-7.5**
	comp=E,17nm,0.4s						
EMAZ	**Mazaricos**	**6.40**	**5**	P	**Pn**	**12 41 27.4**	**-0.9**
	comp=E,11nm,0.2s,SNR=10						
ETOB	**Tobarra**	**6.81**	**70**	P	**Pn**	**12 41 34.5**	**+0.5**
	comp=E,1.0nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 42 50.1**	**-1.5**
	comp=E,1.3nm,0.1s,SNR=6.0						
ETOB	**Tobarra**	**6.81**	**70**	P	**Pn**	**12 41 34.5**	**+0.5**
	comp=E,1.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.34**	**52**	P	**Pn**	**12 41 42.4**	**+1.0**
	comp=E,14nm,0.2s,SNR=6.6						
ETOR				S	**Sn**	**12 43 01.2**	**-3.5**
	comp=E,32nm,0.3s,SNR=7.9						
ETOR	**Torete**	**7.34**	**52**	P	**Pn**	**12 41 42.3**	**+1.0**

IDC 24 12:43:37.8±8.5, 581S×14988E, h48km±66km, mb3.6/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=100.5km s-min=60.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.48**	**217**	P	Pn	12 44 44.1	+1.0
	1.6nm,0.3s,baz=22,slow=13,SNR=3.9						
PMG				S	Sn	12 45 34.2	+0.3
	3.1nm,0.3s,baz=101,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**20.63**	**226**	P	P	12 48 13.9	+0.7
	2.0nm,0.5s,baz=50,slow=10.0,SNR=8.4						
ASAR	**Alice Springs**	**23.49**	**219**	P	P	12 48 43.0	-0.2
	0.8nm,0.6s,baz=55,slow=9.5,SNR=7.6						
FITZ	**Fitzroy Crossi**	**26.63**	**241**	P	P	12 49 13.1	+1.3
	5.4nm,1.2s,baz=39,slow=6.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.81**	**285**	PKPbc	PKPbc	13 03 17.2	-0.1
	1.4nm,0.6s,baz=52,slow=2.2,SNR=8.5						

*NEIC **24** 12:45:21.9±1.8, 567S×15061E, h10km, mb4.4/3, Error ellipse: s-maj=38.4km s-min=26.2km az=122.0*
*ISCJB **24** 12:45:28.6±5.2, 59S±03×1503E±03, h55km±34km, mb4.0/3, Error ellipse: s-maj=49.0km s-min=38.8km az=67.3*
*IDC **24** 12:45:30.8±9.2, 579S×150.16E, h58km±67km, mb3.9/4, mb1 4.1/5, mb1mx3.7/15, mbtmp4.0/5, ML3.2/1, Error ellipse: s-maj=61.0km s-min=52.2km az=81.0*

ISC 24 12:45:30.3±5.1, 59S±03×1504E±03, h56km±33km, n13, σ0§48/13, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**222**	P	**Pn**	**12 46 38.7**	**-0.2**
	7.8nm,0.3s,baz=21,slow=12,SNR=3.0						
PMG				S	**Sn**	**12 47 32.5**	**+0.2**
	10nm,0.3s,baz=68,slow=19,SNR=4.9						
KAKA	**Kakadu**	**18.92**	**248**	*e*P	**Pn**	**12 49 48.3**	**+0.7**
	6.9nm,0.8s						
WRAB	**Tennant Creek**	**20.91**	**227**	*e*P	**P**	**12 50 06.8**	**-1.2**
	13nm,0.7s						
WB2	**Warramunga Arr**	**20.91**	**227**	*e*P	**P**	**12 50 08.1**	**0.0**
WRA	**Warramunga Arr**	**20.92**	**227**	P	**P**	**12 50 07.9**	**-0.3**
	6.0nm,0.6s,baz=50,slow=9.9,SNR=14						
WRA				PcP	PcP	12 54 14.5	+0.3
	1.1nm,0.8s,baz=44,slow=1.8,SNR=5.0						
AS31	**Alice Springs**	**23.73**	**220**	*e*P	**P**	**12 50 37.4**	**+0.1**
ASAR	**Alice Springs**	**23.74**	**220**	P	**P**	**12 50 37.0**	**-0.3**
	1.8nm,0.5s,mb3.7,baz=56,slow=8.2,SNR=13						
ASPA	**Alice Springs**	**23.74**	**220**	*e*P	**P**	**12 50 37.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.01**	**241**	*e*P	**P**	**12 51 07.0**	**+0.1**
	27nm,1.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**27.01**	**241**	P	**P**	**12 51 06.9**	**0.0**
	3.3nm,0.6s,mb4.0,baz=72,slow=5.5,SNR=7.7						
STKA	**Stephens Creek**	**27.14**	**196**	P	**P**	**12 51 08.8**	**+0.7**
	4.5nm,0.7s,mb4.1,baz=18,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**27.14**	**196**	P	**P**	**12 51 08.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**148.28**	**285**	PKPbc	PKPbc	13 05 10.4	+0.3
	5.0nm,0.7s,baz=54,slow=2.8,SNR=18						

*NEIC **24** 12:46:30.9±0.5, 5198N×16009E, h10km, mb4.7/6, Error ellipse: s-maj=12.8km s-min=9.4km az=161.0*
*ISCJB **24** 12:46:32.0±0.4, 5179N±003×16032E±006, h38km, mb4.3/30, Error ellipse: s-maj=5.6km s-min=4.6km az=44.3*
*KRSC **24** 12:46:32.7±1.1, 5205N×16026E, h5km±5km, ML4.4*
*MOS **24** 12:46:34.6±0.9, 5198N×160.01E, h58km, mb4.6/13, Error ellipse: s-maj=13.3km s-min=7.1km az=100.0*
*IDC **24** 12:46:34.7±0.9, 5193N×160.10E, h38km±5km, mb3.8/16, mb1 3.9/17, mb1mx3.8/28, mbtmp3.8/17, ML4.0/1, Error ellipse: s-maj=21.7km s-min=13.6km az=172.0*

ISC 24 12:46:34.2±0.4, 5184N±003×16024E±006, h40km, h40km±1.3km:pP-P, n94, σ1§15/109, mb4.3/30, 6C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.22**	**300**	*i* P	**Pn**	**12 46 54.4**	**-0.4**
RUS				*i* S	**Sn**	**12 47 10.6**	**+0.5**
RUS	**Russkaya**	**1.22**	**300**	*i* P	**Pn**	**12 46 54.4**	**-0.4**
RUS				*i* S	**Sn**	**12 47 10.6**	**+0.5**
SPN	**Mys Shipunski**	**1.27**	**354**	*i* P	**Pn**	**12 46 53.7**	**-1.8**
SPN				*i* S	**Sn**	**12 47 09.1**	**-2.2**
SPN	**Mys Shipunski**	**1.27**	**354**	*i* P	**Pn**	**12 46 53.7**	**-1.8**
SPN				*i* S	**Sn**	**12 47 09.1**	**-2.2**
NLC	**Nalytchevo**	**1.45**	**338**	*i* P	**Pn**	**12 46 57.7**	**-0.1**
NLC				*i* S	**Sn**	**12 47 16.2**	**+0.6**
NLC	**Nalytchevo**	**1.45**	**338**	*i* P	**Pn**	**12 46 57.7**	**-0.1**
NLC				*i* S	**Sn**	**12 47 16.2**	**+0.6**
GRL	**Gorelyy**	**1.52**	**299**	*i* P	**Pn**	**12 46 59.7**	**+0.9**
GRL				*e*S	**Sn**	**12 47 19.4**	**+2.1**
GRL	**Gorelyy**	**1.52**	**299**	*i* P	**Pn**	**12 46 59.7**	**+0.9**
GRL				*e*S	**Sn**	**12 47 19.4**	**+2.1**
PET	**Petropavlovsk**	**1.54**	**321**	⇑*i*PN	**Pn**	**12 46 59.3**	**+0.2**
PET				pmax	pmax		
	comp=Z,348nm,0.8s						
PET	**Petropavlovsk**	**1.54**	**321**	*e*P	**Pn**	**12 46 58.5**	**-0.6**
PET	**Petropavlovsk**	**1.54**	**321**	*i* P

SPB4	**Spitsbergen Ar**	**48.39**	**351**	*e*P	**P**	**12 55 11.9**	**-0.2**
MK31	**Makanchi Array**	**48.79**	**297**	*e*P	**P**	**12 55 13.5**	**-1.7**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**12 55 14.0**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=55,slow=6.8,SNR=21						
MKAR				pP	pP	12 55 25.5	-1.3
	comp=Z,1.0nm,0.5s,baz=56,slow=6.7,SNR=6.9						
MKAR	**Makanchi Array**	**48.79**	**297**	*i* P	**P**	**12 55 14.0**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P	**P**	**12 55 28.3**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P	**P**	**12 55 28.3**	**-1.8**
	comp=Z,2.7nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.25**	**309**	P	**P**	**12 55 32.6**	**-1.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=48,slow=7.7,SNR=10						
BVAR				pP	pP	12 55 43.7	-1.7
	comp=Z,2.0nm,0.6s,baz=59,slow=8.7,SNR=5.1						
BVAR	**Borovoye Array**	**51.25**	**309**	P	**P**	**12 55 32.6**	**-1.2**
BVAR				*PP	pP	12 55 43.7	-1.7
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**54.39**	**318**⇑	*i*P	**P**	**12 55 55.9**	**-1.1**
ARU				*e*		12 57 56.2	
ARU				*e*S	**S**	**13 03 33.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**54.51**	**342**	P	**P**	**12 55 57.5**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.4,baz=51,slow=7.9,SNR=8.2						
ARCES				pP	pP	12 56 08.0	-1.6
	comp=Z,2.6nm,0.7s,baz=57,slow=8.8,SNR=2.5						
ARCES	**ARCESS Array B**	**54.51**	**342**	P	**P**	**12 55 57.6**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**54.51**	**342**	P	**P**	**12 55 57.5**	**-0.4**
ARCES				pP	pP	12 56 08.0	-1.6
AAK	**Ala-Archa**	**55.72**	**297**⇓	*e*P	**P**	**12 56 04.9**	**-1.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
NVAR	**Mina Array Bea**	**56.09**	**69**	P	**P**	**12 56 10.8**	**+1.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=298,slow=9.0,SNR=6.8						
PDAR	**Pinedale Array**	**58.06**	**60**	P	**P**	**12 56 23.9**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=302,slow=3.0,SNR=6.1						
AKTK	**Aktyubinsk**	**58.74**	**313**	P	**P**	**12 56 26.7**	**-1.2**
AKTO	**Aktyubinsk**	**58.74**	**313**	P	**P**	**12 56 26.7**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.5,baz=60,slow=8.3,SNR=10						
AKTO	**Aktyubinsk**	**58.74**	**313**	P	**P**	**12 56 26.7**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
JIRN	**Jiri**	**59.11**	**276**	*e*P	**P**	**12 56 31.8**	**+1.3**
	comp=Z,4.8nm,0.5s,mb4.8						
GUN	**Gumba**	**59.12**	**277**	*e*P	**P**	**12 56 32.1**	**+1.5**
KKN	**Kakani**	**59.58**	**277**	*e*P	**P**	**12 56 34.5**	**+0.7**
	comp=Z,18nm,0.5s,mb5.4						
PKI	**Pulchoki**	**59.66**	**277**	*e*P	**P**	**12 56 35.4**	**+1.1**
DMN	**Daman**	**59.82**	**277**	*e*P	**P**	**12 56 36.4**	**+1.0**
	comp=Z,12nm,0.4s,mb5.2						
GKN	**Gorkha**	**59.82**	**278**	*e*P	**P**	**12 56 36.4**	**+1.0**
	comp=Z,8.0nm,0.5s,mb5.0						
KOLN	**Koldanda**	**60.63**	**278**	*e*P	**P**	**12 56 41.4**	**+0.5**
	comp=Z,7.8nm,0.5s,mb5.1						
FINES	**FINESS Array B**	**61.31**	**337**	P	**P**	**12 56 45.4**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.5,baz=39,slow=7.3,SNR=10.0						
FINES				pP	pP	12 56 56.5	-0.9
	comp=Z,2.4nm,0.6s,baz=52,slow=7.5,SNR=3.8						
FINES	**FINESS Array B**	**61.31**	**337**	*i* P	**P**	**12 56 45.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**63.63**	**328**⇑	*e*P	**P**	**12 56 58.9**	**-2.1**
OBN				*e*S	**S**	**13 05 23.7**	**-8.5**
OBN				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
NB2	**NORSAR Subarra**	**64.78**	**344**	P	**P**	**12 57 08.2**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.4,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**64.78**	**344**	P	**P**	**12 57 08.6**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=22,slow=6.7,SNR=4.0						
NOA				pP	pP	12 57 20.8	+0.3
	comp=Z,2.4nm,0.8s,baz=22,slow=6.7,SNR=3.6						
NOA	**NORSAR Array B**	**64.78**	**344**	P	**P**	**12 57 08.6**	**0.0**
NOA				*PP	pP	12 57 20.8	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**69.74**	**329**	P	**P**	**12 57 39.4**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.5,baz=28,slow=6.2,SNR=8.0						
AKASG	**Malin Array Be**	**69.74**	**329**	*i* P	**P**	**12 57 39.4**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TXAR	**Lajitas Array**	**71.05**	**67**	P	**P**	**12 57 48.5**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=311,slow=5.8,SNR=6.7						
TXAR				pP	pP	12 57 59.9	-0.2
	comp=Z,0.6nm,0.6s,baz=308,slow=5.1,SNR=4.9						
TXAR	**Lajitas Array**	**71.05**	**67**	P	**P**	**12 57 48.6**	**+0.6**
TXAR				*PP	pP	12 57 59.9	-0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.65**	**321**	P	**P**	**12 58 27.6**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=92,slow=3.3,SNR=3.4						
BRTR	**Keskin Array B**	**77.65**	**321**	P	**P**	**12 58 27.6**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**78.65**	**205**	P	**P**	**12 58 32.7**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=18,slow=5.2,SNR=5.5						

IGQ 24 12:47:16.8, 103S×7829W, h15km±1km, Mb4.2, Ms4.0, Error ellipse: s-maj=1.7km s-min=0.6km az=5.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.10**	**253**	P	Pg	12 47 20.6	+0.6
TAMB	**Tambo**	**0.34**	**347**	P	Pg	12 47 24.5	+0.7
VC1	**Cotopaxi 1**	**0.40**	**344**	P	Pg	12 47 25.4	+0.6
RUN5	**Runtun**	**0.41**	**199**	P	Pg	12 47 25.4	+0.4
CAMI	**Rancho Maria**	**0.41**	**329**	P	Pg	12 47 26.0	+0.9
JUIV	**Juive**	**0.43**	**204**	P	Pg	12 47 25.8	+0.4
JUIV				S	Sg	12 47 31.3	+0.1
ULBA	**Ulba**	**0.43**	**196**	P	Pg	12 47 25.8	+0.3
NAS1	**Nasa**	**0.44**	**335**	P	Pg	12 47 26.4	+0.9
RETU	**Refugio**	**0.45**	**200**	P	Pg	12 47 26.3	+0.6
RETU				S	Sg	12 47 32.3	+0.6
BILB	**Tungurahua vol**	**0.46**	**207**	P	Pg	12 47 26.5	+0.6
PATA	**Patacocha**	**0.49**	**197**	P	Pg	12 47 27.1	+0.5
ARRY	**Arrayan**	**0.50**	**199**	P	Pg	12 47 26.9	+0.2
IGUA	**Igualata**	**0.57**	**217**	P	Pg	12 47 28.9	+0.8
ANTI	**Antisana**	**0.59**	**13**	P	Pg	12 47 28.4	0.0
JUA2	**San Juan 2**	**0.87**	**339**	P	Pb	12 47 34.3	+0.6
GGP	**Refugio Guagua**	**0.90**	**340**	P	Pb	12 47 34.6	+0.4
PINO	**Pino**	**0.92**	**340**	P	Pb	12 47 35.2	+0.7
YANA	**Yana**	**0.95**	**343**	P	Pb	12 47 35.5	+0.5
CAYR	**Refugio Cayamb**	**1.08**	**15**	P	Pb	12 47 37.8	+0.6
CAYA	**Cayambe**	**1.13**	**15**	P	Pb	12 47 38.6	+0.5
LAV3	**Lava3-Reventad**	**1.14**	**35**	P	Pb	12 47 38.5	+0.4
CONE	**Cono NE Rev Vo**	**1.15**	**34**	P	Pn	12 47 39.3	+0.9

*IDC **24** 13:04:19.4±4.5, 665S×12847E, h195km±51km, mb3.6/7, mb1 3.8/10, mb1mx3.7/16, mbtmp3.7/10, Error ellipse: s-maj=33.2km s-min=18.5km az=65.0*
*NEIC **24** 13:04:20.9±1.7, 661S×12852E, h211km±18km, mb4.3/5, Error ellipse: s-maj=17.1km s-min=11.2km az=60.0*
*ISCJB **24** 13:04:21.3±1.2, 669S±005×1285E±0.1, h235km±12km, mb3.8/7, Error ellipse: s-maj=18.1km s-min=7.3km az=147.4*

ISC 24 13:04:24.6±1.2, 684S±005×1285E±01, h254km±13km, n24, σ1§27/32, mb3.8/7, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 13nm,0.2s	**7.00**	**147**	*e*P	**Pn**	**13 06 04.9**	**-0.4**
KAKA				*e*S	**S**	**13 07 11.1**	**-15**
FITZ	**Fitzroy Crossi** 12nm,0.2s	**11.53**	**194**	*e*P	**Pn**	**13 07 02.4**	**+0.2**
FITZ				*e*S	**S**	**13 09 10.6**	**-0.4**
FITZ	**Fitzroy Crossi** 2.2nm,0.3s,baz=23,slow=11,SNR=62	**11.53**	**194**	P	**Pn**	**13 07 01.2**	**-1.1**
FITZ				S	**S**	**13 09 08.8**	**-2.3**
	0.5nm,0.3s,baz=11,slow=16,SNR=2.4						
WRAB	**Tennant Creek**	**14.20**	**157**	*e*P	**Pn**	**13 07 34.9**	**-0.1**
WRAB				*e*S	**S**	**13 10 05.7**	**-6.2**
WRA	**Warramunga Arr** 2.1nm,0.3s,baz=333,slow=13,SNR=54	**14.20**	**157**	P	**Pn**	**13 07 34.8**	**-0.2**
WRA				S	**S**	**13 10 09.2**	**-2.8**
	1.7nm,0.3s,baz=335,slow=24,SNR=9.1						
WB2	**Warramunga Arr**	**14.21**	**157**⇓	*i*P	**Pn**	**13 07 34.8**	**-0.2**
WB2				*e*S	**S**	**13 10 11.9**	**-0.2**
WB2	**Warramunga Ar**	**14.21**	**157**	*e*P	**Pn**	**13 07 34.5**	**-0.6**
MBWA	**Marble Bar**	**16.57**	**210**	*e*P	**P**	**13 08 02.7**	**+1.3**
AS31	**Alice Springs**	**17.51**	**163**	*e*P	**P**	**13 08 13.9**	**+2.3**
AS31				*e*S	**S**	**13 11 19.2**	**-1.1**
ASPA	**Alice Springs**	**17.51**	**163**	*e*P	**P**	**13 08 13.9**	**+2.3**
ASPA				*e*S	**S**	**13 11 19.2**	**-1.1**
ASAR	**Alice Springs** 3.7nm,0.3s,baz=344,slow=11,SNR=322	**17.52**	**163**	P	**P**	**13 08 13.9**	**+2.3**
ASAR				S	**S**	**13 11 21.2**	**+0.9**
	0.2nm,0.3s,baz=344,slow=22,SNR=17						
CTA	**Charters Tower** 3.3nm,0.6s,mb4.0	**21.68**	**129**	*e*P	**P**	**13 08 56.8**	**+1.5**
CTA	**Charters Tower** 4.7nm,0.7s,mb4.1,baz=301,slow=9.9,SNR=5.8	**21.68**	**129**	P	**P**	**13 08 56.9**	**+1.7**
CTAO	**Charters Tower** 5.0nm,0.7s,mb4.2	**21.68**	**129**	*e*P	**P**	**13 08 56.6**	**+1.4**
STKA	**Stephens Creek** 2.3nm,1.2s,mb3.7	**27.75**	**156**	*e*P	**P**	**13 09 51.4**	**+1.5**
STKA	**Stephens Creek** 0.8nm,0.5s,mb3.6,baz=326,slow=13,SNR=5.7	**27.75**	**156**	P	**P**	**13 09 50.8**	**+0.9**
KSRS	**Korea Array** 1.8nm,0.5s,mb3.6,baz=179,slow=9.3,SNR=11	**44.07**	**359**	P	**P**	**13 12 06.8**	**-0.8**
MJAR	**Matsushiro Arr** 2.2nm,0.8s,mb3.5,baz=192,slow=9.3,SNR=5.3	**44.10**	**11**	P	**P**	**13 12 05.2**	**-2.7**
LSA	**Lhasa**	**51.06**	**317**	P	**P**	**13 13 01.3**	**0.0**
SONM	**Songino Array** 1.7nm,0.6s,mb3.9,baz=158,slow=6.8,SNR=9.8	**57.83**	**343**	P	**P**	**13 13 50.1**	**+0.3**
MKAR	**Makanchi Array** 2.8nm,0.5s,mb4.1,baz=119,slow=8.0,SNR=29	**67.29**	**327**	P	**P**	**13 14 51.9**	**-0.2**
MKAR	**Makanchi Array**	**67.29**	**327**	P	**P**	**13 14 51.9**	**-0.2**
ZAL	**Zalesovo** 0.8nm,0.4s,mb3.7,baz=314,slow=3.7,SNR=4.4	**70.79**	**334**	P	**P**	**13 15 12.7**	**-0.9**
CFAA	**Coronel Fontan** 1.2nm,0.6s,baz=162,slow=7.7,SNR=12	**138.56**	**158**	PKP	PKPdf	13 23 23.6	+3.5

*IDC **24** 13:19:37.5±0.8, 3933N×7758E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=22.7km s-min=18.3km az=23.0*
*NNC **24** 13:19:40.1±3.6, 3931N×7801E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=30.9km s-min=21.3km az=156.0*
*BJI **24** 13:19:40.7, 3959N×7768E, h16km, mb4.4, ML4.4, Ms4.1*
*MOS **24** 13:19:41.3±1.4, 3938N×7759E, h33km, mb4.3/11, Error ellipse: s-maj=15.1km s-min=9.0km az=96.1*
*ISCJB **24** 13:19:41.1±0.5, 3919N±002×7769E±005, h39km±7km, mb3.9/13, Error ellipse: s-maj=6.5km s-min=3.9km az=160.7*
*NEIC **24** 13:19:43.7±2.2, 3943N×7760E, h39km±18km, mb4.4/2, Error ellipse: s-maj=22.4km s-min=9.5km az=192.0*

ISC 24 13:19:39.0±1.1, 3922N±002×7760E±005, h6km±7km, n75, σ1§39/89, mb3.9/13, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.30**	**284**	PG	**Pg**	**13 20 04.0**	**+0.1**
KSH				SG	**Sg**	**13 20 20.3**	**-0.4**
KSH				Smax			
	comp=N,7μm,0.4s						
KSH				Smax			
	comp=E,5μm,0.2s						
ULHL	**Ulahol** SNR=20	**3.19**	**342**	P	**Pn**	**13 20 30.5**	**+0.8**
KZA	**Kyzart** SNR=22	**3.37**	**329**	P	**Pb**	**13 20 36.9**	**-2.2**
UCH	**Uchtor** SNR=29	**3.81**	**323**	P	**Pn**	**13 20 39.5**	**+1.3**
KBK	**Karagaybulak** SNR=25	**3.98**	**330**	P	**Pb**	**13 20 47.1**	**-2.4**
TKM2	**Tokmak 2** SNR=9.1	**4.00**	**338**	P	**Pn**	**13 20 41.9**	**+1.2**
TKM2	**Tokmak 2**	**4.00**	**338**	⇑Pn	**Pn**	**13 20 41.4**	**+0.7**
	comp=E,1.0nm,0.3s						
TKM2				⇓Sn	**Sn**	**13 21 32.0**	**+4.1**
	comp=E,17nm,0.7s						
KNDC	**Almaty**	**4.02**	**353**	⇑P	**Pn**	**13 20 43.5**	**+2.4**
	comp=E,92nm,0.7s						
KNDC				⇓S	**Sn**	**13 21 30.2**	**+1.7**
	comp=E,119nm,0.3s						
AAA	**Alma-Ata**	**4.08**	**353**	*c* iPN	**Pb**	**13 20 48.0**	**-3.2**
AAK	**Ala-Archa** SNR=6.8	**4.14**	**326**	P	**Pn**	**13 20 44.5**	**+1.7**
AAK	**Ala-Archa**	**4.14**	**326**⇑	*e*PN	**Pn**	**13 20 42.9**	**+0.1**
AAK	**Ala-Archa**	**4.14**	**326**	*e*P	**Pn**	**13 20 42.7**	**-0.1**
AML	**Almayashu** SNR=8.9	**4.16**	**316**	P	**Pn**	**13 20 44.0**	**+1.1**
FRU	**Bishkek**	**4.26**	**329**	*i* PN	**Pb**	**13 20 53.0**	**-1.2**
FRU				*i*	**Sb**	**13 21 47.0**	**+1.1**
FRU				pmax	pmax		
	comp=Z,220nm,2.0s						
FRU				pmax	pmax		
	comp=Z,650nm,2.1s						
CHMS	**Chumysh** SNR=5.4	**4.35**	**331**	P	**Pn**	**13 20 47.0**	**+1.4**
EKS2	**Erkin-Say** SNR=13	**4.50**	**321**	P	**Pn**	**13 20 49.4**	**+1.8**
USP	**Ospenovka** SNR=14	**4.67**	**331**	P	**Pb**	**13 20 59.7**	**-1.6**
CHCP	**Chirah Chowk**	**6.56**	**214**	P	**Pn**	**13 21 20.2**	**+4.2**
KK31	**Karatay Array** comp=Z,16nm,1.1s,baz=128,slow=14,SNR=4.1	**6.61**	**308**	⇓Pn	**Pb**	**13 21 25.7**	**-8.6**
KK31				Lg		13 23 12.5	
	comp=Z,19nm,0.9s,baz=120,slow=30,SNR=3.9						
THN	**Thein Dam**	**6.94**	**193**	*e*P	**Pn**	**13 21 25.2**	**+4.0**
CEP	**Cherat**	**7.07**	**222**	P	**Pn**	**13 21 26.4**	**+3.4**
CEP				S	**Sn**	**13 22 48.0**	**+4.3**
KLP	**Kalpa**	**7.69**	**176**	*e*P	**Pn**	**13 21 37.1**	**+5.6**
KLP				*e*S	**Sn**	**13 23 01.0**	**+2.1**
KLP				AML	AML	13 23 11.7	
	comp=N,131nm,0.3s						
KLP				AML	AML	13 23 14.0	
	comp=E,180nm,0.4s						
SDNR	**Sundarnagar**	**7.72**	**184**	*e*P	**Pn**	**13 21 37.6**	**+5.7**
SDNR				*e*S	**Sn**	**13 22 58.0**	**-1.7**
THW	**Thamme Wali**	**7.98**	**218**	P	**Pn**	**13 21 38.1**	**+2.7**
MK31	**Makanchi Array** comp=E,3.1nm,0.6s,baz=196,slow=11,SNR=25	**8.31**	**23**	Pn	**Pn**	**13 21 40.1**	**+0.1**
MK31				⇑Sn	**Sn**	**13 23 19.7**	**+5.6**
	comp=E,13nm,0.8s						
MK31				⇑Lg		13 23 53.2	
	comp=E,48nm,1.2s						
MK31	**Makanchi Array**	**8.31**	**23**	*e*P	**Pn**	**13 21 37.5**	**-2.5**
MKAR	**Makanchi Array** comp=E,1.0nm,0.3s,baz=192,slow=12,SNR=18	**8.31**	**23**	Pn	**Pn**	**13 21 38.7**	**-1.3**
MKAR				Lg		13 23 46.5	
	comp=E,1.0nm,0.3s,baz=192,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**8.31**	**23**	Pn	**Pn**	**13 21 38.7**	**-1.3**
MKAR				Lg		13 23 46.5	
WMQ	**Urumqi**	**8.85**	**55**	*e*P	**Pn**	**13 21 45.6**	**-1.9**
WMQ				S	**Sn**	**13 23 27.9**	**+0.3**
WMQ				Smax			
	comp=N,133nm,1.0s						
WMQ				Smax			
	comp=E,156nm,1.0s						
NDI	**New Delhi**	**10.52**	**182**	*e*P	**Pn**	**13 22 13.0**	**+2.8**
NDI				*e*S	**Sn**	**13 24 03.0**	**-5.3**
SONA	**Sohna**	**10.95**	**182**	*e*P	**Pn**	**13 22 18.2**	**+2.0**
SONA				*e*S	**Sn**	**13 24 14.7**	**-4.3**
SONA				AML	AML	13 24 26.4	
	comp=E,43nm,0.3s						
KUDL	**Kundal**	**11.09**	**185**	*e*P	**Pn**	**13 22 18.7**	**+0.6**
KUDL				*e*S	**Sn**	**13 24 18.8**	**-3.5**
KUDL				AML	AML	13 24 26.5	
	comp=E,11nm,0.7s						
KUDL				AML	AML	13 24 31.8	
	comp=N,15nm,0.6s						
KHET	**Khetri**	**11.22**	**188**	*e*S	**Sn**	**13 24 23.5**	**-2.1**
KHET				AML	AML	13 24 31.6	
	comp=E,15nm,0.6s						
KOLN	**Koldanda**	**12.46**	**155**	*e*P	**Pn**	**13 22 37.2**	**+0.3**
KOLN				*e*S	**Sn**	**13 24 51.5**	**-4.5**
GKN	**Gorkha**	**12.62**	**150**	*e*P	**Pn**	**13 22 38.9**	**-0.2**
	comp=E,14nm,0.4s						
KKN	**Kakani**	**13.07**	**148**	*e*P	**Pn**	**13 22 45.1**	**0.0**
	comp=E,17nm,0.8s						
DMN	**Daman**	**13.16**	**149**	*e*P	**Pn**	**13 22 46.1**	**-0.3**
GUN	**Gumba**	**13.21**	**146**	*e*P	**Pn**	**13 22 47.6**	**+0.5**
PKI	**Pulchoki** comp=E,12nm,0.6s	**13.31**	**148**	*e*P	**Pn**	**13 22 47.9**	**-0.6**
JIRN	**Jiri** comp=E,13nm,0.4s	**13.57**	**146**	*e*P	**Pn**	**13 22 52.1**	**+0.2**
BVAR	**Borovoye Array** comp=E,0.1nm,0.3s,baz=139,slow=13,SNR=3.9	**14.67**	**343**	Pn	**Pn**	**13 23 05.2**	**-1.8**
BVAR				Lg		13 27 06.3	
	comp=E,0.1nm,0.3s,baz=147,slow=44,SNR=2.8						
ZAL	**Zalesovo**	**15.52**	**16**	*i* P	**Pn**	**13 23 25.3**	**+7.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**16.08**	**12**	*e*P	**Pn**	**13 23 26.3**	**+0.6**
GTA	**Gaotai**	**17.19**	**82**	P	**Pn**	**13 23 43.4**	**+3.7**
GTA				AP	pP	13 23 46.8	+3.8
GTA				XP	sP	13 23 48.4	+4.7
AKTK	**Aktyubinsk**	**17.79**	**315**	P	**Pn**	**13 23 48.3**	**+1.1**
AKTO	**Aktyubinsk** comp=Z,0.1nm,0.3s,baz=109,slow=16,SNR=3.3	**17.79**	**315**	P	**Pn**	**13 23 48.3**	**+1.1**
LZH	**Lanzhou**	**20.99**	**90**	*e*P	**P**	**13 24 25.1**	**+2.1**
LZH				AP		13 24 29.3	
LZH				XP	sP	13 24 32.0	+6.6
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
LZH	**Lanzhou** comp=Z,21nm,1.3s	**20.99**	**90**	*e*P	**P**	**13 24 25.1**	**+2.1**
LZH				pP		13 24 29.2	
LZH				sP	sP	13 24 32.0	+6.6
ZAK	**Zakamensk**	**21.25**	**50**	*e*P	**P**	**13 24 25.8**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.2						
ARU	**Arti**	**21.32**	**330**	*e*P	**P**	**13 24 27.4**	**+0.8**
ARU				*e*		13 24 46.2	
ARU				*e*S	**S**	**13 28 22.8**	**-0.8**
SONM	**Songino Array** comp=Z,2.6nm,0.8s,mb3.7,baz=252,slow=10,SNR=15	**22.48**	**58**	P	**P**	**13 24 39.5**	**+0.5**
SONM	**Songino Array**	**22.48**	**58**	P	**P**	**13 24 39.5**	**+0.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**22.92**	**58**	*e*P	**P**	**13 24 43.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,26nm,1.8s,mb4.4						
ULN	**Ulaanbaatar** comp=Z,26nm,1.8s,mb4.4	**22.92**	**58**	*e*P	**P**	**13 24 43.2**	**-0.4**
BRTR	**Keskin Array B** comp=Z,0.3nm,0.3s,mb3.7,baz=40,slow=12,SNR=2.6	**33.69**	**285**	P	**P**	**13 26 19.0**	**-1.8**
FINES	**FINESS Array B** comp=Z,0.8nm,0.5s,mb3.7,baz=116,slow=8.7,SNR=7.2	**38.33**	**323**	P	**P**	**13 26 59.0**	**-1.5**
FINES	**FINESS Array B**	**38.33**	**323**	*i* P	**P**	**13 26 59.0**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B** comp=Z,2.5nm,0.6s,mb4.0,baz=106,slow=9.3,SNR=14	**40.77**	**335**	P	**P**	**13 27 19.4**	**-1.4**
ARCES	**ARCESS Array B**	**40.77**	**335**	P	**P**	**13 27 19.4**	**-1.5**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.77**	**335**	P	**P**	**13 27 19.4**	**-1.4**
NB2	**NORSAR Subarra** comp=Z,1.8nm,0.6s,mb4.1,baz=88,slow=7.9	**45.45**	**321**	P	**P**	**13 27 56.9**	**-1.8**
NOA	**NORSAR Array B** comp=Z,1.3nm,0.5s,mb4.0,baz=88,slow=7.9,SNR=2.8	**45.45**	**321**	P	**P**	**13 27 57.4**	**-1.3**
NOA	**NORSAR Array B**	**45.45**	**321**	P	**P**	**13 27 57.4**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B** comp=Z,0.9nm,0.6s,mb3.9,baz=79,slow=6.9,SNR=4.5	**45.69**	**304**	P	**P**	**13 28 00.7**	**+0.1**
GERES	**GERESS Array B**	**45.69**	**304**	P	**P**	**13 28 00.7**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik** comp=Z,0.7nm,0.5s,mb3.9,baz=9.5,slow=12,SNR=3.3	**70.28**	**12**	P	**P**	**13 30 49.9**	**-3.3**
INK	**Inuvik**	**70.28**	**12**	P	**P**	**13 30 49.9**	**-3.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,mb3.6,baz=44,slow=5.0,SNR=6.2	**70.94**	**272**	P	**P**	**13 30 56.6**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.5s,mb3.8,baz=345,slow=5.6,SNR=5.1	**78.16**	**6**	P	**P**	**13 31 37.2**	**-1.9**
YKA	**Yellowknife Ar**	**78.16**	**6**	P	**P**	**13 31 37.2**	**-1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**78.16**	**6**	P	**P**	**13 31 37.2**	**-1.9**
WRA	**Warramunga Arr** comp=Z,3.5nm,1.0s,mb4.2,baz=328,slow=4.8,SNR=6.5	**79.20**	**127**	P	**P**	**13 31 45.1**	**+0.2**
WRA	**Warramunga Arr**	**79.20**	**127**	P	**P**	**13 31 45.1**	**+0.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ASAR	**Alice Springs** comp=Z,2.3nm,0.9s,mb4.1,baz=310,slow=5.3,SNR=15	**81.73**	**130**	P	**P**	**13 31 58.5**	**+0.1**
ASAR	**Alice Springs**	**81.73**	**130**	P	**P**	**13 31 58.6**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*ISCJB **24** 13:19:59.8±1.6,

*ISCJB **24** 13:33:40.8±0.4, 3707N×002×3619E×002, h7km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=167.7*
*CSEM **24** 13:33:41.1±0.1, 3707N×3620E, h12km, Mw3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=116.0*
*NEIC **24** 13:33:41.0, 3707N×3616E, h13km, MD3.6(ISK), ML3.3(NIC), After ISK.*
*ISK **24** 13:33:41.1, 3708N×3616E, h12km, MD3.6*
*NSSC **24** 13:33:43, 3698N×3628E, h15km±1km*
*NIC **24** 13:33:44.5±0.4, 3792N×3509E, h36km, ML3.3, MW3.4*

ISC 24 13:33:42.0±0.4, 3705N±002×3620E±002, h10km±3km, n55, σ0§96/78, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COBT	**Iskenderun**	**0.53**	**175**	*i* P	**Pg**	**13 33 52.3**	**+0.1**
COBT				*i* S	**Sg**	**13 33 58.0**	**-1.2**
KOZT	**Kozan**	**0.53**	**326**	*i* PG	**Pg**	**13 33 51.3**	**-0.9**
DRWC	**Darouich**	**0.56**	**138**	⇑*i*P	**Pg**	**13 33 53.4**	**+0.4**
DRWC	**Darouich**	**0.56**	**138**	⇑P	**Pg**	**13 33 53.0**	**0.0**
DRWC				⇓S	**Sg**	**13 34 00.0**	**-0.4**
KMRS	**Kahramanmaras**	**0.72**	**50**	PG	**Pg**	**13 33 55.2**	**-0.7**
KRTS	**Karatas**	**0.81**	**235**	PG	**Pg**	**13 33 57.5**	**-0.1**
GAZ	**Gaziantep**	**0.82**	**81**	PG	**Pg**	**13 33 57.6**	**-0.1**
GAZ				SG	**Sg**	**13 34 10.5**	**+2.1**
HTY	**Hatay**	**0.92**	**183**	PG	**Pg**	**13 34 00.7**	**+0.9**
HTY				SG	**Sg**	**13 34 13.0**	**+1.2**
KARA	**Karaisali**	**0.94**	**284**	PG	**Pg**	**13 33 58.1**	**-2.0**
BTCH	**Batrach**	**1.03**	**168**	⇑*i*P	**Pg**	**13 34 02.3**	**+0.6**
BTCH	**Batrach**	**1.03**	**168**	⇑P	**Pg**	**13 34 02.0**	**+0.3**
BTCH				⇓S	**Sg**	**13 34 15.0**	**-0.1**
GZT	**Gaziantep**	**1.13**	**74**	*i* P	**Pb**	**13 34 02.7**	**-0.9**
GZT				*i* S	**Sg**	**13 34 20.4**	**+2.0**
ARNB	**Al Arnab**	**1.20**	**189**	⇓P	**Pb**	**13 34 04.0**	**-0.7**
ARNB				⇓S	**Sb**	**13 34 20.0**	**-0.2**
MERS	**Mersin**	**1.36**	**263**	PN	**Pn**	**13 34 06.3**	**-0.6**
SLNF	**Slenfeh**	**1.45**	**179**	⇑*i*P	**Pn**	**13 34 08.3**	**+0.1**
SLNF	**Slenfeh**	**1.45**	**179**	⇑P	**Pn**	**13 34 08.0**	**-0.2**
SLNF				⇑S	**Sn**	**13 34 28.0**	**+0.9**
WRDH	**Warideh**	**1.54**	**174**	⇑*i*P	**Pn**	**13 34 09.3**	**-0.2**
WRDH	**Warideh**	**1.54**	**174**	⇑P	**Pn**	**13 34 09.0**	**-0.5**
WRDH				⇑S	**Sn**	**13 34 30.0**	**+0.5**
SLMH	**Al Salmeh**	**1.62**	**120**	⇑P	**Pn**	**13 34 10.0**	**-0.5**
SLMH				⇓S	**Sn**	**13 34 31.0**	**-0.4**
ATAB	**Bozova**	**1.72**	**75**	*i* P	**Pn**	**13 34 11.9**	**-0.1**
ATAB				*i* S	**Sn**	**13 34 35.1**	**+1.1**
BNN	**Bunyan**	**1.83**	**351**	PN	**Pn**	**13 34 12.6**	**-0.8**
KFRA	**Kufra**	**1.89**	**165**	⇑*i*P	**Pn**	**13 34 14.9**	**+0.6**
KFRA	**Kufra**	**1.89**	**165**	⇑P	**Pn**	**13 34 14.0**	**-0.3**
KFRA				⇓S	**Sn**	**13 34 37.0**	**-1.1**
BIDA	**Albida**	**2.03**	**177**	⇑*i*P	**Pn**	**13 34 16.1**	**-0.1**
BIDA	**Albida**	**2.03**	**177**	⇑P	**Pn**	**13 34 16.0**	**-0.2**
BIDA				⇑S	**Sn**	**13 34 40.0**	**-1.5**
AVNT	**Avonos**	**2.03**	**329**	*i* P	**Pn**	**13 34 16.1**	**-0.1**
AVNT				*i* S	**Sg**	**13 34 52.1**	**+4.8**
URFA	**Urfa**	**2.13**	**79**	PN	**Pn**	**13 34 17.3**	**-0.2**
MALT	**Malatya**	**2.17**	**54**	*e*P	**Pn**	**13 34 17.4**	**-0.7**
MALT	**Malatya**	**2.17**	**54**	*e*P	**Pn**	**13 34 17.4**	**-0.8**
IKL	**Isikli**	**2.18**	**249**	PN	**Pn**	**13 34 18.4**	**+0.3**
JHLN	**Al Jahlan**	**2.27**	**126**	⇑*i*P	**Pn**	**13 34 19.5**	**0.0**
JHLN	**Al Jahlan**	**2.27**	**126**	⇑P	**Pn**	**13 34 19.0**	**-0.5**
JHLN				⇑S	**Sn**	**13 34 47.0**	**-0.4**
ELZG	**Elazig**	**2.64**	**56**	*i* P	**Pn**	**13 34 24.4**	**-0.2**
ELZG				*i* S	**Sg**	**13 35 06.9**	**+0.1**
YOZ	**Yozgat**	**2.68**	**345**	PN	**Pn**	**13 34 24.9**	**-0.3**
HWQ	**Hawqa**	**2.77**	**184**	*e*Pn	**Pn**	**13 34 32.0**	**+5.7**
SVSK	**Karacayir**	**2.94**	**12**	*e*PN	**Pn**	**13 34 29.3**	**+0.7**
CDAG	**Cicekdag**	**2.95**	**331**	*i* P	**Pn**	**13 34 29.1**	**+0.3**
CDAG				*i* S	**Sg**	**13 35 16.4**	**-0.4**
HDMB	**Hadim**	**2.97**	**270**	*e*PN	**Pn**	**13 34 29.0**	**-0.2**
KAMT	**Kaman**	**3.04**	**321**	*e*PN	**Pn**	**13 34 29.2**	**-0.8**
CSS	**Prodhromos** 1.5nm,0.4s	**3.12**	**229**	P	**Pn**	**13 34 33.7**	**+2.5**
CSS				S	**Sn**	**13 35 12.2**	**+3.8**
CSS	**Prodhromos**	**3.12**	**229**	*i* P	**Pn**	**13 34 31.3**	**+0.1**
CSS				*i* S	**Sn**	**13 35 11.0**	**+2.6**
PTK	**Pertek**	**3.12**	**53**	*e*PN	**Pn**	**13 34 31.3**	**+0.1**
BHL	**Bhannes**	**3.17**	**188**	*e*Pn	**Pn**	**13 34 36.8**	**+5.0**
KONT	**Konya--Tatoy**	**3.18**	**288**	*e*PN	**Pn**	**13 34 31.6**	**-0.4**
DIY	**Diyarbakir**	**3.31**	**74**	*e*PN	**Pn**	**13 34 35.2**	**+1.4**
BR131	**Keskin Array S**	**3.35**	**324**	*e*P	**Pn**	**13 34 34.9**	**+0.6**
BR131	**Keskin Array S**	**3.35**	**324**	*e*P	**Pn**	**13 34 34.9**	**+0.6**
CORM	**Corum**	**3.36**	**339**	*e*PN	**Pn**	**13 34 34.3**	**-0.2**
ALFC	**Alevga** 2.0nm,0.5s	**3.47**	**238**	P	**Pn**	**13 34 34.9**	**-1.1**
ALFC				S	**Sn**	**13 35 15.9**	**-1.2**
SZAC	**Souni-Zanaja** 2.9nm,0.5s	**3.53**	**231**	P	**Pn**	**13 34 39.1**	**+2.3**
SZAC				S	**Sn**	**13 35 21.2**	**+2.6**
MARD	**Mardin**	**3.67**	**84**	*i* P	**Pn**	**13 34 37.7**	**-1.0**
MARD				*i* S	**Sg**	**13 35 38.9**	**-0.9**
AKMC	**Akamas**	**3.73**	**238**	P	**Pn**	**13 34 39.7**	**+0.2**
CTKT	**Corum**	**3.74**	**343**	*i* P	**Pn**	**13 34 41.0**	**+1.4**
CTKT				*i* S	**Sg**	**13 35 43.3**	**+1.2**
PPCY	**Paphos**	**3.80**	**237**	P	**Pn**	**13 34 42.0**	**+1.5**
EZC	**Erzincan**	**3.92**	**45**	*e*PN	**Pn**	**13 34 39.1**	**-3.0**

IDC 24 13:35:58.2±1.3, 4701N×15595E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=45.0km s-min=32.6km az=141.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=30,slow=8.1,SNR=3.0	**9.80**	**258**	Pn	Pn	13 38 18.9	-1.4
FINES	**FINESS Array B** 2.0nm,1.0s,baz=46,slow=9.9,SNR=3.9	**64.62**	**336**	P	P	13 46 37.3	-0.1
ASAR	**Alice Springs** 0.2nm,0.6s,baz=16,slow=5.7,SNR=4.9	**73.11**	**201**	P	P	13 47 30.6	+0.3
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=304,slow=3.9,SNR=6.7	**75.66**	**62**	P	P	13 47 45.0	-0.2

*ISCJB **24** 13:50:53.7±1.1, 1955S×0201×1770W×0.3, h630km±39km, mb4.0/6, Error ellipse: s-maj=39.6km s-min=27.1km az=44.4*
*IDC **24** 13:50:56.8±7.0, 1978S×17752W, h583km±73km, mb3.4/5, mb1 3.5/7, mb1mx3.2/18, mbtmp3.4/7, Error ellipse: s-maj=56.7km s-min=33.3km az=31.0*
*NEIC **24** 13:50:59.7±6.3, 1989S×17764W, h620km±67km, mb4.2/5, Error ellipse: s-maj=59.3km s-min=22.3km az=215.0*

ISC 24 13:50:53.8±1.5, 195S±02×1771W±04, h593km±58km, n18, σ0§38/15, mb4.0/6, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 4.4nm,0.3s,baz=223,slow=22,SNR=7.9	**7.53**	**43**	S	**S**	**13 54 22.1**	**0.0**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=244,slow=16,SNR=6.7	**15.63**	**258**	P	**P**	**13 54 08.1**	**+0.2**
URZ	**Urewera** 1.1nm,0.3s,baz=338,slow=16,SNR=8.0	**19.36**	**194**	P	**P**	**13 54 41.8**	**-0.2**
CTA	**Charters Tower** 4.3nm,0.3s,mb4.6	**34.47**	**263**	*e*P	**P**	**13 56 53.4**	**-0.1**
CTA	**Charters Tower** 5.9nm,0.3s,mb4.7,baz=88,slow=8.0,SNR=9.6	**34.47**	**263**	P	**P**	**13 56 53.5**	**0.0**
CTAO	**Charters Tower** 6.2nm,0.5s,mb4.5	**34.47**	**263**	*e*P	**P**	**13 56 53.1**	**-0.5**
STKA	**Stephens Creek** 2.3nm,1.1s,mb3.6	**39.01**	**243**	*e*P	**P**	**13 57 31.2**	**+0.6**
STKA	**Stephens Creek** 2.4nm,0.8s,mb3.8,baz=82,slow=8.8,SNR=6.8	**39.01**	**243**	P	**P**	**13 57 31.2**	**+0.5**
WB2	**Warramunga Arr**	**45.60**	**261**	⇓*i*P	**P**	**13 58 21.7**	**-0.4**
ASAR	**Alice Springs** 4.1nm,0.7s,mb4.0,baz=86,slow=8.1,SNR=98	**45.61**	**256**	P	**P**	**13 58 22.3**	**+0.2**
ASAR				PcP	PcP	13 59 50.7	+3.0
WRAB	**Tennant Creek** 1.8nm,0.4s,mb4.0	**45.61**	**261**	*e*P	**P**	**13 58 21.4**	**-0.6**
ASPA	**Alice Springs**	**45.61**	**256**	⇓*i*P	**P**	**13 58 22.2**	**+0.1**
WRA	**Warramunga Arr** 2.2nm,0.3s,mb4.2,baz=98,slow=7.4,SNR=123	**45.62**	**261**	P	**P**	**13 58 21.9**	**-0.3**
FITZ	**Fitzroy Crossi** 3.5nm,0.4s,mb4.0	**54.03**	**261**	*e*P	**P**	**13 59 24.0**	**+0.4**
FITZ	**Fitzroy Crossi** 1.7nm,0.4s,mb3.7,baz=92,slow=4.1,SNR=16	**54.03**	**261**	P	**P**	**13 59 24.6**	**+0.9**
ARCES	**ARCESS Array B** 1.5nm,0.7s,baz=36,slow=2.3,SNR=6.6	**128.10**	**350**	PKP	PKPdf	14 08 56.6	+3.3
BRTR	**Keskin Array B** 0.9nm,0.6s,baz=150,slow=5.3,SNR=5.0	**146.81**	**314**	PKPbc	PKPbc	14 09 33.5	+3.3
GERES	**GERESS Array B** 0.9nm,0.6s,baz=20,slow=1.6,SNR=7.7	**149.47**	**346**	PKPbc	PKPbc	14 09 41.3	+4.4

*ISCJB **24** 14:08:16.7±0.3, 4311N×002×003E±003, h8km, Error ellipse: s-maj=3.3km s-min=2.6km az=132.0*
*STR **24** 14:08:18.4±0.1, 4301N×002E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 14:08:18.1±0.1, 4300N×000W, h8km, Md2.5/3, Ml2.7/9, Error ellipse: s-maj=1.5km s-min=1.1km az=160.0*
*MDD **24** 14:08:18.9±0.2, 4300N×001E, h0km, mbLg2.0/14, Error ellipse: s-maj=1.8km s-min=1.6km az=5.0, PRXIMO*
*CSEM **24** 14:08:18.7±0.1, 4302N×003E, h5km, ML2.8/8, Error ellipse: s-maj=1.4km s-min=1.1km az=100.0*
*NEIC **24** 14:08:18.4, 4301N×002E, h5km, ML2.4(STR), ML2.7(LDG), MN2.2(MDD), After STR.*

ISC 24 14:08:17.7±0.4, 4305N±002×002E±003, h13km±4km, n49, σ0§69/67, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**97**	Pg	**Pg**	**14 08 20.1**	**0.0**
LABF				Sg	**Sg**	**14 08 21.5**	**-0.4**
LABF	**Labassere**	**0.04**	**97**	Pg	**Pg**	**14 08 20.1**	**0.0**
LABF				Lg		14 08 21.4	
VIEF	**Viey**	**0.17**	**180**	Pg	**Pg**	**14 08 21.1**	**-0.6**
VIEF	**Viey**	**0.17**	**180**	Pg	**Pg**	**14 08 21.2**	**-0.5**
VIEF				Lg		14 08 23.2	
EPF	**Esparros** 61nm,0.2s	**0.23**	**95**	*e*Pg	**Pg**	**14 08 23.1**	**+0.4**
EPF				*e*Sg	**Sg**	**14 08 26.8**	**+0.7**
EPF	**Esparros** 30nm,0.2s	**0.23**	**95**	*e*Pg	**Pg**	**14 08 23.1**	**+0.4**
EPF				*e*Sg	**Sg**	**14 08 26.8**	**+0.7**
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**14 08 24.6**	**+0.1**
RESF				Sg	**Sg**	**14 08 29.3**	**+0.2**
RESF	**Ens**	**0.34**	**137**	Pg	**Pg**	**14 08 24.5**	**-0.1**
RESF				Lg		14 08 29.3	
EBIE	**Bielsa** 52nm,0.3s,SNR=18	**0.38**	**167**	⇑Pg	**Pg**	**14 08 24.9**	**-0.4**
EBIE				Lg		14 08 29.6	
EBIE	**Bielsa** 68nm,0.1s,SNR=14	**0.38**	**167**	Pg	**Pg**	**14 08 24.9**	**-0.4**
EBIE				Lg		14 08 29.6	
ETSF	**Etsaut** 48nm,0.2s	**0.46**	**250**	*e*Pg	**Pg**	**14 08 26.3**	**-0.4**
ETSF				*e*Sg	**Sg**	**14 08 32.0**	**-0.8**
ETSF	**Etsaut** 24nm,0.2s	**0.46**	**250**	*e*Pg	**Pg**	**14 08 26.3**	**-0.4**
ETSF				*e*Sg	**Sg**	**14 08 32.0**	**-0.8**
ATE	**Arette**	**0.53**	**274**	Pg	**Pg**	**14 08 28.9**	**+0.7**
ATE	**Arette**	**0.53**	**274**	Pg	**Pg**	**14 08 28.1**	**-0.1**
ATE				Lg		14 08 35.3	
MELF	**Melles**	**0.57**	**108**	Pg	**Pg**	**14 08 29.0**	**+0.2**
MELF				Sg	**Sg**	**14 08 37.2**	**+0.8**
MELF	**Melles**	**0.57**	**108**	Pg	**Pg**	**14 08 29.0**	**+0.1**
MELF				Lg		14 08 36.6	
SALF	**Salau** 9.3nm,0.2s	**0.90**	**108**	Pg	**Pg**	**14 08 35.2**	**0.0**
SALF				Lg		14 08 47.6	
SJPF	**Ste Jean** 9.3nm,0.2s	**0.92**	**274**	*e*Pg	**Pg**	**14 08 35.4**	**0.0**
SJPF				*e*Sg	**Sg**	**14 08 46.1**	**-1.3**
SJPF	**Ste Jean** 4.7nm,0.2s	**0.92**	**274**	*e*Pg	**Pg**	**14 08 35.4**	**0.0**
SJPF				*e*Sg	**Sg**	**14 08 46.1**	**-1.3**
IPRE	**Itoiz** SNR=7.9	**1.04**	**257**	Pg	**Pg**	**14 08 38.8**	**+0.9**
IPRE				Lg		14 08 52.5	
IPRE	**Itoiz** 0.8nm,0.1s,SNR=7.9	**1.04**	**257**	Pg	**Pg**	**14 08 38.8**	**+1.0**
ELIZ	**Elizondo** SNR=7.9	**1.14**	**276**	Pg	**Pg**	**14 08 41.1**	**+1.4**
ELIZ				Lg		14 08 56.3	
IUSE	**Utxeti** 3.2nm,0.1s,SNR=7.9	**1.16**	**265**	Pg	**Pg**	**14 08 40.9**	**+0.9**
IUSE				Lg		14 08 57.1	
IUSE	**Utxeti** 2.3nm,0.1s,SNR=7.9	**1.16**	**265**	Pg	**Pg**	**14 08 40.9**	**+0.9**
ESAC	**San Caprasio** 56nm,0.3s,SNR=18	**1.38**	**196**	Pg	**Pg**	**14 08 44.6**	**+0.4**
ESAC				Lg		14 09 02.5	
ESAC	**San Caprasio** 60nm,0.1s	**1.38**	**196**	Pg	**Pg**	**14 08 44.6**	**+0.4**
EMIR	**Miracle** 3.7nm,0.4s,SNR=6.3	**1.59**	**135**	Pg	**Pg**	**14 08 47.7**	**-0.5**
EMIR				Lg		14 09 08.7	
EMIR	**Miracle** 9.9nm,0.2s,SNR=4.9	**1.59**	**135**	Pg	**Pg**	**14 08 47.7**	**-0.5**
MTLF	**Montolieu** 11nm,0.2s	**1.63**	**79**	*e*Pg	**Pg**	**14 08 49.1**	**+0.1**
MTLF				*e*Sg	**Sg**	**14 09 10.3**	**+0.1**
MTLF	**Montolieu** 5.7nm,0.2s	**1.63**	**79**	*e*Pg	**Pg**	**14 08 49.1**	**+0.1**
MTLF				*e*Sg	**Sg**	**14 09 10.3**	**+0.1**
EPOB	**Poblet** 6.0nm,0.6s,SNR=8.9	**1.87**	**155**	Pg	**Pg**	**14 08 52.5**	**-1.1**
EPOB				Lg		14 09 16.7	
EPOB	**Poblet** 3.5nm,0.1s	**1.87**	**155**	Pg	**Pg**	**14 08 52.5**	**-1.1**
LFF	**La Frestale** 6.0nm,0.6s,SNR=8.9	**1.96**	**15**	*e*Pg	**Pg**	**14 08 55.9**	**+0.7**
LFF				*e*Sg	**Sg**	**14 09 21.9**	**+1.3**
LFF	**La Frestale** 10nm,0.2s	**1.96**	**15**	*e*Pg	**Pg**	**14 08 55.9**	**+0.7**
LFF				*e*Sg	**Sg**	**14 09 21.9**	**+1.3**
ERTA	**Horta de San J** 2.5nm,0.1s,SNR=7.9	**2.11**	**174**	Lg		14 09 23.9	
EJON	**La Jonquera** SNR=7.9	**2.19**	**105**	Lg		14 09 27.1	
CAF	**Calviac** 7.8nm,0.2s	**2.38**	**37**	*e*Pg	**Pg**	**14 09 03.3**	**-0.1**
CAF				*e*Sg	**Sg**	**14 09 34.4**	**+0.1**
CAF	**Calviac** 3.9nm,0.2s	**2.38**	**37**	*e*Pg	**Pg**	**14 09 03.3**	**-0.1**
CAF				*e*Sg	**Sg**	**14 09 34.4**	**+0.1**
RJF	**Les Rejaudoux** 10.0nm,0.3s	**2.50**	**25**	*e*Sg	**Sg**	**14 09 38.1**	**+0.2**
RJF	**Les Rejaudoux** 5.0nm,0.3s	**2.50**	**25**	*e*Sg	**Sg**	**14 09 38.1**	**+0.2**
ETOR	**Torete** SNR=7.9	**2.72**	**216**	Sn	**Sn**	**14 09 34.0**	**+0.3**
ETOR				Lg		14 09 45.3	
LASF	**Ste Croix**	**2.97**	**69**	*e*Pg	**Pg**	**14 09 15.0**	**+0.4**
LASF				*e*Sg	**Sg**	**14 09 52.3**	**-0.7**
LASF	**Ste Croix** 4.5nm,0.2s	**2.97**	**69**	*e*Pn	**Pn**	**14 09 03.8**	**-0.6**
LASF				*e*Pg	**Pg**	**14 09 15.0**	**+0.4**
LASF				*e*Sg	**Sg**	**14 09 52.3**	**-0.7**
LASF	**Ste Croix**	**2.97**	**69**	Pn	**Pn**	**14 09 03.8**	**-0.6**
LASF				Pg	**Pg**	**14 09 15.0**	**+0.4**
LASF				Lg		14 09 52.3	
LASF	**Ste Croix** 2.2nm,0.2s	**2.97**	**69**	*e*Pg	**Pg**	**14 09 15.0**	**+0.4**
LASF				*e*Sg	**Sg**	**14 09 52.3**	**-0.7**
TCF	**Toulx Ste Croi** 2.2nm,0.2s	**3.59**	**25**	*e*Sg	**Sg**	**14 10 12.1**	**-0.9**
TCF	**Toulx Ste Croi** 1.1nm,0.2s	**3.59**	**25**	*e*Sg	**Sg**	**14 10 12.1**	**-0.9**
BGF	**Bois d'Agland** 12nm,0.4s	**4.04**	**29**	*e*Sg	**Sg**	**14 10 25.8**	**-1.6**
BGF	**Bois d'Agland** 5.9nm,0.4s	**4.04**	**29**	*e*Sg	**Sg**	**14 10 25.8**	**-1.6**

*NEIC **24** 14:23:17.9±3.8, 623S×15139E, h10km, mb3.6/1, Error ellipse: s-maj=64.3km s-min=36.1km az=187.0*
*ISCJB **24** 14:23:24.5±6.0, 64S±04×1512E±03, h63km±40km, mb3.6/5, Error ellipse: s-maj=69.5km s-min=43.0km az=121.7*
*IDC **24** 14:23:31.0±9.5, 659S×15108E, h94km±59km, mb3.4/4, mb1 3.5/5, mb1mx3.2/15, mbtmp3.4/5, ML2.3/1, MS2.8/1, Ms1 2.8/1, ms1mx1.9/27, Error ellipse: s-maj=75.3km s-min=58.2km az=20.0*

ISC 24 14:23:28.6±6.6, 65S±04×1512E±03, h80km±42km, n10, σ0§48/12, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.9nm,0.3s,baz=197,slow=17,SNR=4.4	**4.93**	**234**	P	**Pn**	**14 24 40.6**	**+0.4**
PMG				S	**Sn**	**14 25 36.0**	**0.0**
PMG	0.5nm,0.3s,baz=132,slow=22,SNR=3.3			LR	LR	14 26 24.6	
PMG	**Port Moresby** comp=Z,112nm,21.5s,baz=153,slow=36	**4.93**	**234**	*e*Pn	**Pn**	**14 24 36.3**	**-3.9**
PMG				P		14 24 40.6	
PMG				S	**Sn**	**14 25 36.0**	**0.0**
PMG				LR	LR	14 26 24.6	
WRAB	**Tennant Creek** 2.5nm,0.9s,mb3.5	**21.12**	**229**	*e*P	**P**	**14 28 06.2**	**-0.5**
WB2	**Warramunga Arr**	**21.12**	**229**	*e*P	**P**	**14 28 07.4**	**+0.6**
WRA	**Warramunga Arr** 1.8nm,0.9s,mb3.4,baz=55,slow=11,SNR=12	**21.13**	**229**	P	**P**	**14 28 06.6**	**-0.3**
AS31	**Alice Springs**	**23.83**	**222**	*e*P	**P**	**14 28 33.6**	**-0.6**
ASAR	**Alice Springs** 1.0nm,0.5s,mb3.4,baz=55,slow=9.2,SNR=43	**23.83**	**222**	P	**P**	**14 28 34.6**	**+0.4**
ASPA	**Alice Springs**	**23.83**	**222**	*e*P	**P**	**14 28 34.5**	**+0.2**
ASPA				*e*		14 28 45.2	
STKA	**Stephens Creek** 2.0nm,0.7s,mb3.7,baz=13,slow=11,SNR=6.2	**26.81**	**198**	P	**P**	**14 29 01.2**	**0.0**
FITZ	**Fitzroy Crossi** 1.0nm,0.6s,mb3.5,baz=60,slow=11,SNR=4.8	**27.45**	**243**	P	**P**	**14 29 07.1**	**+0.1**

*SZGRF **24** 14:57:06.9, 5075N×15809E, h33km, mb5.4, East of Kuril Islands, Russia*
*IDC **24** 14:57:20.6±0.6, 5139N×15695E, h123km±6km, mb4.5/30, mb1 4.6/32, mb1mx4.6/33, mbtmp4.5/32, MS3.9/1, Ms1 3.9/1, ms1mx2.3/48, Error ellipse: s-maj=12.2km s-min=8.6km az=166.0*
*MOS **24** 14:57:20.5±1.0, 5136N×15696E, h139km, mb4.9/60, Error ellipse: s-maj=7.4km s-min=4.5km az=83.2*
MOS Felt (III-IV) at Severo-Kuril'sk.
*BJI **24** 14:57:20.6, 5135N×15699E, h145km, mB4.9, mb4.7*
*ISCJB **24** 14:57:21.0±0.1, 5135N×002×15702E±003, h142km, mb4.8/136, Error ellipse: s-maj=3.5km s-min=2.1km az=141.8*
*KRSC **24** 14:57:21.5±0.3, 5121N×15777E, h142km±47km, ML5.2*
*NEIC **24** 14:57:22.9±0.2, 5140N×15697E, mb5.0/88, Error ellipse: s-maj=5.4km s-min=3.1km az=169.0*
NEIC Felt [IV] at Severo-Kuril'sk.
*GCMT **24** 14:57:22.9±0.3, 51.19N×157.45E, h128km±4km, MW5.0/86, Moment Tensor Solution. s17,c20; s86,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T1.49±.14; $M_{\theta\theta}$-0.08±.20; $M_{\phi\phi}$-1.42±.15; $M_{r\theta}$2.68±.10; $M_{r\phi}$-1.50±.12; M_{rr}0.28±.09; Best double couple: $M_0$3.39200×10^{16} NP1:φ_s183.00000°, δ33.00000°, λ28.00000°. NP2: ϕ_s69.00000°, δ75.00000°, λ120.00000°. Principal axes: T 3.5960, Plg50.0000°; Azm13.0000°; N -0.4150, Plg29.0000°, Azm241.0000°; P -3.1880, Plg25.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 14:57:22.9±0.1, 5144N±002×15693E±003, h144km, h144km±3.2km:pP-P, n612, σ0§85/646, mb4.8/136, 155C-72D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.91**	**214**	α*i*PN	**Pn**	**14 57 42.4**	**-3.9**
SKR				*i* S	**Sn**	**14 57 58.1**	**-6.0**
SKR	comp=Z,42nm,2.0s			pmax	pmax		
SKR	comp=N,16μm,1.0s			pmax	pmax		
SKR	comp=E,22μm,2.0s			pmax	pmax		
SKR	comp=N,170μm,2.0s			smax			
SKR	comp=E,252μm,2.0s			smax			
GRL	**Gorelyy**	**1.32**	**32**	*i* P	**Pn**	**14 57 50.0**	**-0.2**
GRL				*i* S	**Sn**	**14 58 11.5**	**+0.5**
GRL	**Gorelyy**	**1.32**	**32**	*i* P	**Pn**	**14 57 50.0**	**-0.2**
GRL				*i* S	**Sn**	**14 58 11.5**	**+0.5**
RUS	**Russkaya**	**1.40**	**44**	*i* P	**Pn**	**14 57 48.9**	**-2.1**
RUS				*i* S	**Sn**	**14 58 09.0**	**-3.4**
RUS	**Russkaya**	**1.40**	**44**	*i* P	**Pn**	**14 57 48.9**	**-2.1**
RUS				*i* S	**Sn**	**14 58 09.0**	**-3.4**
PET	**Petropavlovsk**	**1.91**	**33**	⇓*i*PN	**Pn**	**14 57 56.1**	**-0.5**
PET				*e*S	**Sn**	**14 58 22.6**	**+0.1**
PET	comp=Z,2μm,0.5s			pmax	pmax		
PET	comp=E,6μm,1.0s			smax			
PET	comp=N,12μm,0.6s			smax			
PET	**Petropavlovsk**	**1.91**	**33**	⇓*i*Pn	**Pn**	**14 57 55.9**	**-0.7**
PET				*e*Sn	**Sn**	**14 58 19.4**	**-3.1**
PET	**Petropavlovsk**	**1.91**	**33**	*i* P	**Pn**	**14 57 56.0**	**-0.6**
PET				*i* S	**Sn**	**14 58 21.5**	**-1.0**
PET	**Petropavlovsk**	**1.91**	**33**	*i* P	**Pn**	**14 57 56.0**	**-0.6**
PET				*i* S	**Sn**	**14 58 21.5**	**-1.0**
INSR	**Institute**	**1.93**	**32**	P	**Pn**	**14 57 57.3**	**+0.4**
INSR				*i* S	**Sn**	**14 58 23.6**	**+0.7**
INSR	**Institute**	**1.93**	**32**	P	**Pn**	**14 57 57.3**	**+0.4**
INSR				*i* S	**Sn**	**14 58 23.6**	**+0.7**
SDLR	**Sedlovina**	**2.20**	**32**	*i* P	**Pn**	**14 58 00.1**	**0.0**
SDLR				*i* S	**Sn**	**14 58 27.3**	**-1.3**
SDLR	**Sedlovina**	**2.20**	**32**	*i* P	**Pn**	**14 58 00.1**	**0.0**
SDLR				*i* S	**Sn**	**14 58 27.3**	**-1.3**
NLC	**Nalytchevo**	**2.29**	**40**	*i* P	**Pn**	**14 57 58.9**	**-2.2**
NLC				*i* S	**Sn**	**14 58 26.4**	**-4.1**
NLC	**Nalytchevo**	**2.29**	**40**	*i* P	**Pn**	**14 57 58.9**	**-2.2**
NLC				*i* S	**Sn**	**14 58 26.4**	**-4.1**
GNL	**Ganaly**	**2.35**	**15**	*i* P	**Pn**	**14 58 03.1**	**+1.3**
GNL	**Ganaly**	**2.35**	**15**	*i* P	**Pn**	**14 58 03.1**	**+1.3**
SPN	**Mys Shipunski**	**2.53**	**48**	*i* P	**Pn**	**14 58 02.2**	**-1.9**
SPN				*

	comp=N,30nm,0.8s								
MA2	**Magadan**	**8.87**	**339**	*e*Pn		**Pn**	**14 59 30.8**	**+2.9**
	comp=N,50nm,0.8s								
YSS	**Yuzh-Sakhalins**	**10.30**	**250**⇑	*e*PN		**Pn**	**14 59 46.6**	**-0.3**
YSS				pmax	pmax				
	comp=Z,63nm,2.5s								
YSS	**Yuzh-Sakhalins**	**10.30**	**250**	*e*Pn		**Pn**	**14 59 46.7**	**-0.3**
YSS				*e*			15 00 05.4		
YUK	**Yuzh-Kuril'sk**	**10.50**	**229**	*e*PN		**Pn**	**14 59 45.5**	**-4.0**
YUK				pmax	pmax				
	comp=Z,380nm,0.5s								
YUK				pmax	pmax				
	comp=E,150nm,0.6s								
SEY	**Seymchan**	**11.79**	**350**⇓	*e*PN		**Pn**	**15 00 06.5**	**0.0**
ASAJ	**Asahikawa**	**12.09**	**238**	P		**Pn**	**15 00 10.2**	**-0.2**
	comp=E,5.0nm,0.3s,baz=82,slow=12,SNR=40								
ASAJ	**Asahikawa**	**12.09**	**238**	PN		**Pn**	**15 00 10.3**	**-0.2**
ASAJ				pmax	pmax				
	comp=Z,5.0nm,0.3s								
ERM	**Erimo**	**13.32**	**230**	Pn		**Pn**	**15 00 21.1**	**-5.2**
	comp=Z,261nm,0.7s,SNR=9.4								
HABR	**Khabarovsk**	**14.38**	**267**	P		**Pn**	**15 00 38.5**	**-1.3**
HABR				*e*S		**Sn**	**15 03 19.7**	**+0.6**
KLR	**Kul'dur**	**16.20**	**272**	*e*P		**Pn**	**15 01 02.7**	**+0.3**
BILL	**Bilibino**	**17.27**	**12***c*	*i*P		**Pn**	**15 01 15.2**	**-0.1**
BILL				*e*S		**S**	**15 04 28.2**	**+1.4**
BILL				pmax	pmax				
	comp=Z,111nm,0.8s								
BILL	**Bilibino**	**17.27**	**12**⇑	*e*P		**Pn**	**15 01 15.1**	**-0.2**
	comp=Z,96nm,0.6s								
YAK	**Yakutsk**	**18.17**	**316**	*e*P		**P**	**15 01 25.2**	**+0.8**
YAK				*e*S		**S**	**15 04 50.5**	**+5.5**
YAK				pmax	pmax				
	comp=N,8.0nm,0.7s								
YAK				pmax	pmax				
	comp=E,28nm,0.7s								
YAK				pmax	pmax				
	comp=Z,89nm,0.7s								
YAK				smax					
	comp=E,590nm,3.2s								
YAK				smax					
	comp=N,213nm,2.9s								
YAK	**Yakutsk**	**18.17**	**316**⇑	*i*P		**P**	**15 01 24.9**	**+0.5**
	comp=N,198nm,0.5s								
YAK				*e*pP			15 01 48.7		
CLNS	**Chul'man**	**19.41**	**299**	*e*P		**P**	**15 01 36.5**	**-1.4**
CLNS				pmax	pmax				
	comp=Z,28nm,0.6s								
CLNS				pmax	pmax				
	comp=N,17nm,0.5s								
CLNS				pmax	pmax				
	comp=E,19nm,0.8s								
MDJ	**Mudanjiang**	**19.44**	**260**	P		**P**	**15 01 37.4**	**-0.8**
MDJ				S		**S**	**15 05 08.5**	**-1.6**
MDJ				SCP	ScP		15 09 15.0	-0.7	
MDJ				PCS	PcS		15 09 29.9	-0.6	
MDJ				AMB	AMB				
	comp=Z,10.0nm,2.6s								
MDJ				LR	LR				
	comp=N,104nm,24.9s								
MDJ				LR	LR				
	comp=E,63nm,20.6s								
MDJ				LR	LR				
	comp=Z,119nm,19.1s								
MAJO	**Matsushiro**	**19.99**	**229**	*e*P		**P**	**15 01 43.1**	**-1.0**
MAJO				pmax	pmax				
	comp=Z,34nm,0.8s								
MAJO	**Matsushiro**	**19.99**	**229**	*e*P		**P**	**15 01 43.1**	**-1.0**
	comp=Z,34nm,0.8s								
MAT	**Matsushiro**	**19.99**	**229**	P		**P**	**15 01 43.4**	**-0.7**
MAT				S		**S**	**15 05 26.0**	**+5.0**
MJAR	**Matsushiro Arr**	**19.99**	**229**	P		**P**	**15 01 43.6**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=23,slow=11,SNR=51								
MJAR	**Matsushiro Arr**	**19.99**	**229**	P		**P**	**15 01 43.6**	**-0.5**
MJAR				pmax	pmax				
	comp=Z,3.0nm,0.3s								
CN2	**Changchun**	**22.42**	**262**	*e*P		**P**	**15 02 09.4**	**-0.4**
CN2				*e*AP			15 02 39.5		
CN2				*e*S		**S**	**15 06 00.4**	**-4.7**
CN2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb4.4								
CN2				AMB	AMB				
	comp=Z,200nm,3.0s								
HIA	**Hailar**	**23.66**	**279**	*e*P		**P**	**15 02 20.9**	**-0.3**
HIA				pmax	pmax				
	comp=Z,22nm,0.4s								
HIA	**Hailar**	**23.66**	**279**	*e*P		**P**	**15 02 20.9**	**-0.2**
	comp=Z,22nm,0.4s,mb5.0								
TIXI	**Tiksi**	**23.84**	**338**	*c i*P		**P**	**15 02 22.8**	**0.0**
TIXI				*e**PP			15 02 52.3		
TIXI				pmax	pmax				
	comp=Z,43nm,0.9s,mb5.0								
TIXI	**Tiksi**	**23.84**	**338**⇑	*i*P		**P**	**15 02 22.7**	**-0.1**
	comp=Z,40nm,0.6s,mb5.1								
TIXI				*e*pP			15 02 52.5		
KSRS	**Korea Array**	**24.78**	**247**	P		**P**	**15 02 32.6**	**+1.3**
	comp=Z,2.0nm,0.5s,mb3.9,baz=43,slow=9.3,SNR=6.0								
BOD	**Bodaibo**	**25.30**	**301**	*e*P		**P**	**15 02 35.3**	**-0.7**
BOD				pmax	pmax				
	comp=Z,9.0nm,0.6s,mb4.5								
BOD				pmax	pmax				
	comp=Z,17nm,1.2s,mb4.5								
JNU	**Nakatsue**	**26.36**	**236**	P		**P**	**15 02 47.6**	**+2.1**
	comp=Z,15nm,0.9s,mb4.6,baz=268,slow=24,SNR=3.1								
SVW2	**Sparrevohn**	**27.49**	**51**	*e*P		**P**	**15 02 54.5**	**-1.1**
IMA2	**Indian Mountai**	**28.57**	**40**	*e*P		**P**	**15 03 04.3**	**-1.0**
KDAK	**Kodiak Island**	**29.33**	**58**	P		**P**	**15 03 10.0**	**-1.9**
	comp=Z,176nm,0.9s,mb5.8,SNR=9.8								
KDAK	**Kodiak Island**	**29.33**	**58**	P		**P**	**15 03 09.8**	**-2.1**
	comp=Z,26nm,0.8s,mb5.0,baz=254,slow=7.4,SNR=21								
KDAK	**Kodiak Island**	**29.33**	**58**⇑	*e*P		**P**	**15 03 09.3**	**-2.6**
	comp=Z,25nm,0.8s,mb5.0								
MCK	**McKinley**	**30.51**	**45**	*e*P		**P**	**15 03 21.3**	**-1.1**
MCK				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.7								
MCK	**McKinley**	**30.51**	**45**	*e*P		**P**	**15 03 21.3**	**-1.1**
	comp=Z,12nm,0.8s,mb4.7								
PMR	**Palmer**	**30.56**	**49**	P		**P**	**15 03 23.1**	**+0.3**
PMR				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.5								
PMR	**Palmer**	**30.56**	**49**	*e*P		**P**	**15 03 19.4**	**-3.4**
	comp=Z,6.4nm,0.7s,mb4.5								
SML	**Sawmill**	**30.92**	**49**	P		**P**	**15 03 25.3**	**-0.7**
SML	**Sawmill**	**30.92**	**49**⇑	*i*P		**P**	**15 03 24.9**	**-1.1**
COLA	**College**	**30.95**	**43**	P		**P**	**15 03 25.8**	**-0.4**
COLA				pmax	pmax				
	comp=Z,34nm,0.9s,mb5.1								
COLA	**College**	**30.95**	**43**⇑	*i*P		**P**	**15 03 25.5**	**-0.7**
	comp=Z,34nm,0.8s,mb5.1								
ULN	**Ulaanbaatar**	**31.98**	**284**	*ce*P		**P**	**15 03 33.8**	**-1.5**
ULN				*i* *PP		pP	15 04 05.4	-0.6	
ULN	**Ulaanbaatar**	**31.98**	**284**	*e*P		**P**	**15 03 35.4**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.2								
DIV	**Divide**	**32.23**	**50**⇑	*i*P		**P**	**15 03 36.5**	**-0.9**
	comp=Z,33nm,0.6s,mb5.2								
SONM	**Songino Array**	**32.40**	**284**	P		**P**	**15 03 39.9**	**+1.0**
	comp=Z,1.8nm,0.4s,mb4.1,baz=69,slow=7.9,SNR=22								
SONM				PcP	PcP		15 06 22.9	-0.1	
	comp=Z,2.8nm,0.6s,baz=83,slow=2.0,SNR=10.0								
SONM				ScP	ScP		15 09 54.8	+1.5	
	comp=Z,0.8nm,0.9s,baz=27,slow=3.0,SNR=3.6								
SONM	**Songino Array**	**32.40**	**284**	P		**P**	**15 03 39.9**	**+1.0**
SONM							15 06 22.9		
SONM				pmax	pmax				
	comp=Z,2.0nm,0.4s								
SONM				pmax	pmax				
	comp=Z,3.0nm,0.6s								
SONM				pmax	pmax				
	comp=N,1.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**32.67**	**269**	*e*P		**P**	**15 03 43.3**	**+2.0**
HHC				AP	pP		15 04 14.3	+2.2	
HHC				XP	sP		15 04 29.9	+1.3	
HHC				PP	PP		15 04 59.3	+1.3	
HHC				PCP	PcP		15 06 27.3	+3.6	
HHC				S	**S**		**15 08 48.3**	**+1.4**	
HHC				XS	sS		15 09 40.8	0.0	
HHC				SCP	ScP		15 09 55.6	+1.4	
HHC				SS	SS		15 10 54.8	-19	
HHC				AMB	AMB				
	comp=Z,16nm,1.1s,mb4.7								
HHC				AMB	AMB				
	comp=Z,84nm,6.1s								
HHC				LR	LR				
	comp=N,246nm,18.3s								
HHC				LR	LR				
	comp=E,224nm,18.4s								
HHC				LR	LR				
	comp=Z,294nm,17.6s								
MENT	**Mentasta**	**32.92**	**46**	*e*P		**P**	**15 03 41.8**	**-1.7**
ZAK	**Zakamensk**	**33.21**	**290**	*e*P		**P**	**15 03 46.4**	**+0.4**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.2s,mb3.9								
EGAK	**Eagle**	**33.81**	**43**⇑	*i*P		**P**	**15 03 49.6**	**-1.6**
	comp=Z,34nm,0.6s,mb5.3								
NJ2	**Nanjing**	**33.87**	**250**	*e*P		**P**	**15 03 52.6**	**+0.9**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb4.8								
DAWY	**Dawson**	**34.67**	**44**⇑	*e*P		**P**	**15 03 57.6**	**-1.0**
DAWY				*e*PcP	PcP		15 06 28.8	-0.6	
INK	**Inuvik**	**36.37**	**36**	P		**P**	**15 04 13.5**	**+0.4**
	comp=Z,28nm,0.6s,mb5.1,baz=296,slow=6.8,SNR=208								
INK				PcP	PcP		15 06 33.8	-0.6	
	comp=Z,6.4nm,0.5s,baz=315,slow=3.8,SNR=8.1								
INK	**Inuvik**	**36.37**	**36**	P		**P**	**15 04 13.5**	**+0.4**
INK							15 06 33.8		
INK				pmax	pmax				
	comp=Z,28nm,0.6s								
INK				pmax	pmax				
	comp=Z,6.0nm,0.5s								
INK	**Inuvik**	**36.37**	**36**⇑	*e*P		**P**	**15 04 13.0**	**-0.1**
	comp=Z,1μm,0.7s								
KRAR	**Krasnoyarsk**	**36.96**	**303**⇑	*e*P		**P**	**15 04 18.1**	**0.0**
KRAR				pmax	pmax				
	comp=Z,26nm,0.5s,mb5.1								
SKAG	**Skagway**	**37.67**	**51**	*e*P		**P**	**15 04 22.9**	**-1.2**
	comp=Z,41nm,0.8s,mb5.1								
SIT	**Sitka**	**38.49**	**54**	*e*P		**P**	**15 04 30.4**	**-0.6**
SIT				pmax	pmax				
	comp=Z,32nm,0.9s,mb5.0								
SIT	**Sitka**	**38.49**	**54**	*e*P		**P**	**15 04 30.4**	**-0.6**
	comp=Z,32nm,0.9s,mb5.0								
GUMO	**Guam**	**38.98**	**199**	P		**P**	**15 04 35.8**	**+0.7**
LZH	**Lanzhou**	**40.37**	**269**	*e*P		**P**	**15 04 46.8**	**+0.3**
LZH				AP	pP		15 05 19.3	+1.1	
LZH				XP	sP		15 05 35.3	+0.8	
LZH				*e*PP	PP		15 06 25.3	+2.9	
LZH				*e*S	**S**		**15 10 43.3**	**-0.4**	
LZH				XS	sS		15 11 38.5	-0.4	
LZH				*e*SS	SS		15 13 40.8	-7.6	
LZH				AMB	AMB				
	comp=Z,43nm,1.5s,mb4.9								
LZH				AMB	AMB				
	comp=Z,248nm,6.2s								
LZH				LR	LR				
	comp=N,643nm,14.5s								
LZH				LR	LR				
	comp=Z,885nm,18.3s								
LZH	**Lanzhou**	**40.37**	**269**	*e*P		**P**	**15 04 46.7**	**+0.2**
LZH				*PP	pP		15 05 19.2	+1.0	
LZH				*SP	sP		15 05 35.3	+0.8	
LZH				*e*			15 06 25.3		
LZH				*e*S	**S**		**15 10 43.3**	**-0.4**	
LZH				*SS	sS		15 11 38.5	-0.4	
LZH				*e*SS	SS		15 13 40.7	-7.7	
LZH				pmax	pmax				
	comp=Z,43nm,1.5s,mb4.9								
LZH				MLR	MLR				
	comp=Z,890nm,18.3s								
LZH	**Lanzhou**	**40.37**	**269**	*e*P		**P**	**15 04 46.7**	**+0.2**
	comp=Z,43nm,1.5s,mb4.9								
LZH				pP	pP		15 05 19.2	+1.0	
LZH				sP	sP		15 05 35.3	+0.8	
LZH				*e*PP	PP		15 06 25.3	+2.9	
LZH				*e*S	**S**		**15 10 43.3**	**-0.4**	
LZH				sS	sS		15 11 38.5	-0.4	
LZH				*e*SS	SS		15 13 40.7	-7.7	
LZH				LR	LR				
	comp=Z,890nm,18.3s								
DLBC	**Dease Lake**	**40.60**	**51**	*e*P		**P**	**15 04 49.7**	**+1.2**
GTA	**Gaotai**	**40.85**	**276**	P		**P**	**15 04 50.9**	**+0.4**
GTA				AP	pP		15 05 24.8	+2.6	
GTA				XP	sP		15 05 38.8	+0.3	
GTA				PP	PP		15 06 31.5	+4.0	
GTA				S	**S**		**15 10 53.3**	**+2.5**	
GTA				XS	sS		15 11 48.0	+1.9	
GTA				SS	SS		15 13 56.9	-1.0	
GTA				AMB	AMB				
	comp=Z,5.0nm,1.3s,mb4.0								
GTA				AMB	AMB				
	comp=Z,108nm,5.0s								
GTA				LR	LR				
	comp=N,156nm,16.3s								
GTA				LR	LR				
	comp=E,163nm,18.3s								
GTA				LR	LR				
	comp=Z,231nm,19.4s								
ZAL	**Zalesovo**	**42.05**	**303**	P		**P**	**15 04 59.8**	**-0.5**
	comp=Z,2.9nm,0.5s,mb4.2,baz=49,slow=6.5,SNR=15								
ZAL				PcP	PcP		15 06 52.8	+0.3	
	comp=Z,3.1nm,0.4s,baz=36,slow=2.0,SNR=4.9								
ZAL	**Zalesovo**	**42.05**	**303**	P		**P**	**15 04 59.8**	**-0.5**
ZAL							15 06 52.8		
ZAL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ZAL				pmax	pmax				
	comp=Z,3.0nm,0.4s								
NVS	**Novosibirsk**	**42.45**	**305**⇑	*i*P		**P**	**15 05 03.0**	**-0.5**
NVS				*i*		pP	15 05 36.0	+0.5	
NVS				pmax	pmax				
	comp=Z,22nm,0.9s,mb4.8								
NVS				pmax	pmax				
	comp=N,12nm,1.3s								
NVS				pmax	pmax				
	comp=E,19nm,1.1s								
CD2	**Chengdu**	**43.85**	**263**	*e*P		**P**	**15 05 15.6**	**+0.9**
CD2				AP	pP		15 05 47.1	+0.2	
CD2				XP	sP		15 06 03.3	+0.3	
CD2				PP	PP		15 07 00.9	+1.2	
CD2				S	**S**		**15 11 33.8**	**-1.1**	
CD2				XS	sS		15 12 29.0	-1.7	
CD2				SS	SS		15 14 45.3	-11	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.5								
CD2				AMB	AMB				
	comp=Z,30nm,4.2s								
CD2				LR	LR				
	comp=N,350nm,13.2s								
CD2				LR	LR				
	comp=E,170nm,15.6s								
CD2				LR	LR				
	comp=Z,200nm,16.3s								
ALE	**Alert**	**44.81**	**7**	P		**P**	**15 05 22.6**	**+0.2**
	comp=Z,119nm,0.7s,mb5.6,SNR=6.8								
GYA	**Guiyang**	**45.23**	**256**	P		**P**	**15 05 25.1**	**-0.5**
GYA				AP	pP		15 05 59.8	+1.8	
GYA				XP	sP		15 06 16.8	+2.7	
GYA				PCP	PcP		15 07 04.8	+1.6	
GYA				PP	PP		15 07 14.8	+0.6	
GYA				SCP	ScP		15 10 42.3	0.0	
GYA				S	**S**		**15 11 54.3**	**-0.4**	
GYA				XS	sS		15 12 52.4	+1.6	
GYA				SCS	ScS		15 15 05.4	-1.9	
GYA				SS	SS		15 15 11.4	-8.5	
GYA				AMB	AMB				
	comp=Z,20nm,0.8s,mb4.8								
GYA				AMB	AMB				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=N,340nm,16.4s								
GYA				LR	LR				
	comp=E,310nm,16.0s								
GYA				LR	LR				
	comp=Z,410nm,16.8s								
RES	**Resolute Bay**	**45.58**	**21**⇑	*e*P		**P**	**15 05 28.5**	**0.0**
	comp=Z,701nm,0.6s								
WMQ	**Urumqi**	**45.67**	**289**⇑	*i*P		**P**	**15 05 30.1**	**+0.9**
WMQ				AP	pP		15 06 02.1	+0.6	
WMQ				XP	sP		15 06 18.1	+0.5	
WMQ				PCP	PcP		15 07 06.8	+2.0	
WMQ				PP	PP		15 07 19.4	+0.5	
WMQ				S	**S**		**15 12 01.4**	**+0.3**	
WMQ				XS	sS		15 12 57.1	-0.2	
WMQ				AMB	AMB				
	comp=Z,9.0nm,0.5s,mb4.7								
WMQ				AMB	AMB				
	comp=Z,78nm,4.6s								
WMQ				LR	LR				
	comp=N,68nm,20.0s								
WMQ				LR	LR				
	comp=E,75nm,18.1s								
WMQ				LR	LR				
	comp=Z,81nm,18.1s								
YKA	**Yellowknife Ar**	**45.70**	**40**	P		**P**	**15 05 29.3**	**0.0**
	comp=Z,12nm,0.6s,mb4.7,baz=296,slow=7.6,SNR=67								
YKA				PcP	PcP		15 07 04.5	-0.3	
	comp=Z,4.6nm,0.5s,baz=301,slow=3.7,SNR=15								
YKA	**Yellowknife Ar**	**45.70**	**40**	P		**P**	**15 05 29.3**	**-0.1**
YKA							15 07 04.5		
YKA				pmax	pmax				
	comp=Z,12nm,0.6s								
YKA				pmax	pmax				
	comp=Z,5.0nm,0.5s								
YKA	**Yellowknife Ar**	**45.70**	**40**	P		**P**	**15 05 29.3**	**0.0**
YKA				PcP	PcP		15 07 04.5	-0.3	
KURK	**Kurchatov**	**46.95**	**302**	P		**P**	**15 05 38.8**	**-0.3**
	comp=Z,390nm,0.6s,SNR=76								
KURK	**Kurchatov**	**46.95**	**302**	P		**P**	**15 05 38.7**	**-0.4**
KURK				pmax	pmax				
	comp=Z,12nm,0.7s,mb4.6								
MK31	**Makanchi Array**	**47.11**	**295**⇑	*e*P		**P**	**15 05 39.9**	**-0.5**
MKAR	**Makanchi Array**	**47.11**	**295**	P		**P**	**15 05 40.1**	**-0.3**
	comp=Z,5.3nm,0.4s,mb4.5,baz=63,slow=7.3,SNR=172								
MKAR				LR	LR		15 26 16.9		
	comp=Z,137nm,20.3s,baz=108,slow=37								
MKAR	**Makanchi Array**	**47.11**	**295**⇑	*e*P		**P**	**15 05 40.0**	**-0.4**
SPB4	**Spitsbergen Ar**	**48.44**	**350**	*e*P		**P**	**15 05 50.0**	**-0.6**
KMI	**Kunming**	**48.60**	**259**	P		**P**	**15 05 52.8**	**+1.0**
KMI				AP	pP		15 06 26.3	+1.7	
KMI				S	**S**		**15 12 41.0**	**-1.6**	
KMI				AMB	AMB				
	comp=Z,7.0nm,0.6s,mb4.5								
KMI				LR	LR				
	comp=Z,70nm,20.5s								
KMI	**Kunming**	**48.60**	**259**	P		**P**	**15 05 52.8**	**+1.0**
KMI				*PP	pP		15 06 26.2	+1.6	
KMI				S	**S**		**15 12 41.0**	**-1.6**	
KMI				pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.5								
KMI				MLR	MLR				
	comp=Z,70nm,20.5s								
KMI	**Kunming**	**48.60**	**259**	P		**P**	**15 05 52.8**	**+1.0**
	comp=Z,7.0nm,0.6s,mb4.5								
KMI				pP	pP		15 06 26.2	+1.6	
KMI				S	**S**		**15 12 41.0**	**-1.6**	
KMI				LR	LR				
	comp=Z,70nm,20.5s								
A04A	**Legoe Bay, Lum**	**49.18**	**60**⇑	P		**P**	**15 05 55.3**	**-1.0**
	baz=49								
A05A	**Maple Falls**	**49.35**	**59**⇓	P		**P**	**15 05 56.4**	**-1.2**
	baz=49								
CHKZ	**Chkalovo**	**49.40**	**309**	P		**P**	**15 05 56.8**	**-1.1**
CHKZ				pmax	pmax				
	comp=Z,7.0nm,0.4s,mb4.6								
CHKZ	**Chkalovo**	**49.40**	**309**⇑	*i*P		**P**	**15 05 56.8**	**-1.1**
	comp=Z,44nm,0.6s,mb5.3								
CHKZ				*e*pP	pP		15 06 31.1	+0.3	
A06A	**Chilliwack**	**49.62**	**59**⇓	P		**P**	**15 05 57.5**	**-2.1**
	baz=49								
C04A	**Brinnon**	**49.62**	**61**⇓	P		**P**	**15 05 58.7**	**-0.9**
	baz=49								
BVA0	**Borovoye Array**	**49.88**	**308**	*i* P		**P**	**15 06 00.7**	**-0.9**
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**49.88**	**308**	P		**P**	**15 06 01.0**	**-0.6**
	comp=Z,22nm,0.5s,mb5.1,baz=57,slow=7.5,SNR=223								
BVAR				PcP	PcP		15 07 19.1	-0.8	
	comp=Z,4.2nm,0.6s,baz=59,slow=6.2,SNR=4.3								
BVAR				S	**S**		**15 13 02.4**	**+1.9**	
	comp=Z,0.5nm,0.6s,baz=30,slow=15,SNR=3.9								
BVAR	**Borovoye Array**	**49.88**	**308**	P		**P**	**15 06 01.0**	**-0.6**
BVAR							15 07 19.1		
BVAR				S	**S**		**15 13 02.4**	**+1.9**	
BVAR				pmax	pmax				
	comp=Z,22nm,0.5s								
BVAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
BVAR				smax					
	comp=N,1.0nm,0.6s								
BRVK	**Borovoye**	**49.92**	**308**	P		**P**	**15 06 01.3**	**-0.5**
	comp=N,276nm,0.5s,SNR=26								
BRVK	**Borovoye**	**49.92**	**308**⇑	*i*P		**P**	**15 06 01.2**	**-0.6**
BRVK				*e**PP	pP		15 06 34.9	+0.2	
BRVK				*e*			15 07 17.9		
BRVK				pmax	pmax				
	comp=Z,24nm,0.6s,mb5.0								
BRVK	**Borovoye**	**49.92**	**308**⇑	*i*P		**P**	**15 06 01.2**	**-0.6**
	comp=Z,24nm,0.6s,mb5.0								
BRVK				*e*pP	pP		15 06 34.9	+0.2	
BRVK				*e*PcP	PcP		15 07 17.9	-2.1	
A07A	**Ashnola River,**	**50.23**	**58**	P		**P**	**15 06 04.1**	**-0.1**
	baz=50,SNR=6.9								
C05A	**Tolt Reservoir**	**50.33**	**60**⇑	P		**P**	**15 06 04.4**	**-0.5**
	baz=50								
D05A	**Enumclaw**	**50.47**	**61**⇓	P		**P**	**15 06 04.9**	**-1.1**
	baz=50								
B07A	**Winthrop**	**50.72**	**59**⇓	P		**P**	**15 06 06.6**	**-1.3**
	baz=50								
A08A	**Turner Farm, O**	**50.88**	**58**	P		**P**	**15 06 08.9**	**-0.2**
	baz=51,SNR=8.5								
F04A	**Amboy**	**50.99**	**62**⇓	P		**P**	**15 06 09.4**	**-0.5**
	baz=51								
D06A	**Cle Elum**	**51.09**	**60**⇑	P		**P**	**15 06 09.7**	**-0.9**
	baz=51								
B08A	**Colville Reser**	**51.20**	**58**	P		**P**	**15 06 11.2**	**-0.3**
	baz=51,SNR=11								
C07A	**Waterville**	**51.22**	**59**⇑	P		**P**	**15 06 10.7**	**-0.8**
	baz=51								
A09A	**Danville**	**51.23**	**57**⇓	P		**P**	**15 06 10.4**	**-1.3**
	baz=51,SNR=9.3								
EDM	**Edmonton**	**51.32**	**50**⇑	*i*P		**P**	**15 06 11.9**	**-0.5**
D07A	**Quincy**	**51.56**	**60**⇑	P		**P**	**15 06 13.0**	**-1.2**
	baz=51								
C08A	**Higginbotham F**	**51.70**	**59**	P		**P**	**15 06 14.5**	**-0.7**
	baz=52,SNR=5.5								
B09A	**Rice**	**51.79**	**58**⇓	P		**P**	**15 06 15.2**	**-0.7**
	baz=52								
J02A	**Umpqua**	**51.92**	**66**⇑	P		**P**	**15 06 15.7**	**-1.1**
	baz=52								
F06A	**Goldendale**	**52.00**	**62**⇑	P		**P**	**15 06 17.5**	**+0.1**
	baz=52								
E07A	**Sunnyside**	**52.02**	**60**⇑	P		**P**	**15 06 17.3**	**-0.2**
	baz=52					

J04A	Umpqua Nationa	52.83	65	⇑P		P	15 06 23.6	+0.1	
	baz=53								
G07A	Ruggs Ranch, H	52.92	62	⇑P		P	15 06 23.7	-0.5	
	baz=53								
E09A	Wood Farm, Sta	52.97	60	⇓P		P	15 06 23.9	-0.6	
	baz=53								
F08A	Pendleton	53.08	61	⇑P		P	15 06 24.9	-0.5	
	baz=53								
ARU	Arti	53.28	317	P		P	15 06 26.2	-0.6	
	comp=Z,226nm,0.7s,SNR=11								
ARU	Arti	53.28	317	⇑*i*P		P	15 06 25.9	-0.9	
ARU				*e*		pP	15 06 58.4	-1.7	
ARU				*e*SP			15 07 14.8		
ARU				*e*			15 07 31.0		
ARU				*e*			15 08 29.4		
ARU				*e*PPP			15 09 37.6		
ARU				*e*S		S	15 13 48.4	+1.3	
ARU				*e*SS		SS	15 17 34.0	+5.3	
ARU				pmax		pmax			
	comp=Z,21nm,0.8s,mb4.9								
ARU	Arti	53.28	317	*e*P		P	15 06 25.8	-1.1	
	comp=Z,23nm,0.6s,mb5.1								
ARU				*e*pP		pP	15 06 57.9	-2.2	
ARU				*e*PcP		PcP	15 07 31.5	-1.1	
G08A	Pilot Rock	53.30	61	⇓P		P	15 06 26.7	-0.2	
	baz=53								
YBH	Yreka Blue Hor	53.45	67	⇓P		P	15 06 28.6	+0.6	
	baz=53								
I06A	Prineville	53.45	63	⇓P		P	15 06 28.2	+0.1	
	baz=53								
E10A	Myers Farm, Un	53.55	59	P		P	15 06 28.0	-0.8	
	baz=53,SNR=5.3								
M02C	Callahan	53.58	67	⇑P		P	15 06 29.5	+0.5	
	baz=53								
WALA	Waterton Lakes	53.60	55	*e*P		P	15 06 28.8	-0.3	
	comp=Z,20nm,0.6s,mb5.0								
D11A	Klaveano Farm,	53.60	58	⇓P		P	15 06 28.5	-0.7	
	baz=53								
F09A	S2 Ranch, Elgi	53.60	60	⇓P		P	15 06 28.9	-0.3	
	baz=53								
L04A	Klamath Falls	53.63	66	⇑P		P	15 06 29.9	+0.5	
	baz=53								
C12A	Trout Creek	53.64	57	P		P	15 06 29.4	0.0	
	baz=53,SNR=6.8								
N02C	Big Bar	53.69	68	⇓P		P	15 06 29.9	+0.2	
	baz=54								
B13A	Whitefish	53.75	56	P		P	15 06 30.3	+0.1	
	baz=54,SNR=12								
I07A	Izee	53.76	63	⇑P		P	15 06 30.4	+0.1	
	baz=54								
F10A	Beach Ranch, E	53.81	60	⇑P		P	15 06 30.7	0.0	
	baz=54								
K05A	Summer Lake	53.85	65	⇓P		P	15 06 31.7	+0.8	
	baz=54								
M04C	Macdoel	53.91	66	⇑P		P	15 06 31.9	+0.5	
	baz=54								
J06A	Christmas Vall	53.93	64	⇑P		P	15 06 31.6	+0.1	
	baz=54								
AAK	Ala-Archa	54.05	295	P		P	15 06 31.9	-0.5	
	comp=Z,72nm,0.5s,mb5.7,SNR=9.6								
AAK	Ala-Archa	54.05	295⇑	*e*P		P	15 06 31.1	-1.3	
AAK				pmax		pmax			
	comp=Z,5.0nm,0.5s,mb4.5								
AAK	Ala-Archa	54.05	295⇑	*e*P		P	15 06 31.1	-1.3	
	comp=Z,5.2nm,0.5s,mb4.5								
M03C	McCloud	54.08	67	⇓P		P	15 06 33.2	+0.6	
	baz=54								
C13A	Hot Springs	54.13	56	P		P	15 06 33.2	+0.2	
	baz=54,SNR=5.7								
ARCES	ARCESS Array B	54.24	341	P		P	15 06 32.5	-1.2	
	comp=Z,2.5nm,0.4s,mb4.3,baz=42,slow=8.0,SNR=29								
ARCES	ARCESS Array B	54.24	341	P		P	15 06 32.6	-1.2	
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.4s								
ARE0	ARCESS Array S	54.24	341	P		P	15 06 31.9	-1.9	
WDC	Whiskeytown Da	54.29	68	⇑P		P	15 06 34.5	+0.4	
	baz=54								
L05A	Lakeview	54.32	65	⇑P		P	15 06 35.1	+0.7	
	baz=54								
I08A	Drewsey	54.39	62	⇓P		P	15 06 35.2	+0.3	
	baz=54								
H09A	Durkee	54.40	61	P		P	15 06 35.1	+0.2	
	baz=54,SNR=5.5								
O02C	Red Bluff	54.41	68	⇑P		P	15 06 35.8	+0.8	
	baz=54								
F11A	Grangeville	54.44	59	⇓P		P	15 06 34.7	-0.5	
	baz=54								
P01C	Double 8 Ranch	54.55	69	⇑P		P	15 06 36.5	+0.6	
	baz=54								
D13A	Huson	54.57	57	P		P	15 06 35.9	-0.3	
	baz=54,SNR=5.1								
M05C	Lookout	54.58	66	P		P	15 06 37.0	+0.7	
	baz=54,SNR=6.8								
G11A	Walters Elk Ra	54.69	60	⇑P		P	15 06 37.4	+0.4	
	baz=54								
MOD	Modoc	54.71	65	⇓*i*P		P	15 06 37.6	+0.4	
	comp=Z,13nm,0.6s,mb4.8								
MOD	Modoc	54.71	65	⇓P		P	15 06 37.3	+0.1	
	baz=54,SNR=19								
HATC	Hat Creek Radi	54.76	67	⇓P		P	15 06 37.6	+0.1	
	baz=54								
GASB	Alder Springs	54.79	69	⇑P		P	15 06 38.5	+0.8	
	baz=55,SNR=7.1								
J08A	Circle Bar Ran	54.80	63	⇓P		P	15 06 38.3	+0.4	
	baz=55								
K07A	Rock Creek Ran	54.80	64	⇑P		P	15 06 38.4	+0.6	
	baz=55,SNR=5.8								
I09A	Lost Marbles R	54.81	62	⇑P		P	15 06 38.0	+0.2	
	baz=55								
O03C	Acorn Hollow,	54.96	68	⇑P		P	15 06 38.8	-0.2	
	baz=55								
MSO	Missoula	55.01	57⇑	*e*P		P	15 06 38.8	-0.5	
	comp=Z,42nm,1.8s,mb4.9								
M06C	Likely Place G	55.07	66	⇓P		P	15 06 40.2	+0.5	
	baz=55								
D14A	Greenough	55.07	56	P		P	15 06 39.8	0.0	
	baz=55,SNR=18								
E13A	Victor	55.13	57	P		P	15 06 40.7	+0.5	
	baz=55,SNR=6.6								
KTK1	Kautokeino	55.13	341	*e*P		P	15 06 39.2	-1.0	
K08A	Mann Creek Ran	55.20	63	P		P	15 06 41.5	+0.8	
	baz=55,SNR=9.7								
J09A	Fry Pan Ranch,	55.20	62	⇑P		P	15 06 41.4	+0.7	
	baz=55								
H11A	Donnelly	55.28	60	P		P	15 06 41.3	+0.1	
	baz=55,SNR=16								
O04C	Chester	55.30	67	P		P	15 06 42.2	+0.8	
	baz=55,SNR=6.5								
ELFS	Eagle Lake Fie	55.31	67	⇓P		P	15 06 42.2	+0.8	
	baz=55								
WVOR	Wild Horse Val	55.31	64	*e*P		P	15 06 41.8	+0.3	
WVOR				pmax		pmax			
	comp=Z,14nm,1.0s,mb4.7								
WVOR	Wild Horse Val	55.31	64	*e*P		P	15 06 41.8	+0.3	
	comp=Z,14nm,1.0s,mb4.6								
CHMT	Chamberlain Mo	55.31	56	*e*P		P	15 06 41.1	-0.4	
TRO	Tromso	55.41	343	*e*P		P	15 06 39.7	-2.5	
MNRC	McLaughlin Nat	55.46	69	⇓P		P	15 06 43.4	+0.8	
	baz=55								
F13A	Darby	55.48	58	P		P	15 06 42.5	-0.2	
	baz=55,SNR=6.9								
E14A	Clinton	55.51	57	⇑P		P	15 06 42.8	-0.1	
	baz=55,SNR=15								
ORV	Oroville	55.56	68	P		P	15 06 42.8	-0.4	
	baz=55,SNR=13								
FFC	Flin Flon	55.57	44	P		P	15 06 43.2	-0.2	
	comp=Z,182nm,0.8s,SNR=5.6								
SUTB	Sutter Butte	55.61	68	⇑P		P	15 06 43.4	-0.2	
	baz=55								
D15A	Lincoln	55.61	56	P		P	15 06 43.8	+0.1	
	baz=55,SNR=6.7								
O05C	Quincy	55.63	67	P		P	15 06 44.2	+0.5	
	baz=55,SNR=7.6								
L08A	Fields	55.63	64	P		P	15 06 44.5	+0.7	
	baz=55,SNR=14								
CHTO	Chiang Mai	55.64	257	P		P	15 06 45.2	+1.3	
	SNR=8.7								
CHTO	Chiang Mai	55.64	257	*i*P		P	15 06 44.7	+0.8	
CHTO				*e**PP		pP	15 07 14.7	-2.7	
CHTO				pmax		pmax			
	comp=Z,26nm,0.6s,mb5.2								
CHTO	Chiang Mai	55.64	257⇑	*i*P		P	15 06 44.7	+0.8	
	comp=Z,26nm,0.6s,mb5.2								
CHTO				*e*pP		pP	15 07 14.7	-2.7	
K09A	Rome	55.64	63	P		P	15 06 44.8	+0.9	
	baz=55,SNR=6.6								
M07A	Soldier Meadow	55.69	65	⇓P		P	15 06 44.9	+0.7	
	baz=56,SNR=19								
OHCM	Honcut	55.71	68	*e*P		P	15 06 43.6	-0.7	
N06A	Buffalo Meadow	55.73	66	P		P	15 06 45.1	+0.6	
	baz=56,SNR=7.8								
Q03C	Winters	55.87	69	⇑P		P	15 06 46.8	+1.3	
	baz=56								
FARB	Farallon Islan	55.91	71	⇑P		P	15 06 45.6	-0.1	
	baz=56								
CM31	Chiang Mai Arr	55.91	256	*e*P		P	15 06 46.7	+0.9	
	comp=Z,14nm,0.6s,mb5.0								
E15A	Deer Lodge	55.95	57	P		P	15 06 46.1	0.0	
	baz=56,SNR=10.0								
F14A	Wisdom	55.97	58	⇑P		P	15 06 46.4	+0.2	
	baz=56								
FCC	Fort Churchill	55.98	36	*e*P		P	15 06 45.6	-0.7	
FCC				pmax		pmax			
	comp=Z,12nm,0.4s,mb5.1								
FCC	Fort Churchill	55.98	36	*e*P		P	15 06 45.6	-0.7	
	comp=Z,12nm,0.4s,mb5.1								
BEKR	Beckwourth	56.02	67	P		P	15 06 46.8	+0.3	
	baz=56,SNR=10								
O06A	Flanigan	56.12	66	⇑P		P	15 06 47.5	+0.3	
	baz=56								
L09A	Wilkinson Ranc	56.12	63	⇑P		P	15 06 47.9	+0.6	
	baz=56								
N07B	Gerlach	56.20	65	P		P	15 06 48.5	+0.7	
	baz=56,SNR=6.7								
EGMT	Eagleton	56.38	54⇑	*e*P		P	15 06 48.6	-0.5	
	comp=Z,9.1nm,0.9s,mb4.6								
EGMT	Eagleton	56.38	54	⇓P		P	15 06 48.9	-0.2	
	baz=56								
F15A	Butte	56.41	57	P		P	15 06 49.4	+0.1	
	baz=56,SNR=12								
LAVA	Lava Cap Winer	56.53	68	P		P	15 06 50.2	0.0	
	baz=56,SNR=7.8								
M09A	Marrel Ranch,	56.64	64	⇑P		P	15 06 51.7	+0.7	
	baz=56								
O07A	Toulon	56.67	66	⇑P		P	15 06 51.8	+0.6	
	baz=56,SNR=8.5								
N08A	GE Springer Mi	56.68	65	P		P	15 06 51.8	+0.6	
	baz=56,SNR=12								
WCN	Washoe City	56.74	67	⇓P		P	15 06 52.0	+0.4	
	baz=56,SNR=6.2								
G15A	Dillon	56.86	58	P		P	15 06 52.6	+0.1	
	baz=57,SNR=9.9								
HLID	Hailey	56.90	60	P		P	15 06 53.2	+0.5	
	baz=57,SNR=9.2								
MCMT	McKenzie Canyo	56.90	58	P		P	15 06 52.8	0.0	
R05C	Kirkwood Meado	56.95	68	⇑P		P	15 06 53.7	+0.6	
	baz=57								
N09A	Rock Creek Ran	56.98	64	⇓P		P	15 06 54.1	+0.7	
	baz=57								
P07A	Fallon	57.08	66	⇓P		P	15 06 54.7	+0.7	
	baz=57								
M10A	I.L. Ranch, Tu	57.08	63	P		P	15 06 55.1	+1.0	
	baz=57,SNR=7.0								
JIRN	Jiri	57.09	274	*e*P		P	15 06 54.9	+0.8	
	comp=Z,17nm,0.5s,mb5.1								
GUN	Gumba	57.11	275	*e*P		P	15 06 54.7	+0.5	
	comp=Z,18nm,0.3s,mb5.3								
CMB	Columbia Colle	57.22	69	P		P	15 06 55.4	+0.4	
CMB				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
CMB	Columbia Colle	57.22	69	*e*P		P	15 06 55.0	0.0	
	comp=Z,5.3nm,0.8s,mb4.4								
CMB	Columbia Colle	57.22	69	⇑P		P	15 06 55.5	+0.5	
	baz=57								
AB31	Akbulak array	57.37	309	*i* P		P	15 06 55.3	-0.7	
AB31				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.5								
PACP	Pacheco Peak	57.39	70	⇑P		P	15 06 56.6	+0.4	
	baz=57								
BMN	Battle Mountai	57.43	65	P		P	15 06 57.3	+0.8	
BMN				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
BMN	Battle Mountai	57.43	65	*e*P		P	15 06 57.0	+0.5	
	comp=Z,9.6nm,0.7s,mb4.7								
P08A	Dixie Valley	57.44	66	⇑P		P	15 06 57.4	+0.9	
	baz=57								
R06C	Coleville	57.44	68	P		P	15 06 57.4	+0.8	
	baz=57,SNR=11								
AKTK	Aktyubinsk	57.48	311	P		P	15 06 55.9	-1.0	
AKTO	Aktyubinsk	57.48	311	P		P	15 06 55.9	-0.9	
	comp=Z,5.3nm,0.5s,mb4.6,baz=68,slow=8.9,SNR=28								
AKTO	Aktyubinsk	57.48	311	P		P	15 06 55.9	-1.0	
AKTO				pmax		pmax			
	comp=Z,5.0nm,0.5s,mb4.6								
M11A	Holland Ranch,	57.56	63	P		P	15 06 58.6	+1.2	
	baz=57,SNR=7.4								
KKN	Kakani	57.57	275	*e*P		P	15 06 58.0	+0.5	
	comp=Z,24nm,0.4s,mb5.4								
O09A	Fish Creek Ran	57.62	65	P		P	15 06 58.8	+0.9	
	baz=57,SNR=9.0								
S06C	San Francisco	57.64	68	⇑P		P	15 06 58.0	+0.1	
	baz=57,SNR=12								
N10A	Dunphy	57.64	64	⇓P		P	15 06 58.8	+0.9	
	baz=57								
PKI	Pulchoki	57.64	275	*e*P		P	15 06 58.3	+0.3	
	comp=Z,10nm,0.3s,mb5.2								
QLMT	Earthquake Lak	57.65	57	*e*P		P	15 06 58.1	+0.1	
HAST	UC Hastings Re	57.65	71	⇓P		P	15 06 58.0	0.0	
	baz=58								
LOF	Lofoten	57.67	345	*e*P		P	15 06 59.4	+1.3	
LOF				AMb		AMB	15 07 08.7		
	comp=Z,149nm,2.0s,mb5.5								
LOF	Lofoten	57.67	345	*e*P		P	15 06 59.4	+1.3	
	comp=Z,149nm,2.0s,mb5.5								
S05C	Merced	57.72	69	⇑P		P	15 06 57.8	-0.8	
	baz=58								
DMN	Daman	57.80	275	*e*P		P	15 06 59.9	+0.8	
	comp=Z,28nm,0.4s,mb5.4								
GKN	Gorkha	57.82	276	*e*P		P	15 06 59.7	+0.5	
	comp=Z,20nm,0.3s,mb5.5								
O10A	Cortez Mining,	57.93	64	⇑P		P	15 07 00.9	+0.9	
	baz=58,SNR=7.1								
R07C	Lee Vining	57.96	68	⇓P		P	15 07 00.5	+0.3	
	baz=58,SNR=5.1								
N11A	Elko Archery C	58.01	63	⇑P		P	15 07 01.0	+0.5	
	baz=58								
M12A	Wells	58.06	62	⇑P		P	15 07 01.7	+0.8	
	baz=58,SNR=10								
P09A	Austin	58.07	65	⇓P		P	15 07 01.6	+0.7	
	baz=58								
YNR	Norris Junctio	58.12	57	*e*P		P	15 07 02.1	+0.8	
NVAR	Mina Array Bea	58.16	67	P		P	15 07 02.1	+0.5	
	comp=Z,12nm,0.7s,mb4.8,baz=298,slow=8.8,SNR=77								
YFT	Old Faithful	58.22	57	*e*P		P	15 07 03.7	+1.7	
T06C	Millerton Lake	58.31	69	P		P	15 07 02.3	-0.3	
	baz=58,SNR=5.9								
KCC	Kaiser Creek	58.33	69	P		P	15 07 03.0	+0.3	
	baz=58,SNR=8.8								
R08A	Mina	58.33	67	P		P	15 07 03.5	+0.7	
	baz=58,SNR=10								
N12A	Clover Valley,	58.37	63	P		P	15 07 04.1	+1.0	
	baz=58,SNR=9.6								
MLAC	Mammoth Lakes	58.40	68	⇓P		P	15 07 04.1	+0.8	
	baz=58								
P10A	Eureka	58.41	65	P		P	15 07 04.3	+1.0	
	baz=58,SNR=5.2								
M13A	Montello	58.51	62	⇓P		P	15 07 04.4	+0.3	
	baz=58,SNR=10								
O11A	Cowboy Ranch,	58.51	64	P		P	15 07 04.8	+0.7	
	baz=58,SNR=7.3								
Q09A	Carvers	58.53	66	⇑P		P	15 07 05.2	+1.0	
	baz=58								
FLWY	Flagg Ranch	58.54	58	*e*P		P	15 07 05.4	+1.2	
	comp=Z,11nm,0.8s,mb4.8								
KOLN	Koldanda	58.63	276	*e*P		P	15 07 05.2	+0.4	
	comp=Z,14nm,0.4s,mb5.2								
RRI2	Red Ridge	58.71	59⇑	*i*P		P	15 07 06.4	+1.0	
	comp=Z,19nm,0.7s,mb5.0								
MOOW	Moose Ponds	58.74	58	*e*P		P	15 07 06.0	+0.4	
	comp=Z,13nm,1.0s,mb4.7								
N13A	Wendover, West	58.83	62	⇑P		P	15 07 06.9	+0.6	
	baz=59,SNR=6.6								
P11A	Circle Ranch,	58.85	64	P		P	15 07 07.2	+0.8	
	baz=59,SNR=5.2								
SNOW	Snow King Moun	58.93	58	*e*P		P	15 07 07.9	+1.0	
	comp=Z,16nm,1.0s,mb4.8								
O12A	Currie	58.93	63	⇓P		P	15 07 07.4	+0.5	
	baz=59,SNR=22								
HELL	Mitchell Peak,	58.94	69	P		P	15 07 06.6	-0.4	
	baz=59,SNR=13								
REDW	Red Top Meadow	58.95	58⇑	*e*P		P	15 07 08.1	+1.0	
	comp=Z,26nm,1.0s,mb5.0								
V05C	Boulder Hill,	58.98	70	⇓P		P	15 07 07.7	+0.4	
	baz=59								
R09A	Tonopah	59.00	66	P		P	15 07 07.6	+0.2	
	baz=59,SNR=22								
TIN	Tinemaha	59.14	68	⇓P		P	15 07 09.0	+0.6	
	baz=59								
AHID	Auburn Hatcher	59.22	59	*e*P		P	15 07 09.1	+0.2	
	comp=Z,13nm,1.1s,mb4.7								
S09A	Goldfield	59.27	67	P		P	15 07 09.5	+0.3	
	baz=59,SNR=15								
MOR8	Moi Rana	59.28	343	*e*P		P	15 07 07.3	-2.0	
MOR8				AMb		AMB	15 07 18.1		
	comp=Z,33nm,1.6s,mb4.9								
MOR8	Moi Rana	59.28	343	*e*P		P	15 07 07.3	-2.0	
	comp=Z,33nm,1.6s,mb4.9								
SMMC	Simmler	59.31	71	⇓P		P	15 07 09.8	+0.3	
	baz=59								
P12A	McGill	59.38	64	P		P	15 07 10.5	+0.4	
	baz=59,SNR=8.0								
Q11A	Duckwater	59.39	65	⇓P		P	15 07 10.0	-0.1	
	baz=59								
BGU	Big Grassy Mou	59.44	62	*e*P		P	15 07 10.5	+0.1	
VES	Vestal, Richgr	59.48	70	⇑P		P	15 07 10.0	-0.7	
	baz=59								
SPUT	South Promonto	59.49	61⇑	*e*P		P	15 07 07.8	-2.9	
CWC	Cottonwood Cre	59.65	69	P		P	15 07 12.2	+0.3	
	baz=59,SNR=7.0								
GRAC	Grapevine Rang	59.68	68	P		P	15 07 12.9	+0.8	
	baz=60,SNR=5.6								
Q12A	Willow Creek R	59.73	64	⇓P		P	15 07 13.2	+0.8	
	baz=60								
HWUT	Hardware Ranch	59.77	60⇑	*e*P		P	15 07 12.6	-0.1	
	comp=Z,11nm,0.8s,mb4.7								
TRCR	Troy Canyon	59.77	65	*e*P		P	15 07 12.6	-0.1	
ISA	Isabella	59.96	69	P		P	15 07 13.1	-0.9	
	baz=60,SNR=6.1								
PDAR	Pinedale Array	60.05	58	P		P	15 07 14.9	+0.3	
	comp=Z,22nm,0.8s,mb5.1,baz=317,slow=2.2,SNR=166								
PDAR				PcP		PcP	15 08 00.8	+1.8	
	comp=Z,2.8nm,0.8s,baz=310,slow=3.9,SNR=3.5								
DUG	Dugway	60.06	62	P		P	15 07 15.3	+0.7	
DUG				pmax		pmax			
	comp=Z,23nm,1.0s,mb5.0								
DUG	Dugway	60.06	62⇑	*i*P		P	15 07 15.1	+0.5	
	comp=Z,23nm,1.0s,mb5.0								
DUG	Dugway	60.06	62	P		P	15 07 15.4	+0.7	
	baz=60,SNR=18								
NOQ	North Oquirrh	60.12	61	*e*P		P	15 07 15.1	0.0	
	comp=Z,13nm,0.6s,mb5.0								
MPMC	Manual Prospec	60.26	69	⇓P		P	15 07 15.9	-0.1	
	baz=60,SNR=8.8								
CTU	Camp Tracy	60.30	61	*e*P		P	15 07 16.3	0.0	
	comp=Z,5.6nm,0.6s,mb4.6								
FURC	Furnace Creek,	60.34	68	⇓P		P	15 07 16.8	+0.2	
	baz=60,SNR=13								
JLU	Jordanelle	60.52	61	*e*P		P	15 07 18.0	+0.2	
OSI	Osito Adit	60.54	70	⇑P		P	15 07 18.1	+0.2	
	baz=60								
LRMC	Laurel Mountai	60.55	69	P		P	15 07 17.7	-0.3	
	baz=60,SNR=6.4								
NLU	North Lily Min	60.63	62	*e*P		P	15 07 18.8	+0.2	
U10A	Ash Meadows, A	60.68	67	⇓P		P	15 07 19.5	+0.6	
	baz=60,SNR=5.4								
DAU	Daniels Canyon	60.76	61	P		P	15 07 20.4	+1.0	
DAU	Daniels Canyon	60.76	61	*e*P		P	15 07 20.2	+0.7	
EDW2	Edwards Air Fo	60.79	70	⇓P		P	15 07 19.4	-0.2	
	baz=61,SNR=7.4								
MPU	Maple Canyon	60.83	62	*e*P		P	15 07 20.2	+0.3	
	comp=Z,10nm,0.6s,mb4.8								
FINES	FINESS Array B	60.84	335	P		P	15 07 19.0	-1.0	
	comp=Z,4.7nm,0.5s,mb4.6,baz=43,slow=7.0,SNR=54								
FINES	FINESS Array B	60.84	335	*i* P		P	15 07 19.0	-1.0	
FINES				pmax		pmax			
	comp=Z,5.0nm,0.5s								
DECC	Green Verdugo	61.03	71	⇑P		P	15 07 21.0	-0.2	
	baz=61								
SHOC	Shoshone	61.07	68	⇑P		P	15 07 21.4	-0.1	
	baz=61								
GSC	Goldstone	61.19	69	P		P	15 07 22.3	0.0	
GSC	Goldstone	61.19	69	*e*P		P	15 07 22.0	-0.3	
GSC	Goldstone	61.19	69	⇑P		P	15 07 22.0	-0.3	
	baz=61,SNR=8.0								
NSS	Namsos	61.21	344	*e*P		P	15 07 20.5	-2.0	
U11A	Corn Creek	61.23	67	⇑P		P	15 07 23.3	+0.7	
	baz=61								
ULM	Lac du Bonnet	61.37	44	P		P	15 07 23.1	-0.5	
	comp=Z,5.6nm,0.5s,mb4.7,baz=314,slow=6.5,SNR=12								
ULM				PcP		PcP	15 08 03.9	-0.5	
	comp=Z,1.9nm,0.4s,baz=318,slow=7.2,SNR=4.0								
BFSC	Mount Baldy St	61.43	70	⇑P		P	15 07 23.6	-0.3	
	baz=61,SNR=5.1								
TMUT	Trail Mountain	61.57	62	*e*P		P	15 07 25.3	+0.4	
MSU	Marysvale	61.58	63	P		P	15 07 25.6	+0.7	
MSU	Marysvale	61.58	63	*e*P		P	15 07 25.3	+0.4	
CCUT	Cedar City	61.59	65	*e*P		P	15 07 25.2	+0.2	
TUQ	Turquoise Mtn.	61.61	68	P		P	15 07 25.2	+0.1	
	baz=61,SNR=8.2								
V11A	Goodsprings	61.61	67	P		P	15 07 25.5	+0.4	
	baz=61,SNR=9.9								
U12A	Valley of Fire	61.70	66	⇓P		P	15 07 26.1

comp=Z,22nm,0.8s,mb5.0
Y14A Wickenburg 64.36 67 ⇑P P 15 07 43.7 +0.5
baz=64
X15A Humboldt 64.41 66 P P 15 07 44.4 +0.8
baz=64,SNR=18
MVCO Mesa Verde 64.55 62⇑eP P 15 07 44.6 +0.1
comp=Z,20nm,0.8s,mb5.0
MVCO Mesa Verde 64.55 62 ⇑P P 15 07 44.7 +0.2
baz=64,SNR=18
NB2 NORSAR Subarra 64.56 342 P P 15 07 43.7 -0.9
comp=Z,2.2nm,0.3s,mb4.5,baz=23,slow=6.2
NOA NORSAR Array B 64.56 342 P P 15 07 44.2 -0.4
comp=Z,2.3nm,0.3s,mb4.5,baz=25,slow=6.4,SNR=14
NOA NORSAR Array B 64.56 342 P P 15 07 44.2 -0.4
NOA pmax pmax
comp=Z,2.0nm,0.3s
NOA NORSAR Array B 64.56 342 P P 15 07 44.2 -0.4
Z14A Wintersburg 64.81 68 ⇑P P 15 07 46.4 +0.2
baz=65
EYMN Ely 65.01 44⇑eP P 15 07 46.7 -0.8
comp=Z,34nm,0.8s,mb5.2
KULM Kulim 65.32 246 eP P 15 07 49.8 +0.3
115A Sonoran Desert 65.70 68 ⇓P P 15 07 51.9 0.0
baz=66,SNR=7.5
SDCO Great Sand Dun 65.80 59 eP P 15 07 52.8 +0.2
comp=Z,6.0nm,0.9s,mb4.4
ECSD EROS,Sioux Fal 65.88 50⇑iP P 15 07 52.1 -1.0
comp=Z,43nm,0.8s,mb5.3
116A Eloy 66.10 67 ⇓P P 15 07 54.5 0.0
baz=66
ABKT Ailbek 66.32 301 P P 15 07 56.0 +0.1
comp=Z,174nm,0.6s,SNR=8.1
ANMO Albuquerque 67.33 62 P P 15 08 02.8 +0.5
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 67.33 62⇑iP P 15 08 02.6 +0.4
comp=Z,18nm,1.0s,mb4.8
LAZ Ladron 67.35 63 eP P 15 08 03.1 +0.6
LENM Lemitar 67.62 63 eP P 15 08 04.7 +0.6
BNM Barren Site 67.82 63 eP P 15 08 05.9 +0.5
SCHQ Schefferville 68.01 26 P P 15 08 06.2 -0.3
comp=Z,16nm,0.6s,mb5.0,baz=345,slow=6.5,SNR=22
SCHQ Schefferville 68.04 26 eP P 15 08 05.7 -0.8
comp=Z,23nm,0.8s,mb5.0
CBKS Cedar Bluff 68.04 55 P P 15 08 05.9 -0.8
CBKS pmax pmax
comp=Z,25nm,0.8s,mb5.0
CBKS Cedar Bluff 68.04 55 eP P 15 08 05.3 -1.5
comp=Z,25nm,0.8s,mb5.0
SCIA State Center 68.89 49⇑iP P 15 08 11.5 -0.5
comp=Z,175nm,0.6s
AKASG Malin Array Be 69.00 327 P P 15 08 11.3 -1.4
comp=Z,5.2nm,0.4s,mb4.6,baz=31,slow=6.8,SNR=24
AKASG Malin Array Be 69.00 327 iP P 15 08 11.3 -1.4
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 69.00 327 P P 15 08 11.3 -1.4
AKBB Malin Array Si 69.00 327 eP P 15 08 10.6 -2.1
KIEV Kiev 69.01 327 P P 15 08 11.4 -1.4
KIEV pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
KIEV Kiev 69.01 327 eP P 15 08 10.1 -2.7
comp=Z,4.4nm,0.4s,mb4.5
KSU1 Kansas State U 69.40 53 eP P 15 08 13.3 -1.9
comp=Z,38nm,0.7s,mb5.2
JFWS Jewell Farm 69.47 46 P P 15 08 14.6 -1.0
JFWS pmax pmax
comp=Z,16nm,0.6s,mb4.9
JFWS Jewell Farm 69.47 46 eP P 15 08 13.9 -1.7
comp=Z,16nm,0.6s,mb4.9
ZEI Tsey 69.68 314 eP P 15 08 15.8 -1.1
GNI Garni 71.36 311 eP P 15 08 27.6 +0.5
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 71.36 311 eP P 15 08 27.6 +0.6
comp=Z,10.0nm,0.8s,mb4.6
WMOK Wichita Mounta 71.64 57 P P 15 08 28.4 -0.3
WMOK pmax pmax
comp=Z,19nm,0.8s,mb4.9
WMOK Wichita Mounta 71.64 57⇑eP P 15 08 27.9 -0.8
comp=Z,19nm,0.8s,mb4.9
KWP Kalwaria 72.02 331 eP P 15 08 31.3 +0.3
OJC Ojcow 72.36 333 eP P 15 08 32.5 -0.6
STHS Stebnicka Huta 72.66 331 eP P 15 08 35.5 +0.7
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
STHS Stebnicka Huta 72.66 331 eP P 15 08 35.5 +0.7
comp=Z,3.8nm,0.7s,mb4.2
KSP Ksiaz 72.77 335 eP P 15 08 35.2 -0.3
KOLS Kolonicke sedl 72.78 331 eP P 15 08 35.4 -0.1
AAM Ann Arbor 72.85 43 eP P 15 08 35.5 -0.5
AAM pmax pmax
comp=Z,19nm,0.4s,mb5.2
AAM Ann Arbor 72.85 43 eP P 15 08 35.5 -0.5
comp=Z,19nm,0.4s,mb5.2
BURAR Bucovina Array 73.00 328⇓iP P 15 08 36.1 -0.7
BURAR Bucovina Array 73.00 328 ⇓P P 15 08 36.1 -0.7
LTX Lajitas 73.10 64⇑iP P 15 08 37.3 -0.1
LTX pmax pmax
comp=Z,27nm,0.6s,mb5.2
LTX Lajitas 73.10 64⇑iP P 15 08 37.3 -0.1
comp=Z,27nm,0.6s,mb5.2
TXAR Lajitas Array 73.10 64 P P 15 08 37.6 +0.2
comp=Z,28nm,0.7s,mb5.1,baz=298,slow=4.7,SNR=395
TXAR Lajitas Array 73.10 64 P P 15 08 37.6 +0.2
TXAR pmax pmax
comp=Z,28nm,0.7s
UPC Upice 73.15 335 eP P 15 08 38.0 +0.3
CLL Collm 73.17 337 iP P 15 08 37.2 -0.6
CLL pmax pmax
comp=Z,16nm,0.9s,mb4.8
CLL Collm 73.17 337 iP P 15 08 37.2 -0.6
comp=Z,16nm,0.9s,mb4.8
DPC Dobruska-Polom 73.21 335 eP P 15 08 38.2 +0.2
FVM French Village 73.29 50 eP P 15 08 37.4 -1.1
FVM pmax pmax
comp=Z,18nm,0.8s,mb4.8
FVM French Village 73.29 50 eP P 15 08 37.4 -1.1
comp=Z,18nm,0.8s,mb4.9
MORC Moravsky Berou 73.40 334⇑iP P 15 08 39.1 -0.1
MORC Moravsky Berou 73.40 334 ⇑P P 15 08 39.1 -0.1
KECS Kecovo 73.72 331 eP P 15 08 38.5 -2.5
KECS Kecovo 73.72 331 eP P 15 08 38.6 -2.4
WRAB Tennant Creek 73.77 202⇑eP P 15 08 39.1 -2.2
WB2 Warramunga Arr 73.78 202 eP P 15 08 39.6 -1.8
WB2 Warramunga Arr 73.78 202 eP pP 15 09 11.0 -5.7
WRA Warramunga Arr 73.78 202 P P 15 08 39.7 -1.7
comp=Z,2.8nm,0.6s,mb4.2,baz=18,slow=6.2,SNR=8.2
WRA pP pP 15 09 11.1 -5.6
comp=Z,6.2nm,0.7s,baz=18,slow=6.3,SNR=12
WRA Warramunga Arr 73.78 202 P P 15 08 39.7 -1.7
WRA *PP pP 15 09 11.1 -5.6
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA pmax pmax
comp=Z,6.0nm,0.7s
PRU Pruhonice 74.00 336 eP P 15 08 42.8 +0.1
VRI Vrincioaia 74.00 326⇑iP P 15 08 42.6 -0.1
VRI Vrincioaia 74.00 326 ⇑P P 15 08 42.6 -0.1
MSNY Massena 74.05 35 eP P 15 08 41.6 -1.3
SIUC Southern Illin 74.08 49 eP P 15 08 42.4 -0.7
comp=Z,18nm,0.4s,mb5.2
VRAC Vranov 74.08 334⇑iP P 15 08 43.7 +0.5
VRAC Vranov 74.08 334 ⇑P P 15 08 43.7 +0.5
BLO Bloomington 74.15 46 eP P 15 08 42.2 -1.4
BLO pmax pmax
comp=Z,17nm,0.7s,mb4.9
BLO Bloomington 74.15 46 eP P 15 08 42.2 -1.4
comp=Z,17nm,0.7s,mb4.9
VYHS Vyhne 74.19 332 eP P 15 08 43.9 +0.1
VYHS pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
VYHS Vyhne 74.19 332 eP P 15 08 43.9 +0.1
comp=Z,3.2nm,0.6s,mb4.2
PSZ Piszkesteto 74.40 332⇑iP P 15 08 42.7 -2.3
FITZ Fitzroy Crossi 74.46 211 eP pP 15 09 15.4 -5.3
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 74.46 211 P P 15 08 44.8 -0.5
comp=Z,2.6nm,0.9s,mb4.0,baz=22,slow=11,SNR=4.2
FITZ pP pP 15 09 15.6 -5.1
comp=Z,8.0nm,0.9s,baz=9.3,slow=10,SNR=9.0
MIAR Mount Ida 74.47 54 eP P 15 08 44.7 -0.7
MIAR pmax pmax
comp=Z,17nm,0.8s,mb4.8
MIAR Mount Ida 74.47 54 eP P 15 08 44.6 -0.8
comp=Z,17nm,0.8s,mb4.8

LONY Lake Ozonia 74.47 35 eP P 15 08 43.4 -2.0
MLR Muntele Rosu 74.60 327⇑iP P 15 08 46.7 +0.6
MLR Muntele Rosu 74.60 327 ⇑P P 15 08 46.7 +0.6
USIN University of 74.61 48 eP P 15 08 45.4 -0.8
comp=Z,49nm,0.8s,mb5.2
TIRR Tirgusor 74.62 324⇓iP pP 15 09 22.3 +0.7
WCI Wyandotte Cave 75.02 47⇑eP P 15 08 48.0 -0.6
WCI pmax pmax
comp=Z,32nm,0.6s,mb5.1
WCI Wyandotte Cave 75.02 47⇑eP P 15 08 48.0 -0.6
comp=Z,32nm,0.6s,mb5.1
KHC Kasperske Hory 75.04 336 eP P 15 08 49.0 +0.3
KHC ex x 15 08 55.4
GRA1 Grafenberg Arr 75.10 338 eP P 15 08 49.2 +0.2
comp=Z,59nm,1.9s,mb4.9
GRF Grafenberg Arr 75.10 338 eP P 15 08 49.2 +0.2
comp=Z,59nm,1.9s,mb4.9
GRF Grafenberg Arr 75.10 338 eP P 15 08 49.2 +0.2
GRF pmax pmax
comp=Z,59nm,1.9s,mb4.9
GRF Grafenberg Arr 75.10 338 eP P 15 08 49.2 +0.2
GRF pmax pmax
comp=Z,59nm,1.9s,mb4.9
GEC2 GERESS Array S 75.27 336 eP P 15 08 49.8 -0.2
GERES GERESS Array B 75.27 336 P P 15 08 49.8 -0.2
comp=Z,5.0nm,0.4s,mb4.5,baz=34,slow=6.0,SNR=42
GERES GERESS Array B 75.27 336 P P 15 08 49.8 -0.2
GERES pmax pmax
comp=Z,5.0nm,0.4s
MEM Membach 75.38 341 P P 15 08 51.0 +0.4
BCLA Clavier 75.69 342 P P 15 08 52.4 0.0
MALT Malatya 75.73 314⇑iP P 15 08 53.6 +1.0
MALT Malatya 75.73 314 ⇑P P 15 08 53.6 +1.0
PALK Pallekele 75.76 264 eP P 15 08 52.7 -0.1
comp=Z,11nm,0.6s,mb4.7
SNF Seneffe 75.81 342 P P 15 08 53.6 +0.5
WVT Waverly 76.02 49⇑eP P 15 08 53.1 -1.1
WVT pmax pmax
comp=Z,15nm,0.8s,mb4.7
WVT Waverly 76.02 49⇑eP P 15 08 53.1 -1.2
comp=Z,15nm,0.8s,mb4.7
DOU Dourbes 76.14 342 P P 15 08 55.2 +0.2
WLF Walferdange 76.24 341 P P 15 08 58.0 +2.5
PKSM Moragy 76.31 332⇓iP P 15 08 55.7 -0.2
PKSM Moragy 76.31 332 ⇓P P 15 08 55.7 -0.2
BANOM Banah 76.40 294 ⇓P P 15 08 56.6 +0.2
SNR=6.4
BR131 Keskin Array S 76.62 318 eP P 15 08 57.9 +0.3
comp=Z,3.0nm,0.4s,mb4.3
BRTR Keskin Array B 76.62 318 P P 15 08 57.8 +0.2
comp=Z,3.6nm,0.5s,mb4.3,baz=68,slow=2.9,SNR=20
BRTR Keskin Array B 76.62 318 iP P 15 08 58.2 +0.6
BRTR pmax pmax
comp=Z,4.0nm,0.5s
SSPA Standing Stone 76.62 40 eP P 15 08 56.6 -1.1
comp=Z,6.5nm,0.6s,mb4.4
PLAL Pickwick Lake 76.83 50 eP P 15 08 57.7 -1.1
comp=Z,10nm,0.6s,mb4.6
KBA Koelnbreinsper 77.00 335⇑iP P 15 09 01.0 +1.2
comp=Z,31nm,0.6s,mb5.1
KBA Koelnbreinsper 77.00 335⇑iP P 15 09 01.0 +1.3
KBA pmax pmax
comp=Z,31nm,0.6s,mb5.1
WTTA Wattenberg 77.26 337⇑iP P 15 09 02.5 +1.3
comp=Z,32nm,1.1s,mb4.9
WTTA Wattenberg 77.26 337⇑iP P 15 09 02.5 +1.3
WTTA pmax pmax
comp=Z,32nm,1.1s,mb4.9
MOTA Moosalm 77.32 337⇑iP P 15 09 02.2 +0.7
comp=Z,20nm,1.1s,mb4.7
MOTA Moosalm 77.32 337⇑iP P 15 09 02.2 +0.7
MOTA pmax pmax
comp=Z,20nm,1.1s,mb4.7
HATD Hatta, Dubai 77.34 294 ⇓P P 15 09 01.9 +0.3
SNR=19
SQTA Sankt Quirin 77.41 337⇑iP P 15 09 03.1 +1.1
comp=Z,22nm,1.2s,mb4.7
SQTA Sankt Quirin 77.41 337⇑iP P 15 09 03.1 +1.1
SQTA pmax pmax
comp=Z,22nm,1.2s,mb4.7
AS31 Alice Springs 77.47 202 eP P 15 09 00.6 -1.8
ASAR Alice Springs 77.47 202 P P 15 09 01.6 -0.8
comp=Z,2.1nm,0.5s,mb4.0,baz=14,slow=5.1,SNR=19
ASAR pP pP 15 09 33.2 -4.8
comp=Z,5.1nm,0.6s,baz=14,slow=5.4,SNR=14
ASAR Alice Springs 77.47 202 P P 15 09 01.6 -0.8
ASAR *PP pP 15 09 33.2 -4.8
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASPA Alice Springs 77.47 202 eP P 15 09 00.6 -1.8
ASPA Alice Springs 77.47 202 eP pP 15 09 33.1 -4.9
SMDO Samad 77.60 291 ⇓P P 15 09 03.8 +0.7
SNR=6.2
PTCC Patocco-Chiusa 77.62 335 P P 15 09 03.3 +0.1
HOQ Hogain 77.62 292 ⇑P P 15 09 03.4 +0.2
SNR=5.2
TZTN Tazewell 77.65 46 eP P 15 09 03.0 -0.4
comp=Z,21nm,0.6s,mb5.0
VTS Vitosha 78.09 327⇑iP P 15 09 05.9 +0.1
VTS Vitosha 78.09 327 ⇑P P 15 09 06.0 +0.1
JMDO Jabal Madar 78.10 291 ⇑P P 15 09 06.4 +0.5
SNR=5.3
DAVOX Davos 78.14 338 P P 15 09 07.2 +1.1
comp=Z,18nm,0.6s,mb4.9,baz=336,slow=7.7
ARQ Araqi 78.27 293 ⇓P P 15 09 06.9 +0.1
SNR=35
UMR Umm Al-Rimmam 78.28 303 eP P 15 09 06.6 -0.2
UMR AMb AMb 15 09 07.5
comp=Z,78nm,0.5s,mb5.6
BRMO Bormio 78.31 337 P P 15 09 08.6 +1.6
BSY Bisya 78.34 292 ⇓P P 15 09 07.4 +0.3
SNR=7.3
KBD Kabd 78.59 303 eP P 15 09 08.2 -0.3
KBD AMb AMb 15 09 09.4
comp=Z,206nm,0.4s
NAY Al-Naaiem 78.77 303 eP P 15 09 09.2 -0.3
NAY AMb AMb 15 09 10.2
comp=Z,56nm,0.7s,mb5.3
QRN Al-Qurain 78.81 302 eP P 15 09 09.6 -0.2
QRN AMb AMb 15 09 10.7
comp=Z,138nm,0.7s,mb5.7
RDF Al-Radifah 78.86 303 eP P 15 09 10.1 0.0
RDF AMb AMb 15 09 11.1
comp=Z,145nm,0.6s,mb5.8
MBWA Marble Bar 79.31 215 P P 15 09 11.2 -1.2
comp=Z,5.7nm,1.0s,mb4.2
ZCCA Zocca 80.14 336 P P 15 09 19.1 +2.1
GSCL Gusciola 80.24 336 P P 15 09 19.0 +1.5
SEI Scarperia 80.32 336 P P 15 09 19.9 +2.0
SFI Santa Sofia 80.33 335 P P 15 09 19.5 +1.5
VMG Vicchio 80.36 335 P P 15 09 20.3 +2.2
BDI Bagni Di Lucca 80.51 336 P P 15 09 20.4 +1.5
BNI Bardonecchia 80.51 339 eP P 15 09 20.2 +1.3
BNI pmax pmax
comp=Z,16nm,0.6s,mb4.8
BNI Bardonecchia 80.51 339 eP P 15 09 20.2 +1.2
comp=Z,16nm,0.6s,mb4.8
JSC Jenkinsville 80.56 46 eP P 15 09 18.4 -0.8
SNTG Esanatoglia 80.64 334 P P 15 09 20.4 +0.7
MURB Monte Urbino 80.75 334 P P 15 09 22.2 +2.0
CSNT Castellina Chi 80.88 335 P P 15 09 21.4 +0.5
ASS Assisi 80.90 334 P P 15 09 23.0 +2.0
DOI San Damiano 80.90 339 P P 15 09 20.0 -1.0
AQU L'Aquila 81.35 334⇑iP P 15 09 25.3 +1.9
AQU L'Aquila 81.35 334 ⇑P P 15 09 25.2 +1.8
MMAI Mount Meron Ar 81.49 314 P P 15 09 25.0 +0.9
comp=Z,34nm,0.5s,mb5.3,baz=39,slow=6.8,SNR=103
ASF Jabal al Asfar 81.51 312 P P 15 09 25.0 +0.8
comp=Z,11nm,0.7s,mb4.6,baz=258,slow=3.5,SNR=26
ASF Jabal al Asfar 81.51 312 P P 15 09 25.0 +0.8
ASF pmax pmax
comp=Z,11nm,0.7s
TIP Timpagrande 83.28 330⇑iP P 15 09 33.5 +0.1
IDI Anoyia 83.94 322 P P 15 09 35.3 -1.4
comp=Z,11nm,0.5s,mb4.8,baz=38,slow=13,SNR=18
STKA Stephens Creek 84.04 193 eP pP 15 10 07.9 -5.5
comp=Z,4.6nm,1.0s
STKA Stephens Creek 84.04 193 pP pP 15 10 08.1 -5.4
comp=Z,5.1nm,1.0s,baz=0.0,slow=8.1,SNR=7.1
SOI Samo 84.51 330 P P 15 09 39.5 -0.2
EIL Elat 84.52 312⇑iP P 15 09 39.6 -0.1
comp=Z,502nm,0.6s
ESDC Sonseca Array 87.74 345 P P 15 09 55.2 -0.3
comp=Z,5.5nm,0.6s,mb4.5,baz=4.5,slow=4.2,SNR=14
KEST Kesra 88.66 334 P P 15 10 00.2 +0.4
comp=Z,5.5nm,0.5s,mb4.7,baz=220,slow=0.7,SNR=18
TORD Torodi Ar. Bea 112.17 334 PKiKP PKiKP 15 15 41.1 -0.2
comp=Z,0.7nm,0.4s,baz=23,slow=2.5,SNR=8.9
LPAZ La Paz 129.94 62 PKP PKPdf 15 16 16.1 +0.8
comp=Z,1.4nm,0.8s,baz=0.4,slow=6.4,SNR=7.4
LPAZ La Paz 129.94 62 PKIKP PKPdf 15 16 16.2 +0.8
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
BOSA Boshof 137.51 283 PKP PKPdf 15 16 30.9 +1.4
comp=Z,1.9nm,0.7s,baz=128,slow=9.7,SNR=4.8
BOSA Boshof 137.51 283 PKIKP PKPdf 15 16 30.9 +1.3
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 137.51 283 PKP PKPdf 15 16 30.9 +1.3
CFAA Coronel Fontan 141.56 77 PKhKP 15 16 29.8
comp=Z,0.4nm,0.5s,baz=288,slow=3.4,SNR=7.6
SYO Syowa Base 146.21 215⇓eP PKPdf 15 16 43.4 -1.6
SYO Syowa Base 146.21 215⇓eX 15 17 16.6
USHA Ushuaia 152.94 115 PKPbc PKPbc 15 17 00.8 -2.3
comp=Z,6.1nm,0.5s,baz=40,slow=15,SNR=6.6
VNA2 Neumayer--Watz 159.17 194 ePKPdf PKPab 15 17 40.7 -0.9
VNA2 e 15 18 10.9
VNA2 e 15 18 17.5
VNA2 e 15 18 26.7
VNA2 e 15 18 40.0
VNA3 Neumayer Olymp 159.21 192 ePKPdf PKPab 15 17 41.2 -0.6
VNA3 e 15 18 11.1
VNA3 e 15 18 13.8
VNA3 e 15 18 26.5
VNA3 e 15 18 40.2

IDC ***24*** *14:59:42.0±8.8, 599S×130°64E, h55km±82km, mb3.7/2, mb1 3.9/5, mb1mx3.6/14, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=89.1km s-min=32.1km az=55.0*
NEIC ***24*** *14:59:53.0±3.1, 653S×129°95E, h157km±29km, mb4.5/1, Error ellipse: s-maj=39.8km s-min=23.4km az=57.0*
ISCJB ***24*** *14:59:58.0±2.3, 70S±0.1×130.1E±0.1, h185km±21km, mb3.6/2, Error ellipse: s-maj=21.5km s-min=19.5km az=124.9*
ISC 24 14:59:57.2±2.1, 69S±01×1299E±01, h151km±13km, n11, σ0°94/18, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.27**	**157**	*e*P	**Pn**	**15 01 28.4**	**+1.0**
	7.8nm,0.3s						
KAKA				*e*S	**Sn**	**15 02 38.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.86**	**200**	P	**Pn**	**15 02 42.2**	**+0.6**
	0.1nm,0.3s,baz=37,slow=10,SNR=7.8						
FITZ				S	**Sn**	**15 04 52.2**	**-0.4**
	0.3nm,0.3s,baz=103,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**13.63**	**162**	P	**Pn**	**15 03 03.6**	**-0.8**
	1.0nm,0.3s,baz=347,slow=12,SNR=31						
WRA				S	**Sn**	**15 05 31.5**	**-3.9**
	0.9nm,0.3s,baz=329,slow=23,SNR=9.8						
WB2	**Warramunga Arr**	**13.64**	**162**	*e*P	**Pn**	**15 03 03.7**	**-0.7**
WB2				*e*S	**Sn**	**15 05 29.9**	**-5.5**
AS31	**Alice Springs**	**17.08**	**167**	*e*Pn	**Pn**	**15 03 47.2**	**+0.3**
AS31				*e*Sn	**Sn**	**15 06 57.0**	**-1.0**
ASAR	**Alice Springs**	**17.08**	**167**	P	**Pn**	**15 03 47.4**	**+0.4**
	0.8nm,0.3s,baz=347,slow=10,SNR=116						
ASAR				S	**S**	**15 06 58.7**	**+2.3**
	0.2nm,0.3s,baz=358,slow=28,SNR=6.8						
ASPA	**Alice Springs**	**17.08**	**167**	*e*P	**Pn**	**15 03 47.4**	**+0.5**
ASPA				*e*S	**S**	**15 06 56.0**	**-0.4**
STKA	**Stephens Creek**	**27.11**	**158**	*e*P	**P**	**15 05 24.6**	**-1.3**
	1.3nm,1.1s,mb3.5						
STKA	**Stephens Creek**	**27.11**	**158**	P	**P**	**15 05 24.9**	**-1.0**
	1.0nm,0.3s,mb3.9,baz=343,slow=10,SNR=10.0						
STKA	**Stephens Creek**	**27.11**	**158**	*e*P	**P**	**15 05 24.3**	**-1.6**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**15 10 34.0**	**-6.8**
	0.6nm,0.5s,mb3.6,baz=119,slow=7.9,SNR=4.3						

ISCJB ***24*** *15:11:21.5±0.3, 4322N±002°032W±002, h7km±5km, Error ellipse: s-maj=3.2km s-min=2.5km az=102.8*
STR ***24*** *15:11:23.6±0.1, 4308N×036W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***24*** *15:11:23.7±0.1, 4309N×036W, h2km, Md2.8/3, Ml2.9/14, Error ellipse: s-maj=1.3km s-min=1.1km az=166.0*
CSEM ***24*** *15:11:23.9±0.0, 4310N×036W, h2km, ML3.0/15, Error ellipse: s-maj=1.0km s-min=0.7km az=167.0*
NEIC ***24*** *15:11:23.7, 4309N×036W, h2km, ML2.6(STR), ML2.9(LDG), MN2.4(MDD), After LDG.*
MDD ***24*** *15:11:24.1±0.2, 4309N×035W, h0km, mbLg2.2/19, Error ellipse: s-maj=2.4km s-min=1.2km az=10.0, PRXIMO*
ISC 24 15:11:22.9±0.1, 4316N±002×034W±002, h7km±5km, n77, σ0°89/107, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.27**	**255**	Pg	**Pg**	**15 11 28.4**	**+0.2**
ATE				Lg		15 11 32.4	
ETSF	**Etsaut**	**0.30**	**212**	*e*Pg	**Pg**	**15 11 28.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**15 11 31.5**	**-1.3**
	130nm,0.2s						
ETSF	**Etsaut**	**0.30**	**212**	*e*Pg	**Pg**	**15 11 28.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**15 11 31.5**	**-1.3**
	65nm,0.2s						
LABF	**Labassere**	**0.32**	**109**	Pg	**Pg**	**15 11 29.4**	**+0.2**
LABF				Sg	**Sg**	**15 11 35.2**	**+1.7**
LABF	**Labassere**	**0.32**	**109**	Pg	**Pg**	**15 11 29.6**	**+0.4**
LABF				Lg		15 11 34.7	
FDAF	**Les Forges d'A**	**0.38**	**206**	Pg	**Pg**	**15 11 29.9**	**-0.3**
FDAF				Lg		15 11 34.5	
VIEF	**Viey**	**0.38**	**135**	Pg	**Pg**	**15 11 30.3**	**0.0**
VIEF				Sg	**Sg**	**15 11 35.3**	**0.0**
VIEF	**Viey**	**0.38**	**135**	Pg	**Pg**	**15 11 30.3**	**0.0**
VIEF				Lg		15 11 35.5	
ORDF	**Ordiarp**	**0.44**	**278**	Pg	**Pg**	**15 11 31.9**	**+0.5**
ORDF	**Ordiarp**	**0.44**	**278**	Pg	**Pg**	**15 11 32.1**	**+0.8**
ORDF				Lg		15 11 38.5	
LARF	**Larrau**	**0.49**	**256**	Pg	**Pg**	**15 11 32.6**	**+0.3**
LARF				Sg	**Sg**	**15 11 39.4**	**+0.7**
LARF	**Larrau**	**0.49**	**256**	Pg	**Pg**	**15 11 32.7**	**+0.4**
LARF				Lg		15 11 39.5	
EPF	**Esparros**	**0.52**	**104**	*e*Pg	**Pg**	**15 11 33.7**	**+0.9**
EPF				*e*Sg	**Sg**	**15 11 40.9**	**+1.3**
	41nm,0.3s						
EPF	**Esparros**	**0.52**	**104**	*e*Pg	**Pg**	**15 11 33.7**	**+0.9**
EPF				*e*Sg	**Sg**	**15 11 40.9**	**+1.3**
	21nm,0.3s						
EBIE	**Bielsa**	**0.59**	**143**	Pg	**Pg**	**15 11 34.0**	**-0.3**
	1.4nm,0.1s,SNR=27						
EBIE				Lg		15 11 41.4	
	42nm,0.1s,SNR=44						
EBIE	**Bielsa**	**0.59**	**143**	Pg	**Pg**	**15 11 34.0**	**-0.3**
	1.4nm,0.1s,SNR=27						
RESF	**Ens**	**0.61**	**125**	Pg	**Pg**	**15 11 34.6**	**0.0**
RESF				Sg	**Sg**	**15 11 42.7**	**+0.2**
RESF	**Ens**	**0.61**	**125**	Pg	**Pg**	**15 11 34.8**	**+0.2**
RESF				Lg		15 11 42.8	
SJPF	**Ste Jean**	**0.65**	**267**	*e*Pg	**Pg**	**15 11 35.7**	**+0.3**
SJPF				*e*Sg	**Sg**	**15 11 42.9**	**-0.9**
	28nm,0.2s						
SJPF	**Ste Jean**	**0.65**	**267**	*e*Pg	**Pg**	**15 11 35.7**	**+0.3**
SJPF				*e*Sg	**Sg**	**15 11 42.9**	**-0.9**
	14nm,0.2s						
OSSF	**Osses**	**0.68**	**279**	Pg	**Pg**	**15 11 36.7**	**+0.7**
OSSF	**Osses**	**0.68**	**279**	Pg	**Pg**	**15 11 36.5**	**+0.5**
OSSF				Lg		15 11 46.7	
IPRE	**Itoiz**	**0.82**	**245**	Pg	**Pg**	**15 11 39.1**	**+0.4**
	2.7nm,0.1s,SNR=4.8						
IPRE				Lg		15 11 49.7	
	18nm,0.2s,SNR=13						
IPRE	**Itoiz**	**0.82**	**245**	Pg	**Pg**	**15 11 39.1**	**+0.4**
	2.7nm,0.1s,SNR=4.8						
MELF	**Melles**	**0.85**	**109**	Pg	**Pg**	**15 11 39.5**	**+0.1**
MELF				Lg		15 11 51.3	
ELIZ	**Elizondo**	**0.87**	**271**	Pg	**Pg**	**15 11 40.0**	**+0.4**
	3.3nm,0.2s,SNR=8.3						
ELIZ				Lg		15 11 52.0	
	14nm,0.2s,SNR=11						
IUSE	**Utxeti**	**0.91**	**257**	Pg	**Pg**	**15 11 40.7**	**+0.4**
	2.4nm,0.1s,SNR=7.0						
IUSE				Lg		15 11 52.5	
	12nm,0.1s,SNR=7.8						
IUSE	**Utxeti**	**0.91**	**257**	Pg	**Pg**	**15 11 40.7**	**+0.3**
	2.4nm,0.1s,SNR=7.0						

SALF	**Salau**	**1.19**	**109**	Pg		**Pg**		**15 11 46.4**	**+0.6**
SALF	**Salau**	**1.19**	**109**	Pg		**Pg**		**15 11 45.9**	**+0.1**
SALF				Lg				15 12 01.9	
	16nm,0.1s,SNR=9.3								
ESAC	**San Caprasio**	**1.44**	**184**	Pg		**Pg**		**15 11 50.0**	**-0.4**
ESAC				Lg				15 12 08.8	
	46nm,0.1s,SNR=16								
ESAC	**San Caprasio**	**1.44**	**184**	Pg		**Pg**		**15 11 50.0**	**-0.4**
	16nm,0.1s,SNR=9.3								
ECRI	**Cripan**	**1.69**	**252**	Lg				15 12 17.6	
	18nm,0.2s,SNR=7.9								
ECRI				Lg				15 12 18.1	
	SNR=7.9								
EMIR	**Miracle**	**1.86**	**131**	Lg				15 12 22.7	
	4.6nm,0.1s,SNR=5.2								
MTLF	**Montolieu**	**1.88**	**83**	*e*Pg		**Pg**		**15 11 59.3**	**+0.4**
MTLF				*e*Sg		**Sg**		**15 12 23.9**	**+0.6**
	11nm,0.3s								
MTLF	**Montolieu**	**1.88**	**83**	*e*Pn		**Pn**		**15 11 54.8**	**-0.7**
MTLF				*e*Pg		**Pg**		**15 11 59.3**	**+0.4**
MTLF				*e*Sg		**Sg**		**15 12 23.9**	**+0.6**
MTLF	**Montolieu**	**1.88**	**83**	Pn		**Pn**		**15 11 54.8**	**-0.7**
MTLF				Pg		**Pg**		**15 11 59.3**	**+0.4**
MTLF				Lg				15 12 23.9	
	5.4nm,0.3s								
MTLF	**Montolieu**	**1.88**	**83**	*e*Pg		**Pg**		**15 11 59.3**	**+0.4**
MTLF				*e*Sg		**Sg**		**15 12 23.9**	**+0.6**
	5.4nm,0.3s								
LFF	**La Frestale**	**1.95**	**23**	*e*Pg		**Pg**		**15 12 01.3**	**+1.1**
LFF				*e*Sg		**Sg**		**15 12 27.4**	**+1.9**
	25nm,0.3s								
LFF	**La Frestale**	**1.95**	**23**	*e*Pg		**Pg**		**15 12 01.3**	**+1.1**
LFF				*e*Sg		**Sg**		**15 12 27.4**	**+1.9**
	13nm,0.3s								
EPOB	**Poblet**	**2.09**	**149**	Pg		**Pg**		**15 12 01.5**	**-1.5**
	1.2nm,0.1s,SNR=7.4								
EPOB				Lg				15 12 28.3	
	6.8nm,0.2s,SNR=6.1								
EPOB	**Poblet**	**2.09**	**149**	Pg		**Pg**		**15 12 01.5**	**-1.4**
	1.2nm,0.1s,SNR=7.4								
ERTA	**Horta de San J**	**2.25**	**167**	Pg		**Pg**		**15 12 05.0**	**-1.1**
	2.9nm,0.2s,SNR=7.9								
ERTA				Lg				15 12 33.4	
	7.8nm,0.2s,SNR=8.3								
ERTA	**Horta de San J**	**2.25**	**167**	Pg		**Pg**		**15 12 05.0**	**-1.1**
	2.9nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.26**	**273**	Pg		**Pg**		**15 12 05.3**	**-1.0**
	0.7nm,0.2s,SNR=7.9								
ELAN				Sn		**Sn**		**15 12 31.7**	**+2.8**
	1.6nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.26**	**273**	Pg		**Pg**		**15 12 05.3**	**-1.0**
	0.7nm,0.2s,SNR=7.9								
ELAN				Sn		**Sn**		**15 12 31.7**	**+2.8**
	1.6nm,0.2s,SNR=7.9								
CAF	**Calviac**	**2.48**	**44**	*e*Sg		**Sg**		**15 12 43.7**	**+1.2**
	9.2nm,0.2s								
CAF	**Calviac**	**2.48**	**44**	*e*Sg		**Sg**		**15 12 43.7**	**+1.2**
	4.6nm,0.2s								
EJON	**La Jonquera**	**2.48**	**105**	Pg		**Pg**		**15 12 09.9**	**-0.5**
	1.3nm,0.3s,SNR=7.9								
EJON				Lg				15 12 43.8	
	4.6nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**2.48**	**105**	Pg		**Pg**		**15 12 09.9**	**-0.5**
	1.3nm,0.3s,SNR=7.9								
RJF	**Les Rejaudoux**	**2.53**	**31**	*e*Pg		**Pg**		**15 12 11.5**	**+0.1**
RJF				*e*Sg		**Sg**		**15 12 45.6**	**+1.4**
	11nm,0.2s								
RJF	**Les Rejaudoux**	**2.53**	**31**	*e*Pg		**Pg**		**15 12 11.5**	**+0.1**
RJF				*e*Sg		**Sg**		**15 12 45.6**	**+1.4**
	5.3nm,0.2s								
ETOR	**Torete**	**2.66**	**209**	Pn		**Pn**		**15 12 07.6**	**+1.3**
	5.0nm,0.1s,SNR=7.9								
ETOR				Sn		**Sn**		**15 12 39.3**	**+0.5**
	13nm,0.2s,SNR=7.9								
ETOR				Lg				15 12 48.6	
	13nm,0.2s,SNR=7.9								
ETOR	**Torete**	**2.66**	**209**	Pn		**Pn**		**15 12 07.6**	**+1.4**
	5.0nm,0.1s,SNR=7.9								
ETOR				Sn		**Sn**		**15 12 39.3**	**+0.5**
	13nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**2.79**	**182**	Sn		**Sn**		**15 12 40.2**	**-1.7**
	1.0nm,0.1s,SNR=7.9								
EMOS				Lg				15 12 48.7	
	3.7nm,0.2s,SNR=7.2								
EMOS	**Mosqueruela**	**2.79**	**182**	Sn		**Sn**		**15 12 40.2**	**-1.8**
	1.0nm,0.1s,SNR=7.9								
LASF	**Ste Croix**	**3.19**	**72**	*e*Pg		**Pg**		**15 12 23.5**	**-0.4**
LASF				*e*Sg		**Sg**		**15 13 04.4**	**-0.8**
	6.0nm,0.2s								
LASF	**Ste Croix**	**3.19**	**72**	*e*Pg		**Pg**		**15 12 23.5**	**-0.4**
LASF				*e*Sg		**Sg**		**15 13 04.4**	**-0.8**
	3.0nm,0.2s								
MFF	**Saint Martin d**	**3.45**	**2**	*e*Pg		**Pg**		**15 12 29.2**	**+0.2**
MFF				*e*Sg		**Sg**		**15 13 13.7**	**0.0**
	6.2nm,0.3s								
MFF	**Saint Martin d**	**3.45**	**2**	*e*Pn		**Pn**		**15 12 17.4**	**+0.3**
MFF				*e*Pg		**Pg**		**15 12 29.2**	**+0.2**
MFF				*e*Sg		**Sg**		**15 13 13.7**	**0.0**
MFF	**Saint Martin d**	**3.45**	**2**	Pn		**Pn**		**15 12 17.4**	**+0.3**
MFF				Pg		**Pg**		**15 12 29.2**	**+0.2**
MFF				Lg				15 13 13.7	
	3.1nm,0.3s								
MFF	**Saint Martin d**	**3.45**	**2**	*e*Pg		**Pg**		**15 12 29.2**	**+0.2**
MFF				*e*Sg		**Sg**		**15 13 13.7**	**0.0**
	3.1nm,0.3s								
TCF	**Toulx Ste Croi**	**3.62**	**29**	*e*Pg		**Pg**		**15 12 31.4**	**-0.9**
TCF				*e*Sg		**Sg**		**15 13 18.9**	**-0.3**
	5.8nm,0.3s								
TCF	**Toulx Ste Croi**	**3.62**	**29**	*e*Pg		**Pg**		**15 12 31.4**	**-0.9**
TCF				*e*Sg		**Sg**		**15 13 18.9**	**-0.3**
	2.9nm,0.3s								
BGF	**Bois d'Agland**	**4.09**	**33**	*e*Sg		**Sg**		**15 13 33.2**	**-1.0**
	17nm,0.4s								
BGF	**Bois d'Agland**	**4.09**	**33**	*e*Sg		**Sg**		**15 13 33.2**	**-1.0**
	8.6nm,0.4s								
AVF	**Avril sur Loir**	**4.48**	**35**	*e*Sg		**Sg**		**15 13 45.8**	**-1.0**
	4.9nm,0.3s								
AVF	**Avril sur Loir**	**4.48**	**35**	*e*Sg		**Sg**		**15 13 45.8**	**-1.0**
	2.5nm,0.3s								
SMF	**Signal de Mont**	**4.58**	**39**	*e*Sg		**Sg**		**15 13 49.7**	**-0.4**
	2.7nm,0.3s								
SMF	**Signal de Mont**	**4.58**	**39**	*e*Sg		**Sg**		**15 13 49.7**	**-0.4**
	1.4nm,0.3s								
HYF	**Humbligny**	**4.62**	**26**	*e*Sg		**Sg**		**15 13 50.4**	**-0.9**
SSF	**Saint Saulge**	**4.76**	**34**	*e*Sg		**Sg**		**15 13 54.7**	**-1.1**
	3.1nm,0.4s								
SSF	**Saint Saulge**	**4.76**	**34**	*e*Sg		**Sg**		**15 13 54.7**	**-1.1**
	1.5nm,0.4s								
LOR	**Lormes**	**5.07**	**34**	*e*Sg		**Sg**		**15 14 02.2**	**-3.6**
	4.2nm,0.4s								
LOR	**Lormes**	**5.07**	**34**	*e*Sg		**Sg**		**15 14 02.2**	**-3.6**
	2.1nm,0.4s								
GRR	**Gorron**	**5.25**	**356**	*e*Sg		**Sg**		**15 14 09.9**	**-1.5**
	1.4nm,0.2s								
GRR	**Gorron**	**5.25**	**356**	*e*Sg		**Sg**		**15 14 09.9**	**-1.5**
	0.7nm,0.2s								

*NEIC **24** 15:14:54.1±0.9, 4790N×15396E, h10km, mb4.4/7, Error ellipse: s-maj=21.1km s-min=13.9km az=156.0*
*ISCJB **24** 15:15:00.5±1.0, 4819N±008×1538E±0.1, h70km±9km, mb4.0/18, Error ellipse: s-maj=16.7km s-min=5.5km az=103.4*
*MOS **24** 15:15:01.2±7.4, 4812N×15391E, h80km, mb4.1/13, Error ellipse: s-maj=16.6km s-min=9.6km az=71.2*
*IDC **24** 15:15:02.2±7.7, 4820N×15375E, h70km±70km, mb3.7/12, mb1 3.9/12, mb1mx3.7/25, mbtmp3.7/12, Error ellipse: s-maj=25.3km s-min=17.1km az=159.0*

ISC 24 15:15:02.9±1.0, 4824N±008×1538E±01, h77km±8km, n44, σ0°92/49, mb4.0/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.87**	**31**	*e*PN	**Pn**	**15 15 45.5**	**-0.9**
SKR				*e*S	**Sn**	**15 16 19.2**	**-0.7**
SKR				pmax	pmax		
	comp=E,90nm,0.7s						
SKR				pmax	pmax		
	comp=Z,200nm,0.7s						
SKR				smax			
	comp=N,310nm,0.5s						
SKR				smax			
	comp=E,320nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.7s						
KUR	**Kuril'sk**	**5.08**	**236**	*e*PN	**Pn**	**15 16 13.0**	**-3.5**
KUR				*e*S	**Sn**	**15 17 13.5**	**-0.3**
KUR				smax			
	comp=N,320nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
PET	**Petropavlovsk**	**5.69**	**31**	*e*PN	**Pn**	**15 16 26.7**	**+1.8**
PET				*e*S	**Sn**	**15 17 29.6**	**+0.8**
PET				pmax	pmax		
	comp=Z,59nm,1.1s						
PET				smax			
	comp=N,122nm,0.8s						
PET	**Petropavlovsk**	**5.69**	**31**	*e*Pn	**Pn**	**15 16 24.1**	**-0.8**
	comp=N,46nm,0.8s						
PET				*e*Sn	**Sn**	**15 17 28.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.59**	**264**	*e*PN	**Pn**	**15 16 55.0**	**+4.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.59**	**264**	*e*Pn	**Pn**	**15 16 51.7**	**+0.8**
YSS				*e*Sn	**Sn**	**15 18 14.4**	**-0.9**
ASAJ	**Asahikawa**	**8.81**	**246**	P	**Pn**	**15 17 08.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=89,slow=23,SNR=7.3						
ASAJ	**Asahikawa**	**8.81**	**246**	PN	**Pn**	**15 17 08.7**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**11.50**	**352**	*e*PN	**Pn**	**15 17 45.6**	**+1.5**
YAK	**Yakutsk**	**19.36**	**324**	*e*P	**Pn**	**15 19 24.8**	**+0.7**
YAK				pmax	pmax		
	comp=Z,31nm,0.8s						
YAK	**Yakutsk**	**19.36**	**324**	*e*P	**Pn**	**15 19 24.8**	**+0.7**
	comp=Z,31nm,0.8s						
KSRS	**Korea Array**	**21.73**	**250**	P	**P**	**15 19 47.5**	**-0.3**
	comp=Z,2.4nm,0.8s,mb3.6,baz=50,slow=9.5,SNR=6.9						
MCK	**McKinley**	**34.21**	**42**	P	**P**	**15 21 40.6**	**-0.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
MCK	**McKinley**	**34.21**	**42**	P	**P**	**15 21 40.6**	**-0.4**
	comp=Z,3.8nm,1.1s,mb4.1						
SML	**Sawmill**	**34.57**	**45**	*e*P	**P**	**15 21 43.9**	**-0.2**
COLA	**College**	**34.68**	**40**	*e*P	**P**	**15 21 45.5**	**+0.4**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
COLA	**College**	**34.68**	**40**	*e*P	**P**	**15 21 45.5**	**+0.4**
	comp=Z,7.7nm,1.1s,mb4.5						
EGAK	**Eagle**	**37.54**	**40**	*e*P	**P**	**15 22 08.8**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.1						
INK	**Inuvik**	**40.14**	**33**	P	**P**	**15 22 31.8**	**+0.6**
	comp=Z,3.8nm,0.6s,mb4.4,baz=288,slow=6.5,SNR=30						
INK	**Inuvik**	**40.14**	**33**	P	**P**	**15 22 31.8**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**42.16**	**305**	P	**P**	**15 22 46.4**	**-1.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=155,slow=15,SNR=4.1						
ZAL				PcP	PcP	15 24 41.1	+0.3
	comp=Z,0.7nm,0.5s,baz=338,slow=2.7,SNR=3.2						
ZAL	**Zalesovo**	**42.16**	**305**	P	**P**	**15 22 46.4**	**-1.4**
ZAL						15 24 41.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.70**	**296**	P	**P**	**15 23 24.4**	**+0.5**
	comp=Z,1.8nm,0.7s,mb3.9,baz=65,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**46.70**	**296**	P	**P**	**15 23 24.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.45**	**38**	P	**P**	**15 23 44.8**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=302,slow=7.2,SNR=4.0						
YKA	**Yellowknife Ar**	**49.45**	**38**	P	**P**	**15 23 44.8**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.30**	**309**	P	**P**	**15 23 50.2**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=79,slow=7.7,SNR=4.8						
BVAR				PcP	PcP	15 25 09.3	-0.1
	comp=Z,0.8nm,0.7s,baz=29,slow=6.8,SNR=3.8						
BVAR	**Borovoye Array**	**50.30**	**309**	P	**P**	**15 23 50.2**	**-1.4**
BVAR						15 25 09.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	**50.68**	**272**	*e*P	**P**	**15 23 56.8**	**+2.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**50.68**	**272**	*e*P	**P**	**15 23 56.8**	**+2.3**
	comp=Z,3.0nm,0.6s,mb4.5						
CM31	**Chiang Mai Arr**	**53.20**	**256**	*e*P	**P**	**15 24 14.3**	**+1.2**
	comp=Z,2.5nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**62.90**	**335**	P	**P**	**15 25 20.1**	**-0.8**
	comp=Z,2.9nm,1.0s,mb4.2,baz=50,slow=6.0,SNR=5.6						
FINES	**FINESS Array B**	**62.90**	**335**	P	**P**	**15 25 20.1**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PDAR	**Pinedale Array**	**63.49**	**55**	P	**P**	**15 25 25.6**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=306,slow=2.1,SNR=20						
SRU	**San Rafael**	**65.42**	**58**	*e*P	**P**	**15 25 37.5**	**+0.1**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SRU	**San Rafael**	**65.42**	**58**	*e*P	**P**	**15 25 37.5**	**+0.1**
	comp=Z,4.1nm,0.8s,mb4.3						
HFS	**Hagfors**	**67.23**	**340**	P	**P**	**15 25 48.7**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.2,baz=63,slow=6.8,SNR=13						
HFS	**Hagfors**	**67.23**	**340**	P	**P**	**15 25 48.7**	**-0.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.77**	**199**	P	**P**	**15 26 28.3**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.6,baz=17,slow=4.3,SNR=6.0						
ASAR	**Alice Springs**	**73.77**	**199**	P	**P**	**15 26 28.3**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**75.01**	**347**	P	**P**	**15 26 35.7**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.6,baz=12,slow=5.1,SNR=4.2						
EKA	**Eskdalemuir Ar**	**75.01**	**347**	P	**P**	**15 26 35.7**	**-0.3**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.35**	**61**	P	**P**	**15 26 43.8**	**+0.2**
	comp=Z,3.3nm,0.7s,mb4.2,baz=300,slow=4.4,SNR=45						
TXAR	**Lajitas Array**	**76.35**	**61**	P	**P**	**15 26 43.8**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*NEIC **24** 15:25:30.8±2.8, 5872S×2637W, h133km±26km, mb4.3/12, Error ellipse: s-maj=11.5km s-min=9.0km az=199.0*
*ISCJB **24** 15:25:32.7±2.4, 5871S±009×264W±0.1, h164km±24km, mb4.2/17, Error ellipse: s-maj=15.6km s-min=11.9km az=25.1*
*IDC **24** 15:25:32.8±5.1, 5875S×2646W, h149km±48km, mb3.9/9, mb1 3.9/11, mb1mx3.9/16, mbtmp3.9/11, Error ellipse: s-maj=19.2km s-min=15.0km az=33.0*

ISC 24 15:25:33.9±2.4, 5877S±009×264W±01, h164km±24km, n32, σ0°90/32, mb4.2/17, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.13**	**155**	*e*	**Pn**	**15 28 47.0**	**+0.1**
VNA3	**Neumayer Olymp**	**14.30**	**158**	*e*	**Pn**	**15 28 49.5**	**+0.6**
VNA3				*e*		15 28 53.4	
VNA3				*e*		15 31 15.9	
VNA3				*e*		15 31 19.6	
VNA3				*e*		15 31 24.4	
VNA2	**Neumayer--Watz**	**14.53**	**155**	*e*	**Pn**	**15 28 52.8**	**+1.0**
VNA2				*e*		15 28 56.5	
VNA2				*e*		15 31 19.3	
VNA2				*e*		15 31 22.9	
VNA2				*e*		15 31 29.4	
SNAA	**Sanae**	**16.11**	**153**	P	**Pn**	**15 29 09.7**	**-1.5**
	0.1nm,0.3s,baz=305,slow=10,SNR=26						
SNAA				S	**S**	**15 31 57.0**	**-13**
	0.1nm,0.3s,baz=221,slow=20,SNR=4.3						
SNAA	**Sanae**	**16.11**	**153**	*e*Pn	**Pn**	**15 29 09.0**	**-2.2**
SNAA				S	**S**	**15 31 57.0**	**-13**
PMSA	**Palmer Station**	**18.55**	**235**	P	**P**	**15 29 38.1**	**0.0**
	1.9nm,0.3s,baz=97,slow=5.6,SNR=30						
PMSA	**Palmer Station**	**18.55**	**235**	*e*P	**P**	**15 29 37.4**	**-0.8**
	39nm,0.8s						
USHA	**Ushuaia**	**23.05**	**261**	P	**P**	**15 30 25.2**	**+0.4**
	3.5nm,0.6s,mb4.0,baz=121,slow=12,SNR=4.0						
TRQA	**Tornquist**	**30.84**	**296**	*e*P	**P**	**15 31 34.1**	**-0.4**
	4.7nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**31.48**	**180**	‖*i*P	**P**	**15 31 40.2**	**+0.1**
	11nm,0.6s,mb4.8						
MAW	**Mawson**	**37.74**	**141**	P	**P**	**15 32 33.5**	**-0.4**
	2.0nm,0.7s,mb3.9,baz=218,slow=8.3,SNR=6.1						
MAW	**Mawson**	**37.74**	**141**	*e*P	**P**	**15 32 32.6**	**-1.2**
	2.2nm,0.6s,mb4.0						
CFAA	**Coronel Fontan**	**39.06**	**295**	P	**P**	**15 32 44.1**	**-0.7**
	0.7nm,0.7s,mb3.4,baz=157,slow=6.5,SNR=14						
SUR	**Sutherland**	**41.04**	**71**	P	**P**	**15 33 01.8**	**+0.7**
SBA	**Scott Base**	**43.39**	**184**	*e*P	**P**	**15 33 20.7**	**+0.5**
	3.8nm,0.8s,mb4.1						
VNDA	**Vanda**	**43.87**	**183**	P	**P**	**15 33 24.2**	**+0.2**
	4.0nm,0.6s,mb4.2,baz=186,slow=6.6,SNR=56						
VNDA	**Vanda**	**43.87**	**183**	P	**P**	**15 33 24.2**	**+0.2**
	3.3nm,0.7s,mb4.1						
BOSA	**Boshof**	**46.32**	**73**	P	**P**	**15 33 43.6**	**+0.4**
	15nm,0.8s,mb4.7,baz=204,slow=7.2,SNR=25						
LVC	**Limon Verde**	**47.05**	**302**	P	**P**	**15 33 51.1**	**+2.2**
	5.2nm,1.0s,mb4.1						
LBTB	**Lobatse**	**49.47**	**70**	*e*P	**P**	**15 34 07.5**	**0.0**
	7.7nm,0.7s,mb4.4						
TSUM	**Tsumeb**	**50.72**	**58**	P	**P**	**15 34 14.7**	**-2.1**
	4.5nm,0.8s,mb4.2						
LPAZ	**La Paz**	**52.30**	**306**	P	**P**	**15 34 29.2**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=103,slow=8.7,SNR=4.8						
LPAZ	**La Paz**	**52.30**	**306**	*e*P	**P**	**15 34 28.4**	**-0.2**
	0.9nm,0.5s,mb3.7						
SAML	**Samuel**	**57.02**	**315**	*e*P	**P**	**15 35 00.7**	**-1.8**
	1.2nm,0.6s,mb3.9						
LSZ	**Lusaka**	**59.02**	**67**	*e*P	**P**	**15 35 16.9**	**+0.4**
	8.8nm,0.8s,mb4.6						
TOA0	**Torodi Ar. Sit**	**75.24**	**28**	*e*P	**P**	**15 36 59.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**75.24**	**28**	P	**P**	**15 36 59.4**	**+0.8**
	6.7nm,0.5s,mb4.6,baz=198,slow=6.3,SNR=100						
STKA	**Stephens Creek**	**89.15**	**170**	P	**P**	**15 38 10.8**	**0.0**
	1.4nm,0.8s,mb4.0,baz=153,slow=6.8,SNR=3.1						
STKA	**Stephens Creek**	**89.15**	**170**	P	**P**	**15 38 10.8**	**0.0**
ASAR	**Alice Springs**	**96.27**	**162**	P	**P**	**15 38 43.2**	**-0.4**
	0.4nm,0.6s,mb3.9,baz=186,slow=4.1,SNR=10						
FINES	**FINESS Array B**	**126.59**	**28**	PKP	PKPdf	15 44 16.4	-1.2
	0.6nm,0.4s,baz=160,slow=6.1,SNR=10						
SONM	**Songino Array**	**150.38**	**91**	PKPbc	PKPbc	15 45 05.3	-0.5
	1.9nm,0.6s,baz=225,slow=3.5,SNR=4.6						

*ISCJB **24** 15:25:48.7±0.5, 4308N±003×003E±003, h15km±4km, Error ellipse: s-maj=5.4km s-min=3.7km az=164.1*
*STR **24** 15:25:50.5±0.3, 4301N×003E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **24** 15:25:50.2±0.1, 4301N×002W, h2km, ML2.5/4, Error ellipse: s-maj=1.0km s-min=0.8km az=165.0*
*LDG **24** 15:25:50.0±0.0, 4300N×001W, h4km, Md2.5/3, Ml2.4/4, Error ellipse: s-maj=1.0km s-min=0.7km az=173.0*
*MDD **24** 15:25:50.8±0.2, 4301N×000W, h0km, mbLg1.8/11, Error ellipse: s-maj=2.0km s-min=1.5km az=3.0, PRXIMO*

ISC 24 15:25:49.9±0.4, 4304N±003×002E±003, h10km±5km, n40, σ0°70/49, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.04**	**84**	Pg	**Pg**	**15 25 51.9**	**+0.1**
LABF				Sg	**Sg**	**15 25 53.3**	**+0.2**
LABF	**Labassere**	**0.04**	**84**	Pg	**Pg**	**15 25 52.0**	**+0.3**
LABF				Lg		15 25 53.4	
VIEF	**Viey**	**0.16**	**178**	Pg	**Pg**	**15 25 52.9**	**-0.5**
VIEF	**Viey**	**0.16**	**178**	Pg	**Pg**	**15 25 53.2**	**-0.2**
VIEF				Lg		15 25 55.3	
EPF	**Esparros**	**0.24**	**93**	*e*Pg	**Pg**	**15 25 55.2**	**+0.4**
EPF				*e*Sg	**Sg**	**15 25 59.0**	**+1.0**
	52nm,0.2s						
EPF	**Esparros**	**0.24**	**93**	*e*Pg	**Pg**	**15 25 55.2**	**+0.4**
EPF				*e*Sg	**Sg**	**15 25 59.0**	**+1.0**
	26nm,0.2s						
RESF	**Ens**	**0.33**	**135**	Pg	**Pg**	**15 25 56.5**	**0.0**
RESF				Sg	**Sg**	**15 26 01.2**	**+0.2**
RESF	**Ens**	**0.33**	**135**	Pg	**Pg**	**15 25 56.5**	**0.0**
RESF				Lg		15 26 01.2	
EBIE	**Bielsa**	**0.37**	**165**	Pg	**Pg**	**15 25 56.9**	**-0.3**
	45nm,0.3s,SNR=29						
EBIE				Lg		15 26 01.6	
	82nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.37**	**165**	Pg	**Pg**	**15 25 56.9**	**-0.3**
	45nm,0.3s,SNR=29						
EBIE				Lg		15 26 01.6	
	82nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.45**	**251**	*e*Pg	**Pg**	**15 25 58.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**15 26 03.5**	**-1.0**
	71nm,0.3s						
ETSF	**Etsaut**	**0.45**	**251**	*e*Pg	**Pg**	**15 25 58.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**15 26 03.5**	**-1.0**
	36nm,0.3s						
ATE	**Arette**	**0.53**	**275**	Pg	**Pg**	**15 26 01.2**	**+1.1**
ATE	**Arette**	**0.53**	**275**	Pg	**Pg**	**15 26 00.7**	**+0.5**
ATE				Lg		15 26 07.

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.79**	**284**	*e*P		Pn	15 32 06.5	+1.4
BUTP				*e*S		Sn	15 32 17.9	+2.0
SCPH	**Surigao**	**1.35**	**318**	⇑*e*P		Pn	15 32 15.0	+2.4
SCPH				*e*S		Sn	15 32 35.8	+6.5
BUKP	**Musuan**	**1.59**	**236**	*e*P		Pn	15 32 16.6	+0.7
BUKP				*e*S		Sn	15 32 38.0	+2.7
CGP	**Cagayan de Oro**	**1.71**	**260**	⇑*i*P		Pn	15 32 18.3	+0.7
CGP				*i* S		Sn	15 32 40.1	+1.8
MATI	**Mati**	**1.82**	**184**	*e*P		Pn	15 32 18.7	-0.4
DMPH	**Davao City--Mi**	**1.89**	**208**	*e*P		Pn	15 32 21.3	+1.2
DMPH				*e*S		Sn	15 32 43.9	+1.2
MSLP	**Maasin**	**2.03**	**312**	*e*P		Pn	15 32 26.2	+4.2
GUIM	**Jordan**	**4.18**	**296**	*e*P		Pn	15 32 52.7	+1.2
PVCP	**Virac**	**5.28**	**336**	*e*P		Pn	15 33 08.5	+2.0

NIED **24** *15:34:00, 4660N×15440E, h5km, Mw5.7 Best double couple: M04.12000×1017 NP1:ϕs245.00000°, δ84.00000°, λ-90.00000°. NP2:ϕs63.00000°, δ6.00000°, λ-91.00000°.*
BGS **24** *15:34:03.5, 4589N×15644E, h10km, mb5.6*
BJI **24** *15:34:07.7, 4707N×15371E, h7km, mB5.4, mb5.4, Ms5.5, Msz5.3*
NIC **24** *15:34:07.8±0.4, 4647N×15383E, h10km, Eartquake Kuril Islands 162 km S Sarychevo.*
JMA **24** *15:34:07.6±0.9, 4660N×15438E, h30km, M5.8*
SKHL **24** *15:34:08.7±3.4, 4669N×15406E, h50km±20km, mbh6.0/4, Ms5.7/7, msh6.0/6*
IDC **24** *15:34:08.2±0.3, 4677N×15373E, h0km, mb5.3/38, mb1 5.4/39, mb1mx5.4/41, mbtmp5.3/39, ML4.3/1, MS4.9/29, Ms1 4.9/29, ms1mx4.8/42, Error ellipse: s-maj=11.2km s-min=9.3km az=112.0*
ISCJB **24** *15:34:09.3±0.1, 4666N±002×15385E±002, h18km, mb5.6/303, MS5.1/124, Error ellipse: s-maj=3.2km s-min=1.4km az=154.7*
GCMT **24** *15:34:10.2±0.2, 4678N×15406E, h14km, MW5.3/93, Moment Tensor Solution. s70,c127; s93,c201; Duration: 1⇕1 Moment tensor: Scale 1017Nm; Mrr-0.57±.02; Mθθ 0.06±.01; Mϕϕ 0.51±.01; Mrθ 0.70±.04; Mθϕ 0.27±.01; Mϕr 0.41±.03; Best double couple: M0 1.01000×1017 NP1:ϕs4.00000°, δ24.00000°, λ-134.00000°. NP2:ϕs231.00000°, δ73.00000°, λ-73.00000°. Principal axes: T 0.9670, Plg26.0000°, Azm308.0000°; N 0.0860, Plg17.0000°, Azm46.0000°; P -1.0530, Plg59.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **24** *15:34:10.2±1.8, 4676N×15377E, h11km±11km, mb5.7/192, MS4.9/57, MW5.5 Error ellipse: s-maj=3.5km s-min=2.4km az=164.0, Moment Tensor Solution. s20 Moment tensor: Scale 1017Nm; Mrr-1.43; Mθθ 1.02; Mϕϕ 0.42; Mrθ 1.09; Mθϕ 0.87; Mϕr-0.03; Best double couple: M0 1.90000×1017 NP1:ϕs255.00000°, δ63.00000°, λ-69.00000°. NP2: ϕs35.00000°, δ34.00000°, λ-125.00000°. Principal axes: T 1.8800, Plg16.0000°, Azm330.0000°; N 0.0200, Plg19.0000°, Azm65.0000°; P -1.9000, Plg65.0000°, Azm202.0000°;*
MOS **24** *15:34:12.7±1.1, 4673N×15372E, h44km, mb5.8/122, MS5.3/63 Error ellipse: s-maj=5.8km s-min=3.6km az=105.9*
SZGRF **24** *15:34:21.6, 48.17N×152.56E, h33km, mb5.7, MS5.3, Kuril Islands, Russia*
ISC 24 15:34:11.6±0.1, 4681N±002×15377E±002, h19km, h19km±2.4km:pP-P, n1383, c089/1387, mb5.6/303, MS5.1/124, 232C-228D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.17**	**21**	*e*P		**Pn**	**15 35 12.9**	**-1.3**
SKR					AMB	AMB	15 35 18.0	
	5μm,4.0s							
SKR					AMB	AMB	15 35 18.5	
	390nm,0.5s							
SKR					AMB	AMB	15 35 18.5	
	1μm,1.0s							
SKR					AMB	AMB	15 35 18.5	
	3μm,1.0s							
SKR				*e*S		**Sn**	**15 35 58.0**	**-4.5**
SKR				A			15 36 02.9	
	2μm,0.5s							
SKR				A			15 36 02.9	
	540nm,0.5s							
SKR				A			15 36 02.9	
	1μm,0.7s							
SKR				A			15 36 09.0	
	10μm,6.0s							
SKR				A			15 36 09.0	
	36μm,6.0s							
SKR				A			15 36 09.0	
	15μm,8.0s							
SKR				A			15 36 09.0	
	11μm,6.0s							
SKR				A			15 36 09.0	
	36μm,6.0s							
SKR				A			15 36 09.0	
	15μm,8.0s							
SKR					AMS	AMS	15 36 47.0	
	21μm,16.0s							
SKR					AMS	AMS	15 36 47.0	
	49μm,14.0s							
SKR					AMS	AMS	15 36 47.0	
	22μm,14.0s							
SKR					AMS	AMS	15 36 47.0	
	21μm,16.0s							
SKR					AMS	AMS	15 36 47.0	
	49μm,14.0s							
SKR					AMS	AMS	15 36 47.0	
	22μm,14.0s							
SKR	**Severo-Kuril's**	**4.17**	**21**	*e*P		**Pn**	**15 35 13.0**	**-1.2**
KUR	**Kuril'sk**	**4.40**	**251**	⇑*i*P		**Pn**	**15 35 16.0**	**-1.4**
KUR				⇑*i*P			15 35 16.0	
KUR					AMB	AMB	15 35 25.4	
	1μm,0.7s							
KUR					AMB	AMB	15 35 25.4	
	920nm,0.7s							
KUR					AMB	AMB	15 35 25.4	
	3μm,0.7s							
KUR					AMB	AMB	15 35 28.0	
	9μm,4.0s							
KUR					AMB	AMB	15 35 28.0	
	12μm,4.0s							
KUR					AMB	AMB	15 35 28.0	
	12μm,4.0s							
KUR				*i* S		**Sn**	**15 36 07.7**	**-0.5**
KUR				A			15 36 28.6	
	50μm,4.0s							
KUR				A			15 36 28.6	
	38μm,4.0s							
KUR				A			15 36 29.0	
	25μm,2.0s							
KUR				A			15 36 29.0	
	27μm,2.0s							
KUR				A			15 36 31.0	
	7μm,0.8s							
KUR				A			15 36 31.0	
	11μm,0.8s							
KUR					AMS	AMS	15 37 26.0	
	21μm,12.0s							
KUR					AMS	AMS	15 37 26.0	
	16μm,12.0s							
KUR					AMS	AMS	15 37 26.0	
	45μm,12.0s							
KUR	**Kuril'sk**	**4.40**	**251**	*α i*PN		**Pn**	**15 35 16.0**	**-1.4**
KUR				*i* S		**Sn**	**15 36 07.7**	**-0.5**
KUR					pmax	pmax		
	comp=N,1μm,0.7s							
KUR					pmax	pmax		
	comp=E,920nm,0.7s							
KUR					pmax	pmax		
	comp=Z,3μm,0.7s							
KUR					pmax	pmax		
	comp=N,9μm,4.0s							
KUR					pmax	pmax		
	comp=E,12μm,4.0s							
KUR					pmax	pmax		
	comp=Z,12μm,4.0s							
KUR					smax			
	comp=N,50μm,4.0s							
KUR					smax			
	comp=E,38μm,4.0s							
KUR					smax			
	comp=N,7μm,0.8s							
KUR					smax			
	comp=E,11μm,0.8s							
KUR					MLR	MLR		
	comp=N,21μm,12.0s							
KUR					MLR	MLR		
	comp=E,16μm,12.0s							
KUR					MLR	MLR		
	comp=Z,45μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**246**	*e*P		**Pn**	**15 35 42.1**	**-0.2**
YUK					AMB	AMB	15 35 43.5	
	comp=Z,510nm,0.5s							
YUK					AMB	AMB	15 35 44.1	
	comp=Z,3μm,2.0s							
YUK					AMB	AMB	15 35 44.1	
	comp=Z,5μm,2.0s							
YUK				*e*S		**Sn**	**15 36 55.0**	**+2.1**
YUK				A			15 37 04.5	
	comp=Z,1μm,0.5s							
YUK				A			15 37 04.5	
	comp=Z,6μm,0.6s							
YUK				A			15 37 15.4	
	comp=Z,26μm,2.0s							
YUK				A			15 37 15.4	
	comp=Z,11μm,1.0s							
YUK					AMS	AMS	15 39 13.0	
	comp=Z,58μm,15.0s							
YUK					AMS	AMS	15 39 13.0	
	comp=Z,34μm,15.0s							
YUK					AMS	AMS	15 39 13.0	
	comp=Z,49μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**246**	*e*PN		**Pn**	**15 35 42.1**	**-0.2**
YUK				*e*S		**Sn**	**15 36 55.0**	**+2.1**
YUK					pmax	pmax		
	comp=Z,510nm,0.5s							
YUK					pmax	pmax		
	comp=N,5μm,2.0s							
YUK					pmax	pmax		
	comp=E,5μm,2.0s							
YUK					pmax	pmax		
	comp=Z,3μm,2.0s							
YUK					smax			
	comp=N,6μm,0.6s							
YUK					smax			
	comp=E,1μm,0.5s							
YUK					MLR	MLR		
	comp=N,58μm,15.0s							
YUK					MLR	MLR		
	comp=E,34μm,15.0s							
YUK					MLR	MLR		
	comp=Z,49μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**246**	*e*P		**Pn**	**15 35 43.0**	**+0.7**
NEM2	**Nemuro 2**	**6.64**	**242**	P		**Pn**	**15 35 46.2**	**-2.0**
NEM2				*e*S		**Sn**	**15 36 58.5**	**-4.9**
JRA	**Rausu**	**6.73**	**248**	P		**Pn**	**15 35 50.0**	**+0.6**
JRA				*e*S		**Sn**	**15 37 06.6**	**+1.0**
PET	**Petropavlovsk**	**6.97**	**25**	⇑*i*PN		**Pn**	**15 35 51.4**	**-1.2**
PET					pmax	pmax		
	comp=Z,162nm,0.9s							
PET					MLR	MLR		
	comp=Z,11μm,14.0s							
PET					MLR	MLR		
	comp=Z,14μm,16.0s							
PET	**Petropavlovsk**	**6.97**	**25**	⇑*e*Pn		**Pn**	**15 35 50.8**	**-1.8**
PET				*e*Sn		**Sn**	**15 37 09.0**	**-2.4**
JNK	**Nakash**	**7.16**	**246**	P		**Pn**	**15 35 55.5**	**+0.2**
JNK				*e*S		**Sn**	**15 37 15.4**	**-0.7**
JAK	**Akkeshi**	**7.49**	**243**	P		**Pn**	**15 35 57.7**	**-2.0**
JAK				*e*S		**Sn**	**15 37 19.0**	**-5.1**
JTKR	**Abashiri--Toko**	**7.50**	**251**	P		**Pn**	**15 36 01.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.55**	**275**	⇑*i*P		**Pn**	**15 36 04.0**	**+3.4**
YSS				⇑*e*P			15 36 04.0	
YSS					AMB	AMB	15 36 09.0	
	comp=Z,710nm,1.0s							
YSS					AMB	AMB	15 36 09.0	
	comp=Z,2μm,6.0s							
YSS				*e*S		**Sn**	**15 37 29.5**	**+3.8**
YSS				A			15 37 33.0	
	comp=Z,270nm,0.8s							
YSS				*e*LQ			15 37 37.0	
YSS				*e*LR		LR	15 38 18.0	
YSS					AMS	AMS	15 39 00.0	
	comp=Z,22μm,16.0s							
YSS					AMS	AMS	15 39 00.0	
	comp=Z,21μm,14.0s							
YSS					AMS	AMS	15 39 00.0	
	comp=Z,24μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.55**	**275**	*α i*PN		**Pn**	**15 36 04.0**	**+3.4**
YSS				*e*S		**Sn**	**15 37 29.5**	**+3.8**
YSS					pmax	pmax		
	comp=Z,710nm,1.0s							
YSS					pmax	pmax		
	comp=Z,2μm,6.0s							
YSS					smax			
	comp=E,270nm,0.8s							
YSS					MLR	MLR		
	comp=E,22μm,16.0s							
YSS					MLR	MLR		
	comp=Z,24μm,16.0s							
YSS					MLR	MLR		
	comp=N,21μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.55**	**275**	*e*Pn		**Pn**	**15 36 03.8**	**+3.2**
JMP	**Maruseppu**	**7.84**	**253**	P		**Pn**	**15 36 06.3**	**+1.7**
JAR	**Ashorobuto**	**7.90**	**247**	P		**Pn**	**15 36 05.6**	**+0.1**
JAR				*e*S		**Sn**	**15 37 33.8**	**-0.6**
JSE	**Soyaes**	**8.02**	**261**	P		**Pn**	**15 36 11.4**	**+4.3**
JOB	**Onbets**	**8.07**	**245**	P		**Pn**	**15 36 06.7**	**-1.0**
JOB				*e*S		**Sn**	**15 37 34.5**	**-3.9**
UGL	**Uglegorsk**	**8.18**	**290**	*e*P		**Pn**	**15 36 13.0**	**+3.8**
UGL					AMB	AMB	15 36 16.0	
	comp=N,154nm,0.8s							
UGL					AMB	AMB	15 36 16.0	
	comp=N,36nm,0.8s							
UGL					AMB	AMB	15 36 16.0	
	comp=N,516nm,0.8s							
UGL					AMB	AMB	15 36 18.0	
	comp=N,3μm,4.0s							
UGL					AMB	AMB	15 36 18.0	
	comp=N,2μm,4.0s							
UGL					AMB	AMB	15 36 18.0	
	comp=N,4μm,4.0s							
UGL				A			15 37 54.5	
	comp=N,458nm,0.8s							
UGL				A			15 37 54.5	
	comp=N,224nm,1.0s							
UGL					AMS	AMS	15 39 33.0	
	comp=N,95μm,15.0s							
UGL					AMS	AMS	15 39 33.0	
	comp=N,28μm,13.0s							
UGL					AMS	AMS	15 39 33.0	
	comp=N,30μm,15.0s							
JKK2	**Kamakawa 2**	**8.30**	**253**	P		**Pn**	**15 36 12.7**	**+1.8**
ASAJ	**Asahikawa**	**8.30**	**255**	Pn		**Pn**	**15 36 13.2**	**+2.3**
	comp=N,34nm,0.3s,baz=93,slow=13,SNR=203							
ASAJ					LR	LR	15 39 12.0	
	comp=N,8μm,20.8s,baz=69,slow=37							
ASAJ	**Asahikawa**	**8.30**	**255**	P		**Pn**	**15 36 13.2**	**+2.3**
ASAJ	**Asahikawa**	**8.30**	**255**	PN		**Pn**	**15 36 13.3**	**+2.4**
ASAJ					pmax	pmax		
	comp=Z,35nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,8μm,20.8s							
TYV	**Tymovskoe**	**8.38**	**303**	*e*P		**Pn**	**15 36 14.8**	**+2.9**
TYV					AMB	AMB	15 36 25.2	
	comp=Z,276nm,0.5s							
TYV					AMB	AMB	15 36 26.0	
	comp=Z,3μm,10.0s							
TYV					AMB	AMB	15 36 26.0	
	comp=Z,3μm,10.0s							
TYV					AMB	AMB	15 36 26.0	
	comp=Z,5μm,10.0s							
TYV				A			15 37 59.0	
	comp=Z,147nm,0.8s							
TYV				A			15 38 07.0	
	comp=Z,2μm,4.0s							
TYV				A			15 38 07.0	
	comp=Z,2μm,6.0s							
TYV					AMS	AMS	15 39 48.0	
	comp=Z,18μm,18.0s							
TYV					AMS	AMS	15 39 48.0	
	comp=Z,41μm,16.0s							
TYV					AMS	AMS	15 39 48.0	
	comp=Z,41μm,14.0s							
JWK2	**Keihoku**	**8.39**	**264**	P		**Pn**	**15 36 17.5**	**+5.3**
JCH	**Churui**	**8.52**	**244**	P		**Pn**	**15 36 12.7**	**-1.1**
JCH				*e*S		**Sn**	**15 37 45.0**	**-4.4**
JFR	**Furan**	**8.72**	**249**	P		**Pn**	**15 36 17.1**	**+0.5**
JAB	**Ashibetsu**	**8.80**	**252**	P		**Pn**	**15 36 19.6**	**+1.8**
ERM	**Erimo**	**8.98**	**242**	Pn		**Pn**	**15 36 20.2**	**0.0**
	comp=Z,2μm,0.4s,SNR=59							
ERM	**Erimo**	**8.98**	**242**	*d i*PN		**Pn**	**15 36 19.9**	**-0.3**
ERM	**Erimo**	**8.98**	**242**	*e*Pn		**Pn**	**15 36 19.9**	**-0.3**
	comp=Z,769nm,0.8s							
ERM				*e*Sn		**Sn**	**15 37 54.2**	**-6.6**
JBT2	**Biratori 2**	**9.06**	**248**	P		**Pn**	**15 36 20.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**9.08**	**244**	P		**Pn**	**15 36 19.6**	**-1.9**
JEW	**Eniwo**	**9.61**	**250**	P		**Pn**	**15 36 29.9**	**+1.0**
OKH	**Okha**	**9.68**	**318**	*e*P		**Pn**	**15 36 30.0**	**+0.2**
OKH				*e*P			15 36 32.2	
OKH					AMB	AMB	15 36 34.2	
	comp=Z,10μm,9.0s							
OKH				*e*S		**Sn**	**15 38 20.0**	**+2.0**
OKH				A			15 38 33.8	
	comp=Z,5μm,10.0s							
OKH				A			15 38 33.8	
	comp=Z,8μm,8.0s							
OKH				*e*LQ			15 39 22.1	
OKH					AMS	AMS	15 40 56.0	
	comp=Z,19μm,15.0s							
OKH					AMS	AMS	15 40 56.0	
	comp=Z,30μm,14.0s							
OKH					AMS	AMS	15 40 56.0	
	comp=Z,28μm,16.0s							
OKH	**Okha**	**9.68**	**318**	*e*PN		**Pn**	**15 36 32.2**	**+2.4**
OKH					pmax	pmax		
	comp=Z,10μm,9.0s							
JSK	**Shakotan**	**10.02**	**255**	P		**Pn**	**15 36 35.1**	**+0.7**
JNB	**Noboribetsu**	**10.06**	**249**	P		**Pn**	**15 36 34.1**	**-0.9**
JNB				*e*S		**Sn**	**15 38 23.2**	**-4.1**
JKB	**Kayabe**	**10.36**	**246**	P		**Pn**	**15 36 37.1**	**-2.1**
JKB				*e*S		**Sn**	**15 38 28.8**	**-6.0**
NKL	**Nikolayevsk**	**10.54**	**312**	*i* P		**Pn**	**15 36 41.0**	**-0.6**
NKL					AMB	AMB	15 36 45.2	
	comp=Z,110nm,1.0s							
NKL					AMB	AMB	15 36 45.2	
	comp=Z,130nm,1.0s							
NKL					AMB	AMB	15 36 45.2	
	comp=Z,220nm,1.0s							
NKL					AMB	AMB	15 36 48.0	
	comp=Z,4μm,9.0s							
NKL					AMB	AMB	15 36 48.0	
	comp=Z,5μm,9.0s							
NKL				A			15 38 52.0	
	comp=Z,2μm,8.0s							
NKL				*e*L			15 39 50.0	
NKL					AMS	AMS	15 41 49.0	
	comp=Z,13μm,15.0s							
NKL					AMS	AMS	15 41 49.0	
	comp=Z,14μm,15.0s							
NKL					AMS	AMS	15 41 49.0	
	comp=Z,25μm,15.0s							
JSH	**Shimam**	**10.62**	**252**	P		**Pn**	**15 36 43.5**	**+0.9**
JYM2	**Yakumo 2**	**10.66**	**249**	P		**Pn**	**15 36 42.1**	**-1.2**
JSR	**Shiriuchi**	**10.94**	**246**	P		**Pn**	**15 36 44.6**	**-2.5**
JSR				*e*S		**Sn**	**15 38 42.3**	**-6.7**
JANG	**Nango**	**10.97**	**238**	P		**Pn**	**15 36 42.9**	**-4.5**
JANG				*e*S		**Sn**	**15 38 38.5**	**-11**
JTM	**Tenmabayashi**	**10.97**	**241**	P		**Pn**	**15 36 44.4**	**-3.1**
JTM				*e*S		**Sn**	**15 38 40.8**	**-8.9**
JTH	**Tanohata**	**11.05**	**236**	*e*S		**Sn**	**15 38 39.8**	**-12**
JOSM	**Okushiri--Mats**	**11.26**	**250**	P		**Pn**	**15 36 49.9**	**-1.5**
OFUJ	**Ofunato**	**11.75**	**233**	*e*S		**Sn**	**15 38 53.8**	**-15**
TEY	**Ternei**	**12.09**	**268**	*e*P		**Pn**	**15 37 03.0**	**+0.2**
TEY					AMB	AMB	15 37 05.0	
	comp=Z,120nm,1.0s							
TEY					AMB	AMB	15 37 19.0	
	comp=Z,4μm,8.0s							
TEY					AMB	AMB	15 37 19.0	
	comp=Z,5μm,9.0s							
TEY				*e*LR		LR	15 40 34.0	
TEY					AMS	AMS	15 42 10.0	
	comp=Z,5μm,16.0s							
TEY					AMS	AMS	15 42 10.0	
	comp=Z,12μm,14.0s							
TEY					AMS	AMS	15 42 10.0	
	comp=Z,20μm,15.0s							
JIO	**Ouri**	**12.37**	**232**	*e*S		**Sn**	**15 39 09.2**	**-15**
HABR	**Khabarovsk**	**12.73**	**284**	⇑*i*PN		**Pn**	**15 37 15.6**	**+4.0**
HABR				*e*S		**Sn**	**15 39 39.9**	**+7.1**
HABR					pmax	pmax		
	comp=Z,311nm,2.5s							
MA2	**Magadan**	**12.91**	**353**	*c i*PN		**Pn**	**15 37 13.7**	**-0.3**
MA2					pmax	pmax		
	comp=Z,50nm,0.6s							
MA2					pmax	pmax		
	comp=N,20nm,0.5s							
MA2					MLR	MLR		
	comp=Z,11μm,16.0s							
MA2	**Magadan**	**12.91**	**353**	*e*Pn		**Pn**	**15 37 15.3**	**+1.3**
KLR	**Kul'dur**	**14.93**	**287**	*e*P		**Pn**	**15 37 41.7**	**+0.2**
KLR				*e*S		**Sn**	**15 40 30.0**	**+3.7**
KLR					pmax	pmax		
	comp=E,300nm,2.2s							
KLR					pmax	pmax		
	comp=Z,230nm,2.2s							
KLR					pmax	pmax		
	comp=N,2μm,10.0s							
KLR					pmax	pmax		
	comp=E,3μm,10.0s							
KLR					pmax	pmax		
	comp=Z,8μm,10.0s							
KLR					smax			
	comp=N,6μm,11.0s							
KLR					smax			
	comp=E,2μm,11.0s							
KLR					MLR	MLR		
	comp=Z,32μm,13.0s							
MAJO	**Matsushiro**	**15.48**	**234**	*e*Pn		**Pn**	**15 37 45.5**	**-3.3**
	comp=Z,123nm,0.8s							
MAT	**Matsushiro**	**15.48**	**234**	P		**Pn**	**15 37 44.8**	**-4.0**
MAT				S		**Sn**	**15 40 41.0**	**+1.2**
MJAR	**Matsushiro Arr**	**15.48**	**234**	Pn		**Pn**	**15 37 46.9**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=49							
MJAR	**Matsushiro Arr**	**15.48**	**234**	P		**Pn**	**15 37 46.9**	**-1.9**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
VLA	**Vladivostok**	**15.91**	**265**	*e*P		**Pn**	**15 37 52.7**	**-1.6**
VLA				*e*			15 40 56.5	
VLA					pmax	pmax		
	comp=Z,133nm,0.8s							
VLA					MLR	MLR		
	comp=Z,7μm,14.2s							
VLA	**Vladivostok**	**15.91**	**265**	*i* P		**Pn**	**15 37 54.1**	**-0.2**
SEY	**Seymchan**	**16.18**	**358**	⇓*e*P		**Pn**	**15 37 56.1**	**-1.7**
SEY	**Seymchan**	**16.18**	**358**	⇓*e*P		**Pn**	**15 37 56.2**	**-1.6**
MDJ	**Mudanjiang**	**17.01**	**271**	P		**Pn**	**15 38 07.3**	**-1.1**
MDJ					AP	pP	15 38 12.0	-3.5
MDJ					XP	sP	15 38 13.5	-4.4
MDJ					S	**Sn**	**15 41 16.8**	**-0.2**
MDJ					SCP	ScP	15 46 27.9	+0.4
MDJ					PCS	PcS	15 46 29.3	-0.4
MDJ					AMB	AMB		
	comp=Z,71nm,1.4s							
MDJ					AMB	AMB		
	comp=Z,869nm,9.2s							
MDJ					LR	LR		
	comp=N,3μm,14.6s							
MDJ					LR	LR		
	comp=E,8μm,16.2s							
MDJ					LR	LR		
	comp=Z,12μm,16.2s							
MDJ	**Mudanjiang**	**17.01**	**271**	*e*Pn		**Pn**	**15 38 07.1**	**-1.3**
	comp=Z,123nm,0.8s							
ZEA	**Zeya**	**18.24**	**302**	⇑*e*P		**Pn**	**15 38 20.5**	**-3.1**
ZEA				⇑*e*P			15 38 20.5	
ZEA					AMB	AMB	15 38 26.0	
	comp=Z,3μm,5.0s							
ZEA					AMB	AMB	15 38 26.0	
	comp=Z,1μm,5.0s							
ZEA					AMB	AMB	15 38 26.0	
	comp=Z,3μm,6.0s							
ZEA					AMB	AMB	15 38 27.0	
	comp=Z,73nm,0.8s							
ZEA					AMB	AMB	15 38 27.0	
	comp=Z,86nm,0.9s							
ZEA				*e*S		**Sn**	**15 41 47.5**	**+0.8**
ZEA				A			15 41 53.0	
	comp=Z,2μm,9.0s							

ZEA A 15 41 53.0
comp=Z,2μm,9.0s
CN2 Changchun 20.10 272 ⇑P **P** **15 38 41.3 -2.8**
CN2 *e*XP sP 15 38 48.0 -3.9
CN2 *e*S **S** **15 42 20.4 -8.7**
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,10μm,16.0s,MS5.4
CN2 LR LR
comp=E,8μm,16.0s,MS5.4
CN2 LR LR
comp=Z,10μm,16.0s,MS5.3
CLNS Chul'man 20.32 310 *d* *i*P **P** **15 38 48.2 +1.7**
CLNS *e* 15 39 00.7
CLNS *e*PPP 15 39 21.5
CLNS *e* 15 42 55.2
CLNS *e*SS 15 43 13.8
CLNS pmax pmax
comp=Z,229nm,0.7s
CLNS pmax pmax
comp=N,104nm,0.8s
CLNS pmax pmax
comp=E,59nm,0.6s
CLNS MLR MLR
comp=Z,21μm,14.0s,MS5.7
CLNS MLR MLR
comp=N,3μm,13.0s,MS5.5
CLNS MLR MLR
comp=E,14μm,12.0s,MS5.5
NRGR Nerungri 20.36 310 *e*P **P** **15 38 48.5 +1.6**
NRGR S **S** **15 42 22.7 -12**
NRGR smax
comp=N,13nm,0.3s
YAK Yakutsk 20.52 327 *e*P **P** **15 38 48.4 -0.2**
YAK *e* 15 39 03.3
YAK *e*S **S** **15 42 25.2 -12**
YAK *e* 15 43 09.9
YAK pmax pmax
comp=Z,115nm,0.8s
YAK pmax pmax
comp=N,75nm,1.4s
YAK pmax pmax
comp=E,80nm,1.4s
YAK smax
comp=N,671nm,2.8s
YAK smax
comp=E,746nm,2.8s
YAK MLR MLR
comp=Z,5μm,17.0s,MS5.0
YAK MLR MLR
comp=N,4μm,15.0s,MS5.0
YAK MLR MLR
comp=E,3μm,16.0s,MS5.0
YAK Yakutsk 20.52 327 *e*P **P** **15 38 47.6 -1.0**
comp=E,177nm,0.6s
YAK LR LR
comp=Z,6μm,19.0s,MS5.0
KSRS Korea Array 21.25 253 P **P** **15 38 57.1 +0.6**
comp=Z,91nm,0.9s,mb5.1,baz=58,slow=9.6,SNR=147
KSRS PcP PcP 15 43 01.4 +0.3
comp=Z,6.1nm,0.8s,baz=341,slow=0.7,SNR=6.4
KSRS LR LR 15 48 21.6
comp=Z,3μm,18.2s,MS4.7,baz=172,slow=40
KS15 Wonju Array Si 21.28 253 *e*Pn **P** **15 38 57.9 +1.0**
CBIJ Chichi jima 21.70 209 P **P** **15 39 01.2 -0.1**
comp=Z,201nm,0.9s,mb5.5,baz=307,slow=21,SNR=4.5
CBIJ LR LR 15 46 17.6
comp=Z,902nm,20.3s,MS4.2,baz=334,slow=34
INCN Inchon 22.08 255 ⇑P **P** **15 39 06.5 +1.0**
SNR=5.4
INCN Inchon 22.08 255 *e*P **P** **15 39 05.7 +0.2**
comp=Z,176nm,0.9s,mb5.5
INCN LR LR
comp=Z,2μm,19.0s,MS4.4
SNY Shenyang 22.09 268 ⇑P **P** **15 39 04.1 -1.5**
SNY AP 15 39 08.8
SNY XP sP 15 39 11.5 -1.9
SNY S **S** **15 43 05.6 -2.7**
SNY XS sS 15 43 11.4 -5.6
SNY SS 15 43 46.3
SNY AMB AMB
comp=Z,156nm,0.6s,mb5.6
SNY AMB AMB
comp=Z,1μm,11.6s
SNY LR LR
comp=N,7μm,14.4s,MS5.3
SNY LR LR
comp=E,4μm,11.6s,MS5.3
SNY LR LR
comp=Z,7μm,14.9s,MS5.2
JNU Nakatsue 22.14 240 P **P** **15 39 07.6 +1.5**
comp=Z,73nm,0.8s,mb5.2,baz=274,slow=25,SNR=7.9
JNU LR LR 15 46 58.6
comp=Z,9μm,18.7s,MS5.2,baz=83,slow=35
BILL Bilibino 22.23 12 ⇑*e*P **P** **15 39 06.6 -0.5**
BILL *e* 15 39 27.0
BILL pmax pmax
comp=Z,166nm,1.0s,mb5.4
BILL MLR MLR
comp=Z,5μm,15.0s,MS5.1
BILL Bilibino 22.23 12 *e*P **P** **15 39 06.3 -0.8**
comp=Z,151nm,0.9s,mb5.4
BILL LR LR
comp=Z,4μm,19.0s,MS4.9
HIA Hailar 22.77 289 *e*P **P** **15 39 09.4 -3.4**
HIA pmax pmax
comp=Z,44nm,0.8s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 22.77 289 *e*P **P** **15 39 09.4 -3.4**
comp=Z,44nm,0.8s,mb4.9
HIA LR LR
comp=Z,4μm,20.0s,MS4.8
DL2 Dalian 24.72 263 ⇑*i*P **P** **15 39 33.3 +1.7**
DL2 S **S** **15 43 54.1 +1.5**
DL2 AMB AMB
comp=Z,110nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,450nm,4.2s
DL2 LR LR
comp=N,2μm,14.9s,MS4.9
DL2 LR LR
comp=E,2μm,14.0s,MS4.9
DL2 LR LR
comp=Z,2μm,13.5s,MS4.7
UNV Unalaska Valle 26.04 60 PFAKE 15 39 50.0 +6.4
UNV LR LR
comp=Z,8μm,20.0s,MS5.2
BOD Bodaibo 26.30 309 *e*P **P** **15 39 43.6 -2.3**
BOD pmax pmax
comp=Z,66nm,1.4s,mb5.0
CIT Chita 26.42 296 *e*P **P** **15 39 45.6 -1.4**
CIT *e* 15 40 38.9
CIT pmax pmax
comp=Z,79nm,1.5s,mb5.0
TIXI Tiksi 27.54 343 *e*P **P** **15 39 51.3 -5.8**
TIXI *e*S **S** **15 44 31.5 -5.7**
TIXI pmax pmax
comp=Z,23nm,0.7s,mb4.9
TIXI MLR MLR
comp=Z,8μm,17.0s,MS5.4
TIXI Tiksi 27.54 343 ⇑*e*P **P** **15 39 53.4 -3.7**
comp=Z,28nm,0.7s,mb5.0
TNA Tin City 27.73 34 *e*P **P** **15 39 57.7 -1.1**
comp=Z,56nm,1.0s,mb5.2
BJI Beijing 27.93 270 P **P** **15 40 01.5 +0.9**
BJI S **S** **15 44 48.4 +5.0**
BJI AMB AMB
comp=Z,38nm,1.2s,mb4.9
BJI LR LR
comp=N,7μm,17.6s,MS5.4
BJI LR LR
comp=E,7μm,18.3s,MS5.4
BJI LR LR
comp=Z,5μm,18.8s,MS5.1
BJI Beijing 27.93 270 P **P** **15 40 01.5 +0.9**
comp=Z,38nm,1.2s,mb4.9
BJI S **S** **15 44 48.4 +5.0**
BJI LR LR
comp=Z,5μm,18.8s,MS5.1
BJT Baijiatuau 27.94 270 *e*P **P** **15 40 00.7 0.0**
BJT pmax pmax
comp=Z,67nm,0.8s
BJT MLR MLR
comp=Z,5μm,19.0s
BJT Baijiatuau 27.94 270 *e*P **P** **15 40 00.7 0.0**
comp=Z,67nm,0.8s,mb5.3
BJT LR LR
comp=Z,5μm,19.0s,MS5.2
JOW Kunigami 28.32 234 P **P** **15 40 04.0 -0.1**
comp=Z,66nm,0.8s,mb5.3,baz=43,slow=7.0,SNR=17
TIA Tai'an 29.17 262 *e*P **P** **15 40 12.1 +0.5**
TIA S **S** **15 45 01.3 -1.6**
TIA AMB AMB
comp=Z,45nm,1.0s,mb5.2
TIA AMB AMB
comp=Z,338nm,4.0s
TIA LR LR
comp=N,1μm,11.9s,MS4.8
TIA LR LR
comp=E,1μm,13.1s,MS4.8
SSE Sheshan 29.54 250 P **P** **15 40 13.8 -1.1**
SSE AP pP 15 40 16.8 -3.9
SSE S **S** **15 45 09.0 +0.2**
SSE XS sS 15 45 14.3 -4.0
SSE AMB AMB
comp=Z,83nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,452nm,5.6s
SSE LR LR
comp=N,2μm,14.8s,MS5.1
SSE LR LR
comp=E,2μm,14.8s,MS5.1
SSE LR LR
comp=Z,3μm,14.9s,MS5.0
SSE Sheshan 29.54 250 P **P** **15 40 13.7 -1.2**
comp=Z,83nm,1.0s,mb5.4
SSE pP pP 15 40 16.8 -3.9
SSE S **S** **15 45 09.0 +0.2**
SSE sS sS 15 45 14.2 -4.1
SSE LR LR
comp=Z,3μm,14.9s,MS5.0
NJ2 Nanjing 30.45 254 *e*P **P** **15 40 24.0 +1.1**
NJ2 AP pP 15 40 28.9 +0.2
NJ2 XP sP 15 40 32.3 +1.3
NJ2 PP PP 15 41 23.9 -7.8
NJ2 S **S** **15 45 25.5 +2.5**
NJ2 XS sS 15 45 33.5 +1.0
NJ2 AMB AMB
comp=Z,140nm,0.9s,mb5.7
NJ2 AMB AMB
comp=Z,640nm,10.5s
NJ2 LR LR
comp=N,10μm,15.4s,MS5.7
NJ2 LR LR
comp=E,6μm,14.3s,MS5.7
NJ2 LR LR
comp=Z,8μm,13.8s,MS5.5
HHC Hu-ho-hao-te 30.74 274 ⇓*i*P **P** **15 40 25.8 +0.3**
HHC AP pP 15 40 30.3 -0.9
HHC XP sP 15 40 32.9 -0.7
HHC PP PP 15 41 26.6 -8.3
HHC PCP PcP 15 43 24.4 +1.5
HHC S **S** **15 45 26.5 -1.0**
HHC XS sS 15 45 34.8 -2.2
HHC SS SS 15 47 11.5 -27
HHC AMB AMB
comp=Z,111nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,377nm,6.4s
HHC LR LR
comp=N,7μm,15.1s,MS5.5
HHC LR LR
comp=E,5μm,14.3s,MS5.5
HHC LR LR
comp=Z,7μm,14.2s,MS5.4
ULN Ulaanbaatar 31.30 289 ⇓P **P** **15 40 29.0 -1.4**
SNR=14
ULN Ulaanbaatar 31.30 289 *e*P **P** **15 40 28.5 -2.0**
ULN pmax pmax
comp=Z,43nm,1.0s,mb5.2
ULN MLR MLR
comp=Z,5μm,20.0s,MS5.1
ULN Ulaanbaatar 31.30 289 *e*P **P** **15 40 28.4 -2.0**
comp=Z,43nm,1.0s,mb5.2
ULN LR LR
comp=Z,5μm,20.0s,MS5.1
SONM Songino Array 31.74 290 P **P** **15 40 33.8 -0.5**
comp=Z,7.6nm,0.8s,mb4.6,baz=68,slow=8.9,SNR=30
SONM PcP PcP 15 43 25.7 +0.2
comp=Z,6.9nm,1.0s,baz=64,slow=3.4,SNR=3.8
SONM LR LR 15 54 25.2
comp=Z,5μm,18.2s,MS5.3,baz=75,slow=38
BTO Baotou 31.90 275 *e*P **P** **15 40 35.1 -0.6**
BTO LR LR
comp=N,801nm,15.9s,MS4.7
BTO LR LR
comp=E,778nm,15.7s,MS4.7
IRK Irkutsk 32.06 298 *e*P **P** **15 40 35.8 -1.4**
IRK *e* 15 43 25.8
IRK *e* 15 48 03.8
IRK pmax pmax
comp=Z,46nm,1.5s,mb5.1
SVW2 Sparrevohn 32.13 45 *e*P **P** **15 40 37.9 +0.2**
TLY Talaya 32.55 297 P **P** **15 40 40.7 -0.7**
comp=Z,391nm,0.7s,mb6.5,SNR=12
TLY Talaya 32.55 297 P **P** **15 40 40.6 -0.8**
SNR=7.4
TLY Talaya 32.55 297 *e*P **P** **15 40 40.9 -0.5**
TLY *e*S **S** **15 45 59.7 +3.8**
TLY pmax pmax
comp=Z,47nm,0.7s,mb5.5
TLY MLR MLR
comp=Z,7μm,14.0s,MS5.5
TLY Talaya 32.55 297 *e*P **P** **15 40 40.7 -0.7**
comp=Z,58nm,0.8s,mb5.6
TLY LR LR
comp=Z,1μm,20.0s,MS4.7
ZAK Zakamensk 33.06 295 ⇑*i*P **P** **15 40 44.5 -1.4**
ZAK *e* 15 43 28.5
ZAK pmax pmax
comp=Z,24nm,1.0s,mb5.1
IMA2 Indian Mountai 33.49 36 *e*P **P** **15 40 49.1 -0.5**
TATO Taipei 33.67 241 PFAKE 15 41 00.0 +8.7
TATO LR LR
comp=Z,2μm,19.0s,MS4.9
KDAK Kodiak Island 33.71 51 P **P** **15 40 50.5 -1.1**
comp=Z,39nm,0.7s,mb5.5,baz=288,slow=5.0,SNR=46
KDAK Kodiak Island 33.71 51 *e*P **P** **15 40 49.5 -2.1**
comp=Z,53nm,0.8s,mb5.5
GUMO Guam 33.95 196 PFAKE 15 41 10.0 +16
GUMO LR LR
comp=Z,1μm,21.0s,MS4.6
MOY Mondy 34.17 298 *e*P **P** **15 40 55.1 -0.4**
MOY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
WHN Wuhan 34.38 256 ⇓P **P** **15 40 57.5 +0.1**
WHN S **S** **15 46 26.0 +1.7**
WHN AMB AMB
comp=Z,64nm,0.9s,mb5.5
WHN LR LR
comp=N,3μm,15.0s,MS5.3
WHN LR LR
comp=E,2μm,14.0s,MS5.3
SLKM Skilak Lake 34.76 46 *e*P **P** **15 40 59.2 -1.4**
PMR Palmer 35.24 44 *e*P **P** **15 41 03.8 -1.0**
comp=E,68nm,1.3s,mb5.4
PMR LR LR
comp=Z,2μm,20.0s,MS4.8
MCK McKinley 35.31 40 ⇓*e*P **P** **15 41 04.7 -0.7**
MCK pmax pmax
comp=Z,55nm,1.2s,mb5.4
MCK MLR MLR
comp=Z,864nm,19.0s,MS4.5
MCK McKinley 35.31 40 ⇓*e*P **P** **15 41 04.7 -0.8**
comp=Z,55nm,1.2s,mb5.4
MCK LR LR
comp=Z,864nm,19.0s,MS4.5
QZH Quanzhou 35.47 244 ⇑*i*P **P** **15 41 08.5 +1.8**
QZH AP pP 15 41 18.5 +6.0
QZH S **S** **15 46 44.3 +3.4**
QZH SCS ScS 15 51 27.3 +1.9
QZH AMB AMB
comp=Z,470nm,1.4s,mb6.2
QZH AMB AMB
comp=Z,1μm,5.9s
QZH LR LR
comp=N,2μm,8.6s
QZH LR LR
comp=E,3μm,12.4s
QZH LR LR
comp=Z,4μm,15.4s,MS5.2
SML Sawmill 35.61 44 ⇓*i*P **P** **15 41 07.3 -0.7**
COLA College 35.81 38 ⇓*e*P **P** **15 41 09.7 0.0**
COLA pmax pmax
comp=Z,113nm,1.0s,mb5.8
COLA MLR MLR
comp=Z,2μm,19.0s,MS4.9
COLA College 35.81 38 ⇓*e*P **P** **15 41 09.7 0.0**
comp=Z,113nm,1.0s,mb5.8
COLA LR LR
comp=Z,2μm,19.0s,MS4.9
XAN Xi'an 35.97 266 P **P** **15 41 10.9 -0.2**
XAN PP PP 15 42 30.9 -2.0
XAN S **S** **15 46 50.3 +1.6**
XAN AMB AMB
comp=Z,95nm,1.4s,mb5.5
XAN AMB AMB
comp=Z,385nm,11.4s
XAN LR LR
comp=N,2μm,14.5s,MS5.3
XAN LR LR
comp=E,3μm,15.1s,MS5.3
XAN LR LR
comp=Z,5μm,15.2s,MS5.4
DIV Divide 36.89 45 ⇓*i*P **P** **15 41 18.7 -0.2**
comp=Z,169nm,0.9s,mb5.9
EYAK Cordova Ski Ar 36.96 46 ⇑*e*P **P** **15 41 19.7 +0.2**
ENH Enshi 37.82 260 PFAKE 15 41 40.0 +13
ENH LR LR
comp=Z,2.0nm,21.0s
KRAR Krasnoyarsk 37.91 307 ⇓*e*P **P** **15 41 25.7 -1.9**
KRAR pmax pmax
comp=Z,26nm,0.7s,mb5.1
KRAR MLR MLR
comp=Z,6μm,15.0s,MS5.6
LZH Lanzhou 38.34 272 ⇑P **P** **15 41 31.3 +0.1**
LZH AP pP 15 41 34.5 -2.5
LZH XP sP 15 41 35.9 -3.4
LZH PP PP 15 43 01.8 +2.9
LZH S **S** **15 47 24.3 -0.4**
LZH XS sS 15 47 31.5 -2.8
LZH SS SS 15 50 02.4 -10
LZH AMB AMB
comp=Z,212nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,573nm,5.2s
LZH LR LR
comp=N,3μm,13.6s
LZH LR LR
comp=Z,6μm,17.1s,MS5.5
LZH Lanzhou 38.34 272 ⇑P **P** **15 41 31.2 0.0**
LZH 15 43 01.8
LZH PPP 15 43 24.3
LZH S **S** **15 47 24.2 -0.5**
LZH SS SS 15 50 02.4 -10
LZH pmax pmax
comp=Z,212nm,1.3s,mb5.7
LZH MLR MLR
comp=Z,6μm,17.1s,MS5.5
LZH Lanzhou 38.34 272 ⇑P **P** **15 41 31.2 0.0**
comp=Z,212nm,1.3s,mb5.7
LZH pP pP 15 41 34.5 -2.5
LZH sP sP 15 41 35.9 -3.4
LZH PP PP 15 43 01.8 +2.9
LZH PPP 15 43 24.3
LZH S **S** **15 47 24.2 -0.5**
LZH sS sS 15 47 31.5 -2.8
LZH SS SS 15 50 02.4 -10
LZH LR LR
comp=Z,6μm,17.1s,MS5.5
EGAK Eagle 38.67 38 *e*P **P** **15 41 33.3 -0.6**
comp=Z,100nm,1.1s,mb5.5
GTA Gaotai 39.41 279 P **P** **15 41 40.0 -0.1**
GTA AP pP 15 41 44.3 -1.6
GTA XP sP 15 41 47.1 -1.2
GTA PP PP 15 43 15.3 +4.7
GTA PCP PcP 15 43 49.3 +1.2
GTA S **S** **15 47 41.9 +1.1**
GTA XS sS 15 47 48.4 -2.0
GTA SS SS 15 50 27.3 -7.7
GTA SCS ScS 15 51 46.3 -1.4
GTA AMB AMB
comp=Z,15nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,533nm,7.2s
GTA LR LR
comp=N,4μm,14.8s,MS5.7
GTA LR LR
comp=E,6μm,13.7s,MS5.7
GTA LR LR
comp=Z,6μm,14.4s,MS5.6
DAWY Dawson 39.51 39 *e*P **P** **15 41 41.1 +0.2**
CD2 Chengdu 41.33 266 ⇑*i*P **P** **15 41 56.3 +0.2**
CD2 AP pP 15 42 00.8 -1.1
CD2 XP sP 15 42 03.4 -0.9
CD2 PP PP 15 43 34.8 +3.2
CD2 PCP PcP 15 43 55.9 +1.6
CD2 AMB AMB
comp=Z,170nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,1μm,5.8s
CD2 LR LR
comp=N,4μm,14.8s,MS5.5
CD2 LR LR
comp=E,3μm,14.3s,MS5.5
CD2 LR LR
comp=Z,3μm,14.4s,MS5.3
INK Inuvik 41.36 32 P **P** **15 41 56.5 +0.2**
comp=Z,18nm,0.6s,mb4.8,baz=280,slow=7.1,SNR=60
INK Inuvik 41.36 32 P **P** **15 41 56.5 +0.2**
INK pmax pmax
comp=Z,18nm,0.6s
GYA Guiyang 42.17 258 ⇑*i*P **P** **15 42 02.3 -0.6**
GYA AP pP 15 42 06.8 -2.0
GYA XP sP 15 42 08.4 -2.7
GYA PP PP 15 43 43.8 +3.2
GYA PCP PcP 15 43 58.9 +1.9
GYA SCP ScP 15 47 48.0 +1.4
GYA S **S** **15 48 18.8 -3.1**
GYA SS SS 15 51 22.9 -7.0
GYA SCS ScS 15 52 04.0 -0.3
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,530nm,6.0s
GYA LR LR
comp=N,3μm,16.1s,MS5.3
GYA LR LR
comp=E,2μm,16.2s,MS5.3
GYA LR LR
comp=Z,2μm,17.1s,MS5.1
SKAG Skagway 42.30 46 *e*P **P** **15 42 04.2 +0.2**
comp=Z,208nm,1.8s,mb5.5
TGY Tagaytay City 42.62 231 P **P** **15 42 06.9 +0.3**
comp=Z,51nm,0.3s,baz=66,slow=8.3,SNR=5.4
TGY Tagaytay City 42.62 231 P **P** **15 42 06.9 +0.4**
TGY pmax pmax
comp=Z,51nm,0.3s
ZAL Zalesovo 42.96 306 P **P** **15 42 07.8 -1.5**
comp=Z,17nm,0.7s,mb4.9,baz=46,slow=8.2,SNR=66
ZAL PcP PcP 15 43 59.3 -0.4
comp=Z,5.9nm,0.7s,baz=28,slow=8.0,SNR=3.2
ZAL LR LR 16 01 19.9
comp=Z,3μm,19.2s,MS5.2,baz=40,slow=38
ZAL Zalesovo 42.96 306 P **P** **15 42 07.9 -1.4**
ZAL 15 43 59.3
ZAL pmax pmax
comp=Z,17nm,0.7s
ZAL MLR MLR
comp=Z,3μm,19.2s
SIT Sitka 42.99 49 *e*P **P** **15 42 09.7 +0.1**
SIT *e*P 15 42 11.4
SIT LR LR
comp=Z,2μm,20.0s,MS5.0
NVS Novosibirsk 43.51 308 ⇑*i*P **P** **15 42 11.2 -2.6**
NVS *e* 15 44 03.0
NVS *e*S **S** **15 48 36.5 -5.1**
NVS *e*SSS 15 52 07.8
NVS pmax pmax
comp=E,134nm,2.2s
NVS pmax pmax
comp=Z,144nm,2.2s,mb5.3
NVS smax
comp=N,55nm,2.5s
WRAK Wrangell Islan 44.75 49 *e*P **P** **15 42 24.3 +0.6**

comp=N,53nm,0.9s,mb5.4
DLBC Dease Lake 45.23 46 *e*P **P** **15 42 29.1 +1.6**
QIZ Qiongzhong 45.29 247 P **P** **15 42 30.0 +2.0**
QIZ XP sP 15 42 39.9 +3.7
QIZ S **S** **15 49 13.4 +5.9**
QIZ XS sS 15 49 18.1 +0.9
QIZ SS SS 15 52 27.0 -3.8
QIZ AMB AMB
comp=Z,31nm,1.3s,mb5.0
QIZ AMB AMB
comp=Z,284nm,7.5s
QIZ LR LR
comp=N,1µm,17.0s,MS5.2
QIZ LR LR
comp=E,2µm,16.7s,MS5.2
QIZ LR LR
comp=Z,2µm,15.6s,MS5.1
QIZ Qiongzhong 45.29 247 *e*P **P** **15 42 29.0 +1.0**
comp=Z,44nm,1.1s,mb5.2
QIZ LR LR
comp=Z,1µm,19.0s,MS4.8
WMQ Urumqi 45.32 291 ⇓P **P** **15 42 28.4 +0.1**
WMQ AP pP 15 42 32.9 -1.3
WMQ XP sP 15 42 35.4 -1.1
WMQ PCP PcP 15 44 09.3 +1.6
WMQ PP PP 15 44 14.8 +0.4
WMQ AMB AMB
comp=Z,62nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,581nm,5.4s
WMQ LR LR
comp=N,3µm,18.7s,MS5.3
WMQ LR LR
comp=E,1µm,17.6s,MS5.3
WMQ LR LR
comp=Z,4µm,15.8s,MS5.5
KMI Kunming 45.70 260 P **P** **15 42 32.3 +1.1**
KMI AP pP 15 42 34.9 -2.2
KMI XP sP 15 42 36.1 -3.4
KMI PCP PcP 15 44 10.8 +1.8
KMI PP PP 15 44 19.3 +1.0
KMI SCP ScP 15 48 02.4 +1.4
KMI PCS PcS 15 48 03.6 +0.4
KMI S **S** **15 49 13.5 +0.1**
KMI SCS ScS 15 52 25.9 -0.6
KMI SS SS 15 52 28.8 -8.9
KMI AMB AMB
comp=Z,29nm,1.2s,mb5.1
KMI LR LR
comp=N,2µm,15.3s,MS5.3
KMI LR LR
comp=E,2µm,15.3s,MS5.3
KMI LR LR
comp=Z,1µm,16.9s,MS5.0
KMI Kunming 45.70 260 P **P** **15 42 32.2 +1.0**
comp=Z,29nm,1.2s,mb5.1
KMI pP pP 15 42 34.9 -2.2
KMI sP sP 15 42 36.1 -3.4
KMI PcP PcP 15 44 10.8 +1.8
KMI PP PP 15 44 19.2 +0.9
KMI PPP 15 45 01.3
KMI ScP ScP 15 48 02.4 +1.4
KMI PcS PcS 15 48 03.6 +0.4
KMI S **S** **15 49 13.5 +0.1**
KMI sS sS 15 49 18.6 -4.5
KMI ScS ScS 15 52 25.9 -0.6
KMI SS SS 15 52 28.8 -8.9
KMI SSS 15 53 30.2
KMI LR LR
comp=Z,1µm,16.9s,MS5.0
KIP Kipapa 46.34 106 *e*P **P** **15 42 36.6 +0.3**
DAV Davao City (W) 46.39 220 P **P** **15 42 37.1 +0.4**
DAV LR LR
comp=Z,860nm,19.0s,MS4.7
MK31 Makanchi Array 47.31 298 *i* P **P** **15 42 42.3 -1.6**
MK31 pmax pmax
comp=Z,86nm,0.8s,mb5.7
MKAR Makanchi Array 47.31 298 P **P** **15 42 42.5 -1.4**
comp=Z,42nm,0.7s,mb5.5,baz=69,slow=7.9,SNR=145
MKAR LR LR 16 03 46.5
comp=Z,6µm,18.5s,MS5.6,baz=62,slow=38
MKAR Makanchi Array 47.31 298 *i* P **P** **15 42 42.3 -1.6**
MKAR pmax pmax
comp=Z,73nm,0.9s
KURK Kurchatov 47.71 304 P **P** **15 42 45.1 -1.9**
comp=Z,1µm,0.7s,SNR=10
KURK Kurchatov 47.71 304 P **P** **15 42 45.0 -2.0**
KURK pmax pmax
comp=Z,44nm,0.7s,mb5.6
KURK Kurchatov 47.71 304 *i* P **P** **15 42 45.0 -2.0**
POHA Pohakuloa 49.16 106 PFAKE 15 43 10.0 +12
POHA LR LR
comp=Z,2µm,20.0s,MS5.0
ALE Alert 49.64 6 P **P** **15 43 01.0 -0.8**
comp=Z,846nm,0.8s,SNR=59
YKW3 Yellowknife Ar 50.57 37 *e*P **P** **15 43 08.9 0.0**
YKA Yellowknife Ar 50.60 37 P **P** **15 43 09.1 -0.1**
comp=Z,30nm,0.8s,mb5.3,baz=297,slow=7.3,SNR=69
YKA PcP PcP 15 44 26.4 -0.2
comp=Z,9.1nm,0.8s,baz=300,slow=3.5,SNR=7.1
YKA LR LR 16 08 15.2
comp=Z,716nm,18.9s,MS4.7,baz=180,slow=40
YKA Yellowknife Ar 50.60 37 *i* P **P** **15 43 09.1 -0.1**
YKA pmax pmax
comp=Z,30nm,0.8s
YKA Yellowknife Ar 50.60 37 P **P** **15 43 09.1 -0.1**
YKA PcP PcP 15 44 26.4 -0.2
YKA LR LR 16 08 15.2
RES Resolute Bay 50.63 19 *e*P **P** **15 43 09.1 -0.3**
comp=Z,2µm,0.9s
LSA Lhasa 50.72 274 P **P** **15 43 11.8 +1.8**
LSA AP pP 15 43 21.0 +5.0
LSA XP sP 15 43 24.0 +5.7
LSA PCP PcP 15 44 31.4 +4.3
LSA PP PP 15 45 06.3 +0.2
LSA SCP ScP 15 48 24.3 +2.1
LSA S **S** **15 50 15.6 -8.8**
LSA SCS ScS 15 53 00.1 +0.1
LSA SS SS 15 53 54.1 -4.8
LSA AMB AMB
comp=Z,220nm,0.8s,mb6.1
LSA AMB AMB
comp=Z,410nm,5.2s
LSA LR LR
comp=N,1µm,14.7s,MS5.2
LSA LR LR
comp=E,2µm,16.1s,MS5.2
LSA LR LR
comp=Z,2µm,16.1s,MS5.3
LSA Lhasa 50.72 274⇑ *i*P **P** **15 43 11.8 +1.8**
LSA pmax pmax
comp=Z,168nm,0.8s,mb6.0
LSA MLR MLR
comp=Z,2µm,19.0s,MS5.1
LSA Lhasa 50.72 274⇑ *i*P **P** **15 43 11.8 +1.8**
comp=Z,168nm,0.8s,mb6.0
LSA LR LR
comp=Z,2µm,19.0s,MS5.1
CHKZ Chkalovo 50.74 310⇑ *i*P **P** **15 43 07.6 -2.6**
CHKZ pmax pmax
comp=Z,84nm,0.8s,mb5.7
CHKZ Chkalovo 50.74 310⇑ *i*P **P** **15 43 07.6 -2.5**
comp=Z,84nm,0.8s,mb5.7
VOSK Vostochnaya 51.00 309 P **P** **15 43 09.9 -2.2**
VOSK pmax pmax
comp=Z,34nm,0.8s,mb5.3
BVA0 Borovoye Array 51.17 310 *i* P **P** **15 43 11.3 -2.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 51.17 310 P **P** **15 43 12.0 -1.4**
comp=Z,33nm,0.8s,mb5.3,baz=57,slow=8.0,SNR=62
BVAR Borovoye Array 51.17 310 P **P** **15 43 12.0 -1.4**
BVAR pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 51.21 310 P **P** **15 43 12.9 -0.8**
comp=Z,371nm,0.7s,mb6.4,SNR=15
BRVK Borovoye 51.21 310 P **P** **15 43 12.7 -1.0**
SNR=13
BRVK Borovoye 51.21 310 P **P** **15 43 11.4 -2.3**
BRVK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BRVK Borovoye 51.21 310⇑ *i*P **P** **15 43 11.5 -2.2**
comp=Z,52nm,0.8s,mb5.5
BRVK LR LR
comp=Z,1µm,19.0s,MS5.0
NANT Nan 51.41 256⇑P **P** **15 43 15.0 -0.2**
comp=Z,521nm,1.0s,mb6.4
KKTK Khon Kaen 51.78 252 P **P** **15 43 19.0 +1.0**
comp=Z,432nm,0.8s,mb6.4
KKM Kota Kinabalu 51.86 230 P **P** **15 43 14.9 -3.7**
IMP Imphal 51.93 267 *e*P **P** **15 43 19.0 -0.1**
KBS Kingsbay 52.51 351 *e*P **P** **15 43 26.3 +2.9**
KBS *e*S **S** **15 50 49.9 +0.9**
CHG Chiang Mai 52.57 257⇑P **P** **15 43 24.8 +0.9**
comp=Z,62nm,0.9s,mb5.5
CHTO Chiang Mai 52.57 257 ⇓P **P** **15 43 25.1 +1.3**
SNR=34
CHTO Chiang Mai 52.57 257⇑ *e*P **P** **15 43 24.7 +0.8**
CHTO pmax pmax
comp=Z,49nm,0.9s,mb5.4
CHTO Chiang Mai 52.57 257⇑ *e*P **P** **15 43 24.6 +0.8**
comp=Z,49nm,0.9s,mb5.4
SHL Shillong 52.82 269⇑ *i*P **P** **15 43 27.0 +1.3**
CM31 Chiang Mai Arr 52.82 257 *e*P **P** **15 43 26.6 +0.9**
comp=Z,17nm,0.8s,mb5.0
CM31 LR LR
comp=Z,1µm,19.0s,MS5.0
B04A Port Angeles 53.32 56 ⇓P **P** **15 43 28.7 -0.7**
baz=53
ULHL Ulahol 53.35 295 P **P** **15 43 29.4 -0.2**
SNR=14
TKM2 Tokmak 2 53.38 296 P **P** **15 43 29.6 -0.2**
SNR=11
A04A Legoe Bay, Lum 53.42 55⇑P **P** **15 43 29.9 -0.2**
baz=53
A05A Maple Falls 53.63 54⇑P **P** **15 43 30.6 -1.0**
baz=53
C04A Brinnon 53.81 56⇑P **P** **15 43 32.7 -0.3**
baz=54
CHMS Chumysh 53.85 297 P **P** **15 43 32.7 -0.6**
SNR=26
USP Ospenovka 53.86 297 P **P** **15 43 32.9 -0.4**
SNR=39
A06A Chilliwack 53.91 54⇑P **P** **15 43 33.1 -0.6**
baz=54
KBK Karagaybulak 53.92 296 P **P** **15 43 33.3 -0.5**
SNR=17
GNW Green Mountain 53.97 56 *e*P **P** **15 43 35.0 +0.8**
FRU Bishkek 54.03 297 *e*P **P** **15 43 35.0 +0.4**
FRU MLR MLR
comp=N,5µm,17.0s,MS5.9
FRU MLR MLR
comp=E,7µm,17.0s,MS5.9
FRU MLR MLR
comp=Z,6µm,17.0s,MS5.7
NST Nakhon Sawan 54.03 253 P **P** **15 43 36.0 +1.4**
KZA Kyzart 54.05 296 P **P** **15 43 35.6 +0.9**
SNR=9.7
SVE Sverdlovsk 54.09 317⇑ *e*P **P** **15 43 33.0 -2.1**
SVE pmax pmax
comp=Z,130nm,1.0s,mb5.8
SVE MLR MLR
comp=N,2µm,16.0s,MS5.5
SVE MLR MLR
comp=E,2µm,16.0s,MS5.5
SVE MLR MLR
comp=Z,4µm,16.0s,MS5.6
JCW Jim Creek 54.14 55 P **P** **15 43 37.0 +1.6**
AAK Ala-Archa 54.21 297 P **P** **15 43 35.3 -0.6**
SNR=40
AAK Ala-Archa 54.21 297 P **P** **15 43 34.1 -1.8**
comp=Z,410nm,0.7s,mb6.5,SNR=26
AAK Ala-Archa 54.21 297 ⇓P **P** **15 43 34.7 -1.3**
SNR=40
AAK Ala-Archa 54.21 297*c* *i*P **P** **15 43 34.2 -1.7**
AAK pmax pmax
comp=Z,49nm,0.7s,mb5.5
AAK MLR MLR
comp=Z,5µm,16.0s,MS5.7
AAK Ala-Archa 54.21 297⇑ *e*P **P** **15 43 34.0 -1.9**
comp=Z,55nm,0.8s,mb5.5
AAK LR LR
comp=Z,935nm,20.0s,MS4.8
SOKR Solikamsk 54.33 322*c* *i*P **P** **15 43 35.2 -1.6**
SOKR S **S** **15 51 06.2 -7.6**
SOKR pmax pmax
comp=Z,50nm,0.8s,mb5.5
SOKR MLR MLR
comp=Z,4µm,18.0s,MS5.5
A07A Ashnola River, 54.55 54⇑P **P** **15 43 38.1 -0.2**
baz=54,SNR=18
C05A Tolt Reservoir 54.55 56⇑P **P** **15 43 38.1 -0.3**
baz=54,SNR=7.6
E04A Onalaska 54.56 57 ⇓P **P** **15 43 39.2 +0.8**
baz=54
EKS2 Erkin-Say 54.64 297 P **P** **15 43 38.6 -0.4**
SNR=33
D05A Enumclaw 54.65 56⇑P **P** **15 43 39.5 +0.4**
baz=54,SNR=5.7
G03A Yamhill 54.94 59⇑P **P** **15 43 41.5 +0.3**
baz=55
AML Almayashu 54.98 297 P **P** **15 43 42.0 +0.5**
SNR=14
B07A Winthrop 55.01 54⇑P **P** **15 43 41.6 -0.1**
baz=55,SNR=15
KSH Kashi 55.05 293 *e*P **P** **15 43 43.5 +1.5**
KSH *e*AP pP 15 43 48.0 0.0
KSH *e*XP sP 15 43 51.8 +1.5
KSH *e*PCP PcP 15 44 44.0 +0.6
KSH *i* PP PP 15 45 48.6 +3.4
KSH *e*SCP ScP 15 48 40.4 -0.6
KSH *e*PCS PcS 15 48 42.0 -1.3
KSH *e*S **S** **15 51 24.0 +0.6**
KSH *e*XS sS 15 51 32.3 -1.0
KSH *e*SCS ScS 15 53 28.3 -2.0
KSH *e*SS SS 15 55 08.6 +1.4
KSH AMB AMB
comp=Z,553nm,2.0s,mb6.2
KSH AMB AMB
comp=Z,2µm,4.0s
KSH LR LR
comp=N,633nm,4.8s
KSH LR LR
comp=E,787nm,5.3s
KSH LR LR
comp=Z,2µm,10.0s,MS5.5
F04A Amboy 55.10 58⇑P **P** **15 43 42.4 +0.1**
baz=55
NLW Nelson Butte 55.10 55 P **P** **15 43 44.0 +1.6**
AAI Ambon 55.12 212 P **P** **15 43 41.9 -0.6**
A08A Turner Farm, O 55.21 53 P **P** **15 43 43.0 -0.1**
baz=55,SNR=27
BJO Bjornoya 55.22 347 AMS AMS 16 12 07.7
comp=Z,2µm,16.1s,MS5.2
ARU Arti 55.27 318 P **P** **15 43 42.8 -0.8**
comp=Z,802nm,0.8s,SNR=52
ARU Arti 55.27 318⇑ *i*P **P** **15 43 41.5 -2.1**
ARU *e* 15 44 37.2
ARU *e* 15 45 47.2
ARU *e*S **S** **15 51 23.9 -2.5**
ARU *e* 15 53 20.2
ARU *e*SSS 15 57 19.5
ARU pmax pmax
comp=Z,96nm,0.8s,mb5.9
ARU MLR MLR
comp=N,2µm,16.0s,MS5.4
ARU MLR MLR
comp=E,2µm,16.0s,MS5.4
ARU MLR MLR
comp=Z,3µm,16.0s,MS5.5
ARU Arti 55.27 318⇑ *e*P **P** **15 43 41.4 -2.2**
comp=Z,96nm,0.8s,mb5.9
ARU LR LR
comp=Z,746nm,19.0s,MS4.8
D06A Cle Elum 55.30 56 ⇓P **P** **15 43 43.4 -0.4**
baz=55,SNR=6.8
ETW Entiat 55.37 55 P **P** **15 43 46.0 +1.7**
JIRN Jiri 55.39 275⇑ *i*P **P** **15 43 45.8 +1.3**
comp=Z,428nm,0.8s,mb6.5
GUN Gumba 55.45 275⇑ *i*P **P** **15 43 45.8 +0.9**
comp=Z,153nm,0.7s,mb6.2
C07A Waterville 55.47 55 ⇓P **P** **15 43 44.5 -0.6**
baz=55,SNR=12
B08A Colville Reser 55.51 54⇑P **P** **15 43 45.1 -0.2**
baz=55,SNR=28
A09A Danville 55.58 53 P **P** **15 43 46.0 +0.2**
baz=55,SNR=39
E06A Yakima 55.59 56 ⇓P **P** **15 43 46.3 +0.4**
baz=55,SNR=8.4
EBG Ellensburg 55.62 56 P **P** **15 43 48.0 +1.9**
F05A White Salmon 55.68 57 ⇓P **P** **15 43 46.7 +0.2**
baz=56
D07A Quincy 55.80 55⇑P **P** **15 43 47.4 0.0**
baz=56,SNR=11
J02A Umpqua 55.85 61 ⇓P **P** **15 43 48.5 +0.7**
baz=56
KKN Kakani 55.93 276⇑ *i*P **P** **15 43 49.3 +1.0**
comp=Z,298nm,0.9s,mb6.3
H04A Detroit Lake 55.93 59⇑P **P** **15 43 48.4 +0.1**
baz=56,SNR=7.7
EDM Edmonton 55.95 46⇓ *e*P **P** **15 43 48.3 -0.2**
PKI Pulchoki 55.98 275⇑ *i*P **P** **15 43 49.6 +0.9**
comp=Z,253nm,1.0s,mb6.2
C08A Higginbotham F 55.99 54⇑P **P** **15 43 48.0 -0.7**
baz=56,SNR=12
PCI Palu 56.05 222 P **P** **15 43 47.8 -1.4**
BVW Beverly 56.06 56 P **P** **15 43 51.0 +1.7**
B09A Rice 56.12 53⇑P **P** **15 43 49.7 0.0**
baz=56,SNR=22
G05A Wamic 56.12 58⇑P **P** **15 43 50.0 +0.3**
baz=56
F06A Goldendale 56.14 57 ⇓P **P** **15 43 49.9 +0.1**
baz=56,SNR=6.5
DMN Daman 56.16 276⇑ *i*P **P** **15 43 51.3 +1.3**
comp=Z,608nm,1.0s,mb6.6
J03A Ideyld Park 56.22 61⇑P **P** **15 43 51.0 +0.6**
baz=56
E07A Sunnyside 56.22 56 ⇓P **P** **15 43 50.5 0.0**
baz=56,SNR=10
GKN Gorkha 56.23 276⇑ *i*P **P** **15 43 51.4 +0.9**
comp=Z,636nm,0.9s,mb6.7
K02A Glendale 56.25 61⇑P **P** **15 43 50.8 +0.2**
baz=56
HNR Honiara 56.26 173 LR LR 16 09 43.8
comp=Z,954nm,18.0s,MS4.9,baz=4.3,slow=38
PMG Port Moresby 56.27 188 P **P** **15 43 50.2 -0.6**
comp=Z,20nm,1.1s,mb5.1,baz=103,slow=1.3,SNR=7.0
PMG LR LR 16 03 38.9
comp=Z,732nm,20.0s,MS4.8,baz=32,slow=32
PMG Port Moresby 56.27 188⇓ *e*P **P** **15 43 49.1 -1.7**
PMG pmax pmax
comp=Z,50nm,1.3s
PMG MLR MLR
comp=Z,803nm,22.0s
PMG Port Moresby 56.27 188⇓ *e*P **P** **15 43 49.1 -1.7**
comp=Z,50nm,1.3s,mb5.4
PMG LR LR
comp=Z,803nm,22.0s,MS4.8
I04A Tendick Farm, 56.30 60⇑P **P** **15 43 51.2 +0.2**
baz=56
M01C Crescent City 56.39 63 ⇓P **P** **15 43 51.6 0.0**
baz=56
C09A Chrisman Ranch 56.41 54⇑P **P** **15 43 51.0 -0.7**
baz=56,SNR=17
D08A Wollman Farm, 56.47 55 ⇓P **P** **15 43 51.8 -0.3**
baz=56,SNR=10
WRD Warden 56.48 55 P **P** **15 43 53.0 +0.7**
HAWA Hanford 56.50 56⇓ *e*P **P** **15 43 52.0 -0.4**
comp=Z,56nm,1.1s,mb5.5
H05A Madras 56.52 58 ⇓P **P** **15 43 53.1 +0.6**
baz=56,SNR=8.9
G06A Carlson Farm, 56.52 58⇑P **P** **15 43 52.5 0.0**
baz=56,SNR=11
L02A Cave Junction 56.53 62⇑P **P** **15 43 53.6 +1.0**
baz=56
NNT Nongplab 56.55 251 P **P** **15 43 54.8 +2.0**
F07A Phinny Hill Vi 56.56 57 ⇓P **P** **15 43 53.3 +0.5**
baz=56
DAG Danmarks Havn 56.60 358⇓ *i*P **P** **15 43 52.0 -1.1**
comp=Z,198nm,1.3s,mb6.0
DAG Danmarks Havn 56.60 358⇓ *e*P **P** **15 43 52.0 -1.1**
DAG pmax pmax
comp=Z,200nm,1.3s,mb6.0
DAG Danmarks Havn 56.60 358⇓ *e*P **P** **15 43 52.0 -1.1**
comp=Z,198nm,1.3s,mb6.0
HUMO Hull Mountain 56.66 61⇑P **P** **15 43 54.4 +0.8**
baz=56
B10A Chitwood Farm, 56.70 53⇑P **P** **15 43 53.7 -0.1**
baz=56
E08A Dider Farm, El 56.71 56 ⇓P **P** **15 43 53.4 -0.5**
baz=56,SNR=10
I05A Bend 56.77 59 ⇓P **P** **15 43 54.8 +0.5**
baz=57
NEW Newport 56.78 53 P **P** **15 43 54.7 +0.3**
comp=Z,30nm,1.0s,mb5.3,baz=319,slow=7.0
NEW Newport 56.78 53⇓ *e*P **P** **15 43 53.3 -1.1**
NEW pmax pmax
comp=Z,77nm,1.2s
NEW MLR MLR
comp=Z,764nm,19.0s
NEW Newport 56.78 53⇓ *e*P **P** **15 43 53.3 -1.1**
comp=Z,77nm,1.2s,mb5.6
NEW LR LR
comp=Z,764nm,19.0s,MS4.8
A11A Hall Mountain, 56.80 52⇑P **P** **15 43 55.0 +0.5**
baz=57,SNR=32
J04A Umpqua Nationa 56.80 60⇑P **P** **15 43 54.9 +0.4**
baz=57,SNR=6.0
D09A Jones Farm, Ri 56.81 55 ⇓P **P** **15 43 53.7 -0.9**
baz=57,SNR=16
LVZ Lovozero 56.89 337⇑ *i*P **P** **15 43 54.9 -0.3**
LVZ pmax pmax
comp=Z,74nm,1.7s,mb5.4
LVZ MLR MLR
comp=Z,3µm,20.0s,MS5.4
C10A Spilker Farm, 56.93 54 ⇓P **P** **15 43 55.2 -0.3**
baz=57
VIPM Ingram Point 56.95 58 P **P** **15 43 58.0 +2.4**
H06A Lindquist Farm 56.99 58⇑P **P** **15 43 55.8 0.0**
baz=57,SNR=13
JCC Jacoby Creek 57.05 64 ⇓P **P** **15 43 56.6 +0.4**
baz=57
G07A Ruggs Ranch, H 57.07 57⇑P **P** **15 43 56.6 +0.2**
baz=57,SNR=6.5
KOLN Koldanda 57.09 277⇑ *i*P **P** **15 43 57.6 +1.0**
comp=Z,476nm,0.8s,mb6.5
B11A Sandpoint 57.09 52⇑P **P** **15 43 56.6 0.0**
baz=57,SNR=20
KHMM Horse Mountain 57.20 63 *e*P **P** **15 43 59.0 +1.7**
E09A Wood Farm, Sta 57.22 55 ⇓P **P** **15 43 57.2 -0.3**
baz=57,SNR=23
CAL Calcutta 57.25 269 *e*P **P** **15 43 58.8 +1.1**
CAL *e*S **S** **15 51 56.7 +4.0**
F08A Pendleton 57.27 56 ⇓P **P** **15 43 58.2 +0.3**
baz=57,SNR=15
YBH Yreka Blue Hor 57.32 62 LR LR 16 07 35.3
comp=Z,448nm,19.3s,MS4.6,baz=77,slow=35
YBH Yreka Blue Hor 57.32 62 ⇓P **P** **15 43 58.7 +0.5**
baz=57,SNR=7.5
K04A Chilquin 57.39 61⇑P **P** **15 43 59.3 +0.6**
baz=57
M02C Callahan 57.43 62 ⇓P **P** **15 43 59.4 +0.4**
baz=57,SNR=7.2
KEV Kevo 57.44 341 *e*p **P** **15 43 56.5 -2.5**
comp=Z,9.5nm,0.6s,mb5.0
KEV Kevo 57.44 341 *e*P **P** **15 43 56.5 -2.5**
KEV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
APA Apatity 57.46 337⇑ *i*P **P** **15 43 57.5 -1.7**
APA *i* 15 44 11.4
APA *e*S **S** **15 51 54.0 -1.4**
APA pmax pmax
comp=Z,20nm,0.7s,mb5.3
APA MLR MLR
comp=Z,4µm,18.0s,MS5.6
G08A Pilot Rock 57.46 57⇑P **P** **15 43 59.2 -0.1**
baz=57,SNR=16
N02C Big Bar 57.49 63⇑P **P** **15 43 59.9 +0.5**
baz=57
B12A Libby 57.50 52⇑P **P** **15 43 59.9 +0.4**
baz=57
I06A Prineville 57.52 59 ⇓P **P** **15 44 00.2 +0.6**
baz=57,SNR=9.7
L04A Klamath Falls 57.55 61⇑P **P** **15 44 00.1 +0.3**
baz=57,SNR=6.5
O01C Eel River Cons 57.57 64⇑P **P** **15 44 00.0 0.0**

baz=57
E10A **Myers Farm, Un** 57.81 55 ⇓P P 15 44 01.3 -0.4
baz=58,SNR=21
M04C **Macdoel** 57.81 62 ⇑P P 15 44 01.9 +0.2
baz=58,SNR=7.4
F09A **S2 Ranch, Elgi** 57.82 56 ⇑P P 15 44 02.2 +0.5
baz=58
K05A **Summer Lake** 57.83 60 ⇑P P 15 44 02.4 +0.6
baz=58,SNR=8.4
I07A **Izee** 57.85 58 ⇑P P 15 44 02.4 +0.4
baz=58,SNR=13
D11A **Klaveano Farm,** 57.92 54 ⇓P P 15 44 01.9 -0.6
baz=58
ARCES **ARCESS Array B** 57.94 341 P P 15 44 01.0 -1.6
comp=Z,37nm,0.7s,mb5.5,baz=57,slow=12,SNR=44
ARCES LR LR 16 15 41.6
comp=Z,2µm,18.0s,MS5.3,baz=34,slow=43
ARE0 **ARCESS Array S** 57.94 341 *e*P P 15 44 01.6 -1.0
M03C **McCloud** 57.94 62 ⇑P P 15 44 02.9 +0.3
baz=58
J06A **Christmas Vall** 57.96 59 ⇑P P 15 44 03.4 +0.7
baz=58,SNR=12
C12A **Trout Creek** 58.00 53 ⇓P P 15 44 03.1 +0.1
baz=58,SNR=16
F10A **Beach Ranch, E** 58.05 55 ⇑P P 15 44 03.5 +0.1
baz=58,SNR=12
WALA **Waterton Lakes** 58.05 51⇓*e*P P 15 44 03.2 -0.2
comp=Z,190nm,1.4s,mb5.9
H08A **Prairie City** 58.08 57 ⇑P P 15 44 04.0 +0.4
baz=58,SNR=16
BOK **Bokaro** 58.10 272 *e*P P 15 44 04.7 +1.0
BOK AMb AMB 15 44 07.3
WDC **Whiskeytown Da** 58.10 63 ⇑P P 15 44 03.8 +0.1
baz=58,SNR=7.0
B13A **Whitefish** 58.16 52 P P 15 44 04.5 +0.4
baz=58,SNR=53
O02C **Red Bluff** 58.19 64 ⇓P P 15 44 05.0 +0.7
baz=58,SNR=13
PTH **Pithoragarh** 58.26 281 *e*P P 15 44 05.8 +1.0
L05A **Lakeview** 58.26 61 ⇑P P 15 44 05.9 +1.1
baz=58
P01C **Double 8 Ranch** 58.27 65 ⇑P P 15 44 05.1 +0.2
baz=58,SNR=5.3
BSMT **Bassoo Peak** 58.29 52 *e*P P 15 44 03.6 -1.5
LGTI **Lohaghat** 58.30 281 *i*P P 15 44 05.3 +0.2
J07A **Hines** 58.38 59 ⇑P P 15 44 06.1 +0.4
baz=58,SNR=5.2
M05C **Lookout** 58.48 62 P P 15 44 06.8 +0.4
baz=58,SNR=9.0
TMCR **Tamitsa** 58.49 332 *e*P P 15 44 05.6 -0.8
TMCR pmax pmax
comp=Z,61nm,0.7s,mb5.7
I08A **Drewsey** 58.50 58 ⇑P P 15 44 06.9 +0.5
baz=58,SNR=8.5
C13A **Hot Springs** 58.51 52 ⇑P P 15 44 06.7 +0.1
baz=58,SNR=13
GASB **Alder Springs** 58.54 64 ⇑P P 15 44 07.8 +1.0
baz=58,SNR=11
H09A **Durkee** 58.57 57 P P 15 44 07.6 +0.6
baz=58,SNR=27
HATC **Hat Creek Radi** 58.62 62 ⇑P P 15 44 07.8 +0.5
baz=58
MOD **Modoc** 58.67 61 ⇑P P 15 44 08.0 +0.4
baz=58,SNR=17
F11A **Grangeville** 58.70 55 ⇑P P 15 44 07.9 0.0
baz=58,SNR=29
AB31 **Akbulak array** 58.73 310 P P 15 44 06.3 -1.8
AB31 pmax pmax
comp=Z,13nm,0.6s,mb5.1
AB31 **Akbulak array** 58.73 310 *i*P P 15 44 06.4 -1.7
O03C **Acorn Hollow,** 58.76 63 ⇓P P 15 44 08.4 +0.1
baz=59
K07A **Rock Creek Ran** 58.83 59 ⇓P P 15 44 09.2 +0.5
baz=59,SNR=19
KTK1 **Kautokeino** 58.86 341 *e*P P 15 44 07.8 -1.2
KTK1 AMb AMB 15 44 10.3
comp=Z,80nm,0.7s,mb5.9
KTK1 **Kautokeino** 58.86 341 *e*P P 15 44 07.8 -1.2
comp=Z,80nm,0.6s,mb5.9
KSM **Kuching** 58.87 233⇓*i*P P 15 44 09.6 +0.5
J08A **Circle Bar Ran** 58.88 58 ⇑P P 15 44 09.8 +0.7
baz=59
D13A **Huson** 58.92 53 ⇓P P 15 44 09.3 -0.2
baz=59,SNR=26
G11A **Walters Elk Ra** 58.93 55 ⇓P P 15 44 09.4 -0.1
baz=59,SNR=30
I09A **Lost Marbles R** 58.94 57 P P 15 44 10.1 +0.5
baz=59,SNR=14
M06C **Likely Place G** 58.98 61 ⇓P P 15 44 10.3 +0.4
baz=59,SNR=8.8
AKTK **Aktyubinsk** 59.02 312 P P 15 44 08.5 -1.6
AKTO **Aktyubinsk** 59.02 312 P P 15 44 08.5 -1.6
comp=Z,14nm,0.9s,mb5.0,baz=59,slow=6.8,SNR=34
AKTO **Aktyubinsk** 59.02 312 P P 15 44 08.5 -1.6
AKTO pmax pmax
comp=Z,14nm,0.9s,mb5.0
O04C **Chester** 59.14 63 ⇑P P 15 44 11.3 +0.3
baz=59,SNR=13
MNRC **McLaughlin Nat** 59.18 65 ⇓P P 15 44 11.7 +0.5
baz=59,SNR=8.1
ELFS **Eagle Lake Fie** 59.18 62 ⇑P P 15 44 11.5 +0.2
baz=59,SNR=5.1
SDNR **Sundarnagar** 59.21 285 *e*P P 15 44 11.8 +0.4
DDI **Dehra Dun** 59.23 283 *e*P P 15 44 11.8 +0.3
DLH **Dalhousie** 59.23 286 *e*P P 15 44 13.0 +1.5
K08A **Mann Creek Ran** 59.25 59 P P 15 44 12.2 +0.5
baz=59,SNR=21
TRO **Tromso** 59.25 343 *e*P P 15 44 10.9 -0.9
TRO AMb AMB 15 44 13.5
comp=Z,99nm,2.9s,mb5.3
TRO *e*S S 15 52 14.6 -4.2
TRO AMS AMS 16 15 03.2
comp=Z,2µm,15.8s,MS5.3
TRO **Tromso** 59.25 343 *e*P P 15 44 10.9 -0.8
TRO pmax pmax
comp=Z,99nm,2.9s,mb5.3
TRO MLR MLR
comp=Z,2µm,15.8s,MS5.3
TRO **Tromso** 59.25 343 *e*P P 15 44 10.9 -0.9
comp=Z,99nm,2.9s,mb5.3
TRO LR LR
comp=Z,2µm,15.8s,MS5.3
J09A **Fry Pan Ranch,** 59.31 58 ⇑P P 15 44 12.6 +0.5
baz=59,SNR=17
SGF **Sodankyl** 59.33 339 P P 15 44 11.0 -1.2
WVOR **Wild Horse Val** 59.34 59 *e*P P 15 44 12.2 -0.1
WVOR pmax pmax
comp=Z,34nm,1.0s,mb5.3
WVOR **Wild Horse Val** 59.34 59 *e*P P 15 44 12.2 -0.1
comp=Z,34nm,1.0s,mb5.3
ORV **Oroville** 59.35 63 ⇓P P 15 44 11.8 -0.6
baz=59,SNR=15
MSO **Missoula** 59.37 53 *e*P P 15 44 12.4 -0.1
comp=Z,125nm,1.4s,mb5.8
SUTB **Sutter Butte** 59.37 64 ⇓P P 15 44 12.0 -0.6
baz=59
D14A **Greenough** 59.45 52 P P 15 44 13.1 0.0
baz=59,SNR=79
THN **Thein Dam** 59.46 286 *e*P P 15 44 12.0 -1.2
O05C **Quincy** 59.46 63 P P 15 44 13.2 +0.1
baz=59,SNR=8.6
E13A **Victor** 59.46 53 ⇑P P 15 44 13.1 -0.1
baz=59,SNR=28
H11A **Donnelly** 59.49 56 P P 15 44 13.5 +0.1
baz=59,SNR=40
OHCM **Honcut** 59.50 64 *e*P P 15 44 13.0 -0.4
Q03C **Winters** 59.59 65 ⇑P P 15 44 14.6 +0.5
baz=59
BHK **Bhakra** 59.63 285 *e*P P 15 44 13.0 -1.3
N06A **Buffalo Meadow** 59.64 61 P P 15 44 14.8 +0.3
baz=60,SNR=19
M07A **Soldier Meadow** 59.65 61 P P 15 44 15.2 +0.7
baz=60,SNR=24
L08A **Fields** 59.66 59 ⇓P P 15 44 15.0 +0.4
baz=60,SNR=11
CHMT **Chamberlain Mo** 59.69 52 *e*P P 15 44 14.6 -0.1
K09A **Rome** 59.72 59 ⇑P P 15 44 15.0 +0.1
baz=60,SNR=18
F13A **Darby** 59.78 54 ⇓P P 15 44 15.1 -0.3
baz=60,SNR=35
BEKR **Beckwourth** 59.86 63 P P 15 44 15.8 -0.1
baz=60,SNR=23
E14A **Clinton** 59.86 53 ⇓P P 15 44 16.1 +0.1
baz=60,SNR=23
Q04C **Lincoln** 59.86 64 ⇓P P 15 44 15.8 -0.2
baz=60
ALBI **Allahabad** 59.90 276 *e*P P 15 44 15.0 -1.2

O06A **Flanigan** 60.00 62 ⇑P P 15 44 17.0 +0.1
baz=60
D15A **Lincoln** 60.01 52 ⇓P P 15 44 17.0 0.0
baz=60,SNR=27
P05C **Yuba Gap, Truc** 60.05 63 ⇓P P 15 44 17.3 +0.1
baz=60,SNR=9.0
BDM **Black Diamond** 60.10 65 ⇑P P 15 44 17.5 -0.1
baz=60
N07B **Gerlach** 60.15 61 ⇑P P 15 44 18.1 +0.2
baz=60,SNR=14
L09A **Wilkinson Ranc** 60.16 59 ⇓P P 15 44 18.5 +0.5
baz=60
JRSC **Jasper Ridge** 60.21 66 ⇓P P 15 44 17.9 -0.4
baz=60
P06A **Stead Airport,** 60.26 63 ⇑P P 15 44 18.9 +0.3
baz=60
F14A **Wisdom** 60.30 54 ⇓P P 15 44 18.9 0.0
baz=60,SNR=9.7
LAVA **Lava Cap Winer** 60.31 64 P P 15 44 18.8 -0.2
baz=60,SNR=20
NIL **Nilore** 60.31 289 P P 15 44 20.5 +1.5
comp=Z,414nm,0.9s,mb6.5,SNR=12
E15A **Deer Lodge** 60.32 53 ⇑P P 15 44 19.2 +0.1
baz=60,SNR=30
WENL **Wente Brothers** 60.38 65 ⇑P P 15 44 19.4 -0.1
baz=60
FFC **Flin Flon** 60.40 40 P P 15 44 19.0 -0.6
comp=Z,458nm,0.8s,mb6.6,SNR=15
BNLO **Ben Lomond (Sa** 60.42 66 ⇑P P 15 44 19.4 -0.3
baz=60
R04C **Big Horse Ranc** 60.49 64 ⇑P P 15 44 19.9 -0.3
baz=60
WCN **Washoe City** 60.58 63 P P 15 44 21.2 +0.4
baz=60,SNR=20
O07A **Toulon** 60.58 62 P P 15 44 21.2 +0.4
baz=60,SNR=24
HRY **Holter Researc** 60.59 52 *e*P P 15 44 22.1 +1.2
N08A **GE Springer Mi** 60.65 61 ⇑P P 15 44 21.6 +0.3
baz=60,SNR=18
M09A **Marrel Ranch,** 60.66 60 ⇓P P 15 44 22.0 +0.6
baz=60,SNR=7.4
S04C **Ingram Canyon,** 60.72 65 ⇓P P 15 44 21.8 0.0
baz=61
R05C **Kirkwood Meado** 60.75 63 ⇑P P 15 44 22.3 +0.3
baz=61
F15A **Butte** 60.76 53 P P 15 44 22.4 +0.3
baz=61,SNR=56
LRM **Limekiln Ridge** 60.80 53 *e*P P 15 44 22.8 +0.4
NDI **New Delhi** 60.83 282 *e*P P 15 44 22.7 +0.1
NDI AMb AMB 15 44 24.9
comp=Z,365nm,0.8s,mb6.5
EGMT **Eagleton** 60.88 50⇓*e*P P 15 44 22.8 -0.1
comp=Z,175nm,1.1s,mb6.1
EGMT *e* 15 44 55.9
EGMT **Eagleton** 60.88 50 P P 15 44 23.0 +0.1
baz=61,SNR=39
O08A **Rochester Mine** 60.94 61 ⇓P P 15 44 23.7 +0.5
baz=61
P07A **Fallon** 60.96 62 ⇓P P 15 44 23.6 +0.2
baz=61
FCC **Fort Churchill** 60.96 34 *e*P P 15 44 22.0 -1.5
FCC pmax pmax
comp=Z,41nm,1.0s,mb5.5
FCC **Fort Churchill** 60.96 34 *e*P P 15 44 22.0 -1.5
comp=Z,41nm,1.0s,mb5.5
N09A **Cook Creek Ran** 60.97 60 ⇑P P 15 44 23.8 +0.3
baz=61,SNR=9.7
CMB **Columbia Colle** 60.97 64 P P 15 44 23.6 +0.1
baz=61,SNR=20
DLMT **Dillon** 61.00 54 *e*P P 15 44 19.6 -4.1
comp=Z,185nm,1.6s,mb6.0
PACP **Pacheco Peak** 61.05 66 ⇓P P 15 44 24.0 0.0
baz=61,SNR=6.4
HLID **Hailey** 61.10 56⇓*i*P P 15 44 24.7 +0.3
comp=Z,77nm,1.5s,mb5.6
HLID LR LR
comp=Z,825nm,20.0s,MS4.9
HLID **Hailey** 61.10 56 ⇓P P 15 44 24.9 +0.5
baz=61,SNR=36
M10A **I.L. Ranch, Tu** 61.13 59 ⇑P P 15 44 25.3 +0.7
baz=61,SNR=23
G15A **Dillon** 61.19 54 ⇑P P 15 44 25.1 +0.2
baz=61,SNR=39
MCMT **McKenzie Canyo** 61.20 54 P P 15 44 27.0 +2.0
COEN **Coen** 61.23 192 P P 15 44 23.8 -1.5
R06C **Coleville** 61.24 63 P P 15 44 25.9 +0.6
baz=61,SNR=22
WAKR **Walker** 61.27 63 *e*P P 15 44 26.2 +0.7
HAST **UC Hastings Re** 61.27 66 ⇓P P 15 44 25.3 -0.2
baz=61
OUL **Oulu** 61.33 338 P P 15 44 24.7 -1.2
P08A **Dixie Valley** 61.35 61 ⇑P P 15 44 27.0 +0.9
baz=61,SNR=5.2
Q07A **Schurz** 61.38 63 ⇓P P 15 44 26.5 +0.2
baz=61
S06C **San Francisco** 61.40 64 ⇓P P 15 44 26.3 -0.1
baz=61,SNR=22
BMN **Battle Mountai** 61.41 60⇓*e*P P 15 44 26.7 +0.2
BMN pmax pmax
comp=Z,34nm,0.9s,mb5.5
BMN **Battle Mountai** 61.41 60⇓*e*P P 15 44 26.7 +0.2
comp=Z,34nm,0.9s,mb5.5
S05C **Merced** 61.44 65 ⇑P P 15 44 25.8 -0.9
baz=61
T05C **Eagle Field, D** 61.50 65 ⇑P P 15 44 27.8 +0.7
baz=61
KULM **Kulim** 61.51 245 *e*P P 15 44 27.9 +0.7
LOF **Lofoten** 61.57 344 *e*P P 15 44 28.7 +1.1
LOF AMb AMB 15 44 31.0
comp=Z,264nm,1.2s,mb6.2
LOF **Lofoten** 61.57 344 *e*P P 15 44 28.7 +1.1
comp=Z,264nm,1.2s,mb6.2
O09A **Fish Creek Ran** 61.59 61 ⇓P P 15 44 27.9 +0.2
baz=61,SNR=26
M11A **Holland Ranch,** 61.63 59 ⇑P P 15 44 28.7 +0.7
baz=61,SNR=24
N10A **Dunphy** 61.65 60 ⇑P P 15 44 28.4 +0.3
baz=62
PECR **Pechory** 61.67 323 *e*P P 15 44 26.0 -2.2
PECR *e* 15 52 54.0
PECR pmax pmax
comp=Z,800nm,1.6s,mb6.6
PECR pmax pmax
comp=Z,600nm,9.0s
PECR MLR MLR
comp=Z,5µm,20.0s,MS5.7
PECR MLR MLR
comp=N,2µm,15.0s,MS5.3
PECR MLR MLR
comp=E,800nm,15.0s,MS5.3
V03C **Hunter Liggett** 61.70 67 ⇓P P 15 44 28.4 0.0
baz=62
R07C **Lee Vining** 61.76 63 ⇑P P 15 44 29.1 +0.3
baz=62,SNR=6.7
U04C **Hernandez Rese** 61.77 66 ⇑P P 15 44 29.1 +0.2
baz=62
IPM **Ipoh** 61.91 244 P P 15 44 29.7 -0.1
O10A **Cortez Mining,** 61.92 60 ⇑P P 15 44 30.5 +0.5
baz=62,SNR=13
QLMT **Earthquake Lak** 61.98 53 *e*P P 15 44 31.1 +0.8
NVAR **Mina Array Bea** 62.01 63 P P 15 44 30.6 +0.2
comp=E,9.4nm,0.7s,mb5.0,baz=298,slow=8.1,SNR=64
NVAR PKP2bc 16 13 45.4
comp=E,0.3nm,0.4s,baz=132,slow=4.0,SNR=3.7
NVAR **Mina Array Bea** 62.01 63 P P 15 44 30.6 +0.2
NVAR ⇑*e* 16 13 45.4
P09A **Austin** 62.01 61 ⇑P P 15 44 31.0 +0.5
baz=62
T06C **Millerton Lake** 62.03 65 ⇑P P 15 44 29.9 -0.8
baz=62,SNR=12
N11A **Elko Archery C** 62.05 59 ⇑P P 15 44 31.3 +0.5
baz=62
KCC **Kaiser Creek** 62.08 64 ⇓P P 15 44 30.4 -0.6
baz=62,SNR=12
M12A **Wells** 62.15 58 ⇓P P 15 44 32.1 +0.6
baz=62,SNR=35
V04C **Ramage Ranch,** 62.17 67 ⇓P P 15 44 31.2 -0.4
baz=62
R08A **Mina** 62.18 63 P P 15 44 32.0 +0.4
baz=62,SNR=13
MLAC **Mammoth Lakes** 62.18 64 ⇓P P 15 44 32.1 +0.4
baz=62
PKD **Parkfield** 62.18 66 ⇓P P 15 44 30.9 -0.8
baz=62
U05C **Westside ANR,** 62.20 66 ⇓P P 15 44 31.7 -0.1
baz=62
KAKA **Kakadu** 62.26 204⇓*i*P P 15 44 30.7 -1.5

comp=E,74nm,0.6s,mb6.0
GCMT **Greycliff** 62.33 52 *e*P P 15 44 33.8 +1.1
YMR **Madison River** 62.34 53 *e*P P 15 44 33.5 +0.8
comp=E,233nm,1.7s,mb6.0
P10A **Eureka** 62.37 61 ⇑P P 15 44 32.8 -0.1
baz=62,SNR=13
ELK **Elko** 62.39 59⇓*e*P P 15 44 33.4 +0.4
ELK pmax pmax
comp=Z,61nm,1.6s
ELK **Elko** 62.39 59⇓*e*P P 15 44 33.4 +0.3
comp=Z,61nm,1.6s,mb5.5
Q09A **Carvers** 62.43 62 ⇑P P 15 44 33.6 +0.2
baz=62
N12A **Clover Valley,** 62.44 59 ⇑P P 15 44 33.7 +0.3
baz=62,SNR=19
YNR **Norris Junctio** 62.47 53⇓*i*P P 15 44 34.8 +1.2
MTUM **Tungsten Hills** 62.52 64 *e*P P 15 44 34.4 +0.4
O11A **Cowboy Ranch,** 62.53 60 P P 15 44 34.4 +0.4
baz=62,SNR=20
YFT **Old Faithful** 62.55 53⇓*e*P P 15 44 36.0 +1.8
PTRM **Twissleman Ran** 62.58 66 *e*P P 15 44 34.6 +0.3
M13A **Montello** 62.62 58 ⇓P P 15 44 34.7 +0.1
baz=62,SNR=9.6
V05C **Boulder Hill,** 62.63 66 ⇑P P 15 44 34.7 0.0
baz=62
HELL **Mitchell Peak,** 62.67 65 ⇑P P 15 44 34.3 -0.6
baz=62,SNR=27
RCTC **Rector, Farmer** 62.77 65 ⇓P P 15 44 35.3 -0.3
baz=63
P11A **Circle Ranch,** 62.84 60 ⇓P P 15 44 36.2 +0.2
baz=63,SNR=10
FLWY **Flagg Ranch** 62.86 54⇓*e*P P 15 44 37.3 +1.1
comp=Z,54nm,1.0s,mb5.6
R09A **Tonopah** 62.88 62 P P 15 44 36.4 +0.1
baz=63,SNR=50
TPH **Tonopah** 62.89 62⇓*e*P P 15 44 36.6 +0.2
TPH pmax pmax
comp=Z,164nm,1.6s,mb5.9
TPH MLR MLR
comp=Z,473nm,22.0s,MS4.6
TPH **Tonopah** 62.89 62⇓*e*P P 15 44 36.6 +0.2
comp=Z,164nm,1.6s,mb5.9
TPH LR LR
comp=Z,473nm,22.0s,MS4.6
DCID1 **Drake Creek** 62.90 54 *e*P P 15 44 36.7 +0.2
TIN **Tinemaha** 62.92 64 ⇓P P 15 44 37.0 +0.3
baz=63
N13A **Wendover, West** 62.92 58 ⇓P P 15 44 36.8 +0.2
baz=63,SNR=14
SMMC **Simmler** 62.93 66 ⇓P P 15 44 36.4 -0.3
baz=63
O12A **Currie** 62.98 59 P P 15 44 37.4 +0.4
baz=63,SNR=37
RRI2 **Red Ridge** 62.98 55⇓*e*P P 15 44 38.0 +0.9
comp=Z,110nm,0.9s,mb6.0
MOOW **Moose Ponds** 63.05 54⇓*i*P P 15 44 38.2 +0.7
comp=Z,126nm,1.4s,mb5.8
MOR8 **Moi Rana** 63.10 343 *e*P P 15 44 35.5 -2.3
MOR8 AMb AMB 15 44 37.6
comp=Z,221nm,0.8s,mb6.3
MOR8 *e*pP pP 15 44 39.5 -4.4
MOR8 **Moi Rana** 63.10 343 *e*P P 15 44 35.5 -2.3
comp=Z,221nm,0.8s,mb6.3
S09A **Goldfield** 63.11 63 ⇓P P 15 44 38.0 +0.1
baz=63,SNR=33
HVU **Hansel Valley** 63.16 57 *e*P P 15 44 38.1 -0.1
HVU pmax pmax
comp=Z,27nm,1.0s,mb5.3
HVU **Hansel Valley** 63.16 57 *e*P P 15 44 38.1 -0.1
comp=Z,27nm,1.0s,mb5.3
VES **Vestal, Richgr** 63.16 65 ⇑P P 15 44 37.2 -1.0
baz=63,SNR=11
SNOW **Snow King Moun** 63.23 54⇓*e*P P 15 44 39.8 +1.1
comp=Z,91nm,0.9s,mb5.9
REDW **Red Top Meadow** 63.24 54⇓*e*P P 15 44 39.4 +0.7
comp=Z,218nm,1.3s,mb6.1
PKM **Peak Mountain** 63.30 67 ⇑P P 15 44 38.9 -0.2
baz=63
Q11A **Duckwater** 63.35 61 ⇑P P 15 44 39.2 -0.2
baz=63,SNR=19
P12A **McGill** 63.39 60 P P 15 44 40.0 +0.2
baz=63,SNR=21
CWC **Cottonwood Cre** 63.40 64 P P 15 44 39.8 0.0
baz=63,SNR=22
GRAC **Grapevine Rang** 63.48 63 ⇑P P 15 44 40.6 +0.2
baz=63,SNR=18
BGU **Big Grassy Mou** 63.56 58⇓*e*P P 15 44 41.0 +0.1
SPUT **South Promonto** 63.65 57⇓*i*P P 15 44 38.3 -3.2
ISA **Isabella** 63.66 65 *e*P P 15 44 39.8 -1.7
ISA LR LR
comp=Z,154nm,20.0s,MS4.2
ISA **Isabella** 63.66 65 P P 15 44 40.4 -1.1
baz=64,SNR=13
TRCR **Troy Canyon** 63.70 61⇓*e*P P 15 44 41.7 -0.1
Q12A **Willow Creek R** 63.71 60 P P 15 44 42.2 +0.3
baz=64,SNR=22
ARVC **Arvin** 63.78 66 ⇓P P 15 44 41.4 -0.9
baz=64
DAC **Darwin (Calif)** 63.81 64 *e*P P 15 44 42.3 -0.2
DAC pmax pmax
comp=Z,99nm,1.8s,mb5.5
DAC **Darwin (Calif)** 63.81 64 *e*P P 15 44 42.2 -0.2
comp=Z,97nm,1.7s,mb5.5
VIS **Vishakhapatnam** 63.96 268 *i*P P 15 44 43.5 +0.1
VIS *e*P 15 44 44.2
VIS AMb AMB 15 44 46.8
comp=Z,79nm,1.1s,mb5.6
VIS *i*S S 15 53 19.7 +1.3
HWUT **Hardware Ranch** 63.97 56 PFAKE 15 45 00.0 +16
HWUT LR LR
comp=Z,830nm,20.0s,MS4.9
AJM **Ajmer** 63.99 282 *i*P P 15 44 43.0 -0.7
AJM *e*P 15 44 43.9
AJM AMb AMB 15 44 46.5
comp=Z,184nm,0.8s,mb6.1
BSC **Santa Cruz Isl** 64.00 67 ⇑P P 15 44 43.3 -0.4
baz=64
MPMC **Manual Prospec** 64.01 64 P P 15 44 43.8 0.0
baz=64,SNR=34
FURC **Furnace Creek,** 64.14 64 ⇓P P 15 44 44.5 -0.1
baz=64,SNR=17
DUG **Dugway** 64.16 58⇓*e*P P 15 44 44.9 +0.1
DUG pmax pmax
comp=Z,83nm,1.2s,mb5.6
DUG MLR MLR
comp=Z,572nm,19.0s,MS4.8
DUG **Dugway** 64.16 58⇓*e*P P 15 44 44.9 0.0
comp=Z,83nm,1.2s,mb5.6
DUG LR LR
comp=Z,572nm,19.0s,MS4.8
DUG **Dugway** 64.16 58 ⇓P P 15 44 45.0 +0.2
baz=64,SNR=47
FIA1 **FINESS Array S** 64.17 335⇑*e*P P 15 44 43.3 -1.6
OSI **Osito Adit** 64.17 66 ⇓P P 15 44 44.5 -0.4
baz=64
FINES **FINESS Array B** 64.18 335 P P 15 44 43.9 -1.0
comp=Z,68nm,0.8s,mb5.7,baz=38,slow=7.2,SNR=99
FINES LR LR 16 15 52.9
comp=Z,2µm,18.8s,MS5.3,baz=207,slow=39
FINES **FINESS Array B** 64.18 335 *i*P P 15 44 43.9 -1.0
FINES pmax pmax
comp=Z,68nm,0.8s
PUL **Pulkovo** 64.20 332⇑*e*P P 15 44 43.0 -2.1
LRMC **Laurel Mountai** 64.27 65 P P 15 44 45.0 -0.5
baz=64,SNR=22
NOQ **North Oquirrh** 64.27 57⇓*e*P P 15 44 45.5 0.0
comp=Z,506nm,1.8s,mb6.2
BLG **Laguna Peak** 64.29 67 ⇓P P 15 44 44.9 -0.8
baz=64
BW06 **Boulder Array** 64.34 54⇓*e*P P 15 44 45.9 -0.1
comp=Z,188nm,1.5s,mb5.9
PDAR **Pinedale Array** 64.35 54 P P 15 44 46.1 +0.1
comp=Z,30nm,0.8s,mb5.3,baz=270,slow=1.5,SNR=170
PDAR PKPPKP 16 13 38.0
comp=Z,1.0nm,1.0s,baz=96,slow=1.5,SNR=4.4
CTU **Camp Tracy** 64.45 57⇓*e*P P 15 44 46.7 0.0
comp=Z,72nm,1.3s,mb5.5
EDW2 **Edwards Air Fo** 64.46 66 P P 15 44 46.7 -0.1
baz=64,SNR=33
U10A **Ash Meadows, A** 64.50 63 ⇑P P 15 44 47.2 +0.2
baz=64,SNR=16
PSI **Prapat** 64.51 245 P P 15 44 47.4 +0.3
comp=Z,18nm,0.9s,mb5.3,baz=336,slow=4.8,SNR=7.7
PSI **Prapat** 64.51 245 P P 15 44 47.4 +0.3
PSI pmax pmax
comp=Z,18nm,0.9s,mb5.1
SNCC **San Nicolas Is** 64.55 68 ⇑P P 15 44 47.1 -0.3

baz=64
MOS Moscow 64.64 326 *e*P **P** **15 44 46.0 -2.0**
MOS *e* 15 45 17.9
MOS *e* 15 47 08.3
MOS pmax pmax
comp=Z,87nm,1.0s,mb5.7
DECC Green Verdugo 64.66 66 ⇓P **P** **15 44 47.6 -0.5**
baz=64
JLU Jordanelle 64.69 57 *e*P **P** **15 44 48.3 +0.1**
NLU North Lily Min 64.75 58⇓*e*P **P** **15 44 48.5 -0.1**
MWC Mount Wilson 64.85 66 *e*P **P** **15 44 49.4 +0.1**
SHOC Shoshone 64.86 64 ⇑P **P** **15 44 49.2 -0.2**
baz=65
DAU Daniels Canyon 64.92 57 *e*P **P** **15 44 50.8 +1.0**
GSC Goldstone 64.93 65 *e*P **P** **15 44 49.5 -0.3**
GSC Goldstone 64.93 65 *e*P **P** **15 44 49.1 -0.7**
GSC Goldstone 64.93 65 ⇑P **P** **15 44 49.1 -0.7**
baz=65,SNR=21
MPU Maple Canyon 64.96 58⇓*e*P **P** **15 44 50.0 -0.1**
comp=Z,31nm,0.8s,mb5.4
SFJD Kangerlussuaq 65.01 10 *i* P **P** **15 44 49.8 -0.6**
SFJD *i* S S 15 53 38.4 +6.9
FMP Fort Macarthur 65.03 67 ⇑P **P** **15 44 49.6 -1.0**
baz=65
NSS Namsos 65.04 343 *e*P **P** **15 44 48.5 -2.0**
NSS *e*S S 15 53 31.8 -0.1
NSS AMS AMS 16 17 29.4
comp=Z,2μm,21.1s,MS5.2
U11A Corn Creek 65.07 63 ⇑P **P** **15 44 50.9 +0.1**
baz=65
RRX Edison Barstow 65.08 65 ⇓P **P** **15 44 50.5 -0.3**
baz=65
BFSC Mount Baldy St 65.09 66 ⇓P **P** **15 44 50.3 -0.5**
baz=65,SNR=12
SHPR Sheep Range 65.16 63 *e*P **P** **15 44 51.5 +0.2**
CIS Catalina Islan 65.16 67 ⇓P **P** **15 44 50.7 -0.6**
baz=65
SCI San Clemente I 65.35 68 ⇓P **P** **15 44 52.1 -0.5**
baz=65
ARUT Antelope Range 65.36 61 *e*P **P** **15 44 52.6 0.0**
TUQ Turquoise Mtn. 65.39 64 ⇓P **P** **15 44 52.6 -0.2**
baz=65,SNR=15
V11A Goodsprings 65.43 63 ⇓P **P** **15 44 53.2 +0.2**
baz=65,SNR=13
OBN Obninsk 65.51 326⇑*e*P **P** **15 44 51.6 -2.0**
OBN *i* S S 15 53 36.0 -1.6
OBN *e*SS SS 15 57 57.6 +6.3
OBN pmax pmax
comp=Z,143nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.4
OBN Obninsk 65.51 326⇑*e*P **P** **15 44 51.5 -2.2**
comp=Z,78nm,0.8s,mb5.8
OBN LR LR
comp=Z,528nm,19.0s,MS4.8
HEC Hector,Ludlow 65.53 65 ⇑P **P** **15 44 53.4 -0.3**
baz=65,SNR=25
BBRC Big Bear Sol-O 65.53 65 ⇑P **P** **15 44 53.6 -0.1**
baz=65
CCUT Cedar City 65.56 61 *e*P **P** **15 44 54.2 +0.3**
U12A Valley of Fire 65.58 62 P **P** **15 44 54.4 +0.3**
baz=65,SNR=7.0
MSU Marysvale 65.63 59 *e*P **P** **15 44 54.9 +0.5**
MEF Metsahovi 65.66 335 P **P** **15 44 52.5 -2.0**
TMUT Trail Mountain 65.68 58⇓*e*P **P** **15 44 54.8 +0.1**
MURC Murrieta 65.79 66 ⇑P **P** **15 44 54.9 -0.5**
baz=66,SNR=8.9
V12A Nelson 65.86 63 ⇑P **P** **15 44 55.9 +0.1**
baz=66,SNR=19
GMRC Granite Mounta 65.98 64 P **P** **15 44 56.5 -0.1**
baz=66,SNR=24
W12A Cal Nev Ari 66.12 63 ⇑P **P** **15 44 57.1 -0.4**
baz=66,SNR=8.5
ULM Lac du Bonnet 66.18 41 P **P** **15 44 58.0 +0.1**
comp=Z,28nm,0.7s,mb5.4,baz=315,slow=7.2,SNR=44
ULM Lac du Bonnet 66.18 41 *e*P **P** **15 44 57.6 -0.3**
comp=Z,33nm,0.7s,mb5.5
SRU San Rafael 66.20 58⇓*e*P **P** **15 44 58.0 -0.1**
SRU *e* 15 45 08.4
SRU pmax pmax
comp=Z,77nm,0.8s,mb5.8
SRU San Rafael 66.20 58⇓*e*P **P** **15 44 58.0 -0.1**
comp=Z,77nm,0.8s,mb5.8
SRU *e* 15 45 08.4
PFO Pinyon Flat Ob 66.25 66 P **P** **15 44 58.9 +0.5**
comp=Z,107nm,1.5s,mb5.7,SNR=5.5
PFO Pinyon Flat Ob 66.25 66 LR LR 16 12 33.2
comp=Z,334nm,18.3s,MS4.6,baz=179,slow=35
PFO Pinyon Flat Ob 66.25 66 *e*P **P** **15 44 57.6 -0.8**
PFO pmax pmax
comp=Z,74nm,1.7s,mb5.4
PFO Pinyon Flat Ob 66.25 66 *e*P **P** **15 44 57.6 -0.8**
comp=Z,74nm,1.7s,mb5.4
PFO Pinyon Flat Ob 66.25 66 ⇓P **P** **15 44 57.7 -0.7**
baz=66,SNR=8.1
BELC Belle Mtn. 66.28 65 P **P** **15 44 57.9 -0.7**
baz=66,SNR=13
109C Camp Elliot, M 66.32 67 ⇑P **P** **15 44 58.4 -0.4**
baz=66
RWWY Rawlins 66.36 54 *e*P **P** **15 44 59.4 +0.3**
comp=Z,66nm,1.1s,mb5.6
VSU Vasula 66.37 333*c* *i*P **P** **15 44 57.9 -1.2**
VSU Vasula 66.37 333⇑*i*P **P** **15 44 57.0 -2.1**
VRHR Novokhopersk 66.37 320 *e*P **P** **15 44 58.3 -0.8**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,1.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.3s
VRHR MLR MLR
comp=Z,2μm,18.0s,MS5.4
VRHR MLR MLR
comp=N,5.0nm,9.0s
VRHR MLR MLR
comp=E,2μm,21.0s
RSSD Black Hills 66.44 50 *e*P **P** **15 44 58.9 -0.7**
RSSD pmax pmax
comp=Z,70nm,0.9s,mb5.7
RSSD Black Hills 66.44 50 *e*P **P** **15 44 58.9 -0.7**
comp=Z,70nm,0.9s,mb5.7
IRM Iron Mountain 66.70 65 ⇑P **P** **15 45 00.8 -0.4**
baz=66,SNR=35
MONP Monument Peak 66.75 66 ⇑P **P** **15 45 00.6 -0.9**
baz=67,SNR=6.8
BC3 Big Chuckw Mtn 66.85 65 P **P** **15 45 01.6 -0.6**
baz=67,SNR=16
W13A Hualapai Mount 66.86 63 ⇓P **P** **15 45 01.8 -0.5**
baz=67,SNR=17
CTA Charters Tower 66.93 188 *e*P **P** **15 45 01.3 -1.4**
comp=Z,7.6nm,0.8s,mb4.8
CTA Charters Tower 66.93 188 P **P** **15 45 01.6 -1.1**
comp=Z,12nm,0.9s,mb4.9,baz=351,slow=8.6,SNR=8.1
CTA LR LR 16 09 21.4
comp=Z,427nm,19.9s,MS4.7,baz=14,slow=32
CTAO Charters Tower 66.93 188⇓*e*P **P** **15 45 00.7 -2.0**
CTAO pmax pmax
comp=Z,17nm,1.0s,mb5.0
CTAO MLR MLR
comp=Z,520nm,19.0s,MS4.8
CTAO Charters Tower 66.93 188⇓*e*P **P** **15 45 00.7 -2.0**
comp=Z,17nm,1.0s,mb5.0
CTAO LR LR
comp=Z,520nm,19.0s,MS4.8
ABKT Ailbek 66.96 301 P **P** **15 45 03.1 +0.2**
comp=Z,611nm,0.7s,mb6.7,SNR=33
DVTC Desert V Tower 67.11 66 ⇑P **P** **15 45 03.2 -0.7**
baz=67
SWSC Sam W. Stewart 67.11 66 ⇑P **P** **15 45 02.6 -1.2**
baz=67
X13A Yucca 67.23 63 P **P** **15 45 04.5 -0.2**
baz=67,SNR=36
PDMCI Parker Dam,Lak 67.23 64 ⇑P **P** **15 45 04.1 -0.6**
baz=67,SNR=20
LEM Lembang 67.25 231 P **P** **15 45 03.0 -1.8**
W14A Seligman 67.27 62 P **P** **15 45 05.3 +0.4**
baz=67,SNR=38
VRSR Storozhevoye 67.33 322 *e*P **P** **15 45 04.4 -0.9**
VRSR pmax pmax
comp=Z,70nm,0.8s,mb5.7
VRSR pmax pmax
comp=N,60nm,0.7s
VRSR pmax pmax
comp=E,50nm,0.7s
VRSR MLR MLR
comp=Z,3μm,17.0s,MS5.5
VRSR MLR MLR
comp=E,2μm,18.0s
Y12C Blythe 67.36 64 ⇑P **P** **15 45 05.4 -0.1**
baz=67,SNR=6.3
HYB Hyderabad 67.45 272 *i* P **P** **15 45 06.0 0.0**
HYB Hyderabad 67.45 272 *e*P **P** **15 45 06.0 0.0**
PV10 Paradox Valley 67.56 58 *e*P **P** **15 45 07.1 +0.4**
AGMN Agassiz Refuge 67.58 43⇓*i*P **P** **15 45 06.2 -0.7**
comp=E,160nm,1.3s,mb5.9
PHWY Pilot Hill 67.59 53⇓*e*P **P** **15 45 06.7 -0.2**
GLA Glamis 67.64 65⇓*i*P **P** **15 45 06.8 -0.4**
GLA Glamis 67.64 65 ⇓P **P** **15 45 07.1 -0.2**
baz=68,SNR=14
MOL Molde 67.68 344 *e*P **P** **15 45 05.4 -2.0**
MOL AMb AMB 15 45 15.8
comp=Z,153nm,1.0s,mb6.0
MOL Molde 67.68 344 *e*P **P** **15 45 05.4 -2.0**
comp=Z,153nm,1.0s,mb6.0
W15A Williams 67.79 62 ⇓P **P** **15 45 08.7 +0.5**
baz=68,SNR=16
DOMB Dombas 67.86 343 *e*P **P** **15 45 08.4 -0.2**
DOMB AMb AMB 15 45 11.1
comp=Z,168nm,0.9s,mb6.1
DOMB Dombas 67.86 343 *e*P **P** **15 45 08.4 -0.2**
comp=Z,168nm,0.9s,mb6.1
X14A Yava 67.89 63 P **P** **15 45 09.2 +0.4**
baz=68,SNR=37
AFI Afiamalu 67.89 144 P **P** **15 45 08.9 +0.1**
comp=Z,23nm,0.7s,mb5.3,baz=232,slow=23,SNR=3.7
AFI Afiamalu 67.89 144 P **P** **15 45 08.9 +0.1**
AFI pmax pmax
comp=Z,23nm,0.7s,mb5.3
PV01 Paradox Valley 67.99 57 *e*P **P** **15 45 09.6 +0.1**
WUAZ Wupatki 68.11 61⇓*i*P **P** **15 45 10.3 +0.2**
comp=Z,131nm,1.6s,mb5.7
WUAZ Wupatki 68.11 61 P **P** **15 45 10.6 +0.5**
baz=68,SNR=25
LATR Latur 68.12 274 *e*P **P** **15 45 07.8 -2.4**
Y14A Wickenburg 68.18 63 ⇑P **P** **15 45 10.6 0.0**
baz=68,SNR=12
X15A Humboldt 68.28 63 ⇓P **P** **15 45 11.5 +0.3**
baz=68,SNR=49
NB2 NORSAR Subarra 68.31 341 P **P** **15 45 10.8 -0.7**
comp=Z,118nm,0.8s,mb6.0,baz=27,slow=6.5
NOA NORSAR Array B 68.31 341 P **P** **15 45 10.5 -0.9**
comp=Z,88nm,0.7s,mb5.9,baz=27,slow=6.3,SNR=198
NOA LR LR 16 19 55.7
comp=Z,2μm,18.2s,MS5.3,baz=20,slow=40
NOA NORSAR Array B 68.31 341 P **P** **15 45 10.5 -0.9**
NOA pmax pmax
comp=Z,88nm,0.7s
NOA MLR MLR
comp=Z,2μm,18.2s
NOA NORSAR Array B 68.31 341 P **P** **15 45 10.5 -0.9**
NOA LR LR 16 19 55.7
ISCO Idaho Springs 68.54 54⇓*e*P **P** **15 45 13.1 +0.3**
ISCO pmax pmax
comp=Z,104nm,1.4s,mb5.6
ISCO Idaho Springs 68.54 54⇓*e*P **P** **15 45 13.1 +0.3**
comp=Z,104nm,1.4s,mb5.6
NAO01 NORSAR Array S 68.56 341 *e*P **P** **15 45 12.1 -0.9**
comp=Z,56nm,0.8s,mb5.5
Z14A Wintersburg 68.60 64 ⇓P **P** **15 45 12.9 -0.4**
baz=68
MVCO Mesa Verde 68.66 58⇓*e*P **P** **15 45 13.5 -0.1**
comp=Z,28nm,0.8s,mb5.2
MVCO Mesa Verde 68.66 58 P **P** **15 45 13.9 +0.3**
baz=68,SNR=22
WRAB Tennant Creek 68.71 200 P **P** **15 45 12.8 -1.1**
comp=Z,518nm,0.9s,mb6.5,SNR=32
WRAB Tennant Creek 68.71 200*d* *i*P **P** **15 45 12.1 -1.8**
WRAB Tennant Creek 68.71 200 P **P** **15 45 11.5 -2.4**
WB2 Warramunga Arr 68.72 200⇓*i*P **P** **15 45 12.2 -1.8**
WB2 *e*pP pP 15 45 23.6 +3.5
BORG Borgarnes 68.72 358 *e*P **P** **15 45 15.1 +1.2**
WRA Warramunga Arr 68.72 200 P **P** **15 45 12.0 -2.0**
comp=Z,76nm,1.0s,mb5.6,baz=16,slow=6.6,SNR=153
WRA LR LR 16 14 30.1
comp=Z,426nm,18.9s,MS4.7,baz=35,slow=35
WRA Warramunga Arr 68.72 200 *i* P **P** **15 45 12.0 -2.0**
WRA pmax pmax
comp=Z,76nm,1.0s
MNK Minsk 69.19 330⇓*e*P **P** **15 45 12.0 -4.9**
MNK pmax pmax
comp=Z,340nm,1.5s,mb6.1
MNK pmax pmax
comp=N,250nm,1.5s
MNK MLR MLR
comp=Z,3μm,14.0s,MS5.6
MNK MLR MLR
comp=N,2μm,14.0s
HYA Hoyanger 69.23 344⇑*i*P **P** **15 45 18.7 +1.5**
HYA AMb AMB 15 45 21.2
comp=Z,192nm,1.2s,mb5.9
HYA Hoyanger 69.23 344⇑*i*P **P** **15 45 18.7 +1.5**
comp=Z,192nm,1.2s,mb5.9
MDRS Chennai 69.32 267 *ex* x 15 44 19.0
MDRS ⇑*e*P 15 45 19.2
MAK Makhachkala 69.37 311*d* *i*P **P** **15 45 16.1 -1.9**
MAK *e* 15 45 38.0
MAK *e*PPP 15 49 28.0
MAK *e*S S 15 54 21.4 -2.6
MAK *i* 15 55 12.5
MAK pmax pmax
comp=Z,598nm,1.9s,mb6.2
MAK pmax pmax
comp=Z,347nm,1.3s,mb6.1
MAK smax
comp=N,541nm,1.8s
MAK smax
comp=E,627nm,2.1s
MAK MLR MLR
comp=Z,8μm,17.0s,MS6.0
MAK MLR MLR
comp=N,6μm,15.0s,MS6.2
MAK MLR MLR
comp=E,7μm,16.0s,MS6.2
FITZ Fitzroy Crossi 69.41 209 *e*P **P** **15 45 17.5 -0.8**
comp=E,77nm,1.0s,mb5.6
FITZ *e*pP pP 15 45 28.7 +4.3
FITZ *e*S S 15 54 22.5 -2.0
FITZ Fitzroy Crossi 69.41 209 P **P** **15 45 17.7 -0.6**
comp=E,42nm,0.9s,mb5.4,baz=20,slow=5.9,SNR=41
FITZ LR LR 16 16 24.9
comp=E,219nm,18.2s,MS4.4,baz=76,slow=37
OSL Oslo 69.41 341 *e*P **P** **15 45 18.2 -0.1**
115A Sonoran Desert 69.49 64 ⇑P **P** **15 45 18.8 +0.1**
baz=69,SNR=12
DZM Mont Dzumac 69.51 167 P **P** **15 45 18.2 -0.7**
comp=E,16nm,0.9s,mb5.0,baz=91,slow=15,SNR=5.1
EYMN Ely 69.83 41⇓*e*P **P** **15 45 19.7 -1.2**
comp=E,83nm,1.2s,mb5.5
116A Eloy 69.91 64 ⇑P **P** **15 45 21.4 +0.1**
baz=70
KONO Kongsberg 69.92 342 *e*P **P** **15 45 23.1 +1.7**
KONO *e*S S 15 54 33.6 +3.1
KONO Kongsberg 69.92 342 *e*P **P** **15 45 21.3 -0.1**
KONO pmax pmax
comp=Z,95nm,0.8s,mb5.8
KONO Kongsberg 69.92 342 *e*P **P** **15 45 21.3 -0.1**
comp=Z,95nm,0.8s,mb5.8
ASK Askoy 70.05 344 *e*P **P** **15 45 23.1 +0.8**
ASK AMb AMB 15 45 31.6
comp=Z,303nm,2.3s,mb5.8
ASK Askoy 70.05 344 *e*P **P** **15 45 23.1 +0.8**
comp=Z,303nm,2.3s,mb5.8
BER Bergen 70.12 344 *e*P **P** **15 45 24.4 +1.8**
BER AMb AMB 15 45 31.6
comp=Z,350nm,1.2s,mb6.2
BER Bergen 70.12 344 *e*P **P** **15 45 24.4 +1.8**
comp=Z,350nm,1.3s,mb6.1
EGD Espegrend 70.24 344 *e*P **P** **15 45 25.0 +1.6**
EGD AMb AMB 15 45 36.1
comp=Z,467nm,2.1s,mb6.0
EGD Espegrend 70.24 344 *e*P **P** **15 45 25.0 +1.6**
comp=Z,467nm,2.1s,mb6.0
ODD1 Odda 70.30 343 *e*P **P** **15 45 23.7 -0.1**
ODD1 AMb AMB 15 45 26.0
comp=Z,167nm,0.9s,mb6.0
ODD1 *e*pP pP 15 45 27.4 -2.4
ODD1 Odda 70.30 343 *e*P **P** **15 45 23.7 -0.1**
comp=Z,167nm,0.9s,mb6.0
ECSD EROS,Sioux Fal 70.52 46⇓*i*P **P** **15 45 24.1 -1.0**
comp=Z,91nm,0.9s,mb5.7
TUC Tucson 70.65 63⇓*e*P **P** **15 45 25.6 -0.3**
TUC pmax pmax
comp=Z,29nm,1.3s,mb5.0
TUC Tucson 70.65 63⇓*e*P **P** **15 45 25.6 -0.3**
comp=Z,29nm,1.3s,mb5.0
BLS5 Blasjo 70.79 343 *e*P **P** **15 45 28.8 +2.1**
BLS5 AMb AMB 15 45 30.9
comp=Z,74nm,0.6s,mb5.8
BLS5 Blasjo 70.79 343 *e*P **P** **15 45 28.8 +2.1**
comp=Z,74nm,0.6s,mb5.8
KIV Kislovodsk 71.08 315 P **P** **15 45 29.3 +0.8**
comp=Z,656nm,0.8s,mb6.6,SNR=15
KIV Kislovodsk 71.08 315 P **P** **15 45 29.0 +0.6**
SNR=24
KIV Kislovodsk 71.08 315*c* *i*P **P** **15 45 28.5 0.0**
KIV *i* 15 45 39.1
KIV *i* 15 45 52.3
KIV *i* S S 15 54 43.6 -0.4
KIV pmax pmax
comp=Z,78nm,0.7s,mb5.8
KIV Kislovodsk 71.08 315⇑*e*P **P** **15 45 28.4 -0.1**
comp=Z,74nm,0.8s,mb5.7
KIV LR LR
comp=Z,594nm,19.0s,MS4.9
SUW Suwalki 71.16 332 *e*P **P** **15 45 28.0 -1.0**
SUW L 16 20 28.7
comp=Z,2.2nm,17.8s
KMY Karmoy 71.22 344 *e*P **P** **15 45 31.4 +2.1**
ZEI Tsey 71.35 313 *e*P **P** **15 45 29.3 -0.8**
ZEI *e*PP pP 15 45 37.8 +1.5
ZEI pmax pmax
comp=Z,25nm,0.9s,mb5.1
LAZ Ladron 71.40 59 *e*P **P** **15 45 31.2 +0.8**
ANMO Albuquerque 71.41 59⇓*i*P **P** **15 45 30.5 0.0**
ANMO MLR MLR
comp=Z,576nm,19.0s
WAL1 Walls 71.42 347 *e*P **P** **15 45 31.1 +0.5**
LRW Lerwick 71.47 347 *e*P **P** **15 45 30.9 0.0**
LRW *e*P 15 45 30.9
LRW AMb AMB 15 45 31.1
comp=Z,84nm,1.3s,mb5.5
LENM Lemitar 71.66 60 *e*P **P** **15 45 32.2 +0.2**
AKASG Malin Array Be 71.75 327 P **P** **15 45 31.1 -1.4**
comp=Z,55nm,0.7s,mb5.6,baz=33,slow=6.1,SNR=112
AKASG LR LR 16 19 03.9
comp=Z,2μm,19.6s,MS5.3,baz=40,slow=38
AKASG Malin Array Be 71.75 327 *i* P **P** **15 45 31.1 -1.4**
AKASG pmax pmax
comp=Z,55nm,0.7s
AKBB Malin Array Si 71.75 327⇑*i*P **P** **15 45 31.0 -1.5**
Y22C IRIS PASSCAL I 71.75 60 ⇓P **P** **15 45 33.3 +0.8**
baz=72
KIEV Kiev 71.76 327⇑*i*P **P** **15 45 30.9 -1.7**
KIEV pmax pmax
comp=Z,112nm,0.9s,mb5.8
KIEV Kiev 71.76 327⇑*i*P **P** **15 45 30.9 -1.7**
comp=Z,112nm,0.9s,mb5.8
LPM Los Pinos Moun 71.76 59 *e*P **P** **15 45 32.7 +0.1**
BNM Barren Site 71.88 59 *e*P **P** **15 45 33.2 -0.1**
AS31 Alice Springs 72.41 199⇓*i*P **P** **15 45 35.9 -0.6**
AS31 *e*pP pP 15 45 46.1 +3.5
ASAR Alice Springs 72.41 199 LR LR 16 16 37.4
comp=Z,399nm,18.6s,MS4.7,baz=29,slow=35
ASPA Alice Springs 72.41 199⇓*i*P **P** **15 45 35.9 -0.6**
ASPA *e*pP pP 15 45 46.1 +3.4
BSD Bornholm Skovb 72.68 337⇓*i*P **P** **15 45 37.7 -0.4**
comp=Z,90nm,0.7s,mb5.8
BSD *i* S S 15 55 07.5 +5.1
BSD
comp=Z,2μm,19.0s
BSD Bornholm Skovb 72.68 337⇓*i*P **P** **15 45 37.7 -0.4**
BSD *i* S S 15 55 07.5 +5.1
BSD pmax pmax
comp=Z,90nm,0.7s,mb5.8
BSD MLR MLR
comp=Z,2μm,19.0s,MS5.3
BSD Bornholm Skovb 72.68 337⇓*i*P **P** **15 45 37.7 -0.4**
comp=Z,90nm,0.7s,mb5.8
BSD *i* S S 15 55 07.5 +5.1
SOC Sochi 72.79 316*c* *i*P **P** **15 45 38.4 -0.4**
SOC *e*PPP 15 49 59.8
SOC *e*S S 15 54 59.8 -3.9
SOC *e* 15 55 35.9
SOC *e*SS SS 15 59 42.6 -0.9
SOC pmax pmax
comp=Z,173nm,1.3s,mb5.8
SOC pmax pmax
comp=Z,74nm,0.6s,mb5.8
SOC Sochi 72.79 316 *i* P **P** **15 45 38.8 0.0**
COP Copenhagen 72.83 338 *i* P **P** **15 45 39.4 +0.4**
comp=Z,122nm,0.9s,mb5.8
COP *i* S S 15 55 07.7 +3.7
COP
comp=Z,650nm,16.0s
COP Copenhagen 72.83 338 *i* P **P** **15 45 39.4 +0.4**
COP *i* S S 15 55 07.7 +3.7
COP pmax pmax
comp=Z,120nm,0.9s,mb5.8
COP MLR MLR
comp=Z,650nm,16.0s,MS5.0
GNI Garni 72.83 311 P **P** **15 45 40.8 +1.8**
comp=Z,42nm,0.9s,mb5.4,baz=342,slow=0.3,SNR=42
GNI Garni 72.83 311*c* *i*P **P** **15 45 40.3 +1.3**
GNI pmax pmax
comp=Z,164nm,1.7s
GNI MLR MLR
comp=Z,4μm,18.0s
GNI Garni 72.83 311⇑*e*P **P** **15 45 40.2 +1.2**
comp=Z,114nm,1.0s,mb5.8
MUD Monsted U'grnd 72.92 340 *i* P **P** **15 45 41.2 +1.7**
comp=Z,58nm,0.7s,mb5.6
MUD *e* 15 55 06.1
MUD
comp=Z,2μm,18.0s
MUD Monsted U'grnd 72.92 340 *i* P **P** **15 45 41.2 +1.7**
MUD *e* 15 55 06.1
MUD pmax pmax
comp=Z,58nm,0.7s,mb5.6
MUD MLR MLR
comp=Z,2μm,18.0s,MS5.4
MUD Monsted U'grnd 72.92 340 *i* P **P** **15 45 41.2 +1.7**
comp=Z,58nm,0.7s,mb5.6
MUD *e* 15 55 06.1
ANN Anapa 72.94 318 *e*P **P** **15 45 38.3 -1.3**
ANN *e* 15 45 57.4
ANN *e*S S 15 55 02.5 -2.8
ANN *e* 15 55 45.2
ANN pmax pmax
comp=Z,115nm,1.3s,mb5.7
ANN Anapa 72.94 318 *i* P **P** **15 45 38.8 -0.8**
SCHQ Schefferville 73.08 23 P **P** **15 45 41.1 +0.7**
comp=Z,13nm,0.8s,mb4.9,baz=315,slow=8.8,SNR=7.5
SCHQ LR LR 16 19 05.8
comp=Z,507nm,20.9s,MS4.8,baz=299,slow=37
SCHQ Schefferville 73.08 23 *e*P **P** **15 45 41.0 +0.6**
comp=Z,21nm,0.9s,mb5.1
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.1
MNGI Mangalore 73.14 271 *i* P **P** **15 45 41.0 +0.2**
MNGI AMb AMB 15 45 42.8
comp=Z,48nm,1.1s,mb5.3
MNGI *i* S S 15 55 09.3 +1.7
PALK Pallekele 73.15 263 *e*P **P** **15 45 41.6 +0.8**
comp=Z,81nm,1.5s,mb5.4
PALK LR LR
comp=Z,156nm,20.0s,MS4.3
KARS Kars 73.34 312 *e*P **P** **15 45 43.4 +1.4**
BCA Borcka 73.47 313 *e*P **P** **15 45 42.3 -0.5**
ARTV Artvin 73.51 313 *i* P **P** **15 45 43.5 +0.5**
SCIA State Center 73.55 46⇓*e*P **P** **15 45 43.3 +0.1**
comp=Z,164nm,0.7s,mb6.1
MLA1 Latheron 73.55 348 *e*P **P** **15 45 43.5 +0.2**
RGN Rugen 73.61 337 *e*P **P** **15 45 44.2 +0.6**
comp=Z,223nm,0.8s,mb6.2
RGN Rugen 73.61 337 *e*P **P** **15 45 44.4 +0.8**
comp=Z,197nm,0.8s,mb6.1
GKP Gorka Klasztor 73.64 334 *e*P **P** **15 45 43.7 -0.1**
GKP L 16 21 42.4
comp=Z,3.7nm,18.8s
KSU1 Kansas State U 73.92 50⇓*e*P **P** **15 45 43.9 -1.5**
comp=Z,58nm,0.8s,mb5.6
CLDR Caldiran 74.00 310 *e*P **P** **15 45 47.1 +1.1**
MVH1 Achvaich 74.04 348 *e*P **P** **15 45 46.9 +0.8**
AGRB Hanur-Agry 74.17 311 *e*P **P** **15 45 48.5 +1.6**
JFWS Jewell Farm 74.22 43 *e*P **P** **15 45 46.1 -1.0**
JFWS pmax pmax
comp=Z,50nm,0.8s,mb5.5
JFWS Jewell Farm 74.22 43 *e*P **P** **15 45 46.1 -1.1**

comp=Z,50nm,0.8s,mb5.5
MCD Coleburn Disti 74.23 347 *e*P **P 15 45 47.6 +0.4**
MBWA Marble Bar 74.31 213 *e*P **P 15 45 46.5 -1.2**
MBWA LR LR
comp=Z,192nm,20.0s,MS4.4
SIM Simferopol' 74.31 320 *ce*P **P 15 45 47.3 -0.4**
SIM *e*S S 15 55 15.0 -5.8
SIM *e*S S 15 55 24.0 +3.2
SIM pmax pmax
comp=Z,92nm,0.9s,mb5.7
SIM MLR MLR
comp=Z,3μm,18.0s,MS5.6
SIM Simferopol' 74.31 320 *e*P **P 15 45 47.4 -0.3**
MNTX Cornudas Mount 74.34 60⇓*i*P **P 15 45 47.5 -0.4**
comp=Z,132nm,1.7s,mb5.6
LVV L'vov 74.38 329 *i*P **P 15 45 46.7 -1.4**
LVV *e* 15 46 06.9
LVV *i*S S 15 55 22.0 +0.4
LVV *e*PS 15 55 52.0
MME1 Meikle Cairn 74.45 347 *e*P **P 15 45 48.6 +0.1**
MDO Dochfour 74.53 348 *e*P **P 15 45 48.5 -0.5**
GDL2 Guadalupe Moun 74.59 59 *e*P **P 15 45 49.8 +0.4**
KAC Achnashellach 74.61 348 *e*P **P 15 45 49.6 +0.2**
VANB Van 74.69 310 *e*P **P 15 45 53.4 +3.5**
KTUT Trabzon 74.73 314 *e*P **P 15 45 50.9 +0.7**
ERZM Erzurum 74.75 313 *i*P **P 15 45 52.0 +1.7**
EZM Erzurum 74.75 313 *e*P **P 15 45 52.1 +1.8**
KPL Plockton 74.81 349 *e*P **P 15 45 50.2 -0.4**
KPL AMb AMB 15 45 53.7
comp=Z,116nm,1.1s,mb5.7
KIS Kishinev 74.90 324κ *i*P **P 15 45 49.0 -2.1**
KIS *i* 15 45 57.0
KIS *i* 15 46 05.0
KIS *e*S S 15 55 21.0 -6.4
KIS *e*PS 15 55 45.0
KIS pmax pmax
comp=Z,300nm,1.4s,mb6.0
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.6
KIS MLR MLR
comp=N,2μm,16.0s,MS5.6
KIS MLR MLR
comp=E,1μm,12.0s,MS5.6
KIS Kishinev 74.90 324 *i*P **P 15 45 49.0 -2.1**
comp=E,300nm,1.4s,mb6.0
KIS *e*S S 15 55 21.0 -6.4
KSB Sheil Bridge 74.91 348 *e*P **P 15 45 50.8 -0.3**
KWP Kalwaria 75.00 329 *e*P **P 15 45 52.2 +0.5**
KWP L 16 23 40.1
comp=Z,2.8nm,16.8s
KAR1 Arisaig 75.24 349 *e*P **P 15 45 52.5 -0.6**
HAKT HAKKÂRI 75.29 309 *i*P **P 15 45 54.2 +0.9**
RUE Ruedersdorf 75.33 336 *e*P **P 15 45 53.7 +0.1**
comp=Z,141nm,0.9s,mb5.9
OJC Ojcow 75.48 331 *e*P **P 15 45 54.6 +0.1**
GRSN GİRESUNGRSN 75.51 315 *i*P **P 15 45 54.5 -0.2**
CUKT Cukurca 75.58 309 *e*P **P 15 45 55.4 +0.4**
KELT Kelkit 75.62 314 *i*P **P 15 45 56.2 +1.0**
EZC Erzincan 75.65 313 *e*P **P 15 45 57.5 +2.1**
STHS Stebnicka Huta 75.69 330 *e*P **P 15 45 56.0 +0.4**
STHS pmax pmax
comp=Z,45nm,0.9s,mb5.4
STHS Stebnicka Huta 75.69 330 *e*P **P 15 45 56.0 +0.4**
comp=Z,45nm,0.9s,mb5.4
ESY Stoneypath 75.74 347 *e*P **P 15 45 56.1 +0.2**
EAB Aberfoyle 75.74 348 *e*P **P 15 45 55.2 -0.7**
KOLS Kolonicke sedl 75.74 329 *e*P **P 15 45 55.6 -0.4**
BURAR Bucovina Array 75.78 327⇑*i*P **P 15 45 55.7 -0.5**
BURAR Bucovina Array 75.78 327⇑P **P 15 45 55.7 -0.5**
EDI Edinburgh 75.82 347 *e*P **P 15 45 57.2 +0.8**
EDI AMb AMB 15 45 58.7
comp=Z,109nm,2.0s,mb5.4
EAU Auchinoon 75.94 347 *e*P **P 15 45 57.5 +0.5**
EBL Broad Law 75.94 347 *e*P **P 15 45 57.7 +0.6**
WMOK Wichita Mounta 75.96 54⇓*i*P **P 15 45 56.4 -0.8**
WMOK pmax pmax
comp=Z,106nm,1.6s,mb5.5
WMOK Wichita Mounta 75.96 54⇓*i*P **P 15 45 56.4 -0.8**
comp=Z,106nm,1.6s,mb5.5
BINT Bingol 75.97 312 *e*P **P 15 45 58.6 +1.3**
BTMT Batman 75.98 311 *e*P **P 15 45 58.4 +1.1**
UZH Uzhgorod 75.99 329 *e*P **P 15 45 57.0 -0.4**
UZH *i*S S 15 55 39.0 -0.5
UZH MLR MLR
comp=Z,2μm,18.0s,MS5.5
NIE Niedzica 76.00 331 *e*P **P 15 45 58.6 +1.2**
SIRT Sirnak 76.00 310 *e*P **P 15 46 00.7 +3.2**
KSP Ksiaz 76.05 334 *e*P **P 15 45 58.1 +0.4**
KSP Ksiaz 76.05 334⇓*e*P **P 15 45 57.5 -0.2**
KSP *e*PcP PcP 15 46 08.7 -1.2
XSO Sourhope Farm 76.09 346 *e*P **P 15 45 58.2 +0.3**
RAC Raciborz 76.12 332 *e*P **P 15 45 59.5 +1.4**
RAC MLR MLR
comp=Z,3μm,17.1s,MS5.6
PGBU Glenifferbraes 76.13 348 *e*P **P 15 45 58.6 +0.4**
PGBU AMb AMB 15 46 01.6
comp=Z,83nm,1.0s,mb5.6
NRDL Niedersach Rie 76.30 338 *e*P **P 15 45 58.7 -0.4**
comp=Z,40nm,0.9s,mb5.3
OKC Ostrava-Krasne 76.35 332 *e*P **P 15 45 58.9 -0.5**
OKC *e*S S 15 55 37.4 -6.0
OKC AMS AMS 16 28 10.0
comp=Z,2μm,13.8s
OKC Ostrava-Krasne 76.35 332 *e*P **P 15 45 58.9 -0.5**
OKC *e*S S 15 55 37.4 -6.0
BANOM Banah 76.37 293⇑P **P 15 45 59.9 +0.4**
SNR=11
DIKM Dikmen 76.38 317 *e*P **P 15 46 00.2 +0.6**
ESK Eskdalemuir 76.41 347 *e*P **P 15 45 59.3 -0.4**
ESK AMb AMB 15 46 02.6
comp=Z,56nm,0.9s,mb5.5
ESK Eskdalemuir 76.41 347 *e*P **P 15 45 58.8 -0.9**
ESK pmax pmax
comp=Z,28nm,0.8s,mb5.2
ESK Eskdalemuir 76.41 347 *e*P **P 15 45 58.8 -0.9**
comp=Z,28nm,0.8s,mb5.2
UPC Upice 76.43 334 *e*P **P 15 45 59.8 -0.1**
KVT Kavak 76.45 317 *e*P **P 15 46 00.9 +0.9**
DPC Dobruska-Polom 76.47 334 *e*P **P 15 46 00.1 0.0**
DPC *e*S S 15 55 40.8 -4.0
DPC AMS AMS 16 24 10.0
comp=Z,4μm,19.2s
PTK Pertek 76.51 313 *e*P **P 15 46 01.3 +1.0**
ECK Cauldkaine Hil 76.53 347 *e*P **P 15 46 00.6 +0.1**
MSL Mosul 76.57 309 *ex* x 15 46 02.5
MSL *ex* x 15 55 47.0
CLL Collm 76.59 336 *e*P **P 15 45 59.7 -1.1**
comp=Z,162nm,0.8s,mb6.0
CLL Collm 76.59 336 *i*P **P 15 46 00.0 -0.8**
CLL *e*S S 15 55 51.0 +4.9
CLL pmax pmax
comp=Z,162nm,0.8s,mb6.0
CLL MLR MLR
comp=Z,2μm,15.9s,MS5.6
CLL Collm 76.59 336 *i*P **P 15 46 00.0 -0.8**
comp=Z,162nm,0.8s,mb6.0
CLL *i* 15 46 02.0
CLL *i* pP 15 46 04.6 -2.4
CLL *e*S S 15 55 51.0 +4.9
CLL LR LR
comp=Z,2μm,15.9s,MS5.6
CLL Collm 76.59 336 *i*P **P 15 46 00.0 -0.8**
comp=Z,162nm,0.8s,mb6.0
CLL *i* pP pP 15 46 02.0 -5.0
comp=Z,162nm,0.8s
CLL *i* x x 15 46 04.6
CLL *e*PcP PcP 15 46 12.0 -0.3
CLL *e*S S 15 55 51.0 +4.9
MORC Moravsky Berou 76.59 333⇑*i*P **P 15 46 00.9 +0.1**
MORC Moravsky Berou 76.59 333 *e*P **P 15 45 59.9 -0.9**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 76.59 333 *e*P **P 15 45 59.9 -0.9**
comp=Z,3.0nm,0.6s
VRI Vrincioaia 76.66 325⇓*i*P **P 15 46 02.3 +1.2**
VRI Vrincioaia 76.66 325⇓P **P 15 46 02.3 +1.1**
CFR Carcaliu 76.66 324 P **P 15 46 01.7 +0.5**
LPIG La Paz 76.68 69 LR LR 16 11 40.3
comp=Z,146nm,21.6s,MS4.3,baz=325,slow=29
XAL Allendale 76.69 346 *e*P **P 15 46 01.3 0.0**
BZK Bozkurt 76.71 318 *e*P **P 15 46 01.2 -0.3**
BRG Berggiesshubel 76.72 335 *e*P **P 15 46 00.6 -0.9**
comp=Z,32nm,0.9s,mb5.2
BRG Berggiesshubel 76.72 335 *i*P **P 15 46 01.6 +0.1**
comp=Z,19nm,0.9s,mb5.0
BRG *i* 15 46 12.0
comp=Z,26nm,1.1s
BRG S S 15 55 49.0 +1.5
BRG
comp=N,862nm,14.9s
BRG
comp=E,560nm,14.9s
BRG
comp=Z,1μm,17.0s
BRG Berggiesshubel 76.72 335 *i*P **P 15 46 01.5 0.0**
BRG *i* 15 46 12.0
BRG S S 15 55 49.0 +1.5
BRG pmax pmax
comp=Z,19nm,1.0s,mb5.0
BRG MLR MLR
comp=N,862nm,14.9s,MS5.3
BRG MLR MLR
comp=E,560nm,14.9s,MS5.3
BRG MLR MLR
comp=Z,1μm,17.0s,MS5.3
BRG Berggiesshubel 76.72 335 *i*P **P 15 46 01.6 +0.1**
BRG *i* 15 46 12.0
BRG S S 15 55 49.0 +1.5
LIKS Likavka 76.72 331 *e*P **P 15 46 02.2 +0.7**
BOYT Boyabat 76.72 317 *i*P **P 15 46 02.5 +1.0**
KECS Kecovo 76.75 330 *e*P **P 15 46 01.4 -0.3**
KECS *e* 15 46 13.7
KECS pmax pmax
comp=Z,23nm,0.8s,mb5.2
KECS Kecovo 76.75 330 *e*P **P 15 46 01.4 -0.3**
comp=Z,23nm,0.8s,mb5.2
KECS *e* 15 46 13.7
BYBT Boyabat 76.75 318 *e*P **P 15 46 02.9 +1.2**
TOKT Tokat 76.81 316 *e*P **P 15 46 03.5 +1.4**
CLZ Clausthal 76.83 338 *e*P **P 15 46 02.0 -0.1**
comp=Z,113nm,0.9s,mb5.8
CLZ Clausthal 76.83 338 *e*P **P 15 46 02.0 -0.1**
CLZ pmax pmax
comp=Z,113nm,0.9s,mb5.8
PVCC Panska Ves 76.84 335 *e*P **P 15 46 02.4 +0.2**
PVCC *e*PCP PcP 15 46 12.2 -1.1
PVCC AMS AMS 16 23 30.0
comp=Z,3μm,16.9s
FBE Freiberg 76.84 336 *e*P **P 15 46 01.5 -0.7**
comp=Z,84nm,0.8s,mb5.7
ARMA Armidale 76.89 182 *e*P **P 15 46 02.7 +0.2**
SVSK Karacayir 76.90 315 *e*P **P 15 46 03.1 +0.6**
BIDO Bidbid 76.91 290⇓P **P 15 46 04.1 +1.5**
SNR=26
MARD Mardin 77.01 311 *i*P **P 15 46 04.0 +0.9**
ELZG Elazig 77.02 313 *i*P **P 15 46 05.1 +1.9**
IBBN Ibbenburen 77.06 339 *e*P **P 15 46 02.9 -0.5**
comp=Z,67nm,0.8s,mb5.6
LTX Lajitas 77.07 61⇓*i*P **P 15 46 03.2 -0.3**
LTX *e* 15 46 13.2
LTX pmax pmax
comp=Z,59nm,0.7s,mb5.6
LTX Lajitas 77.07 61⇓*i*P **P 15 46 03.2 -0.3**
comp=Z,59nm,0.7s,mb5.6
LTX *e* 15 46 13.2
TXAR Lajitas Array 77.07 61 P **P 15 46 03.3 -0.2**
comp=Z,50nm,0.6s,mb5.6,baz=301,slow=4.0,SNR=439
TXAR PKKPbc PKKPbc 16 05 11.3 +0.7
comp=Z,0.6nm,0.8s,baz=142,slow=6.3,SNR=4.6
GAL1 Galloway 77.08 347 *e*P **P 15 46 03.5 0.0**
GAL1 AMb AMB 15 46 09.3
comp=Z,104nm,1.5s,mb5.5
TIRR Tirgusor 77.13 323⇑*i*P **P 15 46 03.4 -0.4**
TIRR Tirgusor 77.13 323⇑P **P 15 46 03.4 -0.5**
HARR Harsova 77.14 324 P **P 15 46 03.4 -0.5**
HATD Hatta, Dubai 77.26 293 P **P 15 46 05.0 +0.5**
SNR=90
MLR Muntele Rosu 77.27 325 P **P 15 46 05.2 +0.6**
comp=Z,120nm,0.7s,mb5.9,baz=175,slow=2.1,SNR=144
MLR Muntele Rosu 77.27 325⇓*i*P **P 15 46 04.9 +0.3**
MLR Muntele Rosu 77.27 325 P **P 15 46 05.2 +0.6**
MLR pmax pmax
comp=Z,120nm,0.7s
MLR Muntele Rosu 77.27 325⇓P **P 15 46 04.9 +0.3**
PRA Prague 77.29 335 P **P 15 46 04.0 -0.7**
SMDO Samad 77.29 290⇓P **P 15 46 05.9 +1.2**
SNR=13
VYHS Vyhne 77.29 331 *e*P **P 15 46 04.5 -0.2**
VYHS pmax pmax
comp=Z,24nm,0.9s,mb5.1
VYHS Vyhne 77.29 331 *e*P **P 15 46 04.5 -0.2**
comp=Z,24nm,0.9s,mb5.1
VRAC Vranov 77.30 333⇑*i*P **P 15 46 04.6 -0.2**
VRAC Vranov 77.30 333⇑P **P 15 46 04.5 -0.2**
PRU Pruhonice 77.33 334 *e*P **P 15 46 04.9 0.0**
PRU *e*PCP PcP 15 46 16.0 +0.5
PRU *e*S S 15 55 51.4 -2.7
PRU AMS AMS 16 23 40.0
comp=Z,3μm,17.0s
BALT Daday 77.33 318 *i*P **P 15 45 58.8 +0.8**
HOQ Hoqain 77.39 291 P **P 15 45 59.9 +0.6**
SNR=57
DRGR 77.40 328⇓*i*P **P 15 45 59.9 +0.5**
DRGR 77.40 328⇓P **P 15 45 59.9 +0.6**
CTKT Corum 77.41 317 *i*P **P 15 46 06.1 +0.8**
ASHO Ashiyiah 77.41 293⇑P **P 15 45 59.7 +0.4**
SNR=35
MYA Malataya 77.43 313 *e*P **P 15 46 07.1 +1.6**
PSZ Piszkesteto 77.43 330⇓*i*P **P 15 46 05.9 +0.4**
PSZ Piszkesteto 77.43 330 *e*P **P 15 46 05.6 +0.1**
PSZ pmax pmax
comp=Z,34nm,0.9s,mb5.3
PSZ Piszkesteto 77.43 330⇓P **P 15 46 05.9 +0.3**
PSZ Piszkesteto 77.43 330⇓*e*P **P 15 46 06.0 +0.5**
TOS Tosya 77.44 318 *e*P **P 15 46 07.1 +1.6**
MALT Malataya 77.44 313⇑*i*P **P 15 46 06.8 +1.2**
MALT Malataya 77.44 313 P **P 15 46 06.0 +0.4**
MALT pmax pmax
comp=Z,110nm,1.0s,mb5.7
MALT Malataya 77.44 313⇑P **P 15 46 06.8 +1.2**
TANN Tannenbergstha 77.55 336 *e*P **P 15 46 05.7 -0.5**
comp=Z,21nm,0.9s,mb5.1
WERD Werda 77.56 336 *e*P **P 15 46 05.8 -0.4**
comp=Z,37nm,0.9s,mb5.3
MOX Moxa 77.58 336 *e*P **P 15 46 05.8 -0.5**
comp=Z,67nm,0.9s,mb5.6
MOX Moxa 77.58 336 *e*P **P 15 46 06.1 -0.2**
comp=Z,80nm,1.1s,mb5.6
MOX
comp=Z,900nm,21.0s
MOX Moxa 77.58 336 *e*P **P 15 46 06.1 -0.2**
MOX pmax pmax
comp=Z,80nm,1.1s,mb5.6
MOX MLR MLR
comp=Z,900nm,21.0s,MS5.1
KRUC Moravsky 77.58 333 P **P 15 46 06.2 -0.2**
WTSB Winterswijk 77.60 340 *e*P **P 15 46 06.5 0.0**
comp=Z,100nm,0.7s,mb5.8
GUNZ Gunzen 77.63 336 *e*P **P 15 46 06.2 -0.4**
comp=Z,50nm,0.8s,mb5.5
WERN Wernitzgruen 77.69 336 *e*P **P 15 46 06.6 -0.3**
comp=Z,72nm,0.8s,mb5.7
NKC Novy Kostel 77.72 336 *e*P **P 15 46 06.5 -0.6**
NKC AMS AMS 16 26 20.0
comp=Z,2μm,15.2s
JMDO Jabal Madar 77.75 290 P **P 15 46 08.2 +1.0**
SNR=37
CORM Corum 77.83 317 *e*P **P 15 46 07.8 +0.1**
MTUR Matau 77.84 326⇑*i*P **P 15 46 08.9 +1.1**
MTUR Matau 77.84 326⇑P **P 15 46 08.9 +1.2**
UBBA Unterbreizbach 77.85 337 *e*P **P 15 46 07.2 -0.7**
comp=Z,43nm,1.0s,mb5.3
SAFT Safranbolu 77.89 319 *e*P **P 15 46 07.8 -0.2**
URFA Urfa 77.91 312 *e*P **P 15 46 09.3 +1.1**
FVM French Village 77.93 47⇓*e*P **P 15 46 07.3 -1.0**
FVM pmax pmax
comp=Z,133nm,1.3s,mb5.7
FVM French Village 77.93 47⇓*e*P **P 15 46 07.3 -0.9**
comp=Z,134nm,1.3s,mb5.7
YOZ Yozgat 77.93 316 *e*P **P 15 46 10.4 +2.1**
CANT Cankiri 77.96 318 *e*P **P 15 46 09.9 +1.4**
BUG Bochum-Univer 77.97 339 *e*P **P 15 46 08.1 -0.4**
comp=Z,88nm,1.1s,mb5.6
MANZ Manzenberg 78.03 336 *e*P **P 15 46 08.6 -0.3**
comp=Z,50nm,0.9s,mb5.4
BSY Bisya 78.06 290⇓P **P 15 46 10.0 +0.9**
SNR=19
ARQ Araqi 78.08 291 P **P 15 46 09.8 +0.7**
SNR=70
BUD Budapest 78.11 331 *e*P **P 15 46 11.4 +2.1**
ZST Bratislava 78.12 332 *e*P **P 15 46 11.5 +2.2**
ZST *e*PCP PcP 15 46 20.7 +1.8
ZST Bratislava 78.12 332 *e*P **P 15 46 11.5 +2.2**
ZST *e* 15 46 20.7
ZST pmax pmax
comp=Z,38nm,0.9s,mb5.3
ZST MLR MLR
comp=Z,2μm,19.4s,MS5.5
ZST Bratislava 78.12 332 *e*P **P 15 46 11.5 +2.2**
comp=Z,38nm,0.9s,mb5.3
ZST *e* 15 46 20.7
ZST LR LR
comp=Z,2μm,19.4s,MS5.5
BHD Baghdad 78.12 306 *ex* x 15 46 13.0
BHD *ex* x 15 56 03.0
BHD *ex* x 15 56 23.0
ELDT Eldivan 78.14 318 *i*P **P 15 46 10.3 +0.9**
BUC1 Bucharest 78.19 325 P **P 15 46 11.1 +1.4**
ROTZ Rotzenmuhle 78.20 336 *e*P **P 15 46 09.8 0.0**
comp=Z,65nm,1.1s,mb5.5
BNN Bunyan 78.29 315 *e*P **P 15 46 09.6 -0.7**
KHC Kasperske Hory 78.38 335 *e*P **P 15 46 10.3 -0.5**
KHC pP pP 15 46 18.5 +1.5
KHC PCP PcP 15 46 22.5 +2.5
KHC *e*S S 15 55 58.0 -7.5
KHC AMS AMS 16 24 00.0
comp=Z,3μm,17.8s
KHC Kasperske Hory 78.38 335 *e*P **P 15 46 10.3 -0.5**
KHC *e* 15 46 18.5
KHC *e* 15 46 22.5
KHC *e*S S 15 55 58.0 -7.5
KHC LR LR
comp=Z,3μm,17.8s,MS5.7
KDZE Karadeniz Ereo 78.39 319 *e*P **P 15 46 10.7 -0.2**
CDAG Cicekdag 78.39 317 *i*P **P 15 46 10.7 -0.1**
JCT Junction City 78.52 58 *e*P **P 15 46 11.1 -0.4**
JCT Junction City 78.52 58⇓*e*P **P 15 46 10.6 -1.0**
comp=Z,118nm,1.3s,mb5.7
GRA1 Grafenberg Arr 78.55 336 *e*P **P 15 46 11.8 +0.1**
comp=Z,127nm,0.8s,mb5.9
GRA1 *e*S S 15 56 07.7 +0.4
GRA1 LR LR
comp=Z,1μm,18.0s,MS5.3
GRF Grafenberg Arr 78.55 336 *e*P **P 15 46 11.8 +0.1**
comp=Z,127nm,0.8s,mb5.9
GRF *e*S S 15 56 07.7 +0.4
GRF *e*L 16 24 38.0
comp=Z,1μm,18.0s
GRF Grafenberg Arr 78.55 336 *e*P **P 15 46 11.8 +0.1**
GRF *e*S S 15 56 07.7 +0.4
GRF pmax pmax
comp=Z,127nm,0.8s,mb5.9
GRF MLR MLR
comp=Z,1μm,18.0s,MS5.3
GRF Grafenberg Arr 78.55 336 *e*P **P 15 46 11.8 +0.1**
GRF *e*S S 15 56 07.7 +0.4
GRF pmax pmax
comp=Z,127nm,0.8s,mb5.9
GRF MLR MLR
comp=Z,1μm,18.0s,MS5.3
GRFO Grafenberg 78.55 336 *e*P **P 15 46 11.6 -0.1**
GRFO pmax pmax
comp=Z,107nm,0.8s,mb5.8
GRFO Grafenberg 78.55 336 *e*P **P 15 46 11.6 -0.1**
comp=Z,107nm,0.8s,mb5.8
WET Wettzell 78.57 335 *e*P **P 15 46 11.9 +0.1**
comp=Z,56nm,0.9s,mb5.5
WET Wettzell 78.57 335 *e*P **P 15 46 11.9 +0.1**
WET pmax pmax
comp=Z,56nm,0.9s,mb5.5
PRD Provadia 78.59 323 *e*P **P 15 46 12.7 +0.8**
GEC2 GERESS Array S 78.60 334 *e*P **P 15 46 11.5 -0.5**
comp=Z,30nm,0.9s,mb5.2
GEC2 GERESS Array S 78.60 334 *e*P **P 15 46 11.5 -0.5**
GEC2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
GERES GERESS Array B 78.60 334 P **P 15 46 11.5 -0.4**
comp=Z,19nm,0.7s,mb5.2,baz=35,slow=4.9,SNR=67
GERES PKKPbc PKKPbc 16 05 04.7 -2.6
comp=Z,0.2nm,0.5s,baz=204,slow=2.6,SNR=3.7
GERES LR LR 16 24 35.5
comp=Z,2μm,18.5s,MS5.5,baz=22,slow=38
GZT Gaziantep 78.61 313 *i*P **P 15 46 13.0 +1.0**
BR131 Keskin Array S 78.65 317⇑*e*P **P 15 46 12.2 -0.1**
comp=Z,19nm,0.7s,mb5.1
BRTR Keskin Array B 78.65 317 P **P 15 46 12.5 +0.2**
comp=Z,30nm,0.7s,mb5.3,baz=61,slow=3.1,SNR=140
BRTR PP PP 15 49 12.2 +2.0
comp=Z,3.9nm,0.7s,baz=62,slow=6.0,SNR=3.7
BRTR LR LR 16 26 58.5
comp=Z,594nm,18.8s,MS5.0,baz=118,slow=40
BRTR Keskin Array B 78.65 317 *i*P **P 15 46 12.5 +0.2**
BRTR pmax pmax
comp=Z,31nm,0.7s
SGKT Sivrigoynuk 78.70 319 *i*P **P 15 46 13.5 +1.0**
SIUC Southern Illin 78.74 46 *e*P **P 15 46 12.5 -0.2**
SBD1 Bryn Du 78.74 346 *e*P **P 15 46 12.2 -0.6**
SOP Sopron 78.75 332⇓*e*P **P 15 46 13.7 +0.9**
CONA Conrad Observa 78.75 333⇑*i*P **P 15 46 13.0 +0.2**
comp=Z,33nm,0.7s,mb5.4,SNR=23
TNS Taunus Mts 78.80 338 *e*P **P 15 46 12.9 -0.2**
comp=Z,73nm,1.0s,mb5.6
TNS Taunus Mts 78.80 338 *e*P **P 15 46 12.9 -0.2**
TNS pmax pmax
comp=Z,73nm,1.0s,mb5.6
BZS Buzias 78.80 328⇓*i*P **P 15 46 12.1 -1.0**
BZS Buzias 78.80 328⇓P **P 15 46 12.2 -1.0**
AVNT Avonos 78.83 316 *i*P **P 15 46 13.5 +0.3**
KMRS Kahramanmaras 78.83 314 *e*P **P 15 46 14.0 +0.7**
BLO Bloomington 78.89 43 *e*P **P 15 46 13.5 -0.1**
BLO pmax pmax
comp=Z,49nm,0.8s,mb5.5
BLO Bloomington 78.89 43⇓*e*P **P 15 46 12.9 -0.7**
comp=Z,49nm,0.8s,mb5.5
KAMT Kaman 78.90 317 *e*P **P 15 46 13.6 -0.1**
HGN Heimansgroeve 78.92 340⇓*e*P **P 15 46 13.5 -0.3**
comp=Z,119nm,1.1s,mb5.8
HGN *e*S S 15 55 52.9 -18
ANTO Ankara 78.93 318⇑P **P 15 46 15.0 +1.2**
SNR=20
ANTO Ankara 78.93 318⇑*i*P **P 15 46 14.2 +0.4**
ANTO Ankara 78.93 318⇑P **P 15 46 14.2 +0.3**
GAZ Gaziantep 78.93 313 *e*P **P 15 46 15.4 +1.6**
MIAR Mount Ida 78.94 51⇓*e*P **P 15 46 12.8 -1.1**
MIAR pmax pmax
comp=Z,94nm,1.3s,mb5.6
MIAR Mount Ida 78.94 51⇓*e*P **P 15 46 12.8 -1.0**
comp=Z,94nm,1.3s,mb5.6
BEBN Eben Emael 78.95 340 P **P 15 46 14.5 +0.6**
UMR Umm Al-Rimmam 78.98 301 *e*P **P 15 46 14.1 0.0**
UMR AMb AMB 15 46 17.1
comp=Z,574nm,0.7s,mb6.6
MIB Mutribah 79.02 302 *e*P **P 15 46 14.5 +0.2**
MIB AMb AMB 15 46 17.4
comp=Z,719nm,0.7s,mb6.7
ZIMR 79.03 325 P **P 15 46 15.4 +1.0**
MSNY Massena 79.04 33 *e*P **P 15 46 13.2 -1.3**
MEM Membach 79.05 340 P **P 15 46 14.4 0.0**
HLM1 Long Mynd 79.05 346 *e*P **P 15 46 14.7 +0.3**
STKA Stephens Creek 79.09 191⇓*i*P **P 15 46 13.2 -1.5**
comp=Z,16nm,1.0s,mb4.9
STKA *e*pP pP 15 46 24.2 +3.3
STKA Stephens Creek 79.09 191 P **P 15 46 13.3 -1.3**
comp=Z,18nm,0.9s,mb5.0,baz=346,slow=6.4,SNR=31
STKA LR LR 16 21 12.0
comp=Z,600nm,20.3s,MS4.9,baz=22,slow=36
UCC Uccle 79.25 341 P **P 15 46 16.2 +0.6**
KBD Kabd 79.27 301 *e*P **P 15 46 15.8 +0.2**
KBD AMb AMB 15 46 18.9
comp=Z,1μm,0.6s
TOD Tromm 79.28 338 *e*P **P 15 46 15.2 -0.5**
SIND Sindeldorf 79.30 337 P **P 15 46 15.7 -0.1**
USIN University of 79.30 45 *e*P **P 15 46 16.0 +0.2**
comp=Z,139nm,1.0s,mb5.8
MOA Molln 79.32 334 *i*P **P 15 46 18.3 +2.4**
comp=Z,33nm,0.8s,mb5.3,SNR=10
PKSM Moragy 79.34 330⇑*i*P **P 15 46 16.6 +0.5**
PKSM Moragy 79.34 330⇑P **P 15 46 16.6 +0.6**
ABH Alteburg 79.34 339 *e*P **P 15 46 15.2 -0.9**
KOZT Kozan 79.38 314 *e*P **P 15 46 16.5 +0.2**
BCLA Clavier 79.39 340 P **P 15 46 16.9 +0.6**
PVL Pavlikeni 79.41 324 *e*P **P 15 46 17.7 +1.3**

SWS Schriesheim-Wi 79.41 338 P P 15 46 17.9 +1.4
UALR University of 79.42 50⇓eP P 15 46 15.2 -1.3
ARSA Arzberg 79.46 333 *i* P P 15 46 17.1 +0.4
comp=Z,23nm,0.7s,mb5.2,SNR=14
ARSA Arzberg 79.46 333 *i* P P 15 46 17.1 +0.4
comp=Z,23nm,0.7s,mb5.2
QRN Al-Qurain 79.46 301 eP P 15 46 17.0 +0.3
QRN AMb AMB 15 46 19.8
comp=Z,454nm,0.6s,mb6.6
NAY Al-Naaiem 79.48 302 eP P 15 46 17.1 +0.2
NAY AMb AMB 15 46 19.9
comp=Z,208nm,0.8s,mb6.1
KLYT Kilyos 79.49 321 eP P 15 46 17.2 +0.3
PVMO Portageville 79.51 47 P P 15 46 15.7 -1.3
comp=Z,233nm,1.0s,mb6.1
JMB Yambol 79.53 323 P P 15 46 18.8 +1.7
RDF Al-Radifah 79.54 301 eP P 15 46 17.3 +0.1
RDF AMb AMB 15 46 20.5
comp=Z,357nm,1.0s,mb6.2
SNF Seneffe 79.54 341 P P 15 46 17.6 +0.5
HRT Hereke 79.57 320 eP P 15 46 16.8 -0.5
MCH1 Michaelchurch 79.57 346 eP P 15 46 17.2 -0.1
MCH1 eP 15 46 17.2
MCH1 AMb AMB 15 46 21.5
comp=Z,75nm,2.2s,mb5.2
RUP Ruppelstein 79.63 339 eP P 15 46 18.0 +0.4
ISK Istanbul-Kandi 79.64 321 P P 15 46 19.2 +1.5
OSMT Osmaniye 79.73 320 eP P 15 46 17.6 -0.6
ALLY Alegheny Colle 79.75 38⇓eP P 15 46 17.9 -0.3
WCI Wyandotte Cave 79.75 44⇓eP P 15 46 17.7 -0.6
WCI pmax pmax
comp=Z,104nm,1.0s,mb5.7
WCI Wyandotte Cave 79.75 44⇓eP P 15 46 17.7 -0.6
comp=Z,104nm,1.0s,mb5.7
GIVF Givet 79.80 340 eP P 15 46 17.7 -0.8
comp=Z,57nm,0.9s,mb5.2
GIVF Givet 79.80 340 eP P 15 46 17.7 -0.8
GIVF pmax pmax
comp=Z,29nm,0.9s,mb5.2
GIVF Givet 79.80 340 eP P 15 46 17.7 -0.8
comp=Z,29nm,0.9s,mb5.2
SWN1 Swindon 79.83 345 eP P 15 46 19.0 +0.3
SWN1 AMb AMB 15 46 20.5
comp=Z,186nm,1.1s,mb5.9
HDH Heidenheim-Cha 79.83 336 P P 15 46 19.6 +0.9
CTT Catalca 79.84 321 eP P 15 46 18.4 -0.4
ELBA Catalca 79.84 321 *i* P P 15 46 18.9 +0.1
ADVT Abdulvahap 79.86 320 eP P 15 46 19.2 +0.4
DOU Dourbes 79.86 340 P P 15 46 19.2 +0.4
HGH Gray Hill 79.88 345 eP P 15 46 18.2 -0.9
WLF Walferdange 79.89 339 P P 15 46 21.7 +2.7
WLF Walferdange 79.89 339 eP P 15 46 19.5 +0.4
YLV Yalova 79.91 320 eP P 15 46 19.1 0.0
FUR Furstenfeldbru 79.91 336 eP P 15 46 19.2 0.0
comp=Z,94nm,1.0s,mb5.7
FUR Furstenfeldbru 79.91 336 eP P 15 46 19.2 0.0
FUR pmax pmax
comp=Z,94nm,1.0s,mb5.7
COBT Iskenderun 79.92 313 *i* P P 15 46 20.2 +1.0
KARA Karaisali 79.93 315 eP P 15 46 19.8 +0.5
KOGS Kog 79.93 332 P P 15 46 20.6 +1.3
STU Stuttgart 79.94 337 eP P 15 46 19.1 -0.2
comp=Z,65nm,0.9s,mb5.6
STU Stuttgart 79.94 337 eP P 15 46 19.4 +0.1
STU pmax pmax
comp=Z,69nm,0.9s,mb5.6
STU Stuttgart 79.94 337 eP P 15 46 19.4 +0.1
comp=Z,69nm,0.9s,mb5.6
EDRB Edirne 79.98 323 eP P 15 46 19.1 -0.4
BAIF Baives 79.98 341 eP P 15 46 18.8 -0.7
comp=Z,89nm,1.0s,mb5.3
BAIF Baives 79.98 341 eP P 15 46 18.8 -0.7
BAIF pmax pmax
comp=Z,44nm,1.0s,mb5.3
BAIF Baives 79.98 341 eP P 15 46 18.8 -0.7
comp=Z,44nm,1.0s,mb5.3
UTMT University of 79.98 47 P P 15 46 19.6 0.0
comp=Z,190nm,0.4s,mb6.4
IZI Iznik 80.05 320 eP P 15 46 19.8 -0.1
SVIS Svilajnac 80.08 328 P P 15 46 22.1 +2.0
GEMT Gemlik 80.10 320 eP P 15 46 19.8 -0.3
ESKT Eskisehir 80.10 319 eP P 15 46 20.5 +0.3
ESKT Eskisehir 80.10 319 *i* P P 15 46 19.7 -0.5
LANF Langenberg 80.11 338 eP P 15 46 19.1 -1.1
PERS Pernice 80.13 332 *i* P P 15 46 19.8 -0.5
LBG Lerchenberg 80.14 337 P P 15 46 21.6 +1.2
KIZT Kizilcal 80.15 318 eP P 15 46 19.8 -0.6
BUCH Bad Urach 80.19 337 P P 15 46 21.0 +0.3
KBA Koelnbreinsper 80.29 334⇓*i*P P 15 46 21.8 +0.6
comp=Z,195nm,0.8s,mb6.1,SNR=148
KBA Koelnbreinsper 80.29 334⇓*i*P P 15 46 21.8 +0.6
KBA pmax pmax
comp=Z,195nm,0.8s,mb6.1
HTY Hatay 80.29 313 eP P 15 46 22.0 +0.8
KDHN Kadinhani 80.33 317 *i* P P 15 46 21.4 0.0
ULDT Uludag 80.36 320 *i* P P 15 46 21.9 +0.3
OBKA Obir 80.42 333⇑*i*P P 15 46 21.4 -0.5
comp=Z,20nm,0.8s,mb5.1,SNR=6.2
OBKA Obir 80.42 333⇑*i*P P 15 46 21.4 -0.5
comp=Z,20nm,0.8s,mb5.1
PGB Panagyurishte 80.44 325 eP P 15 46 23.9 +1.9
MERS Mersin 80.50 315 eP P 15 46 22.3 0.0
TAOE Nuku Hiva Isla 80.56 114 eLR LR 16 11 11.9
comp=Z,4μm,21.5s,baz=326
BFO Black Forest 80.57 337 P P 15 46 22.2 -0.5
comp=Z,385nm,0.9s,mb6.3,SNR=9.3
BFO Black Forest 80.57 337 eP P 15 46 22.5 -0.2
comp=Z,72nm,1.0s,mb5.6
BFO Black Forest 80.57 337 eP P 15 46 22.5 -0.2
BFO pmax pmax
comp=Z,72nm,1.0s,mb5.6
WATA Walderalm 80.58 335⇑*i*P P 15 46 23.7 +0.9
comp=Z,73nm,0.7s,mb5.7,SNR=12
WATA Walderalm 80.58 335⇑*i*P P 15 46 23.7 +0.9
WATA pmax pmax
comp=Z,73nm,0.7s,mb5.7
PLD Plovdiv 80.60 324 P P 15 46 24.0 +1.1
GUT Gutenstein 80.60 337 P P 15 46 23.4 +0.5
HEX Exmoor 80.60 346 eP P 15 46 22.9 0.0
GRUS Gruza 80.61 328 *i* P P 15 46 21.6 -1.3
WTTA Wattenberg 80.63 335⇑*i*P P 15 46 23.5 +0.4
comp=Z,138nm,1.0s,mb5.8,SNR=32
WTTA Wattenberg 80.63 335⇑*i*P P 15 46 23.5 +0.5
WTTA pmax pmax
comp=Z,138nm,1.0s,mb5.8
FORT Forrest 80.65 202⇑*i*P P 15 46 23.0 -0.1
comp=Z,47nm,0.9s,mb5.4
SPAK Spaichingen-Ko 80.66 337 eP P 15 46 23.9 +0.7
WVT Waverly 80.67 46⇓eP P 15 46 22.6 -0.6
WVT pmax pmax
comp=Z,41nm,0.8s,mb5.4
WVT Waverly 80.67 46⇓eP P 15 46 22.6 -0.6
comp=Z,41nm,0.8s,mb5.4
KONT Konya--Tatoy 80.67 317 eP P 15 46 22.3 -0.9
VAL Valentia 80.68 350 eP P 15 46 23.4 +0.1
UBR Ueberruh 80.68 336 P P 15 46 24.4 +1.1
KDZ Kurdzhali 80.69 323 eP P 15 46 25.7 +2.4
DIVS Divcibare 80.70 328 *i* P P 15 46 22.8 -0.6
DIVS Divcibare 80.70 328 eP P 15 46 23.1 -0.3
MOTA Moosalm 80.71 335⇑*i*P P 15 46 23.6 +0.1
comp=Z,111nm,0.9s,mb5.8,SNR=28
MOTA Moosalm 80.71 335⇑*i*P P 15 46 23.6 +0.2
MOTA pmax pmax
comp=Z,111nm,0.9s,mb5.8
WLS Welschbruch 80.75 338 eP P 15 46 23.4 -0.3
RKY Sarkoy-Tekirda 80.76 322 eP P 15 46 23.5 -0.2
CDF Champ du Feu 80.77 338 eP P 15 46 23.3 -0.5
comp=Z,168nm,1.0s,mb5.6
CDF Champ du Feu 80.77 338 eP P 15 46 23.3 -0.5
CDF pmax pmax
comp=Z,84nm,1.0s,mb5.6
CDF Champ du Feu 80.77 338 eP P 15 46 23.3 -0.5
comp=Z,84nm,1.0s,mb5.6
VTS Vitosha 80.78 325 eP P 15 46 23.8 0.0
VTS Vitosha 80.78 325⇓*i*P P 15 46 23.5 -0.3
VTS Vitosha 80.78 325 eP P 15 46 23.5 -0.3
HTL Hartland 80.79 346 eP P 15 46 24.6 +0.7
HTL AMb AMB 15 46 27.1
comp=Z,64nm,1.6s,mb5.3
SQTA Sankt Quirin 80.79 335⇓*i*P P 15 46 24.5 +0.6
comp=Z,48nm,0.8s,mb5.5,SNR=20
SQTA Sankt Quirin 80.79 335⇓*i*P P 15 46 24.5 +0.6
SQTA pmax pmax
comp=Z,48nm,0.8s,mb5.5

ALT Altintas 80.81 319 eP P 15 46 24.5 +0.5
LJU Ljubljana 80.84 333 P P 15 46 24.9 +0.7
PTCC Patoco-Chiusa 80.89 333 P P 15 46 23.5 -0.9
SEST Monte Rota 80.92 334 P P 15 46 26.8 +2.2
LIBD Limburg 80.93 338 eP P 15 46 24.1 -0.5
RZN Rozhen 80.94 324 eP P 15 46 25.0 +0.3
ECH Echery 80.98 338 eP P 15 46 24.1 -0.8
ROBS Robic 80.98 333 eP P 15 46 24.1 -0.8
SISB Singen-Schiene 80.99 337 P P 15 46 26.2 +1.2
SHUT Suhut-Afyon 81.02 318 eP P 15 46 25.4 +0.3
KIZ Kirchzarten 81.02 338 P P 15 46 24.8 -0.3
GMNA Gemona 81.04 333 P P 15 46 25.2 0.0
SLE Schleitheim 81.05 337⇓P P 15 46 25.0 -0.3
VOY Vojsko 81.05 333 eP P 15 46 25.2 -0.1
VOY e 15 46 40.4
ALN Alexandroupoli 81.06 323 eP P 15 46 26.3 +1.0
ALN Alexandroupoli 81.06 323 P P 15 46 26.8 +1.5
RDO Rodhopi 81.06 323 eP P 15 46 25.3 0.0
GDZ Gediz 81.07 319 *i* P P 15 46 24.9 -0.5
FELD Feldberg im Sc 81.08 337⇑eP P 15 46 25.9 +0.5
BOJS Bojanci 81.09 332 eP P 15 46 24.9 -0.6
DAVA Damuels 81.11 336⇑*i*P P 15 46 26.5 +0.9
comp=Z,52nm,0.9s,mb5.5,SNR=16
OXF Oxford 81.14 48 PFAKE 15 46 40.0 +14
OXF LR LR
comp=Z,742nm,20.0s,MS5.0
CEY Cerknica 81.15 332 P P 15 46 26.0 +0.2
HKT Hockley 81.19 55 eP P 15 46 25.8 -0.2
HKT pmax pmax
comp=Z,65nm,1.8s,mb5.3
HKT Hockley 81.19 55 eP P 15 46 25.8 -0.2
comp=Z,65nm,1.8s,mb5.3
DYA Yadsworthy 81.24 346 eP P 15 46 25.7 -0.6
MEZF Maizieres J'vi 81.24 340 eP P 15 46 25.9 -0.4
comp=Z,195nm,1.0s,mb5.7
MEZF Maizieres J'vi 81.24 340 eP P 15 46 25.9 -0.4
comp=Z,195nm,1.0s,mb6.0
WILA Wila 81.26 337⇑P P 15 46 27.2 +0.8
THEF They Montfort 81.27 339 eP P 15 46 26.0 -0.4
MOF Molkenrain 81.32 338 eP P 15 46 26.0 -0.7
CANB Canakkale 81.36 321 eP P 15 46 27.1 +0.2
CANB Canakkale 81.36 321 *i* P P 15 46 27.3 +0.4
SULZ Sulz-Cheisache 81.37 337⇓P P 15 46 27.0 0.0
HAU Haudompre 81.38 339 eP P 15 46 26.3 -0.7
comp=Z,201nm,1.2s,mb5.6
HAU eR
comp=Z,2μm,22.0s
HAU Haudompre 81.38 339 eP P 15 46 26.3 -0.7
HAU pmax pmax
comp=Z,101nm,1.2s,mb5.6
HAU MLR MLR
comp=Z,2μm,22.0s,MS5.4
HAU Haudompre 81.38 339 eP P 15 46 26.3 -0.7
comp=Z,101nm,1.2s,mb5.6
HAU LR LR
comp=Z,2μm,22.0s,MS5.4
ZUR Zurich 81.39 337⇓P P 15 46 27.5 +0.4
HDMB Hadim 81.40 316 eP P 15 46 26.9 -0.2
IKL Isikli 81.41 315 eP P 15 46 27.1 0.0
MMB Musomiste 81.42 324 eP P 15 46 27.6 +0.3
HINF Hinteralfeld 81.43 338 eP P 15 46 26.4 -0.9
comp=Z,67nm,0.9s,mb5.3
HINF Hinteralfeld 81.43 338 eP P 15 46 26.4 -0.9
HINF pmax pmax
comp=Z,33nm,0.9s,mb5.3
HINF Hinteralfeld 81.43 338 eP P 15 46 26.4 -0.9
comp=Z,34nm,0.9s,mb5.3
KKB Krupnik 81.44 325 eP P 15 46 27.3 -0.1
PLAL Pickwick Lake 81.45 47 eP P 15 46 26.4 -1.0
comp=Z,195nm,1.8s,mb5.7
SSPA Standing Stone 81.53 37 eP P 15 46 27.1 -0.8
comp=Z,47nm,1.0s,mb5.4
NVR Nevrokopi 81.57 324 eP P 15 46 29.5 +1.5
PLE Pljevlja 81.58 328⇑*i*P P 15 46 28.2 +0.1
BBS Basel-Blauen 81.58 338 eP P 15 46 27.8 -0.3
ISP Isparta 81.62 318 eP P 15 46 27.3 -1.0
ISP Isparta 81.62 318 eP P 15 46 27.6 -0.7
ISP pmax pmax
comp=Z,60nm,0.8s,mb5.6
ISP Isparta 81.62 318 eP P 15 46 27.6 -0.7
comp=Z,60nm,0.8s,mb5.6
KHL Karahalli 81.67 319 eP P 15 46 28.0 -0.6
BRMO Bormio 81.71 335 P P 15 46 30.3 +1.5
CTI Castel Tesino 81.72 334 P P 15 46 28.8 0.0
MUO Muotathal 81.74 337⇑P P 15 46 30.2 +1.3
LLS Linth-Limmern 81.75 336⇓P P 15 46 29.3 +0.3
IVA Berane 81.79 328⇑*i*P P 15 46 29.5 +0.3
PPT Papeete 81.83 126 eS S 15 56 37.9 -3.9
comp=Z,546nm,24.8s
PPT eLR LR 16 11 52.3
comp=Z,1μm,21.0s,baz=328
PPT Papeete 81.83 126 LR LR 16 15 35.9
comp=Z,2μm,20.2s,MS5.3,baz=276,slow=30
EZN Ezine 81.83 322 eP P 15 46 28.1 -1.3
HWQ Hawqa 81.84 312 eP P 15 46 32.4 +2.9
UPM Unac-Piva 81.86 328⇑*i*P P 15 46 29.3 -0.3
LOMF Lomont 81.87 338 eP P 15 46 29.1 -0.5
SRS Serrai 81.88 324 eP P 15 46 29.4 -0.3
SRS Serrai 81.88 324 P P 15 46 29.9 +0.2
STIP Stip 81.94 326 *i* P P 15 46 29.2 -0.8
VDL Val di Lei 81.95 336⇓P P 15 46 30.8 +0.8
SKO Skopje 81.99 326 *i* P P 15 46 31.0 +0.7
TUE Stuetta 82.00 336 P P 15 46 31.7 +1.4
PVY Plav 82.00 327⇑*i*P P 15 46 30.2 -0.1
KNT Kendrikon 82.11 325 eP P 15 46 30.9 0.0
KNT Kendrikon 82.11 325 P P 15 46 30.9 0.0
NKY Niksic 82.17 328⇑*i*P P 15 46 30.7 -0.5
FLN La Foliniere 82.21 343 eP P 15 46 30.5 -0.9
comp=Z,151nm,1.2s,mb5.5
FLN eR
comp=Z,2μm,18.0s
FLN La Foliniere 82.21 343 eP P 15 46 30.5 -0.9
FLN pmax pmax
comp=Z,76nm,1.2s,mb5.5
FLN MLR MLR
comp=Z,2μm,18.0s,MS5.5
FLN La Foliniere 82.21 343 eP P 15 46 30.5 -0.9
comp=Z,76nm,1.2s,mb5.5
FLN LR LR
comp=Z,2μm,18.0s,MS5.5
SOH Sokhos 82.22 324 P P 15 46 31.9 +0.4
LIA Limnos Island 82.25 323 eP P 15 46 31.4 -0.2
BRY Bratogost 82.26 329⇑*i*P P 15 46 30.3 -1.3
LOS Limnos 82.27 323 P P 15 46 32.3 +0.6
BHL Bhannes 82.28 312 eP P 15 46 33.1 +1.4
LDF La Druitiere 82.30 343 eP P 15 46 31.0 -0.9
comp=Z,108nm,1.2s,mb5.3
LDF La Druitiere 82.30 343 eP P 15 46 31.0 -0.9
LDF pmax pmax
comp=Z,54nm,1.2s,mb5.3
LDF La Druitiere 82.30 343 eP P 15 46 31.0 -0.9
comp=Z,54nm,1.2s,mb5.3
PRK Paraskevi 82.34 322 eP P 15 46 32.5 +0.4
DENT Denizli 82.36 319 eP P 15 46 33.9 +1.7
OUR Ouranopolis 82.38 324 eP P 15 46 31.4 -0.9
TZTN Tazewell 82.40 43 eP P 15 46 32.3 -0.1
DNZL Cakiroluk 82.41 319 *i* P P 15 46 39.3 +6.8
TTG Podgorica 82.41 328⇑*i*P P 15 46 31.1 -1.3
GRG Griva 82.49 325 eP P 15 46 32.3 -0.5
GRG Griva 82.49 325 P P 15 46 32.7 -0.1
HORT Hortiatis 82.51 324 eP P 15 46 32.7 -0.3
HORT Hortiatis 82.51 324 P P 15 46 33.2 +0.2
LKBD Leukerbad 82.55 337⇓P P 15 46 33.4 +0.2
LKBD ⇓P 15 46 33.7
PLG Polygyros 82.56 324 eP P 15 46 32.5 -0.8
PLG Polygyros 82.56 324 eP P 15 46 33.2 -0.1
CSS Prodhromos 82.60 314 P P 15 46 33.3 -0.1
comp=Z,2.0nm,0.7s
GRR Gorron 82.64 343 eP P 15 46 33.0 -0.6
comp=Z,391nm,1.3s,mb6.0
GRR Gorron 82.64 343 eP P 15 46 33.0 -0.6
GRR pmax pmax
comp=Z,196nm,1.3s,mb6.0
GRR Gorron 82.64 343 eP P 15 46 33.0 -0.6
comp=Z,196nm,1.3s,mb6.0
BUM Brajici-Budva 82.66 328⇑*i*P P 15 46 33.4 -0.4
SALA Sala 82.66 311 ⇓P P 15 46 35.8 +2.0
HCY Herceg Novi 82.67 328⇑*i*P P 15 46 33.4 -0.5
LOR Lormes 82.68 340 eP P 15 46 33.2 -0.6
comp=Z,130nm,1.0s,mb5.6
LOR eR
comp=Z,2μm,18.2s
LOR Lormes 82.68 340 eP P 15 46 33.2 -0.6

LOR pmax pmax
comp=Z,65nm,1.0s,mb5.6
LOR MLR MLR
comp=Z,2μm,18.3s,MS5.5
LOR Lormes 82.68 340 eP P 15 46 33.2 -0.6
comp=Z,65nm,1.0s,mb5.6
LOR LR LR
comp=Z,2μm,18.3s,MS5.5
MVL Millersville 82.70 36 eP P 15 46 33.7 -0.2
BLCB Balcova 82.72 321 P P 15 46 35.0 +0.9
CABF La Chapelle 82.74 338 eP P 15 46 33.9 -0.3
comp=Z,223nm,1.5s,mb5.7
CABF La Chapelle 82.74 338 eP P 15 46 33.9 -0.3
CABF pmax pmax
comp=Z,111nm,1.5s,mb5.7
CABF La Chapelle 82.74 338 eP P 15 46 33.9 -0.3
comp=Z,111nm,1.5s,mb5.7
ELL Elmali 82.79 318 eP P 15 46 34.1 -0.3
ALFC Alevga 82.80 315 P P 15 46 33.6 -0.9
FWV Forest Hill 82.81 41 eP P 15 46 34.2 -0.4
ULC Ulcinj 82.82 328⇑*i*P P 15 46 34.4 -0.2
DIX Grande Dixence 82.89 337⇓P P 15 46 35.8 +0.9
SSF Saint Saulge 82.95 340 eP P 15 46 34.6 -0.7
comp=Z,49nm,0.7s,mb5.3
SSF Saint Saulge 82.95 340 eP P 15 46 34.6 -0.7
SSF pmax pmax
comp=Z,24nm,0.7s,mb5.3
SSF Saint Saulge 82.95 340 eP P 15 46 34.6 -0.7
comp=Z,24nm,0.7s,mb5.3
ASF Jabal al Asfar 83.00 310 P P 15 46 36.3 +0.8
comp=Z,34nm,0.8s,mb5.4,baz=280,slow=3.3,SNR=48
ASF Jabal al Asfar 83.00 310 P P 15 46 36.3 +0.8
ASF pmax pmax
comp=Z,34nm,0.8s
SGMF Saint Gilles 83.09 344 eP P 15 46 35.4 -0.6
comp=Z,117nm,0.8s,mb5.6
SGMF Saint Gilles 83.09 344 eP P 15 46 35.4 -0.6
SGMF pmax pmax
comp=Z,59nm,0.8s,mb5.7
SGMF Saint Gilles 83.09 344 eP P 15 46 35.4 -0.6
comp=Z,58nm,0.8s,mb5.7
TIR Tirane 83.12 327 eP P 15 46 36.1 0.0
TIR Tirane 83.12 327 P P 15 46 36.8 +0.6
ELN Prospectdale 83.13 41⇑eP P 15 46 35.6 -0.6
PPCY Paphos 83.14 315 P P 15 46 35.6 -0.7
ROSF Rostrenen 83.15 345 eP P 15 46 35.7 -0.6
comp=Z,199nm,1.0s,mb5.8
ROSF Rostrenen 83.15 345 eP P 15 46 35.7 -0.6
ROSF pmax pmax
comp=Z,100nm,1.0s,mb5.8
ROSF Rostrenen 83.15 345 eP P 15 46 35.7 -0.6
comp=Z,100nm,1.0s,mb5.8
LIT Litokhoron 83.18 325 P P 15 46 36.4 -0.1
YER Yerkesik 83.21 319 eP P 15 46 35.6 -1.0
AVF Avril sur Loir 83.24 340 eP P 15 46 36.4 -0.4
comp=Z,320nm,1.2s,mb5.9
AVF Avril sur Loir 83.24 340 eP P 15 46 36.4 -0.4
AVF pmax pmax
comp=Z,160nm,1.2s,mb5.9
AVF Avril sur Loir 83.24 340 eP P 15 46 36.4 -0.4
comp=Z,160nm,1.2s,mb5.9
FETY Fethiye 83.26 318 eP P 15 46 36.6 -0.3
SMF Signal de Mont 83.27 340 eP P 15 46 36.6 -0.3
comp=Z,327nm,1.0s,mb6.0
SMF Signal de Mont 83.27 340 eP P 15 46 36.6 -0.3
SMF pmax pmax
comp=Z,163nm,1.0s,mb6.0
SMF Signal de Mont 83.27 340 eP P 15 46 36.6 -0.3
comp=Z,163nm,1.0s,mb6.0
KZN Kozani 83.29 325 eP P 15 46 36.8 -0.2
BLA Blacksburg 83.29 41⇓eP P 15 46 36.2 -0.8
BLA pmax pmax
comp=Z,63nm,1.0s,mb5.6
BLA Blacksburg 83.29 41⇓eP P 15 46 36.2 -0.8
comp=Z,63nm,1.0s,mb5.6
MLSB Milas 83.30 319 eP P 15 46 38.9 +1.8
DALT Dalyan (Mudla) 83.35 319 eP P 15 46 38.1 +0.7
FSSB Fossombrone 83.50 333 P P 15 46 38.2 +0.1
XOR Xorichti 83.52 324 eP P 15 46 37.8 -0.4
XOR Xorichti 83.52 324 P P 15 46 37.9 -0.3
QUIF Quistinic 83.53 345 eP P 15 46 37.8 -0.5
comp=Z,454nm,1.8s,mb6.0
QUIF Quistinic 83.53 345 eP P 15 46 37.8 -0.5
QUIF pmax pmax
comp=Z,227nm,1.8s,mb6.0
QUIF Quistinic 83.53 345 eP P 15 46 37.8 -0.5
comp=Z,227nm,1.8s,mb6.0
NEO Neokhori 83.56 324 eP P 15 46 37.3 -1.1
GSCL Gusciola 83.58 334 P P 15 46 40.7 +2.2
BGF Bois d'Agland 83.58 340 eP P 15 46 38.0 -0.5
comp=Z,62nm,0.8s,mb5.5
BGF Bois d'Agland 83.58 340 eP P 15 46 38.0 -0.5
BGF pmax pmax
comp=Z,31nm,0.8s,mb5.5
BGF Bois d'Agland 83.58 340 eP P 15 46 38.0 -0.5
comp=Z,31nm,0.8s,mb5.5
LPL La Plagne 83.59 337 eP P 15 46 39.0 +0.4
comp=Z,159nm,1.1s,mb5.8
LPL La Plagne 83.59 337 eP P 15 46 39.0 +0.4
comp=Z,80nm,1.1s,mb5.8
SFI Santa Sofia 83.60 333 P P 15 46 40.2 +1.6
LPG La Plagne 83.60 337 eP P 15 46 39.4 +0.8
comp=Z,245nm,1.1s,mb5.9
LPG La Plagne 83.60 337 eP P 15 46 39.4 +0.8
comp=Z,122nm,1.1s,mb6.0
SEI Scarperia 83.62 334 P P 15 46 40.9 +2.2
BDRM Kayabasi 83.64 320 *i* P P 15 46 37.6 -1.3
VMG Vicchio 83.64 334 P P 15 46 40.8 +2.0
BODT Bodrum 83.70 320 eP P 15 46 39.4 +0.3
CBN Corbin 83.79 38 eP P 15 46 38.2 -1.4
comp=Z,48nm,0.3s,mb6.1
CRE Caprese Michel 83.83 333 P P 15 46 40.9 +1.1
THL Klokotos Trika 83.83 325 eP P 15 46 37.4 -2.4
SNTG Esanatoglia 83.84 332 P P 15 46 41.1 +1.2
DAT Datca 83.86 319 eP P 15 46 38.1 -1.9
MEV Metsovon 83.95 325 eP P 15 46 41.1 +0.7
MEV Metsovon 83.95 325 P P 15 46 42.0 +1.6
PLDF La Plantade 83.95 340 eP P 15 46 40.5 +0.1
TCF Toulx Ste Croi 83.98 341 eP P 15 46 40.2 -0.4
comp=Z,54nm,0.8s,mb5.4
TCF Toulx Ste Croi 83.98 341 eP P 15 46 40.2 -0.4
comp=Z,27nm,0.8s,mb5.4
AGO Saint Agoulin 83.99 340 eP P 15 46 41.0 +0.4
BNI Bardonecchia 84.03 337 eP P 15 46 40.3 -0.5
comp=Z,147nm,1.5s,mb5.9
CSNT Castellina Chi 84.17 334 P P 15 46 42.5 +1.0
AGG Agios Georgios 84.17 324 eP P 15 46 39.8 -1.7
AGG Agios Georgios 84.17 324 P P 15 46 40.6 -0.9
MFF Saint Martin d 84.20 342 eP P 15 46 40.9 -0.8
comp=Z,42nm,0.8s,mb5.3
MFF Saint Martin d 84.20 342 eP P 15 46 40.9 -0.8
comp=Z,21nm,0.8s,mb5.3
JAN Janina 84.21 325 eP P 15 46 42.3 +0.6
LKR Lokris 84.21 323 eP P 15 46 39.8 -1.9
FGMS Monte Sant'Ang 84.22 330 P P 15 46 41.8 0.0
MBDF Montbardon 84.31 337 eP P 15 46 42.1 -0.1
comp=Z,50nm,0.8s,mb5.4
MBDF Montbardon 84.31 337 eP P 15 46 42.1 -0.1
comp=Z,25nm,0.8s,mb5.4
PTL Penteli 84.36 323 eP P 15 46 35.0 -7.5
ORIF Oris-en-Rattie 84.37 338 eP P 15 46 42.6 +0.1
comp=Z,127nm,0.8s,mb5.8
ORIF eR
comp=Z,1μm,19.0s
ORIF Oris-en-Rattie 84.37 338 eP P 15 46 42.6 +0.1
comp=Z,63nm,0.8s,mb5.8
RGNG Rignano Grg 84.38 330 P P 15 46 41.2 -1.4
DOI San Damiano 84.39 337 P P 15 46 41.1 -1.5
EVR Evrytania 84.47 324 eP P 15 46 42.7 -0.3
AQU L'Aquila 84.51 332⇓*i*P P 15 46 43.8 +0.6
AQU L'Aquila 84.51 332⇓eP P 15 46 43.6 +0.3
comp=Z,79nm,1.0s,mb5.8
IGT Igoumenitsa 84.52 326 eP P 15 46 43.1 -0.2
KLBR Kellerberrin 84.54 210⇑*i*P P 15 46 42.8 -0.6
comp=Z,30nm,0.7s,mb5.5
KEK Kerkira 84.57 326 eP P 15 46 42.7 -0.8
KVR Kavouri 84.59 322 eP P 15 46 43.0 -0.7
LBL Lubilhac 84.73 340 eP P 15 46 45.2 +0.8
VIVF Saint-Julien-l 84.74 338 eP P 15 46 44.3 -0.1
comp=Z,58nm,0.8s,mb5.5
VIVF Saint-Julien-l 84.74 338 eP P 15 46 44.3 -0.1
comp=Z,29nm,0.8s,mb5.5
IMI Imperia 84.76 336 P P 15 46 44.2 -0.3
NAIG Nisos Aigina 84.77 323 eP P 15 46 43.5 -1.0
SAOF Saorge 84.78 336 eP P 15 46 43.8 -0.8

AUTN	**L'Aution**	**84.81**	**336**	*e*P		**P**		**15 46 44.6**	**-0.2**
FG5	**Orsara di Pugl**	**84.84**	**330**	P		**P**		**15 46 45.2**	**+0.3**
TOUF	**Mont Tournerai**	**84.84**	**336**	*e*P		**P**		**15 46 44.9**	**0.0**
LUCF	**Luceram**	**84.93**	**336**	*e*P		**P**		**15 46 45.9**	**+0.5**
SBF	**Sospel**	**84.93**	**336**	*e*P		**P**		**15 46 45.0**	**-0.4**
	comp=Z,382nm,1.4s,mb6.0								
SBF	**Sospel**	**84.93**	**336**	*e*P		**P**		**15 46 45.0**	**-0.4**
	comp=Z,191nm,1.4s,mb6.0								
SDI	**San Donato**	**84.95**	**331**	P		**P**		**15 46 44.9**	**-0.6**
MVIF	**Mont Vial**	**84.98**	**336**	*e*P		**P**		**15 46 44.9**	**-0.7**
GOGA	**Godfrey**	**84.98**	**45**⇓	*e*P		**P**		**15 46 44.8**	**-0.9**
	comp=Z,90nm,1.4s,mb5.7								
KARP	**Karpathos**	**85.03**	**319**	*e*P		**P**		**15 46 45.1**	**-0.8**
REVF	**Revere**	**85.06**	**336**	*e*P		**P**		**15 46 45.9**	**-0.1**
RJF	**Les Rejaudoux**	**85.07**	**341**	*e*P		**P**		**15 46 45.8**	**-0.3**
	comp=Z,32nm,0.8s,mb5.2								
RJF					*e*R				
	comp=Z,434nm,17.2s								
RJF	**Les Rejaudoux**	**85.07**	**341**	*e*P		**P**		**15 46 45.8**	**-0.3**
	comp=Z,16nm,0.8s,mb5.2								
RJF					LR	LR			
	comp=Z,430nm,17.3s,MS4.9								
LKD	**Levkas**	**85.11**	**325**	*e*P		**P**		**15 46 45.4**	**-0.8**
RFI	**Roccamonfina**	**85.26**	**331**	P		**P**		**15 46 47.7**	**+0.7**
CAF	**Calviac**	**85.30**	**340**	*e*P		**P**		**15 46 47.2**	**0.0**
	comp=Z,28nm,0.8s,mb5.2								
CAF	**Calviac**	**85.30**	**340**	*e*P		**P**		**15 46 47.2**	**0.0**
	comp=Z,14nm,0.8s,mb5.2								
JSC	**Jenkinsville**	**85.32**	**43**	*e*P		**P**		**15 46 47.5**	**+0.2**
SMRF	**Simiane la Rot**	**85.33**	**338**	*e*P		**P**		**15 46 47.3**	**-0.1**
	comp=Z,73nm,0.9s,mb5.5								
SMRF	**Simiane la Rot**	**85.33**	**338**	*e*P		**P**		**15 46 47.3**	**-0.1**
	comp=Z,73nm,0.9s,mb5.8								
RLS	**Riolos of Patr**	**85.34**	**324**	*e*P		**P**		**15 46 47.7**	**+0.3**
LHS	**Liberty Hill**	**85.38**	**42**	*e*P		**P**		**15 46 47.6**	**0.0**
FRF	**La Foret Royal**	**85.43**	**337**	*e*P		**P**		**15 46 47.6**	**-0.2**
LFF	**La Frestale**	**85.59**	**341**	*e*P		**P**		**15 46 48.4**	**-0.3**
	comp=Z,52nm,0.7s,mb5.6								
LFF	**La Frestale**	**85.59**	**341**	*e*P		**P**		**15 46 48.4**	**-0.3**
	comp=Z,26nm,0.7s,mb5.6								
LASF	**Ste Croix**	**85.67**	**339**	*e*P		**P**		**15 46 48.6**	**-0.5**
	comp=Z,53nm,1.1s,mb5.4								
LMR	**La Mourre**	**85.67**	**337**	*e*P		**P**		**15 46 48.6**	**-0.5**
	comp=Z,214nm,1.1s,mb6.0								
LMR	**La Mourre**	**85.67**	**337**	*e*P		**P**		**15 46 48.6**	**-0.5**
	comp=Z,107nm,1.0s,mb6.0								
PGF	**Pioggiola**	**85.69**	**335**	*e*P		**P**		**15 46 49.2**	**0.0**
	comp=Z,170nm,1.3s,mb5.8								
PGF	**Pioggiola**	**85.69**	**335**	*e*P		**P**		**15 46 49.2**	**0.0**
	comp=Z,85nm,1.3s,mb5.8								
TDS	**Terranova Siba**	**85.90**	**328**	P		**P**		**15 46 47.7**	**-2.5**
ITM	**Ithomi**	**85.91**	**323**	*e*P		**P**		**15 46 49.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**85.93**	**210**	P		**P**		**15 46 50.2**	**-0.2**
	comp=Z,40nm,0.8s,mb5.7,baz=34,slow=4.2,SNR=12								
NWAO					LR	LR		16 22 26.5	
	comp=Z,336nm,20.1s,MS4.7,baz=222,slow=34								
NWAO	**Narrogin (SRO)**	**85.93**	**210**	*e*P		**P**		**15 46 49.3**	**-1.0**
	comp=Z,46nm,1.2s,mb5.6								
EIL	**Elat**	**86.00**	**310**	*e*P		**P**		**15 46 50.8**	**+0.1**
	comp=Z,815nm,0.9s								
TIP	**Timpagrande**	**86.17**	**328**	*e*P		**P**		**15 46 51.1**	**-0.5**
KYTH	**Kithira**	**86.21**	**322**	*e*P		**P**		**15 46 50.0**	**-1.8**
XRY	**Khrisi**	**86.25**	**320**	*e*P		**P**		**15 46 51.5**	**-0.4**
COW	**Cow Castle Cre**	**86.33**	**43**	*e*P		**P**		**15 46 52.5**	**+0.2**
TBI	**Tubuai**	**86.59**	**130**	*e*LR		LR		16 13 54.0	
	comp=Z,1μm,21.0s,baz=324								
MTLF	**Montolieu**	**86.76**	**340**	*e*P		**P**		**15 46 54.2**	**-0.3**
	comp=Z,72nm,1.2s,mb5.5								
MTLF	**Montolieu**	**86.76**	**340**	*e*P		**P**		**15 46 54.2**	**-0.3**
	comp=Z,36nm,1.2s,mb5.5								
GVD	**Gavdhos**	**86.99**	**321**	*e*P		**P**		**15 46 57.0**	**+1.5**
SCLL	**Scilla**	**87.37**	**328**	P		**P**		**15 46 56.6**	**-0.8**
SOI	**Samo**	**87.41**	**328**	P		**P**		**15 46 57.5**	**-0.1**
EPF	**Esparros**	**87.49**	**341**	*e*P		**P**		**15 46 57.5**	**-0.5**
	comp=Z,28nm,1.0s,mb5.1								
EPF	**Esparros**	**87.49**	**341**	*e*P		**P**		**15 46 57.5**	**-0.5**
	comp=Z,14nm,1.0s,mb5.2								
MTTG	**Motta San Giov**	**87.60**	**328**	P		**P**		**15 46 58.6**	**+0.1**
SJPF	**Ste Jean**	**87.76**	**342**	*e*P		**P**		**15 46 59.2**	**-0.1**
	comp=Z,46nm,1.2s,mb5.3								
SJPF	**Ste Jean**	**87.76**	**342**	*e*P		**P**		**15 46 59.2**	**-0.1**
	comp=Z,23nm,1.2s,mb5.3								
ETSF	**Etsaut**	**87.82**	**341**	*e*P		**P**		**15 46 59.5**	**-0.1**
	comp=Z,21nm,0.7s,mb5.2								
ETSF	**Etsaut**	**87.82**	**341**	*e*P		**P**		**15 46 59.5**	**-0.1**
	comp=Z,11nm,0.7s,mb5.2								
VSL	**Villasalto**	**88.38**	**333**	*e*P		**P**		**15 47 02.2**	**0.0**
	comp=Z,30nm,0.9s,mb5.5								
TAU	**Tasmania Unive**	**89.52**	**185**	*e*P		**P**		**15 47 06.9**	**-0.7**
	comp=Z,34nm,1.0s,mb5.6								
RPZ	**Rata Peaks**	**91.43**	**168**	P		**P**		**15 47 17.4**	**+0.9**
	comp=Z,13nm,0.8s,mb5.3,baz=16,slow=5.5,SNR=3.8								
CMAH	**Djebel Manchou**	**91.62**	**334**	P		**P**		**15 47 17.0**	**-0.3**
ESDC	**Sonseca Array**	**91.63**	**343**	P		**P**		**15 47 16.2**	**-1.2**
	comp=Z,8.0nm,0.9s,mb5.1,baz=6.0,slow=4.1,SNR=16								
ESDC					LR	LR		16 34 50.5	
	comp=Z,1μm,18.7s,MS5.4,baz=20,slow=40								
KEST	**Kesra**	**91.83**	**332**	P		**P**		**15 47 18.0**	**-0.4**
	comp=Z,9.1nm,0.9s,mb5.1,baz=313,slow=0.6,SNR=16								
KEST					LR	LR		16 34 03.6	
	comp=Z,496nm,18.1s,MS5.0,baz=344,slow=39								
CKFL	**Kef-Lekhel**	**92.04**	**334**	P		**P**		**15 47 19.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**92.16**	**335**	P		**P**		**15 47 22.0**	**+2.2**
CASM	**Ain Smara**	**92.24**	**334**	P		**P**		**15 47 20.0**	**-0.2**
CTEI	**Djebel Teioual**	**92.45**	**334**	P		**P**		**15 47 21.0**	**-0.2**
SET	**Setif**	**92.62**	**335**	P		**P**		**15 47 24.0**	**+2.0**
CMER	**Merouana**	**93.01**	**334**	P		**P**		**15 47 21.0**	**-2.8**
TEIG	**Tepich**	**93.01**	**56**	PFAKE				15 47 40.0	+16
TEIG					LR	LR			
	comp=Z,410nm,19.0s,MS4.9								
RKT	**Rikitea**	**94.62**	**119**	*e*PS		PS		15 59 58.2	-2.9
	comp=Z,426nm,24.2s								
RKT	**Rikitea**	**94.62**	**119**	*e*SKSac		SKSac		15 57 58.4	-7.2
	comp=Z,197nm,28.7s								
RKT					*e*SS	SS		16 05 07.8	+1.5
	comp=Z,186nm,24.8s								
RKT					*e*LR	LR		16 17 31.1	
	comp=Z,674nm,29.0s,baz=324								
JTS	**JuntasAbangare**	**102.82**	**60**	PFAKE				15 48 20.0	+12
JTS					LR	LR			
	comp=Z,76nm,20.0s,MS4.2								
SDV	**Santo Domingo**	**111.92**	**48**	PFAKE				15 53 00.0	+15
SDV					LR	LR			
	comp=Z,243nm,21.0s,MS4.8								
OTAV	**Otavalo**	**114.69**	**60**	PFAKE				15 53 00.0	+9.3
OTAV					LR	LR			
	comp=Z,201nm,20.0s,MS4.7								
TORD	**Torodi Ar. Bea**	**115.27**	**330**	PKP		PKiKP		15 52 51.5	-0.3
	comp=Z,1.6nm,0.7s,baz=1.8,slow=2.5,SNR=7.9								
TORD					PP	PP		15 53 46.8	-5.5
	comp=Z,3.3nm,1.0s,baz=12,slow=7.6,SNR=5.9								
TORD					PKKPbc	PKKPbc		16 03 24.6	-1.6
	comp=Z,1.1nm,0.7s,baz=239,slow=1.4,SNR=4.6								
LIC	**Lamto**	**123.94**	**334**	*e*PKIKP		PKPdf		15 53 08.1	-0.3
	comp=Z,13nm,0.8s								
LIC					*e*R				
	comp=Z,705nm,23.0s								
LIC	**Lamto**	**123.94**	**334**	*e*PKPdf		PKPdf		15 53 08.1	-0.3
LIC					LR	LR			
	comp=Z,350nm,23.0s,MS5.0								
VNDA	**Vanda**	**124.16**	**178**	PKP		PKPdf		15 53 06.0	-2.8
	comp=Z,6.9nm,0.8s,baz=329,slow=3.6,SNR=42								
VNDA	**Vanda**	**124.16**	**178**	PKIKP		PKPdf		15 53 06.0	-2.9
VNDA					pmax	pmax			
	comp=Z,7.0nm,0.8s								
VNDA	**Vanda**	**124.16**	**178**	*e*PKPdf		PKPdf		15 53 06.0	-2.9
SBA	**Scott Base**	**124.65**	**177**	*e*PKIKP		PKPdf		15 53 07.3	-2.5
LSZ	**Lusaka**	**125.17**	**286**	*e*PKIKP		PKPdf		15 53 11.0	+0.2
NNA	**Nana**	**125.20**	**68**	PFAKE				15 53 20.0	+9.1
NNA					LR	LR			
	comp=Z,44nm,22.0s,MS4.1								
SAML	**Samuel**	**130.89**	**52**	*e*PKPdf		PKPdf		15 53 21.3	-0.3
SAML					LR	LR			
	comp=Z,363nm,21.0s,MS5.0								
MAW	**Mawson**	**132.49**	**211**	*e*P		PKPdf		15 53 23.2	-1.5
	comp=Z,11nm,0.7s								
MAW					*e*pP			15 53 33.4	
MAW	**Mawson**	**132.49**	**211**	PKP		PKPdf		15 53 23.4	-1.3
	comp=Z,14nm,0.8s,baz=3.2,slow=2.0,SNR=26								
LBTB	**Lobatse**	**133.69**	**279**	*e*PKIKP		PKPdf		15 53 26.9	-0.1
LPAZ	**La Paz**	**133.91**	**63**	PKhKP				15 53 18.0	
	comp=Z,0.4nm,0.6s,baz=29,slow=12,SNR=3.6								
LPAZ					PKP	PKPdf		15 53 27.9	+0.5
	comp=Z,3.4nm,0.7s,baz=315,slow=2.7,SNR=17								
LPAZ	**La Paz**	**133.91**	**63**	PKP				15 53 18.0	
LPAZ					*e*PKPdf	PKPdf		15 53 27.2	-0.2
LPAZ					LR	LR			
	comp=Z,256nm,20.0s,MS4.9								
BOSA	**Boshof**	**136.25**	**276**	PKP		PKPdf		15 53 32.9	+1.2
	comp=Z,4.1nm,0.8s,baz=102,slow=3.6,SNR=5.3								
BOSA					PP	PP		15 56 07.0	-5.0
	comp=Z,4.9nm,0.9s,baz=46,slow=5.3,SNR=4.2								
BOSA	**Boshof**	**136.25**	**276**	PKIKP		PKPdf		15 53 32.9	+1.2
BOSA								15 56 07.0	
BOSA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BOSA					pmax	pmax			
	comp=Z,5.0nm,0.9s								
QSPA	**South Pole Qui**	**136.55**	**180**	*e*PKPpre				15 53 17.4	
QSPA					*e*PKPdf	PKPdf		15 53 29.0	-3.3
LVC	**Limon Verde**	**138.11**	**70**	PFAKE				15 53 50.0	+15
LVC					LR	LR			
	comp=Z,319nm,19.0s,MS5.1								
SYO	**Syowa Base**	**141.20**	**212**⇓	*e*X				15 53 33.0	
CFAA	**Coronel Fontan**	**144.54**	**80**	PKP		PKPdf		15 53 44.1	-2.6
	comp=Z,5.2nm,0.7s								
NVL	**N'lazarevskaya**	**149.88**	**204**	*d i*PKP2		PKPdf		15 53 57.2	+1.6
NVL					MLR	MLR			
	comp=Z,435nm,19.0s,MS5.3								
MAIT	**Maitri**	**149.90**	**204**	*e*PKPdf		PKPdf		15 53 58.4	+2.7
TRQA	**Tornquist**	**152.40**	**85**	*e*PKPdf		PKPdf		15 53 59.1	-0.4
TRQA				*e*PKPbc		PKPbc		15 54 04.9	-1.4
TRQA				*e*PKPab		PKPab		15 54 14.7	-1.7
TRQA				LR		LR			
	comp=Z,657nm,19.0s,MS5.5								
USHA	**Ushuaia**	**152.52**	**123**	PKP		PKPdf		15 54 00.7	+1.0
	comp=Z,28nm,1.2s,baz=255,slow=3.3,SNR=2.5								
USHA					PKPbc	PKPbc		15 54 06.0	-0.6
	comp=Z,16nm,1.0s,baz=233,slow=2.0,SNR=4.8								
USHA					PKPab	PKPab		15 54 15.7	-1.2
	comp=Z,27nm,1.1s,baz=229,slow=4.4,SNR=4.1								
SNAA	**Sanae**	**152.74**	**196**	PKP		PKPdf		15 53 57.5	-2.5
	comp=Z,1.4nm,1.1s,baz=222,slow=1.6,SNR=5.9								
SNAA					PKPbc	PKPbc		15 54 04.3	-2.8
	comp=Z,12nm,0.6s,baz=191,slow=3.2,SNR=147								
SNAA					PKPab	PKPab		15 54 15.0	-2.9
	comp=Z,14nm,0.8s,baz=226,slow=1.5,SNR=15								
SNAA	**Sanae**	**152.74**	**196**	*e*PKPdf		PKPdf		15 53 56.8	-3.2
SNAA				*e*PKPbc		PKPbc		15 54 04.2	-2.9
PMSA	**Palmer Station**	**152.77**	**145**	PKPbc		PKPbc		15 54 05.2	-1.9
	comp=Z,30nm,0.9s,baz=203,slow=2.4,SNR=6.1								
PMSA					PKPab	PKPab		15 54 15.4	-2.6
	comp=Z,24nm,0.9s,baz=141,slow=3.7,SNR=4.5								
PMSA	**Palmer Station**	**152.77**	**145**	*e*PKPdf		PKPdf		15 53 59.4	-0.6
PMSA				*e*PKPbc		PKPbc		15 54 03.8	-3.4
PMSA				PKPbc		PKPbc		15 54 05.2	-1.9
PMSA				*e*PKPab		PKPab		15 54 15.1	-3.0
PMSA				PKPab		PKPab		15 54 15.4	-2.6
VNA2	**Neumayer--Watz**	**154.17**	**194**	*e*PKPdf		PKPdf		15 54 00.0	-2.0
VNA2				*e*				15 54 08.6	
VNA2				*e*				15 54 11.2	
VNA2				*e*				15 54 17.2	
VNA2				*e*				15 54 22.4	
VNA2				*e*				15 54 25.3	
VNA2				*e*				15 54 32.6	
VNA2				*e*				15 54 41.7	
VNA3	**Neumayer Olymp**	**154.25**	**192**	*e*PKPdf		PKPdf		15 53 59.8	-2.3
VNA3				*e*				15 54 08.1	
VNA3				*e*				15 54 10.9	
VNA3				*e*				15 54 16.8	
VNA3				*e*				15 54 22.3	
VNA3				*e*				15 54 25.3	
VNA3				*e*				15 54 32.6	
VNA1	**Neumayer--Stat**	**154.56**	**194**	*e*PKPdf		PKPdf		15 54 00.0	-2.6
VNA1				*e*				15 54 09.6	
VNA1				*e*				15 54 11.8	
VNA1				*e*				15 54 23.2	
VNA1				*e*				15 54 34.4	
HOPE	**Hope Point**	**170.08**	**143**	*e*PKPdf		PKPdf		15 54 17.6	-0.4

*ISCJB **24** 15:36:13.2±0.5, 36**3**0N±003×377W±003, h9km±3km, Error ellipse: s-maj=4.4km s-min=4.2km az=123.5*
*CSEM **24** 15:36:14.9±0.1, 3626N×370W, h5km, mb2.7, Error ellipse: s-maj=2.0km s-min=1.8km az=78.0*
*SFS **24** 15:36:15.0, 3627N×379W, h0km, ML2.7*
*NEIC **24** 15:36:15.1, 3627N×379W, h0km, MN2.7(MDD), After MDD.*
*MDD **24** 15:36:15.3±0.3, 3628N×377W, h0km, mbLg2.7/17, Error ellipse: s-maj=3.1km s-min=2.5km az=55.0, PRXIMO*
*CNRM **24** 15:36:21.3, 3605N×327W, h17km, MD3.3*

ISC 24 15:36:14.2±0.5, 3629N±002×375W±003, h8km±3km, n51, σ1§10/67, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGUA	**Guajares**	**0.56**	**15**	Pg	**Pg**	**15 36 25.9**	**+0.8**
	112nm,0.2s,SNR=7.9						
EGUA				Lg		15 36 34.5	
	167nm,0.3s,SNR=7.9						
EALB	**Alboran**	**0.67**	**121**	⇑Pg	**Pg**	**15 36 28.1**	**+0.8**
	128nm,0.2s,SNR=18						
EALB				Lg		15 36 37.3	
	178nm,0.1s,SNR=13						
EALB	**Alboran**	**0.67**	**121**	Pg	**Pg**	**15 36 28.1**	**+0.9**
	128nm,0.2s,SNR=18						
ERON	**Agron**	**0.73**	**356**	Pg	**Pg**	**15 36 28.7**	**+0.5**
	23nm,0.2s,SNR=24						
ERON				Lg		15 36 39.0	
	118nm,0.3s,SNR=28						
EMIJ	**Mijas**	**0.87**	**289**	Pg	**Pg**	**15 36 30.2**	**-0.8**
EMIJ				Lg		15 36 40.9	
EMIJ	**Mijas**	**0.87**	**289**	Pg	**Pg**	**15 36 30.2**	**-0.8**
	9.5nm,0.1s,SNR=55						
EMIJ				Lg		15 36 40.9	
	224nm,0.2s,SNR=9.0						
ELOJ	**Sierra Loja**	**0.92**	**339**	Pg	**Pg**	**15 36 32.2**	**+0.4**
	SNR=7.9						
ELOJ				Pg	**Pg**	**15 36 32.3**	**+0.4**
	7.1nm,0.2s,SNR=7.9						
ELOJ				Lg		15 36 46.2	
	18nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.92**	**339**	Pg	**Pg**	**15 36 32.3**	**+0.5**
	7.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.92**	**48**	Pg	**Pg**	**15 36 31.8**	**0.0**
	26nm,0.2s,SNR=4.0						
EBER				Lg		15 36 43.7	
	260nm,0.3s,SNR=18						
EBER	**Berja**	**0.92**	**48**	Pg	**Pg**	**15 36 31.8**	**-0.1**
	26nm,0.2s,SNR=4.0						
EQUE	**Quentar**	**0.94**	**15**	Pg	**Pg**	**15 36 33.2**	**+0.8**
	8.1nm,0.1s,SNR=22						
EQUE				Lg		15 36 44.7	
	89nm,0.3s,SNR=13						
ECOG	**Cogollos-Vega**	**0.99**	**8**	Pg	**Pg**	**15 36 34.1**	**+0.8**
	3.8nm,0.1s,SNR=7.9						
ECOG				Lg		15 36 46.0	
	65nm,0.3s,SNR=7.9						
MPAL	**Palemas**	**1.07**	**189**	*e*P	**Pg**	**15 36 39.0**	**+4.1**
EMEL	**Melilla**	**1.18**	**147**	Pg	**Pg**	**15 36 35.9**	**-0.9**
	162nm,0.2s,SNR=4.6						
EMEL				Lg		15 36 50.5	
	309nm,0.2s,SNR=6.7						
EMLI	**Melilla**	**1.18**	**147**	Pg	**Pg**	**15 36 35.9**	**-1.0**
	162nm,0.2s,SNR=4.6						
TOU	**Touzarine**	**1.33**	**180**	Pg	**Pg**	**15 36 40.0**	**+0.3**
TOU				Lg		15 36 55.0	
TOU	**Touzarine**	**1.33**	**180**	*i* P	**Pg**	**15 36 40.0**	**+0.3**
ELUQ	**Luque**	**1.33**	**342**	Pg	**Pg**	**15 36 39.0**	**-0.9**
ELUQ				Pg	**Pg**	**15 36 42.8**	**+3.0**
ELUQ				Lg		15 36 59.4	
ELUQ				Lg		15 37 00.3	
ELUQ	**Luque**	**1.33**	**342**	Pg	**Pg**	**15 36 42.8**	**+3.0**
	5.5nm,0.2s,SNR=7.0						
ELUQ				Lg		15 36 59.4	
	25nm,0.2s,SNR=5.0						
ELUQ	**Luque**	**1.33**	**342**	Pg	**Pg**	**15 36 39.0**	**-0.8**
EJIF	**Jimena Fronter**	**1.40**	**277**	Pg	**Pg**	**15 36 39.8**	**-1.3**
	4.0nm,0.3s,SNR=7.9						
EJIF				Lg		15 36 59.0	
	14nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.41**	**61**	⇑Pg	**Pg**	**15 36 40.1**	**-1.2**
	22nm,0.2s,SNR=18						
ENIJ				Sn	**Sn**	**15 36 57.7**	**-1.2**
	46nm,0.3s,SNR=5.0						
LIJA	**Lijar**	**1.47**	**295**	Pg	**Pg**	**15 36 43.0**	**+0.6**
LIJA				Lg		15 37 06.0	
LIJA	**Lijar**	**1.47**	**295**	*i* P	**Pg**	**15 36 43.0**	**+0.6**
ZAI	**Zaio**	**1.55**	**148**	Pg	**Pn**	**15 36 41.0**	**-1.0**
ZAI				Lg		15 36 57.0	
ZAI	**Zaio**	**1.55**	**148**	*i* P	**Pn**	**15 36 41.0**	**-1.0**
EQES	**Quesada**	**1.60**	**19**	Pg	**Pg**	**15 36 45.3**	**+0.3**
	8.7nm,0.1s,SNR=14						
EQES				Lg		15 37 06.1	
	127nm,0.3s,SNR=9.5						
EQES	**Quesada**	**1.60**	**19**	Pg	**Pg**	**15 36 45.3**	**+0.3**
	8.7nm,0.1s,SNR=14						
EHUE	**Huescar**	**1.78**	**31**	Pg	**Pg**	**15 36 47.3**	**-1.0**
	3.9nm,0.2s,SNR=7.9						
EHUE				Lg		15 37 12.1	
	23nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.87**	**359**	Pg	**Pg**	**15 36 49.6**	**-0.5**
	8.6nm,0.2s,SNR=7.7						
EBAN				Lg		15 37 14.2	
	22nm,0.3s,SNR=7.3						
EADA	**Adamuz**	**1.99**	**341**	Pn	**Pn**	**15 36 49.4**	**+1.4**
	0.8nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**15 36 52.0**	**-0.3**
	7.5nm,0.2s,SNR=32						
EADA				Lg		15 37 18.2	
	38nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**1.99**	**341**	Pn	**Pn**	**15 36 49.4**	**+1.3**
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.99**	**341**	Pg	**Pg**	**15 36 52.0**	**-0.3**
	7.5nm,0.2s,SNR=32						
EMUR	**La Murta**	**2.53**	**52**	Pn	**Pn**	**15 36 55.5**	**0.0**
	4.5nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**15 37 24.7**	**-1.9**
	SNR=7.9						
EMUR	**La Murta**	**2.53**	**52**	Pn	**Pn**	**15 36 55.5**	**-0.1**
	4.5nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**15 37 24.7**	**-1.9**
	SNR=7.9						
EVIA	**Vianos**	**2.54**	**23**	Pg	**Pg**	**15 37 02.8**	**-0.1**
	8.9nm,0.3s,SNR=6.9						
EVIA				Lg		15 37 36.7	
	21nm,0.4s,SNR=4.7						
EMIN	**Mina Concepcio**	**2.77**	**303**	Pn	**Pn**	**15 36 59.3**	**+0.5**
	5.3nm,0.1s,SNR=12						
EMIN				Sn	**Sn**	**15 37 31.2**	**-1.2**
	7.0nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**2.77**	**303**	Pn	**Pn**	**15 36 59.3**	**+0.5**
	5.3nm,0.1s,SNR=12						
EMIN				Sn	**Sn**	**15 37 31.2**	**-1.1**
	SNR=5.0						
ETOB	**Tobarra**	**2.93**	**36**	Pn	**Pn**	**15 37 04.4**	**+3.4**
	0.9nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**15 37 38.9**	**+2.6**
	3.8nm,0.2s,SNR=7.9						
ETOB				Lg		15 37 47.0	
	9.3nm,0.4s,SNR=7.9						
MIF	**Mishlifen**	**3.12**	**203**	Pn	**Pn**	**15 37 09.0**	**+5.3**
MIF				Sn	**Sn**	**15 37 43.0**	**+1.9**
MIF	**Mishlifen**	**3.12**	**203**	*e*P	**Pn**	**15 37 09.0**	**+5.3**
EGRO	**El Granado**	**3.24**	**294**	Pn	**Pn**	**15 37 06.0**	**+0.7**
	2.1nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**15 37 42.5**	**-1.6**
	12nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.24**	**294**	Pn	**Pn**	**15 37 06.0**	**+0.7**
EGRO				Sn	**Sn**	**15 37 42.5**	**-1.6**
ESDC	**Sonseca Array**	**3.38**	**357**	Pn	**Pn**	**15 37 09.2**	**+2.0**
	2.3nm,0.2s,baz=174,slow=12,SNR=4.4						
ESDC				Pg	**Pg**	**15 37 18.7**	**-0.4**
	1.5nm,0.1s,baz=184,slow=12,SNR=5.0						
ESDC				Lg		15 38 02.0	
	5.3nm,0.3s,baz=179,slow=28,SNR=13						
ESDC	**Sonseca Array**	**3.38**	**357**	Pn	**Pn**	**15 37 09.2**	**+2.0**
ESDC	**Sonseca

MAJO **Matsushiro** 14.79 232 *e*P P 15 43 05.1 -3.7
MJAR **Matsushiro Arr** 14.79 232 P P 15 43 08.9 +0.1
comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=4.0
VLA **Vladivostok** 15.17 264 *e*P P 15 43 14.8 +1.0
VLA pmax pmax
comp=Z,32nm,1.5s
YAK **Yakutsk** 20.29 328⇓*e*P P 15 44 14.9 +0.5
YAK pmax pmax
comp=Z,30nm,0.6s
YAK **Yakutsk** 20.29 328 *e*P P 15 44 15.0 +0.6
KSRS **Korea Array** 20.50 252 P P 15 44 17.7 +1.0
comp=Z,10.0nm,0.7s,baz=62,slow=8.9,SNR=14
INCN **Inchon** 21.33 254 *e*P P 15 44 28.3 +2.7
comp=Z,30nm,0.7s,mb4.7
HIA **Hailar** 22.15 289 *e*P P 15 44 33.4 -1.0
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA **Hailar** 22.15 289 *e*P P 15 44 33.4 -1.0
comp=Z,7.6nm,0.8s,mb4.2
BILL **Bilibino** 22.58 13⇓*e*P P 15 44 40.3 +1.4
BILL *e*S S 15 48 31.8 -12
BILL pmax pmax
comp=Z,11nm,0.8s,mb4.3
NJ2 **Nanjing** 29.70 253 *e*P P 15 45 50.6 +6.5
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
ULN **Ulaanbaatar** 30.68 289 *e*P P 15 45 53.8 +1.0
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ULN **Ulaanbaatar** 30.68 289 *e*P P 15 45 53.8 +1.0
comp=Z,7.9nm,0.9s,mb4.5
SONM **Songino Array** 31.12 289 P P 15 45 57.3 +0.7
comp=Z,1.7nm,0.8s,mb4.0,baz=76,slow=7.7,SNR=3.6
SONM **Songino Array** 31.12 289 P P 15 45 57.3 +0.7
SONM pmax pmax
comp=Z,2.0nm,0.8s
KDAK **Kodiak Island** 34.40 51 P P 15 46 24.2 -1.0
comp=Z,8.5nm,0.7s,mb4.8,baz=322,slow=4.5,SNR=7.7
MCK **McKinley** 35.93 40 P P 15 46 38.3 -0.1
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MCK **McKinley** 35.93 40 P P 15 46 38.3 -0.1
comp=Z,6.2nm,1.1s,mb4.5
SML **Sawmill** 36.25 43 *e*P P 15 46 41.0 -0.2
COLA **College** 36.41 38 *e*P P 15 46 41.3 -1.2
CD2 **Chengdu** 40.60 265 *e*P P 15 47 17.8 +0.1
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
INK **Inuvik** 41.91 32 P P 15 47 29.0 +0.6
comp=Z,6.1nm,0.8s,mb4.3,baz=277,slow=7.6,SNR=7.9
INK **Inuvik** 41.91 32 P P 15 47 29.0 +0.6
INK pmax pmax
comp=Z,6.0nm,0.8s
INK **Inuvik** 41.91 32 P P 15 47 29.0 +0.6
ZAL **Zalesovo** 42.48 306 P P 15 47 32.1 -1.0
comp=Z,2.3nm,0.4s,mb4.2,baz=96,slow=4.3,SNR=4.5
ZAL PcP PcP 15 49 25.5 +0.3
comp=Z,2.8nm,0.8s,baz=359,slow=0.9,SNR=5.9
ZAL **Zalesovo** 42.48 306 P P 15 47 32.1 -1.0
ZAL 15 49 25.5
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL pmax pmax
comp=Z,3.0nm,0.8s
WMQ **Urumqi** 44.72 291⇑*i*P P 15 47 51.3 +0.2
WMQ AP pP 15 47 55.8 -8.5
WMQ XP sP 15 47 58.3 -12
WMQ PCP PcP 15 49 33.6 +0.8
WMQ PP PP 15 49 36.6 +0.4
WMQ SCP ScP 15 53 24.9 +4.0
WMQ *e*S S 15 54 26.3 +2.0
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.5
WMQ AMB AMB
comp=Z,233nm,4.6s
WMQ LR LR
comp=N,641nm,14.0s,MS5.0
WMQ LR LR
comp=E,931nm,14.0s,MS5.0
WMQ LR LR
comp=Z,798nm,14.0s,MS4.8
MK31 **Makanchi Array** 46.76 297 *e*P P 15 48 05.8 -1.4
MKAR **Makanchi Array** 46.76 297 P P 15 48 06.3 -0.9
comp=Z,4.2nm,0.8s,mb4.4,baz=66,slow=7.1,SNR=9.4
MKAR PcP PcP 15 49 39.9 0.0
comp=Z,3.4nm,0.8s,baz=59,slow=5.4,SNR=6.4
MKAR **Makanchi Array** 46.76 297 *i*P P 15 48 06.3 -0.9
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR **Makanchi Array** 46.76 297 P P 15 48 06.3 -0.9
MKAR PcP PcP 15 49 39.9 0.0
LSA **Lhasa** 50.01 273 *e*P P 15 48 34.1 +1.9
LSA pmax pmax
comp=Z,21nm,0.7s,mb5.3
LSA **Lhasa** 50.01 273 *e*P P 15 48 34.1 +1.9
comp=Z,21nm,0.7s,mb5.3
BVAR **Borovoye Array** 50.73 309 P P 15 48 36.5 -1.2
comp=Z,2.7nm,0.6s,mb4.4,baz=51,slow=8.6,SNR=5.7
BVAR PcP PcP 15 49 54.2 0.0
comp=Z,4.1nm,0.7s,baz=69,slow=2.6,SNR=6.3
BVAR **Borovoye Array** 50.73 309 P P 15 48 36.5 -1.2
BVAR 15 49 54.2
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BRVK **Borovoye** 50.77 309 *e*P P 15 48 36.4 -1.6
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK **Borovoye** 50.77 309 *e*P P 15 48 36.4 -1.6
comp=Z,9.0nm,0.9s,mb4.7
RES **Resolute Bay** 51.05 18 *e*P P 15 48 39.6 -0.4
comp=Z,188nm,1.0s,mb6.0
YKA **Yellowknife Ar** 51.19 37 P P 15 48 40.9 -0.2
comp=Z,1.9nm,0.7s,mb4.2,baz=299,slow=6.9,SNR=6.9
YKA PcP PcP 15 49 55.6 -0.3
comp=Z,0.8nm,0.6s,baz=302,slow=3.5,SNR=4.3
YKA **Yellowknife Ar** 51.19 37 P P 15 48 40.9 -0.2
YKA 15 49 55.6
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA **Yellowknife Ar** 51.19 37 P P 15 48 40.9 -0.2
YKA PcP PcP 15 49 55.6 -0.3
AAK **Ala-Archa** 53.65 296⇑*e*P P 15 48 57.5 -1.8
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AAK **Ala-Arcda** 53.65 296 *e*P P 15 48 57.7 -1.6
comp=Z,8.5nm,1.1s,mb4.6
JIRN **Jiri** 54.69 274 *e*P P 15 49 08.2 +1.3
comp=Z,81nm,0.7s,mb5.9
GUN **Gumba** 54.74 275 *e*P P 15 49 08.2 +0.9
ARU **Arti** 54.92 317⇓*i*P P 15 49 07.1 -1.5
ARU *e* 15 51 12.0
ARU *e*S S 15 56 38.8 -7.9
ARU *e*SS SS 16 00 30.4 -0.2
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ARU **Arti** 54.92 317 *e*P P 15 49 06.8 -1.9
comp=Z,5.3nm,0.6s,mb4.8
KKN **Kakani** 55.23 275 *e*P P 15 49 12.4 +1.6
comp=Z,65nm,0.7s,mb5.8
PKI **Pulchoki** 55.28 275 *e*P P 15 49 12.1 +0.9
comp=Z,31nm,0.7s,mb5.4
DMN **Daman** 55.46 275 *e*P P 15 49 13.9 +1.4
comp=Z,76nm,0.8s,mb5.8
GKN **Gorkha** 55.54 276 *e*P P 15 49 14.0 +1.0
comp=Z,110nm,0.8s,mb5.9
KOLN **Koldanda** 56.39 276 *e*P P 15 49 20.2 +1.1
comp=Z,67nm,0.8s,mb5.7
EDM **Edmonton** 56.60 46 *e*P P 15 49 20.7 +0.1
KEV **Kevo** 57.38 340 *e*p P 15 49 23.7 -2.4
comp=Z,2.3nm,0.6s,mb4.4
KEV **Kevo** 57.38 340 *e*P P 15 49 23.7 -2.4
KEV pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ARCES **ARCESS Array B** 57.89 341 P P 15 49 28.9 -0.7
comp=Z,3.6nm,0.9s,mb4.4,baz=27,slow=8.4,SNR=5.7
ARCES **ARCESS Array B** 57.89 341 P P 15 49 29.0 -0.7
ARCES pmax pmax
comp=Z,4.0nm,1.0s
KSM **Kuching** 58.18 233 P P 15 49 33.5 +1.8
KULM **Kulim** 60.77 244 *e*P P 15 49 51.0 +1.4
FCC **Fort Churchill** 61.52 33 *e*P P 15 49 53.9 -0.8
FCC pmax pmax
comp=Z,13nm,0.6s,mb5.2
FCC **Fort Churchill** 61.52 33 *e*P P 15 49 53.9 -0.8
comp=Z,13nm,0.6s,mb5.2
NVAR **Mina Array Bea** 62.73 62 P P 15 50 04.3 +1.5
comp=Z,1.3nm,0.7s,mb4.2,baz=295,slow=6.7,SNR=4.0
NVAR **Mina Array Bea** 62.73 62 P P 15 50 04.3 +1.5
FINES **FINESS Array B** 64.04 335 P P 15 50 10.2 -1.3
comp=Z,8.9nm,0.7s,mb4.9,baz=37,slow=7.0,SNR=23
FINES **FINESS Array B** 64.04 335 *i* P P 15 50 10.1 -1.3
FINES pmax pmax
comp=Z,9.0nm,0.7s
PDAR **Pinedale Array** 65.04 54 P P 15 50 18.6 +0.6
comp=Z,1.4nm,0.6s,mb4.1,baz=331,slow=3.4,SNR=4.5
OBN **Obninsk** 65.26 325⇑*e*P P 15 50 18.3 -1.1
OBN *e**PP pP 15 50 43.1 +10
OBN *e*SS SS 16 03 12.1 -0.6
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
HYB **Hyderabad** 66.73 271 *i* P P 15 50 29.0 +0.2
HYB **Hyderabad** 66.73 271 *e*P P 15 50 29.0 +0.2
ULM **Lac du Bonnet** 66.80 41 P P 15 50 28.8 -0.5
comp=Z,1.0nm,0.6s,mb4.1,baz=316,slow=12,SNR=3.2
ULM **Lac du Bonnet** 66.80 41 P P 15 50 28.8 -0.5
RSSD **Black Hills** 67.12 50 *e*P P 15 50 31.2 -0.1
NB2 **NORSAR Subarra** 68.26 341 P P 15 50 37.5 -1.0
comp=Z,10nm,0.7s,mb5.0,baz=28,slow=6.2
NOA **NORSAR Array B** 68.26 341 P P 15 50 37.4 -1.1
comp=Z,11nm,0.8s,mb5.0,baz=27,slow=6.2,SNR=15
NOA **NORSAR Array B** 68.26 341 P P 15 50 37.4 -1.1
NOA pmax pmax
comp=Z,11nm,0.8s
NOA **NORSAR Array B** 68.26 341 P P 15 50 37.4 -1.1
PV10 **Paradox Valley** 68.27 57 *e*P P 15 50 40.5 +1.9
WRA **Warramunga Arr** 68.30 199 P P 15 50 38.1 -0.6
comp=Z,1.7nm,0.8s,mb4.1,baz=22,slow=7.0,SNR=5.0
WRA **Warramunga Arr** 68.30 199 P P 15 50 38.1 -0.6
WRA pmax pmax
comp=Z,2.0nm,0.8s
PV01 **Paradox Valley** 68.70 57 P P 15 50 46.0 +4.8
ISCO **Idaho Springs** 69.24 54 P P 15 50 46.1 +1.5
AKASG **Malin Array Be** 71.50 326 P P 15 50 57.2 -1.2
comp=Z,12nm,0.6s,mb5.0,baz=35,slow=6.2,SNR=27
AKASG **Malin Array Be** 71.50 326 *i* P P 15 50 57.2 -1.2
AKASG pmax pmax
comp=Z,12nm,0.6s
ASAR **Alice Springs** 72.00 198 P P 15 51 02.2 +0.8
comp=Z,2.3nm,0.6s,mb4.3,baz=12,slow=5.9,SNR=21
ASAR **Alice Springs** 72.00 198 P P 15 51 02.2 +0.8
ASAR pmax pmax
comp=Z,2.0nm,0.6s
OJC **Ojcow** 75.30 331 *e*P P 15 51 20.3 -0.5
STHS **Stebnicka Huta** 75.49 330 *i* P P 15 51 22.5 +0.7
comp=Z,7.8nm,0.9s,mb4.6
KOLS **Kopnicke sedl** 75.54 329 *e*P P 15 51 22.0 -0.1
BURAR **Bucovina Array** 75.55 326⇓*i*P P 15 51 22.2 0.0
BURAR **Bucovina Array** 75.55 326 ⇓P P 15 51 22.2 0.0
OKC **Ostrava-Krasne** 76.18 332 *e*P P 15 51 26.0 +0.2
UPC **Upice** 76.28 333 *e*P P 15 51 26.3 0.0
DPC **Dobruska-Polom** 76.32 333 *e*P P 15 51 26.7 +0.2
VRI **Vrincioaia** 76.39 324⇓*i*P P 15 51 27.3 +0.3
VRI **Vrincioaia** 76.39 324 ⇓P P 15 51 27.3 +0.3
MORC **Moravsky Berou** 76.43 332⇑*i*P P 15 51 26.9 -0.3
MORC **Moravsky Berou** 76.43 332 ⇑P P 15 51 26.9 -0.3
CLL **Collm** 76.47 335 *i* P P 15 51 26.6 -0.8
CLL pmax pmax
comp=Z,25nm,0.8s,mb5.2
CLL **Collm** 76.47 335 *i* P P 15 51 26.6 -0.8
comp=Z,25nm,0.8s,mb5.2
KECS **Kecovo** 76.55 330 *e*P P 15 51 26.7 -1.2
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS **Kecovo** 76.55 330 *e*P P 15 51 26.7 -1.2
comp=Z,3.5nm,0.9s,mb4.3
BRG **Berggiesshubel** 76.58 335 *e*P P 15 51 27.2 -0.8
comp=Z,5.5nm,1.2s,mb4.4
BRG **Berggiesshubel** 76.58 335 *e*P P 15 51 27.2 -0.8
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MLR **Muntele Rosu** 77.02 325 P P 15 51 31.6 +1.2
comp=Z,6.8nm,0.6s,mb4.8,baz=204,slow=5.1,SNR=6.6
MLR **Muntele Rosu** 77.02 325⇓*i*P P 15 51 31.2 +0.7
MLR **Muntele Rosu** 77.02 325 P P 15 51 31.6 +1.1
MLR pmax pmax
comp=Z,7.0nm,0.6s
MLR **Muntele Rosu** 77.02 325 ⇓P P 15 51 31.2 +0.7
MALT **Malatya** 77.04 313⇑*i*P P 15 51 32.2 +1.6
MALT **Malatya** 77.04 313 *e*P P 15 51 31.6 +1.0
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MALT **Malatya** 77.04 313 *e*P P 15 51 31.6 +1.0
comp=Z,6.4nm,0.7s,mb4.7
VYHS **Vyhne** 77.11 331 *e*P P 15 51 30.8 -0.2
VYHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VYHS **Vyhne** 77.11 331 *e*P P 15 51 30.8 -0.2
comp=Z,4.9nm,1.0s,mb4.4
VRAC **Vranov** 77.14 332⇑*i*P P 15 51 30.9 -0.3
VRAC **Vranov** 77.14 332 ⇑P P 15 51 30.9 -0.2
PRU **Pruhonice** 77.19 334 *e*P P 15 51 31.5 +0.1
PSZ **Piszkesteto** 77.24 330⇓*i*P P 15 51 32.5 +0.8
PSZ **Piszkesteto** 77.24 330 *e*P P 15 51 31.6 -0.1
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PSZ **Piszkesteto** 77.24 330 *e*P P 15 51 31.6 -0.1
comp=Z,6.2nm,0.9s,mb4.5
MOX **Moxa** 77.46 336 *e*P P 15 51 33.2 +0.2
comp=Z,14nm,1.0s,mb4.8
MOX **Moxa** 77.46 336 *e*P P 15 51 33.2 +0.2
MOX pmax pmax
comp=Z,14nm,1.0s,mb4.8
NKC **Novy Kostel** 77.59 335 *e*P P 15 51 32.7 -1.0
TXAR **Lajitas Array** 77.79 60 P P 15 51 35.7 +0.9
comp=Z,1.6nm,0.7s,mb4.0,baz=299,slow=3.6,SNR=5.9
TXAR **Lajitas Array** 77.79 60 P P 15 51 35.7 +0.9
TXAR pmax pmax
comp=Z,2.0nm,0.7s
ZST **Bratislava** 77.94 331 *e*P P 15 51 36.7 +1.0
comp=Z,11nm,1.1s,mb4.7
ZST LR LR
comp=Z,600nm,22.5s,MS4.9
KHC **Kasperske Hory** 78.24 334 *e*P P 15 51 37.5 +0.2
KHC **Kasperske Hory** 78.24 334 *e*P P 15 51 37.5 +0.2
BR131 **Keskin Array S** 78.30 317 *e*P P 15 51 37.3 -0.3
comp=Z,3.5nm,0.8s,mb4.3
BRTR **Keskin Array B** 78.30 317 P P 15 51 37.9 +0.2
comp=Z,5.2nm,0.8s,mb4.5,baz=72,slow=4.0,SNR=11
BRTR **Keskin Array B** 78.30 317 P P 15 51 37.9 +0.3
BRTR pmax pmax
comp=Z,5.0nm,0.8s
GRA1 **Grafenberg Arr** 78.43 336 *e*P P 15 51 38.4 +0.1
comp=Z,13nm,0.8s,mb4.9
GRF **Grafenberg Arr** 78.43 336 *e*P P 15 51 38.4 +0.1
comp=Z,13nm,0.8s,mb4.9
GRF **Grafenberg Arr** 78.43 336 *e*P P 15 51 38.4 +0.1
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRF **Grafenberg Arr** 78.43 336 *e*P P 15 51 38.4 +0.1
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GERES **GERESS Array B** 78.45 334 P P 15 51 38.4 -0.1
comp=Z,4.2nm,0.7s,mb4.5,baz=33,slow=5.3,SNR=16
MIB **Mutribah** 78.50 301 *e*P P 15 51 39.0 +0.2
MIB AMb AMB 15 51 40.1
comp=Z,71nm,0.7s,mb5.7
BZS **Buzias** 78.58 327⇓*i*P P 15 51 39.1 -0.1
BZS **Buzias** 78.58 327 ⇓P P 15 51 39.1 0.0
NAY **Al-Naaiem** 78.96 301 *e*P P 15 51 41.5 +0.2
NAY AMb AMB 15 51 42.6
comp=Z,28nm,0.9s,mb5.2
MEM **Membach** 78.97 339 P P 15 51 40.7 -0.7
RDF **Al-Radifah** 79.02 300 *e*P P 15 51 42.0 +0.4
PKSM **Moragy** 79.14 329⇓*i*P P 15 51 41.7 -0.6
PKSM **Moragy** 79.14 329 ⇓P P 15 51 41.7 -0.6
BCLA **Clavier** 79.32 339 P P 15 51 43.0 -0.3
BFO **Black Forest** 80.47 337 *e*P P 15 51 48.9 -0.5
BFO pmax pmax
comp=Z,12nm,0.9s,mb4.8
BFO **Black Forest** 80.47 337 *e*P P 15 51 48.9 -0.6
comp=Z,12nm,0.9s,mb4.8
VTS **Vitosha** 80.52 325⇑*i*P P 15 51 49.8 +0.1
CDF **Champ du Feu** 80.67 337 *e*P P 15 51 49.7 -0.8
comp=Z,23nm,1.0s,mb4.8
CDF **Champ du Feu** 80.67 337 *e*P P 15 51 49.7 -0.8
comp=Z,12nm,1.0s,mb4.8
DAVOX **Davos** 81.44 335 P P 15 51 55.7 +1.1
comp=Z,6.6nm,0.8s,mb4.6,baz=11,slow=4.7,SNR=6.3
ASF **Jabal al Asfar** 82.57 310 P P 15 52 01.7 +1.2
comp=Z,5.3nm,0.8s,mb4.6,baz=289,slow=3.2,SNR=6.3
GRR **Gorron** 82.61 343 *e*P P 15 51 59.7 -1.1
SMF **Signal de Mont** 83.19 339 *e*P P 15 52 03.1 -0.7
comp=Z,53nm,1.2s,mb5.2
SMF **Signal de Mont** 83.19 339 *e*P P 15 52 03.1 -0.7
comp=Z,27nm,1.2s,mb5.2
LPG **La Plagne** 83.50 337 *e*P P 15 52 04.8 -0.5
comp=Z,9.6nm,0.7s,mb4.6
LPG **La Plagne** 83.50 337 *e*P P 15 52 04.8 -0.5
comp=Z,4.8nm,0.7s,mb4.6
CAF **Calviac** 85.23 340 *e*P P 15 52 13.0 -1.1
TIP **Timpagrande** 85.94 327 *e*P P 15 52 16.6 -1.1
CFAA **Coronel Fontan** 145.28 79 PKPbc PKPbc 15 59 15.2 +0.3
baz=0.0,slow=0.0
SNAA **Sanae** 152.35 196 PKPbc PKPbc 15 59 31.6 -1.7
baz=0.0,slow=0.0
VNA2 **Neumayer--Watz** 153.81 195 *e*PKPdf PKPbc 15 59 35.7 -0.8
VNA2 *e* 15 59 40.4
VNA2 *e* 15 59 50.4
VNA2 *e* 15 59 58.0
VNA2 *e* 16 00 03.4
VNA3 **Neumayer Olymp** 153.91 193 *e*PKPdf PKPbc 15 59 35.3 -1.4
VNA3 *e* 15 59 40.4
VNA3 *e* 15 59 48.8
VNA3 *e* 15 59 57.3
VNA3 *e* 16 00 03.7

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*ISCJB **24** 15:41:06.9±0.6, 4675N±0.10×1539E±0.2, h10km, mb4.2/16, Error ellipse: s-maj=17.7km s-min=12.8km az=47.0*
*IDC **24** 15:41:07.1±0.8, 4675N×15385E, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.1/24, mbtmp4.2/9, Error ellipse: s-maj=30.7km s-min=20.0km az=118.0*
*NEIC **24** 15:41:08.5±0.7, 4683N×154.04E, h10km, mb4.5/7, Error ellipse: s-maj=20.7km s-min=13.8km az=112.0*
*MOS **24** 15:41:10.1±1.7, 4692N×154.13E, h33km, mb4.6/13, Error ellipse: s-maj=31.2km s-min=13.5km az=90.3*

ISC 24 15:41:08.6±0.6, 4678N±009×1539E±02, h10km, n38, σ0s95/38, mb4.2/16, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	6.96	24	*e*PN	Pn	15 42 46.4	-4.2
MA2	**Magadan**	12.96	353	*e*PN	Pn	15 44 13.4	+0.6
KSRS	**Korea Array**	21.33	253	P	P	15 45 55.6	-0.1
	1.7nm,0.6s,mb3.5,baz=52,slow=9.3,SNR=4.1						
MCK	**McKinley**	35.28	40	P	P	15 48 02.8	-0.7
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
MCK	**McKinley**	35.28	40	P	P	15 48 02.8	-0.7
	comp=Z,4.4nm,1.1s,mb4.3						
LSA	**Lhasa**	50.82	274	*e*P	P	15 50 11.2	+2.0
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	50.82	274	*e*P	P	15 50 11.2	+2.0
	comp=Z,5.5nm,0.8s,mb4.5						
BRVK	**Borovoye**	51.31	310	*e*P	P	15 50 11.9	-1.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	51.31	310	*e*P	P	15 50 11.9	-1.0
	comp=Z,2.4nm,0.5s,mb4.4						
AAK	**Ala-Archa**	54.32	297	*e*P	P	15 50 30.8	-4.3
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	54.32	297	*e*P	P	15 50 30.8	-4.3
	comp=Z,6.5nm,1.1s,mb4.5						
ARU	**Arti**	55.36	318	*e*P	P	15 50 40.3	-2.4
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	55.36	318	*e*P	P	15 50 40.3	-2.4
	comp=Z,4.7nm,0.7s,mb4.6						
FINES	**FINESS Array B**	64.25	335	P	P	15 51 43.0	-0.9
	comp=Z,1.2nm,0.5s,mb4.2,baz=34,slow=8.8,SNR=3.2						
FINES	**FINESS Array B**	64.25	335	P	P	15 51 43.0	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	64.29	54	P	P	15 51 44.9	+0.8
	comp=Z,1.3nm,1.0s,mb3.9,baz=289,slow=2.8,SNR=2.7						
NB2	**NORSAR Subarra**	68.38	342	P	P	15 52 09.7	-0.6
	comp=Z,2.7nm,0.7s,mb4.4,baz=27,slow=6.5						
NOA	**NORSAR Array B**	68.38	342	P	P	15 52 09.7	-0.7
	comp=Z,3.7nm,0.7s,mb4.5,baz=27,slow=6.4,SNR=6.5						
NOA	**NORSAR Array B**	68.38	342	P	P	15 52 09.7	-0.6
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	68.72	200	P	P	15 52 11.8	-0.6
	comp=Z,2.3nm,1.0s,mb4.1,baz=16,slow=6.7,SNR=4.6						
WRA	**Warramunga Arr**	68.72	200	P	P	15 52 11.8	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FITZ	**Fitzroy Crossi**	69.43	209	P	P	15 52 16.5	-0.4
	comp=Z,1.6nm,0.9s,mb3.9,baz=27,slow=11,SNR=3.6						
ASAR	**Alice Springs**	72.41	199	P	P	15 52 35.0	+0.1
	comp=Z,2.2nm,0.8s,mb4.1,baz=13,slow=6.0,SNR=8.7						
ASAR	**Alice Springs**	72.41	199	P	P	15 52 35.1	+0.1
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BURAR	**Bucovina Array**	75.87	327⇓*i*P		P	15 52 55.7	+0.5
CLL	**Collm**	76.67	336	*e*P	P	15 52 59.0	-0.7
MORC	**Moravsky Berou**	76.67	333	P	P	15 52 59.8	+0.1
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MORC	**Moravsky Berou**	76.67	333	P	P	15 52 59.8	+0.1
	comp=Z,3.8nm,1.0s,mb4.3						
TXAR	**Lajitas Array**	77.00	61	P	P	15 53 02.1	+0.5
	comp=Z,1.2nm,0.7s,mb3.9,baz=294,slow=4.8,SNR=2.4						
TXAR	**Lajitas Array**	77.00	61	P	P	15 53 02.1	+0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	77.36	325	P	P	15 53 04.4	+0.8
	comp=Z,3.3nm,0.6s,mb4.4,baz=178,slow=6.9,SNR=4.6						
MLR	**Muntele Rosu**	77.36	325	⇓*i*P	P	15 53 04.6	+1.0
MLR	**Muntele Rosu**	77.36	325	P	P	15 53 04.4	+0.8
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MALT	**Malatya**	77.54	313	*e*P	P	15 53 06.1	+1.5
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	**Malatya**	77.54	313	*e*P	P	15 53 06.1	+1.5
	comp=Z,3.5nm,0.8s,mb4.3						
KHC	**Kasperske Hory**	78.45	335	*e*P	P	15 53 10.0	+0.3
KHC	**Kasperske Hory**	78.45	335	*e*	P	15 53 10.0	+0.3
KHC	**Kasperske Hory**	78.45	335	x	P	15 53 10.0	+0.3

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*ISCJB **24** 15:46:16.4±0.4, 1987S±0.07×17440W±0.08, h10km, mb4.8/32, MS4.3/2, Error ellipse: s-maj=12.3km s-min=7.9km az=65.9*
*IDC **24** 15:46:16.4±0.7, 1993S×17427W, h0km, mb4.7/13, mb1 4.8/16, mb1mx4.6/23, mbtmp4.7/16, ML4.8/2, MS3.8/2, Ms1 3.8/2, ms1mx2.9/36, Error ellipse: s-maj=23.0km s-min=15.9km az=136.0*
*NEIC **24** 15:46:17.5±0.3, 1988S×17429W, h10km, mb5.0/25, Error ellipse: s-maj=9.5km s-min=6.5km az=139.0*
*BJI **24** 15:46:17.5, 1990S×17430W, h10km, mb4.9, Ms5.1, Msz4.8*

ISC 24 15:46:17.9±0.3, 1992S±006×17425W±007, h10km, n76, σ0s95/60, mb4.8/32, MS4.3/2, 9C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	6.43	22	Pn	Pn	15 47 52.3	-0.2
	16nm,0.3s,baz=130,slow=18,SNR=25						
AFI				Sn	Sn	15 48 59.7	-6.3
	36nm,0.3s,baz=123,slow=21,SNR=6.8						
AFI	**Afiamalu**	6.43	22	*e*Pn	Pn	15 47 52.0	-0.5
	61nm,0.4s						
AFI				*e*Sn	Sn	15 48 58.2	-7.8
RAR	**Rarotonga**	13.62	98	Pn	Pn	15 49 29.5	-1.6
	4.1nm,0.3s,baz=270,slow=8.4,SNR=15						
RAR				Sn	Sn	15 51 50.0	-12
	6.3nm,0.3s,baz=90,slow=21,SNR=8.4						
RAR				LR	LR	15 52 49.0	
	comp=Z,319nm,21.7s,baz=268,slow=29						
DZM	**Mont Dzumac**	18.15	260	P	Pn	15 50 35.0	+5.0
	4.2nm,0.3s,baz=74,slow=18,SNR=44						
URZ	**Urewera**	19.75	200	P	Pn	15 50 49.4	+0.1
	2.9nm,0.3s,baz=1.0,slow=7.2,SNR=17						
URZ				S	Sn	15 54 16.6	-15
	1.2nm,0.3s,baz=152,slow=24,SNR=8.1						
SNZO	**South Karori**	23.30	201	P	P	15 51 25.6	-0.3

PPT	**Papeete**	**23.48**	**88**	LR	LR	15 57 44.1	
	comp=Z,320nm,21.5s,MS3.8,baz=55,slow=29						
RPZ	**Rata Peaks**	**26.73**	**204**	P	**P**	**15 52 01.8**	**+4.4**
	12nm,0.5s,mb4.7,baz=21,slow=1.9,SNR=4.5						
ARMA	**Armidale**	**32.49**	**244**	*eP*	**P**	**15 52 49.5**	**+1.0**
CNB	**Canberra Magne**	**35.48**	**237**	*eP*	**P**	**15 53 14.4**	**-0.1**
	20nm,0.7s,mb5.2						
CTA	**Charters Tower**	**37.05**	**263**	*iP*	**P**	**15 53 28.2**	**+0.2**
	14nm,0.4s,mb5.1						
CTA	**Charters Tower**	**37.05**	**263**	P	**P**	**15 53 28.2**	**+0.3**
	18nm,0.4s,mb5.3,baz=94,slow=11,SNR=39						
CTAO	**Charters Tower**	**37.05**	**263**	*eP*	**P**	**15 53 28.0**	**+0.1**
	20nm,0.5s,mb5.2						
PMG	**Port Moresby**	**38.68**	**280**	P	**P**	**15 53 42.6**	**+0.9**
	13nm,0.8s,mb4.7,baz=83,slow=3.1,SNR=5.4						
PMG	**Port Moresby**	**38.68**	**280**	*eP*	**P**	**15 53 39.9**	**-1.8**
	21nm,1.1s,mb4.8						
TAU	**Tasmania Unive**	**39.53**	**226**	*eP*	**P**	**15 53 48.3**	**-0.5**
	17nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**41.21**	**244**	*iP*	**P**	**15 54 02.4**	**-0.3**
	5.2nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**41.21**	**244**	P	**P**	**15 54 02.4**	**-0.3**
	3.6nm,0.4s,mb4.3,baz=82,slow=8.2,SNR=16						
AS31	**Alice Springs**	**48.07**	**256**	*eP*	**P**	**15 54 56.9**	**-0.6**
ASAR	**Alice Springs**	**48.08**	**256**	P	**P**	**15 54 57.0**	**-0.6**
	16nm,0.6s,mb5.2,baz=94,slow=8.1,SNR=177						
ASAR				PcP	PcP	15 56 25.6	+0.3
	1.8nm,0.7s,baz=104,slow=3.8,SNR=4.6						
ASAR				S	**S**	**16 01 50.5**	**-5.4**
	0.5nm,0.7s,baz=92,slow=15,SNR=5.5						
ASPA	**Alice Springs**	**48.08**	**256**	*eP*	**P**	**15 54 56.9**	**-0.6**
WB2	**Warramunga Arr**	**48.16**	**261**	*eP*	**P**	**15 54 56.7**	**-1.4**
WRA	**Warramunga Arr**	**48.17**	**261**	P	**P**	**15 54 57.5**	**-0.7**
	6.0nm,0.4s,mb5.0,baz=96,slow=7.5,SNR=231						
KAKA	**Kakadu**	**51.49**	**269**	*iP*	**P**	**15 55 22.9**	**-0.6**
	12nm,0.5s,mb5.1						
FORT	**Forrest**	**52.75**	**246**	*iP*	**P**	**15 55 31.8**	**-1.1**
	15nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.59**	**261**	*eP*	**P**	**15 56 00.3**	**-0.5**
	10nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.59**	**261**	P	**P**	**15 56 00.6**	**-0.2**
	4.4nm,0.4s,mb4.8,baz=144,slow=4.1,SNR=42						
SBA	**Scott Base**	**58.70**	**185**	*eP*	**P**	**15 56 17.6**	**+1.9**
	5.9nm,0.7s,mb4.7						
VNDA	**Vanda**	**58.82**	**186**	P	**P**	**15 56 17.6**	**+1.1**
	2.6nm,0.8s,mb4.3,baz=4.7,slow=7.7,SNR=5.2						
VNDA	**Vanda**	**58.82**	**186**	*eP*	**P**	**15 56 17.3**	**+0.9**
	3.6nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**61.41**	**256**	*eP*	**P**	**15 56 33.4**	**-0.8**
	11nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**61.48**	**244**	*eP*	**P**	**15 56 34.8**	**+0.1**
	16nm,0.9s,mb5.2						
NWAO	**Narrogin (SRO)**	**61.77**	**243**	P	**P**	**15 56 36.5**	**-0.1**
	18nm,1.1s,mb5.1						
MUN	**Mundaring**	**62.74**	**244**	*eP*	**P**	**15 56 43.1**	**0.0**
QSPA	**South Pole Qui**	**70.15**	**180**	*eP*	**P**	**15 57 30.4**	**-0.2**
	15nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**71.90**	**321**	P	**P**	**15 57 41.4**	**+0.2**
	6.9nm,0.8s,mb4.7,baz=158,slow=5.6,SNR=15						
MAJO	**Matsushiro**	**71.90**	**321**	*eP*	**P**	**15 57 41.6**	**+0.5**
	6.9nm,0.6s,mb4.8						
MAT	**Matsushiro**	**71.90**	**321**	P	**P**	**15 57 41.5**	**+0.3**
KKM	**Kota Kinabalu**	**73.04**	**283**	*eP*	**P**	**15 57 48.4**	**+0.5**
ASAJ	**Asahikawa**	**74.96**	**329**	P	**P**	**15 58 01.0**	**+1.8**
	8.7nm,0.7s,mb4.8,baz=99,slow=1.8,SNR=6.9						
KSM	**Kuching**	**76.83**	**276**	*eP*	**P**	**15 58 10.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**77.02**	**331**	*eP*	**P**	**15 58 11.7**	**+0.7**
	16nm,0.7s,mb5.1						
NVAR	**Mina Array Bea**	**78.22**	**42**	P	**P**	**15 58 18.5**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=228,slow=8.7,SNR=10						
KSRS	**Korea Array**	**78.84**	**317**	P	**P**	**15 58 22.9**	**+1.8**
	3.6nm,0.9s,mb4.3,baz=131,slow=5.7,SNR=8.3						
MDJ	**Mudanjiang**	**82.12**	**323**	P	**P**	**15 58 39.7**	**+1.0**
	5.4nm,0.6s,mb4.7						
MAW	**Mawson**	**83.28**	**199**	P	**P**	**15 58 44.2**	**-0.5**
	1.4nm,0.7s,mb4.1,baz=117,slow=7.4,SNR=3.6						
MAW	**Mawson**	**83.28**	**199**	*eP*	**P**	**15 58 42.6**	**-2.1**
	2.2nm,0.7s,mb4.3						
HLID	**Hailey**	**83.62**	**39**	*eP*	**P**	**15 58 46.7**	**+0.2**
	1.1nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**84.32**	**50**	*eP*	**P**	**15 58 50.3**	**+0.3**
	3.5nm,1.0s,mb4.4						
MCK	**McKinley**	**85.69**	**11**	*eP*	**P**	**15 58 56.0**	**-0.9**
	2.0nm,0.7s,mb4.5						
COLA	**College**	**86.93**	**11**	P	**P**	**15 59 01.6**	**-1.4**
	5.2nm,0.8s,mb4.8						
KULM	**Kulim**	**87.19**	**277**	*eP*	**P**	**15 59 05.3**	**+1.0**
DAWY	**Dawson**	**87.98**	**15**	*eP*	**P**	**15 59 06.2**	**-1.9**
SNAA	**Sanae**	**88.46**	**177**	P	**P**	**15 59 11.6**	**+1.2**
	16nm,1.5s,mb5.0						
EFI	**East Falkland**	**89.63**	**146**	*eP*	**P**	**15 59 17.5**	**+1.7**
	110nm,1.6s,mb5.9						
INK	**Inuvik**	**92.83**	**14**	P	**P**	**15 59 29.9**	**-0.8**
	1.2nm,0.9s,mb4.3,baz=256,slow=2.9,SNR=3.8						
WMQ	**Urumqi**	**109.22**	**311**	PDIF	Pdif	16 00 41.9	-2.3
WMQ				PP	PP	16 05 18.1	+1.4
WMQ				LR	LR		
	comp=N,209nm,16.9s,MS4.9						
WMQ				LR	LR		
	comp=E,162nm,15.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,242nm,14.6s,MS4.9						
ARCES	**ARCESS Array B**	**128.94**	**351**	PKP	PKPdf	16 05 24.4	-1.3
	comp=Z,1.4nm,0.5s,baz=16,slow=1.1,SNR=19						
FINES	**FINESS Array B**	**136.14**	**346**	PKP	PKPdf	16 05 38.7	-0.6
	comp=Z,3.7nm,1.0s,baz=48,slow=2.8,SNR=7.0						
FINES	**FINESS Array B**	**136.14**	**346**	PKP	PKPdf	16 05 38.7	-0.6
AKASG	**Malin Array Be**	**144.12**	**334**	PKP	PKPdf	16 05 50.9	-2.9
	comp=Z,2.5nm,0.5s,baz=40,slow=4.3,SNR=18						
AKBB	**Malin Array Si**	**144.12**	**334**	*e*PKPdf	PKPdf	16 05 50.2	-3.6
MALT	**Malatya**	**146.32**	**310**	*iP*	PKPdf	16 06 00.2	+2.6
MALT	**Malatya**	**146.32**	**310**	*e*PKPbc	PKPbc	16 05 59.8	+1.0
CLL	**Collm**	**148.16**	**351**	*e*PKPdf	PKPdf	16 06 00.0	-0.7
CLL				*i* PKPbc	PKPbc	16 06 03.5	-0.4
	comp=Z,11nm,0.9s						
CLL				*i* PKPab	PKPab	16 06 06.5	-0.3
BRG	**Berggiesshubel**	**148.44**	**350**	*eP*	PKPbc	16 06 04.5	-0.1
	comp=Z,3.2nm,0.6s						
DPC	**Dobruska-Polom**	**148.50**	**347**	*e*PKP	PKPbc	16 06 05.3	+0.5
PVCC	**Panska Ves**	**148.67**	**349**	*e*PKP	PKPbc	16 06 05.4	+0.2
BR131	**Keskin Array S**	**148.98**	**316**	*e*PKPbc	PKPbc	16 06 05.3	-0.8
BRTR	**Keskin Array B**	**148.98**	**316**	PKPbc	PKPbc	16 06 05.8	-0.2
	comp=Z,1.8nm,0.6s,baz=135,slow=4.8,SNR=8.5						
BRTR				PKKP		16 14 58.6	
	comp=Z,0.6nm,0.8s,baz=294,slow=6.6,SNR=3.7						
PRU	**Pruhonice**	**149.19**	**349**	*e*PKP	PKPbc	16 06 06.6	0.0
VYHS	**Vyhne**	**149.60**	**343**	*e*PKP	PKPbc	16 06 07.0	-0.6
KHC	**Kasperske Hory**	**150.19**	**350**	*e*PKP	PKPbc	16 06 08.5	-0.5
GERES	**GERESS Array B**	**150.44**	**349**	PKPbc	PKPbc	16 06 09.3	-0.3
	comp=Z,1.9nm,0.7s,baz=29,slow=3.0,SNR=14						
BZS	**Buzias**	**151.22**	**337**	*i* PKP	PKPbc	16 06 10.8	-0.6
DAVOX	**Davos**	**153.00**	**354**	PKPbc	PKPbc	16 06 15.7	+0.2
	comp=Z,2.8nm,0.4s,baz=337,slow=23,SNR=5.4						

*IDC **24** 16:09:38.3±1.1,47.36N×155.77E,h0km,mb3.7/5,*
mb1 4.0/5,mb1mx3.6/22,mbtmp3.7/5,MS4.1/1,Ms1 4.1/1,
ms1mx3.1/41,Error ellipse: s-maj=36.4km s-min=30.5km
az=144.0
*MOS **24** 16:09:41.4±1.7,47.15N×155.51E,h33km,mb3.9/3,Error*
ellipse: s-maj=91.3km s-min=33.9km az=89.2
*ISCJB **24** 16:09:46.2±3.7,47.4N±02×1557E±03,h74km±30km,*
mb3.5/5,Error ellipse: s-maj=40.5km s-min=31.4km
az=142.3

ISC 24 16:09:48.0±3.5,474N±02×1557E±03,h74km±29km,n10,
σ0§54/9,mb3.5/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.28**	**5**	*e*PN	**Pn**	**16 10 36.9**	**0.0**
KDAK	**Kodiak Island**	**32.33**	**52**	LR	LR	16 26 40.0	
	comp=Z,320nm,21.7s,baz=317,slow=32						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**16 18 21.5**	**+0.8**
	0.9nm,0.8s,mb3.6,baz=46,slow=6.8,SNR=4.1						
MKAR	**Makanchi Array**	**48.17**	**298**	P	**P**	**16 18 21.5**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**62.94**	**55**	P	**P**	**16 20 07.0**	**+0.4**
	comp=Z,1.1nm,1.0s,mb3.7,baz=298,slow=3.2,SNR=4.2						
FINES	**FINESS Array B**	**64.16**	**336**	P	**P**	**16 20 13.7**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.6,baz=43,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**64.16**	**336**	P	**P**	**16 20 13.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.74**	**201**	P	**P**	**16 20 49.8**	**-0.3**
	comp=Z,0.6nm,1.1s,mb3.3,baz=23,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**69.74**	**201**	P	**P**	**16 20 49.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TXAR	**Lajitas Array**	**75.65**	**62**	P	**P**	**16 21 25.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.3,baz=311,slow=4.7,SNR=5.7						

IDC 24 16:13:16.8±1.2,4558N×15577E,h0km,mb3.7/4,
mb1 4.0/4,mb1mx3.5/22,mbtmp3.7/4,Error ellipse:
s-maj=57.7km s-min=32.1km az=110.0,East of Kuril
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**65.88**	**336**	P	P	16 24 03.8	-0.4
	2.9nm,1.2s,baz=31,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**68.05**	**202**	P	P	16 24 17.6	-0.4
	0.3nm,0.7s,baz=17,slow=6.9,SNR=2.3						
ASAR	**Alice Springs**	**71.72**	**201**	P	P	16 24 40.9	+0.3
	0.4nm,0.8s,baz=12,slow=6.2,SNR=5.4						
TXAR	**Lajitas Array**	**76.44**	**62**	P	P	16 25 08.3	+0.1
	0.4nm,0.5s,baz=304,slow=4.3,SNR=5.0						

*ISCJB **24** 16:19:05.6±1.0,24.15S±006×669W±02,h179km±18km,*
mb3.4/1,Error ellipse: s-maj=28.6km s-min=10.4km
az=9.3
*IDC **24** 16:19:06.2±1.5,24.16S×6683W,h166km±18km,mb3.0/1,*
mb1 3.1/5,mb1mx3.0/19,mbtmp3.0/5,Error ellipse:
s-maj=28.0km s-min=14.1km az=87.0

ISC 24 16:19:06.0±0.9,2420S±006×667W±02,h158km±17km,n9,
σ1§11/11,mb3.4/1,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.54**	**308**	P	**Pn**	**16 19 49.4**	**+1.5**
	18nm,0.3s,baz=90,slow=4.5,SNR=192						
LVC				S	**Sn**	**16 20 20.6**	**+0.2**
	36nm,0.3s,baz=270,slow=20,SNR=63						
CFAA	**Coronel Fontan**	**7.50**	**190**	P	**Pn**	**16 20 53.5**	**+1.0**
	0.1nm,0.3s,baz=31,slow=12,SNR=6.2						
CFAA				S	**Sn**	**16 22 14.6**	**-1.9**
	0.2nm,0.3s,baz=98,slow=23,SNR=6.0						
LPAZ	**La Paz**	**7.98**	**350**	P	**Pn**	**16 20 58.9**	**-0.1**
	0.8nm,0.3s,baz=176,slow=14,SNR=18						
LPAZ				S	**Sn**	**16 22 25.1**	**-2.9**
	0.1nm,0.3s,baz=319,slow=19,SNR=3.3						
SIV	**San Ignacio**	**9.75**	**34**	P	**Pn**	**16 21 23.1**	**+0.6**
	1.0nm,0.3s,baz=219,slow=14,SNR=14						
SIV				S	**Sn**	**16 23 00.8**	**-10**
	0.1nm,0.3s,baz=240,slow=14,SNR=4.2						
VNA3	**Neumayer Olymp**	**56.89**	**161**	*e*	**P**	**16 28 34.6**	**+0.3**
VNA3				*e*		16 28 38.7	
VNA2	**Neumayer--Watz**	**57.45**	**160**	*e*	**P**	**16 28 38.1**	**-0.2**
VNA2				*e*		16 28 42.2	
SNAA	**Sanae**	**59.09**	**161**	P	**P**	**16 28 49.7**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=288,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**128.37**	**204**	PKP	PKPdf	16 37 52.7	-1.1
	0.4nm,0.9s,baz=146,slow=2.0,SNR=4.5						
WRA	**Warramunga Arr**	**131.56**	**207**	PKP	PKPdf	16 37 59.1	-0.7
	0.2nm,0.4s,baz=153,slow=1.7,SNR=12						

*ISCJB **24** 16:22:00.2±0.8,4742N±009×1558E±02,h10km,mb3.8/15,*
Error ellipse: s-maj=17.7km s-min=9.4km az=71.6
*IDC **24** 16:22:00.1±0.8,47.12N×155.76E,h0km,mb3.7/11,*
mb1 3.9/11,mb1mx3.8/24,mbtmp3.7/11,Error ellipse:
s-maj=23.1km s-min=21.6km az=8.0
*NEIC **24** 16:22:01.6±0.7,4723N×155.70E,h10km,mb4.3/4,Error*
ellipse: s-maj=16.5km s-min=12.8km az=156.0
*MOS **24** 16:22:03.6±1.5,47.36N×155.57E,h33km,mb4.1/12,Error*
ellipse: s-maj=23.2km s-min=15.4km az=119.9

ISC 24 16:22:01.8±0.8,4736N±008×1557E±01,h10km,n32,
σ1§03/33,mb3.8/15,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**5.97**	**17**	*e*Pn	**Pn**	**16 23 29.5**	**-0.7**
PET				*e*Sn	**Sn**	**16 24 37.2**	**-1.5**
YSS	**Yuzh-Sakhalins**	**8.85**	**272**	PN	**Pn**	**16 24 07.6**	**-2.1**
KSRS	**Korea Array**	**22.68**	**254**	P	**P**	**16 27 03.8**	**+0.5**
	2.2nm,0.9s,mb3.6,baz=64,slow=8.7,SNR=4.3						
ULN	**Ulaanbaatar**	**32.39**	**289**	P	**P**	**16 28 30.9**	**-0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
ULN	**Ulaanbaatar**	**32.39**	**289**	P	**P**	**16 28 30.9**	**-0.7**
	comp=Z,1.4nm,0.9s,mb3.8						
SONM	**Songino Array**	**32.82**	**289**	P	**P**	**16 28 34.9**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=73,slow=11,SNR=2.8						
ZAL	**Zalesovo**	**43.72**	**306**	P	**P**	**16 30 08.0**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=60,slow=9.8,SNR=3.6						
ZAL	**Zalesovo**	**43.72**	**306**	P	**P**	**16 30 08.0**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.24**	**298**	P	**P**	**16 30 44.4**	**+1.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=67,slow=9.3,SNR=3.9						
MKAR	**Makanchi Array**	**48.24**	**298**	P	**P**	**16 30 44.4**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHKZ	**Chkalovo**	**51.40**	**311**	*eP*	**P**	**16 31 06.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**51.40**	**311**	*eP*	**P**	**16 31 06.5**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**16 31 10.7**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=59,slow=8.7,SNR=9.3						
BVAR	**Borovoye Array**	**51.85**	**310**	P	**P**	**16 31 10.7**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.88**	**310**	*eP*	**P**	**16 31 10.5**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.88**	**310**	*eP*	**P**	**16 31 10.5**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.2						
ARU	**Arti**	**55.76**	**318**	*eP*	**P**	**16 31 39.3**	**+0.6**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**55.76**	**318**	*eP*	**P**	**16 31 39.3**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.4						
AKTK	**Aktyubinsk**	**59.64**	**313**	P	**P**	**16 32 06.8**	**+0.8**
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**16 32 06.8**	**+0.8**
	comp=Z,0.6nm,0.4s,mb4.0,baz=33,slow=7.1,SNR=3.0						
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**16 32 06.8**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**62.94**	**56**	P	**P**	**16 32 29.2**	**+0.8**
	comp=Z,1.4nm,0.8s,mb4.1,baz=46,slow=8.0,SNR=6.4						
FINES	**FINESS Array B**	**64.24**	**336**	P	**P**	**16 32 37.4**	**+0.4**
FINES	**FINESS Array B**	**64.24**	**336**	P	**P**	**16 32 37.4**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.70**	**201**	P	**P**	**16 33 09.6**	**-2.1**
	comp=Z,0.5nm,0.9s,mb3.4,baz=22,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**69.70**	**201**	P	**P**	**16 33 09.6**	**-2.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**73.38**	**201**	P	**P**	**16 33 32.8**	**-1.1**
	comp=Z,0.5nm,1.0s,mb3.4,baz=19,slow=5.9,SNR=3.8						
ASAR	**Alice Springs**	**73.38**	**201**	P	**P**	**16 33 32.8**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**73.38**	**201**	P	**P**	**16 33 32.8**	**-1.1**
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**16 33 47.9**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=3.7,SNR=5.7						
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**16 33 47.9**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**16 33 47.9**	**+1.0**

IDC 24 16:23:09.5±3.5,1256N×14377E,h103km±26km,mb3.3/5,
mb1 3.6/5,mb1mx3.3/20,mbtmp3.3/5,Error ellipse:
s-maj=101.4km s-min=18.4km az=116.0,South of
Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.48**	**46**	P	Pn	16 23 35.3	-0.4
	35nm,0.3s,baz=169,slow=4.6,SNR=47						
GUMO				S	Sn	16 23 55.6	+0.1
	79nm,0.3s,baz=152,slow=22,SNR=14						
WRA	**Warramunga Arr**	**33.60**	**196**	P	P	16 29 39.8	-0.1
	0.8nm,0.7s,baz=20,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**37.27**	**195**	P	P	16 30 12.1	+0.8
	0.2nm,0.4s,baz=20,slow=12,SNR=9.0						
STKA	**Stephens Creek**	**44.23**	**183**	P	P	16 31 08.4	-0.1
	0.5nm,0.6s,baz=342,slow=21,SNR=3.0						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	P	16 35 28.8	-0.9
	0.3nm,0.4s,baz=286,slow=5.2,SNR=4.8						
NVAR	**Mina Array Bea**	**88.40**	**51**	P	P	16 35 51.3	+1.4
	0.9nm,0.7s,baz=274,slow=7.4,SNR=5.8						

*ISCJB **24** 16:24:47.3±0.7,469N±0.1×155.1E±0.1,h10km,mb3.8/15,*
Error ellipse: s-maj=17.4km s-min=11.6km az=100.6
*MOS **24** 16:24:50.5±1.4,4692N×15500E,h33km,mb4.1/11,Error*
ellipse: s-maj=22.0km s-min=13.9km az=96.9
*IDC **24** 16:24:54.1±4.3,4682N×15502E,h48km±41km,mb3.6/15,*
mb1 3.8/16,mb1mx3.7/27,mbtmp3.7/16,ML3.4/1,Error
ellipse: s-maj=19.9km s-min=18.4km az=129.0

ISC 24 16:24:49.9±6.2,470N±01×1551E±02,h15km±38km,n32,
σ1§01/32,mb3.8/15,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.78**	**10**	*e*PN	**Pn**	**16 25 46.3**	**-1.3**
ASAJ	**Asahikawa**	**9.23**	**257**	P	**Pn**	**16 27 03.3**	**+0.8**
	0.5nm,0.3s,baz=310,slow=8.3,SNR=4.9						
ASAJ	**Asahikawa**	**9.23**	**257**	PN	**Pn**	**16 27 03.3**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.17**	**254**	P	**P**	**16 29 47.0**	**+1.7**
	comp=Z,0.6nm,0.5s,mb3.3,baz=60,slow=9.6,SNR=4.4						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**16 31 20.2**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=74,slow=8.3,SNR=3.9						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**16 31 20.2**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**16 32 30.9**	**+0.8**
	comp=Z,2.3nm,1.0s,mb3.7,baz=300,slow=4.6,SNR=6.3						
INK	**Inuvik**	**40.73**	**33**	P	**P**	**16 32 30.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAL	**Zalesovo**	**43.61**	**306**	P	**P**	**16 32 52.9**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=74,slow=4.1,SNR=2.9						
ZAL	**Zalesovo**	**43.61**	**306**	P	**P**	**16 32 52.9**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.06**	**298**	P	**P**	**16 33 27.6**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=68,slow=8.3,SNR=6.3						
MKAR	**Makanchi Array**	**48.06**	**298**	P	**P**	**16 33 27.6**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**16 33 56.5**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.3,baz=55,slow=8.0,SNR=15						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**16 33 56.5**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	**55.77**	**318**	*eP*	**P**	**16 34 25.8**	**-0.4**
AKTO	**Aktyubinsk**	**59.60**	**313**	P	**P**	**16 34 53.0**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.3,baz=47,slow=8.2,SNR=5.8						
AKTO	**Aktyubinsk**	**59.60**	**313**	P	**P**	**16 34 53.0**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.51**	**55**	P	**P**	**16 35 20.5**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=331,slow=9.2,SNR=3.2						
FINES	**FINESS Array B**	**64.42**	**336**	P	**P**	**16 35 24.8**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=26,slow=4.9,SNR=7.6						
FINES	**FINESS Array B**	**64.42**	**336**	P	**P**	**16 35 24.8**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**68.46**	**342**	P	**P**	**16 35 50.9**	**-0.4**
	comp=Z,1.6n

KSD	**Kokstad**	**4.46**	**157**	*e*P		**Pn**	**16 27 05.4**	**-0.4**
KSD				*e*S		**Sn**	**16 27 56.6**	**-1.8**
KSD				AML		AML	16 28 23.8	
	comp=Z,95nm,0.5s							
MSNA	**Messina**	**4.73**	**31**	*e*P		**Pn**	**16 27 08.8**	**-0.7**
MSNA				*e*S		**Sn**	**16 28 00.7**	**-4.3**
MSNA				AML		AML	16 28 31.3	
	comp=Z,125nm,0.5s							
PKA	**Prieska**	**5.21**	**231**	*e*P		**Pn**	**16 27 16.6**	**+0.5**
PKA				*e*S		**Sn**	**16 28 14.5**	**-2.2**
PKA				AML		AML	16 28 54.5	
	comp=Z,117nm,0.6s							
MATP	**Matopo**	**6.07**	**10**	Pn		**Pn**	**16 27 28.9**	**+0.9**
	comp=Z,4.7nm,0.3s,baz=188,slow=13,SNR=79							
MATP				Sn		**Sn**	**16 28 35.2**	**-2.9**
	comp=Z,2.3nm,0.3s,baz=217,slow=8.6,SNR=9.3							
MATP				Lg			16 29 04.2	
	comp=Z,12nm,0.3s,baz=125,slow=13,SNR=14							
MATP	**Matopo**	**6.07**	**10**	Pn		**Pn**	**16 27 28.9**	**+0.9**
MATP				Sn		**Sn**	**16 28 35.2**	**-2.9**
MATP				Lg			16 29 04.2	
SUR	**Sutherland**	**8.24**	**223**	Pn		**Pn**	**16 27 58.7**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=46,slow=15,SNR=34							
SUR				Sn		**Sn**	**16 29 27.7**	**-3.8**
	comp=Z,1.7nm,0.3s,baz=348,slow=16,SNR=3.7							
SUR				Lg			16 30 12.0	
	comp=Z,4.2nm,0.3s,baz=314,slow=20,SNR=4.0							
SUR	**Sutherland**	**8.24**	**223**	Pn		**Pn**	**16 27 58.7**	**+1.0**
SUR				*e*Sn		**Sn**	**16 29 27.5**	**-4.0**
SUR				Sn		**Sn**	**16 29 27.7**	**-3.8**
SUR				*e*Sg		**Sg**	**16 30 09.7**	**-12**
SUR				Lg			16 30 12.0	
CVNA	**Calvinia**	**8.36**	**231**	*e*P		**Pn**	**16 27 59.6**	**+0.4**
CVNA				*e*S		**Sn**	**16 29 30.2**	**-4.1**
CVNA				AML		AML	16 30 22.1	
	comp=Z,62nm,0.5s							
LSZ	**Lusaka**	**11.13**	**4**	Pn		**Pn**	**16 28 34.4**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=183,slow=14,SNR=11							
LSZ				Sn		**Sn**	**16 30 37.6**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=47,slow=19,SNR=3.7							
LSZ				Lg			16 31 40.5	
	comp=Z,0.6nm,0.3s,baz=277,slow=21,SNR=3.5							
LSZ	**Lusaka**	**11.13**	**4**	Pn		**Pn**	**16 28 34.4**	**-2.9**
LSZ				*e*Sn		**Sn**	**16 30 37.3**	**-5.1**
LSZ				Sn		**Sn**	**16 30 37.6**	**-4.8**
LSZ				Lg			16 31 40.5	
TSUM	**Tsumeb**	**11.55**	**307**	Pn		**Pn**	**16 28 43.1**	**0.0**
	comp=Z,1.8nm,0.3s,baz=127,slow=10,SNR=39							
TSUM				Sn		**Sn**	**16 30 44.5**	**-8.3**
	comp=Z,0.2nm,0.3s,baz=2.4,slow=19,SNR=2.8							
TSUM				Lg			16 31 56.8	
	comp=Z,0.8nm,0.3s,baz=43,slow=16,SNR=3.4							
TSUM	**Tsumeb**	**11.55**	**307**	Pn		**Pn**	**16 28 43.1**	**0.0**
TSUM				Sn		**Sn**	**16 30 44.5**	**-8.3**
TSUM				Lg			16 31 56.8	
TSUM				*e*Sg		Sn	16 31 57.9	+65
TRIS	**Tristan da Cun**	**35.16**	**243**	*e*P		**P**	**16 32 50.4**	**-1.9**
	comp=Z,45nm,0.6s,mb5.6							
TOA0	**Torodi Ar. Sit**	**46.61**	**324**	*e*P		**P**	**16 34 26.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.61**	**324**	P		**P**	**16 34 27.2**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.2,baz=130,slow=5.9,SNR=13							
SNAA	**Sanae**	**48.30**	**192**	P		**P**	**16 34 41.3**	**+1.4**
	comp=Z,0.2nm,0.6s,mb3.4,baz=24,slow=10.0,SNR=5.6							
SNAA	**Sanae**	**48.30**	**192**	P		**P**	**16 34 40.1**	**+0.2**
	comp=Z,2.3nm,1.1s,mb4.2							
VNA2	**Neumayer--Watz**	**48.67**	**194**	*e*		**P**	**16 34 43.5**	**+0.7**
VNA2				*e*			16 34 46.2	
VNA3	**Neumayer Olymp**	**49.42**	**195**	*e*		**P**	**16 34 49.0**	**+0.5**
VNA3				*e*			16 34 51.9	
CASY	**Casey**	**63.37**	**153**	*e*P		**P**	**16 36 30.9**	**+3.0**
	comp=Z,5.3nm,0.4s,mb5.0							
BRTR	**Keskin Array B**	**66.08**	**5**	P		**P**	**16 36 47.6**	**+2.0**
	comp=Z,0.4nm,0.6s,mb3.9,baz=151,slow=3.3,SNR=3.0							
VNDA	**Vanda**	**72.81**	**171**	P		**P**	**16 37 27.9**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.7,baz=230,slow=7.9,SNR=4.1							
MKAR	**Makanchi Array**	**88.14**	**34**	P		**P**	**16 38 50.4**	**+0.8**
	comp=Z,0.3nm,0.8s,mb3.7,baz=230,slow=3.8,SNR=4.1							

ISCJB ***24*** *16:31:42.3±1.2,30N±02×957E±0.1,h35km,mb3.8/5,Error ellipse: s-maj=25.6km s-min=15.8km az=82.8*
NEIC ***24*** *16:31:44.0±1.0,297N×9575E,h30km,Error ellipse: s-maj=25.0km s-min=13.7km az=221.0*
IDC ***24*** *16:31:47.3±9.4,3.16N×9595E,h56km±70km,mb3.5/5, mb1 3.7/6,mb1mx3.4/22,mbtmp3.5/6,ML3.1/1,Error ellipse: s-maj=121.0km s-min=20.2km az=59.0*
ISC 24 16:31:44.4±1.2,30N±02×957E±01,h35km,n8,σ0°12/8, mb3.8/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.23**	**94**	P	**Pn**	**16 32 32.6**	**0.0**
	2.5nm,0.3s,baz=293,slow=10,SNR=13						
KULM	**Kulim**	**5.42**	**65**	*e*Pn	**Pn**	**16 33 02.7**	**0.0**
WRA	**Warramunga Arr**	**44.28**	**123**	P	**P**	**16 39 50.3**	**-0.2**
	1.0nm,0.5s,mb3.8,baz=300,slow=9.2,SNR=18						
WB2	**Warramunga Arr**	**44.29**	**123**	*e*P	**P**	**16 39 50.6**	**0.0**
WB2				*e*		16 40 05.9	
MKAR	**Makanchi Array**	**45.12**	**347**	P	**P**	**16 39 57.2**	**0.0**
	0.4nm,0.3s,mb3.7,baz=162,slow=8.2,SNR=11						
SONM	**Songino Array**	**45.57**	**10**	P	**P**	**16 40 00.8**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=190,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	**45.69**	**128**	P	**P**	**16 40 02.0**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=297,slow=7.9,SNR=21						
ARCES	**ARCESS Array B**	**80.31**	**340**	P	**P**	**16 43 51.9**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=97,slow=6.2,SNR=5.2						

ISCJB ***24*** *16:31:59.8±0.4,4683N±006×15506E±007,h15km, mb4.5/60,MS3.8/6,Error ellipse: s-maj=10.2km s-min=5.6km az=120.6*
IDC ***24*** *16:31:59.1±0.6,4686N×15506E,h0km,mb4.3/20, mb1 4.4/22,mb1mx4.4/28,mbtmp4.3/22,ML3.8/2,MS3.8/4, Ms1 3.8/4,ms1mx3.2/49,Error ellipse: s-maj=18.0km s-min=14.1km az=158.0*
NEIC ***24*** *16:32:00.5±0.4,4689N×15505E,h10km,mb4.7/30,Error ellipse: s-maj=11.0km s-min=6.8km az=152.0*
BJI ***24*** *16:32:02.2,4723N×15445E,h5km,mB4.8,mb4.5,Ms4.3, Msz4.0*
MOS ***24*** *16:32:03.8±1.6,4687N×15487E,h43km,mb4.8/37,Error ellipse: s-maj=10.1km s-min=6.4km az=106.2*
SZGRF ***24*** *16:32:18.8,4798N×15075E,h33km,mb4.9,Kuril Islands, Russia*
ISC 24 16:32:01.9±0.4,4696N±006×15507E±007,h16km, h16km±4.2km:pP-P,n162,σ1°18/161,mb4.5/60,MS3.8/6, 9C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**10**	*e*PN	**Pn**	**16 33 01.6**	**+2.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.30**	**254**	*e*PN	**Pn**	**16 33 16.8**	**-3.6**
KUR				pmax	pmax		
	comp=Z,190nm,0.7s						
PET	**Petropavlovsk**	**6.49**	**20**	*e*PN	**Pn**	**16 33 35.0**	**-1.8**
PET				pmax	pmax		
	comp=Z,31nm,0.6s						
PET	**Petropavlovsk**	**6.49**	**20**	*e*Pn	**Pn**	**16 33 34.4**	**-2.4**
PET				*e*Sn	**Sn**	**16 34 41.5**	**-9.0**
YSS	**Yuzh-Sakhalins**	**8.43**	**274**	*e*PN	**Pn**	**16 34 05.8**	**+2.5**
ASAJ	**Asahikawa**	**9.21**	**257**	Pn	**Pn**	**16 34 14.1**	**0.0**
	comp=Z,1.2nm,0.3s,baz=113,slow=15,SNR=9.6						
ASAJ	**Asahikawa**	**9.21**	**257**	PN	**Pn**	**16 34 14.1**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**13.56**	**284**	*e*PN	**Pn**	**16 35 11.8**	**-1.8**
KLR	**Kul'dur**	**15.73**	**287**	*e*P	**Pn**	**16 35 48.7**	**+5.9**
MJAR	**Matsushiro Arr**	**16.30**	**236**	Pn	**Pn**	**16 35 46.5**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=31,slow=14,SNR=4.3						
MAJO	**Matsushiro**	**16.30**	**236**	*e*P	**Pn**	**16 35 44.3**	**-5.8**
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	**16.30**	**236**	*e*Pn	**Pn**	**16 35 44.3**	**-5.8**
	comp=Z,18nm,1.0s						
MAT	**Matsushiro**	**16.30**	**236**	P	**Pn**	**16 35 48.3**	**-1.8**
MDJ	**Mudanjiang**	**17.90**	**272**	P	**Pn**	**16 36 10.7**	**+0.5**
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**20.89**	**325**	⇑*e*P	**P**	**16 36 41.4**	**-2.0**
YAK				pmax	pmax		
	comp=Z,74nm,2.5s						
YAK	**Yakutsk**	**20.89**	**325**	*e*P	**P**	**16 36 40.9**	**-2.5**
	comp=Z,13nm,0.6s						
CLNS	**Chul'man**	**20.91**	**309**	*e*P	**P**	**16 36 42.5**	**-1.2**
CLNS				pmax	pmax		
	comp=Z,19nm,1.1s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
BILL	**Bilibino**	**21.90**	**11**	⇑*e*P	**P**	**16 36 53.5**	**-0.8**
BILL				*e*S	**S**	**16 40 54.6**	**-1.0**
BILL				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8						
BILL	**Bilibino**	**21.90**	**11**	*e*P	**P**	**16 36 53.0**	**-1.2**
	comp=Z,21nm,0.8s,mb4.6						
KSRS	**Korea Array**	**22.14**	**254**	P	**P**	**16 36 56.6**	**-0.2**
	comp=Z,1.3nm,0.6s,mb3.5,baz=51,slow=9.6,SNR=5.0						
JNU	**Nakatsue**	**22.99**	**242**	LR	LR	16 45 52.9	
	comp=Z,332nm,18.6s,MS3.8,baz=273,slow=36						
BOD	**Bodaibo**	**26.89**	**309**	*e*P	**P**	**16 37 39.7**	**-2.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
TIXI	**Tiksi**	**27.66**	**342**	*e*P	**P**	**16 37 47.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
TIXI	**Tiksi**	**27.66**	**342**	*e*P	**P**	**16 37 47.4**	**-1.6**
	comp=Z,9.2nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**32.09**	**290**	*e*P	**P**	**16 38 26.1**	**-2.1**
	comp=Z,2.3nm,0.9s,mb4.0						
SONM	**Songino Array**	**32.53**	**290**	P	**P**	**16 38 31.3**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=60,slow=8.5,SNR=9.5						
SONM				LR	LR	16 52 42.9	
	comp=Z,129nm,22.0s,MS3.6,baz=357,slow=38						
SONM	**Songino Array**	**32.53**	**290**	P	**P**	**16 38 31.3**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,129nm,22.0s						
ZAK	**Zakamensk**	**33.80**	**295**	*e*P	**P**	**16 38 42.5**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MCK	**McKinley**	**34.62**	**40**	*e*P	**P**	**16 38 49.7**	**-0.5**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MCK	**McKinley**	**34.62**	**40**	*e*P	**P**	**16 38 49.7**	**-0.5**
	comp=Z,4.6nm,1.0s,mb4.4						
SML	**Sawmill**	**34.89**	**44**	*e*P	**P**	**16 38 51.7**	**-0.8**
COLA	**College**	**35.14**	**39**	*e*P	**P**	**16 38 54.7**	**0.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
COLA	**College**	**35.14**	**39**	*e*P	**P**	**16 38 54.7**	**0.0**
	comp=Z,9.3nm,0.7s,mb4.8						
EGAK	**Eagle**	**38.00**	**39**	*e*P	**P**	**16 39 18.2**	**-0.8**
	comp=Z,8.8nm,0.8s,mb4.5						
LZH	**Lanzhou**	**39.22**	**273**	*e*P	**P**	**16 39 30.0**	**+0.6**
LZH				AP	pP	16 39 37.5	+3.1
LZH				XP	sP	16 39 40.3	+4.0
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
LZH	**Lanzhou**	**39.22**	**273**	*e*P	**P**	**16 39 30.0**	**+0.6**
	comp=Z,21nm,1.2s,mb4.7						
LZH				pP	pP	16 39 37.5	+3.1
LZH				sP	sP	16 39 40.2	+3.9
GTA	**Gaotai**	**40.26**	**280**	*e*P	**P**	**16 39 39.5**	**+1.5**
GTA				AP	pP	16 39 45.3	+2.3
GTA				XP	sP	16 39 47.9	+2.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
INK	**Inuvik**	**40.75**	**33**	P	**P**	**16 39 42.5**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.3,baz=289,slow=6.1,SNR=20						
INK	**Inuvik**	**40.75**	**33**	P	**P**	**16 39 42.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**40.75**	**33**	P	**P**	**16 39 42.5**	**+0.4**
SIT	**Sitka**	**42.21**	**50**	P	**P**	**16 39 55.0**	**+0.9**
SIT				pmax	pmax		
	comp=Z,36nm,1.1s,mb4.9						
SIT	**Sitka**	**42.21**	**50**	P	**P**	**16 39 55.0**	**+0.9**
	comp=Z,36nm,1.1s,mb4.9						
ZAL	**Zalesovo**	**43.59**	**306**	P	**P**	**16 40 04.3**	**-0.9**
	comp=Z,1.7nm,0.6s,mb3.9,baz=29,slow=8.0,SNR=7.1						
ZAL				PcP	PcP	16 41 52.4	-0.3
	comp=Z,1.4nm,0.7s,baz=94,slow=2.7,SNR=4.5						
ZAL	**Zalesovo**	**43.59**	**306**	P	**P**	**16 40 04.3**	**-0.9**
ZAL						16 41 52.4	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	**44.12**	**308**	*e*P	**P**	**16 40 08.2**	**-1.3**
WMQ	**Urumqi**	**46.10**	**292**	⇑*i*P	**P**	**16 40 24.8**	**-0.4**
WMQ				AP	pP	16 40 29.3	-0.9
WMQ				XP	sP	16 40 31.8	-0.4
WMQ				PCP	PcP	16 42 01.9	+0.6
WMQ				PP	PP	16 42 12.9	-0.4
WMQ				S	**S**	**16 47 10.3**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,149nm,6.1s						
WMQ				LR	LR		
	comp=N,149nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=E,53nm,15.1s,MS4.1						
WMQ				LR	LR		
	comp=Z,135nm,15.1s,MS4.0						
MK31	**Makanchi Array**	**48.03**	**298**	*i* P	**P**	**16 40 39.8**	**-0.5**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MK31	**Makanchi Array**	**48.03**	**298**	*e*P	**P**	**16 40 39.6**	**-0.7**
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**16 40 40.1**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=64,slow=8.4,SNR=21						
MKAR				PcP	PcP	16 42 08.0	-0.1
	comp=Z,1.3nm,0.8s,baz=70,slow=2.8,SNR=4.3						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**16 40 40.1**	**-0.2**
MKAR						16 42 08.0	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**48.36**	**304**	P	**P**	**16 40 41.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	**P**	**16 40 54.3**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=294,slow=7.1,SNR=4.9						
YKA				PcP	PcP	16 42 14.7	-0.3
	comp=Z,1.0nm,0.7s,baz=305,slow=3.5,SNR=6.1						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	**P**	**16 40 54.3**	**-0.7**
YKA						16 42 14.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	**P**	**16 40 54.3**	**-0.7**
YKA				PcP	PcP	16 42 14.7	-0.3
RES	**Resolute Bay**	**50.20**	**19**	P	**P**	**16 40 54.5**	**-2.4**
	comp=Z,207nm,0.9s						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**16 41 04.1**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**16 41 04.0**	**-1.3**
	comp=Z,24nm,0.6s,mb5.3						
LSA	**Lhasa**	**51.60**	**274**	P	**P**	**16 41 10.0**	**+2.5**
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**	**16 41 09.8**	**+2.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**51.60**	**274**	*e*P	**P**	**16 41 09.8**	**+2.4**
	comp=Z,3.5nm,0.7s,mb4.4						
BVA0	**Borovoye Array**	**51.76**	**310**	*i* P	**P**	**16 41 08.1**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**16 41 08.5**	**-0.2**
	comp=Z,8.2nm,0.6s,mb4.9,baz=54,slow=7.5,SNR=62						
BVAR				PcP	PcP	16 42 21.6	-0.2
	comp=Z,1.8nm,0.6s,baz=99,slow=2.0,SNR=4.1						
BVAR				LR	LR	17 04 38.2	
	comp=Z,62nm,18.5s,MS3.7,baz=49,slow=38						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**16 41 08.5**	**-0.1**
BVAR						16 42 21.6	
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,62nm,18.5s						
BRVK	**Borovoye**	**51.80**	**310**	*e*P	**P**	**16 41 08.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
BRVK	**Borovoye**	**51.80**	**310**	*e*P	**P**	**16 41 08.4**	**-0.5**
	comp=Z,16nm,0.7s,mb5.1						
AAK	**Ala-Archa**	**54.94**	**297**	⇑*i*P	**P**	**16 41 31.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**16 41 31.2**	**-0.8**
	comp=Z,8.5nm,0.8s,mb4.8						
ARU	**Arti**	**55.76**	**318**	⇓*i*P	**P**	**16 41 37.8**	**-0.1**
ARU				*e*		16 43 39.5	
ARU				*e*PPP		16 44 54.2	
ARU				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
ARU	**Arti**	**55.76**	**318**	*e*P	**P**	**16 41 37.3**	**-0.6**
	comp=Z,27nm,0.6s,mb5.5						
NEW	**Newport**	**55.97**	**54**	LR	LR	17 05 56.9	
	comp=Z,132nm,19.1s,MS4.0,baz=231,slow=36						
GUN	**Gumba**	**56.32**	**276**	*e*P	**P**	**16 41 43.6**	**+1.7**
KKN	**Kakani**	**56.80**	**276**	*e*P	**P**	**16 41 47.3**	**+1.9**
PKI	**Pulchoki**	**56.85**	**276**	*e*P	**P**	**16 41 47.6**	**+1.9**
DMN	**Daman**	**57.04**	**276**	*e*P	**P**	**16 41 48.6**	**+1.6**
	comp=Z,7.8nm,0.5s,mb5.0						
GKN	**Gorkha**	**57.10**	**277**	*e*P	**P**	**16 41 48.5**	**+1.0**
	comp=Z,5.5nm,0.5s,mb4.8						
KEV	**Kevo**	**57.59**	**341**	*e*p	**P**	**16 41 50.2**	**-0.7**
KOLN	**Koldanda**	**57.96**	**278**	*e*P	**P**	**16 41 54.1**	**+0.6**
	comp=Z,13nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**58.09**	**341**	P	**P**	**16 41 53.9**	**-0.6**
	comp=Z,10nm,1.0s,mb4.8,baz=38,slow=6.5,SNR=8.7						
ARCES				PcP	PcP	16 42 46.4	+0.3
	comp=Z,2.2nm,0.7s,baz=49,slow=6.1,SNR=3.1						
ARCES	**ARCESS Array B**	**58.09**	**341**	P	**P**	**16 41 53.9**	**-0.5**
ARCES						16 42 46.4	
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARE0	**ARCESS Array S**	**58.09**	**341**	*e*P	**P**	**16 41 49.4**	**-5.0**
AB31	**Akbulak array**	**59.31**	**311**	P	**P**	**16 42 02.9**	**-0.1**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
AKTK	**Aktyubinsk**	**59.58**	**313**	P	**P**	**16 42 05.0**	**+0.2**
AKTO	**Aktyubinsk**	**59.58**	**313**	P	**P**	**16 42 05.0**	**+0.2**
	comp=Z,4.2nm,0.5s,mb4.7,baz=63,slow=8.5,SNR=19						
AKTO	**Aktyubinsk**	**59.58**	**313**	P	**P**	**16 42 05.0**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
NVAR	**Mina Array Bea**	**61.14**	**64**	P	**P**	**16 42 15.8**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=296,slow=12,SNR=5.3						
NVAR	**Mina Array Bea**	**61.14**	**64**	P	**P**	**16 42 15.8**	**+0.3**
PDAR	**Pinedale Array**	**63.53**	**55**	P	**P**	**16 42 31.3**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=279,slow=2.9,SNR=10.0						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**16 42 37.1**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.6,baz=36,slow=8.1,SNR=22						
FINES	**FINESS Array B**	**64.41**	**336**	*i* P	**P**	**16 42 37.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN	**Obninsk**	**65.89**	**326**	⇑*e*P	**P**	**16 42 48.8**	**+2.0**
OBN				*e*PP	pP	16 43 10.4	+18
OBN				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
NB2	**NORSAR Subarra**	**68.45**	**342**	P	**P**	**16 43 02.9**	**-0.2**
	comp=Z,6.7nm,0.9s,mb4.7,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.45**	**342**	P	**P**	**16 43 03.0**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=26,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**68.45**	**342**	P	**P**	**16 43 03.1**	**0.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	**Hagfors**	**68.72**	**340**	P	**P**	**16 43 04.5**	**-0.3**
	baz=47,slow=8.5						
WRA	**Warramunga Arr**	**69.17**	**201**	P	**P**	**16 43 06.0**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.0,baz=18,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**69.17**	**201**	P	**P**	**16 43 06.0**	**-1.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDRS	**Chennai**	**70.22**	**268**	*ex*	x	16 44 22.2	
MDRS				*ex*	x	16 48 24.2	
KIV	**Kislovodsk**	**71.61**	**315**	*e*P	**P**	**16 43 27.0**	**+4.5**
KIV				*e*		16 43 45.5	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**71.61**	**315**	P	**P**	**16 43 23.1**	**+0.6**
	comp=Z,10nm,0.5s,mb5.0						
AKASG	**Malin Array Be**	**72.11**	**327**	P	**P**	**16 43 24.7**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.3,baz=34,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**72.11**	**327**	P	**P**	**16 43 24.7**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**72.11**	**327**	P	**P**	**16 43 24.7**	**-0.8**
ASAR	**Alice Springs**	**72.85**	**200**	P	**P**	**16 43 29.4**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=11,slow=5.6,SNR=15

KHC	**Kasperske Hory**	**78.62**	**335**	*e*P	**P**	**16 44 03.6**	**+0.7**
KHC				pP	pP	16 44 06.5	-1.7
KHC				x	x	16 46 32.0	
KHC	**Kasperske Hory**	**78.62**	**335**	*e*P	**P**	**16 44 03.6**	**+0.7**
KHC				*e*	pP	16 44 06.5	-1.7
KHC	**Kasperske Hory**	**78.62**	**335**	*e*P	**P**	**16 44 03.6**	**+0.7**
KHC				*e*	pP	16 44 06.5	-1.7
KHC				*e*		16 46 32.0	
GRA1	**Grafenberg Arr**	**78.76**	**337**	*e*P	**P**	**16 44 04.7**	**+1.0**
	comp=Z,12nm,1.2s,mb4.7						
GRF	**Grafenberg Arr**	**78.76**	**337**	*e*P	**P**	**16 44 04.7**	**+1.0**
	comp=Z,12nm,1.2s,mb4.7						
GRF	**Grafenberg Arr**	**78.76**	**337**	*e*P	**P**	**16 44 04.7**	**+1.0**
GRF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
GRF	**Grafenberg Arr**	**78.76**	**337**	*e*P	**P**	**16 44 04.7**	**+1.0**
GRF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**	**16 44 04.4**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=32,slow=5.3,SNR=8.6						
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**	**16 44 04.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.14**	**318**	P	**P**	**16 44 06.1**	**+0.3**
	comp=Z,1.6nm,1.0s,mb3.9,baz=52,slow=2.6,SNR=8.4						
BRTR	**Keskin Array B**	**79.14**	**318**	*i* P	**P**	**16 44 06.6**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**79.41**	**192**	P	**P**	**16 44 02.2**	**-5.1**
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	**P**	**16 44 16.6**	**+1.0**
	comp=Z,9.4nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	**P**	**16 44 16.6**	**+1.0**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**80.96**	**339**	*e*P	**P**	**16 44 16.6**	**+1.0**
	comp=Z,4.7nm,0.8s,mb4.5						
GRR	**Gorron**	**82.75**	**344**	*e*P	**P**	**16 44 25.6**	**+0.6**
SMF	**Signal de Mont**	**83.43**	**341**	*e*P	**P**	**16 44 29.3**	**+0.8**
	comp=Z,23nm,0.8s,mb4.9						
SMF	**Signal de Mont**	**83.43**	**341**	*e*P	**P**	**16 44 29.3**	**+0.8**
SMF				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
SMF	**Signal de Mont**	**83.43**	**341**	*e*P	**P**	**16 44 29.3**	**+0.8**
	comp=Z,12nm,0.8s,mb5.0						
LPG	**La Plagne**	**83.80**	**338**	*e*P	**P**	**16 44 31.6**	**+1.1**
	comp=Z,16nm,0.8s,mb4.9						
LPG	**La Plagne**	**83.80**	**338**	*e*P	**P**	**16 44 31.6**	**+1.1**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
LPG	**La Plagne**	**83.80**	**338**	*e*P	**P**	**16 44 31.6**	**+1.1**
	comp=Z,7.8nm,0.8s,mb4.9						
CAF	**Calviac**	**85.46**	**341**	*e*P	**P**	**16 44 39.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**115.58**	**331**	PP	PP	16 51 43.0	-2.3
	comp=Z,1.2nm,0.9s,baz=17,slow=6.1,SNR=5.3						

*ISCJB **24** 16:34:24.4±0.6, 4682N±009×1549E±0.1, h10km, mb4.1/24, MS4.0/2, Error ellipse: s-maj=15.9km s-min=8.5km az=90.5*
*IDC **24** 16:34:24.7±0.8, 4682N×1550 3E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, ML3.5/2, MS4.0/2, Ms1 4.0/2, ms1mx3.1/44, Error ellipse: s-maj=20.6km s-min=18.1km az=143.0*
*NEIC **24** 16:34:26.1±0.6, 4684N×1550 3E, h10km, mb4.4/7, Error ellipse: s-maj=17.3km s-min=9.4km az=133.0*
*MOS **24** 16:34:27.8±0.9, 4681N×1548 7E, h33km, mb4.5/17, Error ellipse: s-maj=16.4km s-min=12.1km az=85.5*

ISC 24 16:34:26.0±0.6, 4687N±009×1550E±01, h10km, n56, σ1§05/53, mb4.1/24, MS4.0/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.89**	**11**	*e*PN		**Pn**	**16 35 18.5**	**-7.3**
PET	**Petropavlovsk**	**6.60**	**20**	*e*PN		**Pn**	**16 36 00.4**	**-2.7**
ASAJ	**Asahikawa**	**9.13**	**257**	Pn		**Pn**	**16 36 38.9**	**+1.1**
	0.6nm,0.3s,baz=65,slow=27,SNR=2.8							
ASAJ	**Asahikawa**	**9.13**	**257**	PN		**Pn**	**16 36 38.9**	**+1.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.20**	**236**	Pn		**Pn**	**16 38 12.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=3.8							
MAJO	**Matsushiro**	**16.20**	**236**	P		**Pn**	**16 38 11.4**	**-2.3**
MAJO				pmax	pmax			
	comp=Z,13nm,0.9s							
MAJO	**Matsushiro**	**16.20**	**236**	P		**Pn**	**16 38 11.4**	**-2.3**
	comp=Z,13nm,0.9s							
MAJO				*e*			16 38 19.4	
MAT	**Matsushiro**	**16.20**	**236**	P		**Pn**	**16 38 12.2**	**-1.5**
BILL	**Bilibino**	**22.01**	**11**	*e*P		**P**	**16 39 19.9**	**-0.4**
BILL				pmax	pmax			
	comp=Z,27nm,1.3s,mb4.5							
BILL	**Bilibino**	**22.01**	**11**	*e*P		**P**	**16 39 19.9**	**-0.5**
	comp=Z,27nm,1.3s,mb4.5							
KSRS	**Korea Array**	**22.07**	**255**	P		**P**	**16 39 24.5**	**+3.5**
	comp=Z,1.3nm,0.8s,mb3.4,baz=64,slow=9.7,SNR=3.9							
TIXI	**Tiksi**	**27.73**	**343**	*e*P		**P**	**16 40 12.1**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.1							
SONM	**Songino Array**	**32.51**	**290**	P		**P**	**16 40 56.2**	**-0.7**
	comp=Z,1.0nm,1.0s,mb3.7,baz=75,slow=12,SNR=3.5							
SONM	**Songino Array**	**32.51**	**290**	P		**P**	**16 40 56.2**	**-0.7**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
COLA	**College**	**35.24**	**38**	P		**P**	**16 41 20.4**	**-0.2**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
COLA	**College**	**35.24**	**38**	P		**P**	**16 41 20.4**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.4							
INK	**Inuvik**	**40.86**	**33**	P		**P**	**16 42 08.2**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=348,slow=9.6,SNR=5.5							
INK	**Inuvik**	**40.86**	**33**	P		**P**	**16 42 08.3**	**+0.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**43.60**	**306**	LR		LR	17 02 20.3	
	comp=Z,67nm,19.5s,MS3.6,baz=61,slow=38							
MKAR	**Makanchi Array**	**48.03**	**298**	P		**P**	**16 43 05.7**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=66,slow=7.4,SNR=5.6							
MKAR	**Makanchi Array**	**48.03**	**298**	P		**P**	**16 43 05.7**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**48.03**	**298**	P		**P**	**16 43 05.7**	**+0.4**
LSA	**Lhasa**	**51.56**	**274**	*e*P		**P**	**16 43 35.7**	**+3.6**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**51.56**	**274**	*e*P		**P**	**16 43 35.7**	**+3.6**
	comp=Z,2.1nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**51.78**	**310**	P		**P**	**16 43 34.0**	**+0.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=53,slow=8.0,SNR=8.9							
BVAR	**Borovoye Array**	**51.78**	**310**	P		**P**	**16 43 34.0**	**+0.2**
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**51.82**	**310**	*e*P		**P**	**16 43 33.8**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**51.82**	**310**	*e*P		**P**	**16 43 33.8**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**54.94**	**297**	*e*P		**P**	**16 43 57.5**	**+0.5**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**54.94**	**297**	*e*P		**P**	**16 43 57.5**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.5							
ARU	**Arti**	**55.80**	**318**	*e*P		**P**	**16 44 02.4**	**-0.8**
ARU	**Arti**	**55.80**	**318**	*e*P		**P**	**16 44 03.1**	**-0.1**
	comp=Z,8.6nm,0.6s,mb5.0							
ARCES	**ARCESS Array B**	**58.16**	**341**	P		**P**	**16 44 19.9**	**-0.1**
	comp=Z,4.3nm,1.0s,mb4.5,baz=32,slow=8.6,SNR=3.6							
ARCES	**ARCESS Array B**	**58.16**	**341**	P		**P**	**16 44 19.9**	**-0.1**
ARCES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
AKTK	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 44 30.5**	**+0.5**
AKTO	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 44 30.5**	**+0.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=58,slow=6.4,SNR=4.4							
AKTO	**Aktyubinsk**	**59.61**	**313**	P		**P**	**16 44 30.5**	**+0.5**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
PDAR	**Pinedale Array**	**63.63**	**55**	P		**P**	**16 44 57.4**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.4,baz=336,slow=4.2,SNR=2.7							
FINES	**FINESS Array B**	**64.48**	**336**	P		**P**	**16 45 02.6**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=41,slow=7.0,SNR=10							
FINES	**FINESS Array B**	**64.48**	**336**	P		**P**	**16 45 02.6**	**-0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**68.53**	**342**	P		**P**	**16 45 30.4**	**+1.8**
	comp=Z,3.1nm,1.0s,mb4.2,baz=30,slow=6.2,SNR=2.8							
NOA	**NORSAR Array B**	**68.53**	**342**	P		**P**	**16 45 30.5**	**+1.9**
NOA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**69.06**	**201**	P		**P**	**16 45 31.8**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=18,slow=6.0,SNR=3.4							
WRA	**Warramunga Arr**	**69.06**	**201**	P		**P**	**16 45 31.8**	**-0.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**72.16**	**327**	P		**P**	**16 45 50.4**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=35,slow=5.7,SNR=3.0							
ASAR	**Alice Springs**	**72.75**	**200**	P		**P**	**16 45 55.0**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=14,slow=5.2,SNR=7.4							
ASAR	**Alice Springs**	**72.75**	**200**	P		**P**	**16 45 55.0**	**+0.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**76.30**	**62**	P		**P**	**16 46 15.2**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=304,slow=4.7,SNR=13							
TXAR	**Lajitas Array**	**76.30**	**62**	P		**P**	**16 46 15.3**	**+0.3**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CLL	**Collm**	**76.89**	**337**	*e*pP		pP	16 46 23.0	+1.4
VRAC	**Vranov**	**77.64**	**334**	LR		LR	17 26 06.2	
	comp=Z,238nm,18.3s,MS4.5,baz=357,slow=40							
MLR	**Muntele Rosu**	**77.70**	**326**	P		**P**	**16 46 24.2**	**+1.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=198,slow=5.6,SNR=3.2							
MLR	**Muntele Rosu**	**77.70**	**326**	P		**P**	**16 46 24.2**	**+1.3**
MLR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
GERES	**GERESS Array B**	**78.91**	**335**	P		**P**	**16 46 30.2**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=22,slow=5.4,SNR=4.5							
GERES	**GERESS Array B**	**78.91**	**335**	P		**P**	**16 46 30.2**	**+0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**79.18**	**318**	P		**P**	**16 46 32.0**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=26,slow=6.9,SNR=2.3							

*IDC **24** 16:56:41.0±0.8, 4803N×1550 6E, h0km, mb3.9/18, mb1 4.1/18, mb1mx4.0/24, mbtmp3.9/18, Error ellipse: s-maj=22.9km s-min=18.4km az=156.0*
*ISCJB **24** 16:56:41.3±0.6, 4820N±007×1551E±0.1, h10km, mb4.0/24, Error ellipse: s-maj=13.7km s-min=6.0km az=90.9*
*BJI **24** 16:56:41.9, 4835N×1552 5E, h17km, mB4.8, mb4.4, Ms4.1, Msz3.8*
*NEIC **24** 16:56:42.1±0.6, 4797N×1549 6E, h10km, mb4.3/5, Error ellipse: s-maj=15.0km s-min=9.7km az=142.0*
*MOS **24** 16:56:47.7±1.3, 4816N×1548 5E, h58km, mb4.2/18, Error ellipse: s-maj=13.3km s-min=9.7km az=79.2*

ISC 24 16:56:43.0±0.6, 4821N±008×1550E±01, h10km, n68, σ0§97/71, mb4.0/24, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.58**	**15**	*e*PN		**Pn**	**16 57 29.5**	**+4.7**
SKR				*e*S		**Sn**	**16 57 54.5**	**-1.7**
SKR				pmax	pmax			
	comp=Z,60nm,0.5s							
SKR				smax				
	comp=N,230nm,0.5s							
SKR				smax				
	comp=Z,90nm,0.5s							
SKR				smax				
	comp=E,100nm,0.6s							
PET	**Petropavlovsk**	**5.34**	**24**	*e*PN		**Pn**	**16 58 08.4**	**+5.6**
PET	**Petropavlovsk**	**5.34**	**24**	*e*Pn		**Pn**	**16 58 03.5**	**+0.7**
	comp=E,14nm,0.5s							
KUR	**Kuril'sk**	**5.76**	**242**	↓*i*PN		**Pn**	**16 58 07.2**	**-1.3**
KUR				*i* S		**Sn**	**16 59 17.6**	**+3.0**
KUR				pmax	pmax			
	comp=Z,170nm,0.7s							
KUR				smax				
	comp=N,280nm,0.7s							
KUR				smax				
	comp=E,170nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.40**	**266**	*e*PN		**Pn**	**16 58 49.0**	**+4.2**
YSS	**Yuzh-Sakhalins**	**8.40**	**266**	*e*Pn		**Pn**	**16 58 49.5**	**+4.7**
	comp=E,21nm,0.7s							
ASAJ	**Asahikawa**	**9.55**	**249**	Pn		**Pn**	**16 59 03.9**	**+3.3**
	comp=E,1.4nm,0.3s,baz=75,slow=18,SNR=9.4							
ASAJ	**Asahikawa**	**9.55**	**249**	PN		**Pn**	**16 59 03.9**	**+3.3**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**17.00**	**233**	Pn		**Pn**	**17 00 34.8**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=46,slow=17,SNR=2.6							
YAK	**Yakutsk**	**19.86**	**324**	*e*P		**Pn**	**17 01 20.9**	**+5.1**
YAK				pmax	pmax			
	comp=Z,16nm,0.8s							
YAK	**Yakutsk**	**19.86**	**324**	*e*P		**Pn**	**17 01 20.9**	**+5.0**
	comp=Z,16nm,0.8s							
CLNS	**Chul'man**	**20.13**	**307**	*e*P		**P**	**17 01 13.1**	**-4.0**
CLNS				pmax	pmax			
	comp=Z,16nm,0.9s							
CLNS				pmax	pmax			
	comp=N,6.0nm,1.3s							
KSRS	**Korea Array**	**22.49**	**251**	P		**P**	**17 01 43.0**	**+0.5**
	comp=N,5.8nm,1.0s,mb4.0,baz=48,slow=10.0,SNR=11							
ULN	**Ulaanbaatar**	**31.68**	**288**	P		**P**	**17 03 06.2**	**-0.4**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ULN	**Ulaanbaatar**	**31.68**	**288**	P		**P**	**17 03 06.2**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.0							
SONM	**Songino Array**	**32.11**	**288**	P		**P**	**17 03 10.2**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=70,slow=7.6,SNR=4.0							
INK	**Inuvik**	**39.72**	**33**	P		**P**	**17 04 16.2**	**+0.6**
	comp=Z,2.7nm,1.3s,mb3.8,baz=238,slow=10,SNR=3.1							
INK	**Inuvik**	**39.72**	**33**	P		**P**	**17 04 16.2**	**+0.7**
INK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
INK	**Inuvik**	**39.72**	**33**	P		**P**	**17 04 16.2**	**+0.6**
ZAL	**Zalesovo**	**42.85**	**305**	P		**P**	**17 04 41.6**	**+0.3**
	comp=Z,0.6nm,0.3s,mb3.8,baz=92,slow=6.4,SNR=2.7							
ZAL	**Zalesovo**	**42.85**	**305**	P		**P**	**17 04 41.6**	**+0.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
WMQ	**Urumqi**	**45.62**	**291**	↓P		**P**	**17 05 04.6**	**+1.1**
WMQ				AP		pP	17 05 09.1	+2.5
WMQ				XP		sP	17 05 11.6	+3.7
WMQ				PCP		PcP	17 06 45.4	+3.7
WMQ				PP		PP	17 06 50.9	+0.6
WMQ				*e*S		**S**	**17 11 43.8**	**-2.3**
WMQ				AMB		AMB		
	comp=Z,3.0nm,0.5s							
WMQ				AMB		AMB		
	comp=Z,187nm,5.8s							
WMQ				LR		LR		
	comp=N,64nm,16.1s							
WMQ				LR		LR		
	comp=E,47nm,14.2s							
WMQ				LR		LR		
	comp=Z,81nm,15.2s							
MK31	**Makanchi Array**	**47.44**	**297**	*e*P		**P**	**17 05 17.0**	**-0.8**
MKAR	**Makanchi Array**	**47.44**	**297**	P		**P**	**17 05 17.2**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.2,baz=68,slow=8.1,SNR=15							
MKAR	**Makanchi Array**	**47.44**	**297**	P		**P**	**17 05 17.2**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YKA	**Yellowknife Ar**	**48.97**	**38**	P		**P**	**17 05 30.1**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=238,slow=12,SNR=3.0							
CHKZ	**Chkalovo**	**50.50**	**310**	*e*P		**P**	**17 05 39.8**	**-1.4**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
CHKZ	**Chkalovo**	**50.50**	**310**	*e*P		**P**	**17 05 39.8**	**-1.4**
	comp=Z,2.3nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**50.95**	**309**	P		**P**	**17 05 44.1**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=62,slow=7.5,SNR=8.4							
BVAR	**Borovoye Array**	**50.95**	**309**	P		**P**	**17 05 44.1**	**-0.5**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**50.99**	**309**	*e*P		**P**	**17 05 43.0**	**-1.9**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
BRVK	**Borovoye**	**50.99**	**309**	*e*P		**P**	**17 05 43.0**	**-1.9**
	comp=Z,5.7nm,0.6s,mb4.7							
LSA	**Lhasa**	**51.50**	**273**	P		**P**	**17 05 49.6**	**+0.9**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
LSA	**Lhasa**	**51.50**	**273**	P		**P**	**17 05 49.6**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.1							
GUN	**Gumba**	**56.17**	**275**	*e*P		**P**	**17 06 23.5**	**+0.6**
KKN	**Kakani**	**56.65**	**276**	*e*P		**P**	**17 06 26.9**	**+0.6**
PKI	**Pulchoki**	**56.71**	**275**	*e*P		**P**	**17 06 26.7**	**-0.1**
DMN	**Daman**	**56.89**	**276**	*e*P		**P**	**17 06 28.8**	**+0.8**
ARCES	**ARCESS Array B**	**56.91**	**341**	P		**P**	**17 06 28.8**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=10,SNR=3.4							
ARCES	**ARCESS Array B**	**56.91**	**341**	P		**P**	**17 06 28.8**	**+0.7**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
GKN	**Gorkha**	**56.94**	**276**	*e*P		**P**	**17 06 29.0**	**+0.6**
	comp=Z,5.1nm,0.4s,mb4.9							
KOLN	**Koldanda**	**57.78**	**277**	*e*P		**P**	**17 06 35.2**	**+0.9**
	comp=Z,2.8nm,0.4s,mb4.7							
AKTK	**Aktyubinsk**	**58.73**	**312**	P		**P**	**17 06 40.1**	**-0.8**
AKTO	**Aktyubinsk**	**58.73**	**312**	P		**P**	**17 06 40.1**	**-0.8**
	comp=Z,0.5nm,0.2s,mb4.1,baz=21,slow=7.8,SNR=2.3							
AKTO	**Aktyubinsk**	**58.73**	**312**	P		**P**	**17 06 40.1**	**-0.8**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.2s,mb4.5							
PDAR	**Pinedale Array**	**62.84**	**55**	P		**P**	**17 07 08.8**	**-0.1**
	comp=Z,0.8nm,1.1s,mb3.8,baz=112,slow=1.6,SNR=2.9							
FINES	**FINESS Array B**	**63.27**	**335**	P		**P**	**17 07 11.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb4.0,baz=22,slow=7.2,SNR=4.6							
FINES	**FINESS Array B**	**63.27**	**335**	P		**P**	**17 07 11.8**	**0.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**67.26**	**342**	P		**P**	**17 07 38.0**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**67.26**	**342**	P		**P**	**17 07 38.0**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=25,slow=6.4,SNR=2.9							
NOA	**NORSAR Array B**	**67.26**	**342**	P		**P**	**17 07 38.0**	**+0.3**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**70.33**	**201**	P		**P**	**17 07 55.2**	**-1.6**
	comp=Z,1.5nm,0.9s,mb3.9,baz=20,slow=6.2,SNR=4.3							
WRA	**Warramunga Arr**	**70.33**	**201**	P		**P**	**17 07 55.2**	**-1.6**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**71.05**	**327**	P		**P**	**17 08 00.2**	**-1.0**
	comp=Z,0.1nm,0.3s,mb3.3,baz=30,slow=5.4,SNR=4.2							
ASAR	**Alice Springs**	**74.01**	**200**	P		**P**	**17 08 17.3**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=13,slow=6.1,SNR=3.7							
ASAR	**Alice Springs**	**74.01**	**200**	P		**P**	**17 08 17.3**	**-1.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BURAR	**Bucovina Array**	**75.08**	**327**	↑*i*P		**P**	**17 08 25.3**	**+0.2**
TXAR	**Lajitas Array**	**75.65**	**62**	P		**P**	**17 08 28.2**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=304,slow=4.1,SNR=7.5							
TXAR	**Lajitas Array**	**75.65**	**62**	P		**P**	**17 08 28.2**	**-0.1**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CLL	**Collm**	**75.67**	**337**	*e*P		**P**	**17 08 28.0**	**-0.4**
MLR	**Muntele Rosu**	**76.61**	**326**	↑*i*P		**P**	**17 08 35.4**	**+1.6**
KHC	**Kasperske Hory**	**77.48**	**335**	*e*P		**P**	**17 08 39.5**	**+0.8**
KHC	**Kasperske Hory**	**77.48**	**335**	*e*P		**P**	**17 08 39.5**	**+0.8**
GERES	**GERESS Array B**	**77.71**	**335**	P		**P**	**17 08 40.9**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=35,slow=5.4,SNR=8.0							
GERES	**GERESS Array B**	**77.71**	**335**	P		**P**	**17 08 40.9**	**+1.0**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BZS	**Buzias**	**78.07**	**329**	↓*i*P		**P**	**17 08 42.6**	**+0.6**
BRTR	**Keskin Array B**	**78.21**	**318**	P		**P**	**17 08 43.9**	**+1.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=38,slow=6.3,SNR=7.5							
BRTR	**Keskin Array B**	**78.21**	**318**	P		**P**	**17 08 43.9**	**+1.2**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							

*ISCJB **24** 16:56:49.1±0.5, 4706N±008×1557E±0.1, h10km, mb4.2/29, MS3.6/2, Error ellipse: s-maj=13.4km s-min=8.8km az=93.0*
*BJI **24** 16:56:49.9, 4710N×1557 0E, h10km, mb4.7*
*IDC **24** 16:56:49.8±0.8, 4710N×1556 8E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.2/24, mbtmp4.1/17, MS3.6/2, Ms1 3.6/2, ms1mx2.8/39, Error ellipse: s-maj=21.3km s-min=18.2km az=121.0*
*NEIC **24** 16:56:51.0±0.5, 4707N×1556 6E, h10km, mb4.5/10, Error ellipse: s-maj=13.0km s-min=8.0km az=137.0*
*MOS **24** 16:56:55.5±1.0, 4723N×1557 1E, h54km, mb4.4/18, Error ellipse: s-maj=20.1km s-min=11.5km az=108.5*

ISC 24 16:56:50.9±0.6, 4711N±008×1557E±01, h10km, n68, σ1§10/69, mb4.2/29, MS3.6/2, 2C-1D, East of Kuril Islands

| Code | Station

comp=Z,11nm,0.7s,mb4.9
CHKZ Chkalovo 51.53 311 *e*P **P 17 05 56.3 -0.6**
comp=Z,11nm,0.7s,mb4.9
BVAR Borovoye Array 51.97 310 P **P 17 06 00.8 +0.7**
comp=Z,4.3nm,0.6s,mb4.5,baz=61,slow=7.8,SNR=14
BVAR Borovoye Array 51.97 310 P **P 17 06 00.8 +0.6**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 51.99 275 P **P 17 06 02.0 +1.6**
LSA Lhasa 51.99 275 *e*P **P 17 06 01.9 +1.6**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 51.99 275 *e*P **P 17 06 01.9 +1.6**
comp=Z,3.8nm,0.6s,mb4.5
BRVK Borovoye 52.01 310 *e*P **P 17 06 00.4 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 52.01 310 *e*P **P 17 06 00.4 -0.1**
comp=Z,7.8nm,0.8s,mb4.7
ARU Arti 55.92 318 ⇓*i*P **P 17 06 28.4 -0.6**
ARU *i* 17 07 28.9
ARU *e* 17 08 32.2
ARU *e*PPP 17 09 45.0
ARU *e*S **S 17 14 14.1 -2.6**
ARU pmax pmax
comp=Z,12nm,0.7s,mb5.0
KEV Kevo 57.57 341 *e*p **P 17 06 35.5 -5.3**
ARCES ARCESS Array B 58.08 342 P **P 17 06 44.3 0.0**
comp=Z,4.6nm,0.8s,mb4.6,baz=34,slow=8.8,SNR=7.8
ARCES ARCESS Array B 58.08 342 P **P 17 06 44.3 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
AKTK Aktyubinsk 59.78 313 P **P 17 06 56.5 +0.3**
AKTO Aktyubinsk 59.78 313 P **P 17 06 56.5 +0.3**
comp=Z,1.4nm,0.5s,mb4.3,baz=78,slow=9.0,SNR=5.4
AKTO Aktyubinsk 59.78 313 P **P 17 06 56.5 +0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
PDAR Pinedale Array 63.11 55 P **P 17 07 19.4 +0.7**
comp=Z,1.3nm,0.8s,mb4.1,baz=209,slow=0.6,SNR=8.5
FINES FINESS Array B 64.44 336 P **P 17 07 27.1 -0.3**
comp=Z,1.8nm,0.6s,mb4.3,baz=40,slow=7.5,SNR=11
FINES FINESS Array B 64.44 336 P **P 17 07 27.1 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 68.43 342 P **P 17 07 52.6 -0.4**
comp=Z,1.5nm,0.7s,mb4.2,baz=25,slow=6.3,SNR=4.6
NOA NORSAR Array B 68.43 342 P **P 17 07 52.6 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.7s
ECSD EROS,Sioux Fal 69.36 48 *e*P **P 17 07 58.2 -0.6**
comp=Z,3.1nm,0.9s,mb4.2
WRAB Tennant Creek 69.44 201 *e*P **P 17 07 59.3 +0.1**
comp=Z,3.6nm,0.9s,mb4.3
WRA Warramunga Arr 69.46 201 P **P 17 07 59.6 +0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=17,slow=6.3,SNR=8.5
WRA Warramunga Arr 69.46 201 P **P 17 07 59.6 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 69.46 201 P **P 17 07 59.6 +0.3**
KIV Kislovodsk 71.78 316 *e*P **P 17 08 16.0 +2.5**
KIV pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
AKASG Malin Array Be 72.20 328 P **P 17 08 15.3 -0.8**
comp=Z,0.7nm,0.5s,mb3.9,baz=35,slow=6.3,SNR=4.4
AKASG Malin Array Be 72.20 328 P **P 17 08 15.3 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.20 328 P **P 17 08 15.3 -0.8**
ASAR Alice Springs 73.14 201 P **P 17 08 22.1 +0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=16,slow=5.8,SNR=12
ASAR Alice Springs 73.14 201 P **P 17 08 22.1 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 73.14 201 P **P 17 08 22.1 +0.5**
CLL Collm 76.84 337 *e*(sP) **P 17 08 49.0 +6.0**
KHC Kasperske Hory 78.65 336 *e*P **P 17 08 53.0 -0.1**
KHC *e* 17 08 58.0
KHC x x 17 08 58.0
KHC Kasperske Hory 78.65 336 x **P 17 08 53.0 -0.1**
GERES GERESS Array B 78.88 335 P **P 17 08 54.4 +0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=33,slow=5.1,SNR=5.1
BRTR Keskin Array B 79.30 318 P **P 17 08 57.1 +0.5**
comp=Z,0.7nm,0.8s,mb3.6,baz=77,slow=5.5,SNR=3.3
BRTR Keskin Array B 79.30 318 P **P 17 08 57.2 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

*IDC **24** 17:00:45.6±1.1,46.86N×155.00E,h0km,mb3.9/8, mb1 4.0/9,mb1mx3.7/26,mbtmp3.9/9,ML3.4/1, Error ellipse: s-maj=30.9km s-min=22.8km az=171.0*
*ISCJB **24** 17:00:48.9±2.4,46.8N±0.2×154.8E±0.2,h35km±19km, mb3.9/8, Error ellipse: s-maj=30.5km s-min=16.5km az=103.4*
*MOS **24** 17:00:49.1±0.6,46.81N×154.81E,h36km,mb4.2/6, Error ellipse: s-maj=27.5km s-min=18.6km az=86.8*
ISC 24 17:00:51.4±2.1,469N±0.2×154.9E±0.2,h41km±17km,n16, σ0.9s43/16,mb3.9/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.92**	**12**	*e*PN	**Pn**	**17 01 49.4**	**+0.4**
ASAJ	**Asahikawa**	**9.05**	**257**	Pn	**Pn**	**17 02 59.1**	**-0.4**
	0.4nm,0.3s,baz=36,slow=24,SNR=4.1						
INK	**Inuvik**	**40.91**	**33**	P	**P**	**17 08 28.9**	**-0.7**
	1.0nm,0.5s,mb3.7,baz=289,slow=7.0,SNR=7.5						
INK	**Inuvik**	**40.91**	**33**	P	**P**	**17 08 29.0**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.55**	**306**	P	**P**	**17 08 51.5**	**+0.3**
	comp=Z,0.7nm,0.3s,mb3.8,baz=76,slow=3.9,SNR=3.3						
ZAL	**Zalesovo**	**43.55**	**306**	P	**P**	**17 08 51.5**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.97**	**298**	P	**P**	**17 09 26.5**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=71,slow=8.0,SNR=4.3						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**17 09 53.9**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=66,slow=6.0,SNR=4.9						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**17 09 53.9**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**17 10 51.1**	**+0.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=73,slow=11,SNR=2.9						
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**17 10 51.1**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.46**	**335**	P	**P**	**17 11 23.2**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.3,baz=36,slow=7.5,SNR=8.7						
FINES	**FINESS Array B**	**64.46**	**335**	P	**P**	**17 11 23.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**72.71**	**200**	P	**P**	**17 12 15.3**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=23,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**76.38**	**62**	P	**P**	**17 12 36.5**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=308,slow=5.0,SNR=16						
TXAR	**Lajitas Array**	**76.38**	**62**	P	**P**	**17 12 36.5**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **24** 17:11:06.8±0.6,2055S×176.00W,h0km,mb4.3/11, mb1 4.5/12,mb1mx4.4/18,mbtmp4.3/12,ML2.3/1,MS4.5/19, Ms1 4.5/19,ms1mx4.3/28, Error ellipse: s-maj=29.9km s-min=16.3km az=149.0*
*NEIC **24** 17:11:08.3±0.3,2053S×176.12W,h10km,mb4.9/18, Error ellipse: s-maj=15.2km s-min=7.6km az=145.0*
*GCMT **24** 17:11:08.3±0.2,2071S×175.83W,h18km±1km,MW5.1/84, Moment Tensor Solution. s46,c72; s84,c134; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.48±.17; Mθθ-4.93±.14; Mφφ5.41±.15; Mrθ-3.19±.46; Mθφ-1.89±.12; Mφr0.19±.32; Best double couple: M0:6.32400×10^16 NP1:φs127.00000°,δ77.00000°,λ-155.00000°. NP2: φs32.00000°,δ66.00000°,λ-14.00000°. Principal axes: T 5.8460, Plg8.0000°, Azm258.0000°; N 0.9610, Plg62.0000°, Azm153.0000°; P -6.8020, Plg26.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **24** 17:11:10.5±0.3,2065S±0.009×176.11W±0.07,h33km, mb4.7/24,MS4.5/18 Error ellipse: s-maj=14.3km s-min=8.2km az=120.2*

*MOS **24** 17:11:12.5±2.9,2048S×176.19W,h33km,mb5.1/11, Error ellipse: s-maj=18.0km s-min=11.7km az=138.4*
ISC 24 17:11:09.5±3.8,2064S±0.009×176.03W±0.08,h15km±23km, h19km±.8km:pP-P,n112,σ1.9s08/65,mb4.7/24,MS4.5/18, 7C-11D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.83**	**32**	Pn	**Pn**	**17 13 01.5**	**-1.3**
	2.3nm,0.3s,baz=300,slow=13,SNR=3.2						
AFI	**Afiamalu**	**7.83**	**32**	*e*P	**Pn**	**17 13 01.4**	**-1.4**
AFI				pmax	pmax		
	comp=Z,71nm,0.9s						
AFI	**Afiamalu**	**7.83**	**32**	*e*Pn	**Pn**	**17 13 01.4**	**-1.5**
	comp=Z,72nm,0.9s						
RAO	**Raoul Island**	**8.74**	**191**	LR	LR	17 16 01.9	
	comp=Z,3μm,18.6s,baz=0.5,slow=33						
RAR	**Rarotonga**	**15.20**	**95**	LR	LR	17 19 32.3	
	comp=Z,1μm,20.0s,baz=276,slow=33						
DZM	**Mont Dzumac**	**16.39**	**262**	Pn	**Pn**	**17 15 05.1**	**+6.2**
	comp=Z,0.8nm,0.3s,baz=84,slow=16,SNR=12						
URZ	**Urewera**	**18.53**	**197**	LR	LR	17 21 25.8	
	comp=Z,3μm,21.7s,baz=1.9,slow=33						
TBI	**Tubuai**	**24.77**	**101**	*e*LQ		17 21 24.4	
	comp=Z,5μm,28.8s						
TBI				*e*LR	LR	17 22 12.4	
	comp=Z,2μm,33.0s,baz=271						
PPT	**Papeete**	**25.18**	**88**	*e*LQ		17 21 31.0	
	comp=Z,3μm,24.8s						
PPT				*e*LR	LR	17 22 21.9	
	comp=Z,4μm,31.0s,baz=256						
PPT	**Papeete**	**25.18**	**88**	LR	LR	17 23 56.2	
	comp=Z,1μm,20.6s,MS4.4,baz=262,slow=31						
RPZ	**Rata Peaks**	**25.41**	**202**	LR	LR	17 26 17.6	
	comp=Z,318nm,19.4s,MS3.9,baz=189,slow=36						
HNR	**Honiara**	**25.70**	**292**	LR	LR	17 24 09.1	
	comp=Z,484nm,19.0s,MS4.0,baz=177,slow=30						
ARMA	**Armidale**	**30.67**	**245**	*e*P	**P**	**17 17 25.2**	**+1.9**
ARMA				*e*	pP	17 17 30.2	+2.2
CNB	**Canberra Magne**	**33.68**	**237**	*e*P	**P**	**17 17 55.1**	**+5.3**
	comp=Z,13nm,0.8s,mb4.9						
CTA	**Charters Tower**	**35.31**	**264**	⇓*i*P	**P**	**17 18 05.7**	**+1.9**
	comp=Z,13nm,0.9s,mb4.9						
CTA				*e*	pP	17 18 11.5	+3.0
CTA				*e*S	**S**	**17 23 36.6**	**-0.7**
CTA	**Charters Tower**	**35.31**	**264**	P	**P**	**17 18 05.2**	**+1.4**
	comp=Z,17nm,0.9s,mb5.0,baz=86,slow=9.9,SNR=6.7						
CTA	**Charters Tower**	**35.31**	**264**	⇓*i*P	**P**	**17 18 05.7**	**+1.9**
CTA				*e*	pP	17 18 11.5	+3.0
CTA				*e*S	**S**	**17 23 36.6**	**-0.7**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**35.31**	**264**	*e*P	**P**	**17 18 05.0**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
CTAO	**Charters Tower**	**35.31**	**264**	*e*P	**P**	**17 18 05.0**	**+1.2**
	comp=Z,36nm,0.8s,mb5.4						
TAOE	**Nuku Hiva Isla**	**36.54**	**77**	*e*LR	LR	17 27 51.4	
	comp=Z,6μm,25.2s,baz=256						
PMG	**Port Moresby**	**37.17**	**282**	P	**P**	**17 18 21.0**	**+1.2**
	comp=Z,13nm,0.9s,mb4.8,baz=184,slow=9.0,SNR=3.5						
PMG	**Port Moresby**	**37.17**	**282**	*e*P	**P**	**17 18 17.7**	**-2.1**
PMG	**Port Moresby**	**37.17**	**282**	*e*P	**P**	**17 18 16.4**	**-3.3**
	comp=Z,37nm,1.1s,mb5.1						
TOO	**Toolangi**	**37.31**	**235**	*e*P	**P**	**17 18 25.7**	**+4.8**
	comp=Z,5.0nm,0.8s,mb4.4						
TOO	**Toolangi**	**37.31**	**235**	*e*P	**P**	**17 18 25.7**	**+4.8**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
RKT	**Rikitea**	**38.09**	**101**	*e*LQ		17 27 10.3	
	comp=Z,655nm,26.2s						
RKT				*e*LR	LR	17 28 39.7	
	comp=Z,1μm,33.2s,baz=273						
STKA	**Stephens Creek**	**39.39**	**245**	*e*P	**P**	**17 18 38.6**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.1						
STKA				*e*	pP	17 18 44.0	+0.8
STKA	**Stephens Creek**	**39.39**	**245**	P	**P**	**17 18 38.9**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.0,baz=83,slow=6.4,SNR=7.6						
STKA				LR	LR	17 32 56.7	
	comp=Z,1μm,18.6s,MS4.7,baz=45,slow=33						
AS31	**Alice Springs**	**46.28**	**257**	⇓*i*P	**P**	**17 19 34.9**	**+0.6**
ASAR	**Alice Springs**	**46.28**	**257**	P	**P**	**17 19 35.0**	**+0.7**
	comp=Z,3.5nm,0.7s,mb4.4,baz=89,slow=8.0,SNR=46						
ASPA	**Alice Springs**	**46.28**	**257**	⇓*i*P	**P**	**17 19 34.9**	**+0.6**
WB2	**Warramunga Arr**	**46.39**	**262**	*e*P	**P**	**17 19 34.9**	**-0.3**
WRAB	**Tennant Creek**	**46.40**	**262**	P	**P**	**17 19 35.0**	**-0.2**
	comp=Z,71nm,1.0s,mb5.5,SNR=5.8						
WRAB	**Tennant Creek**	**46.40**	**262**	*e*P	**P**	**17 19 35.2**	**0.0**
WRAB	**Tennant Creek**	**46.40**	**262**	*e*P	**P**	**17 19 34.4**	**-0.8**
	comp=Z,14nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**46.41**	**262**	P	**P**	**17 19 34.6**	**-0.7**
	comp=Z,6.6nm,1.0s,mb4.5,baz=96,slow=8.4,SNR=32						
WRA				LR	LR	17 38 24.0	
	comp=Z,807nm,18.2s,MS4.7,baz=95,slow=35						
KAKA	**Kakadu**	**49.82**	**271**	*e*P	**P**	**17 20 01.9**	**+0.2**
	comp=Z,12nm,0.9s,mb4.9						
FORT	**Forrest**	**50.93**	**247**	*e*P	**P**	**17 20 08.8**	**-1.3**
	comp=Z,18nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**54.83**	**262**	*e*P	**P**	**17 20 40.1**	**+1.2**
	comp=Z,8.8nm,0.8s,mb4.8						
FITZ				*e*S	**S**	**17 28 30.5**	**+11**
FITZ	**Fitzroy Crossi**	**54.83**	**262**	P	**P**	**17 20 39.2**	**+0.3**
	comp=Z,4.9nm,1.0s,mb4.5,baz=109,slow=12,SNR=3.3						
FITZ				LR	LR	17 43 19.5	
	comp=Z,680nm,18.9s,MS4.7,baz=90,slow=35						
SBA	**Scott Base**	**57.86**	**184**	*e*P	**P**	**17 21 01.5**	**+1.0**
SBA				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
SBA	**Scott Base**	**57.86**	**184**	*e*P	**P**	**17 21 01.4**	**+1.0**
	comp=Z,19nm,1.4s,mb4.9						
VNDA	**Vanda**	**57.94**	**186**	P	**P**	**17 21 01.8**	**+0.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=4.4,slow=8.0,SNR=9.0						
VNDA				LR	LR	17 42 14.5	
	comp=Z,217nm,18.9s,MS4.3,baz=268,slow=32						
VNDA	**Vanda**	**57.94**	**186**	*e*P	**P**	**17 21 00.4**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VNDA	**Vanda**	**57.94**	**186**	*e*P	**P**	**17 21 00.4**	**-0.6**
	comp=Z,9.2nm,1.4s,mb4.6						
MBWA	**Marble Bar**	**59.62**	**257**	*e*P	**P**	**17 21 10.9**	**-1.8**
	comp=Z,14nm,1.0s,mb4.9						
CASY	**Casey**	**64.62**	**205**	*e*P	**P**	**17 21 45.7**	**-0.6**
QSPA	**South Pole Qui**	**69.43**	**180**	*e*P	**P**	**17 22 16.6**	**-0.2**
	comp=Z,24nm,1.1s,mb5.0						
MJAR	**Matsushiro Arr**	**71.43**	**323**	LR	LR	17 47 26.4	
	comp=Z,223nm,19.9s,MS4.4,baz=80,slow=31						
UNV	**Unalaska Valle**	**74.63**	**6**	P	**P**	**17 22 46.8**	**-1.3**
	comp=Z,286nm,1.5s						
ASAJ	**Asahikawa**	**74.74**	**330**	LR	LR	17 49 05.1	
	comp=Z,478nm,20.6s,MS4.8,baz=169,slow=30						
KSM	**Kuching**	**75.26**	**277**	P	**P**	**17 22 51.3**	**-0.3**
KSRS	**Korea Array**	**78.22**	**318**	LR	LR	17 58 00.3	
	comp=Z,206nm,18.1s,MS4.5,baz=302,slow=36						
NVAR	**Mina Array Bea**	**79.87**	**42**	P	**P**	**17 23 16.8**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=236,slow=10,SNR=12						
KDAK	**Kodiak Island**	**80.54**	**12**	LR	LR	17 50 41.6	
	comp=Z,316nm,21.1s,MS4.6,baz=139,slow=30						
MAW	**Mawson**	**82.05**	**199**	*e*P	**P**	**17 23 28.3**	**-0.7**
	comp=Z,5.1nm,0.3s,mb4.9						
MAW	**Mawson**	**82.05**	**199**	P	**P**	**17 23 28.5**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.3,baz=150,slow=8.5,SNR=9.2						
MAW				LR	LR	17 56 40.1	
	comp=Z,320nm,21.5s,MS4.7,baz=112,slow=33						
MAW	**Mawson**	**82.05**	**199**	*e*P	**P**	**17 23 28.3**	**-0.7**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MSU	**Marysvale**	**83.89**	**45**	*e*P	**P**	**17 23 40.5**	**+1.9**
TMUT	**Trail Mountain**	**84.95**	**45**	*e*P	**P**	**17 23 45.4**	**+1.5**
SRU	**San Rafael**	**85.30**	**45**	*e*P	**P**	**17 23 46.1**	**+0.4**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
SRU	**San Rafael**	**85.30**	**45**	*e*P	**P**	**17 23 46.1**	**+0.3**
	comp=Z,10nm,1.0s,mb4.9						
MNTX	**Cornudas Mount**	**85.34**	**54**	*e*P	**P**	**17 23 44.6**	**-1.4**
	comp=Z,13nm,1.5s,mb4.8						
BNM	**Barren Site**	**85.56**	**51**	*e*P	**P**	**17 23 48.2**	**+1.2**
TXAR	**Lajitas Array**	**85.59**	**57**	P	**P**	**17 23 48.4**	**+1.3**
	comp=Z,1.5nm,0.9s,mb4.2,baz=217,slow=6.1,SNR=12						
TXAR				LR	LR	17 53 03.0	
	comp=Z,258nm,20.7s,MS4.6,baz=0.0,slow=29						
LPM	**Los Pinos Moun**	**85.64**	**51**	*e*P	**P**	**17 23 48.2**	**+0.8**
ANMO	**Albuquerque**	**86.06**	**50**	*e*P	**P**	**17 23 50.8**	**+1.3**
PSI	**Prapat**	**86.34**	**274**	LR	LR	18 06 27.3	
	comp=Z,260nm,18.2s,MS4.7,baz=153,slow=38						
MCK	**McKinley**	**86.72**	**12**	*e*P	**P**	**17 23 52.1**	**-0.7**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MCK	**McKinley**	**86.72**	**12**	*e*P	**P**	**17 23 52.1**	**-0.6**
	comp=Z,6.9nm,1.0s,mb4.8						
SYO	**Syowa Base**	**86.98**	**192**	*e*P	**P**	**17 23 50.0**	**-4.0**
PDAR	**Pinedale Array**	**87.81**	**43**	P	**P**	**17 23 57.2**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.8,baz=242,slow=3.2,SNR=4.3						
PDAR				LR	LR	17 56 31.8	
	comp=Z,149nm,18.1s,MS4.4,baz=255,slow=31						
VNA3	**Neumayer Olymp**	**87.87**	**176**	*e*P	**P**	**17 23 57.0**	**-1.3**
VNA3				*e*		17 24 03.7	
VNA3				*e*		17 24 23.5	
VNA2	**Neumayer--Watz**	**88.33**	**176**	*e*P	**P**	**17 23 59.5**	**-1.0**
VNA2				*e*	pP	17 24 04.8	-0.8
VNA2				*e*		17 24 12.6	
VNA2				*e*		17 24 17.5	
VNA2				*e*		17 24 25.7	
BILL	**Bilibino**	**89.38**	**353**	⇓*e*P	**P**	**17 24 01.8**	**-3.6**
BILL				*e*PS	PS	17 35 58.4	-3.0
BILL				pmax	pmax		
	comp=Z,24nm,2.0s,mb5.2						
BILL				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.5						
INK	**Inuvik**	**93.94**	**15**	*e*P	**P**	**17 24 25.8**	**-0.8**
	comp=Z,186nm,1.1s						
SONM	**Songino Array**	**97.08**	**318**	LR	LR	18 06 11.1	
	comp=Z,156nm,19.2s,MS4.5,baz=349,slow=34						
TIXI	**Tiksi**	**99.36**	**345**	*e*P	**P**	**17 24 52.7**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb5.1						
ARU	**Arti**	**126.36**	**326**	PKIKP	PKPdf	17 30 09.2	-2.4
ARU	**Arti**	**126.36**	**326**	PKPdf	PKPdf	17 30 09.2	-2.4
ARCES	**ARCESS Array B**	**129.38**	**350**	PKP	PKPdf	17 30 16.3	-1.1
	comp=Z,0.9nm,0.6s,baz=29,slow=2.8,SNR=5.9						
ARCES	**ARCESS Array B**	**129.38**	**350**	PKP	PKPdf	17 30 16.3	-1.1
OBN	**Obninsk**	**137.75**	**333**	⇓*i*PKIKP	PKPdf	17 30 33.8	+0.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.6						
AKASG	**Malin Array Be**	**144.01**	**332**	PKhKP		17 30 40.6	
	comp=Z,0.9nm,0.5s,baz=44,slow=4.5,SNR=7.2						
AKASG	**Malin Array Be**	**144.01**	**332**	*i* PKHKP		17 30 40.5	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIEV	**Kiev**	**144.02**	**333**	*e*PKHKP		17 30 40.7	
EKA	**Eskdalemuir Ar**	**144.95**	**7**	PKP	PKPdf	17 30 43.9	-2.0
	comp=Z,3.9nm,0.9s,baz=4.0,slow=3.6,SNR=4.1						
MALT	**Malatya**	**145.47**	**308**	*e*PKIKP	PKPdf	17 30 47.1	+0.3
BURAR	**Bucovina Array**	**148.07**	**332**	⇓*i*P	PKPbc	17 30 57.0	+2.6
BURAR	**Bucovina Array**	**148.07**	**332**	⇓P	PKPbc	17 30 57.0	+2.6
BR131	**Keskin Array S**	**148.29**	**313**	*e*PKPdf	PKPdf	17 30 54.1	+2.5
BRTR	**Keskin Array B**	**148.29**	**313**	PKPbc	PKPbc	17 30 54.5	-0.5
	comp=Z,0.7nm,0.5s,baz=139,slow=4.3,SNR=5.2						
KSP	**Ksiaz**	**148.34**	**345**	*e*PKP2	PKPbc	17 30 54.4	-0.7
UZH	**Uzhgorod**	**148.44**	**337**	*e*PKP2	PKPbc	17 30 55.0	-0.3
ASF	**Jabal al Asfar**	**148.47**	**298**	PKPbc	PKPbc	17 30 55.3	-0.1
	comp=Z,1.7nm,0.8s,baz=164,slow=8.8,SNR=3.3						
CLL	**Collm**	**148.59**	**349**	*i* P	PKPbc	17 30 55.6	-0.1
CLL				*i*		17 31 02.3	
CLL	**Collm**	**148.59**	**349**	*i* PKPbc	PKPbc	17 30 55.6	-0.1
CLL				*i* sPKPab		17 31 02.3	
	comp=Z,20nm,0.9s						
CLL				*i* x	x	17 31 11.8	
BRG	**Berggiesshubel**	**148.82**	**348**	*e*P	PKPbc	17 30 56.1	-0.2
	comp=Z,3.2nm,1.0s						
MLR	**Muntele Rosu**	**149.32**	**329**	PKPbc	PKPbc	17 30 57.2	-0.4
	comp=Z,2.6nm,0.8s,baz=57,slow=3.4,SNR=5.1						
MLR	**Muntele Rosu**	**149.32**	**329**	⇑*i*P	PKPbc	17 30 57.5	-0.1
MLR	**Muntele Rosu**	**149.32**	**329**	⇑P	PKPbc	17 30 57.5	-0.1
MOX	**Moxa**	**149.46**	**350**	*e*P	PKPbc	17 30 58.0	+0.1
MMAI	**Mount Meron Ar**	**149.48**	**300**	PKPbc	PKPbc	17 30 57.6	-0.4
	comp=Z,0.6nm,0.6s,baz=96,slow=2.9,SNR=3.1						
VYHS	**Vyhne**	**149.75**	**340**	*e*PKP	PKPbc	17 30 58.7	+0.1
GRA1	**Grafenberg Arr**	**150.44**	**350**	*e*PKPbc	PKPbc	17 31 01.0	+0.7
GRF	**Grafenberg Arr**	**150.44**	**350**	*e*PKPbc	PKPbc	17 31 01.0	+0.7
KHC	**Kasperske Hory**	**150.55**	**347**	⇓*i*PKIKP	PKPbc	17 31 00.4	-0.2
GEC2	**GERESS Array S**	**150.80**	**347**	*e*PKIKP	PKPbc	17 30 59.3	-1.9
GERES	**GERESS Array B**	**150.80**	**347**	PKPbc	PKPbc	17 31 01.2	0.0
	comp=Z,2.3nm,0.8s,baz=50,slow=2.1,SNR=14						
BZS	**Buzias**	**151.17**	**334**	⇓*i*P	PKPdf	17 30 59.7	+3.6
BZS	**Buzias**	**151.17**	**334**	⇓P	PKPdf	17 30 59.7	+3.6
TORD	**Torodi Ar. Bea**	**172.24**	**163**	PKP	PKPdf	17 31 17.6	0.0
	comp=Z,0.8nm,0.8s,baz=122,slow=0.3,SNR=3.8						

*NAO **24** 17:16:40.4,3547N×2438E,h33km,mb3.9*
*CSEM **24** 17:16:54.3±0.1,3671N×2134E,h15km,mb4.5/10, Error ellipse: s-maj=3.0km s-min=1.4km az=6.0*
*ISCJB **24** 17:16:55.6±0.2,3703N±0.002×2139E±0.002,h10km, mb4.2/28, MS3.9/4, Error ellipse: s-maj=2.9km s-min=2.0km az=26.3*
*IDC **24** 17:16:55.3±0.7,3720N×2163E,h0km,mb4.1/18, mb1 4.2/23,mb1mx4.2/29,mbtmp4.1/23,ML3.5/7,MS3.7/3, Ms1 3.7/3,ms1mx2.9/37, Error ellipse: s-maj=15.8

NPS	Neapolis	3.82	116	ePN		Pn	17 17 58.0	+1.8
OUR	Ouranopolis	3.84	30	ePn		Pn	17 17 57.0	+0.4
GRG	Griva	3.98	11	ePn		Pn	17 17 59.3	+0.9
SOH	Sokhos	4.06	21	ePn		Pn	17 18 01.4	+1.9
XRY	Khrisi	4.08	121	ePn		Pn	17 18 03.5	+3.7
LCI	Lecce	4.19	323	Pn		Pn	17 18 02.5	+1.2
TIP	Timpagrande	4.26	301	ePn		Pn	17 18 02.7	+0.4
TIP	Timpagrande	4.26	301	ePn		Pn	17 18 02.7	+0.5
KNT	Kendrikon	4.27	15	ePn		Pn	17 18 03.8	+1.4
KNT	Kendrikon	4.27	15	P		Pn	17 18 03.7	+1.3
URLA	Izmir	4.30	71	*i* P		Pn	17 18 04.8	+1.9
SMG	Samos	4.36	80	ePN		Pn	17 18 06.0	+2.4
SOI	Samo	4.39	285	Pn		Pn	17 18 05.5	+1.4
SOI				Sn		Sn	17 18 49.2	-6.1
SRS	Serrai	4.40	22	ePn		Pn	17 18 05.1	+0.8
SRS	Serrai	4.40	22	P		Pn	17 18 05.0	+0.8
PRK	Paraskevi	4.41	59	ePN		Pn	17 18 06.0	+1.7
TIR	Tirane	4.47	345	ePn		Pn	17 18 06.7	+1.6
BOZC	Bozcaada	4.58	51	*i* P		Pn	17 18 10.1	+3.4
MTTG	Motta San Giov	4.66	284	Pn		Pn	17 18 09.4	+1.6
STIP	Stip	4.68	7	ePn		Pn	17 18 09.0	+0.9
STIP	Stip	4.68	7	ePn		Pn	17 18 08.9	+0.8
SCLL	Scilla	4.70	287	Pn		Pn	17 18 10.3	+2.0
BDRM	Kayabasi	4.81	88	*i* P		Pn	17 18 13.4	+3.6
KARP	Karpathos	4.86	106	ePN		Pn	17 18 13.0	+2.4
MMB	Musomiste	4.88	21	*i* P		Pn	17 18 11.0	+0.2
MMB	Musomiste	4.88	21	P		Pn	17 18 10.8	0.0
PE1	Pezze di Greco	4.89	321	ePn		Pn	17 18 11.3	+0.4
SKO	Skopje	4.92	0	ePn		Pn	17 18 11.9	+0.5
SKO				eSn		Sg	17 19 45.8	+10
KKB	Krupnik	4.99	14	eP		Pn	17 18 11.0	-1.2
KKB	Krupnik	4.99	14	P		Pn	17 18 13.4	+1.2
HAVL	Avola	5.05	271	Pn		Pn	17 18 13.6	+1.5
RDO	Rodhopi	5.20	37	ePN		Pn	17 18 16.0	+0.9
ULC	Ulcinj	5.20	342	⇑*i* Pn		Pn	17 18 15.1	0.0
ULC				eSn		Sn	17 19 12.1	-3.0
ALN	Alexandroupoli	5.27	42	P		Pn	17 18 20.2	+4.1
RZN	Rozhen	5.29	28	eP		Pn	17 18 17.0	+0.6
RZN	Rozhen	5.29	28	P		Pn	17 18 17.8	+1.4
CUC	Castrocucco	5.30	305	P		Pn	17 18 17.4	+0.9
CUC				P			17 18 20.6	
SG1	Sgolgore (BA)	5.30	317	ePn		Pn	17 18 16.9	+0.3
HVZN	Vizzini	5.37	273	Pn		Pn	17 18 18.0	+0.5
HVZN				Sn		Sn	17 19 17.3	-2.1
BAI	Bari	5.39	320	ePn		Pn	17 18 18.0	+0.2
MNO	Monte Soro	5.43	281	Pn		Pn	17 18 20.6	+2.2
KDZ	Kurdzhali	5.54	33	eP		Pn	17 18 20.0	+0.1
KDZ	Kurdzhali	5.54	33	P		Pn	17 18 19.8	-0.1
BUM	Brajici-Budva	5.60	340	⇑*i* Pn		Pn	17 18 20.0	-0.7
BUM				eSn		Sn	17 19 22.8	-2.4
VAE	Valguarnera	5.62	277	Pn		Pn	17 18 24.2	+3.3
	1.7nm,0.3s,baz=228,slow=5.2,SNR=3.6							
VAE				Sn		Sn	17 19 23.4	-2.0
	5.0nm,0.3s,baz=278,slow=14,SNR=2.1							
VAE	Valguarnera	5.62	277	Pn		Pn	17 18 24.2	+3.3
VAE				Sn		Sn	17 19 23.4	-2.0
SLCN	Sala Consilina	5.63	308	Pn		Pn	17 18 23.8	+2.7
TTG	Podgorica	5.63	343	⇓*i* Pn		Pn	17 18 20.4	-0.8
TTG				eSn		Sn	17 19 23.5	-2.5
PVY	Plav	5.66	349	⇓*i* Pn		Pn	17 18 22.3	+0.8
PVY				eSn		Sn	17 19 26.1	-0.4
CDT	Castel del Mon	5.69	317	ePn		Pn	17 18 22.2	+0.3
VTS	Vitosha	5.71	13	eP		Pn	17 18 23.0	+0.8
VTS	Vitosha	5.71	13	⇓*i* P		Pn	17 18 23.1	+0.9
VTS	Vitosha	5.71	13	P		Pn	17 18 24.4	+2.2
SART	Tekirdag	5.78	49	*i* P		Pn	17 18 23.9	+0.7
HCY	Herceg Novi	5.85	338	⇑*i* Pn		Pn	17 18 23.2	-0.9
HCY				eSn		Sn	17 19 26.3	-4.9
HCY	Herceg Novi	5.85	338	⇑*i* Pn		Pn	17 18 23.2	-0.9
HCY				eSn		Sn	17 19 26.3	-5.0
SGO	Sicignano	5.93	308	Pn		Pn	17 18 27.8	+2.5
IVA	Berane	5.94	349	⇓*i* Pn		Pn	17 18 25.8	+0.4
IVA				eSn		Sn	17 19 32.5	-1.0
GIB	Gibilmanna	5.96	281	Pn		Pn	17 18 27.6	+1.9
NKY	Niksic	6.06	343	ePn		Pn	17 18 25.9	-1.1
NKY				eSn		Sn	17 19 33.7	-2.7
DNZL	Cakiroluk	6.10	82	*i* P		Pn	17 18 37.4	+10
BRY	Bratogost	6.26	340	⇓*i* Pn		Pn	17 18 28.4	-1.3
BRY				eSn		Sn	17 19 37.4	-3.8
MS1	Monte Sant'Ang	6.30	319	ePn		Pn	17 18 30.2	-0.2
UPM	Unac-Piva	6.45	343	⇑*i* Pn		Pn	17 18 32.2	-0.1
UPM				eSn		Sn	17 19 43.8	-2.2
UPM	Unac-Piva	6.45	343	⇑*i* Pn		Pn	17 18 32.2	-0.1
UPM				eSn		Sn	17 19 43.8	-2.2
PLE	Pljevlja	6.47	347	⇓*i* Pn		Pn	17 18 32.8	+0.2
PLE				eSn		Sn	17 19 43.6	-3.0
STON	Ston	6.49	335	*i* Pn		Pn	17 18 31.0	-1.9
STON				*i* Sn		Sn	17 19 42.6	-4.4
ULDT	Uludag	6.78	61	*i* P		Pn	17 18 38.3	+1.3
PVL	Pavlikeni	6.85	25	P		Pn	17 18 40.1	+2.2
GRUS	Gruza	6.86	356	*i* Pn		Pn	17 18 36.4	-1.7
DIVS	Divcibare	7.13	352	*i* Pn		Pn	17 18 40.4	-1.3
HMAT	Matruh	7.57	140	P		Pn	17 18 45.0	-2.7
PRD	Provadia	7.66	35	*i* P		Pn	17 18 50.0	+1.0
ESKT	Eskisehir	7.81	69	*i* P		Pn	17 18 53.3	+2.3
SEYT	Eskypehyr	7.81	69	*i* P		Pn	17 18 53.3	+2.3
AQU	L'Aquila	8.15	313	⇑*i* P		Pn	17 18 57.8	+2.1
AQU	L'Aquila	8.15	313	eP		Pn	17 18 52.3	-3.4
AQU				pmax		pmax		
	comp=Z,19nm,0.6s							
AQU	L'Aquila	8.15	313	ePn		Pn	17 18 52.3	-3.4
	comp=Z,19nm,0.6s							
AQU				P			17 18 58.0	
AQU	L'Aquila	8.15	313	P		Pn	17 18 58.0	+2.3
SWA2		8.48	155	⇑P		Pn	17 18 59.5	-0.7
SWA1		8.55	154	P		Pn	17 19 00.6	-0.6
SWA1				S		Sn	17 20 26.9	-11
BZS	Buzias	8.57	1	⇑*i* P		Pn	17 18 59.7	-1.7
NVLJ	Novalja	9.01	329	*i* Pn		Pn	17 19 07.2	-0.2
NVLJ				*i* Sn		Sn	17 20 42.5	-6.4
SGKT	Sivrigoynuk	9.01	64	*i* P		Pn	17 19 11.3	+3.8
MLR	Muntele Rosu	9.10	20	Pn		Pn	17 19 08.7	0.0
	comp=Z,0.1nm,0.3s,baz=193,slow=9.7,SNR=4.2							
MLR	Muntele Rosu	9.10	20	⇑*i* P		Pn	17 19 09.0	+0.3
TIRR	Tirgusor	9.10	33	⇑*i* P		Pn	17 19 15.5	+6.7
TIRR	Tirgusor	9.10	33	Pn		Pn	17 19 09.7	+0.9
TIRR	Tirgusor	9.10	33	Pn		Pn	17 19 09.6	+0.8
PKSM	Moragy	9.40	348	⇑*i* P		Pn	17 19 10.3	-2.5
BOJS	Bojanci	9.64	333	*i* Pn		Pn	17 19 15.2	-1.0
BOJS				*i* Sn		Sn	17 20 56.4	-8.2
VRI	Vrincioaia	9.67	23	⇑*i* P		Pn	17 19 19.5	+3.0
KEST	Kesra	9.83	266	Pn		Pn	17 19 22.1	+3.4
	comp=Z,0.1nm,0.3s,baz=76,slow=6.9,SNR=4.6							
KEST				Sn		Sn	17 21 05.8	-3.4
	comp=Z,0.0nm,0.3s,baz=340,slow=16,SNR=1.7							
KEST				LR		LR	17 23 39.0	
	comp=Z,45nm,21.2s,baz=52,slow=40							
CRES	Cresnjev	9.85	335	*i* Pn		Pn	17 19 17.6	-1.5
BR131	Keskin Array S	9.95	71	ePn		Pn	17 19 24.6	+4.2
	comp=Z,2.6nm,0.7s							
BR131	Keskin Array S	9.95	71	ePn		Pn	17 19 24.6	+4.2
	comp=Z,2.6nm,0.7s							
BRTR	Keskin Array B	9.95	71	Pn		Pn	17 19 22.3	+1.9
	comp=Z,0.1nm,0.3s,baz=66,slow=36,SNR=3.7							
LEGS	Legarje	10.01	335	*i* Pn		Pn	17 19 19.7	-1.4
PDKS	Podkum	10.21	334	ePn		Pn	17 19 23.2	-0.8
BUD	Budapest	10.59	351	eP		Pn	17 19 24.5	-4.6
VOY	Vojsko	10.60	330	ePn		Pn	17 19 28.0	-1.3
VOY				eSn		Sn	17 21 21.9	-6.2
PERS	Pernice	10.68	336	ePn		Pn	17 19 28.0	-2.3
OBKA	Obir	10.76	334	⇑*i* P		Pn	17 19 31.4	0.0
	comp=Z,6.6nm,0.5s							
PSZ	Piszkesteto	10.93	355	⇓*i* P		Pn	17 19 32.7	-1.1
PSZ	Piszkesteto	10.93	355	eP		Pn	17 19 31.9	-1.9
PSZ				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PSZ	Piszkesteto	10.93	355	ePn		Pn	17 19 31.9	-1.9
	comp=Z,6.9nm,0.6s							
PSZ	Piszkesteto	10.93	355	eP		Pn	17 19 33.4	-0.4
BURAR	Bucovina Array	10.93	14	⇑*i* P		Pn	17 19 34.7	+0.9
PGF	Pioggiola	11.03	304	eP		Pn	17 19 37.0	+1.9
	comp=Z,213nm,1.5s							
PGF	Pioggiola	11.03	304	eP		Pn	17 19 37.0	+1.9
PGF				pmax		pmax		
	comp=Z,107nm,1.5s							
PGF	Pioggiola	11.03	304	eP		Pn	17 19 37.0	+1.9
	comp=Z,107nm,1.5s							
ARSA	Arzberg	11.10	339	⇑*i* Pn		Pn	17 19 34.0	-2.1
	comp=Z,3.1nm,0.3s							
ARSA				⇓*i* Sn		Sn	17 21 43.1	+2.8
GLL	Jalalah	11.37	128	P		Pn	17 19 36.7	-3.1
KECS	Kecovo	11.46	357	ePN		Pn	17 19 39.8	-1.2
VYHS	Vyhne	11.60	351	ePn		Pn	17 19 41.3	-1.7
VYHS				eSn		Sn	17 21 46.3	-6.3
KOLS	Kolonicke sedl	11.90	3	ePn		Pn	17 19 53.2	+6.1
KOLS				eSn		Sn	17 22 04.7	+4.8
MOA	Molln	12.02	336	⇑*i* P		Pn	17 19 47.6	-1.1
	comp=Z,6.0nm,0.5s							
MMAI	Mount Meron Ar	12.14	105	Pn		Pn	17 19 45.4	-4.9
	comp=Z,0.7nm,0.3s,baz=307,slow=12,SNR=7.4							
MMAI				Sn		Sn	17 21 56.2	-9.4
	comp=Z,0.7nm,0.3s,baz=311,slow=11,SNR=3.5							
WTTA	Wattenberg	12.52	328	⇓*i* Pn		Pn	17 19 56.2	+0.6
	comp=Z,8.6nm,0.5s							
WTTA				⇓*i* Sn		Sn	17 22 14.1	-1.0
WTTA	Wattenberg	12.52	328	⇓*i* P		Pn	17 19 56.2	+0.6
WTTA				pmax		pmax		
	comp=Z,9.0nm,0.5s							
WATA	Walderalm	12.61	328	⇑*i* Pn		Pn	17 19 57.8	+1.1
	comp=Z,11nm,0.5s							
WATA				⇑*i* Sn		Sn	17 22 18.4	+1.3
WATA	Walderalm	12.61	328	⇑*i* P		Pn	17 19 57.9	+1.2
WATA				pmax		pmax		
	comp=Z,11nm,0.5s							
SBF	Sospel	12.64	307	eP		Pn	17 19 59.2	+2.0
MOTA	Moosalm	12.82	327	⇓*i* Pn		Pn	17 20 01.2	+1.6
	comp=Z,5.2nm,0.5s							
MOTA				⇓*i* Sn		Sn	17 22 20.5	-1.8
MOTA	Moosalm	12.82	327	⇓*i* P		Pn	17 20 01.2	+1.6
MOTA				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MOTA	Moosalm	12.82	327	⇓*i* P		Pn	17 20 01.1	+1.5
	comp=Z,5.2nm,0.5s							
DAVOX	Davos	12.97	322	Pn		Pn	17 20 00.6	-1.1
	baz=321,slow=22,SNR=1.9							
DAVOX				Sn		Sn	17 22 15.9	-10
	baz=156,slow=20,SNR=2.8							
MORC	Moravsky Berou	13.04	349	Pn		Pn	17 20 03.5	+0.9
GEC2	GERESS Array S	13.07	337	ePn		Pn	17 20 01.7	-1.4
GEC2	GERESS Array S	13.07	337	ePn		Pn	17 20 01.7	-1.4
GERES	GERESS Array B	13.07	337	Pn		Pn	17 20 00.6	-2.5
	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=21							
GERES				Sn		Sn	17 22 21.9	-6.7
	comp=Z,0.3nm,0.3s,baz=156,slow=23,SNR=4.0							
HDK1	Dakhla	13.33	147	P		Pn	17 20 05.2	-1.3
KHC	Kasperske Hory	13.37	337	eP		Pn	17 20 05.9	-1.2
KHC				x		x	17 20 17.5	
KHC	Kasperske Hory	13.37	337	eP		Pn	17 20 05.9	-1.2
KHC				*e*			17 20 17.5	
EIL	Elat	13.47	119	ePn		Pn	17 20 06.1	-2.5
EIL				eSn		Sn	17 22 29.8	-8.6
MBDF	Montbardon	13.47	309	eP		Pn	17 20 10.1	+1.5
	comp=Z,18nm,0.7s							
MBDF	Montbardon	13.47	309	eP		Pn	17 20 10.1	+1.5
MBDF				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MBDF	Montbardon	13.47	309	eP		Pn	17 20 10.1	+1.5
	comp=Z,9.2nm,0.7s							
MALT	Malatya	13.53	79	eP		Pn	17 20 10.3	+1.0
MALT				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MALT	Malatya	13.53	79	ePn		Pn	17 20 10.3	+1.0
	comp=Z,4.5nm,0.9s							
MALT	Malatya	13.53	79	eP		Pn	17 20 10.3	+1.0
	comp=Z,4.0nm,0.9s							
ASF	Jabal al Asfar	13.63	106	Sn		Sn	17 22 36.2	-6.0
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=1.9							
BNI	Bardonecchia	13.70	310	P		Pn	17 20 11.3	-0.3
BNI				pmax		pmax		
	comp=Z,28nm,1.4s							
BNI	Bardonecchia	13.70	310	P		Pn	17 20 11.3	-0.3
	comp=Z,28nm,1.4s							
BNI	Bardonecchia	13.70	310	P		Pn	17 20 11.3	-0.3
	comp=Z,28nm,1.4s							
DPC	Dobruska-Polom	13.80	346	eP		Pn	17 20 20.8	+7.8
AKRG	Al Kharijah	13.86	144	P		Pn	17 20 12.9	-1.0
PRU	Pruhonice	13.86	341	eP		Pn	17 20 21.9	+8.0
LPG	La Plagne	13.88	312	eP		Pn	17 20 15.7	+1.5
SMRF	Simiane la Rot	13.90	305	eP		Pn	17 20 15.8	+1.4
LPL	La Plagne	13.91	312	eP		Pn	17 20 15.6	+1.1
UPC	Upice	14.01	346	eP		Pn	17 20 24.6	+8.7
ORIF	Oris-en-Rattie	14.12	309	eP		Pn	17 20 18.5	+1.1
KSP	Ksiaz	14.28	347	eP		Pn	17 20 27.8	+8.3
ANN	Anapa	14.35	52	eP		Pn	17 20 19.7	-0.8
ANN				pmax		pmax		
	comp=Z,30nm,1.1s							
ANN	Anapa	14.35	52	eP		Pn	17 20 19.7	-0.8
	comp=Z,30nm,1.1s							
PVCC	Panska Ves	14.35	342	eP		Pn	17 20 27.2	+6.6
	comp=Z,2.6nm,0.9s							
MANZ	Manzenberg	14.58	335	eP		Pn	17 20 31.4	+7.7
GRA1	Grafenberg Arr	14.64	333	eP		Pn	17 20 31.6	+7.1
	comp=Z,20nm,1.1s							
GRF	Grafenberg Arr	14.64	333	eP		Pn	17 20 31.6	+7.1
	comp=Z,20nm,1.1s							
GRF				eL			17 27 12.4	
	comp=Z,381nm,15.9s							
GRF	Grafenberg Arr	14.64	333	eP		Pn	17 20 31.6	+7.1
GRF				pmax		pmax		
	comp=Z,20nm,1.1s							
GRF				MLR		MLR		
	comp=Z,400nm,15.9s							
GRFO	Grafenberg	14.64	333	P		Pn	17 20 22.0	-2.5
GRFO				pmax		pmax		
	comp=Z,35nm,1.4s							
GRFO	Grafenberg	14.64	333	Pn		Pn	17 20 22.0	-2.5
	comp=Z,35nm,1.4s							
GRFO	Grafenberg	14.64	333	Pn		Pn	17 20 22.0	-2.5
	comp=Z,35nm,1.4s							
AKASG	Malin Array Be	14.75	20	Pn		Pn	17 20 21.7	-4.3
	comp=Z,0.5nm,0.3s,baz=202,slow=12,SNR=4.0							
AKASG	Malin Array Be	14.75	20	P		Pn	17 20 21.7	-4.3
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	14.75	20	Pn		Pn	17 20 21.7	-4.3
WERN	Wernitzgruen	14.76	337	eP		Pn	17 20 33.2	+7.1
	comp=Z,8.0nm,0.5s							
BRG	Berggiesshubel	14.83	341	eP		Pn	17 20 33.2	+6.2
	comp=Z,8.0nm,0.6s							
BRG	Berggiesshubel	14.83	341	eP		Pn	17 20 33.1	+6.1
	comp=Z,4.3nm,0.5s							
BRG	Berggiesshubel	14.83	341	eP		Pn	17 20 33.1	+6.1
BRG				pmax		pmax		
	comp=Z,4.0nm,0.5s							
GUNZ	Gunzen	14.84	337	eP		Pn	17 20 34.1	+6.9
	comp=Z,12nm,0.6s							
VIVF	Saint-Julien-l	14.86	307	eP		Pn	17 20 28.0	+0.5
	comp=Z,5.5nm,0.6s							
VIVF	Saint-Julien-l	14.86	307	eP		Pn	17 20 28.0	+0.5
VIVF				pmax		pmax		
	comp=Z,3.0nm,0.6s							
VIVF	Saint-Julien-l	14.86	307	eP		Pn	17 20 28.0	+0.5
	comp=Z,2.8nm,0.6s							
CABF	La Chapelle	14.88	315	eP		Pn	17 20 28.3	+0.5
	comp=Z,23nm,0.9s							
CABF	La Chapelle	14.88	315	eP		Pn	17 20 28.3	+0.5
CABF				pmax		pmax		
	comp=Z,11nm,0.9s							
CABF	La Chapelle	14.88	315	eP		Pn	17 20 28.3	+0.5
	comp=Z,11nm,0.9s							
FBE	Freiberg	15.03	340	eP		Pn	17 20 35.6	+5.8
	comp=Z,13nm,0.7s							
LASF	Ste Croix	15.08	303	eP		Pn	17 20 31.1	+0.7
HINF	Hinteralfeld	15.20	320	eP		Pn	17 20 32.1	+0.1
	comp=Z,15nm,0.5s							
HINF	Hinteralfeld	15.20	320	eP		Pn	17 20 32.1	+0.1
HINF				pmax		pmax		
	comp=Z,7.0nm,0.5s							
HINF	Hinteralfeld	15.20	320	eP		Pn	17 20 32.1	+0.1
	comp=Z,7.4nm,0.5s							
MOX	Moxa	15.31	336	eP		Pn	17 20 38.5	+5.0
	comp=Z,7.0nm,0.7s							
CDF	Champ du Feu	15.38	322	eP		Pn	17 20 34.5	+0.2
	comp=Z,15nm,0.8s							
CDF	Champ du Feu	15.38	322	eP		Pn	17 20 34.5	+0.2
CDF				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CDF	Champ du Feu	15.38	322	eP		Pn	17 20 34.5	+0.2
	comp=Z,7.5nm,0.8s							
CLL	Collm	15.47	340	eP		pP	17 20 40.5	-2.4
	comp=Z,14nm,0.6s							
CLL	Collm	15.47	340	*i* P		pP	17 20 40.6	-2.3
CLL				pmax		pmax		
	comp=Z,14nm,0.6s							
CLL	Collm	15.47	340	*i* sP		pP	17 20 40.6	-2.3
	comp=Z,14nm,0.6s							
HAU	Haudompre	15.58	319	eP		Pn	17 20 36.8	-0.2
	comp=Z,39nm,0.7s							
HAU	Haudompre	15.58	319	eP		Pn	17 20 36.8	-0.2
HAU				pmax		pmax		
	comp=Z,19nm,0.7s							
HAU	Haudompre	15.58	319	eP		Pn	17 20 36.8	-0.2
	comp=Z,19nm,0.7s							
MTLF	Montolieu	15.96	299	eP		Pn	17 20 42.6	+0.7
TNS	Taunus Mts	16.15	329	eP		Pn	17 20 49.4	+5.0
	comp=Z,18nm,0.6s							
TNS	Taunus Mts	16.15	329	eP		Pn	17 20 49.4	+5.0
TNS				pmax		pmax		
	comp=Z,18nm,0.6s							
SMF	Signal de Mont	16.21	312	eP		Pn	17 20 45.4	+0.2
	comp=Z,18nm,0.8s							
SMF	Signal de Mont	16.21	312	eP		Pn	17 20 45.4	+0.2
SMF				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SMF	Signal de Mont	16.21	312	eP		Pn	17 20 45.4	+0.2
	comp=Z,11nm,0.8s							
RUE	Ruedersdorf	16.35	343	eP		Pn	17 20 50.7	+3.8
	comp=Z,35nm,0.9s							
LOR	Lormes	16.52	314	eP		Pn	17 20 49.1	-0.1
	comp=Z,22nm,0.8s							
LOR	Lormes	16.52	314	eP		Pn	17 20 49.1	-0.1
LOR				pmax		pmax		
	comp=Z,11nm,0.8s							
LOR	Lormes	16.52	314	eP		Pn	17 20 49.1	-0.1
	comp=Z,11nm,0.8s							
MEZF	Maizieres J'vi	16.57	319	eP		Pn	17 20 50.0	+0.3
	comp=Z,49nm,0.8s							
MEZF	Maizieres J'vi	16.57	319	eP		Pn	17 20 50.0	+0.3
	comp=Z,25nm,0.8s							
AVF	Avril sur Loir	16.58	312	eP		Pn	17 20 49.9	+0.1
SSF	Saint Saulge	16.62	313	eP		Pn	17 20 50.4	0.0
	comp=Z,18nm,0.8s							
SSF	Saint Saulge	16.62	313	eP		Pn	17 20 50.4	0.0
SSF				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SSF	Saint Saulge	16.62	313	eP		Pn	17 20 50.4	0.0
	comp=Z,9.0nm,0.8s							
WLF	Walferdange	16.77	324	P		Pn	17 20 56.3	+4.0
WLF				pmax		pmax		
	comp=Z,12nm,0.7s							
WLF	Walferdange	16.77	324	P		Pn	17 20 56.3	+4.0
	comp=Z,12nm,0.7s							
BGF	Bois d'Agland	16.77	310	eP		Pn	17 20 52.4	+0.1
	comp=Z,14nm,0.7s							
BGF	Bois d'Agland	16.77	310	eP		Pn	17 20 52.4	+0.1
BGF				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BGF	Bois d'Agland	16.77	310	eP		Pn	17 20 52.4	+0.1
	comp=Z,7.0nm,0.7s							
SUW	Suwalki	17.02	4	eP		Pn	17 20 56.1	+0.7
SUW	Suwalki	17.02	4	eP		Pn	17 20 52.0	-3.4
SUW				pmax		pmax		
	comp=Z,83nm,0.8s							
SUW	Suwalki	17.02	4	ePn		Pn	17 20 52.0	-3.4
	comp=Z,83nm,0.8s							
TCF	Toulx Ste Croi	17.04	309	eP		Pn	17 20 55.9	+0.2
MEM	Membach	17.49	326	P		Pn	17 21 03.6	+2.2
MEM	Membach	17.49	326	P		Pn	17 21 03.5	+2.1
KIV	Kislovodsk	17.55	60	eP		Pn	17 21 05.6	+3.5
KIV				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GIVF	Givet	17.70	323	eP		Pn	17 21 03.6	-0.3
DOU	Dourbes	17.81	322	P		Pn	17 21 07.1	+1.9
ETSF	Etsaut	17.82	296	eP		Pn	17 21 06.2	+0.8
	comp=Z,13nm,0.8s							
ETSF	Etsaut	17.82	296	eP		Pn	17 21 06.2	+0.8
ETSF				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ETSF	Etsaut	17.82	296	eP		Pn	17 21 06.2	+0.8
	comp=Z,6.6nm,0.8s							
BAIF	Baives	17.97	322	eP		Pn	17 21 07.0	-0.3
	comp=Z,

AKTO	**Aktyubinsk**	**29.31**	**51**	P		**P**	**17 22 57.6**	**-2.4**
	comp=Z,0.7nm,0.4s,mb3.7,baz=275,slow=4.1,SNR=2.1							
AKTO	**Aktyubinsk**	**29.31**	**51**	P		**P**	**17 22 57.6**	**-2.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
TOA0	**Torodi Ar. Sit**	**29.63**	**222**	*e*P		**P**	**17 23 02.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**29.63**	**222**	*e*P		**P**	**17 23 02.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**29.63**	**222**	P		**P**	**17 23 04.1**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=29,slow=9.0,SNR=9.6							
TORD	**Torodi Ar. Bea**	**29.63**	**222**	P		**P**	**17 23 04.1**	**+1.2**
ARU	**Arti**	**31.45**	**40**	*e*P		**P**	**17 23 26.2**	**+7.3**
ARCES	**ARCESS Array B**	**32.63**	**3**	P		**P**	**17 23 27.2**	**-2.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=188,slow=9.9,SNR=27							
ARCES	**ARCESS Array B**	**32.63**	**3**	P		**P**	**17 23 27.3**	**-2.0**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.4s							
ARE0	**ARCESS Array S**	**32.63**	**3**	P		**P**	**17 23 25.1**	**-4.2**
KEV	**Kevo**	**32.91**	**4**	*e*p		**P**	**17 23 29.4**	**-2.3**
BRVK	**Borovoye**	**37.25**	**49**	*e*P		**P**	**17 24 07.6**	**-1.5**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
BRVK	**Borovoye**	**37.25**	**49**	*e*P		**P**	**17 24 07.6**	**-1.5**
	comp=Z,4.0nm,0.7s,mb4.4							
BVAR	**Borovoye Array**	**37.31**	**49**	P		**P**	**17 24 07.9**	**-1.7**
	comp=Z,1.8nm,0.7s,mb4.0,baz=264,slow=7.1,SNR=8.2							
BVAR	**Borovoye Array**	**37.31**	**49**	P		**P**	**17 24 07.9**	**-1.7**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	**37.51**	**48**	*e*P		**P**	**17 24 08.7**	**-2.6**
CHKZ				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**37.51**	**48**	*e*P		**P**	**17 24 08.7**	**-2.6**
	comp=Z,4.6nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**37.51**	**48**	*e*P		**P**	**17 24 08.7**	**-2.6**
	comp=Z,5.0nm,0.8s,mb4.3							
LIC	**Lamto**	**39.03**	**225**	*e*P		**P**	**17 24 23.3**	**-0.9**
	comp=Z,5.6nm,0.3s,mb4.4							
LIC	**Lamto**	**39.03**	**225**	*e*P		**P**	**17 24 23.3**	**-0.9**
	comp=Z,2.8nm,0.3s,mb4.4							
NVS	**Novosibirsk**	**44.93**	**46**	*e*P		**P**	**17 25 10.8**	**-1.5**
MK31	**Makanchi Array**	**45.29**	**58**	P		**P**	**17 25 10.0**	**-5.2**
MKAR	**Makanchi Array**	**45.29**	**58**	P		**P**	**17 25 12.1**	**-3.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=271,slow=7.4,SNR=12							
MKAR				LR		LR	17 47 50.9	
	comp=Z,45nm,18.9s,MS3.4,baz=164,slow=41							
MKAR	**Makanchi Array**	**45.29**	**58**	*i* P		**P**	**17 25 12.8**	**-2.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**45.91**	**47**	P		**P**	**17 25 16.6**	**-3.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=179,slow=7.2,SNR=7.5							
ZAL	**Zalesovo**	**45.91**	**47**	P		**P**	**17 25 16.6**	**-3.5**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
LSZ	**Lusaka**	**52.42**	**172**	P		**P**	**17 26 07.1**	**-2.9**
LSZ				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
LSZ	**Lusaka**	**52.42**	**172**	P		**P**	**17 26 07.1**	**-2.9**
	comp=Z,2.4nm,0.9s,mb4.1							
LSA	**Lhasa**	**57.52**	**75**	P		**P**	**17 26 44.1**	**-2.8**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
LSA	**Lhasa**	**57.52**	**75**	P		**P**	**17 26 44.1**	**-2.8**
	comp=Z,3.1nm,0.8s,mb4.4							
LSA	**Lhasa**	**57.52**	**75**	P		**P**	**17 26 44.1**	**-2.8**
	comp=Z,3.0nm,0.8s,mb4.4							
SCHQ	**Schefferville**	**59.78**	**318**	P		**P**	**17 27 01.8**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.4,baz=215,slow=17,SNR=5.2							
SONM	**Songino Array**	**60.62**	**50**	P		**P**	**17 27 06.2**	**-2.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=280,slow=9.3,SNR=5.2							
ULN	**Ulaanbaatar**	**61.02**	**50**	P		**P**	**17 27 08.9**	**-2.1**
BOSA	**Boshof**	**65.41**	**176**	P		**P**	**17 27 41.0**	**+0.8**
BOSA				pmax		pmax		
	comp=Z,20nm,1.5s,mb4.9							
BOSA	**Boshof**	**65.41**	**176**	P		**P**	**17 27 41.0**	**+0.8**
	comp=Z,20nm,1.5s,mb4.9							
BOSA	**Boshof**	**65.41**	**176**	P		**P**	**17 27 41.0**	**+0.8**
	comp=Z,20nm,1.5s,mb4.9							
BILL	**Bilibino**	**71.96**	**13**⇑	*e*P		**P**	**17 28 21.8**	**+0.8**
BILL				*e*			17 30 59.5	
BILL				*e*S		S	17 37 32.4	-10
BILL				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.5							
BILL				MLR		MLR		
	comp=Z,200nm,16.0s,MS4.5							
INK	**Inuvik**	**73.30**	**351**	LR		LR	17 59 21.7	
	comp=Z,199nm,19.9s,MS4.4,baz=78,slow=35							
YKA	**Yellowknife Ar**	**74.70**	**340**	P		**P**	**17 28 36.3**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=27,slow=5.2,SNR=3.5							
YKA	**Yellowknife Ar**	**74.70**	**340**	P		**P**	**17 28 36.3**	**-0.9**
YKA	**Yellowknife Ar**	**74.70**	**340**	*i* P		**P**	**17 28 36.2**	**-1.0**
ULM	**Lac du Bonnet**	**77.04**	**324**	P		**P**	**17 28 50.5**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=334,slow=3.5,SNR=3.1							
KSRS	**Korea Array**	**79.49**	**51**	P		**P**	**17 29 02.7**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=309,slow=4.8,SNR=5.9							
MJAR	**Matsushiro Arr**	**86.26**	**46**	P		**P**	**17 29 38.1**	**-1.1**
	comp=Z,1.0nm,0.6s,mb4.2,baz=314,slow=5.3,SNR=3.4							
MJAR	**Matsushiro Arr**	**86.26**	**46**	P		**P**	**17 29 38.1**	**-1.1**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**88.89**	**326**	P		**P**	**17 29 51.5**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.9,baz=65,slow=7.1,SNR=3.0							
PDAR	**Pinedale Array**	**88.89**	**326**	P		**P**	**17 29 51.5**	**-0.4**
WRA	**Warramunga Arr**	**119.76**	**93**	PKP		PKPdf	17 35 46.5	-1.2
	comp=Z,0.2nm,0.6s,baz=316,slow=1.4,SNR=5.6							
ASAR	**Alice Springs**	**121.32**	**97**	PKP		PKPdf	17 35 49.4	-1.3
	comp=Z,0.2nm,0.4s,baz=291,slow=1.6,SNR=3.4							

IDC 24 17:24:11.5±3.8, 933S×10799E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=155.3km s-min=26.8km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.22**	**119**	P	Pn	17 28 37.2	-0.8
	0.0nm,0.3s,baz=297,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**27.55**	**115**	P	P	17 30 00.5	+0.5
	0.4nm,0.9s,baz=288,slow=11,SNR=3.0						
SONM	**Songino Array**	**56.93**	**359**	P	P	17 33 59.2	+0.8
	0.3nm,0.8s,baz=171,slow=8.2,SNR=5.0						
MKAR	**Makanchi Array**	**60.39**	**340**	P	P	17 34 22.2	-0.4
	0.7nm,0.6s,baz=153,slow=8.2,SNR=8.2						
TXAR	**Lajitas Array**	**144.30**	**52**	PKP	PKPdf	17 43 49.6	+0.2
	0.3nm,0.7s,baz=241,slow=2.6,SNR=4.2						

IDC 24 17:27:30.1±10.0, 588S×15026E, h70km±71km, mb3.0/3, mb1 3.2/4, mb1mx3.1/13, mbtmp3.1/4, ML2.2/1, Error ellipse: s-maj=104.4km s-min=61.2km az=81.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.66**	**221**	P	Pn	17 28 37.7	-0.3
	0.8nm,0.3s,baz=358,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**20.85**	**226**	P	P	17 32 06.8	+0.6
	0.5nm,0.4s,baz=51,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.67**	**220**	P	P	17 32 36.0	+0.8
	0.2nm,0.4s,baz=60,slow=8.4,SNR=4.8						
STKA	**Stephens Creek**	**27.10**	**196**	P	P	17 33 05.8	-0.5
	1.8nm,1.1s,baz=34,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.19**	**285**	PKPbc	PKPbc	17 47 08.7	+0.6
	0.4nm,0.4s,baz=88,slow=2.7,SNR=5.6						

MAN 24 17:30:37.9, 1013N×12604E, h22km, mb3.2, ML4.5, MS1.6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.16**	**270**	*e*P	Pn	17 30 58.8	-0.1
BUTP	**Butuan**	**1.22**	**200**	*e*P	Pn	17 30 59.1	-0.6
PLP	**Palo**	**1.47**	**315**	*e*P	Pn	17 31 02.8	-0.2
PLP				*e*S	Sn	17 31 22.2	+0.6
OCLP	**Ormoc**	**1.68**	**303**	*e*P	Pn	17 31 07.4	+1.5
CGP	**Cagayan de Oro**	**2.12**	**219**⇑	*i* P	Pn	17 31 12.3	+0.2
CGP				*i* S	Sn	17 31 39.0	+1.2
BUKP	**Musuan**	**2.43**	**203**	*e*P	Pn	17 31 17.4	+1.1
CNP	**Catarman**	**2.73**	**331**	*e*P	Pn	17 31 20.4	+0.1
GUIM	**Jordan**	**3.43**	**279**	*e*P	Pn	17 31 31.8	+1.7
PVCP	**Virac**	**3.91**	**332**	*e*P	Pn	17 31 38.0	+1.3

*CSEM **24** 17:46:52.7, 1211N×4424E, h4km, Mc3.8, After DHMR*
DHMR 24 17:46:52.7±0.4, 1211N×4424E, h4km±1km, MD3.8, ML3.7,

3C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**0.99**	**48**⇑	*i* P	Pg	17 47 11.2	-0.5
ADEN				*i* S	Sg	17 47 25.4	+0.9
ADEN				AML	AML	17 47 39.6	
	comp=N,2μm,0.6s						
ADEN	**Aden**	**0.99**	**48**⇑	*i* P	Pg	17 47 11.1	-0.5
ADEN				*i* S	Sg	17 47 25.4	+1.0
	comp=N,1μm,0.6s						
TRBA	**At Turbah**	**1.12**	**354**⇓	*i* P	Pg	17 47 13.5	-0.7
TRBA				*i* S	Sg	17 47 30.1	+1.3
TRBA				AML	AML	17 47 35.5	
	comp=E,2μm,0.6s						
UDYN	**Al 'Udayn**	**1.87**	**352**⇓	*e*P	Pn	17 47 26.3	+0.9
UDYN				*i* S	Sn	17 47 52.5	+3.2
LBOS		**2.01**	**29**⇑	*i* P	Pn	17 47 28.5	+1.1
LBOS				*i* S	Sn	17 47 56.9	+4.0
BDHA	**Al Bayda'**	**2.26**	**35**⇓	*i* P	Pn	17 47 32.8	+2.0
BDHA				*i* S	Sn	17 48 03.9	+4.7
DHBB	**Dhamar BB**	**2.45**	**3**⇓	*i* P	Pn	17 47 36.0	+2.5
DHBB				*i* S	Sn	17 48 09.6	+5.7
HAJJ	**Hajjah**	**3.62**	**350**⇓	*i* P	Pn	17 47 52.4	+2.8
HAJJ				*i* S	Sn	17 48 38.7	+6.0

*ISCJB **24** 17:46:52.7±0.5, 4559N±008×15406E±008, h10km, mb4.2/28, MS4.2/4, Error ellipse: s-maj=11.7km s-min=7.9km az=143.0*
*IDC **24** 17:46:53.1±0.7, 4559N×15403E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML3.1/1, MS4.1/3, Ms1 4.1/3, ms1mx3.2/35, Error ellipse: s-maj=19.7km s-min=15.5km az=159.0*
*NEIC **24** 17:46:54.1±0.4, 4555N×15399E, h10km, mb4.3/13, Error ellipse: s-maj=11.7km s-min=8.3km az=144.0*
*BJI **24** 17:46:56.1, 4598N×15371E, h7km, mB4.7, mb4.3, Ms4.1, Msz3.9*
*MOS **24** 17:46:57.5±1.8, 4550N×15383E, h47km, mb4.4/19, Error ellipse: s-maj=13.1km s-min=10.8km az=114.7*
ISC 24 17:46:54.5±0.5, 4561N±007×15404E±008, h10km, (h19km±4.4km; pP-P), n71, σ1§11/70, mb4.2/28, MS4.2/4, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**7.93**	**284**	PN	Pn	**17 48 50.1**	**+0.3**
PET	**Petropavlovsk**	**8.01**	**20**	*e*Pn	**Pn**	**17 48 49.1**	**-1.7**
PET				*e*Sn	**Sn**	**17 50 11.8**	**-10**
ASAJ	**Asahikawa**	**8.27**	**264**	Pn	**Pn**	**17 48 51.9**	**-2.5**
	0.3nm,0.3s,baz=150,slow=18,SNR=3.0						
MJAR	**Matsushiro Arr**	**14.96**	**238**	Pn	**Pn**	**17 50 22.8**	**-3.2**
	0.1nm,0.3s,baz=333,slow=35,SNR=3.4						
MAJO	**Matsushiro**	**14.96**	**238**	*e*P	**Pn**	**17 50 32.8**	**+6.8**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**14.96**	**238**	*e*Pn	**Pn**	**17 50 32.8**	**+6.8**
	comp=Z,8.3nm,0.8s						
MAT	**Matsushiro**	**14.96**	**238**	P	**Pn**	**17 50 33.5**	**+7.5**
KLR	**Kul'dur**	**15.50**	**292**	*e*P	**Pn**	**17 50 33.8**	**+0.7**
MDJ	**Mudanjiang**	**17.27**	**275**	*e*Pn	**Pn**	**17 50 54.0**	**-1.7**
	comp=Z,20nm,1.2s						
KSRS	**Korea Array**	**21.11**	**257**	P	**P**	**17 51 40.3**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=67,slow=9.2,SNR=4.7						
YAK	**Yakutsk**	**21.63**	**328**	*e*P	**P**	**17 51 39.9**	**-4.9**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
YAK	**Yakutsk**	**21.63**	**328**	*e*P	**P**	**17 51 39.9**	**-4.9**
	comp=Z,10nm,0.6s,mb4.4						
HIA	**Hailar**	**23.36**	**291**	P	**P**	**17 52 03.8**	**+0.6**
BILL	**Bilibino**	**23.37**	**12**	P	**P**	**17 52 04.7**	**+1.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**23.37**	**12**	P	**P**	**17 52 04.7**	**+1.4**
	comp=Z,4.1nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**31.90**	**291**	P	**P**	**17 53 18.2**	**-1.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**31.90**	**291**	P	**P**	**17 53 18.1**	**-1.8**
	comp=Z,4.3nm,1.1s,mb4.2						
SONM	**Songino Array**	**32.33**	**291**	P	**P**	**17 53 24.7**	**+0.9**
	comp=Z,2.1nm,1.0s,mb3.9,baz=77,slow=6.5,SNR=8.0						
SONM				PcP	PcP	17 56 11.1	-0.4
	comp=Z,0.7nm,0.9s,baz=99,slow=1.8,SNR=4.0						
SONM	**Songino Array**	**32.33**	**291**	P	**P**	**17 53 24.7**	**+0.9**
SONM						17 56 11.1	
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GUMO	**Guam**	**32.85**	**197**	*e*P	**P**	**17 53 27.9**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,372nm,1.4s						
GUMO	**Guam**	**32.85**	**197**	*e*P	**P**	**17 53 27.9**	**-0.4**
	comp=Z,372nm,1.4s						
KDAK	**Kodiak Island**	**34.34**	**50**	P	**P**	**17 53 40.5**	**-0.8**
	comp=Z,5.4nm,0.7s,mb4.6,baz=247,slow=9.5,SNR=4.1						
SML	**Sawmill**	**36.36**	**43**	*e*P	**P**	**17 53 58.5**	**-0.2**
COLA	**College**	**36.64**	**37**	P	**P**	**17 53 54.5**	**-6.6**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
COLA	**College**	**36.64**	**37**	P	**P**	**17 53 54.5**	**-6.6**
	comp=Z,4.7nm,0.9s,mb4.3						
LZH	**Lanzhou**	**38.59**	**274**	*e*P	**P**	**17 54 19.8**	**+2.3**
LZH				AP	pP	17 54 27.5	+6.9
LZH				XP	sP	17 54 31.6	+10
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,89nm,4.0s						
LZH				LR	LR		
	comp=E,297nm,14.2s						
LZH				LR	LR		
	comp=Z,345nm,17.6s,MS4.2						
LZH	**Lanzhou**	**38.59**	**274**	*e*P	**P**	**17 54 19.7**	**+2.2**
LZH				*SP	sP	17 54 31.6	+10
LZH				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,350nm,17.6s,MS4.2						
LZH	**Lanzhou**	**38.59**	**274**	*e*P	**P**	**17 54 19.7**	**+2.2**
	comp=Z,20nm,1.3s,mb4.7						
LZH				pP	pP	17 54 27.5	+6.9
LZH				sP	sP	17 54 31.6	+10
LZH				LR	LR		
	comp=Z,350nm,17.6s,MS4.2						
GTA	**Gaotai**	**39.80**	**281**	*e*P	**P**	**17 54 29.1**	**+1.4**
GTA				AP	pP	17 54 33.5	+2.7
GTA				XP	sP	17 54 35.8	+3.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**17 54 48.6**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.6,baz=310,slow=6.3,SNR=3.8						
INK	**Inuvik**	**42.28**	**32**	*e*P	**P**	**17 54 48.6**	**+0.6**
	comp=Z,65nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**43.82**	**307**	LR	LR	18 14 51.0	
	comp=Z,208nm,18.3s,MS4.1,baz=357,slow=38						
WMQ	**Urumqi**	**45.95**	**293**	⇓P	**P**	**17 55 18.6**	**+1.1**
WMQ				AP	pP	17 55 23.1	+2.4
WMQ				XP	sP	17 55 25.6	+3.7
WMQ				PCP	PcP	17 56 56.6	+2.3
WMQ				PP	PP	17 57 06.4	+1.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,147nm,4.8s						
MKAR	**Makanchi Array**	**48.05**	**299**	P	**P**	**17 55 34.2**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.4,baz=72,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**48.05**	**299**	P	**P**	**17 55 34.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**48.05**	**299**	P	**P**	**17 55 34.2**	**+0.3**
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**17 56 00.1**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**17 56 00.1**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2						
RES	**Resolute Bay**	**51.72**	**18**	P	**P**	**17 55 59.4**	**-2.4**
	comp=Z,320nm,1.2s						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**17 56 04.6**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=54,slow=7.9,SNR=6.2						
BVAR				LR	LR	18 18 23.8	
	comp=Z,142nm,20.6s,MS4.0,baz=134,slow=36						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**17 56 04.6**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,142nm,20.6s						
BRVK	**Borovoye**	**52.12**	**311**	P	**P**	**17 56 04.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**52.12**	**311**	P	**P**	**17 56 04.1**	**-0.8**
	comp=Z,2.8nm,1.1s,mb4.1						
ARU	**Arti**	**56.29**	**318**	*e*P	**P**	**17 56 35.0**	**-0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**56.29**	**318**	*e*P	**P**	**17 56 35.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**59.14**	**341**	P	**P**	**17 56 54.8**	**-0.4**
	comp=Z,2.8nm,1.0s,mb4.3,baz=22,slow=7.8,SNR=4.4						
ARCES	**ARCESS Array B**	**59.14**	**341**	P	**P**	**17 56 54.8**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NVAR	**Mina Array Bea**	**62.39**	**62**	P	**P**	**17 57 18.6**	**+1.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=289,slow=9.2,SNR=7.6						
PDAR	**Pinedale Array**	**64.90**	**54**	P	**P**	**17 57 34.5**	**+0.5**
	comp=Z,1.1nm,0.9s,mb3.9,baz=343,slow=1.5,SNR=7.7						
FINES	**FINESS Array B**	**65.35**	**335**	P	**P**	**17 57 36.2**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=34,slow=6.9,SNR=13						
FINES	**FINESS Array B**	**65.35**	**335**	P	**P**	**17 57 36.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	**Tennant Creek**	**67.64**	**200**	P	**P**	**17 57 50.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**67.64**	**200**	P	**P**	**17 57 50.0**	**-1.5**
	comp=Z,3.9nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**67.65**	**200**	P	**P**	**17 57 51.1**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=16,slow=6.7,SNR=12						
WRA	**Warramunga Arr**	**67.65**	**200**	P	**P**	**17 57 51.1**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**69.52**	**342**	P	**P**	**17 58 02.8**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.9,baz=27,slow=6.3,SNR=2.7						
NOA	**NORSAR Array B**	**69.52**	**342**	P	**P**	**17 58 02.8**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SDCO	**Great Sand Dun**	**70.54**	**56**	P	**P**	**17 58 10.1**	**+0.5**
	comp=Z,1.8nm,1.1s,mb3.9						
ASAR	**Alice Springs**	**71.34**	**199**	P	**P**	**17 58 15.3**	**+0.9**
	comp=Z,1.4nm,0.9s,mb3.9,baz=14,slow=4.7,SNR=9.8						
ASAR	**Alice Springs**	**71.34**	**199**	P	**P**	**17 58 15.3**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	**Kislovodsk**	**72.06**	**315**	*e*P	**P**	**17 58 21.6**	**+2.9**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIV	**Kislovodsk**	**72.06**	**315**	P	**P**	**17 58 20.1**	**+1.3**
	comp=Z,6.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**72.85**	**327**	P	**P**	**17 58 23.3**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=6.0,SNR=17						
AKASG				LR	LR	18 32 24.1	
	comp=Z,160nm,20.5s,MS4.3,baz=45,slow=38						
AKASG	**Malin Array Be**	**72.85**	**327**	P	**P**	**17 58 23.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,160nm,20.5s						
AKASG	**Malin Array Be**	**72.85**	**327**	P	**P**	**17 58 23.3**	**-0.2**
AKASG				LR	LR	18 32 24.1	
	comp=Z,160nm,20.5s,MS4.3,baz=45,slow=38						
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**17 58 50.8**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.1,baz=296,slow=3.1,SNR=16						
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**17 58 50.8**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CLL	**Collm**	**77.77**	**336**	*e*P	**P**	**17 58 52.0**	**+0.2**
BRTR	**Keskin Array B**	**79.66**	**317**	P	**P**	**17 59 03.0**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=38,slow=4.8,SNR=5.9						
BRTR	**Keskin Array B**	**79.66**	**317**	P	**P**	**17 59 03.0**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CFAA	**Coronel Fontan**	**144.55**	**82**	PKP	PKPdf	18 06 28.6	-2.6
	comp=Z,0.1nm,0.4s,baz=243,slow=4.5,SNR=3.4						

*IDC **24** 17:54:38.2±0.9, 729N×12494E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.2/22, mbtmp4.3/11, MS3.7/8, Ms1 3.7/8, ms1mx3.3/34, Error ellipse: s-maj=62.7km s-min=14.4km az=69.0*
*MAN **24** 17:54:40.5,

WRA	**Warramunga Arr**	**28.56**	**161**	P	**P**	**18 00 35.5**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.2,baz=329,slow=11,SNR=49						
WB2	**Warramunga Arr**	**28.56**	**161**	⇑*i*P	**P**	**18 00 35.6**	**-0.8**
MBWA	**Marble Bar**	**28.67**	**190**	P	**P**	**18 00 37.3**	**-0.1**
	comp=Z,28nm,1.3s,mb4.8						
KSRS	**Korea Array**	**30.20**	**5**	LR	LR	18 11 47.6	
	comp=Z,99nm,21.2s,MS3.4,baz=74,slow=34						
XAN	**Xi'an**	**30.49**	**333**	P	**P**	**18 00 57.5**	**+4.0**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
MJAR	**Matsushiro Arr**	**31.59**	**21**	LR	LR	18 10 47.7	
	comp=Z,153nm,20.5s,MS3.7,baz=40,slow=31						
AS31	**Alice Springs**	**31.95**	**164**	*e*P	**P**	**18 01 05.9**	**-0.4**
ASPA	**Alice Springs**	**31.95**	**164**	*e*P	**P**	**18 01 06.2**	**-0.1**
ASAR	**Alice Springs**	**31.95**	**164**	P	**P**	**18 01 06.2**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.3,baz=345,slow=7.6,SNR=64						
CTA	**Charters Tower**	**34.33**	**143**	P	**P**	**18 01 27.8**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.6,baz=328,slow=13,SNR=3.4						
CTA				LR	LR	18 15 12.5	
	comp=Z,165nm,19.6s,MS3.8,baz=102,slow=36						
CTA	**Charters Tower**	**34.33**	**143**	P	**P**	**18 01 27.8**	**+0.7**
CTA				LR	LR	18 15 12.5	
LZH	**Lanzhou**	**34.58**	**329**	⇑P	**P**	**18 01 35.0**	**+5.7**
	comp=Z,31nm,1.4s,mb5.0						
LZH				pP	pP	18 01 49.5	+11
LZH				sP	sP	18 01 56.7	+14
FORT	**Forrest**	**37.92**	**176**	*e*P	**P**	**18 01 58.1**	**+0.3**
	comp=Z,32nm,0.5s,mb5.3						
LSA	**Lhasa**	**38.80**	**309**	P	**P**	**18 02 06.3**	**+1.0**
LSA	**Lhasa**	**38.80**	**309**	*e*P	**P**	**18 02 05.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
LSA	**Lhasa**	**38.80**	**309**	*e*P	**P**	**18 02 05.9**	**+0.7**
	comp=Z,12nm,1.2s,mb4.5						
GTA	**Gaotai**	**39.18**	**329**	*e*P	**P**	**18 02 11.3**	**+2.9**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
KLBR	**Kellerberrin**	**39.21**	**190**	*e*P	**P**	**18 02 08.9**	**+0.2**
	comp=Z,38nm,1.3s,mb5.0						
ASAJ	**Asahikawa**	**39.86**	**20**	LR	LR	18 19 48.2	
	comp=Z,90nm,18.3s,MS3.6,baz=342,slow=38						
NWAO	**Narrogin (SRO)**	**40.60**	**190**	P	**P**	**18 02 20.6**	**+0.3**
	comp=Z,6.3nm,0.6s,mb4.5,baz=360,slow=8.5,SNR=8.7						
NWAO	**Narrogin (SRO)**	**40.60**	**190**	*e*P	**P**	**18 02 20.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.60**	**190**	*e*P	**P**	**18 02 20.4**	**+0.2**
	comp=Z,17nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**42.03**	**159**	⇑*i*P	**P**	**18 02 32.3**	**+0.3**
	comp=Z,9.1nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**42.03**	**159**	P	**P**	**18 02 32.4**	**+0.4**
	comp=Z,12nm,0.8s,mb4.6,baz=331,slow=7.3,SNR=28						
STKA	**Stephens Creek**	**42.03**	**159**	*e*P	**P**	**18 02 32.0**	**0.0**
HIA	**Hailar**	**42.11**	**355**	*e*P	**P**	**18 02 39.1**	**+6.5**
ULN	**Ulaanbaatar**	**43.25**	**342**	*e*P	**P**	**18 02 40.7**	**-1.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**43.25**	**342**	*e*P	**P**	**18 02 40.7**	**-1.2**
	comp=Z,4.8nm,0.8s,mb4.3						
SONM	**Songino Array**	**43.42**	**342**	P	**P**	**18 02 42.4**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.0,baz=163,slow=5.2,SNR=7.7						
SONM				LR	LR	18 20 35.3	
	comp=Z,146nm,20.5s,MS3.9,baz=350,slow=36						
TLY	**Talaya**	**47.66**	**342**	⇑*e*P	**P**	**18 03 21.6**	**+4.9**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
TLY	**Talaya**	**47.66**	**342**	*e*P	**P**	**18 03 21.1**	**+4.3**
	comp=Z,12nm,0.9s,mb4.9						
MK31	**Makanchi Array**	**53.66**	**325**	*e*P	**P**	**18 04 04.3**	**+2.3**
MKAR	**Makanchi Array**	**53.66**	**325**	P	**P**	**18 04 01.8**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.4,baz=127,slow=8.1,SNR=8.2						
MKAR	**Makanchi Array**	**53.66**	**325**	*i* P	**P**	**18 04 04.9**	**+2.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK	**Yakutsk**	**54.80**	**3**	⇑*e*P	**P**	**18 04 14.7**	**+4.4**
YAK				pmax	pmax		
	comp=Z,36nm,2.7s,mb4.9						
YAK	**Yakutsk**	**54.80**	**3**	*e*P	**P**	**18 04 09.7**	**-0.6**
	comp=Z,17nm,0.9s,mb5.1						
AAK	**Ala-Archa**	**56.57**	**317**	⇑*e*P	**P**	**18 04 27.2**	**+4.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**56.66**	**333**	P	**P**	**18 04 26.3**	**+2.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=7.1,slow=5.0,SNR=7.4						
ZAL	**Zalesovo**	**56.66**	**333**	P	**P**	**18 04 26.3**	**+2.6**
NVS	**Novosibirsk**	**57.95**	**333**	*e*P	**P**	**18 04 36.3**	**+3.6**
NVS				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.8						
BVAR	**Borovoye Array**	**63.41**	**327**	P	**P**	**18 05 09.1**	**-0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=116,slow=10,SNR=7.2						
BRVK	**Borovoye**	**63.49**	**327**	*e*P	**P**	**18 05 10.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BRVK	**Borovoye**	**63.49**	**327**	*e*P	**P**	**18 05 10.1**	**-0.4**
	comp=Z,10.0nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**64.14**	**326**	*e*P	**P**	**18 05 13.9**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**64.14**	**326**	*e*P	**P**	**18 05 13.8**	**-0.9**
	comp=Z,9.5nm,1.1s,mb4.7						
ARU	**Arti**	**71.03**	**327**	⇑*i*P	**P**	**18 06 03.4**	**+5.2**
ARU				*e*		18 08 42.6	
ARU				*e*S	S	18 15 22.0	+10
ARU				*e*SS	SS	18 19 53.3	+7.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
ARU	**Arti**	**71.03**	**327**	P	**P**	**18 05 57.0**	**-1.2**
	comp=Z,8.0nm,1.2s,mb4.5						
GNI	**Garni**	**77.87**	**309**	⇑*e*P	**P**	**18 06 46.4**	**+8.4**
GNI				pmax	pmax		
	comp=Z,16nm,2.5s						
KDAK	**Kodiak Island**	**79.92**	**33**	LR	LR	18 36 17.0	
	comp=Z,58nm,20.7s,MS3.9,baz=145,slow=31						
MCK	**McKinley**	**81.85**	**27**	*e*P	**P**	**18 06 59.1**	**-0.5**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MCK	**McKinley**	**81.85**	**27**	*e*P	**P**	**18 06 59.1**	**-0.4**
	comp=Z,6.1nm,1.0s,mb4.5						
COLA	**College**	**82.32**	**25**	⇑*e*P	**P**	**18 07 05.8**	**+3.8**
ANN	**Anapa**	**83.17**	**314**	*e*P	**P**	**18 07 06.6**	**+0.2**
ANN				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.3						
EGAK	**Eagle**	**85.18**	**25**	*e*P	**P**	**18 07 15.9**	**-0.8**
	comp=Z,6.6nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**86.41**	**309**	P	**P**	**18 07 23.2**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.7,baz=97,slow=7.4,SNR=2.7						
VNDA	**Vanda**	**87.11**	**172**	P	**P**	**18 07 24.9**	**-1.3**
	comp=Z,1.0nm,0.9s,mb4.1,baz=304,slow=5.3,SNR=5.2						

*IDC **24** 18:08:18.2±1.0, 4559N×154.02E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.3/38, Error ellipse: s-maj=28.3km s-min=24.3km az=67.0*
*ISCJB **24** 18:08:21.9±0.9, 455N±02×1538E±02, h35km, mb3.7/8, MS3.8/1, Error ellipse: s-maj=21.6km s-min=19.1km az=0.2*
*MOS **24** 18:08:22.8±1.9, 4573N×15391E, h42km, mb4.0/7, Error ellipse: s-maj=25.3km s-min=23.2km az=146.2*

ISC 24 18:08:23.6±0.9, 456N±01×1539E±02, h35km, n17, σ0^{s}73/17, mb3.7/8, MS3.8/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.17**	**264**	Pn	**Pn**	**18 10 19.6**	**0.0**
	0.4nm,0.3s,baz=63,slow=16,SNR=3.9						
MJAR	**Matsushiro Arr**	**14.88**	**238**	Pn	**Pn**	**18 11 56.2**	**+4.9**
	0.1nm,0.3s,baz=37,slow=6.9,SNR=5.1						
SONM	**Songino Array**	**32.25**	**291**	P	**P**	**18 14 47.8**	**-0.9**
	0.5nm,0.7s,mb3.5,baz=67,slow=8.4,SNR=4.3						
SONM	**Songino Array**	**32.25**	**291**	P	**P**	**18 14 47.8**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.96**	**299**	P	**P**	**18 16 59.4**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=66,slow=5.8,SNR=9.3						
MKAR	**Makanchi Array**	**47.96**	**299**	P	**P**	**18 16 59.4**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**18 17 30.7**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=54,slow=7.5,SNR=6.0						
BVAR				LR	LR	18 40 31.4	
	comp=Z,82nm,18.8s,MS3.8,baz=39,slow=37						
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**18 17 30.7**	**+1.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,82nm,18.8s						
FINES	**FINESS Array B**	**65.31**	**335**	P	**P**	**18 19 00.7**	**-1.4**
	comp=Z,1.0nm,0.6s,mb4.1,baz=35,slow=7.0,SNR=6.2						
FINES	**FINESS Array B**	**65.31**	**335**	P	**P**	**18 19 00.7**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**67.61**	**200**	P	**P**	**18 19 16.3**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=19,slow=7.2,SNR=6.6						
WRA	**Warramunga Arr**	**67.61**	**200**	P	**P**	**18 19 16.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**71.30**	**199**	P	**P**	**18 19 39.9**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=21,slow=5.5,SNR=5.0						
AKASG	**Malin Array Be**	**72.81**	**327**	P	**P**	**18 19 48.9**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=34,slow=6.0,SNR=6.6						
AKASG	**Malin Array Be**	**72.81**	**327**	P	**P**	**18 19 48.9**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.58**	**61**	P	**P**	**18 20 16.2**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=300,slow=4.7,SNR=6.7						
TXAR	**Lajitas Array**	**77.58**	**61**	P	**P**	**18 20 16.2**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **24** 18:14:59.1±1.1, 4834N×154.35E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=33.3km s-min=26.3km az=100.0*
*ISCJB **24** 18:15:08.0±1.8, 484N±02×1543E±02, h83km±17km, mb3.5/6, Error ellipse: s-maj=33.9km s-min=16.1km az=96.3*
*MOS **24** 18:15:08.6±0.9, 4845N×154.16E, h89km, mb3.9/2, Error ellipse: s-maj=47.6km s-min=23.8km az=66.0*

ISC 24 18:15:09.5±1.6, 484N±02×1543E±02, h82km±15km, n11, σ0^{s}71/11, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**28**	*e*PN	**Pn**	**18 15 48.5**	**-0.5**
SKR				*e*		18 16 17.8	
ASAJ	**Asahikawa**	**9.15**	**246**	Pn	**Pn**	**18 17 19.4**	**+0.7**
	0.7nm,0.3s,baz=50,slow=7.9,SNR=5.3						
ASAJ	**Asahikawa**	**9.15**	**246**	PN	**Pn**	**18 17 19.4**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.07**	**250**	P	**P**	**18 19 57.0**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.6,baz=40,slow=9.5,SNR=6.7						
MKAR	**Makanchi Array**	**46.87**	**296**	P	**P**	**18 23 31.9**	**+0.5**
	comp=Z,0.2nm,0.4s,mb3.2,baz=59,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**62.85**	**335**	P	**P**	**18 25 26.1**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=42,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**62.85**	**335**	P	**P**	**18 25 26.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.35**	**200**	P	**P**	**18 26 13.5**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=17,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**70.35**	**200**	P	**P**	**18 26 13.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**74.05**	**199**	P	**P**	**18 26 36.4**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.3,baz=9.9,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**18 26 49.0**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.1,baz=286,slow=4.2,SNR=3.6						

*THR **24** 18:21:31.2±0.4, 3062N×4964E, h32km±5km, ML3.0*
*CSEM **24** 18:21:31.2, 3062N×4964E, h32km, ML3.0, After THR*
*KISR **24** 18:21:34.1±1.7, 3101N×4987E, h39km±786km, ML2.8*
*ISCJB **24** 18:21:36.5±0.9, 3091N±005×4994E±009, h35km, Error ellipse: s-maj=11.9km s-min=5.8km az=58.1*

ISC 24 18:21:37.7±0.9, 3092N±005×4993E±009, h35km, n11, σ1^{s}04/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.53**	**321**	*e*Pg	**Pn**	**18 22 00.9**	**-1.6**
SHGR				*e*Sg	**Sn**	**18 22 22.5**	**+1.4**
SHGR				AML	AML	18 22 29.5	
	comp=E,198nm,0.5s						
SHGR				AML	AML	18 22 32.1	
	comp=N,238nm,0.2s						
SHGR	**Shooshtar-Gavs** SNR=96	**1.53**	**321**	*e*Pg	**Pn**	**18 22 00.9**	**-1.6**
SHGR				*e*Sg	**Sn**	**18 22 22.5**	**+1.4**
	comp=N,238nm,0.2s,SNR=96						
UMR	**Umm Al-Rimmam**	**2.35**	**235**	*e*P	**Pn**	**18 22 14.0**	**+0.1**
UMR				AML	AML	18 22 48.8	
	comp=Z,65nm,0.4s						
MIB	**Mutribah**	**2.50**	**244**	*e*P	**Pn**	**18 22 14.1**	**-1.9**
MIB				*e*S	**Sn**	**18 22 45.8**	**+0.6**
MIB				AML	AML	18 22 58.2	
	comp=Z,41nm,0.4s						
KBD	**Kabd**	**2.61**	**229**	*e*P	**Pn**	**18 22 17.1**	**-0.3**
KBD				*e*S	**Sn**	**18 22 48.5**	**+0.7**
KBD				AML	AML	18 22 53.0	
	comp=Z,78nm,0.3s						
QRN	**Al-Qurain**	**2.79**	**219**	*e*P	**Pn**	**18 22 19.2**	**-0.6**
NAY	**Al-Naaiem**	**2.87**	**235**	*e*P	**Pn**	**18 22 20.4**	**-0.5**
NAY				*e*S	**Sn**	**18 22 55.3**	**+1.2**
NAY				AML	AML	18 23 05.1	
	comp=Z,11nm,0.5s						
RDF	**Al-Radifah**	**2.87**	**227**	*e*P	**Pn**	**18 22 21.1**	**+0.2**
RDF				AML	AML	18 23 10.4	
	comp=Z,43nm,0.4s						
NASN	**Na'in**	**3.08**	**52**	*e*Pn	**Pn**	**18 22 25.3**	**+1.5**
ASAO	**Ashtian**	**3.62**	**1**	*e*Pn	**Pn**	**18 22 31.8**	**+0.6**
ASAO				AML	AML	18 23 34.6	
	comp=E,16nm,0.7s						
ASAO				AML	AML	18 23 34.7	
	comp=N,15nm,0.9s						
SNGE	**Sanandaj**	**4.69**	**333**	*e*Pn	**Pn**	**18 22 44.5**	**-1.5**
SNGE				AML	AML	18 23 43.7	
	comp=N,7.4nm,0.3s						

*CSEM **24** 18:24:49.9±0.2, 3882N×1406E, h10km, Md3.1/28, Ml3.1/24, Error ellipse: s-maj=3.6km s-min=3.1km az=144.0, Sicily*
*ROM **24** 18:24:49.9±0.2, 3882N×1406E, h10km, Md3.1/28, Ml3.1/24, Error ellipse: s-maj=3.6km s-min=3.1km az=144.0, Sicily*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIL	**Filicudi I Eol**	**0.47**	**122**	Pg	Pg	18 25 00.9	+1.8
IFIL				Sg	Sg	18 25 07.8	+2.5
	17μm,0.3s						
SLNA	**Salina**	**0.66**	**112**	Pg	Pg	18 25 04.0	+1.4
USI	**Ustica**	**0.69**	**261**	Pg	Pg	18 25 03.9	+0.6
USI				Sg	Sg	18 25 13.4	+1.0
	2μm,0.4s						
LLI	**Lipari**	**0.79**	**118**	Pg	Pg	18 25 07.0	+1.9
	4μm,0.4s						
GIB	**Gibilmanna**	**0.83**	**182**	Pg	Pg	18 25 05.8	0.0
GIB				Sg	Sg	18 25 17.2	+0.6
	2μm,0.4s						
VPL	**Vulcano Piano**	**0.85**	**121**	Pg	Pg	18 25 06.7	+0.5
	1μm,0.7s						
CSLB	**Castelbuono**	**0.88**	**180**	Pg	Pg	18 25 06.3	-0.5
CSLB				Sg	Sg	18 25 16.9	-1.3
	584nm,0.3s						
MNO	**Monte Soro**	**1.01**	**150**	Pg	Pg	18 25 09.1	-0.3
MNO				Sg	Sg	18 25 22.8	+0.2
	294nm,0.2s						
GALF	**Gagliano Caste**	**1.17**	**160**	Pg	Pg	18 25 12.1	-0.4
	858nm,0.6s						
MSRU	**Castanea**	**1.27**	**115**	Pg	Pg	18 25 12.4	-1.8
	297nm,0.4s						
MMME	**Mongiuffi-Meli**	**1.29**	**133**	Pg	Pg	18 25 15.0	+0.4
	359nm,0.7s						
JOPP	**Joppolo**	**1.45**	**98**	Pg	Pg	18 25 15.0	-2.6
	39nm,0.3s						
FAVR	**Favara**	**1.58**	**191**	Pg	Pg	18 25 19.9	-0.3
	48nm,0.3s						
RAFF	**Raffo Rosso**	**1.61**	**171**	Pg	Pg	18 25 18.8	-2.0
	168nm,0.3s						
HVZN	**Vizzini**	**1.72**	**162**	Pg	Pg	18 25 19.5	-3.3
	406nm,0.6s						
SOI	**Samo**	**1.74**	**115**	Pg	Pg	18 25 19.2	-4.0
	39nm,0.4s						
CARO	**Carolei**	**1.74**	**75**	Pg	Pg	18 25 20.0	-3.3
	250nm,0.4s						
HAGA	**Augusta**	**1.76**	**150**	Pg	Pg	18 25 19.6	-4.0
	112nm,0.7s						
MPAZ	**Palizzi**	**1.76**	**119**	Pg	Pg	18 25 19.5	-4.1
	70nm,0.3s						
CMPR	**Campora**	**1.78**	**32**	Pg	Pg	18 25 21.3	-2.8
CUC	**Castrocucco**	**1.80**	**49**	Pg	Pg	18 25 22.1	-2.3
	46nm,0.4s						
SSY	**Sortino**	**1.84**	**154**	Pg	Pg	18 25 21.1	-4.1
	275nm,0.4s						
GRI	**Girifalco**	**1.85**	**89**	Pg	Pg	18 25 21.3	-4.0
	3μm,6.6s						
PZI	**Palazzolo**	**1.89**	**158**	Pg	Pg	18 25 22.2	-4.0
	57nm,0.2s						
PLAC	**Placanica**	**1.90**	**100**	Pg	Pg	18 25 22.1	-4.2
	26nm,0.7s						
SIRI	**Monte Sirino -**	**1.96**	**45**	Pg	Pg	18 25 24.2	-3.2
	44nm,0.3s						
HAVL	**Avola**	**2.04**	**155**	Pg	Pg	18 25 24.3	-4.6
	131nm,0.3s						
SERS	**Sersale**	**2.06**	**83**	Pg	Pg	18 25 24.7	-4.8
	30nm,0.5s						
TIP	**Timpagrande**	**2.14**	**79**	Pg	Pg	18 25 26.1	-4.7
	34nm,0.9s						
MIGL	**Miglionico**	**2.56**	**45**	Pg	Pg	18 25 34.7	-4.3
	95nm,0.8s						
AMUR	**Altamura**	**2.86**	**42**	Pg	Pg	18 25 37.8	-7.0
	13nm,0.3s						
VSL	**Villasalto**	**3.70**	**282**	Pg	Pg	18 25 45.2	-16

*NEIC **24** 18:27:49.4, 1776N×102.47W, h16km, MD4.1(MEX), After MEX.*

MEX 24 18:27:49.2±0.7, 1776N×10248W, h15km±8km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.97**	**99**	*i* P	Pb	18 28 04.6	-3.1
ZIIG				*i* S	Sb	18 28 15.6	-4.9
MMIG	**Aquila**	**0.98**	**302**	*i* P	Pb	18 28 04.2	-3.7
MMIG				*i* S	Sb	18 28 16.9	-3.6
CAIG	**El Cayaco**	**2.23**	**108**	*e*P	Pn	18 28 23.1	-2.3
CAIG				*i* S	Sn	18 28 47.9	-4.7
MOIG	**Morelia**	**2.26**	**32**	*i* P	Pn	18 28 23.1	-2.9
MOIG				*i* S	Sn	18 28 49.7	-3.9
ACX	**Acapulco**	**2.60**	**110**	*i* P	Pn	18 28 29.0	-1.6
ACX				*i* S	Sn	18 29 00.0	-1.9
ACX	**Acapulco**	**2.60**	**110**	*i* P	Pn	18 28 33.0	+2.4
ACX				*i* S	Sn	18 29 05.0	+3.1
MEIG	**Mezcala**	**2.72**	**86**	*e*P	Pn	18 28 30.7	-1.7
MEIG				*i* S	Sn	18 29 01.9	-3.1
SFJM	**Santa Fe**	**2.76**	**349**	*i* P	Pn	18 28 30.0	-2.8
SFJM				*i* S	Sn	18 29 02.0	-3.9
PLIG	**Platanillo**	**2.90**	**77**	*i* P	Pn	18 28 33.1	-1.6
PLIG				*i* S	Sn	18 29 07.0	-2.2
CJM	**Chamela**	**2.98**	**306**	*e*P	Pn	18 28 33.6	-2.3
CJM				*i* S	Sn	18 29 08.1	-3.4
ANIG	**Ahuacatlan**	**3.80**	**330**	*i* P	Pn	18 28 45.2	-1.9
ANIG				*i* S	Sn	18 29 26.5	-5.0
IIO	**Organos**	**4.00**	**62**	*i* P	Pn	18 28 47.1	-2.7
IIO				*i* S	Sn	18 29 34.6	-1.7
TPIG	**Tehuac#an**	**4.91**	**82**	*i* S	Sn	18 29 56.4	-2.4

*IDC **24** 18:31:43.9±0.7, 4748N×15574E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.3/25, mbtmp4.1/19, ML3.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=19.6km s-min=15.0km az=157.0*
*ISCJB **24** 18:31:44.3±3.0, 4763N±008×15570E±0.10, h12km±18km, mb4.3/38, MS3.5/5, Error ellipse: s-maj=14.5km s-min=8.4km az=109.7*
*NEIC **24** 18:31:45.3±0.5, 4751N×15560E, h10km, mb4.5/9, Error ellipse: s-maj=12.4km s-min=9.9km az=152.0*
*BJI **24** 18:31:47.8, 4732N×15477E, h10km, mB4.9, mb4.4*
*MOS **24** 18:31:49.9±1.3, 4773N×15559E, h54km, mb4.5/26, Error ellipse: s-maj=12.0km s-min=7.6km az=110.5*

ISC 24 18:31:44.5±4.2, 4766N±009×15570E±010, h1km±25km, n87, σ0^{s}94/89, mb4.4/38, MS3.5/5, 8C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.04**	**5**	*e*PN	**Pn**	**18 32 34.9**	**+1.2**
SKR				*e*		18 33 08.8	
PET	**Petropavlovsk**	**5.69**	**18**	⇑*e*PN	**Pn**	**18 33 09.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**8.83**	**270**	⇑*e*PN	**Pn**	**18 33 56.9**	**+3.7**
YSS				pmax	pmax		
	comp=Z,98nm,2.5s						
ASAJ	**Asahikawa**	**9.80**	**254**	Pn	**Pn**	**18 34 07.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=43,slow=23,SNR=8.4						
ASAJ				LR	LR	18 38 38.0	
	comp=Z,45nm,19.2s,baz=249,slow=42						
MA2	**Magadan**	**12.29**	**348**	⇑*e*PN	**Pn**	**18 34 47.7**	**+7.2**
MA2				pmax	pmax		
	comp=Z,71nm,1.7s						
SEY	**Seymchan**	**15.42**	**354**	⇑*e*P	**Pn**	**18 35 28.9**	**+5.7**
KLR	**Kul'dur**	**15.96**	**285**	*e*P	**Pn**	**18 35 30.2**	**+0.1**
MJAR	**Matsushiro Arr**	**17.04**	**236**	Pn	**Pn**	**18 35 39.5**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=5.4						
YAK	**Yakutsk**	**20.56**	**324**	*de*P	**P**	**18 36 23.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,32nm,1.3s						
**Y

MK31	**Makanchi Array**	**48.08**	**298**	*i* P		**P**	**18 40 25.8**	**+0.2**
MK31				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.5								
MK31	**Makanchi Array**	**48.08**	**298**	*e*P		**P**	**18 40 24.8**	**-0.8**
MKAR	**Makanchi Array**	**48.08**	**298**	P		**P**	**18 40 25.4**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.4,baz=73,slow=6.9,SNR=16								
MKAR	**Makanchi Array**	**48.08**	**298**⇑	*e*P		**P**	**18 40 26.2**	**+0.6**
KURK	**Kurchatov**	**48.32**	**304**	P		**P**	**18 40 27.1**	**-0.4**
KURK				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.8								
YKA	**Yellowknife Ar**	**49.13**	**38**	P		**P**	**18 40 33.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.1,baz=295,slow=7.1,SNR=4.1								
YKA	**Yellowknife Ar**	**49.13**	**38**	P		**P**	**18 40 33.7**	**0.0**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**49.13**	**38**	P		**P**	**18 40 33.7**	**0.0**
RES	**Resolute Bay**	**49.40**	**19**	*e*P		**P**	**18 40 36.7**	**+0.9**
	comp=Z,130nm,0.8s								
CHKZ	**Chkalovo**	**51.19**	**310**	P		**P**	**18 40 48.6**	**-0.7**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
CHKZ	**Chkalovo**	**51.19**	**310**	*e*P		**P**	**18 40 48.6**	**-0.7**
	comp=Z,4.9nm,0.6s,mb4.6								
BVA0	**Borovoye Array**	**51.63**	**310**	*i* P		**P**	**18 40 52.5**	**-0.2**
BVAR	**Borovoye Array**	**51.63**	**310**	P		**P**	**18 40 52.5**	**-0.1**
	comp=Z,3.7nm,0.4s,mb4.6,baz=58,slow=7.3,SNR=59								
BVAR				PcP	PcP		18 42 05.7	-0.7	
	comp=Z,1.2nm,0.6s,baz=74,slow=3.0,SNR=4.1								
BVAR	**Borovoye Array**	**51.63**	**310**	P		**P**	**18 40 52.5**	**-0.2**
BVAR							18 42 05.7		
BVAR				pmax	pmax				
	comp=Z,4.0nm,0.4s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRVK	**Borovoye**	**51.67**	**310**	*e*P		**P**	**18 40 52.2**	**-0.7**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
BRVK	**Borovoye**	**51.67**	**310**	*e*P		**P**	**18 40 52.2**	**-0.7**
	comp=Z,3.3nm,0.5s,mb4.5								
LSA	**Lhasa**	**51.97**	**274**	P		**P**	**18 40 56.6**	**+1.4**
LSA	**Lhasa**	**51.97**	**274**	*e*P		**P**	**18 40 57.4**	**+2.2**
LSA				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
LSA	**Lhasa**	**51.97**	**274**	*e*P		**P**	**18 40 57.4**	**+2.2**
	comp=Z,3.2nm,0.7s,mb4.4								
ZRNK	**Zerenda**	**52.39**	**310**	*e*P		**P**	**18 40 58.1**	**-0.2**
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**52.39**	**310**	*e*P		**P**	**18 40 58.1**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.5								
AAK	**Ala-Archa**	**55.00**	**297***ce*P			**P**	**18 41 17.9**	**+0.5**
AAK				pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.5								
ARU	**Arti**	**55.52**	**318**⇓*i*P			**P**	**18 41 20.7**	**-0.5**
ARU				*e*			18 43 28.0		
ARU				*e*S		**S**	**18 49 11.5**	**+4.1**
ARU				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.8								
ARU	**Arti**	**55.52**	**318**	*e*P		**P**	**18 41 20.1**	**-1.1**
	comp=Z,7.8nm,0.7s,mb4.8								
GUN	**Gumba**	**56.67**	**276**	*e*P		**P**	**18 41 30.3**	**+0.9**
KK31	**Karatay Array**	**57.09**	**300**	*i* P		**P**	**18 41 32.7**	**+0.3**
KK31				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.6								
KKAR	**Karatay Array**	**57.09**	**300**	*i* P		**P**	**18 41 32.7**	**+0.3**
KKAR				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
KKN	**Kakani**	**57.15**	**276**	*e*P		**P**	**18 41 34.2**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9								
PKI	**Pulchoki**	**57.20**	**276**	*e*P		**P**	**18 41 34.2**	**+1.0**
DMN	**Daman**	**57.38**	**276**	*e*P		**P**	**18 41 35.6**	**+1.2**
	comp=Z,15nm,0.8s,mb5.1								
GKN	**Gorkha**	**57.44**	**277**	*e*P		**P**	**18 41 35.5**	**+0.7**
	comp=Z,10nm,0.7s,mb5.0								
ARCES	**ARCESS Array B**	**57.56**	**341**	P		**P**	**18 41 36.0**	**+0.3**
	comp=Z,2.7nm,0.9s,mb4.3,baz=35,slow=9.3,SNR=4.4								
ARCES	**ARCESS Array B**	**57.56**	**341**	P		**P**	**18 41 36.1**	**+0.4**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KOLN	**Koldanda**	**58.29**	**278**	*e*P		**P**	**18 41 41.7**	**+0.9**
AB31	**Akbulak array**	**59.18**	**311**	*e*P		**P**	**18 41 47.2**	**+0.2**
AB31				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
NVAR	**Mina Array Bea**	**60.45**	**64**	P		**P**	**18 41 55.4**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=297,slow=7.3,SNR=4.5								
NVAR	**Mina Array Bea**	**60.45**	**64**	P		**P**	**18 41 55.4**	**-0.3**
DUG	**Dugway**	**62.60**	**60**	*e*P		**P**	**18 42 10.5**	**+0.2**
DUG				pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.6								
DUG	**Dugway**	**62.60**	**60**	*e*P		**P**	**18 42 10.5**	**+0.2**
	comp=Z,6.5nm,1.3s,mb4.6								
PDAR	**Pinedale Array**	**62.78**	**56**	P		**P**	**18 42 12.1**	**+0.5**
	comp=Z,1.9nm,1.0s,mb4.2,baz=294,slow=2.7,SNR=10								
FINES	**FINESS Array B**	**63.95**	**336**	P		**P**	**18 42 19.6**	**+0.3**
	comp=Z,2.6nm,0.5s,mb4.7,baz=41,slow=7.0,SNR=42								
FINES	**FINESS Array B**	**63.95**	**336**	P		**P**	**18 42 19.6**	**+0.3**
FINES				pmax	pmax				
	comp=Z,3.0nm,0.5s								
OBN	**Obninsk**	**65.54**	**327**⇓*e*P			**P**	**18 42 30.1**	**+0.5**
OBN				*e*			18 43 02.7		
OBN				*e*			18 44 57.1		
OBN				pmax	pmax				
	comp=Z,17nm,1.2s,mb5.2								
OBN				MLR	MLR				
	comp=Z,100nm,12.0s,MS4.2								
NB2	**NORSAR Subarra**	**67.92**	**342**	P		**P**	**18 42 44.9**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.6,baz=25,slow=6.5								
NOA	**NORSAR Array B**	**67.92**	**342**	P		**P**	**18 42 45.5**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.7,baz=25,slow=6.4,SNR=9.9								
NOA	**NORSAR Array B**	**67.92**	**342**	P		**P**	**18 42 45.5**	**+0.7**
NOA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
WRA	**Warramunga Arr**	**69.97**	**201**	P		**P**	**18 42 55.3**	**-2.3**
	comp=Z,1.1nm,0.9s,mb4.0,baz=19,slow=6.2,SNR=6.6								
WRA	**Warramunga Arr**	**69.97**	**201**	P		**P**	**18 42 55.3**	**-2.3**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**71.75**	**327**	P		**P**	**18 43 08.0**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.4,baz=32,slow=5.9,SNR=6.7								
AKASG	**Malin Array Be**	**71.75**	**327**	P		**P**	**18 43 08.0**	**-0.4**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**71.75**	**327**	P		**P**	**18 43 08.0**	**-0.4**
ASAR	**Alice Springs**	**73.66**	**201**	P		**P**	**18 43 18.6**	**-1.1**
	comp=Z,2.1nm,1.0s,mb4.1,baz=14,slow=5.5,SNR=14								
ASAR	**Alice Springs**	**73.66**	**201**	P		**P**	**18 43 18.7**	**-1.0**
ASAR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
TXAR	**Lajitas Array**	**75.51**	**62**	P		**P**	**18 43 30.5**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.3,baz=302,slow=4.4,SNR=20								
TXAR	**Lajitas Array**	**75.51**	**62**	P		**P**	**18 43 30.5**	**0.0**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
CLL	**Collm**	**76.34**	**337**	*e*P		**P**	**18 43 36.0**	**+0.8**
KHC	**Kasperske Hory**	**78.16**	**336**	*e*P		**P**	**18 43 43.0**	**-2.4**
KHC				pP			18 43 46.5		
KHC	**Kasperske Hory**	**78.16**	**336**	*e*P		**P**	**18 43 43.0**	**-2.4**
KHC				*e*			18 43 46.5		
GERES	**GERESS Array B**	**78.39**	**335**	P		**P**	**18 43 47.9**	**+1.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=36,slow=5.7,SNR=13								
GERES	**GERESS Array B**	**78.39**	**335**	P		**P**	**18 43 47.9**	**+1.2**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**78.91**	**318**	P		**P**	**18 43 49.5**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=49,slow=2.3,SNR=4.5								
BRTR	**Keskin Array B**	**78.91**	**318**	P		**P**	**18 43 49.6**	**0.0**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.5s								

*STR **24** 18:35:55.8±0.1, 4301N×002E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 24 18:35:54.9±0.1, 4305N×003W, h10km, Md1.8/3, Ml1.6/2, Error ellipse: s-maj=1.9km s-min=0.8km az=174.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**93**	Pg	Pg	18 35 57.6	+0.4
LABF				Sg	Sg	18 35 59.1	+0.2
VIEF	**Viey**	**0.17**	**166**	Pg	Pg	18 35 58.9	+0.3
VIEF				Sg	Sg	18 36 01.1	-0.1
EPF	**Esparros**	**0.28**	**94**	*e*Pg	Pg	18 36 00.5	+0.1
EPF				*e*Sg	Sg	18 36 04.3	+0.1
	5.1nm,0.2s						

ETSF	**Etsaut**	**0.41**	**249**	*e*Pg		Pg	18 36 03.2	+0.2	
ETSF				*e*Sg		Sg	18 36 08.7	+0.1	
	5.0nm,0.2s								
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg		Pg	18 36 11.3	-0.5	
SJPF				*e*Sg		Sg	18 36 22.8	-0.4	
	3.5nm,0.5s								
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg		Pg	18 36 26.1	-0.9	
MTLF				*e*Sg		Sg	18 36 47.5	-1.1	
	0.7nm,0.2s								

IDC 24 18:38:04.4±28.0, 475N×12243E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/20, mbtmp4.1/4, 1C-1D, Error ellipse: s-maj=510.7km s-min=128.1km az=132.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.92**	**172**	*e*P	P	18 43 01.6	-8.4
	5.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.92**	**172**	P	P	18 43 09.9	-0.1
	1.4nm,0.5s,baz=11,slow=9.1,SNR=10						
WRA	**Warramunga Arr**	**27.19**	**155**	P	P	18 43 50.4	+0.8
	2.5nm,0.6s,baz=336,slow=9.5,SNR=49						
WB2	**Warramunga Arr**	**27.19**	**155**⇓	*i*P	P	18 43 50.6	+0.9
ASAR	**Alice Springs**	**30.38**	**159**	P	P	18 44 18.2	+0.2
	0.8nm,0.5s,baz=335,slow=7.2,SNR=27						
ASPA	**Alice Springs**	**30.38**	**159**	*e*P	P	18 44 18.1	+0.1
STKA	**Stephens Creek**	**40.74**	**155**⇑	*i*P	P	18 45 47.0	0.0
	1.7nm,0.4s						
STKA	**Stephens Creek**	**40.74**	**155**	P	P	18 45 47.0	+0.1
	2.9nm,0.5s,baz=332,slow=9.0,SNR=15						

*NEIC **24** 19:04:20.1, 29.15S×69.50W, h105km, MG3.7(GUC), After GUC.*

GUC 24 19:04:20.1±0.7, 2915S×6950W, h105km±30km, MD3.2, ML3.7, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**1.25**	**297**⇓	*i*P	Pn	19 04 45.3	+1.7
VACH				*i* S	Sn	19 05 03.5	+2.1
CPCH	**Copiapo**	**1.94**	**337**⇓	*i*P	Pn	19 04 52.4	+0.3
CPCH				*i* S	Sn	19 05 17.1	+0.6
CPCH				AML	AML	19 05 19.3	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**1.94**	**337**⇓	*i*P	Pn	19 04 52.4	+0.3
CPCH				*i* S	Sn	19 05 17.1	+0.6
OVCH	**Ovalle**	**2.07**	**225**⇓	*i*P	Pn	19 04 54.4	+0.6
OVCH				*i* S	Sn	19 05 20.0	+0.5
OVCH				AML	AML	19 05 20.7	
	comp=E,324nm,0.4s						
CDCH	**Caldera**	**2.38**	**330**	*e*P	Pn	19 04 58.5	+0.7
CDCH				*i* S	Sn	19 05 26.7	0.0
CDCH				AML	AML	19 05 30.5	
	comp=N,123nm,0.4s						
CDCH	**Caldera**	**2.38**	**330**	*e*P	Pn	19 04 58.5	+0.7
CDCH				*i* S	Sn	19 05 26.7	0.0
CMCH	**Combarbala**	**2.40**	**213**⇑	*i*P	Pn	19 04 58.8	+0.8
CMCH				*i* S	Sn	19 05 27.7	+0.6
CMCH				AML	AML	19 05 29.0	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**2.40**	**213**⇑	*i*P	Pn	19 04 58.8	+0.8
CMCH				*i* S	Sn	19 05 27.7	+0.6
CHNG	**Los Chungos**	**3.22**	**212**	*i* S	Sn	19 05 46.6	0.0
CHNG				AML	AML	19 05 50.5	
	comp=E,58nm,0.5s						

IDC 24 19:09:51.3±2.7, 4568N×15417E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=83.1km s-min=29.0km az=177.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.37**	**263**	Pn	Pn	19 11 52.8	-0.9
	0.6nm,0.3s,baz=90,slow=13,SNR=4.9						
SONM	**Songino Array**	**32.39**	**291**	P	P	19 16 23.5	+0.9
	0.5nm,0.6s,baz=73,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**48.09**	**299**	P	P	19 18 31.9	-0.7
	0.4nm,0.5s,baz=60,slow=5.3,SNR=6.8						
BVAR	**Borovoye Array**	**52.11**	**310**	P	P	19 19 03.2	+0.1
	0.4nm,0.4s,baz=45,slow=8.0,SNR=4.7						
FINES	**FINESS Array B**	**65.32**	**335**	P	P	19 20 34.3	-0.8
	0.9nm,0.5s,baz=44,slow=6.9,SNR=9.7						
AKASG	**Malin Array Be**	**72.84**	**327**	P	P	19 21 21.3	-0.5
	0.7nm,0.4s,baz=31,slow=6.0,SNR=4.5						
TXAR	**Lajitas Array**	**77.38**	**61**	P	P	19 21 48.3	+0.3
	0.4nm,0.6s,baz=305,slow=3.0,SNR=5.2						

*ISCJB **24** 19:15:32.4±0.5, 3152S×004×17929W±008, h129km±5km, mb4.8/31, Error ellipse: s-maj=11.7km s-min=5.0km az=42.5*

*BJI **24** 19:15:32.1, 3123S×17834W, h149km, mB5.2, mb5.2*

*MOS **24** 19:15:34.9±1.4, 31.255×179.21W, h152km, mb4.8/8, Error ellipse: s-maj=14.6km s-min=13.2km az=148.1*

*GCMT **24** 19:15:35.0±0.9, 31.25S×179.12W, h187km±7km, MW4.9/29, Moment Tensor Solution. s14,c14; s29,c33; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.56±.23; Mθθ=0.67±.53; Mφφ=0.89±.46; Mrθ=-1.61±.25; Mφθ=0.24±.34; Mrφ=-1.43±.18; Best double couple: M=2.51100×1016 NP1:ϕs=214.00000°, δ16.00000°, λ-101.00000°. NP2: ϕs=46.00000°, δ75.00000°, λ-87.00000°. Principal axes: T 2.2350, Plg29.0000°, Azm134.0000°; N 0.5460, Plg3.0000°, Azm225.0000°; P -2.7860, Plg60.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 19:15:35.0±0.9, 3148S×179.04W, h152km±8km, mb4.9/18 Error ellipse: s-maj=11.2km s-min=8.3km az=144.0*

*IDC **24** 19:15:39.5±1.7, 3130S×179.21W, h184km±14km, mb4.3/11, mb1 4.3/12, mb1mx4.3/16, mbtmp4.3/12, MS3.3/3, Ms1 3.3/3, ms1mx2.7/30, Error ellipse: s-maj=13.9km s-min=12.4km az=43.0*

ISC 24 19:15:33.7±0.5, 3155S±004×17919W±008, h130km±5km, h148km±2.3km; pP-P, n183, σ1933/114, mb4.8/31, 9C-13D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.54**	**26**	P	**Pn**	**19 16 13.9**	**-0.4**
	53nm,0.3s,baz=243,slow=23,SNR=2.7						
RAO				S	**Sn**	**19 16 46.4**	**+0.9**
	403nm,0.3s,baz=195,slow=23,SNR=9.2						
RAO				LR	LR	19 17 02.5	
	comp=Z,570nm,18.7s,baz=25,slow=36						
RAO	**Raoul Island**	**2.54**	**26**	*e*Pn	**Pn**	**19 16 14.0**	**-0.3**
MXZ	**Matakaoa Point**	**6.34**	**198**	PN	**Pn**	**19 17 06.0**	**+1.2**
MXZ				SN	**Sn**	**19 18 20.7**	**+4.7**
PUZ	**Puketiti**	**6.84**	**197**	PN	**Pn**	**19 17 13.0**	**+1.5**
PUZ				SN	**Sn**	**19 18 29.2**	**+1.4**
MWZ	**Matawai**	**7.29**	**201**	PN	**Pn**	**19 17 18.5**	**+1.1**
MWZ				SN	**Sn**	**19 18 42.5**	**+3.8**
URZ	**Urewera**	**7.35**	**203**	P	**Pn**	**19 17 21.5**	**+3.1**
	3.2nm,0.3s,baz=351,slow=2.2,SNR=28						
URZ				S	**Sn**	**19 18 46.0**	**+5.8**
	44nm,0.3s,baz=311,slow=22,SNR=15						
URZ	**Urewera**	**7.35**	**203**	PN	**Pn**	**19 17 20.4**	**+2.0**
URZ				SN	**Sn**	**19 18 44.3**	**+4.0**
KNZ	**Kokohu**	**7.88**	**198**	*e*PN	**Pn**	**19 17 25.8**	**+0.3**
BKZ	**Black Stump Fm**	**8.38**	**204**	*e*PN	**Pn**	**19 17 32.3**	**+0.1**
BKZ				SN	**Sn**	**19 19 06.5**	**+1.4**
MOVZ	**Moawhango**	**8.86**	**206**	PN	**Pn**	**19 17 39.2**	**+0.5**
MOVZ				SN	**Sn**	**19 19 17.0**	**+0.3**
PKVZ	**Pokaka**	**8.92**	**208**	PN	**Pn**	**19 17 43.2**	**+3.8**
PXZ	**Pawanui**	**9.05**	**200**	*e*PN	**Pn**	**19 17 39.6**	**-1.6**
PXZ				SN	**Sn**	**19 19 17.3**	**-4.0**
TSZ	**Takapari Road**	**9.36**	**204**	*e*PN	**Pn**	**19 17 43.5**	**-1.9**
WAZ	**Wanganui**	**9.46**	**208**	PN	**Pn**	**19 17 49.4**	**+2.7**
MRZ	**Mangatainoka R**	**10.03**	**203**	*e*PN	**Pn**	**19 17 50.6**	**-3.7**
TIWZ	**Tintock**	**10.03**	**202**	SN	**Sn**	**19 19 38.8**	**-6.2**
KIW	**Kapiti Island**	**10.44**	**205**	PN	**Pn**	**19 17 58.5**	**-1.3**
MSWZ	**Moikau Station**	**10.81**	**203**	*e*PN	**Pn**	**19 18 02.5**	**-2.2**
MRW	**Makara Radio**	**10.84**	**205**	*e*PN	**Pn**	**19 18 05.2**	**+0.1**
SNZO	**South Karori**	**10.91**	**205**	*e*Pn	**Pn**	**19 18 05.9**	**-0.1**
BHW	**Baring Head**	**10.94**	**204**	PN	**Pn**	**19 18 05.8**	**-0.6**
TCW	**Tory Channel**	**10.98**	**207**	*e*PN	**Pn**	**19 18 02.7**	**-4.3**
NNZ	**Nelson**	**11.35**	**210**	PN	**Pn**	**19 18 09.7**	**-2.2**
NNZ				SN	**Sn**	**19 20 11.3**	**-5.6**

BSWZ	**Blackbirch Sta**	**11.57**	**207**	*e*PN		**Pn**	**19 18 11.1**	**-3.6**	
THZ	**Tophouse**	**12.00**	**210**	PN		**Pn**	**19 18 17.5**	**-3.0**	
KHZ	**Kahutara**	**12.30**	**206**	PN		**Pn**	**19 18 19.8**	**-4.5**	
DSZ	**Denniston Nort**	**12.48**	**213**	PN		**Pn**	**19 18 24.3**	**-2.4**	
LTZ	**Lake Taylor**	**13.11**	**209**	*e*PN		**Pn**	**19 18 34.0**	**-0.9**	
MQZ	**McQueen's Vall**	**13.74**	**206**	*e*PN		**Pn**	**19 18 39.9**	**-3.1**	
MQZ				SN		**Sn**	**19 21 01.9**	**-13**	
RPZ	**Rata Peaks**	**14.38**	**210**	P		**Pn**	**19 18 49.7**	**-1.4**	
	1.5nm,0.3s,baz=70,slow=12,SNR=4.3								
RPZ				S		**Sn**	**19 21 21.6**	**-8.5**	
	6.6nm,0.3s,baz=21,slow=14,SNR=10								
FOZ	**Fox Glacier**	**14.87**	**213**	SN		**Sn**	**19 21 26.2**	**-16**	
ODZ	**Otahua Downs**	**15.64**	**208**	*e*PN		**Pn**	**19 19 03.4**	**-3.5**	
DZM	**Mont Dzumac**	**15.91**	**303**	P		**Pn**	**19 19 13.5**	**+3.3**	
	0.3nm,0.3s,baz=130,slow=17,SNR=3.3								
RAR	**Rarotonga**	**20.18**	**64**	P		**P**	**19 19 58.1**	**+0.1**	
	27nm,0.7s,baz=90,slow=4.0,SNR=3.5								
ARMA	**Armidale**	**25.01**	**265**	*e*P		**P**	**19 20 47.8**	**+2.4**	
CNB	**Canberra Magne**	**26.45**	**253**	*e*P		**P**	**19 21 01.6**	**+3.2**	
	6.4nm,0.5s,mb4.5								
TOO	**Toolangi**	**29.58**	**249**	*e*P		**P**	**19 21 29.1**	**+2.9**	
	3.9nm,0.5s,mb4.4								
TOO	**Toolangi**	**29.58**	**249**	*e*P		**P**	**19 21 29.1**	**+2.9**	
TOO				pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.4								
CTA	**Charters Tower**	**33.00**	**282**⇓	*i*P		**P**	**19 21 57.7**	**+1.4**	
	comp=Z,24nm,0.6s,mb5.1								
CTA				*e*PCP	PcP		19 24 36.8	-0.3	
CTA	**Charters Tower**	**33.00**	**282**	LR	LR		19 33 04.0		
	comp=Z,66nm,21.4s,baz=291,slow=32								
CTA	**Charters Tower**	**33.00**	**282**⇓	*i*P		**P**	**19 21 57.7**	**+1.4**	
CTA				*e*			19 24 36.8		
CTA				pmax	pmax				
	comp=Z,24nm,0.6s								
CTAO	**Charters Tower**	**33.00**	**282**	*e*P		**P**	**19 21 57.7**	**+1.4**	
CTAO				pmax	pmax				
	comp=Z,28nm,0.6s,mb5.2								
CTAO	**Charters Tower**	**33.00**	**282**	*e*P		**P**	**19 21 57.7**	**+1.5**	
	comp=Z,28nm,0.6s,mb5.2								
STKA	**Stephens Creek**	**33.24**	**259**⇓	*i*P		**P**	**19 22 00.4**	**+2.1**	
	comp=Z,22nm,0.8s,mb5.0								
STKA	**Stephens Creek**	**33.24**	**259**	P		**P**	**19 22 00.6**	**+2.2**	
	comp=Z,26nm,0.7s,mb5.1,baz=98,slow=10.0,SNR=48								
STKA				PcP	PcP		19 24 35.8	-2.0	
	comp=Z,1.3nm,0.4s,baz=56,slow=7.3,SNR=2.0								
STKA				LR	LR		19 33 12.1		
	comp=Z,47nm,18.1s,baz=27,slow=32								
PMG	**Port Moresby**	**38.20**	**298**	P		**P**	**19 22 40.7**	**+0.1**	
	comp=Z,14nm,0.6s,mb4.8,baz=95,slow=5.5,SNR=9.7								
PMG	**Port Moresby**	**38.20**	**298***d*	P		**P**	**19 22 40.3**	**-0.4**	
PMG	**Port Moresby**	**38.20**	**298**	*e*P		**P**	**19 22 40.5**	**-0.2**	
	comp=Z,16nm,0.7s,mb4.8								
AS31	**Alice Springs**	**42.04**	**269**	*e*P		**P**	**19 23 12.8**	**+0.5**	
ASAR	**Alice Springs**	**42.04**	**269**	P		**P**	**19 23 12.9**	**+0.6**	
	comp=Z,45nm,0.7s,mb5.2,baz=106,slow=7.7,SNR=732								
ASAR				PcP	PcP		19 25 03.6	-1.2	
	comp=Z,3.2nm,0.5s,baz=119,slow=3.9,SNR=6.5								
ASPA	**Alice Springs**	**42.05**	**269**	*e*P		**P**	**19 23 12.8**	**+0.4**	
WB2	**Warramunga Arr**	**43.13**	**274**⇓	*i*P		**P**	**19 23 21.0**	**-0.1**	
WRAB	**Tennant Creek**	**43.13**	**274***d*	P		**P**	**19 23 21.1**	**0.0**	
WRAB	**Tennant Creek**	**43.13**	**274**	*e*P		**P**	**19 23 21.3**	**+0.2**	
	comp=Z,84nm,0.5s,mb5.6								
WRA	**Warramunga Arr**	**43.14**	**274**	P		**P**	**19 23 21.4**	**+0.2**	
	comp=Z,83nm,0.5s,mb5.7,baz=113,slow=7.9,SNR=1310								
WRA				PcP	PcP		19 25 07.7	-0.8	
	comp=Z,6.8nm,0.8s,baz=113,slow=3.2,SNR=5.4								
WRA				ScP	ScP		19 28 43.1	-4.6	
	comp=Z,1.1nm,0.8s,baz=121,slow=4.2,SNR=4.8								
WRA				S	**S**		**19 29 33.0**	**-4.7**	
	comp=Z,2.0nm,1.0s,baz=111,slow=14,SNR=4.6								
WRA	**Warramunga Arr**	**43.14**	**274**	P		**P**	**19 23 21.4**	**+0.2**	
WRA				

GYA				SKS			19 38 42.0		
GYA				S	S		19 39 09.3	-2.4	
GYA				AMB	AMB				
	comp=Z,10.0nm,1.0s,mb4.8								
GYA				AMB	AMB				
	comp=Z,90nm,4.8s								
KMI	**Kunming**	**93.43**	**297**	P	**P**		**19 28 34.3**	**0.0**	
KMI				AMB	AMB				
	comp=Z,5.0nm,1.0s,mb4.6								
KMI	**Kunming**	**93.43**	**297**	P	**P**		**19 28 34.2**	**-0.1**	
KMI				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.6								
KMI	**Kunming**	**93.43**	**297**	P	**P**		**19 28 34.2**	**-0.1**	
	comp=Z,5.0nm,1.0s,mb4.6								
CD2	**Chengdu**	**95.84**	**303**	*e*P	**P**		**19 28 44.5**	**-0.8**	
CD2				AP	pP		19 29 20.5	+1.9	
CD2				XP	sP		19 29 35.5	+3.3	
CD2				S	S		19 39 47.4	-4.7	
CD2				SS	SS		19 46 25.3	+0.5	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb5.2								
HHC	**Hu-ho-hao-te**	**96.30**	**314**	*e*P	**P**		**19 28 49.0**	**+1.6**	
HHC				AP	pP		19 29 25.9	+5.2	
HHC				PP	PP		19 32 49.5	+7.1	
HHC				AMB	AMB				
	comp=Z,4.0nm,1.1s,mb4.7								
HHC				AMB	AMB				
	comp=Z,83nm,5.7s								
LZH	**Lanzhou**	**98.59**	**307**	*e*P	**P**		**19 28 57.5**	**-0.2**	
LZH				AP	pP		19 29 36.1	+5.0	
LZH				XP	sP		19 29 52.0	+7.3	
LZH				*e*PP	PP		19 33 03.3	+3.4	
LZH				SKS			19 39 20.0		
LZH				*e*S	S		19 40 10.3	-5.3	
LZH				XS	sS		19 41 17.5	+3.8	
LZH				*e*SS	SS		19 47 03.6	+0.1	
LZH				AMB	AMB				
	comp=Z,19nm,1.5s,mb5.3								
LZH				AMB	AMB				
	comp=Z,85nm,8.7s								
LZH				LR	LR				
	comp=N,157nm,16.5s								
LZH				LR	LR				
	comp=Z,247nm,18.9s								
LZH	**Lanzhou**	**98.59**	**307**	*e*P	**P**		**19 28 57.5**	**-0.2**	
LZH				*PP	pP		19 29 36.1	+5.0	
LZH				*SP	sP		19 29 52.0	+7.3	
LZH				*e*			19 33 03.2		
LZH							19 39 20.0		
LZH				*e*S	S		19 40 10.2	-5.4	
LZH				PS	PS		19 42 00.3	+3.0	
LZH				*e*SS	SS		19 47 03.6	+0.1	
LZH				pmax	pmax				
	comp=Z,19nm,1.5s,mb5.3								
LZH				MLR	MLR				
	comp=Z,250nm,18.9s								
LZH	**Lanzhou**	**98.59**	**307**	*e*P	**P**		**19 28 57.5**	**-0.2**	
	comp=Z,19nm,1.5s,mb5.3								
LZH				pP	pP		19 29 36.1	+5.0	
LZH				sP	sP		19 29 52.0	+7.3	
LZH				*e*PP	PP		19 33 03.2	+3.3	
LZH				SKS			19 39 20.0		
LZH				*e*S	S		19 40 10.2	-5.4	
LZH				sS	sS		19 41 17.5	+3.8	
LZH				PS	PS		19 42 00.3	+3.0	
LZH				*e*SS	SS		19 47 03.6	+0.1	
LZH				LR	LR				
	comp=Z,250nm,18.9s								
YKA	**Yellowknife Ar**	**106.92**	**26**	PKiKP	PKiKP		19 33 41.5	-2.4	
	comp=Z,0.4nm,0.5s,baz=240,slow=1.7,SNR=5.2								
YKA	**Yellowknife Ar**	**106.92**	**26**	PKPdf	PKiKP		19 33 41.5	-2.4	
WMQ	**Urumqi**	**113.13**	**308**	⇑PKP	PKiKP		19 33 53.3	-2.3	
WMQ				XPKP			19 34 49.3		
WMQ				PP	PP				
	comp=Z,130nm,4.5s								
BOSA	**Boshof**	**115.80**	**204**	PKP	PKPdf		19 34 01.1	+0.3	
	comp=Z,3.4nm,0.9s,baz=52,slow=6.2,SNR=5.6								
MKAR	**Makanchi Array**	**117.72**	**310**	PKP	PKPdf		19 34 01.8	-2.7	
	comp=Z,0.9nm,0.5s,baz=138,slow=0.3,SNR=13								
ZAL	**Zalesovo**	**118.21**	**318**	PKP	PKPdf		19 34 02.3	-3.1	
	comp=Z,0.6nm,0.5s,baz=171,slow=6.9,SNR=3.5								
AAK	**Ala-Archa**	**121.89**	**303**	⇑PKiKP	PKPdf		19 34 06.7	-5.8	
CHKZ	**Chkalovo**	**126.43**	**316**	*e*PKiKP	PKPdf		19 34 18.1	-3.1	
BVAR	**Borovoye Array**	**126.50**	**315**	PKP	PKPdf		19 34 18.9	-2.4	
	comp=Z,1.6nm,0.4s,baz=134,slow=2.1,SNR=23								
BRVK	**Borovoye**	**126.57**	**315**	*e*PKiKP	PKPdf		19 34 19.3	-2.1	
ZRNK	**Zerenda**	**127.33**	**315**	*e*PKiKP	PKPdf		19 34 20.0	-2.9	
KMBO	**Kilima Mbogo**	**132.57**	**234**	PKP	PKPdf		19 34 34.5	+1.7	
	comp=Z,1.1nm,0.3s,baz=34,slow=18,SNR=4.0								
KMBO				SKPbc	SKPbc		19 37 42.8	-5.2	
	comp=Z,0.7nm,0.4s,baz=104,slow=4.2,SNR=4.6								
ARU	**Arti**	**133.31**	**320**	*i* PKiKP	PKPdf		19 34 29.4	-4.8	
ARU				*e*			19 36 58.0		
ARU				*e*SS	SS		19 54 27.8	-8.7	
ARU	**Arti**	**133.31**	**320**	*e*PKPdf	PKPdf		19 34 32.7	-1.5	
AKTK	**Aktyubinsk**	**134.10**	**312**	PKP	PKPdf		19 34 35.0	-0.7	
AKTO	**Aktyubinsk**	**134.10**	**312**	PKP	PKPdf		19 34 35.0	-0.7	
	comp=Z,3.6nm,0.7s,baz=126,slow=1.8,SNR=12								
KEV	**Kevo**	**139.00**	**346**	*e*p			19 34 34.5		
ARCES	**ARCESS Array B**	**139.48**	**347**	PKhKP			19 34 36.3		
	comp=Z,1.5nm,0.5s,baz=52,slow=3.0,SNR=14								
GNI	**Garni**	**143.68**	**296**	⇑*i* PKiKP	PKPdf		19 34 50.1	-3.1	
GNI	**Garni**	**143.68**	**296**	*e*P	PKPdf		19 34 50.4	-2.8	
KIV	**Kislovodsk**	**145.01**	**303**	*i* PKiKP	PKPdf		19 34 53.7	-1.8	
KIV				*i*			19 35 37.1		
KIV				pmax	pmax				
	comp=Z,20nm,1.5s								
KIV	**Kislovodsk**	**145.01**	**303**	*e*PKPdf	PKPdf		19 34 53.6	-1.9	
OBN	**Obninsk**	**145.51**	**324**	⇑*i* PKP2	PKPab		19 34 54.2	-2.8	
OBN				*e*			19 38 12.9		
OBN				*e*			19 41 43.1		
OBN				pmax	pmax				
	comp=Z,63nm,0.8s								
OBN	**Obninsk**	**145.51**	**324**	*e*PKPdf	PKPdf		19 34 54.1	-2.2	
VRSR	**Storozhevoye**	**145.66**	**316**	*e*PKP2	PKPab		19 34 55.3	-2.3	
VRSR				pmax	pmax				
	comp=Z,40nm,0.9s								
VRSR				pmax	pmax				
	comp=N,20nm,1.0s								
VRSR				pmax	pmax				
	comp=E,20nm,0.8s								
FIA1	**FINESS Array S**	**145.85**	**339**	*e*PKPdf	PKPdf		19 34 54.7	-2.3	
FINES	**FINESS Array B**	**145.85**	**339**	PKPbc	PKPbc		19 34 54.8	-3.0	
	comp=E,29nm,0.7s,baz=58,slow=3.3,SNR=169								
ERZM	**Erzurum**	**146.27**	**296**	*i* P	PKPdf		19 34 58.3	+0.7	
ELZG	**Elazig**	**148.15**	**293**	*i* P	PKPbc		19 35 04.0	-0.2	
GRSN	**GIRESUNGRSN**	**148.57**	**298**	*i* P	PKPdf		19 35 03.0	+1.6	
MALT	**Malatya**	**148.59**	**293**	⇓*i* P	PKPbc		19 35 04.7	-0.6	
MALT	**Malatya**	**148.59**	**293**	*e*PKPdf	PKPdf		19 35 00.9	-0.6	
MALT				*e*PKPbc	PKPbc		19 35 04.8	-0.5	
ANN	**Anapa**	**148.59**	**305**	*i* PKiKP	PKPdf		19 35 03.0	+1.5	
ANN				pmax	pmax				
	comp=Z,30nm,1.5s								
GZT	**Gaziantep**	**149.28**	**291**	*i* P	PKPbc		19 35 06.2	-0.8	
NB2	**NORSAR Subarra1**	**149.72**	**350**	PKP	PKPbc		19 35 05.3	-2.8	
	comp=Z,13nm,0.8s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**149.72**	**350**	PKPbc	PKPbc		19 35 05.6	-2.5	
	comp=Z,9.4nm,0.7s,baz=13,slow=4.1,SNR=29								
NOA	**NORSAR Array B**	**149.72**	**350**	PKPbc	PKPbc		19 35 05.6	-2.5	
COBT	**Iskenderun**	**150.32**	**289**	*i* P	PKPbc		19 35 08.9	-0.7	
EIL	**Elat**	**150.62**	**275**	*e*PKPbc	PKPbc		19 35 09.6	-0.7	
BHL	**Bhannes**	**150.67**	**284**	*e*P	PKPbc		19 35 09.7	-0.7	
BOYT	**Boyabat**	**151.03**	**299**	*i* P	PKPbc		19 35 10.1	-1.2	
CTKT	**Corum**	**151.23**	**298**	*i* P	PKPbc		19 35 10.4	-1.2	
AVNT	**Avonos**	**151.37**	**294**	*i* P	PKPbc		19 35 10.4	-1.6	
AKASG	**Malin Array Be**	**151.56**	**321**	PKPbc	PKPbc		19 35 10.0	-2.4	
	comp=Z,9.1nm,0.8s,baz=56,slow=2.5,SNR=32								
AKASG				PKPab	PKPab		19 35 19.4	-2.1	
	comp=Z,3.2nm,0.5s,baz=49,slow=4.7,SNR=11								
AKASG	**Malin Array Be**	**151.56**	**321**	PKPbc	PKPbc		19 35 10.0	-2.4	
AKASG				PKPab	PKPab		19 35 19.4	-2.1	
AKBB	**Malin Array Si**	**151.56**	**321**	*e*PKiKP	PKPbc		19 35 10.0	-2.5	
AKBB				*e*			19 35 19.1		
KIEV	**Kiev**	**151.57**	**321**	*e*PKiKP	PKPbc		19 35 10.0	-2.5	
KIEV				*e*			19 35 19.3		
BR131	**Keskin Array S**	**152.22**	**296**	*e*PKPbc	PKPbc		19 35 12.3	-1.7	
BRTR	**Keskin Array B**	**152.22**	**296**	PKPbc	PKPbc		19 35 12.2	-1.8	
	comp=Z,3.1nm,0.4s,baz=141,slow=4.2,SNR=24								
BRTR				PKPab	PKPab		19 35 22.6	-1.6	
	comp=Z,2.4nm,0.7s,baz=87,slow=3.3,SNR=8.4								
CSS	**Prodhromos**	**152.66**	**286**	*e*PKPbc	PKPbc		19 35 12.7	-2.2	
ANTO	**Ankara**	**152.84**	**297**	⇓*i* P	PKPbc		19 35 14.2	-1.1	
LIC	**Lamto**	**154.22**	**167**	*e*PKiKP	PKPdf		19 35 10.3	+0.3	
	comp=Z,6.8nm,0.5s								
BURAR	**Bucovina Array**	**155.43**	**318**	⇓*i* P	PKPab		19 35 30.0	-7.8	
MLR	**Muntele Rosu**	**156.03**	**313**	⇑*i* P	PKPab		19 35 35.9	-4.5	
STHS	**Stebnicka Huta**	**156.46**	**325**	*e*PKP2	PKPab		19 35 39.3	-2.9	
STHS				pmax	pmax				
	comp=Z,3.0nm,1.0s								
OJC	**Ojcow**	**156.58**	**328**	*e*PKP	PKPab		19 35 41.7	-1.1	
KECS	**Kecovo**	**157.45**	**324**	*e*PKP2	PKPab		19 35 45.3	-1.2	
KECS				pmax	pmax				
	comp=Z,3.0nm,1.0s								
UPC	**Upice**	**157.94**	**334**	*e*PKPAB	PKPab		19 35 47.5	-1.1	
DPC	**Dobruska-Polom**	**157.94**	**333**	*e*PKPAB	PKPab		19 35 46.8	-1.9	
VYHS	**Vyhne**	**158.25**	**326**	*e*PKP2	PKPab		19 35 48.5	-1.5	
VYHS				pmax	pmax				
	comp=Z,8.0nm,1.4s								
CLL	**Collm**	**158.30**	**339**	*e*PKPab	PKPab		19 35 48.0	-2.2	
BRG	**Berggiesshubel**	**158.37**	**337**	*e*P	PKPab		19 35 49.0	-1.5	
	comp=Z,3.0nm,0.8s								
BRG	**Berggiesshubel**	**158.37**	**337**	*e*PKP2	PKPab		19 35 49.0	-1.5	
BRG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
PVCC	**Panska Ves**	**158.45**	**336**	*e*PKPAB	PKPab		19 35 48.0	-2.9	
PRU	**Pruhonice**	**158.91**	**335**	*e*PKPAB	PKPab		19 35 49.0	-3.8	
NKC	**Novy Kostel**	**159.41**	**338**	*e*PKPAB	PKPab		19 35 54.0	-1.0	
KHC	**Kasperske Hory**	**159.97**	**335**	*e*PKPAB	PKPab		19 35 55.9	-1.6	
GERES	**GERESS Array B**	**160.16**	**334**	PKPab	PKPab		19 35 56.4	-1.9	
	comp=Z,2.4nm,0.8s,baz=44,slow=4.2,SNR=12								
BAIF	**Baives**	**161.33**	**353**	*e*PKP2	PKPab		19 36 00.9	-2.5	
TORD	**Torodi Ar. Bea**	**161.67**	**183**	PKP	PKPdf		19 35 18.8	-0.3	
	comp=Z,4.1nm,0.9s,baz=42,slow=0.3,SNR=20								
TORD				PKPab	PKPab		19 36 05.5	+0.6	
	comp=Z,4.9nm,0.7s,baz=161,slow=4.9,SNR=16								
TORD				PP	PP		19 39 49.6	+0.9	
	comp=Z,0.6nm,0.7s,baz=186,slow=4.8,SNR=3.5								
CDF	**Champ du Feu**	**162.46**	**346**	*e*PKP2	PKPab		19 36 06.1	-2.2	
HINF	**Hinteralfeld**	**163.11**	**346**	*e*PKP2	PKPab		19 36 08.7	-2.5	
LOR	**Lormes**	**164.13**	**352**	*e*PKP2	PKPab		19 36 13.3	-2.4	
	comp=Z,7.5nm,0.7s								
SSF	**Saint Saulge**	**164.37**	**353**	*e*PKP2	PKPab		19 36 14.3	-2.5	
	comp=Z,33nm,1.1s								
CABF	**La Chapelle**	**164.42**	**346**	*e*PKP2	PKPab		19 36 14.6	-2.4	
AVF	**Avril sur Loir**	**164.65**	**353**	*e*PKP2	PKPab		19 36 15.4	-2.6	
	comp=Z,12nm,0.8s								
SMF	**Signal de Mont**	**164.74**	**352**	*e*PKP2	PKPab		19 36 15.9	-2.5	
	comp=Z,12nm,0.7s								
TCF	**Toux Ste Croi**	**165.24**	**356**	*e*PKP2	PKPab		19 36 18.1	-2.5	
LPL	**La Plagne**	**165.31**	**343**	*e*PKP2	PKPab		19 36 19.0	-1.9	
	comp=Z,5.3nm,0.8s								
LPG	**La Plagne**	**165.32**	**343**	*e*PKP2	PKPab		19 36 18.9	-2.1	
	comp=Z,18nm,1.1s								
LFF	**La Frestale**	**166.63**	**0**	*e*PKP2	PKPab		19 36 23.7	-3.0	

*ISCJB **24** 19:35:00.2±0.5, 41.97N±0.03×45.95E±0.03, h10km, Error ellipse: s-maj=4.8km s-min=2.9km az=176.5*
*MOS **24** 19:35:02.5±1.3, 42.13N×4.603E, h16km, mb3.9/1, Error ellipse: s-maj=9.5km s-min=8.0km az=128.3*
ISC 24 19:35:00.8±0.5, 4200N±003×4593E±003, h10km±2.8km, n19, σ1§20/35, 2C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.70**	**18**	⇓*i* PG		**Pg**		**19 35 13.0**	**-1.3**
BTLR				*i* S		**Sg**		**19 35 23.7**	**+0.3**
BTLR				pmax	pmax				
	comp=Z,86nm,0.2s								
XNZR	**Khunzakh**	**0.79**	**46**	*e*PG		**Pg**		**19 35 14.0**	**-2.0**
XNZR				*e*S		**Sg**		**19 35 26.0**	**-0.3**
XNZR				pmax	pmax				
	comp=Z,44nm,0.2s								
GNBR	**Gunib**	**0.86**	**63**	*e*PG		**Pg**		**19 35 16.5**	**-0.8**
GNBR				*e*S		**Sg**		**19 35 30.0**	**+1.5**
GNBR				pmax	pmax				
	comp=Z,38nm,0.2s								
KMKR	**Kumukh**	**0.88**	**81**	*i* PG		**Pg**		**19 35 19.5**	**+1.8**
KMKR				*i* S		**Sg**		**19 35 34.5**	**+5.3**
KMKR				pmax	pmax				
	comp=Z,87nm,0.4s								
DUS	**Dusheti**	**0.92**	**276**	P		**Pg**		**19 35 18.2**	**-0.3**
DUS				S		**Sg**		**19 35 30.5**	**0.0**
KRNR	**Karanay**	**1.10**	**41**	*e*PG		**Pg**		**19 35 20.5**	**-1.4**
KRNR				*i* S		**Sg**		**19 35 35.5**	**-0.6**
KRNR				pmax	pmax				
	comp=Z,30nm,0.2s								
BUJR	**Buynaksk**	**1.20**	**46**	*e*PG		**Pg**		**19 35 24.0**	**+0.2**
BUJR				*e*S		**Sg**		**19 35 45.0**	**+5.6**
BUJR				pmax	pmax				
	comp=Z,52nm,0.3s								
DBC	**Dubki**	**1.22**	**33**	*i* PG		**Pg**		**19 35 22.0**	**-2.2**
DBC				*i* S		**Sb**		**19 35 39.0**	**-0.6**
DBC				pmax	pmax				
	comp=Z,67nm,0.3s								
URKR	**Urkarakh**	**1.28**	**82**	*e*PG		**Pg**		**19 35 27.0**	**+1.7**
URKR				*e*S		**Sg**		**19 35 49.0**	**+7.1**
KZR	**Kazreti**	**1.29**	**242**	P		**Pn**		**19 35 23.0**	**-1.9**
KZR				S		**Sb**		**19 35 39.2**	**-2.7**
SNJR	**Sundja**	**1.35**	**323**	*e*PG		**Pg**		**19 35 26.4**	**-0.3**
SNJR				*e*S		**Sb**		**19 35 44.3**	**+0.8**
VLKR	**Vladikavkaz**	**1.40**	**319**	*e*PG		**Pg**		**19 35 27.4**	**-0.2**
VLKR				*e*S		**Sn**		**19 35 45.4**	**+0.6**
AKT	**Akhty**	**1.44**	**111**	*e*PG		**Pn**		**19 35 26.0**	**-1.0**
AKT				*e*S		**Sg**		**19 35 48.5**	**+1.3**
AKT				pmax	pmax				
	comp=Z,32nm,0.2s								
LACR	**Lac**	**1.47**	**305**	⇑*i* PG		**Pg**		**19 35 28.0**	**-0.9**
LACR				*i* S		**Sn**		**19 35 46.5**	**0.0**
ZEI	**Tsey**	**1.69**	**298**	⇑*i* PN		**Pn**		**19 35 31.7**	**+1.3**
ARNR	**Ardon**	**1.70**	**315**	*e*PN		**Pn**		**19 35 32.0**	**+1.4**
ARNR				*e*S		**Sn**		**19 35 54.4**	**+2.0**
KORR	**Kora**	**1.75**	**309**	*e*PN		**Pn**		**19 35 32.8**	**+1.6**
TRKR	**Terskaya**	**1.94**	**333**	*e*PN		**Pb**		**19 35 35.5**	**-0.6**
TRKR				*e*S		**Sb**		**19 36 00.3**	**0.0**
DIGR	**Digorskoe uzhe**	**1.96**	**298**	⇓*i* PN		**Pn**		**19 35 35.7**	**+1.6**

IDC 24 19:48:40.0±3.2, 635S×15083E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/13, mbtmp3.5/3, Error ellipse: s-maj=89.1km s-min=50.3km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.96**	**228**	P		P	P	19 53 25.1	+0.6
	1.0nm,0.7s,baz=53,slow=10,SNR=10								
ASAR	**Alice Springs**	**23.69**	**222**	P		P	P	19 53 53.6	+0.2
	0.4nm,0.5s,baz=54,slow=8.5,SNR=12								
STKA	**Stephens Creek**	**26.82**	**198**	P		P	P	19 54 21.5	-0.5
	0.8nm,0.7s,baz=29,slow=13,SNR=3.7								
TORD	**Torodi Ar. Bea**	**148.87**	**285**	PKPbc	PKPbc			20 08 30.7	+1.1
	0.1nm,0.6s,baz=64,slow=3.4,SNR=1.3								

*ISCJB **24** 19:48:48.2±0.7, 5.1N±02×124.2E±04, h500km, mb3.7/9, Error ellipse: s-maj=64.7km s-min=9.0km az=130.0*
*IDC **24** 19:48:50.2±5.9, 4.87N×12365E, h499km±82km, mb3.2/7, mb1 3.3/7, mb1mx3.1/22, mbtmp3.2/7, Error ellipse: s-maj=74.2km s-min=16.9km az=67.0*
*NEIC **24** 19:48:51.6±4.9, 5.00N×124.13E, h529km±71km, mb4.0/5, Error ellipse: s-maj=53.5km s-min=14.7km az=61.0*
ISC 24 19:48:49.7±0.7, 51N±02×1242E±04, h500km, n17, σ0§67/17, mb3.7/9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**19.48**	**155**	*e*P		**P**	**P**	**19 52 43.5**	**0.0**
	9.5nm,0.6s								
FITZ	**Fitzroy Crossi**	**23.10**	**177**	*e*P		**P**	**P**	**19 53 15.7**	**-0.5**
	4.0nm,0.9s,mb3.9								
FITZ	**Fitzroy Crossi**	**23.10**	**177**	P		**P**	**P**	**19 53 15.7**	**-0.5**
	1.2nm,0.4s,mb3.6,baz=8.1,slow=7.1,SNR=9.8								
WRAB	**Tennant Creek**	**26.79**	**158**	*e*P		**P**	**P**	**19 53 48.1**	**-0.8**
	1.8nm,0.5s,mb3.8								
WRA	**Warramunga Arr**	**26.80**	**159**	P		**P**	**P**	**19 53 48.8**	**-0.2**
	1.3nm,0.4s,mb3.7,baz=332,slow=10,SNR=25								
WB2	**Warramunga Arr**	**26.80**	**159**	⇑*i* P		**P**	**P**	**19 53 48.7**	**-0.3**
AS31	**Alice Springs**	**30.11**	**162**	*e*P		**P**	**P**	**19 54 18.0**	**+0.1**
ASAR	**Alice Springs**	**30.11**	**162**	P		**P**	**P**	**19 54 18.4**	**+0.5**
	2.3nm,0.4s,mb3.9,baz=341,slow=7.3,SNR=51								
ASPA	**Alice Springs**	**30.11**	**162**	*e*P		**P**	**P**	**19 54 18.2**	**+0.3**
LSA	**Lhasa**	**39.68**	**312**	*e*P		**P**	**P**	**19 55 39.1**	**+1.2**
STKA	**Stephens Creek**	**40.32**	**157**	⇑*i* P		**P**	**P**	**19 55 44.2**	**+1.1**
	1.6nm,0.3s,mb3.9								
STKA	**Stephens Creek**	**40.32**	**157**	P		**P**	**P**	**19 55 44.4**	**+1.3**
	2.3nm,0.4s,mb4.0,baz=339,slow=8.0,SNR=15								
SONM	**Songino Array**	**45.24**	**343**	P		**P**	**P**	**19 56 22.5**	**+0.8**
	0.4nm,0.5s,mb3.1,baz=158,slow=9.2,SNR=8.1								
MKAR	**Makanchi Array**	**55.03**	**326**	P		**P**	**P**	**19 57 33.6**	**+0.1**
	3.4nm,0.4s,mb4.0,baz=121,slow=7.9,SNR=121								
MKAR				PcP		PcP	PcP	19 58 26.9	-0.7
	0.4nm,0.4s,baz=123,slow=3.6,SNR=4.6								
BVAR	**Borovoye Array**	**64.83**	**327**	P		**P**	**P**	**19 58 38.2**	**-0.6**
	0.9nm,0.6s,mb3.5,baz=137,slow=9.9,SNR=6.5								
BRVK	**Borovoye**	**64.90**	**327**	*e*P		**P**	**P**	**19 58 38.5**	**-0.8**
	1.4nm,0.6s,mb3.8								
CHKZ	**Chkalovo**	**65.01**	**328**	*e*P		**P**	**P**	**19 58 39.0**	**-0.9**

*ISCJB **24** 19:53:46.4±1.5, 176N±01×6761W±009, h64km±15km, Error ellipse: s-maj=20.0km s-min=14.3km az=2.8*
*RSPR **24** 19:53:47.5, 1763N×6763W, h57km±2km, MD3.5/11, MD3.5/11*
*NEIC **24** 19:53:47.5, 1763N×6763W, h57km, MD3.5(RSPR), After RSPR.*
ISC 24 19:53:47.0±1.5, 177N±01×6764W±009, h57km±20km, n13, σ0§31/22, 8C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.61**	**55**	⇑*e*P		**Pn**		**19 53 59.5**	**-0.5**
CRPR				*e*S		**Sn**		**19 54 09.5**	**0.0**
LSP	**Las Mesas**	**0.74**	**45**	⇓*e*P		**Pn**		**19 54 01.2**	**-0.3**
LSP				*e*S		**Sn**		**19 54 12.2**	**0.0**
GBPR	**Guanica, Bosqu**	**0.79**	**66**	⇑*e*P		**Pn**		**19 54 01.9**	**-0.2**
GBPR	**Guanica, Bosqu**	**0.79**	**66**	*e*S		**Sn**		**19 54 13.3**	**+0.1**
AGPR	**Aguadilla, PR**	**0.95**	**31**	⇑*e*P		**Pn**		**19 54 04.5**	**+0.2**
AGPR				*e*S		**Sn**		**19 54 17.4**	**+0.4**
AOPR	**Arecibo Observ**	**1.09**	**50**	⇑*e*P		**Pn**		**19 54 06.0**	**0.0**
AOPR				*e*S		**Sn**		**19 54 20.2**	**0.0**
ICM	**Isla Caja Muer**	**1.09**	**77**	⇑*e*P		**Pn**		**19 54 06.0**	**-0.1**
ICM				*e*S		**Sn**		**19 54 20.4**	**+0.2**
CELP	**Cerrillos**	**1.09**	**67**	⇓*e*P		**Pn**		**19 54 06.1**	**+0.1**
CELP				*e*S		**Sn**		**19 54 20.7**	**+0.4**
SJG	**San Juan**	**1.49**	**72**	⇓*e*P		**Pn**		**19 54 11.3**	**-0.1**
SJG				*e*S		**Sn**		**19 54 29.7**	**-0.1**
HUMP	**Col San Antoni**	**1.77**	**74**	⇑*e*P		**Pn**		**19 54 15.3**	**+0.1**
HUMP				*e*S		**Sn**		**19 54 36.1**	**-0.5**
CDVI	**St. Croix**	**2.74**	**87**	⇑*e*P		**Pn**		**19 54 28.0**	**-0.4**
TBVI	**Tortola**	**2.97**	**75**	⇑*e*P		**Pn**		**19 54 31.7**	**+0.1**
TBVI				*e*S		**Sn**		**19 55 05.8**	**-0.2**
LZG	**Guadaloupe-1**	**5.81**	**104**	*e*P		**Pn**		**19 55 11.4**	**+0.9**

*ISCJB **24** 19:55:00.1±1.4, 2344S±0.04×17562W±0.04, h10km±8km, mb5.2/73, MS5.5/197, Error ellipse: s-maj=8.1km s-min=4.4km az=109.8*
*NEIC **24** 19:55:01.0±0.2, 2342S×17557W, h10km, mb5.3/46, MS5.5/161, MW5.7, Error ellipse: s-maj=8.3km s-min=4.6km az=144.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}1.46; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-0.72; $M_{r\theta}$3.71; $M_{\theta\phi}$-0.98; $M_{r\phi}$3.50; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s47.00000°, δ81.00000°, λ91.00000°. NP2:ϕ_s223.00000°, δ9.00000°, λ87.00000°. Principal axes: T 5.2200, Plg54.0000°,

comp=Z,11nm,0.7s,mb4.9
TAU Tasmania Unive 36.26 229 PFAKE 20 02 20.0 +15
TAU LR LR
comp=Z,773nm,20.0s,MS4.5
TAOE Nuku Hiva Isla 36.86 73 *e*LR LR 20 11 27.2
comp=Z,10µm,22.0s,baz=250
RKT Rikitea 37.22 98 *e*LR LR 20 11 40.8
comp=Z,5µm,32.0s,baz=264
PMG Port Moresby 38.23 285 P **P** **20 02 21.3 -0.5**
comp=Z,58nm,0.8s,mb5.3,baz=113,slow=4.0,SNR=19
PMG LR LR 20 15 36.7
comp=Z,4µm,18.0s,MS5.3,baz=102,slow=32
PMG Port Moresby 38.23 285*c i*P **P** **20 02 22.1 +0.3**
PMG Port Moresby 38.23 285 *e*P **P** **20 02 22.3 +0.5**
comp=Z,67nm,0.8s,mb5.4
PMG LR LR
comp=Z,7µm,19.0s,MS5.5
STKA Stephens Creek 38.66 248⇓ *i*P **P** **20 02 25.2 -0.2**
comp=Z,4.8nm,0.5s,mb4.5
STKA Stephens Creek 38.66 248 P **P** **20 02 24.8 -0.7**
comp=Z,3.5nm,0.5s,mb4.3,baz=89,slow=8.5,SNR=21
STKA PcP PcP 20 04 40.2 +3.0
comp=Z,1.9nm,0.4s,baz=203,slow=0.6,SNR=3.8
STKA LR LR 20 18 02.4
comp=Z,8µm,18.5s,MS5.6,baz=78,slow=36
PTCN Pitcairn Islan 41.36 102 PFAKE 20 03 00.0 +12
PTCN LR LR
comp=Z,6µm,19.0s,MS5.5
AS31 Alice Springs 46.11 259 *e*P **P** **20 03 26.3 +0.3**
AS31 *e*S **S** **20 10 09.8 -1.0**
ASAR Alice Springs 46.11 259 P **P** **20 03 25.6 -0.4**
comp=Z,17nm,1.0s,mb4.9,baz=99,slow=6.9,SNR=75
ASAR PcP PcP 20 05 04.2 +2.2
comp=Z,5.4nm,0.9s,baz=104,slow=4.1,SNR=4.5
ASAR S **S** **20 10 11.3 +0.4**
comp=Z,2.0nm,0.9s,baz=91,slow=13,SNR=5.0
ASAR LR LR 20 22 44.1
comp=Z,9µm,18.3s,MS5.8,baz=108,slow=36
ASAR Alice Springs 46.11 259 P **P** **20 03 25.7 -0.3**
ASAR 20 05 04.2
ASAR S **S** **20 10 11.3 +0.5**
ASAR pmax pmax
comp=Z,17nm,1.0s
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR smax
comp=N,2.0nm,0.9s
ASAR MLR MLR
comp=Z,9µm,18.3s
ASPA Alice Springs 46.11 259 *e*P **P** **20 03 26.3 +0.3**
ASPA *e*S **S** **20 10 09.8 -1.1**
WB2 Warramunga Arr 46.48 264 *e*P **P** **20 03 26.8 -2.1**
WB2 *e*PCP PcP 20 05 05.6 +2.3
WB2 *e*S **S** **20 10 11.3 -4.8**
WRAB Tennant Creek 46.48 264*c i*P **P** **20 03 29.2 +0.3**
WRAB Tennant Creek 46.48 264 *e*P **P** **20 03 27.8 -1.2**
comp=Z,23nm,0.7s,mb5.2
WRAB LR LR
comp=Z,2µm,19.0s,MS5.0
WRA Warramunga Arr 46.49 264 P **P** **20 03 27.3 -1.7**
comp=Z,17nm,0.7s,mb5.1,baz=96,slow=8.2,SNR=116
WRA S **S** **20 10 16.4 +0.2**
comp=Z,0.9nm,0.9s,baz=104,slow=13,SNR=3.1
WRA LR LR 20 22 50.8
comp=Z,6µm,18.5s,MS5.6,baz=90,slow=36
WRA Warramunga Arr 46.49 264 P **P** **20 03 27.3 -1.7**
WRA S **S** **20 10 16.4 +0.2**
WRA pmax pmax
comp=Z,17nm,0.7s
WRA smax
comp=N,1.0nm,0.9s
WRA MLR MLR
comp=Z,6µm,18.5s
POHA Pohakuloa 47.16 26 PFAKE 20 03 50.0 +16
POHA LR LR
comp=Z,4µm,19.0s,MS5.4
FORT Forrest 50.27 249 *e*P **P** **20 03 56.4 -1.8**
comp=Z,55nm,0.7s,mb5.7
KAKA Kakadu 50.32 273 *e*P **P** **20 03 56.9 -1.6**
comp=Z,36nm,0.5s,mb5.7
MIDW Midway 51.36 358 PFAKE 20 04 20.0 +14
MIDW LR LR
comp=Z,4µm,19.0s,MS5.5
DRV Dumont d'Urvil 51.40 201 S **S** **20 11 24.0 -1.3**
GUMO Guam 53.38 310 LR LR 20 26 39.4
comp=Z,2µm,18.1s,MS5.2,baz=117,slow=36
GUMO Guam 53.38 310 PFAKE 20 04 30.0 +8.6
GUMO LR LR
comp=Z,2µm,19.0s,MS5.2
FITZ Fitzroy Crossi 54.91 264⇓ *i*P **P** **20 04 32.2 -0.3**
comp=Z,35nm,0.9s,mb5.4
FITZ *e*S **S** **20 12 09.9 -3.2**
FITZ Fitzroy Crossi 54.91 264 P **P** **20 04 32.1 -0.4**
comp=Z,16nm,0.8s,mb5.1,baz=126,slow=4.7,SNR=30
SBA Scott Base 55.14 184 *e*P **P** **20 04 36.4 +2.2**
comp=Z,41nm,1.1s,mb5.4
SBA *e* 20 04 48.3
SBA LR LR
comp=Z,2µm,20.0s,MS5.2
VNDA Vanda 55.23 186 P **P** **20 04 36.3 +1.4**
comp=Z,5.1nm,0.9s,mb4.6,baz=8.0,slow=6.9,SNR=19
VNDA LR LR 20 24 03.7
comp=Z,1µm,19.7s,MS5.0,baz=24,slow=32
VNDA Vanda 55.23 186 P **P** **20 04 36.3 +1.4**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA MLR MLR
comp=Z,1µm,19.7s
VNDA Vanda 55.23 186 *e*P **P** **20 04 35.4 +0.6**
comp=Z,25nm,1.3s,mb5.1
VNDA LR LR
comp=Z,1µm,19.0s,MS5.0
KLBR Kellerberrin 58.90 246 *e*P **P** **20 05 00.6 -0.2**
comp=Z,34nm,0.8s,mb5.4
NWAO Narrogin (SRO) 59.11 245 PFAKE 20 05 10.0 +7.7
NWAO LR LR
comp=Z,2µm,19.0s,MS5.3
RPN Rapa Nui 59.40 109 PFAKE 20 05 20.0 +16
RPN LR LR
comp=Z,511nm,19.0s,MS4.7
MBWA Marble Bar 59.44 258 *e*P **P** **20 05 03.2 -1.3**
comp=Z,36nm,0.9s,mb5.4
MBWA LR LR
comp=Z,3µm,19.0s,MS5.4
MUN Mundaring 60.13 246 *e*P **P** **20 05 09.3 0.0**
MUN *e*S **S** **20 13 22.9 +1.2**
CASY Casey 62.32 206 *e*P **P** **20 05 23.7 -0.4**
CASY *e*S **S** **20 13 51.9 +2.4**
CBIJ Chichi jima 64.70 318 LR LR 20 29 52.0
comp=Z,3µm,20.6s,MS5.5,baz=132,slow=32
DAV Davao City (W) 64.95 290 PFAKE 20 05 50.0 +8.5
DAV LR LR
comp=Z,1µm,19.0s,MS5.1
BUKP Musuan 65.80 291 *e*P **P** **20 05 47.6 +0.6**
CGP Cagayan de Oro 66.40 291*i*P **P** **20 05 51.6 +0.7**
QSPA South Pole Qui 66.67 180 *e*P **P** **20 05 51.7 -0.9**
comp=Z,33nm,0.9s,mb5.4
QSPA LR LR
comp=Z,3µm,21.0s,MS5.4
MSLP Maasin 67.10 293 *e*P **P** **20 05 58.5 +3.1**
JOW Kunigami 73.75 309 LR LR 20 36 43.8
comp=Z,2µm,19.3s,MS5.5,baz=114,slow=34
MJAR Matsushiro Arr 73.88 323 P **P** **20 06 35.2 -1.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=156,slow=6.0,SNR=12
MJAR LR LR 20 38 55.7
comp=Z,1µm,18.8s,MS5.2,baz=115,slow=36
MJAR Matsushiro Arr 73.88 323 P **P** **20 06 35.2 -1.5**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR MLR MLR
comp=Z,1µm,18.8s
MAJO Matsushiro 73.88 323 *e*P **P** **20 06 37.1 +0.4**
comp=Z,6.4nm,0.7s,mb4.7
MAJO LR LR
comp=Z,1µm,19.0s,MS5.3
MAT Matsushiro 73.88 323 P **P** **20 06 36.1 -0.6**
MAT S S 20 16 03.0 -4.5
ERM Erimo 75.46 329 PFAKE 20 07 00.0 +14
ERM LR LR
comp=Z,531nm,20.0s,MS4.8
KSM Kuching 76.04 278 *e*P **P** **20 06 49.1 -0.1**
SMY Shemya 76.35 354 PFAKE 20 07 00.0 +9.0
SMY LR LR
comp=Z,5µm,20.0s,MS5.8
UNV Unalaska Valle 77.34 5 PFAKE 20 07 10.0 +13
UNV LR LR
comp=Z,6µm,20.0s,MS5.9
ASAJ Asahikawa 77.36 331 P **P** **20 06 57.9 +1.2**
comp=Z,50nm,0.8s,mb5.5,baz=214,slow=12,SNR=16
ASAJ Asahikawa 77.36 331 P **P** **20 06 57.9 +1.3**
ASAJ pmax pmax
comp=Z,51nm,0.8s
SNCC San Nicolas Is 77.63 45 PFAKE 20 07 10.0 +12
SNCC LR LR
comp=Z,3µm,20.0s,MS5.6
TATO Taipei 77.68 304 PFAKE 20 07 10.0 +12
TATO LR LR
comp=Z,4µm,19.0s,MS5.7
PMSA Palmer Station 77.73 156 PFAKE 20 07 10.0 +11
PMSA LR LR
comp=Z,1µm,20.0s,MS5.2
HAST UC Hastings Re 78.35 42⇑ P **P** **20 07 02.6 +0.4**
baz=79
U04C Hernandez Rese 78.80 42⇑ P **P** **20 07 05.6 +1.0**
baz=79
PACP Pacheco Peak 78.91 41⇓ P **P** **20 07 06.2 +1.0**
baz=79
LPIG La Paz 79.01 58 LR LR 20 35 56.0
comp=Z,3µm,18.4s,MS5.7,baz=322,slow=31
MWC Mount Wilson 79.19 45 *e*P **P** **20 07 06.5 -0.3**
PET Petropavlovsk 79.35 345 *e*P **P** **20 07 08.7 +1.1**
PET *e*S S 20 17 13.1 +5.7
PET *e*SS SS 20 22 14.2 -0.2
PET pmax pmax
comp=Z,500nm,10.3s
PET smax
comp=N,900nm,14.8s
PET MLR MLR
comp=Z,2µm,18.0s,MS5.4
PET Petropavlovsk 79.35 345 PFAKE 20 07 20.0 +12
PET LR LR
comp=Z,3µm,19.0s,MS5.6
MNRC McLaughlin Nat 79.45 39⇑ P **P** **20 07 09.0 +0.8**
baz=80
BFSC Mount Baldy St 79.46 46⇑ P **P** **20 07 08.8 +0.5**
baz=80
MONP Monument Peak 79.48 47⇑ P **P** **20 07 08.2 -0.1**
baz=80
YSS Yuzh-Sakhalins 79.50 332*d i*P **P** **20 07 09.0 +0.5**
YSS pmax pmax
comp=Z,86nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 79.50 332 *e*P **P** **20 07 09.1 +0.7**
YSS LR LR
comp=Z,2µm,19.0s,MS5.4
O01C Eel River Cons 79.51 38⇓ P **P** **20 07 09.3 +0.9**
baz=80
VES Vestal, Richgr 79.54 44⇓ P **P** **20 07 08.4 -0.2**
baz=80
MAW Mawson 79.58 199 *e*S S 20 17 12.5 +2.7
MAW Mawson 79.58 199 P **P** **20 07 09.6 +0.7**
comp=Z,19nm,0.9s,mb5.0,baz=125,slow=5.8,SNR=31
MAW LR LR 20 41 53.5
comp=Z,3µm,18.9s,MS5.6,baz=117,slow=35
MAW Mawson 79.58 199 P **P** **20 07 09.6 +0.7**
MAW pmax pmax
comp=Z,19nm,0.9s
MAW MLR MLR
comp=Z,3µm,18.9s
MAW Mawson 79.58 199 *e*P **P** **20 07 09.4 +0.5**
comp=Z,19nm,1.0s,mb5.0
MAW *e*S S 20 17 12.5 +2.7
EDW2 Edwards Air Fo 79.64 45 P **P** **20 07 08.9 -0.3**
baz=80,SNR=6.8
S05C Merced 79.71 42⇓ P **P** **20 07 09.4 -0.2**
baz=80
GASB Alder Springs 79.80 39⇓ P **P** **20 07 10.4 +0.3**
baz=80
ISA Isabella 79.81 44 *e*P **P** **20 07 10.0 -0.2**
comp=Z,0.1nm,1.2s
ISA LR LR
comp=Z,542nm,21.0s,MS4.9
ISA Isabella 79.81 44⇓ P **P** **20 07 10.1 -0.1**
baz=80
QZH Quanzhou 79.88 303⇑ *i*P **P** **20 07 11.0 +0.5**
QZH S S 20 17 17.4 +4.5
QZH AMB AMB
comp=Z,1µm,8.8s
QZH LR LR
comp=N,7nm,27.6s
QZH LR LR
comp=E,4nm,20.4s
QZH LR LR
comp=Z,4µm,18.1s
T06C Millerton Lake 79.88 42 P **P** **20 07 09.8 -0.7**
baz=80,SNR=7.8
PFO Pinyon Flat Ob 79.88 47 LR LR 20 37 34.7
comp=Z,4µm,18.7s,MS5.8,baz=53,slow=32
PFO Pinyon Flat Ob 79.88 47 PFAKE 20 07 20.0 +9.5
PFO LR LR
comp=Z,926nm,19.0s,MS5.2
HELL Mitchell Peak, 80.10 43⇑ P **P** **20 07 11.5 -0.2**
baz=80
O02C Red Bluff 80.11 38 P **P** **20 07 12.3 +0.5**
baz=80,SNR=8.2
CMB Columbia Colle 80.12 41 *e*P **P** **20 07 10.7 -1.1**
CMB Columbia Colle 80.12 41 P **P** **20 07 11.4 -0.4**
baz=80,SNR=7.8
LRMC Laurel Mountai 80.20 45⇑ P **P** **20 07 12.4 +0.2**
baz=80
OHCM Honcut 80.31 40 *e*P **P** **20 07 12.5 -0.3**
KCC Kaiser Creek 80.32 42 P **P** **20 07 12.7 -0.2**
baz=80,SNR=5.3
S06C San Francisco 80.35 42⇑ P **P** **20 07 12.8 -0.2**
baz=81
LAVA Lava Cap Winer 80.37 40 P **P** **20 07 13.2 0.0**
baz=81,SNR=5.3
BELC Belle Mtn. 80.42 47⇑ P **P** **20 07 13.7 +0.3**
baz=81
O03C Acorn Hollow, 80.43 39⇑ P **P** **20 07 13.7 +0.2**
baz=81
ORV Oroville 80.44 39 P **P** **20 07 13.1 -0.5**
baz=81,SNR=5.9
WDC Whiskeytown Da 80.53 38 *e*P **P** **20 07 14.2 +0.2**
comp=Z,32nm,1.2s,mb5.1
WDC Whiskeytown Da 80.53 38⇓ P **P** **20 07 14.0 0.0**
baz=81
CWC Cottonwood Cre 80.54 44⇓ P **P** **20 07 14.6 +0.5**
baz=81
KSRS Korea Array 80.55 318 P **P** **20 07 14.3 +0.2**
comp=Z,6.8nm,0.8s,mb4.6,baz=134,slow=6.1,SNR=18
KSRS LR LR 20 39 01.2
comp=Z,2µm,19.9s,MS5.4,baz=138,slow=33
BC3 Big Chuckw Mtn 80.58 47⇑ P **P** **20 07 15.1 +0.8**
baz=81
GLA Glamis 80.65 48 *e*P **P** **20 07 14.5 -0.2**
GLA Glamis 80.65 48⇑ P **P** **20 07 15.3 +0.6**
baz=81
GSC Goldstone 80.67 45 *e*P **P** **20 07 16.9 +2.1**
GSC Goldstone 80.67 45⇑ P **P** **20 07 14.7 -0.1**
baz=81
MPMC Manual Prospec 80.69 44 P **P** **20 07 14.8 0.0**
baz=81,SNR=7.7
HEC Hector,Ludlow 80.69 46⇓ P **P** **20 07 14.8 -0.1**
baz=81
R05C Kirkwood Meado 80.74 41 P **P** **20 07 15.1 -0.1**
baz=81,SNR=8.5
DAC Darwin (Calif) 80.75 44 *e*P **P** **20 07 14.9 -0.3**
DAC LR LR
comp=Z,2µm,20.0s,MS5.5
P05C Yuba Gap, Truc 80.81 40⇑ P **P** **20 07 16.1 +0.6**
baz=81
MTUM Tungsten Hills 80.81 43 *e*P **P** **20 07 15.7 +0.2**
MLAC Mammoth Lakes 80.81 42⇑ P **P** **20 07 16.1 +0.5**
baz=81
M02C Callahan 80.89 37⇓ P **P** **20 07 16.6 +0.6**
baz=81
R07C Lee Vining 80.97 42 P **P** **20 07 17.0 +0.6**
baz=81,SNR=6.8
WAKR Walker 81.00 41 *e*P **P** **20 07 16.5 0.0**
R06C Coleville 81.00 41 P **P** **20 07 16.6 0.0**
baz=81,SNR=9.7
O05C Quincy 81.05 39 P **P** **20 07 16.7 -0.1**
baz=81,SNR=5.6
IRM Iron Mountain 81.08 47⇑ P **P** **20 07 17.0 +0.1**
baz=81
GMRC Granite Mounta 81.11 46⇑ P **P** **20 07 16.6 -0.5**
baz=81
O04C Chester 81.19 39 P **P** **20 07 17.5 -0.1**
baz=81,SNR=6.4
YBH Yreka Blue Hor 81.20 37 P **P** **20 07 18.2 +0.5**
comp=Z,8.4nm,0.8s,mb4.7,baz=40,slow=2.5,SNR=18
YBH LR LR 20 35 34.2
comp=Z,2µm,21.8s,MS5.5,baz=295,slow=30
YBH Yreka Blue Hor 81.20 37 P **P** **20 07 18.2 +0.6**
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH MLR MLR
comp=Z,2µm,21.8s
YBH Yreka Blue Hor 81.20 37⇑ P **P** **20 07 17.8 +0.2**
baz=81
M03C McCloud 81.22 38⇓ P **P** **20 07 17.7 0.0**
baz=81
Y12C Blythe 81.26 48⇑ P **P** **20 07 17.8 -0.2**
baz=82
SSE Sheshan 81.27 309 P **P** **20 07 18.8 +0.8**
SSE PP PP 20 10 23.8 +0.3
SSE S S 20 17 26.0 -1.5
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,612nm,10.3s
SSE LR LR
comp=N,335nm,17.1s,MS5.0
SSE LR LR
comp=E,465nm,17.1s,MS5.0
SSE LR LR
comp=Z,968nm,18.5s,MS5.2
SSE Sheshan 81.27 309 P **P** **20 07 18.8 +0.8**
comp=Z,22nm,0.8s,mb5.1
SSE PP PP 20 10 23.7 +0.2
SSE S S 20 17 26.0 -1.5
SSE ScS ScS 20 17 43.2 -2.2
SSE LR LR
comp=Z,970nm,18.5s,MS5.2
HATC Hat Creek Radi 81.30 38⇑ P **P** **20 07 18.1 0.0**
baz=82
WCN Washoe City 81.31 40⇑ P **P** **20 07 17.8 -0.4**
baz=82
BEKR Beckwourth 81.32 40 P **P** **20 07 17.9 -0.3**
baz=82,SNR=8.2
TUQ Turquoise Mtn. 81.32 45⇓ P **P** **20 07 17.7 -0.5**
baz=82
GRAC Grapevine Rang 81.34 43⇑ P **P** **20 07 18.2 -0.1**
baz=82,SNR=6.8
FURC Furnace Creek, 81.34 44⇑ P **P** **20 07 17.4 -0.9**
baz=82
SHOC Shoshone 81.37 45⇑ P **P** **20 07 18.4 -0.1**
baz=82
INCN Inchon 81.37 317 PFAKE 20 07 30.0 +12
INCN LR LR
comp=Z,1µm,20.0s,MS5.3
K02A Glendale 81.47 36⇓ P **P** **20 07 19.1 0.0**
baz=82
U10A Ash Meadows, A 81.65 44⇓ P **P** **20 07 20.4 +0.5**
baz=82
HUMO Hull Mountain 81.65 36 *e*P **P** **20 07 18.5 -1.5**
comp=Z,41nm,1.3s,mb5.2
HUMO Hull Mountain 81.65 36⇑ P **P** **20 07 20.0 0.0**
baz=82
M04C Macdoel 81.72 38⇓ P **P** **20 07 21.1 +0.8**
baz=82
O06A Flanigan 81.82 40⇑ P **P** **20 07 21.4 +0.5**
baz=82
M05C Lookout 81.83 38⇓ P **P** **20 07 21.1 +0.2**
baz=82,SNR=6.4
PDMCI Parker Dam,Lak 81.84 47⇑ P **P** **20 07 21.6 +0.6**
baz=82
S09A Goldfield 81.87 43⇓ P **P** **20 07 21.6 +0.5**
baz=82
V11A Goodsprings 81.89 45⇓ P **P** **20 07 21.7 +0.4**
baz=82
VLA Vladivostok 81.95 324*de*P **P** **20 07 21.3 -0.3**
VLA *e* 20 07 34.0
VLA *i*S S 20 17 40.4 +5.9
VLA pmax pmax
comp=Z,49nm,1.7s,mb5.2
VLA Vladivostok 81.95 324 *i*P **P** **20 07 21.3 -0.3**
L04A Klamath Falls 81.95 37⇑ P **P** **20 07 22.2 +0.6**
baz=82
TPH Tonopah 82.09 43 PFAKE 20 07 30.0 +7.7
TPH LR LR
comp=Z,3µm,19.0s,MS5.6
M06C Likely Place G 82.11 39⇓ P **P** **20 07 22.6 +0.2**
baz=82
N06A Buffalo Meadow 82.19 39⇑ P **P** **20 07 23.6 +0.7**
baz=82
V12A Nelson 82.20 46⇑ P **P** **20 07 23.3 +0.4**
baz=82
X13A Yucca 82.22 47⇓ P **P** **20 07 23.0 0.0**
baz=82
R09A Tonopah 82.28 43⇑ P **P** **20 07 23.6 +0.3**
baz=82
O07A Toulon 82.38 40 P **P** **20 07 23.9 +0.1**
baz=83,SNR=10
Y14A Wickenburg 82.41 48⇓ P **P** **20 07 23.6 -0.4**
baz=83
SHPR Sheep Range 82.46 45 *e*P **P** **20 07 24.5 +0.3**
L05A Lakeview 82.46 38⇑ P **P** **20 07 24.6 +0.4**
baz=83
W13A Hualapai Mount 82.47 47⇓ P **P** **20 07 25.1 +0.8**
baz=83
J04A Umpqua Nationa 82.54 36⇓ P **P** **20 07 25.2 +0.6**
baz=83
P08A Dixie Valley 82.56 41⇓ P **P** **20 07 25.7 +0.9**
baz=83
Q09A Carvers 82.58 42⇑ P **P** **20 07 25.5 +0.7**
baz=83
MOD Modoc 82.67 38 *e*P **P** **20 07 24.9 -0.4**
MOD Modoc 82.67 38⇓ P **P** **20 07 25.7 +0.3**
baz=83
N07B Gerlach 82.72 40⇓ P **P** **20 07 25.5 -0.1**
baz=83
X14A Yava 82.78 48⇑ P **P** **20 07 26.1 +0.2**
baz=83
COR Corvallis 82.81 35 PFAKE 20 07 40.0 +14
COR LR LR
comp=Z,4µm,20.0s,MS5.8
U12A Valley of Fire 82.82 45⇓ P **P** **20 07 26.3 +0.2**
baz=83
K05A Summer Lake 82.87 37⇓ P **P** **20 07 26.3 0.0**
baz=83
M07A Soldier Meadow 82.98 39 P **P** **20 07 26.9 0.0**
baz=83,SNR=6.5
P09A Austin 83.05 42⇓ P **P** **20 07 26.8 -0.5**
baz=83
TUC Tucson 83.05 51 *e*P **P** **20 07 27.0 -0.3**
comp=Z,14nm,1.4s,mb4.8
TUC LR LR
comp=Z,4µm,19.0s,MS5.8
COCO West Island 83.06 260 PFAKE 20 07 40.0 +13
COCO LR LR
comp=Z,422nm,19.0s,MS4.8
W14A Seligman 83.08 47 P **P** **20 07 27.9 +0.5**
baz=83,SNR=12
GZH Guangzhou 83.09 299 P **P** **20 07 27.5 0.0**
GZH S S 20 17 44.0 -2.2
GZH LR LR
comp=N,579nm,21.8s,MS5.1
GZH LR LR
comp=E,736nm,22.1s,MS5.1
GZH LR LR
comp=Z,1µm,21.5s,MS5.3
KDAK Kodiak Island 83.15 12 PFAKE 20 07 40.0 +12
KDAK LR LR
comp=Z,807nm,22.0s,MS5.0
N08A GE Springer Mi 83.21 40 P **P** **20 07 27.9 -0.3**
baz=83,SNR=6.7
X15A Humboldt 83.24 48⇓ P **P** **20 07 28.8 +0.5**
baz=83
O09A Fish Creek Ran 83.39 41⇑ P **P** **20 07 29.7 +0.7**
baz=84
NJ2 Nanjing 83.46 309 *e*P **P** **20 07 33.0 +3.6**
NJ2 PP PP 20 10 46.6 +5.1
NJ2 S S 20 17 50.0 +0.1
NJ2 XS sS 20 18 08.0 +7.7
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,1µm,10.4s
NJ2 LR LR
comp=N,3µm,16.1s,MS5.8
NJ2 LR LR
comp=E,2µm,17.0s,MS5.8
NJ2 LR LR
comp=Z,2µm,23.6s
H04A Detroit Lake 83.46 35⇑ P **P** **20 07 29.4 0.0**
baz=84
P10A Eureka 83.50 42⇑ P **P** **20 07 29.5 -0.1**
baz=84
Q11A Duckwater 83.53 43⇓ P **P** **20 07 29.6 -0.2**

baz=84
BMN Battle Mountai 83.54 41 eP P 20 07 29.6 -0.2
comp=Z,38nm,1.4s,mb5.3
BMN LR LR
comp=Z,3µm,19.0s,MS5.6
I05A Bend 83.61 36 ⇓P P 20 07 30.7 +0.5
baz=84
W15A Williams 83.61 47 ⇑P P 20 07 30.3 +0.2
baz=84
N09A Rock Creek Ran 83.61 40 ⇑P P 20 07 30.3 +0.1
baz=84
J06A Christmas Vall 83.62 37 ⇑P P 20 07 30.4 +0.1
baz=84
K07A Rock Creek Ran 83.77 38 P P 20 07 30.9 -0.1
baz=84,SNR=10
O10A Cortez Mining, 83.89 41 ⇓P P 20 07 31.7 +0.1
baz=84
P11A Circle Ranch, 83.90 42 ⇑P P 20 07 32.1 +0.4
baz=84
WVOR Wild Horse Val 83.96 39 eP P 20 07 31.2 -0.8
comp=Z,30nm,1.1s,mb5.3
WVOR LR LR
comp=Z,3µm,19.0s,MS5.6
L08A Fields 83.97 39 P P 20 07 31.8 -0.2
baz=84,SNR=9.7
M09A Marrel Ranch, 84.01 40 ⇑P P 20 07 32.7 +0.5
baz=84
E03A Lebam 84.02 33 ⇑P P 20 07 33.0 +0.8
baz=84
I06A Prineville 84.04 37 ⇑P P 20 07 32.9 +0.5
baz=84
HABR Khabarovsk 84.08 329 ⇑iP P 20 07 32.7 +0.1
HABR S S 20 17 52.6 -3.6
HABR pmax pmax
comp=Z,81nm,1.8s,mb5.5
QIZ Qiongzhong 84.09 294 P P 20 07 32.9 +0.3
QIZ XP sP 20 07 47.3 +6.1
QIZ PP PP 20 10 47.3 +0.6
QIZ S S 20 17 55.3 -0.9
QIZ XS sS 20 18 15.8 +9.1
QIZ SS SS 20 23 25.8 +0.9
QIZ AMB AMB
comp=Z,548nm,12.0s
QIZ LR LR
comp=E,974nm,19.6s
QIZ LR LR
comp=Z,1µm,20.0s,MS5.3
QIZ Qiongzhong 84.09 294 PFAKE 20 07 40.0 +7.4
QIZ LR LR
comp=Z,1µm,20.0s,MS5.3
N10A Dunphy 84.14 41 P P 20 07 33.3 +0.4
baz=84,SNR=5.1
Q12A Willow Creek R 84.17 43 ⇑P P 20 07 33.2 +0.2
baz=84
J07A Hines 84.17 38 ⇑P P 20 07 33.6 +0.5
baz=84
F04A Amboy 84.18 34 ⇑P P 20 07 33.3 +0.1
baz=84
MDJ Mudanjiang 84.19 324 P P 20 07 34.1 +1.0
MDJ AP pP 20 07 46.3 +6.8
MDJ XP sP 20 07 51.3 +10
MDJ PP PP 20 10 48.8 +1.3
MDJ S S 20 17 57.3 +0.1
MDJ AMB AMB
comp=Z,34nm,1.2s,mb5.3
MDJ AMB AMB
comp=Z,690nm,7.1s
MDJ LR LR
comp=N,587nm,18.3s
MDJ LR LR
comp=E,448nm,23.5s
MDJ LR LR
comp=Z,1µm,20.0s,MS5.3
MDJ Mudanjiang 84.19 324 PFAKE 20 07 40.0 +6.9
MDJ LR LR
comp=Z,1µm,19.0s,MS5.3
K08A Mann Creek Ran 84.23 38 P P 20 07 33.2 -0.2
baz=84,SNR=10
CCUT Cedar City 84.23 45 eP P 20 07 33.7 +0.3
L09A Wilkinson Ranc 84.26 39 ⇓P P 20 07 33.6 +0.1
baz=84
O11A Cowboy Ranch, 84.30 42 P P 20 07 33.5 -0.2
baz=84,SNR=11
ARUT Antelope Range 84.32 45 eP P 20 07 33.7 -0.1
P12A McGill 84.37 43 ⇓P P 20 07 34.7 +0.6
baz=85
WUAZ Wupatki 84.40 48 eP P 20 07 34.7 +0.5
comp=Z,22nm,1.2s,mb5.2
WUAZ LR LR
comp=Z,4µm,19.0s,MS5.8
WUAZ Wupatki 84.40 48 ⇓P P 20 07 34.7 +0.5
baz=85
H06A Lindquist Farm 84.49 36 P P 20 07 34.8 +0.1
baz=85,SNR=5.3
I07A Izee 84.52 37 P P 20 07 34.7 -0.1
baz=85,SNR=6.5
M10A I.L. Ranch, Tu 84.61 40 P P 20 07 35.8 +0.5
baz=85,SNR=12
J08A Circle Bar Ran 84.63 38 ⇓P P 20 07 35.1 -0.3
baz=85
K09A Rome 84.65 39 P P 20 07 35.0 -0.5
baz=85,SNR=14
G06A Carlson Farm, 84.66 36 ⇓P P 20 07 35.8 +0.3
baz=85
N11A Elko Archery C 84.67 41 ⇓P P 20 07 36.0 +0.4
baz=85
F06A Goldendale 84.92 35 ⇑P P 20 07 37.8 +0.9
baz=85
ELK Elko 84.93 42 PFAKE 20 07 50.0 +13
ELK LR LR
comp=Z,2µm,19.0s,MS5.6
I08A Drewsey 84.93 37 ⇓P P 20 07 37.0 +0.1
baz=85
O12A Currie 84.94 42 P P 20 07 37.2 +0.2
baz=85,SNR=6.8
M11A Holland Ranch, 85.00 41 P P 20 07 37.3 +0.1
baz=85,SNR=7.5
SNAA Sanae 85.03 178 diP P 20 07 36.9 -0.5
SNAA Sanae 85.03 178 eP P 20 07 36.4 -1.0
comp=Z,27nm,1.1s,mb5.3
J09A Fry Pan Ranch, 85.03 38 ⇑P P 20 07 38.1 +0.6
baz=85
VNA3 Neumayer Olymp 85.08 175 eP P 20 07 36.4 -1.3
VNA3 e pP 20 07 41.8 -2.2
VNA3 e 20 07 48.1
VNA3 e 20 07 52.5
N12A Clover Valley, 85.11 42 ⇓P P 20 07 37.6 -0.2
baz=85
G07A Ruggs Ranch, H 85.19 36 ⇑P P 20 07 38.1 -0.1
baz=85
D05A Enumclaw 85.25 33 ⇓P P 20 07 38.6 +0.1
baz=86
H08A Prairie City 85.26 37 ⇓P P 20 07 38.2 -0.3
baz=86
DL2 Dalian 85.38 316 ⇑iP P 20 07 40.0 +0.8
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,290nm,5.5s
DL2 LR LR
comp=N,430nm,17.5s,MS5.0
DL2 LR LR
comp=E,320nm,16.7s,MS5.0
DL2 LR LR
comp=Z,540nm,18.7s,MS5.0
PAYG Puerto Ayora 85.41 89 PFAKE 20 07 50.0 +11
PAYG LR LR
comp=Z,2µm,19.0s,MS5.4
I09A Lost Marbles R 85.43 38 ⇓P P 20 07 39.1 -0.3
baz=86
MVU Marysvale 85.52 45 PFAKE 20 07 50.0 +10
MVU LR LR
comp=Z,2µm,20.0s,MS5.5
M12A Wells 85.52 41 ⇓P P 20 07 39.9 0.0
baz=86
VNA2 Neumayer--Watz 85.55 176 eP P 20 07 39.3 -0.7
VNA2 e pP 20 07 44.3 -2.0
VNA2 e 20 07 51.4
VNA2 e 20 07 56.8
MSU Marysvale 85.55 45 eP P 20 07 40.5 +0.5
G08A Pilot Rock 85.59 36 P P 20 07 39.3 -0.9
baz=86,SNR=10.0
C05A Tolt Reservoir 85.74 33 ⇓P P 20 07 41.0 +0.1
baz=86
VNA1 Neumayer--Stat 85.76 176 eP P 20 07 42.2 +1.1
VNA1 e pP 20 07 47.3 -0.1
VNA1 e 20 07 55.8
VNA1 e 20 07 59.7
D06A Cle Elum 85.83 34 ⇑P P 20 07 41.1 -0.3
baz=86
SNY Shenyang 85.88 319 ⇑P P 20 07 38.1 -3.5
SNY AP pP 20 07 49.3 +1.4
SNY XP sP 20 07 55.4 +5.2
SNY AMB AMB
comp=Z,13nm,0.7s,mb5.3
SNY AMB AMB
comp=Z,752nm,7.3s
SNY LR LR
comp=N,930nm,13.2s,MS5.4
SNY LR LR
comp=E,680nm,16.3s,MS5.4
SNY LR LR
comp=Z,728nm,22.8s
H09A Durkee 85.91 37 ⇓P P 20 07 41.6 -0.2
baz=86
E07A Sunnyside 85.93 35 ⇑P P 20 07 41.6 -0.3
baz=86
NVL N'lazarevskaya 85.93 182 ⇓iP P 20 07 37.2 -4.7
NVL *i* S S 20 18 13.0 -1.5
NVL pmax pmax
comp=Z,21nm,1.7s,mb5.1
M13A Montello 85.94 42 ⇑P P 20 07 41.9 0.0
baz=86
WHN Wuhan 85.97 306 P P 20 07 43.5 +1.4
WHN S S 20 18 08.0 -6.9
WHN LR LR
comp=N,1µm,19.0s,MS5.4
WHN LR LR
comp=E,613nm,20.0s,MS5.4
CN2 Changchun 85.97 322 ⇑P P 20 07 41.8 -0.3
CN2 eAP pP 20 07 53.8 +5.4
CN2 eS S 20 18 11.5 -3.4
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.4
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,21.0s,MS5.3
CN2 LR LR
comp=E,1µm,21.0s,MS5.3
CN2 LR LR
comp=Z,1µm,21.0s,MS5.3
HAWA Hanford 85.99 35 eP P 20 07 41.5 -0.7
HAWA LR LR
comp=Z,3µm,19.0s,MS5.7
F08A Pendleton 86.01 36 ⇓P P 20 07 42.3 0.0
baz=86
DUG Dugway 86.10 43 eP P 20 07 41.6 -1.1
comp=Z,6.6nm,1.1s,mb4.8
DUG *e* 20 07 54.8
DUG LR LR
comp=Z,2µm,20.0s,MS5.5
DUG Dugway 86.10 43 ⇓P P 20 07 42.1 -0.6
baz=86
SLKM Skilak Lake 86.14 12 eP P 20 07 41.5 -1.4
KLR Kul'dur 86.17 329 eP P 20 07 40.0 -3.1
KLR eS SKSac 20 18 06.5 -1.7
KLR *e* 20 19 18.0
KLR pmax pmax
comp=Z,300nm,3.0s
KLR pmax pmax
comp=Z,1µm,11.0s
KLR smax
comp=N,900nm,12.0s
KLR smax
comp=E,900nm,12.0s
BMO Blue Mountains 86.23 37 eP P 20 07 42.4 -1.0
comp=E,19nm,1.4s,mb5.1
BMO LR LR
comp=Z,2µm,19.0s,MS5.5
D07A Quincy 86.28 34 ⇓P P 20 07 43.3 -0.3
baz=86
KULM Kulim 86.38 277 eP P 20 07 44.8 +0.7
F09A S2 Ranch, Elgi 86.43 36 ⇓P P 20 07 44.8 +0.4
baz=87
TMUT Trail Mountain 86.61 44 eP P 20 07 46.1 +0.9
MNTX Cornudas Mount 86.64 53 eP P 20 07 45.1 -0.3
comp=Z,21nm,1.4s,mb5.2
MNTX LR LR
comp=Z,1µm,19.0s,MS5.4
D08A Wollman Farm, 86.74 35 ⇓P P 20 07 45.7 -0.2
baz=87
MPU Maple Canyon 86.75 44 PFAKE 20 08 00.0 +14
MPU LR LR
comp=Z,5µm,21.0s,MS5.9
LTX Lajitas 86.77 56 eP P 20 07 45.9 -0.1
comp=Z,44nm,1.7s,mb5.4
LTX LR LR
comp=Z,2µm,19.0s,MS5.5
TXAR Lajitas Array 86.77 56 P P 20 07 45.7 -0.3
comp=Z,2.9nm,0.8s,mb4.5,baz=210,slow=8.5,SNR=32
TXAR LR LR 20 40 50.5
comp=Z,2µm,18.7s,MS5.5,baz=120,slow=32
TXAR Lajitas Array 86.77 56 P P 20 07 45.7 -0.3
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR MLR MLR
comp=Z,2µm,18.7s
H11A Donnelly 86.86 38 ⇑P P 20 07 46.5 0.0
baz=87
TIA Tai'an 86.89 312 ⇑P P 20 07 46.6 0.0
TIA AMB AMB
comp=Z,33nm,1.0s,mb5.5
SRU San Rafael 86.95 45 eP P 20 07 46.5 -0.4
F10A Beach Ranch, E 86.97 36 ⇓P P 20 07 46.8 -0.2
baz=87
PSI Prapat 86.97 274 P P 20 07 47.5 +0.5
comp=Z,33nm,0.8s,mb5.6,baz=159,slow=3.9,SNR=23
PSI Prapat 86.97 274 P P 20 07 47.5 +0.5
PSI pmax pmax
comp=Z,33nm,0.8s,mb5.6
SIT Sitka 87.02 21 PFAKE 20 08 00.0 +13
SIT LR LR
comp=Z,2µm,19.0s,MS5.5
B07A Winthrop 87.03 33 ⇓P P 20 07 47.7 +0.4
baz=87
D09A Jones Farm, Ri 87.07 35 ⇓P P 20 07 47.4 -0.1
baz=87
HLID Hailey 87.09 40 eP P 20 07 47.0 -0.6
comp=Z,15nm,1.5s,mb5.0
HLID LR LR
comp=Z,1µm,22.0s,MS5.3
HLID Hailey 87.09 40 ⇑P P 20 07 47.9 +0.3
baz=87
MA2 Magadan 87.19 344 PFAKE 20 08 00.0 +12
MA2 LR LR
comp=Z,2µm,19.0s,MS5.4
DAU Daniels Canyon 87.21 44 eP P 20 07 47.9 -0.2
MVCO Mesa Verde 87.27 47 PFAKE 20 08 00.0 +12
MVCO LR LR
comp=Z,4µm,19.0s,MS5.8
MVCO Mesa Verde 87.27 47 ⇓P P 20 07 48.3 -0.1
baz=88
A07A Ashnola River, 87.28 33 ⇓P P 20 07 48.8 +0.3
baz=88
E10A Myers Farm, Un 87.35 36 ⇓P P 20 07 49.1 +0.2
baz=88
PMR Palmer 87.35 12 eP P 20 07 47.8 -1.1
comp=Z,38nm,1.2s,mb5.5
PMR LR LR
comp=Z,2µm,22.0s,MS5.4
B08A Colville Reser 87.36 34 ⇓P P 20 07 48.3 -0.6
baz=88
EFI East Falkland 87.42 146 PFAKE 20 08 00.0 +11
EFI LR LR
comp=Z,488nm,20.0s,MS4.9
ANMO Albuquerque 87.50 50 P P 20 07 49.4 -0.2
comp=Z,4.7nm,1.1s,mb4.7,baz=232,slow=5.9,SNR=8.5
ANMO LR LR 20 42 15.7
comp=Z,4µm,18.8s,MS5.9,baz=314,slow=32
ANMO Albuquerque 87.50 50 ⇑eP P 20 07 49.5 -0.1
F11A Grangeville 87.50 37 ⇓P P 20 07 48.8 -0.7
baz=88
WRAK Wrangell Islan 87.52 22 PFAKE 20 08 00.0 +10
WRAK LR LR
comp=Z,1µm,21.0s,MS5.3
C09A Chrisman Ranch 87.56 35 ⇑P P 20 07 49.2 -0.6
baz=88
DIV Divide 87.63 14 eP P 20 07 48.8 -1.4
DIV LR LR
comp=Z,6µm,22.0s,MS6.0
HWUT Hardware Ranch 87.68 42 eP P 20 07 48.8 -1.6
HWUT LR LR
comp=Z,2µm,20.0s,MS5.5
PV01 Paradox Valley 87.71 47 eP P 20 07 49.5 -1.0
PV01 *e* 20 08 01.9
A08A Turner Farm, O 87.78 33 ⇑P P 20 07 50.1 -0.8
baz=88
B09A Rice 88.01 34 ⇓P P 20 07 51.1 -1.0
baz=88
D11A Klaveano Farm, 88.11 36 ⇓P P 20 07 52.2 -0.3
baz=88
A09A Danville 88.14 34 ⇓P P 20 07 52.4 -0.2
baz=88
NEW Newport 88.45 35 PFAKE 20 08 00.0 +5.9
NEW LR LR
comp=Z,3µm,20.0s,MS5.8
F13A Darby 88.46 38 ⇓P P 20 07 53.7 -0.4
baz=89
CMIG Matias Romero 88.47 71 LR LR 20 39 59.3
comp=Z,1µm,18.6s,MS5.3,baz=34,slow=30
AHID Auburn Hatcher 88.62 42 eP P 20 07 56.2 +1.3
comp=Z,19nm,1.5s,mb5.2
AHID LR LR
comp=Z,2µm,19.0s,MS5.5
TNA Tin City 88.89 3 PFAKE 20 08 10.0 +14
TNA LR LR
comp=Z,1µm,20.0s,MS5.3
E13A Victor 88.93 37 ⇑P P 20 07 55.9 -0.4
baz=89
B11A Sandpoint 88.95 35 ⇑P P 20 07 56.0 -0.4
baz=89
C12A Trout Creek 88.97 36 ⇓P P 20 07 56.0 -0.5
baz=89
G15A Dillon 89.15 39 ⇑P P 20 07 57.3 -0.1
baz=89
D13A Huson 89.17 37 ⇑P P 20 07 56.9 -0.5
baz=89
A11A Hall Mountain, 89.27 34 ⇑P P 20 07 57.7 -0.3
baz=90
MSO Missoula 89.29 37 PFAKE 20 08 10.0 +12
MSO LR LR
comp=Z,2µm,20.0s,MS5.5
E14A Clinton 89.30 38 ⇑P P 20 07 57.2 -0.9
baz=90
SMCO Snowmass 89.32 46 eP P 20 07 54.6 -3.6
MCK McKinley 89.34 12 eP P 20 07 57.1 -1.2
comp=Z,31nm,1.5s,mb5.4
MCK LR LR
comp=Z,1µm,22.0s,MS5.3
B12A Libby 89.38 35 ⇓P P 20 07 58.0 -0.4
baz=90
LOHW Long Hollow 89.39 41 eP P 20 07 57.2 -1.3
BJT Baijiatuau 89.53 314 PFAKE 20 08 10.0 +11
BJT LR LR
comp=Z,1µm,20.0s,MS5.2
BJI Beijing 89.53 315 P P 20 07 58.8 -0.4
BJI AMB AMB
comp=Z,24nm,0.8s,mb5.6
BJI AMB AMB
comp=Z,725nm,4.5s
BJI LR LR
comp=N,828nm,17.5s,MS5.3
BJI LR LR
comp=E,605nm,18.1s,MS5.3
BJI LR LR
comp=Z,801nm,31.4s
BJI Beijing 89.53 315 P P 20 07 58.7 -0.5
comp=Z,24nm,0.8s,mb5.6
BJI S SKSac 20 18 28.6 +0.1
BJI SS SS 20 25 15.7 +31
BJI LR LR
comp=Z,800nm,31.4s,MS5.0
F15A Butte 89.54 39 ⇑P P 20 07 58.7 -0.5
baz=90
BW06 Boulder Array 89.57 42 eP P 20 07 58.6 -0.7
BW06 LR LR
comp=Z,2µm,19.0s,MS5.5
PDAR Pinedale Array 89.57 42 P P 20 07 58.6 -0.7
comp=Z,3.1nm,0.8s,mb4.7,baz=212,slow=3.1,SNR=28
PDAR LR LR 20 46 06.6
comp=Z,1µm,18.5s,MS5.4,baz=240,slow=34
SDCO Great Sand Dun 89.59 48 eP P 20 07 58.7 -0.7
comp=Z,18nm,1.5s,mb5.2
SDCO LR LR
comp=Z,4µm,20.0s,MS5.8
D14A Greenough 89.68 37 ⇑P P 20 07 59.0 -0.9
baz=90
YMR Madison River 89.76 40 PFAKE 20 08 10.0 +10
YMR LR LR
comp=Z,1µm,20.0s,MS5.4
GYA Guiyang 90.03 299 P P 20 08 02.3 +0.8
GYA AP pP 20 08 15.8 +8.0
GYA XP sP 20 08 20.6 +11
GYA PP PP 20 11 38.9 +4.3
GYA SKS 20 18 28.4
GYA S S 20 18 50.8 -2.8
GYA XS sS 20 19 12.0 +7.9
GYA SS SS 20 24 53.8 +2.0
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.3
GYA AMB AMB
comp=Z,400nm,7.6s
GYA LR LR
comp=N,700nm,25.7s,MS5.3
GYA LR LR
comp=E,1µm,24.8s,MS5.3
GYA LR LR
comp=Z,1µm,23.3s,MS5.3
LKWY Lake 90.04 40 PFAKE 20 08 10.0 +8.5
LKWY LR LR
comp=Z,2µm,19.0s,MS5.6
NNT Nongplab 90.15 284 P P 20 08 05.0 +3.0
D15A Lincoln 90.21 38 ⇑P P 20 08 01.7 -0.6
baz=90
JCT Junction City 90.26 57 eP P 20 08 05.9 +3.3
comp=Z,4.3nm,0.3s,mb5.3
JCT LR LR
comp=Z,3µm,19.0s,MS5.7
KVTX Kingsville 90.45 60 PFAKE 20 08 10.0 +6.6
KVTX LR LR
comp=Z,1µm,19.0s,MS5.4
ISCO Idaho Springs 90.55 46 PFAKE 20 08 20.0 +16
ISCO LR LR
comp=Z,2µm,19.0s,MS5.6
COLA College 90.58 11 ⇑iP P 20 08 02.5 -1.6
COLA LR LR
comp=Z,3µm,22.0s,MS5.6
WALA Waterton Lakes 90.62 35 eP P 20 08 03.7 -0.5
comp=Z,17nm,1.2s,mb5.2
AMTX Amarillo 90.89 52 PFAKE 20 08 20.0 +15
AMTX LR LR
comp=Z,4µm,20.0s,MS5.9
RLMT Red Lodge 91.02 40 PFAKE 20 08 20.0 +14
RLMT LR LR
comp=Z,2µm,21.0s,MS5.5
NST Nakhon Sawan 91.03 287 P P 20 08 08.0 +1.8
DAWY Dawson 91.66 15 eP P 20 08 08.5 -0.5
XAN Xi'an 91.67 306 P P 20 08 10.1 +1.0
XAN AP pP 20 08 17.8 +2.3
XAN PP PP 20 11 46.8 -0.8
XAN SKS 20 18 36.4
XAN AMB AMB
comp=Z,53nm,0.9s,mb5.9
XAN AMB AMB
comp=Z,379nm,8.9s
XAN LR LR
comp=N,599nm,19.6s,MS5.3
XAN LR LR
comp=E,803nm,19.3s,MS5.3
XAN LR LR
comp=Z,2µm,19.9s,MS5.5
NANT Nan 91.80 290 ⇓P P 20 08 10.0 +0.3
comp=Z,394nm,1.0s
EGAK Eagle 91.86 14 eP P 20 08 08.5 -1.4
comp=Z,13nm,0.9s,mb5.3
EGAK LR LR
comp=Z,2µm,19.0s,MS5.6
BILL Bilibino 92.17 353 ⇑eP P 20 08 09.7 -1.7
BILL *e* 20 11 52.8
BILL pmax pmax
comp=Z,36nm,2.5s,mb5.3
EGMT Eagleton 92.31 38 eP P 20 08 12.2 +0.1
comp=Z,19nm,1.0s,mb5.4
EGMT LR LR
comp=Z,2µm,20.0s,MS5.6
HIA Hailar 92.36 324 PFAKE 20 08 20.0 +7.7
HIA LR LR
comp=Z,1µm,20.0s,MS5.4
KMI Kunming 92.66 296 P P 20 08 16.0 +2.3

KMI AP pP 20 08 28.1 +8.1
KMI XP sP 20 08 33.3 +11
KMI PP PP 20 12 02.8 +7.4
KMI SKS 20 18 43.8
KMI S S 20 19 14.9 -2.5
KMI XS sS 20 19 35.3 +7.3
KMI AMB AMB
comp=Z,24nm,1.4s,mb5.4
KMI AMB AMB
comp=Z,369nm,4.9s
KMI LR LR
comp=N,464nm,19.2s,MS5.2
KMI LR LR
comp=E,667nm,19.2s,MS5.2
KMI LR LR
comp=Z,775nm,18.6s,MS5.2
KMI Kunming 92.66 296 P **P** **20 08 16.0 +2.3**
comp=Z,24nm,1.4s,mb5.4
KMI pP pP 20 08 28.1 +8.1
KMI sP sP 20 08 33.3 +11
KMI PP PP 20 12 02.7 +7.3
KMI PPP 20 14 02.2
KMI SKS 20 18 43.7
KMI S S 20 19 14.9 -2.5
KMI sS sS 20 19 35.2 +7.2
KMI PS PS 20 20 38.0 +7.1
KMI SS SS 20 25 34.7 +5.0
KMI SSS 20 29 13.9
KMI LR LR
comp=Z,780nm,18.6s,MS5.2
TRQA Tornquist 92.73 134 PFAKE 20 08 20.0 +6.0
TRQA LR LR
comp=Z,2μm,20.0s,MS5.5
WMOK Wichita Mounta 92.95 53 PFAKE 20 08 30.0 +15
WMOK LR LR
comp=Z,2μm,20.0s,MS5.5
HHC Hu-ho-hao-te 92.98 313 ⇓P **P** **20 08 16.3 +1.1**
HHC AP pP 20 08 29.8 +8.2
HHC XP sP 20 08 35.5 +12
HHC PP PP 20 12 02.3 +4.4
HHC SKS 20 18 45.0
HHC S S 20 19 16.6 -3.7
HHC XS sS 20 19 40.0 +9.1
HHC SS SS 20 25 36.5 +2.1
HHC AMB AMB
comp=Z,15nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,342nm,7.4s
HHC LR LR
comp=N,579nm,19.3s,MS5.3
HHC LR LR
comp=E,975nm,18.2s,MS5.3
HHC LR LR
comp=Z,1μm,22.7s,MS5.3
HKT Hockley 93.12 59 PFAKE 20 08 30.0 +14
HKT LR LR
comp=Z,2μm,20.0s,MS5.5
NNA Nana 93.15 104 PFAKE 20 08 30.0 +14
NNA LR LR
comp=Z,860nm,20.0s,MS5.2
CM31 Chiang Mai Arr 93.19 289 PFAKE 20 08 30.0 +14
CM31 LR LR
comp=Z,950nm,19.0s,MS5.3
CHG Chiang Mai 93.33 289 ⇓P **P** **20 08 18.7 +1.9**
comp=Z,45nm,0.8s,mb6.0
CHTO Chiang Mai 93.33 289 *e*P **P** **20 08 18.3 +1.6**
comp=Z,34nm,0.8s,mb5.8
CHTO LR LR
comp=Z,863nm,20.0s,MS5.2
LAO LASA Array 93.65 40 PFAKE 20 08 30.0 +12
LAO LR LR
comp=Z,1μm,22.0s,MS5.4
RSSD Black Hills 93.71 43 *e*P **P** **20 08 17.4 -1.1**
comp=Z,12nm,0.4s,mb5.7
RSSD LR LR
comp=Z,2μm,20.0s,MS5.6
BTO Baotou 93.91 313 *e*P **P** **20 08 19.8 +0.4**
TGUH Tegucigalpa,Un 93.96 76 PFAKE 20 08 30.0 +10
TGUH LR LR
comp=Z,660nm,20.0s,MS5.1
CBKS Cedar Bluff 94.08 49 PFAKE 20 08 30.0 +10
CBKS LR LR
comp=Z,5μm,20.0s,MS5.9
CD2 Chengdu 94.24 302 P **P** **20 08 22.3 +1.4**
CD2 AP pP 20 08 37.0 +10
CD2 XP sP 20 08 40.9 +11
CD2 PP PP 20 12 12.8 +5.0
CD2 SKS 20 18 49.5
CD2 S S 20 19 31.5 +0.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,430nm,9.6s
CD2 LR LR
comp=N,830nm,16.2s
CD2 LR LR
comp=E,990nm,22.8s
CD2 LR LR
comp=Z,1μm,22.8s
JTS JuntasAbangare 94.59 81 PFAKE 20 08 30.0 +7.4
JTS LR LR
comp=Z,143nm,19.0s,MS4.5
HOPE Hope Point 94.99 157 PFAKE 20 08 30.0 +5.6
HOPE LR LR
comp=Z,989nm,20.0s,MS5.3
LVC Limon Verde 95.30 117 PFAKE 20 08 40.0 +14
LVC LR LR
comp=Z,1μm,20.0s,MS5.3
TEIG Tepich 95.46 70 PFAKE 20 08 40.0 +13
TEIG LR LR
comp=Z,966nm,19.0s,MS5.3
YAK Yakutsk 95.65 337 ⇓*e*P **P** **20 08 26.5 -0.9**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
YAK Yakutsk 95.65 337 *e*P **P** **20 08 27.0 -0.4**
comp=Z,8.0nm,0.6s,mb5.3
YAK LR LR
comp=Z,682nm,19.0s,MS5.1
LZH Lanzhou 96.31 306 *e*P **P** **20 08 31.5 +1.1**
LZH AP pP 20 08 45.0 +8.2
LZH XP sP 20 08 49.3 +10
LZH *e*PP PP 20 12 28.5 +4.7
LZH SKS 20 19 03.3
LZH *e*S S 20 19 44.8 -4.6
LZH XS sS 20 20 07.6 +7.7
LZH *e*SS SS 20 26 22.4 +0.6
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,109nm,7.3s
LZH LR LR
comp=N,499nm,16.3s
LZH LR LR
comp=Z,789nm,18.7s,MS5.2
LZH Lanzhou 96.31 306 *e*P **P** **20 08 31.5 +1.1**
comp=Z,31nm,1.5s,mb5.5
LZH pP pP 20 08 45.0 +8.2
LZH sP sP 20 08 49.2 +10
LZH *e*PP PP 20 12 28.5 +4.7
LZH SKS 20 19 03.2
LZH *e*S S 20 19 44.7 -4.7
LZH sS sS 20 20 07.6 +7.7
LZH PS PS 20 21 16.5 +5.4
LZH *e*SS SS 20 26 22.4 +0.6
LZH LR LR
comp=Z,790nm,18.7s,MS5.2
KSU1 Kansas State U 96.40 50 PFAKE 20 08 40.0 +9.2
KSU1 LR LR
comp=Z,4μm,19.0s,MS5.9
INK Inuvik 96.50 15 P **P** **20 08 31.0 -0.3**
comp=Z,1.7nm,0.8s,mb4.5,baz=197,slow=11,SNR=4.4
INK Inuvik 96.50 15 P **P** **20 08 31.0 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 96.50 15 P **P** **20 08 31.0 -0.3**
OTAV Otavalo 96.64 93 PFAKE 20 08 40.0 +8.1
OTAV LR LR
comp=Z,2μm,19.0s,MS5.5
MIAR Mount Ida 96.75 55 PFAKE 20 08 40.0 +7.6
MIAR LR LR
comp=Z,2μm,19.0s,MS5.7
ECSD EROS,Sioux Fal 98.33 46 PFAKE 20 08 50.0 +10
ECSD LR LR
comp=Z,3μm,19.0s,MS5.8
LPAZ La Paz 98.88 112 P **P** **20 08 44.2 +2.3**
comp=Z,1.0nm,0.7s,mb4.4,baz=248,slow=7.3,SNR=4.8
LPAZ LR LR 20 46 00.9
comp=Z,811nm,18.2s,MS5.3,baz=53,slow=31
LPAZ La Paz 98.88 112 P **P** **20 08 44.3 +2.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ MLR MLR
comp=Z,811nm,18.2s
ULN Ulaanbaatar 99.03 318 ⇑*e*P **P** **20 08 43.3 +0.7**
ULN Ulaanbaatar 99.03 318 *e*P **P** **20 08 42.6 0.0**
comp=Z,6.0nm,1.0s,mb5.1
ULN LR LR
comp=Z,811nm,19.0s,MS5.2
SONM Songino Array 99.42 318 P **P** **20 08 44.9 +0.5**
comp=Z,1.2nm,0.8s,mb4.5,baz=122,slow=4.6,SNR=7.2
SONM Songino Array 99.42 318 P **P** **20 08 44.9 +0.5**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SCIA State Center 99.90 49 PFAKE 20 09 00.0 +13
SCIA LR LR
comp=Z,2μm,19.0s,MS5.7
OXF Oxford 99.92 57 PFAKE 20 09 00.0 +13
OXF LR LR
comp=Z,3μm,19.0s,MS5.9
BRAL Brewton 100.50 61 PFAKE 20 09 00.0 +11
BRAL LR LR
comp=Z,1μm,19.0s,MS5.4
GTA Gaotai 100.54 308 *e*P Pdif 20 08 50.1 +0.7
GTA AP 20 09 02.5
GTA XP 20 09 07.4
GTA SKS 20 19 23.3
GTA S Sdif 20 20 19.1 -6.1
GTA XS 20 20 41.3
GTA SS SS 20 27 18.4 -2.8
GTA AMB AMB
comp=Z,4.0nm,1.5s
GTA AMB AMB
comp=Z,119nm,6.1s
GTA LR LR
comp=N,476nm,19.0s,MS5.2
GTA LR LR
comp=E,559nm,18.3s,MS5.2
GTA LR LR
comp=Z,825nm,20.2s,MS5.2
AGMN Agassiz Refuge 100.64 42 PFAKE 20 09 00.0 +10
AGMN LR LR
comp=Z,1μm,19.0s,MS5.4
PLAL Pickwick Lake 101.11 57 PFAKE 20 09 00.0 +8.1
PLAL LR LR
comp=Z,2μm,20.0s,MS5.7
LRAL Lakeview Retre 101.26 59 PFAKE 20 09 00.0 +7.4
LRAL LR LR
comp=Z,2μm,19.0s,MS5.6
ULM Lac du Bonnet 101.40 40 PFAKE 20 09 00.0 +6.8
ULM LR LR
comp=Z,3μm,21.0s,MS5.8
WVT Waverly 101.70 56 PFAKE 20 09 10.0 +15
WVT LR LR
comp=Z,2μm,20.0s,MS5.7
TIXI Tiksi 102.14 345 PFAKE 20 09 10.0 +14
TIXI LR LR
comp=Z,2μm,22.0s,MS5.6
HDIL Hopedale 102.16 51 PFAKE 20 09 10.0 +13
HDIL LR LR
comp=Z,4μm,19.0s,MS5.9
JFWS Jewell Farm 102.31 49 PFAKE 20 09 10.0 +13
JFWS LR LR
comp=Z,2μm,19.0s,MS5.7
TLY Talaya 102.57 321 PFAKE 20 09 10.0 +12
TLY LR LR
comp=Z,254nm,20.0s,MS4.7
EYMN Ely 103.23 43 PFAKE 20 09 10.0 +8.7
EYMN LR LR
comp=Z,2μm,20.0s,MS5.6
WCI Wyandotte Cave 103.56 54 PFAKE 20 09 10.0 +7.2
WCI LR LR
comp=Z,2μm,20.0s,MS5.7
LSA Lhasa 103.91 297 PFAKE 20 09 20.0 +16
LSA LR LR
comp=Z,1μm,20.0s,MS5.4
DWPF Disney 104.12 65 PFAKE 20 09 20.0 +15
DWPF LR LR
comp=Z,602nm,19.0s,MS5.2
GOGA Godfrey 104.18 60 PFAKE 20 09 20.0 +14
GOGA LR LR
comp=Z,2μm,20.0s,MS5.7
PALK Pallekele 105.42 271 PFAKE 20 13 40.0 +15
PALK LR LR
comp=Z,372nm,20.0s,MS4.9
SAML Samuel 106.54 108 PFAKE 20 13 40.0 +13
SAML LR LR
comp=Z,1μm,19.0s,MS5.5
NHSC New Hope 106.70 61 PFAKE 20 13 40.0 +13
NHSC LR LR
comp=Z,1μm,19.0s,MS5.5
AAM Ann Arbor 106.73 51 PFAKE 20 13 40.0 +13
AAM LR LR
comp=Z,3μm,20.0s,MS5.8
GLMI Grayling 106.78 48 PFAKE 20 15 10.0
GLMI LR LR
comp=Z,1μm,19.0s,MS5.4
DGAR Diego Garcia 106.87 254 PFAKE 20 13 40.0 +13
DGAR LR LR
comp=Z,793nm,19.0s,MS5.3
SDV Santo Domingo 107.14 88 PFAKE 20 13 40.0 +12
SDV LR LR
comp=Z,516nm,21.0s,MS5.1
BLA Blacksburg 107.69 57 PFAKE 20 13 40.0 +11
BLA LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 108.79 54 PFAKE 20 13 40.0 +9.0
MCWV LR LR
comp=Z,4μm,20.0s,MS6.0
CNNC Cliffs of the 109.12 59 PFAKE 20 13 40.0 +8.4
CNNC LR LR
comp=Z,1μm,20.0s,MS5.5
CBN Corbin 110.28 56 PFAKE 20 13 50.0 +16
CBN LR LR
comp=Z,1μm,19.0s,MS5.5
SSPA Standing Stone 110.48 54 PFAKE 20 13 50.0 +16
SSPA LR LR
comp=Z,3μm,20.0s,MS5.9
WMQ Urumqi 110.52 310 ⇑PKP PKiKP 20 13 34.0 -0.2
WMQ XPKP 20 13 54.0
WMQ PP PP 20 14 14.8 +4.8
WMQ PP PP
comp=Z,272nm,7.2s
WMQ LR LR
comp=N,432nm,19.5s,MS5.3
WMQ LR LR
comp=E,724nm,23.4s,MS5.3
WMQ LR LR
comp=Z,963nm,23.4s,MS5.3
BINY Binghamton 112.22 52 PFAKE 20 13 50.0 +13
BINY LR LR
comp=Z,3μm,20.0s,MS5.8
LONY Lake Ozonia 113.69 50 PFAKE 20 13 50.0 +10
LONY LR LR
comp=Z,3μm,20.0s,MS5.9
NCB Newcomb 113.83 51 PFAKE 20 13 50.0 +9.5
NCB LR LR
comp=Z,3μm,19.0s,MS6.0
ZAL Zalesovo 114.17 320 PKP PKiKP 20 13 41.5 +0.3
comp=Z,1.3nm,0.7s,baz=327,slow=4.0,SNR=6.0
ZAL Zalesovo 114.17 320 PKIKP PKiKP 20 13 41.5 +0.3
ZAL pmax pmax
comp=Z,1.0nm,0.7s
ZAL Zalesovo 114.17 320 PKP PKiKP 20 13 41.5 +0.3
MKAR Makanchi Array 114.82 312 PKP PKiKP 20 13 40.4 -2.0
comp=Z,1.9nm,0.7s,baz=28,slow=1.1,SNR=9.8
MKAR Makanchi Array 114.82 312 PKIKP PKiKP 20 13 40.4 -2.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
NVS Novosibirsk 115.18 321 *e*P Pdif 20 10 02.1 +7.6
NVS *e* 20 13 40.1
HRV Harvard--Oak R 115.51 53 PFAKE 20 13 50.0 +6.2
HRV LR LR
comp=Z,4μm,20.0s,MS6.0
WES Weston 115.66 53 PFAKE 20 14 00.0 +16
WES LR LR
comp=Z,3μm,20.0s,MS6.0
PKME Peaks-Kenny Pk 117.50 50 PFAKE 20 14 00.0 +12
PKME LR LR
comp=Z,4μm,19.0s,MS6.0
KURK Kurchatov 117.65 316 ⇑Lg 20 10 49.6
comp=Z,3.6nm,0.7s
KSH Kashi 118.38 303 *e*PKP PKPdf 20 13 53.6 +4.3
KSH *e*XPKP 20 14 08.3
KSH *e*PP PP 20 15 10.3 +4.7
KSH *e*PKS 20 17 28.6
KSH *e*SKKS SKKSac 20 21 59.1 -6.0
KSH *e*SS SS 20 31 15.4 -5.5
KSH PP PP
comp=Z,670nm,5.9s
KSH LR LR
comp=N,1μm,7.8s
KSH LR LR
comp=E,1μm,4.7s
KSH LR LR
comp=Z,4μm,11.2s,MS6.3
BBGH Gun Hill 118.81 87 PFAKE 20 14 00.0 +10
BBGH LR LR
comp=Z,2μm,19.0s,MS5.7
SCHQ Schefferville 119.55 39 PFAKE 20 14 00.0 +8.5
SCHQ LR LR
comp=Z,4μm,20.0s,MS6.0
AAK Ala-Archa 119.85 307 PFAKE 20 14 00.0 +7.9
AAK LR LR
comp=Z,229nm,20.0s,MS4.8
SUR Sutherland 122.35 196 PFAKE 20 14 10.0 +13
SUR LR LR
comp=Z,449nm,20.0s,MS5.1
CHKZ Chkalovo 122.56 320 *e*PKPdf PKPdf 20 13 55.2 -2.1
BRVK Borovoye 122.81 319 *e*PKPdf PKPdf 20 13 56.6 -1.2
BRVK LR LR
comp=Z,225nm,19.0s,MS4.8
KBS Kingsbay 124.32 358 PFAKE 20 14 10.0 +9.3
KBS LR LR
comp=Z,882nm,21.0s,MS5.4
BOSA Boshof 124.51 202 PKP PKPdf 20 14 03.0 +2.0
comp=Z,12nm,0.9s,baz=202,slow=2.6,SNR=12
BOSA Boshof 124.51 202 PKP PKPdf 20 14 03.0 +2.0
BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
SFJD Kangerlussuaq 124.77 23 PFAKE 20 14 10.0 +8.5
SFJD LR LR
comp=Z,1μm,20.0s,MS5.6
LBTB Lobatse 127.66 204 PFAKE 20 14 20.0 +13
LBTB LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 128.87 325 *i* PKIKP PKPdf 20 14 08.0 -1.4
ARU *e* 20 16 13.7
ARU *e* 20 21 12.6
ARU *e*SP SP 20 26 16.9 -5.3
ARU *e*SS SS 20 33 27.6 -6.1
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.5
ARU MLR MLR
comp=N,200nm,18.0s,MS5.5
ARU MLR MLR
comp=E,900nm,21.0s,MS5.5
ARU Arti 128.87 325 *e*PKPdf PKPdf 20 14 08.4 -1.0
ARU LR LR
comp=Z,274nm,21.0s,MS4.9
KEV Kevo 131.74 350 PFAKE 20 14 30.0 +15
KEV LR LR
comp=Z,1μm,19.0s,MS5.5
ARCES ARCESS Array B 132.17 350 PKP PKPdf 20 14 16.2 +0.6
comp=Z,3.9nm,0.7s,baz=273,slow=1.4,SNR=12
ARCES ARCESS Array B 132.17 350 PKIKP PKPdf 20 14 16.2 +0.6
ARCES pmax pmax
comp=Z,4.0nm,0.7s
APA Apatity 132.32 345 ⇑*e*PKIKP PKPdf 20 14 15.0 -0.9
APA *i* 20 14 22.5
APA pmax pmax
comp=Z,7.0nm,0.7s
LSZ Lusaka 135.06 213 *e*PKPdf PKPdf 20 14 22.4 +1.3
LSZ LR LR
comp=Z,795nm,19.0s,MS5.5
TSUM Tsumeb 135.74 198 PFAKE 20 14 30.0 +7.7
TSUM LR LR
comp=Z,2μm,20.0s,MS5.8
FINES FINESS Array B 139.18 344 PKhKP 20 14 20.1
comp=Z,2.3nm,0.9s,baz=111,slow=4.9,SNR=5.5
FINES FINESS Array B 139.18 344 PKHKP 20 14 20.2
FINES pmax pmax
comp=Z,2.0nm,0.9s
MAK Makhachkala 139.54 309 *d i* PKIKP PKPdf 20 14 26.4 -2.9
MAK *i* 20 17 22.6
MAK *i* 20 27 44.6
MAK pmax pmax
comp=Z,335nm,1.5s
SHEL Horse Pasture 139.62 165 PFAKE 20 14 40.0 +11
SHEL LR LR
comp=Z,447nm,20.0s,MS5.2
KMBO Kilima Mbogo 139.82 237 PKhKP 20 14 25.3
comp=Z,2.6nm,0.7s,baz=63,slow=5.0,SNR=8.2
KMBO Kilima Mbogo 139.82 237 PKHKP 20 14 25.3
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 139.82 237 *e*PKPdf PKPdf 20 14 23.7 -6.2
KMBO LR LR
comp=Z,1μm,19.0s,MS5.6
OBN Obninsk 140.38 331 ⇑*i* PKIKP PKPdf 20 14 29.4 -1.5
OBN *e* 20 17 28.5
OBN *i* SS SS 20 35 47.4 -4.8
OBN pmax pmax
comp=Z,13nm,1.5s
OBN MLR MLR
comp=Z,800nm,22.0s,MS5.4
OBN Obninsk 140.38 331 ⇑*e*PKP PKPdf 20 14 29.5 -1.4
OBN LR LR
comp=Z,314nm,21.0s,MS5.0
GOF Gofitskoye 141.95 314 *e*PKHKP 20 14 20.1
NB2 NORSAR Subarra142.11 355 PKP PKPdf 20 14 27.8 -6.2
comp=Z,5.3nm,1.0s,baz=16,slow=3.2
NB2 NORSAR Subarra142.11 355 PKP PKPdf 20 14 27.9 -6.1
comp=Z,5.9nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B142.11 355 PKhKP 20 14 28.5
comp=Z,3.5nm,0.8s,baz=16,slow=4.5,SNR=8.3
NOA NORSAR Array B142.11 355 PKHKP 20 14 28.5
NOA pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 142.25 306 ⇑*i* PKIKP PKPdf 20 14 39.8 +5.6
GNI Garni 142.25 306 PFAKE 20 14 50.0 +16
GNI LR LR
comp=Z,672nm,20.0s,MS5.4
KIV Kislovodsk 142.58 313 *i* PKIKP PKPdf 20 14 40.4 +5.6
KIV *e* 20 17 42.7
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV Kislovodsk 142.58 313 PFAKE 20 14 50.0 +15
KIV LR LR
comp=Z,228nm,22.0s,MS4.9
HAKT HAKKARI 143.60 302 *i* P PKPdf 20 14 36.2 -0.4
KONO Kongsberg 143.61 356 PFAKE 20 14 50.0 +13
KONO LR LR
comp=Z,791nm,20.0s,MS5.5
ASCN Ascension 143.83 147 PFAKE 20 14 50.0 +13
ASCN LR LR
comp=Z,303nm,21.0s,MS5.0
ARTV Artvin 144.02 309 *i* P PKPdf 20 14 37.5 +0.1
MSL Mosul 144.32 300 *ex* x 20 14 38.0
MNK Minsk 144.36 337 *e*PKHKP 20 14 34.0
SOC Sochi 144.72 313 *d i* PKIKP PKPdf 20 14 38.8 +0.2
SOC *e* 20 17 53.5
SOC *e*PPP 20 21 05.7
SOC *e*SSS 20 42 08.0
SOC pmax pmax
comp=Z,22nm,1.2s
ERZM Erzurum 144.81 307 *i* P PKPdf 20 14 38.2 -0.5
MACK Trabzon 145.65 309 *i* P PKPdf 20 14 39.3 -0.9
ANN Anapa 145.68 317 *i* PKHKP 20 14 39.2
ANN pmax pmax
comp=Z,84nm,1.0s
MARD Mardin 145.93 302 *i* P PKPdf 20 14 41.4 +0.8
KELT Kelkit 146.28 308 *i* P PKPdf 20 14 42.9 +1.7
SUW Suwalki 146.34 340 *e*PKP PKPdf 20 14 43.7 +2.4
AKASG Malin Array Be 146.64 331 PKPbc PKPbc 20 14 42.1 -1.3
comp=Z,26nm,0.9s,baz=37,slow=4.2,SNR=50
AKASG Malin Array Be 146.64 331 PKIKP PKPdf 20 14 42.1 +0.2
AKASG pmax pmax
comp=Z,26nm,0.9s
KIEV Kiev 146.66 331 *e*PKPdf PKPdf 20 14 42.0 +0.1
KIEV LR LR
comp=Z,2μm,20.0s,MS5.8
GRSN GIRESUNGRSN 146.72 310 *i* P PKPdf 20 14 43.1 +1.2
MUD Monsted U'grnd 146.82 355 *i* P PKPdf 20 14 43.0 +0.9
comp=Z,37nm,0.9s
MUD Monsted U'grnd 146.82 355 *i* PKIKP PKPdf 20 14 43.0 +0.9

MUD					pmax	pmax			
	comp=Z,37nm,0.9s								
ELZG	**Elazig**	**146.99**	**305**	*i* P		PKPbc	20 14 45.9	+1.5	
COP	**Copenhagen**	**147.23**	**352**	*i* P		PKPab	20 14 48.9	+2.0	
BSD	**Bornholm Skovb**	**147.39**	**349**	*i* P		PKPdf	20 14 42.1	-1.0	
	comp=Z,28nm,0.9s								
BSD									
	comp=Z,170nm,16.0s								
BSD	**Bornholm Skovb**	**147.39**	**349**	*i* PKHKP			20 14 42.1		
BSD					pmax	pmax			
	comp=Z,28nm,0.9s								
BSD					MLR	MLR			
	comp=Z,180nm,16.0s,MS5.0								
MALT	**Malatya**	**147.46**	**305**	⇓*i* P		PKPbc	20 14 46.5	+0.7	
MALT	**Malatya**	**147.46**	**305**	⇓P		PKPbc	20 14 46.5	+0.7	
ESK	**Eskdalemuir**	**147.64**	**8**	PFAKE			20 14 50.0	+6.5	
ESK					LR	LR			
	comp=Z,335nm,19.0s,MS5.2								
SIM	**Simferopol'**	**147.66**	**319**	*i* PKP2		PKPab	20 14 48.1	-0.5	
SIM					pmax	pmax			
	comp=Z,48nm,0.8s								
SIM					pmax	pmax			
	comp=Z,500nm,11.0s								
GZT	**Gaziantep**	**148.39**	**304**	*i* P		PKPdf	20 14 48.5	+3.7	
BOYT	**Boyabat**	**148.85**	**312**	*i* P		PKPbc	20 14 49.4	0.0	
CTKT	**Corum**	**149.27**	**311**	*i* P		PKPbc	20 14 50.6	+0.2	
KIS	**Kishinev**	**149.40**	**326**	*e*PKHKP			20 14 46.0		
KIS				*e*			20 14 55.0		
KIS				*e*			20 18 22.0		
KIS				*e*PPS			20 31 16.0		
KIS					MLR	MLR			
	comp=N,500nm,20.0s,MS5.5								
KIS					MLR	MLR			
	comp=E,700nm,20.0s,MS5.5								
KIS					MLR	MLR			
	comp=Z,900nm,20.0s,MS5.6								
KIS	**Kishinev**	**149.40**	**326**	*e*PKP		PKPdf	20 14 49.0	+2.6	
	comp=Z,700nm,11.0s								
KIS	**Kishinev**	**149.40**	**326**	*e*PP		PP	20 18 22.0	-0.9	
KIS				*e*SKKS		SKKSac	20 25 18.0	+4.7	
KIS				*e*SKSP			20 28 40.0		
LVV	**L'vov**	**149.50**	**335**	*e*PKHKP			20 14 49.7		
LVV				*e*			20 15 00.7		
LVV					MLR	MLR			
	comp=N,600nm,20.0s,MS5.5								
LVV					MLR	MLR			
	comp=E,400nm,20.0s,MS5.5								
LVV					MLR	MLR			
	comp=Z,800nm,20.0s,MS5.5								
COBT	**Iskenderun**	**149.64**	**303**	*i* P		PKPbc	20 14 52.0	+0.7	
BALT	**Daday**	**149.82**	**314**	*i* P		PKPbc	20 14 52.3	+0.5	
AVNT	**Avonos**	**149.95**	**308**	*i* P		PKPbc	20 14 51.8	-0.4	
RUE	**Ruedersdorf**	**150.11**	**348**	*e*PKPbc		PKPbc	20 14 51.9	-0.6	
KWP	**Kalwaria**	**150.16**	**336**	*e*PKP		PKPbc	20 14 52.8	+0.1	
ELDT	**Eldivan**	**150.26**	**312**	*i* P		PKPbc	20 14 53.2	+0.3	
BR131	**Keskin Array S**	**150.44**	**310**	PFAKE			20 15 00.0	+12	
BR131					LR	LR			
	comp=Z,607nm,20.0s,MS5.4								
BRTR	**Keskin Array B**	**150.44**	**310**	PKPbc		PKPbc	20 14 53.1	-0.2	
	comp=Z,14nm,0.8s,baz=147,slow=3.3,SNR=45								
BRTR	**Keskin Array B**	**150.44**	**310**	PKIKP		PKPbc	20 14 53.2	-0.1	
BRTR					pmax	pmax			
	comp=Z,14nm,0.8s								
NRDL	**Niedersach Rie**	**150.65**	**353**	*e*PKPbc		PKPbc	20 14 53.2	-0.6	
OJC	**Ojcow**	**150.67**	**340**	*e*PKP		PKPbc	20 14 53.0	-0.9	
BURAR	**Bucovina Array**	**150.69**	**331**	⇑*i* P		PKPbc	20 14 55.4	+1.5	
STHS	**Stebnicka Huta**	**150.87**	**337**	*e*PKP		PKPbc	20 14 54.6	+0.3	
STHS				*e*			20 15 15.3		
KOLS	**Kolonicke sedl**	**150.89**	**335**	*e*PKP		PKPbc	20 14 54.3	-0.1	
ANTO	**Ankara**	**150.97**	**311**	⇑*i* P		PKPbc	20 14 55.7	+1.1	
ANTO	**Ankara**	**150.97**	**311**	⇑P		PKPbc	20 14 55.7	+1.1	
ANTO					LR	LR			
	comp=Z,587nm,19.0s,MS5.4								
IBBN	**Ibbenburen**	**151.04**	**356**	*e*PKPbc		PKPbc	20 14 54.2	-0.6	
KSP	**Ksiaz**	**151.11**	**344**	*e*PKP		PKPbc	20 14 54.9	0.0	
KSP	**Ksiaz**	**151.11**	**344**	*e*PKPdf		PKPdf	20 14 49.5	+0.4	
UZH	**Uzhgorod**	**151.13**	**335**	*e*PKIKP		PKPbc	20 14 55.0	0.0	
UZH				*e*			20 14 59.0		
UZH				*e*			20 15 08.0		
SGKT	**Sivrigoynuk**	**151.16**	**313**	*i* P		PKPbc	20 14 55.0	-0.1	
NIE	**Niedzica**	**151.19**	**338**	*e*PKP		PKPbc	20 14 55.4	+0.3	
VRI	**Vrincioaia**	**151.23**	**327**	⇓*i* P		PKPbc	20 14 55.2	0.0	
CLZ	**Clausthal**	**151.26**	**352**	*e*PKPbc		PKPbc	20 14 54.8	-0.5	
TIRR	**Tirgusor**	**151.26**	**323**	⇑*i* P		PKPbc	20 14 55.0	-0.3	
CLL	**Collm**	**151.38**	**349**	*e*PKPbc		PKPbc	20 14 55.0	-0.5	
CLL	**Collm**	**151.38**	**349**	⇓*e*PKIKP		PKPdf	20 14 48.0	-1.5	
CLL				*i*			20 14 55.0		
CLL				*i*			20 15 00.3		
CLL				*i*			20 15 07.4		
CLL					pmax	pmax			
	comp=Z,48nm,0.9s								
CLL					MLR	MLR			
	comp=Z,1μm,18.2s,MS5.7								
CLL	**Collm**	**151.38**	**349**	*e*PKPdf		PKPdf	20 14 48.0	-1.5	
CLL				⇓*i*PKPbc		PKPbc	20 14 55.0	-0.5	
	comp=Z,48nm,0.9s								
CLL				*i* (PKPab)		PKPab	20 15 00.3	-3.4	
CLL				*i* sPKPab			20 15 07.4		
CLL				*i* x		x	20 15 13.1		
CLL				*e*PSKS			20 29 08.0		
CLL				*e*SS		SS	20 37 58.0	+0.6	
CLL				LmV			21 37 00.0		
	comp=Z,1μm,18.2s								
UPC	**Upice**	**151.49**	**344**	*e*PKPbc		PKPbc	20 14 55.5	-0.3	
OKC	**Ostrava-Krasne**	**151.52**	**341**	*e*PKPbc		PKPbc	20 14 55.0	-0.9	
OKC				*e*pPKP		pPKPdf	20 15 08.1	+12	
OKC					AMS	AMS	21 29 20.0		
	comp=Z,1μm,21.1s								
DPC	**Dobruska-Polom**	**151.56**	**344**	*e*PKPbc		PKPbc	20 14 54.7	-1.2	
DPC					AMS	AMS	21 31 10.0		
	comp=Z,900nm,16.0s								
BRG	**Berggiesshubel**	**151.61**	**347**	*e*PKPbc		PKPbc	20 14 54.6	-1.5	
BRG	**Berggiesshubel**	**151.61**	**347**	*i* PKP		PKPbc	20 14 55.5	-0.6	
	comp=Z,22nm,0.8s								
BRG					PP	PP	20 18 32.0	-3.7	
BRG					SS	SS	20 37 59.0	-1.0	
BRG									
	comp=N,211nm,21.9s								
BRG									
	comp=E,564nm,19.8s								
BRG									
	comp=Z,768nm,20.8s								
BRG	**Berggiesshubel**	**151.61**	**347**	*i* PKIKP		PKPbc	20 14 55.5	-0.6	
BRG					SS	SS	20 37 59.0	-1.0	
BRG					pmax	pmax			
	comp=Z,22nm,0.8s								
BRG					MLR	MLR			
	comp=N,211nm,21.9s,MS5.4								
BRG					MLR	MLR			
	comp=E,564nm,19.8s,MS5.4								
BRG					MLR	MLR			
	comp=Z,768nm,20.8s,MS5.5								
FBE	**Freiberg**	**151.68**	**348**	*e*PKPbc		PKPbc	20 14 56.1	-0.1	
MORC	**Moravsky Berou**	**151.75**	**342**	⇑*i* P		PKPbc	20 14 56.5	+0.1	
MORC	**Moravsky Berou**	**151.75**	**342**	⇑P		PKPbc	20 14 56.5	+0.1	
PVCC	**Panska Ves**	**151.81**	**346**	*e*PKPbc		PKPbc	20 14 56.3	-0.2	
PVCC					AMS	AMS	21 31 00.0		
	comp=Z,2μm,17.1s								
MLR	**Muntele Rosu**	**151.88**	**327**	⇑*i* P		PKPbc	20 14 56.7	0.0	
KECS	**Kecovo**	**151.93**	**337**	*e*PKP		PKPbc	20 14 57.6	+0.8	
KECS				*e*			20 15 14.0		
BUG	**Bochum--Univer**	**151.94**	**356**	*e*PKPbc		PKPbc	20 14 56.4	-0.4	
EIL	**Elat**	**152.04**	**289**	*e*PKPbc		PKPbc	20 14 57.8	+0.7	
SNX	**Sinaia**	**152.19**	**327**	⇑*i* P		PKPbc	20 14 58.2	+0.8	
MOX	**Moxa**	**152.25**	**350**	*e*PKPbc		PKPbc	20 14 57.2	-0.3	
MOX	**Moxa**	**152.25**	**350**	*e*PKP		PKPbc	20 14 57.3	-0.2	
	comp=Z,44nm,1.9s								
MOX									
	comp=Z,1μm,20.0s								
MOX	**Moxa**	**152.25**	**350**	*e*PKIKP		PKPbc	20 14 57.3	-0.2	
MOX					pmax	pmax			
	comp=Z,44nm,1.9s								
MOX					MLR	MLR			
	comp=Z,1μm,20.0s,MS5.7								
PRU	**Pruhonice**	**152.32**	**346**	*e*PKPbc		PKPbc	20 14 57.1	-0.6	
PRU					AMS	AMS	21 32 20.0		
	comp=Z,1μm,18.0s								
WERD	**Werda**	**152.33**	**349**	*e*PKPbc		PKPbc	20 14 57.3	-0.4	
GUNZ	**Gunzen**	**152.40**	**349**	*e*PKPbc		PKPbc	20 14 57.7	-0.2	
DRGR		**152.43**	**332**	⇑*i* P		PKPbc	20 14 57.8	-0.1	
VRAC	**Vranov**	**152.44**	**343**	⇓*i* P		PKPdf	20 14 54.9	+3.8	
VRAC	**Vranov**	**152.44**	**343**	⇓P		PKPdf	20 14 54.9	+3.9	
VYHS	**Vyhne**	**152.49**	**339**	*e*PKP		PKPbc	20 14 57.8	-0.2	
NKC	**Novy Kostel**	**152.51**	**349**	*e*PKPbc		PKPbc	20 14 57.6	-0.5	
NKC				*e*pPKP		pPKPab	20 15 12.9	-1.9	
PSZ	**Piszkesteto**	**152.62**	**337**	⇑*i* P		PKPbc	20 14 57.7	-0.6	
PSZ	**Piszkesteto**	**152.62**	**337**	⇑P		PKPbc	20 14 57.7	-0.6	
PSZ	**Piszkesteto**	**152.62**	**337**	*e*pPKP		pPKPdf	20 14 57.8	-0.1	
GRF	**Grafenberg Arr**	**153.24**	**350**	*e*L			21 30 51.4		
	comp=Z,1μm,20.3s								
GRFO	**Grafenberg**	**153.24**	**350**	PFAKE			20 15 00.0	+7.8	
GRFO					LR	LR			
	comp=Z,1μm,20.0s,MS5.7								
KHC	**Kasperske Hory**	**153.34**	**347**	*e*PKPbc		PKPbc	20 14 55.9	-4.0	
KHC				*e*PKPab		PKPab	20 15 12.9	+0.9	
KHC				x		x	20 15 28.5		
KHC				AMS		AMS	21 28 50.0		
	comp=Z,2μm,21.2s								
KHC	**Kasperske Hory**	**153.34**	**347**	*e*PKIKP		PKPdf	20 14 55.9	+3.5	
KHC				*e*			20 15 12.9		
KHC					MLR	MLR			
	comp=Z,2μm,21.2s,MS5.8								
KHC	**Kasperske Hory**	**153.34**	**347**	*e*PKP		PKPdf	20 14 55.9	+3.5	
KHC				*e*			20 15 12.9		
KHC				*e*			20 15 28.5		
KHC					LR	LR			
	comp=Z,2μm,21.2s,MS5.8								
BAIF	**Baives**	**153.41**	**0**	*e*PKIKP		PKPdf	20 14 51.3	-1.2	
MSKU	**Masuku**	**153.52**	**201**	PFAKE			20 15 00.0	+7.4	
MSKU					LR	LR			
	comp=Z,32nm,21.0s								
GEC2	**GERESS Array S**	**153.58**	**346**	*e*PKPbc		PKPbc	20 15 00.2	-0.3	
GERES	**GERESS Array B**	**153.58**	**346**	PKP		PKPdf	20 14 52.6	-0.2	
	comp=Z,1.2nm,0.9s,baz=270,slow=1.3,SNR=7.1								
GERES					PKPbc	PKPbc	20 15 00.2	-0.3	
	comp=Z,4.6nm,0.9s,baz=48,slow=2.0,SNR=21								
BZS	**Buzias**	**153.82**	**332**	⇓*i* P		PKPbc	20 15 00.6	-0.4	
CONA	**Conrad Observa**	**153.90**	**342**	⇓*i* PKiKP		PKiKP	20 15 01.9	+0.7	
	comp=Z,13nm,0.9s								
FLN	**La Foliniere**	**154.41**	**8**	*e*PKIKP		PKPdf	20 14 52.7	-1.2	
FLN				*e*R					
	comp=Z,2μm,19.2s								
FLN	**La Foliniere**	**154.41**	**8**	*e*PKPdf		PKPdf	20 14 52.7	-1.2	
FLN					LR	LR			
	comp=Z,2μm,19.3s,MS5.9								
DIM	**Dimitrovgrad**	**154.42**	**322**	*e*PKP2		PKPab	20 15 17.0	+0.5	
PKSM	**Moragy**	**154.52**	**337**	⇑*i* P		PKPdf	20 14 53.3	-0.7	
PKSM	**Moragy**	**154.52**	**337**	⇑P		PKPdf	20 14 53.3	-0.7	
LDF	**La Druitiere**	**154.62**	**7**	*e*PKIKP		PKPdf	20 14 53.0	-1.2	
	comp=Z,127nm,1.7s								
KDZ	**Kurdzhali**	**154.74**	**321**	*e*PKP2		PKPab	20 15 20.0	+2.1	
PERS	**Pernice**	**155.28**	**342**	*e*PKPbc		PKPab	20 15 20.2	0.0	
VTS	**Vitosha**	**155.32**	**325**	*e*PKP2		PKPab	20 15 21.0	+0.6	
MMB	**Musomiste**	**155.74**	**323**	*e*PKP2		PKPab	20 15 22.0	-0.2	
VISS	**Visnje**	**156.12**	**342**	*i* PKPbc		PKPab	20 15 24.4	+0.6	
SRS	**Serrai**	**156.13**	**322**	*e*P		PKPab	20 15 23.6	-0.2	
LOR	**Lormes**	**156.20**	**1**	*e*PKIKP		PKPdf	20 14 55.0	-1.3	
	comp=Z,16nm,1.0s								
LOR				*e*R					
	comp=Z,2μm,19.8s								
LOR	**Lormes**	**156.20**	**1**	*e*PKPdf		PKPdf	20 14 55.0	-1.3	
LOR					LR	LR			
	comp=Z,2μm,19.8s,MS5.9								
SSF	**Saint Saulge**	**156.40**	**2**	*e*PKIKP		PKPdf	20 14 55.3	-1.3	
KNT	**Kendrikon**	**156.48**	**323**	*e*P		PKPab	20 15 26.8	+1.4	
PLG	**Polygyros**	**156.70**	**321**	*e*P		PKPab	20 15 26.5	+0.2	
GRG	**Griva**	**156.90**	**323**	*e*P		PKPab	20 15 28.1	+1.0	
TCF	**Toulx Ste Croi**	**157.11**	**4**	*e*PKIKP		PKPdf	20 14 56.3	-1.2	
	comp=Z,123nm,1.7s								
LIT	**Litokhoron**	**157.43**	**322**	*e*P		PKPab	20 15 29.0	-0.5	
LPL	**La Plagne**	**157.87**	**356**	*e*PKIKP		PKPdf	20 14 57.5	-1.0	
LPG	**La Plagne**	**157.89**	**356**	*e*PKIKP		PKPdf	20 14 57.6	-0.9	
AGG	**Agios Georgios**	**158.23**	**320**	*e*P		PKPab	20 15 32.8	-0.1	
ORIF	**Oris-en-Rattie**	**158.52**	**357**	*e*PKIKP		PKPdf	20 14 58.1	-1.1	
	comp=Z,26nm,1.2s								
ORIF				*e*R					
	comp=Z,1μm,21.5s								
IGT	**Igoumenitsa**	**159.02**	**324**	*e*P		PKPab	20 15 36.1	-0.3	
LKD	**Levkas**	**159.42**	**322**	*e*P		PKPab	20 15 37.8	-0.3	
SBF	**Sospel**	**159.46**	**354**	*e*PKIKP		PKPdf	20 14 59.2	-1.1	
SMRF	**Simiane la Rot**	**159.47**	**358**	*e*PKIKP		PKPdf	20 14 58.8	-1.6	
	comp=Z,186nm,1.9s								
LMR	**La Mourre**	**160.06**	**356**	*e*PKIKP		PKPdf	20 14 59.1	-1.9	
	comp=Z,273nm,1.7s								
PGF	**Pioggiola**	**160.55**	**350**	*e*PKIKP		PKPdf	20 14 59.8	-1.8	
LIC	**Lamto**	**160.64**	**151**	*e*PKIKP		PKPdf	20 15 00.0	-1.7	
	comp=Z,25nm,1.0s								
LIC				*e*R					
	comp=Z,1μm,20.2s								
LIC	**Lamto**	**160.64**	**151**	*e*PKPdf		PKPdf	20 15 00.0	-1.7	
LIC					LR	LR			
	comp=Z,700nm,20.3s								
PAB	**San Pablo**	**162.28**	**23**	PFAKE			20 15 10.0	+6.6	
PAB					LR	LR			
	comp=Z,2μm,19.0s								
ESDC	**Sonseca Array**	**162.30**	**22**	PKPab		PKPab	20 15 51.8	+1.1	
	comp=Z,1.0nm,0.7s,baz=332,slow=6.1,SNR=4.1								
ESLA	**Sonseca Array**	**162.30**	**22**	PFAKE			20 15 10.0	+6.6	
ESLA					LR	LR			
	comp=Z,9μm,19.0s								
KEST	**Kesra**	**167.01**	**342**	PKPab		PKPab	20 16 10.9	-0.4	
	comp=Z,2.4nm,0.9s,baz=258,slow=2.7,SNR=7.0								
TORD	**Torodi Ar. Bea**	**169.46**	**165**	PKP		PKPdf	20 15 08.4	-0.8	
	comp=Z,3.7nm,0.8s,baz=353,slow=1.0,SNR=20								
TORD				PKPab		PKPab	20 16 22.9	+0.7	
	comp=Z,3.4nm,0.9s,baz=186,slow=2.3,SNR=6.2								
TORD				PP		PP	20 20 16.1	+4.3	
	comp=Z,1.1nm,0.9s,baz=101,slow=39,SNR=3.5								

*ISCJB **24** 20:08:37.5±0.5, 42.01N±0.003×45.94E±0.003, h10km, Error ellipse: s-maj=4.3km s-min=2.9km az=162.7*
*MOS **24** 20:08:40.7±1.4, 42.13N×4.606E, h25km, mb3.9/1, Error ellipse: s-maj=12.0km s-min=8.7km az=121.9*
*CSEM **24** 20:08:40.7, 42.13N×4.606E, h25km, mb3.9, Error ellipse: s-maj=12.0km s-min=8.7km az=319.0, After OBN*
ISC 24 20:08:38.0±0.5, 4198N±003×4593E±003, h10km, n24, σ1§15/44, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BTLR	**Botlikh**	**0.72**	**18**	⇓*i* PG		**Pg**	**20 08 50.6**	**-1.3**
BTLR				*i* S		**Sg**	**20 09 01.0**	**-0.3**
BTLR					pmax	pmax		
	comp=Z,86nm,0.2s							
BTLR	**Botlikh**	**0.72**	**18**	*i* Pg		**Pg**	**20 08 50.6**	**-1.3**
	comp=Z,86nm,0.2s							
BTLR				*i* Sg		**Sg**	**20 09 01.0**	**-0.3**
XNZR	**Khunzakh**	**0.81**	**46**	*e*PG		**Pg**	**20 08 52.0**	**-1.6**
XNZR				*e*S		**Sg**	**20 09 04.0**	**-0.1**
XNZR					pmax	pmax		
	comp=Z,48nm,0.1s							
XNZR	**Khunzakh**	**0.81**	**46**	*e*Pg		**Pg**	**20 08 52.0**	**-1.6**
	comp=Z,48nm,0.1s							
XNZR				*e*Sg		**Sg**	**20 09 04.0**	**-0.1**
KMKR	**Kumukh**	**0.89**	**80**	*i* PG		**Pg**	**20 08 57.0**	**+1.9**
KMKR				*i* S		**Sg**	**20 09 12.0**	**+5.4**
KMKR					pmax	pmax		
	comp=Z,95nm,0.2s							
KMKR	**Kumukh**	**0.89**	**80**	*i* Pg		**Pg**	**20 08 57.0**	**+1.9**
	comp=Z,95nm,0.2s							
KMKR				*i* Sg		**Sg**	**20 09 12.0**	**+5.4**
DUS	**Dusheti**	**0.92**	**277**	P		**Pg**	**20 08 55.3**	**-0.5**
DUS				S		**Sg**	**20 09 08.1**	**+0.4**
UNCR	**Uncukul**	**0.98**	**41**	*e*PG		**Pg**	**20 08 56.3**	**-0.5**
UNCR				*e*S		**Sg**	**20 09 09.8**	**+0.3**
UNCR					pmax	pmax		
	comp=Z,72nm,0.2s							
UNCR	**Uncukul**	**0.98**	**41**	*e*Pg		**Pg**	**20 08 56.3**	**-0.5**
	comp=Z,72nm,0.2s							
UNCR				*e*Sg		**Sg**	**20 09 09.8**	**+0.3**
KRNR	**Karanay**	**1.11**	**40**	*e*PG		**Pg**	**20 08 59.0**	**-0.5**
KRNR				*i* S		**Sg**	**20 09 14.0**	**+0.1**
KRNR					pmax	pmax		
	comp=Z,40nm,0.2s							
KRNR	**Karanay**	**1.11**	**40**	*e*Pg		**Pg**	**20 08 59.0**	**-0.5**
	comp=Z,40nm,0.2s							
KRNR				*i* Sg		**Sg**	**20 09 14.0**	**+0.1**
DBC	**Dubki**	**1.24**	**32**	*e*PG		**Pg**	**20 09 00.0**	**-1.8**
DBC				*i* S		**Sb**	**20 09 17.0**	**-0.4**
DBC					pmax	pmax		
	comp=Z,63nm,0.5s							
DBC	**Dubki**	**1.24**	**32**	*e*Pg		**Pg**	**20 09 00.0**	**-1.8**
	comp=Z,63nm,0.5s							
DBC				*i* Sg		**Sb**	**20 09 17.0**	**-0.4**
KZR	**Kazreti**	**1.28**	**243**	P		**Pn**	**20 09 00.4**	**-1.5**
KZR				S		**Sb**	**20 09 17.0**	**-1.7**
SNJR	**Sundja**	**1.36**	**323**	*i* Pg		**Pg**	**20 09 04.5**	**+0.3**
SNJR				*i* Sg		**Sg**	**20 09 23.4**	**+1.5**
VLKR	**Vladikavkaz**	**1.41**	**320**	*i* Pg		**Pg**	**20 09 04.9**	**-0.2**
VLKR				*i* Sg		**Sg**	**20 09 24.0**	**+0.6**
AKT	**Akhty**	**1.44**	**110**	*e*PG		**Pg**	**20 09 05.0**	**-0.6**
AKT				*e*S		**Sg**	**20 09 26.0**	**+1.7**
AKT					pmax	pmax		
	comp=Z,32nm,0.2s							
AKT	**Akhty**	**1.44**	**110**	*e*Pg		**Pg**	**20 09 05.0**	**-0.6**
	comp=Z,32nm,0.2s							
AKT				*e*Sg		**Sg**	**20 09 26.0**	**+1.7**
LACR	**Lac**	**1.47**	**306**	*i* Pg		**Pg**	**20 09 04.9**	**-1.4**
ZEI	**Tsey**	**1.70**	**298**	*i* Pn		**Pn**	**20 09 08.4**	**+0.7**
ARNR	**Ardon**	**1.71**	**315**	*e*Pn		**Pn**	**20 09 09.8**	**+1.9**
ARNR				*e*Sg		**Sg**	**20 09 32.4**	**-0.8**
KORR	**Kora**	**1.76**	**309**	*i* Pn		**Pn**	**20 09 10.5**	**+1.9**
TRKR	**Terskaya**	**1.95**	**334**	*e*Pn		**Pn**	**20 09 14.4**	**+3.2**
TRKR				*e*Sg		**Sg**	**20 09 40.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.96**	**299**	*i* Pn		**Pn**	**20 09 12.8**	**+1.4**

IDC 24 20:16:13.6±4.3, 4800N×15608E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, MS4.7/1, Ms1 4.7/1, ms1mx3.2/38, Error ellipse: s-maj=152.6km s-min=34.1km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZAL	**Zalesovo**	**43.54**	**306**	P		P	20 24 18.7	-0.3
	0.7nm,0.6s,baz=36,slow=4.6,SNR=3.7							
MKAR	**Makanchi Array**	**48.15**	**298**	P		P	20 24 55.1	-0.3
	1.6nm,0.9s,baz=60,slow=7.2,SNR=4.6							
YKA	**Yellowknife Ar**	**48.71**	**38**	LR		LR	20 47 04.2	
	comp=Z,804nm,20.4s,baz=215,slow=38							
BVAR	**Borovoye Array**	**51.62**	**310**	P		P	20 25 21.2	-0.6
	1.2nm,0.6s,baz=48,slow=6.6,SNR=7.4							
FINES	**FINESS Array B**	**63.75**	**336**	P		P	20 26 46.6	-0.6
	1.0nm,0.8s,baz=47,slow=6.3,SNR=5.4							
TXAR	**Lajitas Array**	**75.13**	**63**	P		P	20 27 57.8	+0.2
	0.5nm,0.7s,baz=320,slow=3.3,SNR=4.2							

*NEIC **24** 20:26:02.9, 37.12N×2156E, h11km, MD3.5(ATH), After ATH.*
ATH 24 20:26:02.9, 3712N×2156E, h11km±2km, MD3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ITM	**Ithomi**	**0.30**	**78**	*e*PG		Pg	20 26 08.7	-0.2
ITM				*e*SG		Sg	20 26 13.4	+0.4
RLS	**Riolos of Patr**	**0.94**	**356**	*e*PG		Pg	20 26 20.4	-0.6
RLS				*e*SB		Sb	20 26 34.2	+0.6
VLI	**Veliai**	**1.17**	**110**	*e*PB		Pb	20 26 25.5	+0.3
VLI				*e*SB		Sb	20 26 41.0	+0.6
KYTH	**Kithira**	**1.45**	**125**	*e*PB		Pb	20 26 30.5	+0.6
NAIG	**Nisos Aigina**	**1.66**	**67**	*e*PB		Pb	20 26 34.5	+1.0
EVR	**Evrytania**	**1.80**	**6**	*e*PN		Pn	20 26 36.1	+2.2
KVR	**Kavouri**	**1.90**	**67**	*e*PN		Pn	20 26 37.0	+1.8
THL	**Klokotos Trika**	**2.47**	**8**	*e*PB		Pb	20 26 44.8	-2.4
NEO	**Neokhori**	**2.55**	**30**	*e*PN		Pn	20 26 46.5	+2.4

*MAN **24** 20:40:27.9, 1256N×127.79E, h32km, mb4.3, ML5.2, MS4.6*
*ISCJB **24** 20:40:48.8±1.9, 1278N±004×126.14E±004, h13km±12km, mb4.2/16, MS3.3/1, Error ellipse: s-maj=7.0km s-min=6.4km az=125.3*
*BJI **24** 20:40:55.8, 1280N×126.05E, h64km, mb4.6*
*IDC **24** 20:40:56.3±8.8, 1277N×126.37E, h60km±84km, mb3.8/12, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, MS3.7/2, Ms1 3.7/2, ms1mx3.0/38, Error ellipse: s-maj=47

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.07**	**44**	⇓*i*P	Pg	20 43 28.9	-0.3
ADEN				*i* S	Sg	20 43 43.9	+0.9
ADEN				AML	AML	20 43 51.7	
	comp=N,1μm,0.7s						
ADEN	**Aden**	**1.07**	**44**	⇓*i*P	Pg	20 43 28.9	-0.2
ADEN				*i* S	Sg	20 43 43.9	+0.9
	comp=N,532nm,0.7s						
TRBA	**At Turbah**	**1.22**	**355**	⇓*i*P	Pb	20 43 31.9	-0.1
TRBA				*i* S	Sg	20 43 48.3	+0.5
TRBA				AML	AML	20 43 54.3	
	comp=E,600nm,0.9s						
UDYN	**Al 'Udayn**	**1.96**	**353**	⇑*i*P	Pn	20 43 43.1	+0.8
UDYN				*i* S	Sn	20 44 11.2	+4.1
LBOS		**2.11**	**28**	*i* P	Pn	20 43 45.6	+1.4
LBOS				*i* S	Sn	20 44 15.9	+5.3
BDHA	**Al Bayda'**	**2.36**	**34**	⇓*i*P	Pn	20 43 49.5	+1.8
BDHA				*i* S	Sn	20 44 21.3	+4.5
BDHA				AML	AML	20 44 36.7	
	comp=N,564nm,0.6s						
BDHA	**Al Bayda'**	**2.36**	**34**	⇓*i*P	Pn	20 43 49.5	+1.9
BDHA				*i* S	Sn	20 44 21.3	+4.5
	comp=N,282nm,0.6s						

IDC ***24*** *20:54:00.5±1.1, 47.39N×153.49E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/23, mbtmp3.8/10, Error ellipse: s-maj=31.0km s-min=23.9km az=131.0*

NEIC ***24*** *20:54:02.1±1.0, 47.34N×153.56E, h10km, Error ellipse: s-maj=26.9km s-min=15.8km az=118.0*

ISCJB ***24*** *20:54:07.0±1.6, 47.4N±0.1×153.5E±0.2, h63km±13km, mb3.8/10, Error ellipse: s-maj=25.1km s-min=9.8km az=87.5*

MOS ***24*** *20:54:07.4±1.1, 47.43N×153.48E, h69km, mb4.1/8, Error ellipse: s-maj=23.8km s-min=13.6km az=85.7*

ISC 24 20:54:08.8±1.5, 47.4N±0.1×153.5E±0.2, h65km±12km, n24, σ0.75/25, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.69**	**27**	*e*PN	**Pn**	**20 55 02.8**	**-0.5**
SKR				*e*S	**Sn**	**20 55 45.7**	**+0.1**
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,100nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.35**	**270**	*e*PN	**Pn**	**20 55 54.8**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.35**	**270**	*e*P	**Pn**	**20 55 54.2**	**+0.8**
	comp=Z,25nm,0.6s						
MA2	**Magadan**	**12.29**	**353**	*e*PN	**Pn**	**20 57 00.7**	**-0.2**
MJAR	**Matsushiro Arr**	**15.70**	**232**	Pn	**Pn**	**20 57 45.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=36,slow=9.8,SNR=9.5						
KSRS	**Korea Array**	**21.26**	**251**	P	**P**	**20 58 49.9**	**+0.3**
	comp=Z,2.3nm,0.8s,mb3.5,baz=69,slow=9.0,SNR=5.1						
INK	**Inuvik**	**40.95**	**33**	P	**P**	**21 01 45.6**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.7,baz=280,slow=5.4,SNR=4.2						
INK	**Inuvik**	**40.95**	**33**	P	**P**	**21 01 45.6**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**21 02 32.7**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=73,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**21 02 32.7**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHKZ	**Chkalovo**	**50.22**	**310**	*e*P	**P**	**21 02 57.3**	**-0.7**
CHKZ				*e*	pP	21 03 09.7	-5.0
ARCES	**ARCESS Array B**	**57.32**	**341**	P	**P**	**21 03 49.3**	**-0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=32,slow=7.1,SNR=3.8						
ARCES	**ARCESS Array B**	**57.32**	**341**	P	**P**	**21 03 49.3**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**21 04 31.1**	**-1.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=32,slow=6.9,SNR=18						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**21 04 31.1**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**64.14**	**54**	P	**P**	**21 04 37.1**	**+0.9**
	comp=Z,0.7nm,0.9s,mb3.5,baz=263,slow=3.9,SNR=5.0						
NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**21 04 58.4**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.8,baz=27,slow=6.0,SNR=3.3						
NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**21 04 58.4**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.15**	**326**	P	**P**	**21 05 21.8**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=34,slow=5.7,SNR=2.6						
AKASG	**Malin Array Be**	**71.15**	**326**	P	**P**	**21 05 21.8**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**21 05 30.6**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=6.7,slow=5.4,SNR=6.8						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**21 05 30.7**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**78.09**	**317**	P	**P**	**21 06 00.8**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=96,slow=4.6,SNR=5.4						
BRTR	**Keskin Array B**	**78.09**	**317**	P	**P**	**21 06 00.8**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

NIED ***24*** *21:02:00, 46.60N×153.00E, h38km, Mw5.2 Best double couple: M0 7.46000×10^16 NP1:φs344.00000°, δ60.00000°, λ43.00000°. NP2:φs229.00000°, δ53.00000°, λ142.00000°.*

BJI ***24*** *21:02:17.9, 46.71N×152.99E, h24km, mB5.3, mb5.0, Ms4.9, Msz4.8*

IDC ***24*** *21:02:18.2±0.4, 46.69N×152.47E, h0km, mb4.8/28, mb1 4.9/29, mb1mx4.9/30, mbtmp4.8/29, ML4.2/1, MS4.7/22, Ms1 4.7/22, ms1mx4.6/31, Error ellipse: s-maj=14.0km s-min=10.5km az=116.0*

NEIC ***24*** *21:02:20.2±0.1, 46.71N×152.48E, h10km, mb5.4/107, Error ellipse: s-maj=4.3km s-min=2.8km az=163.0*

GCMT ***24*** *21:02:20.2±0.2, 46.63N×152.89E, h50km, MW5.3/92, Moment Tensor Solution. s85,c154; s92,c182; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr 1.21±.03; Mθθ-0.43±.02; Mφφ-0.77±.02; Mrθ 0.16±.01; Mθφ-0.57±.01; Mφr 0.53±.01; Best double couple: M0 1.32500×10^17 NP1:φs224.00000°, δ34.00000°, λ103.00000°. NP2:φs29.00000°, δ57.00000°, λ81.00000°. Principal axes: T 1.3410, Plg76.0000°, Azm272.0000°; N -0.0260, Plg7.0000°, Azm33.0000°; P -1.3100, Plg12.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***24*** *21:02:21.6±0.1, 46.64N±0.002×152.54E±0.002, h31km, mb5.2/194, MS4.8/59 Error ellipse: s-maj=3.6km s-min=1.6km az=139.3*

JMA ***24*** *21:02:22.5±0.6, 46.58N×152.95E, h30km, M5.5*

MOS ***24*** *21:02:23.2±1.0, 46.65N×152.48E, h46km, mb5.4/73, MS4.8/35, Error ellipse: s-maj=6.5km s-min=4.2km az=97.0*

SKHL ***24*** *21:02:24.5±3.2, 46.76N×152.56E, h53km±16km, mb6.1/6, Ms5.1/7, msh5.9/4*

SZGRF ***24*** *21:02:30.4, 47.66N×151.70E, h33km, mb5.3, Kuril Islands, Russia*

ISC 24 21:02:24.1±0.1, 46.79N±0.002×152.45E±0.002, h33km, h33km±1.5km: pP-P, n843, σ0.94/870, mb5.2/194, MS4.8/59, 142C-104D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.55**	**246**	⇑*i*P	**Pn**	**21 03 17.0**	**+0.1**
KUR				⇑*i*P		21 03 17.0	
KUR				AMB	AMB	21 03 32.0	
	6μm,2.0s						
KUR				AMB	AMB	21 03 32.0	
	4μm,2.0s						
KUR				AMB	AMB	21 03 35.5	
	380nm,0.6s						
KUR				AMB	AMB	21 03 35.5	
	532nm,0.6s						
KUR				AMB	AMB	21 03 35.5	
	1μm,0.6s						
KUR				*i* S	**Sn**	**21 03 57.5**	**-0.2**
KUR				A		21 04 10.0	
	25μm,2.0s						
KUR				A		21 04 11.0	
	6μm,0.7s						
KUR				A		21 04 11.0	
	5μm,0.7s						
KUR				A		21 04 17.6	
	28μm,3.0s						
KUR				AMS	AMS	21 04 55.0	
	16μm,12.0s						
KUR				AMS	AMS	21 04 55.0	
	21μm,12.0s						
KUR	**Kuril'sk**	**3.55**	**246**	*ei*PN	**Pn**	**21 03 17.0**	**+0.1**
KUR				*i* S	**Sn**	**21 03 57.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,4μm,2.0s						
KUR				pmax	pmax		
	comp=Z,6μm,2.0s						
KUR				pmax	pmax		
	comp=N,380nm,0.6s						
KUR				pmax	pmax		
	comp=E,530nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				smax			
	comp=N,6μm,0.7s						
KUR				smax			
	comp=E,5μm,0.7s						
KUR				smax			
	comp=N,28μm,3.0s						
KUR				MLR	MLR		
	comp=N,16μm,12.0s						
KUR				MLR	MLR		
	comp=Z,21μm,12.0s						
SKR	**Severo-Kuril's**	**4.59**	**31**	*e*P	**Pn**	**21 03 33.5**	**+2.3**
SKR				AMB	AMB	21 03 36.5	
	comp=Z,150nm,0.5s						
SKR				AMB	AMB	21 03 36.5	
	comp=Z,290nm,0.5s						
SKR				*e*S	**Sn**	**21 04 22.2**	**-1.1**
SKR				A		21 04 29.0	
	comp=Z,4μm,6.0s						
SKR				A		21 04 29.0	
	comp=Z,11μm,6.0s						
SKR				A		21 04 29.0	
	comp=Z,6μm,10.0s						
SKR				A		21 04 31.7	
	comp=Z,1μm,0.2s						
SKR				A		21 04 31.7	
	comp=Z,2μm,0.2s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,5μm,16.0s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,10μm,16.0s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,6μm,16.0s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,7μm,16.0s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,6μm,16.0s						
SKR				AMS	AMS	21 05 30.0	
	comp=Z,11μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**5.39**	**242**	⇓*i*P	**Pn**	**21 03 45.2**	**+3.0**
YUK				AMB	AMB	21 03 48.0	
	comp=Z,740nm,0.5s						
YUK				AMB	AMB	21 03 48.0	
	comp=Z,2μm,0.5s						
YUK				AMB	AMB	21 03 50.0	
	comp=Z,3μm,2.0s						
YUK				*i* S	**Sn**	**21 04 48.2**	**+5.0**
YUK				A		21 05 09.0	
	comp=Z,10μm,2.0s						
YUK				A		21 05 09.0	
	comp=Z,15μm,2.0s						
YUK				A		21 05 10.9	
	comp=Z,5μm,0.5s						
YUK				AMS	AMS	21 05 52.0	
	comp=Z,19μm,13.0s						
YUK				AMS	AMS	21 05 52.0	
	comp=Z,14μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.39**	**242**	⇓*i*PN	**Pn**	**21 03 45.2**	**+3.0**
YUK				*i* S	**Sn**	**21 04 48.2**	**+5.0**
YUK				pmax	pmax		
	comp=E,740nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,2.0s						
YUK				smax			
	comp=N,10μm,2.0s						
YUK				smax			
	comp=E,15μm,2.0s						
YUK				smax			
	comp=N,470nm,0.5s						
YUK				MLR	MLR		
	comp=Z,14μm,15.0s						
YUK				MLR	MLR		
	comp=E,14μm,13.0s						
NEM2	**Nemuro 2**	**5.85**	**237**	P	**Pn**	**21 03 49.0**	**+0.5**
NEM2				*e*S	**Sn**	**21 04 52.7**	**-1.8**
JRA	**Rausu**	**5.90**	**244**	P	**Pn**	**21 03 52.7**	**+3.6**
JRA				*e*S	**Sn**	**21 05 01.2**	**+5.7**
JNK	**Nakash**	**6.33**	**242**	P	**Pn**	**21 03 58.0**	**+2.9**
JNK				*e*S	**Sn**	**21 05 08.4**	**+2.1**
JTKR	**Abashiri--Toko**	**6.64**	**248**	P	**Pn**	**21 04 03.3**	**+3.9**
YSS	**Yuzh-Sakhalins**	**6.65**	**275**	⇓*e*P	**Pn**	**21 04 05.0**	**+5.6**
YSS				⇓*i*P		21 04 05.0	
YSS				AMB	AMB	21 04 06.1	
	comp=E,110nm,0.4s						
YSS				AMB	AMB	21 04 10.0	
	comp=E,1μm,5.0s						
YSS				*e*S	**Sn**	**21 05 19.9**	**+5.9**
YSS				A		21 05 23.2	
	comp=E,160nm,0.5s						
YSS				A		21 05 23.2	
	comp=E,220nm,0.5s						
YSS				*e*LQ		21 05 27.0	
YSS				*e*LR	LR	21 05 53.0	
YSS				AMS	AMS	21 06 28.0	
	comp=E,10μm,17.0s						
YSS				AMS	AMS	21 06 28.0	
	comp=E,9μm,17.0s						
YSS				AMS	AMS	21 06 28.0	
	comp=E,4μm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.65**	**275**	*d*PN	**Pn**	**21 04 05.0**	**+5.6**
YSS	**Yuzh-Sakhalins**	**6.65**	**275**	*e*Pn	**Pn**	**21 04 05.2**	**+5.8**
JAK	**Akkeshi**	**6.69**	**238**	P	**Pn**	**21 04 00.5**	**+0.5**
JAK				*e*S	**Sn**	**21 05 12.3**	**-2.7**
JMP	**Maruseppu**	**6.98**	**250**	⇑P	**Pn**	**21 04 08.1**	**+4.1**
JAR	**Ashorobuto**	**7.07**	**244**	P	**Pn**	**21 04 08.0**	**+2.8**
JAR				*e*S	**Sn**	**21 05 27.0**	**+2.6**
JSE	**Soyaes**	**7.12**	**259**	P	**Pn**	**21 04 11.3**	**+5.3**
JOB	**Onbets**	**7.25**	**241**	P	**Pn**	**21 04 09.3**	**+1.6**
JOB				*e*S	**Sn**	**21 05 27.8**	**-1.1**
UGL	**Uglegorsk**	**7.34**	**292**	*e*P	**Pn**	**21 04 15.0**	**+6.1**
UGL				AMB	AMB	21 04 18.0	
	comp=E,336nm,0.8s						
UGL				AMB	AMB	21 04 18.0	
	comp=E,2μm,4.0s						
UGL				AMS	AMS	21 07 03.0	
	comp=E,22μm,19.0s						
UGL				AMS	AMS	21 07 03.0	
	comp=E,10μm,17.0s						
UGL				AMS	AMS	21 07 03.0	
	comp=E,11μm,18.0s						
PET	**Petropavlovsk**	**7.41**	**30**	*e*PN	**Pn**	**21 04 14.3**	**+4.4**
PET				pmax	pmax		
	comp=Z,96nm,1.1s						
PET				MLR	MLR		
	comp=Z,3μm,23.0s						
PET	**Petropavlovsk**	**7.41**	**30**	*e*Pn	**Pn**	**21 04 16.1**	**+6.1**
ASAJ	**Asahikawa**	**7.42**	**252**	Pn	**Pn**	**21 04 15.5**	**+5.4**
	comp=Z,19nm,0.3s,baz=79,slow=10,SNR=111						
ASAJ				LR	LR	21 06 58.4	
	comp=Z,7μm,20.4s,baz=73,slow=38						
ASAJ	**Asahikawa**	**7.42**	**252**	⇑P	**Pn**	**21 04 15.6**	**+5.5**
ASAJ	**Asahikawa**	**7.42**	**252**	PN	**Pn**	**21 04 15.5**	**+5.4**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,7μm,20.4s						
JKK2	**Kamakawa 2**	**7.43**	**250**	⇑P	**Pn**	**21 04 14.7**	**+4.5**
JWK2	**Keihoku**	**7.49**	**262**	P	**Pn**	**21 04 18.9**	**+7.9**
TYV	**Tymovskoe**	**7.64**	**306**	*e*P	**Pn**	**21 04 18.5**	**+5.5**
TYV				AMB	AMB	21 04 23.0	
	comp=Z,68nm,0.8s						
TYV				AMB	AMB	21 04 23.0	
	comp=Z,134nm,0.8s						
TYV				AMB	AMB	21 04 28.0	
	comp=Z,2μm,4.0s						
TYV				AMS	AMS	21 07 28.0	
	comp=Z,7μm,16.0s						
TYV				AMS	AMS	21 07 28.0	
	comp=Z,12μm,16.0s						
TYV				AMS	AMS	21 07 28.0	
	comp=Z,10μm,18.0s						
JCH	**Churui**	**7.70**	**240**	P	**Pn**	**21 04 14.9**	**+1.0**
JCH				*e*S	**Sn**	**21 05 38.5**	**-1.5**
JSS	**Shosan**	**7.81**	**256**	P	**Pn**	**21 04 23.1**	**+7.8**
JFR	**Furan**	**7.87**	**246**	P	**Pn**	**21 04 19.6**	**+3.4**
JAB	**Ashibetsu**	**7.94**	**249**	P	**Pn**	**21 04 21.9**	**+4.7**
JHR	**Hokuryu**	**8.15**	**252**	P	**Pn**	**21 04 26.5**	**+6.4**
ERM	**Erimo**	**8.19**	**238**	Pn	**Pn**	**21 04 23.3**	**+2.7**
	comp=Z,2μm,0.6s,SNR=53						
ERM	**Erimo**	**8.19**	**238**	*ci*PN	**Pn**	**21 04 22.6**	**+2.0**
ERM	**Erimo**	**8.19**	**238**	*e*Pn	**Pn**	**21 04 21.6**	**+1.0**
	comp=Z,346nm,0.6s						
JEM	**Erimo**	**8.19**	**238**	P	**Pn**	**21 04 22.0**	**+1.5**
JEM				*e*S	**Sn**	**21 05 50.2**	**-1.7**
JBT2	**Biratori 2**	**8.22**	**244**	P	**Pn**	**21 04 22.9**	**+1.9**
JBT2				*e*S	**Sn**	**21 05 52.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.26**	**240**	P	**Pn**	**21 04 22.0**	**+0.4**
JNBK				*e*S	**Sn**	**21 05 51.5**	**-2.3**
JEW	**Eniwo**	**8.76**	**247**	P	**Pn**	**21 04 31.4**	**+3.0**
JSK	**Shakotan**	**9.14**	**252**	P	**Pn**	**21 04 39.0**	**+5.3**
JNB	**Noboribetsu**	**9.21**	**246**	P	**Pn**	**21 04 36.0**	**+1.4**
JNB				*e*S	**Sn**	**21 06 17.2**	**+0.2**
JKB	**Kayabe**	**9.53**	**243**	P	**Pn**	**21 04 39.0**	**0.0**
JKB				*e*S	**Sn**	**21 06 21.0**	**-4.0**
JSH	**Shimam**	**9.75**	**249**	P	**Pn**	**21 04 44.7**	**+2.7**
JYM2	**Yakumo 2**	**9.82**	**246**	P	**Pn**	**21 04 43.8**	**+0.9**
NKL	**Nikolayevsk**	**9.89**	**314**	*e*P	**Pn**	**21 04 46.0**	**+2.1**
NKL				AMB	AMB	21 04 50.0	
	comp=Z,650nm,1.8s						
NKL				AMB	AMB	21 04 50.0	
	comp=Z,700nm,1.8s						
NKL				AMB	AMB	21 04 50.0	
	comp=Z,1μm,1.8s						
NKL				*e*L		21 07 14.0	
NKL				AMS	AMS	21 09 26.0	
	comp=Z,5μm,15.0s						
NKL				AMS	AMS	21 09 26.0	
	comp=Z,10μm,15.0s						
JSR	**Shiriuchi**	**10.11**	**243**	P	**Pn**	**21 04 47.2**	**+0.2**
JSR				*e*S	**Sn**	**21 06 33.9**	**-5.3**
JTM	**Tenmabayashi**	**10.18**	**238**	P	**Pn**	**21 04 46.3**	**-1.6**
JTM				*e*S	**Sn**	**21 06 33.1**	**-7.7**
JANG	**Nango**	**10.20**	**235**	P	**Pn**	**21 04 45.9**	**-2.2**
JANG				*e*S	**Sn**	**21 06 32.2**	**-9.0**
JTH	**Tanohata**	**10.30**	**232**	P	**Pn**	**21 04 47.0**	**-2.6**
JTH				*e*S	**Sn**	**21 06 33.5**	**-10**
JOSM	**Okushiri--Mats**	**10.40**	**248**	P	**Pn**	**21 04 52.1**	**+1.2**
OFUJ	**Ofunato**	**11.03**	**230**	P	**Pn**	**21 04 56.8**	**-2.7**
OFUJ				*e*S	**Sn**	**21 06 48.4**	**-13**
TEY	**Ternei**	**11.18**	**267**	*e*P	**Pn**	**21 05 07.0**	**+5.4**
TEY				AMB	AMB	21 05 09.0	
	comp=Z,280nm,1.3s						
TEY				AMS	AMS	21 09 21.0	
	comp=Z,1μm,15.0s						
TEY				AMS	AMS	21 09 21.0	
	comp=Z,5μm,15.0s						
TEY				AMS	AMS	21 09 21.0	
	comp=Z,2μm,16.0s						
JRG	**Rokugo**	**11.36**	**234**	P	**Pn**	**21 05 02.6**	**-1.4**
JRG				*e*S	**Sn**	**21 06 59.0**	**-11**
JIO	**Ouri**	**11.66**	**228**	P	**Pn**	**21 05 04.7**	**-3.5**
JIO				*e*S	**Sn**	**21 07 05.6**	**-12**
HABR	**Khabarovsk**	**11.86**	**285**	⇓*i*PN	**Pn**	**21 05 17.2**	**+6.3**
HABR				*e*S	**Sn**	**21 07 32.9**	**+11**
HABR				pmax	pmax		
	comp=Z,146nm,1.7s						
JYA	**Atsumi**	**12.43**	**233**	P	**Pn**	**21 05 17.4**	**-1.3**
JFK	**Kawauchi**	**12.74**	**226**	P	**Pn**	**21 05 20.4**	**-2.5**
JFK				*e*S	**Sn**	**21 07 31.5**	**-12**
MA2	**Magadan**	**12.85**	**356**	*e*PN	**Pn**	**21 05 27.8**	**+3.4**
JFY	**Yanaizu**	**13.30**	**230**	P	**Pn**	**21 05 28.8**	**-1.8**
KLR	**Kul'dur**	**14.06**	**288**	*e*P	**Pn**	**21 05 43.5**	**+2.5**
KLR				*e*S	**Sn**	**21 08 24.5**	**+8.7**
KLR				pmax	pmax		
	comp=E,900nm,3.8s						
KLR				pmax	pmax		
	comp=Z,600nm,3.8s						
KLR				smax			
	comp=N,2μm,11.0s						
KLR				smax			
	comp=E,700nm,11.0s						
KLR				MLR	MLR		
	comp=N,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,8μm,14.0s						
MAJO	**Matsushiro**	**14.74**	**231**	*e*P	**Pn**	**21 05 48.0**	**-2.3**
MAT	**Matsushiro**	**14.74**	**231**	P	**Pn**	**21 05 47.6**	**-2.7**
MAT				S	**Sn**	**21 08 36.0**	**+3.6**
MJAR	**Matsushiro Arr**	**14.74**	**231**	Pn	**Pn**	**21 05 47.0**	**-3.2**
	comp=Z,1.0nm,0.3s,baz=27,slow=14,SNR=13						
MJAR				LR	LR	21 12 28.3	
	comp=Z,751nm,18.1s,baz=55,slow=42						
MJAR	**Matsushiro Arr**	**14.74**	**231**	P	**Pn**	**21 05 47.1**	**-3.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,751nm,18.1s						
VLA	**Vladivostok**	**15.00**	**263**	⇑*i*P	**Pn**	**21 05 57.0**	**+3.3**
VLA				pmax	pmax		
	comp=Z,95nm,1.5s						
VLA				MLR	MLR		
	comp=Z,3μm,16.0s						
MDJ	**Mudanjiang**	**16.11**	**271**	P	**Pn**	**21 06 07.8**	**-0.2**
MDJ				AP	pP	21 06 13.8	-5.8
MDJ				XP	sP	21 06 15.0	-8.9
MDJ				S	**Sn**	**21 09 08.4**	**+2.9**
MDJ				XS	sS	21 09 26.0	-5.8
MDJ				SCP	ScP	21 14 36.5	+2.0
MDJ				PCS	PcS	21 14 37.5	-0.8
MDJ				AMB	AMB		
	comp=Z,16nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,343nm,6.9s						
MDJ				LR	LR		
	comp=N,2μm,20.7s						
MDJ				LR	LR		
	comp=E,2μm,25.1s						
MDJ				LR	LR		
	comp=Z,3μm,21.8s						
MDJ	**Mudanjiang**	**16.11**	**271**	*e*P	**Pn**	**21 06 09.4**	**+1.4**
	comp=Z,57nm,0.9s						
SEY	**Seymchan**	**16.18**	**360**	⇓*e*P	**Pn**	**21 06 13.6**	**+4.7**
JHJ	**Hachijo jima 2**	**16.72**	**220**	LR	LR	21 12 08.4	
	comp=Z,574nm,18.3s,baz=43,slow=36						
ZEA	**Zeya**	**17.48**	**303**	*e*P	**Pn**	**21 06 25.3**	**0.0**
ZEA				AMB	AMB	21 06 29.0	
	comp=Z,1μm,4.0s						
ZEA				AMB	AMB	21 06 29.0	
	comp=Z,600nm,4.0s						
ZEA				AMB	AMB	21 06 29.0	
	comp=Z,1μm,4.0s						
ZEA				AMB	AMB	21 06 29.4	
	comp=Z,52nm,0.8s						
ZEA				AMB	AMB	21 06 29.4	
	comp=Z,54nm,0.9s						
ZEA				A		21 09 50.0	
	comp=Z,500nm,7.0s						
CN2	**Changchun**	**19.19**	**271**	*e*P	**Pn**	**21 06 43.5**	**-2.6**
CN2				*e*S	**Sn**	**21 10 12.9**	**-7.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s						
CN2				LR	LR		
	comp=E,3μm,18.0s						
CN2				LR	LR		
	comp=Z,3μm,19.0s						
CLNS	**Chul'man**	**19.65**	**311**	*e*P	**Pn**	**21 06 54.0**	**+2.5**
CLNS				*e*S	**Sn**	**21 10 23.7**	**-7.5**
CLNS				pmax	pmax		
	comp=Z,38nm,0.7s						
CLNS				pmax	pmax		
	comp=N,18nm,0.8s						
CLNS				pmax	pmax		
	comp=E,27nm,1.4s						
CLNS				smax			
	com

comp=N,72nm,1.1s
CLNS smax
comp=E,29nm,0.8s
CLNS MLR MLR
comp=Z,6µm,16.0s
CLNS MLR MLR
comp=N,700nm,13.0s
CLNS MLR MLR
comp=E,5µm,15.0s
NRGR Nerungri 19.68 310 *e*P **Pn 21 06 53.2 +1.3**
NRGR S **Sn 21 10 28.9 -3.0**
NRGR smax
comp=N,12nm,0.4s
YAK Yakutsk 20.04 328 *e*P **P 21 06 57.5 +3.2**
YAK *e* 21 07 11.1
YAK *e*S **S 21 10 36.3 -1.5**
YAK *e* 21 11 16.1
YAK pmax pmax
comp=Z,160nm,0.8s
YAK pmax pmax
comp=N,69nm,1.5s
YAK pmax pmax
comp=E,84nm,1.5s
YAK pmax pmax
comp=N,350nm,1.5s
YAK pmax pmax
comp=Z,399nm,1.5s
YAK pmax pmax
comp=E,399nm,1.6s
YAK smax
comp=N,404nm,3.9s
YAK smax
comp=E,367nm,3.6s
YAK MLR MLR
comp=E,2µm,19.0s,MS4.7
YAK MLR MLR
comp=Z,2µm,19.0s,MS4.6
YAK MLR MLR
comp=N,2µm,16.0s,MS4.7
YAK Yakutsk 20.04 328 *e*Pn **P 21 06 57.3 +3.0**
YAK LR LR
comp=Z,3µm,20.0s,MS4.6
KSRS Korea Array 20.37 252 P **P 21 06 59.4 +1.5**
comp=Z,21nm,0.8s,baz=57,slow=12,SNR=27
KSRS LR LR 21 13 48.4
comp=Z,2µm,20.7s,MS4.4,baz=56,slow=34
KS15 Wonju Array Si 20.41 252 *e*Pn **P 21 07 01.7 +3.4**
SNY Shenyang 21.18 267 ⇑P **P 21 07 06.9 +0.2**
SNY AP 21 07 12.0
SNY XP sP 21 07 13.8 -5.8
SNY S **S 21 10 57.8 -2.6**
SNY AMB AMB
comp=Z,16nm,0.5s,mb4.6
SNY AMB AMB
comp=Z,807nm,12.0s
SNY LR LR
comp=E,3µm,18.0s
SNY LR LR
comp=Z,3µm,20.4s,MS4.7
INCN Inchon 21.20 253 *e*P **P 21 07 09.2 +2.4**
INCN LR LR
comp=Z,1µm,20.0s,MS4.3
JNU Nakatsue 21.35 238 P **P 21 07 09.3 +0.8**
comp=Z,70nm,0.8s,mb5.1,baz=253,slow=21,SNR=9.6
JNU LR LR 21 15 27.8
comp=Z,3µm,21.3s,MS4.7,baz=82,slow=37
HIA Hailar 21.92 289 *e*P **P 21 07 13.6 -1.0**
HIA pmax pmax
comp=Z,67nm,1.3s
HIA MLR MLR
comp=Z,3µm,19.0s
HIA Hailar 21.92 289 *e*P **P 21 07 13.6 -1.0**
comp=Z,67nm,1.3s,mb4.9
HIA LR LR
comp=Z,3µm,19.0s,MS4.8
BILL Bilibino 22.46 14⇓ *e*P **P 21 07 21.5 +1.2**
BILL *e*S **S 21 11 21.3 -3.9**
BILL pmax pmax
comp=Z,26nm,1.5s,mb4.4
BILL MLR MLR
comp=Z,1µm,19.0s,MS4.4
BILL Bilibino 22.46 14 *e*P **P 21 07 20.5 +0.2**
comp=Z,22nm,0.8s,mb4.6
BILL LR LR
comp=Z,2µm,20.0s,MS4.5
DL2 Dalian 23.82 262 ⇑P **P 21 07 34.6 +0.6**
DL2 S **S 21 11 48.0 +0.5**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,160nm,4.1s
DL2 LR LR
comp=N,550nm,13.8s,MS4.2
DL2 LR LR
comp=E,270nm,14.8s,MS4.2
DL2 LR LR
comp=Z,530nm,17.9s,MS4.1
BOD Bodaibo 25.61 310 *e*P **P 21 07 49.7 -0.7**
BOD pmax pmax
comp=Z,37nm,1.6s,mb4.7
CIT Chita 25.62 296 *e*P **P 21 07 51.6 +1.2**
CIT *e* 21 08 07.6
CIT *e* 21 08 33.2
CIT *e* 21 11 14.5
CIT pmax pmax
comp=Z,63nm,3.2s
BJI Beijing 27.02 269 P **P 21 08 06.9 +3.8**
BJI S **S 21 12 48.3 +10**
BJI AMB AMB
comp=Z,47nm,0.7s,mb5.1
BJI LR LR
comp=N,1µm,15.9s,MS4.9
BJI LR LR
comp=E,3µm,19.8s,MS4.9
BJI LR LR
comp=Z,3µm,20.8s,MS4.8
BJI Beijing 27.02 269 P **P 21 08 06.9 +3.8**
comp=Z,47nm,0.7s,mb5.1
BJI S **S 21 12 48.3 +10**
BJI LR LR
comp=Z,3µm,20.8s,MS4.8
BJT Baijiatuau 27.03 269 *e*P **P 21 08 05.2 +2.0**
BJT pmax pmax
comp=Z,37nm,0.7s
BJT MLR MLR
comp=Z,4µm,20.0s
BJT Baijiatuau 27.03 269 *e*P **P 21 08 05.2 +2.0**
comp=Z,37nm,0.7s,mb5.0
BJT LR LR
comp=Z,4µm,20.0s,MS4.9
TIXI Tiksi 27.30 344 *e*P **P 21 08 04.1 -1.5**
comp=Z,3.8nm,0.4s,mb4.3
TIXI LR LR
comp=Z,2µm,19.0s,MS4.7
JOW Kunigami 27.59 232 P **P 21 08 08.2 0.0**
comp=Z,6.8nm,0.5s,mb4.6,baz=40,slow=15,SNR=4.7
SSE Sheshan 28.69 248 P **P 21 08 16.8 -1.2**
SSE S **S 21 13 05.5 +0.7**
SSE PCS PcS 21 15 10.5 0.0
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,366nm,10.9s
SSE LR LR
comp=N,711nm,25.0s,MS4.3
SSE LR LR
comp=E,764nm,25.0s,MS4.3
SSE LR LR
comp=Z,1µm,25.6s,MS4.4
SSE Sheshan 28.69 248 P **P 21 08 16.8 -1.2**
comp=Z,44nm,0.7s,mb5.3
SSE pP pP 21 08 19.8 -7.7
SSE S **S 21 13 05.5 +0.7**
SSE sS sS 21 13 11.0 -10
SSE PcS PcS 21 15 10.5 0.0
SSE LR LR
comp=Z,1µm,25.6s,MS4.4
NJ2 Nanjing 29.57 252 *e*P **P 21 08 24.4 -1.4**
NJ2 PP PP 21 09 19.3 -14
NJ2 S **S 21 13 20.0 +1.3**
NJ2 XS sS 21 13 30.0 -4.4
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,500nm,9.0s
NJ2 LR LR
comp=N,3µm,16.0s,MS5.2
NJ2 LR LR
comp=E,3µm,15.9s,MS5.2
NJ2 LR LR
comp=Z,4µm,15.7s,MS5.1
HHC Hu-ho-hao-te 29.83 274 *e*P **P 21 08 27.8 -0.4**
HHC AP pP 21 08 32.1 -5.6
HHC PP PP 21 09 24.3 -11
HHC PCP PcP 21 11 31.3 +0.4
HHC S **S 21 13 25.0 +2.2**
HHC PCS PcS 21 15 13.5 -0.7
HHC AMB AMB
comp=Z,56nm,1.4s,mb5.1
HHC LR LR
comp=N,1µm,14.7s,MS4.9
HHC LR LR
comp=E,1µm,15.9s,MS4.9
HHC LR LR
comp=Z,2µm,18.6s,MS4.7
ULN Ulaanbaatar 30.45 289 ⇑P **P 21 08 33.8 +0.1**
SNR=7.0
ULN Ulaanbaatar 30.45 289 ‖ *i*P **P 21 08 32.8 -0.8**
ULN Ulaanbaatar 30.45 289 *e*P **P 21 08 33.5 -0.1**
ULN LR LR
comp=Z,3µm,19.0s,MS4.9
SONM Songino Array 30.89 289 P **P 21 08 37.6 +0.1**
comp=Z,3.4nm,0.6s,mb4.3,baz=67,slow=8.1,SNR=20
SONM LR LR 21 22 10.6
comp=Z,3µm,18.7s,MS5.0,baz=18,slow=38
SONM Songino Array 30.89 289 P **P 21 08 37.6 +0.1**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,3µm,18.7s
TLY Talaya 31.75 297 *e*P **P 21 08 44.5 -0.6**
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,3µm,16.0s,MS5.1
ZAK Zakamensk 32.24 295 *e*P **P 21 08 48.4 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SVW2 Sparrevohn 32.79 45 *e*P **P 21 08 54.5 +0.3**
WHN Wuhan 33.50 255 ⇑P **P 21 09 00.5 +0.1**
GUMO Guam 33.70 193 LR LR 21 22 13.4
comp=Z,861nm,18.8s,MS4.5,baz=97,slow=36
IMA2 Indian Mountai 34.04 36 *e*P **P 21 09 05.0 -0.1**
KDAK Kodiak Island 34.43 51 P **P 21 09 07.0 -1.5**
comp=Z,188nm,0.6s,mb6.2,SNR=13
KDAK Kodiak Island 34.43 51 P **P 21 09 07.4 -1.1**
comp=Z,18nm,0.5s,mb5.3,baz=308,slow=1.4,SNR=42
KDAK Kodiak Island 34.43 51 *e*P **P 21 09 07.1 -1.3**
KDAK LR LR
comp=Z,378nm,22.0s,MS4.1
QZH Quanzhou 34.64 243 P **P 21 09 10.3 0.0**
QZH S **S 21 14 39.3 +1.6**
QZH LR LR
comp=Z,2µm,19.9s,MS4.8
XAN Xi'an 35.06 265 P **P 21 09 14.4 +0.5**
XAN AP pP 21 09 25.3 +1.8
XAN AMB AMB
comp=Z,40nm,1.1s,mb5.3
XAN LR LR
comp=N,308nm,18.5s,MS4.4
XAN LR LR
comp=E,633nm,20.3s,MS4.4
XAN LR LR
comp=Z,1µm,17.3s,MS4.7
PMR Palmer 35.89 44 *e*P **P 21 09 20.7 -0.3**
PMR pmax pmax
comp=Z,16nm,1.1s,mb4.9
PMR Palmer 35.89 44 *e*P **P 21 09 20.7 -0.3**
comp=Z,16nm,1.1s,mb4.9
MCK McKinley 35.92 40 *e*P **P 21 09 21.3 +0.1**
MCK LR LR
comp=Z,335nm,22.0s,MS4.1
SML Sawmill 36.26 44 *e*P **P 21 09 24.0 -0.2**
COLA College 36.39 38 *c i*P **P 21 09 25.5 +0.2**
COLA College 36.39 38 *e*P **P 21 09 25.5 +0.2**
comp=Z,29nm,0.8s,mb5.2
LZH Lanzhou 37.43 271 ⇑P **P 21 09 34.8 +0.7**
LZH AP pP 21 09 44.6 +0.8
LZH XP sP 21 09 48.5 +0.7
LZH PP PP 21 11 02.8 +3.0
LZH S **S 21 15 19.5 -0.8**
LZH XS sS 21 15 35.6 -0.6
LZH AMB AMB
comp=Z,85nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,396nm,5.5s
LZH LR LR
comp=N,3µm,13.5s
LZH LR LR
comp=Z,3µm,17.4s,MS5.2
LZH Lanzhou 37.43 271 ⇑P **P 21 09 34.7 +0.6**
LZH *SP sP 21 09 48.5 +0.7
LZH 21 11 02.7
LZH PPP 21 11 22.8
LZH S **S 21 15 19.5 -0.8**
LZH *SS sS 21 15 35.6 -0.6
LZH SS SS 21 17 52.3 -13
LZH pmax pmax
comp=Z,85nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,3µm,17.4s,MS5.2
LZH Lanzhou 37.43 271 ⇑P **P 21 09 34.7 +0.6**
comp=Z,85nm,1.2s,mb5.5
LZH pP pP 21 09 44.6 +0.8
LZH sP sP 21 09 48.5 +0.7
LZH PP PP 21 11 02.7 +2.9
LZH PPP 21 11 22.8
LZH S **S 21 15 19.5 -0.8**
LZH sS sS 21 15 35.6 -0.6
LZH SS SS 21 17 52.3 -13
LZH LR LR
comp=Z,3µm,17.4s,MS5.2
DIV Divide 37.54 45 *e*P **P 21 09 35.4 +0.3**
GTA Gaotai 38.51 279 P **P 21 09 44.1 +0.8**
GTA AP pP 21 09 47.6 -5.3
GTA PP PP 21 11 17.4 +5.7
GTA PCP PcP 21 11 56.0 +0.3
GTA S **S 21 15 40.9 +4.2**
GTA PCS PcS 21 15 44.9 0.0
GTA SS SS 21 18 24.0 -2.9
GTA AMB AMB
comp=Z,11nm,1.5s,mb4.4
GTA AMB AMB
comp=Z,311nm,6.8s
GTA LR LR
comp=N,797nm,16.0s,MS4.8
GTA LR LR
comp=E,688nm,16.3s,MS4.8
GTA LR LR
comp=Z,1µm,16.4s,MS4.9
EGAK Eagle 39.25 38 *e*P **P 21 09 48.8 -0.7**
comp=Z,34nm,1.0s,mb5.0
DAWY Dawson 40.10 39 *e*P **P 21 09 56.8 +0.3**
CD2 Chengdu 40.43 265⇑ *i*P **P 21 10 00.0 +0.8**
CD2 AP pP 21 10 04.5 -4.5
CD2 XP sP 21 10 07.1 -5.8
CD2 PP PP 21 11 37.9 +5.3
CD2 PCP PcP 21 12 04.0 +2.3
CD2 S **S 21 16 07.4 +2.0**
CD2 SS SS 21 19 00.0 -5.2
CD2 SCS ScS 21 20 05.0 +2.3
CD2 AMB AMB
comp=Z,90nm,0.7s,mb5.6
CD2 AMB AMB
comp=Z,440nm,11.0s
CD2 LR LR
comp=N,960nm,18.0s,MS4.8
CD2 LR LR
comp=E,870nm,23.0s,MS4.8
CD2 LR LR
comp=Z,1µm,15.1s
GYA Guiyang 41.28 257⇑ *i*P **P 21 10 06.8 +0.6**
GYA AP pP 21 10 10.9 -5.1
GYA XP sP 21 10 13.8 -6.1
GYA PP PP 21 11 45.0 +3.2
GYA PCP PcP 21 12 06.3 +1.8
GYA SCP ScP 21 15 54.8 +2.9
GYA S **S 21 16 19.0 +0.9**
GYA SS SS 21 19 16.3 -5.8
GYA SCS ScS 21 20 08.9 +1.1
GYA AMB AMB
comp=Z,60nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,350nm,4.2s
GYA LR LR
comp=N,2µm,16.3s,MS5.1
GYA LR LR
comp=E,1µm,16.8s,MS5.1
GYA LR LR
comp=Z,1µm,18.5s,MS4.9
INK Inuvik 41.86 32 P **P 21 10 11.5 +0.4**
comp=Z,7.5nm,0.5s,mb4.6,baz=297,slow=6.3,SNR=60
INK Inuvik 41.86 32 P **P 21 10 11.5 +0.5**
INK pmax pmax
comp=Z,8.0nm,0.5s
INK Inuvik 41.86 32 *e*P **P 21 10 11.5 +0.5**
ZAL Zalesovo 42.23 306 P **P 21 10 13.1 -0.9**
comp=Z,3.5nm,0.5s,mb4.2,baz=51,slow=8.9,SNR=19
ZAL PcP PcP 21 12 07.5 -0.2
comp=Z,13nm,1.1s,baz=33,slow=5.6,SNR=8.5
ZAL LR LR 21 29 35.1
comp=Z,5µm,18.9s,MS5.5,baz=25,slow=39
ZAL Zalesovo 42.23 306 P **P 21 10 13.1 -0.9**
ZAL 21 12 07.5
ZAL pmax pmax
comp=Z,4.0nm,0.5s
ZAL MLR MLR
comp=Z,5µm,18.9s
NVS Novosibirsk 42.80 307 *e*P **P 21 10 13.4 -5.3**
NVS *e* 21 12 07.3
NVS pmax pmax
comp=Z,50nm,2.6s,mb4.8
NVS pmax pmax
comp=N,51nm,3.3s
NVS pmax pmax
comp=E,43nm,2.5s
QIZ Qiongzhong 44.45 246 P **P 21 10 32.9 +1.0**
QIZ S **S 21 17 06.8 +2.2**
QIZ AMB AMB
comp=Z,29nm,1.9s,mb4.7
QIZ LR LR
comp=E,659nm,19.6s
QIZ LR LR
comp=Z,641nm,22.8s,MS4.5
WMQ Urumqi 44.48 291⇑ *i*P **P 21 10 32.3 +0.1**
WMQ AP pP 21 10 36.8 -5.2
WMQ XP sP 21 10 39.3 -6.7
WMQ PCP PcP 21 12 14.8 -0.4
WMQ PP PP 21 12 17.5 +1.2
WMQ SCP ScP 21 16 06.3 +1.5
WMQ *eS **S 21 17 06.8 +1.6**
WMQ AMB AMB
comp=Z,21nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,256nm,5.8s
WMQ LR LR
comp=N,1µm,23.8s,MS4.8
WMQ LR LR
comp=E,924nm,23.8s,MS4.8
WMQ LR LR
comp=Z,1µm,20.2s,MS4.8
KMI Kunming 44.80 259 ⇑P **P 21 10 35.6 +0.9**
KMI AP pP 21 10 37.9 -6.6
KMI PP PP 21 12 21.3 +1.7
KMI S **S 21 17 10.4 +0.6**
KMI SS SS 21 20 25.3 -5.9
KMI AMB AMB
comp=Z,25nm,1.3s,mb4.9
KMI AMB AMB
comp=Z,390nm,3.7s
KMI LR LR
comp=N,775nm,15.4s,MS4.8
KMI LR LR
comp=E,420nm,14.8s,MS4.8
KMI LR LR
comp=Z,698nm,16.7s,MS4.7
KMI Kunming 44.80 259 ⇑P **P 21 10 35.6 +0.9**
KMI 21 12 21.3
KMI PPP 21 12 59.9
KMI S **S 21 17 10.4 +0.6**
KMI *SS sS 21 17 15.7 -10
KMI SS SS 21 20 25.2 -6.0
KMI SSS 21 21 19.6
KMI pmax pmax
comp=Z,25nm,1.3s,mb4.9
KMI MLR MLR
comp=Z,700nm,16.7s,MS4.7
KMI Kunming 44.80 259 ⇑P **P 21 10 35.6 +0.9**
comp=Z,25nm,1.3s,mb4.9
KMI pP pP 21 10 37.9 -6.6
KMI sP sP 21 10 39.1 -9.4
KMI PP PP 21 12 21.3 +1.7
KMI PPP 21 12 59.9
KMI S **S 21 17 10.4 +0.6**
KMI sS sS 21 17 15.7 -10
KMI SS SS 21 20 25.2 -6.0
KMI SSS 21 21 19.6
KMI LR LR
comp=Z,700nm,16.7s,MS4.7
DLBC Dease Lake 45.89 46 *e*P **P 21 10 44.8 +1.4**
MK31 Makanchi Array 46.52 297 *i*P **P 21 10 47.6 -0.7**
MK31 pmax pmax
comp=Z,26nm,0.6s,mb5.3
MK31 Makanchi Array 46.52 297 *e*P **P 21 10 47.6 -0.7**
MKAR Makanchi Array 46.52 297 P **P 21 10 47.6 -0.7**
comp=Z,16nm,0.6s,mb5.1,baz=62,slow=6.4,SNR=81
MKAR PcP PcP 21 12 20.8 -1.5
comp=Z,5.4nm,0.6s,baz=61,slow=2.2,SNR=6.8
MKAR SCP ScP 21 16 18.6 +5.4
comp=Z,1.2nm,0.7s,baz=71,slow=4.3,SNR=3.7
MKAR LR LR 21 31 35.1
comp=Z,4µm,18.9s,MS5.4,baz=65,slow=38
MKAR Makanchi Array 46.52 297 *e*P **P 21 10 47.6 -0.7**
MKAR pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 49.81 273 P **P 21 11 14.5 +0.7**
LSA AP pP 21 11 24.8 +1.1
LSA XP sP 21 11 27.4 -0.2
LSA PCP PcP 21 12 36.8 +2.7
LSA PP PP 21 13 07.8 -0.8
LSA S **S 21 18 16.3 -4.8**
LSA XS sS 21 18 34.3 -3.1
LSA SCS ScS 21 21 03.4 +0.7
LSA SS SS 21 21 52.3 -1.6
LSA AMB AMB
comp=Z,50nm,0.7s,mb5.7
LSA LR LR
comp=N,390nm,22.9s,MS4.8
LSA LR LR
comp=E,840nm,19.7s,MS4.8
LSA LR LR
comp=Z,1µm,22.9s,MS4.8
LSA Lhasa 49.81 273 *e*P **P 21 11 15.4 +1.6**
LSA pmax pmax
comp=Z,35nm,0.6s,mb5.6
LSA MLR MLR
comp=Z,1µm,21.0s,MS4.9
LSA Lhasa 49.81 273 *e*P **P 21 11 15.4 +1.6**
comp=Z,35nm,0.6s,mb5.6
LSA LR LR
comp=Z,1µm,21.0s,MS4.9
POHA Pohakuloa 50.03 104 P **P 21 11 13.8 -1.6**
CHKZ Chkalovo 50.05 310 *e*P **P 21 11 14.0 -1.6**
CHKZ pmax pmax
comp=Z,28nm,0.7s,mb5.4
CHKZ Chkalovo 50.05 310 *e*P **P 21 11 14.0 -1.6**
comp=Z,28nm,0.6s,mb5.5
BVA0 Borovoye Array 50.48 309 *i*P **P 21 11 17.4 -1.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
BRVK Borovoye 50.52 309 P **P 21 11 18.0 -1.1**
comp=Z,130nm,0.7s,mb6.0,SNR=18
BRVK Borovoye 50.52 309 P **P 21 11 18.9 -0.2**
SNR=6.5
BRVK Borovoye 50.52 309 *e*P **P 21 11 17.7 -1.4**
NANT Nan 50.53 255⇑P **P 21 11 18.0 -1.1**
comp=Z,252nm,1.0s,mb6.1
KKTK Khon Kaen 50.91 250 P **P 21 11 23.0 +0.9**
RES Resolute Bay 50.94 18 *e*P **P 21 11 23.9 +1.6**
YKA Yellowknife Ar 51.16 37 P **P 21 11 23.6 -0.4**
comp=Z,2.0nm,0.5s,mb4.3,baz=299,slow=7.1,SNR=18
YKA PcP PcP 21 12 38.2 -0.9
comp=Z,1.7nm,0.4s,baz=305,slow=3.7,SNR=9.2
YKA LR LR 21 31 54.8
comp=Z,315nm,19.9s,MS4.3,baz=295,slow=35

YKA Yellowknife Ar 51.16 37 P **P** 21 11 23.6 -0.4
YKA 21 12 38.2
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA MLR MLR
comp=Z,315nm,19.9s
YKA Yellowknife Ar 51.16 37 P **P** 21 11 23.6 -0.4
YKA PcP PcP 21 12 38.2 -0.9
YKA LR LR 21 31 54.8
ZRNK Zerenda 51.25 310 *eP* **P** 21 11 23.7 -0.9
ZRNK pmax pmax
comp=Z,164nm,0.3s
ZRNK Zerenda 51.25 310 *eP* **P** 21 11 23.6 -0.9
comp=Z,164nm,0.3s
CHG Chiang Mai 51.68 256 ⇑P **P** 21 11 28.8 +1.0
comp=Z,33nm,0.8s,mb5.3
CHTO Chiang Mai 51.68 256 P **P** 21 11 29.2 +1.4
SNR=15
CHTO Chiang Mai 51.68 256 *eP* **P** 21 11 28.7 +0.9
CHTO pmax pmax
comp=Z,20nm,0.8s,mb5.1
CHTO MLR MLR
comp=Z,467nm,19.0s,MS4.5
CHTO Chiang Mai 51.68 256 *eP* **P** 21 11 28.7 +0.9
comp=Z,20nm,0.8s,mb5.1
CHTO LR LR
comp=Z,467nm,19.0s,MS4.5
SHL Shillong 51.91 268 *eP* **P** 21 11 28.3 -1.3
NST Nakhon Sawan 53.15 252 P **P** 21 11 40.0 +1.3
AAK Ala-Archa 53.41 296 ⇑P **P** 21 11 40.2 -0.4
SNR=6.7
AAK Ala-Archa 53.41 296 ⇓*i*P **P** 21 11 40.6 0.0
AAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
AAK Ala-Archa 53.41 296 *eP* **P** 21 11 39.8 -0.8
AAK LR LR
comp=Z,605nm,20.0s,MS4.7
KSH Kashi 54.21 292 *eP* **P** 21 11 50.1 +3.6
KSH *eAP* pP 21 11 54.0 -2.5
KSH *eXP* sP 21 11 57.0 -3.4
KSH *ePCP* PcP 21 12 52.1 +1.5
KSH *ePP* PP 21 13 53.0 +4.6
KSH *eSCP* ScP 21 16 49.1 +2.8
KSH *ePCS* PcS 21 16 52.1 +2.1
KSH *eS* **S** **21 19 27.5 +6.0**
KSH *eXS* sS 21 19 35.5 -2.4
KSH *eSCS* ScS 21 21 35.1 +1.8
KSH *eSS* SS 21 23 09.0 +5.5
KSH AMB AMB
comp=Z,158nm,0.9s,mb5.9
GUN Gumba 54.54 275 *eP* **P** 21 11 50.1 +1.2
comp=Z,82nm,0.7s,mb5.9
ARU Arti 54.67 317 P **P** 21 11 49.3 -0.5
comp=Z,142nm,0.5s,mb6.2,SNR=12
ARU Arti 54.67 317 ⇑*i*P **P** 21 11 48.8 -1.0
ARU *e* 21 12 48.3
ARU *e* 21 13 49.9
ARU *ePPP* 21 15 07.0
ARU *eS* **S** **21 19 25.5 -2.1**
ARU *e* 21 21 31.2
ARU *eSSS* 21 25 05.3
ARU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ARU MLR MLR
comp=E,900nm,19.0s,MS5.0
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.0
ARU MLR MLR
comp=N,800nm,18.0s,MS5.0
ARU Arti 54.67 317 *eP* **P** 21 11 48.2 -1.6
comp=N,13nm,0.4s,mb5.3
KKN Kakani 55.03 275 *eP* **P** 21 11 53.4 +1.0
comp=N,159nm,0.7s,mb6.1
PKI Pulchoki 55.08 275 *eP* **P** 21 11 53.9 +1.1
comp=N,102nm,0.9s,mb5.8
DMN Daman 55.26 275 *eP* **P** 21 11 55.6 +1.5
comp=N,228nm,0.9s,mb6.2
A07A Ashnola River, 55.29 53 ⇓P **P** 21 11 54.2 -0.1
baz=55
C05A Tolt Reservoir 55.31 55 ⇓P **P** 21 11 54.3 -0.1
baz=55
GKN Gorkha 55.33 275 *eP* **P** 21 11 55.7 +1.1
comp=N,268nm,1.0s,mb6.2
KK31 Karatay Array 55.58 298 *i* P **P** 21 11 55.4 -1.0
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KKAR Karatay Array 55.58 298 P **P** 21 11 55.4 -1.0
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
H02A Toledo 55.66 59 ⇑P **P** 21 11 57.6 +0.7
baz=56
B07A Winthrop 55.76 54 ⇓P **P** 21 11 58.2 +0.5
baz=56
F04A Amboy 55.87 57 ⇓P **P** 21 11 57.7 -0.7
baz=56
A08A Turner Farm, O 55.95 53 P **P** 21 11 58.9 -0.1
baz=56,SNR=5.2
D06A Cle Elum 56.06 55 ⇓P **P** 21 11 59.7 -0.1
baz=56
PMG Port Moresby 56.14 186 P **P** 21 11 58.3 -2.1
comp=Z,8.6nm,1.0s,mb4.7,baz=324,slow=7.9,SNR=3.1
PMG Port Moresby 56.14 186 *eP* **P** 21 11 58.9 -1.5
PMG pmax pmax
comp=Z,29nm,1.2s
KOLN Koldanda 56.19 276 *eP* **P** 21 12 02.1 +1.4
comp=Z,176nm,1.0s,mb6.1
C07A Waterville 56.22 54 ⇑P **P** 21 12 00.9 -0.1
baz=56
B08A Colville Reser 56.25 53 P **P** 21 12 00.8 -0.3
baz=56,SNR=7.0
G04A Mulino 56.25 58 ⇓P **P** 21 12 00.1 -1.1
baz=56
A09A Danville 56.31 52 P **P** 21 12 01.8 +0.2
baz=56,SNR=5.9
D07A Quincy 56.55 55 ⇑P **P** 21 12 02.6 -0.8
baz=56
DAG Danmarks Havn 56.59 358 ⇑*i*P **P** 21 12 02.7 -0.9
comp=Z,19nm,1.1s,mb5.0
DAG Danmarks Havn 56.59 358 ⇑*i*P **P** 21 12 02.7 -0.9
DAG pmax pmax
comp=Z,19nm,1.1s,mb5.0
EDM Edmonton 56.62 46 *eP* **P** 21 12 03.5 -0.3
H04A Detroit Lake 56.72 58 ⇑P **P** 21 12 03.1 -1.4
baz=56
C08A Higginbotham F 56.73 54 ⇓P **P** 21 12 03.9 -0.8
baz=56
B09A Rice 56.86 53 ⇓P **P** 21 12 05.1 -0.4
baz=57
G05A Wamic 56.90 57 ⇑P **P** 21 12 05.7 -0.1
baz=57
F06A Goldendale 56.91 57 ⇑P **P** 21 12 04.8 -1.1
baz=57
E07A Sunnyside 56.98 55 ⇓P **P** 21 12 06.0 -0.4
baz=57
J03A Ideyld Park 57.02 60 ⇑P **P** 21 12 07.5 +0.9
baz=57
K02A Glendale 57.05 61 ⇓P **P** 21 12 06.5 -0.4
baz=57
I04A Tendick Farm, 57.10 59 ⇑P **P** 21 12 08.1 +0.9
baz=57
APA Apatity 57.12 336 *eP* **P** 21 12 00.0 -7.3
APA pmax pmax
comp=Z,25nm,1.2s,mb5.1
APA MLR MLR
comp=Z,2μm,17.0s,MS5.2
KEV Kevo 57.15 340 *ep* **P** 21 12 05.7 -1.9
comp=Z,2.2nm,0.5s,mb4.4
KEV Kevo 57.15 340 *eP* **P** 21 12 05.7 -1.9
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
C09A Chrisman Ranch 57.15 53 ⇑P **P** 21 12 07.1 -0.5
baz=57
BOK Bokaro 57.19 271 *eP* **P** 21 12 08.2 +0.4
BOK AMb AMB 21 12 11.4
comp=Z,75nm,1.2s,mb5.6
D08A Wollman Farm, 57.22 54 ⇑P **P** 21 12 07.6 -0.4
baz=57
HAWA Hanford 57.26 55 *eP* **P** 21 12 08.7 +0.4
comp=Z,34nm,1.3s,mb5.2
H05A Madras 57.30 58 ⇑P **P** 21 12 07.4 -1.2
baz=57
G06A Carlson Farm, 57.30 57 ⇓P **P** 21 12 08.6 -0.1
baz=57
F07A Phinny Hill Vi 57.32 56 ⇑P **P** 21 12 09.3 +0.5
baz=57
LGTI Lohaghat 57.41 280 *i* P **P** 21 12 10.0 +0.6

B10A Chitwood Farm, 57.44 52 ⇓P **P** 21 12 09.7 +0.1
baz=57
HUMO Hull Mountain 57.46 61 ⇑P **P** 21 12 10.3 +0.5
baz=57
E08A Dider Farm, El 57.47 55 ⇑P **P** 21 12 09.9 +0.1
baz=57
NEW Newport 57.51 52 *eP* **P** 21 12 09.7 -0.4
NEW pmax pmax
comp=Z,43nm,1.4s
NEW Newport 57.51 52 *eP* **P** 21 12 09.7 -0.4
comp=Z,42nm,1.4s,mb5.3
A11A Hall Mountain, 57.52 51 ⇑P **P** 21 12 10.5 +0.3
baz=57
I05A Bend 57.56 58 ⇓P **P** 21 12 10.8 +0.3
baz=57
D09A Jones Farm, Ri 57.56 54 ⇑P **P** 21 12 10.9 +0.5
baz=57
J04A Umpqua Nationa 57.60 60 ⇓P **P** 21 12 10.5 -0.2
baz=57,SNR=5.4
ARCES ARCESS Array B 57.66 341 P **P** 21 12 08.5 -2.7
comp=Z,2.6nm,0.5s,mb4.5,baz=39,slow=7.1,SNR=34
ARCES LR LR 21 42 55.3
comp=Z,972nm,19.0s,MS4.9,baz=33,slow=42
ARCES ARCESS Array B 57.66 341 P **P** 21 12 08.5 -2.7
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES MLR MLR
comp=Z,972nm,19.0s
C10A Spilker Farm, 57.67 53 ⇑P **P** 21 12 10.8 -0.5
baz=58
H06A Lindquist Farm 57.77 57 ⇑P **P** 21 12 12.6 +0.7
baz=58
B11A Sandpoint 57.82 52 ⇓P **P** 21 12 13.0 +0.7
baz=58
G07A Ruggs Ranch, H 57.84 56 ⇓P **P** 21 12 12.7 +0.3
baz=58
E09A Wood Farm, Sta 57.97 55 ⇓P **P** 21 12 13.5 +0.1
baz=58
F08A Pendleton 58.03 56 ⇓P **P** 21 12 14.1 +0.3
baz=58
YBH Yreka Blue Hor 58.13 61 *eP* **P** 21 12 14.9 +0.5
YBH Yreka Blue Hor 58.13 61 ⇓P **P** 21 12 14.8 +0.4
baz=58
KSM Kuching 58.14 232 *eP* **P** 21 12 15.1 +0.6
B12A Libby 58.22 51 ⇑P **P** 21 12 14.6 -0.5
baz=58
G08A Pilot Rock 58.23 56 ⇓P **P** 21 12 15.7 +0.5
baz=58
I06A Prineville 58.30 58 ⇓P **P** 21 12 15.4 -0.2
baz=58
N02C Big Bar 58.30 63 ⇓P **P** 21 12 16.1 +0.4
baz=58
SDNR Sundarnagar 58.34 284 *eP* **P** 21 12 16.8 +0.9
L04A Klamath Falls 58.36 61 ⇑P **P** 21 12 16.6 +0.6
baz=58
DLH Dalhousie 58.36 285 *eP* **P** 21 12 17.0 +1.0
E10A Myers Farm, Un 58.56 54 ⇑P **P** 21 12 17.8 +0.3
baz=58
F09A S2 Ranch, Elgi 58.58 55 ⇑P **P** 21 12 17.9 +0.3
baz=58
KTK1 Kautokeino 58.58 341 *eP* **P** 21 12 17.2 -0.4
KTK1 *ep*P pP 21 12 19.6 -8.1
THN Thein Dam 58.59 285 *eP* **P** 21 12 17.1 -0.6
M04C Macdoel 58.62 61 ⇓P **P** 21 12 18.6 +0.7
baz=58
K05A Summer Lake 58.62 60 ⇑P **P** 21 12 18.3 +0.4
baz=58
I07A Izee 58.63 58 ⇓P **P** 21 12 17.9 0.0
baz=58
D11A Klaveano Farm, 58.66 53 P **P** 21 12 17.6 -0.6
baz=58,SNR=5.8
C12A Trout Creek 58.73 52 ⇑P **P** 21 12 18.8 +0.1
baz=58
J06A Christmas Vall 58.75 59 ⇓P **P** 21 12 19.1 +0.4
baz=58
M03C McCloud 58.75 62 ⇓P **P** 21 12 19.4 +0.6
baz=59
WALA Waterton Lakes 58.77 50 *eP* **P** 21 12 19.0 +0.1
comp=Z,30nm,1.1s,mb5.2
F10A Beach Ranch, E 58.80 55 ⇓P **P** 21 12 19.1 -0.1
baz=59
H08A Prairie City 58.85 57 ⇓P **P** 21 12 20.0 +0.5
baz=59
B13A Whitefish 58.88 51 P **P** 21 12 20.0 +0.3
baz=59,SNR=10
WDC Whiskeytown Da 58.92 62 *eP* **P** 21 12 21.5 +1.6
WDC pmax pmax
comp=Z,24nm,1.3s,mb5.1
WDC Whiskeytown Da 58.92 62 *eP* **P** 21 12 21.5 +1.6
comp=Z,24nm,1.3s,mb5.1
WDC Whiskeytown Da 58.92 62 ⇓P **P** 21 12 20.3 +0.4
baz=59
ALBI Allahabad 59.00 275 *eP* **P** 21 12 18.5 -2.0
O02C Red Bluff 59.01 63 ⇑P **P** 21 12 21.3 +0.8
baz=59
TRO Tromso 59.01 343 *eP* **P** 21 12 18.6 -2.0
BSMT Bassoo Peak 59.02 52 *eP* **P** 21 12 21.4 +0.7
L05A Lakeview 59.06 60 ⇓P **P** 21 12 21.9 +0.9
baz=59
J07A Hines 59.17 58 ⇓P **P** 21 12 22.6 +0.9
baz=59
SNG Songkhla 59.23 245 P **P** 21 12 24.0 +1.9
C13A Hot Springs 59.24 52 ⇓P **P** 21 12 22.1 -0.1
baz=59
I08A Drewsey 59.27 57 ⇓P **P** 21 12 22.2 -0.2
baz=59
M05C Lookout 59.29 61 ⇑P **P** 21 12 22.7 +0.2
baz=59
H09A Durkee 59.34 56 ⇓P **P** 21 12 23.4 +0.5
baz=59
GASB Alder Springs 59.37 63 ⇑P **P** 21 12 23.8 +0.8
baz=59
BMO Blue Mountains 59.43 56 *eP* **P** 21 12 23.6 +0.1
comp=Z,50nm,1.4s,mb5.3
F11A Grangeville 59.45 54 ⇓P **P** 21 12 23.8 +0.1
baz=59
NIL Nilore 59.46 288 P **P** 21 12 25.2 +1.5
comp=Z,103nm,0.7s,mb6.0,SNR=9.3
MOD Modoc 59.47 60 *eP* **P** 21 12 23.9 +0.1
comp=Z,28nm,1.1s,mb5.2
MOD Modoc 59.47 60 ⇑P **P** 21 12 24.5 +0.8
baz=59
K07A Rock Creek Ran 59.61 59 ⇑P **P** 21 12 25.7 +0.9
baz=59
D13A Huron 59.66 52 ⇓P **P** 21 12 25.2 +0.1
baz=59
J08A Circle Bar Ran 59.66 58 ⇑P **P** 21 12 25.6 +0.5
baz=60
I09A Lost Marbles R 59.71 57 ⇓P **P** 21 12 26.0 +0.5
baz=60
M06C Likely Place G 59.78 61 ⇓P **P** 21 12 26.3 +0.4
baz=60
NDI New Delhi 59.95 281 *eP* **P** 21 12 26.0 -1.0
NDI *eP* 21 12 27.3
NDI AMb AMB 21 12 30.2
comp=Z,85nm,2.0s,mb5.4
O04C Chester 59.96 62 ⇓P **P** 21 12 27.5 +0.4
baz=60
ELFS Eagle Lake Fie 59.99 61 ⇓P **P** 21 12 27.9 +0.6
baz=60
K08A Mann Creek Ran 60.04 58 ⇓P **P** 21 12 28.0 +0.4
baz=60
J09A Fry Pan Ranch, 60.09 57 ⇑P **P** 21 12 28.2 +0.2
baz=60
MSO Missoula 60.10 52 *eP* **P** 21 12 28.0 -0.1
comp=Z,44nm,1.3s,mb5.3
WVOR Wild Horse Val 60.13 59 *eP* **P** 21 12 27.9 -0.4
WVOR pmax pmax
comp=Z,46nm,1.1s,mb5.4
WVOR Wild Horse Val 60.13 59 *eP* **P** 21 12 27.9 -0.4
comp=Z,46nm,1.1s,mb5.4
ORV Oroville 60.17 63 ⇑P **P** 21 12 28.5 -0.1
baz=60
D14A Greenough 60.18 52 P **P** 21 12 28.6 -0.1
baz=60,SNR=15
E13A Victor 60.20 53 ⇑P **P** 21 12 29.1 +0.3
baz=60
H11A Donnelly 60.25 55 P **P** 21 12 29.4 +0.2
baz=60,SNR=7.8
O05C Quincy 60.28 62 ⇑P **P** 21 12 29.7 +0.4
baz=60
OHCM Honcut 60.32 63 *eP* **P** 21 12 29.5 -0.1
CHMT Chamberlain Mo 60.42 52 *eP* **P** 21 12 30.4 +0.1
L08A Fields 60.45 59 ⇑P **P** 21 12 30.9 +0.4
baz=60
N06A Buffalo Meadow 60.45 61 ⇑P **P** 21 12 30.5 0.0
baz=60

M07A Soldier Meadow 60.45 60 ⇑P **P** 21 12 31.3 +0.8
baz=60
K09A Rome 60.50 58 ⇑P **P** 21 12 31.4 +0.6
baz=60
F13A Darby 60.52 53 P **P** 21 12 30.7 -0.3
baz=60,SNR=6.3
E14A Clinton 60.60 52 P **P** 21 12 31.6 +0.1
baz=60,SNR=5.8
BEKR Beckwourth 60.67 62 P **P** 21 12 32.2 +0.2
baz=60,SNR=5.7
KULM Kulim 60.68 244 *eP* **P** 21 12 32.3 +0.2
Q04C Lincoln 60.69 63 ⇑P **P** 21 12 32.7 +0.6
baz=60
D15A Lincoln 60.74 51 ⇓P **P** 21 12 32.9 +0.5
baz=60
O06A Flanigan 60.81 61 ⇑P **P** 21 12 33.2 +0.2
baz=61
P05C Yuba Gap, Truc 60.87 62 ⇓P **P** 21 12 35.7 +2.3
baz=61
N07B Gerlach 60.95 60 ⇑P **P** 21 12 34.1 +0.2
baz=61
L09A Wilkinson Ranc 60.95 58 ⇑P **P** 21 12 35.0 +1.1
baz=61
F14A Wisdom 61.04 53 ⇑P **P** 21 12 34.8 +0.3
baz=61
E15A Deer Lodge 61.05 52 P **P** 21 12 34.6 0.0
baz=61,SNR=8.3
LAVA Lava Cap Winer 61.13 63 ⇑P **P** 21 12 35.4 +0.3
baz=61
LOF Lofoten 61.34 344 *eP* **P** 21 12 37.6 +1.1
O07A Toulon 61.39 61 P **P** 21 12 37.3 +0.4
baz=61,SNR=5.2
WCN Washoe City 61.39 62 ⇑P **P** 21 12 37.1 +0.2
baz=61
N08A GE Springer Mi 61.44 60 ⇓P **P** 21 12 37.5 +0.2
baz=61
M09A Marrel Ranch, 61.45 59 ⇑P **P** 21 12 37.5 +0.2
baz=61
FCC Fort Churchill 61.48 33 *eP* **P** 21 12 36.0 -1.5
F15A Butte 61.50 52 P **P** 21 12 37.8 +0.2
baz=61,SNR=11
LRM Limekiln Ridge 61.53 52 *eP* **P** 21 12 38.2 +0.3
R05C Kirkwood Meado 61.57 63 ⇑P **P** 21 12 38.0 -0.1
baz=61
EGMT Eagleton 61.58 49 *eP* **P** 21 12 37.8 -0.3
comp=Z,80nm,1.3s,mb5.7
EGMT Eagleton 61.58 49 ⇑P **P** 21 12 38.5 +0.3
baz=61
N09A Rock Creek Ran 61.76 59 ⇑P **P** 21 12 39.6 +0.2
baz=62
CMB Columbia Colle 61.80 64 *eP* **P** 21 12 40.0 +0.4
CMB pmax pmax
comp=Z,45nm,1.2s,mb5.5
CMB Columbia Colle 61.80 64 *eP* **P** 21 12 40.0 +0.4
comp=Z,45nm,1.2s,mb5.5
CMB Columbia Colle 61.80 64 ⇑P **P** 21 12 39.7 +0.1
baz=62
HLID Hailey 61.86 55 *eP* **P** 21 12 40.6 +0.5
comp=Z,34nm,1.3s,mb5.3
HLID Hailey 61.86 55 P **P** 21 12 40.8 +0.7
baz=62,SNR=6.2
PACP Pacheco Peak 61.88 65 ⇓P **P** 21 12 40.3 +0.1
baz=62
KAKA Kakadu 61.89 202 *eP* **P** 21 12 38.9 -1.3
comp=Z,13nm,1.0s,mb5.0
M10A I.L. Ranch, Tu 61.92 58 P **P** 21 12 41.3 +0.8
baz=62,SNR=6.7
G15A Dillon 61.93 53 P **P** 21 12 40.4 -0.1
baz=62,SNR=6.1
MCMT McKenzie Canyo 61.94 53 *eP* **P** 21 12 40.4 -0.2
R06C Coleville 62.06 63 ⇑P **P** 21 12 42.2 +0.8
baz=62
WAKR Walker 62.08 63 *eP* **P** 21 12 42.3 +0.8
HAST UC Hastings Re 62.11 66 ⇑P **P** 21 12 42.4 +0.7
baz=62
Q07A Schurz 62.19 62 ⇑P **P** 21 12 42.9 +0.6
baz=62
BMN Battle Mountai 62.20 60 *eP* **P** 21 12 42.7 +0.3
S06C San Francisco 62.22 63 ⇓P **P** 21 12 42.8 +0.3
baz=62
S05C Merced 62.26 64 ⇑P **P** 21 12 43.4 +0.7
baz=62
O09A Fish Creek Ran 62.39 60 ⇑P **P** 21 12 44.6 +1.0
baz=62
M11A Holland Ranch, 62.41 58 ⇓P **P** 21 12 44.5 +0.8
baz=62
R07C Lee Vining 62.58 63 ⇓P **P** 21 12 46.3 +1.4
baz=62
O10A Cortez Mining, 62.72 59 ⇑P **P** 21 12 46.6 +0.8
baz=62
QLMT Earthquake Lak 62.72 53 *eP* **P** 21 12 46.6 +0.8
NVAR Mina Array Bea 62.82 62 P **P** 21 12 46.9 +0.4
comp=Z,2.2nm,0.6s,mb4.4,baz=295,slow=7.8,SNR=19
MOR8 Moi Rana 62.84 342 ⇑*i*P **P** 21 12 44.6 -2.1
MOR8 AMb AMB 21 12 48.2
comp=Z,43nm,1.3s,mb5.4
MOR8 Moi Rana 62.84 342 ⇑*i*P **P** 21 12 44.6 -2.1
comp=Z,43nm,1.3s,mb5.4
T06C Millerton Lake 62.86 64 ⇓P **P** 21 12 47.2 +0.5
baz=63
KCC Kaiser Creek 62.90 64 ⇑P **P** 21 12 47.7 +0.7
baz=63
M12A Wells 62.93 58 P **P** 21 12 48.1 +0.9
baz=63,SNR=5.3
R08A Mina 62.99 62 ⇑P **P** 21 12 48.3 +0.7
baz=63
VIS Vishakhapatnam 63.05 267 *eP* **P** 21 12 48.7 +0.7
VIS AMb AMB 21 12 49.6
comp=Z,33nm,0.4s,mb5.8
YMR Madison River 63.08 53 *eP* **P** 21 12 48.4 +0.2
AJM Ajmer 63.11 281 *i* P **P** 21 12 48.0 -0.4
AJM *eP* 21 12 49.2
AJM AMb AMB 21 12 51.1
comp=Z,76nm,0.9s,mb5.8
P10A Eureka 63.17 60 ⇑P **P** 21 12 49.4 +0.6
baz=63
YNR Norris Junctio 63.20 52 *eP* **P** 21 12 49.9 +0.9
N12A Clover Valley, 63.22 58 ⇑P **P** 21 12 49.2 0.0
baz=63
YFT Old Faithful 63.29 53 *eP* **P** 21 12 50.3 +0.7
O11A Cowboy Ranch, 63.32 59 ⇑P **P** 21 12 50.4 +0.6
baz=63
MTUM Tungsten Hills 63.35 63 *eP* **P** 21 12 50.3 +0.3
HELL Mitchell Peak, 63.49 64 ⇓P **P** 21 12 51.3 +0.3
baz=63
IMW Indian Meadow 63.59 53 *eP* **P** 21 12 52.2 +0.6
FLWY Flagg Ranch 63.60 53 *eP* **P** 21 12 57.4 +5.7
comp=Z,126nm,1.8s,mb5.6
P11A Circle Ranch, 63.63 60 ⇓P **P** 21 12 52.3 +0.4
baz=63
DCID1 Drake Creek 63.65 54 P **P** 21 12 50.4 -1.6
R09A Tonopah 63.69 61 P **P** 21 12 52.0 -0.2
baz=64,SNR=11
PSI Prapat 63.69 244 P **P** 21 12 52.2 0.0
comp=Z,4.2nm,0.4s,mb4.9,baz=49,slow=6.7,SNR=5.5
PSI Prapat 63.69 244 P **P** 21 12 52.2 0.0
PSI pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
PSI Prapat 63.69 244 P **P** 21 12 52.2 0.0
TPH Tonopah 63.70 62 *eP* **P** 21 12 52.6 +0.3
TPH pmax pmax
comp=Z,90nm,1.4s,mb5.6
TPH Tonopah 63.70 62 *eP* **P** 21 12 52.6 +0.3
comp=Z,90nm,1.4s,mb5.6
N13A Wendover, West 63.70 58 ⇑P **P** 21 12 52.2 -0.1
baz=64
RLMT Red Lodge 63.70 51 *eP* **P** 21 12 52.0 -0.3
comp=Z,18nm,1.1s,mb5.0
RRI2 Red Ridge 63.73 54 *eP* **P** 21 12 53.1 +0.5
O12A Currie 63.77 58 P **P** 21 12 53.1 +0.4
baz=64,SNR=8.0
MOOW Moose Ponds 63.79 53 *eP* **P** 21 12 53.4 +0.5
comp=Z,72nm,1.5s,mb5.5
FIA1 FINESS Array S 63.81 334 *eP* **P** 21 12 52.0 -0.9
FINES FINESS Array B 63.81 334 P **P** 21 12 51.9 -1.1
comp=Z,22nm,0.5s,mb5.5,baz=35,slow=7.2,SNR=310
FINES LR LR 21 43 25.5
comp=Z,708nm,18.4s,MS4.9,baz=40,slow=39
FINES FINESS Array B 63.81 334 P **P** 21 12 51.9 -1.1
FINES pmax pmax
comp=Z,22nm,0.5s
FINES MLR MLR
comp=Z,708nm,18.5s
FINES FINESS Array B 63.81 334 P **P** 21 12 51.9 -1.1
FINES LR LR 21 43 25.5
S09A Goldfield 63.92 62 ⇑P **P** 21 12 53.9 +0.1
baz=64,SNR=18

HVU **Hansel Valley** 63.93 56 *e*P P 21 12 54.3 +0.5
LOHW **Long Hollow** 63.96 53 *e*P P 21 12 55.2 +1.2
SNOW **Snow King Moun** 63.97 54 *e*P P 21 12 54.9 +0.8
REDW **Red Top Meadow** 63.98 54 *e*P P 21 12 54.8 +0.6
comp=Z,104nm,1.3s,mb5.7
Q11A **Duckwater** 64.15 60 ⇑P P 21 12 55.3 +0.1
baz=64
P12A **McGill** 64.18 59 ⇓P P 21 12 55.6 +0.1
baz=64
CWC **Cottonwood Cre** 64.23 64 ⇑P P 21 12 56.1 +0.3
baz=64
AHID **Auburn Hatcher** 64.24 54 *e*P P 21 12 54.7 -1.1
comp=Z,6.1nm,0.9s,mb4.6
GRAC **Grapevine Rang** 64.30 63 ⇓P P 21 12 56.6 +0.3
baz=64,SNR=5.7
BGU **Big Grassy Mou** 64.34 57 P P 21 12 56.3 -0.2
SPUT **South Promonto** 64.42 56 *e*P P 21 12 53.8 -3.3
ISA **Isabella** 64.49 64 *e*P P 21 12 55.4 -2.1
ISA *e* pP 21 13 05.7 -2.0
ISA *e* 21 13 11.3
ISA **Isabella** 64.49 64 ⇓P P 21 12 57.1 -0.4
baz=64
TRCR **Troy Canyon** 64.51 61 *e*P P 21 12 57.4 -0.2
TRCR *e* pP 21 13 07.1 -0.7
TRCR *e* 21 13 11.1
DAC **Darwin (Calif)** 64.63 63 *e*P P 21 12 56.7 -1.7
DAC *e* pP 21 13 07.9 -0.7
DAC *e* 21 13 13.0
DAC pmax pmax
comp=Z,22nm,1.0s,mb5.1
DAC **Darwin (Calif)** 64.63 63 *e*P P 21 12 56.7 -1.7
comp=Z,22nm,1.0s,mb5.2
DAC *e* pP 21 13 07.9 -0.7
DAC *e* 21 13 13.0
HWUT **Hardware Ranch** 64.73 56 *e*P P 21 12 59.7 +0.7
comp=Z,45nm,1.3s,mb5.3
NSS **Namsos** 64.79 342 *e*P P 21 12 57.7 -1.7
MPMC **Manual Prospec** 64.84 64 P P 21 13 00.0 +0.3
baz=65,SNR=6.3
DUG **Dugway** 64.94 57 *e*P P 21 13 00.5 +0.1
DUG *e* pP 21 13 10.7 +0.1
DUG **Dugway** 64.94 57 P P 21 13 01.1 +0.7
baz=65,SNR=11
FURC **Furnace Creek,** 64.96 63 ⇓P P 21 13 00.7 +0.1
baz=65
OSI **Osito Adit** 65.01 65 ⇓P P 21 13 00.7 -0.2
baz=65
OBN **Obninsk** 65.02 325 ⇓*i*P P 21 12 59.4 -1.5
OBN *e* 21 15 25.4
OBN pmax pmax
comp=Z,42nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.0
NOQ **North Oquirrh** 65.04 57 *e*P P 21 13 01.3 +0.2
comp=Z,103nm,1.2s,mb5.7
BW06 **Boulder Array** 65.09 54 *e*P P 21 13 02.1 +0.7
comp=Z,37nm,1.1s,mb5.3
PDAR **Pinedale Array** 65.09 54 P P 21 13 01.2 -0.2
comp=Z,6.5nm,0.9s,mb4.7,baz=295,slow=1.8,SNR=34
PDAR LR LR 21 39 28.5
comp=Z,256nm,22.0s,MS4.4,baz=324,slow=34
LRMC **Laurel Mountai** 65.09 64 ⇓P P 21 13 01.4 0.0
baz=65
CTU **Camp Tracy** 65.22 56 *e*P P 21 13 02.8 +0.5
CTU *e* 21 13 17.2
EDW2 **Edwards Air Fo** 65.30 65 ⇓P P 21 13 02.6 -0.1
baz=65
U10A **Ash Meadows, A** 65.31 63 ⇓P P 21 13 03.4 +0.5
baz=65
NLU **North Lily Min** 65.52 57 *e*P P 21 13 03.8 -0.4
DAU **Daniels Canyon** 65.69 56 *e*P P 21 13 05.4 +0.1
MPU **Maple Canyon** 65.74 57 *e*P P 21 13 06.2 +0.6
comp=Z,46nm,1.1s,mb5.4
MPU *e* pP 21 13 16.2 +0.4
MPU *e* 21 13 20.7
GSC **Goldstone** 65.75 64 *e*P P 21 13 05.7 0.0
GSC *e* pP 21 13 15.0 -0.9
GSC **Goldstone** 65.75 64 ⇓P P 21 13 05.6 -0.1
baz=66
BFSC **Mount Baldy St** 65.92 65 ⇓P P 21 13 06.8 0.0
baz=66,SNR=7.6
SHPR **Sheep Range** 65.97 62 *e*P P 21 13 07.2 +0.1
ARUT **Antelope Range** 66.16 60 *e*P P 21 13 08.3 0.0
ARUT *e* pP 21 13 18.5 0.0
ARUT *e* 21 13 23.2
ABKT **Ailbek** 66.19 300 P P 21 13 09.5 +1.0
comp=Z,148nm,0.5s,mb6.3,SNR=9.2
TUQ **Turquoise Mtn.** 66.21 63 P P 21 13 08.8 +0.2
baz=66,SNR=6.7
V11A **Goodsprings** 66.24 63 ⇓P P 21 13 09.0 +0.2
baz=66
CCUT **Cedar City** 66.36 60 *e*P P 21 13 09.6 +0.1
CCUT *e* pP 21 13 19.4 -0.3
HEC **Hector,Ludlow** 66.36 64 ⇓P P 21 13 09.7 +0.2
baz=66
MSU **Marysvale** 66.42 58 P P 21 13 10.7 +0.7
MSU **Marysvale** 66.42 58 *e*P P 21 13 10.8 +0.8
TMUT **Trail Mountain** 66.46 57 *e*P P 21 13 10.1 -0.1
TMUT *e* pP 21 13 20.9 +0.5
HYB **Hyderabad** 66.54 271 ⇑*i*P P 21 13 10.5 -0.2
HYB **Hyderabad** 66.54 271 ⇑*e*P P 21 13 10.5 -0.2
MURC **Murrieta** 66.63 65 ⇓P P 21 13 11.7 +0.4
baz=66,SNR=7.8
V12A **Nelson** 66.67 62 ⇓P P 21 13 11.9 +0.4
baz=66,SNR=6.5
VRSR **Storozhevoye** 66.78 321 *e*P P 21 13 11.5 -0.8
VRSR pmax pmax
comp=N,8.0nm,0.6s
VRSR pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
VRSR pmax pmax
comp=E,20nm,2.3s
ULM **Lac du Bonnet** 66.79 40 P P 21 13 11.4 -0.9
comp=E,4.1nm,0.5s,mb4.7,baz=315,slow=6.6,SNR=17
ULM LR LR 21 43 20.3
comp=E,250nm,19.0s,MS4.5,baz=30,slow=37
ULM **Lac du Bonnet** 66.79 40 *e*P P 21 13 11.1 -1.2
CTA **Charters Tower** 66.80 186 P P 21 13 10.2 -2.2
comp=E,4.4nm,0.8s,mb4.6,baz=351,slow=6.8,SNR=4.3
CTA **Charters Tower** 66.80 186 P P 21 13 10.2 -2.2
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTAO **Charters Tower** 66.80 186 *e*P P 21 13 12.5 +0.1
CTAO pmax pmax
comp=Z,37nm,1.4s,mb5.2
CTAO **Charters Tower** 66.80 186 *e*P P 21 13 12.5 +0.1
comp=Z,37nm,1.4s,mb5.2
GMRC **Granite Mounta** 66.80 64 ⇓P P 21 13 12.0 -0.4
baz=67
W12A **Cal Nev Ari** 66.94 63 ⇓P P 21 13 13.7 +0.4
baz=67
SRU **San Rafael** 66.98 57 *e*P P 21 13 13.8 +0.3
PFO **Pinyon Flat Ob** 67.09 65 P P 21 13 14.4 +0.2
PFO *e* 21 13 27.8
PFO pmax pmax
comp=Z,15nm,1.0s,mb5.0
PFO **Pinyon Flat Ob** 67.09 65 P P 21 13 14.4 +0.1
comp=Z,15nm,1.0s,mb5.0
PFO *e* 21 13 27.8
RWWY **Rawlins** 67.11 53 *e*P P 21 13 19.6 +5.3
comp=Z,40nm,1.1s,mb5.4
BELC **Belle Mtn.** 67.11 64 ⇑P P 21 13 14.6 +0.2
baz=67,SNR=7.6
RSSD **Black Hills** 67.15 49 *e*P P 21 13 13.5 -1.1
109C **Camp Elliot, M** 67.16 66 ⇑P P 21 13 14.2 -0.5
baz=67,SNR=5.2
LATR **Latur** 67.22 273 *ex* x 21 13 05.1
MOL **Molde** 67.44 343 *e*P P 21 13 15.7 -0.7
IRM **Iron Mountain** 67.53 64 ⇑P P 21 13 16.2 -0.9
baz=67
DOMB **Dombas** 67.61 342 *e*P P 21 13 16.8 -0.7
DOMB AMb AMB 21 13 19.1
comp=Z,70nm,1.4s,mb5.5
DOMB **Dombas** 67.61 342 *e*P P 21 13 16.8 -0.7
comp=Z,70nm,1.4s,mb5.5
W13A **Hualapai Mount** 67.68 62 ⇓P P 21 13 17.9 0.0
baz=68
BC3 **Big Chuckw Mtn** 67.68 64 ⇑P P 21 13 17.4 -0.5
baz=68
NB2 **NORSAR Subarra** 68.04 341 P P 21 13 19.7 -0.5
comp=Z,79nm,1.2s,mb5.6,baz=28,slow=6.2
NOA **NORSAR Array B** 68.04 341 P P 21 13 19.6 -0.6
comp=Z,20nm,0.5s,mb5.4,baz=27,slow=6.3,SNR=89
NOA LR LR 21 47 22.4
comp=Z,630nm,18.2s,MS4.9,baz=5.0,slow=40
NOA **NORSAR Array B** 68.04 341 P P 21 13 19.6 -0.6
NOA pmax pmax
comp=Z,20nm,0.5s
NOA MLR MLR
comp=Z,630nm,18.2s
X13A **Yucca** 68.05 63 ⇑P P 21 13 19.9 -0.4
baz=68
PDMCI **Parker Dam,Lak** 68.06 63 ⇓P P 21 13 20.0 -0.4
baz=68
W14A **Seligman** 68.09 62 ⇓P P 21 13 20.7 +0.2
baz=68
Y12C **Blythe** 68.19 64 ⇑P P 21 13 20.7 -0.5
baz=68
AGMN **Agassiz Refuge** 68.21 42 *e*P P 21 13 20.0 -1.3
comp=Z,4.1nm,0.6s,mb4.6
NAO01 **NORSAR Array S** 68.29 341 *e*P P 21 13 21.0 -0.8
PHWY **Pilot Hill** 68.33 52 *e*P P 21 13 21.8 -0.3
PV10 **Paradox Valley** 68.33 57 *e*P P 21 13 22.2 +0.2
WRAB **Tennant Creek** 68.39 198 ⇑*e*P P 21 13 20.3 -2.1
WB2 **Warramunga Arr** 68.40 198 ⇑*i*P P 21 13 20.3 -2.2
WB2 *e* 21 13 37.1
WRA **Warramunga Arr** 68.41 198 P P 21 13 20.5 -2.0
comp=Z,6.3nm,1.0s,mb4.6,baz=12,slow=6.6,SNR=39
WRA LR LR 21 39 55.0
comp=Z,285nm,21.7s,MS4.5,baz=15,slow=33
WRA **Warramunga Arr** 68.41 198 P P 21 13 20.5 -2.0
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA MLR MLR
comp=Z,285nm,21.7s
MDRS **Chennai** 68.41 266 *ex* x 21 12 43.9
MDRS AMb AMB 21 13 25.4
comp=Z,36nm,0.9s,mb5.4
MDRS *ex* x 21 13 52.3
GLA **Glamis** 68.47 64 *e*P P 21 13 23.5 +0.6
GLA **Glamis** 68.47 64 ⇑P P 21 13 22.4 -0.5
baz=68
W15A **Williams** 68.60 61 ⇓P P 21 13 23.8 0.0
baz=68
X14A **Yava** 68.70 62 ⇑P P 21 13 24.6 +0.2
baz=68
MNK **Minsk** 68.75 329 ⇓*e*P P 21 13 20.0 -4.7
MNK pmax pmax
comp=Z,80nm,1.0s,mb5.6
PV01 **Paradox Valley** 68.77 57 *e*P P 21 13 24.5 -0.3
WUAZ **Wupatki** 68.91 60 *e*P P 21 13 26.9 +1.3
comp=Z,41nm,1.0s,mb5.3
WUAZ **Wupatki** 68.91 60 ⇑P P 21 13 25.5 -0.2
baz=69
FITZ **Fitzroy Crossi** 68.97 207 *e*P P 21 13 23.8 -2.2
comp=Z,15nm,1.0s,mb4.9
FITZ *e* pP 21 13 35.1 -1.2
FITZ **Fitzroy Crossi** 68.97 207 P P 21 13 23.9 -2.1
comp=Z,8.4nm,0.9s,mb4.7,baz=10,slow=5.1,SNR=9.0
HYA **Hoyanger** 68.99 343 *e*P P 21 13 26.6 +0.4
HYA AMb AMB 21 13 28.6
comp=Z,135nm,1.4s,mb5.7
HYA **Hoyanger** 68.99 343 *e*P P 21 13 26.6 +0.4
comp=Z,135nm,1.4s,mb5.7
Y14A **Wickenburg** 69.00 63 ⇑P P 21 13 26.8 +0.6
baz=69
POO **Poona** 69.00 275 *e*P P 21 13 24.0 -2.2
X15A **Humboldt** 69.09 62 ⇓P P 21 13 27.2 +0.4
baz=69
ISCO **Idaho Springs** 69.29 54 *e*P P 21 13 28.4 +0.4
ISCO pmax pmax
comp=Z,54nm,1.2s,mb5.3
ISCO **Idaho Springs** 69.29 54 *e*P P 21 13 28.4 +0.4
comp=Z,54nm,1.2s,mb5.3
MVCO **Mesa Verde** 69.44 57 *e*P P 21 13 28.7 -0.3
comp=Z,22nm,0.9s,mb5.1
MVCO *e* 21 13 44.1
MVCO **Mesa Verde** 69.44 57 ⇓P P 21 13 28.4 -0.6
baz=69
KAD **Karad** 69.61 274 *e*P P 21 13 29.8 -0.2
KAD AMb AMB 21 13 31.1
comp=Z,45nm,0.6s,mb5.6
KONO **Kongsberg** 69.65 341 *ce*P P 21 13 31.4 +1.2
ASK **Askoy** 69.81 343 *e*P P 21 13 31.6 +0.3
ASK AMb AMB 21 13 33.5
comp=Z,221nm,1.7s,mb5.8
ASK **Askoy** 69.81 343 *e*P P 21 13 31.6 +0.3
comp=Z,221nm,1.7s,mb5.8
EGD **Espegrend** 70.00 343 *e*P P 21 13 32.9 +0.5
ODD1 **Odda** 70.05 342 *e*P P 21 13 32.1 -0.6
ODD1 AMb AMB 21 13 35.4
comp=Z,138nm,1.8s,mb5.6
ODD1 **Odda** 70.05 342 *e*P P 21 13 32.1 -0.6
comp=Z,138nm,1.8s,mb5.6
115A **Sonoran Desert** 70.31 63 ⇑P P 21 13 34.4 +0.1
baz=70
EYMN **Ely** 70.43 40 *e*P P 21 13 33.3 -1.8
KIV **Kislovodsk** 70.44 314 ⇑P P 21 13 36.1 +1.0
SNR=6.4
KIV **Kislovodsk** 70.44 314 *e*P P 21 13 35.6 +0.5
KIV *e* 21 13 58.6
KIV *e* 21 16 15.4
KIV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,1μm,16.0s,MS5.2
KIV **Kislovodsk** 70.44 314 *e*P P 21 13 35.8 +0.7
comp=Z,22nm,0.8s,mb5.2
BLS5 **Blasjo** 70.53 342 *e*P P 21 13 37.2 +1.5
BLS5 AMb AMB 21 13 40.2
comp=Z,43nm,1.4s,mb5.2
BLS5 **Blasjo** 70.53 342 *e*P P 21 13 37.2 +1.5
comp=Z,43nm,1.4s,mb5.2
ZEI **Tsey** 70.69 312 *e*P P 21 13 36.9 +0.3
ZEI *i* 21 13 51.2
ZEI pmax pmax
comp=Z,14nm,0.8s,mb4.9
SUW **Suwalki** 70.74 331 *e*P P 21 13 35.8 -1.1
SDCO **Great Sand Dun** 70.78 55 *e*P P 21 13 37.6 +0.4
comp=Z,41nm,1.4s,mb5.2
ECSD **EROS,Sioux Fal** 71.19 46 *e*P P 21 13 38.2 -1.4
comp=Z,72nm,1.3s,mb5.4
ECSD *e* pP 21 13 48.7 -1.2
ECSD *e* 21 13 53.6
AKASG **Malin Array Be** 71.26 326 P P 21 13 39.3 -0.8
comp=Z,32nm,0.4s,mb5.6,baz=36,slow=6.4,SNR=91
AKASG LR LR 21 47 13.2
comp=Z,1μm,18.8s,MS5.2,baz=40,slow=38
AKASG **Malin Array Be** 71.26 326 P P 21 13 39.3 -0.8
AKASG pmax pmax
comp=Z,32nm,0.4s
AKASG MLR MLR
comp=Z,1μm,18.8s
AKBB **Malin Array Si** 71.26 326 *e*P P 21 13 39.1 -1.0
KIEV **Kiev** 71.27 326 *e*P P 21 13 39.1 -1.0
KIEV pmax pmax
comp=Z,31nm,0.5s,mb5.5
KIEV **Kiev** 71.27 326 *e*P P 21 13 39.1 -1.1
comp=Z,31nm,0.5s,mb5.5
TUC **Tucson** 71.47 62 *e*P P 21 13 40.2 -1.1
TUC *e* 21 13 54.8
TUC pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
TUC **Tucson** 71.47 62 *e*P P 21 13 40.2 -1.1
comp=Z,3.9nm,1.3s,mb4.2
TUC *e* 21 13 54.8
AS31 **Alice Springs** 72.10 198 *e*P P 21 13 43.5 -1.6
ASAR **Alice Springs** 72.10 198 P P 21 13 44.4 -0.8
comp=Z,2.7nm,0.5s,mb4.4,baz=9.8,slow=6.0,SNR=53
ASAR LR LR 21 40 05.4
comp=Z,475nm,21.9s,MS4.7,baz=13,slow=32
ASAR **Alice Springs** 72.10 198 P P 21 13 44.4 -0.8
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR MLR MLR
comp=Z,475nm,21.9s
GNI **Garni** 72.15 310 ⇓P P 21 13 47.3 +1.9
SNR=5.3
GNI **Garni** 72.15 310 *c* *i*P P 21 13 47.2 +1.7
GNI pmax pmax
comp=Z,38nm,1.7s
GNI **Garni** 72.15 310 *e*P P 21 13 47.0 +1.6
comp=Z,28nm,0.9s,mb5.2
ANMO **Albuquerque** 72.20 58 ⇓*i*P P 21 13 46.3 +0.6
ANMO **Albuquerque** 72.20 58 *e*P P 21 13 46.2 +0.5
PALK **Pallekele** 72.25 262 *e*P P 21 13 46.5 +0.5
BSD **Bornholm Skovb** 72.33 336 *i*P P 21 13 46.1 -0.4
comp=Z,22nm,0.5s,mb5.3
BSD pmax pmax
comp=Z,690nm,18.0s
BSD **Bornholm Skovb** 72.33 336 *i*P P 21 13 46.1 -0.4
BSD pmax pmax
comp=Z,22nm,0.5s,mb5.3
BSD MLR MLR
comp=Z,700nm,18.0s,MS5.0
ANN **Anapa** 72.34 317 *e*P P 21 13 44.8 -1.8
ANN *e**PP pP 21 14 04.6 +7.7
ANN *eS* S 21 23 01.9 -5.7
ANN pmax pmax
comp=Z,22nm,1.3s,mb4.9
COP **Copenhagen** 72.50 338 *i*P P 21 13 47.4 -0.1
comp=Z,30nm,0.5s,mb5.5
COP pmax pmax
comp=Z,420nm,19.0s
COP **Copenhagen** 72.50 338 *i*P P 21 13 47.4 -0.1
COP pmax pmax
comp=Z,30nm,0.5s,mb5.5
COP MLR MLR
comp=Z,430nm,19.0s,MS4.7
MUD **Monsted U'grnd** 72.63 340 *i*P P 21 13 48.3 0.0
comp=Z,11nm,0.5s,mb5.0
MUD pmax pmax
comp=Z,1μm,20.0s
MUD **Monsted U'grnd** 72.63 340 *i*P P 21 13 48.3 0.0
MUD pmax pmax
comp=Z,11nm,0.5s,mb5.0
MUD MLR MLR
comp=Z,1μm,20.0s,MS5.1
CBKS **Cedar Bluff** 73.18 51 *e*P P 21 13 48.7 -2.9
CBKS pmax pmax
comp=Z,77nm,1.4s,mb5.4
CBKS **Cedar Bluff** 73.18 51 *e*P P 21 13 48.7 -2.8
comp=Z,77nm,1.4s,mb5.4
GKP **Gorka Klasztor** 73.26 334 *e*P P 21 13 51.5 -0.5
SCHQ **Schefferville** 73.45 22 P P 21 13 52.5 -0.6
comp=Z,4.9nm,0.8s,mb4.5,baz=2.7,slow=4.6,SNR=9.9
SCHQ LR LR 21 47 23.2
comp=Z,378nm,18.1s,MS4.7,baz=333,slow=37
SCHQ **Schefferville** 73.45 22 *e*P P 21 13 50.0 -3.2
TRD **Trivandrum** 73.91 265 *e*P P 21 13 56.3 +0.4
TRD AMb AMB 21 13 59.5
comp=Z,47nm,1.3s,mb5.3
TVAN **Van** 74.05 310 *i*P P 21 13 58.9 +2.3
SCIA **State Center** 74.21 45 *e*P P 21 13 56.7 -0.9
comp=Z,64nm,0.8s,mb5.6
KIS **Kishinev** 74.38 324 *e*P P 21 13 57.0 -1.6
KIS *e**PP pP 21 14 15.0 +6.1
KIS MLR MLR
comp=N,1μm,16.0s
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.3
KIS **Kishinev** 74.38 324 *e*P P 21 13 57.0 -1.6
KIS *ep*P pP 21 14 15.0 +6.1
KIS LRM 21 49 34.0
comp=Z,1μm,16.0s
KWP **Kalwaria** 74.55 329 *e*P P 21 14 00.0 +0.4
HAKT **HAKKARI** 74.60 309 *i*P P 21 14 00.8 +1.0
IAS **Iasi** 74.73 325 P P 21 14 00.8 +0.2
RUE **Ruedersdorf** 74.97 335 *e*P P 21 14 01.4 -0.6
comp=Z,35nm,0.7s,mb5.4
KELT **Kelkit** 74.98 313 *i*P P 21 14 02.7 +0.6
AMTX **Amarillo** 74.98 55 *e*P P 21 14 02.1 +0.1
OJC **Ojcow** 75.06 331 *e*P P 21 14 02.4 -0.1
MNTX **Cornudas Mount** 75.14 60 *e*P P 21 14 03.0 0.0
STHS **Stebnicka Huta** 75.25 329 *e*P P 21 14 03.9 +0.3
STHS pmax pmax
comp=Z,20nm,0.6s,mb5.2
STHS **Stebnicka Huta** 75.25 329 *e*P P 21 14 03.9 +0.3
comp=Z,20nm,0.6s,mb5.2
KOLS **Kolonicke sedl** 75.29 329 *e*P P 21 14 03.9 0.0
BURAR **Bucovina Array** 75.30 326 ⇓*i*P P 21 14 04.2 +0.3
BURAR **Bucovina Array** 75.30 326 ⇓P P 21 14 04.2 +0.3
GDL2 **Guadalupe Moun** 75.38 59 *e*P P 21 14 04.6 +0.3
UZH **Uzhgorod** 75.54 328 *e*P P 21 14 05.0 -0.3
UZH *e* 21 14 19.0
UZH *eS* S 21 23 46.0 +2.4
UZH *e* 21 24 28.0
UZH MLR MLR
comp=Z,800nm,18.0s,MS5.1
BANOM **Banah** 75.54 292 ⇓P P 21 14 05.8 +0.5
SNR=30
NIE **Niedzica** 75.57 330 *e*P P 21 14 05.6 +0.2
KSP **Ksiaz** 75.66 333 *e*P P 21 14 05.7 -0.3
KSP **Ksiaz** 75.66 333 ⇑*e*P P 21 14 05.6 -0.4
KSP *ep*P pP 21 14 13.9 -2.4
MSL **Mosul** 75.87 308 *ex* x 21 14 10.0
OKC **Ostrava-Krasne** 75.94 331 *e*P P 21 14 07.3 -0.3
NRDL **Niedersach Rie** 75.97 337 *e*P P 21 14 07.3 -0.5
comp=Z,22nm,1.0s,mb5.0
UPC **Upice** 76.04 333 *e*P P 21 14 07.6 -0.5
BIDO **Bidbid** 76.07 289 ⇓P P 21 14 10.0 +1.7
SNR=5.4
DPC **Dobruska-Polom** 76.08 333 *e*P P 21 14 08.4 0.0
BOYT **Boyabat** 76.12 317 *i*P P 21 14 09.8 +1.3
CFR **Carcaliu** 76.13 323 P P 21 14 09.1 +0.4
VRI **Vrincioaia** 76.14 324 ⇑*i*P P 21 14 08.9 +0.2
VRI **Vrincioaia** 76.14 324 ⇑P P 21 14 08.9 +0.2
MORC **Moravsky Berou** 76.19 332 ⇑*i*P P 21 14 09.0 0.0
MORC **Moravsky Berou** 76.19 332 *e*P P 21 14 09.0 0.0
MORC pmax pmax
comp=Z,27nm,1.0s,mb5.1
MORC **Moravsky Berou** 76.19 332 ⇑P P 21 14 09.0 0.0
CLL **Collm** 76.24 335 *e*P P 21 14 08.2 -1.1
comp=Z,69nm,1.2s,mb5.5
CLL **Collm** 76.24 335 ⇑*i*P P 21 14 08.6 -0.7
CLL *e* 21 14 25.0
CLL pmax pmax
comp=Z,68nm,1.2s,mb5.5
CLL MLR MLR
comp=Z,900nm,18.6s,MS5.1
CLL **Collm** 76.24 335 ⇑*i*P P 21 14 08.6 -0.7
comp=Z,68nm,1.2s,mb5.5
CLL *es*PcP 21 14 25.0
CLL LmV 21 53 00.0
comp=Z,900nm,18.6s
KECS **Kecovo** 76.31 329 *e*P P 21 14 09.2 -0.4
KECS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KECS **Kecovo** 76.31 329 *e*P P 21 14 09.2 -0.4
comp=Z,9.5nm,0.9s,mb4.7
MARD **Mardin** 76.33 310 *i*P P 21 14 10.8 +1.0
BRG **Berggiesshubel** 76.35 334 *e*P P 21 14 08.9 -1.0
comp=Z,18nm,1.2s,mb4.9
HATD **Hatta, Dubai** 76.43 292 P P 21 14 11.2 +0.9
SNR=13
PVCC **Panska Ves** 76.46 334 *e*P P 21 14 10.3 -0.2
FBE **Freiberg** 76.48 335 *e*P P 21 14 09.9 -0.7
comp=Z,36nm,1.1s,mb5.2
CLZ **Clausthal** 76.49 337 *e*P P 21 14 10.4 -0.3
comp=Z,58nm,1.3s,mb5.3
CLZ pmax pmax
comp=Z,58nm,1.3s,mb5.3
CLZ **Clausthal** 76.49 337 *e*P P 21 14 10.4 -0.3
HOQ **Hoqain** 76.55 290 P P 21 14 12.1 +1.1
SNR=9.9
ASHO **Ashiyiah** 76.57 292 ⇓P P 21 14 11.5 +0.4
SNR=10
TIRR **Tirgusor** 76.60 322 ⇓*i*P P 21 14 09.3 -2.0
WMOK **Wichita Mounta** 76.70 53 *e*P P 21 14 11.4 -0.5
WMOK pmax pmax
comp=Z,29nm,1.0s,mb5.2
WMOK **Wichita Mounta** 76.70 53 *e*P P 21 14 11.4 -0.5
comp=Z,29nm,1.0s,mb5.2
BALT **Daday** 76.74 318 *i*P P 21 14 13.2 +1.1
MLR **Muntele Rosu** 76.77 324 ⇓*i*P P 21 14 12.9 +0.7
MLR **Muntele Rosu** 76.77 324 ⇓P P 21 14 12.8 +0.6
MALT **Malatya** 76.79 312 ⇑*i*P P 21 14 12.4 0.0
MALT **Malatya** 76.79 312 ⇑P P 21 14 12.4 0.0
CTKT **Corum** 76.80 316 *i*P P 21 14 13.6 +1.2
ARMA **Armidale** 76.85 181 *e*P P 21 14 12.2 -0.5
ARMA *e* pP 21 14 21.7 -1.4
VYHS **Vyhne** 76.87 330 *i*P P 21 14 12.9 +0.1
VYHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
VYHS **Vyhne** 76.87 330 *i*P P 21 14 12.9 +0.1
comp=Z,15nm,1.0s,mb4.9
JMDO **Jabal Madar** 76.89 289 P P 21 14 14.3 +1.4
SNR=6.9
VRAC **Vranov** 76.90 332 ⇓*i*P P 21 14 13.6 +0.6
VRAC **Vranov** 76.90 332 ⇓P P 21 14 13.7 +0.6
DRGR 76.93 327 ⇑P P 21 14 13.2 0.0
PRU **Pruhonice** 76.95 334 *e*P P 21 14 13.1 -0.2
PRU *ex* x 21 14 28.8
PSZ **Piszkesteto** 77.00 329 ⇑*i*P P 21 14 13.2 -0.3
PSZ **Piszkesteto** 77.00 329 ⇑*e*P P 21 14 13.9 +0.4

TANN Tannenbergstha 77.19 335 *e*P P **21 14 14.1 -0.5**
comp=Z,20nm,1.4s,mb4.8
WERD Werda 77.20 335 *e*P P **21 14 14.3 -0.4**
comp=Z,26nm,1.2s,mb5.0
BSY Bisya 77.22 289 ⇑P P **21 14 16.0 +1.2**
SNR=8.2
MOX Moxa 77.23 336 *e*P P **21 14 14.2 -0.6**
comp=Z,28nm,1.2s,mb5.1
MOX Moxa 77.23 336 *e*P P **21 14 14.4 -0.4**
comp=Z,50nm,1.4s,mb5.2
MOX Moxa 77.23 336 *e*P P **21 14 14.4 -0.4**
MOX pmax pmax
comp=Z,50nm,1.4s,mb5.2
ARQ Araqi 77.23 290 ⇓P P **21 14 16.1 +1.2**
SNR=8.3
GUNZ Gunzen 77.27 335 *e*P P **21 14 14.6 -0.5**
comp=Z,25nm,1.0s,mb5.1
WTSB Winterswijk 77.30 339 *e*P P **21 14 14.6 -0.7**
comp=Z,46nm,0.6s,mb5.6
WERN Wernitzgruen 77.33 335 *e*P P **21 14 14.9 -0.5**
comp=Z,22nm,0.9s,mb5.1
NKC Novy Kostel 77.36 335 *e*P P **21 14 14.8 -0.8**
ATAB Bozova 77.50 312 *i*P P **21 14 18.0 +1.7**
UBBA Unterbreizbach 77.52 337 *e*P P **21 14 15.8 -0.7**
comp=Z,38nm,1.5s,mb5.1
ELDT Eldivan 77.54 317 *i*P P **21 14 17.7 +1.1**
BUG Bochum--Univer 77.67 339 *e*P P **21 14 16.6 -0.7**
comp=Z,68nm,1.3s,mb5.4
BUD Budapest 77.67 330⇑*e*P P **21 14 17.9 +0.6**
MANZ Manzenberg 77.67 335 *e*P P **21 14 17.1 -0.2**
comp=Z,17nm,1.2s,mb4.8
ZST Bratislava 77.70 331 *e*P P **21 14 17.6 +0.1**
comp=Z,22nm,1.1s,mb5.0
ZST LR LR
comp=Z,1μm,20.6s,MS5.1
CDAG Cicekdag 77.78 316 *i*P P **21 14 18.5 +0.6**
ROTZ Rotzenmuhle 77.84 335 *e*P P **21 14 18.0 -0.3**
comp=Z,28nm,1.0s,mb5.2
LTX Lajitas 77.87 60 *e*P P **21 14 18.1 -0.3**
TXAR Lajitas Array 77.87 60 P P **21 14 17.9 -0.5**
comp=Z,4.6nm,0.5s,mb4.7,baz=298,slow=4.2,SNR=63
TXAR Lajitas Array 77.87 60 P P **21 14 18.0 -0.4**
TXAR pmax pmax
comp=Z,5.0nm,0.5s
GZT Gaziantep 77.96 312 *i*P P **21 14 20.3 +1.4**
KHC Kasperske Hory 78.00 334 *e*P P **21 14 19.2 0.0**
KHC *ex* x 21 14 35.6
BR131 Keskin Array S 78.05 316 *e*P P **21 14 19.8 +0.4**
comp=Z,11nm,0.8s,mb4.8
BRTR Keskin Array B 78.05 316 P P **21 14 19.7 +0.3**
comp=Z,14nm,0.8s,mb4.9,baz=72,slow=3.7,SNR=52
BRTR Keskin Array B 78.05 316 P P **21 14 19.7 +0.3**
BRTR pmax pmax
comp=Z,14nm,0.8s
SGKT Sivrigoynuk 78.11 318 *i*P P **21 14 20.9 +1.1**
GRA1 Grafenberg Arr 78.19 335 *e*P P **21 14 20.2 0.0**
comp=Z,68nm,1.0s,mb5.5
GRF Grafenberg Arr 78.19 335 *e*P P **21 14 20.2 0.0**
GRF pmax pmax
comp=Z,68nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,1μm,20.3s,MS5.2
GRF Grafenberg Arr 78.19 335 *e*P P **21 14 20.2 0.0**
comp=Z,68nm,1.0s,mb5.5
GRF LR LR
comp=Z,1μm,20.3s,MS5.2
GRFO Grafenberg 78.19 335 *e*P P **21 14 20.7 +0.5**
GRFO pmax pmax
comp=Z,61nm,1.0s,mb5.5
GRFO Grafenberg 78.19 335 *e*P P **21 14 20.7 +0.4**
comp=Z,61nm,1.0s,mb5.5
WET Wettzell 78.20 334 *e*P P **21 14 20.3 0.0**
comp=Z,39nm,1.1s,mb5.2
WET Wettzell 78.20 334 *e*P P **21 14 20.3 0.0**
WET pmax pmax
comp=Z,39nm,1.1s,mb5.2
AVNT Avonos 78.20 315 *i*P P **21 14 20.8 +0.5**
GEC2 GERESS Array S 78.22 334 *e*P P **21 14 19.7 -0.7**
comp=Z,15nm,0.9s,mb4.9
GEC2 GERESS Array S 78.22 334 *e*P P **21 14 19.7 -0.7**
GEC2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
GERES GERESS Array B 78.22 334 P P **21 14 19.8 -0.5**
comp=Z,5.7nm,0.5s,mb4.8,baz=37,slow=6.0,SNR=54
GERES LR LR 21 53 02.2
comp=Z,1μm,18.0s,MS5.3,baz=73,slow=39
GERES GERESS Array B 78.22 334 P P **21 14 19.8 -0.6**
GERES pmax pmax
comp=Z,6.0nm,0.5s
GERES MLR MLR
comp=Z,1μm,18.0s
MIB Mutribah 78.25 301 *e*P P **21 14 20.9 +0.4**
MIB AMb AMB 21 14 22.0
comp=Z,146nm,0.6s,mb6.1
ANTO Ankara 78.33 317 ⇓P P **21 14 22.2 +1.2**
SNR=11
ANTO Ankara 78.33 317 ⇓*i*P P **21 14 21.5 +0.5**
ANTO Ankara 78.33 317 ⇓P P **21 14 21.5 +0.5**
BZS Buzias 78.33 327⇑*i*P P **21 14 20.1 -0.9**
BZS Buzias 78.33 327 ⇑P P **21 14 20.1 -0.9**
SOP Sopron 78.33 331⇓*e*P P **21 14 22.0 +1.0**
CONA Conrad Observa 78.34 332 *i*P P **21 14 21.4 +0.4**
comp=Z,26nm,1.1s,mb5.1,SNR=25
TNS Taunus Mts 78.48 337 *e*P P **21 14 21.5 -0.3**
comp=Z,40nm,1.1s,mb5.3
TNS Taunus Mts 78.48 337 *e*P P **21 14 21.5 -0.3**
TNS pmax pmax
comp=Z,40nm,1.1s,mb5.3
KBD Kabd 78.50 300 *e*P P **21 14 22.4 +0.5**
ZIMR 78.52 324 P P **21 14 22.0 0.0**
HGN Heimansgroeve 78.62 339 *e*P P **21 14 22.1 -0.4**
comp=Z,61nm,1.9s,mb5.2
BEBN Eben Emael 78.65 339 P P **21 14 22.7 -0.1**
QRN Al-Qurain 78.68 300 *e*P P **21 14 23.5 +0.5**
QRN AMb AMB 21 14 25.2
comp=Z,89nm,0.7s,mb5.8
NAY Al-Naaiem 78.72 301 *e*P P **21 14 23.4 +0.3**
NAY AMb AMB 21 14 26.2
comp=Z,80nm,1.0s,mb5.6
MEM Membach 78.75 339 P P **21 14 22.8 -0.4**
RDF Al-Radifah 78.77 300 *e*P P **21 14 24.0 +0.6**
RDF AMb AMB 21 14 26.7
comp=Z,187nm,0.7s,mb6.1
PKSM Moragy 78.90 329⇑*i*P P **21 14 23.3 -0.8**
PKSM Moragy 78.90 329 ⇑P P **21 14 23.2 -0.9**
STKA Stephens Creek 78.91 189 *e*P P **21 14 22.6 -1.6**
comp=Z,3.9nm,1.1s,mb4.2
STKA *e* pP 21 14 33.0 -1.6
STKA Stephens Creek 78.91 189 P P **21 14 23.2 -1.0**
comp=Z,5.1nm,0.9s,mb4.4,baz=341,slow=9.3,SNR=6.5
STKA LR LR 21 44 23.1
comp=Z,488nm,20.7s,MS4.8,baz=22,slow=32
MOA Molln 78.92 333 *i*P P **21 14 24.6 +0.3**
comp=Z,23nm,0.8s,mb5.2,SNR=10.0
UCC Uccle 78.97 340 P P **21 14 25.6 +1.1**
JMB Yambol 79.00 322 *e*P P **21 14 24.0 -0.6**
ARSA Arzberg 79.05 332 *i*P P **21 14 25.1 +0.1**
comp=Z,25nm,1.3s,mb5.0,SNR=9.8
BCLA Clavier 79.09 339 P P **21 14 24.6 -0.5**
SNF Seneffe 79.25 340 P P **21 14 26.3 +0.2**
COBT Iskenderun 79.27 313 *i*P P **21 14 27.4 +1.3**
JCT Junction City 79.29 57 *e*P P **21 14 25.9 -0.3**
SIUC Southern Illin 79.40 45 *e*P P **21 14 26.1 -0.8**
comp=Z,61nm,1.1s,mb5.4
ESKT Eskisehir 79.51 318 *i*P P **21 14 27.4 0.0**
FUR Furstenfeldbru 79.55 335 *e*P P **21 14 27.4 -0.3**
comp=Z,60nm,1.2s,mb5.4
FUR Furstenfeldbru 79.55 335 *e*P P **21 14 27.4 -0.3**
FUR pmax pmax
comp=Z,60nm,1.2s,mb5.4
DOU Dourbes 79.56 340 P P **21 14 27.7 -0.1**
WLF Walferdange 79.58 338 *e*P P **21 14 27.3 -0.5**
comp=Z,61nm,1.5s,mb5.3
WLF Walferdange 79.58 338 P P **21 14 28.7 +0.9**
STU Stuttgart 79.59 336 *e*P P **21 14 27.5 -0.4**
comp=Z,44nm,1.2s,mb5.3
STU Stuttgart 79.59 336 *e*P P **21 14 27.9 0.0**
STU pmax pmax
comp=Z,38nm,1.1s,mb5.2
STU Stuttgart 79.59 336 *e*P P **21 14 27.9 0.0**
comp=Z,38nm,1.1s,mb5.2
MIAR Mount Ida 79.65 50 *e*P P **21 14 27.2 -1.0**
MIAR *e* 21 14 41.9
MIAR pmax pmax
comp=Z,32nm,1.0s,mb5.2
MIAR Mount Ida 79.65 50 *e*P P **21 14 27.2 -1.1**
comp=Z,32nm,1.0s,mb5.2
MIAR *e* 21 14 41.9
PERS Pernice 79.72 332 *e*P P **21 14 28.2 -0.4**
ULDT Uludag 79.79 319 *i*P P **21 14 29.4 +0.5**
KBA Koelnbreinsper 79.90 333 *i*P P **21 14 30.4 +0.8**
comp=Z,68nm,1.0s,mb5.5,SNR=37
KBA Koelnbreinsper 79.90 333 *i*P P **21 14 30.4 +0.8**
KBA pmax pmax
comp=Z,68nm,1.0s,mb5.5
PGB Panagyurishte 79.92 324 *e*P P **21 14 29.0 -0.7**
USIN University of 79.95 44 *e*P P **21 14 29.1 -0.7**
OBKA Obir 80.02 332⇑*i*P P **21 14 30.2 0.0**
comp=Z,23nm,0.9s,mb5.1
PLD Plovdiv 80.08 323 *e*P P **21 14 30.0 -0.5**
KDZ Kurdzhali 80.16 323 *e*P P **21 14 31.0 0.0**
SART Tekirdag 80.20 321 *i*P P **21 14 30.8 -0.4**
WATA Walderalm 80.21 334⇑*i*P P **21 14 31.7 +0.5**
comp=Z,34nm,0.7s,mb5.4,SNR=12
WATA Walderalm 80.21 334⇑*i*P P **21 14 31.7 +0.5**
WATA pmax pmax
comp=Z,34nm,0.7s,mb5.4
WATA Walderalm 80.21 334⇑*i*P P **21 14 31.7 +0.5**
comp=Z,34nm,0.7s,mb5.4
DIVS Divcibare 80.23 327 *i*P P **21 14 30.4 -1.0**
DIVS Divcibare 80.23 327 *e*P P **21 14 30.5 -0.8**
BFO Black Forest 80.24 337 P P **21 14 31.5 +0.1**
comp=Z,168nm,1.0s,mb5.9,SNR=6.7
BFO Black Forest 80.24 337 *e*P P **21 14 30.9 -0.5**
comp=Z,34nm,1.1s,mb5.2
BFO Black Forest 80.24 337 *e*P P **21 14 30.9 -0.5**
BFO pmax pmax
comp=Z,34nm,1.1s,mb5.2
WTTA Wattenberg 80.25 334⇓*i*P P **21 14 32.0 +0.5**
comp=Z,50nm,0.8s,mb5.5,SNR=15
WTTA Wattenberg 80.25 334⇓*i*P P **21 14 32.0 +0.5**
WTTA pmax pmax
comp=Z,50nm,0.8s,mb5.5
VTS Vitosha 80.27 325 *e*P P **21 14 31.4 -0.2**
VTS Vitosha 80.27 325⇑*i*P P **21 14 31.4 -0.2**
VTS Vitosha 80.27 325 *e*P P **21 14 31.0 -0.6**
FORT Forrest 80.29 201 *e*P P **21 14 30.6 -1.1**
comp=Z,20nm,0.7s,mb5.2
FORT *e* pP 21 14 42.1 0.0
MOTA Moosalm 80.34 334⇑*i*P P **21 14 32.1 +0.2**
comp=Z,53nm,1.0s,mb5.4,SNR=23
MOTA Moosalm 80.34 334⇑*i*P P **21 14 32.1 +0.2**
MOTA pmax pmax
comp=Z,53nm,1.0s,mb5.4
WCI Wyandotte Cave 80.39 43 *e*P P **21 14 30.8 -1.4**
WCI pmax pmax
comp=Z,48nm,1.1s,mb5.3
WCI Wyandotte Cave 80.39 43 *e*P P **21 14 30.8 -1.4**
comp=Z,48nm,1.1s,mb5.3
SQTA Sankt Quirin 80.42 334⇑*i*P P **21 14 32.7 +0.4**
comp=Z,42nm,1.1s,mb5.3
SQTA Sankt Quirin 80.42 334⇑*i*P P **21 14 32.7 +0.3**
SQTA pmax pmax
comp=Z,42nm,1.1s,mb5.3
WLS Welschbruch 80.42 337 *e*P P **21 14 31.9 -0.5**
CDF Champ du Feu 80.44 337 *e*P P **21 14 31.5 -1.0**
comp=Z,85nm,1.1s,mb5.3
CDF Champ du Feu 80.44 337 *e*P P **21 14 31.5 -1.0**
CDF pmax pmax
comp=Z,43nm,1.1s,mb5.3
CDF Champ du Feu 80.44 337 *e*P P **21 14 31.5 -1.0**
comp=Z,43nm,1.1s,mb5.3
GDZ Gediz 80.49 319 *i*P P **21 14 33.0 +0.3**
PTCC Patocco-Chiusa 80.49 333 P P **21 14 32.1 -0.7**
FVI Forni Avoltri 80.50 333 P P **21 14 32.6 -0.2**
ALN Alexandroupoli 80.52 322 *e*P P **21 14 32.6 -0.3**
RDO Rodhopi 80.53 322 *e*P P **21 14 33.0 +0.1**
ROBS Robic 80.59 332 *e*P P **21 14 32.4 -0.9**
GMNA Gemona 80.65 333 P P **21 14 32.5 -1.1**
ECH Echery 80.66 337 *e*P P **21 14 33.2 -0.4**
BOJS Bojanci 80.68 331 *e*P P **21 14 33.2 -0.6**
DAVA Damuels 80.75 335 *i*P P **21 14 34.6 +0.5**
comp=Z,23nm,0.8s,mb5.2,SNR=11
CANB Canakkale 80.81 321 *i*P P **21 14 34.5 +0.1**
MMB Musmiste 80.91 324 *e*P P **21 14 35.0 0.0**
KKB Krupnik 80.93 324 *e*P P **21 14 35.0 -0.1**
THEF They Montfort 80.95 338 *e*P P **21 14 34.7 -0.5**
MOF Molkenrain 81.00 337 *e*P P **21 14 34.7 -0.8**
NVR Nevrokopi 81.05 323 *e*P P **21 14 37.5 +1.8**
WVT Waverly 81.33 45 *e*P P **21 14 36.4 -0.8**
WVT pmax pmax
comp=Z,19nm,1.0s,mb5.0
WVT Waverly 81.33 45 *e*P P **21 14 36.4 -0.9**
comp=Z,19nm,1.0s,mb5.0
BRMO Bormio 81.34 335 P P **21 14 37.9 +0.6**
CTI Castel Tesino 81.34 334 P P **21 14 36.3 -1.0**
SRS Serrai 81.36 323 *e*P P **21 14 37.0 -0.3**
TAOE Nuku Hiva Isla 81.39 113 *e*LR LR 21 39 31.2
comp=Z,4μm,29.0s,baz=314
STIP Stip 81.44 325 *e*P P **21 14 36.7 -1.1**
STIP Stip 81.44 325 *i*P P **21 14 37.0 -0.8**
SKO Skopje 81.50 325 *i*P P **21 14 38.7 +0.6**
KNT Kendrikon 81.60 324 *e*P P **21 14 38.1 -0.6**
BHL Bhannes 81.62 311 *e*P P **21 14 39.4 +0.7**
LIA Limnos Island 81.71 322 *e*P P **21 14 38.9 -0.4**
PRK Paraskevi 81.79 321 *e*P P **21 14 39.4 -0.2**
OXF Oxford 81.83 47 *e*P P **21 14 39.1 -0.8**
OXF pmax pmax
comp=Z,95nm,1.0s,mb5.7
OXF Oxford 81.83 47 *e*P P **21 14 39.1 -0.7**
comp=Z,95nm,1.0s,mb5.7
CSS Prodhromos 81.96 314 *e*P P **21 14 41.0 +0.4**
CSS Prodhromos 81.96 314 *e*P P **21 14 40.4 -0.2**
comp=Z,45nm,0.8s,mb5.5
GRG Griva 81.98 324 *e*P P **21 14 39.8 -0.9**
PLG Polygyros 82.04 323 *e*P P **21 14 40.0 -0.9**
PLG Polygyros 82.04 323 *e*P P **21 14 40.3 -0.7**
PLAL Pickwick Lake 82.12 46 *e*P P **21 14 39.8 -1.6**
comp=Z,29nm,1.1s,mb5.1
GRR Gorron 82.39 342 *e*P P **21 14 41.6 -1.2**
comp=Z,249nm,1.5s,mb5.6
GRR Gorron 82.39 342 *e*P P **21 14 41.6 -1.2**
GRR pmax pmax
comp=Z,124nm,1.5s,mb5.6
GRR Gorron 82.39 342 *e*P P **21 14 41.6 -1.2**
comp=Z,124nm,1.5s,mb5.6
PPT Papeete 82.55 125 *e*LR LR 21 40 06.4
comp=Z,2μm,24.8s,baz=328
PPT Papeete 82.55 125 LR LR 21 41 58.4
comp=Z,1μm,20.9s,MS5.2,baz=292,slow=29
KZN Kozani 82.78 324 *e*P P **21 14 43.9 -0.9**
WHFO Wadi Hawf 82.91 288 ⇑P P **21 14 45.7 +0.2**
SNR=10
SMF Signal de Mont 82.96 339 *e*P P **21 14 44.9 -0.9**
comp=Z,212nm,1.3s,mb5.7
SMF Signal de Mont 82.96 339 *e*P P **21 14 44.9 -0.9**
SMF pmax pmax
comp=Z,106nm,1.3s,mb5.7
SMF Signal de Mont 82.96 339 *e*P P **21 14 44.9 -0.9**
comp=Z,106nm,1.3s,mb5.7
RSM Repubblica di 82.99 332 P P **21 14 47.0 +1.1**
XOR Xorichti 83.00 323 *e*P P **21 14 44.4 -1.6**
NEO Neokhori 83.03 323 *e*P P **21 14 45.2 -0.9**
VMG Vicchio 83.25 333 P P **21 14 48.6 +1.3**
LPG La Plagne 83.27 336 *e*P P **21 14 46.6 -0.7**
comp=Z,38nm,0.8s,mb5.2
LPG La Plagne 83.27 336 *e*P P **21 14 46.6 -0.7**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.2
LPG La Plagne 83.27 336 *e*P P **21 14 46.6 -0.7**
comp=Z,19nm,0.8s,mb5.2
THL Klokotos Trika 83.31 324 *e*P P **21 14 44.0 -3.6**
CRE Caprese Michel 83.43 332 P P **21 14 50.5 +2.3**
SNTG Esanatoglia 83.44 331 P P **21 14 48.7 +0.5**
AGG Agios Georgios 83.64 323 *e*P P **21 14 47.6 -1.7**
LKR Lokris 83.68 323 *e*P P **21 14 48.1 -1.4**
JAN Janina 83.70 324 *e*P P **21 14 49.6 0.0**
ELN Prospectdale 83.73 40 *e*P P **21 14 48.4 -1.3**
PTL Penteli 83.82 322 *e*P P **21 14 49.0 -1.2**
EVR Evrytania 83.95 323 *e*P P **21 14 50.4 -0.4**
IGT Igoumenitsa 84.02 325 *e*P P **21 14 50.4 -0.8**
KVR Kavouri 84.05 322 *e*P P **21 14 51.0 -0.4**
KEK Kerkira 84.07 325 *e*P P **21 14 50.4 -1.1**
AQU L'Aquila 84.09 331 *e*P P **21 14 52.1 +0.6**
AQU pmax pmax
comp=Z,34nm,1.0s,mb5.4
AQU L'Aquila 84.09 331 *e*P P **21 14 52.1 +0.5**
comp=Z,34nm,1.0s,mb5.4
NAIG Nisos Aigina 84.23 322 *e*P P **21 14 50.0 -2.3**
FG5 Orsara di Pugl 84.39 329 P P **21 14 53.7 +0.6**
FG4 Candela 84.44 329 P P **21 14 53.4 +0.1**
KARP Karpathos 84.44 318 *e*P P **21 14 47.3 -6.1**
SDI San Donato 84.52 330 P P **21 14 53.5 -0.3**
RLS Riolos of Patr 84.82 323 *e*P P **21 14 53.7 -1.6**
RFI Roccamonfina 84.83 330 P P **21 14 56.8 +1.5**
CAF Calviac 85.01 339 *e*P P **21 14 54.9 -1.3**
comp=Z,14nm,0.6s,mb5.0
CAF Calviac 85.01 339 *e*P P **21 14 54.9 -1.3**
CAF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
CAF Calviac 85.01 339 *e*P P **21 14 54.9 -1.3**
comp=Z,6.8nm,0.6s,mb5.0
EIL Elat 85.31 309 *e*P P **21 14 58.1 +0.3**
NPS Neapolis 85.38 319 *e*P P **21 14 56.9 -1.2**
TDS Terranova Siba 85.44 328 P P **21 14 56.8 -1.5**
NWAO Narrogin (SRO) 85.47 209 P P **21 14 58.1 -0.4**
comp=Z,12nm,0.9s,mb5.0,baz=335,slow=4.9,SNR=3.6
NWAO Narrogin (SRO) 85.47 209 P P **21 14 58.1 -0.4**
NWAO pmax pmax
comp=Z,12nm,0.9s
KYTH Kithira 85.67 321 *e*P P **21 14 58.5 -1.0**
XRY Khrisi 85.67 319 *e*P P **21 15 00.0 +0.5**
TIP Timpagrande 85.70 327 *e*P P **21 14 59.6 -0.1**
SOI Samo 86.93 327 P P **21 15 05.2 -0.5**
TBI Tubuai 87.28 129 *e*LR LR 21 42 07.0
comp=Z,869nm,30.2s,baz=323
ESDC Sonseca Array 91.38 342 P P **21 15 25.0 -1.6**
comp=Z,1.5nm,0.7s,mb4.5,baz=352,slow=3.3,SNR=4.8
KEST Kesra 91.41 331 P P **21 15 26.9 +0.1**
comp=Z,1.9nm,0.7s,mb4.6,baz=246,slow=3.0,SNR=16
RKT Rikitea 95.41 118 *e*PS PS 21 27 58.5 -22
comp=Z,237nm,33.8s
RKT Rikitea 95.41 118 *e*SS SS 21 33 15.1 -12
comp=Z,190nm,28.0s
RKT *e*LR LR 21 46 01.2
comp=Z,999nm,32.0s,baz=320
TORD Torodi Ar. Bea 114.82 328 PKP PKiKP 21 21 00.3 -1.0
comp=Z,1.2nm,0.5s,baz=18,slow=1.7,SNR=49
TORD PKKPbc PKKPbc 21 31 33.7 -4.4
comp=Z,0.3nm,0.5s,baz=190,slow=3.0,SNR=4.3
TORD Torodi Ar. Bea 114.82 328 PKP PKiKP 21 21 00.3 -1.0
TORD PKKPbc PKKPbc 21 31 33.7 -4.4
VNDA Vanda 124.17 178 PKP PKPdf 21 21 16.1 -3.1
comp=Z,1.7nm,0.9s,baz=306,slow=4.0,SNR=6.0
VNDA Vanda 124.17 178 *e*P PKPdf 21 21 15.8 -3.4
VNDA *e* 21 21 31.8
MAW Mawson 132.00 211 PKP PKPdf 21 21 31.4 -2.7
comp=Z,1.5nm,0.7s,baz=146,slow=7.5,SNR=5.8
MAW Mawson 132.00 211 PKIKP PKPdf 21 21 31.4 -2.8
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 132.00 211 *e*P PKPdf 21 21 31.7 -2.5
LPAZ La Paz 134.72 62 PKP PKPdf 21 21 37.2 -2.1
comp=Z,0.8nm,0.7s,baz=345,slow=4.7,SNR=4.6
LPAZ La Paz 134.72 62 PKP PKPdf 21 21 37.2 -2.1
BOSA Boshof 135.34 275 PKhKP 21 21 36.8
comp=Z,1.5nm,0.8s,baz=34,slow=2.3,SNR=5.2
BOSA Boshof 135.34 275 PKIKP PKPdf 21 21 36.8 -3.6
BOSA pmax pmax
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 136.53 180 *e*PKP PKPdf 21 21 41.2 -1.4
SYO Syowa Base 140.71 212⇑*e*PKPdf PKPdf 21 21 52.5 +2.2
MAIT Maitri 149.51 204 *e*PKPdf PKPdf 21 22 07.3 +1.9
SNAA Sanae 152.46 197 PKPbc PKPbc 21 22 13.7 -3.2
comp=Z,1.4nm,0.6s,baz=174,slow=2.2,SNR=22
SNAA PKPab PKPab 21 22 24.8 -2.3
comp=Z,2.5nm,0.7s,baz=181,slow=4.1,SNR=9.4
SNAA Sanae 152.46 197 *e*PKPbc PKPbc 21 22 13.4 -3.4
PMSA Palmer Station 153.28 145 PKPbc PKPbc 21 22 16.0 -2.6
comp=Z,5.6nm,0.6s,baz=260,slow=11,SNR=3.0
PMSA PKPab PKPab 21 22 27.0 -3.6
comp=Z,7.9nm,0.9s,baz=189,slow=14,SNR=8.3
VNA2 Neumayer--Watz 153.93 195 *e*PKPdf PKPbc 21 22 17.5 -2.5
VNA2 *e* 21 22 28.3
VNA2 *e* 21 22 33.3
VNA2 *e* 21 22 44.0
VNA2 *e* 21 22 46.8
VNA2 *e* 21 22 55.7
VNA3 Neumayer Olymp 154.03 193 *e*PKPdf PKPbc 21 22 17.0 -3.3
VNA3 *e* 21 22 27.8
VNA3 *e* 21 22 33.3
VNA3 *e* 21 22 43.5
VNA3 *e* 21 22 46.6
VNA3 *e* 21 22 55.2
VNA1 Neumayer--Stat 154.31 195 *e*PKPdf PKPbc 21 22 20.1 -0.8
VNA1 *e* 21 22 34.6
VNA1 *e* 21 22 48.0

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*STR **24** 21:30:58.6±0.4, 4594N×785E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 21:30:59.1±0.2, 4601N×801E, h4km, Ml2.8/30, Error ellipse: s-maj=4.5km s-min=3.4km az=125.0*
*CSEM **24** 21:30:59.1±0.1, 4597N×807E, h12km, Ml2.9/30, Error ellipse: s-maj=1.2km s-min=1.1km az=154.0*
*ISCJB **24** 21:31:00.2±0.3, 4611N±002×791E±002, h25km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=33.2*
*ROM **24** 21:31:00.4±0.2, 4605N×801E, h11km±2km, Md2.5/8, Ml2.3/5, Error ellipse: s-maj=5.0km s-min=2.3km az=111.0*
*GEN **24** 21:31:00.6, 4607N×797E, h8km, ML2.0*
*ZUR **24** 21:31:00.5, 4607N×800E, h9km±1km, ML2.5/17*
*NEIC **24** 21:31:00.5, 4607N×800E, h9km, ML2.5(ZUR), ML2.7(STR), ML2.8(SZGRF), ML2.8(LDG), After ZUR.*
*SZGRF **24** 21:31:03.5, 4626N×797E, h10km, mb2.8, Switzerland*
ISC 24 21:31:00.0±0.2, 4608N±001×793E±002, h18km±1km, n122, σ1§14/198, 18C-11D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MMK	**Mattmark**	**0.04**	**140**	Pg	**Pg**	**21 31 02.7**	**-0.5**
MMK				Sg	**Sg**	**21 31 04.1**	**-1.2**
MMK	**Mattmark**	**0.04**	**140**	⇓*i*Pg	**Pg**	**21 31 02.7**	**-0.5**
	12μm,0.1s						
MMK				*i* Sg	**Sg**	**21 31 04.5**	**-0.8**
	12μm,0.1s						
DIX	**Grande Dixence**	**0.36**	**270**	⇓*i*Pg	**Sg**	**21 31 13.9**	**+1.2**
	772nm,0.1s						
DIX	**Grande Dixence**	**0.36**	**270**	⇓*i*P	**Pg**	**21 31 08.4**	**+0.8**
DIX	**Grande Dixence**	**0.36**	**270**	⇓*i*Pg	**Sg**	**21 31 13.9**	**+1.2**
	772nm,0.1s						
LKBD	**Leukerbad**	**0.37**	**326**	*e*Sg	**Pg**	**21 31 08.4**	**+0.6**
	147nm,0.5s						
LKBD	**Leukerbad**	**0.37**	**326**	⇑*i*Pg	**Pg**	**21 31 08.8**	**+1.0**
	147nm,0.5s						
LKBD	**Leukerbad**	**0.37**	**326**	⇑*i*Pg	**Pg**	**21 31 08.8**	**+1.0**
	147nm,0.5s						
ORX	**Oropa**	**0.45**	**176**	P	**Pg**	**21 31 09.2**	**+0.1**
ORO	**Oropa**	**0.45**	**176**	Pg	**Pg**	**21 31 09.4**	**+0.2**
ORO				Sg	**Sg**	**21 31 15.2**	**-0.2**
SENIN	**Lac Senin**	**0.52**	**303**	*e*Pg	**Pg**	**21 31 11.7**	**+1.2**
	156nm,0.2s						
GRYON	**Gryon**	**0.59**	**287**	*e*Pg	**Pg**	**21 31 13.1**	**+1.3**
	27nm,0.3s						
WIMIS	**Wimmis**	**0.62**	**340**	⇑*i*Pg	**Pg**	**21 31 13.1**	**+0.8**
	294nm,0.3s						
FUSIO	**Fusio**	**0.63**	**53**	⇑*i*Pg	**Pg**	**21 31 12.1**	**-0.4**
	495nm,0.1s						
SALAN	**Lac Salanfe**	**0.67**	**276**	⇑*i*Pg	**Sg**	**21 31 22.9**	**+0.8**
	31nm,0.4s						
SALAN	**Lac Salanfe**	**0.67**	**276**	⇑*i*P	**Pb**	**21 31 14.2**	**+1.0**
MRGE	**Morge**	**0.68**	**243**	Pg	**Pg**	**21 31 13.9**	**+0.5**
	109nm,0.3s						
HASLI	**Hasliberg**	**0.69**	**13**	⇑*i*Pg	**Pg**	**21 31 13.7**	**0.0**
	433nm,0.4s						
HASLI				*i* Sg	**Pb**	**21 31 13.9**	**+0.3**
	433nm,0.4s						
HASLI	**Hasliberg**	**0.69**	**13**	⇑*i*P	**Pb**	**21 31 13.9**	**+0.3**
EMV	**Vieux Emosson**	**0.72**	**269**	Pg	**Pg**	**21 31 15.3**	**+1.2**
MUGIO	**Muggio**	**0.79**	**101**	Pg	**Pb**	**21 31 14.7**	**-0.5**
MUGIO				Sg	**Sg**	**21 31 24.2**	**-1.7**
MUGIO	**Muggio**	**0.79**	**101**	⇓*i*Pg	**Pg**	**21 31 14.6**	**-0.9**
	308nm,0.2s						
MUGIO				*e*Sg	**Pb**	**21 31 14.7**	**-0.5**
	308nm,0.2s						
MUGIO	**Muggio**	**0.79**	**101**	⇓*i*P	**Pb**	**21 31 14.7**	**-0.5**
MUGIO	**Muggio**	**0.79**	**101**	⇓*i*Pg	**Pg**	**21 31 14.6**	**-0.9**
	308nm,0.2s						
MUGIO				Sg	**Sg**	**21 31 24.2**	**-1.7**
LSD	**Ceresole Reale**	**0.83**	**221**	P	**Pb**	**21 31 16.5**	**+0.7**
BNALP	**Bannalp**	**0.86**	**23**	⇑*i*Pg	**Pg**	**21 31 15.1**	**-1.7**
	281nm,0.4s						
BNALP	**Bannalp**	**0.86**	**23**	⇑*i*P	**Pb**	**21 31 16.8**	**+0.4**
MONC	**Moncucco Torin**	**1.01**	**180**	Pg	**Pg**	**21 31 21.3**	**+1.8**

196nm,1.0s
LPG La Plagne 1.01 235 *e*Pn **Pn 21 31 19.7 +0.4**
LPG *e*Sg **Sg 21 31 31.3 -1.6**
52nm,0.3s
LPG La Plagne 1.01 235 *e*Pn **Pn 21 31 19.7 +0.4**
LPG *e*Sg **Sg 21 31 31.3 -1.6**
26nm,0.3s
LPL La Plagne 1.01 237 *e*Pn **Pn 21 31 19.5 +0.2**
LPL *e*Sg **Sg 21 31 31.5 -1.4**
29nm,0.3s
LPL La Plagne 1.01 237 *e*Pn **Pn 21 31 19.5 +0.2**
LPL *e*Sg **Sg 21 31 31.5 -1.4**
14nm,0.3s
RSP Reno Superiore 1.04 207 Pg **Pg 21 31 19.7 -0.5**
RSP Sg **Sg 21 31 34.0 +0.1**
79nm,0.2s
TUE Stuetta 1.06 68 Pg **Pg 21 31 19.6 -0.9**
TUE Sg **Sg 21 31 32.7 -1.7**
71nm,0.3s
LLS Linth-Limmern 1.07 44⇑*i*Pg **Pn 21 31 16.8 -3.3**
134nm,0.3s
LLS Linth-Limmern 1.07 44⇑*i*P **Pb 21 31 20.1 +0.1**
VDL Val di Lei 1.14 69⇓*i*Pg **Pn 21 31 19.7 -1.4**
165nm,0.4s
VDL Val di Lei 1.14 69⇓*i*P **Pn 21 31 20.6 -0.5**
BNI Bardonecchia 1.35 221 Pg **Pg 21 31 25.9 -0.2**
129nm,2.1s
BNI Bardonecchia 1.35 221 *e*P **Pg 21 31 25.8 -0.3**
CABF La Chapelle 1.38 293 *e*Pg **Pg 21 31 27.5 +0.8**
CABF *e*Sn **Sn 21 31 42.7 +0.5**
9.9nm,0.3s
CABF La Chapelle 1.38 293 *e*Pg **Pg 21 31 27.5 +0.8**
CABF *e*Sn **Sn 21 31 42.7 +0.5**
4.9nm,0.3s
RRL Cesana Torines 1.41 215 P **Pg 21 31 27.0 -0.2**
BBS Basel-Blauen 1.42 348 Pg **Pg 21 31 28.8 +1.5**
BBS Sg **Sg 21 31 48.2 +2.4**
LOMF Lomont 1.48 330 Pg **Pg 21 31 28.7 +0.1**
LOMF Sg **Sg 21 31 50.1 +2.2**
MBDF Montbardon 1.58 212 *e*Pn **Pb 21 31 28.8 +0.1**
MBDF *e*Sg **Sn 21 31 47.5 +0.4**
58nm,0.6s
MBDF Montbardon 1.58 212 *e*Pn **Pb 21 31 28.8 +0.1**
MBDF *e*Sg **Sn 21 31 47.5 +0.4**
29nm,0.6s
PCP Pian Castagno 1.60 164 P **Pn 21 31 28.7 +1.3**
DOI San Damiano 1.65 197 Pg **Pn 21 31 28.2 +0.2**
33nm,0.9s
PZZ Prazzo 1.68 201 P **Pn 21 31 28.4 -0.1**
ROB Roburent 1.79 181 P **Pn 21 31 31.5 +1.6**
FELD Feldberg im Sc 1.80 2 Pg **Pg 21 31 34.9 +0.3**
DAVA Damuels 1.81 47⇑⇑*i*Pg **Pg 21 33 33.7 -1.0**
DAVA ⇑⇑*i*Sg **Sg 21 31 58.0 -0.2**
17nm,0.2s
ORIF Oris-en-Rattie 1.85 232 *e*Pn **Pg 21 31 34.8 -0.8**
ORIF *e*Sg **Sg 21 31 57.6 -2.1**
49nm,0.6s
ORIF Oris-en-Rattie 1.85 232 *e*Pn **Pg 21 31 34.8 -0.8**
ORIF *e*Sg **Sg 21 31 57.6 -2.1**
24nm,0.6s
FIN Finale Ligure 1.88 174 P **Pn 21 31 32.8 +1.6**
ENR Entracque 1.89 191 P **Pn 21 31 17.7 +0.4**
HINF Hinteralfeld 1.89 337 *e*Pn **Pn 21 31 33.3 +1.9**
HINF *e*Sn **Sn 21 31 55.5 +0.8**
22nm,0.3s
HINF Hinteralfeld 1.89 337 *e*Pn **Pn 21 31 33.3 +1.9**
HINF *e*Sn **Sn 21 31 55.5 +0.8**
11nm,0.3s
RORO 1.97 177 P **Pn 21 31 34.0 +1.5**
MONE Monesi 2.00 184 P **Pn 21 31 34.3 +1.4**
SC2M Scurtabr 2.02 145 P **Pn 21 31 36.0 +2.8**
SAOF Saorge 2.11 187 Pg **Pn 21 31 35.6 +1.2**
TOUF Mont Tournerai 2.12 193 Pg **Pn 21 31 35.7 +1.1**
HAU Haudompre 2.21 331 *e*Pn **Pn 21 31 36.1 +0.3**
HAU *e*Sn **Sn 21 32 03.5 +0.9**
22nm,0.3s
HAU Haudompre 2.21 331 *e*Pn **Pn 21 31 36.1 +0.3**
HAU *e*Sn **Sn 21 32 03.5 +0.9**
11nm,0.3s
LUCF Luceram 2.23 191 Pg **Pn 21 31 37.8 +1.8**
NEGI Negi 2.24 184 P **Pn 21 31 38.3 +2.1**
SBF Sospel 2.24 189 *e*Pn **Pn 21 31 37.4 +1.2**
SBF *e*Sn **Sn 21 31 58.3 -5.2**
16nm,0.3s
SBF Sospel 2.24 189 *e*Pn **Pn 21 31 37.4 +1.2**
SBF *e*Sn **Sn 21 31 58.3 -5.2**
7.9nm,0.3s
BFO Black Forest 2.27 7 *e*Pn **Pn 21 31 38.1 +1.5**
BFO *e*Sn **Sn 21 32 04.8 +0.7**
CDF Champ du Feu 2.38 349 *e*Pn **Pn 21 31 38.4 +0.3**
CDF *e*Sn **Sn 21 32 07.2 +0.5**
11nm,0.3s
CDF Champ du Feu 2.38 349 *e*Pn **Pn 21 31 38.4 +0.3**
CDF *e*Sn **Sn 21 32 07.2 +0.5**
5.6nm,0.3s
MOTA Moosalm 2.52 59⇑*i*Pg **Pg 21 31 46.2 -2.2**
comp=Z,1.5nm,0.1s
MOTA Moosalm 2.52 59⇓*i*Pg **Pg 21 31 47.9 -0.5**
1.5nm,0.1s
MOTA ⇑⇑*i*Sg **Sg 21 32 20.8 -0.4**
7.2nm,0.5s
MOTA Moosalm 2.52 59⇑⇑*i*Pg **Pg 21 31 46.2 -2.2**
MOTA *i*Sg **Sg 21 32 20.8 -0.4**
MOTA Moosalm 2.52 59 Pg **Pg 21 31 46.2 -2.2**
1.5nm,0.1s
MOTA Sg **Sg 21 32 20.8 -0.3**
7.2nm,0.5s
THEF They Montfort 2.52 329 *e*Pn **Pn 21 31 39.6 -0.5**
THEF *e*Sn **Sn 21 32 10.6 +0.2**
6.4nm,0.3s
SQTA Sankt Quirin 2.53 62⇓*i*Pg **Pg 21 31 46.6 -2.0**
4.3nm,0.3s
SQTA ⇑⇑*i*Sg **Sg 21 32 21.4 0.0**
8.5nm,0.3s
VIVF Saint-Julien-l 2.60 243 *e*Pg **Pb 21 31 44.5 -1.6**
VIVF *e*Sn **Sn 21 32 09.9 -2.3**
10nm,0.3s
FRF La Foret Royal 2.68 200 *e*Pn **Pn 21 31 44.6 +2.4**
FRF *e*Sn **Sn 21 32 09.0 -5.2**
2.5nm,0.2s
FRF La Foret Royal 2.68 200 *e*Pn **Pn 21 31 44.6 +2.4**
FRF *e*Sn **Sn 21 32 09.0 -5.2**
1.2nm,0.2s
SMRF Simiane la Rot 2.69 219 *e*Pn **Pb 21 31 46.6 -0.9**
SMRF *e*Sn **Sn 21 32 10.1 -4.3**
4.6nm,0.5s
SMRF Simiane la Rot 2.69 219 *e*Pn **Pb 21 31 46.6 -0.9**
SMRF *e*Sn **Sn 21 32 10.1 -4.3**
2.3nm,0.5s
STU Stuttgart 2.83 17 *e*Sn **Sg 21 32 30.1 -0.8**
comp=E,38nm,0.4s
SMF Signal de Mont 2.89 283 *e*Pn **Pn 21 31 44.7 -0.4**
SMF *e*Sn **Sn 21 32 19.1 -0.3**
comp=E,7.5nm,0.3s
SMF Signal de Mont 2.89 283 *e*Pn **Pn 21 31 44.7 -0.4**
SMF *e*Sn **Sn 21 32 19.1 -0.3**
comp=E,3.8nm,0.3s
LANF Langenberg 2.90 358 *e*Pn **Pn 21 31 45.0 -0.3**
LANF *e*Sn **Sn 21 32 19.6 -0.2**
comp=E,2.7nm,0.2s
LMR La Mourre 2.93 201 *e*Pn **Pn 21 31 47.4 +1.8**
LMR *e*Sn **Sn 21 32 14.7 -5.6**
comp=E,2.5nm,0.3s
LMR La Mourre 2.93 201 *e*Pn **Pn 21 31 47.4 +1.8**
LMR *e*Sn **Sn 21 32 14.7 -5.6**
comp=E,1.2nm,0.3s
LOR Lormes 3.05 294 *e*Pn **Pn 21 31 47.2 -0.1**
LOR *e*Sn **Sn 21 32 23.0 -0.3**
comp=E,3.3nm,0.2s
LOR Lormes 3.05 294 *e*Pn **Pn 21 31 47.2 -0.1**
LOR *e*Sn **Sn 21 32 23.0 -0.3**
comp=E,1.6nm,0.2s
FUR Furstenfeldbru 3.09 46 *e*Pn **Pn 21 31 51.4 +3.5**
MEZF Maizieres J'vi 3.12 322 *e*Pn **Pn 21 31 49.0 +0.8**
MEZF *e*Sn **Sn 21 32 24.8 -0.2**
comp=E,15nm,0.5s
MEZF Maizieres J'vi 3.12 322 *e*Pn **Pn 21 31 49.0 +0.8**
MEZF *e*Sn **Sn 21 32 24.8 -0.2**
comp=E,7.6nm,0.5s
SSF Saint Saulge 3.21 289 *e*Pn **Pn 21 31 49.2 -0.3**
SSF *e*Sn **Sn 21 32 26.6 -0.6**
comp=E,1.6nm,0.3s
SSF Saint Saulge 3.21 289 *e*Pn **Pn 21 31 49.2 -0.3**
SSF *e*Sn **Sn 21 32 26.6 -0.6**
comp=E,0.8nm,0.3s
AVF Avril sur Loir 3.25 284 *e*Pn **Pn 21 31 49.9 -0.1**
AVF *e*Sn **Sn 21 32 27.6 -0.6**
comp=E,11nm,0.7s
AVF Avril sur Loir 3.25 284 *e*Pn **Pn 21 31 49.9 -0.1**
AVF *e*Sn **Sn 21 32 27.6 -0.6**
comp=E,5.7nm,0.7s
LASF Ste Croix 3.51 237 *e*Pn **Pn 21 31 51.5 -2.2**
LASF *e*Sn **Sn 21 32 30.8 -4.0**
comp=E,4.0nm,0.3s
LASF Ste Croix 3.51 237 *e*Pn **Pn 21 31 51.5 -2.2**
LASF *e*Sn **Sn 21 32 30.8 -4.0**
comp=E,2.0nm,0.3s
BGF Bois d'Agland 3.56 280 *e*Pn **Pn 21 31 53.5 -0.8**
BGF *e*Sn **Sn 21 32 34.5 -1.4**
comp=E,6.3nm,0.3s
BGF Bois d'Agland 3.56 280 *e*Pn **Pn 21 31 53.5 -0.8**
BGF *e*Sn **Sn 21 32 34.5 -1.4**
comp=E,3.2nm,0.3s
PGF Pioggiola 3.61 167 *e*Pn **Pn 21 31 51.5 -3.6**
PGF *e*Sn **Sn 21 32 29.8 -7.5**
comp=E,0.5nm,0.2s
PGF Pioggiola 3.61 167 *e*Pn **Pn 21 31 51.5 -3.6**
PGF *e*Sn **Sn 21 32 29.8 -7.5**
comp=E,0.2nm,0.2s
RUP Ruppelstein 3.67 351 *e*Pn **Pn 21 31 55.8 -0.1**
RUP *e*Sg **Sg 21 32 58.0 +0.1**
TCF Toulx Ste Croi 3.98 275 *e*Pn **Pn 21 31 59.3 -0.8**
TCF *e*Sn **Sn 21 32 44.7 -1.6**
comp=E,2.6nm,0.3s
TCF Toulx Ste Croi 3.98 275 *e*Pn **Pn 21 31 59.3 -0.8**
TCF *e*Sn **Sn 21 32 44.7 -1.6**
comp=E,1.3nm,0.3s
CAF Calviac 4.28 256 *e*Pn **Pn 21 32 02.5 -1.8**
CAF *e*Sn **Sn 21 32 50.2 -3.6**
comp=E,2.2nm,0.2s
CAF Calviac 4.28 256 *e*Pn **Pn 21 32 02.5 -1.8**
CAF *e*Sn **Sn 21 32 50.2 -3.6**
comp=E,1.1nm,0.2s
GIVF Givet 4.53 334 *e*Pn **Pn 21 32 07.5 -0.2**
GIVF *e*Sn **Sn 21 32 59.1 -0.8**
comp=E,3.6nm,0.3s
GIVF Givet 4.53 334 *e*Pn **Pn 21 32 07.5 -0.2**
GIVF *e*Sn **Sn 21 32 59.1 -0.8**
comp=E,1.8nm,0.3s
WET Wettzell 4.54 46 *e*Pn **Pn 21 32 09.5 +1.7**
WET *e*Sn **Sn 21 32 59.7 -0.4**
BAIF Baives 4.70 329 *e*Pn **Pn 21 32 10.3 +0.3**
BAIF *e*Sn **Sn 21 33 02.8 -1.2**
comp=E,1.5nm,0.5s
BAIF Baives 4.70 329 *e*Pn **Pn 21 32 10.3 +0.3**
BAIF *e*Sn **Sn 21 33 02.8 -1.2**
comp=E,0.8nm,0.5s
GEC2 GERESS Array S 4.79 53 *e*Sn **Sn 21 33 06.6 +0.3**
MFF Saint Martin d 5.62 278 *e*Pn **Sn 21 32 21.7 -0.9**
MFF *e*Sn **Sn 21 33 22.6 -4.1**
comp=E,4.8nm,0.2s
MFF Saint Martin d 5.62 278 *e*Pn **Pn 21 32 21.7 -0.9**
MFF *e*Sn **Sn 21 33 22.6 -4.1**
comp=E,2.4nm,0.2s
FLN La Foliniere 6.31 298 *e*Pn **Pn 21 32 30.9 -1.2**
FLN *e*Sn **Sn 21 33 41.0 -2.7**
comp=E,4.7nm,0.3s
FLN La Foliniere 6.31 298 *e*Pn **Pn 21 32 30.9 -1.2**
FLN *e*Sn **Sn 21 33 41.0 -2.7**
comp=E,2.3nm,0.3s
GRR Gorron 6.42 294 *e*Pn **Pn 21 32 32.8 -0.8**
GRR *e*Sn **Sn 21 33 43.2 -3.1**
comp=E,2.7nm,0.3s
GRR Gorron 6.42 294 *e*Pn **Pn 21 32 32.8 -0.8**
GRR *e*Sn **Sn 21 33 43.2 -3.1**
comp=E,1.4nm,0.3s

*NEIC **24** 21:35:17.9, 3259S×6780W, h10km, ML3.7(GUC), After GUC.*
GUC 24 21:35:17.9±0.8, 3259S×6780W, h10km, MD3.9, ML3.7, 4C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.28**	**324**	⇑*i*P		Pn		21 35 40.6	-1.2
ZON				*i* S		Sb		21 35 58.4	-0.2
ZON				AML		AML		21 36 02.2	
	comp=N,606nm,0.4s								
FCH	**Farellones**	**2.22**	**250**	*e*P		Pn		21 35 53.3	-1.4
FCH				*i* S		Sn		21 36 22.1	-0.1
FCH				AML		AML		21 36 22.6	
	comp=N,791nm,0.4s								
CLCH	**Cerro Calan**	**2.44**	**250**	⇑*i*P		Pn		21 35 58.2	+0.5
CLCH				*i* S		Sn		21 36 29.3	+1.8
CLCH				AML		AML		21 36 31.0	
	comp=N,872nm,0.5s								
PEL	**Peldehue**	**2.49**	**256**	⇓*i*P		Pn		21 35 59.2	+0.8
PEL				*i* S		Sn		21 36 30.8	+1.9
PEL				AML		AML		21 36 31.5	
	comp=N,707nm,0.4s								
PCH	**Pirque**	**2.50**	**245**	⇑*i*P		Pn		21 35 59.4	+0.8
PCH				*i* S		Sn		21 36 31.6	+2.6
SAN	**Santiago**	**2.55**	**250**	*i* S		Sn		21 36 33.1	+2.7
SAN				AML		AML		21 36 36.2	
	comp=E,313nm,0.6s								
CHCH	**Chadas Angostu**	**2.74**	**240**	⇓*i*P		Pn		21 36 03.2	+1.3
CHCH				*i* S		Sn		21 36 37.8	+2.7
CICH	**Cipreses**	**2.79**	**231**	*e*P		Pn		21 36 03.8	+1.2
CICH				*i* S		Sn		21 36 39.0	+2.8
CACH	**El Canelo**	**2.79**	**236**	⇑*i*P		Pn		21 36 04.9	+2.3
CACH				*i* S		Sn		21 36 39.9	+3.5
TRQA	**Tornquist**	**7.24**	**141**	*e*P		Pn		21 37 00.6	-3.1
	comp=E,4.9nm,0.6s								

*IDC **24** 21:36:41.3±0.7, 4732N×155.17E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.5/24, mbtmp4.3/19, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.0/41, Error ellipse: s-maj=19.1km s-min=14.3km az=155.0*
*NEIC **24** 21:36:43.3±0.7, 4728N×15542E, h10km, mb4.9/20, Error ellipse: s-maj=18.4km s-min=11.4km az=160.0*
*BJI **24** 21:36:43.2, 4791N×15504E, h10km, mB4.6, mb4.4, Ms4.8, Msz4.4*
*ISCJB **24** 21:36:45.8±0.4, 4736N±007×15523E±008, h42km, mb4.7/52, MS3.9/2, Error ellipse: s-maj=11.5km s-min=6.1km az=127.8*
*MOS **24** 21:36:46.5±2.1, 4725N×15507E, h46km, mb4.8/32, Error ellipse: s-maj=10.7km s-min=6.7km az=112.0*
*SZGRF **24** 21:36:56.3, 4805N×15429E, h33km, mb4.9, Kuril Islands, Russia*
ISC 24 21:36:48.2±0.5, 4749N±008×15522E±008, h44km, h44km±1.4km: pP-P, n150, σ1s36/150, mb4.7/52, MS3.8/2, 20C-14D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.25**	**10**	*e*PN		**Pn**		**21 37 43.8**	**+7.2**
KUR	**Kuril'sk**	**5.56**	**249**	*e*PN		**Pn**		**21 38 07.4**	**-1.0**
KUR				pmax		pmax			
	comp=E,110nm,0.7s								
KUR				pmax		pmax			
	comp=Z,170nm,0.7s								
PET	**Petropavlovsk**	**5.96**	**20**	*e*PN		**Pn**		**21 38 10.4**	**-3.5**
PET				pmax		pmax			
	comp=Z,43nm,0.9s								
PET				MLR		MLR			
	comp=Z,400nm,16.0s								
YSS	**Yuzh-Sakhalins**	**8.50**	**271**	*e*PN		**Pn**		**21 38 50.0**	**+1.3**
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
YSS				MLR		MLR			
	comp=Z,500nm,16.0s								
YSS	**Yuzh-Sakhalins**	**8.50**	**271**	*e*P		**Pn**		**21 38 51.3**	**+2.6**
	comp=Z,36nm,0.8s								
ASAJ	**Asahikawa**	**9.44**	**254**	Pn		**Pn**		**21 39 00.7**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=96,slow=19,SNR=11								
ASAJ				LR		LR		21 42 18.7	
	comp=Z,160nm,19.4s,baz=289,slow=36								
MJAR	**Matsushiro Arr**	**16.68**	**235**	Pn		**Pn**		**21 40 35.5**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=6.6								
YAK	**Yakutsk**	**20.52**	**325**	⇓*e*P		**P**		**21 41 19.4**	**-3.2**
YAK				pmax		pmax			
	comp=Z,15nm,0.6s								
YAK	**Yakutsk**	**20.52**	**325**	*e*P		**P**		**21 41 22.9**	**+0.3**
	comp=Z,18nm,0.8s								
CLNS	**Chul'man**	**20.66**	**308**	*e*P		**P**		**21 41 21.4**	**-2.8**
CLNS				pmax		pmax			
	comp=Z,21nm,0.6s								
CLNS				pmax		pmax			
	comp=N,13nm,1.3s								
CLNS				pmax		pmax			
	comp=E,21nm,1.0s								
BILL	**Bilibino**	**21.37**	**11**⇑	*e*P		**P**		**21 41 28.7**	**-3.1**
BILL				*e*				21 41 48.2	
BILL				*e*S		**S**		**21 45 23.8**	**-2.7**
BILL				pmax		pmax			
	comp=Z,16nm,1.7s,mb4.1								
BILL				MLR		MLR			
	comp=Z,200nm,17.0s,MS3.6								
BILL	**Bilibino**	**21.37**	**11**	*e*P		**P**		**21 41 30.4**	**-1.4**
	comp=Z,9.8nm,0.6s,mb4.3								
KSRS	**Korea Array**	**22.39**	**253**	P		**P**		**21 41 41.3**	**-1.3**
	comp=Z,8.6nm,1.0s,mb4.1,baz=51,slow=10,SNR=13								
BOD	**Bodaibo**	**26.65**	**308**	*e*P		**P**		**21 42 19.3**	**-3.4**
BOD				pmax		pmax			
	comp=Z,5.0nm,2.2s,mb3.7								
ULN	**Ulaanbaatar**	**32.02**	**289**⇑	*e*P		**P**		**21 43 07.9**	**-2.5**
SONM	**Songino Array**	**32.45**	**289**	P		**P**		**21 43 13.3**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.1,baz=66,slow=8.7,SNR=21								
SONM	**Songino Array**	**32.45**	**289**	P		**P**		**21 43 13.3**	**-0.8**
SONM				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ZAK	**Zakamensk**	**33.67**	**295**	*e*P		**P**		**21 43 24.7**	**-0.1**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
SML	**Sawmill**	**34.44**	**44**	*e*P		**P**		**21 43 30.0**	**-1.5**
COLA	**College**	**34.66**	**39**⇓	*e*P		**P**		**21 43 32.0**	**-1.4**
KRAR	**Krasnoyarsk**	**38.30**	**307**⇓	*e*P		**P**		**21 44 01.9**	**-2.5**
KRAR				pmax		pmax			
	comp=Z,17nm,0.8s,mb4.8								
DAWY	**Dawson**	**38.35**	**40**	*e*P		**P**		**21 44 04.2**	**-0.7**
INK	**Inuvik**	**40.26**	**33**	P		**P**		**21 44 20.9**	**+0.2**
	comp=Z,5.0nm,0.8s,mb4.3,baz=292,slow=7.0,SNR=17								
INK	**Inuvik**	**40.26**	**33**	P		**P**		**21 44 21.0**	**+0.3**
INK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CD2	**Chengdu**	**42.37**	**266**	*e*P		**P**		**21 44 38.3**	**+0.2**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s,mb4.7								
ZAL	**Zalesovo**	**43.36**	**306**	P		**P**		**21 44 45.5**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.1,baz=40,slow=7.4,SNR=14								
ZAL	**Zalesovo**	**43.36**	**306**	P		**P**		**21 44 45.5**	**-0.6**
ZAL				pmax		pmax			
	comp=Z,3.0nm,0.6s								
NVS	**Novosibirsk**	**43.88**	**307**	*e*P		**P**		**21 44 46.9**	**-3.4**
MK31	**Makanchi Array**	**47.88**	**298**	*e*P		**P**		**21 45 20.4**	**-1.4**
MKAR	**Makanchi Array**	**47.88**	**298**	P		**P**		**21 45 20.6**	**-1.1**
	comp=Z,6.0nm,0.6s,mb4.8,baz=68,slow=7.8,SNR=43								
MKAR	**Makanchi Array**	**47.88**	**298**	*i* P		**P**		**21 45 20.7**	**-1.1**
MKAR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KURK	**Kurchatov**	**48.15**	**304**	P		**P**		**21 45 22.2**	**-1.7**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
YKA	**Yellowknife Ar**	**49.47**	**38**	P		**P**		**21 45 33.9**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.5,baz=296,slow=7.6,SNR=9.5								
YKA	**Yellowknife Ar**	**49.47**	**38**	P		**P**		**21 45 33.9**	**-0.1**
YKA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
YKA	**Yellowknife Ar**	**49.47**	**38**	P		**P**		**21 45 33.9**	**0.0**
CHKZ	**Chkalovo**	**51.05**	**310**	P		**P**		**21 45 44.5**	**-1.5**
CHKZ				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.6								
CHKZ	**Chkalovo**	**51.05**	**310**	*e*P		**P**		**21 45 44.5**	**-1.4**
	comp=Z,30nm,0.5s,mb5.5								
CHKZ				*e*			pP	21 45 56.8	-1.5
BVA0	**Borovoye Array**	**51.50**	**310**	*i* P		**P**		**21 45 48.5**	**-0.8**
BRVK	**Borovoye**	**51.54**	**310**	*e*P		**P**		**21 45 48.4**	**-1.2**
BRVK				*e*			pP	21 46 00.2	-1.7
BRVK				pmax		pmax			
	comp=Z,18nm,0.6s,mb5.2								
BRVK	**Borovoye**	**51.54**	**310**	*e*P		**P**		**21 45 48.4**	**-1.2**
	comp=Z,18nm,0.6s,mb5.2								
BRVK				*e*			pP	21 46 00.2	-1.7
LSA	**Lhasa**	**51.66**	**274**	P		**P**		**21 45 52.6**	**+2.1**
LSA				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**51.66**	**274**	*e*P		**P**		**21 45 52.3**	**+1.8**
LSA				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
LSA	**Lhasa**	**51.66**	**274**	P		**P**		**21 45 52.3**	**+1.8**
	comp=Z,8.4nm,0.6s,mb4.8								
ZRNK	**Zerenda**	**52.26**	**310**	*e*P		**P**		**21 45 53.5**	**-1.4**
ZRNK				*e*		pP		21 46 04.9	-2.4
ZRNK				pmax		pmax			
	comp=Z,44nm,0.6s,mb5.6								
ZRNK	**Zerenda**	**52.26**	**310**	*e*P		**P**		**21 45 53.5**	**-1.5**
	comp=Z,44nm,0.6s,mb5.6								
ZRNK				*e*		pP		21 46 04.9	-2.4
AAK	**Ala-Archa**	**54.79**	**297**⇑	*e*P		**P**		**21 46 12.3**	**-1.2**
AAK				pmax		pmax			
	comp=Z,8.0nm,1.7s,mb4.5								
ARU	**Arti**	**55.44**	**318**⇑	*i*P		**P**		**21 46 16.2**	**-2.0**
ARU				*e*		pP		21 46 27.5	-3.1
ARU				*e*				21 48 20.5	
ARU				*e*S		**S**		**21 53 58.4**	**-1.4**
ARU				*e*SS		SS		21 57 39.4	-5.5
ARU				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb5.0								
ARU	**Arti**	**55.44**	**318**	*e*P		**P**		**21 46 17.1**	**-1.0**
	comp=Z,11nm,0.7s,mb5.0								
GUN	**Gumba**	**56.36**	**276**	*e*P		**P**		**21 46 25.7**	**+0.9**
	comp=Z,17nm,0.5s,mb5.3								
KKN	**Kakani**	**56.84**	**276**	*e*P		**P**		**21 46 29.3**	**+1.1**
	comp=Z,16nm,0.5s,mb5.3								
KK31	**Karatay Array**	**56.90**	**299**	*i* P		**P**		**21 46 29.7**	**+1.1**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
KKAR	**Karatay Array**	**56.90**	**299**	*i* P		**P**		**21 46 29.7**	**+1.1**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb4.0								
PKI	**Pulchoki**	**56.90**	**276**	*e*P		**P**		**21 46 29.4**	**+0.8**
	comp=Z,14nm,0.6s,mb5.2								
DMN	**Daman**	**57.08**	**276**	*e*P		**P**		**21 46 31.0**	**+1.1**
	comp=Z,31nm,0.8s,mb5.4								
GKN	**Gorkha**	**57.14**	**277**	*e*P		**P**		**21 46 31.2**	**+0.9**
	comp=Z,31nm,0.5s,mb5.6								
ARCES	**ARCESS Array B**	**57.62**	**341**	P		**P**		**21 46 33.1**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.3,baz=39,slow=7.9,SNR=6.6								
ARCES	**ARCESS Array B**	**57.62**	**341**	P		**P**		**21 46 33.1**	**-0.6**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KOLN	**Koldanda**	**57.99**	**277**	*e*P		**P**		**21 46 37.3**	**+1.0**
	comp=Z,21nm,0.8s,mb5.2								
CHMT	**Chamberlain Mo**	**58.49**	**53**	*e*P		**P**		**21 46 39.1**	**-0.8**
AB31	**Akbulak array**	**59.05**	**310**	*i* P		**P**		**21 46 43.1**	**-0.6**
AB31				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.7								
AKTO	**Aktyubinsk**	**59.30**	**312**	P		**P**		**21 46 44.8**	**-0.6**
NVAR	**Mina Array Bea**	**60.82**	**64**	P		**P**		**21 46 56.1**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=302,slow=8.4,SNR=14								
PDAR	**Pinedale Array**	**63.15**	**55**	P		**P**		**21 47 11.9**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.5,baz=298,slow=3.2,SNR=7.7								
FIA1	**FINESS Array S**	**63.98**	**335**	*e*P		**P**		**21 47 16.5**	**-0.4**
FINES	**FINESS Array B**	**63.98**	**335**	P		**P**		**21 47 16.6**	**-0.4**
	comp=Z,8.8nm,0.6s,mb5.0,baz=36,slow=6.6,SNR=42								
FINES	**FINESS Array B**	**63.98**	**335**	P		**P**		**21 47 16.6**	**-0.3**
FINES				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ULM	**Lac du Bonnet**	**65.02**	**42**	P		**P**		**21 47 23.8**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=318,slow=9.4,SNR=4.1								
ULM	**Lac du Bonnet**	**65.02**	**42**	P		**P**		**21 47 23.8**	**0.0**
RSSD	**Black Hills**	**65.25**	**51**	*e*P		**P**		**21 47 25.0**	**-0.2**
RSSD				*e*		pP		21 47 38.0	+

WRA	**Warramunga Arr**	**69.69**	**201**	P	**P**	**21 47 52.4**	**-0.9**
WRA				pmax	pmax		
comp=Z,2.0nm,0.9s							
ANMO	**Albuquerque**	**70.22**	**60**⇑	*e*P	**P**	**21 47 55.2**	**-1.3**
KIV	**Kislovodsk**	**71.30**	**315**	*e*P	**P**	**21 48 04.6**	**+1.5**
KIV				*e*	pP	21 48 18.4	+2.5
KIV				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
KIV	**Kislovodsk**	**71.30**	**315**	*e*P	**P**	**21 48 05.5**	**+2.4**
comp=Z,36nm,1.4s,mb5.1							
AKASG	**Malin Array Be**	**71.72**	**327**	P	**P**	**21 48 05.2**	**-0.4**
comp=Z,2.0nm,0.5s,mb4.3,baz=32,slow=6.2,SNR=10							
AKASG	**Malin Array Be**	**71.72**	**327**	P	**P**	**21 48 05.3**	**-0.3**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
GNI	**Garni**	**73.14**	**311**⇓	*e*P	**P**	**21 48 07.8**	**-6.3**
GNI				pmax	pmax		
comp=Z,3.0nm,0.9s							
GNI	**Garni**	**73.14**	**311**	*e*P	**P**	**21 48 16.6**	**+2.6**
comp=Z,23nm,1.4s,mb4.9							
ASAR	**Alice Springs**	**73.38**	**200**	P	**P**	**21 48 13.3**	**-2.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=16,slow=5.4,SNR=11							
ASAR	**Alice Springs**	**73.38**	**200**	P	**P**	**21 48 13.3**	**-2.2**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
STHS	**Stebnicka Huta**	**75.59**	**331**	*e*P	**P**	**21 48 31.3**	**+3.0**
STHS				*e*	pP	21 48 42.9	+1.7
STHS				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**75.59**	**331**	*e*P	**P**	**21 48 31.3**	**+3.0**
comp=Z,3.2nm,0.8s,mb4.3							
STHS				*e*	pP	21 48 42.9	+1.7
KOLS	**Kolonicke sedl**	**75.66**	**330**	*e*P	**P**	**21 48 31.3**	**+2.6**
BURAR	**Bucovina Array**	**75.75**	**328**⇑	*i*P	**P**	**21 48 32.1**	**+2.9**
BURAR	**Bucovina Array**	**75.75**	**328**	⇑P	**P**	**21 48 32.1**	**+2.8**
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**21 48 30.1**	**+0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=300,slow=4.2,SNR=52							
TXAR	**Lajitas Array**	**75.88**	**62**	P	**P**	**21 48 30.1**	**+0.1**
TXAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
DPC	**Dobruska-Polom**	**76.30**	**334**	*e*P	**P**	**21 48 32.2**	**-0.2**
DPC				*e*PCP	PcP	21 48 46.3	+2.2
CLL	**Collm**	**76.38**	**337**⇓	*i*P	**P**	**21 48 35.5**	**+2.7**
CLL				*i*	pP	21 48 46.9	+1.2
CLL				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
CLL	**Collm**	**76.38**	**337**⇓	*i*P	**P**	**21 48 35.5**	**+2.7**
comp=Z,8.0nm,0.8s,mb4.7							
CLL				*i*	pP	21 48 46.9	+1.2
CLL	**Collm**	**76.38**	**337**⇓	*i*P	**P**	**21 48 35.5**	**+2.7**
comp=Z,8.0nm,0.8s,mb4.7							
CLL				*i* PcP	PcP	21 48 46.9	+2.4
MORC	**Moravsky Berou**	**76.44**	**333**⇑	*i*P	**P**	**21 48 36.5**	**+3.3**
MORC	**Moravsky Berou**	**76.44**	**333**	⇑P	**P**	**21 48 36.5**	**+3.3**
BRG	**Berggiesshubel**	**76.51**	**336**	*e*P	**P**	**21 48 34.2**	**+0.7**
comp=Z,25nm,2.1s,mb4.8							
BRG	**Berggiesshubel**	**76.51**	**336**	*e*P	**P**	**21 48 34.2**	**+0.6**
BRG				pmax	pmax		
comp=Z,25nm,2.1s,mb4.8							
KECS	**Kecovo**	**76.64**	**331**	*e*P	**P**	**21 48 34.2**	**-0.1**
PRU	**Pruhonice**	**77.14**	**335**	*e*P	**P**	**21 48 40.3**	**+3.2**
PRU				*e*PCP	PcP	21 48 51.1	+3.3
VRAC	**Vranov**	**77.15**	**334**⇑	*i*P	**P**	**21 48 41.2**	**+4.1**
VRAC	**Vranov**	**77.15**	**334**	⇑P	**P**	**21 48 41.2**	**+4.1**
VYHS	**Vyhne**	**77.17**	**332**	*e*P	**P**	**21 48 39.9**	**+2.6**
TIRR	**Tirgusor**	**77.18**	**324**⇑	*i*P	**P**	**21 48 40.7**	**+3.4**
MLR	**Muntele Rosu**	**77.27**	**326**⇓	*i*P	**P**	**21 48 39.0**	**+1.1**
MLR	**Muntele Rosu**	**77.27**	**326**	⇓P	**P**	**21 48 39.0**	**+1.2**
PSZ	**Piszkesteto**	**77.33**	**331**⇑	*i*P	**P**	**21 48 41.9**	**+3.7**
PSZ	**Piszkesteto**	**77.33**	**331**	⇑P	**P**	**21 48 41.9**	**+3.7**
DRGR		**77.35**	**329**⇑	*i*P	**P**	**21 48 41.6**	**+3.3**
DRGR		**77.35**	**329**	⇑P	**P**	**21 48 41.6**	**+3.3**
MALT	**Malatya**	**77.69**	**314**⇑	*i*P	**P**	**21 48 42.2**	**+2.0**
MALT	**Malatya**	**77.69**	**314**	⇑P	**P**	**21 48 42.2**	**+2.0**
MALT				*e*	pP	21 48 55.0	+1.8
KHC	**Kasperske Hory**	**78.19**	**335**	*e*P	**P**	**21 48 43.1**	**+0.2**
KHC				pP	pP	21 48 46.0	-10
KHC				*ex*	x	21 48 57.6	
GRA1	**Grafenberg Arr**	**78.32**	**337**	*e*P	**P**	**21 48 47.4**	**+3.7**
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.32**	**337**	*e*P	**P**	**21 48 47.4**	**+3.7**
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.32**	**337**	*e*P	**P**	**21 48 47.4**	**+3.7**
GRF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.32**	**337**	*e*P	**P**	**21 48 47.4**	**+3.7**
GRF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
GERES	**GERESS Array B**	**78.41**	**335**	P	**P**	**21 48 45.2**	**+1.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=37,slow=5.5,SNR=18							
GERES	**GERESS Array B**	**78.41**	**335**	P	**P**	**21 48 45.2**	**+1.0**
GERES				pmax	pmax		
comp=Z,2.0nm,0.6s							
BZS	**Buzias**	**78.75**	**329**⇓	*i*P	**P**	**21 48 48.3**	**+2.3**
BZS	**Buzias**	**78.75**	**329**	⇓P	**P**	**21 48 48.3**	**+2.3**
BR131	**Keskin Array S**	**78.82**	**318**	*e*P	**P**	**21 48 46.6**	**+0.1**
comp=Z,3.8nm,0.8s,mb4.4							
BRTR	**Keskin Array B**	**78.82**	**318**	P	**P**	**21 48 46.5**	**+0.1**
comp=Z,4.6nm,0.9s,mb4.4,baz=50,slow=4.3,SNR=14							
BRTR	**Keskin Array B**	**78.82**	**318**	P	**P**	**21 48 46.6**	**+0.2**
BRTR				pmax	pmax		
comp=Z,5.0nm,0.9s							
ANTO	**Ankara**	**79.09**	**319**	P	**P**	**21 48 49.2**	**+1.3**
ANTO				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
ANTO	**Ankara**	**79.09**	**319**	P	**P**	**21 48 49.1**	**+1.3**
comp=Z,5.7nm,0.6s,mb4.7							
PKSM	**Moragy**	**79.24**	**331**⇑	*i*P	**P**	**21 48 51.2**	**+2.5**
PKSM	**Moragy**	**79.24**	**331**	⇑P	**P**	**21 48 51.2**	**+2.5**
CDF	**Champ du Feu**	**80.50**	**339**	*e*P	**P**	**21 48 55.7**	**+0.1**
comp=Z,26nm,1.2s,mb4.7							
CDF	**Champ du Feu**	**80.50**	**339**	*e*P	**P**	**21 48 55.7**	**+0.1**
CDF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
CDF	**Champ du Feu**	**80.50**	**339**	*e*P	**P**	**21 48 55.7**	**+0.1**
comp=Z,13nm,1.2s,mb4.7							
GRUS	**Gruza**	**80.57**	**328**	*i*P	**P**	**21 48 56.9**	**+1.0**
DIVS	**Divcibare**	**80.64**	**329**	*i*P	**P**	**21 48 55.7**	**-0.6**
VTS	**Vitosha**	**80.78**	**326**⇓	*i*P	**P**	**21 49 00.5**	**+3.5**
VTS	**Vitosha**	**80.78**	**326**	⇓P	**P**	**21 49 00.5**	**+3.5**
GRR	**Gorron**	**82.27**	**344**	*e*P	**P**	**21 49 04.8**	**-0.1**
SMF	**Signal de Mont**	**82.97**	**341**	*e*P	**P**	**21 49 08.3**	**-0.2**
comp=Z,16nm,0.8s,mb4.8							
SMF	**Signal de Mont**	**82.97**	**341**	*e*P	**P**	**21 49 08.3**	**-0.2**
SMF				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
SMF	**Signal de Mont**	**82.97**	**341**	*e*P	**P**	**21 49 08.3**	**-0.2**
comp=Z,7.8nm,0.8s,mb4.8							
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**21 49 10.6**	**+0.1**
comp=Z,53nm,1.1s,mb5.2							
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**21 49 10.6**	**+0.1**
LPG				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2							
LPG	**La Plagne**	**83.35**	**338**	*e*P	**P**	**21 49 10.6**	**+0.1**
comp=Z,26nm,1.1s,mb5.2							
CAF	**Calviac**	**84.99**	**341**	*e*P	**P**	**21 49 18.8**	**-0.1**
comp=Z,6.3nm,0.6s,mb4.7							
CAF	**Calviac**	**84.99**	**341**	*e*P	**P**	**21 49 18.8**	**-0.1**
CAF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.6							
CAF	**Calviac**	**84.99**	**341**	*e*P	**P**	**21 49 18.8**	**-0.1**
comp=Z,3.2nm,0.6s,mb4.6							
TIP	**Timpagrande**	**86.11**	**329**	*e*P	**P**	**21 49 24.5**	**+0.1**
VNA2	**Neumayer--Watz**	**155.06**	**193**	*e*PKPdf	PKPdf	21 56 45.0	+8.7
VNA2				*e*		21 56 56.2	
VNA2				*e*		21 57 04.7	
VNA3	**Neumayer Olymp**	**155.12**	**192**	*e*PKPdf	PKPdf	21 56 44.5	+8.1
VNA3				*e*		21 56 55.1	
VNA3				*e*		21 57 04.9	

***IDC 24** 21:50:44.9±6.1,* **708S×12037E, h543**km±99km**, mb2.4**/3**, mb1 2.6**/5**, mb1mx2.5**/18**, mbtmp2.4**/5**, Error ellipse: s-maj=135.1km s-min=33.0km az=53.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.10**	**155**	P	P	21 53 24.5	+0.1
0.1nm,0.3s,baz=351,slow=13,SNR=5.7							
WRA	**Warramunga Arr**	**18.64**	**135**	P	P	21 54 29.0	+0.2
0.1nm,0.3s,baz=313,slow=10,SNR=9.6							
ASAR	**Alice Springs**	**21.00**	**143**	P	P	21 54 50.5	+0.2
0.2nm,0.3s,baz=324,slow=9.4,SNR=4.0							
SONM	**Songino Array**	**56.05**	**349**	P	P	21 59 32.5	+0.1
0.4nm,0.8s,baz=162,slow=7.4,SNR=2.4							
MKAR	**Makanchi Array**	**63.39**	**332**	P	P	22 00 21.2	0.0
0.5nm,0.7s,baz=135,slow=6.0,SNR=5.1							

*STR **24** 21:51:38.7±0.1, 4301N×002W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 24 21:51:37.6±0.1**, 4285N×003E, h10**km**, Md1.6/3, Ml1.8/2, Error ellipse: s-maj=4.3km s-min=0.7km az=172.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.04**	**355**	Pg	Pg	21 51 41.5	+2.0
VIEF				Sg	Sg	21 51 43.5	+2.7
LABF	**Labassere**	**0.20**	**10**	Pg	Pg	21 51 40.5	-1.4
LABF				Sg	Sg	21 51 41.9	-2.8
EPF	**Esparros**	**0.29**	**51**	*e*Pg	Pg	21 51 43.7	+0.2
EPF				*e*Sg	Sg	21 51 47.5	+0.1
9.3nm,0.2s							
ETSF	**Etsaut**	**0.43**	**277**	*e*Pg	Pg	21 51 46.2	+0.1
ETSF				*e*Sg	Sg	21 51 52.2	+0.3
6.0nm,0.3s							
SJPF	**Ste Jean**	**0.96**	**287**	*e*Pg	Pg	21 51 55.5	-0.5
SJPF				*e*Sg	Sg	21 52 08.4	-0.1
2.6nm,0.3s							
MTLF	**Montolieu**	**1.68**	**72**	*e*Pg	Pg	21 52 08.9	-0.9
MTLF				*e*Sg	Sg	21 52 30.6	-1.0
1.7nm,0.3s							

*ISCJB **24** 21:52:36.8±4.4, 19N±02×1249E±05, h225km±42km, mb3.6/7, Error ellipse: s-maj=96.3km s-min=13.6km az=133.9*

*IDC **24** 21:52:42.9±3.3, 170N×12459E, h268km±31km, mb3.2/6, mb1 3.2/7, mb1mx3.0/21, mbtmp3.1/7, Error ellipse: s-maj=72.0km s-min=10.2km az=68.0*

*NEIC **24** 21:52:45.4±0.6, 174N×12486E, h300km, mb3.7/1, Error ellipse: s-maj=57.5km s-min=8.8km az=69.0*

ISC 24 21:52:40.9±3.8**, 19N**±02×**1249E**±05**, h249**km±36km**, n10, σ0°35/11, mb3.6/7, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.84**	**178**	P	**P**	**21 56 53.4**	**+0.3**
0.2nm,0.3s,baz=344,slow=11,SNR=12							
WRA	**Warramunga Arr**	**23.56**	**157**	P	**P**	**21 57 28.7**	**-0.3**
1.1nm,0.5s,mb3.7,baz=330,slow=11,SNR=23							
WRA				S	**S**	**22 01 24.5**	**+0.2**
0.4nm,0.9s,baz=332,slow=16,SNR=3.1							
WB2	**Warramunga Arr**	**23.56**	**157**	*e*P	**P**	**21 57 28.7**	**-0.4**
ASAR	**Alice Springs**	**26.84**	**161**	P	**P**	**21 57 58.8**	**+0.3**
0.2nm,0.2s,mb3.3,baz=337,slow=7.9,SNR=3.9							
SONM	**Songino Array**	**48.52**	**343**	P	**P**	**22 00 59.5**	**+0.7**
0.7nm,0.7s,mb3.1,baz=161,slow=8.9,SNR=7.1							
MKAR	**Makanchi Array**	**58.08**	**327**	P	**P**	**22 02 08.2**	**0.0**
1.7nm,0.4s,mb4.0,baz=122,slow=8.0,SNR=41							
BVAR	**Borovoye Array**	**67.91**	**328**	P	**P**	**22 03 12.5**	**-0.2**
0.4nm,0.3s,mb3.5,baz=129,slow=8.8,SNR=5.9							
CHKZ	**Chkalovo**	**68.10**	**329**	*e*P	**P**	**22 03 13.3**	**-0.6**
0.7nm,0.5s,mb3.5							
AKTK	**Aktyubinsk**	**74.00**	**322**	P	**P**	**22 03 49.2**	**+0.1**
AKTO	**Aktyubinsk**	**74.00**	**322**	P	**P**	**22 03 49.2**	**+0.1**
0.6nm,0.3s,mb3.6,baz=79,slow=5.2,SNR=3.8							

*IDC **24** 22:09:16.5±1.2, 4530N×15401E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=36.7km s-min=30.6km az=48.0*

*ISCJB **24** 22:09:18.3±1.1, 4577N×02×1539E±03, h10km, mb3.6/9, Error ellipse: s-maj=32.8km s-min=25.3km az=68.9*

*NEIC **24** 22:09:19.1±1.0, 4551N×15398E, h10km, mb3.9/1, Error ellipse: s-maj=31.8km s-min=23.1km az=63.0*

ISC 24 22:09:19.7±1.1**, 457N**±02×**1540E**±03**, h10**km**, n11, σ0°82/11, mb3.6/9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.26**	**291**	P	**P**	**22 15 48.7**	**+0.3**
0.5nm,0.8s,mb3.4,baz=90,slow=8.2,SNR=3.6							
MKAR	**Makanchi Array**	**47.97**	**299**	P	**P**	**22 17 58.5**	**+0.1**
0.3nm,0.5s,mb3.5,baz=60,slow=7.7,SNR=7.0							
CHKZ	**Chkalovo**	**51.57**	**311**	*e*P	**P**	**22 18 25.4**	**-0.5**
0.9nm,0.5s,mb4.0							
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**22 18 29.9**	**+0.8**
0.6nm,0.6s,mb3.7,baz=64,slow=10,SNR=5.0							
FINES	**FINESS Array B**	**65.25**	**335**	P	**P**	**22 20 01.0**	**-0.4**
0.5nm,0.4s,mb3.9,baz=57,slow=7.0,SNR=8.1							
FINES	**FINESS Array B**	**65.25**	**335**	P	**P**	**22 20 01.0**	**-0.4**
WRA	**Warramunga Arr**	**67.72**	**200**	P	**P**	**22 20 13.1**	**-4.1**
0.2nm,0.5s,mb3.4,baz=27,slow=10,SNR=4.8							
ASAR	**Alice Springs**	**71.40**	**199**	P	**P**	**22 20 40.6**	**+0.6**
0.6nm,0.9s,mb3.5,baz=13,slow=5.1,SNR=5.1							
AKASG	**Malin Array Be**	**72.76**	**327**	P	**P**	**22 20 47.7**	**-0.4**
0.5nm,0.4s,mb3.8,baz=33,slow=6.2,SNR=4.8							
AKASG	**Malin Array Be**	**72.76**	**327**	P	**P**	**22 20 47.7**	**-0.4**
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**22 21 15.7**	**+0.3**
0.3nm,0.7s,mb3.4,baz=306,slow=4.1,SNR=4.1							

*NNC **24** 22:15:01.2±6.5, 37.17N×6979E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=67.3km s-min=53.6km az=12.0*

*IDC **24** 22:15:03.6±1.4, 3727N×7016E, h0km, mb3.6/5, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.5/4, Error ellipse: s-maj=26.6km s-min=22.7km az=153.0*

*BJI **24** 22:15:05.1, 3762N×6981E, h44km, mb4.2, ML4.0, Ms3.7*

*ISCJB **24** 22:15:06.4±0.9, 3732N±004×7002E±009, h40km±10km, mb3.6/6, Error ellipse: s-maj=11.8km s-min=5.9km az=157.8*

*MOS **24** 22:15:06.4±1.7, 3746N×6999E, h33km, mb3.8/1, Error ellipse: s-maj=20.1km s-min=9.7km az=75.0*

*NEIC **24** 22:15:08.1±1.3, 3745N×6994E, h35km, mb3.8/1, Error ellipse: s-maj=18.6km s-min=12.2km az=208.0*

ISC 24 22:15:09.3±0.8**, 3728N**±004×**701E**±01**, h44**km±9km**, n48, σ1°18/49, mb3.6/6, 1C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.73**	**157**	P	**Pn**	**22 16 04.8**	**+0.4**
CHCP	**Chirah Chowk**	**4.42**	**144**	P	**Pn**	**22 16 15.7**	**+1.9**
THW	**Thamme Wali**	**4.66**	**163**	⇓P	**Pn**	**22 16 16.7**	**-0.4**
SBDP	**Sheikh Budin**	**4.99**	**174**	P	**Pn**	**22 16 21.6**	**-0.1**
KSH	**Kashi**	**5.10**	**62**	P	**Pn**	**22 16 24.9**	**+1.8**
KSH				Smax			
comp=N,633nm,1.2s							
KSH				Smax			
comp=E,358nm,0.9s							
DRP	**Derazinda**	**5.52**	**179**	P	**Pn**	**22 16 33.2**	**+4.3**
AML	**Almayashu**	**5.57**	**28**	P	**Pn**	**22 16 30.1**	**+0.5**
SNR=38							
KK31	**Karatay Array**	**5.83**	**3**	Pn	**Pn**	**22 16 31.6**	**-1.6**
comp=E,2.5nm,0.4s,baz=197,slow=17,SNR=67							
KK31				⇓Lg		22 18 08.0	
comp=E,22nm,0.7s,baz=183,slow=24,SNR=5.7							
UCH	**Uchtor**	**5.98**	**33**	P	**Pn**	**22 16 35.8**	**+0.5**
SNR=32							
EKS2	**Erkin-Say**	**6.06**	**26**	P	**Pn**	**22 16 37.5**	**+1.2**
SNR=12							
KZA	**Kyzart**	**6.21**	**38**	P	**Pn**	**22 16 38.6**	**+0.3**
SNR=6.7							
AAK	**Ala-Archa**	**6.31**	**31**	P	**Pn**	**22 16 40.4**	**+0.7**
SNR=16							
AAK	**Ala-Archa**	**6.31**	**31**	*e*PN	**Pn**	**22 16 39.0**	**-0.7**
AAK				pmax	pmax		
comp=Z,21nm,0.6s							
AAK	**Ala-Archa**	**6.31**	**31**	*e*Pn	**Pn**	**22 16 39.0**	**-0.8**
comp=Z,21nm,0.6s							
KBK	**Karagaybulak**	**6.52**	**33**	P	**Pn**	**22 16 44.0**	**+1.4**
SNR=9.5							
FRU	**Bishkek**	**6.53**	**30**	*e*PN	**Pn**	**22 16 43.5**	**+0.8**
CHMS	**Chumysh**	**6.72**	**30**	P	**Pn**	**22 16 45.4**	**+0.1**
SNR=22							
USP	**Ospenovka**	**6.85**	**28**	P	**Pn**	**22 16 47.1**	**0.0**
SNR=8.8							
TKM2	**Tokmak 2**	**7.02**	**35**	P	**Pn**	**22 16 49.7**	**+0.3**
SNR=26							
TKM2	**Tokmak 2**	**7.02**	**35**	⇓P	**Pn**	**22 16 48.7**	**-0.7**
comp=Z,3.6nm,0.7s							
MK31	**Makanchi Array**	**13.10**	**40**	*e*P	**Pn**	**22 18 10.9**	**-1.8**
MKAR	**Makanchi Array**	**13.10**	**40**	Pn	**Pn**	**22 18 11.1**	**-1.5**
comp=Z,0.3nm,0.3s,baz=229,slow=12,SNR=39							
AB31	**Akbulak array**	**14.07**	**332**	P	**Pn**	**22 18 20.6**	**-5.4**
comp=Z,2.3nm,0.6s,baz=155,slow=13,SNR=33							
KOLN	**Koldanda**	**14.77**	**126**	*e*P	**Pn**	**22 18 33.5**	**-1.8**
comp=Z,4.1nm,0.4s							
KOLN				*e*S	**Sn**	**22 21 12.4**	**-5.3**
GKN	**Gorkha**	**15.30**	**123**	*e*P	**Pn**	**22 18 41.3**	**-0.9**
comp=Z,28nm,0.6s							
BVA0	**Borovoye Array**	**15.75**	**1**	P	**Pn**	**22 18 50.4**	**+2.4**
comp=Z,0.4nm,0.7s,baz=167,slow=12,SNR=13							
BVAR	**Borovoye Array**	**15.75**	**1**	Pn	**Pn**	**22 18 43.8**	**-4.2**
comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=4.5							
AKTK	**Aktyubinsk**	**15.77**	**330**	Pn	**Pn**	**22 18 44.0**	**-4.2**
AKTO	**Aktyubinsk**	**15.77**	**330**	⇑P	**Pn**	**22 18 43.3**	**-4.9**
comp=Z,0.2nm,0.8s							
AKTO	**Aktyubinsk**	**15.77**	**330**	Pn	**Pn**	**22 18 44.0**	**-4.2**
comp=Z,0.2nm,0.3s,baz=140,slow=14,SNR=12							
KKN	**Kakani**	**15.87**	**122**	*e*P	**Pn**	**22 18 48.4**	**-1.1**
DMN	**Daman**	**15.87**	**123**	*e*P	**Pn**	**22 18 48.8**	**-0.7**
PKI	**Pulchoki**	**16.10**	**123**	*e*P	**Pn**	**22 18 51.9**	**-0.5**
GUN	**Gumba**	**16.20**	**121**	*e*P	**Pn**	**22 18 54.2**	**+0.5**
comp=Z,42nm,0.8s							
LSA	**Lhasa**	**19.06**	**107**	P	**Pn**	**22 19 29.4**	**+0.5**
LSA	**Lhasa**	**19.06**	**107**	*e*P	**Pn**	**22 19 29.7**	**+0.8**
LSA				pmax	pmax		
comp=Z,7.0nm,1.1s							
LSA	**Lhasa**	**19.06**	**107**	*e*P	**Pn**	**22 19 29.7**	**+0.8**
comp=Z,6.5nm,1.1s							
ZAL	**Zalesovo**	**19.50**	**27**	P	**Pn**	**22 19 30.6**	**-3.5**
comp=Z,0.4nm,0.3s,baz=262,slow=11,SNR=25							
NVS	**Novosibirsk**	**19.72**	**23**	*e*P	**Pn**	**22 19 31.2**	**-5.6**
NVS				pmax	pmax		
comp=Z,24nm,2.5s							
ARU	**Arti**	**20.68**	**342**	*e*P	**P**	**22 19 45.1**	**-0.3**
GTA	**Gaotai**	**23.32**	**76**	*e*P	**P**	**22 20 13.1**	**-0.5**
GTA				AP		22 20 21.4	
GTA				XP	sP	22 20 25.4	-4.6
GTA				AMB	AMB		
comp=Z,5.0nm,1.1s,mb3.9							
SONM	**Songino Array**	**28.47**	**57**	P	**P**	**22 21 00.3**	**+0.2**
comp=Z,0.2nm,0.3s,mb3.2,baz=260,slow=8.3,SNR=2.4							
NB2	**NORSAR Subarra**	**43.35**	**323**	P	**P**	**22 23 06.1**	**-1.0**
comp=Z,1.1nm,0.7s,mb3.7,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**43.35**	**323**	P	**P**	**22 23 05.5**	**-1.6**
comp=Z,0.5nm,0.6s,mb3.4,baz=97,slow=7.9,SNR=3.3							
NOA	**NORSAR Array B**	**43.35**	**323**	P	**P**	**22 23 05.5**	**-1.6**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.06**	**268**	P	**P**	**22 25 46.5**	**+1.4**
comp=Z,0.7nm,0.6s,mb3.9,baz=39,slow=5.6,SNR=4.8							
YKA	**Yellowknife Ar**	**80.50**	**2**	P	**P**	**22 27 17.8**	**+1.2**
comp=Z,0.3nm,0.4s,mb3.6,baz=352,slow=5.2,SNR=4.5							
ASAR	**Alice Springs**	**85.26**	**124**	P	**P**	**22 27 42.5**	**+1.2**
comp=Z,0.2nm,0.6s,mb3.5,baz=301,slow=6.3,SNR=2.9							

*NEIC **24** 22:34:36.9±1.4, 1685S×17765W, h35km, Error ellipse: s-maj=123.0km s-min=16.9km az=153.0*

*ISCJB **24** 22:35:32.2±3.9, 177S±08×1783W±04, h633km±54km, mb3.6/7, Error ellipse: s-maj=131.2km s-min=20.2km az=132.4*

*IDC **24** 22:35:33.8±3.4, 1766S×17824W, h638km±46km, mb3.0/7, mb1 3.3/7, mb1mx3.1/15, mbtmp3.0/7, Error ellipse: s-maj=98.7km s-min=15.4km az=156.0*

ISC 24 22:35:33.1±3.9**, 177S**±08×**1782W**±04**, h625**km±50km**, n9, σ0°34/10, mb3.6/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.69**	**260**	P	**P**	**22 41 24.8**	**+0.3**
6.5nm,1.1s,mb4.2,baz=72,slow=9.1,SNR=4.2							
STKA	**Stephens Creek**	**38.31**	**241**	P	**P**	**22 42 07.1**	**-0.1**
3.5nm,0.8s,mb3.9,baz=55,slow=7.3,SNR=8.2							
WB2	**Warramunga Arr**	**44.86**	**259**	*e*P	**P**	**22 42 53.6**	**-0.1**
WRA	**Warramunga Arr**	**44.87**	**259**	P	**P**	**22 42 53.7**	**-0.1**
0.6nm,0.4s,mb3.5,baz=96,slow=7.0,SNR=30							
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**22 42 55.1**	**0.0**
2.0nm,0.6s,mb3.9,baz=91,slow=7.9,SNR=33							
ASAR				S	**S**	**22 48 50.1**	**+0.1**
0.5nm,0.8s,baz=92,slow=16,SNR=4.5	

YSS Yuzh-Sakhalins 7.81 263 *e*P **Pn** **22 41 02.7 +1.7**
YSS AMB AMB 22 41 06.0
comp=E,30nm,0.9s
YSS A 22 42 30.0
comp=E,70nm,0.8s
YSS *e*LQ 22 45 05.0
YSS AMS AMS 22 46 18.0
comp=E,400nm,14.0s
YSS Yuzh-Sakhalins 7.81 263 *e*PN **Pn** **22 41 02.7 +1.7**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS Yuzh-Sakhalins 7.81 263 *e*Pn **Pn** **22 41 05.6 +4.6**
YSS *e*Sn **Sn** **22 42 25.3 -2.5**
TYV Tymovskoe 7.83 292 *e*P **Pn** **22 41 04.0 +2.8**
TYV AMB AMB 22 41 07.5
comp=Z,11nm,0.8s
TYV AMB AMB 22 41 07.5
comp=Z,26nm,0.8s
ASAJ Asahikawa 9.07 246 P **Pn** **22 41 19.4 +1.3**
comp=Z,2.6nm,0.3s,baz=82,slow=14,SNR=21
ASAJ Asahikawa 9.07 246 PN **Pn** **22 41 19.5 +1.3**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ERM Erimo 10.04 234⇑ *e*PN **Pn** **22 41 31.2 -0.2**
MA2 Magadan 11.34 351 *e*PN **Pn** **22 41 50.2 +1.2**
MA2 pmax pmax
comp=N,40nm,0.4s
MA2 pmax pmax
comp=Z,50nm,0.4s
MA2 Magadan 11.34 351 *e*Pn **Pn** **22 41 50.5 +1.5**
SMY Shemya 13.39 64 *e*PN **Pn** **22 42 12.6 -4.2**
KLR Kul'dur 14.75 281 *e*P **Pn** **22 42 37.3 +2.8**
VLA Vladivostok 16.37 259⇑ *e*P **Pn** **22 42 55.0 0.0**
MJAR Matsushiro Arr 16.66 230 P **Pn** **22 42 56.0 -2.6**
comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=7.2
MJAR LR LR 22 48 40.1
comp=Z,222nm,20.4s,baz=340,slow=34
MAJO Matsushiro 16.66 230 *e*P **Pn** **22 43 01.3 +2.7**
MAT Matsushiro 16.66 230 P **Pn** **22 42 56.2 -2.4**
MDJ Mudanjiang 17.28 266 P **Pn** **22 43 09.6 +3.3**
MDJ AP pP 22 43 13.3 -8.7
MDJ SCP ScP 22 51 23.1 +10
MDJ SCS ScS 22 55 03.6 +11
MDJ AMB AMB
comp=Z,8.0nm,1.1s
MDJ AMB AMB
comp=Z,93nm,4.0s
ZEA Zeya 17.64 298 *e*P **Pn** **22 43 15.7 +5.1**
YAK Yakutsk 19.32 324 *e*P **Pn** **22 43 31.8 +1.1**
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,25nm,1.1s
YAK Yakutsk 19.32 324 *e*Pn **Pn** **22 43 31.3 +0.6**
CLNS Chul'man 19.50 307 *e*P **Pn** **22 43 33.8 +0.9**
CLNS pmax pmax
comp=Z,47nm,0.7s
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=E,20nm,1.0s
BILL Bilibino 20.60 13⇑ *e*P **P** **22 43 42.1 -0.7**
BILL *e*S **S** **22 47 33.8 +5.0**
BILL pmax pmax
comp=Z,13nm,1.2s
BILL MLR MLR
comp=Z,100nm,17.0s
KSRS Korea Array 21.99 250 P **P** **22 43 56.9 -0.8**
comp=Z,11nm,0.7s,mb4.3,baz=47,slow=10.0,SNR=24
KSRS LR LR 22 52 22.4
comp=Z,94nm,18.3s,baz=124,slow=36
JNU Nakatsue 23.19 237 LR LR 22 52 09.0
comp=Z,347nm,20.2s,baz=93,slow=34
BJI Beijing 28.21 267 P **P** **22 45 01.0 +5.5**
JOW Kunigami 29.49 232 LR LR 22 57 30.4
comp=Z,88nm,18.4s,baz=3.5,slow=37
HHC Hu-ho-hao-te 30.89 272 *e*P **P** **22 45 17.8 -1.4**
HHC AMB AMB
comp=Z,7.0nm,1.4s,mb4.2
HHC AMB AMB
comp=Z,67nm,6.1s
ULN Ulaanbaatar 31.02 287⇑ *e*P **P** **22 45 20.1 -0.3**
SONM Songino Array 31.45 287 P **P** **22 45 22.2 -1.9**
comp=Z,1.3nm,1.0s,mb3.6,baz=54,slow=9.0,SNR=4.5
SONM PcP PcP 22 48 14.9 -0.8
comp=Z,1.7nm,0.7s,baz=100,slow=1.8,SNR=11
SONM LR LR 22 59 22.2
comp=Z,126nm,19.0s,baz=330,slow=38
SONM Songino Array 31.45 287 P **P** **22 45 22.2 -1.9**
SONM 22 48 14.9
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,126nm,19.0s
KDAK Kodiak Island 32.53 53 P **P** **22 45 32.0 -1.6**
comp=Z,4.3nm,0.6s,mb4.4,baz=180,slow=2.0,SNR=8.5
KDAK PcP PcP 22 48 17.7 -0.9
comp=Z,2.5nm,0.5s,baz=206,slow=12,SNR=4.8
KDAK Kodiak Island 32.53 53 P **P** **22 45 32.0 -1.6**
KDAK PcP PcP 22 48 17.7 -0.9
MCK McKinley 33.93 42 *e*P **P** **22 45 45.5 -0.3**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
MCK McKinley 33.93 42 *e*P **P** **22 45 45.5 -0.3**
comp=Z,8.6nm,1.1s,mb4.5
SML Sawmill 34.29 45 *e*P **P** **22 45 48.5 -0.4**
COLA College 34.40 40⇓ *e*P **P** **22 45 49.5 -0.3**
COLA College 34.40 40 *e*P **P** **22 45 49.9 0.0**
comp=Z,23nm,0.9s,mb5.0
DIV Divide 35.58 46 *e*P **P** **22 46 00.2 +0.2**
EGAK Eagle 37.26 40 *e*P **P** **22 46 13.5 -0.8**
comp=Z,20nm,0.9s,mb5.0
DAWY Dawson 38.11 41 *e*P **P** **22 46 21.3 -0.2**
LZH Lanzhou 38.54 270 *e*P **P** **22 46 25.0 0.0**
LZH AP pP 22 46 28.3 -15
LZH PP PP 22 47 58.3 +3.8
LZH AMB AMB
comp=Z,17nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,48nm,5.4s
LZH LR LR
comp=E,255nm,13.4s
LZH LR LR
comp=Z,349nm,17.2s
LZH Lanzhou 38.54 270 *e*P **P** **22 46 25.0 0.0**
comp=Z,17nm,1.0s,mb4.8
LZH pP pP 22 46 28.3 -15
LZH sP sP 22 46 29.7 -23
LZH PP PP 22 47 58.2 +3.7
LZH LR LR
comp=Z,350nm,17.2s
GTA Gaotai 39.40 278 *e*P **P** **22 46 35.0 +2.8**
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.2
INK Inuvik 39.87 34 P **P** **22 46 36.8 +0.6**
comp=Z,4.5nm,0.4s,mb4.6,baz=286,slow=6.1,SNR=35
INK Inuvik 39.87 34 P **P** **22 46 36.8 +0.7**
INK pmax pmax
comp=Z,5.0nm,0.4s
INK Inuvik 39.87 34 *e*P **P** **22 46 36.8 +0.7**
comp=Z,164nm,0.5s
CD2 Chengdu 41.72 264 *e*P **P** **22 46 56.6 +5.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
ZAL Zalesovo 42.21 305 P **P** **22 46 56.4 +1.0**
comp=Z,0.7nm,0.3s,mb3.8,baz=106,slow=5.5,SNR=3.3
ZAL PcP PcP 22 48 48.0 -0.1
comp=Z,3.2nm,0.8s,baz=38,slow=3.5,SNR=14
ZAL LR LR 23 05 52.7
comp=Z,133nm,20.1s,baz=47,slow=38
ZAL Zalesovo 42.21 305 P **P** **22 46 56.4 +1.0**
ZAL 22 48 48.1
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL MLR MLR
comp=Z,133nm,20.1s
GYA Guiyang 42.76 257 P **P** **22 47 05.8 +6.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
WMQ Urumqi 44.97 290⇑ *i*P **P** **22 47 23.5 +6.0**
WMQ AP pP 22 47 28.0 -8.4
WMQ XP sP 22 47 30.5 -15
WMQ PCP PcP 22 49 02.8 +5.3
WMQ PP PP 22 49 10.5 +6.7
WMQ S **S** **22 54 03.5 +13**
WMQ XS sS 22 54 11.3 -11
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.4
WMQ AMB AMB
comp=Z,116nm,5.6s
WMQ LR LR
comp=N,114nm,19.0s
WMQ LR LR
comp=E,57nm,21.8s
WMQ LR LR
comp=Z,63nm,21.8s
KMI Kunming 46.23 259 P **P** **22 47 27.4 0.0**
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.6
KMI Kunming 46.23 259 P **P** **22 47 27.4 0.0**
comp=Z,7.0nm,0.6s,mb4.6
MK31 Makanchi Array 46.79 296 *e*P **P** **22 47 31.0 -0.8**
MKAR Makanchi Array 46.79 296 P **P** **22 47 30.9 -0.9**
comp=Z,2.2nm,0.6s,mb4.1,baz=69,slow=7.6,SNR=20
MKAR PcP PcP 22 49 03.2 -0.7
comp=Z,1.7nm,0.8s,baz=54,slow=6.2,SNR=4.1
MKAR LR LR 23 08 45.5
comp=Z,101nm,19.8s,baz=19,slow=38
MKAR Makanchi Array 46.79 296 P **P** **22 47 30.9 -0.9**
MKAR 22 49 03.2
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,101nm,19.8s
MKAR Makanchi Array 46.79 296 P **P** **22 47 30.9 -0.9**
MKAR PcP PcP 22 49 03.2 -0.7
MKAR LR LR 23 08 45.5
KURK Kurchatov 47.01 303 P **P** **22 47 32.0 -1.6**
KURK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
RES Resolute Bay 49.02 19 *e*P **P** **22 47 49.4 +0.3**
YKW3 Yellowknife Ar 49.13 38 *e*P **P** **22 47 50.1 +0.2**
YKA Yellowknife Ar 49.17 38 P **P** **22 47 50.4 +0.2**
comp=Z,9.5nm,0.8s,mb4.8,baz=297,slow=7.4,SNR=22
YKA Yellowknife Ar 49.17 38 P **P** **22 47 50.4 +0.2**
YKA pmax pmax
comp=Z,10.0nm,0.8s
CHKZ Chkalovo 49.88 309 *e*P **P** **22 47 54.3 -1.3**
BVA0 Borovoye Array 50.33 309 P **P** **22 47 58.3 -0.7**
BVAR Borovoye Array 50.33 309 LR LR 23 10 59.2
comp=Z,120nm,18.7s,baz=317,slow=38
LSA Lhasa 50.87 272 *e*P **P** **22 48 04.5 +1.4**
LSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LSA Lhasa 50.87 272 *e*P **P** **22 48 04.5 +1.5**
comp=Z,3.4nm,0.7s,mb4.5
CHTO Chiang Mai 53.17 256 *e*P **P** **22 48 19.9 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 53.17 256 *e*P **P** **22 48 19.9 -0.3**
comp=Z,8.6nm,0.8s,mb4.8
A07A Ashnola River, 53.41 55⇓ P **P** **22 48 21.9 0.0**
baz=53
B07A Winthrop 53.88 55⇑ P **P** **22 48 25.4 0.0**
baz=53
F04A Amboy 54.04 59⇓ P **P** **22 48 26.0 -0.5**
baz=54
A08A Turner Farm, O 54.06 54⇓ P **P** **22 48 26.0 -0.6**
baz=54
ARU Arti 54.24 317⇑ *i*P **P** **22 48 26.5 -1.4**
ARU *e* 22 50 26.5
ARU *e*PPP 22 51 41.7
ARU *e*S **S** **22 55 59.0 -0.5**
ARU *e*SS SS 22 59 45.3 +3.1
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARU Arti 54.24 317 *e*P **P** **22 48 26.4 -1.6**
comp=Z,4.6nm,0.4s,mb4.9
C07A Waterville 54.35 56⇓ P **P** **22 48 27.5 -1.2**
baz=54
B08A Colville Reser 54.37 55⇓ P **P** **22 48 28.6 -0.3**
baz=54
A09A Danville 54.42 54⇓ P **P** **22 48 28.3 -1.0**
baz=54
EDM Edmonton 54.66 47 *e*P **P** **22 48 31.1 +0.1**
J02A Umpqua 54.87 62⇓ P **P** **22 48 32.1 -0.4**
baz=54
E07A Sunnyside 55.13 57⇓ P **P** **22 48 33.8 -0.6**
baz=55
C09A Chrisman Ranch 55.27 55⇓ P **P** **22 48 35.4 0.0**
baz=55
I04A Tendick Farm, 55.30 61⇑ P **P** **22 48 35.2 -0.4**
baz=55
D08A Wollman Farm, 55.35 56⇓ P **P** **22 48 35.4 -0.6**
baz=55
H05A Madras 55.48 60⇑ P **P** **22 48 37.1 +0.2**
baz=55
GUN Gumba 55.54 275 *e*P **P** **22 48 37.8 +0.5**
comp=Z,11nm,0.5s,mb5.1
KKN Kakani 56.02 275 *e*P **P** **22 48 42.0 +1.3**
comp=Z,6.7nm,0.4s,mb5.0
PKI Pulchoki 56.08 275 *e*P **P** **22 48 41.8 +0.7**
comp=Z,8.5nm,0.5s,mb5.0
DMN Daman 56.25 275 *e*P **P** **22 48 43.5 +1.1**
comp=Z,13nm,0.5s,mb5.2
GKN Gorkha 56.30 276 *e*P **P** **22 48 43.8 +1.0**
comp=Z,13nm,0.5s,mb5.2
YBH Yreka Blue Hor 56.36 63⇑ P **P** **22 48 44.2 +1.0**
baz=56
G08A Pilot Rock 56.38 58⇑ P **P** **22 48 43.5 +0.1**
baz=56
M02C Callahan 56.48 64⇓ P **P** **22 48 43.7 -0.3**
baz=56
I06A Prineville 56.48 60⇓ P **P** **22 48 43.3 -0.8**
baz=56
ARCES ARCESS Array B 56.49 341 P **P** **22 48 42.8 -1.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=37,slow=7.3,SNR=11
ARCES LR LR 23 15 42.8
comp=Z,109nm,19.6s,baz=86,slow=39
ARCES ARCESS Array B 56.49 341 P **P** **22 48 42.8 -1.3**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,109nm,19.6s
N02C Big Bar 56.56 64⇓ P **P** **22 48 45.0 +0.4**
baz=56
L04A Klamath Falls 56.58 62⇓ P **P** **22 48 44.4 -0.4**
baz=56
E10A Myers Farm, Un 56.69 56⇑ P **P** **22 48 45.6 +0.1**
baz=56
D11A Klaveano Farm, 56.78 55⇓ P **P** **22 48 45.9 -0.3**
baz=56
I07A Izee 56.81 59⇓ P **P** **22 48 46.9 +0.5**
baz=56
K05A Summer Lake 56.83 61⇓ P **P** **22 48 45.4 -1.1**
baz=56
C12A Trout Creek 56.84 54⇓ P **P** **22 48 46.3 -0.3**
baz=56
M04C Macdoel 56.85 63⇑ P **P** **22 48 46.0 -0.7**
baz=56
WALA Waterton Lakes 56.85 52 *e*P **P** **22 48 46.8 +0.1**
comp=Z,4.7nm,0.7s,mb4.6
J06A Christmas Vall 56.94 60⇑ P **P** **22 48 46.8 -0.4**
baz=56
F10A Beach Ranch, E 56.94 56⇓ P **P** **22 48 46.7 -0.6**
baz=56
B13A Whitefish 56.98 53⇑ P **P** **22 48 47.5 0.0**
baz=56
H08A Prairie City 57.02 58⇑ P **P** **22 48 47.6 -0.2**
baz=56
KOLN Koldanda 57.14 276 *e*P **P** **22 48 49.9 +1.2**
comp=Z,8.5nm,0.5s,mb5.0
WDC Whiskeytown Da 57.17 64⇑ P **P** **22 48 49.3 +0.4**
baz=57
O02C Red Bluff 57.27 65⇑ P **P** **22 48 51.0 +1.4**
baz=57
L05A Lakeview 57.28 62⇑ P **P** **22 48 51.3 +1.6**
baz=57
J07A Hines 57.35 60⇓ P **P** **22 48 49.1 -1.1**
baz=57
I08A Drewsey 57.45 59⇑ P **P** **22 48 51.7 +0.9**
baz=57
H09A Durkee 57.49 58 P **P** **22 48 52.0 +0.8**
baz=57,SNR=5.3
M05C Lookout 57.52 63⇑ P **P** **22 48 52.0 +0.7**
baz=57
BMO Blue Mountains 57.58 57 *e*P **P** **22 48 52.1 +0.4**
comp=Z,4.3nm,1.0s,mb4.4
HATC Hat Creek Radi 57.67 63⇓ P **P** **22 48 52.4 0.0**
baz=57
MOD Modoc 57.68 62 *e*P **P** **22 48 53.2 +0.7**
comp=Z,6.2nm,1.1s,mb4.5
MOD Modoc 57.68 62⇑ P **P** **22 48 53.1 +0.6**
baz=57
K07A Rock Creek Ran 57.81 60⇓ P **P** **22 48 53.6 +0.2**
baz=57
J08A Circle Bar Ran 57.84 59⇓ P **P** **22 48 53.8 +0.2**
baz=57
AB31 Akbulak array 57.88 310 *e*P **P** **22 48 52.3 -1.6**
I09A Lost Marbles R 57.88 58⇑ P **P** **22 48 54.4 +0.5**
baz=57
AKTO Aktyubinsk 58.12 312 LR LR 23 14 24.6
comp=Z,56nm,21.1s,baz=249,slow=36
O04C Chester 58.20 64⇓ P **P** **22 48 56.5 +0.4**
baz=58
K08A Mann Creek Ran 58.22 60⇓ P **P** **22 48 55.5 -0.8**
baz=58
D14A Greenough 58.28 53 P **P** **22 48 56.9 +0.2**
baz=58,SNR=5.6
H11A Donnelly 58.40 57 P **P** **22 48 57.7 +0.2**
baz=58,SNR=7.2
ORV Oroville 58.43 65⇓ P **P** **22 48 56.8 -0.9**
baz=58
O05C Quincy 58.52 64⇑ P **P** **22 48 58.1 -0.3**
baz=58
L08A Fields 58.64 60⇓ P **P** **22 48 59.8 +0.6**
baz=58
M07A Soldier Meadow 58.66 62⇓ P **P** **22 48 59.6 +0.3**
baz=58
N06A Buffalo Meadow 58.67 63⇓ P **P** **22 48 59.1 -0.3**
baz=58
E14A Clinton 58.71 54⇑ P **P** **22 48 59.4 -0.3**
baz=58
BEKR Beckwourth 58.92 64 P **P** **22 49 01.1 0.0**
baz=58,SNR=6.0
O06A Flanigan 59.05 63⇑ P **P** **22 49 02.0 0.0**
baz=58
F14A Wisdom 59.15 54⇓ P **P** **22 49 02.8 +0.1**
baz=59
E15A Deer Lodge 59.16 54⇓ P **P** **22 49 02.8 0.0**
baz=59
N07B Gerlach 59.16 62⇓ P **P** **22 49 02.1 -0.7**
baz=59
LAVA Lava Cap Winer 59.39 65⇓ P **P** **22 49 03.8 -0.6**
baz=59
F15A Butte 59.61 54⇑ P **P** **22 49 05.9 +0.1**
baz=59
O07A Toulon 59.61 63 P **P** **22 49 06.5 +0.6**
baz=59,SNR=5.5
WCN Washoe City 59.63 64⇓ P **P** **22 49 06.1 +0.1**
baz=59
M09A Marrel Ranch, 59.64 61⇓ P **P** **22 49 06.7 +0.6**
baz=59
N08A GE Springer Mi 59.65 62⇑ P **P** **22 49 05.8 -0.3**
baz=59
R05C Kirkwood Meado 59.83 65⇓ P **P** **22 49 07.5 +0.1**
baz=59
S04C Ingram Canyon, 59.83 66⇑ P **P** **22 49 08.9 +1.5**
baz=59
N09A Rock Creek Ran 59.96 61⇓ P **P** **22 49 09.3 +1.0**
baz=59
HLID Hailey 60.01 57 *e*P **P** **22 49 09.4 +0.7**
comp=Z,5.7nm,1.3s,mb4.4
HLID Hailey 60.01 57⇓ P **P** **22 49 09.1 +0.5**
baz=60
G15A Dillon 60.04 55⇑ P **P** **22 49 09.6 +0.7**
baz=60
CMB Columbia Colle 60.07 65 *e*P **P** **22 49 09.2 +0.2**
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CMB Columbia Colle 60.07 65 *e*P **P** **22 49 09.2 +0.2**
comp=Z,3.9nm,0.9s,mb4.4
CMB Columbia Colle 60.07 65⇓ P **P** **22 49 08.5 -0.5**
baz=60
M10A I.L. Ranch, Tu 60.11 60⇓ P **P** **22 49 09.9 +0.6**
baz=60
R06C Coleville 60.32 64⇓ P **P** **22 49 11.2 +0.4**
baz=60
WAKR Walker 60.34 64 *e*P **P** **22 49 11.7 +0.8**
S06C San Francisco 60.49 65⇑ P **P** **22 49 12.0 +0.1**
baz=60
S05C Merced 60.54 66⇑ P **P** **22 49 12.4 +0.2**
baz=60
M11A Holland Ranch, 60.60 60⇑ P **P** **22 49 13.2 +0.6**
baz=60
O09A Fish Creek Ran 60.60 62⇓ P **P** **22 49 13.0 +0.3**
baz=60
R07C Lee Vining 60.84 64⇓ P **P** **22 49 14.1 -0.2**
baz=60
O10A Cortez Mining, 60.92 61⇓ P **P** **22 49 14.8 0.0**
baz=60
NVAR Mina Array Bea 61.06 64 P **P** **22 49 16.2 +0.4**
comp=Z,3.7nm,0.7s,mb4.5,baz=297,slow=7.9,SNR=26
NVAR Mina Array Bea 61.06 64 P **P** **22 49 16.2 +0.4**
M12A Wells 61.11 59⇓ P **P** **22 49 16.7 +0.6**
baz=61
T06C Millerton Lake 61.14 66⇑ P **P** **22 49 16.8 +0.5**
baz=61
KCC Kaiser Creek 61.17 65⇓ P **P** **22 49 17.0 +0.5**
baz=61
R08A Mina 61.23 64⇑ P **P** **22 49 17.0 +0.1**
baz=61
P10A Eureka 61.38 62⇓ P **P** **22 49 18.9 +1.0**
baz=61
N12A Clover Valley, 61.40 60⇓ P **P** **22 49 18.0 -0.1**
baz=61
O11A Cowboy Ranch, 61.52 61⇑ P **P** **22 49 19.5 +0.6**
baz=61
HELL Mitchell Peak, 61.77 66 P **P** **22 49 20.3 -0.2**
baz=61,SNR=5.8
P11A Circle Ranch, 61.84 61⇑ P **P** **22 49 22.0 +1.0**
baz=61
RRI2 Red Ridge 61.86 56 *e*P **P** **22 49 22.8 +1.6**
N13A Wendover, West 61.88 59⇓ P **P** **22 49 21.6 +0.3**
baz=61
R09A Tonopah 61.92 63 P **P** **22 49 21.8 +0.2**
baz=61,SNR=8.8
O12A Currie 61.95 60 P **P** **22 49 22.4 +0.6**
baz=61,SNR=5.8
LOHW Long Hollow 62.08 55 *e*P **P** **22 49 24.2 +1.6**
S09A Goldfield 62.17 64⇑ P **P** **22 49 22.7 -0.5**
baz=62
Q11A Duckwater 62.36 62⇑ P **P** **22 49 23.6 -0.9**
baz=62
P12A McGill 62.38 61⇓ P **P** **22 49 24.3 -0.3**
baz=62
CWC Cottonwood Cre 62.50 65⇑ P **P** **22 49 25.3 -0.1**
baz=62
ISA Isabella 62.77 66⇓ P **P** **22 49 25.8 -1.4**
baz=62
FINES FINESS Array B 62.81 335 P **P** **22 49 26.5 -1.0**
comp=Z,2.8nm,0.5s,mb4.5,baz=36,slow=7.5,SNR=35
FINES LR LR 23 20 09.6
comp=Z,74nm,18.8s,baz=169,slow=39
FINES FINESS Array B 62.81 335 P **P** **22 49 26.5 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES MLR MLR
comp=Z,74nm,18.8s
FINES FINESS Array B 62.81 335 P **P** **22 49 26.5 -1.0**
FINES LR LR 23 20 09.6
MPMC Manual Prospec 63.11 65⇓ P **P** **22 49 29.0 -0.4**
baz=63
DUG Dugway 63.11 59 *e*P **P** **22 49 30.3 +0.8**
DUG Dugway 63.11 59 P **P** **22 49 30.2 +0.7**
baz=63,SNR=6.0
BSC Santa Cruz Isl 63.17 68⇑ P **P** **22 49 29.2 -0.7**
baz=63
BW06 Boulder Array 63.21 55 *e*P **P** **22 49 30.4 +0.3**
comp=Z,5.6nm,1.0s,mb4.5
PDAR Pinedale Array 63.21 55 P **P** **22 49 30.4 +0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=306,slow=1.8,SNR=25
FURC Furnace Creek, 63.22 65⇑ P **P** **22 49 31.0 +0.8**
baz=63
OSI Osito Adit 63.32 67⇑ P **P** **22 49 30.8 0.0**
baz=63
LRMC Laurel Mountai 63.37 66⇑ P **P** **22 49 31.5 +0.2**
baz=63
U10A Ash Meadows, A 63.57 64⇓ P **P** **22 49 32.0 -0.5**
baz=63
EDW2 Edwards Air Fo 63.59 67⇑ P **P** **22 49 33.2 +0.6**

baz=63
GSC Goldstone 64.03 65 ⇓P P 22 49 34.1 -1.4
baz=64
OBN Obninsk 64.31 326⇑ eP P 22 49 35.7 -1.7
OBN e*PP pP 22 49 54.9 -2.4
OBN pmax pmax
comp=Z,12nm,2.1s,mb4.4
OBN MLR MLR
comp=Z,100nm,17.0s
TUQ Turquoise Mtn. 64.47 65 P P 22 49 38.7 +0.3
baz=64,SNR=5.5
ULM Lac du Bonnet 64.81 42 P P 22 49 40.1 -0.5
comp=Z,2.4nm,0.7s,mb4.1,baz=324,slow=6.9,SNR=3.1
V12A Nelson 64.92 64 ⇑P P 22 49 41.9 +0.5
baz=64
MURC Murrieta 64.93 67 ⇑P P 22 49 41.1 -0.3
baz=64
GMRC Granite Mounta 65.07 65 ⇑P P 22 49 42.2 -0.1
baz=64
SRU San Rafael 65.15 59 eP P 22 49 43.5 +0.7
BELC Belle Mtn. 65.40 66 ⇓P P 22 49 44.1 -0.4
baz=65
IRM Iron Mountain 65.80 65 ⇓P P 22 49 47.0 0.0
baz=65
W13A Hualapai Mount 65.92 64 ⇓P P 22 49 47.4 -0.5
baz=65
BC3 Big Chuckw Mtn 65.96 66 ⇑P P 22 49 47.7 -0.4
baz=65
X13A Yucca 66.30 64 ⇑P P 22 49 50.1 -0.1
baz=66
W14A Seligman 66.32 63 P P 22 49 51.0 +0.6
baz=66,SNR=6.7
GLA Glamis 66.76 66 eP P 22 49 53.1 -0.1
GLA Glamis 66.76 66 ⇓P P 22 49 52.5 -0.7
baz=66
W15A Williams 66.83 63 ⇓P P 22 49 54.1 +0.5
baz=66
NB2 NORSAR Subarra 66.85 341 P P 22 49 53.1 -0.7
comp=Z,1.7nm,0.6s,mb4.0,baz=25,slow=6.5
NOA NORSAR Array B 66.85 341 P P 22 49 53.0 -0.7
comp=Z,2.4nm,0.7s,mb4.1,baz=25,slow=6.4,SNR=7.8
NOA LR LR 23 25 19.5
comp=Z,50nm,18.5s,baz=35,slow=41
NOA NORSAR Array B 66.85 341 P P 22 49 53.1 -0.7
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,50nm,18.5s
X14A Yava 66.95 64 ⇓P P 22 49 54.6 +0.2
baz=66
HFS Hagfors 67.11 340 LR LR 23 25 13.0
comp=Z,92nm,18.0s,baz=251,slow=41
WUAZ Wupatki 67.12 62 ⇓P P 22 49 55.0 -0.5
baz=67
Y14A Wickenburg 67.25 64 ⇓P P 22 49 55.9 -0.4
baz=67
X15A Humboldt 67.33 63 P P 22 49 57.5 +0.8
baz=67,SNR=5.1
ISCO Idaho Springs 67.41 55 eP P 22 49 58.4 +1.1
MVCO Mesa Verde 67.61 59 ⇑P P 22 49 58.3 -0.3
baz=67
115A Sonoran Desert 68.57 65 ⇓P P 22 50 04.9 +0.3
baz=68
KIV Kislovodsk 70.11 314 eP P 22 50 12.6 -1.5
KIV e pP 22 50 34.5 +0.2
KIV pmax pmax
comp=Z,6.0nm,1.6s,mb4.2
WRAB Tennant Creek 70.32 200 ceP P 22 50 13.2 -2.1
WB2 Warramunga Arr 70.32 200 eP P 22 50 12.5 -2.9
WRA Warramunga Arr 70.33 200 P P 22 50 13.4 -2.0
comp=Z,6.6nm,0.9s,mb4.5,baz=16,slow=6.5,SNR=33
WRA Warramunga Arr 70.33 200 P P 22 50 13.4 -2.0
WRA pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 70.38 59⇑ eP P 22 50 16.0 +0.3
ANMO i *PP pP 22 50 36.0 +0.1
AKASG Malin Array Be 70.52 326 P P 22 50 15.9 -0.7
comp=Z,0.7nm,0.3s,mb3.9,baz=34,slow=5.8,SNR=8.1
AKASG LR LR 23 23 36.7
comp=Z,48nm,18.4s,baz=350,slow=38
AKASG Malin Array Be 70.52 326 P P 22 50 15.9 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,48nm,18.5s
SCHQ Schefferville 71.49 24 P P 22 50 22.6 +0.1
comp=Z,7.7nm,0.7s,mb4.6,baz=343,slow=9.3,SNR=21
GNI Garni 71.96 310 LR LR 23 25 29.7
comp=Z,61nm,20.9s,baz=351,slow=39
ASAR Alice Springs 74.02 199 P P 22 50 36.4 -1.1
comp=Z,2.3nm,0.7s,mb4.0,baz=12,slow=5.4,SNR=33
ASAR Alice Springs 74.02 199 P P 22 50 36.4 -1.0
ASAR pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 74.40 330 eP P 22 50 40.6 +1.0
STHS pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
STHS Stebnicka Huta 74.40 330 eP P 22 50 40.6 +1.0
comp=Z,2.0nm,0.7s,mb4.0
BURAR Bucovina Array 74.55 327 ⇓iP P 22 50 40.6 +0.1
BURAR Bucovina Array 74.55 327 ⇓P P 22 50 40.6 +0.1
UPC Upice 75.08 334 eP P 22 50 44.4 +0.9
DPC Dobruska-Polom 75.12 334 eP P 22 50 44.5 +0.7
CLL Collm 75.21 336 iP P 22 50 44.3 0.0
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
CLL Collm 75.21 336 iP P 22 50 44.3 0.0
comp=Z,7.0nm,0.8s,mb4.4
MORC Moravsky Berou 75.26 333 ⇑iP P 22 50 44.9 +0.3
PRU Pruhonice 75.37 334 eP P 22 50 49.0 +0.4
VRAC Vranov 75.97 333 LR LR 23 30 17.5
comp=Z,88nm,19.1s,baz=239,slow=40
MLR Muntele Rosu 76.07 325 ⇑iP P 22 50 49.8 +0.6
MLR Muntele Rosu 76.07 325 ⇑P P 22 50 49.8 +0.5
LTX Lajitas 76.08 62 eP P 22 50 49.5 +0.2
LTX pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LTX Lajitas 76.08 62 eP P 22 50 49.5 +0.2
comp=Z,5.6nm,0.8s,mb4.3
TXAR Lajitas Array 76.08 62 P P 22 50 49.3 0.0
comp=Z,5.5nm,0.8s,mb4.3,baz=302,slow=4.5,SNR=60
TXAR Lajitas Array 76.08 62 P P 22 50 49.3 0.0
TXAR pmax pmax
comp=Z,6.0nm,0.8s
DRGR 76.15 328 ⇓iP P 22 50 49.9 +0.2
DRGR 76.15 328 ⇓P P 22 50 49.9 +0.2
VOIR 76.46 326 ⇑iP P 22 50 51.8 +0.4
VOIR 76.46 326 ⇑P P 22 50 51.8 +0.4
KHC Kasperske Hory 77.01 335 eP P 22 50 54.7 +0.2
KHC Kasperske Hory 77.01 335⇑ eP P 22 50 54.8 +0.3
GRA1 Grafenberg Arr 77.16 336 eP P 22 50 55.8 +0.5
comp=Z,6.0nm,0.9s,mb4.3
GRF Grafenberg Arr 77.16 336 eP P 22 50 55.8 +0.5
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
GRF Grafenberg Arr 77.16 336 eP P 22 50 55.8 +0.5
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
GERES GERESS Array B 77.24 334 P P 22 50 56.1 +0.3
comp=Z,2.1nm,0.6s,mb4.0,baz=32,slow=4.9,SNR=18
GERES LR LR 23 26 14.0
comp=Z,120nm,20.6s,baz=185,slow=36
GERES GERESS Array B 77.24 334 P P 22 50 56.1 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,120nm,20.6s
BZS Buzias 77.55 328⇑ iP P 22 50 57.1 -0.4
BR131 Keskin Array S 77.62 317 eP P 22 50 58.7 +0.7
BRTR Keskin Array B 77.62 317 P P 22 50 57.9 -0.1
comp=Z,12nm,1.3s,mb4.5,baz=58,slow=3.1,SNR=15
BRTR Keskin Array B 77.62 317 P P 22 50 57.9 -0.1
BRTR pmax pmax
comp=Z,12nm,1.3s
PKSM Moragy 78.05 330⇑ iP P 22 50 59.8 -0.5
PKSM Moragy 78.05 330 ⇑P P 22 50 59.8 -0.5
CDF Champ du Feu 79.35 338 eP P 22 51 07.5 0.0
comp=Z,29nm,1.2s,mb4.7
CDF Champ du Feu 79.35 338 eP P 22 51 07.5 0.0
CDF pmax pmax
comp=Z,15nm,1.2s,mb4.7
CDF Champ du Feu 79.35 338 eP P 22 51 07.5 0.0
comp=Z,14nm,1.2s,mb4.7
VTS Vitosha 79.58 325 ⇓iP P 22 51 08.5 -0.2
VTS Vitosha 79.58 325 ⇓P P 22 51 08.5 -0.2
GRR Gorron 81.15 343 eP P 22 51 17.0 -0.1
comp=Z,13nm,0.6s,mb4.7
SMF Signal de Mont 81.83 340 eP P 22 51 20.6 -0.1
LPG La Plagne 82.19 337 eP P 22 51 22.7 +0.1
comp=Z,44nm,1.2s,mb4.9
CAF Calviac 83.85 340 eP P 22 51 31.0 -0.2
TIP Timpagrande 84.92 328 eP P 22 51 36.2 -0.3
KEST Kesra 90.51 332 P P 22 52 03.2 -0.2
comp=Z,1.1nm,0.6s,mb4.1,baz=296,slow=4.6,SNR=5.1
TORD Torodi Ar. Bea 113.98 330 PKP PKiKP 22 57 39.4 -0.7
comp=Z,1.3nm,0.5s,baz=17,slow=1.9,SNR=36
CFAA Coronel Fontan 143.99 78 PKP PKPdf 22 58 33.6 -3.0
comp=Z,1.1nm,0.8s,baz=285,slow=2.5,SNR=16
VNA2 Neumayer--Watz 155.81 195 ePKPdf PKPdf 22 58 59.0 +3.9
VNA2 e 22 59 18.9
VNA2 e 22 59 27.7
VNA2 e 22 59 35.8
VNA3 Neumayer Olymp 155.89 193 ePKPdf PKPdf 22 59 00.0 +4.8
VNA3 e 22 59 18.9
VNA3 e 22 59 35.2

*ISCJB **24** 23:06:03.0±0.6, 4199N±003×4595E±003, h10km, Error ellipse: s-maj=4.5km s-min=3.3km az=167.5*
*MOS **24** 23:06:06.0±1.4, 4210N×4609E, h24km, mb3.8/1, Error ellipse: s-maj=14.4km s-min=9.0km az=120.2*
*CSEM **24** 23:06:06.0, 4210N×4609E, h24km, mb3.8, Error ellipse: s-maj=14.4km s-min=9.0km az=302.0, After OBN*
ISC 24 23:06:03.4±0.6, 4197N±003×4596E±003, h10km, n20, σ1°22/36, 1D, Eastern Caucasus

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BTLR Botlikh 0.72 16 ⇓iPG Pg 23 06 16.0 -1.3
BTLR i S Sg 23 06 26.6 -0.1
BTLR pmax pmax
comp=Z,69nm,0.2s
BTLR Botlikh 0.72 16 i Pg Pg 23 06 16.0 -1.3
comp=Z,69nm,0.2s
BTLR i Sg Sg 23 06 26.6 -0.1
DUS Dusheti 0.94 278 P Pg 23 06 21.4 -0.2
DUS S Sg 23 06 33.9 +0.1
UNCR Uncukul 0.97 39 ePG Pg 23 06 22.2 +0.2
UNCR i S Sg 23 06 35.7 +1.1
UNCR pmax pmax
comp=Z,41nm,0.3s
UNCR Uncukul 0.97 39 ePg Pg 23 06 22.2 +0.2
comp=Z,41nm,0.3s
UNCR i Sg Sg 23 06 35.7 +1.1
KRNR Karanay 1.11 39 ePG Pg 23 06 23.0 -1.7
KRNR eS Sg 23 06 38.5 -0.6
KRNR pmax pmax
comp=Z,35nm,0.2s
KRNR Karanay 1.11 39 ePg Pg 23 06 23.0 -1.7
comp=Z,35nm,0.2s
KRNR eSg Sg 23 06 38.5 -0.6
DBC Dubki 1.23 31 ePG Pg 23 06 25.0 -2.0
DBC i S Sb 23 06 42.0 -0.7
DBC pmax pmax
comp=Z,42nm,0.5s
DBC Dubki 1.23 31 ePg Pg 23 06 25.0 -2.0
comp=Z,42nm,0.5s
DBC i Sg Sb 23 06 42.0 -0.7
KZR Kazreti 1.30 244 P Pn 23 06 26.1 -1.4
KZR S Sb 23 06 42.7 -1.9
SNJR Sundja 1.39 323 i Pg Pg 23 06 30.5 +0.5
SNJR eSg Sg 23 06 49.3 +1.3
AKT Akhty 1.41 110 ePG Pg 23 06 30.5 0.0
AKT i S Sg 23 06 51.5 +2.7
AKT pmax pmax
comp=Z,25nm,0.2s
AKT Akhty 1.41 110 ePg Pg 23 06 30.5 0.0
comp=Z,25nm,0.2s
AKT i Sg Sg 23 06 51.5 +2.7
VLKR Vladikavkaz 1.43 319 i Pg Pg 23 06 31.0 +0.1
VLKR eSg Sg 23 06 49.9 +0.4
LACR Lac 1.50 305 i Pg Pg 23 06 30.5 -1.6
ZEI Tsey 1.72 298 ePn Pn 23 06 34.2 +0.8
ARNR Ardon 1.74 315 i Pn Pn 23 06 35.8 +2.2
ARNR eSg Sg 23 06 58.9 -0.4
KORR Kora 1.79 309 i Pn Pn 23 06 36.4 +2.1
TRKR Terskaya 1.97 333 ePn Pn 23 06 40.4 +3.6
TRKR eSg Sg 23 07 06.4 -0.3
DIGR Digorskoe uzhe 1.99 299 i Pn Pn 23 06 38.5 +1.4

*ISCJB **24** 23:11:10.7±1.6, 198S±02×1735W±03, h35km, mb3.8/5, Error ellipse: s-maj=41.9km s-min=14.9km az=53.9*
*IDC **24** 23:11:10.4±1.4, 1987S×17390W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=46.3km s-min=26.3km az=138.0*
*NEIC **24** 23:11:15.5±0.9, 1988S×17392W, h35km, Error ellipse: s-maj=29.7km s-min=18.6km az=130.0*
ISC 24 23:11:13.8±1.4, 198S±02×1736W±03, h35km, n12, σ1°08/11, mb3.8/5, Tonga Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
AFI Afiamalu 6.08 17 Pn Pn 23 12 40.2 -0.9
3.9nm,0.3s,baz=53,slow=20,SNR=4.8
AFI Sn Sn 23 13 42.3 -7.3
7.9nm,0.3s,baz=225,slow=20,SNR=3.2
URZ Urewera 20.11 202 P P 23 15 44.5 0.0
2.6nm,0.3s,baz=289,slow=2.9,SNR=16
CTA Charters Tower 37.65 262 P P 23 18 26.2 +0.8
1.2nm,0.5s,mb3.9,baz=69,slow=17,SNR=3.5
CTA Charters Tower 37.65 262 P P 23 18 26.2 +0.8
ASAR Alice Springs 48.68 255 P P 23 19 53.8 -0.7
0.8nm,0.8s,mb3.8,baz=97,slow=7.7,SNR=8.2
WB2 Warramunga Arr 48.76 260 eP P 23 19 54.5 -0.6
WRA Warramunga Arr 48.77 260 P P 23 19 54.5 -0.7
0.4nm,0.3s,mb3.9,baz=97,slow=7.4,SNR=30
MJAR Matsushiro Arr 72.14 321 P P 23 22 36.9 +2.2
1.5nm,0.7s,mb4.0,baz=159,slow=6.4,SNR=5.6
NVAR Mina Array Bea 77.71 41 P P 23 23 10.6 +3.6
0.6nm,0.7s,mb3.6,baz=234,slow=8.7,SNR=4.3
NVAR Mina Array Bea 77.71 41 P P 23 23 10.6 +3.6
AKASG Malin Array Be 144.22 335 PKP PKPdf 23 30 46.0 +0.1
1.1nm,0.4s,baz=30,slow=3.9,SNR=4.7
BRTR Keskin Array B 149.27 316 PKPbc PKPbc 23 31 01.8 +3.1
0.6nm,0.7s,baz=155,slow=6.8,SNR=4.8

*CSEM **24** 23:11:34.5±0.8, 3848N×2842W, h5km±8km, ML1.3, Error ellipse: s-maj=4.3km s-min=3.2km az=170.0, After PDA*
*PDA **24** 23:11:34.5±0.8, 3848N×2842W, h5km±8km, MD2.8, ML1.3, Error ellipse: s-maj=4.3km s-min=3.2km az=170.0*
SVSA 24 23:11:34.5±0.8, 3848N×2842W, h5km±8km, MD2.8, ML1.3, Error ellipse: s-maj=4.3km s-min=3.2km az=170.0, Azores Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PICO Pico 0.02 353 i P Pg 23 11 33.2 -2.3
PCND Candelaria 0.03 256 eP Pg 23 11 35.7 +0.1
PCND eS Sg 23 11 36.5 +0.2
PCND
159nm,0.2s
PTEI Pico do Teixo 0.05 71 eP Pg 23 11 36.1 +0.3
PTEI eS Sg 23 11 36.9 +0.1
PTEI
162nm,0.1s
PBOI Pico dos Bois 0.06 138 eP Pg 23 11 35.6 -0.2
PBOI eS Sg 23 11 37.1 +0.3
PBOI
63nm,0.1s

IDC 24 23:27:58.5±16.0, 063S×12709E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/23, Error ellipse: s-maj=243.5km s-min=152.9km az=154.0, Halmahera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 20.47 160 P P 23 32 37.5 -0.2
0.2nm,0.3s,baz=339,slow=11,SNR=11
ASAR Alice Springs 23.84 164 P P 23 33 13.3 0.0
0.1nm,0.5s,baz=334,slow=8.1,SNR=4.5
NWAO Narrogin (SRO) 33.44 195 LR LR 23 48 37.6
comp=Z,88nm,18.0s,baz=109,slow=37
STKA Stephens Creek 33.97 158 P P 23 34 44.4 +0.8
1.3nm,0.6s,baz=315,slow=10.0,SNR=3.9

*IDC **24** 23:28:40.9±1.0, 4743N×15574E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/26, mbtmp3.9/12, ML3.6/1, MS3.3/3, Ms1 3.3/3, ms1mx2.6/40, Error ellipse: s-maj=27.7km s-min=20.6km az=151.0*
*ISCJB **24** 23:28:42.8±4.4, 4740N±01×1556E±02, h23km±29km, mb3.9/13, MS3.7/2, Error ellipse: s-maj=28.0km s-min=15.0km az=88.9*
*MOS **24** 23:28:42.7±1.2, 4748N×15559E, h23km, mb4.2/10, Error ellipse: s-maj=24.9km s-min=15.0km az=97.1*
*NEIC **24** 23:28:42.7±0.9, 4749N×15567E, h10km, mb4.4/2, Error ellipse: s-maj=23.8km s-min=19.8km az=182.0*
ISC 24 23:28:45.7±4.6, 475N±01×1557E±02, h32km±31km, n30, σ0°99/28, mb3.9/13, MS3.7/2, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SKR Severo-Kuril's 3.22 5 ePN Pn 23 29 34.1 +0.1
ASAJ Asahikawa 9.72 255 Pn Pn 23 31 04.2 +0.9
0.7nm,0.3s,baz=117,slow=18,SNR=2.9
ASAJ LR LR 23 34 53.9
comp=Z,33nm,21.0s,baz=33,slow=38
KSRS Korea Array 22.67 254 P P 23 33 42.7 -1.6
1.0nm,0.7s,mb3.4,baz=52,slow=11,SNR=3.2
SONM Songino Array 32.73 289 LR LR 23 49 50.1
comp=Z,31nm,19.1s,MS3.0,baz=302,slow=39
INK Inuvik 40.09 33 P P 23 36 17.6 -0.6
1.2nm,0.8s,mb3.7,baz=258,slow=3.2,SNR=6.9
INK Inuvik 40.09 33 P P 23 36 17.6 -0.6
INK pmax pmax
comp=Z,1.0nm,0.8s
ZAL Zalesovo 43.60 306 P P 23 36 46.8 -0.1
comp=Z,0.6nm,0.3s,mb3.8,baz=104,slow=4.2,SNR=2.7
ZAL Zalesovo 43.60 306 P P 23 36 46.8 -0.1
ZAL pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 48.14 298 P P 23 37 22.4 -0.3
comp=Z,1.9nm,0.8s,mb4.2,baz=64,slow=5.9,SNR=11
MKAR Makanchi Array 48.14 298 P P 23 37 22.4 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.8s
CHKZ Chkalovo 51.28 311 eP P 23 37 45.1 -1.5
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CHKZ Chkalovo 51.28 311 eP P 23 37 45.1 -1.5
comp=Z,2.2nm,0.5s,mb4.3
ARU Arti 55.63 318 eP P 23 38 16.0 -2.5
ARU Arti 55.63 318 eP P 23 38 17.2 -1.4
comp=Z,3.3nm,0.8s,mb4.4
AKTK Aktyubinsk 59.52 313 P P 23 38 47.1 +1.3
AKTO Aktyubinsk 59.52 313 P P 23 38 47.1 +1.3
comp=Z,1.1nm,0.7s,mb4.0,baz=105,slow=6.4,SNR=4.5
AKTO Aktyubinsk 59.52 313 P P 23 38 47.1 +1.2
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
FINES FINESS Array B 64.10 336 P P 23 39 16.1 -0.7
comp=Z,0.9nm,0.5s,mb4.1,baz=45,slow=3.8,SNR=11
FINES FINESS Array B 64.10 336 P P 23 39 16.1 -0.6
FINES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 68.08 342 P P 23 39 43.6 +1.4
comp=Z,1.1nm,0.7s,mb4.0,baz=26,slow=6.9
NOA NORSAR Array B 68.08 342 P P 23 39 43.7 +1.5
comp=Z,1.6nm,0.8s,mb4.1,baz=327,slow=7.9,SNR=3.8
NOA NORSAR Array B 68.08 342 P P 23 39 43.7 +1.5
NOA pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 73.48 201 P P 23 40 15.5 +0.4
comp=Z,0.9nm,0.9s,mb3.7,baz=12,slow=6.5,SNR=7.7
ASAR Alice Springs 73.48 201 P P 23 40 15.5 +0.4
ASAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 75.62 62 P P 23 40 27.2 -0.3
comp=Z,0.9nm,0.8s,mb3.7,baz=300,slow=4.5,SNR=9.7
TXAR Lajitas Array 75.62 62 P P 23 40 27.2 -0.3
TXAR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 77.44 326 P P 23 40 38.7 +0.9
comp=Z,0.5nm,0.4s,mb3.8,baz=86,slow=13,SNR=3.3
MLR Muntele Rosu 77.44 326 P P 23 40 38.7 +0.9
MLR pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 78.53 335 P P 23 40 44.1 +0.2
comp=Z,0.3nm,0.5s,mb3.5,baz=43,slow=6.0,SNR=4.0
RAR Rarotonga 79.25 138 LR LR 00 09 18.6
comp=Z,152nm,20.5s,MS4.3,baz=202,slow=31

*NEIC **24** 23:38:10.8±2.4, 3045S×17768W, h10km, Error ellipse: s-maj=53.7km s-min=18.0km az=115.0*
IDC 24 23:38:15.9±9.3, 3026S×17796W, h31km±62km, mb3.5/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, Error ellipse: s-maj=79.1km s-min=26.2km az=121.0, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RAO Raoul Island 1.00 2 Pn Pn 23 38 33.8 -0.1
50nm,0.3s,baz=135,slow=19,SNR=4.7
RAO Sn Sn 23 38 46.9 0.0
168nm,0.3s,baz=53,slow=20,SNR=17
STKA Stephens Creek 34.55 257 P P 23 45 00.8 -0.7
0.6nm,0.3s,baz=86,slow=14,SNR=2.8
ASAR Alice Springs 43.15 267 P P 23 46 13.8 +0.2
0.3nm,0.6s,baz=106,slow=7.6,SNR=4.6
WRA Warramunga Arr 44.13 272 P P 23 46 22.0 +0.5
0.5nm,0.4s,baz=110,slow=8.1,SNR=17
FINES FINESS Array B 145.02 340 PKPbc PKPbc 23 57 47.9 -1.6
0.5nm,0.4s,baz=66,slow=4.7,SNR=7.2

IDC 24 23:39:32.4±1.6, 003N×12312E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/20, Error ellipse: s-maj=178.0km s-min=25.4km az=62.0, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 22.68 152 P P 23 44 35.7 +0.2
1.0nm,0.7s,baz=330,slow=10,SNR=16
ASAR Alice Springs 25.77 157 P P 23 45 05.0 +0.2
0.3nm,0.6s,baz=344,slow=15,SNR=6.0
ASAR LR LR 23 55 12.3
comp=Z,69nm,20.7s,baz=183,slow=36
ASAJ Asahikawa 47.21 19 LR LR 00 05 54.0
comp=Z,78nm,19.9s,baz=359,slow=34
MKAR Makanchi Array 58.65 328 P P 23 49 31.8 +0.3
0.3nm,0.5s,baz=130,slow=8.6,SNR=5.8

*ISCJB **24** 23:55:59.0±0.7, 3153S±005×1785W±0.1, h33km, mb4.7/9, MS3.5/7, Error ellipse: s-maj=14.9km s-min=7.2km az=20.6*
*NEIC **24** 23:55:59.7±3.3, 3141S×17821W, h38km±26km, mb4.4/5, mb1 4.4/7, mb1mx4.1/14, mbtmp4.4/7, ML4.0/2, MS3.5/8, Ms1 3.5/8, ms1mx3.3/26, Error ellipse: s-maj=28.0km s-min=19.5km az=122.0*
ISC 24 23:55:56.2±3.2, 3145S±005×1784W±01, h8km±20km, n48, σ0°98/35, mb4.7/9, MS3.5/7, 2C, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RAO Raoul Island 2.22 10 Pn Pn 23 56 34.1 +0.7
127nm,0.3s,baz=70,slow=22,SNR=6.4
RAO Sn Sn 23 56 59.0 -2.1
252nm,0.3s,baz=65,slow=23,SNR=15
MXZ Matakaoa Point 6.69 203 PN Pn 23 57 34.9 +0.1
WCZ Waipu Caves 7.55 232 PN Pn 23 57 54.8 +8.1
MWZ Matawai 7.66 205 PN Pn 23 57 47.3 -0.8
MWZ SN Sn 23 59 15.4 +0.5
OUZ Omahuta 7.71 239 PN Pn 23 57 56.5 +7.7
URZ Urewera 7.75 207 Pn Pn 23 57 49.0 -0.4
0.8nm,0.3s,baz=0.0,slow=1.0,SNR=9.6
URZ Sn Sn 23 59 16.2 -1.0
6.1nm,0.3s,baz=255,slow=20,SNR=9.4
URZ Urewera 7.75 207 PN Pn 23 57 49.0 -0.3
URZ SN Sn 23 59 15.9 -1.3
NNZ Nelson 11.80 212 SN Sn 00 00 49.5 -7.3
KHZ Kahutara 12.71 208 SN Sn 00 01 07.5 -12

MQZ	**McQueen's Vall**	**14.15**	**208**	SN	**Sn**	**00 01 38.9**	**-15**
RPZ	**Rata Peaks**	**14.83**	**211**	Pn	**Pn**	**23 59 23.8**	**-2.4**
	0.6nm,0.3s,baz=337,slow=18,SNR=3.0						
RPZ				LR	LR	00 04 22.6	
	comp=Z,105nm,19.1s,baz=344,slow=34						
TBI	**Tubuai**	**26.84**	**80**	*e*LR	LR	00 08 09.5	
	119nm,26.2s						
PPT	**Papeete**	**29.50**	**69**	*e*LR	LR	00 09 22.0	
	136nm,31.0s,baz=220						
CTA	**Charters Tower**	**33.68**	**281**	*e*P	**P**	**00 02 39.3**	**+1.6**
	8.6nm,0.6s,mb4.9						
CTA	**Charters Tower**	**33.68**	**281**	P	**P**	**00 02 38.6**	**+0.9**
	9.3nm,0.6s,mb4.9,baz=104,slow=10,SNR=15						
CTA				LR	LR	00 13 10.5	
	comp=Z,87nm,18.1s,MS3.5,baz=55,slow=30						
STKA	**Stephens Creek**	**33.96**	**259**	*e*P	**P**	**00 02 41.7**	**+1.6**
	4.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**33.96**	**259**	P	**P**	**00 02 41.7**	**+1.7**
	5.5nm,0.8s,mb4.5,baz=107,slow=7.3,SNR=8.3						
STKA				LR	LR	00 14 10.3	
	comp=Z,71nm,19.5s,MS3.4,baz=200,slow=32						
PMG	**Port Moresby**	**38.79**	**297**	LR	LR	00 16 36.5	
	comp=Z,43nm,19.4s,MS3.3,baz=152,slow=32						
AS31	**Alice Springs**	**42.76**	**268**	*e*P	**P**	**00 03 54.2**	**+0.1**
ASAR	**Alice Springs**	**42.76**	**268**	P	**P**	**00 03 54.2**	**+0.1**
	14nm,0.6s,mb4.9,baz=105,slow=7.6,SNR=207						
ASAR				LR	LR	00 21 12.2	
	comp=Z,52nm,18.1s,MS3.5,baz=345,slow=35						
ASPA	**Alice Springs**	**42.76**	**268**	*e*P	**P**	**00 03 54.2**	**+0.1**
WB2	**Warramunga Arr**	**43.83**	**273**⇑	*i*P	**P**	**00 04 02.6**	**-0.2**
WRAB	**Tennant Creek**	**43.84**	**273**	*e*P	**P**	**00 04 02.6**	**-0.2**
	32nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**43.84**	**273**	P	**P**	**00 04 02.8**	**-0.1**
	30nm,0.4s,mb5.4,baz=112,slow=8.0,SNR=810						
WRA				LR	LR	00 20 41.0	
	comp=Z,38nm,19.7s,MS3.3,baz=65,slow=34						
VNDA	**Vanda**	**47.02**	**186**	P	**P**	**00 04 29.9**	**+1.8**
	0.6nm,0.5s,mb3.8,baz=24,slow=10.0,SNR=2.9						
VNDA				LR	LR	00 19 15.9	
	comp=Z,47nm,19.2s,MS3.5,baz=337,slow=30						
VNDA	**Vanda**	**47.02**	**186**	P	**P**	**00 04 29.9**	**+1.8**
VNDA				LR	LR	00 19 15.9	
FITZ	**Fitzroy Crossi**	**52.06**	**271**	*e*P	**P**	**00 05 06.2**	**-0.3**
	5.9nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.06**	**271**	P	**P**	**00 05 06.9**	**+0.4**
	3.3nm,0.6s,mb4.4,baz=161,slow=11,SNR=15						
QSPA	**South Pole Qui**	**58.66**	**180**	*e*P	**P**	**00 05 55.8**	**+1.7**
	5.3nm,0.6s,mb4.8						
MAW	**Mawson**	**71.22**	**201**	P	**P**	**00 07 15.2**	**-0.6**
	1.6nm,0.7s,mb4.1,baz=163,slow=7.2,SNR=6.2						
SYO	**Syowa Base**	**76.03**	**193**⇑	*e*P	**P**	**00 07 43.0**	**-1.1**
SNAA	**Sanae**	**77.12**	**179**	*e*	**P**	**00 07 50.2**	**0.0**
SNAA				*e*		00 07 55.0	
SNAA				*e*		00 07 59.0	
VNA3	**Neumayer Olymp**	**77.28**	**176**	*e*	**P**	**00 07 51.3**	**+0.1**
VNA3				*e*		00 07 56.2	
VNA3				*e*		00 08 01.0	
VNA3				*e*		00 08 05.8	
VNA3				*e*		00 08 21.2	
VNA2	**Neumayer--Watz**	**77.71**	**177**	*e*	**P**	**00 07 53.7**	**+0.1**
	baz=180,slow=4.3						
VNA2				*e*		00 07 58.9	
VNA2				*e*		00 08 03.4	
VNA2				*e*		00 08 08.7	
VNA2				*e*		00 08 23.0	
LPIG	**La Paz**	**85.35**	**58**	LR	LR	00 36 26.4	
	comp=Z,69nm,19.6s,MS4.0,baz=70,slow=28						
MKAR	**Makanchi Array**	**118.21**	**310**	PKP	PKPdf	00 14 41.6	-2.4
	0.4nm,0.5s,baz=240,slow=1.5,SNR=4.7						
CHKZ	**Chkalovo**	**126.85**	**316**	*e*PKPdf		00 14 52.3	
BVAR	**Borovoye Array**	**126.94**	**315**	PKP	PKPdf	00 14 57.9	-2.8
	0.5nm,0.3s,baz=137,slow=1.9,SNR=6.4						
ARCES	**ARCESS Array B**	**139.54**	**347**	PKhKP		00 15 15.2	
	1.6nm,0.8s,baz=343,slow=3.8,SNR=4.5						
ARCES				PKP	PKPdf	00 15 22.9	-1.5
	2.1nm,0.8s,baz=60,slow=2.9,SNR=6.0						
ARCES	**ARCESS Array B**	**139.54**	**347**	PKP		00 15 15.2	
ARCES				PKP	PKPdf	00 15 22.9	-1.5
FINES	**FINESS Array B**	**146.02**	**339**	PKPbc	PKPbc	00 15 33.7	-2.9
	4.2nm,0.5s,baz=55,slow=4.5,SNR=38						
FINES	**FINESS Array B**	**146.02**	**339**	PKPbc	PKPbc	00 15 33.7	-2.9
NB2	**NORSAR Subarra**	**149.74**	**351**	PKP	PKPdf	00 15 44.2	+2.2
	comp=Z,1.1nm,0.6s,baz=28,slow=2.5						
NOA	**NORSAR Array B**	**149.74**	**351**	PKPbc	PKPbc	00 15 44.5	-2.2
	comp=Z,1.6nm,0.6s,baz=16,slow=4.2,SNR=6.3						
MMAI	**Mount Meron Ar**	**151.47**	**282**	PKPbc	PKPbc	00 15 50.1	-0.6
AKASG	**Malin Array Be**	**151.94**	**321**	PKPbc	PKPbc	00 15 49.8	-2.0
	comp=Z,0.6nm,0.3s,baz=47,slow=2.7,SNR=5.0						
BRTR	**Keskin Array B**	**152.81**	**297**	PKPbc	PKPbc	00 15 52.0	-1.8
	comp=Z,0.4nm,0.5s,baz=133,slow=4.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**161.78**	**180**	PKPab	PKPab	00 16 43.2	-0.1
	comp=Z,0.8nm,0.6s,baz=163,slow=2.4,SNR=10						

IDC ***25*** *00:00:00.5±0.5, 4579N×15397E, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.4/26, mbtmp4.3/21, ML4.2/1, MS3.7/8, Ms1 3.7/8, ms1mx3.3/34, Error ellipse: s-maj=16.2km s-min=14.3km az=152.0*

ISCJB ***25*** *00:00:01.7±0.3, 4578N±005×15385E±005, h16km, mb4.5/73, MS3.8/17, Error ellipse: s-maj=7.6km s-min=4.5km az=132.8*

SKHL ***25*** *00:00:02.1±7.4, 4536N×15403E, h50km±20km, Ms4.4/1*

NEIC ***25*** *00:00:02.3±0.2, 4577N×15392E, h10km, mb4.7/24, Error ellipse: s-maj=6.6km s-min=6.2km az=173.0*

BJI ***25*** *00:00:03.0, 4592N×15355E, h12km, mB4.8, mb4.5, Ms4.1, Msz4.0*

MOS ***25*** *00:00:06.3±1.0, 4573N×15385E, h53km, mb4.7/45, Error ellipse: s-maj=12.4km s-min=6.5km az=115.0*

SZGRF ***25*** *00:00:11.4, 4659N×154.16E, h33km, mb4.7, East of Kuril Islands, Russia*

ISC 25 00:00:01.3±1.5, 4584N±005×15384E±005, h2km±9km, h17km±2.2km; pP-P, n193, c099/195, mb4.5/73, MS3.8/17, 33C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.24**	**264**⇑	*i*P	**Pn**	**ISC**	**00 01 04.9**	**-2.0**
KUR					AMB	AMB	00 01 05.4	
	167nm,0.6s							
KUR					AMB	AMB	00 01 05.4	
	99nm,0.6s							
KUR					AMB	AMB	00 01 05.4	
	456nm,0.6s							
KUR				*e*S		**Sn**	**00 01 52.0**	**-4.9**
KUR				A			00 01 59.9	
	602nm,0.7s							
KUR				A			00 01 59.9	
	611nm,0.7s							
KUR	**Kuril'sk**	**4.24**	**264**⇑	*i*PN		**Pn**	**00 01 04.9**	**-2.0**
KUR					pmax	pmax		
	comp=N,170nm,0.6s							
KUR					pmax	pmax		
	comp=E,100nm,0.6s							
KUR					pmax	pmax		
	comp=Z,460nm,0.6s							
SKR	**Severo-Kuril's**	**5.08**	**17**	*e*P		**Pn**	**00 01 19.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**5.95**	**255**	*e*P		**Pn**	**00 01 25.0**	**-5.3**
YUK				*e*S		**Sn**	**00 02 37.9**	**-1.0**
YUK				A			00 02 39.2	
	comp=Z,320nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.75**	**282**⇑	*e*P		**Pn**	**00 01 58.3**	**+3.3**
PET	**Petropavlovsk**	**7.84**	**22**⇑	*e*PN		**Pn**	**00 01 57.6**	**+1.3**
ASAJ	**Asahikawa**	**8.16**	**262**	Pn		**Pn**	**00 02 02.6**	**+2.0**
	comp=Z,3.3nm,0.3s,baz=91,slow=7.0,SNR=10							
ASAJ	**Asahikawa**	**8.16**	**262**	PN		**Pn**	**00 02 02.6**	**+2.0**
ASAJ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
NKL	**Nikolayevsk**	**11.25**	**315**	*e*L			00 07 24.0	
NKL					AMS	AMS	00 08 31.0	
	comp=Z,1μm,13.0s							
NKL					AMS	AMS	00 08 31.0	
	comp=Z,1μm,13.0s							
HABR	**Khabarovsk**	**13.06**	**288**	PN		**Pn**	**00 03 07.1**	**-0.6**
MAT	**Matsushiro**	**14.97**	**237**	P		**Pn**	**00 03 32.0**	**-1.8**
MJAR	**Matsushiro Arr**	**14.97**	**237**	Pn		**Pn**	**00 03 30.6**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=9.9							
KLR	**Kul'dur**	**15.29**	**291**	*e*P		**Pn**	**00 03 36.3**	**-1.8**
KLR					MLR	MLR		
	comp=N,500nm,14.0s							
KLR					MLR	MLR		
	comp=Z,1μm,14.0s							
MDJ	**Mudanjiang**	**17.11**	**275**	P		**Pn**	**00 04 01.3**	**-0.2**
MDJ					AMB	AMB		
	comp=Z,24nm,0.8s							
MDJ					AMB	AMB		
	comp=Z,109nm,4.3s							
MDJ					LR	LR		
	comp=Z,107nm,24.4s							
ZEA	**Zeya**	**18.82**	**304**	*e*P		**Pn**	**00 04 20.0**	**-2.5**
ZEA					AMB	AMB	00 04 20.7	
	comp=Z,11nm,0.9s							
CN2	**Changchun**	**20.20**	**274**	*e*P		**P**	**00 04 36.6**	**-0.7**
CN2				*e*XP		sP	00 04 43.0	+4.8
CN2				*e*S		**S**	**00 08 17.6**	**-7.0**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.9s							
CN2					AMB	AMB		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=N,200nm,14.0s,MS3.9							
CN2					LR	LR		
	comp=E,300nm,14.0s,MS3.9							
CN2					LR	LR		
	comp=Z,400nm,15.0s,MS3.9							
KSRS	**Korea Array**	**21.03**	**256**	P		**P**	**00 04 47.5**	**+1.2**
	comp=Z,5.1nm,0.9s,mb3.8,baz=59,slow=11,SNR=9.6							
KSRS					LR	LR	00 11 55.9	
	comp=Z,93nm,20.2s,MS3.2,baz=154,slow=34							
YAK	**Yakutsk**	**21.36**	**328**⇑	*e*P		**P**	**00 04 48.3**	**-1.5**
YAK					pmax	pmax		
	comp=Z,51nm,2.5s,mb4.4							
SNY	**Shenyang**	**22.13**	**270**	⇓P		**P**	**00 04 57.8**	**-0.2**
SNY				S		**S**	**00 09 00.3**	**-2.2**
SNY					AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5							
SNY					AMB	AMB		
	comp=Z,79nm,7.2s							
SNY					LR	LR		
	comp=E,291nm,7.9s							
SNY					LR	LR		
	comp=Z,189nm,12.6s,MS3.7							
BILL	**Bilibino**	**23.17**	**12**	*e*P		**P**	**00 05 09.0**	**-0.1**
BILL				*i*			00 05 35.8	
BILL					pmax	pmax		
	comp=Z,19nm,1.6s,mb4.3							
BOD	**Bodaibo**	**26.96**	**311**	*e*P		**P**	**00 05 41.6**	**-2.5**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.8s,mb3.8							
BJI	**Beijing**	**27.99**	**272**	P		**P**	**00 05 57.4**	**+4.1**
BJI				S		**S**	**00 10 43.1**	**+4.9**
BJI					AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3							
BJI					AMB	AMB		
	comp=Z,109nm,4.5s							
BJI					LR	LR		
	comp=N,75nm,30.3s,MS3.2							
BJI					LR	LR		
	comp=E,61nm,31.5s,MS3.2							
BJI					LR	LR		
	comp=Z,80nm,28.2s,MS3.1							
BJI	**Beijing**	**27.99**	**272**	P		**P**	**00 05 57.4**	**+4.1**
	comp=Z,10.0nm,1.3s,mb4.3							
BJI				S		**S**	**00 10 43.1**	**+4.9**
BJI				LR		LR		
	comp=Z,80nm,28.2s,MS3.1							
TIXI	**Tiksi**	**28.48**	**344**⇑	*e*P		**P**	**00 05 54.9**	**-2.9**
TIXI					pmax	pmax		
	comp=Z,21nm,1.7s,mb4.5							
NJ2	**Nanjing**	**30.23**	**255**	*e*P		**P**	**00 06 15.6**	**+2.3**
NJ2					AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1							
HHC	**Hu-ho-hao-te**	**30.88**	**276**	⇓P		**P**	**00 06 20.0**	**+1.0**
HHC					AP	pP	00 06 24.8	+5.1
HHC					XP	sP	00 06 27.1	+7.1
HHC					PP	PP	00 07 20.3	-8.2
HHC					PCP	PcP	00 09 14.1	-1.7
HHC					S	**S**	**00 11 22.1**	**-1.5**
HHC					XS	sS	00 11 29.1	+4.3
HHC					SS	SS	00 13 04.9	-30
HHC					AMB	AMB		
	comp=Z,19nm,1.1s,mb4.8							
HHC					AMB	AMB		
	comp=Z,138nm,4.8s							
HHC					LR	LR		
	comp=N,183nm,16.8s,MS4.0							
HHC					LR	LR		
	comp=E,182nm,13.2s,MS4.0							
HHC					LR	LR		
	comp=Z,128nm,15.7s,MS3.7							
ULN	**Ulaanbaatar**	**31.68**	**291**⇓	*e*P		**P**	**00 06 29.3**	**+3.2**
SONM	**Songino Array**	**32.12**	**291**	P		**P**	**00 06 30.1**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=75,slow=7.5,SNR=7.5							
SONM					PcP	PcP	00 09 18.6	-0.5
	comp=Z,0.3nm,0.8s,baz=83,slow=2.4,SNR=3.7							
SONM					LR	LR	00 19 58.1	
	comp=Z,84nm,21.3s,MS3.4,baz=89,slow=37							
SONM	**Songino Array**	**32.12**	**291**	P		**P**	**00 06 30.1**	**+0.2**
SONM							00 09 18.6	
SONM					pmax	pmax		
	comp=Z,2.0nm,0.7s							
SONM					MLR	MLR		
	comp=Z,84nm,21.3s							
XAN	**Xi'an**	**35.96**	**267**	P		**P**	**00 07 03.8**	**+0.6**
XAN					AP	pP	00 07 14.3	+10
XAN					AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.3							
COLA	**College**	**36.55**	**38**⇑	*e*P		**P**	**00 07 08.3**	**+0.1**
LZH	**Lanzhou**	**38.43**	**273**	*e*P		**P**	**00 07 25.3**	**+1.0**
LZH					AP	pP	00 07 28.5	+3.5
LZH					XP	sP	00 07 29.9	+4.6
LZH					PP	PP	00 08 56.8	+4.8
LZH					AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7							
LZH					AMB	AMB		
	comp=Z,52nm,5.3s							
LZH					LR	LR		
	comp=E,286nm,13.2s							
LZH					LR	LR		
	comp=Z,398nm,17.5s,MS4.3							
LZH	**Lanzhou**	**38.43**	**273**	*e*P		**P**	**00 07 25.3**	**+1.0**
	comp=Z,21nm,1.2s,mb4.7							
LZH					pP	pP	00 07 28.5	+3.5
LZH					sP	sP	00 07 29.9	+4.6
LZH					PP	PP	00 08 56.8	+4.8
LZH					LR	LR		
	comp=Z,400nm,17.5s,MS4.3							
GTA	**Gaotai**	**39.62**	**281**	*e*P		**P**	**00 07 36.0**	**+1.8**
GTA					AP	pP	00 07 42.3	+7.4
GTA					XP	sP	00 07 45.8	+11
GTA					PP	PP	00 09 10.6	+5.6
GTA					S	**S**	**00 13 39.0**	**+1.0**
GTA					XS	sS	00 13 46.6	+7.5
GTA					AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8							
GTA					AMB	AMB		
	comp=Z,124nm,4.9s							
GTA					LR	LR		
	comp=N,85nm,15.2s,MS3.9							
GTA					LR	LR		
	comp=E,98nm,17.1s,MS3.9							
GTA					LR	LR		
	comp=Z,121nm,11.0s							
CD2	**Chengdu**	**41.32**	**267**	*e*P		**P**	**00 07 48.8**	**+0.6**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7							
CD2					AMB	AMB		
	comp=Z,30nm,4.5s							
GYA	**Guiyang**	**42.02**	**259**	P		**P**	**00 07 54.1**	**+0.1**
GYA					AP	pP	00 07 58.6	+3.8
GYA					XP	sP	00 08 01.9	+6.9
GYA					PP	PP	00 09 36.0	+4.9
GYA					PCP	PcP	00 09 51.8	+2.7
GYA					S	**S**	**00 14 14.0**	**+0.3**
GYA					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8							
GYA					AMB	AMB		
	comp=Z,110nm,5.4s							
GYA					LR	LR		
	comp=N,240nm,15.8s,MS4.3							
GYA					LR	LR		
	comp=E,270nm,16.0s,MS4.3							
GYA					LR	LR		
	comp=Z,380nm,16.2s,MS4.4							
INK	**Inuvik**	**42.16**	**32**	P		**P**	**00 07 53.9**	**-1.2**
	comp=Z,2.4nm,0.8s,mb3.9,baz=294,slow=11,SNR=8.6							
INK	**Inuvik**	**42.16**	**32**	P		**P**	**00 07 53.9**	**-1.2**
INK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
ZAL	**Zalesovo**	**43.57**	**307**	P		**P**	**00 08 05.9**	**-0.7**
	comp=Z,0.7nm,0.3s,mb3.8,baz=23,slow=2.3,SNR=3.9							
ZAL					LR	LR	00 27 54.3	
	comp=Z,140nm,19.3s,MS3.9,baz=28,slow=38							
ZAL	**Zalesovo**	**43.57**	**307**	P		**P**	**00 08 05.9**	**-0.7**
ZAL					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ZAL					MLR	MLR		
	comp=Z,141nm,19.3s							
KMI	**Kunming**	**45.59**	**261**	P		**P**	**00 08 23.5**	**+0.8**
KMI					AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4							
KMI	**Kunming**	**45.59**	**261**	P		**P**	**00 08 23.5**	**+0.8**
	comp=Z,5.0nm,0.9s,mb4.4							
WMQ	**Urumqi**	**45.73**	**292**⇑	*i*P		**P**	**00 08 24.9**	**+1.1**
WMQ					AP	pP	00 08 29.4	+4.8
WMQ					XP	sP	00 08 31.9	+7.0
WMQ					PCP	PcP	00 10 02.9	+1.2
WMQ					PP	PP	00 10 12.4	+1.6
WMQ					SCP	ScP	00 13 54.6	-1.0
WMQ					S	**S**	**00 15 06.9**	**-1.0**
WMQ					XS	sS	00 15 14.1	+5.0
WMQ					AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.5							
WMQ					AMB	AMB		
	comp=Z,191nm,5.8s							
WMQ					LR	LR		
	comp=N,38nm,23.2s,MS3.5							
WMQ					LR	LR		
	comp=E,45nm,23.2s,MS3.5							
WMQ					LR	LR		
	comp=Z,41nm,23.1s,MS3.3							
MK31	**Makanchi Array**	**47.81**	**298**	*i*P		**P**	**00 08 39.9**	**-0.2**
MK31					pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6							
MK31	**Makanchi Array**	**47.81**	**298**	*e*P		**P**	**00 08 40.0**	**-0.1**
MKAR	**Makanchi Array**	**47.81**	**298**	P		**P**	**00 08 39.8**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=70,slow=7.1,SNR=32							
MKAR					PcP	PcP	00 10 08.5	-0.5
	comp=Z,0.9nm,0.6s,baz=44,slow=2.1,SNR=3.5							
MKAR					LR	LR	00 29 35.3	
	comp=Z,104nm,18.5s,MS3.8,baz=74,slow=37							
MKAR	**Makanchi Array**	**47.81**	**298**	P		**P**	**00 08 39.8**	**-0.3**
MKAR							00 10 08.5	
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MKAR					MLR	MLR		
	comp=Z,104nm,18.5s							
YKA	**Yellowknife Ar**	**51.36**	**36**	P		**P**	**00 09 06.1**	**-1.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=297,slow=7.8,SNR=4.6							
YKA					PcP	PcP	00 10 20.7	-1.2
	comp=Z,0.3nm,0.5s,baz=305,slow=3.7,SNR=4.9							
YKA	**Yellowknife Ar**	**51.36**	**36**	P		**P**	**00 09 06.1**	**-1.1**
YKA							00 10 20.7	
YKA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**51.36**	**36**	P		**P**	**00 09 06.1**	**-1.1**
YKA					PcP	PcP	00 10 20.8	-1.2
CHKZ	**Chkalovo**	**51.41**	**311**	*e*P		**P**	**00 09 06.3**	**-1.2**
CHKZ					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
CHKZ	**Chkalovo**	**51.41**	**311**	*e*P		**P**	**00 09 06.3**	**-1.2**
	comp=Z,4.1nm,0.5s,mb4.6							
BVA0	**Borovoye Array**	**51.83**	**310**	*i*P		**P**	**00 09 09.5**	**-1.2**
BVA0					pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6							
BVAR	**Borovoye Array**	**51.83**	**310**	P		**P**	**00 09 10.9**	**+0.2**
	baz=46,slow=7.2							
BVAR					LR	LR	00 32 49.4	
	comp=Z,79nm,18.9s,MS3.8,baz=318,slow=38							
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**	**00 09 10.4**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7							
BRVK	**Borovoye**	**51.87**	**310**	*e*P		**P**	**00 09 10.4**	**-0.6**
	comp=Z,13nm,1.4s,mb4.7							
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**	**00 09 15.8**	**-0.6**
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**52.60**	**311**	*e*P		**P**	**00 09 15.8**	**-0.7**
	comp=Z,2.4nm,0.5s,mb4.4							
AAK	**Ala-Archa**	**54.70**	**297**	*ce*P		**P**	**00 09 32.3**	**+0.5**
AAK					pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7							
KSH	**Kashi**	**55.47**	**293**	*e*P		**P**	**00 09 39.6**	**+2.2**
KSH				*e*AP		pP	00 09 44.3	+6.2
KSH				*e*XP		sP	00 09 46.4	+8.0
KSH				*e*PCP		PcP	00 10 39.4	+1.9
KSH				*e*PP		PP	00 11 45.3	+4.1
KSH				*e*SCP		ScP	00 14 36.3	-1.1
KSH				*e*PCS		PcS	00 14 38.0	+0.4
KSH				*e*S		**S**	**00 17 23.3**	**+0.1**
KSH				*e*XS		sS	00 17 30.1	+5.7
KSH				*e*SCS		ScS	00 19 24.1	-3.6
KSH				*e*SS		SS	00 21 08.0	+0.2
KSH				LR		LR		
	comp=Z,441nm,10.2s,MS4.8							
JIRN	**Jiri**	**55.53**	**276**	*e*P		**P**	**00 09 39.2**	**+1.4**
	comp=Z,10nm,0.5s,mb5.1							
GUN	**Gumba**	**55.59**	**276**	*e*P		**P**	**00 09 39.9**	**+1.6**
	comp=Z,13nm,0.7s,mb5.1							
ARU	**Arti**	**56.03**	**318**⇓	*i*P		**P**	**00 09 40.9**	**-0.5**
ARU				*e*			00 11 43.7	
ARU				*e*S		**S**	**00 17 25.6**	**-5.0**
ARU				*e*SS		SS	00 21 05.9	-11
ARU					pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8							
ARU	**Arti**	**56.03**	**318**	*e*P		**P**	**00 09 40.8**	**-0.6**
KKN	**Kakani**	**56.08**	**276**	*e*P		**P**	**00 09 42.8**	**+1.0**
	comp=Z,7.7nm,0.6s,mb4.9							
PKI	**Pulchoki**	**56.13**	**276**	*e*P		**P**	**00 09 42.9**	**+0.8**
DMN	**Daman**	**56.31**	**276**	*e*P		**P**	**00 09 44.3**	**+0.8**
GKN	**Gorkha**	**56.40**	**277**	*e*P		**P**	**00 09 44.9**	**+0.9**
	comp=Z,14nm,0.6s,mb5.1							
KK31	**Karatay Array**	**56.88**	**300**	*i*P		**P**	**00 09 47.9**	**+0.4**
KK31					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
KKAR	**Karatay Array**	**56.88**	**300**	P		**P**	**00 09 47.9**	**+0.4**
KKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
KOLN	**Koldanda**	**57.26**	**278**	*e*P		**P**	**00 09 51.2**	**+1.0**
	comp=Z,12n

SRU San Rafael 66.68 57 *e*P P 00 10 53.0 -0.5
comp=Z,3.1nm,0.9s,mb4.3
WRAB Tennant Creek 67.81 200 *de*P P 00 10 59.4 -1.3
WRAB Tennant Creek 67.81 200 *e*P P 00 10 59.1 -1.6
WB2 Warramunga Arr 67.82 200 *e*P P 00 10 59.0 -1.7
WRA Warramunga Arr 67.82 200 P P 00 10 59.5 -1.2
comp=Z,8.4nm,0.8s,mb4.8,baz=17,slow=6.7,SNR=49
WRA Warramunga Arr 67.82 200 P P 00 10 59.5 -1.2
WRA pmax pmax
comp=Z,8.0nm,0.8s
PV10 Paradox Valley 68.04 57 *e*P P 00 11 02.1 -0.1
VRSR Storozhevoye 68.13 322 *e*P P 00 11 03.0 +0.3
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,1.0s
NB2 NORSAR Subarra 69.25 342 P P 00 11 09.0 -0.7
comp=Z,2.2nm,0.6s,mb4.3,baz=30,slow=6.5
NOA NORSAR Array B 69.25 342 P P 00 11 08.7 -1.0
comp=Z,1.5nm,0.7s,mb4.1,baz=26,slow=6.3,SNR=6.6
NOA NORSAR Array B 69.25 342 P P 00 11 08.7 -1.0
NOA pmax pmax
comp=Z,2.0nm,0.7s
AS31 Alice Springs 71.51 199⇑ *i*P P 00 11 23.6 +0.1
ASAR Alice Springs 71.51 199 P P 00 11 23.8 +0.3
comp=Z,8.4nm,0.7s,mb4.8,baz=15,slow=4.9,SNR=86
ASAR Alice Springs 71.51 199 P P 00 11 23.8 +0.3
ASAR pmax pmax
comp=Z,8.0nm,0.7s
ASPA Alice Springs 71.51 199⇑ *i*P P 00 11 23.6 +0.1
KIV Kislovodsk 71.80 315 *c i*P P 00 11 26.4 +1.2
KIV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KIV Kislovodsk 71.80 315 *e*P P 00 11 26.7 +1.5
comp=Z,12nm,0.8s,mb4.9
ANMO Albuquerque 71.88 58⇑ *e*P P 00 11 25.2 -0.5
ZEI Tsey 72.05 313 *e*P P 00 11 26.8 0.0
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AKASG Malin Array Be 72.59 327 P P 00 11 29.6 -0.4
comp=Z,8.1nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=23
AKASG Malin Array Be 72.59 327 P P 00 11 29.6 -0.4
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 72.59 327 *e*P P 00 11 29.6 -0.4
GNI Garni 73.51 311 LR LR 00 46 39.5
comp=Z,50nm,19.1s,MS3.8,baz=3.8,slow=38
GNI Garni 73.51 311⇓ *e*P P 00 11 37.4 +2.0
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 73.51 311 *e*P P 00 11 37.6 +2.2
comp=Z,12nm,0.9s,mb4.8
SOC Sochi 73.53 316 *e*P P 00 11 35.6 +0.1
SOC *e* 00 14 19.3
SOC *e*S S 00 21 02.4 -3.8
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ANN Anapa 73.69 318 *e*P P 00 11 34.9 -1.6
ANN pmax pmax
comp=Z,22nm,1.2s,mb5.0
KWP Kalwaria 75.86 330 *e*P P 00 11 49.6 +0.5
OJC Ojcow 76.36 332 *e*P P 00 11 51.8 -0.1
STHS Stebnicka Huta 76.56 330 *e*P P 00 11 53.8 +0.8
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 76.56 330 *e*P P 00 11 53.8 +0.8
comp=Z,5.8nm,0.8s,mb4.6
KOLS Kolonicke sedl 76.61 330 *e*P P 00 11 53.6 +0.3
BURAR Bucovina Array 76.63 327⇑ *i*P P 00 11 53.6 +0.2
BURAR Bucovina Array 76.63 327⇑ P P 00 11 53.6 +0.2
NIE Niedzica 76.88 331 *e*P P 00 11 55.5 +0.7
OKC Ostrava-Krasne 77.23 332 *e*P P 00 11 56.6 -0.2
UPC Upice 77.32 334 *e*P P 00 11 56.3 -1.0
DPC Dobruska-Polom 77.36 334 *e*P P 00 11 58.0 +0.4
MORC Moravsky Berou 77.48 333⇑ *i*P P 00 11 58.7 +0.5
MORC Moravsky Berou 77.48 333⇑ P P 00 11 58.7 +0.5
LTX Lajitas 77.50 61 *e*P P 00 11 58.0 -0.3
TXAR Lajitas Array 77.50 61 P P 00 11 57.6 -0.7
comp=Z,2.8nm,0.7s,mb4.3,baz=303,slow=3.9,SNR=30
TXAR Lajitas Array 77.50 61 P P 00 11 57.6 -0.7
TXAR pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 77.50 336⇓ *i*P P 00 11 57.8 -0.6
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.8
CLL Collm 77.50 336⇓ *i*P P 00 11 57.8 -0.6
comp=Z,11nm,0.8s,mb4.8
KECS Kecovo 77.61 330 *e*P P 00 11 59.1 +0.1
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 77.61 330 *e*P P 00 11 59.1 +0.1
comp=Z,2.4nm,0.9s,mb4.1
BRG Berggiesshubel 77.62 335 *i* P P 00 11 58.6 -0.4
comp=Z,2.4nm,1.1s,mb4.0
BRG Berggiesshubel 77.62 335 *i* P P 00 11 58.6 -0.4
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
PVCC Panska Ves 77.74 335 *e*P P 00 11 59.6 -0.1
MLR Muntele Rosu 78.10 325⇑ *i*P P 00 12 03.1 +1.4
MLR Muntele Rosu 78.10 325⇑ P P 00 12 03.1 +1.4
STKA Stephens Creek 78.14 191 P P 00 12 01.9 0.0
comp=Z,1.0nm,0.3s,mb4.2,baz=344,slow=18,SNR=2.8
MALT Malatya 78.14 313⇑ *i*P P 00 12 03.8 +1.9
MALT Malatya 78.14 313⇑ P P 00 12 03.8 +1.9
VYHS Vyhne 78.17 331 *e*P P 00 12 02.5 +0.4
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 78.17 331 *e*P P 00 12 02.5 +0.4
comp=Z,2.8nm,0.9s,mb4.2
VRAC Vranov 78.19 333⇑ *i*P P 00 12 02.7 +0.5
VRAC Vranov 78.19 333⇑ P P 00 12 02.7 +0.5
PRU Pruhonice 78.23 335 *e*P P 00 12 02.5 +0.1
DRGR 78.25 328⇑ *i*P P 00 12 02.8 +0.3
DRGR 78.25 328⇑ P P 00 12 02.8 +0.2
PSZ Piszkesteto 78.30 330⇑ *i*P P 00 12 03.5 +0.7
PSZ Piszkesteto 78.30 330⇑ P P 00 12 03.5 +0.7
VOIR 78.50 326⇑ *i*P P 00 12 04.9 +1.0
VOIR 78.50 326⇑ P P 00 12 04.9 +1.0
NKC Novy Kostel 78.62 336 *e*P P 00 12 04.6 0.0
ZST Bratislava 79.00 332 *e*P P 00 12 05.7 -1.0
KHC Kasperske Hory 79.28 335 *e*P P 00 12 08.5 +0.3
KHC *ex* x 00 12 24.6
BRTR Keskin Array B 79.40 317 P P 00 12 09.6 +0.8
comp=Z,2.5nm,0.9s,mb4.1,baz=29,slow=5.6,SNR=15
BRTR Keskin Array B 79.40 317 P P 00 12 09.6 +0.8
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GRA1 Grafenberg Arr 79.46 336 *e*P P 00 12 09.8 +0.7
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 79.46 336 *e*P P 00 12 09.8 +0.7
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 79.46 336 *e*P P 00 12 09.8 +0.7
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 79.46 336 *e*P P 00 12 09.8 +0.7
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GERES GERESS Array B 79.50 334 P P 00 12 09.5 +0.1
comp=Z,1.5nm,0.7s,mb4.0,baz=32,slow=5.3,SNR=16
GERES GERESS Array B 79.50 334 P P 00 12 09.5 +0.1
GERES pmax pmax
comp=Z,2.0nm,0.7s
BZS Buzias 79.65 328⇑ *i*P P 00 12 10.2 0.0
BZS Buzias 79.65 328⇑ P P 00 12 10.2 0.0
VTS Vitosha 81.61 325⇑ *i*P P 00 12 21.0 +0.3
VTS Vitosha 81.61 325⇑ P P 00 12 21.0 +0.3
CDF Champ du Feu 81.69 338 *e*P P 00 12 20.3 -0.8
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 81.69 338 *e*P P 00 12 20.3 -0.8
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CDF Champ du Feu 81.69 338 *e*P P 00 12 20.3 -0.8
comp=Z,6.2nm,0.9s,mb4.5
GRR Gorron 83.59 343 *e*P P 00 12 29.9 -1.1
ASF Jabal al Asfar 83.67 310 P P 00 12 32.0 +0.5
comp=Z,2.2nm,0.8s,mb4.3,baz=350,slow=8.4,SNR=5.0
ASF LR LR 00 50 05.6
comp=Z,26nm,20.4s,MS3.6,baz=27,slow=36
ASF Jabal al Asfar 83.67 310 P P 00 12 32.0 +0.6
ASF pmax pmax
comp=Z,2.0nm,0.8s
ASF MLR MLR
comp=Z,26nm,20.4s

MMAI Mount Meron Ar 83.80 312 P P 00 12 32.8 +0.7
comp=Z,7.5nm,0.7s,mb4.9,baz=38,slow=7.4,SNR=19
SMF Signal de Mont 84.19 340 *e*P P 00 12 32.9 -1.2
comp=Z,8.4nm,0.5s,mb4.8
SMF Signal de Mont 84.19 340 *e*P P 00 12 32.9 -1.2
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
SMF Signal de Mont 84.19 340 *e*P P 00 12 32.9 -1.2
comp=Z,4.2nm,0.5s,mb4.8
LPG La Plagne 84.52 337 *e*P P 00 12 35.0 -0.8
comp=Z,52nm,1.3s,mb5.2
LPG La Plagne 84.52 337 *e*P P 00 12 35.0 -0.8
LPG pmax pmax
comp=Z,26nm,1.3s,mb5.2
LPG La Plagne 84.52 337 *e*P P 00 12 35.0 -0.8
comp=Z,26nm,1.3s,mb5.2
CAF Calviac 86.24 340 *e*P P 00 12 43.2 -1.1
comp=Z,42nm,1.3s,mb5.2
CAF Calviac 86.24 340 *e*P P 00 12 43.2 -1.1
CAF pmax pmax
comp=Z,21nm,1.3s,mb5.2
CAF Calviac 86.24 340 *e*P P 00 12 43.2 -1.1
comp=Z,21nm,1.3s,mb5.2
RKT Rikitea 94.11 119 *e*LR LR 00 14 02.3
comp=Z,93nm,28.0s
CFAA Coronel Fontan 144.65 81 PKP PKPdf 00 19 35.8 -3.7
comp=Z,0.7nm,0.9s,baz=274,slow=4.3,SNR=8.7
SNAA Sanae 151.81 195 PKPbc PKPbc 00 19 54.2 -3.4
comp=Z,0.8nm,0.6s,baz=206,slow=2.0,SNR=20
SNAA Sanae 151.81 195 *e*PKPdf PKPdf 00 19 54.6 +3.4
SNAA Sanae 151.81 195 PKIKP PKPdf 00 19 54.2 +3.0
SNAA pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 153.24 194 *e*PKPdf PKPdf 00 19 51.9 -1.4
VNA2 *e* 00 19 58.0
VNA2 *e* 00 20 00.2
VNA3 Neumayer Olymp 153.31 192 *e*PKPdf PKPdf 00 19 50.6 -2.8
VNA3 *e* 00 19 57.4
VNA3 *e* 00 19 59.9

NEIC ***25*** *00:07:01.5± 0.9, 1285N× 5783E, h10km, Error ellipse: s-maj=29.8km s-min=21.7km az=142.0*
IDC 25 00:06:59.9± 1.0, 1282N× 5786E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/22, mbtmp3.7/6, MS3.4/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=33.9km s-min=26.9km az=149.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.70**	**237**	P		P	P	00 12 24.7	+2.1
	1.0nm,0.5s,baz=42,slow=19,SNR=5.2								
KMBO				LR		LR	LR	00 20 53.3	
	comp=Z,51nm,18.0s,baz=92,slow=34								
BVAR	**Borovoye Array**	**41.33**	**11**	P		P	P	00 14 46.8	-0.5
	0.3nm,0.5s,baz=182,slow=7.0,SNR=4.2								
ZAL	**Zalesovo**	**46.21**	**22**	P		P	P	00 15 27.9	+1.3
	0.6nm,0.5s,baz=256,slow=11,SNR=3.1								
BOSA	**Boshof**	**51.88**	**217**	LR		LR	LR	00 35 01.4	
	comp=Z,49nm,21.3s,baz=254,slow=32								
TORD	**Torodi Ar. Bea**	**54.63**	**277**	P		P	P	00 16 29.5	-0.8
	0.4nm,0.7s,baz=78,slow=6.9,SNR=3.9								
WRA	**Warramunga Arr**	**81.96**	**113**	P		P	P	00 19 21.8	+0.2
	0.6nm,0.7s,baz=297,slow=4.2,SNR=6.3								
ASAR	**Alice Springs**	**82.66**	**116**	P		P	P	00 19 25.9	+0.7
	0.5nm,0.8s,baz=283,slow=4.5,SNR=4.9								

IDC ***25*** *00:17:41.3± 0.8, 4868N× 15454E, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.9/26, mbtmp4.0/12, ML3.9/1, MS3.4/7, Ms1 3.4/7, ms1mx2.9/41, Error ellipse: s-maj=26.1km s-min=17.5km az=158.0*
NEIC ***25*** *00:17:43.3± 0.5, 4870N× 15448E, h10km, mb4.2/4, Error ellipse: s-maj=16.2km s-min=8.9km az=135.0*
ISCJB ***25*** *00:17:49.0± 0.9, 4869N± 008× 1545E± 0.1, h75km± 8km, mb3.9/15, Error ellipse: s-maj=16.3km s-min=5.7km az=94.0*
MOS ***25*** *00:17:49.8± 1.0, 4868N× 15446E, h85km, mb4.0/9, Error ellipse: s-maj=18.2km s-min=10.2km az=63.8*
ISC 25 00:17:50.5± 0.9, 4871N± 008× 1546E± 01, h74km± 7km, n40, σ1§12/43, mb3.9/15, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.21**	**26**	*e*PN		**Pn**	**Pn**	**00 18 25.1**	**+0.1**
SKR				*e*S		**Sn**	**Sn**	**00 18 51.4**	**-0.1**
SKR				pmax	pmax				
	comp=Z,150nm,0.5s								
SKR				smax					
	comp=N,770nm,0.5s								
SKR				smax					
	comp=E,310nm,0.5s								
SKR				smax					
	comp=Z,250nm,0.5s								
PET	**Petropavlovsk**	**5.03**	**29**	*e*PN		**Pn**	**Pn**	**00 19 06.2**	**+2.8**
PET				*e*S		**Sn**	**Sn**	**00 20 00.1**	**0.0**
PET				pmax	pmax				
	comp=Z,38nm,0.4s								
PET				smax					
	comp=E,173nm,0.7s								
PET	**Petropavlovsk**	**5.03**	**29**	Pn		**Pn**	**Pn**	**00 19 00.9**	**-2.5**
	comp=E,127nm,1.0s								
PET				*e*Sn		**Sn**	**Sn**	**00 19 56.0**	**-4.1**
KUR	**Kuril'sk**	**5.76**	**235**	*e*PN		**Pn**	**Pn**	**00 19 12.4**	**-0.9**
KUR				*i* S		**Sn**	**Sn**	**00 20 18.3**	**+0.4**
KUR				smax					
	comp=N,720nm,0.8s								
KUR				smax					
	comp=E,290nm,0.8s								
YSS	**Yuzh-Sakhalins**	**8.14**	**262**⇑	*e*PN		**Pn**	**Pn**	**00 19 49.0**	**+3.1**
YSS				*e*S		**Sn**	**Sn**	**00 21 18.5**	**+2.2**
YSS				pmax	pmax				
	comp=Z,30nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.14**	**262**	*e*Pn		**Pn**	**Pn**	**00 19 46.7**	**+0.9**
	comp=Z,23nm,0.6s								
ASAJ	**Asahikawa**	**9.46**	**245**	Pn		**Pn**	**Pn**	**00 20 03.7**	**-0.1**
	comp=Z,5.2nm,0.3s,baz=76,slow=16,SNR=22								
ASAJ				LR		LR	LR	00 23 19.5	
	comp=Z,175nm,21.5s,baz=348,slow=36								
KLR	**Kul'dur**	**14.99**	**281**	*e*P		**Pn**	**Pn**	**00 21 22.5**	**+4.4**
MAJO	**Matsushiro**	**17.07**	**231**	*e*P		**Pn**	**Pn**	**00 21 41.7**	**-2.5**
MAJO				pmax	pmax				
	comp=Z,11nm,0.9s								
MAJO	**Matsushiro**	**17.07**	**231**	*e*Pn		**Pn**	**Pn**	**00 21 41.7**	**-2.5**
	comp=Z,11nm,0.9s								
MJAR	**Matsushiro Arr**	**17.07**	**231**	P		**Pn**		**00 21 42.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=35,slow=9.8,SNR=5.8								
KSRS	**Korea Array**	**22.36**	**250**	P		**P**		**00 22 42.4**	**+0.1**
	comp=Z,3.3nm,0.8s,mb3.7,baz=49,slow=9.1,SNR=8.4								
KSRS				LR		LR		00 30 41.7	
	comp=Z,44nm,19.5s,baz=75,slow=35								
TIXI	**Tiksi**	**25.89**	**342**	*e*P		**P**	**P**	**00 23 13.4**	**-1.8**
TIXI				pmax	pmax				
	comp=Z,2.0nm,1.0s,mb3.5								
SONM	**Songino Array**	**31.66**	**287**	LR		LR		00 37 36.4	
	comp=Z,91nm,19.1s,baz=113,slow=38								
INK	**Inuvik**	**39.47**	**34**	P		**P**		**00 25 14.3**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.8,baz=288,slow=3.2,SNR=2.8								
INK	**Inuvik**	**39.47**	**34**	P		**P**		**00 25 14.3**	**+0.9**
INK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ZAL	**Zalesovo**	**42.30**	**304**	LR		LR		00 44 43.3	
	comp=Z,47nm,18.9s,baz=21,slow=38								
MK31	**Makanchi Array**	**46.93**	**296**	*e*P		**P**		**00 26 14.1**	**+0.5**
MKAR	**Makanchi Array**	**46.93**	**296**	P		**P**		**00 26 13.8**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=60,slow=7.4,SNR=13								
MKAR				LR		LR		00 47 17.7	
	comp=Z,51nm,19.3s,baz=9.0,slow=38								
MKAR	**Makanchi Array**	**46.93**	**296**	P		**P**		**00 26 13.8**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR				MLR		MLR			
	comp=Z,51nm,19.3s								
MKAR	**Makanchi Array**	**46.93**	**296**	P		**P**		**00 26 13.8**	**+0.2**
MKAR				LR		LR		00 47 17.7	
CHKZ	**Chkalovo**	**49.93**	**309**	*e*P		**P**		**00 26 35.1**	**-1.5**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
CHKZ	**Chkalovo**	**49.93**	**309**	*e*P		**P**		**00 26 35.1**	**-1.5**
	comp=Z,0.9nm,0.5s,mb4.0								
BVAR	**Borovoye Array**	**50.38**	**309**	P		**P**		**00 26 39.2**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=52,slow=7.9,SNR=5.5								
BVAR				LR		LR		00 48 56.2	
	comp=Z,54nm,19.9s,baz=310,slow=37								

CHTO Chiang Mai 53.53 256⇑ *i*P P 00 27 04.5 +1.1
CHTO pmax pmax
comp=Z,15nm,1.0s,mb5.0
CHTO Chiang Mai 53.53 256⇑ *i*P P 00 27 04.5 +1.1
comp=Z,15nm,1.0s,mb5.0
ARCES ARCESS Array B 56.32 341 P P 00 27 22.8 -0.8
comp=Z,4.3nm,1.1s,mb4.4,baz=45,slow=9.0,SNR=3.2
ARCES ARCESS Array B 56.32 341 P P 00 27 22.8 -0.7
ARCES pmax pmax
comp=Z,4.0nm,1.1s
NVAR Mina Array Bea 60.67 64 P P 00 27 55.1 +1.3
comp=Z,0.6nm,0.6s,mb3.8,baz=292,slow=9.6,SNR=6.0
FINES FINESS Array B 62.68 335 P P 00 28 07.3 0.0
comp=Z,1.7nm,0.9s,mb4.0,baz=38,slow=7.2,SNR=5.8
FINES LR LR 00 57 22.6
comp=Z,66nm,19.3s,baz=62,slow=38
FINES FINESS Array B 62.68 335 P P 00 28 07.3 0.0
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,66nm,19.3s
PDAR Pinedale Array 62.81 55 P P 00 28 09.8 +1.6
comp=Z,1.9nm,0.9s,mb4.0,baz=309,slow=2.6,SNR=12
WRAB Tennant Creek 70.68 200 P P 00 28 58.6 +0.4
WRAB pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
WRAB Tennant Creek 70.68 200 P P 00 28 58.6 +0.4
comp=Z,3.0nm,0.8s,mb4.2
ASAR Alice Springs 74.39 200 P P 00 29 19.9 -0.4
comp=Z,0.8nm,0.6s,mb3.6,baz=15,slow=5.7,SNR=12
ASAR Alice Springs 74.39 200 P P 00 29 19.9 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 75.69 62 P P 00 29 27.9 +0.2
comp=Z,1.5nm,0.8s,mb3.8,baz=297,slow=4.1,SNR=16
TXAR Lajitas Array 75.69 62 P P 00 29 27.9 +0.2
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 75.69 62 P P 00 29 27.9 +0.2
MMAI Mount Meron Ar 82.24 312 P P 00 30 03.5 0.0
comp=Z,0.7nm,0.6s,mb3.7,baz=46,slow=7.1,SNR=4.1

IDC ***25*** *00:46:23.6± 0.9, 4647N× 15299E, h0km, mb3.8/16, mb1 4.0/17, mb1mx4.0/25, mbtmp3.8/17, ML3.5/1, MS3.7/8, Ms1 3.7/8, ms1mx3.3/31, Error ellipse: s-maj=25.9km s-min=16.6km az=170.0*
NEIC ***25*** *00:46:24.5± 1.1, 4621N× 15292E, h10km, mb4.3/3, Error ellipse: s-maj=29.2km s-min=13.2km az=169.0*
BJI ***25*** *00:46:25.5, 4620N× 15290E, h10km, mB4.0, mb4.2*
ISCJB ***25*** *00:46:27.1± 1.4, 463N± 0.1× 1530E± 0.1, h36km± 10km, mb3.9/19, MS3.7/7, Error ellipse: s-maj=22.6km s-min=8.3km az=119.0*
MOS ***25*** *00:46:27.9± 1.6, 4633N× 15294E, h44km, mb4.2/11, Error ellipse: s-maj=13.6km s-min=10.4km az=92.4*
ISC 25 00:46:30.2± 1.3, 464N± 01× 1530E± 01, h48km± 9km, n57, σ1§13/54, mb3.9/19, MS3.7/7, 4C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**254**	*e*PN		**Pn**	**Pn**	**00 47 22.5**	**-2.8**
KUR				*i* S		**Sn**	**Sn**	**00 48 08.0**	**0.0**
KUR				pmax	pmax				
	comp=Z,200nm,0.6s								
KUR				smax					
	comp=N,430nm,0.7s								
KUR				smax					
	comp=E,430nm,0.7s								
SKR	**Severo-Kuril's**	**4.79**	**25**	*e*PN		**Pn**	**Pn**	**00 47 39.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.04**	**278**	*e*PN		**Pn**	**Pn**	**00 48 14.5**	**+3.9**
PET	**Petropavlovsk**	**7.60**	**27**	*e*PN		**Pn**	**Pn**	**00 48 20.3**	**+2.0**
PET				pmax	pmax				
	comp=Z,39nm,1.0s								
PET	**Petropavlovsk**	**7.60**	**27**	*e*P		**Pn**	**Pn**	**00 48 20.2**	**+1.9**
	comp=Z,39nm,1.0s								
ASAJ	**Asahikawa**	**7.65**	**256**	Pn		**Pn**	**Pn**	**00 48 18.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=121,slow=19,SNR=2.0								
ASAJ				LR		LR	LR	00 51 18.9	
	comp=Z,175nm,18.4s,baz=347,slow=38								
KSRS	**Korea Array**	**20.58**	**253**	P		**P**		**00 51 06.5**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=63,slow=11,SNR=3.8								
JNU	**Nakatsue**	**21.44**	**240**	LR		LR		00 59 50.9	
	comp=Z,124nm,18.6s,MS3.3,baz=85,slow=38								
SONM	**Songino Array**	**31.35**	**290**	P		**P**		**00 52 45.8**	**-0.2**
	comp=Z,0.2nm,0.8s,mb3.0,baz=57,slow=8.2,SNR=2.3								
SONM				LR		LR		01 06 17.9	
	comp=Z,67nm,20.4s,MS3.3,baz=158,slow=38								
LZH	**Lanzhou**	**37.78**	**272**	*e*P		**P**		**00 53 43.5**	**+1.8**
LZH				AP		pP		00 53 49.1	-5.3
LZH				XP		sP		00 53 52.0	-8.1
LZH				AMB		AMB			
	comp=Z,16nm,1.2s,mb4.6								
LZH	**Lanzhou**	**37.78**	**272**	*e*P		**P**		**00 53 43.5**	**+1.8**
	comp=Z,16nm,1.2s,mb4.6								
LZH				pP		pP		00 53 49.1	-5.3
LZH				sP		sP		00 53 52.0	-8.1
GTA	**Gaotai**	**38.91**	**279**	*e*P		**P**		**00 53 52.8**	**+1.6**
GTA				AP		pP		00 53 58.8	-5.1
GTA				XP		sP		00 54 01.5	-8.1
GTA				AMB		AMB			
	comp=Z,3.0nm,1.0s,mb4.0								
INK	**Inuvik**	**42.02**	**32**	P		**P**		**00 54 16.4**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.7,baz=295,slow=4.6,SNR=6.7								
INK	**Inuvik**	**42.02**	**32**	P		**P**		**00 54 16.5**	**-0.3**
INK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ZAL	**Zalesovo**	**42.74**	**306**	LR		LR		01 14 12.7	
	comp=Z,198nm,18.6s,MS4.0,baz=43,slow=39								
MKAR	**Makanchi Array**	**47.01**	**298**	P		**P**		**00 54 55.5**	**-1.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=59,slow=7.6,SNR=7.2								
MKAR				LR		LR		01 15 54.0	
	comp=Z,140nm,18.3s,MS4.0,baz=38,slow=38								
MKAR	**Makanchi Array**	**47.01**	**298**	P		**P**		**00 54 55.5**	**-1.1**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MKAR				MLR		MLR			
	comp=Z,140nm,18.3s								
CHKZ	**Chkalovo**	**50.58**	**310**	*e*P		**P**		**00 55 22.1**	**-1.9**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
CHKZ	**Chkalovo**	**50.58**	**310**	*e*P		**P**		**00 55 22.1**	**-1.9**
	comp=Z,2.5nm,0.7s,mb4.2								
BVAR	**Borovoye Array**	**51.00**	**310**	P		**P**		**00 55 25.7**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=56,slow=7.3,SNR=3.8								
BRVK	**Borovoye**	**51.04**	**310**	*e*P		**P**		**00 55 25.6**	**-1.9**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
BRVK	**Borovoye**	**51.04**	**310**	*e*P		**P**		**00 55 25.6**	**-1.9**
	comp=Z,1.2nm,0.5s,mb4.1								
YKA	**Yellowknife Ar**	**51.28**	**36**	P		**P**		**00 55 28.7**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=7.1,SNR=2.7								
YKA	**Yellowknife Ar**	**51.28**	**36**	P		**P**		**00 55 28.7**	**-0.6**
ARCES	**ARCESS Array B**	**58.16**	**341**	P		**P**		**00 56 18.4**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.2,baz=36,slow=10,SNR=5.0								
ARCES	**ARCESS Array B**	**58.16**	**341**	P		**P**		**00 56 18.5**	**-0.6**
ARCES				pmax	pmax				
	comp=Z,2.0nm,1.0s								
NVAR	**Mina Array Bea**	**62.70**	**62**	P		**P**		**00 56 49.6**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.2,baz=278,slow=7.6,SNR=5.0								
FINES	**FINESS Array B**	**64.32**	**335**	P		**P**		**00 56 59.9**	**-0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=44,slow=7.5,SNR=13								
FINES	**FINESS Array B**	**64.32**	**335**	P		**P**		**00 56 59.9**	**-0.8**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**65.05**	**54**	P		**P**		**00 57 05.0**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=300,slow=2.9,SNR=7.3								
NB2	**NORSAR Subarra**	**68.53**	**341**	P		**P**		**00 57 27.7**	**0.0**
	comp=Z,11nm,1.2s,mb4.7,baz=31,slow=6.5								
NOA	**NORS

BURAR	**Bucovina Array**	**75.83**	**327**	⇓*i*P		**P**	**00 58 12.0**	**+0.8**
MORC	**Moravsky Berou**	**76.71**	**332**	⇓*i*P		**P**	**00 58 16.4**	**+0.2**
MORC	**Moravsky Berou**	**76.71**	**332**	⇓P		**P**	**00 58 16.4**	**+0.2**
MLR	**Muntele Rosu**	**77.30**	**325**	⇓*i*P		**P**	**00 58 21.0**	**+1.5**
MLR	**Muntele Rosu**	**77.30**	**325**	⇓P		**P**	**00 58 20.9**	**+1.4**
MALT	**Malatya**	**77.31**	**313**	⇓*i*P		**P**	**00 58 22.2**	**+2.6**
MALT	**Malatya**	**77.31**	**313**	⇓P		**P**	**00 58 22.2**	**+2.5**
TXAR	**Lajitas Array**	**77.77**	**60**	P		**P**	**00 58 21.9**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=300,slow=4.7,SNR=14							
TXAR	**Lajitas Array**	**77.77**	**60**	P		**P**	**00 58 21.9**	**-0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KHC	**Kasperske Hory**	**78.51**	**334**	*e*P		**P**	**00 58 27.5**	**+1.2**
BRTR	**Keskin Array B**	**78.57**	**317**	P		**P**	**00 58 27.1**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=33,slow=5.2,SNR=4.1							
BRTR	**Keskin Array B**	**78.57**	**317**	P		**P**	**00 58 27.1**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**78.73**	**334**	P		**P**	**00 58 27.8**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=52,slow=6.9,SNR=4.2							
GERES				LR	LR		01 37 05.6	
	comp=Z,67nm,19.0s,MS4.0,baz=293,slow=39							
GERES	**GERESS Array B**	**78.73**	**334**	P		**P**	**00 58 27.8**	**+0.3**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES				MLR	MLR			
	comp=Z,67nm,19.0s							
BZS	**Buzias**	**78.86**	**328**	⇑*i*P		**P**	**00 58 27.7**	**-0.5**
BZS	**Buzias**	**78.86**	**328**	⇑P		**P**	**00 58 27.7**	**-0.5**
VTS	**Vitosha**	**80.80**	**325**	⇑*i*P		**P**	**00 58 39.8**	**+1.1**
VTS	**Vitosha**	**80.80**	**325**	⇑P		**P**	**00 58 39.8**	**+1.1**
KEST	**Kesra**	**91.93**	**331**	LR		LR	01 44 33.8	
	comp=Z,30nm,18.6s,MS3.8,baz=317,slow=38							
CFAA	**Coronel Fontan**	**145.17**	**80**	PKPbc		PKPbc	01 06 03.2	+1.2
	comp=Z,0.1nm,0.4s,baz=239,slow=6.2,SNR=3.7							

*IDC **25** 00:53:20.1±1.7,234N×9584E,h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=57.4km s-min=19.5km az=52.0*

*BJI **25** 00:53:23.7, 240N×9590E, h30km, mB5.0, mb4.4*

*NEIC **25** 00:53:24.8±0.8, 240N×9592E, h30km, mb4.3/2, Error ellipse: s-maj=18.4km s-min=10.3km az=215.0*

*ISCJB **25** 00:53:27.0±3.7, 25N±02×961E±02, h62km±29km, mb4.2/11, Error ellipse: s-maj=38.4km s-min=14.7km az=91.4*

ISC 25 00:53:29.5±3.6, 25N±02×961E±02, h64km±29km, n17, σ0§79/18, mb4.2/11, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.80**	**84**	Pn	**Pn**	**00 54 11.2**	**-0.6**
	2.1nm,0.3s,baz=294,slow=6.6,SNR=22						
PSI				Sn	**Sn**	**00 54 45.8**	**+1.3**
	2.4nm,0.3s,baz=324,slow=4.2,SNR=4.9						
PSI				LR	LR	00 55 33.9	
	comp=Z,158nm,19.0s,baz=177,slow=43						
KULM	**Kulim**	**5.29**	**58**	⇑*e*Pn	**Pn**	**00 54 44.7**	**-1.2**
PKI	**Pulchoki**	**26.96**	**339**	*e*P	**P**	**00 59 07.0**	**+1.9**
GUN	**Gumba**	**27.11**	**340**	*e*P	**P**	**00 59 07.0**	**+0.7**
	19nm,0.7s,mb4.7						
KKN	**Kakani**	**27.21**	**339**	*e*P	**P**	**00 59 07.5**	**+0.2**
LSA	**Lhasa**	**27.47**	**351**	P	**P**	**00 59 10.0**	**+0.4**
GKN	**Gorkha**	**27.64**	**338**	*e*P	**P**	**00 59 11.4**	**+0.3**
KOLN	**Koldanda**	**27.84**	**336**	*e*P	**P**	**00 59 13.7**	**+0.8**
	8.0nm,0.7s,mb4.4						
GTA	**Gaotai**	**36.89**	**5**	*e*P	**P**	**01 00 31.5**	**-0.4**
GTA				AP	pP	01 00 38.3	-9.4
GTA				XP	sP	01 00 41.3	-14
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**43.62**	**123**	P	**P**	**01 01 27.9**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.6,baz=301,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**45.02**	**127**	P	**P**	**01 01 38.6**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=297,slow=8.2,SNR=3.5						
ASAR				LR	LR	01 23 57.4	
	comp=Z,59nm,18.9s,baz=172,slow=41						
MKAR	**Makanchi Array**	**45.74**	**347**	P	**P**	**01 01 43.9**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.3,baz=164,slow=8.4,SNR=23						
SONM	**Songino Array**	**46.02**	**10**	P	**P**	**01 01 46.2**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=191,slow=8.9,SNR=16						
SONM				PcP	PcP	01 03 22.1	-0.1
	comp=Z,0.7nm,0.7s,baz=200,slow=3.9,SNR=4.4						
ZAL	**Zalesovo**	**52.12**	**352**	P	**P**	**01 02 33.3**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=316,slow=8.9,SNR=8.9						
BVAR	**Borovoye Array**	**54.69**	**341**	P	**P**	**01 02 51.2**	**-0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=132,slow=8.8,SNR=7.1						
CHKZ	**Chkalovo**	**55.17**	**342**	*e*P	**P**	**01 02 54.6**	**-0.9**
	comp=Z,2.4nm,0.8s,mb4.3						
TIXI	**Tiksi**	**72.11**	**10**	P	**P**	**01 04 46.3**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.4						

*ISCJB **25** 01:11:47.8±1.7, 151S±03×1782W±02, h361km±22km, mb3.5/5, Error ellipse: s-maj=52.2km s-min=22.5km az=153.4*

*NEIC **25** 01:11:48.5±1.4, 150S×178.15W, h356km±18km, mb3.9/2, Error ellipse: s-maj=37.1km s-min=17.1km az=167.0*

*IDC **25** 01:11:50.1±2.1, 1595S×17779W, h384km±32km, mb3.3/3, mb1 3.7/4, mb1mx3.2/15, mbtmp3.4/4, Error ellipse: s-maj=248.4km s-min=23.3km az=159.0*

ISC 25 01:11:49.3±1.7, 152S±03×1781W±02, h360km±23km, n10, σ0§74/11, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.25**	**79**	P	**Pn**	**01 13 22.8**	**-0.4**
	17nm,0.3s,baz=67,slow=6.3,SNR=16						
WRAB	**Tennant Creek**	**45.47**	**257**	*e*P	**P**	**01 19 33.5**	**-0.4**
	1.2nm,0.4s,mb3.4						
WRA	**Warramunga Arr**	**45.48**	**257**	P	**P**	**01 19 33.7**	**-0.2**
	0.4nm,0.5s,mb2.8,baz=93,slow=7.7,SNR=15						
AS31	**Alice Springs**	**45.88**	**252**	*e*P	**P**	**01 19 37.5**	**+0.6**
ASAR	**Alice Springs**	**45.88**	**252**	P	**P**	**01 19 37.1**	**+0.1**
	8.4nm,0.5s,mb4.1,baz=84,slow=8.5,SNR=55						
ASAR				S	**S**	**01 25 50.6**	**-2.7**
	0.4nm,0.8s,baz=85,slow=15,SNR=5.1						
ASPA	**Alice Springs**	**45.88**	**252**	*e*P	**P**	**01 19 37.7**	**+0.7**
KSM	**Kuching**	**72.65**	**276**	P	**P**	**01 22 37.4**	**-1.0**
QSPA	**South Pole Qui**	**74.89**	**180**	*e*P	**P**	**01 22 51.4**	**+0.1**
	7.3nm,1.2s,mb4.3						
KULM	**Kulim**	**82.96**	**277**	*e*P	**P**	**01 23 35.9**	**+1.2**
TXAR	**Lajitas Array**	**84.28**	**58**	P	**P**	**01 23 41.4**	**+0.1**
	0.1nm,0.4s,mb3.0,baz=222,slow=7.7,SNR=4.6						

*MOS **25** 01:29:51.2±1.6, 5623N×16244E, h25km, mb4.3/1, Error ellipse: s-maj=30.2km s-min=13.9km az=70.8*

KRSC 25 01:29:52.5±0.5, 5621N×16220E, h24km±24km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.35**	**90**	*i*P	Pb	01 29 58.8	-1.3
KBTR	**Krutoberegovo**	**0.35**	**90**	*i*P	Pb	01 29 58.8	-1.3
BDR	**Baidarnaya**	**0.66**	**303**	*i*P	Pb	01 30 05.3	0.0
BDR				*i*S	Sb	01 30 14.1	0.0
BDR	**Baidarnaya**	**0.66**	**303**	*i*P	Pb	01 30 05.3	0.0
BDR				*i*S	Sb	01 30 14.1	0.0
SRKR	**Sorokina**	**0.73**	**308**	*i*P	Pb	01 30 06.2	-0.3
SRKR				*i*S	Sb	01 30 15.6	-0.4
SRKR	**Sorokina**	**0.73**	**308**	*i*P	Pb	01 30 06.2	-0.3
SRKR				*i*S	Sb	01 30 15.6	-0.4
ZLN	**Zelenaya**	**0.81**	**257**	*i*P	Pb	01 30 08.3	+0.5
ZLN				*e*S	Sb	01 30 19.1	+0.8
ZLN	**Zelenaya**	**0.81**	**257**	*i*P	Pb	01 30 08.3	+0.5
ZLN				*e*S	Sb	01 30 19.1	+0.8
KLY	**Klyuchi**	**0.87**	**277**	*i*P	Pb	01 30 06.8	-2.1
KLY				*i*S	Sb	01 30 17.1	-3.0
KLY	**Klyuchi**	**0.87**	**277**	*i*P	Pb	01 30 06.8	-2.1
KLY				*i*S	Sb	01 30 17.1	-3.0
KRSR	**Krestovskiy**	**0.91**	**271**	*i*P	Pb	01 30 09.4	-0.3
KRSR				*i*S	Sb	01 30 21.0	-0.4
KRSR	**Krestovskiy**	**0.91**	**271**	*i*P	Pb	01 30 09.4	-0.3
KRSR				*i*S	Sb	01 30 21.0	-0.4
KPT	**Kopyto**	**1.14**	**258**	*i*P	Pn	01 30 13.4	+0.5
KPT				*i*S	Sn	01 30 27.8	+0.1
KPT	**Kopyto**	**1.14**	**258**	*i*P	Pn	01 30 13.4	+0.5
KPT				*i*S	Sn	01 30 27.8	+0.1
KMNR	**Kamenistaya**	**1.19**	**248**	*i*P	Pn	01 30 14.9	+1.2
KMNR				*i*S	Sn	01 30 30.6	+1.5
KOZR	**Kozyr**	**1.30**	**265**	PN	Pn	01 30 16.8	+1.7
KOZR				S	Sn	01 30 34.3	+2.6
KOZ	**Kozyrevsk**	**1.31**	**264**	*i*P	Pn	01 30 16.8	+1.5
KOZ				*i*S	Sn	01 30 34.3	+2.3
KOZ	**Kozyrevsk**	**1.31**	**264**	*i*P	Pn	01 30 16.8	+1.5
KOZ				*i*S	Sn	01 30 34.3	+2.3
SRDR	**Sredinnyy**	**1.39**	**275**	*i*P	Pn	01 30 17.9	+1.5
SRDR				*i*S	Sn	01 30 36.2	+2.2
SRDR	**Sredinnyy**	**1.39**	**275**	*i*P	Pn	01 30 17.9	+1.5
SRDR				*i*S	Sn	01 30 36.2	+2.2
TUMR	**Tumrok**	**1.49**	**232**	*i*P	Pn	01 30 19.9	+2.2
TUMR				*i*S	Sn	01 30 39.5	+3.1
TUMR	**Tumrok**	**1.49**	**232**	*i*P	Pn	01 30 19.9	+2.2
TUMR				*i*S	Sn	01 30 39.5	+3.1
MKZ	**Mys Kozlova**	**1.68**	**189**	*e*P	Pn	01 30 19.8	-0.6
MKZ				*i*S	Sn	01 30 39.5	-1.6
MKZ	**Mys Kozlova**	**1.68**	**189**	*e*P	Pn	01 30 19.8	-0.6
MKZ				*i*S	Sn	01 30 39.5	-1.6
SPN	**Mys Shipunski**	**3.37**	**203**	*e*P	Pn	01 30 44.0	+0.5
SPN				*i*S	Sn	01 31 22.8	+0.1
SPN	**Mys Shipunski**	**3.37**	**203**	*e*P	Pn	01 30 44.0	+0.5
SPN				*i*S	Sn	01 31 22.8	+0.1
NLC	**Nalytchevo**	**3.47**	**210**	*e*P	Pn	01 30 46.0	+1.1
NLC				*i*S	Sn	01 31 25.7	+0.5
NLC	**Nalytchevo**	**3.47**	**210**	*e*P	Pn	01 30 46.0	+1.1
NLC				*i*S	Sn	01 31 25.7	+0.5
GNL	**Ganaly**	**3.52**	**226**	*e*P	Pn	01 30 47.9	+2.3
GNL	**Ganaly**	**3.52**	**226**	*e*P	Pn	01 30 47.9	+2.3
AVH	**Avacha**	**3.57**	**216**	*e*P	Pn	01 30 48.9	+2.6
AVH				*e*S	Sn	01 31 30.0	+2.3
AVH	**Avacha**	**3.57**	**216**	*e*P	Pn	01 30 48.9	+2.6
AVH				*e*S	Sn	01 31 30.0	+2.3
PET	**Petropavlovsk**	**3.80**	**214**	*e*PN	Pn	01 30 54.0	+4.5
PET				*e*S	Sn	01 31 37.3	+3.9
PET				smax			
	comp=N,115nm,0.7s						
PET	**Petropavlovsk**	**3.80**	**214**	P	Pn	01 30 52.1	+2.6
PET				*i*S	Sn	01 31 35.1	+1.7
PET	**Petropavlovsk**	**3.80**	**214**	P	Pn	01 30 52.1	+2.6
PET				*i*S	Sn	01 31 35.1	+1.7
RUS	**Russkaya**	**4.36**	**211**	P	Pn	01 30 57.6	+0.4
RUS				*i*S	Sn	01 31 46.5	-0.7
RUS	**Russkaya**	**4.36**	**211**	P	Pn	01 30 57.6	+0.4
RUS				*i*S	Sn	01 31 46.5	-0.7
GRL	**Gorelyy**	**4.39**	**215**	P	Pn	01 31 00.6	+3.0
GRL	**Gorelyy**	**4.39**	**215**	P	Pn	01 31 00.6	+3.0

*IDC **25** 01:46:57.9±0.9, 4785N×15423E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/23, mbtmp3.8/9, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/32, Error ellipse: s-maj=29.3km s-min=22.6km az=114.0*

*NEIC **25** 01:46:59.3±0.8, 4790N×15433E, h10km, mb4.3/3, Error ellipse: s-maj=21.1km s-min=14.7km az=137.0*

*ISCJB **25** 01:47:04.7±1.4, 479N±01×1541E±02, h65km±12km, mb3.6/10, Error ellipse: s-maj=23.9km s-min=8.9km az=85.9*

*MOS **25** 01:47:05.0±0.9, 4793N×15401E, h70km, mb4.0/7, Error ellipse: s-maj=21.6km s-min=14.4km az=66.5*

ISC 25 01:47:06.4±1.3, 479N±01×1541E±02, h68km±11km, n27, σ0§80/27, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.08**	**25**	*e*PN	**Pn**	**01 47 52.0**	**-0.6**
SKR				*e*S	**Sn**	**01 48 28.5**	**+0.3**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax			
	comp=E,220nm,0.3s						
SKR				smax			
	comp=N,110nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.75**	**267**	*e*PN	**Pn**	**01 48 56.5**	**0.0**
YSS				pmax	pmax		
	comp=Z,13nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.75**	**267**	*e*Pn	**Pn**	**01 48 56.5**	**-0.1**
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**8.86**	**249**	Pn	**Pn**	**01 49 12.6**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=107,slow=21,SNR=3.9						
ASAJ				LR	LR	01 52 06.1	
	comp=Z,83nm,19.9s,baz=40,slow=35						
MJAR	**Matsushiro Arr**	**16.32**	**232**	Pn	**Pn**	**01 50 50.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=19,slow=12,SNR=4.2						
MJAR	**Matsushiro Arr**	**16.32**	**232**	P	**Pn**	**01 50 50.3**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.80**	**251**	P	**P**	**01 51 53.3**	**+0.6**
	comp=Z,2.2nm,0.6s,mb3.7,baz=62,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**31.60**	**288**	LR	LR	02 05 13.8	
	comp=Z,29nm,20.2s,baz=104,slow=35						
INK	**Inuvik**	**40.31**	**33**	*e*P	**P**	**01 54 36.3**	**-0.8**
INK				pmax	pmax		
	comp=Z,21nm,0.5s						
INK	**Inuvik**	**40.31**	**33**	*e*P	**P**	**01 54 36.3**	**-0.8**
	comp=Z,21nm,0.5s						
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**01 55 31.5**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=74,slow=8.0,SNR=6.4						
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**01 55 31.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**50.20**	**310**	*e*P	**P**	**01 55 54.2**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**50.20**	**310**	*e*P	**P**	**01 55 54.2**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1						
BRVK	**Borovoye**	**50.68**	**309**	*e*P	**P**	**01 55 57.9**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**50.68**	**309**	*e*P	**P**	**01 55 57.9**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**01 57 27.4**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=44,slow=8.5,SNR=6.3						
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**01 57 27.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**01 57 27.4**	**-0.5**
NOA	**NORSAR Array B**	**67.35**	**341**	P	**P**	**01 57 54.9**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.4,baz=33,slow=4.2,SNR=3.0						
NOA	**NORSAR Array B**	**67.35**	**341**	P	**P**	**01 57 54.9**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.83**	**200**	P	**P**	**01 58 08.9**	**-0.9**
	comp=Z,0.7nm,0.9s,mb3.5,baz=11,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**69.83**	**200**	P	**P**	**01 58 08.9**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**73.52**	**199**	P	**P**	**01 58 32.2**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=12,slow=5.5,SNR=9.4						
ASAR	**Alice Springs**	**73.52**	**199**	P	**P**	**01 58 32.2**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.34**	**61**	P	**P**	**01 58 49.3**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=300,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**77.70**	**334**	P	**P**	**01 58 57.1**	**+1.3**
	comp=Z,0.1nm,0.3s,mb3.0,baz=42,slow=4.2,SNR=4.5						

*ISCJB **25** 02:04:43.3±1.0, 452N±02×1526E±02, h10km, mb3.9/11, MS3.1/1, Error ellipse: s-maj=27.4km s-min=19.3km az=171.9*

*IDC **25** 02:04:43.1±1.2, 4517N×15250E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=33.6km s-min=27.0km az=175.0*

*NEIC **25** 02:04:45.0±1.1, 4517N×15265E, h10km, mb4.2/2, Error ellipse: s-maj=29.8km s-min=21.3km az=175.0*

ISC 25 02:04:44.8±1.0, 452N±02×1527E±02, h10km, n13, σ1§26/12, mb3.9/11, MS3.1/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.59**	**292**	LR	LR	02 25 01.7	
	comp=Z,43nm,18.8s,MS3.1,baz=69,slow=39						
INK	**Inuvik**	**43.17**	**31**	P	**P**	**02 12 46.2**	**+0.6**
	0.6nm,0.5s,mb3.6,baz=326,slow=16,SNR=5.3						
MK31	**Makanchi Array**	**47.40**	**298**	*e*P	**P**	**02 13 20.6**	**+1.4**
MKAR	**Makanchi Array**	**47.40**	**298**	P	**P**	**02 13 19.6**	**+0.4**
	1.0nm,0.7s,mb3.9,baz=63,slow=8.4,SNR=6.0						
CHKZ	**Chkalovo**	**51.21**	**311**	*e*P	**P**	**02 13 47.4**	**-1.0**
	2.8nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**02 13 52.1**	**+0.7**
	1.7nm,0.4s,mb4.3,baz=252,slow=41,SNR=5.1						
YKA	**Yellowknife Ar**	**52.39**	**36**	P	**P**	**02 13 58.2**	**+1.0**
	0.3nm,0.6s,mb3.4,baz=72,slow=37,SNR=3.4						
AAK	**Ala-Archa**	**54.26**	**297**	*e*P	**P**	**02 14 12.9**	**+2.0**
	1.1nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**65.34**	**335**	P	**P**	**02 15 24.9**	**-2.2**
	0.7nm,0.4s,mb4.0,baz=35,slow=7.3,SNR=10						
NOA	**NORSAR Array B**	**69.62**	**341**	P	**P**	**02 15 51.8**	**-2.5**
	1.0nm,0.9s,mb3.8,baz=11,slow=9.7,SNR=2.8						
AKASG	**Malin Array Be**	**72.68**	**326**	P	**P**	**02 16 11.8**	**-1.0**
	1.5nm,0.4s,mb4.3,baz=35,slow=6.4,SNR=8.7						
STKA	**Stephens Creek**	**77.33**	**190**	P	**P**	**02 16 39.0**	**-0.7**
	1.6nm,0.8s,mb4.0,baz=16,slow=2.6,SNR=3.0						
TXAR	**Lajitas Array**	**78.56**	**60**	P	**P**	**02 16 46.9**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=300,slow=4.4,SNR=4.3						

MAN 25 02:47:21.5, 631N×12534E, h25km, mb3.5, ML4.6, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.44**	**240**	⇑*i*P	Pb	02 47 28.6	-2.2
GSPH				*i*S	Sb	02 47 35.9	-1.2
BUKP	**Musuan**	**1.58**	**350**	*e*P	Pn	02 47 48.4	+0.4
CGP	**Cagayan de Oro**	**2.23**	**343**	⇑*i*P	Pn	02 47 56.0	-0.8
CGP				*i*S	Sn	02 48 24.6	+1.1

*INMG **25** 02:52:15.0±0.7, 3730N×1367W, h10km, ML2.6, Error ellipse: s-maj=6.0km s-min=4.3km az=98.0*

*CSEM **25** 02:52:15.5±0.5, 3762N×1333W, h20km, ML3.3/7, Error ellipse: s-maj=8.5km s-min=5.6km az=51.0*

MDD 25 02:52:13.3±2.7, 3751N×1332W, h0km, mb3.7/6, Error ellipse: s-maj=22.8km s-min=18.6km az=74.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.49**	**64**	*e*Pn	Pn	02 53 08.1	-0.8
PMAFR				*e*Sn	Sn	02 53 48.5	-2.4
PMAFR							
	25nm,0.9s						
PTEO	**Sao Teotonio**	**3.65**	**88**	*e*Pn	Pn	02 53 09.5	-1.6
PTEO				*e*Sn	Sn	02 53 50.1	-4.8
PTEO							
	26nm,0.7s						
PTEO	**Sao Teotonio**	**3.65**	**88**	*e*Pn	Pn	02 53 09.5	-1.6
PTEO				*e*Sn	Sn	02 53 50.1	-4.8
	26nm,0.7s						
PBEJ	**Beja**	**4.35**	**82**	*e*Pn	Pn	02 53 19.9	-0.8
PBEJ				*e*Sn	Sn	02 54 07.3	-4.8
PBEJ							
	2.8nm,0.2s						
PBEJ	**Beja**	**4.35**	**82**	*e*Pn	Pn	02 53 19.9	-0.8
PBEJ				*e*Sn	Sn	02 54 07.3	-4.8
	2.8nm,0.2s						
EGRO	**El Granado**	**4.64**	**88**	Pn	Pn	02 53 23.4	-1.2
	0.5nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	02 54 15.0	-4.3
	10nm,0.9s,SNR=7.0						
EGRO	**El Granado**	**4.64**	**88**	Pn	Pn	02 53 23.4	-1.2
	0.5nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	02 54 15.0	-4.2
	10nm,0.9s,SNR=7.0						
PESTR	**Estremoz**	**4.71**	**72**	*e*Pn	Pn	02 53 24.6	-1.1
PESTR				*e*Sn	Sn	02 54 17.0	-4.0
PESTR							
	2.9nm,0.4s						
EBAD	**Badajoz**	**5.13**	**74**	Pn	Pn	02 53 30.3	-1.1
	0.6nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	02 54 26.9	-4.3
	12nm,1.1s,SNR=5.5						
EBAD	**Badajoz**	**5.13**	**74**	Pn	Pn	02 53 30.3	-1.0
	0.6nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	02 54 26.9	-4.3
	12nm,1.1s,SNR=5.5						
PCBR	**Castelo Branco**	**5.13**	**61**	*e*Pn	Pn	02 53 30.5	-0.9
PCBR				*e*Sn	Sn	02 54 27.2	-4.1
PCBR							
	5.1nm,0.6s						
EMIN	**Mina Concepcio**	**5.28**	**85**	Pn	Pn	02 53 32.3	-1.2
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	02 54 29.8	-5.2
	SNR=7.9						
EMIN	**Mina Concepcio**	**5.28**	**85**	Pn	Pn	02 53 32.3	-1.2
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	02 54 29.8	-5.3
	SNR=7.9						
PVIS	**Viseu**	**5.30**	**51**	*e*Pn	Pn	02 53 32.8	-0.9
PVIS				*e*Sn	Sn	02 54 31.4	-4.0
PVRL	**Vila Real**	**5.74**	**47**	*e*Sn	Sn	02 54 41.8	-4.6
EZAM	**Zamans**	**5.84**	**36**	Sn	Sn	02 54 42.1	-6.8
	SNR=4.0						
PCAB	**Cabril**	**5.86**	**43**	*e*Sn	Sn	02 54 44.4	-4.8
ELOB	**Lobios**	**5.95**	**41**	Sn	Sn	02 54 44.8	-6.7
	3.6nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.95**	**41**	Sn	Sn	02 54 44.8	-6.7
	3

KLP	**Kalpa**	**7.53**	**126**	*e*P	**Pn**	**03 12 47.1**	**+1.6**
KLP				*e*S	**Sn**	**03 14 07.7**	**-1.8**
KLP				AML	AML	03 14 14.5	
	comp=E,102nm,0.6s						
KLP				AML	AML	03 14 15.4	
	comp=N,130nm,0.4s						
KHET	**Khetri**	**9.03**	**153**	*e*P	**Pn**	**03 13 02.6**	**-2.9**
KHET				*e*S	**Sn**	**03 14 38.7**	**-6.8**
KHET				AML	AML	03 14 43.1	
	comp=E,22nm,0.2s						
KHET				AML	AML	03 14 43.2	
	comp=N,19nm,0.2s						
NDI	**New Delhi**	**9.09**	**144**	*e*S	**Sn**	**03 14 42.0**	**-5.2**
KUDL	**Kundal**	**9.23**	**149**	*e*P	**Pn**	**03 13 05.6**	**-2.7**
KUDL				*e*S	**Sn**	**03 14 42.6**	**-8.0**
KUDL				AML	AML	03 14 46.8	
	comp=E,24nm,0.3s						
KUDL				AML	AML	03 14 49.0	
	comp=N,15nm,0.3s						
SONA	**Sohna**	**9.40**	**146**	*e*S	**Sn**	**03 14 47.1**	**-7.4**
SONA				AML	AML	03 14 54.4	
	comp=E,35nm,0.4s						
SONA				AML	AML	03 14 55.6	
	comp=N,18nm,0.3s						
KOLN	**Koldanda**	**13.50**	**125**	*e*P	**Pn**	**03 14 03.7**	**-0.5**
	comp=N,4.1nm,0.3s						
GKN	**Gorkha**	**14.05**	**122**	*e*P	**Pn**	**03 14 11.6**	**+0.4**
	comp=N,12nm,0.4s						
DMN	**Daman**	**14.62**	**122**	*e*P	**Pn**	**03 14 18.6**	**+0.3**
	comp=N,6.4nm,0.3s						
KKN	**Kakani**	**14.63**	**121**	*e*P	**Pn**	**03 14 18.5**	**+0.1**
PKI	**Pulchoki**	**14.86**	**121**	*e*P	**Pn**	**03 14 22.1**	**+0.9**
	comp=N,4.3nm,0.3s						
GUN	**Gumba**	**14.98**	**119**	*e*P	**Pn**	**03 14 23.4**	**+0.7**
JIRN	**Jiri**	**15.35**	**120**	*e*P	**Pn**	**03 14 28.4**	**+1.1**

*IDC **25** 04:10:22.5±0.8, 46.75N×153.78E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.0/28, mbtmp4.0/17, ML3.7/2, Error ellipse: s-maj=23.6km s-min=19.2km az=115.0*
*NEIC **25** 04:10:23.9±0.6, 46.71N×153.66E, h10km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=11.7km az=126.0*
*ISCJB **25** 04:10:24.6±3.4, 46.6N±0.1×153.6E±0.2, h26km±23km, mb4.0/17, Error ellipse: s-maj=22.0km s-min=12.5km az=82.8*
*MOS **25** 04:10:26.6±1.3, 46.69N×153.52E, h41km, mb4.3/14, Error ellipse: s-maj=20.1km s-min=12.4km az=83.8*
ISC 25 04:10:28.1±1.5, 46.7N±01×153.6E±02, h39km±13km, n44, σ1§08/44, mb4.0/17, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.34**	**21**	*e*PN	**Pn**	**04 11 32.5**	**+1.0**
ASAJ	**Asahikawa**	**8.18**	**256**	Pn	**Pn**	**04 12 24.9**	**+0.7**
	1.1nm,0.3s,baz=116,slow=16,SNR=2.5						
ASAJ	**Asahikawa**	**8.18**	**256**	PN	**Pn**	**04 12 24.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.32**	**234**	Pn	**Pn**	**04 13 59.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=33,slow=6.8,SNR=5.1						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**04 18 10.1**	**-1.5**
	comp=Z,1.6nm,1.0s,mb3.6,baz=276,slow=8.9,SNR=4.4						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**04 18 10.1**	**-1.5**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**04 18 57.3**	**-0.3**
	comp=Z,1.3nm,0.7s,mb3.9,baz=64,slow=7.9,SNR=10						
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**04 18 57.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P	**P**	**04 19 22.5**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
CHKZ	**Chkalovo**	**50.75**	**310**	*e*P	**P**	**04 19 22.5**	**-1.6**
	comp=Z,3.2nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**54.19**	**297**	*e*P	**P**	**04 19 49.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**54.19**	**297**	*e*P	**P**	**04 19 49.6**	**0.0**
	comp=Z,5.5nm,1.2s,mb4.4						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**04 20 15.5**	**-1.6**
	comp=Z,9.3nm,1.1s,mb4.7,baz=22,slow=6.9,SNR=4.7						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**04 20 15.5**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**04 20 57.6**	**-1.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=38,slow=7.0,SNR=6.6						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**04 20 57.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**64.50**	**54**	P	**P**	**04 21 00.6**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=337,slow=5.9,SNR=3.3						
NB2	**NORSAR Subarra**	**68.42**	**341**	P	**P**	**04 21 25.3**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**04 21 25.4**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.3,baz=27,slow=6.4,SNR=10						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**04 21 25.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**04 21 25.4**	**-0.4**
WRA	**Warramunga Arr**	**68.56**	**200**	P	**P**	**04 21 26.7**	**+0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=14,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**68.56**	**200**	P	**P**	**04 21 26.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**68.65**	**340**	P	**P**	**04 21 26.9**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=65,slow=5.2,SNR=11						
HFS	**Hagfors**	**68.65**	**340**	P	**P**	**04 21 26.9**	**-0.4**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**04 21 46.0**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.1,baz=31,slow=5.7,SNR=6.0						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**04 21 46.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**04 21 46.0**	**-0.6**
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**04 21 50.5**	**+1.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=11,slow=5.8,SNR=9.8						
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**04 21 50.6**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**75.85**	**327**	⇓*i*P	**P**	**04 22 10.4**	**+0.1**
EKA	**Eskdalemuir Ar**	**76.50**	**347**	P	**P**	**04 22 13.7**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=7.6,slow=5.9,SNR=3.4						
EKA	**Eskdalemuir Ar**	**76.50**	**347**	P	**P**	**04 22 13.7**	**-0.2**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MORC	**Moravsky Berou**	**76.67**	**332**	⇓*i*P	**P**	**04 22 16.0**	**+1.1**
CLL	**Collm**	**76.68**	**336**	*i* P	**P**	**04 22 15.7**	**+0.7**
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**04 22 17.5**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=299,slow=4.3,SNR=9.7						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**04 22 17.5**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**77.33**	**325**	P	**P**	**04 22 20.4**	**+1.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=112,slow=7.6,SNR=4.4						
MLR	**Muntele Rosu**	**77.33**	**325**	⇓*i*P	**P**	**04 22 20.2**	**+1.6**
MLR	**Muntele Rosu**	**77.33**	**325**	P	**P**	**04 22 20.4**	**+1.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**78.68**	**334**	P	**P**	**04 22 26.9**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.3,baz=46,slow=5.8,SNR=3.9						
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**04 22 28.0**	**+1.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=61,slow=2.5,SNR=5.1						
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**04 22 28.0**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VTS	**Vitosha**	**80.84**	**325**	⇑*i*P	**P**	**04 22 39.4**	**+1.6**

*ATH **25** 04:52:40.8, 38.90N×26.29E, h22km±4km, MD3.4/5*
*ISK **25** 04:52:40.8, 38.92N×26.41E, h10km, MD3.4*
*ISCJB **25** 04:52:40.4±0.6, 38.90N±002×262.5E±004, h11km±4km, Error ellipse: s-maj=5.7km s-min=3.0km az=141.0*
*CSEM **25** 04:52:40.4±0.1, 38.91N×26.35E, h10km, MD3.4, Error ellipse: s-maj=2.6km s-min=1.1km az=74.0*
*NEIC **25** 04:52:41.0, 38.97N×26.07E, h28km, MD3.3(ISK), MD3.4(ATH), After ISK.*
*SOF **25** 04:52:44.5, 39.25N×26.27E, h10km, MD2.8*
ISC 25 04:52:41.3±0.5, 38.91N±002×262.9E±004, h13km±3km, n50, σ0§90/66, 2C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.34**	**358**	⇑*i*PB	**Pg**	**04 52 48.5**	**+0.4**
PRK				*e*SB	**Sg**	**04 52 53.3**	**+0.6**
PRK	**Paraskevi**	**0.34**	**358**	*e*Sb	**Sg**	**04 52 53.3**	**+0.6**
URLA	**Izmir**	**0.60**	**156**	*i* P	**Pg**	**04 52 52.7**	**-0.2**
URLA				*i* S	**Sg**	**04 53 00.9**	**+0.1**
BLCB	**Balcova**	**0.79**	**131**	PG	**Pg**	**04 52 55.2**	**-1.3**
BLCB				SG	**Sg**	**04 53 06.1**	**-0.7**
KDAG	**Bornova**	**0.92**	**123**	*i* P	**Pg**	**04 52 58.6**	**-0.4**
KDAG				*i* S	**Sg**	**04 53 10.7**	**-0.2**
EZN	**Ezine**	**0.92**	**2**	PG	**Pg**	**04 52 58.4**	**-0.6**
EZN				SG	**Sg**	**04 53 12.1**	**+1.1**
BOZC	**Bozcaada**	**0.95**	**349**	*i* P	**Pg**	**04 52 59.6**	**-0.1**
BOZC				*i* S	**Sg**	**04 53 12.6**	**+0.5**
CANB	**Canakkale**	**1.26**	**28**	PN	**Pn**	**04 53 04.2**	**-0.4**
CANB				SN	**Sn**	**04 53 21.2**	**-0.3**
CANB	**Canakkale**	**1.26**	**28**	*i* P	**Pn**	**04 53 04.1**	**-0.5**
CANB				*i* S	**Sb**	**04 53 21.2**	**+0.1**
SMG	**Samos**	**1.27**	**160**	*e*PN	**Pn**	**04 53 05.2**	**+0.4**
SMG				*e*SN	**Sn**	**04 53 22.4**	**+0.6**
LIA	**Limnos Island**	**1.31**	**319**	*e*PN	**Pn**	**04 53 06.4**	**+1.1**
BTOK	**Tokmak**	**1.60**	**57**	*i* P	**Pn**	**04 53 09.4**	**+0.2**
BTOK				*i* S	**Sn**	**04 53 28.7**	**-1.1**
BTOK	**Tokmak**	**1.60**	**57**	*i* P	**Pn**	**04 53 09.4**	**+0.1**
EDC	**Edincik**	**1.88**	**40**	PN	**Pn**	**04 53 12.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.91**	**21**	PN	**Pn**	**04 53 13.8**	**+0.3**
SART	**Tekirdag**	**1.91**	**21**	*i* P	**Pn**	**04 53 13.6**	**+0.1**
APE	**Apeiranthos**	**1.93**	**198**	*e*PB	**Pn**	**04 53 14.0**	**+0.1**
APE	**Apeiranthos**	**1.93**	**198**	⇓*i*P	**Pn**	**04 53 13.6**	**-0.3**
APE	**Apeiranthos**	**1.93**	**198**	*e*Pb	**Pn**	**04 53 14.0**	**+0.1**
MRMT	**Marmara Adasi**	**1.97**	**30**	PN	**Pn**	**04 53 14.3**	**-0.1**
MLSB	**Milas**	**1.99**	**143**	*e*PN	**Pn**	**04 53 14.3**	**-0.4**
BODT	**Bodrum**	**2.01**	**156**	*e*PN	**Pn**	**04 53 15.6**	**+0.6**
MFT	**Murefte**	**2.03**	**22**	PN	**Pn**	**04 53 15.5**	**+0.3**
BDRM	**Kayabasi**	**2.05**	**153**	*i* P	**Pg**	**04 53 21.5**	**+0.8**
BDRM				*i* S	**Sg**	**04 53 45.8**	**-1.5**
KCT	**Karacabey**	**2.10**	**49**	*e*PN	**Pn**	**04 53 16.2**	**+0.1**
RDO	**Rodhopi**	**2.31**	**346**	*e*PB	**Pb**	**04 53 20.1**	**-2.7**
YER	**Yerkesik**	**2.37**	**138**	*e*PN	**Pn**	**04 53 20.3**	**+0.4**
DAT	**Datca**	**2.40**	**154**	*e*PN	**Pn**	**04 53 21.3**	**+1.0**
DNZL	**Cakiroluk**	**2.49**	**118**	*i* P	**Pg**	**04 53 34.1**	**+5.2**
DNZL				*i* S	**Sg**	**04 54 07.0**	**+5.8**
GDZ	**Gediz**	**2.49**	**85**	*i* P	**Pb**	**04 53 27.2**	**+1.2**
GDZ				*i* S	**Sg**	**04 54 00.0**	**-1.4**
ULDT	**Uludag**	**2.52**	**60**	*i* P	**Pb**	**04 53 27.3**	**+0.8**
ULDT				*i* S	**Sb**	**04 53 59.3**	**+1.9**
CTT	**Catalca**	**2.78**	**36**	*e*PN	**Pn**	**04 53 25.3**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.83**	**138**	*e*PN	**Pn**	**04 53 26.9**	**+0.7**
IZI	**Iznik**	**2.84**	**59**	*e*PN	**Pn**	**04 53 26.8**	**+0.4**
YLV	**Yalova**	**2.90**	**54**	*e*PN	**Pn**	**04 53 26.5**	**-0.7**
EDRB	**Edirne**	**2.96**	**7**	*e*PN	**Pn**	**04 53 28.4**	**+0.4**
RZN	**Rozhen**	**3.03**	**337**	P	**Pn**	**04 53 29.6**	**+0.7**
RZN				S	**Sn**	**04 54 04.1**	**-1.0**
ADVT	**Abdulvahap**	**3.07**	**59**	*e*PN	**Pn**	**04 53 30.3**	**+0.8**
KLYT	**Kilyos**	**3.15**	**41**	*e*PN	**Pn**	**04 53 31.2**	**+0.5**
FETY	**Fethiye**	**3.17**	**135**	*e*PN	**Pn**	**04 53 31.2**	**+0.3**
MMB	**Musomiste**	**3.32**	**325**	P	**Pn**	**04 53 34.0**	**+1.0**
MMB				S	**Sn**	**04 54 10.4**	**-1.9**
ESKT	**Eskisehir**	**3.59**	**79**	*e*PN	**Pn**	**04 53 36.5**	**-0.3**
ESKT	**Eskisehir**	**3.59**	**79**	*e*P	**Pn**	**04 53 35.2**	**-1.5**
SEYT	**Eskypehyr**	**3.59**	**79**	*e*P	**Pn**	**04 53 35.2**	**-1.6**
KKB	**Krupnik**	**3.84**	**321**	*e*S	**Sn**	**04 54 23.0**	**-2.1**
VTS	**Vitosha**	**4.36**	**329**	*e*S	**Sn**	**04 54 38.0**	**0.0**
VTS	**Vitosha**	**4.36**	**329**	⇓*i*P	**Pn**	**04 53 49.3**	**+2.0**
SZH	**Strazhica**	**4.36**	**357**	*e*S	**Sb**	**04 54 49.7**	**-0.7**
TIRR	**Tirgusor**	**5.77**	**15**	⇓*i*P	**Pn**	**04 54 07.1**	**+0.5**
MLR	**Muntele Rosu**	**6.58**	**358**	⇑*i*P	**Pn**	**04 54 15.9**	**-1.9**

*IDC **25** 05:03:07.6±2.6, 43.95N×128.86W, h0km, mb3.8/4, mb1 4.2/9, mb1mx3.9/25, mbtmp3.9/9, ML3.8/5, MS3.7/12, Ms1 3.6/12, ms1mx3.4/37, Error ellipse: s-maj=37.8km s-min=23.5km az=77.0*
*BJI **25** 05:03:08.6, 44.10N×128.70W, h10km, mB4.9, mb4.5, Ms4.4, Msz4.2*
*ISCJB **25** 05:03:09.3±0.4, 44.01N±002×128.62W±004, h10km, mb4.2/12, MS3.8/9, Error ellipse: s-maj=4.1km s-min=3.2km az=174.8*
*NEIC **25** 05:03:11.6±0.7, 44.11N×128.71W, h10km, mb4.1/16, Error ellipse: s-maj=9.3km s-min=5.4km az=79.0*
ISC 25 05:03:10.3±0.9, 44.00N±002×128.65W±005, h4km±7km, n159, σ1§13/178, mb4.2/12, MS3.8/9, 42C-47D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
K01A	**Sixes**	**3.27**	**110**	⇓S	**Sn**	**05 04 39.8**	**-1.9**
	baz=3.3						
H02A	**Toledo**	**3.40**	**77**	⇓P	**Pn**	**05 04 03.1**	**-1.1**
	baz=3.4,SNR=11						
H02A				⇓S	**Sn**	**05 04 44.4**	**-0.6**
	baz=3.4						
I02A	**Mapleton**	**3.48**	**88**	⇓P	**Pn**	**05 04 03.2**	**-2.0**
	baz=3.5,SNR=11						
I02A				⇓S	**Sn**	**05 04 45.3**	**-1.6**
	baz=3.5						
J02A	**Umpqua**	**3.73**	**98**	⇓P	**Pn**	**05 04 07.2**	**-1.6**
	baz=3.8,SNR=40						
J02A				⇑S	**Sn**	**05 04 52.5**	**-0.7**
	baz=3.8						
I03A	**Eugene**	**3.88**	**89**	P	**Pn**	**05 04 08.7**	**-2.0**
	baz=3.9,SNR=316						
I03A				⇓S	**Sn**	**05 04 55.7**	**-1.0**
	baz=3.9						
COR	**Corvallis**	**3.88**	**79**	*e*Pn	**Pn**	**05 04 10.3**	**-0.4**
H03A	**Soap Creek Ran**	**3.90**	**78**	⇑P	**Pn**	**05 04 09.2**	**-1.9**
	baz=3.9,SNR=80						
H03A				⇑S	**Sn**	**05 04 56.1**	**-1.2**
	baz=3.9						
K02A	**Glendale**	**3.96**	**106**	⇓P	**Pn**	**05 04 09.6**	**-2.2**
	baz=4.0						
K02A				⇑S	**Sn**	**05 04 56.9**	**-1.7**
	baz=4.0						
KMOR	**Kings Mountain**	**4.02**	**64**	P	**Pn**	**05 04 11.5**	**-1.1**
DBO	**Dodson Butte**	**4.03**	**101**	P	**Pn**	**05 04 11.8**	**-1.0**
G03A	**Yamhill**	**4.05**	**69**	⇓P	**Pn**	**05 04 11.8**	**-1.3**
	baz=4.0						
G03A				⇓S	**Sn**	**05 05 00.3**	**-0.7**
	baz=4.0						
L02A	**Cave Junction**	**4.13**	**115**	⇓P	**Pn**	**05 04 12.5**	**-1.7**
	baz=4.2						
J03A	**Ideyld Park**	**4.17**	**97**	⇑P	**Pn**	**05 04 12.9**	**-1.8**
	baz=4.2,SNR=61						
NLO	**Nicolai Mounta**	**4.24**	**59**	P	**Pn**	**05 04 15.6**	**-0.1**
HUMO	**Hull Mountain**	**4.38**	**107**	*e*Pn	**Pn**	**05 04 16.3**	**-1.4**
HUMO	**Hull Mountain**	**4.38**	**107**	⇓P	**Pn**	**05 04 15.9**	**-1.7**
	baz=4.4						
HUMO				⇓S	**Sn**	**05 05 07.3**	**-1.9**
	baz=4.4						
E03A	**Lebam**	**4.40**	**53**	⇑P	**Pn**	**05 04 17.4**	**-0.5**
	baz=4.4						
E03A				⇓S	**Sn**	**05 05 09.4**	**-0.2**
	baz=4.4						
BBOR	**Butler Butte**	**4.49**	**102**	P	**Pn**	**05 04 18.7**	**-0.4**
I04A	**Tendick Farm,**	**4.51**	**90**	⇑P	**Pn**	**05 04 18.2**	**-1.3**
	baz=4.5,SNR=17						
IRO	**Indian Ridge**	**4.61**	**88**	P	**Pn**	**05 04 19.9**	**-1.0**
H04A	**Detroit Lake**	**4.69**	**79**	⇑P	**Pn**	**05 04 20.9**	**-1.0**
	baz=4.7						
H04A				⇑S	**Sn**	**05 05 17.0**	**+0.3**
	baz=4.7						
J04A	**Umpqua Nationa**	**4.81**	**97**	⇑P	**Pn**	**05 04 22.3**	**-1.2**
	baz=4.9						
F04A	**Amboy**	**4.83**	**64**	⇓P	**Pn**	**05 04 23.0**	**-0.7**
	baz=4.8						
F04A				⇑S	**Sn**	**05 05 21.2**	**+1.1**
	baz=4.8						
C03A	**Quillayute Air**	**4.87**	**34**	⇑P	**Pn**	**05 04 23.8**	**-0.5**
	baz=4.8						
C03A				⇑S	**Sn**	**05 05 20.5**	**-0.6**
	baz=4.8						
LVP	**Lakeview Peak**	**4.88**	**63**	P	**Pn**	**05 04 24.8**	**+0.2**
YBH	**Yreka Blue Hor**	**4.92**	**115**	Pn	**Pn**	**05 04 24.8**	**-0.2**
	1.1nm,0.3s,baz=308,slow=11,SNR=39						
YBH				Sn	**Sn**	**05 05 24.4**	**+2.1**
	0.3nm,0.3s,baz=227,slow=23,SNR=2.9						
YBH				LR	LR	05 05 58.5	
	comp=Z,219nm,21.7s,baz=301,slow=34						
YBH	**Yreka Blue Hor**	**4.92**	**115**	*e*Pn	**Pn**	**05 04 24.4**	**-0.6**
	9.9nm,1.0s						
YBH	**Yreka Blue Hor**	**4.92**	**115**	⇓P	**Pn**	**05 04 24.2**	**-0.8**
	baz=5.0						
YBH				⇓S	**Sn**	**05 05 21.8**	**-0.6**
	baz=5.0						
E04A	**Onalaska**	**4.92**	**56**	⇓P	**Pn**	**05 04 25.3**	**+0.2**
	baz=4.9						
VLMM	**Larch Mountain**	**4.95**	**70**	P	**Pn**	**05 04 25.4**	**-0.1**
FL2	**Flat Top 2**	**4.97**	**62**	P	**Pn**	**05 04 26.1**	**+0.4**
ERK	**Elk Rock**	**5.02**	**60**	P	**Pn**	**05 04 26.1**	**-0.3**
OTR	**Olympics--Tyee**	**5.07**	**35**	P	**Pn**	**05 04 26.6**	**-0.5**
N02C	**Big Bar**	**5.07**	**127**	⇑P	**Pn**	**05 04 26.2**	**-0.9**
	baz=5.2						
OBC	**Olympics--Boni**	**5.14**	**37**	P	**Pn**	**05 04 27.1**	**-1.0**
D04A	**Dobbs Creek Ra**	**5.15**	**51**	⇓P	**Pn**	**05 04 28.6**	**+0.4**
	baz=5.1						
LMW	**Ladd Mountain**	**5.22**	**57**	P	**Pn**	**05 04 29.6**	**+0.5**
K04A	**Chilquin**	**5.24**	**103**	⇑P	**Pn**	**05 04 28.7**	**-0.6**
	baz=5.3						
L04A	**Klamath Falls**	**5.27**	**108**	⇓P	**Pn**	**05 04 29.3**	**-0.6**
	baz=5.3						
L04A				⇓S	**Sn**	**05 05 30.8**	**-0.3**
	baz=5.3						
VFP	**Flag Point**	**5.29**	**73**	P	**Pn**	**05 04 30.6**	**+0.4**
I05A	**Bend**	**5.32**	**86**	⇑P	**Pn**	**05 04 30.6**	**+0.1**
	baz=5.3						
H05A	**Madras**	**5.36**	**80**	⇑P	**Pn**	**05 04 30.2**	**-0.9**
	baz=5.4						
H05A				⇑S	**Sn**	**05 05 32.7**	**-0.7**
	baz=5.4						
G05A	**Wamic**	**5.38**	**74**	⇑P	**Pn**	**05 04 31.3**	**-0.1**
	baz=5.4,SNR=20						
G05A				⇓S	**Sn**	**05 05 36.3**	**+2.5**
	baz=5.4						
B04A	**Port Angeles**	**5.41**	**40**	⇑P	**Pn**	**05 04 31.7**	**-0.1**
	baz=5.4						
B04A				⇑S	**Sn**	**05 05 34.4**	**-0.2**
	baz=5.4						
C04A	**Brinnon**	**5.43**	**45**	⇓P	**Pn**	**05 04 31.8**	**-0.3**
	baz=5.4						
C04A				⇓S	**Sn**	**05 05 36.8**	**+1.6**
	baz=5.4						
F05A	**White Salmon**	**5.44**	**67**	⇓P	**Pn**	**05 04 31.9**	**-0.2**
	baz=5.4						
F05A				⇑S	**Sn**	**05 05 37.0**	**+1.7**
	baz=5.4						
E05A	**Randle**	**5.49**	**60**	⇑P	**Pn**	**05 04 32.7**	**-0.2**
	baz=5.5						
E05A				⇑S	**Sn**	**05 05 39.0**	**+2.4**
	baz=5.5						
D05A	**Enumclaw**	**5.66**	**53**	⇑P	**Pn**	**05 04 35.5**	**+0.3**
	baz=5.6						
D05A				⇓S	**Sn**	**05 05 41.6**	**+1.0**
	baz=5.6						
WDC	**Whiskeytown Da**	**5.67**	**125**	*e*Pn	**Pn**	**05 04 36.8**	**+1.4**
	18nm,1.4s						
WDC	**Whiskeytown Da**	**5.67**	**125**	⇓P	**Pn**	**05 04 35.4**	**0.0**
	baz=5.8						
WPW	**White Pass**	**5.69**	**59**	P	**Pn**	**05 04 35.4**	**-0.2**
KIPM	**Iron Peak**	**5.69**	**136**	*e*Pn	**Pn**	**05 04 35.1**	**-0.5**
K05A	**Summer Lake**	**5.79**	**100**	⇓P	**Pn**	**05 04 36.8**	**-0.2**
	baz=5.8,SNR=9.2						
O02C	**Red Bluff**	**5.80**	**129**	⇑P	**Pn**	**05 04 37.1**	**0.0**
	baz=5.9						
G06A	**Carlson Farm,**	**5.85**	**75**	⇓P	**Pn**	**05 04 37.8**	**-0.1**
	baz=5.9						
G06A				⇑S	**Sn**	**05 05 45.7**	**+0.3**
	baz=5.9						
F06A	**Goldendale**	**5.86**	**70**	⇑P	**Pn**	**05 04 37.4**	**-0.6**
	baz=5.9,SNR=5.3						
F06A				⇓S	**Sn**	**05 05 45.9**	**+0.2**
	baz=5.9						
PGC	**Sidney**	**5.88**	**36**	*e*Pn	**Pn**	**05 04 36.7**	**-1.5**
	31nm,0.7s						
E06A	**Yakima**	**5.98**	**62**	⇓P	**Pn**	**05 04 40.3**	**+0.7**
	baz=6.0,SNR=11						
H06A	**Lindquist Farm**	**6.01**	**80**	⇑P	**Pn**	**05 04 39.5**	**-0.5**
	baz=6.0						
P01C	**Double 8 Ranch**	**6.02**	**137**	⇑P	**Pn**	**05 04 39.7**	**-0.5**
	baz=6.1						
L05A	**Lakeview**	**6.05**	**106**	⇑P	**Pn**	**05 04 40.5**	**-0.1**
	baz=6.1,SNR=5.6						
C05A	**Tolt Reservoir**	**6.11**	**50**	⇓P	**Pn**	**05 04 41.6**	**+0.2**
	baz=6.1						
J06A	**Christmas Vall**	**6.21**	**94**	⇓P	**Pn**	**05 04 42.5**	**-0.3**
	baz=

HWUT	**Hardware Ranch**	**12.77**	**95**	*e*Pn		**Pn**	**05 06 17.3**	**+4.6**
	6.2nm,1.0s							
FLWY	**Flagg Ranch**	**12.92**	**83**	*e*Pn		**Pn**	**05 06 19.3**	**+4.6**
	19nm,0.9s							
MOOW	**Moose Ponds**	**12.93**	**85**	*e*Pn		**Pn**	**05 06 19.4**	**+4.6**
	5.3nm,1.0s							
LOHW	**Long Hollow**	**13.04**	**85**	*e*Pn		**Pn**	**05 06 20.9**	**+4.5**
	13nm,1.4s							
ARUT	**Antelope Range**	**13.06**	**113**	*e*Pn		**Pn**	**05 06 20.5**	**+3.8**
GCMT	**Greycliff**	**13.58**	**76**	*e*Pn		**Pn**	**05 06 27.0**	**+3.3**
EDM	**Edmonton**	**13.67**	**42**	*e*Pn		**Pn**	**05 06 25.5**	**+0.6**
EGMT	**Eagleton**	**13.73**	**66**	*e*Pn		**Pn**	**05 06 28.5**	**+2.7**
	18nm,1.1s							
BW06	**Boulder Array**	**13.94**	**88**	*e*Pn		**Pn**	**05 06 31.9**	**+3.3**
PDAR	**Pinedale Array**	**13.94**	**88**	Pn		**Pn**	**05 06 32.1**	**+3.5**
	0.0nm,0.3s,baz=279,slow=10,SNR=7.4							
PDAR				LR		LR	05 12 12.2	
	comp=Z,394nm,18.0s,baz=310,slow=39							
PFO	**Pinyon Flat Ob**	**14.05**	**133**	Pn		**Pn**	**05 06 32.1**	**+1.9**
	0.1nm,0.3s,baz=317,slow=7.7,SNR=4.8							
PFO				LR		LR	05 11 26.5	
	comp=Z,177nm,19.8s,baz=247,slow=35							
SRU	**San Rafael**	**14.42**	**104**	*e*P		**Pn**	**05 06 44.8**	**+10**
	29nm,0.9s							
GLA	**Glamis**	**15.35**	**131**	*e*Pn		**Pn**	**05 06 48.4**	**+0.6**
WUAZ	**Wupatki**	**15.73**	**117**	*e*Pn		**Pn**	**05 06 55.3**	**+2.6**
	15nm,1.0s							
PV10	**Paradox Valley**	**15.78**	**104**	*e*P		**Pn**	**05 06 59.8**	**+6.4**
LAO	**LASA Array**	**15.99**	**72**	*e*Pn		**Pn**	**05 06 57.4**	**+1.3**
	17nm,0.9s							
PV01	**Paradox Valley**	**16.22**	**104**	*e*Pn		**Pn**	**05 07 02.2**	**+3.1**
MVCO	**Mesa Verde**	**16.72**	**107**	*e*Pn		**Pn**	**05 07 07.0**	**+1.6**
	18nm,1.1s							
RSSD	**Black Hills**	**17.68**	**81**	*e*P		**Pn**	**05 07 18.4**	**+0.9**
	5.7nm,0.7s							
TUC	**Tucson**	**18.22**	**124**	*e*P		**Pn**	**05 07 25.9**	**+1.8**
	5.4nm,1.0s							
SDCO	**Great Sand Dun**	**18.56**	**102**	*e*P		**Pn**	**05 07 29.9**	**+1.6**
	11nm,1.2s							
LAZ	**Ladron**	**19.18**	**113**	*e*P		**Pn**	**05 07 37.7**	**+1.9**
ANMO	**Albuquerque**	**19.32**	**110**	Pn		**Pn**	**05 07 38.6**	**+1.1**
	0.1nm,0.3s,baz=312,slow=11,SNR=9.8							
ANMO	**Albuquerque**	**19.32**	**110**	*e*P		**Pn**	**05 07 38.9**	**+1.5**
	5.3nm,1.1s							
LENM	**Lemitar**	**19.43**	**113**	*e*P		**Pn**	**05 07 40.2**	**+1.4**
LPM	**Los Pinos Moun**	**19.57**	**112**	*e*P		**Pn**	**05 07 40.9**	**+0.5**
BNM	**Barren Site**	**19.67**	**113**	*e*P		**Pn**	**05 07 43.0**	**+1.3**
YKA	**Yellowknife Ar**	**20.26**	**19**	P		**P**	**05 07 46.8**	**+0.1**
	1.3nm,0.7s,baz=211,slow=11,SNR=4.1							
YKA	**Yellowknife Ar**	**20.26**	**19**	P		**P**	**05 07 46.8**	**+0.1**
DAWY	**Dawson**	**21.01**	**347**	*e*P		**P**	**05 07 53.7**	**-1.2**
MNTX	**Cornudas Mount**	**22.01**	**116**	*e*P		**P**	**05 08 07.2**	**+1.6**
	4.6nm,1.0s,mb3.9							
AMTX	**Amarillo**	**22.65**	**104**	*e*P		**P**	**05 08 14.6**	**+2.2**
	5.4nm,0.6s,mb4.2							
MCK	**McKinley**	**22.91**	**337**	*e*P		**P**	**05 08 14.6**	**-0.6**
	6.5nm,1.2s,mb3.9							
ULM	**Lac du Bonnet**	**23.03**	**63**	P		**P**	**05 08 17.4**	**+1.0**
	6.0nm,0.9s,mb4.0,baz=269,slow=12,SNR=4.3							
ULM				LR		LR	05 17 15.0	
	comp=Z,169nm,19.2s,MS3.5,baz=72,slow=36							
ULM	**Lac du Bonnet**	**23.03**	**63**	*e*P		**P**	**05 08 17.6**	**+1.2**
	8.9nm,0.9s,mb4.2							
KSU1	**Kansas State U**	**24.38**	**90**	*e*P		**P**	**05 08 33.1**	**+3.6**
	4.4nm,0.6s,mb4.1							
INK	**Inuvik**	**24.50**	**356**	LR		LR	05 17 40.1	
	comp=Z,178nm,20.9s,MS3.5,baz=285,slow=36							
LTX	**Lajitas**	**24.69**	**118**	*e*P		**P**	**05 08 32.9**	**+0.6**
	17nm,1.7s,mb4.3							
TXAR	**Lajitas Array**	**24.69**	**118**	P		**P**	**05 08 32.5**	**+0.1**
	1.1nm,0.8s,mb3.4,baz=298,slow=7.7,SNR=10.0							
TXAR				LR		LR	05 17 45.9	
	comp=Z,64nm,21.3s,MS3.1,baz=190,slow=35							
WMOK	**Wichita Mounta**	**24.76**	**102**	*e*P		**P**	**05 08 34.6**	**+1.6**
	16nm,1.1s,mb4.5							
LPIG	**La Paz**	**24.89**	**137**	LR		LR	05 16 54.5	
	comp=Z,118nm,19.0s,MS3.4,baz=325,slow=33							
SCHQ	**Schefferville**	**40.38**	**52**	LR		LR	05 27 29.0	
	comp=Z,140nm,18.1s,MS3.9,baz=336,slow=36							
SONM	**Songino Array**	**76.53**	**325**	LR		LR	05 47 00.7	
	comp=Z,57nm,21.3s,MS3.9,baz=112,slow=34							
BJI	**Beijing**	**78.00**	**315**	P		**P**	**05 15 01.6**	**-8.3**
HHC	**Hu-ho-hao-te**	**79.69**	**318**	*e*P		**P**	**05 15 17.6**	**-1.6**
HHC				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.7							
HHC				AMB		AMB		
	comp=Z,63nm,5.4s							
LPAZ	**La Paz**	**81.48**	**122**	P		**P**	**05 15 26.3**	**-2.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=333,slow=2.3,SNR=4.1							
LPAZ	**La Paz**	**81.48**	**122**	*e*P		**P**	**05 15 27.7**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.9							
HNR	**Honiara**	**83.43**	**250**	LR		LR	05 44 37.5	
	comp=Z,138nm,21.9s,MS4.3,baz=359,slow=30							
MKAR	**Makanchi Array**	**85.55**	**339**	LR		LR	05 52 21.6	
	comp=Z,45nm,21.5s,MS3.8,baz=360,slow=34							
WMQ	**Urumqi**	**86.74**	**335**	⇓P		**P**	**05 15 54.4**	**-1.2**
WMQ				AP		pP	05 15 59.4	+2.5
WMQ				XP		sP	05 16 01.4	+4.1
WMQ				AMB		AMB		
	comp=Z,2.0nm,0.5s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,62nm,4.4s							
WMQ				LR		LR		
	comp=N,46nm,18.0s							
WMQ				LR		LR		
	comp=Z,34nm,23.2s							
LZH	**Lanzhou**	**87.13**	**320**	*e*P		**P**	**05 15 56.5**	**-1.0**
LZH				AP		pP	05 15 59.8	+1.0
LZH				XP		sP	05 16 01.3	+2.1
LZH				*e*PP		PP	05 19 20.5	-0.5
LZH				AMB		AMB		
	comp=Z,17nm,1.4s,mb5.1							
LZH				AMB		AMB		
	comp=Z,45nm,8.6s							
LZH				LR		LR		
	comp=E,137nm,15.9s							
LZH				LR		LR		
	comp=Z,195nm,18.5s,MS4.5							
LZH	**Lanzhou**	**87.13**	**320**	*e*P		**P**	**05 15 56.5**	**-1.0**
	comp=Z,17nm,1.4s,mb5.1							
LZH				pP		pP	05 15 59.8	+1.0
LZH				sP		sP	05 16 01.2	+2.0
LZH				*e*PP		PP	05 19 20.5	-0.5
LZH				LR		LR		
	comp=Z,200nm,18.5s,MS4.5							

JMA 25 05:08:25.8,4082N×13933E,h19km±1km,M3.6,3C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.56**	**114**	⇓P	Pb	05 08 36.8	-0.2
JIW				S	Sg	05 08 44.4	-0.2
JSI2	**Shiura 2**	**0.85**	**73**	P	Pb	05 08 41.8	-0.2
JSI2				S	Sb	05 08 53.1	+0.1
JOG2	**Oga 2**	**0.97**	**159**	⇑P	Pb	05 08 43.7	-0.3
JOG2				S	Sb	05 08 57.1	+0.6
JSR	**Shiriuchi**	**1.08**	**49**	P	Pb	05 08 45.7	-0.2
JSR				S	Sb	05 08 59.5	-0.2
JAH	**Hinai**	**1.18**	**122**	⇑P	Pn	05 08 47.0	-0.3
JAH				S	Sb	05 09 02.8	+0.4
JOSM	**Okushiri--Mats**	**1.27**	**5**	⇓P	Pn	05 08 47.0	-1.5
JOSM				eS	Sn	05 09 02.1	-2.8
JTM	**Tenmabayashi**	**1.32**	**91**	⇑P	Pn	05 08 48.6	-0.6
JTM				eS	Sn	05 09 05.1	-1.2
JOT	**Ohata**	**1.42**	**66**	P	Pn	05 08 50.4	-0.1
JOT				S	Sn	05 09 08.2	-0.4

IDC ***25*** *05:12:26.9±3.1, 47.32N×155.25E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/25, mbtmp3.9/7, Error ellipse: s-maj=86.9km s-min=29.0km az=3.0*
ISCJB ***25*** *05:12:28.0±1.6, 476N×02.0×1552E±02, h10km, mb4.0/9, Error ellipse: s-maj=33.7km s-min=19.3km az=138.3*
NEIC ***25*** *05:12:28.5±2.2, 47.35N×155.18E, h10km, mb4.4/2, Error ellipse: s-maj=62.0km s-min=17.6km az=178.0*
MOS ***25*** *05:12:34.2±0.9, 4784N×15508E, h49km, mb4.3/9, Error ellipse: s-maj=37.7km s-min=17.9km az=97.0*

ISC 25 05:12:29.6±1.6,476N±02×1552E±02,h10km,n20, σ0°54/20,mb4.0/9,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.11**	**11**	*e*PN	**Pn**	**05 13 18.5**	**-0.2**
SKR				*e*		05 13 52.3	
INK	**Inuvik**	**40.15**	**33**	P	**P**	**05 20 06.5**	**+0.8**
	0.7nm,0.5s,mb3.7,baz=315,slow=6.5,SNR=5.7						
INK	**Inuvik**	**40.15**	**33**	P	**P**	**05 20 06.6**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**43.24**	**306**	P	**P**	**05 20 31.4**	**+0.3**
	comp=Z,1.0nm,0.3s,mb4.0,baz=170,slow=15,SNR=3.1						
ZAL	**Zalesovo**	**43.24**	**306**	P	**P**	**05 20 31.4**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**05 21 07.8**	**+0.8**
	comp=Z,1.4nm,1.0s,mb4.0,baz=61,slow=9.9,SNR=4.2						
MKAR	**Makanchi Array**	**47.77**	**298**	P	**P**	**05 21 07.8**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CHKZ	**Chkalovo**	**50.92**	**310**	*e*P	**P**	**05 21 30.1**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**50.92**	**310**	*e*P	**P**	**05 21 30.1**	**-1.0**
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.41**	**310**	*e*P	**P**	**05 21 34.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.41**	**310**	*e*P	**P**	**05 21 34.4**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**63.82**	**335**	P	**P**	**05 23 02.3**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=40,slow=8.2,SNR=9.4						
FINES	**FINESS Array B**	**63.82**	**335**	P	**P**	**05 23 02.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.10**	**340**	P	**P**	**05 23 29.4**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.2,baz=42,slow=4.5,SNR=5.7						
HFS	**Hagfors**	**68.10**	**340**	P	**P**	**05 23 29.4**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**75.79**	**347**	P	**P**	**05 24 15.8**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.1,baz=19,slow=11,SNR=3.8						
EKA	**Eskdalemuir Ar**	**75.79**	**347**	P	**P**	**05 24 15.8**	**0.0**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**75.84**	**62**	P	**P**	**05 24 15.5**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=299,slow=4.0,SNR=10						
TXAR	**Lajitas Array**	**75.84**	**62**	P	**P**	**05 24 15.5**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.84**	**62**	P	**P**	**05 24 15.5**	**-0.5**

ISCJB ***25*** *05:26:08.6±1.0, 300N±02×139.1E±06, h359km±27km, mb3.2/7, Error ellipse: s-maj=85.6km s-min=11.1km az=139.6*
NEIC ***25*** *05:26:08.3±1.2, 2993N×13928E, h344km±20km, mb3.6/3, Error ellipse: s-maj=52.9km s-min=13.4km az=71.0*
IDC ***25*** *05:26:09.8±1.2, 2994N×13920E, h358km±27km, mb3.1/5, mb1 3.2/7, mb1mx3.1/22, mbtmp3.1/7, Error ellipse: s-maj=72.3km s-min=13.0km az=71.0*

ISC 25 05:26:09.8±0.8,301N±02×1394E±06,h361km±24km,n11, σ0°70/12,mb3.2/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.87**	**139**	P	**Pn**	**05 27 19.6**	**+1.6**
	22nm,0.3s,baz=288,slow=21,SNR=6.6						
CBIJ				S	**S**	**05 28 12.8**	**-0.3**
	112nm,0.3s,baz=265,slow=21,SNR=20						
MJAR	**Matsushiro Arr**	**6.53**	**352**	P	**Pn**	**05 27 46.5**	**-0.4**
	1.3nm,0.3s,baz=38,slow=12,SNR=12						
MAJO	**Matsushiro**	**6.53**	**352**	*e*Pn	**Pn**	**05 27 46.4**	**-0.6**
	9.9nm,0.5s						
MAT	**Matsushiro**	**6.53**	**352**	P	**Pn**	**05 27 46.6**	**-0.4**
ULN	**Ulaanbaatar**	**30.47**	**315**	*e*P	**P**	**05 31 51.1**	**+0.7**
	1.1nm,0.4s,mb3.4						
SONM	**Songino Array**	**30.86**	**314**	P	**P**	**05 31 54.6**	**+0.8**
	0.4nm,0.4s,mb3.0,baz=116,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**46.68**	**308**	P	**P**	**05 34 03.6**	**0.0**
	0.9nm,0.7s,mb3.1,baz=83,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**49.95**	**186**	P	**P**	**05 34 27.5**	**-0.8**
	0.5nm,0.4s,mb3.1,baz=7.3,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**53.68**	**186**	P	**P**	**05 34 54.7**	**-0.8**
	0.3nm,0.4s,mb2.9,baz=10.0,slow=8.7,SNR=8.1						
CHKZ	**Chkalovo**	**54.01**	**317**	*e*P	**P**	**05 34 57.6**	**-0.3**
	1.1nm,0.8s,mb3.2						
ARCES	**ARCESS Array B**	**69.92**	**340**	P	**P**	**05 36 43.3**	**+0.6**
	2.2nm,0.8s,mb3.9,baz=50,slow=8.0,SNR=3.8						

NIED ***25*** *05:26:00, 3960N×143.70E, h17km, Mw3.5 Best double couple: M○2.02000×10^14 NP1:ϕ=29.00000°, δ56.00000°, λ101.00000°. NP2:ϕ=190.00000°, δ36.00000°, λ75.00000°.*

JMA 25 05:26:26.0±0.2,3958N×14370E,h20km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.45**	**270**	P	Pn	05 26 51.5	+0.4
JTH	**Tanohata**	**1.46**	**285**	P	Pn	05 26 51.6	+0.4
OFUJ	**Ofunato**	**1.65**	**253**	P	Pn	05 26 54.4	+0.6
JOM	**Ohasama**	**1.86**	**267**	P	Pn	05 26 58.0	+1.2
JMK	**Ichinoseki**	**2.02**	**253**	P	Pn	05 26 59.9	+0.9
JYK	**Kaneyama**	**2.68**	**257**	P	Pn	05 27 09.9	+2.0
JNBK	**Urakawa-nobuka**	**2.79**	**345**	P	Pn	05 27 12.4	+2.9
JNBK				S	Sn	05 27 45.7	+3.1
JMM	**Marumori**	**2.85**	**234**	P	Pn	05 27 10.7	+0.4
JMM				S	Sn	05 27 42.5	-1.4
JCH	**Churui**	**3.04**	**355**	P	Pn	05 27 15.1	+2.1
JCH				S	Sn	05 27 49.8	+1.0
JAK	**Akkeshi**	**3.50**	**12**	P	Pn	05 27 21.5	+2.3
JAK				S	Sn	05 28 01.6	+1.7

IDC 25 05:41:20.1±5.8,499S×13355E,h0km,mb3.6/1,mb1 3.4/3, mb1mx3.3/12,mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=338.5km s-min=32.1km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.88**	**177**	Pn	Pn	05 44 52.0	+0.3
	0.1nm,0.3s,baz=356,slow=14,SNR=7.5						
WRA				Sn	Sn	05 47 25.8	-11
	0.2nm,0.3s,baz=347,slow=25,SNR=6.2						
ASAR	**Alice Springs**	**18.57**	**179**	P	Pn	05 45 38.5	-0.1
	0.1nm,0.3s,baz=359,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**68.56**	**325**	P	P	05 52 24.8	+0.2
	0.2nm,0.3s,baz=110,slow=8.0,SNR=5.5						

MAN 25 05:42:27.9,1205N×12584E,h18km,mb2.9,ML4.3,MS2.4, 1C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.59**	**222**	*e*P	Pg	05 42 39.8	+0.2
PLP	**Palo**	**1.21**	**224**	*i*P	Pn	05 42 49.0	-0.9
PLP				*i*S	Sb	05 43 06.5	+0.9
MSLP	**Maasin**	**2.13**	**207**	*e*P	Pn	05 43 02.6	+0.1
PVCP	**Virac**	**2.25**	**313**	*e*P	Pn	05 43 04.7	+0.5
SCPH	**Surigao**	**2.27**	**189**	⇑*e*P	Pn	05 43 05.4	+0.9

NIED ***25*** *05:56:00, 4560N×151.90E, h5km, Mw4.2 Best double couple: M○2.49000×10^15 NP1:ϕ=70.00000°, δ74.00000°, λ103.00000°. NP2:ϕ=212.00000°, δ20.00000°, λ53.00000°.*
IDC ***25*** *05:56:08.7±2.4, 4558N×151.90E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/38, Error ellipse: s-maj=64.3km s-min=23.8km az=171.0*
NEIC ***25*** *05:56:10.6±1.6, 4568N×151.83E, h10km, mb4.4/3, Error ellipse: s-maj=42.8km s-min=14.2km az=171.0*
BJI ***25*** *05:56:10.2, 4549N×151.87E, h18km, mB4.5, mb4.3, Ms4.0, Msz3.6*
MOS ***25*** *05:56:16.6±1.3, 4586N×151.52E, h60km, mb4.3/13, Error ellipse: s-maj=17.2km s-min=13.1km az=93.1*
ISCJB ***25*** *05:56:18.0±1.9, 458N±02×1517E±02, h74km±18km, mb4.0/15, Error ellipse: s-maj=33.7km s-min=14.1km az=105.7*

ISC 25 05:56:19.3±1.7,458N±02×1517E±02,h76km±15km,n40, σ0°81/39,mb4.0/15,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.70**	**29**	*e*PN	**Pn**	**05 57 41.9**	**+0.5**
ASAJ	**Asahikawa**	**6.70**	**259**	Pn	**Pn**	**05 57 50.5**	**-4.5**
	1.4nm,0.3s,baz=320,slow=14,SNR=4.0						
ASAJ				LR	LR	06 00 17.6	
	comp=Z,58nm,18.8s,baz=130,slow=37						
MJAR	**Matsushiro Arr**	**13.74**	**232**	Pn	**Pn**	**05 59 30.7**	**0.0**
	0.2nm,0.3s,baz=36,slow=11,SNR=5.4						
SONM	**Songino Array**	**30.77**	**290**	P	**P**	**06 02 26.9**	**-0.5**
	1.3nm,0.7s,mb3.8,baz=75,slow=8.0,SNR=9.1						
SONM	**Songino Array**	**30.77**	**290**	P	**P**	**06 02 26.9**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LZH	**Lanzhou**	**36.97**	**272**	*e*P	**P**	**06 03 31.1**	**+10**
LZH				pP	pP	06 03 42.0	+2.7
LZH				sP	sP	06 03 48.1	0.0
GTA	**Gaotai**	**38.18**	**279**	*e*P	**P**	**06 03 32.3**	**+0.9**
GTA				AP	pP	06 03 44.8	-4.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
INK	**Inuvik**	**42.97**	**32**	P	**P**	**06 04 09.7**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=313,slow=4.5,SNR=4.8						
INK	**Inuvik**	**42.97**	**32**	P	**P**	**06 04 09.7**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**46.54**	**298**	*e*P	**P**	**06 04 39.1**	**-0.1**
MKAR	**Makanchi Array**	**46.54**	**298**	P	**P**	**06 04 39.2**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.7,baz=68,slow=7.2,SNR=7.2						
MKAR	**Makanchi Array**	**46.54**	**298**	P	**P**	**06 04 39.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.54**	**298**	P	**P**	**06 04 39.2**	**0.0**
CHKZ	**Chkalovo**	**50.32**	**310**	*e*P	**P**	**06 05 07.2**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**50.32**	**310**	*e*P	**P**	**06 05 07.2**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1						
BVAR	**Borovoye Array**	**50.73**	**310**	P	**P**	**06 05 10.6**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=54,slow=7.3,SNR=2.9						
BVAR	**Borovoye Array**	**50.73**	**310**	P	**P**	**06 05 10.6**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.41**	**296**	*e*P	**P**	**06 05 31.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**53.41**	**296**	*e*P	**P**	**06 05 31.2**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.5						
KEV	**Kevo**	**57.93**	**340**	*e*p	**P**	**06 06 01.7**	**-1.9**
	comp=Z,3.5nm,0.7s,mb4.5						
KEV	**Kevo**	**57.93**	**340**	*e*P	**P**	**06 06 01.7**	**-1.9**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**06 06 07.7**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.5,baz=46,slow=6.7,SNR=7.2						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**06 06 07.7**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**06 06 07.7**	**+0.5**
FIA1	**FINESS Array S**	**64.50**	**334**	*e*P	**P**	**06 06 47.9**	**-0.1**
FINES	**FINESS Array B**	**64.50**	**334**	P	**P**	**06 06 48.2**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.2,baz=38,slow=7.2,SNR=16						
FINES	**FINESS Array B**	**64.50**	**334**	P	**P**	**06 06 48.2**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**64.50**	**334**	P	**P**	**06 06 48.2**	**+0.2**
NB2	**NORSAR Subarra**	**68.82**	**341**	P	**P**	**06 07 16.0**	**+0.5**
	comp=Z,9.1nm,1.2s,mb4.5,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.82**	**341**	P	**P**	**06 07 16.0**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.0,baz=28,slow=6.2,SNR=4.5						
NOA	**NORSAR Array B**	**68.82**	**341**	P	**P**	**06 07 16.0**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**06 07 34.1**	**+0.4**
	comp=Z,0.8nm,0.4s,mb3.9,baz=34,slow=6.2,SNR=4.7						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**06 07 34.1**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**78.43**	**316**	P	**P**	**06 08 12.5**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.6,baz=74,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**78.43**	**316**	P	**P**	**06 08 12.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**78.68**	**333**	*e*P	**P**	**06 08 14.0**	**+0.8**
TXAR	**Lajitas Array**	**78.80**	**59**	P	**P**	**06 08 13.4**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=299,slow=3.7,SNR=6.6						
GERES	**GERESS Array B**	**78.89**	**333**	P	**P**	**06 08 15.7**	**+1.4**
	comp=Z,1.0nm,0.6s,mb3.8,baz=31,slow=6.2,SNR=9.0						
GERES	**GERESS Array B**	**78.89**	**333**	P	**P**	**06 08 15.7**	**+1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**84.35**	**209**	LR	LR	06 45 06.4	
	comp=Z,51nm,19.4s,baz=220,slow=35						

IDC ***25*** *06:01:23.0±0.7, 4753N×15529E, h0km, mb4.3/18, mb1 4.5/20, mb1mx4.4/25, mbtmp4.3

VLA pmax pmax
comp=Z,29nm,1.3s
VLA MLR MLR
comp=Z,300nm,13.6s
MDJ Mudanjiang 18.05 270 P **Pn** **06 05 36.8 +0.2**
MDJ AMB AMB
comp=Z,12nm,1.4s
MDJ AMB AMB
comp=Z,62nm,3.4s
MDJ LR LR
comp=N,89nm,13.6s
MDJ LR LR
comp=E,111nm,15.4s
MDJ LR LR
comp=Z,185nm,16.3s
YAK Yakutsk 20.37 324 *e*P **P** **06 06 02.2 -0.2**
YAK *e* 06 06 25.2
YAK pmax pmax
comp=Z,22nm,1.5s
YAK pmax pmax
comp=N,14nm,1.8s
YAK pmax pmax
comp=E,29nm,1.6s
YAK pmax pmax
comp=Z,31nm,1.2s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,29nm,1.2s
CLNS Chul'man 20.57 308 *e*P **P** **06 06 07.6 +3.0**
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.0s
CN2 Changchun 21.12 270 *e*P **P** **06 06 07.8 -2.8**
CN2 *e*S **S** **06 09 57.1 -7.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,12.0s,MS4.2
CN2 LR LR
comp=E,300nm,12.0s,MS4.2
CN2 LR LR
comp=Z,400nm,13.0s,MS4.0
BILL Bilibino 21.14 11 *e*P **P** **06 06 11.2 +0.5**
BILL *e* 06 06 29.1
BILL *i* 06 06 39.2
BILL pmax pmax
comp=Z,20nm,1.2s,mb4.3
BILL MLR MLR
comp=Z,400nm,15.0s,MS3.9
BILL Bilibino 21.14 11 *e*P **P** **06 06 07.8 -3.0**
comp=Z,35nm,1.4s,mb4.5
KSRS Korea Array 22.50 253 P **P** **06 06 23.1 -2.3**
comp=Z,8.3nm,0.9s,mb4.2,baz=54,slow=8.9,SNR=12
JNU Nakatsue 23.49 241 LR LR 06 15 09.8
comp=Z,334nm,19.3s,MS3.8,baz=257,slow=35
TIXI Tiksi 26.99 342⇑ *e*P **P** **06 07 07.3 -0.3**
TIXI pmax pmax
comp=Z,18nm,1.7s,mb4.3
NJ2 Nanjing 31.70 254 *e*P **P** **06 07 51.0 +1.6**
NJ2 AP pP 06 07 55.9 +1.2
NJ2 XP sP 06 07 58.6 +1.7
NJ2 PP PP 06 08 56.6 -4.4
NJ2 S **S** **06 12 59.0 +0.9**
NJ2 XS sS 06 13 07.0 +0.1
NJ2 AMB AMB
comp=Z,1μm,10.4s
NJ2 LR LR
comp=N,620nm,17.5s,MS4.8
NJ2 LR LR
comp=E,1μm,16.3s,MS4.8
NJ2 LR LR
comp=Z,1μm,13.4s,MS4.8
HHC Hu-ho-hao-te 31.71 274 *e*P **P** **06 07 50.0 +0.5**
HHC PP PP 06 08 54.3 -6.8
HHC PCP PcP 06 10 42.8 +1.9
HHC S **S** **06 12 57.5 -0.8**
HHC XS sS 06 13 05.0 -2.1
HHC SCP ScP 06 14 23.1 -0.3
HHC SS SS 06 14 46.9 -27
HHC AMB AMB
comp=Z,24nm,1.3s,mb4.9
HHC AMB AMB
comp=Z,129nm,8.7s
HHC LR LR
comp=N,237nm,13.5s,MS4.1
HHC LR LR
comp=E,200nm,14.9s,MS4.1
HHC LR LR
comp=Z,273nm,15.2s,MS4.0
ULN Ulaanbaatar 32.00 289⇑ *e*P **P** **06 07 50.1 -1.9**
ULN Ulaanbaatar 32.00 289 *e*P **P** **06 07 50.5 -1.5**
comp=Z,2.0nm,0.9s,mb4.0
SONM Songino Array 32.43 289 P **P** **06 07 55.3 -0.5**
comp=Z,2.3nm,0.9s,mb4.0,baz=76,slow=6.2,SNR=11
SONM LR LR 06 21 26.0
comp=Z,146nm,20.3s,MS3.7,baz=9.5,slow=37
SONM Songino Array 32.43 289 P **P** **06 07 55.3 -0.5**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,147nm,20.3s
TLY Talaya 33.07 297 *e*P **P** **06 07 59.6 -1.8**
TLY *e*SS SS 06 15 41.2 -0.9
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,193nm,16.0s,MS3.9
ZAK Zakamensk 33.63 294 *e*P **P** **06 08 00.2 -6.1**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
SML Sawmill 34.25 45 *e*P **P** **06 08 10.0 -1.6**
SML *e*pP pP 06 08 37.7 +21
COLA College 34.46 39⇑ *i*P **P** **06 08 12.3 -1.2**
COLA College 34.46 39 *e*P **P** **06 08 12.5 -0.9**
comp=Z,7.9nm,1.1s,mb4.6
XAN Xi'an 37.08 266 P **P** **06 08 36.0 +0.1**
XAN AP pP 06 08 40.6 -0.7
XAN AMB AMB
comp=Z,11nm,1.5s,mb4.5
LZH Lanzhou 39.34 272 ⇑P **P** **06 08 55.6 +0.6**
LZH AP pP 06 08 58.8 -1.6
LZH XP sP 06 09 00.3 -2.3
LZH PP PP 06 10 30.5 +5.2
LZH *e*S **S** **06 14 55.4 0.0**
LZH XS sS 06 15 01.6 -2.7
LZH SS SS 06 17 40.8 -8.4
LZH AMB AMB
comp=Z,33nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,136nm,6.7s
LZH LR LR
comp=N,765nm,13.3s
LZH LR LR
comp=Z,1μm,17.5s,MS4.8
LZH Lanzhou 39.34 272 ⇑P **P** **06 08 55.6 +0.6**
LZH 06 10 30.5
LZH *e*S **S** **06 14 55.4 0.0**
LZH SS SS 06 17 40.7 -8.5
LZH pmax pmax
comp=Z,33nm,1.4s,mb4.9
LZH MLR MLR
comp=Z,1μm,17.5s,MS4.8
LZH Lanzhou 39.34 272 ⇑P **P** **06 08 55.6 +0.6**
comp=Z,33nm,1.4s,mb4.9
LZH pP pP 06 08 58.8 -1.6
LZH sP sP 06 09 00.3 -2.3
LZH PP PP 06 10 30.5 +5.2
LZH *e*S **S** **06 14 55.4 0.0**
LZH sS sS 06 15 01.6 -2.7
LZH SS SS 06 17 40.7 -8.5
LZH LR LR
comp=Z,1μm,17.5s,MS4.8
INK Inuvik 40.04 33 P **P** **06 09 00.2 -0.6**
comp=Z,2.5nm,0.5s,mb4.2,baz=259,slow=9.3,SNR=20
INK Inuvik 40.04 33 P **P** **06 09 00.2 -0.6**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 40.04 33 *e*P **P** **06 09 00.2 -0.7**
comp=Z,160nm,0.9s

GTA Gaotai 40.29 279 *e*P **P** **06 09 04.0 +1.1**
GTA AP pP 06 09 10.9 +2.6
GTA XP sP 06 09 14.1 +3.6
GTA PP PP 06 10 40.3 +4.7
GTA S **S** **06 15 11.8 +2.3**
GTA XS sS 06 15 19.4 +0.9
GTA SS SS 06 18 04.8 -3.3
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.3
GTA AMB AMB
comp=Z,79nm,4.9s
GTA LR LR
comp=N,145nm,12.5s,MS4.3
GTA LR LR
comp=E,263nm,16.7s,MS4.3
GTA LR LR
comp=Z,250nm,16.7s,MS4.1
CD2 Chengdu 42.44 266 P **P** **06 09 20.8 +0.3**
CD2 AP pP 06 09 25.3 -0.7
CD2 XP sP 06 09 27.9 -0.2
CD2 S **S** **06 15 41.8 +0.4**
CD2 XS sS 06 15 49.1 -1.3
CD2 SS SS 06 18 43.3 -7.5
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,130nm,4.9s
CD2 LR LR
comp=N,130nm,7.4s
CD2 LR LR
comp=E,200nm,8.3s
CD2 LR LR
comp=Z,270nm,6.4s
ZAL Zalesovo 43.28 306 P **P** **06 09 26.6 -0.8**
comp=Z,2.0nm,0.4s,mb4.2,baz=3.9,slow=8.8,SNR=10
ZAL LR LR 06 28 38.4
comp=Z,202nm,19.1s,MS4.0,baz=48,slow=38
ZAL Zalesovo 43.28 306 P **P** **06 09 26.6 -0.7**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,203nm,19.1s
GYA Guiyang 43.37 258 P **P** **06 09 28.1 0.0**
GYA AP pP 06 09 32.8 -0.7
GYA XP sP 06 09 35.6 -0.1
GYA PP PP 06 11 12.8 +3.9
GYA PCP PcP 06 11 19.3 +2.8
GYA SCP ScP 06 15 09.4 +2.4
GYA S **S** **06 15 57.1 +2.0**
GYA SS SS 06 19 03.5 -5.5
GYA SCS ScS 06 19 27.8 +0.5
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,260nm,3.5s
GYA LR LR
comp=N,420nm,15.8s,MS4.6
GYA LR LR
comp=E,390nm,16.4s,MS4.6
GYA LR LR
comp=Z,480nm,16.0s,MS4.5
NVS Novosibirsk 43.79 307 *e*P **P** **06 09 28.6 -2.9**
NVS pmax pmax
comp=Z,35nm,1.9s,mb4.8
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,21nm,1.7s
WMQ Urumqi 45.96 291⇑ *i*P **P** **06 09 49.3 +0.5**
WMQ AP pP 06 09 53.8 -0.5
WMQ XP sP 06 09 56.3 -0.1
WMQ PCP PcP 06 11 27.3 +1.9
WMQ PP PP 06 11 37.1 +0.5
WMQ SCP ScP 06 15 18.3 +0.6
WMQ S **S** **06 16 32.3 -0.5**
WMQ XS sS 06 16 39.6 -2.2
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,58nm,7.9s
WMQ LR LR
comp=N,190nm,15.3s,MS4.2
WMQ LR LR
comp=E,100nm,15.4s,MS4.2
WMQ LR LR
comp=Z,119nm,19.2s,MS3.9
KMI Kunming 46.87 260 P **P** **06 09 58.4 +2.5**
KMI S **S** **06 16 49.4 +3.6**
KMI AMB AMB
comp=Z,17nm,1.0s,mb4.9
KMI LR LR
comp=N,137nm,13.2s,MS4.1
KMI LR LR
comp=E,100nm,17.2s,MS4.1
KMI LR LR
comp=Z,86nm,13.1s,MS3.9
KMI Kunming 46.87 260 P **P** **06 09 58.4 +2.5**
comp=Z,17nm,1.0s,mb4.9
KMI S **S** **06 16 49.4 +3.6**
KMI LR LR
comp=Z,90nm,13.1s,MS3.9
MK31 Makanchi Array 47.82 298 *e*P **P** **06 10 03.5 +0.2**
MKAR Makanchi Array 47.82 298 P **P** **06 10 02.5 -0.8**
comp=Z,3.4nm,1.0s,mb4.3,baz=54,slow=6.6,SNR=12
MKAR LR LR 06 31 09.0
comp=Z,118nm,18.6s,MS3.9,baz=264,slow=37
MKAR Makanchi Array 47.82 298 P **P** **06 10 02.5 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR MLR MLR
comp=Z,118nm,18.7s
YKA Yellowknife Ar 49.26 38 P **P** **06 10 14.0 -0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=292,slow=7.2,SNR=6.6
YKA Yellowknife Ar 49.26 38 P **P** **06 10 14.0 -0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 49.26 38 P **P** **06 10 14.0 -0.4**
CHKZ Chkalovo 50.95 310 *e*P **P** **06 10 26.3 -0.9**
CHKZ pmax pmax
comp=Z,14nm,0.6s,mb5.1
CHKZ Chkalovo 50.95 310 *e*P **P** **06 10 26.3 -0.9**
comp=Z,4.7nm,0.4s,mb4.7,baz=58,slow=7.5,SNR=31
BVAR Borovoye Array 51.40 310 P **P** **06 10 30.2 -0.4**
BVAR LR LR 06 34 49.1
comp=Z,124nm,18.8s,MS4.0,baz=139,slow=39
BVAR Borovoye Array 51.40 310 P **P** **06 10 30.2 -0.3**
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BVAR MLR MLR
comp=Z,124nm,18.8s
BRVK Borovoye 51.44 310 *e*P **P** **06 10 30.1 -0.7**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 51.44 310 *e*P **P** **06 10 30.1 -0.7**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 51.70 274 P **P** **06 10 34.9 +2.1**
LSA Lhasa 51.70 274 *e*P **P** **06 10 34.0 +1.2**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.70 274 *e*P **P** **06 10 34.0 +1.2**
comp=Z,9.3nm,0.6s,mb4.9
EDM Edmonton 54.57 48 *e*P **P** **06 10 53.4 -0.6**
AAK Ala-Archa 54.74 297⇑ *e*P **P** **06 10 54.4 -0.8**
AAK pmax pmax
comp=Z,9.0nm,2.5s,mb4.4
ARU Arti 55.31 318⇑ *i*P **P** **06 10 57.8 -1.5**
ARU *e* 06 13 03.3
ARU *e*PPP 06 14 12.2
ARU *e*S **S** **06 18 40.2 -2.3**
ARU *e*SS SS 06 22 20.3 -6.5
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
ARU Arti 55.31 318 *e*P **P** **06 10 58.5 -0.8**
comp=Z,10nm,0.7s,mb5.0
KSH Kashi 55.66 293 *e*P **P** **06 11 04.6 +2.8**
KSH *e*AP pP 06 11 10.8 +3.4
KSH *e*XP sP 06 11 12.8 +3.3
KSH *e*PCP PcP 06 12 04.5 +3.3
KSH *e*PP PP 06 13 09.6 +3.6
KSH *e*S **S** **06 18 50.0 +2.9**
KSH *e*XS sS 06 19 01.8 +5.5
KSH *e*SCS ScS 06 20 50.9 +0.7
JIRN Jiri 56.34 275 *e*P **P** **06 11 07.9 +1.2**
GUN Gumba 56.39 276 *e*P **P** **06 11 07.8 +0.7**

KKN Kakani 56.87 276 *e*P **P** **06 11 11.5 +1.0**
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 56.93 276 *e*P **P** **06 11 11.7 +0.8**
HNR Honiara 57.03 175 LR LR 06 35 56.9
comp=Z,150nm,18.8s,MS4.1,baz=359,slow=36
DMN Daman 57.11 276 *e*P **P** **06 11 13.4 +1.3**
GKN Gorkha 57.16 277 *e*P **P** **06 11 13.4 +0.8**
comp=Z,22nm,0.7s,mb5.3
PMG Port Moresby 57.32 190 LR LR 06 33 10.0
comp=Z,48nm,19.5s,MS3.6,baz=36,slow=33
MOD Modoc 57.33 62 *e*P **P** **06 11 13.7 0.0**
ARCES ARCESS Array B 57.43 341 P **P** **06 11 13.9 -0.5**
comp=Z,3.8nm,0.9s,mb4.4,baz=38,slow=6.1,SNR=5.0
ARCES LR LR 06 39 04.2
comp=Z,104nm,20.4s,MS3.9,baz=63,slow=39
ARCES ARCESS Array B 57.43 341 P **P** **06 11 13.9 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,104nm,20.4s
KOLN Koldanda 58.01 277 *e*P **P** **06 11 19.5 +1.0**
comp=Z,24nm,1.1s,mb5.1
CMB Columbia Colle 59.65 66 *e*P **P** **06 11 30.0 +0.1**
CMB pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
CMB Columbia Colle 59.65 66 *e*P **P** **06 11 30.0 +0.1**
comp=Z,5.2nm,1.3s,mb4.4
HLID Hailey 59.74 57 *e*P **P** **06 11 30.1 -0.4**
comp=Z,8.7nm,1.5s,mb4.6
QLMT Earthquake Lak 60.61 55 *e*P **P** **06 11 36.9 +0.4**
IMW Indian Meadow 61.48 55 *e*P **P** **06 11 43.3 +0.9**
MOOW Moose Ponds 61.68 55 *e*P **P** **06 11 44.6 +0.9**
comp=Z,8.2nm,1.5s,mb4.6
LOHW Long Hollow 61.85 55 *e*P **P** **06 11 46.1 +1.3**
comp=Z,15nm,1.4s,mb4.9
REDW Red Top Meadow 61.87 56 *e*P **P** **06 11 45.4 +0.4**
AHID Auburn Hatcher 62.12 56 *e*P **P** **06 11 47.4 +0.8**
HWUT Hardware Ranch 62.61 57 *e*P **P** **06 11 50.7 +0.8**
DUG Dugway 62.81 59 *e*P **P** **06 11 51.9 +0.6**
DUG *e**PP pP 06 12 13.9 +17
DUG pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
DUG Dugway 62.81 59 *e*P **P** **06 11 51.9 +0.6**
comp=Z,9.9nm,1.4s,mb4.8
DUG *e*pP pP 06 12 13.9 +17
BW06 Boulder Array 62.98 55 *e*P **P** **06 11 52.9 +0.4**
comp=Z,8.8nm,1.3s,mb4.7
PDAR Pinedale Array 62.98 55 P **P** **06 11 51.9 -0.6**
comp=Z,3.6nm,1.1s,mb4.4,baz=302,slow=3.3,SNR=12
JLU Jordanelle 63.33 58 *e*P **P** **06 11 55.5 +0.8**
MWC Mount Wilson 63.54 68 *e*P **P** **06 11 55.4 -0.7**
FINES FINESS Array B 63.80 335 P **P** **06 11 57.6 -0.2**
comp=Z,5.2nm,0.6s,mb4.7,baz=36,slow=6.8,SNR=30
FINES LR LR 06 45 53.8
comp=Z,84nm,18.6s,MS4.0,baz=335,slow=42
MOS Moscow 64.48 326 *e*P **P** **06 12 00.9 -1.4**
SRU San Rafael 64.85 59 *e*P **P** **06 12 04.7 0.0**
OBN Obninsk 65.35 326 *e*P **P** **06 12 06.2 -1.8**
OBN *e* 06 12 32.6
OBN pmax pmax
comp=Z,42nm,1.6s,mb5.2
GLA Glamis 66.33 66 *e*P **P** **06 12 13.9 -0.4**
WUAZ Wupatki 66.77 62 *e*P **P** **06 12 17.9 +0.8**
comp=Z,14nm,1.6s,mb4.8
ISCO Idaho Springs 67.17 56 *e*P **P** **06 12 20.1 +0.4**
ISCO pmax pmax
comp=Z,12nm,1.5s,mb4.7
ISCO Idaho Springs 67.17 56 *e*P **P** **06 12 20.1 +0.5**
comp=Z,12nm,1.5s,mb4.7
VRSR Storozhevoye 67.27 322 *e*P **P** **06 12 20.4 +0.1**
VRSR pmax pmax
comp=Z,20nm,1.2s,mb5.0
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.3s
NB2 NORSAR Subarra 67.79 342 P **P** **06 12 23.3 -0.3**
comp=Z,7.9nm,0.9s,mb4.7,baz=29,slow=6.5
NOA NORSAR Array B 67.79 342 P **P** **06 12 23.3 -0.3**
comp=Z,3.2nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=9.3
NOA LR LR 06 48 45.0
comp=Z,51nm,18.0s,MS3.8,baz=180,slow=42
CTA Charters Tower 67.97 189 LR LR 06 37 32.2
comp=Z,39nm,19.4s,MS3.6,baz=235,slow=32
SDCO Great Sand Dun 68.66 57 *e*P **P** **06 12 30.0 +0.9**
comp=Z,15nm,1.6s,mb4.7
SDCO *e*pP pP 06 12 58.8 +24
WRA Warramunga Arr 69.92 201 P **P** **06 12 34.4 -2.4**
comp=Z,4.3nm,1.1s,mb4.3,baz=17,slow=6.5,SNR=12
WRA Warramunga Arr 69.92 201 P **P** **06 12 34.4 -2.4**
WRA pmax pmax
comp=Z,4.0nm,1.1s
LAZ Ladron 70.05 61 *e*P **P** **06 12 38.0 +0.4**
ANMO Albuquerque 70.06 60⇑ *e*P **P** **06 12 37.9 +0.2**
ANMO Albuquerque 70.06 60 *e*P **P** **06 12 38.4 +0.7**
DZM Mont Dzumac 70.17 169 LR LR 06 40 09.0
comp=Z,76nm,19.9s,MS4.0,baz=230,slow=33
KIV Kislovodsk 71.18 315 *e*P **P** **06 12 45.0 +0.5**
KIV *i* 06 13 07.4
KIV pmax pmax
comp=Z,39nm,1.6s,mb5.1
ZEI Tsey 71.49 314 *e*P **P** **06 12 46.4 0.0**
ZEI *i* 06 13 07.5
ZEI pmax pmax
comp=Z,13nm,1.3s,mb4.7
AKASG Malin Array Be 71.56 327 P **P** **06 12 46.0 -0.8**
comp=Z,2.2nm,0.5s,mb4.4,baz=32,slow=5.9,SNR=18
AKASG LR LR 06 44 28.7
comp=Z,78nm,19.2s,MS4.0,baz=5.0,slow=36
AKASG Malin Array Be 71.56 327 P **P** **06 12 46.0 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG MLR MLR
comp=Z,78nm,19.2s
KIEV Kiev 71.58 327 *e*P **P** **06 12 46.4 -0.5**
KIEV pmax pmax
comp=Z,11nm,1.1s,mb4.7
KIEV Kiev 71.58 327 *e*P **P** **06 12 46.4 -0.5**
comp=Z,11nm,1.1s,mb4.7
AMTX Amarillo 72.86 57 *e*P **P** **06 12 55.7 +1.1**
ANN Anapa 72.95 319 *e*P **P** **06 12 55.1 0.0**
ANN *e*S S 06 22 20.7 -0.4
ANN pmax pmax
comp=Z,36nm,1.3s,mb5.1
MNTX Cornudas Mount 73.00 62 *e*P **P** **06 12 55.2 -0.2**
MNTX *e*pP pP 06 13 24.3 +23
GNI Garni 73.03 311⇓ *e*P **P** **06 12 56.2 +0.6**
GNI pmax pmax
comp=Z,32nm,1.7s
GNI Garni 73.03 311 *e*P **P** **06 12 56.8 +1.2**
comp=Z,31nm,1.4s,mb5.0
ASAR Alice Springs 73.61 200 P **P** **06 12 58.0 -1.0**
comp=Z,3.8nm,1.1s,mb4.2,baz=8.7,slow=5.0,SNR=13
ASAR Alice Springs 73.61 200 P **P** **06 12 58.0 -1.0**
ASAR pmax pmax
comp=Z,4.0nm,1.1s
WMOK Wichita Mounta 74.59 55 *e*P **P** **06 13 04.0 -0.8**
WMOK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
WMOK Wichita Mounta 74.59 55 *e*P **P** **06 13 04.0 -0.8**
comp=Z,9.5nm,1.3s,mb4.6
BURAR Bucovina Array 75.59 328⇑ *i*P **P** **06 13 10.3 -0.2**
LTX Lajitas 75.73 62 *e*P **P** **06 13 10.8 -0.5**
LTX pmax pmax
comp=Z,15nm,1.3s,mb4.8
LTX Lajitas 75.73 62 *e*P **P** **06 13 10.8 -0.5**
comp=Z,15nm,1.3s,mb4.8
LTX *e*pP pP 06 13 39.4 +22
TXAR Lajitas Array 75.73 62 P **P** **06 13 10.7 -0.6**
comp=Z,2.5nm,0.7s,mb4.2,baz=298,slow=3.7,SNR=32
TXAR Lajitas Array 75.73 62 P **P** **06 13 10.7 -0.6**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
UPC Upice 76.07 335 *e*P **P** **06 13 12.4 -0.9**
DPC Dobruska-Polom 76.12 334 *e*P **P** **06 13 14.6 +1.0**
CLL Collm 76.19 337 *e*P **P** **06 13 14.0 +0.1**
CLL *e* 06 13 27.0
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLL Collm 76.19 337 *e*P **P** **06 13 14.0 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
CLL *e*pPcP 06 13 27.0
MORC Moravsky Berou 76.27 333⇑ *i*P **P** **06 13 10.1 -4.3**
MORC Moravsky Berou 76.27 333 ⇑P **P** **06 13 10.1 -4.3**
BRG Berggiesshubel 76.33 336 *e*P **P** **06 13 16.4 +1.7**

comp=Z,3.3nm,1.1s,mb4.2
BRG Berggiesshubel 76.33 336 *e*P **P** **06 13 16.4 +1.7**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BOYT Boyabat 76.76 318 *i* P **P** **06 13 17.1 -0.1**
PRU Pruhonice 76.96 335 *e*P **P** **06 13 19.3 +1.0**
PRU *e*PCP PcP 06 13 32.1 +2.8
MLR Muntele Rosu 77.12 326 ⇓*i*P **P** **06 13 19.3 +0.1**
MLR Muntele Rosu 77.12 326 ⇓P **P** **06 13 19.2 +0.1**
JCT Junction City 77.16 59 *e*P **P** **06 13 19.0 -0.4**
JCT pmax pmax
comp=Z,12nm,1.3s,mb4.7
JCT Junction City 77.16 59 *e*P **P** **06 13 19.0 -0.4**
comp=Z,12nm,1.3s,mb4.7
MOX Moxa 77.16 337 *e*(P) **P** **06 13 20.0 +0.6**
NKC Novy Kostel 77.32 337 *e*P **P** **06 13 18.0 -2.3**
BALT Daday 77.34 319 *i* P **P** **06 13 21.3 +0.9**
CTKT Corum 77.45 318 *i* P **P** **06 13 22.1 +1.1**
MIAR Mount Ida 77.57 52 *e*P **P** **06 13 20.7 -1.0**
MIAR pmax pmax
comp=Z,17nm,1.4s,mb4.8
MIAR Mount Ida 77.57 52 *e*P **P** **06 13 20.7 -1.0**
comp=Z,17nm,1.4s,mb4.8
MALT Malatya 77.57 314 ⇑*i*P **P** **06 13 26.3 +4.6**
MALT Malatya 77.57 314 ⇑P **P** **06 13 26.3 +4.6**
KHC Kasperske Hory 78.00 335 *e*P **P** **06 13 24.9 +0.8**
KHC *ex* x 06 13 37.7
KHC x x 06 13 46.5
KHC Kasperske Hory 78.00 335 *e*P **P** **06 13 24.9 +0.8**
KHC *e* 06 13 37.7
KHC *e* 06 13 46.5
GRA1 Grafenberg Arr 78.14 337 *e*P **P** **06 13 25.2 +0.3**
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 78.14 337 *e*P **P** **06 13 25.2 +0.3**
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 78.14 337 *e*P **P** **06 13 25.2 +0.3**
GRF pmax pmax
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 78.14 337 *e*P **P** **06 13 25.2 +0.3**
GRF pmax pmax
comp=Z,22nm,1.6s,mb4.8
GERES GERESS Array B 78.23 335 P **P** **06 13 25.8 +0.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=35,slow=4.9,SNR=7.4
GERES LR LR 06 54 11.5
comp=Z,86nm,18.4s,MS4.1,baz=196,slow=40
MEM Membach 78.56 341 P pP 06 13 41.7 +8.8
BZS Buzias 78.58 329 ⇑*i*P **P** **06 13 25.3 -2.0**
BZS Buzias 78.58 329 ⇑P **P** **06 13 25.3 -2.1**
BR131 Keskin Array S 78.69 318 *e*P **P** **06 13 26.7 -1.2**
comp=Z,1.3nm,0.4s,mb4.2
BRTR Keskin Array B 78.69 318 P **P** **06 13 28.4 +0.5**
comp=Z,3.6nm,1.0s,mb4.3,baz=64,slow=2.9,SNR=14
BRTR Keskin Array B 78.69 318 P **P** **06 13 28.4 +0.5**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
SGKT Sivrigoynuk 78.71 319 *i* P **P** **06 13 29.6 +1.6**
AVNT Avonos 78.90 317 *i* P **P** **06 13 29.5 +0.4**
OXF Oxford 79.77 49 *e*P **P** **06 13 33.7 -0.1**
ESKT Eskisehir 80.10 320 *i* P **P** **06 13 33.2 -2.4**
STKA Stephens Creek 80.17 192 LR LR 06 45 34.4
comp=Z,58nm,19.8s,MS3.9,baz=25,slow=33
CDF Champ du Feu 80.31 339 *e*P **P** **06 13 37.0 +0.2**
comp=Z,26nm,1.2s,mb4.7
CDF Champ du Feu 80.31 339 *e*P **P** **06 13 37.0 +0.2**
CDF pmax pmax
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 80.31 339 *e*P **P** **06 13 37.0 +0.2**
comp=Z,13nm,1.2s,mb4.7
VTS Vitosha 80.62 326 ⇑*i*P **P** **06 13 38.6 +0.2**
VTS Vitosha 80.62 326 ⇑P **P** **06 13 38.6 +0.2**
PPT Papeete 81.54 128 LR LR 06 49 29.8
comp=Z,164nm,18.2s,MS4.4,baz=2.8,slow=36
GRR Gorron 82.07 344 *e*P **P** **06 13 45.9 -0.2**
comp=Z,112nm,1.2s,mb5.4
GRR Gorron 82.07 344 *e*P **P** **06 13 45.9 -0.2**
GRR pmax pmax
comp=Z,56nm,1.2s,mb5.4
GRR Gorron 82.07 344 *e*P **P** **06 13 45.9 -0.2**
comp=Z,56nm,1.2s,mb5.4
SMF Signal de Mont 82.78 341 *e*P **P** **06 13 49.6 -0.2**
comp=Z,10nm,0.5s,mb4.8
SMF Signal de Mont 82.78 341 *e*P **P** **06 13 49.6 -0.2**
SMF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
SMF Signal de Mont 82.78 341 *e*P **P** **06 13 49.6 -0.2**
comp=Z,5.2nm,0.5s,mb4.8
LPG La Plagne 83.17 338 *e*P **P** **06 13 52.1 +0.3**
comp=Z,7.7nm,0.6s,mb4.6
LPG La Plagne 83.17 338 *e*P **P** **06 13 52.1 +0.3**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LPG La Plagne 83.17 338 *e*P **P** **06 13 52.1 +0.3**
comp=Z,3.8nm,0.6s,mb4.6
CAF Calviac 84.80 341 *e*P **P** **06 14 00.0 -0.1**
TIP Timpagrande 85.95 329 *e*P **P** **06 14 06.8 +0.9**
KEST Kesra 91.52 333 P **P** **06 14 32.3 0.0**
comp=Z,16nm,1.1s,mb4.3,baz=332,slow=12,SNR=3.0
RPZ Rata Peaks 92.09 169 LR LR 06 48 04.0
comp=Z,81nm,22.0s,MS4.1,baz=47,slow=30
PMSA Palmer Station 152.89 143 *e*PKPdf PKPdf 06 21 15.2 -0.4
VNA2 Neumayer--Watz 155.29 194 *e*PKPdf pPKPdf 06 21 37.5 +12
VNA2 *e* 06 21 40.4
VNA2 *e* 06 21 42.8
VNA2 *e* 06 21 52.1
VNA2 *e* 06 21 54.5
VNA2 *e* 06 22 04.6
VNA2 *e* 06 22 11.9
VNA2 *e* 06 22 23.2
VNA2 *e* 06 22 33.8
VNA3 Neumayer Olymp 155.34 192 *e*PKPdf pPKPdf 06 21 37.0 +12
VNA3 *e* 06 21 39.5
VNA3 *e* 06 21 42.7
VNA3 *e* 06 21 52.1
VNA3 *e* 06 21 54.2
VNA3 *e* 06 22 03.7
VNA3 *e* 06 22 11.7
VNA3 *e* 06 22 22.6
VNA3 *e* 06 22 33.8

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*NEIC **25** 06:12:51.2, 1822N×103.44W, h6km, MD4.0(MEX), After MEX.*

MEX 25 06:12:51.2±1.0, 1822N×10344W, h6km±12km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.11**	**52**	*i* P	Pg	06 12 52.7	-0.9
MMIG				*i* S	Sg	06 12 55.5	+0.3
CJM	**Chamela**	**1.98**	**310**	*i* P	Pn	06 13 22.7	-2.6
CJM				*i* S	Sn	06 13 45.4	-5.0
SFJM	**Santa Fe**	**2.29**	**9**	*i* P	Pn	06 13 26.0	-3.5
SFJM				*i* S	Sn	06 13 54.0	-3.9
MOIG	**Morelia**	**2.58**	**55**	*i* P	Pn	06 13 32.0	-1.5
MOIG				*i* S	Sn	06 13 59.2	-5.9
PLIG	**Platanillo**	**3.74**	**87**	*e*P	Pn	06 13 47.4	-2.1
PLIG				*i* S	Sn	06 14 31.0	-2.9
ZAIG	**Zacatecas**	**4.60**	**10**	*i* S	Sn	06 14 52.8	-2.2

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*IDC **25** 06:22:09.8±0.8, 4685N×15294E, h0km, mb3.9/11, mb1 4.2/12, mb1mx4.0/24, mbtmp3.9/12, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.5/43, Error ellipse: s-maj=27.7km s-min=17.9km az=154.0*
*MOS **25** 06:22:11.7±2.9, 4673N×153.39E, h31km, mb4.3/7, Error ellipse: s-maj=18.0km s-min=12.1km az=57.7*
*ISCJB **25** 06:22:15.3±1.7, 469N±0.1×1530E±0.2, h52km±14km, mb4.0/10, MS3.0/2, Error ellipse: s-maj=26.4km s-min=8.9km az=98.6*

ISC 25 06:22:15.0±1.3, 469N±01×1529E±02, h35km±12km, n29, σ0§67/29, mb4.0/10, MS3.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.85**	**247**	*e*PN	**Pn**	**06 23 12.0**	**+0.4**
KUR				pmax	pmax		
	comp=Z,180nm,0.6s						
SKR	**Severo-Kuril's**	**4.38**	**28**	*e*PN	**Pn**	**06 23 19.5**	**+0.5**
SKR				*e*S	**Sn**	**06 24 08.5**	**-0.3**
SKR				pmax	pmax		
	comp=N,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,200nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.93**	**274**	*e*PN	**Pn**	**06 24 00.0**	**+6.0**
PET	**Petropavlovsk**	**7.21**	**29**	*e*PN	**Pn**	**06 23 51.5**	**-6.2**
PET				pmax	pmax		
	comp=Z,24nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,11.0s						
ASAJ	**Asahikawa**	**7.73**	**253**	Pn	**Pn**	**06 24 10.8**	**+6.0**
	comp=Z,1.4nm,0.3s,baz=75,slow=7.2,SNR=11						
ASAJ				LR	LR	06 27 00.5	
	comp=Z,190nm,19.4s,baz=29,slow=37						
KLR	**Kul'dur**	**14.32**	**287**	*e*P	**Pn**	**06 25 43.3**	**+8.2**
MAT	**Matsushiro**	**15.02**	**232**	P	**Pn**	**06 25 43.6**	**-0.9**
MAT	**Matsushiro**	**15.02**	**232**	P	**Pn**	**06 25 52.1**	**+7.6**
MJAR	**Matsushiro Arr**	**15.02**	**232**	Pn	**Pn**	**06 25 43.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=20,slow=14,SNR=3.9						
KSRS	**Korea Array**	**20.68**	**252**	P	**P**	**06 26 53.4**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=66,slow=8.7,SNR=3.4						
KSRS				LR	LR	06 34 49.1	
	comp=Z,41nm,18.6s,MS2.8,baz=14,slow=37						
SONM	**Songino Array**	**31.14**	**289**	LR	LR	06 40 52.3	
	comp=Z,58nm,20.6s,MS3.2,baz=30,slow=36						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**06 30 00.2**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.1,baz=296,slow=6.4,SNR=15						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**06 30 00.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**46.74**	**297**	P	**P**	**06 30 40.7**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=72,slow=9.3,SNR=2.8						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**06 31 12.4**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=301,slow=8.0,SNR=5.5						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**06 31 12.4**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**62.53**	**62**	P	**P**	**06 32 35.5**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.1,baz=300,slow=7.4,SNR=8.4						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**06 32 43.8**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=32,slow=9.0,SNR=7.5						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**06 32 43.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**	**06 32 50.1**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=294,slow=2.2,SNR=18						
NB2	**NORSAR Subarra**	**68.07**	**341**	P	**P**	**06 33 10.1**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.1,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.07**	**341**	P	**P**	**06 33 10.8**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=28,slow=6.4,SNR=5.4						
NOA	**NORSAR Array B**	**68.07**	**341**	P	**P**	**06 33 10.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**06 33 30.6**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=33,slow=6.2,SNR=4.2						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**06 33 30.6**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.26**	**198**	P	**P**	**06 33 36.9**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=13,slow=4.4,SNR=7.1						
ASAR	**Alice Springs**	**72.26**	**198**	P	**P**	**06 33 36.9**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**06 34 07.0**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=298,slow=4.7,SNR=34						
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**06 34 07.0**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

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*IDC **25** 06:36:07.2±1.5, 4731N×153.07E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=61.0km s-min=26.8km az=155.0*
*MOS **25** 06:36:11.4±1.9, 4708N×153.03E, h33km, mb4.3/1, Error ellipse: s-maj=72.9km s-min=29.4km az=55.8*
*ISCJB **25** 06:36:13.8±2.1, 472N±02×1529E±03, h67km±20km, mb4.3/3, Error ellipse: s-maj=52.6km s-min=13.6km az=100.7*

ISC 25 06:36:15.3±1.9, 472N±02×1529E±03, h67km±18km, n9, σ0§41/9, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.08**	**30**	*e*PN	**Pn**	**06 37 15.3**	**0.0**
SKR				*e*		06 38 05.5	
ASAJ	**Asahikawa**	**7.87**	**251**	Pn	**Pn**	**06 38 07.2**	**+0.2**
	0.7nm,0.3s,baz=58,slow=8.3,SNR=4.4						
ASAJ	**Asahikawa**	**7.87**	**251**	PN	**Pn**	**06 38 07.2**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.25**	**231**	Pn	**Pn**	**06 39 46.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=34,slow=9.4,SNR=7.9						
KSRS	**Korea Array**	**20.82**	**251**	P	**P**	**06 40 51.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=59,slow=10.0,SNR=4.1						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**06 46 38.9**	**-0.2**
	comp=Z,1.4nm,0.9s,mb3.8,baz=54,slow=7.1,SNR=5.0						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**06 46 38.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**64.59**	**54**	P	**P**	**06 46 45.0**	**-0.6**
	comp=Z,0.6nm,1.0s,mb3.4,baz=17,slow=1.5,SNR=4.4						
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**06 48 03.8**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.1,baz=289,slow=3.1,SNR=5.7						

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*SKHL **25** 06:37:49.6±1.9, 4610N×15360E, h47km±17km, mb4.9/5*
*IDC **25** 06:37:52.2±0.7, 4675N×15270E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/25, mbtmp4.1/18, ML4.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=21.6km s-min=16.4km az=167.0*
*NEIC **25** 06:37:53.9±0.4, 4678N×15274E, h10km, mb4.3/7, Error ellipse: s-maj=11.2km s-min=5.9km az=147.0*
*JMA **25** 06:37:56.4±0.8, 4685N×15280E, h30km, M4.9*
*MOS **25** 06:37:56.1±1.1, 4671N×15265E, h38km, mb4.5/18, Error ellipse: s-maj=11.7km s-min=8.7km az=92.7*
*ISCJB **25** 06:37:57.3±0.9, 4662N±006×15277E±008, h54km±7km, mb4.3/27, MS3.7/1, Error ellipse: s-maj=12.1km s-min=7.4km az=111.6*

ISC 25 06:37:59.3±0.8, 4662N±007×15280E±008, h58km±7km, n112, σ1§18/119, mb4.3/27, MS3.7/1, 7C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.71**	**250**	*e*P	**Pn**	**06 38 53.0**	**-1.1**
KUR				AMB	AMB	06 38 54.0	
	152nm,0.6s						
KUR				*e*S	**Sn**	**06 39 42.0**	**+5.4**
KUR				A		06 39 44.0	
	645nm,0.8s						
KUR				A		06 39 44.0	
	1μm,0.8s						
KUR	**Kuril'sk**	**3.71**	**250**	*e*PN	**Pn**	**06 38 53.0**	**-1.1**
KUR				*i* S	**Sn**	**06 39 42.0**	**+5.4**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,650nm,0.8s						
KUR				smax			
	comp=E,1μm,0.8s						
SKR	**Severo-Kuril's**	**4.62**	**27**	*e*P	**Pn**	**06 39 06.5**	**0.0**
SKR				AMB	AMB	06 39 07.7	
	comp=E,70nm,0.5s						
SKR				*e*S	**Sn**	**06 39 54.9**	**-4.0**
SKR				A		06 39 59.5	
	comp=E,290nm,0.2s						
SKR				A		06 39 59.5	
	comp=E,240nm,0.2s						
SKR				A		06 39 59.5	
	comp=E,90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**245**	*e*P	**Pn**	**06 39 19.9**	**+0.8**
YUK				AMB	AMB	06 39 23.7	
	comp=E,380nm,0.5s						
YUK				A		06 40 44.0	
	comp=E,940nm,0.6s						
NEM2	**Nemuro 2**	**5.97**	**239**	P	**Pn**	**06 39 23.6**	**-1.5**
NEM2				*e*S	**Sn**	**06 40 28.2**	**-3.9**
JRA	**Rausu**	**6.05**	**246**	P	**Pn**	**06 39 27.4**	**+1.3**
JNK	**Nakash**	**6.47**	**245**	P	**Pn**	**06 39 32.4**	**+0.4**
JAK	**Akkeshi**	**6.81**	**241**	P	**Pn**	**06 39 35.0**	**-1.5**
JAK				*e*S	**Sn**	**06 40 48.3**	**-4.3**
JTKR	**Abashiri--Toko**	**6.81**	**250**	P	**Pn**	**06 39 37.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**6.91**	**276**	*e*P	**Pn**	**06 39 42.0**	**+4.1**
YSS				AMB	AMB	06 39 44.5	
	comp=E,50nm,0.9s						
YSS				AMB	AMB	06 39 44.5	
	comp=E,50nm,0.8s						
YSS				*e*S	**Sn**	**06 40 56.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**6.91**	**276**	PN	**Pn**	**06 39 42.0**	**+4.1**
YSS				*e*S	**Sn**	**06 40 56.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.91**	**276**	*e*Pn	**Pn**	**06 39 34.8**	**-3.0**
	comp=E,38nm,0.8s						
JMP	**Maruseppu**	**7.15**	**252**	P	**Pn**	**06 39 42.4**	**+1.2**
JAR	**Ashorobuto**	**7.22**	**246**	P	**Pn**	**06 39 42.7**	**+0.6**
JAR				*e*S	**Sn**	**06 41 03.1**	**+0.5**
JOB	**Onbets**	**7.38**	**243**	*e*S	**Sn**	**06 41 02.5**	**-4.3**
JKK2	**Kamakawa 2**	**7.61**	**252**	P	**Pn**	**06 39 49.2**	**+1.7**
ASAJ	**Asahikawa**	**7.61**	**254**	Pn	**Pn**	**06 39 49.9**	**+2.3**
	comp=E,2.4nm,0.3s,baz=86,slow=16,SNR=10						
ASAJ				LR	LR	06 42 42.0	
	comp=E,78nm,18.6s,baz=148,slow=38						
ASAJ	**Asahikawa**	**7.61**	**254**	P	**Pn**	**06 39 50.5**	**+3.0**
UGL	**Uglegorsk**	**7.63**	**293**	*e*P	**Pn**	**06 39 50.0**	**+2.2**
JCH	**Churui**	**7.83**	**243**	P	**Pn**	**06 39 49.6**	**-1.0**
JCH				*e*S	**Sn**	**06 41 11.8**	**-6.0**
TYV	**Tymovskoe**	**7.94**	**306**	*e*P	**Pn**	**06 39 53.0**	**+1.1**
TYV				AMB	AMB	06 39 56.0	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	06 39 56.0	
	comp=E,24nm,0.8s						
TYV				AMS	AMS	06 43 02.0	
	comp=E,1μm,12.0s						
TYV				AMS	AMS	06 43 02.0	
	comp=E,600nm,16.0s						
ERM	**Erimo**	**8.31**	**240**	*e*PN	**Pn**	**06 39 55.7**	**-1.3**
ERM				pmax	pmax		
	comp=Z,38nm,0.4s						
ERM	**Erimo**	**8.31**	**240**	*e*Pn	**Pn**	**06 39 55.7**	**-1.3**
	comp=Z,38nm,0.4s						
JNBK	**Urakawa-nobuka**	**8.40**	**242**	*e*S	**Sn**	**06 41 23.9**	**-7.6**
JKB	**Kayabe**	**9.68**	**245**	P	**Pn**	**06 40 14.5**	**-1.3**
JKB				*e*S	**Sn**	**06 41 56.3**	**-6.6**
JANG	**Nango**	**10.30**	**237**	P	**Pn**	**06 40 20.5**	**-3.8**
JANG				*e*S	**Sn**	**06 42 07.4**	**-11**
OFUJ	**Ofunato**	**11.11**	**231**	*e*S	**Sn**	**06 42 27.4**	**-11**
MJAR	**Matsushiro Arr**	**14.83**	**232**	Pn	**Pn**	**06 41 23.5**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=243,slow=14,SNR=7.6						
MJAR	**Matsushiro Arr**	**14.83**	**232**	P	**Pn**	**06 41 23.5**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.83**	**232**	*e*P	**Pn**	**06 41 24.2**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**14.83**	**232**	*e*Pn	**Pn**	**06 41 24.2**	**-1.3**
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**20.32**	**328**	*e*P	**P**	**06 42 29.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
KSRS	**Korea Array**	**20.55**	**252**	P	**P**	**06 42 33.3**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=53,slow=14,SNR=3.2						
HIA	**Hailar**	**22.21**	**289**	*e*P	**P**	**06 42 50.0**	**-0.7**
ULN	**Ulaanbaatar**	**30.74**	**289**	*e*P	**P**	**06 44 11.0**	**+2.1**
ULN	**Ulaanbaatar**	**30.74**	**289**	*e*P	**P**	**06 44 12.1**	**+3.2**
	comp=Z,3.1nm,1.0s,mb4.1						
SONM	**Songino Array**	**31.17**	**289**	P	**P**	**06 44 13.2**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.6,baz=60,slow=8.6,SNR=5.1						
SONM	**Songino Array**	**31.17**	**289**	P	**P**	**06 44 13.2**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
COLA	**College**	**36.37**	**38**	*e*P	**P**	**06 44 57.5**	**-0.3**
INK	**Inuvik**	**41.88**	**32**	P	**P**	**06 45 43.9**	**+0.1**
	comp=Z,1.8nm,0.6s,mb3.9,baz=308,slow=7.9,SNR=7.9						
INK	**Inuvik**	**41.88**	**32**	P	**P**	**06 45 43.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**42.53**	**306**	P	**P**	**06 45 48.0**	**-1.0**
	comp=Z,1.6nm,0.4s,mb4.1,baz=19,slow=8.3,SNR=4.2						
ZAL				PcP	PcP	06 47 41.3	+0.6
	comp=Z,1.3nm,0.7s,baz=17,slow=1.1,SNR=6.8						
ZAL	**Zalesovo**	**42.53**	**306**	P	**P**	**06 45 48.0**	**-1.0**
ZAL						06 47 41.3	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**46.81**	**297**	*e*P	**P**	**06 46 21.5**	**-1.6**
MK31				*e*		06 47 55.2	
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**06 46 21.9**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=67,slow=7.2,SNR=34						
MKAR				PcP	PcP	06 47 55.4	0.0
	comp=Z,1.3nm,0.6s,baz=61,slow=5.2,SNR=7.9						
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**06 46 22.0**	**-1.1**
MKAR						06 47 55.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**06 46 21.9**	**-1.2**
MKAR				PcP	PcP	06 47 55.4	0.0
LSA	**Lhasa**	**50.07**	**273**	*e*P	**P**	**06 46 50.7**	**+2.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
LSA	**Lhasa**	**50.07**	**273**	*e*P	**P**	**06 46 50.7**	**+2.6**
	comp=Z,12nm,0.6s,mb5.1						
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P	**P**	**06 46 48.8**	**-1.5**
CHKZ				*e*		06 48 07.6	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P	**P**	**06 46 48.8**	**-1.6**
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ				*e*PcP	PcP	06 48 07.6	-0.6
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**06 46 52.6**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=45,slow=6.0,SNR=3.9						
BVAR				PcP	PcP	06 48 09.5	-0.2
	comp=Z,0.9nm,0.3s,baz=48,slow=2.1,SNR=4.2						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**06 46 52.6**	**-0.9**
BVAR						06 48 09.5	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**06 46 56.6**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=296,slow=7.0,SNR=4.5						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**06 46 56.6**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.70**	**296**	*e*P	**P**	**06 47 13.8**	**-1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
JIRN	**Jiri**	**54.74**	**274**	*e*P	**P**	**06 47 24.2**	**+1.4**
GUN	**Gumba**	**54.80**	**275**	*e*P	**P**	**06 47 24.4**	**+1.2**
	comp=Z,26nm,0.7s,mb5.4						
ARU	**Arti**	**54.96**	**317**	⇑*i*P	**P**	**06 47 22.8**	**-1.6**
ARU				*e*	pP	06 47 41.3	+1.4
ARU				*e*	

FINES	**FINES Array B**	**64.06 335**	P	**P**	**06 48 25.6**	**-1.5**
	comp=Z,3.8nm,0.4s,mb4.8,baz=38,slow=7.6,SNR=57					
FINES	**FINES Array B**	**64.06 335**	P	**P**	**06 48 25.6**	**-1.5**
FINES			pmax	pmax		
	comp=Z,4.0nm,0.4s					
PDAR	**Pinedale Array**	**65.00 54**	P	**P**	**06 48 34.0**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=318,slow=2.0,SNR=4.5					
NB2	**NORSAR Subarra**	**68.28 341**	P	**P**	**06 48 52.7**	**-1.4**
	comp=Z,3.0nm,0.5s,mb4.6,baz=27,slow=6.5					
NOA	**NORSAR Array B**	**68.28 341**	P	**P**	**06 48 53.4**	**-0.7**
	comp=Z,3.9nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=15					
NOA	**NORSAR Array B**	**68.28 341**	P	**P**	**06 48 53.4**	**-0.7**
NOA			pmax	pmax		
	comp=Z,4.0nm,0.5s					
AKASG	**Malin Array Be**	**71.53 326**	P	**P**	**06 49 13.0**	**-1.0**
	comp=Z,4.6nm,0.5s,mb4.7,baz=35,slow=6.2,SNR=19					
AKASG	**Malin Array Be**	**71.53 326**	P	**P**	**06 49 13.0**	**-1.0**
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.5s					
ASAR	**Alice Springs**	**72.02 198**	P	**P**	**06 49 18.1**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=11,slow=6.6,SNR=32					
ASAR	**Alice Springs**	**72.02 198**	P	**P**	**06 49 18.2**	**+1.3**
ASAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
STHS	**Stebnicka Huta**	**75.52 330**	*e*P	**P**	**06 49 38.2**	**+0.8**
STHS			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
STHS	**Stebnicka Huta**	**75.52 330**	*e*P	**P**	**06 49 38.2**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.3					
KOLS	**Kolonicke sedl**	**75.56 329**	*e*P	**P**	**06 49 37.2**	**-0.5**
BURAR	**Bucovina Array**	**75.58 326**	⇓*i*P	**P**	**06 49 37.8**	**+0.1**
BURAR	**Bucovina Array**	**75.58 326**	⇓P	**P**	**06 49 37.8**	**0.0**
MORC	**Moravsky Berou**	**76.45 332**	⇑*i*P	**P**	**06 49 42.8**	**+0.1**
MORC	**Moravsky Berou**	**76.45 332**	⇑P	**P**	**06 49 42.9**	**+0.1**
CLL	**Collm**	**76.49 335**	*i* P	**P**	**06 49 42.5**	**-0.5**
MLR	**Muntele Rosu**	**77.05 325**	⇓*i*P	**P**	**06 49 45.6**	**-0.5**
MALT	**Malatya**	**77.08 313**	⇑*i*P	**P**	**06 49 47.4**	**+1.1**
MALT	**Malatya**	**77.08 313**	⇑P	**P**	**06 49 47.4**	**+1.1**
VYHS	**Vyhne**	**77.13 331**	*e*P	**P**	**06 49 46.8**	**+0.2**
VYHS			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1					
VYHS	**Vyhne**	**77.13 331**	*e*P	**P**	**06 49 46.8**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.0					
DRGR		**77.21 327**	⇓*i*P	**P**	**06 49 47.2**	**+0.2**
DRGR		**77.21 327**	⇓P	**P**	**06 49 47.2**	**+0.2**
TXAR	**Lajitas Array**	**77.74 60**	P	**P**	**06 49 50.8**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=304,slow=3.7,SNR=4.9					
TXAR	**Lajitas Array**	**77.74 60**	P	**P**	**06 49 50.8**	**+0.8**
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
KHC	**Kasperske Hory**	**78.26 334**	*e*P	**P**	**06 49 53.0**	**+0.2**
KHC	**Kasperske Hory**	**78.26 334**	⇓*i*P	**P**	**06 49 51.8**	**-1.0**
BR131	**Keskin Array S**	**78.34 317**	*e*P	**P**	**06 49 53.9**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.0					
BRTR	**Keskin Array B**	**78.34 317**	P	**P**	**06 49 54.0**	**+0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=73,slow=4.3,SNR=10.0					
BRTR	**Keskin Array B**	**78.34 317**	P	**P**	**06 49 54.0**	**+0.8**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
GERES	**GERESS Array B**	**78.48 334**	P	**P**	**06 49 54.0**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=5.7,SNR=9.9					
GERES	**GERESS Array B**	**78.48 334**	P	**P**	**06 49 54.0**	**0.0**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
BZS	**Buzias**	**78.61 327**	⇑*i*P	**P**	**06 49 54.6**	**-0.1**
BZS	**Buzias**	**78.61 327**	⇑P	**P**	**06 49 54.6**	**-0.2**
VTS	**Vitosha**	**80.55 325**	⇓*i*P	**P**	**06 50 05.7**	**+0.4**
CFAA	**Coronel Fontan**	**145.23 79**	PKPbc	PKPbc	06 57 30.4	+0.3
	comp=Z,0.7nm,0.7s,baz=257,slow=2.4,SNR=13					
VNA2	**Neumayer--Watz**	**153.82 195**	*e*PKPdf	PKPdf	06 57 38.3	-5.6
VNA2			*e*		06 57 51.2	
VNA2			*e*		06 57 56.1	
VNA2			*e*		06 58 00.5	
VNA2			*e*		06 58 05.1	
VNA2			*e*		06 58 09.8	
VNA2			*e*		06 58 19.8	
VNA2			*e*		06 58 22.3	
VNA3	**Neumayer Olymp**	**153.92 193**	*e*PKPdf	PKPbc	06 57 50.8	-1.2
VNA3			*e*		06 57 55.7	
VNA3			*e*		06 58 05.2	
VNA3			*e*		06 58 09.7	
VNA3			*e*		06 58 20.0	
VNA3			*e*		06 58 22.8	
VNA1	**Neumayer--Stat**	**154.21 194**	*e*PKPdf	PKPbc	06 57 52.7	0.0
VNA1			*e*		06 58 06.4	
VNA1			*e*		06 58 11.4	

MAN 25 06:39:18.3, 970N×12630E, h9km, mb2.7, ML4.2, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**276**	⇓*e*P		Pg	06 39 33.6	-0.2
SCPH				*e*S		Sg	06 39 47.7	+3.4
BUTP	**Butuan**	**0.99**	**223**	*e*P		Pg	06 39 36.4	-0.9
MSLP	**Maasin**	**1.49**	**287**	*e*P		Pn	06 39 45.5	+0.3
PLP	**Palo**	**1.96**	**318**	*e*P		Pn	06 39 51.3	-0.3
PLP				*e*S		Sn	06 40 16.4	+0.1
BUKP	**Musuan**	**2.18**	**214**	*e*P		Pn	06 39 55.0	+0.2
PVCP	**Virac**	**4.41**	**332**	*e*P		Pn	06 40 32.5	+7.1

NIED ***25*** *06:39:00, 32.00N×132.20E, h8km, Mw4.3 Best double couple: M₀2.76000×10¹⁵ NP1:φ,δ 15.00000°,δ86.00000°, λ 18.00000°. NP2:φ,δ 284.00000°,δ 72.00000°,λ 176.00000°.*

BJI ***25*** *06:39:43.7, 32.00N×132.20E, h16km, mB4.5, mb4.4, Ms4.2, Msz4.0*

JMA ***25*** *06:39:43.7±0.2, 32.01N×132.16E, h16km±3km, M4.3 Broadband fault plane solution: P waves. NP1: φ,δ 219.00000°,δ 17.00000°,λ 87.00000°. NP2:φ,δ 42.00000°, δ 73.00000°,λ 91.00000°. Principal axes: T Plg62.0000°, Azm313.0000°; N Plg1.0000°, Azm221.0000°; P Plg28.0000°, Azm131.0000°;*

JMA Felt I J1.

NEIC ***25*** *06:39:43.7, 32.01N×132.16E, h16km, MG4.3(JMA), After JMA.*

NEIC Recorded [1 JMA] in Miyazaki Prefecture.

ISCJB ***25*** *06:39:44.4±0.7, 32.00N±0.05×132.16E±0.05, h48km±6km, mb4.1/8, MS3.9/6, Error ellipse: s-maj=9.9km s-min=5.0km az=96.2*

IDC ***25*** *06:39:49.3±2.5, 31.99N×131.77E, h70km±20km, mb3.7/5, mb1 3.7/7, mb1mx3.5/25, mbtmp3.7/7, MS3.8/6, Ms1 3.8/6, ms1mx3.3/31, Error ellipse: s-maj=46.0km s-min=19.1km az=82.0*

ISC 25 06:39:42.6±1.2, 3198N±004×13220E±005, h13km±6km, n26, σ1°17/31, mb4.1/8, MS3.9/6, 7C-1D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.65**	**295**	⇓P		**Pg**	**06 39 54.9**	**-0.4**
JTSN				S		**Sg**	**06 40 02.9**	**-0.9**
JKIT	**Kitakata**	**0.91**	**316**	P		**Pg**	**06 39 59.8**	**-0.3**
JKIT				S		**Sg**	**06 40 11.6**	**-0.4**
JNAR	**Kushima--Naru**	**0.91**	**241**	⇑P		**Pb**	**06 40 00.5**	**+0.3**
JNAR				S		**Sg**	**06 40 13.4**	**+1.3**
JTZ	**Takazaki**	**0.95**	**266**	⇑P		**Pb**	**06 40 00.4**	**-0.5**
JTZ				S		**Sb**	**06 40 14.3**	**+0.9**
JTO	**Tosashimizu**	**1.02**	**30**	⇑P		**Pb**	**06 40 02.2**	**+0.1**
JTO				*e*S		**Sb**	**06 40 15.3**	**0.0**
JUS	**Usuki**	**1.15**	**341**	⇑P		**Pb**	**06 40 04.6**	**+0.3**
JUS				S		**Sb**	**06 40 19.7**	**+0.5**
UWA2	**Uwa jima 2**	**1.29**	**16**	⇑P		**Pn**	**06 40 06.2**	**0.0**
UWA2				*e*S		**Sb**	**06 40 22.9**	**-0.1**
JIU2	**Izumi 2**	**1.31**	**296**	⇑P		**Pn**	**06 40 06.4**	**-0.1**
JZO	**Okuchi**	**1.37**	**277**	⇑P		**Pn**	**06 40 06.9**	**-0.5**
JNU	**Nakatsue**	**1.60**	**316**	P		**Pn**	**06 40 11.7**	**+1.1**
	163nm,0.3s,baz=172,slow=26,SNR=224							
JNU				S		**Sn**	**06 40 33.0**	**+2.0**
	338nm,0.3s,baz=227,slow=19,SNR=17							
JNU				LR		LR	06 40 47.5	
	comp=Z,3μm,19.1s,baz=354,slow=43							
JOW	**Kunigami**	**6.16**	**215**	P		**Pn**	**06 41 16.3**	**+3.0**
	1.7nm,0.3s,baz=104,slow=20,SNR=3.3							
KSRS	**Korea Array**	**6.50**	**328**	P		**Pn**	**06 41 19.2**	**+1.3**
	baz=147,slow=14,SNR=9.3							
JHJ	**Hachijo jima 2**	**6.50**	**78**	LR		LR	06 43 57.9	
	comp=Z,316nm,18.5s,baz=300,slow=36							
MAT	**Matsushiro**	**6.74**	**46**	P		**Pn**	**06 41 24.4**	**+3.2**
MAT				S		**Sn**	**06 42 38.5**	**+0.6**
LZH	**Lanzhou**	**23.82**	**288**	*e*P		**P**	**06 44 52.0**	**-3.3**
	17nm,1.0s,mb4.4							
LZH				pP			06 44 59.5	
LZH				sP		sP	06 45 02.9	+2.0
CD2	**Chengdu**	**24.27**	**275**	P		**P**	**06 44 57.3**	**-2.0**
CD2				AP			06 45 07.3	
CD2				XP		sP	06 45 10.5	+5.5
CD2				PP			06 45 31.5	
CD2				S		**S**	**06 49 10.3**	**-7.5**
CD2				XS		sS	06 49 27.8	+3.5
CD2				SS			06 50 06.8	
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.5							
CD2				AMB		AMB		
	comp=Z,80nm,4.3s							
CD2				LR		LR		
	comp=N,550nm,11.8s,MS4.6							
CD2				LR		LR		
	comp=E,1μm,12.7s,MS4.6							
CD2				LR		LR		
	comp=Z,1μm,13.1s,MS4.7							
ULN	**Ulaanbaatar**	**24.82**	**317**	*e*P		**P**	**06 45 03.0**	**-1.4**
	comp=Z,26nm,1.8s,mb4.5							
SONM	**Songino Array**	**25.19**	**316**	P		**P**	**06 45 07.1**	**-0.6**
	comp=Z,3.2nm,0.9s,mb3.9,baz=129,slow=9.9,SNR=14							
SONM				LR		LR	06 55 28.5	
	comp=Z,179nm,20.3s,MS3.6,baz=340,slow=38							
ZAL	**Zalesovo**	**40.08**	**317**	LR		LR	07 06 02.7	
	comp=Z,126nm,19.8s,MS3.8,baz=18,slow=40							
MKAR	**Makanchi Array**	**40.63**	**306**	LR		LR	07 05 29.4	
	comp=Z,135nm,18.7s,MS3.8,baz=75,slow=38							
BVAR	**Borovoye Array**	**48.51**	**315**	LR		LR	07 10 22.1	
	comp=Z,141nm,18.5s,MS4.0,baz=51,slow=38							
WRA	**Warramunga Arr**	**51.66**	**177**	P		**P**	**06 48 48.8**	**-0.3**
	comp=Z,2.1nm,1.0s,mb4.0,baz=349,slow=7.8,SNR=7.0							
INK	**Inuvik**	**62.25**	**25**	P		**P**	**06 50 05.0**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.9,baz=317,slow=4.7,SNR=3.8							
ARCES	**ARCESS Array B**	**65.96**	**338**	LR		LR	07 21 38.7	
	comp=Z,70nm,18.9s,MS3.9,baz=73,slow=38							
FINES	**FINESS Array B**	**69.59**	**330**	P		**P**	**06 50 49.0**	**-2.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=74,slow=5.1,SNR=3.8							
AKASG	**Malin Array Be**	**73.42**	**320**	P		**P**	**06 51 11.7**	**-2.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=55,slow=5.9,SNR=7.6							

IDC ***25*** *06:49:20.4±1.8, 47.44N×155.26E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse: s-maj=51.9km s-min=22.5km az=172.0*

NEIC ***25*** *06:49:20.2±2.0, 47.12N×155.15E, h10km, mb4.6/3, Error ellipse: s-maj=58.6km s-min=15.2km az=1.0*

ISCJB ***25*** *06:49:26.3±3.6, 47.6N±0.2×155.1E±0.2, h51km±26km, mb4.0/10, Error ellipse: s-maj=42.3km s-min=19.2km az=144.2*

MOS ***25*** *06:49:45.8±2.5, 50.89N×153.45E, h38km, mb4.5/4, Error ellipse: s-maj=42.0km s-min=24.9km az=127.6*

ISC 25 06:49:27.3±3.2, 47.6N±0.2×155.1E±0.2, h46km±23km, n18, σ0°61/18, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.13**	**11**	*e*PN		**Pn**	**06 50 14.0**	**-0.1**
KSRS	**Korea Array**	**22.38**	**253**	P		**P**	**06 54 21.9**	**+0.4**
	0.9nm,0.5s,mb3.5,baz=50,slow=14,SNR=3.0							
INK	**Inuvik**	**40.17**	**33**	P		**P**	**06 56 59.7**	**+0.8**
	1.2nm,0.5s,mb3.9,baz=295,slow=3.0,SNR=6.8							
INK	**Inuvik**	**40.17**	**33**	*e*P		**P**	**06 56 59.5**	**+0.6**
	42nm,0.6s,mb5.3							
MKAR	**Makanchi Array**	**47.77**	**298**	P		**P**	**06 57 59.1**	**-0.7**
	0.4nm,0.7s,mb3.6,baz=79,slow=6.3,SNR=4.0							
CHKZ	**Chkalovo**	**50.92**	**310**	*e*P		**P**	**06 58 23.3**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
CHKZ	**Chkalovo**	**50.92**	**310**	*e*P		**P**	**06 58 23.3**	**-0.6**
	comp=Z,3.6nm,0.5s,mb4.6							
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**06 58 27.6**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=60,slow=7.5,SNR=9.2							
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**06 58 27.6**	**+0.4**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**51.41**	**310**	*e*P		**P**	**06 58 27.3**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.41**	**310**	*e*P		**P**	**06 58 27.3**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**63.11**	**55**	P		**P**	**06 59 49.5**	**-0.6**
	comp=Z,0.9nm,1.1s,mb3.8,baz=270,slow=4.2,SNR=4.5							
FINES	**FINESS Array B**	**63.83**	**335**	P		**P**	**06 59 54.4**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=36,slow=7.1,SNR=8.6							
FINES	**FINESS Array B**	**63.83**	**335**	P		**P**	**06 59 54.4**	**-0.4**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**63.83**	**335**	P		**P**	**06 59 54.4**	**-0.4**
NOA	**NORSAR Array B**	**67.84**	**342**	P		**P**	**07 00 22.0**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=28,slow=6.5,SNR=2.8							
NOA	**NORSAR Array B**	**67.84**	**342**	P		**P**	**07 00 22.0**	**+1.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**75.86**	**62**	P		**P**	**07 01 08.5**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=309,slow=4.3,SNR=9.8							

ISCJB ***25*** *06:53:29.2±0.5, 78.45N±0.05×306E±0.1, h10km, mb4.1/10, MS3.9/10, Error ellipse: s-maj=17.0km s-min=6.6km az=32.0*

NEIC ***25*** *06:53:31.6±0.5, 77.45N×305.0E, h10km, mb4.9/2, Error ellipse: s-maj=14.9km s-min=7.9km az=105.0*

IDC ***25*** *06:53:34.7±0.9, 77.15N×305.0E, h28km±5km, mb3.9/10, mb1 4.1/13, mb1mx3.9/21, mbtmp4.0/13, ML3.1/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/27, Error ellipse: s-maj=27.1km s-min=14.8km az=91.0*

ISC 25 06:53:31.6±0.4, 77.9N±0.05×305.4E±0.10, h10km, (h31km±1.1km: pP-P), n33, σ1°16/36, mb4.1/10, MS3.9/10, 1C-1D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.79**	**197**	Pn		**Pn**	**06 55 26.9**	**+2.0**
	7.9nm,0.3s,baz=14,slow=13,SNR=100							
LSZ				Sn		**Sn**	**06 56 50.7**	**-2.4**
	52nm,0.3s,baz=135,slow=22,SNR=16							
LSZ				Lg			06 57 39.0	
	105nm,0.3s,baz=84,slow=19,SNR=18							
LSZ				LR		LR	06 58 37.0	
	comp=Z,1μm,18.4s,baz=140,slow=38							
KMBO	**Kilima Mbogo**	**9.41**	**46**	Pn		**Pn**	**06 55 45.5**	**-1.7**
	27nm,0.3s,baz=222,slow=16,SNR=253							
KMBO				Sn		**Sn**	**06 57 24.1**	**-9.0**
	17nm,0.3s,baz=202,slow=20,SNR=3.9							
KMBO				Lg			06 58 21.0	
	15nm,0.3s,baz=346,slow=23,SNR=3.9							
KMBO				LR		LR	06 59 42.1	
	comp=Z,704nm,18.3s,baz=266,slow=39							
KMBO	**Kilima Mbogo**	**9.41**	**46**	Pn		**Pn**	**06 55 45.5**	**-1.7**
KMBO				Sn		**Sn**	**06 57 24.1**	**-9.0**
KMBO				Lg			06 58 21.0	
KMBO				LR		LR	06 59 42.1	
MATP	**Matopo**	**12.71**	**189**	Pn		**Pn**	**06 56 31.5**	**-0.9**
	5.0nm,0.3s,baz=11,slow=14,SNR=97							
MATP				Sn		**Sn**	**06 58 44.4**	**-10**
	5.5nm,0.3s,baz=289,slow=18,SNR=6.2							
MATP				Lg			07 00 09.3	
	5.4nm,0.3s,baz=269,slow=23,SNR=3.8							
MATP				LR		LR	07 01 39.7	
	comp=Z,784nm,18.7s,baz=13,slow=38							
MATP	**Matopo**	**12.71**	**189**	Pn		**Pn**	**06 56 31.5**	**-0.9**
MATP				Sn		**Sn**	**06 58 44.4**	**-10**
MATP				Lg			07 00 09.3	
MATP				LR		LR	07 01 39.7	
TSUM	**Tsumeb**	**16.93**	**227**	Pn		**Pn**	**06 57 28.6**	**+0.1**
	1.3nm,0.3s,baz=34,slow=13,SNR=25							
TSUM				Sn		**Sn**	**07 00 23.4**	**-13**
	2.3nm,0.3s,baz=276,slow=14,SNR=5.4							
TSUM				Lg			07 02 21.7	
	1.9nm,0.3s,baz=103,slow=22,SNR=2.0							
TSUM				LR		LR	07 04 36.6	
	comp=Z,839nm,20.4s,baz=320,slow=39							
LBTB	**Lobatse**	**17.77**	**195**	P		**Pn**	**06 57 37.8**	**-1.2**
	2.4nm,0.3s,baz=27,slow=14,SNR=23							
LBTB				S		**Sn**	**07 00 43.6**	**-13**
	4.3nm,0.3s,baz=290,slow=19,SNR=5.4							
LBTB				Lg			07 02 51.1	
	1.1nm,0.3s,baz=132,slow=21,SNR=6.2							
LBTB				LR		LR	07 04 26.1	
	comp=Z,369nm,21.9s,baz=31,slow=36							
OPO	**Ambohidratompo**	**19.41**	**125**	P		**Pn**	**06 58 00.6**	**+1.6**
	0.5nm,0.3s,baz=296,slow=12,SNR=5.0							
BOSA	**Boshof**	**21.30**	**193**	P		**P**	**06 58 19.4**	**+1.1**
	10nm,0.6s,mb4.3,baz=2.2,slow=9.7,SNR=23							
BOSA				S		**S**	**07 02 07.1**	**-7.8**
	31nm,0.8s,baz=134,slow=15,SNR=9.6							
BOSA				LR		LR	07 06 41.5	
	comp=Z,435nm,18.4s,MS3.9,baz=287,slow=37							
BOSA	**Boshof**	**21.30**	**193**	P		**P**	**06 58 19.4**	**+1.1**
BOSA				S		**S**	**07 02 07.1**	**-7.8**
BOSA				LR		LR	07 06 41.5	
SUR	**Sutherland**	**26.08**	**199**	LR		LR	07 09 40.9	
	comp=Z,648nm,18.4s,MS4.2,baz=27,slow=37							
TOA0	**Torodi Ar. Sit**	**35.40**	**306**	*e*P		**P**	**07 00 28.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**35.40**	**306**	P		**P**	**07 00 28.5**	**+0.9**
	1.1nm,0.6s,mb4.0,baz=115,slow=7.9,SNR=16							
BR131	**Keskin Array S**	**47.36**	**3**	*e*P		**P**	**07 02 06.0**	**+0.4**
	4.1nm,0.7s,mb4.5							
BR131				*e*pP		pP	07 02 14.7	+5.9
BRTR	**Keskin Array B**	**47.36**	**3**	P		**P**	**07 02 05.5**	**-0.1**
	3.6nm,0.9s,mb4.3,baz=179,slow=9.9,SNR=19							
BRTR				pP		pP	07 02 14.8	+6.0
	5.3nm,0.7s,baz=178,slow=9.3,SNR=16							
AKASG	**Malin Array Be**	**58.26**	**359**	P		**P**	**07 03 25.7**	**-0.5**
	0.3nm,0.4s,mb3.7,baz=183,slow=6.6,SNR=2.8							
AKASG				pP		pP	07 03 34.6	+5.2
	2.0nm,0.6s,baz=182,slow=6.6,SNR=4.9							
KHC	**Kasperske Hory**	**58.60**	**347**	*e*P		**P**	**07 03 37.0**	**+8.4**
KHC				x		x	07 03 43.0	
KHC	**Kasperske Hory**	**58.60**	**347**	*e*P		**P**	**07 03 37.0**	**+8.4**
KHC				*e*			07 03 43.0	
SYO	**Syowa Base**	**61.43**	**176**	⇑*e*P		**P**	**07 03 49.4**	**+1.4**
AKTK	**Aktyubinsk**	**62.70**	**19**	P		**P**	**07 03 56.4**	**-0.2**
AKTO	**Aktyubinsk**	**62.70**	**19**	P		**P**	**07 03 56.4**	**-0.2**
	0.8nm,0.6s,mb4.0,baz=209,slow=10,SNR=4.0							
MAW	**Mawson**	**63.56**	**167**	⇓*i*P		**P**	**07 04 04.3**	**+2.0**
	10nm,0.6s,mb5.0							
MAW	**Mawson**	**63.56**	**167**	P		**P**	**07 04 03.1**	**+0.8**
	13nm,0.7s,mb5.1,baz=315,slow=7.8,SNR=37							
MAW				LR		LR	07 29 27.0	
	comp=Z,32nm,19.6s,MS3.5,baz=245,slow=34							
FINES	**FINESS Array B**	**69.11**	**358**	P		**P**	**07 04 36.6**	**-1.2**
	1.0nm,0.8s,mb3.8,baz=157,slow=7.5,SNR=4.0							
BVAR	**Borovoye Array**	**69.38**	**24**	LR		LR	07 39 07.5	
	comp=Z,81nm,19.2s,MS4.0,baz=130,slow=39							
NOA	**NORSAR Array B**	**70.28**	**350**	LR		LR	07 37 36.7	
	comp=Z,31nm,19.2s,MS3.6,baz=90,slow=38							
MKAR	**Makanchi Array**	**71.12**	**35**	P		**P**	**07 04 49.5**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=246,slow=10,SNR=7.8							
MKAR				LR		LR	07 39 21.6	
	comp=Z,71nm,18.5s,MS4.0,baz=173,slow=39							
ZAL	**Zalesovo**	**76.49**	**30**	LR		LR	07 43 07.7	
	comp=Z,96nm,18.4s,MS4.1,baz=234,slow=39							
ARCES	**ARCESS Array B**	**77.23**	**358**	P		**P**	**07 05 25.7**	**-0.1**
	2.3nm,0.9s,mb4.1,baz=113,slow=2.8,SNR=4.6							
ARCES				pP		pP	07 05 34.0	+5.0
	0.5nm,0.4s,baz=178,slow=6.8,SNR=1.6							
ARCES	**ARCESS Array B**	**77.23**	**358**	P		**P**	**07 05 25.7**	**-0.1**
ARCES				pP		pP	07 05 34.0	+5.0
SONM	**Songino Array**	**86.36**	**41**	P		**P**	**07 06 14.8**	**+0.9**
	0.4nm,0.8s,mb3.7,baz=242,slow=3.2,SNR=3.6							
SONM				LR		LR	07 47 08.5	
	comp=Z,50nm,18.1s,MS4.0,baz=61,slow=37							
VNDA	**Vanda**	**90.62**	**171**	LR		LR	07 43 54.2	
	comp=Z,88nm,18.3s,MS4.2,baz=302,slow=33							
FITZ	**Fitzroy Crossi**	**92.42**	**109**	LR		LR	07 42 48.0	
	comp=Z,34nm,18.8s,MS3.8,baz=275,slow=32							

ISCJB ***25*** *07:21:08.9±11.0, 462N±02×1548E±03, h3km±70km, mb3.7/8, Error ellipse: s-maj=32.1km s-min=23.6km az=71.2*

IDC ***25*** *07:21:10.4±0.8, 4622N×15487E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=28.2km s-min=21.9km az=142.0*

MOS ***25*** *07:21:13.9±0.5, 4623N×15464E, h35km, mb4.0/6, Error ellipse: s-maj=35.5km s-min=28.8km az=63.5*

ISC 25 07:21:15.1±8.5, 463N±02×1548E±03, h31km±60km, n16, σ0°48/16, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.87**	**260**	Pn		**Pn**	**07 23 20.9**	**-0.1**
	1.0nm,0.3s,baz=354,slow=15,SNR=4.5							
ASAJ	**Asahikawa**	**8.87**	**260**	PN		**Pn**	**07 23 21.0**	**-0.1**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Mak

comp=Z,0.6nm,0.6s,mb3.8,baz=66,slow=6.8,SNR=9.6
MKAR Makanchi Array 47.80 298 P **P** 07 35 05.9 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 50.18 37 P **P** 07 35 23.8 -0.6
comp=Z,1.6nm,0.8s,mb4.1,baz=295,slow=7.1,SNR=4.2
YKA Yellowknife Ar 50.18 37 P **P** 07 35 23.8 -0.6
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 50.18 37 P **P** 07 35 23.8 -0.6
CHKZ Chkalovo 51.13 311 *e*P **P** 07 35 31.1 -0.5
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 51.13 311 *e*P **P** 07 35 31.1 -0.6
comp=Z,4.2nm,0.6s,mb4.5
BVAR Borovoye Array 51.57 310 P **P** 07 35 35.2 +0.4
comp=Z,1.1nm,0.4s,mb4.2,baz=53,slow=7.9,SNR=13
BVAR Borovoye Array 51.57 310 P **P** 07 35 35.2 +0.3
BVAR pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 58.06 341 P **P** 07 36 22.2 +0.5
comp=Z,2.5nm,0.9s,mb4.2,baz=29,slow=7.5,SNR=7.3
ARCES ARCESS Array B 58.06 341 P **P** 07 36 22.2 +0.4
ARCES pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 63.81 55 P **P** 07 37 01.0 +0.2
comp=Z,0.7nm,0.7s,mb3.8,baz=306,slow=3.5,SNR=5.0
FINES FINESS Array B 64.35 335 P **P** 07 37 05.1 +0.8
comp=Z,3.7nm,0.9s,mb4.4,baz=34,slow=7.1,SNR=12
FINES FINESS Array B 64.35 335 P **P** 07 37 05.1 +0.8
FINES pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 68.42 342 P **P** 07 37 30.5 +0.1
comp=Z,2.5nm,1.0s,mb4.2,baz=28,slow=6.5
NOA NORSAR Array B 68.42 342 P **P** 07 37 31.4 +1.0
comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=4.1
NOA NORSAR Array B 68.42 342 P **P** 07 37 31.4 +1.0
NOA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.69 200 P **P** 07 37 55.5 -0.8
comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=5.1,SNR=12
ASAR Alice Springs 72.69 200 P **P** 07 37 55.6 -0.7
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 76.51 62 P **P** 07 38 18.4 0.0
comp=Z,3.1nm,0.6s,mb4.4,baz=300,slow=4.1,SNR=48
TXAR Lajitas Array 76.51 62 P **P** 07 38 18.4 -0.1
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 76.51 62 P **P** 07 38 18.4 -0.1

IDC 25 07:33:51.3±1.4, 4708N×15511E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=38.6km s-min=32.0km az=104.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.00**	**298**	P	P	07 42 32.1	+0.1
	0.2nm,0.4s,baz=50,slow=9.6,SNR=3.7						
YKA	**Yellowknife Ar**	**49.83**	**37**	P	P	07 42 45.6	-0.4
	0.8nm,0.7s,baz=297,slow=7.0,SNR=3.7						
BVAR	**Borovoye Array**	**51.70**	**310**	P	P	07 42 59.7	-0.4
	1.2nm,0.4s,baz=63,slow=8.1,SNR=9.9						
FINES	**FINESS Array B**	**64.31**	**336**	P	P	07 44 27.7	-0.9
	1.1nm,0.5s,baz=52,slow=7.5,SNR=9.1						
ASAR	**Alice Springs**	**72.98**	**200**	P	P	07 45 22.6	-0.1
	0.3nm,0.6s,baz=18,slow=6.0,SNR=5.5						

*ISCJB **25** 08:03:29.1±1.2, 1285N±005×12478E±007, h22km±8km, mb3.7/3, Error ellipse: s-maj=12.1km s-min=8.3km az=140.8*
*MAN **25** 08:03:30.4, 1280N×12473E, h18km, mb2.9, ML4.3, MS1.9*
*IDC **25** 08:03:35.9±33.0, 1167N×12491E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=580.1km s-min=255.9km az=154.0*
ISC 25 08:03:29.5±1.2, 1285N±005×12475E±007, h17km±6km, n10, σ0°93/16, mb3.7/3, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.35**	**194**	*e*P	**Pg**	**08 03 37.9**	**+1.0**
CNP				*e*S	**Sg**	**08 03 40.8**	**-1.0**
PVCP	**Virac**	**0.94**	**322**	ǁ *i*P	**Pb**	**08 03 47.9**	**+0.7**
PVCP				*i* S	**Sg**	**08 04 04.7**	**+4.7**
PVCP	**Virac**	**0.94**	**322**	*e*P	**Pb**	**08 03 47.6**	**+0.4**
PVCP				*e*S	**Sb**	**08 03 58.6**	**-0.8**
MMPH	**Masbate**	**1.20**	**246**	*e*P	**Pg**	**08 04 01.4**	**+8.7**
MMPH				*e*S	**Sb**	**08 04 05.8**	**-1.3**
PLP	**Palo**	**1.69**	**172**	*e*P	**Pn**	**08 03 58.3**	**0.0**
PLP				*e*S	**Sn**	**08 04 19.4**	**-0.1**
RCP	**Roxas**	**2.34**	**237**	ǁ *e*P	**Pn**	**08 04 08.7**	**+1.5**
RCP				*e*S	**Sn**	**08 04 36.2**	**+0.6**
GUIM	**Jordan**	**3.06**	**224**	*e*P	**Pn**	**08 04 18.2**	**+1.1**
WRA	**Warramunga Arr**	**33.93**	**164**	P	**P**	**08 10 09.9**	**-1.7**
	0.4nm,0.9s,mb3.4,baz=343,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**37.38**	**166**	P	**P**	**08 10 41.2**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=346,slow=6.9,SNR=7.0						
STKA	**Stephens Creek**	**47.32**	**160**	P	**P**	**08 12 02.2**	**+0.1**
	2.7nm,0.8s,mb4.2,baz=346,slow=11,SNR=3.4						

*MOS **25** 08:09:56.5±0.8, 5527N×16376E, h17km, mb4.2/1, Error ellipse: s-maj=26.0km s-min=17.8km az=77.9*
KRSC 25 08:09:57.2±0.9, 5529N×16354E, h10km±10km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.01**	**336**	P	Pg	08 10 16.3	-0.3
KBTR				*i* S	Sg	08 10 29.8	+0.1
KBTR	**Krutoberegovo**	**1.01**	**336**	P	Pg	08 10 16.3	-0.3
KBTR				*i* S	Sg	08 10 29.8	+0.1
MKZ	**Mys Kozlova**	**1.28**	**236**	*e*P	Pn	08 10 20.1	-1.0
MKZ				*i* S	Sb	08 10 36.7	-1.1
MKZ	**Mys Kozlova**	**1.28**	**236**	*e*P	Pn	08 10 20.1	-1.0
MKZ				*i* S	Sb	08 10 36.7	-1.1
ZLN	**Zelenaya**	**1.71**	**296**	*e*P	Pn	08 10 27.8	+0.7
ZLN				*i* S	Sn	08 10 50.1	+1.1
ZLN	**Zelenaya**	**1.71**	**296**	*e*P	Pn	08 10 27.8	+0.7
ZLN				*i* S	Sn	08 10 50.1	+1.1
BDR	**Baidarnaya**	**1.83**	**315**	*i* P	Pn	08 10 29.7	+1.0
BDR				*i* S	Sn	08 10 53.6	+1.6
BDR	**Baidarnaya**	**1.83**	**315**	*i* P	Pn	08 10 29.7	+1.0
BDR				*i* S	Sn	08 10 53.6	+1.6
SRKR	**Sorokina**	**1.91**	**317**	*e*P	Pn	08 10 30.6	+0.8
SRKR				*i* S	Sn	08 10 54.7	+0.8
SRKR	**Sorokina**	**1.91**	**317**	*e*P	Pn	08 10 30.6	+0.8
SRKR				*i* S	Sn	08 10 54.7	+0.8
KRSR	**Krestovskiy**	**1.92**	**300**	P	Pn	08 10 30.6	+0.7
KRSR				*i* S	Sn	08 10 54.8	+0.6
KRSR	**Krestovskiy**	**1.92**	**300**	P	Pn	08 10 30.6	+0.7
KRSR				*i* S	Sn	08 10 54.8	+0.6
KLY	**Klyuchi**	**1.93**	**303**	*e*P	Pn	08 10 29.3	-0.7
KLY				*i* S	Sn	08 10 53.0	-1.3
KLY	**Klyuchi**	**1.93**	**303**	*e*P	Pn	08 10 29.3	-0.7
KLY				*i* S	Sn	08 10 53.0	-1.3
KMNR	**Kamenistaya**	**1.94**	**285**	*e*P	Pn	08 10 31.0	+0.9
KMNR				*i* S	Sn	08 10 55.3	+0.8
KMNR	**Kamenistaya**	**1.94**	**285**	*e*P	Pn	08 10 31.0	+0.9
KMNR				*i* S	Sn	08 10 55.3	+0.8
TUMR	**Tumrok**	**1.94**	**271**	*e*P	Pn	08 10 31.4	+1.2
TUMR				*i* S	Sn	08 10 55.9	+1.2
TUMR	**Tumrok**	**1.94**	**271**	*e*P	Pn	08 10 31.4	+1.2
TUMR				*i* S	Sn	08 10 55.9	+1.2
KPT	**Kopyto**	**2.00**	**291**	*e*P	Pn	08 10 32.6	+1.6
KPT				*i* S	Sn	08 10 58.7	+2.6
KPT	**Kopyto**	**2.00**	**291**	*e*P	Pn	08 10 32.6	+1.6
KPT				*i* S	Sn	08 10 58.7	+2.6
KOZR	**Kozyr**	**2.21**	**292**	PN	Pn	08 10 36.1	+2.2
KOZR				S	Sn	08 11 04.8	+3.6
KOZ	**Kozyrevsk**	**2.21**	**292**	*e*P	Pn	08 10 36.1	+2.1
KOZ				*i* S	Sn	08 11 04.8	+3.4
KOZ	**Kozyrevsk**	**2.21**	**292**	*e*P	Pn	08 10 36.1	+2.1
KOZ				*i* S	Sn	08 11 04.8	+3.4
SRDR	**Sredinnyy**	**2.39**	**297**	*e*P	Pn	08 10 38.2	+1.8
SRDR				*i* S	Sn	08 11 08.0	+2.2
SRDR	**Sredinnyy**	**2.39**	**297**	*e*P	Pn	08 10 38.2	+1.8
SRDR				*i* S	Sn	08 11 08.0	+2.2
SPN	**Mys Shipunski**	**3.02**	**225**	P	Pn	08 10 45.4	+0.4
SPN				*i* S	Sn	08 11 20.4	-0.8
SPN	**Mys Shipunski**	**3.02**	**225**	P	Pn	08 10 45.4	+0.4
SPN				*i* S	Sn	08 11 20.4	-0.8
NLC	**Nalytchevo**	**3.25**	**231**	P	Pn	08 10 50.0	+1.8
NLC				*i* S	Sn	08 11 27.9	+0.9
NLC	**Nalytchevo**	**3.25**	**231**	P	Pn	08 10 50.0	+1.8
NLC				*i* S	Sn	08 11 27.9	+0.9
AVH	**Avacha**	**3.47**	**236**	P	Pn	08 10 53.3	+2.1
AVH	**Avacha**	**3.47**	**236**	P	Pn	08 10 53.3	+2.1
GNL	**Ganaly**	**3.63**	**246**	P	Pn	08 10 56.3	+2.8
GNL	**Ganaly**	**3.63**	**246**	P	Pn	08 10 56.3	+2.8
RUS	**Russkaya**	**4.13**	**228**	P	Pn	08 11 02.4	+2.1
RUS				*i* S	Sn	08 11 50.1	+1.5
RUS	**Russkaya**	**4.13**	**228**	P	Pn	08 11 02.4	+2.1
RUS				*i* S	Sn	08 11 50.1	+1.5
GRL	**Gorelyy**	**4.24**	**232**	P	Pn	08 11 05.0	+3.2
GRL	**Gorelyy**	**4.24**	**232**	P	Pn	08 11 05.0	+3.2

*MOS **25** 08:15:16.4±1.2, 161N×12751E, h139km, mb4.3/7, Error ellipse: s-maj=25.5km s-min=10.4km az=110.1*
*ISCJB **25** 08:15:21.4±0.9, 154N±005×1277E±0.1, h188km±8km, mb4.4/33, Error ellipse: s-maj=17.7km s-min=5.8km az=141.1*
*BJI **25** 08:15:21.9, 150N×12770E, h190km, mB4.8, mb4.5*
*NEIC **25** 08:15:23.0±1.1, 149N×12772E, h190km±11km, mb4.5/7, Error ellipse: s-maj=18.5km s-min=5.8km az=71.0*
*IDC **25** 08:15:26.1±2.1, 143N×12759E, h221km±19km, mb4.0/17, mb1 4.1/18, mb1mx4.0/21, mbtmp4.0/18, Error ellipse: s-maj=19.5km s-min=6.9km az=77.0*
ISC 25 08:15:23.1±0.9, 151N±005×1278E±01, h192km±9km, n63, σ1°06/63, mb4.2/33, 6C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**5.34**	**328**	ǁ *i*P	**Pn**	**08 16 33.6**	**-8.1**
GSPH				*i* S	**Sn**	**08 17 38.1**	**-5.5**
DAV	**Davao City (W)**	**5.94**	**339**	*e*Pn	**Pn**	**08 16 49.6**	**+0.3**
	216nm,0.4s						
BUKP	**Musuan**	**6.88**	**337**	*e*P	**Pn**	**08 17 01.2**	**-0.3**
CGP	**Cagayan de Oro**	**7.55**	**336**	ǁ *i*P	**Pn**	**08 17 07.9**	**-2.5**
KAKA	**Kakadu**	**14.87**	**162**	ǁ *i*P	**Pn**	**08 18 43.5**	**-0.5**
	30nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.60**	**186**	*e*P	**P**	**08 19 35.3**	**-1.4**
	6.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.60**	**186**	P	**P**	**08 19 35.4**	**-1.2**
	1.0nm,0.3s,baz=16,slow=9.4,SNR=21						
WRAB	**Tennant Creek**	**22.27**	**163**	*d i*P	**P**	**08 20 04.7**	**+0.4**
WRAB	**Tennant Creek**	**22.27**	**163**	*e*P	**P**	**08 20 04.6**	**+0.3**
	45nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**22.27**	**163**	P	**P**	**08 20 04.7**	**+0.3**
	22nm,0.5s,mb5.0,baz=342,slow=10,SNR=244						
WRA				S	**S**	**08 23 53.8**	**-1.3**
	1.2nm,0.7s,baz=344,slow=17,SNR=4.4						
WB2	**Warramunga Arr**	**22.28**	**163**	ǁ *i*P	**P**	**08 20 04.8**	**+0.4**
WB2				*i*		08 20 13.1	
WB2				*e*S	**S**	**08 23 53.4**	**-1.7**
AS31	**Alice Springs**	**25.73**	**167**	*e*P	**P**	**08 20 36.3**	**+0.6**
AS31				*e*S	**S**	**08 24 51.2**	**+1.1**
ASAR	**Alice Springs**	**25.73**	**167**	P	**P**	**08 20 36.4**	**+0.6**
	1.8nm,0.5s,mb4.0,baz=352,slow=7.5,SNR=45						
ASAR				PcP	PcP	08 24 00.2	-0.3
	1.4nm,0.7s,baz=4.5,slow=3.8,SNR=5.4						
ASAR				S	**S**	**08 24 47.5**	**-2.6**
	0.7nm,0.8s,baz=358,slow=20,SNR=3.9						
ASPA	**Alice Springs**	**25.73**	**167**	*e*P	**P**	**08 20 36.3**	**+0.6**
ASPA				*e*S	**S**	**08 24 51.2**	**+1.1**
PSI	**Prapat**	**28.85**	**273**	P	**P**	**08 21 03.6**	**+0.1**
	7.4nm,0.6s,mb4.5,baz=109,slow=3.2,SNR=8.2						
STKA	**Stephens Creek**	**35.70**	**160**	*e*P	**P**	**08 22 04.2**	**+1.1**
	5.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**35.70**	**160**	P	**P**	**08 22 04.3**	**+1.2**
	4.5nm,0.5s,mb4.3,baz=328,slow=7.6,SNR=15						
STKA				PcP	PcP	08 24 27.6	+0.7
	1.1nm,0.5s,baz=334,slow=5.3,SNR=3.6						
KSRS	**Korea Array**	**35.77**	**0**	P	**P**	**08 22 05.2**	**+1.6**
	4.5nm,0.6s,mb4.2,baz=178,slow=9.7,SNR=17						
MAT	**Matsushiro**	**36.17**	**14**	P	**P**	**08 22 06.9**	**-0.2**
MJAR	**Matsushiro Arr**	**36.17**	**14**	P	**P**	**08 22 07.0**	**-0.1**
	3.1nm,0.4s,mb4.2,baz=191,slow=8.2,SNR=21						
XAN	**Xi'an**	**36.85**	**333**	P	**P**	**08 22 13.5**	**+0.7**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.5						
ASAJ	**Asahikawa**	**44.42**	**15**	P	**P**	**08 23 16.6**	**+1.9**
	comp=Z,7.7nm,1.0s,mb4.0,baz=228,slow=14,SNR=7.2						
LSA	**Lhasa**	**44.68**	**312**	*e*P	**P**	**08 23 19.0**	**+2.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**44.68**	**312**	*e*P	**P**	**08 23 19.0**	**+2.2**
	comp=Z,6.7nm,0.6s,mb4.2						
GUN	**Gumba**	**47.87**	**307**	*e*P	**P**	**08 23 42.8**	**+1.2**
	comp=Z,47nm,0.7s,mb4.9						
PKI	**Pulchoki**	**48.10**	**307**	*e*P	**P**	**08 23 45.2**	**+1.8**
KKN	**Kakani**	**48.30**	**307**	*e*P	**P**	**08 23 45.7**	**+0.8**
	comp=Z,12nm,0.5s,mb4.5						
DMN	**Daman**	**48.36**	**306**	*e*P	**P**	**08 23 46.7**	**+1.3**
MDRS	**Chennai**	**48.42**	**286**	*ex*	x	08 23 37.4	
GKN	**Gorkha**	**48.90**	**307**	*e*P	**P**	**08 23 50.2**	**+0.7**
KOLN	**Koldanda**	**49.64**	**306**	*e*P	**P**	**08 23 56.3**	**+1.2**
	comp=Z,54nm,0.7s,mb5.0						
SONM	**Songino Array**	**49.72**	**341**	P	**P**	**08 23 56.5**	**+0.8**
	comp=Z,3.5nm,0.7s,mb3.8,baz=155,slow=8.2,SNR=26						
SONM				pP	pP	08 24 42.7	+4.5
	comp=Z,1.1nm,0.6s,baz=156,slow=9.5,SNR=4.0						
SONM				PcP	PcP	08 25 14.3	+0.6
	comp=Z,1.2nm,0.7s,baz=154,slow=3.1,SNR=4.1						
BOD	**Bodaibo**	**57.20**	**351**	*e*P	**P**	**08 24 48.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**59.96**	**326**	*e*P	**P**	**08 25 09.5**	**+0.4**
MK31				*e*	pP	08 25 53.4	+0.3
MKAR	**Makanchi Array**	**59.96**	**326**	P	**P**	**08 25 09.4**	**+0.3**
	comp=Z,6.1nm,0.4s,mb4.6,baz=114,slow=8.0,SNR=111						
MKAR				PcP	PcP	08 25 53.4	+0.2
	comp=Z,2.2nm,0.7s,baz=115,slow=6.5,SNR=8.8						
YAK	**Yakutsk**	**60.39**	**1**	*e*P	**P**	**08 25 12.1**	**+0.1**
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
AAK	**Ala-Archa**	**62.69**	**318**	*e*P	**P**	**08 25 25.6**	**-1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.9						
ZAL	**Zalesovo**	**63.02**	**333**	P	**P**	**08 25 28.4**	**-1.2**
	comp=Z,1.7nm,0.3s,mb4.1,baz=352,slow=8.6,SNR=8.1						
SEY	**Seymchan**	**63.96**	**12**	ǁ *e*P	**P**	**08 25 38.2**	**+2.5**
NVS	**Novosibirsk**	**64.31**	**333**	*e*P	**P**	**08 25 32.3**	**-5.7**
KK31	**Karatay Array**	**65.55**	**317**	*i* P	**P**	**08 25 45.9**	**-0.1**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KKAR	**Karatay Array**	**65.55**	**317**	P	**P**	**08 25 45.9**	**-0.1**
VOSK	**Vostochnaya**	**69.28**	**327**	P	**P**	**08 26 08.5**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
BVA0	**Borovoye Array**	**69.73**	**327**	*i* P	**P**	**08 26 11.9**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
CHKZ	**Chkalovo**	**69.90**	**328**	*e*P	**P**	**08 26 12.3**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**69.90**	**328**	*e*P	**P**	**08 26 12.3**	**-0.8**
	comp=Z,4.3nm,0.8s,mb4.1						
TIXI	**Tiksi**	**70.04**	**0**	ǁ *e*P	**P**	**08 26 13.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
TIXI	**Tiksi**	**70.04**	**0**	*e*P	**P**	**08 26 13.6**	**-0.5**
	comp=Z,6.6nm,0.6s,mb4.4						
AB31	**Akbulak array**	**74.51**	**321**	P	**P**	**08 26 39.8**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
AKTK	**Aktyubinsk**	**76.03**	**322**	P	**P**	**08 26 48.7**	**-0.4**
AKTO	**Aktyubinsk**	**76.03**	**322**	P	**P**	**08 26 48.7**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.3,baz=103,slow=7.3,SNR=20						
ARU	**Arti**	**77.35**	**328**	ǁ *i*P	**P**	**08 26 55.6**	**-1.0**
ARU				*e*		08 27 34.7	
ARU				*e*		08 29 51.2	
ARU				*e*PPP		08 31 38.2	
ARU				*e*S	S	08 36 30.9	+0.2
ARU				*e*SS	SS	08 41 32.6	-0.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
VNDA	**Vanda**	**81.11**	**173**	P	**P**	**08 27 16.8**	**-0.1**

comp=Z,2.4nm,0.7s,mb3.9,baz=314,slow=6.5,SNR=18
MAW Mawson 82.05 201 P **P** **08 27 21.5 -0.3**
comp=Z,1.0nm,0.6s,mb3.6,baz=44,slow=7.0,SNR=6.6
BRTR Keskin Array B 92.22 310 P **P** **08 28 09.7 -1.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=103,slow=5.6,SNR=6.8
ARCES ARCESS Array B 92.87 340 P **P** **08 28 12.4 -1.6**
comp=Z,4.1nm,0.6s,mb4.6,baz=86,slow=5.3,SNR=20
FINES FINESS Array B 94.26 332 P **P** **08 28 18.9 -1.5**
comp=Z,1.0nm,0.6s,mb4.0,baz=72,slow=6.2,SNR=5.8
MLR Muntele Rosu 97.21 316 P **P** **08 28 33.3 -0.5**
comp=Z,1.8nm,0.6s,mb4.5,baz=98,slow=7.1,SNR=5.5
HFS Hagfors 100.45 332 P Pdif 08 28 46.5 -1.8
comp=Z,1.8nm,0.8s,baz=25,slow=3.8,SNR=2.8
TXAR Lajitas Array 122.10 54 PKP PKPdf 08 33 56.6 +1.8
comp=Z,0.4nm,0.6s,baz=240,slow=1.3,SNR=6.9
TORD Torodi Ar. Bea 124.57 287 PKP PKPdf 08 34 00.2 +0.8
comp=Z,0.9nm,0.8s,baz=85,slow=2.4,SNR=5.3
JCT Junction City 124.68 51 *e*PKIKP PKPdf 08 34 01.2 +1.5
LPAZ La Paz 158.53 134 PKPab PKPab 08 35 36.0 +2.6
comp=Z,0.9nm,1.0s,baz=235,slow=3.4,SNR=3.5

*ISCJB **25** 08:30:12.6±0.7, 466N±0.1×1554E±0.1, h10km, mb3.9/14, MS3.3/2, Error ellipse: s-maj=17.2km s-min=12.0km az=116.3*
*IDC **25** 08:30:12.9±0.7, 4653N×15540E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/25, mbtmp3.9/14, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.3/51, Error ellipse: s-maj=21.3km s-min=17.3km az=160.0*
*NEIC **25** 08:30:15.0±0.7, 4671N×15557E, h10km, Error ellipse: s-maj=20.2km s-min=13.5km az=131.0*
*MOS **25** 08:30:16.2±1.7, 4677N×15542E, h33km, mb4.2/10, Error ellipse: s-maj=22.2km s-min=14.3km az=83.8*
ISC 25 08:30:14.5±0.7, 467N±01×1554E±01, h10km, n30, σ0°94/29, mb3.9/14, MS3.3/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**6.71**	**17**	*e*PN	**Pn**	**08 31 51.3**	**-1.8**
ASAJ	**Asahikawa**	**9.36**	**259**	Pn	**Pn**	**08 32 29.7**	**+0.3**
	0.7nm,0.3s,baz=115,slow=14,SNR=5.0						
ASAJ	**Asahikawa**	**9.36**	**259**	PN	**Pn**	**08 32 29.7**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.32**	**238**	Pn	**Pn**	**08 34 08.1**	**+4.4**
	baz=34,slow=10,SNR=6.0						
KSRS	**Korea Array**	**22.28**	**256**	P	**P**	**08 35 10.4**	**-1.3**
	comp=Z,1.9nm,0.7s,mb3.7,baz=54,slow=10,SNR=4.5						
TIXI	**Tiksi**	**28.01**	**342**	*e*P	**P**	**08 36 04.1**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**32.84**	**290**	P	**P**	**08 36 48.0**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=72,slow=9.4,SNR=3.7						
SONM				LR	LR	08 50 28.8	
	comp=Z,43nm,18.8s,MS3.2,baz=14,slow=37						
SONM	**Songino Array**	**32.84**	**290**	P	**P**	**08 36 48.0**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,43nm,18.8s						
ZAL	**Zalesovo**	**43.94**	**307**	LR	LR	08 57 53.7	
	comp=Z,42nm,20.2s,MS3.3,baz=264,slow=38						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**08 38 56.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=72,slow=5.0,SNR=7.9						
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**08 38 56.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.44**	**342**	P	**P**	**08 40 10.7**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.3,baz=41,slow=8.4,SNR=3.2						
ARCES	**ARCESS Array B**	**58.44**	**342**	P	**P**	**08 40 10.7**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**59.94**	**313**	P	**P**	**08 40 22.1**	**+1.2**
AKTO	**Aktyubinsk**	**59.94**	**313**	P	**P**	**08 40 22.1**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=78,slow=7.3,SNR=3.8						
AKTO	**Aktyubinsk**	**59.94**	**313**	P	**P**	**08 40 22.1**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**61.08**	**64**	P	**P**	**08 40 29.3**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.2,baz=300,slow=8.2,SNR=10.0						
PDAR	**Pinedale Array**	**63.52**	**55**	P	**P**	**08 40 45.3**	**+0.3**
	comp=Z,1.8nm,0.9s,mb3.8,baz=294,slow=1.5,SNR=6.4						
FINES	**FINESS Array B**	**64.78**	**336**	P	**P**	**08 40 52.9**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=29,slow=5.5,SNR=8.7						
FINES	**FINESS Array B**	**64.78**	**336**	P	**P**	**08 40 52.9**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.80**	**342**	P	**P**	**08 41 18.9**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=26,slow=6.5,SNR=3.2						
NOA	**NORSAR Array B**	**68.80**	**342**	P	**P**	**08 41 19.0**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.97**	**201**	P	**P**	**08 41 18.6

SBDP	**Sheikh Budin**	**6.98**	**245**	P		**Pn**	**08 52 15.1**	**-1.9**
AYAN	**Aya Nagar**	**7.10**	**188**	*e*P		**Pn**	**08 52 18.7**	**+0.1**
AYAN				*e*S		**Sn**	**08 53 37.5**	**-0.5**
UCH	**Uchtor**	**7.29**	**338**	P		**Pn**	**08 52 21.6**	**+0.3**
	SNR=45							
SONA	**Sohna**	**7.33**	**188**	*e*P		**Pn**	**08 52 22.1**	**+0.3**
SONA				*e*S		**Sn**	**08 53 42.7**	**-1.1**
SONA				AML	AML		08 54 32.1	
	comp=E,18nm,0.2s							
SONA				AML	AML		08 54 32.4	
	comp=N,12nm,0.5s							
AML	**Almayashu**	**7.48**	**333**	P		**Pn**	**08 52 23.7**	**-0.2**
	SNR=18							
KUDL	**Kundal**	**7.52**	**192**	*e*P		**Pn**	**08 52 23.5**	**-0.9**
KUDL				*e*S		**Sn**	**08 53 48.9**	**+0.4**
KUDL				AML	AML		08 53 57.0	
	comp=N,20nm,0.4s							
KUDL				AML	AML		08 53 58.2	
	comp=E,26nm,0.4s							
KBK	**Karagaybulak**	**7.56**	**341**	P		**Pn**	**08 52 28.8**	**+3.8**
	SNR=17							
TKM2	**Tokmak 2**	**7.66**	**345**	P		**Pn**	**08 52 28.7**	**+2.4**
	SNR=6.6							
AAK	**Ala-Archa**	**7.67**	**339**	P		**Pn**	**08 52 27.1**	**+0.7**
	SNR=19							
AAK	**Ala-Archa**	**7.67**	**339**	*e*P		**Pn**	**08 52 25.3**	**-1.1**
AAK				pmax	pmax			
	comp=E,52nm,0.8s							
AAK	**Ala-Archa**	**7.67**	**339**	*e*Pn		**Pn**	**08 52 25.2**	**-1.1**
	comp=E,52nm,0.8s							
AAK				*e*Sg		Sn	08 54 36.5	+44
KHET	**Khetri**	**7.72**	**196**	*e*P		**Pn**	**08 52 26.8**	**-0.5**
KHET				*e*S		**Sn**	**08 53 50.9**	**-2.6**
KHET				AML	AML		08 54 06.7	
	comp=N,23nm,0.5s							
FRU	**Bishkek**	**7.81**	**340**	*e*P		**Pn**	**08 52 30.0**	**+1.6**
FRU				MLR	MLR			
	comp=E,1μm,10.0s							
EKS2	**Erkin-Say**	**7.92**	**335**	P		**Pn**	**08 52 31.0**	**+1.1**
	SNR=5.3							
CHMS	**Chumysh**	**7.93**	**341**	P		**Pn**	**08 52 31.9**	**+1.9**
	SNR=9.6							
KOLN	**Koldanda**	**8.98**	**148**	*e*P		**Pn**	**08 52 43.8**	**-0.7**
KOLN				*e*S		**Sn**	**08 54 23.7**	**-0.6**
GKN	**Gorkha**	**9.27**	**142**	*e*P		**Pn**	**08 52 48.5**	**+0.1**
	comp=E,59nm,0.4s							
AJM	**Ajmer**	**9.54**	**200**	*i* P		**Pn**	**08 52 51.0**	**-1.2**
AJM				*i* S		**Sn**	**08 54 35.0**	**-3.1**
KKAR	**Karatay Array**	**9.64**	**324**	*e*P		**Pn**	**08 52 52.0**	**-1.5**
KKAR				S		**Sn**	**08 54 40.8**	**+0.2**
KKAR				pmax	pmax			
	comp=E,2.0nm,0.3s							
KKAR				smax				
	comp=E,15nm,0.8s							
KKN	**Kakani**	**9.77**	**140**	*e*P		**Pn**	**08 52 55.0**	**-0.2**
	comp=E,33nm,0.6s							
DMN	**Daman**	**9.83**	**142**	*e*P		**Pn**	**08 52 56.1**	**+0.1**
	comp=E,19nm,0.4s							
GUN	**Gumba**	**9.99**	**137**	*e*P		**Pn**	**08 52 59.3**	**+1.0**
	comp=E,19nm,0.4s							
PKI	**Pulchoki**	**10.01**	**141**	*e*P		**Pn**	**08 52 58.8**	**+0.2**
	comp=E,32nm,0.5s							
JIRN	**Jiri**	**10.36**	**137**	*e*P		**Pn**	**08 53 04.7**	**+1.4**
JASL	**Jaisalmer**	**10.64**	**218**	*ex*		x	08 52 58.6	
WMQ	**Urumqi**	**11.01**	**38**	*e*P		**Pn**	**08 53 15.0**	**+2.8**
MK31	**Makanchi Array**	**11.65**	**14**	*e*Pn		**Pn**	**08 53 19.1**	**-1.8**
MK31				*e*Sn		**Sn**	**08 55 19.2**	**-11**
MKAR	**Makanchi Array**	**11.65**	**14**	Pn		**Pn**	**08 53 19.5**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=191,slow=13,SNR=28							
MKAR				Sn		**Sn**	**08 55 26.3**	**-3.4**
	comp=Z,1.2nm,0.3s,baz=197,slow=24,SNR=6.5							
MKAR	**Makanchi Array**	**11.65**	**14**	P		**Pn**	**08 53 19.5**	**-1.5**
MKAR							08 55 26.3	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR				smax				
	comp=N,1.0nm,0.3s							
MKAR	**Makanchi Array**	**11.65**	**14**	Pn		**Pn**	**08 53 19.5**	**-1.4**
MKAR				Sn		**Sn**	**08 55 26.3**	**-3.4**
LSA	**Lhasa**	**12.33**	**115**	*e*P		**Pn**	**08 53 31.9**	**+1.7**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LSA	**Lhasa**	**12.33**	**115**	*e*Pn		**Pn**	**08 53 31.9**	**+1.7**
	comp=Z,4.5nm,0.5s							
BVAR	**Borovoye Array**	**18.35**	**345**	P		**Pn**	**08 54 47.1**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=154,slow=12,SNR=19							
BVAR				LR	LR		09 02 10.4	
	comp=Z,203nm,18.5s,baz=42,slow=38							
BVAR	**Borovoye Array**	**18.35**	**345**	P		**Pn**	**08 54 47.1**	**-1.8**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR				MLR	MLR			
	comp=Z,203nm,18.5s							
BRVK	**Borovoye**	**18.40**	**345**	*e*P		**Pn**	**08 54 48.0**	**-1.5**
BRVK				pmax	pmax			
	comp=Z,14nm,0.8s							
BRVK	**Borovoye**	**18.40**	**345**	*e*Pn		**Pn**	**08 54 48.0**	**-1.5**
	comp=Z,14nm,0.8s							
ZRNK	**Zerenda**	**18.60**	**342**	*e*P		**Pn**	**08 54 50.5**	**-1.4**
ZRNK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ZRNK	**Zerenda**	**18.60**	**342**	*e*P		**Pn**	**08 54 50.5**	**-1.5**
	comp=Z,8.9nm,1.0s							
CHKZ	**Chkalovo**	**18.91**	**346**	*e*P		**Pn**	**08 54 53.3**	**-2.4**
CHKZ				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CHKZ	**Chkalovo**	**18.91**	**346**	*e*P		**Pn**	**08 54 53.3**	**-2.4**
	comp=Z,6.1nm,0.6s							
ZAL	**Zalesovo**	**18.96**	**12**	P		**Pn**	**08 54 53.5**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=274,slow=13,SNR=14							
ZAL	**Zalesovo**	**18.96**	**12**	P		**Pn**	**08 54 53.5**	**-2.8**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**19.19**	**321**	P		**Pn**	**08 54 55.7**	**-3.3**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NVS	**Novosibirsk**	**19.61**	**9**	*e*P		**Pn**	**08 55 00.4**	**-3.7**
NVS				pmax	pmax			
	comp=N,9.0nm,0.6s							
NVS				pmax	pmax			
	comp=Z,9.0nm,0.6s							
AKTK	**Aktyubinsk**	**20.90**	**322**	P		**P**	**08 55 13.6**	**-2.9**
AKTK				LR	LR		09 04 16.9	
AKTO	**Aktyubinsk**	**20.90**	**322**	P		**P**	**08 55 13.6**	**-2.9**
	comp=Z,4.9nm,0.5s,baz=122,slow=14,SNR=15							
AKTO				LR	LR		09 04 16.9	
	comp=Z,72nm,20.4s,MS3.0,baz=332,slow=39							
ORR	**Orenburg**	**23.26**	**321**	*e*P		**P**	**08 55 44.8**	**+3.1**
ORR				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.6							
SONM	**Songino Array**	**24.20**	**51**	P		**P**	**08 55 50.8**	**+0.4**
	comp=Z,3.7nm,0.7s,mb3.9,baz=248,slow=8.4,SNR=23							
SONM				LR	LR		09 06 17.0	
	comp=Z,74nm,21.2s,MS3.1,baz=327,slow=39							
SONM	**Songino Array**	**24.20**	**51**	P		**P**	**08 55 50.8**	**+0.4**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SONM				MLR	MLR			
	comp=Z,74nm,21.2s							
ARU	**Arti**	**24.81**	**334**	⇓*i*P		**P**	**08 55 55.0**	**-1.0**
ARU				*e*			08 56 13.0	
ARU				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.4							
ARU	**Arti**	**24.81**	**334**	P		**P**	**08 55 54.3**	**-1.7**
	comp=Z,9.6nm,0.6s,mb4.5							
GNI	**Garni**	**26.77**	**290**	P		**P**	**08 56 16.5**	**+2.8**
	comp=Z,2.1nm,0.3s,mb4.1,baz=90,slow=4.0,SNR=3.6							
GNI	**Garni**	**26.77**	**290**	*e*P		**P**	**08 56 17.9**	**+4.2**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BR131	**Keskin Array S**	**35.30**	**290**	P		**P**	**08 57 30.3**	**+1.4**
	comp=Z,1.1nm,0.4s,mb4.1							
BRTR	**Keskin Array B**	**35.30**	**290**	P		**P**	**08 57 28.7**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=106,slow=7.2,SNR=7.9							
BRTR	**Keskin Array B**	**35.30**	**290**	P		**P**	**08 57 28.7**	**-0.2**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**38.13**	**309**	P		**P**	**08 57 50.9**	**-2.0**
	comp=Z,0.9nm,0.5s,mb3.8,baz=79,slow=8.0,SNR=3.5							
AKASG	**Malin Array Be**	**38.13**	**309**	P		**P**	**08 57 50.9**	**-2.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MLR	**Muntele Rosu**	**40.36**	**301**	LR		LR	09 16 22.7	
	comp=Z,58nm,18.1s,MS3.5,baz=197,slow=38							
FINES	**FINESS Array B**	**41.60**	**325**	P		**P**	**08 58 20.4**	**-1.3**
	comp=Z,3.4nm,0.5s,mb4.2,baz=114,slow=9.3,SNR=35							
FINES				LR	LR		09 16 49.9	
	comp=Z,60nm,18.1s,MS3.5,baz=187,slow=38							
FINES	**FINESS Array B**	**41.60**	**325**	P		**P**	**08 58 20.5**	**-1.3**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES				MLR	MLR			
	comp=Z,60nm,18.1s							
KEV	**Kevo**	**43.93**	**337**	*e*p		**P**	**08 58 38.2**	**-2.5**
	comp=Z,6.0nm,1.0s,mb4.3							
KEV	**Kevo**	**43.93**	**337**	*e*P		**P**	**08 58 38.2**	**-2.5**
KEV				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.3							
ARCES	**ARCESS Array B**	**44.33**	**336**	P		**P**	**08 58 42.2**	**-1.6**
	comp=Z,1.6nm,0.5s,mb4.0,baz=104,slow=8.1,SNR=17							
ARCES	**ARCESS Array B**	**44.33**	**336**	P		**P**	**08 58 42.3**	**-1.6**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
VRAC	**Vranov**	**46.30**	**307**	LR		LR	09 23 59.6	
	comp=Z,45nm,18.7s,MS3.5,baz=222,slow=43							
GERES	**GERESS Array B**	**48.25**	**307**	LR		LR	09 24 17.2	
	comp=Z,59nm,18.2s,MS3.6,baz=268,slow=42							
NB2	**NORSAR Subarra**	**48.68**	**323**	P		**P**	**08 59 14.8**	**-3.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**48.68**	**323**	P		**P**	**08 59 16.2**	**-1.7**
	comp=Z,1.6nm,0.7s,mb4.2,baz=91,slow=7.6,SNR=7.0							
NOA	**NORSAR Array B**	**48.68**	**323**	P		**P**	**08 59 16.2**	**-1.7**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
PGF	**Pioggiola**	**52.89**	**300**	*e*P		**P**	**08 59 51.0**	**+1.3**
	comp=Z,86nm,1.4s,mb5.2							
SBF	**Sospel**	**53.60**	**302**	*e*P		**P**	**08 59 56.5**	**+1.6**
	comp=Z,58nm,1.1s,mb5.1							
LPG	**La Plagne**	**53.61**	**304**	*e*P		**P**	**08 59 56.3**	**+1.4**
	comp=Z,14nm,1.0s,mb4.5							
LPL	**La Plagne**	**53.62**	**304**	*e*P		**P**	**08 59 56.2**	**+1.2**
	comp=Z,7.1nm,0.7s,mb4.4							
MBDF	**Montbardon**	**53.81**	**303**	*e*P		**P**	**08 59 57.9**	**+1.5**
FRF	**La Foret Royal**	**54.24**	**302**	*e*P		**P**	**09 00 00.8**	**+1.2**
	comp=Z,145nm,1.6s,mb5.3							
ORIF	**Oris-en-Rattie**	**54.36**	**304**	*e*P		**P**	**09 00 02.0**	**+1.5**
CBIJ	**Chichi jima**	**54.43**	**80**	LR		LR	09 25 28.2	
	comp=Z,464nm,19.2s,MS4.6,baz=119,slow=38							
LOR	**Lormes**	**55.03**	**307**	*e*P		**P**	**09 00 07.0**	**+1.7**
	comp=Z,21nm,1.2s,mb4.8							
VIVF	**Saint-Julien-l**	**55.20**	**304**	*e*P		**P**	**09 00 07.8**	**+1.3**
SSF	**Saint Saulge**	**55.32**	**307**	*e*P		**P**	**09 00 08.9**	**+1.5**
	comp=Z,30nm,1.3s,mb4.9							
BGF	**Bois d'Agland**	**55.90**	**306**	*e*P		**P**	**09 00 12.9**	**+1.3**
LASF	**Ste Croix**	**56.00**	**303**	*e*P		**P**	**09 00 13.7**	**+1.4**
TCF	**Toulx Ste Croi**	**56.41**	**306**	*e*P		**P**	**09 00 16.5**	**+1.3**
MTLF	**Montolieu**	**57.36**	**303**	*e*P		**P**	**09 00 23.0**	**+1.1**
FLN	**La Foliniere**	**57.37**	**310**	*e*P		**P**	**09 00 23.1**	**+1.1**
	comp=Z,109nm,1.3s,mb5.4							
TORD	**Torodi Ar. Bea**	**71.61**	**273**	P		**P**	**09 01 53.3**	**-1.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=46,slow=6.6,SNR=3.8							
INK	**Inuvik**	**73.78**	**12**	P		**P**	**09 02 07.0**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.0,baz=312,slow=4.7,SNR=9.4							
INK	**Inuvik**	**73.78**	**12**	P		**P**	**09 02 07.0**	**-0.9**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**76.59**	**127**	P		**P**	**09 02 22.0**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=315,slow=6.9,SNR=10							
ASAR	**Alice Springs**	**78.99**	**130**	P		**P**	**09 02 35.9**	**-1.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=321,slow=5.8,SNR=13							
ASAR	**Alice Springs**	**78.99**	**130**	P		**P**	**09 02 35.9**	**-1.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**81.76**	**6**	P		**P**	**09 02 52.9**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=342,slow=5.8,SNR=7.1							
YKA	**Yellowknife Ar**	**81.76**	**6**	P		**P**	**09 02 52.9**	**+0.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRAL	**Brewton**	**112.38**	**346**	*e*PKPdf		PKiKP	09 09 11.6	+2.1

IDC 25 08:52:49.9±3.4, 3586N×7810E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=69.1km s-min=29.9km az=164.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BVAR	**Borovoye Array**	**18.00**	**345**	P		08 57 02.1	+0.6
	0.6nm,0.3s,baz=155,slow=13,SNR=4.5						
ZAL	**Zalesovo**	**18.67**	**12**	P		08 57 10.9	+1.2
	0.3nm,0.3s,baz=277,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**24.10**	**51**	P		08 58 07.2	+0.1
	1.8nm,0.8s,baz=261,slow=8.9,SNR=4.2						
BRTR	**Keskin Array B**	**35.07**	**290**	P		08 59 46.5	+1.9
	0.3nm,0.3s,baz=131,slow=4.4,SNR=2.7						
FINES	**FINESS Array B**	**41.26**	**325**	P		09 00 36.2	-0.5
	0.8nm,0.3s,baz=114,slow=8.8,SNR=7.4						
ARCES	**ARCESS Array B**	**43.99**	**336**	P		09 00 58.0	-0.8
	0.8nm,0.4s,baz=108,slow=7.8,SNR=4.8						
GERES	**GERESS Array B**	**47.95**	**307**	P		09 01 29.0	-1.2
	0.2nm,0.3s,baz=90,slow=3.9,SNR=2.1						
NOA	**NORSAR Array B**	**48.34**	**323**	P		09 01 31.8	-1.4
	1.2nm,0.8s,baz=90,slow=7.6,SNR=3.3						

*ISCJB **25** 09:01:57.9±0.4, 3947N±002×2084E±003, h1km±5km, Error ellipse: s-maj=4.0km s-min=3.4km az=59.9*
*THE **25** 09:01:58.1, 3947N×2082E, h10km, ML3.0*
*ATH **25** 09:01:58.4, 3953N×2083E, h19km±2km, MD3.5/8*
*CSEM **25** 09:01:58.1±0.1, 3948N×2082E, h5km, ML3.0, Error ellipse: s-maj=3.1km s-min=2.7km az=38.0*
*NEIC **25** 09:01:58.4, 3953N×2083E, h19km, MD3.5(ATH), ML3.3(THE), After ATH.*

ISC 25 09:01:58.6±0.5, 3945N±002×2083E±003, h2km±4km, n32, σ1§08/53, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.21**	**4**	⇓*i*PB		**Pg**	**09 02 02.4**	**-0.2**
JAN				*e*SB		**Sg**	**09 02 05.5**	**+0.2**
IGT	**Igoumenitsa**	**0.39**	**282**	*e*Pg		**Pg**	**09 02 05.0**	**-1.2**
IGT				*e*Sg		**Sg**	**09 02 11.7**	**+0.5**
MEV	**Metsovon**	**0.45**	**42**	*e*Pg		**Pg**	**09 02 06.7**	**-0.7**
LSK	**Leskovik**	**0.72**	**346**	*i* Pg		**Pg**	**09 02 11.0**	**-1.4**
LSK				*i* Sg		**Sg**	**09 02 23.4**	**+1.6**
LKD	**Levkas**	**0.76**	**191**	*e*Pg		**Pg**	**09 02 12.4**	**-0.6**
LKD				*e*Sg		**Sg**	**09 02 24.6**	**+1.8**
SRN	**Sarande**	**0.77**	**304**	*i* Pg		**Pg**	**09 02 13.9**	**+0.5**
SRN				*i* Sg		**Sg**	**09 02 23.9**	**+0.5**
KEK	**Kerkira**	**0.84**	**289**	*e*PN		**Pg**	**09 02 13.0**	**-1.7**
KEK				*e*SB		**Sg**	**09 02 26.0**	**+0.4**
THL	**Klokotos Trika**	**0.92**	**82**	*e*PN		**Pg**	**09 02 15.9**	**-0.4**
THL				*e*SN		**Sg**	**09 02 28.8**	**+0.5**
EVR	**Evrytania**	**0.93**	**125**	*e*PN		**Pg**	**09 02 16.9**	**+0.5**
KZN	**Kozani**	**1.12**	**40**	*e*PN		**Pg**	**09 02 18.5**	**-1.6**
KZN				*e*SN		**Sg**	**09 02 33.4**	**-1.2**
KBN	**Korca**	**1.17**	**358**	*i* Pn		**Pn**	**09 02 23.0**	**+1.0**
KBN				*i* Sn		**Sg**	**09 02 40.3**	**+4.0**
AGG	**Agios Georgios**	**1.24**	**110**	*e*Pg		**Pg**	**09 02 21.7**	**-0.7**
AGG				*e*Sg		**Sg**	**09 02 39.9**	**+1.4**
AGG	**Agios Georgios**	**1.24**	**110**	*e*Pg		**Pg**	**09 02 21.7**	**-0.7**
AGG				*e*Sg		**Sg**	**09 02 39.8**	**+1.3**
LIT	**Litokhoron**	**1.43**	**63**	*e*Pg		**Pg**	**09 02 24.3**	**-1.8**
LIT				*e*Sg		**Sg**	**09 02 46.4**	**+1.7**
RLS	**Riolos of Patr**	**1.48**	**160**	*e*PN		**Pn**	**09 02 27.1**	**+0.9**
BIA	**Bitola**	**1.61**	**13**	*e*Pn		**Pn**	**09 02 27.9**	**-0.1**
BIA				*i* Sn		**Sg**	**09 02 51.5**	**+1.1**
BIA	**Bitola**	**1.61**	**13**	*e*Pg		**Pn**	**09 02 26.5**	**-1.5**
BIA	**Bitola**	**1.61**	**13**	*e*Pn		**Pn**	**09 02 27.9**	**-0.1**
BIA				*i* Sn		**Sg**	**09 02 51.4**	**+1.0**
OHR	**Ohrid**	**1.66**	**359**	*e*Pb		**Pn**	**09 02 27.1**	**-1.6**
OHR	**Ohrid**	**1.66**	**359**	*i* Pn		**Pb**	**09 02 30.2**	**+0.3**
OHR				*i* Sn		**Sg**	**09 02 53.8**	**+1.8**
OHR	**Ohrid**	**1.66**	**359**	*i* Pn		**Pb**	**09 02 30.1**	**+0.2**
OHR				*i* Sn		**Sg**	**09 02 53.7**	**+1.8**
XOR	**Xorichti**	**1.83**	**92**	*e*Pb		**Pn**	**09 02 30.2**	**-0.9**
NEO	**Neokhori**	**1.86**	**94**	*e*PN		**Pn**	**09 02 32.0**	**+0.6**
KRUS	**Krusevo**	**1.94**	**9**	*i* Pn		**Pn**	**09 02 33.6**	**+1.0**
KRUS				*i* Sn		**Sg**	**09 03 00.7**	**-0.3**
KRUS	**Krusevo**	**1.94**	**9**	*i* Pn		**Pn**	**09 02 33.5**	**+0.9**
KRUS				*i* Sn		**Sg**	**09 03 00.7**	**-0.3**
HORT	**Hortiatis**	**2.08**	**56**	*e*Pn		**Pn**	**09 02 33.5**	**-1.1**
PLG	**Polygyros**	**2.21**	**65**	*e*Pn		**Pn**	**09 02 34.9**	**-1.4**
PLG				*e*Sn		**Sn**	**09 03 05.2**	**+1.0**
PLG	**Polygyros**	**2.21**	**65**	*e*PB		**Pn**	**09 02 35.9**	**-0.4**
PHP	**Peshkopia**	**2.25**	**353**	*i* Pn		**Pn**	**09 02 37.1**	**+0.3**
VAY	**Valandovo**	**2.29**	**35**	*e*Pn		**Pn**	**09 02 34.5**	**-2.9**
VAY				*e*Sn		**Sn**	**09 03 07.0**	**+0.8**
VAY	**Valandovo**	**2.29**	**35**	*e*Pn		**Pn**	**09 02 34.5**	**-2.9**
VAY				*e*Sn		**Sn**	**09 03 06.9**	**+0.7**
KNT	**Kendrikon**	**2.33**	**42**	*e*Pn		**Pn**	**09 02 37.5**	**-0.4**

*IDC **25** 09:05:04.5±0.5, 6965N×14442E, h0km, mb4.8/16, mb1 4.9/21, mb1mx4.9/22, mbtmp4.9/21, ML4.6/5, MS4.7/17, Ms1 4.7/17, ms1mx4.5/24, Error ellipse: s-maj=18.2km s-min=11.6km az=71.0*
*BJI **25** 09:05:05.6, 7.18S×144.94E, h39km, mB5.2, mb5.0, Ms4.8, Msz4.5*
*MOS **25** 09:05:08.2±0.9, 701S×144.43E, h37km, mb5.2/28, MS4.3/6, Error ellipse: s-maj=10.8km s-min=6.8km az=106.9*
*ISCJB **25** 09:05:08.1±0.2, 7.06S±003×144.47E±004, h35km, mb5.0/70, MS4.5/34, Error ellipse: s-maj=6.1km s-min=4.0km az=166.4*
*GCMT **25** 09:05:09.9±0.1, 7.05S×144.50E, h17km, MW5.2/92, Moment Tensor Solution. s73,c106; s92,c164; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr 0.76±.02; Mθθ-0.73±.01; Mφφ-0.03±.01; Mrθ-0.21±.03; Mθφ 0.23±.01; Mφr 0.39±.04; Best double couple: M0 0.89600×10^17 NP1 φs89.00000°, δ37.00000°, λ59.00000°. NP2 φs306.00000°, δ59.00000°, λ111.00000°. Principal axes: T 0.9280, Plg68.0000°, Azm260.0000°; N -0.0630, Plg18.0000°, Azm115.0000°; P -0.8640, Plg12.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 09:05:09.9±0.2, 7.00S×144.44E, mb5.1/28, MS4.9/2 Error ellipse: s-maj=6.5km s-min=4.7km az=83.0*

ISC 25 09:05:09.9±0.2, 7.07S±003×14454E±004, h37km, h37km±1.5km:pP-P, n196, σ1§12/190, mb5.0/70, MS4.5/34, 32C-2D, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.48**	**132**	Pn		**Pn**	**09 06 02.1**	**+0.6**
	48nm,0.3s,baz=344,slow=5.1,SNR=138						
PMG				Sn		**Sn**	**09 06 40.2**	**-1.3**
	103nm,0.3s,baz=351,slow=18,SNR=6.2						
PMG	**Port Moresby**	**3.48**	**132**	*c iP*		**Pn**	**09 06 01.3**	**-0.3**
PMG	**Port Moresby**	**3.48**	**132**	*e*Pn		**Pn**	**09 06 01.6**	**0.0**
CTA	**Charters Tower**	**13.05**	**173**	*e*P		**Pn**	**09 08 15.4**	**+2.7**
	28nm,0.8s							
CTA	**Charters Tower**	**13.05**	**173**	Pn		**Pn**	**09 08 14.8**	**+2.0**
	1.1nm,0.3s,baz=348,slow=14,SNR=15							
CTA	**Charters Tower**	**13.05**	**173**	*e*P		**Pn**	**09 08 15.4**	**+2.7**
CTA				pmax	pmax			
	comp=Z,28nm,0.8s							
CTAO	**Charters Tower**	**13.05**	**173**	*e*P		**Pn**	**09 08 15.0**	**+2.3**
CTAO				pmax	pmax			
	comp=Z,55nm,0.9s							
CTAO	**Charters Tower**	**13.05**	**173**	*e*Pn		**Pn**	**09 08 15.0**	**+2.3**
	comp=Z,55nm,0.9s							
KAKA	**Kakadu**	**13.17**	**244**	⇑*i*P		**Pn**	**09 08 10.6**	**-3.8**
	comp=Z,103nm,0.4s							
HNR	**Honiara**	**15.43**	**100**	Pn		**Pn**	**09 08 47.2**	**+2.4**
	comp=Z,5.4nm,0.3s,baz=92,slow=3.2,SNR=2.6							
HNR	**Honiara**	**15.43**	**100**	*e*P		**Pn**	**09 08 47.6**	**+2.8**
HNR				pmax	pmax			
	comp=Z,283nm,1.1s							
HNR	**Honiara**	**15.43**	**100**	*e*P		**Pn**	**09 08 47.6**	**+2.8**
	comp=Z,283nm,1.1s							
WRAB	**Tennant Creek**	**16.17**	**217**	Pn		**Pn**	**09 08 52.0**	**-2.3**
	comp=Z,386nm,0.6s,SNR=49							
WRAB	**Tennant Creek**	**16.17**	**217**	*e*P		**Pn**	**09 08 52.8**	**-1.5**
WB2	**Warramunga Arr**	**16.17**	**217**	⇑*i*P		**Pn**	**09 08 52.9**	**-1.5**
WRA	**Warramunga Arr**	**16.18**	**217**	Pn		**Pn**	**09 08 52.8**	**-1.7**
	comp=Z,5.4nm,0.3s,baz=32,slow=13,SNR=146							
WRA				Sn		**Sn**	**09 11 44.9**	**-7.9**
	comp=Z,2.1nm,0.3s,baz=35,slow=23,SNR=4.3							
WRA				Lg			09 13 39.9	
	comp=Z,1.

SSE AMB AMB
comp=Z,81nm,5.2s
SSE LR LR
comp=N,179nm,32.1s,MS4.1
SSE LR LR
comp=E,354nm,32.0s,MS4.1
SSE LR LR
comp=Z,374nm,26.0s
SSE Sheshan 44.04 331 *e*P **P 09 13 14.8 +0.8**
comp=Z,46nm,0.8s,mb5.3
SSE pP pP 09 13 24.7 0.0
SSE S **S 09 19 47.9 +4.1**
SSE sS sS 09 20 09.7 +8.4
SSE LR LR
comp=Z,370nm,26.0s,MS4.2
KULM Kulim 45.49 285 *e*P **P 09 13 25.5 -0.1**
NJ2 Nanjing 45.97 329 *e*P **P 09 13 31.0 +1.6**
NJ2 AP pP 09 13 42.0 +1.9
NJ2 XP sP 09 13 45.5 +1.1
NJ2 PP PP 09 15 19.5 +2.0
NJ2 S **S 09 20 12.0 +0.2**
NJ2 XS sS 09 20 28.0 -1.4
NJ2 AMB AMB
comp=Z,1μm,8.6s
NJ2 LR LR
comp=N,450nm,15.8s,MS5.0
NJ2 LR LR
comp=E,1μm,16.5s,MS5.0
NJ2 LR LR
comp=Z,1μm,14.0s,MS5.0
PSI Prapat 46.57 281 P **P 09 13 33.0 -1.0**
comp=Z,12nm,0.9s,mb4.8,baz=119,slow=0.5,SNR=14
KSRS Korea Array 46.93 342 P **P 09 13 35.5 -1.4**
comp=Z,20nm,1.0s,mb5.0,baz=161,slow=8.8,SNR=35
KSRS LR LR 09 31 20.4
comp=Z,367nm,19.5s,MS4.3,baz=185,slow=34
WHN Wuhan 47.29 324 P **P 09 13 39.0 -0.7**
NST Nakhon Sawan 49.44 297 P **P 09 13 56.0 -0.3**
GYA Guiyang 49.60 314⇑*i*P **P 09 13 59.0 +1.5**
GYA AP pP 09 14 08.8 +0.6
GYA XP sP 09 14 14.5 +1.9
GYA PCP PcP 09 15 21.5 +2.8
GYA PP PP 09 15 55.3 +3.3
GYA SCP ScP 09 19 12.5 +1.3
GYA S **S 09 21 04.8 +1.6**
GYA XS sS 09 21 22.3 +1.4
GYA SCS ScS 09 23 45.8 -0.4
GYA SS SS 09 24 33.5 -2.0
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.4
GYA AMB AMB
comp=Z,380nm,4.4s
GYA LR LR
comp=N,580nm,17.8s,MS4.8
GYA LR LR
comp=E,510nm,18.0s,MS4.8
GYA LR LR
comp=Z,530nm,18.2s,MS4.6
NANT Nan 50.28 301⇑P **P 09 14 01.0 -1.7**
comp=Z,145nm,1.0s,mb6.0
ASAJ Asahikawa 50.97 358 LR LR 09 35 44.6
comp=Z,188nm,20.2s,MS4.1,baz=346,slow=36
KMI Kunming 51.75 310⇑P **P 09 14 15.5 +1.8**
KMI AP pP 09 14 26.8 +2.3
KMI XP sP 09 14 31.0 +2.2
KMI PCP PcP 09 15 29.5 +2.9
KMI PP PP 09 16 16.3 +4.8
KMI S **S 09 21 36.8 +3.8**
KMI XS sS 09 21 51.8 +1.0
KMI SS SS 09 25 11.5 +1.8
KMI AMB AMB
comp=Z,18nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,147nm,3.7s
KMI LR LR
comp=N,325nm,15.2s,MS4.5
KMI LR LR
comp=E,243nm,17.0s,MS4.5
KMI LR LR
comp=Z,254nm,24.0s
KMI Kunming 51.75 310⇑P **P 09 14 15.5 +1.8**
KMI *PP pP 09 14 26.7 +2.2
KMI *SP sP 09 14 30.9 +2.1
KMI 09 15 29.4
KMI 09 16 16.2
KMI PPP 09 17 17.9
KMI S **S 09 21 36.7 +3.7**
KMI *SS sS 09 21 51.8 +1.0
KMI SS SS 09 25 11.4 +1.7
KMI SSS 09 26 48.1
KMI pmax pmax
comp=Z,18nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,250nm,24.0s,MS4.2
KMI Kunming 51.75 310⇑P **P 09 14 15.5 +1.8**
comp=Z,18nm,1.1s,mb4.9
KMI pP pP 09 14 26.7 +2.2
KMI sP sP 09 14 30.9 +2.1
KMI PcP PcP 09 15 29.4 +2.8
KMI PP PP 09 16 16.2 +4.7
KMI PPP 09 17 17.9
KMI S **S 09 21 36.7 +3.7**
KMI sS sS 09 21 51.8 +1.0
KMI SS SS 09 25 11.4 +1.7
KMI SSS 09 26 48.1
KMI LR LR
comp=Z,250nm,24.0s,MS4.2
CHTO Chiang Mai 51.78 301 *e*P **P 09 14 14.9 +1.0**
CHTO pmax pmax
comp=Z,37nm,1.4s,mb5.1
CHTO Chiang Mai 51.78 301 *e*P **P 09 14 14.9 +0.9**
comp=Z,37nm,1.4s,mb5.1
SNY Shenyang 52.30 340⇑P **P 09 14 16.5 -1.3**
SNY S **S 09 21 42.8 +2.2**
SNY AMB AMB
comp=Z,14nm,1.6s,mb4.6
SNY AMB AMB
comp=Z,132nm,12.0s
SNY LR LR
comp=N,286nm,20.1s,MS4.5
SNY LR LR
comp=E,325nm,17.7s,MS4.5
SNY LR LR
comp=Z,228nm,16.2s,MS4.3
XAN Xi'an 52.99 323 P **P 09 14 22.5 -0.4**
XAN AP pP 09 14 39.0 +5.2
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.8
MDJ Mudanjiang 53.18 347 P **P 09 14 23.8 -0.5**
MDJ AP pP 09 14 32.3 -2.8
MDJ XP sP 09 14 36.5 -2.9
MDJ PP PP 09 16 24.5 0.0
MDJ SCP ScP 09 19 25.3 -1.4
MDJ PCS PcS 09 19 28.8 -2.1
MDJ S **S 09 21 56.5 +4.0**
MDJ SCS ScS 09 24 10.8 -0.1
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,80nm,5.3s
MDJ LR LR
comp=N,291nm,24.7s,MS4.3
MDJ LR LR
comp=E,211nm,25.5s,MS4.3
MDJ LR LR
comp=Z,492nm,22.3s,MS4.5
CN2 Changchun 53.50 343⇑P **P 09 14 30.8 +4.2**
CN2 *eS* **S 09 22 00.3 +3.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,400nm,19.0s,MS4.6
CN2 LR LR
comp=E,400nm,19.0s,MS4.6
CN2 LR LR
comp=Z,500nm,18.0s,MS4.6
BJT Baijiatuau 53.67 333 *e*P **P 09 14 27.7 -0.2**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 53.67 333 *e*P **P 09 14 27.7 -0.3**
comp=Z,9.3nm,0.8s,mb4.8
BJI Beijing 53.69 333 P **P 09 14 27.8 -0.2**
BJI S **S 09 21 59.3 -0.1**
BJI AMB AMB
comp=Z,17nm,0.8s,mb5.0
BJI AMB AMB
comp=Z,189nm,3.5s
BJI LR LR
comp=N,182nm,19.4s,MS4.4
BJI LR LR
comp=E,286nm,18.2s,MS4.4
BJI LR LR
comp=Z,257nm,28.8s
BJI Beijing 53.69 333 P **P 09 14 27.7 -0.3**
BJI S **S 09 21 59.3 -0.1**
BJI pmax pmax
comp=Z,17nm,0.8s,mb5.0
BJI MLR MLR
comp=Z,260nm,28.8s,MS4.1
BJI Beijing 53.69 333 P **P 09 14 27.7 -0.3**
comp=Z,17nm,0.8s,mb5.0
BJI S **S 09 21 59.3 -0.1**
BJI SS SS 09 25 49.9 +10
BJI LR LR
comp=Z,260nm,28.8s,MS4.1
YSS Yuzh-Sakhalins 53.80 358 *e*P **P 09 14 32.0 +3.1**
CD2 Chengdu 54.30 316 P **P 09 14 33.3 +0.8**
CD2 AP pP 09 14 44.0 +0.6
CD2 XP sP 09 14 48.0 +0.3
CD2 PP PP 09 16 37.0 +2.4
CD2 S **S 09 22 07.8 0.0**
CD2 SS SS 09 25 50.0 0.0
CD2 AMB AMB
comp=Z,40nm,0.5s,mb5.6
CD2 AMB AMB
comp=Z,240nm,7.4s
CD2 LR LR
comp=N,400nm,15.5s,MS4.7
CD2 LR LR
comp=E,310nm,16.3s,MS4.7
CD2 LR LR
comp=Z,430nm,18.0s,MS4.6
HABR Khabarovsk 55.93 352 *e*P **P 09 14 43.8 -0.4**
HABR *eS* **S 09 22 30.4 +0.9**
HHC Hu-ho-hao-te 56.49 330 *e*P **P 09 14 50.8 +2.5**
HHC XP sP 09 15 05.3 +1.8
HHC PCP PcP 09 15 46.8 +2.1
HHC PP PP 09 16 58.3 +4.1
HHC SCP ScP 09 19 40.3 -0.9
HHC S **S 09 22 40.5 +3.5**
HHC XS sS 09 22 55.3 +0.3
HHC SS SS 09 26 27.5 +2.9
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,244nm,7.7s
HHC LR LR
comp=N,255nm,19.2s,MS4.6
HHC LR LR
comp=E,410nm,20.0s,MS4.6
HHC LR LR
comp=Z,280nm,18.3s,MS4.4
BTO Baotou 57.09 329 *e*P **P 09 14 51.8 -0.7**
KLR Kul'dur 57.17 350 *e*P **P 09 14 46.2 -6.8**
LZH Lanzhou 57.46 321⇑P **P 09 14 56.0 +0.9**
LZH AP pP 09 15 06.3 +0.2
LZH XP sP 09 15 10.0 -0.3
LZH PP PP 09 17 05.3 +2.5
LZH *eS* **S 09 22 49.3 -0.5**
LZH XS sS 09 23 05.5 -2.3
LZH SS SS 09 26 40.3 +0.5
LZH AMB AMB
comp=Z,29nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,112nm,6.7s
LZH LR LR
comp=N,887nm,15.3s
LZH LR LR
comp=Z,1μm,18.5s,MS5.0
LZH Lanzhou 57.46 321⇑P **P 09 14 56.0 +0.9**
LZH *PP pP 09 15 06.2 +0.1
LZH *SP sP 09 15 10.1 -0.2
LZH 09 17 05.3
LZH *eS* **S 09 22 49.2 -0.6**
LZH *SS sS 09 23 05.6 -2.2
LZH SS SS 09 26 40.2 +0.4
LZH pmax pmax
comp=Z,29nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,1μm,18.5s,MS5.0
LZH Lanzhou 57.46 321⇑P **P 09 14 56.0 +0.9**
comp=Z,29nm,1.3s,mb5.2
LZH pP pP 09 15 06.2 +0.1
LZH sP sP 09 15 10.1 -0.2
LZH PP PP 09 17 05.3 +2.5
LZH *eS* **S 09 22 49.2 -0.6**
LZH sS sS 09 23 05.6 -2.2
LZH SS SS 09 26 40.2 +0.4
LZH LR LR
comp=Z,1μm,18.5s,MS5.0
PET Petropavlovsk 61.05 10 *e*P **P 09 15 17.7 -2.2**
PET *eS* **S 09 23 36.6 +0.4**
PET *eSS* SS 09 27 40.8 +4.7
PET pmax pmax
comp=E,100nm,14.9s
PET smax
comp=E,100nm,11.0s
GTA Gaotai 62.03 322 *e*P **P 09 15 27.5 +1.0**
GTA AP pP 09 15 38.5 +0.9
GTA XP sP 09 15 44.0 +2.2
GTA PP PP 09 17 47.3 +4.1
GTA S **S 09 23 49.3 +0.7**
GTA XS sS 09 24 05.3 -1.5
GTA SS SS 09 27 52.5 +1.1
GTA AMB AMB
comp=Z,11nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,189nm,4.9s
GTA LR LR
comp=N,136nm,16.7s,MS4.4
GTA LR LR
comp=E,176nm,19.4s,MS4.4
GTA LR LR
comp=Z,250nm,16.7s,MS4.5
LSA Lhasa 62.95 308 P **P 09 15 34.5 +1.8**
LSA AP pP 09 15 46.5 +2.8
LSA XP sP 09 15 51.3 +3.3
LSA PCP PcP 09 16 06.5 -4.0
LSA PP PP 09 17 58.0 +6.7
LSA S **S 09 24 04.0 +3.8**
LSA AMB AMB
comp=Z,30nm,0.9s,mb5.4
LSA LR LR
comp=E,140nm,21.4s
LSA LR LR
comp=Z,180nm,23.5s,MS4.2
LSA Lhasa 62.95 308 *e*P **P 09 15 34.8 +2.1**
LSA pmax pmax
comp=Z,13nm,0.7s,mb5.2
LSA Lhasa 62.95 308 *e*P **P 09 15 34.8 +2.1**
comp=Z,13nm,0.7s,mb5.2
CASY Casey 63.60 195 *e*P **P 09 15 37.0 0.0**
SONM Songino Array 64.18 332 P **P 09 15 41.2 +0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=162,slow=6.9,SNR=14
SONM LR LR 09 44 17.9
comp=Z,316nm,20.5s,MS4.5,baz=359,slow=37
SONM PKP2bc 09 44 40.5
comp=Z,1.6nm,1.0s,baz=225,slow=2.2,SNR=6.9
SONM Songino Array 64.18 332 P **P 09 15 41.2 +0.4**
SONM LR LR 09 44 17.9
SONM ⇑*e* 09 44 40.5
CIT Chita 64.55 339 *e*P **P 09 15 39.0 -4.2**
PPT Papeete 64.94 106 *e*S **S 09 24 30.9 +6.0**
comp=Z,329nm,27.0s
PPT *e*LQ 09 32 50.3
comp=Z,1μm,35.2s
PPT *e*LR LR 09 35 34.9
comp=Z,529nm,23.0s,baz=279
PPT Papeete 64.94 106 LR LR 09 41 29.4
comp=Z,443nm,18.4s,MS4.7,baz=172,slow=34
TBI Tubuai 65.22 112 *e*S S 09 24 34.9 +6.7
comp=Z,222nm,29.0s
TBI *e*LQ 09 33 03.4
comp=Z,349nm,33.2s
TBI *e*LR LR 09 35 53.2
comp=Z,330nm,29.8s
GUN Gumba 66.43 304⇑*i*P **P 09 15 56.6 +1.2**
comp=Z,89nm,0.8s,mb5.8
MA2 Magadan 66.61 3 *e*P **P 09 16 01.6 +5.1**
MA2 *e* 09 25 43.7
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 MLR MLR
comp=Z,200nm,17.9s,MS4.4
PKI Pulchoki 66.69 304⇑*i*P **P 09 15 57.9 +0.9**
comp=Z,72nm,1.1s,mb5.6
KKN Kakani 66.87 304⇑*i*P **P 09 15 59.1 +0.9**
comp=Z,119nm,1.0s,mb5.9
DMN Daman 66.95 304⇑*i*P **P 09 15 59.9 +1.2**
comp=Z,99nm,0.8s,mb5.9
ZAK Zakamensk 67.43 333 *e*P **P 09 16 01.5 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GKN Gorkha 67.48 304⇑*i*P **P 09 16 02.8 +0.8**
comp=Z,80nm,0.8s,mb5.8
TLY Talaya 68.19 334 *e*P **P 09 16 08.0 +1.5**
TLY *e* 09 18 32.1
TLY *eS* S 09 25 03.8 -0.4
TLY *e*SSS 09 32 19.8
TLY pmax pmax
comp=Z,14nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,204nm,17.0s,MS4.4
KOLN Koldanda 68.25 303⇑*i*P **P 09 16 07.8 +0.9**
comp=Z,126nm,1.0s,mb5.9
IRK Irkutsk 68.33 335 *e*P **P 09 15 59.6 -7.8**
IRK *e* 09 16 31.2
IRK pmax pmax
comp=Z,36nm,1.3s,mb5.2
BOD Bodaibo 69.25 343 *e*P **P 09 16 11.2 -1.9**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
HYB Hyderabad 69.56 291 *i*P **P 09 16 15.0 0.0**
HYB Hyderabad 69.56 291 *e*P **P 09 16 15.0 0.0**
YAK Yakutsk 69.85 353⇑*e*P **P 09 16 16.2 -0.6**
YAK pmax pmax
comp=Z,32nm,1.3s,mb5.1
SEY Seymchan 70.05 4⇑*e*P **P 09 16 17.1 -1.0**
VNDA Vanda 71.01 176 P **P 09 16 24.5 +0.6**
comp=Z,12nm,1.0s,mb4.8,baz=330,slow=6.2,SNR=29
VNDA LR LR 09 46 51.5
comp=Z,900nm,18.9s,MS5.0,baz=349,slow=35
VNDA Vanda 71.01 176 *e*P **P 09 16 24.5 +0.6**
VNDA pmax pmax
comp=Z,13nm,1.0s
VNDA Vanda 71.01 176 *e*P **P 09 16 24.5 +0.6**
comp=Z,13nm,1.0s,mb4.8
SBA Scott Base 71.70 175 *e*P **P 09 16 28.0 0.0**
SBA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SBA Scott Base 71.70 175 *e*P **P 09 16 28.0 -0.1**
comp=Z,7.4nm,1.1s,mb4.5
WMQ Urumqi 72.03 320⇑*i*P **P 09 16 30.8 +0.8**
WMQ AP pP 09 16 41.3 +0.1
WMQ XP sP 09 16 44.8 -0.6
WMQ PCP PcP 09 16 49.5 +1.1
WMQ PP PP 09 19 12.3 +2.1
WMQ S S 09 25 48.3 -0.8
WMQ XS sS 09 26 05.3 -2.3
WMQ SKS 09 26 27.5
WMQ SCS ScS 09 26 30.3 -2.9
WMQ AMB AMB
comp=Z,21nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,173nm,3.6s
WMQ LR LR
comp=N,136nm,21.2s,MS4.3
WMQ LR LR
comp=E,84nm,21.2s,MS4.3
WMQ LR LR
comp=Z,188nm,22.3s,MS4.3
NDI New Delhi 73.87 302 *ex* x 09 16 32.0
TAOE Nuku Hiva Isla 74.49 97 *e*LR LR 09 40 04.2
comp=Z,884nm,27.5s
BILL Bilibino 76.49 8 *e*P **P 09 16 55.4 -0.6**
BILL *e* pP 09 17 05.2 -2.1
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.2
MK31 Makanchi Array 76.78 321 *e*P **P 09 16 58.0 +0.3**
MKAR Makanchi Array 76.78 321 P **P 09 16 57.9 +0.3**
comp=Z,10nm,0.8s,mb4.8,baz=112,slow=6.4,SNR=78
MKAR PKKP PKKPbc 09 35 55.7 -11
comp=Z,0.3nm,0.8s,baz=18,slow=4.3,SNR=3.6
MKAR Makanchi Array 76.78 321 P **P 09 16 57.9 +0.3**
MKAR PKKP PKKPbc 09 35 55.7 -11
KSH Kashi 78.28 313 *e*P **P 09 17 07.0 +1.0**
KSH *e*AP pP 09 17 17.0 -0.4
KSH *e*XP sP 09 17 21.0 -0.6
KSH *e*PP PP 09 20 06.3 +3.1
KSH *e*S S 09 26 59.0 +0.5
KSH *e*SKS 09 27 14.0
KSH *e*XS sS 09 27 17.3 0.0
KSH *e*SCS ScS 09 27 22.0 -1.5
KSH *e*SS SS 09 32 07.0 +5.7
KSH AMB AMB
comp=Z,407nm,2.4s,mb5.9
RKT Rikitea 78.54 112 *e*LR LR 09 42 12.2
comp=Z,270nm,25.0s
ZAL Zalesovo 78.63 329 P **P 09 17 07.8 -0.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=4.7,slow=4.5,SNR=23
ZAL LR LR 09 52 37.0
comp=Z,257nm,20.6s,MS4.5,baz=162,slow=36
TIXI Tiksi 79.23 355⇑*e*P **P 09 17 09.4 -1.9**
TIXI pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TIXI Tiksi 79.23 355 *e*P **P 09 17 09.8 -1.5**
comp=Z,5.5nm,0.6s,mb4.7
KZA Kyzart 79.65 315 P **P 09 17 15.3 +1.8**
SNR=27
TKM2 Tokmak 2 79.69 316 P **P 09 17 14.4 +0.7**
SNR=10
NVS Novosibirsk 79.86 329⇑*i*P **P 09 17 13.7 -1.0**
NVS pmax pmax
comp=Z,25nm,1.2s,mb5.0
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=E,13nm,1.0s
KBK Karagaybulak 80.05 315 P **P 09 17 16.5 +0.8**
SNR=6.2
UCH Uchtor 80.21 315 P **P 09 17 17.9 +1.3**
SNR=21
CHMS Chumysh 80.30 316 P **P 09 17 17.7 +0.6**
SNR=8.3
MAW Mawson 80.33 203 *e*P **P 09 17 16.9 -0.3**
comp=E,6.7nm,1.0s,mb4.5
MAW Mawson 80.33 203 P **P 09 17 17.2 -0.1**
comp=E,9.1nm,1.0s,mb4.7,baz=91,slow=4.3,SNR=13
MAW LR LR 09 52 02.2
comp=E,602nm,18.5s,MS5.0,baz=65,slow=35
MAW Mawson 80.33 203 *e*P **P 09 17 16.9 -0.3**
MAW pmax pmax
comp=Z,7.0nm,1.0s
FRU Bishkek 80.34 316 *e*P **P 09 17 17.0 -0.3**
AAK Ala-Archa 80.36 315 P **P 09 17 18.2 +0.9**
SNR=14
AAK Ala-Archa 80.36 315 P **P 09 17 17.1 -0.3**
comp=Z,93nm,0.9s,mb5.7,SNR=12
AAK Ala-Archa 80.36 315⇑*e*P **P 09 17 16.9 -0.5**
AAK pmax pmax
comp=Z,28nm,1.4s,mb5.0
AAK Ala-Archa 80.36 315 *e*P **P 09 17 17.1 -0.2**
comp=Z,22nm,1.1s,mb5.0
USP Ospenovka 80.56 316 P **P 09 17 18.9 +0.5**
SNR=30
KURK Kurchatov 80.61 324 P **P 09 17 18.4 -0.3**
comp=Z,85nm,1.1s,mb5.6,SNR=5.9
AML Almayashu 80.76 315 P **P 09 17 20.9 +1.4**
SNR=33
EKS2 Erkin-Say 80.87 315 P **P 09 17 21.1 +1.0**
SNR=22
KDAK Kodiak Island 82.00 29 *e*P **P 09 17 26.5 +0.4**
comp=Z,29nm,0.9s,mb5.2
SVW2 Sparrevohn 82.23 25 *e*P **P 09 17 26.6 -0.7**
KKAR Karatay Array 83.29 315 *i*P **P 09 17 32.6 -0.2**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SLKM Skilak Lake 84.29 27 *e*P **P 09 17 37.8 -0.1**
PMR Palmer 85.22 26 *e*P **P 09 17 41.9 -0.7**
PMR pmax pmax
comp=Z,38nm,1.1s,mb5.4
PMR MLR MLR

	comp=Z,300nm,19.0s,MS4.7								
PMR	**Palmer**	**85.22**	**26**	*e*P		**P**	**09 17 41.9**	**-0.7**	
	comp=Z,38nm,1.1s,mb5.4								
PMR				LR		LR			
	comp=Z,300nm,19.0s,MS4.7								
IMA2	**Indian Mountai**	**85.42**	**21**	*e*P		**P**	**09 17 43.3**	**-0.3**	
SML	**Sawmill**	**85.66**	**26**	*e*P		**P**	**09 17 44.6**	**-0.2**	
VOSK	**Vostochnaya**	**85.77**	**324**	P		**P**	**09 17 44.3**	**-1.0**	
VOSK				pmax		pmax			
	comp=Z,13nm,1.0s,mb5.1								
MCK	**McKinley**	**86.19**	**24**	*e*P		**P**	**09 17 46.4**	**-1.0**	
MCK				pmax		pmax			
	comp=Z,25nm,0.8s,mb5.5								
MCK	**McKinley**	**86.19**	**24**	*e*P		**P**	**09 17 46.4**	**-1.0**	
	comp=Z,25nm,0.8s,mb5.5								
BVA0	**Borovoye Array**	**86.20**	**324**	*i* P		**P**	**09 17 46.9**	**-0.5**	
BVA0				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.4								
BVAR	**Borovoye Array**	**86.20**	**324**	P		**P**	**09 17 47.2**	**-0.2**	
	comp=Z,11nm,0.7s,mb5.2,baz=112,slow=6.5,SNR=55								
CHKZ	**Chkalovo**	**86.26**	**325**	*e*P		**P**	**09 17 46.9**	**-0.8**	
CHKZ				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**86.26**	**325**	*e*P		**P**	**09 17 46.9**	**-0.8**	
	comp=Z,4.3nm,0.8s,mb4.7								
BRVK	**Borovoye**	**86.27**	**324**	P		**P**	**09 17 47.9**	**+0.1**	
	comp=Z,57nm,1.4s,mb5.6,SNR=6.4								
BRVK	**Borovoye**	**86.27**	**324**	*e*P		**P**	**09 17 47.3**	**-0.5**	
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb5.0								
BRVK	**Borovoye**	**86.27**	**324**	*e*P		**P**	**09 17 47.3**	**-0.5**	
	comp=Z,5.6nm,0.6s,mb5.0								
DIV	**Divide**	**86.54**	**27**	*e*P		**P**	**09 17 49.4**	**+0.3**	
	comp=Z,76nm,0.7s,mb6.0								
COLA	**College**	**87.08**	**23**	*c i*P		**P**	**09 17 50.6**	**-1.2**	
COLA	**College**	**87.08**	**23**	*e*P		**P**	**09 17 50.2**	**-1.5**	
	comp=Z,16nm,0.4s,mb5.6								
MENT	**Mentasta**	**88.08**	**26**	*e*P		**P**	**09 17 56.7**	**+0.2**	
SYO	**Syowa Base**	**88.75**	**200**‖	*e*P		**P**	**09 17 58.6**	**-1.1**	
SYO	**Syowa Base**	**88.75**	**200**‖	*e*PcP		PcP	09 18 01.4	+0.1	
EGAK	**Eagle**	**89.73**	**24**	*e*P		**P**	**09 18 04.2**	**-0.1**	
	comp=Z,13nm,0.4s,mb5.6								
DAWY	**Dawson**	**90.27**	**25**	*e*	P	**P**	**09 18 07.2**	**+0.4**	
AB31	**Akbulak array**	**91.78**	**319**	*i* P		**P**	**09 18 12.1**	**-1.8**	
AB31				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.9								
AKTK	**Aktyubinsk**	**93.18**	**320**	P		**P**	**09 18 18.9**	**-1.4**	
AKTO	**Aktyubinsk**	**93.18**	**320**	P		**P**	**09 18 18.9**	**-1.4**	
	comp=Z,3.5nm,0.8s,mb4.9,baz=86,slow=4.3,SNR=14								
INK	**Inuvik**	**93.54**	**22**	*e*P		**P**	**09 18 21.2**	**-0.7**	
	comp=Z,456nm,1.0s								
ARU	**Arti**	**93.61**	**326**⇑	*i*P		**P**	**09 18 20.3**	**-2.0**	
ARU				*e*			09 22 06.2		
ARU				*e*PPP			09 24 10.2		
ARU				*e*S		SKSac	09 28 52.0	-2.0	
ARU				*e*PS		PS	09 30 44.6	-1.6	
ARU				*e*SS		SS	09 35 47.2	+1.0	
ARU				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb5.0								
SNAA	**Sanae**	**98.54**	**190**⇑	*e*P		**P**	**09 18 44.0**	**-0.7**	
VNA2	**Neumayer--Watz**	**99.94**	**189**	*e*Pdiff		Pdif	09 18 50.8	-0.1	
VNA2				*e*			09 18 55.7		
VNA2				*e*			09 18 59.4		
VNA2				*e*			09 19 04.7		
VNA2				*e*			09 19 09.5		
VNA2				*e*			09 19 14.3		
VNA2				*e*			09 22 54.1		
VNA2				*e*			09 23 10.4		
NVAR	**Mina Array Bea**	**99.95**	**52**	P		Pdif	09 18 52.7	+1.8	
	comp=Z,2.1nm,0.9s,baz=266,slow=5.9,SNR=9.9								
NVAR	**Mina Array Bea**	**99.95**	**52**	P		Pdif	09 18 52.7	+1.7	
VNA3	**Neumayer Olymp**	**99.99**	**188**	*e*Pdiff		Pdif	09 18 50.7	-0.5	
VNA3				*e*			09 18 56.3		
VNA3				*e*			09 18 59.8		
VNA3				*e*			09 19 04.4		
VNA3				*e*			09 19 32.6		
VNA3				*e*			09 22 53.4		
VNA3				*e*			09 23 10.2		
VNA1	**Neumayer--Stat**	**100.31**	**189**	*e*Pdiff		Pdif	09 18 51.7	-0.9	
VNA1				*e*			09 18 56.9		
VNA1				*e*			09 19 00.5		
VNA1				*e*			09 19 05.3		
YKA	**Yellowknife Ar**	**101.25**	**28**	P		Pdif	09 18 56.2	-0.5	
	comp=Z,3.2nm,1.0s,baz=273,slow=4.2,SNR=9.1								
YKA	**Yellowknife Ar**	**101.25**	**28**	P		Pdif	09 18 56.2	-0.6	
CCUT	**Cedar City**	**103.86**	**53**	*e*Pdif		Pdif	09 19 08.9	+0.5	
PDAR	**Pinedale Array**	**106.44**	**48**	Pdiff		Pdif	09 19 20.3	+0.5	
	comp=Z,0.6nm,0.9s,baz=39,slow=0.9,SNR=4.2								
ARCES	**ARCESS Array B**	**106.49**	**341**	Pdiff		Pdif	09 19 16.8	-3.3	
	comp=Z,5.8nm,1.1s,baz=331,slow=4.7,SNR=3.7								
ARCES	**ARCESS Array B**	**106.49**	**341**	Pdif		Pdif	09 19 16.8	-3.3	
TXAR	**Lajitas Array**	**112.41**	**61**	PKiKP		PKiKP	09 23 42.4	+0.4	
	comp=Z,1.1nm,1.0s,baz=225,slow=1.4,SNR=6.9								
TXAR				PKKPbc		PKKPbc	09 34 39.9	+8.3	
	comp=Z,0.6nm,0.9s,baz=108,slow=4.8,SNR=5.0								
GERES	**GERESS Array B**	**121.36**	**324**	PKP		PKPdf	09 23 58.9	-0.3	
	comp=Z,0.5nm,0.6s,baz=11,slow=1.4,SNR=4.0								
EKA	**Eskdalemuir Ar**	**125.43**	**338**	PKP		PKPdf	09 24 07.0	+0.1	
	comp=Z,3.0nm,1.1s,baz=34,slow=3.1,SNR=3.5								
LVC	**Limon Verde**	**135.93**	**133**	PKP		PKPdf	09 24 30.3	+3.4	
	comp=Z,4.0nm,0.8s,baz=94,slow=2.3,SNR=3.8								
LPAZ	**La Paz**	**140.20**	**126**	PKiKP			09 24 30.8		
	comp=Z,1.0nm,0.6s,baz=228,slow=6.8,SNR=7.4								
LPAZ				PKP		PKPdf	09 24 37.3	+2.6	
	comp=Z,3.8nm,0.9s,baz=77,slow=1.6,SNR=9.2								
LPAZ	**La Paz**	**140.20**	**126**	*e*PKPdf		PKPdf	09 24 29.9	-4.8	
LPAZ				PKP		PKPdf	09 24 37.3	+2.6	
ROSC	**El Rosal**	**141.28**	**91**	PKhKP			09 24 28.1		
	comp=Z,2.4nm,0.6s,baz=11,slow=0.6,SNR=2.5								
ROSC				PKP		PKPdf	09 24 37.9	+1.2	
	comp=Z,4.3nm,0.5s,baz=277,slow=7.9,SNR=4.5								
ROSC	**El Rosal**	**141.28**	**91**	PKP		PKPdf	09 24 37.9	+1.2	
TOA0	**Torodi Ar. Sit**	**142.96**	**282**	*e*PKPdf		PKPdf	09 24 36.5	-3.2	
TORD	**Torodi Ar. Bea**	**142.96**	**282**	PKhKP			09 24 36.1		
	comp=Z,7.0nm,0.9s,baz=74,slow=3.3,SNR=21								
SDV	**Santo Domingo**	**145.13**	**85**	*e*PKPbc		PKPbc	09 24 45.1	+2.1	
SIV	**San Ignacio**	**145.82**	**132**	PKPbc		PKPbc	09 24 46.6	+1.5	
	comp=Z,62nm,0.9s,baz=237,slow=3.6,SNR=201								

*ISCJB **25** 09:24:04.4±0.8, 470N±0.1×1555E±0.1, h10km, mb3.9/12, Error ellipse: s-maj=19.9km s-min=9.7km az=111.9*
*IDC **25** 09:24:04.7±1.5, 4704N×15559E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=44.1km s-min=18.4km az=175.0*
*NEIC **25** 09:24:06.2±0.7, 4702N×15559E, h10km, mb4.5/2, Error ellipse: s-maj=20.1km s-min=9.9km az=154.0*
*MOS **25** 09:24:07.1±0.8, 4703N×15552E, h32km, mb4.0/8, Error ellipse: s-maj=19.0km s-min=14.5km az=77.3*
ISC 25 09:24:06.5±0.8,**471N**±01×**1556E**±01,**h10**km,**n28,**
σ0§**85**/29,**mb3.9**/12,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.59**	**6**	*e*PN	**Pn**	**09 25 01.6**	**-0.6**
ASAJ	**Asahikawa**	**9.56**	**256**	Pn	**Pn**	**09 26 24.4**	**+0.2**
	0.3nm,0.3s,baz=75,slow=16,SNR=2.9						
ERM	**Erimo**	**10.21**	**245**	*e*Pn	**Pn**	**09 26 34.1**	**+1.1**
ERM				*e*Sn	**Sn**	**09 28 19.2**	**-8.2**
MJAR	**Matsushiro Arr**	**16.66**	**237**	Pn	**Pn**	**09 27 57.4**	**-2.6**
	0.1nm,0.3s,baz=31,slow=14,SNR=4.9						
SONM	**Songino Array**	**32.79**	**290**	P	**P**	**09 30 40.1**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=58,slow=12,SNR=4.3						
SONM	**Songino Array**	**32.79**	**290**	P	**P**	**09 30 40.1**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**09 32 11.4**	**-0.8**
	comp=Z,0.9nm,0.4s,mb3.9,baz=96,slow=7.6,SNR=3.4						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**09 32 11.4**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.25**	**298**	P	**P**	**09 32 48.3**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.8,baz=66,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**48.25**	**298**	P	**P**	**09 32 48.3**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**09 32 57.2**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=292,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**09 32 57.2**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**09 32 57.2**	**-0.8**
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**09 33 11.6**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P	**P**	**09 33 11.6**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.4						
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**09 33 44.4**	**+0.2**
ARU	**Arti**	**55.86**	**318**	*e*P	**P**	**09 33 44.4**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**09 33 59.9**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=27,slow=8.1,SNR=5.2						
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**09 33 59.9**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**60.78**	**64**	P	**P**	**09 34 19.1**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.8,baz=298,slow=8.5,SNR=4.2						
PDAR	**Pinedale Array**	**63.17**	**55**	P	**P**	**09 34 34.9**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.6,baz=309,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**09 34 42.1**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=48,slow=7.9,SNR=9.2						
FINES	**FINESS Array B**	**64.41**	**336**	P	**P**	**09 34 42.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**09 35 08.1**	**-0.3**
	comp=Z,0.9nm,0.9s,mb3.8,baz=43,slow=6.6,SNR=2.4						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**09 35 08.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.85**	**62**	P	**P**	**09 35 52.8**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=309,slow=5.0,SNR=8.4						
TXAR	**Lajitas Array**	**75.85**	**62**	P	**P**	**09 35 52.8**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**76.81**	**337**	*e*P	**P**	**09 36 00.0**	**+1.7**

*NEIC **25** 09:30:18.1, 3675N×2173E, h12km, ML3.6(ATH), After ATH.*
*ATH **25** 09:30:18.1, 3675N±2173E, h12km±1km, MD3.7/11, ML3.6*
*IDC **25** 09:30:18.9±4.1, 3724N×2209E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=98.7km s-min=24.2km az=52.0*
*ISCJB **25** 09:30:19.4±1.2, 3677N±005×2178E±009, h10km, mb3.5/3, Error ellipse: s-maj=12.6km s-min=4.5km az=116.1*
ISC 25 09:30:18.4±1.8,**3674N**±006×**2175E**±009,**h3**km±10km,**n17,**
σ1§**04**/22,**mb3.5**/3,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.47**	**18**	*e*PB	**Pg**	**09 30 27.0**	**-0.3**
ITM				*e*SB	**Sg**	**09 30 33.6**	**+0.3**
VLI	**Veliai**	**0.96**	**91**	*e*PG	**Pg**	**09 30 36.5**	**-0.2**
VLI				*e*SB	**Sg**	**09 30 50.2**	**-0.5**
KYTH	**Kithira**	**1.14**	**113**	*e*Pb	**Pb**	**09 30 40.0**	**-0.6**
KYTH				*e*Sb	**Sb**	**09 30 56.0**	**+0.2**
RLS	**Riolos of Patr**	**1.34**	**351**	*e*PB	**Pb**	**09 30 42.9**	**-1.2**
RLS				*e*SB	**Sb**	**09 31 01.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.73**	**53**	*e*PG	**Pb**	**09 30 50.5**	**-0.2**
KVR	**Kavouri**	**1.95**	**55**	*e*PN	**Pn**	**09 30 53.0**	**+0.7**
ATH	**Athens Observa**	**2.00**	**51**	*e*PN	**Pn**	**09 30 53.5**	**+0.5**
PTL	**Penteli**	**2.14**	**52**	*e*PN	**Pn**	**09 30 55.5**	**+0.6**
LKR	**Lokris**	**2.15**	**27**	*e*PN	**Pn**	**09 30 56.2**	**+1.0**
EVR	**Evrytania**	**2.18**	**1**	*e*PN	**Pn**	**09 30 57.0**	**+1.5**
VAM	**Vamos**	**2.39**	**123**	*e*PN	**Pn**	**09 30 59.5**	**+1.1**
GVD	**Gavdhos**	**2.69**	**134**	*e*Pn	**Pb**	**09 31 07.2**	**+0.2**
GVD	**Gavdhos**	**2.69**	**134**	*e*Pn	**Pb**	**09 31 07.2**	**+0.1**
IDI	**Anoyia**	**2.93**	**119**	Pn	**Pn**	**09 31 07.3**	**+1.5**
	2.6nm,0.3s,baz=313,slow=15,SNR=12						
IDI				Sn	**Sb**	**09 31 46.3**	**-1.2**
	5.1nm,0.3s,baz=299,slow=19,SNR=7.9						
FINES	**FINESS Array B**	**24.88**	**5**	P	**P**	**09 35 39.3**	**-3.0**
	0.8nm,0.8s,mb3.3,baz=182,slow=13,SNR=3.7						
NOA	**NORSAR Array B**	**25.23**	**348**	P	**P**	**09 35 41.8**	**-3.7**
	1.4nm,0.9s,mb3.5,baz=152,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**45.24**	**57**	P	**P**	**09 38 33.5**	**-3.5**
	0.3nm,0.3s,mb3.5,baz=272,slow=7.6,SNR=8.6						

*ISCJB **25** 09:40:57.3±0.6, 3599S±009×1016W±0.1, h10km, mb4.2/14, MS3.6/6, Error ellipse: s-maj=15.9km s-min=12.7km az=10.1*
*IDC **25** 09:40:57.9±1.0, 3593S×10167W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.3/16, mbtmp4.2/10, MS3.7/6, Ms1 3.7/6, ms1mx3.6/16, Error ellipse: s-maj=29.2km s-min=21.0km az=98.0*
*NEIC **25** 09:40:59.3±0.6, 3588S×10160W, h10km, mb4.3/4, Error ellipse: s-maj=16.9km s-min=15.4km az=116.0*
ISC 25 09:40:59.0±0.6,**3600S**±009×**1017W**±01,**h10**km,**n22,**
σ1§**03**/19,**mb4.2**/14,**MS3.6**/6,**Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**26.71**	**286**	*e*P	**P**	**09 46 38.4**	**0.0**
	164nm,0.5s						
CFAA	**Coronel Fontan**	**28.04**	**91**	LR	LR	09 54 46.1	
	comp=Z,15nm,18.3s,MS2.6,baz=249,slow=30						
USHA	**Ushuaia**	**29.57**	**140**	P	**P**	**09 47 04.4**	**+0.4**
	6.0nm,1.0s,mb4.3,baz=258,slow=8.0,SNR=3.6						
USHA				LR	LR	09 56 17.7	
	comp=Z,222nm,18.3s,MS3.8,baz=232,slow=31						
LPAZ	**La Paz**	**35.68**	**65**	P	**P**	**09 47 59.3**	**+1.9**
	6.7nm,1.0s,mb4.5,baz=235,slow=8.3,SNR=17						
LPAZ				LR	LR	09 59 03.1	
	comp=Z,84nm,20.6s,MS3.5,baz=237,slow=30						
ATAH	**Atahualpa**	**35.87**	**42**	P	**P**	**09 47 59.5**	**+0.5**
	7.7nm,0.7s,mb4.7,baz=288,slow=6.4,SNR=6.7						
PMSA	**Palmer Station**	**36.49**	**154**	LR	LR	09 58 56.7	
	comp=Z,225nm,20.1s,MS3.9,baz=150,slow=30						
SIV	**San Ignacio**	**41.20**	**72**	P	**P**	**09 48 42.8**	**-1.0**
	1.1nm,0.5s,mb3.8,baz=248,slow=7.6,SNR=8.5						
OTAV	**Otavalo**	**42.02**	**36**	*e*P	**P**	**09 48 50.8**	**+0.3**
	4.7nm,0.8s,mb4.2						
SAML	**Samuel**	**44.14**	**62**	*e*P	**P**	**09 49 07.0**	**-0.7**
	5.3nm,1.1s,mb4.2						
ROSC	**El Rosal**	**48.04**	**38**	P	**P**	**09 49 40.0**	**+1.6**
	17nm,1.0s,mb5.0,baz=275,slow=18,SNR=7.7						
ROSC				LR	LR	10 06 20.5	
	comp=Z,87nm,21.5s,MS3.7,baz=0.3,slow=32						
SDV	**Santo Domingo**	**53.36**	**39**	P	**P**	**09 50 15.9**	**-2.6**
	3.2nm,0.8s,mb4.3						
VNDA	**Vanda**	**56.55**	**195**	P	**P**	**09 50 43.7**	**+2.1**
	0.7nm,0.9s,mb3.7,baz=117,slow=4.5,SNR=3.1						
VNDA	**Vanda**	**56.55**	**195**	P	**P**	**09 50 43.7**	**+2.1**
VNA3	**Neumayer Olymp**	**57.01**	**157**	*e*	**P**	**09 50 44.0**	**-0.9**
VNA3				*e*	pP	09 50 46.4	-1.7
VNA3				*e*		09 50 53.0	
VNA3				*e*		09 50 57.5	
VNA3				*e*		09 51 03.4	
VNA3				*e*		09 51 08.1	
VNA3				*e*		09 51 16.1	
VNA3				*e*		09 51 26.4	
VNA3				*e*		09 51 32.3	
VNA1	**Neumayer--Stat**	**57.61**	**157**	*e*	**P**	**09 50 40.3**	**-8.8**
VNA1				*e*		09 50 48.9	
VNA1				*e*		09 51 00.3	
VNA1				*e*		09 51 04.2	
VNA1				*e*		09 51 13.4	
VNA2	**Neumayer--Watz**	**57.81**	**157**	*e*	**P**	**09 50 49.8**	**-0.7**
	baz=283,slow=7.3						
VNA2				*e*	pP	09 50 52.2	-1.5
VNA2				*e*		09 50 59.4	
VNA2				*e*		09 51 04.3	
VNA2				*e*		09 51 10.0	
VNA2				*e*		09 51 13.9	
VNA2				*e*		09 51 19.6	
VNA2				*e*		09 51 31.4	
VNA2				*e*		09 51 39.1	
TXAR	**Lajitas Array**	**65.01**	**358**	P	**P**	**09 51 39.4**	**+0.2**
	0.5nm,1.0s,mb3.5,baz=183,slow=7.4,SNR=3.7						
NVAR	**Mina Array Bea**	**75.64**	**347**	P	**P**	**09 52 44.3**	**+0.1**
	1.6nm,0.9s,mb4.0,baz=182,slow=7.1,SNR=7.0						
MAW	**Mawson**	**76.06**	**174**	P	**P**	**09 52 46.2**	**-0.5**
	0.9nm,0.6s,mb3.9,baz=169,slow=5.2,SNR=3.5						
PDAR	**Pinedale Array**	**78.72**	**354**	P	**P**	**09 53 00.9**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=147,slow=5.4,SNR=5.7						
HLID	**Hailey**	**80.03**	**351**	*e*P	**P**	**09 53 08.3**	**-0.4**
	3.7nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**90.17**	**229**	LR	LR	10 24 58.9	
	comp=Z,83nm,19.9s,MS4.2,baz=25,slow=29						

*ISCJB **25** 10:07:17.2±1.0, 1023N±004×6235W±003, h12km±7km, Error ellipse: s-maj=7.1km s-min=4.7km az=151.9*
*NEIC **25** 10:07:17.1, 1028N×6233W, h3km, MD3.1(TRN), After TRN.*
*TRN **25** 10:07:17.3, 1028N×6233W, h3km, MD3.1*
*FUNV **25** 10:07:18.1, 1029N×6225W, h16km, MW2.5*
ISC 25 10:07:17.8±0.8,**1025N**±004×**6233W**±003,**h13**km±6km,**n14,**
σ0§**88**/22,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.41**	**16**	*e*P	**Pg**	**10 07 25.1**	**-0.7**
GUIV				*e*S	**Sg**	**10 07 30.3**	**-1.0**
GUNV	**Guanoco**	**0.61**	**261**	*e*P	**Pg**	**10 07 30.6**	**+1.0**
GUNV				*e*S	**Sg**	**10 07 41.6**	**+4.0**
TCE	**Chacachacare**	**0.72**	**52**	*e*P	**Pg**	**10 07 31.1**	**-0.7**
TCE				*e*S	**Sg**	**10 07 41.2**	**0.0**
TPP	**Pointe-a-Pierr**	**0.87**	**86**	*e*P	**Pg**	**10 07 33.8**	**-0.8**
CRUV	**Carupano**	**0.98**	**295**	*e*P	**Pb**	**10 07 36.2**	**-0.5**
CRUV				*e*S	**Sb**	**10 07 49.2**	**-0.3**
TRN	**Trinidad (W)**	**1.00**	**67**	*e*P	**Pb**	**10 07 36.3**	**-0.6**
TRN				*e*S	**Sb**	**10 07 50.1**	**+0.1**
TBH	**Brigand Hill**	**1.27**	**80**	*e*P	**Pn**	**10 07 42.0**	**+0.7**
ITEV	**Isla Los Testi**	**1.35**	**324**	*e*P	**Pn**	**10 07 41.6**	**-0.7**
ITEV				*e*S	**Sb**	**10 08 00.5**	**+0.5**
TPR	**Prospect**	**1.79**	**59**	*e*P	**Pn**	**10 07 49.7**	**+1.4**
GRW	**Mount Saint Ca**	**2.01**	**19**	*e*P	**Pn**	**10 07 51.7**	**+0.3**
GRW	**Mount Saint Ca**	**2.01**	**19**	*e*P	**Pg**	**10 07 58.3**	**+2.1**
GURV	**El Guri**	**2.59**	**197**	*e*P	**Pn**	**10 08 00.5**	**+1.1**
GURV				*e*S	**Sn**	**10 08 29.4**	**-1.3**
CUPV	**Cœpira**	**3.41**	**267**	*e*P	**Pn**	**10 08 10.9**	**+0.3**
CUPV				*e*S	**Sn**	**10 08 50.0**	**-0.9**
BIRV	**Birongo**	**3.88**	**274**	*e*P	**Pn**	**10 08 17.0**	**-0.1**

*ISCJB **25** 10:07:20.0±1.2, 471N±02×1555E±02, h10km, mb3.8/7, Error ellipse: s-maj=36.5km s-min=16.0km az=128.9*
*IDC **25** 10:07:20.7±3.0, 4719N×15556E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=85.8km s-min=27.9km az=4.0*
*NEIC **25** 10:07:22.2±0.9, 4718N×15552E, h10km, mb4.3/1, Error ellipse: s-maj=28.8km s-min=12.4km az=154.0*
ISC 25 10:07:22.3±1.2,**472N**±02×**1555E**±02,**h10**km,**n9,** σ0§**54**/9,
mb3.8/7,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**10.21**	**244**	Pn	**Pn**	**10 09 48.7**	**-0.2**
INK	**Inuvik**	**40.37**	**33**	P	**P**	**10 15 00.4**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=278,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**48.16**	**298**	P	**P**	**10 16 03.3**	**+0.8**
	0.7nm,0.6s,mb3.9,baz=68,slow=6.8,SNR=8.5						
CHKZ	**Chkalovo**	**51.36**	**311**	*e*P	**P**	**10 16 26.7**	**-0.2**
	2.0nm,0.5s,mb4.3						
PDAR	**Pinedale Array**	**63.15**	**55**	P	**P**	**10 17 50.3**	**0.0**
	0.3nm,0.6s,mb3.6,baz=308,slow=3.0,SNR=3.1						
FINES	**FINESS Array B**	**64.29**	**336**	P	**P**	**10 17 57.8**	**+0.1**
	3.0nm,1.0s,mb4.3,baz=44,slow=5.8,SNR=7.1						
NOA	**NORSAR Array B**	**68.28**	**342**	P	**P**	**10 18 22.1**	**-1.3**
	0.7nm,0.8s,mb3.7,baz=32,slow=2.7,SNR=3.6						
TXAR	**Lajitas Array**	**75.84**	**62**	P	**P**	**10 19 08.7**	**0.0**
	0.2nm,0.5s,mb3.3,baz=306,slow=4.9,SNR=6.6						
CLL	**Collm**	**76.68**	**337**	*e*P	**P**	**10 19 14.0**	**+0.6**

*ISCJB **25** 10:13:28.6±1.1, 472N±02×1548E±02, h10km, mb3.7/6, Error ellipse: s-maj=35.9km s-min=12.5km az=113.9*
*IDC **25** 10:13:28.5±1.7, 4713N×15492E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/25, mbtmp3.6/7, ML3.2/2, Error ellipse: s-

TKM2	**Tokmak 2**	**4.62**	**87**	⇓Pn	**Pn**	**10 24 09.3**	**-0.7**
	0.2nm,0.4s							
TKM2				⇓Lg		10 25 09.1		
	1.0nm,0.3s							
AAA	**Alma-Ata**	**5.62**	**83**	*e*PN	**Pb**	**10 24 39.2**	**+1.0**
AB31	**Akbulak array**	**9.14**	**318**	Pn	**Pn**	**10 25 12.7**	**+0.7**
	0.8nm,0.5s,baz=129,slow=14,SNR=17							
AB31				⇑Sn		10 26 54.2		
	1.6nm,0.6s,baz=125,slow=25,SNR=3.6							
BRVK	**Borovoye**	**10.25**	**3**	*e*P	**Pn**	**10 25 35.2**	**+8.0**
AKTO	**Aktyubinsk**	**10.86**	**318**	⇓Pn	**Pn**	**10 25 37.9**	**+2.4**
	0.4nm,2.0s							
AKTO				⇓Sn		10 27 36.6		
	0.3nm,1.6s							
KRAR	**Krasnoyarsk**	**20.09**	**41**	*e*P	**P**	**10 27 38.3**	**+4.6**
KRAR				pmax	pmax			
	comp=Z,8.0nm,1.3s							
HIA	**Hailar**	**35.04**	**62**	*e*P	**P**	**10 29 51.3**	**-1.7**

NIED ***25*** *10:32:00, 40.00N×143.60E, h14km, Mw3.7 Best double couple: M0 3.82000×10^14 NP1:φ=35.00000°, δ=71.00000°, λ=117.00000°. NP2:φ=157.00000°, δ=32.00000°, λ=37.00000°.*

ISCJB ***25*** *10:32:48.8±0.7, 3997N±004×14375E±008, h10km, mb3.6/5, Error ellipse: s-maj=9.5km s-min=4.6km az=65.0*

IDC ***25*** *10:32:49.4±1.3, 3987N×14382E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/24, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=33.6km s-min=21.6km az=95.0*

JMA ***25*** *10:32:51.5±0.2, 4001N×14355E, h18km, M3.5*

NEIC ***25*** *10:32:52.7±0.8, 3987N×14399E, h30km, MG3.5(JMA), Error ellipse: s-maj=24.6km s-min=11.9km az=144.0*

ISC 25 10:32:50.5±0.7, 3999N±005×14364E±008, h10km, n23, σ1§29/30, mb3.6/5, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.37**	**268**	P	**Pn**	**10 33 14.7**	**-0.9**
JTH				*e*S	**Sb**	**10 33 31.7**	**-2.0**
MIYJ	**Miyakonagasawa**	**1.46**	**254**	P	**Pn**	**10 33 16.6**	**-0.4**
JANG	**Nango**	**1.67**	**284**	P	**Pn**	**10 33 19.3**	**-0.5**
JOM	**Ohasama**	**1.88**	**255**	P	**Pn**	**10 33 23.2**	**+0.4**
JMK	**Ichinoseki**	**2.14**	**242**	P	**Pn**	**10 33 26.2**	**-0.1**
JMK				*e*S	**Sn**	**10 33 52.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.38**	**344**	P	**Pn**	**10 33 30.8**	**+1.2**
JNBK				*e*S	**Sn**	**10 33 59.4**	**+0.6**
JCH	**Churui**	**2.63**	**356**	P	**Pn**	**10 33 33.0**	**0.0**
JCH				*e*S	**Sn**	**10 34 03.2**	**-1.7**
JKB	**Kayabe**	**2.73**	**315**	P	**Pn**	**10 33 35.9**	**+1.4**
JYK	**Kaneyama**	**2.76**	**248**	P	**Pn**	**10 33 35.4**	**+0.6**
JMM	**Marumori**	**3.07**	**227**	P	**Pn**	**10 33 38.0**	**-1.1**
JMM				*e*S	**Sn**	**10 34 12.3**	**-3.6**
JAK	**Akkeshi**	**3.10**	**14**	P	**Pn**	**10 33 39.5**	**0.0**
JAK				*e*S	**Sn**	**10 34 15.2**	**-1.5**
ASAJ	**Asahikawa**	**4.19**	**350**	Pn	**Pn**	**10 33 55.6**	**+1.1**
	1.2nm,0.3s,baz=206,slow=9.1,SNR=10							
ASAJ				Sn	**Sn**	**10 34 49.2**	**+5.7**
	1.1nm,0.3s,baz=132,slow=26,SNR=6.1							
MJAR	**Matsushiro Arr**	**5.49**	**233**	Pn	**Pn**	**10 34 13.4**	**+1.1**
	0.7nm,0.3s,baz=45,slow=11,SNR=7.9							
MAJO	**Matsushiro**	**5.49**	**233**	Pn	**Pn**	**10 34 14.9**	**+2.5**
INCN	**Inchon**	**13.51**	**265**	*e*Pn	**Pn**	**10 36 05.9**	**+3.6**
SONM	**Songino Array**	**27.74**	**299**	P	**P**	**10 38 40.7**	**+1.6**
	0.6nm,0.5s,mb3.5,baz=90,slow=9.2,SNR=7.1							
MKAR	**Makanchi Array**	**44.09**	**300**	P	**P**	**10 41 01.0**	**+2.2**
	0.3nm,0.6s,mb3.2,baz=64,slow=9.8,SNR=4.1							
MKAR	**Makanchi Array**	**44.09**	**300**	P	**P**	**10 41 01.0**	**+2.2**
SML	**Sawmill**	**45.58**	**38**	P	**P**	**10 41 07.3**	**-3.4**
INK	**Inuvik**	**50.96**	**28**	P	**P**	**10 41 52.7**	**+0.5**
	0.3nm,0.5s,mb3.4,baz=14,slow=8.3,SNR=2.2							
INK	**Inuvik**	**50.96**	**28**	P	**P**	**10 41 52.7**	**+0.5**
WRA	**Warramunga Arr**	**60.25**	**190**	P	**P**	**10 42 58.5**	**-0.5**
	0.4nm,0.5s,mb3.8,baz=7.7,slow=7.0,SNR=20							
WVOR	**Wild Horse Val**	**69.27**	**52**	P	**P**	**10 43 55.6**	**-2.2**
	1.4nm,0.3s,mb4.4							

ISCJB ***25*** *10:32:55.5±1.0, 2005±0.1×665±0.2, h10km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=31.2km s-min=17.0km az=2.6*

IDC ***25*** *10:32:55.9±1.1, 2003S×6646E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, MS3.3/1, Ms1 3.2/1, ms1mx2.6/40, Error ellipse: s-maj=41.2km s-min=23.4km az=69.0*

NEIC ***25*** *10:32:57.4±0.7, 2005S×6645E, h10km, mb4.2/1, Error ellipse: s-maj=22.4km s-min=12.2km az=92.0*

ISC 25 10:32:57.4±1.0, 201S±01×664E±02, h10km, n10, σ0§51/9, mb3.9/8, MS3.3/1, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**13.88**	**26**	*e*Pn	**Pn**	**10 36 14.0**	**-0.1**
PALK	**Pallekele**	**30.59**	**29**	*e*P	**P**	**10 39 11.5**	**+0.1**
	1.7nm,0.4s,mb4.2							
MAW	**Mawson**	**47.59**	**182**	P	**P**	**10 41 33.1**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=340,slow=12,SNR=3.8							
MAW				LR	LR	10 56 23.8		
	comp=Z,31nm,19.5s,MS3.3,baz=66,slow=30							
ASAR	**Alice Springs**	**62.25**	**107**	P	**P**	**10 43 19.4**	**0.0**
	0.8nm,0.7s,mb4.0,baz=266,slow=6.2,SNR=11							
WRA	**Warramunga Arr**	**63.42**	**103**	P	**P**	**10 43 27.6**	**+0.3**
	0.9nm,0.8s,mb4.0,baz=262,slow=5.6,SNR=8.2							
BRTR	**Keskin Array B**	**66.86**	**333**	P	**P**	**10 43 50.5**	**+0.9**
	0.7nm,0.6s,mb3.9,baz=156,slow=8.5,SNR=4.3							
MKAR	**Makanchi Array**	**68.06**	**12**	P	**P**	**10 43 56.9**	**-0.3**
	0.5nm,0.8s,mb3.6,baz=205,slow=5.4,SNR=4.6							
BVAR	**Borovoye Array**	**72.85**	**3**	P	**P**	**10 44 25.4**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=193,slow=5.9,SNR=5.1							
SONM	**Songino Array**	**76.51**	**26**	P	**P**	**10 44 48.1**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=230,slow=5.3,SNR=4.8							
INK	**Inuvik**	**130.17**	**10**	PKP	PKPdf	10 52 10.3	+2.6
	0.9nm,0.6s,baz=310,slow=4.7,SNR=4.6							

IDC ***25*** *10:38:50.2±0.7, 4695N×15284E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.3/25, mbtmp4.1/18, ML3.3/1, MS3.6/11, Ms1 3.6/11, ms1mx3.2/52, Error ellipse: s-maj=20.1km s-min=15.5km az=154.0*

NEIC ***25*** *10:38:52.9±0.8, 4705N×15272E, h10km, mb4.3/2, Error ellipse: s-maj=22.2km s-min=9.6km az=146.0*

ISCJB ***25*** *10:38:56.2±1.1, 4688N±009×15296±0.1, h58±9km, mb4.1/18, MS3.7/9, Error ellipse: s-maj=17.2km s-min=7.7km az=108.1*

MOS ***25*** *10:38:57.0±1.2, 4689N×15289E, h68km, mb4.3/12, Error ellipse: s-maj=13.3km s-min=10.0km az=71.5*

ISC 25 10:38:58.0±1.0, 4695N±008×1529E±01, h58km±8km, n58, σ0§88/56, mb4.1/18, MS3.7/9, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.87**	**245**	⇑*i*PN	**Pn**	**10 39 53.5**	**-1.5**
KUR				*i* S	**Sn**	**10 40 39.0**	**-0.1**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,290nm,0.8s						
KUR				smax			
	comp=E,460nm,0.8s						
SKR	**Severo-Kuril's**	**4.32**	**29**	*e*PN	**Pn**	**10 40 01.2**	**+0.1**
SKR				*e*S	**Sn**	**10 40 47.3**	**-2.9**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,180nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.91**	**274**	*e*PN	**Pn**	**10 40 41.0**	**+4.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
PET	**Petropavlovsk**	**7.14**	**29**	*e*PN	**Pn**	**10 40 41.5**	**+1.7**
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
ASAJ	**Asahikawa**	**7.74**	**252**	Pn	**Pn**	**10 40 50.6**	**+2.7**
	comp=Z,2.0nm,0.3s,baz=90,slow=11,SNR=16						
ASAJ				LR	LR	10 43 38.9	
	comp=Z,176nm,21.0s,baz=156,slow=37						
KLR	**Kul'dur**	**14.28**	**287**	*e*P	**Pn**	**10 42 18.0**	**+0.9**
MJAR	**Matsushiro Arr**	**15.06**	**232**	Pn	**Pn**	**10 42 25.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=4.3						
MJAR				LR	LR	10 48 14.0	
	comp=Z,113nm,21.9s,baz=55,slow=38						
MAT	**Matsushiro**	**15.06**	**232**	P	**Pn**	**10 42 32.8**	**+5.6**
KSRS	**Korea Array**	**20.68**	**252**	P	**P**	**10 43 33.7**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=54,slow=11,SNR=7.7						
KSRS				LR	LR	10 50 27.4	
	comp=Z,56nm,19.8s,MS2.9,baz=60,slow=34						
CBIJ	**Chichi jima**	**21.53**	**207**	LR	LR	10 50 32.0	
	comp=Z,350nm,20.6s,MS3.7,baz=117,slow=33						
SONM	**Songino Array**	**31.10**	**289**	P	**P**	**10 45 10.3**	**-0.5**
	comp=Z,0.7nm,1.0s,mb3.5,baz=59,slow=8.9,SNR=2.8						
SONM				LR	LR	10 58 55.1	
	comp=Z,110nm,18.1s,MS3.6,baz=51,slow=39						
SONM	**Songino Array**	**31.10**	**289**	P	**P**	**10 45 10.3**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,110nm,18.1s						
COLA	**College**	**36.10**	**39**	*e*P	**P**	**10 45 54.1**	**-0.1**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
COLA	**College**	**36.10**	**39**	*e*P	**P**	**10 45 54.0**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.3						
INK	**Inuvik**	**41.58**	**33**	P	**P**	**10 46 40.5**	**+0.4**
	comp=Z,5.4nm,0.8s,mb4.2,baz=292,slow=8.1,SNR=19						
INK	**Inuvik**	**41.58**	**33**	P	**P**	**10 46 40.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL	**Zalesovo**	**42.36**	**306**	LR	LR	11 06 16.7	
	comp=Z,167nm,18.2s,MS4.0,baz=86,slow=39						
MK31	**Makanchi Array**	**46.69**	**297**	*e*P	**P**	**10 47 20.3**	**-0.6**
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**10 47 20.9**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=68,slow=8.2,SNR=7.0						
MKAR				PcP	PcP	10 48 52.6	-1.2
	comp=Z,0.7nm,0.7s,baz=61,slow=3.2,SNR=3.5						
MKAR				LR	LR	11 08 09.7	
	comp=Z,142nm,18.1s,MS4.0,baz=360,slow=38						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**10 47 20.9**	**0.0**
MKAR						10 48 52.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,142nm,18.1s						
CHKZ	**Chkalovo**	**50.16**	**310**	*e*P	**P**	**10 47 47.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**50.16**	**310**	*e*P	**P**	**10 47 47.4**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**50.59**	**309**	P	**P**	**10 47 50.6**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=47,slow=8.7,SNR=4.5						
BVAR				PcP	PcP	10 49 06.7	-1.2
	comp=Z,0.8nm,0.4s,baz=29,slow=3.4,SNR=4.5						
BVAR				LR	LR	11 11 29.7	
	comp=Z,39nm,20.4s,MS3.4,baz=136,slow=39						
BVAR	**Borovoye Array**	**50.59**	**309**	P	**P**	**10 47 50.6**	**-0.3**
BVAR						10 49 06.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,39nm,20.4s						
YKA	**Yellowknife Ar**	**50.88**	**37**	P	**P**	**10 47 52.9**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=297,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**50.88**	**37**	P	**P**	**10 47 52.9**	**-0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.88**	**37**	P	**P**	**10 47 52.9**	**-0.1**
ARCES	**ARCESS Array B**	**57.61**	**341**	P	**P**	**10 48 41.2**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=27,slow=8.1,SNR=2.6						
ARCES	**ARCESS Array B**	**57.61**	**341**	P	**P**	**10 48 41.2**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**58.46**	**312**	LR	LR	11 16 38.5	
	comp=Z,98nm,18.9s,MS4.0,baz=107,slow=39						
NVAR	**Mina Array Bea**	**62.50**	**62**	P	**P**	**10 49 16.0**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=299,slow=8.4,SNR=10						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**10 49 23.3**	**-0.7**
	comp=Z,7.7nm,1.0s,mb4.7,baz=41,slow=7.1,SNR=23						
FINES	**FINESS Array B**	**63.78**	**335**	P	**P**	**10 49 23.3**	**-0.7**
FINES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PDAR	**Pinedale Array**	**64.78**	**54**	P	**P**	**10 49 30.5**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=286,slow=1.2,SNR=20						
NB2	**NORSAR Subarra**	**67.98**	**341**	P	**P**	**10 49 50.0**	**-1.0**
	comp=Z,8.1nm,0.8s,mb4.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.98**	**341**	P	**P**	**10 49 50.3**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.7,baz=27,slow=6.3,SNR=15						
NOA				LR	LR	11 22 57.5	
	comp=Z,36nm,18.4s,MS3.6,baz=0.0,slow=39						
NOA	**NORSAR Array B**	**67.98**	**341**	P	**P**	**10 49 50.3**	**-0.7**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,36nm,18.4s						
WRA	**Warramunga Arr**	**68.64**	**199**	P	**P**	**10 49 54.1**	**-1.0**
	comp=Z,1.0nm,1.0s,mb3.7,baz=10,slow=6.6,SNR=4.5						
WRA	**Warramunga Ar**	**68.64**	**199**	P	**P**	**10 49 54.1**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**10 50 10.4**	**-0.9**
	comp=Z,3.7nm,0.4s,mb4.7,baz=34,slow=6.2,SNR=16						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**10 50 10.4**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ASAR	**Alice Springs**	**72.34**	**198**	P	**P**	**10 50 18.3**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=12,slow=5.5,SNR=12						
ASAR	**Alice Springs**	**72.34**	**198**	P	**P**	**10 50 18.3**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STHS	**Stebnicka Huta**	**75.25**	**330**	*e*P	**P**	**10 50 35.1**	**+0.4**
BURAR	**Bucovina Array**	**75.32**	**326**	⇓*i*P	**P**	**10 50 35.2**	**+0.1**
MORC	**Moravsky Berou**	**76.18**	**332**	⇓*i*P	**P**	**10 50 40.1**	**+0.2**
CLL	**Collm**	**76.21**	**335**	*e*P	**P**	**10 50 40.0**	**-0.1**
MLR	**Muntele Rosu**	**76.80**	**325**	⇓*i*P	**P**	**10 50 43.8**	**+0.4**
VYHS	**Vyhne**	**76.87**	**331**	*e*P	**P**	**10 50 43.7**	**-0.1**
MALT	**Malatya**	**76.89**	**313**	⇑*i*P	**P**	**10 50 45.8**	**+1.9**
VRAC	**Vranov**	**76.89**	**332**	⇓*i*P	**P**	**10 50 44.4**	**+0.4**
LPIG	**La Paz**	**77.22**	**68**	LR	LR	11 16 41.8	
	comp=Z,50nm,20.2s,MS3.8,baz=235,slow=29						
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**	**10 50 47.9**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=300,slow=4.3,SNR=37						
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**	**10 50 47.9**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**78.12**	**317**	P	**P**	**10 50 51.6**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=66,slow=4.2,SNR=7.5						
BRTR	**Keskin Array B**	**78.12**	**317**	P	**P**	**10 50 51.6**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**78.20**	**334**	P	**P**	**10 50 51.1**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=4.3,SNR=7.4						
GERES	**GERESS Array B**	**78.20**	**334**	P	**P**	**10 50 51.1**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RTR				*e*S	x	10 50 22.0		
MRL	**Marmol**	**1.47**	**303**	*e*P	Pn	10 49 47.1	-0.3
MRL				*e*S	Sb	10 50 07.2	0.0

CASC 25 10:49:20.2±2.9, 1426N×8842W, h4km±16km, MD3.6, ML3.5, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNVI	**San Vicente**	**0.76**	**212**	*e*P	x	10 49 56.5	
SNVI				*e*S	x	10 50 08.6	
LBRS	**Las Brisas**	**0.79**	**230**	*e*P	x	10 49 56.8	
LBRS				*e*S	x	10 50 09.1	
LCBS	**La Ceiba**	**0.81**	**222**	*e*P	x	10 49 57.0	
BLLM	**Bellamira**	**0.83**	**168**	*e*P	x	10 49 57.1	
BLLM				*e*S	x	10 50 10.1	
LFRS	**El Faro**	**0.89**	**225**	*e*P	x	10 49 58.4	
LFRS				*e*S	x	10 50 12.2	
SNET	**Serv Nac Est T**	**0.97**	**234**	*e*P	x	10 49 37.0	
SNET				*e*S	x	10 49 52.1	
SNET				*i*		10 49 59.5	
	comp=Z,1μm,0.5s						
BOQS	**Boqueron**	**0.98**	**238**	*e*P	x	10 49 59.9	
BOQS				*e*S	x	10 50 14.9	
CNCH	**Conchagua**	**1.13**	**150**	*e*P	x	10 50 02.4	
CNCH				*e*S	x	10 50 18.8	
SNJE	**San Jose**	**1.21**	**252**	*e*P	x	10 50 03.5	
SNJE				*e*S	x	10 50 21.3	
RBDL	**Robledal**	**1.24**	**264**	*e*P	x	10 50 04.0	
RBDL				*e*S	x	10 50 20.8	
SBLS	**San Blas**	**1.24**	**251**	*e*P	x	10 50 04.1	
SBLS				*e*S	x	10 50 21.6	
RTR	**El Retiro**	**1.24**	**253**	*e*P	x	10 50 04.2	

IDC 25 10:52:09.4±2.5, 4235N×14414E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=101.3km s-min=26.6km az=72.0, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.28**	**298**	P	P	11 00 13.4	+0.7
	0.1nm,0.3s,baz=83,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**62.63**	**190**	P	P	11 02 33.7	-1.8
	0.1nm,0.4s,baz=355,slow=7.8,SNR=4.5						
FINES	**FINESS Array B**	**65.10**	**332**	P	P	11 02 50.6	-1.2
	1.4nm,1.1s,baz=52,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**	**66.36**	**190**	P	P	11 03 01.9	+1.9
	0.3nm,0.6s,baz=2.6,slow=6.7,SNR=5.8						

ISCJB ***25*** *10:53:07.0±0.9, 137N±0.1×890W±0.1, h10km, mb3.9/3, Error ellipse: s-maj=22.4km s-min=8.2km az=92.3*

CASC ***25*** *10:53:07.8±2.2, 1430N×8840W, h5km±13km, MD3.9, ML4.0*

IDC ***25*** *10:53:08.2±1.8, 1392N×8866W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=64.9km s-min=23.3km az=36.0*

NEIC ***25*** *10:53:13.4±1.0, 1421N×8818W, h35km, Error ellipse: s-maj=39.5km s-min=11.9km az=221.0*

ISC 25 10:53:09.3±0.9, 139N±02×889W±01, h10km, n22, σ1§12/10, mb3.9/3, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBRS	**Las Brisas**	**0.22**	**238**	*e*P	x	10 53 44.0	
LBRS				*e*S	x	10 53 56.4	
LCBS	**La Ceiba**	**0.23**	**212**	*e*P	x	10 53 44.4	
SNVI	**San Vicente**	**0.24**	**177**	*e*P	x	10 53 43.8	
SNVI				*e*S	x	10 53 56.2	
LFRS	**El Faro**	**0.31**	**222**	*e*P	x	10 53 45.5	
LFRS				*e*S	x	10 53 59.5	
SNET	**Serv Nac Est T**	**0.41**	**246**	*e*P	x	10 53 26.5	
SNET				*e*S	x	10 53 40.9	
SNET				*i*		10 53 47.0	
	comp=Z,4μm,0.4s						
BOQS	**Boqueron**	**0.43**	**254**	*e*P	x	10 53 47.2	
BOQS				*e*S	x	10 54 02.2	
BLLM	**Bellamira**	**0.72**	**125**	*e*P	x	10 53 44.3	
BLLM				*e*S	x	10 53 58.0	
SNJE	**San Jose**	**0.73**	**271**	*e*P	x	10 53 51.0	
SNJE				*e*S	x	10 54 09.0	
MTO2	**Montecristo 2**	**0.73**	**318**	*e*P	x	10 53 45.7	
SBLS	**San Blas**	**0.75**	**269**	*e*P	x	10 53 51.4	
RTR	**El Retiro**	**0.77**	**273**	*e*P	x	10 53 51.5	
RTR				*e*S	x	10 54 08.6	
RBDL	**Robledal**	**0.85**	**288**	*e*P	x	10 53 51.0	
CNCH	**Conchagua**	**1.14**	**120**	*e*P	x	10 53 49.8	
CNCH				*e*S	x	10 54 06.1	
MRL	**Marmol**	**1.45**	**326**	*e*P	**Pn**	**10 53 34.4**	**-1.2**
MRL				*e*S	**Sn**	**10 53 54.4**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.54**	**82**	*e*Pn	**Pn**	**10 53 28.9**	**-7.9**
JTS	**JuntasAbangare**	**5.20**	**132**	Pn	**Pn**	**10 54 26.3**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=310,slow=16,SNR=9.6						
CMIG	**Matias Romero**	**6.65**	**300**	Pn	**Pn**	**10 54 47.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=109,slow=13,SNR=9.9						
CMIG				Sn	**Sn**	**10 56 01.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=253,slow=19,SNR=3.6						
CMIG				Lg		10 56 43.6	
	comp=Z,0.7nm,0.3s,baz=66,slow=20,SNR=3.7						
TXAR	**Lajitas Array**	**20.63**	**321**	P	**P**	**10 57 50.1**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=139,slow=10,SNR=22						
NVAR	**Mina Array Bea**	**35.75**	**319**	P	**P**	**11 00 11.0**	**+2.7**
	comp=Z,1.1nm,1.0s,mb3.8,baz=122,slow=9.6,SNR=5.2						
YKA	**Yellowknife Ar**	**51.91**	**345**	P	**P**	**11 02 17.2**	**-0.8**
	comp=Z,1.6nm,1.0s,mb3.9,baz=139,slow=7.7,SNR=5.1						
INK	**Inuvik**	**61.46**	**343**	P	**P**	**11 03 26.6**	**+0.6**
	comp=Z,1.1nm,0.8s,mb4.0,baz=153,slow=4.5,SNR=4.7						
WRA	**Warramunga Arr**	**138.32**	**256**	PKP	PKPdf	11 12 35.5	+0.7
	comp=Z,0.5nm,0.9s,baz=74,slow=0.8,SNR=4.9						

MAN 25 10:54:46.8, 673N×12675E, h14km, mb3.1, ML4.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.53**	**294**	*e*P	Pg	10 54 57.6	+0.4
BUKP	**Musuan**	**2.02**	**304**	*e*P	Pn	10 55 25.5	+5.0
BUTP	**Butuan**	**2.49**	**333**	*e*P	Pn	10 55 27.6	+0.8
CGP	**Cagayan de Oro**	**2.66**	**310**	⇑*e*P	Pn	10 55 29.5	+0.3
CGP				*e*S	Sn	10 56 03.0	+1.7

STR ***25*** *11:07:43.8±0.1, 4295N×0.34E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0

comp=E,131nm,19.3s,baz=330,slow=34
MAJO Matsushiro 15.19 231 *e*P **Pn** 11 19 01.2 +1.0
MAJO pmax pmax
comp=Z,3.0nm,0.7s
MAJO Matsushiro 15.19 231 *e*Pn **Pn** 11 19 01.1 +0.9
comp=Z,2.9nm,0.7s
MJAR Matsushiro Arr 15.19 231 Pn **Pn** 11 18 59.1 -1.1
comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=3.2
KSRS Korea Array 20.78 251 P **P** 11 20 08.1 +1.2
comp=Z,1.7nm,0.9s,baz=59,slow=10.0,SNR=3.4
INCN Inchon 21.61 253 *e*P **P** 11 20 15.6 -0.2
comp=Z,3.2nm,0.4s,mb4.1
JOW Kunigami 28.03 232 LR LR 11 30 32.5
comp=Z,24nm,21.5s,MS2.8,baz=138,slow=32
FALS False Pass 28.17 58 P **P** 11 21 17.6 -0.5
SONM Songino Array 31.10 289 P **P** 11 21 45.4 +1.2
comp=Z,0.2nm,0.6s,mb3.1,baz=55,slow=9.1,SNR=2.4
SONM LR LR 11 35 31.9
comp=Z,56nm,19.6s,MS3.2,baz=14,slow=39
MKAR Makanchi Array 46.67 297 P **P** 11 23 54.7 +0.3
comp=Z,0.5nm,0.7s,mb3.6,baz=63,slow=11,SNR=4.8
MKAR LR LR 11 44 56.1
comp=Z,60nm,18.7s,MS3.6,baz=356,slow=38
MKAR Makanchi Array 46.67 297 P **P** 11 23 54.7 +0.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,60nm,18.7s
MKAR Makanchi Array 46.67 297 P **P** 11 23 54.7 +0.3
MKAR LR LR 11 44 56.1
FINES FINESS Array B 63.68 335 P **P** 11 25 56.6 -0.5
comp=Z,1.8nm,0.9s,mb4.1,baz=38,slow=5.9,SNR=5.3
FINES LR LR 11 54 50.1
comp=Z,44nm,19.4s,MS3.6,baz=156,slow=37
FINES FINESS Array B 63.68 335 P **P** 11 25 56.7 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,44nm,19.4s
PDAR Pinedale Array 64.65 54 P **P** 11 26 03.0 -0.5
comp=Z,0.5nm,1.0s,mb3.5,baz=288,slow=1.4,SNR=3.6
NB2 NORSAR Subarra 67.86 341 P **P** 11 26 24.0 -0.2
comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=6.5
NOA NORSAR Array B 67.86 341 P **P** 11 26 24.2 0.0
comp=Z,1.1nm,0.6s,mb4.1,baz=29,slow=6.3,SNR=4.5
NOA NORSAR Array B 67.86 341 P **P** 11 26 24.2 0.0
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 68.09 339 P **P** 11 26 25.0 -0.6
comp=Z,3.1nm,0.7s,mb4.4,baz=40,slow=5.0,SNR=8.8
HFS Hagfors 68.09 339 P **P** 11 26 25.0 -0.6
HFS pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 71.19 326 P **P** 11 26 43.3 -1.4
comp=Z,1.1nm,0.7s,mb3.9,baz=31,slow=6.4,SNR=5.6
AKASG Malin Array Be 71.19 326 P **P** 11 26 43.3 -1.4
AKASG pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 72.49 198 P **P** 11 26 55.2 +2.7
comp=Z,0.3nm,0.5s,mb3.5,baz=16,slow=5.3,SNR=4.1
CLL Collm 76.10 335 *e*P **P** 11 27 13.0 -0.6
TXAR Lajitas Array 77.43 60 P **P** 11 27 19.9 -1.2
comp=Z,0.4nm,0.7s,mb3.5,baz=297,slow=4.6,SNR=6.2
TXAR Lajitas Array 77.43 60 P **P** 11 27 19.9 -1.2
BRTR Keskin Array B 78.06 317 P **P** 11 27 25.6 +1.0
comp=Z,1.0nm,0.8s,mb3.8,baz=94,slow=3.8,SNR=5.6
BRTR Keskin Array B 78.06 317 P **P** 11 27 25.6 +1.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s

*ISCJB **25** 11:19:46.8±3.3, 475N±0.1×1528E±0.2, h2km±22km, mb3.8/9, MS3.0/2, Error ellipse: s-maj=28.3km s-min=7.8km az=101.4*
*IDC **25** 11:19:47.2±1.2, 4736N×15282E, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.8/24, mbtmp3.7/10, MS3.1/2, Ms1 3.1/2, ms1mx2.6/39, Error ellipse: s-maj=42.6km s-min=19.8km az=168.0*
*NEIC **25** 11:19:49.8±0.6, 4748N×15276E, h10km, mb4.0/2, Error ellipse: s-maj=23.8km s-min=8.7km az=140.0*
*MOS **25** 11:19:50.0±2.1, 4750N×15296E, h33km, mb4.2/4, Error ellipse: s-maj=29.7km s-min=11.5km az=55.0*
ISC 25 11:19:49.2±3.8, 476N±0.1×152.7E±0.2, h5km±24km, n31, σ1§00/31, mb3.8/9, MS3.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.84**	**34**	*e*PN		**Pn**	**11 20 43.5**	**-5.5**
KUR	**Kuril'sk**	**4.09**	**237**	*e*PN		**Pn**	**11 20 53.0**	**+0.7**
KUR				*i* S		**Sn**	**11 21 41.0**	**+0.5**
KUR	comp=N,300nm,0.6s			smax				
KUR	comp=E,390nm,0.6s			smax				
PET	**Petropavlovsk**	**6.66**	**32**	*e*PN		**Pn**	**11 21 28.3**	**+0.6**
PET	comp=Z,80nm,1.5s			pmax	pmax			
PET	**Petropavlovsk**	**6.66**	**32**	*e*Pn		**Pn**	**11 21 28.3**	**+0.6**
ASAJ	**Asahikawa**	**7.87**	**248**	Pn		**Pn**	**11 21 49.2**	**+5.0**
ASAJ	comp=Z,0.6nm,0.3s,baz=53,slow=19,SNR=4.9			pmax	pmax			
ASAJ	**Asahikawa**	**7.87**	**248**	PN		**Pn**	**11 21 49.3**	**+5.1**
ERM	**Erimo**	**8.77**	**234**	*e*PN		**Pn**	**11 21 58.2**	**+1.6**
MJAR	**Matsushiro Arr**	**15.38**	**230**	Pn		**Pn**	**11 23 25.0**	**-1.8**
	baz=46,slow=15,SNR=2.7							
MJAR	**Matsushiro Arr**	**15.38**	**230**	Pn		**Pn**	**11 23 25.0**	**-1.8**
MAJO	**Matsushiro**	**15.38**	**230**	*e*P		**Pn**	**11 23 26.1**	**-0.7**
MAJO	comp=Z,2.0nm,0.5s			pmax	pmax			
MAJO	**Matsushiro**	**15.38**	**230**	*e*Pn		**Pn**	**11 23 26.1**	**-0.7**
KSRS	**Korea Array**	**20.81**	**250**	P		**P**	**11 24 31.1**	**-0.3**
KSRS	comp=Z,1.3nm,0.6s,baz=51,slow=11,SNR=5.1			LR	LR		11 31 22.4	
INCN	**Inchon**	**21.62**	**252**	*e*P		**P**	**11 24 39.7**	**-0.4**
KDAK	**Kodiak Island**	**33.81**	**52**	LR	LR		11 41 35.6	
MKAR	**Makanchi Array**	**46.35**	**297**	P		**P**	**11 28 15.6**	**-0.6**
MKAR	comp=Z,0.3nm,0.7s,mb3.3,baz=57,slow=10,SNR=2.7			PcP	PcP		11 29 49.5	-1.8
BVAR	**Borovoye Array**	**50.16**	**309**	P		**P**	**11 28 46.6**	**+1.0**
BVAR	comp=Z,0.4nm,0.4s,baz=64,slow=4.8,SNR=8.1			PcP	PcP		11 30 02.8	-2.2
BVAR	**Borovoye Array**	**50.16**	**309**	P		**P**	**11 28 46.6**	**+1.0**
BVAR	comp=Z,0.8nm,0.5s,baz=68,slow=2.2,SNR=5.4						11 30 02.8	
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax			
YKA	**Yellowknife Ar**	**50.44**	**37**	P		**P**	**11 28 48.0**	**+0.3**
YKA	**Yellowknife Ar**	**50.44**	**37**	P		**P**	**11 28 48.0**	**+0.3**
NVAR	**Mina Array Bea**	**62.29**	**62**	P		**P**	**11 30 11.8**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.8,baz=297,slow=12,SNR=3.7							
NVAR	**Mina Array Bea**	**62.29**	**62**	P		**P**	**11 30 11.8**	**-0.5**
FINES	**FINESS Array B**	**63.21**	**334**	P		**P**	**11 30 16.8**	**-1.6**
	comp=Z,0.5nm,0.5s,mb3.9,baz=52,slow=7.5,SNR=6.4							
FINES	**FINESS Array B**	**63.21**	**334**	P		**P**	**11 30 16.8**	**-1.6**
FINES	comp=Z,1.0nm,0.5s			pmax	pmax			
PDAR	**Pinedale Array**	**64.49**	**54**	P		**P**	**11 30 26.2**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=308,slow=2.2,SNR=4.0							
NOA	**NORSAR Array B**	**67.39**	**341**	P		**P**	**11 30 45.5**	**0.0**
	comp=Z,1.4nm,0.9s,mb4.0,baz=45,slow=5.6,SNR=2.8							
NOA	**NORSAR Array B**	**67.39**	**341**	P		**P**	**11 30 45.5**	**0.0**
NOA	comp=Z,1.0nm,0.9s			pmax	pmax			
AS31	**Alice Springs**	**72.88**	**198**	*e*P		**P**	**11 31 23.0**	**+3.8**
TXAR	**Lajitas Array**	**77.33**	**60**	P		**P**	**11 31 43.9**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=298,slow=4.4,SNR=23							
TXAR	**Lajitas Array**	**77.33**	**60**	P		**P**	**11 31 43.9**	**-0.9**
TXAR	comp=Z,2.0nm,0.7s			pmax	pmax			
ALLY	**Alegheny Colle**	**79.60**	**37**	*e*P		**P**	**11 31 57.7**	**+0.3**
BRAL	**Brewton**	**85.16**	**48**	*e*P		**P**	**11 32 28.6**	**+2.2**
	comp=Z,29nm,0.4s							

*IDC **25** 11:24:26.4±1.9, 670S×12996E, h0km, mb4.0/3, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML4.0/3, Error ellipse: s-maj=102.3km s-min=24.5km az=79.0*
*ISCJB **25** 11:24:29.2±0.8, 676S±008×1301E±0.1, h33km, mb3.9/3, Error ellipse: s-maj=17.1km s-min=10.8km az=153.7*
*NEIC **25** 11:24:31.8±2.8, 678S±130.10E, h36km±33km, mb3.8/1, Error ellipse: s-maj=22.2km s-min=12.7km az=162.0*
ISC 25 11:24:32.0±1.6, 677S±008×1301E±0.1, h40km±16km, n11, σ0§58/15, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**201**	Pn		**Pn**	**11 27 20.9**	**-0.4**
FITZ	1.7nm,0.3s,baz=39,slow=13,SNR=47			Sn		**Sn**	**11 29 20.3**	**-14**
	1.6nm,0.3s,baz=100,slow=12,SNR=5.3							
WRAB	**Tennant Creek**	**13.72**	**163**	*e*Pn		**Pn**	**11 27 43.8**	**-0.1**
WRA	**Warramunga Arr**	**13.73**	**163**	Pn		**Pn**	**11 27 43.9**	**-0.1**
WRA	0.6nm,0.3s,baz=329,slow=15,SNR=52			Sn		**Sn**	**11 30 05.2**	**-10**
	2.6nm,0.3s,baz=333,slow=22,SNR=16							
WB2	**Warramunga Ar**	**13.73**	**163**	*e*Pn		**Pn**	**11 27 44.0**	**-0.1**
PMG	**Port Moresby**	**17.11**	**100**	*e*Pn		**Pn**	**11 28 28.2**	**+0.2**
AS31	**Alice Springs**	**17.20**	**168**	*e*Pn		**Pn**	**11 28 28.9**	**-0.2**
AS31				*e*S		**S**	**11 31 47.2**	**0.0**
ASAR	**Alice Springs**	**17.20**	**168**	P		**Pn**	**11 28 29.3**	**+0.2**
ASAR	0.3nm,0.3s,baz=352,slow=10,SNR=12			S		**S**	**11 31 29.1**	**-18**
	0.8nm,0.3s,baz=319,slow=17,SNR=6.8							
MBWA	**Marble Bar**	**17.46**	**214**	*e*Pn		**Pn**	**11 28 33.2**	**+0.8**
	6.5nm,0.9s							
SONM	**Songino Array**	**58.25**	**341**	P		**P**	**11 34 23.5**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=154,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**68.08**	**327**	P		**P**	**11 35 27.3**	**-0.2**
	2.3nm,0.5s,mb4.5,baz=122,slow=7.9,SNR=44							
BVAR	**Borovoye Array**	**77.91**	**328**	P		**P**	**11 36 24.3**	**-1.3**
	0.4nm,0.5s,mb3.6,baz=108,slow=3.2,SNR=5.1							

*IDC **25** 11:30:58.8±1.4, 136S×12690E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=143.2km s-min=21.0km az=68.0*
*ISCJB **25** 11:31:01.5±0.5, 121S±009×1273E±0.1, h35km, mb4.2/10, Error ellipse: s-maj=19.4km s-min=10.8km az=122.1*
*NEIC **25** 11:31:08.6±6.4, 133S×12735E, h86km±64km, mb4.0/3, Error ellipse: s-maj=18.3km s-min=13.3km az=173.0*
ISC 25 11:31:03.6±0.6, 124S±009×1273E±0.1, h35km, n14, σ0§79/14, mb4.2/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**160**	P		**Pn**	**11 35 31.5**	**-1.3**
	0.2nm,0.3s,baz=341,slow=12,SNR=6.6							
MBWA	**Marble Bar**	**21.13**	**200**	P		**P**	**11 35 45.0**	**-0.3**
	7.5nm,0.9s,mb4.0							
PMG	**Port Moresby**	**21.34**	**113**	*e*P		**P**	**11 35 48.3**	**+0.8**
	3.8nm,0.6s,mb3.9							
AS31	**Alice Springs**	**23.18**	**165**	*e*P		**P**	**11 36 07.2**	**+0.1**
ASAR	**Alice Springs**	**23.18**	**165**	P		**P**	**11 36 07.7**	**+0.5**
	0.9nm,0.5s,mb3.4,baz=348,slow=12,SNR=6.3							
COCO	**West Island**	**32.12**	**249**	*e*P		**P**	**11 37 28.8**	**+1.3**
	37nm,0.7s,mb5.3							
HNR	**Honiara**	**33.46**	**105**	P		**P**	**11 37 39.2**	**0.0**
	51nm,1.0s,mb5.4							
SONM	**Songino Array**	**52.18**	**342**	P		**P**	**11 40 11.2**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=142,slow=7.3,SNR=5.4							
MK31	**Makanchi Array**	**61.98**	**327**	*e*P		**P**	**11 41 20.6**	**+0.6**
MKAR	**Makanchi Array**	**61.98**	**327**	P		**P**	**11 41 20.5**	**+0.5**
	0.8nm,0.4s,mb4.2,baz=116,slow=7.7,SNR=26							
BVAR	**Borovoye Array**	**71.80**	**328**	P		**P**	**11 42 22.5**	**0.0**
	0.9nm,0.7s,mb3.8,baz=120,slow=10,SNR=6.2							
CHKZ	**Chkalovo**	**71.99**	**328**	*e*P		**P**	**11 42 22.9**	**-0.7**
	1.8nm,0.5s,mb4.3							
CHKZ				*e*PcP	PcP		11 42 39.9	-2.2
AKTK	**Aktyubinsk**	**77.91**	**322**	P		**P**	**11 42 56.6**	**-1.2**
AKTO	**Aktyubinsk**	**77.91**	**322**	P		**P**	**11 42 56.6**	**-1.2**
	0.8nm,0.7s,mb3.8,baz=101,slow=10,SNR=4.2							

*IDC **25** 11:35:46.9±0.9, 4829N×15381E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/25, mbtmp4.0/11, Error ellipse: s-maj=28.1km s-min=19.1km az=162.0*
*NEIC **25** 11:35:48.4±0.6, 4823N×15378E, h10km, mb4.0/1, Error ellipse: s-maj=19.2km s-min=9.1km az=149.0*
*ISCJB **25** 11:35:52.1±1.4, 482N±0.1×1537E±0.2, h56km±12km, mb4.0/12, Error ellipse: s-maj=24.4km s-min=8.7km az=96.6*
*MOS **25** 11:35:53.3±1.6, 4827N×15349E, h61km, mb4.3/5, Error ellipse: s-maj=25.8km s-min=13.0km az=61.1*
ISC 25 11:35:53.7±1.2, 482N±0.1×1536E±0.2, h55km±10km, n29, σ0§93/32, mb4.0/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.95**	**33**	*e*PN		**Pn**	**11 36 38.6**	**+0.5**
SKR				*e*S		**Sn**	**11 37 12.8**	**+0.5**
SKR	comp=Z,150nm,0.5s			pmax	pmax			
SKR	comp=N,80nm,0.4s			pmax	pmax			
SKR	comp=E,460nm,0.5s			smax				
SKR	comp=N,620nm,0.2s			smax				
PET	**Petropavlovsk**	**5.77**	**32**	*e*PN		**Pn**	**11 37 19.2**	**+2.4**
PET				*e*S		**Sn**	**11 38 21.7**	**+0.1**
PET	comp=Z,43nm,0.6s			pmax	pmax			
PET	comp=N,160nm,0.8s			smax				
PET	comp=E,138nm,0.6s			smax				
PET	comp=Z,100nm,11.0s			MLR	MLR			
PET	**Petropavlovsk**	**5.77**	**32**	*e*Pn		**Pn**	**11 37 15.5**	**-1.3**
PET				*e*Sn		**Sn**	**11 38 17.8**	**-3.9**
YSS	**Yuzh-Sakhalins**	**7.46**	**264**	*e*PN		**Pn**	**11 37 38.2**	**-1.6**
ASAJ	**Asahikawa**	**8.68**	**246**	Pn		**Pn**	**11 38 01.1**	**+4.5**
	comp=Z,1.0nm,0.3s,baz=65,slow=14,SNR=10							
ASAJ	**Asahikawa**	**8.68**	**246**	PN		**Pn**	**11 38 01.2**	**+4.6**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax			
ERM	**Erimo**	**9.65**	**234**	*e*PN		**Pn**	**11 38 09.5**	**-0.4**
KSRS	**Korea Array**	**21.60**	**250**	P		**P**	**11 40 40.3**	**+1.3**
	comp=Z,2.2nm,0.9s,mb3.6,baz=58,slow=9.1,SNR=6.6							
INK	**Inuvik**	**40.23**	**33**	P		**P**	**11 43 25.2**	**+0.2**
	comp=Z,2.6nm,0.6s,mb4.2,baz=289,slow=6.2,SNR=20							
INK	**Inuvik**	**40.23**	**33**	*e*P		**P**	**11 43 24.8**	**-0.1**
	comp=Z,73nm,0.5s,mb5.7							
MKAR	**Makanchi Array**	**46.58**	**296**	P		**P**	**11 44 18.2**	**+2.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=64,slow=7.6,SNR=11							
MKAR	**Makanchi Array**	**46.58**	**296**	P		**P**	**11 44 18.2**	**+2.1**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax			
MSO	**Missoula**	**58.60**	**53**	*e*P		**P**	**11 45 43.7**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.9							
NVAR	**Mina Array Bea**	**61.46**	**63**	P		**P**	**11 46 04.4**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=293,slow=9.3,SNR=11							
GCMT	**Greycliff**	**61.54**	**52**	*e*P		**P**	**11 46 05.0**	**-0.1**
FINES	**FINESS Array B**	**62.85**	**335**	P		**P**	**11 46 13.1**	**-0.8**
	comp=Z,0.9nm,0.6s,mb4.1,baz=35,slow=7.0,SNR=4.9							
FINES	**FINESS Array B**	**62.85**	**335**	P		**P**	**11 46 13.1**	**-0.8**
FINES	comp=Z,1.0nm,0.6s			pmax	pmax			
PDAR	**Pinedale Array**	**63.61**	**55**	P		**P**	**11 46 18.9**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=308,slow=2.3,SNR=13							
PV10	**Paradox Valley**	**66.89**	**58**	*e*P		**P**	**11 46 40.1**	**0.0**
HFS	**Hagfors**	**67.19**	**340**	P		**P**	**11 46 42.0**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.3,baz=20,slow=4.7,SNR=10							
HFS	**Hagfors**	**67.19**	**340**	P		**P**	**11 46 42.0**	**0.0**
HFS	comp=Z,1.0nm,0.4s			pmax	pmax			
ASAR	**Alice Springs**	**73.72**	**199**	P		**P**	**11 47 23.1**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=12,slow=5.7,SNR=5.7							
EKA	**Eskdalemuir Ar**	**74.98**	**347**	P		**P**	**11 47 28.8**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.1,baz=18,slow=4.8,SNR=4.0							
EKA	**Eskdalemuir Ar**	**74.98**	**347**	P		**P**	**11 47 28.8**	**-0.4**
EKA	comp=Z,3.0nm,1.0s			pmax	pmax			
TXAR	**Lajitas Array**	**76.47**	**61**	P		**P**	**11 47 37.2**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=299,slow=4.3,SNR=27							
TXAR	**Lajitas Array**	**76.47**	**61**	P		**P**	**11 47 37.2**	**-0.5**
TXAR	comp=Z,2.0nm,0.7s			pmax	pmax			
GERES	**GERESS Array B**	**77.28**	**334**	P		**P**	**11 47 41.8**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=19,slow=4.5,SNR=3.9							
GERES	**GERESS Array B**	**77.28**	**334**	P		**P**	**11 47 41.8**	**-0.4**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**77.28**	**334**	P		**P**	**11 47 41.8**	**-0.4**

*NAO **25** 11:44:47.5, 3696N×2267E, h33km, mb4.0*
*SOF **25** 11:45:00.0, 3889N×2245E, h10km, MD3.4*
*ISCJB **25** 11:45:03.8±0.4, 3916N±002×2255E±002, h7km±3km, mb4.0/9, MS3.0/2, Error ellipse: s-maj=2.9km s-min=2.3km az=95.8*
*PDG **25** 11:45:04.7±0.6, 3920N×2255E, h7km±1km*
*ATH **25** 11:45:04.3, 3913N×2256E, h19km±1km, MD3.9/26, ML3.9*
*MOS **25** 11:45:05.9±1.1, 3915N×2256E, h26km, mb4.1/7, Error ellipse: s-maj=7.3km s-min=3.7km az=95.8*
*THE **25** 11:45:05.3, 3914N×2257E, h7km, ML4.0*
*CSEM **25** 11:45:05.6±0.1, 3920N×2255E, h20km, mb4.0/7, Error ellipse: s-maj=1.4km s-min=1.2km az=47.0*
*NEIC **25** 11:45:06.0, 3914N×2261E, h10km, ML3.6(ATH), After ATH.*
*IDC **25** 11:45:08.4±2.0, 3915N×2247E, h39km±18km, mb3.7/10, mb1 3.9/15, mb1mx3.7/26, mbtmp3.8/15, ML3.8/6, MS3.0/4, Ms1 3.0/4, ms1mx2.6/33, Error ellipse: s-maj=17.0km s-min=15.3km az=177.0*
*TIR **25** 11:45:42.7, 4141N×2047E, h17km, Ml3.8*
ISC 25 11:45:04.7±0.4, 3913N±002×2255E±002, h5km±2km, n183, σ1§11/215, mb4.0/9, MS3.0/2, 16C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.20**	**238**	*e*Pg		**Pg**	**11 45 08.9**	**+0.2**
XOR	**Xorichti**	**0.55**	**65**	*e*Pg		**Pg**	**11 45 15.7**	**+0.4**
NEO	**Neokhori**	**0.55**	**71**	*e*PN		**Pg**	**11 45 15.5**	**+0.2**
NEO				*e*SN		**Sg**	**11 45 23.6**	**+1.2**
LKR	**Lokris**	**0.59**	**144**	*e*PN		**Pg**	**11 45 15.8**	**-0.4**
LKR				*e*SN		**Sg**	**11 45 24.7**	**+0.8**
THL	**Klokotos Trika**	**0.60**	**316**	*e*PB		**Pg**	**11 45 15.9**	**-0.4**
THL				*e*SN		**Sg**	**11 45 24.8**	**+0.7**
EVR	**Evrytania**	**0.62**	**250**	*e*PB		**Pg**	**11 45 15.9**	**-0.7**
EVR				*e*SN		**Sg**	**11 45 25.4**	**+0.7**
LIT	**Litokhoron**	**0.97**	**357**	*e*Pg		**Pg**	**11 45 23.1**	**-0.2**
LIT				*e*Sg		**Sg**	**11 45 37.7**	**+1.8**
AOS	**Alonnisos**	**1.03**	**88**	*e*Pg		**Pg**	**11 45 24.8**	**+0.3**
MEV	**Metsovon**	**1.21**	**303**	*e*Pg		**Pg**	**11 45 27.2**	**-0.9**
MEV				*e*Sg		**Sg**	**11 45 44.8**	**+1.0**
KZN	**Kozani**	**1.32**	**333**	*i*PN		**Pn**	**11 45 29.4**	**-0.3**
KZN				*e*SN		**Sn**	**11 45 47.8**	**+0.2**
RLS	**Riolos of Patr**	**1.37**	**219**	*e*PN		**Pn**	**11 45 29.9**	**-0.5**
RLS				*e*SN		**Sn**	**11 45 49.2**	**+0.3**
PLG	**Polygyros**	**1.42**	**29**	*e*PN		**Pn**	**11 45 30.1**	**-1.0**
PLG				*e*SN		**Sn**	**11 45 50.0**	**-0.1**
JAN	**Janina**	**1.42**	**292**	*e*PN		**Pn**	**11 45 31.3**	**+0.2**
JAN				*e*SN		**Sn**	**11 45 50.8**	**+0.7**
ATH	**Athens Observa**	**1.48**	**141**	*e*PN		**Pn**	**11 45 31.9**	**0.0**
ATH				*e*SN		**Sn**	**11 45 51.4**	**-0.1**
PTL	**Penteli**	**1.49**	**136**	*e*PN		**Pn**	**11 45 32.0**	**-0.1**
PTL				*e*SN		**Sn**	**11 45 52.5**	**+0.6**
HORT	**Hortiatis**	**1.52**	**16**	*e*Pg		**Pn**	**11 45 31.4**	**-1.1**
THE	**Thessaloniki**	**1.53**	**12**	*e*Pg		**Pn**	**11 45 31.4**	**-1.3**
LKD	**Levkas**	**1.54**	**255**	*e*Pg		**Pg**	**11 45 33.3**	**-1.0**
LKD				*e*Sg		**Sg**	**11 45 53.4**	**-1.0**
LKD	**Levkas**	**1.54**	**255**	*e*Pg		**Pg**	**11 45 33.3**	**-1.0**
LKD				*e*Sg		**Sg**	**11 45 53.3**	**-1.0**
NAIG	**Nisos Aigina**	**1.56**	**152**	*e*PN		**Pn**	**11 45 32.5**	**-0.5**
KVR	**Kavouri**	**1.61**	**143**	*e*PN		**Pn**	**11 45 34.0**	**+0.2**
OUR	**Ouranopolis**	**1.63**	**42**	*e*Pg		**Pn**	**11 45 33.3**	**-0.7**
IGT	**Igoumenitsa**	**1.77**	**284**	*e*Pb		**Pb**	**11 45 36.8**	**-0.8**
IGT				*e*Sb		**Sb**	**11 45 59.9**	**-0.1**
SOH	**Sokhos**	**1.80**	**20**	*e*Pb		**Pb**	**11 45 36.1**	**-2.0**
ITM	**Ithomi**	**2.01**	**194**	*e*PN		**Pn**	**11 45 40.1**	**+0.9**
KBN	**Korca**	**2.02**	**318**	*i* Pg		**Sn**	**11 45 59.3**	**-5.5**
KBN				*i* Sg		**Sg**	**11 46 04.6**	**-4.9**
KNT	**Kendrikon**	**2.04**	**7**	*e*Pn		**Pn**	**11 45 39.5**	**-0.2**
BIA	**Bitola**	**2.11**	**334**	*i* Pn		**Pn**	**11 45 40.3**	**-0.3**
BIA				*i* Sn		**Sg**	**11 46 13.6**	**+1.1**
BIA	**Bitola**	**2.11**	**334**	*e*Pn		**Pn**	**11 45 40.4**	**-0.2**
LOS	**Limnos**	**2.11**	**67**	*e*Pn		**Pn**	**11 45 39.6**	**-1.1**
SRS	**Serrai**	**2.14**	**22**	*e*Pn		**Pn**	**11 45 40.5**	**-0.5**
LIA	**Limnos Island**	**2.17**	**69**	*e*PB		**Pn**	**11 45 41.1**	**-0.4**
VAY	**Valandovo**	**2.19**	**0**	*i* Pn		**Pn**	**11 45 40.9**	**-0.8**
VAY				*i* Sn		**Sg**	**11 46 14.0**	**-1.0**
VAY	**Valandovo**	**2.19**	**0**	*e*Pn		**Pn**	**11 45 41.1**	**-0.6**
KEK	**Kerkira**	**2.21**	**286**	*e*PN		**Pn**	**11 45 43.2**	**+1.2**
OHR	**Ohrid**	**2.39**	**326**	*e*Pn		**Pn**	**11 45 44.5**	**0.0**
OHR	**Ohrid**	**2.39**	**326**	*i* Pn		**Pn**	**11 45 44.2**	**-0.2**
OHR				*i* Sn		**Sn**	**11 46 15.7**	**+1.6**
OHR	**Ohrid**	**2.39**	**326**	*e*Pn		**Pn**	**11 45 44.5**	**0.0**
OHR				*i* Sn		**Sn**	**11 46 15.7**	**+1.6**
VLI	**Veliai**	**2.43**	**173**	*e*PN		**Pn**	**11 45 44.4**	**-0.6**
NVR	**Nevrokopi**	**2.43**	**24**	*e*PB		**Pb**	**11 45 46.2**	**-2.7**
STIP	**Stip**	**2.57**	**354**	*e*Pn		**Pn**	**11 45 47.9**	**+0.9**
STIP	**Stip**	**2.57**	**354**	*i* Pn		**Pn**	**11 45 47.2**	**+0.2**
STIP	**Stip**	**2.57**	**354**	*e*Pn		**Pn**	**11 45 47.8**	**+0.8**
MMB	**Musomiste**	**2.61**	**20**	P		**Pn**	**11 45 46.8**	**-0.7**
KKB	**Krupnik**	**2.76**	**8**	P		**Pn**	**11 45 48.8**	**-0.8**
KYTH	**Kithira**	**2.87**	**172**	*e*PN		**Pn**	**11 45 51.5**	**+0.4**
PRK	**Paraskevi**	**2.89**	**87**	*e*PN		**Pn**	**11 45 51.0**	**-0.4**
SKO	**Skopje**	**2.96**	**344**	*i* Pn		**Pn**	**11 45 52.2**	**-0.1**
**TIR

FGMS	**Monte Sant'Ang**	**5.66**	**299**	Pn		**Pn**	**11 46 29.2**	**-0.1**
MS1	**Monte Sant'Ang**	**5.66**	**299**	*e*Pn		**Pn**	**11 46 29.2**	**-0.2**
SGO	**Scignano**	**5.75**	**287**	Pn		**Pn**	**11 46 32.3**	**+1.6**
RGNG	**Rignano Grg**	**5.89**	**298**	Pn		**Pn**	**11 46 32.2**	**-0.4**
CSSN	**Cassano Irpino**	**6.03**	**289**	Pn		**Pn**	**11 46 38.4**	**+3.9**
FGSL	**Fruska Gora**	**6.36**	**342**	Pn		**Pn**	**11 46 38.7**	**-0.3**
BZS	**Buzias**	**6.52**	**354**	⇓*iP*		**Pn**	**11 46 40.3**	**-0.9**
BZS	**Buzias**	**6.52**	**354**	⇓P		**Pn**	**11 46 40.3**	**-0.9**
VAE	**Valguarnera**	**6.61**	**258**	LR		LR	11 49 07.5	
	comp=Z,115nm,20.3s,baz=315,slow=36							
MLR	**Muntele Rosu**	**6.83**	**20**	Pn		**Pn**	**11 46 46.9**	**+1.4**
	1.2nm,0.3s,baz=170,slow=9.3,SNR=37							
MLR	**Muntele Rosu**	**6.83**	**20**	⇑*iP*		**Pn**	**11 46 47.0**	**+1.5**
MLR	**Muntele Rosu**	**6.83**	**20**	⇑P		**Pn**	**11 46 47.0**	**+1.4**
TIRR	**Tirgusor**	**6.89**	**38**	⇑*iP*		**Pn**	**11 46 46.7**	**+0.4**
TIRR	**Tirgusor**	**6.89**	**38**	⇑P		**Pn**	**11 46 46.7**	**+0.4**
PLOR	**Plostina**	**7.36**	**23**	⇓*iP*		**Pn**	**11 46 55.3**	**+2.5**
VRI	**Vrincioaia**	**7.40**	**23**	⇓*iP*		**Pn**	**11 46 57.6**	**+4.3**
VRI	**Vrincioaia**	**7.40**	**23**	⇓P		**Pn**	**11 46 57.6**	**+4.3**
RHK3	**Tenkes**	**7.46**	**336**	*e*P		**Pn**	**11 46 54.4**	**+0.3**
PKSM	**Moragy**	**7.64**	**339**	⇑*iP*		**Pn**	**11 46 56.4**	**-0.2**
PKSM	**Moragy**	**7.64**	**339**	⇑P		**Pn**	**11 46 56.4**	**-0.1**
DRGR		**7.66**	**1**	⇓*iP*		**Pn**	**11 46 59.8**	**+3.0**
DRGR		**7.66**	**1**	⇓P		**Pn**	**11 46 59.9**	**+3.0**
BRTR	**Keskin Array B**	**8.60**	**83**	Pn		**Pn**	**11 47 11.6**	**+1.8**
	0.5nm,0.3s,baz=266,slow=12,SNR=9.6							
BRTR	**Keskin Array B**	**8.60**	**83**	P		**Pn**	**11 47 11.6**	**+1.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BURAR	**Bucovina Array**	**8.70**	**12**	⇓*iP*		**Pn**	**11 47 15.7**	**+4.6**
PSZ	**Piszkesteto**	**8.99**	**348**	⇑*iP*		**Pn**	**11 47 17.2**	**+2.1**
PSZ	**Piszkesteto**	**8.99**	**348**	⇓*e*		**Pn**	**11 47 16.0**	**+0.9**
VOY	**Vojsko**	**9.39**	**320**	*e*Pn		**Pn**	**11 47 19.4**	**-1.2**
VOY				*e*Sn		**Sn**	**11 49 02.7**	**-3.9**
KECS	**Kecovo**	**9.47**	**352**	*e*PN		**Pn**	**11 47 23.7**	**+2.1**
VYHS	**Vyhne**	**9.73**	**345**	*e*PN		**Pn**	**11 47 26.9**	**+1.6**
VYHS				*e*SN		**Sn**	**11 49 15.2**	**+0.2**
KOLS	**Kolonicke sedl**	**9.80**	**359**	*e*SN		**Sn**	**11 49 21.8**	**+5.2**
PGF	**Pioggiola**	**10.82**	**293**	*e*P		**Pn**	**11 47 37.8**	**-2.4**
GERES	**GERESS Array B**	**11.61**	**330**	Pn		**Pn**	**11 47 50.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=6.5							
GERES	**GERESS Array B**	**11.61**	**330**	P		**Pn**	**11 47 50.8**	**-0.1**
KHC	**Kasperske Hory**	**11.88**	**330**	*e*P		**Pn**	**11 47 45.9**	**-8.8**
KHC	**Kasperske Hory**	**11.88**	**330**	*e*P		**Pn**	**11 47 53.5**	**-1.2**
DAVOX	**Davos**	**12.02**	**314**	Pn		**Pn**	**11 47 55.5**	**-1.1**
	baz=140,slow=17,SNR=3.7							
AKASG	**Malin Array Be**	**12.49**	**20**	Pn		**Pn**	**11 48 02.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=202,slow=12,SNR=4.4							
AKASG	**Malin Array Be**	**12.49**	**20**	P		**Pn**	**11 48 02.4**	**-0.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MBDF	**Montbardon**	**13.01**	**301**	*e*P		**Pn**	**11 48 07.2**	**-2.9**
	comp=Z,46nm,1.4s							
MBDF	**Montbardon**	**13.01**	**301**	*e*P		**Pn**	**11 48 07.2**	**-2.9**
	comp=Z,23nm,1.4s							
LPG	**La Plagne**	**13.30**	**304**	*e*P		**Pn**	**11 48 11.1**	**-3.0**
	comp=Z,15nm,0.9s							
LPG	**La Plagne**	**13.30**	**304**	*e*P		**Pn**	**11 48 11.1**	**-3.0**
	comp=Z,7.6nm,0.9s							
LPL	**La Plagne**	**13.32**	**304**	*e*P		**Pn**	**11 48 11.6**	**-2.8**
	comp=Z,3.6nm,0.6s							
LPL	**La Plagne**	**13.32**	**304**	*e*P		**Pn**	**11 48 11.6**	**-2.8**
	comp=Z,1.8nm,0.6s							
ORIF	**Oris-en-Rattie**	**13.67**	**300**	*e*P		**Pn**	**11 48 15.9**	**-3.2**
HINF	**Hinteralfeld**	**14.31**	**312**	*e*P		**Pn**	**11 48 24.4**	**-3.4**
	comp=Z,15nm,0.9s							
HINF	**Hinteralfeld**	**14.31**	**312**	*e*P		**Pn**	**11 48 24.4**	**-3.4**
	comp=Z,7.5nm,0.9s							
CDF	**Champ du Feu**	**14.39**	**315**	*e*P		**Pn**	**11 48 25.3**	**-3.7**
	comp=Z,3.3nm,0.5s							
CDF	**Champ du Feu**	**14.39**	**315**	*e*P		**Pn**	**11 48 25.3**	**-3.7**
	comp=Z,1.6nm,0.5s							
LASF	**Ste Croix**	**14.83**	**295**	*e*P		**Pn**	**11 48 30.8**	**-4.1**
	comp=Z,163nm,1.6s							
LASF	**Ste Croix**	**14.83**	**295**	*e*P		**Pn**	**11 48 30.8**	**-4.1**
	comp=Z,81nm,1.6s							
KIV	**Kislovodsk**	**15.82**	**66**	*e*P		**Pn**	**11 48 51.4**	**+3.4**
KIV				pmax		pmax		
	comp=Z,12nm,1.2s							
LOR	**Lormes**	**15.85**	**307**	*e*P		**Pn**	**11 48 44.1**	**-4.3**
	comp=Z,31nm,1.3s							
LOR	**Lormes**	**15.85**	**307**	*e*P		**Pn**	**11 48 44.1**	**-4.3**
	comp=Z,15nm,1.3s							
AVF	**Avril sur Loir**	**15.98**	**305**	*e*P		**Pn**	**11 48 46.0**	**-4.1**
SSF	**Saint Saulge**	**15.98**	**306**	*e*P		**Pn**	**11 48 45.9**	**-4.3**
TCF	**Toulx Ste Croi**	**16.55**	**302**	*e*P		**Pn**	**11 48 53.1**	**-4.3**
RJF	**Les Rejaudoux**	**16.74**	**298**	*e*P		**Pn**	**11 48 55.6**	**-4.2**
BAIF	**Baives**	**16.98**	**316**	*e*P		**Pn**	**11 48 58.7**	**-4.2**
GNI	**Garni**	**17.12**	**80**	LR		LR	11 55 40.4	
	comp=Z,39nm,20.3s,baz=168,slow=37							
MFF	**Saint Martin d**	**18.20**	**302**	*e*P		**Pn**	**11 49 14.1**	**-3.9**
OBN	**Obninsk**	**18.56**	**26**	*e*P		**Pn**	**11 49 20.7**	**-1.7**
OBN				pmax		pmax		
	comp=Z,4.0nm,1.2s							
OBN	**Obninsk**	**18.56**	**26**	*e*P		**Pn**	**11 49 20.7**	**-1.7**
	comp=Z,4.0nm,1.2s							
GRR	**Gorron**	**19.21**	**306**	*e*P		**Pn**	**11 49 25.8**	**-4.5**
	comp=Z,15nm,0.6s							
GRR	**Gorron**	**19.21**	**306**	*e*P		**Pn**	**11 49 25.8**	**-4.5**
	comp=Z,7.6nm,0.6s							
VSU	**Vasula**	**19.53**	**7**	*e*P		**Pn**	**11 49 33.6**	**-0.6**
SGMF	**Saint Gilles**	**20.24**	**305**	*e*P		**P**	**11 49 37.7**	**-3.0**
	comp=Z,300nm,1.6s							
SGMF	**Saint Gilles**	**20.24**	**305**	*e*P		**P**	**11 49 37.7**	**-3.0**
	comp=Z,150nm,1.6s							
ESDC	**Sonseca Array**	**20.48**	**280**	P		**P**	**11 49 43.0**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=78,slow=11,SNR=3.5							
ROSF	**Rostrenen**	**20.72**	**305**	*e*P		**P**	**11 49 43.0**	**-2.9**
HFS	**Hagfors**	**21.75**	**348**	P		**P**	**11 49 54.6**	**-2.4**
	comp=Z,2.1nm,0.7s,mb3.7,baz=161,slow=14,SNR=3.9							
HFS				LR		LR	11 59 14.0	
	comp=Z,42nm,18.4s,MS2.9,baz=75,slow=39							
HFS	**Hagfors**	**21.75**	**348**	P		**P**	**11 49 54.6**	**-2.4**
HFS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
HFS				MLR		MLR		
	comp=Z,42nm,18.4s							
FINES	**FINESS Array B**	**22.44**	**4**	P		**P**	**11 50 03.1**	**-1.2**
	comp=Z,3.3nm,0.8s,mb3.8,baz=169,slow=11,SNR=7.2							
FINES	**FINESS Array B**	**22.44**	**4**	P		**P**	**11 50 03.2**	**-1.2**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NB2	**NORSAR Subarra**	**23.04**	**346**	P		**P**	**11 50 09.1**	**-1.6**
	comp=Z,4.0nm,0.9s,mb3.9,baz=158,slow=9.3							
NOA	**NORSAR Array B**	**23.04**	**346**	P		**P**	**11 50 09.7**	**-1.0**
	comp=Z,2.7nm,0.8s,mb3.7,baz=157,slow=9.1,SNR=6.2							
NOA	**NORSAR Array B**	**23.04**	**346**	P		**P**	**11 50 09.7**	**-1.0**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**23.62**	**322**	P		**P**	**11 50 15.7**	**-1.0**
	comp=Z,9.1nm,0.7s,mb4.3,baz=123,slow=9.7,SNR=23							
EKA	**Eskdalemuir Ar**	**23.62**	**322**	P		**P**	**11 50 15.7**	**-1.0**
EKA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**31.78**	**221**	P		**P**	**11 51 29.2**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=31,slow=9.2,SNR=9.2							
TORD				LR		LR	12 04 43.2	
	comp=Z,43nm,19.1s,MS3.1,baz=330,slow=37							
MKAR	**Makanchi Array**	**43.45**	**60**	P		**P**	**11 53 07.7**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.2,baz=278,slow=7.6,SNR=39							
MKAR	**Makanchi Array**	**43.45**	**60**	P		**P**	**11 53 07.7**	**-0.8**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ZAL	**Zalesovo**	**43.86**	**49**	P		**P**	**11 53 11.3**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=209,slow=10.0,SNR=9.7							
ZAL	**Zalesovo**	**43.86**	**49**	P		**P**	**11 53 11.3**	**-0.5**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**58.62**	**52**	P		**P**	**11 55 01.9**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=272,slow=6.9,SNR=4.3							
SONM	**Songino Array**	**58.62**	**52**	P		**P**	**11 55 01.9**	**-0.7**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SCHQ	**Schefferville**	**58.84**	**317**	P		**P**	**11 55 02.7**	**-1.4**
	comp=Z,4.1nm,0.8s,mb4.5,baz=55,slow=8.6,SNR=6.0							
WRA	**Warramunga Arr**	**118.99**	**93**	PKP		PKPdf	12 03 52.0	-2.4
	comp=Z,0.4nm,0.8s,baz=312,slow=1.7,SNR=6.6							
ASAR	**Alice Springs**	**120.70**	**97**	PKP		PKPdf	12 03 55.4	-2.3
	comp=Z,0.4nm,0.6s,baz=298,slow=1.1,SNR=7.6							

IDC 25 11:48:53.7±27.0, 699S×6890E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/34, Error ellipse: s-maj=880.5km s-min=40.7km az=63.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.51**	**73**	LR	LR	12 06 12.8	
	comp=Z,58nm,19.0s,baz=52,slow=33						
MKAR	**Makanchi Array**	**54.85**	**11**	P	P	11 58 25.7	0.0
	0.3nm,0.6s,baz=197,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**64.36**	**113**	P	P	11 59 31.7	+0.5
	0.3nm,0.8s,baz=278,slow=6.0,SNR=5.4						
WRA	**Warramunga Arr**	**64.59**	**109**	P	P	11 59 33.7	+0.9
	1.3nm,1.0s,baz=283,slow=6.1,SNR=6.4						

BJI 25 11:55:48.7, 3275N×12031E, h8km, mB4.5, mb4.2, ML4.0, Ms3.7, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**1.42**	**241**	*e*P	Pn	11 56 14.5	-0.2
NJ2				PG	Pg	11 56 16.3	+0.5
NJ2				S	Sb	11 56 36.5	+3.0
NJ2				SG	Sg	11 56 37.5	+3.3
NJ2				Smax			
	comp=N,7μm,0.6s						
NJ2				Smax			
	comp=E,6μm,0.5s						
SSE	**Sheshan**	**1.81**	**155**	P	Pn	11 56 19.0	-1.2
SSE				SG	Sg	11 56 41.5	-5.4
SSE				Smax			
	comp=N,924nm,0.8s						
SSE				Smax			
	comp=E,906nm,0.9s						
WHN	**Wuhan**	**5.54**	**248**	PG	Pg	11 57 30.8	-4.0
WHN				SG	Sg	11 58 41.0	-5.5
WHN				Smax			
	comp=N,294nm,1.0s						
WHN				Smax			
	comp=E,176nm,0.8s						

KRSC 25 11:59:40.6±1.4, 5528N×15953E, h303km±43km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.35**	**89**	*e*P	Pn	12 00 21.4	+2.2
TUMR	**Tumrok**	**0.35**	**89**	*e*P	Pn	12 00 21.4	+2.2
KMNR	**Kamenistaya**	**0.62**	**40**	*i* P	Pn	12 00 21.4	+1.5
KMNR	**Kamenistaya**	**0.62**	**40**	*i* P	Pn	12 00 21.4	+1.5
KPT	**Kopyto**	**0.79**	**29**	P	Pn	12 00 21.8	+1.4
KPT	**Kopyto**	**0.79**	**29**	P	Pn	12 00 21.8	+1.4
ZLN	**Zelenaya**	**1.03**	**44**	*e*P	Pn	12 00 23.4	+2.0
ZLN				*e*S	S	12 00 54.3	+0.4
ZLN	**Zelenaya**	**1.03**	**44**	*e*P	Pn	12 00 23.4	+2.0
ZLN				*e*S	S	12 00 54.3	+0.4
SRDR	**Sredinnyy**	**1.04**	**6**	P	Pn	12 00 21.4	-0.1
SRDR	**Sredinnyy**	**1.04**	**6**	P	Pn	12 00 21.4	-0.1
KLY	**Klyuchi**	**1.21**	**31**	P	Pn	12 00 23.9	+1.6
KLY	**Klyuchi**	**1.21**	**31**	P	Pn	12 00 23.9	+1.6
MKZ	**Mys Kozlova**	**1.46**	**119**	*e*P	Pn	12 00 24.7	+0.9
MKZ				*i* S	S	12 00 57.2	-1.0
MKZ	**Mys Kozlova**	**1.46**	**119**	*e*P	Pn	12 00 24.7	+0.9
MKZ				*i* S	S	12 00 57.2	-1.0
SRKR	**Sorokina**	**1.66**	**33**	P	Pn	12 00 26.1	+1.0
SRKR				*i* S	S	12 00 59.2	-1.3
SRKR	**Sorokina**	**1.66**	**33**	P	Pn	12 00 26.1	+1.0
SRKR				*i* S	S	12 00 59.2	-1.3
GNL	**Ganaly**	**1.84**	**211**	*e*P	Pn	12 00 27.5	+1.1
GNL	**Ganaly**	**1.84**	**211**	*e*P	Pn	12 00 27.5	+1.1
AVH	**Avacha**	**2.07**	**193**	P	Pn	12 00 29.7	+1.5
AVH	**Avacha**	**2.07**	**193**	P	Pn	12 00 29.7	+1.5
KBTR	**Krutoberegovo**	**2.08**	**62**	*i* P	Pn	12 00 29.3	+1.1
KBTR				*i* S	S	12 01 04.9	-1.3
KBTR	**Krutoberegovo**	**2.08**	**62**	*i* P	Pn	12 00 29.3	+1.1
KBTR				*i* S	S	12 01 04.9	-1.3
NLC	**Nalytchevo**	**2.12**	**183**	*e*P	Pn	12 00 29.9	+1.4
NLC				*i* S	S	12 01 06.0	-0.7
NLC	**Nalytchevo**	**2.12**	**183**	*e*P	Pn	12 00 29.9	+1.4
NLC				*i* S	S	12 01 06.0	-0.7
SPN	**Mys Shipunski**	**2.21**	**172**	*e*P	Pn	12 00 30.3	+1.0
SPN				*i* S	S	12 01 06.2	-1.9
SPN	**Mys Shipunski**	**2.21**	**172**	*e*P	Pn	12 00 30.3	+1.0
SPN				*i* S	S	12 01 06.2	-1.9
RUS	**Russkaya**	**2.92**	**192**	*e*P	Pn	12 00 36.8	+1.1
RUS				*i* S	S	12 01 17.7	-2.0
RUS	**Russkaya**	**2.92**	**192**	*e*P	Pn	12 00 36.8	+1.1
RUS				*i* S	S	12 01 17.7	-2.0

IDC 25 12:00:24.7±0.9, 2116S×6728W, h177km±8km, mb3.4/5, mb1 3.6/8, mb1mx3.5/18, mbtmp3.4/8, Error ellipse: s-maj=19.4km s-min=10.5km az=119.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.09**	**226**	P	Pn	12 01 03.6	+1.1
	2.4nm,0.3s,baz=90,slow=7.4,SNR=47						
LVC				S	Sn	12 01 32.6	+0.7
	9.4nm,0.3s,baz=270,slow=20,SNR=29						
LPAZ	**La Paz**	**4.91**	**350**	P	Pn	12 01 40.0	+2.6
	3.2nm,0.3s,baz=158,slow=8.2,SNR=53						
LPAZ				S	Sn	12 02 35.8	+1.4
	baz=103,slow=17,SNR=1.8						
SIV	**San Ignacio**	**7.81**	**50**	P	Pn	12 02 16.1	+0.6
	2.0nm,0.3s,baz=252,slow=11,SNR=46						
SIV				S	Sn	12 03 40.9	-2.2
	0.2nm,0.3s,baz=221,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	**61.23**	**324**	P	P	12 10 21.2	+0.4
	0.2nm,0.6s,baz=140,slow=4.4,SNR=2.3						
PDAR	**Pinedale Array**	**74.58**	**329**	P	P	12 11 43.9	-0.2
	0.2nm,0.3s,baz=154,slow=8.6,SNR=3.8						
ULM	**Lac du Bonnet**	**75.46**	**341**	P	P	12 11 48.7	-0.4
	1.6nm,0.6s,baz=171,slow=19,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	P	12 11 52.2	+1.1
	1.4nm,0.8s,baz=252,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**91.38**	**340**	P	P	12 13 09.7	-0.6
	0.4nm,0.5s,baz=134,slow=4.9,SNR=6.1						

JMA 25 12:07:27.6±0.2, 4337N×14724E, h55km±5km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.09**	**270**	P	Pn	12 07 47.0	+0.3
NEM2				*e*S	Sn	12 08 01.1	+0.3
JRA	**Rausu**	**1.64**	**291**	P	Pn	12 07 54.4	+0.4
JRA				*e*S	Sn	12 08 14.6	+0.6
JNK	**Nakash**	**1.85**	**278**	P	Pn	12 07 57.2	+0.3
JNK				*e*S	Sn	12 08 19.2	+0.1
JAK	**Akkeshi**	**1.90**	**260**	P	Pn	12 07 58.1	+0.5
JAK				*e*S	Sn	12 08 20.5	+0.2
JTKR	**Abashiri--Toko**	**2.49**	**285**	P	Pn	12 08 06.8	+1.1
JTKR				*e*S	Sn	12 08 36.3	+1.4
JAR	**Ashorobuto**	**2.53**	**270**	P	Pn	12 08 07.4	+1.1
JAR				*e*S	Sn	12 08 37.8	+1.9
JOB	**Onbets**	**2.54**	**261**	P	Pn	12 08 07.2	+0.9
JOB				*e*S	Sn	12 08 36.7	+0.7
JMP	**Maruseppu**	**2.89**	**284**	P	Pn	12 08 12.4	+1.3
JCH	**Churui**	**2.94**	**256**	P	Pn	12 08 12.5	+0.6
JCH				*e*S	Sn	12 08 46.2	+0.2
JEM	**Erimo**	**3.30**	**247**	P	Pn	12 08 19.3	+2.6
JFR	**Furan**	**3.40**	**268**	P	Pn	12 08 20.1	+2.0
JFR				*e*S	Sn	12 08 58.8	+1.6
ASAJ	**Asahikawa**	**3.45**	**284**	P	Pn	12 08 21.3	+2.5
JNBK	**Urakawa-nobuka**	**3.48**	**253**	P	Pn	12 08 20.2	+1.0
JBT2	**Biratori 2**	**3.62**	**262**	P	Pn	12 08 22.1	+0.9
JBT2				*e*S	Sn	12 09 04.2	+1.6
JSE	**Soyaes**	**3.71**	**297**	P	Pn	12 08 23.4	+1.1

*ISCJB **25** 12:08:28.8±0.8, 3411S×1006×1788W±0.1, h35km, mb4.5/9, MS3.7/2, Error ellipse: s-maj=14.3km s-min=7.3km az=37.2*
*NEIC **25** 12:08:31.1±0.5, 3409S×17881W, h35km, mb4.7/7, Error ellipse: s-maj=13.2km s-min=12.5km az=84.0*
*IDC **25** 12:08:31.4±3.9, 3395S×17887W, h35km±30km, mb4.2/5, mb1 4.4/6, mb1mx4.1/15, mbtmp4.3/6, ML4.4/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/27, Error ellipse: s-maj=29.6km s-min=20.5km az=164.0*
ISC 25 12:08:30.0±0.8, 3409S±006×1787W±01, h35km, n41, σ1§14/34, mb4.5/9, MS3.7/2, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.70**	**211**	PN	**Pn**	**12 09 36.8**	**-1.5**
PUZ				SN	**Sn**	**12 10 33.9**	**+2.3**
MWZ	**Matawai**	**5.24**	**215**	PN	**Pn**	**12 09 44.2**	**-1.7**
MWZ				SN	**Sn**	**12 10 45.8**	**+0.7**
URZ	**Urewera**	**5.39**	**218**	Pn	**Pn**	**12 09 47.5**	**-0.4**
	12nm,0.3s,baz=32,slow=3.6,SNR=42						
URZ				Sn	**Sn**	**12 10 49.7**	**+0.9**
	22nm,0.3s,baz=162,slow=22,SNR=12						
URZ	**Urewera**	**5.39**	**218**	PN	**Pn**	**12 09 45.9**	**-2.0**
URZ				SN	**Sn**	**12 10 48.9**	**+0.2**
BKZ	**Black Stump Fm**	**6.40**	**216**	PN	**Pn**	**12 09 59.2**	**-2.5**
BKZ				SN	**Sn**	**12 11 13.4**	**0.0**
SNZO	**South Karori**	**8.92**	**214**	*e*Pn	**Pn**	**12 10 42.6**	**+6.2**
SNZO				*e*Sn	**Sn**	**12 12 08.5**	**-7.1**
RPZ	**Rata Peaks**	**12.51**	**217**	Pn	**Pn**	**12 11 22.1**	**-3.3**
	1.2nm,0.3s,baz=298,slow=8.3,SNR=6.1						
RPZ				Sn	**Sn**	**12 13 31.8**	**-12**
	1.7nm,0.3s,baz=35,slow=19,SNR=5.7						
DZM	**Mont Dzumac**	**17.76**	**309**	LR	LR	12 18 02.9	
	comp=Z,231nm,19.1s,baz=201,slow=33						
RAR	**Rarotonga**	**21.03**	**57**	LR	LR	12 18 31.7	
	comp=Z,396nm,19.8s,MS3.8,baz=266,slow=28						
AFI	**Afiamalu**	**21.04**	**19**	*e*P	**P**	**12 12 58.1**	**-13**
STKA	**Stephens Creek**	**33.28**	**263**	LR	LR	12 27 43.5	
	comp=Z,130nm,19.3s,MS3.7,baz=24,slow=35						
CTA	**Charters Tower**	**34.03**	**285**	*e*P	**P**	**12 15 12.5**	**+1.9**
	3.2nm,0.6s,mb4.4						
CTA	**Charters Tower**	**34.03**	**285**	P	**P**	**12 15 11.9**	**+1.3**
	2.5nm,0.5s,mb4.4,baz=133,slow=8.6,SNR=9.2						
CTAO	**Charters Tower**	**34.03**	**285**	*e*P	**P**	**12 15 11.8**	**+1.2**
	13nm,1.0s,mb4.8						
AS31	**Alice Springs**	**42.50**	**271**	*e*P	**P**	**12 16 22.0**	**+0.2**
ASAR	**Alice Springs**	**42.50**	**271**	P	**P**	**12 16 22.1**	**+0.3**
	7.7nm,0.7s,mb4.4,baz=111,slow=7.6,SNR=88						
ASPA	**Alice Springs**	**42.50**	**271**	*e*P	**P**	**12 16 22.0**	**+0.2**
WB2	**Warramunga Arr**	**43.81**	**276**	*e*P	**P**	**12 16 32.0**	**-0.4**
WRAB	**Tennant Creek**	**43.81**	**276**	*e*P	**P**	**12 16 32.4**	**-0.1**
	12nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**43.82**	**276**	P	**P**	**12 16 32.3**	**-0.2**
	9.3nm,0.8s,mb4.6,baz=118,slow=7.6,SNR=126						
WRA				S	**S**	**12 23 00.3**	**-0.7**
	0.5nm,0.7s,baz=122,slow=13,SNR=2.7						
CASY	**Casey**	**51.64**	**209**	*e*P	**P**	**12 17 34.1**	**+0.9**
	7.2nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.90**	**273**	*e*P	**P**	**12 17 35.3**	**+0.2**
	6.6nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.90**	**273**	P	**P**	**12 17 35.3**	**+0.2**
	4.6nm,0.9s,mb4.4,baz=162,slow=7.5,SNR=9.9						
QSPA	**South Pole Qui**	**56.03**	**180**	*e*P	**P**	**12 18 06.7**	**+1.5**
	7.8nm,1.0s,mb4.7						
QSPA				*e*		12 18 20.0	
MAW	**Mawson**	**68.67**	**201**	P	**P**	**12 19 33.1**	**+3.3**
	1.0nm,0.7s,mb3.9,baz=120,slow=8.1,SNR=3.1						
SYO	**Syowa Base**	**73.41**	**193**	⇑*eP*	**P**	**12 20 06.8**	**+8.3**
SNAA	**Sanae**	**74.49**	**179**	*e*P	**P**	**12 20 05.2**	**+0.4**
	10nm,1.4s,mb4.6						
SNAA				*e*		12 20 24.6	
VNA3	**Neumayer Olymp**	**74.67**	**176**	*e*	**P**	**12 20 05.4**	**-0.5**
VNA3				*e*	pP	12 20 17.5	+0.8
VNA3				*e*		12 20 30.4	
VNA3				*e*		12 20 38.4	
VNA2	**Neumayer--Watz**	**75.10**	**177**	*e*	**P**	**12 20 07.9**	**-0.4**
	baz=177,slow=4.5

PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 11.14 39 *e*P **Pn 12 13 01.0 -1.9**
comp=Z,6.7nm,0.6s
SML Sawmill 11.58 39 *e*P **Pn 12 13 02.5 -6.4**
EYAK Cordova Ski Ar 11.97 48 *e*Pn **Pn 12 13 10.7 -3.4**
DIV Divide 12.23 45 *e*Pn **Pn 12 13 14.5 -3.3**
MCK McKinley 12.65 32 *e*P **Pn 12 13 23.7 +0.2**
IMA2 Indian Mountai 13.38 18 *e*Pn **Pn 12 13 29.8 -3.6**
COLA College 13.80 30 *e*P **Pn 12 13 37.8 -1.5**
COLA College 13.80 30 *e*Pn **Pn 12 13 37.0 -2.3**
comp=Z,34nm,1.0s
EGAK Eagle 15.94 37 *e*Pn **Pn 12 14 04.5 -3.0**
comp=Z,30nm,0.6s
DAWY Dawson 16.24 41 *e*Pn **Pn 12 14 08.8 -2.5**
SKAG Skagway 16.66 58 *e*P **Pn 12 14 17.7 +1.1**
comp=Z,98nm,1.4s
DLBC Dease Lake 19.34 62 *e*P **Pn 12 14 48.3 -1.0**
BILL Bilibino 20.11 327 *e*P **P 12 14 53.7 -2.7**
BILL *e*S **S 12 18 49.0 +9.1**
BILL pmax pmax
comp=Z,150nm,2.0s
BILL MLR MLR
comp=Z,18µm,16.0s,MS5.5
BILL Bilibino 20.11 327 *e*P **P 12 14 56.8 +0.4**
comp=Z,112nm,1.3s
INK Inuvik 20.41 33 P **P 12 14 58.2 -1.4**
comp=Z,9.9nm,0.5s,baz=223,slow=13,SNR=87
INK S **S 12 18 49.8 +3.9**
comp=Z,1.5nm,0.8s,baz=78,slow=19,SNR=1.9
INK LR LR 12 24 30.3
comp=Z,8µm,19.3s,MS5.1,baz=235,slow=41
INK Inuvik 20.41 33 *e*P **P 12 14 56.4 -3.3**
comp=Z,2µm,0.6s
PET Petropavlovsk 22.20 283 *c i*P **P 12 15 18.4 -0.5**
PET *e*S **S 12 19 15.8 -5.2**
PET pmax pmax
comp=Z,1µm,5.6s
PET pmax pmax
comp=Z,1µm,11.4s
PET smax
comp=E,900nm,7.7s
PET smax
comp=N,2µm,17.5s
PET MLR MLR
comp=Z,4µm,19.0s,MS4.9
PET MLR MLR
comp=Z,4µm,16.0s
SEY Seymchan 24.28 310⇑ *e*P **P 12 15 39.0 -0.5**
A05A Maple Falls 26.23 83 ⇑P **P 12 15 57.5 +0.3**
baz=26
C04A Brinnon 26.30 86 ⇑P **P 12 15 58.2 +0.3**
baz=26
YKW3 Yellowknife Ar 26.83 51 *e*P **P 12 16 01.5 -1.0**
YKA Yellowknife Ar 26.84 51 P **P 12 16 02.7 0.0**
comp=Z,11nm,0.7s,mb4.5,baz=269,slow=8.1,SNR=67
YKA LR LR 12 27 49.8
comp=Z,5µm,18.2s,MS5.1,baz=240,slow=39
YKA Yellowknife Ar 26.84 51 P **P 12 16 02.7 0.0**
YKA LR LR 12 27 49.8
C05A Tolt Reservoir 27.07 86 ⇑P **P 12 16 04.8 0.0**
baz=27
D05A Enumclaw 27.14 87 ⇓P **P 12 16 05.5 +0.1**
baz=27,SNR=5.3
A07A Ashnola River, 27.22 82 ⇓P **P 12 16 05.7 -0.4**
baz=27
E05A Randle 27.59 88 ⇓P **P 12 16 09.1 -0.3**
baz=27
B07A Winthrop 27.64 83 ⇑P **P 12 16 10.1 +0.3**
baz=28
D06A Ole Elum 27.82 86 ⇓P **P 12 16 11.2 -0.3**
baz=28
A08A Turner Farm, O 27.91 81 ⇑P **P 12 16 11.6 -0.7**
baz=28
C07A Waterville 28.04 84 ⇑P **P 12 16 13.0 -0.4**
baz=28
E06A Yakima 28.07 87 ⇑P **P 12 16 13.6 0.0**
baz=28,SNR=7.2
B08A Colville Reser 28.15 83 ⇓P **P 12 16 14.4 -0.1**
baz=28,SNR=5.4
J02A Umpqua 28.26 95 ⇓P **P 12 16 15.6 +0.2**
baz=28
A09A Danville 28.31 81 ⇓P **P 12 16 16.4 +0.6**
baz=28
HOOD Mount Hood Mea 28.31 90 *e*P **P 12 16 18.7 +2.9**
D07A Quincy 28.33 85 ⇓P **P 12 16 15.9 -0.1**
baz=28
H04A Detroit Lake 28.34 91 ⇑P **P 12 16 15.7 -0.3**
baz=28
G05A Wamic 28.55 90 ⇑P **P 12 16 17.5 -0.4**
baz=28
F06A Goldendale 28.59 88 ⇑P **P 12 16 17.9 -0.4**
baz=28
C08A Higginbotham F 28.59 83 ⇓P **P 12 16 18.1 -0.2**
baz=28
J03A Ideyld Park 28.62 94 ⇓P **P 12 16 18.6 0.0**
baz=28
I04A Tendick Farm, 28.70 93 ⇑P **P 12 16 19.0 -0.3**
baz=28
E07A Sunnyside 28.72 86 ⇑P **P 12 16 19.1 -0.4**
baz=28
B09A Rice 28.82 82 ⇑P **P 12 16 20.3 -0.1**
baz=29
H05A Madras 28.93 91 ⇑P **P 12 16 21.6 +0.3**
baz=29
G06A Carlson Farm, 28.96 89 ⇓P **P 12 16 22.2 +0.6**
baz=29
L02A Cave Junction 28.97 97 ⇑P **P 12 16 22.3 +0.7**
baz=29
D08A Wollman Farm, 29.02 85 ⇑P **P 12 16 22.1 -0.1**
baz=29
F07A Phinny Hill Vi 29.02 88 ⇑P **P 12 16 22.1 0.0**
baz=29
C09A Chrisman Ranch 29.04 83 ⇑P **P 12 16 21.6 -0.7**
baz=29
I05A Bend 29.17 92 ⇓P **P 12 16 22.7 -0.8**
baz=29
J04A Umpqua Nationa 29.20 94 ⇑P **P 12 16 23.1 -0.7**
baz=29
E08A Dider Farm, El 29.23 86 ⇑P **P 12 16 24.3 +0.3**
baz=29
D09A Jones Farm, Ri 29.39 84 ⇓P **P 12 16 25.3 -0.1**
baz=29
H06A Lindquist Farm 29.41 90 ⇓P **P 12 16 25.8 +0.2**
baz=29,SNR=8.4
B10A Chitwood Farm, 29.42 81 ⇓P **P 12 16 26.9 +1.2**
baz=29
NEW Newport 29.50 81 P **P 12 16 25.9 -0.5**
comp=Z,4.7nm,0.9s,mb4.2,baz=302,slow=9.8,SNR=6.1
NEW LR LR 12 25 59.8
comp=Z,2µm,21.4s,MS4.8,baz=302,slow=32
NEW Newport 29.50 81 *e*P **P 12 16 25.4 -1.0**
NEW pmax pmax
comp=Z,19nm,1.1s
NEW Newport 29.50 81 *e*P **P 12 16 25.4 -1.0**
comp=Z,19nm,1.1s,mb4.7
G07A Ruggs Ranch, H 29.51 88 ⇓P **P 12 16 27.1 +0.6**
baz=29
EDM Edmonton 29.57 70⇑ *e*P **P 12 16 26.1 -0.9**
C10A Spilker Farm, 29.60 82 ⇓P **P 12 16 26.9 -0.4**
baz=29
A11A Hall Mountain, 29.62 80 ⇑P **P 12 16 27.3 -0.1**
baz=29
KHMM Horse Mountain 29.69 99 *e*P **P 12 16 30.9 +2.8**
YBH Yreka Blue Hor 29.75 97 P **P 12 16 27.8 -0.8**
comp=Z,1.7nm,0.8s,baz=259,slow=12,SNR=5.5
YBH LR LR 12 26 04.7
comp=Z,3µm,18.6s,MS4.9,baz=306,slow=32
E09A Wood Farm, Sta 29.76 85 P **P 12 16 28.4 -0.3**
baz=30,SNR=7.9
F08A Pendleton 29.76 87 ⇓P **P 12 16 29.0 +0.3**
baz=30,SNR=5.4
G08A Pilot Rock 29.92 88 P **P 12 16 29.9 -0.2**
baz=30,SNR=8.3
I06A Prineville 29.93 91 ⇑P **P 12 16 30.8 +0.6**
baz=30
L04A Klamath Falls 29.97 95 ⇓P **P 12 16 31.8 +1.3**
baz=30
N02C Big Bar 29.97 99 ⇑P **P 12 16 31.3 +0.7**
baz=30
K05A Summer Lake 30.23 94 ⇓P **P 12 16 33.5 +0.6**
baz=30
M04C Macdoel 30.24 96 ⇑P **P 12 16 33.5 +0.6**
baz=30
I07A Izee 30.27 90 ⇑P **P 12 16 33.6 +0.4**
baz=30,SNR=7.6
B12A Libby 30.30 80 ⇓P **P 12 16 33.0 -0.4**
baz=30
F09A S2 Ranch, Elgi 30.32 86 P **P 12 16 33.9 +0.2**
baz=30,SNR=12
J06A Christmas Vall 30.36 92 P **P 12 16 34.8 +0.8**
baz=30,SNR=6.7
E10A Myers Farm, Un 30.39 84 ⇓P **P 12 16 35.0 +0.7**
baz=30
D11A Klavano Farm, 30.56 83 ⇓P **P 12 16 35.6 -0.1**
baz=30
WDC Whiskeytown Da 30.57 98 ⇑P **P 12 16 36.4 +0.6**
baz=30
F10A Beach Ranch, E 30.59 85 ⇓P **P 12 16 36.0 0.0**
baz=30
L05A Lakeview 30.67 95 ⇓P **P 12 16 36.1 -0.6**
baz=30
C12A Trout Creek 30.73 81 ⇓P **P 12 16 38.2 +0.9**
baz=30
J07A Hines 30.79 91 ⇓P **P 12 16 38.4 +0.6**
baz=31
M05C Lookout 30.91 96 ⇑P **P 12 16 39.5 +0.6**
baz=31
I08A Drewsey 30.92 90 P **P 12 16 39.8 +0.8**
baz=31,SNR=11
H09A Durkee 31.03 88 P **P 12 16 40.6 +0.7**
baz=31,SNR=8.1
HATC Hat Creek Radi 31.06 97 ⇓P **P 12 16 40.5 +0.3**
baz=31
GASB Alder Springs 31.07 100 ⇓P **P 12 16 40.2 0.0**
baz=31
BSMT Bassoo Peak 31.07 81 *e*P **P 12 16 41.4 +1.1**
MOD Modoc 31.07 94 *e*P **P 12 16 40.1 -0.2**
comp=Z,31nm,1.4s,mb4.9
MOD *e* pP 12 16 51.5 -0.2
MOD Modoc 31.07 94 ⇑P **P 12 16 40.2 0.0**
baz=31
BMO Blue Mountains 31.14 87 *e*P **P 12 16 39.9 -1.1**
comp=Z,14nm,1.2s,mb4.7
K07A Rock Creek Ran 31.23 92 ⇑P **P 12 16 41.6 -0.1**
baz=31
F11A Grangeville 31.27 85 ⇑P **P 12 16 41.6 -0.4**
baz=31
C13A Hot Springs 31.28 81 ⇑P **P 12 16 41.5 -0.6**
baz=31
J08A Circle Bar Ran 31.29 91 ⇑P **P 12 16 42.6 +0.3**
baz=31,SNR=6.0
I09A Lost Marbles R 31.38 89 ⇓P **P 12 16 43.5 +0.6**
baz=31
M06C Likely Place G 31.40 96 ⇑P **P 12 16 43.3 +0.1**
baz=31
G11A Walters Elk Ra 31.46 86 P **P 12 16 43.4 -0.3**
baz=31,SNR=8.6
K08A Mann Creek Ran 31.65 92 ⇓P **P 12 16 45.8 +0.4**
baz=32,SNR=11
C14A Swan Lake 31.72 80 ⇓P **P 12 16 46.1 +0.1**
baz=32
J09A Fry Pan Ranch, 31.73 90 P **P 12 16 46.9 +0.8**
baz=32,SNR=13
WVOR Wild Horse Val 31.74 92 *e*P **P 12 16 46.1 -0.1**
WVOR pmax pmax
comp=Z,96nm,1.7s,mb5.3
WVOR Wild Horse Val 31.74 92 *e*P **P 12 16 46.1 0.0**
comp=Z,96nm,1.7s,mb5.3
I10A Payette 31.87 88 ⇓P **P 12 16 47.9 +0.6**
baz=32
SUTB Sutter Butte 31.89 100 ⇑P **P 12 16 47.8 +0.3**
baz=32
O05C Quincy 31.92 98 ⇓P **P 12 16 48.1 +0.3**
baz=32
H11A Donnelly 31.99 87 P **P 12 16 48.2 -0.2**
baz=32,SNR=13
OHCM Honcut 31.99 99 *e*P **P 12 16 57.8 +9.4**
M07A Soldier Meadow 32.06 94 ⇓P **P 12 16 49.5 +0.6**
baz=32
L08A Fields 32.06 92 ⇑P **P 12 16 49.2 +0.2**
baz=32
N06A Buffalo Meadow 32.06 96 ⇓P **P 12 16 49.5 +0.5**
baz=32
MSO Missoula 32.08 82 *e*P **P 12 16 49.1 0.0**
K09A Rome 32.12 91 ⇑P **P 12 16 49.7 +0.1**
baz=32,SNR=7.2
E13A Victor 32.13 82 ⇓P **P 12 16 49.7 +0.1**
baz=32
D14A Greenough 32.20 81 ⇑P **P 12 16 50.7 +0.5**
baz=32
BEKR Beckwourth 32.31 97 ⇑P **P 12 16 51.8 +0.6**
baz=32
F13A Darby 32.40 84 ⇓P **P 12 16 52.1 +0.2**
baz=32,SNR=6.0
O06A Flanigan 32.44 97 ⇑P **P 12 16 53.2 +0.9**
baz=32
CHMT Chamberlain Mo 32.44 81 *e*P **P 12 16 50.1 -2.2**
M08A Happy Creek Ra 32.49 93 ⇓P **P 12 16 54.0 +1.2**
baz=32
P05C Yuba Gap, Truc 32.53 98 ⇑P **P 12 16 54.0 +0.9**
baz=32
N07B Gerlach 32.55 95 ⇑P **P 12 16 54.0 +0.7**
baz=32
E14A Clinton 32.56 82 ⇓P **P 12 16 53.6 +0.2**
baz=32
L09A Wilkinson Ranc 32.57 92 ⇑P **P 12 16 54.1 +0.7**
baz=32,SNR=6.6
P06A Stead Airport, 32.70 97 ⇑P **P 12 16 54.9 +0.3**
baz=32
D15A Lincoln 32.80 80 ⇑P **P 12 16 55.2 -0.3**
baz=33
LAVA Lava Cap Winer 32.81 99 ⇑P **P 12 16 55.5 0.0**
baz=33
F14A Wisdom 32.95 83 ⇓P **P 12 16 56.9 +0.1**
baz=33
O07A Toulon 33.00 96 ⇑P **P 12 16 57.5 +0.3**
baz=33
WCN Washoe City 33.03 98 ⇑P **P 12 16 56.8 -0.7**
baz=33
E15A Deer Lodge 33.05 81 ⇑P **P 12 16 57.7 0.0**
baz=33
M09A Marrel Ranch, 33.06 93 ⇑P **P 12 16 58.6 +0.9**
baz=33
R05C Kirkwood Meado 33.24 99 ⇓P **P 12 16 59.6 +0.3**
baz=33
TIXI Tiksi 33.32 328 *e*P **P 12 16 57.5 -2.5**
TIXI *e* 12 18 09.4
TIXI *e*S **S 12 22 19.0 +1.3**
TIXI pmax pmax
comp=Z,21nm,1.4s,mb4.9
TIXI MLR MLR
comp=Z,8µm,15.0s,MS5.5
TIXI Tiksi 33.32 328 *e*P **P 12 16 59.1 -0.9**
comp=Z,27nm,1.1s,mb5.1
TIXI *e*PcP PcP 12 19 40.4 -0.8
N09A Rock Creek Ran 33.37 94 ⇑P **P 12 17 00.9 +0.5**
baz=33
P07A Fallon 33.39 97 ⇑P **P 12 17 01.8 +1.2**
baz=33
F15A Butte 33.45 82 ⇓P **P 12 17 01.6 +0.4**
baz=33
CMB Columbia Colle 33.50 100 ⇓P **P 12 17 01.9 +0.4**
baz=33
M10A I.L. Ranch, Tu 33.54 92 ⇓P **P 12 17 02.4 +0.5**
baz=33
HLID Hailey 33.59 87 *e*P **P 12 17 01.6 -0.8**
comp=Z,6.9nm,0.8s,mb4.6
HLID Hailey 33.59 87 P **P 12 17 02.1 -0.3**
baz=33,SNR=14
RES Resolute Bay 33.70 27 *e*P **P 12 17 02.1 -1.2**
comp=Z,284nm,0.6s
R06C Coleville 33.72 98 ⇓P **P 12 17 04.1 +0.6**
baz=34
MCMT McKenzie Canyo 33.80 84 *e*P **P 12 17 03.7 -0.5**
G15A Dillon 33.82 83 ⇓P **P 12 17 04.8 +0.4**
baz=34
Q07A Schurz 33.83 97 ⇑P **P 12 17 05.2 +0.8**
baz=34
EGMT Eagleton 33.91 77 ⇑P **P 12 17 05.1 -0.1**
baz=34,SNR=5.0
S06C San Francisco 33.92 100 ⇓P **P 12 17 06.1 +0.9**
baz=34
O09A Fish Creek Ran 33.99 94 ⇑P **P 12 17 06.4 +0.5**
baz=34
YSS Yuzh-Sakhalins 34.02 281 P **P 12 16 58.0 -8.1**
YSS *e* pP 12 17 07.2 -10
YSS *e* 12 18 20.0
YSS *e*PPP 12 18 37.0
YSS *e*S **S 12 22 36.0 +7.5**
YSS *e*SS SS 12 24 42.0 -15
YSS MLR MLR
comp=E,2µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s,MS4.8
M11A Holland Ranch, 34.04 91 ⇑P **P 12 17 06.7 +0.5**
baz=34
N10A Dunphy 34.05 93 ⇓P **P 12 17 07.0 +0.6**
baz=34
R07C Lee Vining 34.25 99 ⇑P **P 12 17 09.3 +1.2**
baz=34
O10A Cortez Mining, 34.33 93 ⇓P **P 12 17 09.7 +0.9**
baz=34
Q08A Gabbs 34.40 97 ⇑P **P 12 17 09.9 +0.6**
baz=34
P09A Austin 34.42 95 ⇑P **P 12 17 10.4 +0.9**
baz=34
NVAR Mina Array Bea 34.46 98 P **P 12 17 09.5 -0.4**
comp=Z,1.3nm,0.7s,baz=306,slow=12,SNR=12
NVAR Mina Array Bea 34.46 98 P **P 12 17 09.5 -0.4**
M12A Wells 34.57 91 ⇑P **P 12 17 11.5 +0.7**
baz=34,SNR=7.3
T06C Millerton Lake 34.59 101 ⇑P **P 12 17 11.5 +0.4**
baz=34
KCC Kaiser Creek 34.60 100 ⇓P **P 12 17 11.1 -0.1**
baz=34
MLAC Mammoth Lakes 34.68 99 ⇑P **P 12 17 12.4 +0.6**
baz=34
P10A Eureka 34.77 94 ⇑P **P 12 17 13.3 +0.7**
baz=35
YAK Yakutsk 34.79 311 *e*P **P 12 17 11.1 -1.7**
YAK *e* 12 18 27.2
YAK *e*S **S 12 22 49.4 +9.0**
YAK pmax pmax
comp=Z,18nm,1.1s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,23nm,2.0s
YAK pmax pmax
comp=Z,160nm,2.7s,mb5.5
YAK pmax pmax
comp=N,229nm,2.9s
YAK pmax pmax
comp=E,201nm,2.8s
YAK smax
comp=N,161nm,3.5s
YAK smax
comp=Z,179nm,3.2s
YAK smax
comp=E,278nm,4.0s
YAK MLR MLR
comp=Z,6µm,19.0s,MS5.3
YAK MLR MLR
comp=N,4µm,15.0s,MS5.4
YAK MLR MLR
comp=E,4µm,20.0s,MS5.4
YAK Yakutsk 34.79 311 *e*P **P 12 17 11.6 -1.2**
comp=E,24nm,0.7s,mb5.2
N12A Clover Valley, 34.84 91 P **P 12 17 14.1 +0.9**
baz=35,SNR=11
O11A Cowboy Ranch, 34.93 93 ⇓P **P 12 17 14.3 +0.4**
baz=35
M13A Montello 35.05 90 ⇑P **P 12 17 15.5 +0.6**
baz=35
HELL Mitchell Peak, 35.21 100 ⇑P **P 12 17 16.7 +0.3**
baz=35
P11A Circle Ranch, 35.24 94 ⇓P **P 12 17 17.1 +0.5**
baz=35
R09A Tonopah 35.31 97 ⇓P **P 12 17 18.1 +0.9**
baz=35
N13A Wendover, West 35.34 91 P **P 12 17 17.7 +0.2**
baz=35,SNR=9.3
RCTC Rector, Farmer 35.34 101 ⇓P **P 12 17 17.5 0.0**
baz=35
O12A Currie 35.38 92 P **P 12 17 18.4 +0.6**
baz=35,SNR=13
IMW Indian Meadow 35.45 84 *e*P **P 12 17 17.5 -1.0**
comp=E,7.8nm,1.0s,mb4.6
S09A Goldfield 35.56 97 ⇑P **P 12 17 19.5 +0.1**
baz=35
HVU Hansel Valley 35.62 88 *e*P **P 12 17 19.5 -0.4**
HVU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HVU Hansel Valley 35.62 88 *e*P **P 12 17 19.5 -0.4**
comp=Z,9.8nm,0.9s,mb4.7
ASAJ Asahikawa 35.67 277 P **P 12 17 20.1 -0.3**
comp=Z,43nm,1.1s,mb5.3,baz=358,slow=7.8,SNR=7.0
ASAJ LR LR 12 30 00.3
comp=Z,2µm,21.0s,MS4.8,baz=124,slow=33
RLMT Red Lodge 35.74 81 *e*P **P 12 17 19.3 -1.7**
comp=Z,47nm,1.6s,mb5.2
Q11A Duckwater 35.75 95 ⇑P **P 12 17 20.2 -0.8**
baz=36,SNR=5.9
VES Vestal, Richgr 35.76 102 ⇑P **P 12 17 20.7 -0.4**
baz=36
P12A McGill 35.79 93 P **P 12 17 22.1 +0.7**
baz=36,SNR=8.5
REDW Red Top Meadow 35.82 85 *e*P **P 12 17 21.2 -0.3**
comp=Z,37nm,1.5s,mb5.1
CWC Cottonwood Cre 35.93 100 ⇓P **P 12 17 22.8 +0.3**
baz=36
BGU Big Grassy Mou 35.99 90 *e*P **P 12 17 22.4 -0.7**
AHID Auburn Hatcher 36.02 86 P **P 12 17 21.9 -1.4**
comp=Z,19nm,1.4s,mb4.8
Q12A Willow Creek R 36.12 94 ⇓P **P 12 17 24.1 0.0**
baz=36,SNR=8.6
ISA Isabella 36.24 101 ⇑P **P 12 17 25.3 +0.1**
baz=36
DAC Darwin (Calif) 36.33 100 *e*P **P 12 17 24.7 -1.2**
DAC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
DAC Darwin (Calif) 36.33 100 *e*P **P 12 17 24.7 -1.2**
comp=Z,7.4nm,0.8s,mb4.7
MPMC Manual Prospec 36.54 100 ⇓P **P 12 17 28.0 +0.3**
baz=36
DUG Dugway 36.58 90 *e*P **P 12 17 27.3 -0.8**
DUG pmax pmax
comp=Z,47nm,1.4s,mb5.1
DUG Dugway 36.58 90 *e*P **P 12 17 27.3 -0.7**
comp=Z,47nm,1.4s,mb5.1
DUG Dugway 36.58 90 P **P 12 17 27.8 -0.3**
baz=36,SNR=24
ERM Erimo 36.58 273 *e*P **P 12 17 27.5 -0.6**
ERM pmax pmax
comp=Z,112nm,1.3s,mb5.5
ERM Erimo 36.58 273 *e*P **P 12 17 27.5 -0.6**
comp=Z,112nm,1.3s,mb5.5
FURC Furnace Creek, 36.63 99 ⇓P **P 12 17 29.0 +0.5**
baz=36
LRMC Laurel Mountai 36.83 101 ⇓P **P 12 17 30.5 +0.3**
baz=37
PDAR Pinedale Array 36.93 85 P **P 12 17 30.6 -0.5**
comp=Z,1.3nm,0.8s,baz=300,slow=6.2,SNR=10
PDAR ScP ScP 12 23 35.7 +0.5
comp=Z,1.2nm,1.1s,baz=303,slow=3.0,SNR=5.2
PDAR LR LR 12 30 38.1
comp=Z,1µm,20.3s,MS4.6,baz=314,slow=33
BLG Laguna Peak 36.99 104 ⇑P **P 12 17 32.2 +0.6**
baz=37
SHOC Shoshone 37.36 99 ⇓P **P 12 17 35.3 +0.6**
baz=37
DAU Daniels Canyon 37.36 89 *e*P **P 12 17 34.2 -0.6**
GSC Goldstone 37.46 100 *e*P **P 12 17 35.3 -0.3**
GSC Goldstone 37.46 100 ⇑P **P 12 17 35.9 +0.3**
baz=37
HABR Khabarovsk 37.66 288⇓ *i*P **P 12 17 35.0 -2.3**
HABR *e*S **S 12 23 22.1 -2.2**
HABR pmax pmax
comp=Z,78nm,1.4s,mb5.2
HABR MLR MLR
comp=Z,2µm,17.4s,MS5.1
BFSC Mount Baldy St 37.72 102 ⇓P **P 12 17 38.3 +0.5**
baz=38
ARUT Antelope Range 37.76 94 *e*P **P 12 17 37.2 -0.9**
TUQ Turquoise Mtn. 37.89 99 ⇑P **P 12 17 39.7 +0.5**
baz=38
V11A Goodsprings 37.90 98 ⇑P **P 12 17 39.7 +0.4**
baz=38
CCUT Cedar City 37.96 94 *e*P **P 12 17 39.9 +0.1**
MSU Marysvale 38.03 92 *e*P **P 12 17 40.1 -0.3**
MSU *e* pP 12 17 51.7 -0.3
HEC Hector,Ludlow 38.07 100 ⇑P **P 12 17 41.3 +0.6**
baz=38
TMUT Trail Mountain 38.10 90 *e*P **P 12 17 39.9 -1.1**
V12A Nelson 38.32 98 ⇓P **P 12 17 43.1 +0.3**
baz=38,SNR=6.6
MURC Murrieta 38.44 102 ⇑P **P 12 17 43.7 -0.1**
baz=38
GMRC Granite Mounta 38.50 100 ⇑P **P 12 17 44.3 0.0**
baz=38
ALE Alert 38.59 12 P **P 12 17 45.0 -0.1**

comp=Z,147nm,1.0s,mb5.7,SNR=8.3
W12A Cal Nev Ari 38.60 98 ⇓P P 12 17 45.2 0.0
baz=38
SRU San Rafael 38.63 90 eP P 12 17 44.7 -0.7
SRU pmax pmax
comp=Z,86nm,1.6s,mb5.2
SRU San Rafael 38.63 90 eP P 12 17 44.7 -0.7
comp=Z,86nm,1.6s,mb5.2
BELC Belle Mtn. 38.85 101 ⇑P P 12 17 46.9 -0.4
baz=39
PFO Pinyon Flat Ob 38.86 102 LR LR 12 30 46.9
comp=Z,3μm,18.6s,MS5.1,baz=72,slow=32
PFO Pinyon Flat Ob 38.86 102 ⇑P P 12 17 47.5 +0.1
baz=39
109C Camp Elliot, M 39.00 103 ⇓P P 12 17 48.7 +0.1
baz=39
CLNS Chul'man 39.02 304 eP P 12 17 46.8 -1.9
CLNS pmax pmax
comp=Z,31nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.5
CLNS MLR MLR
comp=Z,6μm,16.0s,MS5.5
CLNS MLR MLR
comp=E,5μm,15.0s,MS5.5
KLR Kul'dur 39.12 290 eP P 12 17 44.2 -5.3
KLR e 12 17 44.5
KLR e 12 19 21.5
KLR eS **S 12 23 46.0 -0.3**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.0
KLR MLR MLR
comp=N,2μm,14.5s,MS5.1
KLR MLR MLR
comp=E,1μm,14.5s,MS5.1
KLR MLR MLR
comp=Z,4μm,14.5s,MS5.4
NRGR Nerungri 39.18 304 i P P 12 17 49.8 -0.2
IRM Iron Mountain 39.23 100 ⇑P P 12 17 51.1 +0.6
baz=39
W13A Hualapai Mount 39.32 98 ⇓P P 12 17 51.4 +0.2
baz=39
RSSD Black Hills 39.38 79 eP P 12 17 48.6 -3.1
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
RSSD Black Hills 39.38 79 eP P 12 17 48.6 -3.1
comp=Z,4.3nm,0.6s,mb4.4
MONP Monument Peak 39.40 102 ⇓P P 12 17 52.2 +0.4
baz=39
BC3 Big Chuckw Mtn 39.41 101 ⇑P P 12 17 52.1 +0.1
baz=39
X13A Yucca 39.70 98 ⇓P P 12 17 54.3 -0.1
baz=40
W14A Seligman 39.71 97 ⇑P P 12 17 55.3 +0.9
baz=40
PDMCI Parker Dam,Lak 39.73 99 ⇑P P 12 17 55.1 +0.5
baz=40
Y12C Blythe 39.89 100 ⇓P P 12 17 56.1 +0.2
baz=40
PV10 Paradox Valley 39.99 90 eP P 12 17 56.9 +0.1
GLA Glamis 40.21 101 eP P 12 17 57.9 -0.7
GLA e pP 12 18 10.2 -0.1
GLA Glamis 40.21 101 ⇑P P 12 17 59.2 +0.6
baz=40
W15A Williams 40.22 96 ⇓P P 12 17 59.4 +0.7
baz=40
X14A Yava 40.34 97 ⇓P P 12 18 00.2 +0.5
baz=40,SNR=6.4
PV01 Paradox Valley 40.42 90 eP P 12 17 59.3 -1.1
WUAZ Wupatki 40.52 95 eP P 12 18 00.5 -0.6
comp=Z,25nm,1.0s,mb4.8
WUAZ Wupatki 40.52 95 ⇑P P 12 18 01.5 +0.4
baz=40
ULM Lac du Bonnet 40.58 66 P P 12 18 00.8 -0.9
comp=Z,6.3nm,0.8s,mb4.3,baz=310,slow=9.1,SNR=6.9
ULM LR LR 12 33 44.2
comp=Z,1μm,19.7s,MS4.8,baz=306,slow=35
Y14A Wickenburg 40.65 98 ⇑P P 12 18 02.5 +0.2
baz=40
X15A Humboldt 40.72 97 ⇓P P 12 18 03.3 +0.5
baz=40
MVCO Mesa Verde 41.08 91 eP P 12 18 05.0 -0.8
comp=Z,21nm,1.4s,mb4.6
MVCO Mesa Verde 41.08 91 ⇓P P 12 18 06.2 +0.4
baz=41
Z14A Wintersburg 41.09 99 ⇓P P 12 18 06.1 +0.3
baz=41
AGMN Agassiz Refuge 41.65 69 eP P 12 18 08.5 -2.0
comp=Z,56nm,1.2s,mb5.1
115A Sonoran Desert 41.99 99 ⇑P P 12 18 13.7 +0.5
baz=42
116A Eloy 42.39 98 ⇑P P 12 18 16.8 +0.3
baz=42
MDJ Mudanjiang 42.95 286 P P 12 18 19.8 -1.2
MDJ AP pP 12 18 31.0 -1.7
MDJ XP sP 12 18 35.8 -1.9
MDJ PP PP 12 19 59.5 -1.7
MDJ SCP ScP 12 23 57.8 -0.8
MDJ PCS PcS 12 24 02.0 -1.3
MDJ S **S 12 24 43.8 +0.7**
MDJ SCS ScS 12 28 17.0 -1.1
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,231nm,4.8s
MDJ LR LR
comp=N,2μm,21.6s,MS5.0
MDJ LR LR
comp=E,1μm,24.5s,MS5.0
MDJ LR LR
comp=Z,2μm,20.2s,MS5.1
MJAR Matsushiro Arr 43.03 271 P P 12 18 21.3 -0.4
comp=Z,14nm,1.0s,mb4.6,baz=36,slow=7.4,SNR=32
MJAR LR LR 12 34 12.6
comp=Z,2μm,22.0s,MS5.0,baz=70,slow=33
MAJO Matsushiro 43.03 271 eP P 12 18 20.8 -0.9
MAJO pmax pmax
comp=Z,61nm,1.1s,mb5.2
MAJO Matsushiro 43.03 271 eP P 12 18 20.8 -0.9
comp=Z,61nm,1.1s,mb5.2
MAT Matsushiro 43.03 271 P P 12 18 20.7 -1.0
MAT S **S 12 24 52.0 +7.7**
TUC Tucson 43.12 98 eP P 12 18 21.7 -0.7
TUC pmax pmax
comp=Z,17nm,1.4s,mb4.6
TUC Tucson 43.12 98 eP P 12 18 21.7 -0.6
comp=Z,17nm,1.4s,mb4.6
BOD Bodaibo 43.70 310 eP P 12 18 25.6 -1.5
BOD pmax pmax
comp=Z,23nm,1.3s,mb4.8
LAZ Ladron 43.80 93 eP P 12 18 27.7 -0.2
ANMO Albuquerque 43.82 91 P P 12 18 27.1 -0.9
comp=Z,1.6nm,1.0s,baz=321,slow=12,SNR=3.9
ANMO Albuquerque 43.82 91⇑eP P 12 18 27.7 -0.3
ECSD EROS,Sioux Fal 43.91 75 eP P 12 18 26.3 -2.4
comp=Z,19nm,1.1s,mb4.8
LENM Lemitar 44.06 93 eP P 12 18 28.9 -1.0
Y22C IRIS PASSCAL I 44.15 93 ⇓P P 12 18 30.3 -0.4
baz=44
LPM Los Pinos Moun 44.16 92 eP P 12 18 29.9 -0.9
EYMN Ely 44.26 67 eP P 12 18 30.0 -1.5
comp=Z,85nm,1.5s,mb5.2
BNM Barren Site 44.27 92 eP P 12 18 31.2 -0.5
CN2 Changchun 45.80 288 ⇑P P 12 18 42.8 -1.0
CN2 eXP sP 12 18 59.5 -1.1
CN2 eS **S 12 25 22.3 -2.3**
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.1
CN2 LR LR
comp=E,1μm,19.0s,MS5.1
CN2 LR LR
comp=Z,2μm,19.0s,MS5.1
MNTX Cornudas Mount 46.75 94 eP P 12 18 50.4 -0.9
comp=Z,8.9nm,0.9s,mb4.7
KSU1 Kansas State U 46.86 80 eP P 12 18 49.5 -2.6
comp=Z,14nm,0.8s,mb4.9
SCIA State Center 47.00 74 eP P 12 18 50.7 -2.5
comp=Z,100nm,1.5s,mb5.5
CIT Chita 47.17 303 eP P 12 18 54.0 -0.6
CIT e 12 20 33.5
CIT pmax pmax
comp=Z,99nm,1.4s,mb5.5
KBS Kingsbay 47.59 1 e P 12 19 00.5 +2.7
KBS eP 12 19 00.5
KBS eS **S 12 25 57.8 +7.6**
KBS AMS AMS 12 38 50.4
comp=Z,1μm,20.7s,MS4.8
KBS Kingsbay 47.59 1⇑eP P 12 18 59.1 +1.3
KBS Kingsbay 47.59 1 eP P 12 19 00.5 +2.7
KBS LR LR
comp=Z,1μm,20.7s,MS4.8
DAG Danmarks Havn 47.92 10⇑iP P 12 19 00.0 -0.4
comp=Z,10nm,0.7s,mb5.0
DAG Danmarks Havn 47.92 10⇑iP P 12 19 00.0 -0.4
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
JFWS Jewell Farm 48.04 71 eP P 12 18 58.2 -3.1
JFWS pmax pmax
comp=Z,27nm,0.9s,mb5.3
JFWS Jewell Farm 48.04 71 eP P 12 18 58.2 -3.1
comp=Z,27nm,0.9s,mb5.3
SNY Shenyang 48.12 287 ⇑P P 12 19 01.5 -0.4
SNY AP pP 12 19 13.3 -0.5
SNY XP sP 12 19 19.5 +0.8
SNY AMB AMB
comp=Z,37nm,1.4s,mb5.2
SNY AMB AMB
comp=Z,395nm,6.1s
SNY LR LR
comp=N,2μm,19.5s,MS5.1
SNY LR LR
comp=E,1μm,21.6s,MS5.1
SNY LR LR
comp=Z,2μm,20.1s,MS5.1
KSRS Korea Array 48.50 279 P P 12 19 05.5 +0.7
comp=Z,20nm,1.1s,mb5.1,baz=57,slow=7.0,SNR=32
KSRS LR LR 12 37 35.7
comp=Z,959nm,21.6s,MS4.7,baz=52,slow=34
WMOK Wichita Mounta 48.53 86 eP P 12 19 03.4 -1.6
WMOK pmax pmax
comp=Z,15nm,0.9s,mb5.0
WMOK Wichita Mounta 48.53 86 eP P 12 19 03.4 -1.7
comp=Z,15nm,0.9s,mb5.0
LTX Lajitas 49.48 94 eP P 12 19 10.6 -1.7
LTX pmax pmax
comp=Z,39nm,1.4s,mb5.2
LTX Lajitas 49.48 94 eP P 12 19 10.6 -1.7
comp=Z,39nm,1.4s,mb5.2
TXAR Lajitas Array 49.48 94 P P 12 19 11.2 -1.1
comp=Z,1.1nm,0.4s,mb4.3,baz=300,slow=5.5,SNR=29
TXAR ScP ScP 12 24 27.1 +1.3
comp=Z,1.0nm,1.0s,baz=270,slow=3.5,SNR=5.6
TXAR LR LR 12 38 37.3
comp=Z,1μm,18.4s,MS4.9,baz=10.0,slow=34
SFJD Kangerlussuaq 49.67 28⇓iP P 12 19 14.7 +0.9
SFJD eS **S 12 26 29.5 +10**
SLM Saint Louis 50.87 76 eP P 12 19 20.3 -2.5
SLM pmax pmax
comp=Z,90nm,1.3s,mb5.5
SLM Saint Louis 50.87 76 eP P 12 19 20.3 -2.5
comp=Z,90nm,1.3s,mb5.5
SLM e pP 12 19 34.5 -0.3
JCT Junction City 50.94 90 eP P 12 19 21.4 -2.0
JCT pmax pmax
comp=Z,31nm,1.3s,mb5.1
JCT Junction City 50.94 90 eP P 12 19 21.4 -1.9
comp=Z,31nm,1.3s,mb5.1
DL2 Dalian 51.17 285 ⇑P P 12 19 24.0 -1.1
DL2 PP PP 12 21 25.0 +2.9
DL2 S **S 12 26 41.0 +0.7**
DL2 SS SS 12 30 05.3 -11
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,180nm,7.4s
DL2 LR LR
comp=N,870nm,22.0s,MS4.9
DL2 LR LR
comp=E,720nm,20.7s,MS4.9
DL2 LR LR
comp=Z,960nm,21.4s,MS4.8
FVM French Village 51.20 76 eP P 12 19 22.3 -3.0
FVM pmax pmax
comp=Z,84nm,1.5s,mb5.5
FVM French Village 51.20 76 eP P 12 19 22.3 -3.1
comp=Z,84nm,1.5s,mb5.5
IRK Irkutsk 51.51 308 eP P 12 19 23.7 -3.9
IRK pmax pmax
comp=Z,105nm,1.7s,mb5.5
MIAR Mount Ida 51.74 82 eP P 12 19 27.0 -2.4
MIAR pmax pmax
comp=Z,12nm,0.8s,mb4.9
MIAR Mount Ida 51.74 82 eP P 12 19 27.0 -2.4
comp=Z,12nm,0.8s,mb4.9
BJO Bjornoya 52.05 359 AMS AMS 12 41 48.2
comp=Z,1μm,18.0s,MS5.1
SCHQ Schefferville 52.14 47 P P 12 19 31.9 -0.5
comp=Z,12nm,1.0s,mb4.8,baz=289,slow=10.0,SNR=5.5
TLY Talaya 52.17 308 P P 12 19 33.7 +1.1
comp=Z,192nm,1.0s,mb6.0,SNR=5.4
TLY Talaya 52.17 308 ⇑P P 12 19 33.6 +1.0
SNR=7.4
TLY Talaya 52.17 308 eP P 12 19 32.4 -0.2
TLY e 12 20 41.9
TLY ePPP 12 21 31.8
TLY eS sS 12 27 12.1 -1.9
TLY pmax pmax
comp=Z,64nm,1.4s,mb5.4
TLY MLR MLR
comp=Z,4μm,17.0s,MS5.5
TLY Talaya 52.17 308 eP P 12 19 32.3 -0.3
comp=Z,53nm,1.2s,mb5.3
BLO Bloomington 52.63 73 eP P 12 19 33.4 -2.6
BLO pmax pmax
comp=Z,53nm,1.3s,mb5.3
BLO Bloomington 52.63 73 eP P 12 19 33.4 -2.6
comp=Z,53nm,1.3s,mb5.3
ZAK Zakamensk 53.21 307 i P P 12 19 40.0 -0.2
ZAK e 12 20 48.7
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
SONM Songino Array 53.40 303 P P 12 19 41.7 0.0
comp=Z,13nm,0.6s,mb5.0,baz=45,slow=6.6,SNR=91
SONM LR LR 12 43 01.1
comp=Z,2μm,20.4s,MS5.2,baz=42,slow=37
MOY Mondy 53.41 309 eP P 12 19 42.5 +0.8
MOY pmax pmax
comp=Z,69nm,2.5s,mb5.1
BJI Beijing 53.49 290 P P 12 19 42.0 -0.3
BJI AMB AMB
comp=Z,12nm,1.2s,mb4.7
BJI LR LR
comp=N,2μm,17.6s,MS5.3
BJI LR LR
comp=E,2μm,17.6s,MS5.3
BJI LR LR
comp=Z,2μm,21.7s,MS5.2
BJI Beijing 53.49 290 P P 12 19 41.9 -0.4
BJI S **S 12 27 19.4 +7.4**
BJI pmax pmax
comp=Z,12nm,1.2s,mb4.7
BJI MLR MLR
comp=Z,2μm,21.7s,MS5.2
BJI Beijing 53.49 290 P P 12 19 41.9 -0.4
comp=Z,12nm,1.2s,mb4.7
BJI S **S 12 27 19.4 +7.4**
BJI LR LR
comp=Z,2μm,21.7s,MS5.2
HKT Hockley 53.68 88 eP P 12 19 43.3 -0.4
HKT pmax pmax
comp=Z,71nm,1.8s,mb5.3
HKT Hockley 53.68 88 eP P 12 19 43.3 -0.4
comp=Z,70nm,1.8s,mb5.3
WVT Waverly 53.98 76 eP P 12 19 43.9 -2.0
WVT pmax pmax
comp=Z,113nm,1.6s,mb5.5
WVT Waverly 53.98 76 eP P 12 19 43.9 -2.0
comp=Z,113nm,1.6s,mb5.5
OXF Oxford 54.20 79 eP P 12 19 45.5 -2.0
OXF pmax pmax
comp=Z,123nm,1.3s,mb5.7
OXF Oxford 54.20 79 eP P 12 19 45.5 -2.0
comp=Z,123nm,1.3s,mb5.7
JMIC Jan Mayen 54.36 10 AMS AMS 12 44 07.3
comp=Z,755nm,23.7s,MS4.7
ALLY Alegheny Colle 54.48 66 eP P 12 19 45.5 -4.0
PLAL Pickwick Lake 54.64 77 eP P 12 19 47.0 -3.7
comp=Z,77nm,1.5s,mb5.5
HHC Hu-ho-hao-te 55.48 294 ⇑P P 12 19 57.0 +0.3
HHC AP pP 12 20 08.0 -0.8
HHC XP sP 12 20 11.5 -2.2
HHC PCP PcP 12 20 56.3 -0.2
HHC PP PP 12 22 04.8 +3.9
HHC SCP ScP 12 24 50.5 -1.4
HHC S **S 12 27 39.8 +1.0**
HHC XS sS 12 27 56.0 -2.8
HHC SCS ScS 12 29 42.5 +0.1
HHC AMB AMB
comp=Z,35nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,395nm,7.5s
HHC LR LR
comp=N,2μm,16.1s,MS5.5
HHC LR LR
comp=E,2μm,15.7s,MS5.5
HHC LR LR
comp=Z,2μm,17.1s,MS5.1
TIA Tai'an 55.61 286 ⇑P P 12 19 56.8 -0.9
TIA LR LR
comp=N,819nm,20.0s,MS5.0
TIA LR LR
comp=E,881nm,20.0s,MS5.0
TZTN Tazewell 56.14 73 eP P 12 19 59.2 -2.3
comp=E,70nm,1.3s,mb5.5
SSPA Standing Stone 56.41 66 eP P 12 20 01.8 -1.6
comp=E,38nm,1.2s,mb5.3
KEV Kevo 56.58 355 ep P 12 20 03.5 -1.1
comp=E,8.4nm,0.6s,mb5.0
KEV Kevo 56.58 355 eP P 12 20 03.5 -1.1
KEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARCES ARCESS Array B 56.87 356 P P 12 20 06.5 -0.2
comp=Z,4.1nm,0.7s,mb4.6,baz=11,slow=7.7,SNR=18
ARCES LR LR 12 46 41.3
comp=Z,2μm,18.6s,MS5.3,baz=358,slow=38
ARCES ARCESS Array B 56.87 356 P P 12 20 06.5 -0.2
ARCES LR LR 12 46 41.2
SSE Sheshan 56.92 279 ⇑P P 12 20 07.5 +0.5
SSE AP pP 12 20 18.5 -0.6
SSE XP sP 12 20 24.0 0.0
SSE S **S 12 27 58.8 +0.9**
SSE SCS ScS 12 29 55.3 +2.5
SSE AMB AMB
comp=Z,76nm,1.5s,mb5.5
SSE AMB AMB
comp=Z,389nm,9.3s
SSE LR LR
comp=N,366nm,16.9s,MS4.9
SSE LR LR
comp=E,791nm,16.9s,MS4.9
SSE LR LR
comp=Z,835nm,27.8s
SSE Sheshan 56.92 279 ⇑P P 12 20 07.5 +0.5
comp=Z,76nm,1.5s,mb5.5
SSE pP pP 12 20 18.4 -0.7
SSE sP sP 12 20 24.1 +0.1
SSE S **S 12 27 58.7 +0.8**
SSE sS sS 12 28 19.4 +1.4
SSE ScS ScS 12 29 55.3 +2.5
SSE LR LR
comp=Z,840nm,27.8s,MS4.7
TRO Tromso 56.94 359 eP P 12 20 07.4 +0.2
TRO eS **S 12 28 02.5 +4.2**
TRO AMS AMS 12 44 16.5
comp=Z,1μm,22.1s,MS4.9
ELN Prospectdale 57.23 70 eP P 12 20 06.7 -2.5
BLA Blacksburg 57.43 70 eP P 12 20 06.4 -4.3
BLA pmax pmax
comp=Z,27nm,0.9s,mb5.3
BLA Blacksburg 57.43 70 eP P 12 20 06.4 -4.2
comp=Z,27nm,0.9s,mb5.3
NJ2 Nanjing 57.59 281 eP P 12 20 11.8 0.0
NJ2 AP pP 12 20 24.3 +0.4
NJ2 PP PP 12 22 20.3 +0.6
NJ2 S **S 12 28 07.5 +0.8**
NJ2 AMB AMB
comp=Z,100nm,1.2s,mb5.7
NJ2 AMB AMB
comp=Z,640nm,10.7s
NJ2 LR LR
comp=N,3μm,14.9s,MS5.7
NJ2 LR LR
comp=E,3μm,15.5s,MS5.7
NJ2 LR LR
comp=Z,2μm,18.6s,MS5.2
LVZ Lovozero 57.92 352 eP P 12 20 11.9 -2.2
LVZ S **S 12 28 06.3 -4.7**
LVZ SS SS 12 32 01.7 -0.6
LVZ pmax pmax
comp=N,13nm,1.1s
LVZ pmax pmax
comp=Z,41nm,1.1s,mb5.4
LVZ pmax pmax
comp=E,9.0nm,1.3s
LVZ MLR MLR
comp=Z,3μm,17.0s,MS5.4
LVZ MLR MLR
comp=N,2μm,19.0s,MS5.3
LVZ MLR MLR
comp=E,874nm,18.0s,MS5.3
APA Apatity 58.34 352⇑eP P 12 20 13.0 -4.0
APA e 12 22 30.0
APA e 12 28 19.0
APA e 12 32 19.0
APA pmax pmax
comp=Z,70nm,1.5s,mb5.5
APA MLR MLR
comp=Z,3μm,18.0s,MS5.5
BORG Borgarnes 58.40 18 LR LR 12 45 42.9
comp=Z,924nm,18.2s,MS4.9,baz=348,slow=36
NVS Novosibirsk 58.51 321⇑iP P 12 20 17.0 -1.2
NVS pmax pmax
comp=N,29nm,1.9s
NVS pmax pmax
comp=Z,39nm,1.9s,mb5.1
NVS pmax pmax
comp=E,20nm,1.6s
NVS pmax pmax
comp=Z,14nm,2.0s,mb4.7
NVS pmax pmax
comp=N,40nm,2.3s
NVS pmax pmax
comp=E,20nm,2.0s
ZAL Zalesovo 58.62 320 P P 12 20 19.9 +1.0
comp=E,3.7nm,0.7s,mb4.5,baz=71,slow=6.7,SNR=21
ZAL LR LR 12 48 38.5
comp=E,3μm,18.7s,MS5.4,baz=73,slow=39
TMCR Tamitsa 61.23 349 eP P 12 20 36.8 -0.1
TMCR pmax pmax
comp=Z,100nm,1.4s,mb5.8
WHN Wuhan 61.31 283 ⇓P P 12 20 37.5 +0.1
WHN LR LR
comp=N,1μm,14.0s,MS5.2
WHN LR LR
comp=E,529nm,18.0s,MS5.2
XAN Xi'an 61.82 290 P P 12 20 40.3 -0.6
XAN AP pP 12 20 51.5 -1.6
XAN S **S 12 29 03.0 +1.8**
XAN AMB AMB
comp=Z,27nm,1.8s,mb5.1
XAN AMB AMB
comp=Z,345nm,9.9s
XAN LR LR
comp=N,275nm,21.7s,MS5.2
XAN LR LR
comp=E,2μm,18.8s,MS5.2
XAN LR LR
comp=Z,2μm,19.4s,MS5.2
NSS Namsos 62.04 2 eP P 12 20 41.2 -1.2
NSS AMS AMS 12 51 17.0
comp=Z,808nm,20.3s,MS4.9
NSS Namsos 62.04 2 eP P 12 20 38.3 -4.1
NSS LR LR
comp=Z,810nm,20.3s,MS4.9
SOKR Solikamsk 62.44 338⇑iP P 12 20 45.2 +0.2
SOKR S **S 12 29 06.3 -2.7**
SOKR pmax pmax

SOKR comp=Z,70nm,1.6s,mb5.5 MLR MLR
comp=Z,3μm,22.0s,MS5.4
GTA Gaotai 62.75 300 *e*P **P** **12 20 46.5 -0.6**
GTA AP pP 12 21 00.0 +0.7
GTA XP sP 12 21 05.5 +1.4
GTA PCP PcP 12 21 22.5 -2.9
GTA PP PP 12 23 06.5 +1.2
GTA S **S** **12 29 12.3 -0.6**
GTA AMB AMB
comp=Z,40nm,1.5s,mb5.3
GTA AMB AMB
comp=Z,442nm,7.6s
GTA LR LR
comp=N,3μm,16.4s,MS5.6
GTA LR LR
comp=E,2μm,17.1s,MS5.6
GTA LR LR
comp=Z,3μm,16.0s,MS5.6
QZH Quanzhou 63.01 276 P **P** **12 20 49.0 +0.2**
QZH S **S** **12 29 20.5 +4.3**
QZH AMB AMB
comp=Z,150nm,1.5s,mb5.9
QZH AMB AMB
comp=Z,450nm,4.6s
QZH LR LR
comp=N,2μm,19.9s
QZH LR LR
comp=E,1μm,11.5s
QZH LR LR
comp=Z,1μm,25.7s
LZH Lanzhou 63.10 295 ⇑P **P** **12 20 49.5 +0.1**
LZH AP pP 12 21 01.5 -0.2
LZH XP sP 12 21 07.3 +0.8
LZH *e*S **S** **12 29 14.5 -2.8**
LZH XS sS 12 29 34.5 -3.1
LZH SS SS 12 33 21.5 -2.0
LZH AMB AMB
comp=Z,32nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,135nm,7.6s
LZH LR LR
comp=N,987nm,15.4s
LZH LR LR
comp=Z,1μm,18.2s,MS5.2
LZH Lanzhou 63.10 295 ⇑P **P** **12 20 49.5 +0.1**
LZH *e*S **S** **12 29 14.5 -2.8**
LZH *SS sS 12 29 34.6 -3.0
LZH SS SS 12 33 21.5 -2.0
LZH pmax pmax
comp=Z,32nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,1μm,18.2s,MS5.2
LZH Lanzhou 63.10 295 ⇑P **P** **12 20 49.5 +0.1**
comp=Z,32nm,1.5s,mb5.2
LZH pP pP 12 21 01.5 -0.2
LZH sP sP 12 21 07.2 +0.7
LZH PP PP 12 23 29.7 +21
LZH *e*S **S** **12 29 14.5 -2.8**
LZH sS sS 12 29 34.6 -3.0
LZH SS SS 12 33 21.5 -2.0
LZH LR LR
comp=Z,1μm,18.2s,MS5.2
KURK Kurchatov 63.49 321 P **P** **12 20 51.6 -0.4**
comp=Z,189nm,1.3s,mb6.1,SNR=17
CHKZ Chkalovo 63.83 327 *e*P **P** **12 20 53.6 -0.6**
CHKZ pmax pmax
comp=Z,29nm,1.2s,mb5.2
CHKZ Chkalovo 63.83 327 *e*P **P** **12 20 53.5 -0.7**
comp=Z,29nm,1.2s,mb5.2
SVE Sverdlovsk 63.97 335⇑*e*P **P** **12 20 56.0 +0.8**
SVE pmax pmax
comp=Z,130nm,2.0s,mb5.6
SVE MLR MLR
comp=N,2μm,16.0s,MS5.5
SVE MLR MLR
comp=E,1μm,16.0s,MS5.5
SVE MLR MLR
comp=Z,5μm,16.0s,MS5.8
CMIG Matias Romero 63.98 97 P **P** **12 20 55.1 -0.2**
comp=Z,4.3nm,0.8s,mb4.5,baz=266,slow=4.0,SNR=4.7
DOMB Dombas 64.45 4 *e*P **P** **12 20 58.1 -0.2**
BVA0 Borovoye Array 64.45 327 *i*P **P** **12 20 58.4 +0.1**
BVA0 pmax pmax
comp=Z,18nm,1.6s,mb4.8
BVAR Borovoye Array 64.45 327 P **P** **12 20 58.9 +0.6**
comp=Z,12nm,0.6s,mb5.1,baz=44,slow=6.9,SNR=11
BRVK Borovoye 64.46 327 P **P** **12 20 58.3 -0.1**
comp=Z,177nm,0.9s,mb6.1,SNR=20
BRVK Borovoye 64.46 327 P **P** **12 20 58.8 +0.5**
SNR=18
BRVK Borovoye 64.46 327 *e*P **P** **12 20 57.5 -0.9**
BRVK pmax pmax
comp=Z,52nm,1.3s,mb5.4
BRVK Borovoye 64.46 327 *e*P **P** **12 20 57.5 -0.9**
comp=Z,52nm,1.3s,mb5.4
ARU Arti 64.85 336 P **P** **12 21 00.5 -0.4**
comp=Z,189nm,1.1s,mb6.0,SNR=10
ARU Arti 64.85 336⇓*i*P **P** **12 21 00.2 -0.7**
ARU *e* 12 21 33.6
ARU *e* 12 23 20.2
ARU *e*PPP 12 24 57.8
ARU *e*S **S** **12 29 38.6 -0.4**
ARU *e*SS SS 12 33 59.4 +8.6
ARU pmax pmax
comp=Z,44nm,1.3s,mb5.3
ARU MLR MLR
comp=N,2μm,17.0s,MS5.5
ARU MLR MLR
comp=E,2μm,17.0s,MS5.5
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.4
ARU Arti 64.85 336 *e*P **P** **12 20 59.1 -1.8**
comp=Z,57nm,1.3s,mb5.4
FINES FINESS Array B 64.92 355 P **P** **12 21 00.8 -0.5**
comp=Z,5.9nm,0.6s,mb4.8,baz=22,slow=6.7,SNR=27
FINES LR LR 12 51 47.9
comp=Z,1μm,18.8s,MS5.2,baz=175,slow=38
MK31 Makanchi Array 65.21 316 *i*P **P** **12 21 02.3 -0.9**
MK31 pmax pmax
comp=Z,27nm,1.1s,mb5.2
MKAR Makanchi Array 65.21 316 P **P** **12 21 02.5 -0.7**
comp=Z,4.4nm,0.8s,mb4.6,baz=44,slow=6.5,SNR=39
MKAR LR LR 12 51 03.9
comp=Z,2μm,19.3s,MS5.4,baz=30,slow=37
MKAR Makanchi Array 65.21 316 *i*P **P** **12 21 02.3 -0.9**
MKAR pmax pmax
comp=Z,30nm,1.1s
WMQ Urumqi 65.23 311⇑*i*P **P** **12 21 03.8 +0.4**
WMQ AP pP 12 21 12.0 -3.7
WMQ XP sP 12 21 15.8 -4.7
WMQ PCP PcP 12 21 36.5 +0.9
WMQ PP PP 12 23 30.0 +2.8
WMQ SCP 12 25 35.3
WMQ PCS 12 25 38.5
WMQ S S 12 29 45.3 +1.6
WMQ XS sS 12 29 58.3 -5.9
WMQ SCS ScS 12 30 54.5 -0.7
WMQ AMB AMB
comp=Z,36nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,411nm,5.2s
WMQ LR LR
comp=N,3μm,20.0s,MS5.5
WMQ LR LR
comp=E,1μm,18.6s,MS5.5
WMQ LR LR
comp=Z,1μm,16.3s,MS5.1
TAOE Nuku Hiva Isla 65.50 154 *e*S S 12 29 47.4 +0.5
comp=Z,5μm,24.4s
TAOE *e*SS SS 12 34 00.5 -0.4
comp=Z,1μm,25.5s
TAOE *e*LR LR 12 40 31.8
comp=Z,5μm,30.2s,baz=353
NB2 NORSAR Subarra 65.53 3 P **P** **12 21 04.8 -0.5**
comp=Z,72nm,1.7s,mb5.4,baz=359,slow=6.2
NOA NORSAR Array B 65.53 3 P **P** **12 21 05.2 -0.1**
comp=Z,6.7nm,0.7s,mb4.8,baz=359,slow=6.3,SNR=13
NOA LR LR 12 53 02.0
comp=Z,700nm,18.6s,MS4.9,baz=355,slow=39
ASK Askoy 65.82 6 *e*P **P** **12 21 07.8 +0.7**
ASK AMb AMB 12 21 16.6
comp=Z,213nm,2.1s,mb5.8
ASK Askoy 65.82 6 *e*P **P** **12 21 07.8 +0.7**
comp=Z,213nm,2.1s,mb5.8
EGD Espegrend 66.03 6 *e*P **P** **12 21 09.4 +0.9**
EGD AMb AMB 12 21 17.3
comp=Z,166nm,2.5s,mb5.6
EGD Espegrend 66.03 6 *e*P **P** **12 21 09.4 +0.9**
comp=Z,166nm,2.5s,mb5.6
HFS Hagfors 66.48 1 P **P** **12 21 10.9 -0.5**
comp=Z,12nm,0.5s,mb5.2,baz=41,slow=4.7,SNR=60
KONO Kongsberg 66.87 4 *e* **P** **12 21 13.7 -0.2**
BLS5 Blasjo 66.95 5 *e*P **P** **12 21 15.8 +1.4**
BLS5 AMb AMB 12 21 18.1
comp=Z,43nm,1.9s,mb5.1
BLS5 Blasjo 66.95 5 *e*P **P** **12 21 15.8 +1.4**
comp=Z,43nm,1.9s,mb5.2
CD2 Chengdu 67.05 291 P **P** **12 21 16.0 +1.0**
CD2 AP pP 12 21 26.3 -1.1
CD2 XP sP 12 21 30.0 -2.2
CD2 PP PP 12 23 45.3 +2.3
CD2 S S 12 30 05.8 +0.1
CD2 XS sS 12 30 22.0 -4.2
CD2 AMB AMB
comp=Z,60nm,1.5s,mb5.4
CD2 AMB AMB
comp=Z,430nm,3.9s
CD2 LR LR
comp=N,1μm,14.1s,MS5.4
CD2 LR LR
comp=E,1μm,16.8s,MS5.4
CD2 LR LR
comp=Z,2μm,16.2s,MS5.4
AFI Afiamalu 67.69 188 LR LR 12 45 40.8
comp=Z,853nm,19.7s,MS5.0,baz=26,slow=31
PECR Pechory 67.96 344 *e*P **P** **12 21 20.0 -0.8**
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.8
PECR MLR MLR
comp=Z,4μm,20.0s,MS5.6
GYA Guiyang 68.81 286⇑*i*P **P** **12 21 26.0 -0.1**
GYA AP pP 12 21 39.5 +1.0
GYA XP sP 12 21 44.0 +0.7
GYA PCP PcP 12 21 52.0 +1.5
GYA PP PP 12 24 01.3 +3.0
GYA SCP 12 25 51.8
GYA PCS 12 25 55.5
GYA S S 12 30 26.0 -0.8
GYA XS sS 12 30 46.0 -1.4
GYA SKS 12 31 19.0
GYA SS SS 12 34 52.5 +0.2
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,200nm,5.0s
GYA LR LR
comp=N,770nm,19.5s,MS5.3
GYA LR LR
comp=E,1μm,17.1s,MS5.3
GYA LR LR
comp=Z,1μm,18.3s,MS5.1
MOS Moscow 69.48 347 *e*P **P** **12 21 26.3 -4.0**
MOS pmax pmax
comp=Z,42nm,0.7s,mb5.5
MUD Monsted U'grnd 70.04 4 *i*P **P** **12 21 33.5 -0.2**
MUD *i* 12 38 48.4
MUD
comp=Z,640nm,18.0s
MUD Monsted U'grnd 70.04 4 *e*P **P** **12 21 33.5 -0.2**
MUD MLR MLR
comp=Z,640nm,18.0s,MS4.9
EKA Eskdalemuir Ar 70.16 12 P **P** **12 21 35.1 +0.7**
comp=Z,6.7nm,0.7s,mb4.7,baz=339,slow=4.4,SNR=19
ORR Orenburg 70.17 336⇑*i*P **P** **12 21 34.2 -0.3**
ORR pmax pmax
comp=Z,50nm,1.1s,mb5.4
ORR MLR MLR
comp=Z,2μm,16.0s,MS5.5
OBN Obninsk 70.23 348 *e*P **P** **12 21 34.6 -0.3**
OBN *i* S SKSac 12 31 25.5 -7.4
OBN pmax pmax
comp=Z,59nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.3
OBN Obninsk 70.23 348 *e*P **P** **12 21 33.8 -1.1**
comp=Z,26nm,0.8s,mb5.2
AKTK Aktyubinsk 70.41 333 P **P** **12 21 37.0 +1.0**
AKTO Aktyubinsk 70.41 333 P **P** **12 21 37.0 +1.0**
comp=Z,32nm,1.0s,mb5.2,baz=34,slow=6.9,SNR=54
AKTO Aktyubinsk 70.41 333 P **P** **12 21 35.9 -0.1**
AKTO pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
AB31 Akbulak array 70.94 331 *e*P **P** **12 21 39.6 +0.4**
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
TKM2 Tokmak 2 71.10 318 P **P** **12 21 41.6 +1.4**
SNR=20
USP Ospenovka 71.24 319 P **P** **12 21 41.7 +0.7**
SNR=30
CHMS Chumysh 71.37 319 P **P** **12 21 43.2 +1.4**
SNR=18
FRU Bishkek 71.56 319⇑*i*P **P** **12 21 43.0 +0.1**
FRU pmax pmax
comp=Z,290nm,1.8s,mb5.9
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.7
KBK Karagaybulak 71.58 318 P **P** **12 21 43.9 +0.9**
SNR=26
MNK Minsk 71.72 353 *e*P **P** **12 21 41.0 -2.9**
AAK Ala-Archa 71.78 319 P **P** **12 21 45.1 +0.8**
SNR=27
AAK Ala-Archa 71.78 319 P **P** **12 21 44.3 +0.1**
comp=Z,171nm,1.1s,mb5.9,SNR=22
AAK Ala-Archa 71.78 319 P **P** **12 21 44.5 +0.2**
SNR=30
AAK Ala-Archa 71.78 319⇑*e*P **P** **12 21 43.5 -0.8**
AAK pmax pmax
comp=Z,73nm,1.6s,mb5.4
AAK Ala-Archa 71.78 319 *e*P **P** **12 21 43.9 -0.3**
comp=Z,171nm,1.8s,mb5.7
KZA Kyzart 71.95 318 P **P** **12 21 46.7 +1.4**
SNR=17
EKS2 Erkin-Say 72.03 319 P **P** **12 21 46.6 +0.8**
SNR=34
PPT Papeete 72.05 166 *e*S S 12 31 05.1 +0.5
comp=Z,482nm,25.5s
PPT *e*SS SS 12 35 43.7 +1.6
comp=Z,256nm,27.5s
PPT *e*LQ 12 40 02.9
comp=Z,966nm,25.5s
PPT *e*LR LR 12 43 29.3
comp=Z,2μm,22.8s,baz=352
PPT Papeete 72.05 166 LR LR 12 46 01.6
comp=Z,1μm,20.1s,MS5.2,baz=331,slow=30
KMI Kunming 72.07 288 P **P** **12 21 46.5 +0.5**
KMI AP pP 12 21 58.5 0.0
KMI XP sP 12 22 03.0 -0.3
KMI PCP PcP 12 22 06.0 +1.7
KMI PP PP 12 24 26.3 -0.1
KMI S S 12 31 05.0 +0.2
KMI XS sS 12 31 23.5 -2.1
KMI SKS 12 31 43.5
KMI SCS ScS 12 31 46.3 -2.5
KMI SS SS 12 35 42.5 +0.1
KMI AMB AMB
comp=Z,17nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,315nm,4.0s
KMI LR LR
comp=N,1μm,19.0s,MS5.4
KMI LR LR
comp=E,1μm,18.2s,MS5.4
KMI LR LR
comp=Z,1μm,19.8s,MS5.2
KMI Kunming 72.07 288 P **P** **12 21 46.6 +0.6**
KMI 12 22 06.0
KMI 12 24 26.2
KMI PPP 12 26 10.4
KMI S S 12 31 04.9 +0.1
KMI 12 31 43.5
KMI 12 31 46.2
KMI SS SS 12 35 42.5 +0.1
KMI SSS 12 38 51.0
KMI pmax pmax
comp=Z,17nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,1μm,19.8s,MS5.2
KMI Kunming 72.07 288 P **P** **12 21 46.6 +0.6**
comp=Z,17nm,1.2s,mb4.8
KMI pP pP 12 21 58.6 +0.1
KMI sP sP 12 22 03.0 -0.3
KMI PcP PcP 12 22 06.0 +1.7
KMI PP PP 12 24 26.2 -0.2
KMI PPP 12 26 10.4
KMI S S 12 31 04.9 +0.1
KMI sS sS 12 31 23.6 -2.0
KMI SKS 12 31 43.5
KMI ScS ScS 12 31 46.2 -2.6
KMI SS SS 12 35 42.5 +0.1
KMI SSS 12 38 51.0
KMI LR LR
comp=Z,1μm,19.8s,MS5.2
UCH Uchtor 72.11 318 P **P** **12 21 47.6 +1.4**
SNR=15
HLG Helgoland 72.25 5 *e*P **P** **12 21 47.1 0.0**
comp=Z,275nm,1.1s,mb6.1
AML Almayashu 72.52 319 P **P** **12 21 50.3 +1.6**
SNR=31
QIZ Qiongzhong 72.71 279 P **P** **12 21 50.3 +0.5**
QIZ AP pP 12 22 02.5 +0.2
QIZ XP sP 12 22 09.0 +1.9
QIZ PP PP 12 24 29.0 -2.9
QIZ S S 12 31 16.0 +3.8
QIZ SCS ScS 12 31 52.5 -1.4
QIZ AMB AMB
comp=Z,22nm,1.9s,mb4.8
QIZ AMB AMB
comp=Z,313nm,7.9s
KK31 Karatay Array 72.90 321 *i*P **P** **12 21 51.0 +0.1**
KK31 pmax pmax
comp=Z,119nm,1.7s,mb5.5
KKAR Karatay Array 72.90 321 *i*P **P** **12 21 51.0 +0.1**
KKAR pmax pmax
comp=Z,207nm,1.8s,mb5.8
VOR Voronezh 73.16 345 *e*P **P** **12 21 51.0 -1.5**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.5
VRSR Storozhevoye 73.66 345 *e*P **P** **12 21 55.5 +0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,30nm,1.5s
VRSR pmax pmax
comp=E,10.0nm,1.2s
KSH Kashi 73.81 316 *e*P **P** **12 21 58.0 +1.7**
KSH *e*AP pP 12 22 11.0 +2.2
KSH *e*PP PP 12 24 45.3 +4.0
KSH *e*S S 12 31 26.0 +1.4
KSH *e*SKS 12 31 57.5
KSH *e*SCS ScS 12 32 01.5 -1.1
KSH AMB AMB
comp=Z,733nm,2.6s,mb6.2
KSH LR LR
comp=N,8μm,17.9s,MS6.2
KSH LR LR
comp=E,8μm,16.1s,MS6.2
KSH LR LR
comp=Z,1μm,7.8s
NRDL Niedersach Rie 74.04 4 *e*P **P** **12 21 57.4 -0.2**
comp=Z,38nm,1.3s,mb5.2
RUE Ruedersdorf 74.16 1 *e*P **P** **12 21 58.2 -0.1**
comp=Z,68nm,1.3s,mb5.4
WTSB Winterswijk 74.40 6 *e*P **P** **12 21 59.7 -0.1**
comp=Z,47nm,1.5s,mb5.2
RAR Rarotonga 74.70 176 LR LR 12 54 04.0
comp=Z,733nm,18.1s,MS5.0,baz=358,slow=35
CLZ Clausthal 74.70 4 *e*P **P** **12 22 01.7 +0.2**
comp=Z,66nm,1.4s,mb5.4
CLZ *e*sP sP 12 22 18.0 -0.8
CLZ Clausthal 74.70 4 *e*P **P** **12 22 01.7 +0.2**
CLZ *e**SP sP 12 22 18.0 -0.8
CLZ pmax pmax
comp=Z,66nm,1.4s,mb5.4
LSA Lhasa 74.76 299 P **P** **12 22 01.8 0.0**
LSA LR LR
comp=N,1μm,14.4s,MS5.5
LSA LR LR
comp=E,1μm,15.1s,MS5.5
LSA LR LR
comp=Z,3μm,14.4s,MS5.8
BUG Bochum--Univer 74.95 6 *e*P **P** **12 22 02.6 -0.3**
comp=Z,93nm,1.5s,mb5.5
PMG Port Moresby 75.26 230 P **P** **12 22 03.4 -1.3**
comp=Z,13nm,0.9s,mb4.8,baz=281,slow=2.3,SNR=3.9
PMG LR LR 12 49 12.5
comp=Z,718nm,19.9s,MS5.0,baz=213,slow=31
CLL Collm 75.32 2 *e*P **P** **12 22 04.5 -0.5**
comp=Z,30nm,1.2s,mb5.1
CLL Collm 75.32 2⇑*i*P **P** **12 22 04.5 -0.5**
CLL *e**PP pP 12 22 16.0 -1.6
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,1μm,19.0s,MS5.1
CLL Collm 75.32 2⇑*i*P **P** **12 22 04.5 -0.5**
comp=Z,29nm,1.3s,mb5.0
CLL *e*pP pP 12 22 16.0 -1.6
CLL LR LR
comp=Z,1μm,19.0s,MS5.1
CLL Collm 75.32 2⇑*i*P **P** **12 22 04.5 -0.5**
comp=Z,29nm,1.3s,mb5.0
CLL LmV 12 05 00.0
comp=Z,1μm,19.0s
CLL *e*PcP PcP 12 22 16.0 -2.2
AKASG Malin Array Be 75.37 351 P **P** **12 22 04.8 -0.6**
comp=Z,9.0nm,0.5s,mb4.9,baz=10,slow=5.7,SNR=46
AKASG LR LR 13 00 31.5
comp=Z,2μm,19.1s,MS5.3,baz=10.0,slow=40
KIEV Kiev 75.38 351 *e*P **P** **12 22 04.5 -0.9**
KIEV pmax pmax
comp=Z,62nm,1.3s,mb5.4
KIEV Kiev 75.38 351 *e*P **P** **12 22 04.5 -1.0**
comp=Z,62nm,1.3s,mb5.4
UCC Uccle 75.39 8 P **P** **12 22 05.2 -0.3**
BEBN Eben Emael 75.49 7 P **P** **12 22 07.1 +1.1**
HGN Heimansgroeve 75.54 7 *e*P **P** **12 22 06.5 +0.2**
comp=Z,47nm,1.4s,mb5.2
HGN *e*PP PP 12 24 49.1 -6.8
SNF Seneffe 75.67 8 P **P** **12 22 07.8 +0.7**
MEM Membach 75.70 7 P **P** **12 22 07.6 +0.4**
FBE Freiberg 75.71 2 *e*P **P** **12 22 07.2 -0.1**
comp=Z,254nm,2.5s,mb5.7
UBBA Unterbreizbach 75.71 4 *e*P **P** **12 22 07.0 -0.3**
comp=Z,53nm,1.8s,mb5.2
UBBA *e*sP sP 12 22 24.3 -0.3
BRG Berggiesshubel 75.77 1 *e*P **P** **12 22 07.3 -0.3**
comp=Z,37nm,1.4s,mb5.1
BRG Berggiesshubel 75.77 1⇓*i*P **P** **12 22 07.5 -0.1**
comp=Z,22nm,1.4s,mb4.9
BRG
comp=N,411nm,20.1s
BRG
comp=E,401nm,18.5s
BRG
comp=Z,471nm,16.6s
KSP Ksiaz 75.81 360 *e*P **P** **12 22 08.7 +0.8**
KSP Ksiaz 75.81 360⇑*e*P **P** **12 22 07.9 0.0**
KSP *e*pP pP 12 22 19.6 -0.8
BCLA Clavier 75.84 7 P **P** **12 22 07.5 -0.5**
MOX Moxa 75.94 3 *e*P **P** **12 22 08.5 -0.1**
comp=Z,27nm,1.1s,mb5.1
MOX Moxa 75.94 3 *e*P **P** **12 22 09.3 +0.7**
comp=Z,77nm,1.6s,mb5.4
MOX
comp=Z,800nm,18.0s
MOX Moxa 75.94 3 *e*P **P** **12 22 09.3 +0.7**
MOX pmax pmax
comp=Z,77nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,800nm,18.0s,MS5.1
DOU Dourbes 76.11 8 P **P** **12 22 10.7 +1.2**
BAIF Baives 76.11 8 *e*P **P** **12 22 09.6 0.0**
comp=Z,102nm,1.4s,mb5.2
BAIF Baives 76.11 8 *e*P **P** **12 22 09.6 0.0**
BAIF pmax pmax
comp=Z,51nm,1.4s,mb5.3
BAIF Baives 76.11 8 *e*P **P** **12 22 09.6 0.0**
comp=Z,51nm,1.4s,mb5.3
GIVF Givet 76.12 7 *e*P **P** **12 22 09.6 0.0**
comp=Z,256nm,1.8s,mb5.6
GIVF Givet 76.12 7 *e*P **P** **12 22 09.6 0.0**
GIVF pmax pmax
comp=Z,128nm,1.8s,mb5.5
GIVF Givet 76.12 7 *e*P **P** **12 22 09.6 0.0**
comp=Z,128nm,1.8s,mb5.5
PVCC Panska Ves 76.12 1 *e*P **P** **12 22 10.0 +0.4**

UPC	Upice	76.15	0	*e*P		P	12 22 10.2	+0.4		
WERD	Werda	76.16	3	*e*P		P	12 22 10.0	+0.1		
	comp=Z,62nm,1.9s,mb5.2									
TANN	Tannenbergstha	76.20	2	*e*P		P	12 22 10.2	+0.1		
	comp=Z,95nm,2.1s,mb5.4									
TNS	Taunus Mts	76.23	5	*e*P		P	12 22 10.3	0.0		
	comp=Z,25nm,1.1s,mb5.1									
TNS				*es*P		sP	12 22 26.5	-1.1		
TNS	Taunus Mts	76.23	5	*e*P		P	12 22 10.3	0.0		
TNS				*e*SP		sP	12 22 26.6	-1.0		
TNS				pmax	pmax					
	comp=Z,25nm,1.1s,mb5.1									
TNS	Taunus Mts	76.23	5	*e*P		P	12 22 10.3	0.0		
	comp=Z,25nm,1.1s,mb5.1									
TNS				*es*P		sP	12 22 26.6	-1.0		
GUNZ	Gunzen	76.25	2	*e*P		P	12 22 10.5	+0.2		
	comp=Z,19nm,0.9s,mb5.0									
DPC	Dobruska-Polom	76.31	360	*e*P		P	12 22 11.7	+1.0		
DPC				*e*PCP		PcP	12 22 25.6	+3.1		
DPC				AMS	AMS		13 05 10.0			
	comp=Z,1µm,18.6s									
WERN	Wernitzgruen	76.32	2	*e*P		P	12 22 11.0	+0.2		
	comp=Z,67nm,1.7s,mb5.3									
NKC	Novy Kostel	76.38	2	*e*P		P	12 22 11.5	+0.4		
OJC	Ojcow	76.39	358	*e*P		P	12 22 11.3	+0.1		
MANZ	Manzenberg	76.62	3	*e*P		P	12 22 12.6	+0.2		
	comp=Z,62nm,2.0s,mb5.2									
LVV	L'vov	76.62	355	*e*P		P	12 22 10.8	-1.7		
LVV				*e*			12 22 18.6			
WLF	Walferdange	76.65	7	*e*P		P	12 22 13.0	+0.4		
	comp=Z,35nm,1.2s,mb5.2									
WLF	Walferdange	76.65	7	P		P	12 22 13.9	+1.3		
PRU	Pruhonice	76.66	1	*e*P		P	12 22 13.4	+0.7		
PRU				*e*PCP		PcP	12 22 27.3	+3.3		
PRU				AMS	AMS		13 03 30.0			
	comp=Z,1µm,19.6s									
OKC	Ostrava-Krasne	76.81	359	*e*P		P	12 22 13.5	0.0		
OKC				AMS	AMS		13 08 30.0			
	comp=Z,900nm,15.0s									
ROTZ	Rotzenmuhle	76.84	3	*e*P		P	12 22 14.1	+0.4		
	comp=Z,49nm,1.5s,mb5.2									
MORC	Moravsky Berou	76.87	359	⇓*i*P		P	12 22 14.6	+0.7		
MORC	Moravsky Berou	76.87	359	⇓P		P	12 22 14.6	+0.7		
KWP	Kalwaria	76.88	356	*e*P		P	12 22 15.0	+1.1		
GRA1	Grafenberg Arr	76.88	3	*e*P		P	12 22 14.3	+0.4		
	comp=Z,75nm,1.5s,mb5.4									
GRA1				LR	LR					
	comp=Z,700nm,21.6s,MS4.9									
GRF	Grafenberg Arr	76.88	3	*e*P		P	12 22 14.3	+0.4		
	comp=Z,75nm,1.5s,mb5.4									
GRF				*e*L			12 57 26.8			
	comp=Z,661nm,21.6s									
GRF	Grafenberg Arr	76.88	3	*e*P		P	12 22 14.3	+0.4		
GRF				pmax	pmax					
	comp=Z,75nm,1.5s,mb5.4									
GRF				MLR	MLR					
	comp=Z,700nm,21.6s,MS4.9									
GRF	Grafenberg Arr	76.88	3	*e*P		P	12 22 14.3	+0.4		
GRF				pmax	pmax					
	comp=Z,75nm,1.5s,mb5.4									
GRF				MLR	MLR					
	comp=Z,700nm,21.6s,MS4.9									
GRFO	Grafenberg	76.88	3	*e*P		P	12 22 14.3	+0.3		
FLN	La Foliniere	76.93	11	*e*P		P	12 22 13.8	-0.4		
	comp=Z,78nm,1.2s,mb5.2									
FLN				*e*R						
	comp=Z,1µm,20.2s									
FLN	La Foliniere	76.93	11	*e*P		P	12 22 13.8	-0.4		
FLN				pmax	pmax					
	comp=Z,39nm,1.2s,mb5.2									
FLN				MLR	MLR					
	comp=Z,1µm,20.3s,MS5.3									
FLN	La Foliniere	76.93	11	*e*P		P	12 22 13.8	-0.4		
	comp=Z,39nm,1.2s,mb5.2									
FLN				LR	LR					
	comp=Z,1µm,20.3s,MS5.3									
ROSF	Rostrenen	77.00	13	*e*P		P	12 22 14.7	+0.1		
	comp=Z,232nm,1.6s,mb5.5									
ROSF	Rostrenen	77.00	13	*e*P		P	12 22 14.7	+0.1		
ROSF				pmax	pmax					
	comp=Z,116nm,1.6s,mb5.6									
ROSF	Rostrenen	77.00	13	*e*P		P	12 22 14.7	+0.1		
	comp=Z,116nm,1.6s,mb5.6									
STHS	Stebnicka Huta	77.15	357	*e*P		P	12 22 16.5	+1.1		
STHS				pmax	pmax					
	comp=Z,18nm,0.9s,mb5.0									
STHS	Stebnicka Huta	77.15	357	*e*P		P	12 22 16.5	+1.1		
	comp=Z,18nm,0.9s,mb5.0									
GRR	Gorron	77.26	12	*e*P		P	12 22 15.9	-0.2		
VRAC	Vranov	77.35	360	P		P	12 22 17.5	+1.0		
	comp=Z,6.0nm,0.6s,mb4.7,baz=356,slow=6.8,SNR=13									
VRAC	Vranov	77.35	360	⇓*i*P		P	12 22 17.7	+1.1		
VRAC	Vranov	77.35	360	⇓P		P	12 22 17.7	+1.1		
WET	Wettzell	77.48	2	*e*P		P	12 22 17.7	+0.4		
	comp=Z,34nm,1.5s,mb5.1									
WET	Wettzell	77.48	2	*e*P		P	12 22 17.7	+0.4		
WET				pmax	pmax					
	comp=Z,34nm,1.5s,mb5.1									
KHC	Kasperske Hory	77.50	2	*e*P		P	12 22 18.0	+0.6		
KHC				*ex*		x	12 22 33.1			
KHC				AMS	AMS		13 08 00.0			
	comp=Z,1µm,18.3s									
KOLS	Kolonicke sedl	77.59	356	*e*P		P	12 22 18.6	+0.7		
SHL	Shillong	77.69	296	*ex*		x	12 20 40.6			
STU	Stuttgart	77.72	5	*e*P		P	12 22 18.5	-0.1		
	comp=Z,33nm,1.3s,mb5.1									
MEZF	Maizieres J'vi	77.73	8	*e*P		P	12 22 18.9	+0.2		
	comp=Z,55nm,1.2s,mb5.0									
MEZF	Maizieres J'vi	77.73	8	*e*P		P	12 22 18.9	+0.2		
	comp=Z,55nm,1.2s,mb5.4									
TBI	Tubuai	77.75	166	*e*S		S	12 32 08.3	+0.2		
	comp=Z,1µm,32.8s									
TBI				*e*SS		SS	12 37 16.2	+7.5		
	comp=Z,300nm,26.5s									
TBI				*e*LQ			12 42 11.8			
	comp=Z,549nm,27.2s									
TBI				*e*LR		LR	12 45 55.8			
	comp=Z,2µm,33.2s,baz=347									
GEC2	GERESS Array S	77.79	2	*e*P		P	12 22 19.3	+0.3		
	comp=Z,19nm,1.3s,mb4.9									
GEC2	GERESS Array S	77.79	2	*e*P		P	12 22 19.3	+0.3		
GEC2				pmax	pmax					
	comp=Z,19nm,1.3s,mb4.9									
GERES	GERESS Array B	77.79	2	P		P	12 22 19.9	+0.9		
	comp=Z,2.4nm,0.6s,mb4.3,baz=1.7,slow=4.5,SNR=22									
UZH	Uzhgorod	77.89	356	*e*P		P	12 22 20.0	+0.4		
UZH				*e*S		S	12 32 12.0	+2.4		
CDF	Champ du Feu	77.97	6	*e*P		P	12 22 20.2	+0.2		
KECS	Kecovo	78.11	357	*e*P		P	12 22 21.3	+0.5		
KECS				pmax	pmax					
	comp=Z,7.0nm,0.7s,mb4.7									
KECS	Kecovo	78.11	357	*e*P		P	12 22 21.3	+0.5		
	comp=Z,7.2nm,0.7s,mb4.7									
BFO	Black Forest	78.11	5	*e*P		P	12 22 20.7	-0.1		
	comp=Z,51nm,1.7s,mb5.2									
BFO	Black Forest	78.11	5	*e*P		P	12 22 20.7	-0.1		
BFO				pmax	pmax					
	comp=Z,51nm,1.7s,mb5.2									
VYHS	Vyhne	78.14	358	*e*P		P	12 22 22.0	+1.0		
VYHS				pmax	pmax					
	comp=Z,18nm,1.4s,mb4.8									
VYHS	Vyhne	78.14	358	*e*P		P	12 22 22.0	+1.0		
	comp=Z,18nm,1.4s,mb4.8									
HAU	Haudompre	78.32	7	*e*P		P	12 22 22.7	+0.8		
HAU				*e*R						
	comp=Z,1µm,22.5s									
HAU	Haudompre	78.32	7	*e*P		P	12 22 22.7	+0.8		
HAU				LR	LR					
	comp=Z,1µm,22.5s,MS5.2									
FUR	Furstenfeldbru	78.41	3	*e*P		P	12 22 22.7	+0.2		
	comp=Z,68nm,1.4s,mb5.4									
FUR	Furstenfeldbru	78.41	3	*e*P		P	12 22 22.7	+0.2		
FUR				pmax	pmax					
	comp=Z,68nm,1.4s,mb5.4									
ZST	Bratislava	78.46	359	*e*P		P	12 22 23.5	+0.8		
ZST				pmax	pmax					
	comp=Z,11nm,0.8s,mb4.8									
ZST				MLR	MLR					
	comp=Z,1µm,16.5s,MS5.3									
ZST	Bratislava	78.46	359	*e*P		P	12 22 23.5	+0.8		
	comp=Z,11nm,0.8s,mb4.8									
ZST				LR	LR					
	comp=Z,1µm,16.5s,MS5.3									
HINF	Hinteralfeld	78.54	6	*e*P		P	12 22 23.1	-0.1		
PSZ	Piszkesteto	78.69	357	⇑*i*P		P	12 22 25.6	+1.6		
PSZ	Piszkesteto	78.69	357	*e*P		P	12 22 25.1	+1.1		
PSZ				pmax	pmax					
	comp=Z,32nm,1.2s,mb5.1									
PSZ	Piszkesteto	78.69	357	*e*P		P	12 22 25.1	+1.0		
	comp=Z,32nm,1.2s,mb5.1									
PSZ	Piszkesteto	78.69	357	⇓*e*P		P	12 22 25.8	+1.8		
CONA	Conrad Observa	78.73	0	*i* P		P	12 22 25.7	+1.5		
	SNR=5.9									
BURAR	Bucovina Array	78.75	354	⇓*i*P		P	12 22 25.0	+0.7		
BURAR	Bucovina Array	78.75	354	⇓P		P	12 22 25.0	+0.7		
LOR	Lormes	78.85	8	*e*P		P	12 22 24.6	-0.3		
LOR				*e*R						
	comp=Z,960nm,22.0s									
LOR	Lormes	78.85	8	*e*P		P	12 22 24.6	-0.3		
LOR				LR	LR					
	comp=Z,960nm,22.0s,MS5.1									
GUN	Gumba	78.90	302	*e*P		P	12 22 25.9	+0.7		
	comp=Z,236nm,1.3s,mb6.0									
GOF	Gofitskoye	78.95	341	⇓*i*P		P	12 22 18.0	-7.4		
GOF				pmax	pmax					
	comp=Z,130nm,1.3s,mb5.7									
SSF	Saint Saulge	79.03	9	*e*P		P	12 22 25.8	0.0		
	comp=Z,108nm,1.2s,mb5.3									
SSF	Saint Saulge	79.03	9	*e*P		P	12 22 25.8	0.0		
SSF				pmax	pmax					
	comp=Z,54nm,1.2s,mb5.3									
SSF	Saint Saulge	79.03	9	*e*P		P	12 22 25.8	0.0		
	comp=Z,54nm,1.2s,mb5.3									
KIS	Kishinev	79.08	351	*e*P		P	12 22 24.0	-2.1		
KIS				*e*			12 32 22.0			
KIS				*e*			12 32 40.0			
KIS				MLR	MLR					
	comp=N,1µm,20.0s,MS5.3									
KIS				MLR	MLR					
	comp=E,1µm,20.0s,MS5.3									
KIS				MLR	MLR					
	comp=Z,1µm,20.0s,MS5.2									
BUD	Budapest	79.15	358	*e*P		P	12 22 28.4	+1.9		
CHTO	Chiang Mai	79.19	287	*e*P		P	12 22 26.6	-0.2		
CHTO				pmax	pmax					
	comp=Z,82nm,2.0s,mb5.3									
CHTO	Chiang Mai	79.19	287	*e*P		P	12 22 26.6	-0.2		
	comp=Z,82nm,2.0s,mb5.3									
AVF	Avril sur Loir	79.28	9	*e*P		P	12 22 27.0	-0.2		
	comp=Z,131nm,1.5s,mb5.3									
AVF	Avril sur Loir	79.28	9	*e*P		P	12 22 27.0	-0.2		
AVF				pmax	pmax					
	comp=Z,65nm,1.5s,mb5.3									
AVF	Avril sur Loir	79.28	9	*e*P		P	12 22 27.0	-0.2		
	comp=Z,65nm,1.5s,mb5.3									
KKN	Kakani	79.30	303	*e*P		P	12 22 27.9	+0.6		
	comp=Z,228nm,1.4s,mb5.9									
AGT	Agartala	79.39	296	*e*P		P	12 22 30.0	+2.2		
PKI	Pulchoki	79.42	302	*e*P		P	12 22 28.3	+0.3		
	comp=Z,250nm,1.5s,mb5.9									
GKN	Gorkha	79.45	303	*e*P		P	12 22 28.5	+0.4		
	comp=Z,266nm,1.3s,mb6.0									
BGF	Bois d'Agland	79.47	9	*e*P		P	12 22 27.8	-0.4		
	comp=Z,86nm,1.3s,mb5.2									
BGF	Bois d'Agland	79.47	9	*e*P		P	12 22 27.8	-0.4		
BGF				pmax	pmax					
	comp=Z,43nm,1.3s,mb5.2									
BGF	Bois d'Agland	79.47	9	*e*P		P	12 22 27.8	-0.4		
	comp=Z,43nm,1.3s,mb5.2									
SMF	Signal de Mont	79.47	9	*e*P		P	12 22 28.1	-0.2		
DMN	Daman	79.54	303	*e*P		P	12 22 29.2	+0.6		
KBA	Koelnbreinsper	79.55	2	*i* P		P	12 22 29.9	+1.1		
	SNR=13									
TCF	Toulx Ste Croi	79.67	10	*e*P		P	12 22 28.8	-0.5		
CABF	La Chapelle	79.69	7	*e*P		P	12 22 30.1	+0.7		
	comp=Z,116nm,1.4s,mb5.3									
CABF	La Chapelle	79.69	7	*e*P		P	12 22 30.1	+0.7		
CABF				pmax	pmax					
	comp=Z,58nm,1.4s,mb5.3									
CABF	La Chapelle	79.69	7	*e*P		P	12 22 30.1	+0.7		
	comp=Z,58nm,1.4s,mb5.3									
DRGR		79.71	355	⇓*i*P		P	12 22 30.4	+0.8		
DRGR		79.71	355	⇓P		P	12 22 30.4	+0.9		
DZM	Mont Dzumac	79.71	208	LR	LR		12 50 59.7			
	comp=Z,943nm,20.5s,MS5.1,baz=201,slow=31									
DAVOX	Davos	79.74	4	P		P	12 22 31.8	+2.0		
	comp=Z,6.2nm,0.6s,mb4.7,baz=159,slow=5.7,SNR=14									
MAK	Makhachkala	80.00	337	*e*P		P	12 22 32.5	+1.3		
MAK				*e*			12 25 36.6			
MAK				*e*S		S	12 32 37.3	+5.2		
MAK				*e*			12 33 12.6			
MAK				pmax	pmax					
	comp=Z,257nm,1.2s,mb6.0									
PERS	Pernice	80.02	1	*e*P		P	12 22 31.9	+0.6		
KIV	Kislovodsk	80.08	341	P		P	12 22 32.3	+0.7		
	comp=Z,159nm,0.7s,mb6.1,SNR=5.5									
KIV	Kislovodsk	80.08	341	*c i*P		P	12 22 32.3	+0.7		
KIV				*e*			12 25 35.0			
KIV				*i* S			12 32 47.0			
KIV				pmax	pmax					
	comp=Z,47nm,1.6s,mb5.2									
KIV	Kislovodsk	80.08	341	*e*P		P	12 22 32.4	+0.8		
	comp=Z,16nm,0.6s,mb5.1									
OBKA	Obir	80.14	1	*i* P		P	12 22 33.1	+1.2		
	SNR=8.9									
KOLN	Koldanda	80.15	304	*e*P		P	12 22 32.2	+0.2		
	comp=Z,170nm,1.3s,mb5.8									
ANN	Anapa	80.18	345	*e*P		P	12 22 29.2	-2.9		
ANN				*e*S		S	12 32 30.9	-3.0		
ANN				pmax	pmax					
	comp=Z,32nm,1.4s,mb5.1									
CADS	Cadrg	80.41	2	*e*P		P	12 22 33.3	-0.1		
RKT	Rikitea	80.50	153	*e*S		S	12 32 41.7	+4.4		
	comp=Z,812nm,30.8s									
RKT				*e*SS		SS	12 37 55.4	+5.5		
	comp=Z,276nm,26.2s									
RKT				*e*LR		LR	12 47 25.2			
	comp=Z,2µm,32.8s,baz=339									
SIM	Simferopol'	80.51	347	P		P	12 22 37.6	+3.7		
SIM				pmax	pmax					
	comp=Z,180nm,13.0s									
LJU	Ljubljana	80.61	1	*e*P		P	12 22 34.9	+0.5		
MLR	Muntele Rosu	80.81	353	P		P	12 22 36.5	+0.9		
	comp=Z,3.0nm,0.7s,mb4.3,baz=51,slow=5.0,SNR=6.4									
MLR	Muntele Rosu	80.81	353	⇓*i*P		P	12 22 36.9	+1.4		
MLR	Muntele Rosu	80.81	353	⇓P		P	12 22 36.9	+1.4		
LPL	La Plagne	80.82	7	*e*P		P	12 22 35.8	+0.3		
	comp=Z,5.9nm,0.7s,mb4.3									
LPL	La Plagne	80.82	7	*e*P		P	12 22 35.8	+0.3		
LPL				pmax	pmax					
	comp=Z,3.0nm,0.7s,mb4.3									
LPL	La Plagne	80.82	7	*e*P		P	12 22 35.8	+0.3		
	comp=Z,3.0nm,0.7s,mb4.3									
LPG	La Plagne	80.84	7	*e*P		P	12 22 36.0	+0.4		
CEY	Cerknica	80.91	1	*e*P		P	12 22 36.0	-0.1		
BZS	Buzias	80.93	356	⇑*i*P		P	12 22 36.0	-0.1		
BZS	Buzias	80.93	356	⇑P		P	12 22 36.0	-0.1		
ZEI	Tsey	80.97	340	*e*P		P	12 22 36.8	+0.4		
ZEI				pmax	pmax					
	comp=Z,26nm,1.5s,mb4.9									
SOC	Sochi	80.99	343	*c i*P		P	12 22 36.7	+0.3		
SOC				*e*S		S	12 32 43.1	+0.7		
SOC				pmax	pmax					
	comp=Z,18nm,0.6s,mb5.2									
BNI	Bardonecchia	81.28	7	*e*P		P	12 22 37.3	-0.7		
BNI				pmax	pmax					
	comp=Z,27nm,1.1s,mb5.1									
BNI	Bardonecchia	81.28	7	*e*P		P	12 22 37.3	-0.7		
	comp=Z,27nm,1.1s,mb5.1									
VIVF	Saint-Julien-l	81.32	8	*e*P		P	12 22 38.1	-0.1		
ORIF	Oris-en-Rattie	81.35	7	*e*P		P	12 22 38.9	+0.5		
	comp=Z,15nm,0.7s,mb4.7									
ORIF				*e*R						
	comp=Z,1µm,21.0s									
ORIF	Oris-en-Rattie	81.35	7	*e*P		P	12 22 38.9	+0.5		
ORIF				pmax	pmax					
	comp=Z,7.0nm,0.7s,mb4.7									
ORIF	Oris-en-Rattie	81.35	7	*e*P		P	12 22 38.9	+0.5		
	comp=Z,7.3nm,0.7s,mb4.7									
MBDF	Montbardon	81.61	7	*e*P		P	12 22 39.6	-0.1		
	comp=Z,24nm,0.7s,mb5.0									
MBDF	Montbardon	81.61	7	*e*P		P	12 22 39.6	-0.1		
MBDF				pmax	pmax					
	comp=Z,12nm,0.6s,mb5.0									
MBDF	Montbardon	81.61	7	*e*P		P	12 22 39.6	-0.1		
	comp=Z,12nm,0.6s,mb5.0									
TIRR	Tirgusor	81.64	351	⇑*i*P		P	12 22 40.4	+0.5		
TIRR	Tirgusor	81.64	351	P		P	12 22 38.8	-1.1		
TIRR				pmax	pmax					
	comp=Z,6.0nm,0.8s,mb4.6									
TIRR	Tirgusor	81.64	351	P		P	12 22 38.8	-1.1		
	comp=Z,6.4nm,0.8s,mb4.6									
BEO	Belgrade	81.77	357	*i* P		P	12 22 39.7	-0.9		
ABKT	Ailbek	81.78	328	P		P	12 22 42.8	+2.2		
	comp=Z,76nm,0.6s,mb5.8,SNR=5.1									
SMRF	Simiane la Rot	82.27	8	*e*P		P	12 22 43.5	+0.3		
	comp=Z,14nm,0.6s,mb4.8									
SMRF	Simiane la Rot	82.27	8	*e*P		P	12 22 43.5	+0.3		
	comp=Z,14nm,0.6s,mb5.1									
SVIS	Svilajnac	82.27	356	*i* P		P	12 22 43.4	+0.2		
BOK	Bokaro	82.28	300	*e*P		P	12 22 43.9	+0.7		
BOK				AMb	AMB		12 22 47.7			
	comp=Z,62nm,1.5s,mb5.3									
NDI	New Delhi	82.44	309	*e*P		P	12 22 42.0	-2.1		
NDI				*e*P			12 22 44.0			
NDI				AMb	AMB		12 22 45.3			
	comp=Z,48nm,1.5s,mb5.2									
DIVS	Divcibare	82.51	357	*i* P		P	12 22 44.8	+0.3		
SBF	Sospel	82.51	6	*e*P		P	12 22 44.2	-0.3		
MTLF	Montolieu	82.59	10	*e*P		P	12 22 44.3	-0.5		
	comp=Z,6.9nm,0.7s,mb4.5									
MTLF	Montolieu	82.59	10	*e*P		P	12 22 44.3	-0.5		
MTLF				pmax	pmax					
	comp=Z,3.0nm,0.7s,mb4.4									
MTLF	Montolieu	82.59	10	*e*P		P	12 22 44.3	-0.5		
	comp=Z,3.5nm,0.7s,mb4.5									
EPF	Esparros	82.68	12	*e*P		P	12 22 44.2	-1.1		
BBLS	Bajina Basta -	82.75	358	*i* P		P	12 22 47.1	+1.4		
FRF	La Foret Royal	82.76	7	*e*P		P	12 22 45.6	-0.2		
	comp=Z,17nm,0.8s,mb4.8									
FRF	La Foret Royal	82.76	7	*e*P		P	12 22 45.6	-0.2		
FRF				pmax	pmax					
	comp=Z,8.0nm,0.8s,mb4.8									
FRF	La Foret Royal	82.76	7	*e*P		P	12 22 45.6	-0.2		
	comp=Z,8.4nm,0.8s,mb4.8									
ARTV	Artvin	82.90	341	*i* P		P	12 22 47.5	+1.0		
GNI	Garni	83.31	338	P		P	12 22 51.1	+2.5		
	comp=Z,3.3nm,0.4s,mb4.7,baz=6.8,slow=13,SNR=8.7									
GNI	Garni	83.31	338	*c i*P		P	12 22 49.9	+1.3		
GNI				pmax	pmax					
	comp=Z,8.0nm,1.0s									
GNI	Garni	83.31	338	*e*P		P	12 22 50.3	+1.7		
	comp=Z,64nm,1.3s,mb5.5									
DIGO	Kars	83.34	339	*i* P		P	12 22 50.1	+1.3		
STON	Ston	83.78	359	*i* P		P	12 22 50.4	-0.6		
GRSN	GIRESUNGRSN	83.82	343	*i* P		P	12 22 51.2	0.0		
BOYT	Boyabat	83.87	346	*i* P		P	12 22 53.0	+1.5		
VTS	Vitosha	83.88	355	⇓*i*P		P	12 22 51.8	+0.3		
VTS	Vitosha	83.88	355	⇓P		P	12 22 51.8	+0.3		
PGF	Pioggiola	83.92	5	*e*P		P	12 22 52.0	+0.3		
BALT	Daday	83.97	347	*i* P		P	12 22 52.8	+0.8		
ERZM	Erzurum	84.24	341	*i* P		P	12 22 54.8	+1.4		
AQU	L'Aquila	84.28	2	*e*P		P	12 22 51.7	-1.8		
AQU				pmax	pmax					
	comp=Z,11nm,0.9s,mb5.0									
AQU	L'Aquila	84.28	2	*e*P		P	12 22 51.7	-1.8		
	comp=Z,11nm,0.9s,mb5.0									
SKO	Skopje	84.58	356	*i* P		P	12 22 55.8	+0.7		
CTKT	Corum	84.67	346	*i* P		P	12 22 56.9	+1.4		
STIP	Stip	84.82	355	*i* P		P	12 22 56.1	-0.2		
SDV	Santo Domingo	84.83	82	*e*P		P	12 22 54.3	-2.0		
	comp=Z,28nm,1.4s,mb5.2									
ELDT	Eldivan	84.99	347	*i* P		P	12 22 58.6	+1.4		
CTA	Charters Tower	85.09	226	LR	LR		12 56 32.8			
	comp=Z,307nm,20.1s,MS4.7,baz=31,slow=33									
VAY	Valandovo	85.17	355	*i* P		P	12 22 58.2	+0.2		
KAKA	Kakadu	85.33	241	*e*P		P	12 22 57.3	-1.6		
	comp=Z,25nm,1.2s,mb5.2									
ESDC	Sonseca Array	85.38	15	P		P	12 22 59.5	+0.4		
	comp=Z,0.9nm,0.5s,mb4.2,baz=338,slow=5.2,SNR=9.4									
ESDC				LR	LR		13 03 20.2			
	comp=Z,735nm,19.5s,MS5.1,baz=315,slow=37									
OHR	Ohrid	85.46	356	*i* P		P	12 22 59.6	+0.2		
AJM	Ajmer	85.50	310	*e*P		P	12 22 59.7	+0.1

1.2nm,0.8s,baz=55,slow=9.4,SNR=8.9
FITZ Fitzroy Crossi 28.10 243 P P 12 20 54.4 0.0
0.7nm,0.5s,baz=62,slow=11,SNR=2.7
TORD Torodi Ar. Bea 149.78 285 PKPbc PKPbc 12 34 53.7 +0.9
0.3nm,0.4s,baz=67,slow=3.6,SNR=6.2

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*ISCJB **25** 12:26:30.1±0.9, 1195N×12630E±007, h10km,*
mb3.8/4, Error ellipse: s-maj=10.4km s-min=8.2km
az=112.2
*MAN **25** 12:26:30.8, 1200N×12625E, h15km, mb3.6, ML4.7, MS2.4*
*IDC **25** 12:26:35.1±2.6, 1062N×12373E, h0km, mb3.7/4,*
mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse:
s-maj=272.2km s-min=23.5km az=63.0

ISC 25 12:26:32.3±0.9, 1191N±006×12620E±007, h10km, n14,
σ1§20/16, mb3.8/4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.80**	**248**	*eP*	**Pg**	**12 26 47.3**	**-0.4**
PLP	**Palo**	**1.40**	**238**	*eP*	**Pn**	**12 26 56.5**	**-1.3**
PLP				*eS*	**Sn**	**12 27 16.7**	**+0.3**
CNP	**Catarman**	**1.62**	**292**	*eP*	**Pn**	**12 26 58.6**	**-2.2**
OCLP	**Ormoc**	**1.77**	**242**	*eP*	**Pn**	**12 27 03.9**	**+1.0**
MSLP	**Maasin**	**2.20**	**217**	*eP*	**Pn**	**12 27 09.9**	**+1.1**
SCPH	**Surigao**	**2.22**	**198**	*iP*	**Pn**	**12 27 08.1**	**-1.1**
PVCP	**Virac**	**2.61**	**310**	*iP*	**Pn**	**12 27 12.2**	**-2.3**
PVCP				*i*	**Sn**	**12 27 47.0**	**+0.9**
PVCP	**Virac**	**2.61**	**310**	*eP*	**Pn**	**12 27 12.6**	**-1.9**
GUIM	**Jordan**	**3.76**	**351**	*eP*	**Pn**	**12 27 30.3**	**0.0**
OTRP	**Odiongan**	**4.11**	**277**	*eP*	**Pn**	**12 27 38.0**	**+2.9**
WRA	**Warramunga Arr**	**32.65**	**166**	P	**P**	**12 33 03.5**	**-0.8**
	0.4nm,0.8s,mb3.4,baz=338,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**36.15**	**168**	P	**P**	**12 33 35.4**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=345,slow=6.9,SNR=8.3						
STKA	**Stephens Creek**	**45.97**	**162**	P	**P**	**12 34 55.9**	**+0.5**
	2.6nm,0.9s,mb4.2,baz=337,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**50.70**	**322**	P	**P**	**12 35 33.1**	**+1.2**
	1.4nm,0.7s,mb4.0,baz=114,slow=7.5,SNR=16						

IDC 25 12:52:56.4±1.9, 101N×12652E, h0km, mb3.7/3, mb1 4.0/3,
mb1mx3.6/16, mbtmp3.8/3, Error ellipse:
s-maj=171.3km s-min=23.4km az=66.0, Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.19**	**160**	P	P	12 57 53.1	-1.0
	1.5nm,0.4s,baz=339,slow=11,SNR=34						
WB2	**Warramunga Arr**	**22.19**	**160**	*eP*	P	12 57 53.0	-1.2
ASAR	**Alice Springs**	**25.56**	**164**	P	P	12 58 28.1	+1.3
	1.0nm,0.3s,baz=344,slow=11,SNR=16						
MKAR	**Makanchi Array**	**59.67**	**326**	P	P	13 03 02.5	+0.1
	0.3nm,0.4s,baz=120,slow=7.9,SNR=13						

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*IDC **25** 12:59:10.5±0.8, 5371N×16383W, h0km, mb4.2/22,*
mb1 4.3/23, mb1mx4.3/31, mbtmp4.2/23, ML4.2/1, MS4.0/7,
Ms1 4.0/7, ms1mx3.7/40, Error ellipse: s-maj=24.2km
s-min=13.7km az=179.0
*ISCJB **25** 12:59:12.4±1.5, 5361N±008×16361W±005, h27km±9km,*
mb4.5/46, MS4.0/9, Error ellipse: s-maj=12.9km
s-min=5.1km az=166.4
*NEIC **25** 12:59:12.3±1.7, 5361N×16373W, h15km±10km, mb4.6/18,*
ML4.0(AEIC), Error ellipse: s-maj=10.2km s-min=4.0km
az=167.0
*BJI **25** 12:59:12.6, 5409N×16389W, h15km, mB5.2, mb4.7, Ms4.4,*
Msz4.3
*SZGRF **25** 12:59:19.5, 5395N×16155W, h33km, mb4.8, South of*
Alaska

ISC 25 12:59:12.3±1.9, 5357N±007×16367W±005, h17km±11km,
h22km±4.8km; pP-P, n101, σ0§97/101, mb4.5/46, MS4.0/9, 1C,
Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.29**	**7**	P	**Pn**	**12 59 37.0**	**+1.5**
FALS				S	**Sn**	**12 59 56.0**	**+3.6**
AKA	**Akutan**	**1.36**	**295**	P	**Pn**	**12 59 37.0**	**+0.5**
AKA				S	**Sn**	**12 59 55.2**	**+1.1**
AKUT	**Akutan**	**1.37**	**295**	P	**Pn**	**12 59 36.9**	**+0.4**
AKUT				S	**Sn**	**12 59 55.6**	**+1.4**
AKLV	**Akutan Long Va**	**1.48**	**294**	P	**Pn**	**12 59 38.1**	**+0.1**
AKGG	**Akutan Green G**	**1.51**	**295**	P	**Pn**	**12 59 39.0**	**+0.5**
UNV	**Unalaska Valle**	**1.71**	**280**	P	**Pn**	**12 59 40.4**	**-0.7**
SDPT	**Sand Point**	**2.58**	**45**	P	**Pn**	**12 59 54.5**	**+1.3**
OKCD	**Okmok Cone D**	**2.66**	**269**	P	**Pn**	**12 59 54.3**	**+0.1**
OKCE	**Okmok Cone E**	**2.69**	**269**	P	**Pn**	**12 59 54.9**	**+0.2**
CHGN	**Chignik**	**4.08**	**46**	*eP*	**Pn**	**13 00 15.0**	**+1.2**
KDAK	**Kodiak Island**	**7.55**	**52**	Pn	**Pn**	**13 01 00.2**	**-1.3**
	3.9nm,0.3s,baz=231,slow=9.2,SNR=18						
KDAK				Sn	**Sn**	**13 02 22.1**	**-4.6**
	0.8nm,0.3s,baz=344,slow=20,SNR=3.8						
KDAK	**Kodiak Island**	**7.55**	**52**	*e*Pn	**Pn**	**13 00 58.9**	**-2.6**
SVW2	**Sparrevohn**	**8.71**	**27**	*eP*	**Pn**	**13 01 19.5**	**+2.1**
AMKA	**Amchitka**	**10.62**	**265**	*e*Pn	**Pn**	**13 01 41.6**	**-1.9**
PMR	**Palmer**	**11.18**	**38**	*eP*	**Pn**	**13 01 51.3**	**+0.1**
	3.5nm,0.6s						
EYAK	**Cordova Ski Ar**	**11.97**	**47**	*e*Pn	**Pn**	**13 02 00.9**	**-1.1**
DIV	**Divide**	**12.24**	**45**	*e*Pn	**Pn**	**13 02 04.4**	**-1.3**
COLA	**College**	**13.87**	**29**	*e*Pn	**Pn**	**13 02 27.7**	**-0.3**
	11nm,1.1s						
MENT	**Mentasta**	**14.02**	**40**	Pn	**Pn**	**13 02 25.5**	**-4.5**
DLBC	**Dease Lake**	**19.29**	**62**	*e*Pn	**Pn**	**13 03 37.5**	**+0.3**
INK	**Inuvik**	**20.46**	**32**	P	**P**	**13 03 47.4**	**-1.5**
	2.4nm,0.3s,baz=231,slow=9.2,SNR=33						
INK				LR	LR	13 13 19.7	
	comp=Z,461nm,18.8s,MS3.9,baz=233,slow=42						
INK	**Inuvik**	**20.46**	**32**	*e*Pn	**P**	**13 03 47.5**	**-1.5**
YKA	**Yellowknife Ar**	**26.83**	**51**	P	**P**	**13 04 53.4**	**+1.8**
	1.0nm,0.4s,mb3.7,baz=274,slow=9.1,SNR=20						
YKA				LR	LR	13 16 29.4	
	comp=Z,169nm,18.9s,MS3.6,baz=320,slow=39						
YKA	**Yellowknife Ar**	**26.83**	**51**	P	**P**	**13 04 53.4**	**+1.8**
YKA				LR	LR	13 16 29.4	
YBH	**Yreka Blue Hor**	**29.61**	**97**	LR	LR	13 14 24.6	
	comp=Z,116nm,19.7s,MS3.5,baz=269,slow=31						
TIXI	**Tiksi**	**33.51**	**328**	*eP*	**P**	**13 05 49.4**	**-1.4**
	3.3nm,0.6s,mb4.4						
RES	**Resolute Bay**	**33.77**	**26**	*eP*	**P**	**13 05 52.2**	**-0.8**
	72nm,0.5s						
NVAR	**Mina Array Bea**	**34.32**	**98**	P	**P**	**13 06 00.1**	**+2.4**
	0.5nm,0.7s,mb3.6,baz=290,slow=10,SNR=3.8						
YAK	**Yakutsk**	**34.98**	**311**	*eP*	**P**	**13 06 01.2**	**-2.3**
	11nm,0.6s,mb5.0						
ASAJ	**Asahikawa**	**35.81**	**277**	LR	LR	13 18 38.2	
	comp=Z,254nm,20.4s,MS4.0,baz=172,slow=33						
PDAR	**Pinedale Array**	**36.82**	**85**	P	**P**	**13 06 21.4**	**+2.1**
	0.4nm,0.6s,mb3.5,baz=316,slow=5.0,SNR=3.0						
PV01	**Paradox Valley**	**40.30**	**90**	*eP*	**P**	**13 06 48.7**	**+0.3**
MAJO	**Matsushiro**	**43.16**	**271**	*eP*	**P**	**13 07 11.9**	**+0.1**
	7.1nm,0.8s,mb4.5						
MAT	**Matsushiro**	**43.16**	**271**	P	**P**	**13 07 12.0**	**+0.1**
MJAR	**Matsushiro Arr**	**43.16**	**271**	P	**P**	**13 07 12.1**	**+0.2**
	1.1nm,0.5s,mb3.9,baz=37,slow=6.7,SNR=6.4						
KSRS	**Korea Array**	**48.64**	**280**	P	**P**	**13 07 55.0**	**-0.1**
	3.3nm,0.6s,mb4.5,baz=52,slow=7.1,SNR=17						
KSRS				LR	LR	13 28 17.7	
	comp=Z,94nm,18.3s,MS3.8,baz=305,slow=36						
TXAR	**Lajitas Array**	**49.34**	**95**	P	**P**	**13 08 01.4**	**+0.9**
	0.4nm,0.4s,mb3.8,baz=297,slow=5.5,SNR=13						
TXAR	**Lajitas Array**	**49.34**	**95**	P	**P**	**13 08 01.4**	**+0.9**
SCHQ	**Schefferville**	**52.15**	**47**	P	**P**	**13 08 21.5**	**-0.2**
	4.3nm,0.9s,mb4.4,baz=311,slow=9.6,SNR=3.5						
SONM	**Songino Array**	**53.59**	**303**	P	**P**	**13 08 32.4**	**+0.1**
	3.0nm,0.4s,mb4.5,baz=39,slow=8.1,SNR=63						
WVT	**Waverly**	**53.89**	**76**	*eP*	**P**	**13 08 33.0**	**-1.5**
	6.5nm,1.0s,mb4.5						
KEV	**Kevo**	**56.73**	**356**	*ep*	**P**	**13 08 52.4**	**-2.6**
	3.2nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**57.02**	**356**	P	**P**	**13 08 56.0**	**-1.1**
	0.7nm,0.3s,mb4.1,baz=12,slow=7.4,SNR=10						
ZAL	**Zalesovo**	**58.81**	**320**	P	**P**	**13 09 09.4**	**-0.1**
	1.1nm,0.5s,mb4.2,baz=52,slow=7.4,SNR=5.6						
ZAL				LR	LR	13 37 45.5	
	comp=Z,324nm,18.1s,MS4.5,baz=334,slow=40						
GTA	**Gaotai**	**62.93**	**300**	*eP*	**P**	**13 09 37.0**	**-0.6**
GTA				AP	pP	13 09 43.3	+0.1
GTA				XP	sP	13 09 46.3	+1.0
GTA				PP	PP	13 11 58.0	+2.0
GTA				S	**S**	**13 18 03.5**	**-3.2**
GTA				SS	SS	13 22 09.0	-3.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,288nm,4.6s						
GTA				LR	LR		
	comp=N,202nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=E,251nm,16.0s,MS4.6						
GTA				LR	LR		
	comp=Z,189nm,15.6s,MS4.4						
LZH	**Lanzhou**	**63.27**	**295**	*eP*	**P**	**13 09 40.5**	**+0.6**
LZH				AP	pP	13 09 49.5	+4.0
LZH				XP	sP	13 09 53.3	+5.7
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.1						
LZH	**Lanzhou**	**63.27**	**295**	*eP*	**P**	**13 09 40.5**	**+0.6**
	comp=Z,20nm,1.3s,mb5.1						
LZH				pP	pP	13 09 49.5	+4.0
LZH				sP	sP	13 09 53.2	+5.6
CHKZ	**Chkalovo**	**64.02**	**327**	*eP*	**P**	**13 09 44.3**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3						
BRVK	**Borovoye**	**64.65**	**327**	*eP*	**P**	**13 09 48.3**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.5						
ARU	**Arti**	**65.03**	**336**	*eP*	**P**	**13 09 50.9**	**-0.6**
	comp=Z,3.9nm,0.4s,mb4.8						
FINES	**FINESS Array B**	**65.07**	**355**	P	**P**	**13 09 50.9**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.3,baz=27,slow=6.6,SNR=20						
MK31	**Makanchi Array**	**65.40**	**316**	*eP*	**P**	**13 09 52.3**	**-1.5**
MKAR	**Makanchi Array**	**65.40**	**316**	P	**P**	**13 09 52.9**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.2,baz=36,slow=7.1,SNR=25						
WMQ	**Urumqi**	**65.42**	**311**	*iP*	**P**	**13 09 55.5**	**+1.5**
WMQ				AP	pP	13 10 00.0	+0.4
WMQ				XP	sP	13 10 02.5	+0.8
WMQ				PCP	PcP	13 10 27.5	+1.6
WMQ				PP	PP	13 12 21.5	+3.6
WMQ				SCP		13 14 28.5	
WMQ				PCS		13 14 30.5	
WMQ				S	S	13 18 37.8	+0.2
WMQ				XS	sS	13 18 45.5	-1.4
WMQ				SCS	ScS	13 19 46.5	-2.2
WMQ				AMB	AMB		
	comp=Z,210nm,5.5s						
WMQ				LR	LR		
	comp=N,142nm,19.3s,MS4.2						
WMQ				LR	LR		
	comp=E,96nm,22.3s,MS4.2						
WMQ				LR	LR		
	comp=Z,99nm,17.0s						
NB2	**NORSAR Subarra**	**65.66**	**3**	P	**P**	**13 09 55.2**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**65.66**	**3**	P	**P**	**13 09 55.2**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=359,slow=7.0,SNR=4.7						
HFS	**Hagfors**	**66.62**	**1**	P	**P**	**13 10 01.0**	**-0.7**
	comp=Z,4.9nm,0.4s,mb4.9,baz=26,slow=3.8,SNR=40						
GYA	**Guiyang**	**68.97**	**286**	*eP*	**P**	**13 10 19.3**	**+2.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
EKA	**Eskdalemuir Ar**	**70.28**	**12**	P	**P**	**13 10 24.8**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=344,slow=4.1,SNR=9.2						
AKTK	**Aktyubinsk**	**70.59**	**333**	P	**P**	**13 10 26.6**	**+0.1**
AKTO	**Aktyubinsk**	**70.59**	**333**	P	**P**	**13 10 26.6**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.6,baz=36,slow=5.3,SNR=15						
PPT	**Papeete**	**71.88**	**166**	LR	LR	13 37 58.9	
	comp=Z,153nm,19.7s,MS4.3,baz=83,slow=32						
AAK	**Ala-Archa**	**71.97**	**319**	*eP*	**P**	**13 10 33.6**	**-1.2**
	comp=Z,8.4nm,1.1s,mb4.6						
LSA	**Lhasa**	**74.94**	**300**	P	**P**	**13 10 53.8**	**+1.5**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**74.94**	**300**	*eP*	**P**	**13 10 53.5**	**+1.2**
	comp=Z,5.9nm,0.5s,mb4.8						
AKASG	**Malin Array Be**	**75.53**	**352**	P	**P**	**13 10 54.8**	**-1.0**
	comp=Z,4.1nm,0.5s,mb4.6,baz=10,slow=5.7,SNR=14						
KIEV	**Kiev**	**75.54**	**352**	*eP*	**P**	**13 10 54.4**	**-1.4**
	comp=Z,4.8nm,0.6s,mb4.6						
BAIF	**Baives**	**76.24**	**8**	*eP*	**P**	**13 10 59.2**	**-0.5**
GRA1	**Grafenberg Arr**	**77.02**	**3**	*eP*	**P**	**13 11 04.8**	**+0.7**
	comp=Z,13nm,1.4s,mb4.7						
GRF	**Grafenberg Arr**	**77.02**	**3**	*eP*	**P**	**13 11 04.8**	**+0.7**
	comp=Z,13nm,1.4s,mb4.7						
ROSF	**Rostrenen**	**77.11**	**13**	*eP*	**P**	**13 11 05.0**	**+0.3**
SGMF	**Saint Gilles**	**77.29**	**13**	*eP*	**P**	**13 11 05.7**	**0.0**
GERES	**GERESS Array B**	**77.93**	**2**	P	**P**	**13 11 09.5**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=14,slow=4.5,SNR=6.4						
LOR	**Lormes**	**78.98**	**9**	*eP*	**P**	**13 11 15.3**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.1						
LOR	**Lormes**	**78.98**	**9**	*eP*	**P**	**13 11 15.3**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.2						
GUN	**Gumba**	**79.08**	**302**	*eP*	**P**	**13 11 16.2**	**+0.6**
	comp=Z,22nm,0.6s,mb5.3						
SSF	**Saint Saulge**	**79.15**	**9**	*eP*	**P**	**13 11 16.4**	**+0.4**
	comp=Z,4.0nm,0.4s,mb4.4						
AVF	**Avril sur Loir**	**79.40**	**9**	*eP*	**P**	**13 11 17.0**	**-0.3**
	comp=Z,4.4nm,0.5s,mb4.3						
AVF	**Avril sur Loir**	**79.40**	**9**	*eP*	**P**	**13 11 17.0**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.3						
KKN	**Kakani**	**79.48**	**303**	*eP*	**P**	**13 11 18.2**	**+0.4**
	comp=Z,8.2nm,0.5s,mb4.9						
BGF	**Bois d'Agland**	**79.59**	**9**	*eP*	**P**	**13 11 18.3**	**0.0**
SMF	**Signal de Mont**	**79.59**	**9**	*eP*	**P**	**13 11 18.2**	**-0.2**
PKI	**Pulchoki**	**79.60**	**303**	*eP*	**P**	**13 11 18.2**	**-0.2**
	comp=Z,14nm,0.7s,mb5.0						
GKN	**Gorkha**	**79.63**	**303**	*eP*	**P**	**13 11 18.8**	**+0.2**
	comp=Z,18nm,0.6s,mb5.2						
DMN	**Daman**	**79.72**	**303**	*eP*	**P**	**13 11 19.6**	**+0.5**
	comp=Z,15nm,0.6s,mb5.1						
TCF	**Toulx Ste Croi**	**79.79**	**10**	*eP*	**P**	**13 11 19.7**	**+0.3**
DAVOX	**Davos**	**79.87**	**4**	P	**P**	**13 11 21.4**	**+1.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=151,slow=18,SNR=5.0						
DAVOX	**Davos**	**79.87**	**4**	P	**P**	**13 11 21.4**	**+1.5**
KOLN	**Koldanda**	**80.34**	**304**	*eP*	**P**	**13 11 22.6**	**+0.2**
	comp=Z,15nm,0.8s,mb5.0						
LPL	**La Plagne**	**80.95**	**7**	*eP*	**P**	**13 11 25.6**	**-0.1**
LPG	**La Plagne**	**80.97**	**7**	*eP*	**P**	**13 11 25.8**	**0.0**
VIVF	**Saint-Julien-l**	**81.44**	**8**	*eP*	**P**	**13 11 28.4**	**+0.1**
ORIF	**Oris-en-Rattie**	**81.48**	**7**	*eP*	**P**	**13 11 28.5**	**0.0**
MBDF	**Montbardon**	**81.74**	**7**	*eP*	**P**	**13 11 29.7**	**-0.2**
	comp=Z,9.5nm,0.8s,mb4.5						
MBDF	**Montbardon**	**81.74**	**7**	*eP*	**P**	**13 11 29.7**	**-0.2**
	comp=Z,4.8nm,0.8s,mb4.5						
SMRF	**Simiane la Rot**	**82.39**	**8**	*eP*	**P**	**13 11 33.3**	**0.0**
BR131	**Keskin Array S**	**85.88**	**347**	*eP*	**P**	**13 11 51.9**	**+0.9**
	comp=Z,2.4nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**85.88**	**347**	P	**P**	**13 11 51.5**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.3,baz=13,slow=1.6,SNR=8.0						
FITZ	**Fitzroy Crossi**	**93.46**	**244**	P	**P**	**13 12 26.3**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.6,baz=41,slow=9.9,SNR=3.9						
MATP	**Matopo**	**145.61**	**340**	PKPbc	PKPbc	13 18 49.8	0.0
	comp=Z,2.1nm,0.4s,baz=302,slow=2.6,SNR=14						
TSUM	**Tsumeb**	**145.68**	**358**	PKPbc	PKPbc	13 18 50.0	+0.1
	comp=Z,1.5nm,0.4s,baz=347,slow=6.3,SNR=8.5						

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*BJI **25** 13:48:40.5, 4500N×15382E, h9km, mB4.6, mb4.0*
*ISCJB **25** 13:48:42.2±0.6, 456N±0.1×1540E±0.1, h10km, mb4.0/20,*
Error ellipse: s-maj=15.6km s-min=11.7km az=137.6
*IDC **25** 13:48:42.5±0.7, 4570N×15399E, h0km, mb3.8/14,*
mb1 4.0/15, mb1mx4.0/25, mbtmp3.9/15, ML3.6/1, Error
ellipse: s-maj=20.4km s-min=17.9km az=147.0
*NEIC **25** 13:48:43.9±0.5, 4566N×15405E, h10km, mb4.3/7, Error*
ellipse: s-maj=13.9km s-min=11.7km az=188.0

ISC 25 13:48:44.0±0.6, 457N±01×1540E±01, h10km, n30,
σ0§94/29, mb4.0/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.27**	**263**	Pn	**Pn**	**13 50 43.5**	**-0.6**
	0.7nm,0.3s,baz=72,slow=20,SNR=6.1						
MJAR	**Matsushiro Arr**	**15.02**	**238**	Pn	**Pn**	**13 52 20.0**	**+3.8**
	0.2nm,0.3s,baz=38,slow=8.9,SNR=7.9						
MAJO	**Matsushiro**	**15.02**	**238**	*e*Pn	**Pn**	**13 52 22.0**	**+5.7**
	9.6nm,0.9s						
MAT	**Matsushiro**	**15.02**	**238**	P	**Pn**	**13 52 22.4**	**+6.1**
MDJ	**Mudanjiang**	**17.26**	**275**	P	**Pn**	**13 52 45.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,12nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,64nm,3.0s						
MDJ	**Mudanjiang**	**17.26**	**275**	*e*P	**Pn**	**13 52 44.8**	**-0.3**
	comp=Z,18nm,1.2s						
KSRS	**Korea Array**	**21.13**	**256**	P	**P**	**13 53 29.1**	**+0.1**
	comp=Z,1.3nm,0.9s,mb3.2,baz=65,slow=13,SNR=2.9						
HIA	**Hailar**	**23.32**	**291**	P	**P**	**13 53 54.1**	**+1.8**
	comp=Z,3.0nm,0.6s,mb3.9						
UNV	**Unalaska Valle**	**26.46**	**58**	P	**P**	**13 54 30.5**	**+9.4**
SONM	**Songino Array**	**32.29**	**291**	P	**P**	**13 55 14.6**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.3,baz=54,slow=5.7,SNR=2.7						
GTA	**Gaotai**	**39.77**	**281**	*eP*	**P**	**13 56 17.3**	**+0.3**
GTA				AP	pP	13 56 25.0	+4.9
GTA				XP	sP	13 56 28.0	+6.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
INK	**Inuvik**	**42.19**	**32**	P	**P**	**13 56 37.3**	**+0.4**
	comp=Z,1.7nm,0.9s,mb3.7,baz=318,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**47.99**	**299**	P	**P**	**13 57 22.2**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=67,slow=6.4,SNR=14						
CHKZ	**Chkalovo**	**51.59**	**311**	*eP*	**P**	**13 57 48.8**	**-1.6**
	comp=Z,2.7nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	**13 57 53.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=35,slow=5.4,SNR=4.0						
BRVK	**Borovoye**	**52.05**	**310**	*eP*	**P**	**13 57 54.8**	**+0.9**
	comp=Z,3.6nm,0.7s,mb4.4						
SPB4	**Spitsbergen Ar**	**59.74**	**350**	P	**P**	**13 58 02.4**	**-4.0**
ARU	**Arti**	**56.20**	**318**	P	**P**	**13 58 23.8**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**59.04**	**341**	P	**P**	**13 58 43.3**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=26,slow=6.7,SNR=4.1						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**13 59 07.9**	**+1.2**
	comp=Z,0.9nm,0.7s,mb4.0,baz=295,slow=8.9,SNR=6.5						
FINES	**FINESS Array B**	**65.25**	**335**	P	**P**	**13 59 25.2**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=53,slow=7.1,SNR=11						
WRAB	**Tennant Creek**	**67.74**	**200**	*eP*	**P**	**13 59 40.7**	**-1.0**
	comp=Z,4.5nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**67.75**	**200**	P	**P**	**13 59 41.0**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.2,baz=22,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**71.44**	**199**	P	**P**	**14 00 05.0**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=13,slow=5.3,SNR=14						
AKASG	**Malin Array Be**	**72.76**	**327**	P	**P**	**14 00 11.4**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.2,baz=33,slow=6.1,SNR=7.8						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**14 00 39.9**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=304,slow=3.9,SNR=7.8						
CLL	**Collm**	**77.67**	**336**	*eP*	**P**	**14 00 41.0**	**+0.2**
BRTR	**Keskin Array B**	**79.58**	**317**	P	**P**	**14 00 51.9**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=352,slow=3.7,SNR=3.9						
GERES	**GERESS Array B**	**79.66**	**335**	P	**P**	**14 00 51.5**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=336,slow=2.9,SNR=3.7						
CFAA	**Coronel Fontan**	**144.54**	**82**	PKP	PKPdf	14 08 19.1	-1.6
	comp=Z,0.3nm,0.7s,baz=336,slow=3.9,SNR=5.0						

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*MOS **25** 13:50:04.8±1.3, 109N×78.12W, h33km, mb5.0/20, Error*
ellipse: s-maj=14.0km s-min=7.6km az=111.8
*ISCJB **25** 13:50:06.7±1.0, 134N±004×7792W±004, h42km±9km,*
mb4.6/61, MS3.6/5, Error ellipse: s-maj=7.1km
s-min=6.7km az=112.2
*NEIC **25** 13:50:07.4±1.1, 125N×7791W, h43km±10km, mb4.8/52,*
Error ellipse: s-maj=10.1km s-min=7.1km az=47.0
*BJI **25** 13:50:07.3, 120N×7790W, h42km, mB5.4, Ms4.3, Msz4.1*
*IDC **25** 13:50:11.3±2.0, 149N×7770W, h72km±19km, mb3.8/14,*
mb1 4.1/18, mb1mx4.0/27, mbtmp4.0/18, MS3.6/6,
Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=20.9km
s-min=12.1km az=63.0

ISC 25 13:50:08.7±0.8, 126N±004×7790W±004, h46km±7km, n173,
σ1§27/153, mb4.6/61, MS3.7/4, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**1.15**	**209**	*e*Pn	**Pn**	**13 50 27.8**	**-0.6**
ROSC	**El Rosal**	**5.05**	**45**	P	**Pn**	**13 51 22.

comp=Z,10.0nm,0.8s,mb4.6
WCI Wyandotte Cave 37.59 349 *e*P P 13 57 17.9 -0.9
comp=Z,9.8nm,0.8s,mb4.6
SIUC Southern Illin 37.75 345 *e*P P 13 57 19.7 -0.4
comp=Z,12nm,0.8s,mb4.7
WMOK Wichita Mounta 38.59 332 *e*P P 13 57 29.0 +1.9
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
WMOK Wichita Mounta 38.59 332 *e*P P 13 57 29.0 +1.9
comp=Z,3.1nm,0.8s,mb4.1
MNTX Cornudas Mount 39.88 322 *e*P P 13 57 36.4 -1.5
comp=Z,5.8nm,0.9s,mb4.3
ALLY Alegheny Colle 40.26 357 *e*P P 13 57 41.3 +0.2
KSU1 Kansas State U 41.37 338 *e*P P 13 57 46.2 -4.0
comp=Z,13nm,0.7s,mb4.7
TRQA Tornquist 41.79 161 *e*P P 13 57 53.4 -0.3
comp=Z,30nm,1.5s,mb4.7
BNM Barren Site 42.33 324 *e*P P 13 57 58.2 +0.1
CBKS Cedar Bluff 42.39 334 *e*P P 13 57 56.2 -2.3
CBKS pmax pmax
comp=Z,13nm,0.7s,mb4.7
CBKS Cedar Bluff 42.39 334 *e*P P 13 57 56.1 -2.4
comp=Z,13nm,0.7s,mb4.7
CBKS *e*ScP ScP 14 03 36.7 -1.2
ANMO Albuquerque 42.80 325 *e*P P 13 58 02.4 +0.5
ANMO Albuquerque 42.80 325 *e*P P 13 58 01.3 -0.6
comp=Z,7.9nm,0.8s,mb4.5
LAZ Ladron 42.81 324 *e*P P 13 58 02.3 +0.3
JFWS Jewell Farm 42.92 347 *e*P P 13 57 58.4 -4.5
JFWS pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
JFWS Jewell Farm 42.92 347 *e*P P 13 57 58.4 -4.4
comp=Z,10nm,0.6s,mb4.7
SDCO Great Sand Dun 44.31 328 *e*P P 13 58 14.0 0.0
comp=Z,13nm,0.7s,mb4.8
ISCO Idaho Springs 45.91 330 *e*P P 13 58 28.1 +1.4
ISCO pmax pmax
comp=Z,20nm,1.6s,mb4.8
ISCO Idaho Springs 45.91 330 *e*P P 13 58 28.1 +1.4
comp=Z,20nm,1.6s,mb4.8
WUAZ Wupatki 46.14 321 *e*P P 13 58 27.9 -0.6
comp=Z,18nm,1.2s,mb4.9
PV01 Paradox Valley 46.25 326 *e*P P 13 58 30.3 +0.9
PHWY Pilot Hill 46.99 332 *e*P P 13 58 36.2 +1.1
SRU San Rafael 48.03 326 *e*P P 13 58 44.0 +0.8
RSSD Black Hills 48.58 335 *e*P P 13 58 46.8 -0.7
RSSD pmax pmax
comp=Z,18nm,1.1s,mb5.0
RSSD Black Hills 48.58 335 *e*P P 13 58 46.8 -0.8
comp=Z,18nm,1.1s,mb5.0
ARUT Antelope Range 48.87 322 *e*P P 13 58 51.4 +1.7
DAU Daniels Canyon 49.33 326 *e*P P 13 58 52.1 -1.1
JLU Jordanelle 49.57 326 *e*P P 13 58 59.8 +4.7
DUG Dugway 50.06 325 *e*P P 13 58 58.9 +0.1
DUG pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
DUG Dugway 50.06 325 *e*P P 13 58 58.9 +0.1
comp=Z,1.2nm,0.7s,mb4.0
PDAR Pinedale Array 50.10 330 P P 13 58 59.4 +0.3
comp=Z,0.6nm,0.8s,mb3.7,baz=131,slow=10,SNR=5.5
PDAR PcP PcP 14 00 17.4 -0.7
comp=Z,1.1nm,0.8s,baz=132,slow=1.3,SNR=2.9
HWUT Hardware Ranch 50.33 327 *e*P P 13 58 59.5 -1.3
comp=Z,2.5nm,0.6s,mb4.4
ISA Isabella 50.88 317 P P 13 59 03.3 -1.6
ULM Lac du Bonnet 51.16 345 P P 13 59 06.5 -0.6
comp=Z,7.0nm,0.7s,mb4.7,baz=162,slow=4.3,SNR=12
ULM Lac du Bonnet 51.16 345 *e*P P 13 59 01.3 -5.7
comp=Z,12nm,0.8s,mb4.9
REDW Red Top Meadow 51.19 329 *e*P P 13 59 05.5 -1.8
comp=Z,6.6nm,0.9s,mb4.6
LOHW Long Hollow 51.24 330 *e*P P 13 59 09.2 +1.5
comp=Z,3.0nm,0.7s,mb4.3
MOOW Moose Ponds 51.41 330 *e*P P 13 59 10.8 +1.8
comp=Z,12nm,1.5s,mb4.6
IMW Indian Meadow 51.62 330 *e*P P 13 59 10.8 +0.3
comp=Z,6.1nm,0.8s,mb4.6
RLMT Red Lodge 51.70 332 *e*P P 13 59 10.3 -0.9
comp=Z,4.8nm,0.9s,mb4.4
YMR Madison River 52.19 330 *e*P P 13 59 15.0 +0.3
comp=Z,7.3nm,0.8s,mb4.7
NVAR Mina Array Bea 52.31 320 P P 13 59 15.5 -0.2
comp=Z,1.9nm,0.7s,mb4.2,baz=124,slow=7.0,SNR=9.7
NVAR PcP PcP 14 00 26.7 +0.4
comp=Z,3.5nm,0.6s,baz=138,slow=4.0,SNR=8.6
NVAR Mina Array Bea 52.31 320 P P 13 59 15.5 -0.2
NVAR PcP PcP 14 00 26.7 +0.4
GCMT Greycliff 52.39 332 *e*P P 13 59 14.9 -1.3
QLMT Earthquake Lak 52.53 330 *e*P P 13 59 21.8 +4.5
HLID Hailey 53.20 327 *e*P P 13 59 22.8 +0.6
comp=Z,6.7nm,1.3s,mb4.4
MCMT McKenzie Canyo 53.24 329 P P 13 59 22.2 -0.4
SCHQ Schefferville 54.17 8 *e*P P 13 59 29.0 -0.3
comp=Z,20nm,1.2s,mb4.9
WVOR Wild Horse Val 54.87 324 *e*P P 13 59 34.0 -0.4
WVOR pmax pmax
comp=Z,21nm,1.4s,mb5.0
WVOR Wild Horse Val 54.87 324 *e*P P 13 59 34.0 -0.4
comp=Z,21nm,1.4s,mb5.0
OHCM Honcut 54.87 319 P P 13 59 35.0 +0.6
MSO Missoula 55.19 331 P P 13 59 38.1 +1.4
comp=Z,5.3nm,1.2s,mb4.5
YBH Yreka Blue Hor 56.95 321 P P 13 59 48.9 -0.4
comp=Z,0.9nm,0.5s,mb4.0,baz=139,slow=11,SNR=3.0
NEW Newport 57.74 330 *e*P P 13 59 51.8 -3.1
comp=Z,3.9nm,0.6s,mb4.6
EDM Edmonton 59.53 336 *e*P P 14 00 02.8 -4.5
YKA Yellowknife Ar 66.96 342 P P 14 00 53.7 -2.8
comp=Z,1.8nm,0.7s,mb4.2,baz=134,slow=5.8,SNR=7.3
YKA Yellowknife Ar 66.96 342 P P 14 00 53.7 -2.8
DLBC Dease Lake 70.04 334 P P 14 01 11.8 -4.0
LIC Lamto 72.84 84 *e*P P 14 01 31.2 -1.4
comp=Z,14nm,0.7s,mb4.7
LIC Lamto 72.84 84 *e*P P 14 01 31.2 -1.4
comp=Z,6.9nm,0.7s,mb4.7
INK Inuvik 76.70 342 P P 14 01 52.8 -2.1
comp=Z,2.4nm,0.7s,mb4.2,baz=127,slow=6.6,SNR=12
INK Inuvik 76.70 342 *e*P P 14 01 52.5 -2.3
comp=Z,559nm,1.3s
ESDC Sonseca Array 76.86 50 P P 14 01 54.8 -1.0
comp=Z,1.0nm,0.8s,mb3.8,baz=262,slow=6.2,SNR=2.7
EGAK Eagle 77.73 337 *e*P P 14 01 58.6 -2.1
comp=Z,8.1nm,1.0s,mb4.6
ROSF Rostrenen 78.87 41 *e*P P 14 02 08.2 +1.2
SJPF Ste Jean 79.42 46 *e*P P 14 02 11.1 +1.1
TOA0 Torodi Ar. Sit 79.58 77 *e*P P 14 02 08.5 -2.3
TORD Torodi Ar. Bea 79.58 77 P P 14 02 09.4 -1.5
comp=Z,1.5nm,0.6s,mb4.1,baz=280,slow=4.5,SNR=9.6
TORD LR LR 14 38 00.9
comp=Z,88nm,18.0s,MS4.2,baz=155,slow=36
COLA College 80.44 336 *e*P P 14 02 09.3 -6.2
GRR Gorron 80.46 41 *e*P P 14 02 16.7 +1.1
comp=Z,69nm,1.2s,mb5.2
GRR Gorron 80.46 41 *e*P P 14 02 16.7 +1.1
GRR pmax pmax
comp=Z,34nm,1.2s,mb5.2
GRR Gorron 80.46 41 *e*P P 14 02 16.7 +1.1
comp=Z,34nm,1.2s,mb5.2
EPF Esparros 80.55 47 *e*P P 14 02 17.2 +1.1
comp=Z,48nm,1.3s,mb5.0
EPF Esparros 80.55 47 *e*P P 14 02 17.2 +1.1
EPF pmax pmax
comp=Z,24nm,1.3s,mb5.0
EPF Esparros 80.55 47 *e*P P 14 02 17.2 +1.1
comp=Z,24nm,1.3s,mb5.0
LDF La Druitiere 80.98 41 *e*P P 14 02 19.0 +0.6
comp=Z,142nm,1.4s,mb5.4
LDF La Druitiere 80.98 41 *e*P P 14 02 19.0 +0.6
LDF pmax pmax
comp=Z,71nm,1.4s,mb5.4
LDF La Druitiere 80.98 41 *e*P P 14 02 19.0 +0.6
comp=Z,71nm,1.4s,mb5.4
CAF Calviac 82.00 45 *e*P P 14 02 24.8 +1.0
TCF Toulx Ste Croi 82.25 44 *e*P P 14 02 26.1 +1.0
BGF Bois d'Agland 82.72 43 *e*P P 14 02 28.3 +0.8
AVF Avril sur Loir 83.09 43 *e*P P 14 02 30.2 +0.7
comp=Z,33nm,1.4s,mb4.9
AVF Avril sur Loir 83.09 43 *e*P P 14 02 30.2 +0.7
AVF pmax pmax
comp=Z,17nm,1.4s,mb4.9
AVF Avril sur Loir 83.09 43 *e*P P 14 02 30.2 +0.7
comp=Z,17nm,1.4s,mb4.9
SSF Saint Saulge 83.22 43 *e*P P 14 02 30.9 +0.8
comp=Z,9.9nm,1.0s,mb4.5
SSF Saint Saulge 83.22 43 *e*P P 14 02 30.9 +0.8
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SSF Saint Saulge 83.22 43 *e*P P 14 02 30.9 +0.8
comp=Z,4.9nm,1.0s,mb4.5
SMF Signal de Mont 83.41 43 *e*P P 14 02 31.8 +0.7
VIVF Saint-Julien-l 83.84 45 *e*P P 14 02 33.9 +0.6
VNA3 Neumayer Olymp 84.30 162 *e*P P 14 02 40.1 +4.5
VNA3 *e* 14 02 44.1
VNA3 *e* 14 02 48.3
SMRF Simiane la Rot 84.43 46 *e*P P 14 02 37.0 +0.7
comp=Z,37nm,1.1s,mb5.1
SMRF Simiane la Rot 84.43 46 *e*P P 14 02 37.0 +0.7
comp=Z,37nm,1.1s,mb5.4
VNA2 Neumayer--Watz 84.89 162 *e*P P 14 02 39.0 +0.4
VNA2 *e* 14 02 42.9
VNA2 *e* 14 02 47.0
LMR La Mourre 85.07 47 *e*P P 14 02 40.0 +0.5
comp=Z,174nm,1.7s,mb5.6
LMR La Mourre 85.07 47 *e*P P 14 02 40.0 +0.5
LMR pmax pmax
comp=Z,87nm,1.7s,mb5.6
LMR La Mourre 85.07 47 *e*P P 14 02 40.0 +0.5
comp=Z,87nm,1.7s,mb5.6
MBDF Montbardon 85.33 45 *e*P P 14 02 41.3 +0.5
LPL La Plagne 85.34 45 *e*P P 14 02 42.0 +1.1
comp=Z,17nm,1.2s,mb4.8
LPL La Plagne 85.34 45 *e*P P 14 02 42.0 +1.1
LPL pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
LPL La Plagne 85.34 45 *e*P P 14 02 42.0 +1.1
comp=Z,8.4nm,1.2s,mb4.8
LPG La Plagne 85.35 45 *e*P P 14 02 41.8 +0.9
comp=Z,34nm,1.3s,mb5.0
LPG La Plagne 85.35 45 *e*P P 14 02 41.8 +0.9
LPG pmax pmax
comp=Z,17nm,1.3s,mb5.0
LPG La Plagne 85.35 45 *e*P P 14 02 41.8 +0.9
comp=Z,17nm,1.3s,mb5.0
CDF Champ du Feu 85.86 42 *e*P P 14 02 44.5 +1.1
comp=Z,21nm,1.2s,mb5.0
CDF Champ du Feu 85.86 42 *e*P P 14 02 44.5 +1.1
CDF pmax pmax
comp=Z,11nm,1.2s,mb5.0
CDF Champ du Feu 85.86 42 *e*P P 14 02 44.5 +1.1
comp=Z,11nm,1.2s,mb5.0
SNAA Sanae 86.51 162 *e*P P 14 02 43.5 -3.1
SNAA pmax pmax
comp=Z,10.0nm,1.2s
SNAA Sanae 86.51 162 *e*P P 14 02 43.5 -3.2
comp=Z,10nm,1.2s,mb4.9
QSPA South Pole Qui 91.30 180 *e*P P 14 03 08.9 -0.3
comp=Z,12nm,1.4s,mb5.0
ZAL Zalesovo 123.15 12 PKP PKPdf 14 08 58.9 -1.3
comp=Z,0.8nm,0.4s,baz=173,slow=3.0,SNR=4.6
MKAR Makanchi Array 129.08 17 PKP PKPdf 14 09 10.3 -1.2
comp=Z,2.1nm,1.1s,baz=317,slow=2.5,SNR=4.3
AAK Ala-Archa 129.73 26 *e*PKIKP PKPdf 14 09 12.7 -0.1
SONM Songino Array 130.97 356 PKP PKPdf 14 09 14.2 -0.9
comp=Z,1.5nm,0.9s,baz=281,slow=2.4,SNR=6.8
SONM Songino Array 130.97 356 PKP PKPdf 14 09 14.2 -0.9
WMQ Urumqi 133.31 14 ⇑PKP PKPdf 14 09 18.0 -1.5
WMQ XPKP 14 09 40.8
WMQ PP PP 14 11 48.3 +1.3
WMQ PP PP
comp=Z,112nm,5.1s
WMQ LR LR
comp=N,27nm,23.2s,MS4.0
WMQ LR LR
comp=E,17nm,19.0s,MS4.0
WMQ LR LR
comp=Z,38nm,19.0s,MS4.1
ASAR Alice Springs 141.97 232 PKhKP 14 09 31.4
comp=Z,0.5nm,0.3s,baz=117,slow=4.0,SNR=7.2
ASAR PKP PKPdf 14 09 35.4 -0.1
comp=Z,1.3nm,0.6s,baz=119,slow=3.0,SNR=12
WB2 Warramunga Arr 143.40 237 *e*P PKPdf 14 09 36.0 -2.0
WRAB Tennant Creek 143.41 237 *i* PKIKP PKPdf 14 09 36.6 -1.4
WRAB Tennant Creek 143.41 237 *e*PKPdf PKPdf 14 09 36.1 -1.9
WRA Warramunga Arr 143.41 237 PKP PKPdf 14 09 36.1 -1.9
comp=Z,1.9nm,0.8s,baz=114,slow=3.0,SNR=17
XAN Xi'an 144.31 350 PKP PKPdf 14 09 37.3 -2.3
KOLN Koldanda 146.10 30 *e*P PKPdf 14 09 43.1 +0.4
comp=Z,54nm,1.1s
GKN Gorkha 146.42 29 *e*P PKPdf 14 09 44.0 +0.8
comp=Z,99nm,1.2s
KKN Kakani 146.90 28 *e*P PKPdf 14 09 46.4 +2.4
comp=Z,57nm,1.0s
DMN Daman 146.97 28 *e*P PKPdf 14 09 46.6 +2.5
comp=Z,72nm,1.1s
GUN Gumba 147.08 27 *e*P PKPdf 14 09 47.3 +3.0
comp=Z,95nm,1.0s
PKI Pulchoki 147.15 28 *e*P PKPdf 14 09 46.8 +2.4
comp=Z,48nm,1.0s
LSA Lhasa 147.49 18 PKP PKPdf 14 09 46.8 +1.8
LSA Lhasa 147.49 18 *e*PKPbc PKPbc 14 09 47.1 -0.5
KAKA Kakadu 147.86 248 *e*P PKPdf 14 09 46.9 +1.3
comp=Z,13nm,0.6s
CD2 Chengdu 147.97 357 *e*PKP PKPbc 14 09 49.3 +0.4
FITZ Fitzroy Crossi 151.46 233 *e*P PKPbc 14 09 57.2 -0.3
comp=Z,17nm,0.9s

IDC ***25*** *13:52:49.5±0.8,5175N×176.94W, h0km, mb3.9/12, mb1 4.2/13, mb1mx4.0/28, mbtmp4.0/13, ML4.2/1, MS3.5/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=26.5km s-min=15.8km az=162.0*
ISCJB ***25*** *13:52:50.7±2.1, 519N±0.1×177.10W±0.008, h20km±16km, mb4.1/13, MS3.5/3, Error ellipse: s-maj=20.0km s-min=6.3km az=146.2*
NEIC ***25*** *13:52:52.3±2.3, 5180N×177.10W, h22km±17km, mb4.3/4, ML4.4(AEIC), Error ellipse: s-maj=16.5km s-min=8.0km az=162.0*

ISC 25 13:52:50.3±2.7, 519N±0.1×17717W±0.008, h7km±17km, n37, σ1℗02/38, mb4.1/13, MS3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.87**	**78**	P	**Pn**	**13 53 22.1**	**-0.5**
ATKA				S	**Sn**	**13 53 47.2**	**+0.8**
AMKA	**Amchitka**	**2.25**	**259**	P	**Pn**	**13 53 28.1**	**+0.2**
AMKA				S	**Sn**	**13 53 56.0**	**0.0**
OKCE	**Okmok Cone E**	**5.70**	**71**	P	**Pn**	**13 54 17.0**	**+1.7**
OKCD	**Okmok Cone D**	**5.73**	**71**	P	**Pn**	**13 54 17.0**	**+1.3**
UNV	**Unalaska Valle**	**6.76**	**69**	*e*Pn	**Pn**	**13 54 30.0**	**+0.2**
AKGG	**Akutan Green G**	**7.13**	**67**	P	**Pn**	**13 54 35.8**	**+0.8**
AKLV	**Akutan Long Va**	**7.15**	**67**	P	**Pn**	**13 54 35.8**	**+0.6**
AKUT	**Akutan**	**7.24**	**67**	*e*Pn	**Pn**	**13 54 37.7**	**+1.2**
FALS	**False Pass**	**8.75**	**65**	*e*Pn	**Pn**	**13 54 54.4**	**-2.8**
FALS				*e*Sn	**Sn**	**13 56 37.1**	**+1.0**
SVW2	**Sparrevohn**	**15.02**	**44**	*e*Pn	**Pn**	**13 56 30.1**	**+7.3**
KDAK	**Kodiak Island**	**15.30**	**58**	Pn	**Pn**	**13 56 25.6**	**-1.1**
	1.0nm,0.3s,baz=268,slow=10,SNR=8.5						
PMR	**Palmer**	**18.06**	**46**	Pn	**Pn**	**13 57 00.0**	**-1.6**
SML	**Sawmill**	**18.49**	**46**	*e*Pn	**Pn**	**13 57 07.3**	**+0.5**
MCK	**McKinley**	**18.97**	**40**	*e*P	**Pn**	**13 57 11.6**	**-1.1**
	10nm,0.8s						
MCK				*e*P		13 57 14.3	
DIV	**Divide**	**19.47**	**49**	*e*Pn	**Pn**	**13 57 19.2**	**+0.5**
	282nm,1.6s						
COLA	**College**	**19.90**	**38**	*e*P	**Pn**	**13 57 22.6**	**-1.2**
	21nm,1.0s						
MENT	**Mentasta**	**20.88**	**45**	*e*P	**P**	**13 57 33.2**	**+0.3**
INK	**Inuvik**	**26.48**	**35**	P	**P**	**13 58 28.3**	**+0.3**
	4.3nm,0.8s,mb4.0,baz=286,slow=5.8,SNR=12						
INK	**Inuvik**	**26.48**	**35**	*e*P	**P**	**13 58 27.9**	**-0.1**
	160nm,0.8s,mb5.6						
INK				P	pP	13 58 28.3	-1.9
YKA	**Yellowknife Ar**	**34.16**	**47**	P	**P**	**13 59 35.3**	**-0.6**
	2.2nm,1.1s,mb4.0,baz=282,slow=8.0,SNR=2.9						
YKA				LR	LR	14 15 10.5	
	comp=Z,11nm,18.7s,MS2.6,baz=130,slow=39						
MJAR	**Matsushiro Ar**	**34.86**	**262**	P	**P**	**13 59 45.0**	**+2.9**
	0.5nm,0.3s,mb3.9,baz=44,slow=7.7,SNR=5.4						
NEW	**Newport**	**37.76**	**71**	P	**P**	**14 00 06.3**	**-0.5**
	3.0nm,0.6s,mb4.2,baz=266,slow=3.9,SNR=5.4						
NEW	**Newport**	**37.76**	**71**	P	**P**	**14 00 06.3**	**-0.5**
MCMT	**McKenzie Canyo**	**42.06**	**73**	*e*P	**P**	**14 00 41.9**	**-0.7**
DUG	**Dugway**	**44.77**	**79**	*e*P	**P**	**14 01 02.8**	**-1.6**
	2.8nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**45.20**	**74**	P	**P**	**14 01 07.5**	**-0.3**
	2.4nm,0.6s,mb4.2,baz=305,slow=3.0,SNR=12						
ULM	**Lac du Bonnet**	**48.56**	**58**	LR	LR	14 21 53.9	
	comp=Z,88nm,18.4s,MS3.8,baz=347,slow=36						
PV01	**Paradox Valley**	**48.63**	**78**	*e*P	**P**	**14 01 34.0**	**-0.7**
TXAR	**Lajitas Array**	**57.58**	**83**	P	**P**	**14 02 40.4**	**-0.2**
	0.9nm,0.6s,mb4.0,baz=301,slow=6.0,SNR=12						
TXAR	**Lajitas Array**	**57.58**	**83**	P	**P**	**14 02 40.4**	**-0.2**
ARCES	**ARCESS Array B**	**57.78**	**351**	P	**P**	**14 02 41.3**	**-0.7**
	1.3nm,0.7s,mb4.1,baz=38,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**60.52**	**309**	P	**P**	**14 03 03.6**	**+2.6**
	0.4nm,0.8s,mb3.6,baz=46,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**61.17**	**320**	P	**P**	**14 03 06.6**	**+1.1**
	1.1nm,0.5s,mb4.2,baz=49,slow=4.7,SNR=8.2						
FINES	**FINESS Array B**	**65.53**	**348**	P	**P**	**14 03 34.2**	**0.0**
	0.4nm,0.6s,mb3.6,baz=15,slow=5.8,SNR=2.7						
GERES	**GERESS Array B**	**79.24**	**353**	LR	LR	14 43 13.3	
	comp=Z,84nm,18.1s,MS4.1,baz=358,slow=38						
WRA	**Warramunga Arr**	**83.07**	**225**	P	**P**	**14 05 15.9**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=33,slow=5.8,SNR=12						
ASAR	**Alice Springs**	**86.54**	**224**	P	**P**	**14 05 33.6**	**-0.4**
	1.4nm,0.7s,mb4.3,baz=26,slow=5.2,SNR=6.0						

NIED ***25*** *14:07:00, 3970N×142.10E, h53km, Mw4.0 Best double couple: M0 1.16000×10^15 NP1:ϕs3.00000°, δ62.00000°, λ-40.00000°. NP2:ϕs115.00000°, δ55.00000°, λ-145.00000°.*
MOS ***25*** *14:07:01.9±0.8, 3969N×142.28E, h33km, mb4.4/9, Error ellipse: s-maj=42.4km s-min=14.9km az=122.7*
ISCJB ***25*** *14:07:05.1±0.6, 3970N±0.003×142.14E±0.008, h51km±4km, mb3.9/16, Error ellipse: s-maj=9.9km s-min=4.5km az=10.0*
JMA ***25*** *14:07:06.3, 3970N×142.08E, h44km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs111.00000°, δ60.00000°, λ-148.00000°. NP2:ϕs3.00000°, δ63.00000°, λ-35.00000°. Principal axes: T Plg2.0000°, Azm58.0000°; N Plg47.0000°, Azm150.0000°; P Plg43.0000°, Azm326.0000°;*
JMA Felt II J1.
IDC ***25*** *14:07:08.0±1.9, 3971N×142.04E, h60km±16km, mb3.6/13, mb1 3.8/17, mb1mx3.7/27, mbtmp3.7/17, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29 Error ellipse: s-maj=20.8km s-min=11.4km az=101.0*
NEIC ***25*** *14:07:08.7±1.4, 3967N×141.99E, h68km±12km, mb4.4/3, Error ellipse: s-maj=15.2km s-min=8.6km az=74.0*
NEIC Recorded [2 JMA] in Iwate and [1 JMA] in Miyagi Prefectures.

ISC 25 14:07:06.5±0.6, 3970N±0.003×14209E±0.008, h46km±4km, n48, σ0℗88/61, mb3.9/16, 6C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.24**	**240**	⇑P	**Pn**	**14 07 14.3**	**-0.4**
MIYJ				S	**Sn**	**14 07 19.7**	**-0.8**
JTH	**Tanohata**	**0.30**	**324**	⇑P	**Pn**	**14 07 14.9**	**-0.3**
JTH				S	**Sn**	**14 07 21.0**	**-0.4**
JKZ	**Kuzumaki**	**0.65**	**296**	⇓P	**Pn**	**14 07 19.3**	**-0.1**
JKZ				S	**Sn**	**14 07 28.1**	**-0.6**
JOM	**Ohasama**	**0.66**	**250**	⇑P	**Pn**	**14 07 19.3**	**-0.2**
JOM				S	**Sn**	**14 07 28.5**	**-0.3**
OFUJ	**Ofunato**	**0.70**	**208**	⇑P	**Pn**	**14 07 19.6**	**-0.4**
OFUJ				S	**Sn**	**14 07 28.9**	**-0.9**
JANG	**Nango**	**0.81**	**327**	⇓P	**Pn**	**14 07 21.0**	**-0.5**
JANG				S	**Sn**	**14 07 31.8**	**-0.6**
JMK	**Ichinoseki**	**1.01**	**222**	⇑P	**Pn**	**14 07 24.0**	**-0.1**
JMK				S	**Sn**	**14 07 36.9**	**-0.3**
JAH	**Hinai**	**1.22**	**294**	⇓P	**Pn**	**14 07 27.3**	**+0.2**
JAH				S	**Sn**	**14 07 42.9**	**+0.5**
JTM	**Tenmabayashi**	**1.34**	**325**	⇓P	**Pn**	**14 07 28.6**	**-0.1**
JTM				S	**Sn**	**14 07 46.0**	**+0.7**
JIO	**Ouri**	**1.37**	**205**	⇑P	**Pn**	**14 07 28.7**	**-0.4**
JIO				S	**Sn**	**14 07 45.2**	**-0.9**
MAJO	**Matsushiro**	**4.39**	**225**	*e*Pn	**Pn**	**14 08 11.6**	**+1.0**
MAT	**Matsushiro**	**4.39**	**225**	P	**Pn**	**14 08 12.7**	**+2.1**
MAT				S	**Sn**	**14 09 03.6**	**+3.1**
MJAR	**Matsushiro Ar**	**4.39**	**225**	P	**Pn**	**14 08 12.3**	**+1.8**
	4.1nm,0.3s,baz=34,slow=13,SNR=146						
MJAR				LR	LR	14 09 59.6	
	comp=Z,168nm,20.7s,baz=160,slow=39						
ASAJ	**Asahikawa**	**4.43**	**5**	P	**Pn**	**14 08 11.9**	**+0.8**
	2.1nm,0.3s,baz=192,slow=17,SNR=23						
ASAJ				S	**Sn**	**14 09 02.5**	**+1.0**
	1.9nm,0.3s,baz=241,slow=31,SNR=7.9						
JHJ	**Hachijo jima 2**	**6.82**	**197**	P	**Pn**	**14 08 45.8**	**+1.9**
	8.2nm,0.3s,baz=73,slow=19,SNR=3.2						
JHJ				S	**Sn**	**14 09 55.8**	**-4.5**
	7.3nm,0.3s,baz=270,slow=20,SNR=3.1						
MDJ	**Mudanjiang**	**10.50**	**302**	P	**Pn**	**14 09 35.5**	**+1.3**
	8.3nm,0.9s						
KSRS	**Korea Array**	**11.32**	**263**	P	**Pn**	**14 09 48.8**	**+3.3**
	baz=70,slow=14,SNR=14						
KSRS				LR	LR	14 13 27.6	
	comp=Z,46nm,21.6s,baz=55,slow=34						
YAK	**Yakutsk**	**23.61**	**345**	P	**P**	**14 12 09.3**	**-3.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
YAK	**Yakutsk**	**23.61**	**345**	P	**P**	**14 12 09.3**	**-3.8**
	comp=Z,13nm,0.6s,mb4.5						
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**14 12 42.0**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.3,baz=76,slow=6.3,SNR=4.4						
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**14 12 42.0**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**40.57**	**310**	P	**P**	**14 14 41.3**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.1,baz=31,slow=7.3,SNR=8.6						
ZAL	**Zalesovo**	**40.57**	**310**	P	**P**	**14 14 41.3**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK31	**Makanchi Array**	**43.21**	**300**	*e*P	**P**	**14 15 02.6**	**-0.3**
MKAR	**Makanchi Array**	**43.21**	**300**	P	**P**	**14 15 02.7**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.0,baz=83,slow=9.8,SNR=19						
MKAR	**Makanchi Array**	**43.21**	**300**	P	**P**	**14 15 02.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**43.21**	**300**	P	**P**	**14 15 02.7**	**-0.2**
BVAR	**Borovoye Array**	**49.21**	**311**	P	**P**	**14 15 49.9**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=65,slow=7.6,SNR=9.0						
BVAR	**Borovoye Array**	**49.21**	**311**	P	**P**	**14 15 49.9**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**49.26**	**311**	*e*P	**P**	**14 15 50.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**49.26**	**311**	*e*P	**P**	**14 15 50.0**	**-0.4**
	comp=Z,3.6nm,1.0s,mb4.4						
INK	**Inuvik**	**51.78**	**28**	P	**P**	**14 16 10.4**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=295,slow=6.9,SNR=10						
INK	**Inuvik**	**51.78**	**28**	*e*P	**P**	**14 16 09.5**	**0.0**
ARU	**Arti**	**54.74**	**317**	*e*P	**P**	**14 16 30.7**	**-0.5**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARU	**Arti**	**54.74**	**317**	*e*P	**P**	**14 16 30.7**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**59.77**	**188**	P	**P**	**14 17 05.9**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.7,baz=6.5,slow=7.0,SNR=11						
ARCES	**ARCESS Array B**	**61.70**	**339**	P	**P**	**14 17 17.8**	**-2.0**
	comp=Z,2.1nm,0.9s,mb4.3,baz=66,slow=3.0,SNR=4.4						
ARCES	**ARCESS Array B**	**61.70**	**339**	P	**P**	**14 17 17.8**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**61.70**	**339**	P	**P**	**14 17 17.8**	**-2.0**
ASAR	**Alice Springs**	**63.49**	**188**	P	**P**	**14 17 31.6**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.7,baz=1.8,slow=6.6,SNR=3.4					

central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITEG		**0.33**	**110**	*e*Pg	Pg	14 59 12.7	-0.9
ITEG		**0.33**	**110**	*e*Pg	Pg	14 59 12.7	-0.9
ITEG		**0.33**	**110**	*e*Pg	Pg	14 59 13.4	-0.2
ITEG				*e*Sg	Sg	14 59 18.0	-0.2
ITEG				*e*Sg	Sg	14 59 18.2	0.0
IKOO		**0.79**	**138**	*e*Pg	Pg	14 59 20.6	-1.5
IKOO		**0.79**	**138**	*e*Pg	Pg	14 59 21.0	-1.1
IKOO		**0.79**	**138**	*e*Pg	Pg	14 59 21.2	-0.9
IKOO				*e*Sg	Sg	14 59 32.1	-0.4
IKOO				*e*Sg	Sg	14 59 32.1	-0.4
IMON		**1.09**	**80**	*e*Pg	Pg	14 59 25.5	-2.4
IMON		**1.09**	**80**	*e*Pg	Pg	14 59 26.6	-1.3
IMON				*e*Sg	Sg	14 59 41.3	-0.9
IDAH		**1.28**	**102**	*e*Pg	Pg	14 59 29.7	-1.8
IDAH		**1.28**	**102**	*e*Pg	Pg	14 59 29.7	-1.8
IDAH		**1.28**	**102**	*e*Pg	Pg	14 59 30.0	-1.5
IDAH				*e*Sg	Sg	14 59 47.0	-1.2
IDAH				*e*Sg	Sg	14 59 47.0	-1.2
IBAF	**Bafgh**	**2.77**	**240**	*e*Pn	Pn	14 59 50.8	+0.1
IBAF	**Bafgh**	**2.77**	**240**	*e*Pn	Pn	14 59 51.5	+0.8
IBAF	**Bafgh**	**2.77**	**240**	*e*Pn	Pn	14 59 52.1	+1.4
IBAF				*e*Sn	Sn	15 00 23.4	-0.5
IBAF				*e*Sn	Sn	15 00 23.7	-0.2
IMOG	**Moghan**	**3.19**	**14**	*e*Pn	Pn	14 59 56.3	-0.1
IMOG	**Moghan**	**3.19**	**14**	*e*Pn	Pn	14 59 56.5	+0.1
IMOG	**Moghan**	**3.19**	**14**	*e*Pn	Pn	14 59 56.9	+0.5
IMOG				*e*Sn	Sn	15 00 33.4	-0.8
IMOG				*e*Sn	Sn	15 00 33.6	-0.6
ICHK	**Chekchek**	**3.44**	**258**	*e*Pn	Pn	14 59 59.5	-0.4
ICHK				*e*Sn	Sn	15 00 38.9	-1.5
IPAY	**Payeh**	**3.47**	**8**	*e*Pn	Pn	14 59 59.9	-0.4
IPAY	**Payeh**	**3.47**	**8**	*e*Pn	Pn	15 00 00.5	+0.2
IPAY	**Payeh**	**3.47**	**8**	*e*Pn	Pn	15 00 00.5	+0.2
IPAY				*e*Sn	Sn	15 00 40.1	-1.0
IPAY				*e*Sn	Sn	15 00 40.3	-0.8
IMEH	**Mehriz**	**3.58**	**244**	*e*Pn	Pn	15 00 01.9	+0.1
IMYA	**Miamay**	**3.61**	**23**	*e*Pn	Pn	15 00 02.1	-0.2
IMYA	**Miamay**	**3.61**	**23**	*e*Pn	Pn	15 00 03.0	+0.7
IMYA	**Miamay**	**3.61**	**23**	*e*Pn	Pn	15 00 03.0	+0.7
IMYA				*e*Sn	Sn	15 00 42.9	-1.7
IMYA				*e*Sn	Sn	15 00 43.0	-1.6
ISAD	**Sadrabad**	**4.12**	**256**	*e*Pn	Pn	15 00 06.0	-3.2
ISAD	**Sadrabad**	**4.12**	**256**	*e*Pn	Pn	15 00 06.6	-2.6
ISAD				*e*Sn	Sn	15 00 54.4	-2.7
ISAD				*e*Sn	Sn	15 00 55.2	-1.9
IANJ	**Anjiloo**	**4.44**	**305**	*e*Pn	Pn	15 00 13.0	-0.6
IANJ				*e*Sn	Sn	15 01 03.7	-1.3
ISHM	**Shahmirzad**	**5.04**	**305**	*e*Pn	Pn	15 00 21.6	-0.4
ISHM	**Shahmirzad**	**5.04**	**305**	*e*Pn	Pn	15 00 21.7	-0.3
ISHM	**Shahmirzad**	**5.04**	**305**	*e*Pn	Pn	15 00 22.3	+0.3
ISHM				*e*Sn	Sn	15 01 17.1	-2.9
ISHM				*e*Sn	Sn	15 01 17.2	-2.8
ILAS	**Lasjerd**	**5.08**	**299**	*e*Pn	Pn	15 00 21.1	-1.3
ILAS	**Lasjerd**	**5.08**	**299**	*e*Pn	Pn	15 00 21.7	-0.7
ILAS	**Lasjerd**	**5.08**	**299**	*e*Pn	Pn	15 00 22.0	-0.4
ILAS				*e*Sn	Sn	15 01 16.5	-4.3
ILAS				*e*Sn	Sn	15 01 17.7	-3.1
IZEF	**Zefreh**	**5.09**	**270**	*e*Pn	Pn	15 00 21.1	-1.4
IZEF	**Zefreh**	**5.09**	**270**	*e*Pn	Pn	15 00 21.7	-0.8
IZEF	**Zefreh**	**5.09**	**270**	*e*Pn	Pn	15 00 22.2	-0.3
IZEF				*e*Sn	Sn	15 01 18.4	-2.7
IZEF				*e*Sn	Sn	15 01 18.5	-2.6
ISFB	**Sefidab**	**5.29**	**286**	*e*Pn	Pn	15 00 24.7	-0.7
ISFB	**Sefidab**	**5.29**	**286**	*e*Pn	Pn	15 00 24.7	-0.7
ISFB	**Sefidab**	**5.29**	**286**	*e*Pn	Pn	15 00 24.8	-0.6
ISFB				*e*Sn	Sn	15 01 22.2	-3.9
ISFB				*e*Sn	Sn	15 01 22.2	-3.9
IFIR	**Firoozkooh**	**5.34**	**301**	*e*Pn	Pn	15 00 25.4	-0.6
IFIR	**Firoozkooh**	**5.34**	**301**	*e*Pn	Pn	15 00 25.9	-0.1
IFIR	**Firoozkooh**	**5.34**	**301**	*e*Pn	Pn	15 00 26.5	+0.5
IFIR				*e*Sn	Sn	15 01 24.0	-3.3
IFIR				*e*Sn	Sn	15 01 24.8	-2.5
IKLH	**Kalahroud**	**5.71**	**275**	*e*Pn	Pn	15 00 30.5	-0.6
IKLH	**Kalahroud**	**5.71**	**275**	*e*Pn	Pn	15 00 30.8	-0.3
IKLH	**Kalahroud**	**5.71**	**275**	*e*Pn	Pn	15 00 30.8	-0.3
IKLH				*e*Sn	Sn	15 01 33.2	-3.2
IKLH				*e*Sn	Sn	15 01 33.5	-2.9
IDMV	**Damavand**	**5.84**	**298**	*e*Pn	Pn	15 00 32.2	-0.7
IDMV	**Damavand**	**5.84**	**298**	*e*Pn	Pn	15 00 32.6	-0.3
IDMV	**Damavand**	**5.84**	**298**	*e*Pn	Pn	15 00 32.6	-0.3
IDMV				*e*Sn	Sn	15 01 36.5	-3.2
IDMV				*e*Sn	Sn	15 01 37.2	-2.5
IVRN	**Varamin**	**5.87**	**292**	*e*Pn	Pn	15 00 32.5	-0.8
IVRN	**Varamin**	**5.87**	**292**	*e*Pn	Pn	15 00 33.2	-0.1
IVRN	**Varamin**	**5.87**	**292**	*e*Pn	Pn	15 00 33.2	-0.1
IVRN				*e*Sn	Sn	15 01 36.6	-3.7
IVRN				*e*Sn	Sn	15 01 36.7	-3.6
IVRN				*e*Lg		15 02 09.9	
IPIR	**Pirpir**	**6.31**	**269**	*e*Pn	Pn	15 00 38.9	-0.4
IPIR	**Pirpir**	**6.31**	**269**	*e*Pn	Pn	15 00 39.9	+0.6
IPIR	**Pirpir**	**6.31**	**269**	*e*Pn	Pn	15 00 39.9	+0.6
IPIR				*e*Sn	Sn	15 01 40.1	-11
IPIR				*e*Sn	Sn	15 01 40.4	-11
IRAZ	**Razeghan**	**7.40**	**291**	*e*Pn	Pn	15 00 53.1	-1.1
IRAZ	**Razeghan**	**7.40**	**291**	*e*Pn	Pn	15 00 53.4	-0.8
IRAZ	**Razeghan**	**7.40**	**291**	*e*Pn	Pn	15 00 53.8	-0.4
IRAZ				*e*Sn	Sn	15 02 13.7	-4.2
IRAZ				*e*Sn	Sn	15 02 14.1	-3.8

IDC ***25*** *15:13:55.9±1.1, 7.01S×144.49E, h0km, mb4.0/5, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML3.5/3, Error ellipse: s-maj=32.1km s-min=19.6km az=73.0*

NEIC ***25*** *15:13:57.5±10.0, 6.97S×144.39E, h12km±63km, mb4.4/4, Error ellipse: s-maj=28.4km s-min=18.3km az=191.0*

ISCJB ***25*** *15:13:58.3±2.5, 7.12S±0.05×144.39E±0.07, h24km±19km, mb4.4/11, Error ellipse: s-maj=11.6km s-min=8.6km az=14.7*

ISC 25 15:14:03.1±1.2, 731S±006×14432E±007, h44km±12km, n30, σ1$36/36, mb4.5/11, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**127**	Pn	**Pn**	**15 14 52.6**	**-2.4**
	7.9nm,0.3s,baz=339,slow=4.9,SNR=44						
PMG				Sn	**Sn**	**15 15 34.5**	**-0.7**
	10nm,0.3s,baz=147,slow=22,SNR=8.0						
PMG	**Port Moresby**	**3.50**	**127**	Pn	**Pn**	**15 14 52.6**	**-2.4**
PMG				*e*Sn	**Sn**	**15 15 31.0**	**-4.1**
PMG				Sn	**Sn**	**15 15 34.5**	**-0.7**
CTA	**Charters Tower**	**12.84**	**172**	*e*P	**Pn**	**15 17 07.3**	**+4.3**
	4.6nm,1.2s						
CTA	**Charters Tower**	**12.84**	**172**	Pn	**Pn**	**15 17 03.8**	**+0.8**
	0.2nm,0.3s,baz=324,slow=16,SNR=2.6						
CTAO	**Charters Tower**	**12.84**	**172**	*e*Pn	**Pn**	**15 17 06.9**	**+3.9**
KAKA	**Kakadu**	**12.87**	**244**	*e*P	**Pn**	**15 17 02.5**	**-0.8**
	13nm,0.4s						
KAKA				*e*S	**Sn**	**15 19 21.6**	**-3.5**
WB2	**Warramunga Arr**	**15.85**	**217**	*e*P	**Pn**	**15 17 44.0**	**+0.9**
WB2				*e*S	**S**	**15 20 33.6**	**-17**
WRA	**Warramunga Arr**	**15.86**	**217**	Pn	**Pn**	**15 17 43.3**	**+0.1**
	0.5nm,0.3s,baz=32,slow=13,SNR=53						
AS31	**Alice Springs**	**19.09**	**210**	*e*P	**Pn**	**15 18 26.0**	**+2.9**
AS31				*e*S	**S**	**15 21 55.3**	**-0.9**
ASAR	**Alice Springs**	**19.09**	**210**	P	**Pn**	**15 18 25.9**	**+2.8**
	1.4nm,0.3s,baz=41,slow=9.3,SNR=228						
ASPA	**Alice Springs**	**19.10**	**210**	*e*P	**Pn**	**15 18 26.0**	**+2.8**
ASPA				*e*S	**S**	**15 21 55.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**21.12**	**238**	*e*P	**P**	**15 18 44.8**	**+0.8**
	10.0nm,1.2s,mb4.0						
FITZ				*e*S	**S**	**15 22 34.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.12**	**238**	P	**P**	**15 18 45.0**	**+1.0**
	2.9nm,0.7s,mb3.7,baz=61,slow=5.7,SNR=9.8						
STKA	**Stephens Creek**	**24.58**	**186**	*e*P	**P**	**15 19 20.1**	**+1.2**
	3.7nm,1.4s,mb3.7						
STKA	**Stephens Creek**	**24.58**	**186**	P	**P**	**15 19 20.3**	**+1.4**
	0.6nm,0.4s,mb3.5,baz=23,slow=13,SNR=3.7						
COCO	**West Island**	**47.00**	**260**	*e*P	**P**	**15 22 27.4**	**-2.4**
	129nm,0.9s						
LSA	**Lhasa**	**62.93**	**309**	*e*P	**P**	**15 24 25.9**	**+1.0**
	5.1nm,0.9s,mb4.7						
CASY	**Casey**	**63.31**	**195**	*e*P	**P**	**15 24 28.5**	**+1.1**
	5.7nm,0.8s,mb4.8						
GUN	**Gumba**	**66.38**	**305**	*e*P	**P**	**15 24 48.4**	**+1.0**
PKI	**Pulchoki**	**66.64**	**304**	*e*P	**P**	**15 24 49.6**	**+0.6**
KKN	**Kakani**	**66.82**	**304**	*e*P	**P**	**15 24 50.6**	**+0.4**
	10nm,0.8s,mb4.9						
DMN	**Daman**	**66.90**	**304**	*e*P	**P**	**15 24 51.3**	**+0.6**
	15nm,0.9s,mb5.0						
GKN	**Gorkha**	**67.43**	**304**	*e*P	**P**	**15 24 54.3**	**+0.2**
	15nm,0.9s,mb5.0						
KOLN	**Koldanda**	**68.20**	**304**	*e*P	**P**	**15 24 59.2**	**+0.3**
	13nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**76.83**	**321**	P	**P**	**15 25 49.4**	**-0.9**
	1.5nm,0.8s,mb4.0,baz=111,slow=6.6,SNR=9.6						
ZAL	**Zalesovo**	**78.72**	**329**	P	**P**	**15 25 58.9**	**-1.8**
	0.6nm,0.4s,mb3.9,baz=357,slow=8.6,SNR=4.2						
ZAL	**Zalesovo**	**78.72**	**329**	P	**P**	**15 25 58.9**	**-1.9**
BVAR	**Borovoye Array**	**86.26**	**324**	P	**P**	**15 26 38.7**	**-1.4**
	1.5nm,0.8s,mb4.3,baz=114,slow=6.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**142.79**	**282**	PKhKP		15 33 28.9	
	0.9nm,1.0s,baz=53,slow=3.1,SNR=3.9						
SDV	**Santo Domingo**	**145.37**	**85**	*e*P	PKPbc	15 33 36.0	0.0

IDC ***25*** *15:15:13.3±0.5, 2334S×175.59W, h0km, mb4.6/20, mb1 4.7/20, mb1mx4.7/23, mbtmp4.6/20, MS4.8/23, Ms1 4.8/23, ms1mx4.6/35, Error ellipse: s-maj=19.3km s-min=14.8km az=144.0*

NEIC ***25*** *15:15:14.1±0.3, 2350S×175.50W, h10km, mb5.2/33, MS4.4/2, Error ellipse: s-maj=11.1km s-min=6.7km az=138.0*

GCMT ***25*** *15:15:14.1±0.2, 2351S×174.86W, h18km, MW5.2/79, Moment Tensor Solution. s52,c83; s79,c137; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr 0.54±.02; Mθθ 0.05±.01; Mϕϕ -0.59±.01; Mrθ 0.07±.03; Mϕϕ -0.04±.01; Mϕr 0.71±.04; Best double couple: M0 0.90800×10^17 NP1: ϕs 183.00000°, δ 19.00000°, λ 87.00000°. NP2: ϕs 5.00000°, δ 71.00000°, λ 91.00000°. Principal axes: T 0.8830, Plg 64.0000°, Azm 277.0000°; N 0.0500, Plg 1.0000°, Azm 185.0000°; P -0.9340, Plg 26.0000°, Azm 95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***25*** *15:15:14.0, 2350S×175.50W, h10km, mB5.5, mb5.2, Ms5.1, Ms2.4*

MOS ***25*** *15:15:17.6±2.0, 2337S×175.68W, h33km, mb5.3/20, MS4.7/4, Error ellipse: s-maj=11.9km s-min=11.3km az=169.7*

ISCJB ***25*** *15:15:17.7±0.3, 2340S±0.06×175.60W±0.06, h40km, mb5.0/51, MS4.8/30, Error ellipse: s-maj=9.5km s-min=7.2km az=98.6*

ISC 25 15:15:19.4±0.3, 2343S±006×17550W±006, h42km, h42km±1.6km: pP-P, n206, σ1$08/121, mb5.0/51, MS4.8/30, 11C-9D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.11**	**21**	Pn	**Pn**	**15 17 34.7**	**-7.1**
	9.9nm,0.3s,baz=205,slow=20,SNR=14						
AFI				Sn	**Sn**	**15 19 18.5**	**-15**
	6.4nm,0.3s,baz=49,slow=23,SNR=3.1						
AFI	**Afiamalu**	**10.11**	**21**	*e*P	**Pn**	**15 17 33.3**	**-8.6**
AFI				pmax	pmax		
	comp=Z,159nm,0.9s						
AFI	**Afiamalu**	**10.11**	**21**	*e*Pn	**Pn**	**15 17 33.2**	**-8.6**
	comp=Z,159nm,0.9s						
AFI				*e*Sn	Sn	15 19 12.8	-21
RAR	**Rarotonga**	**14.72**	**84**	Pn	**Pn**	**15 18 33.5**	**-11**
	comp=Z,12nm,0.3s,baz=270,slow=7.5,SNR=17						
RAR				Sn	Sn	15 21 01.4	-25
	comp=Z,2.6nm,0.3s,baz=90,slow=16,SNR=5.2						
RAR				LR	LR	15 23 23.7	
	comp=Z,5μm,20.7s,baz=270,slow=33						
URZ	**Urewera**	**16.07**	**201**	Pn	**Pn**	**15 18 57.0**	**-5.4**
	comp=Z,0.5nm,0.3s,baz=13,slow=22,SNR=3.7						
URZ				Sn	**Sn**	**15 21 46.1**	**-13**
	comp=Z,0.7nm,0.3s,baz=221,slow=22,SNR=3.9						
DZM	**Mont Dzumac**	**16.71**	**271**	Pn	**Pn**	**15 19 13.9**	**+3.5**
	comp=Z,1.3nm,0.3s,baz=87,slow=17,SNR=18						
DZM				LR	LR	15 23 39.9	
	comp=Z,575nm,20.3s,baz=29,slow=30						
SNZO	**South Karori**	**19.63**	**202**	*e*P	**Pn**	**15 19 41.1**	**-4.8**
	comp=Z,256nm,1.4s						
RPZ	**Rata Peaks**	**23.07**	**205**	P	**P**	**15 20 20.6**	**-0.6**
	comp=Z,8.0nm,0.6s,mb4.3,baz=359,slow=22,SNR=4.6						
TBI	**Tubuai**	**23.89**	**95**	*e*LQ		15 24 52.0	
	comp=Z,1μm,27.8s						
TBI				*e*LR	LR	15 25 49.8	
	comp=Z,2μm,22.5s,baz=265						
PPT	**Papeete**	**24.95**	**81**	*e*LR	LR	15 26 15.2	
	comp=Z,3μm,22.0s,baz=249						
PPT	**Papeete**	**24.95**	**81**	LR	LR	15 28 51.7	
	comp=Z,2μm,19.7s,MS4.7,baz=275,slow=33						
HNR	**Honiara**	**27.30**	**297**	P	**P**	**15 20 57.9**	**-1.9**
	comp=Z,11nm,0.3s,mb4.9,baz=86,slow=3.1,SNR=1.9						
HNR				LR	LR	15 30 47.4	
	comp=Z,716nm,18.1s,MS4.3,baz=180,slow=34						
HNR	**Honiara**	**27.30**	**297**	*e*P	**P**	**15 20 58.8**	**-1.1**
HNR				pmax	pmax		
	comp=Z,154nm,1.4s,mb5.3						
HNR	**Honiara**	**27.30**	**297**	*e*P	**P**	**15 20 58.8**	**-1.1**
	comp=Z,154nm,1.4s,mb5.3						
ARMA	**Armidale**	**30.05**	**249**	*e*P	**P**	**15 21 25.9**	**+1.5**
CTA	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**15 22 13.5**	**+0.6**
	comp=Z,27nm,1.4s,mb5.0						
CTA	**Charters Tower**	**35.61**	**268**	P	**P**	**15 22 12.4**	**-0.5**
	comp=Z,21nm,0.7s,mb5.2,baz=97,slow=12,SNR=14						
CTA				LR	LR	15 33 40.5	
	comp=Z,818nm,20.3s,MS4.5,baz=96,slow=31						
CTA	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**15 22 13.5**	**+0.6**
CTA				pmax	pmax		
	comp=Z,27nm,1.4s						
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**15 22 13.2**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**35.61**	**268**	*e*P	**P**	**15 22 13.2**	**+0.3**
	comp=Z,38nm,0.9s,mb5.3						
TAOE	**Nuku Hiva Isla**	**36.79**	**73**	*e*LR	LR	15 31 38.3	
	comp=Z,3μm,22.8s,baz=242						
RKT	**Rikitea**	**37.14**	**98**	*e*S	**S**	**15 27 56.7**	**-13**
RKT				*e*LR	LR	15 31 55.0	
	comp=Z,203nm,25.0s						
RKT				*e*LR	LR	15 31 55.0	
	comp=Z,1μm,32.8s,baz=262						
PMG	**Port Moresby**	**38.30**	**285**	P	**P**	**15 22 34.4**	**-1.4**
	comp=Z,31nm,1.0s,mb5.0,baz=124,slow=6.2,SNR=7.3						
PMG	**Port Moresby**	**38.30**	**285**	*d*P	**P**	**15 22 35.6**	**-0.2**
PMG	**Port Moresby**	**38.30**	**285**	*e*P	**P**	**15 22 35.0**	**-0.8**
	comp=Z,32nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**38.72**	**248**	*e*P	**P**	**15 22 38.8**	**-0.5**
	comp=Z,5.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.72**	**248**	P	**P**	**15 22 38.3**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.3,baz=102,slow=8.2,SNR=13						
STKA				LR	LR	15 38 06.7	
	comp=Z,3μm,18.4s,MS5.1,baz=74,slow=36						
AS31	**Alice Springs**	**46.18**	**259**	*e*P	**P**	**15 23 40.9**	**+1.0**
ASAR	**Alice Springs**	**46.18**	**259**	P	**P**	**15 23 39.6**	**-0.3**
	comp=Z,7.1nm,0.7s,mb4.7,baz=100,slow=7.8,SNR=26						
ASAR				LR	LR	15 42 57.4	
	comp=Z,3μm,18.1s,MS5.2,baz=125,slow=36						
ASPA	**Alice Springs**	**46.18**	**259**	*e*P	**P**	**15 23 40.9**	**+1.0**
WRAB	**Tennant Creek**	**46.55**	**264**	*e*P	**P**	**15 23 41.7**	**-1.1**
WRA	**Warramunga Arr**	**46.56**	**264**	P	**P**	**15 23 42.2**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=95,slow=8.3,SNR=13						
WRA				LR	LR	15 43 13.7	
	comp=Z,2μm,18.6s,MS5.1,baz=105,slow=36						
FORT	**Forrest**	**50.34**	**249**	*e*P	**P**	**15 24 10.9**	**-1.0**
	comp=Z,43nm,0.7s,mb5.6						
GUMO	**Guam**	**53.45**	**309**	LR	LR	15 45 47.3	
	comp=Z,448nm,18.0s,MS4.6,baz=131,slow=34						
FITZ	**Fitzroy Crossi**	**54.98**	**264**	*e*P	**P**	**15 24 46.0**	**-0.3**
	comp=Z,14nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**54.98**	**264**	P	**P**	**15 24 45.8**	**-0.5**
	comp=Z,11nm,0.8s,mb4.9,baz=165,slow=4.7,SNR=5.5						
FITZ				LR	LR	15 48 25.9	
	comp=Z,1μm,18.3s,MS5.0,baz=85,slow=36						
SBA	**Scott Base**	**55.13**	**185**	*e*P	**P**	**15 24 49.6**	**+2.2**
SBA				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.5						
SBA	**Scott Base**	**55.13**	**185**	*e*P	**P**	**15 24 49.6**	**+2.2**
	comp=Z,74nm,1.6s,mb5.5						
VNDA	**Vanda**	**55.23**	**186**	P	**P**	**15 24 49.8**	**+1.8**
	comp=Z,3.1nm,0.9s,mb4.3,baz=2.2,slow=9.4,SNR=12						
VNDA				LR	LR	15 43 13.7	
	comp=Z,271nm,19.1s,MS4.3,baz=22,slow=30						
VNDA	**Vanda**	**55.23**	**186**	*e*P	**P**	**15 24 49.5**	**+1.4**
VNDA				*e*	pP	15 25 01.8	+1.6
VNDA				pmax	pmax		
	comp=Z,20nm,1.4s						
VNDA	**Vanda**	**55.23**	**186**	*e*P	**P**	**15 24 49.5**	**+1.4**
	comp=Z,20nm,1.4s,mb5.0						
VNDA				*e*	pP	15 25 01.8	+1.6
KLBR	**Kellerberrin**	**58.97**	**246**	*e*P	**P**	**15 25 13.8**	**-0.7**
	comp=Z,17nm,0.7s,mb5.2						
NWAO	**Narrogin (SRO)**	**59.17**	**245**	P	**P**	**15 25 15.1**	**-0.8**
	comp=Z,9.2nm,0.8s,mb4.8,baz=176,slow=14,SNR=3.4						
NWAO				LR	LR	15 50 15.0	
	comp=Z,1μm,18.1s,MS5.0,baz=75,slow=36						
NWAO	**Narrogin (SRO)**	**59.17**	**245**	P	**P**	**15 25 15.2**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,24nm,1.2s						
NWAO	**Narrogin (SRO)**	**59.17**	**245**	P	**P**	**15 25 15.2**	**-0.8**
	comp=Z,24nm,1.2s,mb5.1						
MBWA	**Marble Bar**	**59.52**	**258**	*e*P	**P**	**15 25 17.3**	**-1.0**
	comp=Z,17nm,0.8s,mb5.1						
MUN	**Mundaring**	**60.19**	**246**	*e*P	**P**	**15 25 19.8**	**-3.1**
CASY	**Casey**	**62.34**	**206**	*e*P	**P**	**15 25 37.5**	**0.0**
QSPA	**South Pole Qui**	**66.65**	**180**	*e*P	**P**	**15 26 06.1**	**+0.5**
	comp=Z,34nm,1.2s,mb5.3						
KKM	**Kota Kinabalu**	**72.75**	**285**	*e*P	**P**	**15 26 40.8**	**-2.3**
JOW	**Kunigami**	**73.82**	**309**	LR	LR	15 57 07.5	
	comp=Z,647nm,19.4s,MS4.9,baz=123,slow=34						
MJAR	**Matsushiro Arr**	**73.94**	**323**	P	**P**	**15 26 50.0**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=158,slow=5.4,SNR=7.5						
MAJO	**Matsushiro**	**73.94**	**323**	P	**P**	**15 26 50.9**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**73.94**	**323**	P	**P**	**15 26 50.9**	**+0.8**
	comp=Z,8.1nm,0.9s,mb4.7						
JNU	**Nakatsue**	**75.99**	**316**	LR	LR	15 56 49.2	
	comp=Z,564nm,19.2s,MS4.9,baz=1.3,slow=33						
KSM	**Kuching**	**76.11**	**278**	*e*P	**P**	**15 27 02.4**	**-0.3**
KSM				*e*	pP	15 27 16.0	+0.7
ASAJ	**Asahikawa**	**77.40**	**330**	P	**P**	**15 27 10.8**	**+0.9**
	comp=Z,17nm,0.9s,mb5.0,baz=243,slow=7.1,SNR=5.5						
YSS	**Yuzh-Sakhalins**	**79.55**	**332**	*e*P	**P**	**15 27 23.0**	**+1.2**
YSS				*e*		15 27 25.7	
YSS				*e*	pP	15 27 36.0	+1.5
YSS				*e*		15 37 22.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**79.55**	**332**	*e*P	**P**	**15 27 22.2**	**+0.4**
	comp=Z,36nm,1.0s,mb5.3						
MAW	**Mawson**	**79.59**	**199**	*e*P	**P**	**15 27 21.6**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.8						
MAW	**Mawson**	**79.59**	**199**	P	**P**	**15 27 22.7**	**+0.7**
	comp=Z,7.8nm,0.9s,mb4.6,baz=136,slow=6.2,SNR=9.0						
MAW				LR	LR	16 01 47.5	
	comp=Z,1μm,18.6s,MS5.2,baz=107,slow=35						
MAW	**Mawson**	**79.59**	**199**	*e*P	**P**	**15 27 21.6**	**-0.5**
MAW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ISA	**Isabella**	**79.77**	**44**	*e*P	**P**	**15 27 23.0**	**0.0**
CMB	**Columbia Colle**	**80.08**	**41**	*e*P	**P**	**15 27 24.3**	**-0.4**
CMB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
CMB	**Columbia Colle**	**80.08**	**41**	*e*P	**P**	**15 27 24.3**	**-0.4**
	comp=Z,7.0nm,1.0s,mb4.5						
OHCM	**Honcut**	**80.27**	**40**	*e*P	**P**	**15 27 26.6**	**+0.9**
KSRS	**Korea Array**	**80.61**	**318**	P	**P**	**15 27 28.4**	**+0.9**
	comp=Z,2.6nm,0.7s,mb4.3,baz=133,slow=6.2,SNR=12						
KSRS				LR	LR	16 00 42.3	
	comp=Z,407nm,18.9s,MS4.8,baz=134,slow=34						
YBH	**Yreka Blue Hor**	**81.17**	**37**	P	**P**	**15 27 30.8**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=7.5,slow=2.3,SNR=5.0						
SSE	**Sheshan**	**81.34**	**309**	*e*P	**P**	**15 27 31

NVL	**N'lazarevskaya**	**85.92**	**182**	*e*P		**P**	**15 27 54.7**	**-0.2**
NVL				*i* S		S	15 38 30.4	+5.1
NVL				pmax		pmax		
	comp=Z,20nm,1.5s,mb5.1							
SNY	**Shenyang**	**85.94**	**319**	⇑P		**P**	**15 27 55.0**	**0.0**
SNY				AMB		AMB		
	comp=Z,13nm,0.8s,mb5.2							
CN2	**Changchun**	**86.03**	**322**	⇑P		**P**	**15 27 56.0**	**+0.6**
CN2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.3							
KLR	**Kul'dur**	**86.22**	**328**	*e*P		**P**	**15 27 53.3**	**-3.1**
KULM	**Kulim**	**86.46**	**277**	*e*P		**P**	**15 27 59.1**	**+1.5**
TXAR	**Lajitas Array**	**86.71**	**56**	P		**P**	**15 27 59.2**	**+0.5**
	comp=Z,1.2nm,0.9s,mb4.1,baz=212,slow=4.4,SNR=13							
TXAR				LR		LR	16 01 31.8	
	comp=Z,558nm,18.4s,MS5.0,baz=305,slow=32							
TXAR	**Lajitas Array**	**86.71**	**56**	P		**P**	**15 27 59.2**	**+0.4**
TXAR				LR		LR	16 01 31.8	
BNM	**Barren Site**	**86.92**	**51**	*e*P		**P**	**15 27 59.5**	**-0.3**
LPM	**Los Pinos Moun**	**87.00**	**51**	*e*P		**P**	**15 27 55.8**	**-4.5**
PSI	**Prapat**	**87.05**	**274**	P		**P**	**15 28 01.4**	**+1.0**
	comp=Z,10nm,0.7s,mb5.2,baz=176,slow=3.2,SNR=18							
ANMO	**Albuquerque**	**87.45**	**50**	LR		LR	15 59 47.7	
	comp=Z,906nm,20.9s,MS5.2,slow=31							
ANMO	**Albuquerque**	**87.45**	**50**	*e*P		**P**	**15 28 03.0**	**+0.6**
ANMO	**Albuquerque**	**87.45**	**50**	*e*P		**P**	**15 28 01.7**	**-0.7**
	comp=Z,21nm,1.6s,mb5.1							
NEW	**Newport**	**88.42**	**35**	LR		LR	15 59 53.2	
	comp=Z,438nm,21.6s,MS4.8,baz=215,slow=30							
MCK	**McKinley**	**89.34**	**11**	P		**P**	**15 28 10.1**	**-1.2**
MCK				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.9							
MCK	**McKinley**	**89.34**	**11**	P		**P**	**15 28 10.1**	**-1.3**
	comp=Z,8.2nm,1.3s,mb4.9							
PDAR	**Pinedale Array**	**89.53**	**42**	P		**P**	**15 28 11.7**	**-0.5**
	comp=Z,1.0nm,0.9s,mb4.2,baz=197,slow=3.1,SNR=6.6							
PDAR				LR		LR	16 01 20.5	
	comp=Z,356nm,20.2s,MS4.8,baz=252,slow=31							
SDCO	**Great Sand Dun**	**89.54**	**48**	*e*P		**P**	**15 28 11.4**	**-0.8**
	comp=Z,16nm,1.8s,mb5.0							
BJT	**Baijiatuau**	**89.59**	**314**	P		**P**	**15 28 08.7**	**-3.8**
BJT				pmax		pmax		
	comp=Z,10.0nm,0.9s							
BJT	**Baijiatuau**	**89.59**	**314**	P		**P**	**15 28 08.7**	**-3.7**
	comp=Z,10nm,0.9s,mb5.2							
BJI	**Beijing**	**89.60**	**314**	P		**P**	**15 28 09.1**	**-3.4**
BJI				S		S	15 38 50.1	-10
BJI				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.8							
BJI				MLR		MLR		
	comp=Z,150nm,20.6s,MS4.4							
BJI	**Beijing**	**89.60**	**314**	P		**P**	**15 28 09.1**	**-3.4**
	comp=Z,5.0nm,0.9s,mb4.8							
BJI				S		S	15 38 50.1	-10
BJI				LR		LR		
	comp=Z,150nm,20.6s,MS4.4							
COLA	**College**	**90.58**	**11**	*e*P		**P**	**15 28 17.4**	**+0.3**
COLA	**College**	**90.58**	**11**	*e*P		**P**	**15 28 15.1**	**-2.0**
	comp=Z,9.7nm,1.0s,mb5.1							
WALA	**Waterton Lakes**	**90.59**	**35**	*e*P		**P**	**15 28 15.2**	**-1.9**
	comp=Z,28nm,1.5s,mb5.4							
CFAA	**Coronel Fontan**	**91.51**	**125**	LR		LR	16 02 05.0	
	comp=Z,56nm,19.3s,MS4.0,baz=282,slow=31							
XAN	**Xi'an**	**91.74**	**306**	P		**P**	**15 28 24.0**	**+1.5**
XAN				AMB		AMB		
	comp=Z,25nm,1.0s,mb5.5							
EGAK	**Eagle**	**91.85**	**14**	*e*P		**P**	**15 28 22.8**	**-0.1**
	comp=Z,23nm,1.8s,mb5.2							
BILL	**Bilibino**	**92.19**	**353**	*e*P		**P**	**15 28 24.0**	**-0.5**
BILL				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.7							
HIA	**Hailar**	**92.42**	**324**	*e*P		**P**	**15 28 25.4**	**-0.2**
KMI	**Kunming**	**92.73**	**296**	⇑P		**P**	**15 28 30.0**	**+3.0**
KMI				AMB		AMB		
	comp=Z,21nm,0.8s,mb5.6							
KMI				AMB		AMB		
	comp=Z,119nm,4.6s							
KMI				LR		LR		
	comp=N,184nm,17.4s,MS4.8							
KMI				LR		LR		
	comp=E,212nm,16.5s,MS4.8							
KMI				LR		LR		
	comp=Z,230nm,16.9s,MS4.7							
KMI	**Kunming**	**92.73**	**296**	⇑P		**P**	**15 28 29.9**	**+2.9**
KMI				*PP		pP	15 28 42.4	+2.5
KMI							15 38 50.2	
KMI				*SS		sS	15 39 26.3	-24
KMI				pmax		pmax		
	comp=Z,21nm,0.8s,mb5.6							
KMI				MLR		MLR		
	comp=Z,230nm,16.9s,MS4.7							
KMI	**Kunming**	**92.73**	**296**	⇑P		**P**	**15 28 29.9**	**+2.9**
	comp=Z,21nm,0.8s,mb5.6							
KMI				pP		pP	15 28 42.4	+2.5
KMI				sP		sP	15 28 47.4	+2.8
KMI				PP		PP	15 31 52.0	-17
KMI				PPP			15 33 51.2	
KMI				SKS			15 38 50.2	
KMI				S		S	15 39 05.7	-23
KMI				sS		sS	15 39 26.3	-24
KMI				LR		LR		
	comp=Z,230nm,16.9s,MS4.7							
HHC	**Hu-ho-hao-te**	**93.05**	**313**	*e*P		**P**	**15 28 30.0**	**+1.5**
HHC				AMB		AMB		
	comp=Z,17nm,1.3s,mb5.3							
HHC				AMB		AMB		
	comp=Z,177nm,5.4s							
NNA	**Nana**	**93.08**	**104**	LR		LR	15 59 17.4	
	comp=Z,497nm,19.7s,MS5.0,slow=28							
CHTO	**Chiang Mai**	**93.40**	**289**	*e*P		**P**	**15 28 32.4**	**+2.3**
CHTO				pmax		pmax		
	comp=Z,21nm,0.8s,mb5.6							
CHTO	**Chiang Mai**	**93.40**	**289**	*e*P		**P**	**15 28 32.4**	**+2.3**
	comp=Z,21nm,0.8s,mb5.6							
JTS	**JuntasAbangare**	**94.52**	**81**	*e*P		**P**	**15 28 35.8**	**+0.5**
YAK	**Yakutsk**	**95.69**	**337**	*e*P		**P**	**15 28 39.9**	**-0.7**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.9							
INK	**Inuvik**	**96.50**	**14**	*e*P		**P**	**15 28 42.3**	**-2.0**
	comp=Z,311nm,1.4s							
LPAZ	**La Paz**	**98.81**	**112**	LR		LR	16 08 45.6	
	comp=Z,264nm,18.2s,MS4.8,baz=50,slow=32							
SONM	**Songino Array**	**99.48**	**318**	P		**P**	**15 28 57.5**	**-0.2**
	comp=Z,0.3nm,0.6s,mb4.0,baz=101,slow=2.9,SNR=3.6							
GTA	**Gaotai**	**100.61**	**308**	*e*P		Pdif	15 29 04.8	+2.1
GTA				AP			15 29 12.3	
GTA				XP			15 29 15.5	
GTA				AMB		AMB		
	comp=Z,2.0nm,1.1s							
GTA				AMB		AMB		
	comp=Z,65nm,3.4s							
GTA				LR		LR		
	comp=N,122nm,17.5s,MS4.6							
GTA				LR		LR		
	comp=E,111nm,15.6s,MS4.6							
GTA				LR		LR		
	comp=Z,69nm,12.6s,MS4.4							
WMQ	**Urumqi**	**110.59**	**310**	⇑PKP		PKiKP	15 33 43.3	-4.0
WMQ				XPKP			15 33 51.3	
WMQ				PP		PP	15 34 24.0	+0.2
WMQ				PP		PP		
	comp=Z,20nm,6.5s							
WMQ				LR		LR		
	comp=N,432nm,19.5s,MS5.0							
WMQ				LR		LR		
	comp=E,173nm,23.4s,MS5.0							
WMQ				LR		LR		
	comp=Z,233nm,24.1s,MS4.7							
AAK	**Ala-Archa**	**119.92**	**307**	*i* PKIKP		PKPdf	15 34 03.5	-1.7
BOSA	**Boshof**	**124.53**	**202**	PKP		PKPdf	15 34 13.0	-1.0
	comp=Z,4.9nm,1.0s,baz=320,slow=6.0,SNR=3.4							
ARU	**Arti**	**128.92**	**325**	*i* PKIKP		PKPdf	15 34 20.8	-1.6
ARU				*e*			15 36 27.7	
ARU				*e*			15 41 19.2	
ARU				*e*SS		SS	15 53 43.6	-1.9
ARU	**Arti**	**128.92**	**325**	*e*P		PKPdf	15 34 22.1	-0.2
ARCES	**ARCESS Array B**	**132.20**	**350**	PKP		PKPdf	15 34 27.6	-1.0
	comp=Z,2.7nm,0.8s,baz=29,slow=2.8,SNR=5.8							
FINES	**FINESS Array B**	**139.22**	**344**	PKP		PKPdf	15 34 41.9	+0.2
	comp=Z,0.9nm,0.8s,baz=123,slow=5.1,SNR=3.3							
MAK	**Makhachkala**	**139.61**	**309**	*e*PKHKP			15 34 34.9	
MAK				*i*			15 37 35.7	
MAK				pmax		pmax		
	comp=Z,232nm,1.6s							
KIV	**Kislovodsk**	**142.65**	**313**	*i* PKIKP		PKPdf	15 34 51.4	+3.6

MSL	**Mosul**	**144.40**	**300**	*ex*		x	15 34 56.0	
SOC	**Sochi**	**144.78**	**313**	*i* PKHKP			15 34 47.7	
SOC				MLR		MLR		
	comp=Z,237nm,17.0s,MS5.0							
ANN	**Anapa**	**145.74**	**317**	*i* PKP2		PKPab	15 34 56.4	+2.3
ANN				pmax		pmax		
	comp=Z,64nm,1.4s							
MARD	**Mardin**	**146.00**	**302**	*i* P		PKPdf	15 34 55.0	+1.4
SUW	**Suwalki**	**146.38**	**340**	*e*PKP		PKPdf	15 34 57.0	+2.7
AKASG	**Malin Array Be**	**146.69**	**331**	PKPbc		PKPbc	15 34 55.7	-0.8
	comp=Z,4.5nm,0.6s,baz=39,slow=4.2,SNR=36							
AKBB	**Malin Array Si**	**146.69**	**331**	*e*PKP2		PKPab	15 34 55.4	-2.3
KIEV	**Kiev**	**146.70**	**331**	*e*PKP2		PKPab	15 34 55.5	-2.3
GRSN	**GIRESUNGRSN**	**146.78**	**310**	*i* P		PKPdf	15 34 56.7	+1.7
ELZG	**Elazig**	**147.06**	**305**	*i* P		PKPbc	15 34 59.5	+1.9
MALT	**Malatya**	**147.53**	**305**	⇓*i* P		PKPbc	15 35 00.7	+1.8
EKA	**Eskdalemuir Ar**	**147.63**	**8**	PKPbc		PKPbc	15 34 59.0	-0.2
	comp=Z,3.3nm,0.9s,baz=15,slow=3.5,SNR=4.4							
SIM	**Simferopol'**	**147.72**	**319**	*e*PKP2		PKPab	15 35 00.3	-1.5
SIM				pmax		pmax		
	comp=Z,19nm,0.9s							
SIM				pmax		pmax		
	comp=Z,150nm,11.0s							
GZT	**Gaziantep**	**148.46**	**304**	*i* P		PKPbc	15 35 02.2	+0.9
BOYT	**Boyabat**	**148.92**	**313**	*i* P		PKPbc	15 35 03.9	+1.3
CTKT	**Corum**	**149.33**	**311**	*i* P		PKPbc	15 35 04.0	+0.5
KIS	**Kishinev**	**149.45**	**326**	*i* PKHKP			15 35 02.0	
KIS				MLR		MLR		
	comp=Z,400nm,23.0s,MS5.2							
KIS				MLR		MLR		
	comp=Z,200nm,22.0s							
KIS	**Kishinev**	**149.45**	**326**	*e*PKIKP		PKPdf	15 35 02.0	+2.6
KIS				LRM			16 47 10.0	
	comp=Z,400nm,23.0s							
LVV	**L'vov**	**149.54**	**335**	*e*PKP2		PKPbc	15 35 04.4	+0.3
COBT	**Iskenderun**	**149.71**	**303**	*i* P		PKPbc	15 35 05.6	+1.1
BALT	**Daday**	**149.88**	**314**	*i* P		PKPbc	15 35 06.1	+1.2
CDAG	**Cicekdag**	**150.04**	**310**	*i* P		PKPbc	15 35 06.3	+1.0
KWP	**Kalwaria**	**150.20**	**336**	*e*PKP		PKPbc	15 35 06.5	+0.8
ELDT	**Eldivan**	**150.33**	**312**	*i* P		PKPbc	15 35 06.5	+0.6
BR131	**Keskin Array S**	**150.51**	**310**	*e*PKPbc		PKPbc	15 35 06.1	-0.3
BRTR	**Keskin Array B**	**150.51**	**310**	PKPbc		PKPbc	15 35 07.0	+0.6
	comp=Z,5.2nm,0.8s,baz=126,slow=2.1,SNR=23							
BRTR				PKPab		PKPab	15 35 13.3	+0.1
	comp=Z,6.4nm,0.9s,baz=111,slow=3.1,SNR=12							
OJC	**Ojcow**	**150.71**	**340**	*e*PKP		PKPbc	15 35 07.0	+0.1
BURAR	**Bucovina Array**	**150.74**	**331**	⇓*i* P		PKPbc	15 35 08.9	+1.9
BURAR	**Bucovina Array**	**150.74**	**331**	⇓P		PKPbc	15 35 08.9	+1.9
STHS	**Stebnicka Huta**	**150.91**	**337**	*e*PKP		PKPbc	15 35 08.5	+1.1
KOLS	**Kolonicke sedl**	**150.93**	**336**	*e*PKP		PKPbc	15 35 08.2	+0.8
ANTO	**Ankara**	**151.04**	**311**	*e*PKIKP		PKPbc	15 35 08.1	+0.4
KSP	**Ksiaz**	**151.14**	**344**	*e*PKP		PKPbc	15 35 08.7	+0.8
UZH	**Uzhgorod**	**151.17**	**335**	⇓*i* PKIKP		PKPbc	15 35 08.8	+0.8
UZH				*i*			15 35 15.4	
SGKT	**Sivrigoynuk**	**151.22**	**313**	*i* P		PKPbc	15 35 08.7	+0.6
NIE	**Niedzica**	**151.23**	**338**	*e*PKP		PKPbc	15 35 09.4	+1.3
TIRR	**Tirgusor**	**151.32**	**323**	⇓*i* P		PKPbc	15 35 08.7	+0.4
TIRR	**Tirgusor**	**151.32**	**323**	⇓P		PKPbc	15 35 08.7	+0.4
CLL	**Collm**	**151.41**	**349**	*i* PKIKP		PKPbc	15 35 09.0	+0.5
CLL				*i*			15 35 14.0	
CLL				*i*			15 35 22.1	
CLL	**Collm**	**151.41**	**349**	*i* PKPbc		PKPbc	15 35 09.0	+0.5
	comp=Z,18nm,0.9s							
CLL				*i* PKPab		PKPab	15 35 14.0	-2.8
	comp=Z,21nm,1.0s							
CLL				*i* sPKPab			15 35 22.1	
CLL				LmV			16 44 00.0	
	comp=Z,300nm,21.1s							
UPC	**Upice**	**151.52**	**345**	*e*PKPbc		PKPbc	15 35 09.5	+0.7
UPC				*e*PKPab		PKPab	15 35 19.1	+1.8
OKC	**Ostrava-Krasne**	**151.56**	**341**	*e*PKPbc		PKPbc	15 35 06.0	-2.9
OKC				*e*PKPab		PKPab	15 35 16.9	-0.6
DPC	**Dobruska-Polom**	**151.59**	**344**	*e*PKPbc		PKPbc	15 35 09.3	+0.4
BRG	**Berggiesshubel**	**151.64**	**347**	*i* PKP		PKPbc	15 35 08.9	-0.2
	comp=Z,7.4nm,0.8s							
BRG	**Berggiesshubel**	**151.64**	**347**	*i* PKIKP		PKPbc	15 35 08.9	-0.2
BRG				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MORC	**Moravsky Berou**	**151.78**	**342**	⇑*i* P		PKPbc	15 35 09.7	+0.3
PVCC	**Panska Ves**	**151.84**	**346**	*e*PKPbc		PKPbc	15 35 10.0	+0.5
PVCC				*ep*PKP		pPKPdf	15 35 22.0	+5.6
MLR	**Muntele Rosu**	**151.94**	**327**	PKPbc		PKPbc	15 35 09.7	0.0
	comp=Z,4.9nm,1.0s,baz=345,slow=3.4,SNR=1.8							
MLR	**Muntele Rosu**	**151.94**	**327**	⇑*i* P		PKPbc	15 35 10.0	+0.3
MLR	**Muntele Rosu**	**151.94**	**327**	⇑P		PKPbc	15 35 10.0	+0.2
KECS	**Kecovo**	**151.97**	**337**	*e*PKP		PKPbc	15 35 10.7	+0.9
EIL	**Elat**	**152.11**	**289**	*e*PKPbc		PKPbc	15 35 10.8	+0.6
MOX	**Moxa**	**152.28**	**350**	*e*P		PKPab	15 35 25.7	+5.2
	comp=Z,31nm,1.9s							
PRU	**Pruhonice**	**152.35**	**346**	*e*PKPbc		PKPbc	15 35 10.7	0.0
PRU				*ep*PKP		pPKPdf	15 35 26.2	+9.1
CSS	**Prodhromos**	**152.43**	**301**	*e*PKPbc		PKPbc	15 35 09.6	-1.2
CSS				*e*PKPab		PKPab	15 35 22.6	+1.4
VRAC	**Vranov**	**152.47**	**343**	PKPbc		PKPbc	15 35 10.8	-0.1
	comp=Z,2.3nm,0.7s,baz=110,slow=6.9,SNR=2.1							
VYHS	**Vyhne**	**152.53**	**339**	*e*PKP		PKPbc	15 35 11.5	+0.4
VYHS				*e*PP		PP	15 38 58.6	+4.6
NKC	**Novy Kostel**	**152.54**	**349**	*e*PKPbc		PKPbc	15 35 11.3	+0.2
NKC				*e*PKPab		PKPab	15 35 23.3	+1.7
PSZ	**Piszkesteto**	**152.66**	**337**	⇑*i* P		PKPab	15 35 23.8	+1.7
GRF	**Grafenberg Arr**	**153.26**	**350**	*e*PKP		PKPab	15 35 24.1	-0.5
KHC	**Kasperske Hory**	**153.37**	**347**	*e*PKPbc		PKPbc	15 35 13.2	+0.3
KHC				*e*PKPab		PKPab	15 35 27.0	+1.9
KHC				*ex*		x	15 35 38.0	
KHC	**Kasperske Hory**	**153.37**	**347**	*e*PKIKP		PKPbc	15 35 13.2	+0.3
KHC				*e*			15 35 27.0	
GERES	**GERESS Array B**	**153.61**	**346**	PKPbc		PKPbc	15 35 13.0	-0.5
	comp=Z,1.2nm,0.8s,baz=0.0,slow=0.4,SNR=8.8							
VTS	**Vitosha**	**155.38**	**325**	⇓*i* P		PKPab	15 35 34.7	+1.1
TORD	**Torodi Ar. Bea**	**169.43**	**165**	PKP		PKPdf	15 35 22.3	+0.3
	comp=Z,2.1nm,0.9s,baz=298,slow=0.8,SNR=8.7							
TORD				PKPab		PKPab	15 36 36.0	+0.9
	comp=Z,1.1nm,0.9s,baz=172,slow=3.3,SNR=3.5							

IDC ***25*** *15:20:57.9±1.7, 4708N×15285E, h0km, mb3.8/10, mb1 3.9/11,mb1mx3.8/25,mbtmp3.8/11, MS2.9/1, Ms1 2.9/1,ms1mx2.4/46, Error ellipse: s-maj=45.4km s-min=23.6km az=160.0*

NEIC ***25*** *15:20:59.1±0.8, 4698N×15281E, h10km, Error ellipse: s-maj=20.6km s-min=10.0km az=132.0*

ISCJB ***25*** *15:21:01.2±1.4, 469N±0.1×1529E±02, h41km±11km, mb3.8/9, Error ellipse: s-maj=26.1km s-min=7.2km az=89.4*

MOS ***25*** *15:21:01.2±1.4, 4678N×153.15E, h59km, mb4.5/4, Error ellipse: s-maj=16.0km s-min=11.8km az=68.0*

ISC 25 15:21:03.0±1.3, 469N±01×1530E±02, h46km±10km, n29, σ1 9 05/31, mb3.8/9, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.90**	**247**	⇓*i* PN	**Pn**	**15 21 59.0**	**-1.3**
KUR				*i* S	**Sn**	**15 22 45.0**	**+0.2**
KUR				pmax	pmax		
	comp=Z,210nm,0.5s						
KUR				smax			
	comp=N,440nm,0.5s						
KUR				smax			
	comp=E,380nm,0.5s						
SKR	**Severo-Kuril's**	**4.35**	**28**	*e*PN	**Pn**	**15 22 06.6**	**0.0**
SKR				*e*S	**Sn**	**15 22 55.0**	**-1.0**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,240nm,0.2s						
SKR				smax			
	comp=E,360nm,0.2s						
SKR				smax			
	comp=Z,120nm,0.2s						
YSS	**Yuzh-Sakhalins**	**6.98**	**274**	*e*PN	**Pn**	**15 22 47.0**	**+4.3**
YSS	**Yuzh-Sakhalins**	**6.98**	**274**	*e*P	**Pn**	**15 22 46.4**	**+3.7**
	comp=Z,23nm,0.9s						
ASAJ	**Asahikawa**	**7.78**	**253**	Pn	**Pn**	**15 22 57.6**	**+4.1**
	comp=Z,2.8nm,0.3s,baz=91,slow=22,SNR=27						
ASAJ				LR	LR	15 25 45.0	
	comp=Z,84nm,18.4s,baz=63,slow=37						
MA2	**Magadan**	**12.80**	**355**	*e*PN	**Pn**	**15 24 03.7**	**+1.5**
MAJO	**Matsushiro**	**15.06**	**232**	*e*P	**Pn**	**15 24 31.7**	**-1.0**
MAT	**Matsushiro**	**15.06**	**232**	P	**Pn**	**15 24 39.0**	**+6.3**
MJAR	**Matsushiro Arr**	**15.06**	**232**	Pn	**Pn**	**15 24 32.4**	**-0.3**

	comp=Z,0.2nm,0.3s,baz=29,slow=15,SNR=4.8							
KSRS	**Korea Array**	**20.73**	**252**	P		**P**	**15 25 41.6**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=58,slow=10.0,SNR=9.6							
COLA	**College**	**36.11**	**38**	P		**P**	**15 27 52.1**	**-8.4**
INK	**Inuvik**	**41.61**	**32**	P		**P**	**15 28 47.6**	**+1.2**
	comp=Z,1.3nm,0.8s,mb3.6,baz=313,slow=11,SNR=4.8							
INK	**Inuvik**	**41.61**	**32**	P		**P**	**15 28 47.6**	**+1.2**
ZAL	**Zalesovo**	**42.47**	**306**	P		**P**	**15 28 52.4**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.5,baz=121,slow=6.1,SNR=3.0							
ZAL	**Zalesovo**	**42.47**	**306**	P		**P**	**15 28 52.4**	**-1.0**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**	**15 29 27.4**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=62,slow=8.0,SNR=6.0							
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**	**15 29 27.4**	**-0.4**
BVAR	**Borovoye Array**	**50.70**	**309**	P		**P**	**15 29 57.3**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=58,slow=8.4,SNR=3.6							
BRVK	**Borovoye**	**50.74**	**309**	P		**P**	**15 29 58.3**	**+0.1**
FINES	**FINESS Array B**	**63.88**	**335**	P		**P**	**15 31 30.3**	**-0.6**
	comp=Z,1.2nm,0.4s,mb4.3,baz=37,slow=6.8,SNR=23							
FINES	**FINESS Array B**	**63.88**	**335**	P		**P**	**15 31 30.3**	**-0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**68.08**	**341**	P		**P**	**15 31 56.9**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=40,slow=4.6							
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 31 57.7**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.2,baz=27,slow=6.2,SNR=4.0							
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 31 57.7**	**-0.1**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 31 57.7**	**-0.1**
AKASG	**Malin Array Be**	**71.39**	**326**	P		**P**	**15 32 17.4**	**-0.8**
	comp=Z,1.9nm,0.3s,mb4.5,baz=36,slow=6.5,SNR=10.0							
AKASG	**Malin Array Be**	**71.39**	**326**	P		**P**	**15 32 17.4**	**-0.8**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.3s							
TXAR	**Lajitas Array**	**77.53**	**60**	P		**P**	**15 32 54.5**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=294,slow=3.7,SNR=5.8							
BRTR	**Keskin Array B**	**78.23**	**317**	P		**P**	**15 32 58.3**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=47,slow=7.3,SNR=3.8							

ISCJB ***25*** *15:21:43.4±3.8, 3.95S×007×140.1E±0.1, h13km±25km, mb4.3/9, Error ellipse: s-maj=19.0km s-min=12.2km az=4.0*

IDC ***25*** *15:21:43.8±1.1, 390S×140.07E, h0km, mb4.2/4, mb1 4.3/7, mb1mx4.1/15, mbtmp4.3/7, ML3.3/1, Error ellipse: s-maj=29.5km s-min=24.4km az=61.0*

NEIC ***25*** *15:21:48.0±0.9, 385S×140.07E, h35km, mb4.5/9, Error ellipse: s-maj=16.1km s-min=14.7km az=47.0*

ISC 25 15:21:45.3±4.7, 397S±007×1400E±01, h5km±31km, n21, σ1 9 48/22, mb4.3/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.96**	**127**	Pn	**Pn**	**15 23 54.4**	**-1.0**
	1.9nm,0.3s,baz=62,slow=5.0,SNR=6.3						
WB2	**Warramunga Arr**	**16.79**	**199**	*e*Pn	**Pn**	**15 25 40.6**	**-0.5**
WB2				*e*Sn	**Sn**	**15 28 39.0**	**-8.9**
WRA	**Warramunga Arr**	**16.79**	**199**	Pn	**Pn**	**15 25 39.8**	**-1.4**
	2.6nm,0.3s,baz=14,slow=12,SNR=33						
WRA				Sn	**Sn**	**15 28 46.9**	**-1.1**
	0.5nm,0.3s,baz=14,slow=22,SNR=4.0						
CTA	**Charters Tower**	**17.16**	**160**	P	**Pn**	**15 25 48.1**	**+2.4**
	0.4nm,0.3s,baz=327,slow=14,SNR=5.3						
CTAO	**Charters Tower**	**17.16**	**160**	*e*Pn	**Pn**	**15 25 48.2**	**+2.5**
	11nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.84**	**224**	P	**Pn**	**15 26 17.5**	**-1.0**
	1.0nm,0.3s,baz=80,slow=10.0,SNR=7.4						
AS31	**Alice Springs**	**20.43**	**196**	*e*P	**P**	**15 26 24.7**	**+1.3**
ASAR	**Alice Springs**	**20.43**	**196**	P	**P**	**15 26 25.1**	**+1.7**
	13

KSRS	Korea Array	21.02	255	P		P		15 39 37.3	+1.3
	comp=Z,3.6nm,0.9s,mb3.7,baz=65,slow=11,SNR=10								
YAK	Yakutsk	21.27	328	⇑eP		P		15 39 36.2	-2.5
YAK				pmax	pmax				
	comp=Z,13nm,0.9s,mb4.3								
YAK	Yakutsk	21.27	328	eP		P		15 39 36.5	-2.2
	comp=Z,14nm,0.6s,mb4.5								
HIA	Hailar	23.09	291	eP		P		15 39 57.4	-0.7
BILL	Bilibino	23.10	12	eP		P		15 39 59.2	+1.0
BILL				pmax	pmax				
	comp=Z,14nm,1.6s,mb4.1								
BJT	Baijiatuan	27.97	271	eP		P		15 40 47.1	+4.2
BJT				pmax	pmax				
	comp=Z,13nm,0.8s								
BJT	Baijiatuan	27.97	271	eP		P		15 40 47.1	+4.2
	comp=Z,13nm,0.8s,mb4.6								
TIXI	Tiksi	28.40	344	⇑eP		P		15 40 45.6	-1.2
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.4s,mb3.7								
HHC	Hu-ho-hao-te	30.83	276	eP		P		15 41 09.8	+1.4
HHC				AMB	AMB				
	comp=Z,19nm,1.1s,mb4.8								
HHC				AMB	AMB				
	comp=Z,141nm,5.4s								
SONM	Songino Array	32.06	291	P		P		15 41 19.8	+0.6
	comp=Z,1.7nm,0.7s,mb4.0,baz=73,slow=8.1,SNR=7.4								
SONM				LR	LR			15 54 34.9	
	comp=Z,98nm,18.1s,MS3.5,baz=128,slow=37								
SONM	Songino Array	32.06	291	P		P		15 41 19.8	+0.6
SONM				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SONM				MLR	MLR				
	comp=Z,98nm,18.1s								
MCK	McKinley	35.99	40	P		P		15 41 53.4	+0.1
MCK				pmax	pmax				
	comp=Z,3.0nm,1.1s,mb4.1								
MCK	McKinley	35.99	40	P		P		15 41 53.4	+0.1
	comp=Z,2.5nm,1.1s,mb4.1								
SML	Sawmill	36.26	43	P		P		15 41 54.7	-0.8
COLA	College	36.50	38	eP		P		15 42 05.5	+7.8
COLA	College	36.50	38	eP		P		15 42 00.3	+2.6
	comp=Z,9.9nm,1.3s,mb4.5								
GTA	Gaotai	39.57	280	eP		P		15 42 25.3	+1.7
GTA				AMB	AMB				
	comp=Z,15nm,0.9s,mb4.7								
GYA	Guiyang	42.01	259	P		P		15 42 43.0	-0.6
GYA				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.5								
INK	Inuvik	42.11	32	P		P		15 42 44.1	-0.4
	comp=Z,2.5nm,0.9s,mb3.9,baz=324,slow=4.3,SNR=8.8								
INK	Inuvik	42.11	32	eP		P		15 42 43.4	-1.0
	comp=Z,184nm,1.1s								
ZAL	Zalesovo	43.50	307	P		P		15 42 54.6	-1.2
	comp=Z,0.9nm,0.5s,mb3.8,baz=54,slow=7.9,SNR=3.8								
ZAL				LR	LR			16 02 43.2	
	comp=Z,127nm,18.4s,MS3.9,baz=286,slow=38								
ZAL	Zalesovo	43.50	307	P		P		15 42 54.6	-1.1
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZAL				MLR	MLR				
	comp=Z,127nm,18.5s								
QIZ	Qiongzhong	44.97	248	eP		P		15 43 08.8	+1.3
QIZ				AMB	AMB				
	comp=Z,19nm,2.2s,mb4.5								
QIZ				LR	LR				
	comp=E,312nm,20.6s								
QIZ				LR	LR				
	comp=Z,362nm,19.8s,MS4.3								
WMQ	Urumqi	45.67	292	⇑iP		P		15 43 13.3	+0.2
WMQ				AP	pP			15 43 17.8	+1.6
WMQ				XP	sP			15 43 20.3	+2.8
WMQ				PCP	PcP			15 44 52.3	+1.2
WMQ				PP	PP			15 45 00.5	+0.5
WMQ				eS	S			15 49 54.5	-1.5
WMQ				AMB	AMB				
	comp=Z,13nm,1.1s,mb4.8								
WMQ				AMB	AMB				
	comp=Z,67nm,4.5s								
WMQ				LR	LR				
	comp=N,79nm,22.0s,MS3.7								
WMQ				LR	LR				
	comp=E,43nm,22.0s,MS3.7								
WMQ				LR	LR				
	comp=Z,63nm,23.6s,MS3.5								
MK31	Makanchi Array	47.74	298	eP		P		15 43 28.4	-1.0
MKAR	Makanchi Array	47.74	298	P		P		15 43 29.1	-0.2
	comp=Z,2.2nm,0.6s,mb4.4,baz=68,slow=7.3,SNR=30								
MKAR	Makanchi Array	47.74	298	P		P		15 43 29.1	-0.3
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
LSA	Lhasa	50.80	274	eP		P		15 43 59.0	+6.3
LSA				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.5								
LSA	Lhasa	50.80	274	eP		P		15 43 59.0	+6.3
	comp=Z,3.6nm,0.6s,mb4.5								
YKA	Yellowknife Ar	51.31	36	P		P		15 43 55.2	-1.3
	comp=Z,1.2nm,0.9s,mb3.8,baz=293,slow=7.0,SNR=4.3								
YKA	Yellowknife Ar	51.31	36	P		P		15 43 55.2	-1.4
YKA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
YKA	Yellowknife Ar	51.31	36	P		P		15 43 55.2	-1.3
CHKZ	Chkalovo	51.33	311	eP		P		15 43 55.4	-1.3
CHKZ				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.8								
CHKZ	Chkalovo	51.33	311	eP		P		15 43 55.4	-1.3
	comp=Z,12nm,0.9s,mb4.8								
RES	Resolute Bay	51.48	18	eP		P		15 43 56.8	-1.0
	comp=Z,106nm,0.8s								
BVAR	Borovoye Array	51.75	310	P		P		15 43 59.4	-0.4
	comp=Z,1.9nm,0.6s,mb4.2,baz=45,slow=6.8,SNR=15								
BVAR	Borovoye Array	51.75	310	P		P		15 43 59.4	-0.5
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BRVK	Borovoye	51.79	310	eP		P		15 43 59.2	-1.0
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
BRVK	Borovoye	51.79	310	eP		P		15 43 59.2	-0.9
	comp=Z,3.3nm,0.6s,mb4.4								
ZRNK	Zerenda	52.52	311	eP		P		15 44 04.7	-0.9
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
ZRNK	Zerenda	52.52	311	eP		P		15 44 04.7	-0.9
	comp=Z,3.4nm,0.5s,mb4.5								
AAK	Ala-Archa	54.63	297	⇑eP		P		15 44 21.4	+0.4
AAK				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.6								
AAK	Ala-Archa	54.63	297	eP		P		15 44 21.3	+0.3
	comp=Z,2.7nm,0.8s,mb4.3								
GUN	Gumba	55.55	276	eP		P		15 44 29.1	+1.4
ARU	Arti	55.94	318	⇓iP		P		15 44 30.0	-0.5
ARU				e				15 45 31.3	
ARU				eSS		SS		15 55 54.6	-10
ARU				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.7								
ARU	Arti	55.94	318	eP		P		15 44 29.8	-0.7
	comp=Z,4.8nm,0.6s,mb4.7								
KKN	Kakani	56.04	276	eP		P		15 44 32.1	+0.9
	comp=Z,8.3nm,0.6s,mb5.0								
PKI	Pulchoki	56.09	276	eP		P		15 44 32.5	+1.0
DMN	Daman	56.27	276	eP		P		15 44 34.1	+1.2
	comp=Z,18nm,0.8s,mb5.2								
GKN	Gorkha	56.35	277	eP		P		15 44 34.2	+0.8
	comp=Z,15nm,0.7s,mb5.2								
KOLN	Koldanda	57.22	277	eP		P		15 44 40.8	+1.2
	comp=Z,14nm,0.8s,mb5.1								
ARCES	ARCESS Array B	58.79	341	P		P		15 44 50.8	+0.1
	comp=Z,2.1nm,0.8s,mb4.2,baz=33,slow=6.0,SNR=11								
ARCES	ARCESS Array B	58.79	341	P		P		15 44 50.8	+0.2
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
PDAR	Pinedale Array	64.86	54	P		P		15 45 30.6	-0.9
	comp=Z,0.9nm,0.7s,mb3.9,baz=304,slow=2.1,SNR=7.4								
FINES	FINESS Array B	64.99	335	P		P		15 45 32.2	-0.1
	comp=Z,1.3nm,0.5s,mb4.2,baz=33,slow=6.5,SNR=21								
FINES	FINESS Array B	64.99	335	P		P		15 45 32.3	-0.1
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
OBN	Obninsk	66.26	326	eP		P		15 45 40.8	+0.2
OBN				pmax	pmax				
	comp=Z,19nm,1.6s,mb4.9								
WRA	Warramunga Arr	67.88	200	P		P		15 45 49.7	-1.1
	comp=Z,3.6nm,0.8s,mb4.5,baz=17,slow=6.8,SNR=25								
WRA	Warramunga Arr	67.88	200	P		P		15 45 49.7	-1.2
WRA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
VRSR	Storozhevoye	68.05	322	eP		P		15 45 52.6	+0.7
	comp=Z,9.0nm,0.9s,mb4.8								
VRSR				pmax	pmax				
	comp=N,10.0nm,1.1s								
VRSR				pmax	pmax				
	comp=E,8.0nm,0.9s								
FITZ	Fitzroy Crossi	68.64	209	P		P		15 45 53.6	-2.0
	comp=E,18nm,0.9s,mb4.0,baz=144,slow=6.1,SNR=3.5								
NB2	NORSAR Subarra	69.17	342	P		P		15 45 57.9	-1.0
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.5								
NOA	NORSAR Array B	69.17	342	P		P		15 45 58.5	-0.4
	comp=Z,1.3nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=4.7								
NOA	NORSAR Array B	69.17	342	P		P		15 45 58.5	-0.4
NOA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
HFS	Hagfors	69.40	340	P		P		15 45 59.8	-0.6
	comp=Z,2.3nm,0.4s,mb4.4,baz=55,slow=5.6,SNR=20								
HFS	Hagfors	69.40	340	P		P		15 45 59.8	-0.5
HFS				pmax	pmax				
	comp=Z,2.0nm,0.4s								
BORG	Borgarnes	69.61	358	P		P		15 46 02.3	+0.7
	comp=Z,20nm,1.0s,mb5.0,baz=130,slow=7.9,SNR=2.3								
AS31	Alice Springs	71.57	199	eP		P		15 46 13.2	-0.4
ASAR	Alice Springs	71.57	199	P		P		15 46 13.3	-0.2
	comp=Z,4.3nm,0.7s,mb4.5,baz=17,slow=5.0,SNR=50								
ASAR	Alice Springs	71.57	199	P		P		15 46 13.4	-0.2
ASAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KIV	Kislovodsk	71.72	315	eP		P		15 46 16.2	+1.7
KIV				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
KIV	Kislovodsk	71.72	315	P		P		15 46 14.9	+0.5
	comp=Z,6.9nm,0.7s,mb4.7								
AKASG	Malin Array Be	72.50	327	P		P		15 46 18.7	-0.5
	comp=Z,4.9nm,0.6s,mb4.6,baz=34,slow=6.2,SNR=15								
AKASG	Malin Array Be	72.50	327	P		P		15 46 18.7	-0.5
AKASG				pmax	pmax				
	comp=Z,5.0nm,0.6s								
AKASG	Malin Array Be	72.50	327	P		P		15 46 18.7	-0.5
KIEV	Kiev	72.51	327	eP		P		15 46 18.5	-0.7
KIEV				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.5								
KIEV	Kiev	72.51	327	eP		P		15 46 18.5	-0.8
	comp=Z,3.7nm,0.6s,mb4.5								
GNI	Garni	73.43	311	eP		P		15 46 25.8	+1.1
GNI				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SOC	Sochi	73.44	316	iP		P		15 46 26.1	+1.3
SCHQ	Schefferville	73.89	23	LR	LR			16 22 58.2	
	comp=Z,761nm,18.3s,MS5.0,baz=294,slow=39								
OJC	Ojcow	76.28	332	eP		P		15 46 40.3	-0.8
STHS	Stebnicka Huta	76.47	330	eP		P		15 46 43.2	+1.0
STHS				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
STHS	Stebnicka Huta	76.47	330	eP		P		15 46 43.2	+1.0
	comp=Z,4.4nm,0.9s,mb4.4								
KOLS	Kolonicke sedl	76.52	329	eP		P		15 46 42.1	-0.4
BURAR	Bucovina Array	76.54	327	⇓iP		P		15 46 42.8	+0.2
BURAR	Bucovina Array	76.54	327	⇓P		P		15 46 42.8	+0.2
EKA	Eskdalemuir Ar	77.26	347	P		P		15 46 47.2	+0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=221,slow=53,SNR=3.0								
EKA	Eskdalemuir Ar	77.26	347	P		P		15 46 47.3	+0.6
EKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
DPC	Dobruska-Polom	77.28	334	eP		P		15 46 47.2	+0.4
MORC	Moravsky Berou	77.39	333	⇑iP		P		15 46 47.9	+0.5
MORC	Moravsky Berou	77.39	333	⇑P		P		15 46 47.9	+0.5
CLL	Collm	77.42	336	⇑iP		P		15 46 47.3	-0.3
CLL	Collm	77.42	336	⇑iP		P		15 46 47.3	-0.3
TXAR	Lajitas Array	77.49	61	P		P		15 46 47.1	-0.9
	comp=Z,2.3nm,0.8s,mb4.2,baz=308,slow=4.4,SNR=22								
TXAR	Lajitas Array	77.49	61	P		P		15 46 47.1	-0.9
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KECS	Kecovo	77.53	330	eP		P		15 46 48.3	+0.1
KECS				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.2								
KECS	Kecovo	77.53	330	eP		P		15 46 48.3	+0.1
	comp=Z,2.9nm,0.9s,mb4.2								
PVCC	Panska Ves	77.66	335	eP		P		15 46 49.5	+0.6
MLR	Muntele Rosu	78.02	325	P		P		15 46 51.3	+0.4
	comp=Z,3.8nm,0.6s,mb4.5,baz=200,slow=4.5,SNR=10								
MLR	Muntele Rosu	78.02	325	⇓iP		P		15 46 52.1	+1.2
MLR	Muntele Rosu	78.02	325	⇓P		P		15 46 52.1	+1.2
MALT	Malatya	78.06	313	⇑iP		P		15 46 52.9	+1.7
MALT	Malatya	78.06	313	⇑P		P		15 46 52.9	+1.7
VYHS	Vyhne	78.08	331	eP		P		15 46 51.4	+0.1
VRAC	Vranov	78.11	333	P		P		15 46 50.7	-0.8
	comp=Z,3.0nm,0.3s,mb4.7,baz=166,slow=13,SNR=4.2								
VRAC	Vranov	78.11	333	P		P		15 46 50.7	-0.7
VRAC				pmax	pmax				
	comp=Z,3.0nm,0.3s								
PRU	Pruhonice	78.14	334	eP		P		15 46 52.2	+0.6
DRGR		78.17	328	⇓iP		P		15 46 54.8	+3.0
DRGR		78.17	328	⇓P		P		15 46 54.8	+3.0
KHC	Kasperske Hory	79.19	335	⇑eP		P		15 46 57.8	+0.4
KHC	Kasperske Hory	79.19	335	eP		P		15 46 57.7	+0.3
BRTR	Keskin Array B	79.32	317	P		P		15 46 58.9	+0.8
	comp=Z,2.2nm,0.8s,mb4.1,baz=66,slow=4.2,SNR=12								
BRTR	Keskin Array B	79.32	317	P		P		15 46 58.9	+0.8
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
GRA1	Grafenberg Arr	79.37	336	eP		P		15 46 58.8	+0.4
	comp=Z,5.0nm,1.2s,mb4.3								
GRF	Grafenberg Arr	79.37	336	eP		P		15 46 58.8	+0.4
	comp=Z,5.0nm,1.2s,mb4.3								
GRF	Grafenberg Arr	79.37	336	eP		P		15 46 58.8	+0.4
GRF				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb4.3								
GRF	Grafenberg Arr	79.37	336	eP		P		15 46 58.8	+0.4
GRF				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb4.3								
GERES	GERESS Array B	79.41	334	P		P		15 46 58.0	-0.5
	comp=Z,1.1nm,0.6s,mb4.0,baz=22,slow=5.1,SNR=10								
GERES	GERESS Array B	79.41	334	P		P		15 46 58.0	-0.6
GERES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
CDF	Champ du Feu	81.60	338	eP		P		15 47 05.6	-4.8
	comp=Z,22nm,1.1s,mb4.7								
GRR	Gorron	83.50	343	eP		P		15 47 15.2	-5.0
	comp=Z,188nm,1.7s								
SMF	Signal de Mont	84.11	340	eP		P		15 47 18.4	-5.0
	comp=Z,35nm,1.3s,mb5.0								
LPG	La Plagne	84.43	337	eP		P		15 47 20.3	-4.7
	comp=Z,19nm,1.0s,mb4.9								
CAF	Calviac	86.15	340	eP		P		15 47 28.5	-5.1
CFAA	Coronel Fontan	144.67	81	PKP		PKPdf		15 54 25.8	-3.4
	comp=Z,0.2nm,0.4s,baz=329,slow=3.9,SNR=4.8								

IDC 25 15:46:37.3±9.7, 710S×12972E, h101km±104km, mb3.1/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.2/4, ML3.8/3, Error ellipse: s-maj=63.1km s-min=42.3km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FITZ	Fitzroy Crossi	11.63	200	P		Pn	15 49 21.9		+1.9
	0.5nm,0.3s,baz=43,slow=12,SNR=17								
FITZ				S		Sn	15 51 26.2		-1.7
	0.4nm,0.3s,baz=43,slow=17,SNR=5.4								
WRA	Warramunga Arr	13.53	161	P		Pn	15 49 44.6		-0.4
	0.5nm,0.3s,baz=338,slow=13,SNR=45								
WRA				S		Sn	15 52 10.7		-3.1
	0.3nm,0.3s,baz=340,slow=22,SNR=4.9								
ASAR	Alice Springs	16.95	167	P		Pn	15 50 30.4		+2.2
	0.3nm,0.3s,baz=4.2,slow=13,SNR=28								
ASAR				S		S	15 53 37.9		-2.1
	0.1nm,0.3s,baz=357,slow=27,SNR=4.1								
MKAR	Makanchi Array	68.16	327	P		P	15 57 26.4		-0.2
	0.2nm,0.4s,baz=119,slow=7.9,SNR=5.9								

*IDC **25** 16:01:16.1±0.6, 466N×9345E, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.4/23, mbtmp4.5/16, MS3.9/4, Ms1 3.9/4, ms1mx3.0/52, Error ellipse: s-maj=28.5km s-min=13.0km az=48.0*

*BJI **25** 16:01:17.5, 428N×9366E, h41km, mB5.0, mb4.7, Ms4.3, Msz4.4*

*ISCJB **25** 16:01:19.9±1.1, 466N±005×9353E±005, h37km±9km, mb4.6/60, MS4.1/8, Error ellipse: s-maj=9.9km s-min=6.2km az=75.2*

*MOS **25** 16:01:19.5±0.8, 475N×9355E, h33km, mb4.9/28, Error ellipse: s-maj=11.1km s-min=6.2km az=112.2*

*NEIC **25** 16:01:22.3±0.9, 472N×9354E, h40km±8km, mb4.7/27, Error ellipse: s-maj=8.1km s-min=5.0km az=218.0*

ISC 25 16:01:22.8±0.9, 470N±005×9353E±005, h44km±8km, h40km±3.8km; pP-P, n147, σ0.93/142, mb4.6/60, MS4.1/8, 16C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PSI	Prapat	5.70	109	Pn		Pn	16 02 46.3		+1.4
	4.0nm,0.3s,baz=299,slow=9.3,SNR=13								
PSI				Sn		Sn	16 03 48.6		-0.5
	5.5nm,0.3s,baz=83,slow=18,SNR=9.3								
PBA	Port Blair	6.96	354	eP		x	16 04 01.8		
PBA				eS		x	16 04 09.0		
PBA				ex		x	16 04 10.8		
	comp=E,134nm,0.2s								
PBA				ex		x	16 04 11.3		
	comp=N,217nm,0.5s								
KULM	Kulim	7.12	85	ePn		Pn	16 03 03.8		-0.6
KULM				eSn		Sn	16 04 19.0		-4.9
SNG	Songkhla	7.47	70	P		Pn	16 03 09.0		-0.2
	comp=N,158nm,0.9s								
IPM	Ipoh	7.48	91	P		Pn	16 03 09.9		+0.6
PALK	Pallekele	13.01	282	ePn		Pn	16 04 24.2		-0.7
PALK				eSn		Sn	16 06 32.5		-16
CM31	Chiang Mai Arr	14.66	21	eP		Pn	16 04 52.2		+4.8
	comp=N,14nm,0.7s								
KKTK	Khon Kaen	14.73	38	P		Pn	16 04 54.0		+5.7
	comp=N,278nm,0.5s								
CHTO	Chiang Mai	14.99	20	eP		Pn	16 04 50.0		-1.7
CHTO				pmax	pmax				
	comp=Z,15nm,0.9s								
CHTO	Chiang Mai	14.99	20	ePn		Pn	16 04 50.0		-1.8
	comp=Z,15nm,0.9s								
NANT	Nan	15.67	26	⇑P		Pn	16 05 01.0		+0.5
	comp=Z,81nm,1.0s								
KSM	Kuching	17.06	100	ePn		Pn	16 05 20.3		+2.3
QIZ	Qiongzhong	21.36	47	eP		P	16 06 07.9		+1.6
	comp=Z,34nm,1.1s,mb4.6								
KMI	Kunming	22.15	23	P		P	16 06 15.8		+1.0
KMI				*PP			16 06 32.8		
KMI				pmax	pmax				
	comp=Z,15nm,1.2s,mb4.3								
KMI	Kunming	22.15	23	P		P	16 06 15.8		+1.0
	comp=Z,15nm,1.2s,mb4.3								
KMI				pP			16 06 32.8		
PKI	Pulchoki	24.03	342	eP		P	16 06 33.9		+0.3
DMN	Daman	24.16	341	eP		P	16 06 35.8		+1.0
GUN	Gumba	24.21	343	eP		P	16 06 35.7		+0.5
	comp=Z,31nm,0.6s,mb4.9								
KKN	Kakani	24.27	342	eP		P	16 06 36.1		+0.3
	comp=Z,40nm,0.9s,mb4.8								
TSM	Tawau	24.27	90	P		P	16 06 37.0		+1.2
GKN	Gorkha	24.67	341	eP		P	16 06 40.0		+0.5
	comp=Z,59nm,0.7s,mb5.2								
KOLN	Koldanda	24.82	339	eP		P	16 06 41.5		+0.7
	comp=Z,96nm,0.9s,mb5.3								
LSA	Lhasa	24.97	355	P		P	16 06 44.0		+1.8
LSA				S		S	16 11 07.3		+4.4
LSA				AMB	AMB				
	comp=Z,70nm,0.6s,mb5.4								
LSA	Lhasa	24.97	355	eP		P	16 06 44.0		+1.8
LSA				pmax	pmax				
	comp=Z,49nm,0.6s,mb5.2								
LSA	Lhasa	24.97	355	eP		P	16 06 44.0		+1.9
	comp=Z,49nm,0.6s,mb5.2								
LSA				e			16 07 09.4		
GYA	Guiyang	25.02	29	P		P	16 06 42.5		-0.2
GYA				AMB	AMB				
	comp=Z,20nm,0.8s,mb4.7								
ENH	Enshi	29.56	29	eP		P	16 07 21.0		-2.4
	comp=Z,0.6nm,0.7s								
XAN	Xi'an	32.51	24	P		P	16 07 47.8		-1.6
XAN				AP	pP		16 08 00.8		-0.3
XAN				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.8								
GTA	Gaotai	35.02	8	eP		P	16 08 11.3		+0.1
GTA				AP	pP		16 08 20.5		-2.5
GTA				XP	sP		16 08 24.8		-3.3
GTA				AMB	AMB				
	comp=Z,12nm,0.9s,mb4.8								
NJ2	Nanjing	36.10	38	eP		P	16 08 21.0		+0.6
NJ2				AP	pP		16 08 32.0		-0.2
NJ2				XP	sP		16 08 34.5		-2.9
NJ2				PP	PP		16 09 43.5		+0.5
NJ2				S	S		16 13 59.0		+2.2
NJ2				XS	sS		16 14 15.0		-1.6
NJ2				AMB	AMB				
	comp=Z,1μm,6.6s								
NJ2				LR	LR				
	comp=N,450nm,19.5s,MS4.8								
NJ2				LR	LR				
	comp=E,1μm,16.5s,MS4.8								
NJ2				LR	LR				
	comp=Z,2μm,18.6s,MS4.8								
MBWA	Marble Bar	36.34	136	eP		P	16 08 22.1		-0.3
	comp=Z,7.7nm,0.8s,mb4.7								
FITZ	Fitzroy Crossi	38.94	126	eP		P	16 08 43.6		-0.8
	comp=Z,5.2nm,0.8s,mb4.3								
FITZ	Fitzroy Crossi	38.94	126	P		P	16 08 43.8		-0.6
	comp=Z,2.8nm,0.7s,mb4.1,baz=287,slow=4.8,SNR=8.5								
FITZ				PcP		PcP	16 10 54.9

comp=Z,78nm,18.7s,MS3.7,baz=352,slow=38
SNY Shenyang 45.67 32 ⇓P **P 16 09 37.5 -1.7**
SNY AMB AMB
comp=Z,11nm,1.3s,mb4.6
ZAK Zakamensk 46.26 9 *eP* **P 16 09 40.0 -3.8**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
WRA Warramunga Arr 46.99 123 P **P 16 09 49.9 +0.3**
comp=Z,10.0nm,0.6s,mb4.9,baz=300,slow=9.1,SNR=104
WRA PcP PcP 16 11 22.0 +0.7
comp=Z,1.5nm,0.6s,baz=310,slow=3.3,SNR=6.3
WRAB Tennant Creek 47.00 123 *eP* **P 16 09 48.8 -0.8**
WB2 Warramunga Arr 47.00 123 *eP* **P 16 09 49.9 +0.3**
ASAR Alice Springs 48.42 127 P **P 16 10 00.6 -0.1**
comp=Z,3.7nm,1.0s,mb4.4,baz=297,slow=8.1,SNR=24
ASAR PcP PcP 16 11 27.3 +0.9
comp=Z,2.6nm,0.7s,baz=302,slow=3.4,SNR=12
ZAL Zalesovo 49.60 353 P **P 16 10 10.6 +0.9**
comp=Z,15nm,0.5s,mb5.3,baz=301,slow=5.9,SNR=66
HIA Hailar 49.67 22 *eP* **P 16 10 08.6 -1.6**
HIA Hailar 49.67 22 *eP* **P 16 10 09.8 -0.4**
comp=Z,5.8nm,0.7s,mb4.7
CIT Chita 50.01 16 *eP* **P 16 10 12.5 -0.3**
CIT pmax pmax
comp=Z,30nm,1.0s,mb5.3
NVS Novosibirsk 50.68 352 *eP* **P 16 10 16.6 -1.3**
NVS pmax pmax
comp=N,17nm,0.9s
NVS pmax pmax
comp=E,11nm,0.9s
NVS pmax pmax
comp=Z,23nm,0.9s,mb5.1
VOSK Vostochnaya 51.36 343 P **P 16 10 22.2 -0.7**
MAT Matsushiro 51.76 46 PCP PcP 16 11 39.0 +0.3
MJAR Matsushiro Arr 51.76 46 P **P 16 10 25.5 -0.4**
comp=Z,0.7nm,0.5s,mb3.8,baz=236,slow=6.3,SNR=7.9
MJAR PcP PcP 16 11 39.0 +0.2
comp=Z,3.2nm,0.8s,baz=244,slow=3.0,SNR=9.5
BVA0 Borovoye Array 51.80 342 P **P 16 10 25.6 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRVK Borovoye 51.86 342 *eP* **P 16 10 25.8 -0.9**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb4.9
BRVK Borovoye 51.86 342 *eP* **P 16 10 25.8 -0.9**
comp=Z,13nm,0.9s,mb4.9
ZRNK Zerenda 52.16 341 *eP* **P 16 10 28.3 -0.6**
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZRNK Zerenda 52.16 341 *eP* **P 16 10 28.3 -0.6**
comp=Z,7.7nm,0.6s,mb4.8
CHKZ Chkalovo 52.30 343 ⇓*i*P **P 16 10 29.9 0.0**
CHKZ *e* 16 11 40.5
CHKZ pmax pmax
comp=Z,47nm,0.2s
CHKZ Chkalovo 52.30 343 ⇓*i*P **P 16 10 29.9 0.0**
comp=Z,47nm,0.2s
CHKZ *e*PcP PcP 16 11 40.5 -0.2
AB31 Akbulak array 52.74 333 *i* P **P 16 10 33.1 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
PMG Port Moresby 55.25 105 *eP* **P 16 10 51.3 -0.2**
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 55.25 105 *eP* **P 16 10 51.3 -0.3**
comp=Z,11nm,0.9s,mb4.9
BOD Bodaibo 55.36 13 *eP* **P 16 10 51.3 -1.0**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CTA Charters Tower 57.34 117 *eP* **P 16 11 06.8 +0.3**
comp=Z,3.6nm,0.9s,mb4.4
CTA Charters Tower 57.34 117 *eP* **P 16 11 06.8 +0.3**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 57.34 117 *eP* **P 16 11 06.7 +0.2**
CTAO pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CTAO Charters Tower 57.34 117 *eP* **P 16 11 06.7 +0.2**
comp=Z,5.9nm,0.9s,mb4.6
ZEI Tsey 57.97 319 *eP* **P 16 11 10.2 -0.6**
SVE Sverdlovsk 58.13 339 *eP* **P 16 11 11.0 -0.9**
STKA Stephens Creek 58.41 132 P **P 16 11 14.0 +0.1**
comp=Z,4.3nm,1.0s,mb4.5,baz=299,slow=1.9,SNR=4.5
STKA Stephens Creek 58.41 132 *eP* **P 16 11 14.2 +0.3**
ARU Arti 58.57 338 *eP* **P 16 11 14.2 -0.9**
ARU *e* 16 12 01.9
ARU *e* 16 13 25.4
ARU *e*S **S 16 19 18.1 +2.2**
ARU *e*SS SS 16 23 11.7 +2.8
ARU Arti 58.57 338 *eP* **P 16 11 14.0 -1.1**
comp=Z,19nm,1.0s,mb5.1
KIV Kislovodsk 59.28 319 *eP* **P 16 11 19.5 -0.5**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.4
KIV Kislovodsk 59.28 319 *eP* **P 16 11 20.0 0.0**
comp=Z,6.8nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 59.66 37 *eP* **P 16 11 22.5 -0.1**
YSS pmax pmax
comp=Z,45nm,2.5s,mb5.1
YSS Yuzh-Sakhalins 59.66 37 *eP* **P 16 11 23.1 +0.6**
comp=Z,9.8nm,0.7s,mb5.0
MALT Malatya 60.08 312 P **P 16 11 25.7 +0.2**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MALT Malatya 60.08 312 P **P 16 11 25.6 +0.2**
comp=Z,3.1nm,0.9s,mb4.3
EIL Elat 60.51 301 P **P 16 11 29.9 +1.5**
comp=Z,92nm,0.7s
YAK Yakutsk 63.18 18 *eP* **P 16 11 45.3 -1.1**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
YAK Yakutsk 63.18 18 *eP* **P 16 11 45.3 -1.1**
comp=Z,8.8nm,0.6s,mb5.1
VRHR Novokhopersk 63.20 326 *eP* **P 16 11 43.4 -3.1**
VRHR pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
VRHR pmax pmax
comp=N,2.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.7s
BR131 Keskin Array S 64.06 312 *eP* **P 16 11 52.0 -0.1**
comp=E,5.3nm,0.7s,mb4.7
BRTR Keskin Array B 64.06 312 P **P 16 11 52.0 -0.1**
comp=E,6.0nm,0.7s,mb4.7,baz=131,slow=7.2,SNR=34
OBN Obninsk 67.74 329 *eP* **P 16 12 14.6 -1.2**
OBN pmax pmax
comp=Z,16nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 67.74 329 *eP* **P 16 12 13.8 -2.0**
comp=Z,14nm,0.8s,mb5.0
TIRR Tirgusor 69.08 316 ⇓*i*P **P 16 12 23.9 -0.3**
TIRR Tirgusor 69.08 316 ⇓P **P 16 12 23.9 -0.3**
MA2 Magadan 69.85 27 P **P 16 12 28.1 -0.8**
MA2 pmax pmax
comp=Z,16nm,0.8s,mb5.0
MA2 Magadan 69.85 27 P **P 16 12 28.1 -0.9**
comp=Z,16nm,0.8s,mb5.0
AKASG Malin Array Be 70.27 322 P **P 16 12 29.8 -1.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=93,slow=4.6,SNR=9.6
TIXI Tiksi 70.44 11 ⇑*eP* **P 16 12 30.9 -1.7**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
TIXI Tiksi 70.44 11 *eP* **P 16 12 31.0 -1.6**
comp=Z,12nm,0.7s,mb4.9
VRI Vrincioaia 70.58 317 ⇑*i*P **P 16 12 34.3 +0.9**
VRI Vrincioaia 70.58 317 ⇑P **P 16 12 34.4 +1.0**
PLOR Plostina 70.63 317 ⇓*i*P **P 16 12 35.0 +1.3**
MLR Muntele Rosu 71.02 317 ⇑*i*P **P 16 12 36.9 +0.8**
MLR Muntele Rosu 71.02 317 ⇑P **P 16 12 36.9 +0.8**
BURAR Bucovina Array 71.99 319 ⇑*i*P **P 16 12 42.7 +0.8**
BURAR Bucovina Array 71.99 319 ⇑P **P 16 12 42.7 +0.7**
VTS Vitosha 72.38 313 ⇑*i*P **P 16 12 44.4 +0.2**
BZS Buzias 74.03 316 ⇑*i*P **P 16 12 53.9 -0.1**
BZS Buzias 74.03 316 ⇑P **P 16 12 53.9 -0.1**
KOLS Kolonicke sedl 74.19 320 *eP* **P 16 12 55.7 +0.8**
STHS Stebnicka Huta 74.95 320 *eP* **P 16 13 00.9 +1.6**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 74.95 320 *eP* **P 16 13 00.9 +1.6**
comp=Z,3.6nm,0.8s,mb4.3
FINES FINESS Array B 75.23 333 P **P 16 12 60.0 -1.0**
comp=Z,4.6nm,0.7s,mb4.5,baz=105,slow=6.1,SNR=20
KECS Kecovo 75.28 319 *eP* **P 16 13 01.4 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 75.28 319 *eP* **P 16 13 01.4 +0.2**
comp=Z,2.1nm,0.9s,mb4.1
OJC Ojcow 76.01 321 *eP* **P 16 13 05.1 -0.3**
VYHS Vyhne 76.36 319 *eP* **P 16 13 07.5 +0.1**
ZST Bratislava 77.47 318 *eP* **P 16 13 14.3 +0.7**
ZST pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZST Bratislava 77.47 318 *eP* **P 16 13 14.3 +0.7**
comp=Z,7.5nm,1.0s,mb4.6
KEV Kevo 77.61 341 *ep* **P 16 13 13.5 -0.9**
comp=Z,2.7nm,0.6s,mb4.3
KEV Kevo 77.61 341 *eP* **P 16 13 13.5 -0.9**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ARCES ARCESS Array B 78.03 341 P **P 16 13 16.4 -0.3**
comp=Z,2.5nm,0.4s,mb4.5,baz=96,slow=6.0,SNR=52
ARCES ARCESS Array B 78.03 341 P **P 16 13 16.4 -0.3**
BILL Bilibino 79.25 21 *eP* **P 16 13 22.2 -1.2**
BILL pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GERES GERESS Array B 79.78 319 P **P 16 13 27.0 +0.7**
comp=Z,3.7nm,0.9s,mb4.3,baz=99,slow=5.9,SNR=25
NOA NORSAR Array B 82.19 331 P **P 16 13 38.4 -0.7**
comp=Z,1.3nm,0.8s,mb3.9,baz=168,slow=3.6,SNR=2.9
SYO Syowa Base 82.21 197 ⇑*e*X 16 13 33.8
SYO Syowa Base 82.21 197 ⇑*ep*P pP 16 13 51.6 -0.7
KEST Kesra 82.56 305 P **P 16 13 40.4 -0.7**
comp=Z,1.0nm,0.7s,mb4.0,baz=327,slow=7.7,SNR=4.5
KEST LR LR 16 53 25.5
comp=Z,162nm,20.1s,MS4.4,baz=332,slow=38
VNDA Vanda 89.96 168 P **P 16 14 18.0 +0.5**
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA Vanda 89.96 168 P **P 16 14 18.0 +0.5**
comp=Z,2.2nm,1.1s,mb4.4
ULM Lac du Bonnet 124.67 7 PKP PKPdf 16 20 17.2 -0.3
comp=Z,2.0nm,0.8s,baz=330,slow=11,SNR=4.1
NVAR Mina Array Bea 127.93 32 PKP PKPdf 16 20 26.2 +2.5
comp=Z,1.3nm,0.5s,baz=311,slow=4.3,SNR=11
PDAR Pinedale Array 128.33 22 PKP PKPdf 16 20 25.5 +1.0
comp=Z,1.5nm,0.7s,baz=137,slow=2.0,SNR=12
ANMO Albuquerque 136.30 24 ⇑*i*PKIKP PKPdf 16 20 41.9 +2.3
TXAR Lajitas Array 142.35 25 PKhKP 16 20 46.5
comp=Z,0.6nm,0.7s,baz=144,slow=0.7,SNR=6.0
TXAR PKP PKPdf 16 20 52.2 +1.6
comp=Z,1.1nm,0.6s,baz=46,slow=0.6,SNR=10.0
JCT Junction City 142.77 19 *e*PKIKP PKPdf 16 20 47.6 -3.7

KRSC 25 16:14:51.2±0.0, 5129N×15751E, h142km±99km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.30**	**28**	*e*P		Pn	16 15 19.5	+1.4
RUS				*i* S		Sn	16 15 40.9	+2.3
RUS	**Russkaya**	**1.30**	**28**	*e*P		Pn	16 15 19.5	+1.4
RUS				*i* S		Sn	16 15 40.9	+2.3
GRL	**Gorelyy**	**1.31**	**15**	P		Pn	16 15 19.2	+1.1
GRL	**Gorelyy**	**1.31**	**15**	P		Pn	16 15 19.2	+1.1
PET	**Petropavlovsk**	**1.87**	**22**	P		Pn	16 15 26.7	+2.4
PET	**Petropavlovsk**	**1.87**	**22**	P		Pn	16 15 26.7	+2.4
AVH	**Avacha**	**2.12**	**20**	P		Pn	16 15 29.3	+2.1
AVH				*i* S		Sn	16 15 57.1	+2.2
AVH	**Avacha**	**2.12**	**20**	P		Pn	16 15 29.3	+2.1
AVH				*i* S		Sn	16 15 57.1	+2.2
NLC	**Nalytchevo**	**2.20**	**30**	P		Pn	16 15 30.2	+2.0
NLC				*i* S		Sn	16 15 57.5	+0.9
NLC	**Nalytchevo**	**2.20**	**30**	P		Pn	16 15 30.2	+2.0
NLC				*i* S		Sn	16 15 57.5	+0.9
SPN	**Mys Shipunski**	**2.38**	**40**	*e*P		Pn	16 15 32.9	+2.5
SPN				*i* S		Sn	16 16 02.9	+2.3
SPN	**Mys Shipunski**	**2.38**	**40**	*e*P		Pn	16 15 32.9	+2.5
SPN				*i* S		Sn	16 16 02.9	+2.3
GNL	**Ganaly**	**2.42**	**6**	*e*P		Pn	16 15 31.8	+0.9
GNL	**Ganaly**	**2.42**	**6**	*e*P		Pn	16 15 31.8	+0.9
MKZ	**Mys Kozlova**	**4.15**	**36**	*e*P		Pn	16 15 55.0	+1.8
MKZ				*e*S		Sn	16 16 42.5	+1.2
MKZ	**Mys Kozlova**	**4.15**	**36**	*e*P		Pn	16 15 55.0	+1.8
MKZ				*e*S		Sn	16 16 42.5	+1.2
KBTR	**Krutoberegovo**	**5.85**	**30**	P		Pn	16 16 17.5	+1.8
KBTR	**Krutoberegovo**	**5.85**	**30**	P		Pn	16 16 17.5	+1.8

*IDC **25** 16:20:17.0±15.0, 2688S×17725E, h0km, mb4.2/3, mb1 4.5/4, mb1mx4.0/12, mbtmp4.4/4, ML4.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/26, Error ellipse: s-maj=283.6km s-min=80.3km az=66.0*
*ISCJB **25** 16:20:19.7±1.6, 270S±02×1769E±02, h10km, mb4.5/6, Error ellipse: s-maj=34.8km s-min=22.4km az=92.7*
*NEIC **25** 16:20:21.1±1.3, 2699S×17695E, h10km, mb4.5/3, Error ellipse: s-maj=28.9km s-min=18.3km az=45.0*

ISC 25 16:20:20.6±1.6, 270S±02×1770E±02, h10km, n11, σ0°81/11, mb4.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.80**	**294**	Pn		**Pn**	**16 22 54.6**	**-0.7**
	7.3nm,0.3s,baz=325,slow=19,SNR=68							
DZM				LR		LR	16 25 21.6	
	comp=Z,125nm,18.4s,baz=39,slow=28							
CTA	**Charters Tower**	**29.00**	**277**	*e*P		**P**	**16 26 21.9**	**+1.4**
	4.1nm,0.6s,mb4.3							
CTAO	**Charters Tower**	**29.00**	**277**	*e*P		**P**	**16 26 21.6**	**+1.1**
	5.5nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**31.17**	**252**	P		**P**	**16 26 38.9**	**-0.8**
	0.9nm,0.4s,mb4.0,baz=108,slow=13,SNR=1.7							
STKA	**Stephens Creek**	**31.17**	**252**	P		**P**	**16 26 38.9**	**-0.8**
ASAR	**Alice Springs**	**39.00**	**265**	P		**P**	**16 27 47.2**	**+0.1**
	2.5nm,0.6s,mb4.1,baz=90,slow=7.8,SNR=54							
WB2	**Warramunga Arr**	**39.64**	**271**	*e*P		**P**	**16 27 52.2**	**-0.3**
WRA	**Warramunga Arr**	**39.65**	**271**	P		**P**	**16 27 52.6**	**+0.1**
	2.3nm,0.6s,mb4.1,baz=106,slow=8.3,SNR=24							
FITZ	**Fitzroy Crossi**	**48.02**	**269**	*e*P		**P**	**16 29 03.2**	**+3.3**
	6.9nm,1.6s,mb4.4							
VNDA	**Vanda**	**51.13**	**184**	*e*P		**P**	**16 29 23.4**	**-0.2**
MA2	**Magadan**	**88.90**	**347**	P		**P**	**16 33 15.0**	**-0.2**
	117nm,1.6s,mb6.0							

*ISCJB **25** 16:26:05.7±0.8, 307N±0.1×1388E±0.4, h403km±17km, mb3.1/5, Error ellipse: s-maj=58.1km s-min=10.0km az=140.4*
*IDC **25** 16:26:05.6±1.2, 3052N×13826E, h361km±20km, mb2.9/5, mb1 3.0/8, mb1mx2.8/23, mbtmp3.0/8, Error ellipse: s-maj=46.3km s-min=10.2km az=64.0*
*JMA **25** 16:26:09.2±0.3, 3121N×13931E, h433km, M3.4*

ISC 25 16:26:06.6±0.7, 308N±01×1391E±04, h407km±18km, n14, σ0°83/18, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.43**	**14**	P		**Pn**	**16 27 08.3**	**+2.2**
JHJ2				*e*S		**S**	**16 27 55.3**	**+1.2**
JHJ	**Hachijo jima 2**	**2.43**	**13**	P		**Pn**	**16 27 06.4**	**+0.3**
	12nm,0.3s,baz=44,slow=11,SNR=3.5							
JHJ				S		**S**	**16 27 53.1**	**-1.0**
	16nm,0.3s,baz=53,slow=22,SNR=7.7							
CBIJ	**Chichi jima**	**4.51**	**143**	P		**Pn**	**16 27 23.0**	**-1.1**
	5.7nm,0.3s,baz=266,slow=17,SNR=2.4							
CBIJ				S		**S**	**16 28 26.9**	**-0.2**
	18nm,0.3s,baz=296,slow=20,SNR=5.6							
JHU	**Hanno**	**5.09**	**1**	P		**Pn**	**16 27 29.6**	**-0.3**
JRY	**Ryogami san**	**5.26**	**358**	P		**Pn**	**16 27 31.8**	**+0.2**
JAG	**Ashikaga**	**5.67**	**3**	P		**Pn**	**16 27 35.0**	**-1.0**
JAG				*e*S		**S**	**16 28 42.8**	**-5.9**
MJAR	**Matsushiro Arr**	**5.83**	**353**	P		**Pn**	**16 27 37.4**	**-0.2**
	0.6nm,0.3s,baz=196,slow=8.8,SNR=10.0							
JHO	**Hitachi**	**5.97**	**11**	P		**Pn**	**16 27 39.0**	**-0.2**
SONM	**Songino Array**	**30.25**	**314**	P		**P**	**16 31 41.3**	**-0.6**
	0.4nm,0.7s,mb2.9,baz=122,slow=9.7,SNR=4.2							
HNR	**Honiara**	**44.67**	**150**	P		**P**	**16 33 46.1**	**+5.1**
	24nm,0.3s,baz=249,slow=6.3,SNR=14							
MKAR	**Makanchi Array**	**46.12**	**307**	P		**P**	**16 33 51.8**	**-0.5**
	0.5nm,0.6s,mb3.1,baz=83,slow=10,SNR=12							
WRA	**Warramunga Arr**	**50.61**	**186**	P		**P**	**16 34 27.1**	**+1.1**
	0.2nm,0.4s,mb2.7,baz=0.2,slow=7.6,SNR=10							
BVAR	**Borovoye Array**	**53.56**	**316**	P		**P**	**16 34 47.5**	**0.0**
	0.8nm,0.6s,mb3.2,baz=100,slow=8.8,SNR=7.8							
FINES	**FINESS Array B**	**73.50**	**333**	P		**P**	**16 36 56.8**	**+0.6**
	2.8nm,1.1s,mb3.7,baz=29,slow=4.4,SNR=4.7							

*ISCJB **25** 16:41:53.4±7.6, 474N±02×1553E±02, h15km±55km, mb4.0/14, Error ellipse: s-maj=26.8km s-min=21.9km az=170.2*
*IDC **25** 16:41:53.6±1.0, 4735N×15522E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/26, mbtmp4.0/11, ML3.1/1, Error ellipse: s-maj=24.8km s-min=21.9km az=175.0*
*NEIC **25** 16:41:55.1±1.0, 4744N×15533E, h10km, mb4.3/4, Error ellipse: s-maj=21.8km s-min=15.6km az=168.0*

ISC 25 16:41:55.1±1.0, 475N±02×1553E±02, h11km±64km, n17, σ0°98/17, mb4.0/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.51**	**254**	Pn		**Pn**	**16 44 12.4**	**+0.4**
	0.2nm,0.3s,baz=88,slow=19,SNR=4.1							
SONM	**Songino Array**	**32.52**	**289**	P		**P**	**16 48 25.6**	**-0.3**
	0.1nm,0.5s,mb3.0,baz=43,slow=7.8,SNR=4.4							
COLA	**College**	**34.62**	**39**	P		**P**	**16 48 42.3**	**-1.9**
	1.9nm,0.5s,mb4.3							
INK	**Inuvik**	**40.21**	**33**	P		**P**	**16 49 32.5**	**+0.9**
	0.7nm,0.4s,mb3.7,baz=173,slow=19,SNR=7.0							
ZAL	**Zalesovo**	**43.42**	**306**	P		**P**	**16 49 57.5**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=83,slow=8.8,SNR=3.0							
MKAR	**Makanchi Array**	**47.94**	**298**	P		**P**	**16 50 33.8**	**+0.1**
	0.8nm,0.7s,mb3.9,baz=65,slow=8.0,SNR=9.3							
BVAR	**Borovoye Array**	**51.55**	**310**	P		**P**	**16 51 01.1**	**0.0**
	1.7nm,0.5s,mb4.2,baz=54,slow=7.7,SNR=11							
BRVK	**Borovoye**	**51.59**	**310**	*e*P		**P**	**16 51 00.6**	**-0.8**
	2.2nm,0.6s,mb4.3							
LSA	**Lhasa**	**51.74**	**274**	P		**P**	**16 51 05.1**	**+2.6**
	2.3nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**52.31**	**310**	*e*P		**P**	**16 51 06.2**	**-0.6**
	1.8nm,0.5s,mb4.3							
ZRNK				*e*			16 51 17.6	
PMG	**Port Moresby**	**57.10**	**190**	P		**P**	**16 51 40.5**	**-1.0**
	3.6nm,0.3s,mb4.9,baz=359,slow=3.8,SNR=11							
AKTK	**Aktyubinsk**	**59.35**	**312**	P		**P**	**16 51 56.6**	**-0.6**
AKTO	**Aktyubinsk**	**59.35**	**312**	P		**P**	**16 51 56.6**	**-0.6**
	0.5nm,0.5s,mb3.9,baz=76,slow=15,SNR=3.3							
FINES	**FINESS Array B**	**64.01**	**336**	P		**P**	**16 52 29.0**	**+0.3**
	1.5nm,0.6s,mb4.2,baz=34,slow=6.2,SNR=12							
NOA	**NORSAR Array B**	**68.01**	**342**	P		**P**	**16 52 55.7**	**+1.3**
	1.3nm,0.9s,mb4.0,baz=130,slow=13,SNR=2.8							
TXAR	**Lajitas Array**	**75.81**	**62**	P		**P**	**16 53 42.5**	**+1.3**
	0.7nm,0.7s,mb3.7,baz=298,slow=4.3,SNR=8.9							
TXAR	**Lajitas Array**	**75.81**	**62**	P		**P**	**16 53 42.5**	**+1.3**

IDC 25 16:50:30.5±4.3, 2371S×17551W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, Error ellipse: s-maj=217.1km s-min=45.2km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.59**	**268**	P		P	16 57 30.8	+1.1
	2.4nm,0.4s,baz=125,slow=15,SNR=10							
ASAR	**Alice Springs**	**46.12**	**259**	P		P	16 58 57.5	+1.0
	0.5nm,0.4s,baz=91,slow=6.6,SNR=17							
WRA	**Warramunga Arr**	**46.52**	**264**	P		P	16 58 58.5	-1.2
	1.0nm,0.5s,baz=104,slow=8.2,SNR=18							
AKASG	**Malin Array Be**	**146.93**	**331**	PKPbc	PKPbc		17 10 13.0	-1.9
	0.3nm,0.4s,baz=90,slow=0.9,SNR=4.5							
BRTR	**Keskin Array B**	**150.68**	**310**	PKPbc	PKPbc		17 10 25.7	+1.1
	0.7nm,0.8s,baz=131,slow=3.4,SNR=5.0							

*ISCJB **25** 17:19:07.0±0.7, 470N±0.1×1558E±0.1, h10km, mb4.1/18, MS3.6/6, Error ellipse: s-maj=16.8km s-min=10.6km az=126.3*
*IDC **25** 17:19:07.3±0.8, 4684N×156.10E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/24, mbtmp3.9/12, ML3.5/1, MS3.5/7, Ms1 3.5/7, ms1mx3.0/34, Error ellipse: s-maj=25.0km s-min=16.9km az=137.0*
*NEIC **25** 17:19:08.4±0.7, 4689N×15575E, h10km, mb4.3/6, Error ellipse: s-maj=17.6km s-min=13.8km az=136.0*
*BJI **25** 17:19:10.9, 4722N×155.14E, h7km, mb4.8, mb4.3*
*MOS **25** 17:19:12.0±1.3, 4690N×15561E, h49km, mb4.4/11, Error ellipse: s-maj=17.2km s-min=15.0km az=104.4*

ISC 25 17:19:07.6±7.6, 470N±01×1560E±02, h1km±47km, n39, σ1°13/34, mb4.1/18, MS3.6/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**9.03**	**274**	*e*PN		**Pn**	**17 21 19.1**	**+0.1**
ASAJ	**Asahikawa**	**9.81**	**258**	Pn		**Pn**	**17 21 29.9**	**+0.1**
	0.5nm,0.3s,baz=83,slow=27,SNR=5.1							
ASAJ				LR		LR	17 24 58.0	
	comp=Z,68nm,18.0s,baz=183,slow=36							
MJAR	**Matsushiro Arr**	**16.84**	**238**	Pn		**Pn**	**17 23 00.1**	**-4.5**
	0.1nm,0.3s,baz=30,slow=16,SNR=4.4							
YAK	**Yakutsk**	**21.18**	**325**	*e*P		**P**	**17 23 52.5**	**-1.8**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.2							
YAK	**Yakutsk**	**21.18**	**325**	*e*P		**P**	**17 23 52.5**	**-1.8**
	comp=Z,10nm,0.7s,mb4.3							
KSRS	**Korea Array**	**22.75**	**255**	P		**P**	**17 24 12.1**	**+1.0**
	comp=Z,2.4nm,0.9s,mb3.8,baz=58,slow=8.5,SNR=6.8							
KSRS				LR		LR	17 32 09.5	
	comp=Z,28nm,18.3s,MS2.7,baz=105,slow=34							
SONM	**Songino Array**	**33.08**	**290**	LR		LR	17 39 20.2	
	comp=Z,86nm,18.7s,MS3.5,baz=13,slow=36							
INK	**Inuvik**	**40.37**	**33**	P		**P**	**17 26 47.4**	**+0.5**
	comp=Z,1.6nm,0.5s,mb3.9,baz=317,slow=7.5,SNR=17							
INK	**Inuvik**	**40.37**	**33**	*e*P		**P**	**17 26 46.6**	**-0.2**
	comp=Z,66nm,0.6s,mb5.4							
GYA	**Guiyang**	**43.68**	**260**	P		**P**	**17 27 14.5**	**+0.6**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.5							
MKAR	**Makanchi Array**	**48.53**	**298**	P		**P**	**17 27 54.2**	**+2.1**
	comp=Z,2.1nm,0.9s,mb4.2,baz=66,slow=7.5,SNR=4.2							
MKAR	**Makanchi Array**	**48.53**	**298**	P		**P**	**17 27 54.3**	**+2.1**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**49.53**	**38**	P		**P**	**17 28 01.2**	**+1.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=294,slow=7.1,SNR=6.7							
CHKZ	**Chkalovo**	**51.73**	**311**	*e*P		**P**	**17 28 14.8**	**-1.6**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
CHKZ	**Chkalovo**	**51.73**	**311**	*e*P		**P**	**17 28 14.8**	**-1.6**
	comp=Z,4.6nm,1.0s,mb4.4							
BRVK	**Borovoye**	**52.22**	**310**	P		**P**	**17 28 20.3**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
BRVK	**Borovoye**	**52.22**	**310**	P		**P**	**17 28 20.2**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**52.93**	**311**	*e*P		**P**	**17 28 24.7**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**52.93**	**311**	*e*P		**P**	**17 28 24.7**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1							
AAK	**Ala-Archa**	**55.45**	**298**	*e*P		**P**	**17 28 43.2**	**-0.5**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.4	

ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.65**	**62**	P	**P**	**17 30 55.2**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.8,baz=319,slow=5.1,SNR=5.2						
TXAR	**Lajitas Array**	**75.65**	**62**	P	**P**	**17 30 55.2**	**+0.9**
GERES	**GERESS Array B**	**79.03**	**336**	LR	LR	18 09 01.9	
	comp=Z,55nm,19.3s,MS3.9,baz=178,slow=38						
BRTR	**Keskin Array B**	**79.50**	**318**	P	**P**	**17 31 18.4**	**+2.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=36,slow=5.4,SNR=2.5						
PPT	**Papeete**	**80.77**	**128**	LR	LR	18 02 11.1	
	comp=Z,79nm,19.5s,MS4.1,baz=43,slow=32						
ATD	**Arta Tunnel**	**96.79**	**295**	LR	LR	18 18 19.7	
	comp=Z,37nm,19.2s,MS3.9,baz=68,slow=37						

BJI *25* 17:20:16.4, 4465N×9137E, h18km, ML3.5, 1C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.77**	**254**	*e*P	Pn	17 21 04.0	+4.2
WMQ				SG	Sg	17 21 40.3	-5.1
WMQ				Smax			
	comp=N,190nm,0.3s						
WMQ				Smax			
	comp=E,256nm,0.4s						
MK31	**Makanchi Array**	**6.71**	**292**	Pn	Pn	17 21 53.7	-0.3
	comp=E,1.7nm,0.7s,baz=106,slow=13,SNR=26						
MK31				⇑Lg		17 23 53.0	
	comp=E,9.2nm,0.7s,baz=109,slow=29,SNR=6.0						

*ISCJB **25** 17:31:57.1±0.7, 4032N±006×2404E±004, h9km±6km, Error ellipse: s-maj=10.0km s-min=5.1km az=31.6*
*NEIC **25** 17:31:57.8, 4030N×2404E, h24km, MD3.0(ATH), After ATH.*
*ATH **25** 17:31:57.8, 4030N×2404E, h24km±1km, MD3.0/5*
*CSEM **25** 17:31:57.9±0.1, 4034N×2406E, h2km, ML2.4, Error ellipse: s-maj=3.2km s-min=1.4km az=21.0*
*THE **25** 17:31:58.5, 4035N×2401E, h4km, ML2.4*

ISC 25 17:31:57.4±0.7, 4030N±006×2405E±006, h11km±7km, n16, σ0§57/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.06**	**303**	*e*Pg	**Pg**	**17 31 59.8**	**+0.1**
PLG	**Polygyros**	**0.47**	**279**	*e*Pg	**Pg**	**17 32 06.9**	**+0.3**
PLG				*e*Sg	**Sg**	**17 32 13.4**	**+0.7**
PLG	**Polygyros**	**0.47**	**279**	*e*PB	**Pg**	**17 32 06.9**	**+0.4**
PLG				*e*SB	**Sg**	**17 32 13.6**	**+0.9**
PLG	**Polygyros**	**0.47**	**279**	*e*Pg	**Pg**	**17 32 06.9**	**+0.4**
PLG				*e*Sg	**Sg**	**17 32 13.4**	**+0.7**
PLG				*e*Sb	**Sg**	**17 32 13.6**	**+0.9**
SOH	**Sokhos**	**0.74**	**315**	*e*Pg	**Pg**	**17 32 11.4**	**-0.4**
HORT	**Hortiatis**	**0.78**	**293**	*e*Pg	**Pg**	**17 32 12.1**	**-0.4**
HORT				*e*Sg	**Sg**	**17 32 22.6**	**-0.1**
HORT	**Hortiatis**	**0.78**	**293**	*e*Pg	**Pg**	**17 32 12.1**	**-0.4**
HORT				*e*Sg	**Sg**	**17 32 22.6**	**-0.1**
LOS	**Limnos**	**0.87**	**114**	*e*Pg	**Pg**	**17 32 14.7**	**+0.4**
SRS	**Serrai**	**0.89**	**337**	*e*Pg	**Pg**	**17 32 14.0**	**-0.5**
LIA	**Limnos Island**	**0.96**	**114**	*e*PN	**Pn**	**17 32 16.3**	**-0.5**
LIA				*e*SN	**Sn**	**17 32 29.7**	**-0.7**
NVR	**Nevrokopi**	**1.06**	**352**	*e*PN	**Pn**	**17 32 18.4**	**+0.3**
NEO	**Neokhori**	**1.18**	**213**	*e*PN	**Pn**	**17 32 20.2**	**+0.4**
KNT	**Kendrikon**	**1.23**	**315**	*e*Pg	**Pg**	**17 32 20.7**	**-0.3**
KNT				*e*Sg	**Sg**	**17 32 37.4**	**+0.5**
GRG	**Griva**	**1.41**	**298**	*e*Pg	**Pg**	**17 32 23.2**	**-1.3**
RDO	**Rodhopi**	**1.41**	**53**	*e*PN	**Pn**	**17 32 24.0**	**+1.0**
ALN	**Alexandroupoli**	**1.63**	**68**	*e*Pb	**Pb**	**17 32 27.9**	**+0.4**

IDC 25 17:46:08.0±8.0, 1695S×16862E, h93km±74km, mb3.8/4, mb1 4.0/5, mb1mx3.6/16, mbtmp3.7/5, ML4.0/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/28, Error ellipse: s-maj=69.6km s-min=34.0km az=164.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.50**	**202**	P	Pn	17 47 27.8	+0.4
	4.3nm,0.3s,baz=353,slow=21,SNR=44						
DZM				S	Sn	17 48 30.0	+0.7
	4.1nm,0.3s,baz=282,slow=23,SNR=6.5						
DZM				LR	LR	17 49 20.5	
	comp=Z,169nm,21.6s,baz=17,slow=35						
HNR	**Honiara**	**11.27**	**310**	LR	LR	17 52 22.4	
	comp=Z,49nm,19.0s,baz=180,slow=33						
CTA	**Charters Tower**	**21.43**	**258**	LR	LR	17 57 19.8	
	comp=Z,98nm,19.4s,baz=270,slow=31						
PMG	**Port Moresby**	**22.18**	**287**	LR	LR	17 58 42.8	
	comp=Z,107nm,18.3s,baz=244,slow=34						
STKA	**Stephens Creek**	**28.64**	**234**	P	P	17 51 55.0	-0.7
	4.2nm,1.0s,baz=81,slow=5.4,SNR=4.1						
WRA	**Warramunga Arr**	**32.62**	**259**	P	P	17 52 29.8	-1.1
	0.5nm,1.0s,baz=84,slow=6.6,SNR=5.3						
WRA				LR	LR	18 04 38.6	
	comp=Z,57nm,19.8s,baz=355,slow=34						
ASAR	**Alice Springs**	**33.18**	**253**	P	P	17 52 37.5	+1.9
	8.6nm,0.9s,baz=80,slow=8.8,SNR=52						
ASAR				LR	LR	18 05 02.6	
	comp=Z,102nm,19.5s,baz=179,slow=34						
FITZ	**Fitzroy Crossi**	**40.94**	**262**	LR	LR	18 08 11.8	
	comp=Z,63nm,20.3s,baz=9.5,slow=32						
TXAR	**Lajitas Array**	**96.19**	**61**	P	P	17 59 26.1	+0.5
	0.5nm,0.9s,baz=330,slow=5.2,SNR=4.4						

*NEIC **25** 17:58:22.4, 3075S×7175W, h32km, ML3.7(GUC), After GUC.*

GUC 25 17:58:22.4±0.7, 3075S×7175W, h32km±5km, MD4.1, ML3.7, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.50**	**74**	⇓*i*P	Pb	17 58 32.6	-0.2
OVCH				*i* S	Sb	17 58 39.9	-0.1
CMCH	**Combarbala**	**0.77**	**124**	⇑*i*P	Pn	17 58 36.8	-0.3
CMCH				*i* S	Sn	17 58 48.0	+0.4
CMCH				AML	AML	17 58 49.5	
	comp=N,8μm,0.5s						
CMCH				AML	AML	17 58 54.8	
	comp=E,5μm,0.8s						
CMCH	**Combarbala**	**0.77**	**124**	⇑*i*P	Pn	17 58 36.8	-0.3
CMCH				*i* S	Sn	17 58 48.0	+0.4
LSCH	**La Serena**	**0.94**	**28**	⇑*i*P	Pn	17 58 39.3	-0.1
LSCH				*i* S	Sn	17 58 52.5	+0.7
CHNG	**Los Chungos**	**1.15**	**169**	⇓*i*P	Pn	17 58 42.6	+0.3
CHNG				*i* S	Sn	17 58 57.9	+1.0
CHNG				AML	AML	17 59 01.7	
	comp=N,587nm,0.6s						
CHNG				AML	AML	17 59 04.2	
	comp=E,750nm,0.4s						
PTCH	**Petorca**	**1.67**	**155**	⇓*i*P	Pn	17 58 50.9	+1.5
PTCH				*i* S	Sn	17 59 12.2	+2.5
PEL	**Peldehue**	**2.56**	**159**	⇑*i*P	Pn	17 59 03.4	+1.7
PEL				AML	AML	17 59 45.1	
	comp=E,1μm,0.3s						
PEL				AML	AML	17 59 48.4	
	comp=N,645nm,0.8s						
ZON	**Zonda**	**2.75**	**108**	AML	AML	17 59 57.1	
	comp=N,337nm,0.5s						
RCDM	**Rinconada Maip**	**2.85**	**164**	⇑*i*P	Pn	17 59 06.7	+1.1
RCDM				*i* S	Sn	17 59 41.5	+2.6
RCDM				AML	AML	17 59 52.9	
	comp=E,310nm,0.3s						
RCDM				AML	AML	17 59 53.0	
	comp=N,181nm,0.3s						
RCDM	**Rinconada Maip**	**2.85**	**164**	⇑*i*P	Pn	17 59 06.7	+1.1
RCDM				*i* S	Sn	17 59 41.5	+2.6
SAN	**Santiago**	**2.85**	**161**	AML	AML	17 59 52.6	
	comp=E,496nm,0.5s						
SAN				AML	AML	17 59 55.0	
	comp=N,444nm,0.5s						
FCH	**Farellones**	**2.86**	**155**	AML	AML	17 59 58.7	
	comp=E,309nm,0.5s						
FCH				AML	AML	18 00 03.8	
	comp=N,214nm,0.6s						
TACH	**Talagante**	**2.98**	**167**	*e*P	Pn	17 59 08.3	+0.9
LNV	**Longovilo**	**3.21**	**175**	*e*P	Pn	17 59 11.9	+1.2
CACH	**El Canelo**	**3.50**	**164**	*e*P	Pn	17 59 16.4	+1.9
CICH	**Cipreses**	**3.74**	**163**	*e*P	Pn	17 59 19.6	+1.8

*NEIC **25** 18:05:44.9±0.6, 4572N×15377E, h10km, mb4.2/8, Error ellipse: s-maj=16.4km s-min=11.0km az=175.0*

*IDC **25** 18:05:44.8±1.6, 4596N×15390E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, ML3.5/1, MS3.1/3, Ms1 3.2/3, ms1mx2.7/34, Error ellipse: s-maj=51.0km s-min=19.6km az=173.0*
*ISCJB **25** 18:05:46.4±0.7, 4641N±0.1×1538E±0.1, h10km, mb4.0/20, MS3.1/3, Error ellipse: s-maj=17.1km s-min=8.3km az=131.5*
*BJI **25** 18:05:47.3, 4625N×15343E, h9km, mB4.5, mb4.2, Ms3.4, Msz3.4*
*MOS **25** 18:05:48.7±1.4, 4623N×15362E, h29km, mb4.2/15, Error ellipse: s-maj=14.9km s-min=12.8km az=37.9*

ISC 25 18:05:47.1±0.8, 462N±02×1537E±01, h10km, n52, σ0§99/52, mb4.1/21, MS3.1/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.20**	**259**	*e*PN	**Pn**	**18 06 49.3**	**-1.9**
KUR				pmax	pmax		
	comp=Z,130nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.60**	**280**	*e*PN	**Pn**	**18 07 41.8**	**+4.0**
ASAJ	**Asahikawa**	**8.12**	**259**	Pn	**Pn**	**18 07 44.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=134,slow=12,SNR=5.8						
ASAJ				LR	LR	18 10 53.2	
	comp=Z,120nm,20.2s,baz=172,slow=38						
MAJO	**Matsushiro**	**15.08**	**236**	*e*P	**Pn**	**18 09 24.6**	**+4.5**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**15.08**	**236**	*e*Pn	**Pn**	**18 09 24.6**	**+4.5**
	comp=Z,10nm,0.9s						
MAT	**Matsushiro**	**15.08**	**236**	P	**Pn**	**18 09 25.0**	**+4.9**
MJAR	**Matsushiro Arr**	**15.08**	**236**	Pn	**Pn**	**18 09 23.8**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=36,slow=9.0,SNR=16						
MDJ	**Mudanjiang**	**17.00**	**273**	P	**Pn**	**18 09 45.5**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,77nm,5.2s						
MDJ				LR	LR		
	comp=N,12nm,18.9s						
MDJ				LR	LR		
	comp=E,40nm,23.4s						
MDJ				LR	LR		
	comp=Z,41nm,22.2s						
MDJ	**Mudanjiang**	**17.00**	**273**	*e*P	**Pn**	**18 09 45.3**	**+0.4**
	comp=Z,8.2nm,0.8s						
KSRS	**Korea Array**	**21.03**	**255**	P	**P**	**18 10 32.1**	**+1.2**
	comp=Z,1.6nm,0.8s,mb3.4,baz=59,slow=10,SNR=4.4						
KSRS				LR	LR	18 18 14.8	
	comp=Z,16nm,20.8s,MS2.4,baz=55,slow=36						
YAK	**Yakutsk**	**21.04**	**328**	P	**P**	**18 10 31.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**21.04**	**328**	P	**P**	**18 10 31.0**	**+0.1**
	comp=Z,9.1nm,0.8s,mb4.2						
HIA	**Hailar**	**22.95**	**290**	P	**P**	**18 10 49.5**	**-2.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**22.95**	**290**	P	**P**	**18 10 49.5**	**-2.0**
	comp=Z,3.3nm,0.6s,mb3.9						
SONM	**Songino Array**	**31.92**	**290**	P	**P**	**18 12 13.6**	**+0.8**
	comp=Z,1.0nm,0.9s,mb3.7,baz=62,slow=7.9,SNR=4.3						
SONM	**Songino Array**	**31.92**	**290**	P	**P**	**18 12 13.6**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MCK	**McKinley**	**35.83**	**40**	*e*P	**P**	**18 12 47.2**	**+0.5**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
MCK	**McKinley**	**35.83**	**40**	*e*P	**P**	**18 12 47.2**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.0						
SML	**Sawmill**	**36.11**	**43**	*e*P	**P**	**18 12 49.1**	**0.0**
GTA	**Gaotai**	**39.48**	**280**	*e*P	**P**	**18 13 19.5**	**+1.9**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**43.31**	**306**	LR	LR	18 33 37.5	
	comp=Z,90nm,18.2s,MS3.7,baz=176,slow=38						
WMQ	**Urumqi**	**45.53**	**292**	⇑*i*P	**P**	**18 14 06.3**	**-0.5**
WMQ				AP	pP	18 14 10.3	+0.4
WMQ				XP	sP	18 14 13.3	+2.2
WMQ				PCP	PcP	18 15 45.0	-0.4
WMQ				PP	PP	18 15 53.8	+0.5
WMQ				*e*S	**S**	**18 20 48.3**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,132nm,4.8s						
WMQ				LR	LR		
	comp=N,21nm,23.3s,MS3.3						
WMQ				LR	LR		
	comp=E,35nm,23.3s,MS3.3						
WMQ				LR	LR		
	comp=Z,51nm,21.6s,MS3.4						
MKAR	**Makanchi Array**	**47.58**	**298**	P	**P**	**18 14 23.1**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=67,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**47.58**	**298**	P	**P**	**18 14 23.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CHKZ	**Chkalovo**	**51.13**	**311**	*e*P	**P**	**18 14 50.0**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**51.13**	**311**	*e*P	**P**	**18 14 50.0**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.4						
BRVK	**Borovoye**	**51.59**	**310**	P	**P**	**18 14 51.2**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**51.59**	**310**	P	**P**	**18 14 51.2**	**-2.3**
	comp=Z,2.7nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.47**	**297**	*e*P	**P**	**18 15 15.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.47**	**297**	*e*P	**P**	**18 15 15.4**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.1						
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**18 15 23.3**	**-0.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**18 15 23.3**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**58.54**	**341**	P	**P**	**18 15 44.8**	**+1.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=27,slow=8.2,SNR=3.6						
ARCES	**ARCESS Array B**	**58.54**	**341**	P	**P**	**18 15 44.8**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	**Mina Array Bea**	**62.34**	**62**	P	**P**	**18 16 09.5**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.9,baz=297,slow=9.8,SNR=4.2						
NVAR	**Mina Array Bea**	**62.34**	**62**	P	**P**	**18 16 09.5**	**-0.1**
FINES	**FINESS Array B**	**64.75**	**335**	P	**P**	**18 16 26.2**	**+0.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=346,slow=6.9,SNR=9.0						
FINES	**FINESS Array B**	**64.75**	**335**	P	**P**	**18 16 26.2**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.75**	**335**	P	**P**	**18 16 26.2**	**+0.6**
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**18 16 25.0**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=270,slow=1.2,SNR=5.2						
WRAB	**Tennant Creek**	**68.09**	**200**	*e*P	**P**	**18 16 41.3**	**-5.6**
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**68.09**	**200**	*e*P	**P**	**18 16 41.3**	**-5.6**
	comp=Z,16nm,0.7s,mb5.2						
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**18 17 12.4**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=32,slow=6.1,SNR=7.7						
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**18 17 12.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**77.17**	**336**	*e*P	**P**	**18 17 41.0**	**0.0**
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**18 17 41.3**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=3.7,SNR=4.1						
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**18 17 41.3**	**-1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**78.94**	**335**	*e*P	**P**	**18 17 50.0**	**-0.8**
BRTR	**Keskin Array B**	**79.10**	**317**	P	**P**	**18 17 52.6**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=81,slow=3.9,SNR=6.2						
BRTR	**Keskin Array B**	**79.10**	**317**	P	**P**	**18 17 52.7**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**79.16**	**334**	P	**P**	**18 17 52.6**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=46,slow=5.8,SNR=6.3						
GERES	**GERESS Array B**	**79.16**	**334**	P	**P**	**18 17 52.6**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*BJI **25** 18:08:13.7, 478N×9470E, h33km, mb4.8, Ms4.1, Msz4.0*
*NEIC **25** 18:08:16.8±0.5, 489N×9431E, h30km, mb4.4/8, Error ellipse: s-maj=15.5km s-min=7.9km az=49.0*

*ISCJB **25** 18:08:21.0±1.4, 506N±007×9459E±007, h76km±12km, mb4.3/29, Error ellipse: s-maj=15.0km s-min=6.7km az=96.8*
*IDC **25** 18:08:21.3±3.5, 5.12N×9461E, h62km±32km, mb4.0/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/37, Error ellipse: s-maj=27.8km s-min=14.4km az=52.0*

ISC 25 18:08:22.3±1.2, 509N±007×9457E±007, h68km±11km, n59, σ1§07/60, mb4.3/28, 1C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.91**	**117**	P	**Pn**	**18 09 33.7**	**+0.2**
	7.1nm,0.3s,baz=326,slow=12,SNR=33						
PSI				S	**Sn**	**18 10 30.4**	**+1.5**
	4.7nm,0.3s,baz=199,slow=14,SNR=6.1						
PSI				LR	LR	18 11 43.4	
	comp=Z,237nm,20.9s,baz=192,slow=41						
PSI	**Prapat**	**4.91**	**117**	P	**Pn**	**18 09 33.7**	**+0.2**
PSI				S	**Sn**	**18 10 30.4**	**+1.5**
PSI				LR	LR	18 11 43.4	
KULM	**Kulim**	**6.06**	**88**	*e*Pn	**Pn**	**18 09 46.5**	**-2.8**
KULM				*e*Sn	**Sn**	**18 10 51.9**	**-5.3**
PALK	**Pallekele**	**13.95**	**280**	Pn	**Pn**	**18 11 34.8**	**-1.9**
PALK				*e*Sn	**Sn**	**18 13 58.9**	**-11**
CM31	**Chiang Mai Arr**	**13.96**	**17**	*e*Pn	**Pn**	**18 11 38.2**	**+1.5**
CHTO	**Chiang Mai**	**14.29**	**17**	*e*Pn	**Pn**	**18 11 43.0**	**+1.9**
	11nm,0.8s						
KSM	**Kuching**	**16.12**	**102**	*e*P	**Pn**	**18 12 04.7**	**+0.2**
KMI	**Kunming**	**21.41**	**21**	P	**P**	**18 13 03.8**	**-0.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb3.9						
KMI	**Kunming**	**21.41**	**21**	P	**P**	**18 13 03.7**	**-0.7**
	comp=Z,7.0nm,1.2s,mb3.9						
PKI	**Pulchoki**	**24.00**	**340**	*e*P	**P**	**18 13 28.9**	**-1.6**
	comp=Z,10nm,0.6s,mb4.3						
DMN	**Daman**	**24.14**	**339**	*e*P	**P**	**18 13 31.7**	**-0.1**
	comp=Z,12nm,0.7s,mb4.3						
GUN	**Gumba**	**24.15**	**341**	*e*P	**P**	**18 13 31.3**	**-0.6**
	comp=Z,15nm,0.5s,mb4.6						
GYA	**Guiyang**	**24.19**	**27**	⇑*i*P	**P**	**18 13 32.0**	**-0.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.7						
KKN	**Kakani**	**24.24**	**340**	*e*P	**P**	**18 13 31.4**	**-1.3**
	comp=Z,24nm,0.9s,mb4.5						
GKN	**Gorkha**	**24.67**	**339**	*e*P	**P**	**18 13 36.3**	**-0.3**
	comp=Z,12nm,0.3s,mb4.7						
LSA	**Lhasa**	**24.69**	**353**	P	**P**	**18 13 37.5**	**+0.7**
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
LSA	**Lhasa**	**24.69**	**353**	*e*P	**P**	**18 13 37.1**	**+0.3**
	comp=Z,16nm,0.6s,mb4.6						
KOLN	**Koldanda**	**24.85**	**336**	*e*P	**P**	**18 13 38.8**	**+0.5**
	comp=Z,26nm,0.6s,mb4.8						
GTA	**Gaotai**	**34.49**	**7**	*e*P	**P**	**18 15 02.5**	**-1.2**
GTA				AP	pP	18 15 15.3	-4.9
GTA				XP	sP	18 15 20.8	-7.4
GTA				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.35**	**128**	*e*P	**P**	**18 15 35.5**	**-1.0**
	comp=Z,3.9nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.35**	**128**	P	**P**	**18 15 35.1**	**-1.4**
	comp=Z,1.4nm,0.7s,mb3.9,baz=280,slow=6.1,SNR=4.6						
UCH	**Uchtor**	**41.06**	**337**	P	**P**	**18 16 00.0**	**+1.0**
	SNR=8.4						
KBK	**Karagaybulak**	**41.26**	**338**	P	**P**	**18 16 02.1**	**+1.4**
	SNR=15						
AML	**Almayashu**	**41.30**	**336**	P	**P**	**18 16 02.7**	**+1.7**
	SNR=12						
EKS2	**Erkin-Say**	**41.72**	**337**	P	**P**	**18 16 05.8**	**+1.4**
	SNR=7.1						
USP	**Ospenovka**	**41.96**	**338**	P	**P**	**18 16 07.2**	**+0.8**
	SNR=12						
MKAR	**Makanchi Array**	**42.88**	**348**	P	**P**	**18 16 13.6**	**-0.2**
	comp=Z,8.1nm,0.6s,mb4.6,baz=164,slow=7.6,SNR=77						
SONM	**Songino Array**	**43.78**	**12**	P	**P**	**18 16 19.9**	**-1.2**
	comp=Z,4.2nm,0.7s,mb4.3,baz=192,slow=8.1,SNR=37						
SONM				PcP	PcP	18 18 07.3	+0.7
	comp=Z,1.2nm,0.5s,baz=188,slow=4.0,SNR=13						
KSRS	**Korea Array**	**44.31**	**39**	P	**P**	**18 16 23.3**	**-2.1**
	comp=Z,2.0nm,0.6s,mb4.0,baz=225,slow=9.5,SNR=10						
KSRS				LR	LR	18 35 18.3	
	comp=Z,32nm,19.4s,baz=135,slow=37						
WRA	**Warramunga Arr**	**46.34**	**124**	P	**P**	**18 16 41.4**	**0.0**
	comp=Z,11nm,0.7s,mb4.7,baz=304,slow=9.2,SNR=115						
WB2	**Warramunga Arr**	**46.35**	**124**	*e*P	**P**	**18 16 41.4**	**-0.1**
ASPA	**Alice Springs**	**47.84**	**128**	*e*P	**P**	**18 16 53.1**	**+0.1**
AS31	**Alice Springs**	**47.84**	**128**	*e*P	**P**	**18 16 53.1**	**0.0**
ASAR	**Alice Springs**	**47.84**	**128**	P	**P**	**18 16 53.2**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.2,baz=300,slow=8.0,SNR=60						
ASAR				LR	LR	18 38 22.5	
	comp=Z,54nm,18.5s,baz=172,slow=38						
ZAL	**Zalesovo**	**49.34**	**352**	P	**P**	**18 17 04.7**	**+0.1**
	comp=Z,10nm,0.5s,mb5.0,baz=303,slow=5.6,SNR=54						
ZAL	**Zalesovo**	**49.34**	**352**	P	**P**	**18 17 04.7**	**+0.1**
MJAR	**Matsushiro Arr**	**50.74**	**46**	P	**P**	**18 17 15.2**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=223,slow=7.1,SNR=8.4						
BRVK	**Borovoye**	**51.81**	**342**	*e*P	**P**	**18 17 22.5**	**-0.6**
ZRNK	**Zerenda**	**52.13**	**341**	*e*P	**P**	**18 17 25.0**	**-0.6**
	comp=Z,3.4nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**52.23**	**342**	*e*P	**P**	**18 17 26.5**	**+0.1**
PMG	**Port Moresby**	**54.35**	**105**	*e*P	**P**	**18 17 42.0**	**+0.1**
**CTA

mb1 3.4/4, mb1mx3.2/24, mbtmp3.3/4, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=43.1km s-min=38.1km az=24.0

ISCJB ***25*** *18:28:24.3±1.3, 3199N∟005×132.17E±0.06, h3km±9km, mb3.1/2, MS3.4/2, Error ellipse: s-maj=9.1km s-min=7.8km az=72.4*

JMA ***25*** *18:28:26.1±0.1, 3202N×132.14E, h19km±3km, M3.8*

ISC 25 18:28:24.6±1.2, 3198N∟005×13220E∟007, h7km±7km, n13, σ0s77/18, mb3.1/2, MS3.4/2, 5C-2D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.65**	**294**	⇓P	**Pg**	**18 28 37.0**	**0.0**
JTSN				S	**Sg**	**18 28 45.0**	**-0.4**
JKIT	**Kitakata**	**0.90**	**316**	⇓P	**Pg**	**18 28 41.9**	**+0.1**
JKIT				S	**Sg**	**18 28 52.6**	**-0.9**
JNAR	**Kushima--Naru**	**0.91**	**240**	⇑P	**Pg**	**18 28 42.5**	**+0.4**
JNAR				S	**Sg**	**18 28 54.0**	**+0.1**
JTZ	**Takazaki**	**0.95**	**265**	⇑P	**Pg**	**18 28 42.4**	**-0.4**
JTZ				S	**Sg**	**18 28 55.9**	**+0.8**
JTO	**Tosashimizu**	**1.01**	**30**	⇑P	**Pg**	**18 28 44.1**	**+0.1**
JUS	**Usuki**	**1.14**	**341**	⇑P	**Pg**	**18 28 46.6**	**+0.1**
JUS				S	**Sg**	**18 29 01.7**	**+0.3**
JIU2	**Izumi 2**	**1.30**	**296**	⇑P	**Pn**	**18 28 48.5**	**-0.7**
JNU	**Nakatsue**	**1.59**	**316**	Pn	**Pn**	**18 28 53.7**	**+0.5**
	119nm,0.3s,baz=162,slow=30,SNR=543						
JNU				Sn	**Sn**	**18 29 15.2**	**+1.2**
	311nm,0.3s,baz=241,slow=20,SNR=16						
JNU				LR	LR	18 29 29.0	
	comp=Z,487nm,18.5s,baz=338,slow=36						
KSRS	**Korea Array**	**6.49**	**328**	Pn	**Pn**	**18 30 00.7**	**+0.1**
	baz=147,slow=15,SNR=11						
KSRS				Lg		18 31 59.1	
	baz=151,slow=31,SNR=4.8						
MJAR	**Matsushiro Arr**	**6.74**	**46**	Pn	**Pn**	**18 30 07.7**	**+3.8**
	0.3nm,0.3s,baz=244,slow=14,SNR=8.8						
SONM	**Songino Array**	**25.18**	**316**	P	**P**	**18 33 49.6**	**-1.1**
	0.9nm,1.0s,mb3.3,baz=131,slow=9.0,SNR=5.4						
SONM				LR	LR	18 44 10.1	
	comp=Z,40nm,19.9s,MS2.9,baz=197,slow=37						
MKAR	**Makanchi Array**	**40.62**	**306**	P	**P**	**18 36 01.9**	**-3.3**
	0.2nm,0.6s,mb2.9,baz=92,slow=10,SNR=3.0						
DZM	**Mont Dzumac**	**62.95**	**144**	LR	LR	19 01 28.1	
	comp=Z,55nm,18.1s,MS3.8,baz=168,slow=32						

IDC ***25*** *18:39:47.4±1.1, 3049S×17774W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/14, mbtmp4.3/5, ML3.5/1, MS4.1/2, Ms1 4.1/2, ms1mx3.3/21, Error ellipse: s-maj=32.7km s-min=22.1km az=118.0*

ISCJB ***25*** *18:39:48.7±4.0, 3049S∟006×1779W∟0.1, h20km±29km, mb4.4/10, MS4.8/1, Error ellipse: s-maj=19.8km s-min=10.1km az=4.3*

NEIC ***25*** *18:39:51.6±3.5, 3046S×17780W, h31km±24km, mb4.5/8, Error ellipse: s-maj=15.9km s-min=11.0km az=89.0*

ISC 25 18:39:50.8±4.3, 3043S∟006×1777W∟01, h27km±31km, h25km±1.9km:pP-P, n33, σ0s89/23, mb4.4/10, MS4.8/1, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**352**	Pn	**Pn**	**18 40 12.4**	**+0.9**
	214nm,0.3s,baz=127,slow=10.0,SNR=12						
RAO				Sn	**Sn**	**18 40 25.7**	**-1.1**
	371nm,0.3s,baz=74,slow=21,SNR=6.7						
URZ	**Urewera**	**8.90**	**207**	Pn	**Pn**	**18 41 56.6**	**-1.0**
	0.5nm,0.3s,baz=21,slow=19,SNR=8.2						
URZ				Sn	**Sn**	**18 43 31.5**	**-5.5**
	3.7nm,0.3s,baz=180,slow=22,SNR=13						
DZM	**Mont Dzumac**	**16.44**	**297**	LR	LR	18 48 34.4	
	comp=Z,185nm,20.3s,baz=193,slow=32						
TBI	**Tubuai**	**26.14**	**81**	eLR	LR	18 51 53.0	
	136nm,28.5s						
PPT	**Papeete**	**28.64**	**70**	eLR	LR	18 52 59.2	
	119nm,27.5s						
CTA	**Charters Tower**	**34.03**	**279**	*e*P	**P**	**18 46 33.8**	**+1.3**
	3.3nm,0.6s,mb4.4						
CTA	**Charters Tower**	**34.03**	**279**	P	**P**	**18 46 34.0**	**+1.4**
	4.1nm,0.7s,mb4.5,baz=123,slow=8.9,SNR=5.7						
CTAO	**Charters Tower**	**34.03**	**279**	*e*P	**P**	**18 46 33.7**	**+1.1**
	6.5nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**34.70**	**257**	⇓*i*P	**P**	**18 46 39.5**	**+1.2**
	7.0nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**34.70**	**257**	P	**P**	**18 46 39.6**	**+1.3**
	8.2nm,0.7s,mb4.8,baz=101,slow=9.7,SNR=23						
STKA	**Stephens Creek**	**34.70**	**257**	*e*P	**P**	**18 46 39.2**	**+0.9**
STKA				*e*		18 46 54.3	
RKT	**Rikitea**	**38.69**	**90**	*e*LR	LR	18 57 44.1	
	57nm,28.2s						
AS31	**Alice Springs**	**43.34**	**267**	*e*P	**P**	**18 47 50.9**	**+0.3**
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**18 47 50.5**	**-0.1**
	1.4nm,0.7s,mb3.8,baz=102,slow=7.2,SNR=27						
ASPA	**Alice Springs**	**43.34**	**267**	*e*P	**P**	**18 47 51.1**	**+0.5**
WB2	**Warramunga Arr**	**44.32**	**272**	*e*P	**P**	**18 47 58.1**	**-0.3**
WRAB	**Tennant Creek**	**44.32**	**272**	*e*P	**P**	**18 47 57.8**	**-0.6**
	3.2nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**18 47 58.3**	**-0.3**
	3.3nm,0.7s,mb4.2,baz=111,slow=8.1,SNR=40						
CASY	**Casey**	**55.22**	**208**	*e*P	**P**	**18 49 19.2**	**-2.2**
	9.9nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**59.68**	**180**	*e*P	**P**	**18 49 53.9**	**+1.1**
	4.4nm,1.2s,mb4.4						
QSPA				*e*	pP	18 49 59.8	-1.3
PMSA	**Palmer Station**	**72.14**	**156**	P	**P**	**18 51 13.8**	**+0.8**
	6.2nm,0.7s,mb4.7						
MAW	**Mawson**	**72.36**	**201**	*e*P	**P**	**18 51 23.0**	**+8.7**
	6.2nm,0.7s,mb4.7						
JHJ	**Hachijo jima 2**	**74.90**	**324**	LR	LR	19 16 23.3	
	comp=Z,496nm,21.5s,MS4.8,baz=263,slow=29						
SNAA	**Sanae**	**78.12**	**178**	P	**P**	**18 51 47.5**	**0.0**
	3.9nm,1.1s,mb4.2						
VNA3	**Neumayer Olymp**	**78.26**	**176**	*e*	**P**	**18 51 47.5**	**-0.7**
VNA3				*e*	pP	18 51 55.8	-0.9
VNA3				*e*		18 52 02.3	
VNA3				*e*		18 52 10.4	
VNA2	**Neumayer--Watz**	**78.70**	**177**	*e*	**P**	**18 51 50.6**	**0.0**
VNA2				*e*	pP	18 51 58.2	-1.0
VNA2				*e*		18 52 03.6	
VNA2				*e*		18 52 11.0	
BVAR	**Borovoye Array**	**126.58**	**316**	PKP	PKPdf	18 58 54.0	+2.5
	0.5nm,0.5s,baz=90,slow=1.5,SNR=4.9						
FINES	**FINESS Array B**	**145.25**	**340**	PKPbc	PKPbc	18 59 24.5	-1.2
	2.9nm,0.5s,baz=67,slow=3.5,SNR=26						
NOA	**NORSAR Array B**	**148.81**	**352**	PKPbc	PKPbc	18 59 35.2	-0.6
	0.9nm,0.7s,baz=13,slow=4.0,SNR=2.6						
AKASG	**Malin Array Be**	**151.46**	**323**	PKPbc	PKPbc	18 59 41.1	-1.1
	0.9nm,0.5s,baz=47,slow=2.4,SNR=7.7						
AKASG				PKPab	PKPab	18 59 50.4	-0.2
	2.8nm,0.8s,baz=48,slow=2.4,SNR=9.4						
BRTR	**Keskin Array B**	**152.81**	**299**	PKPbc	PKPbc	18 59 48.5	+3.2
	0.5nm,0.7s,baz=152,slow=5.6,SNR=3.6						
BRTR				PKPab	PKPab	18 59 58.6	+2.3
	0.5nm,0.8s,baz=12,slow=7.9,SNR=3.9						
CLL	**Collm**	**157.66**	**342**	*e*(PKPab)	PKPab	19 00 20.0	+3.0
TORD	**Torodi Ar. Bea**	**162.80**	**178**	PKPab	PKPab	19 00 39.8	+0.5
	0.5nm,0.5s,baz=173,slow=2.7,SNR=4.7						

BJI ***25*** *18:50:16.7, 243N×9690E, h41km, mB4.9, mb4.7, Ms4.5, Msz4.3*

MOS ***25*** *18:50:21.0±1.1, 3.15N×97.11E, h33km, mb5.3/55, MS4.1/4, Error ellipse: s-maj=10.2km s-min=4.6km az=118.9*

ISCJB ***25*** *18:50:22.4±0.2, 296N∟003×9698E∟003, h47km, mb5.0/135, MS4.2/35, Error ellipse: s-maj=4.9km s-min=3.5km az=83.4*

GCMT ***25*** *18:50:24.9±0.5, 276N×9679E, h45km, MW4.9/44, Moment Tensor Solution. s44,c58; s37,c49; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.66±.14; Mθθ 1.91±.10; Mφφ 0.74±.14; Mrθ -0.34±.07; Mrφ -1.70±.08; Mθφ 0.07±.09; Best double couple: M=2.91500×10^16 NP1: φs122.00000°, δ48.00000°, λ-95.00000°. NP2: φs122.00000°, δ48.00000°, λ-84.00000°. Principal axes: T 3.1420, Plg3.0000°, Azm215.0000°; N -0.4600, Plg4.0000°, Azm125.0000°; P -2.6870, Plg85.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *18:50:24.9±0.1, 299N×9702E, mb5.0/65 Error ellipse: s-maj=6.1km s-min=3.6km az=223.0*

IDC ***25*** *18:50:27.9±2.0, 303N×97.10E, h81km±17km, mb4.4/30, mb1 4.5/30, mb1mx4.5/31, mbtmp4.4/30, MS4.0/19,*

Ms1 4.0/19, ms1mx3.8/34, Error ellipse: s-maj=15.2km s-min=8.1km az=48.0

SZGRF ***25*** *18:50:33.8, 382N×9453E, h51km, mb5.2, Off west coast of northern Sumatera, Indonesia*

ISC 25 18:50:24.6±0.2, 295N∟003×9697E∟003, h49km, h49km±1.8km:pP-P, n376, σ1s01/380, mb5.0/135, MS4.2/35, 19C-28D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.96**	**94**	P	**Pn**	**18 50 57.5**	**+2.2**
	34nm,0.3s,baz=291,slow=9.6,SNR=83						
PSI				S	**Sn**	**18 51 24.9**	**+6.2**
	76nm,0.3s,baz=244,slow=20,SNR=8.1						
PSI				LR	LR	18 51 55.4	
	comp=Z,6μm,21.0s,baz=250,slow=47						
PSI	**Prapat**	**1.96**	**94**	P	**Pn**	**18 50 57.5**	**+2.2**
PSI				S	**Sn**	**18 51 24.9**	**+6.2**
PSI				LR	LR	18 51 55.4	
IPM	**Ipoh**	**4.33**	**69**	P	**Pn**	**18 51 30.3**	**+2.5**
KULM	**Kulim**	**4.35**	**58**	*e*Pn	**Pn**	**18 51 29.7**	**+1.6**
PPI	**Padang Panjang**	**4.82**	**135**	P	**Pn**	**18 51 35.4**	**+0.9**
	0.0nm,0.0s						
SNG	**Songkhla**	**5.55**	**41**	P	**Pn**	**18 51 46.0**	**+1.4**
	1μm,1.0s						
KGM	**Kluang**	**6.41**	**98**	P	**Pn**	**18 51 59.2**	**+2.8**
KSI	**Kapahiang**	**8.64**	**139**	P	**Pn**	**18 52 26.5**	**-0.4**
	0.0nm,0.0s						
NNT	**Nongplab**	**9.96**	**16**	P	**Pn**	**18 52 49.1**	**+4.1**
NST	**Nakhon Sawan**	**13.02**	**14**	P	**Pn**	**18 53 31.0**	**+4.2**
KSM	**Kuching**	**13.41**	**96**	*e*Pn	**Pn**	**18 53 31.7**	**-0.4**
KKTK	**Khon Kaen**	**14.50**	**23**	P	**Pn**	**18 53 51.9**	**+5.1**
	370nm,0.5s						
CM31	**Chiang Mai Arr**	**15.53**	**7**	*e*Pn	**Pn**	**18 54 02.4**	**+2.1**
	33nm,0.9s						
CHTO	**Chiang Mai**	**15.88**	**7**	P	**Pn**	**18 54 06.0**	**+1.2**
	SNR=16						
CHTO	**Chiang Mai**	**15.88**	**7**	⇑*e*P	**Pn**	**18 54 05.4**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**15.88**	**7**	⇑*e*Pn	**Pn**	**18 54 05.4**	**+0.6**
	comp=Z,16nm,0.9s						
NANT	**Nan**	**16.17**	**13**	⇑P	**Pn**	**18 54 09.0**	**+0.6**
	comp=Z,248nm,1.0s						
BJII	**Banjamegara**	**16.31**	**129**	P	**Pn**	**18 54 18.9**	**+8.7**
	comp=Z,361nm,1.0s						
PALK	**Pallekele**	**16.76**	**285**	P	**Pn**	**18 54 19.0**	**+3.2**
	comp=Z,84nm,1.2s,SNR=7.0						
PALK	**Pallekele**	**16.76**	**285**	*e*Pn	**Pn**	**18 54 17.9**	**+2.2**
	comp=Z,106nm,1.5s						
MDRS	**Chennai**	**19.35**	**302**	*e*P	**Pn**	**18 54 48.4**	**+1.0**
MDRS				AMb	AMB	18 54 52.1	
	comp=Z,40nm,0.8s						
KKM	**Kota Kinabalu**	**19.43**	**80**	P	**Pn**	**18 54 49.5**	**+1.2**
KKM	**Kota Kinabalu**	**19.43**	**80**	*e*P	**Pn**	**18 54 47.9**	**-0.5**
VIS	**Vishakhapatnam**	**19.86**	**319**	*e*P	**Pn**	**18 54 52.2**	**-1.2**
VIS				*e*S	**S**	**18 58 33.4**	**+1.0**
QIZ	**Qiongzhong**	**20.35**	**37**	P	**P**	**18 54 58.5**	**+1.7**
QIZ				AP		18 55 05.0	
QIZ				XP	sP	18 55 12.5	-1.8
QIZ				S	**S**	**18 58 45.3**	**+3.2**
QIZ				AMB	AMB		
	comp=Z,19nm,1.1s						
QIZ				LR	LR		
	comp=N,672nm,18.5s,MS4.2						
QIZ				LR	LR		
	comp=E,586nm,18.1s,MS4.2						
QIZ				LR	LR		
	comp=Z,842nm,18.6s,MS4.1						
QIZ	**Qiongzhong**	**20.35**	**37**	*e*P	**P**	**18 54 56.8**	**0.0**
	comp=Z,27nm,0.9s						
TARAI	**Tarakan**	**20.58**	**88**	P	**P**	**18 54 59.5**	**+0.3**
	comp=Z,160nm,1.1s						
TRD	**Trivandrum**	**20.65**	**286**	*e*S	**S**	**18 58 53.7**	**+5.6**
TSM	**Tawau**	**20.91**	**86**	P	**P**	**18 55 03.4**	**+0.6**
AGT	**Agartala**	**21.53**	**346**	*e*P	**P**	**18 55 11.0**	**+1.5**
KMI	**Kunming**	**22.74**	**14**	⇑P	**P**	**18 55 24.0**	**+1.7**
KMI				AP		18 55 33.0	
KMI				XP	sP	18 55 35.5	-4.5
KMI				PP		18 55 54.8	
KMI				S	**S**	**18 59 27.5**	**-0.1**
KMI				XS	sS	18 59 41.0	-6.5
KMI				SS		19 00 10.0	
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,93nm,3.1s						
KMI				LR	LR		
	comp=N,539nm,14.3s,MS4.2						
KMI				LR	LR		
	comp=E,365nm,11.7s,MS4.2						
KMI				LR	LR		
	comp=Z,682nm,16.1s,MS4.2						
KMI	**Kunming**	**22.74**	**14**	⇑P	**P**	**18 55 23.9**	**+1.6**
KMI				*PP		18 55 33.0	
KMI				*SP	sP	18 55 35.6	-4.4
KMI						18 55 54.7	
KMI				S	**S**	**18 59 27.4**	**-0.2**
KMI				*SS	sS	18 59 40.9	-6.6
KMI				SS		19 00 10.1	
KMI				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
KMI				MLR	MLR		
	comp=Z,680nm,16.1s,MS4.2						
KMI	**Kunming**	**22.74**	**14**	⇑P	**P**	**18 55 23.9**	**+1.6**
	comp=Z,24nm,1.1s,mb4.5						
KMI				pP		18 55 33.0	
KMI				sP	sP	18 55 35.6	-4.4
KMI				PP		18 55 54.7	
KMI				PPP		18 56 03.9	
KMI				S	**S**	**18 59 27.4**	**-0.2**
KMI				sS	sS	18 59 40.9	-6.6
KMI				SS		19 00 10.1	
KMI				SSS		19 00 28.3	
KMI				LR	LR		
	comp=Z,680nm,16.1s,MS4.2						
SHL	**Shillong**	**23.01**	**348**	*e*P	**P**	**18 55 23.5**	**-1.7**
SHL				*ex*	x	18 59 29.0	
HYB	**Hyderabad**	**23.09**	**310**	*i* P	**P**	**18 55 27.0**	**+0.9**
HYB				*e*S	**S**	**18 59 42.0**	**+8.5**
HYB	**Hyderabad**	**23.09**	**310**	*e*P	**P**	**18 55 27.0**	**+0.9**
HYB				*e*S	**S**	**18 59 42.0**	**+8.5**
PCI	**Palu**	**23.18**	**99**	P	**P**	**18 55 26.2**	**-0.8**
	comp=Z,140nm,1.1s,mb5.3						
BOK	**Bokaro**	**23.33**	**334**	*e*P	**P**	**18 55 29.8**	**+1.3**
BOK				AMb	AMB	18 55 31.8	
	comp=Z,36nm,1.0s,mb4.8						
BOK				*e*S	**S**	**18 59 39.5**	**+2.2**
MNGI	**Mangalore**	**24.05**	**296**	*i* P	**P**	**18 55 37.9**	**+2.8**
MNGI				*i* x	x	18 59 59.2	
KAPI	**Kappang**	**24.10**	**109**	P	**P**	**18 55 29.4**	**-6.1**
	comp=Z,210nm,1.1s,mb5.5,SNR=11						
GYA	**Guiyang**	**25.16**	**21**	P	**P**	**18 55 46.0**	**+0.8**
GYA				AP	pP	18 55 56.3	-1.4
GYA				XP	sP	18 55 59.8	-3.7
GYA				PP		18 56 27.3	
GYA				S	**S**	**19 00 09.5**	**+2.8**
GYA				XS	sS	19 00 24.3	-3.6
GYA				SS		19 01 11.5	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,540nm,15.4s,MS4.3						
GYA				LR	LR		
	comp=E,480nm,15.8s,MS4.3						
GYA				LR	LR		
	comp=Z,510nm,15.6s,MS4.1						
GZH	**Guangzhou**	**25.54**	**37**	*e*P	**P**	**18 55 51.0**	**+2.4**
GZH				S	**S**	**19 00 17.5**	**+4.7**
GZH				LR	LR		
	comp=N,683nm,17.4s,MS4.3						
GZH				LR	LR		
	comp=E,498nm,16.2s,MS4.3						
GZH				LR	LR		
	comp=Z,1μm,17.4s,MS4.4						
AKL	**Akola**	**26.26**	**314**	*e*P	**P**	**18 55 55.7**	**+0.6**
AKL				AMb	AMB	18 56 13.0	
	comp=Z,39nm,1.2s,mb4.8						
KAD	**Karad**	**26.53**	**304**	*e*P	**P**	**18 55 60.0**	**+2.4**
KAD				AMb	AMB	18 56 16.2	
	comp=Z,25nm,0.8s,mb4.8						
JIRN	**Jiri**	**26.64**	**338**	*e*P	**P**	**18 55 58.6**	**0.0**
PKI	**Pulchoki**	**26.86**	**337**	*e*P	**P**	**18 56 00.6**	**+0.1**
	comp=Z,24nm,0.8s,mb4.8						
GUN	**Gumba**	**26.99**	**338**	*e*P	**P**	**18 56 01.3**	**-0.4**
	comp=Z,60nm,0.3s,mb5.5						
DMN	**Daman**	**27.02**	**336**	*e*P	**P**	**18 56 01.8**	**-0.1**
	comp=Z,33nm,0.8s,mb4.9						
KKN	**Kakani**	**27.11**	**337**	*e*P	**P**	**18 56 01.8**	**-1.0**
	comp=Z,48nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.17**	**349**	P	**P**	**18 56 04.5**	**+1.2**
LSA	**Lhasa**	**27.17**	**349**	*e*P	**P**	**18 56 03.0**	**-0.3**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
LSA	**Lhasa**	**27.17**	**349**	*e*P	**P**	**18 56 03.0**	**-0.3**
	comp=Z,18nm,0.8s,mb4.7						
POO	**Poona**	**27.43**	**306**	*ex*	x	18 56 08.0	
GKN	**Gorkha**	**27.55**	**336**	*e*P	**P**	**18 56 06.0**	**-0.8**
	comp=Z,19nm,0.3s,mb5.2						
KOLN	**Koldanda**	**27.79**	**334**	*e*P	**P**	**18 56 08.4**	**-0.5**
	comp=Z,39nm,0.7s,mb5.2						
BUKP	**Musuan**	**28.39**	**79**	*e*P	**P**	**18 56 15.0**	**+0.8**
CD2	**Chengdu**	**28.54**	**12**	P	**P**	**18 56 14.0**	**-1.6**
CD2				AP	pP	18 56 23.5	-4.7
CD2				XP	sP	18 56 27.5	-6.5
CD2				PP	PP	18 57 06.5	-14
CD2				S	**S**	**19 00 59.0**	**-1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=N,550nm,15.3s,MS4.4						
CD2				LR	LR		
	comp=E,380nm,11.2s,MS4.4						
CD2				LR	LR		
	comp=Z,610nm,19.0s						
AJM	**Ajmer**	**31.71**	**320**	*e*P	**P**	**18 56 45.0**	**+1.4**
AJM				AMb	AMB	18 56 48.1	
	comp=Z,38nm,1.3s,mb5.1						
NDI	**New Delhi**	**31.76**	**326**	*ex*	x	18 56 42.0	
MBWA	**Marble Bar**	**32.73**	**138**	*e*P	**P**	**18 56 51.8**	**-0.7**
	comp=Z,36nm,1.2s,mb5.2						
XAN	**Xi'an**	**32.88**	**18**	P	**P**	**18 56 52.3**	**-1.5**
XAN				AP	pP	18 57 05.5	-1.1
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
LZH	**Lanzhou**	**33.58**	**10**	*e*P	**P**	**18 56 59.5**	**-0.4**
LZH				AP	pP	18 57 08.8	-3.9
LZH				XP	sP	18 57 12.8	-5.7
LZH				*e*PP	PP	18 58 13.5	-3.0
LZH				*e*S	**S**	**19 02 20.3**	**+1.4**
LZH				*e*SS	SS	19 04 26.8	-18
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,104nm,5.5s						
LZH				LR	LR		
	comp=N,958nm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,17.6s,MS4.8						
LZH	**Lanzhou**	**33.58**	**10**	*e*P	**P**	**18 56 59.5**	**-0.4**
LZH				*PP	pP	18 57 08.7	-4.0
LZH				*SP	sP	18 57 12.8	-5.7
LZH				*e*		18 58 13.6	
LZH				*e*S	**S**	**19 02 20.2**	**+1.3**
LZH				*SS	sS	19 02 35.6	-4.7
LZH				*e*SS	SS	19 04 26.8	-18
LZH				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,17.6s,MS4.8						
LZH	**Lanzhou**	**33.58**	**10**	*e*P	**P**	**18 56 59.5**	**-0.4**
	comp=Z,25nm,1.3s,mb5.0						
LZH				pP	pP	18 57 08.7	-4.0
LZH				sP	sP	18 57 12.8	-5.7
LZH				*e*PP	PP	18 58 13.6	-2.9
LZH				*e*S	**S**	**19 02 20.2**	**+1.3**
LZH				sS	sS	19 02 35.6	-4.7
LZH				*e*SS	SS	19 04 26.8	-18
LZH				LR	LR		
	comp=Z,2μm,17.6s,MS4.8						
FITZ	**Fitzroy Crossi**	**35.15**	**128**	*e*P	**P**	**18 57 11.9**	**-1.6**
	comp=Z,22nm,0.8s,mb5.1						
FITZ				*e*pP	pP	18 57 31.0	+4.7
FITZ	**Fitzroy Crossi**	**35.15**	**128**	P	**P**	**18 57 12.1**	**-1.5**
	comp=Z,16nm,0.9s,mb4.9,baz=292,slow=6.4,SNR=21						
THN	**Thein Dam**	**35.47**	**328**	*e*P	**P**	**18 57 15.2**	**-1.1**
NJ2	**Nanjing**	**35.52**	**33**	*e*P	**P**	**18 57 19.0**	**+2.3**
NJ2				AP	pP	18 57 30.0	+0.5
NJ2				XP	sP	18 57 34.5	-0.8
NJ2				PP	PP	18 58 40.5	+2.5
NJ2				S	**S**	**19 02 52.0**	**+3.3**
NJ2				XS	sS	19 03 08.0	-2.3
NJ2				AMB	AMB		
	comp=Z,1μm,6.8s						
NJ2				LR	LR		
	comp=N,420nm,16.3s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,16.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,15.4s,MS4.8						
SSE	**Sheshan**	**36.14**	**37**	*e*P	**P**	**18 57 22.5**	**+0.5**
SSE				AP	pP	18 57 30.5	-4.3
SSE				XP	sP	18 57 37.5	-3.1
SSE				S	**S**	**19 02 59.0**	**+0.8**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,69nm,3.5s						
SSE				LR	LR		
	comp=N,180nm,19.7s,MS4.3						
SSE				LR	LR		
	comp=E,430nm,19.7s,MS4.3						
SSE				LR	LR		
	comp=Z,528nm,19.6s,MS4.3						
SSE	**Sheshan**	**36.14**	**37**	*e*P	**P**	**18 57 22.4**	**+0.4**
	comp=Z,36nm,0.7s,mb5.4						
SSE				pP	pP	18 57 30.6	-4.2
SSE				sP	sP	18 57 37.4	-3.2
SSE				S	**S**	**19 02 59.0**	**+0.8**
SSE				sS	sS	19 03 10.8	-9.0
SSE				LR	LR		
	comp=Z,530nm,19.6s,MS4.3						
GTA	**Gaotai**	**36.38**	**4**	P	**P**	**18 57 22.5**	**-1.6**
GTA				AP	pP	18 57 31.3	-5.6
GTA				XP	sP	18 57 35.0	-7.7
GTA				PP	PP	18 58 47.0	-0.5
GTA				PCP	PcP	18 59 48.3	+0.7
GTA				S	**S**	**19 03 00.5**	**-1.5**
GTA				SCP	ScP	19 03 30.0	0.0
GT

HHC LR LR
comp=E,460nm,17.2s,MS4.4
HHC LR LR
comp=Z,207nm,16.9s,MS4.0
NWAO Narrogin (SRO) 40.51 153 P **P** **18 57 59.5 +0.8**
comp=Z,24nm,0.8s,mb4.8,baz=328,slow=7.5,SNR=7.7
NWAO Narrogin (SRO) 40.51 153 *eP* **P** **18 57 59.4 +0.7**
NWAO *e* pP 18 58 12.9 +1.2
NWAO pmax pmax
comp=Z,58nm,1.2s
NWAO Narrogin (SRO) 40.51 153 *eP* **P** **18 57 59.4 +0.7**
comp=Z,58nm,1.2s,mb5.1
NWAO *e* pP 18 58 12.9 +1.2
BJT Baijiatuan 40.80 23 *eP* **P** **18 57 58.9 -2.2**
BJT pmax pmax
comp=Z,26nm,0.9s
BJT Baijiatuan 40.80 23 *eP* **P** **18 57 58.9 -2.2**
comp=Z,26nm,0.9s,mb4.9
BJI Beijing 40.82 23 P **P** **18 58 00.8 -0.5**
BJI AMB AMB
comp=Z,24nm,1.0s,mb4.8
BJI AMB AMB
comp=Z,70nm,3.9s
BJI LR LR
comp=N,180nm,10.6s,MS4.2
BJI LR LR
comp=E,160nm,14.9s,MS4.2
BJI LR LR
comp=Z,216nm,32.3s
BJI Beijing 40.82 23 P **P** **18 58 00.8 -0.5**
comp=Z,24nm,1.0s,mb4.8
BJI S **S** **19 03 56.8 -12**
BJI LR LR
comp=Z,220nm,32.3s,MS3.8
KSH Kashi 41.09 335 *eP* **P** **18 58 04.0 +0.5**
KSH *e*AP pP 18 58 13.0 -3.5
KSH *e*XP sP 18 58 17.5 -4.8
KSH *e*PP PP 18 59 42.0 +3.0
KSH *e*PCP PcP 19 00 03.5 +1.1
KSH *e*SCP ScP 19 03 49.0 +0.9
KSH *e*PCS PcS 19 03 53.0 -0.4
KSH *e*S **S** **19 04 15.8 +2.9**
KSH *e*XS sS 19 04 31.3 -3.4
KSH *e*SS SS 19 07 14.0 -2.7
KSH *e*SCS ScS 19 08 03.5 -0.1
KSH AMB AMB
comp=Z,153nm,2.2s,mb5.2
KSH LR LR
comp=N,346nm,4.8s
KSH LR LR
comp=E,720nm,5.2s
KSH LR LR
comp=Z,1μm,7.8s
WMQ Urumqi 41.52 350⇑ *iP* **P** **18 58 07.3 +0.3**
WMQ PP PP 18 59 47.3 +3.7
WMQ S **S** **19 04 18.5 -0.7**
WMQ XS sS 19 04 44.5 +3.4
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,126nm,4.8s
WMQ LR LR
comp=N,189nm,23.7s,MS4.0
WMQ LR LR
comp=E,161nm,24.8s,MS4.0
WMQ LR LR
comp=Z,198nm,23.7s,MS3.9
WRA Warramunga Arr 43.17 123 P **P** **18 58 19.7 -0.7**
comp=Z,46nm,0.9s,mb5.2,baz=306,slow=9.0,SNR=220
WRA S **S** **19 04 38.9 -4.6**
comp=Z,2.5nm,1.0s,baz=289,slow=21,SNR=6.3
WRA LR LR 19 17 00.5
comp=Z,182nm,21.9s,MS3.9,baz=315,slow=37
WRA Warramunga Arr 43.17 123 P **P** **18 58 19.7 -0.7**
WRA S **S** **19 04 38.9 -4.6**
WRA Warramunga Arr 43.17 123 P **P** **18 58 19.7 -0.7**
WRA S **S** **19 04 38.9 -4.6**
WRA LR LR 19 17 00.5
WRAB Tennant Creek 43.17 123 P **P** **18 58 20.0 -0.5**
comp=Z,338nm,0.8s,SNR=34
WRAB Tennant Creek 43.17 123 *eP* **P** **18 58 19.8 -0.7**
WRAB pmax pmax
comp=Z,45nm,0.8s,mb5.2
WRAB Tennant Creek 43.17 123 *eP* **P** **18 58 19.8 -0.7**
comp=Z,45nm,0.8s,mb5.2
WB2 Warramunga Arr 43.18 123 *eP* **P** **18 58 19.7 -0.8**
WB2 *e*S **S** **19 04 36.6 -7.0**
KZA Kyzart 43.54 336 P **P** **18 58 24.4 +1.0**
SNR=9.2
JNU Nakatsue 43.67 43 LR LR 19 16 27.8
comp=Z,462nm,20.4s,MS4.4,baz=9.5,slow=36
UCH Uchtor 43.97 336 P **P** **18 58 27.7 +0.8**
SNR=36
TKM2 Tokmak 2 44.12 337 P **P** **18 58 28.4 +0.3**
SNR=19
KBK Karagaybulak 44.15 337 P **P** **18 58 29.0 +0.7**
SNR=46
AML Almayashu 44.23 335 P **P** **18 58 30.0 +1.1**
SNR=24
AAK Ala-Archa 44.31 336 P **P** **18 58 30.6 +0.9**
SNR=14
AAK Ala-Archa 44.31 336 P **P** **18 58 29.4 -0.2**
comp=Z,91nm,0.9s,mb5.5,SNR=12
AAK Ala-Archa 44.31 336 P **P** **18 58 29.9 +0.3**
SNR=15
AAK Ala-Archa 44.31 336⇑ *eP* **P** **18 58 28.9 -0.7**
AAK pmax pmax
comp=Z,25nm,1.1s,mb4.9
AAK Ala-Archa 44.31 336 *eP* **P** **18 58 29.0 -0.7**
comp=Z,24nm,1.1s,mb4.8
FRU Bishkek 44.43 336 *eP* **P** **18 58 30.0 -0.6**
FRU *e* pP 18 58 40.0 -3.7
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.1
CHMS Chumysh 44.52 337 P **P** **18 58 31.2 0.0**
SNR=14
KSRS Korea Array 44.56 36 P **P** **18 58 29.9 -1.7**
comp=Z,2.8nm,0.6s,mb4.3,baz=229,slow=7.6,SNR=11
KSRS LR LR 19 18 28.6
comp=Z,375nm,20.1s,MS4.3,baz=214,slow=38
EKS2 Erkin-Say 44.63 336 P **P** **18 58 32.6 +0.5**
SNR=14
ASPA Alice Springs 44.64 128 *eP* **P** **18 58 31.7 -0.5**
ASPA *e*S **S** **19 04 45.8 -19**
AS31 Alice Springs 44.64 128 *eP* **P** **18 58 31.7 -0.5**
AS31 *e*S **S** **19 04 45.8 -19**
ASAR Alice Springs 44.64 128 P **P** **18 58 31.8 -0.4**
comp=Z,6.3nm,0.6s,mb4.7,baz=300,slow=6.9,SNR=168
ASAR PcP PcP 19 00 14.3 +0.1
comp=Z,3.1nm,0.9s,baz=307,slow=3.5,SNR=4.9
ASAR LR LR 19 20 17.3
comp=Z,183nm,20.1s,MS4.0,baz=309,slow=40
ASAR Alice Springs 44.64 128 P **P** **18 58 31.8 -0.4**
ASAR 19 00 14.4
FORT Forrest 44.76 141 *eP* **P** **18 58 33.2 0.0**
comp=Z,37nm,0.6s,mb5.4
FORT *e*pP pP 18 58 48.6 +2.3
USP Ospenovka 44.84 337 P **P** **18 58 33.9 0.0**
SNR=44
SONM Songino Array 45.45 9 P **P** **18 58 37.9 -0.7**
comp=Z,5.0nm,0.3s,mb4.9,baz=192,slow=9.0,SNR=91
SONM PcP PcP 19 00 16.5 -0.5
comp=Z,4.2nm,0.7s,baz=206,slow=4.0,SNR=10.0
SNY Shenyang 45.47 28 ⇓P **P** **18 58 39.0 +0.2**
SNY AMB AMB
comp=Z,11nm,1.2s,mb4.6
MK31 Makanchi Array 45.50 346 *eP* **P** **18 58 38.0 -1.0**
MKAR Makanchi Array 45.50 346 P **P** **18 58 38.2 -0.8**
comp=Z,11nm,0.3s,mb5.1,baz=161,slow=8.5,SNR=233
MKAR LR LR 19 22 18.2
comp=Z,119nm,18.9s,MS3.9,baz=162,slow=42
MKAR Makanchi Array 45.50 346 *eP* **P** **18 58 38.0 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
KK31 Karatay Array 46.40 333 *i* P **P** **18 58 45.3 -0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KKAR Karatay Array 46.40 333 P **P** **18 58 45.3 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ZAK Zakamensk 47.56 5 *eP* **P** **18 58 51.7 -3.5**
ZAK *e* 19 00 24.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2

CN2 Changchun 47.87 28 *eP* **P** **18 58 56.3 -1.3**
CN2 *e*XP sP 18 59 08.0 -8.5
CN2 *e*S **S** **19 05 51.5 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s,MS4.5
CN2 LR LR
comp=E,300nm,18.0s,MS4.5
CN2 LR LR
comp=Z,200nm,21.0s,MS4.1
TLY Talaya 48.88 6 *eP* **P** **18 59 07.2 +1.8**
TLY *e* 19 01 52.9
TLY *e*S **S** **19 06 10.9 +5.4**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,348nm,18.0s,MS4.4
TLY Talaya 48.88 6 *eP* **P** **18 59 04.2 -1.2**
comp=Z,9.1nm,0.7s,mb4.9
ABKT Ailbek 49.73 319 P **P** **18 59 03.4 -8.5**
comp=Z,146nm,1.1s,mb5.9,SNR=11
KURK Kurchatov 50.05 345 P **P** **18 59 13.8 -0.5**
comp=Z,97nm,0.9s,mb5.8,SNR=8.1
HIA Hailar 50.07 19 *eP* **P** **18 59 12.7 -1.7**
HIA pmax pmax
comp=Z,13nm,1.1s
HIA Hailar 50.07 19 *eP* **P** **18 59 12.7 -1.8**
comp=Z,12nm,1.1s,mb4.9
MDJ Mudanjiang 50.47 30 P **P** **18 59 18.3 +0.9**
MDJ AP pP 18 59 27.3 -3.5
MDJ XP sP 18 59 31.0 -5.4
MDJ PCS PcS 19 04 32.8 +0.5
MDJ S **S** **19 06 32.0 +4.3**
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.5
MDJ AMB AMB
comp=Z,47nm,3.7s
MDJ LR LR
comp=N,81nm,20.9s,MS4.0
MDJ LR LR
comp=E,113nm,20.3s,MS4.0
MDJ LR LR
comp=Z,117nm,23.8s,MS3.8
MJAR Matsushiro Arr 50.58 43 P **P** **18 59 19.5 +1.2**
comp=Z,1.8nm,1.0s,mb4.0,baz=252,slow=7.5,SNR=4.7
MJAR PcP PcP 19 00 36.0 +0.6
comp=Z,3.2nm,0.9s,baz=275,slow=3.4,SNR=7.3
CIT Chita 50.83 13 *eP* **P** **18 59 20.2 0.0**
CIT *e* pP 18 59 33.4 -0.1
CIT pmax pmax
comp=Z,28nm,1.9s,mb4.9
PMG Port Moresby 51.49 104 P **P** **18 59 25.2 +0.1**
comp=Z,20nm,0.8s,mb5.1,baz=256,slow=4.2,SNR=8.1
PMG Port Moresby 51.49 104 *eP* **P** **18 59 23.0 -2.1**
PMG *e* 18 59 41.2
PMG pmax pmax
comp=Z,41nm,0.8s
PMG Port Moresby 51.49 104 *eP* **P** **18 59 23.0 -2.2**
comp=Z,41nm,0.8s,mb5.4
PMG *e* 18 59 41.2
ZAL Zalesovo 51.80 351 P **P** **18 59 27.1 -0.4**
comp=Z,11nm,0.4s,mb5.2,baz=309,slow=5.8,SNR=40
ZAL LR LR 19 27 01.2
comp=Z,100nm,19.0s,MS3.9,baz=107,slow=42
NVS Novosibirsk 52.92 350⇓ *iP* **P** **18 59 33.8 -2.0**
NVS *e**PP pP 18 59 45.1 -4.1
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s,mb4.9
KRAR Krasnoyarsk 53.01 357 *eP* **P** **18 59 35.7 -0.7**
KRAR pmax pmax
comp=Z,61nm,1.0s,mb5.5
CTA Charters Tower 53.50 118 *eP* **P** **18 59 40.0 0.0**
comp=Z,14nm,0.9s,mb4.9
CTA *e*pP pP 18 59 57.5 +4.1
CTA Charters Tower 53.50 118 P **P** **18 59 40.0 0.0**
comp=Z,23nm,1.1s,mb5.0,baz=290,slow=8.7,SNR=11
CTA Charters Tower 53.50 118 *eP* **P** **18 59 40.0 0.0**
CTA *e**PP pP 18 59 57.5 +4.1
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 53.50 118 *eP* **P** **18 59 40.1 +0.1**
CTAO pmax pmax
comp=Z,32nm,1.1s,mb5.2
CTAO Charters Tower 53.50 118 *eP* **P** **18 59 40.1 +0.1**
comp=Z,32nm,1.1s,mb5.2
KBD Kabd 53.52 304 *eP* **P** **18 59 40.9 +0.8**
KBD AMb AMB 18 59 59.4
comp=Z,253nm,0.7s
RDF Al-Radifah 53.55 304 *eP* **P** **18 59 41.7 +1.3**
RDF AMb AMB 18 59 59.8
comp=Z,124nm,0.9s
UMR Umm Al-Rimmam 53.62 305 *eP* **P** **18 59 41.5 +0.6**
NAY Al-Naaiem 53.91 304 *eP* **P** **18 59 43.3 +0.3**
NAY AMb AMB 19 00 02.1
comp=Z,71nm,0.6s,mb5.8
VOSK Vostochnaya 54.08 341 P **P** **18 59 42.8 -1.5**
VOSK pmax pmax
comp=Z,35nm,1.2s,mb5.2
BVA0 Borovoye Array 54.53 341 *i* P **P** **18 59 46.1 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 54.53 341 P **P** **18 59 46.2 -1.3**
comp=Z,15nm,0.9s,mb5.0,baz=144,slow=8.5,SNR=34
BRVK Borovoye 54.59 341 P **P** **18 59 46.9 -1.1**
comp=Z,83nm,0.5s,SNR=12
BRVK Borovoye 54.59 341 P **P** **18 59 47.0 -1.0**
SNR=6.5
BRVK Borovoye 54.59 341 *eP* **P** **18 59 46.7 -1.3**
BRVK *e* pP 19 00 01.1 -0.3
BRVK pmax pmax
comp=Z,24nm,1.0s,mb5.2
BRVK Borovoye 54.59 341 *eP* **P** **18 59 46.7 -1.3**
comp=Z,24nm,1.0s,mb5.2
BRVK *e* pP 19 00 01.1 -0.3
STKA Stephens Creek 54.70 133 *eP* **P** **18 59 48.3 -0.4**
comp=Z,14nm,0.9s,mb5.0
STKA Stephens Creek 54.70 133 P **P** **18 59 48.5 -0.3**
comp=Z,20nm,0.9s,mb5.1,baz=322,slow=7.8,SNR=17
STKA LR LR 19 23 16.9
comp=Z,137nm,20.6s,MS4.0,baz=22,slow=36
KLR Kul'dur 54.81 27 *eP* **P** **18 59 45.0 -4.5**
ZRNK Zerenda 54.94 340 *eP* **P** **18 59 48.5 -2.0**
ZRNK *e* pP 18 59 59.7 -4.2
ZRNK *e* pP 19 00 03.7 -0.2
ZRNK pmax pmax
comp=Z,34nm,0.6s,mb5.5
ZRNK Zerenda 54.94 340 *eP* **P** **18 59 48.5 -2.0**
comp=Z,34nm,0.6s,mb5.5
ZRNK *e* pP 18 59 59.7 -4.2
ZRNK *e* pP 19 00 03.7 -0.2
CHKZ Chkalovo 55.01 341⇓ *iP* **P** **18 59 49.8 -1.1**
CHKZ *e* pP 19 00 00.8 -3.6
CHKZ *e* pP 19 00 04.5 +0.1
CHKZ pmax pmax
comp=Z,61nm,1.0s,mb5.6
CHKZ Chkalovo 55.01 341⇓ *iP* **P** **18 59 49.8 -1.1**
comp=Z,61nm,1.0s,mb5.6
CHKZ *e* pP 19 00 00.8 -3.7
CHKZ *e* pP 19 00 04.5 +0.1
AB31 Akbulak array 55.87 332 *eP* **P** **18 59 56.2 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
BOD Bodaibo 56.34 11 *eP* **P** **18 59 59.0 -1.5**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.9
AKTK Aktyubinsk 57.59 332 P **P** **19 00 08.0 -1.3**
AKTO Aktyubinsk 57.59 332 P **P** **19 00 08.0 -1.3**
comp=Z,4.2nm,0.4s,mb4.8,baz=124,slow=8.0,SNR=27
YSS Yuzh-Sakhalins 59.05 35⇑ *eP* **P** **19 00 17.1 -2.4**
YSS pmax pmax
comp=Z,26nm,1.2s,mb5.1
HAKT HAKKARI 59.62 312 *i* P **P** **19 00 22.7 -0.7**
KMBO Kilima Mbogo 59.83 267 P **P** **19 00 27.2 +2.3**
comp=Z,2.5nm,0.8s,mb4.3,baz=216,slow=23,SNR=6.2
KMBO LR LR 19 23 40.4
comp=Z,188nm,18.5s,MS4.3,baz=92,slow=33
KMBO Kilima Mbogo 59.83 267 *eP* **P** **19 00 26.9 +2.0**
KMBO pmax pmax
comp=Z,4.0nm,0.9s

KMBO Kilima Mbogo 59.83 267 *eP* **P** **19 00 26.9 +1.9**
comp=Z,3.7nm,0.9s,mb4.4
GNI Garni 59.89 316⇓ *iP* **P** **19 00 25.4 +0.1**
GNI pmax pmax
comp=Z,19nm,1.0s
GNI Garni 59.89 316⇓ *iP* **P** **19 00 25.4 +0.1**
comp=Z,19nm,1.0s,mb5.1
SVE Sverdlovsk 60.99 338 *eP* **P** **19 00 31.0 -1.8**
ARU Arti 61.49 337 P **P** **19 00 34.9 -1.3**
comp=Z,92nm,0.8s,mb6.0,SNR=5.7
ARU Arti 61.49 337⇑ *iP* **P** **19 00 34.6 -1.6**
ARU *e* 19 02 52.0
ARU *e*PPP 19 04 17.5
ARU *e*S **S** **19 08 55.0 +0.9**
ARU *e*SS SS 19 12 54.5 -1.1
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU Arti 61.49 337 *eP* **P** **19 00 34.5 -1.8**
comp=Z,9.1nm,0.7s,mb5.0
ZEI Tsey 61.55 318 *eP* **P** **19 00 36.9 +0.3**
ZEI *i* pP 19 00 53.4 +3.1
ZEI *e* 19 01 15.2
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.1
MARD Mardin 61.71 311 *i* P **P** **19 00 37.8 +0.1**
ERZM Erzurum 62.18 314 *i* P **P** **19 00 41.9 +1.1**
KIV Kislovodsk 62.84 319 P **P** **19 00 45.5 +0.3**
SNR=12
KIV Kislovodsk 62.84 319 *di* P **P** **19 00 44.5 -0.8**
KIV *i* pP 19 00 59.5 +0.5
KIV *e* 19 01 18.4
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.3
KIV Kislovodsk 62.84 319 *eP* **P** **19 00 45.2 -0.1**
comp=Z,28nm,0.9s,mb5.4
ELZG Elazig 63.44 312 *i* P **P** **19 00 49.8 +0.6**
KELT Kelkit 63.78 314 *i* P **P** **19 00 51.5 0.0**
MALT Malatya 63.80 312⇑ *iP* **P** **19 00 52.4 +0.8**
MALT Malatya 63.80 312⇓ *iP* **P** **19 00 52.1 +0.5**
MALT pmax pmax
comp=Z,17nm,1.1s,mb5.0
MALT Malatya 63.80 312⇓ *iP* **P** **19 00 52.1 +0.6**
comp=Z,17nm,1.1s,mb5.0
YAK Yakutsk 63.82 16 *eP* **P** **19 00 50.5 -1.2**
YAK *e* pP 19 01 06.6 +1.1
YAK pmax pmax
comp=Z,64nm,1.3s,mb5.5
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,13nm,1.0s
YAK Yakutsk 63.82 16⇓ *iP* **P** **19 00 49.7 -2.1**
comp=E,75nm,1.0s,mb5.7
HNR Honiara 63.94 102 P **P** **19 00 53.2 +0.7**
comp=E,9.3nm,0.3s,mb5.3,baz=248,slow=2.0,SNR=3.5
GZT Gaziantep 64.16 310 *i* P **P** **19 00 54.5 +0.6**
EIL Elat 64.34 302 P **P** **19 00 47.9 -7.3**
comp=E,261nm,1.1s
SOKR Solikamsk 64.38 339⇑ *iP* **P** **19 00 54.7 -0.7**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOC Sochi 64.68 317 *i* P **P** **19 00 57.2 -0.1**
GRSN GIRESUNGRSN 64.75 314 *i* P **P** **19 00 57.2 -0.6**
COBT Iskenderun 64.92 309 *i* P **P** **19 01 00.0 +1.1**
VRHR Novokhopersk 66.56 326 *eP* **P** **19 01 08.3 -1.2**
VRHR pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
VRHR pmax pmax
comp=N,2.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.7s
AVNT Avonos 66.61 311 *i* P **P** **19 01 09.5 -0.3**
ANN Anapa 66.65 318 *eP* **P** **19 01 09.4 -0.6**
ANN pmax pmax
comp=Z,37nm,1.6s,mb5.2
CSS Prodhromos 66.83 307 *eP* **P** **19 01 11.9 +0.6**
comp=Z,18nm,1.0s,mb5.1
CTKT Corum 67.17 313 *i* P **P** **19 01 13.6 +0.2**
CDAG Cicekdag 67.20 312 *i* P **P** **19 01 13.3 -0.3**
BOYT Boyabat 67.32 314 *i* P **P** **19 01 14.3 0.0**
BRTR Keskin Array B 67.77 312 P **P** **19 01 16.8 -0.4**
comp=Z,4.2nm,0.8s,mb4.5,baz=130,slow=6.7,SNR=26
BRTR LR LR 19 32 24.9
comp=Z,74nm,19.1s,MS3.9,baz=116,slow=37
BR131 Keskin Array S 67.77 312 *eP* **P** **19 01 16.4 -0.8**
comp=Z,14nm,1.2s,mb4.9
VRSR Storozhevoye 68.00 325 *eP* **P** **19 01 17.2 -1.4**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
ANTO Ankara 68.44 312 P **P** **19 01 21.3 -0.1**
SNR=6.9
ANTO Ankara 68.44 312 *eP* **P** **19 01 21.2 -0.2**
ANTO *e* pP 19 01 34.4 -0.8
ANTO pmax pmax
comp=Z,21nm,1.3s,mb5.0
ANTO Ankara 68.44 312 *eP* **P** **19 01 21.2 -0.1**
comp=Z,21nm,1.3s,mb5.0
ANTO *e* pP 19 01 34.4 -0.8
BALT Daday 68.45 314 *i* P **P** **19 01 21.5 +0.1**
SIM Simferopol' **68.92 317** *de* P **P** **19 01 23.9 -0.5**
SIM *e* pP 19 01 39.0 +0.7
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.1
SGKT Sivrigoynuk 69.17 312 *i* P **P** **19 01 25.5 -0.4**
CASY Casey 69.76 174 P **P** **19 01 28.4 -1.1**
comp=Z,8.7nm,1.1s,mb5.6
ESKT Eskisehir 69.81 311 *i* P **P** **19 01 29.2 -0.7**
TKTP Tekketepe 69.88 309 *i* P **P** **19 01 29.9 -0.4**
BORA Eskisehir 70.19 311 *i* P **P** **19 01 31.4 -0.8**
MOS Moscow 70.72 329 *eP* **P** **19 01 33.0 -2.4**
MOS pmax pmax
comp=Z,43nm,0.7s,mb5.5
OBN Obninsk 71.02 328 *eP* **P** **19 01 35.9 -1.3**
OBN *e* pP 19 01 50.6 -0.6
OBN pmax pmax
comp=Z,40nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
OBN Obninsk 71.02 328 *eP* **P** **19 01 35.8 -1.4**
comp=Z,14nm,0.8s,mb4.9
BTOK Tokmak 71.99 311 *i* P **P** **19 01 42.7 -0.3**
SEY Seymchan 72.25 23⇑ *eP* **P** **19 01 41.2 -3.5**
TIRR Tirgusor 72.71 316⇓ *iP* **P** **19 01 47.1 -0.3**
IDI Anoyia 73.69 306 LR LR 19 38 43.0
comp=Z,52nm,18.9s,MS3.8,baz=78,slow=39
AKASG Malin Array Be 73.74 322 P **P** **19 01 52.2 -1.2**
comp=Z,2.6nm,0.3s,mb4.7,baz=88,slow=6.0,SNR=34
AKBB Malin Array Si 73.74 322 *eP* **P** **19 01 51.0 -2.4**
AKBB *e* pP 19 02 05.4 -2.0
KIEV Kiev 73.75 322 *eP* **P** **19 01 51.9 -1.6**
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIEV Kiev 73.75 322 *eP* **P** **19 01 51.9 -1.6**
comp=Z,12nm,0.8s,mb4.9
VRI Vrincioaia 74.19 317⇑ *iP* **P** **19 01 56.6 +0.6**
VRI Vrincioaia 74.19 317 ⇑P **P** **19 01 56.6 +0.5**
PLOR Plostina 74.24 317⇓ *iP* **P** **19 01 57.5 +1.2**
MAW Mawson 74.35 193 *eP* **P** **19 01 58.0 +1.0**
comp=Z,6.8nm,1.2s,mb4.5
MAW Mawson 74.35 193 P **P** **19 01 58.3 +1.3**
comp=Z,6.0nm,1.0s,mb4.5,baz=26,slow=6.8,SNR=4.7
MAW LR LR 19 28 07.8
comp=Z,73nm,19.8s,MS4.0,baz=30,slow=30
MAW Mawson 74.35 193 *eP* **P** **19 01 58.0 +1.0**
MAW pmax pmax
comp=Z,7.0nm,1.2s
LBTB Lobatse 74.46 243 P **P** **19 01 58.5 +0.9**
LBTB pmax pmax
comp=Z,15nm,1.1s,mb4.8
LBTB Lobatse 74.46 243 P **P** **19 01 58.5 +0.9**
comp=Z,15nm,1.1s,mb4.8
MLR Muntele Rosu 74.65 316 LR LR 19 36 42.2
comp=Z,81nm,20.9s,MS4.0,baz=264,slow=37
MLR Muntele Rosu 74.65 316⇓ *iP* **P** **19 01 59.1 +0.4**
MLR Muntele Rosu 74.65 316 ⇓P **P** **19 01 59.1 +0.4**
ZIMR 74.70 314 P **P** **19 01 59.4 +0.4**
BOSA Boshof 75.45 240 P **P** **19 02 04.2 +0.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=66,slow=11,SNR=7.3
BOSA LR LR 19 32 28.0
comp=Z,146nm,18.4s,MS4.3,baz=61,slow=33
BOSA Boshof 75.45 240 *eP* **P** **19 02 03.3 -0.1**

BOSA pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BOSA Boshof 75.45 240 *e*P **P 19 02 03.3 0.0**
comp=Z,1.3nm,0.5s,mb4.1
BURAR Bucovina Array 75.57 318⇓*i*P **P 19 02 04.8 +0.8**
BURAR Bucovina Array 75.57 318 ⇓P **P 19 02 04.8 +0.8**
VTS Vitosha 76.07 313⇓*i*P **P 19 02 06.7 -0.2**
LVV L'vov 76.78 320 *e*P **P 19 02 10.4 -0.5**
LVV *e* pP 19 02 24.4 -0.6
DRGR 77.10 317⇓*i*P **P 19 02 13.3 +0.6**
DRGR 77.10 317 ⇓P **P 19 02 13.3 +0.6**
APA Apatity 77.42 339⇓*i*P **P 19 02 14.3 -0.2**
APA *i* pP 19 02 25.7 -2.9
APA pmax pmax
comp=Z,29nm,1.2s,mb5.1
KWP Kalwaria 77.58 320 *e*P **P 19 02 15.9 +0.5**
KWP *e* pP 19 02 29.7 +0.2
BZS Buzias 77.66 316⇓*i*P **P 19 02 15.9 +0.1**
BZS Buzias 77.66 316 ⇓P **P 19 02 15.8 0.0**
UZH Uzhgorod 77.68 319 *e*P **P 19 02 15.4 -0.6**
UZH *e* 19 02 21.6
KOLS Kolonicke sedl 77.75 319 *e*P **P 19 02 17.4 +1.1**
SUW Suwalki 78.12 325 *e*P **P 19 02 17.7 -0.7**
SUW *e* pP 19 02 32.5 0.0
FINES FINESS Array B 78.35 332 P **P 19 02 18.9 -0.8**
comp=Z,1.4nm,0.3s,mb4.4,baz=108,slow=5.3,SNR=18
FINES LR LR 19 37 28.8
comp=Z,87nm,20.6s,MS4.1,baz=175,slow=36
STHS Stebnicka Huta 78.49 320 *e*P **P 19 02 21.4 +1.0**
STHS *e* pP 19 02 36.1 +1.6
STHS pmax pmax
comp=Z,14nm,1.2s,mb4.8
STHS Stebnicka Huta 78.49 320 *e*P **P 19 02 21.4 +1.0**
comp=Z,14nm,1.2s,mb4.8
STHS *e* pP 19 02 36.1 +1.6
KECS Kecovo 78.84 319 *i*P **P 19 02 22.4 0.0**
KECS *e* pP 19 02 37.5 +1.0
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KECS Kecovo 78.84 319 *i*P **P 19 02 22.4 0.0**
comp=Z,6.0nm,1.0s,mb4.5
KECS *e* pP 19 02 37.5 +1.0
NIE Niedzica 79.09 320 *e*P **P 19 02 24.6 +0.9**
PSZ Piszkesteto 79.16 318⇓*i*P **P 19 02 24.5 +0.4**
PSZ Piszkesteto 79.16 318 *e*P **P 19 02 22.3 -1.8**
PSZ pmax pmax
comp=Z,30nm,1.3s,mb5.1
PSZ Piszkesteto 79.16 318 *e*P **P 19 02 22.3 -1.8**
comp=Z,30nm,1.3s,mb5.1
PSZ Piszkesteto 79.16 318⇓*e*P **P 19 02 24.3 +0.2**
OJC Ojcow 79.53 320 *e*P **P 19 02 25.9 -0.2**
BILL Bilibino 79.62 21 *e*P **P 19 02 24.5 -2.1**
BILL pmax pmax
comp=Z,20nm,2.4s,mb4.6
BUD Budapest 79.69 318 *e*P **P 19 02 27.8 +0.8**
PKSM Moragy 79.80 316⇓*i*P **P 19 02 27.6 0.0**
VYHS Vyhne 79.93 319 *e*P **P 19 02 28.3 0.0**
VYHS pmax pmax
comp=Z,16nm,1.5s,mb4.7
VYHS Vyhne 79.93 319 *e*P **P 19 02 28.3 0.0**
comp=Z,16nm,1.5s,mb4.7
KEV Kevo 80.39 341 *e*p **P 19 02 39.5 +8.8**
comp=Z,11nm,0.8s,mb4.8
KEV Kevo 80.39 341 *e*P **P 19 02 39.5 +8.8**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
OKC Ostrava-Krasne 80.54 320 *e*P **P 19 02 31.8 +0.2**
OKC *e*pP pP 19 02 47.1 +1.4
TIP Timpagrande 80.55 309 *e*P **P 19 02 32.3 +0.7**
RPZ Rata Peaks 80.60 135 P **P 19 02 31.8 -0.1**
comp=Z,23nm,0.9s,mb5.1,baz=321,slow=2.1,SNR=5.0
ARCES ARCESS Array B 80.82 340 P **P 19 02 32.3 -0.8**
comp=Z,2.0nm,0.4s,mb4.4,baz=101,slow=6.0,SNR=46
ARCES LR LR 19 41 21.4
comp=Z,195nm,21.2s,MS4.4,baz=228,slow=38
MORC Moravsky Berou 80.92 320⇓*i*P **P 19 02 34.0 +0.4**
MORC Moravsky Berou 80.92 320 *e*P **P 19 02 34.0 +0.4**
MORC pmax pmax
comp=Z,18nm,1.1s,mb4.9
MORC Moravsky Berou 80.92 320 *e*P **P 19 02 34.0 +0.3**
comp=Z,18nm,1.1s,mb4.9
TSUM Tsumeb 80.96 250 P **P 19 02 30.1 -3.7**
comp=Z,7.3nm,1.1s,mb4.5
ZST Bratislava 81.05 318 *e*P **P 19 02 34.8 +0.5**
ZST *e* pP 19 02 50.1 +1.6
ZST pmax pmax
comp=Z,19nm,1.2s,mb4.9
ZST Bratislava 81.05 318 *e*P **P 19 02 34.8 +0.5**
comp=Z,19nm,1.2s,mb4.9
ZST *e* pP 19 02 50.1 +1.6
SOP Sopron 81.37 318⇓*e*P **P 19 02 36.2 +0.2**
KOGS Kog 81.47 316 *e*P **P 19 02 36.9 +0.3**
SYO Syowa Base 81.58 198⇓*e*P **P 19 02 37.5 +0.4**
DPC Dobruska-Polom 81.77 320 *e*P **P 19 02 38.5 +0.4**
KSP Ksiaz 81.83 321 *e*P **P 19 02 39.2 +0.8**
KSP *e* pP 19 02 53.9 +1.3
KSP Ksiaz 81.83 321 *e*P **P 19 02 38.7 +0.3**
KSP *e*pP pP 19 02 53.6 +1.0
GOLS Golise 81.87 316 *e*P **P 19 02 39.1 +0.5**
UPC Upice 81.98 320 *e*P **P 19 02 39.1 -0.1**
UPC *e*pP pP 19 02 52.3 -1.1
ARSA Arzberg 82.03 317 *i*P **P 19 02 39.9 +0.5**
comp=Z,18nm,1.2s,mb4.9,SNR=5.7
BOJS Bojanci 82.09 315 *e*P **P 19 02 40.1 +0.3**
PERS Pernice 82.27 316 *e*P **P 19 02 41.2 +0.5**
LJU Ljubljana 82.64 316 *e*P **P 19 02 42.6 -0.1**
PRU Pruhonice 82.88 320 *e*P **P 19 02 43.8 -0.1**
PVCC Panska Ves 82.90 320 *e*P **P 19 02 43.7 -0.3**
PVCC *e*pP pP 19 02 57.7 -0.5
VOY Vojsko 83.08 316 *e*P **P 19 02 45.3 +0.4**
VOY *e* pP 19 03 00.5 +1.4
AQU L'Aquila 83.27 312 *e*P **P 19 02 46.0 +0.1**
AQU *e* pP 19 02 56.9 -3.2
AQU pmax pmax
comp=Z,30nm,0.9s,mb5.3
AQU L'Aquila 83.27 312 *e*P **P 19 02 46.0 +0.1**
comp=Z,30nm,0.9s,mb5.3
AQU *e* pP 19 02 56.9 -3.2
BRG Berggiesshubel 83.32 321 *e*P **P 19 02 45.8 -0.4**
comp=Z,26nm,1.5s,mb5.0
BRG Berggiesshubel 83.32 321 *e*P **P 19 02 46.0 -0.2**
comp=Z,15nm,1.5s,mb4.8
BRG *e* 19 19 54.4
comp=Z,3.6nm,1.0s
GEC2 GERESS Array S 83.35 319 *e*P **P 19 02 45.9 -0.5**
comp=Z,43nm,1.4s,mb5.3
GEC2 *e*pP pP 19 03 00.7 +0.1
GEC2 GERESS Array S 83.35 319 *e*P **P 19 02 45.9 -0.5**
GEC2 *e**PP pP 19 03 00.7 +0.1
GEC2 pmax pmax
comp=Z,43nm,1.4s,mb5.3
GERES GERESS Array B 83.35 319 P **P 19 02 46.9 +0.5**
comp=Z,8.9nm,1.0s,mb4.7,baz=99,slow=5.8,SNR=43
GERES LR LR 19 43 52.0
comp=Z,45nm,18.2s,MS3.9,baz=273,slow=38
KHC Kasperske Hory 83.45 319 *e*P **P 19 02 46.9 +0.1**
KHC *e*pP pP 19 02 58.7 -2.4
RUE Ruedersdorf 83.52 322 *e*P **P 19 02 47.3 +0.1**
comp=Z,42nm,0.9s,mb5.6
FBE Freiberg 83.69 321 *e*P **P 19 02 48.4 +0.3**
comp=Z,28nm,1.5s,mb5.2
WET Wettzell 83.91 319 *e*P **P 19 02 49.2 0.0**
comp=Z,30nm,1.6s,mb5.2
WET Wettzell 83.91 319 *e*P **P 19 02 49.2 0.0**
WET pmax pmax
comp=Z,30nm,1.6s,mb5.2
CLL Collm 83.93 321 *e*P **P 19 02 49.2 -0.1**
comp=Z,10.0nm,1.1s,mb4.9
CLL *e*pP pP 19 03 03.7 +0.1
CLL Collm 83.93 321 *i*P **P 19 02 48.8 -0.5**
CLL *i* pP 19 03 02.9 -0.7
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
CLL Collm 83.93 321 *i*P **P 19 02 48.8 -0.5**
comp=Z,10.0nm,1.1s,mb4.9
CLL *i* pP pP 19 03 02.9 -0.7
URZ Urewera 84.08 129 P **P 19 02 50.2 +0.1**
comp=Z,10nm,1.0s,mb4.9,baz=292,slow=5.4,SNR=3.6
NKC Novy Kostel 84.24 320 *e*P **P 19 02 51.4 +0.5**
GUNZ Gunzen 84.32 320 *e*P **P 19 02 51.8 +0.5**
comp=Z,21nm,1.4s,mb5.1
WERD Werda 84.33 320 *e*P **P 19 02 51.3 -0.1**
comp=Z,11nm,1.2s,mb4.9
ROTZ Rotzenmuhle 84.37 320 *e*P **P 19 02 51.8 +0.2**
comp=Z,15nm,1.2s,mb5.0
MANZ Manzenberg 84.44 320 *e*P **P 19 02 52.6 +0.7**
comp=Z,32nm,1.4s,mb5.3
MOX Moxa 84.78 320 *e*P **P 19 02 53.9 +0.3**
comp=Z,16nm,1.4s,mb5.0
MOX Moxa 84.78 320 *e*P **P 19 02 54.2 +0.6**
comp=Z,32nm,1.9s,mb5.1
MOX Moxa 84.78 320 *e*P **P 19 02 54.2 +0.6**
MOX pmax pmax
comp=Z,32nm,1.9s,mb5.1
GRA1 Grafenberg Arr 85.01 319 *e*P **P 19 02 55.7 +0.9**
comp=Z,52nm,1.7s,mb5.4
GRF Grafenberg Arr 85.01 319 *e*P **P 19 02 55.7 +0.9**
comp=Z,52nm,1.7s,mb5.4
GRF Grafenberg Arr 85.01 319 *e*P **P 19 02 55.7 +0.9**
GRF pmax pmax
comp=Z,52nm,1.7s,mb5.4
GRF Grafenberg Arr 85.01 319 *e*P **P 19 02 55.7 +0.9**
GRF pmax pmax
comp=Z,52nm,1.7s,mb5.4
NB2 NORSAR Subarra 85.37 331 P **P 19 02 55.0 -1.6**
comp=Z,27nm,1.4s,mb5.2,baz=93,slow=5.3
NOA NORSAR Array B 85.37 331 P **P 19 02 56.0 -0.6**
comp=Z,7.0nm,1.0s,mb4.7,baz=90,slow=5.9,SNR=5.2
NOA LR LR 19 46 46.0
comp=Z,74nm,18.6s,MS4.1,baz=145,slow=40
NOA NORSAR Array B 85.37 331 P **P 19 02 56.0 -0.6**
NOA LR LR 19 46 46.0
CLZ Clausthal 85.59 322 *e*P **P 19 02 58.2 +0.5**
comp=Z,44nm,1.5s,mb5.5
CLZ Clausthal 85.59 322 *e*P **P 19 02 58.2 +0.5**
CLZ pmax pmax
comp=Z,44nm,1.5s,mb5.5
NRDL Niedersach Rie 85.76 322 *e*P **P 19 02 58.8 +0.3**
comp=Z,52nm,1.6s,mb5.5
DAVA Damuels 85.87 317 *i*P **P 19 02 59.5 +0.5**
comp=Z,25nm,1.2s,mb5.3,SNR=7.4
DAVA Damuels 85.87 317 *i*P **P 19 02 59.5 +0.5**
comp=Z,25nm,1.2s,mb5.3
STU Stuttgart 86.33 319 *e*P **P 19 03 01.2 -0.1**
comp=Z,12nm,1.0s,mb5.1
KEST Kesra 86.36 305 P **P 19 03 02.6 +1.1**
comp=Z,5.8nm,1.0s,mb4.8,baz=311,slow=0.7,SNR=9.6
TNS Taunus Mts 86.81 320 *e*P **P 19 03 04.4 +0.8**
comp=Z,25nm,1.4s,mb5.2
TNS Taunus Mts 86.81 320 *e*P **P 19 03 04.4 +0.8**
TNS pmax pmax
comp=Z,25nm,1.4s,mb5.2
BFO Black Forest 86.91 318 *e*P **P 19 03 03.6 -0.5**
comp=Z,10.0nm,1.1s,mb5.0
BFO Black Forest 86.91 318 *e*P **P 19 03 03.6 -0.5**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
BUG Bochum--Univer 87.53 321 *e*P **P 19 03 07.9 +0.8**
comp=Z,36nm,1.2s,mb5.5
VNDA Vanda 87.57 169 P **P 19 03 07.2 -0.2**
comp=Z,1.9nm,0.9s,mb4.3,baz=278,slow=7.2,SNR=4.7
VNDA LR LR 19 35 34.7
comp=Z,73nm,19.4s,MS4.1,baz=306,slow=31
VNDA Vanda 87.57 169 *e*P **P 19 03 06.6 -0.8**
VNDA pmax pmax
comp=Z,12nm,1.6s
VNDA Vanda 87.57 169 *e*P **P 19 03 06.6 -0.7**
comp=Z,12nm,1.6s,mb4.9
WLF Walferdange 88.30 319 *e*P **P 19 03 12.1 +1.3**
comp=Z,35nm,1.3s,mb5.4
SBA Scott Base 88.67 169 P **P 19 03 12.8 +0.2**
SBA pmax pmax
comp=Z,16nm,1.3s,mb5.2
SBA Scott Base 88.67 169 P **P 19 03 12.8 +0.3**
comp=Z,16nm,1.3s,mb5.2
DAG Danmarks Havn 92.85 348⇑*i*P **P 19 03 30.1 -1.9**
comp=Z,2.0nm,0.6s,mb4.7
DAG Danmarks Havn 92.85 348⇑*e*P **P 19 03 30.1 -1.9**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
DAG Danmarks Havn 92.85 348⇑*e*P **P 19 03 30.1 -1.9**
comp=Z,2.0nm,0.6s,mb4.7
QSPA South Pole Qui 92.88 180 *e*P **P 19 03 32.3 +0.2**
TORD Torodi Ar. Bea 94.47 283 P **P 19 03 40.2 +0.8**
comp=Z,2.1nm,1.0s,mb4.5,baz=67,slow=3.2,SNR=8.9
TORD LR LR 19 46 36.0
comp=Z,61nm,19.6s,MS4.1,baz=315,slow=36
HAWA Hanford 121.25 29 *e*PKPdf PKPdf 19 09 12.4 +0.4
MSO Missoula 123.45 25 *e*PKPdf PKPdf 19 09 15.8 -0.5
MOD Modoc 124.01 33 *e*PKPdf PKPdf 19 09 18.7 +1.3
HLID Hailey 125.78 28 *e*PKPdf PKPdf 19 09 22.0 +1.3
ULM Lac du Bonnet 125.87 10 PKP PKPdf 19 09 20.1 -0.8
comp=Z,1.5nm,0.3s,baz=33,slow=4.9,SNR=7.1
NVAR Mina Array Bea 127.50 35 PKP PKPdf 19 09 25.4 +1.4
comp=Z,1.9nm,0.9s,baz=289,slow=4.5,SNR=8.4
REDW Red Top Meadow 127.53 25 *e*PKPdf PKPdf 19 09 24.8 +0.7
REDW *e*PKPdf PKPdf 19 09 25.7 +1.6
MTUM Tungsten Hills 128.08 36 *e*PKPdf PKPdf 19 09 26.6 +1.5
BW06 Boulder Array 128.57 25 *e*PKPdf PKPdf 19 09 26.9 +0.9
PDAR Pinedale Array 128.57 25 PKP PKPdf 19 09 26.6 +0.5
comp=Z,1.0nm,0.5s,baz=318,slow=2.0,SNR=12
DUG Dugway 129.13 29 *e*PKIKP PKPdf 19 09 28.4 +1.2
DAC Darwin (Calif) 129.38 36 *e*PKIKP PKPdf 19 09 29.8 +2.2
RSSD Black Hills 129.50 20 *e*PKIKP PKPdf 19 09 25.3 -2.5
TMUT Trail Mountain 130.61 29 *e*PKPdf PKPdf 19 09 31.9 +2.0
MSU Marysvale 130.74 30 *e*PKIKP PKPdf 19 09 31.8 +1.6
SRU San Rafael 131.08 28 *e*PKIKP PKPdf 19 09 32.0 +1.1
WUAZ Wupatki 133.43 32 *e*PKPdf PKPdf 19 09 35.7 +0.4
MVCO Mesa Verde 133.56 28 *e*PKIKP PKPdf 19 09 36.4 +0.9
ANMO Albuquerque 136.35 28 *e*PKIKP PKPdf 19 09 42.2 +1.5
MIAR Mount Ida 141.41 14 *e*PKIKP PKPdf 19 09 50.8 +0.8
LTX Lajitas 142.30 30 *e*PKIKP PKPdf 19 09 51.5 -0.1
TXAR Lajitas Array 142.30 30 PKP PKPdf 19 09 52.0 +0.4
comp=Z,1.7nm,0.7s,baz=252,slow=0.4,SNR=13
JCT Junction City 143.10 25 *e*PKIKP PKPdf 19 09 50.9 -2.1
BRAL Brewton 146.01 6 *e*PKPdf PKPdf 19 09 59.5 +1.4
LPAZ La Paz 160.24 227 PKP PKPdf 19 10 20.6 +2.2
comp=Z,1.6nm,0.8s,baz=38,slow=5.1,SNR=6.3

*ISCJB **25** 18:56:52.3±0.6, 3627N±004×1574E±003, h11km, Error ellipse: s-maj=5.5km s-min=3.7km az=32.0*
*CSEM **25** 18:56:52.3±0.2, 3606N×1584E, h60km, ML4.3/3, Error ellipse: s-maj=5.3km s-min=2.5km az=154.0*
*ROM **25** 18:56:53.4±0.1, 3628N×1578E, h11km, Ml3.1/28, Error ellipse: s-maj=0.7km s-min=0.3km az=88.0*
ISC 25 18:56:52.4±1.0, 3626N±004×1578E±005, h2km±7km, n41, σ0s85/52, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAVL	**Avola**	**0.87**	**323**	Pg	**Pg**	**18 57 10.1**	**+0.9**
HAVL				Sg	**Sg**	**18 57 22.1**	**+1.6**
	2μm,0.3s						
PZI	**Palazzolo**	**1.04**	**320**	Pg	**Pg**	**18 57 12.5**	**+0.2**
PZI				Sg	**Sg**	**18 57 26.4**	**+0.6**
	343nm,0.2s						
SSY	**Sortino**	**1.06**	**328**	Pg	**Pg**	**18 57 13.1**	**+0.4**
SSY				Sg	**Sg**	**18 57 27.0**	**+0.6**
	1μm,0.2s						
HMDC	**Modica**	**1.06**	**311**	Pg	**Pg**	**18 57 12.4**	**-0.4**
HMDC				Sg	**Sg**	**18 57 25.6**	**-0.9**
	540nm,0.3s						
AGST	**Augusta-Monte**	**1.09**	**336**	Pg	**Pg**	**18 57 13.6**	**+0.4**
AGST				Sg	**Sg**	**18 57 27.8**	**+0.5**
	433nm,0.2s						
WDD	**Wield Dalam**	**1.09**	**249**	Pg	**Pg**	**18 57 13.2**	**-0.1**
WDD				Sg	**Sg**	**18 57 27.7**	**+0.2**
	739nm,0.3s						
HAGA	**Augusta**	**1.14**	**334**	Pg	**Pg**	**18 57 14.2**	**0.0**
HAGA				Sg	**Sg**	**18 57 28.7**	**-0.3**
	1μm,0.3s						
HVZN	**Vizzini**	**1.25**	**317**	Pg	**Pg**	**18 57 15.4**	**-1.0**
HVZN				Sg	**Sg**	**18 57 31.4**	**-1.2**
	587nm,0.4s						
RAFF	**Raffo Rosso**	**1.49**	**311**	Pg	**Pg**	**18 57 19.3**	**-1.6**
RAFF				Sg	**Sg**	**18 57 39.7**	**-0.5**
	283nm,0.6s						
MPAZ	**Palizzi**	**1.70**	**6**	Pg	**Pn**	**18 57 22.8**	**-0.2**
	58nm,0.3s						
MMME	**Mongiuffi-Meli**	**1.72**	**346**	Pg	**Pn**	**18 57 23.9**	**+0.5**
	206nm,0.3s						
GALF	**Gagliano Caste**	**1.74**	**326**	Pg	**Pn**	**18 57 24.2**	**+0.5**
GALF				Sg	**Sn**	**18 57 45.5**	**-1.0**
	392nm,0.6s						
SOI	**Samo**	**1.82**	**7**	Pg	**Pn**	**18 57 24.8**	**+0.1**
	33nm,0.3s						
MNO	**Monte Soro**	**1.88**	**333**	Pg	**Pn**	**18 57 26.8**	**+1.2**
	79nm,0.2s						
FAVR	**Favara**	**1.97**	**301**	Pg	**Pn**	**18 57 26.8**	**0.0**
	33nm,0.3s						
SCLL	**Scilla**	**1.99**	**358**	Pg	**Pn**	**18 57 27.5**	**+0.4**
	13nm,0.3s						
MSRU	**Castanea**	**2.01**	**354**	Pg	**Pn**	**18 57 27.7**	**+0.4**
	152nm,0.5s						
VPL	**Vulcano Piano**	**2.21**	**344**	Pg	**Pn**	**18 57 30.6**	**+0.6**
	313nm,0.6s						
GIB	**Gibilmanna**	**2.22**	**321**	Pg	**Pn**	**18 57 30.9**	**+0.6**
	107nm,0.5s						
PLAC	**Placanica**	**2.25**	**13**	Pg	**Pn**	**18 57 31.3**	**+0.7**
	7.0nm,0.3s						
LLI	**Lipari**	**2.28**	**343**	Pg	**Pn**	**18 57 32.7**	**+1.7**
	466nm,0.7s						
JOPP	**Joppolo**	**2.34**	**2**	Pg	**Pn**	**18 57 32.4**	**+0.5**
	31nm,0.3s						
SERS	**Sersale**	**2.86**	**14**	Pg	**Pn**	**18 57 40.1**	**+1.0**
	16nm,0.5s						
CARO	**Carolei**	**3.01**	**7**	Pg	**Pn**	**18 57 41.1**	**0.0**
	56nm,0.5s						
TIP	**Timpagrande**	**3.01**	**15**	Pg	**Pn**	**18 57 41.8**	**+0.7**
	13nm,0.7s						
CUC	**Castrocucco**	**3.73**	**0**	Pg	**Pn**	**18 57 50.7**	**-0.2**
	17nm,0.5s						
SIRI	**Monte Sirino -**	**3.92**	**1**	Pg	**Pn**	**18 57 53.5**	**0.0**
	16nm,0.3s						
MTSN	**Montesano sull**	**4.00**	**360**	Pg	**Pn**	**18 57 54.9**	**+0.2**
	21nm,0.7s						
CMPR	**Campora**	**4.07**	**355**	Pg	**Pn**	**18 57 55.5**	**-0.1**
	9.0nm,0.4s						
CDRU	**Civita di Ruta**	**4.24**	**355**	Pg	**Pn**	**18 57 58.4**	**+0.4**
	7.0nm,0.4s						
SCTE	**Santa Cesarea**	**4.35**	**28**	Pg	**Pn**	**18 57 58.6**	**-1.0**
	14nm,0.2s						
LKD	**Levkas**	**4.58**	**56**	*e*P	**Pn**	**18 58 03.2**	**+0.5**
SG1	**Sgolgore (BA)**	**4.62**	**8**	*e*Pn	**Pn**	**18 58 01.9**	**-1.4**
NOCI	**Noci**	**4.63**	**12**	Pg	**Pn**	**18 58 01.8**	**-1.6**
	21nm,0.1s						
AMUR	**Altamura**	**4.68**	**8**	Pg	**Pn**	**18 58 03.2**	**-0.9**
	10.0nm,0.2s						
KEK	**Kerkira**	**4.68**	**41**	Pg	**Pn**	**18 58 03.1**	**-1.0**
PE1	**Pezze di Greco**	**4.71**	**15**	*e*Pn	**Pn**	**18 58 03.3**	**-1.2**
IGT	**Igoumenitsa**	**4.86**	**46**	*e*P	**Pn**	**18 58 05.8**	**-0.8**
AGG	**Agios Georgios**	**5.88**	**60**	*e*P	**Pn**	**18 58 22.4**	**+1.8**
LIT	**Litokhoron**	**6.53**	**52**	*e*P	**Pn**	**18 58 29.4**	**0.0**
STON	**Ston**	**6.76**	**12**	*i* Pn	**Pn**	**18 58 30.3**	**-2.4**
STON				*i* Sn	**Sn**	**18 59 42.2**	**-8.1**

MAN 25 19:01:01.6, 988N×12563E, h96km, mb1.8, ML3.6, MS8.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.17**	**233**⇓*e*P		Pn	19 01 16.0	+0.8
SCPH				*e*S	Sn	19 01 27.1	+1.8
MSLP	**Maasin**	**0.80**	**288**	*e*P	Pn	19 01 21.4	+1.9
OCLP	**Ormoc**	**1.53**	**319**	*e*P	Pn	19 01 28.2	+0.2

*ISCJB **25** 19:18:17.0±0.4, 4378N±004×10509W±005, h0km, mb4.2/1, Error ellipse: s-maj=5.7km s-min=4.5km az=89.7*
*IDC **25** 19:18:19.1±2.0, 4361N×10534W, h0km, mb4.0/1, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/37, Error ellipse: s-maj=56.3km s-min=7.0km az=150.0*
*NEIC **25** 19:18:19.4±0.3, 4376N×10520W, h0km, ML3.4, Error ellipse: s-maj=5.0km s-min=4.1km az=151.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 25 19:18:19.3±0.3, 4378N±003×10516W±004, h0km, n54, σ1§14/57, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**67**	*e*Pg	**Pg**	**19 18 38.0**	**+1.8**
PHWY	**Pilot Hill**	**2.49**	**185**	*e*Pn	**Pn**	**19 19 01.5**	**+0.4**
RWWY	**Rawlins**	**2.58**	**217**	*e*Pn	**Pn**	**19 19 03.1**	**+0.7**
RWWY				*e*Sn	**Sn**	**19 19 36.2**	**+1.7**
LAO	**LASA Array**	**3.00**	**346**	*e*Pn	**Pn**	**19 19 08.6**	**+0.4**
RLMT	**Red Lodge**	**3.23**	**296**	*e*Pn	**Pn**	**19 19 11.0**	**-0.3**
BW06	**Boulder Array**	**3.37**	**254**	*e*Pn	**Pn**	**19 19 12.7**	**-0.5**
BW06				*e*Sn	**Sn**	**19 19 57.6**	**+3.7**
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	**Pn**	**19 19 12.6**	**-0.6**
	3.6nm,0.3s,baz=71,slow=17,SNR=72						
PDAR				Pg	**Pg**	**19 19 21.1**	**-2.9**
	14nm,0.3s,baz=69,slow=18,SNR=36						
PDAR				Lg		19 19 58.9	
	18nm,0.3s,baz=70,slow=30,SNR=12						
GCMT	**Greycliff**	**3.78**	**304**	*e*Pn	**Pn**	**19 19 18.9**	**0.0**
LKWY	**Lake**	**3.85**	**284**	Pn	**Pn**	**19 19 22.7**	**+2.9**
LOHW	**Long Hollow**	**3.95**	**269**	*e*Pn	**Pn**	**19 19 21.1**	**-0.1**
ISCO	**Idaho Springs**	**4.00**	**185**	*e*Pn	**Pn**	**19 19 22.9**	**+1.1**
FLWY	**Flagg Ranch**	**4.01**	**276**	*e*Pn	**Pn**	**19 19 22.0**	**0.0**
MOOW	**Moose Ponds**	**4.05**	**271**	*e*Pn	**Pn**	**19 19 23.1**	**+0.6**
YNR	**Norris Junctio**	**4.07**	**265**	Pn	**Pn**	**19 19 21.7**	**-1.2**
SNOW	**Snow Cmng Moun**	**4.08**	**267**	*e*Pn	**Pn**	**19 19 23.3**	**+0.4**
YFT	**Old Faithful**	**4.14**	**281**	*e*Pn	**Pn**	**19 19 24.2**	**+0.4**
REDW	**Red Top Meadow**	**4.16**	**266**	*e*Pn	**Pn**	**19 19 24.2**	**+0.2**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**19 19 25.5**	**+1.1**
YMR	**Madison River**	**4.26**	**284**	*e*Pn	**Pn**	**19 19 28.4**	**+2.9**
DCID1	**Drake Creek**	**4.37**	**270**	*e*Pn	**Pn**	**19 19 27.8**	**+0.8**
AHID	**Auburn Hatcher**	**4.46**	**259**	*e*Pn	**Pn**	**19 19 31.0**	**+2.8**
RRI2	**Red Ridge**	**4.50**	**267**	*e*Pn	**Pn**	**19 19 28.2**	**-0.5**
QLMT	**Earthquake Lak**	**4.62**	**285**	Pn	**Pn**	**19 19 37.1**	**+6.7**
HWUT	**Hardware Ranch**	**5.20**	**247**	*e*Pn	**Pn**	**19 19 37.7**	**-0.7**
	11nm,0.4s						
EGMT	**Eagleton**	**5.32**	**325**	*e*Pn	**Pn**	**19 19 39.4**	**-0.6**
	30nm,0.6s						
MCMT	**McKenzie Canyo**	**5.62**	**283**	Pn	**Pn**	**19 19 52.8**	**+8.7**
DAU	**Daniels Canyon**	**5.65**	**235**	*e*Pn	**Pn**	**19 19 45.4**	**+0.9**
JLU	**Jordanelle**	**5.65**	**238**	*e*Pn	**Pn**	**19 19 42.7**	**-1.9**
CTU	**Camp Tracy**	**5.79**	**240**	*e*Pn	**Pn**	**19 19 45.7**	**-0.7**
	12nm,0.5s						
SPUT	**South Promonto**	**5.92**	**248**	*e*Pn	**Pn**	**19 19 45.5**	**-2.8**
SPUT				*e*		19 20 03.1	
HVU	**Hansel Valley**	**5.95**	**253**	*e*Pn	**Pn**	**19 19 48.1**	**-0.6**
	12nm,0.7s						
SDCO	**Great Sand Dun**	**6.04**	**183**	*e*Pn	**Pn**	**19 19 50.1**	**+0.2**
	5.9nm,0.9s						
MPU	**Maple Canyon**	**6.12**	**234**	*e*Pn	**Pn**	**19 19 49.7**	**-1.3**
	19nm,0.8s						
MPU				*e*		19 20 08.3	
SRU	**San Rafael**	**6.17**	**223**	*e*Pn	**Pn**	**19 19 49.7**	**-2.0**
	16nm,0.4s						
ECSD	**EROS,Sioux Fal**	**6.19**	**88**	*e*Pn	**Pn**	**19 19 52.9**	**+0.9**
	8.1nm,0.4s						
ECSD				*e*Pg	**Pg**	**19 20 15.0**	**-3.0**
PV01	**Paradox Valley**	**6.21**	**206**	*e*Pn	**Pn**	**19 19 53.2**	**+1.0**
TMUT	**Trail Mountain**	**6.38**	**227**	*e*Pn	**Pn**	**19 19 54.5**	**-0.1**
NLU	**North Lily Min**	**6.42**	**236**	*e*Pn	**Pn**	**19 19 54.0**	**-1.2**
CBKS	**Cedar Bluff**	**6.43**	**139**	Pn	**Pn**	**19 19 52.9**	**-2.3**
	27nm,0.8s						
BGU	**Big Grassy Mou**	**6.49**	**247**	*e*Pn	**Pn**	**19 19 55.3**	**-0.8**
CHMT	**Chamberlain Mo**	**6.50**	**302**	*e*Pn	**Pn**	**19 19 55.8**	**-0.5**
CHMT				*e*		19 21 37.8	
HLID	**Hailey**	**6.71**	**271**	*e*Pn	**Pn**	**19 20 00.1**	**+1.0**
	2.6nm,0.7s						
DUG	**Dugway**	**6.74**	**240**	*e*Pn	**Pn**	**19 19 58.4**	**-1.1**
	4.6nm,0.4s						
MVCO	**Mesa Verde**	**7.04**	**202**	*e*Pn	**Pn**	**19 20 05.6**	**+1.

1.8nm,0.9s,mb4.2,baz=330,slow=7.0,SNR=4.5

ISCJB ***25*** *19:30:07.8±2.0, 4647N±008×15525E±009, h9km±12km, mb4.3/33, MS3.2/2, Error ellipse: s-maj=14.8km s-min=8.6km az=116.1*

IDC ***25*** *19:30:07.5±0.6, 4634N×15526E, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.1/27, mbtmp4.0/20, ML3.7/2, Error ellipse: s-maj=18.8km s-min=14.3km az=157.0*

NEIC ***25*** *19:30:09.0±0.5, 4637N×155.18E, h10km, mb4.3/10, Error ellipse: s-maj=12.7km s-min=8.0km az=142.0*

MOS ***25*** *19:30:10.7±0.8, 4623N×155.16E, h35km, mb4.4/21, Error ellipse: s-maj=13.5km s-min=10.5km az=127.2*

BJI ***25*** *19:30:11.9, 47.10N×154.76E, h9km, mB4.6, mb4.2, Ms3.4, Msz3.4*

ISC 25 19:30:11.4±2.3, 4662N±009×15525E±010, h18km±13km, n81, σ0§95/84, mb4.3/33, MS3.1/2, 9C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.10**	**8**	*e*PN	**Pb**	**19 31 22.9**	**-0.3**
KUR	**Kuril'sk**	**5.34**	**258**	⇑*i*PN	**Pn**	**19 31 25.0**	**-5.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
PET	**Petropavlovsk**	**6.77**	**18**	*e*Pn	**Pn**	**19 31 49.3**	**-0.7**
PET				*e*Sn	**Sn**	**19 33 02.3**	**-4.3**
YSS	**Yuzh-Sakhalins**	**8.59**	**277**	*e*PN	**Pn**	**19 32 15.9**	**+1.1**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.59**	**277**	*e*Pn	**Pn**	**19 32 15.9**	**+1.1**
	comp=Z,8.1nm,0.6s						
ASAJ	**Asahikawa**	**9.26**	**259**	Pn	**Pn**	**19 32 22.6**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=95,slow=30,SNR=13						
ASAJ	**Asahikawa**	**9.26**	**259**	PN	**Pn**	**19 32 22.7**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**15.96**	**288**	*e*P	**Pn**	**19 33 55.7**	**+0.7**
MAJO	**Matsushiro**	**16.22**	**238**	P	**Pn**	**19 33 52.8**	**-5.6**
MJAR	**Matsushiro Arr**	**16.22**	**238**	Pn	**Pn**	**19 33 52.8**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=125,slow=17,SNR=4.9						
MAT	**Matsushiro**	**16.22**	**238**	P	**Pn**	**19 33 53.7**	**-4.7**
MDJ	**Mudanjiang**	**18.04**	**273**	*e*P	**Pn**	**19 34 18.8**	**-2.4**
	comp=Z,6.3nm,0.7s						
YAK	**Yakutsk**	**21.24**	**326**	⇑*e*P	**P**	**19 34 55.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
YAK	**Yakutsk**	**21.24**	**326**	*e*P	**P**	**19 34 54.3**	**-2.1**
	comp=Z,10nm,0.8s,mb4.2						
KSRS	**Korea Array**	**22.18**	**255**	P	**P**	**19 35 06.2**	**-0.3**
	comp=Z,1.2nm,0.5s,mb3.6,baz=61,slow=11,SNR=7.3						
BILL	**Bilibino**	**22.21**	**11**	*e*P	**P**	**19 35 06.0**	**-0.9**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.4						
BILL	**Bilibino**	**22.21**	**11**	*e*P	**P**	**19 35 08.4**	**+1.5**
	comp=Z,6.5nm,0.7s,mb4.2						
NJ2	**Nanjing**	**31.38**	**255**	*e*P	**P**	**19 36 34.5**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
SONM	**Songino Array**	**32.76**	**290**	P	**P**	**19 36 43.1**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=95,slow=12,SNR=3.5						
INK	**Inuvik**	**40.97**	**32**	P	**P**	**19 37 54.3**	**+1.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=258,slow=8.9,SNR=7.3						
INK	**Inuvik**	**40.97**	**32**	*e*P	**P**	**19 37 53.8**	**+0.7**
	comp=Z,303nm,1.5s,mb5.7						
ZAL	**Zalesovo**	**43.89**	**307**	P	**P**	**19 38 17.1**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=110,slow=13,SNR=3.3						
ZAL	**Zalesovo**	**43.89**	**307**	P	**P**	**19 38 17.1**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**46.34**	**292**	⇑*i*P	**P**	**19 38 36.3**	**-0.1**
WMQ				AP	pP	19 38 40.8	-1.1
WMQ				XP	sP	19 38 43.3	-0.8
WMQ				PCP	PcP	19 40 12.0	+0.7
WMQ				PP	PP	19 40 25.0	-0.2
WMQ				*e*S	**S**	**19 45 22.0**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.6						
WMQ				LR	LR		
	comp=N,13nm,23.2s,MS3.0						
WMQ				LR	LR		
	comp=E,9.0nm,18.4s,MS3.0						
MK31	**Makanchi Array**	**48.30**	**298**	*e*P	**P**	**19 38 51.6**	**-0.1**
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**19 38 51.8**	**+0.1**
	comp=E,0.9nm,0.7s,mb3.9,baz=67,slow=7.0,SNR=9.7						
MKAR				PcP	PcP	19 40 16.6	-1.7
	comp=E,0.6nm,0.8s,baz=49,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**19 38 51.8**	**+0.1**
MKAR						19 40 16.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.14**	**37**	P	**P**	**19 39 05.9**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=295,slow=7.2,SNR=11						
YKA	**Yellowknife Ar**	**50.14**	**37**	P	**P**	**19 39 05.9**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**51.63**	**311**	*e*P	**P**	**19 39 16.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**51.63**	**311**	*e*P	**P**	**19 39 16.1**	**-0.8**
	comp=Z,8.6nm,0.6s,mb4.9						
LSA	**Lhasa**	**51.75**	**275**	P	**P**	**19 39 19.3**	**+1.5**
LSA	**Lhasa**	**51.75**	**275**	*e*P	**P**	**19 39 19.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LSA	**Lhasa**	**51.75**	**275**	*e*P	**P**	**19 39 19.4**	**+1.6**
	comp=Z,2.1nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**19 39 20.4**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.3,baz=55,slow=8.3,SNR=25						
BVAR	**Borovoye Array**	**52.07**	**310**	P	**P**	**19 39 20.4**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**52.11**	**310**	*e*P	**P**	**19 39 20.5**	**0.0**
ZRNK	**Zerenda**	**52.84**	**311**	*e*P	**P**	**19 39 25.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.84**	**311**	*e*P	**P**	**19 39 25.6**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.3						
KBS	**Kingsbay**	**52.84**	**352**	⇑*e*P	**P**	**19 39 21.5**	**-4.4**
AAK	**Ala-Archa**	**55.21**	**298**	*e*P	**P**	**19 39 42.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**55.21**	**298**	*e*P	**P**	**19 39 42.3**	**-0.9**
	comp=Z,1.6nm,1.0s,mb4.0						
ARU	**Arti**	**56.09**	**318**	⇑*i*P	**P**	**19 39 49.9**	**+0.3**
ARU				*e*		19 40 49.1	
ARU				*e*S	**S**	**19 47 35.4**	**-2.2**
ARU				*e*SS	SS	19 51 20.8	-3.1
ARU				*e*SSS		19 53 41.0	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
ARU	**Arti**	**56.09**	**318**	*e*P	**P**	**19 39 49.0**	**-0.6**
	comp=Z,8.6nm,1.1s,mb4.7						
GUN	**Gumba**	**56.48**	**277**	*e*P	**P**	**19 39 54.4**	**+2.1**
KKN	**Kakani**	**56.97**	**277**	*e*P	**P**	**19 39 56.8**	**+1.0**
	comp=Z,11nm,0.8s,mb4.9						
PKI	**Pulchoki**	**57.02**	**277**	*e*P	**P**	**19 39 57.2**	**+1.1**
DMN	**Daman**	**57.20**	**277**	*e*P	**P**	**19 39 58.8**	**+1.4**
	comp=Z,17nm,0.9s,mb5.1						
GKN	**Gorkha**	**57.27**	**277**	*e*P	**P**	**19 39 58.5**	**+0.6**
	comp=Z,17nm,0.9s,mb5.1						
KOLN	**Koldanda**	**58.13**	**278**	*e*P	**P**	**19 40 04.9**	**+1.0**
	comp=Z,15nm,0.9s,mb5.0						
ARCES	**ARCESS Array B**	**58.45**	**341**	P	**P**	**19 40 06.2**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.4,baz=19,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**58.45**	**341**	P	**P**	**19 40 06.3**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.90**	**313**	P	**P**	**19 40 15.7**	**-0.6**
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**19 40 15.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=75,slow=11,SNR=7.4						
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**19 40 15.7**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**61.18**	**63**	P	**P**	**19 40 25.0**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.2,baz=300,slow=7.7,SNR=7.4						
PDAR	**Pinedale Array**	**63.62**	**55**	P	**P**	**19 40 41.7**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=270,slow=1.5,SNR=9.4						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**19 40 48.6**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.4,baz=40,slow=7.4,SNR=18						
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**19 40 48.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**68.90**	**201**	P	**P**	**19 41 11.8**	**-3.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=23,slow=7.1,SNR=17						
WRA	**Warramunga Arr**	**68.90**	**201**	P	**P**	**19 41 11.8**	**-3.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KONO	**Kongsberg**	**70.42**	**342**	⇑*e*P	**P**	**19 41 24.2**	**-0.3**
KIV	**Kislovodsk**	**71.94**	**315**	⇑*e*P	**P**	**19 41 35.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
KIV	**Kislovodsk**	**71.94**	**315**	P	**P**	**19 41 33.8**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.3						
AKASG	**Malin Array Be**	**72.46**	**327**	P	**P**	**19 41 36.0**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=32,slow=6.4,SNR=5.5						
AKASG	**Malin Array Be**	**72.46**	**327**	P	**P**	**19 41 36.1**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.58**	**200**	P	**P**	**19 41 35.2**	**-2.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=16,slow=5.3,SNR=13						
ASAR	**Alice Springs**	**72.58**	**200**	P	**P**	**19 41 35.3**	**-2.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GNI	**Garni**	**73.73**	**312**	*e*P	**P**	**19 41 45.0**	**+0.7**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**19 41 58.8**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=306,slow=4.2,SNR=41						
TXAR	**Lajitas Array**	**76.26**	**62**	P	**P**	**19 41 58.8**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BURAR	**Bucovina Array**	**76.50**	**328**	⇓*i*P	**P**	**19 42 00.2**	**-0.1**
TIRR	**Tirgusor**	**77.89**	**324**	⇑*i*P	**P**	**19 42 08.3**	**+0.2**
MLR	**Muntele Rosu**	**78.00**	**326**	⇑*i*P	**P**	**19 42 09.6**	**+0.8**
MALT	**Malatya**	**78.31**	**314**	P	**P**	**19 42 10.6**	**+0.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	**Malatya**	**78.31**	**314**	P	**P**	**19 42 10.6**	**+0.2**
	comp=Z,3.1nm,1.0s,mb4.2						
KHC	**Kasperske Hory**	**78.98**	**335**	*e*P	**P**	**19 42 14.0**	**-0.1**
GERES	**GERESS Array B**	**79.20**	**335**	P	**P**	**19 42 15.1**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=30,slow=5.8,SNR=9.2						
GERES	**GERESS Array B**	**79.20**	**335**	P	**P**	**19 42 15.1**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.48**	**318**	P	**P**	**19 42 17.4**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=57,slow=4.6,SNR=6.5						
BRTR	**Keskin Array B**	**79.48**	**318**	P	**P**	**19 42 17.4**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 25 19:38:19.0±14.0, 2229S×17930E, h655km±172km, mb3.1/5, mb1 3.3/5, mb1mx3.0/15, mbtmp3.1/5, 2D, Error ellipse: s-maj=215.4km s-min=55.2km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.86**	**268**	⇓*i*P	P	19 43 46.3	+1.2
	5.8nm,0.3s						
CTA	**Charters Tower**	**30.86**	**268**	P	P	19 43 46.4	+1.3
	7.8nm,0.3s,baz=94,slow=11,SNR=20						
ASAR	**Alice Springs**	**41.69**	**259**	P	P	19 45 12.7	-0.6
	1.0nm,0.5s,baz=93,slow=7.4,SNR=25						
ASPA	**Alice Springs**	**41.69**	**259**	*e*P	P	19 45 12.6	-0.7
WB2	**Warramunga Arr**	**41.88**	**265**	⇓*i*P	P	19 45 14.5	-0.3
WRA	**Warramunga Arr**	**41.90**	**265**	P	P	19 45 14.9	-0.1
	1.5nm,0.3s,baz=95,slow=8.2,SNR=140						
KAKA	**Kakadu**	**45.54**	**274**	*e*P	P	19 45 44.5	+1.7
	1.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.33**	**265**	*e*P	P	19 46 19.8	+1.6
	4.4nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.33**	**265**	P	P	19 46 19.9	+1.7
	1.5nm,0.8s,baz=85,slow=5.7,SNR=6.9						
TXAR	**Lajitas Array**	**90.13**	**58**	P	P	19 50 11.8	+0.5
	0.3nm,0.7s,baz=202,slow=3.9,SNR=3.9						

ISCJB ***25*** *19:44:59.5±2.7, 534N±0.1×16356W±009, h29km±23km, mb3.6/3, Error ellipse: s-maj=24.5km s-min=8.5km az=177.2*

NEIC ***25*** *19:45:01.9, 5355N×16374W, h20km, ML3.2(AEIC), After AEIC.*

IDC ***25*** *19:45:05.6±19.0, 5502N×16424W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=592.6km s-min=25.7km az=174.0*

ISC 25 19:44:59.0±3.0, 535N±02×16367W±010, h7km±23km, n13, σ0§66/16, mb3.6/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.39**	**6**	P	**Pn**	**19 45 24.8**	**0.0**
AKA	**Akutan**	**1.41**	**299**	P	**Pn**	**19 45 25.1**	**+0.1**
AKUT	**Akutan**	**1.41**	**299**	P	**Pn**	**19 45 25.0**	**-0.1**
AKLV	**Akutan Long Va**	**1.52**	**298**	P	**Pn**	**19 45 26.3**	**-0.3**
AKLV				S	**Sn**	**19 45 46.2**	**-0.5**
AKGG	**Akutan Green G**	**1.56**	**299**	P	**Pn**	**19 45 27.1**	**0.0**
AKGG				S	**Sn**	**19 45 48.1**	**+0.6**
UNV	**Unalaska Valle**	**1.73**	**284**	P	**Pn**	**19 45 29.1**	**-0.4**
UNV				S	**Sn**	**19 45 52.3**	**+0.6**
SDPT	**Sand Point**	**2.65**	**43**	P	**Pn**	**19 45 42.3**	**+0.3**
OKCD	**Okmok Cone D**	**2.66**	**271**	P	**Pn**	**19 45 43.0**	**+0.8**
KDAK	**Kodiak Island**	**7.61**	**51**	Pn	**Pn**	**19 46 49.9**	**-0.3**
	0.6nm,0.3s,baz=315,slow=12,SNR=7.4						
KDAK	**Kodiak Island**	**7.61**	**51**	Pn	**Pn**	**19 46 49.9**	**-0.3**
YKA	**Yellowknife Ar**	**26.89**	**51**	P	**P**	**19 50 41.9**	**+1.4**
	0.3nm,0.5s,mb3.1,baz=268,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**53.64**	**303**	P	**P**	**19 54 20.3**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=43,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**65.47**	**316**	P	**P**	**19 55 41.2**	**-1.5**
	0.8nm,0.8s,mb3.8,baz=46,slow=7.0,SNR=7.7						

ISCJB ***25*** *19:58:29.1±0.7, 464N±0.1×1546E±0.1, h10km, mb4.0/21, Error ellipse: s-maj=16.7km s-min=10.2km az=137.7*

IDC ***25*** *19:58:29.4±0.8, 4633N×15474E, h0km, mb3.8/16, mb1 4.0/17, mb1mx4.0/25, mbtmp3.8/17, ML3.0/1, Error ellipse: s-maj=22.4km s-min=17.1km az=152.0*

NEIC ***25*** *19:58:30.8±0.6, 4638N×15457E, h10km, mb4.3/5, Error ellipse: s-maj=14.3km s-min=12.1km az=169.0*

MOS ***25*** *19:58:32.9±0.8, 4641N×15446E, h39km, mb4.3/14, Error ellipse: s-maj=18.3km s-min=14.2km az=108.9*

ISC 25 19:58:30.9±7.2, 464N±01×1547E±02, h10km±44km, n42, σ1§01/42, mb4.0/21, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.20**	**278**	*e*PN	**Pn**	**20 00 30.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.20**	**278**	*e*P	**Pn**	**20 00 30.6**	**+0.6**
	comp=Z,10nm,0.8s						
ASAJ	**Asahikawa**	**8.82**	**259**	Pn	**Pn**	**20 00 38.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=68,slow=19,SNR=2.3						
YAK	**Yakutsk**	**21.16**	**327**	P	**P**	**20 03 15.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
YAK	**Yakutsk**	**21.16**	**327**	P	**P**	**20 03 15.3**	**-0.9**
	comp=Z,4.9nm,0.5s,mb4.1						
KSRS	**Korea Array**	**21.74**	**255**	P	**P**	**20 03 24.1**	**+1.6**
	comp=Z,1.3nm,0.7s,mb3.5,baz=52,slow=9.8,SNR=5.0						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**20 05 01.4**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.5,baz=46,slow=8.6,SNR=4.3						
SONM	**Songino Array**	**32.44**	**290**	P	**P**	**20 05 01.4**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
COLA	**College**	**35.72**	**38**	*e*P	**P**	**20 05 29.8**	**+0.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**35.72**	**38**	*e*P	**P**	**20 05 29.8**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.5						
INK	**Inuvik**	**41.34**	**32**	P	**P**	**20 06 16.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.7,baz=287,slow=8.1,SNR=7.3						
INK	**Inuvik**	**41.34**	**32**	*e*P	**P**	**20 06 17.2**	**+0.3**
	comp=Z,151nm,1.1s,mb5.5						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**20 07 09.4**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.7,baz=70,slow=8.1,SNR=8.0						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	**P**	**20 07 29.2**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=295,slow=7.2,SNR=4.1						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	**P**	**20 07 29.2**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LSA	**Lhasa**	**51.36**	**274**	*e*P	**P**	**20 07 40.1**	**+4.4**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.36**	**274**	*e*P	**P**	**20 07 40.1**	**+4.4**
	comp=Z,2.9nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.44**	**311**	*e*P	**P**	**20 07 34.6**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.44**	**311**	*e*P	**P**	**20 07 34.6**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**20 07 38.8**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=8.8,SNR=4.6						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**20 07 38.8**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**55.95**	**318**	*e*P	**P**	**20 08 08.0**	**-1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**55.95**	**318**	*e*P	**P**	**20 08 08.0**	**-1.4**
	comp=Z,3.7nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**58.49**	**341**	P	**P**	**20 08 27.6**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.1,baz=23,slow=6.6,SNR=3.6						
ARCES	**ARCESS Array B**	**58.49**	**341**	P	**P**	**20 08 27.6**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**64.06**	**55**	P	**P**	**20 09 05.2**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=270,slow=3.0,SNR=7.5						
FINES	**FINESS Array B**	**64.77**	**335**	P	**P**	**20 09 09.4**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=28,slow=8.6,SNR=14						
FINES	**FINESS Array B**	**64.77**	**335**	P	**P**	**20 09 09.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.58**	**201**	P	**P**	**20 09 33.2**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=22,slow=6.9,SNR=5.1						
NB2	**NORSAR Subarra**	**68.86**	**342**	P	**P**	**20 09 36.4**	**+0.7**
	comp=Z,6.9nm,1.2s,mb4.5,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**	**20 09 37.6**	**+1.9**
	comp=Z,0.7nm,0.5s,mb3.8,baz=26,slow=6.3,SNR=3.0						
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**	**20 09 37.6**	**+1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.27**	**200**	P	**P**	**20 09 56.1**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=16,slow=6.1,SNR=5.6						
ASAR	**Alice Springs**	**72.27**	**200**	P	**P**	**20 09 56.1**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.39**	**327**	P	**P**	**20 09 57.0**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=33,slow=6.1,SNR=5.4						
AKASG	**Malin Array Be**	**72.39**	**327**	P	**P**	**20 09 57.0**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.39**	**327**	P	**P**	**20 09 57.0**	**-0.3**
TXAR	**Lajitas Array**	**76.71**	**61**	P	**P**	**20 10 22.1**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=304,slow=3.8,SNR=14						
TXAR	**Lajitas Array**	**76.71**	**61**	P	**P**	**20 10 22.1**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**	**20 10 38.5**	**+2.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=31,slow=5.9,SNR=4.9						
GERES	**GERESS Array B**	**79.19**	**335**	P	**P**	**20 10 38.5**	**+2.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.34**	**318**	P	**P**	**20 10 39.2**	**+2.3**
	comp=Z,0.3nm,0.4s,mb3.6,baz=359,slow=7.8,SNR=4.5						

IDC ***25*** *19:59:56.7±1.1, 2470N×12500E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=30.7km s-min=21.4km az=71.0*

ISCJB ***25*** *20:00:01.9±0.5, 2478N±008×12528E±005, h52km±4km, mb3.3/5, Error ellipse: s-maj=15.0km s-min=3.9km az=119.1*

JMA ***25*** *20:00:02.3±0.1, 2475N×12526E, h47km±1km, M3.5*

JMA Felt I J1.

ISC 25 20:00:03.0±0.4, 2479N±008×12526E±005, h44km±4km, n20, σ0§80/32, mb3.3/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.04**	**50**	P	**Pn**	**20 00 09.5**	**-0.5**
JMJ				S	**Sn**	**20 00 14.8**	**-0.1**
JOGS	**Gusukube**	**0.14**	**101**	P	**Pn**	**20 00 09.9**	**-0.5**
JOGS				S	**Sn**	**20 00 15.4**	**-0.1**
JTJ	**Tarama**	**0.

TSY	**Tnine Yamani**	**1.26**	**109**	*i* P		Pn	20 06 33.0	+0.1
SCRT	**Cerro San Cris**	**1.32**	**50**	⇑P		Pn	20 06 34.3	+0.6
SCRT				S		Sn	20 06 46.5	-4.0
SCRT	**Cerro San Cris**	**1.32**	**50**	*i* P		Pn	20 06 34.3	+0.6
MOMI	**Momias**	**1.49**	**68**	⇑P		Pn	20 06 36.9	+1.0
MOMI	**Momias**	**1.49**	**68**	*i* P		Pn	20 06 36.9	+1.0
GIBL	**Gibalbin**	**1.57**	**48**	P		Pn	20 06 37.6	+0.5
GIBL				S		Sn	20 06 50.0	-6.6
GIBL	**Gibalbin**	**1.57**	**48**	*i* P		Pn	20 06 37.6	+0.5
RSA	**Sarsar**	**1.59**	**124**	P		Pn	20 06 35.0	-2.4
RSA				S		Sn	20 06 53.0	-4.0
RSA	**Sarsar**	**1.59**	**124**	*e*P		Pn	20 06 35.0	-2.4
ESPR	**Espera**	**1.67**	**49**	⇑P		Pn	20 06 37.6	-0.8
	41nm,0.1s,SNR=18							
ESPR				S		Sn	20 06 56.4	-2.4
	498nm,0.3s							
ESPR	**Espera**	**1.67**	**49**	P		Pn	20 06 37.6	-0.7
	41nm,0.1s,SNR=18							
DKH	**Dar Kharkhour**	**1.71**	**99**	P		Pn	20 06 40.0	+1.1
DKH				S		Sn	20 06 58.0	-1.9
DKH	**Dar Kharkhour**	**1.71**	**99**	*i* P		Pn	20 06 40.0	+1.1
EJIF	**Jimena Fronter**	**1.72**	**67**	⇑P		Pn	20 06 39.1	+0.1
	14nm,0.3s,SNR=18							
EJIF				S		Sn	20 06 57.7	-2.4
	11nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**1.74**	**359**	⇓P		Pn	20 06 38.5	-0.9
	19nm,0.1s,SNR=18							
EGRO				S		Sn	20 06 58.4	-2.2
	235nm,0.1s,SNR=4.6							
EGRO	**El Granado**	**1.74**	**359**	P		Pn	20 06 38.5	-0.9
	19nm,0.1s,SNR=18							
REAL	**Reales**	**1.93**	**68**	P		Pn	20 06 42.7	+0.9
REAL				S		Sn	20 07 04.2	-0.9
REAL	**Reales**	**1.93**	**68**	*i* P		Pn	20 06 42.7	+0.8
LIJA	**Lijar**	**1.98**	**55**	P		Pn	20 06 42.9	+0.3
LIJA				S		Sn	20 07 02.1	-4.2
LIJA	**Lijar**	**1.98**	**55**	*i* P		Pn	20 06 42.9	+0.3
PTEO	**Sao Teotonio**	**2.04**	**330**	*e*Pn		Pn	20 06 42.5	-0.9
PTEO				*e*Sn		Sn	20 07 06.0	-1.8
PTEO								
	51nm,0.2s							
PTEO	**Sao Teotonio**	**2.04**	**330**	P		Pn	20 06 42.4	-1.0
PTEO				S		Sn	20 07 05.9	-1.9
PTEO	**Sao Teotonio**	**2.04**	**330**	P		Pn	20 06 42.4	-1.0
PTEO				*e*Sn		Sn	20 07 06.0	-1.8
	51nm,0.2s							
EMIN	**Mina Concepcio**	**2.07**	**17**	⇓P		Pn	20 06 42.7	-1.1
	4.4nm,0.2s,SNR=18							
EMIN				S		Sn	20 07 04.8	-3.6
	111nm,0.2s,SNR=15							
EMIN	**Mina Concepcio**	**2.07**	**17**	P		Pn	20 06 42.7	-1.0
	4.4nm,0.2s,SNR=18							
PBEJ	**Beja**	**2.26**	**351**	*e*Pn		Pn	20 06 45.4	-1.0
PBEJ				*e*Sn		Sn	20 07 10.6	-2.6
PBEJ								
	85nm,0.2s							
PBEJ	**Beja**	**2.26**	**351**	P		Pn	20 06 45.4	-1.0
PBEJ				*e*Sn		Sn	20 07 10.6	-2.6
	85nm,0.2s							
EMIJ	**Mijas**	**2.29**	**69**	⇑P		Pn	20 06 45.6	-1.1
	32nm,0.3s,SNR=18							
EMIJ				S		Sn	20 07 11.3	-2.5
	18nm,0.2s,SNR=4.7							
MOE	**Montemor**	**2.83**	**345**	*e*Pn		Pn	20 06 53.5	-0.6
MOE				*e*Sn		Sn	20 07 24.8	-2.2
ELOJ	**Sierra Loja**	**2.97**	**62**	⇑P		Pn	20 06 56.2	+0.2
	19nm,0.3s,SNR=18							
ELOJ				S		Sn	20 07 26.7	-3.8
	15nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**2.98**	**6**	⇓P		Pn	20 06 55.2	-1.0
	4.1nm,0.1s,SNR=18							
EBAD				S		Sn	20 07 27.1	-3.6
	107nm,0.2s							
EBAD	**Badajoz**	**2.98**	**6**	P		Pn	20 06 55.2	-1.0
	4.1nm,0.1s,SNR=18							
MIF	**Mishlifen**	**2.99**	**142**	P		Pn	20 06 56.0	-0.3
MIF				S		Sn	20 07 28.0	-2.9
MIF	**Mishlifen**	**2.99**	**142**	*e*P		Pn	20 06 56.0	-0.3
PESTR	**Estremoz**	**3.08**	**358**	*e*Pn		Pn	20 06 56.5	-1.0
PESTR				*e*Sn		Sn	20 07 29.6	-3.5
PESTR								
	39nm,0.3s							
PESTR	**Estremoz**	**3.08**	**358**	*e*Pn		Pn	20 06 56.5	-1.0
PESTR				*e*Sn		Sn	20 07 29.6	-3.5
	39nm,0.3s							
ELUQ	**Luque**	**3.10**	**54**	⇑P		Pn	20 06 57.4	-0.4
	14nm,0.3s,SNR=18							
ELUQ				S		Sn	20 07 29.7	-3.9
	50nm,0.2s,SNR=13							
TOU	**Touzarine**	**3.12**	**104**	P		Pn	20 06 57.5	-0.5
TOU				S		Sn	20 07 30.5	-3.5
TOU	**Touzarine**	**3.12**	**104**	*i* P		Pn	20 06 57.5	-0.5
ERON	**Agron**	**3.17**	**66**	P		Pn	20 06 59.3	+0.5
	31nm,0.4s,SNR=49							
ERON				S		Sn	20 07 33.1	-2.3
	3.3nm,0.1s							
EGUA	**Guajares**	**3.29**	**70**	P		Pn	20 06 58.5	-1.9
	0.8nm,0.1s,SNR=7.9							
EGUA				S		Sn	20 07 35.7	-2.7
	3.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.30**	**43**	P		Pn	20 06 59.8	-0.7
	14nm,0.1s,SNR=179							
EADA				S		Sn	20 07 34.0	-4.4
	72nm,0.1s							
EADA	**Adamuz**	**3.30**	**43**	P		Pn	20 06 59.8	-0.7
	14nm,0.1s,SNR=179							
CZD	**Col de Zad**	**3.38**	**144**	P		Pn	20 07 01.0	-0.7
CZD				S		Sn	20 07 35.0	-5.6
CZD	**Col de Zad**	**3.38**	**144**	*i* P		Pn	20 07 01.0	-0.7
PLOU	**Loures**	**3.38**	**337**	*e*Pn		Pn	20 07 01.3	-0.3
PLOU				*e*Sn		Sn	20 07 38.1	-2.5
PLOU								
	38nm,0.1s							
PLOU	**Loures**	**3.38**	**337**	P		Pn	20 07 01.2	-0.4
PLOU				S		Sn	20 07 38.0	-2.6
PLOU	**Loures**	**3.38**	**337**	P		Pn	20 07 01.2	-0.4
PLOU				*e*Sn		Sn	20 07 38.1	-2.5
	38nm,0.1s							
KIB	**El Ksiba**	**3.41**	**160**	P		Pn	20 07 01.0	-1.0
KIB				S		Sn	20 07 37.0	-4.1
KIB	**El Ksiba**	**3.41**	**160**	*i* P		Pn	20 07 01.0	-1.0
ECOG	**Cogollos-Vega**	**3.45**	**63**	P		Pn	20 07 02.6	0.0
ECOG				S		Sn	20 07 40.0	-2.2
ECOG	**Cogollos-Vega**	**3.45**	**63**	P		Pn	20 07 02.6	0.0
	21nm,0.2s,SNR=7.9							
ECOG				S		Sn	20 07 40.0	-2.2
	44nm,0.3s,SNR=7.9							
ALMR	**Almeirim**	**3.48**	**345**	*e*P		Pn	20 07 02.4	-0.7
ALMR				*e*S		Sn	20 07 39.7	-3.3
ALMR				*e*S		Sn	20 07 39.7	-3.3
ALMR					AML	AML	20 08 05.5	
	comp=N,122nm,0.8s							
ALMR	**Almeirim**	**3.48**	**345**	*e*P		Pn	20 07 02.4	-0.6
ALMR				*e*S		Sn	20 07 39.7	-3.3
PMAFR	**Mafra**	**3.49**	**336**	*e*Pn		Pn	20 07 02.6	-0.5
PMAFR				*e*Sn		Sn	20 07 40.7	-2.5
PMAFR								
	comp=N,79nm,0.3s							
PMAFR	**Mafra**	**3.49**	**336**	*e*Pn		Pn	20 07 02.6	-0.5
PMAFR				*e*Sn		Sn	20 07 40.7	-2.5
	comp=N,79nm,0.3s							
EQUE	**Quentar**	**3.51**	**65**	⇑P		Pn	20 07 03.5	+0.1
	comp=N,5.0nm,0.2s,SNR=18							
EQUE				S		Sn	20 07 41.7	-2.1
	comp=N,16nm,0.2s,SNR=7.0							
EALB	**Alboran**	**3.57**	**86**	P		Pn	20 07 04.7	+0.4
	comp=N,1.6nm,0.1s,SNR=7.9							
EALB				S		Sn	20 07 43.6	-1.7
	comp=N,5.6nm,0.1s,SNR=7.9							
EALB	**Alboran**	**3.57**	**86**	P		Pn	20 07 04.7	+0.4
	comp=N,1.6nm,0.1s,SNR=7.9							
EMEL	**Melilla**	**3.68**	**96**	P		Pn	20 07 03.9	-1.8
	comp=N,38nm,0.1s,SNR=7.9							
EMEL				S		Sn	20 07 44.8	-3.1
	comp=N,39nm,0.1s,SNR=7.9							
EMLI	**Melilla**	**3.69**	**96**	P		Pn	20 07 03.9	-1.9
	comp=N,38nm,0.1s,SNR=7.9							
TZC	**Tazercounte**	**3.71**	**168**	P		Pn	20 07 05.0	-1.2
TZC				S		Sn	20 07 43.0	-5.7
TZC	**Tazercounte**	**3.71**	**168**	*i* P		Pn	20 07 05.0	-1.2
EBAN	**Banos Encina**	**3.76**	**50**	⇑P		Pn	20 07 06.1	-0.8
	comp=N,29nm,0.2s,SNR=18							
EBAN				S		Sn	20 07 45.0	-4.9
	comp=N,61nm,0.3s							
EBER	**Berja**	**3.83**	**72**	P		Pn	20 07 06.8	-1.0
	comp=N,2.6nm,0.1s,SNR=11							
EBER				S		Sn	20 07 49.3	-2.2
	comp=N,3.0nm,0.2s							
EBER	**Berja**	**3.83**	**72**	P		Pn	20 07 06.8	-1.0
	comp=N,2.6nm,0.1s,SNR=11							
ZAI	**Zaio**	**3.91**	**101**	P		Pn	20 07 09.0	+0.1
ZAI				S		Sn	20 07 51.0	-2.6
ZAI	**Zaio**	**3.91**	**101**	*e*P		Pn	20 07 09.0	+0.1
EQES	**Quesada**	**4.04**	**59**	⇑P		Pn	20 07 10.0	-0.5
	comp=N,6.0nm,0.1s,SNR=18							
EQES				S		Sn	20 07 53.5	-3.0
	comp=N,47nm,0.3s							
EQES	**Quesada**	**4.04**	**59**	⇑P		Pn	20 07 10.1	-0.5
PCBR	**Castelo Branco**	**4.05**	**359**	*e*Pn		Pn	20 07 09.9	-0.8
PCBR				*e*Sn		Sn	20 07 53.3	-3.5
PCBR								
	comp=N,43nm,0.4s							
PCBR	**Castelo Branco**	**4.05**	**359**	P		Pn	20 07 09.9	-0.8
PCBR				*e*Sn		Sn	20 07 53.3	-3.5
	comp=N,43nm,0.4s							
CIA	**Chichaoua**	**4.35**	**195**	P		Pn	20 07 14.0	-0.9
CIA				S		Sn	20 07 59.0	-5.4
CIA	**Chichaoua**	**4.35**	**195**	*i* P		Pn	20 07 14.0	-0.9
EHUE	**Huescar**	**4.38**	**61**	⇑P		Pn	20 07 14.7	-0.6
	comp=N,3.6nm,0.1s,SNR=18							
EHUE				S		Sn	20 08 00.8	-4.2
	comp=N,7.0nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**4.38**	**73**	P		Pn	20 07 14.8	-0.5
	comp=N,8.7nm,0.3s,SNR=5.7							
ZFT	**Errachidia**	**4.54**	**145**	P		Pn	20 07 17.0	-0.4
ZFT				S		Sn	20 08 05.0	-3.8
ZFT	**Errachidia**	**4.54**	**145**	*i* P		Pn	20 07 17.0	-0.4
ESDC	**Sonseca Array**	**4.75**	**34**	P		Pn	20 07 19.6	-0.8
	comp=N,2.8nm,0.2s,baz=219,slow=13,SNR=48							
ESDC				S		Sn	20 08 08.7	-5.6
	comp=N,33nm,0.2s,baz=219,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**4.75**	**34**	P		Pn	20 07 19.6	-0.8
	comp=N,2.8nm,0.2s,SNR=48							
EVIA	**Vianos**	**4.86**	**53**	P		Pn	20 07 20.5	-1.3
	comp=N,30nm,0.1s,SNR=85							
EVIA				S		Sn	20 08 11.0	-5.7
	comp=N,15nm,0.2s							
PVIS	**Viseu**	**4.93**	**356**	*e*Pn		Pn	20 07 22.2	-0.7
PVIS				*e*Sn		Sn	20 08 15.6	-3.0
PVIS								
	comp=N,14nm,0.2s							
PVIS	**Viseu**	**4.93**	**356**	*e*Pn		Pn	20 07 22.2	-0.7
PVIS				*e*Sn		Sn	20 08 15.6	-3.0
	comp=N,14nm,0.2s							
EMUR	**La Murta**	**5.37**	**66**	P		Pn	20 07 27.8	-1.1
	comp=N,3.8nm,0.3s,SNR=6.3							
EMUR				S		Sn	20 08 24.0	-5.4
	comp=N,8.7nm,0.4s							
EMUR	**La Murta**	**5.37**	**66**	P		Pn	20 07 27.8	-1.1
	comp=N,3.8nm,0.3s,SNR=6.3							
PVRL	**Vila Real**	**5.48**	**358**	*e*Pn		Pn	20 07 29.6	-0.8
PVRL				*e*Sn		Sn	20 08 28.0	-4.1
PVRL								
	comp=N,24nm,0.1s							
GUD	**Guadarrama**	**5.49**	**27**	P		Pn	20 07 30.4	-0.1
	comp=N,4.0nm,0.3s,SNR=7.9							
GUD				S		Sn	20 08 25.4	-6.9
	comp=N,14nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**5.49**	**57**	⇑P		Pn	20 07 29.5	-1.0
	comp=N,44nm,0.2s,SNR=18							
ETOB				S		Sn	20 08 27.1	-5.2
	comp=N,25nm,0.2s							
ETOB	**Tobarra**	**5.49**	**57**	P		Pn	20 07 29.5	-1.0
	comp=N,44nm,0.2s,SNR=18							
PCAB	**Cabril**	**5.93**	**356**	*e*Pn		Pn	20 07 35.7	-0.8
PCAB				*e*Sn		Sn	20 08 38.2	-4.9
PCAB								
	comp=N,14nm,0.1s							
PBRG	**Braganca**	**6.03**	**5**	*e*Pn		Pn	20 07 37.1	-0.8
PBRG				*e*Sn		Sn	20 08 39.9	-5.6
PBRG								
	comp=N,11nm,0.2s							
ELOB	**Lobios**	**6.09**	**356**	P		Pn	20 07 38.0	-0.7
	comp=N,1.2nm,0.1s,SNR=13							
ELOB				S		Sn	20 08 41.5	-5.5
	comp=N,17nm,0.1s							
ELOB	**Lobios**	**6.09**	**356**	P		Pn	20 07 38.0	-0.7
	comp=N,1.2nm,0.1s,SNR=13							
ECAL	**Calabor**	**6.17**	**5**	P		Pn	20 07 39.6	-0.2
	comp=N,4.2nm,0.2s,SNR=9.4							
ECAL				S		Sn	20 08 43.4	-5.5
	comp=N,41nm,0.4s							
ECAL	**Calabor**	**6.17**	**5**	P		Pn	20 07 39.6	-0.2
	comp=N,4.2nm,0.2s,SNR=9.4							
EZAM	**Zamans**	**6.43**	**352**	P		Pn	20 07 43.1	-0.2
	comp=N,3.2nm,0.1s,SNR=7.9							
EZAM				S		Sn	20 08 50.5	-4.7
	comp=N,6.4nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**6.44**	**61**	P		Pn	20 07 42.2	-1.3
	comp=N,2.7nm,0.1s,SNR=17							
EBEN				S		Sn	20 08 49.3	-6.3
	comp=N,8.5nm,0.3s							
EBEN	**Beniarda**	**6.44**	**61**	P		Pn	20 07 42.2	-1.3
	comp=N,2.7nm,0.1s,SNR=17							
ETOR	**Torete**	**6.56**	**38**	⇑P		Pn	20 07 45.0	-0.2
	comp=N,39nm,0.2s,SNR=18							
ETOR				S		Sn	20 08 51.0	-7.5
	comp=N,47nm,0.2s							
EMOS	**Mosqueruela**	**7.14**	**48**	P		Pn	20 07 53.0	-0.1
	comp=N,4.8nm,0.3s,SNR=18							
EMOS				S		Sn	20 09 06.8	-5.9
	comp=N,29nm,1.3s							
EMOS	**Mosqueruela**	**7.14**	**48**	P		Pn	20 07 53.0	0.0
	comp=N,4.8nm,0.3s,SNR=18							
EMAZ	**Mazaricos**	**7.25**	**351**	P		Pn	20 07 53.9	-0.6
	comp=N,4.1nm,0.2s,SNR=7.9							
EMAZ				S		Sn	20 09 05.5	-5.9
	comp=N,1.8nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**7.25**	**351**	P		Pn	20 07 53.9	-0.7
	comp=N,4.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**7.53**	**2**	P		Pn	20 07 57.8	-0.6
	comp=N,6.7nm,0.6s,SNR=7.9							
EPON				S		Sn	20 09 16.9	-5.4
	comp=N,6.2nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**7.53**	**2**	P		Pn	20 07 57.8	-0.6
	comp=N,6.7nm,0.6s,SNR=7.9							
EIBI	**Ibiza**	**7.70**	**63**	P		Pn	20 07 58.7	-1.9
	comp=N,1.4nm,0.2s,SNR=7.9							
EIBI				S		Sn	20 09 19.5	-6.8
	comp=N,4.1nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**7.70**	**63**	P		Pn	20 07 58.7	-1.9
	comp=N,1.4nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**7.70**	**12**	P		Pn	20 08 00.4	-0.2
	comp=N,0.8nm,0.3s,SNR=7.9							
EARI				S		Sn	20 09 19.3	-7.0
	comp=N,19nm,0.5s,SNR=7.9							
EARI	**Arriondas**	**7.70**	**12**	P		Pn	20 08 00.4	-0.3
	comp=N,0.8nm,0.3s,SNR=7.9							
ECRI	**Cripan**	**7.81**	**28**	P		Pn	20 08 02.3	+0.2
	comp=N,2.1nm,0.2s,SNR=7.9							
ECRI				S		Sn	20 09 22.9	-6.2
	comp=N,6.4nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**7.99**	**47**	P		Pn	20 08 04.3	-0.3
	comp=N,1.4nm,0.3s,SNR=7.9							
ERTA				S		Sn	20 09 27.1	-6.3
	comp=N,3.2nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**7.99**	**47**	P		Pn	20 08 04.3	-0.3
	comp=N,1.4nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**8.04**	**40**	P		Pn	20 08 05.3	0.0
	comp=N,5.8nm,0.2s,SNR=6.0							
ESAC				S		Sn	20 09 28.0	-6.7
	comp=N,2.5nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**8.04**	**40**	P		Pn	20 08 05.3	-0.1
	comp=N,5.8nm,0.2s,SNR=6.0							
ELAN	**Lanestosa**	**8.05**	**21**	P		Pn	20 08 05.4	-0.1
	comp=N,0.3nm,0.1s,SNR=7.4							
ELAN				S		Sn	20 09 27.4	-7.5
	comp=N,6.5nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**8.05**	**21**	P		Pn	20 08 05.4	-0.1
	comp=N,0.3nm,0.1s,SNR=7.4							
IUSE	**Utxeti**	**8.48**	**31**	S		Sn	20 09 37.0	-8.4
	comp=N,2.0nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**8.67**	**48**	P		Pn	20 08 13.6	-0.4
	comp=N,1.1nm,0.2s,SNR=7.7							
EPOB				S		Sn	20 09 41.3	-9.0
	comp=N,16nm,0.8s,SNR=7.9							
EPOB	**Poblet**	**8.67**	**48**	P		Pn	20 08 13.6	-0.4
	comp=N,1.1nm,0.2s,SNR=7.7							
EALK	**Alkurruntz**	**8.72**	**30**	P		Pn	20 08 14.4	-0.2
	comp=N,1.4nm,0.1s,SNR=7.9							
EALK				S		Sn	20 09 44.0	-7.4
	comp=N,56nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**8.75**	**31**	*e*Pn		Pn	20 08 15.1	+0.1
SJPF				*e*Sn		Sn	20 09 45.0	-7.1
	comp=N,19nm,0.4s							
SJPF	**Ste Jean**	**8.75**	**31**	*e*Pn		Pn	20 08 15.1	+0.1
SJPF				*e*Sn		Sn	20 09 45.0	-7.1
	comp=N,9.3nm,0.4s							
ETSF	**Etsaut**	**8.87**	**35**	*e*Pn		Pn	20 08 16.7	0.0
ETSF				*e*Sn		Sn	20 09 48.6	-6.5
	comp=N,16nm,0.5s							
ETSF	**Etsaut**	**8.87**	**35**	*e*Pn		Pn	20 08 16.7	0.0
ETSF				*e*Sn		Sn	20 09 48.6	-6.5
	comp=N,8.2nm,0.5s							
ETOS	**Mallorca**	**9.03**	**61**	P		Pn	20 08 18.3	-0.6
	comp=N,1.7nm,0.4s,SNR=7.9							
ETOS				S		Sn	20 09 50.8	-8.2
	comp=N,1.3nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**9.03**	**61**	P		Pn	20 08 18.3	-0.6
	comp=N,1.7nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**9.05**	**38**	P		Pn	20 08 20.0	+0.8
	comp=N,4.9nm,0.3s,SNR=9.3							
EBIE				S		Sn	20 09 51.9	-7.6
	comp=N,6.3nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**9.05**	**38**	P		Pn	20 08 20.0	+0.8
	comp=N,4.9nm,0.3s,SNR=9.3							
EMIR	**Miracle**	**9.28**	**46**	P		Pn	20 08 20.7	-1.7
	comp=N,0.9nm,0.1s,SNR=7.9							
EMIR				S		Sn	20 09 56.6	-8.6
	comp=N,2.1nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**9.28**	**46**	P		Pn	20 08 20.7	-1.6
EPF	**Esparros**	**9.40**	**37**	*e*Pn		Pn	20 08 23.9	-0.1
EPF				*e*Sn		Sn	20 10 01.3	-6.8
	comp=N,14nm,0.3s							
EPF	**Esparros**	**9.40**	**37**	*e*Pn		Pn	20 08 23.9	-0.1
EPF				*e*Sn		Sn	20 10 01.3	-6.8
	comp=N,6.8nm,0.3s							
MTLF	**Montolieu**	**10.60**	**42**	*e*Pn		Pn	20 08 39.6	-0.7
MTLF				*e*Sn		Sn	20 10 30.7	-6.5
	comp=N,2.6nm,0.4s							
MTLF	**Montolieu**	**10.60**	**42**	*e*Pn		Pn	20 08 39.6	-0.7
MTLF				*e*Sn		Sn	20 10 30.7	-6.5
	comp=N,1.3nm,0.4s							
LFF	**La Frestale**	**11.06**	**32**	*e*Pn		Pn	20 08 45.8	-0.8
LFF				*e*Sn		Sn	20 10 39.0	-10
	comp=N,8.7nm,0.5s							
LFF	**La Frestale**	**11.06**	**32**	*e*Pn		Pn	20 08 45.8	-0.8
LFF				*e*Sn		Sn	20 10 39.0	-10
	comp=N,4.3nm,0.5s							
CAF	**Calviac**	**11.64**	**35**	*e*Pn		Pn	20 08 53.8	-0.8
CAF				*e*Sn		Sn	20 10 54.0	-8.8
	comp=N,3.3nm,0.3s							
CAF	**Calviac**	**11.64**	**35**	*e*Pn		Pn	20 08 53.8	-0.8
CAF				*e*Sn		Sn	20 10 54.0	-8.8
	comp=N,1.6nm,0.3s							
RJF	**Les Rejaudoux**	**11.68**	**33**	*e*Pn		Pn	20 08 53.7	-1.4
RJF				*e*Sn		Sn	20 10 53.2	-11
	comp=N,5.0nm,0.5s							
RJF	**Les Rejaudoux**	**11.68**	**33**	*e*Pn		Pn	20 08 53.7	-1.4
RJF				*e*Sn		Sn	20 10 53.2	-11
	comp=N,2.5nm,0.5s							
LASF	**Ste Croix**	**11.97**	**43**	*e*Pn		Pn	20 08 57.5	-1.6
MFF	**Saint Martin d**	**12.11**	**25**	*e*Pn		Pn	20 09 00.2	-0.7
MFF				*e*Sn		Sn	20 11 07.6	-6.6
	comp=N,2.7nm,0.4s							
MFF	**Saint Martin d**	**12.11**	**25**	Pn		Pn	20 09 00.2	-0.7
MFF				Sn		Sn	20 11 07.6	-6.6
	comp=N,1.4nm,0.4s							
QUIF	**Quistinic**	**12.53**	**13**	*e*Sn		Sn	20 11 13.5	-11
	comp=N,5.9nm,0.4s							
QUIF	**Quistinic**	**12.53**	**13**	*e*Sn		Sn	20 11 13.5	-11
	comp=N,3.0nm,0.4s							
TCF	**Toulx Ste Croi**	**12.76**	**32**	*e*Pn		Pn	20 09 08.1	-1.6
TCF				*e*Sn		Sn	20 11 21.0	-8.9
	comp=N,1.4nm,0.3s							
TCF	**Toulx Ste Croi**	**12.76**	**32**	*e*Pn		Pn	20 09 08.1	-1.6
TCF				*e*Sn		Sn	20 11 21.0	-8.9
	comp=N,0.7nm,0.3s							
ROSF	**Rostrenen**	**12.91**	**13**	*e*Sn		Sn	20 11 21.4	-12
	comp=N,1.9nm,0.3s							
ROSF	**Rostrenen**	**12.91**	**13**	Sn		Sn	20 11 21.4	-12
	comp=N,0.9nm,0.3s							
SGMF	**Saint Gilles**	**12.97**	**15**	*e*Sn		Sn

AS31	**Alice Springs**	**32.25 251**	*eP*	**P**		**20 22 30.4**	**-0.5**
ASAR	**Alice Springs**	**32.25 251**	P	**P**		**20 22 30.4**	**-0.5**
	11nm,0.9s,mb4.7,baz=74,slow=9.0,SNR=53						
ASAR			LR	LR		20 34 59.1	
	comp=Z,310nm,18.4s,MS4.0,baz=74,slow=35						
ASPA	**Alice Springs**	**32.25 251**	*eP*	**P**		**20 22 30.3**	**-0.7**
KAKA	**Kakadu**	**33.82 271**	*eP*	**P**		**20 22 45.7**	**+1.0**
	3.4nm,0.6s,mb4.5						
GUMO	**Guam**	**36.63 322**	LR	LR		20 35 56.4	
	comp=Z,222nm,21.9s,MS3.9,baz=115,slow=33						
FITZ	**Fitzroy Crossi**	**39.77 261**	*eP*	**P**		**20 23 34.6**	**-0.7**
	6.0nm,0.7s,mb4.4						
PPT	**Papeete**	**41.36 99**	*eS*	**S**		**20 30 02.9**	**+0.1**
	58nm,25.0s						
PPT			*e*LR	LR		20 35 26.7	
	217nm,23.0s,baz=273						
TBI	**Tubuai**	**41.38 107**	*eS*	**S**		**20 30 03.2**	**+0.1**
	70nm,28.0s						
TBI			*e*LR	LR		20 35 21.6	
	154nm,24.2s						
MBWA	**Marble Bar**	**45.22 256**	*eP*	**P**		**20 24 17.7**	**-1.9**
	28nm,1.4s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.15 240**	*eP*	**P**		**20 24 44.8**	**+2.2**
	8.3nm,0.8s,mb4.8						
RKT	**Rikitea**	**54.70 107**	*e*LR	LR		20 41 22.5	
	138nm,31.0s						
KSM	**Kuching**	**58.77 282**	*eP*	**P**		**20 26 05.0**	**+4.4**
MJAR	**Matsushiro Arr**	**58.84 333**	P	**P**		**20 25 59.3**	**-1.8**
	2.2nm,0.9s,mb4.2,baz=150,slow=1.9,SNR=6.3						
VNDA	**Vanda**	**61.78 181**	P	**P**		**20 26 20.7**	**-0.5**
	2.3nm,0.8s,mb4.4,baz=3.2,slow=4.9,SNR=8.2						
KSRS	**Korea Array**	**64.61 326**	LR	LR		20 49 54.0	
	comp=Z,69nm,20.4s,MS3.8,baz=55,slow=32						
QSPA	**South Pole Qui**	**74.21 180**	*eP*	**P**		**20 27 39.2**	**-0.1**
	16nm,1.0s,mb4.9						
KMI	**Kunming**	**74.83 302**	P	**P**		**20 27 44.5**	**+1.5**
KMI			AMB	AMB			
	comp=Z,7.0nm,1.1s,mb4.5						
KMI	**Kunming**	**74.83 302**	P	**P**		**20 27 44.6**	**+1.6**
	comp=Z,7.0nm,1.1s,mb4.5						
KMI			S	S		20 37 31.3	+12
KMI			LR	LR			
	comp=Z,60nm,25.0s,MS3.8						
HHC	**Hu-ho-hao-te**	**76.38 320**	*eP*	**P**		**20 27 52.8**	**+1.0**
HHC			AMB	AMB			
	comp=Z,12nm,1.2s,mb4.7						
HHC			AMB	AMB			
	comp=Z,80nm,5.6s						
LZH	**Lanzhou**	**79.01 312**	⇓P	**P**		**20 28 08.5**	**+2.0**
LZH			AP	pP		20 28 16.5	+6.0
LZH			XP	sP		20 28 20.5	+8.5
LZH			AMB	AMB			
	comp=Z,32nm,1.3s,mb5.1						
LZH			AMB	AMB			
	comp=Z,131nm,4.3s						
LZH	**Lanzhou**	**79.01 312**	⇓P	**P**		**20 28 08.5**	**+2.0**
	comp=Z,32nm,1.3s,mb5.1						
LZH			pP	pP		20 28 16.6	+6.1
LZH			sP	sP		20 28 20.5	+8.5
YAK	**Yakutsk**	**83.05 343**	*eP*	**P**		**20 28 26.5**	**-1.5**
	comp=Z,11nm,0.7s,mb5.0						
SONM	**Songino Array**	**83.34 324**	P	**P**		**20 28 29.7**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.5,baz=152,slow=6.8,SNR=27						
SONM			LR	LR		21 03 15.7	
	comp=Z,59nm,18.1s,MS4.0,baz=34,slow=34						
GTA	**Gaotai**	**83.38 314**	*eP*	**P**		**20 28 30.8**	**+1.1**
GTA			AP	pP		20 28 38.3	+4.5
GTA			XP	sP		20 28 42.5	+7.3
GTA			AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.7						
LSA	**Lhasa**	**86.09 302**	*eP*	**P**		**20 28 44.2**	**+0.8**
	comp=Z,4.2nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**88.02 49**	P	**P**		**20 28 52.6**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.8,baz=173,slow=8.1,SNR=3.0						
PDAR	**Pinedale Array**	**95.72 47**	LR	LR		21 10 44.9	
	comp=Z,51nm,18.4s,MS4.0,baz=151,slow=34						
TXAR	**Lajitas Array**	**96.84 62**	LR	LR		21 07 56.8	
	comp=Z,109nm,18.6s,MS4.4,baz=185,slow=32						
MKAR	**Makanchi Array**	**97.95 316**	P	**P**		**20 29 37.2**	**-1.4**
	comp=Z,0.8nm,0.7s,mb4.4,baz=106,slow=7.1,SNR=5.6						
MKAR	**Makanchi Array**	**97.95 316**	P	**P**		**20 29 37.2**	**-1.4**
ZAL	**Zalesovo**	**98.24 324**	P	**P**		**20 29 38.7**	**-1.2**
	comp=Z,0.6nm,0.4s,mb4.5,baz=34,slow=5.6,SNR=4.1						
ZAL	**Zalesovo**	**98.24 324**	P	**P**		**20 29 38.7**	**-1.2**
YKA	**Yellowknife Ar**	**98.53 27**	P	**P**		**20 29 40.6**	**-0.5**
	comp=Z,0.5nm,0.9s,mb4.0,baz=255,slow=5.2,SNR=4.1						
YKA			LR	LR		21 13 27.9	
	comp=Z,7.4nm,18.2s,MS3.2,baz=295,slow=35						
ARCES	**ARCESS Array B**	**121.29 345**	PKP	PKPdf		20 34 54.1	-1.5
	comp=Z,2.2nm,0.7s,baz=75,slow=1.4,SNR=7.5						
BRTR	**Keskin Array B**	**133.17 310**	PKP	PKPdf		20 35 18.6	+0.3
	comp=Z,0.8nm,0.9s,baz=95,slow=2.6,SNR=4.1						
GERES	**GERESS Array B**	**140.58 332**	PKP	PKPdf		20 35 31.0	-0.9
	comp=Z,0.6nm,0.7s,baz=328,slow=4.7,SNR=3.9						
GIVF	**Givet**	**142.95 341**	*e*PKIKP	PKPdf		20 35 37.5	+1.3
TIP	**Timpagrande**	**145.22 318**	*e*PKPbc	PKPbc		20 35 40.2	+0.3
CABF	**La Chapelle**	**145.50 337**	*e*PKIKP	PKPdf		20 35 40.6	-0.1
	comp=Z,32nm,1.1s						
FLN	**La Foliniere**	**145.63 346**	*e*PKIKP	PKPdf		20 35 40.6	-0.3
	comp=Z,17nm,0.8s						
LDF	**La Druitiere**	**145.70 345**	*e*PKIKP	PKPdf		20 35 40.8	-0.2
	comp=Z,20nm,0.9s						
LOR	**Lormes**	**145.74 340**	*e*PKIKP	PKPdf		20 35 40.7	-0.4
	comp=Z,40nm,1.4s						
SSF	**Saint Saulge**	**146.04 340**	*e*PKIKP	PKPdf		20 35 41.9	+0.3
	comp=Z,10nm,0.9s						
GRR	**Gorron**	**146.07 346**	*e*PKIKP	PKPdf		20 35 42.3	+0.7
LPL	**La Plagne**	**146.16 335**	*e*PKIKP	PKPdf		20 35 42.6	+0.8
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**146.16 335**	*e*PKIKP	PKPdf		20 35 42.5	+0.7
	comp=Z,89nm,1.8s						
SMF	**Signal de Mont**	**146.29 339**	*e*PKIKP	PKPdf		20 35 42.7	+0.7
	comp=Z,18nm,1.0s						
AVF	**Avril sur Loir**	**146.32 340**	*e*PKIKP	PKPdf		20 35 42.6	+0.5
MBDF	**Montbardon**	**146.78 334**	*e*PKIKP	PKPdf		20 35 44.3	+1.5
ORIF	**Oris-en-Rattie**	**146.99 335**	*e*PKIKP	PKPdf		20 35 44.6	+1.4
	comp=Z,18nm,1.0s						
TCF	**Toulx Ste Croi**	**147.14 341**	*e*PKIKP	PKPdf		20 35 44.7	+1.3
PGF	**Pioggiola**	**147.47 329**	*e*PKIKP	PKPdf		20 35 45.3	+1.3
VIVF	**Saint-Julien-l**	**147.52 337**	*e*PKIKP	PKPdf		20 35 45.1	+1.0
MFF	**Saint Martin d**	**147.55 344**	*e*PKIKP	PKPdf		20 35 45.6	+1.5
FRF	**La Foret Royal**	**147.77 333**	*e*PKIKP	PKPdf		20 35 45.7	+1.2
LMR	**La Mourre**	**148.01 333**	*e*PKIKP	PKPdf		20 35 46.3	+1.4
LASF	**Ste Croix**	**148.49 337**	*e*PKIKP	PKPdf		20 35 47.0	+1.3
	comp=Z,76nm,1.5s						
KEST	**Kesra**	**152.01 319**	PKPbc	PKPbc		20 35 57.7	0.0
	comp=Z,2.3nm,0.8s,baz=327,slow=2.0,SNR=6.5						
TORD	**Torodi Ar. Bea**	**165.73 261**	PKPab	PKPab		20 37 06.4	-0.1
	comp=Z,1.8nm,1.0s,baz=102,slow=3.0,SNR=7.6						

*ISCJB **25** 20:31:50.8±5.6, 199S±02×1682E±05, h6km±38km, mb4.1/5, MS3.4/2, Error ellipse: s-maj=85.3km s-min=16.2km az=40.5*
*IDC **25** 20:31:50.3±3.2, 1979S×16837E, h0km, mb4.1/3, mb1 4.2/4, mb1mx4.0/13, mbtmp4.0/4, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/19, Error ellipse: s-maj=84.7km s-min=36.0km az=124.0*
*NEIC **25** 20:31:54.0±2.0, 2021S×16864E, h35km, mb4.2/2, Error ellipse: s-maj=52.7km s-min=18.0km az=127.0*
ISC 25 20:31:51.6±6.7, 201S±03×1686E±06, h14km±49km, n11, σ0§53/10, mb4.1/5, MS3.4/2, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.80**	**226**	Pn	**Pn**	**20 32 35.8**	**-0.2**
	6.9nm,0.3s,baz=64,slow=18,SNR=31						
DZM				Sn	**Sn**	**20 33 09.3**	**-0.1**
	19nm,0.3s,baz=136,slow=22,SNR=7.2						
DZM				LR	LR	20 33 27.4	
	comp=Z,253nm,19.7s,baz=243,slow=34						
STKA	**Stephens Creek**	**26.88**	**239**	LR	LR	20 46 49.1	
	comp=Z,101nm,18.3s,MS3.4,baz=199,slow=34						
WB2	**Warramunga Arr**	**32.16**	**264**	*eP*	**P**	**20 38 17.8**	**-1.0**
WRAB	**Tennant Creek**	**32.16**	**264**	*eP*	**P**	**20 38 19.0**	**+0.2**
	1.0nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**32.17**	**264**	P	**P**	**20 38 18.1**	**-0.8**
	0.6nm,0.4s,mb3.8,baz=90,slow=8.5,SNR=25						
AS31	**Alice Springs**	**32.35**	**257**	*eP*	**P**	**20 38 21.0**	**+0.5**
ASAR	**Alice Springs**	**32.35**	**257**	P	**P**	**20 38 21.1**	**+0.6**
	3.9nm,0.7s,mb4.3,baz=87,slow=9.0,SNR=50						
ASAR				LR	LR	20 49 49.0	
	comp=Z,70nm,19.2s,MS3.4,baz=164,slow=34						
ASPA	**Alice Springs**	**32.36**	**257**	*eP*	**P**	**20 38 21.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.58**	**265**	*eP*	**P**	**20 39 31.1**	**+0.4**
	3.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**87.59**	**323**	P	**P**	**20 44 39.0**	**-0.3**
	1.0nm,0.8s,mb4.1,baz=147,slow=4.0,SNR=8.6						
GERES	**GERESS Array B**	**145.00**	**331**	PKP	PKPdf	20 51 27.0	-1.4
	0.7nm,0.7s,baz=3.8,slow=2.0,SNR=7.9						

*BJI **25** 21:03:57.6, 1695S×6620E, h10km, mB5.0, mb4.7*
*ISCJB **25** 21:04:01.2±0.5, 1672S±009×668E±01, h10km, mb4.5/26, MS3.8/8, Error ellipse: s-maj=14.9km s-min=12.5km az=24.9*
*MOS **25** 21:04:01.9±1.1, 1655S×6686E, h10km, mb4.6/8, Error ellipse: s-maj=21.8km s-min=10.2km az=101.7*
*IDC **25** 21:04:02.8±1.3, 1641S×6679E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, MS3.7/8, Ms1 3.7/8, ms1mx3.3/43, Error ellipse: s-maj=48.4km s-min=20.9km az=38.0*
*NEIC **25** 21:04:05.0±0.5, 1633S×6689E, h10km, mb4.5/7, Error ellipse: s-maj=17.6km s-min=11.4km az=45.0*
ISC 25 21:04:03.1±0.5, 1674S±009×667E±01, h10km, n76, σ1§17/59, mb4.5/26, MS3.8/8, 11C-7D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLN	**Koldanda**	**47.17**	**21**	*eP*	**P**	**21 12 36.0**	**+0.2**
	16nm,0.9s,mb5.0						
DMN	**Daman**	**47.55**	**22**	*eP*	**P**	**21 12 39.2**	**+0.5**
	29nm,1.0s,mb5.2						
PKI	**Pulchoki**	**47.63**	**23**	*eP*	**P**	**21 12 39.4**	**+0.1**
GKN	**Gorkha**	**47.74**	**22**	*eP*	**P**	**21 12 40.2**	**0.0**
	23nm,1.0s,mb5.3						
KKN	**Kakani**	**47.78**	**22**	*eP*	**P**	**21 12 40.5**	**0.0**
	23nm,0.9s,mb5.2						
GUN	**Gumba**	**48.11**	**23**	*eP*	**P**	**21 12 43.4**	**+0.3**
	23nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**48.13**	**119**	LR	LR	21 27 08.0	
	comp=Z,68nm,19.9s,MS3.6,baz=158,slow=29						
MAW	**Mawson**	**50.89**	**182**	LR	LR	21 28 36.8	
	comp=Z,71nm,21.7s,MS3.8,baz=247,slow=29						
LSA	**Lhasa**	**51.84**	**27**	P	**P**	**21 13 12.0**	**+0.7**
LSA	**Lhasa**	**51.84**	**27**	*eP*	**P**	**21 13 12.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**51.84**	**27**	*eP*	**P**	**21 13 12.3**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**59.51**	**7⇑**	*eP*	**P**	**21 14 05.0**	**-1.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**59.51**	**7**	*eP*	**P**	**21 14 04.5**	**-1.9**
	comp=Z,6.5nm,1.3s,mb4.5						
GNI	**Garni**	**60.19**	**341**	LR	LR	21 38 34.9	
	comp=Z,40nm,18.3s,MS3.6,baz=308,slow=35						
GNI	**Garni**	**60.19**	**341⇑**	*eP*	**P**	**21 14 12.1**	**+0.9**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ASAR	**Alice Springs**	**62.93**	**108**	P	**P**	**21 14 31.8**	**+2.2**
	comp=Z,1.4nm,0.9s,mb4.1,baz=272,slow=5.9,SNR=10						
GTA	**Gaotai**	**63.84**	**28**	*eP*	**P**	**21 14 35.5**	**-0.2**
GTA				AP	pP	21 14 44.0	+5.1
GTA				XP	sP	21 14 48.3	+8.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**63.87**	**104**	P	**P**	**21 14 38.1**	**+2.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=269,slow=6.2,SNR=23						
WRAB	**Tennant Creek**	**63.88**	**104**	*eP*	**P**	**21 14 31.9**	**-4.0**
BR131	**Keskin Array S**	**64.10**	**332**	*eP*	**P**	**21 14 37.8**	**+0.4**
	comp=Z,4.2nm,1.4s,mb4.3						
BRTR	**Keskin Array B**	**64.10**	**332**	P	**P**	**21 14 37.5**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=156,slow=6.4,SNR=8.4						
KIV	**Kislovodsk**	**64.28**	**341**	*eP*	**P**	**21 14 40.1**	**+1.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**64.78**	**12**	P	**P**	**21 14 40.0**	**-1.8**
	comp=Z,2.3nm,0.9s,mb4.2,baz=216,slow=9.6,SNR=13						
ANN	**Anapa**	**66.81**	**338**	*eP*	**P**	**21 15 04.7**	**+10**
ANN				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
AKTO	**Aktyubinsk**	**67.32**	**354**	LR	LR	21 40 47.3	
	comp=Z,42nm,20.6s,MS3.6,baz=86,slow=33						
SNAA	**Sanae**	**67.82**	**199**	*eP*	**P**	**21 15 01.8**	**+0.5**
STKA	**Stephens Creek**	**68.70**	**118**	LR	LR	21 40 03.0	
	comp=Z,50nm,19.2s,MS3.8,baz=206,slow=31						
VNA2	**Neumayer--Watz**	**69.11**	**200**	*eP*	**P**	**21 15 07.8**	**-1.6**
VNA2				*e*		21 15 14.2	
VNA2				*e*		21 15 21.7	
ZRNK	**Zerenda**	**69.43**	**1**	*eP*	**P**	**21 15 09.7**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**69.43**	**1**	*eP*	**P**	**21 15 09.7**	**-1.7**
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**69.58**	**2**	*eP*	**P**	**21 15 11.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**69.58**	**2**	*eP*	**P**	**21 15 11.2**	**-1.1**
	comp=Z,6.1nm,1.1s,mb4.4						
VNA3	**Neumayer Olymp**	**69.89**	**200**	*eP*	**P**	**21 15 12.2**	**-2.0**
VNA3				*e*		21 15 21.0	
VNA3				*e*		21 15 26.4	
VNA3				*e*		21 15 34.1	
CHKZ	**Chkalovo**	**70.21**	**2**	*eP*	**P**	**21 15 14.9**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**70.21**	**2**	*eP*	**P**	**21 15 14.9**	**-1.3**
	comp=Z,3.8nm,1.1s,mb4.2						
TIRR	**Tirgusor**	**70.22**	**332⇑**	*i*P	**P**	**21 15 16.8**	**+0.6**
TIRR	**Tirgusor**	**70.22**	**332⇑**	P	**P**	**21 15 16.8**	**+0.6**
HHC	**Hu-ho-hao-te**	**70.80**	**34**	*eP*	**P**	**21 15 20.5**	**+0.7**
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,98nm,6.0s						
VRI	**Vrincioaia**	**72.06**	**332⇓**	*i*P	**P**	**21 15 28.9**	**+1.5**
VRI	**Vrincioaia**	**72.06**	**332**	⇓P	**P**	**21 15 28.9**	**+1.5**
ZAL	**Zalesovo**	**72.08**	**11**	P	**P**	**21 15 26.9**	**-0.6**
	comp=Z,2.0nm,1.0s,mb4.0,baz=279,slow=6.9,SNR=11						
ZAL				LR	LR	21 46 45.7	
	comp=Z,52nm,18.9s,MS3.8,baz=351,slow=36						
MLR	**Muntele Rosu**	**72.13**	**331⇓**	*i*P	**P**	**21 15 29.4**	**+1.6**
MLR	**Muntele Rosu**	**72.13**	**331**	⇓P	**P**	**21 15 29.4**	**+1.5**
NVS	**Novosibirsk**	**72.67**	**10**	*eP*	**P**	**21 15 29.7**	**-1.3**
ARU	**Arti**	**73.21**	**355⇓**	*i*P	**P**	**21 15 32.5**	**-1.7**
ARU				*e*		21 18 16.9	
ARU				*e*PPP		21 20 03.1	
ARU				*e*S	S	21 24 59.3	-3.1
ARU				*e*SS	SS	21 29 41.1	-2.7
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
QSPA	**South Pole Qui**	**73.35**	**180**	*eP*	**P**	**21 15 39.3**	**+4.3**
	comp=Z,6.7nm,1.1s,mb4.5						
SONM	**Songino Array**	**73.42**	**27**	P	**P**	**21 15 35.8**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=216,slow=6.5,SNR=24						
BZS	**Buzias**	**74.30**	**329⇓**	*i*P	**P**	**21 15 41.6**	**+1.0**
BZS	**Buzias**	**74.30**	**329**	⇓P	**P**	**21 15 41.6**	**+1.0**

DRGR		**74.61**	**330⇑**	*i*P	**P**	**21 15 43.7**	**+1.3**
DRGR		**74.61**	**330**	⇑P	**P**	**21 15 43.7**	**+1.3**
AKASG	**Malin Array Be**	**74.79**	**336**	P	**P**	**21 15 43.3**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=145,slow=4.8,SNR=6.1						
VNDA	**Vanda**	**74.88**	**167**	LR	LR	21 44 28.6	
	comp=Z,66nm,18.4s,MS4.0,baz=71,slow=32						
PKSM	**Moragy**	**76.21**	**328⇑**	*i*P	**P**	**21 15 52.2**	**+0.6**
PKSM	**Moragy**	**76.21**	**328**	⇑P	**P**	**21 15 52.2**	**+0.6**
VYHS	**Vyhne**	**77.67**	**330**	*eP*	**P**	**21 15 58.7**	**-1.1**
MORC	**Moravsky Berou**	**79.17**	**330⇑**	*i*P	**P**	**21 16 08.5**	**+0.4**
MORC	**Moravsky Berou**	**79.17**	**330**	⇑P	**P**	**21 16 08.5**	**+0.4**
DPC	**Dobruska-Polom**	**80.13**	**330**	*eP*	**P**	**21 16 12.9**	**-0.5**
GERES	**GERESS Array B**	**80.46**	**328**	P	**P**	**21 16 13.7**	**-1.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=170,slow=4.1,SNR=4.7						
KHC	**Kasperske Hory**	**80.70**	**328**	*eP*	**P**	**21 16 16.0**	**-0.4**
HIA	**Hailar**	**80.72**	**32**	*eP*	**P**	**21 16 14.2**	**-2.3**
PVCC	**Panska Ves**	**81.10**	**329**	*eP*	**P**	**21 16 19.8**	**+1.3**
FINES	**FINESS Array B**	**84.36**	**342**	LR	LR	21 51 23.1	
	comp=Z,52nm,19.5s,MS3.9,baz=8.0,slow=34						
MJAR	**Matsushiro Arr**	**85.68**	**50**	P	**P**	**21 16 42.1**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.6,baz=237,slow=5.3,SNR=8.1						
ESDC	**Sonseca Array**	**86.42**	**313**	P	**P**	**21 16 47.6**	**+1.8**
	comp=Z,1.6nm,1.0s,mb4.2,baz=112,slow=6.6,SNR=5.0						
KBS	**Kingsbay**	**100.03**	**351⇑**	*eP*	Pdif	21 17 49.4	+0.8
NEW	**Newport**	**148.41**	**5**	*e*PKP2	PKPab	21 23 50.9	-2.1
CHMT	**Chamberlain Mo**	**149.92**	**360**	*e*PKPbc	PKPbc	21 23 55.0	+1.4
HAWA	**Hanford**	**149.98**	**9**	*e*PKPbc	PKPbc	21 23 55.5	+1.7
MSO	**Missoula**	**150.00**	**1**	*e*PKPbc	PKPbc	21 23 55.3	+1.5
HRY	**Holter Researc**	**150.10**	**358**	*e*PKPbc	PKPbc	21 23 55.5	+1.5
HUMO	**Hull Mountain**	**152.93**	**16**	*e*PKPbc	PKPbc	21 24 02.4	+1.8
PDAR	**Pinedale Array**	**153.87**	**354**	PKPbc	PKPbc	21 24 03.3	+0.7
	comp=Z,1.5nm,0.8s,baz=48,slow=2.2,SNR=11						
NVAR	**Mina Array Bea**	**157.95**	**11**	PKPab	PKPab	21 24 34.1	+0.9
	comp=Z,0.7nm,0.6s,baz=349,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**164.68**	**327**	PKPab	PKPab	21 25 03.3	+0.7
	comp=Z,0.7nm,0.9s,baz=35,slow=3.1,SNR=5.4						

*CSEM **25** 21:31:09.6±0.1, 3446N×2681E, h2km, MD3.8, Error ellipse: s-maj=3.5km s-min=2.0km az=92.0*
*NEIC **25** 21:31:09.6, 3449N×2676E, h6km, MD3.8(ATH), After ATH.*
*IDC **25** 21:31:09.2±1.1, 3454N×2678E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=28.6km s-min=16.6km az=175.0*
*ATH **25** 21:31:09.6, 3449N×2676E, h6km±2km, MD3.8/12*
*ISCJB **25** 21:31:09.6±0.4, 3453N±003×2688E±003, h10km, mb3.9/6, Error ellipse: s-maj=4.7km s-min=4.0km az=52.0*
*HLW **25** 21:31:13.7, 3456N×2681E, h33km, Mb3.2*
ISC 25 21:31:11.3±0.4, 3458N±003×2680E±003, h10km, n28, σ1§14/35, mb3.9/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.96**	**288**	*e*PG	**Pg**	**21 31 27.5**	**-2.3**
XRY				*e*SB	**Sb**	**21 31 40.5**	**-2.2**
KARP	**Karpathos**	**1.01**	**17**	*e*PB	**Pb**	**21 31 30.3**	**-0.6**
KARP				*e*SB	**Sb**	**21 31 45.6**	**+1.4**
NPS	**Neapolis**	**1.19**	**305**	*e*PB	**Pb**	**21 31 32.1**	**-1.9**
NPS				*e*SB	**Sb**	**21 31 49.1**	**-0.4**
IDI	**Anoyia**	**1.72**	**295**	Pn	**Pn**	**21 31 41.2**	**-0.2**
	10nm,0.3s,baz=118,slow=14,SNR=75						
IDI				Sn	**Sn**	**21 32 05.4**	**+2.1**
	14nm,0.3s,baz=176,slow=21,SNR=5.7						
ARG	**Arkhangelos**	**1.96**	**33**	*e*PG	**Pg**	**21 31 47.3**	**-1.6**
ARG				*e*SN	**Sg**	**21 32 14.3**	**0.0**
NISR	**Nisiros**	**2.05**	**7**	*e*PN	**Pn**	**21 31 47.0**	**+1.2**
SANT	**Santorini**	**2.10**	**329**	*e*Pn	**Pn**	**21 31 45.0**	**-1.5**
SANT	**Santorini**	**2.10**	**329**	*e*Pn	**Pn**	**21 31 45.0**	**-1.5**
GVD	**Gavdhos**	**2.25**	**277**	*e*PN	**Pn**	**21 31 50.0**	**+1.4**
VAM	**Vamos**	**2.29**	**292**	*e*PN	**Pn**	**21 31 50.8**	**+1.7**
APE	**Apeiranthos**	**2.69**	**338**	*e*PB	**Pn**	**21 31 55.7**	**+1.0**
HMAT	**Matruh**	**3.48**	**176**	P	**Pn**	**21 32 05.8**	**+0.3**
KYTH	**Kithira**	**3.51**	**300**	*e*PN	**Pn**	**21 32 07.0**	**+1.1**
VLI	**Veliai**	**3.80**	**305**	*e*PN	**Pn**	**21 32 10.9**	**+1.0**
ITM	**Ithomi**	**4.73**	**305**	*e*PN	**Pn**	**21 32 24.1**	**+1.4**
SWA1		**5.38**	**190**	P	**Pn**	**21 32 31.5**	**-0.1**
SWA1				S	**Sn**	**21 33 28.4**	**-5.2**
SWA2		**5.44**	**193**	P	**Pn**	**21 32 32.2**	**-0.3**
AMAG	**Maghara**	**6.68**	**124**	P	**Pn**	**21 32 49.5**	**+0.1**
MMAI	**Mount Meron Ar**	**7.33**	**100**	Pn	**Pn**	**21 32 57.5**	**-0.9**
	1.1nm,0.3s,baz=274,slow=11,SNR=10						
MMAI				Sn	**Sn**	**21 34 21.5**	**-0.1**
	0.8nm,0.3s,baz=307,slow=29,SNR=3.2						
BRTR	**Keskin Array B**	**7.50**	**45**	Pn	**Pn**	**21 33 00.9**	**+0.3**
	0.1nm,0.3s,baz=229,slow=11,SNR=4.7						
HFRF	**Wahat Farafira**	**7.52**	**170**	P	**

	0.8nm,0.5s,mb3.5,baz=91,slow=6.4,SNR=24							
ASAR				S		**S**	**21 52 22.8**	**+1.8**
	0.3nm,0.6s,baz=98,slow=14,SNR=5.6							
WB2	**Warramunga Arr**	**42.34**	**267**	*e*P		**P**	**21 46 43.5**	**-0.9**
WRA	**Warramunga Arr**	**42.35**	**267**	P		**P**	**21 46 43.8**	**-0.7**
	5.0nm,0.6s,mb4.3,baz=101,slow=8.3,SNR=72							
WRA				ScP		ScP	21 51 29.1	+2.8
	2.5nm,0.8s,baz=102,slow=4.1,SNR=15							
WRA				S		**S**	**21 52 26.5**	**-1.0**
	1.4nm,1.1s,baz=100,slow=14,SNR=4.7							
VNDA	**Vanda**	**53.58**	**185**	P		**P**	**21 48 09.9**	**+1.5**
	1.1nm,0.6s,mb3.4,baz=88,slow=6.1,SNR=8.7							
QSPA	**South Pole Qui**	**65.38**	**180**	*e*P		**P**	**21 49 28.3**	**+1.1**
	9.6nm,0.7s,mb4.3							
MAW	**Mawson**	**77.00**	**200**	P		**P**	**21 50 36.0**	**+0.7**
	3.2nm,0.5s,mb4.0,baz=137,slow=7.9,SNR=9.2							
VNA3	**Neumayer Olymp**	**84.08**	**177**	*e*		**P**	**21 51 10.9**	**-1.2**
VNA3				*e*			21 51 15.0	
VNA2	**Neumayer--Watz**	**84.50**	**178**	*e*		**P**	**21 51 13.4**	**-0.7**
VNA2				*e*			21 51 17.0	
TXAR	**Lajitas Array**	**90.86**	**58**	P		**P**	**21 51 43.7**	**-0.3**
	1.4nm,0.8s,mb4.0,baz=214,slow=6.2,SNR=17							
TXAR	**Lajitas Array**	**90.86**	**58**	P		**P**	**21 51 43.7**	**-0.3**
BVAR	**Borovoye Array**	**121.03**	**318**	PKP		PKPdf	21 57 27.6	-1.9
	0.7nm,0.4s,baz=118,slow=2.4,SNR=6.9							
ARCES	**ARCESS Array B**	**132.67**	**348**	PKP		PKPdf	21 57 48.7	-2.9
	1.7nm,0.8s,baz=11,slow=1.2,SNR=4.3							
ARCES	**ARCESS Array B**	**132.67**	**348**	PKP		PKPdf	21 57 48.7	-2.9
HFS	**Hagfors**	**143.33**	**349**	PKhKP			21 58 06.5	
	3.0nm,0.4s,baz=68,slow=4.0,SNR=17							
HFS	**Hagfors**	**143.33**	**349**	PKP			21 58 06.5	
AKASG	**Malin Array Be**	**145.64**	**327**	PKPbc		PKPbc	21 58 13.7	-2.9
	0.4nm,0.3s,baz=48,slow=4.2,SNR=4.2							
BRTR	**Keskin Array B**	**148.05**	**306**	PKPbc		PKPbc	21 58 22.2	-0.9
	1.0nm,0.6s,baz=127,slow=3.8,SNR=6.1							
EKA	**Eskdalemuir Ar**	**149.32**	**4**	PKPbc		PKPbc	21 58 23.7	-2.5
	1.8nm,0.9s,baz=347,slow=2.4,SNR=3.7							
CLL	**Collm**	**151.62**	**343**	*e*PKPbc		PKPbc	21 58 30.0	-1.5
	comp=Z,7.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**168.40**	**188**	PKPab		PKPab	21 59 56.1	+0.3
	comp=Z,1.3nm,0.6s,baz=180,slow=3.6,SNR=13							

IDC ***25*** *21:44:21.0±0.8, 46.14N×152.87E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, ML3.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/41, Error ellipse: s-maj=21.7km s-min=18.2km az=94.0*

ISCJB ***25*** *21:44:21.6±0.5, 4623N±008×153.15E±009, h10km, mb4.2/32, MS3.5/1, Error ellipse: s-maj=12.9km s-min=5.5km az=111.9*

BJI ***25*** *21:44:22.0, 4646N×153.61E, h27km, mB4.8, mb4.3*

SKHL ***25*** *21:44:22.5±0.4, 4600N×153.70E, h47km±15km, mb5.4/2*

MOS ***25*** *21:44:23.7±1.7, 4620N×153.20E, h27km, mb4.4/21, Error ellipse: s-maj=9.8km s-min=8.3km az=100.6*

NEIC ***25*** *21:44:23.2±0.6, 46.17N×152.99E, h10km, mb4.3/9, Error ellipse: s-maj=14.2km s-min=10.4km az=130.0*

ISC 25 21:44:23.2±0.5, 4625N±008×15317E±009, h10km, n105, σ1°43/108, mb4.2/32, MS3.5/1, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.85**	**257**	*i* P	**Pn**		**21 45 22.2**	**-0.2**
KUR				AMB	AMB		21 45 24.3	
	300nm,0.5s							
KUR				*i* S	**Sn**		**21 46 06.7**	**-1.0**
KUR				A			21 46 08.2	
	300nm,0.5s							
KUR				A			21 46 08.2	
	140nm,0.5s							
KUR	**Kuril'sk**	**3.85**	**257**	⇓*i* PN	**Pn**		**21 45 22.2**	**-0.2**
KUR				*i* S	**Sn**		**21 46 06.7**	**-1.0**
KUR				pmax	pmax			
	comp=Z,300nm,0.5s							
KUR				smax				
	comp=N,300nm,0.5s							
KUR				smax				
	comp=E,140nm,0.5s							
SKR	**Severo-Kuril's**	**4.86**	**23**	*e*PN	**Pn**		**21 45 37.5**	**+1.2**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.62**	**249**	*e*P	**Pn**		**21 45 51.0**	**+4.2**
YUK				AMB	AMB		21 45 54.6	
	comp=Z,140nm,0.3s							
YUK				*e*S	**Sn**		**21 46 51.8**	**+0.4**
YUK				A			21 47 07.1	
	comp=Z,340nm,0.5s							
YUK				A			21 47 07.1	
	comp=Z,190nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.21**	**279**	*e*P	**Pn**		**21 46 13.5**	**+4.9**
YSS				*e*S	**Sn**		**21 47 37.0**	**+6.5**
YSS	**Yuzh-Sakhalins**	**7.21**	**279**	*e*Pn	**Pn**		**21 46 13.4**	**+4.8**
	comp=Z,9.6nm,0.6s							
ASAJ	**Asahikawa**	**7.77**	**258**	Pn	**Pn**		**21 46 18.7**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=100,slow=31,SNR=8.1							
ASAJ				LR	LR		21 49 18.5	
	comp=Z,149nm,18.6s,baz=42,slow=40							
ERM	**Erimo**	**9.35**	**245**	*e*PN	**Pn**		**21 46 27.5**	**+3.3**
MJAR	**Matsushiro Arr**	**14.81**	**234**	Pn	**Pn**		**21 47 50.2**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=9.6,SNR=4.2							
MAJO	**Matsushiro**	**14.81**	**234**	*e*P	**Pn**		**21 47 50.2**	**-2.4**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MAJO	**Matsushiro**	**14.81**	**234**	*e*Pn	**Pn**		**21 47 50.2**	**-2.4**
	comp=Z,2.8nm,0.5s							
MDJ	**Mudanjiang**	**16.62**	**273**	P	**Pn**		**21 48 17.8**	**+1.6**
MDJ				AMB	AMB			
	comp=Z,8.0nm,0.9s							
MDJ				AMB	AMB			
	comp=Z,42nm,4.2s							
MDJ	**Mudanjiang**	**16.62**	**273**	Pn	**Pn**		**21 48 15.9**	**-0.3**
	comp=Z,6.1nm,0.5s							
KSRS	**Korea Array**	**20.69**	**254**	P	**P**		**21 48 59.5**	**-3.8**
	comp=Z,1.9nm,1.1s,baz=68,slow=10,SNR=2.6							
YAK	**Yakutsk**	**20.77**	**328**	⇑*e*P	**P**		**21 49 03.0**	**-1.2**
YAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
YAK	**Yakutsk**	**20.77**	**328**	*e*P	**P**		**21 49 02.3**	**-1.9**
	comp=Z,10nm,0.6s							
SNY	**Shenyang**	**21.66**	**269**	⇓P	**P**		**21 49 17.3**	**+3.5**
SNY				AMB	AMB			
	comp=Z,7.0nm,1.2s,mb4.0							
BILL	**Bilibino**	**22.88**	**13**	*e*P	**P**		**21 49 21.6**	**-5.2**
BILL				*e*			21 49 32.5	
BILL				pmax	pmax			
	comp=Z,27nm,2.5s,mb4.2							
SONM	**Songino Array**	**31.54**	**290**	P	**P**		**21 50 44.1**	**-1.4**
	comp=Z,0.3nm,0.8s,mb3.2,baz=74,slow=11,SNR=2.7							
SONM	**Songino Array**	**31.54**	**290**	P	**P**		**21 50 44.1**	**-1.4**
COLA	**College**	**36.51**	**38**	*e*P	**P**		**21 51 27.1**	**-1.6**
LZH	**Lanzhou**	**37.95**	**273**	*e*P	**P**		**21 51 42.0**	**+1.2**
LZH				AP	pP		21 51 50.3	+6.4
LZH				XP	sP		21 51 54.0	+8.8
LZH				AMB	AMB			
	comp=Z,19nm,1.3s,mb4.7							
LZH	**Lanzhou**	**37.95**	**273**	*e*P	**P**		**21 51 42.1**	**+1.3**
LZH				*PP	pP		21 51 50.2	+6.3
LZH				*SP	sP		21 51 54.0	+8.8
LZH				pmax	pmax			
	comp=Z,19nm,1.3s,mb4.7							
LZH	**Lanzhou**	**37.95**	**273**	*e*P	**P**		**21 51 42.1**	**+1.3**
	comp=Z,19nm,1.3s,mb4.7							
LZH				pP	pP		21 51 50.2	+6.3
LZH				sP	sP		21 51 54.0	+8.8
GTA	**Gaotai**	**39.09**	**280**	*e*P	**P**		**21 51 52.5**	**+2.0**
GTA				AP	pP		21 52 00.0	+6.4
GTA				XP	sP		21 52 04.3	+10
GTA				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.2							
GYA	**Guiyang**	**41.65**	**258**	P	**P**		**21 52 12.8**	**+1.2**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**		**21 52 20.2**	**-2.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=71,slow=5.0,SNR=4.1							
ZAL	**Zalesovo**	**42.95**	**306**	P	**P**		**21 52 20.2**	**-2.1**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**47.21**	**298**	*e*P	**P**		**21 52 55.3**	**-0.8**
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**		**21 52 54.3**	**-1.8**
	comp=Z,3.4nm,0.9s,mb4.3,baz=66,slow=7.7,SNR=16							
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**		**21 52 54.3**	**-1.8**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
LSA	**Lhasa**	**50.34**	**274**	P	**P**		**21 53 20.0**	**-0.2**
LSA	**Lhasa**	**50.34**	**274**	*e*P	**P**		**21 53 22.2**	**+2.0**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.34**	**274**	*e*P	**P**		**21 53 22.2**	**+2.0**
	comp=Z,2.9nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**		**21 53 21.7**	**-1.8**
CHKZ				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
CHKZ	**Chkalovo**	**50.79**	**310**	*e*P	**P**		**21 53 21.7**	**-1.9**
	comp=Z,12nm,1.1s,mb4.7							
BVAR	**Borovoye Array**	**51.21**	**310**	P	**P**		**21 53 25.3**	**-1.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=48,slow=6.7,SNR=9.0							
BVAR	**Borovoye Array**	**51.21**	**310**	P	**P**		**21 53 25.3**	**-1.4**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**51.31**	**36**	P	**P**		**21 53 29.0**	**+1.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=295,slow=6.6,SNR=3.5							
YKA	**Yellowknife Ar**	**51.31**	**36**	P	**P**		**21 53 29.0**	**+1.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZRNK	**Zerenda**	**51.98**	**310**	*e*P	**P**		**21 53 31.3**	**-1.2**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
ZRNK	**Zerenda**	**51.98**	**310**	*e*P	**P**		**21 53 31.3**	**-1.2**
	comp=Z,2.9nm,1.0s,mb4.2							
AAK	**Ala-Archa**	**54.09**	**297**	⇑*e*P	**P**		**21 53 47.5**	**-0.6**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.2							
AAK	**Ala-Archa**	**54.09**	**297**	*e*P	**P**		**21 53 47.5**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.1							
JIRN	**Jiri**	**55.02**	**275**	*e*P	**P**		**21 53 58.0**	**+3.1**
GUN	**Gumba**	**55.08**	**275**	*e*P	**P**		**21 53 58.0**	**+2.7**
ARU	**Arti**	**55.41**	**318**	⇑*e*P	**P**		**21 53 56.5**	**-1.1**
ARU				pmax	pmax			
	comp=Z,11nm,1.7s,mb4.6							
KKN	**Kakani**	**55.57**	**276**	*e*P	**P**		**21 54 00.8**	**+2.0**
	comp=Z,12nm,0.8s,mb5.0							
PKI	**Pulchoki**	**55.62**	**275**	*e*P	**P**		**21 54 00.6**	**+1.5**
DMN	**Daman**	**55.81**	**276**	*e*P	**P**		**21 54 02.3**	**+1.8**
GKN	**Gorkha**	**55.88**	**276**	*e*P	**P**		**21 54 02.4**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9							
KOLN	**Koldanda**	**56.74**	**277**	*e*P	**P**		**21 54 08.6**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9							
YBH	**Yreka Blue Hor**	**57.95**	**61**	LR	LR		22 15 31.2	
	comp=Z,34nm,18.9s,MS3.5,baz=194,slow=32							
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**		**21 54 17.4**	**-1.0**
	comp=Z,3.1nm,1.0s,mb4.3,baz=22,slow=6.9,SNR=4.5							
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**		**21 54 17.4**	**-1.0**
ARCES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**		**21 54 17.4**	**-1.0**
AKTK	**Aktyubinsk**	**59.09**	**312**	P	**P**		**21 54 23.2**	**-0.4**
AKTO	**Aktyubinsk**	**59.09**	**312**	P	**P**		**21 54 23.2**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=98,slow=7.0,SNR=5.2							
AKTO	**Aktyubinsk**	**59.09**	**312**	P	**P**		**21 54 23.2**	**-0.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
MCMT	**McKenzie Canyo**	**61.87**	**54**	*e*P	**P**		**21 54 44.4**	**+1.8**
FINES	**FINESS Array B**	**64.51**	**335**	P	**P**		**21 54 59.3**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.1,baz=37,slow=7.4,SNR=19							
FINES	**FINESS Array B**	**64.51**	**335**	P	**P**		**21 54 59.3**	**-0.9**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**68.05**	**199**	P	**P**		**21 55 22.4**	**-0.4**
	comp=Z,0.5nm,0.9s,mb3.6,baz=16,slow=6.0,SNR=3.3							
WRA	**Warramunga Arr**	**68.05**	**199**	P	**P**		**21 55 22.4**	**-0.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.72**	**341**	P	**P**		**21 55 25.9**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.72**	**341**	P	**P**		**21 55 26.2**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=25,slow=6.3,SNR=3.6							
NOA	**NORSAR Array B**	**68.72**	**341**	P	**P**		**21 55 26.2**	**-0.8**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**68.94**	**340**	P	**P**		**21 55 27.0**	**-1.4**
	comp=Z,9.3nm,1.0s,mb4.7,baz=79,slow=7.7,SNR=8.4							
HFS	**Hagfors**	**68.94**	**340**	P	**P**		**21 55 27.0**	**-1.4**
HFS				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV	**Kislovodsk**	**71.18**	**314**	*e*P	**P**		**21 55 43.4**	**+1.3**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.5s,mb4.5							
ASAR	**Alice Springs**	**71.74**	**199**	P	**P**		**21 55 43.3**	**-2.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=27,slow=8.5,SNR=3.0							
ASAR	**Alice Springs**	**71.74**	**199**	P	**P**		**21 55 43.3**	**-2.2**
AKASG	**Malin Array Be**	**71.99**	**326**	P	**P**		**21 55 45.8**	**-1.2**
	comp=Z,2.6nm,0.4s,mb4.5,baz=33,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**71.99**	**326**	P	**P**		**21 55 45.8**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.4s							
GNI	**Garni**	**72.89**	**310**	⇑*e*P	**P**		**21 55 53.9**	**+1.5**
GNI				pmax	pmax			
	comp=Z,10.0nm,1.2s							
STHS	**Stebnicka Huta**	**75.97**	**330**	*e*P	**P**		**21 56 07.6**	**-2.7**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**75.97**	**330**	*e*P	**P**		**21 56 07.6**	**-2.7**
	comp=Z,2.8nm,0.8s,mb4.2							
BURAR	**Bucovina Array**	**76.03**	**327**	⇑*i*P	**P**		**21 56 10.9**	**+0.2**
BURAR	**Bucovina Array**	**76.03**	**327**	⇑P	**P**		**21 56 10.9**	**+0.3**
MORC	**Moravsky Berou**	**76.90**	**332**	⇓*i*P	**P**		**21 56 16.1**	**+0.5**
MORC	**Moravsky Berou**	**76.90**	**332**	⇓P	**P**		**21 56 16.1**	**+0.5**
KECS	**Kecovo**	**77.03**	**330**	*e*P	**P**		**21 56 10.7**	**-5.6**
MLR	**Muntele Rosu**	**77.50**	**325**	⇑*i*P	**P**		**21 56 20.4**	**+1.4**
MLR	**Muntele Rosu**	**77.50**	**325**	⇑P	**P**		**21 56 20.4**	**+1.4**
MALT	**Malatya**	**77.52**	**313**	⇓*i*P	**P**		**21 56 21.4**	**+2.3**
MALT	**Malatya**	**77.52**	**313**	⇓P	**P**		**21 56 21.4**	**+2.3**
VYHS	**Vyhne**	**77.59**	**331**	*e*P	**P**		**21 56 19.6**	**+0.2**
DRGR		**77.66**	**328**	⇓*i*P	**P**		**21 56 20.1**	**+0.2**
DRGR		**77.66**	**328**	⇓P	**P**		**21 56 20.1**	**+0.3**
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**		**21 56 20.9**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=294,slow=4.1,SNR=13							
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**		**21 56 21.0**	**+0.9**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PSZ	**Piszkesteto**	**77.72**	**330**	⇑*i*P	**P**		**21 56 21.0**	**+0.8**
PSZ	**Piszkesteto**	**77.72**	**330**	⇑P	**P**		**21 56 21.0**	**+0.9**
STKA	**Stephens Creek**	**78.46**	**190**	P	**P**		**21 56 22.1**	**-2.1**
	comp=Z,6.1nm,0.3s,mb4.1,baz=6.7,slow=17,SNR=2.5							
KHC	**Kasperske Hory**	**78.71**	**334**	*e*P	**P**		**21 56 25.5**	**-0.2**
BR131	**Keskin Array S**	**78.78**	**317**	*e*P	**P**		**21 56 26.1**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8							
BRTR	**Keskin Array B**	**78.78**	**317**	P	**P**		**21 56 24.2**	**-1.8**
	comp=Z,2.2nm,1.1s,mb4.0,baz=72,slow=2.0,SNR=9.2							
BRTR	**Keskin Array B**	**78.78**	**317**	P	**P**		**21 56 24.3**	**-1.8**
BRTR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
GERES	**GERESS Array B**	**78.93**	**334**	P	**P**		**21 56 26.3**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=33,slow=5.1,SNR=7.9							
GERES	**GERESS Array B**	**78.93**	**334**	P	**P**		**21 56 26.3**	**-0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BZS	**Buzias**	**79.06**	**328**	⇑*i*P	**P**		**21 56 27.9**	**+0.3**
PKSM	**Moragy**	**79.62**	**330**	⇓*i*P	**P**		**21 56 30.4**	**-0.3**
PKSM	**Moragy**	**79.62**	**330**	⇓P	**P**		**21 56 30.4**	**-0.3**
VTS	**Vitosha**	**81.01**	**325**	⇓*i*P	**P**		**21 56 38.8**	**+0.7**
VTS	**Vitosha**	**81.01**	**325**	⇓P	**P**		**21 56 38.8**	**+0.7**

IDC ***25*** *21:46:04.7±3.7, 47.19N×155.65E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/24, mbtmp4.0/7, Error ellipse: s-maj=109.5km s-min=36.8km az=7.0*

NEIC ***25*** *21:46:08.6±1.2, 47.84N×155.80E, h10km, mb4.3/3, Error ellipse: s-maj=35.2km s-min=19.1km az=170.0*

ISCJB ***25*** *21:46:11.0±5.1, 47.77N±0.4×155.6E±0.3, h41km±47km, mb4.0/10, Error ellipse: s-maj=66.2km s-min=34.8km az=2.4*

MOS ***25*** *21:46:12.0±1.6, 47.94N×155.49E, h39km, mb4.3/9, Error ellipse: s-maj=33.0km s-min=20.2km az=131.3*

ISC 25 21:46:14.1±3.7, 478N±04×1556E±03, h52km±35km, n22, σ1°09/21, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
YSS	**Yuzh-Sakhalins**	**8.77**	**269**	PN	**Pn**		**21 48 18.3**	**+0.2**
YSS				pmax	pmax			
	comp=Z,5.0nm,0.4s							
YSS	**Yuzh-Sakhalins**	**8.77**	**269**	Pn	**Pn**		**21 48 18.3**	**+0.2**
	comp=Z,4.9nm,0.4s							
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**		**21 54 47.5**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=65,slow=6.1,SNR=5.9							
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**		**21 54 47.5**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CHKZ	**Chkalovo**	**51.08**	**310**	*e*P	**P**		**21 55 09.7**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
CHKZ	**Chkalovo**	**51.08**	**310**	*e*P	**P**		**21 55 09.7**	**-1.5**
	comp=Z,2.4nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**51.52**	**310**	P	**P**		**21 55 13.7**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.3,baz=61,slow=7.5,SNR=15							
BVAR	**Borovoye Array**	**51.52**	**310**	P	**P**		**21 55 13.7**	**-0.8**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
LSA	**Lhasa**	**51.91**	**274**	*e*P	**P**		**21 55 18.2**	**+0.8**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**51.91**	**274**	*e*P	**P**		**21 55 18.2**	**+0.8**
	comp=Z,2.4nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**52.28**	**310**	*e*P	**P**		**21 55 18.9**	**-1.3**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.28**	**310**	*e*P	**P**		**21 55 18.9**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**63.84**	**336**	P	**P**		**21 56 40.8**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=42,slow=6.9,SNR=13							
FINES	**FINESS Array B**	**63.84**	**336**	P	**P**		**21 56 40.8**	**-0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**67.81**	**342**	P	**P**		**21 57 07.1**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.4,SNR=3.1							
NOA	**NORSAR Array B**	**67.81**	**342**	P	**P**		**21 57 07.1**	**+0.6**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**68.09**	**341**	P	**P**		**21 57 09.8**	**+1.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=72,slow=4.8,SNR=9.1							
HFS	**Hagfors**	**68.09**	**341**	P	**P**		**21 57 09.8**	**+1.5**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**75.52**	**62**	P	**P**		**21 57 52.0**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=288,slow=2.9,SNR=3.5							
TXAR	**Lajitas Array**	**75.52**	**62**	P	**P**		**21 57 52.0**	**-0.9**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.27**	**335**	P	**P**		**21 58 10.9**	**+2.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=6.7,SNR=6.2							
MAW	**Mawson**	**133.95**	**212**	PKIKP	PKPdf		22 05 25.0	-0.4

CSEM ***25*** *21:49:00.9±0.2, 4289N×1922E, h0km, ML3.1, Error ellipse: s-maj=1.7km s-min=1.4km az=26.0*

ISCJB ***25*** *21:49:01.2±0.2, 4288N±001×1919E±002, h0km, Error ellipse: s-maj=2.4km s-min=2.0km az=144.4*

PDG ***25*** *21:49:01.4±0.4, 4285N×1919E, h0km±11km*

THE ***25*** *21:49:01.1, 4301N×1898E, h1km, ML3.1*

NEIC ***25*** *21:49:01.4, 4285N×1919E, h0km, ML3.0(PDG), After PDG.*

ISC 25 21:49:01.7±0.2, 4289N±001×1918E±002, h0km, n52, σ1°37/92, 9C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
NKY	**Niksic**	**0.15**	**240**	⇓*i*Pg	**Pg**		**21 49 04.1**	**-0.5**
NKY				*e*Sg	**Sg**		**21 49 06.6**	**0.0**
UPM	**Unac-Piva**	**0.37**	**328**	⇑*i*Pg	**Pg**		**21 49 08.9**	**+0.1**
UPM				*e*Sg	**Sg**		**21 49 15.7**	**+2.1**
TTG	**Podgorica**	**0.46**	**172**	⇑*i*Pg	**Pg**		**21 49 08.8**	**-1.8**
TTG				*e*Sg	**Sg**		**21 49 15.6**	**-1.0**
BRY	**Bratogost**	**0.47**	**272**	⇓*i*Pg	**Pg**		**21 49 09.8**	**-0.8**
BRY				*e*Sg	**Sg**		**21 49 17.6**	**+1.0**
**

BVAR Borovoye Array 50.90 309 P P 21 59 34.5 0.0
0.3nm,0.3s,baz=64,slow=8.8,SNR=4.3
FINES FINESS Array B 64.21 335 P P 22 01 07.6 -0.7
0.3nm,0.3s,baz=42,slow=7.0,SNR=6.8
NOA NORSAR Array B 68.43 341 P P 22 01 35.4 0.0
0.6nm,0.5s,baz=24,slow=3.8,SNR=3.1
AKASG Malin Array Be 71.68 326 P P 22 01 54.5 -0.9
1.2nm,0.4s,baz=36,slow=6.2,SNR=6.1
ASAR Alice Springs 71.89 198 P P 22 01 56.5 -0.1
0.3nm,0.6s,baz=9.2,slow=6.2,SNR=6.4

*ISCJB **25** 21:55:19.0±2.3, 46°46N±0.09° x 154°88E±0.08, h15km±16km, mb4.3/37, MS3.6/8, Error ellipse: s-maj=15.6km s-min=8.6km az=147.5*
*IDC **25** 21:55:18.1±0.6, 42°46N x 154°86E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML4.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.0/41, Error ellipse: s-maj=19.7km s-min=14.1km az=162.0*
*NEIC **25** 21:55:19.5±0.4, 46°34N x 154°88E, h10km, mb4.5/13, Error ellipse: s-maj=11.7km s-min=7.1km az=158.0*
*BJI **25** 21:55:21.0, 47.10N x 154.45E, h7km, mB4.5, mb4.3, Ms3.6, Msz3.4*
*MOS **25** 21:55:21.3±1.3, 42°46N x 154°91E, h31km, mb4.4/21, Error ellipse: s-maj=11.8km s-min=9.4km az=119.1*
ISC 25 21:55:22.5±2.6, 46°58N±0.09° x 154°88E±0.08, h23km±18km, n95, σ0°97/95, mb4.3/37, MS3.6/8, 17C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**6.85**	**251**	*e*PN		**Pn**	**21 57 05.5**	**+4.0**
YSS	**Yuzh-Sakhalins**	**8.34**	**277**	*e*PN		**Pn**	**21 57 24.5**	**+2.6**
YSS	**Yuzh-Sakhalins**	**8.34**	**277**	*e*Pn		**Pn**	**21 57 23.7**	**+1.8**
	16nm,0.7s							
ASAJ	**Asahikawa**	**9.00**	**259**	Pn		**Pn**	**21 57 30.0**	**-1.0**
	1.9nm,0.3s,baz=24,slow=27,SNR=13							
ASAJ				LR		LR	22 00 47.5	
	comp=Z,97nm,20.3s,baz=343,slow=37							
MAJO	**Matsushiro**	**15.98**	**237**	*e*P		**Pn**	**21 59 01.6**	**-4.2**
MAJO				pmax		pmax		
	comp=Z,32nm,1.5s							
MAJO	**Matsushiro**	**15.98**	**237**	*e*Pn		**Pn**	**21 59 01.6**	**-4.2**
	comp=Z,32nm,1.5s							
MJAR	**Matsushiro Arr**	**15.98**	**237**	Pn		**Pn**	**21 59 00.4**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=31,slow=15,SNR=5.2							
MDJ	**Mudanjiang**	**17.79**	**273**	P		**Pn**	**21 59 27.0**	**-1.5**
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,74nm,8.4s							
MDJ				LR		LR		
	comp=N,49nm,17.9s							
MDJ				LR		LR		
	comp=E,46nm,23.2s							
MDJ				LR		LR		
	comp=Z,60nm,19.0s							
YAK	**Yakutsk**	**21.13**	**326**	*e*P		**P**	**22 00 03.4**	**-2.3**
YAK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb3.9							
KSRS	**Korea Array**	**21.92**	**255**	P		**P**	**22 00 14.0**	**-0.1**
	comp=Z,4.9nm,1.0s,mb3.9,baz=53,slow=12,SNR=6.9							
KSRS				LR		LR	22 07 45.5	
	comp=Z,57nm,18.6s,MS3.0,baz=60,slow=34							
BILL	**Bilibino**	**22.30**	**11**	*i* P		**P**	**22 00 18.9**	**+0.7**
BILL				*e*			22 00 30.7	
BILL				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.3							
BILL				MLR		MLR		
	comp=Z,100nm,16.0s,MS3.3							
BILL	**Bilibino**	**22.30**	**11**	*e*P		**P**	**22 00 18.6**	**+0.4**
	comp=Z,12nm,0.8s,mb4.4							
HIA	**Hailar**	**23.57**	**289**	*e*P		**P**	**22 00 33.3**	**+1.8**
TIXI	**Tiksi**	**27.98**	**343**	*e*P		**P**	**22 01 10.6**	**-0.8**
TIXI				pmax		pmax		
	comp=Z,9.0nm,1.3s,mb4.2							
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**22 01 50.3**	**-1.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=67,slow=8.0,SNR=3.8							
SONM				LR		LR	22 14 54.9	
	comp=Z,65nm,20.0s,MS3.3,baz=6.6,slow=36							
SONM	**Songino Array**	**32.54**	**290**	P		**P**	**22 01 50.3**	**-1.4**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.9s							
SONM				MLR		MLR		
	comp=Z,65nm,20.0s							
LZH	**Lanzhou**	**39.11**	**273**	P		**P**	**22 02 48.5**	**+0.5**
LZH				AP		pP	22 02 57.0	+1.9
LZH				XP		sP	22 03 02.0	+4.0
LZH				AMB		AMB		
	comp=Z,18nm,1.4s,mb4.6							
LZH	**Lanzhou**	**39.11**	**273**	P		**P**	**22 02 48.5**	**+0.5**
	comp=Z,18nm,1.4s,mb4.6							
LZH				pP		pP	22 02 57.1	+2.0
LZH				sP		sP	22 03 02.0	+4.0
GTA	**Gaotai**	**40.20**	**280**	*e*P		**P**	**22 02 58.0**	**+0.9**
GTA				AP		pP	22 03 08.3	+4.1
GTA				PP		PP	22 04 34.0	+4.3
GTA				S		**S**	**22 09 02.3**	**-0.3**
GTA				XS		sS	22 09 10.0	-4.3
GTA				SS		SS	22 11 49.0	-12
GTA				AMB		AMB		
	comp=Z,4.0nm,1.3s,mb4.0							
GTA				AMB		AMB		
	comp=Z,57nm,5.3s							
GTA				LR		LR		
	comp=N,81nm,16.0s,MS3.8							
GTA				LR		LR		
	comp=E,85nm,16.7s,MS3.8							
GTA				LR		LR		
	comp=Z,98nm,11.0s							
INK	**Inuvik**	**41.14**	**32**	P		**P**	**22 03 05.1**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.1,baz=277,slow=7.2,SNR=15							
INK	**Inuvik**	**41.14**	**32**	P		**P**	**22 03 05.1**	**+0.3**
INK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ZAL	**Zalesovo**	**43.71**	**306**	LR		LR	22 22 55.3	
	comp=Z,69nm,21.3s,MS3.5,baz=182,slow=38							
MK31	**Makanchi Array**	**48.10**	**298**	*e*P		**P**	**22 03 59.5**	**-0.8**
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**22 03 59.4**	**-1.0**
MKAR				LR		LR	22 25 11.0	
	comp=Z,1.6nm,0.7s,mb4.2,baz=67,slow=7.8,SNR=14							
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**	**22 03 59.4**	**-0.9**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,56nm,18.2s							
YKA	**Yellowknife Ar**	**50.33**	**37**	P		**P**	**22 04 17.1**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4,baz=295,slow=7.0,SNR=13							
YKA	**Yellowknife Ar**	**50.33**	**37**	P		**P**	**22 04 17.1**	**-0.3**
YKA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P		**P**	**22 04 25.1**	**-0.9**
CHKZ				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**51.47**	**311**	*e*P		**P**	**22 04 25.1**	**-0.9**
	comp=Z,7.9nm,0.8s,mb4.7							
LSA	**Lhasa**	**51.50**	**274**	*e*P		**P**	**22 04 27.7**	**+1.5**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**51.50**	**274**	*e*P		**P**	**22 04 27.6**	**+1.4**
	comp=Z,2.6nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**	**22 04 29.0**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=58,slow=8.5,SNR=16							
BVAR				PcP		PcP	22 05 40.5	-1.2
	comp=Z,0.8nm,0.7s,baz=90,slow=3.0,SNR=4.3							
BVAR	**Borovoye Array**	**51.90**	**310**	P		**P**	**22 04 29.0**	**-0.2**
BVAR							22 05 40.5	
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**	**22 04 28.9**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
BRVK	**Borovoye**	**51.94**	**310**	*e*P		**P**	**22 04 28.9**	**-0.7**
	comp=Z,5.0nm,1.0s,mb4.4							
ZRNK	**Zerenda**	**52.67**	**311**	*e*P		**P**	**22 04 34.3**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**52.67**	**311**	*e*P		**P**	**22 04 34.3**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**55.00**	**297**	*e*P		**P**	**22 04 51.7**	**-0.3**
AAK				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.2							
ARU	**Arti**	**55.96**	**318**	*e*P		**P**	**22 04 58.6**	**-0.2**
ARU				*e*			22 05 55.2	
ARU				*e*			22 07 00.3	
ARU				*e*S		**S**	**22 12 42.7**	**-2.8**
ARU				*e*SS		SS	22 16 25.6	-5.9
ARU	**Arti**	**55.96**	**318**	*e*P		**P**	**22 04 58.1**	**-0.7**
	comp=Z,10.0nm,0.8s,mb4.9							
PMG	**Port Moresby**	**56.16**	**189**	P		**P**	**22 05 08.7**	**+8.4**
JIRN	**Jiri**	**56.17**	**276**	*e*P		**P**	**22 05 01.4**	**+1.0**
GUN	**Gumba**	**56.23**	**276**	*e*P		**P**	**22 05 01.5**	**+0.7**
KKN	**Kakani**	**56.72**	**277**	*e*P		**P**	**22 05 05.2**	**+0.9**
	comp=Z,18nm,0.8s,mb5.2							
YBH	**Yreka Blue Hor**	**56.75**	**63**	P		**P**	**22 05 05.4**	**+1.0**
	comp=Z,2.0nm,0.9s,mb4.1,baz=324,slow=4.7,SNR=5.0							
YBH	**Yreka Blue Hor**	**56.75**	**63**	P		**P**	**22 05 05.4**	**+0.9**
YBH				pmax		pmax		
	comp=Z,2.0nm,0.9s							
PKI	**Pulchoki**	**56.77**	**276**	*e*P		**P**	**22 05 05.1**	**+0.5**
DMN	**Daman**	**56.95**	**277**	*e*P		**P**	**22 05 07.1**	**+1.2**
	comp=Z,25nm,0.9s,mb5.2							
GKN	**Gorkha**	**57.02**	**277**	*e*P		**P**	**22 05 07.2**	**+0.8**
	comp=Z,14nm,0.7s,mb5.1							
KOLN	**Koldanda**	**57.88**	**278**	*e*P		**P**	**22 05 13.3**	**+0.8**
	comp=Z,15nm,1.0s,mb5.0							
ARCES	**ARCESS Array B**	**58.41**	**341**	P		**P**	**22 05 17.1**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.3,baz=39,slow=7.8,SNR=5.9							
ARCES				LR		LR	22 32 57.9	
	comp=Z,83nm,18.3s,MS3.9,baz=297,slow=39							
ARCES	**ARCESS Array B**	**58.41**	**341**	P		**P**	**22 05 17.1**	**+0.9**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ARCES				MLR		MLR		
	comp=Z,83nm,18.3s							
AKTK	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 05 25.3**	**-0.2**
AKTO	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 05 25.3**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=52,slow=2.4,SNR=8.0							
AKTO	**Aktyubinsk**	**59.74**	**313**	P		**P**	**22 05 25.3**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
NVAR	**Mina Array Bea**	**61.43**	**63**	P		**P**	**22 05 36.4**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.3,baz=288,slow=9.1,SNR=8.3							
NVAR	**Mina Array Bea**	**61.43**	**63**	P		**P**	**22 05 36.4**	**-0.5**
RRI2	**Red Ridge**	**62.49**	**55**	*e*P		**P**	**22 05 44.8**	**+0.7**
	comp=Z,6.4nm,0.8s,mb4.8							
REDW	**Red Top Meadow**	**62.75**	**55**	*e*P		**P**	**22 05 45.9**	**+0.2**
	comp=Z,4.4nm,0.9s,mb4.6							
PDAR	**Pinedale Array**	**63.86**	**55**	P		**P**	**22 05 53.1**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=279,slow=2.7,SNR=15							
FINES	**FINESS Array B**	**64.71**	**336**	P		**P**	**22 05 58.0**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.2,baz=36,slow=7.1,SNR=16							
FINES	**FINESS Array B**	**64.71**	**336**	P		**P**	**22 05 58.0**	**-0.7**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**68.77**	**201**	P		**P**	**22 06 22.2**	**-2.4**
	comp=Z,0.6nm,1.1s,mb3.4,baz=182,slow=32,SNR=4.0							
WRA	**Warramunga Arr**	**68.77**	**201**	P		**P**	**22 06 22.2**	**-2.4**
WRA				pmax		pmax		
	comp=Z,1.0nm,1.1s							
GOF	**Gofitskoye**	**70.80**	**316**	*e*P		**P**	**22 06 43.0**	**+5.9**
KIV	**Kislovodsk**	**71.78**	**315**	*e*P		**P**	**22 06 44.9**	**+1.9**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
KIV	**Kislovodsk**	**71.78**	**315**	*e*P		**P**	**22 06 43.2**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**72.36**	**327**	P		**P**	**22 06 45.0**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=5.6,SNR=4.6							
ASAR	**Alice Springs**	**72.45**	**200**	P		**P**	**22 06 45.6**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=9.3,slow=5.0,SNR=13							
ASAR	**Alice Springs**	**72.45**	**200**	P		**P**	**22 06 45.6**	**-1.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GNI	**Garni**	**73.56**	**311**	*e*P		**P**	**22 06 55.0**	**+1.4**
BURAR	**Bucovina Array**	**76.39**	**328**	*i*P		**P**	**22 07 09.9**	**-0.1**
BURAR	**Bucovina Array**	**76.39**	**328**	P		**P**	**22 07 09.9**	**0.0**
LTX	**Lajitas**	**76.51**	**62**	*e*P		**P**	**22 07 10.4**	**-0.2**
LTX				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
LTX	**Lajitas**	**76.51**	**62**	*e*P		**P**	**22 07 10.4**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1							
TXAR	**Lajitas Array**	**76.51**	**62**	P		**P**	**22 07 10.6**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=289,slow=4.0,SNR=22							
TXAR	**Lajitas Array**	**76.51**	**62**	P		**P**	**22 07 10.6**	**0.0**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**76.51**	**62**	P		**P**	**22 07 10.6**	**0.0**
TIRR	**Tirgusor**	**77.78**	**324**	*i*P		**P**	**22 07 17.8**	**+0.1**
TIRR	**Tirgusor**	**77.78**	**324**	P		**P**	**22 07 17.8**	**+0.1**
MLR	**Muntele Rosu**	**77.90**	**326**	*i*P		**P**	**22 07 19.0**	**+0.6**
MLR	**Muntele Rosu**	**77.90**	**326**	P		**P**	**22 07 19.1**	**+0.7**
MALT	**Malatya**	**78.16**	**314**	*i*P		**P**	**22 07 21.4**	**+1.6**
MALT	**Malatya**	**78.16**	**314**	P		**P**	**22 07 21.4**	**+1.6**
KHC	**Kasperske Hory**	**78.91**	**335**	*e*P		**P**	**22 07 24.0**	**0.0**
GERES	**GERESS Array B**	**79.13**	**335**	P		**P**	**22 07 23.9**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=29,slow=6.1,SNR=6.2							
GERES	**GERESS Array B**	**79.13**	**335**	P		**P**	**22 07 23.9**	**-1.3**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BR131	**Keskin Array S**	**79.34**	**318**	*e*P		**P**	**22 07 26.7**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7							
BRTR	**Keskin Array B**	**79.34**	**318**	P		**P**	**22 07 26.9**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=150,slow=8.1,SNR=7.6							
BRTR	**Keskin Array B**	**79.34**	**318**	P		**P**	**22 07 26.9**	**+0.5**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BZS	**Buzias**	**79.40**	**329**	*i*P		**P**	**22 07 26.6**	**-0.1**
BZS	**Buzias**	**79.40**	**329**	P		**P**	**22 07 26.6**	**-0.1**
PPT	**Papeete**	**81.08**	**127**	LR		LR	22 36 36.5	
	comp=Z,113nm,20.1s,MS4.2,baz=254,slow=31							
VTS	**Vitosha**	**81.40**	**326**	*i*P		**P**	**22 07 37.5**	**+0.1**
VTS	**Vitosha**	**81.40**	**326**	P		**P**	**22 07 37.5**	**0.0**

*NEIC **25** 22:23:21.6±4.3, 46°50N x 155°85E, h10km, mb4.2/1, Error ellipse: s-maj=110.0km s-min=15.3km az=167.0*
*IDC **25** 22:23:22.5±0.7, 46°96N x 155°77E, h0km, mb3.9/15, mb1 4.2/16, mb1mx4.1/25, mbtmp3.9/16, ML3.8/1, MS3.5/3, Ms1 3.6/3, ms1mx2.7/45, Error ellipse: s-maj=21.4km s-min=15.1km az=158.0*
*ISCJB **25** 22:23:24.2±3.6, 46°9N±0.1° x 155°7E±0.1, h26km±25km, mb4.0/16, MS3.6/3, Error ellipse: s-maj=20.8km s-min=12.1km az=97.6*
*MOS **25** 22:23:25.1±1.1, 46°85N x 155°65E, h31km, mb4.3/11, Error ellipse: s-maj=15.1km s-min=13.4km az=70.8*
ISC 25 22:23:28.2±1.5, 46°9N±0.1° x 155°7E±0.1, h41km±13km, n36, σ0°89/35, mb4.0/16, MS3.6/3, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.76**	**4**	*e*PN		**Pn**	**22 24 24.2**	**+0.6**
KUR	**Kuril'sk**	**5.71**	**255**	*i*PN		**Pn**	**22 24 47.0**	**-3.4**
KUR				pmax		pmax		
	comp=Z,150nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**7.50**	**251**	*e*PN		**Pn**	**22 25 13.1**	**-1.9**
YSS	**Yuzh-Sakhalins**	**8.86**	**275**	PN		**Pn**	**22 25 36.0**	**+2.4**
ASAJ	**Asahikawa**	**9.62**	**258**	Pn		**Pn**	**22 25 44.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=59,slow=17,SNR=7.0							
ASAJ	**Asahikawa**	**9.62**	**258**	PN		**Pn**	**22 25 44.1**	**+0.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**22.55**	**255**	P		**P**	**22 28 26.4**	**+1.7**
	comp=Z,1.8nm,0.7s,mb3.6,baz=64,slow=9.3,SNR=5.5							
SONM	**Songino Array**	**32.94**	**290**	P		**P**	**22 29 58.3**	**-0.5**
	comp=Z,0.4nm,0.9s,mb3.4,baz=86,slow=8.8,SNR=3.2							
INK	**Inuvik**	**40.54**	**33**	P		**P**	**22 31 02.8**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.2,baz=295,slow=6.9,SNR=27							
INK	**Inuvik**	**40.54**	**33**	P		**P**	**22 31 02.8**	**-0.6**
INK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ZAL	**Zalesovo**	**43.95**	**306**	P		**P**	**22 31 31.1**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.6,baz=350,slow=8.7,SNR=3.2							
ZAL	**Zalesovo**	**43.95**	**306**	P		**P**	**22 31 31.1**	**-0.1**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**48.42**	**298**	P		**P**	**22 32 06.0**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=72,slow=7.8,SNR=7.4							
MKAR	**Makanchi Array**	**48.42**	**298**	P		**P**	**22 32 06.0**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**48.42**	**298**	P		**P**	**22 32 06.0**	**-0.4**
YKA	**Yellowknife Ar**	**49.70**	**37**	P		**P**	**22 32 15.5**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.2,baz=296,slow=7.3,SNR=8.4							
YKA	**Yellowknife Ar**	**49.70**	**37**	P		**P**	**22 32 15.5**	**-0.6**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**52.10**	**310**	P		**P**	**22 32 34.7**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=54,slow=8.3,SNR=15							
BVAR	**Borovoye Array**	**52.10**	**310**	P		**P**	**22 32 34.7**	**+0.5**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**52.86**	**311**	*e*P		**P**	**22 32 39.6**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**52.86**	**311**	*e*P		**P**	**22 32 39.6**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.2							
ARCES	**ARCESS Array B**	**58.25**	**342**	P		**P**	**22 33 18.7**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=22,slow=6.8,SNR=3.8							
ARCES				LR		LR	23 01 39.8	
	comp=Z,49nm,18.6s,MS3.6,baz=120,slow=39							
ARCES	**ARCESS Array B**	**58.25**	**342**	P		**P**	**22 33 18.7**	**+0.2**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ARCES				MLR		MLR		
	comp=Z,49nm,18.6s							
ARCES	**ARCESS Array B**	**58.25**	**342**	P		**P**	**22 33 18.7**	**+0.2**
ARCES				LR		LR	23 01 39.8	
NVAR	**Mina Array Bea**	**60.77**	**64**	P		**P**	**22 33 36.1**	**+0.3**
	comp=Z,1.4nm,1.0s,mb4.1,baz=286,slow=10,SNR=4.1							
PDAR	**Pinedale Array**	**63.19**	**55**	P		**P**	**22 33 52.3**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.2,baz=290,slow=2.1,SNR=13							
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**	**22 34 00.8**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=32,slow=6.8,SNR=8.2							
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**	**22 34 00.8**	**-0.7**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NOA	**NORSAR Array B**	**68.61**	**342**	LR		LR	23 09 28.7	
	comp=Z,22nm,20.5s,MS3.4,baz=345,slow=40							
WRA	**Warramunga Arr**	**69.30**	**201**	P		**P**	**22 34 31.9**	**+0.6**
	comp=Z,1.6nm,0.9s,mb4.0,baz=25,slow=7.2,SNR=9.3							
WRA				LR		LR	23 01 30.6	
	comp=Z,45nm,20.6s,MS3.7,baz=25,slow=33							
WRA	**Warramunga Arr**	**69.30**	**201**	P		**P**	**22 34 31.9**	**+0.6**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
WRA				MLR		MLR		
	comp=Z,45nm,20.6s							
ASAR	**Alice Springs**	**72.98**	**201**	P		**P**	**22 34 53.6**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=15,slow=7.1,SNR=7.2							
ASAR	**Alice Springs**	**72.98**	**201**	P		**P**	**22 34 53.6**	**+0.1**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**22 35 10.4**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=296,slow=4.4,SNR=28							
TXAR	**Lajitas Array**	**75.84**	**62**	P		**P**	**22 35 10.5**	**+0.3**
TXAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**79.04**	**336**	P		**P**	**22 35 27.5**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=137,slow=40,SNR=2.4							

*ISCJB **25** 22:46:42.0±0.6, 27°5S±0.1° x 128°4E±0.2, h33km, mb4.6/7, Error ellipse: s-maj=24.4km s-min=8.1km az=121.9*
*NEIC **25** 22:46:44.1±0.7, 27°8S x 128°30E, h35km, mb4.5/4, Error ellipse: s-maj=25.2km s-min=10.8km az=67.0*
*IDC **25** 22:46:47.0±3.7, 27°3S x 128°20E, h77km±33km, mb3.6/2, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=90.3km s-min=13.1km az=70.0*
ISC 25 22:46:44.0±2.9, 27°5S±0.08° x 128°4E±0.1, h32km±21km, n17, σ0°71/22, mb4.6/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.50**	**190**	*e*P		**Pn**	**22 50 19.9**	**-0.3**
	4.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**15.50**	**190**	P		**Pn**	**22 50 20.1**	**-0.1**
	0.2nm,0.3s,baz=356,slow=7.5,SNR=4.1							
WRA	**Warramunga Arr**	**18.03**	**162**	P		**Pn**	**22 50 52.4**	**+0.3**
	2.2nm,0.3s,baz=341,slow=12,SNR=92							
WRA				S		**Sn**	**22 54 17.1**	**+4.8**
	0.3nm,0.3s,baz=338,slow=22,SNR=5.6							
WB2	**Warramunga Arr**	**18.04**	**162**	*e*P		**Pn**	**22 50 52.7**	**+0.6**
WB2				*e*S		**Sn**	**22 54 17.2**	**+4.8**
PMG	**Port Moresby**	**19.75**	**110**	*e*P		**Pn**	**22 51 12.6**	**-0.1**
	7.2nm,0.6s							
AS31	**Alice Springs**	**21.46**	**166**	*e*P		**P**	**22 51 29.4**	**-0.2**
AS31				*e*S		**S**	**22 55 26.1**	**+0.3**
ASAR	**Alice Springs**	**21.46**	**166**	P		**P**	**22 51 29.2**

IDC 25 22:59:43.4±3.9, 4688N×15521E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/23, mbtmp3.9/4, Error ellipse: s-maj=138.9km s-min=31.0km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	23 08 24.9	-0.3
	0.3nm,0.7s,baz=67,slow=7.9,SNR=2.5						
BVAR	**Borovoye Array**	**51.89**	**310**	P	P	23 08 53.2	-0.4
	0.5nm,0.4s,baz=54,slow=7.0,SNR=8.5						
FINES	**FINESS Array B**	**64.53**	**336**	P	P	23 10 21.6	-0.5
	1.9nm,0.7s,baz=42,slow=7.9,SNR=12						
TXAR	**Lajitas Array**	**76.17**	**62**	P	P	23 11 33.5	+0.2
	1.5nm,0.6s,baz=302,slow=4.3,SNR=13						

*ISCJB **25** 23:06:16.0±1.6, 47.1N±02×1532E±03, h10km, mb3.7/7, Error ellipse: s-maj=41.7km s-min=10.6km az=111.8*
*IDC **25** 23:06:17.1±1.8, 4738N×15342E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=48.1km s-min=27.8km az=165.0*
*MOS **25** 23:06:20.1±2.9, 4733N×15296E, h33km, mb4.1/4, Error ellipse: s-maj=30.4km s-min=20.5km az=47.5*

ISC 25 23:06:17.8±1.6, 471N±02×1532E±03, h10km, n14, σ1§11/15, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.18**	**245**	*e*Pn	**Pn**	**23 07 16.5**	**-5.0**
KUR				*e*S	**Sn**	**23 08 09.3**	**-1.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
ASAJ	**Asahikawa**	**8.04**	**252**	Pn	**Pn**	**23 08 16.8**	**+2.2**
	comp=E,0.4nm,0.3s,baz=280,slow=17,SNR=3.3						
MJAR	**Matsushiro Arr**	**15.38**	**232**	Pn	**Pn**	**23 10 00.1**	**+5.4**
	comp=E,0.1nm,0.3s,baz=27,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**23 14 47.1**	**-0.6**
	comp=E,0.5nm,0.7s,mb3.6,baz=61,slow=9.9,SNR=4.8						
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**23 14 47.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.66**	**309**	P	**P**	**23 15 17.1**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=48,slow=8.0,SNR=3.8						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**23 16 48.3**	**-1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=38,slow=9.6,SNR=7.0						
FINES	**FINESS Array B**	**63.72**	**335**	P	**P**	**23 16 48.3**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**67.88**	**341**	P	**P**	**23 17 16.1**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=31,slow=6.2,SNR=3.5						
NOA	**NORSAR Array B**	**67.88**	**341**	P	**P**	**23 17 16.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**23 17 37.5**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=35,slow=6.3,SNR=6.3						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**23 17 37.5**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.24**	**61**	P	**P**	**23 18 11.5**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.2,baz=312,slow=4.7,SNR=3.3						
BRTR	**Keskin Array B**	**78.15**	**317**	P	**P**	**23 18 19.1**	**+2.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=5.7,slow=1.2,SNR=4.2						

WEL 25 23:20:09.5±0.2, 3920S×17758E, h39km±1km, ML3.6/4, 1C-1D, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.20**	**23**	⇓PN	Pn	23 20 16.5	-0.2
KNZ				SN	Sn	23 20 21.7	+0.1
BKZ	**Black Stump Fm**	**0.84**	**272**	PN	Pn	23 20 24.5	-0.3
BKZ				SN	Sn	23 20 35.7	-0.3
MWZ	**Matawai**	**0.86**	**357**	PN	Pn	23 20 24.9	-0.2
MWZ				SN	Sn	23 20 36.7	+0.2
URZ	**Urewera**	**1.01**	**339**	⇑PN	Pn	23 20 26.8	-0.3
URZ				SN	Sn	23 20 39.8	-0.3
MOVZ	**Moawhango**	**1.43**	**261**	PN	Pn	23 20 33.2	+0.3

*NEIC **25** 23:40:36.2, 1725N×10107W, h10km, MD3.8(MEX), After MEX.*

MEX 25 23:40:36.0±0.9, 1724N×10105W, h6km±15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.78**	**104**	*i* P	Pg	23 40 48.9	-2.0
CAIG				*i* S	Sg	23 40 59.0	-2.0
ACX	**Acapulco**	**1.15**	**109**	*i* P	Pg	23 40 55.5	-2.5
ACX				*i* S	Sg	23 41 11.0	-1.9
MEIG	**Mezcala**	**1.53**	**63**	*i* P	Pn	23 41 00.3	-3.5
MEIG				*i* S	Sn	23 41 19.7	-4.3
PLIG	**Platanillo**	**1.87**	**52**	*i* P	Pn	23 41 05.6	-2.9
PLIG				*i* S	Sn	23 41 28.3	-4.2
PLIG	**Platanillo**	**1.87**	**52**	*i* P	Pn	23 41 05.6	-2.9
PLIG				*i* S	Sn	23 41 24.9	-7.5
MMIG	**Aquila**	**2.42**	**296**	*i* P	Pn	23 41 14.0	-2.1
MMIG				*i* S	Sn	23 41 41.8	-4.3
MOIG	**Morelia**	**2.43**	**357**	*i* P	Pn	23 41 12.8	-3.4
MOIG				*i* S	Sn	23 41 41.7	-4.5
PPM	**Popocatepetl**	**2.94**	**51**	*i* P	Pn	23 41 20.7	-2.5
PPM				*i* S	Sn	23 41 55.8	-3.0
IIO	**Organos**	**3.22**	**43**	*i* P	Pn	23 41 24.5	-2.6
IIO				*i* S	Sn	23 42 02.9	-2.9

*IDC **25** 23:44:04.4±2.6, 598S×13035E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=118.9km s-min=28.4km az=77.0*

NEIC 25 23:44:09.5±1.3, 603S×13038E, h35km, Error ellipse: s-maj=35.6km s-min=14.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.86**	**201**	*e*P	Pn	23 47 09.9	+0.2
	6.2nm,1.5s						
FITZ				*e*S	Sn	23 49 20.5	-11
FITZ	**Fitzroy Crossi**	**12.86**	**201**	Pn	Pn	23 47 09.0	-0.7
	0.3nm,0.3s,baz=71,slow=13,SNR=23						
FITZ				Sn	Sn	23 49 22.2	-9.4
	0.2nm,0.3s,baz=223,slow=23,SNR=3.5						
WRAB	**Tennant Creek**	**14.35**	**165**	*e*Pn	Pn	23 47 31.0	+0.9
	1.5nm,0.5s						
WRAB				*e*Sn	Sn	23 49 55.5	-12
WRA	**Warramunga Arr**	**14.36**	**165**	Pn	Pn	23 47 29.4	-0.7
	0.2nm,0.3s,baz=335,slow=14,SNR=12						
WRA				Sn	Sn	23 49 56.7	-11
	0.5nm,0.3s,baz=340,slow=26,SNR=9.1						
WB2	**Warramunga Arr**	**14.36**	**165**	*e*P	Pn	23 47 30.4	+0.2
WB2				*e*S	Sn	23 49 56.5	-12
ASAR	**Alice Springs**	**17.86**	**169**	P	Pn	23 48 15.6	+0.4
	0.1nm,0.3s,baz=348,slow=11,SNR=11						
ASAR				S	S	23 51 26.1	-13
	0.1nm,0.3s,baz=353,slow=26,SNR=5.5						
MKAR	**Makanchi Array**	**67.63**	**326**	P	P	23 55 02.9	+0.2
	0.2nm,0.3s,baz=111,slow=8.3,SNR=5.8						

OTT 25 23:48:04.8±1.5, 4111N×5510W, h18km, ML3.5/5, Laurentian Fan, Atlantic Ocean. 660km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**6.36**	**315**	PN	Pn	23 49 37.4	-0.1
GBN				SN	Sn	23 50 44.4	-5.3
GBN				Trac		23 50 55.9	
	comp=Z,3.1nm,0.2s						
CHEG	**Cheticamp, Nov**	**6.98**	**327**	PN	Pn	23 49 45.4	-0.6
CHEG				SN	Sn	23 51 00.1	-4.8
CHEG				Trac		23 51 09.1	
	comp=Z,2.2nm,0.1s						
TIGG	**Tignish, PEI**	**8.20**	**319**	SN	Sn	23 51 38.5	+3.6
DRLN	**Deer Lake**	**8.33**	**349**	PN	Pn	23 50 03.0	-1.6
DRLN				SN	Sn	23 51 32.3	-5.8
DRLN				Trac		23 51 35.3	
	comp=Z,12nm,0.7s						
LMN	**Caledonia Moun**	**8.50**	**307**	PN	Pn	23 50 05.2	-1.8
LMN				SN	Sn	23 51 34.4	-8.1
LMN				Trac		23 51 39.9	
	comp=Z,7.5nm,0.3s						
GGN	**Saint George**	**9.48**	**299**	SN	Sn	23 51 56.2	-10
GGN				Trac		23 52 02.9	
	comp=Z,1.4nm,0.2s						
BATG	**Bathurst New B**	**10.00**	**312**	PN	Pn	23 50 23.4	-4.0
BATG				SN	Sn	23 52 11.1	-8.1
NATG	**Natashquan Que**	**10.64**	**332**	SN	Sn	23 52 27.9	-7.1

*IDC **25** 23:50:58.0±2.1, 594S×13051E, h0km, mb4.3/1, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML4.0/3, Error ellipse: s-maj=92.8km s-min=26.9km az=77.0*
*NEIC **25** 23:51:03.5±1.1, 6045×13058E, h35km, mb3.5/1, Error ellipse: s-maj=26.3km s-min=13.9km az=77.0*
*ISCJB **25** 23:51:09.3±4.1, 64S±02×130±E02, h113km±46km, mb4.1/1, Error ellipse: s-maj=33.0km s-min=25.6km az=77.3*

ISC 25 23:51:09.8±4.1, 64S±02×1304E±02, h90km±44km, n12, σ1§80/14, mb4.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.59**	**163**	*e*P	**Pn**	**23 52 46.3**	**+2.3**
	5.5nm,0.2s						
KAKA				*e*S	**Sn**	**23 53 55.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**12.55**	**201**	*e*P	**Pn**	**23 54 04.5**	**-0.5**
	12nm,0.3s						
FITZ				*e*S	**Sn**	**23 56 17.4**	**-5.5**
FITZ	**Fitzroy Crossi**	**12.55**	**201**	Pn	**Pn**	**23 54 04.7**	**-0.3**
	2.4nm,0.3s,baz=34,slow=12,SNR=47						
FITZ				Sn	**Sn**	**23 56 20.5**	**-2.3**
	1.1nm,0.3s,baz=229,slow=18,SNR=4.1						
WRAB	**Tennant Creek**	**13.99**	**165**	*e*Pn	**Pn**	**23 54 24.3**	**+0.3**
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**14.00**	**165**	Pn	**Pn**	**23 54 22.1**	**-1.9**
	0.4nm,0.3s,baz=348,slow=13,SNR=15						
WRA				Sn	Sx	23 56 51.0	
	2.0nm,0.3s,baz=337,slow=22,SNR=10						
WB2	**Warramunga Arr**	**14.01**	**165**	*e*P	**Pn**	**23 54 22.0**	**-2.1**
WB2				*e*S	Sx	23 56 49.7	
AS31	**Alice Springs**	**17.50**	**169**	*e*P	**Pn**	**23 55 10.1**	**+2.1**
AS31				*e*S	Sx	23 58 12.7	
ASAR	**Alice Springs**	**17.50**	**169**	P	**Pn**	**23 55 09.3**	**+1.3**
	0.4nm,0.3s,baz=349,slow=11,SNR=17						
ASAR				S	Sx	23 58 16.1	
	0.3nm,0.3s,baz=351,slow=26,SNR=6.7						
ASPA	**Alice Springs**	**17.50**	**169**	*e*P	**Pn**	**23 55 10.1**	**+2.1**
ASPA				*e*S	Sx	23 58 12.7	
MBWA	**Marble Bar**	**17.98**	**214**	*e*Pn	**Pn**	**23 55 15.5**	**+1.8**
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**67.95**	**326**	P	**P**	**00 01 56.8**	**-2.1**
	1.3nm,0.4s,mb4.1,baz=113,slow=8.7,SNR=30						
NSHM	**Saint Helena R**	**107.21**	**52**	PKPdf	PKiKP	00 09 26.6	+1.2

*ISCJB **25** 23:51:10.8±0.7, 3561N±004×2556E±006, h77km±8km, Error ellipse: s-maj=7.6km s-min=6.2km az=7.6*
*ATH **25** 23:51:11.3, 3566N×2552E, h62km±5km*
*NEIC **25** 23:51:11.3, 3566N×2552E, h62km, After ATH.*
*CSEM **25** 23:51:11.5±0.1, 3564N×2554E, h60km, ML3.1, Error ellipse: s-maj=2.4km s-min=2.3km az=95.0*
*THE **25** 23:51:13.5, 3565N×2555E, h53km*
*HLW **25** 23:51:18.0, 3500N×2533E, h33km, Mb3.1*

ISC 25 23:51:11.9±0.7, 3562N±004×2556E±006, h70km±9km, n22, σ0§87/32, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.35**	**172**	⇑*i*P	**Pn**	**23 51 22.8**	**-0.6**
NPS				*e*S	**Sn**	**23 51 30.6**	**-1.2**
ZKR	**Zakros**	**0.74**	**133**	*e*Pg	**Pn**	**23 51 27.6**	**+0.5**
ZKR	**Zakros**	**0.74**	**133**	*e*Pg	**Pn**	**23 51 27.6**	**+0.4**
XRY	**Khrisi**	**0.75**	**171**	*e*P	**Pn**	**23 51 28.0**	**+0.7**
XRY				*e*S	**Sn**	**23 51 40.0**	**+1.4**
SANT	**Santorini**	**0.76**	**354**	*e*Pg	**Pn**	**23 51 27.5**	**+0.1**
SANT				*e*Sg	**Sn**	**23 51 38.2**	**-0.6**
SANT	**Santorini**	**0.76**	**354**	*e*Pn	**Pn**	**23 51 26.9**	**-0.6**
SANT				*e*Sn	**Sn**	**23 51 38.3**	**-0.6**
SANT	**Santorini**	**0.76**	**354**	*e*Pn	**Pn**	**23 51 26.9**	**-0.5**
SANT	**Santorini**	**0.76**	**354**	*e*Pg	**Pn**	**23 51 27.5**	**+0.1**
SANT				*e*Sg	**Sn**	**23 51 38.2**	**-0.7**
SIVA	**Sivas**	**0.85**	**226**	*e*Pg	**Pn**	**23 51 29.2**	**+0.7**
SIVA				*e*Sg	**Sn**	**23 51 41.3**	**+0.5**
VAM	**Vamos**	**1.12**	**260**	*e*P	**Pn**	**23 51 32.0**	**+0.1**
VAM				*e*S	**Sn**	**23 51 46.3**	**-0.6**
KARP	**Karpathos**	**1.31**	**92**	*e*P	**Pn**	**23 51 34.4**	**+0.1**
KARN	**Karanos**	**1.35**	**261**	*e*Pg	**Pn**	**23 51 35.1**	**+0.3**
GVD	**Gavdhos**	**1.43**	**238**	*e*Pg	**Pn**	**23 51 38.0**	**+2.1**
APE	**Apeiranthos**	**1.45**	**359**	*e*Pg	**Pn**	**23 51 36.5**	**+0.4**
APE				*e*Sg	**Sn**	**23 51 54.1**	**-0.4**
APE	**Apeiranthos**	**1.45**	**359**	*e*Pg	**Pn**	**23 51 36.5**	**+0.3**
APE				*e*Sg	**Sn**	**23 51 54.1**	**-0.4**
KYTH	**Kithira**	**2.15**	**289**	*e*P	**Pn**	**23 51 45.0**	**-0.5**
ARG	**Arkhangelos**	**2.17**	**73**	*e*P	**Pn**	**23 51 46.9**	**+1.1**
SMG	**Samos**	**2.33**	**26**	*e*P	**Pn**	**23 51 48.3**	**+0.3**
VLI	**Veliai**	**2.39**	**298**	*e*P	**Pn**	**23 51 49.1**	**+0.4**
HMAT	**Matruh**	**4.69**	**164**	⇑P	**Pn**	**23 52 19.4**	**-0.8**
SWA1		**6.33**	**179**	P	**Pn**	**23 52 40.9**	**-1.7**
SWA1				S	**Sn**	**23 53 41.7**	**-12**
SWA2		**6.35**	**181**	P	**Pn**	**23 52 41.2**	**-1.6**

*CSEM **26** 00:17:34.0, 6783N×2019E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **26** 00:17:34.0, 6783N×2019E, h0km, ML3.1, Mining explosion.*

HEL 26 00:17:34.6±0.1, 6783N×2019E, h0km, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**25**	*i* P	Pg	00 17 36.8	-0.4
KUA				*i* S	Sg	00 17 38.9	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 17 42.5	-0.5
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 17 47.4	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 17 47.5	-1.1
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 17 48.9	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 17 48.9	-0.8
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pn	00 17 57.1	-0.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 17 59.4	-1.9
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	00 18 01.5	-1.3
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 18 04.9	-0.7
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 18 16.6	+0.7

KRSC 26 00:22:42.5±0.2, 5592N×16299E, h45km±54km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.30**	**342**	*e*P	Pn	00 22 51.7	+0.5
KBTR				*i* S	Sn	00 22 58.2	+0.9
KBTR	**Krutoberegovo**	**0.30**	**342**	*e*P	Pn	00 22 51.7	+0.5
KBTR				*i* S	Sn	00 22 58.2	+0.9
ZLN	**Zelenaya**	**1.23**	**275**	*e*P	Pn	00 23 04.7	+1.4
ZLN				*i* S	Sn	00 23 19.9	+1.2
ZLN	**Zelenaya**	**1.23**	**275**	*e*P	Pn	00 23 04.7	+1.4
ZLN				*i* S	Sn	00 23 19.9	+1.2
SRKR	**Sorokina**	**1.25**	**307**	*e*P	Pn	00 23 05.5	+1.9
SRKR				*i* S	Sn	00 23 22.4	+3.1
SRKR	**Sorokina**	**1.25**	**307**	*e*P	Pn	00 23 05.5	+1.9
SRKR				*i* S	Sn	00 23 22.4	+3.1
KLY	**Klyuchi**	**1.37**	**288**	*e*P	Pn	00 23 05.0	-0.1
KLY				*i* S	Sn	00 23 21.3	-0.7
KLY	**Klyuchi**	**1.37**	**288**	*e*P	Pn	00 23 05.0	-0.1
KLY				*i* S	Sn	00 23 21.3	-0.7
KRSR	**Krestovskiy**	**1.39**	**283**	*e*P	Pn	00 23 06.7	+1.3
KRSR				*i* S	Sn	00 23 24.1	+1.5
KRSR	**Krestovskiy**	**1.39**	**283**	*e*P	Pn	00 23 06.7	+1.3
KRSR				*i* S	Sn	00 23 24.1	+1.5
MKZ	**Mys Kozlova**	**1.55**	**208**	*e*P	Pn	00 23 09.3	+1.7
MKZ				*i* S	Sn	00 23 29.1	+2.7
MKZ	**Mys Kozlova**	**1.55**	**208**	*e*P	Pn	00 23 09.3	+1.7
MKZ				*i* S	Sn	00 23 29.1	+2.7
KPT	**Kopyto**	**1.56**	**273**	*e*P	Pn	00 23 09.6	+1.9
KPT				*i* S	Sn	00 23 29.4	+2.7
KPT	**Kopyto**	**1.56**	**273**	*e*P	Pn	00 23 09.6	+1.9
KPT				*i* S	Sn	00 23 29.4	+2.7
KMNR	**Kamenistaya**	**1.56**	**265**	*e*P	Pn	00 23 10.0	+2.2
KMNR				*i* S	Sn	00 23 30.1	+3.3
KMNR	**Kamenistaya**	**1.56**	**265**	*e*P	Pn	00 23 10.0	+2.2
KMNR				*i* S	Sn	00 23 30.1	+3.3
TUMR	**Tumrok**	**1.74**	**250**	*e*P	Pn	00 23 13.0	+2.8
TUMR				*i* S	Sn	00 23 35.1	+4.0
TUMR	**Tumrok**	**1.74**	**250**	*e*P	Pn	00 23 13.0	+2.8
TUMR				*i* S	Sn	00 23 35.1	+4.0
KOZ	**Kozyrevsk**	**1.76**	**276**	*e*P	Pn	00 23 13.5	+3.1
KOZ				*i* S	Sn	00 23 36.8	+5.2
KOZ	**Kozyrevsk**	**1.76**	**276**	*e*P	Pn	00 23 13.5	+3.1
KOZ				*i* S	Sn	00 23 36.8	+5.2
SRDR	**Sredinnyy**	**1.88**	**284**	*e*P	Pn	00 23 14.7	+2.6
SRDR				*i* S	Sn	00 23 38.1	+3.6
SRDR	**Sredinnyy**	**1.88**	**284**	*e*P	Pn	00 23 14.7	+2.6
SRDR				*i* S	Sn	00 23 38.1	+3.6
SPN	**Mys Shipunski**	**3.31**	**213**	*e*P	Pn	00 23 33.2	+1.4
SPN				*i* S	Sn	00 24 10.3	+0.3
SPN	**Mys Shipunski**	**3.31**	**213**	*e*P	Pn	00 23 33.2	+1.4
SPN				*i* S	Sn	00 24 10.3	+0.3
AVH	**Avacha**	**3.63**	**225**	*e*P	Pn	00 23 39.3	+3.1
AVH				*i* S	Sn	00 24 22.3	+4.5
AVH	**Avacha**	**3.63**	**225**	*e*P	Pn	00 23 39.3	+3.1
AVH				*i* S	Sn	00 24 22.3	+4.5
GNL	**Ganaly**	**3.67**	**235**	*e*P	Pn	00 23 40.1	+3.3
GNL				*i* S	Sn	00 24 23.2	+4.4
GNL	**Ganaly**	**3.67**	**235**	*e*P	Pn	00 23 40.1	+3.3
GNL				*i* S	Sn	00 24 23.2	+4.4
PET	**Petropavlovsk**	**3.85**	**223**	*e*P	Pn	00 23 42.0	+2.8
PET				*i* S	Sn	00 24 26.5	+3.4
PET	**Petropavlovsk**	**3.85**	**223**	*e*P	Pn	00 23 42.0	+2.8
PET				*i* S	Sn	00 24 26.5	+3.4
RUS	**Russkaya**	**4.37**	**219**	*e*P	Pn	00 23 48.9	+2.5
RUS				*i* S	Sn	00 24 37.4	+1.4
RUS	**Russkaya**	**4.37**	**219**	*e*P	Pn	00 23 48.9	+2.5
RUS				*i* S	Sn	00 24 37.4	+1.4
GRL	**Gorelyy**	**4.44**	**223**	*e*P	Pn	00 23 51.2	+3.9
GRL				*i* S	Sn	00 24 41.1	+3.5
GRL	**Gorelyy**	**4.44**	**223**	*e*P	Pn	00 23 51.2	+3.9
GRL				*i* S	Sn	00 24 41.1	+3.5

*NEIC **26** 00:37:51.2±1.1, 2334S×17902E, h528km±13km, mb4.1/13, Error ellipse: s-maj=13.8km s-min=11.5km az=154.0*
*ISCJB **26** 00:37:54.2±1.7, 2354S±009×1788E±0.1, h566km±20km, mb4.0/18, Error ellipse: s-maj=17.3km s-min=11.6km az=107.6*
*IDC **26** 00:37:57.2±2.1, 2338S×17870E, h585km±24km, mb3.3/7, mb1 3.6/8, mb1mx3.4/13, mbtmp3.3/8, Error ellipse: s-maj=21.1km s-min=14.1km az=170.0*

ISC 26 00:37:53.9±1.6, 236S±01×1789E±01, h551km±18km, n53, σ0§98/36, mb4.0/18, 4C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.58**	**275**	P	**P**	**00 40 28.1**	**+0.1**
	1.1nm,0.3s,baz=82,slow=15,SNR=10						
AFI	**Afiamalu**	**13.03**	**44**	*e*P	**P**	**00 40 37.1**	**-5.9**
	25nm,0.6s						
URZ	**Urewera**	**14.74**	**186**	P	**P**	**00 40 59.2**	**-1.4**
	4.1nm,0.3s,baz=333,slow=1.0,SNR=18						
URZ				S	**S**	**00 43 29.5**	**-4.9**
	1.6nm,0.3s,baz=86,slow=23,SNR=15						
CTA	**Charters Tower**	**30.46**	**270**	⇑*i*P	**P**	**00 43 22.9**	**+0.7**
	20nm,0.3s,mb5.1						
CTAO	**Charters Tower**	**30.46**	**270**	*e*P	**P**	**00 43 23.0**	**+0.8**
	28nm,0.5s,mb5.0						
TOO	**Toolangi**	**31.79**	**236**	*e*P	**P**	**00 43 35.2**	**+1.7**
	4.4nm,0.8s,mb4.0						
PMG	**Port Moresby**	**33.42**	**290**	*e*P	**P**	**00 43 45.4**	**-1.9**
	12nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**33.92**	**248**	*e*P	**P**	**00 43 52.7**	**+1.2**
	5.2nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**33.92**	**248**	P	**P**	**00 43 52.7**	**+1.2**
	6.2nm,0.5s,mb4.4,baz=102,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**33.92**	**248**	*e*P	**P**	**00 43 52.4**	**+1.0**
AS31	**Alice Springs**	**41.09**	**260**	*e*P	**P**	**00 44 50.4**	**+0.4**
ASAR	**Alice Springs**	**41.09**	**260**	P	**P**	**00 44 50.6**	**+0.6**
	7.1nm,0.9s,mb4.2,baz=91,slow=8.4,SNR=55						
ASAR				S	**S**	**00 50 22.6**	**-0.8**
	0.6nm,0.9s,baz=91,slow=16,SNR=4.2						
ASPA	**Alice Springs**	**41.10**	**260**	*e*P	**P**	**00 44 50.4**	**+0.4**
WB2	**Warramunga Arr**	**41.41**	**266**	⇑*i*P	**P**	**00 44 52.4**	**-0.1**
WB2	**Warramunga Arr**	**41.41**	**266**	*e*P	**P**	**00 44 52.0**	**-0.5**
WRAB	**Tennant Creek**	**41.41**	**266**	*e*P	**P**	**00 44 52.2**	**-0.3**
	2.8nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**41.42**	**266**	P	**P**	**00 44 52.5**	**-0.1**
	5.2nm,0.3s,mb4.5,baz=96,slow=8.3,SNR=342						
WRA				S	**S**	**00 50 24.2**	**-3.8**
	1.9nm,0.9s,baz=99,slow=14,SNR=6.3						
KAKA	**Kakadu**	**45.27**	**275**	*e*P	**P**	**00 45 22.0**	**-0.5**
	2.0nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**49.85**	**266**	*e*P	**P**	**00 45 57.6**	**+0.9**
	1.9nm,0.4s,mb3.9						
MBWA	**Marble Bar**	**54.44**	**260**	P	**P**	**00 46 29.2**	**-0.4**
	1.0nm,0.3s,mb3.6						
VNDA	**Vanda**	**54.64**	**184**	P	**P**	**00 46 31.9**	**+0.8**
	0.

*NEIC **26** 01:31:18.5, 3522N×400W, h0km, MG2.8(MDD), After MDD.*
*MDD **26** 01:31:18.4±0.7, 3512N×401W, h10km±3km, mb3.1/4, Error ellipse: s-maj=8.3km s-min=3.9km az=63.0, PRXIMO*
ISC 26 01:31:17.8±0.8, 3515N±005×403W±005, h12km±4km, n25, σ0°96/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.10**	**44**	*i* P		**Pg**	**01 31 21.0**	**+0.4**
MPAL				*i* S		**Sg**	**01 31 23.5**	**+0.9**
TOU	**Touzarine**	**0.29**	**130**	*i* P		**Pg**	**01 31 23.5**	**-0.3**
TOU				*i* S		**Sg**	**01 31 27.5**	**-0.3**
EMEL	**Melilla** 36nm,0.1s,SNR=8.4	**0.89**	**80**	P		**Pg**	**01 31 34.0**	**-1.0**
EMEL	30nm,0.1s			S		**Sg**	**01 31 46.4**	**-0.1**
EMLI	**Melilla** 36nm,0.1s,SNR=8.4	**0.89**	**80**	P		**Pg**	**01 31 34.0**	**-1.1**
EMLI	30nm,0.1s			S		**Sg**	**01 31 46.4**	**-0.3**
ZAI	**Zaio**	**1.07**	**100**	*e*P		**Pb**	**01 31 38.0**	**-0.2**
ZAI				*i* S		**Sb**	**01 31 54.5**	**+2.4**
EMIJ	**Mijas**	**1.53**	**337**	P		**Pn**	**01 31 44.2**	**-0.8**
EMIJ				S		**Sn**	**01 32 03.5**	**-1.4**
EMIJ	**Mijas** 0.6nm,0.1s,SNR=10	**1.53**	**337**	P		**Pn**	**01 31 44.2**	**-0.8**
EMIJ	1.2nm,0.1s,SNR=5.7			S		**Sn**	**01 32 03.5**	**-1.4**
EGUA	**Guajares**	**1.72**	**12**	P		**Pn**	**01 31 46.8**	**-0.8**
EGUA				S		**Sn**	**01 32 07.9**	**-1.6**
EGUA	**Guajares** 0.2nm,0.1s,SNR=7.9	**1.72**	**12**	P		**Pn**	**01 31 46.8**	**-0.8**
EGUA	1.4nm,0.3s,SNR=4.0			S		**Sn**	**01 32 04.7**	**-4.7**
EGUA	**Guajares** 0.2nm,0.1s,SNR=7.9	**1.72**	**12**	P		**Pn**	**01 31 46.8**	**-0.7**
EGUA	1.4nm,0.3s,SNR=4.0			S		**Sn**	**01 32 04.7**	**-4.7**
EBER	**Berja** 6.2nm,0.3s,SNR=7.9	**1.97**	**28**	S		**Sn**	**01 32 14.5**	**-1.2**
EBER	**Berja** 6.2nm,0.3s,SNR=7.9	**1.97**	**28**	S		**Sn**	**01 32 14.5**	**-1.1**
EQUE	**Quentar** 0.0nm,0.0s,SNR=4.6	**2.10**	**13**	P		**Pn**	**01 31 53.0**	**+0.2**
EQUE	0.5nm,0.2s,SNR=7.9			S		**Sn**	**01 32 17.7**	**-1.1**
EQUE	**Quentar** SNR=4.6	**2.10**	**13**	P		**Pn**	**01 31 53.0**	**+0.2**
EQUE	0.5nm,0.2s,SNR=7.9			S		**Sn**	**01 32 17.7**	**-1.2**
EQES	**Quesada** 0.3nm,0.2s,SNR=6.2	**2.75**	**16**	P		**Pn**	**01 32 03.6**	**+1.8**
EQES	1.1nm,0.2s,SNR=7.2			S		**Sn**	**01 32 36.1**	**+1.1**
EQES	**Quesada** 0.3nm,0.2s,SNR=6.2	**2.75**	**16**	P		**Pn**	**01 32 03.6**	**+1.8**
EQES	1.1nm,0.2s,SNR=7.2			S		**Sn**	**01 32 36.1**	**+1.1**
EHUE	**Huescar** 0.4nm,0.2s,SNR=4.0	**2.90**	**23**	S		**Sn**	**01 32 39.3**	**+0.8**
EADA	**Adamuz** 0.1nm,0.2s,SNR=7.9	**3.04**	**352**	P		**Pn**	**01 32 07.4**	**+1.7**
EADA	0.2nm,0.1s,SNR=7.9			S		**Sn**	**01 32 42.9**	**+0.9**
EADA	**Adamuz** 0.1nm,0.2s,SNR=7.9	**3.04**	**352**	P		**Pn**	**01 32 07.4**	**+1.7**
EADA	0.2nm,0.1s,SNR=7.9			S		**Sn**	**01 32 42.9**	**+0.8**
EMIN	**Mina Concepcio** 0.1nm,0.0s,SNR=7.9	**3.37**	**322**	P		**Pn**	**01 32 10.7**	**+0.4**
EMIN	**Mina Concepcio** 0.1nm,0.0s,SNR=7.9	**3.37**	**322**	P		**Pn**	**01 32 10.7**	**+0.4**
EGRO	**El Granado** 0.2nm,0.1s,SNR=7.9	**3.66**	**311**	P		**Pn**	**01 32 14.8**	**+0.5**
EGRO	**El Granado** 0.2nm,0.1s,SNR=7.9	**3.66**	**311**	P		**Pn**	**01 32 14.8**	**+0.5**
EBAD	**Badajoz** 0.4nm,0.1s,SNR=7.9	**4.32**	**327**	P		**Pn**	**01 32 23.1**	**-0.2**
EBAD	1.2nm,0.2s,SNR=7.9			S		**Sn**	**01 33 13.0**	**-0.5**
EBAD	**Badajoz** 0.4nm,0.1s,SNR=7.9	**4.32**	**327**	P		**Pn**	**01 32 23.1**	**-0.2**
EBAD	1.2nm,0.2s,SNR=7.9			S		**Sn**	**01 33 13.0**	**-0.6**

IDC 26 01:41:23.0±1.2, 4616N×15434E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=37.4km s-min=34.7km az=51.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=70,slow=7.4,SNR=3.8	**47.97**	**298**	P		P	01 50 02.8	-0.6
FINES	**FINESS Array B** 0.9nm,0.7s,baz=31,slow=8.3,SNR=4.7	**64.94**	**335**	P		P	01 52 04.3	-0.1
ASAR	**Alice Springs** 0.5nm,0.7s,baz=9.1,slow=4.7,SNR=5.8	**71.92**	**200**	P		P	01 52 48.1	0.0
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=298,slow=4.3,SNR=7.1	**77.04**	**61**	P		P	01 53 17.9	+0.1
MMAI	**Mount Meron Ar** 0.3nm,0.4s,baz=52,slow=9.3,SNR=3.5	**83.84**	**312**	P		P	01 53 54.4	0.0

*IDC **26** 02:11:29.8±1.1, 6.11S×150.41E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML2.7/1, MS3.3/8, Ms1 3.3/8, ms1mx2.9/29, Error ellipse: s-maj=44.1km s-min=19.1km az=119.0*
*NEIC **26** 02:11:30.8±0.7, 6.16S×150.53E, h10km, mb4.3/3, Error ellipse: s-maj=24.1km s-min=10.1km az=124.0*
*ISCJB **26** 02:11:35.3±3.6, 62S±01×1503E±02, h48km±28km, mb3.9/6, MS3.3/5, Error ellipse: s-maj=34.8km s-min=19.1km az=41.0*
ISC 26 02:11:37.2±3.4, 62S±01×1504E±02, h50km±27km, n22, σ0°48/19, mb3.9/6, MS3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.7nm,0.3s,baz=52,slow=9.8,SNR=11	**4.47**	**225**	Pn		**Pn**	**02 12 42.5**	**+0.1**
PMG	7.8nm,0.3s,baz=103,slow=17,SNR=8.7			Sn		**Sn**	**02 13 33.0**	**-0.2**
PMG	comp=Z,301nm,21.1s,baz=198,slow=40			LR		LR	02 14 32.0	
PMG	**Port Moresby**	**4.47**	**225**	*e*Pn		**Pn**	**02 12 41.8**	**-0.7**
PMG				*e*Sn		**Sn**	**02 13 33.7**	**+0.5**
HNR	**Honiara** comp=Z,104nm,19.1s,baz=1.7,slow=31	**10.02**	**109**	LR		LR	02 16 37.6	
CTA	**Charters Tower** comp=Z,99nm,19.2s,baz=54,slow=35	**14.35**	**196**	LR		LR	02 20 02.1	
KAKA	**Kakadu** 7.0nm,0.6s	**18.80**	**249**	*e*P		**Pn**	**02 15 54.0**	**+0.6**
WRAB	**Tennant Creek** 19nm,1.0s	**20.68**	**227**	*e*P		**P**	**02 16 12.7**	**-0.1**
WB2	**Warramunga Arr**	**20.68**	**227**	*e*P		**P**	**02 16 12.4**	**-0.5**
WRA	**Warramunga Arr** 11nm,1.0s,baz=53,slow=11,SNR=79	**20.69**	**227**	P		**P**	**02 16 13.0**	**0.0**
WRA	0.3nm,0.8s,baz=47,slow=2.6,SNR=5.7			ScP		ScP	02 23 59.6	+5.9
WRA	comp=Z,63nm,18.2s,MS3.0,baz=60,slow=38			LR		LR	02 24 50.7	
AS31	**Alice Springs**	**23.48**	**221**	*e*P		**P**	**02 16 42.1**	**-0.2**
ASAR	**Alice Springs** 3.0nm,0.6s,mb3.9,baz=56,slow=8.8,SNR=17	**23.48**	**221**	P		**P**	**02 16 41.9**	**-0.4**
ASAR	0.2nm,0.6s,baz=51,slow=2.1,SNR=4.8			ScP		ScP	02 24 07.5	+6.8
ASAR	comp=Z,76nm,18.4s,MS3.2,baz=199,slow=37			LR		LR	02 26 07.1	
ASPA	**Alice Springs**	**23.48**	**221**	*e*P		**P**	**02 16 42.1**	**-0.2**
STKA	**Stephens Creek** 3.0nm,0.8s,mb3.9,baz=11,slow=15,SNR=3.4	**26.80**	**197**	P		**P**	**02 17 13.9**	**+1.4**
STKA	comp=Z,93nm,20.2s,MS3.3,baz=27,slow=38			LR		LR	02 28 24.8	
STKA	**Stephens Creek**	**26.80**	**197**	*e*P		**P**	**02 17 12.7**	**+0.2**
FITZ	**Fitzroy Crossi** 7.2nm,1.1s,mb4.1	**26.85**	**242**	*e*P		**P**	**02 17 13.3**	**+0.4**
FITZ	**Fitzroy Crossi** 1.4nm,0.4s,mb3.9,baz=60,slow=7.9,SNR=12	**26.85**	**242**	P		**P**	**02 17 13.2**	**+0.3**
FITZ	comp=Z,44nm,19.0s,MS3.0,baz=62,slow=38			LR		LR	02 28 43.3	
URZ	**Urewera** comp=Z,110nm,19.3s,MS3.7,baz=167,slow=32	**40.07**	**147**	LR		LR	02 33 10.3	
KSRS	**Korea Array** 1.7nm,0.7s,mb4.2,baz=148,slow=8.7,SNR=4.7	**48.23**	**336**	P		**P**	**02 20 13.1**	**+0.2**
MK31	**Makanchi Array**	**79.81**	**320**	*e*P		**P**	**02 23 40.5**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.6s,mb3.2,baz=103,slow=6.7,SNR=4.2	**79.81**	**320**	P		**P**	**02 23 39.2**	**-0.9**
NVAR	**Mina Array Bea** 1.1nm,0.7s,mb4.4,baz=265,slow=8.2,SNR=8.4	**94.87**	**52**	P		**P**	**02 24 53.9**	**+0.1**
GERES	**GERESS Array B**	**123.95**	**327**	PKP		PKPdf	02 30 29.0	-0.7
TORD	**Torodi Ar. Bea** 3.9nm,0.6s,baz=47,slow=2.6,SNR=45	**148.38**	**285**	PKPbc		PKPbc	02 31 18.8	+0.9

*LDG **26** 02:11:59.2±0.2, 4303N×011W, h5km, Md2.0/2, Ml1.6/3, Error ellipse: s-maj=1.4km s-min=1.2km az=160.0*
*STR **26** 02:11:59.2±0.2, 4301N×009W, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 26 02:11:59.5±0.6, 4302N×010W, h8km±7km, mbLg1.1/8, Error ellipse: s-maj=2.6km s-min=1.8km az=27.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.13**	**78**	Pg		Pg	02 12 02.2	-0.2
LABF				Sg		Sg	02 12 04.6	+0.2
LABF	**Labassere**	**0.13**	**78**	Pg		Pg	02 12 02.2	-0.2
LABF				Lg			02 12 04.4	
VIEF	**Viey**	**0.17**	**145**	Pg		Pg	02 12 02.8	-0.2
VIEF				Sg		Sg	02 12 05.3	0.0
VIEF	**Viey**	**0.17**	**145**	Pg		Pg	02 12 02.9	-0.1
VIEF				Lg			02 12 05.5	
EPF	**Esparros**	**0.33**	**88**	*e*Pg		Pg	02 12 05.4	-0.5
EPF	5.9nm,0.2s			*e*Sg		Sg	02 12 10.5	+0.2
EPF	**Esparros** 3.0nm,0.2s	**0.33**	**88**	Pg		Pg	02 12 05.4	-0.5
EPF				Lg			02 12 10.5	
ETSF	**Etsaut**	**0.35**	**250**	*e*Pg		Pg	02 12 06.2	-0.3
ETSF	6.0nm,0.2s			*e*Sg		Sg	02 12 11.1	-0.1
ETSF	**Etsaut** 3.0nm,0.2s	**0.35**	**250**	Pg		Pg	02 12 06.2	-0.3
ETSF				Lg			02 12 11.1	
EBIE	**Bielsa** 0.6nm,0.1s,SNR=7.9	**0.38**	**151**	Pg		Pg	02 12 06.8	-0.1
EBIE	7.8nm,0.0s,SNR=16			Lg			02 12 12.0	
ATE	**Arette**	**0.44**	**279**	Pg		Pg	02 12 07.7	-0.4
ATE				Lg			02 12 14.0	
SJPF	**Ste Jean** 1.0nm,0.2s	**0.83**	**277**	*e*Sg		Sg	02 12 25.3	-0.9
SJPF	**Ste Jean** 0.5nm,0.2s	**0.83**	**277**	Lg			02 12 25.3	
ESAC	**San Caprasio** 1.3nm,0.2s,SNR=7.9	**1.32**	**192**	Pg		Pg	02 12 26.2	+1.2
ESAC	3.0nm,0.1s,SNR=14			Lg			02 12 43.7	
EMIR	**Miracle** 0.5nm,0.1s,SNR=7.9	**1.64**	**132**	Pg		Pg	02 12 30.9	0.0
EMIR	1.7nm,0.2s,SNR=7.9			Lg			02 12 52.6	
MTLF	**Montolieu** 0.8nm,0.3s	**1.73**	**79**	*e*Sg		Sg	02 12 54.6	-0.5
MTLF	**Montolieu** 0.4nm,0.3s	**1.73**	**79**	Lg			02 12 54.6	
EPOB	**Poblet** 0.2nm,0.2s,SNR=7.9	**1.88**	**152**	Pg		Pg	02 12 36.5	+0.9
EPOB	0.6nm,0.2s,SNR=6.1			Lg			02 12 59.0	
LFF	**La Frestale**	**2.01**	**17**	*e*Pg		Pg	02 12 36.5	-1.6
LFF	1.5nm,0.3s			*e*Sg		Sg	02 13 02.3	-1.9
LFF	**La Frestale** 0.8nm,0.3s	**2.01**	**17**	Pg		Pg	02 12 36.5	-1.6
LFF				Lg			02 13 02.3	
ERTA	**Horta de San J** 0.6nm,0.2s,SNR=7.9	**2.09**	**171**	Lg			02 13 05.8	
EJON	**La Jonquera** 0.2nm,0.1s,SNR=7.9	**2.28**	**104**	Lg			02 13 11.9	
RJF	**Les Rejaudoux** 0.7nm,0.2s	**2.56**	**26**	*e*Pg		Pg	02 12 46.7	-2.0
RJF				*e*Sg		Sg	02 13 19.4	-2.5
RJF	**Les Rejaudoux** 0.3nm,0.2s	**2.56**	**26**	Pg		Pg	02 12 46.7	-2.0
RJF				Lg			02 13 19.4	

*BJI **26** 02:31:09.5, 4790N×15669E, h30km, mB4.6, mb4.2, Ms4.0, Msz3.8*
*IDC **26** 02:31:10.0±0.8, 47.12N×156.28E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/40, Error ellipse: s-maj=23.5km s-min=16.1km az=152.0*
*ISCJB **26** 02:31:10.2±0.5, 47.21N±008×156.14E±009, h10km, mb4.2/26, MS3.1/3, Error ellipse: s-maj=12.0km s-min=7.4km az=114.0*
*NEIC **26** 02:31:12.1±0.5, 47.23N×156.15E, h10km, mb4.4/9, Error ellipse: s-maj=15.2km s-min=9.2km az=156.0*
*MOS **26** 02:31:13.4±1.3, 47.16N×156.08E, h35km, mb4.3/15, Error ellipse: s-maj=13.1km s-min=12.5km az=13.6*
ISC 26 02:31:12.0±0.5, 4721N±007×15616E±009, h10km, n53, σ1§20/52, mb4.2/26, MS3.1/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.48**	**360**	*e*PN		**Pg**	**02 32 20.4**	**+1.7**
KUR	**Kuril'sk**	**6.08**	**254**	*e*PN		**Pn**	**02 32 40.0**	**-1.9**
KUR	comp=Z,140nm,0.8s			pmax		pmax		
YSS	**Yuzh-Sakhalins**	**9.15**	**273**	PN		**Pn**	**02 33 27.6**	**+3.5**
ASAJ	**Asahikawa** comp=Z,0.8nm,0.3s,baz=108,slow=14,SNR=5.9	**9.98**	**257**	Pn		**Pn**	**02 33 34.9**	**-0.6**
ASAJ	**Asahikawa** comp=Z,1.0nm,0.3s	**9.98**	**257**	PN		**Pn**	**02 33 34.9**	**-0.6**
ASAJ				pmax		pmax		
ERM	**Erimo**	**10.62**	**245**	*e*PN		**Pn**	**02 33 45.4**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=3.2	**17.05**	**238**	P		**Pn**	**02 35 11.3**	**+0.8**
YAK	**Yakutsk**	**21.11**	**324**	*e*P		**P**	**02 35 56.5**	**-0.3**
YAK	comp=Z,20nm,1.0s,mb4.4			pmax		pmax		
CLNS	**Chul'man**	**21.34**	**308**	*e*P		**P**	**02 35 58.8**	**-0.4**
CLNS	comp=N,11nm,0.8s			pmax		pmax		
CLNS	comp=Z,20nm,0.8s,mb4.5			pmax		pmax		
CLNS	comp=E,15nm,0.7s			pmax		pmax		
KSRS	**Korea Array** comp=E,1.7nm,0.8s,mb3.5,baz=60,slow=8.9,SNR=6.6	**22.92**	**255**	P		**P**	**02 36 18.1**	**+1.9**
KSRS	comp=E,13nm,19.4s,MS2.4,baz=55,slow=34			LR		LR	02 44 19.3	
NJ2	**Nanjing** comp=Z,10.0nm,0.5s,mb4.9	**32.12**	**255**	*e*P		**P**	**02 37 42.5**	**+3.0**
NJ2				AMB		AMB		
HHC	**Hu-ho-hao-te**	**32.33**	**275**	*e*P		**P**	**02 37 42.3**	**+1.0**
HHC	comp=Z,14nm,1.2s,mb4.7			AMB		AMB		
HHC	comp=Z,86nm,6.3s			AMB		AMB		
SONM	**Songino Array** comp=Z,0.5nm,0.9s,mb3.5,baz=79,slow=9.9,SNR=4.3	**33.14**	**290**	P		**P**	**02 37 49.3**	**+0.9**
SONM	**Songino Array** 1.0nm,0.9s	**33.14**	**290**	P		**P**	**02 37 49.3**	**+0.9**
SONM	comp=Z,1.0nm,0.9s			pmax		pmax		
INK	**Inuvik** comp=Z,1.7nm,0.9s,mb3.8,baz=286,slow=7.7,SNR=8.5	**40.14**	**33**	P		**P**	**02 38 47.6**	**-0.5**
INK	**Inuvik** comp=Z,23nm,0.5s,mb5.2	**40.14**	**33**	*e*P		**P**	**02 38 47.5**	**-0.5**
CD2	**Chengdu**	**42.99**	**267**	*e*P		**P**	**02 39 12.0**	**+0.6**
CD2	comp=Z,10.0nm,0.8s,mb4.6			AMB		AMB		
ZAL	**Zalesovo** comp=Z,1.2nm,0.3s,mb4.1,baz=44,slow=5.6,SNR=3.8	**44.04**	**306**	P		**P**	**02 39 21.0**	**+1.1**
ZAL	**Zalesovo** 1.0nm,0.3s	**44.04**	**306**	P		**P**	**02 39 21.0**	**+1.1**
ZAL				pmax		pmax		
MKAR	**Makanchi Array** comp=Z,2.0nm,0.8s,mb4.2,baz=58,slow=8.6,SNR=9.9	**48.57**	**298**	P		**P**	**02 39 55.1**	**-0.4**
MKAR	comp=Z,46nm,18.4s,MS3.5,baz=350,slow=38			LR		LR	03 01 50.5	
MKAR	**Makanchi Array** 2.0nm,0.8s	**48.57**	**298**	P		**P**	**02 39 55.2**	**-0.3**
MKAR	comp=Z,46nm,18.4s			pmax		pmax		
MKAR				MLR		MLR		

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.9s,mb3.7,baz=290,slow=7.7,SNR=3.8	**49.30**	**38**	P		**P**	**02 39 59.5**	**-1.6**
YKA	**Yellowknife Ar** 1.0nm,0.9s	**49.30**	**38**	P		**P**	**02 39 59.5**	**-1.6**
YKA	comp=Z,1.0nm,0.9s			pmax		pmax		
YKA	**Yellowknife Ar**	**49.30**	**38**	P		**P**	**02 39 59.5**	**-1.6**
CHKZ	**Chkalovo**	**51.72**	**311**	*e*P		**P**	**02 40 17.7**	**-1.7**
CHKZ	comp=Z,7.0nm,0.9s,mb4.6			pmax		pmax		
CHKZ	**Chkalovo** comp=Z,6.9nm,0.9s,mb4.6	**51.72**	**311**	*e*P		**P**	**02 40 17.7**	**-1.7**
BRVK	**Borovoye** comp=Z,4.0nm,0.9s,mb4.3	**52.20**	**310**	*e*P		**P**	**02 40 22.2**	**-0.8**
BRVK				pmax		pmax		
BRVK	**Borovoye** comp=Z,3.8nm,0.9s,mb4.3	**52.20**	**310**	*e*P		**P**	**02 40 22.2**	**-0.8**
ZRNK	**Zerenda** 1.0nm,1.0s,mb4.3	**52.92**	**311**	*e*P		**P**	**02 40 27.2**	**-1.1**
ZRNK	comp=Z,4.0nm,1.0s,mb4.3			pmax		pmax		
ZRNK	**Zerenda** comp=Z,3.8nm,1.0s,mb4.3	**52.92**	**311**	*e*P		**P**	**02 40 27.2**	**-1.2**
AAK	**Ala-Archa** comp=Z,5.0nm,1.1s,mb4.5	**55.48**	**298**	*e*P		**P**	**02 40 47.2**	**+0.2**
AAK				pmax		pmax		
AAK	**Ala-Archa** comp=Z,4.9nm,1.1s,mb4.5	**55.48**	**298**	*e*P		**P**	**02 40 47.2**	**+0.2**
ARU	**Arti** 1.0nm,0.8s,mb4.8	**56.07**	**318**	*e*P		**P**	**02 40 49.9**	**-1.3**
ARU	comp=Z,10.0nm,1.1s,mb4.8			pmax		pmax		
ARU	**Arti** comp=Z,10nm,1.1s,mb4.8	**56.07**	**318**	*e*P		**P**	**02 40 49.9**	**-1.3**
AKTK	**Aktyubinsk**	**59.96**	**313**	P		**P**	**02 41 17.5**	**-1.0**
AKTO	**Aktyubinsk** comp=Z,1.1nm,0.8s,mb4.0,baz=30,slow=6.9,SNR=5.0	**59.96**	**313**	P		**P**	**02 41 17.5**	**-1.0**
AKTO	**Aktyubinsk** 1.0nm,0.8s,mb3.9	**59.96**	**313**	P		**P**	**02 41 17.5**	**-1.0**
AKTO	comp=Z,1.0nm,0.8s,mb3.9			pmax		pmax		
DUG	**Dugway** 0.2nm,0.9s,mb4.2	**62.56**	**60**	*e*P		**P**	**02 41 37.8**	**+1.7**
DUG	comp=Z,2.0nm,0.9s,mb4.2			pmax		pmax		
DUG	**Dugway** comp=Z,1.8nm,0.9s,mb4.2	**62.56**	**60**	*e*P		**P**	**02 41 37.8**	**+1.7**
BW06	**Boulder Array** comp=Z,1.9nm,1.1s,mb4.1	**62.78**	**56**	*e*P		**P**	**02 41 38.4**	**+0.8**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.9s,mb3.9,baz=338,slow=1.6,SNR=5.1	**62.78**	**56**	P		**P**	**02 41 37.7**	**+0.1**
MPU	**Maple Canyon** comp=Z,1.9nm,0.6s,mb4.4	**63.37**	**59**	*e*P		**P**	**02 41 42.6**	**+1.2**
FINES	**FINESS Array B** comp=Z,0.9nm,0.5s,mb4.1,baz=36,slow=5.5,SNR=12	**64.49**	**336**	P		**P**	**02 41 47.3**	**-1.6**
FINES	**FINESS Array B** 1.0nm,0.5s	**64.49**	**336**	P		**P**	**02 41 47.3**	**-1.6**
FINES	comp=Z,1.0nm,0.5s			pmax		pmax		
NOA	**NORSAR Array B** comp=Z,32nm,19.4s,MS3.6,baz=210,slow=38	**68.44**	**343**	LR		LR	03 15 05.1	
WRA	**Warramunga Arr** comp=Z,0.6nm,0.9s,mb3.5,baz=20,slow=6.6,SNR=4.3	**69.67**	**202**	P		**P**	**02 42 20.2**	**-1.6**
WRA	**Warramunga Arr** 1.0nm,0.9s	**69.67**	**202**	P		**P**	**02 42 20.2**	**-1.6**
WRA	comp=Z,1.0nm,0.9s			pmax		pmax		
ASAR	**Alice Springs** comp=Z,1.1nm,1.1s,mb3.7,baz=17,slow=6.8,SNR=4.1	**73.34**	**201**	P		**P**	**02 42 42.8**	**-1.2**
ASAR	**Alice Springs** 1.0nm,1.1s	**73.34**	**201**	P		**P**	**02 42 42.8**	**-1.1**
ASAR	comp=Z,1.0nm,1.1s			pmax		pmax		
TXAR	**Lajitas Array** comp=Z,0.8nm,0.6s,mb3.9,baz=303,slow=4.8,SNR=15	**75.44**	**63**	P		**P**	**02 42 56.2**	**+0.1**
TXAR	**Lajitas Array** 1.0nm,0.6s	**75.44**	**63**	P		**P**	**02 42 56.2**	**0.0**
TXAR	comp=Z,1.0nm,0.6s			pmax		pmax		
BRTR	**Keskin Array B** comp=Z,0.7nm,0.9s,mb3.6,baz=96,slow=3.7,SNR=3.6	**79.45**	**319**	P		**P**	**02 43 20.1**	**+1.4**
BRTR	**Keskin Array B** 1.0nm,0.9s	**79.45**	**319**	P		**P**	**02 43 20.1**	**+1.5**
BRTR	comp=Z,1.0nm,0.9s			pmax		pmax		

*NEIC **26** 02:40:17.1, 32.11S×7163W, h59km, MD3.9(GUC), After GUC.*
GUC 26 02:40:17.1±0.8, 3211S×7163W, h59km±3km, MD3.9, ML4.0, 7C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.25**	**26**	*i* P		Pn	02 40 26.9	+0.2
CHNG				*i* S		Sn	02 40 33.9	+0.2
CHNG	comp=N,10μm,0.4s			AML		AML	02 40 34.5	
PACH	**Papudo**	**0.45**	**159**	⇑*i* P		Pn	02 40 28.5	0.0
PTCH	**Petorca**	**0.61**	**104**	⇓*i* P		Pn	02 40 31.1	+0.9
PTCH				*i* S		Sn	02 40 40.8	+1.0
PTCH	comp=N,16μm,0.2s			AML		AML	02 40 41.6	
PTCH	**Petorca**	**0.61**	**104**	⇓*i* P		Pn	02 40 31.1	+0.9
PTCH				*i* S		Sn	02 40 40.8	+1.0
IHA	**Instituto Hidr**	**0.91**	**181**	*e*P		Pn	02 40 32.9	-1.0
IHA				*i* S		Sn	02 40 45.6	-0.8
CMCH	**Combarbala**	**1.08**	**30**	⇑*i* P		Pn	02 40 36.8	+0.7
CMCH				*i* S		Sn	02 40 51.4	+1.2
CMCH	comp=E,26μm,0.7s			AML		AML	02 40 53.2	
CMCH	**Combarbala**	**1.08**	**30**	⇑*i* P		Pn	02 40 36.8	+0.7
CMCH				*i* S		Sn	02 40 51.4	+1.2
PEL	**Peldehue**	**1.30**	**143**	⇓*i* P		Pn	02 40 39.7	+0.6
PEL				*i* S		Sn	02 40 56.4	+0.9
PEL	comp=N,4μm,0.3s			AML		AML	02 40 57.8	
RCDM	**Rinconada Maip**	**1.54**	**153**	*e*P		Pn	02 40 42.5	+0.2
RCDM				*i* S		Sn	02 41 01.9	+0.7
RCDM	comp=N,4μm,0.1s			AML		AML	02 41 05.4	
RCDM	**Rinconada Maip**	**1.54**	**153**	*e*P		Pn	02 40 42.5	+0.2
RCDM				*i* S		Sn	02 41 01.9	+0.7
OVCH	**Ovalle**	**1.54**	**14**	⇓*i* P		Pn	02 40 43.0	+0.7
OVCH				*i* S		Sn	02 41 02.0	+0.7
OVCH	comp=E,3μm,0.7s			AML		AML	02 41 06.3	
OVCH	**Ovalle**	**1.54**	**14**	⇓*i* P		Pn	02 40 43.0	+0.7
OVCH				*i* S		Sn	02 41 02.0	+0.7
DSCH	**Colegio Aleman**	**1.56**	**145**	*i* P		Pn	02 40 41.7	-0.9
DSCH				*i* S		Sn	02 41 01.4	-0.4
CLCH	**Cerro Calan**	**1.58**	**145**	⇓*i* P		Pn	02 40 43.7	+0.9
CLCH				*i* S		Sn	02 41 03.0	+0.8
CLCH	comp=N,2μm,0.4s			AML		AML	02 41 03.8	
CLCH	comp=N,2μm,0.5s			AML		AML	02 41 04.3	
TACH	**Talagante**	**1.64**	**159**	⇓*i* P		Pn	02 40 44.4	+0.7
TACH				*i* S		Sn	02 41 05.1	+1.3
FSR	**Penalolen**	**1.65**	**146**	*e*P		Pn	02 40 44.4	+0.7
FSR				*i* S		Sn	02 41 05.0	+1.1
FSR	comp=N,2μm,0.2s			AML		AML	02 41 05.7	
FCH	**

s-min=16.8km az=52.0
NEIC ***26*** *02:50:32.9±0.5, 083.N×9688E, mb4.3/4, Error ellipse: s-maj=12.9km s-min=8.2km az=50.0*
ISCJB ***26*** *02:50:33.1±0.6, 084.N×008×9701E±009, h35km, mb4.4/23, MS3.3/2, Error ellipse: s-maj=14.6km s-min=8.5km az=100.4*

ISC 26 02:50:35.3±0.6, 086.N±008×9703E±009, h35km, (h20km±3.7km:pP-P), n32, σ1§25/31, mb4.3/23, MS3.3/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.70**	**44**	Pn	**Pn**	**02 51 14.9**	**-1.3**
	5.9nm,0.3s,baz=210,slow=6.7,SNR=34						
PSI				LR	LR	02 52 25.8	
	comp=Z,347nm,20.0s,baz=297,slow=41						
KULM	**Kulim**	**5.69**	**39**	*e*Pn	**Pn**	**02 51 56.5**	**-0.8**
KKM	**Kota Kinabalu**	**19.82**	**75**	*e*P	**Pn**	**02 55 05.5**	**+0.9**
PKI	**Pulchoki**	**28.80**	**338**	*e*P	**P**	**02 56 32.8**	**+2.9**
	10nm,0.6s,mb4.8						
GUN	**Gumba**	**28.94**	**339**	*e*P	**P**	**02 56 32.8**	**+1.6**
	28nm,0.8s,mb5.0						
DMN	**Daman**	**28.95**	**338**	*e*P	**P**	**02 56 33.8**	**+2.5**
KKN	**Kakani**	**29.05**	**338**	*e*P	**P**	**02 56 34.7**	**+2.6**
	21nm,0.8s,mb4.9						
GKN	**Gorkha**	**29.48**	**337**	*e*P	**P**	**02 56 36.5**	**+0.5**
	6.2nm,0.4s,mb4.7						
KOLN	**Koldanda**	**29.69**	**335**	*e*P	**P**	**02 56 38.3**	**+0.5**
	6.0nm,0.6s,mb4.5						
CD2	**Chengdu**	**30.55**	**11**	*e*P	**P**	**02 56 47.8**	**+2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.87**	**125**	P	**P**	**02 57 14.3**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=310,slow=6.0,SNR=6.1						
XAN	**Xi'an**	**34.83**	**17**	P	**P**	**02 57 21.5**	**-1.4**
XAN				AP	pP	02 57 29.5	-3.5
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**35.61**	**9**	*e*P	**P**	**02 57 21.1**	**-8.5**
	comp=Z,16nm,1.0s,mb4.9						
LZH				pP	pP	02 57 25.3	-14
LZH				sP	sP	02 57 27.5	-16
GTA	**Gaotai**	**38.45**	**3**	*e*P	**P**	**02 57 53.8**	**+0.1**
GTA				AP	pP	02 58 00.0	-3.9
GTA				XP	sP	02 58 03.0	-5.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
HHC	**Hu-ho-hao-te**	**41.92**	**17**	*e*P	**P**	**02 58 25.3**	**+2.8**
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,49nm,4.4s						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**02 58 23.8**	**+0.7**
	comp=Z,2.1nm,0.6s,mb3.9,baz=301,slow=9.0,SNR=24						
WB2	**Warramunga Arr**	**42.01**	**122**	*e*P	**P**	**02 58 23.3**	**+0.1**
ASAR	**Alice Springs**	**43.33**	**127**	P	**P**	**02 58 34.7**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.6,baz=297,slow=8.3,SNR=14						
AS31	**Alice Springs**	**43.33**	**127**	*e*P	**P**	**02 58 34.8**	**+0.9**
KSRS	**Korea Array**	**46.22**	**34**	P	**P**	**02 58 56.5**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=230,slow=7.6,SNR=4.0						
KSRS				LR	LR	03 21 48.4	
	comp=Z,16nm,18.5s,MS3.0,baz=15,slow=40						
SONM	**Songino Array**	**47.48**	**9**	P	**P**	**02 59 06.9**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=186,slow=9.2,SNR=6.7						
SONM				LR	LR	03 21 07.8	
	comp=Z,56nm,18.8s,MS3.6,baz=39,slow=39						
MK31	**Makanchi Array**	**47.52**	**346**	*e*P	**P**	**02 59 06.6**	**-0.5**
MKAR	**Makanchi Array**	**47.52**	**346**	P	**P**	**02 59 06.7**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.4,baz=161,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**53.26**	**132**	*e*P	**P**	**02 59 49.2**	**-1.2**
ZAL	**Zalesovo**	**53.85**	**351**	P	**P**	**02 59 54.9**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.8,baz=311,slow=4.2,SNR=18						
BRVK	**Borovoye**	**56.57**	**341**	*e*P	**P**	**03 00 13.1**	**-1.3**
	comp=Z,1.3nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**56.91**	**340**	*e*P	**P**	**03 00 15.1**	**-1.7**
	comp=Z,1.5nm,0.8s,mb4.1						
ZRNK				*e*pP	pP	03 00 22.5	-4.9
CHKZ	**Chkalovo**	**56.99**	**342**	*e*P	**P**	**03 00 16.0**	**-1.3**
	comp=Z,4.4nm,1.0s,mb4.4						
CHKZ				*e*pP	pP	03 00 23.9	-4.1
BRTR	**Keskin Array B**	**69.21**	**312**	P	**P**	**03 01 36.6**	**-1.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=128,slow=8.0,SNR=3.9						
ARCES	**ARCESS Array B**	**82.79**	**340**	P	**P**	**03 02 54.5**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=60,slow=2.9,SNR=5.4						
GERES	**GERESS Array B**	**84.95**	**319**	P	**P**	**03 03 06.2**	**-0.7**
	comp=Z,1.4nm,1.1s,mb4.0,baz=143,slow=42,SNR=4.2						
TXAR	**Lajitas Array**	**144.04**	**32**	PKP	PKPdf	03 10 06.2	-0.9
	comp=Z,0.4nm,0.7s,baz=270,slow=2.4,SNR=4.9						

IDC 26 02:52:36.0±6.8, 158.N×9809E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=347.4km s-min=24.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.48**	**123**	P	P	03 00 25.5	+0.8
	0.6nm,0.6s,baz=302,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**42.92**	**128**	P	P	03 00 36.4	0.0
	0.5nm,0.8s,baz=302,slow=7.7,SNR=3.9						
ASAR				LR	LR	03 21 05.6	
	comp=Z,45nm,18.3s,baz=166,slow=40						
MKAR	**Makanchi Array**	**47.10**	**345**	P	P	03 01 09.2	-0.4
	0.9nm,0.5s,baz=163,slow=9.4,SNR=5.2						
ZAL	**Zalesovo**	**53.32**	**350**	P	P	03 01 57.3	+0.4
	1.5nm,0.5s,baz=305,slow=6.2,SNR=3.4						

NIED ***26*** *02:57:00, 46.70N×153.20E, h14km, Mw4.0 Best double couple: M0 1.13000×10^15 NP1:φ=153.00000°, δ=69.00000°, λ=102.00000°. NP2:φ=304.00000°, δ=24.00000°, λ=63.00000°.*
BJI ***26*** *02:57:14.8, 4644N×15369E, h10km, mB4.5, mb4.2, Ms4.4, Msz4.0*
IDC ***26*** *02:57:18.8±1.1, 4650N×1534.2E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/28, mbtmp3.9/15, ML3.7/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/38, Error ellipse: s-maj=28.9km s-min=21.7km az=151.0*
JMA ***26*** *02:57:20.5±0.8, 4665N×153.18E, h30km, M4.4*
NEIC ***26*** *02:57:20.4±0.7, 4650N×1533.0E, h10km, mb4.2/3, Error ellipse: s-maj=17.6km s-min=11.7km az=141.0*
ISCJB ***26*** *02:57:23.1±0.9, 463N±0.1×1528E±02, h35km, mb4.0/18, Error ellipse: s-maj=23.1km s-min=5.3km az=95.3*

ISC 26 02:57:24.6±0.9, 464N±01×1529E±02, h35km, n43, σ1§41/51, mb4.0/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.92**	**242**	P	**Pn**	**02 58 48.9**	**-0.8**
NEM2				*e*S	**Sn**	**02 59 54.7**	**-1.6**
JRA	**Rausu**	**6.02**	**249**	P	**Pn**	**02 58 53.8**	**+2.7**
JRA				*e*S	**Sn**	**03 00 04.6**	**+5.8**
JNK	**Nakash**	**6.45**	**247**	P	**Pn**	**02 58 58.3**	**+1.4**
JAK	**Akkeshi**	**6.76**	**243**	P	**Pn**	**02 59 00.5**	**-0.8**
JAK				*e*S	**Sn**	**03 00 15.2**	**-1.8**
JTKR	**Abashiri--Toko**	**6.80**	**252**	P	**Pn**	**02 59 04.4**	**+2.6**
JMP	**Maruseppu**	**7.15**	**254**	P	**Pn**	**02 59 09.2**	**+2.6**
JAR	**Ashorobuto**	**7.19**	**248**	P	**Pn**	**02 59 08.8**	**+1.6**
JOB	**Onbets**	**7.34**	**245**	P	**Pn**	**02 59 09.6**	**+0.3**
JKK2	**Kamakawa 2**	**7.61**	**254**	P	**Pn**	**02 59 16.2**	**+3.3**
ASAJ	**Asahikawa**	**7.62**	**256**	Pn	**Pn**	**02 59 16.9**	**+3.8**
	1.0nm,0.3s,baz=108,slow=29,SNR=6.2						
ASAJ				LR	LR	03 01 39.1	
	comp=Z,34nm,19.9s,baz=130,slow=33						
JCH	**Churui**	**7.79**	**244**	P	**Pn**	**02 59 15.6**	**+0.2**
JCH				*e*S	**Sn**	**03 00 41.3**	**-1.1**
ERM	**Erimo**	**8.25**	**241**	*e*Pn	**Pn**	**02 59 23.7**	**+2.0**
ERM				*e*Sn	**Sn**	**03 00 54.7**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.35**	**244**	P	**Pn**	**02 59 22.4**	**-0.7**
JNBK				*e*S	**Sn**	**03 00 53.9**	**-2.3**
JKB	**Kayabe**	**9.64**	**246**	P	**Pn**	**02 59 40.5**	**-0.3**
JKB				*e*S	**Sn**	**03 01 24.6**	**-3.3**
JANG	**Nango**	**10.24**	**238**	P	**Pn**	**02 59 45.7**	**-3.2**
JANG				*e*S	**Sn**	**03 01 34.7**	**-7.7**
JTM	**Tenmabayashi**	**10.25**	**241**	P	**Pn**	**02 59 47.5**	**-1.6**
MJAR	**Matsushiro Arr**	**14.75**	**233**	Pn	**Pn**	**03 00 56.7**	**+6.2**
	0.1nm,0.3s,baz=29,slow=9.3,SNR=6.0						
MJAR				LR	LR	03 07 38.3	
	comp=Z,117nm,18.2s,baz=5.0,slow=41						
KSRS	**Korea Array**	**20.55**	**253**	P	**P**	**03 02 03.3**	**+3.2**
	0.8nm,0.6s,baz=58,slow=11,SNR=3.5						
HHC	**Hu-ho-hao-te**	**30.17**	**275**	*e*P	**P**	**03 03 33.0**	**+1.6**
HHC				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,77nm,4.8s						
SONM	**Songino Array**	**31.32**	**290**	P	**P**	**03 03 44.2**	**+2.7**
	comp=Z,0.4nm,0.8s,mb3.3,baz=83,slow=9.2,SNR=2.8						
CD2	**Chengdu**	**40.70**	**265**	*e*P	**P**	**03 05 02.3**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**42.03**	**32**	P	**P**	**03 05 10.6**	**-2.1**
	comp=Z,1.4nm,1.0s,mb3.5,baz=172,slow=9.6,SNR=4.0						
INK	**Inuvik**	**42.03**	**32**	*e*P	**P**	**03 05 10.0**	**-2.6**
	comp=Z,209nm,1.3s						
MKAR	**Makanchi Array**	**46.98**	**298**	P	**P**	**03 05 52.5**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=64,slow=8.3,SNR=6.4						
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P	**P**	**03 06 18.8**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**50.97**	**310**	P	**P**	**03 06 22.0**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=51,slow=7.5,SNR=2.8						
BRVK	**Borovoye**	**51.02**	**310**	*e*P	**P**	**03 06 22.8**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**51.74**	**310**	*e*P	**P**	**03 06 28.0**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**03 07 55.7**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.3,baz=39,slow=6.5,SNR=16						
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**03 07 55.7**	**-0.7**
NB2	**NORSAR Subarra**	**68.52**	**341**	P	**P**	**03 08 22.5**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.52**	**341**	P	**P**	**03 08 22.8**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=27,slow=6.2,SNR=5.6						
NOA	**NORSAR Array B**	**68.52**	**341**	P	**P**	**03 08 22.8**	**-0.6**
HFS	**Hagfors**	**68.74**	**339**	P	**P**	**03 08 23.7**	**-1.1**
	comp=Z,2.6nm,0.5s,mb4.4,baz=57,slow=5.7,SNR=8.9						
AKASG	**Malin Array Be**	**71.76**	**326**	P	**P**	**03 08 42.9**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=35,slow=6.3,SNR=7.5						
AKBB	**Malin Array Si**	**71.76**	**326**	*e*P	**P**	**03 08 42.3**	**-1.0**
ASAR	**Alice Springs**	**71.82**	**198**	P	**P**	**03 08 44.8**	**+1.1**
	comp=Z,2.0nm,0.6s,mb3.3,baz=15,slow=6.2,SNR=4.8						
MLR	**Mumtele Rosu**	**77.27**	**325**	P	**P**	**03 09 16.3**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=8.8,slow=12,SNR=4.9						
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**03 09 15.1**	**-3.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=309,slow=3.4,SNR=7.8						
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**03 09 15.1**	**-3.1**
KHC	**Kasperske Hory**	**78.50**	**334**	*e*P	**P**	**03 09 22.0**	**-0.1**
GERES	**GERESS Array B**	**78.71**	**334**	P	**P**	**03 09 23.9**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=43,slow=6.0,SNR=4.7						
IDI	**Anoyia**	**86.19**	**320**	P	**P**	**03 10 02.8**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.5,baz=27,slow=9.7,SNR=9.5						

IDC ***26*** *03:07:26.6±3.6, 1489N×9273W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/20, mbtmp3.7/7, ML3.5/2, MS3.7/3, Ms1 3.6/3, ms1mx2.8/25, Error ellipse: s-maj=111.4km s-min=22.9km az=34.0*
MEX ***26*** *03:07:28.2±0.5, 1424N×9307W, h131km±128km, MD4.5*
ISCJB ***26*** *03:07:33.3±1.4, 1468N±009×9303W±007, h73km±11km, mb3.8/12, Error ellipse: s-maj=16.5km s-min=9.5km az=48.2*
NEIC ***26*** *03:07:39.3±1.0, 1509N×9253W, h108km±8km, mb3.9/12, MD4.5(MEX), Error ellipse: s-maj=18.2km s-min=8.8km az=213.0*

ISC 26 03:07:39.5±1.1, 151N±01×9254W±008, h105km±8km, n28, σ0§82/30, mb3.8/12, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.24**	**18**	*e*P	**Pn**	**03 08 03.7**	**+0.8**
CCIG				*i* S	**Sn**	**03 08 31.9**	**+11**
CMIG	**Matias Romero**	**3.00**	**312**	Pn	**Pn**	**03 08 15.9**	**-9.4**
	5.0nm,0.3s,baz=140,slow=12,SNR=30						
CMIG				Sn	**Sn**	**03 08 54.4**	**-6.3**
	12nm,0.3s,baz=96,slow=18,SNR=5.4						
OXX	**Oaxaca**	**4.48**	**297**	*i* P	**Pn**	**03 08 36.0**	**-9.1**
OXX				*i* S	**Sn**	**03 09 36.0**	**-0.2**
VHO	**Vista Hermosa**	**4.48**	**297**	*e*P	**Pn**	**03 08 46.0**	**+0.8**
VHO				*i* S	**Sn**	**03 09 23.7**	**-13**
TEIG	**Tepich**	**6.52**	**38**	*i* P	**Pn**	**03 09 12.2**	**-0.6**
TEIG				*i* S	**Sn**	**03 10 37.2**	**+12**
JTS	**JuntasAbangare**	**8.81**	**122**	*e*Pn	**Pn**	**03 09 43.9**	**0.0**
	17nm,0.9s						
LTX	**Lajitas**	**17.50**	**326**	*e*P	**Pn**	**03 11 35.7**	**-1.0**
	13nm,1.6s						
TXAR	**Lajitas Array**	**17.50**	**326**	P	**Pn**	**03 11 34.2**	**-2.5**
	0.1nm,0.3s,baz=146,slow=9.1,SNR=8.6						
MNTX	**Cornudas Mount**	**20.27**	**327**	*e*P	**P**	**03 12 05.9**	**-0.6**
	1.7nm,0.8s						
AMTX	**Amarillo**	**21.35**	**339**	*e*P	**P**	**03 12 18.5**	**+0.4**
	11nm,0.7s,mb4.3						
TKL	**Tuckaleechee C**	**21.93**	**19**	LR	LR	03 23 56.0	
	comp=Z,92nm,18.5s,baz=246,slow=45						
SDV	**Santo Domingo**	**22.29**	**104**	P	**P**	**03 12 27.6**	**-0.4**
	2.0nm,0.4s,mb3.8,baz=342,slow=6.1,SNR=5.6						
SDV	**Santo Domingo**	**22.29**	**104**	*e*P	**P**	**03 12 27.4**	**-0.7**
	4.4nm,0.9s,mb3.8						
ANMO	**Albuquerque**	**23.40**	**330**	P	**P**	**03 12 37.9**	**-0.9**
	0.7nm,0.6s,mb3.2,baz=127,slow=5.1,SNR=3.6						
ANMO	**Albuquerque**	**23.40**	**330**	*e*P	**P**	**03 12 37.4**	**-1.4**
	2.1nm,1.0s,mb3.4						
TUC	**Tucson**	**23.86**	**319**	*e*P	**P**	**03 12 42.3**	**-0.7**
	1.7nm,0.9s,mb3.4						
SDCO	**Great Sand Dun**	**25.31**	**335**	*e*P	**P**	**03 12 57.2**	**+1.0**
	2.9nm,1.0s,mb3.7						
TMUT	**Trail Mountain**	**29.15**	**329**	*e*P	**P**	**03 13 30.6**	**+0.1**
PDAR	**Pinedale Array**	**31.21**	**335**	P	**P**	**03 13 47.9**	**-0.8**
	0.2nm,0.7s,mb3.0,baz=114,slow=4.0,SNR=2.6						
REDW	**Red Top Meadow**	**32.23**	**335**	*e*P	**P**	**03 13 58.1**	**+0.5**
	6.4nm,1.1s,mb4.3						
SNOW	**Snow King Moun**	**32.27**	**335**	*e*P	**P**	**03 13 59.2**	**+1.2**
	4.5nm,0.6s,mb4.4						
LOHW	**Long Hollow**	**32.34**	**335**	*e*P	**P**	**03 13 59.6**	**+1.0**
	1.9nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**32.49**	**321**	P	**P**	**03 14 00.1**	**+0.2**
	0.7nm,0.7s,mb3.5,baz=146,slow=8.2,SNR=6.3						
HLID	**Hailey**	**33.97**	**331**	*e*P	**P**	**03 14 13.1**	**+0.3**
	1.7nm,0.9s,mb3.9						
MCMT	**McKenzie Canyo**	**34.26**	**334**	*e*P	**P**	**03 14 15.8**	**+0.5**
SCHQ	**Schefferville**	**44.38**	**21**	LR	LR	03 34 26.3	
	comp=Z,70nm,19.0s,baz=146,slow=36						
YKA	**Yellowknife Ar**	**49.84**	**347**	P	**P**	**03 16 22.5**	**+0.7**
	2.9nm,0.7s,mb4.3,baz=153,slow=7.3,SNR=19						
AFI	**Afiamalu**	**83.49**	**254**	LR	LR	03 45 51.4	
	comp=Z,81nm,21.4s,baz=316,slow=28						

ISCJB ***26*** *03:25:37.8±0.7, 47.1N±0.1×1552E±0.1, h10km, mb3.9/18, Error ellipse: s-maj=18.2km s-min=12.9km az=118.4*
IDC ***26*** *03:25:37.9±0.8, 4708N×15528E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.9/24, mbtmp3.8/16, ML3.3/1, Error ellipse: s-maj=23.2km s-min=17.7km az=133.0*
NEIC ***26*** *03:25:39.5±0.6, 4707N×155.15E, h10km, mb4.3/3, Error ellipse: s-maj=16.2km s-min=14.7km az=160.0*
MOS ***26*** *03:25:43.0±1.3, 4707N×15502E, h51km, mb4.3/13, Error ellipse: s-maj=20.8km s-min=14.1km az=110.8*

ISC 26 03:25:40.7±8.9, 472N±01×1552E±02, h17km±55km, n39, σ1§00/39, mb3.9/18, 1C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.35**	**256**	Pn	**Pn**	**03 27 54.7**	**+0.1**
	0.3nm,0.3s,baz=79,slow=12,SNR=3.2						
KSRS	**Korea Array**	**22.29**	**254**	P	**P**	**03 30 39.1**	**+2.0**
	1.0nm,0.6s,mb3.4,baz=55,slow=11,SNR=3.7						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**03 32 09.7**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=356,slow=8.1,SNR=3.9						
INK	**Inuvik**	**40.53**	**33**	P	**P**	**03 33 19.4**	**+0.6**
	2.7nm,0.6s,mb4.0,baz=306,slow=5.6,SNR=21						
INK	**Inuvik**	**40.53**	**33**	P	**P**	**03 33 19.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**40.53**	**33**	*e*P	**P**	**03 33 19.5**	**+0.6**
	comp=Z,82nm,0.6s,mb5.5						
ZAL	**Zalesovo**	**43.55**	**306**	P	**P**	**03 33 43.5**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=44,slow=5.3,SNR=5.9						
ZAL	**Zalesovo**	**43.55**	**306**	P	**P**	**03 33 43.5**	**0.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**44.08**	**308**	*e*P	**P**	**03 33 46.2**	**-1.6**
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**03 34 18.2**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.1,baz=62,slow=8.7,SNR=6.7						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**03 34 18.3**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**03 34 32.1**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=296,slow=7.2,SNR=4.4						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	**P**	**03 34 32.1**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHKZ	**Chkalovo**	**51.26**	**311**	*e*P	**P**	**03 34 42.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.26**	**311**	*e*P	**P**	**03 34 42.6**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.74**	**310**	*e*P	**P**	**03 34 46.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.74**	**310**	*e*P	**P**	**03 34 46.8**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.46**	**310**	*e*P	**P**	**03 34 51.7**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**52.46**	**310**	*e*P	**P**	**03 34 51.7**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**57.93**	**341**	P	**P**	**03 35 31.6**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.4,baz=31,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**57.93**	**341**	P	**P**	**03 35 31.6**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**03 36 14.8**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.2,baz=40,slow=6.7,SNR=24						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**03 36 14.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**03 36 40.2**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=24,slow=6.3,SNR=2.5						
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**03 36 40.3**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.39**	**201**	P	**P**	**03 36 46.2**	**-1.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=12,slow=6.1,SNR=7.0						
WRA	**Warramunga Arr**	**69.39**	**201**	P	**P**	**03 36 46.2**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**03 37 03.5**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=33,slow=5.9,SNR=6.2						
AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**03 37 03.5**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**03 37 03.5**	**0.0**
ASAR	**Alice Springs**	**73.07**	**200**	P	**P**	**03 37 10.1**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=15,slow=5.6,SNR=6.3						
BURAR	**Bucovina Array**	**76.03**	**328**	*i*P	**P**	**03 37 27.2**	**+0.2**
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**03 37 26.0**	**-1.1**
	comp=Z,0.1nm,0.5s,mb3.0,baz=290,slow=3.0,SNR=4.2						
MALT	**Malatya**	**77.91**	**314**	*i*P	**P**	**03 37 38.6**	**+1.0**
GERES	**GERESS Array B**	**78.70**	**335**	P	**P**	**03 37 43.9**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=26,slow=6.5,SNR=4.3						
BZS	**Buzias**	**79.02**	**329**	*i*P	**P**	**03 37 47.1**	**+3.3**
BRTR	**Keskin Array B**	**79.06**	**318**	P	**P**	**03 37 45.8**	**+1.8**
	comp=Z,0.8nm,0.7s,mb3.7,baz=68,slow=4.5,SNR=7.4						
BRTR	**Keskin Array B**	**79.06**	**318**	P	**P**	**03 37 45.8**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VTS	**Vitosha**	**81.05**	**326**	*i*P	**P**	**03 37 55.2**	**+0.5**

NEIC ***26*** *03:35:22.4, 3198S×6871W, h0km, ML3.7(GUC), After GUC.*

GUC 26 03:35:22.4±0.7, 3198S×6871W, h0km±5km, MD3.9, ML3.7, 11C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.43**	**3**	*i*P	Pg	03 35 31.0	+0.3
ZON				*i

JTK				S		Sn	03 44 20.1	-1.5
JIJ	Ishigaki jima	2.87	225	P		Pn	03 43 51.4	-0.4
JIJ				S		Sn	03 44 23.4	-2.8
JKRS	Kuro-shima	3.05	225	P		Pn	03 43 53.9	-0.2
JKRS				S		Sn	03 44 28.9	-1.4
IRIF	Iriomote-Funau	3.16	229	P		Pn	03 43 55.3	-0.3
IRIF				S		Sn	03 44 31.9	-1.1
HATJ	Hateruma jima	3.31	225	P		Pn	03 43 57.9	+0.4
HATJ				S		Sn	03 44 36.0	-0.4
JAM	Amami Oshima	3.50	55	P		Pn	03 43 59.5	-0.5
JAM				S		Sn	03 44 39.0	-1.8
YOJ	Yonaguni jima	3.61	238	P		Pn	03 44 02.2	+0.7
JZK	Kikaishima	3.72	59	P		Pn	03 44 03.0	0.0
JMZ	Minamidaito 2	4.41	97	P		Pn	03 44 11.2	-1.1
JMZ				S		Sn	03 44 57.4	-5.4
TATO	Taipei	4.63	253	ePn		Pn	03 44 18.0	+2.9
YHNB	Yeheng	4.83	250	ePn		Pn	03 44 19.5	+1.7
JNU	Nakatsue 1.7nm,0.3s,baz=217,slow=19,SNR=5.8	7.74	29	P		Pn	03 44 58.5	+1.4
JHJ	Hachijo jima 2 comp=Z,118nm,21.4s,baz=301,slow=33	13.42	57	LR		LR	03 50 33.3	
SONM	Songino Array 1.1nm,0.4s,mb3.6,baz=141,slow=11,SNR=17	26.49	329	P		P	03 48 35.6	+2.4
MK31	Makanchi Array	40.15	312	eP		P	03 50 30.5	-0.8
MKAR	Makanchi Array 1.1nm,0.5s,mb3.9,baz=96,slow=11,SNR=19	40.15	312	P		P	03 50 30.5	-0.8
MKAR	Makanchi Array	40.15	312	P		P	03 50 30.5	-0.8
ZRNK	Zerenda 0.9nm,0.4s,mb4.0	49.82	318	eP		P	03 51 47.3	-0.5
FINES	FINESS Array B 5.6nm,1.1s,mb4.3,baz=60,slow=4.6,SNR=4.5	71.86	330	P		P	03 54 16.0	-1.0
YKA	Yellowknife Ar 0.8nm,0.7s,mb3.6,baz=310,slow=5.4,SNR=6.8	79.04	24	P		P	03 54 58.5	+0.6
YKA	Yellowknife Ar	79.04	24	P		P	03 54 58.5	+0.6

NIED ***26*** *03:58:00,35.10N×13290E,h11km,Mw3.5 Best double couple: M0 2.16000×10^14 NP1:φs=277.00000°,δ89.00000°, λ165.00000°. NP2:φs=8.00000°,δ75.00000°,λ1.00000°.*

ISCJB ***26*** *03:58:34.5±0.8,35.15N±004×13289E±005,h20km±13km, Error ellipse: s-maj=7.7km s-min=6.5km az=81.9*

JMA ***26*** *03:58:35.0,35.15N×13288E,h9km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs=15.00000°,δ60.00000°,λ-7.00000°. NP2:φs=108.00000°, δ84.00000°,λ-150.00000°. Principal axes: T Plg16.0000°, Azm238.0000°; N Plg60.0000°, Azm119.0000°; P Plg25.0000°, Azm336.0000°;*

JMA Felt III J1.

ISC 26 03:58:35.0±0.8,3514N±004×13287E±005,h13km±10km, n6,σ0§17/11,3C-2D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	Saijyo	0.24	125	⇓P	Pg	03 58 40.0	-0.2
JHS				S	Sg	03 58 43.5	-0.2
JNM	Ikuma	0.38	20	⇑P	Pg	03 58 42.5	-0.1
JNM				S	Sg	03 58 48.0	+0.3
JGT	Gotsu	0.45	256	⇑P	Pg	03 58 43.8	-0.2
JGT				S	Sg	03 58 50.1	+0.1
JJG	Jouge	0.55	155	⇓P	Pg	03 58 45.8	+0.1
JJG				S	Sg	03 58 53.3	+0.3
JHT	Toyohira	0.60	218	⇑P	Pg	03 58 46.6	-0.1
JHT				S	Sg	03 58 54.8	+0.1
MAT	Matsushiro	4.55	71	P	Pn	03 59 43.5	-0.1

IDC 26 04:06:33.2±26.0,2326S×17166W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/16,mbtmp4.1/4,Error ellipse: s-maj=491.2km s-min=160.4km az=78.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 1.7nm,0.4s,baz=77,slow=14,SNR=3.8	39.14	266	P	P	04 14 02.8	+0.3
STKA	Stephens Creek 1.2nm,0.5s,baz=104,slow=12,SNR=4.2	42.05	248	P	P	04 14 24.9	-1.6
ASAR	Alice Springs 1.0nm,0.4s,baz=91,slow=7.5,SNR=31	49.67	258	P	P	04 15 27.4	+0.6
WRA	Warramunga Arr 1.1nm,0.3s,baz=100,slow=6.7,SNR=50	50.08	263	P	P	04 15 31.1	+1.3

IDC ***26*** *04:49:31.3±1.9,1753S×16810E,h0km,mb4.2/7, mb1 4.4/9,mb1mx4.2/18,mbtmp4.3/9,ML4.2/2,MS3.7/9, Ms1 3.7/9,ms1mx3.4/28,Error ellipse: s-maj=43.5km s-min=24.7km az=111.0*

NEIC ***26*** *04:49:34.3±5.1,1755S×16802E,h14km±30km,mb4.6/7, Error ellipse: s-maj=16.6km s-min=9.4km az=83.0*

ISCJB ***26*** *04:49:36.3±0.8,1765S±005×1678E±0.1,h33km,mb4.5/10, MS3.6/6,Error ellipse: s-maj=17.0km s-min=7.3km az=1.7*

LDG ***26*** *04:49:37.9±0.1,1740S×16729E,h30km,Mb4.7/2,Error ellipse: s-maj=9.5km s-min=1.5km az=93.0*

ISC 26 04:49:36.3±5.0,1761S±007×1680E±02,h26km±33km,n52, σ0§78/25,mb4.5/10,MS3.7/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.67	198	eP	Pn	04 50 45.7	+0.7
DZM				eS	Sn	04 51 36.7	-1.5
DZM	Mont Dzumac 2.1nm,0.3s,baz=95,slow=18,SNR=41	4.67	198	Pn	Pn	04 50 44.8	-0.1
DZM	10nm,0.3s,baz=276,slow=22,SNR=5.4			Sn	Sn	04 51 36.0	-2.2
DZM	comp=Z,733nm,20.0s,baz=46,slow=37			LR	LR	04 52 28.6	
HNR	Honiara 6.4nm,0.3s,baz=128,slow=1.9,SNR=6.1	11.27	315	Pn	Pn	04 52 15.1	-0.5
HNR	comp=Z,226nm,19.0s,baz=179,slow=34			LR	LR	04 56 01.4	
RAO	Raoul Island comp=Z,216nm,19.9s,baz=278,slow=32	17.35	134	LR	LR	04 58 50.9	
AFI	Afiamalu comp=Z,171nm,21.5s,baz=131,slow=32	19.82	82	LR	LR	05 00 02.9	
CTA	Charters Tower 8.1nm,0.9s	20.71	260	eP	P	04 54 16.3	+1.8
CTA	Charters Tower 2.1nm,0.6s,baz=101,slow=16,SNR=3.0	20.71	260	P	P	04 54 13.6	-0.9
CTA	comp=Z,198nm,19.8s,MS3.5,baz=52,slow=34			LR	LR	05 01 18.0	
CTAO	Charters Tower 12nm,1.0s	20.71	260	eP	P	04 54 14.6	+0.1
STKA	Stephens Creek 5.2nm,0.8s,mb4.2	27.76	234	eP	P	04 55 24.2	+1.4
STKA	Stephens Creek 4.4nm,0.8s,mb4.2,baz=64,slow=7.3,SNR=6.0	27.76	234	P	P	04 55 24.3	+1.5
STKA	comp=Z,175nm,18.2s,MS3.7,baz=28,slow=36			LR	LR	05 06 10.1	
STKA	Stephens Creek	27.76	234	eP	P	04 55 23.8	+1.0
WRA	Warramunga Arr 0.5nm,0.5s,mb3.6,baz=79,slow=6.0,SNR=8.1	31.91	260	P	P	04 55 59.4	-0.1
WRA	0.8nm,0.8s,baz=92,slow=3.1,SNR=4.9			PcP	PcP	04 58 49.9	+0.3
WRA	comp=Z,102nm,18.2s,MS3.5,baz=55,slow=36			LR	LR	05 08 32.9	
AS31	Alice Springs	32.40	253	eP	P	04 56 03.8	-0.1
AS31				ePP	pP	04 56 15.4	+3.8
ASAR	Alice Springs 1.6nm,0.5s,mb4.1,baz=78,slow=8.5,SNR=45	32.40	253	P	P	04 56 04.0	+0.2
ASAR	comp=Z,223nm,18.3s,MS3.9,baz=135,slow=36			LR	LR	05 08 48.9	
ASPA	Alice Springs	32.41	253	eP	P	04 56 14.2	+10
TBI	Tubuai 109nm,24.5s	40.17	105	eLR	LR	05 08 35.0	
FITZ	Fitzroy Crossi 13nm,0.8s,mb4.7	40.24	263	eP	P	04 57 11.2	+0.4
FITZ	Fitzroy Crossi 5.3nm,0.8s,mb4.3,baz=129,slow=4.5,SNR=12	40.24	263	P	P	04 57 11.4	+0.6
PPT	Papeete 112nm,23.0s	40.39	97	eLR	LR	05 08 55.0	
NWAO	Narrogin (SRO) comp=Z,88nm,18.6s,MS3.8,baz=239,slow=37	47.92	241	LR	LR	05 18 51.6	
RKT	Rikitea 101nm,25.8s	53.48	106	eLR	LR	05 14 40.4	
MJAR	Matsushiro Arr 3.5nm,0.9s,mb4.5,baz=166,slow=7.2,SNR=9.1	60.77	333	P	P	04 59 44.4	-1.4
CASY	Casey 18nm,1.2s,mb5.1	61.14	203	eP	P	04 59 48.4	+0.1
QSPA	South Pole Qui 8.2nm,0.9s,mb4.7	72.43	180	eP	P	05 01 01.2	+1.0
QSPA				ePP	pP	05 01 16.3	+7.8
SONM	Songino Array 5.4nm,0.9s,mb4.7,baz=137,slow=4.3,SNR=9.2	85.21	324	P	P	05 02 10.7	+0.3
MCK	McKinley 0.8nm,0.4s,mb4.3	87.67	18	eP	P	05 02 21.7	-0.7
SNAA	Sanae 7.7nm,1.2s,mb4.9	90.72	183	eP	P	05 02 36.6	-0.1
VNA3	Neumayer Olymp	91.36	181	e	P	05 02 39.8	+0.1
VNA3				e		05 02 45.5	
VNA3				e		05 02 49.9	
VNA3				e		05 02 58.2	
VNA2	Neumayer--Watz baz=145,slow=3.5	91.64	182	e	P	05 02 41.3	+0.3
VNA2				e	pP	05 02 47.8	-1.7
VNA2				e		05 02 51.4	
VNA2				e		05 02 58.8	
BAIF	Baives 43nm,1.3s	145.10	342	ePKIKP	PKPdf	05 09 11.9	+0.7
BFO	Black Forest	145.16	336	ePKPbc	PKPbc	05 09 10.9	0.0
CDF	Champ du Feu 23nm,0.9s	145.49	337	ePKIKP	PKPdf	05 09 12.1	+0.2
HINF	Hinteralfeld	146.14	337	ePKIKP	PKPdf	05 09 13.4	+0.4
HAU	Haudompre 8.8nm,0.8s	146.17	338	ePKIKP	PKPdf	05 09 13.4	+0.3
TIP	Tiputagrande	147.03	317	ePKPbc	PKPbc	05 09 16.7	+0.1
CABF	La Chapelle	147.43	337	ePKIKP	PKPdf	05 09 15.7	+0.5
FLN	La Foliniere	147.54	346	ePKIKP	PKPdf	05 09 16.1	+0.7
LDF	La Druitiere	147.62	345	ePKIKP	PKPdf	05 09 16.1	+0.6
LOR	Lormes	147.67	340	ePKIKP	PKPdf	05 09 15.9	+0.3
SSF	Saint Saulge	147.96	340	ePKIKP	PKPdf	05 09 16.8	+0.7
LPL	La Plagne	148.08	335	ePKIKP	PKPdf	05 09 16.8	+0.5
LPG	La Plagne	148.09	335	ePKIKP	PKPdf	05 09 16.9	+0.6
SMF	Signal de Mont	148.22	339	ePKIKP	PKPdf	05 09 16.9	+0.4
AVF	Avril sur Loir 11nm,1.1s	148.25	340	ePKIKP	PKPdf	05 09 17.0	+0.5
SGMF	Saint Gilles 227nm,1.7s	148.48	348	ePKIKP	PKPdf	05 09 17.4	+0.5
ROSF	Rostrenen	148.53	349	ePKIKP	PKPdf	05 09 17.7	+0.7
BGF	Bois d'Agland 29nm,1.1s	148.62	340	ePKIKP	PKPdf	05 09 17.5	+0.3
MBDF	Montbardon	148.71	334	ePKIKP	PKPdf	05 09 17.5	+0.2
TCF	Toulx Ste Croi	149.06	341	ePKIKP	PKPdf	05 09 18.4	+0.5
SBF	Sospel 76nm,1.2s	149.11	332	ePKIKP	PKPdf	05 09 18.3	+0.4
LMR	La Mourre	149.94	332	ePKIKP	PKPdf	05 09 19.2	-0.1
TORD	Torodi Ar. Bea 0.7nm,0.9s,baz=156,slow=2.2,SNR=3.7	166.05	253	PKP	PKPdf	05 09 37.0	-1.8

ISCJB ***26*** *04:53:48.3±2.9,47.1N±0.1×1538E±0.1,h21km±22km, mb4.0/16,MS2.7/1,Error ellipse: s-maj=21.3km s-min=9.7km az=119.8*

NEIC ***26*** *04:53:48.3±0.5,4709N×15373E,h10km,mb3.9/1,Error ellipse: s-maj=17.1km s-min=8.3km az=150.0*

MOS ***26*** *04:53:50.6±1.5,4702N×15383E,h45km,mb4.3/8,Error ellipse: s-maj=15.9km s-min=10.5km az=55.1*

IDC ***26*** *04:53:56.6±3.9,4713N×15368E,h75km±40km,mb3.6/15, mb1 3.9/16,mb1mx3.7/25,mbtmp3.7/16,ML3.7/1,MS3.0/2, Ms1 3.0/2,ms1mx2.4/31,Error ellipse: s-maj=37.4km s-min=15.4km az=176.0*

ISC 26 04:53:51.1±3.2,472N±01×1537E±01,h27km±25km,n42, σ0§78/42,mb4.0/16,MS2.7/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.87	24	ePN	Pn	04 54 48.7	-0.1
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=Z,150nm,0.5s			pmax	pmax		
KUR	Kuril'sk	4.48	247	ePN	Pn	04 54 57.0	-0.2
KUR	comp=Z,110nm,0.6s			pmax	pmax		
YUK	Yuzh-Kuril'sk	6.32	243	ePN	Pn	04 55 24.0	+1.5
YSS	Yuzh-Sakhalins	7.47	272	ePN	Pn	04 55 44.5	+6.2
YSS				eS	Sn	04 57 09.4	+7.3
YSS	comp=E,30nm,0.9s			smax			
YSS	Yuzh-Sakhalins comp=E,11nm,0.4s	7.47	272	ePn	Pn	04 55 44.8	+6.5
ASAJ	Asahikawa comp=E,1.0nm,0.3s,baz=99,slow=23,SNR=8.4	8.35	253	P	Pn	04 55 54.7	+4.4
ASAJ	comp=E,126nm,19.6s,baz=12,slow=36			LR	LR	04 58 54.6	
ERM	Erimo	9.11	239	ePN	Pn	04 56 01.2	+0.5
ERM	comp=Z,26nm,0.8s			pmax	pmax		
ERM	Erimo comp=Z,26nm,0.8s	9.11	239	ePn	Pn	04 56 01.2	+0.5
MAT	Matsushiro	15.65	233	P	Pn	04 57 28.3	-1.4
MJAR	Matsushiro Arr comp=Z,0.3nm,0.3s,baz=33,slow=9.5,SNR=8.1	15.65	233	P	Pn	04 57 27.8	-1.8
KSRS	Korea Array comp=Z,2.5nm,0.6s,mb3.7,baz=59,slow=9.5,SNR=7.4	21.30	252	P	P	04 58 37.7	+2.1
KSRS				LR	LR	05 07 31.7	
KDAK	comp=Z,28nm,18.4s,MS2.7,baz=55,slow=38 Kodiak Island comp=Z,13nm,1.0s,mb4.8,baz=297,slow=11,SNR=3.8	33.53	51	P	P	05 00 27.6	-0.9
INK	Inuvik comp=Z,2.7nm,0.5s,mb4.2,baz=282,slow=6.3,SNR=31	41.09	33	P	P	05 01 33.1	+0.6
INK	Inuvik comp=Z,107nm,0.7s	41.09	33	eP	P	05 01 33.0	+0.5
MKAR	Makanchi Array comp=Z,0.4nm,0.7s,mb3.5,baz=63,slow=9.0,SNR=2.0	47.10	297	P	P	05 02 20.1	-0.6
MKAR	Makanchi Array	47.10	297	P	P	05 02 20.1	-0.6
RES	Resolute Bay comp=Z,50nm,0.5s	50.31	19	eP	P	05 02 45.5	+0.1
YKA	Yellowknife Ar comp=Z,2.1nm,0.7s,mb4.3,baz=296,slow=7.1,SNR=8.4	50.35	37	P	P	05 02 46.1	+0.5
YKA	Yellowknife Ar comp=Z,2.0nm,0.7s	50.35	37	P	P	05 02 46.1	+0.4
YKA				pmax	pmax		
BVAR	Borovoye Array comp=Z,0.6nm,0.7s,mb3.6,baz=54,slow=7.5,SNR=3.9	50.90	309	P	P	05 02 50.0	+0.2
BVAR	Borovoye Array comp=Z,1.0nm,0.7s	50.90	309	P	P	05 02 50.0	+0.2
BVAR				pmax	pmax		
BRVK	Borovoye comp=Z,1.0nm,0.8s,mb3.8	50.94	309	eP	P	05 02 49.9	-0.2
BRVK				pmax	pmax		
BRVK	Borovoye comp=Z,1.3nm,0.8s,mb3.9	50.94	309	eP	P	05 02 49.9	-0.2
EDM	Edmonton	55.74	47	eP	P	05 03 25.0	-0.4
ARCES	ARCESS Array B comp=Z,4.7nm,1.0s,mb4.5,baz=30,slow=7.4,SNR=6.9	57.59	341	P	P	05 03 38.0	-0.5
ARCES	ARCESS Array B	57.59	341	P	P	05 03 38.0	-0.5
ARCES	comp=Z,5.0nm,1.0s			pmax	pmax		
NVAR	Mina Array Bea comp=Z,0.3nm,0.5s,mb3.7,baz=305,slow=6.5,SNR=3.0	61.89	63	P	P	05 04 08.9	+0.8
FINES	FINESS Array B comp=Z,1.4nm,0.4s,mb4.4,baz=40,slow=7.7,SNR=37	63.83	335	P	P	05 04 20.6	-0.4
FINES	FINESS Array B comp=Z,1.0nm,0.4s	63.83	335	P	P	05 04 20.6	-0.4
FINES				pmax	pmax		
PDAR	Pinedale Array comp=Z,0.4nm,0.8s,mb3.5,baz=331,slow=5.2,SNR=2.8	64.18	54	P	P	05 04 23.8	+0.4
NB2	NORSAR Subarra comp=Z,1.6nm,0.5s,mb4.3,baz=29,slow=6.5	67.96	341	P	P	05 04 47.3	-0.3
NOA	NORSAR Array B comp=Z,2.3nm,0.7s,mb4.3,baz=26,slow=6.3,SNR=6.2	67.96	341	P	P	05 04 47.6	0.0
NOA	NORSAR Array B comp=Z,2.0nm,0.7s	67.96	341	P	P	05 04 47.6	0.0
NOA				pmax	pmax		
AKASG	Malin Array Be comp=Z,0.6nm,0.5s,mb3.8,baz=31,slow=5.7,SNR=5.1	71.42	326	P	P	05 05 08.2	-0.7
AKASG	Malin Array Be comp=Z,1.0nm,0.5s	71.42	326	P	P	05 05 08.2	-0.7
AKASG				pmax	pmax		
CLL	Collm	76.25	336	eP	P	05 05 37.0	-0.2
TXAR	Lajitas Array comp=Z,1.1nm,0.7s,mb3.9,baz=299,slow=4.0,SNR=12	76.94	61	P	P	05 05 41.1	0.0
TXAR	Lajitas Array comp=Z,1.0nm,0.7s	76.94	61	P	P	05 05 41.1	0.0
TXAR				pmax	pmax		
GERES	GERESS Array B comp=Z,0.3nm,0.5s,mb3.5,baz=45,slow=7.7,SNR=4.9	78.25	334	P	P	05 05 48.7	+0.3
BRTR	Keskin Array B comp=Z,0.8nm,0.8s,mb3.7,baz=54,slow=6.3,SNR=6.6	78.36	317	P	P	05 05 49.4	+0.4
BRTR	Keskin Array B comp=Z,1.0nm,0.8s	78.36	317	P	P	05 05 49.4	+0.4
BRTR				pmax	pmax		
CFAA	Coronel Fontan comp=Z,0.3nm,0.4s,baz=231,slow=7.3,SNR=5.4	144.53	79	PKP	PKPdf	05 13 22.6	-2.3

IDC 26 05:09:38.7±10.0,6259S×15755E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.8/9,mbtmp3.6/3,ML3.2/1,MS3.7/8, Ms1 3.7/8,ms1mx3.6/13,Error ellipse: s-maj=597.4km s-min=43.1km az=76.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda 0.1nm,0.3s,baz=347,slow=13,SNR=8.3	15.06	176	Pn	Pn	05 13 12.4	-0.3
VNDA	comp=Z,444nm,20.3s,baz=353,slow=35			LR	LR	05 18 19.8	
RPZ	Rata Peaks comp=Z,201nm,21.0s,baz=4.6,slow=34	20.49	29	LR	LR	05 21 21.3	
URZ	Urewera comp=Z,125nm,21.1s,baz=105,slow=33	27.14	35	LR	LR	05 24 28.6	
STKA	Stephens Creek comp=Z,157nm,20.6s,baz=72,slow=31	32.39	334	LR	LR	05 26 23.8	
MAW	Mawson comp=Z,125nm,19.5s,baz=240,slow=37	36.45	220	LR	LR	05 32 16.5	
ASAR	Alice Springs 1.3nm,1.0s,baz=168,slow=9.2,SNR=6.1	42.06	327	P	P	05 17 32.3	+0.3
ASAR	comp=Z,67nm,18.1s,baz=179,slow=35			LR	LR	05 33 55.0	
WRA	Warramunga Arr 0.5nm,0.8s,baz=164,slow=7.0,SNR=4.6	45.52	329	P	P	05 17 59.0	-0.9
WRA	comp=Z,75nm,21.5s,baz=0.0,slow=32			LR	LR	05 34 08.2	
PPT	Papeete comp=Z,183nm,19.5s,baz=12,slow=31	57.83	64	LR	LR	05 39 28.2	

MEX 26 05:18:26.8±0.4,1506N×9529W,h10km,MD3.9,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.06	312	iP	Pg	05 18 43.8	-3.4
HUIG				iS	Sg	05 18 57.3	-3.6
VHO	Vista Hermosa	2.44	326	iP	Pn	05 19 04.0	-2.6
VHO				iS	Sn	05 19 32.7	-3.8
OXX	Oaxaca	2.44	326	eS	Sn	05 19 31.0	-5.5
UTMO	Huajuapan	3.66	319	iP	Pn	05 19 21.9	-1.5
TPIG	Tehuac#an	3.89	330	iP	Pn	05 19 25.2	-1.4
TPIG				iS	Sn	05 20 09.5	-2.8

IDC 26 05:28:11.7±4.2,047N×9808E,h0km,mb3.3/4,mb1 3.5/4, mb1mx3.3/20,mbtmp3.3/4,Error ellipse: s-maj=173.2km s-min=24.8km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.4s,baz=303,slow=8.9,SNR=4.0	40.90	122	P	P	05 35 55.7	+0.1
ASAR	Alice Springs 0.1nm,0.5s,baz=297,slow=7.5,SNR=4.5	42.26	127	P	P	05 36 07.2	+0.6
SONM	Songino Array 0.3nm,0.5s,baz=190,slow=9.1,SNR=4.0	47.72	8	P	P	05 36 51.0	+0.8
MKAR	Makanchi Array 0.5nm,0.7s,baz=151,slow=8.7,SNR=3.3	48.16	345	P	P	05 36 53.1	-0.4

NEIC ***26*** *05:35:53.3,1388N×6008W,h100km,MD3.2(FDF), MD3.7(TRN),After TRN.*

TRN 26 05:35:52.6,1372N×6014W,h3km,MD3.7,M3.2(FDF), 1C-2D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	Moule a Chique	0.78	270	eP	Pg	05 36 16.4	+8.8
MCLT				eS	Sg	05 36 27.0	+9.4
MCLT	Moule a Chique	0.78	270	eP	Pg	05 36 12.7	+5.2
MCLT				eS	Sg	05 36 27.0	+9.4
SLW	Petit Monier	0.83	292	⇑eP	Pg	05 36 12.8	+4.2
SLW				eS	Sg	05 36 26.7	+7.4
SLPE	Piton Saint Es	0.84	279	eP	Pg	05 36 12.6	+3.9
SLPE				eS	Sg	05 36 26.9	+7.3
SLB	Belfond	0.88	277	eP	Pg	05 36 14.3	+4.8
SLB				eS	Sg	05 36 28.9	+8.0
SLDE	Delcer	0.89	276	eP	Pg	05 36 14.4	+4.6
SLDE				eS	Sg	05 36 28.0	+6.6
BHS	Barnard House	1.04	247	eP	Pg	05 36 16.7	+4.0
BHS				eS	Sg	05 36 34.0	+7.8
SSV	Crater Summit	1.09	249	eP	Pg	05 36 17.3	+3.7
SSV				eS	Sg	05 36 34.0	+6.3
MVM	Montagne Vaucl	1.11	319	eP	Pg	05 36 16.3	+2.4
SVV	Soufriere Volc	1.12	249	eP	Pg	05 36 17.8	+3.8
SVV				eS	Sg	05 36 36.2	+7.7
SVB	Belmont	1.17	248	⇓eP	Pg	05 36 18.4	+3.4
SVB				eS	Sg	05 36 36.3	+6.2
BIM	Bigot	1.20	312	eP	Pg	05 36 18.1	+2.4
FCV	Fort Charlotte	1.21	243	eP	Pg	05 36 18.8	+3.0
FCV				eS	Sg	05 36 37.1	+5.6
FDF	Fort de France	1.41	316	⇓iP	Pn	05 36 20.9	+1.7
FDF				eS	Sg	05 36 40.4	+2.6
GRIC	Isle de Caille	2.00	225	eP	Pn	05 36 29.0	+1.7
GRIC				eS	Sn	05 36 54.8	+1.9
GRSS	Sisters	2.01	226	eP	Pn	05 36 28.8	+1.3
GRSS				eS	Sn	05 36 57.2	+4.1
GRSS	Sisters	2.01	226	eP	Pn	05 36 28.8	+1.3
GRSS				eS	Sn	05 36 57.2	+4.1
GRHS	Sauteurs	2.08	225	eP	Pn	05 36 29.9	+1.4
GRHS				eS	Sn	05 36 56.6	+1.8
GRHS	Sauteurs	2.08	225	eP	Pn	05 36 29.9	+1.4
GRHS				eS	Sn	05 36 56.6	+1.8
GRW	Mount Saint Ca	2.14	224	eP	Pn	05 36 30.9	+1.7
GRW				eS	Sn	05 36 58.9	+2.5
SCG	Saint Claude	2.74	327	eP	Pn	05 36 40.8	+3.3
LZG	Guadaloupe-1	2.88	327	eP	Pn	05 36 42.0	+2.5
LZG				eS	Sn	05 37 16.7	+2.1

IDC ***26*** *05:44:43.0±1.1,4699N×15494E,h0km,mb4.1/17, mb1 4.2/18,mb1mx4.0/29,mbtmp4.1/18,ML3.7/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/31,Error ellipse: s-maj=27.3km s-min=20.1km az=146.0*

ISCJB ***26*** *05:44:44.8±0.9,470N±0.1×1545E±0.2,h10km,mb4.2/25, Error ellipse: s-maj=22.1km s-min=7.6km az=100.1*

BJI ***26*** *05:44:44.3,4690N×15480E,h10km,mB4.6,mb4.2,Ms4.1, Msz3.9*

NEIC ***26*** *05:44:44.3±0.9,4694N×15478E,h10km,mb4.4/3,Error ellipse: s-maj=22.2km s-min=12.5km az=134.0*

MOS ***26*** *05:44:46.3±1.1,4693N×15465E,h37km,mb4.4/15,Error ellipse: s-maj=14.6km s-min=13.0km az=92.9*

ISC 26 05:44:45.6±0.8,470N±01×1546E±01,h10km,n66, σ1§47/67,mb4.2/25,5C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	5.03	252	PN	Pn	05 46 00.5	-0.5
KUR				eS	Sn	05 46 59.0	-0.2
KUR	comp=Z,90nm,0.7s			pmax	pmax		
KUR	comp=N,150nm,0.5s			smax			
KUR	comp=E,50nm,0.5s			smax			
YSS	Yuzh-Sakhalins	8.12	274	PN	Pn	05 46 51.7	+8.2
ASAJ	Asahikawa comp=E,0.8nm,0.3s,baz=90,slow=29,SNR=5.6	8.93	255	Pn	Pn	05 46 57.0	+2.5
ASAJ	Asahikawa comp=Z,1.0nm,0.3s	8.93

CD2	**Chengdu**	**41.94**	**266**	*e*P	**P**	**05 52 36.0**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NVS	**Novosibirsk**	**43.86**	**308**	*e*P	**P**	**05 52 49.5**	**-2.4**
MKAR	**Makanchi Array**	**47.74**	**298**	P	**P**	**05 53 21.8**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=65,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**47.74**	**298**	P	**P**	**05 53 21.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.49**	**310**	P	**P**	**05 53 50.3**	**-1.0**
	comp=Z,1.6nm,0.4s,mb4.3,baz=64,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**51.49**	**310**	P	**P**	**05 53 50.3**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**05 53 50.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**05 53 50.3**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**52.26**	**310**	*e*P	**P**	**05 53 55.5**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.26**	**310**	*e*P	**P**	**05 53 55.5**	**-1.4**
	comp=Z,2.2nm,0.6s,mb4.3						
ARU	**Arti**	**55.52**	**318**	*e*P	**P**	**05 54 18.7**	**-2.1**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	**Arti**	**55.52**	**318**	*e*P	**P**	**05 54 18.7**	**-2.1**
	comp=Z,6.0nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**05 54 36.5**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=36,slow=4.7,SNR=2.9						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**05 54 36.5**	**-1.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTK	**Aktyubinsk**	**59.33**	**312**	P	**P**	**05 54 46.5**	**-1.1**
AKTO	**Aktyubinsk**	**59.33**	**312**	P	**P**	**05 54 46.5**	**-1.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=80,slow=5.5,SNR=4.5						
AKTO	**Aktyubinsk**	**59.33**	**312**	P	**P**	**05 54 46.5**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**05 55 19.1**	**-1.7**
	comp=Z,2.0nm,0.7s,mb4.3,baz=37,slow=7.5,SNR=19						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**05 55 19.1**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**68.57**	**340**	P	**P**	**05 55 48.6**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=76,slow=6.3,SNR=8.4						
HFS	**Hagfors**	**68.57**	**340**	P	**P**	**05 55 48.6**	**+0.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**71.90**	**327**	P	**P**	**05 56 07.1**	**-1.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=33,slow=6.3,SNR=7.1						
AKASG	**Malin Array Be**	**71.90**	**327**	P	**P**	**05 56 07.1**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.90**	**327**	P	**P**	**05 56 07.1**	**-1.8**
ASAR	**Alice Springs**	**72.80**	**200**	P	**P**	**05 56 13.1**	**-1.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=13,slow=5.1,SNR=7.0						
ASAR	**Alice Springs**	**72.80**	**200**	P	**P**	**05 56 13.1**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**75.94**	**327**	⇓*i*P	**P**	**05 56 33.5**	**+1.0**
BURAR	**Bucovina Array**	**75.94**	**327**	⇑P	**P**	**05 56 31.5**	**-1.0**
EKA	**Eskdalemuir Ar**	**76.33**	**347**	P	**P**	**05 56 35.3**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=21,slow=4.7,SNR=4.2						
EKA	**Eskdalemuir Ar**	**76.33**	**347**	P	**P**	**05 56 35.3**	**+0.6**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**76.46**	**62**	P	**P**	**05 56 32.6**	**-2.8**
	comp=Z,0.6nm,0.9s,mb3.5,baz=294,slow=4.0,SNR=4.4						
TXAR	**Lajitas Array**	**76.46**	**62**	P	**P**	**05 56 32.6**	**-2.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MORC	**Moravsky Berou**	**76.69**	**333**	⇑*i*P	**P**	**05 56 38.5**	**+1.7**
MLR	**Muntele Rosu**	**77.44**	**326**	P	**P**	**05 56 41.1**	**+0.1**
	comp=Z,3.5nm,0.6s,mb4.5,baz=220,slow=3.1,SNR=13						
MLR	**Muntele Rosu**	**77.44**	**326**	⇑*i*P	**P**	**05 56 41.4**	**+0.4**
MLR	**Muntele Rosu**	**77.44**	**326**	P	**P**	**05 56 41.1**	**+0.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DRGR		**77.55**	**328**	⇑*i*P	**P**	**05 56 41.5**	**-0.1**
KHC	**Kasperske Hory**	**78.45**	**335**	P	**P**	**05 56 48.0**	**+1.4**
KHC	**Kasperske Hory**	**78.45**	**335**	*e*	**P**	**05 56 48.0**	**+1.4**
KHC	**Kasperske Hory**	**78.45**	**335**	*e*	**P**	**05 56 48.0**	**+1.4**
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**05 56 48.0**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=38,slow=6.8,SNR=5.9						
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**05 56 48.0**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.91**	**318**	P	**P**	**05 56 51.0**	**+1.9**
	comp=Z,0.9nm,0.8s,mb3.7,baz=56,slow=4.2,SNR=5.5						
BRTR	**Keskin Array B**	**78.91**	**318**	P	**P**	**05 56 51.0**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BZS	**Buzias**	**78.94**	**328**	⇓*i*P	**P**	**05 56 50.8**	**+1.5**
CDF	**Champ du Feu**	**80.80**	**339**	*e*P	**P**	**05 57 01.4**	**+2.0**
	comp=Z,15nm,1.2s,mb4.5						
VTS	**Vitosha**	**80.95**	**326**	⇑*i*P	**P**	**05 57 02.2**	**+2.0**
DAVOX	**Davos**	**81.63**	**336**	P	**P**	**05 57 05.3**	**+1.5**
	comp=Z,2.7nm,0.7s,mb4.3,baz=344,slow=6.3,SNR=5.4						
GRR	**Gorron**	**82.62**	**344**	*e*P	**P**	**05 57 10.6**	**+1.6**
	comp=Z,17nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**83.28**	**340**	*e*P	**P**	**05 57 13.9**	**+1.5**
LPG	**La Plagne**	**83.64**	**338**	*e*P	**P**	**05 57 16.3**	**+2.0**
	comp=Z,6.8nm,0.7s,mb4.6						
CAF	**Calviac**	**85.31**	**341**	*e*P	**P**	**05 57 24.3**	**+1.6**
	comp=Z,9.6nm,1.0s,mb4.6						

ISCJB ***26*** *05:45:06.0±0.6, 4686N×0.10×1548E±0.1, h10km, mb4.1/25, Error ellipse: s-maj=15.2km s-min=8.6km az=120.3*
IDC ***26*** *05:45:06.8±0.9, 4689N×154.97E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/26, mbtmp4.1/17, Error ellipse: s-maj=25.5km s-min=18.3km az=112.0*
NEIC ***26*** *05:45:08.1±0.7, 4686N×154.94E, h10km, mb4.4/3, Error ellipse: s-maj=18.5km s-min=16.8km az=114.0*
MOS ***26*** *05:45:10.3±1.8, 4681N×154.56E, h33km, mb4.3/20, Error ellipse: s-maj=18.5km s-min=11.2km az=110.4*

ISC 26 05:45:08.0±0.6, 4689N±009×1548E±01, h10km, n51, σ1§25/52, mb4.1/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.12**	**254**	PN	**Pn**	**05 46 23.0**	**-1.7**
KUR				*e*S	**Sn**	**05 47 23.3**	**-0.5**
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,70nm,0.5s						
KSRS	**Korea Array**	**21.96**	**254**	P	**P**	**05 50 04.7**	**+2.8**
	comp=E,2.8nm,0.7s,mb3.8,baz=58,slow=9.4,SNR=4.4						
BILL	**Bilibino**	**22.00**	**11**	*e*P	**P**	**05 50 07.3**	**+5.0**
BILL				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.3						
BOD	**Bodaibo**	**26.81**	**309**	*e*P	**P**	**05 50 46.7**	**-1.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.9						
SONM	**Songino Array**	**32.39**	**290**	P	**P**	**05 51 38.0**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.7,baz=70,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**32.39**	**290**	P	**P**	**05 51 38.0**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**33.68**	**295**	*e*P	**P**	**05 51 48.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
INK	**Inuvik**	**40.90**	**33**	P	**P**	**05 52 49.6**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.1,baz=275,slow=6.6,SNR=15						
INK	**Inuvik**	**40.90**	**33**	*e*P	**P**	**05 52 49.7**	**-0.6**
MK31	**Makanchi Array**	**47.92**	**298**	*e*P	**P**	**05 53 46.4**	**0.0**
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**05 53 46.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=71,slow=7.1,SNR=7.8						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**05 53 46.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.10**	**37**	P	**P**	**05 54 01.5**	**-1.7**
	comp=Z,0.6nm,0.8s,mb3.7,baz=296,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**50.10**	**37**	P	**P**	**05 54 01.5**	**-1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**05 54 14.7**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.4,baz=52,slow=7.9,SNR=10						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**05 54 14.7**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	**Zerenda**	**52.44**	**310**	*e*P	**P**	**05 54 19.9**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**52.44**	**310**	*e*P	**P**	**05 54 19.9**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**05 54 38.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**05 54 38.6**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.2						
ARU	**Arti**	**55.70**	**318**	*e*P	**P**	**05 54 44.3**	**-0.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ARU	**Arti**	**55.70**	**318**	*e*P	**P**	**05 54 44.3**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.9						
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**05 55 00.4**	**-1.1**
	comp=Z,3.3nm,0.9s,mb4.4,baz=11,slow=7.9,SNR=4.3						
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**05 55 00.4**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.50**	**313**	P	**P**	**05 55 11.1**	**-0.2**
AKTO	**Aktyubinsk**	**59.50**	**313**	P	**P**	**05 55 11.1**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=61,slow=8.4,SNR=4.4						
AKTO	**Aktyubinsk**	**59.50**	**313**	P	**P**	**05 55 11.1**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
DUG	**Dugway**	**63.50**	**59**	*e*P	**P**	**05 55 36.6**	**-1.6**
	comp=Z,0.5nm,0.5s,mb3.8						
FIA1	**FINESS Array S**	**64.41**	**335**	*e*P	**P**	**05 55 43.6**	**-0.6**
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**05 55 43.6**	**-0.7**
	comp=Z,1.4nm,0.3s,mb4.4,baz=40,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**05 55 43.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**05 56 11.2**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=26,slow=6.6,SNR=2.7						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**05 56 11.2**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**05 56 13.2**	**+1.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=57,slow=5.5,SNR=8.1						
HFS	**Hagfors**	**68.73**	**340**	P	**P**	**05 56 13.2**	**+1.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**69.04**	**201**	*e*P	**P**	**05 56 13.6**	**-0.2**
WRA	**Warramunga Arr**	**69.04**	**201**	P	**P**	**05 56 13.2**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=21,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**69.04**	**201**	P	**P**	**05 56 13.2**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.08**	**327**	P	**P**	**05 56 31.7**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.3,baz=33,slow=6.1,SNR=7.4						
AKASG	**Malin Array Be**	**72.08**	**327**	P	**P**	**05 56 31.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.73**	**200**	P	**P**	**05 56 37.5**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=13,slow=5.9,SNR=9.3						
ASAR	**Alice Springs**	**72.73**	**200**	P	**P**	**05 56 37.5**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**76.47**	**347**	P	**P**	**05 57 00.9**	**+2.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=12,slow=4.7,SNR=5.4						
EKA	**Eskdalemuir Ar**	**76.47**	**347**	P	**P**	**05 57 00.9**	**+2.9**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MLR	**Muntele Rosu**	**77.62**	**326**	P	**P**	**05 57 06.7**	**+2.3**
	comp=Z,4.5nm,0.5s,mb4.6,baz=151,slow=11,SNR=10						
MLR	**Muntele Rosu**	**77.62**	**326**	P	**P**	**05 57 06.7**	**+2.3**
MLR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KHC	**Kasperske Hory**	**78.61**	**335**	*e*P	**P**	**05 57 13.0**	**+3.1**
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**	**05 57 13.6**	**+2.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=41,slow=5.5,SNR=6.2						
GERES	**GERESS Array B**	**78.84**	**335**	P	**P**	**05 57 13.6**	**+2.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**05 57 15.3**	**+2.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=58,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**05 57 15.4**	**+2.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 26 06:00:25.5±5.1, 529N×9461E, h56km±47km, mb3.4/7, mb1 3.6/8, mb1mx3.4/22, mbtmp3.5/8, ML3.5/1, Error ellipse: s-maj=54.6km s-min=18.7km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.96**	**120**	P	Pn	06 01 38.5	+1.1
	1.9nm,0.3s,baz=329,slow=16,SNR=11						
PSI				S	Sn	06 02 30.8	-2.7
	0.6nm,0.3s,baz=307,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**42.70**	**348**	P	P	06 08 17.1	+0.4
	1.1nm,0.5s,baz=165,slow=7.0,SNR=11						
SONM	**Songino Array**	**43.58**	**12**	P	P	06 08 23.7	-0.2
	0.5nm,0.6s,baz=186,slow=8.2,SNR=6.0						
WRA	**Warramunga Ar**	**46.42**	**124**	P	P	06 08 46.7	+0.3
	1.6nm,0.5s,baz=303,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**47.93**	**129**	P	P	06 08 58.6	+0.4
	0.4nm,0.4s,baz=302,slow=7.7,SNR=6.2						
BVAR	**Borovoye Array**	**51.57**	**342**	P	P	06 09 25.7	-0.2
	0.2nm,0.3s,baz=148,slow=11,SNR=3.1						
BRTR	**Keskin Array B**	**64.47**	**312**	P	P	06 10 56.0	-0.1
	0.4nm,0.5s,baz=106,slow=9.2,SNR=3.5						
GERES	**GERESS Array B**	**80.06**	**319**	P	P	06 12 30.2	+1.1
	0.1nm,0.5s,baz=103,slow=4.2,SNR=6.4						

BJI ***26*** *06:49:12.6, 6580N×170.10W, h10km, mB4.9, mb4.6, Ms4.4, Msz4.0*
ISCJB ***26*** *06:49:13.7±0.2, 6582N±006×170.18W±008, h10km, mb4.3/46, MS3.6/7, Error ellipse: s-maj=9.8km s-min=3.2km az=38.8*
IDC ***26*** *06:49:13.4±0.7, 6574N×170.04W, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.2/26, mbtmp4.1/20, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/33, Error ellipse: s-maj=20.4km s-min=13.1km az=9.0*
MOS ***26*** *06:49:15.4±1.0, 6570N×170.07W, h28km, mb4.6/17, Error ellipse: s-maj=18.7km s-min=11.5km az=105.9*
NEIC ***26*** *06:49:15.6±0.5, 6582N×170.10W, h10km, mb4.2/12, Error ellipse: s-maj=15.4km s-min=5.7km az=199.0*

ISC 26 06:49:16.2±2.1, 6582N±007×17018W±008, h16km±13km, h23km±5.2km; pP-P, n221, σ0§74/222, mb4.3/46, MS3.6/7, 71C-66D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	**0.97**	**105**	*e*Pn	**Pn**	**06 49 31.1**	**-4.1**
IMA2	**Indian Mountai**	**6.75**	**80**	*e*Pn	**Pn**	**06 50 57.0**	**+2.5**
SVW2	**Sparrevohn**	**8.06**	**119**	*e*Pn	**Pn**	**06 51 12.6**	**0.0**
MCK	**McKinley**	**9.29**	**93**	*e*P	**Pn**	**06 51 27.7**	**-1.7**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MCK	**McKinley**	**9.29**	**93**	*e*Pn	**Pn**	**06 51 27.7**	**-1.8**
	comp=Z,4.2nm,0.5s						
COLA	**College**	**9.37**	**86**	*e*P	**Pn**	**06 51 28.7**	**-1.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
COLA	**College**	**9.37**	**86**	*e*Pn	**Pn**	**06 51 28.7**	**-1.7**
	comp=Z,5.0nm,0.4s						
BILL	**Bilibino**	**9.48**	**294**	⇑*e*P	**Pn**	**06 51 31.8**	**-0.2**
BILL				*e*		06 53 22.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	**Bilibino**	**9.48**	**294**	*e*Pn	**Pn**	**06 51 33.3**	**+1.3**
PMR	**Palmer**	**10.23**	**105**	*e*P	**Pn**	**06 51 41.5**	**-0.7**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PMR	**Palmer**	**10.23**	**105**	*e*Pn	**Pn**	**06 51 41.5**	**-0.7**
	comp=Z,4.3nm,0.5s						
KDAK	**Kodiak Island**	**11.54**	**126**	Pn	**Pn**	**06 52 00.7**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=22,slow=8.0,SNR=14						
DAWY	**Dawson**	**13.10**	**83**	*e*Pn	**Pn**	**06 52 20.9**	**-0.5**
INK	**Inuvik**	**14.36**	**64**	Pn	**Pn**	**06 52 36.1**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=242,slow=14,SNR=8.7						
INK	**Inuvik**	**14.36**	**64**	*e*P	**Pn**	**06 52 39.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,553nm,0.7s						
INK	**Inuvik**	**14.36**	**64**	*e*Pn	**Pn**	**06 52 39.0**	**+0.3**
	comp=Z,553nm,0.7s						
SEY	**Seymchan**	**16.28**	**277**	*i* P	**Pn**	**06 53 03.6**	**-0.4**

TIXI	**Tiksi**	**21.93**	**312**	⇑*e*P	**P**	**06 54 09.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,25nm,2.0s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.4						
TIXI	**Tiksi**	**21.93**	**312**	*e*P	**P**	**06 54 09.6**	**+0.9**
	comp=Z,21nm,1.3s,mb4.4						
YKA	**Yellowknife Ar**	**23.77**	**72**	P	**P**	**06 54 27.0**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.5,baz=300,slow=9.1,SNR=12						
YKA				PcP	PcP	06 58 09.5	-1.8
	comp=Z,0.9nm,0.7s,baz=312,slow=2.5,SNR=6.6						
YKA	**Yellowknife Ar**	**23.77**	**72**	P	**P**	**06 54 27.1**	**-0.9**
YKA				PcP	PcP	06 58 09.5	-1.8
YAK	**Yakutsk**	**25.80**	**290**	⇑*e*P	**P**	**06 54 45.9**	**-0.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.7						
B04A	**Port Angeles**	**30.08**	**103**	⇑P	**P**	**06 55 23.1**	**-1.6**
	baz=30						
EDM	**Edmonton**	**30.28**	**87**	*e*P	**P**	**06 55 25.8**	**-0.6**
A09A	**Danville**	**31.35**	**97**	⇑P	**P**	**06 55 36.5**	**+0.7**
	baz=31						
D05A	**Enumclaw**	**31.39**	**103**	⇑P	**P**	**06 55 37.3**	**+1.1**
	baz=31						
C07A	**Waterville**	**31.76**	**100**	⇓P	**P**	**06 55 39.7**	**+0.2**
	baz=32						
F04A	**Amboy**	**32.24**	**104**	⇓P	**P**	**06 55 44.6**	**+0.9**
	baz=32						
D08A	**Wollman Farm,**	**32.73**	**100**	⇓P	**P**	**06 55 47.9**	**-0.1**
	baz=33						
E07A	**Sunnyside**	**32.76**	**101**	⇓P	**P**	**06 55 48.3**	**+0.1**
	baz=33						
B12A	**Libby**	**32.97**	**95**	⇑P	**P**	**06 55 49.5**	**-0.6**
	baz=33						
D09A	**Jones Farm, Ri**	**32.98**	**99**	⇑P	**P**	**06 55 50.4**	**+0.2**
	baz=33						
F06A	**Goldendale**	**33.03**	**103**	⇑P	**P**	**06 55 50.9**	**+0.3**
	baz=33						
F07A	**Phinny Hill Vi**	**33.27**	**102**	⇑P	**P**	**06 55 53.4**	**+0.7**
	baz=33						
B13A	**Whitefish**	**33.51**	**94**	⇓P	**P**	**06 55 55.4**	**+0.7**
	baz=33						
D11A	**Klaveano Farm,**	**33.80**	**97**	⇓P	**P**	**06 55 56.9**	**-0.4**
	baz=34						
F08A	**Pendleton**	**33.81**	**101**	⇑P	**P**	**06 55 56.9**	**-0.6**
	baz=34						
G07A	**Ruggs Ranch, H**	**33.89**	**102**	⇑P	**P**	**06 55 57.5**	**-0.6**
	baz=34						
H06A	**Lindquist Farm**	**34.06**	**103**	⇑P	**P**	**06 55 59.2**	**-0.4**
	baz=34						
G08A	**Pilot Rock**	**34.16**	**101**	⇓P	**P**	**06 56 01.4**	**+1.0**
	baz=34						
I05A	**Bend**	**34.16**	**105**	⇑P	**P**	**06 56 00.0**	**-0.5**
	baz=34						
F10A	**Beach Ranch, E**	**34.30**	**99**	⇑P	**P**	**06 56 01.8**	**+0.1**
	baz=34						
E11A	**Bogner Ranch,**	**34.41**	**98**	⇑P	**P**	**06 56 01.9**	**-0.7**
	baz=34						
J04A	**Umpqua Nationa**	**34.60**	**107**	⇓P	**P**	**06 56 04.6**	**+0.4**
	baz=34						
HUMO	**Hull Mountain**	**34.80**	**108**	⇓P	**P**	**06 56 06.9**	**+0.9**
	baz=35						
H08A	**Prairie City**	**34.91**	**102**	⇑P	**P**	**06 56 07.5**	**+0.6**
	baz=35						
D14A	**Greenough**	**34.93**	**94**	⇓P	**P**	**06 56 07.0**	**-0.1**
	baz=35						
I07A	**Izee**	**34.93**	**103**	⇑P	**P**	**06 56 07.0**	**-0.1**
	baz=35						
G11A	**Walters Elk Ra**	**35.16**	**99**	⇑P	**P**	**06 56 09.5**	**+0.4**
	baz=35						
H09A	**Durkee**	**35.19**	**101**	⇓P	**P**	**06 56 09.4**	**0.0**
	baz=35						
F12A	**Elk City**	**35.28**	**97**	⇑P	**P**	**06 56 10.5**	**+0.4**
	baz=35						
D15A	**Lincoln**	**35.37**	**93**	⇓P	**P**	**06 56 10.8**	**-0.1**
	baz=35						
J06A	**Christmas Vall**	**35.37**	**105**	⇑P	**P**	**06 56 10.7**	**-0.2**
	baz=35						
I08A	**Drewsey**	**35.45**	**102**	⇑P	**P**	**06 56 11.2**	**-0.4**
	baz=35						
K05A	**Summer Lake**	**35.52**	**106**	⇑P	**P**	**06 56 11.6**	**-0.6**
	baz=35						
F13A	**Darby**	**35.63**	**96**	⇑P	**P**	**06 56 13.4**	**+0.2**

MDJ	**Mudanjiang**	**38.38**	**267**	P	**P**	**06 56 35.0**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.9s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,25nm,4.4s						
N09A	**Rock Creek Ran**	**38.44**	**104** ⇓	P	**P**	**06 56 38.0**	**+1.0**
	baz=38						
O07A	**Toulon**	**38.49**	**106** ⇑	P	**P**	**06 56 36.8**	**-0.7**
	baz=38						
P05C	**Yuba Gap, Truc**	**38.55**	**109** ⇓	P	**P**	**06 56 37.5**	**-0.5**
	baz=38						
M11A	**Holland Ranch,**	**38.65**	**102** ⇓	P	**P**	**06 56 39.5**	**+0.8**
	baz=38						
WCN	**Washoe City**	**38.88**	**108** ⇓	P	**P**	**06 56 40.6**	**-0.1**
	baz=39						
N10A	**Dunphy**	**38.96**	**103** ⇓	P	**P**	**06 56 42.4**	**+1.0**
	baz=39						
LAVA	**Lava Cap Winer**	**38.97**	**109** ⇓	P	**P**	**06 56 40.4**	**-1.1**
	baz=39						
M12A	**Wells**	**39.01**	**101** ⇑	P	**P**	**06 56 42.3**	**+0.5**
	baz=39						
O09A	**Fish Creek Ran**	**39.15**	**104** ⇓	P	**P**	**06 56 43.1**	**+0.1**
	baz=39,SNR=6.5						
R05C	**Kirkwood Meado**	**39.27**	**108** ⇑	P	**P**	**06 56 44.4**	**+0.4**
	baz=39						
O10A	**Cortez Mining,**	**39.33**	**103** ⇓	P	**P**	**06 56 45.1**	**+0.7**
	baz=39						
M13A	**Montello**	**39.36**	**100** ⇑	P	**P**	**06 56 45.9**	**+1.1**
	baz=39						
N12A	**Clover Valley,**	**39.44**	**102** ⇓	P	**P**	**06 56 46.8**	**+1.4**
	baz=39						
ULM	**Lac du Bonnet**	**39.63**	**76**	P	**P**	**06 56 45.4**	**-1.6**
	comp=Z,1.2nm,0.4s,mb4.0,baz=295,slow=12,SNR=6.3						
ULM				PcP	PcP	06 58 52.1	-1.7
	comp=Z,2.2nm,0.8s,baz=310,slow=7.9,SNR=3.1						
R06C	**Coleville**	**39.67**	**108** ⇑	P	**P**	**06 56 47.5**	**+0.2**
	baz=40						
O11A	**Cowboy Ranch,**	**39.80**	**103** ⇑	P	**P**	**06 56 49.8**	**+1.4**
	baz=40						
Q08A	**Gabbs**	**39.98**	**106** ⇑	P	**P**	**06 56 50.8**	**+0.9**
	baz=40,SNR=7.7						
O12A	**Currie**	**40.05**	**102** ⇑	P	**P**	**06 56 51.2**	**+0.7**
	baz=40						
BW06	**Boulder Array**	**40.07**	**95**	*eP*	**P**	**06 56 50.4**	**-0.2**
	comp=Z,5.2nm,1.4s,mb4.1						
PDAR	**Pinedale Array**	**40.07**	**95**	P	**P**	**06 56 50.1**	**-0.5**
	comp=Z,1.4nm,0.9s,mb3.7,baz=344,slow=4.5,SNR=7.4						
PDAR				LR	LR	07 12 51.0	
	comp=Z,48nm,20.3s,MS3.3,baz=84,slow=35						
S06C	**San Francisco**	**40.08**	**109** ⇑	P	**P**	**06 56 50.8**	**+0.1**
	baz=40						
NVAR	**Mina Array Bea**	**40.21**	**107**	P	**P**	**06 56 51.4**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.7,baz=324,slow=7.2,SNR=7.2						
S05C	**Merced**	**40.35**	**110** ⇓	P	**P**	**06 56 53.4**	**+0.4**
	baz=40						
P12A	**McGill**	**40.66**	**102** ⇓	P	**P**	**06 56 55.6**	**0.0**
	baz=40						
KCC	**Kaiser Creek**	**40.77**	**109** ⇑	P	**P**	**06 56 56.8**	**+0.4**
	baz=41						
R09A	**Tonopah**	**40.86**	**106** ⇓	P	**P**	**06 56 57.4**	**+0.2**
	baz=41						
T06C	**Millerton Lake**	**40.89**	**109** ⇑	P	**P**	**06 56 58.1**	**+0.7**
	baz=41						
DUG	**Dugway**	**40.90**	**100**	*eP*	**P**	**06 56 59.4**	**+1.9**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
DUG	**Dugway**	**40.90**	**100**	*eP*	**P**	**06 56 59.4**	**+2.0**
	comp=Z,4.0nm,1.3s,mb3.9						
DUG	**Dugway**	**40.90**	**100** ⇑	P	**P**	**06 56 58.1**	**+0.6**
	baz=41						
Q11A	**Duckwater**	**40.90**	**104** ⇓	P	**P**	**06 56 57.8**	**+0.3**
	baz=41,SNR=5.0						
Q12A	**Willow Creek R**	**41.06**	**103** ⇑	P	**P**	**06 56 59.2**	**+0.3**
	baz=41						
RSSD	**Black Hills**	**41.23**	**88**	*eP*	**P**	**06 56 59.0**	**-1.2**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
RSSD	**Black Hills**	**41.23**	**88**	*eP*	**P**	**06 56 59.0**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.0						
S09A	**Goldfield**	**41.24**	**106** ⇑	P	**P**	**06 56 59.8**	**-0.5**
	baz=41,SNR=6.1						
RCTC	**Rector, Farmer**	**41.68**	**109** ⇑	P	**P**	**06 57 03.4**	**-0.6**
	baz=42						
MAT	**Matsushiro**	**41.74**	**251**	P	**P**	**06 57 03.7**	**-0.7**
MJAR	**Matsushiro Arr**	**41.74**	**251**	P	**P**	**06 57 04.2**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.2,baz=20,slow=7.8,SNR=16						
MJAR	**Matsushiro Arr**	**41.74**	**251**	P	**P**	**06 57 04.2**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MPMC	**Manual Prospec**	**42.58**	**108** ⇓	P	**P**	**06 57 11.2**	**-0.1**
	baz=42						
MSU	**Marysvale**	**42.59**	**101**	*eP*	**P**	**06 57 12.0**	**+0.7**
LRMC	**Laurel Mountai**	**43.02**	**108** ⇓	P	**P**	**06 57 13.6**	**-1.2**
	baz=43						
SNY	**Shenyang**	**43.16**	**270** ⇑	P	**P**	**06 57 14.0**	**-2.0**
SNY				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
SHOC	**Shoshone**	**43.20**	**107** ⇓	P	**P**	**06 57 16.1**	**-0.2**
	baz=43						
EDW2	**Edwards Air Fo**	**43.42**	**109** ⇓	P	**P**	**06 57 16.8**	**-1.3**
	baz=43						
U12A	**Valley of Fire**	**43.43**	**104** ⇑	P	**P**	**06 57 18.0**	**-0.1**
	baz=43						
GSC	**Goldstone**	**43.52**	**108** ⇑	P	**P**	**06 57 17.7**	**-1.2**
	baz=43						
V11A	**Goodsprings**	**43.59**	**106** ⇓	P	**P**	**06 57 18.8**	**-0.6**
	baz=43						
TUQ	**Turquoise Mtn.**	**43.74**	**107** ⇑	P	**P**	**06 57 21.1**	**+0.5**
	baz=44						
V12A	**Nelson**	**43.92**	**105** ⇑	P	**P**	**06 57 22.2**	**+0.1**
	baz=44						
BFSC	**Mount Baldy St**	**44.12**	**109** ⇓	P	**P**	**06 57 23.4**	**-0.3**
	baz=44						
HEC	**Hector,Ludlow**	**44.12**	**107** ⇓	P	**P**	**06 57 24.1**	**+0.4**
	baz=44						
SNCC	**San Nicolas Is**	**44.27**	**112** ⇑	P	**P**	**06 57 24.2**	**-0.7**
	baz=44						
W12A	**Cal Nev Ari**	**44.28**	**106** ⇓	P	**P**	**06 57 25.1**	**+0.2**
	baz=44						
PV01	**Paradox Valley**	**44.38**	**97**	*eP*	**P**	**06 57 25.7**	**0.0**
BBRC	**Big Bear Sol-O**	**44.38**	**108** ⇑	P	**P**	**06 57 26.1**	**+0.3**
	baz=44						
GMRC	**Granite Mounta**	**44.42**	**107** ⇓	P	**P**	**06 57 25.6**	**-0.5**
	baz=44						
ARCES	**ARCESS Array B**	**44.47**	**352**	P	**P**	**06 57 27.3**	**+0.8**
	comp=Z,4.7nm,1.0s,mb4.2,baz=8.1,slow=6.0,SNR=5.3						
ARCES	**ARCESS Array B**	**44.47**	**352**	P	**P**	**06 57 27.3**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BELC	**Belle Mtn.**	**44.97**	**108** ⇓	P	**P**	**06 57 30.0**	**-0.6**
	baz=45						
W14A	**Seligman**	**45.07**	**104** ⇓	P	**P**	**06 57 30.6**	**-0.7**
	baz=45						
KSRS	**Korea Array**	**45.07**	**263**	P	**P**	**06 57 31.5**	**+0.2**
	comp=Z,3.3nm,0.7s,mb4.2,baz=31,slow=8.6,SNR=8.6						
SONM	**Songino Array**	**45.16**	**289**	P	**P**	**06 57 33.2**	**+1.2**
	comp=Z,2.3nm,0.6s,mb4.2,baz=38,slow=7.7,SNR=18						
SONM				LR	LR	07 17 39.7	
	comp=Z,124nm,18.1s,MS3.9,baz=99,slow=38						
SONM	**Songino Array**	**45.16**	**289**	P	**P**	**06 57 33.2**	**+1.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,124nm,18.1s						
MVCO	**Mesa Verde**	**45.20**	**98** ⇑	P	**P**	**06 57 33.3**	**+1.0**
	baz=45						
X13A	**Yucca**	**45.31**	**105** ⇓	P	**P**	**06 57 33.7**	**+0.5**
	baz=45						
PDMCI	**Parker Dam,Lak**	**45.45**	**105** ⇑	P	**P**	**06 57 34.2**	**0.0**
	baz=45						
WUAZ	**Wupatki**	**45.49**	**102** ⇓	P	**P**	**06 57 34.6**	**0.0**
	baz=45						
BC3	**Big Chuckw Mtn**	**45.49**	**107** ⇑	P	**P**	**06 57 33.1**	**-1.5**
	baz=45						
109C	**Camp Elliot, M**	**45.52**	**109** ⇑	P	**P**	**06 57 34.2**	**-0.6**
	baz=45						
Y12C	**Blythe**	**45.77**	**106** ⇓	P	**P**	**06 57 37.3**	**+0.4**
	baz=46						
MONP	**Monument Peak**	**45.79**	**109** ⇓	P	**P**	**06 57 37.3**	**+0.3**
	baz=46						
X14A	**Yava**	**45.79**	**104** ⇑	P	**P**	**06 57 37.3**	**+0.3**
	baz=46						
SDCO	**Great Sand Dun**	**45.97**	**95**	*eP*	**P**	**06 57 41.2**	**+2.8**
	comp=Z,2.2nm,1.1s,mb4.0						
DVTC	**Desert V Tower**	**46.12**	**109** ⇓	P	**P**	**06 57 39.9**	**+0.3**
	baz=46						
Y14A	**Wickenburg**	**46.21**	**105** ⇑	P	**P**	**06 57 40.2**	**-0.1**
	baz=46						
GLA	**Glamis**	**46.27**	**107** ⇑	P	**P**	**06 57 39.9**	**-0.9**
	baz=46						
Z14A	**Wintersburg**	**46.74**	**105** ⇑	P	**P**	**06 57 44.0**	**-0.5**
	baz=47						
116A	**Eloy**	**47.94**	**104** ⇓	P	**P**	**06 57 53.0**	**-0.8**
	baz=48						
ANMO	**Albuquerque**	**47.98**	**97** ⇑	*eP*	**P**	**06 57 58.1**	**+4.0**
LAZ	**Ladron**	**48.17**	**98**	*eP*	**P**	**06 57 59.9**	**+4.3**
HHC	**Hu-ho-hao-te**	**48.90**	**280**	*eP*	**P**	**06 58 01.5**	**+0.3**
HHC				XP	sP	06 58 09.0	+0.5
HHC				PCP	PcP	06 59 26.3	+0.8
HHC				PP	PP	06 59 54.8	+0.2
HHC				SCP	ScP	07 03 20.3	+0.5
HHC				S	**S**	**07 05 03.3**	**-1.0**
HHC				XS	sS	07 05 11.8	-1.0
HHC				SCS	ScS	07 07 50.5	-2.4
HHC				SS	SS	07 08 29.5	-5.5
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,116nm,5.7s						
HHC				LR	LR		
	comp=N,128nm,15.3s,MS4.2						
HHC				LR	LR		
	comp=E,151nm,15.1s,MS4.2						
HHC				LR	LR		
	comp=Z,230nm,15.5s,MS4.3						
WMOK	**Wichita Mounta**	**51.31**	**90**	*eP*	**P**	**06 58 17.7**	**-1.8**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WMOK	**Wichita Mounta**	**51.31**	**90**	*eP*	**P**	**06 58 17.7**	**-1.8**
	comp=Z,2.8nm,1.0s,mb4.2						
FINES	**FINESS Array B**	**52.47**	**350**	P	**P**	**06 58 27.6**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=13,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**52.47**	**350**	*eP*	**P**	**06 58 27.9**	**-0.2**
BRVK	**Borovoye**	**52.84**	**319**	*eP*	**P**	**06 58 30.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**52.84**	**319**	*eP*	**P**	**06 58 30.6**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**52.84**	**319**	P	**P**	**06 58 30.6**	**-0.3**
	comp=Z,3.6nm,0.6s,mb4.5,baz=24,slow=8.9,SNR=14						
BVAR	**Borovoye Array**	**52.84**	**319**	P	**P**	**06 58 30.6**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TXAR	**Lajitas Array**	**54.02**	**98**	P	**P**	**06 58 38.7**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=308,slow=4.9,SNR=8.6						
MKAR	**Makanchi Array**	**54.77**	**307**	P	**P**	**06 58 44.5**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=41,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**54.77**	**307**	*eP*	**P**	**06 58 44.5**	**-0.5**
GTA	**Gaotai**	**54.82**	**289**	*eP*	**P**	**06 58 46.3**	**+1.0**
GTA				AP	pP	06 58 52.0	+1.4
GTA				XP	sP	06 58 54.5	+1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
WMQ	**Urumqi**	**55.52**	**301** ⇓	*iP*	**P**	**06 58 51.5**	**+1.1**
WMQ				AP	pP	06 58 56.0	+0.3
WMQ				XP	sP	06 58 58.5	+0.8
WMQ				PCP	PcP	06 59 51.3	+1.1
WMQ				PP	PP	07 00 57.0	+2.6
WMQ				PPP		07 02 11.0	
WMQ				*eS*	**S**	**07 06 34.5**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,124nm,4.7s						
WMQ				LR	LR		
	comp=N,40nm,19.3s,MS3.6						
WMQ				LR	LR		
	comp=E,32nm,19.3s,MS3.6						
WMQ				LR	LR		
	comp=Z,61nm,19.1s,MS3.7						
LZH	**Lanzhou**	**56.10**	**283**	*eP*	**P**	**06 58 54.5**	**0.0**
LZH				AP	pP	06 59 04.5	+4.7
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
EKA	**Eskdalemuir Ar**	**58.77**	**9**	P	**P**	**06 59 12.8**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.1,baz=202,slow=13,SNR=5.1						
EKA	**Eskdalemuir Ar**	**58.77**	**9**	P	**P**	**06 59 12.9**	**-0.5**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**60.99**	**310** ⇓	*iP*	**P**	**06 59 27.8**	**-0.9**
AAK	**Ala-Archa**	**60.99**	**310**	*eP*	**P**	**06 59 28.6**	**0.0**
	comp=Z,5.8nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**62.85**	**346**	P	**P**	**06 59 40.5**	**-0.7**
	comp=Z,4.8nm,0.6s,mb4.8,baz=12,slow=6.4,SNR=9.0						
AKASG	**Malin Array Be**	**62.85**	**346**	P	**P**	**06 59 40.5**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GYA	**Guiyang**	**63.40**	**275**	P	**P**	**06 59 47.0**	**+2.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
KHC	**Kasperske Hory**	**65.34**	**357** ⇑	*eP*	**P**	**06 59 57.8**	**+0.3**
GERES	**GERESS Array B**	**65.63**	**357**	P	**P**	**06 59 59.2**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=31,slow=5.4,SNR=7.3						
GERES	**GERESS Array B**	**65.63**	**357**	P	**P**	**06 59 59.2**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMI	**Kunming**	**66.19**	**278**	P	**P**	**07 00 06.8**	**+3.8**
KMI				XP	sP	07 00 14.0	+3.7
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
KMI				LR	LR		
	comp=Z,22nm,31.2s,MS3.2						
KIV	**Kislovodsk**	**67.64**	**335**	*eP*	**P**	**07 00 12.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ANN	**Anapa**	**67.66**	**339**	*eP*	**P**	**07 00 04.2**	**-8.1**
ANN				*e*PP*	pP	07 00 20.7	+3.0
ANN				*e*		07 00 33.4	
ANN				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
MLR	**Muntele Rosu**	**68.32**	**348**	P	**P**	**07 00 17.4**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=182,slow=13,SNR=3.4						
MLR	**Muntele Rosu**	**68.32**	**348**	P	**P**	**07 00 17.4**	**+0.9**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZEI	**Tsey**	**68.57**	**334**	*eP*	**P**	**07 00 17.7**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
GUN	**Gumba**	**70.33**	**294**	*eP*	**P**	**07 00 29.2**	**+0.2**
	comp=Z,5.8nm,0.5s,mb4.7						
KKN	**Kakani**	**70.67**	**295**	*eP*	**P**	**07 00 31.7**	**+0.7**
	comp=Z,11nm,0.5s,mb5.0						
GKN	**Gorkha**	**70.72**	**295**	*eP*	**P**	**07 00 31.6**	**+0.3**
	comp=Z,9.1nm,0.6s,mb4.9						
KOLN	**Koldanda**	**71.31**	**296**	*eP*	**P**	**07 00 35.0**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8						
BR131	**Keskin Array S**	**73.17**	**341**	*eP*	**P**	**07 00 45.6**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**73.17**	**341**	P	**P**	**07 00 46.1**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=23,slow=4.7,SNR=11						
BRTR	**Keskin Array B**	**73.17**	**341**	P	**P**	**07 00 46.1**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ESDC	**Sonseca Array**	**74.29**	**11**	P	**P**	**07 00 52.4**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=351,slow=6.1,SNR=7.1						
WRA	**Warramunga Arr**	**95.13**	**231**	P	**P**	**07 02 36.6**	**-1.9**
	comp=Z,0.3nm,0.9s,mb3.7,baz=29,slow=5.0,SNR=2.9						
WRA	**Warramunga Arr**	**95.13**	**231**	P	**P**	**07 02 36.6**	**-1.9**
VNA2	**Neumayer--Watz**	**171.87**	**137**	*e*PKPdf	PKPdf	07 09 20.3	-3.7
VNA2				*e*		07 09 24.7	
VNA2				*e*		07 09 31.9	
VNA2				*e*		07 09 39.5	

*ATH **26** 06:50:22.3,3883N×2054E,h25km±1km, MD3.0/4*
*ISCJB **26** 06:50:23.4±1.1,3887N±006×2047E±009,h26km±6km, Error ellipse: s-maj=13.2km s-min=6.9km az=108.4*
*THE **26** 06:50:24.4,3898N×2066E,h10km, ML2.7*
*CSEM **26** 06:50:24.5,3898N×2066E,h10km, ML2.7, After THE*
ISC 26 06:50:24.0±1.0,3892N±006×205E±01,h18km±9km,n9,
σ0§91/14,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.23**	**153**	*e*Pg	**Pg**	**06 50 29.3**	**-0.1**
LKD				*e*Sg	**Sg**	**06 50 34.3**	**+1.1**
IGT	**Igoumenitsa**	**0.63**	**347**	*e*Pg	**Pg**	**06 50 35.5**	**-1.1**
IGT				*e*Sg	**Sg**	**06 50 45.6**	**+0.6**
JAN	**Janina**	**0.78**	**19**	*e*PN	**Pb**	**06 50 38.5**	**-0.6**
JAN				*e*SN	**Sb**	**06 50 50.9**	**+1.5**
KEK	**Kerkira**	**0.97**	**325**	*e*PN	**Pb**	**06 50 42.5**	**+0.2**
EVR	**Evrytania**	**1.01**	**90**	*e*PN	**Pb**	**06 50 41.5**	**-1.4**
EVR				*e*SN	**Sb**	**06 50 55.3**	**-0.5**
MEV	**Metsovon**	**1.03**	**32**	*e*Pg	**Pb**	**06 50 41.9**	**-1.4**
THL	**Klokotos Trika**	**1.33**	**60**	*e*PN	**Pn**	**06 50 47.6**	**-0.1**
AGG	**Agios Georgios**	**1.42**	**85**	*e*Pg	**Pn**	**06 50 48.7**	**-0.2**
AGG				*e*Sg	**Sn**	**06 51 08.2**	**+1.2**
GRG	**Griva**	**2.50**	**35**	*e*Pn	**Pn**	**06 51 04.7**	**+0.9**

*VIE **26** 06:54:07.9±0.6,4665N×964E,h8km,mb1.5/2,ML2.2/4, Error ellipse: s-maj=4.1km s-min=1.7km az=20.0 5 km E of Tiefencastel*
*ROM **26** 06:54:07.4±0.2,4672N×958E,h11km,Md2.2/3,MI1.5/1, Error ellipse: s-maj=3.6km s-min=1.2km az=149.0*
*ZUR **26** 06:54:08.2,4668N×962E,h10km±5km,ML1.7/6*
*ISCJB **26** 06:54:08.2±0.3,4672N±002×960E±002,h10km, Error ellipse: s-maj=3.4km s-min=2.3km az=145.7*
*CSEM **26** 06:54:08.6±0.1,4662N×968E,h2km, ML2.5/7, Error ellipse: s-maj=2.0km s-min=1.3km az=172.0*
*LDG **26** 06:54:12.1±0.4,4677N×956E,h2km, Ml2.2/6, Error ellipse: s-maj=7.0km s-min=3.9km az=96.0*
ISC 26 06:54:09.2±0.3,4670N±002×963E±002,h10km,n35,
σ1§07/58,5C-9D,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVOX	**Davos**	**0.19**	**65**	*i* Sg	**Pg**	**06 54 12.6**	**-0.6**
	887nm,0.5s						
DAVOX	**Davos**	**0.19**	**65** ⇓	*i* Pg	**Sg**	**06 54 16.1**	**+0.1**
	887nm,0.5s						
DAVOX	**Davos**	**0.19**	**65**	Pg	**Pg**	**06 54 12.7**	**-0.5**
DAVOX				Sg	**Sg**	**06 54 16.0**	**0.0**
VDL	**Val di Lei**	**0.24**	**207** ⇓	*i* Pg	**Pg**	**06 54 13.2**	**-0.9**
	232nm,0.6s						
VDL				*i* Sg	**Sg**	**06 54 16.6**	**-0.8**
	232nm,0.6s						
TUE	**Stuetta**	**0.30**	**220**	Pg	**Pg**	**06 54 14.0**	**-1.1**
TUE				Sg	**Sg**	**06 54 18.3**	**-0.9**
	50nm,0.4s						
PLONS	**Plons**	**0.39**	**334** ⇑	*i* Pg	**Pg**	**06 54 16.2**	**-0.6**
	98nm,0.7s						
BERNI	**Berninapass**	**0.40**	**136** ⇓	*i* Pg	**Pg**	**06 54 16.0**	**-1.0**
	138nm,0.5s						
FUORN	**Ofenpass**	**0.45**	**100** ⇓	*i* Pg	**Pg**	**06 54 17.9**	**0.0**
	80nm,0.7s						
LLS	**Linth-Limmern**	**0.45**	**290** ⇑	*i* Pg	**Pg**	**06 54 17.1**	**-0.9**
	89nm,0.5s						
BRMO	**Bormio**	**0.56**	**113**	Pg	**Pg**	**06 54 19.2**	**-0.9**
BRMO				Sg	**Sg**	**06 54 27.7**	**+0.3**
	9.0nm,0.3s						
DAVA	**Damuels**	**0.61**	**16** ⇓	*i* Pg	**Pg**	**06 54 20.9**	**-0.2**
DAVA				⇓ *i* Sg	**Sg**	**06 54 30.3**	**+1.3**
	comp=Z,26nm,0.5s						
DAVA	**Damuels**	**0.61**	**16**	Pg	**Pg**	**06 54 20.9**	**-0.2**
DAVA				Sg	**Sg**	**06 54 30.3**	**+1.2**
	26nm,0.5s						
MOTA	**Moosalm**	**1.20**	**57** ⇑	*i* Pg	**Pg**	**06 54 31.4**	**-0.8**
MOTA				⇓ *i* Sg	**Sg**	**06 54 48.6**	**+0.8**
	10nm,0.4s						
SQTA	**Sankt Quirin**	**1.20**	**64** ⇑	*i* Pg	**Pg**	**06 54 31.5**	**-0.7**
SQTA				⇑ *i* Sg	**Sg**	**06 54 48.6**	**+0.7**
	17nm,0.4s						
WTTA	**Wattenberg**	**1.49**	**67** ⇓	*i* Pg	**Pg**	**06 54 36.8**	**-0.9**
WTTA				⇓ *i* Sg	**Sg**	**06 54 57.1**	**0.0**
	14nm,0.7s						
HINF	**Hinteralfeld**	**2.19**	**302**	*e*Pn	**Pn**	**06 54 46.5**	**+0.8**
HINF	**Hinteralfeld**	**2.19**	**302**	*e*Pg	**Pg**	**06 54 51.4**	**+0.1**
HINF				*e*Sg	**Sg**	**06 55 18.3**	**-1.4**
	8.1nm,0.6s						
HINF	**Hinteralfeld**	**2.19**	**302**	*e*Pg	**Pg**	**06 54 51.4**	**+0.1**
HINF				*e*Sg	**Sg**	**06 55 18.3**	**-1.4**
	4.1nm,0.6s						
LPG	**La Plagne**	**2.33**	**240**	*e*Pn	**Pn**	**06 54 50.2**	**+2.6**
LPG	**La Plagne**	**2.33**	**240**	*e*Pg	**Pg**	**06 54 55.2**	**+1.3**
LPG				*e*Sg	**Sg**	**06 55 26.8**	**+2.6**
	2.4nm,0.4s						
LPG	**La Plagne**	**2.33**	**240**	*e*Pg	**Pg**	**06 54 55.2**	**+1.3**
LPG				*e*Sg	**Sg**	**06 55 26.8**	**+2.6**
	1.2nm,0.4s						
LPL	**La Plagne**	**2.33**	**241**	*e*Pn	**Pb**	**06 54 50.9**	**-0.4**
LPL	**La Plagne**	**2.33**	**241**	*e*Pg	**Pg**	**06 54 55.2**	**+1.3**
LPL				*e*Sg	**Sg**	**06 55 26.7**	**+2.5**
	1.8nm,0.4s						
LPL	**La Plagne**	**2.33**	**241**	*e*Pg	**Pg**	**06 54 55.2**	**+1.3**
LPL				*e*Sg	**Sg**	**06 55 26.7**	**+2.5**
	0.9nm,0.4s						
CDF	**Champ du Feu**	**2.34**	**318**	*e*Pn	**Pn**	**06 54 48.6**	**+0.9**
CDF	**Champ du Feu**	**2.34**	**318**	*e*Pg	**Pg**	**06 54 54.0**	**0.0**
CDF				*e*Sg	**Sg**	**06 55 24.4**	**+0.1**
CDF	**Champ du Feu**	**2.34**	**318**	*e*Pg	**Pg**	**06 54 54.0**	**0.0**
CDF				*e*Sg	**Sg**	**06 55 24.4**	**+0.1**
CABF	**La Chapelle**	**2.44**	**269**	*e*Pn	**Pn**	**06 54 50.7**	**+1.7**
CABF	**La Chapelle**	**2.44

Ms1 4.1/15,ms1mx3.9/28,Error ellipse: s-maj=24.6km s-min=10.6km az=49.0

ISC 26 07:25:15.2₀0.5,**1328N**₀005ₓ**8975W**₀004,**h64**km₂.5km, **n318**,σ0@82/302,**mb4.5**/46,**61C-71D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.62**	**9**	*eP*	x	07 25 58.3	
RTR				*eS*	x	07 26 14.3	
BOQS	**Boqueron**	**0.65**	**45**	*eP*	x	07 25 59.6	
BOQS				*eS*	x	07 26 20.6	
SNET	**Serv Nac Est T**	**0.65**	**51**	*eP*	x	07 25 30.6	
SNET				*eS*	x	07 25 47.3	
LBRS	**Las Brisas**	**0.83**	**56**⇑	*eP*	x	07 26 01.9	
LBRS				*eS*	x	07 26 23.0	
MTO2	**Montecristo 2**	**1.18**	**19**⇑	*eP*	x	07 26 06.9	
MTO2				*eS*	x	07 26 30.8	
BLLM	**Bellamira**	**1.48**	**83**	*eP*	x	07 26 10.8	
BLLM				*eS*	x	07 26 36.5	
TGUH	**Tegucigalpa,Un**	**2.53**	**72**	*ePn*	**Pn**	**07 25 57.2**	**+3.3**
CRIN	**San Cristobal**	**2.69**	**102**	*eP*	**Pn**	**07 25 56.8**	**+0.6**
CRIN				*eS*	**Sn**	**07 26 35.3**	**+7.7**
TELN	**Telica**	**2.92**	**103**	*eP*	**Pn**	**07 25 58.5**	**-0.7**
MOMJ	**Momotombo**	**3.25**	**105**	*eP*	**Pn**	**07 26 03.9**	**+0.2**
XAVN	**Gruta Xavier**	**3.53**	**108**	*eP*	**Pn**	**07 26 07.6**	**+0.1**
TISN	**Laguna Tiscapa**	**3.58**	**108**	*eP*	**Pn**	**07 26 07.8**	**-0.4**
MGAN	**Managua** comp=E,263nm,0.7s	**3.60**	**108**	*i*	**Sn**	**07 26 52.8**	**+3.1**
MGAN				*eP*		07 26 07.9	
TICN	**Ticuantepe**	**3.65**	**109**	*eP*	**Pn**	**07 26 09.1**	**-0.1**
CCIG	**Comitan**	**3.77**	**323**	*i P*	**Pn**	**07 26 08.7**	**-2.1**
CCIG				*i S*	**Sn**	**07 26 53.4**	**-0.7**
CONN	**Concepcion**	**4.38**	**112**	*eP*	**Pn**	**07 26 18.8**	**-0.3**
JTS	**JuntasAbangare** comp=E,10nm,0.3s,baz=308,slow=21,SNR=39	**5.56**	**122**	P	**Pn**	**07 26 34.0**	**-1.3**
JTS	baz=355,slow=18,SNR=1.8			S	**Sn**	**07 27 33.6**	**-4.2**
JTS	comp=E,2μm,20.7s,baz=79,slow=43			LR	LR	07 29 08.3	
JTS	**JuntasAbangare**	**5.56**	**122**	*ePn*	**Pn**	**07 26 33.9**	**-1.4**
JCR	**Jicaral**	**5.68**	**126**	*eP*	**Pn**	**07 26 35.9**	**-1.0**
CMIG	**Matias Romero** comp=E,2.2nm,0.3s,baz=126,slow=11,SNR=25	**6.24**	**308**	P	**Pn**	**07 26 42.7**	**-1.9**
CMIG	comp=E,2.3nm,0.3s,baz=118,slow=12,SNR=3.0			S	**Sn**	**07 27 49.2**	**-5.3**
CMIG	**Matias Romero**	**6.24**	**308**	P	**Pn**	**07 26 42.7**	**-1.9**
CMIG				S	**Sn**	**07 27 49.2**	**-5.3**
PRS1	**Puriscal**	**6.25**	**121**	*eP*	**Pn**	**07 26 45.7**	**+0.9**
HUIG	**Huatulco**	**6.63**	**293**	*i P*	**Pn**	**07 26 42.2**	**-7.8**
HUIG				*i S*	**Sn**	**07 27 46.2**	**-18**
LCR2	**La Lucha 2**	**6.64**	**121**	*eP*	**Pn**	**07 26 51.0**	**+0.9**
BUS	**Buena Vista**	**6.94**	**122**	*eP*	**Pn**	**07 26 56.0**	**+1.8**
TEIG	**Tepich**	**7.05**	**11**	*ePn*	**Pn**	**07 26 59.0**	**+3.2**
OXX	**Oaxaca**	**7.72**	**300**	*eP*	**Pn**	**07 26 59.0**	**-5.9**
VHO	**Vista Hermosa**	**7.72**	**300**	*i P*	**Pn**	**07 27 00.9**	**-4.0**
VHO				*i S*	**Sn**	**07 28 30.1**	**-0.8**
IIO	**Organos** comp=E,0.2nm,0.3s,baz=257,slow=23,SNR=3.2	**10.65**	**307**	*i P*	**Pn**	**07 27 38.7**	**-6.2**
IIO				*i S*	**Sn**	**07 29 49.4**	**+6.8**
PLIG	**Platanillo**	**10.67**	**300**	*i S*	**Pn**	**07 27 40.3**	**-4.8**
SOR	**Soroa**	**11.43**	**33**	*eP*	**Pn**	**07 28 06.2**	**+11**
MOIG	**Morelia**	**12.68**	**302**	*eP*	**Pn**	**07 28 06.3**	**-6.3**
OTAV	**Otavalo**	**17.12**	**138**	P	**Pn**	**07 29 08.0**	**-2.2**
ROSC	**El Rosal** comp=E,0.6nm,0.9s,baz=142,slow=4.5,SNR=4.1	**17.36**	**117**	P	**Pn**	**07 29 12.2**	**-1.0**
HKT	**Hockley** comp=E,66nm,1.8s	**17.52**	**342**	*eP*	**Pn**	**07 29 16.5**	**+1.5**
SDV	**Santo Domingo** comp=E,0.6nm,0.3s,baz=293,slow=4.9,SNR=6.3	**19.26**	**101**	P	**Pn**	**07 29 33.0**	**-3.0**
SDV	**Santo Domingo** comp=E,7.0nm,0.7s	**19.26**	**101**	*eP*	**Pn**	**07 29 35.0**	**-1.0**
JCT	**Junction City** comp=E,9.1nm,0.7s	**19.47**	**333**	*eP*	**Pn**	**07 29 36.3**	**-2.3**
LRAL	**Lakeview Retre** comp=E,8.5nm,0.7s	**19.83**	**7**	*eP*	**Pn**	**07 29 43.2**	**+0.5**
LTX	**Lajitas** comp=E,21nm,1.1s	**20.54**	**323**	*eP*	**P**	**07 29 48.2**	**-0.1**
TXAR	**Lajitas Array** comp=E,10nm,1.0s,baz=144,slow=9.5,SNR=71	**20.54**	**323**	P	**P**	**07 29 48.3**	**-0.1**
TXAR	comp=E,0.6nm,0.9s,baz=142,slow=4.5,SNR=4.1			PcP	PcP	07 33 58.5	+1.2
OXF	**Oxford** comp=E,64nm,1.1s,mb4.9	**21.14**	**1**	*eP*	**P**	**07 29 57.5**	**+2.7**
MIAR	**Mount Ida** comp=E,48nm,1.4s,mb4.6	**21.46**	**351**	*eP*	**P**	**07 29 58.5**	**+0.3**
UALR	**University of** comp=E,18nm,0.9s,mb4.5	**21.53**	**354**	*eP*	**P**	**07 30 01.5**	**+2.5**
PLAL	**Pickwick Lake** comp=E,15nm,0.8s,mb4.5	**21.66**	**4**	*eP*	**P**	**07 30 01.5**	**+1.1**
LPIG	**La Paz** comp=E,785nm,18.2s,baz=298,slow=40	**22.22**	**302**	LR	LR	07 40 13.7	
WVT	**Waverly** comp=E,21nm,1.0s,mb4.5	**22.82**	**4**	*eP*	**P**	**07 30 13.2**	**+0.5**
WMOK	**Wichita Mounta** comp=E,41nm,1.7s,mb4.6	**22.88**	**341**	*eP*	**P**	**07 30 11.5**	**-1.8**
TKL	**Tuckaleechee C** comp=E,11nm,0.9s,mb4.2,baz=183,slow=8.2,SNR=11	**22.93**	**13**	P	**P**	**07 30 14.2**	**+0.4**
TKL	comp=E,936nm,18.4s,baz=202,slow=40			LR	LR	07 40 22.3	
ATAH	**Atahualpa** comp=E,7.3nm,1.0s,mb4.1,baz=18,slow=14,SNR=3.6	**23.09**	**150**	P	**P**	**07 30 16.8**	**+1.3**
ATAH	comp=E,287nm,18.3s,baz=148,slow=33			LR	LR	07 38 06.3	
GDL2	**Guadalupe Moun**	**23.11**	**327**	*eP*	**P**	**07 30 16.0**	**+0.3**
MNTX	**Cornudas Mount** comp=E,51nm,1.3s,mb4.8	**23.29**	**324**	*eP*	**P**	**07 30 15.9**	**-1.4**
TZTN	**Tazewell** comp=E,22nm,1.4s,mb4.4	**23.83**	**12**	*eP*	**P**	**07 30 25.3**	**+3.0**
AMTX	**Amarillo** comp=E,13nm,1.0s,mb4.3	**24.07**	**335**	*eP*	**P**	**07 30 23.5**	**-1.0**
SIUC	**Southern Illin** comp=E,32nm,0.8s,mb4.4	**24.34**	**1**	*eP*	**P**	**07 30 27.7**	**+0.7**
WCI	**Wyandotte Cave** comp=E,30nm,0.9s,mb4.8	**25.04**	**6**	*eP*	**P**	**07 30 33.5**	**+0.2**
BNM	**Barren Site**	**25.82**	**326**	*eP*	**P**	**07 30 41.0**	**+0.6**
LPM	**Los Pinos Moun**	**25.94**	**327**	*eP*	**P**	**07 30 41.8**	**+0.3**
BLO	**Bloomington** comp=E,15nm,1.0s,mb4.5	**25.95**	**6**	*eP*	**P**	**07 30 42.2**	**+0.6**
LENM	**Lemitar**	**26.02**	**326**	*eP*	**P**	**07 30 42.3**	**+0.1**
LAZ	**Ladron**	**26.29**	**326**	*eP*	**P**	**07 30 44.3**	**-0.3**
ANMO	**Albuquerque** comp=E,1.4nm,0.7s,mb3.6,baz=142,slow=7.8,SNR=7.8	**26.34**	**328**	P	**P**	**07 30 44.6**	**-0.5**
ANMO	**Albuquerque** comp=E,2.1nm,0.8s,mb3.7	**26.34**	**328**	*eP*	**P**	**07 30 45.1**	**0.0**
116A	**Eloy** baz=28	**27.77**	**317**	⇑P	**P**	**07 30 58.3**	**+0.4**
SDCO	**Great Sand Dun**	**28.12**	**333**	*eP*	**P**	**07 31 01.4**	**+0.3**
115A	**Sonoran Desert** baz=28	**28.21**	**317**	⇓P	**P**	**07 31 02.6**	**+0.8**
Z14A	**Wintersburg** baz=29	**29.09**	**317**	⇓P	**P**	**07 31 10.1**	**+0.5**
MVCO	**Mesa Verde** comp=E,6.3nm,0.8s,mb4.4	**29.13**	**328**	*eP*	**P**	**07 31 10.2**	**+0.1**
MVCO	**Mesa Verde** baz=29,SNR=6.0	**29.13**	**328**	P	**P**	**07 31 10.5**	**+0.4**
X15A	**Humboldt** baz=30	**29.34**	**320**	⇑P	**P**	**07 31 11.8**	**-0.1**
Y14A	**Wickenburg** baz=30	**29.48**	**318**	⇑P	**P**	**07 31 12.7**	**-0.4**
WUAZ	**Wupatki** comp=E,18nm,1.1s,mb4.7	**29.50**	**322**	*eP*	**P**	**07 31 14.1**	**+0.9**
WUAZ	**Wupatki** baz=30,SNR=7.3	**29.50**	**322**	P	**P**	**07 31 14.2**	**+0.9**
JFWS	**Jewell Farm** comp=E,13nm,0.9s,mb4.7	**29.53**	**359**	*eP*	**P**	**07 31 13.4**	**-0.2**
X14A	**Yava** baz=30	**29.74**	**319**	⇓P	**P**	**07 31 15.6**	**+0.2**
PV01	**Paradox Valley**	**29.88**	**329**	*eP*	**P**	**07 31 15.1**	**-1.6**
GLA	**Glamis**	**30.18**	**315**	*eP*	**P**	**07 31 18.9**	**-0.3**
GLA	**Glamis** baz=30	**30.18**	**315**	⇑P	**P**	**07 31 19.5**	**+0.2**
PV10	**Paradox Valley**	**30.30**	**329**	*eP*	**P**	**07 31 20.3**	**-0.1**
W14A	**Seligman** baz=30	**30.34**	**320**	⇑P	**P**	**07 31 21.0**	**+0.3**
Y12C	**Blythe** baz=30	**30.37**	**316**	⇓P	**P**	**07 31 21.3**	**+0.3**
X13A	**Yucca** baz=31	**30.43**	**318**	⇓P	**P**	**07 31 21.8**	**+0.4**
PDMCI	**Parker Dam,Lak** baz=31,SNR=6.2	**30.45**	**318**	P	**P**	**07 31 22.2**	**+0.6**
W13A	**Hualapai Mount** baz=31,SNR=7.5	**30.77**	**319**	P	**P**	**07 31 25.6**	**+1.0**
ECSD	**EROS,Sioux Fal** comp=E,14nm,1.0s,mb4.7	**30.92**	**350**	*eP*	**P**	**07 31 24.7**	**-1.1**
BC3	**Big Chuckw Mtn** baz=31,SNR=7.9	**30.95**	**315**	P	**P**	**07 31 26.6**	**+0.5**
IRM	**Iron Mountain**	**31.03**	**316**	⇑P	**P**	**07 31 27.3**	**+0.5**
MONP	**Monument Peak** baz=31	**31.20**	**313**	⇑P	**P**	**07 31 28.4**	**+0.1**
BELC	**Belle Mtn.** baz=32	**31.52**	**315**	⇓P	**P**	**07 31 31.1**	**+0.1**
W12A	**Cal Nev Ari** baz=32	**31.53**	**318**	⇓P	**P**	**07 31 32.0**	**+0.8**
SRU	**San Rafael** comp=E,6.5nm,1.0s,mb4.4	**31.61**	**328**	*eP*	**P**	**07 31 31.8**	**-0.1**
GMRC	**Granite Mounta** baz=32	**31.74**	**317**	⇓P	**P**	**07 31 33.2**	**+0.1**
V12A	**Nelson** baz=32,SNR=15	**31.78**	**319**	P	**P**	**07 31 33.8**	**+0.3**
U12A	**Valley of Fire** baz=32	**32.03**	**320**	⇑P	**P**	**07 31 36.1**	**+0.6**
MSU	**Marysvale**	**32.05**	**326**	*eP*	**P**	**07 31 36.1**	**+0.3**
CCUT	**Cedar City**	**32.06**	**323**	*eP*	**P**	**07 31 36.5**	**+0.7**
RWWY	**Rawlins**	**32.13**	**335**	*eP*	**P**	**07 31 37.0**	**+0.5**
HEC	**Hector,Ludlow** baz=32	**32.22**	**316**	⇓P	**P**	**07 31 37.7**	**+0.5**
V11A	**Goodsprings** baz=32	**32.22**	**319**	⇓P	**P**	**07 31 37.6**	**+0.3**
ARUT	**Antelope Range**	**32.26**	**323**	*eP*	**P**	**07 31 38.3**	**+0.7**
ARUT				*e*		07 31 46.5	
BBRC	**Big Bear Sol-O** baz=32	**32.30**	**315**	⇓P	**P**	**07 31 37.8**	**-0.1**
TUQ	**Turquoise Mtn.** baz=32	**32.30**	**318**	⇑P	**P**	**07 31 38.4**	**+0.4**
SHPR	**Sheep Range**	**32.46**	**320**	*eP*	**P**	**07 31 39.9**	**+0.5**
BFSC	**Mount Baldy St** baz=33	**32.80**	**314**	⇑P	**P**	**07 31 42.7**	**+0.4**
GSC	**Goldstone** baz=33	**32.81**	**317**	⇓P	**P**	**07 31 42.9**	**+0.5**
MPU	**Maple Canyon**	**32.86**	**328**	*eP*	**P**	**07 31 42.5**	**-0.3**
DAU	**Daniels Canyon**	**32.96**	**329**	*eP*	**P**	**07 31 43.6**	**-0.1**
RSSD	**Black Hills** comp=E,4.7nm,0.8s,mb4.5	**33.09**	**341**	*eP*	**P**	**07 31 44.9**	**+0.1**
U10A	**Ash Meadows, A** baz=33	**33.15**	**319**	⇑P	**P**	**07 31 45.6**	**+0.2**
DECC	**Green Verdugo** baz=33	**33.27**	**314**	⇑P	**P**	**07 31 46.5**	**+0.1**
EDW2	**Edwards Air Fo** baz=34	**33.37**	**315**	⇓P	**P**	**07 31 47.0**	**-0.3**
LRMC	**Laurel Mountai** baz=34,SNR=6.5	**33.50**	**316**	⇑P	**P**	**07 31 48.4**	**0.0**
FURC	**Furnace Creek,** baz=34	**33.52**	**318**	⇓P	**P**	**07 31 48.9**	**+0.3**
NOQ	**North Oquirrh**	**33.58**	**328**	*eP*	**P**	**07 31 49.6**	**+0.5**
DUG	**Dugway** comp=E,9.9nm,1.4s,mb4.5	**33.60**	**327**	*eP*	**P**	**07 31 49.8**	**+0.5**
DUG	**Dugway** baz=34	**33.60**	**327**	⇓P	**P**	**07 31 49.6**	**+0.2**
MPMC	**Manual Prospec** baz=34,SNR=10	**33.70**	**317**	⇓P	**P**	**07 31 49.9**	**-0.2**
TRCR	**Troy Canyon**	**33.90**	**322**	*eP*	**P**	**07 31 52.3**	**+0.4**
Q12A	**Willow Creek R** baz=34,SNR=6.9	**33.91**	**324**	⇑P	**P**	**07 31 52.4**	**+0.4**
PDAR	**Pinedale Array** comp=E,0.6nm,0.7s,mb3.6,baz=116,slow=10,SNR=6.3	**34.01**	**334**	P	**P**	**07 31 52.2**	**-0.7**
PDAR	comp=E,1.0nm,0.9s,baz=151,slow=3.4,SNR=5.9			PcP	PcP	07 34 29.6	+0.1
HWUT	**Hardware Ranch** comp=E,15nm,1.3s,mb4.8	**34.02**	**330**	*eP*	**P**	**07 31 52.8**	**-0.1**
ARVC	**Arvin** baz=34	**34.09**	**315**	⇑P	**P**	**07 31 53.6**	**+0.1**
ISA	**Isabella**	**34.13**	**316**	*eP*	**P**	**07 31 55.2**	**+1.3**
ISA	**Isabella** baz=34	**34.13**	**316**	⇓P	**P**	**07 31 54.0**	**+0.1**
GRAC	**Grapevine Rang** baz=34,SNR=10.0	**34.17**	**319**	⇓P	**P**	**07 31 54.6**	**+0.3**
SPUT	**South Promonto**	**34.23**	**329**	*eP*	**P**	**07 31 51.8**	**-3.0**
BGU	**Big Grassy Mou**	**34.25**	**328**	*eP*	**P**	**07 31 54.8**	**-0.1**
P12A	**McGill** baz=34,SNR=7.5	**34.25**	**324**	⇓P	**P**	**07 31 55.4**	**+0.5**
Q11A	**Duckwater** baz=34,SNR=12	**34.26**	**323**	P	**P**	**07 31 55.8**	**+0.8**
CWC	**Cottonwood Cre** baz=34	**34.31**	**317**	⇑P	**P**	**07 31 55.6**	**+0.2**
S09A	**Goldfield** baz=35,SNR=9.8	**34.51**	**320**	P	**P**	**07 31 57.8**	**+0.6**
EYMN	**Ely** comp=E,14nm,0.9s,mb4.9	**34.59**	**358**	*eP*	**P**	**07 31 56.4**	**-1.5**
VES	**Vestal, Richgr** baz=35,SNR=10	**34.64**	**316**	P	**P**	**07 31 59.1**	**+0.8**
PKM	**Peak Mountain** baz=35	**34.66**	**314**	⇑P	**P**	**07 31 58.2**	**-0.2**
O12A	**Currie** baz=35,SNR=8.0	**34.70**	**325**	P	**P**	**07 31 59.8**	**+1.0**
R09A	**Tonopah** baz=35,SNR=13	**34.73**	**321**	P	**P**	**07 32 00.0**	**+0.9**
P11A	**Circle Ranch,** baz=35	**34.79**	**324**	⇓P	**P**	**07 32 00.2**	**+0.6**
N13A	**Wendover, West** baz=35	**34.82**	**327**	⇓P	**P**	**07 32 00.6**	**+0.7**
SMMC	**Simmler** baz=35	**35.00**	**314**	⇑P	**P**	**07 32 01.5**	**+0.1**
RCTC	**Rector, Farmer** baz=35,SNR=5.5	**35.01**	**316**	⇓P	**P**	**07 32 01.7**	**+0.2**
REDW	**Red Top Meadow** comp=E,12nm,0.7s,mb4.9	**35.05**	**333**	*eP*	**P**	**07 32 01.9**	**+0.1**
HELL	**Mitchell Peak,** baz=35,SNR=7.9	**35.07**	**317**	⇓P	**P**	**07 32 02.1**	**+0.1**
SNOW	**Snow King Moun** comp=E,14nm,0.7s,mb5.0	**35.09**	**333**	*eP*	**P**	**07 32 02.3**	**+0.1**
O11A	**Cowboy Ranch,** baz=35,SNR=9.1	**35.12**	**324**	P	**P**	**07 32 02.9**	**+0.5**
LOHW	**Long Hollow** comp=E,4.4nm,0.7s,mb4.5	**35.14**	**333**	*eP*	**P**	**07 32 02.0**	**-0.7**
M13A	**Montello** baz=35,SNR=14	**35.16**	**327**	P	**P**	**07 32 02.9**	**+0.2**
P10A	**Eureka** baz=35	**35.24**	**323**	⇓P	**P**	**07 32 03.8**	**+0.3**
RRI2	**Red Ridge**	**35.25**	**332**	*eP*	**P**	**07 32 03.7**	**+0.1**
N12A	**Clover Valley,** baz=36,SNR=7.1	**35.27**	**326**	⇓P	**P**	**07 32 03.8**	**+0.1**
AGMN	**Agassiz Refuge** comp=E,20nm,0.8s,mb5.1	**35.28**	**353**	*eP*	**P**	**07 32 02.5**	**-1.3**
MOOW	**Moose Ponds**	**35.31**	**333**	*eP*	**P**	**07 32 04.0**	**-0.1**
R08A	**Mina** baz=36,SNR=11	**35.44**	**320**	⇑P	**P**	**07 32 05.9**	**+0.7**
MLAC	**Mammoth Lakes** baz=36	**35.48**	**318**	⇓P	**P**	**07 32 06.4**	**+0.9**
IMW	**Indian Meadow** comp=E,4.2nm,0.9s,mb4.4	**35.52**	**333**	*eP*	**P**	**07 32 06.1**	**+0.3**
M12A	**Wells** baz=36,SNR=8.5	**35.59**	**327**	P	**P**	**07 32 06.8**	**+0.4**
P09A	**Austin** baz=36	**35.60**	**322**	⇓P	**P**	**07 32 06.6**	**+0.1**
NVAR	**Mina Array Bea** comp=E,9.8nm,0.6s,mb4.9,baz=136,slow=7.7,SNR=66	**35.62**	**320**	P	**P**	**07 32 07.6**	**+0.9**
NVAR	comp=E,2.1nm,0.8s,baz=129,slow=3.0,SNR=6.0			PcP	PcP	07 34 35.0	+0.8
KCC	**Kaiser Creek** baz=36,SNR=7.4	**35.62**	**318**	⇓P	**P**	**07 32 07.0**	**+0.3**
N11A	**Elko Archery C** baz=36,SNR=5.7	**35.63**	**325**	P	**P**	**07 32 07.7**	**+0.9**
Q08A	**Gabbs** baz=36,SNR=10.0	**35.65**	**321**	P	**P**	**07 32 07.9**	**+1.0**
PKD	**Parkfield** baz=36	**35.70**	**315**	⇓P	**P**	**07 32 08.1**	**+0.7**
O10A	**Cortez Mining,** baz=36,SNR=5.2	**35.71**	**324**	⇓P	**P**	**07 32 08.0**	**+0.6**
T06C	**Millerton Lake** baz=36	**35.71**	**317**	⇑P	**P**	**07 32 07.6**	**+0.1**
N10A	**Dunphy** baz=36	**35.99**	**324**	⇑P	**P**	**07 32 10.5**	**+0.6**
O09A	**Fish Creek Ran** baz=36,SNR=6.0	**36.03**	**323**	P	**P**	**07 32 10.9**	**+0.7**
M11A	**Holland Ranch,** baz=36,SNR=8.4	**36.08**	**326**	P	**P**	**07 32 10.8**	**+0.2**
U04C	**Hernandez Rese** baz=36	**36.09**	**315**	⇑P	**P**	**07 32 10.9**	**+0.1**
BMN	**Battle Mountai** comp=E,11nm,1.0s,mb4.7	**36.21**	**323**	*eP*	**P**	**07 32 12.6**	**+0.7**
S06C	**San Francisco** baz=36,SNR=8.5	**36.29**	**318**	⇑P	**P**	**07 32 13.0**	**+0.5**
S05C	**Merced** baz=36,SNR=8.5	**36.31**	**317**	P	**P**	**07 32 12.9**	**+0.4**
LPAZ	**La Paz** comp=E,0.5nm,0.6s,mb3.6,baz=301,slow=6.6,SNR=2.7	**36.33**	**143**	P	**P**	**07 32 12.3**	**-0.5**
LPAZ	comp=E,150nm,18.6s,baz=281,slow=36			LR	LR	07 47 02.5	
LPAZ	**La Paz**	**36.33**	**143**	P	**P**	**07 32 12.3**	**-0.5**
LPAZ				LR	LR	07 47 02.5	
WAKR	**Walker**	**36.38**	**319**	*eP*	**P**	**07 32 14.6**	**+1.4**
R06C	**Coleville** baz=37,SNR=9.6	**36.40**	**319**	P	**P**	**07 32 15.4**	**+2.0**
QLMT	**Earthquake Lak**	**36.47**	**334**	*eP*	**P**	**07 32 14.2**	**+0.2**
M10A	**I.L. Ranch, Tu** baz=37,SNR=6.8	**36.55**	**325**	P	**P**	**07 32 15.4**	**+0.8**
P07A	**Fallon** baz=37	**36.65**	**321**	⇑P	**P**	**07 32 16.2**	**+0.7**
N09A	**Rock Creek Ran** baz=37	**36.66**	**324**	⇓P	**P**	**07 32 16.0**	**+0.4**
CMB	**Columbia Colle** comp=E,8.1nm,1.1s,mb4.5	**36.72**	**318**	*eP*	**P**	**07 32 15.8**	**-0.4**
CMB	**Columbia Colle** baz=37,SNR=5.4	**36.72**	**318**	P	**P**	**07 32 17.1**	**+0.9**
HLID	**Hailey** comp=E,7.5nm,1.4s,mb4.3	**36.88**	**330**	*eP*	**P**	**07 32 17.4**	**0.0**
HLID	**Hailey** baz=37	**36.88**	**330**	⇓P	**P**	**07 32 17.7**	**+0.2**
R05C	**Kirkwood Meado** baz=37,SNR=10	**36.90**	**319**	P	**P**	**07 32 19.1**	**+1.4**
N08A	**GE Springer Mi** baz=37	**36.97**	**323**	⇓P	**P**	**07 32 18.2**	**-0.1**
M09A	**Marrel Ranch,** baz=37	**36.99**	**324**	⇓P	**P**	**07 32 18.7**	**+0.3**
O07A	**Toulon** baz=37	**37.02**	**322**	⇑P	**P**	**07 32 18.5**	**-0.1**
WCN	**Washoe City** baz=37	**37.05**	**320**	⇓P	**P**	**07 32 19.3**	**+0.5**
S04C	**Ingram Canyon,** baz=37	**37.06**	**316**	⇑P	**P**	**07 32 19.6**	**+0.6**
MCMT	**McKenzie Canyo**	**37.10**	**332**	*eP*	**P**	**07 32 19.8**	**+0.5**
G15A	**Dillon** baz=37,SNR=6.2	**37.20**	**333**	P	**P**	**07 32 20.8**	**+0.6**
R04C	**Big Horse Ranc** baz=37	**37.21**	**318**	⇑P	**P**	**07 32 20.7**	**+0.5**
ULM	**Lac du Bonnet** comp=E,9.6nm,0.8s,mb4.7,baz=175,slow=8.8,SNR=14	**37.21**	**353**	P	**P**	**07 32 18.4**	**-1.9**
ULM	comp=E,313nm,18.1s,baz=190,slow=41			LR	LR	07 50 53.4	
LAVA	**Lava Cap Winer** baz=38	**37.36**	**318**	⇑P	**P**	**07 32 21.9**	**+0.4**
P06A	**Stead Airport,** baz=38	**37.36**	**320**	⇑P	**P**	**07 32 22.4**	**+0.9**
WENL	**Wente Brothers** baz=38	**37.41**	**316**	⇑P	**P**	**07 32 22.9**	**+1.0**
N07B	**Gerlach** baz=38	**37.46**	**322**	⇑P	**P**	**07 32 23.7**	**+1.3**
L09A	**Wilkinson Ranc** baz=38	**37.51**	**325**	⇓P	**P**	**07 32 23.2**	**+0.4**
M08A	**Happy Creek Ra** baz=38,SNR=5.2	**37.54**	**324**	P	**P**	**07 32 23.4**	**+0.3**
P05C	**Yuba Gap, Truc** baz=38,SNR=6.4	**37.58**	**319**	P	**P**	**07 32 24.6**	**+1.2**
O06A	**Flanigan** baz=38,SNR=6.6	**37.60**	**321**	P	**P**	**07 32 24.4**	**+0.9**
LRM	**Limekiln Ridge**	**37.70**	**334**	*eP*	**P**	**07 32 24.5**	**+0.1**
F15A	**Butte** baz=38	**37.73**	**334**	⇑P	**P**	**07 32 25.3**	**+0.6**
BEKR	**Beckwourth** baz=38,SNR=7.7	**37.75**	**320**	P	**P**	**07 32 25.8**	**+0.9**
Q04C	**Lincoln** baz=38	**37.82**	**318**	⇓P	**P**	**07 32 26.4**	**+1.0**
N06A	**Buffalo Meadow** baz=38,SNR=8.2	**37.96**	**322**	P	**P**	**07 32 26.6**	**0.0**
M07A	**Soldier Meadow** baz=38	**37.96**	**323**	⇓P	**P**	**07 32 26.4**	**-0.3**
K09A	**Rome** baz=38,SNR=17	**37.99**	**326**	P	**P**	**07 32 26.9**	**0.0**
L08A	**Fields** baz=38,SNR=12	**38.00**	**325**	P	**P**	**07 32 27.0**	**0.0**
O05C	**Quincy** baz=38,SNR=6.8	**38.16**	**320**	⇓P	**P**	**07 32 28.8**	**+0.6**
OHCM	**Honcut**	**38.16**	**319**	*eP*	**P**	**07 32 29.4**	**+1.1**
E15A	**Deer Lodge** baz=38	**38.26**	**334**	⇓P	**P**	**07 32 27.9**	**-1.2**
ORV	**Oroville** baz=38,SNR=9.9	**38.30**	**319**	⇑P	**P**	**07 32 29.8**	**+0.4**
SUTB	**Sutter Butte** baz=38,SNR=7.5	**38.30**	**318**	⇓P	**P**	**07 32 29.8**	**+0.3**
WVOR	**Wild Horse Val** comp=E,6.1nm,0.9s,mb4.3	**38.32**	**325**	*eP*	**P**	**07 32 29.6**	**0.0**
K08A	**Mann Creek Ran** baz=39,SNR=26	**38.43**	**325**	P	**P**	**07 32 30.7**	**+0.1**
EGMT	**Eagleton** comp=E,9.3nm,0.8s,mb4.6	**38.44**	**338**	*eP*	**P**	**07 32 30.3**	**-0.3**
EGMT	**Eagleton** baz=39	**38.44**	**338**	⇓P	**P**	**07 32 30.0**	**-0.6**
J09A	**Fry Pan Ranch,** baz=39,SNR=14	**38.45**	**327**	P	**P**	**07 32 31.0**	**+0.3**
L07A	**Adell** baz=39	**38.46**	**324**	⇓P	**P**	**07 32 30.7**	**-0.1**
O04C	**Chester** baz=39,SNR=7.7	**38.47**	**320**	P	**P**	**07 32 31.3**	**+0.4**
H11A	**Donnelly** baz=39,SNR=9.3	**38.50**	**330**	P	**P**	**07 32 30.4**	**-0.7**
F13A	**Darby** baz=39,SNR=6.6	**38.51**	**332**	P	**P**	**07 32 30.6**	**-0.5**
MNRC	**McLaughlin Nat** baz=39	**38.54**	**317**	⇓P	**P**	**07 32 30.6**	**-0.8**
E14A	**Clinton** baz=39	**38.62**	**333**	⇓P	**P**	**07 32 31.4**	**-0.7**
M06C	**Likely Place G** baz=39	**38.62**	**322**	⇑P	**P**	**07 32 32.1**	**-0.1**
D15A	**Lincoln** baz=39	**38.70**	**335**	⇑P	**P**	**07 32 33.0**	**+0.2**
K07A	**Rock Creek Ran** baz=39,SNR=14	**38.83**	**325**	P	**P**	**07 32 33.9**	**0.0**
J08A	**Circle Bar Ran** baz=39,SNR=9.9	**38.84**	**326**	P	**P**	**07 32 33.9**	**-0.1**
I09A	**Lost Marbles R** baz=39,SNR=6.3	**38.87**	**327**	P	**P**	**07 32 34.0**	**-0.2**
CHMT	**Chamberlain Mo**	**38.90**	**334**	*eP*	**P**	**07 32 34.0**	**-0.5**
E13A	**Victor** baz=39,SNR=6.4	**38.94**	**333**	P	**P**	**07 32 34.3**	**-0.5**
MOD	**Modoc** comp=E,6.8nm,1.2s,mb4.2	**38.95**	**323**	*eP*	**P**	**07 32 34.4**	**-0.4**
MOD	**Modo

YBH	**Yreka Blue Hor**	**40.29**	**321**	⇓P		**P**	07 32 44.9	**-1.1**
	baz=40							
D11A	**Klaveano Farm,**	**40.37**	**332**	⇓P		**P**	07 32 45.5	**-1.2**
	baz=41							
B13A	**Whitefish**	**40.56**	**335**	⇑P		**P**	07 32 47.5	**-0.7**
	baz=41							
SIV	**San Ignacio**	**40.62**	**135**	P		**P**	07 32 48.2	**-0.5**
	comp=E,5.2nm,0.8s,mb4.2,baz=306,slow=8.8,SNR=25							
F08A	**Pendleton**	**40.65**	**329**	⇑P		**P**	07 32 47.3	**-1.8**
	baz=41							
G07A	**Ruggs Ranch, H**	**40.76**	**327**	⇓P		**P**	07 32 49.7	**-0.2**
	baz=41							
J04A	**Umpqua Nationa**	**40.82**	**323**	⇓P		**P**	07 32 50.5	**+0.1**
	baz=41							
E09A	**Wood Farm, Sta**	**40.84**	**330**	⇓P		**P**	07 32 50.1	**-0.5**
	baz=41							
I05A	**Bend**	**40.91**	**325**	⇑P		**P**	07 32 50.8	**-0.3**
	baz=41							
B12A	**Libby**	**41.10**	**334**	⇑P		**P**	07 32 52.5	**-0.2**
	baz=41							
D09A	**Jones Farm, Ri**	**41.31**	**330**	⇓P		**P**	07 32 53.5	**-0.9**
	baz=42							
F07A	**Phinny Hill Vi**	**41.31**	**328**	⇓P		**P**	07 32 54.1	**-0.3**
	baz=42							
I04A	**Tendick Farm,**	**41.33**	**324**	⇓P		**P**	07 32 53.3	**-1.3**
	baz=42							
K02A	**Glendale**	**41.36**	**322**	⇓P		**P**	07 32 53.7	**-1.1**
	baz=42							
C10A	**Spilker Farm,**	**41.38**	**332**	⇑P		**P**	07 32 54.0	**-1.0**
	baz=42							
B11A	**Sandpoint**	**41.42**	**333**	⇓P		**P**	07 32 54.4	**-1.0**
	baz=42							
D08A	**Wollman Farm,**	**41.60**	**330**	⇑P		**P**	07 32 55.6	**-1.2**
	baz=42							
G05A	**Wamic**	**41.62**	**326**	⇑P		**P**	07 32 55.2	**-1.8**
	baz=42							
F06A	**Goldendale**	**41.67**	**327**	⇓P		**P**	07 32 56.8	**-0.6**
	baz=42							
E07A	**Sunnyside**	**41.72**	**329**	⇑P		**P**	07 32 57.4	**-0.5**
	baz=42							
H04A	**Detroit Lake**	**41.74**	**325**	⇓P		**P**	07 32 57.1	**-0.9**
	baz=42							
A11A	**Hall Mountain,**	**41.81**	**334**	⇓P		**P**	07 32 58.1	**-0.4**
	baz=42							
C09A	**Chrisman Ranch**	**41.82**	**331**	⇑P		**P**	07 32 58.2	**-0.4**
	baz=42							
HOOD	**Mount Hood Mea**	**41.85**	**326**	*e*P		**P**	07 32 59.4	**+0.6**
B09A	**Rice**	**42.21**	**332**	⇑P		**P**	07 33 00.7	**-1.0**
	baz=42							
E06A	**Yakima**	**42.29**	**328**	⇓P		**P**	07 33 02.0	**-0.4**
	baz=42							
A09A	**Danville**	**42.81**	**332**	⇑P		**P**	07 33 05.6	**-1.1**
	baz=43							
D05A	**Enumclaw**	**43.23**	**328**	⇑P		**P**	07 33 08.8	**-1.2**
	baz=43							
A07A	**Ashnola River,**	**43.69**	**331**	⇑P		**P**	07 33 13.3	**-0.4**
	baz=44							
EDM	**Edmonton**	**44.04**	**340**	*e*P		**P**	07 33 15.5	**-1.1**
SCHQ	**Schefferville**	**45.17**	**19**	P		**P**	07 33 25.0	**-0.6**
	comp=E,13nm,0.8s,mb4.8,baz=212,slow=5.7,SNR=22							
SCHQ				LR		LR	07 55 19.7	
	comp=E,327nm,19.7s,baz=255,slow=40							
YKA	**Yellowknife Ar**	**52.24**	**346**	P		**P**	07 34 18.2	**-1.6**
	comp=E,5.2nm,0.8s,mb4.5,baz=146,slow=7.6,SNR=28							
YKA				PcP		PcP	07 35 29.8	-0.7
	comp=E,0.5nm,0.7s,baz=148,slow=3.9,SNR=4.7							
YKA				LR		LR	08 00 25.9	
	comp=E,225nm,18.1s,baz=40,slow=40							
YKA	**Yellowknife Ar**	**52.24**	**346**	P		**P**	07 34 18.2	**-1.6**
YKA				PcP		PcP	07 35 29.8	-0.7
YKA				LR		LR	08 00 25.9	
YKW3	**Yellowknife Ar**	**52.30**	**346**	*e*P		**P**	07 34 18.8	**-1.4**
DLBC	**Dease Lake**	**54.21**	**335**	*e*P		**P**	07 34 34.4	**+0.2**
TAOE	**Nuku Hiva Isla**	**54.66**	**249**	*e*LR		LR	07 50 06.5	
	comp=E,968nm,27.8s							
RKT	**Rikitea**	**57.16**	**231**	*e*S		**S**	07 42 39.3	**-6.7**
	comp=E,82nm,31.8s							
RKT				*e*LR		LR	07 51 32.1	
	comp=E,209nm,28.2s							
RES	**Resolute Bay**	**61.47**	**358**	*e*P		**P**	07 35 23.1	**-1.9**
	comp=E,195nm,0.7s							
INK	**Inuvik**	**61.76**	**343**	*e*P		**P**	07 35 25.5	**-1.6**
	comp=E,221nm,1.0s							
PPT	**Papeete**	**66.52**	**244**	*e*LR		LR	07 55 42.1	
	comp=E,239nm,25.5s							
PPT	**Papeete**	**66.52**	**244**	LR		LR	07 57 04.1	
	comp=E,185nm,21.4s,baz=61,slow=29							
TBI	**Tubuai**	**68.81**	**238**	*e*LR		LR	07 56 45.0	
	comp=E,162nm,29.5s							
ESDC	**Sonseca Array**	**78.45**	**52**	P		**P**	07 37 09.2	**+0.1**
	comp=E,0.1nm,0.3s,baz=290,slow=6.6,SNR=4.0							
NOA	**NORSAR Array B**	**83.73**	**29**	P		**P**	07 37 37.8	**+0.6**
	comp=E,1.2nm,0.8s,mb4.1,baz=284,slow=3.5,SNR=2.9							
NOA				LR		LR	08 16 13.2	
	comp=E,72nm,18.7s,baz=240,slow=37							
ARCES	**ARCESS Array B**	**86.13**	**19**	LR		LR	08 18 28.0	
	comp=E,102nm,20.5s,baz=35,slow=37							
TORD	**Torodi Ar. Bea**	**88.42**	**77**	P		**P**	07 37 59.4	**-0.8**
	comp=E,0.3nm,0.6s,mb3.7,baz=299,slow=6.1,SNR=3.0							
TORD				LR		LR	08 15 00.4	
	comp=E,136nm,21.8s,baz=325,slow=34							
GERES	**GERESS Array B**	**88.76**	**40**	P		**P**	07 38 01.1	**-0.8**
	comp=E,0.6nm,0.8s,mb4.0,baz=282,slow=1.9,SNR=5.5							
FINES	**FINESS Array B**	**90.21**	**26**	LR		LR	08 23 25.9	
	comp=E,73nm,19.1s,baz=86,slow=39							
AKASG	**Malin Array Be**	**97.11**	**34**	LR		LR	08 23 45.8	
	comp=E,84nm,20.9s,baz=350,slow=36							
SONM	**Songino Array**	**117.48**	**348**	PKP		PKPdf	07 43 53.8	+0.2
	comp=E,0.3nm,0.7s,baz=337,slow=2.1,SNR=3.6							
HHC	**Hu-ho-hao-te**	**122.64**	**341**	*e*PKP		PKPdf	07 43 59.3	-4.2
HHC				PP		PP	07 45 41.3	-0.1
HHC				PKS			07 47 35.3	
HHC				SS		SS	08 02 16.8	-1.7
HHC				PP		PP		
	comp=Z,42nm,5.7s							
HHC				LR		LR		
	comp=N,132nm,20.2s							
HHC				LR		LR		
	comp=E,153nm,20.2s							
HHC				LR		LR		
	comp=Z,154nm,20.2s							
WMQ	**Urumqi**	**123.13**	**2**	PKP		PKPdf	07 43 58.0	-6.5
WMQ				PP		PP		
	comp=Z,118nm,5.5s							
WMQ				LR		LR		
	comp=N,98nm,26.0s							
WMQ				LR		LR		
	comp=E,81nm,22.1s							
WMQ				LR		LR		
	comp=Z,115nm,19.5s							
LZH	**Lanzhou**	**129.25**	**346**	*e*PKP		PKPdf	07 44 12.0	-4.2
CD2	**Chengdu**	**134.19**	**344**	*e*PKP		PKPdf	07 44 20.5	-5.0
WRA	**Warramunga Arr**	**137.33**	**255**	PKP		PKPdf	07 44 31.3	0.0
	comp=Z,3.3nm,0.6s,baz=91,slow=2.7,SNR=8.3							
ASAR	**Alice Springs**	**137.47**	**249**	PKP		PKPdf	07 44 32.6	+1.0
	comp=Z,0.3nm,0.6s,baz=92,slow=3.7,SNR=5.6							
FITZ	**Fitzroy Crossi**	**145.63**	**257**	PKPbc		PKPbc	07 44 45.7	-0.8
	comp=Z,3.0nm,1.0s,baz=78,slow=6.7,SNR=4.7							
MBWA	**Marble Bar**	**150.81**	**250**	*e*PKPbc		PKPbc	07 44 59.2	-1.0
MBWA				*e*PKPab		PKPab	07 45 05.7	-1.9

IDC 26 08:03:49.2±2.0, 662S×13020E, h0km, mb4.3/1, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, ML3.9/3, Error ellipse: s-maj=85.3km s-min=26.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.25**	**201**	Pn	Pn	08 06 43.7	-1.2
	0.6nm,0.3s,baz=34,slow=11,SNR=18						
FITZ				Sn	Sn	08 08 45.1	-17
	0.4nm,0.3s,baz=111,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**13.84**	**164**	Pn	Pn	08 07 07.2	+0.6
	0.5nm,0.3s,baz=348,slow=14,SNR=22						
WRA				Sn	Sn	08 09 28.2	-13
	0.6nm,0.3s,baz=347,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.32**	**169**	P	Pn	08 07 53.4	+1.1
	0.4nm,0.3s,baz=340,slow=9.5,SNR=28						
ASAR				S	Sn	08 10 53.8	-12
	0.2nm,0.3s,baz=342,slow=24,SNR=4.8						
MKAR	**Makanchi Array**	**68.02**	**327**	P	P	08 14 50.5	+0.2
	1.6nm,0.5s,baz=126,slow=7.3,SNR=26						

*ISCJB **26** 08:13:32.0±5.9, 1870N±009×1453E±03, h302km±59km, mb3.5/8, Error ellipse: s-maj=44.4km s-min=14.4km az=173.5*

*IDC **26** 08:13:32.4±5.2, 1872N×14543E, h294km±49km, mb3.3/7, mb1 3.5/9, mb1mx3.3/20, mbtmp3.3/9, Error ellipse: s-maj=41.4km s-min=13.0km az=84.0*

ISC 26 08:13:34.3±4.9, 1874N±009×1454E±03, h314km±49km, n12, σ0°51/12, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.69**	**300**	P	**P**	**08 17 20.4**	**+0.5**
	3.2nm,0.3s,baz=107,slow=11,SNR=6.2						
MJAR	**Matsushiro Arr**	**18.83**	**342**	P	**P**	08 17 31.5	**-0.4**
	0.4nm,0.3s,baz=167,slow=9.9,SNR=5.0						
WB2	**Warramunga Arr**	**39.93**	**196**	*e*P	**P**	08 20 38.5	**-0.3**
WRA	**Warramunga Arr**	**39.93**	**196**	P	**P**	08 20 38.6	**-0.2**
	1.7nm,0.3s,mb3.8,baz=14,slow=8.4,SNR=68						
WRA				PcP	PcP	08 22 38.7	+1.4
	0.5nm,0.5s,baz=18,slow=3.5,SNR=7.6						
FITZ	**Fitzroy Crossi**	**41.42**	**209**	*e*P	**P**	**08 20 51.3**	**+0.4**
	2.0nm,0.2s,mb4.0						
SONM	**Songino Array**	**42.92**	**322**	P	**P**	08 21 02.5	**-0.4**
	0.3nm,0.5s,mb2.8,baz=135,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**43.60**	**195**	P	**P**	08 21 07.8	**-0.5**
	0.4nm,0.4s,mb3.0,baz=17,slow=6.5,SNR=18						
ASAR				PcP	PcP	08 22 50.2	+0.7
	0.2nm,0.6s,baz=18,slow=4.2,SNR=4.2						
ASPA	**Alice Springs**	**43.60**	**195**	*e*P	**P**	**08 21 08.6**	**+0.3**
MKAR	**Makanchi Array**	**58.21**	**314**	P	**P**	**08 22 56.9**	**+0.6**
	0.5nm,0.5s,mb3.2,baz=91,slow=4.6,SNR=7.4						
ARCES	**ARCESS Array B**	**82.36**	**342**	P	**P**	**08 25 21.8**	**+0.2**
	1.0nm,0.6s,mb3.7,baz=85,slow=8.7,SNR=7.4						
NVAR	**Mina Array Bea**	**83.36**	**52**	P	**P**	**08 25 27.4**	**+0.7**
	0.2nm,0.5s,mb3.2,baz=272,slow=8.9,SNR=4.1						
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**08 25 42.3**	**-0.9**
	1.0nm,0.4s,mb4.0,baz=68,slow=4.5,SNR=17						

*IDC **26** 08:17:34.0±0.8, 4669N×15573E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/23, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=37.9km s-min=19.1km az=132.0*

*ISCJB **26** 08:17:36.9±0.7, 469N±0.1×1554E±02, h35km, mb3.8/8, Error ellipse: s-maj=21.1km s-min=10.8km az=105.0*

*MOS **26** 08:17:36.7±1.4, 4690N×15540E, h33km, mb4.1/5, Error ellipse: s-maj=32.4km s-min=17.9km az=63.6*

ISC 26 08:17:38.8±0.7, 470N±01×1554E±02, h35km, n17, σ1°17/17, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**7**	*e*PN	**Pn**	**08 18 32.7**	**-1.7**
KUR	**Kuril'sk**	**5.49**	**254**	*e*PN	**Pn**	**08 18 56.6**	**-1.4**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
ASAJ	**Asahikawa**	**9.39**	**257**	Pn	**Pn**	**08 19 54.4**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=126,slow=10,SNR=7.1						
ASAJ	**Asahikawa**	**9.39**	**257**	PN	**Pn**	**08 19 54.4**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 25 15.6**	**+0.1**
	comp=Z,2.4nm,0.7s,mb3.9,baz=253,slow=8.1,SNR=17						
INK	**Inuvik**	**40.65**	**33**	P	**P**	**08 25 15.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.83**	**37**	P	**P**	**08 26 28.0**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=296,slow=7.3,SNR=5.2						
YKA	**Yellowknife Ar**	**49.83**	**37**	P	**P**	**08 26 28.0**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**60.97**	**64**	P	**P**	**08 27 49.0**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.2,baz=294,slow=8.7,SNR=10						
PDAR	**Pinedale Array**	**63.37**	**55**	P	**P**	**08 28 05.0**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=253,slow=1.5,SNR=4.4						
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**08 28 14.2**	**+2.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=20,slow=17,SNR=3.5						
FINES	**FINESS Array B**	**64.50**	**336**	P	**P**	**08 28 14.2**	**+2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 28 41.1**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=19,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**69.23**	**201**	P	**P**	**08 28 41.1**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**72.91**	**201**	P	**P**	**08 29 04.1**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=18,slow=5.4,SNR=7.4						
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**08 29 22.8**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=304,slow=4.3,SNR=26						
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**08 29 22.8**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*SKHL **26** 08:36:02.1±2.5, 4722N×15558E, h52km±17km, Ms4.2/2*

*NEIC **26** 08:36:02.4±0.2, 4708N×15555E, h10km, mb4.7/52, Error ellipse: s-maj=6.0km s-min=3.5km az=158.0*

*ISCJB **26** 08:36:02.3±0.2, 4709N±004×15567E±003, h22km, mb4.6/95, MS4.0/22, Error ellipse: s-maj=6.5km s-min=2.5km az=164.9*

*BJI **26** 08:36:04.0, 4728N×15502E, h10km, mB4.8, mb4.6, Ms4.3, Msz3.9*

*MOS **26** 08:36:04.8±1.1, 4703N×15551E, h41km, mb4.9/49, Error ellipse: s-maj=8.4km s-min=6.4km az=104.0*

*IDC **26** 08:36:05.0±0.7, 4709N×15562E, h27km±4km, mb4.3/18, mb1 4.5/19, mb1mx4.4/24, mbtmp4.3/19, ML3.7/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/38, Error ellipse: s-maj=16.2km s-min=12.7km az=151.0*

*SZGRF **26** 08:36:06.0, 4681N×15542E, h33km, mb4.6, East of Kuril Islands, Russia*

ISC 26 08:36:00.9±1.4, 4715N±005×15561E±003, h0km±8km, n372, σ0°87/376, mb4.7/94, MS4.0/22, 101C-58D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.55**	**5**	*e*P	**Pn**	**08 36 55.0**	**-2.3**
SKR				AMB	AMB	08 37 01.2	
	80nm,0.5s						
SKR				*e*S	**Sn**	**08 37 32.5**	**-7.4**
SKR				A		08 37 44.0	
	240nm,0.5s						
SKR				A		08 37 44.0	
	180nm,0.5s						
SKR				A		08 37 44.0	
	90nm,0.5s						
SKR				AMS	AMS	08 38 53.0	
	5μm,14.0s						
SKR				AMS	AMS	08 38 53.0	
	3μm,12.0s						
SKR				AMS	AMS	08 38 53.0	
	5μm,14.0s						
SKR				AMS	AMS	08 38 53.0	
	3μm,12.0s						
KUR	**Kuril'sk**	**5.71**	**253**	⇑*i*P	**Pn**	**08 37 24.5**	**-2.4**
KUR				AMB	AMB	08 37 29.8	
	50nm,0.5s						
KUR				AMB	AMB	08 37 29.8	
	60nm,0.5s						
KUR				AMB	AMB	08 37 29.8	
	140nm,0.5s						
KUR				*i* S	**Sn**	**08 38 27.5**	**-5.5**
KUR				A		08 38 36.0	
	350nm,0.8s						
KUR				A		08 38 36.0	
	190nm,0.8s						
KUR	**Kuril'sk**	**5.71**	**253**	⇑*i*PN	**Pn**	**08 37 24.5**	**-2.4**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=E,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,140nm,0.5s						
PET	**Petropavlovsk**	**6.20**	**17**	*e*PN	**Pn**	**08 37 29.9**	**-3.7**
PET				pmax	pmax		
	comp=Z,55nm,1.3s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**6.20**	**17**	Pn	**Pn**	**08 37 34.4**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**7.51**	**249**	*e*P	**Pn**	**08 37 52.5**	**+0.8**
YUK				*e*S	**Sn**	**08 39 14.4**	**-3.1**
YUK				A		08 39 28.3	
	comp=Z,220nm,0.5s						
YUK				A		08 39 28.3	
	comp=Z,220nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.78**	**273**	⇑*e*P	**Pn**	**08 38 12.3**	**+3.2**
YSS				AMB	AMB	08 38 13.8	
	comp=Z,30nm,0.8s						
YSS				A		08 39 53.1	
	comp=Z,50nm,0.8s						
YSS				A		08 39 53.1	
	comp=Z,30nm,0.9s						
YSS				*e*LQ		08 40 10.0	
YSS				AMS	AMS	08 43 33.0	
	comp=Z,300nm,12.0s						
YSS				AMS	AMS	08 43 33.0	
	comp=Z,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.78**	**273**	*e*Pn	**Pn**	**08 38 12.6**	**+3.5**
YSS				*e*Sn	**Sn**	**08 39 52.7**	**+4.0**
TYV	**Tymovskoe**	**9.29**	**298**	*e*P	**Pn**	**08 38 20.0**	**+4.0**
TYV				AMB	AMB	08 38 21.0	
	comp=Z,9.0nm,0.7s						
TYV				AMB	AMB	08 38 21.0	
	comp=Z,7.0nm,0.8s						
TYV				AMS	AMS	08 42 32.0	
	comp=Z,600nm,16.0s						
TYV				AMS	AMS	08 42 32.0	
	comp=Z,400nm,15.0s						
TYV				AMS	AMS	08 42 32.0	
	comp=Z,600nm,15.0s						
ASAJ	**Asahikawa**	**9.61**	**256**	Pn	**Pn**	**08 38 22.1**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=93,slow=18,SNR=15						
ASAJ				LR	LR	08 41 48.8	
	comp=Z,142nm,20.8s,baz=259,slow=36						
ERM	**Erimo**	**10.26**	**244**	*e*PN	**Pn**	**08 38 28.6**	**-0.7**
ERM				pmax	pmax		
	comp=Z,19nm,0.7s						
ERM	**Erimo**	**10.26**	**244**	*e*Pn	**Pn**	**08 38 28.6**	**-0.7**
	comp=Z,19nm,0.7s						
ERM				*e*Sn	**Sn**	**08 40 15.3**	**-10**
HABR	**Khabarovsk**	**13.88**	**283**	*e*P	**Pn**	**08 39 24.5**	**+5.7**
HABR				*e*S	**Sn**	**08 41 59.9**	**+6.3**
KLR	**Kul'dur**	**16.03**	**286**	*e*P	**Pn**	**08 39 47.4**	**-0.3**
KLR				pmax	pmax		
	comp=E,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,24nm,1.4s						
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
MAJO	**Matsushiro**	**16.71**	**237**	*e*P	**Pn**	**08 39 53.9**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**16.71**	**237**	*e*P	**Pn**	**08 39 53.9**	**-2.4**
	comp=Z,16nm,0.7s						
MJAR	**Matsushiro Arr**	**16.71**	**237**	Pn	**Pn**	**08 39 54.0**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=12						
MJAR				LR	LR	08 46 09.1	
	comp=Z,73nm,19.5s,baz=55,slow=36						
MAT	**Matsushiro**	**16.71**	**237**	P	**Pn**	**08 39 54.4**	**-1.9**
VLA	**Vladivostok**	**17.19**	**265**	*e*P	**Pn**	**08 40 01.3**	**-1.1**
VLA				pmax	pmax		
	comp=Z,23nm,0.7s						
VLA				MLR	MLR		
	comp=Z,200nm,14.3s						
MDJ	**Mudanjiang**	**18.26**	**272**	P	**Pn**	**08 40 13.0**	**-2.7**
MDJ				AP	pP	08 40 16.3	+0.3
MDJ				XP	sP	08 40 17.8	+1.7
MDJ				S	**Sn**	**08 43 35.5**	**-4.6**
MDJ				SCP	ScP	08 48 22.3	-2.5
MDJ				PCS	PcS	08 48 23.5	-1.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,57nm,5.3s						
MDJ				LR	LR		
	comp=N,134nm,14.0s						
MDJ				LR	LR		
	comp=E,138nm,18.7s						
MDJ				LR	LR		
	comp=Z,265nm,12.3s						
MDJ	**Mudanjiang**	**18.26**	**272**	*e*P	**Pn**	**08 40 14.9**	**-0.8**
	comp=Z,14nm,1.1s						
ZEA	**Zeya**	**19.14**	**301**	*e*P	**Pn**	**08 40 22.3**	**-4.1**
ZEA				AMB	AMB	08 40 24.3	
	comp=Z,29nm,1.0s						
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**08 40 44.4**	**-0.8**
YAK				*e*S	**S**	**08 44 33.3**	**-6.1**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=E,18nm,1.3s						
YAK				smax			
	comp=N,49nm,1.2s						
YAK				smax			
	comp=E,102nm,2.2s						
YAK	**Yakutsk**	**20.95**	**325**	*e*P	**P**	**08 40 44.2**	**-1.0**
	comp=E,26nm,0.6s						
CLNS	**Chul'man**	**21.08**	**309**	*e*P	**P**	**08 40 46.1**	**-0.6**
CLNS				*e*		08 41 02.6	
CLNS				*e*PPP		08 41 08.6	
CLNS				*e*S	**S**	**08 44 35.2**	**-6.9**
CLNS				*e*		08 44 51.9	
CLNS				*e*SS		08 45 10.9	
CLNS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.5						
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
CLNS				smax			
	comp=N,192nm,12.6s						
CLNS				smax			
	comp=Z,95nm,12.6s						
CLNS				smax			
	comp=E,1μm,15.0s						
CLNS				MLR	MLR		
	comp=Z,400nm,21.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,200nm,16.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,2μm,20.0s,MS4.6						
CN2	**Changchun**	**21.35**	**272**	*e*P	**P**	**08 40 50.5**	**+0.9**
CN2				*e*XP	sP	08 40 57.5	+7.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS3.9						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS3.9						
CN2				LR	LR		
	comp=Z,300nm,14.0s,MS3.8						
BILL	**Bilibino**	**21.65**	**11**	⇑*e*P	**P**	**08 40 52.1**	**-0.7**
BILL				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.7						
BILL	**Bilibino**	**21.65**	**11**	*e*P	**P

HHC Hu-ho-hao-te 31.97 275 *e*P **P** **08 42 29.0 +0.5**
HHC XP sP 08 42 36.0 +7.3
HHC PP PP 08 43 36.0 -4.5
HHC PCP PcP 08 45 19.8 +1.1
HHC S **S** **08 47 39.5 -1.2**
HHC XS sS 08 47 46.8 +5.9
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,128nm,6.2s
HHC LR LR
comp=N,151nm,14.1s,MS4.1
HHC LR LR
comp=E,237nm,14.1s,MS4.1
HHC LR LR
comp=Z,142nm,14.9s,MS3.8
KDAK Kodiak Island 32.52 52 P **P** **08 42 32.6 -0.7**
comp=Z,11nm,1.0s,mb4.7,baz=292,slow=12,SNR=4.3
SONM Songino Array 32.81 290 P **P** **08 42 35.6 -0.3**
comp=Z,2.3nm,0.8s,mb4.2,baz=68,slow=8.3,SNR=18
SONM PcP PcP 08 45 20.2 -0.8
comp=Z,1.6nm,0.9s,baz=86,slow=2.2,SNR=6.6
SONM LR LR 08 56 29.6
comp=Z,150nm,18.7s,MS3.7,baz=59,slow=37
SONM Songino Array 32.81 290 P **P** **08 42 35.6 -0.3**
SONM 08 45 20.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM MLR MLR
comp=Z,150nm,18.7s
ZAK Zakamensk 34.06 295 *e*P **P** **08 42 46.7 -0.1**
ZAK *e* 08 45 23.0
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MCK McKinley 34.24 41 *e*P **P** **08 42 48.3 0.0**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MCK McKinley 34.24 41 *e*P **P** **08 42 48.3 -0.1**
comp=Z,3.9nm,1.0s,mb4.3
COLA College 34.76 39 *e*P **P** **08 42 52.8 -0.1**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
COLA College 34.76 39 *e*P **P** **08 42 52.8 0.0**
comp=Z,4.6nm,0.8s,mb4.5
XAN Xi'an 37.25 267 P **P** **08 43 16.5 +2.3**
XAN AP 08 43 25.8
XAN AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
EGAK Eagle 37.62 39 *e*P **P** **08 43 16.4 -0.9**
comp=Z,11nm,0.8s,mb4.7
LZH Lanzhou 39.58 273 *e*P **P** **08 43 35.5 +1.7**
LZH AP 08 43 42.5
LZH AMB AMB
comp=Z,28nm,1.0s,mb4.8
LZH Lanzhou 39.58 273 *e*P **P** **08 43 35.5 +1.7**
LZH *SP sP 08 43 49.5 +16
LZH pmax pmax
comp=Z,28nm,1.0s,mb4.8
LZH Lanzhou 39.58 273 *e*P **P** **08 43 35.5 +1.7**
comp=Z,28nm,1.0s,mb4.8
LZH pP 08 43 42.5
LZH sP sP 08 43 49.5 +16
INK Inuvik 40.40 33 P **P** **08 43 40.7 +0.1**
comp=Z,7.4nm,0.8s,mb4.4,baz=272,slow=7.7,SNR=26
INK Inuvik 40.40 33 *e*P **P** **08 43 40.9 +0.4**
comp=Z,350nm,0.9s
GTA Gaotai 40.59 280 *e*P **P** **08 43 44.0 +1.8**
GTA AP 08 43 48.0
GTA XP sP 08 43 51.0 +8.7
GTA PP PP 08 45 21.3 +5.8
GTA PCP PcP 08 45 45.5 +1.1
GTA S **S** **08 49 54.8 +2.2**
GTA XS sS 08 50 01.3 +8.5
GTA AMB AMB
comp=Z,11nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,90nm,5.7s
GTA LR LR
comp=N,398nm,16.7s,MS4.6
GTA LR LR
comp=E,523nm,16.7s,MS4.6
GTA LR LR
comp=Z,105nm,14.8s,MS3.8
CD2 Chengdu 42.61 267 *e*P **P** **08 43 59.5 +0.7**
CD2 XP sP 08 44 06.5 +7.6
CD2 PP PP 08 45 41.0 +3.6
CD2 S **S** **08 50 21.5 -1.1**
CD2 XS sS 08 50 29.0 +6.2
CD2 SS SS 08 53 25.5 -6.7
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,160nm,9.6s
CD2 LR LR
comp=Z,170nm,12.0s,MS4.2
GYA Guiyang 43.47 259⇓ *i*P **P** **08 44 06.8 +1.1**
GYA AP 08 44 10.8
GYA XP sP 08 44 13.8 +7.9
GYA PP PP 08 45 50.5 +3.9
GYA PCP PcP 08 45 56.3 +2.4
GYA SCP ScP 08 49 46.5 0.0
GYA S **S** **08 50 35.0 -0.1**
GYA SCS ScS 08 54 05.3 -1.6
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,15.9s,MS4.6
GYA LR LR
comp=E,480nm,15.8s,MS4.6
GYA LR LR
comp=Z,410nm,16.0s,MS4.4
DLBC Dease Lake 44.08 47 *e*P **P** **08 44 09.0 -1.6**
NVS Novosibirsk 44.30 308 *e*P **P** **08 44 11.9 -0.5**
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WMQ Urumqi 46.37 292⇑ *i*P **P** **08 44 31.0 +2.2**
WMQ AP 08 44 35.5
WMQ XP sP 08 44 38.0 +9.0
WMQ PCP PcP 08 46 06.5 +2.6
WMQ PP PP 08 46 19.8 +2.4
WMQ PPP 08 47 04.0
WMQ SCP ScP 08 49 58.0 -0.4
WMQ PCS PcS 08 49 59.8 +1.3
WMQ S **S** **08 51 16.5 -0.7**
WMQ XS sS 08 51 24.3 +7.0
WMQ AMB AMB
comp=Z,12nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,112nm,7.6s
WMQ LR LR
comp=N,124nm,21.3s,MS3.9
WMQ LR LR
comp=E,81nm,18.3s,MS3.9
WMQ LR LR
comp=Z,87nm,18.3s,MS3.7
QIZ Qiongzhong 46.58 249 P **P** **08 44 28.8 -1.7**
QIZ S **S** **08 51 20.0 -0.2**
QIZ AMB AMB
comp=Z,11nm,2.5s,mb4.5
QIZ LR LR
comp=Z,88nm,15.7s,MS3.8
KMI Kunming 46.99 261 P **P** **08 44 33.0 -0.7**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
KMI Kunming 46.99 261 P **P** **08 44 32.9 -0.8**
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
KMI Kunming 46.99 261 P **P** **08 44 32.9 -0.8**
comp=Z,10.0nm,0.9s,mb5.0
MK31 Makanchi Array 48.27 298 *e*P **P** **08 44 41.8 -1.8**
MK31 *e* 08 46 10.3
MKAR Makanchi Array 48.27 298 P **P** **08 44 42.8 -0.8**
comp=Z,6.5nm,0.8s,mb4.8,baz=48,slow=7.2,SNR=29
MKAR LR LR 09 06 20.9
comp=Z,114nm,18.2s,MS3.9,baz=1.5,slow=38
MKAR Makanchi Array 48.27 298 P **P** **08 44 42.8 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR MLR MLR
comp=Z,115nm,18.2s
YKW3 Yellowknife Ar 49.54 38 *e*P **P** **08 44 53.7 +0.3**
YKA Yellowknife Ar 49.57 38 P **P** **08 44 53.4 -0.2**
comp=Z,7.5nm,0.9s,mb4.6,baz=295,slow=7.1,SNR=23
YKA pP 08 45 01.9
comp=Z,2.3nm,0.7s,baz=296,slow=7.2,SNR=8.5
YKA LR LR 09 05 24.2
comp=Z,33nm,19.9s,MS3.3,baz=180,slow=36
YKA Yellowknife Ar 49.57 38 P **P** **08 44 53.4 -0.2**
YKA *PP 08 45 01.9
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA MLR MLR
comp=Z,33nm,19.9s
YKA Yellowknife Ar 49.57 38 P **P** **08 44 53.4 -0.2**
YKA pP 08 45 01.9
YKA LR LR 09 05 24.2
RES Resolute Bay 49.91 19 *e*P **P** **08 44 56.5 +0.3**
comp=Z,361nm,0.8s
VOSK Vostochnaya 51.76 310 P **P** **08 45 08.5 -1.6**
VOSK pmax pmax
comp=Z,15nm,0.9s,mb4.9
BVA0 Borovoye Array 51.92 310 *i*P **P** **08 45 11.3 0.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BRVK Borovoye 51.96 310 *e*P **P** **08 45 12.0 +0.4**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb5.0
BRVK Borovoye 51.96 310 *e*P **P** **08 45 12.0 +0.4**
comp=Z,13nm,0.6s,mb5.0
A05A Maple Falls 52.40 55⇑P **P** **08 45 13.6 -1.3**
baz=52
SPB4 Spitsbergen Ar 52.52 350 *e*P **P** **08 45 15.7 -0.1**
ZRNK Zerenda 52.67 311 *e*P **P** **08 45 16.9 0.0**
ZRNK pmax pmax
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 52.67 311 *e*P **P** **08 45 16.9 0.0**
comp=Z,12nm,0.6s,mb5.0
A07A Ashnola River, 53.33 55⇓P **P** **08 45 20.1 -1.6**
baz=53
B07A Winthrop 53.79 55⇑P **P** **08 45 24.2 -1.0**
baz=54
F04A Arnboy 53.85 59⇑P **P** **08 45 25.3 -0.3**
baz=54
CHTO Chiang Mai 53.87 258 *e*P **P** **08 45 27.4 +1.6**
CHTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CHTO Chiang Mai 53.87 258 *e*P **P** **08 45 27.4 +1.6**
comp=Z,9.2nm,0.9s,mb4.8
A08A Turner Farm, O 54.00 54⇓P **P** **08 45 26.6 -0.1**
baz=54
C07A Waterville 54.24 56⇑P **P** **08 45 27.8 -0.7**
baz=54
B08A Colville Reser 54.29 55⇑P **P** **08 45 27.8 -1.0**
baz=54
A09A Danville 54.36 54⇑P **P** **08 45 29.0 -0.4**
baz=54
SVE Sverdlovsk 54.69 318 *e*P **P** **08 45 32.0 +0.3**
EDM Edmonton 54.80 47 *e*P **P** **08 45 32.1 -0.4**
B09A Rice 54.91 54⇓P **P** **08 45 32.0 -1.3**
baz=55
J03A Ideytd Park 54.95 62⇓P **P** **08 45 34.3 +0.7**
baz=55
I04A Tendick Farm, 55.04 61⇑P **P** **08 45 34.6 +0.4**
baz=55
AAK Ala-Archa 55.18 297⇑ *i*P **P** **08 45 35.1 -0.2**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
AAK Ala-Archa 55.18 297 *e*P **P** **08 45 35.3 +0.1**
comp=Z,5.3nm,0.6s,mb4.8
C09A Chrisman Ranch 55.19 55⇓P **P** **08 45 33.7 -1.6**
baz=55
D08A Wollman Farm, 55.24 56⇑P **P** **08 45 34.4 -1.3**
baz=55
F07A Phinny Hill Vi 55.32 58⇑P **P** **08 45 34.3 -1.9**
baz=55
HUMO Hull Mountain 55.39 63⇓P **P** **08 45 36.5 -0.2**
baz=55
I05A Bend 55.51 60⇑P **P** **08 45 37.1 -0.6**
baz=55
J04A Umpqua Nationa 55.54 61⇑P **P** **08 45 38.5 +0.7**
baz=55
D09A Jones Farm, Ri 55.58 56⇑P **P** **08 45 36.8 -1.3**
baz=55
A11A Hall Mountain, 55.59 53⇑P **P** **08 45 37.8 -0.4**
baz=55
C10A Spilker Farm, 55.72 55⇑P **P** **08 45 38.7 -0.4**
baz=56
H06A Lindquist Farm 55.74 59⇓P **P** **08 45 39.3 0.0**
baz=56
ARU Arti 55.86 318⇑ *i*P **P** **08 45 39.8 -0.4**
ARU *e* 08 47 40.9
ARU *e*PPP 08 48 57.0
ARU *e*S **S** **08 53 25.1 -3.4**
ARU *e*SS SS 08 57 12.0 -2.1
ARU pmax pmax
comp=Z,33nm,0.7s,mb5.5
ARU Arti 55.86 318 *e*P **P** **08 45 40.2 0.0**
comp=Z,27nm,0.6s,mb5.5
B11A Sandpoint 55.88 54⇑P **P** **08 45 40.3 -0.1**
baz=56
E09A Wood Farm, Sta 55.98 56⇓P **P** **08 45 40.1 -1.0**
baz=56
YBH Yreka Blue Hor 56.04 63⇑P **P** **08 45 42.2 +0.7**
baz=56
KSH Kashi 56.07 294 *e*P **P** **08 45 40.3 -1.4**
KSH *e*AP 08 45 46.0
KSH *e*XP sP 08 45 48.8 +7.0
KSH *e*PCP PcP 08 46 40.0 +0.2
KSH *e*S **S** **08 53 24.5 -6.8**
M02C Callahan 56.15 64⇓P **P** **08 45 42.1 -0.2**
baz=56
N02C Big Bar 56.21 64⇑P **P** **08 45 42.8 +0.1**
baz=56
I06A Prineville 56.26 60⇓P **P** **08 45 43.1 0.0**
baz=56
L04A Klamath Falls 56.28 62⇓P **P** **08 45 43.6 +0.4**
baz=56
B12A Libby 56.29 53⇑P **P** **08 45 43.5 +0.2**
baz=56
DAG Danmarks Havn 56.30 358⇓ *i*P **P** **08 45 42.8 -0.5**
comp=Z,4.1nm,0.7s,mb4.6
DAG Danmarks Havn 56.30 358⇓ *e*P **P** **08 45 42.8 -0.5**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DAG Danmarks Havn 56.30 358⇓ *e*P **P** **08 45 42.8 -0.5**
comp=Z,4.1nm,0.7s,mb4.6
HNR Honiara 56.46 175 LR LR 09 04 34.2
comp=Z,80nm,20.4s,MS3.8,baz=3.4,slow=30
M04C Macdoel 56.54 63⇑P **P** **08 45 45.8 +0.7**
baz=56
K05A Summer Lake 56.56 61⇑P **P** **08 45 45.9 +0.7**
baz=56
F09A S2 Ranch, Elgi 56.58 57⇓P **P** **08 45 45.3 0.0**
baz=56
E10A Myers Farm, Un 56.59 56⇑P **P** **08 45 44.7 -0.7**
baz=56
I07A Izee 56.60 59⇑P **P** **08 45 45.1 -0.3**
baz=56
GUN Gumba 56.66 276 *e*P **P** **08 45 49.2 +3.3**
M03C McCloud 56.67 63⇑P **P** **08 45 44.8 -1.1**
baz=56
D11A Klaveano Farm, 56.70 55⇑P **P** **08 45 44.5 -1.6**
baz=56
J06A Christmas Vall 56.70 60⇓P **P** **08 45 46.2 +0.1**
baz=57
WDC Whiskeytown Da 56.82 64⇓P **P** **08 45 46.5 -0.5**
baz=57
H08A Prairie City 56.83 58⇑P **P** **08 45 47.1 0.0**
baz=57
WALA Waterton Lakes 56.86 52 *e*P **P** **08 45 47.2 -0.1**
comp=Z,3.5nm,0.7s,mb4.5
O02C Red Bluff 56.91 65⇑P **P** **08 45 47.8 +0.2**
baz=57
B13A Whitefish 56.96 53⇑P **P** **08 45 47.6 -0.4**
baz=57
L05A Lakeview 57.00 62⇑P **P** **08 45 49.0 +0.7**
baz=57
J07A Hines 57.13 60⇑P **P** **08 45 50.2 +1.0**
baz=57
KKN Kakani 57.15 277 *e*P **P** **08 45 51.4 +2.1**
PKI Pulchoki 57.20 276 *e*P **P** **08 45 51.4 +1.7**
M05C Lookout 57.21 63⇑P **P** **08 45 50.2 +0.4**
baz=57
I08A Drewsey 57.25 59⇑P **P** **08 45 50.1 0.0**
baz=57
GASB Alder Springs 57.26 65⇑P **P** **08 45 50.0 -0.2**
baz=57
KK31 Karatay Array 57.29 300 *i*P **P** **08 45 50.4 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KKAR Karatay Array 57.29 300 *i*P **P** **08 45 50.4 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
C13A Hot Springs 57.30 53⇑P **P** **08 45 50.0 -0.4**
baz=57
H09A Durkee 57.33 58⇑P **P** **08 45 51.6 +1.0**
baz=57
HATC Hat Creek Radi 57.34 63⇑P **P** **08 45 50.8 +0.1**
baz=57
DMN Daman 57.38 277 *e*P **P** **08 45 53.1 +2.1**
comp=Z,16nm,0.6s,mb5.2
MOD Modoc 57.40 62 *e*P **P** **08 45 51.9 +0.7**
comp=Z,3.1nm,0.6s,mb4.5
MOD *e* 08 45 60.0
MOD Modoc 57.40 62⇑P **P** **08 45 51.5 +0.4**
baz=57
BMO Blue Mountains 57.43 57 *e*P **P** **08 45 51.7 +0.4**
comp=Z,3.0nm,0.8s,mb4.4
GKN Gorkha 57.44 277 *e*P **P** **08 45 52.9 +1.5**
comp=Z,30nm,1.2s,mb5.2
F11A Grangeville 57.48 56⇑P **P** **08 45 52.2 +0.6**
baz=57
K07A Rock Creek Ran 57.57 61⇑P **P** **08 45 51.7 -0.6**
baz=57
J08A Circle Bar Ran 57.63 59⇑P **P** **08 45 52.8 0.0**
baz=58
APA Apatity 57.64 337⇑ *e*P **P** **08 45 48.0 -4.8**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA MLR MLR
comp=Z,500nm,19.0s,MS4.6
I09A Lost Marbles R 57.69 59⇓P **P** **08 45 53.8 +0.7**
baz=58
G11A Walters Elk Ra 57.70 56⇑P **P** **08 45 53.5 +0.3**
baz=58
M06C Likely Place G 57.71 63⇑P **P** **08 45 53.1 -0.2**
baz=58
D13A Huson 57.71 54⇓P **P** **08 45 53.6 +0.3**
baz=58
O04C Chester 57.87 64⇓P **P** **08 45 54.2 -0.2**
baz=58
L07A Adell 57.91 61⇑P **P** **08 45 54.8 +0.1**
baz=58
K08A Mann Creek Ran 57.99 60⇓P **P** **08 45 55.7 +0.4**
baz=58
ARCES ARCESS Array B 58.03 342 P **P** **08 45 55.3 -0.2**
comp=Z,8.5nm,0.8s,mb4.8,baz=30,slow=6.6,SNR=15
ARCES LR LR 09 13 29.2
comp=Z,154nm,21.0s,MS4.1,baz=45,slow=39
ARCES ARCESS Array B 58.03 342 P **P** **08 45 55.3 -0.2**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES MLR MLR
comp=Z,154nm,21.0s
J09A Fry Pan Ranch, 58.06 59⇑P **P** **08 45 56.1 +0.4**
baz=58
ORV Oroville 58.07 65⇓P **P** **08 45 55.0 -0.8**
baz=58
MSO Missoula 58.15 54 *e*P **P** **08 45 56.8 +0.4**
comp=Z,6.8nm,1.4s,mb4.5
O05C Quincy 58.19 64⇑P **P** **08 45 56.5 -0.2**
baz=58
D14A Greenough 58.24 53 P **P** **08 45 57.3 +0.3**
baz=58,SNR=5.7
E13A Victor 58.25 54⇓P **P** **08 45 57.0 0.0**
baz=58
H11A Donnelly 58.26 57 P **P** **08 45 57.3 +0.2**
baz=58,SNR=8.3
KOLN Koldanda 58.30 278 *e*P **P** **08 45 58.9 +1.5**
comp=Z,13nm,0.8s,mb5.0
N06A Buffalo Meadow 58.37 63⇓P **P** **08 45 57.7 -0.2**
baz=58
M07A Soldier Meadow 58.39 62 P **P** **08 45 59.4 +1.3**
baz=58,SNR=9.9
L08A Fields 58.40 61⇓P **P** **08 45 58.5 +0.4**
baz=58
K09A Rome 58.46 60⇑P **P** **08 45 58.3 -0.3**
baz=58
F13A Darby 58.56 55⇓P **P** **08 45 59.2 0.0**
baz=58
BEKR Beckwourth 58.59 64⇓P **P** **08 45 59.3 -0.2**
baz=58
E14A Clinton 58.65 54⇓P **P** **08 45 59.6 -0.8**
baz=58
O06A Flanigan 58.73 63⇑P **P** **08 45 59.6 -0.8**
baz=59
TMCR Tamitsa 58.77 333 P **P** **08 46 01.0 +0.3**
TMCR pmax pmax
comp=Z,44nm,1.1s,mb5.4
P05C Yuba Gap, Truc 58.78 64⇑P **P** **08 46 00.3 -0.5**
baz=59
M08A Happy Creek Ra 58.83 61⇑P **P** **08 46 01.2 +0.1**
baz=59
N07B Gerlach 58.88 62⇓P **P** **08 46 01.9 +0.4**
baz=59
L09A Wilkinson Ranc 58.91 60⇓P **P** **08 46 01.7 +0.1**
baz=59
LAVA Lava Cap Winer 59.03 65 P **P** **08 46 02.9 +0.4**
baz=59,SNR=5.3
F14A Wisdom 59.08 55⇑P **P** **08 46 02.2 -0.7**
baz=59
E15A Deer Lodge 59.11 54⇓P **P** **08 46 03.0 -0.1**
baz=59
WCN Washoe City 59.30 64⇓P **P** **08 46 04.5 +0.2**
baz=59
O07A Toulon 59.31 63 P **P** **08 46 05.2 +0.8**
baz=59,SNR=6.4
N08A GE Springer Mi 59.38 62⇑P **P** **08 46 05.0 +0.1**
baz=59
F15A Butte 59.55 54⇑P **P** **08 46 06.7 +0.6**
baz=59
LRM Limekiln Ridge 59.59 54 *e*P **P** **08 46 07.1 +0.7**
CMB Columbia Colle 59.69 65 *e*P **P** **08 46 07.7 +0.6**
CMB pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
CMB Columbia Colle 59.69 65 *e*P **P** **08 46 07.7 +0.6**
comp=Z,7.3nm,1.3s,mb4.5
CMB Columbia Colle 59.69 65⇑P **P** **08 46 07.6 +0.5**
baz=60
N09A Rock Creek Ran 59.70 61⇑P **P** **08 46 07.0 -0.2**
baz=60
AKTO Aktyubinsk 59.72 313 P **P** **08 46 08.9 +1.6**
AKTO pmax pmax
comp=Z,2.0nm,1.6s,mb3.9
PACP Pacheco Peak 59.76 67⇑P **P** **08 46 06.8 -0.7**
baz=60
HLID Hailey 59.86 57 *e*P **P** **08 46 08.7 +0.4**
comp=Z,1.9nm,0.8s,mb4.2
HLID Hailey 59.86 57⇑P **P** **08 46 08.6 +0.3**
baz=60
M10A I.L. Ranch, Tu 59.88 60⇑P **P** **08 46 08.1 -0.2**
baz=60
R06C Coleville 59.97 64⇑P **P** **08 46 10.1 +1.1**
baz=60
G15A Dillon 59.97 55⇑P **P** **08 46 08.3 -0.7**
baz=60
MCMT McKenzie Canyo 59.97 55 *e*P **P** **08 46 08.9 -0.1**
S06C San Francisco 60.12 65⇓P **P** **08 46 09.9 -0.1**
baz=60
S05C Merced 60.15 66⇑P **P** **08 46 09.8 -0.4**
baz=60
O09A Fish Creek Ran 60.32 62⇓P **P** **08 46 11.9 +0.4**
baz=60
M11A Holland Ranch, 60.38 60⇑P **P** **08 46 11.9 +0.1**
baz=60
ORR Orenburg 60.58 315 *e*P **P** **08 46 13.5 +0.3**
ORR pmax pmax
comp=Z,20nm,1.1s,mb5.2
O10A Cortez Mining, 60.66 61⇓P **P** **08 46 14.5 +0.7**
baz=60
Q08A Gabbs 60.69 63 P **P** **08 46 14.8 +0.9**
baz=60,SNR=8.0
NVAR Mina Array Bea 60.73 64 P **P** **08 46 15.0 +0.8**
comp=Z,3.2nm,0.8s,mb4.5,baz=290,slow=8.3,SNR=23
NVAR pP 08 46 22.9
comp=Z,2.3nm,0.8s,baz=292,slow=13,SNR=8.0

NVAR	**Mina Array Bea**	**60.73**	**64**	P		**P**	**08 46 15.0**	**+0.8**
NVAR				pP			08 46 22.9	
KCC	**Kaiser Creek**	**60.79**	**65**	⇓P		**P**	**08 46 14.5**	**-0.1**
	baz=61							
M12A	**Wells**	**60.90**	**59**	⇓P		**P**	**08 46 15.8**	**+0.4**
	baz=61							
P10A	**Eureka**	**61.10**	**62**	⇓P		**P**	**08 46 17.5**	**+0.8**
	baz=61							
Q09A	**Carvers**	**61.16**	**63**	⇓P		**P**	**08 46 17.9**	**+0.8**
	baz=61							
N12A	**Clover Valley,**	**61.18**	**60**	⇑P		**P**	**08 46 17.0**	**-0.2**
	baz=61							
O11A	**Cowboy Ranch,**	**61.27**	**61**	⇑P		**P**	**08 46 18.3**	**+0.4**
	baz=61							
YFT	**Old Faithful**	**61.33**	**55**	*e*P		**P**	**08 46 20.6**	**+2.3**
M13A	**Montello**	**61.38**	**59**	⇑P		**P**	**08 46 18.7**	**+0.1**
	baz=61							
HELL	**Mitchell Peak,**	**61.38**	**66**	P		**P**	**08 46 18.8**	**+0.2**
	baz=61,SNR=5.2							
P11A	**Circle Ranch,**	**61.57**	**62**	⇓P		**P**	**08 46 20.4**	**+0.4**
	baz=61							
R09A	**Tonopah**	**61.60**	**63**	P		**P**	**08 46 20.8**	**+0.7**
	baz=62,SNR=7.3							
IMW	**Indian Meadow**	**61.62**	**55**	*e*P		**P**	**08 46 21.9**	**+1.6**
	comp=Z,6.1nm,1.1s,mb4.7							
N13A	**Wendover, West**	**61.67**	**60**	⇓P		**P**	**08 46 21.0**	**+0.4**
	baz=62							
O12A	**Currie**	**61.72**	**60**	P		**P**	**08 46 21.5**	**+0.6**
	baz=62,SNR=6.5							
RRI2	**Red Ridge**	**61.76**	**56**	*e*P		**P**	**08 46 22.5**	**+1.3**
	comp=Z,8.3nm,0.8s,mb5.0							
RRI2				*e*			08 46 30.4	
S09A	**Goldfield**	**61.83**	**64**	⇑P		**P**	**08 46 21.2**	**-0.4**
	baz=62							
LOHW	**Long Hollow**	**61.99**	**55**	*e*P		**P**	**08 46 24.1**	**+1.4**
	comp=Z,7.6nm,1.1s,mb4.8							
SNOW	**Snow King Moun**	**62.00**	**55**	*e*P		**P**	**08 46 24.5**	**+1.6**
	comp=Z,7.3nm,0.9s,mb4.9							
REDW	**Red Top Meadow**	**62.01**	**56**	*e*P		**P**	**08 46 23.7**	**+0.8**
	comp=Z,6.4nm,0.8s,mb4.9							
Q11A	**Duckwater**	**62.08**	**62**	⇑P		**P**	**08 46 22.8**	**-0.5**
	baz=62							
P12A	**McGill**	**62.13**	**61**	⇓P		**P**	**08 46 23.8**	**+0.1**
	baz=62							
SBC	**Santa Barbara**	**62.37**	**68**	⇑P		**P**	**08 46 25.6**	**+0.3**
	baz=62							
LAO	**LASA Array**	**62.40**	**50**	*e*P		**P**	**08 46 25.7**	**+0.2**
Q12A	**Willow Creek R**	**62.45**	**61**	⇓P		**P**	**08 46 26.3**	**+0.5**
	baz=62							
HWUT	**Hardware Ranch**	**62.73**	**57**	*e*P		**P**	**08 46 27.9**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.2							
MPMC	**Manual Prospec**	**62.73**	**66**	⇑P		**P**	**08 46 27.6**	**-0.1**
	baz=63							
FURC	**Furnace Creek,**	**62.86**	**65**	⇑P		**P**	**08 46 29.1**	**+0.5**
	baz=63							
OSI	**Osito Adit**	**62.88**	**68**	⇓P		**P**	**08 46 28.7**	**0.0**
	baz=63							
DUG	**Dugway**	**62.91**	**59**	*e*P		**P**	**08 46 29.3**	**+0.4**
DUG				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.6							
DUG	**Dugway**	**62.91**	**59**	*e*P		**P**	**08 46 29.3**	**+0.4**
	comp=Z,5.2nm,1.0s,mb4.6							
DUG	**Dugway**	**62.91**	**59**	P		**P**	**08 46 29.4**	**+0.5**
	baz=63,SNR=5.0							
LRMC	**Laurel Mountai**	**62.98**	**66**	⇓P		**P**	**08 46 29.0**	**-0.3**
	baz=63							
KAKA	**Kakadu**	**63.09**	**206**	*e*P		**P**	**08 46 29.5**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.8							
BW06	**Boulder Array**	**63.12**	**55**	*e*P		**P**	**08 46 30.4**	**+0.1**
	comp=Z,5.3nm,0.9s,mb4.7							
PDAR	**Pinedale Array**	**63.12**	**55**	P		**P**	**08 46 30.4**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=297,slow=2.4,SNR=28							
EDW2	**Edwards Air Fo**	**63.18**	**67**	⇑P		**P**	**08 46 30.3**	**-0.4**
	baz=63							
BFSC	**Mount Baldy St**	**63.80**	**67**	⇑P		**P**	**08 46 33.5**	**-1.3**
	baz=64							
ARUT	**Antelope Range**	**64.09**	**62**	*e*P		**P**	**08 46 36.1**	**-0.6**
TUQ	**Turquoise Mtn.**	**64.10**	**65**	⇑P		**P**	**08 46 36.7**	**-0.1**
	baz=64							
V11A	**Goodsprings**	**64.15**	**65**	⇑P		**P**	**08 46 36.4**	**-0.7**
	baz=64							
FINES	**FINESS Array B**	**64.39**	**336**	P		**P**	**08 46 38.5**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.9,baz=42,slow=7.2,SNR=29							
FINES	**FINESS Array B**	**64.39**	**336**	P		**P**	**08 46 38.5**	**-0.2**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
V12A	**Nelson**	**64.58**	**64**	⇑P		**P**	**08 46 39.5**	**-0.4**
	baz=64							
GMRC	**Granite Mounta**	**64.70**	**66**	⇑P		**P**	**08 46 40.3**	**-0.4**
	baz=65							
W12A	**Cal Nev Ari**	**64.84**	**65**	⇑P		**P**	**08 46 41.6**	**-0.1**
	baz=65							
SRU	**San Rafael**	**64.95**	**59**	*e*P		**P**	**08 46 43.1**	**+0.7**
ULM	**Lac du Bonnet**	**65.09**	**42**	P		**P**	**08 46 42.6**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.4,baz=238,slow=5.8,SNR=3.9							
RSSD	**Black Hills**	**65.25**	**51**	*e*P		**P**	**08 46 44.1**	**-0.2**
RSSD				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.9							
RSSD	**Black Hills**	**65.25**	**51**	*e*P		**P**	**08 46 44.1**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.9							
IRM	**Iron Mountain**	**65.42**	**66**	⇓P		**P**	**08 46 44.1**	**-1.3**
	baz=65							
BC3	**Big Chuckw Mtn**	**65.56**	**66**	⇓P		**P**	**08 46 45.4**	**-1.0**
	baz=65							
W13A	**Hualapai Mount**	**65.58**	**64**	⇑P		**P**	**08 46 45.4**	**-1.0**
	baz=65							
OBN	**Obninsk**	**65.93**	**327**	*e*P		**P**	**08 46 48.2**	**-0.5**
OBN				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.0							
X13A	**Yucca**	**65.95**	**65**	⇓P		**P**	**08 46 48.8**	**0.0**
	baz=66							
PDMCI	**Parker Dam,Lak**	**65.95**	**65**	⇑P		**P**	**08 46 48.1**	**-0.7**
	baz=66							
W14A	**Seligman**	**66.00**	**64**	P		**P**	**08 46 50.1**	**+1.0**
	baz=66,SNR=5.4							
Y12C	**Blythe**	**66.08**	**66**	⇑P		**P**	**08 46 49.3**	**-0.3**
	baz=66							
PV10	**Paradox Valley**	**66.31**	**59**	*e*P		**P**	**08 46 51.3**	**+0.2**
W15A	**Williams**	**66.52**	**63**	⇑P		**P**	**08 46 53.3**	**+0.9**
	baz=66							
X14A	**Yava**	**66.61**	**64**	⇑P		**P**	**08 46 53.0**	**0.0**
	baz=66							
Y14A	**Wickenburg**	**66.90**	**65**	⇓P		**P**	**08 46 54.5**	**-0.3**
	baz=67							
X15A	**Humboldt**	**67.00**	**64**	⇑P		**P**	**08 46 56.1**	**+0.6**
	baz=67							
ISCO	**Idaho Springs**	**67.31**	**56**	*e*P		**P**	**08 46 58.3**	**+0.8**
ISCO				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7							
ISCO	**Idaho Springs**	**67.31**	**56**	*e*P		**P**	**08 46 58.3**	**+0.8**
	comp=Z,4.5nm,0.9s,mb4.7							
MVCO	**Mesa Verde**	**67.41**	**59**	⇑P		**P**	**08 46 58.3**	**+0.2**
	baz=67							
NB2	**NORSAR Subarra**	**68.39**	**342**	P		**P**	**08 47 03.8**	**-0.5**
	comp=Z,12nm,1.0s,mb5.1,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.39**	**342**	P		**P**	**08 47 04.2**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.8,baz=26,slow=6.3,SNR=9.9							
NOA				LR		LR	09 21 04.3	
	comp=Z,59nm,21.4s,MS3.8,baz=210,slow=39							
NOA	**NORSAR Array B**	**68.39**	**342**	P		**P**	**08 47 04.2**	**-0.1**
NOA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NOA				MLR	MLR			
	comp=Z,59nm,21.4s							
116A	**Eloy**	**68.63**	**65**	⇑P		**P**	**08 47 05.2**	**-0.6**
	baz=68							
SDCO	**Great Sand Dun**	**68.78**	**57**	*e*P		**P**	**08 47 07.5**	**+0.8**
	comp=Z,8.4nm,1.5s,mb4.8							
WRAB	**Tennant Creek**	**69.46**	**201**	*e*P		**P**	**08 47 10.0**	**-1.0**
	comp=Z,11nm,1.0s,mb5.1							
WB2	**Warramunga Arr**	**69.47**	**201**	*e*P		**P**	**08 47 10.1**	**-0.9**
WRA	**Warramunga Arr**	**69.48**	**201**	P		**P**	**08 47 10.2**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.8,baz=19,slow=6.5,SNR=29							
WRA	**Warramunga Arr**	**69.48**	**201**	P		**P**	**08 47 10.2**	**-0.8**
WRA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
DZM	**Mont Dzumac**	**69.58**	**169**	LR		LR	09 13 51.5	
	comp=Z,132nm,18.4s,MS4.2,baz=243,slow=33							
ANMO	**Albuquerque**	**70.16**	**60**	⇑*e*P		**P**	**08 47 14.4**	**-0.9**
KIV	**Kislovodsk**	**71.73**	**316**	*e*P		**P**	**08 47 25.8**	**+1.0**
KIV				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.1							
KIV				MLR	MLR			
	comp=Z,107nm,16.0s,MS4.2							
ZEI	**Tsey**	**72.03**	**314**	*e*P		**P**	**08 47 26.7**	**+0.1**
ZEI				*e**PP			08 47 37.0	
ZEI				*e*			08 47 43.3	
ZEI				*e*			08 50 07.0	
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.6							
AKASG	**Malin Array Be**	**72.15**	**327**	P		**P**	**08 47 26.4**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.4,baz=34,slow=6.0,SNR=12							
AKASG				LR		LR	09 20 51.5	
	comp=Z,76nm,18.8s,MS4.0,baz=265,slow=37							
AKASG	**Malin Array Be**	**72.15**	**327**	P		**P**	**08 47 26.4**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG				MLR	MLR			
	comp=Z,76nm,18.8s							
ASAR	**Alice Springs**	**73.16**	**201**	P		**P**	**08 47 33.1**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.3,baz=13,slow=5.8,SNR=17							
ASAR	**Alice Springs**	**73.16**	**201**	P		**P**	**08 47 33.2**	**-0.1**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ANN	**Anapa**	**73.51**	**319**	*e*P		**P**	**08 47 31.4**	**-4.0**
ANN				*e**PP			08 47 41.5	
ANN				*e*			08 47 47.1	
ANN				*e*			08 50 14.2	
ANN				*e*S		S	08 56 57.8	-8.4
ANN				pmax	pmax			
	comp=Z,34nm,1.3s,mb5.2							
GNI	**Garni**	**73.56**	**312**	⇑*e*P		**P**	**08 47 36.3**	**+0.6**
GNI				pmax	pmax			
	comp=Z,22nm,1.4s							
KWP	**Kalwaria**	**75.34**	**331**	*e*P		**P**	**08 47 45.9**	**-0.1**
KWP				pmax	pmax			
	comp=Z,7.0nm,0.3s,mb5.2							
KWP	**Kalwaria**	**75.34**	**331**	*e*P		**P**	**08 47 45.9**	**-0.1**
	comp=Z,6.9nm,0.3s,mb5.2							
OJC	**Ojcow**	**75.78**	**332**	*e*P		**P**	**08 47 54.2**	**+5.6**
LTX	**Lajitas**	**75.80**	**62**	*e*P		**P**	**08 47 48.8**	**+0.1**
LTX				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.7							
LTX	**Lajitas**	**75.80**	**62**	*e*P		**P**	**08 47 48.8**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.7							
TXAR	**Lajitas Array**	**75.80**	**62**	P		**P**	**08 47 48.8**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.6,baz=298,slow=4.2,SNR=48							
TXAR				pP			08 47 57.0	
	comp=Z,2.3nm,0.7s,baz=316,slow=3.6,SNR=13							
TXAR	**Lajitas Array**	**75.80**	**62**	P		**P**	**08 47 48.8**	**+0.1**
TXAR				*PP			08 47 57.0	
TXAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
STHS	**Stebnicka Huta**	**76.01**	**331**	*e*P		**P**	**08 47 50.6**	**+0.7**
STHS				*e*			08 47 56.6	
STHS				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7							
STHS	**Stebnicka Huta**	**76.01**	**331**	*e*P		**P**	**08 47 50.6**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.7							
STHS				*e*			08 47 56.6	
BURAR	**Bucovina Array**	**76.18**	**328**	⇓*i*P		**P**	**08 47 51.0**	**+0.2**
BURAR	**Bucovina Array**	**76.18**	**328**	⇓P		**P**	**08 47 51.0**	**+0.1**
DPC	**Dobruska-Polom**	**76.72**	**335**	*e*P		**P**	**08 47 54.6**	**+0.7**
DPC				*e*pP			08 48 00.5	
CLL	**Collm**	**76.79**	**337**	*i* P		**P**	**08 47 54.3**	**0.0**
CLL				*e*			08 48 07.0	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.8							
CLL	**Collm**	**76.79**	**337**	*i* P		**P**	**08 47 54.3**	**0.0**
	comp=Z,9.0nm,1.1s,mb4.8							
CLL				*i* pP			08 48 00.3	
CLL				*es*PcP			08 48 07.0	
MORC	**Moravsky Berou**	**76.86**	**334**	⇑*i*P		**P**	**08 47 55.4**	**+0.7**
MORC	**Moravsky Berou**	**76.86**	**334**	*e*P		**P**	**08 47 55.3**	**+0.6**
MORC				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.8							
MORC	**Moravsky Berou**	**76.86**	**334**	*e*P		**P**	**08 47 55.2**	**+0.5**
	comp=Z,8.8nm,1.1s,mb4.8							
BRG	**Berggiesshubel**	**76.93**	**336**	*i* P		**P**	**08 47 53.7**	**-1.4**
	comp=Z,4.1nm,1.4s,mb4.4							
PRU	**Pruhonice**	**77.56**	**335**	*e*P		**P**	**08 47 59.1**	**+0.5**
PRU				*e*pP			08 48 05.0	
VRAC	**Vranov**	**77.57**	**334**	⇑*i*P		**P**	**08 47 57.6**	**-1.1**
VRAC	**Vranov**	**77.57**	**334**	⇑P		**P**	**08 47 57.6**	**-1.1**
VYHS	**Vyhne**	**77.59**	**332**	*e*P		**P**	**08 47 59.2**	**+0.4**
VYHS	**Vyhne**	**77.59**	**332**	*e*P		**P**	**08 47 59.3**	**+0.5**
TIRR	**Tirgusor**	**77.61**	**324**	⇓*i*P		**P**	**08 47 59.0**	**+0.1**
TIRR	**Tirgusor**	**77.61**	**324**	*e*P		**P**	**08 47 58.6**	**-0.3**
TIRR				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.7							
TIRR	**Tirgusor**	**77.61**	**324**	*e*P		**P**	**08 47 58.6**	**-0.3**
	comp=Z,6.4nm,1.0s,mb4.7							
MLR	**Muntele Rosu**	**77.70**	**326**	⇓*i*P		**P**	**08 48 00.1**	**+0.7**
DRGR		**77.77**	**329**	⇑*i*P		**P**	**08 48 00.1**	**+0.3**
NKC	**Novy Kostel**	**77.91**	**337**	*e*pP		pP	**08 48 06.4**	**+5.7**
MALT	**Malatya**	**78.12**	**314**	*e*P		**P**	**08 48 02.5**	**+0.8**
MALT				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.8							
MALT	**Malatya**	**78.12**	**314**	*e*P		**P**	**08 48 02.5**	**+0.8**
	comp=Z,9.9nm,1.3s,mb4.8							
KHC	**Kasperske Hory**	**78.60**	**336**	*e*P		**P**	**08 48 04.9**	**+0.5**
KHC				*e*pP			08 48 09.7	
GRA1	**Grafenberg Arr**	**78.73**	**337**	*e*P		**P**	**08 48 05.1**	**0.0**
	comp=Z,7.0nm,1.1s,mb4.6							
GRF	**Grafenberg Arr**	**78.73**	**337**	*e*P		**P**	**08 48 05.1**	**0.0**
	comp=Z,7.0nm,1.1s,mb4.6							
GRF	**Grafenberg Arr**	**78.73**	**337**	*e*P		**P**	**08 48 05.1**	**0.0**
GRF				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
GRF	**Grafenberg Arr**	**78.73**	**337**	*e*P		**P**	**08 48 05.1**	**0.0**
GRF				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
GERES	**GERESS Array B**	**78.83**	**335**	P		**P**	**08 48 05.9**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=34,slow=5.2,SNR=12							
GERES	**GERESS Array B**	**78.83**	**335**	P		**P**	**08 48 05.9**	**+0.2**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BZS	**Buzias**	**79.17**	**329**	⇓*i*P		**P**	**08 48 07.6**	**0.0**
BZS	**Buzias**	**79.17**	**329**	⇓P		**P**	**08 48 07.6**	**+0.1**
BR131	**Keskin Array S**	**79.25**	**318**	*e*P		**P**	**08 48 08.5**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3							
BRTR	**Keskin Array B**	**79.25**	**318**	P		**P**	**08 48 08.7**	**+0.7**
	comp=Z,2.1nm,0.9s,mb4.2,baz=67,slow=3.2,SNR=11							
BRTR	**Keskin Array B**	**79.25**	**318**	P		**P**	**08 48 08.7**	**+0.7**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
UCC	**Ucclе**	**79.33**	**342**	P		**P**	**08 48 12.8**	**+4.4**
BCLA	**Clavier**	**79.49**	**341**	P		**P**	**08 48 11.9**	**+2.7**
STKA	**Stephens Creek**	**79.67**	**192**	LR		LR	09 24 21.7	
	comp=Z,68nm,18.2s,MS4.0,baz=27,slow=36							
KBA	**Koelnbreinsper**	**80.53**	**335**	⇓*i*P		**P**	**08 48 15.7**	**+0.8**
	comp=Z,15nm,0.8s,mb5.1							
KBA	**Koelnbreinsper**	**80.53**	**335**	⇓*i*P		**P**	**08 48 15.7**	**+0.8**
KBA				pmax	pmax			
	comp=Z,15nm,0.8s,mb5.1							
CDF	**Champ du Feu**	**80.91**	**339**	*e*P		**P**	**08 48 16.3**	**-0.7**
	comp=Z,15nm,1.0s,mb4.7							
CDF	**Champ du Feu**	**80.91**	**339**	*e*P		**P**	**08 48 16.3**	**-0.7**
CDF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
CDF	**Champ du Feu**	**80.91**	**339**	*e*P		**P**	**08 48 16.3**	**-0.7**
	comp=Z,7.6nm,1.0s,mb4.7							
PPT	**Papeete**	**81.03**	**128**	*e*LR		LR	09 12 45.9	
	comp=Z,88nm,22.5s							
PPT	**Papeete**	**81.03**	**128**	LR		LR	09 18 47.7	
	comp=Z,244nm,19.2s,MS4.6,baz=284,slow=32							
VTS	**Vitosha**	**81.20**	**327**	⇑*i*P		**P**	**08 48 18.7**	**+0.2**
VTS	**Vitosha**	**81.20**	**327**	⇑P		**P**	**08 48 18.7**	**+0.2**
GRR	**Gorron**	**82.67**	**344**	*e*P		**P**	**08 48 25.2**	**-1.0**
	comp=Z,195nm,1.6s,mb5.8							
GRR	**Gorron**	**82.67**	**344**	*e*P		**P**	**08 48 25.2**	**-1.0**
GRR				pmax	pmax			
	comp=Z,97nm,1.6s,mb5.8							
GRR	**Gorron**	**82.67**	**344**	*e*P		**P**	**08 48 25.2**	**-1.0**
	comp=Z,97nm,1.6s,mb5.8							
SMF	**Signal de Mont**	**83.37**	**341**	*e*P		**P**	**08 48 28.8**	**-1.1**
	comp=Z,36nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.37**	**341**	*e*P		**P**	**08 48 28.8**	**-1.1**
SMF				pmax	pmax			
	comp=Z,18nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.37**	**341**	*e*P		**P**	**08 48 28.8**	**-1.1**
	comp=Z,18nm,1.1s,mb5.2							
LPG	**La Plagne**	**83.76**	**339**	*e*P		**P**	**08 48 31.5**	**-0.4**
	comp=Z,54nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.76**	**339**	*e*P		**P**	**08 48 31.5**	**-0.4**
LPG				pmax	pmax			
	comp=Z,27nm,1.2s,mb5.3							
LPG	**La Plagne**	**83.76**	**339**	*e*P		**P**	**08 48 31.5**	**-0.4**
	comp=Z,27nm,1.2s,mb5.3							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**08 48 39.4**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**08 48 39.4**	**-0.7**
CAF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0							
CAF	**Calviac**	**85.40**	**341**	*e*P		**P**	**08 48 39.4**	**-0.7**
	comp=Z,8.4nm,0.9s,mb5.0							
TBI	**Tubuai**	**85.85**	**131**	*e*LR		LR	09 14 59.7	
	comp=Z,110nm,30.8s							
VNDA	**Vanda**	**124.45**	**178**	PKP		PKPdf	08 54 59.8	-2.2
	comp=Z,0.9nm,0.9s,baz=260,slow=1.3,SNR=5.5							
VNDA	**Vanda**	**124.45**	**178**	PKIKP		PKPdf	08 54 59.8	-2.1
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
USHA	**Ushuaia**	**151.64**	**122**	PKPbc		PKPbc	08 55 55.0	-2.1
	comp=Z,11nm,0.9s,baz=326,slow=2.9,SNR=7.0							
PMSA	**Palmer Station**	**152.31**	**144**	PKPbc		PKPbc	08 55 56.9	-1.8
	comp=Z,9.5nm,0.8s,baz=169,slow=2.4,SNR=6.1							
SNAA	**Sanae**	**153.40**	**195**	PKPbc		PKPbc	08 55 57.8	-3.2
	comp=Z,1.0nm,0.9s,baz=68,slow=2.1,SNR=6.9							
SNAA	**Sanae**	**153.40**	**195**	PKIKP		PKPdf	08 55 57.8	+4.3
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
VNA2	**Neumayer--Watz**	**154.80**	**193**	*e*PKPdf		PKPdf	08 55 54.7	-0.7
VNA2				*e*			08 55 59.6	
VNA2				*e*			08 56 02.3	
VNA2				*e*			08 56 10.4	
VNA2				*e*			08 56 19.2	
VNA2				*e*			08 56 26.9	
VNA3	**Neumayer Olymp**	**154.84**	**191**	*e*PKPdf		PKPdf	08 55 53.9	-1.6
VNA3				*e*			08 56 02.4	
VNA3				*e*			08 56 10.0	
VNA3				*e*			08 56 18.8	
VNA3				*e*			08 56 27.5	

ISCJB ***26*** *08:36:40.0±0.4, 4658N±002×070E±003, h2km, Error ellipse: s-maj=3.5km s-min=2.7km az=19.1*
LDG ***26*** *08:36:42.5±0.1, 4653N×066E, h2km, Md2.4/2, Ml2.3/14, Error ellipse: s-maj=2.2km s-min=1.9km az=17.0*
STR ***26*** *08:36:43.7±0.6, 4626N×069E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 08:36:41.3±0.4, 4654N±002×068E±003, h4km±8km, n21, σ0§84/32, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**0.57**	**276**	*e*Pg		**Pg**	**08 36 53.0**	**+0.8**
MFF				*e*Sg		**Sg**	**08 37 00.1**	**+0.4**
	4.2nm,0.2s							
CHIF	**Chize**	**0.86**	**242**	Pg		**Pg**	**08 36 58.2**	**+0.5**
CHIF				Sg		**Sg**	**08 37 09.1**	**+0.3**
TCF	**Toulx Ste Croi**	**1.09**	**103**	*e*Pg		**Pg**	**08 37 03.5**	**+1.3**
TCF				*e*Sg		**Sg**	**08 37 17.5**	**+1.2**
	3.9nm,0.2s							
RJF	**Les Rejaudoux**	**1.37**	**154**	*e*Pg		**Pg**	**08 37 07.7**	**+0.2**
RJF				*e*Sg		**Sg**	**08 37 24.6**	**-0.7**
	14nm,0.2s							
BGF	**Bois d'Agland**	**1.50**	**89**	*e*Pn		**Pn**	**08 37 08.7**	**-0.2**
BGF	**Bois d'Agland**	**1.50**	**89**	*e*Pg		**Pg**	**08 37 11.7**	**+1.8**
BGF				*e*Sg		**Sg**	**08 37 30.4**	**+1.1**
	16nm,0.3s							
LFF	**La Frestale**	**1.60**	**178**	*e*Pn		**Pn**	**08 37 10.3**	**-0.1**
LFF	**La Frestale**	**1.60**	**178**	*e*Pg		**Pg**	**08 37 12.1**	**+0.1**
LFF				*e*Sg		**Sg**	**08 37 31.7**	**-1.1**
	14nm,0.3s							
AGO	**Saint Agoulin**	**1.77**	**105**	Pg		**Pg**	**08 37 15.7**	**+0.5**
PYM	**Petit Puy Mans**	**1.80**	**115**	Pg		**Pg**	**08 37 16.4**	**+0.6**
AVF	**Avril sur Loir**	**1.86**	**81**	*e*Pg		**Pg**	**08 37 17.7**	**+0.8**
AVF				*e*Sg		**Sg**	**08 37 40.2**	**-0.8**
	2.5nm,0.2s							
CAF	**Calviac**	**1.89**	**149**	*e*Pn		**Pn**	**08 37 14.4**	**+0.1**
CAF	**Calviac**	**1.89**	**149**	*e*Pg

0.4nm,0.6s,mb3.5,baz=105,slow=6.1,SNR=3.5

YKA				LR	LR	09 40 51.0
	comp=Z,45nm,18.1s,MS3.8,baz=190,slow=33					
GNI	**Garni**	**79.34**	**51**	LR	LR	09 45 24.3
	comp=Z,33nm,19.9s,MS3.7,baz=173,slow=35					
INK	**Inuvik**	**85.05**	**338**	P	**P**	**09 11 20.9 +0.6**
	1.6nm,0.8s,mb4.2,baz=63,slow=4.5,SNR=4.2					

IDC 26 08:59:04.4±4.3, 277S×12851E, h86km±32km, mb3.8/2, mb1 3.8/4, mb1mx3.4/16, mbtmp3.7/4, Error ellipse: s-maj=87.1km s-min=27.7km az=73.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.62**	**159**	*e*P	Pn	09 01 33.0	-0.5
	5.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.49**	**190**	*e*P	Pn	09 02 38.3	+0.4
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.49**	**190**	P	Pn	09 02 38.4	+0.5
	0.1nm,0.3s,baz=37,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**17.99**	**162**	P	Pn	09 03 07.3	-1.5
	0.6nm,0.3s,baz=340,slow=11,SNR=28						
WRA				S	S	09 06 29.8	+0.3
	0.1nm,0.3s,baz=342,slow=19,SNR=3.8						
WB2	**Warramunga Arr**	**18.00**	**162**	*e*P	Pn	09 03 07.3	-1.5
WB2				*e*S	S	09 06 27.4	-2.2
ASAR	**Alice Springs**	**21.42**	**166**	P	P	09 03 44.9	-0.4
	8.2nm,0.8s,baz=346,slow=12,SNR=60						
ASAR				S	S	09 07 39.8	+1.8
	2.0nm,0.9s,baz=345,slow=19,SNR=11						
ASPA	**Alice Springs**	**21.42**	**166**	*e*P	P	09 03 44.8	-0.5
ASPA				*e*S	S	09 07 38.2	+0.2
STKA	**Stephens Creek**	**31.46**	**158**	P	P	09 05 18.9	+1.1
	1.1nm,0.6s,baz=349,slow=10,SNR=4.1						

*NIED **26** 09:16:00, 2930N×13070E, h32km, Mw4.2 Best double couple: M0 2.27000×10^15 NP1:φ,δ 15.00000°,δ85.00000°, λ 81.00000°. NP2:φ,δ 257.00000°,δ 10.00000°,λ 151.00000°.*
*JMA **26** 09:16:56.1±0.3, 2928N×13066E, h27km±5km, M3.8*
*ISCJB **26** 09:16:57.4±0.8, 2930N±004×13057E±008, h53km±6km, mb4.0/10, MS3.1/2, Error ellipse: s-maj=13.0km s-min=5.7km az=41.4*
*IDC **26** 09:16:59.5±2.8, 2941N×13034E, h51km±26km, mb3.4/7, mb1 3.5/9, mb1mx3.4/23, mbtmp3.5/9, ML3.2/2, MS3.2/5, Ms1 3.2/5, ms1mx2.6/23, Error ellipse: s-maj=33.5km s-min=17.8km az=85.0*

ISC 26 09:16:58.4±0.8, 2931N±004×13055E±009, h45km±6km, n29, σ0§89/31, mb4.0/10, MS3.1/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.79**	**312**	P	**Pn**	**09 17 12.2**	**-1.0**
JNN				*e*S	**Sn**	**09 17 24.2**	**+0.3**
JKC	**Kuchinoerabu**	**1.19**	**345**	P	**Pn**	**09 17 18.3**	**-0.2**
JKC				*e*S	**Sn**	**09 17 35.5**	**+2.0**
JAM	**Amami Oshima**	**1.22**	**223**	P	**Pn**	**09 17 18.2**	**-0.8**
JAM				*e*S	**Sn**	**09 17 35.9**	**+1.5**
JTN	**Tanegashima 3**	**1.39**	**15**	P	**Pn**	**09 17 20.7**	**-0.6**
JTSR	**Tashiro 2**	**1.88**	**10**	P	**Pn**	**09 17 28.1**	**+0.1**
JTSR				*e*S	**Sn**	**09 17 50.8**	**+0.4**
JTK	**Tokunoshima**	**2.07**	**223**	P	**Pn**	**09 17 30.3**	**-0.4**
JSU	**Suzuyama**	**2.19**	**358**	P	**Pn**	**09 17 31.7**	**-0.6**
JNAR	**Kushima--Naru**	**2.29**	**16**	P	**Pn**	**09 17 33.6**	**-0.1**
JOW	**Kunigami**	**3.19**	**220**	P	**Pn**	**09 17 45.7**	**-0.3**
	3.7nm,0.3s,baz=101,slow=24,SNR=12						
JOW				LR	LR	09 19 26.3	
	comp=Z,388nm,19.3s,baz=289,slow=47						
JOW	**Kunigami**	**3.19**	**220**	P	**Pn**	**09 17 45.1**	**-0.9**
JNU	**Nakatsue**	**3.81**	**4**	P	**Pn**	**09 17 55.3**	**+0.8**
	3.0nm,0.3s,baz=213,slow=19,SNR=24						
JKE	**Kume jima 2**	**4.47**	**229**	P	**Pn**	**09 18 02.6**	**-1.0**
KSRS	**Korea Array**	**8.41**	**346**	P	**Pn**	**09 19 03.3**	**+5.6**
	baz=165,slow=13,SNR=4.1						
KSRS				LR	LR	09 22 27.1	
	comp=Z,132nm,20.0s,baz=172,slow=40						
ASAJ	**Asahikawa**	**17.62**	**30**	LR	LR	09 27 56.7	
	comp=Z,50nm,21.7s,baz=152,slow=37						
GUMO	**Guam**	**20.52**	**137**	LR	LR	09 29 14.9	
	comp=Z,47nm,19.6s,MS2.9,baz=88,slow=36						
SONM	**Songino Array**	**26.26**	**321**	P	**P**	**09 22 28.0**	**-1.3**
	0.8nm,0.6s,mb3.4,baz=139,slow=10,SNR=6.4						
SONM				LR	LR	09 34 03.7	
	comp=Z,97nm,21.1s,MS3.3,baz=181,slow=39						
GUN	**Gumba**	**39.06**	**279**	*e*P	**P**	**09 24 22.1**	**+1.1**
	13nm,0.4s,mb5.0						
PKI	**Pulchoki**	**39.55**	**279**	*e*P	**P**	**09 24 24.9**	**-0.1**
	18nm,0.9s,mb4.8						
KKN	**Kakani**	**39.61**	**279**	*e*P	**P**	**09 24 25.8**	**+0.3**
DMN	**Daman**	**39.80**	**279**	*e*P	**P**	**09 24 27.6**	**+0.5**
GKN	**Gorkha**	**40.11**	**280**	*e*P	**P**	**09 24 29.4**	**-0.3**
DANN	**Dangsing**	**40.79**	**280**	*e*P	**P**	**09 24 35.8**	**+0.5**
KOLN	**Koldanda**	**41.06**	**280**	*e*P	**P**	**09 24 37.3**	**-0.2**
	10nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**41.12**	**309**	P	**P**	**09 24 37.2**	**-0.8**
	0.6nm,0.4s,mb3.5,baz=92,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**49.10**	**175**	P	**P**	**09 25 42.4**	**+1.0**
	0.4nm,0.9s,mb3.5,baz=354,slow=8.2,SNR=3.6						
ASAR	**Alice Springs**	**52.77**	**176**	P	**P**	**09 26 10.8**	**+1.9**
	0.2nm,0.5s,mb3.3,baz=8.5,slow=14,SNR=4.9						
INK	**Inuvik**	**65.25**	**24**	P	**P**	**09 27 35.1**	**-0.3**
	0.6nm,0.7s,mb3.8,baz=350,slow=4.4,SNR=5.4						
FINES	**FINESS Array B**	**71.20**	**331**	P	**P**	**09 28 10.5**	**-2.1**
	2.5nm,0.9s,mb4.2,baz=64,slow=4.9,SNR=4.7						
BRTR	**Keskin Array B**	**76.76**	**308**	P	**P**	**09 28 45.3**	**+0.2**
	1.6nm,0.7s,mb4.0,baz=100,slow=3.7,SNR=8.6						

*NEIC **26** 09:22:28.6, 1527N×9678W, h28km, MD3.9(MEX), After MEX.*

MEX 26 09:22:28.4±0.7, 1525N×9679W, h25km±54km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.83**	**52**	*i* P	Pb	09 22 41.7	-2.5
HUIG				*i* S	Sb	09 22 51.8	-3.2
VHO	**Vista Hermosa**	**1.81**	**2**	*i* P	Pn	09 22 55.8	-2.1
VHO				*i* S	Sn	09 23 17.2	-2.9
OXX	**Oaxaca**	**1.82**	**2**	*e*P	Pn	09 22 55.0	-3.1
OXX				*i* S	Sn	09 23 18.0	-2.3
UTMO	**Huajuapan**	**2.74**	**339**	*e*P	Pn	09 23 10.6	-0.2
UTMO				*i* S	Sn	09 23 39.0	-4.0
TPIG	**Tehuac#an**	**3.20**	**350**	*e*P	Pn	09 23 16.2	-0.8
TPIG				*i* S	Sn	09 23 51.3	-3.0
MEIG	**Mezcala**	**3.80**	**315**	*e*P	Pn	09 23 29.7	+4.4
MEIG				*i* S	Sn	09 24 05.4	-3.8
IIO	**Organos**	**4.69**	**337**	*i* P	Pn	09 23 37.6	0.0
IIO				*i* S	Sn	09 24 30.7	-0.5

*ISCJB **26** 09:32:47.5±1.5, 4307N±010×107W±008, h17km±10km, Error ellipse: s-maj=18.3km s-min=6.0km az=55.7*
*LDG **26** 09:32:47.9±0.1, 4309N×104W, h12km, Md1.6/2, Ml1.5/1, Error ellipse: s-maj=4.2km s-min=1.9km az=23.0*
*STR **26** 09:32:48.5±0.2, 4312N×103W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 09:32:47.6±1.9, 4308N±009×105W±007, h17km±11km, n7, σ0§28/12, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.06**	**129**	Pg	**Pg**	**09 32 50.7**	**0.0**
LARF				*e*Sg	**Sg**	**09 32 53.0**	**+0.2**
SJPF	**Ste Jean**	**0.14**	**287**	*e*Pg	**Pg**	**09 32 51.5**	**0.0**
SJPF				*e*Sg	**Sg**	**09 32 54.0**	**-0.1**
	15nm,0.2s						
ORDF	**Ordiarp**	**0.16**	**31**	Pg	**Pg**	**09 32 51.9**	**+0.1**
OSSF	**Osses**	**0.24**	**319**	Pg	**Pg**	**09 32 52.9**	**-0.1**
OSSF				Sg	**Sg**	**09 32 56.6**	**-0.1**
ATE	**Arette**	**0.26**	**87**	Pg	**Pg**	**09 32 53.1**	**-0.2**
ATE				Sg	**Sg**	**09 32 57.2**	**+0.1**
ETSF	**Etsaut**	**0.40**	**116**	*e*Pg	**Pg**	**09 32 56.4**	**+0.6**
ETSF				*e*Sg	**Sg**	**09 33 00.6**	**-0.7**
	6.1nm,0.2s						
EPF	**Esparros**	**1.02**	**92**	*e*Sg	**Sg**	**09 33 20.8**	**+0.1**
	0.9nm,0.2s						

*GII **26** 09:35:02.5±0.0, 3333N×3595E, h0km, ML1.9/4*
*GRAL **26** 09:35:03.7±0.4, 3314N×3589E, h11km±13km, MD2.6*

*ISCJB **26** 09:35:04.5±1.1, 3323N±003×3591E±007, h0km, Error ellipse: s-maj=8.2km s-min=4.7km az=32.8*
*CSEM **26** 09:35:04.4±0.3, 3322N×3584E, h8km, ML1.9, Error ellipse: s-maj=6.6km s-min=3.5km az=107.0, Mining explosion.*

ISC 26 09:35:04.9±1.1, 3324N±003×3590E±007, h0km, n8, σ0§95/15, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRI	**Mount Hermon**	**0.14**	**283**	Pg	**Pg**	**09 35 06.9**	**-0.8**
HRI				Sg	**Sg**	**09 35 09.2**	**-0.3**
KSDI	**Kefar Szold**	**0.21**	**258**	Pg	**Pg**	**09 35 07.5**	**-1.4**
KSDI				Sg	**Sg**	**09 35 11.7**	**+0.1**
RCY	**Rachaya**	**0.26**	**345**	*e*Pg	**Pg**	**09 35 10.4**	**+0.5**
RCY				*e*Sg	**Sg**	**09 35 15.0**	**+1.7**
KSHT	**Keshet**	**0.26**	**197**	Pg	**Pg**	**09 35 09.8**	**-0.2**
KSHT				Sg	**Sg**	**09 35 14.8**	**+1.4**
MMC3	**Mount Meron ar**	**0.46**	**242**	Pg	**Pg**	**09 35 13.1**	**-0.7**
MMC3				Sg	**Sg**	**09 35 20.7**	**+0.9**
MMA1	**Mount Meron ar**	**0.47**	**243**	Pg	**Pg**	**09 35 12.5**	**-1.4**
MMA1				Sg	**Sg**	**09 35 21.1**	**+1.2**
MMA2	**Mount Meron ar**	**0.47**	**242**	Pg	**Pg**	**09 35 13.0**	**-0.9**
MMA2				Sg	**Sg**	**09 35 20.6**	**+0.5**
BHL	**Bhannes**	**0.70**	**343**	*e*Pg	**Pg**	**09 35 17.9**	**-0.4**

*IDC **26** 10:08:17.5±0.7, 5381N×16182E, h0km, mb3.9/21, mb1 4.1/22, mb1mx4.1/28, mbtmp4.0/22, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=20.9km s-min=14.5km az=158.0*
*KRSC **26** 10:08:18.8±0.1, 5361N×16225E, h41km±41km, ML4.3*
*ISCJB **26** 10:08:20.5±0.8, 5363N±003×16223E±008, h42km±6km, mb3.9/22, MS3.4/1, Error ellipse: s-maj=8.5km s-min=3.7km az=52.7*
*MOS **26** 10:08:21.5±1.4, 5377N×16197E, h44km, mb4.3/11, Error ellipse: s-maj=15.0km s-min=8.3km az=84.4*
*NEIC **26** 10:08:23.8±1.6, 5381N×16179E, h45km±16km, Error ellipse: s-maj=14.8km s-min=9.9km az=166.0*

ISC 26 10:08:21.3±0.9, 5361N±003×16225E±009, h37km±7km, n81, σ1§14/119, mb3.9/22, MS3.4/1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.99**	**342**	*e*P	**Pn**	**10 08 36.9**	**-1.9**
MKZ				*i* S	**Sn**	**10 08 49.9**	**-1.7**
MKZ	**Mys Kozlova**	**0.99**	**342**	*e*P	**Pn**	**10 08 36.9**	**-1.9**
MKZ				*i* S	**Sn**	**10 08 49.9**	**-1.7**
SPN	**Mys Shipunski**	**1.43**	**250**	*e*P	**Pn**	**10 08 43.9**	**-0.9**
SPN				*i* S	**Sn**	**10 09 01.7**	**-0.6**
SPN	**Mys Shipunski**	**1.43**	**250**	*e*P	**Pn**	**10 08 43.9**	**-0.9**
SPN				*i* S	**Sn**	**10 09 01.7**	**-0.6**
NLC	**Nalytchevo**	**1.79**	**257**	*e*P	**Pn**	**10 08 49.0**	**-0.8**
NLC				*i* S	**Sn**	**10 09 10.3**	**-1.0**
NLC	**Nalytchevo**	**1.79**	**257**	*e*P	**Pn**	**10 08 49.0**	**-0.8**
NLC				*i* S	**Sn**	**10 09 10.3**	**-1.0**
TUMR	**Tumrok**	**2.08**	**325**	*e*P	**Pn**	**10 08 53.3**	**-0.3**
TUMR				*i* S	**Sn**	**10 09 18.1**	**-0.2**
TUMR	**Tumrok**	**2.08**	**325**	*e*P	**Pn**	**10 08 53.3**	**-0.3**
TUMR				*i* S	**Sn**	**10 09 18.1**	**-0.2**
AVH	**Avacha**	**2.13**	**262**	*e*P	**Pn**	**10 08 54.3**	**-0.1**
AVH				*i* S	**Sn**	**10 09 20.0**	**+0.4**
AVH	**Avacha**	**2.13**	**262**	*e*P	**Pn**	**10 08 54.3**	**-0.1**
AVH				*i* S	**Sn**	**10 09 20.0**	**+0.4**
PET	**Petropavlovsk**	**2.24**	**256**	*e*PN	**Pn**	**10 08 58.0**	**+2.2**
PET				pmax	pmax		
	comp=Z,105nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**2.24**	**256**	*e*Pn	**Pn**	**10 08 55.7**	**-0.1**
PET				*e*Sn	**Sn**	**10 09 20.8**	**-1.4**
PET	**Petropavlovsk**	**2.24**	**256**	*e*P	**Pn**	**10 08 55.6**	**-0.2**
PET				*i* S	**Sn**	**10 09 22.0**	**-0.2**
PET	**Petropavlovsk**	**2.24**	**256**	*e*P	**Pn**	**10 08 55.6**	**-0.2**
PET				*i* S	**Sn**	**10 09 22.0**	**-0.2**
KMNR	**Kamenistaya**	**2.44**	**332**	*e*P	**Pn**	**10 08 59.3**	**+0.6**
KMNR				*i* S	**Sn**	**10 09 28.8**	**+1.4**
KMNR	**Kamenistaya**	**2.44**	**332**	*e*P	**Pn**	**10 08 59.3**	**+0.6**
KMNR				*i* S	**Sn**	**10 09 28.8**	**+1.4**
RUS	**Russkaya**	**2.55**	**244**	*e*P	**Pn**	**10 08 59.8**	**-0.3**
RUS				*i* S	**Sn**	**10 09 29.4**	**-0.5**
RUS	**Russkaya**	**2.55**	**244**	*e*P	**Pn**	**10 08 59.8**	**-0.3**
RUS				*i* S	**Sn**	**10 09 29.4**	**-0.5**
ZLN	**Zelenaya**	**2.55**	**341**	*e*P	**Pn**	**10 09 00.4**	**+0.2**
ZLN				*i* S	**Sn**	**10 09 31.7**	**+1.7**
ZLN	**Zelenaya**	**2.55**	**341**	*e*P	**Pn**	**10 09 00.4**	**+0.2**
ZLN				*i* S	**Sn**	**10 09 31.7**	**+1.7**
GNL	**Ganaly**	**2.56**	**274**	*e*P	**Pn**	**10 09 00.8**	**+0.4**
GNL				*i* S	**Sn**	**10 09 31.9**	**+1.6**
GNL	**Ganaly**	**2.56**	**274**	*e*P	**Pn**	**10 09 00.8**	**+0.4**
GNL				*i* S	**Sn**	**10 09 31.9**	**+1.6**
KBTR	**Krutoberegovo**	**2.62**	**7**	*e*P	**Pn**	**10 08 59.8**	**-1.4**
KBTR				*i* S	**Sn**	**10 09 30.1**	**-1.6**
KBTR	**Krutoberegovo**	**2.62**	**7**	*e*P	**Pn**	**10 08 59.8**	**-1.4**
KBTR				*i* S	**Sn**	**10 09 30.1**	**-1.6**
KPT	**Kopyto**	**2.63**	**334**	*e*P	**Pn**	**10 09 01.6**	**+0.3**
KPT				*i* S	**Sn**	**10 09 32.5**	**+0.5**
KPT	**Kopyto**	**2.63**	**334**	*e*P	**Pn**	**10 09 01.6**	**+0.3**
KPT				*i* S	**Sn**	**10 09 32.5**	**+0.5**
GRL	**Gorelyy**	**2.73**	**249**	*e*P	**Pn**	**10 09 03.6**	**+0.9**
GRL				*i* S	**Sn**	**10 09 36.4**	**+1.9**
GRL	**Gorelyy**	**2.73**	**249**	*e*P	**Pn**	**10 09 03.6**	**+0.9**
GRL				*i* S	**Sn**	**10 09 36.4**	**+1.9**
KRSR	**Krestovskiy**	**2.79**	**340**	*e*P	**Pn**	**10 09 03.2**	**-0.2**
KRSR				*i* S	**Sn**	**10 09 36.6**	**+0.8**
KRSR	**Krestovskiy**	**2.79**	**340**	*e*P	**Pn**	**10 09 03.2**	**-0.2**
KRSR				*i* S	**Sn**	**10 09 36.6**	**+0.8**
KOZ	**Kozyrevsk**	**2.81**	**332**	*e*P	**Pn**	**10 09 04.1**	**+0.4**
KOZ				*i* S	**Sn**	**10 09 37.2**	**+0.8**
KOZ	**Kozyrevsk**	**2.81**	**332**	*e*P	**Pn**	**10 09 04.1**	**+0.4**
KOZ				*i* S	**Sn**	**10 09 37.2**	**+0.8**
KOZR	**Kozyr**	**2.81**	**332**	PN	**Pn**	**10 09 04.1**	**+0.4**
KOZR				S	**Sn**	**10 09 37.2**	**+0.8**
KLY	**Klyuchi**	**2.86**	**342**	*e*P	**Pn**	**10 09 03.8**	**-0.6**
KLY				*i* S	**Sn**	**10 09 37.0**	**-0.6**
KLY	**Klyuchi**	**2.86**	**342**	*e*P	**Pn**	**10 09 03.8**	**-0.6**
KLY				*i* S	**Sn**	**10 09 37.0**	**-0.6**
SRDR	**Sredinnyy**	**3.08**	**333**	*e*P	**Pn**	**10 09 07.3**	**-0.1**
SRDR				*i* S	**Sn**	**10 09 43.7**	**+0.7**
SRDR	**Sredinnyy**	**3.08**	**333**	*e*P	**Pn**	**10 09 07.3**	**-0.1**
SRDR				*i* S	**Sn**	**10 09 43.7**	**+0.7**
SRKR	**Sorokina**	**3.11**	**349**	*e*P	**Pn**	**10 09 07.9**	**0.0**
SRKR				*i* S	**Sn**	**10 09 44.1**	**+0.3**
SRKR	**Sorokina**	**3.11**	**349**	*e*P	**Pn**	**10 09 07.9**	**0.0**
SRKR				*i* S	**Sn**	**10 09 44.1**	**+0.3**
ASAJ	**Asahikawa**	**16.00**	**242**	Pn	**Pn**	**10 12 03.1**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=61,slow=8.3,SNR=13						
ASAJ				LR	LR	10 19 21.0	
	comp=Z,60nm,18.1s,baz=163,slow=42						
ERM	**Erimo**	**17.23**	**235**	*i* P	**Pn**	**10 12 16.1**	**-2.9**
TIXI	**Tiksi**	**23.17**	**334**	*e*P	**P**	**10 13 21.6**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,105nm,17.0s,MS3.4						
MAT	**Matsushiro**	**23.89**	**234**	P	**P**	**10 13 33.7**	**+2.2**
MJAR	**Matsushiro Arr**	**23.89**	**234**	P	**P**	**10 13 33.5**	**+2.0**
	comp=Z,3.3nm,0.7s,mb3.9,baz=22,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**23.89**	**234**	P	**P**	**10 13 33.5**	**+2.0**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**28.61**	**250**	P	**P**	**10 14 14.9**	**+0.9**
	comp=Z,1.4nm,0.6s,mb3.9,baz=43,slow=8.9,SNR=4.8						
INK	**Inuvik**	**32.66**	**38**	P	**P**	**10 14 50.4**	**+0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=266,slow=7.0,SNR=6.4						
INK	**Inuvik**	**32.66**	**38**	P	**P**	**10 14 50.4**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**35.03**	**284**	P	**P**	**10 15 08.8**	**-1.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=67,slow=6.6,SNR=3.5						
YKA	**Yellowknife Ar**	**41.90**	**44**	P	**P**	**10 16 09.5**	**+1.4**
	comp=Z,0.3nm,0.6s,mb3.1,baz=299,slow=7.7,SNR=3.3						
MKAR	**Makanchi Array**	**49.09**	**296**	P	**P**	**10 17 02.9**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=59,slow=7.0,SNR=9.7						
MKAR	**Makanchi Array**	**49.09**	**296**	P	**P**	**10 17 02.9**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**49.09**	**296**	P	**P**	**10 17 02.9**	**-2.0**
BVAR	**Borovoye Array**	**51.07**	**309**	P	**P**	**10 17 18.1**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**53.19**	**342**	P	**P**	**10 17 35.0**	**-0.7**
	comp=Z,3.8nm,1.0s,mb4.3,baz=14,slow=9.6,SNR=5.3						
ARCES	**ARCESS Array B**	**53.19**	**342**	P	**P**	**10 17 35.0**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NVAR	**Mina Array Bea**	**54.35**	**72**	P	**P**	**10 17 48.0**	**+3.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=294,slow=8.8,SNR=3.4						
PDAR	**Pinedale Array**	**56.14**	**62**	P	**P**	**10 17 59.8**	**+2.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=321,slow=2.3,SNR=4.6						
AKTK	**Aktyubinsk**	**58.42**	**313**	P	**P**	**10 18 11.8**	**-1.4**
AKTO	**Aktyubinsk**	**58.42**	**313**	P	**P**	**10 18 11.8**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=83,slow=16,SNR=2.9						
AKTO	**Aktyubinsk**	**58.42**	**313**	P	**P**	**10 18 11.8**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**60.15**	**337**	P	**P**	**10 18 24.8**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.5,baz=35,slow=8.3,SNR=15						
FINES	**FINESS Array B**	**60.15**	**337**	*e*P	**P**	**10 18 24.9**	**-0.3**
NB2	**NORSAR Subarra**	**63.39**	**345**	P	**P**	**10 18 46.1**	**-0.9**
	comp=Z,3.4nm,0.8s,mb4.5,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**63.39**	**345**	P	**P**	**10 18 46.5**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.6,baz=20,slow=6.6,SNR=10						
NOA	**NORSAR Array B**	**63.39**	**345**	P	**P**	**10 18 46.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	**NORSAR Array B**	**63.39**	**345**	P	**P**	**10 18 46.5**	**-0.5**
HFS	**Hagfors**	**63.84**	**343**	P	**P**	**10 18 48.9**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.4,baz=29,slow=3.4,SNR=8.7						
HFS	**Hagfors**	**63.84**	**343**	P	**P**	**10 18 48.9**	**-1.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**68.82**	**330**	P	**P**	**10 19 20.9**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=30,slow=6.1,SNR=6.1						
TXAR	**Lajitas Array**	**69.25**	**69**	P	**P**	**10 19 26.9**	**+2.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=296,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**69.25**	**69**	P	**P**	**10 19 26.9**	**+2.4**
MLR	**Muntele Rosu**	**74.47**	**330**	P	**P**	**10 19 56.8**	**+1.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=166,slow=11,SNR=6.4						
MLR	**Muntele Rosu**	**74.47**	**330**	P	**P**	**10 19 56.8**	**+1.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**74.51**	**339**	P	**P**	**10 19 56.5**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=28,slow=6.0,SNR=7.6						
GERES	**GERESS Array B**	**74.51**	**339**	P	**P**	**10 19 56.5**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.03**	**322**	P	**P**	**10 20 09.5**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=12,slow=6.3,SNR=4.3						
BRTR	**Keskin Array B**	**77.03**	**322**	*e*P	**P**	**10 20 10.9**	**+0.5**
WRA	**Warramunga Arr**	**77.11**	**207**	P	**P**	**10 20 11.5**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=8.1,SNR=2.6						
ESDC	**Sonseca Array**	**86.33**	**349**	P	**P**	**10 21 00.4**	**+0.9**
	comp=Z,0.5nm,0.5s,mb4.0,baz=7.7,slow=4.6,SNR=4.4						

IDC 26 10:28:00.2±12.0, 1597N×14474E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.2/37, Error ellipse: s-maj=513.1km s-min=29.3km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**18.73**	**308**	LR	LR	10 37 43.3	
	comp=Z,120nm,19.1s,baz=306,slow=31						
KSRS	**Korea Array**	**26.06**	**328**	P	P	10 33 35.6	+0.4
	2.6nm,0.8s,baz=142,slow=9.3,SNR=7.0						
WRA	**Warramunga Arr**	**37.13**	**196**	P	P	10 35 12.7	+0.2
	1.3nm,0.8s,baz=19,slow=9.2,SNR=4.7						
WRA				LR	LR	10 48 57.3	
	comp=Z,30nm,19.2s,baz=325,slow=34						
SONM	**Songino Array**	**44.73**	**324**	P	P	10 36 15.1	-0.1
	0.7nm,0.9s,baz=120,slow=8.5,SNR=4.0						

IDC 26 10:39:00.5±1.1, 4659N×15380E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=42.8km s-min=26.9km az=141.0, Kuril Islands

| Code | Station Name | Δ° | AZ° |

KUR				pmax	pmax		
	comp=E,260nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				smax			
	comp=N,1μm,0.4s						
KUR				smax			
	comp=E,4μm,0.4s						
KUR				smax			
	comp=N,10μm,1.0s						
KUR				smax			
	comp=E,5μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.76**	**257**	⇓*i*P	**Pn**	**11 00 47.2**	**-1.1**
YUK				AMB	AMB	11 00 49.2	
	comp=E,430nm,0.2s						
YUK				AMB	AMB	11 00 49.2	
	comp=E,990nm,0.2s						
YUK				AMB	AMB	11 00 49.2	
	comp=E,270nm,0.2s						
YUK				*i* S	**Sn**	**11 01 08.3**	**-1.2**
YUK				A		11 01 12.5	
	comp=E,2μm,0.6s						
YUK				A		11 01 12.5	
	comp=E,3μm,0.4s						
YUK				A		11 01 13.0	
	comp=E,2μm,0.3s						
YUK				A		11 01 13.0	
	comp=E,3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.76**	**257**	⇓*i*PN	**Pn**	**11 00 47.2**	**-1.1**
YUK				*i* S	**Sn**	**11 01 08.3**	**-1.2**
YUK				pmax	pmax		
	comp=N,430nm,0.2s						
YUK				pmax	pmax		
	comp=Z,990nm,0.2s						
YUK				pmax	pmax		
	comp=E,270nm,0.3s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,3μm,0.4s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**2.11**	**240**	P	**Pn**	**11 00 51.2**	**-1.8**
NEM2				*e*S	Sx	11 01 13.6	
JRA	**Rausu**	**2.31**	**258**	P	**Pn**	**11 00 56.1**	**+0.4**
JRA				*e*S	Sx	11 01 22.3	
JNK	**Nakash**	**2.69**	**252**	P	**Pn**	**11 01 00.8**	**-0.1**
JNK				*e*S	Sx	11 01 29.9	
JAK	**Akkeshi**	**2.96**	**242**	P	**Pn**	**11 01 03.4**	**-1.2**
JAK				*e*S	Sx	11 01 34.6	
JTKR	**Abashiri--Toko**	**3.15**	**263**	P	**Pn**	**11 01 08.8**	**+1.5**
JAR	**Ashorobuto**	**3.44**	**252**	P	**Pn**	**11 01 12.0**	**+0.8**
JAR				*e*S	Sx	11 01 49.9	
JMP	**Maruseppu**	**3.54**	**264**	P	**Pn**	**11 01 14.5**	**+1.9**
JOB	**Onbets**	**3.56**	**246**	P	**Pn**	**11 01 12.8**	**0.0**
JOB				*e*S	Sx	11 01 51.0	
JKK2	**Kamakawa 2**	**4.00**	**263**	P	**Pn**	**11 01 21.7**	**+2.8**
JCH	**Churui**	**4.00**	**244**	P	**Pn**	**11 01 18.5**	**-0.4**
JCH				*e*S	Sx	11 02 00.8	
JSE	**Soyaes**	**4.06**	**279**	P	**Pn**	**11 01 20.7**	**+0.9**
ASAJ	**Asahikawa**	**4.07**	**267**	P	**Pn**	**11 01 21.6**	**+1.7**
	comp=E,2.5nm,0.3s,baz=77,slow=13,SNR=16						
ASAJ				LR	LR	11 02 58.8	
	comp=E,117nm,20.6s,baz=128,slow=40						
ASAJ	**Asahikawa**	**4.07**	**267**	PN	**Pn**	**11 01 21.6**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**4.45**	**238**	*e*Pn	**Pn**	**11 01 23.6**	**-1.5**
ERM				*e*Sn	**Sn**	**11 02 14.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.56**	**243**	P	**Pn**	**11 01 26.3**	**-0.3**
JNBK				*e*S	Sx	11 02 14.5	
YSS	**Yuzh-Sakhalins**	**4.58**	**305**	*e*P	**Pn**	**11 01 28.0**	**+1.1**
YSS				A		11 02 37.3	
	comp=Z,20nm,0.9s						
YSS				A		11 02 37.3	
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.58**	**305**	*e*Pn	**Pn**	**11 01 28.4**	**+1.6**
JWK2	**Keihoku**	**4.59**	**283**	P	**Pn**	**11 01 29.4**	**+2.4**
JEW	**Eniwo**	**5.19**	**254**	P	**Pn**	**11 01 38.1**	**+2.9**
MKAR	**Makanchi Array**	**44.95**	**297**	P	**P**	**11 08 29.9**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.7,baz=80,slow=9.1,SNR=7.3						
MKAR				PcP	PcP	11 10 10.4	-0.5
	comp=Z,0.5nm,0.6s,baz=49,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**44.95**	**297**	P	**P**	**11 08 29.9**	**-0.4**
MKAR						11 10 10.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**45.39**	**31**	P	**P**	**11 08 34.4**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=298,slow=6.6,SNR=12						
INK	**Inuvik**	**45.39**	**31**	P	**P**	**11 08 34.4**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**54.77**	**34**	P	**P**	**11 09 45.7**	**+0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=303,slow=7.7,SNR=7.2						
YKA	**Yellowknife Ar**	**54.77**	**34**	P	**P**	**11 09 45.7**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**54.77**	**34**	P	**P**	**11 09 45.7**	**+0.9**
AKTK	**Aktyubinsk**	**57.67**	**311**	P	**P**	**11 10 04.7**	**-0.8**
AKTO	**Aktyubinsk**	**57.67**	**311**	P	**P**	**11 10 04.7**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.0,baz=90,slow=7.1,SNR=2.7						
AKTO	**Aktyubinsk**	**57.67**	**311**	P	**P**	**11 10 04.7**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**58.85**	**340**	P	**P**	**11 10 12.1**	**-1.6**
	comp=Z,4.4nm,0.9s,mb4.5,baz=29,slow=8.2,SNR=3.2						
ARCES	**ARCESS Array B**	**58.85**	**340**	P	**P**	**11 10 12.1**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**64.60**	**333**	P	**P**	**11 10 51.9**	**-0.6**
	comp=Z,4.8nm,1.2s,mb4.4,baz=60,slow=8.3,SNR=5.9						
FINES	**FINESS Array B**	**64.60**	**333**	P	**P**	**11 10 51.9**	**-0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TXAR	**Lajitas Array**	**81.60**	**57**	P	**P**	**11 12 33.9**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=282,slow=2.6,SNR=4.7						
TXAR	**Lajitas Array**	**81.60**	**57**	P	**P**	**11 12 33.9**	**+1.1**

IDC 26 11:12:49.4±1.6, 664S×10482E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, MS3.2/4, Ms1 3.2/4, ms1mx2.6/36, Error ellipse: s-maj=87.8km s-min=22.3km az=40.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**11.07**	**328**	LR	LR	11 19 56.6	
	comp=Z,106nm,19.9s,baz=198,slow=39						
FITZ	**Fitzroy Crossi**	**23.27**	**121**	LR	LR	11 27 18.9	
	comp=Z,33nm,19.4s,baz=295,slow=37						
NWAO	**Narrogin (SRO)**	**28.59**	**158**	LR	LR	11 29 26.1	
	comp=Z,61nm,18.3s,baz=276,slow=35						
WRA	**Warramunga Ar**	**31.55**	**118**	P	P	11 19 12.8	-0.5
	0.3nm,0.6s,baz=288,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**32.66**	**124**	P	P	11 19 25.1	+1.9
	0.1nm,0.5s,baz=302,slow=7.4,SNR=3.7						
PMG	**Port Moresby**	**41.99**	**97**	P	P	11 20 41.7	-0.6
	10nm,0.9s,baz=247,slow=4.5,SNR=3.7						
STKA	**Stephens Creek**	**42.49**	**131**	LR	LR	11 39 11.5	
	comp=Z,36nm,18.0s,baz=25,slow=37						
MKAR	**Makanchi Array**	**56.84**	**342**	P	P	11 22 36.2	+0.5
	0.3nm,0.4s,baz=162,slow=6.4,SNR=2.7						
BRTR	**Keskin Array B**	**79.98**	**312**	P	P	11 25 00.5	-0.1
	0.8nm,0.6s,baz=146,slow=7.9,SNR=5.4						
TXAR	**Lajitas Array**	**144.92**	**46**	PKP	PKPdf	11 32 29.4	+0.9
	1.4nm,0.6s,baz=276,slow=1.1,SNR=21						

*ISCJB **26** 11:15:32.5±0.8, 142N±04×1208E±09, h148km±7km, mb3.5/6, Error ellipse: s-maj=164.9km s-min=19.8km az=132.0*
*IDC **26** 11:15:33.5±0.6, 1418N×12086E, h140km±5km, mb3.4/6, mb1 3.5/6, mb1mx3.2/20, mbtmp3.4/6, Error ellipse: s-maj=56.0km s-min=14.5km az=67.0*
ISC 26 11:15:33.8±0.9, 142N±04×1209E±09, h144km±6km, n8, σ0§60/9, mb3.5/6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.12**	**163**	P	**Pn**	**11 15 53.1**	**-0.1**
	149nm,0.3s,baz=306,slow=1.9,SNR=20						
TGY				S	**Sn**	**11 16 07.8**	**0.0**
	108nm,0.3s,baz=287,slow=21,SNR=8.9						
PCPH	**Palayan**	**1.35**	**8**	⇓*e*P	**Pn**	**11 16 09.0**	**+7.7**
SONM	**Songino Array**	**35.62**	**343**	P	**P**	**11 22 18.2**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=166,slow=9.6,SNR=7.5						
WRA	**Warramunga Arr**	**36.43**	**158**	P	**P**	**11 22 24.4**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=337,slow=9.5,SNR=9.1						
ASAR	**Alice Springs**	**39.74**	**161**	P	**P**	**11 22 52.6**	**+0.4**
	0.8nm,0.4s,mb3.7,baz=335,slow=7.0,SNR=35						
MKAR	**Makanchi Array**	**45.74**	**323**	P	**P**	**11 23 41.1**	**+0.5**
	0.3nm,0.6s,mb3.1,baz=132,slow=9.0,SNR=2.7						
BVAR	**Borovoye Array**	**55.46**	**326**	P	**P**	**11 24 53.6**	**+0.1**
	1.2nm,0.5s,mb3.9,baz=109,slow=7.7,SNR=6.9						
FINES	**FINESS Array B**	**79.93**	**331**	P	**P**	**11 27 25.2**	**-1.5**
	1.3nm,0.8s,mb3.6,baz=68,slow=7.0,SNR=4.4						

*JMA **26** 11:18:52.0±0.6, 32.12N×138.30E, h360km, M3.0*
*ISCJB **26** 11:18:53.3±0.8, 32.36N±0.10°×138.2E±0.1, h363km±6km, mb3.2/7, Error ellipse: s-maj=17.5km s-min=11.1km az=102.7*
*IDC **26** 11:18:55.1±2.1, 32.37N×138.10E, h362km±24km, mb3.0/7, mb1 3.1/8, mb1mx3.0/21, mbtmp2.9/8, Error ellipse: s-maj=55.5km s-min=15.0km az=74.0*
ISC 26 11:18:54.4±0.8, 3240N±010°×1382E±01, h357km±6km, n23, σ1§02/27, mb3.2/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**2.36**	**328**	P	**Pn**	**11 19 49.6**	**+0.6**
JWZ	**Kozaga**	**2.40**	**299**	P	**Pn**	**11 19 48.8**	**-0.5**
JOD2	**Odawara 2**	**2.95**	**14**	P	**Pn**	**11 19 55.3**	**+1.5**
BSO3	**Boso 3**	**3.06**	**38**	S	**S**	**11 20 42.4**	**-1.0**
BSO1	**Boso 1**	**3.21**	**45**	*e*S	**S**	**11 20 44.8**	**-1.2**
JAI	**Aioi**	**3.47**	**295**	P	**Pn**	**11 19 57.8**	**-0.8**
JHU	**Hanno**	**3.55**	**14**	P	**Pn**	**11 20 00.3**	**+0.9**
JHU				S	**S**	**11 20 50.0**	**-1.8**
JRY	**Ryogami san**	**3.65**	**9**	P	**Pn**	**11 20 02.2**	**+1.9**
JRY				S	**S**	**11 20 55.0**	**+1.5**
JWT	**Wachi**	**3.72**	**321**	P	**Pn**	**11 21 01.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.13**	**360**	P	**Pn**	**11 20 06.2**	**+1.0**
	0.3nm,0.3s,baz=171,slow=10.0,SNR=8.1						
MAT	**Matsushiro**	**4.13**	**360**	P	**Pn**	**11 20 06.3**	**+1.1**
JAG	**Ashikaga**	**4.14**	**14**	P	**Pn**	**11 20 05.6**	**+0.4**
JYT	**Yasato**	**4.15**	**22**	P	**Pn**	**11 20 05.7**	**+0.4**
JTO	**Tosashimizu**	**4.61**	**277**	P	**Pn**	**11 20 08.6**	**-1.5**
JHO	**Hitachi**	**4.62**	**24**	P	**Pn**	**11 20 10.2**	**-0.1**
JHO				S	**S**	**11 21 07.7**	**-3.9**
JFK	**Kawauchi**	**5.41**	**23**	P	**Pn**	**11 20 19.5**	**+0.7**
JFK				S	**S**	**11 21 24.6**	**-2.6**
SONM	**Songino Array**	**28.57**	**312**	P	**P**	**11 24 18.8**	**+0.1**
	0.3nm,0.5s,mb2.8,baz=100,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**44.53**	**306**	P	**P**	**11 26 31.1**	**-0.7**
	0.6nm,0.6s,mb2.9,baz=87,slow=9.4,SNR=6.4						
WRA	**Warramunga Arr**	**52.17**	**185**	P	**P**	**11 27 29.1**	**-0.5**
	0.2nm,0.4s,mb2.8,baz=0.5,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**55.90**	**185**	P	**P**	**11 27 56.8**	**+0.6**
	0.4nm,1.1s,mb2.7,baz=2.5,slow=5.6,SNR=3.6						
ARCES	**ARCESS Array B**	**67.41**	**339**	P	**P**	**11 29 12.4**	**+0.1**
	3.5nm,0.9s,mb4.1,baz=67,slow=9.3,SNR=4.0						
FINES	**FINESS Array B**	**71.68**	**332**	P	**P**	**11 29 37.8**	**-0.4**
	1.7nm,0.9s,mb3.8,baz=56,slow=5.5,SNR=8.6						
AKASG	**Malin Array Be**	**76.33**	**322**	P	**P**	**11 30 04.4**	**-0.5**
	0.2nm,0.3s,mb3.3,baz=47,slow=5.8,SNR=4.3						

IDC 26 11:25:29.1±2.6, 4669N×15330E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/22, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=76.5km s-min=33.8km az=171.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.96**	**255**	Pn	Pn	11 27 26.4	+0.3
	0.2nm,0.3s,baz=71,slow=18,SNR=2.4						
MKAR	**Makanchi Array**	**47.09**	**297**	P	P	11 34 01.8	-0.9
	0.6nm,0.7s,baz=67,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**64.15**	**335**	P	P	11 36 04.8	-0.6
	1.1nm,0.6s,baz=20,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**71.67**	**326**	P	P	11 36 52.9	+0.1
	1.4nm,0.7s,baz=32,slow=5.8,SNR=5.5						
TXAR	**Lajitas Array**	**77.41**	**61**	P	P	11 37 26.2	+0.1
	0.2nm,0.7s,baz=317,slow=4.9,SNR=3.6						

*IDC **26** 11:35:37.6±1.9, 4016N×7725E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/23, mbtmp3.8/8, ML3.6/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=32.6km s-min=21.3km az=153.0*
*BJI **26** 11:35:41.3, 4054N×7707E, h21km, mb4.3, ML3.7*
*NNC **26** 11:35:43.0±1.7, 4050N×7716E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=13.9km s-min=12.7km az=148.0*
*ISCJB **26** 11:35:43.3±0.5, 4029N±003×7727E±006, h71km±8km, mb3.9/7, Error ellipse: s-maj=7.3km s-min=4.9km az=167.7*
*NEIC **26** 11:35:45.9±4.2, 4052N×7703E, h46km±26km, Error ellipse: s-maj=48.9km s-min=14.8km az=179.0*
*MOS **26** 11:35:53.3±1.5, 4161N×7638E, h33km, mb3.8/4, Error ellipse: s-maj=39.0km s-min=19.5km az=92.7*
ISC 26 11:35:41.5±1.0, 4032N±003×7741E±005, h14km±7km, n52, σ1§56/59, mb3.9/7, MS3.2/1, 9C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.36**	**234**	PG	**Pg**	**11 36 06.5**	**-1.2**
KSH				SG	**Sg**	**11 36 25.5**	**0.0**
ULHL	**Ulahol**	**2.11**	**336**	P	**Pn**	**11 36 17.4**	**+1.1**
	SNR=448						
KZA	**Kyzart**	**2.39**	**318**	P	**Pn**	**11 36 20.6**	**+0.5**
	SNR=399						
UCH	**Uchtor**	**2.89**	**312**	P	**Pn**	**11 36 27.7**	**+0.6**
	SNR=57						
KNDC	**Almaty**	**2.91**	**354**	⇑Pn	**Pn**	**11 36 29.8**	**+2.5**
	156nm,0.6s						
KNDC				⇑Lg		11 37 10.2	
	742nm,0.4s						
TKM2	**Tokmak 2**	**2.93**	**333**	P	**Pn**	**11 36 28.7**	**+1.1**
	SNR=231						
TKM2	**Tokmak 2**	**2.93**	**333**	⇓Pn	**Pn**	**11 36 28.8**	**+1.2**
	3.8nm,0.3s						
TKM2				⇓Lg		11 37 07.6	
	24nm,0.5s						
AAA	**Alma-Ata**	**2.97**	**354**	*e*PN	**Pn**	**11 36 33.8**	**+5.7**
AAA				pmax	pmax		
	comp=Z,369nm,0.3s						
KBK	**Karagaybulak**	**2.97**	**322**	P	**Pn**	**11 36 29.3**	**+1.1**
	SNR=14						
AAK	**Ala-Archa**	**3.18**	**317**	P	**Pn**	**11 36 31.7**	**+0.7**
	SNR=38						
AAK	**Ala-Archa**	**3.18**	**317**	*e*PN	**Pn**	**11 36 30.7**	**-0.3**
AAK				*e*		11 36 44.2	
AAK	**Ala-Archa**	**3.18**	**317**	*e*Pn	**Pn**	**11 36 30.7**	**-0.3**
AAK				*e*Pg	**Pg**	**11 36 44.2**	**+1.8**
AAK				*e*Sg	**Sg**	**11 37 14.9**	**-8.7**
AML	**Almayashu**	**3.33**	**304**	P	**Pn**	**11 36 33.7**	**+0.7**
	SNR=63						
CHMS	**Chumysh**	**3.33**	**324**	P	**Pn**	**11 36 33.9**	**+0.8**
	SNR=40						
EKS2	**Erkin-Say**	**3.59**	**312**	P	**Pn**	**11 36 37.9**	**+1.3**
	SNR=8.8						
USP	**Ospenovka**	**3.66**	**324**	P	**Pn**	**11 36 37.8**	**+0.3**
	SNR=21						
KK31	**Karatay Array**	**5.86**	**301**	⇑Pn	**Pn**	**11 37 06.5**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=118,slow=12,SNR=10						
KK31				⇑Pg	**Pg**	**11 37 25.6**	**-8.1**
	comp=Z,5.5nm,0.4s,baz=116,slow=16,SNR=19						
KK31				⇑Lg		11 38 40.8	
	comp=Z,11nm,0.5s,baz=116,slow=29,SNR=4.9						
MK31	**Makanchi Array**	**7.38**	**27**	⇑Pn	**Pn**	**11 37 30.7**	**+2.0**
	comp=Z,2.7nm,0.3s						
MK31				⇑Lg		11 39 35.1	
	comp=Z,23nm,0.8s						
MK31	**Makanchi Array**	**7.38**	**27**	*e*Pn	**Pn**	**11 37 30.9**	**+2.2**
MK31				*e*Sg		11 39 37.0	
MKAR	**Makanchi Array**	**7.38**	**27**	Pn	**Pn**	**11 37 30.6**	**+2.0**
	comp=Z,2.7nm,0.3s,baz=206,slow=15,SNR=93						
MKAR				Lg		11 39 35.2	
	comp=Z,1.8nm,0.3s,baz=210,slow=26,SNR=5.9						
MKAR				LR	LR	11 40 35.9	
	comp=Z,145nm,18.5s,baz=235,slow=39						
CHCP	**Chirah Chowk**	**7.43**	**208**	P	**Pn**	**11 37 31.6**	**+2.2**
CEP	**Cherat**	**7.83**	**216**	P	**Pn**	**11 37 36.1**	**+1.2**
CEP				S	**Sn**	**11 38 58.0**	**-5.4**
DLH	**Dalhousie**	**7.85**	**189**	*e*P	**Pn**	**11 37 38.0**	**+2.8**
DLH				*e*S	**Sn**	**11 39 04.0**	**+0.2**
WMQ	**Urumqi**	**8.41**	**62**	*e*P	**Pn**	**11 37 48.0**	**+5.1**
WMQ				S	**Sn**	**11 39 23.0**	**+5.4**
THW	**Thamme Wali**	**8.79**	**213**	P	**Pn**	**11 37 48.0**	**0.0**
KURK	**Kurchatov**	**10.43**	**4**	⇑Pn	**Pn**	**11 38 09.6**	**-0.9**
	comp=Z,1.9nm,0.8s						
KURK				⇓Lg		11 41 08.9	
	comp=Z,39nm,1.2s						
KOLN	**Koldanda**	**13.53**	**156**	*e*P	**Pn**	**11 38 52.5**	**-0.4**
	comp=Z,14nm,0.8s						
BVAR	**Borovoye Array**	**13.58**	**342**	Pn	**Pn**	**11 38 50.8**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=14						
BVAR				Lg		11 42 38.5	
	comp=Z,0.3nm,0.3s,baz=135,slow=32,SNR=5.2						
BVAR				LR	LR	11 44 11.2	
	comp=Z,81nm,20.4s,baz=137,slow=38						
GKN	**Gorkha**	**13.66**	**152**	*e*P	**Pn**	**11 38 53.8**	**-0.9**
	comp=Z,23nm,0.4s						
ZRNK	**Zerenda**	**13.87**	**338**	*e*P	**Pn**	**11 38 55.0**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZRNK	**Zerenda**	**13.87**	**338**	*e*Pn	**Pn**	**11 38 55.0**	**-2.6**
	comp=Z,5.5nm,0.6s						
KKN	**Kakani**	**14.09**	**150**	*e*P	**Pn**	**11 38 59.8**	**-0.8**
	comp=Z,31nm,0.5s						
DMN	**Daman**	**14.19**	**151**	*e*P	**Pn**	**11 39 01.1**	**-0.8**
	comp=Z,12nm,0.4s						
GUN	**Gumba**	**14.22**	**148**	*e*P	**Pn**	**11 39 02.2**	**-0.2**
	comp=Z,17nm,0.4s						
PKI	**Pulchoki**	**14.34**	**150**	*e*P	**Pn**	**11 39 03.2**	**-0.8**
	comp=Z,36nm,0.6s						
NVS	**Novosibirsk**	**15.04**	**13**	*e*P	**Pn**	**11 39 11.9**	**-1.6**
AKTK	**Aktyubinsk**	**16.91**	**313**	Pn	**Pn**	**11 39 34.5**	**-3.1**
AKTK				LR	LR	11 46 28.9	
AKTO	**Aktyubinsk**	**16.91**	**313**	Pn	**Pn**	**11 39 34.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=6.1						
AKTO				LR	LR	11 46 28.9	
	comp=Z,68nm,18.7s,baz=341,slow=38						
ARU	**Arti**	**20.29**	**329**	⇑*i*P	**P**	**11 40 12.8**	**-3.9**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAK	**Zakamensk**	**20.68**	**52**	*e*P	**P**	**11 40 21.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**22.05**	**60**	P	**P**	**11 40 37.6**	**+1.9**
	comp=Z,1.4nm,0.7s,mb3.5,baz=261,slow=9.4,SNR=12						
SONM				LR	LR	11 49 46.9	
	comp=Z,82nm,18.7s,MS3.2,baz=240,slow=38						
SONM	**Songino Array**	**22.05**	**60**	P	**P**	**11 40 37.6**	**+2.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,82nm,18.7s						
BRTR	**Keskin Array B**	**33.27**	**283**	P	**P**	**11 42 21.8**	**+3.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=88,slow=7.6,SNR=2.3						
BRTR	**Keskin Array B**	**33.27**	**283**	P	**P**	**11 42 21.8**	**+3.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**37.36**	**322**	P	**P**	**11 42 51.1**	**-2.4**
	comp=Z,1.7nm,1.0s,mb3.8,baz=156,slow=9.8,SNR=6.3						
FINES	**FINESS Array B**	**37.36**	**322**	*e*P	**P**	**11 42 49.5**	**-4.0**
ARCES	**ARCESS Array B**	**39.71**	**334**	P	**P**	**11 43 11.0**	**-2.3**
	comp=Z,2.4nm,0.9s,mb3.9,baz=108,slow=9.4,SNR=5.3						
ARCES	**ARCESS Array B**	**39.71**	**334**	P	**P**	**11 43 11.0**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.76**	**271**	P	**P**	**11 46 55.5**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=44,slow=5.2,SNR=4.1						
EGAK	**Eagle**	**70.96**	**16**	*e*P	**P**	**11 47 00.2**	**+1.8**
	comp=Z,11nm,0.4s,mb5.1						
EGAK				*e*PcP	PcP	11 47 21.3	+2.5
YKA	**Yellowknife Ar**	**77.08**	**6**	P	**P**	**11 47 31.5**	**-2.6**
	comp=Z,0.5nm,0.7s,mb3.5,baz=351,slow=5.3,SNR=4.7						
YKA	**Yellowknife Ar**	**77.08**	**6**	*e*P	**P**	**11 47 31.7**	**-2.5**

IDC 26 11:39:59.4±8.1, 1573S×17823E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/14, mbtmp3.9/2, Error ellipse: s-maj=544.9km s-min=80.5km az=151.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.91**	**258**	P	P	11 47 51.9	+0.4
	0.4nm,0.5s,baz=85,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**42.34**	**252**	P	P	11 47 55.2	+0.2
	4.3nm,0.6s,baz=86,slow=8.1,SNR=123						
AKASG	**Malin Array Be**	**137.13**	**331**	PKP	PKPdf	11 59 24.2	-0.2
	0.5nm,0.5s,baz=24,slow=0.9,SNR=4.6						

IDC 26 12:10:08.3±7.6, 3153S×17974E, h414km±85km, mb2.8/2, mb1 3.3/3, mb1mx3.0/13, mbtmp3.1/3, Error ellipse: s-maj=111.7km s-min=37.9km az=9.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.64**	**190**	PN	P	12 11 49.0	+0.6
PUZ				SN	S	12 13 02.0	-8.1
URZ	**Urewera**	**7.06**	**197**	P	P	12 11 52.7	-0.2
	14nm,0.3s,baz=344,slow=1.7,SNR=82						
URZ	**Urewera**	**7.06**	**197**	PN	P	12 11 51.4	-1.5
URZ				SN	S	12 13 11.9	-6.5
KNZ	**

ellipse: s-maj=16.9km s-min=10.5km az=140.0
*ISCJB **26** 12:20:06.8±1.7, 470N×0.1×155.1E±0.1, h42km±14km, mb3.9/18, Error ellipse: s-maj=20.6km s-min=11.6km az=98.7*
*MOS **26** 12:20:07.2±1.1, 4701N×15508E, h47km, mb4.3/11, Error ellipse: s-maj=15.5km s-min=12.2km az=91.7*
*IDC **26** 12:20:09.5±3.8, 4711N×15520E, h47km±36km, mb3.6/15, mb1 3.8/17, mb1mx3.8/24, mbtmp3.6/17, ML3.6/1, Error ellipse: s-maj=20.6km s-min=15.9km az=125.0*

ISC 26 12:20:09.7±1.5, 4711N±010×1552E±01, h51km±12km**, n52,** σ1**9**05/52**, mb3.9**/18**, 8C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.63**	**9**	*e*PN	**Pn**	**12 21 04.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**8.49**	**274**	*e*PN	**Pn**	**12 22 11.9**	**+1.9**
ASAJ	**Asahikawa**	**9.31**	**256**	P	**Pn**	**12 22 20.0**	**-1.2**
	0.6nm,0.3s,baz=100,slow=10,SNR=6.8						
ASAJ	**Asahikawa**	**9.31**	**256**	PN	**Pn**	**12 22 20.0**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.97**	**244**	*e*Pn	**Pn**	**12 22 27.1**	**-3.2**
ERM				Sn	**Sn**	**12 24 10.2**	**-10**
MJAR	**Matsushiro Arr**	**16.44**	**236**	P	**Pn**	**12 23 58.4**	**+1.5**
	baz=36,slow=12,SNR=5.4						
KSRS	**Korea Array**	**22.25**	**254**	P	**P**	**12 25 04.0**	**+1.8**
	comp=Z,1.4nm,0.6s,mb3.6,baz=52,slow=11,SNR=7.7						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**12 26 35.4**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=64,slow=7.9,SNR=6.1						
SONM	**Songino Array**	**32.55**	**290**	P	**P**	**12 26 35.4**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**12 27 44.7**	**+0.3**
	comp=Z,3.5nm,0.6s,mb4.1,baz=289,slow=7.1,SNR=20						
INK	**Inuvik**	**40.59**	**33**	P	**P**	**12 27 44.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**40.59**	**33**	*e*P	**P**	**12 27 44.7**	**+0.3**
	comp=Z,111nm,0.6s,mb5.7						
MK31	**Makanchi Array**	**48.03**	**298**	*e*P	**P**	**12 28 43.2**	**-0.6**
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**12 28 43.1**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=65,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**12 28 43.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**12 28 57.1**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=296,slow=7.2,SNR=5.2						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**12 29 11.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**12 29 11.4**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**12 29 16.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.48**	**310**	*e*P	**P**	**12 29 16.8**	**-0.7**
	comp=Z,2.0nm,0.5s,mb4.3						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**12 29 35.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.94**	**297**	*e*P	**P**	**12 29 35.5**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**57.98**	**341**	P	**P**	**12 29 56.3**	**-0.7**
	comp=Z,7.9nm,1.1s,mb4.7,baz=19,slow=7.7,SNR=6.5						
ARCES	**ARCESS Array B**	**57.98**	**341**	P	**P**	**12 29 56.3**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PDAR	**Pinedale Array**	**63.39**	**55**	P	**P**	**12 30 33.7**	**-0.2**
	comp=Z,0.1nm,0.4s,mb3.3,baz=46,slow=24,SNR=2.7						
PDAR	**Pinedale Array**	**63.39**	**55**	P	**P**	**12 30 33.7**	**-0.2**
FINES	**FINESS Array B**	**64.31**	**336**	P	**P**	**12 30 39.8**	**-0.2**
	comp=Z,1.4nm,0.4s,mb4.4,baz=39,slow=6.4,SNR=26						
FINES	**FINESS Array B**	**64.31**	**336**	P	**P**	**12 30 39.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.34**	**342**	P	**P**	**12 31 05.6**	**-0.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=98,slow=5.8,SNR=3.0						
NOA	**NORSAR Array B**	**68.34**	**342**	P	**P**	**12 31 05.6**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**69.33**	**201**	P	**P**	**12 31 11.4**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=21,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**69.33**	**201**	P	**P**	**12 31 11.4**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.03**	**327**	P	**P**	**12 31 27.6**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=33,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**73.01**	**200**	P	**P**	**12 31 34.8**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=16,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**73.01**	**200**	P	**P**	**12 31 34.8**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BURAR	**Bucovina Array**	**76.06**	**328**	⇑*i*P	**P**	**12 31 46.4**	**-5.4**
BURAR	**Bucovina Array**	**76.06**	**328**	⇑P	**P**	**12 31 46.4**	**-5.4**
TXAR	**Lajitas Array**	**76.08**	**62**	P	**P**	**12 31 51.3**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=296,slow=4.1,SNR=6.4						
CLL	**Collm**	**76.71**	**337**	*e*pP	pP	12 32 01.0	-9.0
MORC	**Moravsky Berou**	**76.77**	**333**	⇑*i*P	**P**	**12 32 01.5**	**+5.7**
MORC	**Moravsky Berou**	**76.77**	**333**	⇑P	**P**	**12 32 01.5**	**+5.7**
TIRR	**Tirgusor**	**77.47**	**324**	⇑*i*P	**P**	**12 32 04.2**	**+4.5**
TIRR	**Tirgusor**	**77.47**	**324**	⇑P	**P**	**12 32 04.2**	**+4.5**
MLR	**Muntele Rosu**	**77.57**	**326**	⇓*i*P	**P**	**12 32 03.6**	**+3.3**
MLR	**Muntele Rosu**	**77.57**	**326**	⇓P	**P**	**12 32 03.6**	**+3.3**
DRGR		**77.66**	**329**	⇑*i*P	**P**	**12 32 04.4**	**+3.6**
DRGR		**77.66**	**329**	⇑P	**P**	**12 32 04.4**	**+3.6**
KHC	**Kasperske Hory**	**78.52**	**335**	*e*P	**P**	**12 32 05.5**	**-0.1**
KHC				pP	pP	12 32 12.0	-8.1
KHC	**Kasperske Hory**	**78.52**	**335**	*e*P	**P**	**12 32 05.5**	**-0.1**
KHC				*e*		12 32 12.0	
GERES	**GERESS Array B**	**78.74**	**335**	P	**P**	**12 32 07.2**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=291,slow=8.3,SNR=2.8						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**12 32 09.9**	**+1.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=19,slow=12,SNR=3.6						
BRTR	**Keskin Array B**	**79.09**	**318**	P	**P**	**12 32 09.9**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*CSEM **26** 12:31:43.6±0.7, 3705N×1079W, h10km, ML2.5, Error ellipse: s-maj=12.6km s-min=9.3km az=48.0*
*NEIC **26** 12:31:43.8, 3702N×1106W, h0km, MN2.7(MDD), After MDD.*
*MDD **26** 12:31:44.2±1.8, 3701N×1103W, h0km, mbLg2.7/12, Error ellipse: s-maj=15.8km s-min=10.1km az=63.0, PRXIMO*
*IGIL **26** 12:31:45.2, 3680N×1120W, h31km, ML2.7*

INMG 26 12:31:44.8±0.8, 3691N×1112W, h10km**, ML2.5, Error ellipse: s-maj=4.5km s-min=2.8km az=75.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.02**	**71**	*e*Pn	Pn	12 32 17.0	-1.8
PTEO				*e*Sn	Sn	12 32 41.0	-3.1
PTEO							
	46nm,0.5s						
PTEO	**Sao Teotonio**	**2.02**	**71**	*e*Pn	Pn	12 32 17.0	-1.8
PTEO				*e*Sn	Sn	12 32 41.0	-3.1
	46nm,0.5s						
PMAFR	**Mafra**	**2.51**	**35**	*e*Pn	Pn	12 32 23.6	-2.0
PMAFR				*e*Sn	Sn	12 32 52.8	-3.5
PMAFR							
	49nm,0.2s						
PMAFR	**Mafra**	**2.51**	**35**	*e*Pn	Pn	12 32 23.6	-2.0
PMAFR				*e*Sn	Sn	12 32 52.8	-3.5
	49nm,0.2s						
PLOU	**Loures**	**2.52**	**38**	*e*Pn	Pn	12 32 23.5	-2.2
PLOU				*e*Sn	Sn	12 32 53.4	-3.0
PLOU							
	19nm,0.1s						
PLOU	**Loures**	**2.52**	**38**	P	Pn	12 32 23.4	-2.3
PLOU				S	Sn	12 32 53.3	-3.1
PLOU	**Loures**	**2.52**	**38**	*e*Pn	Pn	12 32 23.5	-2.2
PLOU				*e*Sn	Sn	12 32 53.4	-3.0
	19nm,0.1s						
MOE	**Montemor**	**2.73**	**53**	*e*Sn	Sn	12 32 58.3	-3.3
MOE	**Montemor**	**2.73**	**53**	S	Sn	12 32 58.2	-3.4
PBEJ	**Beja**	**2.82**	**66**	*e*Pn	Pn	12 32 28.0	-1.9
PBEJ				*e*Sn	Sn	12 33 00.4	-3.5
PBEJ							
	11nm,0.1s						
PBEJ	**Beja**	**2.82**	**66**	*e*Pn	Pn	12 32 28.0	-1.9
PBEJ				*e*Sn	Sn	12 33 00.4	-3.5
	11nm,0.1s						

EGRO	**El Granado**	**2.97**	**77**	P	Pn	12 32 30.0	-1.9
	1.0nm,0.1s,SNR=14						
EGRO				S	Sn	12 33 04.1	-3.5
	5.8nm,0.3s,SNR=10						
EGRO	**El Granado**	**2.97**	**77**	P	Pn	12 32 30.0	-2.0
	1.0nm,0.1s,SNR=14						
EGRO				S	Sn	12 33 04.1	-3.5
	5.8nm,0.3s,SNR=10						
ALMR	**Almeirim**	**3.01**	**41**	*e*P	Pn	12 32 31.3	-1.3
ALMR				*e*S	Sn	12 33 04.9	-3.8
ALMR				*e*S	Sn	12 33 04.9	-3.8
ALMR				AML	AML	12 33 06.1	
	comp=N,22nm,0.2s						
ALMR	**Almeirim**	**3.01**	**41**	*e*P	Pn	12 32 31.3	-1.2
ALMR				*e*S	Sn	12 33 04.9	-3.8
PESTR	**Estremoz**	**3.41**	**54**	*e*Pn	Pn	12 32 37.4	-0.6
PESTR				*e*Sn	Sn	12 33 14.6	-3.9
PESTR							
	comp=N,5.5nm,0.2s						
EMIN	**Mina Concepcio**	**3.65**	**75**	P	Pn	12 32 39.1	-2.2
	comp=N,3.6nm,0.8s,SNR=8.2						
EMIN				S	Sn	12 33 19.6	-4.7
	comp=N,4.6nm,0.5s						
EMIN	**Mina Concepcio**	**3.65**	**75**	P	Pn	12 32 39.1	-2.2
	comp=N,3.6nm,0.8s,SNR=8.2						
EMIN				S	Sn	12 33 19.6	-4.7
	comp=N,4.6nm,0.5s						
EBAD	**Badajoz**	**3.74**	**59**	P	Pn	12 32 40.3	-2.2
	comp=N,2.0nm,0.6s,SNR=6.6						
EBAD				S	Sn	12 33 21.3	-5.3
	comp=N,2.9nm,0.4s,SNR=6.5						
EBAD	**Badajoz**	**3.74**	**59**	P	Pn	12 32 40.3	-2.2
	comp=N,2.0nm,0.6s,SNR=6.6						
EBAD				S	Sn	12 33 21.3	-5.3
	comp=N,2.9nm,0.4s,SNR=6.5						
PCBR	**Castelo Branco**	**4.09**	**43**	*e*Pn	Pn	12 32 45.7	-1.7
PCBR				*e*Sn	Sn	12 33 30.6	-4.8
PCBR							
	comp=N,3.8nm,0.2s						
ESPR	**Espera**	**4.22**	**89**	P	Pn	12 32 46.7	-2.4
	comp=N,3.0nm,0.3s,SNR=8.0						
ESPR				S	Sn	12 33 32.5	-5.9
	comp=N,6.0nm,0.3s						
ESPR	**Espera**	**4.22**	**89**	P	Pn	12 32 46.7	-2.4
	comp=N,3.0nm,0.3s,SNR=8.0						
ESPR				S	Sn	12 33 32.5	-6.0
	comp=N,6.0nm,0.3s						
PVIS	**Viseu**	**4.56**	**33**	*e*Sn	Sn	12 33 41.6	-5.3
PVIS	**Viseu**	**4.56**	**33**	S	Sn	12 33 41.5	-5.4
PVRL	**Vila Real**	**5.10**	**30**	*e*Sn	Sn	12 33 53.9	-6.4
PVRL							
	comp=N,5.9nm,0.1s						
PVRL	**Vila Real**	**5.10**	**30**	S	Sn	12 33 53.9	-6.4
	comp=N,3.0nm,0.1s						
EMIJ	**Mijas**	**5.11**	**92**	P	Pn	12 32 58.4	-2.9
EMIJ				S	Sn	12 33 54.7	-5.7
EMIJ	**Mijas**	**5.11**	**92**	P	Pn	12 32 58.4	-3.0
EMIJ				S	Sn	12 33 54.7	-5.7
	comp=N,0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.35**	**74**	P	Pn	12 33 02.9	-1.7
	comp=N,0.8nm,0.3s,SNR=7.1						
EADA				S	Sn	12 34 00.5	-5.8
	comp=N,3.2nm,0.2s						
EADA	**Adamuz**	**5.35**	**74**	P	Pn	12 33 02.9	-1.8
	comp=N,0.8nm,0.3s,SNR=7.1						
EADA				S	Sn	12 34 00.5	-5.8
	comp=N,3.2nm,0.2s						
PCAB	**Cabril**	**5.36**	**26**	*e*Sn	Sn	12 34 00.8	-5.9
ELOB	**Lobios**	**5.49**	**25**	P	Pn	12 33 03.9	-2.8
	comp=N,10.0nm,1.0s,SNR=6.2						
ELOB				S	Sn	12 34 02.0	-7.8
	comp=N,110nm,1.7s						
ELOB	**Lobios**	**5.49**	**25**	P	Pn	12 33 03.9	-2.7
	comp=N,10.0nm,1.0s,SNR=6.2						
ELOB				S	Sn	12 34 02.0	-7.8
	comp=N,110nm,1.7s						
PBRG	**Braganca**	**5.95**	**33**	*e*Sn	Sn	12 34 14.4	-6.8
PBRG							
	comp=N,3.1nm,0.1s						
PBRG	**Braganca**	**5.95**	**33**	S	Sn	12 34 14.3	-6.9
EBAN	**Banos Encina**	**5.96**	**76**	P	Pn	12 33 10.6	-2.5
	comp=N,0.6nm,0.2s,SNR=7.9						
EBAN				S	Sn	12 34 15.6	-5.8
	comp=N,3.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.07**	**33**	S	Sn	12 34 17.8	-6.2
	comp=N,2.6nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.07**	**33**	S	Sn	12 34 17.8	-6.2
	comp=N,2.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**6.15**	**85**	S	Sn	12 34 20.0	-6.0
	comp=N,0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.27**	**62**	P	Pn	12 33 15.2	-2.1
	comp=N,0.5nm,0.2s,baz=248,slow=13,SNR=7.1						
ESDC				S	Sn	12 34 21.9	-7.1
	comp=N,1.3nm,0.3s,baz=248,slow=23,SNR=11						
ESDC	**Sonseca Array**	**6.27**	**62**	P	Pn	12 33 15.2	-2.1
	comp=N,0.5nm,0.2s,SNR=7.1						
ESDC				S	Sn	12 34 21.9	-7.1
	comp=N,1.3nm,0.3s,SNR=11						
EQES	**Quesada**	**6.47**	**80**	P	Pn	12 33 17.7	-2.4
	comp=N,0.3nm,0.2s,SNR=7.9						
EQES				S	Sn	12 34 26.8	-7.2
	comp=N,0.7nm,0.2s,SNR=5.3						
EQES	**Quesada**	**6.47**	**80**	P	Pn	12 33 17.7	-2.4
	comp=N,0.3nm,0.2s,SNR=7.9						
EQES				S	Sn	12 34 26.8	-7.2
	comp=N,0.7nm,0.2s,SNR=5.3						
EPON	**Pontenova**	**7.10**	**24**	P	Pn	12 33 25.4	-3.3
EPON				S	Sn	12 34 41.5	-7.9
ETOB	**Tobarra**	**7.78**	**74**	P	Pn	12 33 35.0	-3.0
	comp=N,0.3nm,0.2s,SNR=4.0						
ETOB				S	Sn	12 34 58.5	-7.6
	comp=N,0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**7.78**	**74**	P	Pn	12 33 35.0	-3.0
	comp=N,0.3nm,0.2s,SNR=4.0						
ETOB				S	Sn	12 34 58.5	-7.6
	comp=N,0.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**8.08**	**58**	P	Pn	12 33 39.3	-2.8
	comp=N,1.8nm,0.1s,SNR=7.9						
ETOR				S	Sn	12 35 05.7	-7.9
	comp=N,3.7nm,0.2s,SNR=7.9						

*HLW **26** 12:32:18.8, 2987N×3674E, h20km, Mb3.0*
*ISCJB **26** 12:32:19.5±1.0, 2986N±005×3629E±006, h0km, Error ellipse: s-maj=7.8km s-min=6.8km az=21.0*
*CSEM **26** 12:32:21.6±0.3, 2982N×3616E, h1km, ML2.1, Error ellipse: s-maj=5.2km s-min=3.2km az=118.0, Mining explosion.*
*GII **26** 12:32:21.6±0.9, 2993N×3616E, h0km±6km, ML2.1/5*

ISC 26 12:32:19.6±1.0, 2987N±005×**3634E**±006**, h0**km**, n21,** σ0**63/27, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.13**	**263**	Pg	**Pg**	**12 32 41.0**	**-0.1**
HRFI	**Mount Harif**	**1.14**	**279**	Pg	**Pg**	**12 32 40.7**	**-0.7**
HRFI				Sg	**Sg**	**12 32 56.1**	**-0.1**
ZFRI	**Zfri**	**1.21**	**305**	Pg	**Pg**	**12 32 41.8**	**-1.1**
ZFRI	**Zfri**	**1.21**	**305**	Pg	**Pg**	**12 32 41.7**	**-1.2**
EIL	**Elat**	**1.22**	**261**	Pg	**Pg**	**12 32 43.2**	**+0.3**
EIL				Sg	**Sg**	**12 32 59.5**	**+0.7**
MBH	**Mount Berech**	**1.24**	**267**	Pg	**Pg**	**12 32 43.1**	**-0.2**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**12 32 42.3**	**-1.2**
PRNI				Sg	**Sg**	**12 32 59.3**	**-0.5**
KMTI	**Karmit**	**1.42**	**280**	Pg	**Pg**	**12 32 46.0**	**-0.7**
KMTI	**Karmit**	**1.42**	**280**	Pg	**Pg**	**12 32 46.0**	**-0.8**
HBST	**Basata**	**1.54**	**246**	P	**Pn**	**12 32 48.4**	**+0.1**
RMNI	**Mount Ramon**	**1.54**	**299**	Pn	**Pn**	**12 32 48.6**	**+0.2**
MZDA	**Masada**	**1.67**	**330**	Pn	**Pn**	**12 32 49.8**	**-0.2**
MZDA				Sn	**Sn**	**12 33 12.5**	**+0.5**
SVTA	**Shivta**	**1.82**	**306**	Pn	**Pn**	**12 32 52.5**	**+0.3**
YTIR	**Yattir**	**1.82**	**325**	Pn	**Pn**	**12 32 53.0**	**+0.8**
HDHB	**Dhahab**	**1.88**	**233**	P	**Pn**	**12 32 53.0**	**0.0**
KZIT	**Kziot**	**1.97**	**302**	Pn	**Pn**	**12 32 53.9**	**-0.3**
KZIT				Sn	**Sn**	**12 33 19.6**	**0.0**
HNKL	**Nakhl**	**2.05**	**272**	P	**Pn**	**12 32 55.6**	**+0.3**
HNKL				S	**Sn**	**12 33 23.1**	**+1.6**
AMAZ	**Amatzia**	**2.06**	**324**	Pn	**Pn**	**12 32 56.0**	**+0.6**
SHRM		**2.76**	**225**	P	**Pn**	**12 33 04.6**	**-0.5**
TR1		**2.79**	**229**	P	**Pn**	**12 33 05.2**	**-0.4**
AMAG	**Maghara**	**2.81**	**287**	P	**Pn**	**12 33 06.7**	**+0.9**

*ISCJB **26** 12:34:14.9±4.7, 4689N±0.10×1558E±0.1, h11km±29km, mb4.0/18, Error ellipse: s-maj=18.8km s-min=11.4km az=98.0*
*IDC **26** 12:34:15.6±0.7, 4701N×15583E, h0km, mb3.9/14, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/36, Error ellipse: s-maj=22.8km s-min=15.0km az=154.0*
*NEIC **26** 12:34:16.8±0.5, 4697N×15585E, h10km, mb4.2/4, Error ellipse: s-maj=13.9km s-min=8.1km az=153.0*
*MOS **26** 12:34:19.4±1.2, 4694N×15560E, h40km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=12.1km az=61.3*

ISC 26 12:34:17.5±5.0, 4695N±010×1558E±01, h15km±31km**, n38,** σ1**9**02/39**, mb4.0**/18**, 1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.75**	**3**	*e*PN	**Pn**	**12 35 16.0**	**+1.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.79**	**256**	⇓*i*PN	**Pn**	**12 35 40.5**	**-2.3**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.94**	**275**	*e*PN	**Pn**	**12 36 29.5**	**+3.5**
ASAJ	**Asahikawa**	**9.70**	**258**	Pn	**Pn**	**12 36 36.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=126,slow=27,SNR=4.4						
ASAJ				LR	LR	12 39 55.1	
	comp=Z,40nm,18.8s,baz=167,slow=35						
ERM	**Erimo**	**10.30**	**246**	*e*Pn	**Pn**	**12 36 44.9**	**+0.2**
ERM				*e*Sn	**Sn**	**12 38 23.4**	**-16**
MJAR	**Matsushiro Arr**	**16.72**	**238**	Pn	**Pn**	**12 38 10.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=2.7						
KSRS	**Korea Array**	**22.63**	**255**	P	**P**	**12 39 20.2**	**+2.4**
	comp=Z,2.6nm,0.8s,mb3.7,baz=55,slow=10.0,SNR=7.6						
SONM	**Songino Array**	**33.01**	**290**	P	**P**	**12 40 51.6**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=69,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**33.01**	**290**	P	**P**	**12 40 51.6**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**12 41 55.9**	**+0.2**
	comp=Z,2.8nm,0.5s,mb4.2,baz=302,slow=6.3,SNR=22						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**12 41 55.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**40.49**	**33**	*e*P	**P**	**12 41 55.9**	**+0.2**
	comp=Z,82nm,0.5s,mb5.7						
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**12 43 00.1**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1,baz=60,slow=7.9,SNR=9.9						
MKAR	**Makanchi Array**	**48.49**	**298**	P	**P**	**12 43 00.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.65**	**38**	P	**P**	**12 43 08.3**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=294,slow=7.1,SNR=9.5						
BVAR	**Borovoye Array**	**52.16**	**310**	P	**P**	**12 43 27.6**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=57,slow=7.8,SNR=15						
BVAR	**Borovoye Array**	**52.16**	**310**	P	**P**	**12 43 27.6**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**52.19**	**310**	*e*P	**P**	**12 43 28.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.19**	**310**	*e*P	**P**	**12 43 28.1**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.91**	**311**	*e*P	**P**	**12 43 32.8**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**52.91**	**311**	*e*P	**P**	**12 43 32.8**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**55.40**	**298**	*e*P	**P**	**12 43 51.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.40**	**298**	*e*P	**P**	**12 43 51.3**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**58.26**	**342**	P	**P**	**12 44 09.9**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=27,slow=5.7,SNR=3.8						
ARCES	**ARCESS Array B**	**58.26**	**342**	P	**P**	**12 44 09.9**	**-1.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**60.69**	**64**	P	**P**	**12 44 26.7**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=292,slow=7.8,SNR=3.9						
BW06	**Boulder Array**	**63.12**	**55**	*e*P	**P**	**12 44 44.9**	**+0.4**
	comp=Z,3.4nm,1.2s,mb4.3						
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**12 44 45.4**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.9,baz=313,slow=3.3,SNR=6.8						
TMUT	**Trail Mountain**	**64.42**	**59**	*e*P	**P**	**12 44 51.5**	**-1.6**
FINES	**FINESS Array B**	**64.64**	**336**	P	**P**	**12 44 53.5**	**-1.0**
	comp=

NP1:$\psi_{\pm}$*74.00000°,*δ*41.00000°,*λ*-67.00000°. NP2:* $\psi_{\pm}$*224.00000°,*δ*53.00000°,*λ*-109.00000°. Principal axes: T 1.6690, Plg6.0000°, Azm327.0000°; N 0.0980, Plg15.0000°, Azm235.0000°; P -1.7680, Plg74.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *12:58:03.6*$\pm$*0.2, 4757N*$\times$*15546E, h10km, mb5.1/76 Error ellipse: s-maj=6.6km s-min=3.7km az=169.0*

SZGRF ***26*** *12:58:04.3, 4683N*$\times$*15528E, h33km, mb5.2, East of Kuril Islands, Russia*

SKHL ***26*** *12:58:04.6*$\pm$*2.7, 4751N*$\times$*15524E, h42km*$\pm$*10km, Ms4.5/2, msh5.4/2*

MOS ***26*** *12:58:05.5*$\pm$*1.2, 4743N*$\times$*15531E, h41km, mb5.3/68, MS4.0/13, Error ellipse: s-maj=7.7km s-min=5.6km az=101.7*

ISC 26 12:58:02.0$\pm$1.2**, 4759N**$\pm$004$\times$**15539E**$\pm$002**, h1**km$\pm$7km**, n548,** σ**0§90/565, mb5.1**/142**, MS4.1**/34**, 92C-72D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.13**	**8**	*e*P		**Pn**	**12 58 54.2**	**+1.7**
SKR				AMB		AMB	12 58 55.0	
	90nm,0.6s							
SKR				*e*S		**Sn**	**12 59 31.5**	**+1.0**
SKR				A			12 59 33.5	
	390nm,0.5s							
SKR				A			12 59 33.5	
	540nm,0.5s							
SKR				A			12 59 33.5	
	230nm,0.5s							
SKR				A			12 59 34.0	
	4μm,4.0s							
SKR				A			12 59 34.0	
	3μm,4.0s							
SKR				A			12 59 34.0	
	2μm,4.0s							
SKR				AMS		AMS	13 00 20.0	
	3μm,16.0s							
SKR				AMS		AMS	13 00 20.0	
	2μm,16.0s							
SKR				AMS		AMS	13 00 20.0	
	5μm,16.0s							
SKR				AMS		AMS	13 00 20.0	
	6μm,16.0s							
SKR				AMS		AMS	13 00 20.0	
	3μm,16.0s							
SKR				AMS		AMS	13 00 20.0	
	10μm,16.0s							
KUR	**Kuril'sk**	**5.71**	**248**	⇓*i*P		**Pn**	**12 59 25.4**	**-2.6**
KUR				AMB		AMB	12 59 38.0	
	2μm,1.5s							
KUR				AMB		AMB	12 59 40.8	
	100nm,0.7s							
KUR				AMB		AMB	12 59 40.8	
	170nm,0.7s							
KUR				AMB		AMB	12 59 40.8	
	580nm,0.7s							
KUR				*i* S		**Sn**	**13 00 28.8**	**-5.4**
KUR				A			13 00 31.2	
	2μm,2.0s							
KUR				A			13 00 31.2	
	2μm,2.0s							
KUR				A			13 00 37.2	
	240nm,0.7s							
KUR				A			13 00 37.2	
	430nm,0.7s							
KUR				AMS		AMS	13 02 04.0	
	3μm,14.0s							
KUR				AMS		AMS	13 02 04.0	
	3μm,14.0s							
KUR				AMS		AMS	13 02 04.0	
	3μm,14.0s							
PET	**Petropavlovsk**	**5.83**	**20**	*e*PN		**Pn**	**12 59 24.7**	**-4.8**
PET				pmax		pmax		
	comp=Z,91nm,0.8s							
PET				MLR		MLR		
	comp=Z,900nm,16.0s							
PET				MLR		MLR		
	comp=Z,900nm,19.0s							
PET	**Petropavlovsk**	**5.83**	**20**	*e*Pn		**Pn**	**12 59 25.1**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**7.55**	**245**	*e*P		**Pn**	**12 59 53.3**	**+0.1**
YUK				AMB		AMB	12 59 57.0	
	comp=Z,210nm,0.4s							
YUK				AMB		AMB	12 59 57.0	
	comp=Z,140nm,0.4s							
YUK				AMB		AMB	12 59 57.0	
	comp=Z,230nm,0.3s							
YUK				AMS		AMS	13 03 06.0	
	comp=Z,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*P		**Pn**	**13 00 12.0**	**+4.1**
YSS				AMB		AMB	13 00 15.2	
	comp=Z,40nm,1.0s							
YSS				AMB		AMB	13 00 15.2	
	comp=Z,60nm,1.0s							
YSS				AMB		AMB	13 00 15.2	
	comp=Z,10.0nm,0.9s							
YSS				*e*S		**Sn**	**13 01 46.5**	**+0.8**
YSS				A			13 01 47.9	
	comp=Z,50nm,0.9s							
YSS				*e*LQ			13 02 10.0	
YSS				AMS		AMS	13 03 48.0	
	comp=Z,900nm,13.0s							
YSS				AMS		AMS	13 03 48.0	
	comp=Z,800nm,17.0s							
YSS				AMS		AMS	13 03 48.0	
	comp=Z,700nm,16.0s							
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*PN		**Pn**	**13 00 07.7**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.62**	**270**	*e*Pn		**Pn**	**13 00 11.6**	**+3.7**
TYV	**Tymovskoe**	**8.96**	**296**	*e*P		**Pn**	**13 00 16.2**	**+3.7**
TYV				AMB		AMB	13 00 29.5	
	comp=Z,7.0nm,0.8s							
TYV				AMB		AMB	13 00 29.5	
	comp=Z,19nm,0.8s							
TYV				*e*S		**Sn**	**13 01 53.0**	**-0.9**
TYV				A			13 01 56.0	
	comp=Z,22nm,0.8s							
TYV				AMS		AMS	13 03 56.0	
	comp=Z,2μm,16.0s							
TYV				AMS		AMS	13 03 56.0	
	comp=Z,2μm,16.0s							
UGL	**Uglegorsk**	**9.00**	**284**	*e*P		**Pn**	**13 00 18.5**	**+5.4**
UGL				AMB		AMB	13 00 20.5	
	comp=Z,78nm,1.0s							
UGL				AMS		AMS	13 05 21.0	
	comp=Z,800nm,12.0s							
UGL				AMS		AMS	13 05 21.0	
	comp=Z,2μm,12.0s							
UGL				AMS		AMS	13 05 21.0	
	comp=Z,2μm,12.0s							
ASAJ	**Asahikawa**	**9.58**	**253**	Pn		**Pn**	**13 00 22.4**	**+1.4**
	comp=Z,2.0nm,0.3s,baz=74,slow=14,SNR=38							
ASAJ				LR		LR	13 04 51.4	
	comp=Z,362nm,18.6s,baz=281,slow=43							
ERM	**Erimo**	**10.32**	**242**	Pn		**Pn**	**13 00 30.8**	**-0.4**
	comp=Z,267nm,0.4s,SNR=18							
ERM	**Erimo**	**10.32**	**242**	*e*PN		**Pn**	**13 00 30.3**	**-0.9**
ERM				pmax		pmax		
	comp=Z,65nm,0.6s							
ERM	**Erimo**	**10.32**	**242**	*e*Pn		**Pn**	**13 00 30.3**	**-0.9**
	comp=Z,65nm,0.6s							
ERM				*e*Sn		**Sn**	**13 02 19.3**	**-8.2**
HABR	**Khabarovsk**	**13.64**	**281**	*e*P		**Pn**	**13 01 21.2**	**+4.6**
HABR				*e*S		**Sn**	**13 03 55.7**	**+6.9**
SEY	**Seymchan**	**15.47**	**355**	*i* P		**Pn**	**13 01 40.0**	**-1.3**
KLR	**Kul'dur**	**15.77**	**285**	*e*P		**Pn**	**13 01 45.0**	**-0.3**
KLR				*e*S		**Sn**	**13 04 47.0**	**+6.3**
KLR				MLR		MLR		
	comp=N,800nm,12.5s							
KLR				MLR		MLR		
	comp=E,500nm,12.5s							
KLR				MLR		MLR		
	comp=Z,2μm,12.5s							
MAJO	**Matsushiro**	**16.83**	**235**	*e*P		**Pn**	**13 01 56.1**	**-2.8**
MAJO				pmax		pmax		
	comp=Z,33nm,0.7s							
MAJO	**Matsushiro**	**16.83**	**235**	*e*Pn		**Pn**	**13 01 56.1**	**-2.8**
	comp=Z,33nm,0.7s							
MAT	**Matsushiro**	**16.83**	**235**	P		**Pn**	**13 01 55.9**	**-3.0**
MJAR	**Matsushiro Arr**	**16.83**	**235**	Pn		**Pn**	**13 01 56.1**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=22							
MJAR				LR		LR	13 09 15.8	
	comp=Z,342nm,18.4s,baz=15,slow=40							
MJAR	**Matsushiro Arr**	**16.83**	**235**	P		**Pn**	**13 01 56.1**	**-2.8**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR				MLR		MLR		
	comp=Z,342nm,18.4s							
MDJ	**Mudanjiang**	**18.11**	**270**	P		**Pn**	**13 02 15.3**	**+0.5**
MDJ				AP		pP	13 02 18.0	+2.4
MDJ				XP		sP	13 02 20.0	+4.3
MDJ				S		**Sn**	**13 05 37.8**	**+0.4**
MDJ				SCP		ScP	13 10 24.3	-1.0
MDJ				PCS		PcS	13 10 25.5	0.0
MDJ				SCS		ScS	13 14 05.0	-0.9
MDJ				AMB		AMB		
	comp=Z,11nm,1.5s							
MDJ				LR		LR		
	comp=N,272nm,15.2s							
MDJ				LR		LR		
	comp=E,287nm,18.7s							
MDJ				LR		LR		
	comp=Z,436nm,16.2s							
ZEA	**Zeya**	**18.79**	**300**	*e*P		**Pn**	**13 02 19.0**	**-4.1**
ZEA				AMB		AMB	13 02 22.0	
	comp=Z,29nm,1.0s							
ZEA				AMS		AMS	13 10 08.0	
	comp=Z,600nm,15.0s							
ZEA				AMS		AMS	13 10 08.0	
	comp=Z,300nm,16.0s							
ZEA				AMS		AMS	13 10 08.0	
	comp=Z,600nm,16.0s							
YAK	**Yakutsk**	**20.50**	**324**	⇓*e*P		**P**	**13 02 39.9**	**-1.5**
YAK				pmax		pmax		
	comp=Z,31nm,0.8s							
YAK				MLR		MLR		
	comp=Z,200nm,13.0s,MS3.7							
YAK	**Yakutsk**	**20.50**	**324**	*e*P		**P**	**13 02 40.2**	**-1.2**
	comp=Z,24nm,0.6s							
CLNS	**Chul'man**	**20.69**	**308**	*e*P		**P**	**13 02 44.4**	**+0.9**
CLNS				*e*			13 02 56.3	
CLNS				*e*PPP			13 03 06.1	
CLNS				*e*S		**S**	**13 06 38.8**	**+3.5**
CLNS				*e*SS			13 07 12.6	
CLNS				pmax		pmax		
	comp=Z,96nm,1.1s							
CLNS				pmax		pmax		
	comp=N,45nm,1.0s							
CLNS				pmax		pmax		
	comp=E,47nm,0.9s							
CLNS				smax				
	comp=N,38nm,1.7s							
CLNS				smax				
	comp=Z,9.0nm,0.9s							
CLNS				smax				
	comp=E,22nm,1.1s							
CLNS				MLR		MLR		
	comp=Z,600nm,15.0s,MS4.1							
CLNS				MLR		MLR		
	comp=N,100nm,12.0s,MS4.2							
CLNS				MLR		MLR		
	comp=E,700nm,13.0s,MS4.2							
NRGR	**Nerungri**	**20.74**	**307**	*e*P		**P**	**13 02 46.2**	**+2.2**
NRGR				S		**S**	**13 06 21.5**	**-15**
NRGR				smax				
	comp=N,88nm,1.2s							
CN2	**Changchun**	**21.19**	**271**	*e*P		**P**	**13 02 48.0**	**-0.9**
CN2				*e*XP		sP	13 02 55.0	+5.6
CN2				*e*S		**S**	**13 06 38.3**	**-6.9**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.2							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,500nm,15.0s,MS4.1							
CN2				LR		LR		
	comp=E,400nm,15.0s,MS4.1							
CN2				LR		LR		
	comp=Z,600nm,18.0s,MS4.0							
BILL	**Bilibino**	**21.24**	**11**	⇑*i*P		**P**	**13 02 49.2**	**-0.2**
BILL				pmax		pmax		
	comp=Z,42nm,1.0s,mb4.7							
BILL	**Bilibino**	**21.24**	**11**	*e*P		**P**	**13 02 48.3**	**-1.1**
	comp=Z,50nm,1.0s,mb4.8							
KSRS	**Korea Array**	**22.53**	**253**	P		**P**	**13 03 05.0**	**+1.7**
	comp=Z,15nm,0.8s,mb4.5,baz=42,slow=9.8,SNR=22							
KSRS				LR		LR	13 11 35.0	
	comp=Z,176nm,18.2s,MS3.5,baz=60,slow=36							
KS15	**Wonju Array Si**	**22.56**	**253**	*e*P		**P**	**13 03 06.8**	**+3.2**
SNY	**Shenyang**	**23.23**	**267**	⇑P		**P**	**13 03 11.0**	**+0.4**
SNY				AP			13 03 13.5	
SNY				XP		sP	13 03 16.0	+4.9
SNY				S		**S**	**13 07 28.0**	**+4.7**
SNY				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.8							
SNY				AMB		AMB		
	comp=Z,284nm,4.7s							
SNY				LR		LR		
	comp=N,439nm,13.1s,MS4.3							
SNY				LR		LR		
	comp=E,685nm,14.1s,MS4.3							
SNY				LR		LR		
	comp=Z,566nm,15.8s,MS4.1							
JNU	**Nakatsue**	**23.49**	**241**	LR		LR	13 11 36.3	
	comp=Z,600nm,18.8s,MS4.1,baz=84,slow=35							
HIA	**Hailar**	**23.58**	**287**	*e*P		**P**	**13 03 13.1**	**-1.3**
HIA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
HIA	**Hailar**	**23.58**	**287**	*e*P		**P**	**13 03 13.1**	**-1.3**
	comp=Z,7.9nm,0.6s,mb4.4							
BOD	**Bodaibo**	**26.67**	**308**	*e*P		**P**	**13 03 39.1**	**-3.3**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.4							
CIT	**Chita**	**27.08**	**295**	*e*P		**P**	**13 03 45.2**	**-0.9**
CIT				*e*			13 03 56.1	
TIXI	**Tiksi**	**27.12**	**342**	*e*P		**P**	**13 03 43.1**	**-3.4**
TIXI				*e*			13 03 55.4	
TIXI				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.6							
TIXI				MLR		MLR		
	comp=Z,349nm,13.0s,MS4.1							
TIXI	**Tiksi**	**27.12**	**342**	*e*P		**P**	**13 03 43.8**	**-2.7**
SSE	**Sheshan**	**30.85**	**250**	*e*P		**P**	**13 04 20.8**	**+1.2**
SSE				AP			13 04 23.5	
SSE				S		**S**	**13 09 23.0**	**-1.2**
SSE				SCS		ScS	13 14 55.3	-1.8
SSE				AMB		AMB		
	comp=Z,31nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,19nm,3.5s							
SSE				LR		LR		
	comp=Z,73nm,17.9s,MS3.4							
SSE	**Sheshan**	**30.85**	**250**	*e*P		**P**	**13 04 20.7**	**+1.1**
	comp=Z,31nm,0.7s,mb5.3							
SSE				pP			13 04 23.4	
SSE				S		**S**	**13 09 22.9**	**-1.3**
SSE				sS		sS	13 09 29.8	+5.0
SSE				ScS		ScS	13 14 55.3	-1.8
SSE				LR		LR		
	comp=Z,70nm,17.9s,MS3.4							
NJ2	**Nanjing**	**31.73**	**254**	*e*P		**P**	**13 04 29.0**	**+1.6**
NJ2				AP			13 04 34.0	
NJ2				XP		sP	13 04 37.5	+10
NJ2				PP		PP	13 05 34.5	-4.4
NJ2				S		**S**	**13 09 37.0**	**-0.9**
NJ2				XS		sS	13 09 45.0	+6.5
NJ2				AMB		AMB		
	comp=Z,1μm,6.4s							
NJ2				LR		LR		
	comp=N,360nm,15.2s,MS4.8							
NJ2				LR		LR		
	comp=E,2μm,14.6s,MS4.8							
NJ2				LR		LR		
	comp=Z,1μm,16.3s,MS4.7							
HHC	**Hu-ho-hao-te**	**31.79**	**274**	⇑P		**P**	**13 04 29.5**	**+1.6**
HHC				XP		sP	13 04 36.5	+8.1
HHC				PP		PP	13 05 35.5	-4.0
HHC				PCP		PcP	13 07 22.0	+2.9
HHC				S		**S**	**13 09 38.5**	**-0.3**
HHC				XS		sS	13 09 44.8	+5.4
HHC				SS		SS	13 11 29.8	-25
HHC				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.9							
HHC				AMB		AMB		
	comp=Z,167nm,4.9s							
HHC				LR		LR		
	comp=N,281nm,14.1s,MS4.3							
HHC				LR		LR		
	comp=E,324nm,15.0s,MS4.3							
HHC				LR		LR		
	comp=Z,297nm,15.7s,MS4.1							
IMA2	**Indian Mountai**	**32.21**	**36**	*e*P		**P**	**13 04 31.5**	**-0.1**
KDAK	**Kodiak Island**	**32.36**	**52**	P		**P**	**13 04 31.0**	**-1.9**
	comp=Z,12nm,1.0s,mb4.8,baz=9.0,slow=8.2,SNR=5.4							
KDAK	**Kodiak Island**	**32.36**	**52**	P		**P**	**13 04 31.0**	**-1.9**
SONM	**Songino Array**	**32.53**	**289**	P		**P**	**13 04 33.9**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.4,baz=76,slow=6.2,SNR=18							
SONM				PcP		PcP	13 07 19.2	-1.9
	comp=Z,2.0nm,1.0s,baz=88,slow=4.7,SNR=4.0							
SONM				LR		LR	13 20 06.2	
	comp=Z,230nm,18.6s,MS3.9,baz=34,slow=41							
SONM	**Songino Array**	**32.53**	**289**	P		**P**	**13 04 33.9**	**-0.5**
SONM							13 07 19.2	
SONM				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SONM				MLR		MLR		
	comp=Z,230nm,18.6s							
TLY	**Talaya**	**33.18**	**297**	*e*P		**P**	**13 04 38.9**	**-1.2**
TLY				*e*			13 12 26.9	
TLY				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.0							
TLY				MLR		MLR		
	comp=Z,281nm,15.0s,MS4.1							
TLY	**Talaya**	**33.18**	**297**	*e*P		**P**	**13 04 41.0**	**+0.8**
ZAK	**Zakamensk**	**33.74**	**295**	*e*P		**P**	**13 04 44.8**	**-0.2**
ZAK				*e*			13 04 56.1	
ZAK				*e*			13 07 23.1	
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
MCK	**McKinley**	**34.00**	**41**	*e*P		**P**	**13 04 46.2**	**-1.0**
SML	**Sawmill**	**34.28**	**45**	*e*P		**P**	**13 04 49.0**	**-0.7**
COLA	**College**	**34.51**	**39**	⇑*i*P		**P**	**13 04 51.9**	**+0.3**
COLA	**College**	**34.51**	**39**	*e*P		**P**	**13 04 51.3**	**-0.4**
	comp=Z,29nm,1.0s,mb5.2							
GUMO	**Guam**	**35.02**	**198**	LR		LR	13 16 04.0	
	comp=Z,94nm,21.7s,MS3.5,baz=90,slow=31							
XAN	**Xi'an**	**37.13**	**266**	P		**P**	**13 05 13.5**	**-0.7**
XAN				AP			13 05 21.5	
XAN				XP		sP	13 05 25.8	+11
XAN				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.2							
XAN				LR		LR		
	comp=N,155nm,17.4s,MS4.0							
XAN				LR		LR		
	comp=E,134nm,16.5s,MS4.0							
XAN				LR		LR		
	comp=Z,272nm,16.5s,MS4.1							
EGAK	**Eagle**	**37.37**	**39**	*e*P		**P**	**13 05 15.1**	**-1.0**
	comp=Z,22nm,0.9s,mb4.9							
DAWY	**Dawson**	**38.20**	**40**	*e*P		**P**	**13 05 22.7**	**-0.5**
LZH	**Lanzhou**	**39.41**	**272**	*e*P		**P**	**13 05 35.0**	**+1.6**
LZH				AP			13 05 46.0	
LZH				PP		PP	13 07 10.0	+6.4
LZH				*e*S		**S**	**13 11 35.0**	**-0.8**
LZH				XS		sS	13 11 45.0	+8.6
LZH				*e*SS		SS	13 14 20.0	-10
LZH				AMB		AMB		
	comp=Z,90nm,1.5s,mb5.2							
LZH				AMB		AMB		
	comp=Z,470nm,5.2s							
LZH				LR		LR		
	comp=N,1μm,14.6s							
LZH				LR		LR		
	comp=Z,2μm,15.8s,MS5.0							
LZH	**Lanzhou**	**39.41**	**272**	*e*P		**P**	**13 05 34.9**	**+1.5**
LZH				*PP			13 05 46.0	
LZH				*SP		sP	13 05 52.0	+18
LZH							13 07 10.0	
LZH				*e*S		**S**	**13 11 35.0**	**-0.8**
LZH				*e*SS		SS	13 14 20.0	-10
LZH				pmax		pmax		
	comp=Z,90nm,1.5s,mb5.2							
LZH				MLR		MLR		
	comp=Z,2μm,15.8s,MS5.0							
LZH	**Lanzhou**	**39.41**	**272**	*e*P		**P**	**13 05 34.9**	**+1.5**
	comp=Z,90nm,1.5s,mb5.2							
LZH				pP			13 05 46.0	
LZH				sP		sP	13 05 52.0	+18
LZH				PP		PP	13 07 10.0	+6.4
LZH				*e*S		**S**	**13 11 35.0**	**-0.8**
LZH				sS		sS	13 11 45.0	+8.6
LZH				*e*SS		SS	13 14 20.0	-10
LZH				LR		LR		
	comp=Z,2μm,15.8s,MS5.0							
INK	**Inuvik**	**40.10**	**33**	P		**P**	**13 05 39.4**	**+0.3**
	comp=Z,9.5nm,0.8s,mb4.5,baz=280,slow=6.6,SNR=29							
INK	**Inuvik**	**40.10**	**33**	*e*P		**P**	**13 05 39.5**	**+0.4**
GTA	**Gaotai**	**40.37**	**279**	P		**P**	**13 05 43.0**	**+1.7**
GTA				AP			13 05 50.5	
GTA				XP		sP	13 05 53.5	+12
GTA				PP		PP	13 07 20.3	+6.2
GTA				PCP		PcP	13 07 44.5	-0.1
GTA				S		**S**	**13 11 50.5**	**+0.3**
GTA				XS		sS	13 12 03.3	+12
GTA				AMB		AMB		
	comp=Z,13nm,1.3s,mb4.4							
GTA				AMB		AMB		
	comp=Z,88nm,6.5s							
GTA				LR		LR		
	comp=N,316nm,13.7s,MS4.5							
GTA				LR		LR		
	comp=E,401nm,14.5s,MS4.5							
GTA				LR		LR		
	comp=Z,368nm,15.6s,MS4.3							
CD2	**Chengdu**	**42.49**	**266**	P		**P**	**13 05 59.3**	**+0.5**
CD2				AP			13 06 03.8	
CD2				XP		sP	13 06 06.3	+7.0
CD2				PP		PP	13 07 40.5	+3.4
CD2				S		**S**	**13 12 20.0**	**-1.7**
CD2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.0							
CD2				AMB		AMB		
	comp=Z,130nm,5.6s							
CD2				LR		LR		
	comp=N,270nm,10.4s							
CD2				LR		LR		
	comp=E,320nm,6.1s							
CD2				LR		LR		
	comp=Z,280nm,11.6s,MS4.4							
GYA	**Guiyang**	**43.41**	**259**	⇑*i*P		**P**	**13 06 06.5**	**+0.3**
GYA				AP			13 06 10.8	
GYA				XP		sP	13 06 13.8	+7.1
GYA				PP		PP	13 07 51.5	+4.5
GYA				PCP		PcP	13 07 57.3	+2.7
GYA				SCP		ScP	13 11 47.5	+0.4
GYA				S		**S**	**13 12 36.0**	**+0.8**
GYA				SS		SS	13 15 42.8	-6.0
GYA				SCS		ScS	13 16 06.0	-1.4
GYA				AMB		AMB		
	comp=Z,40nm,0.9s,mb5.2							
GYA				AMB		AMB		
	comp=Z,200nm,3.5s							
GYA				LR		LR		
	comp=N,540nm,16.4s,MS4.7							
GYA				LR		LR		
	comp=E,510nm,15.8s,MS4.7							
GYA				LR		LR		
	comp=Z,520nm,16.0s,MS4.5							
NVS	**Novosibirsk**	**43.91**	**307**	*e*P		**P**	**13 06 08.7**	**-1.5**
NVS				*e*S		**S**	**13 12 31.7**	**-11**
NVS				pmax		pmax		
	comp=Z,49nm,1.9s,mb4.9							
NVS				pmax		pmax		
	comp=N,20nm,1.7s							
NVS				pmax		pmax		
	comp=E,36nm,1.8s							
NVS				smax				
	comp=N,19nm,1.7s							
WMQ	**Urumqi**	**46.07**	**292**	⇑*i*P		**P**	**13 06 26.3**	**-1.1**
WMQ				AP			13 06 30.8	
WMQ				XP		sP	13 06 33.3	+5.4
WMQ				PCP		PcP	13 08 03.0	-0.8
WMQ				PP		PP	13 08 14.5	-0.8
WMQ				PPP			13 08 58.3	
WMQ				S		**S**	**13 13 10.8**	**-2.9**
WMQ				XS		sS	13 13 18.3	+4.0
WMQ				AMB		AMB		
	comp=Z,14nm,0.8s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,88nm,4.4s							
WMQ				LR		LR		
	comp=N,440nm,19.5s,MS4.4							
WMQ				LR		LR		
	comp=E,101nm,20.8s,MS4.4							
WMQ				LR		LR		

comp=Z,198nm,18.0s,MS4.1
QIZ Qiongzhong 46.61 248 P **P** **13 06 30.5 -1.1**
QIZ S **S** **13 13 22.5 +1.0**
QIZ XS sS 13 13 32.3 +10
QIZ AMB AMB
comp=Z,8.0nm,1.6s,mb4.6
QIZ LR LR
comp=E,157nm,15.1s
QIZ LR LR
comp=Z,155nm,17.9s,MS4.0
KMI Kunming 46.92 261 P **P** **13 06 36.0 +1.9**
KMI S **S** **13 13 26.3 +0.4**
KMI SS SS 13 16 46.0 -6.5
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
KMI LR LR
comp=N,185nm,18.6s,MS4.2
KMI LR LR
comp=E,105nm,14.6s,MS4.2
KMI LR LR
comp=Z,112nm,19.2s,MS3.8
KMI Kunming 46.92 261 P **P** **13 06 36.1 +2.0**
comp=Z,9.0nm,1.0s,mb4.8
KMI S **S** **13 13 26.3 +0.4**
KMI SS SS 13 16 45.9 -6.6
KMI LR LR
comp=Z,110nm,19.2s,MS3.8
MK31 Makanchi Array 47.93 298 *eP* **P** **13 06 41.0 -1.0**
MK31 *e* 13 06 53.2
MKAR Makanchi Array 47.93 298 P **P** **13 06 41.1 -0.9**
comp=Z,3.7nm,0.6s,mb4.7,baz=69,slow=6.3,SNR=31
MKAR LR LR 13 27 19.3
comp=Z,132nm,18.7s,MS3.9,baz=270,slow=37
MKAR Makanchi Array 47.93 298 P **P** **13 06 39.9 -2.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 48.19 304 P **P** **13 06 42.2 -1.8**
comp=Z,231nm,1.3s,mb6.2,SNR=9.0
ALE Alert 48.74 6 P **P** **13 06 48.0 -0.3**
comp=Z,76nm,1.0s,mb5.7,SNR=5.8
YKW3 Yellowknife Ar 49.28 38 *eP* **P** **13 06 52.0 -0.4**
YKA Yellowknife Ar 49.31 38 P **P** **13 06 52.5 -0.1**
comp=Z,9.2nm,1.0s,mb4.8,baz=298,slow=7.5,SNR=22
YKA Yellowknife Ar 49.31 38 P **P** **13 06 52.5 -0.1**
YKA pmax pmax
comp=Z,9.0nm,1.0s
YKA Yellowknife Ar 49.31 38 P **P** **13 06 52.5 -0.1**
RES Resolute Bay 49.54 19 *eP* **P** **13 06 55.1 +0.8**
RES Resolute Bay 49.54 19 *eP* **P** **13 06 54.9 +0.5**
comp=Z,700nm,1.2s
VOSK Vostochnaya 51.37 309 P **P** **13 07 05.8 -2.4**
VOSK pmax pmax
comp=Z,59nm,1.4s,mb5.3
BRVK Borovoye 51.56 310 P **P** **13 07 08.3 -1.3**
comp=Z,173nm,0.7s,mb6.1,SNR=11
BRVK Borovoye 51.56 310 *eP* **P** **13 07 08.6 -1.0**
BRVK *e* 13 07 20.5
BRVK pmax pmax
comp=Z,28nm,0.8s,mb5.2
BRVK Borovoye 51.56 310 *eP* **P** **13 07 08.6 -1.0**
comp=Z,28nm,0.8s,mb5.2
BRVK *e* 13 07 20.5
LSA Lhasa 51.77 274 *eP* **P** **13 07 13.3 +2.1**
comp=Z,20nm,0.7s,mb5.2
ZRNK Zerenda 52.28 310 *eP* **P** **13 07 13.7 -1.3**
ZRNK pmax pmax
comp=Z,16nm,0.8s,mb5.0
ZRNK Zerenda 52.28 310 *eP* **P** **13 07 13.7 -1.3**
comp=Z,16nm,0.8s,mb5.0
NANT Nan 52.67 256 P **P** **13 07 20.0 +2.1**
A07A Ashnola River, 53.19 55 ⇑P **P** **13 07 20.5 -1.2**
baz=53
F04A Amboy 53.74 59 ⇑P **P** **13 07 24.7 -1.1**
baz=54
E05A Randle 53.78 58 ⇑P **P** **13 07 26.2 +0.2**
baz=54
CHG Chiang Mai 53.82 258 ⇑P **P** **13 07 30.8 +4.5**
comp=Z,12nm,0.7s,mb5.0
CHTO Chiang Mai 53.82 258 *eP* **P** **13 07 26.9 +0.6**
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.9
CHTO Chiang Mai 53.82 258 *eP* **P** **13 07 26.9 +0.5**
comp=Z,13nm,1.0s,mb4.9
A08A Turner Farm, O 53.86 54 P **P** **13 07 26.2 -0.4**
baz=54,SNR=5.2
D06A Cle Elum 53.95 57 ⇑P **P** **13 07 26.5 -0.8**
baz=54
C07A Waterville 54.12 56 ⇑P **P** **13 07 27.7 -0.8**
baz=54
G04A Mulino 54.12 60 ⇑P **P** **13 07 27.1 -1.4**
baz=54
B08A Colville Reser 54.15 55 P **P** **13 07 28.3 -0.5**
baz=54,SNR=5.8
A09A Danville 54.22 54 P **P** **13 07 29.1 -0.1**
baz=54,SNR=9.0
E06A Yakima 54.23 58 ⇓P **P** **13 07 29.5 +0.1**
baz=54
SVE Sverdlovsk 54.27 318 *eP* **P** **13 07 28.0 -1.6**
D07A Quincy 54.44 57 ⇓P **P** **13 07 30.1 -0.8**
baz=54
J02A Umpqua 54.51 62 ⇓P **P** **13 07 31.6 +0.2**
baz=54
EDM Edmonton 54.60 48 *eP* **P** **13 07 31.7 -0.4**
B09A Rice 54.77 54 ⇑P **P** **13 07 32.4 -0.9**
baz=54
F06A Goldendale 54.79 58 ⇓P **P** **13 07 33.5 +0.2**
baz=54
AAK Ala-Archa 54.85 297 P **P** **13 07 32.0 -1.8**
comp=Z,42nm,0.6s,mb5.6,SNR=6.8
AAK Ala-Archa 54.85 297 ⇓*iP* **P** **13 07 32.2 -1.6**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AAK MLR MLR
comp=Z,200nm,20.0s,MS4.2
AAK Ala-Archa 54.85 297 *eP* **P** **13 07 32.3 -1.5**
AAK *e* 13 07 44.5
E07A Sunnyside 54.87 57 ⇓P **P** **13 07 33.2 -0.8**
baz=55
C09A Chrisman Ranch 55.05 55 ⇓P **P** **13 07 34.1 -1.2**
baz=55
D08A Wollman Farm, 55.11 56 ⇓P **P** **13 07 34.3 -1.5**
baz=55
HAWA Hanford 55.15 57 *eP* **P** **13 07 35.0 -1.0**
comp=Z,11nm,1.1s,mb4.8
H05A Madras 55.17 60 ⇓P **P** **13 07 35.0 -1.1**
baz=55
F07A Phinny Hill Vi 55.20 58 ⇓P **P** **13 07 35.6 -0.8**
baz=55
HUMO Hull Mountain 55.32 63 ⇓P **P** **13 07 37.1 -0.1**
baz=55
B10A Chitwood Farm, 55.35 54 ⇓P **P** **13 07 36.3 -1.2**
baz=55
E08A Dider Farm, El 55.36 57 ⇑P **P** **13 07 37.0 -0.5**
baz=55
I05A Bend 55.42 60 ⇓P **P** **13 07 38.2 +0.2**
baz=55
ARU Arti 55.44 318 P **P** **13 07 37.6 -0.5**
comp=Z,280nm,0.5s,SNR=15
ARU Arti 55.44 318 ⇑*iP* **P** **13 07 36.1 -2.0**
ARU *e* 13 08 35.1
ARU *e* 13 09 37.4
ARU *eS* **S** **13 15 20.7 -3.0**
ARU *eSS* SS 13 19 10.5 +2.3
ARU pmax pmax
comp=Z,33nm,0.8s,mb5.4
ARU Arti 55.44 318 *eP* **P** **13 07 36.7 -1.4**
ARU *e* 13 07 48.5
A11A Hall Mountain, 55.44 53 ⇓P **P** **13 07 38.2 +0.1**
baz=55
D09A Jones Farm, Ri 55.45 56 ⇓P **P** **13 07 37.1 -1.1**
baz=55
J04A Umpqua Nationa 55.46 62 ⇑P **P** **13 07 37.5 -0.7**
baz=55
H06A Lindquist Farm 55.64 59 ⇓P **P** **13 07 39.1 -0.5**
baz=55
KSH Kashi 55.76 293 *eP* **P** **13 07 42.8 +2.4**
KSH *eAP* 13 07 48.5
KSH *eXP* sP 13 07 51.8 +11
KSH *ePCP* PcP 13 08 43.5 +3.9
KSH *ePP* PP 13 09 47.5 +2.8
KSH *eS* **S** **13 15 27.3 -0.8**
KSH *eXS* sS 13 15 37.5 +8.8
KSH LR LR
comp=N,288nm,4.9s
KSH LR LR
comp=E,423nm,3.3s
DAG Danmarks Havn 55.86 358 ⇑*iP* **P** **13 07 40.2 -0.9**
comp=E,23nm,1.2s,mb5.1
DAG Danmarks Havn 55.86 358 ⇑*eP* **P** **13 07 40.2 -0.9**
DAG pmax pmax
comp=Z,23nm,1.2s,mb5.1
DAG Danmarks Havn 55.86 358 ⇑*eP* **P** **13 07 40.2 -0.9**
comp=Z,23nm,1.2s,mb5.1
KHMM Horse Mountain 55.86 65 *eP* **P** **13 07 41.6 +0.5**
E09A Wood Farm, Sta 55.86 56 P **P** **13 07 41.0 -0.2**
baz=56,SNR=5.3
YBH Yreka Blue Hor 55.98 63 *eP* **P** **13 07 42.2 +0.3**
YBH pmax pmax
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 55.98 63 *eP* **P** **13 07 42.2 +0.3**
comp=Z,20nm,1.2s,mb5.0
YBH Yreka Blue Hor 55.98 63 P **P** **13 07 43.4 +1.4**
baz=56,SNR=6.7
M02C Callahan 56.09 64 ⇑P **P** **13 07 43.4 +0.6**
baz=56
G08A Pilot Rock 56.11 58 ⇑P **P** **13 07 42.4 -0.5**
baz=56
N02C Big Bar 56.15 65 ⇓P **P** **13 07 42.6 -0.6**
baz=56
I06A Prineville 56.17 60 ⇑P **P** **13 07 42.9 -0.4**
baz=56
L04A Klamath Falls 56.21 63 ⇓P **P** **13 07 43.2 -0.4**
baz=56
O01C Eel River Cons 56.24 66 ⇓P **P** **13 07 43.2 -0.6**
baz=56
E10A Myers Farm, Un 56.46 56 ⇑P **P** **13 07 44.9 -0.5**
baz=56
F09A S2 Ranch, Elgi 56.46 57 ⇓P **P** **13 07 45.9 +0.5**
baz=56
GUN Gumba 56.47 276 *eP* **P** **13 07 46.3 +0.8**
comp=Z,22nm,0.4s,mb5.5
M04C Macdoel 56.47 63 P **P** **13 07 46.5 +1.0**
baz=56,SNR=5.2
K05A Summer Lake 56.48 61 ⇓P **P** **13 07 45.5 -0.1**
baz=56
I07A Izee 56.50 59 ⇑P **P** **13 07 45.9 +0.2**
baz=56
D11A Klaveano Farm, 56.56 55 P **P** **13 07 45.3 -0.8**
baz=56,SNR=6.2
M03C McCloud 56.60 64 ⇑P **P** **13 07 47.3 +0.9**
baz=56
J06A Christmas Vall 56.61 61 P **P** **13 07 47.4 +0.9**
baz=56,SNR=5.9
F10A Beach Ranch, E 56.69 56 ⇓P **P** **13 07 45.3 -1.8**
baz=56
WALA Waterton Lakes 56.70 52 *eP* **P** **13 07 47.0 -0.2**
comp=Z,16nm,1.0s,mb5.0
H08A Prairie City 56.73 59 ⇓P **P** **13 07 47.2 -0.1**
baz=56
WDC Whiskeytown Da 56.76 64 *eP* **P** **13 07 48.0 +0.4**
WDC Whiskeytown Da 56.76 64 ⇑P **P** **13 07 48.5 +0.9**
baz=56
B13A Whitefish 56.81 53 P **P** **13 07 48.1 +0.2**
baz=56,SNR=8.5
K06A Valley Falls 56.82 61 ⇑P **P** **13 07 47.9 -0.1**
baz=57
O02C Red Bluff 56.85 65 ⇓P **P** **13 07 48.8 +0.6**
baz=57
P01C Double 8 Ranch 56.94 66 ⇓P **P** **13 07 49.5 +0.7**
baz=57
KKN Kakani 56.95 276 *eP* **P** **13 07 49.4 +0.5**
comp=Z,28nm,0.5s,mb5.5
PKI Pulchoki 57.01 276 *eP* **P** **13 07 49.7 +0.4**
comp=Z,23nm,0.7s,mb5.3
J07A Hines 57.03 60 ⇓P **P** **13 07 49.7 +0.2**
baz=57
M05C Lookout 57.14 63 P **P** **13 07 51.1 +0.8**
baz=57,SNR=5.8
I08A Drewsey 57.15 59 P **P** **13 07 50.9 +0.6**
baz=57,SNR=7.7
C13A Hot Springs 57.16 54 ⇓P **P** **13 07 49.8 -0.5**
baz=57
APA Apatity 57.17 337 ⇑*eP* **P** **13 07 47.0 -3.5**
APA pmax pmax
comp=Z,43nm,1.3s,mb5.3
DMN Daman 57.18 276 *eP* **P** **13 07 51.4 +0.8**
comp=Z,55nm,0.8s,mb5.7
GASB Alder Springs 57.21 65 ⇓P **P** **13 07 51.1 +0.3**
baz=57
H09A Dufee 57.22 58 P **P** **13 07 51.6 +0.8**
baz=57,SNR=5.3
GKN Gorkha 57.24 277 *eP* **P** **13 07 51.5 +0.5**
comp=Z,65nm,0.6s,mb5.8
HATC Hat Creek Radi 57.28 64 ⇓P **P** **13 07 50.6 -0.7**
baz=57
BMO Blue Mountains 57.31 58 *eP* **P** **13 07 51.4 -0.1**
comp=Z,8.6nm,1.1s,mb4.7
MOD Modoc 57.32 62 ⇑P **P** **13 07 51.5 -0.1**
baz=57
F11A Grangeville 57.35 56 ⇑P **P** **13 07 50.6 -1.1**
baz=57
K07A Rock Creek Ran 57.48 61 P **P** **13 07 53.6 +1.0**
baz=57,SNR=5.8
J08A Circle Bar Ran 57.53 60 P **P** **13 07 53.5 +0.5**
baz=57,SNR=8.9
ARCES ARCESS Array B 57.56 341 P **P** **13 07 51.9 -1.3**
comp=Z,10nm,1.0s,mb4.8,baz=39,slow=7.9,SNR=9.6
ARCES LR LR 13 35 51.8
comp=Z,202nm,18.5s,MS4.3,baz=234,slow=39
ARCES ARCESS Array B 57.56 341 P **P** **13 07 51.9 -1.3**
ARCES pmax pmax
comp=Z,11nm,1.0s
ARCES MLR MLR
comp=Z,202nm,18.5s
ARCES ARCESS Array B 57.56 341 P **P** **13 07 51.9 -1.3**
ARCES LR LR 13 35 51.8
D13A Huson 57.57 54 ⇓P **P** **13 07 52.1 -1.2**
baz=57
G11A Walters Elk Ra 57.58 57 ⇑P **P** **13 07 53.1 -0.2**
baz=57
I09A Lost Marbles R 57.59 59 P **P** **13 07 54.1 +0.7**
baz=57,SNR=8.4
M06C Likely Place G 57.64 63 ⇑P **P** **13 07 54.3 +0.6**
baz=57
O04C Chester 57.80 64 ⇑P **P** **13 07 55.2 +0.3**
baz=58
L07A Adell 57.83 61 ⇓P **P** **13 07 54.7 -0.4**
baz=58
MNRC McLaughlin Nat 57.85 66 ⇑P **P** **13 07 55.6 +0.4**
baz=58
K08A Mann Creek Ran 57.90 60 P **P** **13 07 56.5 +0.9**
baz=58,SNR=5.0
J09A Fry Pan Ranch, 57.96 59 P **P** **13 07 57.0 +1.0**
baz=58,SNR=6.2
WVOR Wild Horse Val 57.99 61 *eP* **P** **13 07 56.4 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
WVOR Wild Horse Val 57.99 61 *eP* **P** **13 07 56.4 +0.1**
comp=Z,8.7nm,1.1s,mb4.7
MSO Missoula 58.01 54 *eP* **P** **13 07 55.4 -1.0**
ORV Oroville 58.02 65 P **P** **13 07 55.7 -0.7**
baz=58,SNR=7.6
SUTB Sutter Butte 58.04 65 ⇑P **P** **13 07 55.0 -1.6**
baz=58
KOLN Koldanda 58.09 277 *eP* **P** **13 07 57.5 +0.6**
comp=Z,50nm,0.9s,mb5.5
D14A Greenough 58.10 54 P **P** **13 07 56.8 -0.2**
baz=58,SNR=10
E13A Victor 58.11 55 ⇑P **P** **13 07 55.9 -1.2**
baz=58
O05C Quincy 58.12 64 ⇑P **P** **13 07 56.9 -0.3**
baz=58
H11A Donnelly 58.14 57 P **P** **13 07 57.2 0.0**
baz=58,SNR=15
N06A Buffalo Meadow 58.30 63 P **P** **13 07 59.0 +0.6**
baz=58,SNR=6.7
M07A Soldier Meadow 58.31 62 P **P** **13 07 59.3 +0.8**
baz=58,SNR=13
L08A Fields 58.31 61 P **P** **13 07 59.0 +0.5**
baz=58,SNR=5.2
CHMT Chamberlain Mo 58.34 54 *eP* **P** **13 07 58.1 -0.6**
K09A Rome 58.37 60 ⇑P **P** **13 07 58.1 -0.7**
baz=58
F13A Darby 58.43 55 P **P** **13 07 59.1 -0.2**
baz=58,SNR=5.8
E14A Clinton 58.51 54 P **P** **13 07 59.5 -0.4**
baz=58,SNR=6.1
BEKR Beckwourth 58.52 64 P **P** **13 08 00.4 +0.4**
baz=58,SNR=11
D15A Lincoln 58.66 53 ⇓P **P** **13 08 01.9 +1.0**
baz=58
O06A Flanigan 58.66 63 P **P** **13 08 01.2 +0.3**
baz=58,SNR=6.1
P05C Yuba Gap, Truc 58.72 65 ⇓P **P** **13 08 00.4 -0.9**
baz=58
M08A Happy Creek Ra 58.74 61 ⇓P **P** **13 08 01.1 -0.4**
baz=58
L09A Wilkinson Ranc 58.81 60 ⇑P **P** **13 08 01.3 -0.7**
baz=59
P06A Stead Airport, 58.92 64 ⇑P **P** **13 08 03.0 +0.3**
baz=59
F14A Wisdom 58.95 55 ⇓P **P** **13 08 02.7 -0.2**
baz=59
E15A Deer Lodge 58.97 54 P **P** **13 08 03.0 0.0**
baz=59,SNR=6.1
LAVA Lava Cap Winer 58.97 65 P **P** **13 08 03.0 -0.1**
baz=59,SNR=5.6
AB31 Akbulak array 59.07 311 P **P** **13 08 02.8 -1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BOK Bokaro 59.18 272 *eP* **P** **13 08 05.0 +0.5**
BOK AMb AMB 13 08 20.8
comp=Z,9.9nm,1.0s,mb4.8
KLP Kalpa 59.22 284 *eP* **P** **13 08 05.5 +0.6**
KLP AMb AMB 13 08 08.5
comp=Z,12nm,0.6s,mb5.1
O07A Toulon 59.24 63 P **P** **13 08 05.8 +0.9**
baz=59,SNR=6.8
WCN Washoe City 59.24 64 ⇓P **P** **13 08 05.3 +0.3**
baz=59
N08A GE Springer Mi 59.30 62 P **P** **13 08 06.0 +0.6**
baz=59,SNR=6.5
M09A Marrel Ranch, 59.31 61 ⇑P **P** **13 08 05.7 +0.3**
baz=59
S04C Ingram Canyon, 59.39 67 ⇓P **P** **13 08 05.7 -0.2**
baz=59
F15A Butte 59.41 54 P **P** **13 08 06.6 +0.5**
baz=59,SNR=8.8
R05C Kirkwood Meado 59.41 65 ⇓P **P** **13 08 05.9 -0.3**
baz=59
LRM Limekiln Ridge 59.45 54 *eP* **P** **13 08 06.8 +0.4**
EGMT Eagleton 59.53 51 *eP* **P** **13 08 06.7 -0.2**
comp=Z,19nm,1.1s,mb5.0
EGMT Eagleton 59.53 51 P **P** **13 08 07.2 +0.2**
baz=59,SNR=5.2
P07A Fallon 59.62 63 ⇓P **P** **13 08 07.5 0.0**
baz=59
N09A Rock Creek Ran 59.62 61 P **P** **13 08 08.1 +0.5**
baz=59,SNR=6.0
CMB Columbia Colle 59.64 66 *eP* **P** **13 08 08.0 +0.3**
CMB pmax pmax
comp=Z,18nm,1.4s,mb4.9
CMB Columbia Colle 59.64 66 *eP* **P** **13 08 08.0 +0.3**
comp=Z,18nm,1.4s,mb4.9
CMB Columbia Colle 59.64 66 P **P** **13 08 08.0 +0.3**
baz=59,SNR=10.0
PACP Pacheco Peak 59.72 67 ⇑P **P** **13 08 07.7 -0.5**
baz=60
SUMG Summit 59.74 5 *eP* **P** **13 08 03.6 -4.8**
HLID Hailey 59.75 57 *eP* **P** **13 08 08.7 +0.2**
HLID Hailey 59.75 57 P **P** **13 08 08.8 +0.4**
baz=60,SNR=7.5
M10A I.L. Ranch, Tu 59.78 60 P **P** **13 08 09.8 +1.1**
baz=60,SNR=9.0
G15A Dillon 59.83 55 P **P** **13 08 08.9 -0.1**
baz=60,SNR=6.6
MCMT McKenzie Canyo 59.84 55 *eP* **P** **13 08 08.9 -0.2**
R06C Coleville 59.91 65 P **P** **13 08 10.4 +0.9**
baz=60,SNR=8.9
BMN Battle Mountai 60.06 62 *eP* **P** **13 08 11.7 +1.1**
BMN pmax pmax
comp=Z,14nm,1.1s,mb4.9
BMN Battle Mountai 60.06 62 *eP* **P** **13 08 10.5 -0.1**
comp=Z,14nm,1.1s,mb4.9
S06C San Francisco 60.06 65 P **P** **13 08 11.0 +0.3**
baz=60,SNR=7.2
S05C Merced 60.10 66 ⇑P **P** **13 08 09.7 -1.2**
baz=60
O09A Fish Creek Ran 60.24 62 P **P** **13 08 12.6 +0.7**
baz=60,SNR=8.1
M11A Holland Ranch, 60.28 60 P **P** **13 08 12.9 +0.8**
baz=60,SNR=7.7
N10A Dunphy 60.30 61 ⇑P **P** **13 08 12.9 +0.6**
baz=60
R07C Lee Vining 60.43 65 ⇑P **P** **13 08 12.5 -0.6**
baz=60
U04C Hernandez Rese 60.44 67 ⇓P **P** **13 08 13.3 +0.1**
baz=60
O10A Cortez Mining, 60.58 61 ⇓P **P** **13 08 14.8 +0.6**
baz=60
Q08A Gabbs 60.62 63 P **P** **13 08 15.1 +0.6**
baz=60,SNR=10.0
QLMT Earthquake Lak 60.63 55 *eP* **P** **13 08 15.0 +0.5**
P09A Austin 60.66 62 ⇓P **P** **13 08 16.0 +1.3**
baz=60
NVAR Mina Array Bea 60.67 64 P **P** **13 08 14.5 -0.2**
comp=Z,3.9nm,0.9s,mb4.5,baz=290,slow=9.7,SNR=22
N11A Elko Archery C 60.70 60 ⇓P **P** **13 08 14.9 0.0**
baz=60
T06C Millerton Lake 60.70 66 ⇑P **P** **13 08 15.4 +0.4**
baz=60
KCC Kaiser Creek 60.74 66 ⇑P **P** **13 08 15.4 +0.1**
baz=60
M12A Wells 60.80 59 P **P** **13 08 16.9 +1.2**
baz=61,SNR=10
R08A Mina 60.84 64 ⇑P **P** **13 08 16.6 +0.7**
baz=61
MLAC Mammoth Lakes 60.85 65 ⇑P **P** **13 08 17.0 +1.0**
baz=61
GCMT Greycliff 60.98 53 *eP* **P** **13 08 17.5 +0.6**
P10A Eureka 61.02 62 ⇑P **P** **13 08 17.2 0.0**
baz=61
N12A Clover Valley, 61.09 60 P **P** **13 08 18.6 +1.0**
baz=61,SNR=6.2
O11A Cowboy Ranch, 61.18 61 ⇓P **P** **13 08 17.3 -1.0**
baz=61
YFT Old Faithful 61.20 55 *eP* **P** **13 08 19.7 +1.4**
M13A Montello 61.27 59 P **P** **13 08 19.7 +0.8**
baz=61,SNR=5.2
V05C Boulder Hill, 61.31 67 ⇓P **P** **13 08 18.9 -0.2**
baz=61
HELL Mitchell Peak, 61.34 66 P **P** **13 08 19.2 -0.1**
baz=61,SNR=8.6
P11A Circle Ranch, 61.49 62 ⇓P **P** **13 08 20.0 -0.3**
baz=61
IMW Indian Meadow 61.49 55 *eP* **P** **13 08 21.3 +1.0**
comp=Z,19nm,1.4s,mb5.0
R09A Tonopah 61.53 63 P **P** **13 08 20.6 0.0**
baz=61,SNR=16
DCID1 Drake Creek 61.55 56 *eP* **P** **13 08 21.6 +0.9**
N13A Wendover, West 61.57 60 ⇓P **P** **13 08 21.2 +0.3**
baz=61
TIN Tinemaha 61.59 65 ⇓P **P** **13 08 22.3 +1.4**
baz=61
SMMC Simmler 61.60 68 ⇓P **P** **13 08 20.9 -0.1**
baz=61
RLMT Red Lodge 61.62 53 *eP* **P** **13 08 21.4 +0.2**
comp=Z,30nm,1.4s,mb5.3
O12A Currie 61.63 60 P **P** **13 08 22.0 +0.7**
baz=61,SNR=10
RRI2 Red Ridge 61.63 56 *eP* **P** **13 08 22.4 +1.1**
comp=Z,10nm,0.9s,mb5.1
MOOW Moose Ponds 61.70 55 *eP* **P** **13 08 22.9 +1.2**
NDI New Delhi 61.75 283 *eP* **P** **13 08 21.0 -1.1**
S09A Goldfield 61.77 64 P **P** **13 08 22.3 +0.1**
baz=62,SNR=7.3
VES Vestal, Richgr 61.84 67 ⇑P **P** **13 08 21.8 -0.8**
baz=62
LOHW Long Hollow 61.86 55 *eP* **P** **13 08 23.7 +0.9**
comp=Z,30nm,1.5s,mb5.3
SNOW Snow King Moun 61.87 55 *eP* **P** **13 08 24.1 +1.1**
comp=Z,26nm,1.3s,mb5.3
REDW Red Top Meadow 61.88 56 *eP* **P** **13 08 23.2 +0.3**
AYAN Aya Nagar 61.94 282 *eP* **P** **13 08 23.3 0.0**
AYAN AMb AMB 13 08 24.0
comp=Z,4.7nm,0.5s,mb5.0
Q11A Duckwater 62.00 62 ⇓P **P** **13 08 23.5 -0.3**
baz=62
P12A McGill 62.04 61 ⇑P **P** **13 08 24.4 +0.3**
baz=62
CWC Cottonwood Cre 62.07 66 ⇑P **P** **13 08 23.7 -0.5**
baz=62
SONA Sohna 62.12 282 *eP* **P** **13 08 24.6 0.0**
SONA AMb AMB 13 08 25.3
comp=Z,5.6nm,0.2s,mb5.4
GRAC Grapevine Rang 62.15 65 ⇓P **P** **13 08 24.3 -0.5**
baz=62
AGRA Agra 62.23 281 *ex* x 13 08 38.4
AGRA AMb AMB 13 08 46.5
comp=Z,91nm,0.8s,mb6.1
LAO LASA Array 62.23 50 *eP* **P** **13 08 25.8 +0.5**

SPUT South Promonto 62.30 58 *e*P **P 13 08 22.9 -2.9**
ISA Isabella 62.33 67 *e*P **P 13 08 25.4 -0.6**
ISA Isabella 62.33 67 ⇑P **P 13 08 25.2 -0.8**
baz=62
Q12A Willow Creek R 62.37 62 P **P 13 08 26.6 +0.3**
baz=62,SNR=5.6
ARVC Arvin 62.45 67 ⇑P **P 13 08 26.3 -0.5**
baz=62
KUDL Kundal 62.59 283 *e*P **P 13 08 26.0 -1.7**
KUDL AMb AMB 13 08 30.7
comp=Z,21nm,1.2s,mb5.1
HWUT Hardware Ranch 62.61 58 *e*P **P 13 08 28.2 +0.3**
comp=Z,14nm,1.4s,mb4.9
MPMC Manual Prospec 62.68 66 P **P 13 08 28.2 -0.1**
baz=62,SNR=9.3
FURC Furnace Creek, 62.80 65 P **P 13 08 29.5 +0.4**
baz=63,SNR=8.5
DUG Dugway 62.81 59 *e*P **P 13 08 29.9 +0.7**
DUG pmax pmax
comp=Z,20nm,1.3s,mb5.1
DUG Dugway 62.81 59 *e*P **P 13 08 29.9 +0.7**
comp=Z,20nm,1.3s,mb5.1
DUG Dugway 62.81 59 P **P 13 08 30.0 +0.8**
baz=63,SNR=10
OSI Osito Adit 62.85 68 ⇓P **P 13 08 29.0 -0.4**
baz=63
LRMC Laurel Mountai 62.94 66 P **P 13 08 30.1 +0.1**
baz=63,SNR=5.4
BW06 Boulder Array 62.99 55 *e*P **P 13 08 30.5 +0.1**
comp=Z,17nm,1.3s,mb5.0
PDAR Pinedale Array 62.99 55 P **P 13 08 30.4 0.0**
comp=Z,8.9nm,1.1s,mb4.8,baz=299,slow=3.1,SNR=32
KHET Khetri 63.08 283 *e*P **P 13 08 29.8 -1.2**
KHET AMb AMB 13 08 31.3
comp=Z,4.0nm,0.8s,mb4.6
EDW2 Edwards Air Fo 63.14 67 P **P 13 08 31.4 0.0**
baz=63,SNR=10
U10A Ash Meadows, A 63.16 65 ⇑P **P 13 08 32.3 +0.8**
baz=63
JLU Jordanelle 63.33 58 *e*P **P 13 08 33.5 +0.9**
DECC Green Verdugo 63.34 68 ⇓P **P 13 08 32.5 -0.1**
baz=63
KAKA Kakadu 63.43 205 *e*P **P 13 08 32.6 -0.7**
comp=Z,9.1nm,0.6s,mb5.1
MWC Mount Wilson 63.52 68 *e*P **P 13 08 34.3 +0.4**
SHOC Shoshone 63.53 65 ⇓P **P 13 08 33.2 -0.8**
baz=63
GSC Goldstone 63.60 66 ⇑P **P 13 08 33.6 -0.8**
baz=63
BFSC Mount Baldy St 63.76 67 ⇑P **P 13 08 35.1 -0.4**
baz=64
SHPR Sheep Range 63.82 64 *e*P **P 13 08 36.5 +0.6**
FIA1 FINESS Array S 63.93 336 *e*P **P 13 08 36.0 -0.6**
FIA1 *e* 13 08 47.5
FINES FINESS Array B 63.93 336 P **P 13 08 36.0 -0.6**
comp=Z,64nm,1.1s,mb5.8,baz=38,slow=6.7,SNR=57
FINES LR LR 13 39 03.4
comp=Z,74nm,22.0s,MS3.8,baz=2.6,slow=38
FINES FINESS Array B 63.93 336 P **P 13 08 36.0 -0.6**
FINES pmax pmax
comp=Z,64nm,1.1s
FINES MLR MLR
comp=Z,74nm,22.0s
FINES FINESS Array B 63.93 336 P **P 13 08 36.0 -0.6**
FINES LR LR 13 39 03.4
TUQ Turquoise Mtn. 64.05 65 P **P 13 08 37.8 +0.4**
baz=64,SNR=6.4
V11A Goodsprings 64.09 65 ⇑P **P 13 08 37.5 -0.2**
baz=64
HEC Hector,Ludlow 64.20 66 ⇑P **P 13 08 38.2 -0.2**
baz=64
BBRC Big Bear Sol-O 64.21 67 ⇑P **P 13 08 38.0 -0.4**
baz=64
U12A Valley of Fire 64.24 64 ⇓P **P 13 08 39.4 +0.7**
baz=64
MSU Marysvale 64.28 60 *e*P **P 13 08 39.6 +0.7**
TMUT Trail Mountain 64.33 59 *e*P **P 13 08 39.3 +0.1**
MURC Murrieta 64.47 68 ⇓P **P 13 08 39.1 -1.0**
baz=64
V12A Nelson 64.52 64 ⇓P **P 13 08 40.6 +0.1**
baz=64
GMRC Granite Mounta 64.65 66 P **P 13 08 41.6 +0.3**
baz=64,SNR=6.2
W12A Cal Nev Ari 64.79 65 P **P 13 08 42.6 +0.4**
baz=65,SNR=5.9
SRU San Rafael 64.85 59 *e*P **P 13 08 42.9 +0.2**
SRU San Rafael 64.85 59 *e*P **P 13 08 42.5 -0.1**
ULM Lac du Bonnet 64.86 42 P **P 13 08 42.1 -0.6**
comp=Z,6.2nm,0.5s,mb4.7,baz=305,slow=8.1,SNR=8.3
AJM Ajmer 64.92 282 *e*P **P 13 08 44.5 +1.4**
AJM AMb AMB 13 08 47.1
comp=Z,16nm,0.6s,mb5.4
BELC Belle Mtn. 64.95 66 ⇓P **P 13 08 43.2 -0.1**
baz=65
VIS Vishakhapatnam 65.08 269 *e*P **P 13 08 45.1 +1.0**
VIS AMb AMB 13 08 51.0
comp=Z,18nm,1.2s,mb5.2
BHPL Bhopal 65.25 278 *e*P **P 13 08 45.5 +0.2**
BHPL AMb AMB 13 08 46.3
comp=Z,11nm,0.5s,mb5.3
IRM Iron Mountain 65.37 66 P **P 13 08 46.3 +0.3**
baz=65,SNR=6.6
OBN Obninsk 65.48 326 ⇓*e*P **P 13 08 45.2 -1.5**
OBN *i* 13 08 58.4
OBN pmax pmax
comp=Z,56nm,1.3s,mb5.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
BC3 Big Chuckw Mtn 65.52 66 ⇓P **P 13 08 46.3 -0.7**
baz=65
W13A Hualapai Mount 65.52 64 P **P 13 08 47.0 0.0**
baz=65,SNR=5.2
PSI Prapat 65.85 246 LR LR 13 36 45.0
comp=Z,37nm,19.9s,MS3.6,baz=67,slow=35
X13A Yucca 65.89 65 P **P 13 08 49.4 0.0**
baz=66,SNR=6.8
PDMCI Parker Dam,Lak 65.90 65 ⇓P **P 13 08 49.6 +0.2**
baz=66
W14A Seligman 65.93 64 P **P 13 08 50.1 +0.4**
baz=66,SNR=10
Y12C Blythe 66.03 66 ⇑P **P 13 08 49.6 -0.7**
baz=66
PV10 Paradox Valley 66.20 59 *e*P **P 13 08 51.6 +0.2**
AGMN Agassiz Refuge 66.25 44 *e*P **P 13 08 51.0 -0.7**
comp=Z,22nm,1.2s,mb5.3
GLA Glamis 66.31 67 *e*P **P 13 08 52.4 +0.3**
GLA Glamis 66.31 67 ⇑P **P 13 08 51.4 -0.7**
baz=66
W15A Williams 66.45 63 ⇓P **P 13 08 52.8 -0.2**
baz=66
VRHR Novokhopersk 66.47 321 *e*P **P 13 08 50.7 -2.4**
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
VRHR pmax pmax
comp=E,3.0nm,0.3s
X14A Yava 66.55 64 P **P 13 08 54.5 +0.9**
baz=66,SNR=7.2
WUAZ Wupatki 66.76 62 *e*P **P 13 08 55.3 +0.3**
comp=E,23nm,1.6s,mb5.2
WUAZ Wupatki 66.76 62 ⇑P **P 13 08 55.4 +0.5**
baz=66
Y14A Wickenburg 66.84 65 ⇑P **P 13 08 56.0 +0.5**
baz=67
X15A Humboldt 66.94 64 P **P 13 08 57.1 +1.0**
baz=67,SNR=11
VOR Voronezh 67.01 323 P **P 13 08 55.0 -1.5**
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.8
ISCO Idaho Springs 67.18 56 *e*P **P 13 08 58.3 +0.6**
ISCO pmax pmax
comp=Z,19nm,1.3s,mb5.2
ISCO Idaho Springs 67.18 56 *e*P **P 13 08 58.3 +0.7**
comp=Z,19nm,1.3s,mb5.2
MVCO Mesa Verde 67.31 59 *e*P **P 13 08 56.7 -1.7**
comp=Z,14nm,1.3s,mb5.0
MVCO Mesa Verde 67.31 59 P **P 13 08 58.9 +0.5**
baz=67,SNR=5.7
VRSR Storozhevoye 67.40 322 *e*P **P 13 08 58.8 -0.2**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.5
VRSR pmax pmax
comp=N,50nm,0.8s
VRSR pmax pmax
comp=E,40nm,0.8s
VORD Divnogorie 67.55 322 *e*P **P 13 08 56.0 -4.0**
VORD pmax pmax
comp=Z,20nm,0.8s,mb5.4
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.6s
NB2 NORSAR Subarra 67.92 342 P **P 13 09 01.8 -0.5**
comp=Z,26nm,0.9s,mb5.5,baz=26,slow=6.5
NOA NORSAR Array B 67.92 342 P **P 13 09 02.0 -0.3**
comp=Z,17nm,0.9s,mb5.3,baz=26,slow=6.4,SNR=17
NOA LR LR 13 45 53.0
comp=Z,49nm,18.5s,MS3.8,baz=5.0,slow=42
115A Sonoran Desert 68.16 65 ⇑P **P 13 09 03.4 -0.4**
baz=68
NAO01 NORSAR Array S 68.17 342 *e*P **P 13 09 06.4 +2.5**
HYB Hyderabad 68.52 273 *i* P **P 13 09 06.0 -0.1**
HYB *e*pP 13 09 11.0
HYB Hyderabad 68.52 273 *e*P **P 13 09 06.0 -0.1**
116A Eloy 68.57 65 ⇑P **P 13 09 07.0 +0.6**
baz=68
SDCO Great Sand Dun 68.67 57 *e*P **P 13 09 07.7 +0.7**
comp=Z,25nm,1.6s,mb5.2
ECSD EROS,Sioux Fal 69.18 48 *e*P **P 13 09 09.0 -1.2**
comp=Z,60nm,1.6s,mb5.6
WRAB Tennant Creek 69.82 201 *i* P **P 13 09 12.8 -1.4**
WRAB Tennant Creek 69.82 201 *e*P **P 13 09 13.2 -1.0**
WB2 Warramunga Arr 69.83 201 *e*P **P 13 09 13.1 -1.1**
WRA Warramunga Arr 69.84 201 P **P 13 09 13.6 -0.6**
comp=Z,5.5nm,0.9s,mb4.7,baz=16,slow=6.3,SNR=24
WRA Warramunga Arr 69.84 201 P **P 13 09 13.6 -0.6**
WRA pmax pmax
comp=Z,6.0nm,0.9s
LAZ Ladron 70.05 61 *e*P **P 13 09 15.8 +0.3**
ANMO Albuquerque 70.06 60 ⇓*i*P **P 13 09 15.1 -0.5**
ANMO Albuquerque 70.06 60 *e*P **P 13 09 16.0 +0.4**
Y22C IRIS PASSCAL I 70.41 61 ⇑P **P 13 09 18.2 +0.5**
baz=70
BNM Barren Site 70.53 61 *e*P **P 13 09 18.9 +0.5**
FITZ Fitzroy Crossi 70.63 210 *e*P **P 13 09 19.0 -0.1**
comp=Z,7.8nm,0.8s,mb4.9
POO Poona 70.92 277 *e*P **P 13 09 19.0 -1.8**
SUW Suwalki 70.99 332 *e*P **P 13 09 22.5 +1.2**
CBKS Cedar Bluff 71.11 53 *e*P **P 13 09 20.8 -1.2**
KIV Kislovodsk 71.31 315 P **P 13 09 24.3 +1.1**
comp=Z,250nm,1.0s,mb6.3,SNR=7.4
KIV Kislovodsk 71.31 315 *e*P **P 13 09 23.1 -0.1**
KIV pmax pmax
comp=Z,52nm,1.0s,mb5.6
KIV MLR MLR
comp=Z,159nm,18.0s,MS4.3
KIV Kislovodsk 71.31 315 *e*P **P 13 09 25.1 +1.9**
KAD Karad 71.55 276 *e*P **P 13 09 24.7 0.0**
KAD AMb AMB 13 09 31.1
comp=Z,29nm,0.9s,mb5.4
ZEI Tsey 71.61 314 *e*P **P 13 09 25.0 -0.1**
ZEI *e**PP 13 09 36.8
ZEI *i* 13 09 46.8
ZEI *e* 13 12 00.6
ZEI pmax pmax
comp=Z,20nm,1.2s,mb5.1
AKASG Malin Array Be 71.70 327 P **P 13 09 24.4 -1.2**
comp=Z,3.9nm,0.4s,mb4.8,baz=33,slow=6.2,SNR=26
AKASG LR LR 13 47 14.4
comp=Z,106nm,18.5s,MS4.1,baz=25,slow=41
AKBB Malin Array Si 71.70 327 *e*P **P 13 09 24.4 -1.2**
AKBB *e* 13 09 36.7
KIEV Kiev 71.71 327 *e*P **P 13 09 24.4 -1.2**
KIEV *e* 13 09 36.7
KIEV pmax pmax
comp=Z,19nm,0.9s,mb5.2
KIEV Kiev 71.71 327 *e*P **P 13 09 24.4 -1.2**
comp=Z,19nm,0.9s,mb5.2
KIEV *e* 13 09 36.7
SCHQ Schefferville 71.92 24 P **P 13 09 26.3 -0.6**
comp=Z,3.6nm,0.8s,mb4.5,baz=341,slow=3.7,SNR=4.3
SCHQ LR LR 13 45 14.5
comp=Z,86nm,18.5s,MS4.0,baz=93,slow=39
SCHQ Schefferville 71.92 24 P **P 13 09 26.3 -0.6**
SCHQ LR LR 13 45 14.5
SCIA State Center 72.21 47 *e*P **P 13 09 28.2 -0.4**
comp=Z,70nm,1.1s,mb5.7
AMTX Amarillo 72.87 57 *e*P **P 13 09 33.0 +0.5**
SOC Sochi 72.99 317 *ce*P **P 13 09 33.3 0.0**
SOC *e* 13 09 45.6
SOC *e* 13 12 11.8
SOC *e*PPP 13 13 59.1
SOC *e*S S 13 18 59.7 -1.4
SOC *e* 13 19 36.1
SOC *e*SS SS 13 23 32.7 -8.8
SOC pmax pmax
comp=Z,24nm,1.2s,mb5.2
MNTX Cornudas Mount 73.00 62 *e*P **P 13 09 33.5 +0.2**
ANN Anapa 73.08 319 *e*P **P 13 09 35.2 +1.4**
ANN *e* 13 09 50.4
ANN *e* 13 12 19.7
ANN *e*S S 13 19 05.9 +3.7
ANN pmax pmax
comp=Z,36nm,1.2s,mb5.4
GNI Garni 73.16 311 ⇑*e*P **P 13 09 34.4 +0.1**
GNI pmax pmax
comp=Z,47nm,1.9s
GNI Garni 73.16 311 *e*P **P 13 09 34.6 +0.3**
AS31 Alice Springs 73.52 201 *e*P **P 13 09 36.0 -0.4**
ASAR Alice Springs 73.52 201 P **P 13 09 36.1 -0.3**
comp=Z,2.6nm,0.7s,mb4.4,baz=11,slow=5.3,SNR=45
ASAR Alice Springs 73.52 201 P **P 13 09 36.1 -0.3**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASPA Alice Springs 73.52 201 *e*P **P 13 09 36.0 -0.4**
LVV L'vov 74.27 330 *e*P **P 13 09 42.2 +1.4**
WMOK Wichita Mounta 74.60 55 *e*P **P 13 09 42.3 -0.5**
KWP Kalwaria 74.88 330 *e*P **P 13 09 44.3 -0.1**
KWP pmax pmax
comp=Z,32nm,0.9s,mb5.3
KWP Kalwaria 74.88 330 *e*P **P 13 09 44.3 -0.1**
comp=Z,32nm,0.9s,mb5.3
OJC Ojcow 75.32 332 *e*P **P 13 09 47.2 +0.3**
STHS Stebnicka Huta 75.55 331 *e*P **P 13 09 48.9 +0.7**
STHS *e* 13 10 01.3
STHS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
STHS Stebnicka Huta 75.55 331 *e*P **P 13 09 48.9 +0.7**
comp=Z,10nm,0.7s,mb5.1
STHS *e* 13 10 01.3
KOLS Kolonicke sedl 75.63 330 *e*P **P 13 09 48.7 0.0**
KOLS *e*PCP PcP 13 10 00.6 -0.9
LTX Lajitas 75.72 62 *e*P **P 13 09 48.8 -0.4**
LTX pmax pmax
comp=Z,37nm,1.3s,mb5.3
LTX Lajitas 75.72 62 *e*P **P 13 09 48.8 -0.4**
comp=Z,37nm,1.3s,mb5.3
TXAR Lajitas Array 75.72 62 P **P 13 09 49.2 0.0**
comp=Z,14nm,0.9s,mb5.1,baz=297,slow=4.4,SNR=106
TXAR Lajitas Array 75.72 62 P **P 13 09 49.2 0.0**
TXAR pmax pmax
comp=Z,14nm,0.9s
TXAR Lajitas Array 75.72 62 P **P 13 09 49.2 0.0**
BURAR Bucovina Array 75.72 328 ⇑*i*P **P 13 09 49.0 -0.2**
BURAR Bucovina Array 75.72 328 ⇑P **P 13 09 49.0 -0.2**
KSP Ksiaz 75.83 335 ⇑*e*P **P 13 09 50.0 +0.2**
KSP *e* 13 10 02.3
CLL Collm 76.33 337 *i* P **P 13 09 52.3 -0.3**
comp=Z,14nm,1.1s,mb5.0
CLL *i* 13 09 54.4
CLL Collm 76.33 337 *i* P **P 13 09 52.3 -0.3**
comp=Z,14nm,1.1s,mb5.0
CLL *i* pP 13 09 54.4
comp=Z,26nm,1.0s
CLL ⇑*i*sPcP 13 10 05.8
comp=Z,29nm,0.8s
MORC Moravsky Berou 76.40 333 ⇓*i*P **P 13 09 53.3 +0.2**
MORC Moravsky Berou 76.40 333 *e*P **P 13 09 53.2 +0.1**
MORC pmax pmax
comp=Z,12nm,0.8s,mb5.1
MORC Moravsky Berou 76.40 333 *e*P **P 13 09 53.2 +0.1**
comp=Z,12nm,0.8s,mb5.1
BRG Berggiesshubel 76.46 336 *e*P **P 13 09 53.0 -0.4**
comp=Z,8.7nm,1.2s,mb4.7
BRG *e* 13 10 06.2
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 76.46 336 *e*P **P 13 09 53.0 -0.4**
BRG *e* 13 10 06.2
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
FVM French Village 76.58 48 *e*P **P 13 09 52.8 -1.3**
FVM pmax pmax
comp=Z,15nm,1.0s,mb5.1
FVM French Village 76.58 48 *e*P **P 13 09 52.8 -1.3**
comp=Z,15nm,1.0s,mb5.1
KECS Kecovo 76.61 331 *e*P **P 13 09 55.9 +1.6**
KECS *e* 13 10 07.5
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KECS Kecovo 76.61 331 *e*P **P 13 09 55.9 +1.6**
comp=Z,3.9nm,0.9s,mb4.5
KECS *e* 13 10 07.5
VRAC Vranov 77.10 334 ⇓*i*P **P 13 09 57.0 0.0**
VRAC Vranov 77.10 334 ⇓P **P 13 09 57.0 0.0**
VYHS Vyhne 77.13 332 *e*P **P 13 09 57.3 +0.1**
VYHS *e*PCP PcP 13 10 10.6 +2.6
TIRR Tirgusor 77.16 324 ⇑*i*P **P 13 09 57.4 0.0**
TIRR Tirgusor 77.16 324 P **P 13 09 56.9 -0.5**
TIRR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
TIRR Tirgusor 77.16 324 P **P 13 09 56.9 -0.4**
comp=Z,10nm,0.8s,mb5.0
JCT Junction City 77.16 59 P **P 13 09 56.9 -0.5**
JCT pmax pmax
comp=Z,36nm,1.6s,mb5.2
JCT Junction City 77.16 59 *e*P **P 13 09 56.3 -1.1**
comp=Z,24nm,1.2s,mb5.2
MLR Muntele Rosu 77.25 326 ⇓*i*P **P 13 09 59.0 +1.1**
MLR Muntele Rosu 77.25 326 ⇓P **P 13 09 59.0 +1.1**
MOX Moxa 77.29 337 *e*P **P 13 09 58.2 +0.1**
comp=Z,12nm,1.3s,mb4.9
MOX *e* 13 10 11.7
MOX Moxa 77.29 337 *e*P **P 13 09 58.2 +0.1**
MOX *e* 13 10 11.7
MOX pmax pmax
comp=Z,12nm,1.3s,mb4.9
PSZ Piszkesteto 77.30 331 *e*P **P 13 10 01.9 +3.8**
PSZ *e* 13 10 12.5
DRGR 77.32 329 ⇑*i*P **P 13 09 58.0 -0.3**
DRGR 77.32 329 ⇑P **P 13 09 58.0 -0.2**
SIUC Southern Illin 77.40 47 *e*P **P 13 09 58.5 -0.2**
comp=Z,24nm,0.9s,mb5.3
SMOL Smolenice 77.56 333 *e*PCP PcP 13 10 13.9 +4.0
MIAR Mount Ida 77.59 52 *e*P **P 13 09 59.1 -0.7**
MIAR pmax pmax
comp=Z,15nm,1.1s,mb5.0
MIAR Mount Ida 77.59 52 *e*P **P 13 09 59.1 -0.6**
comp=Z,15nm,1.1s,mb5.0
MALT Malatya 77.70 314 ⇑*i*P **P 13 10 02.2 +1.8**
MALT Malatya 77.70 314 *e*P **P 13 10 01.1 +0.7**
MALT *e* 13 10 15.0
MALT pmax pmax
comp=Z,22nm,0.9s,mb5.3
MALT Malatya 77.70 314 *e*P **P 13 10 01.1 +0.7**
comp=Z,22nm,0.9s,mb5.3
MALT *e* 13 10 15.0
KHC Kasperske Hory 78.14 335 ⇑*e*P **P 13 10 02.4 -0.4**
GRA1 Grafenberg Arr 78.27 337 *e*P **P 13 10 03.0 -0.5**
comp=Z,18nm,0.8s,mb5.2
GRA1 *e* 13 10 17.6
GRF Grafenberg Arr 78.27 337 *e*P **P 13 10 03.0 -0.5**
comp=Z,18nm,0.8s,mb5.2
GRF *e* 13 10 17.6
GRF Grafenberg Arr 78.27 337 *e*P **P 13 10 03.0 -0.5**
GRF *e* 13 10 17.6
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.2
GRF Grafenberg Arr 78.27 337 *e*P **P 13 10 03.0 -0.5**
GRF *e* 13 10 17.6
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.2
GEC2 GERESS Array S 78.36 335 *e*P **P 13 10 03.9 -0.2**
GEC2 *e* 13 10 17.4
GERES GERESS Array B 78.36 335 P **P 13 10 04.1 +0.1**
comp=Z,1.8nm,0.6s,mb4.4,baz=25,slow=3.5,SNR=14
GERES LR LR 13 47 10.3
comp=Z,121nm,19.1s,MS4.2,baz=296,slow=38
GERES GERESS Array B 78.36 335 P **P 13 10 04.1 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,121nm,19.1s
MEM Membach 78.69 341 P **P 13 10 06.0 +0.1**
MEM E PcP 13 10 18.1 +3.3
BZS Buzias 78.72 329 ⇓*i*P **P 13 10 05.5 -0.5**
BZS Buzias 78.72 329 ⇓P **P 13 10 05.5 -0.5**
BR131 Keskin Array S 78.82 318 *e*P **P 13 10 08.6 +2.0**
comp=Z,19nm,0.9s,mb5.1
BR131 *e* 13 10 21.1
BRTR Keskin Array B 78.82 318 P **P 13 10 06.7 +0.1**
comp=Z,13nm,1.1s,mb4.9,baz=56,slow=4.6,SNR=22
BRTR Keskin Array B 78.82 318 P **P 13 10 06.7 +0.1**
BRTR pmax pmax
comp=Z,13nm,1.1s
BCLA Clavier 79.02 341 P **P 13 10 08.5 +0.8**
BCLA E 13 10 21.7
ANTO Ankara 79.09 319 *e*P **P 13 10 09.5 +1.4**
ANTO *e* 13 10 22.4
ANTO pmax pmax
comp=Z,30nm,1.1s,mb5.2
ANTO Ankara 79.09 319 *e*P **P 13 10 09.5 +1.4**
comp=Z,30nm,1.1s,mb5.2
ANTO *e* 13 10 22.4
NATX Nacogdoches 79.11 55 *e*P **P 13 10 08.5 +0.3**
comp=Z,58nm,1.4s,mb5.4
PKSM Moragy 79.20 331 ⇑*i*P **P 13 10 07.5 -1.2**
PKSM Moragy 79.20 331 ⇑P **P 13 10 07.5 -1.2**
DOU Dourbes 79.48 341 P **P 13 10 12.3 +2.1**
DOU E 13 10 23.1
MIB Mutribah 79.53 303 *e*P **P 13 10 10.7 +0.2**
MIB AMb AMB 13 10 26.2
comp=Z,91nm,0.7s,mb5.8
WLF Walferdange 79.54 340 P **P 13 10 13.8 +3.3**
WLF E 13 10 28.2
OXF Oxford 79.80 49 *e*P **P 13 10 11.2 -0.7**
OXF pmax pmax
comp=Z,39nm,1.1s,mb5.2
OXF Oxford 79.80 49 *e*P **P 13 10 11.2 -0.7**
comp=Z,39nm,1.1s,mb5.2
PERS Pernice 79.94 333 *i* P **P 13 10 14.1 +1.4**
NAY Al-Naaiem 80.01 303 *e*P **P 13 10 13.5 +0.5**
NAY AMb AMB 13 10 28.8
comp=Z,27nm,0.9s,mb5.2
KBA Koelnbreinsper 80.06 335 ⇑*i*P **P 13 10 14.4 +1.1**
comp=Z,40nm,1.2s,mb5.2
KBA Koelnbreinsper 80.06 335 ⇑*i*P **P 13 10 14.4 +1.0**
KBA pmax pmax
comp=Z,41nm,1.2s,mb5.2
RDF Al-Radifah 80.07 302 *e*P **P 13 10 14.2 +0.8**
RDF AMb AMB 13 10 15.1
comp=Z,47nm,1.0s,mb5.4
BFO Black Forest 80.27 338 *e*P **P 13 10 13.8 -0.7**
BFO pmax pmax
comp=Z,24nm,1.3s,mb5.0
BFO Black Forest 80.27 338 *e*P **P 13 10 13.8 -0.6**
comp=Z,24nm,1.3s,mb5.0
WTTA Wattenberg 80.38 336 ⇑*i*P **P 13 10 16.1 +1.0**
comp=Z,27nm,0.9s,mb5.2
WTTA Wattenberg 80.38 336 ⇑*i*P **P 13 10 16.1 +1.0**
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
CDF Champ du Feu 80.45 339 *e*P **P 13 10 15.7 +0.3**
comp=Z,68nm,1.3s,mb5.1
CDF Champ du Feu 80.45 339 *e*P **P 13 10 15.7 +0.3**
CDF pmax pmax
comp=Z,34nm,1.3s,mb5.1
CDF Champ du Feu 80.45 339 *e*P **P 13 10 15.7 +0.3**
comp=Z,34nm,1.3s,mb5.1
MOTA Moosalm 80.45 336 ⇑*i*P **P 13 10 16.0 +0.6**
comp=Z,26nm,1.2s,mb5.0
MOTA Moosalm 80.45 336 ⇑*i*P **P 13 10 16.0 +0.5**
MOTA pmax pmax
comp=Z,26nm,1.2s,mb5.0
SQTA Sankt Quirin 80.54 336 ⇑*i*P **P 13 10 16.8 +0.9**
comp=Z,39nm,1.3s,mb5.3
SQTA Sankt Quirin 80.54 336 ⇑*i*P **P 13 10 16.8 +0.9**
SQTA pmax pmax
comp=Z,39nm,1.3s,mb5.3
PTCC Patocco-Chiusa 80.67 334 P **P 13 10 18.4 +1.8**
comp=Z,6.6nm,0.6s,mb4.8
VTS Vitosha 80.75 326 ⇑*i*P **P 13 10 17.8 +0.7**
VTS Vitosha 80.75 326 ⇑P **P 13 10 17.8 +0.7**
ROBS Robic 80.77 334 *e*P **P 13 10 19.8 +2.7**
ROBS *e* 13 10 24.1

GMNA	**Gemona**	**80.82**	**334**	P		**P**	**13 10 19.1**	**+1.6**
	comp=Z,114nm,1.1s,mb5.8								
BOJS	**Bojanci**	**80.92**	**333**	*e*P		**P**	**13 10 17.6**	**-0.3**
BOJS				*e*			13 10 21.9		
PPT	**Papeete**	**81.42**	**128**	*e*LR		LR	13 34 53.7		
	comp=Z,120nm,24.2s								
PPT	**Papeete**	**81.42**	**128**	LR		LR	13 39 09.0		
	comp=Z,199nm,19.9s,MS4.5,baz=210,slow=30								
FORT	**Forrest**	**81.80**	**204**	*e*P		**P**	**13 10 22.5**	**-0.1**	
	comp=Z,17nm,0.7s,mb5.3								
GRR	**Gorron**	**82.20**	**344**	*e*P		**P**	**13 10 25.1**	**+0.4**	
	comp=Z,151nm,1.4s,mb5.6								
GRR	**Gorron**	**82.20**	**344**	*e*P		**P**	**13 10 25.1**	**+0.4**	
GRR				pmax	pmax				
	comp=Z,75nm,1.4s,mb5.6								
GRR	**Gorron**	**82.20**	**344**	*e*P		**P**	**13 10 25.1**	**+0.4**	
	comp=Z,75nm,1.4s,mb5.6								
CSS	**Prodhromos**	**82.83**	**315**	*e*P		**P**	**13 10 30.7**	**+2.7**	
	comp=Z,33nm,0.7s,mb5.7								
CSS				*e*			13 10 42.0		
SMF	**Signal de Mont**	**82.91**	**341**	*e*P		**P**	**13 10 28.5**	**+0.1**	
	comp=Z,94nm,1.3s,mb5.6								
SMF	**Signal de Mont**	**82.91**	**341**	*e*P		**P**	**13 10 28.5**	**+0.1**	
SMF				pmax	pmax				
	comp=Z,47nm,1.3s,mb5.6								
SMF	**Signal de Mont**	**82.91**	**341**	*e*P		**P**	**13 10 28.5**	**+0.1**	
	comp=Z,47nm,1.3s,mb5.6								
LPG	**La Plagne**	**83.30**	**338**	*e*P		**P**	**13 10 31.1**	**+0.7**	
	comp=Z,32nm,0.7s,mb5.3								
LPG	**La Plagne**	**83.30**	**338**	*e*P		**P**	**13 10 31.1**	**+0.7**	
LPG				pmax	pmax				
	comp=Z,16nm,0.7s,mb5.4								
LPG	**La Plagne**	**83.30**	**338**	*e*P		**P**	**13 10 31.1**	**+0.7**	
	comp=Z,16nm,0.7s,mb5.4								
SFI	**Santa Sofia**	**83.39**	**334**	P		**P**	**13 10 32.9**	**+2.0**	
SFI				pmax	pmax				
	comp=Z,14nm,0.8s,mb5.2								
SFI	**Santa Sofia**	**83.39**	**334**	P		**P**	**13 10 32.9**	**+2.0**	
	comp=Z,14nm,0.8s,mb5.2								
SNTG	**Esanatoglia**	**83.66**	**333**	P		**P**	**13 10 35.1**	**+2.8**	
BNI	**Bardonecchia**	**83.73**	**338**	P		**P**	**13 10 31.9**	**-0.8**	
NRCA	**Norcia**	**83.99**	**333**	P		**P**	**13 10 34.5**	**+0.5**	
FG5	**Orsara di Pugl**	**84.70**	**331**	P		**P**	**13 10 42.2**	**+4.6**	
FG5				pmax	pmax				
	comp=Z,24nm,0.6s,mb5.6								
FG5	**Orsara di Pugl**	**84.70**	**331**	P		**P**	**13 10 42.2**	**+4.6**	
	comp=Z,24nm,0.6s,mb5.6								
CAF	**Calviac**	**84.93**	**341**	*e*P		**P**	**13 10 38.8**	**0.0**	
	comp=Z,34nm,1.1s,mb5.2								
CAF	**Calviac**	**84.93**	**341**	*e*P		**P**	**13 10 38.8**	**0.0**	
CAF				pmax	pmax				
	comp=Z,17nm,1.1s,mb5.2								
CAF	**Calviac**	**84.93**	**341**	*e*P		**P**	**13 10 38.8**	**0.0**	
	comp=Z,17nm,1.1s,mb5.2								
TIP	**Timpagrande**	**86.08**	**329**	P		**P**	**13 10 44.2**	**-0.3**	
TBI	**Tubuai**	**86.25**	**131**	*e*LR		LR	13 37 07.0		
	comp=Z,197nm,32.5s								
EIL	**Elat**	**86.33**	**311**	*e*P		**P**	**13 10 47.1**	**+1.4**	
EIL				*e*			13 11 00.8		
ESDC	**Sonseca Array**	**91.19**	**344**	P		**P**	**13 11 07.5**	**-1.2**	
	comp=Z,1.0nm,0.7s,mb4.3,baz=16,slow=3.6,SNR=5.4								
KEST	**Kesra**	**91.65**	**333**	LR		LR	13 56 42.1		
	comp=Z,48nm,19.3s,MS4.0,baz=193,slow=38								
SNAA	**Sanae**	**153.79**	**195**	*e*PKP2		PKPab	13 18 13.1	-2.7	
VNA2	**Neumayer--Watz**	**155.19**	**193**	*e*PKPdf		PKPdf	13 18 03.3	+6.3	
VNA2				*e*			13 18 19.8		
VNA2				*e*			13 18 35.1		
VNA3	**Neumayer Olymp**	**155.24**	**191**	*e*PKPdf		PKPdf	13 18 02.5	+5.5	
VNA3				*e*			13 18 19.3		
VNA3				*e*			13 18 33.0		

NEIC ***26*** *13:03:43.0, 2994S×7176W, h46km, MD4.1(GUC), After GUC.*

GUC 26 13:03:43.0±0.7, 2994S×7176W, h46km±7km, MD4.1, ML4.3, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSCH	**La Serena**	**0.45**	**86**	⇓*i*	P	Pn	13 03 53.5	+0.2
LSCH				*i*	S	Sn	13 04 01.5	+0.7
OVCH	**Ovalle**	**0.82**	**144**	⇓*i*	P	Pn	13 03 58.6	+0.4
OVCH				*i*	S	Sn	13 04 10.8	+1.5
OVCH				AML		AML	13 04 12.2	
	comp=N,9μm,0.5s							
OVCH	**Ovalle**	**0.82**	**144**	⇓*i*	P	Pn	13 03 58.6	+0.4
OVCH				*i*	S	Sn	13 04 10.8	+1.5
CMCH	**Combarbala**	**1.39**	**152**	⇓*i*	P	Pn	13 04 06.7	+0.7
CMCH				*i*	S	Sn	13 04 24.4	+1.2
CMCH				AML		AML	13 04 25.7	
	comp=N,13μm,0.6s							
CMCH	**Combarbala**	**1.39**	**152**	⇓*i*	P	Pn	13 04 06.7	+0.7
CMCH				*i*	S	Sn	13 04 24.4	+1.2
CHNG	**Los Chungos**	**1.95**	**174**	*i*	P	Pn	13 04 13.8	+0.2
CHNG				*i*	S	Sn	13 04 37.6	+0.8
PTCH	**Petorca**	**2.42**	**163**	AML		AML	13 04 52.7	
	comp=E,2μm,0.2s							
PEL	**Peldehue**	**3.32**	**164**	AML		AML	13 05 27.3	
	comp=E,498nm,0.4s							
CLCH	**Cerro Calan**	**3.60**	**163**	AML		AML	13 05 39.1	
	comp=E,282nm,0.5s							
FCH	**Farellones**	**3.60**	**160**	AML		AML	13 05 23.8	
	comp=N,204nm,0.2s							
RCDM	**Rinconada Maip**	**3.63**	**167**	AML		AML	13 05 22.0	
	comp=E,498nm,0.1s							
ANTU	**Antumapu**	**3.74**	**165**	*i*	S	Sn	13 05 21.7	+0.7
TACH	**Talagante**	**3.77**	**170**	⇓*i*	P	Pn	13 04 39.4	+0.8
TACH				*i*	S	Sn	13 05 22.0	+0.4
PCH	**Pirque**	**3.82**	**164**	⇑*i*	P	Pn	13 04 40.4	+1.2
PCH				*i*	S	Sn	13 05 23.6	+0.7
SFDO	**San Fernando**	**4.70**	**172**	⇑*i*	P	Pn	13 04 52.2	+0.8

IDC ***26*** *13:19:03.4±1.1, 5372N×16380W, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML3.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/37, Error ellipse: s-maj=33.1km s-min=16.0km az=10.0*

ISCJB ***26*** *13:19:07.1±1.1, 5349N±009×16377W±009, h45km±9km, mb4.0/15, MS3.4/4, Error ellipse: s-maj=15.6km s-min=7.9km az=150.7*

NEIC ***26*** *13:19:08.1±1.0, 5357N×16380W, h36km±7km, mb4.5/2, ML3.7(AEIC), Error ellipse: s-maj=14.6km s-min=6.1km az=171.0*

ISC 26 13:19:07.9±1.0, 5348N±009×16378W±008, h38km±9km, n33, σ1§11/33, mb4.0/15, MS3.4/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKA	**Akutan**	**1.35**	**300**	P		**Pn**	**13 19 30.1**	**-0.1**
AKA				S		**Sn**	**13 19 48.6**	**+1.7**
AKUT	**Akutan**	**1.35**	**300**	P		**Pn**	**13 19 30.0**	**-0.2**
FALS	**False Pass**	**1.39**	**9**	P		**Pn**	**13 19 30.1**	**-0.7**
FALS				S		**Sn**	**13 19 49.3**	**+1.3**
AKLV	**Akutan Long Va**	**1.46**	**299**	P		**Pn**	**13 19 31.4**	**-0.3**
UNV	**Unalaska Valle**	**1.66**	**284**	P		**Pn**	**13 19 34.2**	**-0.3**
OKCD	**Okmok Cone D**	**2.59**	**271**	P		**Pn**	**13 19 46.9**	**-0.3**
SDPT	**Sand Point**	**2.69**	**45**	P		**Pn**	**13 19 48.0**	**-0.7**
KDAK	**Kodiak Island**	**7.66**	**51**	Pn		**Pn**	**13 20 54.3**	**-2.6**
	1.2nm,0.3s,baz=223,slow=3.2,SNR=16							
SVW2	**Sparrevohn**	**8.82**	**27**	*e*Pn		**Pn**	**13 21 13.5**	**+0.6**
SLKM	**Skilak Lake**	**10.20**	**41**	*e*Pn		**Pn**	**13 21 30.5**	**-1.2**
EGAK	**Eagle**	**16.09**	**36**	*e*Pn		**Pn**	**13 22 52.6**	**+1.4**
	11nm,0.3s							
DAWY	**Dawson**	**16.38**	**40**	*e*P		**Pn**	**13 22 57.6**	**+2.8**
INK	**Inuvik**	**20.58**	**32**	P		**P**	**13 23 40.7**	**-2.7**
	3.4nm,0.4s,baz=259,slow=11,SNR=19							
INK	**Inuvik**	**20.58**	**32**	*e*P		**P**	**13 23 40.9**	**-2.5**
YKA	**Yellowknife Ar**	**26.94**	**51**	P		**P**	**13 24 46.5**	**+0.9**
	0.6nm,0.6s,mb3.3,baz=270,slow=8.8,SNR=7.8							
YKA				LR		LR	13 36 23.3	
	comp=Z,104nm,18.6s,MS3.4,baz=255,slow=39							
YKA	**Yellowknife Ar**	**26.94**	**51**	P		**P**	**13 24 46.5**	**+0.9**
YKA				LR		LR	13 36 23.3	
NEW	**Newport**	**29.47**	**81**	LR		LR	13 35 51.6	
	comp=Z,72nm,19.4s,MS3.3,baz=111,slow=34							
YBH	**Yreka Blue Hor**	**29.67**	**97**	LR		LR	13 33 24.2	
	comp=Z,58nm,20.6s,MS3.2,baz=355,slow=29							
NVAR	**Mina Array Bea**	**34.37**	**97**	P		**P**	**13 25 51.5**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=357,slow=32,SNR=3.2							
PDAR	**Pinedale Array**	**36.90**	**84**	P		**P**	**13 26 13.8**	**+1.0**
	0.3nm,0.5s,mb3.4,baz=259,slow=1.5,SNR=3.9							
PV01	**Paradox Valley**	**40.37**	**89**	*e*P		**P**	**13 26 43.5**	**+1.6**
KSRS	**Korea Array**	**48.59**	**280**	P		**P**	**13 27 48.3**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=50,slow=6.7,SNR=3.6							
TXAR	**Lajitas Array**	**49.40**	**94**	P		**P**	**13 27 55.1**	**+1.3**
	0.4nm,0.5s,mb3.7,baz=301,slow=5.4,SNR=13							
TXAR				LR		LR	13 48 47.8	
	comp=Z,59nm,18.0s,MS3.6,baz=0.0,slow=36							
SONM	**Songino Array**	**53.58**	**303**	P		**P**	**13 28 25.6**	**+0.5**
	2.3nm,0.8s,mb4.1,baz=43,slow=7.0,SNR=16							
WVT	**Waverly**	**53.98**	**76**	*e*P		**P**	**13 28 27.5**	**-0.5**
	17nm,1.4s,mb4.8							
ARCES	**ARCESS Array B**	**57.11**	**356**	P		**P**	**13 28 48.7**	**-1.7**
	3.5nm,0.9s,mb4.4,baz=15,slow=7.5,SNR=4.4							
BVAR	**Borovoye Array**	**64.68**	**327**	P		**P**	**13 29 41.9**	**0.0**
	2.5nm,0.7s,mb4.3,baz=40,slow=7.6,SNR=7.5							
FINES	**FINESS Array B**	**65.15**	**355**	P		**P**	**13 29 43.6**	**-1.4**
	3.2nm,0.9s,mb4.3,baz=171,slow=29,SNR=4.2							
ZRNK	**Zerenda**	**65.19**	**328**	*e*P		**P**	**13 29 45.3**	**+0.1**
	4.9nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**65.42**	**316**	P		**P**	**13 29 45.5**	**-1.2**
	0.9nm,0.8s,mb3.9,baz=53,slow=6.2,SNR=5.4							
AKASG	**Malin Array Be**	**75.61**	**352**	P		**P**	**13 30 48.0**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=11,slow=5.8,SNR=5.0							
GERES	**GERESS Array B**	**78.03**	**2**	P		**P**	**13 31 01.8**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=4.1,slow=4.1,SNR=2.2							
BRTR	**Keskin Array B**	**85.95**	**347**	P		**P**	**13 31 44.7**	**+0.7**
	1.0nm,0.8s,mb4.1,baz=96,slow=1.2,SNR=6.7							

NIED ***26*** *13:25:00, 46.10N×153.70E, h32km, Mw3.9 Best double couple: M0 8.75000×10^14 NP1:φs75.00000°, δ71.00000°, λ93.00000°. NP2:φs245.00000°, δ19.00000°, λ80.00000°.*

SKHL ***26*** *13:25:33.2±0.3, 45.10N×154.10E, h50km, mb5.6/2*

IDC ***26*** *13:25:33.8±0.7, 4565N×15394E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/37, Error ellipse: s-maj=19.9km s-min=17.0km az=139.0*

ISCJB ***26*** *13:25:34.1±0.5, 4555N±008×15356E±007, h10km, mb4.1/21, Error ellipse: s-maj=12.2km s-min=5.0km az=127.8*

BJI ***26*** *13:25:34.1, 4570N×15371E, h10km, mB4.8, mb4.4*

NEIC ***26*** *13:25:35.5±0.5, 4569N×15389E, h10km, mb4.1/6, Error ellipse: s-maj=12.7km s-min=10.0km az=157.0*

JMA ***26*** *13:25:35.6±0.7, 4614N×15365E, h30km, M4.3*

MOS ***26*** *13:25:39.8±1.7, 4567N×15349E, h56km, mb4.3/16, Error ellipse: s-maj=13.8km s-min=11.0km az=130.4*

ISC 26 13:25:36.0±0.5, 4564N±008×15358E±007, h10km, n78, σ1§45/91, mb4.1/21, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04**	**266**	⇓*i*	P	**Pn**	**13 26 36.6**	**-1.3**
KUR					AMB	AMB	13 26 37.0	
	110nm,0.4s							
KUR					AMB	AMB	13 26 37.0	
	40nm,0.4s							
KUR					AMB	AMB	13 26 37.0	
	300nm,0.4s							
KUR					A		13 27 21.4	
	290nm,0.4s							
KUR					A		13 27 21.4	
	50nm,0.4s							
KUR				*i*	S	**Sn**	**13 27 24.0**	**-1.3**
KUR	**Kuril'sk**	**4.04**	**266**	⇓*i*	PN	**Pn**	**13 26 36.6**	**-1.3**
KUR				*i*	S	**Sn**	**13 27 24.0**	**-1.3**
KUR				pmax	pmax			
	comp=N,110nm,0.4s							
KUR				pmax	pmax			
	comp=E,40nm,0.4s							
KUR				pmax	pmax			
	comp=Z,300nm,0.4s							
KUR				smax				
	comp=N,290nm,0.4s							
KUR				smax				
	comp=E,50nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.72**	**256**	*e*P		**Pn**	**13 27 00.5**	**-0.5**
YUK					AMB	AMB	13 27 03.0	
	comp=E,180nm,0.2s							
YUK				*e*S		**Sn**	**13 28 06.2**	**-0.5**
YUK				A			13 28 13.3	
	comp=E,230nm,0.5s							
YUK				A			13 28 13.3	
	comp=E,140nm,0.5s							
NEM2	**Nemuro 2**	**6.05**	**251**	P		**Pn**	**13 27 05.0**	**-0.5**
NEM2				*e*S		**Sn**	**13 28 11.1**	**-3.7**
JRA	**Rausu**	**6.26**	**257**	P		**Pn**	**13 27 10.1**	**+1.8**
JNK	**Nakash**	**6.65**	**255**	P		**Pn**	**13 27 14.9**	**+1.1**
JNK				*e*S		**Sn**	**13 28 28.6**	**-1.0**
JAK	**Akkeshi**	**6.90**	**251**	P		**Pn**	**13 27 16.8**	**-0.4**
JAK				*e*S		**Sn**	**13 28 32.2**	**-3.5**
JTKR	**Abashiri--Toko**	**7.08**	**260**	P		**Pn**	**13 27 21.5**	**+1.8**
JAR	**Ashorobuto**	**7.40**	**255**	P		**Pn**	**13 27 25.6**	**+1.6**
JAR				*e*S		**Sn**	**13 28 47.8**	**-0.2**
JMP	**Maruseppu**	**7.45**	**261**	P		**Pn**	**13 27 26.9**	**+2.2**
JOB	**Onbets**	**7.51**	**252**	P		**Pn**	**13 27 26.5**	**+0.9**
JOB				*e*S		**Sn**	**13 28 47.9**	**-2.9**
YSS	**Yuzh-Sakhalins**	**7.62**	**284**	*e*P		**Pn**	**13 27 31.0**	**+4.0**
YSS	**Yuzh-Sakhalins**	**7.62**	**284**	*e*Pn		**Pn**	**13 27 30.7**	**+3.7**
JKK2	**Kamakawa 2**	**7.91**	**261**	P		**Pn**	**13 27 33.4**	**+2.3**
JCH	**Churui**	**7.95**	**251**	P		**Pn**	**13 27 31.8**	**+0.2**
JCH				*e*S		**Sn**	**13 28 56.6**	**-5.0**
ASAJ	**Asahikawa**	**7.95**	**263**	Pn		**Pn**	**13 27 34.2**	**+2.6**
	comp=E,0.9nm,0.3s,baz=267,slow=19,SNR=12							
ASAJ	**Asahikawa**	**7.95**	**263**	PN		**Pn**	**13 27 34.3**	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JFR	**Furan**	**8.25**	**256**	P		**Pn**	**13 27 38.1**	**+2.4**
ERM	**Erimo**	**8.36**	**248**	*e*PN		**Pn**	**13 27 38.8**	**+1.6**
JNBK	**Urakawa-nobuka**	**8.50**	**251**	P		**Pn**	**13 27 38.8**	**-0.4**
JNBK				*e*S		**Sn**	**13 29 08.9**	**-6.3**
JBT2	**Biratori 2**	**8.55**	**254**	P		**Pn**	**13 27 40.4**	**+0.6**
JNB	**Noboribetsu**	**9.57**	**255**	*e*S		**Sn**	**13 29 38.4**	**-3.0**
JKB	**Kayabe**	**9.82**	**252**	P		**Pn**	**13 27 56.8**	**-0.5**
JKB				*e*S		**Sn**	**13 29 40.7**	**-6.9**
JANG	**Nango**	**10.28**	**243**	P		**Pn**	**13 28 01.3**	**-2.3**
JANG				*e*S		**Sn**	**13 29 49.6**	**-9.3**
JTH	**Tanohata**	**10.32**	**241**	*e*S		**Sn**	**13 29 50.6**	**-9.2**
JTM	**Tenmabayashi**	**10.34**	**246**	P		**Pn**	**13 28 03.3**	**-1.0**
JTM				*e*S		**Sn**	**13 29 52.5**	**-7.8**
OFUJ	**Ofunato**	**10.98**	**238**	*e*S		**Sn**	**13 30 06.8**	**-9.1**
MJAR	**Matsushiro Arr**	**14.71**	**237**	Pn		**Pn**	**13 29 11.5**	**+7.4**
	comp=Z,0.3nm,0.3s,baz=36,slow=11,SNR=8.8							
MAJO	**Matsushiro**	**14.71**	**237**	*e*P		**Pn**	**13 29 12.4**	**+8.3**
MAJO				pmax	pmax			
	comp=Z,13nm,0.8s							
MAJO	**Matsushiro**	**14.71**	**237**	*e*P		**Pn**	**13 29 12.4**	**+8.3**
	comp=Z,13nm,0.8s							
MAT	**Matsushiro**	**14.71**	**237**	P		**Pn**	**13 29 13.0**	**+8.9**
KLR	**Kul'dur**	**15.19**	**292**	*e*P		**Pn**	**13 29 09.2**	**-1.4**
MDJ	**Mudanjiang**	**16.95**	**275**	*e*Pn		**Pn**	**13 29 34.1**	**+0.9**
	comp=Z,6.9nm,0.6s							
CN2	**Changchun**	**20.04**	**275**	*e*P		**P**	**13 30 09.8**	**+0.7**
KSRS	**Korea Array**	**20.81**	**256**	P		**P**	**13 30 19.5**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=69,slow=9.4,SNR=6.5							
YAK	**Yakutsk**	**21.43**	**328**	P		**P**	**13 30 22.6**	**-1.6**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.2							
YAK	**Yakutsk**	**21.43**	**328**	P		**P**	**13 30 22.6**	**-1.7**
	comp=Z,8.2nm,0.6s,mb4.2							
TIXI	**Tiksi**	**28.62**	**344**	*e*P		**P**	**13 31 29.1**	**-3.5**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.1							
TIXI	**Tiksi**	**28.62**	**344**	*e*P		**P**	**13 31 29.1**	**-3.5**
	comp=Z,3.8nm,1.0s,mb4.1							
SONM	**Songino Array**	**32.02**	**291**	P		**P**	**13 32 04.6**	**+1.9**
	comp=Z,1.1nm,0.6s,mb3.9,baz=81,slow=8.9,SNR=8.9							
SONM	**Songino Array**	**32.02**	**291**	P		**P**	**13 32 04.6**	**+2.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GTA	**Gaotai**	**39.48**	**281**	*e*P		**P**	**13 33 09.0**	**+2.4**
GTA				AP		pP	13 33 13.5	+3.8
GTA				XP		sP	13 33 16.0	+5.1
GTA				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.2							
INK	**Inuvik**	**42.42**	**32**	P		**P**	**13 33 28.6**	**-2.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=280,slow=4.7,SNR=4.4							
INK	**Inuvik**	**42.42**	**32**	*e*P		**P**	**13 33 29.3**	**-1.5**
MK31	**Makanchi Array**	**47.75**	**298**	*e*P		**P**	**13 34 14.0**	**+0.8**
MKAR	**Makanchi Array**	**47.75**	**298**	P		**P**	**13 34 13.3**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=69,slow=6.9,SNR=15							
MKAR	**Makanchi Array**	**47.75**	**298**	P		**P**	**13 34 13.3**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**47.75**	**298**	P		**P**	**13 34 13.3**	**+0.1**
YKA	**Yellowknife Ar**	**51.62**	**36**	P		**P**	**13 34 40.8**	**-1.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=292,slow=6.8,SNR=3.7							
YKA	**Yellowknife Ar**	**51.62**	**36**	P		**P**	**13 34 40.8**	**-1.9**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**51.82**	**310**	P		**P**	**13 34 44.8**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=50,slow=8.2,SNR=7.7							
BVAR	**Borovoye Array**	**51.82**	**310**	P		**P**	**13 34 44.8**	**+0.7**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRVK	**Borovoye**	**51.86**	**310**	*e*P		**P**	**13 34 46.0**	**+1.6**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.86**	**310**	*e*P		**P**	**13 34 46.0**	**+1.5**
	comp=Z,1.5nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**13 34 50.3**	**+0.4**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.59**	**311**	*e*P		**P**	**13 34 50.3**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.0							
ARCES	**ARCESS Array B**	**59.01**	**341**	P		**P**	**13 35 35.5**	**-0.4**
	comp=Z,13nm,1.2s,mb4.8,baz=28,slow=5.5,SNR=4.1							
ARCES	**ARCESS Array B**	**59.01**	**341**	P		**P**	**13 35 35.5**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,13nm,1.2s							
NVAR	**Mina Array Bea**	**62.66**	**62**	P		**P**	**13 35 58.7**	**-2.0**
	comp=Z,0.4nm,0.7s,mb3.7,baz=293,slow=8.1,SNR=4.0							
NVAR	**Mina Array Bea**	**62.66**	**62**	P		**P**	**13 35 58.7**	**-2.1**
FINES	**FINESS Array B**	**65.19**	**335**	P		**P**	**13 36 16.6**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=40,slow=6.5,SNR=13							
FINES	**FINESS Array B**	**65.19**	**335**	P		**P**	**13 36 16.6**	**-0.8**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRAB	**Tennant Creek**	**67.56**	**200**	*e*P		**P**	**13 36 32.6**	**0.0**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**67.56**	**200**	*e*P		**P**	**13 36 32.6**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**67.57**	**200**	P		**P**	**13 36 31.8**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=19,slow=7.0,SNR=18							
WRA	**Warramunga Arr**	**67.57**	**200**	P		**P**	**13 36 31.8**	**-0.9**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**69.39**	**341**	P		**P**	**13 36 42.4**	**-1.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=25,slow=6.3,SNR=4.1							
NOA	**NORSAR Array B**	**69.39**	**341**	P		**P**	**13 36 42.4**	**-1.6**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**69.39**	**341**	P		**P**	**13 36 42.4**	**-1.6**
ASAR	**Alice Springs**	**71.26**	**199**	P		**P**	**13 36 56.2**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.8,baz=16,slow=6.6,SNR=19							
ASAR	**Alice Springs**	**71.26**	**199**	P		**P**	**13 36 56.2**	**+0.7**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KIV	**Kislovodsk**	**71.81**	**315**	*e*P		**P**	**13 37 00.0**	**+1.2**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
AKASG	**Malin Array Be**	**72.65**	**327**	P		**P**	**13 37 03.4**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.5,baz=32,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**72.65**	**327**	P		**P**	**13 37 03.4**	**-0.4**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TXAR	**Lajitas Array**	**77.75**	**61**	P		**P**	**13 37 31.6**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=305,slow=3.9,SNR=10							
TXAR	**Lajitas Array**	**77.75**	**61**	P		**P**	**13 37 31.6**	**-1.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**79.42**	**317**	P		**P**	**13 37 43.5**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=72,slow=4.

6.0nm,0.3s
WRAB Tennant Creek 19.69 224 *e*P **Pn** 13 39 46.2 **-1.3**
11nm,0.5s
WB2 Warramunga Arr 19.70 224 *e*P **Pn** 13 39 45.7 **-1.9**
WB2 *e*S **S** 13 43 17.7 **-6.1**
WRA Warramunga Arr 19.71 224 P **Pn** 13 39 46.2 **-1.4**
3.2nm,0.3s,baz=51,slow=11,SNR=175
WRA S **S** 13 43 22.9 **-1.1**
baz=43,slow=20,SNR=5.0
WRA PcP PcP 13 44 02.5 +0.7
0.1nm,0.3s,baz=27,slow=1.4,SNR=6.1
WRA LR LR 13 47 59.9
comp=Z,56nm,19.2s,baz=350,slow=38
AS31 Alice Springs 22.64 218 *e*P **P** **13 40 17.6 +0.6**
AS31 *e*S **S** **13 44 20.6 +0.7**
ASAR Alice Springs 22.64 218 P **P** **13 40 17.7 +0.6**
9.1nm,0.6s,mb4.3,baz=52,slow=9.4,SNR=226
ASAR PcP PcP 13 44 08.4 +1.0
1.1nm,0.8s,baz=56,slow=2.7,SNR=5.0
ASAR S **S** **13 44 20.6 +0.6**
2.3nm,0.8s,baz=29,slow=24,SNR=9.8
ASAR LR LR 13 48 56.2
comp=Z,72nm,20.9s,baz=16,slow=36
ASPA Alice Springs 22.64 218 *e*P **P** **13 40 17.6 +0.5**
ASPA *e*S **S** **13 44 20.6 +0.6**
DZM Mont Dzumac 23.39 135 P **P** **13 40 23.5 -1.0**
4.3nm,0.7s,mb3.9,baz=135,slow=22,SNR=8.9
FITZ Fitzroy Crossi 25.57 240 *e*P **P** **13 40 44.9 +0.6**
20nm,0.5s,mb4.8
FITZ Fitzroy Crossi 25.57 240 P **P** **13 40 45.0 +0.7**
8.4nm,0.5s,mb4.5,baz=62,slow=9.7,SNR=49
FITZ LR LR 13 52 05.7
comp=Z,55nm,19.6s,baz=276,slow=39
STKA Stephens Creek 26.60 194 *e*P **P** **13 40 53.2 -0.4**
8.5nm,1.5s,mb4.0
STKA Stephens Creek 26.60 194 P **P** **13 40 54.9 +1.3**
2.4nm,0.7s,mb3.8,baz=349,slow=16,SNR=4.6
MJAR Matsushiro Arr 43.46 349 P **P** **13 43 18.6 +0.6**
2.3nm,0.8s,mb4.0,baz=102,slow=33,SNR=3.2
KSRS Korea Array 47.41 337 LR LR 14 01 21.0
comp=Z,23nm,18.5s,baz=120,slow=33
SONM Songino Array 65.27 330 P **P** **13 45 57.6 +1.4**
0.5nm,0.6s,mb3.5,baz=140,slow=6.1,SNR=5.4
VNDA Vanda 71.81 177 P **P** **13 46 36.8 -0.2**
1.0nm,0.5s,mb3.9,baz=332,slow=7.0,SNR=18
VNDA Vanda 71.81 177 *e*P **P** **13 46 36.6 -0.4**
0.9nm,0.5s,mb3.9
MK31 Makanchi Array 78.62 320 *e*P **P** **13 47 16.5 +0.4**
MKAR Makanchi Array 78.62 320 P **P** **13 47 16.5 +0.4**
0.4nm,0.4s,mb3.6,baz=96,slow=8.1,SNR=9.7
MCK McKinley 83.53 23 *e*P **P** **13 47 41.0 -1.2**
2.4nm,0.8s,mb4.1
CFAA Coronel Fontan 128.58 139 PKP PKPdf 13 54 20.2 -0.6
0.3nm,0.7s,baz=224,slow=7.3,SNR=5.1
LPAZ La Paz 137.30 122 PKP PKPdf 13 54 38.6 +1.4
0.6nm,0.5s,baz=203,slow=4.7,SNR=3.6
SAML Samuel 144.86 115 PKP PKPdf 13 54 49.9 -0.9
TORD Torodi Ar. Bea 146.79 285 PKPbc PKPbc 13 54 56.2 +0.2
0.5nm,0.3s,baz=76,slow=2.8,SNR=11

WEL 26 13:45:44.5±0.3, 3736S×17732E, h148km±3km, ML4.3/20, 5C-1D, Error ellipse: s-maj=2.5km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.20**	**211**	PN	Pn	13 46 04.5	-0.1
MXZ	**Matakaoa Point**	**0.81**	**105**	⇑PN	Pn	13 46 07.6	0.0
MXZ				SN	Sn	13 46 25.5	+0.3
EDRZ	**Edgecumbe**	**0.88**	**211**	PN	Pn	13 46 08.3	+0.2
URZ	**Urewera**	**0.92**	**190**	⇑PN	Pn	13 46 08.2	-0.2
URZ				SN	Sn	13 46 26.2	-0.4
TGRZ	**Tauranga**	**0.92**	**246**	PN	Pn	13 46 08.4	0.0
TGRZ				SN	Sn	13 46 27.2	+0.6
LIRZ	**Lichensteins R**	**0.98**	**229**	PN	Pn	13 46 09.0	+0.1
MWZ	**Matawai**	**0.99**	**171**	⇑PN	Pn	13 46 09.0	0.0
MWZ				SN	Sn	13 46 28.1	+0.4
PUZ	**Puketiti**	**1.03**	**134**	⇑PN	Pn	13 46 09.5	+0.1
PUZ				SN	Sn	13 46 27.9	-0.5
KARZ	**Kaharoa**	**1.08**	**232**	⇑PN	Pn	13 46 10.0	+0.2
TAZ	**Tarawera**	**1.09**	**216**	PN	Pn	13 46 10.4	+0.6
KUZ	**Kuaotunu**	**1.42**	**295**	⇓PN	Pn	13 46 12.4	-0.6
KNZ	**Kokohu**	**1.69**	**171**	PN	Pn	13 46 15.7	-0.2
BKZ	**Black Stump Fm**	**1.92**	**200**	*e*PN	Pn	13 46 17.8	-0.8
BKZ				SN	Sn	13 46 43.8	-0.9
FWVZ	**Far West T-bar**	**2.35**	**216**	PN	Pn	13 46 23.4	-0.3
MOVZ	**Moawhango**	**2.39**	**211**	PN	Pn	13 46 22.9	-1.2
PXZ	**Pawanui**	**2.69**	**188**	PN	Pn	13 46 26.7	-1.2
TSZ	**Takapari Road**	**2.90**	**201**	PN	Pn	13 46 28.7	-1.8
KIW	**Kapiti Island**	**3.97**	**207**	PN	Pn	13 46 41.2	-3.0
KIW				SN	Sn	13 47 26.1	-4.6
CAW	**Cannon Point**	**4.13**	**204**	PN	Pn	13 46 43.1	-3.3
PAWZ	**Paruwai Farm**	**4.28**	**199**	PN	Pn	13 46 44.7	-3.7

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*ISCJB **26** 13:46:46.2±2.1, 75S±0.1×156.11E±008, h54km±23km, mb4.0/7, MS3.5/6, Error ellipse: s-maj=24.4km s-min=13.8km az=167.1*
*NEIC **26** 13:46:48.8±1.4, 756S×156.17E, h71km±13km, mb4.3/1, Error ellipse: s-maj=21.6km s-min=11.3km az=171.0*
*IDC **26** 13:46:49.1±2.6, 758S×156.14E, h71km±27km, mb3.9/6, mb1 3.9/8, mb1mx3.8/16, mbtmp3.9/8, MS3.6/9, Ms1 3.6/9, ms1mx3.2/21, Error ellipse: s-maj=26.3km s-min=15.9km az=178.0*

ISC 26 13:46:48.7±1.7, 75S±0.1×15613E±008, h62km±18km, n21, σ0§53/15, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.22**	**117**	P	**Pn**	**13 47 49.7**	**-0.8**
HNR	17nm,0.3s,baz=247,slow=2.2,SNR=12			S	**Sn**	**13 48 39.3**	**+0.8**
HNR	27nm,0.3s,baz=267,slow=8.4,SNR=3.1			LR	LR	13 49 27.1	
HNR	**Honiara**	**4.22**	**117**	*e*Pn	**Pn**	**13 47 50.1**	**-0.4**
HNR	comp=Z,906nm,18.1s,baz=179,slow=38			*e*Sn	**Sn**	**13 48 50.2**	**+12**
HNR				LR	LR	13 49 27.1	
PMG	**Port Moresby**	**9.07**	**257**	P	**Pn**	**13 48 57.1**	**+0.3**
PMG	1.0nm,0.3s,baz=269,slow=0.8,SNR=6.5			LR	LR	13 52 20.8	
CTA	**Charters Tower**	**15.73**	**216**	LR	LR	13 55 55.6	
WRAB	comp=Z,182nm,18.4s,baz=46,slow=35 **Tennant Creek**	**24.45**	**238**	*e*P	**P**	**13 52 01.9**	**+0.3**
WB2	18nm,1.5s,mb4.3 **Warramunga Arr**	**24.45**	**237**	*e*P	**P**	**13 52 01.9**	**+0.2**
WRA	**Warramunga Arr**	**24.46**	**237**	P	**P**	**13 52 02.2**	**+0.5**
WRA	2.0nm,0.7s,mb3.6,baz=61,slow=9.7,SNR=25			LR	LR	14 01 24.9	
ASAR	comp=Z,127nm,19.8s,baz=50,slow=36 **Alice Springs**	**26.69**	**231**	P	**P**	**13 52 21.7**	**-0.2**
ASAR	0.2nm,0.4s,mb3.0,baz=58,slow=9.7,SNR=4.9			LR	LR	14 03 16.9	
STKA	comp=Z,126nm,18.4s,baz=342,slow=37 **Stephens Creek**	**27.76**	**207**	LR	LR	14 02 48.7	
FITZ	comp=Z,122nm,19.3s,baz=27,slow=35 **Fitzroy Crossi**	**31.48**	**248**	P	**P**	**13 53 03.1**	**-1.3**
FITZ	1.9nm,0.8s,mb4.0,baz=127,slow=10,SNR=3.5			LR	LR	14 05 24.4	
KSRS	comp=Z,76nm,18.9s,baz=53,slow=35 **Korea Array**	**51.93**	**331**	P	**P**	**13 55 50.8**	**-0.4**
KSRS	1.3nm,0.7s,mb4.0,baz=138,slow=8.2,SNR=5.5			LR	LR	14 14 34.6	
VNDA	comp=Z,18nm,20.3s,baz=155,slow=32 **Vanda**	**70.03**	**179**	LR	LR	14 26 42.8	
SONM	comp=Z,53nm,18.1s,baz=188,slow=34 **Songino Array**	**70.39**	**327**	P	**P**	**13 57 56.5**	**+0.5**
MK31	4.4nm,0.8s,mb4.5,baz=134,slow=6.8,SNR=38 **Makanchi Array**	**84.54**	**318**	*e*P	**P**	**13 59 15.0**	**0.0**
MKAR	**Makanchi Array**	**84.54**	**318**	P	**P**	**13 59 15.3**	**+0.3**
MKAR	12nm,0.8s,mb5.1,baz=106,slow=5.8,SNR=49 **Makanchi Array**	**84.54**	**318**	P	**P**	**13 59 15.3**	**+0.3**
FINES	**FINESS Array B**	**114.88**	**336**	PKiKP	PKiKP	14 05 19.3	-3.1
FINES	0.7nm,0.7s,baz=72,slow=4.9,SNR=9.2 **FINESS Array B**	**114.88**	**336**	PKPdf	PKiKP	14 05 19.3	-3.1
GERES	**GERESS Array B**	**128.08**	**329**	PKP	PKPdf	14 05 46.9	-0.8
LPAZ	0.2nm,0.3s,baz=333,slow=1.5,SNR=4.7 **La Paz**	**130.22**	**119**	PKP	PKPdf	14 05 53.2	+1.5
TORD	0.6nm,0.4s,baz=174,slow=1.9,SNR=5.5 **Torodi Ar. Bea**	**154.25**	**285**	PKPbc	PKPbc	14 06 41.6	-0.1
	0.8nm,0.8s,baz=78,slow=2.9,SNR=4.3						

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*LDG **26** 13:47:07.4±1.0, 42.14N×252E, h2km, Md2.2/2, Ml2.0/4, Error ellipse: s-maj=20.4km s-min=13.7km az=104.0*

MDD 26 13:47:01.7±0.3, 4186N×265E, h0km, mbLg1.8/17, 1C, Error ellipse: s-maj=2.5km s-min=1.9km az=153.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFON	**Fontmartina**	**0.19**	**239**	Pg	Pg	13 47 05.2	-0.1
CFON				Lg		13 47 08.1	
OLT	143nm,0.2s **Olot**	**0.31**	**335**	Pg	Pg	13 47 07.5	-0.2
OLT				Lg		13 47 12.1	
CBRU	**Bruguera**	**0.55**	**321**	Pg	Pg	13 47 11.7	-0.5
CBRU				Lg		13 47 19.4	
EJON	5.3nm,0.1s **La Jonquera**	**0.62**	**17**	Pg	Pg	13 47 12.8	-0.7
EJON	1.6nm,0.1s,SNR=12			Lg		13 47 21.3	
CLLI	15nm,0.2s,SNR=13 **Llivia**	**0.80**	**321**	Pg	Pg	13 47 16.2	-0.8
CLLI				Lg		13 47 26.6	
EMIR	4.9nm,0.2s **Miracle**	**0.84**	**274**	Pg	Pg	13 47 17.1	-0.7
EMIR	6.4nm,0.2s,SNR=21			Lg		13 47 29.1	
CORG	15nm,0.1s,SNR=14 **Organya**	**1.06**	**291**	Pg	Pg	13 47 21.0	-1.0
CORG				Lg		13 47 35.9	
CSOR	2.2nm,0.1s **Sort**	**1.24**	**295**	Pg	Pg	13 47 24.4	-1.1
CSOR				Lg		13 47 41.0	
CGAR	5.3nm,0.3s **Garraf**	**1.27**	**244**	Pg	Pg	13 47 16.3	-10
CGAR				Lg		13 47 26.6	
EPOB	3.1nm,0.1s **Poblet**	**1.28**	**247**	⇑Pg	Pg	13 47 25.1	-1.2
EPOB	5.2nm,0.2s,SNR=18			Lg		13 47 41.5	
CAVN	5.3nm,0.2s,SNR=13 **Les Avellanes**	**1.42**	**272**	Pg	Pg	13 47 27.3	-1.6
CAVN				Lg		13 47 46.3	
MTLF	3.1nm,0.1s **Montolieu**	**1.52**	**348**	*e*Pn	Pn	13 47 29.0	-1.0
MTLF				*e*Sg	Sg	13 47 46.3	-4.1
MTLF	2.8nm,0.3s **Montolieu**	**1.52**	**348**	Pn	Pn	13 47 29.0	-1.0
MTLF				Lg		13 47 46.3	
ERTA	1.4nm,0.3s **Horta de San J**	**1.96**	**243**	Pg	Pg	13 47 37.8	-1.5
ERTA	1.1nm,0.2s,SNR=7.9			Lg		13 48 03.1	
EBIE	2.9nm,0.2s,SNR=7.9 **Bielsa**	**2.04**	**295**	Pg	Pg	13 47 39.1	-1.6
EBIE	0.4nm,0.1s,SNR=7.9			Lg		13 48 04.4	
EPF	2.2nm,0.2s,SNR=8.8 **Esparros**	**2.07**	**305**	*e*Pn	Pn	13 47 39.1	+1.4
EPF				*e*Sg	Sg	13 48 04.1	-4.2
EPF	3.1nm,0.2s **Esparros**	**2.07**	**305**	Pn	Pn	13 47 39.1	+1.4
EPF				Lg		13 48 04.1	
ESAC	1.6nm,0.2s **San Caprasio**	**2.34**	**268**	Pg	Pg	13 47 44.3	-2.2
ESAC	1.9nm,0.2s,SNR=7.9			Lg		13 48 16.2	
EMOS	8.7nm,0.3s,SNR=7.9 **Mosqueruela**	**2.79**	**239**	Pg	Pg	13 47 52.7	-2.5
EMOS	0.4nm,0.2s,SNR=7.9			Lg		13 48 30.2	
CAF	0.4nm,0.2s,SNR=7.9 **Calviac**	**3.10**	**352**	*e*Sg	Sg	13 48 35.9	-5.2
CAF	1.6nm,0.3s **Calviac**	**3.10**	**352**	Lg		13 48 35.9	
LFF	0.8nm,0.3s **La Frestale**	**3.38**	**336**	*e*Sg	Sg	13 48 43.5	-6.8
RJF	**Les Rejaudoux**	**3.54**	**347**	*e*Sg	Sg	13 48 50.0	-5.5
RJF	0.8nm,0.2s **Les Rejaudoux**	**3.54**	**347**	Lg		13 48 50.0	
	0.4nm,0.2s						

IDC 26 14:29:34.3±1.6, 1171N×12426E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/19, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx1.7/31, Error ellipse: s-maj=149.0km s-min=25.0km az=72.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**29.65**	**177**	P	P	14 35 41.2	-0.4
WRA	1.3nm,0.7s,baz=85,slow=11,SNR=3.7 **Warramunga Arr**	**32.98**	**162**	P	P	14 36 11.3	+0.4
ASAR	1.4nm,0.7s,baz=343,slow=10,SNR=12 **Alice Springs**	**36.40**	**165**	P	P	14 36 41.2	+0.8
BVAR	0.5nm,1.0s,baz=351,slow=7.3,SNR=4.5 **Borovoye Array**	**59.37**	**325**	LR	LR	15 07 49.4	
FINES	comp=Z,24nm,21.5s,baz=159,slow=39 **FINESS Array B**	**83.69**	**331**	P	P	14 42 06.4	+1.4
NOA	1.3nm,0.8s,baz=156,slow=9.8,SNR=4.2 **NORSAR Array B**	**90.60**	**333**	P	P	14 42 36.6	-1.9
	1.6nm,0.8s,baz=31,slow=10.0,SNR=3.3						

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*TIR **26** 14:32:52.4, 4194N×2032E, h15km, Ml2.3*
*SKO **26** 14:32:52.7, 4197N×2031E, h40km*
*ISCJB **26** 14:32:53.7±0.3, 4189N±002×2035E±003, h10km, Error ellipse: s-maj=4.2km s-min=2.0km az=76.0*
*PDG **26** 14:32:53.5±0.2, 4194N×2040E, h7km*
*NEIC **26** 14:32:53.5, 4194N×2040E, h7km, MD2.5(PDG), After PDG.*

ISC 26 14:32:54.4±0.4, 4191N±003×2036E±003, h4km±4km, n22, σ1§26/43, 1C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.23**	**166**	*i* Pg	**Pg**	**14 32 58.4**	**-0.4**
PHP				*i* Sg	**Sg**	**14 33 02.7**	**+0.9**
PUK	**Puka**	**0.38**	**291**	*i* Pg	**Pg**	**14 32 59.7**	**-1.9**
PUK				*i* Sg	**Sg**	**14 33 04.8**	**-1.7**
PVY	**Plav**	**0.75**	**337**	⇓*i* Pg	**Pg**	**14 33 07.0**	**-1.7**
PVY				*e*Sg	**Sg**	**14 33 18.5**	**+0.1**
SKO	**Skopje**	**0.81**	**85**	*i* Pg	**Pg**	**14 33 09.2**	**-0.6**
SKO				*i* Sg	**Sg**	**14 33 21.9**	**+1.7**
ULC	**Ulcinj**	**0.83**	**274**	⇓*i* Pg	**Pg**	**14 33 09.3**	**-1.0**
ULC				*e*Sg	**Sg**	**14 33 23.2**	**+2.0**
KRUS	**Krusevo**	**0.85**	**129**	*i* Pg	**Pg**	**14 33 10.0**	**-0.7**
KRUS				*i* Sg	**Sg**	**14 33 24.0**	**+2.2**
OHR	**Ohrid**	**0.86**	**158**	*i* Pg	**Pg**	**14 33 10.1**	**-0.7**
OHR				*i* Sg	**Sg**	**14 33 22.8**	**+0.9**
TTG	**Podgorica**	**0.97**	**303**	⇓*i* Pg	**Pg**	**14 33 10.7**	**-2.3**
TTG				*e*Sg	**Sg**	**14 33 26.2**	**+0.5**
IVA	**Berane**	**1.02**	**340**	⇓*i* Pg	**Pg**	**14 33 12.3**	**-1.7**
IVA				*e*Sg	**Sg**	**14 33 28.0**	**+0.7**
BIA	**Bitola**	**1.14**	**141**	*e*Pg	**Pg**	**14 33 15.7**	**-0.5**
BIA				*i* Sg	**Sg**	**14 33 32.0**	**+0.9**
BUM	**Brajici-Budva**	**1.16**	**290**	⇓*i* Pg	**Pg**	**14 33 15.0**	**-1.6**
BUM				*e*Sg	**Sg**	**14 33 34.0**	**+2.3**
NKY	**Niksic**	**1.36**	**312**	⇓*i* Pn	**Pn**	**14 33 18.4**	**-1.8**
NKY				*e*Sg	**Sg**	**14 33 39.4**	**+1.4**
STIP	**Stip**	**1.38**	**98**	*e*Pg	**Pn**	**14 33 18.9**	**-1.6**
STIP				*i* Sg	**Sg**	**14 33 39.2**	**+0.5**
HCY	**Herceg Novi**	**1.49**	**292**	⇓*i* Pg	**Pn**	**14 33 20.4**	**-1.6**
HCY				*e*Sg	**Sg**	**14 33 44.8**	**+2.6**
PLE	**Pljevlja**	**1.59**	**334**	⇓*i* Pn	**Pn**	**14 33 22.6**	**-0.7**
PLE				*e*Sn	**Sn**	**14 33 46.1**	**+1.7**
BRY	**Bratogost**	**1.68**	**307**	⇓*i* Pn	**Pn**	**14 33 24.4**	**-0.1**
BRY				*e*Sn	**Sg**	**14 33 49.0**	**+0.8**
UPM	**Unac-Piva**	**1.68**	**321**	⇑*i* Pn	**Pn**	**14 33 24.1**	**-0.5**
UPM				*e*Sn	**Sn**	**14 33 48.6**	**+2.0**
VAY	**Valandovo**	**1.75**	**109**	*i* Pg	**Pn**	**14 33 25.3**	**-0.3**
VAY				*i* Sg	**Sg**	**14 33 50.4**	**-0.3**
GRUS	**Gruza**	**2.00**	**7**	*i* Pn	**Pn**	**14 33 30.8**	**+1.9**
BBLS	**Bajina Basta -**	**2.08**	**341**	*i* Pn	**Pn**	**14 33 30.4**	**+0.3**
BBLS				*i* Sn	**Sn**	**14 33 56.8**	**+0.3**
STON	**Ston**	**2.20**	**297**	*i* Pn	**Pn**	**14 33 31.6**	**0.0**
STON				*i* Sn	**Sg**	**14 34 05.4**	**+0.5**
DIVS	**Divcibare**	**2.21**	**353**	*i* Pn	**Pn**	**14 33 30.4**	**-1.4**
DIVS				Sn	**Sb**	**14 34 02.8**	**+0.2**

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*ISCJB **26** 14:35:35.2±0.3, 3709N±002×3532E±004, h10km, Error ellipse: s-maj=4.4km s-min=2.6km az=127.2*

*ISK **26** 14:35:36.9, 3708N×3533E, h29km, MD3.4*
*CSEM **26** 14:35:36.7±0.1, 3709N×3532E, h25km, Mw2.5, Error ellipse: s-maj=2.0km s-min=1.6km az=64.0*
*NSSC **26** 14:35:38, 3700N×3545E, h15km±8km*
*GII **26** 14:35:41.4±0.6, 3658N×3518E, h2km±30km, ML2.6/3, Mw2.5/2*

ISC 26 14:35:35.7±0.3, 3703N±002×3532E±004, h10km, n40, σ1§24/56, 4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARA	**Karaisali**	**0.31**	**318**	*i* PG	**Sg**	**14 35 44.9**	**-1.3**
KRTS	**Karatas**	**0.46**	**174**	PG	**Pg**	**14 35 47.5**	**+2.9**
KRTS				SG	**Sg**	**14 35 56.8**	**+6.1**
KOZT	**Kozan**	**0.61**	**42**	PG	**Pg**	**14 35 48.6**	**+1.1**
MERS	**Mersin**	**0.66**	**256**	PG	**Pg**	**14 35 50.8**	**+2.4**
MERS				SG	**Sg**	**14 36 00.5**	**+3.5**
COBT	**Iskenderun**	**0.91**	**124**	*i* P	**Pg**	**14 35 54.7**	**+1.6**
COBT				*i* S	**Sg**	**14 36 08.4**	**+3.4**
HTY	**Hatay**	**1.12**	**144**	PN	**Pn**	**14 35 58.1**	**+0.7**
DRWC	**Darouich**	**1.16**	**110**	⇓*i* P	**Pb**	**14 35 58.1**	**+0.3**
DRWC	**Darouich**	**1.16**	**110**	⇓P	**Pb**	**14 35 58.0**	**+0.2**
DRWC				⇑S	**Sb**	**14 36 13.0**	**+0.2**
ARNB	**Al Arnab**	**1.28**	**155**	⇑P	**Pn**	**14 36 00.0**	**+0.4**
ARNB				⇓S	**Sb**	**14 36 17.0**	**+0.7**
KMRS	**Kahramanmaras**	**1.35**	**69**	PN	**Pn**	**14 36 00.2**	**-0.4**
BTCH	**Batrach**	**1.35**	**137**	⇑*i* P	**Pn**	**14 36 00.7**	**+0.1**
BTCH	**Batrach**	**1.35**	**137**	⇑P	**Pn**	**14 36 00.0**	**-0.6**
BTCH				⇓S	**Sb**	**14 36 18.0**	**-0.4**
GAZ	**Gaziantep**	**1.52**	**84**	PN	**Pn**	**14 36 02.8**	**-0.1**
IKL	**Isikli**	**1.53**	**240**	PN	**Pn**	**14 36 02.8**	**-0.3**
SLNF	**Slenfeh**	**1.61**	**153**	⇑*i* P	**Pn**	**14 36 05.3**	**+1.2**
SLNF	**Slenfeh**	**1.61**	**153**	⇑P	**Pn**	**14 36 05.0**	**+0.9**
SLNF				⇑S	**Sn**	**14 36 26.0**	**+1.1**
AVNT	**Avonos**	**1.79**	**348**	*i* P	**Pn**	**14 36 06.6**	**0.0**
AVNT				*i* S	**Sg**	**14 36 32.4**	**-0.7**
GZT	**Gaziantep**	**1.82**	**79**	*i* P	**Pn**	**14 36 06.8**	**-0.2**
GZT				*i* S	**Sn**	**14 36 27.0**	**-3.2**
BNN	**Bunyan**	**1.87**	**13**	PN	**Pn**	**14 36 07.0**	**-0.7**
HDMB	**Hadim**	**2.27**	**269**	*e*PN	**Pn**	**14 36 14.4**	**+1.2**
KONT	**Konya--Tatoy**	**2.52**	**292**	*e*PN	**Pn**	**14 36 16.9**	**+0.2**
KAMT	**Kaman**	**2.66**	**332**	*e*PN	**Pn**	**14 36 18.9**	**+0.3**
CDAG	**Cicekdag**	**2.70**	**344**	*i* P	**Pg**	**14 36 26.5**	**-0.8**
CDAG				*i* S	**Sg**	**14 37 02.2**	**-0.1**
MYA	**Malataya**	**2.79**	**61**	*e*PN	**Pn**	**14 36 19.9**	**-0.4**
HWQ	**Hawqa**	**2.79**	**169**	*e*Pn	**Pb**	**14 36 27.0**	**+1.4**
BHL	**Bhannes**	**3.13**	**175**	*e*Pn	**Pn**	**14 36 24.3**	**-0.7**
CORM	**Corum**	**3.19**	**350**	*e*PN	**Pn**	**14 36 25.5**	**-0.4**
KIZT	**Kizilcal**	**3.29**	**305**	*e*PN	**Pn**	**14 36 28.2**	**+1.0**
PTK	**Pertek**	**3.72**	**59**	*e*PN	**Pn**	**14 36 32.8**	**-0.4**
HRI	**Mount Hermon**	**3.77**	**175**	Pn	**Pn**	**14 36 35.1**	**+1.3**
HRI				Sn	**Sn**	**14 37 15.0**	**-3.2**
KSDI	**Kefar Szold**	**3.84**	**176**	Pn	**Pn**	**14 36 35.3**	**+0.6**
KSDI				Sn	**Sn**	**14 37 17.4**	**-2.6**
HNTI	**Hanita**	**3.94**	**182**	Pn	**Pn**	**14 36 36.2**	**+0.1**
MMA0	**Mount Meron ar**	**4.00**	**179**	Pn	**Pn**	**14 36 37.8**	**+0.7**
MMA0				Sn	**Sn**	**14 37 21.5**	**-2.6**
KSHT	**Keshet**	**4.06**	**174**	Pn	**Pn**	**14 36 38.7**	**+0.9**
KSHT				Sn	**Sn**	**14 37 24.0**	**-1.3**
BOYT	**Boyabat**	**4.40**	**356**	*i* P	**Pg**	**14 36 56.8**	**-3.1**
BOYT				*i* S	**Sg**	**14 37 57.5**	**+0.5**
OFRI	**'Ofer**	**4.41**	**184**	Sn	**Sn**	**14 37 31.2**	**-2.7**
MMLI	**Mount Malkishu**	**4.58**	**179**	Pn	**Pn**	**14 36 45.6**	**+0.6**
MMLI				Sn	**Sn**	**14 37 34.8**	**-3.4**
HMDT	**Nahal Hemdat**	**4.77**	**178**	Sn	**Sn**	**14 37 40.7**	**-2.2**
SLTI	**Sal'it**	**4.78**	**183**	Sn	**Sn**	**14 37 39.9**	**-3.3**
AMAZ	**Amatzia**	**5.49**	**184**	Sn	**Sn**	**14 37 59.0**	**-1.8**

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*IDC **26** 14:37:47.0±1.5, 1.17N×9.703E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, Error ellipse: s-maj=47.3km s-min=19.5km az=60.0*
*ISCJB **26** 14:37:50.4±1.0, 12N±0.1×97.1E±0.1, h35km, mb3.7/6, Error ellipse: s-maj=21.5km s-min=13.8km az=138.3*
*NEIC **26** 14:37:51.6±0.7, 122N×97.11E, h30km, Error ellipse: s-maj=16.2km s-min=10.3km az=68.0*

ISC 26 14:37:52.8±1.0, 13N±01×972E±01, h35km, n10, σ0§39/10, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.33**	**49**	Pn	**Pn**	**14 38 28.7**	**+0.1**
KULM	3.8nm,0.3s,baz=279,slow=6.4,SNR=18 **Kulim**	**5.30**	**41**	*e*Pn	**Pn**	**14 39 09.4**	**-0.1**
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**14 45 40.9**	**-0.6**
WRAB	0.6nm,0.6s,mb3.4,baz=301,slow=9.1,SNR=8.5 **Tennant Creek**	**42.11**	**122**	*e*P	**P**	**14 45 41.3**	**-0.2**
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**14 45 52.6**	**+0.1**
SONM	0.2nm,0.4s,mb3.2,baz=299,slow=7.8,SNR=11 **Songino Array**	**47.06**	**8**	P	**P**	**14 46 21.0**	**0.0**
MK31	0.8nm,0.7s,mb3.8,baz=188,slow=9.6,SNR=10 **Makanchi Array**	**47.16**	**346**	*e*P	**P**	**14 46 21.9**	**+0.1**
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**14 46 22.1**	**+0.4**
STKA	0.7nm,0.4s,mb3.9,baz=160,slow=9.2,SNR=20 **Stephens Creek**	**53.44**	**132**	P	**P**	**14 47 10.0**	**+0.7**
BVAR	2.5nm,0.9s,mb4.2,baz=287,slow=7.4,SNR=3.0 **Borovoye Array**	**56.17**	**341**	P	**P**	**14 47 28.4**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=131,slow=6.5,SNR=4.2						

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*ISCJB **26** 14:50:51.1±2.4, 48N±0.1×124.1E±0.1, h59km±36km, mb4.0/4, Error ellipse: s-maj=22.6km s-min=18.2km az=42.7*
*IDC **26** 14:51:23.6±7.8, 383N×12452E, h291km±77km, mb3.3/5, mb1 3.5/5, mb1mx3.2/18, mbtmp3.3/5, Error ellipse: s-maj=88.0km s-min=23.3km az=63.0*

ISC 26 14:50:52.4±2.1, 48N±01×1242E±01, h47km±35km, n14, σ0§92/15, mb4.0/4, 3D, Celebes Sea

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---|---|---

mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, Error ellipse: s-maj=30.8km s-min=23.3km az=72.0
*NEIC **26** 15:05:07.7±0.8, 4606N×15470E, h10km, Error ellipse: s-maj=25.1km s-min=18.5km az=52.0*
ISC 26 15:05:07.4±1.0, 461N±02×1547E±03, h10km, n10, σ0§93/10, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
ERM	**Erimo**	**9.28**	**248**	Pn	**P**	**Pn**	**15 07 14.8**	**-6.4**
SONM	**Songino Array**	**32.59**	**291**	P	**P**		**15 11 39.6**	**+0.6**
	0.2nm,0.6s,mb3.2,baz=60,slow=8.5,SNR=3.3							
MK31	**Makanchi Array**	**48.22**	**299**	*e*P	**P**		**15 13 48.3**	**+0.1**
MKAR	**Makanchi Array**	**48.22**	**299**	P	**P**		**15 13 47.3**	**-0.9**
	0.6nm,0.8s,mb3.7,baz=76,slow=7.1,SNR=6.0							
BVAR	**Borovoye Array**	**52.11**	**310**	P	**P**		**15 14 18.1**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=43,slow=8.8,SNR=5.2							
FINES	**FINESS Array B**	**65.07**	**336**	P	**P**		**15 15 45.5**	**-2.5**
	1.7nm,0.8s,mb4.1,baz=152,slow=45,SNR=2.8							
WRA	**Warramunga Arr**	**68.30**	**201**	P	**P**		**15 16 08.2**	**-0.5**
	0.8nm,0.8s,mb3.8,baz=16,slow=6.4,SNR=6.7							
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**		**15 16 31.5**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=16,slow=4.7,SNR=12							
AKASG	**Malin Array Be**	**72.68**	**327**	P	**P**		**15 16 36.8**	**+1.4**
	0.8nm,0.5s,mb3.9,baz=35,slow=6.4,SNR=4.1							
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**		**15 16 59.6**	**+0.3**
	0.2nm,0.9s,mb3.0,baz=231,slow=5.7,SNR=2.6							

IDC 26 15:17:16.2±4.0, 688S×15517E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/13, mbtmp3.3/3, Error ellipse: s-maj=118.2km s-min=39.2km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**24.03**	**235**	P	P	P	15 22 32.5	-0.3
	0.2nm,0.5s,baz=62,slow=9.6,SNR=6.9							
ASAR	**Alice Springs**	**26.38**	**228**	P	P	P	15 22 55.3	+1.1
	0.2nm,0.7s,baz=59,slow=11,SNR=2.6							
MKAR	**Makanchi Array**	**83.44**	**319**	P	P	P	15 29 45.5	+0.1
	0.9nm,0.8s,baz=124,slow=5.0,SNR=4.1							

*IDC **26** 15:22:39.2±2.2, 2552S×17534W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.1/15, mbtmp4.4/5, ML3.2/1, MS3.7/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=141.9km s-min=30.8km az=167.0*
*NEIC **26** 15:22:41.1±0.9, 2479S×17543W, h10km, mb4.6/2, Error ellipse: s-maj=72.3km s-min=12.7km az=173.0*
*ISCJB **26** 15:22:44.9±3.7, 2345±04×1755W±01, h58km±43km, mb4.4/3, MS3.8/6, Error ellipse: s-maj=72.0km s-min=15.6km az=12.3*
ISC 26 15:22:46.0±3.1, 2375±04×1755W±01, h48km±38km, n22, σ0§93/13, mb4.4/3, MS3.8/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
RAR	**Rarotonga**	**14.70**	**84**	Pn		**Pn**	**15 26 10.5**	**-0.3**
	5.8nm,0.3s,baz=270,slow=6.8,SNR=8.8							
DZM	**Mont Dzumac**	**16.77**	**272**	P		**Pn**	**15 26 37.8**	**+0.5**
	0.1nm,0.3s,baz=340,slow=23,SNR=2.0							
DZM					LR	LR	15 31 22.3	
	comp=Z,90nm,18.8s,baz=166,slow=31							
CTA	**Charters Tower**	**35.65**	**268**	*e*P		**P**	**15 29 40.2**	**+1.0**
	2.9nm,0.3s,mb4.7							
CTA	**Charters Tower**	**35.65**	**268**	P		**P**	**15 29 40.2**	**+0.9**
	3.8nm,0.4s,mb4.7,baz=92,slow=10,SNR=17							
CTA					LR	LR	15 41 47.1	
	comp=Z,51nm,20.5s,MS3.3,baz=224,slow=32							
CTAO	**Charters Tower**	**35.65**	**268**	*e*P		**P**	**15 29 40.2**	**+0.9**
	3.8nm,0.4s,mb4.7							
PMG	**Port Moresby**	**38.41**	**285**	*e*P		**P**	**15 30 03.9**	**+1.3**
STKA	**Stephens Creek**	**38.68**	**248**	LR		LR	15 44 32.0	
	comp=Z,78nm,18.2s,MS3.6,baz=199,slow=34							
AS31	**Alice Springs**	**46.18**	**259**	*e*P		**P**	**15 31 06.0**	**+0.1**
ASAR	**Alice Springs**	**46.18**	**259**	P		**P**	**15 31 04.1**	**-1.8**
	2.0nm,0.7s,mb4.1,baz=88,slow=6.7,SNR=38							
ASPA	**Alice Springs**	**46.18**	**259**	*e*P		**P**	**15 31 06.0**	**+0.1**
WB2	**Warramunga Arr**	**46.57**	**264**	*e*P		**P**	**15 31 07.3**	**-1.6**
WRA	**Warramunga Arr**	**46.58**	**264**	P		**P**	**15 31 08.3**	**-0.7**
	1.9nm,0.6s,mb4.2,baz=105,slow=8.2,SNR=32							
NWAO	**Narrogin (SRO)**	**59.12**	**245**	LR		LR	15 57 49.6	
	comp=Z,45nm,19.0s,MS3.6,baz=24,slow=36							
USHA	**Ushuaia**	**80.20**	**146**	LR		LR	15 59 21.9	
	comp=Z,182nm,20.8s,MS4.4,slow=28							
VNA3	**Neumayer Olymp**	**84.83**	**175**	*e*		**P**	**15 35 16.0**	**+0.7**
VNA3				*e*			15 35 19.6	
VNA3				*e*		pP	15 35 27.8	-1.7
VNA2	**Neumayer--Watz**	**85.30**	**176**	*e*		**P**	**15 35 18.2**	**+0.5**
VNA2				*e*			15 35 22.3	
VNA2				*e*		pP	15 35 29.9	-1.9
TXAR	**Lajitas Array**	**86.80**	**56**	LR		LR	16 05 43.8	
	comp=Z,29nm,18.7s,MS3.7,baz=255,slow=30							
LVC	**Limon Verde**	**95.08**	**117**	LR		LR	16 06 20.2	
	comp=Z,54nm,21.2s,MS4.0,baz=270,slow=28							
AKASG	**Malin Array Be**	**146.91**	**331**	PKPbc		PKPbc	15 42 26.8	+3.8
	0.8nm,0.5s,baz=36,slow=3.8,SNR=5.5							
AKASG	**Malin Array Be**	**146.91**	**331**	PKPbc		PKPbc	15 42 26.8	+3.8
BR131	**Keskin Array S**	**150.69**	**310**	*e*PKPbc		PKPbc	15 42 36.5	+3.9
BRTR	**Keskin Array B**	**150.69**	**310**	PKPbc		PKPbc	15 42 37.1	+4.5
	0.8nm,0.9s,baz=159,slow=7.5,SNR=4.7							

*ISCJB **26** 15:24:34.0±0.4, 3877N±002×12274W±003, h13km±3km, Error ellipse: s-maj=4.0km s-min=2.5km az=156.3*
*NEIC **26** 15:24:33.9, 3879N×12278W, h1km, MD3.4(NCEDC), After NCEDC.*
NEIC Felt [IV] at Middletown. Felt at Napa, Novato, Sacramento and San Francisco.
*IDC **26** 15:24:36.8±4.0, 3869N×12269W, h0km, mb1 3.4/4, mb1mx3.3/22, mbtmp3.0/4, ML3.3/4, Error ellipse: s-maj=55.1km s-min=14.7km az=44.0*
ISC 26 15:24:34.3±0.4, 3878N±002×12275W±003, h14km±2km, n49, σ0§98/76, 22C-21D, Northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
MNRC	**McLaughlin Nat**	**0.26**	**68**	⇑P		**Pg**	**15 24 40.5**	**+0.8**
	baz=0.3,SNR=1000							
MNRC				⇓S		**Sg**	**15 24 44.3**	**+0.9**
	baz=0.3							
NSHM	**Saint Helena R**	**0.28**	**157**	*e*Pg		**Pg**	**15 24 40.0**	**-0.2**
HOPS	**Hopland**	**0.33**	**310**	*e*Pg		**Pg**	**15 24 40.5**	**-0.5**
HOPS	**Hopland**	**0.33**	**310**	P		**Pg**	**15 24 40.6**	**-0.4**
	baz=0.3,SNR=1000							
HOPS				⇓S		**Sg**	**15 24 45.7**	**+0.1**
	baz=0.3							
CVS	**Carmenet Viney**	**0.49**	**153**	P		**Pg**	**15 24 43.9**	**0.0**
	baz=0.5,SNR=1000							
CVS				⇓S		**Sg**	**15 24 51.0**	**+0.4**
	baz=0.5							
Q03C	**Winters**	**0.59**	**104**	⇑P		**Pg**	**15 24 47.5**	**+1.7**
	baz=0.6,SNR=422							
Q03C				⇓S		**Sg**	**15 24 54.1**	**+0.4**
	baz=0.6							
P01C	**Double 8 Ranch**	**0.83**	**326**	P		**Pg**	**15 24 50.2**	**-0.1**
	baz=0.8,SNR=140							
P01C				⇑S		**Sg**	**15 25 01.1**	**0.0**
	baz=0.8							
GASB	**Alder Springs**	**0.87**	**1**	⇓P		**Pg**	**15 24 51.9**	**+0.8**
	baz=0.9,SNR=71							
GASB				⇓S		**Sg**	**15 25 01.3**	**-1.1**
	baz=0.9							
SUTB	**Sutter Butte**	**0.87**	**59**	⇑P		**Pg**	**15 24 50.7**	**-0.4**
	baz=0.9,SNR=32							
SUTB				⇓S		**Sg**	**15 25 02.2**	**-0.3**
	baz=0.9							
Q04C	**Lincoln**	**1.07**	**87**	⇓P		**Pb**	**15 24 53.5**	**-1.1**
	baz=1.1,SNR=31							
Q04C				⇑S		**Sb**	**15 25 08.2**	**-0.2**
	baz=1.1							
BDM	**Black Diamond**	**1.08**	**140**	P		**Pb**	**15 24 54.0**	**-0.7**
	baz=1.1,SNR=142							
BDM				⇑S		**Sb**	**15 25 09.0**	**+0.5**
	baz=1.1							
FARB	**Farallon Islan**	**1.10**	**191**	P		**Pb**	**15 24 54.4**	**-0.6**
	baz=1.1,SNR=42							
FARB				⇑S		**Sb**	**15 25 09.9**	**+0.6**
	baz=1.1							
OHCM	**Honcut**	**1.13**	**60**	*e*Pg		**Pg**	**15 24 54.3**	**-1.7**
KIPM	**Iron Peak**	**1.17**	**331**	*e*P		**Pn**	**15 24 56.6**	**+0.4**
SAC	**San Andreas**	**1.23**	**168**	*e*Pg		**Pg**	**15 24 56.3**	**-1.6**
SAC				*e*Sg		**Sg**	**15 25 14.7**	**+0.9**
ORV	**Oroville**	**1.24**	**51**	⇓P		**Pn**	**15 24 55.8**	**-1.3**
	baz=1.3,SNR=13							
ORV				⇑S		**Sb**	**15 25 12.5**	**-0.7**
	baz=1.3							
O03C	**Acorn Hollow,**	**1.33**	**24**	⇑P		**Pn**	**15 24 57.6**	**-0.8**
	baz=1.3							
O03C				⇑S		**Sn**	**15 25 15.8**	**-0.2**
	baz=1.3							
O02C	**Red Bluff**	**1.39**	**359**	⇑P		**Pn**	**15 25 00.3**	**+1.1**
	baz=1.4,SNR=81							
O02C				⇓S		**Sn**	**15 25 17.6**	**+0.2**
	baz=1.4							
WENL	**Wente Brothers**	**1.40**	**146**	P		**Pn**	**15 24 59.3**	**0.0**
	baz=1.4,SNR=15							
WENL				⇓S		**Sn**	**15 25 17.0**	**-0.4**
	baz=1.4							
JRSC	**Jasper Ridge**	**1.43**	**164**	P		**Pn**	**15 24 58.8**	**-1.0**
	baz=1.4,SNR=86							
JRSC				⇑S		**Sn**	**15 25 19.3**	**+0.9**
	baz=1.4							
R04C	**Big Horse Ranc**	**1.51**	**110**	⇑P		**Pn**	**15 24 59.9**	**-1.0**
	baz=1.5,SNR=24							
R04C				⇑S		**Sn**	**15 25 19.4**	**-1.0**
	baz=1.5							
LAVA	**Lava Cap Winer**	**1.57**	**90**	⇓P		**Pn**	**15 25 01.4**	**-0.2**
	baz=1.6,SNR=40							
LAVA				⇑S		**Sn**	**15 25 22.1**	**+0.3**
	baz=1.6							
S04C	**Ingram Canyon,**	**1.70**	**138**	⇑P		**Pn**	**15 25 02.8**	**-0.6**
	baz=1.7,SNR=16							
S04C				⇑S		**Sn**	**15 25 24.5**	**-0.4**
	baz=1.7							
BNLO	**Ben Lomond (Sa**	**1.71**	**164**	⇓P		**Pn**	**15 25 03.0**	**-0.6**
	baz=1.7,SNR=18							
BNLO				⇑S		**Sn**	**15 25 24.7**	**-0.5**
	baz=1.7							
P05C	**Yuba Gap, Truc**	**1.75**	**72**	⇑P		**Pn**	**15 25 04.2**	**+0.1**
	baz=1.8,SNR=12							
P05C				⇓S		**Sn**	**15 25 26.3**	**+0.2**
	baz=1.8							
WDC	**Whiskeytown Da**	**1.80**	**5**	*e*Pn		**Pn**	**15 25 05.6**	**+0.7**
O05C	**Quincy**	**1.84**	**50**	⇓S		**Sn**	**15 25 29.6**	**+1.1**
	baz=1.9							
CMB	**Columbia Colle**	**2.00**	**111**	*e*Pn		**Pn**	**15 25 07.9**	**+0.4**
CMB				*e*Sn		**Sn**	**15 25 34.2**	**+1.8**
CMB	**Columbia Colle**	**2.00**	**111**	⇑S		**Sn**	**15 25 32.5**	**+0.2**
	baz=2.0							
R05C	**Kirkwood Meado**	**2.09**	**91**	⇓S		**Sn**	**15 25 33.3**	**-1.3**
	baz=2.1							
PACP	**Pacheco Peak**	**2.11**	**146**	⇓P		**Pn**	**15 25 08.8**	**-0.3**
	baz=2.1							
PACP				⇓S		**Sn**	**15 25 35.2**	**0.0**
	baz=2.1							
KHMM	**Horse Mountain**	**2.22**	**340**	P		**Pg**	**15 25 17.6**	**+0.7**
HATC	**Hat Creek Radi**	**2.26**	**26**	⇓S		**Sn**	**15 25 37.4**	**-1.4**
	baz=2.3							
SAO	**San Andreas Ge**	**2.26**	**153**	*e*Pn		**Pn**	**15 25 10.1**	**-1.1**
S05C	**Merced**	**2.39**	**126**	⇓P		**Pn**	**15 25 12.8**	**0.0**
	baz=2.4,SNR=26							
S05C				⇑S		**Sn**	**15 25 42.2**	**+0.3**
	baz=2.4							
S06C	**San Francisco**	**2.45**	**111**	⇓S		**Sn**	**15 25 44.3**	**+0.8**
	baz=2.5							
HAST	**UC Hastings Re**	**2.57**	**158**	P		**Pn**	**15 25 14.2**	**-1.2**
	baz=2.6,SNR=28							
HAST				⇑S		**Sn**	**15 25 46.0**	**-0.5**
	baz=2.6							
LRV	**Little Rabbit**	**2.73**	**149**	*e*Pn		**Pn**	**15 25 17.7**	**+0.1**
YBH	**Yreka Blue Hor**	**2.95**	**1**	Pn		**Pg**	**15 25 27.8**	**-2.9**
	0.4nm,0.3s,baz=170,slow=9.5,SNR=7.5							
YBH	**Yreka Blue Hor**	**2.95**	**1**	Pn		**Pn**	**15 25 23.4**	**+2.8**
NVAR	**Mina Array Bea**	**3.50**	**94**	Pn		**Pn**	**15 25 30.8**	**+2.6**
	0.9nm,0.3s,baz=279,slow=16,SNR=17							
NVAR					Pg	**Pg**	**15 25 37.7**	**-3.6**
	4.0nm,0.3s,baz=270,slow=21,SNR=35							
NVAR	**Mina Array Bea**	**3.50**	**94**	Pn		**Pn**	**15 25 30.8**	**+2.6**
NVAR					Pg	**Pg**	**15 25 37.7**	**-3.6**
MTUM	**Tungsten Hills**	**3.60**	**112**	Pn		**Pn**	**15 25 32.0**	**+2.5**
HUMO	**Hull Mountain**	**3.82**	**358**	*e*Pn		**Pn**	**15 25 34.5**	**+1.9**
ISA	**Isabella**	**4.62**	**131**	*e*Pn		**Pn**	**15 25 45.1**	**+1.5**
DAC	**Darwin (Calif)**	**4.80**	**120**	*e*Pn		**Pn**	**15 25 51.0**	**+4.9**
MSU	**Marysvale**	**8.28**	**89**	Pn		**Pn**	**15 26 37.0**	**+3.2**
PDAR	**Pinedale Array**	**10.76**	**64**	Pn		**Pn**	**15 27 15.6**	**+7.7**
	0.1nm,0.3s,baz=238,slow=8.5,SNR=4.0							
TXAR	**Lajitas Array**	**18.38**	**115**	Pn		**Pn**	**15 28 54.3**	**+5.7**
	0.0nm,0.3s,baz=290,slow=7.8,SNR=4.6							

IDC 26 15:27:13.5±5.5, 4684N×15484E, h49km±52km, mb3.4/5, mb1 3.6/6, mb1mx3.3/22, mbtmp3.5/6, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=35.2km s-min=31.2km az=46.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
ASAJ	**Asahikawa**	**9.02**	**257**	P		Pn	15 29 21.5	+0.4
	0.2nm,0.3s,baz=286,slow=23,SNR=3.6							
ASAJ					LR	LR	15 32 58.1	
	comp=Z,28nm,18.1s,baz=154,slow=38							
SONM	**Songino Array**	**32.42**	**290**	P		P	15 33 37.5	-1.2
	0.2nm,0.5s,baz=73,slow=9.7,SNR=3.0							
MKAR	**Makanchi Array**	**47.95**	**298**	P		P	15 35 46.9	-0.3
	0.5nm,0.6s,baz=70,slow=7.3,SNR=11							
FINES	**FINESS Array B**	**64.46**	**335**	P		P	15 37 45.1	+0.2
	1.7nm,0.8s,baz=42,slow=7.3,SNR=12							
PFO	**Pinyon Flat Ob**	**65.57**	**66**	LR		LR	15 59 45.7	
	comp=Z,48nm,21.8s,slow=30							
ASAR	**Alice Springs**	**72.68**	**200**	P		P	15 38 36.3	+0.2
	0.4nm,0.8s,baz=12,slow=4.9,SNR=5.0							
TXAR	**Lajitas Array**	**76.41**	**62**	P		P	15 38 57.5	-0.2
	0.3nm,0.5s,baz=311,slow=5.6,SNR=7.6							

IDC 26 15:30:03.8±3.2, 4754N×15539E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/22, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=410.6km s-min=35.0km az=159.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
ASAJ	**Asahikawa**	**9.56**	**254**	Pn		Pn	15 32 22.6	0.0
	0.5nm,0.3s,baz=66,slow=12,SNR=5.4							
NVAR	**Mina Array Bea**	**60.69**	**64**	P		P	15 40 17.1	+0.3
	0.8nm,0.8s,baz=294,slow=8.8,SNR=3.7							
PDAR	**Pinedale Array**	**63.02**	**55**	P		P	15 40 32.9	+0.4
	0.7nm,0.9s,baz=289,slow=4.5,SNR=4.4							
TXAR	**Lajitas Array**	**75.75**	**62**	P		P	15 41 51.2	-0.1
	1.4nm,0.6s,baz=299,slow=4.3,SNR=18							

*ISCJB **26** 15:36:53.8±0.6, 687N±007×7301W±009, h169km±6km, mb3.8/3, Error ellipse: s-maj=17.3km s-min=7.6km az=74.5*
*IDC **26** 15:36:54.6±0.7, 680N×7297W, h163km±11km, mb3.5/3, mb1 3.6/5, mb1mx3.2/19, mbtmp3.6/5, Error ellipse: s-maj=43.5km s-min=7.5km az=130.0*
*NEIC **26** 15:36:55.0±0.8, 681N×7306W, h168km±9km, mb3.3/1, Error ellipse: s-maj=20.5km s-min=12.6km az=109.0*
*FUNV **26** 15:36:56.7, 702N×7305W, h173km, MW3.5*
ISC 26 15:36:55.0±0.6, 689N±007×7303W±009, h162km±6km, n17, σ0§98/23, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CAPV	**Capacho**	**1.20**	**36**	*e*P		**Pn**	**15 37 23.8**	**+1.1**
CAPV				*e*S		**Sn**	**15 37 44.4**	**+0.6**
ROSC	**El Rosal**	**2.40**	**213**	P		**Pn**	**15 37 36.4**	**+0.9**
	23nm,0.3s,baz=340,slow=2.0,SNR=40							
ROSC				S		**Sn**	**15 38 06.6**	**-0.1**
	23nm,0.3s,baz=102,slow=16,SNR=12							
ROSC	**El Rosal**	**2.40**	**213**	*e*Pn		**Pn**	**15 37 35.4**	**-0.1**
ROSC				*e*Sn		**Sn**	**15 38 04.8**	**-2.0**
VIGV	**El Vigia**	**2.54**	**40**	*e*P		**Pn**	**15 37 38.2**	**+0.9**
VIGV				*e*S		**Sn**	**15 38 07.7**	**-2.2**
SOCV	**Socops**	**2.56**	**57**	*e*P		**Pn**	**15 37 38.6**	**+1.2**
SOCV				*e*S		**Sn**	**15 38 09.0**	**-1.2**
SDV	**Santo Domingo**	**3.09**	**50**	P		**Pn**	**15 37 45.4**	**+1.4**
	9.6nm,0.3s,baz=248,slow=3.3,SNR=58							
SDV				S		**Sn**	**15 38 22.3**	**+0.3**
	12nm,0.3s,baz=101,slow=18,SNR=24							
SDV	**Santo Domingo**	**3.09**	**50**	*e*Pn		**Pn**	**15 37 45.2**	**+1.2**
SDV				*e*Sn		**Sn**	**15 38 21.5**	**-0.5**
ELOV	**Elorza**	**3.52**	**88**	*e*P		**Pn**	**15 37 50.0**	**+0.6**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P		**Pn**	**15 37 50.5**	**-0.5**
VIRV				*e*S		**Sn**	**15 38 29.5**	**-5.1**
SANV	**Sanarito**	**4.32**	**53**	*e*P		**Pn**	**15 37 59.4**	**-0.3**
SIQV	**Siquisique**	**4.91**	**40**	*e*P		**Pn**	**15 38 06.8**	**-0.6**
SAML	**Samuel**	**18.54**	**148**	*e*P		**P**	**15 40 58.6**	**-0.6**
	0.6nm,0.4s							
ULM	**Lac du Bonnet**	**47.26**	**340**	P		**P**	**15 45 10.7**	**-1.1**
	5.0nm,1.1s,mb4.0,baz=140,slow=4.7,SNR=3.7							
SCHQ	**Schefferville**	**48.07**	**5**	P		**P**	**15 45 19.1**	**+1.1**
	1.2nm,0.6s,mb3.7,baz=198,slow=18,SNR=4.4							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**15 47 06.2**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=132,slow=6.8,SNR=6.7							
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc		PKPbc	15 56 24.1	-0.2
	0.2nm,0.5s,baz=123,slow=4.0,SNR=6.1							
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		PKPbc	15 56 27.4	+0.1
	0.4nm,0.4s,baz=108,slow=2.6,SNR=17							
WRA				pPKPbc		pPKPbc	15 57 09.4	-0.4
	0.2nm,0.5s,baz=105,slow=2.8,SNR=5.1							

IDC 26 15:45:32.3±6.5, 551N×9497E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=334.5km s-min=26.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
PBA	**Port Blair**	**6.50**	**340**	*e*P		x	15 48 35.0	
PBA				*e*S		x	15 48 47.4	
PBA				*ex*		x	15 48 49.2	
	comp=N,794nm,0.3s							
PBA				*ex*		x	15 48 49.9	
	comp=E,545nm,0.4s							
MKAR	**Makanchi Array**	**42.56**	**347**	P		P	15 53 29.8	0.0
	comp=E,1.1nm,0.5s,baz=164,slow=8.3,SNR=17							
WRA	**Warramunga Arr**	**46.24**	**124**	P		P	15 54 00.6	+1.4
	comp=E,0.3nm,0.4s,baz=300,slow=10,SNR=10							
ASAR	**Alice Springs**	**47.78**	**129**	P		P	15 54 10.5	-0.7
	comp=E,0.2nm,0.9s,baz=301,slow=7.6,SNR=3.2							

IDC 26 15:48:04.8±1.3, 4695N×15592E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/29, Error ellipse: s-maj=44.9km s-min=30.2km az=164.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
KSRS	**Korea Array**	**22.70**	**255**	P		P	15 53 09.6	+1.7
	1.5nm,0.8s,baz=61,slow=11,SNR=4.2							
MKAR	**Makanchi Array**	**48.55**	**298**	P		P	15 56 48.8	-0.9
	0.6nm,0.8s,baz=79,slow=7.5,SNR=3.9							
MKAR					LR	LR	16 17 25.5	
	comp=Z,27nm,20.2s,baz=159,slow=36							
WRA	**Warramunga Arr**	**69.37**	**202**	P		P	15 59 13.7	-0.6
	0.8nm,0.8s,baz=14,slow=6.2,SNR=5.0							
TXAR	**Lajitas Array**	**75.71**	**62**	P		P	15 59 52.6	+0.5
	0.4nm,0.6s,baz=301,slow=4.7,SNR=6.0							

*IDC **26** 16:17:49.6±1.7, 2415S×13968E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/12, mbtmp4.0/4, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/20, Error ellipse: s-maj=57.3km s-min=28.1km az=94.0*
*NEIC **26** 16:17:51.6±1.2, 2535S×13975E, h10km, mb4.1/1, Error ellipse: s-maj=37.6km s-min=15.9km az=101.0*
*ISCJB **26** 16:17:55.3±5.1, 2658S±02×1396E±02, h53km±49km, mb3.8/2, Error ellipse: s-maj=41.8km s-min=24.6km az=53.2*
ISC 26 16:17:56.5±4.7, 2658S±02×1397E±03, h50km±42km, n10, σ0§51/10, mb3.8/2, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
KAKA	**Kakadu**	**12.36**	**215**	⇑*i*P		**Pn**	**16 20 49.9**	**+0.3**
	12nm,0.5s							
KAKA				*e*S		**Sn**	**16 23 05.4**	**-0.4**
WB2	**Warramunga Arr**	**18.01**	**197**	*e*P		**Pn**	**16 22 02.9**	**-0.2**
WRA	**Warramunga Arr**	**18.01**	**197**	P		**Pn**	**16 22 02.8**	**-0.4**
	0.6nm,0.3s,baz=19,slow=12,SNR=39							
FITZ	**Fitzroy Crossi**	**20.68**	**221**	*e*P		**P**	**16 22 33.5**	**+1.3**
	8.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.68**	**221**	P		**P**	**16 22 32.8**	**+0.6**
	5.8nm,0.9s,baz=55,slow=12,SNR=6.0							
AS31	**Alice Springs**	**21.68**	**195**	*e*P		**P**	**16 22 42.7**	**-0.3**
ASAR	**Alice Springs**	**21.68**	**195**	P		**P**	**16 22 43.8**	**+0.8**
	2.1nm,0.6s,mb3.8,baz=29,slow=11,SNR=36							
ASPA	**Alice Springs**	**21.68**	**195**	*e*P		**P**	**16 22 42.7**	**-0.3**
MKAR	**Makanchi Array**	**70.32**	**322**	P		**P**	**16 29 04.3**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=117,slow=5.4,SNR=4.9							
LPAZ	**La Paz**	**146.70**	**125**	PKPbc		PKPbc	16 37 35.3	+2.5
	0.4nm,0.4s,baz=227,slow=5.7,SNR=3.5							

*ISCJB **26** 16:26:03.3±0.6, 1703N±008×11905E±007, h10km, mb3.9/9, Error ellipse: s-maj=12.8km s-min=7.9km az=72.5*
*IDC **26** 16:26:03.4±0.9, 1703N×11915E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, Error ellipse: s-maj=57.2km s-min=

LFRS			*e*S	x	17 17 09.6
LBRS	**Las Brisas**	**1.78 317**	⇓*e*P	x	17 16 50.4
LBRS			*e*S	x	17 17 11.7
LFU	**La Fuente**	**1.83 316**	⇑*i*P	x	17 16 51.3
LFU			*e*S	x	17 17 13.8
SNET	**Serv Nac Est T**	**1.87 312**	*e*P	x	17 16 48.3
SNET			*e*S	x	17 17 11.4
SNET			*i*		17 17 17.5
	comp=Z,845nm,0.3s				
BOQS	**Boqueron**	**1.94 312**	⇑*e*P	x	17 16 52.1
BOQS			*e*S	x	17 17 16.7
SBLS	**San Blas**	**2.26 308**	⇑*e*P	x	17 16 56.7
SBLS			*e*S	x	17 17 23.8
CONN	**Concepcion**	**2.29 112**	*e*P	Pn	17 16 55.5 +0.8
RTR	**El Retiro**	**2.31 309**	*e*P	x	17 16 57.8
RTR			*e*S	x	17 17 27.7
RBDL	**Robledal**	**2.48 312**	*e*P	x	17 17 00.0
VCR	**Vista de Mar**	**3.13 137**	*e*P	Pn	17 17 05.9 -0.3
MRL	**Marmol**	**3.20 325**	*e*P	Pn	17 17 08.6 +1.4
JCR	**Jicaral**	**3.68 134**	*e*P	Pn	17 17 13.7 0.0
CAO	**Cobano**	**3.79 136**	*e*P	Pn	17 17 15.2 -0.1
TP2	**Tecpan 2**	**3.91 307**	*e*P	Pn	17 17 18.4 +1.5
TP2			*e*S	Sn	17 18 05.0 +3.5
EPA	**Esparza**	**3.97 127**	*e*P	Pn	17 17 19.7 +2.0
PRS1	**Puriscal**	**4.20 125**	*e*P	Pn	17 17 22.8 +2.0
LCR2	**La Lucha 2**	**4.58 125**	*e*P	Pn	17 17 28.5 +2.3
CTCR	**Cotoan**	**6.07 125**	*e*P	Pn	17 17 47.6 +1.1

*ISCJB **26** 17:17:55.6±0.7, 47.1N±0.1×1555E±0.1, h10km, mb3.8/13, MS4.0/3, Error ellipse: s-maj=17.9km s-min=8.8km az=121.8*
*IDC **26** 17:17:55.8±0.8, 47.11N×15566E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.9/22, mbtmp3.7/13, ML3.0/1, MS3.9/3, Ms1 3.9/3, ms1mx2.7/54, Error ellipse: s-maj=24.7km s-min=19.5km az=160.0*
*NEIC **26** 17:17:57.5±0.5, 47.11N×15570E, h10km, mb4.0/1, Error ellipse: s-maj=13.5km s-min=9.0km az=144.0*
*MOS **26** 17:17:59.3±1.9, 4706N×15522E, h33km, mb4.0/7, Error ellipse: s-maj=18.5km s-min=14.9km az=63.4*

ISC 26 17:18:00.8±4.5, 471N±01×1555E±01, h33km±32km, n31, σ0§81/30, mb3.8/13, MS4.0/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.61**	**253**	PN	**Pn**	**17 19 14.0**	**-8.0**
KUR				*i* S	**Sn**	**17 20 23.6**	**-1.7**
KUR	comp=N,90nm,0.6s			smax			
KUR	comp=E,70nm,0.6s			smax			
ASAJ	**Asahikawa**	**9.52**	**256**	Pn	**Pn**	**17 20 14.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=114,slow=18,SNR=2.5						
ERM	**Erimo**	**10.16**	**244**	*e*PN	**Pn**	**17 20 25.5**	**+1.1**
BILL	**Bilibino**	**21.70**	**11**	*e*P	**P**	**17 22 48.5**	**-0.4**
BILL	**Bilibino**	**21.70**	**11**	*e*P	**P**	**17 22 48.5**	**-0.3**
SONM	**Songino Array**	**32.74**	**290**	P	**P**	**17 24 31.3**	**+0.9**
	comp=E,1.2nm,1.2s,mb3.7,baz=72,slow=8.8,SNR=4.6						
SONM				LR	LR	17 37 27.4	
	comp=E,35nm,18.7s,MS3.1,baz=15,slow=36						
SONM	**Songino Array**	**32.74**	**290**	P	**P**	**17 24 31.3**	**+0.8**
SONM	comp=Z,1.0nm,1.2s			pmax	pmax		
SONM	comp=Z,35nm,18.7s			MLR	MLR		
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**17 26 38.8**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1,baz=63,slow=7.3,SNR=5.8						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**17 26 38.8**	**+0.6**
MKAR	comp=Z,2.0nm,0.9s			pmax	pmax		
YKA	**Yellowknife Ar**	**49.65**	**38**	P	**P**	**17 26 49.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=294,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**49.65**	**38**	P	**P**	**17 26 49.0**	**-0.2**
YKA	comp=Z,1.0nm,0.7s			pmax	pmax		
YKA	**Yellowknife Ar**	**49.65**	**38**	P	**P**	**17 26 49.0**	**-0.2**
ZRNK	**Zerenda**	**52.63**	**311**	*e*P	**P**	**17 27 12.5**	**+0.9**
ZRNK	comp=Z,1.0nm,0.6s,mb3.9			pmax	pmax		
ZRNK	**Zerenda**	**52.63**	**311**	*e*P	**P**	**17 27 12.5**	**+1.0**
	comp=Z,1.3nm,0.6s,mb4.0						
ARU	**Arti**	**55.83**	**318**	*e*P	**P**	**17 27 34.8**	**-0.1**
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**17 27 50.2**	**-0.3**
ARCES	comp=Z,4.0nm,0.9s			pmax	pmax		
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**17 27 50.2**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.5,baz=62,slow=13,SNR=3.5						
NVAR	**Mina Array Bea**	**60.82**	**64**	P	**P**	**17 28 07.6**	**-2.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=257,slow=12,SNR=3.6						
NVAR	**Mina Array Bea**	**60.82**	**64**	P	**P**	**17 28 07.6**	**-2.1**
PDAR	**Pinedale Array**	**63.21**	**55**	P	**P**	**17 28 25.6**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.7,baz=306,slow=5.3,SNR=4.3						
FINES	**FINESS Array B**	**64.39**	**336**	P	**P**	**17 28 33.9**	**+0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=34,slow=7.1,SNR=7.6						
FINES	**FINESS Array B**	**64.39**	**336**	P	**P**	**17 28 33.9**	**+0.4**
FINES	comp=Z,1.0nm,0.5s			pmax	pmax		
WRA	**Warramunga Arr**	**69.41**	**201**	P	**P**	**17 29 05.8**	**+0.3**
	comp=Z,0.8nm,1.0s,mb3.6,baz=12,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**69.41**	**201**	P	**P**	**17 29 05.8**	**+0.3**
WRA	comp=Z,1.0nm,1.0s			pmax	pmax		
ASAR	**Alice Springs**	**73.09**	**201**	P	**P**	**17 29 28.6**	**+0.8**
	comp=Z,0.4nm,1.0s,mb3.3,baz=20,slow=5.6,SNR=4.2						
TXAR	**Lajitas Array**	**75.89**	**62**	P	**P**	**17 29 44.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=293,slow=3.6,SNR=7.5						
TXAR	**Lajitas Array**	**75.89**	**62**	P	**P**	**17 29 44.0**	**0.0**
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax		
GERES	**GERESS Array B**	**78.82**	**335**	P	**P**	**17 30 00.6**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=39,slow=6.3,SNR=2.8						
BRTR	**Keskin Array B**	**79.22**	**318**	P	**P**	**17 30 02.6**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=58,slow=39,SNR=3.0						
ASF	**Jabal al Asfar**	**83.69**	**311**	LR	LR	18 08 21.7	
	comp=Z,175nm,20.5s,MS4.4,baz=103,slow=36						
MMAI	**Mount Meron Ar**	**83.77**	**313**	LR	LR	18 13 20.4	
	comp=Z,162nm,19.1s,MS4.4,baz=265,slow=40						

IDC 26 17:27:24.3±2.8, 4908S×12464E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/10, mbtmp3.6/3, MS3.9/4, Ms1 3.9/4, ms1mx3.4/30, Error ellipse: s-maj=121.0km s-min=28.6km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.06**	**338**	LR	LR	17 36 08.8	
	comp=Z,153nm,19.9s,baz=295,slow=31						
STKA	**Stephens Creek**	**21.40**	**43**	P	P	17 32 13.5	0.0
	2.7nm,0.7s,baz=224,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**26.39**	**19**	P	P	17 33 01.7	-0.6
	0.6nm,0.6s,baz=199,slow=8.8,SNR=15						
VNDA	**Vanda**	**31.87**	**166**	P	P	17 33 49.9	-1.1
	0.6nm,0.7s,baz=294,slow=7.4,SNR=3.9						
SNAA	**Sanae**	**53.98**	**198**	LR	LR	17 58 40.6	
	comp=Z,92nm,19.4s,baz=203,slow=35						
LBTB	**Lobatse**	**77.11**	**247**	LR	LR	18 06 28.8	
	comp=Z,146nm,19.3s,baz=267,slow=30						
LSZ	**Lusaka**	**82.76**	**255**	LR	LR	18 09 13.6	
	comp=Z,84nm,19.9s,baz=112,slow=30						
YKA	**Yellowknife Ar**	**145.42**	**45**	PKPbc	PKPbc	17 47 03.1	-1.0
	0.7nm,0.7s,baz=268,slow=3.8,SNR=8.0						

*BJI **26** 17:32:26.8, 4788N×15555E, h14km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*ISCJB **26** 17:32:27.9±0.3, 4768N±005×15535E±005, h10km, mb4.7/87, MS3.9/11, Error ellipse: s-maj=7.8km s-min=4.2km az=128.2*
*SKHL **26** 17:32:27.1±3.6, 4728N×15592E, h48km±17km, Ms4.1/2*
*IDC **26** 17:32:27.3±0.6, 4753N×15537E, h0km, mb4.5/30, mb1 4.6/32, mb1mx4.6/37, mbtmp4.5/32, ML3.9/2, MS3.8/5, Ms1 3.9/5, ms1mx3.3/43, Error ellipse: s-maj=17.2km s-min=12.6km az=155.0*
*NEIC **26** 17:32:29.1±0.4, 4754N×15537E, h10km, mb4.8/38, Error ellipse: s-maj=10.5km s-min=6.3km az=166.0*
*MOS **26** 17:32:34.3±1.5, 4775N×15516E, h56km, mb4.9/47, Error ellipse: s-maj=11.4km s-min=6.4km az=106.3*
*SZGRF **26** 17:32:37.9, 4830N×15559E, h33km, mb4.8, Kuril Islands, Russia*

ISC 26 17:32:29.4±0.3, 4769N±005×15535E±005, h10km, (h22km±5.0km:pP-P), n214, σ1§09/222, mb4.7/87, MS3.9/11, 10C-10D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.04**	**9**	*e*P	**Pn**	**17 33 16.5**	**-1.1**
SKR				*e*S	**Sn**	**17 33 53.1**	**-0.9**
SKR	170nm,0.6s			A		17 33 58.0	
SKR	300nm,0.6s			A		17 33 58.0	
SKR	420nm,0.4s			A		17 33 58.0	
SKR	2µm,6.0s			AMS	AMS	17 34 22.0	
KUR	**Kuril'sk**	**5.72**	**247**	*e*P	**Pn**	**17 33 51.0**	**-3.4**
KUR	60nm,0.6s			AMB	AMB	17 33 53.6	
KUR	40nm,0.6s			AMB	AMB	17 33 53.6	
KUR	150nm,0.6s			AMB	AMB	17 33 53.6	
KUR				*i* S	**Sn**	**17 34 57.5**	**-2.6**
KUR	250nm,0.8s			A		17 34 59.4	
KUR	230nm,0.8s			A		17 34 59.4	
KUR	2µm,14.0s			AMS	AMS	17 36 22.0	
KUR	2µm,14.0s			AMS	AMS	17 36 22.0	
KUR	2µm,14.0s			AMS	AMS	17 36 22.0	
KUR	**Kuril'sk**	**5.72**	**247**	*e*PN	**Pn**	**17 33 51.0**	**-3.4**
KUR	comp=N,60nm,0.6s			pmax	pmax		
KUR	comp=E,40nm,0.6s			pmax	pmax		
KUR	comp=Z,150nm,0.6s			pmax	pmax		
KUR	comp=N,2µm,14.0s			MLR	MLR		
KUR	comp=E,2µm,14.0s			MLR	MLR		
KUR	comp=Z,2µm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**5.75**	**20**	*e*PN	**Pn**	**17 33 53.0**	**-1.8**
PET	comp=Z,72nm,0.7s			pmax	pmax		
PET	comp=Z,200nm,17.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**7.56**	**245**	*e*P	**Pn**	**17 34 17.7**	**-2.0**
YUK	comp=Z,180nm,0.3s			AMB	AMB	17 34 20.9	
YUK				*e*S	**Sn**	**17 35 40.5**	**-4.9**
YUK	comp=Z,380nm,0.5s			A		17 35 46.8	
YUK	comp=Z,190nm,0.5s			A		17 35 46.8	
YSS	**Yuzh-Sakhalins**	**8.59**	**270**	*e*P	**Pn**	**17 34 37.9**	**+4.1**
YSS	comp=Z,30nm,1.0s			AMB	AMB	17 34 40.5	
YSS	comp=Z,30nm,0.8s			AMB	AMB	17 34 40.5	
YSS				*e*S	**Sn**	**17 36 13.0**	**+2.3**
YSS	comp=Z,20nm,0.8s			A		17 36 15.0	
YSS				*e*LQ		17 36 44.0	
YSS	comp=Z,400nm,12.0s			AMS	AMS	17 39 04.0	
YSS	comp=Z,400nm,14.0s			AMS	AMS	17 39 04.0	
YSS	comp=Z,400nm,14.0s			AMS	AMS	17 39 04.0	
YSS	**Yuzh-Sakhalins**	**8.59**	**270**	*i* PN	**Pn**	**17 34 32.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**8.59**	**270**	*e*P	**Pn**	**17 34 36.9**	**+3.1**
TYV	**Tymovskoe**	**8.89**	**296**	*e*P	**Pn**	**17 34 46.0**	**+8.1**
TYV	comp=Z,7.0nm,0.8s			AMB	AMB	17 34 53.2	
TYV	comp=Z,23nm,1.0s			AMB	AMB	17 34 53.2	
TYV	comp=Z,500nm,14.0s			AMS	AMS	17 39 40.0	
TYV	comp=Z,700nm,14.0s			AMS	AMS	17 39 40.0	
TYV	comp=Z,800nm,14.0s			AMS	AMS	17 39 40.0	
UGL	**Uglegorsk**	**8.95**	**284**	*e*P	**Pn**	**17 34 45.0**	**+6.2**
UGL	comp=Z,18nm,0.8s			AMB	AMB	17 34 46.0	
UGL	comp=Z,900nm,12.0s			AMS	AMS	17 39 23.0	
UGL	comp=Z,500nm,16.0s			AMS	AMS	17 39 23.0	
UGL	comp=Z,600nm,14.0s			AMS	AMS	17 39 23.0	
ASAJ	**Asahikawa**	**9.58**	**253**	Pn	**Pn**	**17 34 47.9**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=81,slow=14,SNR=18						
ASAJ	**Asahikawa**	**9.58**	**253**	PN	**Pn**	**17 34 47.9**	**+0.5**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ERM	**Erimo**	**10.34**	**241**	*e*PN	**Pn**	**17 34 55.5**	**-2.3**
SEY	**Seymchan**	**15.37**	**355**	*e*P	**Pn**	**17 36 05.7**	**-0.7**
KLR	**Kul'dur**	**15.72**	**284**	*e*P	**Pn**	**17 36 09.8**	**-1.1**
KLR	comp=E,500nm,13.0s			MLR	MLR		
KLR	comp=Z,2µm,13.0s			MLR	MLR		
MJAR	**Matsushiro Arr**	**16.86**	**235**	Pn	**Pn**	**17 36 21.8**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=293,slow=16,SNR=7.0						
MJAR	comp=Z,156nm,18.4s,baz=40,slow=40			LR	LR	17 43 40.3	
MJAR	**Matsushiro Arr**	**16.86**	**235**	P	**Pn**	**17 36 21.8**	**-3.7**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	comp=Z,157nm,18.4s			MLR	MLR		
MAT	**Matsushiro**	**16.86**	**235**	P	**Pn**	**17 36 20.5**	**-5.0**
MDJ	**Mudanjiang**	**18.08**	**270**	P	**Pn**	**17 36 41.0**	**+0.3**
MDJ				AP	pP	17 36 44.3	+0.4
MDJ				S	**Sn**	**17 40 03.5**	**+1.1**
MDJ				XS	sS	17 40 14.0	+1.3
MDJ				SCP	ScP	17 44 50.3	+0.2
MDJ				PCS	PcS	17 44 51.5	+0.2
MDJ	comp=Z,4.0nm,0.9s			AMB	AMB		
MDJ	comp=Z,43nm,3.5s			AMB	AMB		
MDJ	comp=N,154nm,12.9s			LR	LR		
MDJ	comp=E,110nm,20.3s			LR	LR		
MDJ	comp=Z,220nm,16.4s			LR	LR		
ZEA	**Zeya**	**18.72**	**299**	*e*P	**Pn**	**17 36 45.2**	**-3.3**
ZEA	comp=Z,36nm,1.6s			AMB	AMB	17 36 47.2	
YAK	**Yakutsk**	**20.41**	**324**	*e*P	**P**	**17 37 05.6**	**-0.9**
YAK	comp=Z,18nm,0.8s			pmax	pmax		
YAK	comp=N,12nm,1.5s			pmax	pmax		
YAK	comp=E,16nm,1.4s			pmax	pmax		
YAK	**Yakutsk**	**20.41**	**324**	*e*P	**P**	**17 37 04.8**	**-1.7**
	comp=E,20nm,0.8s						
CLNS	**Chul'man**	**20.61**	**308**	*e*P	**P**	**17 37 08.0**	**-0.8**
CLNS	comp=Z,32nm,1.2s			pmax	pmax		
CLNS	comp=N,26nm,0.9s			pmax	pmax		
CLNS	comp=E,25nm,1.1s			pmax	pmax		
CLNS	comp=Z,200nm,14.0s,MS3.6			MLR	MLR		
CLNS	comp=N,100nm,13.0s,MS4.3			MLR	MLR		
CLNS	comp=E,1µm,16.0s,MS4.3			MLR	MLR		
BILL	**Bilibino**	**21.16**	**11**	*e*P	**P**	**17 37 14.2**	**-0.4**
BILL	comp=Z,17nm,1.1s,mb4.3			pmax	pmax		
BILL	comp=Z,200nm,15.0s,MS3.6			MLR	MLR		
BILL	**Bilibino**	**21.16**	**11**	*e*P	**P**	**17 37 12.8**	**-1.8**
	comp=Z,9.1nm,0.6s,mb4.3						

CN2	**Changchun**	**21.16**	**271**	*e*P	**P**	**17 37 12.0**	**-2.7**
CN2	comp=Z,10.0nm,0.9s,mb4.2			AMB	AMB		
KSRS	**Korea Array**	**22.53**	**253**	P	**P**	**17 37 28.8**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.1,baz=50,slow=9.6,SNR=11						
JNU	**Nakatsue**	**23.51**	**241**	LR	LR	17 45 50.2	
	comp=Z,285nm,21.8s,MS3.7,baz=265,slow=34						
BOD	**Bodaibo**	**26.59**	**308**	*e*P	**P**	**17 38 04.8**	**-3.0**
BOD	comp=Z,4.0nm,2.2s,mb3.6			pmax	pmax		
TIXI	**Tiksi**	**27.02**	**342**	*e*P	**P**	**17 38 08.9**	**-2.8**
TIXI	comp=Z,6.0nm,1.0s,mb4.1			pmax	pmax		
TIXI	comp=Z,181nm,14.0s,MS3.8			MLR	MLR		
NJ2	**Nanjing**	**31.73**	**254**	*e*P	**P**	**17 38 56.5**	**+3.1**
NJ2	comp=Z,10.0nm,0.6s,mb4.8			AMB	AMB		
HHC	**Hu-ho-hao-te**	**31.75**	**274**	⇑P	**P**	**17 38 55.0**	**+1.4**
HHC				AP	pP	17 38 59.5	+2.8
HHC				PP	PP	17 40 00.8	-4.5
HHC				PCP	PcP	17 41 46.0	+1.1
HHC				S	**S**	**17 44 03.8**	**+0.4**
HHC				XS	sS	17 44 11.5	+3.0
HHC				SS	SS	17 45 53.8	-26
HHC	comp=Z,14nm,1.6s,mb4.5			AMB	AMB		
HHC	comp=Z,146nm,5.1s			AMB	AMB		
HHC	comp=N,139nm,13.5s,MS4.0			LR	LR		
HHC	comp=E,206nm,15.1s,MS4.0			LR	LR		
HHC	comp=Z,162nm,14.3s,MS3.9			LR	LR		
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**17 38 59.0**	**-0.9**
	comp=Z,2.2nm,0.8s,mb4.0,baz=74,slow=7.5,SNR=13						
SONM				LR	LR	17 51 50.9	
	comp=Z,84nm,19.1s,MS3.5,baz=56,slow=36						
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**17 38 59.0**	**-0.9**
SONM	comp=Z,2.0nm,0.8s			pmax	pmax		
SONM	comp=Z,84nm,19.1s			MLR	MLR		
ZAK	**Zakamensk**	**33.67**	**294**	*e*P	**P**	**17 39 09.0**	**-1.4**
ZAK				*e*		17 39 21.5	
ZAK				*e*		17 39 33.0	
ZAK	comp=Z,3.0nm,1.3s,mb4.1			pmax	pmax		
ZAK	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax		
ZAK	comp=Z,3.0nm,1.0s,mb4.2			pmax	pmax		
SML	**Sawmill**	**34.24**	**45**	*e*P	**P**	**17 39 14.1**	**-1.3**
COLA	**College**	**34.45**	**39**	*i* P	**P**	**17 39 16.8**	**-0.4**
COLA	**College**	**34.45**	**39**	*e*P	**P**	**17 39 17.0**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8						
XAN	**Xi'an**	**37.11**	**266**	P	**P**	**17 39 39.8**	**-0.2**
XAN				AP	pP	17 39 50.0	+6.9
XAN	comp=Z,5.0nm,1.8s,mb4.0			AMB	AMB		
LZH	**Lanzhou**	**39.38**	**272**	*e*P	**P**	**17 39 59.5**	**+0.4**
LZH				AP	pP	17 40 11.0	+8.8
LZH	comp=Z,30nm,1.5s,mb4.8			AMB	AMB		
LZH	comp=Z,125nm,4.1s			AMB	AMB		
LZH	**Lanzhou**	**39.38**	**272**	*e*P	**P**	**17 39 59.5**	**+0.4**
	comp=Z,30nm,1.5s,mb4.8						
LZH				pP	pP	17 40 11.0	+8.8
LZH				sP	sP	17 40 16.0	+13
INK	**Inuvik**	**40.04**	**33**	P	**P**	**17 40 05.2**	**+0.6**
	comp=Z,5.3nm,0.5s,mb4.5,baz=303,slow=5.6,SNR=12						
INK	**Inuvik**	**40.04**	**33**	*e*P	**P**	**17 40 05.2**	**+0.6**
	comp=Z,174nm,0.8s,mb5.8						
GTA	**Gaotai**	**40.33**	**279**	*e*P	**P**	**17 40 08.3**	**+1.3**
GTA				AP	pP	17 40 16.0	+5.9
GTA				XP	sP	17 40 18.8	+7.5
GTA				PP	PP	17 41 46.5	+6.7
GTA				PCP	PcP	17 42 10.3	-0.1
GTA				S	**S**	**17 46 15.0**	**+0.3**
GTA				XS	sS	17 46 26.8	+7.0
GTA				SS	SS	17 49 09.5	-3.7
GTA	comp=Z,4.0nm,1.2s,mb4.0			AMB	AMB		
GTA	comp=Z,58nm,5.3s			LR	LR		
GTA	comp=N,155nm,13.7s,MS4.1			LR	LR		
GTA	comp=E,153nm,15.2s,MS4.1			LR	LR		
GTA	comp=Z,214nm,11.4s,MS4.2			LR	LR		
CD2	**Chengdu**	**42.47**	**266**	*e*P	**P**	**17 40 25.0**	**+0.4**
CD2				XP	sP	17 40 31.8	+2.8
CD2				PP	PP	17 42 06.3	+3.3
CD2				S	**S**	**17 46 45.8**	**-0.7**
CD2	comp=Z,10.0nm,0.5s,mb4.7			AMB	AMB		
CD2	comp=Z,30nm,5.2s			AMB	AMB		
GYA	**Guiyang**	**43.40**	**259**	⇑*i*P	**P**	**17 40 31.5**	**-0.6**
GYA	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB		
NVS	**Novosibirsk**	**43.83**	**307**	*e*P	**P**	**17 40 34.0**	**-1.6**
NVS	comp=Z,22nm,1.8s,mb4.6			pmax	pmax		
NVS	comp=N,7.0nm,1.6s			pmax	pmax		
NVS	comp=E,15nm,1.6s			pmax	pmax		
WMQ	**Urumqi**	**46.01**	**291**	⇑*i*P	**P**	**17 40 53.5**	**+0.6**
WMQ				AP	pP	17 40 58.0	+1.9
WMQ				XP	sP	17 41 00.5	+3.2
WMQ				PCP	PcP	17 42 30.3	+0.8
WMQ				PP	PP	17 42 41.8	+1.1
WMQ				PPP		17 43 25.5	
WMQ				S	**S**	**17 47 38.0**	**0.0**
WMQ				XS	sS	17 47 45.5	+2.4
WMQ	comp=Z,9.0nm,0.9s,mb4.7			AMB	AMB		
WMQ	comp=Z,76nm,4.0s			LR	LR		
WMQ	comp=N,122nm,18.1s,MS4.0			LR	LR		
WMQ	comp=E,65nm,17.0s,MS4.0			LR	LR		
WMQ	comp=Z,73nm,19.1s,MS3.6			LR	LR		
QIZ	**Qiongzhong**	**46.62**	**248**	P	**P**	**17 40 58.5**	**+0.8**
QIZ				AP	pP	17 41 02.0	+1.1
QIZ				XP	sP	17 41 06.0	+3.9
QIZ				S	**S**	**17 47 47.0**	**+0.3**
QIZ	comp=N,115nm,13.9s,MS4.2			LR	LR		
QIZ	comp=E,129nm,11.9s,MS4.2			LR	LR		
QIZ	comp=Z,164nm,10.8s,MS4.2			LR	LR		
KMI	**Kunming**	**46.91**	**260**	P	**P**	**17 41 04.3**	**+4.3**
KMI	comp=Z,9.0nm,1.1s,mb4.6			AMB	AMB		
KMI	**Kunming**	**46.91**	**260**	P	**P**	**17 41 04.2**	**+4.2**
KMI	comp=Z,9.0nm,1.1s,mb4.6			pmax	pmax		
KMI	**Kunming**	**46.91**	**260**	P	**P**	**17 41 04.2**	**+4.2**
	comp=Z,9.0nm,1.1s,mb4.6						
MK31	**Makanchi Array**	**47.86**	**298**	*e*P	**P**	**17 41 06.3**	**-1.1**
MK31				*e*		17 41 18.3	
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**17 41 06.5**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.4,baz=74,slow=6.9,SNR=13						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**17 41 06.5**	**-0.9**
MKAR	comp=Z,3.0nm,0.8s			pmax	pmax		
YKA	**Yellowknife Ar**	**49.26**	**38**	P	**P**	**17 41 18.1**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=293,slow=7.1,SNR=16						
YKA	comp=Z,1.0nm,0.7s,baz=307,slow=3.7,SNR=5.9			PcP	PcP	17 42 40.6	-0.5
RES	**Resolute Bay**	**49.46**	**19**	P	**P**	**17 41 20.6**	**+0.9**
	comp=Z,273nm,1.1s						
BVAR	**Borovoye Array**	**51.44**	**310**	P	**P**	**17 41 34.1**	**-0.6**
	comp=Z,4.4nm,0.4s,mb4.7,baz=59,slow=8.5,SNR=52						
BVAR	**Borovoye Array**	**51.44**	**310**	P	**P**	**17 41 34.1**	**-0.6**
BVAR	comp=Z,4.0nm,0.4s			pmax	pmax		

BRVK	**Borovoye**	**51.48**	**310**	*e*P		**P**	**17 41 33.8**	**-1.2**
BRVK				*e*			17 41 46.0		
BRVK					pmax	pmax			
	comp=Z,12nm,0.7s,mb4.9								
BRVK	**Borovoye**	**51.48**	**310**	*e*P		**P**	**17 41 33.8**	**-1.2**
	comp=Z,12nm,0.7s,mb4.9								
BRVK				*e*			17 41 46.0		
LSA	**Lhasa**	**51.74**	**274**	*e*P		**P**	**17 41 38.8**	**+1.9**
LSA				*e*			17 41 50.7		
LSA					pmax	pmax			
	comp=Z,14nm,0.6s,mb5.1								
LSA	**Lhasa**	**51.74**	**274**	*e*P		**P**	**17 41 38.8**	**+1.9**
	comp=Z,14nm,0.6s,mb5.1								
LSA				*e*			17 41 50.7		
ZRNK	**Zerenda**	**52.19**	**310**	*e*P		**P**	**17 41 39.5**	**-0.8**
ZRNK					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
ZRNK	**Zerenda**	**52.19**	**310**	*e*P		**P**	**17 41 39.5**	**-0.8**
	comp=Z,10nm,0.8s,mb4.8								
CHTO	**Chiang Mai**	**53.81**	**258**	*e*P		**P**	**17 41 52.4**	**+0.1**
CHTO					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
CHTO	**Chiang Mai**	**53.81**	**258**	*e*P		**P**	**17 41 52.4**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2								
EDM	**Edmonton**	**54.56**	**48**	*e*P		**P**	**17 41 57.5**	**-0.3**
AAK	**Ala-Archa**	**54.78**	**297**	*e*P		**P**	**17 41 57.7**	**-1.6**
AAK				*e*			17 42 10.2		
AAK					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
AAK	**Ala-Archa**	**54.78**	**297**	*e*P		**P**	**17 41 57.7**	**-1.6**
	comp=Z,6.7nm,0.6s,mb4.8								
AAK				*e*			17 42 10.2		
ARU	**Arti**	**55.35**	**318**	⇓*i*P		**P**	**17 42 02.2**	**-1.2**
ARU				*e*			17 43 01.3		
ARU				*e*S		**S**	**17 49 47.7**	**+0.1**
ARU					pmax	pmax			
	comp=Z,12nm,0.8s,mb5.0								
ARU	**Arti**	**55.35**	**318**	*e*P		**P**	**17 42 02.3**	**-1.1**
	comp=Z,15nm,0.8s,mb5.1								
ARU				*e*			17 42 14.5		
JIRN	**Jiri**	**56.38**	**275**	*e*P		**P**	**17 42 11.9**	**+1.1**
	comp=Z,3.2nm,0.3s,mb4.9								
GUN	**Gumba**	**56.43**	**276**	*e*P		**P**	**17 42 12.0**	**+0.8**
	comp=Z,15nm,0.5s,mb5.3								
KKN	**Kakani**	**56.91**	**276**	*e*P		**P**	**17 42 15.3**	**+0.7**
	comp=Z,23nm,0.8s,mb5.3								
PKI	**Pulchoki**	**56.97**	**276**	*e*P		**P**	**17 42 15.7**	**+0.7**
	comp=Z,19nm,0.7s,mb5.3								
DMN	**Daman**	**57.14**	**276**	*e*P		**P**	**17 42 17.2**	**+0.9**
	comp=Z,38nm,0.8s,mb5.5								
GKN	**Gorkha**	**57.20**	**277**	*e*P		**P**	**17 42 17.3**	**+0.6**
	comp=Z,34nm,0.5s,mb5.6								
BMO	**Blue Mountains**	**57.29**	**58**	*e*P		**P**	**17 42 17.2**	**0.0**
	comp=Z,4.2nm,0.6s,mb4.7								
ARCES	**ARCESS Array B**	**57.46**	**341**	P		**P**	**17 42 17.7**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.4,baz=66,slow=5.9,SNR=9.1								
ARCES	**ARCESS Array B**	**57.46**	**341**	P		**P**	**17 42 17.7**	**-0.8**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ARCES	**ARCESS Array B**	**57.46**	**341**	P		**P**	**17 42 17.7**	**-0.8**
KOLN	**Koldanda**	**58.05**	**277**	*e*P		**P**	**17 42 23.2**	**+0.6**
	comp=Z,22nm,0.9s,mb5.2								
AKTK	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 42 30.1**	**-0.7**
AKTO	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 42 30.1**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.5,baz=47,slow=5.8,SNR=14								
AKTO	**Aktyubinsk**	**59.23**	**312**	P		**P**	**17 42 30.1**	**-0.7**
AKTO					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
QLMT	**Earthquake Lak**	**60.60**	**55**	*e*P		**P**	**17 42 41.0**	**+0.8**
NVAR	**Mina Array Bea**	**60.65**	**64**	P		**P**	**17 42 40.5**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.3,baz=291,slow=9.9,SNR=11								
NVAR	**Mina Array Bea**	**60.65**	**64**	P		**P**	**17 42 40.5**	**-0.2**
IMW	**Indian Meadow**	**61.46**	**55**	*e*P		**P**	**17 42 46.9**	**+0.7**
	comp=Z,5.2nm,1.1s,mb4.6								
PDAR	**Pinedale Array**	**62.96**	**55**	P		**P**	**17 42 55.9**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.4,baz=280,slow=2.5,SNR=17								
FIA1	**FINESS Array S**	**63.83**	**336**	*e*P		**P**	**17 43 01.9**	**-0.1**
FIA1				*e*			17 43 14.0		
FINES	**FINESS Array B**	**63.83**	**336**	P		**P**	**17 43 01.9**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0,baz=39,slow=7.4,SNR=38								
FINES	**FINESS Array B**	**63.83**	**336**	P		**P**	**17 43 01.9**	**0.0**
FINES					pmax	pmax			
	comp=Z,12nm,0.7s								
ULM	**Lac du Bonnet**	**64.81**	**42**	P		**P**	**17 43 08.0**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.6,baz=296,slow=8.9,SNR=9.9								
ULM	**Lac du Bonnet**	**64.81**	**42**	P		**P**	**17 43 08.0**	**-0.3**
RSSD	**Black Hills**	**65.05**	**51**	*e*P		**P**	**17 43 09.8**	**-0.1**
RSSD					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
RSSD	**Black Hills**	**65.05**	**51**	*e*P		**P**	**17 43 09.8**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.8								
OBN	**Obninsk**	**65.39**	**326**⇑	*e*P		**P**	**17 43 11.6**	**-0.5**
OBN					pmax	pmax			
	comp=Z,37nm,1.6s,mb5.2								
ISCO	**Idaho Springs**	**67.16**	**56**	*e*P		**P**	**17 43 24.0**	**+0.6**
ISCO					pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.7								
ISCO	**Idaho Springs**	**67.16**	**56**	*e*P		**P**	**17 43 24.0**	**+0.6**
	comp=Z,9.8nm,1.3s,mb4.7								
VRSR	**Storozhevoye**	**67.31**	**322**	*e*P		**P**	**17 43 24.3**	**-0.1**
VRSR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
VRSR					pmax	pmax			
	comp=E,10.0nm,0.9s								
NB2	**NORSAR Subarra**	**67.82**	**342**	P		**P**	**17 43 27.5**	**-0.2**
NB2	**NORSAR Subarra**	**67.82**	**342**	P		**P**	**17 43 27.5**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.6,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.82**	**342**	P		**P**	**17 43 27.8**	**+0.1**
	comp=Z,4.9nm,0.7s,mb4.7,baz=26,slow=6.4,SNR=16								
NOA					LR	LR	18 16 03.0		
	comp=Z,62nm,21.4s,MS3.8,baz=195,slow=38								
NOA	**NORSAR Array B**	**67.82**	**342**	P		**P**	**17 43 27.8**	**+0.1**
NOA					pmax	pmax			
	comp=Z,5.0nm,0.7s								
NOA					MLR	MLR			
	comp=Z,62nm,21.4s								
NOA	**NORSAR Array B**	**67.82**	**342**	P		**P**	**17 43 27.8**	**+0.1**
NOA					LR	LR	18 16 03.0		
HFS	**Hagfors**	**68.10**	**340**	P		**P**	**17 43 29.3**	**-0.1**
	comp=Z,6.8nm,0.5s,mb5.0,baz=59,slow=5.7,SNR=38								
HFS					LR	LR	18 14 30.7		
	comp=Z,410nm,19.9s,MS4.7,baz=348,slow=37								
HFS	**Hagfors**	**68.10**	**340**	P		**P**	**17 43 29.3**	**-0.1**
HFS					pmax	pmax			
	comp=Z,7.0nm,0.5s								
HFS					MLR	MLR			
	comp=Z,410nm,19.9s								
ECSD	**EROS,Sioux Fal**	**69.13**	**48**	*e*P		**P**	**17 43 34.8**	**-1.1**
	comp=Z,7.4nm,1.0s,mb4.6								
WRA	**Warramunga Arr**	**69.91**	**201**	P		**P**	**17 43 38.9**	**-1.8**
	comp=Z,3.2nm,0.9s,mb4.2,baz=18,slow=6.5,SNR=14								
WRA	**Warramunga Arr**	**69.91**	**201**	P		**P**	**17 43 38.9**	**-1.8**
WRA					pmax	pmax			
	comp=Z,3.0nm,0.9s								
FITZ	**Fitzroy Crossi**	**70.70**	**210**	P		**P**	**17 43 44.5**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.2,baz=176,slow=3.1,SNR=5.5								
KIV	**Kislovodsk**	**71.22**	**315**⇑	*e*P		**P**	**17 43 49.3**	**+0.6**
KIV					pmax	pmax			
	comp=Z,27nm,1.3s,mb5.0								
KIV	**Kislovodsk**	**71.22**	**315**	*e*P		**P**	**17 43 49.6**	**+0.9**
	comp=Z,26nm,1.1s,mb5.1								
ZEI	**Tsey**	**71.53**	**314**	*e*P		**P**	**17 43 49.8**	**-0.7**
ZEI				*i*			17 44 03.0		
ZEI					pmax	pmax			
	comp=Z,11nm,1.3s,mb4.6								
AKASG	**Malin Array Be**	**71.60**	**327**	P		**P**	**17 43 50.3**	**-0.6**
	comp=Z,2.5nm,0.5s,mb4.4,baz=33,slow=6.2,SNR=12								
AKASG	**Malin Array Be**	**71.60**	**327**	P		**P**	**17 43 50.3**	**-0.6**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.5s								
AKBB	**Malin Array Si**	**71.60**	**327**	*e*P		**P**	**17 43 49.9**	**-1.0**
AKBB				*e*			17 44 02.9		
KIEV	**Kiev**	**71.61**	**327**	*e*P		**P**	**17 43 50.1**	**-0.9**
KIEV				*e*			17 44 03.0		
KIEV					pmax	pmax			
	comp=Z,16nm,1.4s,mb4.8								
KIEV	**Kiev**	**71.61**	**327**	*e*P		**P**	**17 43 50.1**	**-0.9**
	comp=Z,16nm,1.4s,mb4.8								
KIEV				*e*			17 44 03.0		
SCHQ	**Schefferville**	**71.84**	**24**	P		**P**	**17 43 52.1**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=58,slow=9.1,SNR=6.3								
SCIA	**State Center**	**72.17**	**47**	*e*P		**P**	**17 43 54.0**	**-0.4**
	comp=Z,11nm,0.7s,mb4.9								
ANN	**Anapa**	**72.99**	**319**	*e*P		**P**	**17 43 54.8**	**-4.5**
ANN				*e*			17 44 11.8		
ANN				*e*S		S	17 53 20.0	-6.2	
ANN					pmax	pmax			
	comp=Z,21nm,1.4s,mb4.9								
GNI	**Garni**	**73.07**	**311**	P		**P**	**17 44 00.9**	**+1.2**
	comp=Z,2.5nm,0.5s,mb4.4,baz=68,slow=19,SNR=6.2								
GNI	**Garni**	**73.07**	**311**	*i* P		**P**	**17 43 57.7**	**-2.0**
GNI					pmax	pmax			
	comp=Z,18nm,1.4s								
WMOK	**Wichita Mounta**	**74.57**	**55**	*e*P		**P**	**17 44 07.9**	**-0.6**
WMOK				*e*			17 44 20.3		
WMOK					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
WMOK	**Wichita Mounta**	**74.57**	**55**	*e*P		**P**	**17 44 07.8**	**-0.7**
	comp=Z,7.2nm,1.0s,mb4.6								
WMOK				*e*			17 44 20.3		
OJC	**Ojcow**	**75.22**	**332**	*e*P		**P**	**17 44 03.1**	**-9.2**
STHS	**Stebnicka Huta**	**75.45**	**331**	*e*P		**P**	**17 44 14.6**	**+1.0**
STHS				*e*			17 44 27.5		
STHS					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
STHS	**Stebnicka Huta**	**75.45**	**331**	*e*P		**P**	**17 44 14.6**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.5								
STHS				*e*			17 44 27.5		
KOLS	**Kolonicke sedl**	**75.53**	**330**	*e*P		**P**	**17 44 13.9**	**-0.2**
BURAR	**Bucovina Array**	**75.63**	**328**	⇓*i*P		**P**	**17 44 15.1**	**+0.5**
BURAR	**Bucovina Array**	**75.63**	**328**	⇓P		**P**	**17 44 15.1**	**+0.4**
LTX	**Lajitas**	**75.71**	**62**	*e*P		**P**	**17 44 15.0**	**-0.1**
LTX					pmax	pmax			
	comp=Z,20nm,1.3s,mb4.9								
LTX	**Lajitas**	**75.71**	**62**	*e*P		**P**	**17 44 15.0**	**-0.1**
	comp=Z,20nm,1.3s,mb4.9								
TXAR	**Lajitas Array**	**75.71**	**62**	P		**P**	**17 44 15.1**	**0.0**
	comp=Z,10nm,0.8s,mb4.8,baz=302,slow=4.3,SNR=116								
TXAR	**Lajitas Array**	**75.71**	**62**	P		**P**	**17 44 15.1**	**0.0**
TXAR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TXAR	**Lajitas Array**	**75.71**	**62**	P		**P**	**17 44 15.1**	**0.0**
EKA	**Eskdalemuir Ar**	**75.77**	**348**	P		**P**	**17 44 15.3**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.5,baz=18,slow=5.1,SNR=24								
EKA	**Eskdalemuir Ar**	**75.77**	**348**	P		**P**	**17 44 15.3**	**-0.1**
EKA					pmax	pmax			
	comp=Z,4.0nm,0.6s								
UPC	**Upice**	**76.11**	**335**	*e*P		**P**	**17 44 19.9**	**+2.5**
UPC				*e*PCP		PcP	17 44 27.3	-2.2	
DPC	**Dobruska-Polom**	**76.16**	**334**	*e*P		**P**	**17 44 20.5**	**+2.9**
DPC				*e*PCP		PcP	17 44 31.8	+2.1	
CLL	**Collm**	**76.23**	**337**	*e*P		**P**	**17 44 18.0**	**0.0**
CLL				*i*			17 44 31.4		
CLL					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
CLL	**Collm**	**76.23**	**337**	*e*P		**P**	**17 44 18.0**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.6								
CLL				*i* sPcP			17 44 31.4		
	comp=Z,12nm,0.8s								
MORC	**Moravsky Berou**	**76.31**	**333**	⇓*i*P		**P**	**17 44 17.9**	**-0.6**
MORC	**Moravsky Berou**	**76.31**	**333**	⇓P		**P**	**17 44 17.9**	**-0.5**
BRG	**Berggiesshubel**	**76.36**	**336**	*e*P		**P**	**17 44 23.6**	**+4.8**
	comp=Z,2.2nm,1.3s,mb3.9								
BRG	**Berggiesshubel**	**76.36**	**336**	*e*P		**P**	**17 44 23.6**	**+4.8**
BRG					pmax	pmax			
	comp=Z,2.0nm,1.3s,mb3.9								
PVCC	**Panska Ves**	**76.50**	**335**	*e*P		**P**	**17 44 21.2**	**+1.6**
KECS	**Kecovo**	**76.51**	**331**	*e*P		**P**	**17 44 14.9**	**-4.8**
PRU	**Pruhonice**	**77.00**	**335**	*e*P		**P**	**17 44 23.0**	**+0.6**
PRU				*e*PCP		PcP	17 44 36.2	+2.8	
VRAC	**Vranov**	**77.01**	**334**	P		**P**	**17 44 23.2**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.3,baz=19,slow=7.3,SNR=4.0								
VRAC	**Vranov**	**77.01**	**334**	⇑*i*P		**P**	**17 44 24.1**	**+1.7**
VRAC	**Vranov**	**77.01**	**334**	⇑P		**P**	**17 44 24.1**	**+1.6**
VYHS	**Vyhne**	**77.04**	**332**	*e*P		**P**	**17 44 22.3**	**-0.3**
TIRR	**Tirgusor**	**77.07**	**324**	⇑*i*P		**P**	**17 44 24.0**	**+1.2**
TIRR	**Tirgusor**	**77.07**	**324**	*e*P		**P**	**17 44 23.1**	**+0.3**
TIRR					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
TIRR	**Tirgusor**	**77.07**	**324**	*e*P		**P**	**17 44 23.1**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.6								
MLR	**Muntele Rosu**	**77.16**	**326**	P		**P**	**17 44 24.2**	**+0.9**
	comp=Z,2.3nm,0.5s,mb4.4,baz=140,slow=5.9,SNR=6.4								
MLR	**Muntele Rosu**	**77.16**	**326**	⇓*i*P		**P**	**17 44 24.8**	**+1.5**
MLR	**Muntele Rosu**	**77.16**	**326**	⇓P		**P**	**17 44 24.8**	**+1.5**
MIAR	**Mount Ida**	**77.55**	**52**	*e*P		**P**	**17 44 24.9**	**-0.6**
MIAR					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6								
MIAR	**Mount Ida**	**77.55**	**52**	*e*P		**P**	**17 44 24.9**	**-0.6**
	comp=Z,8.7nm,1.2s,mb4.6								
MALT	**Malatya**	**77.61**	**314**	⇓*i*P		**P**	**17 44 27.6**	**+1.7**
MALT	**Malatya**	**77.61**	**314**	*e*P		**P**	**17 44 26.8**	**+0.9**
MALT				*e*			17 44 40.7		
MALT					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
MALT	**Malatya**	**77.61**	**314**	*e*P		**P**	**17 44 26.8**	**+0.9**
	comp=Z,10nm,1.0s,mb4.7								
MALT				*e*			17 44 40.7		
KHC	**Kasperske Hory**	**78.04**	**335**	*e*P		**P**	**17 44 29.1**	**+0.9**
KHC				*e*PCP		PcP	17 44 41.8	+3.9	
GRA1	**Grafenberg Arr**	**78.17**	**337**	*e*P		**P**	**17 44 29.6**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.6								
GRA1				*e*			17 44 43.1		
GRF	**Grafenberg Arr**	**78.17**	**337**	*e*P		**P**	**17 44 29.6**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.6								
GRF				*e*			17 44 43.1		
GRF	**Grafenberg Arr**	**78.17**	**337**	*e*P		**P**	**17 44 29.6**	**+0.7**
GRF				*e*			17 44 43.1		
GRF					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
GRF	**Grafenberg Arr**	**78.17**	**337**	*e*P		**P**	**17 44 29.6**	**+0.7**
GRF				*e*			17 44 43.1		
GRF					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
GERES	**GERESS Array B**	**78.26**	**335**	P		**P**	**17 44 29.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=25,slow=4.6,SNR=15								
GERES	**GERESS Array B**	**78.26**	**335**	P		**P**	**17 44 29.5**	**0.0**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
WCI	**Wyandotte Cave**	**78.37**	**45**	*e*P		**P**	**17 44 29.6**	**-0.5**
WCI					pmax	pmax			
	comp=Z,23nm,0.9s,mb5.1								
WCI	**Wyandotte Cave**	**78.37**	**45**	*e*P		**P**	**17 44 29.6**	**-0.5**
	comp=Z,23nm,0.9s,mb5.1								
MEM	**Membach**	**78.59**	**341**	P		**P**	**17 44 31.6**	**+0.3**
MEM				E			17 44 44.9		
BZS	**Buzias**	**78.62**	**329**	⇓*i*P		**P**	**17 44 32.0**	**+0.6**
BZS	**Buzias**	**78.62**	**329**	⇓P		**P**	**17 44 32.0**	**+0.6**
BR131	**Keskin Array S**	**78.73**	**318**	*e*P		**P**	**17 44 35.5**	**+3.4**
	comp=Z,0.8nm,0.4s,mb4.0								
BR131				*e*			17 44 46.1		
BRTR	**Keskin Array B**	**78.73**	**318**	P		**P**	**17 44 33.2**	**+1.2**
	comp=Z,3.7nm,0.9s,mb4.3,baz=66,slow=4.2,SNR=18								
BRTR	**Keskin Array B**	**78.73**	**318**	P		**P**	**17 44 33.3**	**+1.2**
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BCLA	**Clavier**	**78.92**	**341**	P		**P**	**17 44 33.4**	**+0.3**
BCLA				E			17 44 46.9		
PERS	**Pernice**	**79.84**	**333**	*i* P		**P**	**17 44 38.5**	**+0.4**
PERS				*i*			17 44 52.9		
CDF	**Champ du Feu**	**80.35**	**339**	*e*P		**P**	**17 44 41.8**	**+1.0**
	comp=Z,13nm,1.0s,mb4.5								
CDF	**Champ du Feu**	**80.35**	**339**	*e*P		**P**	**17 44 41.8**	**+1.0**
CDF					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
CDF	**Champ du Feu**	**80.35**	**339**	*e*P		**P**	**17 44 41.8**	**+1.0**
	comp=Z,6.4nm,1.0s,mb4.5								
VTS	**Vitosha**	**80.66**	**326**⇑	*i*P		**P**	**17 44 43.0**	**+0.5**
VTS	**Vitosha**	**80.66**	**326**	⇑P		**P**	**17 44 43.0**	**+0.5**
BOJS	**Bojanci**	**80.82**	**333**	*e*P		**P**	**17 44 46.8**	**+3.4**
BOJS				*i*			17 44 57.7		
JAVS	**Javornik**	**80.83**	**334**	*e*P		**P**	**17 44 45.0**	**+1.6**
JAVS				*i*			17 44 55.5		
DAVOX	**Davos**	**81.20**	**337**	P		**P**	**17 44 46.3**	**+0.9**
	comp=Z,3.1nm,0.8s,mb4.3,baz=325,slow=16,SNR=3.6								
GRR	**Gorron**	**82.10**	**344**	*e*P		**P**	**17 44 50.8**	**+0.6**
	comp=Z,35nm,1.1s,mb4.9								
GRR	**Gorron**	**82.10**	**344**	*e*P		**P**	**17 44 50.8**	**+0.6**
GRR					pmax	pmax			
	comp=Z,17nm,1.1s,mb4.9								
GRR	**Gorron**	**82.10**	**344**	*e*P		**P**	**17 44 50.8**	**+0.6**
	comp=Z,17nm,1.1s,mb4.9								
CSS	**Prodhromos**	**82.74**	**315**	P		**P**	**17 44 55.6**	**+2.1**
	comp=Z,15nm,0.7s,mb5.1								
CSS				*e*			17 45 07.5		
SMF	**Signal de Mont**	**82.81**	**341**	*e*P		**P**	**17 44 54.4**	**+0.6**
	comp=Z,61nm,1.4s,mb5.1								
SMF	**Signal de Mont**	**82.81**	**341**	*e*P		**P**	**17 44 54.4**	**+0.6**
SMF					pmax	pmax			
	comp=Z,31nm,1.4s,mb5.2								
SMF	**Signal de Mont**	**82.81**	**341**	*e*P		**P**	**17 44 54.4**	**+0.6**
	comp=Z,30nm,1.4s,mb5.1								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**	**17 44 57.2**	**+1.3**
	comp=Z,25nm,1.0s,mb4.9								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**	**17 44 57.2**	**+1.3**
LPG					pmax	pmax			
	comp=Z,13nm,1.0s,mb4.9								
LPG	**La Plagne**	**83.20**	**338**	*e*P		**P**	**17 44 57.2**	**+1.3**
	comp=Z,13nm,1.0s,mb4.9								
ASF	**Jabal al Asfar**	**83.24**	**311**	P		**P**	**17 44 57.1**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=332,slow=4.4,SNR=5.1								
ASF	**Jabal al Asfar**	**83.24**	**311**	P		**P**	**17 44 57.1**	**+1.0**
ASF					pmax	pmax			
	comp=Z,2.0nm,0.5s								
MMAI	**Mount Meron Ar**	**83.32**	**313**	P		**P**	**17 44 57.1**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.5,baz=30,slow=3.8,SNR=9.2								
CAF	**Calviac**	**84.83**	**341**	*e*P		**P**	**17 45 04.9**	**+0.7**
TIP	**Timpagrande**	**85.99**	**329**	*e*P		**P**	**17 45 09.9**	**-0.1**
TIP				*e*			17 45 24.7		
EIL	**Elat**	**86.24**	**311**	*e*P		**P**	**17 45 12.4**	**+1.2**
	comp=Z,323nm,1.3s								
EIL				*e*			17 45 25.7		
IDI	**Anoyia**	**86.26**	**321**	P		**P**	**17 45 12.4**	**+1.1**
	comp=Z,4.0nm,0.6s,mb4.8,baz=30,slow=20,SNR=6.7								
GVD	**Gavdhos**	**86.98**	**322**	*e*P		**P**	**17 45 17.2**	**+2.4**
	comp=Z,20nm,1.0s,mb5.3								
GVD				*e*			17 45 28.3		
NWAO	**Narrogin (SRO)**	**87.23**	**211**	P		**P**	**17 45 14.6**	**-1.5**
	comp=Z,6.9nm,0.7s,mb5.0,baz=34,slow=3.4,SNR=7.0								
NWAO	**Narrogin (SRO)**	**87.23**	**211**	P		**P**	**17 45 14.6**	**-1.5**
NWAO					pmax	pmax			
	comp=Z,7.0nm,0.7s								
VNA2	**Neumayer--Watz**	**155.28**	**193**	*e*PKPdf		PKPdf	17 52 20.0	-3.0	
VNA2				*e*			17 52 33.9		
VNA2				*e*			17 52 45.3		
VNA2				*e*			17 52 56.6		
VNA3	**Neumayer Olymp**	**155.33**	**192**	*e*PKPdf		PKPdf	17 52 18.3	-4.7	
VNA3				*e*			17 52 32.5		
VNA3				*e*			17 52 43.9		
VNA3				*e*			17 52 56.7		

STR ***26*** *17:32:49.4±0.1, 4300N×003E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 26 17:32:49.1±0.1, 4302N×002W, h6km, Md1.8/2, Ml1.9/1, Error ellipse: s-maj=1.7km s-min=0.9km az=158.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**65**	Pg	Pg	17 32 51.2	+0.3
LABF				Sg	Sg	17 32 52.6	+0.5
VIEF	**Viey**	**0.14**	**166**	Pg	Pg	17 32 52.3	+0.4
VIEF				Sg	Sg	17 32 54.4	+0.6
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	17 32 54.4	+0.1
EPF				*e*Sg	Sg	17 32 57.7	-0.1
	5.2nm,0.2s						
ETSF	**Etsaut**	**0.41**	**254**	*e*Pg	Pg	17 32 57.2	+0.1
ETSF				*e*Sg	Sg	17 33 02.7	+0.2
	6.3nm,0.2s						

CAF	**Calviac**	**2.34**	**33**	Lg			17 36 52.8	
	0.9nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**21**	*e*Pg	Pg		17 36 26.2	-3.5
RJF				*e*Sg	Sg		17 36 56.5	-5.5
	1.9nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**21**	Pg	Pg		17 36 26.2	-3.5
RJF				Lg			17 36 56.5	
	0.9nm,0.2s							
EMOS	**Mosqueruela**	**2.67**	**192**	Lg			17 37 05.4	
	0.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.77**	**220**	Lg			17 37 09.7	
	1.8nm,0.2s,SNR=7.9							
LASF	**Ste Croix**	**2.83**	**66**	*e*Sg	Sg		17 37 08.8	-4.0
	1.2nm,0.3s							
LASF	**Ste Croix**	**2.83**	**66**	Lg			17 37 08.8	
	0.6nm,0.3s							

IDC ***26*** *17:36:08.0±0.4, 33.92S×178.58W, h0km, mb4.8/19, mb1 4.8/20, mb1mx4.8/24, mbtmp4.8/20, ML4.9/1, MS5.1/23, Ms1 5.1/23, ms1mx4.9/35, Error ellipse: s-maj=16.5km s-min=14.4km az=174.0*

ISCJB ***26*** *17:36:10.1±1.2, 34.12S±0.04×178.95W±0.04, h16km±8km, mb5.1/44, MS5.1/40, Error ellipse: s-maj=8.2km s-min=4.1km az=107.6*

MOS ***26*** *17:36:12.6±1.5, 33.96S×178.84W, h33km, mb5.5/17, MS5.0/8, Error ellipse: s-maj=12.4km s-min=10.9km az=1.6*

BJI ***26*** *17:36:12.4, 34.20S×178.88W, h36km, mB5.6, mb5.2, Ms5.3, Msz4.9*

NEIC ***26*** *17:36:13.6±0.2, 33.97S×178.73W, h35km, mb5.3/28, MS5.4/1, Error ellipse: s-maj=10.4km s-min=7.1km az=161.0*

GCMT ***26*** *17:36:13.6±0.1, 34.03S×178.13W, h12km, MW5.4/90, Moment Tensor Solution. s59,c101; s90,c162; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.89±.01; Mθθ-0.06±.01; Mφφ-0.82±.01; Mrθ0.24±.04; Mθφ-0.26±.01; Mφr1.22±.03; Best double couple: M0 1.53200×10^17 NP1 φs202.00000°, δ18.00000°, λ99.00000°. NP2 φs12.00000°, δ72.00000°, λ87.00000°. Principal axes: T 1.5270, Plg63.0000°, Azm278.0000°; N 0.0110, Plg3.0000°, Azm13.0000°; P -1.5380, Plg27.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***26*** *17:36:22.9, 33.93S×178.18W, h107km, South of Kermadec Islands*

ISC 26 17:36:13.1±1.2, 34.14S±0.04×178.90W±0.04, h27km±8km, h34km±3.9km: pP-P, n432, σ0.98/277, mb5.1/44, MS5.1/40, 68C-68D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**4.10**	**213**	PN	**Pn**		**17 37 15.2**	**+1.2**
MXZ				SN	**Sn**		**17 38 05.8**	**+4.7**
PUZ	**Puketiti**	**4.55**	**210**	PN	**Pn**		**17 37 20.4**	**+0.2**
PUZ				SN	**Sn**		**17 38 17.6**	**+5.5**
MWZ	**Matawai**	**5.09**	**214**	PN	**Pn**		**17 37 27.7**	**+0.2**
MWZ				SN	**Sn**		**17 38 31.5**	**+6.2**
KUZ	**Kuaotunu**	**5.11**	**238**	PN	**Pn**		**17 37 31.3**	**+3.5**
URZ	**Urewera**	**5.23**	**217**	Pn	**Pn**		**17 37 31.5**	**+2.1**
	40nm,0.3s,baz=41,slow=6.6,SNR=105							
URZ				Sn	**Sn**		**17 38 33.4**	**+4.6**
	51nm,0.3s,baz=172,slow=23,SNR=12							
URZ	**Urewera**	**5.23**	**217**	PN	**Pn**		**17 37 29.8**	**+0.4**
URZ				SN	**Sn**		**17 38 33.1**	**+4.3**
KNZ	**Kokohu**	**5.60**	**209**	PN	**Pn**		**17 37 34.5**	**0.0**
BKZ	**Black Stump Fm**	**6.24**	**215**	Pn	**Pn**		**17 37 44.5**	**+1.2**
BKZ				SN	**Sn**		**17 38 57.1**	**+3.4**
TSZ	**Takapari Road**	**7.19**	**213**	PN	**Pn**		**17 37 56.3**	**-0.2**
BFZ	**Birch Farm**	**7.58**	**209**	PN	**Pn**		**17 38 03.2**	**+1.4**
MTW	**Mount Morrison**	**8.29**	**211**	PN	**Pn**		**17 38 10.3**	**-1.3**
SNZO	**South Karori**	**8.77**	**213**	*e*Pn	**Pn**		**17 38 16.0**	**-2.0**
SNZO				*e*Sn	**Sn**		**17 39 53.5**	**-2.5**
TCW	**Tory Channel**	**8.89**	**215**	PN	**Pn**		**17 38 17.3**	**-2.5**
THZ	**Tophouse**	**9.99**	**218**	PN	**Pn**		**17 38 33.8**	**-1.0**
THZ				SN	**Sn**		**17 40 23.8**	**-2.1**
KHZ	**Kahutara**	**10.17**	**213**	PN	**Pn**		**17 38 37.7**	**+0.4**
LTZ	**Lake Taylor**	**11.06**	**216**	PN	**Pn**		**17 38 49.1**	**-0.3**
RPZ	**Rata Peaks**	**12.34**	**216**	Pn	**Pn**		**17 39 06.0**	**-1.0**
	4.1nm,0.3s,baz=37,slow=4.4,SNR=9.3							
RPZ				Sn	**Sn**		**17 41 15.8**	**-7.8**
	5.4nm,0.3s,baz=335,slow=17,SNR=9.0							
DZM	**Mont Dzumac**	**17.63**	**309**	*e*P	**Pn**		**17 40 20.1**	**+3.4**
DZM	**Mont Dzumac**	**17.63**	**309**	P	**Pn**		**17 40 20.4**	**+3.6**
	0.9nm,0.3s,baz=126,slow=12,SNR=28							
DZM				LR	LR		17 45 54.5	
	comp=Z,6μm,18.5s,baz=133,slow=33							
AFI	**Afiamalu**	**21.15**	**19**	P	**P**		**17 40 50.6**	**-5.4**
	14nm,0.3s,mb4.8,baz=170,slow=7.3,SNR=4.9							
AFI	**Afiamalu**	**21.15**	**19**	*e*P	**P**		**17 40 50.4**	**-5.6**
AFI				pmax	pmax			
	comp=Z,267nm,1.3s,mb5.4							
AFI	**Afiamalu**	**21.15**	**19**	*e*P	**P**		**17 40 50.4**	**-5.6**
	comp=Z,267nm,1.3s,mb5.4							
RAR	**Rarotonga**	**21.23**	**58**	P	**P**		**17 40 51.7**	**-5.1**
	comp=Z,108nm,1.2s,mb5.1,baz=270,slow=6.2,SNR=6.5							
ARMA	**Armidale**	**25.15**	**270**	⇓*i*P	**P**		**17 41 40.3**	**+4.3**
CNB	**Canberra Magne**	**26.06**	**258**	*e*P	**P**		**17 41 47.1**	**+2.9**
	comp=Z,55nm,1.3s,mb4.9							
TAU	**Tasmania Unive**	**27.69**	**242**	P	**P**		**17 41 59.2**	**+0.3**
TBI	**Tubuai**	**27.87**	**75**	*e*LR	LR		17 48 28.5	
	comp=Z,3μm,31.0s,baz=241							
TOO	**Toolangi**	**28.96**	**253**	*e*P	**P**		**17 42 12.5**	**+2.3**
	comp=Z,13nm,1.5s,mb4.4							
TOO	**Toolangi**	**28.96**	**253**	*e*P	**P**		**17 42 12.5**	**+2.3**
TOO				pmax	pmax			
	comp=Z,13nm,1.5s,mb4.4							
PAE	**Paea**	**30.91**	**65**	*e*P	**P**		**17 42 29.1**	**+1.7**
	comp=Z,119nm,1.2s,mb5.6							
PAE	**Paea**	**30.91**	**65**	*e*P	**P**		**17 42 29.1**	**+1.7**
PAE				pmax	pmax			
	comp=Z,119nm,1.2s,mb5.6							
PPT	**Papeete**	**30.97**	**65**	*e*LR	LR		17 49 51.2	
	comp=Z,3μm,20.5s,baz=233							
PPT	**Papeete**	**30.97**	**65**	LR	LR		17 53 12.5	
	comp=Z,4μm,18.0s,MS5.1,baz=249,slow=33							
HNR	**Honiara**	**31.34**	**317**	P	**P**		**17 42 30.0**	**-1.2**
	comp=Z,11nm,0.3s,mb5.1,baz=169,slow=1.0,SNR=5.1							
HNR				LR	LR		17 53 01.3	
	comp=Z,1μm,19.4s,MS4.5,baz=179,slow=32							
HNR	**Honiara**	**31.34**	**317**	*e*P	**P**		**17 42 29.9**	**-1.3**
STKA	**Stephens Creek**	**33.07**	**263**	*e*P	**P**		**17 42 48.2**	**+1.8**
STKA				*e*S	**S**		**17 48 09.2**	**+5.6**
STKA	**Stephens Creek**	**33.07**	**263**	P	**P**		**17 42 48.3**	**+1.9**
	comp=Z,7.5nm,0.7s,mb4.7,baz=106,slow=8.8,SNR=9.3							
STKA				LR	LR		17 55 47.2	
	comp=Z,3μm,19.0s,MS5.0,baz=92,slow=35							
CTA	**Charters Tower**	**33.85**	**285**	⇑*i*P	**P**		**17 42 54.8**	**+1.6**
	comp=Z,14nm,0.6s,mb5.1							
CTA				*e*PP	PP		17 44 17.1	+7.1
CTA				*e*S	**S**		**17 48 20.7**	**+5.0**
CTA	**Charters Tower**	**33.85**	**285**	P	**P**		**17 42 55.0**	**+1.8**
	comp=Z,11nm,0.6s,mb5.0,baz=114,slow=8.7,SNR=16							
CTA				LR	LR		17 53 15.4	
	comp=Z,2μm,21.4s,MS4.8,baz=108,slow=30							
CTA	**Charters Tower**	**33.85**	**285**	⇑*i*P	**P**		**17 42 54.8**	**+1.6**
CTA				*e*S	**S**		**17 48 20.7**	**+5.0**
CTA				pmax	pmax			
	comp=Z,14nm,0.6s							
CTAO	**Charters Tower**	**33.85**	**285**	*e*P	**P**		**17 42 54.9**	**+1.7**
CTAO				pmax	pmax			
	comp=Z,197nm,1.6s,mb5.8							
CTAO	**Charters Tower**	**33.85**	**285**	*e*P	**P**		**17 42 54.9**	**+1.7**
	comp=Z,197nm,1.6s,mb5.8							
PMG	**Port Moresby**	**39.68**	**300**	P	**P**		**17 43 44.0**	**+1.2**
	comp=Z,4.5nm,0.6s,mb4.4,baz=97,slow=23,SNR=4.7							
PMG				LR	LR		17 58 12.4	
	comp=Z,2μm,18.4s,MS5.0,baz=135,slow=33							
PMG	**Port Moresby**	**39.68**	**300**	*i*P	**P**		**17 43 43.2**	**+0.4**
PMG	**Port Moresby**	**39.68**	**300**	*e*P	**P**		**17 43 43.5**	**+0.7**
	comp=Z,40nm,1.4s,mb5.0							
RKT	**Rikitea**	**39.82**	**86**	*e*S	**S**		**17 49 47.6**	**+1.0**
	comp=Z,492nm,25.5s							
RKT				*e*LR	LR		17 54 04.6	
	comp=Z,3μm,28.5s,baz=247							
RKT	**Rikitea**	**39.82**	**86**	*e*P	**P**		**17 43 42.2**	**-1.8**
RKT				*e*S	**S**		**17 49 47.6**	**+1.0**
RKT				pmax	pmax			
	comp=Z,104nm,1.5s,mb5.3							
RKT	**Rikitea**	**39.82**	**86**	*e*P	**P**		**17 43 42.2**	**-1.8**
	comp=Z,104nm,1.5s,mb5.3							
RKT				*e*S	**S**		**17 49 47.6**	**+1.0**
DRV	**Dumont d'Urvil**	**40.41**	**204**	P	**P**		**17 43 47.0**	**-1.9**
DRV				S	**S**		**17 49 57.0**	**+1.5**
DRV				L			17 53 00.0	
AS31	**Alice Springs**	**42.29**	**271**	*e*P	**P**		**17 44 01.8**	**-2.5**
AS31				*e*PP	PP		17 45 38.2	-4.3
AS31				*e*S	**S**		**17 50 22.8**	**-0.6**
ASAR	**Alice Springs**	**42.30**	**271**	P	**P**		**17 44 04.8**	**+0.5**
	comp=Z,31nm,0.9s,mb4.9,baz=113,slow=6.8,SNR=150							
ASAR				S	**S**		**17 50 23.3**	**-0.1**
	comp=Z,3.4nm,1.0s,baz=121,slow=14,SNR=7.9							
ASAR				LR	LR		18 02 51.7	
	comp=Z,3μm,18.0s,MS5.2,baz=133,slow=38							
ASAR	**Alice Springs**	**42.30**	**271**	P	**P**		**17 44 04.8**	**+0.5**
ASAR				S	**S**		**17 50 23.3**	**-0.1**
ASPA	**Alice Springs**	**42.30**	**271**	*e*P	**P**		**17 44 01.8**	**-2.6**
ASPA				*e*PP	PP		17 45 38.2	-4.3
ASPA				*e*S	**S**		**17 50 22.8**	**-0.7**
TAOE	**Nuku Hiva Isla**	**43.56**	**64**	*e*S	**S**		**17 50 41.5**	**-0.5**
	comp=Z,1μm,22.9s							
TAOE				*e*LR	LR		17 55 45.4	
	comp=Z,5μm,21.0s,baz=236							
WB2	**Warramunga Arr**	**43.61**	**277**	⇑*i*P	**P**		**17 44 15.0**	**0.0**
WB2				*e*PP	PP		17 45 59.4	+2.7
WB2				*e*S	**S**		**17 50 41.6**	**-1.2**
WRAB	**Tennant Creek**	**43.62**	**277**	P	**P**		**17 44 15.6**	**+0.5**
	comp=Z,319nm,1.2s,mb5.9,SNR=19							
WRAB	**Tennant Creek**	**43.62**	**277**	*i* P	**P**		**17 44 14.5**	**-0.6**
WRAB	**Tennant Creek**	**43.62**	**277**	*e*P	**P**		**17 44 14.9**	**-0.1**
	comp=Z,70nm,1.1s,mb5.3							
WRA	**Warramunga Arr**	**43.62**	**277**	P	**P**		**17 44 15.0**	**-0.1**
	comp=Z,35nm,0.9s,mb5.1,baz=118,slow=7.5,SNR=48							
WRA				ScP	ScP		17 49 55.6	+3.8
	comp=Z,1.4nm,1.1s,baz=121,slow=4.7,SNR=5.1							
WRA				S	**S**		**17 50 41.7**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=116,slow=14,SNR=6.6							
WRA				LR	LR		18 02 43.4	
	comp=Z,1μm,18.7s,MS4.9,baz=135,slow=36							
WRA	**Warramunga Arr**	**43.62**	**277**	P	**P**		**17 44 15.0**	**-0.1**
WRA				S	**S**		**17 50 41.7**	**-1.2**
WRA	**Warramunga Arr**	**43.62**	**277**	P	**P**		**17 44 15.0**	**-0.1**
WRA				ScP	ScP		17 49 55.6	+3.8
WRA				S	**S**		**17 50 41.7**	**-1.2**
WRA				LR	LR		18 02 43.4	
SBA	**Scott Base**	**44.26**	**184**	P	**P**		**17 44 22.9**	**+2.7**
SBA				pmax	pmax			
	comp=Z,173nm,2.3s,mb5.4							
SBA	**Scott Base**	**44.26**	**184**	P	**P**		**17 44 22.9**	**+2.7**
	comp=Z,173nm,2.3s,mb5.4							
VNDA	**Vanda**	**44.31**	**186**	P	**P**		**17 44 22.4**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=7.8,slow=9.5,SNR=6.5							
VNDA				LR	LR		18 00 12.0	
	comp=Z,2μm,18.6s,MS5.0,baz=30,slow=32							
VNDA	**Vanda**	**44.31**	**186**	*e*P	**P**		**17 44 23.2**	**+2.6**
VNDA				pmax	pmax			
	comp=Z,27nm,1.5s							
VNDA	**Vanda**	**44.31**	**186**	*e*P	**P**		**17 44 23.2**	**+2.6**
	comp=Z,27nm,1.5s,mb4.8							
FORT	**Forrest**	**44.47**	**259**	*e*P	**P**		**17 44 22.1**	**+0.2**
	comp=Z,38nm,0.7s,mb5.2							
KAKA	**Kakadu**	**48.95**	**284**	⇑*i*P	**P**		**17 44 56.1**	**-0.9**
	comp=Z,21nm,0.5s,mb5.4							
CASY	**Casey**	**51.50**	**209**	⇓*i*P	**P**		**17 45 18.1**	**+1.8**
CASY				*i* S	**S**		**17 52 38.6**	**+3.8**
FITZ	**Fitzroy Crossi**	**51.70**	**273**	⇑*i*P	**P**		**17 45 17.6**	**-0.2**
	comp=Z,42nm,1.2s,mb5.2							
FITZ				*e*S	**S**		**17 52 39.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**51.70**	**273**	P	**P**		**17 45 18.0**	**+0.2**
	comp=Z,23nm,1.0s,mb5.0,baz=130,slow=8.4,SNR=17							
FITZ				LR	LR		18 08 31.4	
	comp=Z,3μm,18.4s,MS5.3,baz=120,slow=37							
NWAO	**Narrogin (SRO)**	**52.45**	**252**	P	**P**		**17 45 25.4**	**+2.1**
	comp=Z,11nm,0.9s,mb4.8,baz=63,slow=9.0,SNR=3.0							
NWAO				LR	LR		18 07 53.7	
	comp=Z,2μm,18.3s,MS5.1,baz=105,slow=36							
KLBR	**Kellerberrin**	**52.50**	**254**	⇑*i*P	**P**		**17 45 22.9**	**-0.8**
	comp=Z,60nm,1.1s,mb5.4							
MUN	**Mundaring**	**53.59**	**253**	⇑*i*P	**P**		**17 45 30.5**	**-1.3**
MUN				*e*S	**S**		**17 53 03.9**	**+0.4**
MBWA	**Marble Bar**	**55.15**	**267**	*e*P	**P**		**17 45 41.1**	**-2.0**
	comp=Z,51nm,1.4s,mb5.4							
QSPA	**South Pole Qui**	**55.98**	**180**	*e*P	**P**		**17 45 50.2**	**+1.1**
	comp=Z,60nm,1.0s,mb5.6							
MIR	**Mirnyy**	**58.46**	**208**	*d i*P	**P**		**17 46 09.0**	**+2.4**
MIR				*i*			17 46 22.0	
MIR				*e*PS			17 54 06.0	
MIR				pmax	pmax			
	comp=Z,360nm,1.5s							
MIR				pmax	pmax			
	comp=Z,500nm,4.0s							
MIR				MLR	MLR			
	comp=Z,2μm,18.0s,MS5.2							
MIR				MLR	MLR			
	comp=N,2μm,23.0s,MS5.3							
MIR				MLR	MLR			
	comp=E,2μm,23.0s,MS5.3							
MAW	**Mawson**	**68.55**	**201**	LR	LR		18 16 21.7	
	comp=E,2μm,19.3s,MS5.4,baz=116,slow=35							
SYO	**Syowa Base**	**73.31**	**194**	⇓*e*P	**P**		**17 47 41.0**	**-1.2**
SYO	**Syowa Base**	**73.31**	**194**	⇓*i*pP	pP		17 47 52.1	+1.3
SNAA	**Sanae**	**74.45**	**179**	P	**P**		**17 47 48.4**	**-0.4**
	comp=E,7.2nm,1.0s,mb4.5,baz=190,slow=5.3,SNR=29							
SNAA	**Sanae**	**74.45**	**179**	⇓*e*P	**P**		**17 47 48.4**	**-0.4**
SNAA	**Sanae**	**74.45**	**179**	*e*P	**P**		**17 47 47.4**	**-1.4**
	comp=E,62nm,1.5s,mb5.3							
TGY	**Tagaytay City**	**74.63**	**299**	P	**P**		**17 47 49.8**	**0.0**
	comp=E,25nm,0.3s,baz=20,slow=20,SNR=3.0							
VNA3	**Neumayer Olymp**	**74.63**	**176**	*e*P	**P**		**17 47 49.0**	**-0.9**
VNA3				*e*	pP		17 47 56.2	-2.3
VNA3				*e*			17 48 02.5	
VNA3				*e*			17 48 20.6	
VNA2	**Neumayer--Watz**	**75.06**	**177**	*e*P	**P**		**17 47 51.8**	**-0.5**
VNA2				*e*			17 47 53.2	
VNA2				*e*			17 48 06.4	
VNA2				*e*			17 48 13.2	
VNA2				*e*			17 48 29.3	
MAIT	**Maitri**	**75.10**	**184**	*e*P	**P**		**17 47 51.6**	**-1.0**
NVL	**N'lazarevskaya**	**75.11**	**184**	⇓*i*P	**P**		**17 47 51.0**	**-1.6**
NVL				pmax	pmax			
	comp=Z,47nm,1.9s,mb5.1							
VNA1	**Neumayer--Stat**	**75.29**	**177**	*e*P	**P**		**17 47 53.4**	**-0.3**
VNA1				*e*			17 47 54.7	
VNA1				*e*			17 48 05.3	
VNA1				*e*			17 48 32.6	
JOW	**Kunigami**	**78.64**	**313**	LR	LR		18 18 26.1	
	comp=Z,470nm,19.3s,MS4.8,baz=144,slow=32							
MJAR	**Matsushiro Arr**	**80.90**	**326**	P	**P**		**17 48 24.0**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.1,baz=162,slow=7.9,SNR=4.2							
MJAR				LR	LR		18 20 40.8	
	comp=Z,260nm,20.5s,MS4.6,baz=145,slow=33							
PSI	**Prapat**	**85.09**	**277**	P	**P**		**17 48 49.0**	**+2.5**
	comp=Z,1.8nm,0.5s,mb4.5,baz=5.8,slow=12,SNR=3.5							
ASAJ	**Asahikawa**	**85.41**	**333**	LR	LR		18 28 27.3	
	comp=Z,764nm,18.1s,MS5.1,baz=162,slow=37							
QIZ	**Qiongzhong**	**85.93**	**296**	P	**P**		**17 48 49.8**	**-0.8**
QIZ				XP	sP		17 49 03.3	+0.8
QIZ				S	S		17 59 19.8	-2.7
QIZ				AMB	AMB			
	comp=Z,292nm,9.4s							
QIZ				LR	LR			
	comp=N,234nm,13.8s							
QIZ				LR	LR			
	comp=Z,273nm,14.4s,MS4.8							
SSE	**Sheshan**	**86.01**	**312**	*e*P	**P**		**17 48 52.5**	**+1.4**
SSE				S	S		17 59 18.5	-4.8
SSE				AMB	AMB			
	comp=Z,17nm,0.8s,mb5.3							
SSE				AMB	AMB			
	comp=Z,265nm,9.2s							
SSE				LR	LR			
	comp=N,99nm,20.5s,MS4.3							
SSE				LR	LR			
	comp=E,58nm,20.5s,MS4.3							
SSE				LR	LR			
	comp=Z,319nm,17.9s,MS4.8							
SSE	**Sheshan**	**86.01**	**312**	*e*P	**P**		**17 48 52.6**	**+1.5**
	comp=Z,17nm,0.8s,mb5.3							
SSE				PcP	PcP		17 48 54.9	+1.2
SSE				pP	pP		17 49 21.0	+21
SSE				sP	sP		17 49 31.9	+29
SSE				S	S		17 59 18.6	-4.7
SSE				ScS	ScS		17 59 26.1	-6.2
SSE				sS	sS		18 00 05.3	+28
SSE				LR	LR			
	comp=Z,320nm,17.9s,MS4.8							

LPIG	**La Paz**	**87.14**	**58**	LR	LR		18 20 40.3	
	comp=Z,2μm,18.6s,MS5.4,baz=59,slow=31							
TRQA	**Tornquist**	**87.33**	**135**	*e*P	**P**		**17 48 56.4**	**-1.2**
	comp=Z,11nm,1.1s,mb5.0							
CFAA	**Coronel Fontan**	**87.61**	**127**	P	**P**		**17 48 57.1**	**-1.8**
	comp=Z,1.3nm,1.0s,mb4.1,baz=259,slow=3.5,SNR=13							
YSS	**Yuzh-Sakhalins**	**87.79**	**335**	*e*P	**P**		**17 48 59.0**	**-0.7**
YSS				*e*S	S		17 59 25.0	-15
YSS				*e*PS			18 00 48.0	
YSS				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.5							
YSS				MLR	MLR			
	comp=N,600nm,19.0s							
YSS				MLR	MLR			
	comp=Z,600nm,19.0s,MS5.0							
YSS	**Yuzh-Sakhalins**	**87.79**	**335**	*e*P	**P**		**17 48 58.9**	**-0.8**
	comp=Z,90nm,1.4s,mb5.8							
NJ2	**Nanjing**	**88.11**	**311**	*e*P	**P**		**17 49 01.0**	**-0.3**
NJ2				AP	pP		17 49 12.0	+2.0
NJ2				XP	sP		17 49 15.5	+2.3
NJ2				PP	PP		17 52 30.5	+2.4
NJ2				S	S		17 59 40.0	-3.6
NJ2				AMB	AMB			
	comp=Z,2μm,6.9s							
NJ2				LR	LR			
	comp=N,460nm,19.7s,MS5.5							
NJ2				LR	LR			
	comp=E,2μm,18.5s,MS5.5							
NJ2				LR	LR			
	comp=Z,2μm,18.6s,MS5.5							
V03C	**Hunter Liggett**	**88.13**	**43**	⇓P	**P**		**17 49 02.5**	**+1.2**
	baz=88							
PKM	**Peak Mountain**	**88.16**	**45**	⇑P	**P**		**17 49 02.3**	**+0.8**
	baz=88							
HAST	**UC Hastings Re**	**88.22**	**43**	⇓P	**P**		**17 49 02.3**	**+0.5**
	baz=88							
FARB	**Farallon Islan**	**88.35**	**41**	⇑P	**P**		**17 49 02.9**	**+0.5**
	baz=88							
BNLO	**Ben Lomond (Sa**	**88.40**	**42**	⇑P	**P**		**17 49 03.8**	**+1.2**
	baz=88							
PTRM	**Twissleman Ran**	**88.46**	**44**	*e*P	**P**		**17 49 02.7**	**-0.2**
PKD	**Parkfield**	**88.47**	**44**	P	**P**		**17 49 03.7**	**+0.7**
	baz=88,SNR=7.3							
DECC	**Green Verdugo**	**88.59**	**46**	⇓P	**P**		**17 49 04.3**	**+0.8**
	baz=89							
OSI	**Osito Adit**	**88.61**	**46**	⇓P	**P**		**17 49 03.8**	**+0.2**
	baz=89							
U04C	**Hernandez Rese**	**88.63**	**43**	⇑P	**P**		**17 49 05.2**	**+1.5**
	baz=89							
V05C	**Boulder Hill,**	**88.79**	**44**	⇓P	**P**		**17 49 04.6**	**+0.2**
	baz=89							
PACP	**Pacheco Peak**	**88.81**	**43**	⇑P	**P**		**17 49 05.4**	**+0.8**
	baz=89							
MONP	**Monument Peak**	**88.82**	**48**	⇓P	**P**		**17 49 05.1**	**+0.5**
	baz=89							
MURC	**Murrieta**	**88.83**	**47**	⇓P	**P**		**17 49 04.5**	**-0.1**
	baz=89							
ARVC	**Arvin**	**88.90**	**45**	⇑P	**P**		**17 49 05.5**	**+0.5**
	baz=89							
BFSC	**Mount Baldy St**	**88.98**	**47**	P	**P**		**17 49 04.7**	**-0.6**
	baz=89,SNR=8.0							
S04C	**Ingram Canyon,**	**89.14**	**42**	⇓P	**P**		**17 49 06.0**	**-0.1**
	baz=89							
BDM	**Black Diamond**	**89.16**	**42**	⇓P	**P**		**17 49 05.1**	**-1.1**
	baz=89							
EDW2	**Edwards Air Fo**	**89.22**	**46**	P	**P**		**17 49 06.0**	**-0.4**
	baz=89,SNR=8.6							
SWSC	**Sam W. Stewart**	**89.24**	**49**	⇑P	**P**		**17 49 06.7**	**+0.2**
	baz=89							
VES	**Vestal, Richgr**	**89.25**	**45**	P	**P**		**17 49 05.5**	**-1.1**
	baz=89,SNR=8.2							
PFO	**Pinyon Flat Ob**	**89.29**	**48**	LR	LR		18 22 37.4	
	comp=Z,1μm,18.7s,MS5.4,baz=241,slow=31							
PFO	**Pinyon Flat Ob**	**89.29**	**48**	⇑P	**P**		**17 49 06.9**	**+0.2**
	baz=89							
ISA	**Isabella**	**89.48**	**45**	*e*P	**P**		**17 49 05.4**	**-2.3**
ISA	**Isabella**	**89.48**	**45**	P	**P**		**17 49 07.4**	**-0.3**
	baz=90,SNR=17							
MNRC	**McLaughlin Nat**	**89.51**	**41**	⇓P	**P**		**17 49 09.0**	**+1.2**
	baz=90							
Q03C	**Winters**	**89.57**	**41**	⇑P	**P**		**17 49 08.6**	**+0.5**
	baz=90							
S05C	**Merced**	**89.58**	**43**	⇑P	**P**		**17 49 08.4**	**+0.2**
	baz=90							
T06C	**Millerton Lake**	**89.70**	**43**	P	**P**		**17 49 07.7**	**-1.0**
	baz=90,SNR=12							
LRMC	**Laurel Mountai**	**89.81**	**46**	P	**P**		**17 49 08.9**	**-0.4**
	baz=90,SNR=15							
**

U10A Ash Meadows, A 91.26 46 P **P** 17 49 17.1 +1.1
baz=91,SNR=9.3
WCN Washoe City 91.28 42 ⇓P **P** 17 49 16.5 +0.5
baz=91
MDJ Mudanjiang 91.28 326 P **P** 17 49 15.5 -0.6
MDJ AP pP 17 49 25.0 +0.1
MDJ XP sP 17 49 28.8 +0.8
MDJ S S 18 00 11.3 -1.7
MDJ XS sS 18 00 27.5 -0.1
MDJ AMB AMB
comp=Z,19nm,1.6s,mb5.2
MDJ AMB AMB
comp=Z,231nm,5.6s
MDJ LR LR
comp=N,355nm,20.4s,MS4.9
MDJ LR LR
comp=E,282nm,17.3s,MS4.9
MDJ LR LR
comp=Z,390nm,22.8s
Z14A Wintersburg 91.31 50 ⇑P **P** 17 49 16.7 +0.4
baz=91
115A Sonoran Desert 91.34 51 ⇓P **P** 17 49 17.1 +0.7
baz=91
BEKR Beckwourth 91.35 41 ⇑P **P** 17 49 15.9 -0.5
baz=91
W12A Cal Nev Ari 91.39 47 ⇑P **P** 17 49 18.0 +1.4
baz=91
V11A Goodsprings 91.41 47 ⇓P **P** 17 49 17.1 +0.4
baz=91
YBH Yreka Blue Hor 91.43 38 LR LR 18 24 47.5
comp=Z,1μm,18.7s,MS5.4,baz=229,slow=32
P06A Stead Airport, 91.47 41 ⇑P **P** 17 49 17.7 +0.8
baz=92
NVAR Mina Array Bea 91.49 43 P **P** 17 49 14.9 -2.1
comp=Z,4.2nm,0.9s,mb4.8,baz=233,slow=9.1,SNR=18
X13A Yucca 91.56 48 P **P** 17 49 17.9 +0.5
baz=92,SNR=9.1
116A Eloy 91.59 51 ⇑P **P** 17 49 18.2 +0.7
baz=92
S09A Goldfield 91.62 44 ⇓P **P** 17 49 17.2 -0.5
baz=92
Y14A Wickenburg 91.65 49 P **P** 17 49 18.9 +1.1
baz=92,SNR=5.4
V12A Nelson 91.69 47 P **P** 17 49 18.3 +0.4
baz=92,SNR=5.6
K02A Glendale 91.79 37 ⇑P **P** 17 49 19.2 +0.8
baz=92
U11A Corn Creek 91.83 46 ⇓P **P** 17 49 18.1 -0.5
baz=92
O06A Flanigan 91.85 41 ⇓P **P** 17 49 17.9 -0.8
baz=92
W13A Hualapai Mount 91.86 48 P **P** 17 49 18.9 +0.1
baz=92,SNR=8.9
HABR Khabarovsk 91.94 331 ⇑*i*P **P** 17 49 18.7 -0.4
HABR *e* 18 00 13.0
HABR pmax pmax
comp=Z,58nm,1.6s,mb5.7
Q08A Gabbs 91.99 43 ⇑P **P** 17 49 19.2 -0.2
baz=92
TUC Tucson 92.03 52 *e*P **P** 17 49 19.5 0.0
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
TUC Tucson 92.03 52 *e*P **P** 17 49 19.5 -0.1
comp=Z,8.0nm,1.2s,mb4.9
R09A Tonopah 92.06 44 ⇓P **P** 17 49 19.5 -0.2
baz=92
X14A Yava 92.07 49 P **P** 17 49 19.8 +0.1
baz=92,SNR=11
J02A Umpqua 92.18 37 ⇓P **P** 17 49 21.0 +0.8
baz=92
M06C Likely Place G 92.23 40 ⇑P **P** 17 49 20.0 -0.5
baz=92
N06A Buffalo Meadow 92.25 41 ⇑P **P** 17 49 19.4 -1.1
baz=92
U12A Valley of Fire 92.34 47 ⇓P **P** 17 49 21.7 +0.7
baz=92
O07A Toulon 92.36 42 ⇑P **P** 17 49 21.5 +0.5
baz=92
W14A Seligman 92.43 48 P **P** 17 49 22.2 +0.8
baz=92,SNR=7.3
X15A Humboldt 92.49 49 ⇓P **P** 17 49 23.0 +1.4
baz=92
CN2 Changchun 92.67 323 *e*P **P** 17 49 21.5 -1.0
CN2 *e*S SKKSac 18 00 13.5 +1.2
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.6
CN2 LR LR
comp=N,200nm,16.0s,MS4.8
CN2 LR LR
comp=E,200nm,16.0s,MS4.8
CN2 LR LR
comp=Z,300nm,18.0s,MS4.8
GYA Guiyang 92.76 300 P **P** 17 49 23.8 +0.9
GYA PP PP 17 53 10.0 +5.0
GYA S SKKSac 18 00 17.0 +4.0
GYA PS PS 18 01 47.8 +6.8
GYA SS SS 18 06 36.3 -3.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,130nm,6.8s
GYA LR LR
comp=N,570nm,20.8s,MS5.1
GYA LR LR
comp=E,540nm,21.7s,MS5.1
GYA LR LR
comp=Z,610nm,21.6s,MS5.0
MOD Modoc 92.81 40 ⇑P **P** 17 49 23.3 +0.1
baz=93
J04A Umpqua Nationa 92.83 38 ⇑P **P** 17 49 23.7 +0.4
baz=93
W15A Williams 92.92 49 ⇑P **P** 17 49 23.4 -0.2
baz=93
K05A Summer Lake 93.08 39 ⇓P **P** 17 49 23.9 -0.5
baz=93
N08A GE Springer Mi 93.20 42 ⇑P **P** 17 49 24.1 -0.8
baz=93
H03A Soap Creek Ran 93.28 36 ⇓P **P** 17 49 25.4 +0.1
baz=93
Q11A Duckwater 93.29 44 ⇑P **P** 17 49 25.1 -0.2
baz=93
O09A Fish Creek Ran 93.31 43 ⇓P **P** 17 49 25.9 +0.4
baz=93
L07A Adell 93.41 40 ⇑P **P** 17 49 25.7 -0.2
baz=94
M08A Happy Creek Ra 93.53 41 ⇓P **P** 17 49 26.2 -0.2
baz=94
N09A Rock Creek Ran 93.59 42 ⇓P **P** 17 49 26.8 +0.1
baz=94
WUAZ Wupatki 93.69 49 ⇑P **P** 17 49 28.2 +1.0
baz=94
P11A Circle Ranch, 93.71 44 ⇑P **P** 17 49 28.3 +1.0
baz=94
H04A Detroit Lake 93.83 37 ⇑P **P** 17 49 29.2 +1.4
baz=94
J06A Christmas Vall 93.84 39 ⇑P **P** 17 49 27.0 -0.9
baz=94
KLR Kul'dur 93.88 330 *e*P **P** 17 49 23.3 -4.8
KLR *e*S SKSac 17 59 55.5 -5.5
KLR smax
comp=N,700nm,9.0s
KLR smax
comp=E,500nm,9.0s
Q12A Willow Creek R 93.90 45 ⇑P **P** 17 49 28.9 +0.7
baz=94
K07A Rock Creek Ran 93.92 40 ⇑P **P** 17 49 28.4 +0.1
baz=94
M09A Marrel Ranch, 94.02 41 ⇑P **P** 17 49 28.5 -0.2
baz=94
L08A Fields 94.06 40 ⇑P **P** 17 49 29.0 +0.1
baz=94
P12A McGill 94.14 44 ⇓P **P** 17 49 30.0 +0.7
baz=94
O11A Cowboy Ranch, 94.15 43 ⇑P **P** 17 49 29.7 +0.4
baz=94
KDAK Kodiak Island 94.21 14 LR LR 18 30 36.4
comp=E,635nm,18.4s,MS5.1,baz=122,slow=35
I06A Prineville 94.30 38 ⇑P **P** 17 49 29.8 -0.2
baz=94
K08A Mann Creek Ran 94.36 40 ⇑P **P** 17 49 29.4 -0.9
baz=94
M10A I.L. Ranch, Tu 94.59 42 ⇓P **P** 17 49 30.7 -0.6
baz=95
K09A Rome 94.74 40 ⇑P **P** 17 49 31.4 -0.6
baz=95
I07A Izee 94.76 38 ⇓P **P** 17 49 30.6 -1.5
baz=95

H06A Lindquist Farm 94.79 38 ⇑P **P** 17 49 31.0 -1.2
baz=95
J08A Circle Bar Ran 94.79 40 ⇓P **P** 17 49 32.0 -0.3
baz=95
KMI Kunming 94.83 297 P **P** 17 49 33.0 +0.6
KMI AP pP 17 49 46.0 +4.8
KMI XP sP 17 49 50.3 +5.9
KMI S S 18 00 43.0 -1.5
KMI SS SS 18 07 10.3 +1.4
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.7
KMI AMB AMB
comp=Z,161nm,10.0s
KMI LR LR
comp=N,139nm,18.2s,MS4.7
KMI LR LR
comp=E,167nm,16.9s,MS4.7
KMI LR LR
comp=Z,252nm,16.9s,MS4.8
KMI Kunming 94.83 297 P **P** 17 49 33.1 +0.7
KMI *PP pP 17 49 46.0 +4.8
KMI 17 53 16.5
KMI PPP 17 55 28.8
KMI 18 00 08.7
KMI S S 18 00 42.9 -1.6
KMI SP SP 18 01 59.7 -0.7
KMI SS SS 18 07 10.3 +1.4
KMI pmax pmax
comp=Z,5.0nm,1.5s,mb4.7
KMI MLR MLR
comp=Z,250nm,16.9s,MS4.8
KMI Kunming 94.83 297 P **P** 17 49 33.1 +0.7
comp=Z,5.0nm,1.5s,mb4.7
KMI pP pP 17 49 46.0 +4.8
KMI sP sP 17 49 50.2 +5.8
KMI PP PP 17 53 16.5 -4.7
KMI PPP 17 55 28.8
KMI SKS 18 00 08.7
KMI S S 18 00 42.9 -1.6
KMI sS sS 18 00 54.8 -4.3
KMI SP SP 18 01 59.7 -0.7
KMI SS SS 18 07 10.3 +1.4
KMI LR LR
comp=Z,250nm,16.9s,MS4.8
M11A Holland Ranch, 94.94 42 ⇓P **P** 17 49 32.4 -0.6
baz=95
N12A Clover Valley, 94.98 43 ⇑P **P** 17 49 32.2 -0.9
baz=95
TXAR Lajitas Array 95.03 58 P **P** 17 49 32.1 -1.3
comp=Z,1.5nm,1.0s,mb4.4,baz=205,slow=8.2,SNR=7.8
TXAR LR LR 18 26 15.5
comp=Z,1μm,18.4s,MS5.3,baz=290,slow=32
BJI Beijing 95.06 316 P **P** 17 49 34.5 +1.0
BJI 17 53 30.2
BJI SS SS 18 07 22.8 +11
BJI pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
BJI MLR MLR
comp=Z,400nm,23.7s,MS4.8
BJI Beijing 95.06 316 P **P** 17 49 34.5 +1.0
comp=Z,5.0nm,0.8s,mb5.0
BJI PP PP 17 53 30.2 +7.2
BJI S SKSac 18 00 12.6 +5.3
BJI SS SS 18 07 22.8 +11
BJI LR LR
comp=Z,400nm,23.7s,MS4.8
MSU Marysvale 95.12 46 P **P** 17 49 33.4 -0.4
J09A Fry Pan Ranch, 95.17 40 ⇓P **P** 17 49 33.7 -0.3
baz=95
F06A Goldendale 95.30 37 ⇓P **P** 17 49 33.0 -1.6
baz=95
M12A Wells 95.42 43 ⇓P **P** 17 49 34.5 -0.6
baz=96
G07A Ruggs Ranch, H 95.50 38 ⇓P **P** 17 49 35.2 -0.3
baz=96
H09A Durkee 96.12 39 ⇓P **P** 17 49 38.0 -0.3
baz=96
E07A Sunnyside 96.31 37 ⇓P **P** 17 49 39.5 +0.3
baz=96
H11A Donnelly 97.01 40 ⇑P **P** 17 49 42.0 -0.4
baz=97
HLID Hailey 97.12 41 ⇓P **P** 17 49 42.5 -0.4
baz=97
LPAZ La Paz 97.28 115 P **P** 17 49 43.8 +0.2
comp=Z,2.0nm,0.8s,mb4.6,baz=222,slow=3.5,SNR=7.5
LPAZ LR LR 18 28 10.0
comp=Z,229nm,18.9s,MS4.7,baz=158,slow=32
LPAZ La Paz 97.28 115 *e*P **P** 17 49 43.7 +0.1
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ La Paz 97.28 115 *e*P **P** 17 49 43.6 +0.1
comp=Z,3.6nm,1.0s,mb4.8
CD2 Chengdu 97.43 302 *e*P **P** 17 49 43.3 -1.0
CD2 AP pP 17 49 53.5 +0.4
CD2 XP sP 17 49 58.0 +1.8
CD2 PP PP 17 53 43.0 +1.6
CD2 SKS 18 00 17.5
CD2 S S 18 01 01.5 -5.5
CD2 XS sS 18 01 19.5 -2.1
CD2 SS SS 18 07 44.5 -1.3
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,240nm,9.6s
CD2 LR LR
comp=N,390nm,18.0s,MS5.1
CD2 LR LR
comp=E,400nm,16.8s,MS5.1
CD2 LR LR
comp=Z,300nm,18.0s,MS4.8
F11A Grangeville 97.73 39 ⇑P **P** 17 49 44.5 -1.1
baz=98
C09A Chrisman Ranch 97.95 36 ⇓P **P** 17 49 46.2 -0.4
baz=98
HHC Hu-ho-hao-te 98.28 314 *e*P **P** 17 49 49.3 +1.2
HHC PP PP 17 53 53.5 +5.6
HHC S S 18 01 04.5 -10
HHC SS SS 18 07 54.5 -3.2
HHC AMB AMB
comp=Z,13nm,1.0s,mb5.4
HHC AMB AMB
comp=Z,104nm,7.8s
HHC LR LR
comp=N,238nm,17.1s,MS4.9
HHC LR LR
comp=E,218nm,18.2s,MS4.9
HHC LR LR
comp=Z,283nm,19.6s,MS4.8
NEW Newport 98.83 37 LR LR 18 28 11.3
comp=Z,2μm,19.6s,MS5.6,baz=233,slow=32
PDAR Pinedale Array 99.35 44 LR LR 18 30 38.4
comp=Z,920nm,18.1s,MS5.3,baz=243,slow=33
LZH Lanzhou 100.34 307 *e*P Pdif 17 49 58.0 +0.8
LZH PP PP 17 54 08.0 +4.5
LZH SKS 18 00 34.0
LZH *e*S Sdif 18 01 20.0 -11
LZH AMB AMB
comp=Z,26nm,1.5s
LZH AMB AMB
comp=Z,100nm,4.5s
LZH LR LR
comp=N,830nm,14.0s
LZH LR LR
comp=Z,1μm,16.0s,MS5.6
LZH Lanzhou 100.34 307 *e*P Pdif 17 49 58.0 +0.8
LZH 17 54 08.0
LZH 18 00 34.0
LZH *e*S Sdif 18 01 20.0 -11
LZH PS PS 18 03 09.0 +5.3
LZH *e*SS SS 18 08 20.0 -6.5
LZH pmax pmax
comp=Z,26nm,1.5s
LZH MLR MLR
comp=Z,1μm,16.0s,MS5.6
LZH Lanzhou 100.34 307 *e*P Pdif 17 49 58.0 +0.8
comp=Z,26nm,1.5s
LZH pP 17 50 27.0
LZH sP 17 50 40.0
LZH PP PP 17 54 08.0 +4.5
LZH SKS 18 00 34.0
LZH *e*S Sdif 18 01 20.0 -11
LZH sS 18 02 12.0
LZH PS PS 18 03 09.0 +5.3
LZH *e*SS SS 18 08 20.0 -6.5
LZH LR LR
comp=Z,1μm,16.0s,MS5.6
SONM Songino Array 105.39 318 PKKPbc PKKPbc 18 05 58.0 -0.5
comp=Z,0.3nm,0.6s,baz=270,slow=3.9,SNR=3.8
YKA Yellowknife Ar 109.13 26 PKKPab PKKPab 18 05 57.7 -1.5
comp=Z,0.6nm,0.7s,baz=37,slow=3.4,SNR=5.8
WMQ Urumqi 114.91 307 PKP PKiKP 17 54 49.3 -2.0
WMQ PP PP 17 55 53.0 +2.9
WMQ PP PP
comp=Z,60nm,4.0s
WMQ LR LR
comp=N,92nm,20.2s,MS4.6
WMQ LR LR
comp=E,126nm,20.2s,MS4.6
MKAR Makanchi Array 119.55 309 PKP PKPdf 17 54 58.6 -1.7
comp=E,4.5nm,1.0s,baz=135,slow=0.9,SNR=9.7
NVS Novosibirsk 121.42 318 *e*PKIKP PKPdf 17 55 01.5 -2.4
NVS pmax pmax
comp=Z,32nm,2.5s
NVS pmax pmax
comp=E,8.0nm,1.4s
KSH Kashi 121.43 299 *e*PKP PKPdf 17 55 04.0 +0.1
KSH *e*PPP 17 58 30.3
KSH *e*PKS 17 58 39.3
KSH *e*SKS SKSdf 18 02 05.5 -8.5
KSH PP PP
comp=Z,588nm,4.0s
AAK Ala-Archa 123.50 302 ⇑*i*PKIKP PKPdf 17 55 05.8 -2.1
LSZ Lusaka 124.50 212 *e*PKIKP PKPdf 17 55 08.7 -1.1
BVAR Borovoye Array 128.49 314 PKP PKPdf 17 55 16.0 -1.4
comp=Z,3.1nm,0.8s,baz=126,slow=2.6,SNR=23
BRVK Borovoye 128.56 314 *e*PKIKP PKPdf 17 55 16.0 -1.5
ZRNK Zerenda 129.31 314 *e*PKIKP PKPdf 17 55 17.5 -1.5
KMBO Kilima Mbogo 131.20 232 PKP PKPdf 17 55 23.9 +1.4
comp=Z,1.2nm,0.8s,baz=193,slow=20,SNR=7.6
ARU Arti 135.43 318 *i* PKIKP PKPdf 17 55 27.4 -3.1
ARU *e* 17 58 02.4
ARU Arti 135.43 318 *e*PKPdf PKPdf 17 55 27.8 -2.7
SOKR Solikamsk 135.96 323 ⇑*i*PKIKP PKPdf 17 55 31.7 +0.2
SOKR pmax pmax
comp=Z,30nm,1.7s
AKTK Aktyubinsk 135.97 310 PKP PKPdf 17 55 30.6 -0.9
AKTO Aktyubinsk 135.97 310 PKP PKPdf 17 55 30.6 -0.9
comp=Z,3.0nm,0.8s,baz=104,slow=6.3,SNR=8.3
ARCES ARCESS Array B 142.06 346 PKP PKPdf 17 55 38.5 -4.1
comp=Z,7.2nm,1.0s,baz=41,slow=1.7,SNR=6.6
ARCES ARCESS Array B 142.06 346 PKP PKPdf 17 55 38.5 -4.1
MAK Makhachkala 143.06 298 *i* PKIKP PKPdf 17 55 40.1 -4.3
MAK *i* 17 58 58.2
MAK pmax pmax
comp=Z,611nm,1.7s
MAK MLR MLR
comp=Z,518nm,20.0s,MS5.3
PECR Pechory 143.32 321 *e*PKIKP PKPdf 17 55 40.3 -4.6
PECR pmax pmax
comp=Z,150nm,2.0s
GNI Garni 144.97 293 PKPbc PKPdf 17 55 47.0 -0.7
comp=Z,2.6nm,0.3s,baz=162,slow=6.4,SNR=20
GNI Garni 144.97 293*c* *i*PKIKP PKPdf 17 55 46.5 -1.2
GNI Garni 144.97 293 *e*PKP PKPdf 17 55 46.8 -1.0
KZR Kazreti 145.29 295 P PKPbc 17 55 47.4 -0.7
HAKT HAKKARI 145.51 288 *i* P PKPdf 17 55 45.0 -3.6
ZEI Tsey 145.70 297 *e*PKP2 PKPab 17 55 48.0 -1.7
TVAN Van 145.86 290 *i* P PKPdf 17 55 43.1 -6.1
DIGO Kars 146.03 293 *i* P PKPdf 17 55 48.9 -0.7
VRHR Novokhopersk 146.22 313 *e*PKP2 PKPab 17 55 49.2 -2.5
VRHR pmax pmax
comp=Z,260nm,1.2s
VRHR pmax pmax
comp=N,4.0nm,1.3s
VRHR pmax pmax
comp=E,150nm,1.6s
KIV Kislovodsk 146.56 300 *i* PKIKP PKPdf 17 55 49.5 -0.9
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 146.56 300 *e*PKPbc PKPbc 17 55 51.3 -0.6
MOS Moscow 146.90 322 *e*PKHKP 17 55 47.5
MOS pmax pmax
comp=Z,303nm,1.6s
ARTV Artvin 147.16 295 *i* P PKPdf 17 55 47.0 -4.5
VOR Voronezh 147.50 314 PKP2 PKPab 17 55 53.0 -3.7
VOR pmax pmax
comp=Z,280nm,1.8s
ERZM Erzurum 147.54 292 *i* P PKPdf 17 55 51.8 -0.3
VRSR Storozhevoye 147.66 314 *i* PKP2 PKPab 17 55 53.4 -3.9
VRSR pmax pmax
comp=Z,100nm,1.2s
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,60nm,1.1s
OBN Obninsk 147.71 321*d* *i*PKIKP PKPdf 17 55 51.2 -1.2
OBN *i* 17 56 03.4
OBN *e* 17 59 20.4
OBN pmax pmax
comp=Z,180nm,1.4s
OBN MLR MLR
comp=Z,300nm,20.0s,MS5.1
OBN Obninsk 147.71 321 *e*PKPdf PKPdf 17 55 51.0 -1.4
OBN *e*PKPbc PKPbc 17 55 54.4 -0.8
MARD Mardin 147.80 287 *i* P PKPdf 17 55 48.9 -3.6
FIA1 FINESS Array S 148.34 337 *e*PKPbc PKPbc 17 55 54.3 -2.6
FINES FINESS Array B 148.34 337 PKPbc PKPbc 17 55 55.0 -1.9
comp=Z,30nm,0.8s,baz=73,slow=3.0,SNR=34
FINES FINESS Array B 148.34 337 PKPbc PKPbc 17 55 55.0 -1.9
SOC Sochi 148.73 299*c* *i*PKIKP PKPdf 17 55 55.3 +1.3
SOC pmax pmax
comp=Z,34nm,1.2s
KELT Kelkit 149.17 292 *i* P PKPdf 17 55 56.5 +1.8
ELZG Elazig 149.31 289 *i* P PKPdf 17 55 57.5 +2.5
MALT Malatya 149.74 289 ⇑*i*P PKPbc 17 56 00.7 +0.3
MALT Malatya 149.74 289 *e*PKPdf PKPdf 17 55 55.5 -0.2
MALT *e*PKPbc PKPbc 17 56 00.4 0.0
GRSN GIRESUNGRSN 149.93 294 *i* P PKPdf 17 55 56.5 +0.6
ASF Jabal al Asfar 150.06 276 PKPbc PKPbc 17 56 01.6 +0.4
comp=Z,12nm,1.0s,baz=45,slow=1.9,SNR=24
ANN Anapa 150.23 302 *i* PKIKP PKPdf 17 55 50.2 -6.2
ANN pmax pmax
comp=Z,71nm,1.5s
EIL Elat 151.00 271 *e*PKPbc PKPbc 17 56 03.3 -0.1
HWQ Hawqa 151.27 280 *e*P PKPbc 17 56 04.1 +0.1
COBT Iskenderun 151.32 285 *i* P PKPdf 17 56 02.3 +4.2
BHL Bhannes 151.44 279 *e*P PKPbc 17 56 04.7 +0.2
MMAI Mount Meron Ar 151.48 277 PKPbc PKPbc 17 56 05.0 +0.5
comp=Z,20nm,0.9s,baz=87,slow=3.4,SNR=24
LIC Lamto 151.65 167 *e*PKIKP PKPdf 17 55 57.7 -0.9
comp=Z,53nm,0.8s
LIC *e*R
comp=Z,1μm,19.2s
LIC Lamto 151.65 167 *e*PKPdf PKPdf 17 55 57.7 -0.9
LIC LR LR
comp=Z,550nm,19.3s,MS5.4
NB2 NORSAR Subarra 152.30 349 PKP PKPbc 17 56 03.7 -2.7
comp=Z,52nm,1.4s,baz=16,slow=4.0
NOA NORSAR Array B 152.30 349 PKPbc PKPbc 17 56 04.3 -2.1
comp=Z,7.5nm,1.0s,baz=14,slow=4.6,SNR=8.6
MNK Minsk 152.36 326 *e*PKIKP PKPdf 17 56 02.0 +2.3
BOYT Boyabat 152.44 295 *i* P PKPdf 17 56 04.2 +4.4
SIM Simferopol' 152.53 303 *i* PKIKP PKPbc 17 56 06.0 -0.9
SIM pmax pmax
comp=Z,50nm,12.3s
AVNT Avonos 152.56 290 *i* P PKPbc 17 56 05.2 -1.8
CTKT Corum 152.57 294 *i* P PKPdf 17 56 00.4 +0.4
HFS Hagfors 152.72 346 PKPbc PKPbc 17 56 07.0 -0.3
comp=Z,6.9nm,0.8s,baz=132,slow=2.2,SNR=11
CDAG Cicekdag 152.93 291 *i* P PKPdf 17 55 59.4 -1.1
BR131 Keskin Array S 153.49 292 *e*PKPbc PKPbc 17 56 08.0 -1.0
BRTR Keskin Array B 153.49 292 PKP PKPdf 17 56 00.6 -0.8
comp=Z,3.4nm,1.2s,baz=168,slow=4,SNR=8.2
BRTR PKPbc PKPbc 17 56 07.3 -1.7
comp=Z,6.1nm,0.9s,baz=141,slow=2.4,SNR=21
BRTR PKPab PKPab 17 56 21.0 -0.4
comp=Z,2.5nm,0.5s,baz=145,slow=3.0,SNR=7.6
CSS Prodhromos 153.50 281 *e*PKPbc PKPbc 17 56 08.8 -0.2
BALT Daday 153.57 296 *i* P PKPdf 17 56 04.2 +2.8
ELDT Eldivan 153.62 293 *i* P PKPdf 17 56 06.1 +4.6
AKASG Malin Array Be 153.68 317 PKP PKPdf 17 56 00.7 -0.9
comp=Z,1.3nm,0.9s,baz=50,slow=1.4,SNR=5.6
AKASG PKPbc PKPbc 17 56 07.7 -1.7
comp=Z,2.5nm,0.7s,baz=65,slow=2.5,SNR=12
AKASG PKPab PKPab 17 56 20.5 -1.6
comp=Z,4.5nm,0.5s,baz=48,slow=2.6,SNR=16
AKBB Malin Array Si 153.68 317 *e*PKIKP PKPbc 17 56 08.0 -1.4
KIEV Kiev 153.69 317 *e*PKIKP PKPbc 17 56 08.1 -1.3
KIEV *e* 17 56 20.2

SGKT	**Sivrigoynuk**	**154.66**	**294**	*i* P		PKPdf	17 56 01.3	-1.6
KDHN	**Kadinhani**	**154.70**	**289**	*i* P		PKPdf	17 55 55.6	-7.4
SUW	**Suwalki**	**154.77**	**329**	*e*PKP		PKPbc	17 56 11.4	-0.3
KIS	**Kishinev**	**155.48**	**310**	*i* PKP2		PKPab	17 56 25.0	-4.8
KIS				MLR		MLR		
	comp=Z,500nm,22.0s,MS5.3							
KIS				MLR		MLR		
	comp=Z,200nm,22.0s							
KIS	**Kishinev**	**155.48**	**310**	*e*PKIKP		PKPab	17 56 25.0	-4.8
KIS				LRM			19 09 24.0	
	comp=Z,200nm,22.0s							
LVV	**L'vov**	**156.99**	**320**	*e*PKP2		PKPab	17 56 33.4	-2.9
VRI	**Vrincioaia**	**157.25**	**309**	⇓*i* P		PKPab	17 56 36.2	-1.2
BURAR	**Bucovina Array**	**157.45**	**314**	⇓*i* P		PKPab	17 56 30.9	-7.4
KWP	**Kalwaria**	**157.80**	**321**	*e*PKP		PKPab	17 56 38.2	-1.6
MLR	**Muntele Rosu**	**157.90**	**308**	PKP		PKPdf	17 56 06.0	-1.2
	comp=Z,1.3nm,0.8s,baz=306,slow=9.7,SNR=3.8							
MLR	**Muntele Rosu**	**157.90**	**308**	⇑*i* P		PKPdf	17 56 01.8	-5.4
MLR	**Muntele Rosu**	**157.90**	**308**	⇑P		PKPdf	17 56 01.8	-5.4
MLR				PKP		PKPdf	17 56 06.0	-1.2
KOLS	**Kolonicke sedl**	**158.44**	**320**	*e*PKP		PKPab	17 56 41.5	-1.1
UZH	**Uzhgorod**	**158.60**	**319**	*e*PKP2		PKPab	17 56 35.0	-8.3
EKA	**Eskdalemuir Ar**	**158.60**	**7**	PKPab		PKPab	17 56 42.0	-1.3
	comp=Z,3.3nm,0.9s,baz=320,slow=2.2,SNR=4.1							
STHS	**Stebnicka Huta**	**158.69**	**322**	*e*PKP		PKPab	17 56 43.0	-0.6
OJC	**Ojcow**	**158.88**	**325**	*e*PKP		PKPdf	17 56 05.9	-2.5
TORD	**Torodi Ar. Bea**	**159.09**	**182**	PKP		PKPdf	17 56 08.9	+0.2
	comp=Z,1.8nm,0.9s,baz=252,slow=1.1,SNR=7.1							
TORD				PKPab		PKPab	17 56 44.7	-0.7
	comp=Z,6.5nm,1.0s,baz=175,slow=2.4,SNR=8.5							
NIE	**Niedzica**	**159.16**	**323**	*e*PKP		PKPdf	17 56 07.8	-0.9
KECS	**Kecovo**	**159.65**	**321**	*e*PKP		PKPab	17 56 46.5	-1.4
OKC	**Ostrava-Krasne**	**159.91**	**326**	*e*PKPAB		PKPab	17 56 47.9	-1.1
KSP	**Ksiaz**	**159.97**	**331**	*e*PKIKP		PKPdf	17 56 08.3	-1.4
KSP				*e*			17 56 47.1	
KSP	**Ksiaz**	**159.97**	**331**	*e*PKPdf		PKPdf	17 56 08.3	-1.4
KSP				*e*			17 56 27.9	
KSP				*e*PKPab		PKPab	17 56 47.1	-2.1
KSP				*ep*PKPab		pPKPab	17 57 15.5	+17
PSZ	**Piszkesteto**	**160.31**	**320**	⇓*i* P		PKPab	17 56 50.0	-0.7
DPC	**Dobruska-Polom**	**160.33**	**330**	*e*PKPAB		PKPab	17 56 48.9	-1.9
UPC	**Upice**	**160.34**	**331**	*e*PKPAB		PKPab	17 56 48.7	-2.1
VYHS	**Vyhne**	**160.50**	**323**	*e*PKP		PKPab	17 56 50.0	-1.5
CLL	**Collm**	**160.79**	**337**	*e*PKPab		PKPab	17 56 49.9	-2.9
CLL	**Collm**	**160.79**	**337**	⇓*i* PKP2		PKPab	17 56 50.8	-2.0
CLL				pmax		pmax		
	comp=Z,72nm,1.5s							
CLL	**Collm**	**160.79**	**337**	⇓*i* PKPab		PKPab	17 56 50.8	-2.0
	comp=Z,72nm,1.5s							
CLL				*e*PP		PP	18 00 35.0	-0.4
BRG	**Berggiesshubel**	**160.83**	**335**	*e*PKPab		PKPab	17 56 50.4	-2.6
BRG				*ep*PKPab		pPKPab	17 57 19.4	+18
BRG	**Berggiesshubel**	**160.83**	**335**	*e*PKP		PKPdf	17 56 09.1	-1.5
	comp=Z,4.6nm,1.1s							
BRG				*ep*PKP		PKPab	17 56 50.2	-2.8
	comp=Z,23nm,1.4s							
BRG				*e*			17 59 33.4	
	comp=Z,3.8nm,1.1s							
BRG				*e*			17 59 52.5	
	comp=Z,13nm,1.9s							
BRG	**Berggiesshubel**	**160.83**	**335**	*e*PKIKP		PKPdf	17 56 09.1	-1.5
BRG				*e*			17 56 50.2	
PVCC	**Panska Ves**	**160.89**	**333**	*e*PKPAB		PKPab	17 56 51.7	-1.5
VRAC	**Vranov**	**161.00**	**328**	PKPab		PKPab	17 56 51.3	-2.4
	comp=Z,10nm,1.1s,baz=37,slow=3.4,SNR=11							
VRAC	**Vranov**	**161.00**	**328**	⇓*i* P		PKPab	17 56 53.3	-0.4
FBE	**Freiberg**	**161.00**	**336**	*e*PKPab		PKPab	17 56 51.4	-2.3
CLZ	**Clausthal**	**161.08**	**342**	*e*PKPab		PKPab	17 56 51.6	-2.5
SMOL	**Smolenice**	**161.18**	**325**	*e*PKP		PKPab	17 56 53.6	-0.9
PRU	**Pruhonice**	**161.33**	**332**	*e*PKPAB		PKPab	17 56 53.6	-1.6
TANN	**Tannenbergstha**	**161.73**	**336**	*e*PKPab		PKPab	17 56 54.7	-2.2
WERD	**Werda**	**161.75**	**337**	*e*PKPab		PKPab	17 56 54.6	-2.4
MOX	**Moxa**	**161.80**	**338**	*e*PKPab		PKPab	17 56 54.8	-2.4
MOX	**Moxa**	**161.80**	**338**	*e*PKP		PKPab	17 56 55.4	-1.8
	comp=Z,45nm,1.6s							
MOX	**Moxa**	**161.80**	**338**	*e*PKP2		PKPab	17 56 55.4	-1.8
MOX				pmax		pmax		
	comp=Z,45nm,1.6s							
GUNZ	**Gunzen**	**161.82**	**336**	*e*PKPab		PKPab	17 56 55.1	-2.2
GUNZ				*ep*PKPab		pPKPab	17 57 23.3	+17
WERN	**Wernitzgruen**	**161.87**	**336**	*e*PKPab		PKPab	17 56 55.5	-2.0
NKC	**Novy Kostel**	**161.89**	**336**	*e*PKPAB		PKPab	17 56 56.1	-1.5
BUG	**Bochum--Univer**	**162.14**	**347**	*e*PKPab		PKPab	17 56 55.6	-3.1
MANZ	**Manzenberg**	**162.22**	**336**	*e*PKPab		PKPab	17 56 56.9	-2.1
ROTZ	**Rotzenmuhle**	**162.37**	**336**	*e*PKPab		PKPab	17 56 57.8	-1.9
KHC	**Kasperske Hory**	**162.40**	**332**	*e*PKPDF		PKPdf	17 56 10.0	-2.2
KHC				*e*PKPAB		PKPab	17 56 58.1	-1.7
GEC2	**GERESS Array S**	**162.57**	**331**	*e*PKPab		PKPab	17 56 58.7	-1.9
GERES	**GERESS Array B**	**162.57**	**331**	PKP		PKPdf	17 56 10.4	-2.0
	comp=Z,0.1nm,0.3s,baz=146,slow=2.6,SNR=4.3							
GERES				PKPab		PKPab	17 56 58.7	-1.9
	comp=Z,2.1nm,0.8s,baz=35,slow=3.3,SNR=9.8							
WET	**Wettzell**	**162.65**	**333**	*e*PKPab		PKPab	17 56 58.8	-2.1
GRA1				*ep*PKPab		pPKPab	17 57 27.4	+17
GRA1	**Grafenberg Arr**	**162.76**	**337**	*e*PKPab		PKPab	17 56 59.5	-1.9
GRF	**Grafenberg Arr**	**162.76**	**337**	*e*PKPab		PKPab	17 56 59.5	-1.9
GRF				*ep*PKPab		pPKPab	17 57 27.4	+17
TNS	**Taunus Mts**	**163.05**	**344**	*e*PKPab		PKPab	17 56 59.7	-3.0
GIVF	**Givet**	**163.82**	**351**	*e*PKP2		PKPab	17 57 03.7	-2.4
BAIF	**Baives**	**163.93**	**353**	*e*PKP2		PKPab	17 57 04.2	-2.4
WLF	**Walferdange**	**164.05**	**348**	*e*PKPab		PKPab	17 57 04.8	-2.3
FUR	**Furstenfeldbru**	**164.05**	**335**	*e*PKPab		PKPab	17 57 04.9	-2.2
STU	**Stuttgart**	**164.19**	**340**	*e*PKPab		PKPab	17 57 05.1	-2.6
BFO	**Black Forest**	**164.83**	**341**	*e*PKPab		PKPab	17 57 07.8	-2.7
CDF	**Champ du Feu**	**165.01**	**344**	*e*PKP2		PKPab	17 57 09.0	-2.3
	comp=Z,6.1nm,1.6s							
HAU	**Haudompre**	**165.60**	**346**	*e*PKP2		PKPab	17 57 11.8	-2.1
HINF	**Hinteralfeld**	**165.67**	**344**	*e*PKP2		PKPab	17 57 11.7	-2.5
DAVOX	**Davos**	**165.73**	**335**	PKPab		PKPab	17 57 13.1	-1.4
	comp=Z,7.4nm,1.0s,baz=221,slow=2.2,SNR=4.8							
LOR	**Lormes**	**166.72**	**352**	*e*PKP2		PKPab	17 57 16.4	-2.5
SSF	**Saint Saulge**	**166.97**	**353**	*e*PKP2		PKPab	17 57 17.8	-2.1
	comp=Z,14nm,1.0s							
CABF	**La Chapelle**	**166.98**	**345**	*e*PKP2		PKPab	17 57 17.9	-2.1
AVF	**Avril sur Loir**	**167.25**	**353**	*e*PKP2		PKPab	17 57 18.0	-3.2
SMF	**Signal de Mont**	**167.34**	**351**	*e*PKP2		PKPab	17 57 18.4	-3.2
MFF	**Saint Martin d**	**167.52**	**4**	*e*PKP2		PKPab	17 57 20.1	-2.3
	comp=Z,33nm,1.1s							
BGF	**Bois d'Agland**	**167.53**	**354**	*e*PKP2		PKPab	17 57 19.9	-2.5
LPL	**La Plagne**	**167.85**	**341**	*e*PKP2		PKPab	17 57 21.9	-1.9
	comp=Z,122nm,1.7s							
LPG	**La Plagne**	**167.86**	**341**	*e*PKP2		PKPab	17 57 22.1	-1.8
	comp=Z,77nm,1.4s							
ORIF	**Oris-en-Rattie**	**168.63**	**343**	*e*PKP2		PKPab	17 57 24.9	-2.4
	comp=Z,20nm,1.1s							
VAE	**Valguarnera**	**168.69**	**291**	PKPab		PKPab	17 57 28.0	+0.4
	comp=Z,12nm,0.4s,baz=127,slow=2.7,SNR=5.4							
RJF	**Les Rejaudoux**	**168.85**	**358**	*e*PKP2		PKPab	17 57 26.0	-2.3
SBF	**Sospel**	**169.12**	**335**	*e*PKP2		PKPab	17 57 27.2	-2.3
CAF	**Calviac**	**169.20**	**356**	*e*PKP2		PKPab	17 57 27.8	-2.1
PGF	**Pioggiola**	**169.57**	**326**	*e*PKP2		PKPab	17 57 29.4	-2.1
SMRF	**Simiane la Rot**	**169.58**	**342**	*e*PKP2		PKPab	17 57 29.2	-2.3
LASF	**Ste Croix**	**169.85**	**349**	*e*PKP2		PKPab	17 57 30.3	-2.4
	comp=Z,54nm,1.4s							
LMR	**La Mourre**	**169.90**	**337**	*e*PKP2		PKPab	17 57 30.6	-2.3
	comp=Z,101nm,1.4s							
EMHD	**Djebel Mahouad**	**177.45**	**324**	P		PP	18 02 03.0	+3.5
EBNR	**Beni Rached**	**177.83**	**351**	P		PP	18 02 05.0	+3.7
EANR	**'Ain N'Sour**	**178.20**	**0**	P		PP	18 02 08.0	+4.9
ETRT	**Tiaret**	**178.74**	**353**	P		PP	18 02 10.0	+4.4

ISCJB ***26*** *17:55:29.8±1.0,269N±02×9704E±009,h10km,mb3.4/4, MS4.3/1, Error ellipse: s-maj=22.8km s-min=10.8km az=17.9*

IDC ***26*** *17:55:30.7±1.8,2656N×9672E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/20,mbtmp3.4/4,MS4.4/1,Ms1 4.4/1, ms1mx3.0/24, Error ellipse: s-maj=78.6km s-min=22.9km az=70.0*

ISC 26 17:55:32.5±0.9,269N±01×9707E±008,h10km,n13, σ1§03/13,mb3.4/4,MS4.3/1,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.84**	**255**	*e*PN		**Pn**	**17 56 47.0**	**+1.6**
SHL				*e*SN		**Sn**	**17 57 42.5**	**+1.0**
JIRN	**Jiri** 4.5nm,0.2s	**9.71**	**277**	*e*P		**Pn**	**17 57 52.7**	**+0.4**
GUN	**Gumba** 15nm,0.3s	**10.00**	**278**	*e*P		**Pn**	**17 57 56.3**	**+0.1**
PKI	**Pulchoki** 20nm,0.6s	**10.40**	**276**	*e*P		**Pn**	**17 58 01.3**	**-0.4**
KKN	**Kakani** 16nm,0.5s	**10.52**	**278**	*e*P		**Pn**	**17 58 02.8**	**-0.6**
DMN	**Daman**	**10.67**	**277**	*e*P		**Pn**	**17 58 05.0**	**-0.4**
GKN	**Gorkha** 11nm,0.4s	**11.10**	**279**	*e*P		**Pn**	**17 58 10.3**	**-1.0**
KOLN	**Koldanda** 14nm,0.7s	**12.01**	**277**	*e*P		**Pn**	**17 58 21.5**	**-2.2**
SONM	**Songino Array** 0.3nm,0.6s,mb2.9,baz=202,slow=9.8,SNR=2.7	**22.15**	**17**	P		**P**	**18 00 32.6**	**+4.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,mb2.8,baz=146,slow=10,SNR=4.8	**23.05**	**333**	P		**P**	**18 00 38.9**	**+1.0**
JNU	**Nakatsue** comp=Z,701nm,20.1s,MS4.3,baz=180,slow=37	**29.84**	**70**	LR		LR	18 14 03.2	
WRA	**Warramunga Arr** 0.8nm,0.6s,mb3.9,baz=327,slow=7.5,SNR=17	**58.93**	**138**	P		**P**	**18 05 31.7**	**-0.2**
ASAR	**Alice Springs** 0.4nm,0.6s,mb3.8,baz=324,slow=6.8,SNR=12	**61.58**	**141**	P		**P**	**18 05 49.8**	**-0.3**

HLW ***26*** *17:58:02.6,3593N×2336E,h30km,Mb4.1*

ISCJB ***26*** *17:58:03.8±0.2,3533N±002×2324E±002,h10km, mb4.6/71,MS3.8/9, Error ellipse: s-maj=2.5km s-min=1.7km az=29.5*

IDC ***26*** *17:58:04.0±0.5,3551N×2338E,h0km,mb4.5/27, mb1 4.5/34,mb1mx4.5/38,mbtmp4.4/34,ML3.8/7,MS3.8/9, Ms1 3.8/9,ms1mx3.4/38, Error ellipse: s-maj=11.7km s-min=10.2km az=30.0*

CSEM ***26*** *17:58:03.4±0.1,3514N×2323E,h12km,mb4.3/12, Error ellipse: s-maj=2.2km s-min=1.2km az=1.0*

MOS ***26*** *17:58:03.9±1.1,3541N×2333E,h10km,mb4.8/41, Error ellipse: s-maj=4.4km s-min=2.6km az=112.0*

SOF ***26*** *17:58:04.2,3532N×2311E,h2km,MD3.7*

BJI ***26*** *17:58:04.1,3537N×2265E,h44km,mB5.1,mb4.6,Ms4.9, Msz4.6*

ATH ***26*** *17:58:05.5,3545N×2330E,h11km±3km,MD4.4/25,ML4.1*

NEIC ***26*** *17:58:06.2±0.7,3540N×2336E,h14km±4km,mb4.5/67, MD4.4(ATH), Error ellipse: s-maj=4.0km s-min=2.5km az=203.0*

THE ***26*** *17:58:06.9,3543N×2335E,h10km,ML4.7*

SZGRF ***26*** *17:58:07.4,3528N×2280E,h10km,Central Mediterranean Sea*

PRU ***26*** *17:58:11.2,3571N×2250E,h0km,M4.5*

PDG ***26*** *17:58:11.9±0.2,3595N×2278E,h0km±1km*

NAO ***26*** *17:58:33.1,3897N×2632E,h33km,mb4.3*

ISC 26 17:58:05.8±0.2,3534N±002×2326E±002,h10km, (h36km±3.4km:pP-P),n552,σ1§33/602,mb4.6/71,MS3.8/9, 28C-26D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.77**	**85**	⇑*i* PG		**Pg**	**17 58 19.4**	**-1.2**
VAM				*e*SB		**Sg**	**17 58 30.5**	**-0.2**
GVD	**Gavdhos**	**0.84**	**126**	*e*PG		**Pg**	**17 58 22.0**	**0.0**
KYTH	**Kithira**	**0.95**	**349**	*e*PB		**Pb**	**17 58 22.0**	**-2.4**
IDI	**Anoyia** 71nm,0.3s,baz=274,slow=14,SNR=375	**1.33**	**92**	Pn		**Pn**	**17 58 30.2**	**-0.2**
IDI				Sn		**Sn**	**17 58 47.9**	**-0.3**
	250nm,0.3s,baz=258,slow=19,SNR=13							
VLI	**Veliai**	**1.40**	**349**	*e*PB		**Pb**	**17 58 30.8**	**-1.2**
VLI				*e*SB		**Sb**	**17 58 48.1**	**-1.8**
NPS	**Neapolis**	**1.93**	**92**	⇑*e*PG		**Pn**	**17 58 40.5**	**+1.9**
XRY	**Khrisi**	**2.05**	**102**	*e*PG		**Pg**	**17 58 43.0**	**-2.0**
SANT	**Santorini**	**2.06**	**59**	*e*Pb		**Pn**	**17 58 40.8**	**+0.3**
SANT				*e*Sb		**Sn**	**17 59 06.4**	**+0.2**
SANT	**Santorini**	**2.06**	**59**	*e*Pn		**Pn**	**17 58 40.0**	**-0.4**
SANT				*e*S		**Sb**	**17 59 09.1**	**+0.2**
SANT	**Santorini**	**2.06**	**59**	*e*Pb		**Pn**	**17 58 40.8**	**+0.4**
SANT				*e*Sb		**Sn**	**17 59 06.4**	**+0.3**
ITM	**Ithomi**	**2.13**	**330**	*e*PN		**Pn**	**17 58 42.7**	**+1.3**
NAIG	**Nisos Aigina**	**2.42**	**4**	*e*PB		**Pn**	**17 58 45.0**	**-0.4**
KVR	**Kavouri**	**2.52**	**9**	*e*PN		**Pn**	**17 58 44.5**	**-2.2**
APE	**Apeiranthos**	**2.52**	**46**	*e*Pn		**Pn**	**17 58 47.0**	**+0.3**
APE				*e*Sn		**Sn**	**17 59 17.3**	**-0.2**
APE	**Apeiranthos**	**2.52**	**46**	*e*PN		**Pn**	**17 58 47.3**	**+0.6**
ATH	**Athens Observa**	**2.65**	**8**	*e*PN		**Pn**	**17 58 50.1**	**+1.6**
PTL	**Penteli**	**2.75**	**10**	*e*PN		**Pn**	**17 58 47.5**	**-2.3**
RLS	**Riolos of Patr**	**3.07**	**333**	*e*PB		**Pn**	**17 58 56.1**	**+1.8**
KARP	**Karpathos**	**3.19**	**85**	*e*PN		**Pn**	**17 58 57.1**	**+1.1**
LKR	**Lokris**	**3.31**	**356**	*e*PN		**Pn**	**17 58 57.8**	**+0.2**
NISR	**Nisiros**	**3.38**	**67**	*e*PN		**Pn**	**17 58 58.0**	**-0.6**
BODT	**Bodrum**	**3.70**	**61**	P		**Pn**	**17 59 02.6**	**-0.3**
SMG	**Samos**	**3.72**	**50**	*e*PN		**Pn**	**17 59 05.2**	**+1.9**
AGG	**Agios Georgios**	**3.75**	**349**	*e*Pn		**Pn**	**17 59 05.6**	**+1.9**
EVR	**Evrytania**	**3.75**	**342**	*e*PB		**Pb**	**17 59 07.2**	**-4.9**
DAT	**Datca**	**3.76**	**67**	P		**Pn**	**17 59 04.5**	**+0.7**
LKD	**Levkas**	**3.96**	**329**	*e*Pn		**Pn**	**17 59 07.8**	**+1.4**
LKD				*e*Sn		**Sn**	**17 59 56.1**	**+3.2**
LKD	**Levkas**	**3.96**	**329**	*e*Pn		**Pn**	**17 59 07.8**	**+1.3**
LKD				*e*Sn		**Sn**	**17 59 56.1**	**+3.2**
NEO	**Neokhori**	**3.96**	**360**	*e*PN		**Pn**	**17 59 06.8**	**+0.3**
XOR	**Xorichti**	**4.02**	**359**	*e*Pn		**Pn**	**17 59 08.8**	**+1.5**
ARG	**Arkhangelos**	**4.05**	**76**	*e*PN		**Pn**	**17 59 08.7**	**+0.9**
ARG				*e*SN		**Sn**	**17 59 57.2**	**+1.9**
BLCB	**Balcova**	**4.29**	**44**	*e*P		**Pn**	**17 59 11.9**	**+0.8**
THL	**Klokotos Trika**	**4.33**	**347**	*e*PN		**Pn**	**17 59 13.3**	**+1.7**
YER	**Yerkesik**	**4.43**	**65**	*e*P		**Pn**	**17 59 13.0**	**-0.1**
PRK	**Paraskevi**	**4.58**	**31**	*e*PN		**Pn**	**17 59 13.7**	**-1.3**
DALT	**Dalyan (Mudla)**	**4.58**	**70**	*e*P		**Pn**	**17 59 16.5**	**+1.4**
JAN	**Janina**	**4.71**	**337**	*e*PB		**Pb**	**17 59 22.8**	**-5.7**
MEV	**Metsovon**	**4.72**	**341**	*e*Pn		**Pn**	**17 59 18.9**	**+1.9**
IGT	**Igoumenitsa**	**4.79**	**332**	*e*Pn		**Pn**	**17 59 18.2**	**+0.3**
LIT	**Litokhoron**	**4.79**	**353**	*e*Pn		**Pn**	**17 59 18.7**	**+0.8**
FETY	**Fethiye**	**4.89**	**73**	*e*P		**Pn**	**17 59 20.9**	**+1.5**
PLG	**Polygyros**	**5.03**	**2**	*e*Pn		**Pn**	**17 59 21.7**	**+0.5**
PLG	**Polygyros**	**5.03**	**2**	*e*Pn		**Pn**	**17 59 21.6**	**+0.4**
EZN	**Ezine**	**5.09**	**28**	*e*P		**Pn**	**17 59 22.8**	**+0.7**
KZN	**Kozani**	**5.09**	**347**	*e*PB		**Pn**	**17 59 28.4**	**+6.3**
KEK	**Kerkira**	**5.16**	**329**	*e*PN		**Pn**	**17 59 22.8**	**-0.2**
DENT	**Denizli**	**5.23**	**61**	*e*P		**Pn**	**17 59 26.7**	**+2.7**
HORT	**Hortiatis**	**5.25**	**359**	*e*Pn		**Pn**	**17 59 25.2**	**+1.0**
HMAT	**Matruh**	**5.32**	**142**	P		**Pn**	**17 59 26.1**	**+0.9**
SOH	**Sokhos**	**5.47**	**1**	*e*Pn		**Pn**	**17 59 28.2**	**+0.9**
SOH	**Sokhos**	**5.47**	**1**	*i* P		**Pg**	**17 59 45.9**	**-4.7**
CANB	**Canakkale**	**5.55**	**32**	*e*P		**Pn**	**17 59 29.4**	**+0.9**
ELL	**Elmali**	**5.56**	**73**	*e*P		**Pn**	**17 59 30.5**	**+1.9**
KNT	**Kendrikon**	**5.82**	**357**	*e*Pn		**Pn**	**17 59 33.4**	**+1.3**
KHL	**Karahalli**	**5.84**	**58**	*e*P		**Pn**	**17 59 34.9**	**+2.6**
BIA	**Bitola**	**5.87**	**346**	*i* Pn		**Pn**	**17 59 36.3**	**+3.5**
BIA				*i* Sn		**Sn**	**18 00 39.7**	**-0.5**
VAY	**Valandovo**	**6.00**	**355**	*i* Pn		**Pn**	**17 59 37.5**	**+3.0**
NVR	**Nevrokopi**	**6.02**	**4**	*e*PN		**Pn**	**17 59 38.1**	**+3.3**
RDO	**Rodhopi**	**6.07**	**16**	*e*PN		**Pn**	**17 59 35.7**	**+0.2**
RDO	**Rodhopi**	**6.07**	**16**	*e*PN		**Pn**	**17 59 36.2**	**+0.5**
OHR	**Ohrid**	**6.08**	**342**	*i* Pn		**Pn**	**17 59 35.5**	**-0.1**
OHR				*i* Sn		**Sn**	**18 00 41.7**	**-3.5**
RKY	**Sarkoy-Tekirda**	**6.17**	**29**	*e*P		**Pn**	**17 59 38.0**	**+1.2**
ANTB	**Antalya**	**6.18**	**73**	*e*P		**Pn**	**17 59 40.3**	**+3.2**
EDC	**Edincik**	**6.18**	**35**	*e*P		**Pn**	**17 59 37.6**	**+0.6**
KRUS	**Krusevo**	**6.22**	**346**	*i* Pn		**Pn**	**17 59 39.0**	**+1.4**
KRUS				*i* Sn		**Sn**	**18 00 46.5**	**-2.3**
MMB	**Musomiste**	**6.25**	**3**	*i* P		**Pn**	**17 59 38.6**	**+0.6**
MMB				S		**Sn**	**18 00 50.8**	**+1.3**
MRMT	**Marmara Adasi**	**6.27**	**32**	*e*P		**Pn**	**17 59 39.5**	**+1.2**
BCK	**Bucak**	**6.28**	**68**	*e*P		**Pn**	**17 59 40.4**	**+2.0**
MFT	**Murefte**	**6.29**	**29**	*e*P		**Pn**	**17 59 39.7**	**+1.1**
ISP	**Isparta**	**6.34**	**65**	*e*P		**Pn**	**17 59 39.8**	**+0.5**
ISP	**Isparta**	**6.34**	**65**	*e*P		**Pn**	**17 59 41.0**	**+1.7**
ISP	comp=Z,50nm,0.6s			pmax		pmax		
ISP	**Isparta** comp=Z,50nm,0.6s	**6.34**	**65**	*e*Pn		**Pn**	**17 59 41.0**	**+1.7**
ISP	**Isparta** comp=Z,50nm,0.6s	**6.34**	**65**	*e*Pn		**Pn**	**17 59 41.0**	**+1.7**
SWA2		**6.36**	**162**	⇓P		**Pn**	**17 59 41.0**	**+1.6**
SOI	**Samo**	**6.40**	**297**	P		**Pn**	**17 59 39.6**	**-0.4**
SOI	comp=Z,33nm,0.4s			pmax		pmax		
SOI	**Samo** comp=Z,33nm,0.4s	**6.40**	**297**	Pn		**Pn**	**17 59 39.6**	**-0.4**
STIP	**Stip**	**6.40**	**353**	*i* Pn		**Pn**	**17 59 41.4**	**+1.3**
SWA1		**6.41**	**160**	P		**Pn**	**17 59 42.0**	**+1.9**
SWA1				S		**Sn**	**18 00 55.0**	**+1.7**
LCI	**Lecce**	**6.44**	**322**	P		**Pn**	**17 59 39.9**	**-0.7**
LCI	comp=Z,52nm,0.3s			pmax		pmax		
LCI	**Lecce** comp=Z,52nm,0.3s	**6.44**	**322**	Pn		**Pn**	**17 59 39.9**	**-0.7**
RZN	**Rozhen**	**6.44**	**10**	*i* P		**Pn**	**17 59 41.9**	**+1.3**
TIP	**Timpagrande**	**6.45**	**308**	*e*Pn		**Pn**	**17 59 40.0**	**-0.7**
TIP				*e*S		**Sn**	**18 00 46.1**	**-8.2**
TIP	**Timpagrande**	**6.45**	**308**	*e*Pn		**Pn**	**17 59 40.0**	**-0.7**
GRI	**Girifalco**	**6.48**	**304**	P		**Pn**	**17 59 41.6**	**+0.5**
GRI				pmax		pmax		
	comp=Z,111nm,0.8s							
GRI	**Girifalco** comp=Z,111nm,0.8s	**6.48**	**304**	Pn		**Pn**	**17 59 41.6**	**+0.5**
KKB	**Krupnik**	**6.52**	**359**	*i* P		**Pn**	**17 59 43.2**	**+1.5**
KDZ	**Kurdzhali**	**6.52**	**14**	*i* P		**Pn**	**17 59 43.7**	**+2.0**
MTTG	**Motta San Giov** comp=Z,100nm,0.6s	**6.64**	**296**	Pn		**Pn**	**17 59 42.7**	**-0.6**
SHUT	**Suhut-Afyon**	**6.66**	**59**	*e*P		**Pn**	**17 59 45.1**	**+1.5**
SCLL	**Scilla** comp=Z,60nm,1.0s	**6.72**	**298**	Pn		**Pn**	**17 59 43.8**	**-0.6**
SKO	**Skopje**	**6.77**	**348**	*i* Pn		**Pn**	**17 59 46.2**	**+1.0**
PLD	**Plovdiv**	**6.85**	**9**	P		**Pn**	**17 59 48.4**	**+2.2**
EDRB	**Edirne**	**7.04**	**22**	*e*P		**Pn**	**17 59 50.1**	**+1.2**
CTT	**Catalca**	**7.08**	**34**	*e*P		**Pn**	**17 59 50.4**	**+1.0**
YLV	**Yalova**	**7.11**	**41**	*e*P		**Pn**	**17 59 50.3**	**+0.5**
ADVT	**Abdulvahap**	**7.21**	**43**	*e*P		**Pn**	**17 59 52.3**	**+1.1**
VTS	**Vitosha**	**7.24**	**360**	P		**Pn**	**17 59 53.9**	**+2.3**
VTS	**Vitosha**	**7.24**	**360**	⇑*i* P		**Pn**	**17 59 54.0**	**+2.4**
VTS	**Vitosha**	**7.24**	**360**	⇑P		**Pn**	**17 59 54.0**	**+2.4**
ULC	**Ulcinj**	**7.32**	**336**	⇓*i* Pn		**Pn**	**17 59 51.8**	**-0.9**
ULC				*e*Sn		**Sn**	**18 01 07.3**	**-8.5**
ESKT	**Eskisehir**	**7.34**	**53**	*e*P		**Pn**	**17 59 54.6**	**+1.7**
KLYT	**Kilyos**	**7.45**	**36**	*e*P		**Pn**	**17 59 55.5**	**+1.0**
VAE	**Valguarnera** comp=Z,1.3nm,0.3s,baz=272,slow=3.4,SNR=13	**7.45**	**289**	Pn		**Pn**	**17 59 55.4**	**+0.9**
VAE				Sn		**Sn**	**18 01 20.1**	**+1.2**
	comp=Z,3.5nm,0.3s,baz=90

ASF pmax pmax
comp=Z,1.0nm,0.3s
BOJS Bojanci 11.84 331 *i* Pn **Pn 18 00 52.8 -1.8**
HHRG Al Ghardaqah 11.96 130 P **Pn 18 00 56.0 -0.4**
HHRG S **Sn 18 03 02.8 -7.1**
LEGS Legarje 12.18 333 *e*Pn **Pn 18 00 57.1 -2.2**
VISS Visnje 12.25 331 *e*Pn **Pn 18 00 58.3 -1.9**
BURAR Bucovina Array 12.35 6⇑*i*P **Pn 18 01 05.6 +4.0**
PDKS Podkum 12.40 332 *i* Pn **Pn 18 01 00.2 -2.1**
MALT Malatya 12.51 72⇑*i*P **Pn 18 01 04.7 +0.9**
MALT Malatya 12.51 72 *e*Pn **Pn 18 01 03.7 -0.1**
MALT Malatya 12.51 72 *e*P **Pn 18 01 03.7 -0.1**
JAVS Javornik 12.63 329 *e*Pn **Pn 18 01 04.0 -1.5**
HSFG 12.65 131 P **Pn 18 01 05.8 +0.1**
HSFG 12.65 131 P **Pn 18 01 05.8 0.0**
SIM Simferopol' 12.68 38 *e*P **Pn 18 01 12.0 +5.9**
SIM S **Sn 18 03 31.0 +3.7**
SIM pmax pmax
comp=Z,13nm,0.8s
SIM MLR MLR
comp=Z,220nm,17.2s
PSZ Piszkesteto 12.81 350⇓*i*P **Pn 18 01 15.0 +7.0**
PSZ Piszkesteto 12.81 350 *e*P **Pn 18 01 08.5 +0.5**
PSZ pmax pmax
comp=Z,14nm,0.8s
PSZ Piszkesteto 12.81 350 *e*Pn **Pn 18 01 08.5 +0.6**
comp=Z,14nm,0.8s
PSZ Piszkesteto 12.81 350 *e*P **Pn 18 01 10.5 +2.5**
PSZ *e*S **Sn 18 03 27.8 -2.8**
PSZ Piszkesteto 12.81 350 *e*P **Pn 18 01 08.5 +0.5**
comp=Z,14nm,0.8s
VOY Vojsko 12.82 329 *e*Pn **Pn 18 01 07.1 -0.9**
VOY *e* 18 01 11.0
VOY *e*Sn **Sn 18 03 20.0 -11**
VOY *e* 18 03 21.9
VOJS Vojsko 12.82 329 *e*Pn **Pn 18 01 06.2 -1.8**
OBKA Obir 12.95 332⇓*i*Pn **Pn 18 01 08.7 -1.0**
OBKA ⇓*i*Sn **Sn 18 03 23.4 -10**
PGF Pioggiola 13.22 307 *e*P **Pn 18 01 15.2 +1.7**
comp=Z,90nm,1.2s
PGF Pioggiola 13.22 307 *e*P **Pn 18 01 15.2 +1.7**
PGF pmax pmax
comp=Z,45nm,1.2s
PGF Pioggiola 13.22 307 *e*P **Pn 18 01 15.2 +1.7**
comp=Z,45nm,1.2s
ARSA Arzberg 13.23 336⇑*i*Pn **Pn 18 01 11.4 -2.3**
ARSA ⇓*i*Sn **Sn 18 03 28.6 -12**
KECS Kecovo 13.29 352 *e*PN **Pn 18 01 13.4 -1.1**
UZH Uzhgorod 13.30 357 *e*P **Pn 18 01 15.6 +1.0**
SOP Sopron 13.31 340 *e*sP 18 01 21.5
VYHS Vyhne 13.54 347 *e*Pn **Pn 18 01 22.8 +4.9**
VYHS *e*Sn **Sn 18 03 39.1 -9.4**
KOLS Kolonicke sedl 13.60 357 *e*PN **Pn 18 01 21.6 +2.9**
KBA Koelnbreinsper 13.88 331⇑*i*Pn **Pn 18 01 21.9 -0.7**
KBA ⇓*i*Sn **Sn 18 03 44.6 -12**
STHS Stebnicka Huta 14.14 355 *e*P **Pn 18 01 33.8 +7.7**
MOA Molln 14.18 335 *i* Pn **Pn 18 01 24.7 -1.9**
SNR=11
MOA ⇑*i*Sn **Sn 18 03 51.8 -12**
NIE Niedzica 14.23 352 *e*P **Pn 18 01 34.5 +7.2**
WTTA Wattenberg 14.75 327⇓*i*Pn **Pn 18 01 34.4 0.0**
VRAC Vranov 14.79 343⇑*i*P **Pn 18 01 38.8 +3.8**
SBF Sospel 14.86 310 *e*P **Pn 18 01 36.8 +1.0**
comp=Z,62nm,0.8s
SBF Sospel 14.86 310 *e*P **Pn 18 01 36.8 +1.0**
SBF pmax pmax
comp=Z,31nm,0.8s
SBF Sospel 14.86 310 *e*P **Pn 18 01 36.8 +1.0**
comp=Z,31nm,0.8s
OKC Ostrava-Krasne 14.96 347 *e*P **Pn 18 01 42.6 +5.3**
OKC AMS AMS 18 08 40.0
comp=Z,800nm,12.5s
MORC Moravsky Berou 15.02 346⇓*i*P **Pn 18 01 42.9 +4.8**
MOTA Moosalm 15.05 327⇑*i*Pn **Pn 18 01 38.2 -0.3**
SNR=8.4
MOTA ⇓*i*Sn **Sn 18 04 16.2 -8.9**
OJC Ojcow 15.08 351 *e*P **Pn 18 01 38.3 -0.6**
SOC Sochi 15.12 52 *e*P **Pn 18 01 42.3 +2.9**
SOC *e* 18 04 32.0
SOC pmax pmax
comp=Z,14nm,1.0s
SOC MLR MLR
comp=Z,296nm,14.0s
LMR La Mourre 15.21 307 *e*P **Pn 18 01 41.2 +0.7**
FRF La Foret Royal 15.22 308 *e*P **Pn 18 01 41.4 +0.7**
DAVOX Davos 15.22 323 Pn **Pn 18 01 40.9 +0.2**
baz=158,slow=19,SNR=5.9
DAVOX Sn **Sn 18 04 21.5 -7.8**
baz=324,slow=19,SNR=5.5
GEC2 GERESS Array S 15.23 335 *e*P **Pn 18 01 46.3 +5.5**
comp=Z,9.0nm,0.7s
GEC2 GERESS Array S 15.23 335 *e*Pn **Pn 18 01 40.0 -0.8**
GEC2 GERESS Array S 15.23 335 *e*P **Pn 18 01 40.0 -0.8**
GERES GERESS Array B 15.23 335 Pn **Pn 18 01 40.0 -0.8**
comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=14
GERES Sn **Sn 18 04 20.5 -8.9**
comp=Z,0.4nm,0.3s,baz=141,slow=20,SNR=5.2
GERES GERESS Array B 15.23 335 Pn **Pn 18 01 40.0 -0.8**
GERES Sn **Sn 18 04 20.5 -8.9**
KHC Kasperske Hory 15.51 336 *e*P **Pn 18 01 43.7 -0.9**
KHC pP pP 18 01 48.0 -3.8
KHC x x 18 02 04.5
KHC AMS AMS 18 08 50.0
comp=Z,800nm,10.0s
KHC Kasperske Hory 15.51 336 *e*P **Pn 18 01 43.7 -0.9**
KHC *e* 18 01 48.0
KHC *e* 18 02 04.5
KHC Kasperske Hory 15.51 336 *e*P **Pn 18 01 43.7 -0.9**
comp=Z,800nm,10.0s
DAVA Damuels 15.58 324⇑*i*Pn **Pn 18 01 46.6 +1.2**
DAVA ⇑*i*Sn **Sn 18 04 28.1 -10**
FUR Furstenfeldbru 15.60 329 *e*P **Pn 18 01 50.3 +4.6**
comp=Z,47nm,1.0s
FUR Furstenfeldbru 15.60 329 *e*P **Pn 18 01 50.3 +4.6**
FUR pmax pmax
comp=Z,47nm,1.0s
MBDF Montbardon 15.70 312 *e*P **Pn 18 01 48.0 +1.0**
comp=Z,123nm,1.2s
MBDF Montbardon 15.70 312 *e*P **Pn 18 01 48.0 +1.0**
MBDF pmax pmax
comp=Z,61nm,1.3s
MBDF Montbardon 15.70 312 *e*P **Pn 18 01 48.0 +1.0**
comp=Z,61nm,1.2s
WET Wettzell 15.77 334 *e*P **Pn 18 01 51.5 +3.6**
comp=Z,18nm,0.9s
WET Wettzell 15.77 334 *e*P **Pn 18 01 51.5 +3.6**
WET pmax pmax
comp=Z,18nm,0.9s
DPC Dobruska-Polom 15.83 344 *e*P **Pn 18 01 51.3 +2.7**
DPC AMS AMS 18 09 30.0
comp=Z,800nm,25.2s
DPC Dobruska-Polom 15.83 344 *e*P **Pn 18 01 51.3 +2.7**
comp=Z,800nm,25.2s
KIEV Kiev 15.94 14 *e*P **Pn 18 01 46.8 -3.3**
KIEV pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 15.94 14 *e*Pn **Pn 18 01 46.8 -3.3**
comp=Z,11nm,0.6s
AKASG Malin Array Be 15.95 14 Pn **Pn 18 01 46.7 -3.5**
comp=Z,0.8nm,0.3s,baz=203,slow=12,SNR=18
AKASG Malin Array Be 15.95 14 P **Pn 18 01 46.7 -3.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.95 14 Pn **Pn 18 01 46.7 -3.5**
AKBB Malin Array Si 15.95 14 *e*P **Pn 18 01 45.8 -4.4**
PRU Pruhonice 15.96 339 *e*P **Pn 18 01 53.6 +3.2**
PRU AMS AMS 18 08 30.0
comp=Z,800nm,8.8s
PRU Pruhonice 15.96 339 *e*P **Pn 18 01 53.6 +3.2**
comp=Z,800nm,8.8s
UPC Upice 16.05 343 *e*P **Pn 18 01 55.1 +3.6**
SMRF Simiane la Rot 16.10 308 *e*P **Pn 18 01 52.9 +0.8**
comp=Z,52nm,1.1s
SMRF Simiane la Rot 16.10 308 *e*P **Pn 18 01 52.9 +0.8**
comp=Z,26nm,1.1s
LPG La Plagne 16.12 314 *e*P **Pn 18 01 53.3 +0.8**
comp=Z,43nm,1.1s
LPG La Plagne 16.12 314 *e*P **Pn 18 01 53.3 +0.8**
LPG pmax pmax
comp=Z,21nm,1.1s
LPG La Plagne 16.12 314 *e*P **Pn 18 01 53.3 +0.8**
comp=Z,21nm,1.1s
LPL La Plagne 16.15 314 *e*P **Pn 18 01 53.6 +0.8**
comp=Z,54nm,1.4s
LPL La Plagne 16.15 314 *e*P **Pn 18 01 53.6 +0.8**
LPL pmax pmax
comp=Z,27nm,1.4s
LPL La Plagne 16.15 314 *e*P **Pn 18 01 53.6 +0.8**
comp=Z,27nm,1.4s
KSP Ksiaz 16.30 344 *e*P **Pn 18 01 57.7 +3.0**
KSP Ksiaz 16.30 344 *e*P **Pn 18 01 57.4 +2.7**
KSP epP pP 18 02 00.2 -0.3
ORIF Oris-en-Rattie 16.35 311 *e*P **Pn 18 01 56.1 +0.8**
PVCC Panska Ves 16.44 340 *e*P **Pn 18 01 59.7 +3.2**
PVCC AMS AMS 18 08 40.0
comp=Z,700nm,8.2s
PVCC Panska Ves 16.44 340 *e*P **Pn 18 01 59.7 +3.2**
comp=Z,700nm,8.2s
ROTZ Rotzenmuhle 16.53 334 *e*P **Pn 18 02 00.2 +2.6**
comp=Z,40nm,2.0s
SPAK Spaichingen-Ko 16.68 324 *e*P **Pn 18 02 00.3 +0.8**
MANZ Manzenberg 16.75 334 *e*P **Pn 18 02 02.5 +2.1**
comp=Z,24nm,1.3s
GRA2 Grafenberg Arr 16.75 332 *e*P **Pn 18 02 02.0 +1.6**
GRFO Grafenberg 16.83 332 *e*P **Pn 18 02 02.7 +1.2**
comp=Z,56nm,1.2s
GRFO Grafenberg 16.83 332 *e*P **Pn 18 02 02.7 +1.2**
GRFO pmax pmax
comp=Z,56nm,1.2s
NKC Novy Kostel 16.84 335 *e*P **Pn 18 02 06.7 +5.1**
NKC AMS AMS 18 07 20.0
comp=Z,1μm,6.8s
BBS Basel-Blauen 16.88 321 *e*P **Pn 18 02 02.0 -0.1**
FELD Feldberg im Sc 16.90 322 *e*P **Pn 18 02 02.2 -0.2**
WERN Wernitzgruen 16.91 335 *e*P **Pn 18 02 05.0 +2.6**
comp=Z,20nm,1.2s
BRG Berggiesshubel 16.93 339 *e*P **Pn 18 02 05.0 +2.3**
BRG Berggiesshubel 16.93 339 *e*P **Pn 18 02 05.8 +3.1**
comp=Z,7.1nm,0.8s
BRG Berggiesshubel 16.93 339 *e*P **Pn 18 02 05.8 +3.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s
STU Stuttgart 16.97 327 *e*P **Pn 18 02 02.2 -1.0**
comp=Z,25nm,0.8s
STU Stuttgart 16.97 327 *e*P **Pn 18 02 02.2 -1.0**
STU pmax pmax
comp=Z,33nm,0.9s
STU Stuttgart 16.97 327 *e*Pn **Pn 18 02 02.2 -1.0**
comp=Z,33nm,0.9s
GUNZ Gunzen 16.99 335 *e*P **Pn 18 02 05.3 +1.9**
comp=Z,43nm,1.7s
TANN Tannenbergstha 16.99 336 *e*P **Pn 18 02 05.5 +2.1**
comp=Z,31nm,1.5s
BFO Black Forest 17.05 324 *e*P **Pn 18 02 03.8 -0.5**
comp=Z,20nm,1.2s
BFO Black Forest 17.05 324 *e*P **Pn 18 02 03.8 -0.5**
BFO pmax pmax
comp=Z,20nm,1.2s
WERD Werda 17.07 336 *e*P **Pn 18 02 04.8 +0.3**
comp=Z,22nm,1.3s
VIVF Saint-Julien-l 17.07 309 *e*P **Pn 18 02 05.5 +1.0**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 17.07 309 *e*P **Pn 18 02 05.5 +1.0**
VIVF pmax pmax
comp=Z,13nm,0.9s
VIVF Saint-Julien-l 17.07 309 *e*P **Pn 18 02 05.5 +1.0**
comp=Z,13nm,0.9s
CABF La Chapelle 17.13 316 *e*P **Pn 18 02 05.8 +0.5**
FBE Freiberg 17.14 338 *e*P **Pn 18 02 09.1 +3.7**
comp=Z,32nm,1.1s
LOMF Lomont 17.17 319 *e*P **Pn 18 02 04.2 -1.5**
KIV Kislovodsk 17.23 54 *e*P **Pn 18 02 06.6 +0.2**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,155nm,14.0s
KIV Kislovodsk 17.23 54 P **Pn 18 02 05.4 -1.1**
comp=Z,27nm,1.1s
KIV Kislovodsk 17.23 54 *e*P **Pn 18 02 06.6 +0.2**
comp=Z,155nm,14.0s
LASF Ste Croix 17.26 306 *e*P **Pn 18 02 07.8 +0.9**
comp=Z,29nm,0.9s
LASF Ste Croix 17.26 306 *e*P **Pn 18 02 07.8 +0.9**
comp=Z,14nm,0.9s
MOF Molkenrain 17.33 321 *e*P **Pn 18 02 06.6 -1.1**
HINF Hinteralfeld 17.45 321 *e*P **Pn 18 02 08.5 -0.7**
comp=Z,65nm,1.4s
HINF Hinteralfeld 17.45 321 *e*P **Pn 18 02 08.5 -0.7**
HINF pmax pmax
comp=Z,32nm,1.4s
HINF Hinteralfeld 17.45 321 *e*P **Pn 18 02 08.5 -0.7**
comp=Z,32nm,1.4s
MOX Moxa 17.47 335 *e*P **Pn 18 02 12.6 +3.1**
comp=Z,24nm,1.4s
MOX Moxa 17.47 335 *e*P **Pn 18 02 14.2 +4.7**
comp=Z,34nm,1.7s
MOX Moxa 17.47 335 *e*P **Pn 18 02 14.2 +4.7**
MOX pmax pmax
comp=Z,34nm,1.7s
CLL Collm 17.59 338 *e*P **Pn 18 02 15.3 +4.4**
comp=Z,50nm,1.5s
CLL Collm 17.59 338 *i* P **Pn 18 02 11.7 +0.8**
CLL *i* sP sP 18 02 15.9 -0.2
comp=Z,12nm,0.8s
CLL *i* x x 18 02 19.7
CLL *i* (PP) 18 02 25.6
CDF Champ du Feu 17.62 323 *e*P **Pn 18 02 11.5 +0.1**
comp=Z,32nm,1.0s
CDF Champ du Feu 17.62 323 *e*P **Pn 18 02 11.5 +0.1**
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 17.62 323 *e*P **Pn 18 02 11.5 +0.1**
comp=Z,16nm,1.0s
ZEI Tsey 17.64 59 *e*P **Pn 18 02 12.1 +0.6**
GNI Garni 17.64 68 P **Pn 18 02 12.1 +0.5**
comp=Z,0.3nm,0.3s,baz=229,slow=20,SNR=4.0
GNI LR LR 18 09 54.8
comp=Z,413nm,19.9s,baz=58,slow=41
GNI Garni 17.64 68*c i*P **Pn 18 02 11.6 0.0**
GNI pmax pmax
comp=Z,29nm,1.6s
GNI MLR MLR
comp=Z,300nm,15.0s
GNI Garni 17.64 68 *e*P **Pn 18 02 11.4 -0.2**
comp=Z,1.8nm,2.0s
GNI Garni 17.64 68 *e*P **Pn 18 02 11.4 -0.2**
comp=Z,1.8nm,2.0s
TOD Tromm 17.76 328 *e*P **Pn 18 02 18.8 +5.8**
LANF Langenberg 17.76 325 *e*P **Pn 18 02 15.9 +2.9**
HAU Haudompre 17.83 320 *e*P **Pn 18 02 13.7 -0.2**
comp=Z,60nm,1.0s
HAU Haudompre 17.83 320 *e*P **Pn 18 02 13.7 -0.2**
HAU pmax pmax
comp=Z,30nm,1.0s
HAU Haudompre 17.83 320 *e*P **Pn 18 02 13.7 -0.2**
comp=Z,30nm,1.0s
EMIR Miracle 18.18 298 P **Pn 18 02 19.1 +0.8**
comp=Z,182nm,2.4s
EMIR Miracle 18.18 298 P **Pn 18 02 19.1 +0.8**
comp=Z,182nm,2.4s
TNS Taunus Mts 18.37 329 *e*P **Pn 18 02 20.3 -0.3**
comp=Z,22nm,0.9s
TNS Taunus Mts 18.37 329 *e*P **Pn 18 02 20.3 -0.3**
TNS pmax pmax
comp=Z,22nm,0.9s
EPOB Poblet 18.39 296 P **Pn 18 02 20.8 0.0**
comp=Z,263nm,3.6s
EPOB Poblet 18.39 296 P **Pn 18 02 20.8 +0.1**
comp=Z,263nm,3.6s
RUE Ruedersdorf 18.42 341 *e*P **Pn 18 02 21.3 +0.2**
comp=Z,60nm,1.0s
GKP Gorka Klasztor 18.42 348 *e*P **Pn 18 02 20.5 -0.7**
SMF Signal de Mont 18.45 314 *e*P **Pn 18 02 22.3 +0.7**
comp=Z,11nm,0.8s
SMF Signal de Mont 18.45 314 *e*P **Pn 18 02 22.3 +0.7**
SMF pmax pmax
comp=Z,6.0nm,0.8s
SMF Signal de Mont 18.45 314 *e*P **Pn 18 02 22.3 +0.7**
comp=Z,5.7nm,0.8s
RUP Ruppelstein 18.61 325 *e*P **Pn 18 02 24.6 +1.1**
SUW Suwalki 18.67 360 *e*P **Pn 18 02 21.2 -3.0**
LOR Lormes 18.77 315 *e*P **Pn 18 02 25.6 +0.2**
comp=Z,17nm,0.8s
LOR Lormes 18.77 315 *e*P **Pn 18 02 25.6 +0.2**
LOR pmax pmax
comp=Z,9.0nm,0.8s
LOR Lormes 18.77 315 *e*P **Pn 18 02 25.6 +0.2**
comp=Z,8.7nm,0.8s
CAF Calviac 18.78 307 *e*P **Pn 18 02 25.9 +0.4**
comp=Z,80nm,1.5s
CAF Calviac 18.78 307 *e*P **Pn 18 02 25.9 +0.4**
CAF pmax pmax
comp=Z,40nm,1.5s
CAF Calviac 18.78 307 *e*P **Pn 18 02 25.9 +0.4**
comp=Z,40nm,1.5s
AVF Avril sur Loir 18.82 313 *e*P **Pn 18 02 26.2 +0.2**
comp=Z,27nm,0.9s
AVF Avril sur Loir 18.82 313 *e*P **Pn 18 02 26.2 +0.2**
AVF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 18.82 313 *e*P **Pn 18 02 26.2 +0.2**
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 18.82 320 *e*P **Pn 18 02 26.3 +0.3**
comp=Z,46nm,0.8s
MEZF Maizieres J'vi 18.82 320 *e*P **Pn 18 02 26.3 +0.3**
comp=Z,23nm,0.8s
SSF Saint Saulge 18.86 314 *e*P **Pn 18 02 26.1 -0.5**
comp=Z,24nm,0.8s
SSF Saint Saulge 18.86 314 *e*P **Pn 18 02 26.1 -0.5**
SSF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 18.86 314 *e*P **Pn 18 02 26.1 -0.5**
comp=Z,12nm,0.8s
CLZ Clausthal 18.90 335 *e*P **Pn 18 02 28.3 +1.3**
comp=Z,23nm,1.2s
CLZ Clausthal 18.90 335 *e*P **Pn 18 02 28.3 +1.3**
CLZ pmax pmax
comp=Z,23nm,1.2s
BGF Bois d'Agland 19.00 312 *e*P **Pn 18 02 29.2 +0.9**
comp=Z,24nm,0.7s
BGF Bois d'Agland 19.00 312 *e*P **Pn 18 02 29.2 +0.9**
BGF pmax pmax
comp=Z,12nm,0.7s
BGF Bois d'Agland 19.00 312 *e*P **Pn 18 02 29.2 +0.9**
comp=Z,12nm,0.7s
WLF Walferdange 19.01 324 *e*P **Pn 18 02 30.0 +1.6**
comp=Z,64nm,1.5s
WLF Walferdange 19.01 324 P **Pn 18 02 27.9 -0.5**
WLF Walferdange 19.01 324 *e*P **Pn 18 02 27.9 -0.5**
WLF pmax pmax
comp=Z,29nm,1.0s
WLF Walferdange 19.01 324 *e*P **Pn 18 02 27.9 -0.5**
comp=Z,29nm,1.0s
WLF Walferdange 19.01 324 *e*P **Pn 18 02 27.9 -0.5**
comp=Z,29nm,1.0s
TCF Toulx Ste Croi 19.27 311 *e*P **Pn 18 02 32.0 +0.6**
RJF Les Rejaudoux 19.28 308 *e*P **Pn 18 02 32.1 +0.5**
comp=Z,45nm,1.2s
RJF Les Rejaudoux 19.28 308 *e*P **Pn 18 02 32.1 +0.5**
RJF pmax pmax
comp=Z,22nm,1.2s
RJF Les Rejaudoux 19.28 308 *e*P **Pn 18 02 32.1 +0.5**
comp=Z,22nm,1.2s
EPF Esparros 19.32 300 *e*P **Pn 18 02 33.3 +1.3**
EBIE Bielsa 19.37 299 P **Pn 18 02 30.7 -2.0**
comp=Z,76nm,1.9s
EBIE Bielsa 19.37 299 P **Pn 18 02 30.7 -1.9**
comp=Z,76nm,1.9s
EMOS Mosqueruela 19.38 292 P **Pn 18 02 32.1 -0.7**
comp=Z,220nm,2.1s
EMOS Mosqueruela 19.38 292 P **Pn 18 02 32.1 -0.7**
comp=Z,220nm,2.1s
MNK Minsk 19.42 8 *e*P **Pn 18 02 25.0 -8.3**
NRDL Niedersach Rie 19.54 335 *e*P **Pn 18 02 38.3 +3.6**
comp=Z,36nm,1.1s
VRSR Storozhevoye 19.58 31 *e*P **Pn 18 02 34.7 -0.5**
VRSR *e*S **Sn 18 06 09.8 -5.2**
VRSR pmax pmax
comp=Z,10.0nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR smax
comp=N,30nm,1.0s
VRSR smax
comp=Z,3.0nm,0.7s
VRSR smax
comp=E,10.0nm,0.9s
VRSR Storozhevoye 19.58 31 *e*P **Pn 18 02 34.7 -0.5**
comp=E,10.0nm,0.8s
LFF La Frestale 19.65 306 *e*P **Pn 18 02 36.0 0.0**
MEM Membach 19.73 326 P **Pn 18 02 36.9 -0.1**
BUG Bochum--Univer 19.78 329 *e*P **Pn 18 02 43.1 +5.6**
comp=Z,39nm,1.6s
HGN Heimansgroeve 19.87 326 *e*P **Pn 18 02 39.4 +0.7**
ETSF Etsaut 19.92 299 *e*P **Pn 18 02 39.9 +0.7**
BCLA Clavier 19.93 325 P **Pn 18 02 39.4 +0.1**
GIVF Givet 19.95 323 *e*P **Pn 18 02 38.8 -0.7**
VOR Voronezh 19.97 30 *e*P **Pn 18 02 38.0 -1.9**
VOR pmax pmax
comp=N,70nm,1.4s
VOR pmax pmax
comp=Z,70nm,1.4s
DOU Dourbes 20.05 323 P **P 18 02 39.0 -0.1**
BAIF Baives 20.22 323 *e*P **P 18 02 41.4 +0.5**
comp=Z,24nm,0.7s
BAIF Baives 20.22 323 *e*P **P 18 02 41.4 +0.5**
BAIF pmax pmax
comp=Z,12nm,0.7s
BAIF Baives 20.22 323 *e*P **P 18 02 41.4 +0.5**
comp=Z,12nm,0.7s
WTSB Winterswijk 20.37 330 *e*P **P 18 02 43.5 +1.1**
SJPF Ste Jean 20.45 300 *e*P **P 18 02 45.3 +2.0**
comp=Z,30nm,0.8s
SJPF Ste Jean 20.45 300 *e*P **P 18 02 45.3 +2.0**
SJPF pmax pmax
comp=Z,15nm,0.8s
SJPF Ste Jean 20.45 300 *e*P **P 18 02 45.3 +2.0**
comp=Z,15nm,0.8s
SNF Seneffe 20.48 324 P **P 18 02 43.9 +0.3**
VRHR Novokhopersk 20.57 34 *e*P **P 18 02 42.2 -2.5**
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,1.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
BSD Bornholm Skovb 20.60 346 *i* P **P 18 02 41.9 -3.1**
comp=E,52nm,0.8s
BSD *i* 18 02 47.1
BSD Bornholm Skovb 20.60 346 *i* P **P 18 02 41.9 -3.1**
BSD *i* 18 02 47.1
BSD pmax pmax
comp=Z,52nm,0.8s
UCC Uccle 20.63 324 P **P 18 02 45.4 +0.1**
ETOR Torete 20.63 293 P **P 18 02 45.3 0.0**
ETOR pmax pmax
comp=Z,6.0nm,0.9s
ETOR Torete 20.63 293 P **P 18 02 45.3 0.0**
comp=Z,6.0nm,0.9s
ETOR Torete 20.63 293 P **P 18 02 45.3 0.0**
comp=Z,6.0nm,0.9s
ELIZ Elizondo 20.68 300 P **P 18 02 43.7 -2.1**
ELIZ pmax pmax
comp=Z,4.0nm,0.4s
ELIZ Elizondo 20.68 300 P **P 18 02 43.7 -2.1**
comp=Z,3.5nm,0.4s
EVIA Vianos 20.82 287 P **P 18 02 47.9 +0.6**
EVIA pmax pmax
comp=Z,5.0nm,0.8s
EVIA Vianos 20.82 287 P **P 18 02 47.9 +0.6**
comp=Z,5.1nm,0.8s
EVIA Vianos 20.82 287 P **P 18 02 47.9 +0.6**
comp=Z,5.1nm,0.8s
MFF Saint Martin d 20.87 310 *e*P **P 18 02 48.8 +0.9**
EHUE Huescar 20.89 284 P **P 18 02 47.9 -0.2**
EBER Berja 21.16 282 P **P 18 02 51.3 +0.2**
comp=Z,58nm,1.1s,mb4.8
EBER Berja 21.16 282 P **P 18 02 51.3 +0.2**
comp=Z,58nm,1.1s,mb4.8
ECRI Cripan 21.26 298 P **P 18 02 51.4 -0.7**
ECRI pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
ECRI Cripan 21.26 298 P **P 18 02 51.4 -0.7**
comp=Z,6.1nm,0.8s,mb4.0
ECRI Cripan 21.26 298 P **P 18 02 51.4 -0.7**
comp=Z,6.1nm,0.8s,mb4.0
EQES Quesada 21.27 284 P **P 18 02 52.3 +0.1**
comp=Z,12nm,0.9s,mb4.2
EQES Quesada 21.27 284 P **P 18 02 52.3 +0.1**
comp=Z,12nm,0.9s,mb4.2
COP Copenhagen 21.66 343 *i* P **P 18 02 52.3 -4.1**
comp=Z,45nm,1.0s,mb4.8
COP *e* 18 03 24.0
COP Copenhagen 21.66 343 *e*P **P 18 02 52.3 -4.1**

COP *e* 18 03 24.0
COP pmax pmax
comp=Z,45nm,1.0s,mb4.8
COP Copenhagen 21.66 343 *e*P **P 18 02 52.3 -4.1**
comp=Z,45nm,1.0s,mb4.8
COP *e* 18 03 24.0
ECOG Cogollos-Vega 21.68 283 P **P 18 02 57.6 +0.9**
ECOG pmax pmax
comp=Z,19nm,0.8s,mb4.6
ECOG Cogollos-Vega 21.68 283 P **P 18 02 57.6 +1.0**
comp=Z,19nm,0.8s,mb4.6
ECOG Cogollos-Vega 21.68 283 P **P 18 02 57.6 +0.9**
comp=Z,19nm,0.8s,mb4.6
EGUA Guajares 21.71 282 P **P 18 02 59.1 +2.2**
EGUA pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
EGUA Guajares 21.71 282 P **P 18 02 59.1 +2.2**
comp=Z,3.5nm,0.8s,mb3.8
EGUA Guajares 21.71 282 P **P 18 02 59.1 +2.2**
comp=Z,3.5nm,0.8s,mb3.8
LDF La Druitiere 21.75 315 *e*P **P 18 02 57.8 +0.5**
comp=Z,62nm,0.7s,mb4.8
LDF La Druitiere 21.75 315 *e*P **P 18 02 57.8 +0.5**
LDF pmax pmax
comp=Z,31nm,0.7s,mb4.8
LDF La Druitiere 21.75 315 *e*P **P 18 02 57.8 +0.5**
comp=Z,31nm,0.7s,mb4.8
OBN Obninsk 21.81 21⇓ *e*P **P 18 02 57.2 -0.8**
OBN *i* S **S 18 06 53.8 -5.2**
OBN pmax pmax
comp=Z,41nm,1.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.4
EBAN Banos Encina 21.83 285 P **P 18 02 58.0 -0.2**
EBAN pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
EBAN Banos Encina 21.83 285 P **P 18 02 58.0 -0.2**
comp=Z,8.4nm,0.7s,mb4.3
EBAN Banos Encina 21.83 285 P **P 18 02 58.0 -0.2**
comp=Z,8.4nm,0.7s,mb4.3
ERON Agron 21.89 282 P **P 18 02 59.5 +0.7**
comp=Z,10nm,0.8s,mb4.3
ERON Agron 21.89 282 P **P 18 02 59.5 +0.6**
comp=Z,10nm,0.8s,mb4.3
ESDC Sonseca Array 21.99 289 P **P 18 02 59.3 -0.6**
comp=Z,2.4nm,0.7s,mb3.8,baz=90,slow=10,SNR=13
ESDC LR LR 18 11 37.5
comp=Z,145nm,21.5s,MS3.4,baz=205,slow=37
ESDC Sonseca Array 21.99 289 P **P 18 03 00.6 +0.7**
comp=Z,2.3nm,0.7s,mb3.7
ESDC Sonseca Array 21.99 289 P **P 18 03 00.6 +0.7**
comp=Z,2.3nm,0.7s,mb3.7
FLN La Foliniere 22.04 315 *e*P **P 18 03 00.4 0.0**
comp=Z,63nm,0.7s,mb4.9
FLN La Foliniere 22.04 315 *e*P **P 18 03 00.4 0.0**
FLN pmax pmax
comp=Z,32nm,0.7s,mb4.9
FLN La Foliniere 22.04 315 *e*P **P 18 03 00.4 0.0**
comp=Z,32nm,0.7s,mb4.9
ELAN Lanestosa 22.05 299 P **P 18 02 59.4 -1.2**
ELAN Lanestosa 22.05 299 P **P 18 02 59.4 -1.2**
ELOJ Sierra Loja 22.16 283 P **P 18 03 00.8 -0.9**
GUD Guadarrama 22.20 292 P **P 18 03 02.2 0.0**
GUD pmax pmax
comp=Z,24nm,0.9s,mb4.6
GUD Guadarrama 22.20 292 P **P 18 03 02.2 0.0**
comp=Z,24nm,0.9s,mb4.6
GUD Guadarrama 22.20 292 P **P 18 03 02.2 0.0**
comp=Z,24nm,0.9s,mb4.6
ELUQ Luque 22.23 284 P **P 18 03 03.1 +0.6**
ELUQ pmax pmax
comp=Z,17nm,0.8s,mb4.5
ELUQ Luque 22.23 284 P **P 18 03 03.1 +0.6**
comp=Z,17nm,0.8s,mb4.5
EADA Adamuz 22.45 285 P **P 18 03 03.3 -1.5**
comp=Z,64nm,1.4s,mb4.9
EADA Adamuz 22.45 285 P **P 18 03 03.3 -1.6**
comp=Z,64nm,1.4s,mb4.9
MOS Moscow 22.66 21 *e*P **P 18 03 03.3 -3.7**
MOS *e*S **S 18 07 09.8 -5.7**
MOS pmax pmax
comp=Z,67nm,0.8s,mb5.1
SGMF Saint Gilles 23.04 312 *e*P **P 18 03 11.0 -0.1**
comp=Z,119nm,1.2s,mb4.9
SGMF Saint Gilles 23.04 312 *e*P **P 18 03 11.0 -0.1**
SGMF pmax pmax
comp=Z,60nm,1.2s,mb4.9
SGMF Saint Gilles 23.04 312 *e*P **P 18 03 11.0 -0.1**
comp=Z,60nm,1.2s,mb4.9
MUD Monsted U'grnd 23.19 340 *i* P **P 18 03 16.1 +3.4**
MUD Monsted U'grnd 23.19 340 *e*P **P 18 03 16.1 +3.4**
MDT Midelt 23.20 272 P **P 18 03 13.6 +0.8**
comp=Z,8.8nm,1.0s,mb4.2,baz=87,slow=11,SNR=8.4
MDT LR LR 18 14 21.0
comp=Z,402nm,18.1s,MS3.9,baz=28,slow=42
VSU Vasula 23.25 5 *i* P **P 18 03 10.3 -3.0**
EJIF Jimena Fronter 23.27 281 P **P 18 03 12.8 -0.7**
EJIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
EJIF Jimena Fronter 23.27 281 P **P 18 03 12.8 -0.7**
comp=Z,4.6nm,0.6s,mb4.1
EJIF Jimena Fronter 23.27 281 P **P 18 03 12.8 -0.7**
comp=Z,4.6nm,0.6s,mb4.1
QUIF Quistinic 23.28 311 *e*P **P 18 03 13.3 -0.3**
ROSF Rostrenen 23.51 312 *e*P **P 18 03 15.4 -0.7**
comp=Z,216nm,1.4s,mb5.1
ROSF Rostrenen 23.51 312 *e*P **P 18 03 15.4 -0.7**
ROSF pmax pmax
comp=Z,108nm,1.4s,mb5.1
ROSF Rostrenen 23.51 312 *e*P **P 18 03 15.4 -0.7**
comp=Z,108nm,1.4s,mb5.1
HFS Hagfors 25.57 349 P **P 18 03 32.8 -2.0**
comp=Z,12nm,0.7s,mb4.5,baz=147,slow=8.8,SNR=32
HFS Hagfors 25.57 349 P **P 18 03 32.8 -2.1**
FINES FINESS Array B 26.18 3 P **P 18 03 37.6 -2.8**
comp=Z,9.5nm,0.9s,mb4.3,baz=155,slow=12,SNR=19
FINES LR LR 18 15 13.5
comp=Z,343nm,18.4s,MS3.9,baz=355,slow=40
FINES FINESS Array B 26.18 3 P **P 18 03 37.7 -2.7**
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES MLR MLR
comp=Z,343nm,18.4s
NAO01 NORSAR Array S 26.73 347 *e*P **P 18 03 42.9 -2.4**
comp=Z,9.2nm,0.6s,mb4.5
NB2 NORSAR Subarra 26.85 347 P **P 18 03 43.8 -2.6**
comp=Z,10nm,1.0s,mb4.3,baz=150,slow=10
NOA NORSAR Array B 26.85 347 P **P 18 03 44.8 -1.6**
comp=Z,3.9nm,0.7s,mb4.0,baz=146,slow=9.8,SNR=8.0
NOA NORSAR Array B 26.85 347 P **P 18 03 44.8 -1.6**
NOA pmax pmax
comp=Z,4.0nm,0.7s
EKA Eskdalemuir Ar 27.01 326 P **P 18 03 47.5 -0.4**
comp=Z,12nm,0.9s,mb4.4,baz=124,slow=7.4,SNR=9.6
EKA Eskdalemuir Ar 27.01 326 P **P 18 03 47.5 -0.4**
EKA pmax pmax
comp=Z,12nm,0.9s
AKTK Aktyubinsk 29.28 48 P **P 18 04 06.0 -2.1**
AKTO Aktyubinsk 29.28 48 P **P 18 04 06.0 -2.1**
comp=Z,2.9nm,0.7s,mb4.1,baz=245,slow=7.2,SNR=8.0
AKTO Aktyubinsk 29.28 48 P **P 18 04 06.0 -2.1**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TOA0 Torodi Ar. Sit 29.45 227 *e*P **P 18 04 11.9 +2.3**
TORD Torodi Ar. Bea 29.45 227 P **P 18 04 11.2 +1.5**
comp=Z,4.3nm,0.7s,mb4.3,baz=32,slow=9.2,SNR=27
TORD LR LR 18 19 14.7
comp=Z,223nm,18.2s,MS3.8,baz=20,slow=43
ARU Arti 31.84 37⇓ *i* P **P 18 04 28.3 -2.5**
ARU *e* 18 05 32.4
ARU *e*PPP 18 05 49.3
ARU *e*S **S 18 09 37.4 -3.9**
ARU *e*SS SS 18 11 28.3 -29
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SOKR Solikamsk 32.59 31⇑ *i* P **P 18 04 34.8 -2.5**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.1
SVE Sverdlovsk 33.05 38 *e*P **P 18 04 39.0 -2.4**
ARCES ARCESS Array B 34.27 1 P **P 18 04 49.1 -2.9**
comp=Z,11nm,0.6s,mb4.9,baz=180,slow=8.2,SNR=46
ARCES LR LR 18 20 13.7
comp=Z,217nm,21.2s,MS3.9,baz=338,slow=39
ARCES ARCESS Array B 34.27 1 P **P 18 04 49.1 -2.9**
ARCES pmax pmax
comp=Z,11nm,0.6s
ARCES MLR MLR
comp=Z,217nm,21.2s
KEV Kevo 34.53 2 *e*p **P 18 04 47.0 -7.2**
comp=Z,14nm,0.8s,mb4.9
KEV Kevo 34.53 2 *e*P **P 18 04 47.0 -7.2**
KEV pmax pmax
comp=Z,14nm,0.8s,mb4.9
ZRNK Zerenda 36.51 47 *e*P **P 18 05 09.4 -1.9**
ZRNK pmax pmax
comp=Z,17nm,0.8s,mb4.9
ZRNK Zerenda 36.51 47 *e*P **P 18 05 09.4 -1.9**
comp=Z,17nm,0.8s,mb4.9
BRVK Borovoye 37.29 47 *e*P **P 18 05 16.0 -1.9**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BRVK Borovoye 37.29 47 *e*P **P 18 05 16.0 -2.0**
comp=Z,10nm,0.9s,mb4.7
BVAR Borovoye Array 37.35 47 P **P 18 05 16.7 -1.7**
comp=Z,5.0nm,0.8s,mb4.4,baz=264,slow=5.8,SNR=25
BVAR Borovoye Array 37.35 47 P **P 18 05 16.7 -1.7**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 38.56 157 LR LR 18 24 08.1
comp=Z,106nm,18.6s,MS3.7,baz=300,slow=40
LIC Lamto 38.95 229 *e*P **P 18 05 32.7 +0.9**
comp=Z,48nm,0.9s,mb5.0
LIC Lamto 38.95 229 *e*P **P 18 05 32.7 +0.9**
comp=Z,24nm,0.9s,mb4.9
AAK Ala-Archa 39.97 64⇓ *e*P **P 18 05 38.0 -2.4**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
AAK Ala-Archa 39.97 64 *e*P **P 18 05 37.3 -3.0**
comp=Z,7.1nm,1.0s,mb4.3
FRU Bishkek 40.03 63 *e*P **P 18 05 40.8 -0.1**
MK31 Makanchi Array 44.97 56 *e*P **P 18 06 19.3 -1.8**
MKAR Makanchi Array 44.97 56 P **P 18 06 19.3 -1.8**
comp=Z,9.3nm,0.7s,mb4.7,baz=269,slow=7.7,SNR=56
MKAR Makanchi Array 44.97 56 P **P 18 06 19.3 -1.8**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 44.97 56 P **P 18 06 19.3 -1.8**
NVS Novosibirsk 45.06 45 *i* P **P 18 06 19.5 -2.3**
NVS *i* S **S 18 12 54.4 -6.2**
NVS pmax pmax
comp=E,13nm,0.8s
NVS pmax pmax
comp=Z,28nm,0.8s,mb5.1
NVS smax
comp=N,20nm,1.5s
WMQ Urumqi 49.25 60⇓ P **P 18 06 53.3 -1.2**
WMQ AP pP 18 07 04.8 +7.1
WMQ XP sP 18 07 09.3 +10
WMQ PCP PcP 18 08 16.5 -0.9
WMQ PP PP 18 08 47.5 -0.8
WMQ PPP 18 09 42.0
WMQ SCP ScP 18 12 06.5 -6.2
WMQ *e*S **S 18 13 54.3 -6.2**
WMQ AMB AMB
comp=Z,4.0nm,0.6s,mb4.6
WMQ AMB AMB
comp=Z,186nm,6.7s
WMQ LR LR
comp=N,131nm,20.7s,MS4.0
WMQ LR LR
comp=E,113nm,22.4s,MS4.0
WMQ LR LR
comp=Z,173nm,20.7s,MS4.0
LSZ Lusaka 50.55 174 P **P 18 07 06.5 +2.1**
comp=Z,4.4nm,0.8s,mb4.4,baz=16,slow=8.5,SNR=6.9
LSZ Lusaka 50.55 174 *e*P **P 18 07 05.0 +0.6**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSZ Lusaka 50.55 174 *e*P **P 18 07 05.0 +0.6**
comp=Z,5.1nm,1.0s,mb4.4
TSUM Tsumeb 54.51 187 P **P 18 07 35.4 +1.7**
comp=Z,3.8nm,1.0s,mb4.4,baz=252,slow=18,SNR=4.4
MATP Matopo 55.68 174 P **P 18 07 42.7 +0.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=359,slow=7.9,SNR=8.1
MATP Matopo 55.68 174 P **P 18 07 42.7 +0.5**
ZAK Zakamensk 57.79 48 *e*P **P 18 07 55.6 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
GTA Gaotai 59.24 61 *e*P **P 18 08 06.3 -1.0**
GTA AP pP 18 08 14.3 +3.8
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
LBTB Lobatse 60.07 178 P **P 18 08 13.8 +0.8**
comp=Z,5.9nm,1.0s,mb4.6,baz=28,slow=2.3,SNR=5.3
LBTB Lobatse 60.07 178 P **P 18 08 13.8 +0.8**
LBTB pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
SONM Songino Array 60.57 50 P **P 18 08 14.9 -1.4**
comp=Z,1.9nm,0.7s,mb4.3,baz=289,slow=9.7,SNR=14
SONM Songino Array 60.57 50 P **P 18 08 14.9 -1.5**
SONM pmax pmax
comp=Z,2.0nm,0.7s
BOD Bodaibo 61.26 38 *e*P **P 18 08 16.3 -4.8**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SCHQ Schefferville 62.04 319 P **P 18 08 26.0 -0.3**
comp=Z,5.0nm,0.8s,mb4.7,baz=66,slow=9.8,SNR=5.9
SCHQ Schefferville 62.04 319 P **P 18 08 26.0 -0.3**
LZH Lanzhou 63.51 63 *e*P **P 18 08 35.5 -0.6**
LZH AP pP 18 08 47.0 +7.6
LZH XP sP 18 08 53.0 +12
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.0
LZH Lanzhou 63.51 63 *e*P **P 18 08 35.5 -0.6**
comp=Z,22nm,1.5s,mb5.0
LZH pP pP 18 08 47.0 +7.6
LZH sP sP 18 08 53.0 +12
CD2 Chengdu 65.77 68 P **P 18 08 49.5 -1.4**
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
CD2 AMB AMB
comp=Z,30nm,5.2s
YAK Yakutsk 66.49 30 *i* P **P 18 08 53.7 -1.8**
YAK pmax pmax
comp=Z,18nm,2.2s,mb4.7
HHC Hu-ho-hao-te 66.82 56 *e*P **P 18 08 56.3 -1.4**
HHC AP pP 18 09 09.3 +8.4
HHC XP sP 18 09 14.5 +12
HHC PP PP 18 11 24.5 -0.3
HHC SCP 18 13 23.3
HHC S S 18 17 42.5 -7.6
HHC XS sS 18 18 04.5 +9.0
HHC SCS ScS 18 18 46.5 -8.5
HHC AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
HHC AMB AMB
comp=Z,104nm,5.1s
HHC LR LR
comp=N,227nm,16.5s,MS4.6
HHC LR LR
comp=E,218nm,18.0s,MS4.6
HHC LR LR
comp=Z,283nm,20.0s,MS4.5
KMI Kunming 67.76 74 P **P 18 09 02.5 -1.1**
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI Kunming 67.76 74 P **P 18 09 02.6 -1.0**
KMI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMI Kunming 67.76 74 P **P 18 09 02.6 -1.0**
comp=Z,9.0nm,0.8s,mb4.8
XAN Xi'an 68.15 63 P **P 18 09 04.5 -1.5**
XAN AP pP 18 09 12.8 +3.5
XAN AMB AMB
comp=Z,7.0nm,1.6s,mb4.4
INK Inuvik 75.21 351 P **P 18 09 46.8 -1.7**
comp=Z,2.1nm,0.6s,mb4.2,baz=26,slow=7.3
INK Inuvik 75.21 351 P **P 18 09 46.8 -1.8**
INK pmax pmax
comp=Z,2.0nm,0.6s
MDJ Mudanjiang 76.18 45 P **P 18 09 49.0 -5.1**
MDJ AMB AMB
comp=Z,3.0nm,1.5s,mb4.0
NJ2 Nanjing 76.32 60 *e*P **P 18 09 54.5 -0.4**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
PSI Prapat 76.69 96 P **P 18 09 56.9 -0.1**
comp=Z,2.3nm,0.3s,mb4.6,baz=193,slow=4.2,SNR=4.8
PSI Prapat 76.69 96 P **P 18 09 56.9 -0.1**
PSI pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
YKA Yellowknife Ar 76.79 341 P **P 18 09 56.2 -1.3**
comp=Z,2.5nm,0.6s,mb4.3,baz=31,slow=5.4,SNR=35
YKA Yellowknife Ar 76.79 341 P **P 18 09 56.2 -1.4**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 76.79 341 P **P 18 09 56.2 -1.3**
ULM Lac du Bonnet 79.28 325 P **P 18 10 10.9 -0.5**
comp=Z,3.8nm,0.9s,mb4.3,baz=108,slow=21,SNR=4.9
KSRS Korea Array 79.40 52 P **P 18 10 11.1 -0.9**
comp=Z,4.4nm,0.9s,mb4.4,baz=314,slow=4.7,SNR=7.5
YSS Yuzh-Sakhalins 81.73 37⇑ *e*P **P 18 10 22.2 -2.4**
YSS pmax pmax
comp=Z,32nm,1.4s,mb5.1
YSS Yuzh-Sakhalins 81.73 37 *e*P **P 18 10 23.6 -0.9**
comp=Z,22nm,1.1s,mb5.0
ASAJ Asahikawa 83.63 39 P **P 18 10 33.3 -1.1**
comp=Z,3.8nm,0.6s,mb4.7,baz=265,slow=29,SNR=7.4
ASAJ Asahikawa 83.63 39 P **P 18 10 33.3 -1.1**
ASAJ pmax pmax
comp=Z,4.0nm,0.6s
EDM Edmonton 84.10 335 *e*P **P 18 10 36.1 -0.7**
ECSD EROS,Sioux Fal 84.17 321 *e*P **P 18 10 36.5 -0.7**
comp=Z,8.3nm,0.8s,mb4.9
MJAR Matsushiro Arr 86.35 47 P **P 18 10 47.0 -1.1**
comp=Z,5.6nm,0.9s,mb4.8,baz=315,slow=5.2,SNR=14
MJAR Matsushiro Arr 86.35 47 P **P 18 10 47.0 -1.1**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
EGMT Eagleton 87.00 331 P **P 18 10 50.5 -0.7**
comp=Z,13nm,1.0s,mb5.1
KDAK Kodiak Island 87.17 358 P **P 18 10 51.6 -0.5**
comp=Z,11nm,0.8s,mb5.2,baz=98,slow=7.1
SDV Santo Domingo 88.08 279 *e*P **P 18 10 56.3 -0.2**
comp=Z,4.4nm,0.8s,mb4.7
NEW Newport 89.56 335 P **P 18 11 03.3 -0.1**
comp=Z,5.8nm,1.0s,mb4.8,baz=39,slow=7.5,SNR=6.2
NEW Newport 89.56 335 P **P 18 11 03.3 -0.2**
NEW pmax pmax
comp=Z,6.0nm,1.0s
PHWY Pilot Hill 90.38 324 *e*P **P 18 11 05.9 -1.4**
PDAR Pinedale Array 91.12 327 P **P 18 11 10.3 -0.5**
comp=Z,0.4nm,0.6s,mb3.9,baz=67,slow=5.1,SNR=4.1
HWUT Hardware Ranch 92.94 328 *e*P **P 18 11 18.6 -0.5**
comp=Z,21nm,1.8s,mb5.3
WRA Warramunga Arr 118.15 95 PKP PKPdf 18 16 52.1 -0.9
comp=Z,0.9nm,0.8s,baz=312,slow=1.5,SNR=11
WRA Warramunga Arr 118.15 95 PKIKP PKPdf 18 16 52.1 -0.9
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 119.61 99 PKP PKPdf 18 16 55.0 -0.8
comp=Z,0.8nm,0.7s,baz=310,slow=1.6,SNR=15
ASAR Alice Springs 119.61 99 PKIKP PKPdf 18 16 55.0 -0.8
ASAR pmax pmax
comp=Z,1.0nm,0.7s

*ISCJB **26** 18:03:40.9±0.8, 2700N±009×8990E±005, h10km, mb3.6/2, Error ellipse: s-maj=12.8km s-min=6.2km az=19.6*
*IDC **26** 18:03:50.9±5.0, 2681N×9217E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=381.7km s-min=29.2km az=62.0*
ISC 26 18:03:43.5±0.8, 2686N±009×8991E±005, h10km, n13, σ0s85/17, mb3.6/2, 1C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Gangtok**	**1.24**	**292**	*e*P	**Pb**	**18 04 16.0**	**+9.0**
GTK				*e*S	**Sb**	**18 04 38.0**	**+15**
SLGI	**Shiliguri**	**1.34**	**263**	*e*P	**Pn**	**18 04 09.6**	**+1.3**
SLGI				*e*S	**Sb**	**18 04 36.0**	**+10**
SHL	**Shillong**	**2.19**	**126**⇑	*i*P	**Pn**	**18 04 20.0**	**0.0**
SHL				*ex*	**Sn**	**18 04 41.5**	**-5.7**
IMP	**Imphal**	**4.18**	**119**	*e*P	**Pn**	**18 04 47.0**	**-0.2**
IMP				*ex*	**Sb**	**18 05 48.0**	**+0.5**
BOK	**Bokaro**	**4.75**	**231**	*i* x	**Pn**	**18 04 54.3**	**-0.8**
BOK				*i* S	**Sb**	**18 06 04.3**	**+0.2**
KLP	**Kalpa**	**11.20**	**297**	*e*P	**Pn**	**18 06 24.2**	**+0.7**
KLP				AMb	AMB	18 06 26.6	
	comp=Z,18nm,0.8s						
KLP				*e*S	**Sn**	**18 08 20.3**	**-8.5**
NDI	**New Delhi**	**11.39**	**282**	*ex*	**Pn**	**18 06 24.0**	**-2.2**
SONA	**Sohna**	**11.47**	**280**	*e*P	**Pn**	**18 06 28.0**	**+0.7**
SONA				*ex*	x	18 08 17.8	
KUDL	**Kundal**	**11.98**	**279**	*ex*	x	18 06 22.6	
KUDL				AMb	AMB	18 06 25.1	
	comp=Z,13nm,1.2s						
KUDL				*ex*	x	18 08 04.2	
KHET	**Khetri**	**12.58**	**279**	*e*S	**Sn**	**18 08 58.5**	**-4.1**
MKAR	**Makanchi Array**	**20.79**	**345**	P	sP	18 08 40.5	+12
	comp=Z,1.0nm,0.6s,baz=156,slow=9.9,SNR=5.0						
WRA	**Warramunga Arr**	**63.40**	**133**	P	**P**	**18 14 12.7**	**-0.4**
	comp=Z,3.9nm,0.5s,mb3.7,baz=324,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**65.81**	**136**	P	**P**	**18 14 28.6**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=315,slow=6.3,SNR=9.8						

*ISCJB **26** 18:17:32.7±1.1, 469N±002×1556E±002, h10km, mb3.8/8, MS4.6/3, Error ellipse: s-maj=24.7km s-min=14.6km az=154.1*
*IDC **26** 18:17:32.9±2.0, 4677N×15570E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/23, mbtmp3.8/9, ML2.8/1, MS4.6/3, Ms1 4.6/3, ms1mx3.6/37, Error ellipse: s-maj=57.7km s-min=21.2km az=180.0*
*MOS **26** 18:17:35.6±1.3, 4686N×15553E, h33km, mb4.0/5, Error ellipse: s-maj=28.2km s-min=17.8km az=87.1*
*NEIC **26** 18:17:35.4±1.8, 4697N×15576E, h10km, Error ellipse: s-maj=50.3km s-min=15.2km az=183.0*
ISC 26 18:17:34.6±1.0, 469N±002×1556E±001, h10km, n22, σ0s92/20, mb3.8/8, MS4.6/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.79**	**5**	*e*PN	**Pn**	**18 18 32.5**	**-0.6**
ASAJ	**Asahikawa**	**9.56**	**258**	Pn	**Pn**	**18 19 50.9**	**-1.4**
	0.1nm,0.3s,baz=52,slow=11,SNR=2.0						
INK	**Inuvik**	**40.59**	**33**	*e*P	**P**	**18 25 13.4**	**-1.0**
MKAR	**Makanchi Array**	**48.39**	**298**	P	**P**	**18 26 17.5**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=64,slow=9.8,SNR=3.7						
MKAR	**Makanchi Array**	**48.39**	**298**	P	**P**	**18 26 17.5**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.76**	**37**	P	**P**	**18 26 26.3**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.1,baz=293,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**49.76**	**37**	P	**P**	**18 26 26.3**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**18 26 45.7**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=59,slow=7.3,SNR=5.9						
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**18 26 45.7**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**18 26 45.7**	**+0.7**
ARCES	**ARCESS Array B**	**58.26**	**342**	P	**P**	**18 27 28.1**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.4,baz=39,slow=7.4,SNR=3.8						
ARCES	**ARCESS Array B**	**58.26**	**342**	P	**P**	**18 27 28.2**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NVAR	**Mina Array Bea**	**60.83**	**64**	P	**P**	**18 27 47.7**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.4,baz=294,slow=6.8,SNR=3.7						
JMIC	**Jan Mayen**	**61.86**	**354**	P	**P**	**18 27 55.8**	**+1.8**
	comp=Z,186nm,0.4s,baz=135,slow=8.3,SNR=3.5						
PDAR	**Pinedale Array**	**63.25**	**55**	P	**P**	**18 28 03.3**	**0.0**
	comp=Z,0.7nm,1.0s,mb3.8,baz=316,slow=4.1,SNR=3.8						
FINES	**FINESS Array B**	**64.62**	**336**	P	**P**	**18 28 12.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=12,slow=7.5,SNR=3.1						
FINES				LR	LR	19 00 20.0	
	comp=Z,364nm,18.7s,MS4.6,baz=360,slow=40						
FINES	**FINESS Array B**	**64.62**	**336**	P	**P**	**18 28 12.1**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,364nm,18.7s						
NOA	**NORSAR Array B**	**68.62**	**342**	LR	LR	19 04 03.1	
	comp=Z,236nm,18.8s,MS4.5,baz=10.0,slow=41						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**18 29 21.5**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=4.4,SNR=8.1						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**18 29 21.5**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**18 29 21.5**	**+0.2**
KEST	**Kesra**	**92.34**	**333**	LR	LR	19 21 10.7	
	comp=Z,386nm,18.3s,MS4.9,baz=90,slow=41						

WEL 26 18:32:16.1±0.2, 3675S×17768E, h167km±2km, ML3.8/7, Error ellipse: s-maj=3.6km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**149**	PN	Pn	18 32 42.3	+0.1
MXZ				SN	Sn	18 33 02.1	0.0
PUZ	**Puketiti**	**1.40**	**161**	PN	Pn	18 32 46.0	0.0
PUZ				SN	Sn	18 33 08.4	-0.7
URZ	**Urewera**	**1.58**	**197**	PN	Pn	18 32 47.9	+0.2
MWZ	**Matawai**	**1.59**	**184**	PN	Pn	18 32 48.1	+0.2
MWZ				SN	Sn	18 33 13.3	+0.9
KNZ	**Kokohu**	**2.27**	**180**	PN	Pn	18 32 55.5	+0.2
BKZ	**Black Stump Fm**	**2.59**	**201**	PN	Pn	18 33 00.6	+1.4
MOVZ	**Moawhango**	**3.06**	**209**	PN	Pn	18 33 04.9	-0.1
PXZ	**Pawanui**	**3.34**	**191**	PN	Pn	18 33 07.5	-0.9
TSZ	**Takapari Road**	**3.58**	**202**	PN	Pn	18 33 10.4	-0.9
MRZ	**Mangatainoka R**	**4.24**	**202**	PN	Pn	18 33 18.0	-1.9
TIWZ	**Tintock**	**4.26**	**199**	PN	Pn	18 33 19.1	-1.1
KIW	**Kapiti Island**	**4.65**	**207**	PN	Pn	18 33 23.0	-2.1
MTW	**Mount Morrison**	**4.72**	**200**	PN	Pn	18 33 23.6	-2.6
CAW	**Cannon Point**	**4.81**	**204**	PN	Pn	18 33 24.7	-2.6

IDC 26 18:40:36.6±17.0, 2139S×17488W, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.1/17, mbtmp4.5/5, 1D, Error ellipse: s-maj=313.4km s-min=138.8km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.31**	**265**	*eP*	P	18 47 43.6	+1.7
	7.3nm,0.4s						
CTA	**Charters Tower**	**36.31**	**265**	P	P	18 47 43.7	+1.8
	9.5nm,0.4s,baz=95,slow=11,SNR=32						
STKA	**Stephens Creek**	**40.05**	**246**	*eP*	P	18 48 11.7	-1.8
	2.3nm,0.6s						
STKA	**Stephens Creek**	**40.05**	**246**	P	P	18 48 12.5	-1.0
	2.8nm,0.6s,baz=78,slow=9.9,SNR=7.6						
ASAR	**Alice Springs**	**47.16**	**257**	P	P	18 49 10.3	-0.4
	3.0nm,0.5s,baz=94,slow=7.3,SNR=112						
ASPA	**Alice Springs**	**47.16**	**257**	*eP*	P	18 49 10.1	-0.7
WB2	**Warramunga Arr**	**47.35**	**262**	*i*P	P	18 49 11.6	-0.7
WRA	**Warramunga Arr**	**47.36**	**262**	P	P	18 49 12.3	0.0
	2.8nm,0.3s,baz=93,slow=8.4,SNR=186						
KAKA	**Kakadu**	**50.90**	**271**	*eP*	P	18 49 41.5	+2.0
	5.7nm,0.8s						
FORT	**Forrest**	**51.62**	**247**	*eP*	P	18 49 42.1	-2.8
	8.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.79**	**262**	*eP*	P	18 50 16.4	+1.0
	2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.79**	**262**	P	P	18 50 16.6	+1.2
	1.3nm,0.4s,baz=90,slow=7.1,SNR=9.4						
KLBR	**Kellerberrin**	**60.32**	**245**	*eP*	P	18 50 46.7	-0.5
	51nm,1.7s						
MUN	**Mundaring**	**61.57**	**244**	*eP*	P	18 50 55.7	0.0

IDC 26 18:44:07.5±3.2, 3400S×17894W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=73.3km s-min=36.6km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.32**	**216**	Pn	Pn	18 45 28.8	+0.6
	3.4nm,0.3s,baz=280,slow=21,SNR=16						
URZ				Sn	Sn	18 46 30.3	+0.2
	2.7nm,0.3s,baz=156,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.26**	**271**	P	P	18 52 02.8	+0.4
	0.7nm,0.7s,baz=114,slow=7.4,SNR=7.6						
WRA	**Warramunga Arr**	**43.57**	**276**	P	P	18 52 13.0	-0.1
	0.7nm,0.5s,baz=119,slow=7.3,SNR=13						
FINES	**FINESS Array B**	**148.19**	**337**	PKPbc	PKPbc	19 03 53.9	-1.4
	1.8nm,0.9s,baz=79,slow=4.1,SNR=4.2						

*IDC **26** 18:57:22.9±0.8, 597S×15064E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/16, mbtmp4.1/11, ML3.4/2, MS3.3/3, Ms1 3.3/3, ms1mx3.1/18, Error ellipse: s-maj=23.6km s-min=13.0km az=125.0*

*ISCJB **26** 18:57:23.2±0.7, 600S±009×15056E±009, h10km, mb4.0/9, MS2.9/1, Error ellipse: s-maj=15.9km s-min=9.7km az=86.0*

*NEIC **26** 18:57:23.9±0.5, 588S×15062E, h10km, mb4.5/4, Error ellipse: s-maj=12.1km s-min=9.2km az=126.0*

ISC 26 18:57:23.4±3.0, 598S±009×15062E±009, h0km±19km, n30, σ0°94/30, mb4.2/11, MS2.9/1, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**225**	Pn	**Pn**	**18 58 39.4**	**+2.1**
	6.1nm,0.3s,baz=48,slow=6.3,SNR=26						
PMG				Sn	**Sn**	**18 59 33.3**	**-0.7**
	14nm,0.3s,baz=86,slow=20,SNR=7.5						
PMG				LR	LR	19 00 46.5	
	comp=Z,416nm,20.3s,baz=12,slow=42						
PMG	**Port Moresby**	**4.83**	**225**	*eP*	**Pn**	**18 58 39.5**	**+2.1**
PMG				*eS*	**Sn**	**18 59 32.2**	**-1.8**
PMG				LR	LR	19 00 46.5	
CTA	**Charters Tower**	**14.65**	**196**	*i*P	**Pn**	**19 00 53.4**	**+1.6**
	4.2nm,0.8s						
CTA	**Charters Tower**	**14.65**	**196**	Pn	**Pn**	**19 00 53.2**	**+1.4**
	0.2nm,0.3s,baz=15,slow=13,SNR=4.4						
CTA				LR	LR	19 06 18.1	
	comp=Z,124nm,18.6s,baz=22,slow=36						
CTAO	**Charters Tower**	**14.65**	**196**	*eP*	**Pn**	**19 00 53.1**	**+1.2**
KAKA	**Kakadu**	**19.14**	**248**	*eP*	**Pn**	**19 01 48.2**	**-0.6**
	7.5nm,0.6s						
WRAB	**Tennant Creek**	**21.04**	**227**	*eP*	**P**	**19 02 08.4**	**-0.3**
	18nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**21.04**	**227**	*eP*	**P**	**19 02 08.2**	**-0.5**
WRA	**Warramunga Arr**	**21.05**	**227**	P	**P**	**19 02 08.6**	**-0.3**
	10nm,0.8s,mb4.2,baz=50,slow=10.0,SNR=96						
WRA				S	**S**	**19 06 06.1**	**+2.1**
	1.5nm,0.9s,baz=48,slow=17,SNR=4.4						
WRA				PcP	PcP	19 06 15.7	0.0
	1.0nm,0.7s,baz=50,slow=2.1,SNR=6.0						
WRA				ScP	ScP	19 09 52.1	-1.5
	0.9nm,1.0s,baz=55,slow=2.6,SNR=4.7						
DZM	**Mont Dzumac**	**22.13**	**138**	P	**P**	**19 02 20.6**	**+0.2**
	3.8nm,0.8s,mb3.9,baz=333,slow=15,SNR=5.6						
AS31	**Alice Springs**	**23.83**	**221**	*eP*	**P**	**19 02 37.7**	**-0.5**
ASAR	**Alice Springs**	**23.83**	**221**	P	**P**	**19 02 38.2**	**+0.1**
	2.8nm,0.7s,mb3.9,baz=56,slow=8.5,SNR=39						
ASAR				S	**S**	**19 06 56.3**	**+1.5**
	0.6nm,0.8s,baz=36,slow=23,SNR=5.2						
ASAR				LR	LR	19 10 25.9	
	comp=Z,45nm,21.7s,MS2.9,baz=270,slow=33						
ASPA	**Alice Springs**	**23.84**	**221**	*eP*	**P**	**19 02 38.7**	**+0.6**
STKA	**Stephens Creek**	**27.11**	**197**	*eP*	**P**	**19 03 05.1**	**-2.8**
	4.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.11**	**197**	P	**P**	**19 03 07.7**	**-0.2**
	4.5nm,0.7s,mb4.3,baz=22,slow=13,SNR=11						
STKA	**Stephens Creek**	**27.11**	**197**	*eP*	**P**	**19 03 06.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**27.20**	**242**	*eP*	**P**	**19 03 08.1**	**-0.5**
	10nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.20**	**242**	P	**P**	**19 03 08.1**	**-0.5**
	3.3nm,0.5s,mb4.3,baz=60,slow=6.6,SNR=15						
MBWA	**Marble Bar**	**33.51**	**240**	*eP*	**P**	**19 04 04.4**	**-0.1**
KLBR	**Kellerberrin**	**39.93**	**226**	*eP*	**P**	**19 05 05.7**	**+6.6**
	11nm,0.7s,mb4.6						
KSRS	**Korea Array**	**48.12**	**336**	P	**P**	**19 06 06.2**	**+1.2**
	1.9nm,0.8s,mb4.3,baz=154,slow=8.8,SNR=5.4						
VNDA	**Vanda**	**71.75**	**177**	P	**P**	**19 08 46.9**	**-0.5**
	0.6nm,0.6s,mb3.9,baz=334,slow=4.6,SNR=9.8						
VNDA	**Vanda**	**71.75**	**177**	*eP*	**P**	**19 08 46.4**	**-0.9**
MKAR	**Makanchi Array**	**79.80**	**320**	P	**P**	**19 09 32.8**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=98,slow=5.6,SNR=3.6						
QSPA	**South Pole Qui**	**83.99**	**180**	*eP*	**P**	**19 09 54.5**	**-1.0**
NVAR	**Mina Array Bea**	**94.51**	**52**	P	**P**	**19 10 46.0**	**+0.4**
	0.9nm,0.7s,mb4.3,baz=271,slow=5.2,SNR=5.8						
GERES	**GERESS Array B**	**123.89**	**327**	PKP	PKPdf	19 16 23.0	-0.4
	0.2nm,0.4s,baz=180,slow=0.7,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**148.57**	**285**	*e*PKPbc	PKPbc	19 17 11.6	-0.6
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc	PKPbc	19 17 11.8	-0.4
	8.3nm,0.8s,baz=50,slow=2.6,SNR=85						
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc	PKPbc	19 17 11.8	-0.4

*KRSC **26** 19:05:57.5±0.4, 5451N×16158E, h25km±15km, ML4.5*
*MOS **26** 19:05:57.0±0.9, 5466N×16137E, h48km, mb4.7/17, Error ellipse: s-maj=16.2km s-min=7.0km az=83.4*

*ISCJB **26** 19:05:58.5±0.6, 5452N±003×16151E±009, h69km±4km, mb4.1/34, Error ellipse: s-maj=9.2km s-min=3.3km az=38.2*

*NEIC **26** 19:06:00.5±1.0, 5469N×161.10E, h64km±9km, mb4.5/16, Error ellipse: s-maj=8.0km s-min=6.3km az=108.0*

*IDC **26** 19:06:00.8±6.8, 5470N×161.13E, h68km±62km, mb3.6/16, mb1 3.9/17, mb1mx3.8/23, mbtmp3.6/17, ML3.7/1, Error ellipse: s-maj=18.0km s-min=15.4km az=130.0*

ISC 26 19:05:59.4±0.6, 5453N±003×16148E±009, h67km±4km, n132, σ0°95/166, mb4.1/34, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.15**	**80**	*eS*	**Pn**	**19 06 04.1**	**-5.3**
MKZ	**Mys Kozlova**	**0.15**	**80**	*eS*	**Pn**	**19 06 04.1**	**-5.3**
TUMR	**Tumrok**	**1.08**	**315**	*eP*	**Pn**	**19 06 18.1**	**-0.6**
TUMR				*eS*	**Sn**	**19 06 33.0**	**-0.1**
TUMR	**Tumrok**	**1.08**	**315**	*eP*	**Pn**	**19 06 18.1**	**-0.6**
TUMR				*eS*	**Sn**	**19 06 33.0**	**-0.1**
KMNR	**Kamenistaya**	**1.42**	**330**	*eP*	**Pn**	**19 06 23.3**	**+0.1**
KMNR				*eS*	**Sn**	**19 06 41.5**	**+0.4**
KMNR	**Kamenistaya**	**1.42**	**330**	*eP*	**Pn**	**19 06 23.3**	**+0.1**
KMNR				*eS*	**Sn**	**19 06 41.5**	**+0.4**
ZLN	**Zelenaya**	**1.54**	**346**	*eP*	**Pn**	**19 06 24.9**	**+0.1**
ZLN				*eS*	**Sn**	**19 06 44.7**	**+0.8**
ZLN	**Zelenaya**	**1.54**	**346**	*eP*	**Pn**	**19 06 24.9**	**+0.1**
ZLN				*eS*	**Sn**	**19 06 44.7**	**+0.8**
KPT	**Kopyto**	**1.61**	**334**	*eP*	**Pn**	**19 06 25.8**	**+0.1**
KPT				*eS*	**Sn**	**19 06 46.6**	**+1.0**
KPT	**Kopyto**	**1.61**	**334**	*eP*	**Pn**	**19 06 25.8**	**+0.1**
KPT				*eS*	**Sn**	**19 06 46.6**	**+1.0**
SPN	**Mys Shipunski**	**1.68**	**212**	*eP*	**Pn**	**19 06 24.5**	**-2.1**
SPN				*eS*	**Sn**	**19 06 43.9**	**-3.3**
SPN	**Mys Shipunski**	**1.68**	**212**	*eP*	**Pn**	**19 06 24.5**	**-2.1**
SPN				*eS*	**Sn**	**19 06 43.9**	**-3.3**
KRSR	**Krestovskiy**	**1.77**	**343**	*eP*	**Pn**	**19 06 27.5**	**-0.4**
KRSR				*eS*	**Sn**	**19 06 49.4**	**0.0**
KRSR	**Krestovskiy**	**1.77**	**343**	*eP*	**Pn**	**19 06 27.5**	**-0.4**
KRSR				*eS*	**Sn**	**19 06 49.4**	**0.0**
KOZ	**Kozyrevsk**	**1.78**	**330**	*eP*	**Pn**	**19 06 28.7**	**+0.6**
KOZ				*eS*	**Sn**	**19 06 51.2**	**+1.4**
KOZ	**Kozyrevsk**	**1.78**	**330**	*eP*	**Pn**	**19 06 28.7**	**+0.6**
KOZ				*eS*	**Sn**	**19 06 51.2**	**+1.4**
KOZR	**Kozyr**	**1.78**	**330**	PN	**Pn**	**19 06 28.7**	**+0.6**
KBTR	**Krutoberegovo**	**1.85**	**24**	*eP*	**Pn**	**19 06 27.8**	**-1.1**
KBTR				*eS*	**Sn**	**19 06 50.6**	**-0.7**
KBTR	**Krutoberegovo**	**1.85**	**24**	*eP*	**Pn**	**19 06 27.8**	**-1.1**
KBTR				*eS*	**Sn**	**19 06 50.6**	**-0.7**
KLY	**Klyuchi**	**1.85**	**346**	*eP*	**Pn**	**19 06 28.0**	**-0.9**
KLY				*eS*	**Sn**	**19 06 50.3**	**-1.0**
KLY	**Klyuchi**	**1.85**	**346**	*eP*	**Pn**	**19 06 28.0**	**-0.9**
KLY				*eS*	**Sn**	**19 06 50.3**	**-1.0**
NLC	**Nalytchevo**	**1.86**	**224**	*eP*	**Pn**	**19 06 28.3**	**-0.8**
NLC				*eS*	**Sn**	**19 06 50.6**	**-1.0**
NLC	**Nalytchevo**	**1.86**	**224**	*eP*	**Pn**	**19 06 28.3**	**-0.8**
NLC				*eS*	**Sn**	**19 06 50.6**	**-1.0**
SRDR	**Sredinnyy**	**2.05**	**331**	*eP*	**Pn**	**19 06 31.8**	**+0.1**
SRDR				*eS*	**Sn**	**19 06 56.4**	**+0.1**
SRDR	**Sredinnyy**	**2.05**	**331**	*eP*	**Pn**	**19 06 31.8**	**+0.1**
SRDR				*eS*	**Sn**	**19 06 56.4**	**+0.1**
AVH	**Avacha**	**2.06**	**233**	*eP*	**Pn**	**19 06 32.3**	**+0.5**
AVH				*eS*	**Sn**	**19 06 56.9**	**+0.4**
AVH	**Avacha**	**2.06**	**233**	*eP*	**Pn**	**19 06 32.3**	**+0.5**
AVH				*eS*	**Sn**	**19 06 56.9**	**+0.4**
SRKR	**Sorokina**	**2.13**	**355**	*eP*	**Pn**	**19 06 32.7**	**-0.1**
SRKR				*eS*	**Sn**	**19 06 58.1**	**-0.2**
SRKR	**Sorokina**	**2.13**	**355**	*eP*	**Pn**	**19 06 32.7**	**-0.1**
SRKR				*eS*	**Sn**	**19 06 58.1**	**-0.2**
GNL	**Ganaly**	**2.25**	**250**	*eP*	**Pn**	**19 06 35.2**	**+0.9**
GNL				*eS*	**Sn**	**19 07 03.0**	**+2.0**
GNL	**Ganaly**	**2.25**	**250**	*eP*	**Pn**	**19 06 35.2**	**+0.9**
GNL				*eS*	**Sn**	**19 07 03.0**	**+2.0**
PET	**Petropavlovsk**	**2.26**	**229**	*e*Pn	**Pn**	**19 06 35.2**	**+0.7**
PET	**Petropavlovsk**	**2.26**	**229**	*eP*	**Pn**	**19 06 34.8**	**+0.3**
PET				*eS*	**Sn**	**19 07 01.9**	**+0.6**
PET	**Petropavlovsk**	**2.26**	**229**	*eP*	**Pn**	**19 06 34.8**	**+0.3**
PET				*eS*	**Sn**	**19 07 01.9**	**+0.6**
RUS	**Russkaya**	**2.75**	**221**	*eP*	**Pn**	**19 06 41.0**	**-0.2**
RUS				*eS*	**Sn**	**19 07 12.3**	**-1.0**
RUS	**Russkaya**	**2.75**	**221**	*eP*	**Pn**	**19 06 41.0**	**-0.2**
RUS				*eS*	**Sn**	**19 07 12.3**	**-1.0**
GRL	**Gorelyy**	**2.84**	**227**	*eP*	**Pn**	**19 06 42.8**	**+0.4**
GRL				*eS*	**Sn**	**19 07 15.8**	**+0.3**
GRL	**Gorelyy**	**2.84**	**227**	*eP*	**Pn**	**19 06 42.8**	**+0.4**
GRL				*eS*	**Sn**	**19 07 15.8**	**+0.3**
SKR	**Severo-Kuril's**	**5.05**	**222**	*e*PN	**Pn**	**19 07 17.5**	**+4.9**
SKR				*eS*	**Sn**	**19 08 17.0**	**+7.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,100nm,0.5s						
SKR				smax			
	comp=E,330nm,0.9s						
SKR				smax			
	comp=Z,160nm,0.9s						
BILL	**Bilibino**	**13.74**	**8**	*i*P	**Pn**	**19 09 14.5**	**+3.4**
BILL				pmax	pmax		
	comp=Z,16nm,1.1s						
BILL				pmax	pmax		
	comp=Z,23nm,2.1s						
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**16.08**	**237**	P	**Pn**	**19 09 43.1**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=164,slow=31,SNR=6.8						
ASAJ	**Asahikawa**	**16.08**	**237**	P	**Pn**	**19 09 43.2**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**17.41**	**232**	*i* P	**Pn**	**19 09 55.3**	**-2.5**
HABR	**Khabarovsk**	**17.47**	**261**	*eP*	**Pn**	**19 09 56.8**	**-1.8**
HABR				*eS*	**S**	**19 13 00.9**	**-16**
YAK	**Yakutsk**	**18.17**	**307**	*eP*	**Pn**	**19 10 07.7**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**22.14**	**333**	*eP*	**P**	**19 10 48.6**	**-0.9**
TIXI				*e*		19 11 04.5	
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
TIXI	**Tiksi**	**22.14**	**333**	P	**P**	**19 10 47.4**	**-2.2**
	comp=Z,4.0nm,0.6s,mb3.9						
MAJO	**Matsushiro**	**24.09**	**231**	*eP*	**P**	**19 11 09.5**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
MAJO	**Matsushiro**	**24.09**	**231**	*eP*	**P**	**19 11 09.5**	**+0.9**
	comp=Z,5.8nm,0.6s,mb4.1						
MJAR	**Matsushiro Arr**	**24.09**	**231**	P	**P**	**19 11 09.6**	**+0.9**
	comp=Z,1.2nm,0.4s,mb3.6,baz=328,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**24.09**	**231**	P	**P**	**19 11 09.6**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**34.39**	**282**	PcP	PcP	19 15 14.8	+0.3
	comp=Z,0.3nm,0.5s,baz=39,slow=2.5,SNR=4.0						
YKA	**Yellowknife Ar**	**41.55**	**44**	P	**P**	**19 13 40.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=299,slow=7.8,SNR=5.3						
YKA	**Yellowknife Ar**	**41.55**	**44**	P	**P**	**19 13 40.9**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.28**	**295**	P	**P**	**19 14 31.3**	**-2.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=48,slow=7.4,SNR=6.0						
MKAR	**Makanchi Array**	**48.28**	**295**	P	**P**	**19 14 31.3**	**-2.5**
BVAR	**Borovoye Array**	**50.14**	**308**	P	**P**	**19 14 45.9**	**-2.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=64,slow=7.4,SNR=8.1						
BVAR	**Borovoye Array**	**50.14**	**308**	P	**P**	**19 14 45.9**	**-2.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.17**	**308**	*eP*	**P**	**19 14 45.9**	**-2.3**
ARCES	**ARCESS Array B**	**52.17**	**342**	P	**P**	**19 15 01.8**	**-1.4**
	comp=Z,11nm,1.1s,mb4.8,baz=25,slow=9.1,SNR=9.2						
ARCES	**ARCESS Array B**	**52.17**	**342**	P	**P**	**19 15 01.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,11nm,1.1s						
NVAR	**Mina Array Bea**	**54.50**	**72**	P	**P**	**19 15 22.7**	**+2.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=302,slow=8.4,SNR=3.8						
PDAR	**Pinedale Array**	**56.12**	**62**	P	**P**	**19 15 33.7**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=328,slow=3.3,SNR=3.2						
FINES	**FINESS Array B**	**59.12**	**337**	P	**P**	**19 15 51.8**	**-1.2**
	comp=Z,2.6nm,0.4s,mb4.6,baz=28,slow=7.9,SNR=29						
FINES	**FINESS Array B**	**59.12**	**337**	*eP*	**P**	**19 15 52.5**	**-0.5**
OBN	**Obninsk**	**61.74**	**328**	*eP*	**P**	**19 16 11.6**	**+0.7**
OBN				*e*		19 16 22.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
NB2	**NORSAR Subarra**	**62.38**	**344**	P	**P**	**19 16 14.1**	**-1.1**
	comp=Z,2.1nm,0.4s,mb4.5,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**62.38**	**344**	P	**P**	**19 16 14.4**	**-0.8**
	comp=Z,2.5nm,0.5s,mb4.5,baz=20,slow=6.9,SNR=6.5						
NOA	**NORSAR Array B**	**62.38**	**344**	P	**P**	**19 16 14.4**	**-0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**67.80**	**329**	P	**P**	**19 16 49.7**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.7,baz=29,slow=6.9,SNR=4.4						
TXAR	**Lajitas Array**	**69.33**	**68**	P	**P**	**19 17 01.4**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.6,baz=301,slow=5.1,SNR=11						
TXAR	**Lajitas Array**	**69.33**	**68**	P	**P**	**19 17 01.4**	**+1.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**71.30**	**340**	*eP*	**P**	**19 17 11.0**	**-0.8**
	comp=Z,7.0nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**73.48**	**338**	P	**P**	**19 17 25.1**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=33,slow=5.4,SNR=8.0						
GERES	**GERESS Array B**	**73.48**	**338**	P	**P**	**19 17 25.1**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BAIF	**Baives**	**74.05**	**345**	*eP*	**P**	**19 17 28.1**	**0.0**
	comp=Z,8.6nm,0.7s,mb4.3						
BAIF	**Baives**	**74.05**	**345**	*eP*	**P**	**19 17 28.1**	**0.0**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
BAIF	**Baives**	**74.05**	**345**	*eP*	**P**	**19 17 28.1**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**75.15**	**343**	*eP*	**P**	**19 17 33.9**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**75.15**	**343**	*eP*	**P**	**19 17 33.9**	**-0.6**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**75.15**	**343**	*eP*	**P**	**19 17 33.9**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.2						
MEZF	**Maizieres J'vi**	**75.43**	**344**	*eP*	**P**	**19 17 36.3**	**+0.2**
	comp=Z,11nm,0.7s,mb4.4						
MEZF	**Maizieres J'vi**	**75.43**	**344**	*eP*	**P**	**19 17 36.3**	**+0.2**
	comp=Z,11nm,0.6s,mb4.8						
HAU	**Haudompre**	**75.70**	**343**	*eP*	**P**	**19 17 37.8**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.3						
HAU	**Haudompre**	**75.70**	**343**	*eP*	**P**	**19 17 37.8**	**+0.1**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
HAU	**Haudompre**	**75.70**	**343**	*eP*	**P**	**19 17 37.8**	**+0.1**
	comp=Z,3.8nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**76.03**	**321**	P	**P**	**19 17 39.9**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=118,slow=3.2,SNR=4.4						
GRR	**Gorron**	**76.38**	**348**	*eP*	**P**	**19 17 41.3**	**-0.2**
	comp=Z,19nm,0.7s,mb4.6						
GRR	**Gorron**	**76.38**	**348**	*eP*	**P**	**19 17 41.3**	**-0.2**
GRR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
GRR	**Gorron**	**76.38**	**348**	*eP*	**P**	**19 17 41.3**	**-0.2**
	comp=Z,9.4nm,0.7s,mb4.6						
LOR	**Lormes**	**76.82**	**345**	*eP*	**P**	**19 17 43.7**	**-0.3**
	comp=Z,6.3nm,0.6s,mb4.3						
LOR	**Lormes**	**76.82**	**345**	*eP*	**P**	**19 17 43.7**	**-0.3**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LOR	**Lormes**	**76.82**	**345**	*eP*	**P**	**19 17 43.7**	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**77.08**	**345**	*eP*	**P**	**19 17 45.4**	**0.0**
	comp=Z,8.3nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**77.08**	**345**	*eP*	**P**	**19 17 45.4**	**0.0**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**77.08**	**345**	*eP*	**P**	**19 17 45.4**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.2						
CABF	**La Chapelle**	**77.10**	**343**	*eP*	**P**	**19 17 45.7**	**+0.1**
AVF	**Avril sur

ISC 26 19:11:32.2±0.6, 4699N±005×15291E±006, h55km±5km, n214, σ1§10/231, mb4.6/57, MS3.9/4, 17C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res	ISC
KUR	**Kuril'sk**	**3.92**	**245**	⇑*iP*			**Pn**	**19 12 28.2**	**-1.7**	
KUR						AMB	AMB	19 12 35.4		
	320nm,0.8s									
KUR				*i*	S		**Sn**	**19 13 14.4**	**-0.2**	
KUR					A			19 13 30.0		
	2μm,1.5s									
KUR					A			19 13 30.0		
	2μm,1.5s									
KUR					A			19 13 30.5		
	1μm,0.4s									
KUR					A			19 13 30.5		
	520nm,0.4s									
KUR	**Kuril'sk**	**3.92**	**245**	⇑*i*	PN		**Pn**	**19 12 28.2**	**-1.7**	
KUR				*i*	S		**Sn**	**19 13 14.4**	**-0.2**	
KUR					pmax	pmax				
	comp=Z,320nm,0.8s									
KUR					smax					
	comp=N,2μm,1.5s									
KUR					smax					
	comp=E,2μm,1.5s									
KUR					smax					
	comp=N,1μm,0.4s									
KUR					smax					
	comp=E,520nm,0.4s									
SKR	**Severo-Kuril's**	**4.26**	**29**	*e*P			**Pn**	**19 12 34.5**	**0.0**	
SKR						AMB	AMB	19 12 35.5		
	comp=E,90nm,0.5s									
SKR				*e*	S		**Sn**	**19 13 19.7**	**-3.3**	
SKR					A			19 13 48.5		
	comp=E,270nm,1.0s									
SKR					A			19 13 48.5		
	comp=E,370nm,0.7s									
SKR					A			19 13 48.5		
	comp=E,280nm,0.7s									
SKR	**Severo-Kuril's**	**4.26**	**29**	*e*PN			**Pn**	**19 12 34.5**	**0.0**	
SKR				*e*	S		**Sn**	**19 13 19.7**	**-3.3**	
SKR					pmax	pmax				
	comp=Z,90nm,0.5s									
SKR					smax					
	comp=N,370nm,0.7s									
SKR					smax					
	comp=E,280nm,0.7s									
SKR					smax					
	comp=Z,270nm,1.0s									
YUK	**Yuzh-Kuril'sk**	**5.77**	**242**	*e*P			**Pn**	**19 12 56.0**	**+0.9**	
YUK						AMB	AMB	19 12 58.0		
	comp=Z,300nm,0.3s									
YUK						AMB	AMB	19 13 14.5		
	comp=Z,2μm,1.2s									
YUK					*e*S		**Sn**	**19 14 00.5**	**+0.6**	
YUK					A			19 14 18.5		
	comp=E,770nm,0.5s									
YUK					A			19 14 18.5		
	comp=E,390nm,0.5s									
YUK					A			19 14 29.0		
	comp=Z,2μm,1.0s									
YUK					A			19 14 29.0		
	comp=Z,2μm,1.0s									
NEM2	**Nemuro 2**	**6.23**	**237**		P		**Pn**	**19 13 00.1**	**-1.3**	
NEM2				*e*	S		**Sn**	**19 14 07.6**	**-3.6**	
JRA	**Rausu**	**6.27**	**244**		P		**Pn**	**19 13 03.7**	**+1.7**	
JNK	**Nakash**	**6.71**	**243**		P		**Pn**	**19 13 08.7**	**+0.7**	
JNK				*e*	S		**Sn**	**19 14 22.4**	**-0.6**	
YSS	**Yuzh-Sakhalins**	**6.95**	**273**	*e*P			**Pn**	**19 13 14.9**	**+3.5**	
YSS						AMB	AMB	19 13 16.2		
	comp=Z,50nm,0.9s									
YSS				*e*	S		**Sn**	**19 14 33.7**	**+4.7**	
YSS	**Yuzh-Sakhalins**	**6.95**	**273**	*e*PN			**Pn**	**19 13 14.9**	**+3.5**	
YSS					S		**Sn**	**19 14 33.7**	**+4.7**	
YSS					pmax	pmax				
	comp=E,50nm,0.9s									
YSS					pmax	pmax				
	comp=Z,50nm,0.9s									
YSS	**Yuzh-Sakhalins**	**6.95**	**273**	*e*P			**Pn**	**19 13 14.8**	**+3.4**	
	comp=Z,46nm,0.8s									
JTKR	**Abashiri--Toko**	**7.01**	**248**		P		**Pn**	**19 13 14.0**	**+1.8**	
JAK	**Akkeshi**	**7.06**	**239**		P		**Pn**	**19 13 11.5**	**-1.3**	
JAK				*e*	S		**Sn**	**19 14 26.8**	**-4.9**	
PET	**Petropavlovsk**	**7.08**	**29**	*e*PN			**Pn**	**19 13 13.4**	**+0.2**	
PET					pmax	pmax				
	comp=Z,25nm,0.6s									
PET	**Petropavlovsk**	**7.08**	**29**		P		**Pn**	**19 13 18.4**	**+5.2**	
JMP	**Maruseppu**	**7.34**	**250**		P		**Pn**	**19 13 19.6**	**+2.9**	
JAR	**Ashorobuto**	**7.44**	**244**		P		**Pn**	**19 13 19.0**	**+0.9**	
JAR				*e*	S		**Sn**	**19 14 41.1**	**0.0**	
UGL	**Uglegorsk**	**7.57**	**290**	*e*P			**Pn**	**19 13 23.5**	**+3.7**	
UGL						AMB	AMB	19 13 25.0		
	comp=Z,90nm,0.9s									
JOB	**Onbets**	**7.62**	**241**		P		**Pn**	**19 13 20.3**	**-0.3**	
JOB				*e*	S		**Sn**	**19 14 42.0**	**-3.5**	
ASAJ	**Asahikawa**	**7.79**	**252**		P		**Pn**	**19 13 26.4**	**+3.5**	
	comp=Z,3.8nm,0.3s,baz=83,slow=10,SNR=38									
ASAJ					LR		LR	19 16 11.7		
	comp=Z,249nm,19.0s,baz=148,slow=36									
ASAJ	**Asahikawa**	**7.79**	**252**		P		**Pn**	**19 13 26.1**	**+3.3**	
TYV	**Tymovskoe**	**7.79**	**304**	*e*P			**Pn**	**19 13 25.5**	**+2.7**	
TYV						AMB	AMB	19 13 27.0		
	comp=Z,13nm,0.8s									
TYV						AMB	AMB	19 13 27.0		
	comp=Z,34nm,0.8s									
JKK2	**Kamakawa 2**	**7.80**	**250**		P		**Pn**	**19 13 25.6**	**+2.6**	
JWK2	**Keihoku**	**7.83**	**262**		P		**Pn**	**19 13 29.4**	**+6.0**	
JCH	**Churui**	**8.07**	**241**		P		**Pn**	**19 13 25.9**	**-0.8**	
JCH				*e*	S		**Sn**	**19 14 51.3**	**-5.3**	
JFR	**Furan**	**8.24**	**246**		P		**Pn**	**19 13 30.6**	**+1.6**	
JAB	**Ashibetsu**	**8.31**	**249**		P		**Pn**	**19 13 32.6**	**+2.7**	
ERM	**Erimo**	**8.56**	**238**	*i*	PN		**Pn**	**19 13 34.3**	**+0.9**	
ERM	**Erimo**	**8.56**	**238**	*e*P			**Pn**	**19 13 33.4**	**0.0**	
	comp=Z,94nm,0.6s									
JEM	**Erimo**	**8.56**	**238**		P		**Pn**	**19 13 33.1**	**-0.3**	
JBT2	**Biratori 2**	**8.59**	**245**		P		**Pn**	**19 13 34.3**	**+0.5**	
JNBK	**Urakawa-nobuka**	**8.64**	**241**		P		**Pn**	**19 13 32.8**	**-1.6**	
JNBK				*e*	S		**Sn**	**19 15 02.4**	**-8.0**	
JNB	**Noboribetsu**	**9.58**	**246**		P		**Pn**	**19 13 46.9**	**-0.4**	
JKB	**Kayabe**	**9.90**	**243**		P		**Pn**	**19 13 50.1**	**-1.7**	
JKB				*e*	S		**Sn**	**19 15 33.5**	**-7.9**	
JYM2	**Yakumo 2**	**10.19**	**246**		P		**Pn**	**19 13 54.3**	**-1.3**	
JSR	**Shiriuchi**	**10.49**	**243**		P		**Pn**	**19 13 57.8**	**-1.9**	
JTM	**Tenmabayashi**	**10.55**	**238**		P		**Pn**	**19 13 57.6**	**-3.0**	
JTM				*e*	S		**Sn**	**19 15 47.7**	**-10**	
JANG	**Nango**	**10.57**	**235**		P		**Pn**	**19 13 56.5**	**-4.3**	
JANG				*e*	S		**Sn**	**19 15 45.9**	**-12**	
JTH	**Tanohata**	**10.68**	**233**	*e*	S		**Sn**	**19 15 46.4**	**-14**	
JOSM	**Okushiri--Mats**	**10.77**	**248**		P		**Pn**	**19 14 03.0**	**-0.6**	
OFUJ	**Ofunato**	**11.40**	**230**		P		**Pn**	**19 14 07.9**	**-4.3**	
OFUJ				*e*	S		**Sn**	**19 16 05.5**	**-12**	
JRG	**Rokugo**	**11.73**	**234**		P		**Pn**	**19 14 13.6**	**-3.1**	
JRG				*e*	S		**Sn**	**19 16 14.8**	**-11**	
JIO	**Ouri**	**12.03**	**229**	*e*	S		**Sn**	**19 16 19.5**	**-14**	
HABR	**Khabarovsk**	**12.12**	**284**	*e*PN			**Pn**	**19 14 17.3**	**-4.8**	
MA2	**Magadan**	**12.68**	**355**	*e*PN			**Pn**	**19 14 31.5**	**+1.9**	
MA2						pmax	pmax			
	comp=Z,10.0nm,0.5s									
MA2	**Magadan**	**12.68**	**355**	*e*P			**Pn**	**19 14 31.2**	**+1.6**	
KLR	**Kul'dur**	**14.31**	**287**	*e*P			**Pn**	**19 14 53.0**	**+1.3**	
MAT	**Matsushiro**	**15.12**	**232**		P		**Pn**	**19 15 07.3**	**+5.1**	
MJAR	**Matsushiro Arr**	**15.12**	**232**		P		**Pn**	**19 15 06.5**	**+4.3**	
	comp=Z,0.9nm,0.3s,baz=38,slow=9.3,SNR=21									
MJAR	**Matsushiro Arr**	**15.12**	**232**		P		**Pn**	**19 15 06.5**	**+4.3**	
MJAR					pmax	pmax				
	comp=Z,1.0nm,0.3s									
MDJ	**Mudanjiang**	**16.42**	**270**		P		**Pn**	**19 15 18.7**	**-0.2**	
	comp=Z,12nm,0.8s									
ZEA	**Zeya**	**17.65**	**302**	*e*P			**Pn**	**19 15 33.2**	**-0.9**	
ZEA						AMB	AMB	19 15 36.1		
	comp=Z,15nm,1.0s									
CN2	**Changchun**	**19.51**	**271**	*e*P			**Pn**	**19 15 54.5**	**-2.0**	
CN2						AMB	AMB			
	comp=Z,10.0nm,0.7s									
YAK	**Yakutsk**	**20.05**	**327**	*i*	P		**P**	**19 16 00.8**	**+0.1**	
YAK						pmax	pmax			
	comp=Z,16nm,0.8s									
YAK	**Yakutsk**	**20.05**	**327**	*e*P			**P**	**19 16 00.8**	**+0.1**	
	comp=Z,14nm,0.5s									
KSRS	**Korea Array**	**20.74**	**252**		P		**P**	**19 16 09.6**	**+1.4**	
	comp=Z,4.1nm,0.6s,baz=57,slow=10,SNR=18									
BILL	**Bilibino**	**22.19**	**13**	*i*	P		**P**	**19 16 23.5**	**-0.2**	
BILL						pmax	pmax			
	comp=Z,23nm,2.2s,mb4.2									
TIXI	**Tiksi**	**27.20**	**344**	⇑*e*P			**P**	**19 17 09.1**	**-1.6**	
TIXI						pmax	pmax			
	comp=Z,4.0nm,1.7s,mb3.7									
NJ2	**Nanjing**	**29.94**	**252**	*e*P			**P**	**19 17 37.5**	**+2.5**	
NJ2						AMB	AMB			
	comp=Z,20nm,0.6s,mb5.0									
HHC	**Hu-ho-hao-te**	**30.14**	**274**	*e*P			**P**	**19 17 38.3**	**+1.5**	
HHC						PP	PP	19 18 38.0	-7.6	
HHC						PCP	PcP	19 20 38.8	+1.8	
HHC						S	**S**	**19 22 30.3**	**-1.5**	
HHC						SS	SS	19 24 11.5	-30	
HHC						AMB	AMB			
	comp=Z,15nm,1.1s,mb4.6									
HHC						AMB	AMB			
	comp=Z,162nm,4.6s									
HHC						LR	LR			
	comp=N,154nm,14.9s,MS4.0									
HHC						LR	LR			
	comp=E,174nm,14.3s,MS4.0									
HHC						LR	LR			
	comp=Z,133nm,14.3s,MS3.7									
ULN	**Ulaanbaatar**	**30.69**	**289**		P		**P**	**19 17 43.2**	**+1.5**	
ULN						pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.0									
ULN	**Ulaanbaatar**	**30.69**	**289**		P		**P**	**19 17 43.2**	**+1.6**	
	comp=Z,1.9nm,0.8s,mb4.0									
SONM	**Songino Array**	**31.13**	**289**		P		**P**	**19 17 45.5**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=79,slow=7.5,SNR=4.1									
SONM						LR	LR	19 31 30.5		
	comp=Z,142nm,18.6s,MS3.7,baz=182,slow=38									
WHN	**Wuhan**	**33.86**	**255**		P		**P**	**19 18 09.5**	**+0.1**	
XAN	**Xi'an**	**35.40**	**265**		P		**P**	**19 18 22.8**	**+0.1**	
XAN						AP	pP	19 18 32.0	-4.6	
XAN						AMB	AMB			
	comp=Z,6.0nm,0.7s,mb4.6									
COLA	**College**	**36.04**	**39**	*e*P			**P**	**19 18 28.3**	**+0.1**	
COLA				*e*			pP	19 18 42.3	+0.2	
COLA						pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7									
COLA	**College**	**36.04**	**39**	*e*P			**P**	**19 18 28.3**	**+0.1**	
	comp=Z,6.3nm,0.6s,mb4.7									
COLA				*e*			pP	19 18 42.2	+0.1	
LZH	**Lanzhou**	**37.74**	**271**	*e*P			**P**	**19 18 44.3**	**+1.6**	
LZH						AP	pP	19 18 49.3	-7.4	
LZH						XP	sP	19 18 51.5	-12	
LZH						AMB	AMB			
	comp=Z,18nm,1.1s,mb4.7									
LZH	**Lanzhou**	**37.74**	**271**	*e*P			**P**	**19 18 44.3**	**+1.6**	
	comp=Z,18nm,1.1s,mb4.7									
LZH						pP	pP	19 18 49.2	-7.5	
LZH						sP	sP	19 18 51.5	-12	
GTA	**Gaotai**	**38.80**	**279**	*e*P			**P**	**19 18 53.8**	**+2.3**	
GTA						AP	pP	19 18 58.0	-7.6	
GTA						XP	sP	19 19 00.8	-11	
GTA						PP	PP	19 20 28.0	+6.8	
GTA						PCP	PcP	19 21 03.0	+1.1	
GTA						S	**S**	**19 24 52.8**	**+7.6**	
GTA						XS	sS	19 25 01.0	-7.9	
GTA						SS	SS	19 27 37.0	-0.8	
GTA						AMB	AMB			
	comp=Z,4.0nm,0.5s,mb4.4									
GTA						AMB	AMB			
	comp=Z,35nm,3.8s									
GTA						LR	LR			
	comp=N,105nm,12.5s,MS4.0									
GTA						LR	LR			
	comp=E,121nm,14.1s,MS4.0									
GTA						LR	LR			
	comp=Z,126nm,12.9s,MS3.9									
CD2	**Chengdu**	**40.76**	**265**		P		**P**	**19 19 08.3**	**+0.5**	
CD2						AMB	AMB			
	comp=Z,20nm,0.6s,mb4.9									
CD2						AMB	AMB			
	comp=Z,40nm,4.2s									
INK	**Inuvik**	**41.53**	**33**		P		**P**	**19 19 14.7**	**+0.6**	
	comp=Z,3.0nm,0.7s,mb4.0,baz=268,slow=5.5,SNR=11									
INK	**Inuvik**	**41.53**	**33**		P		**P**	**19 19 14.7**	**+0.6**	
INK						pmax	pmax			
	comp=Z,3.0nm,0.7s									
INK	**Inuvik**	**41.53**	**33**	*e*P			**P**	**19 19 14.6**	**+0.5**	
KMI	**Kunming**	**45.15**	**259**		P		**P**	**19 19 45.8**	**+2.5**	
KMI						*PP	pP	19 20 04.4	+6.8	
KMI						pmax	pmax			
	comp=Z,11nm,1.1s,mb4.6									
KMI	**Kunming**	**45.15**	**259**		P		**P**	**19 19 45.8**	**+2.5**	
	comp=Z,11nm,1.1s,mb4.6									
KMI						pP	pP	19 20 04.4	+6.8	
KMI						sP	sP	19 20 14.5	+11	
MK31	**Makanchi Array**	**46.71**	**297**	*e*P			**P**	**19 19 53.7**	**-1.9**	
MKAR	**Makanchi Array**	**46.71**	**297**		P		**P**	**19 19 55.1**	**-0.5**	
	comp=Z,1.1nm,0.5s,mb4.1,baz=60,slow=6.4,SNR=15									
MKAR						PcP	PcP	19 21 28.1	-0.2	
	comp=Z,1.2nm,0.6s,baz=75,slow=1.9,SNR=10									
MKAR						LR	LR	19 40 54.3		
	comp=Z,149nm,19.6s,MS4.0,baz=349,slow=38									
MKAR	**Makanchi Array**	**46.71**	**297**		P		**P**	**19 19 55.1**	**-0.5**	
MKAR								19 21 28.2		
MKAR						pmax	pmax			
	comp=Z,1.0nm,0.5s									
MKAR						pmax	pmax			
	comp=Z,1.0nm,0.6s									
MKAR						MLR	MLR			
	comp=Z,149nm,19.6s									
LSA	**Lhasa**	**50.12**	**273**	*e*P			**P**	**19 20 23.8**	**+1.9**	
LSA						pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9									
LSA	**Lhasa**	**50.12**	**273**	*e*P			**P**	**19 20 23.8**	**+2.0**	
	comp=Z,7.5nm,0.6s,mb4.9									
BVAR	**Borovoye Array**	**50.60**	**309**		P		**P**	**19 20 25.1**	**-0.4**	
	comp=Z,1.2nm,0.5s,mb4.1,baz=60,slow=8.9,SNR=13									
BVAR						PcP	PcP	19 21 42.0	-0.4	
	comp=Z,2.2nm,0.4s,baz=91,slow=2.8,SNR=11									
BVAR	**Borovoye Array**	**50.60**	**309**		P		**P**	**19 20 25.1**	**-0.4**	
BVAR								19 21 42.0		
BVAR						pmax	pmax			
	comp=Z,1.0nm,0.5s									
BVAR						pmax	pmax			
	comp=Z,2.0nm,0.4s									
YKA	**Yellowknife Ar**	**50.82**	**37**		P		**P**	**19 20 27.2**	**+0.1**	
	comp=Z,3.9nm,0.8s,mb4.4,baz=296,slow=7.1,SNR=18									
YKA						PcP	PcP	19 21 42.6	-0.6	
	comp=Z,1.5nm,0.7s,baz=302,slow=3.5,SNR=6.9									
YKA	**Yellowknife Ar**	**50.82**	**37**		P		**P**	**19 20 27.2**	**+0.1**	
YKA								19 21 42.6		
YKA						pmax	pmax			
	comp=Z,4.0nm,0.8s									
YKA						pmax	pmax			
	comp=Z,2.0nm,0.7s									
YKA	**Yellowknife Ar**	**50.82**	**37**		P		**P**	**19 20 27.2**	**+0.1**	
YKA						PcP	PcP	19 21 42.6	-0.6	
ZRNK	**Zerenda**	**51.37**	**310**	*e*P			**P**	**19 20 29.5**	**-1.7**	
ZRNK						pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3									
ZRNK	**Zerenda**	**51.37**	**310**	*e*P			**P**	**19 20 29.5**	**-1.8**	
	comp=Z,1.8nm,0.5s,mb4.3									
CHTO	**Chiang Mai**	**52.04**	**256**	*e*P			**P**	**19 20 36.6**	**+0.4**	
CHTO						pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7									
CHTO	**Chiang Mai**	**52.04**	**256**	*e*P			**P**	**19 20 36.6**	**+0.4**	
	comp=Z,7.6nm,0.8s,mb4.7									
AAK	**Ala-Archa**	**53.61**	**296**	⇑*e*P			**P**	**19 20 47.5**	**-0.3**	
AAK						pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.3									
ARU	**Arti**	**54.75**	**317**	⇓*iP*			**P**	**19 20 54.4**	**-1.7**	
ARU				*e*				19 21 56.4		
ARU					*e*S		**S**	**19 28 33.3**	**+0.7**	
ARU					*e*SS		SS	19 32 08.9	-7.3	
ARU					pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4									
JIRN	**Jiri**	**54.79**	**274**	*e*P			**P**	**19 20 57.6**	**+1.2**	
GUN	**Gumba**	**54.84**	**275**	*e*P			**P**	**19 20 57.8**	**+1.0**	
	comp=Z,16nm,0.5s,mb5.3									
KKN	**Kakanj**	**55.33**	**275**	*e*P			**P**	**19 21 01.5**	**+1.2**	
	comp=Z,20nm,0.7s,mb5.3									
PKI	**Pulchoki**	**55.38**	**275**	*e*P			**P**	**19 21 01.3**	**+0.7**	
DMN	**Daman**	**55.56**	**275**	*e*P			**P**	**19 21 03.3**	**+1.3**	
	comp=Z,32nm,0.8s,mb5.4									
GKN	**Gorkha**	**55.63**	**276**	*e*P			**P**	**19 21 03.0**	**+0.5**	
	comp=Z,11nm,0.4s,mb5.2									
EDM	**Edmonton**	**56.25**	**46**	*e*P			**P**	**19 21 06.6**	**-0.3**	
KOLN	**Koldanda**	**56.49**	**276**	*e*P			**P**	**19 21 09.6**	**+1.0**	
	comp=Z,20nm,0.8s,mb5.2									
ARCES	**ARCESS Array B**	**57.59**	**341**		P		**P**	**19 21 14.9**	**-1.4**	
	comp=Z,1.9nm,0.7s,mb4.2,baz=31,slow=6.6,SNR=18									
ARCES	**ARCESS Array B**	**57.59**	**341**		P		**P**	**19 21 15.0**	**-1.3**	
ARCES						pmax	pmax			
	comp=Z,2.0nm,0.7s									
WALA	**Waterton Lakes**	**58.40**	**50**	*e*P			**P**	**19 21 22.4**	**+0.5**	
	comp=Z,3.1nm,0.6s,mb4.5									
NVAR	**Mina Array Bea**	**62.45**	**62**		P		**P**	**19 21 50.1**	**+0.5**	
	comp=Z,2.0nm,0.7s,mb4.4,baz=295,slow=8.8,SNR=12									
RRI2	**Red Ridge**	**63.36**	**54**	*e*P			**P**	**19 21 56.8**	**+1.1**	
	comp=Z,9.7nm,0.7s,mb5.0									
FINES	**FINESS Array B**	**63.77**	**335**		P		**P**	**19 21 57.1**	**-1.3**	
	comp=Z,6.8nm,0.6s,mb4.8,baz=36,slow=6.9,SNR=46									
FINES	**FINESS Array B**	**63.77**	**335**	*e*P			**P**	**19 21 57.5**	**-0.9**	
PDAR	**Pinedale Array**	**64.72**	**54**		P		**P**	**19 22 05.3**	**+0.7**	
	comp=Z,4.0nm,0.8s,mb4.5,baz=286,slow=1.5,SNR=31									
SRU	**San Rafael**	**66.61**	**57**	*e*P			**P**	**19 22 17.3**	**+0.5**	
SRU						pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6									
SRU	**San Rafael**	**66.61**	**57**	*e*P			**P**	**19 22 17.3**	**+0.5**	
	comp=Z,5.4nm,0.8s,mb4.6									
RSSD	**Black Hills**	**66.78**	**50**	*e*P			**P**	**19 22 18.0**	**+0.2**	
RSSD						pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6									
RSSD	**Black Hills**	**66.78**	**50**	*e*P			**P**	**19 22 18.0**	**+0.1**	
	comp=Z,7.4nm,1.1s,mb4.6									
PV10	**Paradox Valley**	**67.96**	**57**	*e*P			**P**	**19 22 26.6**	**+1.3**	
NB2	**NORSAR Subarra**	**67.96**	**341**		P		**P**	**19 22 24.1**	**-1.2**	
	comp=Z,5.4nm,0.6s,mb4.8,baz=27,slow=6.2									
NOA	**NORSAR Array B**	**67.96**	**341**		P		**P**	**19 22 24.6**	**-0.8**	
	comp=Z,12nm,0.8s,mb5.0,baz=27,slow=6.3,SNR=25									
NOA	**NORSAR Array B**	**67.96**	**341**		P		**P**	**19 22 24.6**	**-0.7**	
NOA						pmax	pmax			
	comp=Z,12nm,0.8s									
NAO01	**NORSAR Array S**	**68.21**	**341**	*e*P			**P**	**19 22 25.9**	**-1.0**	
WRAB	**Tennant Creek**	**68.68**	**199**	*e*P			**P**	**19 22 29.5**	**-0.3**	
WB2	**Warramunga Arr**	**68.69**	**199**	*e*P			**P**	**19 22 28.9**	**-0.9**	
WRA	**Warramunga Arr**	**68.69**	**199**		P		**P**	**19 22 29.1**	**-0.8**	
	comp=Z,0.5nm,0.5s,mb3.7,baz=17,slow=6.8,SNR=14									
WRA	**Warramunga Arr**	**68.69**	**199**		P		**P**	**19 22 29.1**	**-0.8**	
WRA						pmax	pmax			
	comp=Z,1.0nm,0.5s									
FITZ	**Fitzroy Crossi**	**69.29**	**208**		P		**P**	**19 22 33.8**	**+0.2**	
	comp=Z,2.7nm,0.8s,mb4.2,baz=100,slow=3.4,SNR=5.0									
KIV	**Kislovodsk**	**70.54**	**314**	⇑*e*P			**P**	**19 22 42.0**	**+0.7**	
KIV						pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5									
AKASG	**Malin Array Be**	**71.28**	**326**		P		**P**	**19 22 44.5**	**-1.2**	
	comp=Z,12nm,0.4s,mb5.2,baz=35,slow=6.4,SNR=79									
AKASG	**Malin Array Be**	**71.28**	**326**		P		**P**	**19 22 44.5**	**-1.2**	
AKASG						pmax	pmax			
	comp=Z,13nm,0.4s									
AKBB	**Malin Array Si**	**71.28**	**326**	*e*P			**P**	**19 22 44.5**	**-1.2**	
KIEV	**Kiev**	**71.29**	**326**	*e*P			**P**	**19 22 44.2**	**-1.6**	
KIEV						pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9									
KIEV	**Kiev**	**71.29**	**326**	*e*P			**P**	**19 22 44.1**	**-1.7**	
	comp=Z,10nm,0.6s,mb4.9									
AS31	**Alice Springs**	**72.39**	**198**		P		**P**	**19 22 52.9**	**+0.5**	
ASAR	**Alice Springs**	**72.39**	**198**		P		**P**	**19 22 52.9**	**+0.4**	
	comp=Z,1.8nm,0.7s,mb4.1,baz=12,slow=6.0,SNR=33									
ASAR	**Alice Springs**	**72.39**	**198**		P		**P**	**19 22 52.9**	**+0.5**	
ASAR						pmax	pmax			
	comp=Z,2.0nm,0.7s									
KWP	**Kalwaria**	**74.55**	**329**	*e*P			**P**	**19 23 05.4**	**+0.3**	
OJC	**Ojcow**	**75.05**	**331**	*e*P			**P**	**19 23 08.0**	**0.0**	
STHS	**Stebnicka Huta**	**75.24**	**330**	*e*P			**P**	**19 23 09.7**	**+0.6**	
STHS						pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6									
STHS	**Stebnicka Huta**	**75.24**	**330**	*e*P			**P**	**19 23 09.7**	**+0.6**	
	comp=Z,7.0nm,0.8s,mb4.6									
KOLS	**Kolonicke sedl**	**75.29**	**329**	*e*P			**P**	**19 23 09.0**	**-0.4**	
BURAR	**Bucovina Array**	**75.32**	**326**	⇑*iP*			**P**	**19 23 09.6**	**+0.1**	
BURAR	**Bucovina Array**	**75.32**	**326**	⇑P			**P**	**19 23 09.7**	**+0.1**	
NIE	**Niedzica**	**75.56**

	comp=Z,42nm,0.7s,mb5.5							
BCLA	**Clavier**	**79.02**	**340**	P		**P**	**19 23 30.1**	**-0.3**
VTS	**Vitosha**	**80.30**	**325**	ǁ*i*P		**P**	**19 23 37.5**	**+0.3**
VTS	**Vitosha**	**80.30**	**325**	ǁP		**P**	**19 23 37.5**	**+0.3**
CDF	**Champ du Feu**	**80.39**	**338**	*e*P		**P**	**19 23 36.8**	**-0.9**
	comp=Z,14nm,0.9s,mb4.6							
CDF	**Champ du Feu**	**80.39**	**338**	*e*P		**P**	**19 23 36.8**	**-0.9**
CDF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
CDF	**Champ du Feu**	**80.39**	**338**	*e*P		**P**	**19 23 36.8**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.6							
GRR	**Gorron**	**82.30**	**343**	*e*P		**P**	**19 23 46.8**	**-1.0**
SMF	**Signal de Mont**	**82.90**	**339**	*e*P		**P**	**19 23 49.8**	**-1.1**
	comp=Z,12nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**82.90**	**339**	*e*P		**P**	**19 23 49.8**	**-1.1**
SMF				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**82.90**	**339**	*e*P		**P**	**19 23 49.8**	**-1.1**
	comp=Z,5.8nm,0.7s,mb4.7							
LPG	**La Plagne**	**83.21**	**337**	*e*P		**P**	**19 23 51.8**	**-0.8**
	comp=Z,22nm,1.1s,mb4.8							
LPG	**La Plagne**	**83.21**	**337**	*e*P		**P**	**19 23 51.8**	**-0.8**
LPG				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
LPG	**La Plagne**	**83.21**	**337**	*e*P		**P**	**19 23 51.8**	**-0.8**
	comp=Z,11nm,1.1s,mb4.8							
CAF	**Calviac**	**84.94**	**340**	*e*P		**P**	**19 24 00.2**	**-1.1**
	comp=Z,13nm,0.9s,mb4.8							
CAF	**Calviac**	**84.94**	**340**	*e*P		**P**	**19 24 00.2**	**-1.1**
CAF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.8							
CAF	**Calviac**	**84.94**	**340**	*e*P		**P**	**19 24 00.2**	**-1.1**
	comp=Z,6.5nm,0.9s,mb4.8							
VNDA	**Vanda**	**124.35**	**178**	PKP		PKPdf	19 30 22.9	-2.0
	comp=Z,0.9nm,0.8s,baz=327,slow=2.1,SNR=5.6							
VNDA	**Vanda**	**124.35**	**178**	PKIKP		PKPdf	19 30 22.9	-2.0
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CFAA	**Coronel Fontan**	**145.08**	**79**	PKPbc		PKPbc	19 31 02.0	-0.9
	comp=Z,0.2nm,0.8s,baz=322,slow=3.7,SNR=6.3							
VNA2	**Neumayer--Watz**	**154.20**	**195**	*e*PKPdf		PKPdf	19 31 16.8	-1.0
VNA2				*e*			19 31 20.9	
VNA2				*e*			19 31 24.1	
VNA2				*e*			19 31 38.1	
VNA2				*e*			19 31 50.2	
VNA3	**Neumayer Olymp**	**154.29**	**193**	*e*PKPdf		PKPdf	19 31 16.0	-1.9
VNA3				*e*			19 31 20.4	
VNA3				*e*			19 31 24.4	
VNA3				*e*			19 31 38.2	
VNA3				*e*			19 31 50.1	

IDC 26 19:27:01.3±3.1, 3404S×17888W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=71.2km s-min=36.2km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.32**	**216**	Pn	Pn	19 28 21.8	-0.1
	5.4nm,0.3s,baz=306,slow=1.2,SNR=47						
URZ				Sn	Sn	19 29 24.4	+0.5
	2.7nm,0.3s,baz=141,slow=20,SNR=7.2						
ASAR	**Alice Springs**	**42.30**	**271**	P	P	19 34 57.0	+0.4
	1.1nm,0.6s,baz=115,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**43.62**	**276**	P	P	19 35 07.4	0.0
	1.1nm,0.5s,baz=118,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**148.25**	**337**	PKPbc	PKPbc	19 46 47.8	-1.5
	1.9nm,0.9s,baz=64,slow=4.4,SNR=5.5						

*NIED **26** 19:27:00, 2120N×12220E, h50km, Mw4.3 Best double couple: M₀2.72000×10¹⁵ NP1:φs61.00000°, δ66.00000°, λ120.00000°. NP2:φs186.00000°, δ38.00000°, λ41.00000°.*
*IDC **26** 19:27:40.7±1.1, 2089N×12185E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/33, Error ellipse: s-maj=40.3km s-min=20.1km az=77.0*
*ISCJB **26** 19:27:41.2±0.7, 2108N±005×1222E±01, h10km, mb3.6/5, Error ellipse: s-maj=14.8km s-min=5.6km az=41.9*
*NEIC **26** 19:27:42.1±0.9, 2095N×12179E, h10km, MG4.1(JMA), Error ellipse: s-maj=33.2km s-min=14.0km az=81.0*
*JMA **26** 19:27:42.6±0.5, 2124N×12224E, h0km, M4.1*
ISC 26 19:27:45.0±2.3, 2107N±005×1221E±01, h30km±19km, n21, σ0s77/24, mb3.6/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**3.13**	**351**	*e*Pn	**Pn**	**19 28 30.9**	**-1.3**
HATJ	**Hateruma jima**	**3.35**	**27**	P	**Pn**	**19 28 35.0**	**-0.3**
HATJ				*e*S	**Sn**	**19 29 14.3**	**+0.3**
CVP	**Callao Caves**	**3.37**	**185**	*e*P	**Pn**	**19 28 35.0**	**-0.5**
YOJ	**Yonaguni jima**	**3.47**	**13**	P	**Pn**	**19 28 37.2**	**+0.3**
YOJ				*e*S	**Sn**	**19 29 16.7**	**-0.3**
IRIF	**Iriomote-Funau**	**3.56**	**24**	P	**Pn**	**19 28 38.2**	**-0.1**
IRIF				*e*S	**Sn**	**19 29 18.8**	**-0.6**
JKRS	**Kuro-shima**	**3.59**	**28**	P	**Pn**	**19 28 38.6**	**-0.1**
JKRS				*e*S	**Sn**	**19 29 20.8**	**+0.7**
JIJ	**Ishigaki jima**	**3.76**	**29**	P	**Pn**	**19 28 40.3**	**-0.7**
JIJ				*e*S	**Sn**	**19 29 23.2**	**-1.1**
TATO	**Taipei**	**3.93**	**351**	*e*P	**Pn**	**19 28 43.7**	**+0.4**
JTJ	**Tarama**	**4.27**	**33**	P	**Pn**	**19 28 48.5**	**+0.6**
JTJ				*e*S	**Sn**	**19 29 36.5**	**-0.2**
JOGS	**Gusukube**	**4.75**	**39**	P	**Pn**	**19 28 55.9**	**+1.4**
JOW	**Kunigami**	**8.02**	**43**	LR	LR	19 32 58.1	
	comp=Z,158nm,20.2s,baz=144,slow=38						
JNU	**Nakatsue**	**14.30**	**31**	LR	LR	19 36 06.7	
	comp=Z,218nm,21.7s,baz=218,slow=35						
KSRS	**Korea Array**	**17.08**	**16**	P	**Pn**	**19 31 44.9**	**+3.3**
	baz=200,slow=10,SNR=8.2						
KSRS				LR	LR	19 39 09.0	
	comp=Z,46nm,18.4s,baz=150,slow=40						
JHJ	**Hachijo jima 2**	**19.73**	**49**	LR	LR	19 40 03.6	
	comp=Z,425nm,19.8s,baz=73,slow=37						
MJAR	**Matsushiro Arr**	**20.83**	**39**	P	**P**	**19 32 28.6**	**+4.5**
	3.1nm,1.0s,baz=239,slow=10,SNR=5.6						
SONM	**Songino Array**	**29.57**	**338**	P	**P**	**19 33 47.1**	**0.0**
	0.9nm,0.9s,mb3.5,baz=164,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**41.20**	**318**	P	**P**	**19 35 27.6**	**+0.6**
	1.1nm,0.7s,mb3.6,baz=105,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**42.47**	**163**	P	**P**	**19 35 36.1**	**-1.3**
	0.3nm,0.4s,mb3.3,baz=345,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**45.92**	**165**	P	**P**	**19 36 05.7**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=342,slow=7.3,SNR=4.1						
YKA	**Yellowknife Ar**	**85.48**	**23**	P	**P**	**19 40 20.4**	**+0.5**
	0.7nm,0.6s,mb4.0,baz=308,slow=4.6,SNR=7.0						
YKA	**Yellowknife Ar**	**85.48**	**23**	P	**P**	**19 40 20.4**	**+0.5**

*ISCJB **26** 19:31:04.8±2.4, 47S±01×15288E±009, h81km±23km, mb4.3/11, Error ellipse: s-maj=23.0km s-min=13.4km az=132.7*
*NEIC **26** 19:31:07.0±1.3, 474S×15292E, h90km±12km, mb4.6/1, Error ellipse: s-maj=15.0km s-min=9.9km az=149.0*
*IDC **26** 19:31:06.9±3.3, 477S×15288E, h84km±30km, mb4.0/6, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, MS3.6/8, Ms1 3.6/8, ms1mx3.2/27, Error ellipse: s-maj=30.5km s-min=21.0km az=137.0*
ISC 26 19:31:07.1±1.9, 48S±01×15290E±009, h85km±18km, n31, σ0s63/23, mb4.3/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.33**	**231**	P	**Pn**	**19 32 51.5**	**+0.1**
	2.9nm,0.3s,baz=6.3,slow=10.0,SNR=9.7						
PMG				S	**Sn**	**19 34 12.9**	**-0.1**
	4.9nm,0.3s,baz=62,slow=13,SNR=3.6						
PMG	**Port Moresby**	**7.33**	**231**	*e*Pn	**Pn**	**19 32 51.7**	**+0.3**
PMG				S	**Sn**	**19 34 12.9**	**-0.1**
HNR	**Honiara**	**8.39**	**124**	P	**Pn**	**19 33 05.7**	**-0.2**
	2.9nm,0.3s,baz=225,slow=1.8,SNR=3.4						
CTA	**Charters Tower**	**16.55**	**202**	P	**Pn**	**19 34 54.5**	**+0.6**
	baz=11,slow=10,SNR=3.9						
CTA				LR	LR	19 40 23.0	
	comp=Z,263nm,18.9s,baz=42,slow=34						
GUMO	**Guam**	**19.90**	**336**	LR	LR	19 41 49.2	
	comp=Z,92nm,19.1s,baz=123,slow=32						
KAKA	**Kakadu**	**21.70**	**247**	*e*P	**P**	**19 35 49.8**	**-1.2**
	27nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**23.53**	**229**	*e*P	**P**	**19 36 09.8**	**+0.2**
WRA	**Warramunga Arr**	**23.54**	**229**	P	**P**	**19 36 09.9**	**+0.2**
	13nm,0.6s,mb4.4,baz=52,slow=9.8,SNR=99						
AS31	**Alice Springs**	**26.24**	**222**	*e*P	**P**	**19 36 34.1**	**0.0**
ASAR	**Alice Springs**	**26.24**	**222**	P	**P**	**19 36 34.1**	**-0.1**
	1.8nm,0.6s,mb3.7,baz=55,slow=9.0,SNR=17						
ASPA	**Alice Springs**	**26.25**	**222**	*e*P	**P**	**19 36 38.3**	**+4.1**
STKA	**Stephens Creek**	**28.98**	**200**	P	**P**	**19 36 58.5**	**-0.1**
	2.8nm,1.0s,mb3.8,baz=3.6,slow=10.0,SNR=3.2						
STKA				LR	LR	19 47 27.9	
	comp=Z,134nm,18.5s,baz=295,slow=34						
FITZ	**Fitzroy Crossi**	**29.77**	**241**	*e*P	**P**	**19 37 04.9**	**-0.7**
	19nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**29.77**	**241**	P	**P**	**19 37 05.2**	**-0.3**
	12nm,0.7s,mb4.6,baz=84,slow=7.0,SNR=36						
CBIJ	**Chichi jima**	**33.33**	**342**	LR	LR	19 49 59.3	
	comp=Z,73nm,20.2s,baz=164,slow=34						
JOW	**Kunigami**	**39.43**	**324**	LR	LR	19 54 05.1	
	comp=Z,43nm,19.4s,baz=323,slow=35						
RPZ	**Rata Peaks**	**41.97**	**160**	LR	LR	19 53 38.9	
	comp=Z,149nm,18.8s,baz=14,slow=32						
MJAR	**Matsushiro Arr**	**43.33**	**343**	LR	LR	19 55 14.8	
	comp=Z,75nm,20.2s,baz=220,slow=33						
RAR	**Rarotonga**	**48.70**	**114**	LR	LR	19 57 22.4	
	comp=Z,120nm,21.8s,baz=40,slow=32						
SONM	**Songino Array**	**66.35**	**328**	P	**P**	**19 41 47.0**	**+0.2**
	0.6nm,0.5s,mb3.6,baz=142,slow=5.2,SNR=8.0						
GUN	**Gumba**	**72.19**	**301**	*e*P	**P**	**19 42 23.7**	**+0.9**
KKN	**Kakani**	**72.67**	**301**	*e*P	**P**	**19 42 26.2**	**+0.5**
	4.1nm,0.5s,mb4.5						
DMN	**Daman**	**72.77**	**301**	*e*P	**P**	**19 42 27.2**	**+0.9**
GKN	**Gorkha**	**73.28**	**301**	*e*P	**P**	**19 42 29.5**	**+0.3**
	9.4nm,0.8s,mb4.7						
KOLN	**Koldanda**	**74.11**	**300**	*e*P	**P**	**19 42 33.8**	**-0.3**
	5.8nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**80.37**	**319**	P	**P**	**19 43 08.7**	**-0.4**
	0.8nm,0.5s,mb3.8,baz=95,slow=7.0,SNR=21						
BRVK	**Borovoye**	**89.34**	**323**	*e*P	**P**	**19 43 52.4**	**-1.6**
	2.0nm,0.5s,mb4.4						
GERES	**GERESS Array B**	**124.08**	**329**	PKP	PKPdf	19 49 55.9	+0.3
	0.4nm,0.5s,baz=126,slow=1.8,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**150.39**	**288**	*e*PKPbc	PKPbc	19 50 49.1	+0.5
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	PKPbc	19 50 49.2	+0.5
	3.3nm,0.7s,baz=84,slow=2.0,SNR=35						
TORD				PKPab	PKPab	19 50 56.1	+0.8
	1.0nm,0.4s,baz=83,slow=2.4,SNR=7.6						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	PKPbc	19 50 49.2	+0.5
TORD				PKPab	PKPab	19 50 56.1	+0.8

IDC 26 19:40:26.2±3.1, 3400S×17883W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=72.1km s-min=36.3km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.37**	**217**	Pn	Pn	19 41 48.1	+0.5
	2.5nm,0.3s,baz=126,slow=0.5,SNR=41						
URZ				Sn	Sn	19 42 49.0	-1.1
	3.1nm,0.3s,baz=304,slow=24,SNR=11						
ASAR	**Alice Springs**	**42.35**	**271**	P	P	19 48 22.4	+0.5
	1.2nm,0.7s,baz=114,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**43.66**	**276**	P	P	19 48 32.5	0.0
	1.5nm,0.7s,baz=117,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**148.23**	**337**	PKPbc	PKPbc	20 00 12.6	-1.6
	2.6nm,0.9s,baz=68,slow=5.1,SNR=5.0						

*NIED **26** 19:46:00, 2420N×12170E, h62km, Mw4.2 Best double couple: M₀2.31000×10¹⁵ NP1:φs256.00000°, δ70.00000°, λ96.00000°. NP2:φs60.00000°, δ21.00000°, λ75.00000°.*
*BJI **26** 19:46:06.5, 2406N×12175E, h12km, mb4.6, ML3.9*
*ISCJB **26** 19:46:08.4±0.7, 2397N±008×12170E±004, h59km±7km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=13.6km s-min=5.8km az=10.9*
*NEIC **26** 19:46:08.9±0.8, 2396N×12183E, h45km±7km, mb4.1/1, Error ellipse: s-maj=13.3km s-min=8.4km az=50.0*
NEIC Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien and Nan-t'ou; [1 TAP] in Chang-hua and T'ai-chung Counties.
*JMA **26** 19:46:09.7±0.2, 2420N×12174E, h81km±3km, M4.1*
*IDC **26** 19:46:09.8±5.0, 2400N×12191E, h55km±48km, mb3.6/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, ML4.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/25, Error ellipse: s-maj=32.0km s-min=17.0km az=68.0*
ISC 26 19:46:09.1±0.7, 2398N±008×12167E±004, h47km±8km, n32, σ0s84/42, mb3.8/7, MS3.3/1, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.20**	**340**	*e*Pn	**Pn**	**19 46 17.5**	**+0.4**
TATO	**Taipei**	**1.00**	**351**	*e*Pn	**Pn**	**19 46 27.1**	**+0.4**
YOJ	**Yonaguni jima**	**1.31**	**69**	P	**Pn**	**19 46 31.3**	**+0.3**
YOJ				S	**Sn**	**19 46 47.6**	**+0.2**
IRIF	**Iriomote-Funau**	**1.92**	**79**	P	**Pn**	**19 46 39.6**	**+0.4**
IRIF				S	**Sn**	**19 47 02.3**	**+0.2**
HATJ	**Hateruma jima**	**1.96**	**87**	P	**Pn**	**19 46 40.7**	**+0.9**
HATJ				S	**Sn**	**19 47 03.5**	**+0.4**
JKRS	**Kuro-shima**	**2.15**	**83**	P	**Pn**	**19 46 43.4**	**+0.9**
JKRS				S	**Sn**	**19 47 09.1**	**+1.1**
JIJ	**Ishigaki jima**	**2.29**	**80**	P	**Pn**	**19 46 44.5**	**+0.1**
JIJ				S	**Sn**	**19 47 10.5**	**-0.9**
JTJ	**Tarama**	**2.84**	**76**	P	**Pn**	**19 46 52.4**	**+0.4**
JTJ				S	**Sn**	**19 47 24.5**	**-0.5**
QZH	**Quanzhou**	**2.96**	**289**	ǁ*i*P	**Pn**	**19 46 53.5**	**-0.1**
QZH				S	**Sn**	**19 47 25.3**	**-2.6**
QZH				Smax			
	comp=N,600nm,0.4s						
QZH				Smax			
	comp=E,440nm,0.4s						
JMJ	**Miyako jima 2**	**3.41**	**75**	P	**Pn**	**19 47 00.2**	**+0.5**
JMJ				*e*S	**Sn**	**19 47 38.0**	**-0.8**
JOGS	**Gusukube**	**3.50**	**76**	P	**Pn**	**19 47 01.6**	**+0.7**
JOGS				*e*S	**Sn**	**19 47 41.3**	**+0.3**
JKE	**Kume jima 2**	**5.19**	**62**	P	**Pn**	**19 47 24.4**	**+0.2**
JAGN	**Aguni-jima**	**5.67**	**62**	P	**Pn**	**19 47 30.8**	**0.0**
JJT2	**Tamagusuku 2**	**5.92**	**67**	P	**Pn**	**19 47 34.1**	**0.0**
JIH	**Iheya**	**6.45**	**61**	P	**Pn**	**19 47 41.0**	**-0.5**
JOW	**Kunigami**	**6.61**	**63**	P	**Pn**	**19 47 42.5**	**-1.1**
	comp=E,9.4nm,0.3s,baz=217,slow=8.8,SNR=43						
JOW				S	**Sn**	**19 48 53.7**	**-4.0**
	comp=E,0.9nm,0.3s,baz=115,slow=26,SNR=1.8						
JOW	**Kunigami**	**6.61**	**63**	P	**Pn**	**19 47 42.4**	**-1.3**
JTK	**Tokunoshima**	**7.57**	**58**	P	**Pn**	**19 47 55.3**	**-1.5**
JAM	**Amami Oshima**	**8.38**	**57**	P	**Pn**	**19 48 05.9**	**-2.0**
KSRS	**Korea Array**	**14.46**	**20**	P	**Pn**	**19 49 37.0**	**+6.2**
	baz=202,slow=12,SNR=9.8						
KSRS				LR	LR	19 56 20.0	
	comp=E,55nm,18.4s,baz=196,slow=43						
SONM	**Songino Array**	**26.72**	**337**	P	**P**	**19 51 44.4**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.3,baz=156,slow=9.7,SNR=6.1						
LSA	**Lhasa**	**27.77**	**289**	*e*P	**P**	**19 51 56.8**	**+3.4**
MK31	**Makanchi Array**	**38.79**	**316**	*e*P	**P**	**19 53 30.1**	**+1.0**
MKAR	**Makanchi Array**	**38.79**	**316**	P	**P**	**19 53 30.2**	**+1.1**
	comp=E,0.8nm,0.5s,mb3.7,baz=100,slow=9.6,SNR=16						
MKAR	**Makanchi Array**	**38.79**	**316**	P	**P**	**19 53 30.2**	**+1.1**
WRAB	**Tennant Creek**	**45.37**	**163**	*e*P	**P**	**19 54 22.2**	**-0.5**
WRA	**Warramunga Arr**	**45.37**	**163**	P	**P**	**19 54 22.1**	**-0.7**
	comp=E,0.9nm,0.5s,mb3.8,baz=346,slow=8.0,SNR=29						
WRA				LR	LR	20 16 08.4	
	comp=E,31nm,18.4s,MS3.3,baz=205,slow=40						
BRVK	**Borovoye**	**48.18**	**321**	*e*P	**P**	**19 54 45.5**	**+0.8**
	comp=E,0.7nm,0.4s,mb4.0						
ASAR	**Alice Springs**	**48.83**	**165**	P	**P**	**19 54 49.6**	**-0.1**
	comp=E,0.2nm,0.3s,mb3.6,baz=342,slow=6.7,SNR=11						
STKA	**Stephens Creek**	**58.72**	**160**	P	**P**	**19 56 01.4**	**-0.7**
	comp=E,3.0nm,1.0s,mb4.3,baz=335,slow=7.8,SNR=4.5						
YKA	**Yellowknife Ar**	**82.98**	**23**	P	**P**	**19 58 28.4**	**-0.7**
	comp=E,0.9nm,0.7s,mb3.9,baz=312,slow=4.9,SNR=14						
YKA	**Yellowknife Ar**	**82.98**	**23**	P	**P**	**19 58 28.4**	**-0.7**

*STR **26** 19:47:29.3±0.1, 4300N×005E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 26 19:47:29.1±0.1, 4301N±000E, h6km, Md1.7/1, Ml1.5/1, Error ellipse: s-maj=1.5km s-min=0.9km az=140.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**55**	Pg	Pg	19 47 31.2	+0.5
LABF				Sg	Sg	19 47 32.4	+0.5
VIEF	**Viey**	**0.13**	**172**	Pg	Pg	19 47 32.1	+0.3
VIEF				Sg	Sg	19 47 34.3	+0.8
EPF	**Esparros**	**0.25**	**85**	*e*Pg	Pg	19 47 34.2	+0.2
EPF				*e*Sg	Sg	19 47 37.5	+0.2
	2.2nm,0.2s						
ETSF	**Etsaut**	**0.43**	**255**	*e*Sg	Sg	19 47 43.1	+0.2
	3.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Sg	Sg	19 48 21.6	-0.7
	0.8nm,0.3s						

*ISCJB **26** 19:55:02.8±0.5, 673N±004×7296W±005, h175km±5km, mb4.1/17, Error ellipse: s-maj=8.3km s-min=7.0km az=19.2*
*IDC **26** 19:55:02.4±0.5, 672N×7295W, h158km±4km, mb3.9/14, mb1 4.1/18, mb1mx4.0/23, mbtmp3.9/18, Error ellipse: s-maj=10.6km s-min=6.4km az=122.0*
*NEIC **26** 19:55:03.5±0.5, 675N×7297W, h169km±5km, mb4.2/4, Error ellipse: s-maj=7.6km s-min=6.2km az=83.0*
*BJI **26** 19:55:03.5, 670N×7300W, h168km*
ISC 26 19:55:03.8±0.5, 675N±004×7295W±005, h169km±5km, n58, σ0s77/56, mb4.1/17, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.33**	**216**	P	**Pn**	**19 55 43.8**	**0.0**
	336nm,0.3s,baz=308,slow=4.3,SNR=230						
ROSC				S	**Sn**	**19 56 12.9**	**-1.9**
	342nm,0.3s,baz=99,slow=14,SNR=19						
ROSC	**El Rosal**	**2.33**	**216**	*e*Pn	**Pn**	**19 55 43.7**	**-0.2**
ROSC				*e*Sn	**Sn**	**19 56 11.0**	**-3.7**
SDV	**Santo Domingo**	**3.13**	**47**	P	**Pn**	**19 55 53.5**	**0.0**
	160nm,0.3s,baz=260,slow=7.4,SNR=737						
SDV				S	**Sn**	**19 56 31.0**	**-1.2**
	94nm,0.3s,baz=286,slow=21,SNR=19						
SDV	**Santo Domingo**	**3.13**	**47**	*e*Pn	**Pn**	**19 55 53.4**	**-0.2**
SDV				S	**Sn**	**19 56 31.0**	**-1.2**
SDV				*e*Sn	**Sn**	**19 56 31.2**	**-1.0**
PCRV	**Puerto La Cruz**	**8.90**	**67**	P	**Pn**	**19 57 09.4**	**+0.4**
	1.3nm,0.3s,baz=200,slow=4.6,SNR=5.6						
PCRV				S	**Sn**	**19 58 48.7**	**+0.6**
	2.7nm,0.3s,baz=264,slow=18,SNR=2.4						
PCJ	**Portland Cotta**	**11.68**	**340**	ǁ*e*P	**Pn**	**19 57 45.6**	**+0.3**
PCJ				*e*S	**Sn**	**19 59 42.5**	**-12**
TCE	**Chacachacare**	**11.74**	**70**	*e*P	**Pn**	**19 57 54.1**	**+8.0**
STH	**Stony Hill**	**11.88**	**342**	ǁ*e*P	**Pn**	**19 57 47.9**	**0.0**
MCJ	**Malvern**	**12.04**	**338**	ǁ*e*P	**Pn**	**19 57 50.5**	**+0.6**
TRN	**Trinidad (W)**	**12.05**	**70**	*e*P	**Pn**	**19 57 57.9**	**+7.7**
BNJ	**Bonny Gate**	**12.15**	**342**	*e*P	**Pn**	**19 57 51.3**	**-0.1**
CVJ	**Coleyville**	**12.26**	**339**	ǁ*e*P	**Pn**	**19 57 53.7**	**+0.9**
BBJ	**Bamboo Saint A**	**12.31**	**340**	ǁ*e*P	**Pn**	**19 57 54.0**	**+0.5**
TBH	**Brigand Hill**	**12.32**	**72**	*e*P	**Pn**	**19 58 02.4**	**+8.8**
GRW	**Mount Saint Ca**	**12.36**	**63**	*e*P	**Pn**	**19 58 00.7**	**+6.6**
MASC	**Masc**	**13.41**	**355**	*e*P	**Pn**	**19 58 08.3**	**+0.8**
RCC	**Rio Carpintero**	**13.44**	**349**	*e*P	**Pn**	**19 58 08.2**	**+0.4**
	baz=207						
RCC				*e*S	**Sn**	**20 00 20.3**	**-17**
	comp=N,20nm,1.6s						
RCC				*e*			
	comp=E,16nm,1.9s						
ATAH	**Atahualpa**	**14.70**	**202**	P	**Pn**	**19 58 25.1**	**+1.5**
	comp=E,0.9nm,0.3s,baz=21,slow=7.7,SNR=4.9						
MGV	**Manicaragua**	**16.72**	**337**	*e*P	**Pn**	**19 58 56.9**	**+8.7**
SAML	**Samuel**	**18.38**	**148**	*e*P	**P**	**19 59 06.5**	**+0.7**
	comp=E,6.7nm,0.6s						
LPAZ	**La Paz**	**23.38**	**168**	P	**P**	**19 59 58.1**	**+1.0**
	comp=E,0.9nm,0.3s,mb3.6,baz=20,slow=4.3,SNR=12						
LPAZ				S	**S**	**20 03 59.2**	**+1.9**
	comp=E,1.3nm,0.8s,baz=249,slow=20,SNR=3.8						
LPAZ	**La Paz**	**23.38**	**168**	*e*P	**P**	**19 59 58.0**	**+0.8**
LPAZ				*e*S	**S**	**20 03 59.2**	**+1.9**
SIV	**San Ignacio**	**25.47**	**153**	P	**P**	**20 00 16.3**	**+0.1**
	comp=E,2.7nm,0.8s,mb3.9,baz=334,slow=9.1,SNR=14						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**20 01 53.8**	**-0.1**
	comp=E,0.9nm,0.6s,mb3.6,baz=128,slow=8.9,SNR=16						
TXAR				pP	pP	20 02 26.9	-3.0
	comp=E,0.7nm,0.6s,baz=126,slow=8.4,SNR=4.7						
TXAR				PcP	PcP	20 04 14.9	+1.7
	comp=E,1.3nm,0.6s,baz=137,slow=6.0,SNR=12						
JFWS	**Jewell Farm**	**39.12**	**340**	*e*P	**P**	**20 02 14.1**	**-0.7**
	comp=E,4.3nm,0.6s,mb4.3				

*NEIC **26** 20:00:57.6±0.8, 4784N×15380E, h10km, mb4.0/6, Error ellipse: s-maj=23.0km s-min=10.1km az=145.0*
*MOS **26** 20:01:00.8±1.6, 4752N×15386E, h62km, mb4.3/10, Error ellipse: s-maj=13.1km s-min=10.1km az=69.5*
*ISCJB **26** 20:01:02.3±1.3, 4755N±009×1539E±01, h73km±9km, mb4.1/19, Error ellipse: s-maj=19.7km s-min=7.5km az=94.5*
*IDC **26** 20:01:05.9±5.5, 4744N×15375E, h97km±47km, mb3.5/9, mb1 3.6/11, mb1mx3.4/24, mbtmp3.5/11, Error ellipse: s-maj=36.6km s-min=24.2km az=76.0*

ISC 26 20:01:04.0±1.1, **4759N**±009×**1539E**±01, **h74**km±8km, **n56, s**0**95/58, mb4.1**/19, **6C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.44**	**25**	*e*PN	**Pn**	**20 01 54.5**	**-0.6**
SKR				*e*S	**Sn**	**20 02 35.5**	**+0.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax			
	comp=E,120nm,0.8s						
KUR	**Kuril'sk**	**4.76**	**243**	*e*PN	**Pn**	**20 02 07.0**	**-6.2**
KUR				*i* S	**Sn**	**20 03 12.0**	**+4.8**
KUR				pmax	pmax		
	comp=Z,140nm,0.9s						
KUR				smax			
	comp=N,120nm,0.8s						
KUR				smax			
	comp=E,80nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.58**	**269**	*e*PN	**Pn**	**20 02 52.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.58**	**269**	*e*Pn	**Pn**	**20 02 51.8**	**+0.1**
	comp=E,15nm,0.8s						
ASAJ	**Asahikawa**	**8.59**	**250**	P	**Pn**	**20 03 06.0**	**+0.4**
	comp=E,0.8nm,0.3s,baz=2.9,slow=32,SNR=8.0						
ASAJ	**Asahikawa**	**8.59**	**250**	PN	**Pn**	**20 03 06.0**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.99**	**232**	*e*P	**Pn**	**20 04 44.8**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAJO	**Matsushiro**	**15.99**	**232**	*e*Pn	**Pn**	**20 04 44.8**	**+0.5**
	comp=Z,3.9nm,0.7s						
MJAR	**Matsushiro Arr**	**15.99**	**232**	P	**Pn**	**20 04 44.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=37,slow=8.9,SNR=5.1						
MDJ	**Mudanjiang**	**17.07**	**269**	P	**Pn**	**20 04 56.9**	**-0.9**
YAK	**Yakutsk**	**19.91**	**325**	P	**Pn**	**20 05 30.7**	**-1.1**
HIA	**Hailar**	**22.59**	**287**	*e*P	**P**	**20 05 58.2**	**-0.1**
BJT	**Baijiatuan**	**28.02**	**268**	*e*P	**P**	**20 06 47.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BJT	**Baijiatuan**	**28.02**	**268**	*e*P	**P**	**20 06 47.2**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.2						
MCK	**McKinley**	**34.69**	**41**	P	**P**	**20 07 45.3**	**-1.2**
COLA	**College**	**35.17**	**39**	*e*P	**P**	**20 07 51.5**	**+0.9**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
COLA	**College**	**35.17**	**39**	*e*P	**P**	**20 07 51.5**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.1						
ENH	**Enshi**	**38.02**	**259**	P	**P**	**20 08 09.5**	**-5.4**
	comp=Z,0.3nm,0.4s,mb3.5						
INK	**Inuvik**	**40.67**	**33**	P	**P**	**20 08 37.4**	**+0.4**
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**20 09 25.9**	**-1.9**
	comp=Z,0.4nm,0.7s,mb3.3,baz=60,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**20 09 55.3**	**-0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=46,slow=8.5,SNR=7.8						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**20 09 55.3**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	**50.74**	**273**	*e*P	**P**	**20 09 57.8**	**+1.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.74**	**273**	*e*P	**P**	**20 09 57.8**	**+1.5**
	comp=Z,1.6nm,0.6s,mb4.2						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	**P**	**20 09 55.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	**P**	**20 09 55.6**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0						
JIRN	**Jiri**	**55.39**	**274**	*e*P	**P**	**20 10 31.2**	**+0.7**
	comp=Z,1.5nm,0.2s,mb4.7						
GUN	**Gumba**	**55.44**	**275**	*e*P	**P**	**20 10 31.0**	**+0.2**
KKN	**Kakani**	**55.92**	**275**	*e*P	**P**	**20 10 34.8**	**+0.6**
	comp=Z,5.9nm,0.5s,mb4.9						
PKI	**Pulchoki**	**55.97**	**275**	*e*P	**P**	**20 10 34.9**	**+0.3**
DMN	**Daman**	**56.15**	**275**	*e*P	**P**	**20 10 36.5**	**+0.6**
	comp=Z,7.6nm,0.4s,mb5.1						
GKN	**Gorkha**	**56.21**	**276**	*e*P	**P**	**20 10 36.6**	**+0.2**
	comp=Z,10nm,0.6s,mb5.0						
KOLN	**Koldanda**	**57.06**	**276**	*e*P	**P**	**20 10 42.8**	**+0.4**
	comp=Z,9.8nm,0.9s,mb4.8						
FINES	**FINES Array B**	**63.50**	**335**	P	**P**	**20 11 26.0**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.0,baz=39,slow=7.6,SNR=26						
FINES	**FINES Array B**	**63.50**	**335**	P	**P**	**20 11 26.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.60**	**341**	P	**P**	**20 11 52.8**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.1,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.60**	**341**	P	**P**	**20 11 53.2**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.9,baz=28,slow=6.5,SNR=4.7						
NOA	**NORSAR Array B**	**67.60**	**341**	P	**P**	**20 11 53.2**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**	**20 12 13.9**	**-0.7**
	comp=Z,1.7nm,0.5s,mb4.2,baz=35,slow=6.2,SNR=7.6						
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**	**20 12 13.9**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**73.16**	**199**	P	**P**	**20 12 24.9**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.5,baz=9.7,slow=5.5,SNR=7.9						
ASAR	**Alice Springs**	**73.16**	**199**	P	**P**	**20 12 24.9**	**-1.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**75.17**	**327**	↑*i*P	**P**	**20 12 38.8**	**+0.5**
BURAR	**Bucovina Array**	**75.17**	**327**	↑P	**P**	**20 12 38.8**	**+0.5**
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**20 12 46.7**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=316,slow=5.7,SNR=3.9						
TXAR	**Lajitas Array**	**76.64**	**61**	P	**P**	**20 12 46.7**	**0.0**
MLR	**Muntele Rosu**	**76.67**	**325**	↑*i*P	**P**	**20 12 48.5**	**+1.6**
MLR	**Muntele Rosu**	**76.67**	**325**	↑P	**P**	**20 12 48.5**	**+1.7**
DRGR		**76.78**	**328**	↓*i*P	**P**	**20 12 46.1**	**-1.4**
MALT	**Malatya**	**76.95**	**313**	↑*i*P	**P**	**20 12 50.5**	**+2.0**
MALT	**Malatya**	**76.95**	**313**	↑P	**P**	**20 12 50.5**	**+2.1**
GERES	**GERESS Array B**	**77.93**	**334**	P	**P**	**20 12 52.1**	**-1.8**
	comp=Z,0.1nm,0.4s,mb2.9,baz=140,slow=10,SNR=4.0						
BRTR	**Keskin Array B**	**78.13**	**317**	P	**P**	**20 12 56.4**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=67,slow=5.5,SNR=9.2						
BRTR	**Keskin Array B**	**78.13**	**317**	P	**P**	**20 12 56.4**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BZS	**Buzias**	**78.18**	**328**	↓*i*P	**P**	**20 12 55.9**	**+0.6**
BZS	**Buzias**	**78.18**	**328**	↓P	**P**	**20 12 55.9**	**+0.6**

*ISCJB **26** 20:08:09.6±1.2, 4333N±006×833E±009, h33km±12km, Error ellipse: s-maj=14.0km s-min=4.6km az=89.6*
*STR **26** 20:08:09.4±0.3, 4346N×865E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 20:08:09.5±0.3, 4328N×837E, h10km, Md2.2/2, Ml2.1/8, Error ellipse: s-maj=12.8km s-min=4.8km az=40.0*

ISC 26 20:08:08.1±0.7, **4331N**±006×**834E**±010, **h17**km±5km, **n13, s**0**95/24, Corsica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBF	**Sospel**	**0.86**	**311**	*e*Pn	**Pn**	**20 08 25.2**	**-0.2**
SBF				*e*Sn	**Sn**	**20 08 36.2**	**-1.4**
	14nm,0.2s						
SAOF	**Saorge**	**0.89**	**320**	Pg	**Pg**	**20 08 25.5**	**+0.1**
SAOF				Sg	**Sg**	**20 08 36.1**	**-1.0**
PGF	**Pioggiola**	**0.90**	**147**	*e*Pn	**Pn**	**20 08 26.2**	**+0.3**
PGF				*e*Sn	**Sn**	**20 08 37.3**	**-1.2**
	7.7nm,0.2s						
LUCF	**Luceram**	**0.93**	**309**	Pg	**Pg**	**20 08 26.6**	**+0.4**
AUTN	**L'Aution**	**0.96**	**316**	Pg	**Pg**	**20 08 26.8**	**+0.1**
AUTN				Sg	**Sg**	**20 08 38.7**	**-0.6**
TOUF	**Mont Tournerai**	**1.06**	**312**	Pg	**Pg**	**20 08 28.7**	**0.0**
CORF	**Corte**	**1.17**	**149**	Pg	**Pg**	**20 08 30.7**	**-0.1**
CORF				Sg	**Sg**	**20 08 45.2**	**-0.9**
FRF	**La Foret Royal**	**1.26**	**282**	*e*Pn	**Pn**	**20 08 31.9**	**+1.0**
FRF				*e*Sn	**Sn**	**20 08 47.2**	**-0.2**
	9.0nm,0.2s						
LMR	**La Mourre**	**1.34**	**272**	*e*Pn	**Pn**	**20 08 33.1**	**+1.2**
LMR				*e*Sn	**Sn**	**20 08 49.3**	**0.0**
	2.8nm,0.2s						
MBDF	**Montbardon**	**1.82**	**322**	*e*Pn	**Pn**	**20 08 39.8**	**+1.3**
MBDF				*e*Sn	**Sn**	**20 09 01.4**	**+0.3**
	0.7nm,0.2s						
SMRF	**Simiane la Rot**	**2.12**	**289**	*e*Pn	**Pn**	**20 08 45.2**	**+2.5**
SMRF				*e*Sn	**Sn**	**20 09 08.4**	**-0.1**
	1.9nm,0.4s						
VIVF	**Saint-Julien-l**	**3.06**	**302**	*e*Pn	**Pn**	**20 08 56.0**	**+0.3**
VIVF				*e*Sn	**Sn**	**20 09 30.4**	**-1.5**
	0.8nm,0.2s						
LASF	**Ste Croix**	**3.34**	**285**	*e*Pn	**Pn**	**20 09 01.5**	**+2.0**
LASF				*e*Sn	**Sn**	**20 09 37.5**	**-1.3**
	0.4nm,0.2s						

*HLW **26** 20:09:02.0, 3484N×2490E, h33km, Mb0.0*
*ISCJB **26** 20:09:03.0±1.9, 3452N±006×250E±0.1, h20km±20km, Error ellipse: s-maj=15.1km s-min=8.1km az=137.7*
*CSEM **26** 20:09:03.9±0.1, 3454N×2499E, h28km±1km, MD3.3, Error ellipse: s-maj=5.1km s-min=3.0km az=55.0*
*ATH **26** 20:09:04.1, 3460N×2498E, h31km±17km, MD3.3/4*
*NEIC **26** 20:09:04.1, 3460N×2498E, h31km, MD3.3(ATH), After ATH.*

ISC 26 20:09:03.9±3.1, **3459N**±006×**250E**±01, **h19**km±23km, **n7, s**0**61/9, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.62**	**63**	*e*PN	**Pn**	**20 09 17.0**	**-0.6**
GVD	**Gavdhos**	**0.81**	**288**	*e*PN	**Pn**	**20 09 20.0**	**-0.2**
NPS	**Neapolis**	**0.82**	**36**	*e*PN	**Pn**	**20 09 20.8**	**+0.3**
VAM	**Vamos**	**1.06**	**320**	*e*PB	**Pb**	**20 09 22.8**	**-0.7**
VAM				*e*SN	**Sn**	**20 09 38.3**	**+0.5**
HMAT	**Matruh**	**3.90**	**153**	P	**Pn**	**20 10 03.3**	**+0.5**
SWA1		**5.35**	**174**	P	**Pn**	**20 10 23.3**	**+0.7**
SWA1				S	**Sn**	**20 11 22.7**	**-1.0**
SWA2		**5.35**	**176**	P	**Pn**	**20 10 23.1**	**+0.5**

*ISCJB **26** 20:29:32.7±1.3, 483N±0.1×1539E±0.1, h97km±12km, mb3.8/11, Error ellipse: s-maj=21.6km s-min=9.5km az=93.8*
*MOS **26** 20:29:33.6±1.3, 4824N×15381E, h106km, mb4.3/4, Error ellipse: s-maj=19.3km s-min=10.9km az=68.4*
*NEIC **26** 20:29:36.5±1.1, 4825N×15368E, h118km±10km, mb3.8/5, Error ellipse: s-maj=15.1km s-min=7.4km az=138.0*
*IDC **26** 20:29:36.3±5.5, 4826N×15376E, h114km±48km, mb3.3/6, mb1 3.6/7, mb1mx3.3/23, mbtmp3.4/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=35.1km s-min=22.4km az=93.0*

ISC 26 20:29:34.2±1.3, **483N**±01×**1539E**±01, **h99**km±11km, **n26, s**1**04/26, mb3.8/11, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.82**	**30**	*e*PN	**Pn**	**20 30 15.6**	**-1.9**
SKR				*e*S	**Sn**	**20 30 47.5**	**-3.3**
SKR				smax			
	comp=N,100nm,0.4s						
SKR				smax			
	comp=E,240nm,0.4s						
PET	**Petropavlovsk**	**5.64**	**31**	*e*PN	**Pn**	**20 30 59.6**	**+4.0**
YSS	**Yuzh-Sakhalins**	**7.63**	**264**	*e*PN	**Pn**	**20 31 23.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.63**	**264**	*e*Pn	**Pn**	**20 31 23.3**	**+0.7**
	comp=E,17nm,0.3s						
ASAJ	**Asahikawa**	**8.86**	**246**	P	**Pn**	**20 31 39.7**	**+0.4**
	comp=E,0.9nm,0.3s,baz=50,slow=13,SNR=13						
ASAJ	**Asahikawa**	**8.86**	**246**	PN	**Pn**	**20 31 39.7**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**11.47**	**352**	PN	**Pn**	**20 32 15.7**	**+1.0**
MAJO	**Matsushiro**	**16.43**	**230**	P	**Pn**	**20 33 18.1**	**-0.7**
KSRS	**Korea Array**	**21.78**	**250**	P	**P**	**20 34 19.2**	**+1.3**
	comp=Z,1.3nm,0.8s,mb3.3,baz=44,slow=10,SNR=4.4						
HIA	**Hailar**	**22.41**	**285**	*e*P	**P**	**20 34 24.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HIA	**Hailar**	**22.41**	**285**	*e*P	**P**	**20 34 24.9**	**+0.3**
	comp=Z,1.2nm,0.3s,mb3.7						
BJT	**Baijiatuan**	**28.05**	**267**	P	**P**	**20 35 15.3**	**-0.9**
SONM	**Songino Array**	**31.34**	**287**	LR	LR	20 49 11.0	
	comp=Z,33nm,18.4s,baz=349,slow=38						
COLA	**College**	**34.63**	**40**	P	**P**	**20 36 13.8**	**0.0**
ENH	**Enshi**	**38.16**	**258**	*e*P	**P**	**20 36 44.0**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.7						
INK	**Inuvik**	**40.09**	**33**	*e*P	**P**	**20 37 00.2**	**+0.2**
RES	**Resolute Bay**	**49.23**	**19**	*e*P	**P**	**20 38 13.9**	**+1.4**
	comp=Z,12nm,0.3s,mb5.3						
BVAR	**Borovoye Array**	**50.30**	**309**	P	**P**	**20 38 20.6**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=56,slow=8.0,SNR=6.2						
BRVK	**Borovoye**	**50.34**	**309**	*e*P	**P**	**20 38 19.6**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.8						
CM31	**Chiang Mai Arr**	**53.24**	**256**	*e*P	**P**	**20 38 40.3**	**-2.1**
	comp=Z,0.9nm,0.5s,mb4.1						
FINES	**FINES Array B**	**62.88**	**335**	P	**P**	**20 39 49.2**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=38,slow=9.6,SNR=8.4						
FINES	**FINES Array B**	**62.88**	**335**	P	**P**	**20 39 49.2**	**-0.5**
WRA	**Warramunga Arr**	**70.12**	**200**	P	**P**	**20 40 35.5**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.5,baz=16,slow=6.4,SNR=6.9						
WRA	**Warramunga Arr**	**70.12**	**200**	P	**P**	**20 40 35.5**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.82**	**199**	P	**P**	**20 40 58.2**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.3,baz=9.7,slow=5.6,SNR=8.3						
TXAR	**Lajitas Array**	**76.30**	**61**	P	**P**	**20 41 13.6**	**+1.4**
	comp=Z,0.3nm,0.5s,mb3.3,baz=298,slow=4.1,SNR=6.5						

*IDC **26** 20:39:32.2±2.6, 2167S×17611W, h0km, mb4.4/3, mb1 4.5/3, mb1mx4.0/14, mbtmp4.4/3, Error ellipse: s-maj=171.5km s-min=32.0km az=150.0*
*ISCJB **26** 20:39:49.3±1.5, 220S±0.1×17611W±0.2, h163km±18km, mb4.2/10, Error ellipse: s-maj=25.6km s-min=14.9km az=54.2*
*NEIC **26** 20:39:49.5±1.0, 2189S×17635W, h135km±10km, mb4.3/9, Error ellipse: s-maj=12.5km s-min=9.0km az=126.0*

ISC 26 20:39:50.0±1.5, **219S**±01×**1762W**±01, **h145**km±17km, **n27, s**0**84/21, mb4.2/10, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.45**	**192**	Pn	**Pn**	**20 41 35.7**	**-0.3**
AFI	**Afiamalu**	**9.02**	**29**	*e*Pn	**Pn**	**20 41 57.3**	**+0.3**
AFI				*e*Sn	**Sn**	**20 43 28.1**	**-8.8**
CTA	**Charters Tower**	**35.05**	**266**	*e*P	**P**	**20 46 28.8**	**+0.1**
	2.7nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**35.05**	**266**	*e*P	**P**	**20 46 29.2**	**+0.5**
	3.6nm,0.4s,mb4.3						
PMG	**Port Moresby**	**37.31**	**284**	P	**P**	**20 46 47.7**	**-0.3**
STKA	**Stephens Creek**	**38.72**	**246**	*e*P	**P**	**20 46 59.8**	**+0.1**
	2.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.72**	**246**	P	**P**	**20 47 00.1**	**+0.3**
	2.5nm,0.5s,mb4.1,baz=75,slow=9.8,SNR=5.3						
AS31	**Alice Springs**	**45.85**	**258**	*e*P	**P**	**20 47 57.6**	**+0.2**
ASAR	**Alice Springs**	**45.85**	**258**	P	**P**	**20 47 57.4**	**0.0**
	4.7nm,0.6s,mb4.3,baz=96,slow=8.0,SNR=68						
ASAR				PcP	PcP	20 49 33.5	+1.3
	0.7nm,0.7s,baz=110,slow=3.6,SNR=6.3						
ASPA	**Alice Springs**	**45.85**	**258**	*e*P	**P**	**20 47 57.5**	**+0.1**
WB2	**Warramunga Arr**	**46.07**	**263**	*e*P	**P**	**20 47 58.9**	**-0.3**
WRAB	**Tennant Creek**	**46.08**	**263**	*e*P	**P**	**20 47 59.7**	**+0.5**
	2.5nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**46.08**	**263**	P	**P**	**20 47 58.8**	**-0.5**
	2.1nm,0.5s,mb4.0,baz=97,slow=7.7,SNR=55						
KAKA	**Kakadu**	**49.69**	**272**	*e*P	**P**	**20 48 25.9**	**-1.1**
	2.2nm,0.4s,mb4.1						
FORT	**Forrest**	**50.29**	**248**	*e*P	**P**	**20 48 31.7**	**+0.2**
	12nm,0.6s,mb4.7						
GUMO	**Guam**	**52.01**	**309**	P	**P**	**20 48 45.1**	**+0.8**
VNDA	**Vanda**	**56.65**	**186**	*e*P	**P**	**20 49 17.0**	**-0.8**
	0.5nm,0.6s,mb3.5						
MBWA	**Marble Bar**	**59.19**	**258**	*e*P	**P**	**20 49 36.3**	**+0.7**
	3.2nm,0.4s,mb4.5						
PMSA	**Palmer Station**	**79.31**	**156**	P	**P**	**20 51 42.1**	**+2.7**
RSSD	**Black Hills**	**93.02**	**43**	*e*P	**P**	**20 52 45.0**	**-1.9**
	0.9nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**121.25**	**320**	PKP	PKPdf	20 58 26.4	+0.7
	0.7nm,0.6s,baz=92,slow=2.6,SNR=6.9						
BRVK	**Borovoye**	**121.31**	**320**	PKPdf	PKPdf	20 58 25.1	-0.6
ARCES	**ARCESS Array B**	**130.62**	**350**	PKP	PKPdf	20 58 43.4	-0.2
	2.0nm,0.8s,baz=294,slow=3.9,SNR=4.4						
AKASG	**Malin Array Be**	**145.07**	**332**	PKP	PKPdf	20 59 09.4	-0.6
	0.5nm,0.3s,baz=41,slow=3.9,SNR=7.3						
BRTR	**Keskin Array B**	**149.04**	**312**	PKPbc	PKPbc	20 59 21.8	+0.9
	0.9nm,0.6s,baz=134,slow=5.5,SNR=7.4						
MMAI	**Mount Meron Ar**	**149.98**	**298**	PKPbc	PKPbc	20 59 25.5	+2.4
	2.0nm,0.5s,baz=80,slow=9.4,SNR=7.8						
GERES	**GERESS Array B**	**152.01**	**346**	PKPbc	PKPbc	20 59 29.1	+1.3
	0.2nm,0.5s,baz=20,slow=4.3,SNR=4.5						

*NEIC **26** 20:40:37.8±1.8, 3617N×7027E, h166km±17km, mb3.9/3, Error ellipse: s-maj=14.5km s-min=7.6km az=204.0*
*IDC **26** 20:40:38.3±9.4, 3616N×7028E, h170km±87km, mb3.3/6, mb1 3.4/9, mb1mx3.1/22, mbtmp3.2/9, Error ellipse: s-maj=44.3km s-min=19.2km az=16.0*
*MOS **26** 20:40:39.8±1.0, 3634N×7029E, h194km, mb3.9/3, Error ellipse: s-maj=18.5km s-min=11.8km az=97.1*
*ISCJB **26** 20:40:41.4±0.4, 3645N±003×7038E±006, h213km±6km, mb3.3/6, Error ellipse: s-maj=8.2km s-min=4.5km az=158.1*
*NNC **26** 20:40:47.2±5.9, 3689N×6996E, h174km±71km, mb2.9, mpv3.9, Error ellipse: s-maj=57.0km s-min=33.2km az=12.0*

ISC 26 20:40:42.3±0.4, **3644N**±003×**7038E**±006, **h205**km±6km, **n58, s**0**97/67, mb3.3/6, 3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.90**	**154**	↓P	**Pn**	**20 41 32.9**	**+1.9**
CEP				S	**Sn**	**20 42 10.0**	**+0.9**
CHCP	**Chirah Chowk**	**3.65**	**139**	P	**Pn**	**20 41 41.5**	**+1.6**
THW	**Thamme Wali**	**3.81**	**162**	↑P	**Pn**	**20 41 43.3**	**+1.4**
SBDP	**Sheikh Budin**	**4.15**	**175**	P	**Pn**	**20 41 46.3**	**+0.3**
DRP	**Derazinda**	**4.69**	**182**	P	**Pn**	**20 41 54.4**	**+1.6**
DRP				S	**Sn**	**20 42 47.0**	**-1.5**
SARP	**Sargodha**	**4.89**	**157**	P	**Pn**	**20 41 56.2**	**+0.8**
SARP				S	**Sn**	**20 42 52.0**	**-1.1**
THN	**Thein Dam**	**5.95**	**131**	*e*P	**Pn**	**20 42 09.0**	**0.0**
THN				*ex*	x	20 43 16.3	
AML	**Almayashu**	**6.23**	**23**	P	**Pn**	**20 42 12.3**	**-0.3**
	SNR=135						
UCH	**Uchtor**	**6.61**	**28**	P	**Pn**	**20 42 17.4**	**0.0**
	SNR=84						
KK31	**Karatay Array**	**6.65**	**1**	↓Pn	**Pn**	**20 42 17.0**	**-1.0**
	3.0nm,0.2s,baz=185,slow=13						
KK31				↑Sn	**Sn**	**20 43 28.2**	**-5.8**
	10nm,0.5s,baz=184,slow=32						
EKS2	**Erkin-Say**	**6.74**	**22**	P	**Pn**	**20 42 18.9**	**-0.3**
	SNR=30						
KZA	**Kyzart**	**6.78**	**32**	P	**Pn**	**20 42 19.6**	**0.0**
	SNR=7.6						
AAK	**Ala-Archa**	**6.95**	**26**	P	**Pn**	**20 42 21.0**	**-0.9**
	SNR=20						
AAK	**Ala-Archa**	**6.95**	**26**	*e*PN	**Pn**	**20 42 20.6**	**-1.3**
AAK				pmax	pmax		
	comp=Z,13nm,0.5s						
AAK	**Ala-Archa**	**6.95**	**26**	*e*Pn	**Pn**	**20 42 20.6**	**-1.3**
	comp=Z,13nm,0.5s						
AAK				*e*Sn	**Sn**	**20 43 36.9**	**-4.1**
KBK	**Karagaybulak**	**7.14**	**28**	P	**Pn**	**20 42 24.4**	**+0.1**
	SNR=16						
ULHL	**Ulahol**	**7.36**	**36**	P	**Pn**	**20 42 26.9**	**-0.2**
	SNR=9.8						
CHMS	**Chumysh**	**7.36**	**26**	P	**Pn**	**20 42 27.0**	**-0.2**
	SNR=6.7						
SDNR	**Sundarnagar**	**7.37**	**130**	*e*P	**Pn**	**20 42 26.4**	**-0.8**
SDNR				*e*S	**Sn**	**20 43 45.0**	**-5.7**
USP	**Ospenovka**	**7.51**	**24**	P	**Pn**	**20 42 28.5**	**-0.7**
	SNR=26						
TKM2	**Tokmak 2**	**7.62**	**30**	P	**Pn**	**20 42 30.5**	**0.0**
	SNR=11						
KLP	**Kalpa**	**8.16**	**125**	*e*P	**Pn**	**20 42 37.3**	**-0.3**
KLP				*e*S	**Sn**	**20 44 07.1**	**-2.5**
KLP				AML	AML	20 44 15.1	
	comp=E,95nm,0.7s						
KLP				AML	AML	20 44 15.5	
	comp=N,89nm,0.8s						
NDI	**New Delhi**	**9.65**	**141**	*e*S	**Sn**	**20 44 36.5**	**-8.3**
KUDL	**Kundal**	**9.75**	**146**	*e*P	**Pn**	**20 42 56.0**	**-2.2**
KUDL				*e*S	**Sn**	**20 44 35.7**	**-12**
KUDL				AML	AML	20 44 42.5	
	comp=E,19nm,0.5s						
KUDL				AML	AML	20 44 43.9	
	comp=N,13nm,0.4s						
SONA	**Sohna**	**9.94**	**143**	*e*P	**Pn**	**20 42 59.8**	**-0.8**
SONA				*e*S	**Sn**	**20 44 43.0**	**-8.8**
SONA				AML	AML	20 44 46.8	
	comp=N,20nm,0.4s						
SONA				AML	AML	20 44 49.0	
	com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.96**	**297**	P	P	21 10 46.4	-0.3
	0.9nm,0.9s,baz=64,slow=7.1,SNR=5.2						
ARCES	**ARCESS Array B**	**57.15**	**341**	LR	LR	21 40 12.2	
	comp=Z,146nm,18.2s,baz=274,slow=40						
NVAR	**Mina Array Bea**	**60.15**	**65**	LR	LR	21 35 30.7	
	comp=Z,6.4nm,20.8s,baz=305,slow=33						
FINES	**FINESS Array B**	**63.57**	**336**	P	P	21 12 38.2	-0.6
	2.2nm,0.9s,baz=45,slow=8.1,SNR=7.3						
TXAR	**Lajitas Array**	**75.20**	**63**	P	P	21 13 50.9	+0.2
	0.1nm,0.4s,baz=317,slow=5.3,SNR=5.1						

IDC 26 21:10:50.4±1.0,4570N×15420E,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.8/21,mbtmp3.9/9,ML3.5/1,Error ellipse: s-maj=29.7km s-min=22.0km az=85.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.39**	**263**	Pn	Pn	21 12 54.2	+1.0
	0.7nm,0.3s,baz=70,slow=28,SNR=5.5						
SONM	**Songino Array**	**32.41**	**291**	P	P	21 17 23.6	+1.7
	0.5nm,0.7s,baz=78,slow=9.2,SNR=4.9						
MKAR	**Makanchi Array**	**48.10**	**299**	P	P	21 19 30.6	-1.3
	1.1nm,0.7s,baz=67,slow=6.8,SNR=7.7						
ARCES	**ARCESS Array B**	**59.09**	**341**	P	P	21 20 52.5	0.0
	3.3nm,0.8s,baz=30,slow=7.6,SNR=3.0						
FINES	**FINESS Array B**	**65.31**	**335**	P	P	21 21 33.3	-1.0
	6.1nm,1.2s,baz=35,slow=7.5,SNR=8.9						
WRA	**Warramunga Arr**	**67.78**	**200**	P	P	21 21 49.0	-1.0
	0.9nm,0.7s,baz=21,slow=7.1,SNR=10.0						
ASAR	**Alice Springs**	**71.46**	**200**	P	P	21 22 13.5	+0.7
	0.6nm,0.6s,baz=22,slow=5.2,SNR=8.0						
AKASG	**Malin Array Be**	**72.84**	**327**	P	P	21 22 20.0	-1.0
	1.4nm,0.5s,baz=32,slow=6.0,SNR=9.3						
TXAR	**Lajitas Array**	**77.34**	**61**	P	P	21 22 47.9	+0.9
	0.2nm,0.6s,baz=312,slow=5.4,SNR=4.4						

*ATH **26** 21:15:10.8,3791N×2317E,h17km±3km,MD3.4/13,ML3.1*
*NEIC **26** 21:15:10.8,3791N×2317E,h17km,ML3.1(ATH),After ATH.*
*SOF **26** 21:15:10.7,3783N×2333E,h20km,MD2.8*
*CSEM **26** 21:15:11.4±0.1,3790N×2325E,h12km,ML3.5,Error ellipse: s-maj=2.2km s-min=1.3km az=63.0*
*ISCJB **26** 21:15:12.0±0.5,3792N±002×2327E±004,h22km±6km, Error ellipse: s-maj=5.1km s-min=3.8km az=16.3*
*THE **26** 21:15:14.1,3799N×2335E,h19km,ML3.5*
ISC 26 21:15:11.7±0.6,3791N±002×2320E±004,h10km±4km,n49, σ1§06/61,2C-4D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.28**	**124**	*e*PB	**Pg**	**21 15 16.5**	**-0.7**
ATH	**Athens Observa**	**0.41**	**81**	⇑*i*PB	**Pg**	**21 15 19.9**	**+0.1**
ATH				*e*SB	**Sg**	**21 15 27.0**	**+1.8**
KVR	**Kavouri**	**0.46**	**100**	*e*PB	**Pg**	**21 15 20.0**	**-0.6**
PTL	**Penteli**	**0.54**	**75**	*e*PN	**Pg**	**21 15 22.0**	**-0.2**
LKR	**Lokris**	**0.76**	**348**	*e*PN	**Pg**	**21 15 25.6**	**-0.6**
VLI	**Veliai**	**1.21**	**190**	*e*PB	**Pb**	**21 15 32.8**	**-1.9**
VLI				*e*SN	**Sn**	**21 15 50.0**	**-1.1**
ITM	**Ithomi**	**1.25**	**235**	*e*PN	**Pn**	**21 15 33.6**	**-1.6**
ITM				*e*SN	**Sn**	**21 15 51.1**	**-1.0**
AGG	**Agios Georgios**	**1.30**	**329**	*e*Pg	**Pg**	**21 15 36.1**	**-0.6**
AGG				*e*Sg	**Sg**	**21 15 54.0**	**+0.4**
RLS	**Riolos of Patr**	**1.38**	**277**	*e*PN	**Pn**	**21 15 36.0**	**-1.0**
RLS				*e*SN	**Sn**	**21 15 56.6**	**+1.3**
NEO	**Neokhori**	**1.39**	**1**	*e*PN	**Pn**	**21 15 37.0**	**-0.2**
NEO				*e*SN	**Sn**	**21 15 55.3**	**-0.4**
XOR	**Xorichti**	**1.45**	**360**	*e*Pg	**Pg**	**21 15 38.0**	**-1.5**
EVR	**Evrytania**	**1.48**	**313**	*e*PN	**Pn**	**21 15 38.7**	**+0.2**
KYTH	**Kithira**	**1.63**	**185**	*e*PN	**Pn**	**21 15 42.0**	**+1.5**
THL	**Klokotos Trika**	**1.89**	**331**	*e*PN	**Pn**	**21 15 44.5**	**+0.4**
APE	**Apeiranthos**	**2.04**	**114**	*e*Pb	**Pn**	**21 15 45.2**	**-0.9**
APE	**Apeiranthos**	**2.04**	**114**	*e*Pb	**Pn**	**21 15 45.5**	**-0.5**
LKD	**Levkas**	**2.16**	**292**	*e*PN	**Pn**	**21 15 49.7**	**+2.0**
LIT	**Litokhoron**	**2.25**	**346**	*e*PN	**Pn**	**21 15 49.0**	**0.0**
PLG	**Polygyros**	**2.47**	**4**	*e*PN	**Pn**	**21 15 51.8**	**-0.2**
PLG	**Polygyros**	**2.47**	**4**	*e*PN	**Pn**	**21 15 51.7**	**-0.3**
PLG				*e*SN	**Sn**	**21 16 21.1**	**-1.1**
OUR	**Ouranopolis**	**2.50**	**14**	*e*PN	**Pn**	**21 15 51.6**	**-0.7**
LIA	**Limnos Island**	**2.52**	**37**	P	**Pn**	**21 15 52.3**	**-0.3**
KARN	**Karanos**	**2.57**	**167**	*e*PN	**Pn**	**21 15 55.8**	**+2.4**
VAM	**Vamos**	**2.63**	**162**	*e*PB	**Pb**	**21 15 57.0**	**-1.8**
HORT	**Hortiatis**	**2.68**	**358**	*e*Pn	**Pn**	**21 15 55.1**	**+0.2**
HORT				*e*Sn	**Sn**	**21 16 26.8**	**-0.8**
IGT	**Igoumenitsa**	**2.77**	**307**	*e*PN	**Pn**	**21 15 57.4**	**+1.3**
SMG	**Samos**	**2.89**	**93**	P	**Pn**	**21 15 57.9**	**+0.1**
GRG	**Griva**	**3.10**	**349**	*e*Pn	**Pn**	**21 16 01.1**	**+0.4**
GVD	**Gavdhos**	**3.15**	**167**	*e*Pn	**Pn**	**21 16 03.0**	**+1.6**
KNT	**Kendrikon**	**3.25**	**356**	*e*Pn	**Pn**	**21 16 03.7**	**+0.9**
NPS	**Neapolis**	**3.28**	**143**	P	**Pn**	**21 16 07.2**	**+4.0**
VAY	**Valandovo**	**3.44**	**352**	*e*Pn	**Pn**	**21 16 04.6**	**-0.8**
VAY	**Valandovo**	**3.44**	**352**	*e*Pn	**Pn**	**21 16 04.5**	**-0.9**
NVR	**Nevrokopi**	**3.47**	**8**	P	**Pn**	**21 16 08.7**	**+2.9**
MMB	**Musomiste**	**3.70**	**6**	*i* P	**Pn**	**21 16 08.8**	**-0.1**
MMB				S	**Sn**	**21 16 52.6**	**+0.1**
RDO	**Rodhopi**	**3.70**	**28**	P	**Pn**	**21 16 09.6**	**+0.7**
ALN	**Alexandroupoli**	**3.71**	**36**	*e*Pn	**Pn**	**21 16 08.1**	**-0.9**
KRUS	**Krusevo**	**3.77**	**337**	*e*Pn	**Pn**	**21 16 11.6**	**+1.8**
KRUS				*e*Sn	**Sn**	**21 16 52.9**	**-1.4**
KRUS	**Krusevo**	**3.77**	**337**	*e*Pn	**Pn**	**21 16 11.6**	**+1.7**
KRUS				*e*Sn	**Sn**	**21 16 52.8**	**-1.5**
RZN	**Rozhen**	**3.95**	**17**	*i* P	**Pn**	**21 16 12.6**	**+0.3**
KKB	**Krupnik**	**3.95**	**359**	*i* P	**Pn**	**21 16 12.6**	**+0.2**
KKB				S	**Sn**	**21 16 57.6**	**-1.2**
KDZ	**Kurdzhali**	**4.11**	**24**	P	**Pn**	**21 16 13.9**	**-0.6**
VTS	**Vitosha**	**4.67**	**0**	⇑*i*P	**Sn**	**21 17 16.5**	**-0.1**
TIP	**Timpagrande**	**5.21**	**286**	P	**Pn**	**21 16 31.0**	**+1.4**
TIRR	**Tirgusor**	**7.63**	**29**	⇓*i*P	**Pn**	**21 17 04.2**	**+1.3**
TIRR	**Tirgusor**	**7.63**	**29**	⇓P	**Pn**	**21 17 04.2**	**+1.3**
MLR	**Muntele Rosu**	**7.85**	**14**	⇓*i*P	**Pn**	**21 17 07.3**	**+1.4**
MLR	**Muntele Rosu**	**7.85**	**14**	⇓P	**Pn**	**21 17 07.3**	**+1.4**
BR131	**Keskin Array S**	**8.35**	**74**	*e*Pn	**Pn**	**21 17 12.6**	**-0.1**
	1.1nm,0.7s						

IDC 26 21:35:59.3±1.1,2194N×14299E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.7/20,mbtmp3.6/5,MS2.3/1,Ms1 2.3/1, ms1mx2.0/21,Error ellipse: s-maj=44.2km s-min=23.7km az=85.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.21**	**323**	LR	LR	21 48 11.1	
	comp=Z,10nm,21.4s,baz=170,slow=36						
SONM	**Songino Array**	**39.04**	**320**	P	P	21 43 28.0	+0.3
	0.6nm,0.7s,baz=123,slow=6.5,SNR=5.7						
WRA	**Warramunga Arr**	**42.48**	**192**	P	P	21 43 55.5	-0.6
	0.5nm,0.5s,baz=15,slow=8.9,SNR=3.0						
ASAR	**Alice Springs**	**46.19**	**192**	P	P	21 44 26.2	+0.4
	0.2nm,0.4s,baz=8.1,slow=8.1,SNR=5.3						
MKAR	**Makanchi Array**	**54.40**	**313**	P	P	21 45 28.2	+0.1
	0.5nm,0.8s,baz=76,slow=5.1,SNR=3.6						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	21 47 48.7	-1.4
	1.0nm,0.8s,baz=293,slow=5.7,SNR=5.3						
LPAZ	**La Paz**	**150.09**	**85**	PKPbc	PKPbc	21 55 55.1	+3.1
	1.2nm,0.8s,baz=297,slow=2.3,SNR=5.0						

IDC 26 21:49:51.8±3.8,554S×15067E,h0km,mb3.2/2,mb1 3.6/2, mb1mx3.4/12,mbtmp3.3/2,Error ellipse: s-maj=145.2km s-min=51.3km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	21 54 40.8	0.0
	0.7nm,0.5s,baz=53,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**24.19**	**220**	P	P	21 55 10.8	+0.9
	0.5nm,0.8s,baz=52,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.49**	**286**	PKPbc	PKPbc	22 09 40.8	+0.4
	0.5nm,1.0s,baz=62,slow=2.3,SNR=5.4						

*ISCJB **26** 22:11:48.8±0.2,3747N±001×11883W±002,h10km,Error ellipse: s-maj=2.0km s-min=1.8km az=174.5*
*NEIC **26** 22:11:48.0,3745N×11884W,h9km,MW3.8(BRK),After NCEDC.*
NEIC Felt [III] at Bishop, Mammoth Lakes, Pioneer, Sonora and in Yosemite National Park; [II] at Oakhurst. Also felt at Arnold, Benton, Columbia, Coulterville, El Portal, June Lake, Mariposa, Mi Wuk Village, Murphys, North Fork, Pine Grove, Pollock Pines, Saratoga, Shaver Lake, Three Rivers, Tuolumne, Twain Harte and Volcano.
*IDC **26** 22:11:49.1±2.9,3749N×11889W,h0km,mb1 4.0/2, mb1mx3.4/20,mbtmp3.5/2,ML3.3/2,Error ellipse: s-maj=30.4km s-min=12.6km az=90.0*
ISC 26 22:11:49.1±0.2,3749N±001×11882W±001,h10km,n109, σ1§17/174,34C-31D,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth Lakes**	**0.14**	**355**	⇓P	**Pg**	**22 11 52.9**	**+0.5**
	baz=0.2,SNR=1000						
MLAC				⇑S	**Sg**	**22 11 56.1**	**+1.4**
	baz=0.2						
MTUM	**Tungsten Hills**	**0.24**	**123**	*e*Pg	**Pg**	**22 11 53.8**	**-0.3**
KCC	**Kaiser Creek**	**0.43**	**248**	⇓P	**Pg**	**22 11 56.6**	**-1.0**
	baz=0.4,SNR=1000						
KCC				⇓S	**Sg**	**22 12 02.0**	**-1.2**
	baz=0.4						
R07C	**Lee Vining**	**0.63**	**343**	P	**Pg**	**22 12 01.7**	**+0.4**
	baz=0.7,SNR=390						
R07C				⇑S	**Sg**	**22 12 10.1**	**+0.6**
	baz=0.7						
TIN	**Tinemaha**	**0.64**	**132**	P	**Pg**	**22 12 01.1**	**-0.4**
	baz=0.6,SNR=178						
TIN				⇓S	**Sg**	**22 12 09.8**	**0.0**
	baz=0.6						
T06C	**Millerton Lake**	**0.85**	**236**	⇑P	**Pg**	**22 12 04.3**	**-1.4**
	baz=0.8,SNR=1000						
T06C				⇓S	**Sg**	**22 12 15.3**	**-1.4**
	baz=0.8						
S06C	**San Francisco**	**0.91**	**296**	⇑P	**Pg**	**22 12 05.7**	**-1.0**
	baz=0.9,SNR=1000						
S06C				⇑S	**Sg**	**22 12 17.5**	**-0.9**
	baz=0.9						
NVAR	**Mina Array Bea**	**1.03**	**23**	Pg	**Pg**	**22 12 08.8**	**-0.1**
	123nm,0.3s,baz=207,slow=21,SNR=556						
NVAR				Lg		22 12 23.2	
	256nm,0.3s,baz=203,slow=32,SNR=43						
R08A	**Mina**	**1.03**	**33**	P	**Pg**	**22 12 09.1**	**+0.1**
	baz=1.1,SNR=54						
R08A				⇑S	**Sg**	**22 12 23.7**	**+1.3**
	baz=1.1						
R06C	**Coleville**	**1.15**	**335**	P	**Pb**	**22 12 11.2**	**+0.1**
	baz=1.2,SNR=255						
CWC	**Cottonwood Cre**	**1.20**	**150**	⇑P	**Pb**	**22 12 10.7**	**-1.3**
	baz=1.2,SNR=1000						
CWC				⇓S	**Sb**	**22 12 26.1**	**-1.4**
	baz=1.2						
S05C	**Merced**	**1.21**	**264**	⇑P	**Pn**	**22 12 10.8**	**-1.3**
	baz=1.2,SNR=927						
S05C				⇓S	**Sb**	**22 12 26.1**	**-1.7**
	baz=1.2						
RCTC	**Rector, Farmer**	**1.22**	**196**	⇓P	**Pn**	**22 12 10.6**	**-1.6**
	baz=1.2,SNR=38						
RCTC				⇑S	**Sb**	**22 12 26.3**	**-1.8**
	baz=1.2						
GRAC	**Grapevine Rang**	**1.25**	**112**	⇓P	**Pn**	**22 12 12.8**	**0.0**
	baz=1.3,SNR=220						
GRAC				⇓S	**Sb**	**22 12 29.1**	**0.0**
	baz=1.3						
S09A	**Goldfield**	**1.29**	**79**	P	**Pn**	**22 12 13.5**	**+0.3**
	baz=1.3,SNR=1000						
S09A				⇓S	**Sb**	**22 12 30.7**	**+0.6**
	baz=1.3						
CMB	**Columbia Colle**	**1.36**	**294**	*e*Pg	**Pg**	**22 12 13.5**	**-1.7**
CMB				*e*Sg	**Sg**	**22 12 30.7**	**-2.1**
CMB	**Columbia Colle**	**1.36**	**294**	P	**Pn**	**22 12 13.4**	**-0.7**
	baz=1.4,SNR=1000						
CMB				⇓S	**Sb**	**22 12 31.0**	**-1.1**
	baz=1.4						
TPH	**Tonopah**	**1.40**	**65**	*e*Pg	**Pg**	**22 12 15.3**	**-0.7**
TPH				*e*Sn	**Sn**	**22 12 38.3**	**+5.1**
Q08A	**Gabbs**	**1.54**	**27**	⇑P	**Pn**	**22 12 18.1**	**+1.4**
	baz=1.6,SNR=62						
U05C	**Westside ANR,**	**1.55**	**223**	P	**Pn**	**22 12 17.1**	**+0.4**
	baz=1.5,SNR=214						
DAC	**Darwin (Calif)**	**1.56**	**140**	⇓*i*Pn	**Pn**	**22 12 16.6**	**-0.3**
DAC				*e*Sn	**Sn**	**22 12 37.2**	**+0.1**
R05C	**Kirkwood Meado**	**1.57**	**321**	⇑P	**Pn**	**22 12 18.0**	**+1.0**
	baz=1.6,SNR=994						
R09A	**Tonopah**	**1.58**	**61**	⇓P	**Pn**	**22 12 17.7**	**+0.6**
	baz=1.6,SNR=453						
T05C	**Eagle Field, D**	**1.59**	**249**	⇑P	**Pn**	**22 12 18.0**	**+0.6**
	baz=1.6,SNR=284						
VES	**Vestal, Richgr**	**1.66**	**187**	P	**Pn**	**22 12 18.3**	**0.0**
	baz=1.6,SNR=113						
MPMC	**Manual Prospec**	**1.78**	**143**	P	**Pn**	**22 12 20.2**	**+0.2**
	baz=1.8,SNR=991						
V05C	**Boulder Hill,**	**1.83**	**209**	⇑P	**Pn**	**22 12 21.5**	**+0.8**
	baz=1.8,SNR=184						
ISA	**Isabella**	**1.84**	**171**	*e*Pn	**Pn**	**22 12 21.8**	**+1.1**
ISA				*e*Sg	**Sg**	**22 12 44.9**	**-3.4**
ISA	**Isabella**	**1.84**	**171**	⇓P	**Pn**	**22 12 21.8**	**+1.1**
	baz=1.8,SNR=1000						
R04C	**Big Horse Ranc**	**1.84**	**295**	⇑P	**Pn**	**22 12 21.8**	**+0.9**
	baz=1.8,SNR=208						
Q09A	**Carvers**	**1.87**	**43**	⇑P	**Pn**	**22 12 22.8**	**+1.7**
	baz=1.9,SNR=30						
FURC	**Furnace Creek,**	**1.87**	**122**	⇓P	**Pn**	**22 12 21.3**	**+0.2**
	baz=1.9,SNR=41						
U04C	**Hernandez Rese**	**1.93**	**235**	P	**Pn**	**22 12 22.6**	**+0.6**
	baz=1.9,SNR=524						
WCN	**Washoe City**	**1.96**	**338**	⇑P	**Pn**	**22 12 23.9**	**+1.5**
	baz=2.0,SNR=297						
LAVA	**Lava Cap Winer**	**1.98**	**311**	⇓P	**Pn**	**22 12 24.2**	**+1.6**
	baz=2.0,SNR=60						
S04C	**Ingram Canyon,**	**1.99**	**271**	P	**Pn**	**22 12 23.9**	**+1.0**
	baz=2.0,SNR=1000						
PACP	**Pacheco Peak**	**2.02**	**257**	⇑P	**Pn**	**22 12 24.1**	**+0.8**
	baz=2.0,SNR=101						
LRV	**Little Rabbit**	**2.05**	**240**	*e*Pn	**Pn**	**22 12 24.3**	**+0.6**
LRV				*e*Sn	**Sn**	**22 12 46.1**	**-3.2**
LRV				*e*Sg	**Sg**	**22 12 52.5**	**-2.7**
PKD	**Parkfield**	**2.07**	**222**	P	**Pn**	**22 12 24.2**	**+0.3**
	baz=2.0,SNR=372						
PTRM	**Twissleman Ran**	**2.14**	**212**	*e*Pn	**Pn**	**22 12 25.3**	**+0.4**
PTRM				*e*Sn	**Sn**	**22 12 49.3**	**-2.3**
PTRM				*e*Sg	**Sg**	**22 12 54.8**	**-3.2**
LRMC	**Laurel Mountai**	**2.20**	**155**	⇑P	**Pn**	**22 12 26.1**	**+0.4**
	baz=2.2,SNR=124						
SAO	**San Andreas Ge**	**2.22**	**252**	*e*Pn	**Pn**	**22 12 27.0**	**+1.0**
SAO				*e*Sn	**Sn**	**22 12 54.2**	**+0.7**
U10A	**Ash Meadows, A**	**2.26**	**117**	⇑P	**Pn**	**22 12 27.3**	**+0.7**
	baz=2.3						
P05C	**Yuba Gap, Truc**	**2.29**	**323**	⇓P	**Pn**	**22 12 28.5**	**+1.5**
	baz=2.3						
WENL	**Wente Brothers**	**2.34**	**274**	⇑P	**Pn**	**22 12 28.7**	**+1.1**
	baz=2.3,SNR=20						
P06A	**Stead Airport,**	**2.35**	**339**	⇑P	**Pn**	**22 12 29.0**	**+1.3**
	baz=2.4,SNR=27						
ARVC	**Arvin**	**2.35**	**180**	⇑P	**Pn**	**22 12 29.6**	**+1.7**
	baz=2.3,SNR=55						
SMMC	**Simmler**	**2.37**	**204**	⇓P	**Pn**	**22 12 28.3**	**+0.2**
	baz=2.3,SNR=30						
Q04C	**Lincoln**	**2.43**	**305**	⇑P	**Pn**	**22 12 30.0**	**+1.2**
	baz=2.4,SNR=142						
V03C	**Hunter Liggett**	**2.43**	**234**	⇓P	**Pn**	**22 12 29.3**	**+0.5**
	baz=2.4,SNR=121						
HAST	**UC Hastings Re**	**2.45**	**244**	P	**Pn**	**22 12 29.7**	**+0.6**
	baz=2.4,SNR=248						
HAST				⇑S	**Sn**	**22 12 58.6**	**-0.5**
	baz=2.4						
BDM	**Black Diamond**	**2.46**	**282**	⇓P	**Pn**	**22 12 30.6**	**+1.3**
	baz=2.4,SNR=40						
V04C	**Ramage Ranch,**	**2.48**	**222**	⇓P	**Pn**	**22 12 30.1**	**+0.6**
	baz=2.4,SNR=172						
V04C				⇓S	**Sn**	**22 12 59.6**	**-0.1**
	baz=2.4						
BEKR	**Beckwourth**	**2.67**	**334**	⇓P	**Pn**	**22 12 33.4**	**+1.2**
	baz=2.7,SNR=14						
O07A	**Toulon**	**2.67**	**359**	⇓P	**Pn**	**22 12 33.3**	**+1.1**
	baz=2.7,SNR=11						
EDW2	**Edwards Air Fo**	**2.69**	**165**	⇑P	**Pn**	**22 12 33.4**	**+1.0**
	baz=2.7,SNR=10						
BNLO	**Ben Lomond (Sa**	**2.70**	**263**	P	**Pn**	**22 12 33.0**	**+0.5**
	baz=2.7,SNR=51						
BNLO				⇑S	**Sn**	**22 13 04.5**	**-0.7**
	baz=2.7						
TRCR	**Troy Canyon**	**2.70**	**70**	*e*Pn	**Pn**	**22 12 33.1**	**+0.5**
TRCR				*e*Pg	**Pg**	**22 12 38.5**	**-2.4**
TRCR				*e*Sn	**Sn**	**22 13 05.0**	**-0.4**
TRCR				*e*Sg	**Sg**	**22 13 15.6**	**-0.3**
PKM	**Peak Mountain**	**2.71**	**198**	⇓P	**Pn**	**22 12 33.4**	**+0.7**
	baz=2.7,SNR=74						
PKM				⇑S	**Sn**	**22 13 05.4**	**-0.1**
	baz=2.7						
GSC	**Goldstone**	**2.72**	**143**	*e*Pn	**Pn**	**22 12 33.3**	**+0.5**
GSC	**Goldstone**	**2.72**	**143**	⇓P	**Pn**	**22 12 33.2**	**+0.4**
	baz=2.7						
JRSC	**Jasper Ridge**	**2.72**	**269**	P	**Pn**	**22 12 33.8**	**+0.9**
	baz=2.7,SNR=27						
JRSC				⇓S	**Sn**	**22 13 04.9**	**-0.9**
	baz=2.7						
O06A	**Flanigan**	**2.79**	**344**	⇓P	**Pn**	**22 12 35.8**	**+2.0**
	baz=2.8						
OHCM	**Honcut**	**2.79**	**312**	*e*Pn	**Pn**	**22 12 38.5**	**+4.6**
SAC	**San Andreas**	**2.86**	**273**	*e*Pn	**Pn**	**22 12 35.8**	**+1.0**
CVS	**Carmenet Viney**	**3.00**	**288**	P	**Pn**	**22 12 37.9**	**+1.2**
	baz=3.0,SNR=65						
SHPR	**Sheep Range**	**3.09**	**107**	*e*Pn	**Pn**	**22 12 39.1**	**+1.2**
SBC	**Santa Barbara**	**3.12**	**194**	⇑S	**Sn**	**22 13 15.9**	**+0.1**
	baz=3.1						
NSHM	**Saint Helena R**	**3.17**	**290**	*e*Pn	**Pn**	**22 12 38.8**	**-0.2**
NSHM				*e*Pg	**Pg**	**22 12 45.0**	**-4.7**
NSHM				*e*Sn	**Sn**	**22 13 17.8**	**+1.0**
NSHM				*e*Sg	**Sg**	**22 13 28.9**	**-1.9**
BMN	**Battle Mountai**	**3.19**	**22**	*e*Pn	**Pn**	**22 12 40.2**	**+0.8**
BMN				*e*Pg	**Pg**	**22 12 49.2**	**-1.1**
BMN				*e*Sg	**Sg**	**22 13 30.6**	**-1.2**
MWC	**Mount Wilson**	**3.31**	**169**	*e*Pn	**Pn**	**22 12 42.7**	**+1.7**
FARB	**Farallon Islan**	**3.33**	**275**	⇑S	**Sn**	**22 13 20.5**	**-0.3**
	baz=3.3						
HEC	**Hector,Ludlow**	**3.33**	**142**	P	**Pn**	**22 12 41.6**	**+0.4**
	baz=3.3,SNR=11						
BLG	**Laguna Peak**	**3.37**	**183**	⇑S	**Sn**	**22 13 22.6**	**+0.7**
	baz=3.3						
BSC	**Santa Cruz Isl**	**3.54**	**191**	⇓S	**Sn**	**22 13 26.3**	**+0.1**
	baz=3.5						
GMRC	**Granite Mounta**	**3.72**	**136**	⇑P	**Pn**	**22 12 46.4**	**-0.2**
	baz=3.7,SNR=22						
MURC	**Murrieta**	**4.09**	**161**	⇑P	**Pn**	**22 12 53.2**	**+1.4**
	baz=4.1,SNR=13						
BELC	**Belle Mtn.**	**4.17**	**146**	⇑P	**Pn**	**22 12 53.3**	**+0.6**
	baz=4.2,SNR=14						
WDC	**Whiskeytown Da**	**4.24**	**318**	*e*Pn	**Pn**	**22 12 55.6**	**+1.9**
WDC				*e*Pg	**Pg**	**22 13 08.0**	**-2.3**
WDC				*e*Sg	**Sg**	**22 13 59.4**	**-5.8**
ARUT	**Antelope Range**	**4.28**	**84**	*e*Pn	**Pn**	**22 12 55.7**	**+1.4**
ARUT				*e*Pg	**Pg**	**22 13 09.4**	**-1.7**
ARUT				*e*Sg	**Sg**	**22 14 06.6**	**0.0**
ELK	**Elko**	**4.28**	**39**	*e*Pn	**Pn**	**22 12 56.2**	**+1.9**
PFO	**Pinyon Flat Ob**	**4.32**	**153**	*e*Pn	**Pn**	**22 12 55.9**	**+1.0**
PFO	**Pinyon Flat Ob**	**4.32**	**153**	P	**Pn**	**22 12 56.0**	**+1.2**
	baz=4.3,SNR=22						
CCUT	**Cedar City**	**4.34**	**87**	*e*Pn	**Pn**	**22 12 56.0**	**+0.9**
CCUT				*e*Pg	**Pg**	**22 13 10.1**	**-2.2**
CCUT				*e*Sg	**Sg**	**22 14 08.5**	**0.0**
IRM	**Iron Mountain**	**4.46**	**137**	P	**Pn**	**22 12 56.8**	**0.0**
	baz=4.5,SNR=8.8						
N12A	**Clover Valley,**	**4.46**	**40**	⇓P	**Pn**	**22 12 58.2**	**+1.3**
	baz=4.5,SNR=12						
MOD	**Modoc**	**4.56**	**346**	*e*Pn	**Pn**	**22 12 55.5**	**-2.6**
MOD				*e*Pg	**Pg**	**22 13 13.4**	**-3.0**
WVOR	**Wild Horse Val**	**4.95**	**2**	Pn	**Pn**	**22 13 02.2**	**-1.2**
WVOR				*e*Pg	**Pg**	**22 13 22.6**	**-1.3**
WVOR				*e*Sg	**Sg**	**22 14 28.3**	**+0.4**
BAR	**Barrett**	**5.11**	**159**	*e*Pn	**Pn**	**22 13 07.4**	**+1.7**
Y12C	**Blythe**	**5.11**	**136**	⇑P	**Pn**	**22 13 05.8**	**0.0**
	baz=5.1,SNR=6.8						
MSU	**Marysvale**	**5.35**	**77**	*e*Pn	**Pn**	**22 13 18.1**	**+9.1**
DUG	**Dugway**	**5.41**	**58**	*e*Pn	**Pn**	**22 13 14.8**	**+4.8**
DUG				*e*Pg	**Pg**	**22 13 31.4**	**-1.4**
DUG				*e*Sg	**Sg**	**22 14 40.8**	**-2.1**
GLA	**Glamis**	**5.50**	**142**	*e*Pn	**Pn**	**22 13 11.3**	**+0.3**
BGU	**Big Grassy Mou**	**5.66**	**51**	*e*Pn	**Pn**	**22 13 14.4**	**+1.1**
BGU				*e*Pg	**Pg**	**22 13 34.4**	**-3.1**
BGU				Sn	**

PFO					*e*Sb	**Sb**	**23 10 38.1**	**-5.5**
PFO					Lg		23 10 41.6	
WUAZ	**Wupatki**	**9.06**	**15**	*e*Pn	**Pn**	**23 09 25.7**	**-1.4**
WUAZ					Sn	Sn	23 11 30.0	+21
MNTX	**Cornudas Mount**	**9.17**	**56**	*e*Pn	**Pn**	**23 09 27.3**	**-1.3**
LTX	**Lajitas**	**9.70**	**72**	*e*Pn	**Pn**	**23 09 36.8**	**+1.1**
TXAR	**Lajitas Array**	**9.70**	**72**	Pn	**Pn**	**23 09 35.8**	**0.0**
	0.5nm,0.3s,baz=304,slow=10.0,SNR=24							
TXAR					Lg		23 12 21.3	
	0.1nm,0.3s,baz=220,slow=30,SNR=3.4							
SHPR	**Sheep Range**	**9.73**	**356**	*e*Pn	**Pn**	**23 09 37.1**	**+0.8**
GDL2	**Guadalupe Moun**	**10.47**	**56**	*e*Pn	**Pn**	**23 09 43.1**	**+0.8**
ANMO	**Albuquerque**	**10.55**	**38**	Pn	**Pn**	**23 09 46.2**	**-1.2**
	0.5nm,0.3s,baz=221,slow=13,SNR=24							
ANMO					Lg		23 12 41.5	
	0.2nm,0.3s,baz=308,slow=14,SNR=5.5							
ANMO					LR	LR	23 14 17.2	
	comp=Z,378nm,20.4s,baz=53,slow=40							
ANMO	**Albuquerque**	**10.55**	**38**	*e*Pn	**Pn**	**23 09 46.0**	**-1.4**
CCUT	**Cedar City**	**10.77**	**4**	*e*Pn	**Pn**	**23 09 51.7**	**+1.2**
ARUT	**Antelope Range**	**11.01**	**3**	*e*Pn	**Pn**	**23 09 51.6**	**-2.1**
MVCO	**Mesa Verde**	**11.49**	**24**	*e*Pn	**Pn**	**23 10 00.2**	**-0.2**
	45nm,1.6s							
MVCO					Sn	**Sn**	**23 12 07.8**	**-1.0**
MSU	**Marysvale**	**11.84**	**8**	*e*Pn	**Pn**	**23 10 05.7**	**+0.6**
MSU					Sn	**Sn**	**23 12 10.1**	**-7.1**
NVAR	**Mina Array Bea**	**12.11**	**345**	Pn	**Pn**	**23 10 09.5**	**+0.6**
	0.1nm,0.3s,baz=165,slow=12,SNR=8.9							
SRU	**San Rafael**	**12.70**	**13**	*e*Pn	**Pn**	**23 10 19.1**	**+2.3**
SDCO	**Great Sand Dun**	**13.21**	**32**	*e*Pn	**Pn**	**23 10 24.6**	**+0.8**
JCT	**Junction City**	**13.22**	**70**	*e*Pn	**Pn**	**23 10 26.2**	**+2.2**
NLU	**North Lily Min**	**13.27**	**7**	*e*Pn	**Pn**	**23 10 25.6**	**+1.0**
DUG	**Dugway**	**13.44**	**5**	*e*Pn	**Pn**	**23 10 28.7**	**+1.7**
	17nm,1.3s							
AMTX	**Amarillo**	**13.49**	**50**	*e*Pn	**Pn**	**23 10 26.9**	**-0.8**
	14nm,1.0s							
JLU	**Jordanelle**	**13.99**	**9**	*e*Pn	**Pn**	**23 10 35.5**	**+1.0**
CTU	**Camp Tracy**	**14.04**	**8**	*e*Pn	**Pn**	**23 10 38.0**	**+2.9**
SPUT	**South Promonto**	**14.58**	**5**	*e*Pn	**Pn**	**23 10 46.6**	**+4.2**
ISCO	**Idaho Springs**	**14.86**	**27**	*e*Pn	**Pn**	**23 10 51.8**	**+5.5**
HWUT	**Hardware Ranch**	**14.96**	**8**	*e*Pn	**Pn**	**23 10 50.6**	**+2.9**
WMOK	**Wichita Mounta**	**15.48**	**55**	*e*Pn	**Pn**	**23 10 55.1**	**+0.5**
	12nm,1.3s							
BW06	**Boulder Array**	**16.41**	**12**	*e*Pn	**Pn**	**23 11 08.0**	**+1.3**
PDAR	**Pinedale Array**	**16.41**	**12**	Pn	**Pn**	**23 11 06.8**	**+0.1**
	0.0nm,0.3s,baz=184,slow=12,SNR=7.0							
YBH	**Yreka Blue Hor**	**16.46**	**337**	LR	LR	23 17 47.4		
	comp=Z,416nm,18.1s,baz=159,slow=39							
RRI2	**Red Ridge**	**16.71**	**7**	*e*Pn	**Pn**	**23 11 11.4**	**+1.0**
	114nm,2.1s							
RRI2					Sn	**Sn**	**23 14 14.6**	**-1.4**
HLID	**Hailey**	**16.75**	**360**	*e*Pn	**Pn**	**23 11 10.9**	**-0.1**
REDW	**Red Top Meadow**	**16.78**	**9**	*e*P	**Pn**	**23 11 17.1**	**+5.8**
SNOW	**Snow King Moun**	**16.89**	**9**	*e*P	**Pn**	**23 11 19.3**	**+6.6**
	48nm,1.8s							
LOHW	**Long Hollow**	**17.06**	**9**	*e*Pn	**Pn**	**23 11 15.8**	**+1.0**
	50nm,1.9s							
MOOW	**Moose Ponds**	**17.18**	**9**	*e*Pn	**Pn**	**23 11 17.5**	**+1.2**
IMW	**Indian Meadow**	**17.30**	**8**	*e*Pn	**Pn**	**23 11 18.9**	**+1.1**
	48nm,1.5s							
FLWY	**Flagg Ranch**	**17.51**	**9**	*e*Pn	**Pn**	**23 11 21.1**	**+0.6**
	45nm,1.5s							
BMO	**Blue Mountains**	**18.21**	**353**	*e*Pn	**Pn**	**23 11 30.3**	**+1.3**
	25nm,1.6s							
DLMT	**Dillon**	**18.60**	**4**	*e*P	**Pn**	**23 11 35.1**	**+1.3**
	10nm,1.0s							
MIAR	**Mount Ida**	**19.39**	**61**	P	**Pn**	**23 11 41.6**	**-1.7**
MSO	**Missoula**	**20.02**	**1**	*e*Pn	**P**	**23 11 49.9**	**+0.8**
CHMT	**Chamberlain Mo**	**20.12**	**2**	*e*Pn	**P**	**23 11 51.2**	**+0.9**
CMIG	**Matias Romero**	**20.37**	**114**	LR	LR	23 19 42.1		
	comp=Z,668nm,20.7s,MS4.0,baz=277,slow=37							
BSMT	**Bassoo Peak**	**21.05**	**359**	*e*P	**P**	**23 11 57.9**	**-2.4**
NEW	**Newport**	**21.57**	**355**	P	**P**	**23 12 03.8**	**-2.1**
	5.6nm,0.9s,mb4.0,baz=174,slow=11,SNR=8.2							
NEW					LR	LR	23 20 51.9	
	comp=Z,180nm,19.1s,MS3.5,baz=190,slow=38							
NEW	**Newport**	**21.57**	**355**	*e*P	**P**	**23 12 04.8**	**-1.2**
ECSD	**EROS,Sioux Fal**	**22.15**	**36**	*e*P	**P**	**23 12 09.1**	**-3.0**
	16nm,1.0s,mb4.4							
WALA	**Waterton Lakes**	**22.25**	**1**	*e*P	**P**	**23 12 11.6**	**-1.7**
PLAL	**Pickwick Lake**	**23.87**	**64**	P	**P**	**23 12 28.0**	**-1.8**
	3.5nm,0.8s,mb3.8							
WVT	**Waverly**	**24.34**	**61**	*e*P	**P**	**23 12 33.1**	**-1.0**
	13nm,1.0s,mb4.3							
EDM	**Edmonton**	**26.43**	**1**	*e*P	**P**	**23 12 52.2**	**-0.9**
ULM	**Lac du Bonnet**	**27.36**	**26**	P	**P**	**23 12 58.5**	**-2.9**
	8.1nm,0.9s,mb4.2,baz=205,slow=11,SNR=7.3							
ULM					LR	LR	23 23 52.8	
	comp=Z,112nm,21.2s,MS3.4,baz=340,slow=37							
TKL	**Tuckaleechee C**	**27.45**	**64**	P	**P**	**23 13 00.5**	**-1.7**
	1.8nm,0.6s,mb3.8,baz=215,slow=13,SNR=4.3							
TKL					LR	LR	23 24 08.9	
	comp=Z,307nm,18.2s,MS3.9,baz=67,slow=37							
TKL	**Tuckaleechee C**	**27.45**	**64**	P	**P**	**23 13 00.5**	**-1.7**
TKL					LR	LR	23 24 08.9	
YKA	**Yellowknife Ar**	**35.72**	**360**	P	**P**	**23 14 12.7**	**-2.3**
	0.5nm,0.9s,mb3.4,baz=171,slow=5.0,SNR=4.0							
INK	**Inuvik**	**43.14**	**350**	P	**P**	**23 15 17.3**	**+0.4**
	9.7nm,1.4s,mb4.3,baz=151,slow=8.8,SNR=2.4							
INK	**Inuvik**	**43.14**	**350**	P	**P**	**23 15 17.3**	**+0.4**
SCHQ	**Schefferville**	**44.33**	**38**	P	**P**	**23 15 26.5**	**+0.1**
	8.4nm,1.1s,mb4.4,baz=323,slow=8.0,SNR=4.0							
SCHQ					LR	LR	23 34 24.9	
	comp=Z,143nm,18.1s,MS3.9,baz=289,slow=37							
SDV	**Santo Domingo**	**44.91**	**105**	P	**P**	**23 15 32.3**	**+1.3**
	4.4nm,0.8s,mb4.4,baz=343,slow=3.9,SNR=8.1							
ARCES	**ARCESS Array B**	**79.67**	**13**	LR	LR	23 54 52.0		
	comp=Z,122nm,18.4s,MS4.3,baz=71,slow=36							
FINES	**FINESS Array B**	**86.43**	**18**	P	**P**	**23 19 57.1**	**-1.9**
	8.2nm,1.2s,mb4.8,baz=282,slow=1.8,SNR=6.9							
SONM	**Songino Array**	**97.23**	**334**	P	**P**	**23 20 49.1**	**-0.2**
	0.5nm,0.7s,mb4.1,baz=342,slow=3.1,SNR=4.1							
SONM					LR	LR	00 06 00.6	
	comp=Z,42nm,18.1s,MS4.0,baz=177,slow=36							
RPZ	**Rata Peaks**	**97.89**	**225**	LR	LR	23 56 19.1		
	comp=Z,100nm,19.5s,MS4.3,baz=354,slow=30							
WRA	**Warramunga Arr**	**117.31**	**260**	PKP	PKPdf	23 26 01.2	-0.7	
	0.2nm,0.6s,baz=67,slow=6.3							
ASAR	**Alice Springs**	**118.93**	**257**	PKP	PKPdf	23 26 04.1	-0.9	
	0.1nm,0.3s,baz=80,slow=2.3,SNR=4.3							

*ISCJB **26** 23:19:48.5±0.6, 3930N±004×2179E±005, h11km±7km, Error ellipse: s-maj=6.1km s-min=5.8km az=110.0*
*NEIC **26** 23:19:48.3, 3932N×2176E, h20km, MD2.7(ATH), After ATH.*
*ATH **26** 23:19:48.3, 3932N×2176E, h20km±4km, MD2.7/5*
*CSEM **26** 23:19:48.9±0.1, 3930N×2179E, h8km, ML2.6, Error ellipse: s-maj=3.1km s-min=2.5km az=160.0*
*THE **26** 23:19:49.3, 3928N×2180E, h7km, ML2.6*

ISC 26 23:19:49.1±0.5, 3930N±004×2180E±005, h16km±6km, n12, σ0.9/91/16, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THL	**Klokotos Trika**	**0.32**	**31**	⇑*i*P	**Pg**	**23 19 55.3**	**-0.5**
EVR	**Evrytania**	**0.38**	**179**	*e*PB	**Pg**	**23 19 56.2**	**-0.7**
EVR				*e*SB	**Sg**	**23 20 02.8**	**+0.7**
AGG	**Agios Georgios**	**0.49**	**123**	*e*Pg	**Pg**	**23 19 58.8**	**-0.2**
AGG				*e*Sg	**Sg**	**23 20 06.4**	**+0.8**
LIT	**Litokhoron**	**0.96**	**33**	*e*Pg	**Pg**	**23 20 06.9**	**-1.0**
LIT				*e*Sg	**Sg**	**23 20 22.3**	**+1.8**
LKD	**Levkas**	**1.07**	**237**	*e*Pg	**Pg**	**23 20 08.8**	**-1.0**
XOR	**Xorichti**	**1.08**	**86**	*e*Pg	**Pg**	**23 20 09.1**	**-0.9**
NEO	**Neokhori**	**1.10**	**89**	*e*PN	**Pn**	**23 20 09.8**	**-0.1**
LKR	**Lokris**	**1.13**	**124**	*e*PN	**Pn**	**23 20 11.0**	**+0.7**
IGT	**Igoumenitsa**	**1.16**	**282**	*e*Pg	**Pg**	**23 20 10.5**	**-1.1**
IGT				*e*Sg	**Sg**	**23 20 28.7**	**+1.9**
RLS	**Riolos of Patr**	**1.26**	**192**	*e*PN	**Pn**	**23 20 12.6**	**+0.5**
PLG	**Polygyros**	**1.66**	**49**	*e*Pb	**Pn**	**23 20 17.0**	**-0.5**
GRG	**Griva**	**1.72**	**15**	*e*Pb	**Pb**	**23 20 20.5**	**+0.1**

*BJI **26** 23:25:07.7, 2290S×17960W, h508km, mB4.8, mb4.6*
*MOS **26** 23:25:08.4±0.9, 2270S×17958W, h498km, mb5.2/20, Error ellipse: s-maj=10.9km s-min=8.1km az=52.2*
*ISCJB **26** 23:25:10.2±0.8, 2285S±005×17963W±004, h522km±10km, mb5.0/61, Error ellipse: s-maj=8.1km s-min=4.6km az=133.8*
*IDC **26** 23:25:11.6±0.5, 2280S×17957W, h526km±4km, mb4.4/18, mb1 4.5/19, mb1mx4.5/20, mbtmp4.4/19, Error ellipse: s-maj=10.8km s-min=8.1km az=153.0*

*NEIC **26** 23:25:12.7±0.1, 2287S×17960W, mb5.1/45, Error ellipse: s-maj=5.4km s-min=3.1km az=142.0*
*GCMT **26** 23:25:12.7±0.4, 2292S×17920W, h554km±2km, MW5.3/54, Moment Tensor Solution. s54,c72; Duration: 1ś1 Moment tensor: Scale 10^17 Nm; Mr 0.46±.04; Mθθ -0.14±.06; Mφφ -0.32±.06; Mrθ 0.30±.07; Mrφ -0.75±.06; Mθφ -0.76±.05; Best double couple: Mo 1.17000×10^17 NP1: ϕs 76.00000°, δ 73.00000°, λ 47.00000°. NP2: ϕs 184.00000°, δ 73.00000°, λ 47.00000°. Principal axes: T 1.2450, Plg45.0000°, Azm51.0000°; N -0.1490, Plg41.0000°, Azm199.0000°; P -1.0960, Plg17.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s.*
*SZGRF **26** 23:25:13.7, 2291S×17885W, h558km, South of Fiji Islands*
*BGS **26** 23:25:15.8, 2287S×17960W, h542km, mb5.1(NEIC)*

ISC 26 23:25:11.5±0.8, 2287S±005×17956W±004, h526km±10km, h539km±5.3km; pP-P, n622, σ0.65/457, mb5.0/60, 129C-118D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.52**	**167**	P	**P**	**23 26 53.7**	**-0.2**
	2μm,0.3s,baz=360,slow=1.4,SNR=33						
RAO				S	**S**	**23 28 14.0**	**-3.7**
	688nm,0.3s,baz=293,slow=23,SNR=10						
RAO	**Raoul Island**	**6.52**	**167**	*e*P	**P**	**23 26 53.1**	**-0.8**
RAO				*e*S	**S**	**23 28 08.0**	**-10**
AFI	**Afiamalu**	**11.58**	**41**	P	**P**	**23 27 40.8**	**-4.7**
	24nm,0.3s,baz=128,slow=1.1,SNR=20						
AFI				S	**S**	**23 29 44.0**	**-8.3**
	24nm,0.3s,baz=174,slow=21,SNR=8.1						
DZM	**Mont Dzumac**	**12.96**	**271**	*e*P	**P**	**23 27 58.7**	**-1.4**
DZM	**Mont Dzumac**	**12.96**	**271**	P	**P**	**23 28 01.8**	**+1.8**
	1.5nm,0.3s,baz=84,slow=15,SNR=40						
DZM				S	**S**	**23 30 25.7**	**+6.8**
	baz=344,slow=23,SNR=3.3						
DZM				ScP	ScP	23 35 35.1	+2.7
	0.5nm,0.3s,baz=66,slow=13,SNR=7.5						
PUZ	**Puketiti**	**15.27**	**187**	*e*P	**P**	**23 28 24.5**	**+0.6**
PUZ	**Puketiti**	**15.27**	**187**	*e*PN	**P**	**23 28 24.5**	**+0.6**
URZ	**Urewera**	**15.60**	**190**	P	**P**	**23 28 25.3**	**-2.1**
	12nm,0.3s,baz=284,slow=3.2,SNR=34						
URZ				S	**S**	**23 31 04.1**	**-4.7**
	2.8nm,0.3s,baz=251,slow=18,SNR=6.4						
URZ	**Urewera**	**15.60**	**190**	*e*P	**P**	**23 28 24.7**	**-2.7**
URZ	**Urewera**	**15.60**	**190**	*e*PN	**P**	**23 28 24.7**	**-2.7**
BKZ	**Black Stump Fm**	**16.59**	**191**	*e*PN	**P**	**23 28 33.9**	**-3.6**
TCW	**Tory Channel**	**19.01**	**194**	*e*P	**P**	**23 28 58.5**	**-1.1**
TCW	**Tory Channel**	**19.01**	**194**	*e*PN	**P**	**23 28 58.5**	**-1.1**
QRZ	**Quartz Range**	**19.10**	**199**	*e*P	**P**	**23 29 01.7**	**+1.2**
QRZ	**Quartz Range**	**19.10**	**199**	*e*PN	**P**	**23 29 01.7**	**+1.1**
THZ	**Tophouse**	**19.86**	**197**	*e*P	**P**	**23 29 07.2**	**-0.3**
THZ	**Tophouse**	**19.86**	**197**	*e*PN	**P**	**23 29 07.2**	**-0.3**
KHZ	**Kahutara**	**20.32**	**195**	*e*P	**P**	**23 29 10.8**	**-0.8**
KHZ	**Kahutara**	**20.32**	**195**	*e*PN	**P**	**23 29 10.8**	**-0.8**
WVZ	**Waitaha Valley**	**21.70**	**200**	*e*PN	**P**	**23 29 21.9**	**-2.1**
MQZ	**McQueen's Vall**	**21.75**	**195**	*e*P	**P**	**23 29 25.1**	**+0.6**
MQZ	**McQueen's Vall**	**21.75**	**195**	*e*PN	**P**	**23 29 25.1**	**+0.5**
RPZ	**Rata Peaks**	**22.19**	**198**	P	**P**	**23 29 28.4**	**0.0**
	70nm,0.6s,mb5.4,baz=320,slow=2.4,SNR=30						
RPZ				S	**S**	**23 33 08.0**	**+12**
	16nm,0.8s,baz=325,slow=19,SNR=3.4						
HNR	**Honiara**	**23.75**	**301**	P	**P**	**23 29 42.0**	**-0.3**
	56nm,0.3s,mb5.6,baz=116,slow=3.5,SNR=9.4						
HNR	**Honiara**	**23.75**	**301**	*e*P	**P**	**23 29 41.6**	**-0.7**
HNR				pmax	pmax		
	comp=Z,67nm,0.4s,mb5.6						
HNR	**Honiara**	**23.75**	**301**	*e*P	**P**	**23 29 41.5**	**-0.8**
	comp=Z,67nm,0.4s,mb5.6						
ARMA	**Armidale**	**26.77**	**248**	⇓*i*P	**P**	**23 30 11.1**	**+2.1**
CNB	**Canberra Magne**	**29.72**	**238**	*e*P	**P**	**23 30 36.6**	**+1.8**
	comp=Z,72nm,0.7s,mb5.3						
CNB				*e*SCP	ScP	23 36 16.5	+2.3
CTA	**Charters Tower**	**31.89**	**268**	⇓*i*P	**P**	**23 30 54.0**	**+0.6**
	comp=Z,107nm,0.4s,mb5.7						
CTA				*e*S	**S**	**23 35 18.9**	**-8.1**
CTA				*e*SCP	ScP	23 36 23.9	+2.4
CTA	**Charters Tower**	**31.89**	**268**	P	**P**	**23 30 54.6**	**+1.2**
	comp=Z,213nm,0.8s,mb5.7,baz=96,slow=11,SNR=258						
CTA				S	**S**	**23 35 28.2**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=194,slow=22,SNR=7.1						
CTA				ScP	ScP	23 36 23.9	+2.5
	comp=Z,12nm,1.0s,baz=6.3,slow=0.8,SNR=5.9						
CTA	**Charters Tower**	**31.89**	**268**	⇓*i*P	**P**	**23 30 54.0**	**+0.6**
CTA				pmax	pmax		
	comp=Z,107nm,0.4s						
CTAO	**Charters Tower**	**31.89**	**268**	*e*P	**P**	**23 30 54.0**	**+0.6**
CTAO				*e*ScP	ScP	23 36 24.3	+2.9
TOO	**Toolangi**	**33.35**	**236**	⇓*i*P	**P**	**23 31 07.0**	**+1.2**
	comp=Z,29nm,0.7s,mb4.9						
TOO	**Toolangi**	**33.35**	**236**	⇓*i*P	**P**	**23 31 07.0**	**+1.2**
TOO				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.9						
PMG	**Port Moresby**	**34.56**	**287**	ScP	ScP	23 36 33.4	+2.5
	comp=Z,11nm,0.7s,baz=73,slow=6.2,SNR=5.8						
PMG	**Port Moresby**	**34.56**	**287**	*e*P	**P**	**23 31 15.8**	**-0.1**
PMG				*e**PP		23 32 53.2	
STKA	**Stephens Creek**	**35.48**	**247**	⇓*i*P	**P**	**23 31 24.7**	**+1.0**
	comp=Z,31nm,0.6s,mb5.0						
STKA				*e*SCP	ScP	23 36 36.4	+2.1
STKA				*e*S	SS	23 39 37.0	+8.7
STKA	**Stephens Creek**	**35.48**	**247**	P	**P**	**23 31 24.9**	**+1.2**
	comp=Z,40nm,0.6s,mb5.1,baz=90,slow=9.4,SNR=97						
STKA				ScP	ScP	23 36 36.6	+2.3
	comp=Z,14nm,0.8s,baz=73,slow=5.8,SNR=11						
AS31	**Alice Springs**	**42.61**	**259**	*e*P	**P**	**23 32 21.5**	**+0.3**
AS31				*e*pP	pP	23 33 59.9	+3.7
ASAR	**Alice Springs**	**42.61**	**259**	P	**P**	**23 32 21.7**	**+0.5**
	comp=Z,101nm,0.8s,mb5.4,baz=92,slow=8.1,SNR=635						
ASAR				ScP	ScP	23 37 04.3	+2.4
	comp=Z,4.7nm,0.8s,baz=111,slow=4.1,SNR=7.1						
ASAR				S	**S**	**23 38 05.3**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=95,slow=17,SNR=5.6						
ASPA	**Alice Springs**	**42.61**	**259**	*e*P	**P**	**23 32 21.6**	**+0.4**
ASPA				*e*S	**S**	**23 38 04.5**	**-1.3**
WB2	**Warramunga Arr**	**42.88**	**265**	⇓*i*P	**P**	**23 32 22.7**	**-0.6**
WB2				*e*PCP	PcP	23 34 03.1	+0.8
WB2				*e*SCP	ScP	23 37 05.9	+2.8
WB2				*e*S	**S**	**23 38 07.0**	**-2.6**
WRAB	**Tennant Creek**	**42.88**	**265**	P	**P**	**23 32 23.0**	**-0.3**
	comp=Z,689nm,0.9s,SNR=41						
WRAB	**Tennant Creek**	**42.88**	**265**	*e*P	**P**	**23 32 22.9**	**-0.4**
WRAB				*e*		23 34 19.4	
WRAB	**Tennant Creek**	**42.88**	**265**	*e*P	**P**	**23 32 22.9**	**-0.4**
WRAB				*e*		23 34 19.4	
WRAB				*e*SCP	ScP	23 37 05.3	+2.2
WRA	**Warramunga Arr**	**42.89**	**265**	P	**P**	**23 32 23.3**	**-0.1**
	comp=Z,67nm,0.7s,mb5.3,baz=102,slow=8.6,SNR=374						
WRA				ScP	ScP	23 37 05.8	+2.7
	comp=Z,28nm,1.0s,baz=100,slow=4.2,SNR=26						
WRA				S	**S**	**23 38 07.8**	**-1.9**
	comp=Z,4.0nm,0.8s,baz=99,slow=14,SNR=8.8						
WRA				PKiKP	PKiKP	23 41 02.8	-1.3
	comp=Z,0.4nm,0.4s,baz=86,slow=0.3,SNR=4.9						
WRA	**Warramunga Arr**	**42.89**	**265**	P	**P**	**23 32 23.3**	**-0.1**
WRA				ScP	ScP	23 37 05.8	+2.7
WRA				S	**S**	**23 38 07.8**	**-1.9**
KAKA	**Kakadu**	**46.63**	**274**	*e*P	**P**	**23 32 51.6**	**-0.6**
	comp=Z,61nm,0.7s,mb5.2						
KAKA				*e*SCP	ScP	23 37 19.7	+1.1
KAKA				*e*S	**S**	**23 39 01.3**	**-1.2**
FORT	**Forrest**	**47.05**	**249**	⇓*i*P	**P**	**23 32 55.2**	**-0.1**
	comp=Z,244nm,0.6s,mb5.9						
HON	**Honolulu**	**48.70**	**27**	*e*P	**P**	**23 33 07.5**	**-0.2**
KIP	**Kipapa**	**48.78**	**27**	*e*P	**P**	**23 33 08.0**	**-0.3**
KIP				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.3						
KIP	**Kipapa**	**48.78**	**27**	*e*P	**P**	**23 33 08.0**	**-0.3**
	comp=Z,73nm,0.8s,mb5.3						
GUMO	**Guam**	**50.26**	**313**	P	**P**	**23 33 19.7**	**+0.5**
	baz=159,slow=17						
FITZ	**Fitzroy Crossi**	**51.31**	**265**	⇓*i*P	**P**	**23 33 27.4**	**+0.5**
	comp=Z,77nm,0.6s,mb5.2						
FITZ				*e*SCP	ScP	23 37 41.5	+2.8
FITZ				*e*S	**S**	**23 40 07.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**51.31**	**265**	S	**S**	**23 40 06.9**	**+0.3**
	comp=Z,5.7nm,1.0s,baz=62,slow=15,SNR=3.2						
SBA	**Scott Base**	**55.42**	**183**	*e*P	**P**	**23 33 58.1**	**+2.1**
SBA				*e*ScP	ScP	23 38 04.6	+8.0
VNDA	**Vanda**	**55.43**	**185**	P	**P**	**23 33 57.3**	**+1.3**
	comp=Z,4.8nm,0.7s,baz=357,slow=7.6,SNR=32						
VNDA	**Vanda**	**55.43**	**185**	*e*P	**P**	**23 33 56.8**	**+0.7**
VNDA				*e*		23 34 47.9	
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**55.43**	**185**	*e*P	**P**	**23 33 56.8**	**+0.7**
	comp=Z,3.4nm,0.6s						
VNDA				*e*PcP	PcP	23 34 47.9	-0.6
KLBR	**Kellerberrin**	**55.76**	**247**	*e*P	**P**	**23 33 58.1**	**-0.3**
	comp=Z,68nm,0.7s,mb5.0						
MBWA	**Marble Bar**	**55.95**	**259**	*e*P	**P**	**23 33 59.8**	**+0.1**
MBWA				*e*ScP	ScP	23 38 01.6	+2.6
MUN	**Mundaring**	**57.01**	**246**	⇓*i*P	**P**	**23 34 07.3**	**+0.3**
KAPI	**Kappang**	**61.09**	**277**	P	**P**	**23 34 33.3**	**-1.0**
	comp=Z,173nm,0.6s,mb5.6,SNR=5.0						
TSM	**Tawau**	**66.73**	**286**	P	**P**	**23 35 11.8**	**+1.6**
QSPA	**South Pole Qui**	**67.20**	**180**	*e*P	**P**	**23 35 13.6**	**+0.4**
	comp=Z,30nm,0.8s,mb4.9						
KKM	**Kota Kinabalu**	**68.99**	**286**	P	**P**	**23 35 25.0**	**+0.9**
JOW	**Kunigami**	**70.61**	**312**	P	**P**	**23 35 34.5**	**+0.8**
	comp=Z,39nm,0.7s,mb5.1,baz=92,slow=13						
MJAR	**Matsushiro Arr**	**71.28**	**325**	P	**P**	**23 35 37.5**	**-0.2**
	comp=Z,9.2nm,0.7s,mb4.4,baz=157,slow=5.4,SNR=18						
MAJO	**Matsushiro**	**71.29**	**325**	*e*P	**P**	**23 35 37.6**	**-0.1**
KSM	**Kuching**	**72.33**	**279**	*e*P	**P**	**23 35 44.3**	**+0.6**
NACB	**Ninganchiao**	**73.83**	**306**	*e*P	**P**	**23 35 52.1**	**-0.2**
TATO	**Taipei**	**74.37**	**306**	*e*P	**P**	**23 35 55.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**77.38**	**335**	*i* P	**P**	**23 36 10.7**	**-1.4**
YSS				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.3						
KSRS	**Korea Array**	**77.72**	**320**	P	**P**	**23 36 14.8**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=136,slow=6.2,SNR=7.6						
MAW	**Mawson**	**78.85**	**200**	P	**P**	**23 36 19.7**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.0,baz=166,slow=2.7,SNR=5.2						
KGM	**Kyung**	**78.93**	**277**	P	**P**	**23 36 21.7**	**+1.3**
BSC	**Santa Cruz Isl**	**80.28**	**47**	⇑P	**P**	**23 36 27.2**	**-0.3**
	baz=80						
V03C	**Hunter Liggett**	**80.43**	**44**	⇑P	**P**	**23 36 28.7**	**+0.4**
	baz=81						
SCI	**San Clemente I**	**80.43**	**48**	⇑P	**P**	**23 36 28.3**	**0.0**
	baz=81						
V04C	**Ramage Ranch,**	**80.43**	**45**	⇓P	**P**	**23 36 28.5**	**+0.2**
	baz=81						
HAST	**UC Hastings Re**	**80.45**	**44**	⇓P	**P**	**23 36 28.8**	**+0.4**
	baz=81,SNR=9.7						
BNLO	**Ben Lomond (Sa**	**80.51**	**43**	⇑P	**P**	**23 36 28.9**	**+0.2**
	baz=81						
PKM	**Peak Mountain**	**80.68**	**46**	⇓P	**P**	**23 36 29.8**	**+0.2**
	baz=81,SNR=7.3						
SAO	**San Andreas Ge**	**80.74**	**44**	*e*P	**P**	**23 36 30.4**	**+0.5**
SAO				pmax	pmax		
	comp=Z,43nm,1.0s,mb4.8						
SAO	**San Andreas Ge**	**80.74**	**44**	*e*P	**P**	**23 36 30.4**	**+0.5**
	comp=Z,43nm,1.0s,mb4.8						
CIS	**Catalina Islan**	**80.77**	**48**	⇑P	**P**	**23 36 29.7**	**-0.4**
	baz=81						
SMMC	**Simmler

RRX	Edison Barstow baz=83	82.57	47	⇓P		P		23 36 39.1	-0.1
CWC	Cottonwood Cre baz=83,SNR=18	82.73	46	⇓P		P		23 36 39.9	-0.1
M02C	Callahan baz=83,SNR=9.3	82.74	39	⇓P		P		23 36 40.6	+0.5
BELC	Belle Mtn. baz=83,SNR=28	82.76	49	⇑P		P		23 36 40.2	0.0
R05C	Kirkwood Meado baz=83,SNR=30	82.78	43	P		P		23 36 40.5	+0.2
L02A	Cave Junction baz=83	82.79	38	⇓P		P		23 36 40.6	+0.3
P05C	Yuba Gap, Truc baz=83,SNR=19	82.81	42	P		P		23 36 40.8	+0.3
MPMC	Manual Prospec baz=83,SNR=27	82.91	46	P		P		23 36 41.1	+0.2
MLAC	Mammoth Lakes baz=83	82.93	44	⇑P		P		23 36 41.3	+0.2
GSC	Goldstone	82.94	47	eP		P		23 36 41.2	+0.1
GSC	Goldstone baz=83,SNR=23	82.94	47	P		P		23 36 41.3	+0.2
MTUM	Tungsten Hills	82.94	45	eP		P		23 36 41.5	+0.4
BC3	Big Chuckw Mtn baz=83,SNR=22	82.95	49	⇓P		P		23 36 41.8	+0.7
DAC	Darwin (Calif)	82.96	46	eP		P		23 36 41.2	0.0
TIN	Tinemaha baz=83	82.99	45	⇓P		P		23 36 41.2	-0.1
HEC	Hector,Ludlow baz=83,SNR=21	83.00	48	⇓P		P		23 36 41.3	-0.1
O05C	Quincy baz=83,SNR=19	83.02	41	P		P		23 36 41.6	+0.1
YBH	Yreka Blue Hor comp=Z,21nm,0.8s,mb4.7,baz=148,slow=0.9,SNR=27	83.04	39	P		P		23 36 42.0	+0.4
YBH	Yreka Blue Hor	83.04	39	eP		P		23 36 42.6	+1.0
YBH	Yreka Blue Hor baz=83,SNR=7.0	83.04	39	⇓P		P		23 36 41.8	+0.2
GLA	Glamis	83.06	50	eP		P		23 36 42.7	+1.0
GLA	Glamis baz=83,SNR=41	83.06	50	⇑P		P		23 36 42.2	+0.5
R06C	Coleville baz=83,SNR=18	83.06	43	⇓P		P		23 36 41.6	-0.1
R07C	Lee Vining baz=83	83.06	44	⇑P		P		23 36 42.0	+0.3
M03C	McCloud baz=83,SNR=12	83.10	40	⇓P		P		23 36 42.0	+0.1
O04C	Chester baz=83,SNR=10	83.13	41	⇓P		P		23 36 42.2	+0.2
HATC	Hat Creek Radi baz=83,SNR=6.6	83.21	40	⇓P		P		23 36 42.7	+0.2
K02A	Glendale baz=83	83.25	38	⇑P		P		23 36 43.0	+0.4
PSI	Prapat comp=Z,15nm,0.9s,mb4.5,baz=170,slow=22,SNR=9.9	83.27	276	P		P		23 36 42.6	-0.1
BEKR	Beckwourth baz=83,SNR=18	83.30	42	P		P		23 36 43.1	+0.2
WCN	Washoe City baz=84,SNR=13	83.33	42	P		P		23 36 43.7	+0.7
GMRC	Granite Mounta baz=84,SNR=16	83.43	48	P		P		23 36 43.8	+0.3
IRM	Iron Mountain baz=84,SNR=34	83.44	49	P		P		23 36 44.1	+0.6
HUMO	Hull Mountain comp=Z,85nm,1.3s,mb5.1	83.45	38	eP		P		23 36 44.6	+1.0
HUMO	Hull Mountain baz=84,SNR=8.1	83.45	38	⇑P		P		23 36 44.1	+0.5
P06A	Stead Airport, baz=84,SNR=7.2	83.47	42	⇓P		P		23 36 43.7	0.0
GRAC	Grapevine Rang baz=84,SNR=13	83.52	45	⇓P		P		23 36 43.9	-0.1
FURC	Furnace Creek, baz=84,SNR=11	83.56	46	P		P		23 36 44.0	-0.2
J02A	Umpqua baz=84	83.58	37	⇓P		P		23 36 44.7	+0.4
M04C	Macdoel baz=84	83.58	40	⇑P		P		23 36 44.5	+0.2
TUQ	Turquoise Mtn. baz=84,SNR=10.0	83.61	47	⇑P		P		23 36 44.3	-0.1
SHOC	Shoshone baz=84	83.62	47	⇑P		P		23 36 44.0	-0.5
Y12C	Blythe baz=84,SNR=16	83.65	49	⇑P		P		23 36 44.6	0.0
M05C	Lookout baz=84,SNR=9.3	83.73	40	⇑P		P		23 36 45.2	+0.2
NVAR	Mina Array Bea comp=Z,28nm,1.0s,mb4.8,baz=234,slow=8.6,SNR=84	83.74	44	P		P		23 36 45.2	+0.2
L04A	Klamath Falls baz=84,SNR=7.9	83.79	39	⇓P		P		23 36 45.3	-0.1
O06A	Flanigan baz=84,SNR=11	83.81	42	⇓P		P		23 36 45.1	-0.3
R08A	Mina baz=84	83.82	44	⇓P		P		23 36 45.3	-0.1
U10A	Ash Meadows, A baz=84,SNR=7.7	83.88	46	⇓P		P		23 36 45.8	0.0
J03A	Ideyld Park baz=84	83.93	38	⇑P		P		23 36 46.3	+0.3
P07A	Fallon baz=84	84.02	43	⇑P		P		23 36 46.2	-0.2
S09A	Goldfield baz=84,SNR=10	84.03	45	P		P		23 36 46.3	-0.2
M06C	Likely Place G baz=84,SNR=8.1	84.04	41	⇓P		P		23 36 46.7	+0.1
SYO	Syowa Base	84.10	193	⇑eP		P		23 36 45.0	-1.9
SYO	Syowa Base	84.10	193	⇓ePcP		PcP		23 36 49.6	+0.1
SYO	Syowa Base	84.10	193	⇑eP		pP		23 38 45.4	+4.2
I03A	Eugene baz=84	84.13	37	⇑P		P		23 36 46.8	-0.3
NEE2	Needles Airpor baz=84	84.14	49	⇓P		P		23 36 47.3	+0.2
N06A	Buffalo Meadow baz=84,SNR=11	84.15	41	⇑P		P		23 36 46.7	-0.4
K04A	Chilquin baz=84	84.16	39	⇓P		P		23 36 47.5	+0.3
V11A	Goodsprings baz=84,SNR=9.2	84.17	47	⇓P		P		23 36 47.0	-0.2
PDMCI	Parker Dam,Lak baz=84,SNR=31	84.22	49	P		P		23 36 47.8	+0.4
Q08A	Gabbs baz=84,SNR=14	84.22	44	P		P		23 36 47.4	-0.1
TPH	Tonopah TPH	84.23	45	eP pmax		P pmax		23 36 47.9	+0.4
TPH	comp=Z,65nm,1.2s,mb5.0 Tonopah comp=Z,65nm,1.2s,mb5.0	84.23	45	eP		P		23 36 47.9	+0.4
W12A	Cal Nev Ari baz=84	84.25	48	⇓P		P		23 36 47.9	+0.2
J04A	Umpqua Nationa baz=84,SNR=9.4	84.33	38	⇑P		P		23 36 48.4	+0.4
O07A	Toulon baz=84,SNR=17	84.39	42	⇑P		P		23 36 48.1	-0.2
R09A	Tonopah baz=84,SNR=7.6	84.42	45	⇑P		P		23 36 47.9	-0.5
V12A	Nelson baz=85,SNR=15	84.50	48	P		P		23 36 49.1	+0.3
I04A	Tendick Farm, baz=85	84.51	38	⇓P		P		23 36 48.9	0.0
U11A	Corn Creek baz=85	84.52	47	⇓P		P		23 36 49.1	+0.2
Z14A	Wintersburg baz=85,SNR=21	84.56	51	⇓P		P		23 36 49.6	+0.5
MOD	Modoc	84.56	40	eP		P		23 36 49.5	+0.4
MOD	Modoc baz=85,SNR=8.9	84.56	40	⇓P		P		23 36 49.3	+0.1
H03A	Soap Creek Ran baz=85	84.57	37	⇓P		P		23 36 49.9	+0.7
X13A	Yucca baz=85,SNR=29	84.59	49	P		P		23 36 49.6	+0.4
P08A	Dixie Valley baz=85	84.61	43	⇑P		P		23 36 49.5	+0.1
Q09A	Carvers baz=85	84.69	44	⇓P		P		23 36 49.4	-0.3
N07B	Gerlach baz=85	84.70	42	⇓P		P		23 36 49.7	0.0
SHPR	Sheep Range	84.71	47	eP		P		23 36 50.1	+0.2
K05A	Summer Lake baz=85,SNR=6.7	84.72	39	⇓P		P		23 36 50.3	+0.4
115A	Sonoran Desert baz=85,SNR=8.1	84.73	51	⇑P		P		23 36 50.2	+0.2
W13A	Hualapai Mount baz=85,SNR=32	84.82	49	P		P		23 36 50.9	+0.5
Y14A	Wickenburg baz=85,SNR=14	84.82	50	P		P		23 36 50.8	+0.4
J05A	Fort Rock baz=85,SNR=14	84.86	39	P		P		23 36 51.2	+0.6
M07A	Soldier Meadow baz=85,SNR=13	84.93	41	P		P		23 36 51.3	+0.3
G03A	Yamhill baz=85	84.99	36	⇓P		P		23 36 52.5	+1.3
116A	Eloy	85.04	52	⇑P		P		23 36 52.0	+0.5
U12A	Valley of Fire baz=85,SNR=14	85.09	47	P		P		23 36 52.3	+0.6
K06A	Valley Falls baz=85,SNR=8.9	85.14	39	P		P		23 36 52.6	+0.7
X14A	Yava baz=85,SNR=26	85.18	50	P		P		23 36 52.8	+0.6
H04A	Detroit Lake baz=85	85.19	37	⇑P		P		23 36 51.9	-0.3
L07A	Adell baz=85,SNR=9.8	85.21	40	⇓P		P		23 36 52.5	+0.2
N08A	GE Springer Mi baz=85,SNR=14	85.21	42	P		P		23 36 52.4	+0.1
G04A	Mulino baz=86	85.36	37	⇑P		P		23 36 52.8	-0.2
I05A	Bend baz=86	85.38	38	⇓P		P		23 36 53.5	+0.3
W14A	Seligman baz=86,SNR=23	85.44	49	⇑P		P		23 36 53.6	+0.2
O09A	Fish Creek Ran baz=86,SNR=6.8	85.45	43	P		P		23 36 53.5	+0.1
M08A	Happy Creek Ra baz=86,SNR=7.7	85.45	41	⇓P		P		23 36 53.5	0.0
J06A	Christmas Vall baz=86,SNR=8.3	85.47	39	P		P		23 36 53.7	+0.2
BMN	Battle Mountai BMN	85.58	43	eP pmax		P pmax		23 36 54.4	+0.3
BMN	comp=Z,22nm,0.9s,mb4.8 Battle Mountai comp=Z,22nm,0.9s,mb4.8	85.58	43	eP		P		23 36 54.4	+0.3
TUC	Tucson TUC	85.58	52	eP pmax		P pmax		23 36 54.8	+0.7
TUC	comp=Z,169nm,1.7s,mb5.4 Tucson comp=Z,169nm,1.7s,mb5.4	85.58	52	eP		P		23 36 54.8	+0.7
P10A	Eureka baz=86	85.59	44	⇑P		P		23 36 53.8	-0.3
E03A	Lebam baz=86	85.62	35	⇑P		P		23 36 54.6	+0.4
N09A	Rock Creek Ran baz=86	85.63	42	⇑P		P		23 36 54.0	-0.3
X15A	Humboldt baz=86,SNR=18	85.65	50	⇓P		P		23 36 54.7	+0.3
K07A	Rock Creek Ran baz=86,SNR=9.2	85.66	40	P		P		23 36 54.8	+0.3
Q11A	Duckwater baz=86,SNR=8.8	85.68	45	⇓P		P		23 36 54.0	-0.5
SNAA	Sanae	85.68	179	⇑eP		P		23 36 52.8	-1.8
SNAA	Sanae	85.68	179	eP		P		23 36 53.0	-1.5
H05A	Madras baz=86	85.70	38	⇑P		P		23 36 55.0	+0.3
F04A	Amboy baz=86	85.85	36	⇓P		P		23 36 55.1	-0.3
I06A	Prineville baz=86,SNR=10	85.85	39	⇑P		P		23 36 55.5	+0.1
WVOR	Wild Horse Val WVOR	85.87	40	eP pmax		P pmax		23 36 55.1	-0.4
WVOR	comp=Z,28nm,1.0s,mb4.8 Wild Horse Val comp=Z,28nm,1.0s,mb4.8	85.87	40	eP		P		23 36 55.0	-0.4
L08A	Fields baz=86,SNR=13	85.91	41	P		P		23 36 55.8	+0.2
O10A	Cortez Mining, baz=86	85.95	43	⇑P		P		23 36 55.8	0.0
W15A	Williams baz=86	85.99	49	⇓P		P		23 36 56.3	+0.3
M09A	Marrel Ranch, baz=86,SNR=10	86.00	42	⇓P		P		23 36 56.1	0.0
P11A	Circle Ranch, baz=86	86.01	44	⇑P		P		23 36 56.1	0.0
C03A	Quillayute Air baz=86	86.01	34	⇓P		P		23 36 56.3	+0.2
G05A	Wamic baz=86	86.02	37	⇓P		P		23 36 56.5	+0.3
J07A	Hines baz=86,SNR=5.3	86.03	39	⇓P		P		23 36 56.3	0.0
K08A	Mann Creek Ran baz=86,SNR=13	86.14	40	P		P		23 36 57.0	+0.3
SFJM	Santa Fe	86.16	66	eP		P		23 36 59.5	+2.7
N10A	Dunphy baz=86	86.19	43	⇓P		P		23 36 57.0	0.0
L09A	Wilkinson Ranc baz=86,SNR=6.9	86.22	41	⇑P		P		23 36 57.2	+0.1
H06A	Linquist Farm baz=86,SNR=12	86.26	38	⇑P		P		23 36 57.3	0.0
MAIT	Maitri	86.27	184	eP		P		23 36 55.8	-1.5
Q12A	Willow Creek R baz=86,SNR=14	86.32	45	P		P		23 36 57.5	-0.1
I07A	Izee baz=86,SNR=15	86.34	39	⇓P		P		23 36 58.0	+0.3
O11A	Cowboy Ranch, baz=86,SNR=12	86.39	44	⇓P		P		23 36 58.0	+0.1
G06A	Carlson Farm, baz=86,SNR=8.1	86.40	37	⇑P		P		23 36 57.9	0.0
SLKM	Skilak Lake	86.45	14	eP		P		23 36 56.9	-1.3
CCUT	Cedar City CCUT	86.49	47	eP epP		P pP		23 36 58.9 23 38 56.7	+0.5 +3.1
P12A	McGill baz=87,SNR=13	86.51	44	⇓P		P		23 36 58.4	-0.1
J08A	Circle Bar Ran baz=87,SNR=13	86.51	40	⇓P		P		23 36 58.4	-0.1
ARUT	Antelope Range	86.56	47	eP		P		23 36 59.2	+0.5
K09A	Rome baz=87,SNR=22	86.58	41	P		P		23 36 58.8	0.0
M10A	I.L. Ranch, Tu baz=87,SNR=19	86.62	42	⇑P		P		23 36 58.9	-0.1
F06A	Goldendale baz=87,SNR=9.2	86.64	37	⇓P		P		23 36 59.0	-0.1
C04A	Brinnon baz=87	86.68	34	⇑P		P		23 36 59.6	+0.3
N11A	Elko Archery C baz=87	86.73	43	⇑P		P		23 36 59.5	0.0
WUAZ	Wupatki comp=Z,38nm,1.3s,mb4.9	86.79	49	eP		P		23 37 00.5	+0.7
WUAZ	Wupatki baz=87,SNR=13	86.79	49	⇓P		P		23 36 60.0	+0.2
WPW	White Pass	86.80	36	P		P		23 36 60.0	+0.1
D05A	Enumclaw baz=87,SNR=10	86.87	35	⇑P		P		23 37 00.3	+0.1
G07A	Ruggs Ranch, H baz=87,SNR=8.2	86.96	38	⇓P		P		23 37 00.3	-0.3
ELK	Elko ELK	87.00	43	eP pmax		P pmax		23 37 01.2	+0.4
ELK	comp=Z,32nm,1.3s Elko comp=Z,32nm,1.3s,mb4.8	87.00	43	eP		P		23 37 01.2	+0.4
E06A	Yakima baz=87,SNR=11	87.01	36	⇓P		P		23 37 00.7	-0.1
PGC	Sidney	87.03	33	eP		P		23 37 01.0	0.0
M11A	Holland Ranch, baz=87,SNR=19	87.03	42	⇑P		P		23 37 00.8	-0.2
O12A	Currie baz=87,SNR=7.7	87.05	44	⇓P		P		23 37 00.8	-0.2
H08A	Prairie City baz=87,SNR=8.6	87.08	39	⇓P		P		23 37 00.8	-0.4
N12A	Clover Valley, baz=87,SNR=7.6	87.19	43	P		P		23 37 01.7	0.0
F07A	Phinny Hill Vi baz=87,SNR=7.9	87.19	37	⇓P		P		23 37 01.4	-0.3
I09A	Lost Marbles R baz=87,SNR=16	87.30	40	⇑P		P		23 37 01.8	-0.4
C05A	Tolt Reservoir baz=88,SNR=8.8	87.34	35	⇑P		P		23 37 02.2	-0.2
G08A	Pilot Rock baz=88,SNR=25	87.37	38	⇑P		P		23 37 02.2	-0.3
D06A	Cle Elum baz=88,SNR=17	87.48	36	P		P		23 37 03.1	0.0
PRW	Prosser	87.52	37	P		P		23 37 03.7	+0.5
EYAK	Cordova Ski Ar	87.55	16	eP		P		23 37 02.0	-1.4
M12A	Wells baz=88,SNR=15	87.57	43	P		P		23 37 03.4	-0.1
TBM	Table Mountain	87.60	36	P		P		23 37 03.8	+0.1
E07A	Sunnyside baz=88,SNR=17	87.63	37	⇓P		P		23 37 03.6	-0.1
PMR	Palmer PMR	87.66	14	eP pmax		P pmax		23 37 02.5	-1.4
PMR	comp=Z,86nm,1.2s,mb5.4 Palmer comp=Z,86nm,1.2s,mb5.3	87.66	14	eP		P		23 37 02.5	-1.4
SNIWA	Snively Ranch	87.68	37	P		P		23 37 04.5	+0.4
HAWA	Hanford comp=Z,40nm,0.8s,mb5.2	87.71	37	eP		P		23 37 04.4	+0.2
HAWA				epP		pP		23 38 58.7	-1.0
N13A	Wendover, West baz=88,SNR=5.4	87.72	44	⇓P		P		23 37 04.0	-0.1
H09A	Durkee baz=88,SNR=19	87.75	39	⇓P		P		23 37 04.1	-0.2
H2OWA	Water	87.77	37	P		P		23 37 04.7	+0.3
F08A	Pendleton baz=88,SNR=11	87.78	38	P		P		23 37 04.5	0.0
MSU	Marysvale	87.79	46	eP		P		23 37 05.3	+0.8
A05A	Maple Falls baz=88	87.95	34	⇑P		P		23 37 04.6	-0.6
D07A	Quincy baz=88,SNR=8.8	87.95	36	⇑P		P		23 37 05.0	-0.2
ETW	Entiat	88.01	36	P		P		23 37 05.6	0.0
M13A	Montello baz=88,SNR=5.3	88.02	43	⇓P		P		23 37 05.4	-0.2
SML	Sawmill	88.03	14	eP		P		23 37 04.3	-1.3
E08A	Dider Farm, El baz=88,SNR=16	88.03	37	⇑P		P		23 37 05.1	-0.5
DIV	Divide	88.05	16	eP		P		23 37 04.8	-0.9
BMO	Blue Mountains BMO	88.07	39	eP pmax		P pmax		23 37 05.4	-0.4
BMO	comp=Z,31nm,1.2s,mb4.9 Blue Mountains comp=Z,31nm,1.2s,mb4.9	88.07	39	eP		P		23 37 05.4	-0.4
C07A	Waterville baz=88,SNR=17	88.21	36	⇑P		P		23 37 05.7	-0.7
F09A	S2 Ranch, Elgi baz=88,SNR=16	88.22	38	⇓P		P		23 37 06.2	-0.3
EPH	Ephrata	88.25	36	P		P		23 37 06.6	-0.1
DUG	Dugway	88.26	45	eP		P		23 37 06.7	0.0
DUG	Dugway baz=88,SNR=10	88.26	45	⇑P		P		23 37 06.3	-0.4
WTV	Waterville	88.27	36	P		P		23 37 06.4	-0.3
A06A	Chilliwack baz=88	88.33	34	⇓P		P		23 37 06.3	-0.7
SEY	Seymchan	88.36	348	⇑eP		P		23 37 06.4	-0.7
D08A	Wollman Farm, baz=89,SNR=21	88.45	37	P		P		23 37 07.5	-0.1
E09A	Wood Farm, Sta baz=89,SNR=12	88.56	37	⇓P		P		23 37 07.3	-0.8
NLU	North Lily Min	88.61	45	eP		P		23 37 09.0	+0.6
B07A	Winthrop baz=89,SNR=19	88.64	35	⇓P		P		23 37 08.0	-0.5
H11A	Donnelly baz=89,SNR=42	88.74	40	P		P		23 37 08.8	-0.2
F10A	Beach Ranch, E baz=89,SNR=25	88.76	38	P		P		23 37 08.5	-0.5
OD2	Odessa Site #2	88.76	36	P		P		23 37 09.0	0.0
D09A	Jones Farm, Ri baz=89,SNR=10	88.79	37	⇑P		P		23 37 08.5	-0.6
C08A	Higginbotham F baz=89	88.81	36	⇑P		P		23 37 08.5	-0.8
TMUT	Trail Mountain	88.84	46	eP		P		23 37 10.3	+0.9
A07A	Ashnola River, baz=89,SNR=14	88.86	34	⇑P		P		23 37 09.1	-0.4
MPU	Maple Canyon	88.93	45	eP		P		23 37 10.3	+0.5
NOQ	North Oquirrh	88.95	45	eP		P		23 37 10.2	+0.4
G11A	Walters Elk Ra baz=89,SNR=42	88.98	39	⇑P		P		23 37 09.3	-0.8
B08A	Colville Reser baz=89,SNR=14	89.00	35	⇓P		P		23 37 09.0	-1.1
HLID	Hailey comp=Z,28nm,0.9s,mb5.1	89.06	41	eP		P		23 37 10.5	+0.1
HLID	Hailey baz=89,SNR=47	89.06	41	P		P		23 37 10.6	+0.1
SPUT	South Promonto	89.08	44	eP		P		23 37 07.5	-3.1
E10A	Myers Farm, Un baz=89	89.12	38	⇓P		P		23 37 10.3	-0.4
HVU	Hansel Valley	89.12	43	eP		P		23 37 11.1	+0.4
KMI	Kunming	89.14	298	P		P		23 37 12.5	+1.7
KMI				XP		sP		23 39 57.3	-2.7
KMI				PP		PP		23 40 52.0	+1.6
KMI				S		S		23 47 17.0	+1.8
KMI				XS		sS		23 50 38.3	-3.8
KMI				SS		SS		23 53 24.5	0.0
KMI	comp=Z,12nm,1.1s,mb4.6			AMB		AMB			
KMI	comp=Z,59nm,4.4s			AMB		AMB			
KMI	Kunming	89.14	298	P		P		23 37 12.5	+1.7
KMI				*SP		sP		23 39 57.3	-2.7
KMI								23 40 52.1	
KMI				S		S		23 47 17.0	+1.8
KMI				SS		SS		23 53 24.4	-0.1
KMI	comp=Z,12nm,1.1s,mb4.6			pmax		pmax			
KMI	Kunming comp=Z,12nm,1.1s,mb4.6	89.14	298	P		P		23 37 12.5	+1.7
KMI				sP		sP		23 39 57.3	-2.7
KMI				PP		PP		23 40 52.1	+1.7
KMI				S		S		23 47 17.0	+1.8
KMI				sS		sS		23 50 38.2	-3.9
KMI				SS		SS		23 53 24.4	-0.1
SRU	San Rafael	89.20	47	eP		P		23 37 11.2	+0.1
CTU	Camp Tracy	89.21	45	eP		P		23 37 11.3	+0.2
LAZ	Ladron	89.26	52	eP		P		23 37 12.1	+0.8
Y22C	IRIS PASSCAL I baz=89	89.26	52	⇓P		P		23 37 11.7	+0.3
LENM	Lemitar	89.27	52	eP		P		23 37 12.2	+0.8
MNTX	Cornudas Mount comp=Z,32nm,0.9s,mb5.2	89.30	55	eP		P		23 37 11.9	+0.4
F11A	Grangeville baz=90,SNR=7.9	89.33	39	⇑P		P		23 37 10.8	-0.9
JLU	Jordanelle	89.36	45	eP		P		23 37 12.2	+0.4
DAU	Daniels Canyon	89.39	45	eP		P		23 37 12.5	+0.6
A08A	Turner Farm, O baz=90,SNR=13	89.39	35	⇓P		P		23 37 11.5	-0.4
BNM	Barren Site	89.51	52	eP		P		23 37 13.0	+0.4
LTX	Lajitas LTX	89.55	58	eP pmax		P pmax		23 37 13.7	+1.0
LTX	comp=Z,33nm,1.0s,mb5.1 Lajitas comp=Z,33nm,1.0s,mb5.1	89.55	58	eP		P		23 37 13.7	+1.0
TXAR	Lajitas Array comp=Z,16nm,0.9s,mb4.9,baz=212,slow=6.3,SNR=154	89.55	58	P		P		23 37 13.3	+0.6
TXAR				PKKPbc		PKKPbc		23 54 46.0	+2.4
TXAR	comp=Z,0.2nm,0.5s,baz=46,slow=3.6,SNR=3.4 Lajitas Array	89.55	58	P		P		23 37 13.3	+0.6
TXAR				PKKPbc		PKKPbc		23 54 46.0	+2.4
LPM	Los Pinos Moun	89.59	52	eP		P		23 37 13.2	+0.4
MCK	McKinley	89.60	13	eP		P		23 37 11.3	-1.6
MVCO	Mesa Verde comp=Z,7.4nm,1.0s,mb4.5	89.64	49	eP		P		23 37 13.0	-0.1
MVCO	Mesa Verde baz=90	89.64	49	⇑P		P		23 37 12.7	-0.4
B09A	Rice baz=90,SNR=10.0	89.67	36	P		P		23 37 12.7	-0.6
CHTO	Chiang Mai	89.69	290	eP		P		23 37 15.3	+1.9
CHTO	CHTO			pmax		pmax			
CHTO	comp=Z,24nm,0.9s,mb5.0 Chiang Mai comp=Z,24nm,0.9s,mb5.0	89.69	290	eP		P		23 37 15.3	+1.9
A09A	Danville baz=90,SNR=9.2	89.77	35	⇑P		P		23 37 13.2	-0.4
HWUT	Hardware Ranch comp=Z,22nm,0.8s,mb5.0	89.80	44	eP		P		23 37 13.3	-0.5
PV10	Paradox Valley	89.84	48	eP		P		23 37 13.3	-0.7
D11A	Klaveano Farm, baz=90,SNR=5.9	89.88	38	⇑P		P		23 37 12.8	-1.4
ANMO	Albuquerque	90.01	52	⇑eP		P		23 37 14.3	-0.5
ANMO	Albuquerque comp=Z,37nm,1.2s,mb5.1	90.01	52	eP		P		23 37 14.8	0.0
PV01	Paradox Valley	90.05	48	eP		P		23 37 14.7	-0.2
MENT	Mentasta	90.10	16	eP		P		23 37 14.4	-0.8
GDL2	Guadalupe Moun	90.30	55	eP		P		23 37 16.6	+0.4
F13A	Darby baz=90,SNR=23	90.33	39	⇑P		P		23 37 15.5	-0.8
MCMT	McKenzie Canyo	90.69	41	eP		P		23 37 18.1	+0.1
AHID	Auburn Hatcher comp=Z,24nm,1.1s,mb5.0	90.69	43	eP		P		23 37 18.1	+0.2
E13A	Victor baz=91	90.77	39	⇓P		P		23 37 17.

REDW	**Red Top Meadow**	**91.16**	**43**	*e*P		**P**	**23 37 20.1**	**0.0**
E14A	**Clinton**	**91.16**	**39**	⇓P		**P**	**23 37 19.1**	**-1.0**
	baz=91,SNR=7.9							
C13A	**Hot Springs**	**91.23**	**38**	⇑P		**P**	**23 37 19.4**	**-1.0**
	baz=91							
BILL	**Bilibino**	**91.25**	**355**	⇓*e*P		**P**	**23 37 18.8**	**-1.7**
BILL				pmax	pmax			
	comp=Z,37nm,2.3s,mb4.9							
BILL	**Bilibino**	**91.25**	**355**	*e*P		**P**	**23 37 19.6**	**-0.9**
	comp=Z,4.8nm,0.6s,mb4.6							
SNOW	**Snow King Moun**	**91.27**	**43**	*e*P		**P**	**23 37 21.1**	**+0.5**
IMW	**Indian Meadow**	**91.38**	**42**	*e*P		**P**	**23 37 21.2**	**+0.1**
MOOW	**Moose Ponds**	**91.42**	**43**	*e*P		**P**	**23 37 21.4**	**+0.1**
	comp=Z,19nm,1.4s,mb4.8							
LOHW	**Long Hollow**	**91.44**	**43**	*e*P		**P**	**23 37 21.6**	**+0.1**
	comp=Z,17nm,1.0s,mb4.9							
F15A	**Butte**	**91.44**	**40**	⇓P		**P**	**23 37 20.7**	**-0.8**
	baz=92,SNR=6.8							
D14A	**Greenough**	**91.51**	**39**	P		**P**	**23 37 20.8**	**-1.0**
	baz=92,SNR=6.8							
QLMT	**Earthquake Lak**	**91.55**	**41**	*e*P		**P**	**23 37 22.5**	**+0.5**
CHMT	**Chamberlain Mo**	**91.57**	**39**	*e*P		**P**	**23 37 21.4**	**-0.6**
FLWY	**Flagg Ranch**	**91.62**	**42**	*e*P		**P**	**23 37 22.9**	**+0.6**
E15A	**Deer Lodge**	**91.66**	**40**	⇑P		**P**	**23 37 21.3**	**-1.1**
	baz=92							
B13A	**Whitefish**	**91.67**	**37**	⇑P		**P**	**23 37 20.9**	**-1.5**
	baz=92							
BW06	**Boulder Array**	**91.68**	**44**	*e*P		**P**	**23 37 22.1**	**-0.4**
	comp=Z,22nm,1.0s,mb5.1							
PDAR	**Pinedale Array**	**91.68**	**44**	P		**P**	**23 37 22.0**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0,baz=214,slow=3.4,SNR=85							
PDAR				PP		PP	23 41 07.2	-3.0
	comp=Z,3.3nm,1.1s,baz=234,slow=5.1,SNR=8.3							
YFT	**Old Faithful**	**91.72**	**42**	*e*P		**P**	**23 37 24.8**	**+2.1**
SDCO	**Great Sand Dun**	**92.00**	**50**	*e*P		**P**	**23 37 24.1**	**+0.1**
	comp=Z,20nm,0.9s,mb5.2							
D15A	**Lincoln**	**92.06**	**39**	⇓P		**P**	**23 37 23.4**	**-0.9**
	baz=92,SNR=5.7							
DAWY	**Dawson**	**92.13**	**16**	*e*P		**P**	**23 37 23.5**	**-1.1**
EGAK	**Eagle**	**92.27**	**15**	*e*P		**P**	**23 37 24.0**	**-1.2**
	comp=Z,12nm,0.6s,mb5.1							
EGAK				*e*pP		pP	23 39 24.8	+3.2
WALA	**Waterton Lakes**	**92.35**	**37**	*e*P		**P**	**23 37 25.1**	**-0.5**
RWWY	**Rawlins**	**92.67**	**46**	*e*P		**P**	**23 37 26.6**	**-0.5**
	comp=Z,20nm,0.9s,mb5.2							
ISCO	**Idaho Springs**	**92.86**	**48**	*e*P		**P**	**23 37 27.9**	**-0.1**
LZH	**Lanzhou**	**93.06**	**308**	*e*P		**P**	**23 37 29.0**	**+0.1**
LZH				AMB		AMB		
	comp=Z,16nm,1.2s,mb4.9							
LZH	**Lanzhou**	**93.06**	**308**	*e*P		**P**	**23 37 29.0**	**+0.1**
	comp=Z,16nm,1.2s,mb4.9							
LZH				pP		pP	23 39 30.1	+4.8
LZH				sP		sP	23 40 23.9	+5.6
JCT	**Junction City**	**93.07**	**58**	*e*P		**P**	**23 37 28.6**	**-0.3**
JCT				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
JCT	**Junction City**	**93.07**	**58**	*e*P		**P**	**23 37 28.6**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0							
GCMT	**Greycliff**	**93.11**	**41**	*e*P		**P**	**23 37 28.9**	**-0.2**
YAK	**Yakutsk**	**93.77**	**339**	⇑*e*P		**P**	**23 37 31.0**	**-1.1**
YAK				pmax		pmax		
	comp=Z,18nm,0.8s,mb5.2							
RSSD	**Black Hills**	**95.86**	**45**	*e*P		**P**	**23 37 40.7**	**-0.9**
RSSD				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.8							
RSSD	**Black Hills**	**95.86**	**45**	*e*P		**P**	**23 37 40.7**	**-0.9**
	comp=Z,3.9nm,0.6s,mb4.8							
SONM	**Songino Array**	**96.59**	**319**	P		**P**	**23 37 44.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=123,slow=4.2,SNR=4.9							
SONM				PP		PP	23 41 41.7	-6.2
	comp=Z,1.9nm,1.0s,baz=124,slow=5.8,SNR=6.4							
SONM				PKPbc		PKKPbc	23 54 25.6	0.0
	comp=Z,1.3nm,0.5s,baz=275,slow=3.0,SNR=16							
SONM	**Songino Array**	**96.59**	**319**	P		**P**	**23 37 44.6**	**-0.2**
SONM							23 41 41.7	
INK	**Inuvik**	**96.94**	**16**	*e*P		**P**	**23 37 44.7**	**-1.7**
	comp=Z,169nm,0.7s							
YKA	**Yellowknife Ar**	**99.27**	**25**	P		Pdif	23 37 55.1	-1.7
	comp=Z,0.7nm,0.6s,baz=238,slow=4.6,SNR=7.3							
YKA				PP		PP	23 42 04.8	-3.2
	comp=Z,1.3nm,0.9s,baz=247,slow=7.0,SNR=5.5							
YKA				PKIKP		PKiKP	23 42 21.0	-2.2
	comp=Z,0.2nm,0.4s,baz=241,slow=1.5,SNR=6.6							
YKA	**Yellowknife Ar**	**99.27**	**25**	P		Pdif	23 37 55.1	-1.7
YKA				PP		PP	23 42 04.8	-3.2
MK31	**Makanchi Array**	**111.75**	**313**	*e*PKIKP		PKiKP	23 42 44.9	-1.5
MKAR	**Makanchi Array**	**111.75**	**313**	PKiKP		PKiKP	23 42 44.8	-1.6
	comp=Z,1.3nm,0.5s,baz=178,slow=0.8,SNR=18							
MKAR				PP		PP	23 43 37.0	-1.8
	comp=Z,1.3nm,0.9s,baz=118,slow=10,SNR=4.0							
MKAR				SKP			23 45 30.8	
	comp=Z,1.7nm,0.8s,baz=84,slow=2.8,SNR=6.1							
MKAR				PKKPbc		PKKPbc	23 53 40.4	-0.4
	comp=Z,1.1nm,0.6s,baz=274,slow=3.9,SNR=8.4							
OPO	**Ambohidratompo**	**118.50**	**232**	PKP		PKPdf	23 42 59.9	+0.6
	comp=Z,1.2nm,0.7s,baz=189,slow=5.4,SNR=3.5							
BVAR	**Borovoye Array**	**119.93**	**319**	PKP		PKPdf	23 43 00.7	-1.4
	comp=Z,3.1nm,0.3s,baz=119,slow=2.4,SNR=39							
BVAR				SKP			23 45 46.8	
	comp=Z,3.2nm,0.9s,baz=98,slow=3.0,SNR=7.2							
SCHQ	**Schefferville**	**121.43**	**39**	PKP		PKPdf	23 43 02.4	-2.6
	comp=Z,3.9nm,0.8s,baz=128,slow=4.1,SNR=7.9							
SPB4	**Spitsbergen Ar**	**124.13**	**356**	*e*PKPdf		PKPdf	23 43 08.4	-1.7
ARU	**Arti**	**126.29**	**324**	⇑*i*PKIKP		PKPdf	23 43 12.8	-1.5
AKTK	**Aktyubinsk**	**127.83**	**317**	PKP		PKPdf	23 43 16.3	-0.9
AKTK				SKPbc			23 45 46.2	
AKTK				SKP			23 46 03.0	
AKTO	**Aktyubinsk**	**127.83**	**317**	PKP		PKPdf	23 43 16.3	-0.9
	comp=Z,3.5nm,0.6s,baz=107,slow=4.1,SNR=13							
AKTO				SKPbc			23 45 46.2	
	comp=Z,2.4nm,0.7s,baz=52,slow=5.2,SNR=6.1							
AKTO				SKP			23 46 03.0	
	comp=Z,1.3nm,0.8s,baz=302,slow=5.2,SNR=4.0							
ARCES	**ARCESS Array B**	**130.97**	**349**	PKP		PKPdf	23 43 21.2	-1.9
	comp=Z,6.3nm,0.5s,baz=29,slow=1.3,SNR=37							
ARCES				SKPbc		SKPbc	23 45 57.3	-1.2
	comp=Z,6.4nm,0.8s,baz=29,slow=3.8,SNR=12							
KMBO	**Kilima Mbogo**	**136.94**	**241**	PKP		PKPdf	23 43 36.5	+2.2
	comp=Z,2.2nm,0.8s,baz=252,slow=20,SNR=6.6							
KMBO				SKPbc		SKPbc	23 46 19.9	+2.1
	comp=Z,18nm,1.0s,baz=21,slow=1.3,SNR=25							
KMBO	**Kilima Mbogo**	**136.94**	**241**	PKP		PKPdf	23 43 36.5	+2.2
KMBO				SKPbc		SKPbc	23 46 19.9	+2.1
FINES	**FINESS Array B**	**137.60**	**342**	PKhKP			23 43 22.0	
	comp=Z,1.1nm,0.6s,baz=90,slow=1.9,SNR=9.2							
FINES				PKP		PKPdf	23 43 34.5	-1.1
	comp=Z,4.6nm,0.7s,baz=74,slow=3.3,SNR=10							
FINES				SKPbc		SKPbc	23 46 18.4	-1.2
	comp=Z,11nm,0.7s,baz=63,slow=2.5,SNR=22							
OBN	**Obninsk**	**138.10**	**330**	*i* PKIKP		PKPdf	23 43 33.5	-2.9
OBN				*e*			23 46 20.3	
OBN				pmax		pmax		
	comp=Z,16nm,1.1s							
GNI	**Garni**	**138.95**	**305**	PKP		PKPdf	23 43 39.1	+1.1
	comp=Z,1.3nm,0.4s,baz=324,slow=2.7,SNR=3.3							
GNI				SKPbc		SKPbc	23 46 24.0	+0.6
	comp=Z,5.0nm,0.9s,baz=175,slow=9.8,SNR=4.1							
KIV	**Kislovodsk**	**139.50**	**312**	*e*PKIKP		PKPdf	23 43 44.5	+5.5
KIV				pmax		pmax		
	comp=Z,6.0nm,1.1s							
NB2	**NORSAR Subarra**	**141.13**	**352**	PKP			23 43 34.8	
	comp=Z,3.7nm,0.7s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**141.13**	**352**	PKhKP			23 43 35.5	
	comp=Z,7.7nm,0.8s,baz=11,slow=2.4,SNR=20							
NOA				PKP		PKPdf	23 43 42.7	+0.8
	comp=Z,2.9nm,0.4s,baz=14,slow=3.9,SNR=7.7							
NOA				SKPbc		SKPbc	23 46 27.9	-1.2
	comp=Z,2.5nm,0.9s,baz=14,slow=4.3,SNR=4.1							
NAO01	**NORSAR Array S**	**141.36**	**352**	*e*PKPdf			23 43 35.8	
HFS	**Hagfors**	**141.62**	**349**	PKhKP			23 43 36.7	
	comp=Z,13nm,0.5s,baz=67,slow=3.9,SNR=90							
HFS				PKP		PKPdf	23 43 43.2	+0.4
	comp=Z,6.5nm,0.6s,baz=37,slow=3.7,SNR=6.6							
HFS				SKPbc		SKPbc	23 46 28.6	-1.8
	comp=Z,5.4nm,0.8s,baz=193,slow=6.1,SNR=4.6							
ANN	**Anapa**	**142.73**	**315**	*i* PKHKP			23 43 35.3	
ANN				pmax		pmax		
	comp=Z,36nm,1.5s							
LRW	**Lerwick**	**142.75**	**1**	*e*P		PKPdf	23 43 40.9	-3.9
LRW				AMb		AMB	23 43 47.7	
	comp=Z,131nm,1.9s							
KELT	**Kelkit**	**143.04**	**307**	*i* P		PKPdf	23 43 44.1	-1.2
ELZG	**Elazig**	**143.67**	**304**	*i* P		PKPdf	23 43 46.7	+0.3
MALT	**Malatya**	**144.14**	**304**	⇑*i*P		PKPdf	23 43 47.7	+0.5
MALT	**Malatya**	**144.14**	**304**	P		PKPdf	23 43 47.9	+0.7
AKASG	**Malin Array Be**	**144.32**	**328**	PKP		PKPdf	23 43 45.7	-1.8
	comp=Z,5.2nm,0.4s,baz=43,slow=4.0,SNR=62							
AKASG				pPKP		pPKPdf	23 45 51.8	+0.2
	comp=Z,0.3nm,0.3s,baz=37,slow=4.0,SNR=2.5							
AKASG				SKPbc		SKPbc	23 46 36.0	-0.8
	comp=Z,9.4nm,0.7s,baz=43,slow=2.2,SNR=18							
AKASG	**Malin Array Be**	**144.32**	**328**	PKP		PKPdf	23 43 45.7	-1.8
AKASG				pPKP		pPKPdf	23 45 51.8	+0.2
AKASG				SKPbc		SKPbc	23 46 36.0	-0.8
AKBB	**Malin Array Si**	**144.32**	**328**	*e*PKIKP		PKPdf	23 43 46.0	-1.5
AKBB				*e*			23 46 36.3	
KIEV	**Kiev**	**144.33**	**328**	*e*PKIKP		PKPdf	23 43 46.1	-1.5
KIEV				*e*			23 46 36.0	
SUW	**Suwalki**	**144.49**	**337**	*e*PKP		PKPdf	23 43 46.8	-1.0
MVH1	**Achvaich**	**144.83**	**4**	*e*P		PKPdf	23 43 47.0	-1.5
GZT	**Gaziantep**	**145.03**	**303**	*i* P		PKPdf	23 43 50.2	+1.5
KAC	**Achnashellach**	**145.16**	**5**	⇑*e*P		PKPdf	23 43 48.7	-0.3
MCD	**Coleburn Disti**	**145.22**	**3**	*e*P		PKPdf	23 43 48.3	-0.8
KPL	**Plockton**	**145.29**	**6**	⇑*e*P		PKPdf	23 43 48.8	-0.4
KPL				AMb		AMB	23 43 50.2	
	comp=Z,142nm,1.4s							
MDO	**Dochfour**	**145.29**	**5**	*e*P		PKPdf	23 43 49.0	-0.3
MME1	**Meikle Cairn**	**145.51**	**3**	*e*P		PKPdf	23 43 48.7	-0.9
KAR1	**Arisaig**	**145.69**	**6**	⇑*e*P		PKPdf	23 43 49.9	0.0
BOYT	**Boyabat**	**145.75**	**311**	*i* P		PKPbc	23 43 52.3	+0.7
MUD	**Monsted U'grnd**	**145.85**	**351**	*i* P		PKPdf	23 43 50.8	+0.7
	comp=Z,42nm,1.1s							
BSD	**Bornholm Skovb**	**146.04**	**345**	*i* P		PKPdf	23 43 51.2	+0.7
	comp=Z,56nm,1.1s							
CTKT	**Corum**	**146.12**	**310**	*i* P		PKPbc	23 43 52.8	+0.1
COBT	**Iskenderun**	**146.25**	**302**	*i* P		PKPdf	23 43 52.4	+1.6
ASF	**Jabal al Asfar**	**146.50**	**294**	PKPbc		PKPbc	23 43 54.5	+0.8
	comp=Z,6.3nm,0.9s,baz=14,slow=2.2,SNR=5.1							
ASF				pPKPbc		pPKPbc	23 45 53.7	-1.7
	comp=Z,2.4nm,1.0s,baz=323,slow=5.2,SNR=3.2							
ASF				SKPbc		SKPbc	23 46 43.1	+1.4
	comp=Z,5.8nm,0.9s,baz=227,slow=2.7,SNR=6.2							
EAB	**Aberfoyle**	**146.54**	**5**	*e*P		PKPdf	23 43 52.2	+0.9
AVNT	**Avonos**	**146.69**	**306**	*i* P		PKPdf	23 43 50.7	-0.9
BALT	**Daday**	**146.76**	**312**	*i* P		PKPbc	23 43 54.6	+0.3
EDI	**Edinburgh**	**146.88**	**4**	⇑*e*P		PKPdf	23 43 53.1	+1.3
EDI				AMb		AMB	23 43 54.0	
	comp=Z,94nm,1.2s							
PGBU	**Glenifferbraes**	**146.90**	**5**	*e*P		PKPdf	23 43 53.3	+1.4
PGBU				AMb		AMB	23 43 58.6	
	comp=Z,41nm,1.7s							
ESY	**Stoneypath**	**146.92**	**3**	⇑*e*P		PKPdf	23 43 53.5	+1.5
EAU	**Auchinoon**	**146.94**	**4**	⇑*e*P		PKPdf	23 43 53.8	+1.9
EBL	**Broad Law**	**147.04**	**4**	⇑*e*P		PKPdf	23 43 54.0	+1.8
GKP	**Gorka Klasztor**	**147.07**	**341**	*e*PKP		PKPbc	23 43 54.6	-0.6
ELDT	**Eldivan**	**147.14**	**310**	*i* P		PKPbc	23 43 55.8	+0.4
BR131	**Keskin Array S**	**147.27**	**309**	*e*PKPdf		PKPdf	23 43 51.8	-0.7
BR131				*e*PKPbc		PKPbc	23 43 55.6	-0.1
BR131				*e*SKPbc		SKPbc	23 46 40.6	-2.8
BRTR	**Keskin Array B**	**147.27**	**309**	PKPbc		PKPbc	23 43 55.6	-0.1
	comp=Z,3.4nm,0.5s,baz=145,slow=4.4,SNR=14							
BRTR				pPKPbc		pPKPbc	23 45 58.0	+0.2
	comp=Z,1.5nm,0.7s,baz=108,slow=4.0,SNR=4.7							
BRTR				SKPbc		SKPbc	23 46 43.4	0.0
	comp=Z,2.7nm,1.0s,baz=151,slow=2.8,SNR=4.5							
LVV	**L'vov**	**147.34**	**331**	*i* PKP2		PKPbc	23 43 55.1	-0.8
XSO	**Sourhope Farm**	**147.36**	**3**	*e*P		PKPdf	23 43 54.5	+1.8
EKA	**Eskdalemuir Ar**	**147.47**	**4**	PKPbc		PKPbc	23 43 54.8	-1.5
	comp=Z,19nm,0.7s,baz=354,slow=3.2,SNR=72							
ESK	**Eskdalemuir**	**147.49**	**4**	⇑*e*P		PKPdf	23 43 54.7	+1.8
ESK				AMb		AMB	23 43 58.0	
	comp=Z,41nm,1.3s							
ECK	**Cauldkaine Hil**	**147.63**	**4**	⇑*e*P		PKPdf	23 43 55.1	+2.0
MMAI	**Mount Meron Ar**	**147.63**	**296**	PKPbc		PKPbc	23 43 57.7	+1.0
	comp=Z,4.3nm,0.4s,baz=77,slow=7.8,SNR=58							
MMAI				pPKPbc		pPKPbc	23 45 58.8	0.0
	comp=Z,2.6nm,0.6s,baz=57,slow=5.3,SNR=4.4							
MMAI				SKPbc		SKPbc	23 46 44.7	+0.4
	comp=Z,5.5nm,0.9s,baz=86,slow=3.2,SNR=3.6							
ANTO	**Ankara**	**147.82**	**309**	*e*PKPdf		PKPdf	23 43 53.2	-0.2
ANTO				*e*PKPbc		PKPbc	23 43 57.3	+0.1
ANTO				*e*PKPab		PKPab	23 44 02.3	+0.8
GAL1	**Galloway**	**147.82**	**6**	⇑*e*P		PKPdf	23 43 55.9	+2.5
GAL1				AMb		AMB	23 43 56.9	
	comp=Z,237nm,1.7s							
XAL	**Allendale**	**148.00**	**3**	⇑*e*P		PKPdf	23 43 56.3	+2.6
KWP	**Kalwaria**	**148.06**	**332**	*e*PKP		PKPbc	23 43 57.5	-0.3
CFR	**Carcaliu**	**148.30**	**321**	⇑*i*P		PKPbc	23 43 59.3	+0.9
CFR	**Carcaliu**	**148.30**	**321**	P		PKPbc	23 43 59.2	+0.9
BURAR	**Bucovina Array**	**148.34**	**327**	⇓*i*P		PKPbc	23 43 58.6	+0.1
BURAR	**Bucovina Array**	**148.34**	**327**	⇓P		PKPbc	23 43 58.6	+0.2
EIL	**Elat**	**148.40**	**290**	*e*PKPdf		PKPdf	23 43 54.0	-0.3
TIRR	**Tirgusor**	**148.54**	**320**	⇓*i*P		PKPbc	23 43 58.8	-0.2
TIRR	**Tirgusor**	**148.54**	**320**	⇓P		PKPbc	23 43 58.8	-0.1
VRI	**Vrincioaia**	**148.68**	**323**	⇓*i*P		PKPbc	23 43 58.8	-0.5
VRI	**Vrincioaia**	**148.68**	**323**	⇓P		PKPbc	23 43 58.8	-0.5
RUE	**Ruedersdorf**	**148.72**	**344**	*e*PKPbc		PKPbc	23 43 58.7	-0.7
HENT	**Hendek**	**148.76**	**312**	*i* P		PKPbc	23 43 58.9	-0.6
KOLS	**Kolonicke sedl**	**148.77**	**332**	*e*PKP		PKPbc	23 43 59.6	+0.1
OJC	**Ojcow**	**148.78**	**336**	*e*PKP		PKPbc	23 43 58.7	-0.8
STHS	**Stebnicka Huta**	**148.84**	**333**	*i* PKP		PKPbc	23 43 59.8	+0.1
STHS				*e*			23 46 06.2	
CSS	**Prodhromos**	**148.93**	**300**	*e*PKPbc		PKPbc	23 43 59.8	-0.1
CSS				*e*PKPab		PKPab	23 44 06.2	+0.1
UZH	**Uzhgorod**	**148.99**	**331**	⇓*i*PKHKP			23 43 59.2	
NIE	**Niedzica**	**149.22**	**334**	*e*PKP		PKPbc	23 44 00.5	-0.1
MLR	**Muntele Rosu**	**149.34**	**324**	PKP		PKPdf	23 43 54.2	-1.7
	comp=Z,3.8nm,0.3s,baz=52,slow=3.9,SNR=4.5							
MLR				PKPbc		PKPbc	23 44 00.2	-0.7
	comp=Z,3.8nm,0.3s,baz=315,slow=3.9,SNR=16							
MLR				PKPab		PKPab	23 44 08.3	+0.5
	comp=Z,3.0nm,0.4s,baz=161,slow=13,SNR=5.4							
MLR	**Muntele Rosu**	**149.34**	**324**	⇑*i*P		PKPdf	23 43 55.1	-0.8
MLR	**Muntele Rosu**	**149.34**	**324**	⇑P		PKPdf	23 43 55.1	-0.8
MLR				P			23 44 00.1	
KSP	**Ksiaz**	**149.47**	**340**	*e*PKP		PKPbc	23 44 01.0	-0.2
KSP	**Ksiaz**	**149.47**	**340**	*e*PKP		PKPbc	23 44 00.8	-0.4
KSP				*e*pPKP		pPKPdf	23 46 09.0	+8.8
NRDL	**Niedersach Rie**	**149.51**	**348**	*e*PKPbc		PKPbc	23 44 00.0	-1.3
NRDL				*e*PKPab		PKPab	23 44 07.4	-1.1
KBI1	**Birley Grange**	**149.63**	**2**	⇑*e*P		PKPbc	23 44 00.2	-1.4
OKC	**Ostrava-Krasne**	**149.70**	**337**	⇑*e*PKP		PKPbc	23 44 01.4	-0.4
UPC	**Upice**	**149.85**	**340**	⇑*e*PKP		PKPbc	23 44 01.7	-0.4
KWE	**Weaver Farm**	**149.85**	**3**	⇑*e*P		PKPbc	23 44 00.6	-1.5
KECS	**Kecovo**	**149.88**	**333**	*e*PKP		PKPbc	23 44 02.3	+0.1
KECS				*e*			23 46 07.0	
KECS	**Kecovo**	**149.88**	**333**	*e*PKP		PKPbc	23 44 02.4	+0.2
KECS				*e*			23 46 07.0	
SBD1	**Bryn Du**	**149.88**	**4**	*e*P		PKPbc	23 44 00.7	-1.5
DPC	**Dobruska-Polom**	**149.89**	**340**	⇑*e*PKP		PKPbc	23 44 02.2	0.0
MORC	**Moravsky Berou**	**149.97**	**338**	⇑*i*P		PKPbc	23 44 01.9	-0.5
MORC	**Moravsky Berou**	**149.97**	**338**	*e*PKPdf		PKPdf	23 43 55.8	-1.0
MORC				*e*PKPbc		PKPbc	23 44 02.3	-0.1
CLL	**Collm**	**149.99**	**344**	*e*PKPbc		PKPbc	23 44 01.6	-0.8
CLL				*e*PKPab		PKPab	23 44 09.8	-0.7
CLL				*e*pPKPbc		pPKPbc	23 46 11.5	+6.2
CLL	**Collm**	**149.99**	**344**	*e*PKIKP		PKPdf	23 43 56.0	-0.9
CLL				*i*			23 44 09.7	
CLL	**Collm**	**149.99**	**344**	*e*PKPdf		PKPdf	23 43 56.0	-0.9
CLL				⇑*i*PKPbc		PKPbc	23 44 01.6	-0.8
	comp=Z,96nm,0.9s							
CLL				*i* PKPab		PKPab	23 44 09.7	-0.8
	comp=Z,17nm,0.7s							
CLL				*e*pPKPbc		pPKPbc	23 46 10.0	+4.7
CLZ	**Clausthal**	**150.08**	**348**	*e*PKPbc		PKPbc	23 44 02.2	-0.5
BRG	**Berggiesshubel**	**150.14**	**343**	*e*PKPbc		PKPbc	23 44 02.2	-0.6
BRG	**Berggiesshubel**	**150.14**	**343**	*e*PKP		PKPdf	23 43 56.3	-0.8
	comp=Z,5.8nm,1.3s							
BRG				*i*			23 44 02.2	
	comp=Z,36nm,1.0s							
BRG				*e*pPKP		pPKPdf	23 46 10.5	+9.2
	comp=Z,4.4nm,1.0s							
DRGR		**150.14**	**328**	⇑*i*P		PKPbc	23 44 02.4	-0.4
DRGR		**150.14**	**328**	⇑*i*P		pPKPbc	23 46 07.4	+1.8
DRGR		**150.14**	**328**	⇑P		PKPbc	23 44 02.4	-0.4
FBE	**Freiberg**	**150.25**	**343**	*e*PKPbc		PKPbc	23 44 02.6	-0.4
FBE				*e*PKPab		PKPab	23 44 11.4	-0.2
FBE				*e*pPKPbc		pPKPbc	23 46 11.1	+5.2
PVCC	**Panska Ves**	**150.27**	**342**	⇑*e*PKP		PKPbc	23 44 03.0	-0.1
HLM1	**Long Mynd**	**150.29**	**4**	⇑*e*P		PKPbc	23 44 01.6	-1.5
AEU	**East Anglia Un**	**150.30**	**359**	*e*P		PKPbc	23 44 02.2	-1.0
VYHS	**Vyhne**	**150.54**	**335**	*i* PKP		PKPbc	23 44 02.9	-0.8
VYHS				*e*			23 46 11.9	
WTSB	**Winterswijk**	**150.55**	**352**	*e*PKiKP		PKiKP	23 44 02.6	-1.6
	comp=Z,98nm,0.5s							
PSZ	**Piszkesteto**	**150.57**	**333**	⇓*i*P		PKPbc	23 44 03.7	-0.1
PSZ	**Piszkesteto**	**150.57**	**333**	P		PKPbc	23 44 03.4	-0.4
VRAC	**Vranov**	**150.69**	**338**	PKPbc		PKPbc	23 44 03.0	-1.1
	comp=Z,7.6nm,0.9s,baz=86,slow=0.5,SNR=9.9							
VRAC				PKPab		PKPab	23 44 13.3	-0.2
	comp=Z,1.0nm,0.3s,baz=120,slow=3.1,SNR=4.2							
VRAC	**Vranov**	**150.69**	**338**	⇑*i*P		PKPbc	23 44 04.0	-0.1
VRAC	**Vranov**	**150.69**	**338**	P		PKPbc	23 44 03.9	-0.2
PRU	**Pruhonice**	**150.76**	**341**	⇑*e*PKP		PKPbc	23 44 03.7	-0.5
PRU				*e*PKPAB		PKPab	23 44 14.0	+0.3
MCH1	**Michaelchurch**	**150.81**	**4**	⇑*e*P		PKPbc	23 44 02.7	-1.6
MCH1				*e*P			23 44 02.7	
MCH1				AMb		AMB	23 44 06.1	
	comp=Z,34nm,2.2s							
MOX	**Moxa**	**150.94**	**345**	*e*PKPbc		PKPbc	23 44 03.7	-0.9
MOX	**Moxa**	**150.94**	**345**	*e*PKP		PKPbc	23 44 04.0	-0.6
	comp=Z,30nm,1.1s							
MOX				*e*			23 44 13.9	
TANN	**Tannenbergstha**	**150.94**	**344**	*e*PKPbc		PKPbc	23 44 04.2	-0.4
WERD	**Werda**	**150.95**	**344**	*e*PKPbc		PKPbc	23 44 04.1	-0.6
WERD				*e*PKPab		PKPab	23 44 13.7	-0.8
BUG	**Bochum--Univer**	**151.00**	**351**	*e*PKPbc		PKPbc	23 44 03.7	-1.1
GUNZ	**Gunzen**	**151.03**	**344**	*e*PKPbc		PKPbc	23 44 04.5

*IDC **26** 23:58:39.3±1.4, 7°08'×155°62'E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/14, mbtmp4.0/5, ML4.3/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/21, Error ellipse: s-maj=35.3km s-min=28.9km az=108.0*
*ISCJB **26** 23:58:42.2±5.1, 73°S±02'×1557'E±02, h37km±54km, mb3.7/5, Error ellipse: s-maj=37.9km s-min=22.4km az=131.4*
*NEIC **26** 23:58:43.6±0.9, 7°31'S×155°65'E, h35km, mb3.8/1, Error ellipse: s-maj=24.3km s-min=15.5km az=186.0*

ISC 26 23:58:43.6±7.3, 73°S±02'×155°69'E±008, h32km±54km, n10, σ1°04/9, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.74**	**117**	Pn	**Pn**	**23 59 52.7**	**0.0**
	13nm,0.3s,baz=284,slow=8.8,SNR=4.2						
HNR				Sn	**Sn**	**00 00 46.5**	**0.0**
	21nm,0.3s,baz=269,slow=23,SNR=4.6						
HNR				LR	LR	00 00 58.0	
	comp=Z,88nm,21.0s,baz=179,slow=28						
PMG	**Port Moresby**	**8.70**	**255**	LR	LR	00 03 57.1	
	comp=Z,93nm,19.3s,baz=267,slow=37						
CTA	**Charters Tower**	**15.70**	**215**	LR	LR	00 06 43.8	
	comp=Z,40nm,18.3s,baz=232,slow=31						
WRAB	**Tennant Creek**	**24.23**	**237**	*eP*	**P**	**00 03 57.5**	**+0.2**
	2.6nm,0.8s,mb3.7						
WB2	**Warramunga Arr**	**24.23**	**237**	*eP*	**P**	**00 03 55.1**	**-2.2**
WRA	**Warramunga Arr**	**24.24**	**237**	P	**P**	**00 03 57.3**	**-0.1**
	0.7nm,0.5s,mb3.4,baz=61,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**26.52**	**230**	P	**P**	**00 04 21.3**	**+3.2**
	0.2nm,0.6s,mb2.8,baz=60,slow=9.2,SNR=3.9						
MBWA	**Marble Bar**	**37.38**	**245**	P	**P**	**00 05 53.9**	**+0.7**
SONM	**Songino Array**	**69.92**	**327**	P	**P**	**00 09 52.1**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=139,slow=6.7,SNR=11						
MKAR	**Makanchi Array**	**84.05**	**319**	P	**P**	**00 11 10.2**	**-0.7**
	3.7nm,0.8s,mb4.6,baz=102,slow=5.6,SNR=23						

ATH 27 00:16:50.1, 34°65'N×24°96'E, h24km±7km, MD3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.65**	**69**	*e*PN	Pn	00 17 03.0	-0.7
GVD	**Gavdhos**	**0.74**	**285**	*e*PN	Pn	00 17 05.0	-0.1
NPS	**Neapolis**	**0.81**	**41**	*e*PB	Pb	00 17 05.3	-0.2
NPS				*e*SN	Sn	00 17 16.9	-0.4
VAM	**Vamos**	**0.98**	**321**	*e*PB	Pb	00 17 07.8	-0.6
VAM				*e*SN	Sn	00 17 23.5	+2.1
KARP	**Karpathos**	**2.02**	**63**	*e*PN	Pn	00 17 25.0	+2.4

IDC 27 00:19:35.3±2.1, 31°2S×128°53E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx2.5/26, Error ellipse: s-maj=141.0km s-min=27.3km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.66**	**162**	P	Pn	00 23 42.4	-0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.08**	**166**	P	P	00 24 20.9	-0.2
	2.6nm,0.7s,baz=349,slow=10.0,SNR=28						
RPZ	**Rata Peaks**	**55.19**	**143**	LR	LR	00 50 29.0	
	comp=Z,110nm,20.3s,baz=14,slow=34						
MKAR	**Makanchi Array**	**64.20**	**327**	P	P	00 30 12.4	+0.6
	0.4nm,0.6s,baz=118,slow=8.5,SNR=5.0						

*NEIC **27** 00:23:44.3, 37°24S×177°80E, h33km, ML3.7(WEL), After WEL.*

WEL 27 00:23:42.8±0.2, 37°26S×177°82E, h71km±2km, ML3.8/5, 2D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.49**	**129**	P	Pn	00 23 55.0	-0.6
MXZ	**Matakaoa Point**	**0.49**	**129**	P*	Pn	00 23 55.0	-0.7
MXZ				*e*S*	Sn	00 24 06.2	+1.1
WIZ	**White Island**	**0.57**	**242**	P	Pn	00 23 56.2	-0.2
WIZ				S	Sn	00 24 05.3	-1.1
WIZ	**White Island**	**0.57**	**242**	P*	Pn	00 23 56.2	-0.2
WIZ				S*	Sn	00 24 06.4	0.0
PUZ	**Puketiti**	**0.89**	**157**	P	Pn	00 23 59.9	0.0
PUZ	**Puketiti**	**0.89**	**157**	PN	Pn	00 23 59.9	-0.1
PUZ				*e*SN	Sn	00 24 12.3	-0.3
MWZ	**Matawai**	**1.10**	**192**	P	Pn	00 24 02.8	+0.2
MWZ	**Matawai**	**1.10**	**192**	P*	Pn	00 24 02.8	+0.2
MWZ				S*	Sn	00 24 17.3	-0.1
MWZ				S*	Sn	00 24 17.6	+0.2
URZ	**Urewera**	**1.15**	**209**	⇓P	Pn	00 24 03.3	+0.1
URZ	**Urewera**	**1.15**	**209**	⇓P*	Pn	00 24 03.3	0.0
URZ				S*	Sn	00 24 18.3	-0.2
MARZ	**Manawahe**	**1.17**	**231**	P	Pn	00 24 03.5	+0.1
MARZ	**Manawahe**	**1.17**	**231**	P*	Pn	00 24 03.5	+0.1
TAZ	**Tarawera**	**1.43**	**226**	P	Pn	00 24 08.1	+1.3
TAZ	**Tarawera**	**1.43**	**226**	P*	Pn	00 24 08.1	+1.3
KUZ	**Kuaotunu**	**1.76**	**286**	P	Pn	00 24 11.0	-0.2
KUZ	**Kuaotunu**	**1.76**	**286**	PN	Pn	00 24 11.0	-0.2
KUZ				SN	Sn	00 24 32.2	-0.5
KNZ	**Kokohu**	**1.77**	**184**	*e*P	Pn	00 24 10.8	-0.5
KNZ	**Kokohu**	**1.77**	**184**	*e*PN	Pn	00 24 10.8	-0.5
BKZ	**Black Stump Fm**	**2.18**	**208**	P	Pn	00 24 16.8	0.0
BKZ	**Black Stump Fm**	**2.18**	**208**	PN	Pn	00 24 16.8	0.0
MOVZ	**Moawhango**	**2.69**	**217**	P	Pn	00 24 23.5	-0.3
MOVZ	**Moawhango**	**2.69**	**217**	PN	Pn	00 24 23.5	-0.4
WNVZ	**Wahianoa**	**2.71**	**220**	P	Pn	00 24 24.3	+0.3
WNVZ	**Wahianoa**	**2.71**	**220**	PN	Pn	00 24 24.3	+0.3
MTVZ	**Mangateitei**	**2.82**	**220**	*e*PN	Pn	00 24 25.8	+0.2
PXZ	**Pawanui**	**2.87**	**195**	*e*PN	Pn	00 24 23.6	-2.6
BFZ	**Birch Farm**	**3.63**	**199**	P	Pn	00 24 34.0	-2.6
BFZ	**Birch Farm**	**3.63**	**199**	PN	Pn	00 24 34.0	-2.6
KIW	**Kapiti Island**	**4.25**	**211**	*e*PN	Pn	00 24 41.7	-3.4
TRWZ	**Traveller**	**4.46**	**201**	*e*PN	Pn	00 24 44.0	-3.9
SNZO	**South Karori**	**4.71**	**210**	*e*PN	Pn	00 24 46.9	-4.5
TCW	**Tory Channel**	**4.81**	**214**	*e*PN	Pn	00 24 48.9	-3.8
TUWZ	**Tuamarina**	**5.14**	**215**	*e*PN	Pn	00 24 53.3	-3.9

*SKHL **27** 00:26:56.6±3.5, 47.00N×154.90E, h53km±16km, mb4.6/3*
*IDC **27** 00:26:56.5±0.7, 47°51N×154.02E, h0km, mb3.9/15, mb1 4.1/15, mb1mx4.1/23, mbtmp3.9/15, MS2.8/1, Ms1 2.8/1, ms1mx2.5/29, Error ellipse: s-maj=21.0km s-min=18.2km az=138.0*
*NEIC **27** 00:26:58.6±0.6, 47°62'N×153°95'E, h10km, mb4.1/2, Error ellipse: s-maj=14.7km s-min=8.3km az=147.0*
*MOS **27** 00:27:01.3±1.4, 47°63'N×154°03'E, h44km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=9.8km az=66.5*
*ISCJB **27** 00:27:02.3±1.2, 47°53'N±008×154.1E±01, h53km±9km, mb4.2/21, Error ellipse: s-maj=17.8km s-min=6.2km az=89.5*

ISC 27 00:27:04.4±1.1, 47°56'N±008×154°1E±01, h58km±8km, n60, σ0°96/65, mb4.2/21, 2C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.39**	**22**	*e*P	**Pn**	**00 27 54.0**	**-0.8**
SKR				AMB	AMB	00 27 54.6	
	50nm,0.5s						
SKR				*e*S	**Sn**	**00 28 34.5**	**+0.7**
SKR				A		00 28 44.5	
	130nm,0.5s						
SKR				A		00 28 44.5	
	150nm,0.5s						
SKR	**Severo-Kuril's**	**3.39**	**22**	*e*PN	**Pn**	**00 27 54.0**	**-0.8**
SKR				*e*S	**Sn**	**00 28 34.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=N,130nm,0.6s						
KUR	**Kuril'sk**	**4.91**	**244**	*e*P	**Pn**	**00 28 11.0**	**-4.6**
KUR				AMB	AMB	00 28 13.5	
	comp=N,152nm,0.5s						
KUR				*e*S	**Sn**	**00 29 09.5**	**-1.6**
KUR				A		00 29 22.0	
	comp=N,344nm,0.7s						
KUR				A		00 29 22.0	
	comp=N,172nm,0.7s						
KUR	**Kuril'sk**	**4.91**	**244**	*e*PN	**Pn**	**00 28 11.0**	**-4.6**
KUR				*i* S	**Sn**	**00 29 09.5**	**-1.6**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,340nm,0.7s						
KUR				smax			
	comp=E,170nm,0.7s						
PET	**Petropavlovsk**	**6.19**	**26**	*e*PN	**Pn**	**00 28 29.8**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**6.76**	**242**	*e*P	**Pn**	**00 28 40.1**	**-0.8**
YUK				*e*S	**Sn**	**00 29 57.5**	**+1.0**
YUK				A		00 30 18.7	
	comp=E,260nm,0.6s						
YUK				A		00 30 18.7	
	comp=E,210nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.75**	**270**	⇑*i*P	**Pn**	**00 28 55.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.75**	**270**	*e*Pn	**Pn**	**00 28 48.3**	**-6.2**
	comp=E,26nm,0.8s						
TYV	**Tymovskoe**	**8.20**	**298**	*e*P	**Pn**	**00 29 02.8**	**+2.2**
TYV				AMB	AMB	00 29 03.5	
	comp=E,11nm,0.7s						
ASAJ	**Asahikawa**	**8.75**	**251**	Pn	**Pn**	**00 29 09.7**	**+1.6**
	comp=E,1.3nm,0.3s,baz=88,slow=20,SNR=9.1						
ASAJ				LR	LR	00 32 16.8	
	comp=E,67nm,19.7s,baz=179,slow=37						
MJAR	**Matsushiro Arr**	**16.11**	**233**	Pn	**Pn**	**00 30 47.3**	**+0.2**
	comp=E,0.5nm,0.3s,baz=31,slow=9.2,SNR=6.0						
MJAR	**Matsushiro Arr**	**16.11**	**233**	P	**Pn**	**00 30 47.3**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.25**	**269**	*e*Pn	**Pn**	**00 30 56.6**	**-4.6**
	comp=Z,4.0nm,0.3s						
KSRS	**Korea Array**	**21.70**	**252**	P	**P**	**00 31 50.1**	**-0.3**
	comp=Z,2.4nm,0.6s,mb3.8,baz=44,slow=11,SNR=4.4						
HIA	**Hailar**	**22.77**	**287**	P	**P**	**00 31 59.9**	**-1.9**
SONM	**Songino Array**	**31.72**	**289**	P	**P**	**00 33 21.5**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=74,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**00 35 29.5**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=72,slow=7.4,SNR=7.6						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**00 35 29.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	**Resolute Bay**	**49.85**	**19**	P	**P**	**00 35 51.2**	**-0.5**
YKA	**Yellowknife Ar**	**49.87**	**37**	P	**P**	**00 35 52.5**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=300,slow=7.2,SNR=4.1						
YKA				PcP	PcP	00 37 11.2	-0.4
	comp=Z,0.3nm,0.6s,baz=304,slow=3.7,SNR=4.4						
YKA	**Yellowknife Ar**	**49.87**	**37**	P	**P**	**00 35 52.5**	**+0.7**
YKA						00 37 11.2	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**00 35 58.5**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=58,slow=7.3,SNR=4.6						
BVAR	**Borovoye Array**	**50.87**	**309**	P	**P**	**00 35 58.5**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**50.91**	**273**	P	**P**	**00 36 00.8**	**+1.1**
BRVK	**Borovoye**	**50.91**	**309**	*e*P	**P**	**00 35 59.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**50.91**	**309**	*e*P	**P**	**00 35 59.2**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.3						
ARU	**Arti**	**54.88**	**317**	*e*P	**P**	**00 36 28.0**	**-0.9**
ARU	**Arti**	**54.88**	**317**	*e*P	**P**	**00 36 28.0**	**-0.9**
GUN	**Gumba**	**55.61**	**275**	*e*P	**P**	**00 36 34.6**	**+0.4**
KKN	**Kakani**	**56.09**	**275**	*e*P	**P**	**00 36 38.6**	**+1.0**
	comp=Z,11nm,0.8s,mb4.9						
PKI	**Pulchoki**	**56.15**	**275**	*e*P	**P**	**00 36 38.6**	**+0.6**
	comp=Z,8.3nm,0.6s,mb5.0						
DMN	**Daman**	**56.33**	**275**	*e*P	**P**	**00 36 40.3**	**+1.0**
	comp=Z,18nm,0.8s,mb5.2						
KOLN	**Koldanda**	**57.24**	**277**	*e*P	**P**	**00 36 46.3**	**+0.5**
	comp=Z,13nm,0.9s,mb5.0						
ARCES	**ARCESS Array B**	**57.31**	**341**	P	**P**	**00 36 46.2**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=24,slow=8.9,SNR=2.4						
ARCES	**ARCESS Array B**	**57.31**	**341**	P	**P**	**00 36 46.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**00 37 28.1**	**-1.0**
	comp=Z,1.6nm,0.4s,mb4.4,baz=39,slow=7.2,SNR=30						
FINES	**FINESS Array B**	**63.60**	**335**	P	**P**	**00 37 28.1**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**63.72**	**55**	P	**P**	**00 37 30.2**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=318,slow=2.0,SNR=5.3						
NB2	**NORSAR Subarra**	**67.68**	**341**	P	**P**	**00 37 55.5**	**+0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.68**	**341**	P	**P**	**00 37 55.3**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=30,slow=7.1,SNR=3.6						
NOA	**NORSAR Array B**	**67.68**	**341**	P	**P**	**00 37 55.3**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**70.18**	**209**	P	**P**	**00 38 09.9**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=0.0,slow=3.0,SNR=3.8						
AKASG	**Malin Array Be**	**71.25**	**327**	P	**P**	**00 38 16.8**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.2,baz=34,slow=6.2,SNR=4.4						
AKASG	**Malin Array Be**	**71.25**	**327**	P	**P**	**00 38 16.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**73.19**	**199**	P	**P**	**00 38 28.8**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=8.6,slow=5.5,SNR=18						
ASAR	**Alice Springs**	**73.19**	**199**	P	**P**	**00 38 28.8**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BURAR	**Bucovina Array**	**75.29**	**327**	⇓*i*P	**P**	**00 38 41.3**	**+0.1**
CLL	**Collm**	**76.01**	**336**	⇓*i*P	**P**	**00 38 45.3**	**-0.1**
CLL	**Collm**	**76.01**	**336**	⇓*i*P	**P**	**00 38 45.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.7						
MORC	**Moravsky Berou**	**76.04**	**333**	⇓*i*P	**P**	**00 38 46.0**	**+0.5**
TXAR	**Lajitas Array**	**76.50**	**61**	P	**P**	**00 38 49.0**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=303,slow=4.7,SNR=11						
TXAR	**Lajitas Array**	**76.50**	**61**	P	**P**	**00 38 49.0**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**76.50**	**61**	P	**P**	**00 38 49.0**	**+0.8**
MLR	**Muntele Rosu**	**76.79**	**325**	⇓*i*P	**P**	**00 38 50.8**	**+1.0**
MALT	**Malatya**	**77.10**	**313**	⇑*i*P	**P**	**00 38 53.0**	**+1.5**
GERES	**GERESS Array B**	**78.02**	**335**	P	**P**	**00 38 56.5**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=39,slow=6.0,SNR=11						
GERES	**GERESS Array B**	**78.02**	**335**	P	**P**	**00 38 56.5**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.27**	**317**	P	**P**	**00 38 58.7**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=68,slow=2.4,SNR=9.1						
BRTR	**Keskin Array B**	**78.27**	**317**	P	**P**	**00 38 58.7**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BZS	**Buzias**	**78.29**	**328**	⇓*i*P	**P**	**00 38 57.9**	**-0.3**

*ISCJB **27** 00:44:05.3±0.4, 61°51'N±003×141.19W±005, h1km, Error ellipse: s-maj=4.8km s-min=3.1km az=42.5*
*PGC **27** 00:44:06.1±2.5, 61°53'N×141°37'W, h1km, ML3.5/4, 223km northwest of Haines Jct., Yt Southern Alaska*
*NEIC **27** 00:44:10.3, 61°38'N×141°27'W, h1km, ML3.1(AEIC), ML3.5(PMR), After AEIC.*

ISC 27 00:44:06.2±0.4, 61°54'N±003×141°24'W±004, h1km, n23, σ1°39/37, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMRM	**Bremner River**	**1.72**	**252**	P	**Pn**	**00 44 38.9**	**+1.6**
MENT	**Mentasta**	**1.82**	**321**	*e*P	**Pg**	**00 44 41.2**	**+0.1**
HYT	**Haines Junctio**	**1.95**	**110**	Trac			
HYT	**Haines Junctio**	**1.95**	**110**	Pn	**Pn**	**00 44 40.7**	**+0.3**
HYT				Sg	**Sg**	**00 45 08.0**	**-0.8**
PNL	**Peninsula**	**2.09**	**153**	P	**Pn**	**00 44 43.5**	**+1.2**
DIV	**Divide**	**2.22**	**261**	*e*Pn	**Pg**	**00 44 48.7**	**-0.2**
DIV				*e*Sn	**Sg**	**00 45 15.7**	**-2.0**
EYAK	**Cordova Ski Ar**	**2.41**	**248**	*e*Pn	**Pg**	**00 44 51.4**	**-1.0**
EYAK				*e*Sn	**Sb**	**00 45 19.2**	**-1.3**
DAWY	**Dawson**	**2.67**	**18**	Trac			
DAWY	**Dawson**	**2.67**	**18**	Pn	**Pn**	**00 44 51.1**	**+0.7**
DAWY				Sg	**Sg**	**00 45 30.0**	**-2.1**
DAWY	**Dawson**	**2.67**	**18**	*e*Pn	**Pn**	**00 44 51.1**	**+0.7**
DAWY				*e*Sn	**Sb**	**00 45 29.1**	**+0.9**
PLBC	**Pleasant Camp**	**3.19**	**129**	Trac			
PLBC	**Pleasant Camp**	**3.19**	**129**	Pn	**Pn**	**00 44 57.5**	**-0.1**
PLBC				Pg	**Pg**	**00 45 03.7**	**-3.7**
PLBC				Sg	**Sg**	**00 45 47.1**	**-1.7**
WHY	**Whitehorse**	**3.21**	**103**	Trac			
WHY	**Whitehorse**	**3.21**	**103**	Pn	**Pn**	**00 44 57.5**	**-0.4**
WHY				Sn	**Sn**	**00 45 36.9**	**+0.1**
WHY				Sg	**Sg**	**00 45 47.1**	**-2.4**
EGAK	**Eagle**	**3.25**	**1**	*e*Pn	**Pn**	**00 45 00.6**	**+2.3**
EGAK				*e*Sn	**Sb**	**00 45 44.7**	**-0.1**
SML	**Sawmill**	**3.39**	**278**	*e*Pn	**Pn**	**00 45 03.1**	**+2.9**
SML				*e*Sn	**Sn**	**00 45 43.5**	**+2.4**
SKAG	**Skagway**	**3.59**	**123**	*e*P	**Pn**	**00 45 04.8**	**+1.8**
SKAG				*e*Sn	**Sn**	**00 45 48.1**	**+2.0**
PMR	**Palmer**	**3.77**	**274**	*e*P	**Pb**	**00 45 13.3**	**-0.4**
MCK	**McKinley**	**4.18**	**305**	*e*Pn	**Pn**	**00 45 17.5**	**+6.4**
MCK				*e*Pg	**Pg**	**00 45 26.1**	**-0.2**
COLA	**College**	**4.49**	**321**	*e*Pn	**Pb**	**00 45 23.2**	**-2.6**
COLA				*e*Sn	**Sb**	**00 46 19.7**	**-0.7**
SLKM	**Skilak Lake**	**4.49**	**261**	*e*Pn	**Pn**	**00 45 19.7**	**+4.3**
SLKM				*e*Sn	**Sn**	**00 46 12.2**	**+3.9**
DLBC	**Dease Lake**	**6.43**	**114**	Pg	**Pg**	**00 46 02.2**	**-7.2**
DLBC				Sg	**Sg**	**00 47 26.0**	**-6.7**
DLBC	**Dease Lake**	**6.43**	**114**	*e*Pn	**Pn**	**00 45 41.9**	**-0.1**
DLBC				*e*Pg	**Pg**	**00 46 00.9**	**-8.5**
DLBC				*e*Sg	**Sg**	**00 47 34.6**	**+1.9**

*IDC **27** 00:46:07.9±1.8, 34°11'S×178°84'W, h0km, mb4.0/3, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, ML4.5/1, Error ellipse: s-maj=40.1km s-min=34.7km az=114.0*
*ISCJB **27** 00:46:08.9±5.7, 34.1°S±0.1×178.9°W±0.3, h15km±38km, mb3.9/5, Error ellipse: s-maj=37.8km s-min=17.1km az=25.4*
*NEIC **27** 00:46:13.5±1.4, 34.11°S×178.95°W, h35km, mb3.8/2, Error ellipse: s-maj=27.4km s-min=20.1km az=84.0*

ISC 27 00:46:10.1±7.0, 341°S±01'×178°8W±03, h15km±45km, n11, σ0°75/10, mb3.9/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.32**	**217**	Pn	**Pn**	**00 47 28.7**	**-0.2**
	16nm,0.3s,baz=287,slow=1.9,SNR=102						
URZ				Sn	**Sn**	**00 48 29.9**	**0.0**
	6.6nm,0.3s,baz=135,slow=20,SNR=9.3						
TAU	**Tasmania Unive**	**27.78**	**241**	P	**P**	**00 51 59.0**	**+0.7**
CTA	**Charters Tower**	**33.90**	**285**	P	**P**	**00 52 54.0**	**+1.8**
	1.4nm,0.5s,mb4.2,baz=114,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**42.36**	**271**	P	**P**	**00 54 03.4**	**-0.2**
	1.2nm,0.7s,mb3.6,baz=112,slow=7.8,SNR=11						
WB2	**Warramunga Arr**	**43.67**	**276**	*e*P	**P**	**00 54 13.5**	**-0.7**
WRAB	**Tennant Creek**	**43.68**	**276**	*e*P	**P**	**00 54 13.8**	**-0.4**
	2.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**43.68**	**276**	P	**P**	**00 54 13.3**	**-0.9**
	1.9nm,0.6s,mb4.0,baz=117,slow=7.5,SNR=45						
WRA	**Warramunga Arr**	**43.68**	**276**	P	**P**	**00 54 13.3**	**-0.9**
SNAA	**Sanae**	**74.51**	**179**	*e*P	**P**	**00 57 48.0**	**+0.1**
	0.2nm,0.4s,mb3.4						
FINES	**FINESS Array B**	**148.31**	**337**	PKPbc	PKPbc	01 05 55.0	-0.6
	1.8nm,0.5s,baz=54,slow=3.3,SNR=15						
TORD	**Torodi Ar. Bea**	**159.16**	**181**	PKPab	PKPab	01 06 44.5	0.0
	0.3nm,0.6s,baz=203,slow=4.4,SNR=4.5						

*ISCJB **27** 00:46:37.6±0.4, 39°05N±003×21°99E±003, h10km±3km, Error ellipse: s-maj=4.6km s-min=4.3km az=78.7*
*ATH **27** 00:46:38.2, 39°03N×21°92E, h14km±2km, MD3.2/9*
*CSEM **27** 00:46:38.3±0.1, 39°06N×21°93E, h15km, ML3.4, Error ellipse: s-maj=2.2km s-min=1.5km az=7.0*
*NEIC **27** 00:46:38.2, 39°03N×21°92E, h14km, MD3.2(ATH), ML3.4(THE), After ATH.*
*THE **27** 00:46:39.7, 39°06N×21°99E, h20km, ML3.3*
*SOF **27** 00:46:49.2, 39°76N×22°74E, h10km, MD2.6*

ISC 27 00:46:38.4±0.4, 3903N±003×2198E±003, h10km±3km, n43, σ1°26/65, 1C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.18**	**229**	⇓*i*PG	**Pg**	**00 46 42.0**	**-0.2**
EVR				*e*SG	**Sg**	**00 46 45.0**	**+0.2**
AGG	**Agios Georgios**	**0.27**	**92**	*e*Pg	**Pg**	**00 46 45.2**	**+1.3**
THL	**Klokotos Trika**	**0.53**	**3**	⇓*i*PB	**Pg**	**00 46 48.0**	**-0.7**
THL				*e*SB	**Sg**	**00 46 56.3**	**+0.6**
LKR	**Lokris**	**0.88**	**115**	*e*PG	**Pg**	**00 46 55.6**	**+0.2**
XOR	**Xorichti**	**1.00**	**70**	*e*Pg	**Pg**	**00 46 57.6**	**0.0**
NEO	**Neokhori**	**1.00**	**74**	*e*PG	**Pg**	**00 46 57.5**	**-0.2**
NEO				*e*SB	**Sb**	**00 47 13.4**	**+2.3**
RLS	**Riolos of Patr**	**1.05**	**203**	*e*PG	**Pg**	**00 46 57.7**	**-1.0**
JAN	**Janina**	**1.07**	**306**	*e*PG	**Pg**	**00 46 57.7**	**-1.3**
LKD	**Levkas**	**1.09**	**253**	*e*Pg	**Pg**	**00 46 58.1**	**-1.1**
LIT	**Litokhoron**	**1.14**	**20**	*e*Pg	**Pg**	**00 46 59.7**	**-0.5**
KZN	**Kozani**	**1.28**	**353**	*e*PN	**Pg**	**00 47 01.2**	**-1.1**
KZN				*e*SB	**Sb**	**00 47 21.5**	**+2.4**
IGT	**Igoumenitsa**	**1.37**

	0.4nm,0.2s,SNR=7.9							
EMIN					Lg		00 47 32.1	
	1.0nm,0.1s,SNR=5.0							
PESTR	**Estremoz**	**1.64**	**24**	*e*Pn	Pn		00 47 16.6	-0.2
PESTR				*e*Sn	Sn		00 47 36.9	-1.6
EBAD	**Badajoz**	**1.78**	**39**	Pg	Pg		00 47 19.3	-1.6
	0.4nm,0.1s,SNR=8.3							
EBAD				Lg			00 47 41.8	
	2.8nm,0.1s,SNR=7.9							
ESPR	**Espera**	**2.12**	**103**	Pg	Pg		00 47 25.9	-1.6
	1.3nm,0.2s,SNR=7.9							
ESPR				Lg			00 47 55.4	
	2.4nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**3.16**	**74**	Sn	Sn		00 48 11.3	-4.9
	0.2nm,0.1s,SNR=7.9							
EADA				Lg			00 48 24.6	
	SNR=7.9							

IDC 27 00:48:41.6±4.7, 712S×15520E±8, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=131.0km s-min=37.8km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.23**	**116**	LR	LR	00 51 11.5	
	comp=Z,83nm,18.7s,baz=180,slow=29						
WRA	**Warramunga Arr**	**23.92**	**236**	P	P	00 53 57.4	+0.3
	0.5nm,0.6s,baz=61,slow=9.6,SNR=7.0						
SONM	**Songino Array**	**69.55**	**327**	P	P	00 59 52.8	+0.6
	0.7nm,0.7s,baz=142,slow=4.9,SNR=5.4						
MKAR	**Makanchi Array**	**83.63**	**319**	P	P	01 01 11.9	0.0
	1.9nm,0.8s,baz=108,slow=5.2,SNR=12						

ISCJB 27 00:49:04.0±1.2, 4063N±004×12529W±009, h19km, Error ellipse: s-maj=10.3km s-min=5.7km az=173.9
NEIC 27 00:49:05.9, 4065N×12536W, h19km, MD3.1(NCEDC), After NCEDC.

ISC 27 00:49:06.3±1.7, 4065N±004×1252W±01, h28km±11km, n18, σ0§83/29, 10C-8D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.92**	**79**	P	Pn	00 49 22.8	-0.6
	baz=0.8,SNR=268						
JCC				⇑S	Sb	00 49 35.1	-0.5
	baz=0.8						
O01C	**Eel River Cons**	**1.19**	**115**	⇓P	Pn	00 49 27.5	+0.4
	baz=1.1,SNR=9.2						
O01C				⇑S	Sn	00 49 43.1	+0.9
	baz=1.1						
M01C	**Crescent City**	**1.46**	**34**	⇑P	Pn	00 49 30.7	-0.1
	baz=1.4						
M01C				⇓S	Sn	00 49 47.7	-1.3
	baz=1.4						
N02C	**Big Bar**	**1.47**	**83**	P	Pn	00 49 30.7	-0.2
	baz=1.3,SNR=156						
KCPM	**Cahto Peak**	**1.58**	**127**	*e*Pn	Pn	00 49 32.5	0.0
KCPM				*e*Sn	Sn	00 49 51.0	-1.1
P01C	**Double 8 Ranch**	**1.87**	**128**	⇑P	Pn	00 49 36.0	-0.4
	baz=1.8,SNR=13						
P01C				⇓S	Sn	00 49 57.5	-1.5
	baz=1.8						
O02C	**Red Bluff**	**1.92**	**103**	⇑P	Pn	00 49 37.4	+0.3
	baz=1.8,SNR=116						
M02C	**Callahan**	**1.94**	**67**	⇓P	Pn	00 49 38.0	+0.5
	baz=1.8,SNR=34						
M02C				⇓S	Sn	00 50 01.6	+0.7
	baz=1.8						
WDC	**Whiskeytown Da**	**2.04**	**91**	*e*Pn	Pn	00 49 38.8	0.0
WDC				*e*Sn	Sn	00 50 03.1	-0.4
WDC	**Whiskeytown Da**	**2.04**	**91**	P	Pn	00 49 39.1	+0.2
	baz=1.9,SNR=31						
WDC				⇓S	Sn	00 50 04.3	+0.8
	baz=1.9						
GASB	**Alder Springs**	**2.16**	**117**	⇓P	Pn	00 49 40.8	+0.3
	baz=2.0,SNR=24						
GASB				⇑S	Sn	00 50 06.8	+0.4
	baz=2.0						
YBH	**Yreka Blue Hor**	**2.19**	**59**	*e*Pn	Pn	00 49 43.0	+2.2
YBH				*e*Sn	Sn	00 50 10.5	+3.6
YBH	**Yreka Blue Hor**	**2.19**	**59**	⇑P	Pn	00 49 41.8	+1.0
	baz=2.0,SNR=6.6						
YBH				⇑S	Sn	00 50 08.1	+1.2
	baz=2.0						
K02A	**Glendale**	**2.48**	**31**	⇑S	Sn	00 50 13.5	-0.8
	baz=2.4						
SUTB	**Sutter Butte**	**3.00**	**117**	⇓P	Pn	00 49 51.7	-0.3
	baz=2.9						
ORV	**Oroville**	**3.06**	**110**	⇑P	Pn	00 49 52.8	+0.1
	baz=2.9,SNR=7.4						
CMB	**Columbia Colle**	**4.57**	**123**	Pn	Pn	00 50 12.5	-1.0
GLA	**Glamis**	**11.26**	**129**	Pn	Pn	00 51 46.9	+1.7

IDC 27 00:52:56.2±2.7, 4618N×15419E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=88.2km s-min=23.6km az=5.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.45**	**260**	Pn	Pn	00 55 04.7	+4.8
	0.2nm,0.3s,baz=73,slow=19,SNR=2.3						
SONM	**Songino Array**	**32.23**	**291**	P	P	00 59 24.1	-2.0
	0.2nm,0.6s,baz=68,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**47.86**	**298**	P	P	01 01 36.5	+0.6
	0.3nm,0.6s,baz=81,slow=6.4,SNR=3.2						
BVAR	**Borovoye Array**	**51.79**	**310**	P	P	01 02 07.0	+1.3
	0.5nm,0.5s,baz=57,slow=7.7,SNR=5.4						
ARCES	**ARCESS Array B**	**58.63**	**341**	P	P	01 02 52.8	-2.3
	2.1nm,0.9s,baz=30,slow=9.3,SNR=2.9						
PDAR	**Pinedale Array**	**64.48**	**54**	P	P	01 03 34.6	0.0
	0.5nm,0.6s,baz=298,slow=3.2,SNR=4.8						
FINES	**FINESS Array B**	**64.87**	**335**	P	P	01 03 37.7	+0.5
	1.2nm,0.7s,baz=39,slow=7.1,SNR=4.7						
TXAR	**Lajitas Array**	**77.12**	**61**	P	P	01 04 51.8	+0.3
	1.1nm,0.6s,baz=306,slow=4.1,SNR=17						

IDC 27 00:56:22.1±0.8, 4752N×15393E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/24, mbtmp4.1/15, ML3.9/1, MS3.9/2, Ms1 3.9/2, ms1mx3.0/39, Error ellipse: s-maj=23.8km s-min=18.9km az=166.0
NEIC 27 00:56:23.8±0.4, 4751N×15392E, h10km, mb4.6/3, Error ellipse: s-maj=10.0km s-min=6.2km az=146.0
ISCJB 27 00:56:26.0±1.2, 4745N±007×1540E±01, h38km±9km, mb4.1/16, Error ellipse: s-maj=15.5km s-min=6.2km az=92.6
MOS 27 00:56:25.6±0.9, 4745N×15384E, h37km, mb4.4/12, Error ellipse: s-maj=16.1km s-min=9.8km az=82.7

ISC 27 00:56:29.0±1.0, 4753N±007×1540E±01, h49km±8km, n63, σ1§07/66, mb4.1/16, 2C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.46**	**23**	*e*PN	Pn	00 57 20.0	-0.2
SKR				*e*S	Sn	00 58 01.4	+1.5
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,190nm,0.7s						
SKR				smax			
	comp=E,190nm,0.7s						
SKR				smax			
	comp=Z,140nm,0.5s						
KUR	**Kuril'sk**	**4.80**	**244**	*e*PN	Pn	00 57 36.0	-2.7
KUR				*i* S	Sn	00 58 33.0	-0.1
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,190nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
PET	**Petropavlovsk**	**6.26**	**27**	PN	Pn	00 57 55.6	-3.2
YUK	**Yuzh-Kuril'sk**	**6.66**	**241**	*e*PN	Pn	00 58 12.8	+8.7
YUK				*e*S	Sn	00 59 20.9	+2.3
YUK				smax			
	comp=E,210nm,0.6s						
YUK				smax			
	comp=N,210nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.65**	**270**	⇑*i*PN	Pn	00 58 21.2	+3.4
YSS	**Yuzh-Sakhalins**	**7.65**	**270**	Pn	Pn	00 58 15.3	-2.5
	comp=N,30nm,0.7s						
ASAJ	**Asahikawa**	**8.64**	**251**	Pn	Pn	00 58 34.1	+2.8
	comp=N,0.5nm,0.3s,baz=92,slow=22,SNR=3.6						
ASAJ				LR	LR	01 01 40.5	
	comp=N,86nm,19.1s,baz=318,slow=37						
MJAR	**Matsushiro Arr**	**16.02**	**232**	Pn	Pn	01 00 07.6	-3.2
	comp=N,0.5nm,0.3s,baz=359,slow=32,SNR=4.1						
MJAR	**Matsushiro Arr**	**16.02**	**232**	P	Pn	01 00 07.6	-3.2
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HIA	**Hailar**	**22.68**	**287**	P	P	01 01 24.6	-1.5
SONM	**Songino Array**	**31.63**	**289**	P	P	01 02 47.2	0.0
	comp=Z,0.2nm,0.5s,mb3.2,baz=52,slow=9.6,SNR=2.6						
SONM	**Songino Array**	**31.63**	**289**	P	P	01 02 47.2	0.0
MCK	**McKinley**	**34.68**	**41**	P	P	01 03 13.5	-0.3
COLA	**College**	**35.16**	**39**	*e*P	P	01 03 17.7	-0.3
COLA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
COLA	**College**	**35.16**	**39**	*e*P	P	01 03 17.7	-0.3
	comp=Z,2.5nm,0.5s,mb4.4						
ENH	**Enshi**	**38.08**	**259**	P	P	01 03 43.4	+0.6
INK	**Inuvik**	**40.68**	**33**	P	P	01 04 04.2	-0.3
	comp=Z,1.7nm,0.6s,mb3.9,baz=300,slow=5.7,SNR=4.5						
INK	**Inuvik**	**40.68**	**33**	*e*P	P	01 04 05.6	+1.1
	comp=Z,51nm,0.5s,mb5.4						
MKAR	**Makanchi Array**	**47.10**	**297**	P	P	01 04 55.5	-0.5
	comp=Z,1.3nm,0.8s,mb3.9,baz=68,slow=7.1,SNR=7.5						
MKAR	**Makanchi Array**	**47.10**	**297**	P	P	01 04 55.5	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	P	01 05 17.5	-0.4
	comp=Z,0.6nm,0.6s,mb3.8,baz=296,slow=7.3,SNR=4.3						
YKA				PcP	PcP	01 06 36.5	-1.0
	comp=Z,0.2nm,0.5s,baz=304,slow=3.8,SNR=4.3						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	P	01 05 17.5	-0.4
YKA						01 06 36.5	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	P	01 05 17.6	-0.4
YKA				PcP	PcP	01 06 36.5	-1.0
BVAR	**Borovoye Array**	**50.81**	**309**	P	P	01 05 24.0	-0.4
	comp=Z,1.0nm,0.5s,mb4.0,baz=64,slow=6.1,SNR=6.9						
BVAR	**Borovoye Array**	**50.81**	**309**	P	P	01 05 24.0	-0.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.85**	**309**	*e*P	P	01 05 24.5	-0.2
ARU	**Arti**	**54.83**	**317**	*e*P	P	01 05 53.0	-1.0
ARU	**Arti**	**54.83**	**317**	*e*P	P	01 05 53.0	-1.1
PMG	**Port Moresby**	**57.01**	**188**	P	P	01 06 10.5	+0.9
ARCES	**ARCESS Array B**	**57.30**	**341**	P	P	01 06 10.8	-0.9
	comp=Z,5.5nm,1.1s,mb4.5,baz=53,slow=8.0,SNR=2.6						
ARCES	**ARCESS Array B**	**57.30**	**341**	P	P	01 06 10.8	-0.9
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FINES	**FINESS Array B**	**63.58**	**335**	P	P	01 06 53.7	-0.8
	comp=Z,1.8nm,0.5s,mb4.4,baz=40,slow=7.5,SNR=15						
FINES	**FINESS Array B**	**63.58**	**335**	P	P	01 06 53.7	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**63.58**	**335**	P	P	01 06 53.7	-0.8
PDAR	**Pinedale Array**	**63.82**	**55**	P	P	01 06 56.5	+0.3
	comp=Z,9.9nm,0.8s,mb3.8,baz=321,slow=2.1,SNR=6.5						
RSSD	**Black Hills**	**65.88**	**51**	*e*P	P	01 07 10.0	+0.5
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RSSD	**Black Hills**	**65.88**	**51**	*e*P	P	01 07 10.0	+0.5
	comp=Z,1.6nm,0.5s,mb4.3						
NB2	**NORSAR Subarra**	**67.67**	**341**	P	P	01 07 20.7	-0.2
	comp=Z,1.5nm,0.6s,mb4.2,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**341**	P	P	01 07 20.7	-0.2
	comp=Z,1.1nm,0.6s,mb4.1,baz=26,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**67.67**	**341**	P	P	01 07 20.7	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**69.43**	**200**	P	P	01 07 29.9	-2.0
AKASG	**Malin Array Be**	**71.22**	**326**	P	P	01 07 42.0	-0.8
	comp=Z,1.1nm,0.4s,mb4.2,baz=34,slow=6.4,SNR=7.3						
AKASG	**Malin Array Be**	**71.22**	**326**	P	P	01 07 42.0	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.14**	**199**	P	P	01 07 54.2	0.0
	comp=Z,1.4nm,0.6s,mb4.0,baz=11,slow=5.6,SNR=16						
ASAR	**Alice Springs**	**73.14**	**199**	P	P	01 07 54.2	-0.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STHS	**Stebnicka Huta**	**75.13**	**330**	*e*P	P	01 08 07.1	+1.2
BURAR	**Bucovina Array**	**75.25**	**327**	⇓*i*P	P	01 08 06.6	0.0
CLL	**Collm**	**75.99**	**336**	⇓*i*P	P	01 08 10.8	0.0
CLL	**Collm**	**75.99**	**336**	⇓*i*P	P	01 08 10.8	0.0
TXAR	**Lajitas Array**	**76.61**	**61**	P	P	01 08 14.9	+0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=290,slow=4.3,SNR=14						
TXAR	**Lajitas Array**	**76.61**	**61**	P	P	01 08 14.9	+0.6
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VRAC	**Vranov**	**76.72**	**333**	⇑*i*P	P	01 08 15.6	+0.7
PRU	**Pruhonice**	**76.73**	**334**	*e*P	P	01 08 14.0	-1.0
MLR	**Muntele Rosu**	**76.75**	**325**	⇓*i*P	P	01 08 16.3	+1.2
MALT	**Malatya**	**77.04**	**313**	⇓*i*P	P	01 08 18.8	+2.0
KHC	**Kasperske Hory**	**77.78**	**335**	*e*P	P	01 08 21.4	+0.5
GERES	**GERESS Array B**	**78.00**	**334**	P	P	01 08 22.5	+0.4
	comp=Z,0.9nm,0.5s,mb4.0,baz=35,slow=6.1,SNR=13						
GERES	**GERESS Array B**	**78.00**	**334**	P	P	01 08 22.5	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.21**	**317**	P	P	01 08 23.6	+0.3
	comp=Z,2.0nm,1.0s,mb4.0,baz=85,slow=3.0,SNR=9.6						
BRTR	**Keskin Array B**	**78.21**	**317**	P	P	01 08 23.6	+0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BZS	**Buzias**	**78.26**	**328**	⇓*i*P	P	01 08 23.4	-0.1
PKSM	**Moragy**	**78.78**	**330**	⇓*i*P	P	01 08 26.1	-0.3
VTS	**Vitosha**	**80.26**	**325**	⇓*i*P	P	01 08 35.2	+0.8

ISCJB 27 01:05:59.2±0.6, 564N±003×1578W±03, h64km±10km, mb3.4/3, Error ellipse: s-maj=60.5km s-min=7.7km az=127.5
NEIC 27 01:06:00.8, 5607N×15760W, h29km, MG3.3(AEIC), After AEIC.
IDC 27 01:06:02.3±8.2, 5674N×15790W, h83km±52km, mb3.1/3, mb1 3.5/4, mb1mx3.2/23, mbtmp3.1/4, ML3.3/1, Error ellipse: s-maj=73.3km s-min=59.4km az=133.0

ISC 27 01:06:00.2±0.7, 565N±003×1579W±03, h61km±10km, n9, σ0§89/13, mb3.4/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.34**	**240**	P	Pn	01 06 10.5	-0.2
CHGN				S	Sn	01 06 18.4	0.0
SDPT	**Sand Point**	**1.84**	**233**	*e*Pn	Pn	01 06 27.8	-1.6
SDPT				*e*Sn	Sn	01 06 44.8	-6.9
KDAK	**Kodiak Island**	**3.18**	**63**	P	Pn	01 06 48.4	+0.7
	3.8nm,0.3s,baz=252,slow=4.0,SNR=62						
KDAK				S	Sn	01 07 24.7	+0.3
	4.5nm,0.3s,baz=260,slow=14,SNR=4.4						
KDAK	**Kodiak Island**	**3.18**	**63**	P	Pn	01 06 48.2	+0.4
FALS	**False Pass**	**3.52**	**245**	P	Pn	01 06 52.7	+0.3
UNV	**Unalaska Valle**	**5.59**	**246**	Pn	Pn	01 07 20.9	+0.2
UNV				Sn	Sn	01 08 27.3	+3.7
YKA	**Yellowknife Ar**	**22.43**	**57**	P	P	01 10 52.5	-1.3
	0.5nm,0.6s,mb3.1,baz=273,slow=9.9,SNR=7.2						
PDAR	**Pinedale Array**	**33.44**	**93**	P	P	01 12 33.5	+0.4
	0.6nm,0.8s,mb3.5,baz=316,slow=6.2,SNR=4.7						
TXAR	**Lajitas Array**	**46.47**	**102**	P	P	01 14 21.2	+0.2
	0.5nm,0.7s,mb3.6,baz=300,slow=5.8,SNR=5.7						

IDC 27 01:28:39.8±3.0, 1760S×17871W, h612km±42km, mb3.6/5, mb1 3.9/6, mb1mx3.5/15, mbtmp3.6/6, Error ellipse: s-maj=99.8km s-min=15.8km az=155.0
ISCJB 27 01:28:40.2±2.5, 1813S±04×1785W±02, h647km±33km, mb4.2/11, Error ellipse: s-maj=60.0km s-min=18.5km az=141.6
NEIC 27 01:28:41.8±3.5, 1807S×17854W, h648km±43km, mb4.3/6, Error ellipse: s-maj=37.1km s-min=19.8km az=161.0

ISC 27 01:28:40.2±3.1, 1815S±04×1785W±02, h623km±38km, n22, σ0§55/21, mb4.3/11, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.72**	**252**	P	P	01 31 44.9	0.0
	0.7nm,0.3s,baz=78,slow=18,SNR=6.0						
CTA	**Charters Tower**	**33.36**	**261**	*e*P	P	01 34 28.9	-0.2
	9.4nm,0.7s,mb4.5						
CTAO	**Charters Tower**	**33.36**	**261**	*e*P	P	01 34 29.3	+0.2
	8.5nm,0.6s,mb4.5						
PMG	**Port Moresby**	**34.42**	**280**	*e*P	P	01 34 38.9	+1.0
	17nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**38.50**	**241**	*e*P	P	01 35 12.0	+0.8
	4.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.50**	**241**	P	P	01 35 11.9	+0.7
	5.9nm,0.5s,mb4.3,baz=93,slow=8.7,SNR=12						
WB2	**Warramunga Arr**	**44.53**	**260**	⇓*i*P	P	01 35 57.7	-0.7
WRAB	**Tennant Creek**	**44.53**	**260**	*e*P	P	01 35 58.1	-0.3
	5.8nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**44.54**	**260**	P	P	01 35 58.0	-0.6
	5.6nm,0.5s,mb4.4,baz=95,slow=7.4,SNR=211						
AS31	**Alice Springs**	**44.69**	**254**	*e*P	P	01 35 59.8	+0.2
ASAR	**Alice Springs**	**44.69**	**254**	P	P	01 35 59.6	0.0
	26nm,0.6s,mb5.0,baz=86,slow=8.7,SNR=342						
ASAR				S	S	01 41 52.9	+0.5
	1.4nm,0.8s,baz=91,slow=16,SNR=11						
ASPA	**Alice Springs**	**44.69**	**254**	*e*P	P	01 35 59.8	+0.1
KAKA	**Kakadu**	**47.52**	**269**	*e*P	P	01 36 20.6	-0.3
	10nm,0.5s,mb4.6						
FORT	**Forrest**	**49.89**	**245**	⇓*i*P	P	01 36 37.7	-0.6
	14nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**57.98**	**256**	*e*P	P	01 37 35.0	+0.1
	4.7nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**86.13**	**58**	P	P	01 40 17.7	+0.9
	1.6nm,0.7s,mb3.8,baz=212,slow=6.2,SNR=7.1						
TXAR	**Lajitas Array**	**86.13**	**58**	P	P	01 40 17.7	+0.9
PDAR	**Pinedale Array**	**87.50**	**43**	P	P	01 40 22.3	-0.9
	1.0nm,0.7s,mb3.7,baz=206,slow=2.7,SNR=6.2						
PDAR	**Pinedale Array**	**87.50**	**43**	P	P	01 40 22.2	-0.9
JTS	**JuntasAbangare**	**96.44**	**81**	P	P	01 41 04.3	+0.1
CLL	**Collm**	**145.60**	**347**	*i* PKPbc	PKPbc	01 47 10.1	-0.4
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc	PKPbc	01 47 15.9	-0.3
	0.8nm,0.6s,baz=8.5,slow=2.7,SNR=7.6						

ISCJB 27 01:30:25.2±0.7, 9.17N±004×12598E±008, h136km±4km, mb4.1/13, Error ellipse: s-maj=12.8km s-min=6.0km az=152.9
MAN 27 01:30:25.8, 9.16N×12598E, h125km, mb4.3, ML5.1, MS2.2
NEIC 27 01:30:26.4±2.5, 920N×12590E, h133km±22km, mb3.9/3, Error ellipse: s-maj=67.6km s-min=10.4km az=63.0
IDC 27 01:30:28.2±8.5, 9.17N×12587E, h151km±82km, mb3.5/6, mb1 3.6/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=128.7km s-min=16.5km az=68.0

ISC 27 01:30:26.5±0.7, 917N±004×12597E±008, h130km±4km, n29, σ0§76/37, mb4.1/13, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.78**	**322**	*e*P	Pn	01 30 47.5	0.0
SCPH				*e*S	Sn	01 31 03.7	+0.4
CGP	**Cagayan de Oro**	**1.45**	**241**	⇓*i*P	Pn	01 30 53.6	-0.4
CGP				*i* S	Sn	01 31 13.6	-1.3
MSLP	**Maasin**	**1.46**	**311**	*e*P	Pn	01 30 54.5	+0.4
MSLP				*e*S	Sn	01 31 15.7	+0.5
BUKP	**Musuan**	**1.56**	**215**	*e*P	Pn	01 30 55.4	0.0
BUKP				*e*S	Sn	01 31 17.5	+0.2
DAV	**Davao City (W)**	**2.12**	**191**	*e*Pn	Pn	01 31 02.2	+0.3
DAV				*e*Sn	Sn	01 31 28.9	-0.2
LLP	**Lapu-Lapu**	**2.28**	**300**	*e*P	Pn	01 31 03.2	-0.8
LLP				*e*S	Sn	01 31 32.4	-0.3
KCP	**Kidapawan**	**2.31**	**202**	⇑*i*P	Pn	01 31 04.5	+0.2
KCP				*i* S	Sn	01 31 34.0	+0.6
CTBH	**Cotabato--PC H**	**2.58**	**222**	⇓*i*P	Pn	01 31 07.4	-0.3
CTBH				*i* S	Sn	01 31 38.3	-1.0
DCPH	**Dipolog City**	**2.65**	**258**	⇓*i*P	Pn	01 31 08.8	+0.1
DCPH				*e*S	Sn	01 31 42.0	+1.0
SNPH	**Sibulan**	**2.71**	**274**	*e*P	Pn	01 31 03.0	-6.3
SNPH				*e*S	Sn	01 31 31.3	-11
GUIM	**Jordan**	**3.63**	**294**	*e*P	Pn	01 31 21.6	+0.2
WRAB	**Tennant Creek**	**30.07**	**164**	*e*P	P	01 36 24.1	+0.7
	0.9nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**33.54**	**167**	P	P	01 36 53.7	0.0
	0.3nm,0.4s,mb3.4,baz=350,slow=7.4,SNR=2.0						
CTAO	**Charters Tower**	**35.27**	**146**	*e*P	P	01 37 08.9	+0.3
	1.5nm,0.6s,mb3.8						
SONM	**Songino Array**	**41.95**	**340**	P	P	01 38 03.6	-0.7
	0.6nm,0.9s,mb3.2,baz=163,slow=7.5,SNR=3.3						
GUN	**Gumba**	**42.08**	**302**	*e*P	P	01 38 06.8	+1.3
	35nm,0.7s,mb5.1						
PKI	**Pulchoki**	**42.37**	**301**	*e*P	P	01 38 08.7	+0.9
	13nm,0.7s,mb4.7						
KKN	**Kakani**	**42.55**	**301**	*e*P	P	01 38 10.2	+1.0
	9.7nm,0.5s,mb4.7						
GKN	**Gorkha**	**43.16**	**301**	*e*P	P	01 38 14.7	+0.6
STKA	**Stephens Creek**	**43.46**	**161**	P	P	01 38 16.8	+0.2
	2.9nm,0.5s,mb4.2,baz=333,slow=10.0,SNR=7.3						
STKA	**Stephens Creek**	**43.46**	**161**	P	P	01 38 16.8	+0.2
KOLN	**Koldanda**	**43.97**	**301**	*e*P	P	01 38 21.8	+1.2
	27nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**52.73**	**323**	P	P	01 39 27.7	0.0
	2.2nm,0.6s,mb4.1,baz=124,slow=8.5,SNR=20						
MKAR				PcP	PcP	01 40 33.8	-1.9
	1.0nm,0.6s,baz=113,slow=4.7,SNR=4.6						
BRVK	**Borovoye**	**62.48**	**326**	*e*P	P	01 40 35.4	-0.6
	1.1nm,0.5s,mb3.9						
AKTK	**Aktyubinsk**	**68.98**	**321**	P	P	01 41 15.8	-1.9
AKTO	**Aktyubinsk**	**68.98**	**321**	P	P	01 41 15.8	-1.9
	1.0nm,0.8s,mb3.6,baz=106,slow=13,SNR=3.8

POA2	**Poas 2**	**6.59**	**119**	*e*P		**Pn**	**01 34 23.4**	**+2.5**
PRS1	**Puriscal**	**6.64**	**121**	*e*P		**Pn**	**01 34 22.5**	**+0.9**
TEIG	**Tepich**	**6.93**	**14**	*e*Pn		**Pn**	**01 34 29.1**	**+3.6**
TEIG				*i* S		**Sn**	**01 35 51.8**	**+8.5**
OCM	**Ochomogo**	**6.98**	**120**	*e*P		**Pn**	**01 34 26.0**	**-0.3**
LCR2	**La Lucha 2**	**7.02**	**121**	*e*P		**Pn**	**01 34 28.5**	**+1.6**
BUS	**Buena Vista**	**7.33**	**122**	*e*P		**Pn**	**01 34 30.8**	**-0.3**
OXX	**Oaxaca**	**7.34**	**300**	*i* P		**Pn**	**01 34 30.0**	**-1.2**
VHO	**Vista Hermosa**	**7.34**	**300**	*e*P		**Pn**	**01 34 28.4**	**-2.9**
VHO				*i* S		**Sn**	**01 35 49.4**	**-4.0**
CTCR	**Cotoan**	**8.51**	**122**	*e*P		**Pn**	**01 34 47.2**	**-0.1**
IIO	**Organos**	**10.27**	**307**	*i* P		**Pn**	**01 35 13.0**	**+1.6**
IIO				*i* S		**Sn**	**01 37 13.3**	**+7.9**
PLIG	**Platanillo**	**10.29**	**300**	*e*P		**Pn**	**01 35 09.2**	**-2.5**
PLIG				*i* S		**Sn**	**01 36 55.9**	**-10**
SOR	**Soroa**	**11.44**	**35**	*e*P		**Pn**	**01 35 33.1**	**+5.6**
MOIG	**Morelia**	**12.29**	**302**	*e*P		**Pn**	**01 35 35.9**	**-3.3**
PAYG	**Puerto Ayora**	**14.06**	**181**	P		**Pn**	**01 36 03.3**	**0.0**
HKT	**Hockley**	**17.23**	**343**	*e*Pn		**Pn**	**01 36 43.8**	**-0.7**
	6.2nm,0.9s							
ROSC	**El Rosal**	**17.75**	**117**	P		**Pn**	**01 36 50.8**	**-0.1**
	0.3nm,0.3s,baz=99,slow=22,SNR=7.9							
ROSC	**El Rosal**	**17.75**	**117**	*e*Pn		**Pn**	**01 36 48.5**	**-2.4**
NATX	**Nacogdoches**	**18.67**	**348**	*e*P		**Pn**	**01 37 02.2**	**0.0**
	30nm,0.6s							
JCT	**Junction City**	**19.15**	**334**	*e*Pn		**Pn**	**01 37 08.8**	**+0.9**
SDV	**Santo Domingo**	**19.62**	**101**	P		**Pn**	**01 37 10.3**	**-3.2**
	1.0nm,0.3s,baz=294,slow=5.7,SNR=14							
SDV				PcP		PcP	01 41 28.7	-2.0
	0.2nm,0.3s,baz=312,slow=3.8,SNR=5.6							
SDV	**Santo Domingo**	**19.62**	**101**	*e*Pn		**Pn**	**01 37 12.2**	**-1.3**
LRAL	**Lakeview Retre**	**19.67**	**8**	*e*Pn		**Pn**	**01 37 16.6**	**+2.5**
LTX	**Lajitas**	**20.18**	**324**	*e*P		**P**	**01 37 19.4**	**+1.2**
TXAR	**Lajitas Array**	**20.18**	**324**	P		**P**	**01 37 18.4**	**+0.3**
	6.1nm,0.7s,baz=145,slow=10,SNR=83							
TXAR				PcP		PcP	01 41 29.9	-2.0
	1.2nm,0.8s,baz=154,slow=3.3,SNR=7.0							
TXAR				LR		LR	01 47 08.0	
	comp=Z,777nm,18.9s,MS3.1,baz=190,slow=42							
OXF	**Oxford**	**20.95**	**2**	*e*P		**P**	**01 37 28.4**	**+1.9**
MIAR	**Mount Ida**	**21.21**	**352**	*e*P		**P**	**01 37 28.3**	**-0.9**
UALR	**University of**	**21.30**	**355**	*e*P		**P**	**01 37 30.1**	**-0.1**
PLAL	**Pickwick Lake**	**21.48**	**5**	*e*P		**P**	**01 37 32.4**	**+0.2**
	32nm,1.1s,mb4.6							
LPIG	**La Paz**	**21.84**	**302**	LR		LR	01 47 03.8	
	comp=Z,199nm,18.6s,MS3.5,baz=14,slow=39							
WMOK	**Wichita Mounta**	**22.58**	**341**	*e*P		**P**	**01 37 40.5**	**-3.4**
	17nm,1.2s,mb4.3							
WVT	**Waverly**	**22.64**	**5**	*e*P		**P**	**01 37 44.4**	**-0.1**
	38nm,1.1s,mb4.7							
GDL2	**Guadalupe Moun**	**22.76**	**327**	*e*P		**P**	**01 37 46.6**	**+0.8**
TKL	**Tuckaleechee C**	**22.80**	**13**	P		**P**	**01 37 45.5**	**-0.7**
	6.0nm,0.5s,mb4.2,baz=189,slow=11,SNR=19							
MNTX	**Cornudas Mount**	**22.93**	**325**	*e*P		**P**	**01 37 46.2**	**-1.4**
	27nm,0.8s,mb4.7							
MNTX				*e*PcP		PcP	01 41 35.4	-1.8
ATAH	**Atahualpa**	**23.43**	**150**	LR		LR	01 45 54.3	
	comp=Z,292nm,18.3s,MS3.8,baz=162,slow=33							
TZTN	**Tazewell**	**23.70**	**13**	*e*P		**P**	**01 37 55.4**	**+0.1**
AMTX	**Amarillo**	**23.75**	**336**	*e*P		**P**	**01 37 53.5**	**-2.2**
SIUC	**Southern Illin**	**24.15**	**2**	*e*P		**P**	**01 37 58.9**	**-0.5**
WCI	**Wyandotte Cave**	**24.88**	**7**	*e*P		**P**	**01 38 04.5**	**-1.5**
	41nm,0.7s,mb5.1							
PCRV	**Puerto La Cruz**	**25.12**	**95**	LR		LR	01 49 28.4	
	comp=Z,201nm,19.0s,MS3.6,baz=166,slow=40							
BNM	**Barren Site**	**25.47**	**327**	*e*P		**P**	**01 38 11.8**	**+0.3**
LENM	**Lemitar**	**25.67**	**326**	*e*P		**P**	**01 38 14.7**	**+1.4**
BLO	**Bloomington**	**25.78**	**6**	*e*P		**P**	**01 38 12.0**	**-2.2**
	10nm,0.7s,mb4.5							
LAZ	**Ladron**	**25.93**	**326**	*e*P		**P**	**01 38 15.3**	**-0.3**
ANMO	**Albuquerque**	**26.00**	**328**	P		**P**	**01 38 15.7**	**-0.5**
	2.2nm,0.7s,mb3.8,baz=160,slow=11,SNR=11							
ANMO				LR		LR	01 50 44.5	
	comp=Z,112nm,20.3s,MS3.4,baz=59,slow=41							
ANMO	**Albuquerque**	**26.00**	**328**	*e*P		**P**	**01 38 16.1**	**-0.1**
	1.7nm,0.6s,mb3.8							
TUC	**Tucson**	**26.64**	**318**	*e*P		**P**	**01 38 19.7**	**-2.3**
	3.3nm,0.8s,mb3.9							
TUC				*e*PcP		PcP	01 41 44.2	-1.1
116A	**Eloy**	**27.41**	**317**	⇓P		**P**	**01 38 28.6**	**-0.3**
	baz=28							
SDCO	**Great Sand Dun**	**27.79**	**333**	*e*P		**P**	**01 38 32.0**	**-0.4**
115A	**Sonoran Desert**	**27.84**	**317**	⇓P		**P**	**01 38 32.5**	**-0.3**
	baz=28							
NNA	**Nana**	**28.51**	**152**	LR		LR	01 47 55.1	
	comp=Z,150nm,21.0s,MS3.6,baz=315,slow=32							
MVCO	**Mesa Verde**	**28.79**	**328**	⇓P		**P**	**01 38 41.0**	**-0.2**
	baz=29							
X15A	**Humboldt**	**28.98**	**320**	⇓P		**P**	**01 38 42.7**	**-0.2**
	baz=29							
Y14A	**Wickenburg**	**29.11**	**318**	⇑P		**P**	**01 38 43.7**	**-0.5**
	baz=29							
WUAZ	**Wupatki**	**29.14**	**323**	*e*P		**P**	**01 38 44.4**	**+0.1**
	7.3nm,0.8s,mb4.5							
WUAZ	**Wupatki**	**29.14**	**323**	P		**P**	**01 38 44.8**	**+0.5**
	baz=29,SNR=7.4							
X14A	**Yava**	**29.38**	**319**	⇑P		**P**	**01 38 46.1**	**-0.3**
	baz=30							
W15A	**Williams**	**29.45**	**321**	⇑P		**P**	**01 38 47.3**	**+0.2**
	baz=30							
PV01	**Paradox Valley**	**29.54**	**330**	*e*P		**P**	**01 38 46.9**	**-1.1**
GLA	**Glamis**	**29.80**	**315**	*e*P		**P**	**01 38 50.1**	**-0.1**
GLA	**Glamis**	**29.80**	**315**	⇑P		**P**	**01 38 50.5**	**+0.3**
	baz=30							
PV10	**Paradox Valley**	**29.96**	**329**	*e*P		**P**	**01 38 50.7**	**-0.9**
W14A	**Seligman**	**29.98**	**320**	⇓P		**P**	**01 38 52.0**	**+0.2**
	baz=30							
Y12C	**Blythe**	**30.00**	**316**	⇓P		**P**	**01 38 52.2**	**+0.2**
	baz=30							
X13A	**Yucca**	**30.06**	**318**	⇑P		**P**	**01 38 52.2**	**-0.3**
	baz=30							
PDMCI	**Parker Dam,Lak**	**30.08**	**318**	P		**P**	**01 38 52.8**	**+0.2**
	baz=30,SNR=5.3							
W13A	**Hualapai Mount**	**30.41**	**319**	⇓P		**P**	**01 38 56.3**	**+0.7**
	baz=31							
SWSC	**Sam W. Stewart**	**30.41**	**314**	⇓P		**P**	**01 38 56.0**	**+0.4**
	baz=31							
BC3	**Big Chuckw Mtn**	**30.57**	**315**	P		**P**	**01 38 57.5**	**+0.4**
	baz=31,SNR=7.7							
IRM	**Iron Mountain**	**30.66**	**316**	⇓P		**P**	**01 38 58.1**	**+0.3**
	baz=31							
ECSD	**EROS,Sioux Fal**	**30.66**	**351**	*e*P		**P**	**01 38 55.9**	**-1.9**
	4.8nm,0.8s,mb4.4							
NEE2	**Needles Airpor**	**30.68**	**318**	⇓P		**P**	**01 38 58.6**	**+0.6**
	baz=31							
MONP	**Monument Peak**	**30.82**	**313**	⇓P		**P**	**01 38 59.8**	**+0.6**
	baz=31							
BELC	**Belle Mtn.**	**31.14**	**315**	⇑P		**P**	**01 39 02.4**	**+0.3**
	baz=31							
W12A	**Cal Nev Ari**	**31.16**	**319**	⇓P		**P**	**01 39 02.5**	**+0.2**
	baz=31							
109C	**Camp Elliot, M**	**31.31**	**313**	⇓P		**P**	**01 39 04.4**	**+0.9**
	baz=32							
GMRC	**Granite Mounta**	**31.37**	**317**	⇓P		**P**	**01 39 04.3**	**+0.2**
	baz=32							
V12A	**Nelson**	**31.42**	**319**	P		**P**	**01 39 04.6**	**+0.1**
	baz=32,SNR=13							
U12A	**Valley of Fire**	**31.66**	**321**	⇓P		**P**	**01 39 07.1**	**+0.4**
	baz=32							
CCUT	**Cedar City**	**31.70**	**323**	*e*P		**P**	**01 39 07.7**	**+0.8**
CCUT				*e*PcP		PcP	01 41 57.2	-0.9
MURC	**Murrieta**	**31.76**	**314**	⇓P		**P**	**01 39 07.7**	**+0.3**
	baz=32							
HEC	**Hector,Ludlow**	**31.84**	**316**	⇓P		**P**	**01 39 08.7**	**+0.5**
	baz=32							
V11A	**Goodsprings**	**31.86**	**319**	⇑P		**P**	**01 39 08.5**	**+0.1**
	baz=32							
ARUT	**Antelope Range**	**31.91**	**324**	*e*P		**P**	**01 39 08.9**	**+0.2**
ARUT				*e*		pP	01 39 17.9	-0.2
ARUT				*e*PP		PP	01 40 21.8	+0.7
TUQ	**Turquoise Mtn.**	**31.93**	**318**	⇑P		**P**	**01 39 09.2**	**+0.2**
	baz=32							
BFSC	**Mount Baldy St**	**32.42**	**314**	⇓P		**P**	**01 39 13.7**	**+0.4**
	baz=33							
GSC	**Goldstone**	**32.44**	**317**	⇑P		**P**	**01 39 13.8**	**+0.4**
	baz=33							
MPU	**Maple Canyon**	**32.51**	**328**	*e*P		**P**	**01 39 13.8**	**-0.4**
MPU				*e*		pP	01 39 23.8	+0.3
MPU				*e*PP		PP	01 40 27.3	-0.5
U10A	**Ash Meadows, A**	**32.78**	**319**	⇑P		**P**	**01 39 16.6**	**+0.1**
	baz=33							
RSSD	**Black Hills**	**32.79**	**341**	*e*P		**P**	**01 39 14.6**	**-2.0**
DECC	**Green Verdugo**	**32.90**	**314**	⇑P		**P**	**01 39 18.0**	**+0.6**
	baz=33							
EDW2	**Edwards Air Fo**	**33.00**	**315**	⇑P		**P**	**01 39 18.5**	**+0.1**
	baz=33							
FURC	**Furnace Creek,**	**33.16**	**318**	⇓P		**P**	**01 39 20.1**	**+0.4**
	baz=33							
DUG	**Dugway**	**33.26**	**327**	P		**P**	**01 39 20.2**	**-0.4**
DUG	**Dugway**	**33.26**	**327**	⇑P		**P**	**01 39 20.5**	**-0.1**
	baz=33							
MPMC	**Manual Prospec**	**33.33**	**317**	P		**P**	**01 39 20.8**	**-0.4**
	baz=34,SNR=13							
OSI	**Osito Adit**	**33.37**	**314**	⇓P		**P**	**01 39 22.0**	**+0.5**
	baz=34							
Q12A	**Willow Creek R**	**33.55**	**324**	⇑P		**P**	**01 39 23.4**	**+0.2**
	baz=34							
PDAR	**Pinedale Array**	**33.68**	**334**	P		**P**	**01 39 23.2**	**-1.1**
	1.0nm,0.9s,mb3.8,baz=131,slow=10,SNR=9.0							
PDAR				PcP		PcP	01 42 01.0	-2.6
	1.7nm,0.7s,baz=129,slow=5.2,SNR=10							
PDAR				LR		LR	01 55 07.6	
	comp=Z,140nm,19.5s,MS3.7,baz=153,slow=40							
PDAR	**Pinedale Array**	**33.68**	**334**	P		**P**	**01 39 23.2**	**-1.1**
PDAR				PcP		PcP	01 42 01.0	-2.6
PDAR				LR		LR	01 55 07.6	
ARVC	**Arvin**	**33.71**	**315**	⇑P		**P**	**01 39 25.2**	**+0.7**
	baz=34							
ISA	**Isabella**	**33.76**	**316**	⇓P		**P**	**01 39 25.6**	**+0.6**
	baz=34							
GRAC	**Grapevine Rang**	**33.80**	**319**	P		**P**	**01 39 25.8**	**+0.5**
	baz=34,SNR=7.9							
P12A	**McGill**	**33.89**	**324**	P		**P**	**01 39 26.7**	**+0.6**
	baz=34,SNR=7.4							
Q11A	**Duckwater**	**33.90**	**323**	P		**P**	**01 39 26.8**	**+0.6**
	baz=34,SNR=14							
CWC	**Cottonwood Cre**	**33.94**	**317**	⇓P		**P**	**01 39 26.8**	**+0.3**
	baz=34							
S09A	**Goldfield**	**34.15**	**320**	P		**P**	**01 39 28.6**	**+0.2**
	baz=34,SNR=11							
VES	**Vestal, Richgr**	**34.27**	**316**	P		**P**	**01 39 30.1**	**+0.7**
	baz=34,SNR=9.1							
O12A	**Currie**	**34.35**	**326**	⇑P		**P**	**01 39 30.1**	**+0.1**
	baz=34							
R09A	**Tonopah**	**34.37**	**321**	P		**P**	**01 39 30.7**	**+0.5**
	baz=34,SNR=9.9							
EYMN	**Ely**	**34.38**	**358**	*e*P		**P**	**01 39 27.1**	**-3.3**
	7.0nm,0.6s,mb4.8							
TIN	**Tinemaha**	**34.39**	**318**	⇓P		**P**	**01 39 31.2**	**+0.7**
	baz=34							
N13A	**Wendover, West**	**34.47**	**327**	⇓P		**P**	**01 39 31.3**	**+0.2**
	baz=35							
SMMC	**Simmler**	**34.62**	**314**	⇑P		**P**	**01 39 33.7**	**+1.2**
	baz=35							
RCTC	**Rector, Farmer**	**34.64**	**316**	⇑P		**P**	**01 39 33.2**	**+0.7**
	baz=35							
HELL	**Mitchell Peak,**	**34.70**	**317**	P		**P**	**01 39 33.3**	**+0.2**
	baz=35,SNR=8.3							
REDW	**Red Top Meadow**	**34.73**	**333**	*e*P		**P**	**01 39 33.0**	**-0.4**
	5.5nm,0.7s,mb4.6							
REDW				*e*			01 39 46.5	
O11A	**Cowboy Ranch,**	**34.76**	**325**	⇑P		**P**	**01 39 34.0**	**+0.3**
	baz=35							
SNOW	**Snow King Moun**	**34.76**	**333**	*e*P		**P**	**01 39 33.5**	**-0.2**
	8.9nm,0.8s,mb4.8							
M13A	**Montello**	**34.81**	**327**	P		**P**	**01 39 34.6**	**+0.6**
	baz=35,SNR=7.9							
Q09A	**Carvers**	**34.81**	**321**	⇓P		**P**	**01 39 34.6**	**+0.6**
	baz=35							
LOHW	**Long Hollow**	**34.82**	**334**	*e*P		**P**	**01 39 33.5**	**-0.7**
	2.6nm,0.7s,mb4.3							
LOHW				*e*			01 39 45.2	
LOHW				*e*PP		PP	01 40 54.1	+0.8
P10A	**Eureka**	**34.89**	**323**	⇑P		**P**	**01 39 35.4**	**+0.7**
	baz=35							
N12A	**Clover Valley,**	**34.91**	**326**	⇓P		**P**	**01 39 35.6**	**+0.7**
	baz=35							
AGMN	**Agassiz Refuge**	**35.04**	**353**	*e*P		**P**	**01 39 33.4**	**-2.6**
	12nm,0.6s,mb5.0							
AGMN				*e*			01 39 46.6	
R08A	**Mina**	**35.08**	**320**	⇑P		**P**	**01 39 36.9**	**+0.5**
	baz=35							
MLAC	**Mammoth Lakes**	**35.12**	**318**	⇑P		**P**	**01 39 37.0**	**+0.3**
	baz=35							
P09A	**Austin**	**35.24**	**322**	⇓P		**P**	**01 39 38.4**	**+0.6**
	baz=35							
M12A	**Wells**	**35.24**	**327**	⇑P		**P**	**01 39 37.9**	**0.0**
	baz=35							
NVAR	**Mina Array Bea**	**35.25**	**320**	P		**P**	**01 39 38.5**	**+0.6**
	25nm,0.7s,mb5.3,baz=142,slow=7.1,SNR=127							
NVAR				PcP		PcP	01 42 06.8	-1.3
	3.6nm,0.7s,baz=127,slow=2.2,SNR=9.4							
NVAR	**Mina Array Bea**	**35.25**	**320**	P		**P**	**01 39 38.5**	**+0.7**
NVAR				PcP		PcP	01 42 06.8	-1.3
KCC	**Kaiser Creek**	**35.26**	**318**	P		**P**	**01 39 38.1**	**+0.2**
	baz=35,SNR=11							
N11A	**Elko Archery C**	**35.27**	**325**	⇓P		**P**	**01 39 38.6**	**+0.5**
	baz=35							
Q08A	**Gabbs**	**35.28**	**321**	P		**P**	**01 39 38.6**	**+0.4**
	baz=35,SNR=9.3							
PKD	**Parkfield**	**35.33**	**315**	⇓P		**P**	**01 39 39.0**	**+0.5**
	baz=36							
T06C	**Millerton Lake**	**35.34**	**317**	⇑P		**P**	**01 39 37.4**	**-1.2**
	baz=36							
O10A	**Cortez Mining,**	**35.35**	**324**	⇑P		**P**	**01 39 39.2**	**+0.5**
	baz=36							
V04C	**Ramage Ranch,**	**35.40**	**314**	⇓P		**P**	**01 39 39.8**	**+0.6**
	baz=36							
O09A	**Fish Creek Ran**	**35.67**	**323**	P		**P**	**01 39 41.8**	**+0.4**
	baz=36,SNR=11							
U04C	**Hernandez Rese**	**35.71**	**315**	⇓P		**P**	**01 39 42.2**	**+0.3**
	baz=36							
M11A	**Holland Ranch,**	**35.73**	**326**	⇓P		**P**	**01 39 41.8**	**-0.2**
	baz=36							
BMN	**Battle Mountai**	**35.86**	**324**	*e*P		**P**	**01 39 43.3**	**+0.2**
	3.4nm,0.6s,mb4.5							
Q07A	**Schurz**	**35.87**	**320**	⇓P		**P**	**01 39 43.5**	**+0.3**
	baz=36							
S05C	**Merced**	**35.94**	**317**	⇑P		**P**	**01 39 44.0**	**+0.3**
	baz=36							
R06C	**Coleville**	**36.03**	**319**	⇑P		**P**	**01 39 45.6**	**+1.0**
	baz=36							
M10A	**I.L. Ranch, Tu**	**36.20**	**325**	⇑P		**P**	**01 39 46.1**	**+0.1**
	baz=36							
N09A	**Rock Creek Ran**	**36.31**	**324**	⇑P		**P**	**01 39 47.5**	**+0.6**
	baz=36							
CMB	**Columbia Colle**	**36.35**	**318**	*e*P		**P**	**01 39 47.0**	**-0.3**
	7.1nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**36.35**	**318**	P		**P**	**01 39 47.2**	**-0.1**
	baz=36,SNR=5.7							
PACP	**Pacheco Peak**	**36.40**	**316**	⇑P		**P**	**01 39 47.9**	**+0.2**
	baz=36							
R05C	**Kirkwood Meado**	**36.53**	**319**	⇑P		**P**	**01 39 49.5**	**+0.7**
	baz=37							
HLID	**Hailey**	**36.54**	**330**	⇓P		**P**	**01 39 48.7**	**-0.2**
	baz=37							
N08A	**GE Springer Mi**	**36.61**	**323**	⇑P		**P**	**01 39 49.5**	**-0.1**
	baz=37							
M09A	**Marrel Ranch,**	**36.64**	**325**	⇓P		**P**	**01 39 49.8**	**0.0**
	baz=37							
O07A	**Toulon**	**36.66**	**322**	⇑P		**P**	**01 39 49.7**	**-0.3**
	baz=37							
LPAZ	**La Paz**	**36.69**	**143**	P		**P**	**01 39 48.3**	**-1.9**
	0.9nm,0.8s,mb3.7,baz=275,slow=4.7,SNR=4.2							
LPAZ				LR		LR	01 55 00.7	
	comp=Z,181nm,20.7s,MS3.8,baz=284,slow=36							
MCMT	**McKenzie Canyo**	**36.77**	**333**	*e*P		**P**	**01 39 51.4**	**+0.6**
G15A	**Dillon**	**36.87**	**333**	⇓P		**P**	**01 39 51.7**	**0.0**
	baz=37							
ULM	**Lac du Bonnet**	**36.97**	**354**	P		**P**	**01 39 49.0**	**-3.6**
	6.7nm,0.7s,mb4.6,baz=176,slow=10.0,SNR=13							
ULM				LR		LR	01 58 15.2	
	comp=Z,134nm,19.1s,MS3.8,baz=149,slow=41							
LAVA	**Lava Cap Winer**	**36.99**	**319**	⇑P		**P**	**01 39 53.0**	**+0.3**
	baz=37							
P06A	**Stead Airport,**	**36.99**	**320**	⇓P		**P**	**01 39 53.1**	**+0.3**
	baz=37							
WENL	**Wente Brothers**	**37.04**	**316**	⇑P		**P**	**01 39 53.7**	**+0.5**
	baz=37							
L09A	**Wilkinson Ranc**	**37.16**	**325**	⇓P		**P**	**01 39 54.6**	**+0.4**
	baz=37							
M08A	**Happy Creek Ra**	**37.18**	**324**	⇑P		**P**	**01 39 54.1**	**-0.2**
	baz=37							
P05C	**Yuba Gap, Truc**	**37.22**	**319**	⇓P		**P**	**01 39 54.9**	**+0.3**
	baz=37							
O06A	**Flanigan**	**37.24**	**321**	⇑P		**P**	**01 39 55.1**	**+0.2**
	baz=37							
BEKR	**Beckwourth**	**37.39**	**320**	P		**P**	**01 39 56.6**	**+0.5**
	baz=38,SNR=14							
F15A	**Butte**	**37.41**	**334**	⇓P		**P**	**01 39 56.6**	**+0.3**
	baz=38							
Q04C	**Lincoln**	**37.45**	**318**	⇓P		**P**	**01 39 57.5**	**+0.9**
	baz=38							
N06A	**Buffalo Meadow**	**37.60**	**322**	⇓P		**P**	**01 39 58.0**	**0.0**
	baz=38							
K09A	**Rome**	**37.64**	**326**	P		**P**	**01 39 58.5**	**+0.2**
	baz=38,SNR=11							
L08A	**Fields**	**37.65**	**325**	⇓P		**P**	**01 39 58.4**	**+0.1**
	baz=38							
O05C	**Quincy**	**37.79**	**320**	P		**P**	**01 40 00.2**	**+0.7**
	baz=38,SNR=12							
ORV	**Oroville**	**37.93**	**319**	⇑P		**P**	**01 40 01.3**	**+0.6**
	baz=38							
SUTB	**Sutter Butte**	**37.93**	**318**	⇑P		**P**	**01 40 01.0**	**+0.3**
	baz=38							
WVOR	**Wild Horse Val**	**37.97**	**325**	P		**P**	**01 39 54.6**	**-6.4**
	4.9nm,0.9s,mb4.2							
K08A	**Mann Creek Ran**	**38.08**	**325**	P		**P**	**01 40 02.0**	**0.0**
	baz=38,SNR=9.1							
L07A	**Adell**	**38.10**	**324**	⇑P		**P**	**01 40 01.9**	**-0.2**
	baz=38							
O04C	**Chester**	**38.11**	**320**	⇓P		**P**	**01 40 02.3**	**+0.1**
	baz=38							
H11A	**Donnelly**	**38.16**	**330**	⇑P		**P**	**01 40 02.6**	**0.0**
	baz=38							
M06C	**Likely Place G**	**38.26**	**322**	⇑P		**P**	**01 40 03.4**	**-0.1**
	baz=38							
K07A	**Rock Creek Ran**	**38.48**	**325**	P		**P**	**01 40 05.2**	**-0.2**
	baz=39,SNR=6.9							
J08A	**Circle Bar Ran**	**38.49**	**326**	⇑P		**P**	**01 40 05.2**	**-0.2**
	baz=39							
O03C	**Acorn Hollow,**	**38.52**	**319**	⇑P		**P**	**01 40 05.9**	**+0.3**
	baz=39							
I09A	**Lost Marbles R**	**38.52**	**327**	⇑P		**P**	**01 40 05.7**	**0.0**
	baz=39							
F12A	**Elk City**	**38.57**	**331**	⇑P		**P**	**01 40 05.9**	**-0.3**
	baz=39							
MOD	**Modoc**	**38.59**	**323**	⇓P		**P**	**01 40 05.7**	**-0.6**
	baz=39							
HATC	**Hat Creek Radi**	**38.63**	**321**	⇓P		**P**	**01 40 06.6**	**0.0**
	baz=39							
M05C	**Lookout**	**38.76**	**322**	P		**P**	**01 40 07.3**	**-0.3**
	baz=39,SNR=5.8							
GASB	**Alder Springs**	**38.77**	**318**	⇓P		**P**	**01 40 08.8**	**+1.1**
	baz=39							
G11A	**Walters Elk Ra**	**38.79**	**330**	⇓P		**P**	**01 40 07.3**	**-0.6**
	baz=39							
P01C	**Double 8 Ranch**	**39.07**	**318**	⇓P		**P**	**01 40 10.7**	**+0.4**
	baz=39							
O02C	**Red Bluff**	**39.10**	**319**	⇓P		**P**	**01 40 09.1**	**-1.5**
	baz=39							
D13A	**Huson**	**39.23**	**334**	⇓P		**P**	**01 40 11.1**	**-0.5**
	baz=39							
M03C	**McCloud**	**39.30**	**321**	⇓P		**P**	**01 40 11.1**	**-1.1**
	baz=39							
J06A	**Christmas Vall**	**39.35**	**325**	⇓P		**P**	**01 40 12.3**	**-0.3**
	baz=40							
F10A	**Beach Ranch, E**	**39.67**	**330**	P		**P**	**01 40 14.9**	**-0.3**
	baz=40,SNR=5.4							
L04A	**Klamath Falls**	**39.69**	**322**	⇑P		**P**	**01 40 15.2**	**-0.2**
	baz=40							
YBH	**Yreka Blue Hor**	**39.93**	**321**	⇓P		**P**	**01 40 15.3**	**-2.1**
	baz=40							
WALA	**Waterton Lakes**	**40.55**	**336**	P		**P**	**01 40 18.7**	**-3.9**
NEW	**Newport**	**41.30**	**333**	*e*P		**P**	**01 40 27.4**	**-1.3**
	1.0nm,0.6s,mb3.6							
F06A	**Goldendale**	**41.33**	**327**	⇓P		**P**	**01 40 28.9**	**0.0**
	baz=41							
E07A	**Sunnyside**	**41.38**	**329**	⇑P		**P**	**01 40 29.1**	**-0.3**
	baz=42							
C09A	**Chrisman Ranch**	**41.48**	**331**	⇑P		**P**	**01 40 29.8**	**-0.4**
	baz=42							
EDM	**Edmonton**	**43.74**	**340**	*e*P		**P**	**01 40 46.5**	**-2.1**
SCHQ	**Schefferville**	**45.09**	**19**	P		**P**	**01 40 55.8**	**-3.5**
	10nm,0.6s,mb4.8,baz=221,slow=7.3,SNR=19							
SCHQ				PcP		PcP	01 42 36.5	-3.2
	2.6nm,0.6s,baz=193,slow=6.0,SNR=3.4							
SCHQ				LR		LR	02 01 17.3	
	comp=Z,158nm,18.4s,MS4.0,baz=102,slow=38							
SCHQ	**Schefferville**	**45.09**	**19**	P		**P**	**01 40 55.8**	**-3.5**
SCHQ				PcP		PcP	01 42 36.5	-3.2
SCHQ				LR		LR	02 01 17.3	
YKA	**Yellowknife Ar**	**51.97**	**346**	P		**P**	**01 41 49.0**	**-3.3**
	1.7nm,0.7s,mb4.1,baz=141,slow=7.3,SNR=16							
YKA				PcP		PcP

KAKA	**Kakadu**	**23.04**	**252**	*e*P	pP	01 48 32.7	-3.3
	4.3nm,0.6s						
WRAB	**Tennant Creek**	**24.17**	**234**	*e*P	**P**	**01 48 26.2**	**+0.4**
	4.8nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**24.18**	**234**	*e*P	**P**	**01 48 26.2**	**+0.4**
WRA	**Warramunga Arr**	**24.19**	**234**	P	**P**	**01 48 26.3**	**+0.4**
	5.0nm,0.7s,mb3.9,baz=58,slow=9.3,SNR=30						
ASAR	**Alice Springs**	**26.63**	**227**	P	**P**	**01 48 47.9**	**-0.2**
	1.5nm,0.5s,mb3.8,baz=60,slow=8.5,SNR=22						
STKA	**Stephens Creek**	**28.44**	**204**	P	**P**	**01 49 03.1**	**-1.1**
	1.4nm,0.7s,mb3.6,baz=23,slow=13,SNR=4.4						
FITZ	**Fitzroy Crossi**	**30.87**	**245**	LR	LR	02 01 01.2	
	comp=Z,27nm,18.9s,baz=2.7,slow=34						

NEIC ***27*** *02:17:21.8, 1706N×95.15W, h109km, MD3.9(MEX), After MEX.*

MEX 27 02:17:21.8±0.5, 1698N×9531W, h136km±16km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**1.36**	**275**	*i* P	Pn	02 17 48.0	-0.8
OXX				*i* S	Sn	02 18 08.0	-1.3
VHO	**Vista Hermosa**	**1.37**	**274**	*i* P	Pn	02 17 48.0	-0.9
VHO				*i* S	Sn	02 18 07.7	-1.8
HUIG	**Huatulco**	**1.43**	**213**	*i* P	Pn	02 17 48.0	-1.5
HUIG				*i* S	Sn	02 18 09.0	-1.6
TPIG	**Tehuac#an**	**2.43**	**306**	*i* P	Pn	02 18 00.4	-0.9
TPIG				*i* S	Sn	02 18 29.3	-2.4
UTMO	**Huajuapan**	**2.53**	**290**	*i* P	Pn	02 18 01.6	-1.0
UTMO				*i* S	Sn	02 18 32.5	-1.6
CCIG	**Comitan**	**3.12**	**102**	*e*P	Pn	02 18 08.2	-1.9
CCIG				*i* S	Sn	02 18 46.3	-1.1
CCIG	**Comitan**	**3.12**	**102**	*e*P	Pn	02 18 06.2	-3.9
CCIG				*i* S	Sn	02 18 39.9	-7.5

CASC 27 02:25:17.1±2.7, 1367N×9007W, h95km±14km, MD3.6,5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.47**	**69**	⇓*e*P	x	02 25 38.8	
SBLS				*e*S	x	02 25 50.6	
RTR	**El Retiro**	**0.47**	**61**	⇓*e*P	x	02 25 39.2	
RTR				*e*S	x	02 25 52.0	
SNJE	**San Jose**	**0.49**	**66**	⇓*e*P	x	02 25 39.2	
SNJE				*e*S	x	02 25 51.4	
RBDL	**Robledal**	**0.58**	**40**	⇓*e*P	x	02 25 41.3	
RBDL				*e*S	x	02 25 55.1	
BOQS	**Boqueron**	**0.77**	**85**	*e*P	x	02 25 41.6	
BOQS				*e*S	x	02 25 55.9	
LFRS	**El Faro**	**0.98**	**93**	*e*P	x	02 25 43.6	
LFRS				*e*S	x	02 26 01.1	
FUG	**Fuego 3**	**1.07**	**316**	⇓*e*P	Pn	02 25 39.2	+1.2
FUG				*e*S	Sn	02 25 53.6	-0.1
MRL	**Marmol**	**1.44**	**15**	*e*S	Sn	02 26 02.1	+0.7
TP2	**Tecpan 2**	**1.44**	**320**	*e*P	Pn	02 25 43.7	+1.4
TP2				*e*S	Sn	02 26 04.9	+3.5

ISCJB ***27*** *02:45:01.7±0.8, 4679N±009×1548E±02, h10km, mb3.9/10, Error ellipse: s-maj=17.7km s-min=10.9km az=64.0*
IDC ***27*** *02:45:02.3±0.9, 4674N×1548ΣE, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/23, mbtmp3.9/9, ML5.1/1, Error ellipse: s-maj=26.6km s-min=22.3km az=73.0*
NEIC ***27*** *02:45:04.1±0.6, 4672N×15470E, h10km, mb4.5/2, Error ellipse: s-maj=14.9km s-min=11.0km az=109.0*
MOS ***27*** *02:45:05.3±1.5, 4681N×1548ΣE, h36km, mb4.3/7, Error ellipse: s-maj=19.2km s-min=14.2km az=57.9*

ISC 27 02:45:03.7±0.8, 4679N±009×1548E±02, h10km, n27, σ0§75/28, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.00**	**12**	*e*PN	**Pn**	**02 46 02.5**	**-2.5**
KUR	**Kuril'sk**	**5.07**	**255**	*e*PN	**Pn**	**02 46 20.5**	**+0.8**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
ASAJ	**Asahikawa**	**8.98**	**257**	Pn	**Pn**	**02 47 18.1**	**+4.7**
	comp=Z,0.8nm,0.3s,baz=122,slow=15,SNR=4.9						
ASAJ	**Asahikawa**	**8.98**	**257**	PN	**Pn**	**02 47 18.1**	**+4.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.04**	**236**	*e*P	**Pn**	**02 48 48.1**	**-1.2**
MAJO						02 51 41.4	
MAJO				pmax	pmax		
	comp=Z,31nm,0.4s						
MAJO	**Matsushiro**	**16.04**	**236**	*e*Pn	**Pn**	**02 48 48.1**	**-1.2**
	comp=Z,31nm,0.4s						
MAJO				Sn	**Sn**	**02 51 41.4**	**-5.7**
MJAR	**Matsushiro Arr**	**16.04**	**236**	Pn	**Pn**	**02 48 48.4**	**-0.9**
	comp=Z,8.1nm,0.3s,baz=26,slow=19,SNR=35						
MJAR	**Matsushiro Arr**	**16.04**	**236**	P	**Pn**	**02 48 48.4**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KSRS	**Korea Array**	**21.91**	**255**	P	**P**	**02 50 02.9**	**+5.9**
	comp=Z,1.3nm,0.6s,mb3.6,baz=54,slow=12,SNR=2.8						
SONM	**Songino Array**	**32.41**	**290**	P	**P**	**02 51 33.0**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=60,slow=8.7,SNR=2.6						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**02 53 42.6**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=72,slow=6.9,SNR=5.1						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**02 54 11.5**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.2,baz=57,slow=7.2,SNR=11						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**02 54 11.5**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**02 54 11.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.76**	**310**	*e*P	**P**	**02 54 11.7**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.2						
AKTK	**Aktyubinsk**	**59.56**	**313**	P	**P**	**02 55 07.5**	**+0.2**
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**02 55 07.5**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=28,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**02 55 07.6**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**02 55 41.3**	**+0.8**
	comp=Z,1.0nm,0.4s,mb4.2,baz=43,slow=6.7,SNR=16						
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**	**02 55 41.3**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WB2	**Warramunga Arr**	**68.93**	**201**	P	**P**	**02 56 09.2**	**+0.4**
WRA	**Warramunga Arr**	**68.94**	**201**	P	**P**	**02 56 08.8**	**0.0**
	comp=Z,0.8nm,0.9s,mb3.6,baz=17,slow=7.0,SNR=6.7						
WRA	**Warramunga Arr**	**68.94**	**201**	P	**P**	**02 56 08.8**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.62**	**200**	P	**P**	**02 56 31.6**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=17,slow=5.2,SNR=16						
ASAR	**Alice Springs**	**72.62**	**200**	P	**P**	**02 56 31.7**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**02 56 53.7**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=303,slow=4.7,SNR=39						
TXAR	**Lajitas Array**	**76.47**	**62**	P	**P**	**02 56 53.7**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

ISCJB ***27*** *02:51:49.0±0.5, 603N±005×1257E±0.1, h162km±4km, mb4.2/14, Error ellipse: s-maj=18.2km s-min=7.6km az=154.1*
MAN ***27*** *02:51:49.9, 599N×12563E, h157km, mb3.2, ML4.5, MS2.3*
NEIC ***27*** *02:51:50.0±0.7, 609N×12583E, h158km±6km, mb4.5/6, Error ellipse: s-maj=27.4km s-min=5.8km az=72.0*
IDC ***27*** *02:51:51.4±4.4, 609N×12585E, h170km±41km, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, Error ellipse: s-maj=31.0km s-min=10.5km az=74.0*

ISC 27 02:51:50.3±0.5, 603N±005×1257E±01, h158km±4km, n36, σ0§74/40, mb4.2/14, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.76**	**274**	*e*P	**Pn**	**02 52 13.1**	**-0.9**
GSPH				*i* S	**Sn**	**02 52 30.5**	**-1.5**
DAV	**Davao City (W)**	**1.04**	**353**	⇑*e*P	**Pn**	**02 52 15.0**	**-1.0**
DAV	**Davao City (W)**	**1.04**	**353**	*e*Pn	**Pn**	**02 52 15.4**	**-0.7**
DAV				*e*Sn	**Sn**	**02 52 35.9**	**+0.1**
KCP	**Kidapawan**	**1.15**	**328**	⇑*e*P	**Pn**	**02 52 17.5**	**+0.5**
KCP				*i* S	**Sn**	**02 52 38.1**	**+0.7**
CTBH	**Cotabato--PC H**	**1.87**	**309**	⇓*i*P	**Pn**	**02 52 24.4**	**+0.1**
CTBH				*i* S	**Sn**	**02 52 50.4**	**-0.2**
BUKP	**Musuan**	**1.94**	**341**	*e*P	**Pn**	**02 52 25.4**	**+0.3**
BUKP				*e*S	**Sn**	**02 52 52.8**	**+0.7**
CGP	**Cagayan de Oro**	**2.61**	**337**	⇑*i*P	**Pn**	**02 52 26.7**	**-6.3**
CGP				*i* S	**Sn**	**02 53 06.9**	**+0.8**
SCPH	**Surigao**	**3.73**	**357**	*e*P	**Pn**	**02 52 47.6**	**+0.4**
KAKA	**Kakadu**	**19.79**	**160**	*e*P	**P**	**02 56 08.4**	**+0.1**
	28nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.98**	**180**	*e*P	**P**	**02 56 50.9**	**+0.7**
	12nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**23.98**	**180**	P	**P**	**02 56 51.1**	**+1.0**
	6.4nm,0.5s,mb4.4,baz=6.3,slow=8.3,SNR=33						
CBIJ	**Chichi jima**	**26.17**	**35**	P	**P**	**02 57 08.4**	**-1.5**
	53nm,0.5s,baz=105,slow=21,SNR=6.6						
WRAB	**Tennant Creek**	**27.17**	**162**	*e*P	**P**	**02 57 18.5**	**-0.4**
	3.5nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**27.17**	**162**	P	**P**	**02 57 18.6**	**-0.3**
	3.2nm,0.6s,mb4.1,baz=343,slow=9.4,SNR=28						
WRA				PcP	PcP	03 00 35.8	+0.7
	0.5nm,0.6s,baz=336,slow=2.5,SNR=4.7						
WB2	**Warramunga Arr**	**27.18**	**162**	*e*P	**P**	**02 57 18.6**	**-0.4**
ASPA	**Alice Springs**	**30.58**	**165**	*e*P	**P**	**02 57 49.6**	**+0.5**
ASAR	**Alice Springs**	**30.59**	**165**	P	**P**	**02 57 49.5**	**+0.3**
	4.5nm,0.5s,mb4.5,baz=344,slow=7.3,SNR=92						
ASAR				PcP	PcP	03 00 44.1	+0.3
	1.6nm,0.7s,baz=351,slow=2.1,SNR=9.9						
FORT	**Forrest**	**36.67**	**177**	*e*P	**P**	**02 58 42.6**	**+0.9**
	14nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**38.18**	**191**	*e*P	**P**	**02 58 55.1**	**+0.7**
MUN	**Mundaring**	**38.87**	**193**	*e*P	**P**	**02 59 00.9**	**+0.8**
STKA	**Stephens Creek**	**40.63**	**159**	*e*P	**P**	**02 59 15.5**	**+0.8**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**40.63**	**159**	P	**P**	**02 59 15.7**	**+1.0**
	14nm,0.7s,mb4.7,baz=332,slow=8.3,SNR=30						
STKA				PcP	PcP	03 01 12.0	-1.4
	1.9nm,0.5s,baz=0.0,slow=10,SNR=2.8						
SONM	**Songino Array**	**44.80**	**342**	P	**P**	**02 59 49.7**	**+1.4**
	0.2nm,0.4s,baz=168,slow=9.9,SNR=2.7						
SONM				PcP	PcP	03 01 27.6	+0.1
	1.2nm,0.7s,baz=168,slow=4.4,SNR=7.7						
MK31	**Makanchi Array**	**55.09**	**325**	*e*P	**P**	**03 01 06.1**	**+0.3**
MKAR	**Makanchi Array**	**55.09**	**325**	P	**P**	**03 01 06.4**	**+0.5**
	1.0nm,0.4s,mb3.9,baz=118,slow=7.8,SNR=28						
MKAR				PcP	PcP	03 02 04.8	-0.5
	0.5nm,0.4s,baz=54,slow=2.1,SNR=6.8						
BVAR	**Borovoye Array**	**64.85**	**327**	P	**P**	**03 02 11.5**	**-0.8**
	0.5nm,0.3s,mb3.8,baz=82,slow=4.8,SNR=5.6						
BRVK	**Borovoye**	**64.92**	**327**	*e*P	**P**	**03 02 12.4**	**-0.4**
	1.0nm,0.4s,mb4.0						
AKTK	**Aktyubinsk**	**71.23**	**321**	P	**P**	**03 02 51.9**	**-0.2**
AKTO	**Aktyubinsk**	**71.23**	**321**	P	**P**	**03 02 51.9**	**-0.2**
	1.3nm,0.5s,mb4.0,baz=100,slow=11,SNR=12						
MAW	**Mawson**	**85.55**	**200**	P	**P**	**03 04 10.7**	**+0.1**
	0.9nm,0.3s,mb4.0,baz=39,slow=9.1,SNR=4.1						
VNDA	**Vanda**	**85.83**	**173**	P	**P**	**03 04 10.9**	**-1.1**
	0.8nm,0.7s,mb3.5,baz=330,slow=7.3,SNR=5.9						
ARCES	**ARCESS Array B**	**87.95**	**340**	P	**P**	**03 04 20.8**	**-1.4**
	1.9nm,0.7s,mb4.1,baz=53,slow=6.3,SNR=6.0						
FINES	**FINESS Array B**	**89.33**	**332**	P	**P**	**03 04 27.6**	**-1.2**
	6.7nm,1.2s,mb4.4,baz=84,slow=3.9,SNR=7.5						
SYO	**Syowa Base**	**94.19**	**201**	⇑*e*P	**P**	**03 04 51.2**	**0.0**
TXAR	**Lajitas Array**	**120.97**	**51**	PKP	PKPdf	03 10 25.0	+1.1
	0.2nm,0.6s,baz=108,slow=0.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**121.22**	**289**	PKP	PKPdf	03 10 25.2	+0.8
	0.9nm,0.6s,baz=58,slow=1.6,SNR=22						

LDG ***27*** *03:06:44.7±0.1, 1425S×16682E, h10km, Mb4.5/2, Error ellipse: s-maj=16.1km s-min=3.6km az=84.0*
ISCJB ***27*** *03:06:52.7±1.9, 1504S±007×1673E±0.1, h100km±15km, mb4.5/17, Error ellipse: s-maj=19.1km s-min=9.1km az=122.5*
IDC ***27*** *03:06:53.3±2.3, 1496S×16732E, h92km±18km, mb4.2/14, mb1 4.3/16, mb1mx4.2/21, mbtmp4.3/16, MS3.5/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=19.8km s-min=12.0km az=66.0*
NEIC ***27*** *03:06:54.6±1.3, 1498S×16732E, h103km±11km, mb4.5/12, Error ellipse: s-maj=12.5km s-min=8.3km az=57.0*

ISC 27 03:06:53.8±1.6, 1499S±007×1673E±01, h97km±12km, n77, σ0§98/38, mb4.5/17, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.09**	**187**	P	**Pn**	**03 08 35.8**	**+0.9**
	48nm,0.3s,baz=3.7,slow=19,SNR=250						
DZM				S	**Sn**	**03 09 52.7**	**-1.2**
	4.5nm,0.3s,baz=280,slow=23,SNR=4.7						
HNR	**Honiara**	**9.09**	**307**	P	**Pn**	**03 09 02.8**	**+0.9**
	21nm,0.3s,baz=235,slow=2.5,SNR=9.4						
HNR				S	**Sn**	**03 10 39.7**	**-2.7**
	5.4nm,0.3s,baz=266,slow=13,SNR=1.9						
HNR	**Honiara**	**9.09**	**307**	*e*Pn	**Pn**	**03 09 02.8**	**+0.8**
	141nm,0.9s						
PMG	**Port Moresby**	**20.47**	**283**	P	**P**	**03 11 25.0**	**+1.3**
	16nm,0.7s,baz=92,slow=5.4,SNR=5.1						
PMG				LR	LR	03 17 26.1	
	comp=Z,88nm,19.8s,baz=254,slow=31						
PMG	**Port Moresby**	**20.47**	**283**	*e*P	**P**	**03 11 24.9**	**+1.2**
	25nm,0.9s						
CTA	**Charters Tower**	**20.72**	**253**	*e*P	**P**	**03 11 28.4**	**+2.1**
	4.5nm,0.7s						
CTA	**Charters Tower**	**20.72**	**253**	P	**P**	**03 11 28.2**	**+1.9**
	3.9nm,0.5s,baz=80,slow=11,SNR=7.4						
CTA				LR	LR	03 17 18.7	
	comp=Z,77nm,19.6s,baz=52,slow=30						
CTAO	**Charters Tower**	**20.72**	**253**	*e*P	**P**	**03 11 27.8**	**+1.4**
	5.2nm,0.7s						
URZ	**Urewera**	**24.74**	**161**	P	**P**	**03 12 05.8**	**-0.3**
	6.3nm,0.4s,mb4.4,baz=358,slow=11,SNR=8.8						
RPZ	**Rata Peaks**	**28.80**	**174**	P	**P**	**03 12 43.0**	**+0.4**
	16nm,0.8s,mb4.7,baz=31,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**28.87**	**230**	⇓*i*P	**P**	**03 12 44.3**	**+1.1**
	6.9nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**28.87**	**230**	P	**P**	**03 12 44.5**	**+1.3**
	7.0nm,0.5s,mb4.5,baz=48,slow=7.1,SNR=18						
STKA				PcP	PcP	03 15 50.9	+0.6
	2.3nm,0.7s,baz=146,slow=4.4,SNR=3.6						
WB2	**Warramunga Arr**	**31.81**	**256**	*e*P	**P**	**03 13 08.1**	**-1.0**
WRA	**Warramunga Arr**	**31.82**	**256**	P	**P**	**03 13 08.3**	**-0.9**
	5.2nm,0.6s,mb4.4,baz=85,slow=9.1,SNR=72						
WRA				PcP	PcP	03 15 56.6	-1.4
	0.5nm,0.7s,baz=83,slow=3.5,SNR=4.8						
AS31	**Alice Springs**	**32.63**	**249**	*e*P	**P**	**03 13 16.2**	**-0.1**
ASAR	**Alice Springs**	**32.63**	**249**	P	**P**	**03 13 16.1**	**-0.2**
	6.5nm,0.5s,mb4.7,baz=80,slow=9.0,SNR=92						
ASAR				PcP	PcP	03 16 00.3	+0.1
	1.1nm,0.7s,baz=90,slow=3.0,SNR=8.5						
ASAR				ScP	ScP	03 19 37.0	+1.8
	1.8nm,1.1s,baz=87,slow=3.6,SNR=7.2						
ASAR				LR	LR	03 26 13.1	
	comp=Z,67nm,19.1s,baz=17,slow=36						
ASPA	**Alice Springs**	**32.64**	**249**	*e*P	**P**	**03 13 16.2**	**-0.1**
FORT	**Forrest**	**39.21**	**240**	*e*P	**P**	**03 14 13.2**	**+0.7**
	27nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**40.02**	**260**	*e*P	**P**	**03 14 19.3**	**+0.1**
	13nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.02**	**260**	P	**P**	**03 14 19.3**	**+0.2**
	8.4nm,0.7s,mb4.7,baz=100,slow=7.1,SNR=22						
PPT	**Papeete**	**41.38**	**100**	LR	LR	03 29 06.0	
	comp=Z,149nm,20.7s,baz=72,slow=32						
MBWA	**Marble Bar**	**45.53**	**255**	*e*P	**P**	**03 15 04.1**	**+0.4**
	24nm,1.3s,mb4.8						
MJAR	**Matsushiro Arr**	**58.16**	**333**	P	**P**	**03 16 37.1**	**-0.3**
	1.9nm,0.7s,mb4.2,baz=125,slow=0.8,SNR=5.9						
VNDA	**Vanda**	**62.60**	**181**	P	**P**	**03 17 08.2**	**+0.5**
	3.1nm,0.5s,mb4.5,baz=357,slow=8.0,SNR=40						
VNDA	**Vanda**	**62.60**	**181**	*e*P	**P**	**03 17 08.1**	**+0.4**
	3.0nm,0.6s,mb4.4						
SBA	**Scott Base**	**62.88**	**180**	*e*P	**P**	**03 17 10.2**	**+0.7**
	7.1nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	**75.04**	**180**	*e*P	**P**	**03 18 25.0**	**+0.2**
	7.8nm,0.7s,mb4.5						
MAW	**Mawson**	**81.66**	**202**	P	**P**	**03 19 01.7**	**+0.4**
	1.6nm,0.5s,mb4.1,baz=56,slow=7.3,SNR=4.5						
MAW	**Mawson**	**81.66**	**202**	*e*P	**P**	**03 19 02.4**	**+1.1**
	1.7nm,0.6s,mb4.0						
SONM	**Songino Array**	**82.74**	**324**	P	**P**	**03 19 07.1**	**+0.2**
	2.1nm,0.7s,mb4.1,baz=154,slow=8.1,SNR=13						
SNAA	**Sanae**	**93.29**	**183**	*e*	**P**	**03 19 56.5**	**-1.1**
SNAA				*e*		03 20 00.4	
SNAA	**Sanae**	**93.29**	**183**	*e*P	**P**	**03 19 56.5**	**-1.2**
	3.6nm,1.0s,mb4.7						
VNA3	**Neumayer Olymp**	**93.95**	**181**	*e*	**P**	**03 19 59.5**	**-1.2**
VNA3				*e*		03 20 02.2	
VNA3				*e*		03 20 07.9	
VNA3				*e*	pP	03 20 24.2	-2.1
VNA2	**Neumayer--Watz**	**94.22**	**182**	*e*	**P**	**03 20 00.6**	**-1.3**
VNA2				*e*		03 20 04.3	
VNA2				*e*		03 20 10.3	
VNA2				*e*	pP	03 20 25.2	-2.3
VNA1	**Neumayer--Stat**	**94.52**	**181**	*e*	**P**	**03 20 00.3**	**-3.0**
VNA1				*e*		03 20 03.4	
VNA1				*e*		03 20 08.6	
TXAR	**Lajitas Array**	**96.35**	**61**	P	**P**	**03 20 12.2**	**+0.6**
	0.2nm,0.7s,mb3.7,baz=260,slow=5.4,SNR=2.2						
MKAR	**Makanchi Array**	**97.43**	**316**	P	**P**	**03 20 16.9**	**+0.4**
	1.3nm,0.6s,mb4.5,baz=83,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**120.52**	**345**	PKP	PKPdf	03 25 32.9	-1.1
	4.3nm,0.9s,baz=74,slow=2.3,SNR=19						
FINES	**FINESS Array B**	**125.99**	**338**	PKP	PKPdf	03 25 44.0	-0.5
	1.4nm,0.9s,baz=339,slow=4.7,SNR=4.0						
DAVOX	**Davos**	**143.14**	**334**	PKP	PKPdf	03 26 14.4	-2.0
	2.9nm,0.7s,baz=27,slow=4.5						
TIP	**Timpagrande**	**144.68**	**319**	*e*PKPdf	PKPdf	03 26 19.3	+0.2
AQU	**L'Aquila**	**144.69**	**326**	*e*PKPdf	PKPdf	03 26 19.2	+0.1
CABF	**La Chapelle**	**144.79**	**337**	*e*PKIKP	PKPdf	03 26 19.7	+0.4
	39nm,1.1s						
FLN	**La Foliniere**	**144.86**	**346**	*e*PKIKP	PKPdf	03 26 20.3	+0.9
	15nm,0.6s						
LDF	**La Druitiere**	**144.93**	**345**	*e*PKIKP	PKPdf	03 26 20.3	+0.8
LOR	**Lormes**	**145.00**	**340**	*e*PKIKP	PKPdf	03 26 19.9	+0.3
SSF	**Saint Saulge**	**145.30**	**340**	*e*PKIKP	PKPdf	03 26 20.3	+0.2
	44nm,0.9s						
GRR	**Gorron**	**145.30**	**346**	*e*PKIKP	PKPdf	03 26 21.1	+0.9
	46nm,0.9s						
LPL	**La Plagne**	**145.45**	**336**	*e*PKIKP	PKPdf	03 26 22.2	+1.8
	37nm,1.0s						
LPG	**La Plagne**	**145.46**	**336**	*e*PKIKP	PKPdf	03 26 22.3	+1.9
	30nm,0.9s						
SMF	**Signal de Mont**	**145.55**	**340**	*e*PKIKP	PKPdf	03 26 22.1	+1.5
	32nm,1.0s						
SGMF	**Saint Gilles**	**145.80**	**348**	*e*PKIKP	PKPdf	03 26 22.0	+1.0
BNI	**Bardonecchia**	**145.86**	**335**	*e*PKP	PKPdf	03 26 23.0	+1.9
ROSF	**Rostrenen**	**145.86**	**349**	*e*PKIKP	PKPdf	03 26 21.9	+0.8
BGF	**Bois d'Agland**	**145.96**	**341**	*e*PKIKP	PKPdf	03 26 22.5	+1.2
	15nm,0.7s						
MBDF	**Montbardon**	**146.09**	**335**	*e*PKIKP	PKPdf	03 26 23.0	+1.5
	12nm,0.8s						
QUIF	**Quistinic**	**146.24**	**348**	*e*PKIKP	PKPdf	03 26 22.9	+1.1
ORIF	**Oris-en-Rattie**	**146.29**	**336**	*e*PKIKP	PKPdf	03 26 23.5	+1.7
	30nm,0.8s						
TCF	**Toulx Ste Croi**	**146.40**	**341**	*e*PKIKP	PKPdf	03 26 23.6	+1.6
	53nm,1.2s						
SBF	**Sospel**	**146.50**	**333**	*e*PKIKP	PKPdf	03 26 23.9	+1.7
MFF	**Saint Martin d**	**146.79**	**344**	*e*PKIKP	PKPdf	03 26 24.2	+1.5
	35nm,1.0s						
VIVF	**Saint-Julien-l**	**146.80**	**337**	*e*PKIKP	PKPdf	03 26 24.2	+1.5
PGF	**Pioggiola**	**146.81**	**330**	*e*PKIKP	PKPdf	03 26 24.3	+1.6
FRF	**La Foret Royal**	**147.09**	**334**	*e*PKIKP	PKPdf	03 26 24.8	+1.6
SMRF	**Simiane la Rot**	**147.19**	**335**	*e*PKIKP	PKPdf	03 26 24.9	+1.5
LMR	**La Mourre**	**147.33**	**334**	*e*PKIKP	PKPdf	03 26 25.2	+1.6
	29nm,1.1s						
RJF	**Les Rejaudoux**	**147.49**	**341**	*e*PKIKP	PKPdf	03 26 25.4	+1.5
CAF	**Calviac**	**147.66**	**340**	*e*PKIKP	PKPdf	03 26 25.6	+1.5
	11nm,0.9s						
LASF	**Ste Croix**	**147.77**	**337**	*e*PKIKP	PKPdf	03 26 25.9	+1.6
LFF	**La Frestale**	**148.06**	**342**	*e*PKIKP	PKPdf	03 26 26.2	+1.4
MTLF	**Montolieu**

KUDL				AML	AML	03 26 48.6		
	comp=E,6.9nm,0.3s							
KOLN	**Koldanda**	**13.22**	**128**	*e*P	**Pn**	**03 26 01.2**	**-1.9**
	comp=E,5.9nm,0.3s							
GKN	**Gorkha**	**13.73**	**125**	*e*P	**Pn**	**03 26 09.5**	**-0.1**
	comp=E,13nm,0.3s							
KKN	**Kakani**	**14.29**	**124**	*e*P	**Pn**	**03 26 16.5**	**-0.3**
DMN	**Daman**	**14.30**	**125**	*e*P	**Pn**	**03 26 17.0**	**+0.2**
	comp=E,8.9nm,0.3s							
PKI	**Pulchoki**	**14.52**	**124**	*e*P	**Pn**	**03 26 20.4**	**+0.8**
	comp=E,5.6nm,0.3s							
JIRN	**Jiri**	**14.99**	**122**	*e*P	**Pn**	**03 26 26.0**	**+0.6**
	comp=E,11nm,0.2s							
AB31	**Akbulak array**	**15.38**	**329**	⇓Pn	**Pn**	**03 26 29.3**	**-1.0**
	comp=E,0.4nm,0.3s							
AB31				⇑Sn	**Sn**	**03 29 06.9**	**-15**
	comp=E,0.7nm,0.6s,baz=156,slow=22,SNR=3.1							
AKTO	**Aktyubinsk**	**17.09**	**328**	⇑P	**Pn**	**03 26 52.1**	**+1.0**
	comp=E,0.3nm,2.0s							

NIED ***27*** *03:25:00, 39.80N×143.40E, h20km, Mw3.6 Best double couple: M0 2.41000×10^14 NP1:φ=221.00000°, δ=79.00000°, λ=-88.00000°. NP2:φ=29.00000°, δ=12.00000°, λ=-102.00000°.*

JMA 27 03:25:34.8±0.2, 3978N×14341E, h32km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.20**	**278**	P	**Pn**	**03 25 55.8**	**+0.5**
JTH				*e*S	Sn	03 26 11.1	+0.6
MIYJ	**Miyakonagasawa**	**1.24**	**261**	P	Pn	03 25 56.7	+0.8
MIYJ				*e*S	Sn	03 26 12.1	+0.5
OFUJ	**Ofunato**	**1.52**	**243**	P	Pn	03 26 00.4	+0.7
OFUJ				*e*S	Sn	03 26 19.1	+0.7
JANG	**Nango**	**1.57**	**293**	P	Pn	03 26 01.2	+0.8
JANG				*e*S	Sn	03 26 21.0	+1.4
JOM	**Ohasama**	**1.66**	**260**	P	Pn	03 26 03.3	+1.6
JOM				*e*S	Sn	03 26 24.0	+2.0
JMK	**Ichinoseki**	**1.89**	**245**	P	Pn	03 26 05.8	+1.0
JIO	**Ouri**	**2.08**	**231**	P	Pn	03 26 07.9	+0.5
JYK	**Kaneyama**	**2.52**	**251**	P	Pn	03 26 15.4	+1.9
JNBK	**Urakawa-nobuka**	**2.55**	**349**	P	Pn	03 26 16.4	+2.5
JMM	**Marumori**	**2.80**	**228**	P	Pn	03 26 17.8	+0.5
JCH	**Churui**	**2.83**	**359**	*e*S	Sn	03 26 51.7	+0.9

ISCJB ***27*** *03:26:13.7±0.6, 110S±0.1×8723E±009, h10km, mb4.1/11, MS3.6/4, Error ellipse: s-maj=16.0km s-min=12.9km az=22.7*

IDC ***27*** *03:26:14.2±0.8, 1101S×8723E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/24, mbtmp4.0/10, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/31, Error ellipse: s-maj=24.1km s-min=18.7km az=3.0*

NEIC ***27*** *03:26:15.6±0.3, 1105S×8723E, h10km, mb4.4/2, Error ellipse: s-maj=10.4km s-min=8.4km az=191.0*

ISC 27 03:26:16.1±0.6, 110S±01×8725E±009, h10km, n19, σ0≧38/15, mb4.1/11, MS3.6/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**17.94**	**41**	P	**Pn**	**03 30 25.8**	**+0.1**
	0.1nm,0.3s,baz=162,slow=21,SNR=3.7						
PSI				LR	LR	03 36 01.4	
	comp=Z,110nm,19.1s,baz=235,slow=33						
OPO	**Ambohidratompo**	**39.40**	**254**	P	**P**	**03 33 45.7**	**-0.3**
	5.4nm,1.1s,mb4.2,baz=74,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**46.09**	**112**	P	**P**	**03 34 40.4**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=286,slow=7.7,SNR=20						
ASAR				LR	LR	03 53 37.5	
	comp=Z,42nm,20.4s,MS3.4,baz=221,slow=36						
AS31	**Alice Springs**	**46.09**	**112**	*e*P	**P**	**03 34 40.0**	**-0.3**
WRA	**Warramunga Arr**	**46.12**	**107**	P	**P**	**03 34 40.8**	**+0.2**
	4.2nm,0.7s,mb4.5,baz=276,slow=9.9,SNR=57						
WB2	**Warramunga Arr**	**46.13**	**107**	*e*P	**P**	**03 34 40.7**	**+0.1**
STKA	**Stephens Creek**	**54.10**	**121**	P	**P**	**03 35 40.7**	**-0.4**
	0.8nm,0.6s,mb3.9,baz=323,slow=22,SNR=2.9						
STKA				LR	LR	03 59 06.8	
	comp=Z,64nm,18.1s,MS3.7,baz=38,slow=36						
MATP	**Matopo**	**57.09**	**253**	P	**P**	**03 36 03.0**	**+0.5**
	5.0nm,0.8s,mb4.6,baz=88,slow=4.6,SNR=8.9						
LSZ	**Lusaka**	**57.54**	**259**	P	**P**	**03 36 05.9**	**+0.2**
	1.9nm,0.7s,mb4.2,baz=70,slow=2.3,SNR=5.1						
MKAR	**Makanchi Array**	**57.67**	**356**	P	**P**	**03 36 06.0**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=182,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**57.67**	**356**	P	**P**	**03 36 06.0**	**-0.6**
SONM	**Songino Array**	**60.97**	**15**	P	**P**	**03 36 30.3**	**+0.8**
	0.9nm,0.8s,mb4.0,baz=200,slow=6.9,SNR=6.5						
KSRS	**Korea Array**	**61.43**	**36**	LR	LR	04 03 42.6	
	comp=Z,29nm,18.2s,MS3.5,baz=30,slow=37						
BVAR	**Borovoye Array**	**65.35**	**349**	P	**P**	**03 36 58.3**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=165,slow=6.0,SNR=3.7						
BRVK	**Borovoye**	**65.41**	**349**	P	**P**	**03 36 59.0**	**+0.1**
	1.3nm,0.6s,mb4.1						
ARU	**Arti**	**71.25**	**344**	P	**P**	**03 37 35.2**	**-0.3**
	2.0nm,0.5s,mb4.3						
VNDA	**Vanda**	**76.04**	**168**	LR	LR	04 04 51.6	
	comp=Z,36nm,21.3s,MS3.6,baz=176,slow=30						
RSSD	**Black Hills**	**145.56**	**14**	*e*PKPdf	PKPdf	03 45 55.4	+0.9
NATX	**Nacogdoches**	**159.23**	**5**	*e*PKPdf	PKPdf	03 46 13.9	-0.7

ISCJB ***27*** *03:32:59.5±0.6, 2123S±0.005×684W±0.1, h125km±9km, mb3.9/6, Error ellipse: s-maj=17.5km s-min=6.6km az=25.2*

IDC ***27*** *03:33:01.8±0.8, 2115S×6820W, h121km±8km, mb3.8/4, mb1 4.0/6, mb1mx3.6/16, mbtmp3.9/6, Error ellipse: s-maj=25.2km s-min=8.9km az=106.0*

NEIC ***27*** *03:33:03.4, 2199S×6804W, h160km, mb3.8/2, MD4.0(GUC), After GUC.*

GUC ***27*** *03:33:03.4±0.9, 2199S×6804W, h160km, MD4.0, ML4.4*

ISC 27 03:33:00.3±0.6, 2125S±004×6831W±010, h111km±9km, n26, σ1≧51/32, mb3.9/6, 1C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.47**	**202**	P	**Pn**	**03 33 31.1**	**+4.4**
	335nm,0.3s,baz=90,slow=2.9,SNR=2974						
LVC				S	**Sn**	**03 33 52.6**	**+5.8**
	184nm,0.3s,baz=90,slow=23,SNR=54						
LVC	**Limon Verde**	**1.47**	**202**	⇑*e*Pn	**Pn**	**03 33 30.6**	**+3.9**
LVC				*e*Sn	**Sn**	**03 33 51.8**	**+5.0**
CEN1	**Los Morros**	**2.76**	**219**	⇓*i*P	**Pn**	**03 33 47.8**	**+4.7**
CEN1				*i* S	**Sn**	**03 34 21.6**	**+5.6**
CEN1				AML	AML	03 34 25.1	
	comp=N,754nm,0.5s						
ANCH	**Antofagasta**	**3.10**	**218**	⇓*i*P	**Pn**	**03 33 49.4**	**+1.7**
ANCH				*i* S	**Sn**	**03 34 24.2**	**0.0**
ANCH				AML	AML	03 34 27.0	
	comp=E,868nm,0.1s						
ANCH	**Antofagasta**	**3.10**	**218**	⇓*i*P	**Pn**	**03 33 49.4**	**+1.7**
ANCH				*i* S	**Sn**	**03 34 24.2**	**0.0**
CPN1	**Cerro Paranal**	**3.88**	**209**	*i* P	**Pn**	**03 33 59.0**	**+1.1**
CPN1				*i* S	**Sn**	**03 34 41.0**	**-1.6**
CPN1				AML	AML	03 34 49.7	
	comp=E,534nm,0.5s						
LPAZ	**La Paz**	**4.94**	**2**	P	**Pn**	**03 34 14.9**	**+2.7**
	comp=E,4.1nm,0.3s,baz=172,slow=7.5,SNR=91						
LPAZ				S	**Sn**	**03 35 09.4**	**+1.3**
	comp=E,0.8nm,0.3s,baz=158,slow=13,SNR=1.9						
LPAZ	**La Paz**	**4.94**	**2**	*e*Pn	**Pn**	**03 34 15.0**	**+2.7**
ARE	**Arequipa**	**5.63**	**327**	P	**Pn**	**03 34 20.0**	**-1.6**
ARE				*e*S	**Sn**	**03 35 19.0**	**-6.0**
CDCH	**Caldera**	**6.24**	**201**	⇓*e*P	**Pn**	**03 34 28.2**	**-1.6**
CDCH				*i* S	**Sn**	**03 35 32.9**	**-6.7**
SIV	**San Ignacio**	**8.63**	**54**	P	**Pn**	**03 35 02.0**	**-0.2**
	comp=E,10nm,0.3s,baz=250,slow=12,SNR=169						
SIV				S	**Sn**	**03 36 34.1**	**-3.6**
	comp=E,0.1nm,0.3s,baz=145,slow=22,SNR=3.9						
CFAA	**Coronel Fontan**	**10.32**	**180**	P	**Pn**	**03 35 23.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=356,slow=13,SNR=7.3						
CFAA				S	**Sn**	**03 37 11.2**	**-7.5**
	comp=E,0.2nm,0.3s,baz=250,slow=20,SNR=8.0						
SAML	**Samuel**	**13.19**	**23**	*e*Pn	**Pn**	**03 36 01.0**	**-2.2**
TRQA	**Tornquist**	**17.62**	**163**	*e*P	**Pn**	**03 37 00.3**	**+1.6**
OTAV	**Otavalo**	**23.54**	**334**	P	**P**	**03 38 02.2**	**+1.8**
	comp=E,1.8nm,0.5s,mb3.7						
SDV	**Santo Domingo**	**30.03**	**355**	*e*P	**P**	**03 38 56.8**	**-1.8**
	comp=E,0.9nm,0.4s,mb3.8						
SNAA	**Sanae**	**62.34**	**161**	P	**P**	**03 43 11.9**	**+1.0**
	comp=E,0.5nm,0.6s,mb3.7,baz=282,slow=7.0,SNR=14						
TOA0	**Torodi Ar. Sit**	**76.75**	**70**	*e*P	**P**	**03 44 38.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.75**	**70**	P	**P**	**03 44 39.3**	**-0.1**
	comp=E,2.0nm,0.5s,mb4.1,baz=255,slow=5.2,SNR=35						
MATP	**Matopo**	**88.79**	**111**	P	**P**	**03 45 43.4**	**+1.8**
	comp=E,1.0nm,0.5s,mb4.1,baz=270,slow=3.0,SNR=3.6						
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**	**03 45 51.1**	**-1.4**
	comp=E,0.6nm,0.5s,mb4.0,baz=132,slow=4.6,SNR=8.9						
YKA				pP	pP	03 46 13.1	-8.3
	comp=E,0.6nm,0.6s,baz=123,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**130.39**	**207**	PKP	PKPdf	03 51 57.0	-0.6
	comp=E,0.3nm,0.5s,baz=140,slow=1.9,SNR=6.7						
WRA	**Warramunga Arr**	**133.45**	**210**	PKP	PKPdf	03 52 05.1	+1.7
	comp=E,0.7nm,0.6s,baz=155,slow=1.8,SNR=10						
MKAR	**Makanchi Array**	**145.10**	**36**	PKP	PKPdf	03 52 24.4	-0.1
	comp=E,0.9nm,0.5s,baz=353,slow=2.6,SNR=14						
MKAR	**Makanchi Array**	**145.10**	**36**	PKP	PKPdf	03 52 24.4	-0.1
BJT	**Baijiatuau**	**160.90**	**349**	*e*PKPdf	PKPdf	03 52 47.2	0.0

IDC ***27*** *03:51:48.1±0.8, 4634N×15327E, h0km, mb3.9/14, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, MS3.6/1, Ms1 3.6/1, ms1mx2.8/38, Error ellipse: s-maj=22.2km s-min=19.3km az=154.0*

NEIC ***27*** *03:51:49.8±0.5, 4632N×15327E, h10km, mb4.8/3, Error ellipse: s-maj=12.8km s-min=11.4km az=159.0*

ISCJB ***27*** *03:51:52.7±1.5, 463N±0.1×1533E±0.1, h42km±11km, mb4.0/16, MS3.6/1, Error ellipse: s-maj=20.8km s-min=10.1km az=109.5*

MOS ***27*** *03:51:53.5±1.0, 4635N×15324E, h50km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=12.6km az=77.6*

ISC 27 03:51:55.3±1.3, 464N±01×1533E±01, h50km±10km, n47, σ0≧82/49, mb4.0/16, MS3.6/1, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.96**	**256**	⇓*i*PN	**Pn**	**03 52 51.5**	**-2.1**
KUR				*e*S	**Sn**	**03 53 39.0**	**+0.3**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				smax			
	comp=N,190nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.72**	**22**	*e*PN	**Pn**	**03 53 04.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**5.75**	**249**	*e*PN	**Pn**	**03 53 19.5**	**+1.5**
YUK				*e*S	**Sn**	**03 54 28.0**	**+5.4**
YUK				smax			
	comp=N,230nm,0.6s						
YUK				smax			
	comp=E,110nm,0.4s						
ASAJ	**Asahikawa**	**7.88**	**257**	Pn	**Pn**	**03 53 47.4**	**+0.1**
	comp=E,0.9nm,0.3s,baz=88,slow=20,SNR=11						
ASAJ	**Asahikawa**	**7.88**	**257**	PN	**Pn**	**03 53 47.4**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.81**	**254**	P	**P**	**03 56 32.9**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=55,slow=11,SNR=4.5						
SONM	**Songino Array**	**31.59**	**290**	P	**P**	**03 58 12.6**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.5,baz=34,slow=11,SNR=4.0						
SONM	**Songino Array**	**31.59**	**290**	P	**P**	**03 58 12.6**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.24**	**298**	P	**P**	**04 00 22.7**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=65,slow=6.8,SNR=12						
MKAR				LR	LR	04 21 23.3	
	comp=Z,71nm,19.4s,MS3.6,baz=88,slow=38						
MKAR	**Makanchi Array**	**47.24**	**298**	P	**P**	**04 00 22.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,71nm,19.4s						
LSA	**Lhasa**	**50.43**	**274**	P	**P**	**04 00 49.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.8						
LSA	**Lhasa**	**50.43**	**274**	P	**P**	**04 00 49.1**	**+1.3**
	comp=Z,2.2nm,0.2s,mb4.8						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**04 00 53.1**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=297,slow=7.1,SNR=8.4						
YKA	**Yellowknife Ar**	**51.16**	**37**	P	**P**	**04 00 53.1**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.21**	**310**	P	**P**	**04 00 52.2**	**-1.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=53,slow=7.6,SNR=8.0						
BVAR	**Borovoye Array**	**51.21**	**310**	P	**P**	**04 00 52.2**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
IMW	**Indian Meadow**	**63.38**	**54**	*e*P	**P**	**04 02 24.1**	**+4.6**
	comp=Z,9.8nm,1.1s,mb4.8						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**04 02 25.7**	**-0.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=28,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**04 02 25.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**04 02 25.7**	**-0.9**
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**04 02 29.7**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=270,slow=4.4,SNR=2.8						
WRA	**Warramunga Arr**	**68.18**	**199**	P	**P**	**04 02 49.3**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=17,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**68.18**	**199**	P	**P**	**04 02 49.3**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.64**	**341**	P	**P**	**04 02 53.2**	**-0.1**
	comp=Z,30nm,1.7s,mb5.0,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**04 02 52.7**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=29,slow=6.3,SNR=7.8						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**04 02 52.7**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**71.87**	**199**	P	**P**	**04 03 12.8**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=15,slow=7.1,SNR=6.8						
ASAR	**Alice Springs**	**71.87**	**199**	P	**P**	**04 03 12.8**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**04 03 12.8**	**-0.7**
	comp=Z,4.6nm,0.7s,mb4.5,baz=34,slow=6.3,SNR=20						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**04 03 12.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIEV	**Kiev**	**71.96**	**326**	*e*P	**P**	**04 03 12.6**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KIEV	**Kiev**	**71.96**	**326**	*e*P	**P**	**04 03 12.6**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.3						
BURAR	**Bucovina Array**	**75.99**	**327**	⇓*i*P	**P**	**04 03 37.3**	**+0.2**
MORC	**Moravsky Berou**	**76.85**	**332**	⇓*i*P	**P**	**04 03 42.6**	**+0.7**
CLL	**Collm**	**76.88**	**336**	*e*P	**P**	**04 03 42.0**	**-0.1**
MLR	**Muntele Rosu**	**77.46**	**325**	⇑*i*P	**P**	**04 03 47.0**	**+1.6**
TXAR	**Lajitas Array**	**77.58**	**61**	P	**P**	**04 03 46.1**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=309,slow=3.7,SNR=10						
TXAR	**Lajitas Array**	**77.58**	**61**	P	**P**	**04 03 46.2**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PRU	**Pruhonice**	**77.60**	**334**	*e*P	**P**	**04 03 46.6**	**+0.4**
DRGR		**77.62**	**328**	⇑*i*P	**P**	**04 03 46.7**	**+0.4**
KHC	**Kasperske Hory**	**78.65**	**334**	*e*P	**P**	**04 03 52.4**	**+0.4**
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**04 03 52.5**	**-0.1**
	comp=Z,0.9nm,1.0s,mb3.7,baz=131,slow=3.4,SNR=4.7						
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**04 03 52.5**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**78.87**	**334**	P	**P**	**04 03 53.0**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=19,slow=9.3,SNR=8.9						
GERES	**GERESS Array B**	**78.87**	**334**	P	**P**	**04 03 53.0**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BZS	**Buzias**	**79.02**	**328**	⇑*i*P	**P**	**04 03 53.9**	**-0.1**
VTS	**Vitosha**	**80.97**	**325**	⇑*i*P	**P**	**04 04 05.9**	**+1.4**

IDC 27 03:59:12.1±0.9, 4650N×15559E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/37, Error ellipse: s-maj=24.6km s-min=21.8km az=132.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**9.46**	**260**	Pn	Pn	04 01 31.1	+1.5
	0.6nm,0.3s,baz=126,slow=13,SNR=2.4						
ASAJ				LR	LR	04 04 27.8	
	comp=Z,34nm,20.0s,baz=205,slow=33						
SONM	**Songino Array**	**33.02**	**291**	P	P	04 05 47.0	-2.0
	0.3nm,0.7s,baz=56,slow=16,SNR=2.8						
INK	**Inuvik**	**40.95**	**32**	P	P	04 06 54.5	-1.9
	0.6nm,0.4s,baz=307,slow=3.4,SNR=11						
MKAR	**Makanchi Array**	**48.56**	**299**	P	P	04 07 56.5	-0.6
	0.3nm,0.5s,baz=75,slow=8.0,SNR=3.9						
BVAR	**Borovoye Array**	**52.33**	**310**	P	P	04 08 25.2	-0.4
	0.7nm,0.5s,baz=72,slow=6.4,SNR=4.7						
FINES	**FINESS Array B**	**64.98**	**336**	P	P	04 09 53.5	-0.2
	0.8nm,0.5s,baz=38,slow=7.2,SNR=8.0						
WRA	**Warramunga Arr**	**68.87**	**201**	P	P	04 10 17.5	-1.0
	0.6nm,0.7s,baz=20,slow=6.7,SNR=7.7						
ASAR	**Alice Springs**	**72.55**	**201**	P	P	04 10 41.5	+0.6
	0.3nm,0.7s,baz=20,slow=5.5,SNR=6.1						
TXAR	**Lajitas Array**	**76.11**	**62**	P	P	04 11 02.5	+0.8
	0.5nm,0.6s,baz=295,slow=4.9,SNR=6.9						
BRTR	**Keskin Array B**	**79.73**	**318**	P	P	04 11 23.8	+1.9
	0.2nm,0.5s,baz=44,slow=4.4,SNR=4.0						

IDC 27 04:14:09.8±11.0, 302S×15048E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=189.2km s-min=93.2km az=15.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**23.04**	**222**	*e*P	P	04 19 17.4	+0.8
WRA	**Warramunga Arr**	**23.05**	**222**	P	P	04 19 17.6	+0.9
	0.6nm,0.5s,baz=47,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**26.04**	**217**	P	P	04 19 44.2	-0.5
	0.4nm,0.3s,baz=47,slow=8.3,SNR=7.5						
STKA	**Stephens Creek**	**29.90**	**195**	P	P	04 20 19.8	+0.6
	1.2nm,0.6s,baz=0.0,slow=7.1,SNR=2.3						

IDC ***27*** *04:42:33.9±1.8, 5366N×16366W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=49.5km s-min=22.9km az=1.0*

ISCJB ***27*** *04:42:35.7±1.5, 534N±0.1×1635W±0.1, h35km±13km, mb3.7/5, Error ellipse: s-maj=21.2km s-min=9.8km az=121.3*

NEIC ***27*** *04:42:37.5, 5343N×16369W, h15km, ML3.4(AEIC), After AEIC.*

ISC 27 04:42:34.7±3.5, 5345N±009×1636W±01, h11km±25km, n15, σ0≧80/17, mb3.7/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.41**	**4**	P	**Pn**	**04 43 00.8**	**+0.5**
FALS				S	**Sn**	**04 43 19.4**	**+0.5**
AKA	**Akutan**	**1.46**	**299**	P	**Pn**	**04 43 00.7**	**-0.2**
AKUT	**Akutan**	**1.46**	**299**	P	**Pn**	**04 43 00.8**	**-0.2**
AKLV	**Akutan Long Va**	**1.57**	**298**	P	**Pn**	**04 43 02.2**	**-0.3**
UNV	**Unalaska Valle**	**1.77**	**284**	P	**Pn**	**04 43 05.0**	**-0.2**
SDPT	**Sand Point**	**2.64**	**43**	P	**Pn**	**04 43 18.4**	**+1.2**
OKCD	**Okmok Cone D**	**2.70**	**271**	P	**Pn**	**04 43 18.5**	**+0.5**
OKCE	**Okmok Cone E**	**2.73**	**271**	P	**Pn**	**04 43 19.1**	**+0.6**
KDAK	**Kodiak Island**	**7.60**	**51**	Pn	**Pn**	**04 44 24.3**	**-1.0**
	1.2nm,0.3s,baz=143,slow=23,SNR=12						
KDAK				Sn	**Sn**	**04 45 44.1**	**-7.2**
	0.5nm,0.3s,baz=315,slow=14,SNR=6.7						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**04 47 12.4**	**-0.8**
	0.4nm,0.3s,baz=236,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**26.88**	**51**	P	**P**	**04 48 14.0**	**-1.4**
	0.6nm,0.7s,mb3.3,baz=269,slow=8.3,SNR=5.9						
TXAR	**Lajitas Array**	**49.29**	**94**	P	**P**	**04 51 24.9**	**+1.4**
	0.4nm,0.5s,mb3.7,baz=302,slow=5.7,SNR=12						
SONM	**Songino Array**	**53.69**	**303**	P	**P**	**04 51 56.2**	**-0.2**
	0.7nm,0.4s,mb3.9,baz=42,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**65.52**	**316**	P	**P**	**04 53 16.8**	**-1.3**
	0.9nm,0.8s,mb3.6,baz=55,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**86.01**	**347**	P	**P**	**04 55 15.9**	**+0.8**
	0.6nm,0.9s,mb3.8,baz=20,slow=3.1,SNR=3.9						

MAN 27 04:47:20.9, 1688N×12000E, h17km, mb3.3, ML4.5, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.51**	**189**	*e*P	Pg	04 47 33.0	+1.9
BOLP				*e*S	Sg	04 47 42.0	+4.1
BCPH	**Baguio City Da**	**0.75**	**132**	⇑*i*P	Pb	04 47 34.4	-1.1
BCPH				*i* S	Sb	04 47 43.7	-1.8
APYP	**Conner**	**1.54**	**51**	*e*P	Pn	04 47 45.3	-2.2
APYP				*e

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.53**	**259**	Pn	Pn	05 36 10.9	-0.3
	0.7nm,0.3s,baz=113,slow=33,SNR=3.5						
ASAJ				LR	LR	05 40 10.6	
	comp=Z,29nm,20.4s,baz=357,slow=40						
KSRS	**Korea Array**	**22.45**	**256**	P	P	05 38 53.7	+0.4
	1.8nm,0.6s,baz=65,slow=10,SNR=3.3						
SONM	**Songino Array**	**32.95**	**290**	P	P	05 40 27.8	-1.3
	0.4nm,0.6s,baz=64,slow=9.8,SNR=3.1						
MKAR	**Makanchi Array**	**48.45**	**298**	P	P	05 42 36.0	-1.0
	0.5nm,0.7s,baz=65,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**49.88**	**37**	P	P	05 42 47.0	-0.9
	0.1nm,0.5s,baz=297,slow=6.8,SNR=2.8						
NVAR	**Mina Array Bea**	**60.90**	**64**	P	P	05 44 07.2	-0.1
	0.3nm,0.5s,baz=289,slow=8.5,SNR=3.6						
FINES	**FINESS Array B**	**64.75**	**336**	P	P	05 44 32.4	-0.6
	3.4nm,1.0s,baz=19,slow=12,SNR=3.2						
AKASG	**Malin Array Be**	**72.48**	**328**	P	P	05 45 22.7	+1.4
	0.5nm,0.4s,baz=34,slow=6.5,SNR=2.7						
ASAR	**Alice Springs**	**72.80**	**201**	P	P	05 45 23.4	+0.3
	0.5nm,0.8s,baz=21,slow=7.3,SNR=5.8						
TXAR	**Lajitas Array**	**75.98**	**62**	P	P	05 45 41.6	-0.1
	0.5nm,0.6s,baz=300,slow=4.6,SNR=11						

*ISCJB **27** 05:34:20.0±0.5, 6033N±005×13956W±006, h10km, Error ellipse: s-maj=7.9km s-min=4.3km az=12.7*
*NEIC **27** 05:34:20.0, 6039N×13942W, h3km, ML3.4(AEIC), After AEIC.*
*PGC **27** 05:34:22.5±1.5, 6037N×13931W, h5km, ML3.6/5, 106km southwest of Haines Jct., Yt Southeastern Alaska*
ISC 27 05:34:21.0±0.4, 6032N±005×13943W±006, h10km, n26, σ1§38/29, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.65**	**178**	P	Pg	05 34 34.1	+0.5
HYT	**Haines Junctio**	**1.08**	**61**	Trac			
HYT	**Haines Junctio**	**1.08**	**61**	P	Pg	05 34 40.5	-1.3
HYT				S	Sg	05 34 54.7	-1.1
PLBC	**Pleasant Camp**	**1.77**	**118**	Trac			
PLBC	**Pleasant Camp**	**1.77**	**118**	Pn	Pn	05 34 53.1	+1.5
PLBC				Sg	Sg	05 35 16.2	-1.7
SKAG	**Skagway**	**2.24**	**111**	*e*P	Pn	05 34 59.4	+1.3
WHY	**Whitehorse**	**2.28**	**79**	Trac			
WHY	**Whitehorse**	**2.28**	**79**	Pn	Pn	05 34 59.4	+0.8
WHY				Sg	Sn	05 35 29.9	+3.1
BMRM	**Bremner River**	**2.63**	**287**	P	Pn	05 35 01.6	-1.8
EYAK	**Cordova Ski Ar**	**3.14**	**277**	P	Pn	05 35 09.6	-0.8
DIV	**Divide**	**3.22**	**287**	P	Pn	05 35 10.7	-0.9
MENT	**Mentasta**	**3.33**	**324**	*e*P	Pn	05 35 14.9	+1.8
DAWY	**Dawson**	**3.76**	**0**	Trac			
DAWY	**Dawson**	**3.76**	**0**	Pn	Pn	05 35 19.8	+0.8
DAWY	**Dawson**	**3.76**	**0**	P	Pn	05 35 16.1	-2.9
SIT	**Sitka**	**3.91**	**145**	P	Pn	05 35 20.0	-1.1
EGAK	**Eagle**	**4.55**	**351**	*e*Pn	Pn	05 35 30.6	+0.8
EGAK				*e*Sg	Sg	05 36 42.2	-4.8
SML	**Sawmill**	**4.57**	**293**	Pn	Pn	05 35 26.2	-4.0
PMR	**Palmer**	**4.90**	**289**	*e*Pn	Pn	05 35 36.5	+1.8
PMR				Sn	Sn	05 36 31.2	-0.2
SEW	**Seward**	**5.00**	**272**	P	Pn	05 35 34.4	-1.7
RC01	**Rabbit Creek A**	**5.12**	**283**	P	Pn	05 35 36.6	-1.1
DLBC	**Dease Lake**	**5.17**	**107**	Trac			
DLBC	**Dease Lake**	**5.17**	**107**	Pn	Pn	05 35 39.3	+1.0
DLBC				Pg	Pg	05 35 54.0	-5.9
DLBC				Sg	Sg	05 37 01.2	-5.7
SLKM	**Skilak Lake**	**5.35**	**277**	*e*Pn	Pn	05 35 43.0	+2.1
MCK	**McKinley**	**5.63**	**312**	*e*Pn	Pn	05 35 49.5	+4.8
	6.0nm,0.5s						
COLA	**College**	**6.00**	**323**	*e*Pn	Pb	05 36 00.4	-5.2
COLA				*e*S	Sb	05 37 27.1	+10

*IDC **27** 05:41:07.9±0.7, 4743N×15576E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/25, mbtmp4.1/18, ML4.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/33, Error ellipse: s-maj=20.3km s-min=16.3km az=164.0*
*NEIC **27** 05:41:09.3±0.5, 4744N×15578E, h10km, mb4.4/4, Error ellipse: s-maj=13.0km s-min=8.3km az=168.0*
*MOS **27** 05:41:10.9±1.0, 4754N×15564E, h31km, mb4.4/19, Error ellipse: s-maj=12.5km s-min=8.4km az=103.7*
*ISCJB **27** 05:41:11.3±0.5, 4758N±006×15561E±008, h33km, mb4.2/23, MS3.7/5, Error ellipse: s-maj=9.3km s-min=6.3km az=116.0*
ISC 27 05:41:11.9±2.1, 4761N±006×15567E±008, h24km±15km, n61, σ0§84/61, mb4.2/23, MS3.7/5, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.09**	**5**	*e*PN	Pn	05 41 59.5	+0.3
SKR				*e*S	Sn	05 42 35.0	-0.3
SKR				smax			
	comp=N,220nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,160nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.81**	**270**	PN	Pn	05 43 19.0	+1.3
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.81**	**270**	Pn	Pn	05 43 17.6	-0.2
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**9.77**	**254**	Pn	Pn	05 43 31.2	+0.3
	comp=Z,1.9nm,0.3s,baz=41,slow=20,SNR=5.3						
ASAJ	**Asahikawa**	**9.77**	**254**	PN	Pn	05 43 31.2	+0.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**10.50**	**242**	*i* PN	Pn	05 43 41.7	+0.8
HABR	**Khabarovsk**	**13.82**	**281**	*e*P	Pn	05 44 24.9	-1.4
HABR				*e*S	Sn	05 46 57.9	-1.1
SEY	**Seymchan**	**15.47**	**354**	*e*P	Pn	05 44 48.3	-0.1
KLR	**Kul'dur**	**15.95**	**285**	*e*P	Pn	05 44 54.8	+0.1
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MJAR	**Matsushiro Arr**	**17.00**	**236**	LR	LR	05 52 15.8	
	comp=Z,74nm,18.2s,baz=25,slow=39						
YAK	**Yakutsk**	**20.59**	**324**	*e*P	P	05 45 48.0	-1.2
YAK				pmax	pmax		
	comp=Z,17nm,0.6s						
CLNS	**Chul'man**	**20.83**	**308**	*e*P	P	05 45 51.4	-0.3
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
BILL	**Bilibino**	**21.18**	**11**	*e*P	P	05 45 55.7	+0.1
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
BILL	**Bilibino**	**21.18**	**11**	*e*P	P	05 45 55.7	+0.1
	comp=Z,15nm,0.9s,mb4.3						
KSRS	**Korea Array**	**22.72**	**254**	LR	LR	05 53 39.8	
	comp=Z,43nm,20.4s,MS2.9,baz=30,slow=33						
TIXI	**Tiksi**	**27.16**	**342**	*e*P	P	05 46 52.6	-0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**32.70**	**289**	P	P	05 47 42.4	0.0
	comp=Z,0.6nm,0.8s,mb3.6,baz=60,slow=8.5,SNR=3.2						
SONM				LR	LR	06 01 25.1	
	comp=Z,77nm,19.2s,MS3.4,baz=121,slow=37						
SONM	**Songino Array**	**32.70**	**289**	P	P	05 47 42.4	0.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,77nm,19.2s						
INK	**Inuvik**	**39.98**	**33**	P	P	05 48 43.8	-0.8
	comp=Z,3.4nm,0.8s,mb4.1,baz=265,slow=5.9,SNR=6.1						
INK	**Inuvik**	**39.98**	**33**	P	P	05 48 43.8	-0.8
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**39.98**	**33**	*e*P	P	05 48 34.9	-10
	comp=Z,181nm,1.0s,mb5.8						
MK31	**Makanchi Array**	**48.09**	**298**	*e*P	P	05 49 50.5	+0.9
MK31				*e*		05 51 14.9	
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	05 49 49.9	+0.3
	comp=Z,3.5nm,0.8s,mb4.4,baz=66,slow=7.1,SNR=15						
MKAR				LR	LR	06 10 09.2	
	comp=Z,58nm,18.5s,MS3.6,baz=322,slow=36						
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	05 49 49.9	+0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,59nm,18.5s						
YKA	**Yellowknife Ar**	**49.18**	**38**	P	P	05 49 57.9	-0.1
	comp=Z,1.9nm,0.8s,mb4.2,baz=293,slow=7.2,SNR=6.1						
YKA	**Yellowknife Ar**	**49.18**	**38**	P	P	05 49 57.9	-0.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.65**	**310**	P	P	05 50 16.8	+0.1
	comp=Z,2.9nm,0.6s,mb4.4,baz=62,slow=7.9,SNR=11						
BVAR	**Borovoye Array**	**51.65**	**310**	P	P	05 50 16.8	+0.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EDM	**Edmonton**	**54.45**	**48**	*e*P	P	05 50 36.4	-0.9
AAK	**Ala-Archa**	**55.01**	**297**	⇓*e*P	P	05 50 42.5	+1.2
AAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
AAK	**Ala-Archa**	**55.01**	**297**	*e*P	P	05 50 41.5	+0.2
	comp=Z,4.0nm,0.8s,mb4.5						
ARU	**Arti**	**55.55**	**318**	⇓*i*P	P	05 50 45.0	-0.2
ARU				*e*		05 52 49.0	
ARU				*e*S	S	05 58 29.2	0.0
ARU				*e*SS	SS	06 02 15.4	+1.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**55.55**	**318**	*e*P	P	05 50 45.2	0.0
	comp=Z,6.1nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	P	05 51 00.7	+0.9
	comp=Z,4.0nm,0.9s,mb4.5,baz=19,slow=8.6,SNR=3.6						
ARCES	**ARCESS Array B**	**57.60**	**341**	P	P	05 51 00.7	+0.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.44**	**313**	P	P	05 51 13.8	+1.2
AKTO	**Aktyubinsk**	**59.44**	**313**	P	P	05 51 13.8	+1.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=44,slow=5.4,SNR=5.0						
AKTO	**Aktyubinsk**	**59.44**	**313**	P	P	05 51 13.8	+1.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**60.49**	**64**	P	P	05 51 20.6	+0.8
	comp=Z,0.8nm,0.9s,mb3.8,baz=295,slow=7.8,SNR=4.7						
PDAR	**Pinedale Array**	**62.83**	**56**	P	P	05 51 36.1	+0.5
	comp=Z,1.9nm,0.9s,mb4.2,baz=336,slow=3.3,SNR=10						
FINES	**FINESS Array B**	**63.99**	**336**	P	P	05 51 43.4	+0.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=41,slow=7.0,SNR=7.8						
FINES	**FINESS Array B**	**63.99**	**336**	P	P	05 51 43.4	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**65.57**	**327**	*e*P	P	05 51 53.5	-0.1
OBN				*e*		05 52 24.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
NB2	**NORSAR Subarra**	**67.96**	**342**	P	P	05 52 10.9	+2.1
	comp=Z,2.0nm,0.7s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.96**	**342**	P	P	05 52 11.1	+2.3
	comp=Z,4.1nm,0.8s,mb4.5,baz=26,slow=6.4,SNR=7.3						
NOA	**NORSAR Array B**	**67.96**	**342**	P	P	05 52 11.1	+2.3
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ECSD	**EROS,Sioux Fal**	**69.02**	**48**	*e*P	P	05 52 13.9	-1.6
	comp=Z,1.6nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**69.92**	**201**	P	P	05 52 19.0	-2.0
	comp=Z,0.9nm,0.9s,mb3.7,baz=23,slow=6.3,SNR=5.7						
WRA	**Warramunga Arr**	**69.92**	**201**	P	P	05 52 19.0	-2.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.78**	**327**	P	P	05 52 32.2	-0.1
	comp=Z,1.3nm,0.6s,mb4.0,baz=34,slow=6.2,SNR=5.1						
AKASG	**Malin Array Be**	**71.78**	**327**	P	P	05 52 32.2	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SOC	**Sochi**	**73.10**	**317**	*i* P	P	05 52 39.0	-1.2
ASAR	**Alice Springs**	**73.61**	**201**	P	P	05 52 42.5	-0.6
	comp=Z,1.3nm,0.9s,mb3.9,baz=17,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**73.61**	**201**	P	P	05 52 42.6	-0.6
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.55**	**62**	P	P	05 52 54.1	-0.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=306,slow=4.2,SNR=25						
TXAR	**Lajitas Array**	**75.55**	**62**	P	P	05 52 54.2	-0.2
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**78.20**	**336**	*e*P	P	05 53 10.0	+0.6
GERES	**GERESS Array B**	**78.42**	**335**	P	P	05 53 10.3	-0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=30,slow=8.0,SNR=3.4						
BRTR	**Keskin Array B**	**78.93**	**318**	P	P	05 53 14.5	+1.0
	comp=Z,0.9nm,0.8s,mb3.8,baz=81,slow=3.1,SNR=6.0						
BRTR	**Keskin Array B**	**78.93**	**318**	P	P	05 53 14.5	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PPT	**Papeete**	**81.28**	**128**	LR	LR	06 24 28.1	
	comp=Z,211nm,19.7s,MS4.5,baz=266,slow=32						

*NEIC **27** 05:46:56.5±0.4, 4749N×15568E, h10km, mb4.6/5, Error ellipse: s-maj=11.4km s-min=9.0km az=165.0*
*ISCJB **27** 05:46:58.5±1.8, 4761N±008×1557E±0.1, h33km±14km, mb4.1/22, Error ellipse: s-maj=17.5km s-min=9.7km az=88.0*
*MOS **27** 05:46:58.5±1.1, 4756N×15563E, h35km, mb4.3/17, Error ellipse: s-maj=17.3km s-min=11.3km az=103.5*
*IDC **27** 05:47:01.7±4.0, 4747N×15571E, h48km±39km, mb3.7/18, mb1 4.0/19, mb1mx3.9/25, mbtmp3.8/19, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/30, Error ellipse: s-maj=19.2km s-min=15.5km az=159.0*
ISC 27 05:47:01.1±1.5, 4765N±008×1557E±01, h40km±12km, n49, σ0§95/50, mb4.1/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.04**	**5**	*e*PN	Pn	05 47 46.5	-0.2
SKR				*e*S	Sn	05 48 21.5	-0.4
SKR				smax			
	comp=N,160nm,0.4s						
SKR				smax			
	comp=E,160nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.83**	**270**	*e*PN	Pn	05 49 08.0	+1.9
ASAJ	**Asahikawa**	**9.80**	**254**	P	Pn	05 49 18.8	-0.7
	comp=Z,0.8nm,0.3s,baz=151,slow=32,SNR=4.8						
ASAJ				LR	LR	05 53 37.4	
	comp=Z,42nm,19.9s,baz=177,slow=41						
YAK	**Yakutsk**	**20.57**	**324**	*e*P	P	05 51 34.5	-1.9
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
BILL	**Bilibino**	**21.14**	**11**	*e*P	P	05 51 46.9	+4.4
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
BILL	**Bilibino**	**21.14**	**11**	*e*P	P	05 51 41.9	-0.6
	comp=Z,5.3nm,0.4s,mb4.2						
KSRS	**Korea Array**	**22.75**	**254**	P	P	05 52 00.9	+1.1
	comp=Z,2.2nm,0.8s,mb3.7,baz=63,slow=9.0,SNR=4.5						
SONM	**Songino Array**	**32.70**	**289**	P	P	05 53 28.8	-0.9
	comp=Z,0.2nm,0.4s,mb3.4,baz=66,slow=8.4,SNR=4.2						
INK	**Inuvik**	**39.94**	**33**	P	P	05 54 31.9	+0.5
	comp=Z,2.1nm,0.6s,mb4.1,baz=315,slow=8.6,SNR=9.8						
INK	**Inuvik**	**39.94**	**33**	*e*P	P	05 54 31.8	+0.5
	comp=Z,58nm,0.6s,mb5.5						
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	05 55 37.0	+0.3
	comp=Z,3.9nm,0.8s,mb4.5,baz=59,slow=7.5,SNR=17						
MKAR	**Makanchi Array**	**48.09**	**298**	P	P	05 55 37.0	+0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	P	05 55 45.0	+0.2
	comp=Z,1.7nm,0.8s,mb4.1,baz=292,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	P	05 55 45.0	+0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	P	05 55 45.0	+0.2
BVAR	**Borovoye Array**	**51.64**	**310**	P	P	05 56 03.5	-0.3
	comp=Z,2.3nm,0.5s,mb4.4,baz=60,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**51.64**	**310**	P	P	05 56 03.5	-0.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	P	05 56 03.5	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**51.68**	**310**	*e*P	P	05 56 03.5	-0.5
	comp=Z,4.1nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**55.01**	**297**	*e*P	P	05 56 28.3	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**55.01**	**297**	*e*P	P	05 56 28.2	-0.2
	comp=Z,2.3nm,0.6s,mb4.4						
ARU	**Arti**	**55.53**	**318**	*e*P	P	05 56 31.6	-0.6
ARU	**Arti**	**55.53**	**318**	*e*P	P	05 56 32.2	0.0
	comp=Z,8.6nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**57.57**	**341**	P	P	05 56 47.3	+0.6
	comp=Z,5.6nm,1.0s,mb4.5,baz=24,slow=6.9,SNR=4.1						
ARCES	**ARCESS Array B**	**57.57**	**341**	P	P	05 56 47.3	+0.6
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKTK	**Aktyubinsk**	**59.43**	**313**	P	P	05 57 00.5	+0.9
AKTO	**Aktyubinsk**	**59.43**	**313**	P	P	05 57 00.5	+0.9
	comp=Z,0.9nm,0.4s,mb4.1,baz=32,slow=6.9,SNR=4.8						
AKTO	**Aktyubinsk**	**59.43**	**313**	P	P	05 57 00.5	+0.9
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**60.45**	**64**	P	P	05 57 07.1	+0.4
	comp=Z,0.7nm,0.8s,mb3.7,baz=294,slow=8.8,SNR=3.3						
PDAR	**Pinedale Array**	**62.78**	**56**	P	P	05 57 22.7	+0.3
	comp=Z,1.2nm,0.9s,mb4.0,baz=302,slow=2.8,SNR=7.4						
FINES	**FINESS Array B**	**63.96**	**336**	P	P	05 57 30.7	+0.5
	comp=Z,1.5nm,0.5s,mb4.3,baz=31,slow=6.0,SNR=12						
FINES	**FINESS Array B**	**63.96**	**336**	P	P	05 57 30.7	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**63.96**	**336**	P	P	05 57 30.7	+0.5
NB2	**NORSAR Subarra**	**67.93**	**342**	P	P	05 57 57.6	+1.9
	comp=Z,2.0nm,0.8s,mb4.2,baz=26,slow=6.9						
NOA	**NORSAR Array B**	**67.93**	**342**	P	P	05 57 56.2	+0.5
	comp=Z,2.3nm,0.7s,mb4.3,baz=26,slow=6.5,SNR=7.0						
NOA	**NORSAR Array B**	**67.93**	**342**	P	P	05 57 56.2	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**69.97**	**201**	P	P	05 58 06.3	-2.1
	comp=Z,0.7nm,0.7s,mb3.7,baz=21,slow=6.7,SNR=7.1						
WRA	**Warramunga Arr**	**69.97**	**201**	P	P	05 58 06.3	-2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.76**	**327**	P	P	05 58 18.2	-1.0
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=6.2,SNR=5.3						
AKASG	**Malin Array Be**	**71.76**	**327**	P	P	05 58 18.2	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.65**	**201**	P	P	05 58 29.6	-0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=4.9,SNR=6.5						
ASAR	**Alice Springs**	**73.65**	**201**	P	P	05 58 29.7	-0.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.51**	**62**	P	P	05 58 41.6	+0.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=299,slow=4.2,SNR=20						
TXAR	**Lajitas Array**	**75.51**	**62**	P	P	05 58 41.6	+0.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**76.35**	**337**	*i* P	P	05 58 43.7	-2.3
GERES	**GERESS Array B**	**78.39**	**335**	P	P	05 58 58.5	+1.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=6.0,SNR=5.8						
GERES	**GERESS Array B**	**78.39**	**335**	P	P	05 58 58.5	+1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.92**	**318**	P	P	05 59 01.1	+0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=111,slow=3.1,SNR=3.7						
BRTR	**Keskin Array B**	**78.92**	**318**	P	P	05 59 01.2	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 27 05:52:36.5±0.8, 4676N×15557E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.6/9, Error ellipse: s-maj=24.9km s-min=22.2km az=17.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**32.92**	**290**	P	P	05 59 11.0	-1.5
	0.3nm,0.8s,baz=66,slow=7.0,SNR=2.3						
MKAR	**Makanchi Array**	**48.43**	**298**	P	P	06 01 19.5	-1.0
	0.2nm,0.4s,baz=77,slow=6.2,SNR=4.2						
BVAR	**Borovoye Array**	**52.15**	**310**	P	P	06 01 48.9	+0.3
	0.4nm,0.3s,baz=49,slow=10,SNR=4.2						
AKTO	**Aktyubinsk**	**59.97**	**313**	P	P	06 02 45.3	+0.7
	0.5nm,0.5s,baz=6.3,slow=9.2,SNR=2.7						
NVAR	**Mina Array Bea**	**60.92**	**64**	P	P	06 02 51.6	+0.5
	0.2nm,0.5s,baz=308,slow=10,SNR=2.9						
FINES	**FINESS Array B**	**64.74**	**336**	P	P	06 03 16.2	-0.4
	0.5nm,0.4s,baz=44,slow=8.2,SNR=3.2						
WRA	**Warramunga Arr**	**69.11**	**201**	P	P	06 03 43.9	-0.5
	0.6nm,0.8s,baz=17,slow=6.8,SNR=4.9						
ASAR	**Alice Springs**	**72.78**	**201**	P	P	06 04 07.3	+0.6
	0.7nm,0.7s,baz=18,slow=5.4,SNR=10						
TXAR	**Lajitas Array**	**76.01**	**62**	P	P	06 04 24.9	-0.6
	0.4nm,0.6s,baz=307,slow=4.4,SNR=9.6						

IDC 27 06:14:20.1±1.8, 3405S×17887W, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, ML4.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/20, 1D, Error ellipse: s-maj=44.3km s-min=35.0km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.19**	**212**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.98**	**11**	*e*Pn	**Pn**	**06 56 41.0**	**-0.9**
INK	**Inuvik**	**40.02**	**33**	P	**P**	**07 03 28.9**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=300,slow=4.0,SNR=4.3						
INK	**Inuvik**	**40.02**	**33**	P	**P**	**07 03 28.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**49.24**	**38**	P	**P**	**07 04 42.4**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=293,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**49.24**	**38**	P	**P**	**07 04 42.4**	**+0.3**
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**07 04 58.6**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=56,slow=6.1,SNR=6.0						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**07 04 58.6**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.74**	**335**	P	**P**	**07 06 24.9**	**-0.3**
	comp=Z,3.0nm,1.0s,mb4.3,baz=40,slow=7.7,SNR=7.3						
FINES	**FINESS Array B**	**63.74**	**335**	P	**P**	**07 06 25.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**69.95**	**201**	P	**P**	**07 07 04.1**	**-0.8**
	comp=Z,0.5nm,0.9s,mb3.5,baz=14,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**69.95**	**201**	P	**P**	**07 07 04.1**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.51**	**327**	P	**P**	**07 07 14.6**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=32,slow=6.1,SNR=2.5						
AKASG	**Malin Array Be**	**71.51**	**327**	P	**P**	**07 07 14.6**	**+0.3**
TXAR	**Lajitas Array**	**75.73**	**62**	P	**P**	**07 07 39.4**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=303,slow=4.3,SNR=10						
TXAR	**Lajitas Array**	**75.73**	**62**	P	**P**	**07 07 39.4**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NIED ***27*** *07:08:00,25.10N×12370E,h11km,Mw4.3 Best double couple: M₀2.95000×10¹⁵ NP1:φ=294.00000°,δ53.00000°, λ=-78.00000°. NP2:φ=95.00000°,δ39.00000°, λ=-105.00000°.*

IDC ***27*** *07:08:36.6±0.8,2504N×12361E,h0km,mb4.0/9, mb1 4.1/10,mb1mx4.0/24,mbtmp3.9/10,ML2.6/1,MS3.7/12, Ms1 3.7/12,ms1mx3.5/29,Error ellipse: s-maj=26.1km s-min=17.3km az=71.0*

JMA ***27*** *07:08:37.8±0.3,2507N×12367E,h21km±4km,M4.5*

ISCJB ***27*** *07:08:39.0±1.0,2500N±006×12365E±004,h26km±8km, mb3.9/11,MS3.8/11,Error ellipse: s-maj=9.7km s-min=6.0km az=172.2*

NEIC ***27*** *07:08:42.2±0.9,2501N×12363E,h39km±10km,mb4.6/2, Error ellipse: s-maj=12.0km s-min=8.9km az=153.0*

BJI ***27*** *07:08:42.6,2549N×12391E,h39km,mB4.9,mb4.3,Ms4.4, Ms2.1*

ISC 27 07:08:38.0±1.2,2503N±005×12366E±004,h6km±8km,n36, σ0§89/37,mb3.9/11,MS3.8/11,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.70**	**175**	P	**Pg**	**07 08 51.4**	**0.0**
IRIF				S	**Sg**	**07 09 01.6**	**+1.1**
JIJ	**Ishigaki jima**	**0.80**	**146**	P	**Pg**	**07 08 52.6**	**-0.8**
JIJ				S	**Sg**	**07 09 03.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.82**	**226**	P	**Pg**	**07 08 53.6**	**-0.1**
YOJ				S	**Sg**	**07 09 04.3**	**-0.1**
JKRS	**Kuro-shima**	**0.85**	**158**	P	**Pg**	**07 08 53.9**	**-0.5**
JKRS				S	**Sg**	**07 09 05.7**	**+0.2**
HATJ	**Hateruma jima**	**0.98**	**172**	P	**Pg**	**07 08 56.3**	**-0.6**
HATJ				S	**Sg**	**07 09 10.2**	**+0.6**
JTJ	**Tarama**	**1.03**	**112**	P	**Pg**	**07 08 56.9**	**-0.8**
JMJ	**Miyako jima 2**	**1.50**	**98**	P	**Pn**	**07 09 04.3**	**-1.2**
TATO	**Taipei**	**1.97**	**269**	*e*Pn	**Pn**	**07 09 14.5**	**+2.6**
TATO				*e*Sn	**Sn**	**07 09 32.3**	**-4.6**
NACB	**Ninganchiao**	**2.06**	**246**	*e*Pn	**Pn**	**07 09 13.9**	**+0.7**
YHNB	**Yeheng**	**2.10**	**261**	*e*Pn	**Pn**	**07 09 13.5**	**-0.3**
JKE	**Kume jima 2**	**3.10**	**65**	P	**Pn**	**07 09 28.7**	**+1.2**
JAGN	**Aguni-jima**	**3.58**	**64**	P	**Pn**	**07 09 35.5**	**+1.4**
JOW	**Kunigami**	**4.53**	**66**	Pn	**Pn**	**07 09 47.3**	**+0.2**
	0.6nm,0.3s,baz=292,slow=25,SNR=2.2						
JNU	**Nakatsue**	**10.24**	**36**	LR	LR	07 15 04.6	
	comp=Z,398nm,18.8s,baz=86,slow=38						
KSRS	**Korea Array**	**12.91**	**15**	Pn	**Pn**	**07 11 50.8**	**+8.8**
	baz=229,slow=28,SNR=3.1						
KSRS				LR	LR	07 17 04.3	
	comp=Z,219nm,20.3s,baz=195,slow=39						
MJAR	**Matsushiro Arr**	**16.95**	**44**	Pn	**Pn**	**07 12 38.4**	**+2.7**
	0.2nm,0.3s,baz=254,slow=9.7,SNR=3.1						
MJAR				LR	LR	07 19 11.8	
	comp=Z,213nm,21.1s,baz=250,slow=37						
LZH	**Lanzhou**	**20.27**	**308**	*e*P	**P**	**07 13 20.5**	**+6.3**
LZH				AP		07 13 29.0	
LZH				XP	sP	07 13 33.3	+17
LZH				AMB	AMB		
	comp=Z,50nm,1.2s						
LZH				AMB	AMB		
	comp=Z,150nm,4.4s						
LZH				LR	LR		
	comp=E,890nm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.2s,MS4.5						
LZH	**Lanzhou**	**20.27**	**308**	*e*P	**P**	**07 13 20.4**	**+6.2**
	comp=Z,50nm,1.2s						
LZH				pP		07 13 29.1	
LZH				sP	sP	07 13 33.2	+16
LZH				PP		07 13 43.0	
LZH				*e*S	**S**	**07 17 07.1**	**+5.2**
LZH				sS	sS	07 17 22.0	+17
LZH				*e*SS		07 17 40.0	
GUMO	**Guam**	**22.99**	**116**	LR	LR	07 20 52.3	
	comp=Z,39nm,18.9s,MS2.9,baz=104,slow=32						
ASAJ	**Asahikawa**	**24.50**	**34**	LR	LR	07 22 36.6	
	comp=Z,122nm,20.8s,MS3.4,baz=1.6,slow=34						
GTA	**Gaotai**	**24.65**	**311**	*e*P	**P**	**07 13 59.5**	**+0.1**
GTA				AP		07 14 14.0	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
GTA				LR	LR		
	comp=N,240nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=E,161nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=Z,191nm,10.7s,MS3.9						
SONM	**Songino Array**	**26.54**	**333**	P	**P**	**07 14 15.4**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.3,baz=148,slow=8.7,SNR=4.5						
SONM				LR	LR	07 26 09.1	
	comp=Z,221nm,18.3s,MS3.8,baz=123,slow=40						
PSI	**Prapat**	**32.50**	**231**	P	**P**	**07 15 09.3**	**-0.1**
	comp=Z,1.4nm,0.3s,mb4.3,baz=8.0,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	**07 16 07.5**	**-0.4**
	comp=Z,2.9nm,1.0s,mb4.0,baz=108,slow=12,SNR=12						
MKAR				LR	LR	07 33 03.4	
	comp=Z,85nm,18.2s,MS3.6,baz=203,slow=37						
ZAL	**Zalesovo**	**40.80**	**325**	P	**P**	**07 16 19.3**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.2,baz=25,slow=11,SNR=8.4						
ZAL				LR	LR	07 35 07.5	
	comp=Z,135nm,20.5s,MS3.8,baz=234,slow=39						
WRAB	**Tennant Creek**	**45.89**	**166**	*e*P	**P**	**07 17 00.6**	**-0.6**
	comp=Z,5.3nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**45.90**	**166**	P	**P**	**07 17 01.0**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=347,slow=8.9,SNR=20						
BVAR	**Borovoye Array**	**48.47**	**320**	P	**P**	**07 17 20.7**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=99,slow=4.7,SNR=2.4						
HNR	**Honiara**	**49.24**	**130**	LR	LR	07 35 32.7	
	comp=Z,72nm,18.1s,MS3.7,baz=198,slow=33						
ASAR	**Alice Springs**	**49.42**	**168**	P	**P**	**07 17 28.8**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=351,slow=8.6,SNR=15						
STKA	**Stephens Creek**	**59.13**	**162**	LR	LR	07 43 09.2	
	comp=Z,62nm,18.9s,MS3.8,baz=4.5,slow=35						
KDAK	**Kodiak Island**	**65.91**	**36**	LR	LR	07 48 46.8	
	comp=Z,103nm,20.3s,MS4.0,baz=287,slow=37						
SLKM	**Skilak Lake**	**66.67**	**33**	*e*P	**P**	**07 19 34.5**	**+4.8**
YKA	**Yellowknife Ar**	**81.31**	**24**	P	**P**	**07 20 53.8**	**-1.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=301,slow=5.3,SNR=3.5						
YKA				LR	LR	08 02 30.8	
	comp=Z,86nm,18.2s,MS4.2,baz=340,slow=40						
CLL	**Collm**	**82.72**	**324**	*e*P	**P**	**07 21 03.0**	**+0.3**
NVAR	**Mina Array Bea**	**94.27**	**44**	P	**P**	**07 21 59.0**	**+0.8**
	comp=Z,0.3nm,0.5s,mb4.0,baz=297,slow=8.0,SNR=2.9						

ISCJB ***27*** *07:10:10.0±1.1,219S±03×1764W±02,h10km,mb4.1/3, Error ellipse: s-maj=45.1km s-min=22.6km az=177.8*

IDC ***27*** *07:10:12.0±2.9,2023S×17695W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.9/14,mbtmp4.1/3,Error ellipse: s-maj=301.9km s-min=31.1km az=160.0*

ISC 27 07:10:11.6±1.1,221S±03×1763W±02,h10km,n8,σ0§51/7, mb4.1/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.76**	**258**	P	**P**	**07 18 33.5**	**+0.4**
	4.5nm,0.7s,mb4.5,baz=98,slow=8.2,SNR=44						
ASPA	**Alice Springs**	**45.76**	**258**	*e*P	**P**	**07 18 34.1**	**+0.9**
WB2	**Warramunga Arr**	**46.00**	**263**	*e*P	**P**	**07 18 34.5**	**-0.5**
WRA	**Warramunga Arr**	**46.01**	**263**	P	**P**	**07 18 34.5**	**-0.7**
	1.7nm,0.8s,mb4.0,baz=97,slow=8.1,SNR=16						
VNA3	**Neumayer Olymp**	**86.43**	**176**	*e*	**P**	**07 22 54.1**	**-0.2**
VNA3				*e*	pP	07 22 56.6	-1.0
VNA3				*e*		07 23 00.8	
VNA3				*e*		07 23 07.9	
TXAR	**Lajitas Array**	**86.56**	**57**	P	**P**	**07 22 55.0**	**+0.1**
	0.6nm,0.8s,mb3.9,baz=221,slow=9.3,SNR=6.9						
VNA2	**Neumayer--Watz**	**86.89**	**176**	*e*	**P**	**07 22 56.6**	**+0.1**
VNA2				*e*	pP	07 22 59.0	-0.9
VNA2				*e*		07 23 04.2	
VNA2				*e*		07 23 09.5	
AKASG	**Malin Array Be**	**145.20**	**331**	PKP	PKPdf	07 29 48.5	-0.9
	0.4nm,0.4s,baz=48,slow=3.9,SNR=4.2						

ISCJB ***27*** *07:11:20.2±2.2,585S±03×1585W±06,h10km,mb4.3/5, MS3.5/4,Error ellipse: s-maj=59.3km s-min=17.1km az=94.3*

IDC ***27*** *07:11:23.6±1.7,5878S×15933W,h0km,mb4.2/5, mb1 4.4/5,mb1mx4.3/10,mbtmp4.3/5,MS3.5/4,Ms1 3.5/4, ms1mx3.3/16,Error ellipse: s-maj=48.5km s-min=28.9km az=57.0*

ISC 27 07:11:22.7±1.9,587S±03×1587W±05,h10km, (h9km±2km:pP-P),n16,σ0§55/9,mb4.3/5,MS3.5/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**23.05**	**201**	P	**P**	**07 16 27.9**	**-0.3**
	2.1nm,1.0s,mb3.5,baz=53,slow=8.8,SNR=7.1						
VNDA				LR	LR	07 22 56.4	
	comp=Z,148nm,20.3s,MS3.4,baz=349,slow=30						
PPT	**Papeete**	**41.62**	**13**	LR	LR	07 31 38.5	
	comp=Z,76nm,18.8s,MS3.6,baz=230,slow=29						
STKA	**Stephens Creek**	**47.78**	**277**	P	**P**	**07 20 01.2**	**+1.1**
	6.2nm,0.8s,mb4.7,baz=130,slow=7.9,SNR=9.5						
VNA3	**Neumayer Olymp**	**48.52**	**167**	*e*	**P**	**07 20 05.6**	**-0.2**
VNA3				*e*	pP	07 20 08.2	-0.7
VNA3				*e*		07 20 13.5	
VNA3				*e*		07 20 18.4	
VNA3				*e*		07 20 23.3	
VNA3				*e*		07 20 29.0	
SNAA	**Sanae**	**48.81**	**170**	*e*	**P**	**07 20 07.7**	**-0.4**
SNAA				*e*	pP	07 20 10.3	-0.9
SNAA				*e*		07 20 15.4	
SNAA				*e*		07 20 20.2	
SNAA				*e*		07 20 25.9	
VNA2	**Neumayer--Watz**	**49.07**	**168**	*e*	**P**	**07 20 10.0**	**-0.1**
VNA2				*e*	pP	07 20 12.7	-0.5
VNA2				*e*		07 20 17.6	
VNA2				*e*		07 20 22.3	
VNA2				*e*		07 20 26.9	
VNA2				*e*		07 20 32.5	
VNA1	**Neumayer--Stat**	**49.24**	**167**	*e*	**P**	**07 20 11.9**	**+0.6**
VNA1				*e*	pP	07 20 14.3	-0.2
VNA1				*e*		07 20 19.6	
VNA1				*e*		07 20 24.4	
VNA1				*e*		07 20 29.4	
MAW	**Mawson**	**50.35**	**199**	P	**P**	**07 20 20.2**	**+0.4**
	2.0nm,0.8s,mb4.2,baz=146,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**58.40**	**276**	P	**P**	**07 21 17.6**	**-0.7**
	5.7nm,0.7s,mb4.7,baz=141,slow=6.7,SNR=54						
WRA	**Warramunga Arr**	**61.25**	**279**	P	**P**	**07 21 37.5**	**-0.5**
	3.8nm,0.7s,mb4.7,baz=151,slow=5.9,SNR=30						
CFAA	**Coronel Fontan**	**63.79**	**108**	LR	LR	07 44 48.8	
	comp=Z,7.5nm,19.0s,MS2.9,baz=11,slow=31						
TXAR	**Lajitas Array**	**98.87**	**46**	LR	LR	07 58 43.4	
	comp=Z,56nm,19.8s,MS4.1,baz=185,slow=29						
MKAR	**Makanchi Array**	**142.56**	**279**	PKhKP		07 30 51.0	
	0.6nm,0.6s,baz=135,slow=3.5,SNR=5.2						
ZAL	**Zalesovo**	**145.68**	**290**	PKPbc	PKPbc	07 31 01.1	-0.5
	2.5nm,0.3s,baz=0.3,slow=3.0,SNR=9.1						
MDT	**Midelt**	**148.79**	**135**	PKPbc	PKPbc	07 31 12.6	+2.2
	1.4nm,0.8s,baz=310,slow=0.9,SNR=2.6						
AKTO	**Aktyubinsk**	**157.44**	**265**	PKPab	PKPab	07 31 50.2	-0.4
	1.2nm,0.6s,baz=113,slow=6.8,SNR=6.5						

ISCJB ***27*** *07:37:26.3±0.7,2198S±006×683W±0.1,h106km±6km, mb4.0/13,Error ellipse: s-maj=15.7km s-min=9.8km az=3.2*

NEIC ***27*** *07:37:26.9±0.8,2209S×6829W,h102km±7km,mb4.3/9, Error ellipse: s-maj=17.7km s-min=10.0km az=94.0*

IDC ***27*** *07:37:27.9±0.6,2208S×6859W,h105km±5km,mb3.7/8, mb1 3.9/9,mb1mx3.8/17,mbtmp3.7/9,Error ellipse: s-maj=21.0km s-min=14.0km az=96.0*

ISC 27 07:37:27.5±0.7,2200S±006×683W±01,h100km±5km, h105km±11.5km:pP-P,n36,σ0§80/36,mb4.0/13, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.82**	**222**	P	**Pn**	**07 37 46.3**	**+0.3**
	362nm,0.3s,baz=90,slow=6.0,SNR=3441						
LVC				S	**Sn**	**07 37 59.5**	**-0.4**
	535nm,0.3s,baz=270,slow=21,SNR=104						
LVC	**Limon Verde**	**0.82**	**222**	*e*Pn	**Pn**	**07 37 46.0**	**-0.1**
LVC				*e*Sn	**Sn**	**07 37 59.7**	**-0.2**
LPAZ	**La Paz**	**5.68**	**2**	P	**Pn**	**07 38 52.0**	**+2.6**
	0.9nm,0.3s,baz=190,slow=6.5,SNR=28						
LPAZ	**La Paz**	**5.68**	**2**	*e*Pn	**Pn**	**07 38 53.0**	**+3.6**
	14nm,0.8s						
ARE	**Arequipa**	**6.27**	**331**	P	**Pn**	**07 38 58.0**	**+0.7**
ARE				*e*S	**Sn**	**07 40 03.0**	**-4.5**
SIV	**San Ignacio**	**9.09**	**50**	P	**Pn**	**07 39 35.9**	**+0.1**
	2.7nm,0.3s,baz=237,slow=12,SNR=166						
CFAA	**Coronel Fontan**	**9.57**	**180**	P	**Pn**	**07 39 38.6**	**-3.7**
	0.1nm,0.3s,baz=356,slow=16,SNR=15						
CFAA				S	**Sn**	**07 41 18.9**	**-9.0**
	0.1nm,0.3s,baz=246,slow=16,SNR=2.3						
SAML	**Samuel**	**13.88**	**22**	*e*Pn	**Pn**	**07 40 38.4**	**-1.4**
	2.3nm,0.9s						
VNA3	**Neumayer Olymp**	**59.43**	**161**	*e*	**P**	**07 47 19.5**	**-0.1**
VNA3				*e*		07 47 22.5	
VNA3				*e*		07 47 26.3	
VNA3				*e*	pP	07 47 41.8	-2.4
VNA3				*e*		07 47 51.1	
VNA1	**Neumayer--Stat**	**59.64**	**160**	*e*	**P**	**07 47 21.7**	**+0.8**
VNA2	**Neumayer--Watz**	**60.00**	**161**	*e*	**P**	**07 47 23.7**	**+0.2**
	baz=278,slow=7.3						
VNA2				*e*		07 47 27.0	
VNA2				*e*		07 47 32.4	
VNA2				*e*	pP	07 47 43.6	-4.6
VNA2				*e*	pP	07 47 51.4	+3.2
WVT	**Waverly**	**60.69**	**342**	P	**P**	**07 47 26.2**	**-1.9**
	3.6nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**61.35**	**325**	P	**P**	**07 47 31.7**	**-0.9**
	0.7nm,0.7s,mb3.8,baz=146,slow=7.4,SNR=6.6						
SNAA	**Sanae**	**61.63**	**161**	P	**P**	**07 47 34.2**	**-0.3**
	0.7nm,0.6s,mb3.9,baz=277,slow=7.2,SNR=14						
SNAA	**Sanae**	**61.63**	**161**	*e*	**P**	**07 47 34.5**	**0.0**
SNAA				*e*		07 47 38.3	
SNAA	**Sanae**	**61.63**	**161**	*e*P	**P**	**07 47 34.0**	**-0.5**
	1.4nm,0.5s,mb4.2						
ANMO	**Albuquerque**	**67.22**	**327**	P	**P**	**07 48 11.0**	**+0.1**
	2.2nm,0.9s,mb4.0,baz=153,slow=6.8,SNR=9.7						
ANMO	**Albuquerque**	**67.22**	**327**	*e*P	**P**	**07 48 10.9**	**0.0**
	3.1nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**68.20**	**180**	*e*P	**P**	**07 48 17.3**	**+0.3**
	9.9nm,0.1s						
SDCO	**Great Sand Dun**	**68.95**	**329**	*e*P	**P**	**07 48 22.0**	**+0.2**
	3.3nm,0.7s,mb4.3						
MVCO	**Mesa Verde**	**70.01**	**327**	*e*P	**P**	**07 48 28.1**	**-0.1**
	4.5nm,1.0s,mb4.2						
PV01	**Paradox Valley**	**70.75**	**327**	*e*P	**P**	**07 48 33.4**	**+0.6**
PV10	**Paradox Valley**	**71.18**	**327**	*e*P	**P**	**07 48 34.8**	**-0.5**
CCUT	**Cedar City**	**72.83**	**324**	*e*P	**P**	**07 48 46.4**	**+1.2**
PDAR	**Pinedale Array**	**74.81**	**330**	P	**P**	**07 48 56.3**	**-0.5**
	0.7nm,0.5s,mb3.6,baz=134,slow=7.9,SNR=7.6						
HWUT	**Hardware Ranch**	**74.89**	**328**	*e*P	**P**	**07 48 56.9**	**-0.3**
	3.1nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**76.22**	**322**	P	**P**	**07 49 05.2**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=154,slow=6.7,SNR=4.8						
VNDA	**Vanda**	**76.46**	**190**	P	**P**	**07 49 06.5**	**+0.3**
	0.7nm,0.9s,mb3.4,baz=120,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**07 49 09.7**	**+0.5**
	3.4nm,0.4s,mb4.4,baz=255,slow=5.4,SNR=37						
TORD				pP	pP	07 49 39.4	+4.3
	2.7nm,0.7s,baz=252,slow=5.6,SNR=6.0						
HLID	**Hailey**	**77.75**	**328**	*e*P	**P**	**07 49 13.7**	**+0.3**
	4.9nm,0.8s,mb4.3						
MCMT	**McKenzie Canyo**	**77.92**	**329**	*e*P	**P**	**07 49 15.1**	**+0.7**
YKA	**Yellowknife Ar**	**91.83**	**340**	P	**P**	**07 50 23.0**	**-1.1**
	1.6nm,0.8s,mb4.3,baz=137,slow=4.4,SNR=17						
ASAR	**Alice Springs**	**129.72**	**207**	PKP	PKPdf	07 56 24.9	0.0
	0.8nm,0.9s,baz=138,slow=1.9,SNR=6.1						
WRA	**Warramunga Arr**	**132.80**	**210**	PKP	PKPdf	07 56 30.7	0.0
	0.8nm,0.7s,baz=161,slow=1.7,SNR=12						
WRA				pPKP	pPKPdf	07 56 59.5	+1.3
	0.3nm,0.6s,baz=153,slow=1.6,SNR=1.8						
MKAR	**Makanchi Array**	**145.71**	**37**	PKPbc	PKPbc	07 56 54.5	-0.1
	1.7nm,0.7s,baz=326,slow=2.5,SNR=12						
SONM	**Songino Array**	**153.87**	**8**	PKP	PKPdf	07 57 08.0	+1.1
	0.6nm,0.8s,baz=351,slow=4.5,SNR=3.2						
SONM				PKPbc	PKPbc	07 57 15.0	0.0
	0.3nm,0.5s,baz=349,slow=4.4,SNR=3.0						
SONM				PKPab	PKPab	07 57 29.0	+0.5
	0.3nm,0.6s,baz=3.2,slow=3.9,SNR=2.5						
SONM				pPKP	pPKPdf	07 57 36.7	+2.1
	0.3nm,0.6s,baz=29,slow=3.3,SNR=2.1						

ISCJB ***27*** *07:39:37.0±0.9,2698N±006×11408W±0.10,h10km, mb4.0/9,MS3.4/1,Error ellipse: s-maj=14.1km s-min=6.1km az=115.3*

IDC ***27*** *07:39:36.6±1.2,2707N×11415W,h0km,mb4.0/8, mb1 4.0/14,mb1mx4.0/28,mbtmp3.9/14,ML3.4/6,MS3.2/3, Ms1 3.2/3,ms1mx3.0/25,Error ellipse: s-maj=28.6km s-min=13.5km az=56.0*

NEIC ***27*** *07:39:37.7±0.7,2673N×11407W,h10km,mb4.1/6,Error ellipse: s-maj=10.8km s-min=6.7km az=61.0*

NEIC Felt at Bahia Asuncion.

ISC 27 07:39:38.6±0.9,2692N±006×11418W±009,h10km,n39, σ1§34/39,mb4.0/9,MS3.4/1,Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.48**	**128**	Pn	**Pn**	**07 40 46.7**	**+0.2**
	24nm,0.3s,baz=304,slow=3.0,SNR=37						
LPIG				Sn	**Sn**	**07 41 38.1**	**-0.5**
	9.8nm,0.3s,baz=344,slow=15,SNR=6.3						
LPIG				Lg		07 42 05.8	
	4.0nm,0.3s,baz=321,slow=21,SNR=3.6						
LPIG				LR	LR	07 42 32.8	
	comp=Z,167nm,20.8s,baz=318,slow=39						
LPIG	**La Paz**	**4.48**	**128**	Pn	**Pn**	**07 40 46.7**	**+0.3**
LPIG				Sn	**Sn**	**07 41 38.1**	**-0.5**
LPIG				Lg		07 42 05.8	
TUC	**Tucson**	**6.13**	**28**	*e*Pn	**Pn**	**07 41 07.0**	**-2.1**
GLA	**Glamis**	**6.14**	**355**	*e*Pn	**Pn**	**07 41 08.3**	**-1.0**
PFO	**Pinyon Flat Ob**	**6.96**	**344**	Pn	**Pn**	**07 41 17.2**	**-3.3**
	0.0nm,0.3s,baz=239,slow=23,SNR=2.2						
PFO				Lg		07 43 00.9	
	0.2nm,0.3s,baz=225,slow=12,SNR=2.4						
WUAZ	**Wupatki**	**8.90**	**15**	*e*Pn	**Pn**	**07 41 47.9**	**+0.7**
MNTX	**Cornudas Mount**	**9.03**	**56**	*e*Pn	**Pn**	**07 41 48.0**	**-1.0**
TXAR	**Lajitas Array**	**9.59**	**73**	Pn	**Pn**	**07 41 56.3**	**-0.3**
	0.3nm,0.3s,baz=310,slow=11,SNR=33						
TXAR				LR	LR	07 45 30.3	
	comp=Z,151nm,20.9s,baz=300,slow=37						
LAZ	**Ladron**	**9.61**	**37**	*e*Pn	**Pn**	**07 41 56.0**	**-0.9**
ANMO	**Albuquerque**	**10.39**	**38**	Pn	**Pn**	**07 42 06.6**	**-1.0**
	0.2nm,0.3s,baz=221,slow=14,SNR=19						
ANMO				Lg		07 45 00.4	
	0.1nm,0.3s,baz=338,slow=15,SNR=3.9						
ANMO	**Albuquerque**	**10.39**	**38**	*e*Pn	**Pn**	**07 42 06.7**	**-0.9**
	3.3nm,0.7s						
CCUT	**Cedar City**	**10.62**	**4**	*e*Pn	**Pn**	**07 42 13.0**	**+2.2**
ARUT	**Antelope Range**	**10.86**	**3**	*e*Pn	**Pn**	**07 42 18.8**	**+4.8**
NVAR	**Mina Array Bea**	**11.99**	**344**	Pn	**Pn**	**07 42 28.9**	**-0.7**
	0.1nm,0.3s,baz=162,slow=12,SNR=6.8						
PV01	**Paradox Valley**	**12.14**	**21**	Pn	**Pn**	**07 42 31.8**	**+0.2**
PV10	**Paradox Valley**	**12.22**	**19**	Pn	**Pn**	**07 42 33.4**	**+0.8**
JCT	**Junction City**	**13.11**	**71**	*e*Pn	**Pn**	**07 42 47.1**	**+2.3**
	35nm,1.1s						
HWUT	**Hardware Ranch**	**14.81**	**8**	*e*Pn	**Pn**	**07 43 11.8**	**+3.8**
	4.4nm,0.9s						
WMOK	**Wichita Mounta**	**15.34**	**56**	*e*P	**Pn**	**07 43 16.0**	**+0.9**
	16nm,1.6s						
PDAR	**Pin

FCH						AML	AML	07 47 18.8		
	comp=E,52nm,0.2s									
TLL	**Tololo Astrono**	**1.75**	**17**	*eP*		Pn		07 46 57.5	+2.9	
TLL				*i* S		Sn		07 47 19.2	+3.6	
TLL				AML		AML		07 47 24.1		
	comp=E,46nm,0.3s									
TLL	**Tololo Astrono**	**1.75**	**17**	*eP*		Pn		07 46 57.5	+2.9	
TLL				*i* S		Sn		07 47 19.2	+3.6	
TACH	**Talagante**	**1.84**	**168**	*eP*		Pn		07 46 56.6	+0.7	

CASC 27 08:42:03.5±3.5, 1480N×9010W, h20km±26km, MD3.9, 2C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.81**	**244**	*eP*	Pb	08 42 18.9	+0.1
RTR	**El Retiro**	**1.00**	**154**	⇓*eP*	x	08 42 28.1	
RTR				*eS*	x	08 42 41.2	
SNJE	**San Jose**	**1.04**	**153**	⇓*iP*	x	08 42 28.2	
SNJE				*eS*	x	08 42 43.6	
SBLS	**San Blas**	**1.06**	**154**	⇓*eP*	x	08 42 27.7	
SBLS				*eS*	x	08 42 41.1	
BOQS	**Boqueron**	**1.32**	**143**	*eP*	x	08 42 30.8	
BOQS				*eS*	x	08 42 50.4	
LBRS	**Las Brisas**	**1.47**	**136**	⇑*eP*	x	08 42 33.9	
LBRS				*eS*	x	08 42 52.9	
LFRS	**El Faro**	**1.54**	**139**	⇑*eP*	x	08 42 32.8	
LFRS				*eS*	x	08 42 51.7	
LCBS	**La Ceiba**	**1.57**	**136**	*eP*	x	08 42 34.1	
LCBS				*eS*	x	08 42 55.4	
BLLM	**Bellamira**	**2.25**	**127**	*eP*	x	08 42 38.1	
BLLM				*eS*	x	08 43 08.7	

IDC 27 08:45:37.2±1.1, 170N×12731E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=76.2km s-min=17.4km az=76.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.74**	**185**	P	Pn	08 50 10.3	+0.3
	0.3nm,0.3s,baz=338,slow=12,SNR=7.7						
WRA	**Warramunga Arr**	**22.58**	**163**	P	P	08 50 39.7	+0.5
	3.7nm,0.5s,baz=342,slow=11,SNR=47						
WB2	**Warramunga Arr**	**22.59**	**163**	*eP*	P	08 50 39.6	+0.4
WB2				*eS*	S	08 54 37.4	-11
ASAR	**Alice Springs**	**26.01**	**166**	P	P	08 51 11.3	-0.5
	0.7nm,0.5s,baz=345,slow=7.5,SNR=20						
ASPA	**Alice Springs**	**26.01**	**166**	*eP*	P	08 51 11.3	-0.6
KSRS	**Korea Array**	**35.59**	**1**	P	P	08 52 37.4	+1.0
	1.4nm,0.5s,baz=178,slow=9.3,SNR=4.4						
SONM	**Songino Array**	**49.40**	**342**	P	P	08 54 28.3	-0.4
	0.7nm,0.7s,baz=155,slow=9.1,SNR=5.5						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	08 55 42.4	-0.1
	0.8nm,0.4s,baz=113,slow=7.7,SNR=14						

*ISCJB **27** 09:12:44.1±0.8, 462N×0.1×1543E±0.2, h40km, mb3.8/8, Error ellipse: s-maj=21.9km s-min=11.0km az=98.6*
*MOS **27** 09:12:44.3±1.2, 46.15N×154.24E, h40km, mb4.0/7, Error ellipse: s-maj=27.9km s-min=16.3km az=70.2*
*IDC **27** 09:12:46.4±4.8, 46.13N×154.36E, h44km±46km, mb3.5/7, mb1 3.8/9, mb1mx3.5/25, mbtmp3.5/9, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx1.6/35, Error ellipse: s-maj=28.8km s-min=24.4km az=141.0*

ISC 27 09:12:45.9±1.9, 461N±01×1544E±02, h40km±17km, n18, σ0.985/18, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.70**	**14**	*e*PN	**Pn**	**09 13 53.5**	**-0.8**
ASAJ	**Asahikawa**	**8.56**	**261**	P	**Pn**	**09 14 47.8**	**+0.6**
	0.5nm,0.3s,baz=43,slow=29,SNR=4.6						
ASAJ	**Asahikawa**	**8.56**	**261**	PN	**Pn**	**09 14 47.8**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.43**	**237**	P	**Pn**	**09 16 20.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=6.3,SNR=2.5						
BILL	**Bilibino**	**22.81**	**12**	*eP*	**P**	**09 17 46.8**	**+1.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**09 21 21.4**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=63,slow=6.2,SNR=4.8						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**09 21 21.4**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**09 21 43.0**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=293,slow=6.8,SNR=5.2						
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**09 21 43.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 21 48.5**	**-2.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=8.4,SNR=4.0						
BVAR	**Borovoye Array**	**51.91**	**310**	P	**P**	**09 21 48.5**	**-2.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**64.41**	**54**	P	**P**	**09 23 17.5**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.7,baz=246,slow=4.5,SNR=4.6						
FINES	**FINESS Array B**	**64.96**	**335**	P	**P**	**09 23 21.5**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=37,slow=9.4,SNR=2.5						
FINES	**FINESS Array B**	**64.96**	**335**	P	**P**	**09 23 21.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**68.22**	**200**	P	**P**	**09 23 42.4**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=20,slow=6.9,SNR=8.7						
WRA	**Warramunga Arr**	**68.22**	**200**	P	**P**	**09 23 42.4**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**09 24 34.9**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=305,slow=4.1,SNR=18						
TXAR	**Lajitas Array**	**77.04**	**61**	P	**P**	**09 24 34.9**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 27 09:17:45.5±2.4, 345S×101.41E, h0km, mb4.1/8, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx1.5/35, Error ellipse: s-maj=118.2km s-min=14.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.69**	**338**	Pn	Pn	09 19 22.9	-2.1
	0.5nm,0.3s,baz=186,slow=6.5,SNR=5.5						
PSI				LR	LR	09 22 18.0	
	comp=Z,64nm,21.9s,baz=245,slow=41						
FITZ	**Fitzroy Crossi**	**27.84**	**123**	P	P	09 23 35.2	-1.4
	0.7nm,0.6s,baz=4.1,slow=11,SNR=10						
WRA	**Warramunga Arr**	**36.05**	**120**	P	P	09 24 49.3	+0.7
	0.9nm,0.4s,baz=302,slow=9.0,SNR=21						
WB2	**Warramunga Arr**	**36.06**	**120**	*eP*	P	09 24 48.9	+0.2
ASPA	**Alice Springs**	**37.26**	**126**	*eP*	P	09 25 01.2	+2.3
ASAR	**Alice Springs**	**37.26**	**126**	P	P	09 25 00.2	+1.3
	1.2nm,0.6s,baz=298,slow=7.7,SNR=24						
STKA	**Stephens Creek**	**47.14**	**132**	P	P	09 26 19.9	+0.4
	2.7nm,0.6s,baz=299,slow=9.1,SNR=7.9						
SONM	**Songino Array**	**51.26**	**4**	P	P	09 26 51.0	0.0
	0.7nm,0.6s,baz=186,slow=8.5,SNR=6.5						
MKAR	**Makanchi Array**	**52.80**	**344**	P	P	09 27 03.3	+0.8
	3.0nm,0.5s,baz=150,slow=8.3,SNR=28						
ZAL	**Zalesovo**	**58.85**	**349**	P	P	09 27 46.2	+0.3
	2.2nm,0.5s,baz=302,slow=3.5,SNR=12						
BVAR	**Borovoye Array**	**62.03**	**339**	P	P	09 28 06.6	-1.0
	0.7nm,0.4s,baz=152,slow=8.5,SNR=6.4						
TXAR	**Lajitas Array**	**144.95**	**40**	PKP	PKPdf	09 37 24.7	+0.1
	0.2nm,0.6s,baz=268,slow=1.2,SNR=5.2						

*IDC **27** 09:17:59.9±1.0, 458.2N×154.02E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=29.8km s-min=25.3km az=147.0*
*ISCJB **27** 09:18:00.7±4.7, 458N±02×1537E±0.1, h16km±33km, mb3.7/8, Error ellipse: s-maj=31.7km s-min=11.1km az=142.3*
*MOS **27** 09:18:04.5±1.2, 4576N×15362E, h46km, mb4.1/2, Error ellipse: s-maj=29.5km s-min=24.2km az=175.3*

ISC 27 09:18:03.2±4.9, 458N±02×1538E±01, h21km±35km, n14, σ0.992/16, mb3.7/8, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.18**	**264**	⇓*i*PN	**Pn**	**09 19 04.5**	**-1.2**
KUR				*i* S	**Sn**	**09 19 52.5**	**-1.3**
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.88**	**255**	PN	**Pn**	**09 19 19.8**	**-9.3**
YUK				*eS*	**Sn**	**09 20 36.2**	**+0.3**
YUK				smax			
	comp=N,180nm,0.4s						
YUK				smax			
	comp=E,180nm,0.4s						
ASAJ	**Asahikawa**	**8.10**	**262**	Pn	**Pn**	**09 20 00.6**	**+1.2**
	comp=E,0.5nm,0.3s,baz=231,slow=23,SNR=4.1						
ASAJ	**Asahikawa**	**8.10**	**262**	PN	**Pn**	**09 20 00.6**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**09 26 39.8**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=72,slow=7.6,SNR=6.1						
MKAR	**Makanchi Array**	**47.76**	**298**	P	**P**	**09 26 39.8**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**51.39**	**36**	P	**P**	**09 27 05.8**	**-0.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=291,slow=10,SNR=3.3						
BVAR	**Borovoye Array**	**51.78**	**310**	P	**P**	**09 27 09.8**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=65,slow=6.8,SNR=2.7						
FINES	**FINESS Array B**	**65.05**	**335**	P	**P**	**09 28 42.7**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=41,slow=9.2,SNR=4.0						
FINES	**FINESS Array B**	**65.05**	**335**	P	**P**	**09 28 42.7**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**71.49**	**199**	P	**P**	**09 29 22.7**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=14,slow=9.7,SNR=9.7						
AKASG	**Malin Array Be**	**72.55**	**327**	P	**P**	**09 29 29.1**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=34,slow=5.8,SNR=4.2						
SCHQ	**Schefferville**	**73.97**	**23**	P	**P**	**09 29 35.5**	**-1.5**
	comp=Z,3.6nm,0.9s,mb4.3,baz=12,slow=9.3,SNR=2.8						
TXAR	**Lajitas Array**	**77.55**	**61**	P	**P**	**09 29 56.9**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=294,slow=4.1,SNR=4.7						

CASC 27 09:35:24.5±2.5, 967N×8403W, h26km±5km, MD3.6, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.08**	**17**	*eP*	Pb	09 35 29.6	+0.4
OCM	**Ochomogo**	**0.23**	**16**	⇓*iP*	Pb	09 35 31.2	+0.5
OCM				*eS*	Sb	09 35 34.4	-0.4
SJS	**Escuela Geolog**	**0.27**	**354**	*eP*	Pb	09 35 31.9	+0.8
SJS				*eS*	Sb	09 35 37.5	+1.8
BUS	**Buena Vista**	**0.29**	**113**	⇓*eP*	Pb	09 35 31.4	0.0
IRZ2	**Volcan Irazu 2**	**0.32**	**23**	⇓*iP*	Pb	09 35 32.7	+0.8
PRS1	**Puriscal**	**0.42**	**318**	⇓*eP*	Pb	09 35 33.0	-0.4
PRS1				*eS*	Sb	09 35 40.2	+0.7
POA2	**Poas 2**	**0.55**	**336**	*eP*	Pb	09 35 36.1	+0.5
POA2				*eS*	Sb	09 35 45.6	+2.5
EPA	**Esparza**	**0.65**	**299**	⇑*eP*	Pb	09 35 37.0	-0.2
EPA				*eS*	Sb	09 35 45.6	-0.2
CAO	**Cobano**	**1.06**	**272**	*eP*	Pn	09 35 42.2	-1.5
CAO				*eS*	Sn	09 35 57.5	-0.1
CTCR	**Cotoan**	**1.47**	**121**	⇓*eP*	Pn	09 35 49.1	-0.2
CTCR				*eS*	Sn	09 36 07.9	+0.3
CNI	**Changuinola**	**1.51**	**99**	⇑*iP*	Pn	09 35 49.9	0.0
BRU	**Baru**	**1.68**	**121**	*eP*	Pn	09 35 52.8	+0.6
BRU				*eS*	Sn	09 36 13.9	+1.0
PTP	**Ponta Puerca**	**19.78**	**63**	*eS*		09 36 20.3	

*IDC **27** 09:43:57.3±0.9, 3566N×6773E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.1/24, mbtmp4.1/14, ML3.7/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/33, Error ellipse: s-maj=22.2km s-min=17.6km az=15.0*
*ISCJB **27** 09:44:01.5±0.4, 3590N±003×6782E±004, h35km, mb4.1/17, MS3.6/7, Error ellipse: s-maj=5.4km s-min=4.0km az=122.0*
*MOS **27** 09:44:02.6±1.4, 3606N×6783E, h38km, mb4.4/18, Error ellipse: s-maj=11.8km s-min=6.6km az=86.7*
*NNC **27** 09:44:05.5±1.6, 3625N×6746E, h38km±13km, mb4.0, mpv4.5, Error ellipse: s-maj=13.6km s-min=8.8km az=174.0*

ISC 27 09:44:03.3±0.3, 3585N±003×6774E±004, h35km, n83, σ1.920/93, mb4.1/17, MS3.6/7, 10C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.98**	**119**	P	**Pn**	**09 45 03.1**	**+1.3**
SBDP	**Sheikh Budin**	**4.36**	**143**	P	**Pn**	**09 45 08.9**	**+1.9**
THW	**Thamme Wali**	**4.50**	**131**	P	**Pn**	**09 45 08.4**	**-0.5**
DRP	**Deranda**	**4.58**	**153**	P	**Pn**	**09 45 09.2**	**-0.8**
CHCP	**Chirah Chowk**	**5.04**	**114**	P	**Pn**	**09 45 16.9**	**+0.5**
THN	**Thein Dam**	**7.44**	**115**	*eP*	**Pn**	**09 45 49.8**	**+0.5**
KK31	**Karatay Array**	**7.56**	**16**	Pn	**Pn**	**09 45 51.1**	**+0.2**
	15nm,0.5s,baz=197,slow=12,SNR=170						
KK31				⇓Sn	**Sn**	**09 47 14.1**	**-1.2**
	85nm,0.9s,baz=201,slow=24						
KK31				⇑Lg		09 47 55.8	
	97nm,0.9s,baz=203,slow=28						
KKAR	**Karatay Array**	**7.56**	**16**	*eP*	**Pn**	**09 45 51.1**	**+0.2**
KKAR						09 47 03.5	
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KKAR				smax			
	comp=Z,2.0nm,0.2s						
DLH	**Dalhousie**	**7.57**	**113**	*ex*	x	09 46 12.0	
DLH				*eS*	**Sn**	**09 47 19.0**	**+3.4**
AML	**Almayashu**	**7.80**	**35**	P	**Pn**	**09 45 55.1**	**+0.8**
	SNR=36						
EKS2	**Erkin-Say**	**8.26**	**33**	P	**Pn**	**09 46 01.7**	**+1.2**
	SNR=16						
UCH	**Uchtor**	**8.27**	**38**	P	**Pn**	**09 46 00.9**	**+0.3**
	SNR=87						
KZA	**Kyzart**	**8.54**	**41**	P	**Pn**	**09 46 05.0**	**+0.6**
	SNR=41						
AAK	**Ala-Archa**	**8.56**	**36**	P	**Pn**	**09 46 04.9**	**+0.2**
	SNR=55						
AAK	**Ala-Archa**	**8.56**	**36**	*ci*P	**Pn**	**09 46 03.7**	**-1.0**
FRU	**Bishkek**	**8.77**	**35**	*eP*	**Pn**	**09 46 08.5**	**+0.9**
FRU				*eS*	**Sn**	**09 47 36.0**	**-9.2**
FRU				*i* S	**Sn**	**09 47 46.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,120nm,1.3s						
FRU				smax			
	comp=N,280nm,1.9s						
KBK	**Karagaybulak**	**8.80**	**37**	P	**Pn**	**09 46 09.1**	**+1.2**
	SNR=31						
SDNR	**Sundarnagar**	**8.83**	**117**	*eP*	**Pn**	**09 46 11.0**	**+2.6**
SDNR				*eS*	**Sn**	**09 47 46.0**	**-0.6**
CHMS	**Chumysh**	**8.96**	**35**	P	**Pn**	**09 46 11.0**	**+0.8**
	SNR=12						
USP	**Ospenovka**	**9.06**	**33**	P	**Pn**	**09 46 11.0**	**-0.5**
	SNR=12						
ULHL	**Ulahol**	**9.19**	**43**	P	**Pn**	**09 46 14.3**	**+0.9**
	SNR=8.3						
TKM2	**Tokmak 2**	**9.32**	**38**	P	**Pn**	**09 46 15.7**	**+0.6**
	SNR=8.3						
TKM2	**Tokmak 2**	**9.32**	**38**	⇓Pn	**Pn**	**09 46 14.3**	**-0.8**
	comp=N,0.6nm,0.5s						
TKM2				⇓Sn	**Sn**	**09 47 58.3**	**-0.2**
	comp=N,6.4nm,1.0s						
TKM2	**Tokmak 2**	**9.32**	**38**	P	**Pn**	**09 46 14.4**	**-0.7**
TKM2						09 47 56.8	
TKM2				pmax	pmax		
	comp=Z,47nm,0.9s						
TKM2				smax			
	comp=Z,40nm,1.0s						
KHET	**Khetri**	**10.34**	**136**	*eP*	**Pn**	**09 46 26.8**	**-2.3**
KHET				*eS*	**Sn**	**09 48 15.7**	**-8.0**
KHET				AML	AML	09 49 38.4	
	comp=E,5.6nm,0.1s						
KHET				AML	AML	09 49 38.5	
	comp=N,13nm,0.1s						
KUDL	**Kundal**	**10.68**	**134**	*eP*	**Pn**	**09 46 31.6**	**-2.1**
KUDL				*eS*	**Sn**	**09 48 22.4**	**-10**
KUDL				AML	AML	09 49 11.5	
	comp=N,6.2nm,0.1s						
KUDL				AML	AML	09 49 12.5	
	comp=E,10nm,0.5s						
NDI	**New Delhi**	**10.73**	**129**	*eP*	**Pn**	**09 46 34.0**	**-0.5**
SONA	**Sohna**	**10.96**	**131**	*eP*	**Pn**	**09 46 36.3**	**-1.3**
SONA				*eS*	**Sn**	**09 48 31.3**	**-7.6**
SONA				AML	AML	09 50 06.1	
	comp=E,16nm,0.6s						
SONA				AML	AML	09 50 07.4	
	comp=N,12nm,0.4s						
AB31	**Akbulak array**	**14.57**	**339**	⇑Pn	**Pn**	**09 47 23.0**	**-3.8**
	comp=N,4.4nm,0.5s,baz=159,slow=13,SNR=41						
AB31				⇑Sn	**Sn**	**09 49 57.5**	**-9.5**
	comp=N,4.8nm,0.7s,baz=165,slow=21,SNR=4.9						
AB31	**Akbulak array**	**14.57**	**339**	P	**Pn**	**09 47 23.5**	**-3.3**
AB31						09 49 58.1	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31				smax			
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**15.43**	**40**	P	**Pn**	**09 47 38.6**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=231,slow=14,SNR=28						
MKAR	**Makanchi Array**	**15.43**	**40**	Pn	**Pn**	**09 47 36.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=232,slow=13,SNR=19						
MKAR	**Makanchi Array**	**15.43**	**40**	*i* P	**Pn**	**09 47 35.4**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKTO	**Aktyubinsk**	**16.19**	**337**	⇓Pn	**Pn**	**09 47 46.4**	**-1.6**
	comp=Z,0.3nm,0.9s						
AKTO				⇑Sn	**Sn**	**09 50 40.4**	**-6.2**
	comp=Z,0.5nm,1.4s						
AKTO	**Aktyubinsk**	**16.19**	**337**	Pn	**Pn**	**09 47 45.8**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=11,SNR=12						
AKTO				LR	LR	09 55 03.6	
	comp=Z,75nm,21.1s,baz=331,slow=41						
KURK	**Kurchatov**	**16.81**	**25**	⇓P	**Pn**	**09 47 53.7**	**-2.2**
	comp=Z,4.6nm,0.9s						
KURK	**Kurchatov**	**16.81**	**25**	P	**Pn**	**09 47 51.3**	**-4.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VOSK	**Vostochnaya**	**17.03**	**7**	Pn	**Pn**	**09 47 56.9**	**-1.8**
VOSK				Sn	**Sn**	**09 50 59.0**	**-7.8**
VOSK	**Vostochnaya**	**17.03**	**7**	P	**Pn**	**09 47 54.5**	**-4.1**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BVA0	**Borovoye Array**	**17.28**	**5**	⇑Pn	**Pn**	**09 47 58.6**	**-3.1**
	comp=Z,1.6nm,0.9s,baz=164,slow=10,SNR=29						
BVA0				⇑Sn	**Sn**	**09 51 05.1**	**-7.7**
	comp=Z,2.5nm,1.7s,baz=180,slow=23,SNR=5.2						
BVA0	**Borovoye Array**	**17.28**	**5**	*i* P	**Pn**	**09 47 58.4**	**-3.3**
BVA0				*i*		09 51 01.6	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVA0				smax			
	comp=Z,3.0nm,1.5s						
BVAR	**Borovoye Array**	**17.28**	**5**	P	**Pn**	**09 47 59.1**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=169,slow=11,SNR=20						
BVAR	**Borovoye Array**	**17.28**	**5**	P	**Pn**	**09 47 59.1**	**-2.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
POO	**Poona**	**18.08**	**161**	*eP*	PKiKP	10 00 33.0	-3.0
GNI	**Garni**	**18.61**	**290**	LR	LR	09 57 44.9	
	comp=Z,99nm,18.5s,baz=40,slow=44						
GNI	**Garni**	**18.61**	**290**	⇑*iP*	**Pn**	**09 48 19.8**	**+1.7**
GNI				pmax	pmax		
	comp=Z,34nm,2.5s						
ZEI	**Tsey**	**19.67**	**298**	*eP*	**Pn**	**09 48 30.3**	**-0.4**
KIV	**Kislovodsk**	**20.80**	**301**	*eP*	**P**	**09 48 42.9**	**+1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,125nm,11.0s,MS3.5						
ARU	**Arti**	**21.51**	**346**	⇓*iP*	**P**	**09 48 49.4**	**+0.3**
ARU				*e*		09 49 06.2	
ARU				*e*PPP		09 49 16.8	
ARU				*e*S	**S**	**09 52 40.4**	**-5.2**
ARU				*e*SSS		09 53 11.7	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**21.65**	**28**	P	**P**	**09 48 50.6**	**0.0**
	comp=Z,9.1nm,0.4s,mb4.5,baz=253,slow=9.0,SNR=40						
ZAL				LR	LR	09 58 53.8	
	comp=Z,116nm,18.4s,MS3.3,baz=252,slow=41						
ZAL	**Zalesovo**	**21.65**	**28**	P	**P**	**09 48 50.6**	**0.0**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,116nm,18.4s						
NVS	**Novosibirsk**	**21.80**	**25**	*i* P	**P**	**09 48 51.5**	**-0.7**
NVS				*e*S	**S**	**09 52 57.0**	**+5.7**
NVS				pmax	pmax		
	comp=N,11nm,0.7s						
NVS				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**27.13**	**289**	P	**P**	**09 49 42.4**	**-0.7**
	comp=Z,2.2nm,1.0s,mb3.6,baz=108,slow=7.9,SNR=10						
BRTR	**Keskin Array B**	**27.13**	**289**	P	**P**	**09 49 42.4**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**28.77**	**322**	*eP*	**P**	**09 49 58.8**	**+1.2**
OBN				*e*		09 53 12.2	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.1						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.9						
TLY	**Talaya**	**30.00**	**47**	*ci*P	**P**	**09 50 12.7**	**+4.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**30.87**	**55**	P	**P**	**09 50 16.1**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.7,baz=262,slow=9.0,SNR=6.6						
SONM				LR	LR	10 04 28.6	
	comp=Z,162nm,20.0s,MS3.7,baz=200,slow=40						
SONM	**Songino Array**	**30.87**	**55**	P	**P**	**09 50 16.1**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,162nm,20.0s						
AKASG	**Malin Array Be**	**31.33**	**310**	P	**P**	**09 50 18.6**	**-1.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=87,slow=7.7,SNR=7.6						
AKASG	**Malin Array Be**	**31.33**	**310**	P	**P**	**09 50 18.6**	**-1.7**
AKASG				pmax	pmax		

ASAR Alice Springs 86.08 123 P **P** **09 56 40.3 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.9s

SKHL ***27*** *09:45:26.1±3.1, 47.70N×154.50E, h50km±19km, mb4.6/4*
MOS ***27*** *09:45:29.3±2.6, 47.88N×154.14E, h81km, mb4.1/9, Error ellipse: s-maj=17.9km s-min=11.4km az=63.7*
ISCJB ***27*** *09:45:31.0±1.1, 48.21N±009.0×153.8E±0.1, h74km±10km, mb4.0/12, Error ellipse: s-maj=19.0km s-min=6.6km az=103.0*
IDC ***27*** *09:45:37.3±3.9, 48.05N×153.65E, h124km±41km, mb3.7/11, mb1 3.9/13, mb1mx3.7/25, mbtmp3.7/13, MS3.3/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=34.6km s-min=16.1km az=175.0*

ISC 27 09:45:32.6±1.0, 4824N±009×1538E±01, h73km±9km, n32, σ1§22/36, mb4.0/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.88**	**31**	*e*P		**Pn**	**09 46 15.0**	**-1.1**
SKR				AMB		AMB	09 46 15.8	
	80nm,0.5s							
SKR				*e*S		**Sn**	**09 46 49.4**	**-0.2**
SKR				A			09 46 52.6	
	410nm,0.4s							
SKR				A			09 46 52.6	
	160nm,0.4s							
SKR				A			09 46 52.6	
	90nm,0.5s							
SKR	**Severo-Kuril's**	**2.88**	**31**	*e*PN		**Pn**	**09 46 15.0**	**-1.1**
SKR				*e*S		**Sn**	**09 46 49.4**	**-0.2**
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,410nm,0.4s							
SKR				smax				
	comp=E,160nm,0.4s							
SKR				smax				
	comp=Z,90nm,0.5s							
KUR	**Kuril'sk**	**5.06**	**236**	*e*P		**Pn**	**09 46 43.0**	**-2.9**
KUR				AMB		AMB	09 46 44.0	
	comp=Z,76nm,0.5s							
KUR				*i* S		**Sn**	**09 47 43.0**	**-0.1**
KUR				A			09 47 56.5	
	comp=Z,430nm,0.8s							
KUR				A			09 47 56.5	
	comp=Z,215nm,0.8s							
KUR	**Kuril'sk**	**5.06**	**236**	*e*PN		**Pn**	**09 46 43.0**	**-2.9**
KUR				*i* S		**Sn**	**09 47 43.0**	**-0.1**
KUR				pmax		pmax		
	comp=Z,80nm,0.5s							
KUR				smax				
	comp=N,430nm,0.8s							
KUR				smax				
	comp=E,220nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.93**	**236**	*e*PN		**Pn**	**09 47 06.7**	**-4.7**
YUK				*e*S		**Sn**	**09 48 36.4**	**+7.6**
YUK				smax				
	comp=N,420nm,0.6s							
YUK				smax				
	comp=E,150nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.58**	**264**	*e*P		**Pn**	**09 47 24.0**	**+3.8**
YSS				AMB		AMB	09 47 25.7	
	comp=E,30nm,1.0s							
YSS				*e*S		**Sn**	**09 48 44.0**	**-0.6**
TYV	**Tymovskoe**	**7.71**	**294**	*e*P		**Pn**	**09 47 25.5**	**+3.5**
TYV				AMB		AMB	09 47 37.0	
	comp=E,7.0nm,0.5s							
TYV				AMB		AMB	09 47 37.0	
	comp=E,11nm,0.5s							
ASAJ	**Asahikawa**	**8.79**	**246**	P		**Pn**	**09 47 39.8**	**+2.9**
	comp=E,1.4nm,0.3s,baz=68,slow=14,SNR=16							
ASAJ	**Asahikawa**	**8.79**	**246**	PN		**Pn**	**09 47 39.8**	**+2.9**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.37**	**230**	P		**Pn**	**09 49 18.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=135,slow=57,SNR=3.0							
YAK	**Yakutsk**	**19.35**	**324**	*e*P		**Pn**	**09 49 56.6**	**+2.7**
YAK				pmax		pmax		
	comp=Z,24nm,1.1s							
YAK				pmax		pmax		
	comp=N,11nm,1.4s							
YAK				pmax		pmax		
	comp=E,11nm,1.5s							
KSRS	**Korea Array**	**21.72**	**250**	P		**P**	**09 50 15.1**	**-2.5**
	comp=E,4.1nm,0.9s,mb3.8,baz=52,slow=12,SNR=5.1							
KSRS				LR		LR	09 58 54.4	
	comp=E,28nm,18.5s,baz=65,slow=37							
TIXI	**Tiksi**	**26.18**	**342**	*e*P		**P**	**09 51 00.5**	**+0.3**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb3.9							
SONM	**Songino Array**	**31.30**	**287**	PcP		PcP	09 54 36.3	-2.0
	comp=Z,0.7nm,0.8s,baz=122,slow=2.3,SNR=3.8							
INK	**Inuvik**	**40.15**	**33**	P		**P**	**09 53 02.1**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.3,baz=297,slow=7.7,SNR=8.2							
INK	**Inuvik**	**40.15**	**33**	P		**P**	**09 53 02.2**	**+0.8**
INK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ZAL	**Zalesovo**	**42.15**	**305**	LR		LR	10 12 46.9	
	comp=Z,112nm,19.1s,baz=169,slow=39							
MKAR	**Makanchi Array**	**46.68**	**296**	P		**P**	**09 53 54.6**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.0,baz=66,slow=10,SNR=9.2							
MKAR	**Makanchi Array**	**46.68**	**296**	P		**P**	**09 53 54.6**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**49.46**	**38**	P		**P**	**09 54 15.3**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=298,slow=7.2,SNR=6.1							
YKA	**Yellowknife Ar**	**49.46**	**38**	P		**P**	**09 54 15.3**	**0.0**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**50.28**	**309**	P		**P**	**09 54 20.6**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=184,slow=37,SNR=2.1							
BVAR	**Borovoye Array**	**50.28**	**309**	P		**P**	**09 54 20.6**	**-1.0**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
NVAR	**Mina Array Bea**	**61.34**	**63**	P		**P**	**09 55 41.4**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=294,slow=9.6,SNR=12							
FINES	**FINESS Array B**	**62.89**	**335**	P		**P**	**09 55 50.1**	**-0.9**
	comp=Z,2.0nm,0.8s,mb4.1,baz=83,slow=6.0,SNR=4.0							
FINES	**FINESS Array B**	**62.89**	**335**	P		**P**	**09 55 50.1**	**-0.9**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**63.50**	**55**	P		**P**	**09 55 55.6**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.0,baz=288,slow=2.3,SNR=15							
NOA	**NORSAR Array B**	**66.97**	**341**	P		**P**	**09 56 16.6**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=42,slow=10,SNR=2.6							
NOA	**NORSAR Array B**	**66.97**	**341**	P		**P**	**09 56 16.6**	**-0.9**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
TXAR	**Lajitas Array**	**76.36**	**61**	P		**P**	**09 57 13.9**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.1,baz=299,slow=4.1,SNR=44							
TXAR	**Lajitas Array**	**76.36**	**61**	P		**P**	**09 57 14.0**	**+0.1**
TXAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
GERES	**GERESS Array B**	**77.32**	**334**	P		**P**	**09 57 18.6**	**-0.6**
	comp=Z,0.4nm,0.2s,mb3.7,baz=20,slow=4.3,SNR=4.4							

ISCJB ***27*** *09:49:39.0±0.3, 2194S×005.6828W×008, h119km, mb4.3/20, Error ellipse: s-maj=10.8km s-min=6.9km az=157.3*
NEIC ***27*** *09:49:40.5±0.4, 2198S×6826W, mb4.3/17, Error ellipse: s-maj=13.8km s-min=8.3km az=72.0*
IDC ***27*** *09:49:40.5±0.5, 2204S×6854W, h122km±5km, mb3.9/6, mb1 4.1/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=24.1km s-min=11.7km az=88.0*

ISC 27 09:49:41.0±0.3, 2199S±005×6835W±009, h120km, h120km±1.5km:pP-P, n48, σ0§99/48, mb4.3/20, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.81**	**220**	P		**Pn**	**09 50 00.7**	**-0.5**
	715nm,0.3s,baz=90,slow=2.0,SNR=3341							
LVC				S		**Sn**	**09 50 16.2**	**-0.4**
	1μm,0.3s,baz=270,slow=21,SNR=108							
LVC	**Limon Verde**	**0.81**	**220**	*e*Pn		**Pn**	**09 50 00.7**	**-0.5**
LVC				*e*Sn		**Sn**	**09 50 16.2**	**-0.3**
LPAZ	**La Paz**	**5.67**	**2**	P		**Pn**	**09 51 02.8**	**-0.2**
	1.2nm,0.3s,baz=166,slow=2.8,SNR=34							
LPAZ	**La Paz**	**5.67**	**2**	*e*Pn		**Pn**	**09 51 03.9**	**+1.0**
	18nm,0.6s							
SIV	**San Ignacio**	**9.11**	**50**	P		**Pn**	**09 51 46.1**	**-3.3**
	5.6nm,0.3s,baz=243,slow=12,SNR=110							
SIV				S		**Sn**	**09 53 22.0**	**-8.1**
	1.1nm,0.3s,baz=145,slow=23,SNR=6.1							
CFAA	**Coronel Fontan**	**9.58**	**179**	P		**Pn**	**09 51 53.4**	**-2.4**
	0.1nm,0.3s,baz=350,slow=13,SNR=13							
CFAA				S		**Sn**	**09 53 36.2**	**-5.2**
	0.3nm,0.3s,baz=156,slow=16,SNR=6.2							
NNA	**Nana**	**12.83**	**319**	P		**Pn**	**09 52 42.4**	**+3.5**
	0.8nm,0.3s,baz=152,slow=8.3,SNR=7.7							
NNA	**Nana**	**12.83**	**319**	*e*Pn		**Pn**	**09 52 39.4**	**+0.5**
TRQA	**Tornquist**	**16.93**	**162**	*e*Pn		**Pn**	**09 53 30.8**	**+0.3**
	11nm,0.6s							
OTAV	**Otavalo**	**24.19**	**335**	*e*P		**P**	**09 54 47.0**	**+0.9**
	2.6nm,0.7s,mb3.7							
VNA3	**Neumayer Olymp**	**59.45**	**161**	*e*P		**P**	**09 59 31.2**	**+0.2**
VNA3				*e*			09 59 44.5	
VNA3				*e*		pP	09 59 59.1	-0.9
VNA3				*e*			10 00 05.4	
VNA3				*e*			10 00 08.2	
VNA3				*e*			10 00 19.8	
VNA3				*e*			10 00 27.3	
VNA1	**Neumayer--Stat**	**59.65**	**160**	*e*P		**P**	**09 59 33.3**	**+0.9**
VNA1				*e*			09 59 45.6	
VNA1				*e*		pP	10 00 00.5	-0.9
VNA1				*e*			10 00 08.3	
VNA2	**Neumayer--Watz**	**60.02**	**161**	*e*P		**P**	**09 59 35.2**	**+0.3**
VNA2				*e*			09 59 48.1	
VNA2				*e*		pP	10 00 03.2	-0.7
VNA2				*e*			10 00 09.1	
VNA2				*e*			10 00 12.9	
VNA2				*e*			10 00 22.2	
VNA2				*e*			10 00 31.3	
JCT	**Junction City**	**60.29**	**329**	*e*P		**P**	**09 59 36.0**	**-0.7**
	3.0nm,0.9s,mb4.3							
WVT	**Waverly**	**60.67**	**342**	*e*P		**P**	**09 59 37.0**	**-2.3**
	2.6nm,0.7s,mb4.4							
MIAR	**Mount Ida**	**61.12**	**336**	*e*P		**P**	**09 59 41.0**	**-1.4**
	1.9nm,0.6s,mb4.3							
TXAR	**Lajitas Array**	**61.32**	**325**	P		**P**	**09 59 42.7**	**-1.0**
	0.5nm,0.6s,mb3.7,baz=146,slow=9.4,SNR=6.7							
TXAR				pP		pP	10 00 11.8	-1.1
	0.9nm,0.9s,baz=136,slow=7.6,SNR=5.1							
TXAR	**Lajitas Array**	**61.32**	**325**	P		**P**	**09 59 42.7**	**-1.0**
TXAR				pP		pP	10 00 11.8	-1.1
SNAA	**Sanae**	**61.65**	**161**	P		**P**	**09 59 46.3**	**+0.3**
	1.0nm,0.6s,mb4.1,baz=289,slow=7.9,SNR=42							
SNAA	**Sanae**	**61.65**	**161**	*e*P		**P**	**09 59 46.1**	**+0.2**
SNAA				*e*			09 59 58.8	
SNAA				*e*		pP	10 00 13.5	-1.6
SNAA				*e*			10 00 21.1	
SNAA	**Sanae**	**61.65**	**161**	*e*P		**P**	**09 59 46.2**	**+0.2**
	3.1nm,0.6s,mb4.5							
MNTX	**Cornudas Mount**	**64.09**	**325**	*e*P		**P**	**10 00 00.9**	**-1.2**
ANMO	**Albuquerque**	**67.19**	**327**	*e*P		**P**	**10 00 21.9**	**-0.2**
	3.0nm,0.9s,mb4.1							
SDCO	**Great Sand Dun**	**68.93**	**329**	*e*P		**P**	**10 00 33.1**	**+0.3**
	8.6nm,1.1s,mb4.5							
SDCO				*e*pP		pP	10 01 03.5	+0.9
PV01	**Paradox Valley**	**70.73**	**327**	*e*P		**P**	**10 00 44.5**	**+0.6**
PV10	**Paradox Valley**	**71.15**	**327**	*e*P		**P**	**10 00 45.3**	**-1.2**
SRU	**San Rafael**	**72.47**	**327**	*e*P		**P**	**10 00 54.2**	**-0.1**
	15nm,1.2s,mb4.7							
CCUT	**Cedar City**	**72.81**	**324**	*e*P		**P**	**10 00 57.7**	**+1.4**
ARUT	**Antelope Range**	**73.02**	**324**	*e*P		**P**	**10 00 58.7**	**+1.2**
ARUT				*e*pP		pP	10 01 29.7	+2.1
SHPR	**Sheep Range**	**73.06**	**322**	*e*P		**P**	**10 00 58.5**	**+0.7**
DAC	**Darwin (Calif)**	**74.31**	**321**	*e*P		**P**	**10 01 06.0**	**+0.9**
	4.5nm,0.8s,mb4.2							
ISA	**Isabella**	**74.42**	**320**	*e*P		**P**	**10 01 06.6**	**+0.9**
DUG	**Dugway**	**74.45**	**326**	*e*P		**P**	**10 01 06.6**	**+0.7**
	3.8nm,0.9s,mb4.1							
PDAR	**Pinedale Array**	**74.79**	**330**	P		**P**	**10 01 07.4**	**-0.5**
	0.6nm,0.5s,mb3.6,baz=127,slow=6.9,SNR=6.9							
PDAR				pP		pP	10 01 39.1	+1.1
	0.6nm,0.6s,baz=165,slow=5.0,SNR=3.0							
HWUT	**Hardware Ranch**	**74.87**	**328**	*e*P		**P**	**10 01 07.9**	**-0.4**
	4.1nm,0.9s,mb4.2							
HWUT				*e*pP		pP	10 01 38.4	-0.1
SYO	**Syowa Base**	**75.86**	**159**	*e*P		**P**	**10 01 13.8**	**-0.2**
LOHW	**Long Hollow**	**75.93**	**330**	*e*P		**P**	**10 01 14.8**	**+0.4**
	3.4nm,0.7s,mb4.2							
TOA0	**Torodi Ar. Sit**	**77.03**	**70**	*e*P		**P**	**10 01 20.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P		**P**	**10 01 20.2**	**-0.3**
	6.9nm,0.5s,mb4.7,baz=252,slow=5.5,SNR=75							
HLID	**Hailey**	**77.73**	**328**	*e*P		**P**	**10 01 25.2**	**+0.7**
	6.0nm,0.9s,mb4.3							
HLID				*e*pP		pP	10 01 56.2	+1.4
TSUM	**Tsumeb**	**79.41**	**106**	*e*P		**P**	**10 01 35.2**	**+1.6**
	16nm,0.9s,mb4.8							
BOSA	**Boshof**	**82.76**	**118**	P		**P**	**10 01 52.2**	**+0.8**
	6.4nm,0.9s,mb4.4,baz=244,slow=5.4,SNR=6.9							
LBTB	**Lobatse**	**84.34**	**115**	*e*P		**P**	**10 02 00.6**	**+1.0**
	9.2nm,0.9s,mb4.6							
YKA	**Yellowknife Ar**	**91.82**	**340**	P		**P**	**10 02 33.9**	**-1.3**
	1.8nm,0.7s,mb4.4,baz=136,slow=4.3,SNR=22							
YKA				pP		pP	10 03 04.6	-1.8
	1.7nm,0.8s,baz=134,slow=4.7,SNR=6.4							
ASAR	**Alice Springs**	**129.72**	**207**	PKP		PKPdf	10 08 36.1	+0.3
	0.3nm,0.6s,baz=140,slow=3.2,SNR=5.9							
ASAR				pPKP		pPKPdf	10 09 09.4	+1.1
	0.6nm,0.9s,baz=107,slow=1.9,SNR=3.1							
WRA	**Warramunga Arr**	**132.79**	**210**	PKP		PKPdf	10 08 41.4	-0.3
	0.6nm,0.7s,baz=168,slow=1.7,SNR=14							
WRA				pPKP		pPKPdf	10 09 13.8	-0.3
	0.4nm,0.9s,baz=153,slow=2.0,SNR=2.4							
MKAR	**Makanchi Array**	**145.72**	**37**	PKPbc		PKPbc	10 09 06.0	+0.3
	1.1nm,0.5s,baz=297,slow=2.7,SNR=6.7							
MKAR				pPKPbc		pPKPbc	10 09 39.0	+1.3
	1.5nm,0.7s,baz=323,slow=4.3,SNR=4.2							
SONM	**Songino Array**	**153.87**	**8**	pPKP		pPKPdf	10 09 46.4	-4.2
	0.5nm,0.5s,baz=286,slow=1.3,SNR=4.6							

MOS ***27*** *10:36:07.0±1.5, 4.25S×152.74E, h33km, mb5.3/19, Error ellipse: s-maj=10.8km s-min=7.0km az=88.3*
ISCJB ***27*** *10:36:09.6±0.2, 4.34S±003×152.79E±003, h70km, mb4.9/62, Error ellipse: s-maj=4.7km s-min=4.3km az=179.0*
IDC ***27*** *10:36:09.4±1.4, 4.33S×152.79E, h50km±12km, mb4.6/22, mb1 4.8/26, mb1mx4.7/28, mbtmp4.7/26, ML4.5/4, MS4.4/15, Ms1 4.4/15, ms1mx4.1/26, Error ellipse: s-maj=11.9km s-min=9.5km az=95.0*
NEIC ***27*** *10:36:11.8±0.2, 4.37S×152.76E, mb5.1/27, Error ellipse: s-maj=8.8km s-min=6.0km az=100.0*
GCMT ***27*** *10:36:11.8±0.2, 4.35S×152.75E, h32km±1km, MW5.3/87, Moment Tensor Solution. s58,c90; s87,c156; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.19±.02; $M_{\theta\theta}$0.30±.01; $M_{\phi\phi}$-0.48±.02; $M_{r\theta}$0.61±.03; $M_{\theta\phi}$0.48±.01; $M_{\phi r}$-0.34±.03; Best double couple: $M_0$0.94300×10^{17} NP1:ϕs18.00000°,δ40.00000°,λ169.00000°. NP2: ϕs117.00000°,δ83.00000°,λ51.00000°. Principal axes: T 0.8700, Plg39.0000°, Azm352.0000°; N 0.1460, Plg39.0000°, Azm122.0000°; P -1.0170, Plg27.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***27*** *10:36:12.4, 3.75S×152.85E, h70km, mB5.2, mb5.0, Ms4.8, Msz4.5*

ISC 27 10:36:11.5±0.2, 433S±003×15281E±003, h72km, h72km±2.4km:pP-P, n236, σ0§95/202, mb4.9/62, 28C-41D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.55**	**228**	P		**Pn**	**10 37 57.9**	**-0.8**
	8.8nm,0.3s,baz=25,slow=7.9,SNR=46							
PMG				S		**Sn**	**10 39 24.5**	**+1.7**
	6.1nm,0.3s,baz=32,slow=23,SNR=2.6							
PMG	**Port Moresby**	**7.55**	**228**	*e*P		**Pn**	**10 37 57.4**	**-1.4**
PMG				pmax		pmax		
	comp=Z,282nm,0.8s							
PMG	**Port Moresby**	**7.55**	**228**	*e*Pn		**Pn**	**10 37 57.4**	**-1.4**
	comp=Z,282nm,0.8s							
PMG				*e*Sn		**Sn**	**10 39 35.1**	**+12**
HNR	**Honiara**	**8.71**	**126**	P		**Pn**	**10 38 14.8**	**+0.2**
	comp=Z,18nm,0.3s,baz=261,slow=5.9,SNR=6.7							
HNR				S		**Sn**	**10 39 51.5**	**+0.3**
	comp=Z,13nm,0.3s,baz=93,slow=14,SNR=2.7							
HNR	**Honiara**	**8.71**	**126**	*e*P		**Pn**	**10 38 15.1**	**+0.4**
HNR				*e*			10 39 53.9	
HNR				pmax		pmax		
	comp=Z,438nm,0.9s							
HNR	**Honiara**	**8.71**	**126**	*e*Pn		**Pn**	**10 38 15.1**	**+0.4**
	comp=Z,438nm,0.9s							
HNR				*e*Sn		**Sn**	**10 39 53.9**	**+2.6**
CTA	**Charters Tower**	**16.92**	**202**	*i*P		**Pn**	**10 40 03.3**	**-0.2**
	comp=Z,36nm,0.9s							
CTA	**Charters Tower**	**16.92**	**202**	P		**Pn**	**10 40 03.7**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=32							
CTA	**Charters Tower**	**16.92**	**202**	*i*P		**Pn**	**10 40 03.3**	**-0.2**
CTA				pmax		pmax		
	comp=Z,36nm,0.9s							
CTAO	**Charters Tower**	**16.92**	**202**	*e*P		**Pn**	**10 40 03.1**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,67nm,1.0s							
CTAO	**Charters Tower**	**16.92**	**202**	*e*Pn		**Pn**	**10 40 03.1**	**-0.4**
	comp=Z,67nm,1.0s							
CTAO				*e*pP		pP	10 40 18.5	-0.5
GUMO	**Guam**	**19.47**	**336**	P		**Pn**	**10 40 32.9**	**-1.4**
	comp=Z,4.2nm,0.3s,baz=181,slow=11,SNR=5.0							
GUMO				LR		LR	10 46 46.3	
	comp=Z,420nm,20.6s,baz=271,slow=33							
KAKA	**Kakadu**	**21.79**	**246**	*i*P		**P**	**10 40 55.7**	**-1.7**
	comp=Z,115nm,0.9s,mb5.2							
DZM	**Mont Dzumac**	**22.04**	**144**	P		**P**	**10 41 00.2**	**+0.2**
	comp=Z,14nm,0.5s,mb4.5,baz=295,slow=14,SNR=22							
WRAB	**Tennant Creek**	**23.75**	**228**	P		**P**	**10 41 16.0**	**-1.2**
	comp=Z,3μm,0.8s							
WRAB	**Tennant Creek**	**23.75**	**228**	*d i*P		**P**	**10 41 15.5**	**-1.7**
WB2	**Warramunga Arr**	**23.76**	**228**	*i*P		**P**	**10 41 16.7**	**-0.5**
WB2				*e*S		**S**	**10 45 27.3**	**0.0**
WB2				*e*SCP		ScP	10 48 36.0	+5.0
WB2				*e*SCS		ScS	10 52 23.0	+5.2
WRA	**Warramunga Arr**	**23.77**	**228**	P		**P**	**10 41 17.3**	**0.0**
	comp=Z,312nm,0.8s,mb5.7,baz=53,slow=9.6,SNR=753							
WRA				S		**S**	**10 45 27.8**	**+0.4**
	comp=Z,6.1nm,1.1s,baz=53,slow=12,SNR=5.1							
WRA				ScP		ScP	10 48 35.6	+4.6
	comp=Z,21nm,1.1s,baz=46,slow=2.9,SNR=22							
WRA				LR		LR	10 50 50.4	
	comp=Z,2μm,20.8s,baz=55,slow=37							
WRA	**Warramunga Arr**	**23.77**	**228**	P		**P**	**10 41 17.3**	**0.0**
WRA				S		**S**	**10 45 27.8**	**+0.3**
ARMA	**Armidale**	**25.98**	**182**	*e*P		**P**	**10 41 38.7**	**+1.4**
AS31	**Alice Springs**	**26.50**	**222**	*e*P		**P**	**10 41 41.7**	**-0.5**
AS31				*e*ScP		ScP	10 48 43.3	+4.5
AS31				*e*ScS		ScS	10 52 34.6	+5.4
ASAR	**Alice Springs**	**26.51**	**222**	P		**P**	**10 41 41.8**	**-0.4**
	comp=Z,66nm,1.0s,mb5.1,baz=57,slow=8.5,SNR=171							
ASAR				ScP		ScP	10 48 43.4	+4.6
	comp=Z,16nm,1.1s,baz=46,slow=3.2,SNR=19							
ASAR				LR		LR	10 52 14.3	
	comp=Z,1μm,21.2s,baz=47,slow=36							
ASPA	**Alice Springs**	**26.51**	**222**	*i*P		**P**	**10 41 41.6**	**-0.6**
ASPA				*e*SCP		ScP	10 48 43.3	+4.5
ASPA				*e*SCS		ScS	10 52 34.6	+5.4
STKA	**Stephens Creek**	**29.36**	**200**	*i*P		**P**	**10 42 06.8**	**-0.8**
	comp=Z,14nm,0.8s,mb4.6							
STKA				*e*SCP		ScP	10 48 53.8	+6.2
STKA	**Stephens Creek**	**29.36**	**200**	P		**P**	**10 42 06.9**	**-0.7**
	comp=Z,16nm,0.7s,mb4.7,baz=27,slow=12,SNR=28							
STKA				ScP		ScP	10 48 53.1	+5.5
	comp=Z,16nm,1.1s,baz=9.4,slow=3.1,SNR=8.4							
STKA				LR		LR	10 53 25.1	
	comp=Z,2μm,21.9s,baz=18,slow=35							
STKA	**Stephens Creek**	**29.36**	**200**	*e*P		**P**	**10 42 06.8**	**-0.8**
STKA				*e*ScP		ScP	10 48 53.8	+6.2
RIV	**Riverview**	**29.39**	**183**	*e*P		**P**	**10 42 08.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.90**	**241**	*i*P		**P**	**10 42 11.0**	**-1.3**
	comp=Z,123nm,0.9s,mb5.5							
FITZ				*e*SCP		ScP	10 48 54.1	+4.8
FITZ	**Fitzroy Crossi**	**29.90**	**241**	P		**P**	**10 42 11.2**	**-1.1**
	comp=Z,76nm,0.9s,mb5.3,baz=75,slow=8.7,SNR=94							
FITZ				ScP		ScP	10 48 53.6	+4.3
	comp=Z,4.6nm,0.8s,baz=45,slow=7.8,SNR=3.8							
FITZ				LR		LR	10 56 01.3	
	comp=Z,658nm,18.1s,baz=60,slow=40							
CNB	**Canberra Magne**	**31.00**	**185**	*e*P		**P**	**10 42 22.9**	**+0.8**
	comp=Z,34nm,1.0s,mb5.0							
CNB				*e*			10 42 32.8	
CBIJ	**Chichi jima**	**32.88**	**342**	LR		LR	10 54 22.6	
	comp=Z,578nm,21.9s,baz=136,slow=33							
TOO	**Toolangi**	**33.76**	**190**	*e*P		**P**	**10 42 46.9**	**+0.7**
	comp=Z,12nm,1.1s,mb4.6							
TOO	**Toolangi**	**33.76**	**190**	*e*P		**P**	**10 42 46.9**	**+0.7**
TOO				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.6							
FORT	**Forrest**	**35.16**	**219**	*i*P		**P**	**10 42 57.7**	**-0.6**
	comp=Z,233nm,0.7s							
AFI	**Afiamalu**	**36.19**	**108**	LR		LR	10 56 10.4	
	comp=Z,271nm,20.6s,baz=279,slow=33							
MBWA	**Marble Bar**	**36.22**	**240**	*e*P		**P**	**10 43 06.5**	**-0.8**
	comp=Z,108nm,1.1s,mb5.7							
TAU	**Tasmania Unive**	**38.73**	**186**	*e*P		**P**	**10 43 30.2**	**+1.6**
TAU

YSS **Yuzh-Sakhalins** 51.83 351 *e*P **P** **10 45 11.0 -1.2**
YSS *e* 10 52 39.0
TIA Tai'an 52.34 323 ⇑P **P** **10 45 17.3 +1.3**
MDJ Mudanjiang 52.98 339 P **P** **10 45 21.0 +0.3**
MDJ PCP PcP 10 46 28.3 -0.3
MDJ S **S** **10 52 46.5 +1.6**
MDJ XS sS 10 53 12.3 -3.6
MDJ AMB AMB
comp=Z,18nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,110nm,4.0s
MDJ LR LR
comp=N,151nm,37.1s
MDJ LR LR
comp=E,241nm,37.1s
MDJ LR LR
comp=Z,254nm,33.2s
CN2 Changchun 53.88 336 *e*P **P** **10 45 28.0 +0.8**
CN2 *e*XP sP 10 45 55.8 +2.1
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
GYA Guiyang 54.12 307 P **P** **10 45 29.5 +0.5**
GYA AP pP 10 45 49.5 +2.1
GYA XP sP 10 45 57.8 +2.3
GYA PCP PcP 10 46 34.5 +1.6
GYA PP PP 10 47 34.3 +3.1
GYA SCP ScP 10 50 24.5 -0.1
GYA S **S** **10 52 59.5 -0.7**
GYA PS 10 53 21.0
GYA SCS ScS 10 55 09.5 -2.1
GYA SS SS 10 56 41.8 -0.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,480nm,18.9s
GYA LR LR
comp=E,640nm,19.0s
GYA LR LR
comp=Z,570nm,19.2s
HABR Khabarovsk 54.83 346 ⇑*i*P **P** **10 45 34.8 +0.6**
HABR *e*S **S** **10 53 11.3 +1.5**
HABR pmax pmax
comp=Z,97nm,1.6s,mb5.6
NANT Nan 56.21 296 ⇑P **P** **10 45 47.0 +2.9**
comp=Z,69nm,1.0s,mb5.6
XAN Xi'an 56.29 316 P **P** **10 45 45.5 +0.9**
XAN S **S** **10 53 29.3 +0.1**
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
XAN LR LR
comp=E,174nm,12.8s
XAN LR LR
comp=Z,318nm,17.1s
KLR Kul'dur 56.40 344 *e*P **P** **10 45 42.0 -3.4**
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,86nm,1.4s,mb5.6
KMI Kunming 56.73 304 P **P** **10 45 50.0 +2.2**
KMI AP pP 10 46 06.0 -0.3
KMI S **S** **10 53 35.0 -0.1**
KMI AMB AMB
comp=Z,13nm,1.3s,mb4.8
KMI LR LR
comp=N,175nm,16.6s
KMI LR LR
comp=E,206nm,12.8s
KMI LR LR
comp=Z,257nm,21.7s
KMI Kunming 56.73 304 P **P** **10 45 49.9 +2.1**
KMI *PP pP 10 46 06.1 -0.2
KMI S **S** **10 53 34.9 -0.2**
KMI pmax pmax
comp=Z,13nm,1.3s,mb4.8
KMI MLR MLR
comp=Z,260nm,21.7s
KMI Kunming 56.73 304 P **P** **10 45 49.9 +2.1**
comp=Z,13nm,1.3s,mb4.8
KMI pP pP 10 46 06.1 -0.2
KMI S **S** **10 53 34.9 -0.2**
KMI LR LR
comp=Z,260nm,21.7s
CHG Chiang Mai 57.80 295 ⇓P **P** **10 46 00.2 +4.9**
comp=Z,11nm,0.8s,mb4.9
PPT Papeete 57.86 108 *e*S **S** **10 54 04.7 +15**
comp=Z,466nm,26.2s
PPT *e*LR LR 11 03 04.8
comp=Z,333nm,32.0s
CD2 Chengdu 58.44 310 P **P** **10 46 02.0 +2.2**
CD2 AP pP 10 46 21.0 +2.7
CD2 XP sP 10 46 30.0 +3.6
CD2 PP PP 10 48 13.5 +3.8
CD2 S **S** **10 53 57.3 -0.2**
CD2 XS sS 10 54 30.0 +1.0
CD2 SS SS 10 57 51.8 +1.1
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
CD2 AMB AMB
comp=Z,140nm,4.3s
CD2 LR LR
comp=N,180nm,6.4s
CD2 LR LR
comp=E,220nm,11.4s
CD2 LR LR
comp=Z,250nm,10.8s
HHC Hu-ho-hao-te 58.67 324 *e*P **P** **10 46 02.0 +0.6**
HHC XP sP 10 46 30.8 +2.8
HHC PCP PcP 10 46 50.5 -0.2
HHC PP PP 10 48 15.5 +3.7
HHC SCP ScP 10 50 42.8 -1.9
HHC S **S** **10 54 00.5 0.0**
HHC AMB AMB
comp=Z,15nm,1.3s,mb4.9
HHC AMB AMB
comp=Z,190nm,5.3s
HHC LR LR
comp=N,232nm,15.4s
HHC LR LR
comp=E,352nm,17.5s
HHC LR LR
comp=Z,308nm,20.0s
TBI Tubuai 58.74 115 *e*S **S** **10 54 11.8 +10**
comp=Z,361nm,25.2s
TBI *e*LQ 11 01 06.8
comp=Z,321nm,37.2s
TBI *e*LR LR 11 03 39.1
comp=Z,224nm,28.8s
BTO Baotou 59.43 323 *e*P **P** **10 46 08.8 +2.2**
HIA Hailar 60.61 336 *e*P **P** **10 46 14.4 -0.3**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 60.61 336 *e*P **P** **10 46 14.4 -0.3**
comp=Z,10nm,0.9s,mb4.9
HIA *e*pP pP 10 46 36.3 +3.0
LZH Lanzhou 60.90 316 *e*P **P** **10 46 19.8 +3.1**
LZH AP pP 10 46 37.3 +1.9
LZH XP sP 10 46 42.3 -1.1
LZH PP PP 10 48 35.0 +3.5
LZH S **S** **10 54 25.0 -4.1**
LZH PS 10 54 54.0
LZH XS sS 10 54 58.0 -2.8
LZH *e*SS SS 10 58 26.0 -3.3
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,90nm,4.0s
LZH LR LR
comp=E,560nm,16.0s
LZH LR LR
comp=Z,860nm,17.7s
LZH Lanzhou 60.90 316 *e*P **P** **10 46 19.7 +3.0**
LZH *PP pP 10 46 37.3 +1.9
LZH 10 48 35.0
LZH S **S** **10 54 25.0 -4.1**
LZH PS 10 54 54.0
LZH *SS sS 10 54 58.0 -2.8
LZH *e*SS SS 10 58 26.0 -3.3
LZH pmax pmax
comp=Z,30nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,860nm,17.7s
LZH Lanzhou 60.90 316 *e*P **P** **10 46 19.7 +3.0**
comp=Z,30nm,1.5s,mb5.1
LZH pP pP 10 46 37.3 +1.9
LZH sP sP 10 46 42.2 -1.2
LZH PP PP 10 48 35.0 +3.5
LZH S **S** **10 54 25.0 -4.1**
LZH PS 10 54 54.0
LZH sS sS 10 54 58.0 -2.8
LZH *e*SS SS 10 58 26.0 -3.3
LZH LR LR
comp=Z,860nm,17.7s
CLNS Chul'man 65.06 344 *e*P **P** **10 46 39.9 -4.4**
CLNS *e**PP pP 10 46 55.6 -7.5
CLNS *e* 10 47 12.1
CLNS *e**SS sS 10 55 48.0 -5.1
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.0
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CIT Chita 65.28 334 *e*P **P** **10 46 47.0 +1.3**
GTA Gaotai 65.32 317 *e*P **P** **10 46 48.8 +2.9**
GTA AP pP 10 47 04.8 0.0
GTA XP sP 10 47 15.5 +2.7
GTA PCP PcP 10 47 19.5 +1.9
GTA SCP 10 51 19.5
GTA AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
GTA AMB AMB
comp=Z,86nm,4.9s
GTA LR LR
comp=N,125nm,15.6s
GTA LR LR
comp=E,276nm,19.0s
GTA LR LR
comp=Z,220nm,13.7s
ULN Ulaanbaatar 65.60 328 *e*P **P** **10 46 49.4 +1.6**
ULN *e* 10 47 19.0
ULN pmax pmax
comp=Z,16nm,1.1s,mb4.8
ULN Ulaanbaatar 65.60 328 *e*P **P** **10 46 49.4 +1.7**
comp=Z,16nm,1.1s,mb4.8
ULN *e*PcP PcP 10 47 19.0 +0.2
SONM Songino Array 65.93 328 P **P** **10 46 51.4 +1.5**
comp=Z,4.6nm,0.7s,mb4.4,baz=149,slow=6.0,SNR=25
SONM LR LR 11 16 20.9
comp=Z,219nm,18.7s,baz=152,slow=37
YAK Yakutsk 68.52 349 *e*P **P** **10 47 04.8 -1.4**
YAK *e* 10 47 17.4
YAK pmax pmax
comp=Z,41nm,1.1s,mb5.2
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,46nm,1.2s,mb5.2
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,11nm,1.2s
ZAK Zakamensk 69.10 329 *e*P **P** **10 47 10.1 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
BOD Bodaibo 69.36 339 *e*P **P** **10 47 11.1 -0.3**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.5
RKT Rikitea 71.96 113 *e*S S 10 56 58.1 +15
comp=Z,212nm,29.2s
RKT *e*LQ 11 06 13.6
comp=Z,298nm,37.0s
RKT *e*LR LR 11 09 33.4
comp=Z,130nm,22.8s
BILL Bilibino 72.82 5*c* *i*P **P** **10 47 32.3 -0.1**
BILL pmax pmax
comp=Z,34nm,0.7s,mb5.3
BILL Bilibino 72.82 5 *e*P **P** **10 47 32.6 +0.2**
comp=Z,34nm,0.8s,mb5.2
VNDA Vanda 73.30 178 P **P** **10 47 35.8 +0.6**
comp=Z,6.3nm,0.7s,mb4.6,baz=334,slow=6.5,SNR=45
VNDA LR LR 11 17 42.0
comp=Z,183nm,18.5s,baz=348,slow=34
VNDA Vanda 73.30 178 *e*P **P** **10 47 35.5 +0.3**
VNDA *e* 10 47 47.2
VNDA pmax pmax
comp=Z,11nm,0.7s
VNDA Vanda 73.30 178 *e*P **P** **10 47 35.5 +0.3**
comp=Z,11nm,0.7s,mb4.8
VNDA *e*PcP PcP 10 47 47.2 -4.0
SBA Scott Base 73.84 177 *e*P **P** **10 47 41.9 +3.5**
SBA *e* 10 47 51.6
SBA pmax pmax
comp=Z,26nm,1.1s,mb4.9
SBA Scott Base 73.84 177 *e*P **P** **10 47 41.9 +3.5**
comp=Z,26nm,1.1s,mb4.9
SBA *e*PcP PcP 10 47 51.5 -2.0
WMQ Urumqi 75.41 317 ⇓P **P** **10 47 47.8 +0.4**
WMQ PCP PcP 10 48 01.3 +1.0
WMQ AP pP 10 48 07.8 +1.1
WMQ XP sP 10 48 16.3 +1.7
WMQ PP PP 10 50 39.3 +2.2
WMQ PPP 10 52 25.3
WMQ S S 10 57 19.5 -2.2
WMQ SKS 10 57 45.3
WMQ AMB AMB
comp=Z,19nm,1.5s,mb4.6
WMQ AMB AMB
comp=Z,243nm,5.8s
WMQ LR LR
comp=N,45nm,23.0s
WMQ LR LR
comp=E,33nm,20.7s
WMQ LR LR
comp=Z,51nm,20.7s
HYB Hyderabad 76.35 289 *e*P **P** **10 47 57.5 +4.7**
TIXI Tiksi 77.43 352 *e*P **P** **10 47 55.9 -3.0**
TIXI pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
TIXI MLR MLR
comp=Z,128nm,19.0s
TIXI Tiksi 77.43 352 *e*P **P** **10 47 57.8 -1.1**
comp=Z,15nm,1.3s,mb4.6
PMR Palmer 79.25 24 *e*P **P** **10 48 08.0 -0.9**
PMR pmax pmax
comp=Z,65nm,1.8s,mb5.2
PMR Palmer 79.25 24 *e*P **P** **10 48 08.0 -1.0**
comp=Z,65nm,1.8s,mb5.2
SML Sawmill 79.69 24 *e*P **P** **10 48 11.5 +0.2**
MK31 Makanchi Array 79.98 319 *e*P **P** **10 48 13.7 +0.8**
MK31 *e* 10 48 18.9
MK31 *e**PP pP 10 48 31.6 -0.7
MKAR Makanchi Array 79.98 319 P **P** **10 48 14.2 +1.3**
comp=Z,3.8nm,0.8s,mb4.2,baz=95,slow=6.0,SNR=14
IMA2 Indian Mountai 80.01 19 *e*P **P** **10 48 12.6 -0.4**
IMA2 *e*PcP PcP 10 48 19.1 -1.1
IMA2 *e*pP pP 10 48 33.9 +1.5
MCK McKinley 80.42 23 *e*P **P** **10 48 13.9 -1.4**
MCK pmax pmax
comp=Z,23nm,0.9s,mb5.0
MCK McKinley 80.42 23 *e*P **P** **10 48 13.9 -1.3**
comp=Z,23nm,0.9s,mb5.0
MCK *e*pP pP 10 48 33.5 -1.2
DIV Divide 80.44 26 *e*P **P** **10 48 15.3 -0.1**
comp=Z,178nm,1.6s,mb5.7
DIV *e*pP pP 10 48 34.7 -0.2
POO Poona 80.94 289 *e*P **P** **10 48 15.0 -3.0**
COLA College 81.41 22 *e*P **P** **10 48 19.6 -0.9**
COLA pmax pmax
comp=Z,26nm,0.8s,mb5.1
COLA College 81.41 22 *e*P **P** **10 48 19.6 -0.9**
comp=Z,26nm,0.8s,mb5.1
KSH Kashi 82.64 311 *e*P **P** **10 48 33.5 +6.6**
KSH *e*SKS 10 58 42.3
KSH LR LR
comp=Z,441nm,10.2s
KURK Kurchatov 83.41 322 P **P** **10 48 31.5 +0.6**
comp=Z,48nm,1.1s,mb5.2,SNR=7.5
EGAK Eagle 83.92 23 *e*P **P** **10 48 33.6 +0.1**
comp=Z,10nm,0.8s,mb4.7
EGAK *e*PcP PcP 10 48 38.5 +1.2
AAK Ala-Archa 84.35 313 *e*P **P** **10 48 36.8 +1.1**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
AAK Ala-Archa 84.35 313 *e*P **P** **10 48 36.8 +1.1**
comp=Z,5.2nm,0.8s,mb4.4
AAK *e*PcP PcP 10 48 39.6 +0.3
DAWY Dawson 84.35 24 *e*P **P** **10 48 35.7 0.0**
QSPA South Pole Qui 85.63 180 *e*P **P** **10 48 42.7 +0.6**
QSPA *e*PcP PcP 10 48 44.8 -0.1
QSPA *e*pP pP 10 49 01.1 -0.7
MAW Mawson 86.01 203 ⇓*i*P **P** **10 48 43.8 -0.2**
comp=Z,6.8nm,0.7s,mb4.7
MAW Mawson 86.01 203 P **P** **10 48 43.7 -0.3**
comp=Z,8.2nm,0.7s,mb4.8,baz=88,slow=6.7,SNR=17
MAW LR LR 11 22 11.7
comp=Z,413nm,21.8s,baz=73,slow=32
MAW Mawson 86.01 203 ⇓*i*P **P** **10 48 43.8 -0.2**
MAW pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 88.01 21 P **P** **10 48 52.5 -1.2**
comp=Z,16nm,1.1s,mb5.0,baz=249,slow=3.0,SNR=6.3
INK Inuvik 88.01 21 *e*P **P** **10 48 53.1 -0.6**
comp=Z,1μm,1.3s
YBH Yreka Blue Hor 88.73 48 P **P** **10 48 57.9 +0.9**
comp=Z,5.1nm,1.1s,mb4.5,baz=159,slow=18,SNR=2.9
BVAR Borovoye Array 88.87 323 P **P** **10 48 57.5 -0.2**
comp=Z,5.8nm,0.7s,mb4.7,baz=103,slow=5.6,SNR=28
BRVK Borovoye 88.94 323 P **P** **10 48 58.5 +0.4**
comp=Z,52nm,0.8s,mb5.6,SNR=5.4
BRVK Borovoye 88.94 323 *e*P **P** **10 48 57.9 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRVK Borovoye 88.94 323 *e*P **P** **10 48 57.9 -0.1**
comp=Z,7.2nm,0.8s,mb4.8
F04A Amboy 89.44 44 ⇓P **P** **10 48 59.2 -1.2**
baz=90
J05A Fort Rock 89.99 47 ⇓P **P** **10 49 03.6 +0.7**
baz=90
C05A Tolt Reservoir 90.14 42 ⇑P **P** **10 49 02.7 -0.9**
baz=90
K05A Summer Lake 90.18 47 ⇓P **P** **10 49 04.6 +0.7**
baz=90
F06A Goldendale 90.56 44 ⇓P **P** **10 49 06.0 +0.3**
baz=91
K06A Valley Falls 90.66 47 ⇓P **P** **10 49 06.8 +0.7**
baz=91
O06A Flanigan 90.74 50 ⇑P **P** **10 49 05.9 -0.6**
baz=91
J06A Christmas Vall 90.77 47 ⇓P **P** **10 49 06.3 -0.3**
baz=91
H06A Lindquist Farm 90.78 45 ⇓P **P** **10 49 05.7 -0.9**
baz=91
I06A Prineville 90.79 46 ⇓P **P** **10 49 07.4 +0.7**
baz=91
A07A Ashnola River, 91.14 41 ⇑P **P** **10 49 08.3 0.0**
baz=91
D07A Quincy 91.25 43 ⇑P **P** **10 49 08.5 -0.3**
baz=91
E07A Sunnyside 91.27 44 ⇑P **P** **10 49 09.3 +0.3**
baz=91
G07A Ruggs Ranch, H 91.29 45 ⇑P **P** **10 49 09.0 0.0**
baz=91
I07A Izee 91.31 46 ⇑P **P** **10 49 08.8 -0.3**
baz=91
K07A Rock Creek Ran 91.39 47 ⇓P **P** **10 49 09.8 +0.3**
baz=92
TIN Tinemaha 91.75 53 ⇓P **P** **10 49 12.4 +1.3**
baz=92
NVAR Mina Array Bea 91.78 52 P **P** **10 49 11.6 +0.2**
comp=Z,2.5nm,0.9s,mb4.4,baz=244,slow=8.0,SNR=7.4
G08A Pilot Rock 91.79 45 ⇓P **P** **10 49 12.0 +0.6**
baz=92
E08A Dider Farm, El 91.81 44 ⇑P **P** **10 49 12.4 +0.9**
baz=92
F08A Pendleton 91.96 44 ⇓P **P** **10 49 12.4 +0.3**
baz=92
I08A Drewsey 91.97 46 ⇓P **P** **10 49 11.9 -0.3**
baz=92
J08A Circle Bar Ran 92.00 47 ⇑P **P** **10 49 12.0 -0.3**
baz=92
L08A Fields 92.02 48 ⇑P **P** **10 49 12.4 0.0**
baz=92
Q08A Gabbs 92.10 51 ⇓P **P** **10 49 13.1 +0.3**
baz=92
D09A Jones Farm, Ri 92.37 43 ⇑P **P** **10 49 14.0 0.0**
baz=92
GRAC Grapevine Rang 92.43 53 ⇑P **P** **10 49 14.0 -0.3**
baz=92
C09A Chrisman Ranch 92.44 42 ⇓P **P** **10 49 13.1 -1.3**
baz=92
E09A Wood Farm, Sta 92.45 44 ⇑P **P** **10 49 14.0 -0.3**
baz=92
L09A Wilkinson Ranc 92.51 48 ⇓P **P** **10 49 14.7 0.0**
baz=93
F09A S2 Ranch, Elgi 92.56 45 ⇓P **P** **10 49 14.6 -0.3**
baz=93
B09A Rice 92.56 42 ⇑P **P** **10 49 14.2 -0.7**
baz=93
I09A Lost Marbles R 92.57 46 ⇓P **P** **10 49 15.3 +0.3**
baz=93
S09A Goldfield 92.59 53 ⇑P **P** **10 49 15.0 0.0**
baz=93
M09A Marrel Ranch, 92.63 49 ⇑P **P** **10 49 16.5 +1.3**
baz=93
H09A Durkee 92.67 46 ⇓P **P** **10 49 14.4 -1.0**
baz=93
F10A Beach Ranch, E 93.05 44 ⇑P **P** **10 49 16.2 -1.0**
baz=93
NEW Newport 93.24 42 P **P** **10 49 17.8 -0.2**
comp=Z,7.0nm,1.1s,mb4.9,baz=216,slow=2.9,SNR=7.3
H10A Noah's Angus R 93.32 46 ⇑P **P** **10 49 18.4 0.0**
baz=93
G11A Walters Elk Ra 93.70 45 ⇑P **P** **10 49 19.8 -0.4**
baz=94
D11A Klaveano Farm, 93.72 43 ⇑P **P** **10 49 19.5 -0.7**
baz=94
A11A Hall Mountain, 93.77 41 ⇓P **P** **10 49 20.1 -0.4**
baz=94
E11A Bogner Ranch, 93.78 44 ⇓P **P** **10 49 18.9 -1.6**
baz=94
F11A Grangeville 93.80 44 ⇓P **P** **10 49 19.6 -1.0**
baz=94
H11A Donnelly 93.85 46 ⇑P **P** **10 49 20.1 -0.7**
baz=94
O11A Cowboy Ranch, 93.93 50 ⇑P **P** **10 49 21.2 0.0**
baz=94
SYO Syowa Base 94.11 199 ⇓*e*P **P** **10 49 21.0 -1.0**
SYO Syowa Base 94.11 199 ⇓*e*pP pP 10 49 40.2 -1.7
B12A Libby 94.27 42 ⇓P **P** **10 49 22.3 -0.4**
baz=94
O12A Currie 94.63 50 ⇓P **P** **10 49 25.0 +0.6**
baz=95
YKA Yellowknife Ar 95.00 28 P **P** **10 49 25.9 -0.2**
comp=Z,1.4nm,0.9s,mb4.4,baz=294,slow=7.0,SNR=4.4
YKA PKiKP PKiKP 10 54 07.7 +0.3
comp=Z,0.3nm,0.6s,baz=272,slow=1.6,SNR=4.0
YKA LR LR 11 28 12.3
comp=Z,282nm,20.9s,baz=235,slow=33
B13A Whitefish 95.01 42 ⇑P **P** **10 49 26.0 -0.1**
baz=95
F13A Darby 95.07 45 P **P** **10 49 26.2 -0.2**
baz=95,SNR=7.3
E15A Deer Lodge 96.25 44 ⇑P **P** **10 49 31.9 +0.1**
baz=96
AKTO Aktyubinsk 96.37 320 LR LR 11 33 00.8
comp=Z,113nm,20.4s,baz=331,slow=35
CTU Camp Tracy 96.92 50 P **P** **10 49 27.2 -7.6**
comp=Z,7.7nm,0.5s,mb5.4
CTU PP PP 10 53 14.5 -16
PDAR Pinedale Array 98.52 48 P **P** **10 49 42.0 0.0**
comp=Z,2.3nm,1.0s,mb4.7,baz=253,slow=4.2,SNR=12
PDAR LR LR 11 28 10.9
comp=Z,300nm,19.8s,baz=268,slow=32
ARCES ARCESS Array B 106.42 343 PKiKP PKiKP 10 54 27.6 -0.4
comp=Z,1.9nm,0.7s,baz=106,slow=2.1,SNR=5.3
AKASG Malin Array Be 114.12 325 PKiKP PKiKP 10 54 42.3 -0.1
comp=Z,1.3nm,0.5s,baz=56,slow=2.1,SNR=4.8
NB2 NORSAR Subarra 116.47 340 PKiKP PKPdf 10 54 46.6 -0.4
NB2 NORSAR Subarra 116.47 340 PKPdf PKPdf 10 54 46.6 -0.4
comp=Z,2.1nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 116.47 340 PKiKP PKiKP 10 54 46.7 -0.3
comp=Z,1.4nm,0.7s,baz=45,slow=1.9,SNR=4.2
NOA NORSAR Array B 116.47 340 PKPdf PKPdf 10 54 46.7 -0.3
KOLS Kolonicke sedl 118.93 325 *e*PKP PKPdf 10 54 53.5 +1.8
STHS Stebnicka Huta 119.27 326 *e*PKP PKPdf 10 54 53.8 +1.4
KECS Kecovo 120.18 325 *e*PKP PKPdf 10 54 53.1 -1.0

SCHQ	**Schefferville**	**120.36**	**25**	PKP	PKPdf	10 54 54.1	-0.3		
	comp=Z,3.2nm,0.7s,baz=14,slow=18,SNR=4.2								
VYHS	**Vyhne**	**121.10**	**326**	*e*PKP	PKPdf	10 54 57.3	+1.4		
BRG	**Berggiesshubel**	**122.27**	**330**	*e*P	PKPdf	10 54 59.5	+1.3		
	comp=Z,8.1nm,1.4s								
BRG				*e*		10 55 11.0			
	comp=Z,6.4nm,1.1s								
GRUS	**Gruza**	**122.35**	**321**	*i* P	PKPdf	10 54 58.7	+0.4		
CLL	**Collm**	**122.45**	**331**	*i* PKPdf	PKPdf	10 54 59.0	+0.5		
	comp=Z,6.0nm,0.6s								
CLL				*i* x	x	10 55 10.8			
DIVS	**Divcibare**	**122.70**	**321**	*i* P	PKPdf	10 54 58.7	-0.2		
NCB	**Newcomb**	**122.86**	**39**	*e*PKPdf	PKPdf	10 54 59.9	+0.7		
BBLS	**Bajina Basta -**	**123.18**	**321**	*i* P	PKPdf	10 55 01.7	+1.8		
KHC	**Kasperske Hory**	**123.55**	**329**	*e*PKPdf	PKPdf	10 55 01.5	+0.9		
KHC				*ex*	x	10 55 13.0			
GERES	**GERESS Array B**	**123.66**	**329**	PKP	PKPdf	10 55 02.1	+1.3		
	comp=Z,4.0nm,0.7s,baz=64,slow=2.0,SNR=15								
GRA1	**Grafenberg Arr**	**124.36**	**331**	*e*PKP	PKPdf	10 55 03.6	+1.5		
GRF	**Grafenberg Arr**	**124.36**	**331**	*e*PKIKP	PKPdf	10 55 03.6	+1.5		
CRES	**Cresnjev**	**124.50**	**325**	*e*PKPdf	PKPdf	10 55 03.0	+0.6		
BOJS	**Bojanci**	**124.81**	**325**	*e*PKPdf	PKPdf	10 55 04.0	+1.0		
BOJS				*e*		10 55 16.2			
CADS	**Cadrg**	**125.24**	**326**	*i* PKPdf	PKPdf	10 55 04.2	+0.4		
CADS				*i*		10 55 16.2			
CFAA	**Coronel Fontan**	**127.06**	**135**	PKP	PKPdf	10 55 08.9	+1.6		
	comp=Z,1.4nm,0.8s,baz=267,slow=2.1,SNR=17								
LPL	**La Plagne**	**129.43**	**329**	*e*PKIKP	PKPdf	10 55 14.6	+2.8		
LPG	**La Plagne**	**129.43**	**329**	*e*PKIKP	PKPdf	10 55 14.7	+2.9		
	comp=Z,20nm,1.1s								
LOR	**Lormes**	**129.55**	**333**	*e*PKIKP	PKPdf	10 55 14.0	+2.0		
SSF	**Saint Saulge**	**129.86**	**333**	*e*PKIKP	PKPdf	10 55 14.4	+1.8		
	comp=Z,19nm,1.0s								
MBDF	**Montbardon**	**129.95**	**329**	*e*PKIKP	PKPdf	10 55 15.1	+2.3		
SMF	**Signal de Mont**	**130.02**	**332**	*e*PKIKP	PKPdf	10 55 15.4	+2.5		
PGF	**Pioggiola**	**130.18**	**325**	*e*PKIKP	PKPdf	10 55 15.6	+2.4		
	comp=Z,15nm,0.8s								
SBF	**Sospel**	**130.19**	**327**	*e*PKIKP	PKPdf	10 55 16.0	+2.7		
ORIF	**Oris-en-Rattie**	**130.28**	**329**	*e*PKIKP	PKPdf	10 55 16.1	+2.7		
	comp=Z,7.9nm,0.8s								
BGF	**Bois d'Agland**	**130.54**	**333**	*e*PKIKP	PKPdf	10 55 16.4	+2.5		
FRF	**La Foret Royal**	**130.81**	**328**	*e*PKIKP	PKPdf	10 55 17.3	+2.9		
	comp=Z,13nm,0.8s								
VIVF	**Saint-Julien-l**	**130.93**	**330**	*e*PKIKP	PKPdf	10 55 17.5	+2.8		
TCF	**Toulx Ste Croi**	**131.03**	**333**	*e*PKIKP	PKPdf	10 55 17.1	+2.2		
	comp=Z,16nm,0.8s								
LMR	**La Mourre**	**131.04**	**328**	*e*PKIKP	PKPdf	10 55 17.9	+3.0		
SMRF	**Simiane la Rot**	**131.09**	**329**	*e*PKIKP	PKPdf	10 55 18.0	+3.0		
LASF	**Ste Croix**	**131.89**	**330**	*e*PKIKP	PKPdf	10 55 19.4	+2.9		
RJF	**Les Rejaudoux**	**132.09**	**333**	*e*PKIKP	PKPdf	10 55 19.7	+2.8		
MTLF	**Montolieu**	**133.24**	**331**	*e*PKIKP	PKPdf	10 55 21.8	+2.8		
LPAZ	**La Paz**	**134.63**	**118**	PKP	PKPdf	10 55 25.4	+3.8		
	comp=Z,7.0nm,0.8s,baz=261,slow=1.9,SNR=28								
LPAZ	**La Paz**	**134.63**	**118**	*e*PKPdf	PKPdf	10 55 25.5	+3.9		
ETSF	**Etsaut**	**134.90**	**332**	*e*PKIKP	PKPdf	10 55 24.9	+2.8		
	comp=Z,11nm,0.7s								
SJPF	**Ste Jean**	**135.04**	**333**	*e*PKIKP	PKPdf	10 55 25.2	+2.8		
SDV	**Santo Domingo**	**136.63**	**82**	PKP	PKPdf	10 55 27.9	+2.6		
	comp=Z,17nm,0.8s,baz=253,slow=1.2,SNR=24								
SDV	**Santo Domingo**	**136.63**	**82**	*e*PKPdf	PKPdf	10 55 27.9	+2.5		
SAML	**Samuel**	**141.77**	**110**	*e*PKPdf	PKPdf	10 55 33.7	-1.1		
TOA0	**Torodi Ar. Sit**	**150.17**	**289**	*e*PKPdf	PKPdf	10 55 48.9	-0.1		
TOA0				*e*PKPbc	PKPbc	10 55 54.8	+0.7		
TOA0				*e*PKPab	PKPab	10 56 00.3	0.0		
TOA0				*ep*PKPdf	pPKPdf	10 56 08.2	-1.4		
TORD	**Torodi Ar. Bea**	**150.17**	**289**	PKPbc	PKPbc	10 55 54.6	+0.5		
	comp=Z,11nm,0.4s,baz=15,slow=1.4,SNR=68								

ISCJB ***27*** *10:40:15.3±1.7, 464N±0.1×1529E±02, h50km±13km, mb4.0/7, MS4.1/2, Error ellipse: s-maj=29.0km s-min=7.3km az=96.8*
MOS ***27*** *10:40:16.7±1.7, 4668N×15263E, h52km, mb4.3/3, Error ellipse: s-maj=28.6km s-min=14.6km az=51.8*
IDC ***27*** *10:40:17.8±5.2, 4661N×15298E, h52km±48km, mb3.7/7, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.6/2, MS3.7/3, Ms1 3.7/3, ms1mx2.7/54, Error ellipse: s-maj=30.3km s-min=27.4km az=84.0*

ISC 27 10:40:18.7±1.5, 465N±01×1528E±02, h63km±12km, n17, σ0§98/18, mb4.0/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.68**	**251**	*e*PN	**Pn**	**10 41 09.5**	**-3.6**
KUR				*e*S	**Sn**	**10 41 55.4**	**+0.1**
KUR				pmax	pmax		
	comp=Z,230nm,0.7s						
KUR				smax			
	comp=N,270nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	**Severo-Kuril's**	**4.72**	**27**	*e*PN	**Pn**	**10 41 26.5**	**-0.8**
SKR				*e*S	**Sn**	**10 42 22.0**	**+1.3**
SKR				pmax	pmax		
	comp=Z,130nm,0.9s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.49**	**246**	*e*PN	**Pn**	**10 41 36.4**	**-1.5**
YUK				*e*S	**Sn**	**10 42 40.1**	**+0.4**
YUK				smax			
	comp=N,210nm,0.5s						
YUK				smax			
	comp=E,270nm,0.7s						
ASAJ	**Asahikawa**	**7.59**	**255**	P	**Pn**	**10 42 06.8**	**+0.2**
	comp=E,1.0nm,0.3s,baz=314,slow=13,SNR=4.1						
ASAJ				LR	LR	10 45 04.6	
	comp=E,135nm,18.2s,baz=350,slow=37						
MJAR	**Matsushiro Arr**	**14.77**	**233**	P	**Pn**	**10 43 47.2**	**+3.2**
	comp=E,0.2nm,0.3s,baz=39,slow=7.9,SNR=4.8						
PSI	**Prapat**	**63.79**	**244**	LR	LR	11 18 10.0	
	comp=E,176nm,20.0s,baz=28,slow=36						
FINES	**FINESS Array B**	**64.17**	**335**	P	**P**	**10 50 45.8**	**-0.8**
	comp=E,4.6nm,1.0s,mb4.5,baz=29,slow=4.4,SNR=4.2						
PDAR	**Pinedale Array**	**65.06**	**54**	P	**P**	**10 50 51.4**	**-1.0**
	comp=E,1.3nm,0.9s,mb3.9,baz=279,slow=2.9,SNR=3.8						
NOA	**NORSAR Array B**	**68.39**	**341**	P	**P**	**10 51 13.7**	**+0.1**
	comp=E,1.5nm,0.6s,mb4.2,baz=29,slow=6.3,SNR=2.9						
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**10 51 34.0**	**+0.6**
	comp=E,1.4nm,0.5s,mb4.2,baz=35,slow=6.4,SNR=7.5						
AKASG	**Malin Array Be**	**71.63**	**326**	P	**P**	**10 51 34.0**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**71.91**	**198**	P	**P**	**10 51 36.2**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=14,slow=5.1,SNR=4.2						
TXAR	**Lajitas Array**	**77.79**	**60**	P	**P**	**10 52 09.2**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=299,slow=3.5,SNR=17						
TXAR	**Lajitas Array**	**77.79**	**60**	P	**P**	**10 52 09.2**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.42**	**317**	P	**P**	**10 52 12.1**	**-0.4**
	comp=Z,1.2nm,1.0s,mb3.8,baz=90,slow=1.2,SNR=4.3						
BRTR	**Keskin Array B**	**78.42**	**317**	P	**P**	**10 52 12.1**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ATD	**Arta Tunnel**	**95.02**	**292**	LR	LR	11 35 48.0	
	comp=Z,54nm,21.2s,baz=74,slow=35						

ISCJB ***27*** *10:46:29.9±0.7, 3195N±003×11721W±003, h16km±6km, Error ellipse: s-maj=6.0km s-min=3.6km az=60.9*
ECX ***27*** *10:46:32.1±0.4, 3195N×11709W, h9km±3km, MD3.5, ML3.6*

ISC 27 10:46:29.9±0.7, 3197N±003×11719W±003, h7km±4km, n50, σ1§04/68, 34C-29D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENX	**Ensenada**	**0.46**	**101**	⇑*e*P	**Pg**	**10 46 38.8**	**0.0**
ENX				*e*S	**Sg**	**10 46 44.1**	**-0.7**
ENX				⇑*e*		10 46 44.5	
	comp=N,4μm,0.5s						
PBX	**Punta Banda**	**0.46**	**119**	⇓*e*P	**Pg**	**10 46 38.9**	**+0.1**
PBX				*e*S	**Sg**	**10 46 44.0**	**-0.8**
PBX				*e*		10 46 44.9	
	comp=E,7μm,0.2s						
PBX				⇑*e*		10 46 45.1	
	comp=N,8μm,0.2s						
CBX	**Cerro Bola**	**0.57**	**52**	*e*P	**Pg**	**10 46 41.4**	**+0.5**
CBX				*e*S	**Sg**	**10 46 48.2**	**0.0**
ECNX	**Esteban Cantu**	**0.60**	**121**	*e*P	**Pg**	**10 46 41.1**	**-0.3**
ECNX				⇑*e*P		10 46 38.9	
ECNX				*e*S	**Sg**	**10 46 44.1**	**-5.1**
ECNX				*e*S	**Sg**	**10 46 48.5**	**-0.7**
109C	**Camp Elliot, M**	**0.92**	**5**	⇑P	**Pg**	**10 46 48.1**	**+0.4**
	baz=0.9,SNR=249						
109C				⇓S	**Sg**	**10 47 00.0**	**+0.4**
	baz=0.9						
RDX	**Rancho Dowling**	**1.06**	**92**	⇑*e*P	**Pg**	**10 46 49.3**	**-1.0**
RDX				*e*S	**Sg**	**10 47 02.4**	**-1.6**
RDX				⇑*e*		10 47 04.0	
	comp=E,2μm,0.4s						
RDX				⇓*e*		10 47 05.3	
	comp=N,1μm,0.3s						
MONP	**Monument Peak**	**1.13**	**35**	⇓P	**Pg**	**10 46 50.9**	**-0.7**
	baz=1.0,SNR=12						
MONP				⇓S	**Sg**	**10 47 05.7**	**-0.6**
	baz=1.0						
DVTC	**Desert V Tower**	**1.15**	**53**	⇓P	**Pg**	**10 46 51.2**	**-0.9**
	baz=1.0,SNR=17						
DVTC				⇑S	**Sg**	**10 47 05.6**	**-1.5**
	baz=1.0						
SCI	**San Clemente I**	**1.52**	**312**	⇑P	**Pn**	**10 46 57.3**	**-0.2**
	baz=1.6,SNR=12						
SCI				⇑S	**Sn**	**10 47 16.5**	**-1.1**
	baz=1.6						
SWSC	**Sam W. Stewart**	**1.53**	**50**	⇑P	**Pn**	**10 46 57.4**	**-0.2**
	baz=1.4,SNR=72						
SWSC				⇓S	**Sn**	**10 47 16.9**	**-0.8**
	baz=1.4						
MURC	**Murrieta**	**1.63**	**360**	⇓P	**Pn**	**10 46 59.5**	**+0.6**
	baz=1.6,SNR=171						
SPX	**San Pedro Mart**	**1.74**	**121**	*e*P	**Pn**	**10 47 00.4**	**-0.1**
SPX				*e*S	**Sn**	**10 47 22.7**	**-0.2**
PFO	**Pinyon Flat Ob**	**1.75**	**21**	⇑P	**Pn**	**10 47 01.0**	**+0.3**
	baz=1.7,SNR=52						
CIS	**Catalina Islan**	**1.76**	**325**	⇑P	**Pn**	**10 46 59.7**	**-1.1**
	baz=1.8						
CIS				⇓S	**Sn**	**10 47 21.3**	**-2.1**
	baz=1.8						
FMP	**Fort Macarthur**	**1.97**	**332**	⇑P	**Pn**	**10 47 04.0**	**+0.4**
	baz=2.0						
FMP				⇑S	**Sn**	**10 47 27.2**	**-1.3**
	baz=2.0						
BC3	**Big Chuckw Mtn**	**2.23**	**41**	⇑P	**Pn**	**10 47 07.3**	**0.0**
	baz=2.1,SNR=55						
BC3				⇓S	**Sn**	**10 47 33.2**	**-1.9**
	baz=2.1						
BELC	**Belle Mtn.**	**2.26**	**26**	⇓P	**Pn**	**10 47 07.9**	**+0.2**
	baz=2.2						
GLA	**Glamis**	**2.27**	**61**	⇓P	**Pn**	**10 47 07.0**	**-0.9**
	baz=2.2,SNR=6.9						
GLA				⇑S	**Sn**	**10 47 35.6**	**-0.5**
	baz=2.2						
BFSC	**Mount Baldy St**	**2.30**	**350**	⇓P	**Pn**	**10 47 08.6**	**+0.4**
	baz=2.3						
BBRC	**Big Bear Sol-O**	**2.30**	**6**	⇓P	**Pn**	**10 47 09.1**	**+0.9**
	baz=2.3,SNR=6.8						
SNCC	**San Nicolas Is**	**2.34**	**304**	⇓P	**Pn**	**10 47 08.5**	**-0.3**
	baz=2.4						
SNCC				⇓S	**Sn**	**10 47 36.5**	**-1.3**
	baz=2.4						
BLG	**Laguna Peak**	**2.65**	**324**	⇑S	**Sn**	**10 47 42.6**	**-2.8**
	baz=2.7						
IRM	**Iron Mountain**	**2.78**	**38**	⇑P	**Pn**	**10 47 15.7**	**+0.9**
	baz=2.7,SNR=19						
BSC	**Santa Cruz Isl**	**2.88**	**315**	⇑S	**Sn**	**10 47 49.4**	**-1.6**
	baz=2.9						
HEC	**Hector,Ludlow**	**2.94**	**14**	⇑P	**Pn**	**10 47 17.7**	**+0.6**
	baz=2.9,SNR=8.8						
EDW2	**Edwards Air Fo**	**2.98**	**347**	⇑P	**Pn**	**10 47 19.0**	**+1.4**
	baz=3.0,SNR=15						
GMRC	**Granite Mounta**	**3.08**	**24**	⇑P	**Pn**	**10 47 19.9**	**+0.9**
	baz=3.0,SNR=10						
ARVC	**Arvin**	**3.43**	**337**	⇓S	**Sn**	**10 48 03.9**	**-0.8**
	baz=3.5						
LRMC	**Laurel Mountai**	**3.52**	**353**	⇓P	**Pn**	**10 47 26.2**	**+1.2**
	baz=3.5						
NEE2	**Needles Airpor**	**3.53**	**37**	⇑S	**Sn**	**10 48 07.7**	**+0.6**
	baz=3.4						
TUQ	**Turquoise Mtn.**	**3.62**	**17**	⇓P	**Pn**	**10 47 27.0**	**+0.7**
	baz=3.6						
ISA	**Isabella**	**3.84**	**344**	⇑P	**Pn**	**10 47 30.5**	**+1.2**
	baz=3.8						
Z14A	**Wintersburg**	**3.84**	**68**	⇓P	**Pn**	**10 47 29.7**	**+0.3**
	baz=3.7						
X13A	**Yucca**	**3.85**	**46**	⇓P	**Pn**	**10 47 30.5**	**+1.0**
	baz=3.7						
SMMC	**Simmler**	**4.07**	**326**	⇑S	**Sn**	**10 48 20.2**	**-0.3**
	baz=4.1						
MPMC	**Manual Prospec**	**4.09**	**357**	⇑P	**Pn**	**10 47 34.9**	**+2.1**
	baz=4.1						
V11A	**Goodsprings**	**4.13**	**20**	⇑P	**Pn**	**10 47 35.3**	**+2.0**
	baz=4.1						
W13A	**Hualapai Mount**	**4.17**	**41**	⇓P	**Pn**	**10 47 34.6**	**+0.7**
	baz=4.1						
V12A	**Nelson**	**4.23**	**27**	⇑P	**Pn**	**10 47 35.3**	**+0.6**
	baz=4.2						
115A	**Sonoran Desert**	**4.27**	**79**	⇑P	**Pn**	**10 47 34.9**	**-0.4**
	baz=4.1						
X14A	**Yava**	**4.38**	**54**	⇓P	**Pn**	**10 47 37.5**	**+0.6**
	baz=4.3						
W14A	**Seligman**	**4.72**	**46**	⇑P	**Pn**	**10 47 42.9**	**+1.5**
	baz=4.6						
V04C	**Ramage Ranch,**	**4.77**	**321**	⇓S	**Sn**	**10 48 38.3**	**+0.6**
	baz=4.8						
PKD	**Parkfield**	**4.84**	**326**	⇑P	**Pn**	**10 47 45.8**	**+2.6**
	baz=4.9						
PKD				⇓S	**Sn**	**10 48 38.0**	**-1.5**
	baz=4.9						
X15A	**Humboldt**	**4.86**	**58**	⇓P	**Pn**	**10 47 44.2**	**+0.8**
	baz=4.7						
U12A	**Valley of Fire**	**4.97**	**26**	⇑P	**Pn**	**10 47 46.9**	**+2.0**
	baz=4.9						
GRAC	**Grapevine Rang**	**5.02**	**358**	⇓P	**Pn**	**10 47 46.7**	**+1.1**
	baz=5.0						
V03C	**Hunter Liggett**	**5.25**	**321**	⇑P	**Pn**	**10 47 49.4**	**+0.6**
	baz=5.3						
HAST	**UC Hastings Re**	**5.70**	**322**	⇓S	**Sn**	**10 48 58.0**	**-2.6**
	baz=5.7						
S09A	**Goldfield**	**5.74**	**360**	⇓P	**Pn**	**10 47 56.3**	**+0.7**
	baz=5.7						

IDC ***27*** *10:57:09.4±2.0, 4721N×15522E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML3.4/1, MS4.2/4, Ms1 4.2/4, ms1mx3.2/43, Error ellipse: s-maj=59.6km s-min=23.2km az=178.0*
ISCJB ***27*** *10:57:10.2±5.1, 473N±02×1552E±02, h16km±34km, mb3.9/7, MS4.3/4, Error ellipse: s-maj=38.9km s-min=17.4km az=112.2*
MOS ***27*** *10:57:13.6±1.0, 4739N×15494E, h35km, mb4.2/5, Error ellipse: s-maj=32.8km s-min=22.2km az=86.2*

ISC 27 10:57:14.3±5.2, 474N±02×1551E±02, h28km±35km, n18, σ0§74/14, mb3.9/7, MS4.3/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.38**	**11**	*e*PN	**Pn**	**10 58 05.0**	**-0.1**
ASAJ	**Asahikawa**	**9.35**	**254**	Pn	**Pn**	**10 59 27.6**	**+0.5**
	0.4nm,0.3s,baz=67,slow=6.7,SNR=4.7						
SONM	**Songino Array**	**32.43**	**289**	P	**P**	**11 03 40.4**	**-1.4**
	0.4nm,0.7s,mb3.4,baz=60,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**11 05 49.5**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=71,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**47.88**	**298**	P	**P**	**11 05 49.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.53**	**310**	LR	LR	11 28 10.1	
	comp=Z,184nm,19.1s,MS4.1,baz=320,slow=36						
PDAR	**Pinedale Array**	**63.26**	**55**	P	**P**	**11 07 39.5**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.8,baz=258,slow=4.2,SNR=5.1						
FINES	**FINESS Array B**	**64.06**	**335**	P	**P**	**11 07 45.2**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.4,baz=43,slow=7.4,SNR=15						
FINES	**FINESS Array B**	**64.06**	**335**	P	**P**	**11 07 45.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**11 08 12.3**	**+1.0**
	comp=Z,2.0nm,1.1s,mb4.1,baz=19,slow=7.1,SNR=2.5						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**11 08 12.3**	**+1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
HFS	**Hagfors**	**68.35**	**340**	P	**P**	**11 08 14.1**	**+1.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=27,slow=1.7,SNR=8.5						
HFS	**Hagfors**	**68.35**	**340**	P	**P**	**11 08 14.1**	**+1.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC 27 11:23:42.2±12.0, 472S×14530E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=171.8km s-min=61.1km az=13.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.01**	**158**	Pn	Pn	11 24 57.3	-1.2
	4.2nm,0.3s,baz=18,slow=8.9,SNR=12						
PMG				Sn	Sn	11 25 47.2	-10
	5.4nm,0.3s,baz=121,slow=23,SNR=16						
WRA	**Warramunga Arr**	**18.52**	**214**	P	Pn	11 27 58.7	-1.4
	0.2nm,0.3s,baz=42,slow=11,SNR=22						
ASAR	**Alice Springs**	**21.81**	**209**	P	P	11 28 35.7	-0.2
	0.2nm,0.4s,baz=36,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**27.24**	**187**	P	P	11 29 29.9	+2.0
	2.6nm,0.9s,baz=281,slow=12,SNR=3.1						

IDC 27 11:34:37.5±2.4, 472S×15346E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.7/3, Error ellipse: s-maj=97.5km s-min=35.0km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**23.98**	**229**	*e*P	P	11 39 53.9	+0.2
WRA	**Warramunga Arr**	**23.99**	**229**	P	P	11 39 53.9	+0.1
	1.5nm,0.6s,baz=54,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**26.66**	**223**	P	P	11 40 19.1	+1.1
	0.3nm,0.5s,baz=55,slow=9.2,SNR=9.3						
STKA	**Stephens Creek**	**29.22**	**201**	P	P	11 40 41.1	+0.2
	1.4nm,0.8s,baz=334,slow=15,SNR=3.9						
MDT	**Midelt**		**145.35**	**326**	PKPbc	PKPbc	11 54 19.5	+2.4
	1.6nm,0.7s,baz=228,slow=9.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**150.91**	**289**	PKPbc	PKPbc	11 54 30.8	-1.3
	0.2nm,0.3s,baz=86,slow=2.1,SNR=5.7						

ISCJB ***27*** *11:53:19.0±2.0, 465N±0.1×1545E±02, h37km±17km, mb3.8/13, Error ellipse: s-maj=25.7km s-min=13.5km az=87.1*
MOS ***27*** *11:53:19.7±1.4, 4656N×15447E, h43km, mb4.1/10, Error ellipse: s-maj=23.0km s-min=13.6km az=73.3*
IDC ***27*** *11:53:25.9±4.5, 4652N×15457E, h82km±41km, mb3.5/12, mb1 3.7/13, mb1mx3.6/24, mbtmp3.5/13, Error ellipse: s-maj=23.1km s-min=16.6km az=122.0*

ISC 27 11:53:20.8±2.0, 466N±01×1545E±02, h37km±17km, n26, σ0§97/26, mb3.8/13, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.26**	**14**	*e*PN	**Pn**	**11 54 24.0**	**+0.8**
KUR	**Kuril'sk**	**4.81**	**256**	⇓*i*PN	**Pn**	**11 54 29.0**	**-1.8**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
ASAJ	**Asahikawa**	**8.73**	**258**	P	**Pn**	**11 55 29.2**	**+4.7**
	comp=Z,1.0nm,0.3s,baz=353,slow=12,SNR=6.1						
ASAJ	**Asahikawa**	**8.73**	**258**	PN	**Pn**	**11 55 29.2**	**+4.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**21.66**	**255**	P	**P**	**11 58 12.1**	**+4.1**
	comp=Z,2.3nm,0.8s,mb3.7,baz=54,slow=10,SNR=4.7						
BILL	**Bilibino**	**22.38**	**12**	*e*P	**P**	**11 58 14.0**	**-1.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.8						
INK	**Inuvik**	**41.30**	**32**	P	**P**	**12 01 02.4**	**-0.3**
	comp=Z,1.1nm,0.9s,mb3.5,baz=329,slow=13,SNR=5.5						
INK	**Inuvik**	**41.30**	**32**	P	**P**	**12 01 02.4**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**12 01 55.2**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=68,slow=7.8,SNR=8.1						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**12 01 55.2**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.51**	**37**	P	**P**	**12 02 15.3**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=294,slow=7.1,SNR=6.7						
YKA	**Yellowknife Ar**	**50.51**	**37**	P	**P**	**12 02 15.3**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**	**12 03 11.9**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=46,slow=8.7,SNR=3.6						
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**	**12 03 12.0**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**59.56**	**313**	P	**P**	**12 03 20.4**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.61**	**42**	P	**P**	**12 03 51.8**	**-2.3**
	46nm,0.3s,baz=65,slow=1.0,SNR=92						
AFI				S	**S**	**12 05 26.0**	**-8.6**
	90nm,0.3s,baz=12,slow=22,SNR=11						
AFI	**Afiamalu**	**8.61**	**42**	*e*P	**P**	**12 03 51.6**	**-2.5**
AFI				*e*S	**S**	**12 05 25.8**	**-8.8**
AFI				pmax	pmax		
	comp=Z,126nm,0.3s						
AFI	**Afiamalu**	**8.61**	**42**	*e*P	**P**	**12 03 51.6**	**-2.5**
	comp=Z,126nm,0.3s						
AFI				*e*S	**S**	**12 05 25.8**	**-8.8**
RAO	**Raoul Island**	**8.78**	**181**	P	**P**	**12 03 56.5**	**+0.6**
	comp=Z,296nm,0.3s,baz=249,slow=22,SNR=11						
RAO	**Raoul Island**	**8.78**	**181**	*e*P	**P**	**12 03 56.4**	**+0.4**
RAO				*e*S	**S**	**12 05 30.2**	**-7.8**
RAO				pmax	pmax		
	comp=Z,509nm,0.3s						
RAO	**Raoul Island**	**8.78**	**181**	*e*P	**P**	**12 03 56.4**	**+0.4**
	comp=Z,508nm,0.3s						
RAO				*e*S	**S**	**12 05 30.2**	**-7.8**
FUNA	**Funafuti**	**12.22**	**345**	*e*P	**P**	**12 04 33.2**	**+0.6**
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**12 05 02.0**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=80,slow=18,SNR=28						
MXZ	**Matakaoa Point**	**17.42**	**191**	*e*P	**P**	**12 05 28.8**	**+1.4**
MXZ	**Matakaoa Point**	**17.42**	**191**	*e*PN	**P**	**12 05 28.8**	**+1.5**
PUZ	**Puketiti**	**17.92**	**190**	*e*P	**P**	**12 05 32.1**	**-0.1**
PUZ	**Puketiti**	**17.92**	**190**	*e*PN	**P**	**12 05 32.1**	**0.0**
PUZ				*e*SN	**S**	**12 08 33.6**	**+1.5**
MWZ	**Matawai**	**18.31**	**192**	*e*P	**P**	**12 05 34.6**	**-1.1**
MWZ	**Matawai**	**18.31**	**192**	*e*PN	**P**	**12 05 34.6**	**-1.1**
URZ	**Urewera**	**18.32**	**193**	P	**P**	**12 05 35.4**	**-0.4**
	comp=Z,14nm,0.3s,baz=272,slow=2.8,SNR=58						
URZ	**Urewera**	**18.32**	**193**	*e*PN	**P**	**12 05 33.5**	**-2.3**
HIZ	**Hauiti**	**19.14**	**198**	*e*PN	**P**	**12 05 46.2**	**+2.9**
BKZ	**Black Stump Fm**	**19.33**	**194**	*e*P	**P**	**12 05 43.2**	**-1.8**
BKZ	**Black Stump Fm**	**19.33**	**194**	*e*PN	**P**	**12 05 43.2**	**-1.8**
SNZO	**South Karori**	**21.79**	**196**	*e*P	**P**	**12 06 07.9**	**+0.5**
QRZ	**Quartz Range**	**21.97**	**200**	*e*P	**P**	**12 06 08.8**	**-0.2**
QRZ	**Quartz Range**	**21.97**	**200**	*e*PN	**P**	**12 06 08.8**	**-0.2**
NNZ	**Nelson**	**22.07**	**198**	*e*P	**P**	**12 06 09.4**	**-0.4**
NNZ	**Nelson**	**22.07**	**198**	*e*PN	**P**	**12 06 09.4**	**-0.4**
THZ	**Tophouse**	**22.71**	**198**	*e*P	**P**	**12 06 15.6**	**0.0**
THZ	**Tophouse**	**22.71**	**198**	*e*PN	**P**	**12 06 15.6**	**0.0**
DSZ	**Denniston Nort**	**23.03**	**200**	*e*P	**P**	**12 06 18.5**	**0.0**
DSZ	**Denniston Nort**	**23.03**	**200**	*e*PN	**P**	**12 06 18.5**	**0.0**
KHZ	**Kahutara**	**23.13**	**197**	*e*P	**P**	**12 06 18.9**	**-0.5**
KHZ	**Kahutara**	**23.13**	**197**	*e*PN	**P**	**12 06 18.9**	**-0.5**
LTZ	**Lake Taylor**	**23.83**	**199**	*e*PN	**P**	**12 06 24.1**	**-1.5**
WVZ	**Waitaha Valley**	**24.57**	**201**	*e*PN	**P**	**12 06 31.6**	**-0.7**
RPZ	**Rata Peaks**	**25.05**	**200**	P	**P**	**12 06 35.7**	**-0.7**
	comp=Z,4.1nm,0.3s,mb4.3,baz=0.9,slow=9.7,SNR=5.9						
FOZ	**Fox Glacier**	**25.36**	**202**	*e*P	**P**	**12 06 37.3**	**-2.0**
FOZ	**Fox Glacier**	**25.36**	**202**	*e*PN	**P**	**12 06 37.3**	**-1.9**
ARMA	**Armidale**	**29.36**	**244**	⇓*i*P	**P**	**12 07 15.6**	**+1.3**
CNB	**Canberra Magne**	**32.50**	**236**	⇓*i*P	**P**	**12 07 42.6**	**+1.2**
	comp=Z,55nm,0.6s,mb5.2						
CTA	**Charters Tower**	**33.78**	**264**	⇓*i*P	**P**	**12 07 52.7**	**+0.4**
	comp=Z,46nm,0.4s,mb5.3						
CTA	**Charters Tower**	**33.78**	**264**	P	**P**	**12 07 52.8**	**+0.4**
	comp=Z,51nm,0.4s,mb5.3,baz=93,slow=10,SNR=158						
CTA	**Charters Tower**	**33.78**	**264**	⇓*i*P	**P**	**12 07 52.7**	**+0.4**
CTA				pmax	pmax		
	comp=Z,46nm,0.4s						
CTAO	**Charters Tower**	**33.78**	**264**	*e*P	**P**	**12 07 52.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,48nm,0.4s,mb5.3						
CTAO	**Charters Tower**	**33.78**	**264**	*e*P	**P**	**12 07 52.7**	**+0.4**
	comp=Z,48nm,0.4s,mb5.3						
PMG	**Port Moresby**	**35.61**	**283**	P	**P**	**12 08 07.8**	**+0.2**
	comp=Z,23nm,0.6s,mb4.8,baz=70,slow=5.8,SNR=12						
PMG	**Port Moresby**	**35.61**	**283**	*d*P	**P**	**12 08 07.7**	**+0.1**
PMG	**Port Moresby**	**35.61**	**283**	*e*P	**P**	**12 08 07.5**	**-0.1**
	comp=Z,19nm,0.7s,mb4.6						
TOO	**Toolangi**	**36.17**	**234**	⇓*i*P	**P**	**12 08 13.0**	**+0.7**
	comp=Z,39nm,0.7s,mb5.0						
TOO	**Toolangi**	**36.17**	**234**	⇓*i*P	**P**	**12 08 13.0**	**+0.7**
TOO				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.0						
TAU	**Tasmania Unive**	**36.87**	**225**	*e*P	**P**	**12 08 19.0**	**+0.9**
TAU				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**36.87**	**225**	*e*P	**P**	**12 08 19.0**	**+0.9**
	comp=Z,14nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.08**	**244**	⇓*i*P	**P**	**12 08 28.6**	**+0.6**
	comp=Z,12nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.08**	**244**	P	**P**	**12 08 28.7**	**+0.7**
	comp=Z,7.3nm,0.4s,mb4.5,baz=92,slow=9.8,SNR=54						
STKA				PcP	PcP	12 10 30.3	-0.5
	comp=Z,3.2nm,0.6s,baz=17,slow=5.2,SNR=3.5						
AS31	**Alice Springs**	**44.81**	**257**	⇓*i*P	**P**	**12 09 21.6**	**+0.1**
AS31				*e*S	**S**	**12 15 20.4**	**-2.4**
AS31				*e*ScS	ScS	12 18 26.4	+1.5
ASAR	**Alice Springs**	**44.81**	**257**	P	**P**	**12 09 21.6**	**+0.1**
	comp=Z,38nm,0.6s,mb5.0,baz=98,slow=7.7,SNR=777						
ASAR				PcP	PcP	12 10 53.2	-0.1
	comp=Z,4.9nm,0.5s,baz=101,slow=4.3,SNR=6.5						
ASAR				ScP	ScP	12 14 00.8	+1.8
	comp=Z,0.5nm,0.6s,baz=110,slow=4.7,SNR=4.6						
ASAR				S	**S**	**12 15 20.9**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=94,slow=16,SNR=14						
ASAR	**Alice Springs**	**44.81**	**257**	P	**P**	**12 09 21.7**	**+0.2**
ASAR					pP	12 10 53.2	+1.0
ASAR				S	**S**	**12 15 20.9**	**-1.9**
ASPA	**Alice Springs**	**44.82**	**257**	⇓*i*P	**P**	**12 09 21.6**	**+0.1**
ASPA				*e*S	**S**	**12 15 20.4**	**-2.4**
ASPA				*e*ScS	ScS	12 18 26.4	+1.5
WB2	**Warramunga Arr**	**44.88**	**262**	⇓*i*P	**P**	**12 09 21.5**	**-0.6**
WB2				*e*ScS	ScS	12 18 25.6	+0.3
WRAB	**Tennant Creek**	**44.89**	**262**	*d*P	**P**	**12 09 21.4**	**-0.7**
WRAB	**Tennant Creek**	**44.89**	**262**	*e*P	**P**	**12 09 21.3**	**-0.8**
	comp=Z,25nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**12 09 21.5**	**-0.7**
	comp=Z,15nm,0.5s,mb4.7,baz=94,slow=5.0,SNR=292						
KAKA	**Kakadu**	**48.26**	**271**	⇓*i*P	**P**	**12 09 47.1**	**-0.6**
	comp=Z,18nm,0.4s,mb4.8						
FORT	**Forrest**	**49.59**	**247**	⇓*i*P	**P**	**12 09 57.1**	**-0.5**
	comp=Z,69nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	⇓*i*P	**P**	**12 10 24.9**	**+0.2**
	comp=Z,15nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	P	**P**	**12 10 25.0**	**+0.3**
	comp=Z,8.3nm,0.5s,mb4.3,baz=129,slow=4.7,SNR=53						
SBA	**Scott Base**	**57.95**	**184**	*e*P	**P**	**12 10 59.5**	**+2.5**
SBA				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.5						
SBA	**Scott Base**	**57.95**	**184**	*e*P	**P**	**12 10 59.5**	**+2.6**
	comp=Z,36nm,1.5s,mb4.5						
VNDA	**Vanda**	**58.00**	**185**	P	**P**	**12 10 59.0**	**+1.8**
	comp=Z,2.2nm,0.6s,mb3.7,baz=356,slow=7.8,SNR=27						
VNDA				ScP	ScP	12 14 57.5	+1.5
	comp=Z,0.5nm,0.6s,baz=16,slow=2.9,SNR=3.5						
VNDA	**Vanda**	**58.00**	**185**	*e*P	**P**	**12 10 58.4**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**58.00**	**185**	*e*P	**P**	**12 10 58.4**	**+1.2**
	comp=Z,12nm,1.4s,mb4.0						
MBWA	**Marble Bar**	**58.15**	**257**	*e*P	**P**	**12 10 57.9**	**-0.3**
	comp=Z,28nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**58.34**	**245**	⇓*i*P	**P**	**12 10 59.4**	**-0.2**
	comp=Z,62nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**58.66**	**243**	P	**P**	**12 11 02.1**	**+0.4**
	comp=Z,21nm,0.7s,mb4.6,baz=84,slow=7.4,SNR=20						
NWAO	**Narrogin (SRO)**	**58.66**	**243**	*e*P	**P**	**12 11 01.9**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.66**	**243**	*e*P	**P**	**12 11 01.9**	**+0.2**
	comp=Z,16nm,0.8s,mb4.4						
MUN	**Mundaring**	**59.61**	**244**	*e*P	**P**	**12 11 08.6**	**+0.4**
QSPA	**South Pole Qui**	**69.63**	**180**	*e*P	**P**	**12 12 13.0**	**+1.3**
	comp=Z,11nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**70.33**	**323**	P	**P**	**12 12 15.4**	**-0.4**
	comp=Z,1.2nm,0.5s,mb3.6,baz=65,slow=1.9,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**75.97**	**333**	*e*P	**P**	**12 12 50.7**	**+2.5**
YSS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
NJ2	**Nanjing**	**80.06**	**310**	*e*P	**P**	**12 13 11.5**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
HABR	**Khabarovsk**	**80.53**	**330**	P	**P**	**12 13 12.5**	**-0.3**
MDJ	**Mudanjiang**	**80.63**	**325**	P	**P**	**12 13 14.5**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,131nm,4.5s						
NVAR	**Mina Array Bea**	**80.78**	**43**	P	**P**	**12 13 15.0**	**+0.9**
	comp=Z,4.5nm,1.0s,mb4.0,baz=237,slow=9.1,SNR=18						
MAW	**Mawson**	**81.72**	**200**	*e*P	**P**	**12 13 17.3**	**-1.6**
MAW				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAW	**Mawson**	**81.72**	**200**	*e*P	**P**	**12 13 17.3**	**-1.7**
	comp=Z,7.6nm,0.5s,mb4.5						
ARUT	**Antelope Range**	**83.63**	**46**	*e*P	**P**	**12 13 30.0**	**+1.4**
PMR	**Palmer**	**84.89**	**13**	*e*P	**P**	**12 13 33.0**	**-1.8**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
PMR	**Palmer**	**84.89**	**13**	*e*P	**P**	**12 13 33.0**	**-1.8**
	comp=Z,4.1nm,0.6s,mb4.2						
MNTX	**Cornudas Mount**	**86.48**	**54**	*e*P	**P**	**12 13 43.8**	**+1.4**
	comp=Z,10nm,1.3s,mb4.3						
TXAR	**Lajitas Array**	**86.78**	**57**	P	**P**	**12 13 45.3**	**+1.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=216,slow=7.4,SNR=17						
TXAR				PKKPbc	PKKPbc	12 31 36.4	+1.7
	comp=Z,0.2nm,0.6s,baz=106,slow=1.8,SNR=3.8						
TXAR	**Lajitas Array**	**86.78**	**57**	P	**P**	**12 13 45.3**	**+1.4**
TXAR				PKKPbc	PKKPbc	12 31 36.4	+1.7
MCK	**McKinley**	**86.85**	**12**	*e*P	**P**	**12 13 42.0**	**-2.2**
SYO	**Syowa Base**	**86.85**	**193**	⇓*e*P	**P**	**12 13 42.8**	**-1.4**
SYO	**Syowa Base**	**86.85**	**193**	⇓*e*PcP	PcP	12 13 45.4	-0.4
ANMO	**Albuquerque**	**87.14**	**51**	*e*P	**P**	**12 13 40.4**	**-5.2**
SNAA	**Sanae**	**88.07**	**178**	*e*P	**P**	**12 13 48.6**	**-1.3**
SNAA				*e*		12 13 49.8	
SNAA	**Sanae**	**88.07**	**178**	*e*P	**P**	**12 13 42.2**	**-7.7**
COLA	**College**	**88.08**	**12**	⇓*i*P	**P**	**12 13 48.4**	**-1.6**
COLA	**College**	**88.08**	**12**	*e*P	**P**	**12 13 47.9**	**-2.1**
	comp=Z,6.1nm,0.6s,mb4.5						
VNA3	**Neumayer Olymp**	**88.19**	**176**	*e*P	**P**	**12 13 49.7**	**-0.8**
VNA3				*e*		12 13 50.8	
QLMT	**Earthquake Lak**	**88.58**	**41**	*e*P	**P**	**12 13 54.0**	**+1.7**
VNA2	**Neumayer--Watz**	**88.63**	**177**	*e*P	**P**	**12 13 52.1**	**-0.4**
BW06	**Boulder Array**	**88.72**	**43**	*e*P	**P**	**12 13 53.2**	**+0.3**
	comp=Z,6.3nm,1.5s,mb4.2						
PDAR	**Pinedale Array**	**88.72**	**43**	P	**P**	**12 13 52.9**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=205,slow=2.1,SNR=10						
VNA1	**Neumayer--Stat**	**88.86**	**176**	*e*P	**P**	**12 13 53.8**	**+0.2**
VNA1				*e*		12 13 55.1	
BILL	**Bilibino**	**89.00**	**354**	*e*P	**P**	**12 13 54.2**	**-0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
DAWY	**Dawson**	**89.32**	**16**	*e*P	**P**	**12 13 54.9**	**-0.9**
HHC	**Hu-ho-hac-te**	**89.51**	**314**	*e*P	**P**	**12 13 58.0**	**+1.4**
HHC				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,104nm,4.3s						
KMI	**Kunming**	**89.58**	**297**	P	**P**	**12 13 58.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI	**Kunming**	**89.58**	**297**	P	**P**	**12 13 58.4**	**+1.5**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI	**Kunming**	**89.58**	**297**	P	**P**	**12 13 58.4**	**+1.5**
	comp=Z,7.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**90.49**	**290**	*e*P	**P**	**12 14 02.5**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**90.49**	**290**	*e*P	**P**	**12 14 02.5**	**+1.3**
	comp=Z,7.4nm,0.6s,mb4.7						
CD2	**Chengdu**	**91.00**	**303**	*e*P	**P**	**12 14 02.8**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
EDM	**Edmonton**	**91.90**	**33**	P	**P**	**12 14 07.2**	**-0.5**
YAK	**Yakutsk**	**92.16**	**338**	*e*P	**P**	**12 14 07.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**95.89**	**319**	P	**P**	**12 14 24.9**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.5,baz=143,slow=9.7,SNR=2.5						
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP	PKiKP	12 19 28.8	-1.3
	comp=Z,0.9nm,0.6s,baz=209,slow=0.5,SNR=15						
MKAR				PKKPbc	PKKPbc	12 30 26.5	+0.2
	comp=Z,0.2nm,0.5s,baz=258,slow=4.6,SNR=5.0						
MKAR	**Makanchi Array**	**111.36**	**313**	PKPdf	PKiKP	12 19 28.8	-1.3
MKAR				PKKPbc	PKKPbc	12 30 26.5	+0.2
AAK	**Ala-Archa**	**116.48**	**308**	*i* PKIKP	PKPdf	12 19 39.2	-0.7
BOSA	**Boshof**	**126.44**	**205**	PKP	PKPdf	12 19 59.9	+0.9
	comp=Z,1.9nm,0.5s,baz=311,slow=22,SNR=4.4						
BOSA	**Boshof**	**126.44**	**205**	PKP	PKPdf	12 19 59.9	+0.9
ARCES	**ARCESS Array B**	**128.91**	**350**	PKP	PKPdf	12 20 03.0	-0.8
	comp=Z,1.5nm,0.5s,baz=356,slow=1.1,SNR=10						
ARCES	**ARCESS Array B**	**128.91**	**350**	PKP	PKPdf	12 20 03.0	-0.8
FINES	**FINESS Array B**	**135.79**	**344**	PKP	PKPdf	12 20 13.8	-2.8
	comp=Z,0.8nm,0.4s,baz=126,slow=2.6,SNR=6.7						
FINES				SKPbc	SKPbc	12 23 01.4	-0.9
	comp=Z,1.9nm,0.9s,baz=48,slow=2.8,SNR=3.3						
VRHR	**Novokhopersk**	**136.63**	**324**	*e*PKIKP	PKPdf	12 20 17.0	-1.2
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,1.0nm,0.2s						
NOA	**NORSAR Array B**	**138.95**	**353**	PKP	PKPdf	12 20 23.6	+1.1
	comp=E,1.0nm,0.7s,baz=80,slow=2.2,SNR=3.5						
SOC	**Sochi**	**141.24**	**315**	*i* PKIKP	PKPdf	12 20 32.0	+5.4
AKASG	**Malin Array Be**	**143.10**	**331**	PKhKP		12 20 26.1	
	comp=E,7.7nm,0.4s,baz=43,slow=4.2,SNR=52						
MALT	**Malatya**	**144.12**	**308**	*e*PKIKP	PKPdf	12 20 31.8	+0.1
BR131	**Keskin Array S**	**147.01**	**313**	*e*PKPbc	PKPbc	12 20 39.0	-0.4
BRTR	**Keskin Array B**	**147.01**	**313**	PKPbc	PKPbc	12 20 39.1	-0.4
	comp=E,3.5nm,0.6s,baz=138,slow=4.3,SNR=22						
BURAR	**Bucovina Array**	**147.15**	**331**	⇓*i*P	PKPbc	12 20 41.2	+1.4
CLL	**Collm**	**148.06**	**347**	*i* PKPbc	PKPbc	12 20 41.8	-0.4
	comp=Z,10.0nm,0.6s						
BRG	**Berggiesshubel**	**148.27**	**346**	*i* P	PKPbc	12 20 42.7	0.0
	comp=Z,3.0nm,0.6s						
BRG				*i*		12 20 47.4	
	comp=Z,3.7nm,0.5s						
BRG	**Berggiesshubel**	**148.27**	**346**	*i* PKP2	PKPbc	12 20 42.7	0.0
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MLR	**Muntele Rosu**	**148.33**	**328**	⇓*i*P	PKPbc	12 20 43.4	+0.5
KHC	**Kasperske Hory**	**149.98**	**345**	*e*PKPbc	PKPbc	12 20 47.0	+0.1
KHC				PKPab	PKPab	12 20 54.5	-0.2
KHC	**Kasperske Hory**	**149.98**	**345**	*e*P	PKPbc	12 20 47.0	+0.1
KHC				*e*		12 20 54.5	
GERES	**GERESS Array B**	**150.22**	**345**	PKPbc	PKPbc	12 20 47.2	-0.3
	comp=Z,1.3nm,0.5s,baz=26,slow=1.9,SNR=8.2						
GERES				PKPab	PKPab	12 20 55.3	-0.3
	comp=Z,0.3nm,0.3s,baz=8.5,slow=2.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**172.73**	**175**	PKP	PKPdf	12 21 04.2	-0.3
	comp=Z,0.8nm,0.8s,baz=2.7,slow=0.3,SNR=4.7						
TORD				PKPab	PKPab	12 22 34.8	+0.9
	comp=Z,0.8nm,0.6s,baz=164,slow=3.7,SNR=5.2						
TORD				PP	PP	12 26 24.5	-1.5
	comp=Z,1.0nm,1.0s,baz=179,slow=5.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**172.73**	**175**	PKP	PKPdf	12 21 04.2	-0.3
TORD				PKPab	PKPab	12 22 34.8	+0.9
TORD				PP	PP	12 26 24.5	-1.5

ISCJB ***27*** *12:12:17.9±2.3, 348S±03×1775W±04, h104km±25km, mb4.1/2, Error ellipse: s-maj=68.3km s-min=18.0km az=82.9*

IDC ***27*** *12:12:17.3±3.0, 3387S×17892W, h0km, mb4.2/2, mb1 4.5/3, mb1mx4.0/12, mbtmp4.3/3, ML4.1/1, MS3.6/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=69.3km s-min=35.9km az=118.0*

NEIC ***27*** *12:12:21.7±1.7, 3406S×17883W, h35km, Error ellipse: s-maj=34.7km s-min=11.0km az=96.0*

ISC 27 12:12:18.6±2.3, 346S±03×1776W±04, h87km±28km, n20, σ0 s70/28, mb4.1/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**227**	*e*P	**Pn**	**12 13 24.0**	**+0.4**
MXZ				*e*S	**Sn**	**12 14 14.9**	**+0.7**
MXZ	**Matakaoa Point**	**4.45**	**227**	*e*PN	**Pn**	**12 13 24.0**	**+0.3**
MXZ				*e*SN	**Sn**	**12 14 14.9**	**+0.7**
PUZ	**Puketiti**	**4.82**	**223**	*e*P	**Pn**	**12 13 29.0**	**+0.3**
PUZ				*e*S	**Sn**	**12 14 25.3**	**+2.1**
PUZ	**Puketiti**	**4.82**	**223**	*e*PN	**Pn**	**12 13 29.0**	**+0.3**
PUZ				*e*SN	**Sn**	**12 14 25.3**	**+2.0**
MWZ	**Matawai**	**5.42**	**225**	*e*P	**Pn**	**12 13 36.6**	**-0.2**
MWZ				S	**Sn**	**12 14 37.7**	**-0.1**
MWZ	**Matawai**	**5.42**	**225**	*e*PN	**Pn**	**12 13 36.6**	**-0.2**
MWZ				SN	**Sn**	**12 14 37.7**	**-0.2**
URZ	**Urewera**	**5.62**	**228**	Pn	**Pn**	**12 13 40.3**	**+0.7**
	6.1nm,0.3s,baz=333,slow=0.7,SNR=34						
URZ				Sn	**Sn**	**12 14 42.0**	**-0.8**
	5.1nm,0.3s,baz=138,slow=20,SNR=7.2						
URZ	**Urewera**	**5.62**	**228**	P	**Pn**	**12 13 39.3**	**-0.3**
URZ	**Urewera**	**5.62**	**228**	PN	**Pn**	**12 13 39.3**	**-0.3**
URZ				SN	**Sn**	**12 14 41.6**	**-1.2**
BKZ	**Black Stump Fm**	**6.58**	**225**	*e*P	**Pn**	**12 13 51.7**	**-0.9**
BKZ				S	**Sn**	**12 15 05.1**	**-1.0**
BKZ	**Black Stump Fm**	**6.58**	**225**	*e*PN	**Pn**	**12 13 51.7**	**-0.9**
BKZ				SN	**Sn**	**12 15 05.1**	**-1.0**
PXZ	**Pawanui**	**6.99**	**218**	*e*SN	**Sn**	**12 15 16.0**	**-0.2**
STKA	**Stephens Creek**	**34.10**	**263**	LR	LR	12 31 40.0	
	comp=Z,90nm,18.9s,baz=206,slow=35						
AS31	**Alice Springs**	**43.41**	**271**	*e*P	**P**	**12 20 13.0**	**+0.5**
ASAR	**Alice Springs**	**43.41**	**271**	P	**P**	**12 20 12.9**	**+0.4**
	2.6nm,0.7s,mb4.1,baz=114,slow=7.5,SNR=45						
ASPA	**Alice Springs**	**43.41**	**271**	*e*P	**P**	**12 20 12.9**	**+0.4**
WB2	**Warramunga Arr**	**44.76**	**276**	*e*P	**P**	**12 20 23.1**	**-0.2**
WRAB	**Tennant Creek**	**44.76**	**276**	*e*P	**P**	**12 20 22.9**	**-0.4**
WRA	**Warramunga Arr**	**44.77**	**276**	P	**P**	**12 20 22.9**	**-0.5**
	3.4nm,0.7s,mb4.2,baz=118,slow=7.4,SNR=34						
FINES	**FINESS Array B**	**149.20**	**338**	PKPbc	PKPbc	12 32 03.4	+6.4
	1.4nm,0.6s,baz=64,slow=4.4,SNR=6.4						

ISCJB ***27*** *12:18:39.8±1.0, 2988N±005×3623E±006, h0km, Error ellipse: s-maj=8.2km s-min=5.9km az=71.8*

HLW ***27*** *12:18:41.4, 2978N×3648E, h20km, Mb3.1*

CSEM ***27*** *12:18:41.1±0.1, 2982N×3615E, h1km, ML2.5, Error ellipse: s-maj=2.9km s-min=1.7km az=122.0, Mining explosion.*

GII ***27*** *12:18:41.5±0.7, 2995N×3612E, h0km±5km, ML2.5/7*

ISC 27 12:18:39.8±1.0, 2988N±005×3628E±006, h0km, n23, σ0 s57/30, 4C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.08**	**262**	Pg	**Pg**	**12 19 00.9**	**+0.5**
HRFI	**Mount Harif**	**1.09**	**279**	Pg	**Pg**	**12 18 59.9**	**-0.7**
HRFI				Sg	**Sg**	**12 19 15.3**	**+0.6**
ZFRI	**Zfri**	**1.17**	**306**	Pg	**Pg**	**12 19 01.1**	**-1.0**
EIL	**Elat**	**1.17**	**260**	Pg	**Pg**	**12 19 02.4**	**+0.2**
EIL				Sg	**Sg**	**12 19 18.0**	**+0.6**
MBH	**Mount Berech**	**1.19**	**266**	Pg	**Pg**	**12 19 02.8**	**+0.3**
PRNI	**Paran**	**1.20**	**294**	Pg	**Pg**	**12 19 02.0**	**-0.8**
KMTI	**Karmit**	**1.36**	**280**	Pg	**Pg**	**12 19 05.0**	**-0.9**
KMTI				Sg	**Sg**	**12 19 22.6**	**-1.0**
RMNI	**Mount Ramon**	**1.49**	**299**	Pn	**Pn**	**12 19 07.5**	**-0.4**
HBST	**Basata**	**1.50**	**244**	⇑P	**Pn**	**12 19 08.1**

SONM				PcP	PcP	12 32 59.1	-1.2	
	comp=Z,0.4nm,0.7s,baz=125,slow=2.6,SNR=3.9							
SONM				LR	LR	12 44 14.5		
	comp=Z,144nm,19.5s,MS3.7,baz=-0.2,slow=38							
SONM	**Songino Array**	**31.90**	**288**	P	**P**	**12 30 10.1**	**-0.4**	
SONM						12 32 59.1		
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM				MLR	MLR			
	comp=Z,144nm,19.5s							
INK	**Inuvik**	**39.63**	**34**	P	**P**	**12 31 17.3**	**+0.6**	
	comp=Z,2.2nm,0.8s,mb3.9,baz=299,slow=7.7,SNR=10							
INK	**Inuvik**	**39.63**	**34**	*eP*	**P**	**12 31 16.8**	**+0.1**	
	comp=Z,64nm,0.7s,mb5.5							
ZAL	**Zalesovo**	**42.61**	**305**	LR	LR	12 50 29.3		
	comp=Z,121nm,19.6s,MS3.8,baz=261,slow=38							
MK31	**Makanchi Array**	**47.21**	**297**	*eP*	**P**	**12 32 17.1**	**-0.7**	
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**12 32 16.4**	**-1.4**	
	comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=7.8,SNR=12							
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**12 32 16.4**	**-1.4**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.21**	**297**	P	**P**	**12 32 16.4**	**-1.4**	
RES	**Resolute Bay**	**48.89**	**19**	*eP*	**P**	**12 32 30.9**	**+0.1**	
	comp=Z,144nm,0.8s							
YKA	**Yellowknife Ar**	**48.90**	**38**	P	**P**	**12 32 31.1**	**+0.3**	
	comp=Z,1.4nm,0.6s,mb4.1,baz=295,slow=6.9,SNR=12							
BVAR	**Borovoye Array**	**50.70**	**309**	P	**P**	**12 32 43.7**	**-0.9**	
	comp=Z,0.7nm,0.4s,mb4.0,baz=52,slow=7.8,SNR=6.3							
BVAR				PcP	PcP	12 34 00.9	-0.5	
	comp=Z,1.0nm,0.6s,baz=73,slow=5.1,SNR=3.6							
BVAR	**Borovoye Array**	**50.70**	**309**	P	**P**	**12 32 43.7**	**-0.9**	
BVAR						12 34 00.9		
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
LSA	**Lhasa**	**51.34**	**273**	*eP*	**P**	**12 32 51.3**	**+2.0**	
LSA				pmax	pmax			
	comp=Z,5.0nm,0.3s,mb4.9							
LSA	**Lhasa**	**51.34**	**273**	*eP*	**P**	**12 32 51.3**	**+2.0**	
	comp=Z,4.9nm,0.3s,mb4.9							
EDM	**Edmonton**	**54.34**	**48**	*eP*	**P**	**12 33 11.5**	**0.0**	
JIRN	**Jiri**	**55.97**	**275**	*eP*	**P**	**12 33 24.2**	**+1.0**	
	comp=Z,4.6nm,0.2s,mb5.1							
KKN	**Kakani**	**56.48**	**275**	*eP*	**P**	**12 33 27.2**	**+0.3**	
	comp=Z,16nm,0.7s,mb5.2							
ARCES	**ARCESS Array B**	**56.66**	**341**	LR	LR	13 03 24.3		
	comp=Z,161nm,18.4s,MS4.2,baz=74,slow=42							
DMN	**Daman**	**56.72**	**275**	*eP*	**P**	**12 33 29.3**	**+0.7**	
	comp=Z,21nm,0.7s,mb5.3							
GKN	**Gorkha**	**56.77**	**276**	*eP*	**P**	**12 33 29.5**	**+0.6**	
	comp=Z,13nm,0.5s,mb5.2							
KOLN	**Koldanda**	**57.61**	**277**	*eP*	**P**	**12 33 35.6**	**+0.7**	
BW06	**Boulder Array**	**62.84**	**55**	*eP*	**P**	**12 34 11.3**	**+0.7**	
	comp=Z,2.0nm,1.0s,mb4.2							
PDAR	**Pinedale Array**	**62.84**	**55**	P	**P**	**12 34 11.3**	**+0.7**	
	comp=Z,2.3nm,1.0s,mb4.3,baz=301,slow=2.9,SNR=13							
PDAR				pP	pP	12 34 22.6	+0.4	
	comp=Z,1.9nm,0.9s,baz=305,slow=3.5,SNR=8.3							
FINES	**FINESS Array B**	**63.02**	**335**	P	**P**	**12 34 11.0**	**-0.9**	
	comp=Z,0.4nm,0.2s,mb4.1,baz=355,slow=34,SNR=2.9							
KAKA	**Kakadu**	**64.02**	**204**	*eP*	**P**	**12 34 18.0**	**-0.4**	
	comp=Z,4.6nm,0.6s,mb4.7							
SRU	**San Rafael**	**64.76**	**59**	*eP*	**P**	**12 34 23.9**	**+0.6**	
SRU				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
SRU	**San Rafael**	**64.76**	**59**	*eP*	**P**	**12 34 23.9**	**+0.6**	
	comp=Z,2.3nm,0.8s,mb4.3							
NOA	**NORSAR Array B**	**67.02**	**342**	P	**P**	**12 34 36.3**	**-1.5**	
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.4,SNR=2.6							
NOA	**NORSAR Array B**	**67.02**	**342**	P	**P**	**12 34 36.3**	**-1.5**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRAB	**Tennant Creek**	**70.46**	**200**	*eP*	**P**	**12 34 58.5**	**-0.7**	
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
WRAB	**Tennant Creek**	**70.46**	**200**	*eP*	**P**	**12 34 58.5**	**-0.7**	
	comp=Z,5.5nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**70.46**	**200**	*eP*	**P**	**12 34 58.6**	**-0.7**	
WRA	**Warramunga Arr**	**70.47**	**200**	P	**P**	**12 34 58.8**	**-0.5**	
	comp=Z,5.0nm,0.8s,mb4.5,baz=15,slow=6.3,SNR=38							
WRA				pP	pP	12 35 10.0	-1.0	
	comp=Z,0.9nm,0.7s,baz=17,slow=6.7,SNR=3.8							
WRA	**Warramunga Arr**	**70.47**	**200**	P	**P**	**12 34 58.8**	**-0.5**	
WRA				*PP	pP	12 35 10.0	-1.1	
WRA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**12 35 00.8**	**-0.5**	
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.5,SNR=4.8							
AKASG	**Malin Array Be**	**70.80**	**327**	P	**P**	**12 35 00.8**	**-0.5**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FITZ	**Fitzroy Crossi**	**71.16**	**209**	*eP*	**P**	**12 35 04.2**	**+0.7**	
	comp=Z,8.5nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**71.16**	**209**	P	**P**	**12 35 03.6**	**+0.1**	
	comp=Z,5.1nm,0.9s,mb4.5,baz=8.0,slow=7.5,SNR=6.2							
SCHQ	**Schefferville**	**71.33**	**24**	P	**P**	**12 35 04.7**	**+0.2**	
	comp=Z,4.1nm,0.7s,mb4.5,baz=270,slow=11,SNR=4.5							
BSD	**Bornholm Skovb**	**71.49**	**337**	*eP*	**P**	**12 35 10.1**	**+4.6**	
AS31	**Alice Springs**	**74.16**	**200**	*eP*	**P**	**12 35 21.4**	**+0.1**	
ASAR	**Alice Springs**	**74.16**	**200**	P	**P**	**12 35 21.6**	**+0.3**	
	comp=Z,1.9nm,0.9s,mb4.0,baz=11,slow=5.3,SNR=20							
ASAR				pP	pP	12 35 33.0	-0.2	
	comp=Z,0.9nm,0.5s,baz=15,slow=5.3,SNR=5.6							
ASAR	**Alice Springs**	**74.16**	**200**	P	**P**	**12 35 21.7**	**+0.4**	
ASAR				*PP	pP	12 35 33.0	-0.2	
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASPA	**Alice Springs**	**74.16**	**200**	*eP*	**P**	**12 35 21.8**	**+0.5**	
TXAR	**Lajitas Array**	**75.68**	**62**	P	**P**	**12 35 30.8**	**+0.6**	
	comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=4.5,SNR=29							
TXAR				pP	pP	12 35 42.2	+0.3	
	comp=Z,2.0nm,0.7s,baz=297,slow=4.4,SNR=14							
TXAR	**Lajitas Array**	**75.68**	**62**	P	**P**	**12 35 30.8**	**+0.7**	
TXAR				*PP	pP	12 35 42.2	+0.2	
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**75.68**	**62**	P	**P**	**12 35 30.8**	**+0.6**	
TXAR				pP	pP	12 35 42.2	+0.2	
KHC	**Kasperske Hory**	**77.23**	**335**	*eP*	**P**	**12 35 39.0**	**+0.1**	
GERES	**GERESS Array B**	**77.45**	**335**	P	**P**	**12 35 40.5**	**+0.3**	
	comp=Z,1.2nm,0.5s,mb4.1,baz=50,slow=7.1,SNR=7.3							
GERES	**GERESS Array B**	**77.45**	**335**	P	**P**	**12 35 40.5**	**+0.4**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**77.96**	**318**	P	**P**	**12 35 43.6**	**+0.7**	
	comp=Z,1.4nm,0.7s,mb4.0,baz=83,slow=3.9,SNR=9.6							
BRTR	**Keskin Array B**	**77.96**	**318**	P	**P**	**12 35 43.6**	**+0.7**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

IDC 27 12:34:42.1±8.9, 613S×15093E, h75km±64km, mb3.6/2, mb1 3.8/3, mb1mx3.3/14, mbtmp3.6/3, ML2.4/1, 1C, Error ellipse: s-maj=106.6km s-min=56.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.96**	**229**	P	Pn	12 35 54.6	+0.6
	1.0nm,0.3s,baz=42,slow=12,SNR=4.1						
PMG				S	Sn	12 36 50.5	+0.5
	4.2nm,0.3s,baz=119,slow=12,SNR=9.7						
KAKA	**Kakadu**	**19.37**	**249**	*eP*	Pn	12 39 03.2	-0.3
	5.7nm,1.0s						
WB2	**Warramunga Arr**	**21.17**	**228**	↑P	P	12 39 21.5	+0.3
WRA	**Warramunga Arr**	**21.18**	**228**	P	P	12 39 21.6	+0.3
	1.9nm,0.4s,baz=54,slow=10,SNR=40						
ASAR	**Alice Springs**	**23.93**	**221**	P	P	12 39 49.9	+0.8
	3.1nm,0.7s,baz=56,slow=9.0,SNR=70						
ASPA	**Alice Springs**	**23.93**	**221**	*eP*	P	12 39 50.5	+1.4
TORD	**Torodi Ar. Bea**	**148.91**	**285**	PKPbc	PKPbc	12 54 21.4	+0.3
	0.6nm,0.6s,baz=76,slow=2.5,SNR=5.2						

MAN 27 12:42:16.2, 1860N×12100E, h1km, mb3.1, ML4.4, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.45**	**233**	↑P	Pg	12 42 25.0	+0.1
PIP				*eS*	Sg	12 42 32.0	+1.3
APYP	**Conner**	**0.77**	**162**	*eP*	Pg	12 42 31.2	+0.2
APYP				*eS*	Sg	12 42 41.7	+0.7
CVP	**Callao Caves**	**1.19**	**139**	*eP*	Pg	12 42 39.0	0.0
CAUP	**Cauayan**	**1.83**	**154**	*eP*	Pn	12 42 50.6	+1.9
BALP	**Baler**	**2.90**	**169**	*eP*	Pn	12 43 06.5	+3.1
BALP				*eS*	Sn	12 43 43.3	+4.4

*ISCJB **27** 12:50:46.7±0.9, 4728N±004×823E±02, h10km, Error ellipse: s-maj=22.3km s-min=5.3km az=172.4*
*BJI **27** 12:50:46.1, 4738N×8240E, h14km, mb4.4, ML3.1*
*NNC **27** 12:50:46.0±0.2, 4726N×8260E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=3.9km s-min=1.0km az=110.0*

ISC 27 12:50:46.2±1.6, 473N±01×819E±04, h10km, n12, σ0$43/22, 10C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK05	**Makanchi Array**	**0.52**	**151**	⇓P	**Pg**	**12 50 56.2**	**-0.2**
	21nm,0.2s						
MK05				⇑S	**Sg**	**12 51 03.4**	**+0.2**
	193nm,0.5s						
MK31	**Makanchi Array**	**0.52**	**151**	⇓P	**Pg**	**12 50 56.3**	**-0.1**
	13nm,0.2s,baz=21,slow=16,SNR=8283						
MK31				⇓S	**Sg**	**12 51 03.5**	**+0.3**
	58nm,0.2s,baz=24,slow=28						
MK09	**Makanchi Array**	**0.53**	**153**	⇓P	**Pg**	**12 50 56.5**	**-0.1**
	49nm,0.5s						
MK09				⇑S	**Sg**	**12 51 03.9**	**+0.3**
	176nm,0.5s						
MK04	**Makanchi Array**	**0.54**	**152**	⇑P	**Pg**	**12 50 56.5**	**-0.3**
	33nm,0.5s						
MK04				⇑S	**Sg**	**12 51 03.8**	**0.0**
	151nm,0.2s						
MK01	**Makanchi Array**	**0.54**	**152**	⇓P	**Pg**	**12 50 56.6**	**-0.2**
	52nm,0.4s						
MK01				⇑S	**Sg**	**12 51 04.1**	**+0.1**
	212nm,0.2s						
MK06	**Makanchi Array**	**0.54**	**151**	⇓P	**Pg**	**12 50 56.4**	**-0.4**
	52nm,0.4s						
MK06				⇓S	**Sg**	**12 51 03.8**	**-0.1**
	193nm,0.2s						
MK02	**Makanchi Array**	**0.55**	**151**	⇑P	**Pg**	**12 50 56.5**	**-0.4**
	55nm,0.5s						
MK02				⇓S	**Sg**	**12 51 03.7**	**-0.3**
	181nm,0.3s						
MK03	**Makanchi Array**	**0.55**	**152**	⇑P	**Pg**	**12 50 56.5**	**-0.4**
	38nm,0.4s						
MK03				⇓S	**Sg**	**12 51 04.2**	**+0.1**
	157nm,0.2s						
MK08	**Makanchi Array**	**0.55**	**153**	⇓P	**Pg**	**12 50 56.9**	**-0.1**
	43nm,0.3s						
MK08				⇑S	**Sg**	**12 51 04.7**	**+0.5**
	98nm,0.2s						
MK07	**Makanchi Array**	**0.56**	**152**	⇓P	**Pg**	**12 50 56.7**	**-0.4**
	53nm,0.3s						
MK07				⇑S	**Sg**	**12 51 04.3**	**-0.3**
	72nm,0.2s						
KURK	**Kurchatov**	**4.09**	**329**	⇑Pn	**Pn**	**12 51 53.1**	**+4.3**
	2.6nm,0.5s						
KURK				⇓Lg		12 53 03.2	
	13nm,0.4s						
LZH	**Lanzhou**	**19.74**	**116**	*eP*	**Pn**	**12 55 17.8**	**+0.2**
LZH				AP	pP	12 55 25.5	+6.6
LZH				XP	sP	12 55 30.0	+10
LZH				AMB	AMB		
	comp=Z,18nm,1.0s						

*NEIC **27** 13:48:07.7±0.6, 4741N×15397E, h10km, Error ellipse: s-maj=23.4km s-min=15.7km az=129.0*
*MOS **27** 13:48:09.6±1.6, 4738N×15421E, h33km, mb4.0/6, Error ellipse: s-maj=27.8km s-min=17.4km az=62.3*
*ISCJB **27** 13:48:11.9±2.1, 475N±02×1541E±02, h54km±19km, mb3.8/8, Error ellipse: s-maj=32.5km s-min=13.0km az=102.4*
*IDC **27** 13:48:15.9±4.8, 4745N×15397E, h75km±45km, mb3.5/8, mb1 3.8/9, mb1mx3.5/24, mbtmp3.5/9, ML3.0/1, Error ellipse: s-maj=32.8km s-min=16.7km az=126.0*

ISC 27 13:48:14.3±1.8, 475N±02×1541E±02, h60km±16km, n19, σ0$87/19, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.42**	**22**	*e*PN	**Pn**	**13 49 04.0**	**-1.1**
SKR				pmax	pmax		
	comp=E,60nm,0.7s						
SKR				pmax	pmax		
	comp=Z,110nm,0.7s						
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.75**	**270**	*e*PN	**Pn**	**13 50 05.0**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.75**	**270**	*eP*	**Pn**	**13 50 05.4**	**+1.0**
	comp=N,18nm,0.6s						
ASAJ	**Asahikawa**	**8.73**	**251**	P	**Pn**	**13 50 18.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=80,slow=11,SNR=3.7						
INK	**Inuvik**	**40.63**	**33**	P	**P**	**13 55 49.0**	**+0.7**
	comp=N,2.0nm,0.7s,mb3.9,baz=270,slow=6.8,SNR=11						
INK	**Inuvik**	**40.63**	**33**	P	**P**	**13 55 49.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**13 56 40.0**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=46,slow=3.5,SNR=3.5						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**13 56 40.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.89**	**37**	P	**P**	**13 57 02.0**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=287,slow=7.0,SNR=3.4						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**13 58 38.7**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=32,slow=4.7,SNR=3.9						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**13 58 38.7**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**13 58 38.7**	**-0.2**
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**	**13 58 40.4**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=323,slow=3.7,SNR=7.5						
WRA	**Warramunga Arr**	**69.47**	**200**	P	**P**	**13 59 14.2**	**-2.1**
	comp=Z,0.7nm,1.0s,mb3.6,baz=15,slow=6.1,SNR=3.3						
WRA	**Warramunga Arr**	**69.47**	**200**	P	**P**	**13 59 14.2**	**-2.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**73.17**	**199**	P	**P**	**13 59 38.8**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=10,slow=5.6,SNR=18						
ASAR	**Alice Springs**	**73.17**	**199**	P	**P**	**13 59 38.8**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.52**	**61**	P	**P**	**13 59 58.8**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=296,slow=4.4,SNR=14						
TXAR	**Lajitas Array**	**76.52**	**61**	P	**P**	**13 59 58.8**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **27** 14:00:12.1±0.9, 4687N×15287E, h10km, Error ellipse: s-maj=25.8km s-min=20.1km az=158.0*
*MOS **27** 14:00:14.4±1.6, 4694N×15289E, h33km, mb4.4/3, Error ellipse: s-maj=29.4km s-min=15.7km az=61.5*
*ISCJB **27** 14:00:16.3±1.6, 470N±0.1×1529E±02, h53km±13km, mb3.6/8, Error ellipse: s-maj=30.1km s-min=9.1km az=91.8*
*IDC **27** 14:00:20.2±4.8, 4693N×15289E, h75km±44km, mb3.3/9, mb1 3.6/10, mb1mx3.4/22, mbtmp3.4/10, ML3.4/1, Error ellipse: s-maj=26.8km s-min=22.5km az=141.0*

ISC 27 14:00:18.6±1.4, 470N±01×1529E±02, h59km±12km, n17, σ0$73/18, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.27**	**29**	*e*PN	**Pn**	**14 01 21.5**	**+0.5**
SKR				*eS*	**Sn**	**14 02 09.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,50nm,0.2s						
SKR				smax			
	comp=N,120nm,0.2s						
SKR				smax			
	comp=E,240nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.76**	**242**	PN	**Pn**	**14 01 40.5**	**-0.9**
ASAJ	**Asahikawa**	**7.78**	**252**	P	**Pn**	**14 02 09.6**	**+0.5**
	comp=E,0.6nm,0.3s,baz=29,slow=17,SNR=5.1						
ASAJ	**Asahikawa**	**7.78**	**252**	PN	**Pn**	**14 02 09.6**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.73**	**252**	P	**P**	**14 04 55.0**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=51,slow=13,SNR=4.0						
INK	**Inuvik**	**41.53**	**33**	*eP*	**P**	**14 08 01.0**	**+0.8**
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**14 08 42.6**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=71,slow=8.8,SNR=2.7						
YKA	**Yellowknife Ar**	**50.83**	**37**	P	**P**	**14 09 13.7**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=7.3,SNR=3.0						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**14 10 43.4**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.1,baz=46,slow=8.2,SNR=6.7						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**14 10 43.4**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**64.73**	**54**	P	**P**	**14 10 50.6**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.7,baz=216,slow=4.8,SNR=4.0						
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**14 11 11.1**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=29,slow=6.3,SNR=3.2						
NOA	**NORSAR Array B**	**67.96**	**341**	P	**P**	**14 11 11.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.27**	**326**	P	**P**	**14 11 30.4**	**-1.3**
	comp=Z,0.9nm,0.3s,mb4.1,baz=38,slow=6.0,SNR=3.8						
AKASG	**Malin Array Be**	**71.27**	**326**	P	**P**	**14 11 30.4**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**14 11 37.6**	**-0.7**
	comp=Z,0.2nm,0.7s,mb3.1,baz=13,slow=5.7,SNR=3.5						
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**14 12 08.0**	**+0.1**
	comp=Z,0.1nm,0.5s,mb3.0,baz=287,slow=4.8,SNR=5.1						

ATH 27 14:05:29.9, 3770N×2090E, h21km, MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.57**	**51**	*e*PN	Pn	14 05 41.3	-1.5
RLS				*e*SN	Sb	14 05 49.8	+0.8
ITM	**Ithomi**	**0.97**	**122**	*e*PN	Pn	14 05 48.5	+0.3
EVR	**Evrytania**	**1.41**	**30**	*e*PN	Pn	14 05 56.5	+2.2

*ISCJB **27** 14:06:38.5±0.2, 4127N±003×2937W±004, h10km, mb4.5/40, MS4.1/18, Error ellipse: s-maj=5.6km s-min=4.0km az=93.2*
*BJI **27** 14:06:38.6, 4140N×2930W, h10km, mB5.4, mb5.2, Ms4.5, Msz4.5*
*CSEM **27** 14:06:38.7±0.1, 4126N×2941W, h15km, mb4.8/27, Ms3.8, Error ellipse: s-maj=1.9km s-min=1.4km az=54.0*
*IDC **27** 14:06:38.9±0.7, 4139N×2927W, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/22, mbtmp3.9/12, ML4.8/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=22.8km s-min=15.7km az=162.0*
*NEIC **27** 14:06:40.7±0.3, 4139N×2935W, h10km, mb4.8/30, MS4.0/2, Error ellipse: s-maj=10.8km s-min=3.9km az=177.0*

ISC 27 14:06:40.3±0.2, 4128N±003×2932W±004, h10km, (h16km±1km:pP-P), n148, σ0$84/137, mb4.5/40, MS4.1/18, 1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSBA	**Serra de Santa**	**2.94**	**148**	*eP*	**Pn**	**14 07 25.6**	**-1.4**
ASBA	**Santa Barbara**	**2.98**	**148**	*eP*	**Pn**	**14 07 26.4**	**-1.2**
PVNV	**Vila Nova**	**3.01**	**146**	*eP*	**Pn**	**14 07 27.3**	**-0.8**
ADH	**Angra Heroismo**	**3.07**	**148**	*eP*	**Pn**	**14 07 27.5**	**-1.4**
RIB2	**Ribeirinha**	**3.08**	**147**	*eP*	**Pn**	**14 07 27.6**	**-1.4**
PFAV	**Pico das Favas**	**3.08**	**145**	*eP*	**Pn**	**14 07 28.3**	**-0.8**
PFAV					*eS*	**Sn**	**14 08 01.3**	**-4.7**
SET4	**Mosteiros**	**4.35**	**140**	*eP*	**Pn**	**14 07 46.3**	**-0.2**
SET2	**Ginetes**	**4.37**	**141**	*eP*	**Pn**	**14 07 46.6**	**-0.2**
PSAN	**Santo Antonio**	**4.41**	**140**	*eP*	**Pn**	**14 07 48.0**	**+0.8**
PDA	**Ponta Delgada**	**4.52**	**140**	*eP*	**Pn**	**14 07 50.4**	**+1.6**
CML	**Cha da Macela**	**4.56**	**139**	*eP*	**Pn**	**14 07 49.4**	**+0.1**
PMAT	**Coroa da Mata**	**4.56**	**138**	*eP*	**Pn**	**14 07 50.0**	**+0.7**
LFA	**Lagoa do Fogo**	**4.59**	**138**	*eP*	**Pn**	**14 07 49.9**	**+0.2**
MESC	**Monte Escuro**	**4.59**	**138**	*eP*	**Pn**	**14 07 50.1**	**+0.3**
PRCH	**Ribeira Ch**	**4.62**	**139**	*eP*	**Pn**	**14 07 50.4**	**+0.2**
VIF	**Vila Franca**	**4.63**	**138**	*eP*	**Pn**	**14 07 50.7**	**+0.4**
PCNG	**Congro**	**4.63**	**138**	*eP*	**Pn**	**14 07 50.7**	**+0.3**
FRA1	**Furnas**	**4.67**	**138**	*eP*	**Pn**	**14 07 51.5**	**+0.6**
MIRA	**Miradouro**	**4.68**	**137**	*eP*	**Pn**	**14 07 51.3**	**+0.3**
PSMN	**Pico do Norte,**	**5.40**	**141**	*eP*	**Pn**	**14 07 59.5**	**-1.4**
ESDC	**Sonseca Array**	**19.34**	**86**	P	**Pn**	**14 11 05.3**	**-1.5**
	0.6nm,0.3s,baz=280,slow=16,SNR=3.8						
QUIF	**Quistinic**	**19.71**	**62**	*eP*	**Pn**	**14 11 11.4**	**+0.1**
	125nm,1.3s						
QUIF	**Quistinic**	**19.71**	**62**	*eP*	**Pn**	**14 11 11.4**	**+0.1**
	62nm,1.3s						
SGMF	**Saint Gilles**	**20.17**	**61**	*eP*	**P**	**14 11 16.1**	**+1.2**
SJPF	**Ste Jean**	**20.86**	**76**	*eP*	**P**	**14 11 23.6**	**

	comp=Z,31nm,1.2s,mb4.4							
LPG	**La Plagne**	**26.41**	**69**	*e*P		**P**	**14 12 17.7**	**+0.7**
	comp=Z,16nm,1.2s,mb4.4							
LMR	**La Mourre**	**26.45**	**73**	*e*P		**P**	**14 12 17.8**	**+0.4**
CDF	**Champ du Feu**	**26.71**	**62**	*e*P		**P**	**14 12 19.8**	**0.0**
	comp=Z,54nm,1.4s,mb4.6							
CDF	**Champ du Feu**	**26.71**	**62**	*e*P		**P**	**14 12 19.8**	**0.0**
	comp=Z,27nm,1.4s,mb4.6							
SBF	**Sospel**	**27.05**	**72**	*e*P		**P**	**14 12 23.4**	**+0.6**
SCHQ	**Schefferville**	**28.12**	**312**	LR	LR		14 21 39.4	
	comp=Z,236nm,18.1s,MS3.8,baz=126,slow=32							
PGF	**Pioggiola**	**28.38**	**75**	*e*P		**P**	**14 12 35.4**	**+0.7**
KHC	**Kasperske Hory**	**30.88**	**61**	*e*P		**P**	**14 13 01.7**	**+4.8**
GERES	**GERESS Array B**	**30.97**	**61**	P		**P**	**14 13 00.7**	**+3.0**
	comp=Z,0.3nm,0.3s,mb3.6,baz=280,slow=8.0,SNR=3.9							
FINES	**FINESS Array B**	**38.55**	**39**	P		**P**	**14 14 00.3**	**-2.8**
	comp=Z,2.0nm,0.9s,mb3.9,baz=268,slow=12,SNR=2.9							
FINES				LR	LR		14 26 56.4	
	comp=Z,200nm,20.3s,MS3.9,baz=256,slow=32							
FINES	**FINESS Array B**	**38.55**	**39**	P		**P**	**14 14 00.3**	**-2.8**
FINES				LR	LR		14 26 56.4	
TOA0	**Torodi Ar. Sit**	**38.94**	**127**	P		**P**	**14 14 09.0**	**+2.7**
TOA0	**Torodi Ar. Sit**	**38.94**	**127**	P		**P**	**14 14 09.0**	**+2.6**
TORD	**Torodi Ar. Bea**	**38.94**	**127**	P		**P**	**14 14 07.2**	**+0.9**
	comp=Z,2.5nm,1.2s,mb3.8,baz=314,slow=7.7,SNR=4.9							
TORD				LR	LR		14 28 27.8	
	comp=Z,124nm,18.7s,MS3.8,baz=335,slow=34							
AKASG	**Malin Array Be**	**40.77**	**56**	P		**P**	**14 14 20.0**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=272,slow=8.2,SNR=2.9							
RES	**Resolute Bay**	**44.24**	**340**	*e*P		**P**	**14 14 49.9**	**+0.1**
	comp=Z,599nm,1.2s							
RES	**Resolute Bay**	**44.24**	**340**	*e*P		**P**	**14 14 49.9**	**+0.1**
	comp=Z,599nm,1.2s							
ULM	**Lac du Bonnet**	**45.86**	**305**	LR	LR		14 33 05.3	
	comp=Z,166nm,18.7s,MS4.0,baz=48,slow=35							
BRTR	**Keskin Array B**	**46.95**	**70**	P		**P**	**14 15 10.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=350,slow=7.3,SNR=3.2							
BRTR	**Keskin Array B**	**46.95**	**70**	P		**P**	**14 15 10.9**	**-0.3**
OXF	**Oxford**	**47.08**	**282**	*e*P		**P**	**14 15 12.8**	**+0.6**
	comp=Z,33nm,1.1s,mb5.2							
OXF	**Oxford**	**47.08**	**282**	*e*P		**P**	**14 15 12.8**	**+0.5**
	comp=Z,33nm,1.1s,mb5.2							
ECSD	**EROS,Sioux Fal**	**48.43**	**297**	*e*P		**P**	**14 15 22.9**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.7							
MIAR	**Mount Ida**	**50.12**	**284**	*e*P		**P**	**14 15 35.0**	**-0.6**
	comp=Z,9.5nm,1.1s,mb4.7							
MIAR	**Mount Ida**	**50.12**	**284**	*e*P		**P**	**14 15 35.0**	**-0.6**
	comp=Z,9.4nm,1.1s,mb4.7							
YKA	**Yellowknife Ar**	**52.35**	**324**	P		**P**	**14 15 51.5**	**-0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=73,slow=6.9,SNR=5.9							
YKA	**Yellowknife Ar**	**52.35**	**324**	P		**P**	**14 15 51.5**	**-0.9**
YKA	**Yellowknife Ar**	**52.35**	**324**	P		**P**	**14 15 51.5**	**-0.9**
EDM	**Edmonton**	**55.09**	**313**	*e*P		**P**	**14 16 11.7**	**-0.8**
EDM	**Edmonton**	**55.09**	**313**	*e*P		**P**	**14 16 11.6**	**-0.9**
EGMT	**Eagleton**	**55.17**	**306**	*e*P		**P**	**14 16 13.1**	**+0.1**
	comp=Z,16nm,1.0s,mb5.0							
EGMT	**Eagleton**	**55.17**	**306**	*e*P		**P**	**14 16 13.1**	**+0.1**
	comp=Z,16nm,1.0s,mb5.0							
ARU	**Arti**	**55.81**	**42**	*e*P		**P**	**14 16 17.4**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8							
ARU	**Arti**	**55.81**	**42**	*e*P		**P**	**14 16 17.5**	**-0.1**
	comp=Z,11nm,1.0s,mb4.8							
AMTX	**Amarillo**	**55.81**	**289**	*e*P		**P**	**14 16 17.8**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.7							
AMTX	**Amarillo**	**55.81**	**289**	*e*P		**P**	**14 16 17.8**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.7							
PDAR	**Pinedale Array**	**57.40**	**301**	P		**P**	**14 16 29.1**	**+0.2**
	comp=Z,2.7nm,1.0s,mb4.2,baz=72,slow=4.8,SNR=14							
PDAR				LR	LR		14 41 10.1	
	comp=Z,148nm,19.1s,MS4.1,baz=56,slow=36							
PDAR	**Pinedale Array**	**57.40**	**301**	P		**P**	**14 16 29.1**	**+0.1**
CHMT	**Chamberlain Mo**	**57.79**	**306**	*e*P		**P**	**14 16 31.6**	**-0.1**
CHMT	**Chamberlain Mo**	**57.79**	**306**	*e*P		**P**	**14 16 31.6**	**-0.1**
REDW	**Red Top Meadow**	**57.96**	**302**	*e*P		**P**	**14 16 33.1**	**+0.3**
	comp=Z,8.8nm,1.1s,mb4.7							
REDW	**Red Top Meadow**	**57.96**	**302**	*e*P		**P**	**14 16 33.1**	**+0.2**
	comp=Z,8.8nm,1.1s,mb4.7							
SAML	**Samuel**	**58.88**	**220**	*e*P		**P**	**14 16 40.0**	**+0.7**
SAML	**Samuel**	**58.88**	**220**	*e*P		**P**	**14 16 40.0**	**+0.6**
HWUT	**Hardware Ranch**	**59.27**	**300**	*e*P		**P**	**14 16 41.0**	**-1.0**
	comp=Z,7.5nm,1.0s,mb4.7							
HWUT	**Hardware Ranch**	**59.27**	**300**	*e*P		**P**	**14 16 41.0**	**-1.0**
	comp=Z,7.5nm,1.0s,mb4.7							
MVCO	**Mesa Verde**	**59.42**	**294**	*e*P		**P**	**14 16 44.5**	**+1.4**
	comp=Z,2.7nm,0.4s,mb4.6							
MVCO	**Mesa Verde**	**59.42**	**294**	*e*P		**P**	**14 16 44.5**	**+1.4**
	comp=Z,2.7nm,0.4s,mb4.6							
NEW	**Newport**	**59.45**	**309**	*e*P		**P**	**14 16 43.2**	**-0.1**
	comp=Z,14nm,0.9s,mb5.0							
NEW	**Newport**	**59.45**	**309**	*e*P		**P**	**14 16 43.2**	**-0.1**
	comp=Z,14nm,0.9s,mb5.0							
BNM	**Barren Site**	**59.70**	**290**	*e*P		**P**	**14 16 46.1**	**+1.1**
BNM	**Barren Site**	**59.70**	**290**	*e*P		**P**	**14 16 46.1**	**+1.1**
TXAR	**Lajitas Array**	**60.14**	**284**	P		**P**	**14 16 48.5**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=76,slow=6.6,SNR=14							
TXAR				LR	LR		14 42 12.3	
	comp=Z,92nm,19.6s,MS3.9,baz=355,slow=36							
TMUT	**Trail Mountain**	**60.20**	**298**	P		**P**	**14 16 47.9**	**-0.5**
TMUT	**Trail Mountain**	**60.20**	**298**	P		**P**	**14 16 47.9**	**-0.5**
DUG	**Dugway**	**60.80**	**299**	*e*P		**P**	**14 16 52.1**	**-0.5**
	comp=Z,11nm,1.1s,mb4.9							
DUG	**Dugway**	**60.80**	**299**	*e*P		**P**	**14 16 52.1**	**-0.4**
	comp=Z,11nm,1.1s,mb4.9							
ARUT	**Antelope Range**	**62.48**	**297**	P		**P**	**14 17 03.4**	**-0.5**
ARUT	**Antelope Range**	**62.48**	**297**	P		**P**	**14 17 03.3**	**-0.5**
BRVK	**Borovoye**	**63.38**	**42**	*e*P		**P**	**14 17 10.1**	**+0.3**
	comp=Z,8.9nm,1.1s,mb4.8							
BRVK	**Borovoye**	**63.38**	**42**	*e*P		**P**	**14 17 10.1**	**+0.3**
	comp=Z,8.9nm,1.1s,mb4.8							
LPAZ	**La Paz**	**67.61**	**221**	P		**P**	**14 17 39.4**	**+2.2**
	comp=Z,3.5nm,1.1s,mb4.3,baz=18,slow=11,SNR=6.9							
LPAZ				LR	LR		14 43 21.7	
	comp=Z,88nm,20.2s,MS4.0,baz=32,slow=32							
LPAZ	**La Paz**	**67.61**	**221**	*e*P		**P**	**14 17 39.3**	**+2.1**
	comp=Z,5.0nm,1.3s,mb4.4							
LPAZ	**La Paz**	**67.61**	**221**	*e*P		**P**	**14 17 39.3**	**+2.1**
	comp=Z,5.0nm,1.3s,mb4.4							
ZAL	**Zalesovo**	**69.64**	**35**	P		**P**	**14 17 49.8**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=154,slow=14,SNR=5.4							
KMBO	**Kilima Mbogo**	**73.33**	**107**	LR	LR		14 51 11.8	
	comp=Z,97nm,20.7s,MS4.1,baz=78,slow=36							
MK31	**Makanchi Array**	**73.33**	**42**	*e*P		**P**	**14 18 11.4**	**-0.8**
MK31	**Makanchi Array**	**73.33**	**42**	*e*P		**P**	**14 18 11.4**	**-0.8**
MKAR	**Makanchi Array**	**73.33**	**42**	P		**P**	**14 18 12.2**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=320,slow=5.4,SNR=11							
MKAR				LR	LR		14 51 49.3	
	comp=Z,88nm,18.6s,MS4.1,baz=305,slow=37							
WMQ	**Urumqi**	**78.13**	**41**	⇓P		**P**	**14 18 41.8**	**+2.2**
WMQ				AP	pP		14 18 46.5	+3.6
WMQ				XP	sP		14 18 48.8	+4.7
WMQ				PCP	PcP		14 18 51.8	+2.6
WMQ				PP	PP		14 21 40.0	+4.0
WMQ				S	S		14 28 34.3	+0.3
WMQ				XS	sS		14 28 41.8	+2.4
WMQ				AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,254nm,6.4s							
WMQ				LR	LR			
	comp=N,105nm,21.7s							
WMQ				LR	LR			
	comp=E,98nm,16.5s							
WMQ				LR	LR			
	comp=Z,95nm,21.6s,MS4.1							
SONM	**Songino Array**	**82.99**	**28**	P		**P**	**14 19 06.0**	**+0.3**
	comp=Z,1.5nm,1.1s,mb3.9,baz=293,slow=3.7,SNR=4.4							
BOSA	**Boshof**	**85.93**	**134**	LR	LR		14 53 47.7	
	comp=Z,134nm,19.8s,MS4.3,baz=331,slow=33							
HHC	**Hu-ho-hao-te**	**90.88**	**29**	*e*P		**P**	**14 19 43.3**	**-0.9**
HHC				AP	pP		14 19 48.0	+0.5
HHC				SKS			14 30 12.0	
HHC				S	S		14 30 35.5	-5.6
HHC				SS	SS		14 36 38.3	-5.4
HHC				AMB	AMB			
	comp=Z,15nm,1.1s,mb5.2							
HHC				AMB	AMB			
	comp=Z,99nm,7.6s							
HHC				LR	LR			
	comp=Z,174nm,16.6s,MS4.6							
LZH	**Lanzhou**	**91.85**	**36**	*e*P		**P**	**14 19 47.8**	**-0.8**
LZH				AP	pP		14 19 52.5	+0.5
LZH				XP	sP		14 19 55.0	+1.8
LZH				AMB	AMB			
	comp=Z,20nm,1.2s,mb5.3							
LZH	**Lanzhou**	**91.85**	**36**	*e*P		**P**	**14 19 47.7**	**-0.9**
	comp=Z,20nm,1.2s,mb5.3							
LZH				pP	pP		14 19 52.5	+0.5
LZH				sP	sP		14 19 54.9	+1.7
LZH	**Lanzhou**	**91.85**	**36**	*e*P		**P**	**14 19 47.7**	**-0.9**
	comp=Z,20nm,1.2s,mb5.3							
LZH				pP	pP		14 19 52.5	+0.5
ASAJ	**Asahikawa**	**94.68**	**6**	LR	LR		15 01 08.1	
	comp=Z,61nm,21.0s,MS4.0,baz=215,slow=35							
CD2	**Chengdu**	**96.11**	**39**	*e*P		**P**	**14 20 07.8**	**-0.4**
CD2				XP	sP		14 20 14.8	+2.0
CD2				PP	PP		14 24 05.5	+4.5
CD2				SKS			14 30 43.0	
CD2				S	S		14 31 25.8	-1.6
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
CD2				LR	LR			
	comp=Z,140nm,13.2s,MS4.6							
KMI	**Kunming**	**100.38**	**43**	P	Pdif		14 20 28.5	+1.1
KMI				AP			14 20 33.0	
KMI				XP			14 20 35.3	
KMI				AMB	AMB			
	comp=Z,5.0nm,1.4s							
KMI				LR	LR			
	comp=Z,63nm,19.8s,MS4.1							
KMI	**Kunming**	**100.38**	**43**	P	Pdif		14 20 28.6	+1.2
	comp=Z,5.0nm,1.4s							
KMI				pP			14 20 33.1	
KMI				sP			14 20 35.2	
KMI				LR	LR			
	comp=Z,60nm,19.8s,MS4.1							
NJ2	**Nanjing**	**101.34**	**27**	*e*P	Pdif		14 20 33.5	+1.8
FITZ	**Fitzroy Crossi**	**148.48**	**50**	*e*P	PKPdf		14 26 25.3	+1.7
	comp=Z,2.6nm,0.4s							
AS31	**Alice Springs**	**157.51**	**44**	*e*P	PKPdf		14 26 34.7	-2.1
ASPA	**Alice Springs**	**157.51**	**44**	*e*P	PKPdf		14 26 34.7	-2.1

CSEM ***27*** *14:13:49.0, 4281N×4693E, h10km, mb4.0, After OBN*
MOS 27 14:13:49.0±1.7, 4281N×4693E, h10km, mb4.0/1, 2D, Error ellipse: s-maj=9.2km s-min=8.5km az=26.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.13**	**83**	*i* Pg	Pg	14 13 54.0	+1.9
BUJR				*e*S	Sg	14 14 01.5	+7.3
BUJR				pmax	pmax		
	comp=Z,104nm,0.2s						
BUJR	**Buynaksk**	**0.13**	**83**	*i* Pg	Pg	14 13 54.0	+1.9
	comp=Z,104nm,0.2s						
BUJR				*e*Sg	Sg	14 14 01.5	+7.3
UNCR	**Uncukul**	**0.14**	**227**	⇓*i* PG	Pg	14 13 52.0	-0.2
UNCR				pmax	pmax		
	comp=Z,287nm,0.2s						
UNCR	**Uncukul**	**0.14**	**227**	*i* Pg	Pg	14 13 52.0	-0.2
	comp=Z,287nm,0.2s						
XNZR	**Khunzakh**	**0.32**	**212**	*e*PG	Pg	14 13 57.5	+2.2
XNZR				*e*S	Sg	14 14 05.0	+5.5
XNZR				pmax	pmax		
	comp=Z,44nm,0.2s						
XNZR	**Khunzakh**	**0.32**	**212**	*e*Pg	Pg	14 13 57.5	+2.2
	comp=Z,44nm,0.2s						
XNZR				*e*Sg	Sg	14 14 05.0	+5.5
DLMR	**Dylym**	**0.34**	**320**	*e*PG	Pg	14 13 53.0	-2.8
GNBR	**Gunib**	**0.42**	**177**	⇓*i* PG	Pg	14 13 58.0	+0.8
GNBR				*e*S	Sg	14 14 06.0	+3.2
GNBR				pmax	pmax		
	comp=Z,51nm,0.4s						
GNBR	**Gunib**	**0.42**	**177**	*i* Pg	Pg	14 13 58.0	+0.8
	comp=Z,51nm,0.4s						
GNBR				*e*Sg	Sg	14 14 06.0	+3.2
MAK	**Makhachkala**	**0.45**	**70**	*e*Pg	Pg	14 13 59.5	+1.7
BTLR	**Botlikh**	**0.54**	**255**	*e*PG	Pg	14 13 58.5	-1.0
BTLR				*e*S	Sg	14 14 06.5	-0.2
BTLR				pmax	pmax		
	comp=Z,86nm,0.2s						
BTLR	**Botlikh**	**0.54**	**255**	*e*Pg	Pg	14 13 58.5	-1.0
	comp=Z,86nm,0.2s						
BTLR				*e*Sg	Sg	14 14 06.5	-0.2
KMKR	**Kumukh**	**0.69**	**170**	*i* PG	Pg	14 14 02.5	+0.2
KMKR				*i* S	Sg	14 14 15.0	+3.7
KMKR				pmax	pmax		
	comp=Z,19nm,0.2s						
KMKR	**Kumukh**	**0.69**	**170**	*i* Pg	Pg	14 14 02.5	+0.2
	comp=Z,19nm,0.2s						
KMKR				*i* Sg	Sg	14 14 15.0	+3.7
URKR	**Urkarakh**	**0.83**	**141**	*e*Pg	Pg	14 14 06.0	+1.1
URKR				*e*Sg	Sg	14 14 22.0	+6.3
SNJR	**Sundja**	**1.58**	**280**	*e*Pg	Pg	14 14 19.8	+0.5
SNJR				*e*Sg	Sg	14 14 41.5	+1.8
TRKR	**Terskaya**	**1.85**	**300**	*i* Pn	Pn	14 14 22.7	+2.0
TRKR				*e*Sg	Sg	14 14 46.5	-1.9
LACR	**Lac**	**1.94**	**271**	*i* Pn	Pn	14 14 24.3	+2.3
LACR				*i* Sg	Sg	14 14 49.4	-1.9
ARNR	**Ardon**	**1.98**	**282**	*e*Pn	Pn	14 14 24.8	+2.2
KORR	**Kora**	**2.12**	**278**	*e*Pn	Pn	14 14 26.5	+2.0
KORR				*e*Sb	Sb	14 14 53.2	-0.7
ZEI	**Tsey**	**2.23**	**270**	*i* Pn	Pn	14 14 28.2	+2.2
ZEI				*e*Sn	Sn	14 14 55.9	+2.3
DIGR	**Digorskoe uzhe**	**2.46**	**273**	*i* Pn	Pn	14 14 31.2	+2.0
DIGR				*i* Sn	Sn	14 15 01.0	+1.6

CSEM ***27*** *14:24:24.3±0.1, 4561N×2655E, h145km, MD3.9/2, Error ellipse: s-maj=0.5km s-min=0.3km az=50.0, After BUC*
BUC 27 14:24:24.3±0.1, 4561N×2655E, h145km, MD3.9/2, 1C-3D, Error ellipse: s-maj=0.5km s-min=0.3km az=50.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.28**	**27**	⇑*i* P	Pn	14 24 44.3	+0.2
VRI				*i* S	Sn	14 25 00.1	+0.9
MLR	**Muntele Rosu**	**0.44**	**254**	⇓*i* P	Pn	14 24 45.0	+0.3
MLR				*i* S	Sn	14 25 01.8	+1.6
TIRR	**Tirgusor**	**1.76**	**130**	⇓*i* P	Pn	14 24 56.7	+0.4
TIRR				*i* S	Sn	14 25 20.5	-0.3
BURAR	**Bucovina Array**	**2.20**	**336**	⇓*i* P	Pn	14 25 02.3	+0.8

MAN 27 14:46:12.0, 1522N×12116E, h67km, mb2.9, ML4.3, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.66**	**38**	*e*P	Pn	14 46 27.8	+1.7
BALP				*e*S	Sn	14 46 40.1	+3.6
POLP	**Polilio Island**	**0.90**	**123**	*e*P	Pn	14 46 29.5	+0.5
POLP				*e*S	Sn	14 46 44.0	+2.3
GQP	**Guinayangan**	**1.81**	**136**	⇓*i* P	Pn	14 46 42.3	+1.4
GQP				*i* S	Sn	14 47 04.1	+1.2
CAUP	**Cauayan**	**1.83**	**20**	*e*P	Pn	14 46 38.8	-2.4
CAUP				*e*S	Sn	14 46 59.2	-4.3
APYP	**Conner**	**2.63**	**2**	*e*P	Pn	14 46 53.7	+1.7
APYP				*e*S	Sn	14 47 24.0	+1.2

ISCJB ***27*** *14:52:02.1±2.8, 2443S±009×1280E±01, h19km±20km, mb4.3/10, MS3.5/4, Error ellipse: s-maj=24.0km s-min=8.0km az=113.4*
NEIC ***27*** *14:52:07.0±0.5, 2485S×12793E, mb4.4/3, Error ellipse: s-maj=17.8km s-min=7.1km az=56.0*
IDC ***27*** *14:52:07.1±0.8, 2495S×12785E, h40km±7km, mb4.0/9, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML4.3/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/24, Error ellipse: s-maj=40.4km s-min=13.4km az=62.0*
ISC 27 14:52:09.3±1.4, 2635S±010×1278E±01, h60km±12km, h41km±2.0km:pP-P, n30, σ1s05/31, mb4.3/10, MS3.5/4, 2D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.11**	**161**	P	Pn	14 52 30.0	**+1.2**
	1μm,0.6s						
PCI	**Palu**	**8.18**	**282**	P	Pn	14 54 03.8	**-1.5**
	150nm,0.9s						
KAKA	**Kakadu**	**11.01**	**156**	*e*P	Pn	14 54 43.5	**-0.4**
	15nm,0.6s						
KAKA				*e*S	Sn	14 56 44.7	**-0.7**
FITZ	**Fitzroy Crossi**	**15.53**	**188**	*e*P	Pn	14 55 45.2	**+0.7**
	8.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.53**	**188**	P	Pn	14 55 45.5	**+1.0**
	0.4nm,0.3s,baz=16,slow=10,SNR=12						
KSM	**Kuching**	**18.00**	**283**	*e*P	Pn	14 56 16.6	**+1.4**
WRAB	**Tennant Creek**	**18.34**	**160**	*e*P	Pn	14 56 18.6	**-0.8**
	32nm,1.0s						
WRA	**Warramunga Arr**	**18.34**	**160**	P	Pn	14 56 18.3	-1.1
	1.9nm,0.3s,baz=340,slow=11,SNR=88						
WB2	**Warramunga Arr**	**18.35**	**160**	⇓*i* P	Pn	14 56 18.4	-1.1
WB2				*e*S	S	14 59 43.1	-1.5
BJII	**Banjamegara**	**18.65**	**255**	P	Pn	14 56 28.7	+5.5
	43nm,1.3s						
AS31	**Alice Springs**	**21.72**	**165**	*e*P	P	14 56 56.3	+0.9
ASPA	**Alice Springs**	**21.72**	**165**	⇓*i* P	P	14 56 56.4	+0.9
ASPA				*e*S	S	15 00 50.3	-2.1
ASAR	**Alice Springs**	**21.72**	**165**	P	P	14 56 56.0	+0.5
	55nm,0.8s,mb5.0,baz=345,slow=11,SNR=341						
ASAR				LR	LR	15 06 16.9	
	comp=Z,114nm,18.1s,MS3.3,baz=352,slow=39						
CTA	**Charters Tower**	**24.99**	**135**	P	P	14 57 28.7	+1.4
	18nm,0.8s,mb4.7,baz=312,slow=11,SNR=13						
CTAO	**Charters Tower**	**24.99**	**135**	*e*P	P	14 57 28.6	+1.3
	47nm,1.3s,mb4.8						
FORT	**Forrest**	**28.00**	**180**	*e*P	P	14 57 55.4	+0.9
	27nm,0.6s,mb5.0						
PSI	**Prapat**	**29.41**	**280**	P	P	14 58 07.0	+0.1
	1.9nm,0.7s,mb4.0,baz=90,slow=15,SNR=3.3						
STKA	**Stephens Creek**	**31.85**	**157**	*e*P	P	14 58 29.0	+0.5
	6.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**31.85**	**157**	P	P	14 58 29.1	+0.6
	7.9nm,0.7s,mb4.7,baz=323,slow=9.4,SNR=30						
STKA				LR	LR	15 12 06.1	
	comp=Z,123nm,18.8s,MS3.6,baz=21,slow=38						
STKA	**Stephens Creek**	**31.85**	**157**	*e*P	P	14 58 28.0	-0.5
ARMA	**Armidale**	**35.65**	**143**	*e*P	P	14 59 03.2	+1.7
KSRS	**Korea Array**	**39.88**	**0**	LR	LR	15 13 56.1	
	comp=Z,34nm,20.3s,MS3.2,baz=295,slow=33						
HYB	**Hyderabad**	**52.52**	**294**	*i* P	P	15 01 21.5	+5.1
HYB	**Hyderabad**	**52.52**	**294**	*e*P	P	15 01 21.5	+5.1
SONM	**Songino Array**	**53.64**	**342**	P	P	15 01 22.7	-1.9
	1.3nm,0.9s,mb3.9,baz=148,slow=8.3,SNR=8.5						
MKAR	**Makanchi Array**	**63.41**	**327**	P	P	15 02 31.8	-0.8
	0.7nm,0.5s,mb4.0,baz=121,slow=6.5,SNR=8.4						
MKAR				pP	pP	15 02 44.5	-4.3
	2.9nm,0.8s,baz=124,slow=8.3,SNR=11						
BVAR	**Borovoye Array**	**73.24**	**328**	P	P	15 03 33.9	-0.1
	0.3nm,0.6s,mb3.4,baz=139,slow=9.0,SNR=2.9						
BVAR				pP	pP	15 03 45.8	-4.7
	1.8nm,1.0s,baz=129,slow=5.9,SNR=5.7						
VNDA	**Vanda**	**77.02**	**173**	P	P	15 03 56.3	+0.5
	1.1nm,0.7s,mb3.9,baz=309,slow=6.1,SNR=9.6						
MAW	**Mawson**	**78.23**	**201**	LR	LR	15 33 44.8	
	comp=Z,79nm,18.8s,MS4.1,baz=65,slow=32						
BRTR	**Keskin Array B**	**94.90**	**309**	P	P	15 05 24.9	**0.0**
	0.2nm,0.3s,mb4.0,baz=111,slow=6.8,SNR=2.5						
BRTR				pP	pP	15 05 36.1	-5.7
	0.5nm,0.8s,baz=161,slow=5.2,SNR=2.5						

ISCJB ***27*** *15:48:22.6±1.7, 4499S±005×1667E±0.1, h23km±9km, mb3.6/1, Error ellipse: s-maj=15.0km s-min=7.0km az=44.5*
IDC ***27*** *15:48:22.7±1.8, 4589S×16765E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/10, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=45.3km s-min=27.9km az=161.0*
WEL ***27*** *15:48:24.5±0.4, 4507S×16677E, h12km, ML4.3/17, Error ellipse: s-maj=3.7km s-min=1.2km az=90.0*
NEIC ***27*** *15:48:26.2, 4513S×16687E, h12km, mb3.6/1, ML4.2(WEL), After WEL.*
ISC 27 15:48:23.2±1.4, 4504S±004×16673E±009, h15km±8km, n38, σ1s04/45, mb3.6/1, 2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.53**	**146**	P	**Pg**	**15 48 34.3**	**+0.7**
DCZ				S	**Sg**	**15 48 40.2**	**+0.5**
DCZ	**Deep Cove**	**0.53**	**146**	P*	**Pb**	**15 48 34.3**	**+0.1**
DCZ				S*	**Sb**	**15 48 40.3**	**-1.3**
DCZ				S*	**Sb**	**15 48 40.8**	**-0.8**
MSZ	**Milford Sound**	**0.93**	**67**	P	**Pb**	**15 48 40.9**	**-0.1**
MSZ				S	**Sb**	**15 48 53.6**	**+0.5**
MSZ	**Milford Sound**	**0.93**	**67**	P*	**Pb**	**15 48 40.9**	**0.0**
MSZ				S*	**Sb**	**15 48 53.6**	**+0.5**
MSZ				S*	**Sb**	**15 48 53.6**	**+0.5**
MLZ	**Mavora Lakes**	**1.06**	**107**	⇓P	**P

BKZ	**Black Stump Fm**	**6.35**	**216**	*e*P		**Pn**	**16 06 54.4**	**+0.1**
BKZ				S		**Sn**	**16 08 06.6**	**-0.8**
BKZ	**Black Stump Fm**	**6.35**	**216**	*e*PN		**Pn**	**16 06 54.4**	**+0.1**
BKZ				SN		**Sn**	**16 08 06.6**	**-0.8**
KHZ	**Kahutara**	**10.29**	**214**	*e*SN		**Sn**	**16 09 34.9**	**-9.2**
MQZ	**McQueen's Vall**	**11.70**	**213**	*e*SN		**Sn**	**16 10 08.6**	**-10**
DZM	**Mont Dzumac**	**17.77**	**309**	LR	LR		16 13 45.0	
	comp=Z,78nm,19.7s,baz=218,slow=29							
STKA	**Stephens Creek**	**33.25**	**263**	P		**P**	**16 11 59.6**	**+1.3**
	1.0nm,0.6s,mb4.0,baz=113,slow=15,SNR=2.5							
STKA	**Stephens Creek**	**33.25**	**263**	*e*P		**P**	**16 11 59.6**	**+1.4**
CTA	**Charters Tower**	**34.02**	**285**	P		**P**	**16 12 06.0**	**+1.0**
	2.7nm,0.6s,mb4.4,baz=112,slow=9.3,SNR=5.2							
CTAO	**Charters Tower**	**34.02**	**285**	*e*P		**P**	**16 12 05.8**	**+0.8**
	2.5nm,0.6s,mb4.3							
AS31	**Alice Springs**	**42.48**	**271**	*e*P		**P**	**16 13 16.0**	**-0.2**
ASAR	**Alice Springs**	**42.48**	**271**	P		**P**	**16 13 15.9**	**-0.3**
	4.3nm,0.7s,mb4.2,baz=114,slow=7.4,SNR=105							
ASPA	**Alice Springs**	**42.48**	**271**	*e*P		**P**	**16 13 16.0**	**-0.2**
WB2	**Warramunga Arr**	**43.79**	**276**	*e*P		**P**	**16 13 26.0**	**-0.8**
WRA	**Warramunga Arr**	**43.80**	**276**	P		**P**	**16 13 26.2**	**-0.7**
	5.2nm,0.7s,mb4.4,baz=118,slow=7.3,SNR=50							
FITZ	**Fitzroy Crossi**	**51.88**	**273**	*e*P		**P**	**16 14 29.3**	**-0.3**
	6.3nm,1.5s,mb4.3							
VNA3	**Neumayer Olymp**	**74.63**	**176**	*e*		**P**	**16 17 00.5**	**+0.1**
VNA3				*e*			16 17 02.3	
VNA3				*e*			16 17 05.4	
VNA3				*e*			16 17 11.1	
VNA2	**Neumayer--Watz**	**75.06**	**177**	*e*		**P**	**16 17 03.2**	**+0.3**
VNA2				*e*			16 17 05.5	
VNA2				*e*			16 17 13.4	
VNA2				*e*			16 17 17.5	
PSI	**Prapat**	**85.27**	**277**	LR	LR		16 56 37.0	
	comp=Z,59nm,21.3s,MS4.0,baz=207,slow=36							
KAF	**Kangasniemi**	**147.83**	**338**	*e*p		PKPdf	16 25 04.6	+1.3
	2.4nm,0.5s							
FIA1	**FINESS Array S**	**148.40**	**337**	*e*PKPbc		PKPbc	16 25 06.0	-1.7
FINES	**FINESS Array S**	**148.40**	**337**	PKPbc		PKPbc	16 25 06.2	-1.5
	3.0nm,0.6s,baz=45,slow=4.2,SNR=14							
MMAI	**Mount Meron Ar**	**151.66**	**277**	PKPbc		PKPbc	16 25 16.4	+0.8
	0.3nm,0.3s,baz=100,slow=1.2,SNR=3.4							
NB2	**NORSAR Subarra**	**152.32**	**350**	PKP		PKPbc	16 25 17.8	+0.6
	comp=Z,0.8nm,0.6s,baz=8.1,slow=3.7							
NOA	**NORSAR Array B**	**152.32**	**350**	PKPbc		PKPbc	16 25 17.6	+0.4
	comp=Z,1.0nm,0.6s,baz=18,slow=4.2,SNR=3.7							
BRTR	**Keskin Array B**	**153.66**	**292**	PKPbc		PKPbc	16 25 19.8	-0.3
	comp=Z,0.5nm,0.7s,baz=120,slow=3.1,SNR=3.1							
BRTR				PKPab		PKPab	16 25 30.9	-1.8
	comp=Z,0.8nm,0.8s,baz=318,slow=7.2,SNR=4.7							
AKASG	**Malin Array Be**	**153.79**	**318**	PKPbc		PKPbc	16 25 19.5	-0.9
	comp=Z,0.1nm,0.2s,baz=54,slow=2.5,SNR=4.1							
AKASG	**Malin Array Be**	**153.79**	**318**	PKPbc		PKPbc	16 25 19.5	-0.9

BJI ***27*** *16:56:00.6,5448N×164.41W,h31km,mB5.1,mb5.0,Ms4.9, Msz4.3*

ISCJB ***27*** *16:56:02.6±0.1,5420N±003×164.19W±003,h47km, mb4.9/124,MS4.0/28,Error ellipse: s-maj=4.6km s-min=2.3km az=18.2*

NEIC ***27*** *16:56:03.4±0.2,5405N×164.11W,mb4.9/72,ML4.6(AEIC), ML5.1(PMR),Error ellipse: s-maj=4.9km s-min=2.8km az=166.0*

IDC ***27*** *16:56:03.0±2.5,5412N×164.15W,h42km±22km,mb4.4/26, mb1 4.6/27,mb1mx4.5/31,mbtmp4.4/27,ML4.3/1,MS3.9/17, Ms1 3.9/17,ms1mx3.6/50,Error ellipse: s-maj=15.4km s-min=10.8km az=176.0*

MOS ***27*** *16:56:04.4±0.6,5486N×164.54W,h30km,mb5.2/20, MS4.0/4,Error ellipse: s-maj=28.9km s-min=6.7km az=97.7*

SZGRF ***27*** *16:56:06.4,5457N×162.91W,h33km,mb5.0,Alaska Peninsula, United States*

ISC 27 16:56:04.3±0.1,5426N±003×16423W±003,h49km, h49km±2.0km:pP-P,n414,σ0.78/409,mb4.9/124,MS4.0/28, 63C-57D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.76**	**38**	P		**Pn**	**16 56 20.0**	**+1.2**
FALS				S		**Sn**	**16 56 33.5**	**+4.1**
AKUT	**Akutan**	**0.92**	**263**	P		**Pn**	**16 56 21.1**	**+0.2**
AKUT				S		**Sn**	**16 56 35.0**	**+2.0**
AKLV	**Akutan Long Va**	**1.02**	**265**	P		**Pn**	**16 56 22.6**	**+0.3**
AKLV				S		**Sn**	**16 56 37.3**	**+1.8**
UNV	**Unalaska Valle**	**1.41**	**254**	P		**Pn**	**16 56 26.9**	**-0.5**
UNV				S		**Sn**	**16 56 44.9**	**0.0**
SDPT	**Sand Point**	**2.43**	**62**	P		**Pn**	**16 56 41.9**	**+0.4**
OKCD	**Okmok Cone D**	**2.45**	**252**	P		**Pn**	**16 56 42.3**	**+0.5**
OKCE	**Okmok Cone E**	**2.48**	**252**	P		**Pn**	**16 56 42.4**	**+0.2**
CHGN	**Chignik**	**3.90**	**56**	P		**Pn**	**16 57 02.8**	**+1.1**
SPIA	**Saint Paul Isl**	**4.49**	**313**	P		**Pn**	**16 57 13.3**	**+3.6**
ATKA	**Atka Island**	**6.33**	**255**	P		**Pn**	**16 57 34.9**	**-0.1**
KDAK	**Kodiak Island**	**7.42**	**57**	P		**Pn**	**16 57 48.8**	**-1.1**
	4.9nm,0.3s,baz=286,slow=19,SNR=52							
KDAK				S		**Sn**	**16 59 08.2**	**-4.5**
	4.0nm,0.3s,baz=198,slow=22,SNR=3.7							
KDAK	**Kodiak Island**	**7.42**	**57**	P		**Pn**	**16 57 49.0**	**-0.9**
SVW2	**Sparrevohn**	**8.27**	**31**	*e*P		**Pn**	**16 58 05.1**	**+3.5**
SLKM	**Skilak Lake**	**9.80**	**45**	P		**Pn**	**16 58 23.2**	**+0.6**
AMKA	**Amchitka**	**10.38**	**261**	*e*P		**Pn**	**16 58 29.7**	**-0.8**
PMR	**Palmer**	**10.86**	**41**	*e*P		**Pn**	**16 58 38.5**	**+1.5**
	1.1nm,0.6s							
SML	**Sawmill**	**11.29**	**42**	*e*P		**Pn**	**16 58 41.0**	**-2.0**
EYAK	**Cordova Ski Ar**	**11.76**	**50**	*e*P		**Pn**	**16 58 47.4**	**-2.0**
DIV	**Divide**	**12.00**	**48**	*e*P		**Pn**	**16 58 51.2**	**-1.4**
	112nm,0.4s							
MCK	**McKinley**	**12.30**	**33**	*e*P		**Pn**	**16 58 59.3**	**+2.5**
	25nm,1.0s							
IMA2	**Indian Mountai**	**12.93**	**19**	*e*P		**Pn**	**16 59 09.3**	**+4.0**
COLA	**College**	**13.44**	**31**	*e*P		**Pn**	**16 59 09.8**	**-2.5**
COLA	**College**	**13.44**	**31**	*e*P		**Pn**	**16 59 11.9**	**-0.4**
	22nm,0.8s							
EGAK	**Eagle**	**15.64**	**39**	*e*P		**Pn**	**16 59 41.9**	**+0.6**
	35nm,0.6s							
DAWY	**Dawson**	**15.96**	**42**	*e*P		**Pn**	**16 59 44.7**	**-0.8**
SKAG	**Skagway**	**16.55**	**60**	*e*P		**Pn**	**16 59 53.3**	**+0.4**
DLBC	**Dease Lake**	**19.27**	**64**	P		**Pn**	**17 00 25.8**	**-0.4**
BILL	**Bilibino**	**19.54**	**326**	*e*P		**Pn**	**17 00 25.5**	**-3.9**
BILL				pmax		pmax		
	comp=Z,32nm,1.4s							
BILL	**Bilibino**	**19.54**	**326**	*e*P		**Pn**	**17 00 31.1**	**+1.7**
	comp=Z,88nm,1.5s							
INK	**Inuvik**	**20.07**	**34**	P		**P**	**17 00 31.7**	**-1.7**
	comp=Z,7.0nm,0.3s,baz=224,slow=12,SNR=27							
INK				PcP		PcP	17 04 46.1	-1.3
	comp=Z,4.7nm,0.6s,baz=211,slow=1.7,SNR=5.1							
INK				LR		LR	17 09 09.8	
	comp=Z,324nm,18.1s,MS3.7,baz=360,slow=39							
INK	**Inuvik**	**20.07**	**34**	*e*P		**P**	**17 00 31.5**	**-2.0**
	comp=Z,850nm,0.6s							
YKA	**Yellowknife Ar**	**26.66**	**52**	P		**P**	**17 01 38.6**	**+0.2**
	comp=Z,7.9nm,0.6s,mb4.4,baz=273,slow=9.2,SNR=82							
YKA				PcP		PcP	17 04 59.7	-1.5
	comp=Z,1.3nm,0.7s,baz=271,slow=2.5,SNR=3.7							
YKA				LR		LR	17 13 01.3	
	comp=Z,176nm,19.9s,MS3.6,baz=210,slow=38							
YKA	**Yellowknife Ar**	**26.66**	**52**	P		**P**	**17 01 38.6**	**+0.2**
YKA				PcP		PcP	17 04 59.7	-1.5
YKA				LR		LR	17 13 01.3	
B08A	**Colville Reser**	**28.29**	**83**	⇓P		**P**	**17 01 51.8**	**-1.2**
	baz=28							
J04A	**Umpqua Nationa**	**29.45**	**94**	⇓P		**P**	**17 02 03.7**	**+0.4**
	baz=29							
H06A	**Lindquist Farm**	**29.61**	**91**	⇓P		**P**	**17 02 05.2**	**+0.4**
	baz=29							
NEW	**Newport**	**29.62**	**82**	P		**P**	**17 02 03.9**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.2,baz=294,slow=8.1,SNR=5.3							
NEW				LR		LR	17 12 39.8	
	comp=Z,109nm,18.7s,MS3.5,baz=285,slow=34							
NEW	**Newport**	**29.62**	**82**	P		**P**	**17 02 03.9**	**-0.9**
NEW				LR		LR	17 12 39.8	
E09A	**Wood Farm, Sta**	**29.92**	**86**	⇓P		**P**	**17 02 07.6**	**+0.1**
	baz=30							
F08A	**Pendleton**	**29.94**	**88**	⇑P		**P**	**17 02 07.5**	**-0.1**
	baz=30							
YBH	**Yreka Blue Hor**	**30.02**	**97**	P		**P**	**17 02 09.0**	**+0.6**
	comp=Z,3.7nm,0.8s,mb4.2,baz=275,slow=6.8,SNR=4.5							
YBH				LR		LR	17 10 58.4	
	comp=Z,344nm,21.1s,MS4.0,baz=315,slow=30							
YBH	**Yreka Blue Hor**	**30.02**	**97**	⇓P		**P**	**17 02 09.0**	**+0.6**
	baz=30							
I06A	**Prineville**	**30.14**	**92**	⇑P		**P**	**17 02 10.1**	**+0.7**
	baz=30							
L04A	**Klamath Falls**	**30.22**	**96**	⇑P		**P**	**17 02 10.7**	**+0.5**
	baz=30							
I07A	**Izee**	**30.48**	**91**	⇑P		**P**	**17 02 13.1**	**+0.7**
	baz=30							
F09A	**S2 Ranch, Elgi**	**30.49**	**87**	⇓P		**P**	**17 02 12.8**	**+0.2**
	baz=30							
M04C	**Macdoel**	**30.50**	**97**	⇑P		**P**	**17 02 13.1**	**+0.5**
	baz=30							
E10A	**Myers Farm, Un**	**30.54**	**85**	⇓P		**P**	**17 02 12.9**	**0.0**
	baz=30							
J06A	**Christmas Vall**	**30.59**	**93**	P		**P**	**17 02 13.9**	**+0.6**
	baz=30,SNR=6.5							
F10A	**Beach Ranch, E**	**30.75**	**86**	⇑P		**P**	**17 02 14.7**	**-0.1**
	baz=31							
K06A	**Valley Falls**	**30.80**	**94**	⇓P		**P**	**17 02 15.6**	**+0.3**
	baz=31							
B13A	**Whitefish**	**31.10**	**80**	⇓P		**P**	**17 02 18.2**	**+0.3**
	baz=31							
I08A	**Drewsey**	**31.12**	**90**	⇓P		**P**	**17 02 18.8**	**+0.7**
	baz=31							
E11A	**Bogner Ranch,**	**31.14**	**85**	⇓P		**P**	**17 02 18.3**	**+0.1**
	baz=31							
M05C	**Lookout**	**31.17**	**97**	⇓P		**P**	**17 02 18.7**	**+0.2**
	baz=31							
H09A	**Durkee**	**31.22**	**88**	⇑P		**P**	**17 02 19.3**	**+0.3**
	baz=31							
MOD	**Modoc**	**31.32**	**95**	*e*P		**P**	**17 02 19.9**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.5							
MOD	**Modoc**	**31.32**	**95**	P		**P**	**17 02 20.4**	**+0.5**
	baz=31,SNR=5.9							
C13A	**Hot Springs**	**31.39**	**81**	⇓P		**P**	**17 02 20.3**	**-0.2**
	baz=31							
F11A	**Grangeville**	**31.42**	**85**	⇓P		**P**	**17 02 20.4**	**-0.4**
	baz=31							
K07A	**Rock Creek Ran**	**31.45**	**93**	⇓P		**P**	**17 02 21.8**	**+0.8**
	baz=31							
J08A	**Circle Bar Ran**	**31.50**	**91**	⇑P		**P**	**17 02 21.5**	**+0.1**
	baz=31							
I09A	**Lost Marbles R**	**31.57**	**90**	⇓P		**P**	**17 02 22.3**	**+0.3**
	baz=31							
M06C	**Likely Place G**	**31.66**	**96**	⇓P		**P**	**17 02 22.3**	**-0.5**
	baz=32							
H10A	**Noah's Angus R**	**31.80**	**88**	P		**P**	**17 02 24.1**	**0.0**
	baz=32,SNR=6.9							
L07A	**Adell**	**31.81**	**94**	P		**P**	**17 02 24.9**	**+0.7**
	baz=32,SNR=6.2							
K08A	**Mann Creek Ran**	**31.87**	**92**	P		**P**	**17 02 25.1**	**+0.4**
	baz=32,SNR=6.1							
H11A	**Donnelly**	**32.17**	**87**	⇑P		**P**	**17 02 27.2**	**-0.1**
	baz=32							
O05C	**Quincy**	**32.20**	**98**	⇑P		**P**	**17 02 27.9**	**+0.3**
	baz=32							
L08A	**Fields**	**32.29**	**93**	P		**P**	**17 02 28.7**	**+0.3**
	baz=32,SNR=7.0							
M07A	**Soldier Meadow**	**32.30**	**95**	P		**P**	**17 02 29.1**	**+0.7**
	baz=32,SNR=11							
N06A	**Buffalo Meadow**	**32.32**	**96**	P		**P**	**17 02 29.1**	**+0.5**
	baz=32,SNR=6.9							
D14A	**Greenough**	**32.32**	**82**	⇓P		**P**	**17 02 28.9**	**+0.2**
	baz=32							
K09A	**Rome**	**32.34**	**92**	⇑P		**P**	**17 02 28.4**	**-0.4**
	baz=32							
F13A	**Darby**	**32.54**	**84**	⇑P		**P**	**17 02 31.0**	**+0.4**
	baz=32							
CHMT	**Chamberlain Mo**	**32.56**	**82**	*e*P		**P**	**17 02 29.9**	**-0.8**
BEKR	**Beckwourth**	**32.59**	**98**	⇑P		**P**	**17 02 31.4**	**+0.5**
	baz=32							
O06A	**Flanigan**	**32.70**	**97**	⇑P		**P**	**17 02 32.6**	**+0.6**
	baz=32							
M08A	**Happy Creek Ra**	**32.73**	**94**	⇑P		**P**	**17 02 32.9**	**+0.7**
	baz=32							
TIXI	**Tiksi**	**32.76**	**327**	⇓*i*P		**P**	**17 02 31.9**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
TIXI				MLR		MLR		
	comp=Z,264nm,17.0s,MS4.0							
TIXI	**Tiksi**	**32.76**	**327**	*e*P		**P**	**17 02 32.4**	**0.0**
	comp=Z,7.0nm,0.6s,mb4.8							
L09A	**Wilkinson Ranc**	**32.79**	**93**	⇑P		**P**	**17 02 33.3**	**+0.6**
	baz=33							
N07B	**Gerlach**	**32.80**	**95**	P		**P**	**17 02 33.5**	**+0.7**
	baz=33,SNR=7.7							
LAVA	**Lava Cap Winer**	**33.10**	**100**	⇓P		**P**	**17 02 36.0**	**+0.6**
	baz=33							
E15A	**Deer Lodge**	**33.18**	**82**	⇓P		**P**	**17 02 36.0**	**-0.1**
	baz=33							
O07A	**Toulon**	**33.26**	**96**	P		**P**	**17 02 37.6**	**+0.8**
	baz=33,SNR=7.3							
M09A	**Marrel Ranch,**	**33.29**	**93**	⇓P		**P**	**17 02 37.2**	**+0.1**
	baz=33							
N08A	**GE Springer Mi**	**33.29**	**95**	P		**P**	**17 02 37.3**	**+0.2**
	baz=33,SNR=6.8							
WCN	**Washoe City**	**33.31**	**98**	⇑P		**P**	**17 02 38.2**	**+0.9**
	baz=33							
R05C	**Kirkwood Meado**	**33.52**	**99**	⇓P		**P**	**17 02 39.6**	**+0.4**
	baz=33							
N09A	**Rock Creek Ran**	**33.60**	**94**	⇑P		**P**	**17 02 39.7**	**-0.2**
	baz=33							
M10A	**I.L. Ranch, Tu**	**33.76**	**92**	⇑P		**P**	**17 02 41.3**	**+0.1**
	baz=34							
MCMT	**McKenzie Canyo**	**33.95**	**85**	*e*P		**P**	**17 02 42.4**	**-0.4**
G15A	**Dillon**	**33.97**	**84**	⇑P		**P**	**17 02 42.9**	**-0.1**
	baz=34							
R06C	**Coleville**	**34.01**	**99**	⇑P		**P**	**17 02 43.8**	**+0.4**
	baz=34							
O09A	**Fish Creek Ran**	**34.24**	**95**	⇓P		**P**	**17 02 45.9**	**+0.5**
	baz=34							
YAK	**Yakutsk**	**34.29**	**310**	*e*P		**P**	**17 02 44.8**	**-1.0**
YAK				*e*			17 05 19.8	
YAK				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.9							
YAK				pmax		pmax		
	comp=N,4.0nm,1.4s							
YAK				pmax		pmax		
	comp=E,13nm,1.6s							
YAK				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
YAK				pmax		pmax		
	comp=N,5.0nm,1.8s							
YAK				pmax		pmax		
	comp=E,2.0nm,1.1s							
YAK				MLR		MLR		
	comp=Z,330nm,18.0s,MS4.1							
YAK				MLR		MLR		
	comp=N,136nm,19.0s,MS4.0							
YAK				MLR		MLR		
	comp=E,282nm,20.0s,MS4.0							
YAK	**Yakutsk**	**34.29**	**310**	*e*P		**P**	**17 02 44.2**	**-1.5**
	comp=E,15nm,0.9s,mb4.9							
O10A	**Cortez Mining,**	**34.56**	**94**	⇓P		**P**	**17 02 48.5**	**+0.4**
	baz=34							
Q08A	**Gabbs**	**34.66**	**97**	⇑P		**P**	**17 02 49.3**	**+0.3**
	baz=34							
P09A	**Austin**	**34.67**	**95**	⇑P		**P**	**17 02 49.9**	**+0.8**
	baz=34							
NVAR	**Mina Array Bea**	**34.73**	**98**	P		**P**	**17 02 49.9**	**+0.3**
	comp=E,6.4nm,0.7s,mb4.7							
M12A	**Wells**	**34.78**	**91**	⇓P		**P**	**17 02 50.6**	**+0.6**
	baz=35							
T06C	**Millerton Lake**	**34.89**	**101**	⇓P		**P**	**17 02 51.2**	**+0.2**
	baz=35							
KCC	**Kaiser Creek**	**34.90**	**100**	⇓P		**P**	**17 02 51.9**	**+0.9**
	baz=35							
R08A	**Mina**	**34.90**	**98**	⇑P		**P**	**17 02 51.4**	**+0.3**
	baz=35							
P10A	**Eureka**	**35.02**	**95**	⇑P		**P**	**17 02 52.6**	**+0.5**
	baz=35							
N12A	**Clover Valley,**	**35.06**	**92**	⇑P		**P**	**17 02 52.9**	**+0.5**
	baz=35							
Q09A	**Carvers**	**35.12**	**96**	⇓P		**P**	**17 02 54.0**	**+1.1**
	baz=35							
O11A	**Cowboy Ranch,**	**35.16**	**93**	⇑P		**P**	**17 02 53.9**	**+0.6**
	baz=35							
M13A	**Montello**	**35.25**	**91**	⇓P		**P**	**17 02 54.3**	**+0.2**
	baz=35							
R09A	**Tonopah**	**35.58**	**97**	P		**P**	**17 02 57.0**	**+0.1**
	baz=35,SNR=13							
O12A	**Currie**	**35.60**	**92**	P		**P**	**17 02 57.2**	**+0.1**
	baz=35,SNR=7.1							
TIN	**Tinemaha**	**35.71**	**100**	⇑P		**P**	**17 02 58.5**	**+0.4**
	baz=36							
S09A	**Goldfield**	**35.84**	**98**	⇓P		**P**	**17 02 59.3**	**+0.2**
	baz=36							
Q11A	**Duckwater**	**36.00**	**95**	P		**P**	**17 03 00.6**	**0.0**
	baz=36,SNR=5.8							
P12A	**McGill**	**36.02**	**94**	P		**P**	**17 03 00.9**	**+0.2**
	baz=36,SNR=5.8							
VES	**Vestal, Richgr**	**36.07**	**102**	⇓P		**P**	**17 03 01.3**	**+0.2**
	baz=36							
GRAC	**Grapevine Rang**	**36.25**	**99**	⇓P		**P**	**17 03 03.3**	**+0.6**
	baz=36							
Q12A	**Willow Creek R**	**36.35**	**94**	⇑P		**P**	**17 03 03.9**	**+0.4**
	baz=36							
ISA	**Isabella**	**36.54**	**102**	⇑P		**P**	**17 03 05.1**	**0.0**
	baz=36							
DAC	**Darwin (Calif)**	**36.62**	**100**	*e*P		**P**	**17 03 04.5**	**-1.3**
	comp=E,5.5nm,0.6s,mb4.6							
MPMC	**Manual Prospec**	**36.83**	**100**	⇓P		**P**	**17 03 08.2**	**+0.6**
	baz=37							
FURC	**Furnace Creek,**	**36.91**	**99**	⇓P		**P**	**17 03 08.7**	**+0.5**
	baz=37							
PDAR	**Pinedale Array**	**37.09**	**85**	P		**P**	**17 03 09.0**	**-0.8**
	comp=E,1.1nm,0.7s,baz=311,slow=4.0,SNR=8.5							
OSI	**Osito Adit**	**37.15**	**103**	⇓P		**P**	**17 03 10.8**	**+0.6**
	baz=37							
BLG	**Laguna Peak**	**37.32**	**104**	⇑P		**P**	**17 03 12.4**	**+0.7**
	baz=37							
SNCC	**San Nicolas Is**	**37.69**	**105**	⇑P		**P**	**17 03 15.4**	**+0.5**
	baz=38							
GSC	**Goldstone**	**37.76**	**100**	P		**P**	**17 03 15.3**	**-0.2**
GSC	**Goldstone**	**37.76**	**100**	⇓P		**P**	**17 03 15.9**	**+0.5**
	baz=38							
BFSC	**Mount Baldy St**	**38.03**	**102**	⇑P		**P**	**17 03 18.3**	**+0.6**
	baz=38							
TUQ	**Turquoise Mtn.**	**38.17**	**99**	⇑P		**P**	**17 03 19.0**	**0.0**
	baz=38							
V11A	**Goodsprings**	**38.18**	**99**	⇑P		**P**	**17 03 19.8**	**+0.8**
	baz=38							
U12A	**Valley of Fire**	**38.28**	**97**	⇓P		**P**	**17 03 20.6**	**+0.7**
	baz=38							
V12A	**Nelson**	**38.59**	**98**	⇓P		**P**	**17 03 22.5**	**+0.1**
	baz=38							
GMRC	**Granite Mounta**	**38.79**	**100**	⇑P		**P**	**17 03 24.7**	**+0.6**
	baz=39							
RSSD	**Black Hills**	**39.48**	**79**	*e*P		**P**	**17 03 28.4**	**-1.5**
	comp=E,7.8nm,0.8s,mb4.5							
IRM	**Iron Mountain**	**39.53**	**100**	⇓P		**P**	**17 03 30.1**	**-0.2**
	baz=39,SNR=5.4							
W13A	**Hualapai Mount**	**39.59**	**98**	⇓P		**P**	**17 03 30.8**	**-0.1**
	baz=39,SNR=5.3							
BC3	**Big Chuckw Mtn**	**39.72**	**101**	⇓P		**P**	**17 03 32.2**	**+0.3**
	baz=40							
W14A	**Seligman**	**39.98**	**97**	⇓P		**P**	**17 03 34.6**	**+0.6**
	baz=40							
X13A	**Yucca**	**39.98**	**98**	⇓P		**P**	**17 03 33.6**	**-0.5**
	baz=40							
PDMCI	**Parker Dam,Lak**	**40.01**	**99**	⇓P		**P**	**17 03 34.4**	**+0.1**
	baz=40							
Y12C	**Blythe**	**40.18**	**100**	⇓P		**P**	**17 03 35.7**	**-0.1**
	baz=40							
W15A	**Williams**	**40.48**	**96**	⇓P		**P**	**17 03 38.8**	**+0.6**
	baz=40							
GLA	**Glamis**	**40.51**	**101**	⇓P		**P**	**17 03 38.2**	**-0.2**
	baz=40							
ULM	**Lac du Bonnet**	**40.55**	**67**	P		**P**	**17 03 37.8**	**-0.9**
	comp=E,6.6nm,0.8s,mb4.3,baz=313,slow=8.9,SNR=7.4							
ULM				LR		LR	17 19 11.6	
	comp=E,115nm,18.3s,MS3.8,baz=349,slow=34							
ULM	**Lac du Bonnet**	**40.55**	**67**	*e*P		**P**	**17 03 37.3**	**-1.4**
	comp=E,7.4nm,0.8s,mb4.4							
X14A	**Yava**	**40.62**	**98**	⇑P		**P**	**17 03 39.6**	**+0.3**
	baz=40							
WUAZ	**Wupatki**	**40.77**	**95**	⇑P		**P**	**17 03 40.5**	**0.0**
	baz=41							
Y14A	**Wickenburg**	**40.93**	**98**	⇑P		**P**	**17 03 41.6**	**-0.3**
	baz=41							
X15A	**Humboldt**	**40.99**	**97**	⇑P		**P**	**17 03 42.3**	**0.0**
	baz=41							
AGMN	**Agassiz Refuge**	**41.65**	**69**	*e*P		**P**	**17 03 46.3**	**-1.4**
	comp=E,12nm,0.8s,mb4.6							
MDJ	**Mudanjiang**	**42.61**	**285**	P		**P**	**17 03 54.3**	**-1.3**
MDJ				AP		pP	17 04 05.3	-3.4
MDJ				XP		sP	17 04 10.0	-4.5
MDJ				PCP		PcP	17 05 46.0	-1.1
MDJ				SCP		ScP	17 09 33.3	-0.4
MDJ				S		**S**	**17 10 17.8**	**+2.9**
MDJ				XS		sS	17 10 33.8	-3.2
MDJ				AMB		AMB		
	comp=Z,136nm,4.5s							
MDJ				LR		LR		
	comp=Z,97nm,25.2s,MS3.6							
MJAR	**Matsushiro Arr**	**42.82**	**270**	P		**P**	**17 03 56.5**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.2,baz=35,slow=7.1,SNR=6.9							
MJAR				PcP		PcP	17 05 47.2	-0.5
	comp=Z,4.7nm,1.1s,baz=32

comp=N,239nm,14.5s,MS4.5
HHC LR LR
comp=E,189nm,18.0s,MS4.5
HHC LR LR
comp=Z,182nm,15.9s,MS4.2
NCB Newcomb 55.93 61 *e*P **P** **17 05 35.8 -1.5**
comp=Z,7.6nm,0.6s,mb4.9
KEV Kevo 56.02 355 *e*p **P** **17 05 36.3 -1.7**
comp=Z,7.5nm,0.5s,mb5.0
KEV Kevo 56.02 355 *e*P **P** **17 05 36.3 -1.7**
KEV pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ARCES ARCESS Array B 56.31 356 P **P** **17 05 39.1 -0.9**
comp=Z,5.4nm,0.7s,mb4.7,baz=16,slow=7.6,SNR=55
ARCES PcP PcP 17 06 36.2 -0.6
comp=Z,7.3nm,0.7s,baz=358,slow=4.1,SNR=9.6
ARCES LR LR 17 32 17.7
comp=Z,171nm,19.7s,MS4.1,baz=150,slow=38
NJ2 Nanjing 57.29 281 *e*P **P** **17 05 49.5 +2.6**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.6
NVS Novosibirsk 57.96 321 *e*P **P** **17 05 51.4 -0.3**
ZAL Zalesovo 58.07 319 P **P** **17 05 53.4 +0.9**
comp=Z,2.8nm,0.3s,mb4.8,baz=58,slow=6.4,SNR=11
ZAL PcP PcP 17 06 43.8 0.0
comp=Z,4.7nm,0.5s,baz=67,slow=3.8,SNR=11
ZAL LR LR 17 34 26.5
comp=Z,150nm,18.4s,MS4.1,baz=264,slow=40
WES Weston 58.54 60 *e*P **P** **17 05 54.5 -1.3**
comp=Z,26nm,0.9s,mb5.2
WHN Wuhan 60.99 283 ⇑P **P** **17 06 11.5 -1.0**
XAN Xi'an 61.45 289 P **P** **17 06 14.8 -0.8**
XAN AP pP 17 06 20.8 -8.6
XAN AMB AMB
comp=Z,13nm,1.0s,mb5.0
SOKR Solikamsk 61.86 338 ⇓*i*P **P** **17 06 18.6 +0.2**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
GTA Gaotai 62.30 300 P **P** **17 06 21.0 -0.4**
GTA AP pP 17 06 35.8 +0.6
GTA PCP PcP 17 07 01.0 +0.3
GTA PP PP 17 08 42.0 +3.2
GTA SCP ScP 17 11 00.0 +1.4
GTA S **S** **17 14 43.3 -0.6**
GTA XS sS 17 15 05.0 -2.1
GTA SS SS 17 18 50.0 +2.1
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,49nm,3.8s
GTA LR LR
comp=N,128nm,16.7s,MS4.3
GTA LR LR
comp=E,109nm,17.1s,MS4.3
GTA LR LR
comp=Z,159nm,12.6s,MS4.4
LZH Lanzhou 62.69 294 *e*P **P** **17 06 24.3 +0.4**
LZH AP pP 17 06 37.0 -0.8
LZH XP sP 17 06 42.3 -1.1
LZH AMB AMB
comp=Z,19nm,1.3s,mb5.1
LZH Lanzhou 62.69 294 *e*P **P** **17 06 24.2 +0.3**
comp=Z,19nm,1.3s,mb5.1
LZH pP pP 17 06 37.1 -0.7
LZH sP sP 17 06 42.3 -1.1
KAF Kangasniemi 63.67 354 *e*p **P** **17 06 29.3 -1.2**
comp=Z,11nm,0.5s,mb5.2,baz=3.0,slow=6.3
KAF Kangasniemi 63.67 354 *e*P **P** **17 06 29.3 -1.2**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.1
BVA0 Borovoye Array 63.89 327 *i*P **P** **17 06 32.2 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 63.89 327 *e*P **P** **17 06 32.5 +0.5**
comp=Z,14nm,0.8s,mb5.0
VOSK Vostochnaya 63.95 326 P **P** **17 06 32.2 -0.1**
VOSK pmax pmax
comp=Z,19nm,1.3s,mb5.0
ARU Arti 64.27 335 ⇑*e*P **P** **17 06 34.5 +0.1**
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.3
ARU Arti 64.27 335 *e*P **P** **17 06 34.2 -0.2**
comp=Z,26nm,0.8s,mb5.3
FIA1 FINESS Array S 64.35 355 *e*P **P** **17 06 34.1 -0.9**
FINES FINESS Array B 64.36 355 P **P** **17 06 34.1 -0.8**
comp=Z,5.1nm,0.5s,mb4.8,baz=10,slow=7.9,SNR=40
FINES LR LR 17 34 45.4
comp=Z,97nm,19.4s,MS4.0,baz=337,slow=36
MK31 Makanchi Array 64.68 316 *e*P **P** **17 06 36.5 -0.6**
MKAR Makanchi Array 64.68 316 P **P** **17 06 36.3 -0.7**
comp=Z,2.1nm,0.3s,mb4.6,baz=44,slow=7.6,SNR=64
MKAR LR LR 17 34 34.3
comp=Z,165nm,19.9s,MS4.2,baz=15,slow=36
MKAR Makanchi Array 64.68 316 *e*P **P** **17 06 36.4 -0.6**
WMQ Urumqi 64.73 310 ⇑*i*P **P** **17 06 38.3 +0.9**
WMQ AP pP 17 06 51.8 +0.6
WMQ PCP PcP 17 07 10.8 +0.1
WMQ PP PP 17 09 03.5 +3.4
WMQ SCP 17 11 08.5
WMQ *e*S **S** **17 15 15.0 +0.9**
WMQ AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
WMQ AMB AMB
comp=Z,122nm,5.1s
WMQ LR LR
comp=N,126nm,19.3s,MS4.2
WMQ LR LR
comp=E,93nm,22.2s,MS4.2
WMQ LR LR
comp=Z,117nm,22.2s,MS4.0
NB2 NORSAR Subarra 64.99 2 P **P** **17 06 38.5 -0.6**
comp=Z,8.1nm,0.6s,mb4.9,baz=358,slow=6.2
NOA NORSAR Array B 64.99 2 P **P** **17 06 38.8 -0.3**
comp=Z,9.2nm,0.7s,mb4.9,baz=358,slow=6.5,SNR=22
NOA LR LR 17 33 01.9
comp=Z,25nm,19.6s,MS3.4,baz=265,slow=34
CD2 Chengdu 66.66 291 P **P** **17 06 50.0 +0.2**
CD2 AP pP 17 07 03.0 -0.8
CD2 PP PP 17 09 19.0 +2.0
CD2 S S 17 15 36.5 -1.2
CD2 XS sS 17 15 58.3 -2.8
CD2 SS SS 17 19 56.0 +0.2
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.7
CD2 AMB AMB
comp=Z,100nm,6.2s
CD2 LR LR
comp=N,210nm,15.6s,MS4.7
CD2 LR LR
comp=E,230nm,13.2s,MS4.7
CD2 LR LR
comp=Z,130nm,14.4s,MS4.3
AFI Afiamalu 68.20 188 LR LR 17 32 22.7
comp=Z,88nm,21.2s,MS4.0,baz=34,slow=32
GYA Guiyang 68.47 286 P **P** **17 07 01.5 +0.3**
GYA AP pP 17 07 17.0 +1.8
GYA PCP PcP 17 07 27.8 +1.6
GYA PP PP 17 09 36.0 +3.3
GYA SCP 17 11 26.0
GYA S S 17 15 59.0 -0.4
GYA SKS 17 16 53.3
GYA SS SS 17 20 25.0 +1.2
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,120nm,5.9s
GYA LR LR
comp=N,490nm,18.9s,MS4.9
GYA LR LR
comp=E,370nm,18.6s,MS4.9
GYA LR LR
comp=Z,450nm,19.0s,MS4.7
ORR Orenburg 69.59 335 *e*P **P** **17 07 08.7 +0.5**
ORR pmax pmax
comp=Z,50nm,1.0s,mb5.4
OBN Obninsk 69.66 347 ⇑*e*P **P** **17 07 08.1 -0.5**
OBN *e* 17 07 30.2
OBN pmax pmax
comp=Z,11nm,0.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
TGY Tagaytay City 69.82 266 P **P** **17 07 10.6 +1.0**
comp=Z,60nm,0.4s,baz=201,slow=14,SNR=4.8
AKTO Aktyubinsk 69.83 333 P **P** **17 07 09.9 +0.2**
AKTO pmax pmax
comp=Z,1.0nm,0.9s

HNR Honiara 70.27 218 LR LR 17 34 07.3
comp=Z,94nm,18.7s,MS4.1,baz=358,slow=32
AB31 Akbulak array 70.37 331 *e*P **P** **17 07 13.5 +0.5**
AB31 pmax pmax
comp=Z,12nm,0.7s,mb4.9
TKM2 Tokmak 2 70.56 318 P **P** **17 07 14.9 +0.7**
SNR=8.8
TKM2 Tokmak 2 70.56 318 P **P** **17 07 14.1 0.0**
TKM2 pmax pmax
comp=Z,21nm,1.4s,mb4.9
USP Ospenovka 70.70 319 P **P** **17 07 15.6 +0.6**
SNR=17
BSD Bornholm Skovb 70.99 1 *i*P **P** **17 07 16.5 -0.2**
comp=Z,3.2nm,0.4s,mb4.6
BSD Bornholm Skovb 70.99 1 *i*P **P** **17 07 16.5 -0.2**
BSD pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
FRU Bishkek 71.02 318 ⇑*i*P **P** **17 07 17.5 +0.6**
FRU pmax pmax
comp=Z,40nm,1.2s,mb5.2
KBK Karagaybulak 71.04 318 P **P** **17 07 18.0 +1.0**
SNR=10
AAK Ala-Archa 71.24 318 P **P** **17 07 18.9 +0.7**
SNR=21
AAK Ala-Archa 71.24 318 *e*P **P** **17 07 17.7 -0.6**
comp=Z,7.2nm,0.6s,mb4.8
KZA Kyzart 71.41 317 P **P** **17 07 20.8 +1.5**
SNR=6.9
EKS2 Erkin-Say 71.49 319 P **P** **17 07 20.7 +0.9**
SNR=21
UCH Uchtor 71.57 318 P **P** **17 07 21.6 +1.3**
SNR=6.2
KMI Kunming 71.71 288 P **P** **17 07 21.0 -0.1**
KMI AP pP 17 07 35.5 +0.3
KMI LR LR
comp=Z,93nm,24.7s,MS4.0
SUW Suwalki 71.92 355 *e*P **P** **17 07 21.5 -0.9**
AML Almayashu 71.98 318 P **P** **17 07 24.2 +1.5**
SNR=19
KKAR Karatay Array 72.35 321 *i*P **P** **17 07 24.9 0.0**
KKAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA Lhasa 74.32 299 P **P** **17 07 38.5 +2.0**
LSA Lhasa 74.32 299 *e*P **P** **17 07 37.6 +1.1**
comp=Z,26nm,0.8s,mb5.2
CLL Collm 74.78 2 ⇓*i*P **P** **17 07 39.2 0.0**
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 74.78 2 ⇓*i*P **P** **17 07 39.2 0.0**
comp=Z,10.0nm,1.0s,mb4.7
AKASG Malin Array Be 74.81 351 P **P** **17 07 38.6 -0.8**
comp=Z,5.0nm,0.7s,mb4.6,baz=8.9,slow=6.0,SNR=4.0
AKBB Malin Array Si 74.81 351 *e*P **P** **17 07 38.3 -1.0**
KIEV Kiev 74.81 351 *e*P **P** **17 07 38.4 -1.0**
comp=Z,20nm,0.8s,mb5.1
MEM Membach 75.18 6 P **P** **17 07 40.5 -1.0**
BRG Berggiesshubel 75.23 1 *e*P **P** **17 07 41.6 -0.2**
comp=Z,3.9nm,0.9s,mb4.3
BRG Berggiesshubel 75.23 1 *e*P **P** **17 07 41.6 -0.2**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BCLA Clavier 75.33 7 P **P** **17 07 42.5 +0.1**
MOX Moxa 75.41 3 *e*P **P** **17 07 42.9 +0.1**
PVCC Panska Ves 75.58 1 *e*P **P** **17 07 43.8 0.0**
DOU Dourbes 75.59 7 P **P** **17 07 44.1 +0.2**
BAIF Baives 75.60 8 *e*P **P** **17 07 44.0 +0.1**
comp=Z,7.6nm,0.5s,mb4.6
BAIF Baives 75.60 8 *e*P **P** **17 07 44.0 +0.1**
comp=Z,3.8nm,0.5s,mb4.6
GIVF Givet 75.61 7 *e*P **P** **17 07 44.0 +0.1**
UPC Upice 75.61 360 *e*P **P** **17 07 44.0 +0.1**
DPC Dobruska-Polom 75.76 360 *e*P **P** **17 07 45.2 +0.4**
OJC Ojcow 75.84 357 *e*P **P** **17 07 45.2 -0.1**
NKC Novy Kostel 75.84 2 *e*P **P** **17 07 45.4 +0.1**
NKC *ex* x 17 07 49.1
PRU Pruhonice 76.12 1 *e*P **P** **17 07 46.9 0.0**
PRU *ex* x 17 07 50.2
PRU Pruhonice 76.12 1 *e*P **P** **17 07 46.9 0.0**
PRU *e* 17 07 50.2
WLF Walferdange 76.14 6 P **P** **17 07 48.1 +1.1**
OKC Ostrava-Krasne 76.26 358 *e*P **P** **17 07 47.7 0.0**
KWP Kalwaria 76.32 355 *e*P **P** **17 07 48.5 +0.5**
KWP *e* 17 07 51.8
MORC Moravsky Berou 76.33 359 ⇑*i*P **P** **17 07 47.1 -0.9**
GRA1 Grafenberg Arr 76.35 3 *e*P **P** **17 07 48.5 +0.3**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 76.35 3 *e*P **P** **17 07 48.5 +0.3**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 76.35 3 *e*P **P** **17 07 48.5 +0.3**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
FLN La Foliniere 76.44 11 *e*P **P** **17 07 48.9 +0.2**
ROSF Rostrenen 76.52 13 *e*P **P** **17 07 49.0 -0.1**
STHS Stebnicka Huta 76.60 356 *i*P **P** **17 07 50.5 +0.9**
STHS pmax pmax
comp=Z,15nm,0.6s,mb5.1
STHS Stebnicka Huta 76.60 356 *i*P **P** **17 07 50.5 +0.9**
comp=Z,15nm,0.6s,mb5.1
LDF La Lutiere 76.65 11 *e*P **P** **17 07 49.9 0.0**
SGMF Saint Gilles 76.69 12 *e*P **P** **17 07 50.2 +0.1**
comp=Z,30nm,0.7s,mb5.0
SGMF Saint Gilles 76.69 12 *e*P **P** **17 07 50.2 +0.1**
comp=Z,15nm,0.7s,mb5.0
GRR Gorron 76.77 11 *e*P **P** **17 07 50.6 +0.1**
comp=Z,21nm,0.6s,mb4.9
GRR Gorron 76.77 11 *e*P **P** **17 07 50.6 +0.1**
comp=Z,10nm,0.6s,mb4.9
VRAC Vranov 76.81 359 ⇑*i*P **P** **17 07 51.2 +0.5**
VRAC Vranov 76.81 359 ⇑P **P** **17 07 51.2 +0.4**
QUIF Quistinic 76.95 13 *e*P **P** **17 07 51.7 +0.2**
KHC Kasperske Hory 76.97 1 *e*P **P** **17 07 52.1 +0.4**
KHC *ex* x 17 07 55.4
KHC Kasperske Hory 76.97 1 *e*P **P** **17 07 52.1 +0.4**
KHC *e* 17 07 55.4
KOLS Kolonicke sedl 77.04 356 *e*P **P** **17 07 52.4 +0.3**
GERES GERESS Array B 77.26 1 P **P** **17 07 53.6 +0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=3.0,slow=5.0,SNR=24
SHL Shillong 77.27 296 *e*P **P** **17 07 51.8 -1.6**
CDF Champ du Feu 77.45 6 *e*P **P** **17 07 54.4 0.0**
comp=Z,6.9nm,0.5s,mb4.6
CDF Champ du Feu 77.45 6 *e*P **P** **17 07 54.4 0.0**
comp=Z,3.5nm,0.4s,mb4.6
KECS Kecovo 77.56 357 *e*P **P** **17 07 55.3 +0.3**
KECS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KECS Kecovo 77.56 357 *e*P **P** **17 07 55.3 +0.3**
comp=Z,6.7nm,0.6s,mb4.8
VYHS Vyhne 77.59 358 *e*P **P** **17 07 55.4 +0.3**
VYHS pmax pmax
comp=Z,28nm,2.5s,mb4.8
VYHS Vyhne 77.59 358 *e*P **P** **17 07 55.4 +0.3**
comp=Z,28nm,2.5s,mb4.7
HAU Haudompre 77.80 6 *e*P **P** **17 07 56.4 +0.1**
comp=Z,12nm,0.6s,mb4.7
HAU Haudompre 77.80 6 *e*P **P** **17 07 56.4 +0.1**
comp=Z,5.9nm,0.6s,mb4.7
ZST Bratislava 77.92 359 *e*P **P** **17 07 57.8 +0.8**
ZST Bratislava 77.92 359 *e*P **P** **17 07 57.9 +0.9**
ZST pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZST Bratislava 77.92 359 *e*P **P** **17 07 57.9 +0.9**
comp=Z,7.7nm,0.6s,mb4.8
HINF Hinteralfeld 78.02 6 *e*P **P** **17 07 57.3 -0.2**
comp=Z,17nm,0.7s,mb4.8
HINF Hinteralfeld 78.02 6 *e*P **P** **17 07 57.3 -0.2**
comp=Z,8.4nm,0.7s,mb4.8
BURAR Bucovina Array 78.19 353 ⇑*i*P **P** **17 07 58.6 +0.1**
BURAR Bucovina Array 78.19 353 ⇑P **P** **17 07 58.6 +0.1**
HYF Humbligny 78.24 9 *e*P **P** **17 07 58.9 +0.2**
LOR Lormes 78.35 8 *e*P **P** **17 07 59.5 +0.2**
comp=Z,36nm,0.8s,mb5.0
LOR Lormes 78.35 8 *e*P **P** **17 07 59.5 +0.2**
comp=Z,18nm,0.8s,mb5.0
GUN Gumba 78.44 302 *e*P **P** **17 08 00.5 +0.6**
comp=Z,70nm,0.4s,mb5.9
JIRN Jiri 78.49 301 *e*P **P** **17 08 00.8 +0.6**
comp=Z,122nm,0.4s
SSF Saint Saulge 78.52 9 *e*P **P** **17 08 00.5 +0.2**
comp=Z,34nm,0.6s,mb5.2
SSF Saint Saulge 78.52 9 *e*P **P** **17 08 00.5 +0.2**
comp=Z,17nm,0.6s,mb5.2
MFF Saint Martin d 78.61 11 *e*P **P** **17 08 00.9 +0.1**
comp=Z,35nm,0.7s,mb5.1
MFF Saint Martin d 78.61 11 *e*P **P** **17 08 00.9 +0.1**
comp=Z,18nm,0.7s,mb5.1

AVF Avril sur Loir 78.78 9 *e*P **P** **17 08 01.8 +0.1**
comp=Z,30nm,0.6s,mb5.1
AVF Avril sur Loir 78.78 9 *e*P **P** **17 08 01.8 +0.1**
comp=Z,15nm,0.6s,mb5.1
KKN Kakani 78.84 302 *e*P **P** **17 08 02.2 +0.1**
comp=Z,15nm,0.3s,mb5.5
CHTO Chiang Mai 78.84 287 *e*P **P** **17 08 00.6 -1.5**
comp=Z,7.6nm,0.8s,mb4.7
PKI Pulchoki 78.96 302 *e*P **P** **17 08 02.9 +0.2**
comp=Z,36nm,0.6s,mb5.5
BGF Bois d'Agland 78.96 9 *e*P **P** **17 08 02.7 0.0**
comp=Z,17nm,0.7s,mb4.8
BGF Bois d'Agland 78.96 9 *e*P **P** **17 08 02.7 0.0**
comp=Z,8.4nm,0.7s,mb4.8
SMF Signal de Mont 78.96 8 *e*P **P** **17 08 02.7 0.0**
comp=Z,32nm,0.7s,mb5.1
SMF Signal de Mont 78.96 8 *e*P **P** **17 08 02.7 0.0**
comp=Z,16nm,0.7s,mb5.1
GKN Gorkha 78.98 303 *e*P **P** **17 08 02.7 -0.1**
comp=Z,73nm,0.8s,mb5.7
DMN Daman 79.08 302 *e*P **P** **17 08 03.7 +0.4**
comp=Z,60nm,0.7s,mb5.6
TCF Toulx Ste Croi 79.17 10 *e*P **P** **17 08 04.0 +0.1**
comp=Z,28nm,1.0s,mb4.9
TCF Toulx Ste Croi 79.17 10 *e*P **P** **17 08 04.0 +0.1**
comp=Z,14nm,1.0s,mb4.8
CABF La Chapelle 79.17 7 *e*P **P** **17 08 04.1 +0.2**
comp=Z,22nm,0.8s,mb4.9
CABF La Chapelle 79.17 7 *e*P **P** **17 08 04.1 +0.2**
comp=Z,11nm,0.8s,mb4.8
KIV Kislovodsk 79.50 341 *e*P **P** **17 08 06.5 +0.8**
KIV pmax pmax
comp=Z,20nm,0.6s,mb5.2
KIV Kislovodsk 79.50 341 *e*P **P** **17 08 06.5 +0.9**
comp=Z,20nm,0.7s,mb5.2
GROS Grobnik 79.66 0 *e*P **P** **17 08 06.8 +0.3**
KOLN Koldanda 79.68 303 *e*P **P** **17 08 06.7 0.0**
comp=Z,74nm,1.0s,mb5.6
VRI Vrincioaia 79.82 352 ⇑*i*P **P** **17 08 07.8 +0.4**
VRI Vrincioaia 79.82 352 ⇑P **P** **17 08 07.8 +0.4**
CADS Cadrg 79.88 1 *e*P **P** **17 08 07.3 -0.4**
PKSM Moragy 79.88 358 ⇓*i*P **P** **17 08 07.5 -0.2**
PKSM Moragy 79.88 358 ⇓P **P** **17 08 07.5 -0.2**
RJF Les Rejaudoux 80.07 10 *e*P **P** **17 08 08.6 -0.2**
DZM Mont Dzumac 80.10 207 LR LR 17 39 40.5
comp=Z,110nm,20.1s,MS4.2,baz=36,slow=33
MLR Muntele Rosu 80.25 353 ⇑*i*P **P** **17 08 11.0 +1.3**
MLR Muntele Rosu 80.25 353 ⇑P **P** **17 08 11.0 +1.3**
LPL La Plagne 80.30 6 *e*P **P** **17 08 10.4 +0.4**
LPG La Plagne 80.32 6 *e*P **P** **17 08 10.5 +0.4**
comp=Z,12nm,0.8s,mb4.6
LPG La Plagne 80.32 6 *e*P **P** **17 08 10.5 +0.4**
comp=Z,5.9nm,0.8s,mb4.6
LFF La Frestale 80.35 11 *e*P **P** **17 08 10.3 0.0**
comp=Z,34nm,0.6s,mb5.1
LFF La Frestale 80.35 11 *e*P **P** **17 08 10.3 0.0**
comp=Z,17nm,0.6s,mb5.2
BZS Buzias 80.38 356 ⇑*i*P **P** **17 08 10.4 0.0**
BZS Buzias 80.38 356 ⇑P **P** **17 08 10.4 0.0**
ZEI Tsey 80.39 339 *e*P **P** **17 08 10.9 +0.4**
ZEI *e**PP pP 17 08 18.4 -6.4
ZEI pmax pmax
comp=Z,15nm,0.9s,mb4.9
SOC Sochi 80.41 343 *c*i*P **P** **17 08 09.6 -1.0**
SOC *e*S S 17 18 13.8 +0.9
SOC *e*SSS 17 26 47.0
SOC pmax pmax
comp=Z,24nm,0.7s,mb5.2
CAF Calviac 80.50 10 *e*P **P** **17 08 11.0 -0.1**
BOJS Bojanci 80.61 0 *e*P **P** **17 08 11.8 +0.1**
VIVF Saint-Julien-l 80.81 8 *e*P **P** **17 08 12.8 +0.1**
comp=Z,19nm,0.6s,mb4.9
VIVF Saint-Julien-l 80.81 8 *e*P **P** **17 08 12.8 +0.1**
comp=Z,9.4nm,0.6s,mb4.9
ORIF Oris-en-Rattie 80.84 7 *e*P **P** **17 08 13.0 +0.1**
comp=Z,20nm,0.7s,mb4.9
ORIF Oris-en-Rattie 80.84 7 *e*P **P** **17 08 13.0 +0.1**
comp=Z,10nm,0.7s,mb4.9
TIRR Tirgusor 81.07 351 ⇑*i*P **P** **17 08 13.9 -0.2**
TIRR Tirgusor 81.07 351 ⇑P **P** **17 08 13.9 -0.2**
MBDF Montbardon 81.09 6 *e*P **P** **17 08 15.3 +1.1**
comp=Z,37nm,0.6s,mb5.2
MBDF Montbardon 81.09 6 *e*P **P** **17 08 15.3 +1.1**
comp=Z,19nm,0.6s,mb5.2
LASF Ste Croix 81.51 9 *e*P **P** **17 08 16.4 -0.1**
SMRF Simiane la Rot 81.75 7 *e*P **P** **17 08 17.8 +0.1**
comp=Z,19nm,0.7s,mb4.8
SMRF Simiane la Rot 81.75 7 *e*P **P** **17 08 17.8 +0.1**
comp=Z,19nm,0.7s,mb5.1
BOK Bokaro 81.83 300 *e*P **P** **17 08 17.9 -0.3**
BOK AMb AMB 17 08 19.9
comp=Z,14nm,0.4s,mb5.2
SJPF Ste Jean 81.92 12 *e*P **P** **17 08 18.5 -0.1**
NDI New Delhi 81.94 309 *e*P **P** **17 08 18.4 -0.3**
NDI AMb AMB 17 08 19.1
comp=Z,27nm,1.0s,mb5.2
DIVS Divcibare 81.95 357 *i*P **P** **17 08 19.0 +0.2**
SBF Sospel 82.00 6 *e*P **P** **17 08 19.0 0.0**
MTLF Montolieu 82.09 10 *e*P **P** **17 08 19.4 -0.1**
comp=Z,17nm,0.6s,mb4.8
MTLF Montolieu 82.09 10 *e*P **P** **17 08 19.4 -0.1**
comp=Z,8.7nm,0.6s,mb4.9
EPF Esparros 82.19 11 *e*P **P** **17 08 19.9 -0.1**
ETSF Etsaut 82.21 12 *e*P **P** **17 08 20.3 +0.2**
comp=Z,12nm,0.6s,mb4.7
ETSF Etsaut 82.21 12 *e*P **P** **17 08 20.3 +0.2**
comp=Z,5.8nm,0.6s,mb4.7
FRF La Foret Royal 82.25 7 *e*P **P** **17 08 20.1 -0.2**
comp=Z,21nm,0.8s,mb4.8
FRF La Foret Royal 82.25 7 *e*P **P** **17 08 20.1 -0.2**
comp=Z,10nm,0.8s,mb4.8
LMR La Mourre 82.46 7 *e*P **P** **17 08 21.3 -0.1**
GNI Garni 82.73 338 ⇑*e*P **P** **17 08 23.6 +0.8**
GNI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 82.73 338 *e*P **P** **17 08 22.6 -0.3**
comp=Z,14nm,0.8s,mb5.0
PGF Pioggiola 83.39 5 *e*P **P** **17 08 26.3 0.0**
comp=Z,37nm,0.7s,mb5.2
PGF Pioggiola 83.39 5 *e*P **P** **17 08 26.3 0.0**
comp=Z,18nm,0.7s,mb5.2
AQU L'Aquila 83.74 2 ⇓*i*P **P** **17 08 29.3 +1.3**
ESDC Sonseca Array 84.91 15 P **P** **17 08 34.6 +0.6**
comp=Z,4.7nm,0.6s,mb4.8,baz=350,slow=4.6,SNR=18
AJM Ajmer 85.00 310 *e*P **P** **17 08 33.8 -0.6**
AJM AMb AMB 17 08 35.1
comp=Z,26nm,1.0s,mb5.3
ANTO Ankara 85.11 347 ⇓*i*P **P** **17 08 36.2 +1.2**
ANTO Ankara 85.11 347 *e*P **P** **17 08 36.0 +1.1**
comp=Z,27nm,1.1s,mb5.3
BR131 Keskin Array S 85.14 346 *e*P **P** **17 08 35.6 +0.5**
comp=Z,12nm,0.8s,mb5.1
BRTR Keskin Array B 85.14 346 P **P** **17 08 35.7 +0.6**
comp=Z,11nm,0.8s,mb5.0,baz=41,slow=2.3,SNR=64
CTA Charters Tower 85.33 226 *e*P **P** **17 08 34.6 -1.4**
comp=Z,4.2nm,0.8s,mb4.6
CTA Charters Tower 85.33 226 P **P** **17 08 34.6 -1.5**
comp=Z,4.8nm,0.8s,mb4.7,baz=26,slow=11,SNR=4.2
KAKA Kakadu 85.42 241 *e*P **P** **17 08 35.3 -1.2**
comp=Z,23nm,0.8s,mb5.3
MALT Malatya 85.76 342 ⇑*i*P **P** **17 08 39.6 +1.4**
MALT Malatya 85.76 342 *e*P **P** **17 08 39.4 +1.2**
comp=Z,13nm,1.2s,mb5.0
KSM Kuching 86.16 267 *e*P **P** **17 08 39.5 -0.6**
BHPL Bhopal 86.48 306 *e*P **P** **17 08 41.2 -0.6**
VIS Vishakhapatnam 88.20 298 *e*P **P** **17 08 49.9 -0.1**
VIS AMb AMB 17 08 50.8
comp=Z,6.1nm,0.5s,mb5.1
AKL Akola 88.84 305 *e*P **P** **17 08 52.7 -0.3**
AKL AMb AMB 17 08 53.9
comp=Z,18nm,1.1s,mb5.3
WB2 Warramunga Arr 90.60 236 *e*P **P** **17 08 59.2 -2.1**
WRA Warramunga Arr 90.61 236 P **P** **17 08 59.3 -2.0**
comp=Z,3.2nm,0.9s,mb4.7,baz=34,slow=5.7,SNR=30
WRA PKiKP PKiKP 17 13 53.2 -2.3
comp=Z,0.4nm,0.6s,baz=354,slow=1.4,SNR=7.5
HYB Hyderabad 90.88 302 ⇑*i*P **P** **17 09 02.5 -0.1**
HYB Hyderabad 90.88 302 ⇑*e*P **P** **17 09 02.5 -0.1**
PSI Prapat 91.75 277 P **P** **17 09 06.4 -0.2**
comp=Z,4.7nm,0.7s,mb4.9,baz=334,slow=5.7,SNR=7.3
MIB Mutribah 91.95 333 *e*P **P** **17 09 07.6 0.0**
MIB AMb AMB 17 09 08.5
comp=Z,59nm,0.7s,mb6.0
NAY Al-Naaiem 92.50 333 *e*P **P** **17 09 09.8 -0.3**
NAY AMb AMB 17 09 10.9
comp=Z,10nm,0.8s,mb5.3

RDF	**Al-Radifah**	**92.73**	**332**	*e*P	**P**		**17 09 10.8**	**-0.4**
KAD	**Karad**	**93.11**	**305**	*ex*	x		17 08 06.8	
KAD				AMb	AMB		17 08 16.4	
	comp=Z,13nm,1.7s,mb5.1							
FITZ	**Fitzroy Crossi**	**93.47**	**244**	*e*P	**P**		**17 09 13.2**	**-1.3**
	comp=Z,7.8nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**93.47**	**244**	P	**P**		**17 09 13.2**	**-1.4**
	comp=Z,4.6nm,0.8s,mb5.0,baz=159,slow=7.1,SNR=9.2							
MDRS	**Chennai**	**93.70**	**298**	*e*P	**P**		**17 09 14.3**	**-1.3**
MDRS	**Chennai**	**93.70**	**298**	*ex*	x		17 09 44.3	
AS31	**Alice Springs**	**93.99**	**234**	*e*P	**P**		**17 09 15.3**	**-1.6**
ASAR	**Alice Springs**	**93.99**	**234**	P	**P**		**17 09 15.2**	**-1.7**
	comp=Z,2.5nm,0.8s,mb4.7,baz=30,slow=4.2,SNR=35							
ASAR				PKiKP	PKiKP		17 13 59.0	-2.3
	comp=Z,0.3nm,0.7s,baz=59,slow=1.2,SNR=8.0							
ASPA	**Alice Springs**	**93.99**	**234**	*e*P	**P**		**17 09 15.3**	**-1.6**
TORD	**Torodi Ar. Bea**	**111.80**	**15**	PKiKP	PKiKP		17 14 32.1	-1.5
	comp=Z,0.4nm,0.5s,baz=335,slow=2.6,SNR=3.6							
KMBO	**Kilima Mbogo**	**124.17**	**334**	PKP	PKPdf		17 14 58.2	+0.8
	comp=Z,1.6nm,0.7s,baz=62,slow=24,SNR=5.2							
KMBO	**Kilima Mbogo**	**124.17**	**334**	PKP	PKPdf		17 14 58.2	+0.8
TSUM	**Tsumeb**	**144.98**	**357**	*e*P	PKPdf		17 15 34.9	-1.1
LBTB	**Lobatse**	**149.89**	**342**	*e*PKPbc	PKPbc		17 15 49.1	+0.1
BOSA	**Boshof**	**153.46**	**341**	PKPbc	PKPbc		17 15 56.8	-0.4
	comp=Z,5.0nm,0.6s,baz=48,slow=5.1,SNR=7.0							
BOSA				PKPab	PKPab		17 16 09.0	-0.6
	comp=Z,8.9nm,0.7s,baz=5.4,slow=4.7,SNR=7.5							
MAW	**Mawson**	**154.29**	**220**	PKPbc	PKPbc		17 15 56.0	-2.9
	comp=Z,3.3nm,0.7s,baz=107,slow=4.7,SNR=5.3							
MAW				PKPab	PKPab		17 16 10.2	-2.9
	comp=Z,5.1nm,0.7s,baz=82,slow=6.8,SNR=7.4							
VNA3	**Neumayer Olymp**	**159.66**	**156**	*e*PKPdf	PKPdf		17 15 51.3	-6.2
VNA3				*e*			17 15 54.2	
VNA3				*e*			17 16 05.7	
VNA3				*e*			17 16 09.1	
VNA3				*e*			17 16 32.7	
VNA3				*e*			17 16 39.1	
VNA3				*e*			17 16 44.6	
VNA3				*e*			17 16 51.4	
VNA2	**Neumayer--Watz**	**160.41**	**157**	*e*PKPdf	PKPdf		17 15 52.4	-6.0
VNA2				*e*			17 15 55.2	
VNA2				*e*			17 16 07.5	
VNA2				*e*			17 16 12.0	
VNA2				*e*			17 16 35.0	
VNA2				*e*			17 16 47.3	
VNA2				*e*			17 16 52.5	
SNAA	**Sanae**	**160.75**	**162**	PKPab	PKPab		17 16 36.1	-4.9
	comp=Z,0.3nm,0.7s,baz=243,slow=11,SNR=5.8							

JMA 27 17:10:12.8±0.3, 4386N×14784E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.60**	**253**	P	Pn	17 10 42.4	+0.1
NEM2				*e*S	Sn	17 11 04.1	+0.4
JRA	**Rausu**	**1.97**	**273**	P	Pn	17 10 47.9	+0.5
JRA				*e*S	Sn	17 11 14.1	+1.4
JNK	**Nakash**	**2.28**	**264**	P	Pn	17 10 52.4	+0.7
JNK				*e*S	Sn	17 11 21.3	+0.9
JAK	**Akkeshi**	**2.45**	**250**	P	Pn	17 10 54.8	+0.8
JAR	**Ashorobuto**	**3.01**	**261**	P	Pn	17 11 03.5	+1.8
JOB	**Onbets**	**3.07**	**253**	P	Pn	17 11 04.1	+1.5
JMP	**Maruseppu**	**3.24**	**274**	P	Pn	17 11 06.3	+1.4
JCH	**Churui**	**3.50**	**251**	P	Pn	17 11 09.3	+0.8
JCH				*e*S	Sn	17 11 50.7	+0.1
JNBK	**Urakawa-nobuka**	**4.05**	**249**	P	Pn	17 11 17.5	+1.5

TEH **27** *17:22:43.4, 3202N×4973E, h17km, ML4.0*
NAO **27** *17:23:15.4, 3071N×4869E, h33km, mb4.0*
MOS **27** *17:23:20.8±1.0, 3210N×4963E, h33km, mb4.1/10, Error ellipse: s-maj=14.6km s-min=10.1km az=102.1*
CSEM **27** *17:23:21.1±0.1, 3202N×4969E, h35km, mb3.9/10, Error ellipse: s-maj=2.0km s-min=1.5km az=10.0*
NEIC **27** *17:23:21.0, 3200N×4976E, h32km, mb4.1/3, ML3.9(THR), MN4.0(TEH), After THR.*
THR **27** *17:23:21.1±1.0, 3199N×4976E, h31km±6km, ML3.9*
ISCJB **27** *17:23:22.5±0.3, 3201N±003×4978E±004, h58km±5km, mb4.0/14, Error ellipse: s-maj=5.4km s-min=4.7km az=69.9*
IDC **27** *17:23:23.6±3.2, 3214N×4969E, h41km±25km, mb3.8/13, mb1 3.9/16, mb1mx3.7/28, mbtmp3.8/16, ML4.0/3, Error ellipse: s-maj=34.3km s-min=16.2km az=161.0*
ISC 27 17:23:23.9±0.3, 3203N±003×4977E±004, h54km±5km, n98, σ1§03/107, mb4.0/14, 3C-3D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.82**	**276**	*e*Pg	**Pn**	**17 23 36.9**	**-2.6**
SHGR				AML	AML	17 23 53.6	
	comp=N,4μm,0.6s						
SHGR				AML	AML	17 23 58.6	
	comp=E,3μm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.82**	**276**	*e*Pg	**Pn**	**17 23 36.0**	**-3.4**
IPIR	**Pirpir**	**1.16**	**55**	*e*Pg	**Pn**	**17 23 40.5**	**-3.4**
IKLH	**Kalahroud**	**2.00**	**49**	*e*Pn	**Pn**	**17 23 56.0**	**+0.7**
IKLH				*e*Sn	**Sn**	**17 24 20.7**	**+1.5**
IKLH	**Kalahroud**	**2.00**	**49**	Pn	**Pn**	**17 23 55.9**	**+0.6**
IKLH				Sn	**Sn**	**17 24 20.6**	**+1.4**
IZEF	**Zefreh**	**2.33**	**68**	*e*Pn	**Pn**	**17 24 00.4**	**+0.5**
IZEF	**Zefreh**	**2.33**	**68**	Pn	**Pn**	**17 24 00.3**	**+0.4**
ASAO	**Ashtian**	**2.52**	**5**	*e*Pn	**Pn**	**17 24 03.5**	**+1.0**
ASAO				AML	AML	17 24 41.9	
	comp=N,420nm,0.5s						
ASAO				AML	AML	17 24 48.6	
	comp=E,574nm,0.5s						
NASN	**Na'in**	**2.69**	**73**	*e*Pn	**Pn**	**17 24 05.1**	**+0.4**
NASN				*e*Sg	**Sn**	**17 24 43.7**	**+7.7**
NASN	**Na'in**	**2.69**	**73**	*e*Pn	**Pn**	**17 24 05.0**	**+0.3**
NASN				*e*Sg	**Sn**	**17 24 43.0**	**+7.0**
UMR	**Umm Al-Rimmam**	**3.03**	**216**	*e*P	**Pn**	**17 24 10.5**	**+1.1**
UMR				AML	AML	17 24 50.5	
	comp=Z,223nm,0.4s						
MIB	**Mutribah**	**3.04**	**224**	*e*P	**Pn**	**17 24 10.7**	**+1.2**
MIB				AML	AML	17 24 57.1	
	comp=Z,239nm,0.5s						
ISFB	**Sefidab**	**3.11**	**41**	*e*Pn	**Pn**	**17 24 10.4**	**-0.1**
ISFB	**Sefidab**	**3.11**	**41**	Pn	**Pn**	**17 24 10.3**	**-0.2**
ISAD	**Sadrabad**	**3.33**	**91**	*e*Pn	**Pn**	**17 24 13.9**	**+0.3**
ISAD	**Sadrabad**	**3.33**	**91**	Pn	**Pn**	**17 24 13.8**	**+0.2**
KBD	**Kabd**	**3.36**	**213**	*e*P	**Pn**	**17 24 15.2**	**+1.3**
KBD				AML	AML	17 25 04.5	
	comp=Z,451nm,0.3s						
IRAZ	**Razeghan**	**3.37**	**2**	*e*Pn	**Pn**	**17 24 15.0**	**+0.9**
IVRN	**Varamin**	**3.39**	**28**	*e*Pn	**Pn**	**17 24 14.5**	**+0.2**
IVRN	**Varamin**	**3.39**	**28**	Pn	**Pn**	**17 24 14.4**	**+0.1**
IVIS	**Veys**	**3.49**	**316**	*e*Pn	**Pn**	**17 24 15.0**	**-0.7**
NAY	**Al-Naaiem**	**3.52**	**219**	*e*P	**Pn**	**17 24 17.4**	**+1.3**
NAY				AML	AML	17 25 09.5	
	comp=Z,95nm,0.4s						
IGHG	**Ghaleghazi**	**3.53**	**311**	*e*Pn	**Pn**	**17 24 15.8**	**-0.4**
IPAR	**Pars**	**3.56**	**127**	*e*Pn	**Pn**	**17 24 16.9**	**+0.2**
RDF	**Al-Radifah**	**3.63**	**212**	*e*P	**Pn**	**17 24 19.1**	**+1.4**
RDF				AML	AML	17 25 06.8	
	comp=Z,138nm,0.3s						
QRN	**Al-Qurain**	**3.64**	**206**	*e*P	**Pn**	**17 24 18.7**	**+0.9**
QRN				AML	AML	17 25 06.8	
	comp=Z,167nm,0.2s						
SNGE	**Sanandaj**	**3.66**	**327**	*e*Pn	**Pn**	**17 24 17.8**	**-0.3**
SNGE	**Sanandaj**	**3.66**	**327**	*e*Pn	**Pn**	**17 24 17.0**	**-1.1**
IMHD	**Mahdasht**	**3.73**	**11**	*e*Pn	**Pn**	**17 24 19.1**	**+0.2**
IMOK	**Mook**	**3.91**	**139**	*e*Pn	**Pn**	**17 24 21.7**	**+0.2**
ICHK	**Chekchek**	**3.94**	**86**	*e*Pn	**Pn**	**17 24 22.1**	**+0.2**
ICHK	**Chekchek**	**3.94**	**86**	Pn	**Pn**	**17 24 22.0**	**+0.1**
THKV	**Tehran--Karaj**	**3.99**	**13**	*e*Pn	**Pn**	**17 24 22.9**	**+0.4**
IDMV	**Damavand**	**4.01**	**27**	*e*Pn	**Pn**	**17 24 23.1**	**+0.2**
CHTH	**Charan**	**4.03**	**16**	*e*Pn	**Pn**	**17 24 23.4**	**+0.2**
CHTH	**Charan**	**4.03**	**16**	*e*Pn	**Pn**	**17 24 23.0**	**-0.1**
DAMV	**Damavand**	**4.04**	**26**	*e*Pn	**Pn**	**17 24 23.5**	**+0.3**
DAMV				*e*Pg	**Pn**	**17 24 32.4**	**+9.2**
DAMV				AML	AML	17 25 35.0	
	comp=E,118nm,0.6s						
DAMV	**Damavand**	**4.04**	**26**	*e*Pn	**Pn**	**17 24 23.0**	**-0.2**
IMEH	**Mehriz**	**4.18**	**97**	*e*Pn	**Pn**	**17 24 25.4**	**+0.2**
IMEH	**Mehriz**	**4.18**	**97**	Pn	**Pn**	**17 24 25.3**	**+0.1**
ILAS	**Lasjerd**	**4.28**	**38**	*e*Pn	**Pn**	**17 24 26.3**	**-0.2**
IFIR	**Firoozkooh**	**4.38**	**34**	*e*Pn	**Pn**	**17 24 28.4**	**+0.5**
GHIR	**Ghir-Karzin**	**4.66**	**142**	*e*Pn	**Pn**	**17 24 31.2**	**-0.5**
GHIR	**Ghir-Karzin**	**4.66**	**142**	*e*Pn	**Pn**	**17 24 30.0**	**-1.7**
ISHM	**Shahmirzad**	**4.78**	**37**	*e*Pn	**Pn**	**17 24 33.3**	**0.0**
IANJ	**Anjiloo**	**4.87**	**44**	*e*Pn	**Pn**	**17 24 33.9**	**-0.7**
IANJ	**Anjiloo**	**4.87**	**44**	Pn	**Pn**	**17 24 33.8**	**-0.8**
IBAF	**Bafgh**	**4.96**	**94**	*e*Pn	**Pn**	**17 24 36.1**	**+0.3**
BANOM	**Banah**	**8.35**	**135**	P	**Pn**	**17 25 20.5**	**-1.8**
	SNR=40						
BANOM				⇓S	**Sn**	**17 26 50.3**	**-4.8**
HATD	**Hatta, Dubai**	**9.10**	**140**	P	**Pn**	**17 25 32.5**	**0.0**
	SNR=6.4						
HATD				⇑S	**Sn**	**17 27 07.8**	**-5.8**
ASHO	**Ashiyiah**	**9.18**	**141**	P	**Pn**	**17 25 31.6**	**-2.0**
	SNR=27						
ASHO				⇑S	**Sn**	**17 27 08.3**	**-7.1**
ASF	**Jabal al Asfar**	**10.91**	**274**	P	**Pn**	**17 25 55.2**	**-2.1**
	comp=E,1.7nm,0.3s,baz=185,slow=4.2,SNR=11						
ASF	**Jabal al Asfar**	**10.91**	**274**	P	**Pn**	**17 25 55.2**	**-2.2**
ASF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BSY	**Bisya**	**11.36**	**143**	⇓P	**Pn**	**17 26 01.7**	**-1.7**
	SNR=15						
BSY				⇑S	**Sn**	**17 28 02.1**	**-6.7**
SMDO	**Samad**	**11.56**	**139**	⇓P	**Pn**	**17 26 04.2**	**-2.0**
	SNR=12						
MMAI	**Mount Meron Ar**	**12.16**	**278**	P	**Pn**	**17 26 13.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=95,slow=16,SNR=3.0						
EIL	**Elat**	**12.94**	**263**	P	**Pn**	**17 26 19.8**	**-5.2**
BR131	**Keskin Array S**	**15.15**	**305**	P	**Pn**	**17 26 57.4**	**+2.9**
	comp=Z,1.5nm,0.5s						
BRTR	**Keskin Array B**	**15.15**	**305**	P	**Pn**	**17 26 59.8**	**+5.3**
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=9.2						
AKTK	**Aktyubinsk**	**19.39**	**16**	P	**Pn**	**17 27 44.6**	**-2.2**
AKTK	**Aktyubinsk**	**19.39**	**16**	P	**Pn**	**17 27 44.7**	**-2.2**
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**19.39**	**16**	P	**Pn**	**17 27 44.6**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=185,slow=10,SNR=9.1						
AKTO	**Aktyubinsk**	**19.39**	**16**	P	**Pn**	**17 27 44.7**	**-2.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIRR	**Tirgusor**	**20.79**	**313**	P	**P**	**17 28 01.0**	**+0.5**
IDI	**Anoyia**	**20.95**	**286**	P	**P**	**17 28 02.9**	**+0.7**
	comp=Z,8.9nm,0.7s,baz=111,slow=12,SNR=6.7						
AAK	**Ala-Archa**	**22.26**	**55**	*e*P	**P**	**17 28 18.1**	**+1.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
AAK	**Ala-Archa**	**22.26**	**55**	*e*P	**P**	**17 28 18.1**	**+1.9**
	comp=Z,7.0nm,1.3s,mb3.9						
AAK	**Ala-Archa**	**22.26**	**55**	*e*P	**P**	**17 28 18.1**	**+1.9**
	comp=Z,7.0nm,1.3s,mb3.9						
MLR	**Muntele Rosu**	**22.82**	**313**	P	**P**	**17 28 22.7**	**+0.5**
	comp=Z,1.4nm,0.5s,mb3.6,baz=4.8,slow=12,SNR=3.6						
MLR	**Muntele Rosu**	**22.82**	**313**	P	**P**	**17 28 22.7**	**+0.5**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**24.06**	**327**	P	**P**	**17 28 33.0**	**-1.0**
	comp=Z,1.0nm,0.4s,mb3.6,baz=135,slow=8.9,SNR=11						
AKASG	**Malin Array Be**	**24.06**	**327**	P	**P**	**17 28 33.0**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**24.07**	**327**	*e*P	**P**	**17 28 32.9**	**-1.2**
BVAR	**Borovoye Array**	**25.74**	**29**	P	**P**	**17 28 49.6**	**+0.3**
	comp=Z,1.5nm,0.4s,mb3.8,baz=222,slow=7.9,SNR=14						
BVAR				ScP	ScP	17 35 54.9	+2.0
	comp=Z,0.9nm,0.6s,baz=214,slow=0.5,SNR=3.9						
BVAR	**Borovoye Array**	**25.74**	**29**	P	**P**	**17 28 49.6**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
MK31	**Makanchi Array**	**28.89**	**50**	*e*P	**P**	**17 29 18.3**	**+0.7**
MKAR	**Makanchi Array**	**28.89**	**50**	P	**P**	**17 29 18.6**	**+1.1**
	comp=N,1.2nm,0.5s,mb3.9,baz=245,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**28.89**	**50**	P	**P**	**17 29 18.7**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**28.89**	**50**	P	**P**	**17 29 18.6**	**+1.0**
ZAL	**Zalesovo**	**33.19**	**38**	P	**P**	**17 29 56.0**	**+0.6**
	comp=Z,1.6nm,0.3s,mb4.5,baz=251,slow=4.5,SNR=5.0						
ZAL	**Zalesovo**	**33.19**	**38**	P	**P**	**17 29 56.0**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**33.22**	**339**	P	**P**	**17 29 55.4**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=152,slow=10,SNR=7.8						
FINES	**FINESS Array B**	**33.22**	**339**	P	**P**	**17 29 55.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BSD	**Bornholm Skovb**	**33.65**	**324**	*i* P	**P**	**17 29 58.7**	**-0.7**
	comp=Z,26nm,1.1s,mb5.1						
BSD				*i*		17 30 06.6	
BSD	**Bornholm Skovb**	**33.65**	**324**	*i* P	**P**	**17 29 58.7**	**-0.7**
BSD				*i*		17 30 06.6	
BSD				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
KAF	**Kangasniemi**	**33.68**	**340**	*e*p	**P**	**17 29 59.5**	**-0.2**
HFS	**Hagfors**	**36.82**	**331**	P	**P**	**17 30 26.4**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.2,baz=120,slow=8.8,SNR=8.8						
HFS	**Hagfors**	**36.82**	**331**	P	**P**	**17 30 26.4**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**38.34**	**331**	P	**P**	**17 30 38.7**	**-0.8**
	comp=Z,2.4nm,0.9s,mb3.9,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**38.34**	**331**	P	**P**	**17 30 37.5**	**-2.0**
	comp=Z,1.2nm,0.8s,mb3.7,baz=120,slow=8.2,SNR=3.5						
NOA	**NORSAR Array B**	**38.34**	**331**	P	**P**	**17 30 37.5**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**39.97**	**347**	P	**P**	**17 30 53.2**	**+0.1**
	comp=Z,1.6nm,0.8s,mb3.8,baz=168,slow=8.3,SNR=5.8						
ARCES	**ARCESS Array B**	**39.97**	**347**	P	**P**	**17 30 53.2**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**45.19**	**52**	P	**P**	**17 31 35.6**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=273,slow=7.8,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**47.76**	**258**	*e*P	**P**	**17 31 56.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**47.76**	**258**	P	**P**	**17 31 56.7**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=54,slow=8.2,SNR=30						
TORD	**Torodi Ar. Bea**	**47.76**	**258**	P	**P**	**17 31 56.7**	**+1.1**
YKA	**Yellowknife Ar**	**84.97**	**353**	P	**P**	**17 35 53.0**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.7,baz=5.8,slow=5.4,SNR=5.9						

LDG **27** *17:31:44.3±0.1, 1571S×7185W, h88km, Mb5.4/28, Ms4.6/3, Error ellipse: s-maj=6.6km s-min=3.0km az=51.0*
ISCJB **27** *17:31:46.6±0.1, 1606S±003×7185W±003, h117km, mb5.3/155, Error ellipse: s-maj=5.0km s-min=3.2km az=92.4*
BJI **27** *17:31:47.0, 1610S×7180W, h115km, mB5.5*
MOS **27** *17:31:47.0±0.9, 1563S×7178W, h104km, mb5.4/48, MS4.8/4, Error ellipse: s-maj=10.3km s-min=6.0km az=94.9*
GCMT **27** *17:31:48.0±0.1, 1626S×7207W, h135km, MW5.7/97, Moment Tensor Solution. s91,c164; s97,c231; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr0.16±.05; Mθθ-0.78±.06; Mϕϕ0.62±.07; Mrθ2.28±.04; Mθϕ-3.63±.06; Mϕr-1.96±.05; Best double couple: Mo4.59700×10^17 NP1:ϕ§191.00000°, δ61.00000°, λ15.00000°. NP2:ϕ§93.00000°, δ77.00000°, λ151.00000°. Principal axes: T 5.3270, Plg30.0000°, Azm49.0000°; N -1.4590, Plg58.0000°, Azm251.0000°; P -3.8670, Plg10.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC **27** *17:31:48.6±0.3, 1608S×7192W, h119km±2km, mb4.8/27, mb1 4.9/28, mb1mx4.9/29, mbtmp4.8/28, MS4.4/15, Ms1 4.4/15, ms1mx4.3/29 Error ellipse: s-maj=14.7km s-min=7.8km az=70.0*
NEIC **27** *17:31:48.0±0.1, 1605S×7180W, mb5.3/135, MW5.6, Error ellipse: s-maj=5.5km s-min=3.3km az=53.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17 Nm; Mrr1.24; Mθθ-0.67; Mϕϕ-0.57; Mrθ1.96; Mθϕ-2.24; Mϕr-2.42; Best double couple: Mo3.70000×10^17 NP1:ϕ§186.00000°, δ67.00000°, λ39.00000°. NP2:ϕ§79.00000°, δ54.00000°, λ152.00000°. Principal axes: T 4.5400, Plg43.0000°, Azm48.0000°; N -1.6400, Plg46.0000°, Azm212.0000°; P -2.9000, Plg8.0000°, Azm310.0000°;*
NEIC Felt [V] at Aplao; [IV] at Arequipa, Camana and Pampacolca; [III] at Ilo and Moquegua. Felt at Tacna. Also felt [III] at Arica and Pisagua; [II] at Putre, Chile.
ISC 27 17:31:48.4±0.1, 1612S±003×7178W±003, h119km, h119km±2.0km: pP-P, n656, σ0§77/557, mb5.3/154, 85C-95D,

Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.44**	**141**	⇓*i*P	**Pn**	**17 32 06.5**	**+0.7**
LPAZ	**La Paz**	**3.51**	**93**	P	**Pn**	**17 32 47.0**	**+5.6**
	201nm,0.3s,baz=288,slow=10,SNR=2891						
LPAZ				S	**Sn**	**17 33 24.8**	**+2.4**
	250nm,0.3s,baz=243,slow=11,SNR=10						
LPAZ	**La Paz**	**3.51**	**93**	*e*Pn	**Pn**	**17 32 46.7**	**+5.3**
LPAZ				*e*Sn	**Sn**	**17 33 23.7**	**+1.3**
NNA	**Nana**	**6.40**	**309**	Pn	**Pn**	**17 33 16.0**	**-4.2**
	14μm,0.5s						
NNA	**Nana**	**6.40**	**309**	Pn	**Pn**	**17 33 16.0**	**-4.2**
	14μm,0.5s						
NNA	**Nana**	**6.40**	**309**	Pn	**Pn**	**17 33 16.0**	**-4.2**
	14μm,0.5s						
NNA	**Nana**	**6.40**	**309**	Pn	**Pn**	**17 33 16.0**	**-4.2**
	14μm,0.5s						
NNA	**Nana**	**6.40**	**309**	P	**Pn**	**17 33 16.1**	**-4.1**
	238nm,0.3s,baz=134,slow=12,SNR=266						
NNA				S	**Sn**	**17 34 22.8**	**-9.1**
	204nm,0.3s,baz=246,slow=11,SNR=3.8						
NNA	**Nana**	**6.40**	**309**	*e*Pn	**Pn**	**17 33 15.1**	**-5.1**
	1μm,0.6s						
LVC	**Limon Verde**	**7.00**	**158**	P	**Pn**	**17 33 27.3**	**-1.0**
	120nm,0.3s,baz=270,slow=3.3,SNR=681						
LVC				S	**Sn**	**17 34 43.2**	**-3.2**
	404nm,0.3s,baz=90,slow=21,SNR=15						
LVC				LR	LR	17 35 36.0	
	comp=Z,1μm,20.3s,baz=273,slow=32						
LVC	**Limon Verde**	**7.00**	**158**	*e*Pn	**Pn**	**17 33 26.8**	**-1.6**
	1μm,0.8s						
LVC				*e*Sn	**Sn**	**17 34 43.8**	**-2.7**
SIV	**San Ignacio**	**10.30**	**91**	P	**Pn**	**17 34 12.2**	**-0.7**
	19nm,0.3s,baz=277,slow=11,SNR=92						
SAML	**Samuel**	**11.01**	**51**	*e*Pn	**Pn**	**17 34 20.8**	**-1.5**
	2.1nm,1.6s						
ATAH	**Atahualpa**	**11.14**	**324**	P	**Pn**	**17 34 18.8**	**-5.3**
	3.8nm,0.3s,baz=136,slow=6.0,SNR=13						
TLL	**Tololo Astono**	**14.01**	**176**	⇓*e*P	**Pn**	**17 35 00.1**	**-1.6**
CFAA	**Coronel Fontan**	**15.75**	**169**	P	**Pn**	**17 35 23.2**	**-0.3**
	1.4nm,0.3s,baz=340,slow=11,SNR=192						
CFAA				LR	LR	17 41 55.3	
	comp=Z,159nm,18.1s,baz=335,slow=38						
MDZ	**Mendoza**	**16.90**	**171**	*e*P	**Pn**	**17 35 37.0**	**-0.7**
MDZ				*i*		17 35 51.6	
MDZ				S	sP	17 36 09.2	-4.8
PEL	**Peldehue**	**16.98**	**177**	⇑*e*P	**Pn**	**17 35 36.9**	**-1.7**
FCH	**Farellones**	**17.19**	**176**	⇓*e*P	**Pn**	**17 35 40.2**	**-0.9**
CLCH	**Cerro Calan**	**17.24**	**176**	⇓*e*P	**Pn**	**17 35 40.2**	**-1.6**
OTAV	**Otavalo**	**17.54**	**337**	*e*Pn	**Pn**	**17 35 46.0**	**+0.6**
	440nm,1.4s						
CCHI	**Chillan**	**20.40**	**181**	*e*P	**P**	**17 36 13.4**	**-2.5**
ROSC	**El Rosal**	**20.99**	**353**	P	**P**	**17 36 22.9**	**+0.7**
	21nm,0.5s,baz=192,slow=1.5,SNR=18						
ROSC				LR	LR	17 45 34.0	
	comp=Z,2μm,18.1s,baz=190,slow=40						
ROSC	**El Rosal**	**20.99**	**353**	*e*P	**P**	**17 36 23.5**	**+1.2**
LPA	**La Plata**	**22.45**	**149**	*ce*P	**P**	**17 36 37.0**	**-0.7**
LPA				*ep*P		17 36 58.0	
LPA				*es*P	sP	17 37 14.0	-0.8
LPA				*e*S	**S**	**17 40 36.0**	**+0.7**
LPA				*es*S	sS	17 41 16.0	+0.8
LPA				*es*S	sS	17 41 20.0	+4.8
TRQA	**Tornquist**	**23.50**	**160**	*e*P	**P**	**17 36 46.4**	**-1.0**
	286nm,1.1s,mb5.5						
SDV	**Santo Domingo**	**24.87**	**3**	P	**P**	**17 36 59.4**	**-0.6**
	120nm,1.1s,mb5.2,baz=214,slow=7.4,SNR=79						
SDV	**Santo Domingo**	**24.87**	**3**	*e*P	**P**	**17 36 58.2**	**-1.7**
	360nm,1.0s,mb5.8						
PCRV	**Puerto La Cruz**	**27.07**	**16**	P	**P**	**17 37 19.7**	**0.0**
	16nm,0.6s,mb4.7,baz=211,slow=4.0,SNR=19						
PCRV				LR	LR	17 49 21.7	
	comp=Z,3μm,19.3s,baz=202,slow=39						
CAM4	**Nova Friburgo**	**28.25**	**107**

ELN Prospectdale 53.73 351 eP P 17 40 58.3 +0.2
FWV Forest Hill 54.08 351 eP P 17 41 00.5 -0.2
WVT Waverly 54.14 344 eP P 17 40 58.9 -2.2
WVT pmax pmax
comp=Z,13nm,1.4s,mb4.8
WVT Waverly 54.14 344 eP P 17 40 58.9 -2.2
comp=Z,13nm,1.4s,mb4.8
UALR University of 54.26 339 eP P 17 41 00.8 -1.2
comp=Z,100nm,1.0s,mb5.8
CBN Corbin 54.29 355 P P 17 41 02.7 +0.4
comp=Z,113nm,0.9s,mb5.9
MIAR Mount Ida 54.48 338 eP P 17 41 02.7 -0.9
MIAR pmax pmax
comp=Z,109nm,0.9s,mb5.9
MIAR Mount Ida 54.48 338 eP P 17 41 02.7 -0.9
comp=Z,109nm,0.9s,mb5.9
UTMT University of 54.62 343 eP P 17 41 03.2 -1.4
TXAR Lajitas Array 54.68 326 P P 17 41 04.5 -0.6
comp=Z,8.7nm,0.9s,mb4.8,baz=146,slow=8.6,SNR=61
LTX Lajitas 54.68 326 eP P 17 41 04.2 -0.9
LTX pmax pmax
comp=Z,36nm,1.3s,mb5.2
LTX Lajitas 54.68 326 eP P 17 41 04.2 -0.8
comp=Z,36nm,1.3s,mb5.2
WCI Wyandotte Cave 55.75 346 eP P 17 41 11.0 -1.7
WCI pmax pmax
comp=Z,122nm,0.8s,mb6.0
WCI Wyandotte Cave 55.75 346 eP P 17 41 11.0 -1.7
comp=Z,122nm,0.8s,mb6.0
USIN University of 55.83 345 eP P 17 41 11.7 -1.6
comp=Z,352nm,1.1s,mb6.3
MVL Millersville 55.99 356 eP P 17 41 14.0 -0.5
MCWV Mont Chateau 55.99 352 eP P 17 41 14.4 -0.1
comp=Z,55nm,0.8s,mb5.6
SIUC Southern Illin 56.00 343 eP P 17 41 12.7 -1.8
comp=Z,371nm,0.8s
LUPA Lehigh Univers 56.52 357 eP P 17 41 18.0 -0.3
BRNJ Basking Ridge 56.57 357 eP P 17 41 19.2 +0.6
FVM French Village 56.59 342 eP P 17 41 17.2 -1.6
FVM pmax pmax
comp=Z,127nm,0.9s,mb6.0
FVM French Village 56.59 342 eP P 17 41 17.2 -1.6
comp=Z,126nm,0.9s,mb6.0
CPNY Central Park 56.65 358 eP P 17 41 18.6 -0.5
BLO Bloomington 56.70 346 eP P 17 41 17.8 -1.7
BLO pmax pmax
comp=Z,48nm,0.4s,mb5.9
BLO Bloomington 56.70 346 eP P 17 41 17.8 -1.7
comp=Z,48nm,0.4s,mb5.9
WMOK Wichita Mounta 56.71 333 eP P 17 41 18.2 -1.4
WMOK pmax pmax
comp=Z,26nm,1.0s,mb5.2
WMOK Wichita Mounta 56.71 333 eP P 17 41 18.2 -1.4
comp=Z,26nm,1.0s,mb5.2
SSPA Standing Stone 56.75 354 eP P 17 41 19.2 -0.6
comp=Z,290nm,1.6s,mb6.1
PAL Palisades 56.87 358 eP P 17 41 20.1 -0.6
PAL pmax pmax
comp=Z,202nm,1.5s,mb5.9
PAL Palisades 56.87 358 eP P 17 41 20.1 -0.6
comp=Z,202nm,1.5s,mb5.9
SLM Saint Louis 57.15 343 eP P 17 41 21.1 -1.5
SLM pmax pmax
comp=Z,33nm,0.6s,mb5.5
SLM Saint Louis 57.15 343 eP P 17 41 21.1 -1.5
comp=Z,33nm,0.6s,mb5.5
MNTX Cornudas Mount 57.44 326 eP P 17 41 22.9 -1.8
comp=Z,30nm,1.0s,mb5.3
ALLY Alegheny Colle 57.99 353 eP P 17 41 28.0 -0.5
AMTX Amarillo 58.13 331 eP P 17 41 28.3 -1.2
comp=Z,25nm,0.8s,mb5.5
BINY Binghamton 58.15 356 eP P 17 41 29.9 +0.2
comp=Z,200nm,0.9s,mb6.2
WES Weston 58.21 0 eP P 17 41 29.9 -0.2
WES pmax pmax
comp=Z,188nm,1.4s,mb5.9
WES Weston 58.21 0 eP P 17 41 29.9 -0.2
comp=Z,188nm,1.4s,mb5.9
HRV Harvard--Oak R 58.33 0 eP P 17 41 30.4 -0.5
HRV pmax pmax
comp=Z,133nm,0.9s,mb6.0
HRV Harvard--Oak R 58.33 0 eP P 17 41 30.4 -0.6
comp=Z,133nm,0.9s,mb6.0
AAM Ann Arbor 59.15 350 eP P 17 41 35.1 -1.5
AAM pmax pmax
comp=Z,28nm,0.4s,mb5.7
AAM Ann Arbor 59.15 350 eP P 17 41 35.1 -1.5
comp=Z,28nm,0.4s,mb5.6
ACCN Adirondack Com 59.23 358 eP P 17 41 36.6 -0.5
FFD Franklin Falls 59.29 0 eP P 17 41 37.6 0.0
comp=Z,67nm,0.6s,mb5.8
HNH Hanover 59.53 360 eP P 17 41 39.6 +0.4
comp=Z,24nm,1.6s,mb5.0
RKT Rikitea 59.55 252 eS S 17 49 39.4 -0.4
comp=Z,803nm,30.0s
RKT eLQ 17 56 44.1
comp=Z,703nm,33.8s
RKT eLR LR 17 59 06.8
comp=Z,1μm,28.8s
KSU1 Kansas State U 59.64 338 eP P 17 41 38.7 -1.2
comp=Z,70nm,0.9s,mb5.7
NCB Newcomb 59.84 358 eP P 17 41 41.0 -0.4
comp=Z,98nm,1.3s,mb5.7
BNM Barren Site 60.00 327 eP P 17 41 42.1 -0.3
LPM Los Pinos Moun 60.12 327 eP P 17 41 43.2 0.0
LENM Lemitar 60.19 327 eP P 17 41 43.5 -0.2
LAZ Ladron 60.46 327 eP P 17 41 45.8 +0.2
LONY Lake Ozonia 60.50 358 eP P 17 41 45.3 -0.5
comp=Z,137nm,1.3s,mb5.8
ANMO Albuquerque 60.53 328 eP P 17 41 45.1 -0.9
ANMO pmax pmax
comp=Z,17nm,0.8s
ANMO Albuquerque 60.53 328 eP P 17 41 45.1 -0.9
comp=Z,17nm,0.8s,mb5.1
CBKS Cedar Bluff 60.59 335 eP P 17 41 45.6 -0.8
CBKS pmax pmax
comp=Z,110nm,0.9s,mb5.9
CBKS Cedar Bluff 60.59 335 eP P 17 41 45.6 -0.8
comp=Z,110nm,0.9s,mb5.9
MSNY Massena 60.89 358 eP P 17 41 48.0 -0.4
TUC Tucson 60.94 322 eP P 17 41 48.4 -0.4
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TUC Tucson 60.94 322 eP P 17 41 48.4 -0.4
comp=Z,6.0nm,1.0s,mb4.6
SCIA State Center 61.03 342 eP P 17 41 47.8 -1.6
comp=Z,38nm,0.6s,mb5.6
PKME Peaks-Kenny Pk 61.13 2 eP P 17 41 50.0 -0.1
comp=Z,190nm,0.8s,mb6.2
JFWS Jewell Farm 61.15 345 eP P 17 41 48.5 -1.7
JFWS pmax pmax
comp=Z,27nm,0.7s,mb5.4
JFWS Jewell Farm 61.15 345 eP P 17 41 48.5 -1.7
comp=Z,27nm,0.7s,mb5.4
115A Sonoran Desert 62.07 322 ⇓P P 17 41 56.3 -0.1
baz=62
SDCO Great Sand Dun 62.25 330 eP P 17 41 56.9 -0.8
comp=Z,74nm,0.8s,mb5.8
Z14A Wintersburg 62.96 322 ⇓P P 17 42 02.0 -0.3
baz=63
MVCO Mesa Verde 63.32 328 eP P 17 42 04.6 -0.1
comp=Z,35nm,1.1s,mb5.2
MVCO Mesa Verde 63.32 328 ⇓P P 17 42 04.9 +0.2
baz=64
X15A Humboldt 63.34 323 ⇑P P 17 42 05.0 +0.2
baz=64,SNR=7.1
Y14A Wickenburg 63.40 322 P P 17 42 05.5 +0.3
baz=64,SNR=6.8
WUAZ Wupatki 63.60 325 eP P 17 42 07.0 +0.5
comp=Z,45nm,1.1s,mb5.2
WUAZ Wupatki 63.60 325 ⇓P P 17 42 06.6 +0.1
baz=64
X14A Yava 63.71 323 ⇓P P 17 42 07.5 +0.2
baz=64,SNR=8.0
ECSD EROS,Sioux Fal 63.75 340 eP P 17 42 06.2 -1.3
comp=Z,153nm,1.2s,mb5.7
W15A Williams 63.86 324 ⇑P P 17 42 08.5 +0.3
baz=64
ISCO Idaho Springs 63.95 331 eP P 17 42 08.8 0.0
ISCO pmax pmax
comp=Z,35nm,1.2s,mb5.1
ISCO Idaho Springs 63.95 331 eP P 17 42 08.8 0.0
comp=Z,35nm,1.2s,mb5.1
PV01 Paradox Valley 64.06 328 eP P 17 42 10.4 +0.9
PDMCI Parker Dam,Lak 64.33 322 ⇓P P 17 42 11.7 +0.4
baz=64
W14A Seligman 64.35 323 ⇓P P 17 42 11.7 +0.3
baz=64,SNR=8.7
X13A Yucca 64.35 322 ⇓P P 17 42 11.8 +0.4
baz=64
BC3 Big Chuckw Mtn 64.68 320 ⇑P P 17 42 13.7 +0.1
baz=65
W13A Hualapai Mount 64.73 323 ⇓P P 17 42 14.3 +0.3
baz=65
IRM Iron Mountain 64.84 321 ⇑P P 17 42 14.7 +0.1
baz=65,SNR=8.2
PHWY Pilot Hill 65.09 333 eP P 17 42 16.2 0.0
BELC Belle Mtn. 65.25 320 ⇑P P 17 42 17.6 +0.3
baz=65
PFO Pinyon Flat Ob 65.26 320 P P 17 42 16.9 -0.5
comp=Z,4.9nm,0.8s,mb4.4,baz=38,slow=5.5,SNR=3.8
PFO Pinyon Flat Ob 65.26 320 eP P 17 42 17.3 -0.1
PFO pmax pmax
comp=Z,17nm,1.1s,mb4.8
PFO Pinyon Flat Ob 65.26 320 eP P 17 42 17.3 0.0
W12A Cal Nev Ari 65.45 322 ⇑P P 17 42 18.8 +0.2
baz=66
GMRC Granite Mounta 65.57 321 ⇓P P 17 42 19.7 +0.4
baz=66,SNR=8.4
V12A Nelson 65.73 322 P P 17 42 20.1 -0.3
baz=66,SNR=6.7
SRU San Rafael 65.80 328 eP P 17 42 20.5 -0.3
SRU pmax pmax
comp=Z,25nm,0.8s,mb5.1
SRU San Rafael 65.80 328 eP P 17 42 20.5 -0.3
comp=Z,25nm,0.8s,mb5.1
HEC Hector,Ludlow 66.00 321 ⇑P P 17 42 22.3 +0.2
baz=66
VNA3 Neumayer Olymp 66.01 162 eP P 17 42 22.2 0.0
VNA3 e pP 17 42 50.1 -1.2
VNA3 e pP 17 42 52.1 +0.8
VNA3 e 17 43 02.7
U12A Valley of Fire 66.05 323 ⇑P P 17 42 22.6 +0.2
baz=66
V11A Goodsprings 66.15 322 ⇑P P 17 42 23.2 +0.1
baz=66
EYMN Ely 66.17 346 eP P 17 42 21.7 -1.5
comp=Z,49nm,0.6s,mb5.5
CCUT Cedar City 66.17 325 eP P 17 42 24.1 +1.0
TUQ Turquoise Mtn. 66.17 322 ⇑P P 17 42 23.4 +0.2
baz=66
MSU Marysvale 66.22 326 eP P 17 42 24.1 +0.6
VNA1 Neumayer--Stat 66.23 161 eP P 17 42 24.6 +1.0
VNA1 e pP 17 42 51.0 -1.7
VNA1 e pP 17 42 53.0 +0.3
VNA1 e 17 43 05.5
TMUT Trail Mountain 66.29 327 eP P 17 42 24.1 +0.1
ARUT Antelope Range 66.38 325 eP P 17 42 25.4 +0.9
BFSC Mount Baldy St 66.43 320 ⇑P P 17 42 25.2 +0.4
baz=67
U11A Corn Creek 66.53 323 ⇓P P 17 42 26.0 +0.6
baz=67
VNA2 Neumayer--Watz 66.60 161 eP P 17 42 25.8 -0.1
VNA2 e pP 17 42 53.4 -1.7
VNA2 e pP 17 42 54.8 -0.3
VNA2 e 17 43 04.6
SHOC Shoshone 66.70 322 ⇑P P 17 42 26.8 +0.3
baz=67
RSSD Black Hills 66.80 335 eP P 17 42 27.2 0.0
RSSD pmax pmax
comp=Z,45nm,1.4s,mb5.1
RSSD Black Hills 66.80 335 eP P 17 42 27.2 0.0
comp=Z,44nm,1.4s,mb5.1
DECC Green Verdugo 66.86 319 ⇑P P 17 42 27.6 +0.1
baz=67
SNCC San Nicolas Is 66.98 318 ⇑P P 17 42 28.6 +0.3
baz=67
MPU Maple Canyon 67.05 328 eP P 17 42 29.2 +0.5
comp=Z,33nm,1.0s,mb5.1
EDW2 Edwards Air Fo 67.06 320 ⇓P P 17 42 29.4 +0.6
baz=67
U10A Ash Meadows, A 67.08 322 ⇓P P 17 42 29.4 +0.4
baz=67
DAU Daniels Canyon 67.15 328 eP P 17 42 30.0 +0.6
NLU North Lily Min 67.23 327 eP P 17 42 30.4 +0.5
LRMC Laurel Mountai 67.27 321 ⇓P P 17 42 30.0 -0.2
baz=67
OSI Osito Adit 67.34 319 ⇑P P 17 42 30.3 -0.3
baz=68
JLU Jordanelle 67.39 328 eP P 17 42 31.1 +0.2
FURC Furnace Creek, 67.43 322 ⇓P P 17 42 31.2 0.0
baz=68,SNR=5.5
MPMC Manual Prospec 67.53 321 P P 17 42 32.4 +0.6
baz=68,SNR=6.5
CTU Camp Tracy 67.61 328 eP P 17 42 32.9 +0.6
comp=Z,5.6nm,0.6s,mb4.6
AGMN Agassiz Refuge 67.63 343 eP P 17 42 31.0 -1.4
comp=Z,148nm,0.8s,mb5.9
DAC Darwin (Calif) 67.74 321 eP P 17 42 33.1 0.0
DAC pmax pmax
comp=Z,16nm,0.9s,mb4.8
DAC Darwin (Calif) 67.74 321 eP P 17 42 33.1 0.0
comp=Z,16nm,0.9s,mb4.8
DUG Dugway 67.79 327 eP P 17 42 33.5 +0.1
DUG pmax pmax
comp=Z,67nm,1.2s,mb5.3
DUG Dugway 67.79 327 eP P 17 42 33.5 +0.1
comp=Z,67nm,1.2s,mb5.3
ISA Isabella 67.87 320 eP P 17 42 34.2 +0.3
ISA Isabella 67.87 320 ⇑P P 17 42 33.8 -0.2
baz=68,SNR=7.2
TRCR Troy Canyon 67.98 324 eP P 17 42 35.4 +0.7
Q12A Willow Creek R 68.04 325 ⇓P P 17 42 35.0 0.0
baz=68,SNR=12
GRAC Grapevine Rang 68.09 322 ⇑P P 17 42 35.6 +0.3
baz=68
PDAR Pinedale Array 68.11 331 P P 17 42 34.6 -0.8
comp=Z,5.5nm,0.7s,mb4.5,baz=150,slow=6.5,SNR=35
CWC Cottonwood Cre 68.14 321 ⇓P P 17 42 36.0 +0.4
baz=68
HWUT Hardware Ranch 68.20 329 eP P 17 42 35.6 -0.3
comp=Z,20nm,0.9s,mb5.0
PKM Peak Mountain 68.21 319 ⇓P P 17 42 36.3 +0.2
baz=68,SNR=7.5
SNAA Sanae 68.22 161 P P 17 42 36.3 +0.2
comp=Z,41nm,0.8s,mb5.3,baz=284,slow=6.4,SNR=402
SNAA pP pP 17 43 06.3 +0.9
comp=Z,16nm,0.9s,baz=303,slow=8.0,SNR=5.0
SNAA sP sP 17 43 18.0 -0.2
comp=Z,16nm,0.6s,baz=294,slow=5.9,SNR=5.4
SNAA LR LR 18 12 07.2
comp=Z,110nm,19.8s,baz=289,slow=35
SNAA Sanae 68.22 161 eP P 17 42 35.1 -1.0
SNAA e pP 17 43 00.9 -4.5
SNAA e pP 17 43 03.7 -1.7
SNAA e 17 43 16.5
SNAA Sanae 68.22 161 eP P 17 42 35.3 -0.8
SNAA e*PP pP 17 43 03.4 -2.0
SNAA pmax pmax
comp=Z,101nm,0.8s
SNAA Sanae 68.22 161 eP P 17 42 35.3 -0.8
comp=Z,101nm,0.8s,mb5.7
SNAA epP pP 17 43 03.4 -2.0
VES Vestal, Richgr 68.36 320 ⇑P P 17 42 36.8 -0.1
baz=68
Q11A Duckwater 68.36 324 ⇓P P 17 42 37.2 +0.2
baz=68,SNR=21
P12A McGill 68.39 325 ⇑P P 17 42 37.7 +0.5
baz=69,SNR=14
BGU Big Grassy Mou 68.44 328 eP P 17 42 37.4 -0.1
S09A Goldfield 68.49 323 ⇓P P 17 42 38.2 +0.4
baz=69,SNR=15
SMMC Simmler 68.59 319 ⇓P P 17 42 38.7 +0.2
baz=69
R09A Tonopah 68.75 323 ⇓P P 17 42 39.5 +0.1
baz=69,SNR=10
O12A Currie 68.86 326 ⇑P P 17 42 40.1 0.0
baz=69,SNR=51
P11A Circle Ranch, 68.91 325 ⇑P P 17 42 40.2 -0.2
baz=69
HVU Hansel Valley 68.93 328 eP P 17 42 40.2 -0.3
HVU pmax pmax
comp=Z,26nm,0.8s,mb5.1
HVU Hansel Valley 68.93 328 eP P 17 42 40.2 -0.4
comp=Z,26nm,0.8s,mb5.1
N13A Wendover, West 69.00 327 ⇑P P 17 42 40.5 -0.4
baz=69
MTUM Tungsten Hills 69.03 322 P P 17 42 39.8 -1.3
REDW Red Top Meadow 69.18 331 eP P 17 42 41.8 -0.2
comp=Z,54nm,1.3s,mb5.2
SNOW Snow King Moun 69.21 331 eP P 17 42 42.6 +0.3
comp=Z,14nm,0.6s,mb5.0
Q09A Carvers 69.22 324 ⇑P P 17 42 42.2 -0.1
baz=69
LOHW Long Hollow 69.25 331 eP P 17 42 42.4 -0.1
comp=Z,12nm,0.8s,mb4.8
O11A Cowboy Ranch, 69.26 325 ⇑P P 17 42 42.5 -0.1
baz=70,SNR=34
PKD Parkfield 69.33 319 ⇑P P 17 42 43.1 +0.1
baz=70
M13A Montello 69.34 327 P P 17 42 43.0 0.0
baz=70,SNR=7.8
P10A Eureka 69.35 325 ⇑P P 17 42 43.8 +0.7
baz=70
RRI2 Red Ridge 69.39 330 eP P 17 42 43.4 +0.1
comp=Z,59nm,0.9s,mb5.4
ULM Lac du Bonnet 69.41 344 P P 17 42 41.6 -1.8
comp=Z,51nm,0.4s,mb5.7,baz=156,slow=5.9,SNR=132
ULM pP pP 17 43 13.5 +0.7
comp=Z,11nm,0.5s,baz=154,slow=7.6,SNR=2.7
ULM Lac du Bonnet 69.41 344 eP P 17 42 41.6 -1.9
comp=Z,107nm,0.8s,mb5.7
MOOW Moose Ponds 69.42 331 eP P 17 42 43.1 -0.5
comp=Z,25nm,1.3s,mb4.9
R08A Mina 69.42 323 ⇓P P 17 42 43.6 0.0
baz=70
N12A Clover Valley, 69.44 326 ⇑P P 17 42 43.4 -0.2
baz=70
KCC Kaiser Creek 69.47 321 ⇑P P 17 42 43.9 +0.1
baz=70
DCID1 Drake Creek 69.51 331 eP P 17 42 44.6 +0.5
NVAR Mina Array Bea 69.59 323 P P 17 42 45.4 +0.8
comp=Z,8.4nm,0.9s,mb4.6,baz=140,slow=7.0,SNR=26
NVAR PcP PcP 17 43 05.6 -1.3
comp=Z,2.7nm,0.7s,baz=105,slow=4.2,SNR=4.3
NVAR pP pP 17 43 14.6 +0.6
comp=Z,2.8nm,0.7s,baz=141,slow=5.8,SNR=2.5
NVAR sP sP 17 43 26.3 -0.5
comp=Z,3.4nm,0.8s,baz=147,slow=5.4,SNR=2.1
NVAR Mina Array Bea 69.59 323 P P 17 42 45.4 +0.8
NVAR PcP PcP 17 43 05.6 -1.2
NVAR pP pP 17 43 14.6 +0.6
NVAR sP sP 17 43 26.3 -0.5
IMW Indian Meadow 69.62 331 eP P 17 42 44.7 -0.1
comp=Z,28nm,0.7s,mb5.2
FLWY Flagg Ranch 69.66 331 eP P 17 42 45.0 0.0
comp=Z,78nm,1.0s,mb5.5
Q08A Gabbs 69.67 323 ⇓P P 17 42 45.4 +0.3
baz=70
LIC Lamto 69.67 77 eP P 17 42 44.8 -0.3
comp=Z,45nm,0.6s,mb5.2
LIC eR
comp=Z,880nm,20.2s
LIC Lamto 69.67 77 eP P 17 42 44.8 -0.3
comp=Z,22nm,0.6s,mb5.2
LIC LR LR
comp=Z,440nm,20.3s
P09A Austin 69.68 324 ⇓P P 17 42 45.7 +0.6
baz=70
U04C Hernandez Rese 69.75 320 ⇑P P 17 42 46.1 +0.6
baz=70
M12A Wells 69.77 327 P P 17 42 45.7 0.0
baz=70,SNR=13
LAO LASA Array 69.78 335 eP P 17 42 45.3 -0.5
comp=Z,73nm,1.4s,mb5.3
R07C Lee Vining 69.81 322 ⇓P P 17 42 46.5 +0.6
baz=70
RLMT Red Lodge 69.81 333 eP P 17 42 45.7 -0.3
comp=Z,45nm,1.1s,mb5.2
V03C Hunter Liggett 69.82 319 ⇓P P 17 42 46.1 +0.1
baz=70
O10A Cortez Mining, 69.84 325 ⇑P P 17 42 46.5 +0.4
baz=70,SNR=6.8
YFT Old Faithful 70.00 331 P P 17 42 48.0 +0.9
S05C Merced 70.10 321 ⇓P P 17 42 48.1 +0.4
baz=70,SNR=7.0
YNR Norris Junctio 70.13 332 eP P 17 42 48.9 +1.0
O09A Fish Creek Ran 70.13 325 ⇓P P 17 42 48.5 +0.6
baz=70,SNR=6.9
YMR Madison River 70.22 331 eP P 17 42 49.0 +0.5
comp=Z,113nm,1.6s,mb5.5
HAST UC Hastings Re 70.25 319 ⇓P P 17 42 49.0 +0.4
baz=70
M11A Holland Ranch, 70.25 326 ⇓P P 17 42 48.9 +0.3
baz=70,SNR=15
P08A Dixie Valley 70.31 324 ⇓P P 17 42 49.1 +0.1
baz=70
R06C Coleville 70.33 322 ⇓P P 17 42 49.3 +0.2
baz=70,SNR=5.5
PACP Pacheco Peak 70.47 320 ⇑P P 17 42 50.2 +0.2
baz=71
GCMT Greycliff 70.51 333 eP P 17 42 50.1 -0.1
QLMT Earthquake Lak 70.56 331 eP P 17 42 51.9 +1.4
CMB Columbia Colle 70.57 321 ⇓P P 17 42 51.2 +0.6
baz=71
M10A I.L. Ranch, Tu 70.71 326 ⇓P P 17 42 51.5 0.0
baz=71,SNR=5.6
N09A Rock Creek Ran 70.79 325 ⇑P P 17 42 52.1 +0.2
baz=71
SCHQ Schefferville 70.79 3 P P 17 42 51.5 -0.4
comp=Z,36nm,1.0s,mb5.2,baz=199,slow=5.9,SNR=19
SCHQ LR LR 18 15 27.2
comp=Z,160nm,18.9s,baz=117,slow=37
SCHQ Schefferville 70.79 3 eP P 17 42 51.4 -0.5
comp=Z,171nm,1.6s,mb5.6
S04C Ingram Canyon, 70.81 320 ⇑P P 17 42 52.6 +0.6
baz=71
R05C Kirkwood Meado 70.82 322 ⇑P P 17 42 52.8 +0.7
baz=71
HLID Hailey 71.06 329 eP P 17 42 53.8 +0.2
comp=Z,28nm,1.1s,mb5.0
HLID Hailey 71.06 329 P P 17 42 54.0 +0.4
baz=71,SNR=23
N08A GE Springer Mi 71.08 324 P P 17 42 53.4 -0.3
baz=71,SNR=7.9
O07A Toulon 71.08 324 ⇑P P 17 42 53.5 -0.1
baz=71,SNR=8.2
M09A Marrel Ranch, 71.14 325 ⇑P P 17 42 54.0 0.0
baz=71,SNR=12
LAVA Lava Cap Winer 71.25 321 ⇓P P 17 42 54.4 -0.3
baz=71
G15A Dillon 71.31 331 ⇓P P 17 42 55.2 +0.1
baz=72,SNR=8.6
BDM Black Diamond 71.42 320 ⇑P P 17 42 56.1 +0.3
baz=72
P05C Yuba Gap, Truc 71.52 322 ⇑P P 17 42 56.9 +0.6
baz=72,SNR=7.4
N07B Gerlach 71.55 324 ⇓P P 17 42 56.8 +0.3
baz=72,SNR=10
O06A Flanigan 71.63 323 ⇓P P 17 42 57.6 +0.6
baz=72
L09A Wilkinson Ranc 71.67 326 ⇓P P 17 42 57.2 0.0
baz=72,SNR=10
M08A Happy Creek Ra 71.67 325 ⇑P P 17 42 57.4 +0.2
baz=72
Q04C Lincoln 71.69 321 ⇓P P 17 42 57.7 +0.4
baz=72
BEKR Beckwourth 71.74 323 ⇑P P 17 42 58.2 +0.6
baz=72,SNR=5.4
F15A Butte 71.82 331 P P 17 42 58.5 +0.4
baz=72,SNR=9.5
Q03C Winters 71.94 321 ⇓P P 17 42 59.0 +0.1
baz=72
N06A Buffalo Meadow 72.02 324 ⇑P P 17 42 59.5 +0.2
baz=72,SNR=16
M07A Soldier Meadow 72.07 324 P P 17 43 00.1 +0.5
baz=72,SNR=6.6
O05C Quincy 72.13 322 ⇓P P 17 43 00.1 +0.2
baz=72
L08A Fields 72.15 325 ⇑P P 17 43 00.1 0.0
baz=72,SNR=16
K09A Rome 72.16 326 P P 17 43 00.2 +0.1
baz=72,SNR=39
HRY Holter Researc 72.17 332 eP P 17 43 00.5 +0.3
SUTB Sutter Butte 72.18 321 ⇑P P 17 43 00.7 +0.5
baz=72
ORV Oroville 72.21 322 ⇓P P 17 43 00.5 0.0
baz=72,SNR=25
EGMT Eagleton 72.29 334 eP P 17 43 00.4 -0.5
comp=Z,86nm,1.5s,mb5.4
EGMT Eagleton 72.29 334 ⇓P P 17 43 00.9 0.0
baz=72
E15A Deer Lodge 72.32 332 P P 17 43 01.2 +0.1
baz=72,SNR=8.9
O04C Chester 72.46 323 ⇑P P 17 43 02.0 +0.1
baz=73
L07A Adell 72.58 325 ⇓P P 17 43 02.8 +0.2
baz=73,SNR=6.1
K08A Mann Creek Ran 72.59 326 ⇑P P 17 43 02.8 +0.1
baz=73

F13A Darby 72.64 330 P **P** **17 43 03.2 +0.2**
baz=73,SNR=25
H11A Donnelly 72.68 329 P **P** **17 43 03.3 +0.1**
baz=73,SNR=7.0
M06C Likely Place G 72.68 324 ⇓P **P** **17 43 03.4 +0.2**
baz=73,SNR=5.7
TBI Tubuai 72.71 250 *e*S S 17 52 21.2 +2.1
comp=Z,1µm,25.8s
TBI *e*LQ 18 02 04.5
comp=Z,314nm,28.2s
TBI *e*LR LR 18 05 11.1
comp=Z,1µm,37.0s
E14A Clinton 72.71 331 ⇓P **P** **17 43 03.9 +0.5**
baz=73
D15A Lincoln 72.73 332 ⇓P **P** **17 43 03.7 +0.1**
baz=73
MAIT Maitri 72.77 160 *e*P **P** **17 43 03.4 -0.3**
NVL N'lazarevskaya 72.80 160 *d* /P **P** **17 43 03.6 -0.3**
NVL */* *P pP 17 43 32.2 -1.3
NVL */* *P sP 17 43 45.7 -0.6
NVL */* S S 17 52 21.1 +0.9
NVL */* 17 53 00.4
NVL */* *S sS 17 53 09.0 -2.1
NVL pmax pmax
comp=Z,94nm,1.1s,mb5.5
NVL MLR MLR
comp=Z,640nm,25.0s
H10A Noah's Angus R 72.97 328 ⇓P **P** **17 43 05.0 0.0**
baz=73
CHMT Chamberlain Mo 72.97 332 *e*P **P** **17 43 05.1 +0.2**
K07A Rock Creek Ran 72.98 325 ⇑P **P** **17 43 05.3 +0.3**
baz=73,SNR=6.1
HATC Hat Creek Radi 73.00 323 ⇓P **P** **17 43 05.7 +0.6**
baz=73
GASB Alder Springs 73.00 321 ⇑P **P** **17 43 05.4 +0.2**
baz=73
J08A Circle Bar Ran 73.02 326 P **P** **17 43 06.0 +0.9**
baz=73,SNR=5.9
MOD Modoc 73.04 324 *e*P **P** **17 43 05.3 -0.1**
comp=Z,27nm,1.1s,mb5.0
MOD Modoc 73.04 324 ⇑P **P** **17 43 05.3 0.0**
baz=73,SNR=20
I09A Lost Marbles R 73.05 327 ⇓P **P** **17 43 05.6 +0.2**
baz=73,SNR=11
E13A Victor 73.05 331 P **P** **17 43 06.2 +0.8**
baz=73,SNR=14
M05C Lookout 73.17 323 ⇓P **P** **17 43 06.2 +0.2**
baz=73,SNR=8.6
D14A Greenough 73.21 332 ⇓P **P** **17 43 06.9 +0.5**
baz=73
MSO Missoula 73.22 331 *e*P **P** **17 43 06.5 +0.1**
comp=Z,26nm,1.3s,mb4.9
P01C Double 8 Ranch 73.27 321 ⇑P **P** **17 43 07.0 +0.3**
baz=73
O02C Red Bluff 73.38 322 ⇑P **P** **17 43 07.5 +0.2**
baz=74
BMO Blue Mountains 73.44 328 *e*P **P** **17 43 07.4 -0.3**
BMO pmax pmax
comp=Z,18nm,0.8s,mb5.0
BMO Blue Mountains 73.44 328 *e*P **P** **17 43 07.4 -0.3**
comp=Z,18nm,0.8s,mb5.0
I08A Drewsey 73.44 327 ⇑P **P** **17 43 08.1 +0.4**
baz=74,SNR=5.1
J07A Hines 73.47 326 ⇑P **P** **17 43 08.2 +0.3**
baz=74
WDC Whiskeytown Da 73.48 322 ⇓P **P** **17 43 07.9 -0.1**
baz=74
H09A Durkee 73.49 328 ⇓P **P** **17 43 08.2 +0.2**
baz=74
F11A Grangeville 73.59 329 P **P** **17 43 08.4 -0.2**
baz=74,SNR=11
K06A Valley Falls 73.60 325 ⇑P **P** **17 43 08.6 0.0**
baz=74,SNR=19
D13A Huson 73.66 331 ⇓P **P** **17 43 08.8 -0.1**
baz=74,SNR=15
M03C McCloud 73.67 323 ⇓P **P** **17 43 09.1 0.0**
baz=74
M04C Macdoel 73.84 323 ⇑P **P** **17 43 09.9 -0.1**
baz=74,SNR=5.6
J06A Christmas Vall 73.85 325 ⇓P **P** **17 43 10.4 +0.3**
baz=74,SNR=18
H08A Prairie City 73.91 327 ⇓P **P** **17 43 10.7 +0.2**
baz=74,SNR=13
PPT Papeete 73.94 256 *e*S S 17 52 31.4 -1.6
comp=Z,757nm,24.8s
PPT *e*LQ 18 02 36.7
comp=Z,568nm,22.2s
PPT *e*LR LR 18 05 42.7
comp=Z,712nm,25.8s
PPT Papeete 73.94 256 LR LR 18 07 36.5
comp=Z,459nm,20.0s,baz=85,slow=29
E11A Bogner Ranch, 73.95 330 ⇑P **P** **17 43 11.0 +0.3**
baz=74,SNR=7.4
I07A Izee 74.05 326 ⇑P **P** **17 43 11.5 +0.2**
baz=74,SNR=11
L04A Klamath Falls 74.12 324 ⇓P **P** **17 43 11.6 -0.1**
baz=74
C13A Hot Springs 74.14 331 ⇑P **P** **17 43 11.8 0.0**
baz=74,SNR=9.5
M02C Callahan 74.18 323 ⇓P **P** **17 43 12.2 +0.2**
baz=74
F10A Beach Ranch, E 74.18 329 ⇑P **P** **17 43 12.3 +0.3**
baz=74,SNR=13
YBH Yreka Blue Hor 74.31 323 P **P** **17 43 11.1 -1.7**
comp=Z,8.8nm,0.7s,mb4.6,baz=116,slow=3.7,SNR=14
YBH sP sP 17 43 55.6 +0.4
comp=Z,11nm,0.9s,baz=93,slow=6.8,SNR=3.2
YBH Yreka Blue Hor 74.31 323 ⇓P **P** **17 43 12.0 -0.7**
baz=74,SNR=6.1
K04A Chilquin 74.31 324 ⇓P **P** **17 43 12.6 -0.2**
baz=74
F09A S2 Ranch, Elgi 74.34 328 ⇑P **P** **17 43 12.8 -0.1**
baz=74,SNR=20
I06A Prineville 74.34 326 ⇑P **P** **17 43 12.9 0.0**
baz=74,SNR=7.9
E10A Myers Farm, Un 74.48 329 ⇑P **P** **17 43 14.1 +0.4**
baz=75
D11A Klaveano Farm, 74.51 330 ⇑P **P** **17 43 13.8 -0.2**
baz=75,SNR=5.9
G08A Pilot Rock 74.59 328 ⇓P **P** **17 43 14.5 +0.1**
baz=75,SNR=8.1
B13A Whitefish 74.61 332 ⇓P **P** **17 43 14.7 +0.2**
baz=75
KTRM Thompson Ridge 74.80 323 P **P** **17 43 16.9 +1.2**
F08A Pendleton 74.84 328 ⇓P **P** **17 43 15.6 -0.2**
baz=75
J04A Umpqua Nationa 74.92 324 ⇓P **P** **17 43 16.6 +0.3**
baz=75,SNR=5.2
H06A Lindquist Farm 74.93 326 ⇑P **P** **17 43 16.8 +0.4**
baz=75,SNR=15
VIPM Ingram Point 74.94 326 P **P** **17 43 17.3 +0.9**
G07A Ruggs Ranch, H 74.94 327 ⇓P **P** **17 43 17.3 +1.0**
baz=75
E09A Wood Farm, Sta 75.02 329 ⇓P **P** **17 43 16.6 -0.2**
baz=75,SNR=11
I05A Bend 75.06 326 ⇓P **P** **17 43 18.1 +1.0**
baz=75
L02A Cave Junction 75.09 323 ⇑P **P** **17 43 18.3 +1.1**
baz=75
B12A Libby 75.18 332 ⇑P **P** **17 43 18.6 +0.8**
baz=75,SNR=5.2
H05A Madras 75.35 326 ⇑P **P** **17 43 19.9 +1.1**
baz=76
K02A Glendale 75.41 323 ⇑P **P** **17 43 19.7 +0.7**
baz=76
G06A Carlson Farm, 75.42 327 ⇑P **P** **17 43 20.2 +1.0**
baz=76
I04A Tendick Farm, 75.45 325 ⇓P **P** **17 43 19.9 +0.6**
baz=76
E08A Dider Farm, El 75.46 328 ⇑P **P** **17 43 19.7 +0.3**
baz=76
D09A Jones Farm, Ri 75.48 329 ⇓P **P** **17 43 19.5 0.0**
baz=76,SNR=9.5
F07A Phinny Hill Vi 75.50 328 ⇑P **P** **17 43 19.8 +0.2**
baz=76
C10A Spilker Farm, 75.52 330 ⇑P **P** **17 43 20.0 +0.2**
baz=76
HAWA Hanford 75.63 328 *e*P **P** **17 43 20.7 +0.4**
comp=Z,16nm,0.6s,mb4.9
D08A Wollman Farm, 75.78 329 P **P** **17 43 21.7 +0.5**
baz=76,SNR=6.3
G05A Wamic 75.79 326 ⇓P **P** **17 43 21.9 +0.6**
baz=76
J02A Umpqua 75.83 324 ⇑P **P** **17 43 22.3 +0.8**
baz=76
A11A Hall Mountain, 75.89 332 ⇓P **P** **17 43 22.1 +0.3**
baz=76,SNR=6.9
H04A Detroit Lake 75.90 325 ⇑P **P** **17 43 22.4 +0.6**
baz=76
OD2 Odessa Site #2 75.90 329 P **P** **17 43 22.4 +0.5**
E07A Sunnyside 75.91 328 ⇓P **P** **17 43 22.2 +0.3**
baz=76,SNR=6.1
C09A Chrisman Ranch 75.97 330 ⇓P **P** **17 43 22.5 +0.2**
baz=76
I03A Eugene 76.05 324 ⇑P **P** **17 43 22.2 -0.5**
baz=76
B09A Rice 76.35 330 ⇓P **P** **17 43 24.1 -0.3**
baz=76,SNR=6.3
G04A Mulino 76.39 326 ⇓P **P** **17 43 24.4 -0.3**
baz=77
D07A Quincy 76.40 328 ⇑P **P** **17 43 25.2 +0.5**
baz=77,SNR=7.6
E06A Yakima 76.47 327 ⇓P **P** **17 43 25.4 +0.3**
baz=77
H03A Soap Creek Ran 76.50 325 ⇓P **P** **17 43 25.6 +0.3**
baz=77
TBM Table Mountain 76.69 328 P **P** **17 43 27.1 +0.7**
WTV Waterville 76.73 329 P **P** **17 43 27.0 +0.4**
C07A Waterville 76.78 329 ⇓P **P** **17 43 26.9 +0.1**
baz=77,SNR=18
FCC Fort Churchill 76.82 348 *e*P **P** **17 43 26.4 -0.7**
F04A Amboy 76.83 326 ⇑P **P** **17 43 27.4 +0.3**
baz=77,SNR=6.9
D06A Cle Elum 76.84 328 ⇑P **P** **17 43 27.6 +0.4**
baz=77,SNR=7.5
WPW White Pass 76.87 327 P **P** **17 43 28.3 +1.0**
B08A Colville Reser 76.87 330 P **P** **17 43 27.0 -0.3**
baz=77,SNR=6.2
E05A Randle 76.89 327 ⇑P **P** **17 43 27.6 +0.2**
baz=77
A09A Danville 76.94 330 ⇓P **P** **17 43 28.0 +0.2**
baz=77
A08A Turner Farm, O 77.25 330 ⇑P **P** **17 43 29.4 -0.1**
baz=77,SNR=9.8
B07A Winthrop 77.33 329 ⇓P **P** **17 43 29.5 -0.5**
baz=78,SNR=6.3
E04A Onalaska 77.42 327 ⇓P **P** **17 43 30.4 0.0**
baz=78
D05A Enumclaw 77.42 328 P **P** **17 43 30.8 +0.4**
baz=78,SNR=7.7
C05A Tolt Reservoir 77.60 328 ⇓P **P** **17 43 31.5 +0.1**
baz=78
EDM Edmonton 77.76 336 *e*P **P** **17 43 30.7 -1.6**
TOA0 Torodi Ar. Sit 78.23 73 *e*P **P** **17 43 34.5 -0.4**
TORD Torodi Ar. Bea 78.23 73 P **P** **17 43 34.8 -0.2**
comp=Z,18nm,0.3s,mb5.3,baz=263,slow=4.7,SNR=275
TORD sP sP 17 44 18.9 +1.3
comp=Z,97nm,0.8s,baz=253,slow=5.4,SNR=9.7
TORD LR LR 18 16 32.8
comp=Z,601nm,20.9s,baz=235,slow=34
TORD Torodi Ar. Bea 78.23 73 P **P** **17 43 34.8 -0.2**
TORD sP sP 17 44 18.9 +1.3
TORD LR LR 18 16 32.8
A05A Maple Falls 78.66 329 ⇓P **P** **17 43 37.1 -0.2**
baz=79
PGC Sidney 79.12 328 *e*P **P** **17 43 40.7 +0.9**
comp=Z,104nm,0.9s,mb5.7
PBEJ Beja 80.53 46 *e*P **P** **17 43 48.6 +1.2**
comp=Z,47nm,1.3s,mb5.2
EMIN Mina Concepcio 81.24 47 P **P** **17 43 52.9 +1.8**
comp=Z,27nm,1.0s,mb5.0
ESPR Espera 81.40 48 P **P** **17 43 53.5 +1.5**
comp=Z,13nm,0.5s,mb5.0
EBAD Badajoz 81.47 46 P **P** **17 43 54.4 +2.0**
comp=Z,18nm,0.5s,mb5.2
EJIF Jimena Fronter 81.48 48 P **P** **17 43 54.5 +2.1**
EJIF pmax pmax
comp=Z,16nm,0.5s,mb5.1
EJIF Jimena Fronter 81.48 48 P **P** **17 43 54.5 +2.0**
comp=Z,16nm,0.5s,mb5.1
VNDA Vanda 81.64 190 P **P** **17 43 53.1 -0.1**
comp=Z,22nm,0.9s,mb5.0,baz=133,slow=4.6,SNR=99
VNDA pP pP 17 44 23.0 -0.5
comp=Z,24nm,1.0s,baz=144,slow=5.6,SNR=8.1
VNDA LR LR 18 14 36.2
comp=Z,368nm,18.9s,baz=128,slow=31
VNDA Vanda 81.64 190 *e*P **P** **17 43 53.2 -0.1**
VNDA *e**PP pP 17 44 21.9 -1.6
VNDA pmax pmax
comp=Z,24nm,0.9s
VNDA Vanda 81.64 190 *e*P **P** **17 43 53.2 -0.1**
comp=Z,24nm,0.9s,mb5.0
VNDA *e*pP pP 17 44 21.9 -1.6
PCBR Castelo Branco 81.67 45 *e*P **P** **17 43 54.2 +0.8**
PVIS Viseu 81.82 44 *e*P **P** **17 43 55.2 +1.0**
EMIJ Mijas 82.03 48 P **P** **17 43 57.0 +1.7**
comp=Z,13nm,0.5s,mb5.0
PCAB Cabril 82.22 43 *e*P **P** **17 43 57.8 +1.5**
comp=Z,151nm,2.0s,mb5.5
SYO Syowa Base 82.46 160 ‖*e*P **P** **17 43 56.4 -1.2**
SYO Syowa Base 82.46 160 ‖ */*PcP PcP 17 43 57.6 -4.8
EADA Adamuz 82.89 47 P **P** **17 43 59.5 -0.2**
comp=Z,6.1nm,0.5s,mb4.7
PBRG Braganca 83.11 43 *e*P **P** **17 44 02.0 +1.1**
comp=Z,69nm,1.9s,mb5.2
ECAL Calabor 83.18 43 P **P** **17 44 02.0 +0.8**
comp=Z,21nm,0.5s,mb5.2
EBAN Banos Encina 83.45 47 P **P** **17 44 03.6 +0.9**
EBAN pmax pmax
comp=Z,29nm,0.9s,mb5.1
EBAN Banos Encina 83.45 47 P **P** **17 44 03.6 +0.9**
comp=Z,29nm,0.9s,mb5.1
EBER Berja 83.54 49 P **P** **17 44 03.6 +0.5**
comp=Z,129nm,1.4s,mb5.6
EPON Pontenova 83.58 42 P **P** **17 44 03.9 +0.6**
comp=Z,28nm,0.8s,mb5.1
SUR Sutherland 83.67 122 P **P** **17 44 06.0 +2.2**
comp=Z,198nm,1.0s,mb5.9,SNR=6.2
SUR Sutherland 83.67 122 *e*P **P** **17 44 05.7 +1.9**
comp=Z,33nm,0.9s,mb5.2
PAB San Pablo 83.67 46 *e*P **P** **17 44 04.6 +0.8**
PAB pmax pmax
comp=Z,76nm,1.0s,mb5.5
PAB San Pablo 83.67 46 *e*P **P** **17 44 04.6 +0.8**
comp=Z,76nm,1.0s,mb5.5
EQES Quesada 83.80 48 P **P** **17 44 05.0 +0.6**
comp=Z,21nm,0.6s,mb5.2
ESDC Sonseca Array 84.00 46 P **P** **17 44 06.4 +1.0**
comp=Z,19nm,0.6s,mb5.1,baz=255,slow=5.1,SNR=50
ESDC pP pP 17 44 37.9 +2.1
comp=Z,15nm,0.9s,baz=255,slow=5.2,SNR=3.9
ESDC sP sP 17 44 50.1 +1.7
comp=Z,18nm,0.8s,baz=255,slow=4.9,SNR=5.6
ESDC LR LR 18 18 32.2
comp=Z,357nm,20.5s,baz=235,slow=33
ESDC Sonseca Array 84.00 46 P **P** **17 44 06.4 +0.9**
comp=Z,11nm,0.4s,mb5.0
ESLA Sonseca Array 84.00 46 *e*P **P** **17 44 04.9 -0.6**
comp=Z,15nm,1.0s,mb4.8
ENIJ Nijar 84.07 49 P **P** **17 44 06.8 +1.0**
ENIJ pmax pmax
comp=Z,21nm,0.6s,mb5.1
ENIJ Nijar 84.07 49 P **P** **17 44 06.8 +1.0**
comp=Z,21nm,0.6s,mb5.2
TSUM Tsumeb 84.25 108 P **P** **17 44 08.3 +1.6**
comp=Z,52nm,0.8s,mb5.4,baz=233,slow=4.7,SNR=70
TSUM pP pP 17 44 39.3 +2.3
comp=Z,25nm,1.0s,baz=270,slow=3.8,SNR=4.2
TSUM sP sP 17 44 52.4 +2.8
comp=Z,28nm,0.7s,baz=241,slow=4.7,SNR=5.5
TSUM LR LR 18 19 25.1
comp=Z,243nm,19.4s,baz=252,slow=34
TSUM Tsumeb 84.25 108 *e*P **P** **17 44 08.4 +1.7**
comp=Z,51nm,0.8s,mb5.4
GUD Guadarrama 84.30 45 P **P** **17 44 07.0 0.0**
GUD pmax pmax
comp=Z,16nm,0.5s,mb5.1
GUD Guadarrama 84.30 45 P **P** **17 44 07.0 0.0**
comp=Z,16nm,0.5s,mb5.1
EVIA Vianos 84.56 47 P **P** **17 44 09.4 +1.1**
EVIA pmax pmax
comp=Z,31nm,0.8s,mb5.3
EVIA Vianos 84.56 47 P **P** **17 44 09.4 +1.1**
comp=Z,31nm,0.8s,mb5.3
YKA Yellowknife Ar 85.24 342 P **P** **17 44 10.2 -1.4**
comp=Z,27nm,0.6s,mb5.4,baz=135,slow=5.1,SNR=299
YKA pP pP 17 44 41.9 -0.2
comp=Z,10nm,0.7s,baz=135,slow=5.0,SNR=3.5
YKA Yellowknife Ar 85.24 342 P **P** **17 44 10.2 -1.4**
YKA pP pP 17 44 41.9 -0.2
ETOB Tobarra 85.24 48 P **P** **17 44 13.7 +2.0**
comp=Z,30nm,0.6s,mb5.4
EMOS Mosqueruela 86.71 46 P **P** **17 44 21.9 +3.0**
comp=Z,3.7nm,0.5s,mb4.6
SJPF Ste Jean 87.34 44 *e*P **P** **17 44 21.4 -0.6**
ERTA Horta de San J 87.51 46 P **P** **17 44 24.6 +1.9**
comp=Z,7.3nm,0.5s,mb5.0
ETSF Etsaut 87.70 44 *e*P **P** **17 44 23.6 -0.1**
comp=Z,12nm,0.6s,mb4.8
ETSF Etsaut 87.70 44 *e*P **P** **17 44 23.6 -0.1**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ETSF Etsaut 87.70 44 *e*P **P** **17 44 23.6 -0.1**
comp=Z,6.1nm,0.6s,mb4.8
EBIE Bielsa 88.08 45 P **P** **17 44 27.3 +1.8**
comp=Z,16nm,0.6s,mb5.2
QUIF Quistinic 88.19 39 *e*P **P** **17 44 25.6 -0.4**
comp=Z,170nm,1.4s,mb5.6
QUIF Quistinic 88.19 39 *e*P **P** **17 44 25.6 -0.4**
QUIF pmax pmax
comp=Z,85nm,1.4s,mb5.6
QUIF Quistinic 88.19 39 *e*P **P** **17 44 25.6 -0.4**
comp=Z,85nm,1.4s,mb5.6
DLBC Dease Lake 86.20 333 *e*P **P** **17 44 25.6 -0.5**
ROSF Rostrenen 88.31 38 *e*P **P** **17 44 26.3 -0.3**
EPF Esparros 88.35 44 *e*P **P** **17 44 26.5 -0.3**
comp=Z,41nm,1.1s,mb5.1
EPF Esparros 88.35 44 *e*P **P** **17 44 26.5 -0.3**
EPF pmax pmax
comp=Z,21nm,1.1s,mb5.1
EPF Esparros 88.35 44 *e*P **P** **17 44 26.5 -0.3**
comp=Z,21nm,1.1s,mb5.1
BOSA Boshof 88.40 119 P **P** **17 44 28.4 +1.4**
comp=Z,14nm,0.9s,mb5.0,baz=237,slow=4.0,SNR=12
BOSA pP pP 17 44 57.8 +0.2
comp=Z,4.0nm,0.7s,baz=262,slow=2.0,SNR=1.6
BOSA LR LR 18 20 01.9
comp=Z,196nm,19.4s,baz=254,slow=33
BOSA Boshof 88.40 119 P **P** **17 44 28.4 +1.4**
BOSA *PP pP 17 44 57.8 +0.2
SGMF Saint Gilles 88.71 39 *e*P **P** **17 44 28.0 -0.4**
LFF La Frestale 89.38 43 *e*P **P** **17 44 31.3 -0.3**
comp=Z,57nm,0.9s,mb5.3
LFF La Frestale 89.38 43 *e*P **P** **17 44 31.3 -0.3**
LFF pmax pmax
comp=Z,29nm,0.9s,mb5.3
LFF La Frestale 89.38 43 *e*P **P** **17 44 31.3 -0.3**
comp=Z,29nm,0.9s,mb5.3
MFF Saint Martin d 89.49 41 *e*P **P** **17 44 31.7 -0.4**
comp=Z,26nm,0.7s,mb5.1
MFF Saint Martin d 89.49 41 *e*P **P** **17 44 31.7 -0.4**
MFF pmax pmax
comp=Z,13nm,0.7s,mb5.1
MFF Saint Martin d 89.49 41 *e*P **P** **17 44 31.7 -0.4**
comp=Z,13nm,0.7s,mb5.1
MTLF Montolieu 89.74 45 *e*P **P** **17 44 32.7 -0.6**
comp=Z,16nm,0.7s,mb5.0
MTLF Montolieu 89.74 45 *e*P **P** **17 44 32.7 -0.6**
MTLF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
MTLF Montolieu 89.74 45 *e*P **P** **17 44 32.7 -0.6**
comp=Z,7.7nm,0.7s,mb4.9
LBTB Lobatse 89.77 116 P **P** **17 44 35.0 +1.6**
comp=Z,15nm,1.0s,mb5.1,baz=261,slow=5.7,SNR=12
LBTB sP sP 17 45 18.4 +1.8
comp=Z,11nm,0.8s,baz=290,slow=6.5,SNR=3.8
LBTB Lobatse 89.77 116 *e*P **P** **17 44 34.9 +1.5**
LBTB pmax pmax
comp=Z,16nm,1.0s,mb5.1
LBTB Lobatse 89.77 116 *e*P **P** **17 44 34.9 +1.5**
comp=Z,16nm,1.0s,mb5.1
GRR Gorron 89.79 39 *e*P **P** **17 44 32.7 -0.8**
comp=Z,47nm,0.9s,mb5.3
GRR Gorron 89.79 39 *e*P **P** **17 44 32.7 -0.8**
GRR pmax pmax
comp=Z,23nm,0.9s,mb5.3
GRR Gorron 89.79 39 *e*P **P** **17 44 32.7 -0.8**
comp=Z,23nm,0.9s,mb5.3
RJF Les Rejaudoux 90.03 43 *e*P **P** **17 44 34.0 -0.6**
FLN La Foliniere 90.17 39 *e*P **P** **17 44 34.4 -0.9**
comp=Z,24nm,0.9s,mb5.0
FLN La Foliniere 90.17 39 *e*P **P** **17 44 34.4 -0.9**
FLN pmax pmax
comp=Z,12nm,0.9s,mb5.0
FLN La Foliniere 90.17 39 *e*P **P** **17 44 34.4 -0.9**
comp=Z,12nm,0.9s,mb5.0
MAW Mawson 90.23 164 P **P** **17 44 35.5 -0.1**
comp=Z,41nm,0.9s,mb5.5,baz=215,slow=5.4,SNR=60
MAW pP pP 17 45 06.6 +0.4
comp=Z,11nm,0.6s,baz=193,slow=5.1,SNR=4.1
MAW LR LR 18 23 05.0
comp=Z,230nm,19.4s,baz=223,slow=34
MAW Mawson 90.23 164 *e*P **P** **17 44 35.4 -0.1**
MAW pmax pmax
comp=Z,67nm,0.9s
MAW Mawson 90.23 164 *e*P **P** **17 44 35.4 -0.2**
comp=Z,67nm,0.9s,mb5.8
CAF Calviac 90.24 43 *e*P **P** **17 44 35.0 -0.6**
comp=Z,14nm,0.6s,mb4.9
CAF Calviac 90.24 43 *e*P **P** **17 44 35.0 -0.6**
CAF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
CAF Calviac 90.24 43 *e*P **P** **17 44 35.0 -0.6**
comp=Z,6.9nm,0.6s,mb5.0
LDF La Druitiere 90.32 39 *e*P **P** **17 44 35.2 -0.8**
comp=Z,27nm,0.8s,mb5.1
LDF La Druitiere 90.32 39 *e*P **P** **17 44 35.2 -0.8**
LDF pmax pmax
comp=Z,13nm,0.8s,mb5.1
LDF La Druitiere 90.32 39 *e*P **P** **17 44 35.2 -0.8**
comp=Z,13nm,0.8s,mb5.1
TCF Toulx Ste Croi 90.86 42 *e*P **P** **17 44 37.6 -0.9**
comp=Z,19nm,0.9s,mb4.9
TCF Toulx Ste Croi 90.86 42 *e*P **P** **17 44 37.6 -0.9**
TCF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
TCF Toulx Ste Croi 90.86 42 *e*P **P** **17 44 37.6 -0.9**
comp=Z,9.6nm,0.9s,mb4.9
LASF Ste Croix 91.11 44 *e*P **P** **17 44 39.1 -0.6**
comp=Z,65nm,1.3s,mb5.3
BGF Bois d'Agland 91.37 42 *e*P **P** **17 44 40.1 -0.7**
comp=Z,27nm,0.7s,mb5.2
BGF Bois d'Agland 91.37 42 *e*P **P** **17 44 40.1 -0.7**
BGF pmax pmax
comp=Z,14nm,0.7s,mb5.2
BGF Bois d'Agland 91.37 42 *e*P **P** **17 44 40.1 -0.7**
comp=Z,14nm,0.7s,mb5.2
AVF Avril sur Loir 91.78 42 *e*P **P** **17 44 42.2 -0.5**
VIVF Saint-Julien-l 91.94 44 *e*P **P** **17 44 42.8 -0.7**
comp=Z,21nm,1.1s,mb5.0
VIVF Saint-Julien-l 91.94 44 *e*P **P** **17 44 42.8 -0.7**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb5.0
VIVF Saint-Julien-l 91.94 44 *e*P **P** **17 44 42.8 -0.7**
comp=Z,10nm,1.1s,mb5.0
SSF Saint Saulge 91.98 41 *e*P **P** **17 44 42.5 -1.1**
comp=Z,26nm,1.3s,mb5.0
SSF Saint Saulge 91.98 41 *e*P **P** **17 44 42.5 -1.1**
SSF pmax pmax
comp=Z,13nm,1.3s,mb5.0
SSF Saint Saulge 91.98 41 *e*P **P** **17 44 42.5 -1.1**
comp=Z,13nm,1.3s,mb5.0
SMF Signal de Mont 92.04 42 *e*P **P** **17 44 42.8 -1.1**
comp=Z,100nm,1.3s,mb5.6
SMF Signal de Mont 92.04 42 *e*P **P** **17 44 42.8 -1.1**
SMF pmax pmax
comp=Z,50nm,1.3s,mb5.6
SMF Signal de Mont 92.04 42 *e*P **P** **17 44 42.8 -1.1**
comp=Z,50nm,1.3s,mb5.6
SMRF Simiane la Rot 92.24 45 *e*P **P** **17 44 44.4 -0.4**
comp=Z,278nm,1.9s,mb5.9
SMRF Simiane la Rot 92.24 45 *e*P **P** **17 44 44.4 -0.4**
comp=Z,278nm,1.9s,mb5.2
LOR Lormes 92.28 41 *e*P **P** **17 44 43.9 -1.1**
comp=Z,23nm,1.1s,mb5.0
LOR Lormes 92.28 41 *e*P **P** **17 44 43.9 -1.1**
LOR pmax pmax
comp=Z,12nm,1.1s,mb5.0
LOR Lormes 92.28 41 *e*P **P** **17 44 43.9 -1.1**
comp=Z,12nm,1.1s,mb5.0
KEST Kesra 92.28 54 P **P** **17 44 47.6 +2.6**
comp=Z,2.1nm,0.8s,mb4.4,baz=230,slow=22,SNR=6.2
KEST LR LR 18 26 21.9
comp=Z,97nm,21.4s,baz=195,slow=35
LMR La Mourre 92.66 46 *e*P **P** **17 44 46.2 -0.6**
ORIF Oris-en-Rattie 92.77 44 *e*P **P** **17 44 46.8 -0.5**
comp=Z,16nm,0.7s,mb5.2
ORIF Oris-en-Rattie 92.77 44 *e*P **P** **17 44 46.8 -0.5**
ORIF pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
ORIF Oris-en-Rattie 92.77 44 *e*P **P** **17 44 46.8 -0.5**
comp=Z,8.1nm,0.7s,mb5.2

FRF La Foret Royal 92.83 45 *e*P P 17 44 47.1 -0.5
MBDF Montbardon 93.30 44 *e*P P 17 44 49.5 -0.2
comp=Z,69nm,1.6s,mb5.4
MBDF Montbardon 93.30 44 *e*P P 17 44 49.5 -0.2
MBDF pmax pmax
comp=Z,35nm,1.6s,mb5.4
MBDF Montbardon 93.30 44 *e*P P 17 44 49.5 -0.2
comp=Z,35nm,1.6s,mb5.4
MEZF Maizieres J'vi 93.47 40 *e*P P 17 44 50.0 -0.5
SBF Sospel 93.47 45 *e*P P 17 44 50.1 -0.4
CABF La Chapelle 93.48 42 *e*P P 17 44 50.1 -0.5
BAIF Baives 93.50 39 *e*P P 17 44 50.0 -0.7
LPL La Plagne 93.53 44 *e*P P 17 44 50.6 -0.2
comp=Z,88nm,1.5s,mb5.6
LPL La Plagne 93.53 44 *e*P P 17 44 50.6 -0.2
LPL pmax pmax
comp=Z,44nm,1.5s,mb5.6
LPL La Plagne 93.53 44 *e*P P 17 44 50.6 -0.2
comp=Z,44nm,1.5s,mb5.6
LPG La Plagne 93.54 44 *e*P P 17 44 50.6 -0.3
comp=Z,163nm,1.8s,mb5.8
LPG La Plagne 93.54 44 *e*P P 17 44 50.6 -0.3
LPG pmax pmax
comp=Z,81nm,1.8s,mb5.8
LPG La Plagne 93.54 44 *e*P P 17 44 50.6 -0.3
comp=Z,81nm,1.8s,mb5.8
MATP Matopo 93.74 112 P P 17 44 53.5 +1.8
comp=Z,33nm,0.9s,mb5.7,baz=239,slow=4.7,SNR=41
MATP pP pP 17 45 24.2 +1.7
comp=Z,10nm,0.8s,baz=268,slow=3.1,SNR=3.2
MATP sP sP 17 45 37.1 +2.1
comp=Z,23nm,0.9s,baz=237,slow=6.0,SNR=4.6
GIVF Givet 93.88 39 *e*P P 17 44 51.8 -0.6
HAU Haudompre 94.11 41 *e*P P 17 44 53.0 -0.5
PGF Pioggiola 94.14 47 *e*P P 17 44 53.2 -0.4
DRV Dumont d'Urvil 94.15 192 SP SP 17 57 14.0 +4.3
HINF Hinteralfeld 94.37 42 *e*P P 17 44 54.2 -0.5
CDF Champ du Feu 94.83 41 *e*P P 17 44 56.4 -0.4
DAWY Dawson 94.98 336 *e*P P 17 44 55.9 -1.6
INK Inuvik 94.99 341 LR LR 18 34 08.8
comp=Z,272nm,18.2s,baz=202,slow=39
LSZ Lusaka 95.07 107 P P 17 45 01.0 +3.2
comp=Z,1.9nm,0.7s,mb4.7,baz=356,slow=3.6,SNR=5.2
LSZ Lusaka 95.07 107 P P 17 45 01.0 +3.2
GRA1 Grafenberg Arr 97.69 41 *e*Pdif P 17 45 10.4 +0.7
GRF Grafenberg Arr 97.69 41 *e*Pdiff P 17 45 10.4 +0.7
CADS Cadrg 98.42 44 *e*Pdiff P 17 45 13.8 +0.8
JAVS Javornik 98.56 45 *e*Pdiff P 17 45 14.6 +0.9
JAVS *e*PP PP 17 49 13.9 -1.7
LJU Ljubljana 98.91 45 *e*PP PP 17 49 16.8 -1.5
GERES GERESS Array B 99.04 42 P P 17 45 15.8 0.0
comp=Z,1.0nm,0.7s,mb4.4,baz=222,slow=3.4,SNR=9.4
GERES pP pP 17 45 46.8 +0.2
comp=Z,0.4nm,0.5s,baz=264,slow=3.8,SNR=2.4
BOJS Bojanci 99.28 45 *e*PP PP 17 49 19.5 -1.5
BRG Berggiesshubel 99.68 40 *e*P Pdif 17 45 20.4 +1.8
comp=Z,11nm,1.4s
BRG *e* 17 46 06.5
comp=Z,2.2nm,1.0s
HFS Hagfors 101.59 31 P Pdif 17 45 26.6 -0.6
comp=Z,2.8nm,0.9s,baz=197,slow=3.0,SNR=2.9
ARCES ARCESS Array B 107.53 21 Pdiff Pdif 17 45 55.0 +1.5
comp=Z,1.6nm,0.8s,baz=319,slow=2.6,SNR=5.1
ARCES PKKPbc PKKPbc 18 01 16.0 +0.2
comp=Z,2.9nm,0.9s,baz=91,slow=3.6,SNR=7.3
ARCES ARCESS Array B 107.53 21 Pdif Pdif 17 45 55.0 +1.5
ARCES PKKPbc PKKPbc 18 01 16.0 +0.2
AKASG Malin Array Be 109.25 41 PKiKP PKiKP 17 50 03.7 -0.7
comp=Z,1.0nm,0.5s,baz=274,slow=2.6,SNR=8.5
AKASG pPKiKP 17 50 34.9
comp=Z,1.5nm,0.8s,baz=259,slow=7.8,SNR=3.3
BRTR Keskin Array B 111.89 53 PKiKP PKiKP 17 50 10.7 +1.3
comp=Z,1.0nm,0.7s,baz=182,slow=2.1,SNR=5.4
BRTR pPKiKP 17 50 41.6
comp=Z,2.0nm,0.9s,baz=225,slow=3.3,SNR=5.4
BRTR PKKPbc PKKPbc 18 01 10.3 +8.4
comp=Z,1.9nm,0.9s,baz=123,slow=5.3,SNR=9.3
ASF Jabal al Asfar 114.03 62 PKP PKiKP 17 50 14.1 +0.7
comp=Z,2.8nm,0.6s,baz=200,slow=1.3,SNR=4.6
ASF pPKP 17 50 47.0
baz=225,slow=1.4
MALT Malatya 115.57 55 PKIKP PKPdf 17 50 17.8 +1.4
MALT Malatya 115.57 55 *e*PKPdf PKPdf 17 50 18.2 +1.8
KIV Kislovodsk 118.58 48 *e*PKIKP PKPdf 17 50 23.6 +1.4
KIV *e* 17 50 54.8
KIV pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 120.41 53 PKP PKPdf 17 50 26.6 +0.9
comp=Z,6.3nm,0.6s,baz=223,slow=3.4,SNR=7.2
GNI Garni 120.41 53 *e*PKPdf PKPdf 17 50 27.7 +2.0
STKA Stephens Creek 122.54 214 *e*PKP PKPdf 17 50 29.7 -0.1
comp=Z,2.4nm,0.6s
STKA *e*pPKP pPKPdf 17 51 01.6 -0.2
STKA Stephens Creek 122.54 214 PKP PKPdf 17 50 30.0 +0.2
comp=Z,3.2nm,0.7s,baz=321,slow=1.2,SNR=7.3
STKA pPKP pPKPdf 17 51 02.8 +1.0
comp=Z,3.1nm,0.6s,baz=69,slow=2.7,SNR=4.2
STKA sPKP 17 51 13.7
comp=Z,4.2nm,0.6s,baz=139,slow=2.5,SNR=7.4
NAY Al-Naaiem 122.80 65 *e*P PKPdf 17 50 32.1 +1.8
NAY AMb AMB 17 50 32.7
comp=Z,4.1nm,0.6s
MIB Mutribah 122.89 65 *e*P PKPdf 17 50 32.4 +1.9
MIB AMb AMB 17 50 34.0
comp=Z,14nm,0.7s
RDF Al-Radifah 123.06 66 *e*P PKPdf 17 50 32.5 +1.7
RDF AMb AMB 17 50 36.4
comp=Z,26nm,1.0s
TIXI Tiksi 123.14 352 *i* PKIKP PKPdf 17 50 29.7 -1.2
TIXI pmax pmax
comp=Z,2.0nm,0.8s
UMR Umm Al-Rimmam 123.22 65 *e*P PKPdf 17 50 32.8 +1.7
ARU Arti 125.11 31 *i* PKIKP PKPdf 17 50 35.0 +0.3
ARU *e* 17 52 20.9
ARU *e* 17 57 23.0
ARU Arti 125.11 31 *e*PKPdf PKPdf 17 50 34.5 -0.2
CTA Charters Tower 128.12 227 *e*PKP PKPdf 17 50 41.2 +0.7
comp=Z,5.2nm,0.8s
CTA Charters Tower 128.12 227 PKP PKPdf 17 50 40.5 0.0
comp=Z,2.7nm,0.5s,baz=268,slow=1.7,SNR=6.2
CTA pPKP pPKPdf 17 51 13.1 +0.6
comp=Z,4.0nm,0.8s,baz=105,slow=3.6,SNR=2.4
AB31 Akbulak array 128.87 39 *i* PKIKP PKPdf 17 50 42.6 +0.7
AB31 pmax pmax
comp=Z,9.0nm,0.7s
FORT Forrest 129.62 202 *e*PKP PKPdf 17 50 44.0 +0.7
comp=Z,17nm,0.8s
YAK Yakutsk 131.69 347 *e*PKIKP PKPdf 17 50 47.0 -0.3
YAK *e* 17 51 19.3
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.8s
YAK pmax pmax
comp=E,7.0nm,1.0s
BRVK Borovoye 132.66 30 PKIKP PKPdf 17 50 50.0 +0.9
BRVK Borovoye 132.66 30 *e*PKPdf PKPdf 17 50 49.7 +0.6
BVA0 Borovoye Array 132.73 30 *i* PKIKP PKPdf 17 50 50.8 +1.6
BVA0 pmax pmax
comp=Z,4.0nm,1.5s
BVAR Borovoye Array 132.73 30 PKP PKPdf 17 50 50.5 +1.3
comp=Z,3.2nm,0.5s,baz=285,slow=3.7,SNR=25
BVAR pPKP pPKPdf 17 51 22.6 +1.4
comp=Z,2.7nm,0.7s,baz=264,slow=1.5,SNR=3.9
AS31 Alice Springs 133.16 213 *e*PKPdf PKPdf 17 50 50.6 +0.5
ASAR Alice Springs 133.16 213 PKhKP 17 50 34.0
comp=Z,0.5nm,0.7s,baz=136,slow=2.5,SNR=6.1
ASAR PKP PKPdf 17 50 50.5 +0.5
comp=Z,4.9nm,0.8s,baz=142,slow=1.8,SNR=24
ASAR pPKP pPKPdf 17 51 23.1 +1.0
comp=Z,4.6nm,0.6s,baz=132,slow=1.5,SNR=7.3
ASAR sPKP 17 51 34.0
comp=Z,7.2nm,0.8s,baz=134,slow=2.2,SNR=10
ASAR SKKPbc 18 03 26.6
comp=Z,0.7nm,0.8s,baz=349,slow=3.6,SNR=4.2
ASAR Alice Springs 133.16 213 PKHKP 17 50 34.1
ASAR 17 50 50.6
ASAR 17 51 23.1
ASAR 17 51 34.1

WB2 Warramunga Arr 135.91 217 *e*PKP 17 50 41.2
WB2 *e*PKIKP PKPdf 17 50 55.7 +0.5
WB2 *ep*PKP pPKPdf 17 51 26.9 -0.3
WB2 *e*PKS 17 54 26.8
WB2 *e* 17 54 59.4
WRA Warramunga Arr 135.92 217 PKhKP 17 50 44.1
comp=Z,1.1nm,0.9s,baz=137,slow=2.8,SNR=13
WRA PKP PKPdf 17 50 56.0 +0.8
comp=Z,13nm,0.9s,baz=149,slow=1.6,SNR=53
WRA pPKP pPKPdf 17 51 26.9 -0.3
comp=Z,5.4nm,0.6s,baz=148,slow=1.8,SNR=4.7
WRA sPKP 17 51 37.9
comp=Z,9.1nm,0.7s,baz=146,slow=1.9,SNR=10
WRA SKKPbc 18 03 04.3
comp=Z,0.4nm,0.9s,baz=307,slow=3.3,SNR=4.8
WRA Warramunga Arr 135.92 217 PKHKP 17 50 44.1
WRA 17 50 56.0
WRA 17 51 26.9
WRA 17 51 37.9
WRAB Tennant Creek 135.92 217 *e*PKIKP PKPdf 17 50 55.9 +0.7
NVS Novosibirsk 136.81 21 *i* PKIKP PKPdf 17 50 57.6 +0.8
NVS *i* 17 51 29.0
NVS pmax pmax
comp=E,16nm,1.9s
NVS pmax pmax
comp=Z,44nm,1.9s
ZAL Zalesovo 138.08 21 PKhKP 17 50 52.5
comp=Z,1.6nm,0.4s,baz=87,slow=5.6,SNR=4.5
ZAL PKP PKPdf 17 50 59.1 0.0
comp=Z,16nm,0.6s,baz=162,slow=2.4,SNR=50
ZAL pPKP pPKPdf 17 51 31.4 +0.2
comp=Z,12nm,0.9s,baz=173,slow=1.9,SNR=5.1
KKAR Karatay Array 138.15 42 *i* PKIKP PKPdf 17 51 01.0 +1.7
KKAR pmax pmax
comp=Z,1.0nm,0.6s
BOD Bodaibo 138.15 355 *e*PKHKP 17 50 46.3
BOD pmax pmax
comp=Z,5.0nm,2.1s
BOD pmax pmax
comp=Z,6.0nm,1.4s
FRU Bishkek 140.88 40 *e*PKIKP PKPdf 17 51 08.0 +3.7
FRU *e* 17 51 38.0
AAK Ala-Archa 140.91 41 *e*PKHKP 17 50 59.5
KLR Kul'dur 141.82 335 *e*PKIKP PKPdf 17 51 02.0 -4.0
KLR *e* 17 51 32.7
FITZ Fitzroy Crossi 141.91 207 *e*PKP 17 50 49.4
comp=Z,3.0nm,0.9s
FITZ *e*PKIKP PKPdf 17 51 01.1 -5.0
MK31 Makanchi Array 142.60 30 PKHKP 17 51 03.6
MK31 Makanchi Array 142.60 30 *e*PKPdf PKPdf 17 51 03.2 -4.1
MKAR Makanchi Array 142.60 30 PKhKP 17 51 03.3
comp=Z,3.8nm,0.5s,baz=320,slow=3.0,SNR=86
MKAR PKP PKPdf 17 51 07.3 -0.1
comp=Z,4.8nm,0.6s,baz=279,slow=2.1,SNR=23
MKAR pPKP pPKPdf 17 51 39.6 +0.2
comp=Z,3.1nm,0.6s,baz=337,slow=2.8,SNR=2.7
MKAR sPKP 17 51 50.4
comp=Z,5.9nm,0.7s,baz=330,slow=2.9,SNR=5.5
KAKA Kakadu 142.66 221 *e*PKP PKPdf 17 51 03.5 -4.0
comp=Z,8.7nm,0.7s
KSH Kashi 143.49 44 *e*PKP PKPdf 17 51 09.0 +0.1
KSH *e*PKS 17 54 44.0
KSH *e*SKS SKSdf 17 58 09.5 +2.0
KSH LR LR
comp=N,912nm,5.7s
KSH LR LR
comp=E,835nm,5.2s
KSH LR LR
comp=Z,1μm,9.2s
IRK Irkutsk 143.82 4 *e*PKIKP PKPdf 17 51 07.1 -2.4
IRK *e* 17 51 47.5
IRK pmax pmax
comp=Z,78nm,2.2s
CIT Chita 143.93 354 *e*PKIKP PKPdf 17 51 06.8 -2.9
CIT *e* 17 51 42.5
CIT *e* 17 54 23.3
CIT pmax pmax
comp=Z,39nm,4.1s
TLY Talaya 144.34 5 *e*PKIKP PKPdf 17 51 09.2 -1.2
ZAK Zakamensk 145.59 6⇑ *i*PKIKP PKPdf 17 51 13.0 +0.4
ZAK *e* 17 51 46.4
ZAK pmax pmax
comp=Z,34nm,1.4s
ZAK pmax pmax
comp=Z,36nm,1.0s
HIA Hailar 145.63 347 *e*PKP2 PKPab 17 51 12.0 -1.6
MDJ Mudanjiang 146.34 332 PKP PKPdf 17 51 14.3 +0.5
MDJ APKP 17 51 42.5
MDJ XPKP 17 51 54.5
MDJ PP PP 17 54 38.5 -0.2
MDJ SS SS 18 13 28.3 +2.4
MDJ PP PP
comp=Z,201nm,5.4s
MDJ LR LR
comp=E,235nm,47.5s
MDJ LR LR
comp=Z,207nm,34.7s
THN Thein Dam 146.39 55 *e*P PKPdf 17 51 14.4 +0.5
MJAR Matsushiro Arr 146.51 313 PKPbc PKPbc 17 51 15.8 +0.1
comp=Z,31nm,0.9s,baz=74,slow=1.0,SNR=41
MJAR pPKPbc pPKPbc 17 51 47.1 -0.3
comp=Z,28nm,1.0s,baz=60,slow=2.2,SNR=4.6
MAJO Matsushiro 146.51 313 *e*PKIKP PKPdf 17 51 14.9 +0.8
MAT Matsushiro 146.51 313 PKP PKPdf 17 51 15.2 +1.1
DLH Dalhousie 146.54 55 *e*P PKPdf 17 51 15.0 +0.8
DLH *ex* x 17 51 54.0
POO Poona 147.13 81⇓ *i*P PKPdf 17 51 14.5 -0.7
comp=Z,40nm,1.0s
AJM Ajmer 147.16 66 *e*P PKPdf 17 51 15.5 +0.3
WMQ Urumqi 147.35 28⇑ PKP PKPdf 17 51 18.0 +2.5
WMQ PKP2 PKPab 17 51 24.5 +4.3
WMQ APKP 17 51 44.0
WMQ PP PP 17 54 50.5 +5.9
WMQ PP PP
comp=Z,176nm,6.0s
WMQ LR LR
comp=N,238nm,25.3s
WMQ LR LR
comp=E,211nm,27.0s
WMQ LR LR
comp=Z,177nm,32.0s
KAD Karad 147.41 83 *e*P PKPdf 17 51 15.8 +0.2
SMLA Simla 148.00 57 *ex* x 17 51 20.0
SMLA *ex* x 17 52 08.0
SONM Songino Array 148.34 2 PKPbc PKPbc 17 51 22.1 +1.4
comp=Z,15nm,0.5s,baz=304,slow=1.7,SNR=92
SONM pPKPbc pPKPbc 17 51 52.5 -0.1
comp=Z,21nm,0.8s,baz=345,slow=1.3,SNR=5.9
SONM sPKPbc 17 52 06.0
comp=Z,47nm,0.9s,baz=344,slow=2.7,SNR=9.5
TRD Trivandrum 148.57 100 *e*P PKPdf 17 51 17.4 -0.1
CN2 Changchun 148.76 336 *e*PKP PKPdf 17 51 21.0 +3.1
NDI New Delhi 148.83 61 *e*P PKPdf 17 51 18.6 +0.6
NDI *e*P 17 51 19.0
NDI *ex* x 17 54 52.0
LATR Latur 149.70 81 *e*P PKPdf 17 51 19.5 +0.1
AKL Akola 150.07 76 *e*P PKPdf 17 51 21.1 +1.2
AKL *i* x x 17 55 00.2
BHPL Bhopal 150.20 71 *e*P PKPdf 17 51 21.3 +1.2
BHPL AMb AMB 17 51 37.8
comp=Z,62nm,1.4s
LGTI Lohaghat 151.09 58 *i* P PKPdf 17 51 22.0 +0.5
LGTI *ex* x 17 52 15.0
HYB Hyderabad 151.58 83 *i* PKP PKPdf 17 51 24.5 +2.2
HYB *e*PKPAB PKPab 17 51 40.0 +2.5
HYB *es*PKP 17 52 33.0
HYB *e*SS SS 18 14 24.0 -0.4
HYB Hyderabad 151.58 83 *e*P PKPdf 17 51 24.5 +2.2
HYB *e* 17 51 31.0
KSRS Korea Array 152.52 324 PKP PKPdf 17 51 25.1 +1.4
comp=Z,3.4nm,0.8s,baz=37,slow=2.0,SNR=7.7
KSRS PKPbc PKPbc 17 51 31.8 +1.0
comp=Z,14nm,0.7s,baz=360,slow=2.5,SNR=26
KSRS PKPab PKPab 17 51 40.9 -0.6
comp=Z,5.8nm,0.9s,baz=46,slow=4.2,SNR=7.8
KSRS pPKPbc pPKPbc 17 52 04.5 +1.8
comp=Z,27nm,0.9s,baz=16,slow=1.5,SNR=8.9
KSRS sPKPbc 17 52 12.6
comp=Z,11nm,0.8s,baz=14,slow=1.7,SNR=4.6
BJI Beijing 155.18 345 PKP PKPdf 17 51 29.0 +1.6
BJI PP PP 17 55 24.4 -4.9
BJI LR LR
comp=Z,180nm,20.5s
HHC Hu-ho-hao-te 155.19 354 *e*PKP PKPdf 17 51 28.0 +0.6
HHC APKP 17 51 55.0
HHC XPKP 17 52 05.5
HHC PKS 17 55 00.3
HHC PP PP 17 55 28.8 -0.6
HHC SKS SKSdf 17 58 24.5 +1.5
HHC SKKS SKKSac 18 02 10.0 +2.1
HHC PP PP
comp=Z,237nm,10.7s
HHC LR LR
comp=N,180nm,21.5s
HHC LR LR
comp=E,331nm,18.3s
HHC LR LR
comp=Z,265nm,19.5s
GTA Gaotai 155.66 16 PKP PKPdf 17 51 30.3 +2.2
GTA PKP2 PKPab 17 51 55.3 +0.5
GTA XPKP 17 52 09.0
GTA PP PP 17 55 32.0 0.0
GTA SKS SKSdf 17 58 23.0 -0.5
GTA SKKS SKKSac 18 02 05.8 -4.6
GTA PP PP
comp=Z,230nm,6.8s
GTA LR LR
comp=N,118nm,16.0s
GTA LR LR
comp=E,142nm,17.1s
GTA LR LR
comp=Z,187nm,21.3s
BOK Bokaro 157.69 66 *e*P PKPdf 17 51 28.4 -2.3
LSA Lhasa 159.31 46 PKP PKPdf 17 51 36.8 +4.2
LSA Lhasa 159.31 46 PKPdf PKPdf 17 51 34.5 +1.8
LZH Lanzhou 159.74 10 *e*PKP PKPdf 17 51 35.0 +1.9
LZH APKP 17 52 02.0
LZH XPKP 17 52 13.5
LZH PP PP 17 55 54.0 -0.3
LZH *e*SKS SKSdf 17 58 29.0 +1.5
LZH SKKS SKKSac 18 02 35.0 +3.2
LZH *e*SS SS 18 15 55.3 +3.0
LZH PP PP
comp=Z,181nm,4.2s
LZH LR LR
comp=N,254nm,19.5s
LZH LR LR
comp=Z,345nm,20.3s
LZH Lanzhou 159.74 10 *e*PKIKP PKPdf 17 51 35.0 +1.9
LZH 17 52 02.1
LZH 17 52 13.5
LZH 17 55 54.0
LZH *e* 17 58 28.9
LZH *e*SS SS 18 15 55.3 +3.0
LZH MLR MLR
comp=Z,350nm,20.3s
LZH Lanzhou 159.74 10 *e*PKP PKPdf 17 51 35.0 +1.9
LZH pPKP pPKPdf 17 52 02.1 -3.2
LZH sPKP 17 52 13.5
LZH PP PP 17 55 54.0 -0.3
LZH *e*SKS SKSdf 17 58 28.9 +1.4
LZH SKKS SKKSac 18 02 35.1 +3.3
LZH *e*SS SS 18 15 55.3 +3.0
LZH LR LR
comp=Z,350nm,20.3s
SSE Sheshan 160.96 324 PKP PKPdf 17 51 27.3 -7.2
SSE PP PP 17 55 57.5 -3.4
SSE PP PP
comp=Z,191nm,4.3s
SSE LR LR
comp=N,87nm,20.5s
SSE LR LR
comp=E,159nm,20.5s
SSE LR LR
comp=Z,146nm,18.7s
NJ2 Nanjing 161.42 331 *e*PKP PKPdf 17 51 28.5 -6.5
NJ2 PKP2 PKPab 17 52 15.5 -4.3
NJ2 PKS 17 55 01.0
NJ2 PP PP 17 56 01.5 -1.9
NJ2 PP PP
comp=Z,650nm,6.0s
NJ2 LR LR
comp=N,270nm,33.2s
NJ2 LR LR
comp=E,1μm,25.5s
NJ2 LR LR
comp=Z,1μm,34.5s
SHL Shillong 162.09 56 *ex* x 17 51 31.6
XAN Xi'an 162.15 358 PKP PKPdf 17 51 37.5 +1.8
CD2 Chengdu 164.72 15 *e*PKP PKPdf 17 51 36.5 -1.6
CD2 APKP 17 52 07.5
CD2 XPKP 17 52 19.8
CD2 PP PP 17 56 18.5 -2.3
CD2 SKS SKSdf 17 58 29.3 -2.2
CD2 SKKS SKKSac 18 02 58.3 +1.0
CD2 SS SS 18 16 45.5 +1.4
CD2 PP PP
comp=Z,330nm,10.8s
CD2 LR LR
comp=N,200nm,21.6s
CD2 LR LR
comp=Z,230nm,19.2s
KSM Kuching 165.30 188 *e*PKPdf PKPdf 17 51 40.2 +1.6
GYA Guiyang 169.61 8 PKP PKPdf 17 51 41.3 -0.4
GYA APKP 17 52 12.5
GYA XPKP 17 52 24.3
GYA PKP2 PKPab 17 52 57.5 +1.6
GYA PKS 17 55 12.8
GYA PP PP 17 56 48.3 +2.5
GYA SKS SKSdf 17 58 32.3 -2.0
GYA SKKS SKKSac 18 03 22.3 +0.7
GYA PP PP
comp=Z,180nm,8.9s
GYA LR LR
comp=N,480nm,22.7s
GYA LR LR
comp=E,460nm,23.0s
GYA LR LR
comp=Z,430nm,23.7s
KMI Kunming 169.68 29 PKP PKPdf 17 51 42.0 +0.3
KMI APKP 17 52 14.5
KMI XPKP 17 52 23.3
KMI SKKS SKKSac 18 03 20.0 -1.9
KMI LR LR
comp=Z,313nm,32.6s
KMI Kunming 169.68 29 PKIKP PKPdf 17 51 42.0 +0.3
KMI 17 52 14.5
KMI 17 52 23.3
KMI MLR MLR
comp=Z,310nm,32.6s
CHTO Chiang Mai 170.75 72 *e*PKIKP PKPdf 17 51 42.7 +0.4

ISCJB ***27*** *17:49:48.9±0.9, 15S±0.1×292E±0.1, h10km, mb3.8/4, Error ellipse: s-maj=18.1km s-min=13.7km az=69.2*
IDC ***27*** *17:49:49.4±1.2, 148S×2920E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, ML3.4/3, Error ellipse: s-maj=24.6km s-min=18.9km az=114.0*
NEIC ***27*** *17:49:50.8±0.8, 151S×29.12E, h10km, mb3.8/1, Error ellipse: s-maj=16.4km s-min=12.2km az=123.0*

ISC 27 17:49:51.3±0.9, 15S±01×292E±01, h10km, n13, ₀0ˢ72/13, mb3.8/4, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**8.11**	**87**	Pn	**Pn**	**17 51 49.3**	**+0.2**
	0.7nm,0.3s,baz=253,slow=18,SNR=6.5						
KMBO				Lg		17 54 03.5	
	2.8nm,0.3s,baz=184,slow=23,SNR=18						
KMBO	**Kilima Mbogo**	**8.11**	**87**	Pn	**Pn**	**17 51 49.3**	**+0.3**
KMBO				Lg		17 54 03.5	
LSZ	**Lusaka**	**13.71**	**184**	Pn	**Pn**	**17 53 04.0**	**-1.6**
	0.1nm,0.3s,baz=7.2,slow=12,SNR=3.6						
LSZ				Lg		17 57 03.8	
	0.2nm,0.3s,baz=319,slow=14,SNR=6.2						
LSZ	**Lusaka**	**13.71**	**184**	Pn	**Pn**	**17 53 04.0**	**-1.6**
LSZ				Lg		17 57 03.8	
MATP	**Matopo**	**18.81**	**182**	P	**Pn**	**17 54 12.2**	**+0.8**
	0.1nm,0.3s,baz=357,slow=15,SNR=3.5						
MATP				Lg		17 59 49.1	
	0.1nm,0.3s,baz=288,slow=13,SNR=4.2						
TSUM	**Tsumeb**	**20.91**	**212**	P	**P**	**17 54 35.1**	**+1.3**

2.9nm,0.9s,baz=18,slow=9.9,SNR=3.8
TSUM Tsumeb 20.91 212 *e*P P **17 54 34.0 +0.1**
3.9nm,0.8s
LBTB Lobatse 23.61 188 P P **17 55 02.7 +0.2**
4.9nm,0.7s,mb4.0,baz=27,slow=9.3,SNR=7.9
LBTB Lobatse 23.61 188 P P **17 55 02.7 +0.2**
BOSA Boshof 27.20 188 P P **17 55 35.2 +0.1**
2.5nm,0.7s,mb3.9,baz=359,slow=9.6,SNR=4.8
TORD Torodi Ar. Bea 30.89 299 P P **17 56 07.7 -0.1**
0.7nm,0.7s,mb3.6,baz=103,slow=7.4,SNR=4.6
TORD Torodi Ar. Bea 30.89 299 P P **17 56 07.7 -0.1**
MKAR Makanchi Array 66.86 37 P P **18 00 43.1 -0.4**
0.9nm,0.9s,mb3.8,baz=264,slow=9.6,SNR=4.0

LDG ***27*** *17:52:49.8, 1451N×6135W, h200km*
MOS ***27*** *17:52:50.0±1.1, 1452N×6142W, h192km, mb4.7/19, Error ellipse: s-maj=9.7km s-min=7.4km az=105.8*
NEIC ***27*** *17:52:50.3, 1439N×6138W, h197km, mb4.6/45, MD4.1(FDF), MD4.4(TRN), After TRN.*
BJI ***27*** *17:52:50.2, 1440N×6140W, h197km, mB5.0*
TRN ***27*** *17:52:50.4, 1439N×6137W, h195km, MD4.4, M4.1(FDF)*
ISCJB ***27*** *17:52:50.4±0.1, 1439N±002×6143W±004, h200km±1km, mb4.3/64, Error ellipse: s-maj=5.8km s-min=3.4km az=168.8*
IDC ***27*** *17:52:52.7±2.2, 1439N×6163W, h199km±21km, mb3.9/18, mb1 4.1/20, mb1mx4.0/23, mbtmp3.9/20, Error ellipse: s-maj=11.6km s-min=11.0km az=95.0*

ISC 27 17:52:51.6±0.1, 1439N±002×6141W±004, h193km±1km, n322, σ0°75/345, mb4.3/64, 62C-86D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.42**	**36**	⇓*i*P	P		**17 53 17.4**	**-0.2**
FDF				*e*S		Sn	**17 53 36.9**	**-0.8**
SLW	**Petit Monier**	**0.58**	**129**	⇓*e*P	P		**17 53 17.8**	**-0.4**
SLW	**Petit Monier**	**0.58**	**129**	⇓*i*P	P		**17 53 18.6**	**+0.4**
SLW				*e*S		Sn	**17 53 38.9**	**+0.1**
SLW	**Petit Monier**	**0.58**	**129**	⇓*i*P	P		**17 53 18.6**	**+0.4**
SLW				*e*S		Sn	**17 53 38.9**	**+0.1**
SLTA	**Morne Tabac**	**0.63**	**146**	*e*P	P		**17 53 18.6**	**+0.2**
SLTA				*e*S		Sn	**17 53 42.4**	**+3.2**
SLB	**Belfond**	**0.66**	**148**	⇑*i*P	P		**17 53 18.9**	**+0.4**
SLB				*e*S		Sn	**17 53 41.0**	**+1.5**
SLDE	**Delcer**	**0.67**	**150**	⇓*i*P	P		**17 53 19.2**	**+0.5**
SLDE				*e*S		Sn	**17 53 41.3**	**+1.8**
SLPE	**Piton Saint Es**	**0.67**	**144**	⇓*i*P	P		**17 53 19.0**	**+0.3**
SLPE				*e*S		Sn	**17 53 41.2**	**+1.7**
MCLT	**Moule a Chique**	**0.81**	**146**	⇑*i*P	P		**17 53 19.7**	**+0.3**
MCLT				*e*S		Sn	**17 53 40.3**	**-0.6**
DSHT	**Scott's Head**	**0.82**	**2**	*e*P	P		**17 53 19.1**	**-0.3**
DSHT				*e*S		Sn	**17 53 41.2**	**+0.2**
DBCT	**Belle View Cho**	**0.88**	**4**	*e*P	P		**17 53 20.3**	**+0.5**
DBCT				*e*S		Sn	**17 53 43.1**	**+1.5**
MDN	**Morne-Daniel**	**0.92**	**1**	*e*P	P		**17 53 20.9**	**+0.8**
MDN				*e*S		Sn	**17 53 42.1**	**0.0**
SFAN	**Fancy Village**	**1.03**	**167**	*e*P	P		**17 53 20.2**	**-0.6**
SSV	**Crater Summit**	**1.08**	**169**	⇓*i*P	P		**17 53 20.7**	**-0.4**
SSV				*e*S		Sn	**17 53 38.8**	**-5.2**
SVV	**Soufriere Volc**	**1.08**	**170**	⇑*i*P	P		**17 53 20.9**	**-0.3**
BHS	**Barnard House**	**1.12**	**166**	⇓*i*P	P		**17 53 21.0**	**-0.5**
BHS				*e*S		Sn	**17 53 43.6**	**-1.0**
SVB	**Belmont**	**1.12**	**172**	⇑*i*P	P		**17 53 21.0**	**-0.5**
SVB				*e*S		Sn	**17 53 43.2**	**-1.4**
BBL	**Barber's Block**	**1.13**	**357**	⇑*e*P	P		**17 53 21.6**	**0.0**
BBL				*e*S		Sn	**17 53 44.1**	**-0.7**
DWS	**Wesley**	**1.18**	**4**	⇓*e*P	P		**17 53 23.3**	**+1.4**
DWS				*e*S		Sn	**17 53 46.0**	**+0.7**
FCV	**Fort Charlotte**	**1.24**	**173**	⇓*i*P	P		**17 53 21.6**	**-0.8**
FCV				*e*S		Sn	**17 53 53.1**	**+6.8**
TBG	**Guadaloupe-3**	**1.47**	**351**	⇑*e*P	P		**17 53 24.2**	**-0.2**
MGG	**Marie-Galante**	**1.52**	**3**	⇑*e*P	P		**17 53 24.6**	**-0.3**
SCG	**Saint Claude**	**1.65**	**351**	⇑*e*P	P		**17 53 26.2**	**+0.1**
LZG	**Guadaloupe-1**	**1.78**	**348**	⇑*e*P	P		**17 53 27.2**	**-0.1**
SFG	**Saint Francois**	**1.86**	**6**	*e*P	P		**17 53 28.4**	**+0.3**
GRCU	**Cariacou**	**1.91**	**181**	⇓*i*P	P		**17 53 28.6**	**0.0**
GRCU				*e*S		Sn	**17 53 42.4**	**-15**
GRSS	**Sisters**	**2.09**	**186**	⇑*e*P	P		**17 53 30.0**	**-0.5**
GRSS				*e*S		Sn	**17 53 59.5**	**-1.2**
GRIC	**Isle de Caille**	**2.10**	**185**	*e*P	P		**17 53 29.9**	**-0.8**
GRIC	**Isle de Caille**	**2.10**	**185**	*e*S		Sn	**17 54 01.6**	**+0.7**
GRHS	**Sauteurs**	**2.17**	**186**	⇑*i*P	P		**17 53 31.2**	**-0.2**
GRHS				*e*S		Sn	**17 54 00.8**	**-1.4**
BBGH	**Gun Hill**	**2.18**	**124**	*e*P	P		**17 53 31.6**	**+0.1**
BBGH				*e*S		Sn	**17 53 57.9**	**-4.6**
GRW	**Mount Saint Ca**	**2.23**	**186**	*e*P	P		**17 53 32.2**	**+0.1**
GRW				*e*S		Sn	**17 54 05.9**	**+2.4**
BBSP	**Saint Philip**	**2.28**	**124**	*e*S		Sn	**17 54 05.0**	**+0.5**
BPA	**Boggy Peak**	**2.68**	**351**	*e*P	P		**17 54 36.3**	**-0.8**
BPA				*e*S		Sn	**17 54 10.0**	**-2.4**
TPR	**Prospect**	**3.24**	**169**	*e*P	P		**17 53 42.6**	**-1.2**
TPR				*e*S		Sn	**17 54 14.7**	**-10**
CPB	**Codrington**	**3.26**	**353**	*e*P	P		**17 53 43.0**	**-0.9**
CPB				*e*S		Sn	**17 54 22.1**	**-2.7**
CPB				*e*S		Sn	**17 54 29.2**	**+4.4**
SABS	**Saba**	**3.67**	**331**	*e*P	P		**17 53 49.5**	**+0.6**
SABT	**Saba**	**3.67**	**331**	*e*P	P		**17 53 49.5**	**+0.6**
TCE	**Chacachacare**	**3.69**	**185**	*e*P	P		**17 53 49.8**	**+0.6**
TCE				*e*S		Sn	**17 54 32.6**	**-1.7**
TRN	**Trinidad (W)**	**3.72**	**180**	*e*P	P		**17 53 49.8**	**+0.2**
TRN				*e*S		Sn	**17 54 32.3**	**-2.7**
TBH	**Brigand Hill**	**3.90**	**175**	*e*P	P		**17 53 52.1**	**+0.3**
TBH				*e*S		Sn	**17 54 32.6**	**-6.4**
TPP	**Pointe-a-Pierr**	**4.05**	**181**	*e*P	P		**17 53 55.2**	**+1.5**
PCRV	**Puerto La Cruz**	**5.25**	**217**	P	P		**17 54 08.0**	**-0.9**
	12nm,0.3s,baz=27,slow=0.4,SNR=21							
PCRV				S		Sn	**17 55 13.7**	**+3.8**
	10nm,0.3s,baz=359,slow=22,SNR=10.0							
SDV	**Santo Domingo**	**10.56**	**240**	P	P		**17 55 25.1**	**+6.9**
	1.5nm,0.3s,baz=76,slow=6.0,SNR=13							
SDV	**Santo Domingo**	**10.56**	**240**	*e*P	P		**17 55 25.3**	**+7.1**
	7.1nm,0.6s							
ROSC	**El Rosal**	**15.87**	**235**	P	P		**17 56 25.5**	**+1.0**
	3.0nm,0.3s,baz=86,slow=20,SNR=9.7							
ROSC				S		S	**17 59 23.5**	**+3.0**
	2.9nm,0.3s,baz=96,slow=22,SNR=4.7							
ROSC	**El Rosal**	**15.87**	**235**	*e*P	P		**17 56 24.1**	**-0.5**
OTAV	**Otavalo**	**21.96**	**232**	*e*P	P		**17 57 28.1**	**-1.8**
	9.9nm,0.6s,mb4.5							
SAML	**Samuel**	**23.25**	**184**	*e*P	P		**17 57 41.8**	**0.0**
	16nm,0.8s,mb4.6							
JTS	**JuntasAbangare**	**23.36**	**263**	*e*P	P		**17 57 41.7**	**-1.0**
TEIG	**Tepich**	**26.28**	**287**	*e*P	P		**17 58 07.8**	**-1.3**
ELN	**Prospectdale**	**28.53**	**326**	*e*P	P		**17 58 29.1**	**0.0**
TKL	**Tuckaleechee C**	**29.18**	**321**	P	P		**17 58 34.9**	**0.0**
	6.0nm,0.7s,mb4.4,baz=143,slow=8.5,SNR=6.6							
LRAL	**Lakeview Retre**	**29.76**	**313**	*e*P	P		**17 58 40.1**	**+0.1**
	12nm,0.9s,mb4.5							
SIV	**San Ignacio**	**30.19**	**179**	P	P		**17 58 44.7**	**+0.9**
	9.4nm,0.5s,mb4.6,baz=12,slow=8.8,SNR=65							
LPAZ	**La Paz**	**31.20**	**193**	P	P		**17 58 53.5**	**+0.9**
	1.2nm,0.7s,mb3.6,baz=2.3,slow=7.9,SNR=5.8							
LPAZ				pP		pP	17 59 34.8	+2.5
	2.6nm,0.8s,baz=22,slow=13,SNR=5.5							
PLAL	**Pickwick Lake**	**31.57**	**315**	*e*P	P		**17 58 56.0**	**+0.1**
	18nm,0.9s,mb4.6							
OXF	**Oxford**	**32.24**	**313**	*e*P	P		**17 59 01.6**	**-0.1**
OXF				pmax		pmax		
	comp=Z,77nm,1.0s,mb5.2							
OXF	**Oxford**	**32.24**	**313**	*e*P	P		**17 59 01.6**	**-0.2**
	comp=Z,76nm,1.0s,mb5.2							
JCT	**Junction City**	**38.72**	**301**	*e*P	P		**17 59 55.1**	**-1.8**
JCT				pmax		pmax		
	comp=Z,19nm,1.1s,mb4.5							
JCT	**Junction City**	**38.72**	**301**	*e*P	P		**17 59 55.1**	**-1.7**
	comp=Z,19nm,1.1s,mb4.5							
SCIA	**State Center**	**38.83**	**321**	*e*P	P		**17 59 57.6**	**-0.1**
	comp=Z,13nm,0.6s,mb4.6							
WMOK	**Wichita Mounta**	**39.26**	**308**	*e*P	P		**18 00 00.0**	**-1.4**
WMOK				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.5							
WMOK	**Wichita Mounta**	**39.26**	**308**	*e*P	P		**18 00 00.0**	**-1.4**
	comp=Z,9.2nm,0.6s,mb4.5							
KSU1	**Kansas State U**	**39.54**	**315**	*e*P	P		**18 00 02.2**	**-1.4**
	comp=Z,28nm,0.6s,mb4.9							
SCHQ	**Scheffervill**	**40.57**	**355**	P	P		**18 00 13.1**	**+0.9**
	comp=Z,13nm,1.0s,mb4.3,baz=175,slow=9.2,SNR=9.3							
CBKS	**Cedar Bluff**	**41.58**	**313**	*e*P	P		**18 00 19.1**	**-1.3**
CBKS				pmax		pmax		
	comp=Z,51nm,1.0s,mb4.9							
CBKS	**Cedar Bluff**	**41.58**	**313**	*e*P	P		**18 00 19.1**	**-1.4**
	comp=Z,52nm,1.0s,mb4.9							
TXAR	**Lajitas Array**	**41.71**	**298**	P	P		**18 00 20.5**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.5,baz=107,slow=8.6,SNR=20							
TXAR				PcP	PcP		18 02 14.9	+0.8
	comp=Z,3.3nm,0.8s,baz=120,slow=5.3,SNR=12							
ECSD	**EROS,Sioux Fal**	**41.92**	**321**	*e*P	P		**18 00 22.6**	**-0.6**
	comp=Z,15nm,0.7s,mb4.5							
MNTX	**Cornudas Mount**	**43.65**	**301**	*e*P	P		**18 00 36.0**	**-1.1**
	comp=Z,24nm,1.2s,mb4.4							
MNTX				*e*PcP	PcP		18 02 20.8	+0.1
AGMN	**Agassiz Refuge**	**44.16**	**327**	*e*P	P		**18 00 40.1**	**-1.0**
	comp=Z,13nm,0.7s,mb4.4							
BNM	**Barren Site**	**45.25**	**304**	*e*P	P		**18 00 49.9**	**+0.2**
LPM	**Los Pinos Moun**	**45.29**	**304**	*e*P	P		**18 00 50.1**	**+0.1**
ANMO	**Albuquerque**	**45.32**	**305**	*e*P	P		**18 00 50.3**	**+0.1**
ANMO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ANMO	**Albuquerque**	**45.32**	**305**	*e*P	P		**18 00 50.3**	**+0.1**
	comp=Z,7.8nm,1.0s,mb4.0							
SDCO	**Great Sand Dun**	**45.39**	**309**	*e*P	P		**18 00 50.6**	**-0.2**
	comp=Z,14nm,0.7s,mb4.4							
ULM	**Lac du Bonnet**	**45.39**	**329**	P	P		**18 00 49.6**	**-1.2**
	comp=Z,16nm,0.6s,mb4.5,baz=131,slow=8.4,SNR=38							
ULM				PcP	PcP		18 02 25.9	-0.8
	comp=Z,1.8nm,0.8s,baz=140,slow=1.5,SNR=3.1							
ULM	**Lac du Bonnet**	**45.39**	**329**	*e*P	P		**18 00 49.5**	**-1.4**
	comp=Z,17nm,0.6s,mb4.6							
ISCO	**Idaho Springs**	**46.17**	**312**	*e*P	P		**18 00 56.9**	**0.0**
ISCO				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.3							
ISCO	**Idaho Springs**	**46.17**	**312**	*e*P	P		**18 00 56.9**	**0.0**
	comp=Z,14nm,0.8s,mb4.3							
PHWY	**Pilot Hill**	**46.60**	**314**	*e*P	P		**18 01 00.1**	**-0.1**
RSSD	**Black Hills**	**46.78**	**318**	*e*P	P		**18 01 01.3**	**-0.3**
RSSD				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb3.9							
RSSD	**Black Hills**	**46.78**	**318**	*e*P	P		**18 01 01.3**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.0							
MVCO	**Mesa Verde**	**47.51**	**308**	⇑P	P		**18 01 07.2**	**-0.1**
	baz=47							
TUC	**Tucson**	**48.27**	**301**	*e*P	P		**18 01 13.4**	**+0.3**
TUC				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.2							
TUC	**Tucson**	**48.27**	**301**	*e*P	P		**18 01 13.4**	**+0.3**
	comp=Z,10nm,0.9s,mb4.2							
WUAZ	**Wupatki**	**49.36**	**305**	*e*P	P		**18 01 21.7**	**+0.3**
	comp=Z,16nm,0.9s,mb4.3							
WUAZ	**Wupatki**	**49.36**	**305**	⇓P	P		**18 01 22.0**	**+0.6**
	baz=49,SNR=5.5							
115A	**Sonoran Desert**	**49.54**	**301**	⇓P	P		**18 01 22.8**	**+0.1**
	baz=49							
SRU	**San Rafael**	**49.57**	**309**	*e*P	P		**18 01 22.9**	**0.0**
SRU				pmax		pmax		
	comp=Z,13nm,0.7s,mb4.4							
SRU	**San Rafael**	**49.57**	**309**	*e*P	P		**18 01 22.9**	**-0.1**
	comp=Z,13nm,0.7s,mb4.4							
X15A	**Humboldt**	**49.85**	**303**	⇑P	P		**18 01 25.7**	**+0.6**
	baz=50							
PDAR	**Pinedale Array**	**49.97**	**314**	P	P		**18 01 25.7**	**-0.3**
	comp=Z,25nm,0.6s,mb4.7,baz=119,slow=9.7,SNR=238							
PDAR				PcP	PcP		18 02 43.6	+0.5
	comp=Z,2.7nm,1.0s,baz=107,slow=4.8,SNR=3.1							
W15A	**Williams**	**50.01**	**304**	⇓P	P		**18 01 27.1**	**+0.8**
	baz=50							
TMUT	**Trail Mountain**	**50.13**	**309**	*e*P	P		**18 01 27.5**	**+0.4**
Z14A	**Wintersburg**	**50.24**	**302**	⇓P	P		**18 01 28.3**	**+0.3**
	baz=50							
X14A	**Yava**	**50.38**	**303**	⇓P	P		**18 01 29.8**	**+0.7**
	baz=50,SNR=6.9							
Y14A	**Wickenburg**	**50.38**	**302**	⇑P	P		**18 01 29.5**	**+0.4**
	baz=50,SNR=7.4							
FCC	**Fort Churchill**	**50.52**	**339**	*e*P	P		**18 01 29.2**	**-0.9**
FCC				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.6							
FCC	**Fort Churchill**	**50.52**	**339**	*e*P	P		**18 01 29.1**	**-0.9**
	comp=Z,20nm,0.7s,mb4.6							
RLMT	**Red Lodge**	**50.60**	**317**	*e*P	P		**18 01 30.7**	**0.0**
	comp=Z,23nm,1.1s,mb4.5							
JLU	**Joanelle**	**50.66**	**311**	*e*P	P		**18 01 31.7**	**+0.5**
W14A	**Seligman**	**50.67**	**304**	⇓P	P		**18 01 31.9**	**+0.6**
	baz=51							
CTU	**Camp Tracy**	**50.91**	**311**	*e*P	P		**18 01 33.3**	**+0.3**
	comp=Z,28nm,0.9s,mb4.7							
LOHW	**Long Hollow**	**50.98**	**315**	*e*P	P		**18 01 33.2**	**-0.3**
	comp=Z,11nm,0.7s,mb4.4							
HWUT	**Hardware Ranch**	**51.03**	**312**	*e*P	P		**18 01 33.3**	**-0.6**
	comp=Z,18nm,0.9s,mb4.5							
AHID	**Auburn Hatcher**	**51.05**	**314**	*e*P	P		**18 01 33.8**	**-0.3**
	comp=Z,15nm,0.6s,mb4.6							
REDW	**Red Top Meadow**	**51.06**	**315**	*e*P	P		**18 01 33.9**	**-0.3**
	comp=Z,18nm,0.9s,mb4.5							
GCMT	**Greycliff**	**51.11**	**318**	*e*P	P		**18 01 34.6**	**+0.1**
X13A	**Yucca**	**51.17**	**303**	⇓P	P		**18 01 35.1**	**+0.2**
	baz=51							
W13A	**Hualapai Mount**	**51.30**	**304**	⇑P	P		**18 01 36.4**	**+0.5**
	baz=51,SNR=7.2							
PDMCI	**Parker Dam,Lak**	**51.37**	**303**	⇑P	P		**18 01 36.4**	**-0.1**
	baz=51							
RRI2	**Red Ridge**	**51.38**	**314**	*e*P	P		**18 01 36.7**	**+0.2**
	comp=Z,10.0nm,0.7s,mb4.3							
ARUT	**Antelope Range**	**51.47**	**307**	*e*P	P		**18 01 37.6**	**+0.5**
DUG	**Dugway**	**51.55**	**310**	*e*P	P		**18 01 38.1**	**+0.3**
DUG				pmax		pmax		
	comp=Z,23nm,1.2s,mb4.5							
DUG	**Dugway**	**51.55**	**310**	*e*P	P		**18 01 38.1**	**+0.3**
	comp=Z,23nm,1.2s,mb4.5							
DUG	**Dugway**	**51.55**	**310**	⇑P	P		**18 01 37.6**	**-0.2**
	baz=52							
YMR	**Madison River**	**51.57**	**316**	*e*P	P		**18 01 39.3**	**+1.4**
	comp=Z,9.9nm,0.8s,mb4.3							
Y12C	**Blythe**	**51.60**	**302**	⇓P	P		**18 01 37.7**	**-0.4**
	baz=52							
GLA	**Glamis**	**51.76**	**301**	⇓P	P		**18 01 39.2**	**0.0**
	baz=52							
NEE2	**Needles Airpor**	**51.84**	**303**	⇓P	P		**18 01 40.3**	**+0.4**
	baz=52							
BGU	**Big Grassy Mou**	**51.90**	**311**	*e*P	P		**18 01 40.4**	**0.0**
HVU	**Hansel Valley**	**51.95**	**312**	*e*P	P		**18 01 40.4**	**-0.3**
HVU				pmax		pmax		
	comp=Z,18nm,0.8s,mb4.5							
HVU	**Hansel Valley**	**51.95**	**312**	*e*P	P		**18 01 40.4**	**-0.4**
	comp=Z,18nm,0.8s,mb4.5							
EGMT	**Eagleton**	**52.02**	**320**	*e*P	P		**18 01 41.3**	**+0.1**
	comp=Z,31nm,1.0s,mb4.7							
EGMT	**Eagleton**	**52.02**	**320**	P	P		**18 01 41.5**	**+0.3**
	baz=52,SNR=6.2							
U12A	**Valley of Fire**	**52.06**	**305**	⇓P	P		**18 01 42.0**	**+0.5**
	baz=52							
W12A	**Cal Nev Ari**	**52.13**	**304**	⇓P	P		**18 01 42.4**	**+0.4**
	baz=52							
IRM	**Iron Mountain**	**52.18**	**302**	P	P		**18 01 43.1**	**+0.7**
	baz=52,SNR=9.7							
V12A	**Nelson**	**52.18**	**304**	⇑P	P		**18 01 42.3**	**-0.1**
	baz=52							
BC3	**Big Chuckw Mtn**	**52.35**	**301**	⇓P	P		**18 01 43.7**	**0.0**
	baz=52							
GMRC	**Granite Mounta**	**52.69**	**303**	⇑P	P		**18 01 46.5**	**+0.3**
	baz=53,SNR=5.4							
N13A	**Wendover, West**	**52.75**	**311**	⇓P	P		**18 01 46.6**	**+0.1**
	baz=53							
G15A	**Dillon**	**52.76**	**316**	P	P		**18 01 47.0**	**+0.3**
	baz=53,SNR=8.2							
Q12A	**Willow Creek R**	**52.80**	**308**	⇓P	P		**18 01 47.4**	**+0.4**
	baz=53							
HRY	**Holter Researc**	**52.84**	**318**	*e*P	P		**18 01 47.1**	**-0.2**
M13A	**Montello**	**52.84**	**311**	P	P		**18 01 47.7**	**+0.4**
	baz=53,SNR=9.2							
P12A	**McGill**	**52.95**	**309**	⇑P	P		**18 01 48.3**	**+0.2**
	baz=53							
F15A	**Butte**	**52.98**	**317**	P	P		**18 01 48.6**	**+0.4**
	baz=53,SNR=8.9							
TUQ	**Turquoise Mtn.**	**53.00**	**304**	⇓P	P		**18 01 48.6**	**+0.1**
	baz=53							
O12A	**Currie**	**53.01**	**310**	⇑P	P		**18 01 48.8**	**+0.3**
	baz=53,SNR=6.8							
E15A	**Deer Lodge**	**53.27**	**318**	⇑P	P		**18 01 50.1**	**-0.3**
	baz=53							
SHOC	**Shoshone**	**53.36**	**304**	⇓P	P		**18 01 51.1**	**0.0**
	baz=53							
N12A	**Clover Valley,**	**53.36**	**310**	⇑P	P		**18 01 51.1**	**+0.1**
	baz=53,SNR=8.6							
Q11A	**Duckwater**	**53.39**	**308**	⇑P	P		**18 01 51.6**	**+0.4**
	baz=53							
D15A	**Lincoln**	**53.40**	**318**	⇑P	P		**18 01 51.2**	**-0.2**
	baz=53							
M12A	**Wells**	**53.40**	**311**	⇓P	P		**18 01 51.5**	**+0.1**
	baz=53							
U10A	**Ash Meadows, A**	**53.48**	**305**	⇑P	P		**18 01 52.2**	**+0.3**
	baz=53							
F14A	**Wisdom**	**53.55**	**317**	⇓P	P		**18 01 52.5**	**+0.1**
	baz=54							
HLID	**Hailey**	**53.60**	**314**	*e*P	P		**18 01 52.9**	**+0.1**
	comp=Z,15nm,1.1s,mb4.4							
HLID	**Hailey**	**53.60**	**314**	P	P		**18 01 53.2**	**+0.4**
	baz=54,SNR=16							
109C	**Camp Elliot, M**	**53.63**	**300**	⇑P	P		**18 01 53.0**	**0.0**
	baz=54							
O11A	**Cowboy Ranch,**	**53.66**	**309**	P	P		**18 01 53.8**	**+0.5**
	baz=54,SNR=13							
GSC	**Goldstone**	**53.69**	**303**	⇑P	P		**18 01 53.9**	**+0.4**
	baz=54							
MURC	**Murrieta**	**53.79**	**301**	⇓P	P		**18 01 54.8**	**+0.6**
	baz=54							
E14A	**Clinton**	**53.83**	**317**	⇑P	P		**18 01 54.4**	**-0.1**
	baz=54							
FURC	**Furnace Creek,**	**53.91**	**305**	⇑P	P		**18 01 55.5**	**+0.5**
	baz=54							
M11A	**Holland Ranch,**	**54.05**	**311**	⇑P	P		**18 01 56.3**	**+0.2**
	baz=54,SNR=9.2							
D14A	**Greenough**	**54.05**	**318**	⇑P	P		**18 01 56.8**	**+0.7**
	baz=54							
F13A	**Darby**	**54.18**	**316**	P	P		**18 01 57.1**	**0.0**
	baz=54,SNR=5.9							
BFSC	**Mount Baldy St**	**54.25**	**302**	⇓P	P		**18 01 57.3**	**-0.2**
	baz=54							
E13A	**Victor**	**54.29**	**317**	P	P		**18 01 58.2**	**+0.5**
	baz=54,SNR=6.8							
O10A	**Cortez Mining,**	**54.32**	**309**	⇑P	P		**18 01 58.1**	**0.0**
	baz=54							
MPMC	**Manual Prospec**	**54.35**	**304**	⇓P	P		**18 01 58.4**	**+0.2**
	baz=54							
GRAC	**Grapevine Rang**	**54.40**	**305**	⇓P	P		**18 01 59.2**	**+0.7**
	baz=54							
S09A	**Goldfield**	**54.40**	**306**	⇑P	P		**18 01 58.8**	**+0.2**
	baz=54,SNR=5.5							
DAC	**Darwin (Calif)**	**54.46**	**304**	*e*P	P		**18 01 59.6**	**+0.5**
DAC				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.3							
DAC	**Darwin (Calif)**	**54.46**	**304**	*e*P	P		**18 01 59.6**	**+0.5**
	comp=Z,9.9nm,0.9s,mb4.3							
EDW2	**Edwards Air Fo**	**54.60**	**303**	⇓P	P		**18 02 00.3**	**+0.3**
	baz=54							
M10A	**I.L. Ranch, Tu**	**54.62**	**311**	⇑P	P		**18 02 00.4**	**+0.3**
	baz=54							
D13A	**Huson**	**54.67**	**318**	P	P		**18 02 00.3**	**-0.2**
	baz=55,SNR=5.2							
O09A	**Fish Creek Ran**	**54.82**	**309**	P	P		**18 02 02.0**	**+0.5**
	baz=55,SNR=7.0							
CWC	**Cottonwood Cre**	**54.88**	**305**	⇓P	P		**18 02 02.1**	**+0.1**
	baz=55							
C13A	**Hot Springs**	**54.93**	**319**	⇓P	P		**18 02 02.6**	**+0.2**
	baz=55							
H11A	**Donnelly**	**55.02**	**315**	⇓P	P		**18 02 03.4**	**+0.4**
	baz=55							
B13A	**Whitefish**	**55.09**	**319**	⇓P	P		**18 02 03.1**	**-0.4**
	baz=55							
ISA	**Isabella**	**55.09**	**304**	⇑P	P		**18 02 04.0**	**+0.5**
	baz=55							
Q08A	**Gabbs**	**55.14**	**307**	⇓P	P		**18 02 04.1**	**+0.2**
	baz=55							
OSI	**Osito Adit**	**55.17**	**302**	⇓P	P		**18 02 03.9**	**-0.1**
	baz=55							
R08A	**Mina**	**55.19**	**307**	⇓P	P		**18 02 05.0**	**+0.7**
	baz=55							
N09A	**Rock Creek Ran**	**55.20**	**310**	⇓P	P		**18 02 04.5**	**+0.1**
	baz=55							
M09A	**Marrel Ranch,**	**55.26**	**311**	⇑P	P		**18 02 05.0**	**+0.2**
	baz=55,SNR=5.5							
ARVC	**Arvin**	**55.31**	**303**	⇓P	P		**18 02 05.8**	**+0.7**
	baz=55							
NVAR	**Mina Array Bea**	**55.35**	**307

baz=57
D08A Wollman Farm, 57.59 317 ⇓P **P** **18 02 21.1 -0.1**
baz=58
J06A Christmas Vall 57.59 312 P **P** **18 02 21.2 0.0**
baz=58,SNR=5.5
HAST UC Hastings Re 57.65 304 ⇓P **P** **18 02 21.4 -0.3**
baz=58
G07A Ruggs Ranch, H 57.67 315 ⇓P **P** **18 02 22.0 +0.2**
baz=58
I06A Prineville 57.77 313 ⇑P **P** **18 02 23.4 +1.0**
baz=58
C08A Higginbotham F 57.85 318 ⇓P **P** **18 02 22.2 -0.8**
baz=58
A09A Danville 57.87 319 ⇓P **P** **18 02 23.0 -0.2**
baz=58
WENL Wente Brothers 57.95 305 ⇓P **P** **18 02 23.8 +0.2**
baz=58
ORV Oroville 57.98 308 P **P** **18 02 24.3 +0.4**
baz=58,SNR=5.2
F07A Phinny Hill Vi 57.99 315 ⇓P **P** **18 02 23.6 -0.3**
baz=58
H06A Lindquist Farm 58.02 314 ⇓P **P** **18 02 24.8 +0.6**
baz=58
K05A Summer Lake 58.03 312 ⇓P **P** **18 02 24.6 +0.3**
baz=58
E07A Sunnyside 58.09 316 ⇓P **P** **18 02 24.3 -0.4**
baz=58
HATC Hat Creek Radi 58.14 309 ⇓P **P** **18 02 23.8 -1.2**
baz=58
QUIF Quistinic 58.27 42 *e*P **P** **18 02 24.6 -1.3**
A08A Turner Farm, O 58.30 319 ⇑P **P** **18 02 26.3 +0.2**
baz=58
D07A Quincy 58.31 317 ⇓P **P** **18 02 26.6 +0.3**
baz=58
G06A Carlson Farm, 58.33 314 ⇑P **P** **18 02 27.4 +1.0**
baz=58
J05A Fort Rock 58.38 312 ⇓P **P** **18 02 27.4 +0.8**
baz=58
M04C Macdoel 58.56 310 ⇑P **P** **18 02 28.7 +0.7**
baz=58
SJPF Ste Jean 58.60 48 *e*P **P** **18 02 27.1 -1.1**
comp=Z,44nm,1.1s,mb4.7
SJPF Ste Jean 58.60 48 *e*P **P** **18 02 27.1 -1.1**
SJPF pmax pmax
comp=Z,22nm,1.1s,mb4.7
SJPF Ste Jean 58.60 48 *e*P **P** **18 02 27.1 -1.1**
comp=Z,22nm,1.1s,mb4.7
H05A Madras 58.62 314 ⇑P **P** **18 02 28.8 +0.4**
baz=58
L04A Klamath Falls 58.66 311 ⇓P **P** **18 02 29.2 +0.5**
baz=59
M03C McCloud 58.70 310 ⇓P **P** **18 02 28.2 -0.7**
baz=59
B07A Winthrop 58.72 318 ⇑P **P** **18 02 28.8 -0.2**
baz=59
E06A Yakima 58.84 316 ⇓P **P** **18 02 30.5 +0.7**
baz=59
D06A Cle Elum 58.89 317 ⇑P **P** **18 02 30.0 -0.3**
baz=59
J04A Umpqua Nationa 59.00 312 ⇓P **P** **18 02 30.9 0.0**
baz=59
YBH Yreka Blue Hor 59.20 310 ⇑P **P** **18 02 31.5 -0.8**
baz=59
M02C Callahan 59.26 310 ⇑P **P** **18 02 31.7 -1.1**
baz=59
H04A Detroit Lake 59.30 314 ⇓P **P** **18 02 33.6 +0.6**
baz=59
O01C Eel River Cons 59.83 308 ⇓P **P** **18 02 37.3 +0.7**
baz=60
H03A Soap Creek Ran 60.08 313 ⇓P **P** **18 02 37.6 -0.7**
baz=60
LDF La Druitiere 60.41 42 *e*P **P** **18 02 39.3 -1.3**
comp=Z,222nm,2.0s,mb5.2
LDF La Druitiere 60.41 42 *e*P **P** **18 02 39.3 -1.3**
LDF pmax pmax
comp=Z,111nm,2.0s,mb5.1
LDF La Druitiere 60.41 42 *e*P **P** **18 02 39.3 -1.3**
comp=Z,111nm,2.0s,mb5.1
K01A Sixes 60.64 311 ⇓P **P** **18 02 41.9 -0.2**
baz=60
YKA Yellowknife Ar 60.77 335 P **P** **18 02 41.9 -1.1**
comp=Z,16nm,0.7s,mb4.8,baz=108,slow=7.4,SNR=60
YKA PcP PcP 18 03 24.7 -0.2
comp=Z,1.1nm,0.7s,baz=116,slow=4.5,SNR=2.6
YKA Yellowknife Ar 60.77 335 P **P** **18 02 41.9 -1.1**
YKA PcP PcP 18 03 24.8 -0.2
MTLF Montolieu 61.12 48 *e*P **P** **18 02 44.1 -1.2**
TORD Torodi Ar. Bea 61.12 83 P **P** **18 02 47.7 +2.3**
comp=Z,0.4nm,0.5s,mb3.3,baz=280,slow=6.4,SNR=5.3
TORD PcP PcP 18 03 28.8 +2.4
comp=Z,0.9nm,0.8s,baz=280,slow=5.6,SNR=3.9
TORD Torodi Ar. Bea 61.12 83 P **P** **18 02 47.7 +2.3**
TORD PcP PcP 18 03 28.8 +2.4
C03A Quillayute Air 61.51 317 ⇓P **P** **18 02 48.5 +0.6**
baz=61
LASF Ste Croix 62.39 48 *e*P **P** **18 02 52.6 -1.2**
SSF Saint Saulge 62.54 44 *e*P **P** **18 02 53.4 -1.4**
comp=Z,11nm,1.1s,mb4.1
SSF Saint Saulge 62.54 44 *e*P **P** **18 02 53.4 -1.4**
SSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
SSF Saint Saulge 62.54 44 *e*P **P** **18 02 53.4 -1.4**
comp=Z,5.7nm,1.1s,mb4.1
LOR Lormes 62.81 44 *e*P **P** **18 02 55.4 -1.2**
comp=Z,13nm,0.8s,mb4.3
LOR Lormes 62.81 44 *e*P **P** **18 02 55.4 -1.2**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
LOR Lormes 62.81 44 *e*P **P** **18 02 55.4 -1.2**
comp=Z,6.3nm,0.8s,mb4.3
HAU Haudompre 64.57 43 *e*P **P** **18 03 07.1 -1.0**
LPL La Plagne 64.58 46 *e*P **P** **18 03 07.4 -0.7**
comp=Z,10nm,0.8s,mb4.2
LPL La Plagne 64.58 46 *e*P **P** **18 03 07.4 -0.7**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LPL La Plagne 64.58 46 *e*P **P** **18 03 07.4 -0.7**
comp=Z,5.2nm,0.8s,mb4.2
LPG La Plagne 64.59 46 *e*P **P** **18 03 07.5 -0.7**
comp=Z,5.7nm,0.7s,mb4.0
LPG La Plagne 64.59 46 *e*P **P** **18 03 07.5 -0.7**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
LPG La Plagne 64.59 46 *e*P **P** **18 03 07.5 -0.7**
comp=Z,2.8nm,0.7s,mb4.0
HINF Hinteralfeld 64.89 44 *e*P **P** **18 03 09.0 -1.2**
CDF Champ du Feu 65.24 43 *e*P **P** **18 03 11.5 -0.9**
KEST Kesra 66.20 57 P **P** **18 03 21.4 +2.9**
comp=Z,2.0nm,0.8s,mb3.8,baz=304,slow=1.5,SNR=6.0
DLBC Dease Lake 66.68 328 *e*P **P** **18 03 21.9 +0.3**
NB2 NORSAR Subarra 69.11 30 P **P** **18 03 38.5 +1.8**
comp=Z,1.9nm,0.8s,mb3.8,baz=261,slow=6.5
NOA NORSAR Array B 69.11 30 P **P** **18 03 38.4 +1.7**
comp=Z,2.9nm,0.8s,mb4.0,baz=262,slow=6.2,SNR=7.0
CLL Collm 69.16 40 *e*(P) **P** **18 03 39.0 +1.9**
GERES GERESS Array B 69.52 43 P **P** **18 03 39.9 +0.6**
comp=Z,1.0nm,0.7s,mb3.6,baz=266,slow=5.4,SNR=8.8
INK Inuvik 70.13 338 *e*P **P** **18 03 41.9 -1.1**
comp=Z,658nm,1.0s
DAWY Dawson 71.91 333 *e*P **P** **18 03 53.9 +0.2**
EGAK Eagle 72.72 334 *e*P **P** **18 03 58.5 0.0**
comp=Z,21nm,0.9s,mb4.8
ARCES ARCESS Array B 75.55 21 P **P** **18 04 15.3 +0.5**
comp=Z,7.4nm,0.7s,mb4.4,baz=277,slow=4.8,SNR=12
COLA College 75.58 334 *e*P **P** **18 04 14.3 -0.7**
FINES FINESS Array B 76.29 30 P **P** **18 04 20.4 +1.4**
comp=Z,3.4nm,1.0s,mb3.9,baz=270,slow=5.0,SNR=6.6
FINES FINESS Array B 76.29 30 P **P** **18 04 20.4 +1.4**
IDI Anoyia 78.86 56 P **P** **18 04 36.0 +2.7**
comp=Z,7.9nm,0.9s,mb4.3,baz=307,slow=14,SNR=2.7
AKASG Malin Array Be 79.41 40 P **P** **18 04 37.4 +1.1**
comp=Z,0.5nm,0.4s,mb3.5,baz=262,slow=4.6,SNR=7.1
OBN Obninsk 82.83 35 *e*P **P** **18 04 53.2 -1.0**
OBN *e*SS S 18 14 57.5 +1.4
OBN *e*SS SS 18 20 23.1 -0.2
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.6
BRTR Keskin Array B 84.75 50 P **P** **18 05 06.0 +2.0**
comp=Z,0.9nm,0.8s,mb3.6,baz=324,slow=6.1,SNR=5.6
BILL Bilibino 90.95 344 *e*P **P** **18 05 32.6 -0.9**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
TIXI Tiksi 93.89 357 *e*P **P** **18 05 46.8 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TIXI Tiksi 93.89 357 *e*P **P** **18 05 46.8 -0.2**
comp=Z,4.6nm,0.9s,mb4.5

WMQ Urumqi 115.56 24 ⇑PKP PKPdf 18 11 13.5 +2.9
WMQ PPP 18 14 58.0
WMQ PP PP
comp=Z,52nm,5.8s
WMQ LR LR
comp=N,112nm,29.2s
WMQ LR LR
comp=E,237nm,30.8s
WMQ LR LR
comp=Z,177nm,32.3s
HHC Hu-ho-hao-te 124.66 6 *e*PKP PKPdf 18 11 29.8 +1.8
HHC PP PP
comp=Z,209nm,4.8s
GYA Guiyang 137.77 16 *e*PDIF Pdif 18 09 03.0 +0.4
GYA PKP PKPdf 18 11 54.5 +1.7
GYA XPKP 18 12 57.5
GYA PP PP 18 14 46.5 +4.6
GYA PKS 18 15 29.3
GYA PP PP
comp=Z,120nm,8.4s
KMI Kunming 137.79 22 PKP PKPdf 18 11 49.0 -3.8
STKA Stephens Creek 152.71 226 PKPbc PKPbc 18 12 25.7 +0.4
comp=Z,5.2nm,0.7s,baz=125,slow=3.0,SNR=13
STKA Stephens Creek 152.71 226 PKPbc PKPbc 18 12 25.7 +0.4
ASAR Alice Springs 162.85 235 PKP PKPdf 18 12 31.1 +0.6
comp=Z,0.9nm,0.8s,baz=98,slow=1.3,SNR=12
ASAR PKPab PKPab 18 13 19.8 -0.9
comp=Z,0.6nm,0.6s,baz=112,slow=4.3,SNR=11
WRA Warramunga Arr 163.98 248 PKP PKPdf 18 12 32.2 +0.7
comp=Z,1.4nm,1.1s,baz=95,slow=0.9,SNR=8.0
WRA PKPab PKPab 18 13 25.6 0.0
comp=Z,5.4nm,0.8s,baz=98,slow=4.3,SNR=44

*ISCJB **27** 17:58:02.6±0.9, 2452S×004×671W±0.1, h162km±11km, mb3.5/4, Error ellipse: s-maj=15.3km s-min=7.0km az=6.9*
*IDC **27** 17:58:03.0±1.4, 2445S×6699W, h154km±14km, mb3.4/4, mb1 3.6/7, mb1mx3.5/18, mbtmp3.4/7, Error ellipse: s-maj=25.2km s-min=12.6km az=79.0*
*NEIC **27** 17:58:03.3±0.9, 2445S×6706W, h161km±10km, mb3.8/1, Error ellipse: s-maj=19.1km s-min=10.0km az=104.0*
*GUC **27** 17:58:04.5±0.7, 2460S×6763W, h213km±53km, ML4.9*
ISC 27 17:58:03.7±0.8, 2452S×004×671W±01, h157km±10km, n22, σ1°03/28, mb3.5/4, 4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**319**	P		**Pn**		**17 58 46.6**	**+1.5**
	43nm,0.3s,baz=90,slow=5.0,SNR=158								
LVC				S		**Sn**		**17 59 17.5**	**+0.5**
	238nm,0.3s,baz=270,slow=21,SNR=119								
LVC	**Limon Verde**	**2.50**	**319**	*e*P		**Pn**		**17 58 46.5**	**+1.4**
LVC				*e*S		**Sn**		**17 59 15.4**	**-1.6**
LVC				S		**Sn**		**17 59 17.5**	**+0.5**
CEN1	**Los Morros**	**3.02**	**291**	⇓*i*P		**Pn**		**17 58 53.1**	**+1.6**
CEN1				*i* S		**Sn**		**17 59 29.0**	**+0.4**
CEN1				AML	AML			17 59 30.2	
	comp=N,692nm,0.6s								
ANCH	**Antofagasta**	**3.10**	**285**	*e*P		**Pn**		**17 58 52.9**	**+0.4**
ANCH				*i* S		**Sn**		**17 59 30.0**	**-0.5**
CPCH	**Copiapo**	**4.05**	**225**	⇓*i*P		**Pn**		**17 59 05.0**	**+0.3**
CPCH				*i* S		**Sn**		**17 59 51.5**	**-0.7**
CPCH				AML	AML			17 59 55.5	
	comp=E,2μm,0.1s								
CPCH	**Copiapo**	**4.05**	**225**	⇓*i*P		**Pn**		**17 59 05.0**	**+0.3**
CPCH				*i* S		**Sn**		**17 59 51.5**	**-0.7**
CDCH	**Caldera**	**4.19**	**232**	⇓*e*P		**Pn**		**17 59 06.4**	**-0.1**
CDCH				*i* S		**Sn**		**17 59 53.6**	**-1.9**
CFAA	**Coronel Fontan**	**7.13**	**188**	P		**Pn**		**17 59 47.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=344,slow=11,SNR=9.5								
CFAA				S		**Sn**		**18 01 04.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=203,slow=17,SNR=5.7								
LPAZ	**La Paz**	**8.24**	**353**	P		**Pn**		**17 59 59.8**	**-0.4**
	comp=E,0.7nm,0.3s,baz=175,slow=10.0,SNR=14								
SIV	**San Ignacio**	**10.21**	**35**	P		**Pn**		**18 00 23.8**	**-2.5**
	comp=E,1.4nm,0.3s,baz=222,slow=12,SNR=6.5								
TRQA	**Tornquist**	**14.20**	**163**	*e*P		**Pn**		**18 01 22.2**	**+4.5**
	comp=E,5.0nm,0.9s								
VNA3	**Neumayer Olymp**	**56.71**	**161**	*e*P		**P**		**18 07 31.6**	**+0.8**
VNA2	**Neumayer--Watz**	**57.28**	**160**	*e*P		**P**		**18 07 35.6**	**+0.8**
VNA2				*e*				18 07 37.3	
SNAA	**Sanae**	**58.91**	**161**	P		**P**		**18 07 46.0**	**-0.1**
	comp=E,0.5nm,0.8s,mb3.4,baz=356,slow=9.7,SNR=5.7								
SNAA	**Sanae**	**58.91**	**161**	*e*P		**P**		**18 07 47.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.87**	**69**	P		**P**		**18 09 37.7**	**-0.6**
	comp=E,0.9nm,0.4s,mb3.7,baz=266,slow=5.9,SNR=15								
PDAR	**Pinedale Array**	**77.52**	**329**	P		**P**		**18 09 42.2**	**+0.2**
	comp=E,0.2nm,0.5s,mb3.0,baz=127,slow=11,SNR=3.9								
YKA	**Yellowknife Ar**	**94.56**	**340**	P		**P**		**18 11 05.2**	**-1.1**
	comp=E,0.4nm,0.5s,mb3.9,baz=132,slow=4.5,SNR=6.0								
YKA	**Yellowknife Ar**	**94.56**	**340**	P		**P**		**18 11 05.2**	**-1.1**
WRA	**Warramunga Arr**	**131.11**	**207**	PKP	PKPdf			18 16 57.3	+0.5
	comp=E,0.2nm,0.4s,baz=158,slow=1.7,SNR=12								
MKAR	**Makanchi Array**	**147.00**	**40**	PKPbc	PKPbc			18 17 25.3	-2.5
	comp=E,0.9nm,0.6s,baz=316,slow=4.0,SNR=7.9								
MKAR	**Makanchi Array**	**147.00**	**40**	PKPbc	PKPbc			18 17 25.3	-2.5

*ISCJB **27** 18:01:59.4±0.5, 2678N±004×5565E±006, h10km, Error ellipse: s-maj=8.2km s-min=5.1km az=116.5*
*TEH **27** 18:02:03.4, 2675N×5580E, h29km, Mn3.5*
*KISR **27** 18:02:03.4±1.1, 2687N×5516E, h19km±999km, ML3.7*
*CSEM **27** 18:02:03.0±0.4, 2699N×5576E, h20km, ML3.3, Error ellipse: s-maj=9.6km s-min=2.0km az=167.0*
*THR **27** 18:02:04.1±0.4, 2713N×5570E, h14km±7km, ML3.3*
ISC 27 18:02:01.1±0.5, 2676N±004×5574E±006, h10km, n22, σ0°97/27, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.74**	**31**	*e*Pg		**Pg**		**18 02 14.1**	**-1.3**
BANOM	**Banah**	**0.97**	**149**	P		**Pg**		**18 02 16.6**	**-3.2**
	SNR=172								
BANOM				⇓S		**Sg**		**18 02 32.6**	**+0.1**
HATD	**Hatta, Dubai**	**1.96**	**170**	⇑P		**Pn**		**18 02 36.1**	**+1.7**
	SNR=29								
ASHO	**Ashiyiah**	**2.09**	**172**	P		**Pn**		**18 02 36.1**	**-0.1**
	SNR=18								
GHIR	**Ghir-Karzin**	**2.88**	**302**	*e*Pn		**Pn**		**18 02 48.6**	**+1.6**
GHIR				AML	AML			18 03 50.9	
	comp=N,137nm,0.6s								
GHIR				AML	AML			18 03 59.0	
	comp=E,141nm,0.7s								
KRBR	**Kerman**	**3.33**	**15**	*e*Pn		**Pn**		**18 02 53.5**	**+0.3**
KRBR				*e*Sg		**Sn**		**18 03 37.8**	**+4.9**
KRBR				AML	AML			18 03 45.6	
	comp=N,88nm,0.4s								
IMOK	**Mook**	**3.52**	**311**	*e*Pn		**Pn**		**18 02 56.9**	**+1.2**
IPAR	**Pars**	**3.88**	**323**	*e*Pn		**Pn**		**18 03 01.5**	**+0.7**
IMEH	**Mehriz**	**4.72**	**348**	*e*Pn		**Pn**		**18 03 13.1**	**+0.9**
IBAF	**Bafgh**	**4.81**	**358**	*e*Pn		**Pn**		**18 03 13.3**	**-0.3**
ISAD	**Sadrabad**	**5.44**	**341**	*e*Pn		**Pn**		**18 03 24.3**	**+2.1**
ICHK	**Chekchek**	**5.58**	**348**	*e*Pn		**Pn**		**18 03 24.2**	**0.0**
IKOO		**6.32**	**26**	*e*Pn		**Pn**		**18 03 33.8**	**-0.4**
IZEF	**Zefreh**	**6.79**	**335**	*e*Pn		**Pn**		**18 03 40.2**	**-0.6**
QRN	**Al-Qurain**	**7.21**	**288**	*e*P		**Pn**		**18 03 45.7**	**-0.8**
QRN				AML	AML			18 05 07.3	
	comp=Z,18nm,0.2s								
IPIR	**Pirpir**	**7.25**	**326**	*e*Pn		**Pn**		**18 03 46.8**	**-0.3**
IKLH	**Kalahroud**	**7.46**	**332**	*e*Pn		**Pn**		**18 03 50.0**	**0.0**
KBD	**Kabd**	**7.51**	**291**	*e*P		**Pn**		**18 03 50.4**	**-0.2**
KBD				AML	AML			18 05 12.3	
	comp=Z,36nm,0.3s								
RDF	**Al-Radifah**	**7.57**	**288**	*e*P		**Pn**		**18 03 50.3**	**-1.1**
RDF				*e*S		**Sn**		**18 05 10.7**	**-6.5**
RDF				AML	AML			18 05 11.0	
	comp=Z,9.0nm,0.5s								
UMR	**Umm Al-Rimmam**	**7.61**	**293**	*e*P		**Pn**		**18 03 51.5**	**-0.5**
UMR				*e*S		**Sn**		**18 05 12.2**	**-6.0**
UMR				AML	AML			18 05 15.5	
	comp=Z,9.9nm,0.2s								
NAY	**Al-Naaiem**	**7.91**	**290**	*e*P		**Pn**		**18 03 55.3**	**-0.8**
NAY				*e*S		**Sn**		**18 05 19.9**	**-5.8**
NAY				AML	AML			18 05 21.0	
	comp=Z,4.8nm,0.5s								
MIB	**Mutribah**	**8.00**	**294**	*e*P		**Pn**		**18 03 56.5**	**-0.9**
MIB				AML	AML			18 05 24.2	
	comp=Z,7.1nm,0.4s								

*ISCJB **27** 18:04:59.0±0.7, 3977N±005×8807E±008, h10km, mb3.5/6, MS3.8/1, Error ellipse: s-maj=9.7km s-min=6.7km az=107.3*
*IDC **27** 18:04:59.2±0.9, 3962N×8820E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.6/24, mbtmp3.5/9, ML3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=28.8km s-min=16.0km az=50.0*
*BJI **27** 18:05:02.3, 3971N×8799E, h16km, mb3.8, ML3.7*
ISC 27 18:05:01.0±0.7, 3971N±006×8807E±008, h10km, n15, σ1°19/18, mb3.5/6, MS3.8/1, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.12**	**356**	*e*P		**Pn**		**18 06 08.0**	**+4.0**
WMQ				SG		**Sg**		**18 07 15.0**	**+1.7**
WMQ				Smax					
	comp=N,265nm,1.0s								
WMQ				Smax					
	comp=E,172nm,0.5s								
MK09	**Makanchi Array**	**8.23**	**331**	⇓Pn		**Pn**		**18 07 01.4**	**+0.9**
	comp=E,3.3nm,0.7s,baz=147,slow=13								
MK09				⇑Sn		**Sn**		**18 08 32.5**	**-1.0**
	comp=E,5.0nm,0.6s,baz=150,slow=26								
MKAR	**Makanchi Array**	**8.24**	**331**	Pn		**Pn**		**18 07 01.9**	**+1.3**
	comp=E,2.6nm,0.3s,baz=148,slow=13,SNR=75								
MKAR				Sn		**Sn**		**18 08 31.6**	**-2.2**
	comp=E,1.8nm,0.3s,baz=150,slow=27,SNR=7.1								
MKAR				Lg				18 09 26.7	
	comp=E,0.5nm,0.3s,baz=142,slow=31,SNR=2.5								
GTA	**Gaotai**	**9.07**	**88**	*e*P		**Pn**		**18 07 12.8**	**+0.8**
GTA				AMB	AMB				
	comp=Z,2.0nm,0.4s								
TKM2	**Tokmak 2**	**9.92**	**293**	⇑Pn		**Pn**		**18 07 24.7**	**+1.1**
	comp=Z,0.3nm,0.3s								
TKM2				⇓Sn		**Sn**		**18 09 14.4**	**-0.6**
	comp=Z,0.6nm,0.6s								
ZAL	**Zalesovo**	**14.41**	**352**	Pn		**Pn**		**18 08 24.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=105,slow=12,SNR=2.1								
SONM	**Songino Array**	**15.50**	**52**	Pn		**Pn**		**18 08 37.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=248,slow=15,SNR=3.0								
SONM				Lg				18 13 07.1	
	comp=Z,0.4nm,0.3s,baz=220,slow=32,SNR=7.8								
BVAR	**Borovoye Array**	**18.00**	**324**	P		**Pn**		**18 09 10.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=135,slow=9.0,SNR=5.7								
BRTR	**Keskin Array B**	**41.32**	**288**	P		**P**		**18 12 47.0**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.1,baz=102,slow=8.0,SNR=3.5								
AKASG	**Malin Array Be**	**41.85**	**305**	LR	LR			18 31 13.4	
	comp=Z,128nm,21.1s,MS3.8,baz=290,slow=38								
NB2	**NORSAR Subarra**	**50.12**	**322**	P		**P**		**18 14 03.4**	**+7.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=77,slow=7.9								
GERES	**GERESS Array B**	**52.05**	**306**	P		**P**		**18 14 12.6**	**+1.8**
	comp=Z,1.1nm,0.3s,mb3.2,baz=62,slow=9.0,SNR=2.2								
WRA	**Warramunga Arr**	**73.38**	**135**	P		**P**		**18 16 32.7**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=331,slow=5.8,SNR=9.3								
ASAR	**Alice Springs**	**76.18**	**137**	P		**P**		**18 16 49.0**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=325,slow=6.0,SNR=8.2								
TORD	**Torodi Ar. Bea**	**78.97**	**278**	P		**P**		**18 17 04.6**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=39,slow=5.4,SNR=3.4								

*ISCJB **27** 18:27:06.8±0.9, 469N±0.1×1544E±02, h10km, mb3.6/7, Error ellipse: s-maj=24.7km s-min=12.9km az=101.2*
*IDC **27** 18:27:06.9±1.0, 4690N×15445E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=30.2km s-min=22.8km az=152.0*
*MOS **27** 18:27:10.7±1.3, 4697N×15426E, h35km, mb4.2/3, Error ellipse: s-maj=40.1km s-min=24.4km az=75.7*
ISC 27 18:27:08.7±7.3, 469N±02×1544E±02, h11km±45km, n12, σ0°64/12, mb3.6/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.91**	**16**	*e*PN		**Pn**		**18 28 08.6**	**-0.1**
SKR				*e*				18 28 54.2	
ASAJ	**Asahikawa**	**8.77**	**255**	Pn		**Pn**		**18 29 15.8**	**+0.4**
	0.2nm,0.3s,baz=180,slow=20,SNR=3.3								
ASAJ				LR	LR			18 32 09.2	
	comp=Z,116nm,21.2s,baz=20,slow=34								
KSRS	**Korea Array**	**21.71**	**254**	P		**P**		**18 31 59.6**	**-0.2**
	0.8nm,0.6s,mb3.4,baz=57,slow=9.0,SNR=2.8								
BVAR	**Borovoye Array**	**51.43**	**310**	P		**P**		**18 36 12.8**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=63,slow=7.1,SNR=3.4								
PDAR	**Pinedale Array**	**63.91**	**55**	P		**P**		**18 37 41.2**	**-0.3**
	0.5nm,0.9s,mb3.6,baz=325,slow=10.0,SNR=4.7								
FINES	**FINESS Array B**	**64.25**	**335**	P		**P**		**18 37 43.6**	**-0.2**
	1.8nm,0.5s,mb4.4,baz=36,slow=8.3,SNR=18								
FINES	**FINESS Array B**	**64.25**	**335**	P		**P**		**18 37 43.6**	**-0.2**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ASAR	**Alice Springs**	**72.68**	**200**	P		**P**		**18 38 36.1**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=13,slow=5.0,SNR=9.8								
ASAR	**Alice Springs**	**72.68**	**200**	P		**P**		**18 38 36.2**	**-0.4**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**76.62**	**61**	P		**P**		**18 38 60.0**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=302,slow=4.6,SNR=4.7								
BRTR	**Keskin Array B**	**78.86**	**318**	P		**P**		**18 39 13.2**	**+1.4**
	comp=Z,1.0nm,1.0s,mb3.7,baz=32,slow=9.5,SNR=4.3								
BRTR	**Keskin Array B**	**78.86**	**318**	P		**P**		**18 39 13.3**	**+1.4**
BRTR				pmax	pmax				
	comp=Z,1.0nm,1.0s								

*ISCJB **27** 18:29:24.8±4.8, 4742N±0.10×1555E±02, h3km±31km, mb3.9/12, Error ellipse: s-maj=21.6km s-min=14.0km az=67.9*
*IDC **27** 18:29:26.0±2.1, 4739N×15563E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=61.7km s-min=21.6km az=178.0*
*NEIC **27** 18:29:27.5±1.9, 4737N×15561E, h10km, mb4.4/1, Error ellipse: s-maj=59.8km s-min=13.6km az=3.0*
*MOS **27** 18:29:29.6±0.8, 4745N×15542E, h35km, mb4.3/7, Error ellipse: s-maj=26.6km s-min=16.6km az=95.4*
ISC 27 18:29:26.6±5.6, 4744N±010×1556E±02, h4km±35km, n24, σ0°34/25, mb3.9/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.26**	**6**	*e*PN		**Pn**		**18 30 18.5**	**-0.1**
SKR				*e*S		**Sn**		**18 30 58.0**	**+0.1**
SKR				pmax	pmax				
	comp=Z,50nm,0.5s								
SKR				smax					
	comp=N,90nm,0.5s								
SKR				smax					
	comp=E,40nm,0.3s								
SKR				smax					
	comp=Z,60nm,0.3s								
ASAJ	**Asahikawa**	**9.67**	**255**	Pn		**Pn**		**18 31 46.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=342,slow=20,SNR=4.0								
ASAJ	**Asahikawa**	**9.67**	**255**	PN		**Pn**		**18 31 46.6**	**+0.1**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BILL	**Bilibino**	**21.36**	**11**	*e*P		**P**		**18 34 20.8**	**+5.8**
BILL				pmax	pmax				
	comp=Z,6.0nm,1.2s,mb3.8								
MKAR	**Makanchi Array**	**48.12**	**298**	P		**P**		**18 38 08.4**	**+0.8**
	comp=Z,0.9nm,0.6s,

FINES	**FINES Array B**	**64.12**	**336**	P	**P**	**18 40 01.9**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=41,slow=6.6,SNR=6.5						
FINES	**FINES Array B**	**64.12**	**336**	P	**P**	**18 40 01.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINES Array B**	**64.12**	**336**	P	**P**	**18 40 01.9**	**-0.1**
NOA	**NORSAR Array B**	**68.11**	**342**	P	**P**	**18 40 27.5**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=26,slow=6.3,SNR=2.5						
AKASG	**Malin Array Be**	**71.90**	**327**	P	**P**	**18 40 50.1**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=31,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**75.68**	**62**	P	**P**	**18 41 13.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=292,slow=4.8,SNR=6.0						
GERES	**GERESS Array B**	**78.56**	**335**	P	**P**	**18 41 29.7**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=44,slow=6.0,SNR=2.6						

TRN 27 18:53:19.5, 1505N×6039W, h34km, MD3.7, M2.3(FDF), M3.0(FDF), 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVM	**Montagne Vaucl**	**0.69**	**225**	*eP*		Pn	18 53 34.4	+1.5
FDF	**Fort de France**	**0.80**	**247**	⇓*eP*		Pn	18 53 35.8	+1.5
FDF				*eS*		Sn	18 53 47.2	+2.2
BIM	**Bigot**	**0.84**	**231**	*eP*		Pn	18 53 36.7	+1.7
BIM				*eS*		Sn	18 53 48.9	+2.8
SLW	**Petit Monier**	**1.15**	**207**	*eP*		Pn	18 53 40.8	+1.6
SLW				*eS*		Sn	18 53 55.6	+1.9
SLB	**Belfond**	**1.37**	**207**	*eP*		Pn	18 53 44.4	+2.2
SLB				*eS*		Sn	18 54 00.1	+1.0
DEG	**La Desirade**	**1.41**	**333**	*eP*		Pn	18 53 44.2	+1.5
DEG				*eS*		Sn	18 54 02.0	+1.9
TBG	**Guadaloupe-3**	**1.45**	**304**	*eP*		Pn	18 53 44.3	+1.0
LZG	**Guadaloupe-1**	**1.72**	**309**	*eP*		Pn	18 53 50.0	+3.0
LZG				*eS*		Sn	18 54 10.9	+3.2
SSV	**Crater Summit**	**1.88**	**204**	*eP*		Pn	18 53 50.0	+0.8
SSV				*eS*		Sn	18 54 09.6	-2.1
SVV	**Soufriere Volc**	**1.90**	**205**	*eP*		Pn	18 53 52.1	+2.7
SVB	**Belmont**	**1.95**	**205**	*eP*		Pn	18 53 51.8	+1.6

MAN 27 18:59:45.2, 749N×12373E, h19km, mb3.5, ML4.7, MS2.3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.58**	**118**	⇓*iP*		Pb	18 59 55.4	-1.3
CTBH				*i* S		Sb	19 00 03.5	-1.0
DCPH	**Dipolog City**	**1.15**	**341**	⇑*eP*		Pn	19 00 05.5	-0.6
DCPH				*eS*		Sb	19 00 21.7	+0.9
IPIL	**Ipil**	**1.18**	**284**	⇑*iP*		Pn	19 00 06.8	+0.1
IPIL				*i* S		Sb	19 00 23.1	+1.1
IPIL	**Ipil**	**1.18**	**284**	*eP*		Pn	19 00 06.6	-0.1
IPIL				*eS*		Sb	19 00 23.1	+1.1
CGP	**Cagayan de Oro**	**1.35**	**45**	⇓*eP*		Pn	19 00 08.1	-0.9
CGP				*i* S		Sn	19 00 25.4	-1.0
BUKP	**Musuan**	**1.38**	**74**	*eP*		Pn	19 00 08.5	-0.8
BUKP				*eS*		Sn	19 00 28.1	+1.1
MSLP	**Maasin**	**2.85**	**23**	*eP*		Pn	19 00 32.7	+3.0
MSLP				*eS*		Sn	19 01 09.4	+6.0

IDC ***27*** *19:08:30.2±4.5, 46.14N×155.38E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=148.8km s-min=32.3km az=8.0*

ISCJB ***27*** *19:08:37.0±5.7, 476N±0.1×1560E±0.4, h9km±36km, mb3.7/5, Error ellipse: s-maj=44.1km s-min=18.1km az=171.8*

MOS ***27*** *19:08:39.1±2.6, 4753N×155.41E, h33km, mb4.2/2, Error ellipse: s-maj=91.0km s-min=34.5km az=91.9*

ISC 27 19:08:36.8±6.9, 476N±0.1×1556E±0.3, h5km±43km, n8, σ1s17/9, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.14**	**6**	*ePN*		**Pn**	**19 09 27.0**	**+0.1**
SKR				*eS*		**Sn**	**19 10 04.5**	**-0.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,160nm,0.4s						
SKR				smax			
	comp=N,200nm,0.3s						
SKR				smax			
	comp=Z,100nm,0.3s						
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**19 17 15.0**	**-2.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=57,slow=9.0,SNR=5.6						
MKAR	**Makanchi Array**	**48.05**	**298**	P	**P**	**19 17 15.0**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**62.91**	**56**	P	**P**	**19 19 03.9**	**-0.1**
	comp=Z,0.8nm,1.1s,mb3.8,baz=328,slow=3.2,SNR=3.8						
FINES	**FINES Array B**	**64.01**	**336**	P	**P**	**19 19 13.2**	**+1.9**
	comp=Z,1.5nm,0.8s,mb4.1,baz=31,slow=8.4,SNR=4.4						
FINES	**FINES Array B**	**64.01**	**336**	P	**P**	**19 19 13.2**	**+2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**19 20 22.1**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=305,slow=5.9,SNR=4.4						
GERES	**GERESS Array B**	**78.44**	**335**	P	**P**	**19 20 39.9**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=46,slow=7.6,SNR=3.5						

NIED ***27*** *19:26:00, 37.80N×133.70E, h460km, Mw5.2 Best double couple: M0 6.48000×10^16 NP1:φs173.00000°, δ77.00000°, λ120.00000°. NP2:φs285.00000°, δ32.00000°, λ26.00000°.*

BJI ***27*** *19:26:00.7, 3764N×13383E, h401km, mB5.0, mb5.4*

MOS ***27*** *19:26:02.1±0.9, 3781N×13358E, h407km, mb4.7/61, MS4.4/4, Error ellipse: s-maj=7.0km s-min=4.7km az=106.6*

JMA ***27*** *19:26:02.7±0.1, 3777N×133.75E, h450km±2km, M5.3 Broadband fault plane solution: P waves. NP1: φs235.00000°, δ34.00000°, λ-12.00000°. NP2: φs335.00000°, δ83.00000°, λ-123.00000°. Principal axes: T Plg30.0000°, Azm92.0000°; N Plg33.0000°, Azm340.0000°; P Plg42.0000°, Azm214.0000°;*

ISCJB ***27*** *19:26:04.7±0.1, 3772N±002×13361E±002, h434km, mb4.8/150 Error ellipse: s-maj=2.2km s-min=1.8km az=153.0*

IDC ***27*** *19:26:04.8±0.4, 3778N×13362E, h424km±4km, mb4.4/32, mb1 4.5/38, mb1mx4.4/42, mbtmp4.4/38, Error ellipse: s-maj=7.4km s-min=5.5km az=61.0*

GCMT ***27*** *19:26:06.3±0.5, 3793N×13390E, h435km±4km, MW5.3/34, Moment Tensor Solution. s34,c41; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr 0.40±.04; Mθθ -0.22±.06; Mφφ -0.17±.06; Mrθ 0.09±.08; Mrφ 0.50±.06; Mθφ -0.83±.07; Best double couple: M0 1.03100×10^17 NP1:φs280.00000°, δ30.00000°, λ27.00000°. NP2: φs167.00000°, δ77.00000°, λ117.00000°. Principal axes: T 1.0290, Plg51.0000°, Azm107.0000°; N 0.0030, Plg26.0000°, Azm340.0000°; P -1.0330, Plg27.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***27*** *19:26:06.3±0.1, 3778N×13350E, mb4.9/83, MW5.1(NIED) Error ellipse: s-maj=4.1km s-min=3.3km az=136.0*

SZGRF ***27*** *19:26:46.4, 37.11N×135.35E, h446km, mb4.8, Sea of Japan*

ISC 27 19:26:05.7±0.1, 3767N±002×13666E±002, h436km, h436km±4.8km: pP-P, n738, σ1901/775, mb4.8/150, 142C-135D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAI	**Saigo**	**1.49**	**190**	P	**P**	**19 27 01.5**	**-0.8**
SAI				S	**S**	**19 27 48.2**	**0.0**
JNM	**Ikuma**	**2.23**	**193**	⇑P	**P**	**19 27 05.9**	**-0.4**
JKG	**Kaga**	**2.55**	**122**	⇓P	**P**	**19 27 06.9**	**-1.5**
JKG				S	**S**	**19 27 56.8**	**-2.4**
JHG	**Hegura jima**	**2.59**	**85**	P	**P**	**19 27 07.0**	**-1.6**
JJH	**Hakui**	**2.60**	**106**	⇓P	**P**	**19 27 06.9**	**-1.8**
JJH				S	**S**	**19 27 57.9**	**-1.9**
JHS	**Saijyo**	**2.70**	**190**	⇑P	**P**	**19 27 08.7**	**-0.7**
JHS				S	**S**	**19 27 59.5**	**-1.6**
JWT	**Wachi**	**2.76**	**149**	⇓P	**P**	**19 27 09.3**	**-0.6**
JWT				S	**S**	**19 28 00.8**	**-1.1**
JFM	**Mihama**	**2.84**	**138**	⇓P	**P**	**19 27 09.5**	**-0.9**
JGT	**Gotsu**	**2.84**	**203**	P	**P**	**19 27 09.6**	**-0.8**
JSZ	**Suzu**	**2.95**	**93**	⇓P	**P**	**19 27 09.4**	**-1.8**
JSZ				S	**S**	**19 28 02.9**	**-1.5**
JJG	**Jouge**	**3.05**	**188**	P	**P**	**19 27 11.5**	**-0.5**
JTT	**Ttatey**	**3.12**	**109**	P	**P**	**19 27 11.4**	**-1.1**
JGM	**Miyama**	**3.15**	**128**	⇓P	**P**	**19 27 11.4**	**-1.3**
JGM				S	**S**	**19 28 05.3**	**-1.9**
JHT	**Toyohira**	**3.16**	**199**	⇑P	**P**	**19 27 12.1**	**-0.8**
JGN	**Niukaw**	**3.26**	**115**	⇓P	**P**	**19 27 11.9**	**-1.8**
JJS	**Sakaide**	**3.29**	**176**	⇑P	**P**	**19 27 13.6**	**-0.3**
JHE	**Heguri**	**3.42**	**151**	⇓P	**P**	**19 27 14.2**	**-0.8**
JGF	**Kuroka**	**3.62**	**124**	⇓P	**P**	**19 27 14.9**	**-1.7**
JJN	**Nakama**	**3.63**	**98**	⇓P	**P**	**19 27 14.9**	**-1.8**
JHM	**Kurahashi**	**3.64**	**195**	⇑P	**P**	**19 27 16.2**	**-0.6**
JSD	**Sado**	**3.66**	**83**	⇓P	**P**	**19 27 14.6**	**-2.3**
TSUJ	**Tsu 2**	**3.70**	**142**	⇓P	**P**	**19 27 16.2**	**-1.1**
JAO	**Obara**	**3.76**	**129**	⇓P	**P**	**19 27 16.0**	**-1.8**
JNG	**Nsakai**	**3.77**	**108**	⇓P	**P**	**19 27 16.0**	**-1.9**
MAJO	**Matsushiro**	**3.80**	**106**	*eP*	**P**	**19 27 16.4**	**-1.8**
MAT	**Matsushiro**	**3.80**	**106**	P	**P**	**19 27 15.9**	**-2.3**
MAT				S	**S**	**19 28 15.3**	**-1.8**
MAT	**Matsushiro**	**3.80**	**106**	P	**P**	**19 27 16.2**	**-2.0**
MAT				S	**S**	**19 28 15.0**	**-2.1**
MJAR	**Matsushiro Arr**	**3.80**	**106**	P	**P**	**19 27 16.8**	**-1.4**
	108nm,0.3s,baz=292,slow=10,SNR=564						
MJAR				S	**S**	**19 28 16.1**	**-1.1**
	baz=312,slow=11,SNR=6.0						
MJAR	**Matsushiro Arr**	**3.80**	**106**	P	**P**	**19 27 16.8**	**-1.4**
MJAR				S	**S**	**19 28 16.1**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,108nm,0.3s						
JET	**Tanbara**	**3.91**	**188**	⇑P	**P**	**19 27 19.3**	**+0.1**
JAI	**Aioi**	**3.92**	**170**	⇑P	**P**	**19 27 19.4**	**+0.2**
JIZZ	**Izumozaki**	**4.01**	**90**	P	**P**	**19 27 18.7**	**-1.3**
JNT	**Takato**	**4.01**	**115**	⇓P	**P**	**19 27 18.7**	**-1.4**
JNT				S	**S**	**19 28 19.6**	**-0.9**
JNY	**Yasuok**	**4.09**	**123**	⇓P	**P**	**19 27 19.0**	**-1.8**
JIE	**Ise**	**4.10**	**142**	P	**P**	**19 27 19.2**	**-1.6**
JIE				S	**S**	**19 28 20.2**	**-1.7**
JAA	**Atsumi**	**4.14**	**136**	⇓P	**P**	**19 27 20.3**	**-0.9**
JAA				S	**S**	**19 28 21.1**	**-1.5**
JHK	**Hiroka**	**4.28**	**94**	⇓P	**P**	**19 27 19.6**	**-2.9**
HMMJ	**Hamamatsu 2**	**4.32**	**129**	⇓P	**P**	**19 27 21.6**	**-1.2**
HMMJ				S	**S**	**19 28 24.3**	**-1.3**
JKU	**Kubokawa**	**4.38**	**187**	⇑P	**P**	**19 27 23.6**	**+0.2**
JWZ	**Kozaga**	**4.46**	**157**	P	**P**	**19 27 23.2**	**-0.9**
JAW	**Awa shima**	**4.48**	**78**	P	**P**	**19 27 22.3**	**-2.0**
JAW				S	**S**	**19 28 25.7**	**-2.6**
JRY	**Ryogami san**	**4.51**	**110**	P	**P**	**19 27 22.9**	**-1.8**
UWA2	**Uwa jima 2**	**4.53**	**191**	⇑P	**P**	**19 27 25.3**	**+0.5**
KSRS	**Korea Array**	**4.56**	**269**	P	**P**	**19 27 25.5**	**+0.4**
	baz=83,slow=9.7,SNR=1602						
KSRS				S	**S**	**19 28 30.5**	**+0.7**
	baz=85,slow=15,SNR=5.3						
JFA	**Akaike**	**4.59**	**211**	⇑P	**P**	**19 27 25.5**	**+0.2**
JFA				S	**S**	**19 28 30.1**	**-0.1**
JTU	**Tsushima**	**4.67**	**229**	P	**P**	**19 27 25.3**	**-0.8**
JTO	**Tosashimizu**	**4.85**	**189**	P	**P**	**19 27 28.2**	**+0.3**
JUS	**Usuki**	**4.85**	**199**	P	**P**	**19 27 28.3**	**+0.4**
JUS				S	**S**	**19 28 34.6**	**-0.2**
JOD2	**Odawara 2**	**4.99**	**117**	P	**P**	**19 27 27.3**	**-1.9**
JOD2				S	**S**	**19 28 34.4**	**-2.9**
JNU	**Nakatsue**	**5.07**	**207**	P	**P**	**19 27 30.8**	**+0.7**
	comp=Z,21nm,0.3s,baz=257,slow=21,SNR=71						
JNU				S	**S**	**19 28 38.5**	**-0.4**
	comp=Z,3.1nm,0.3s,baz=245,slow=12,SNR=6.5						
JNU	**Nakatsue**	**5.07**	**207**	P	**P**	**19 27 30.5**	**+0.4**
JNU				S	**S**	**19 28 39.2**	**+0.3**
JTA	**Tamana**	**5.35**	**210**	P	**P**	**19 27 33.5**	**+0.7**
JTA				S	**S**	**19 28 43.6**	**-0.2**
JUR	**Ureshino**	**5.48**	**215**	P	**P**	**19 27 35.0**	**+0.9**
JUR				S	**S**	**19 28 48.0**	**+1.7**
VLA	**Vladivostok**	**5.61**	**347**	*d iP*	**P**	**19 27 33.8**	**-1.7**
VLA				*i* S	**S**	**19 28 45.8**	**-2.9**
VLA				pmax	pmax		
	comp=Z,650nm,1.3s						
JZO	**Okuchi**	**6.06**	**205**	P	**P**	**19 27 41.1**	**+1.0**
JZO				S	**S**	**19 28 56.2**	**-1.0**
JMK	**Ichinoseki**	**6.08**	**76**	⇓P	**P**	**19 27 37.9**	**-2.4**
JOSM	**Okushiri--Mats**	**6.28**	**44**	⇓P	**P**	**19 27 39.8**	**-2.6**
JOSM				S	**S**	**19 28 56.4**	**-5.0**
BSO1	**Boso 1**	**6.64**	**115**	P	**P**	**19 27 42.9**	**-3.3**
JHJ	**Hachijo jima 2**	**6.75**	**130**	P	**P**	**19 27 47.3**	**-0.1**
	comp=Z,34nm,0.3s,baz=27,slow=5.7,SNR=12						
JHJ				S	**S**	**19 29 08.3**	**-2.2**
	comp=Z,61nm,0.3s,baz=60,slow=20,SNR=8.5						
JSJ	**Shimokoshiki**	**6.80**	**210**	P	**P**	**19 27 49.2**	**+1.3**
JOT	**Ohata**	**6.81**	**55**	P	**P**	**19 27 45.2**	**-2.8**
JKB	**Kayabe**	**7.07**	**51**	P	**P**	**19 27 47.7**	**-3.1**
MDJ	**Mudanjiang**	**7.59**	**337**	P	**P**	**19 27 55.3**	**-1.1**
MDJ				S	**S**	**19 29 26.5**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,162nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,247nm,5.2s						
ERM	**Erimo**	**8.49**	**56**	Pn	**P**	**19 28 02.2**	**-4.1**
	comp=Z,7μm,0.5s						
ERM	**Erimo**	**8.49**	**56**	*eP*	**P**	**19 28 02.4**	**-3.9**
ERM				pmax	pmax		
	comp=Z,879nm,0.6s						
ERM	**Erimo**	**8.49**	**56**	*ePn*	**P**	**19 28 02.4**	**-3.8**
	comp=Z,879nm,0.6s						
CN2	**Changchun**	**8.74**	**317**	*eP*	**P**	**19 28 07.0**	**-1.9**
CN2				*eXP*		19 29 26.0	
CN2				*eS*	**S**	**19 29 44.0**	**-6.2**
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
SNY	**Shenyang**	**8.81**	**301**	⇑P	**P**	**19 28 10.3**	**+0.6**
SNY				S	**S**	**19 29 48.0**	**-3.6**
SNY				AMB	AMB		
	comp=Z,80nm,0.5s						
SNY				AMB	AMB		
	comp=Z,560nm,4.9s						
ASAJ	**Asahikawa**	**9.34**	**44**	P	**P**	**19 28 12.7**	**-2.8**
	comp=Z,158nm,0.3s,baz=236,slow=10,SNR=598						
ASAJ				S	**S**	**19 29 52.0**	**-10**
	comp=Z,20nm,0.3s,baz=342,slow=20,SNR=9.5						
ASAJ	**Asahikawa**	**9.34**	**44**	P	**P**	**19 28 12.7**	**-2.8**
ASAJ				S	**S**	**19 29 52.1**	**-10**
ASAJ				pmax	pmax		
	comp=Z,158nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
DL2	**Dalian**	**9.54**	**281**	*i* P	**P**	**19 28 19.3**	**+1.5**
DL2				S	**S**	**19 30 09.3**	**+2.9**
DL2				AMB	AMB		
	comp=Z,200nm,0.7s						
DL2				AMB	AMB		
	comp=Z,280nm,5.2s						
JWK2	**Keihoku**	**9.82**	**36**	P	**P**	**19 28 17.7**	**-3.1**
JAM	**Amami Oshima**	**9.84**	**201**	P	**P**	**19 28 21.5**	**+0.5**
JTKR	**Abashiri--Toko**	**9.99**	**48**	P	**P**	**19 28 18.7**	**-4.0**
HABR	**Khabarovsk**	**10.85**	**5**	⇓*iP*	**P**	**19 28 29.9**	**-2.1**
HABR				*eS*	**S**	**19 30 27.4**	**-5.3**
HABR				pmax	pmax		
	comp=Z,145nm,1.6s						
YUK	**Yuzh-Kuril's k**	**11.21**	**52**	*eP*	**P**	**19 28 34.0**	**-2.0**
YUK				*i* S	**S**	**19 30 30.5**	**-9.5**
YUK				pmax	pmax		
	comp=N,180nm,0.3s						
YUK				pmax	pmax		
	comp=Z,600nm,0.3s						
YUK				pmax	pmax		
	comp=E,420nm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,680nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.45**	**33**	⇑*iP*	**P**	**19 28 35.2**	**-3.5**
YSS				*eS*	**S**	**19 30 32.0**	**-13**
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				smax			
	comp=N,1μm,2.0s						
YSS				smax			
	comp=E,2μm,2.0s						
YSS				smax			
	comp=E,320nm,1.2s						
YSS	**Yuzh-Sakhalins**	**11.45**	**33**	*ePn*	**P**	**19 28 35.4**	**-3.3**
	comp=E,176nm,0.8s						
KLR	**Kul'dur**	**11.64**	**354**	*eP*	**P**	**19 28 34.9**	**-5.8**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
JOW	**Kunigami**	**11.72**	**204**	P	**P**	**19 28 41.2**	**-0.4**
	comp=Z,12nm,0.3s,baz=58,slow=8.3,SNR=26						
JOW				S	**S**	**19 30 45.6**	**-4.7**
	comp=Z,4.7nm,0.3s,baz=307,slow=20,SNR=6.5						
SSE	**Sheshan**	**12.21**	**241**	P	**P**	**19 28 48.0**	**+1.1**
SSE				XP		19 30 16.5	
SSE				S	**S**	**19 30 59.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,253nm,1.1s						
SSE				AMB	AMB		
	comp=Z,361nm,4.4s						
SSE	**Sheshan**	**12.21**	**241**	P	**P**	**19 28 48.1**	**+1.2**
	comp=Z,253nm,1.1s						
SSE				sP		19 30 16.5	
SSE				S	**S**	**19 30 59.2**	**-0.8**
CBIJ	**Chichi jima**	**12.76**	**143**	P	**P**	**19 28 49.8**	**-3.1**
	comp=Z,10nm,0.3s,baz=110,slow=23,SNR=16						
CBIJ				S	**S**	**19 31 02.3**	**-8.7**
	comp=Z,16nm,0.3s,baz=294,slow=19,SNR=5.8						
KUR	**Kuril'sk**	**13.05**	**50**	*eP*	**P**	**19 28 50.5**	**-5.6**
KUR				*eS*	**S**	**19 31 09.2**	**-7.6**
KUR				smax			
	comp=N,280nm,0.9s						
KUR				smax			
	comp=E,280nm,0.9s						
TIA	**Tai'an**	**13.31**	**269**	⇓P	**P**	**19 28 59.8**	**+0.9**
TIA				S	**S**	**19 31 22.0**	**0.0**
TIA				AMB	AMB		
	comp=Z,221nm,0.8s						
NJ2	**Nanjing**	**13.38**	**250**	*eP*	**P**	**19 29 01.0**	**+1.3**
NJ2				S	**S**	**19 31 22.0**	**-1.4**
NJ2				PCP	PcP	19 33 56.5	+3.6
NJ2				PCS	PcS	19 37 29.0	+1.4
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
BJI	**Beijing**	**13.84**	**285**	P	**P**	**19 29 03.8**	**-0.7**
BJI				S	**S**	**19 31 27.5**	**-4.8**
BJI				SCS	ScS	19 40 25.3	+2.9
BJI				AMB	AMB		
	comp=Z,192nm,1.3s						
BJI				AMB	AMB		
	comp=Z,1μm,3.7s						
BJI	**Beijing**	**13.84**	**285**	P	**P**	**19 29 03.7**	**-0.8**
BJI				S	**S**	**19 31 27.6**	**-4.7**
BJI				pmax	pmax		
	comp=Z,192nm,1.3s						
BJI	**Beijing**	**13.84**	**285**	P	**P**	**19 29 03.7**	**-0.8**
	comp=Z,192nm,1.3s						
BJI				S	**S**	**19 31 27.6**	**-4.7**
BJI				ScS	ScS	19 40 25.3	+2.9
BJT	**Baijiatuau**	**13.84**	**285**	*eP*	**P**	**19 29 03.6**	**-1.0**
BJT				*eS*	**S**	**19 31 28.2**	**-4.2**
BJT				pmax	pmax		
	comp=Z,156nm,0.8s						
BJT	**Baijiatuau**	**13.84**	**285**	*eP*	**P**	**19 29 03.6**	**-1.0**
	comp=Z,156nm,0.8s						
BJT				*eS*	**S**	**19 31 28.2**	**-4.2**
HIA	**Hailar**	**15.35**	**323**	*eP*	**P**	**19 29 19.0**	**-1.8**
HIA				pmax	pmax		
	comp=Z,31nm,0.6s						
HIA	**Hailar**	**15.35**	**323**	*eP*	**P**	**19 29 19.0**	**-1.8**
	comp=Z,31nm,0.6s						
TATO	**Taipei**	**16.36**	**223**	*eP*	**P**	**19 29 32.8**	**+1.3**
	comp=Z,843nm,1.4s						
YHNB	**Yeheng**	**16.66**	**222**	*eP*	**P**	**19 29 34.0**	**-0.8**
NACB	**Ninganchiao**	**16.95**	**221**	*eP*	**P**	**19 29 34.7**	**-3.1**
HHC	**Hu-ho-hao-te**	**17.40**	**287**	⇓*iP*	**P**	**19 29 40.5**	**-2.0**
HHC				XP	sP	19 31 25.0	-11
HHC				S	**S**	**19 32 36.5**	**-5.1**
HHC				PCP	PcP	19 34 00.5	+1.6
HHC				AMB	AMB		
	comp=Z,237nm,1.0s						
HHC				AMB	AMB		
	comp=Z,615nm,3.6s						
WHN	**Wuhan**	**17.49**	**252**	P	**P**	**19 29 42.5**	**-0.9**
WHN				AMB	AMB		
	comp=Z,109nm,0.8s						
QZH	**Quanzhou**	**18.05**	**230**	*i* P	**P**	**19 29 48.5**	**-0.8**
QZH				S	**S**	**19 32 46.3**	**-7.0**
QZH				AMB	AMB		
	comp=Z,120nm,0.8s						
QZH				AMB	AMB		
	comp=Z,960nm,7.3s						
BTO	**Baotou**	**18.56**	**286**	*eP*	**P**	**19 29 52.3**	**-2.3**
CIT	**Chita**	**20.13**	**322**	*eP*	**P**	**19 30 06.6**	**-2.4**
CIT				*e*		19 33 24.7	
CIT				pmax	pmax		
	comp=Z,66nm,1.5s						
XAN	**Xi'an**	**20.36**	**267**	P	**P**	**19 30 10.0**	**-1.1**
XAN				S	**S**	**19 33 36.5**	**+5.4**
XAN				AMB	AMB		
	comp=Z,160nm,0.5s						
XAN				AMB	AMB		
	comp=Z,285nm,4.6s						
SKR	**Severo-Kuril's**	**20.60**	**44**	*eP*	**P**	**19 30 11.5**	**-1.8**
SONM	**Songino Array**	**22.35**	**306**	P	**P**	**19 30 29.2**	**+0.1**
	comp=Z,35nm,0.5s,mb5.0,baz=111,slow=9.2,SNR=172						
SONM				PcP	PcP	19 34 08.7	+0.6
	comp=Z,3.1nm,0.6s,baz=139,slow=1.8,SNR=4.6						
SONM				ScP	ScP	19 37 03.8	+0.2
	comp=Z,1.3nm,0.5s,baz=121,slow=2.5,SNR=8.2						
SONM	**Songino Array**	**22.35**	**306**	P	**P**	**19 30 29.2**	**+0.1**
SONM						19 34 08.7	
SONM				pmax	pmax		
	comp=Z,35nm,0.5s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.5s						
LZH	**Lanzhou**	**23.86**	**275**	P	**P**	**19 30 42.8**	**+0.1**
LZH				XP	sP	19 32 41.5	-5.6
LZH				S	**S**	**19 34 24.0**	**-2.7**
LZH				SCP	ScP	19 37 13.0	+5.3
LZH				PCS	PcS	19 37 54.0	+2.7
LZH				AMB	AMB		
	comp=Z,800nm,1.3s						
LZH				AMB	AMB		
	comp=Z,3μm,5.2s						
LZH	**Lanzhou**	**23.86**	**275**	P	**P**	**19 30 42.7**	**0.0**
LZH				*SP	sP	19 32 41.5	-5.6
LZH				S	**S**	**19 34 24.0**	**-2.7**
LZH						19 40 58.0	
LZH				pmax	pmax		
	comp=Z,800nm,1.3s						
LZH				MLR	M

TLY MLR MLR
comp=Z,159nm,15.0s
GYA Guiyang 25.38 252 P P 19 30 56.0 -0.2
GYA XP sP 19 32 53.8 -9.4
GYA PCP PcP 19 34 18.8 +4.1
GYA S **S** **19 34 50.0 -0.5**
GYA SCP ScP 19 37 13.8 +1.9
GYA PCS PcS 19 37 56.3 +0.6
GYA AMB AMB
comp=Z,200nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,670nm,4.0s
CD2 Chengdu 25.54 264 P P 19 30 56.5 -1.2
CD2 XP sP 19 32 57.0 -7.9
CD2 PCP PcP 19 34 16.8 +1.7
CD2 S **S** **19 34 51.8 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
CD2 AMB AMB
comp=Z,110nm,4.3s
GUMO Guam 25.98 154 P P 19 31 02.3 +0.7
comp=Z,56nm,0.6s,mb5.1,baz=166,slow=18,SNR=4.2
GUMO Guam 25.98 154 P P 19 31 02.3 +0.8
GUMO pmax pmax
comp=Z,56nm,0.6s,mb5.2
TGY Tagaytay City 26.06 209 P P 19 31 03.6 +1.4
comp=Z,68nm,0.3s,baz=219,slow=3.1,SNR=6.6
TGY Tagaytay City 26.06 209 P P 19 31 03.6 +1.3
TGY pmax pmax
comp=Z,68nm,0.3s
GTA Gaotai 26.45 284 ⇓P P 19 31 05.5 -0.2
GTA XP sP 19 33 05.0 -8.1
GTA S **S** **19 35 07.5 +0.2**
GTA SCP ScP 19 37 16.8 +1.7
GTA AMB AMB
comp=Z,198nm,0.5s,mb5.8
GTA AMB AMB
comp=Z,113nm,3.9s
SEY Seymchan 27.76 18⇑ *eP* **P 19 31 15.5 -1.8**
QIZ Qiongzhong 27.87 235 P P 19 31 18.3 0.0
QIZ S **S** **19 35 31.8 +2.1**
QIZ AMB AMB
comp=Z,39nm,1.9s,mb4.4
QIZ AMB AMB
comp=Z,188nm,4.9s
KMI Kunming 29.07 253 P P 19 31 28.8 0.0
KMI AP 19 32 46.3
KMI PPP 19 33 14.3
KMI S **S** **19 35 48.5 +0.2**
KMI SCP ScP 19 37 24.8 +1.6
KMI AMB AMB
comp=Z,64nm,1.2s,mb4.8
KMI Kunming 29.07 253 P P 19 31 28.8 0.0
KMI *PP 19 32 46.2
KMI S **S** **19 35 48.4 +0.1**
KMI pmax pmax
comp=Z,64nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,570nm,14.1s
KMI Kunming 29.07 253 P P 19 31 28.8 0.0
comp=Z,64nm,1.2s,mb4.8
KMI pP 19 32 46.2
KMI PPP 19 33 14.3
KMI S **S** **19 35 48.4 +0.1**
KMI ScP ScP 19 37 24.7 +1.5
KMI LR LR
comp=Z,570nm,14.1s
KRAR Krasnoyarsk 32.76 317 *eP* **P 19 31 58.9 -1.8**
KRAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.0
TIXI Tiksi 34.14 357 ⇓*iP* **P 19 32 09.2 -3.2**
TIXI pmax pmax
comp=Z,19nm,0.9s,mb4.4
TIXI Tiksi 34.14 357 *eP* **P 19 32 10.2 -2.2**
comp=Z,18nm,0.7s,mb4.5
KKTK Khon Kaen 34.48 240 ⇓P **P 19 32 16.5 +1.2**
comp=Z,3μm,0.4s
WMQ Urumqi 35.01 295 ⇑*iP* **P 19 32 20.3 +0.6**
WMQ AP pP 19 33 32.3 -6.8
WMQ PP PP 19 33 54.0 +2.7
WMQ XP sP 19 34 16.5 -13
WMQ PCP PcP 19 34 43.5 +3.3
WMQ S **S** **19 37 21.5 +2.1**
WMQ SCP ScP 19 37 46.3 +2.7
WMQ PCS PcS 19 38 26.0 -1.7
WMQ XS sS 19 39 38.0 -7.1
WMQ AMB AMB
comp=Z,321nm,2.2s,mb5.3
BILL Bilibino 35.39 20*c iP* **P 19 32 22.1 -0.8**
BILL pmax pmax
comp=Z,116nm,1.7s,mb4.9
BILL Bilibino 35.39 20 *eP* **P 19 32 21.8 -1.1**
comp=Z,63nm,0.9s,mb5.0
CHTO Chiang Mai 35.62 248 P P 19 32 25.9 +1.0
SNR=51
CHTO Chiang Mai 35.62 248 *eP* **P 19 32 26.0 +1.1**
CHTO pmax pmax
comp=Z,175nm,0.6s,mb5.6
CHTO Chiang Mai 35.62 248 *eP* **P 19 32 26.0 +1.1**
comp=Z,175nm,0.6s,mb5.6
LSA Lhasa 36.01 270 P P 19 32 29.5 +1.4
LSA Lhasa 36.01 270 *eP* **P 19 32 28.8 +0.7**
LSA pmax pmax
comp=Z,27nm,0.6s,mb4.8
LSA Lhasa 36.01 270 *eP* **P 19 32 28.8 +0.6**
comp=Z,27nm,0.6s,mb4.8
TSM Tawau 36.22 207 P P 19 32 31.2 +1.3
NST Nakhon Sawan 36.81 243 P P 19 32 36.0 +1.2
comp=Z,50nm,0.6s,mb5.0
ZAL Zalesovo 36.93 312 P P 19 32 34.8 -0.9
comp=Z,5.7nm,0.6s,mb4.1,baz=15,slow=8.4,SNR=24
ZAL PcP PcP 19 34 45.6 -0.4
comp=Z,2.0nm,0.6s,baz=23,slow=2.8,SNR=4.1
ZAL S **S** **19 37 45.5 -2.7**
comp=Z,3.5nm,0.5s,baz=134,slow=18,SNR=15
ZAL ScP ScP 19 37 51.0 +0.3
comp=Z,5.6nm,0.6s,baz=0.3,slow=3.8,SNR=12
ZAL Zalesovo 36.93 312 P P 19 32 34.8 -1.0
ZAL 19 34 45.6
ZAL S **S** **19 37 45.6 -2.7**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL smax
comp=N,4.0nm,0.5s
ZAL pmax pmax
comp=N,6.0nm,0.6s
SHL Shillong 37.28 263 *eP* **P 19 32 34.9 -3.8**
NVS Novosibirsk 37.93 313 *iP* **P 19 32 42.2 -1.8**
NVS pmax pmax
comp=E,21nm,1.1s
NVS pmax pmax
comp=Z,23nm,1.1s,mb4.4
MK31 Makanchi Array 38.51 300 P P 19 32 47.0 -1.8
MK31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.4
MKAR Makanchi Array 38.51 300 P P 19 32 48.1 -0.7
comp=Z,25nm,0.5s,mb4.8,baz=86,slow=9.6,SNR=180
MKAR ScP ScP 19 37 57.3 +0.5
comp=Z,8.0nm,0.6s,baz=76,slow=5.9,SNR=18
MKAR S **S** **19 38 14.1 +2.3**
comp=Z,4.4nm,0.9s,baz=81,slow=19,SNR=6.1
MKAR Makanchi Array 38.51 300 P P 19 32 48.1 -0.7
MKAR S **S** **19 38 14.1 +2.2**
MKAR pmax pmax
comp=Z,25nm,0.5s
MKAR pmax pmax
comp=N,8.0nm,0.6s
MKAR smax
comp=N,4.0nm,0.9s
NNT Nongplab 39.23 239 P P 19 32 56.8 +2.1
KURK Kurchatov 40.64 307 P P 19 33 04.6 -1.5
comp=N,741nm,0.6s,SNR=71
JIRN Jiri 40.82 270 *eP* **P 19 33 08.7 +1.2**
comp=N,177nm,0.7s,mb5.5
GUN Gumba 40.95 271 *eP* **P 19 33 09.3 +0.7**
comp=N,339nm,0.6s,mb5.8
PKI Pulchoki 41.48 270 *eP* **P 19 33 13.3 +0.5**
comp=N,88nm,0.6s,mb5.3
KKN Kakani 41.48 271 *eP* **P 19 33 13.3 +0.5**
comp=N,254nm,0.7s,mb5.7
DMN Daman 41.70 271 *eP* **P 19 33 15.2 +0.6**
comp=N,65nm,0.5s,mb5.2
GKN Gorkha 41.90 272 *eP* **P 19 33 16.3 +0.2**
comp=N,266nm,0.6s,mb5.8
KSM Kuching 41.94 216 *eP* **P 19 33 17.7 +1.2**
KOLN Koldanda 42.83 272 *eP* **P 19 33 23.9 +0.4**
comp=N,126nm,0.7s,mb5.4
BOK Bokaro 42.89 265 *eP* **P 19 33 24.0 0.0**
BOK AMb AMB 19 33 26.4
comp=Z,47nm,0.7s,mb4.9
TNA Tin City 43.42 31 *eP* **P 19 33 27.4 -0.7**
TKM2 Tokmak 2 43.84 296 P P 19 33 32.2 +0.7
SNR=48
TKM2 Tokmak 2 43.84 296 P P 19 33 31.3 -0.2
TKM2 pmax pmax
comp=Z,14nm,0.6s,mb4.5
KULM Kulim 44.08 231 *eP* **P 19 33 34.5 +1.2**
KZA Kyzart 44.30 295 P P 19 33 36.4 +1.4
SNR=42
KBK Karagaybulak 44.37 296 P P 19 33 36.1 +0.5
SNR=56
CHMS Chumysh 44.43 296 P P 19 33 36.0 0.0
SNR=20
KSH Kashi 44.46 291 P P 19 33 37.8 +1.5
KSH *e*AP pP 19 34 59.0 -1.0
KSH *e*PCP PcP 19 35 13.5 +2.7
KSH *e*PP PP 19 35 30.0 +1.7
KSH *e*XP sP 19 35 42.0 -7.0
KSH *e*SCP ScP 19 38 24.0 +3.4
KSH *e*S **S** **19 39 41.0 +2.8**
KSH *e*XS sS 19 42 06.5 -3.2
KSH AMB AMB
comp=Z,729nm,2.1s,mb5.6
IPM Ipoh 44.48 230 P P 19 33 37.6 +1.2
USP Ospenovka 44.54 297 P P 19 33 36.8 -0.1
SNR=34
FRU Bishkek 44.56 296 ⇑*iP* **P 19 33 37.5 +0.4**
FRU *e* pP 19 35 06.0 +5.2
FRU pmax pmax
comp=Z,80nm,1.9s,mb4.7
AAK Ala-Archa 44.70 296 P P 19 33 38.3 +0.2
SNR=35
AAK Ala-Archa 44.70 296 P P 19 33 37.2 -0.9
comp=Z,220nm,0.5s,mb5.7,SNR=26
AAK Ala-Archa 44.70 296 *eP* **P 19 33 36.9 -1.2**
AAK pmax pmax
comp=Z,23nm,0.6s,mb4.7
AAK Ala-Archa 44.70 296 *eP* **P 19 33 36.9 -1.2**
comp=Z,22nm,0.6s,mb4.7
AAK *e*ScP ScP 19 38 21.1 -0.5
UCH Uchtor 44.79 295 P P 19 33 39.9 +1.0
SNR=15
KGM Kluang 45.12 225 P P 19 33 43.5 +2.1
EKS2 Erkin-Say 45.21 296 P P 19 33 42.1 +0.1
SNR=22
VOSK Vostochnaya 45.21 310 P P 19 33 40.0 -2.1
VOSK pmax pmax
comp=Z,17nm,0.8s,mb4.4
AML Almayashu 45.40 295 P P 19 33 44.7 +1.1
SNR=154
BVAR Borovoye Array 45.53 311 P P 19 33 43.1 -1.4
comp=Z,7.6nm,0.5s,mb4.3,baz=100,slow=7.7,SNR=47
BVAR PcP PcP 19 35 13.3 -1.2
comp=Z,6.1nm,0.6s,baz=83,slow=4.6,SNR=6.4
BVAR ScP ScP 19 38 24.8 -0.2
comp=Z,2.1nm,0.6s,baz=105,slow=5.2,SNR=4.6
BVAR S **S** **19 39 52.5 -0.9**
comp=Z,2.2nm,0.7s,baz=64,slow=17,SNR=4.6
BVAR Borovoye Array 45.53 311 P P 19 33 43.1 -1.4
BVAR 19 35 13.3
BVAR S **S** **19 39 52.5 -0.9**
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR pmax pmax
comp=N,2.0nm,0.6s
BVAR smax
comp=N,2.0nm,0.7s
BRVK Borovoye 45.59 311 P P 19 33 44.1 -0.9
comp=N,114nm,1.0s,mb5.2,SNR=14
BRVK Borovoye 45.59 311 P P 19 33 44.2 -0.8
SNR=5.8
BRVK Borovoye 45.59 311 *eP* **P 19 33 43.5 -1.5**
BRVK pmax pmax
comp=Z,10.0nm,0.4s,mb4.5
BRVK Borovoye 45.59 311 *eP* **P 19 33 43.5 -1.5**
comp=Z,10nm,0.4s,mb4.5
DLH Dalhousie 46.85 282 *eP* **P 19 33 54.0 -0.6**
THN Thein Dam 47.08 282 *eP* **P 19 33 55.0 -1.4**
THN *ex* x 19 40 11.4
PSI Prapat 47.09 231 P P 19 33 57.7 +1.2
comp=Z,46nm,0.6s,mb5.0,baz=12,slow=7.5,SNR=57
PSI ScP ScP 19 38 33.3 +1.8
comp=Z,9.5nm,0.6s,baz=15,slow=2.3,SNR=13
PSI Prapat 47.09 231 P P 19 33 57.7 +1.2
PSI pmax pmax
comp=Z,47nm,0.6s,mb5.0
PSI pmax pmax
comp=N,10.0nm,0.6s
PSI Prapat 47.09 231 P P 19 33 57.7 +1.2
PSI ScP ScP 19 38 33.3 +1.8
KKAR Karatay Array 47.41 297 *i* **P P 19 33 58.2 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.4s,mb4.0
NDI New Delhi 47.47 276 *eP* **P 19 33 59.3 0.0**
CHGN Chignik 47.82 44 *eP* **P 19 34 01.2 -0.8**
VIS Vishakhapatnam 48.17 260 *eP* **P 19 34 06.0 +1.3**
PMG Port Moresby 48.50 162 P P 19 34 07.5 +0.4
comp=Z,20nm,0.7s,mb4.6,baz=356,slow=7.6,SNR=9.5
PMG Port Moresby 48.50 162⇑ *eP* **P 19 34 08.5 +1.4**
NIL Nilore 48.51 284 P P 19 34 08.7 +1.5
comp=Z,104nm,1.0s,mb5.1,SNR=6.2
SVW2 Sparrevohn 48.78 38 *eP* **P 19 34 10.4 +1.2**
IMA2 Indian Mountai 49.30 31 *eP* **P 19 34 12.1 -1.0**
BHPL Bhopal 49.88 270 *eP* **P 19 34 16.8 -0.6**
BHPL AMb AMB 19 34 19.4
comp=Z,31nm,0.5s,mb4.9
AJM Ajmer 50.51 275 *eP* **P 19 34 21.9 -0.1**
AJM AMb AMB 19 34 23.8
comp=Z,49nm,0.7s,mb4.9
KDAK Kodiak Island 50.75 42 P P 19 34 22.7 -1.0
comp=Z,46nm,0.7s,mb4.8,baz=312,slow=2.3,SNR=28
SLKM Skilak Lake 51.46 38 *eP* **P 19 34 28.1 -0.9**
AKL Akola 51.52 267 *eP* **P 19 34 29.7 +0.3**
AKL AMb AMB 19 34 31.1
comp=Z,85nm,0.6s,mb5.1
MCK McKinley 51.54 34 *eP* **P 19 34 29.1 -0.5**
MCK pmax pmax
comp=Z,43nm,1.1s,mb4.6
MCK McKinley 51.54 34 *eP* **P 19 34 29.1 -0.5**
comp=Z,43nm,1.1s,mb4.6
ARU Arti 51.73 317 P P 19 34 29.2 -1.8
comp=Z,285nm,0.7s,mb5.6,SNR=17
ARU Arti 51.73 317⇑ *eP* **P 19 34 29.5 -1.5**
ARU pmax pmax
comp=Z,35nm,0.8s,mb4.6
ARU Arti 51.73 317 *eP* **P 19 34 29.2 -1.7**
comp=Z,28nm,0.6s,mb4.7
PMR Palmer 51.80 36 *eP* **P 19 34 30.8 -0.6**
PMR *eP* 19 34 31.1
PMR LR LR
comp=Z,200nm,17.0s
COLA College 51.84 32*c iP* **P 19 34 31.1 -0.6**
COLA College 51.84 32 *eP* **P 19 34 31.2 -0.5**
comp=Z,82nm,1.3s,mb4.8
COLA *e* pP 19 35 53.8 -4.9
HYB Hyderabad 52.09 263 *iP* **P 19 34 34.0 +0.4**
HYB Hyderabad 52.09 263 *eP* **P 19 34 34.0 +0.4**
SML Sawmill 52.13 36 *eP* **P 19 34 32.6 -1.3**
AB31 Akbulak array 52.74 308 *eP* **P 19 34 37.1 -1.1**
AB31 pmax pmax
comp=Z,14nm,0.5s,mb4.5
HNR Honiara 52.92 147 P P 19 34 40.7 +1.2
comp=Z,60nm,0.7s,mb5.0,baz=276,slow=2.5,SNR=7.6
HNR Honiara 52.92 147 P P 19 34 40.7 +1.2
HNR pmax pmax
comp=Z,60nm,0.7s,mb4.9
DIV Divide 53.48 37 *eP* **P 19 34 43.5 -0.1**
comp=Z,91nm,0.9s,mb5.0
AKTK Aktyubinsk 53.59 310 P P 19 34 43.1 -1.2
AKTO Aktyubinsk 53.59 310 P P 19 34 43.1 -1.2
comp=Z,18nm,0.6s,mb4.5,baz=81,slow=7.7,SNR=28
AKTO Aktyubinsk 53.59 310 P P 19 34 42.9 -1.4
EYAK Cordova Ski Ar 53.62 37 *eP* **P 19 34 44.2 -0.4**
MENT Mentasta 54.00 34 *eP* **P 19 34 47.7 +0.4**
EGAK Eagle 54.66 32 *eP* **P 19 34 50.4 -1.5**
comp=Z,25nm,0.6s,mb4.6
ORR Orenburg 55.19 312 *eP* **P 19 34 55.3 -0.3**
ORR pmax pmax
comp=Z,20nm,0.6s,mb4.5
POO Poona 55.19 267⇓*iP* **P 19 34 53.5 -2.2**
comp=Z,200nm,1.0s,mb5.3
DAWY Dawson 55.59 32 *eP* **P 19 34 58.0 -0.5**
KAD Karad 55.60 266 *eP* **P 19 34 58.9 +0.3**
KAD AMb AMB 19 35 00.7
comp=Z,58nm,0.7s,mb5.0
INK Inuvik 56.61 26 P P 19 35 04.7 -0.9
comp=Z,18nm,0.5s,mb4.7,baz=301,slow=7.1,SNR=47
INK PcP PcP 19 35 55.7 -0.3
comp=Z,5.9nm,0.6s,baz=267,slow=4.0,SNR=4.7
INK Inuvik 56.61 26 P P 19 35 04.7 -0.9
INK 19 35 55.7
INK pmax pmax
comp=Z,18nm,0.5s
INK Inuvik 56.61 26 *eP* **P 19 35 04.4 -1.1**
comp=Z,1μm,0.9s
WRAB Tennant Creek 57.30 179 P P 19 35 10.9 +0.6
comp=Z,212nm,0.6s,mb5.7,SNR=9.3
WRAB Tennant Creek 57.30 179 *eP* **P 19 35 10.1 -0.2**
WRAB pmax pmax
comp=Z,20nm,0.6s,mb4.6
WRAB Tennant Creek 57.30 179 *eP* **P 19 35 10.1 -0.2**
comp=Z,20nm,0.6s,mb4.6
WRA Warramunga Arr 57.30 179 P P 19 35 10.4 +0.1
comp=Z,23nm,0.6s,mb4.7,baz=355,slow=7.8,SNR=139
WRA PcP PcP 19 36 00.2 +1.4
comp=Z,4.4nm,0.5s,baz=358,slow=4.8,SNR=6.0
WRA pP pP 19 36 38.3 -1.3
comp=Z,4.7nm,0.9s,baz=357,slow=7.3,SNR=3.6
WRA ScP ScP 19 39 17.7 +1.8
comp=Z,1.9nm,0.6s,baz=356,slow=4.8,SNR=4.9
WRA Warramunga Arr 57.30 179 P P 19 35 10.4 0.0
WRA 19 36 00.2
WRA *PP pP 19 36 38.3 -1.3
WRA pmax pmax
comp=Z,23nm,0.6s
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA pmax pmax
comp=N,2.0nm,0.6s
WB2 Warramunga Arr 57.30 179 *eP* **P 19 35 10.4 0.0**
MNGI Mangalore 57.61 261 *eP* **P 19 35 12.1 -0.3**
MNGI AMb AMB 19 35 14.9
comp=Z,59nm,1.2s,mb4.8
ABKT Ailbek 58.05 296 P P 19 35 15.4 -0.1
comp=Z,182nm,0.7s,mb5.5,SNR=13
CTA Charters Tower 58.66 166 *eP* **P 19 35 20.4 +0.8**
comp=Z,21nm,0.6s,mb4.6
CTA Charters Tower 58.66 166 P P 19 35 20.5 +0.9
comp=Z,28nm,0.6s,mb4.8,baz=346,slow=6.6,SNR=52
CTA Charters Tower 58.66 166 *eP* **P 19 35 20.4 +0.8**
CTA pmax pmax
comp=Z,21nm,0.6s
CTAO Charters Tower 58.66 166 *eP* **P 19 35 20.5 +0.9**
CTAO pmax pmax
comp=Z,27nm,0.6s,mb4.8
CTAO Charters Tower 58.66 166 *eP* **P 19 35 20.5 +0.9**
comp=Z,27nm,0.6s,mb4.8
SKAG Skagway 58.93 37 *eP* **P 19 35 21.1 -0.4**
comp=Z,67nm,1.6s,mb4.7
SKAG LR LR
comp=Z,200nm,17.0s
KEV Kevo 60.58 337 *ep* **P 19 35 30.6 -1.9**
comp=Z,8.1nm,0.6s,mb4.3
KEV Kevo 60.58 337 *eP* **P 19 35 30.6 -1.9**
KEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
AS31 Alice Springs 61.01 180 *eP* **P 19 35 35.8 +0.4**
ASAR Alice Springs 61.01 180 P P 19 35 36.0 +0.6
comp=Z,13nm,0.6s,mb4.5,baz=12,slow=13,SNR=115
ASAR pP pP 19 37 06.4 +0.4
comp=Z,1.8nm,0.8s,baz=25,slow=7.1,SNR=2.7
ASAR PKPPKP 20 04 45.1
comp=Z,0.6nm,0.9s,baz=186,slow=4.0,SNR=4.4
ASAR PKP2bc 20 04 54.5
comp=Z,1.1nm,0.8s,baz=144,slow=2.3,SNR=11
ASAR Alice Springs 61.01 180 P P 19 35 36.0 +0.6
ASAR pP pP 19 37 06.4 +0.4
ASAR P'P' 20 04 45.1
ASAR ⇑*e* 20 04 54.5
ASPA Alice Springs 61.01 180 *eP* **P 19 35 35.8 +0.4**
ARCES ARCESS Array B 61.14 338 P P 19 35 35.0 -1.3
comp=Z,5.1nm,0.5s,mb4.2,baz=65,slow=8.9,SNR=43
ARCES ARCESS Array B 61.14 338 P P 19 35 35.0 -1.2
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 61.14 338 P P 19 35 35.0 -1.3
DLBC Dease Lake 61.86 36 *eP* **P 19 35 41.4 +0.4**
RES Resolute Bay 63.45 13 *eP* **P 19 35 49.6 -1.7**
comp=Z,2μm,1.0s
OBN Obninsk 63.78 321 *eP* **P 19 35 52.2 -1.3**
OBN *e* 19 36 22.1
OBN *e**PP pP 19 37 16.1 -9.0
OBN *e**SP sP 19 38 07.0 -4.9
OBN *e* 19 38 16.9
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
VRSR Storozhevoye 64.27 316 *eP* **P 19 35 55.2 -1.4**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.7s
WBK Wadi Bani Khal 64.77 280 P P 19 36 00.9 +1.1
SNR=9.9
KAF Kangasniemi 64.80 330 *ep* **P 19 35 57.8 -2.2**
comp=E,4.5nm,0.5s,mb4.3,baz=56,slow=6.1
KAF Kangasniemi 64.80 330 *eP* **P 19 35 57.8 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
BIDO Bidbid 64.95 281 P P 19 36 02.4 +1.4
SNR=8.4
BANOM Banah 65.11 284 P P 19 36 02.8 +0.9
SNR=10.0
SMDO Samad 65.25 281 ⇓P **P 19 36 03.8 +1.0**
SNR=5.9
FINES FINESS Array B 65.26 330 P P 19 36 01.7 -1.2
comp=Z,4.9nm,0.5s,mb4.4,baz=80,slow=6.4,SNR=32
FINES pP pP 19 37 31.4 -3.7
comp=Z,2.6nm,0.7s,baz=79,slow=4.1,SNR=2.6
FINES FINESS Array B 65.26 330 P P 19 36 01.7 -1.2
FINES *PP pP 19 37 31.4 -3.7
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 65.26 330 P P 19 36 01.7 -1.2
FINES pP pP 19 37 31.4 -3.7
ZEI Tsey 65.54 306 *eP* **P 19 36 03.9 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
HOQ Hoqain 65.55 282 P P 19 36 05.4 +0.6
SNR=8.8
JMDO Jabal Madar 65.58 280 P P 19 36 05.4 +0.5
SNR=20
KIV Kislovodsk 65.72 308 P P 19 36 06.1 +0.3
comp=Z,190nm,0.6s,mb5.9,SNR=9.0
KIV Kislovodsk 65.72 308 P P 19 36 06.1 +0.2
SNR=5.5
KIV Kislovodsk 65.72 308⇑ *eP* **P 19 36 06.0 +0.2**
KIV pmax pmax
comp=Z,25nm,1.1s,mb4.8
KIV Kislovodsk 65.72 308 *eP* **P 19 36 04.2 -1.6**
comp=Z,23nm,0.8s,mb4.9
HATD Hatta, Dubai 65.81 283 P P 19 36 07.7 +1.4
SNR=9.3
ASHO Ashiyiah 65.94 283 P P 19 36 07.9 +0.7
SNR=8.7
BSY Bisya 66.08 281 P P 19 36 08.9 +0.8
SNR=26
YKA Yellowknife Ar 66.27 28 P P 19 36 08.9 -0.3
comp=Z,7.9nm,0.5s,mb4.6,baz=310,slow=5.5,SNR=137
YKA Yellowknife Ar 66.27 28 P P 19 36 08.9 -0.3
YKA pmax pmax
comp=Z,8.0nm,0.5s
GNI Garni 66.28 303⇑ *eP* **P 19 36 09.2 -0.1**
GNI pmax pmax
comp=Z,13nm,1.8s
GNI Garni 66.28 303 *eP* **P 19 36 10.0 +0.7**
comp=Z,21nm,1.0s,mb4.7

ARQ **Araqi** 66.30 282 P P 19 36 10.2 +0.8
SNR=9.4
DZM **Mont Dzumac** 66.95 147 P P 19 36 15.7 +2.2
comp=Z,6.7nm,0.6s,mb4.5,baz=287,slow=10,SNR=11
FORT **Forrest** 68.29 185 eP P 19 36 22.2 +0.5
comp=Z,34nm,0.5s,mb5.2
ANN **Anapa** 68.53 310 eP P 19 36 22.6 -0.6
ANN eS S 19 44 50.7 +0.9
ANN pmax pmax
comp=Z,50nm,1.2s,mb5.0
STKA **Stephens Creek** 69.58 173 eP P 19 36 30.2 +0.7
comp=Z,9.5nm,0.8s,mb4.4
STKA **Stephens Creek** 69.58 173 P P 19 36 30.4 +0.9
comp=Z,12nm,0.7s,mb4.5,baz=343,slow=6.6,SNR=35
UMR **Umm Al-Rimmam** 69.67 292 eP P 19 36 29.5 -0.6
UMR AMb AMB 19 36 31.1
comp=Z,32nm,0.6s,mb5.1
ARMA **Armidale** 69.79 164 eP P 19 36 33.1 +2.3
MIB **Mutribah** 69.81 292 eP P 19 36 30.2 -0.7
MIB AMb AMB 19 36 32.0
comp=Z,61nm,0.7s,mb5.2
KBD **Kabd** 69.89 292 eP P 19 36 30.9 -0.5
AKASG **Malin Array Be** 69.89 319 P P 19 36 30.0 -1.4
comp=Z,5.4nm,0.5s,mb4.3,baz=52,slow=6.3,SNR=30
AKASG pP pP 19 38 01.2 -3.9
comp=Z,3.0nm,0.7s,baz=47,slow=6.5,SNR=3.3
AKASG **Malin Array Be** 69.89 319 P P 19 36 30.0 -1.4
AKASG *PP pP 19 38 01.2 -3.9
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** 69.89 319 P P 19 36 30.0 -1.4
AKASG pP pP 19 38 01.2 -3.9
KIEV **Kiev** 69.90 319 eP P 19 36 30.0 -1.5
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
KIEV **Kiev** 69.90 319 eP P 19 36 30.0 -1.5
comp=Z,10nm,0.8s,mb4.4
QRN **Al-Qurain** 69.95 291 eP P 19 36 31.4 -0.4
QRN AMb AMB 19 36 33.0
comp=Z,75nm,0.7s,mb5.4
RDF **Al-Radifah** 70.12 292 eP P 19 36 32.5 -0.3
RDF AMb AMB 19 36 34.1
comp=Z,82nm,0.5s,mb5.5
NAY **Al-Naaiem** 70.18 292 eP P 19 36 32.3 -0.8
NAY AMb AMB 19 36 34.2
comp=Z,28nm,0.6s,mb5.0
OSR **Olympics--Salm** 70.61 45 P P 19 36 37.2 +1.5
C04A **Brinnon** 71.04 44 ⇓P P 19 36 38.5 +0.3
baz=71
ON2 **Olympics--Nort** 71.07 45 P P 19 36 40.0 +1.6
NB2 **NORSAR Subarra** 71.07 334 P P 19 36 36.9 -1.6
comp=Z,4.3nm,0.6s,mb4.2,baz=45,slow=5.9
NB2 **NORSAR Subarra** 71.07 334 P pP 19 38 08.5 -4.0
comp=Z,5.0nm,1.0s,baz=44,slow=6.2
NOA **NORSAR Array B** 71.07 334 P P 19 36 37.2 -1.2
comp=Z,6.5nm,0.7s,mb4.3,baz=43,slow=6.0,SNR=25
NOA pP pP 19 38 08.7 -3.9
comp=Z,1.7nm,0.7s,baz=42,slow=6.3,SNR=2.7
NOA **NORSAR Array B** 71.07 334 P P 19 36 37.3 -1.1
NOA *PP pP 19 38 08.7 -3.8
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.7s
JCW **Jim Creek** 71.33 43 P P 19 36 40.3 +0.3
E03A **Lebam** 71.39 45 ⇓P P 19 36 40.5 +0.2
baz=71
MALT **Malatya** 71.41 304 ⇓*i*P P 19 36 41.9 +1.4
MALT **Malatya** 71.41 304 ⇓P P 19 36 41.9 +1.4
D04A **Dobbs Creek Ra** 71.48 44 ⇑P P 19 36 41.1 +0.2
baz=71
F03A **Seaside** 71.74 46 ⇓P P 19 36 43.3 +0.9
baz=71
C05A **Tolt Reservoir** 71.75 43 ⇑P P 19 36 42.6 +0.2
baz=71
E04A **Onalaska** 71.83 45 ⇓P P 19 36 43.2 +0.3
baz=72
NWAO **Narrogin (SRO)** 71.88 194 P P 19 36 44.0 +0.8
comp=Z,5.1nm,0.4s,mb4.5,baz=13,slow=5.6,SNR=22
NWAO **Narrogin (SRO)** 71.88 194 P P 19 36 44.0 +0.8
NWAO pmax pmax
comp=Z,5.0nm,0.4s
D05A **Enumclaw** 71.89 44 ⇑P P 19 36 43.8 +0.6
baz=72,SNR=5.0
ABTO **Aybut** 72.11 278 P P 19 36 44.5 0.0
SNR=9.0
B07A **Winthrop** 72.15 42 ⇑P P 19 36 44.6 -0.1
baz=72,SNR=10
TDL **Tradedollar La** 72.25 45 P P 19 36 46.6 +1.2
G03A **Yamhill** 72.26 46 ⇓P P 19 36 45.5 +0.1
baz=72
A08A **Turner Farm, O** 72.30 41 ⇑P P 19 36 45.4 -0.3
baz=72,SNR=9.2
F04A **Amboy** 72.39 45 ⇓P P 19 36 46.0 -0.2
baz=72,SNR=8.8
D06A **Cle Elum** 72.51 44 ⇑P P 19 36 46.8 -0.1
baz=72,SNR=6.3
EDM **Edmonton** 72.55 35 eP P 19 36 46.6 -0.5
B08A **Colville Reser** 72.63 42 ⇑P P 19 36 47.3 -0.2
baz=72,SNR=19
H03A **Soap Creek Ran** 72.63 47 ⇑P P 19 36 48.2 +0.6
baz=72
C07A **Waterville** 72.64 43 P P 19 36 48.1 +0.5
baz=72,SNR=14
A09A **Danville** 72.64 41 ⇑P P 19 36 48.1 +0.5
baz=72,SNR=19
TBM **Table Mountain** 72.66 43 P P 19 36 48.0 +0.2
WTV **Waterville** 72.69 43 P P 19 36 48.3 +0.4
G04A **Mulino** 72.78 46 ⇓P P 19 36 48.7 +0.3
baz=72,SNR=5.3
E06A **Yakima** 72.83 44 ⇓P P 19 36 48.9 +0.2
baz=72,SNR=7.8
D07A **Quincy** 72.99 43 ⇑P P 19 36 49.7 +0.1
baz=73,SNR=12
I03A **Eugene** 73.05 47 ⇓P P 19 36 50.3 +0.3
baz=73
EPH **Ephrata** 73.10 43 P P 19 36 50.7 +0.4
C08A **Higginbotham F** 73.13 42 ⇑P P 19 36 50.4 -0.1
baz=73,SNR=9.3
B09A **Rice** 73.21 41 ⇑P P 19 36 50.9 0.0
baz=73,SNR=14
J02A **Umpqua** 73.23 48 ⇓P P 19 36 51.7 +0.7
baz=73
H04A **Detroit Lake** 73.26 46 ⇓P P 19 36 51.2 0.0
baz=73,SNR=9.8
G05A **Wamic** 73.42 45 ⇑P P 19 36 52.4 +0.3
baz=73
E07A **Sunnyside** 73.44 44 ⇑P P 19 36 52.4 +0.2
baz=73,SNR=15
C09A **Chrisman Ranch** 73.53 42 ⇑P P 19 36 52.5 -0.2
baz=73,SNR=24
K02A **Glendale** 73.64 48 ⇓P P 19 36 54.0 +0.6
baz=73
D08A **Wollman Farm,** 73.64 43 ⇓P P 19 36 53.5 +0.1
baz=73,SNR=18
I04A **Tendick Farm,** 73.66 47 ⇓P P 19 36 53.9 +0.4
baz=73,SNR=8.8
BR131 **Keskin Array S** 73.69 308 eP P 19 36 53.0 -0.7
comp=Z,1.5nm,0.6s,mb3.8
BRTR **Keskin Array B** 73.69 308 P P 19 36 52.9 -0.8
comp=Z,1.9nm,0.5s,mb4.0,baz=86,slow=4.4,SNR=13
BRTR **Keskin Array B** 73.69 308 P P 19 36 52.9 -0.8
BRTR pmax pmax
comp=Z,2.0nm,0.5s
HAWA **Hanford** 73.72 44 eP P 19 36 53.9 +0.1
comp=Z,54nm,0.9s,mb5.2
B10A **Chitwood Farm,** 73.77 41 ⇑P P 19 36 54.0 -0.1
baz=73
F07A **Phinny Hill Vi** 73.80 44 ⇑P P 19 36 54.7 +0.4
baz=74
A11A **Hall Mountain,** 73.80 40 ⇑P P 19 36 55.1 +0.8
baz=74
G06A **Carlson Farm,** 73.81 45 ⇑P P 19 36 54.7 +0.4
baz=74,SNR=9.1
H05A **Madras** 73.83 46 P P 19 36 55.7 +1.2
baz=74,SNR=8.1
NEW **Newport** 73.85 41 P P 19 36 55.1 +0.6
comp=Z,15nm,0.6s,mb4.8,baz=310,slow=7.9
NEW **Newport** 73.85 41 P P 19 36 55.2 +0.6
NEW pmax pmax
comp=Z,15nm,0.6s
BURAR **Bucovina Array** 73.85 318 ⇓*i*P P 19 36 54.5 -0.1
BURAR **Bucovina Array** 73.85 318 ⇑*i*P pP 19 38 31.1 +1.6
BURAR **Bucovina Array** 73.85 318 ⇓P P 19 36 54.5 -0.1
E08A **Dider Farm, El** 73.91 43 ⇑P P 19 36 55.5 +0.6
baz=74
L02A **Cave Junction** 73.93 49 ⇓P P 19 36 55.7 +0.6
baz=74
D09A **Jones Farm, Ri** 73.97 43 ⇓P P 19 36 55.6 +0.3
baz=74,SNR=16
C10A **Spilker Farm,** 74.03 42 ⇓P P 19 36 55.6 0.0
baz=74
HUMO **Hull Mountain** 74.05 48 ⇑P P 19 36 56.0 +0.2
baz=74
I05A **Bend** 74.10 46 ⇑P P 19 36 56.2 +0.2
baz=74
VRI **Vrincioaia** 74.11 316 ⇑*i*P pP 19 38 35.3 +4.2
J04A **Umpqua Nationa** 74.17 47 ⇓P P 19 36 56.9 +0.5
baz=74,SNR=5.9
H06A **Lindquist Farm** 74.28 45 ⇓P P 19 36 57.6 +0.5
baz=74,SNR=9.5
G07A **Ruggs Ranch, H** 74.33 45 ⇓P P 19 36 57.8 +0.5
baz=74,SNR=7.6
E09A **Wood Farm, Sta** 74.40 43 ⇑P P 19 36 58.0 +0.3
baz=74,SNR=19
JCC **Jacoby Creek** 74.47 50 ⇑P P 19 36 58.9 +0.8
baz=74
F08A **Pendleton** 74.50 44 P P 19 36 59.0 +0.8
baz=74,SNR=30
B12A **Libby** 74.51 40 ⇓P P 19 36 58.7 +0.4
baz=74
KOLS **Kolonicke sedl** 74.54 320 *e* pP 19 38 44.0 +10
J05A **Fort Rock** 74.65 47 ⇓P P 19 36 59.7 +0.6
baz=74,SNR=21
G08A **Pilot Rock** 74.71 44 ⇓P P 19 36 60.0 +0.5
baz=74,SNR=9.4
YBH **Yreka Blue Hor** 74.72 49 ⇓P P 19 37 00.4 +0.9
baz=74,SNR=7.1
STHS **Stebnicka Huta** 74.74 321 eP P 19 36 59.6 -0.1
STHS pmax pmax
comp=Z,4.0nm,1.3s,mb3.9
STHS **Stebnicka Huta** 74.74 321 eP P 19 36 59.6 -0.1
comp=Z,4.1nm,1.3s,mb3.9
STHS *e* pP 19 38 37.5 +2.6
K04A **Chilquin** 74.77 48 ⇑P P 19 37 00.2 +0.4
baz=74
M02C **Callahan** 74.83 49 ⇑P P 19 37 01.1 +0.9
baz=75,SNR=6.9
I06A **Prineville** 74.84 46 ⇓P P 19 37 00.9 +0.7
baz=74,SNR=10
N02C **Big Bar** 74.90 50 ⇑P P 19 37 01.0 +0.4
baz=75,SNR=5.8
OJC **Ojcow** 74.92 323 eP pP 19 38 35.3 -0.7
L04A **Klamath Falls** 74.94 48 ⇓P P 19 37 01.4 +0.6
baz=75,SNR=10.0
E10A **Myers Farm, Un** 74.97 42 P P 19 37 01.4 +0.5
baz=75,SNR=23
O01C **Eel River Cons** 75.00 51 ⇑P P 19 37 01.7 +0.6
baz=75
D11A **Klaveano Farm,** 75.03 42 ⇑P P 19 37 01.2 -0.1
baz=75,SNR=15
F09A **S2 Ranch, Elgi** 75.03 43 ⇓P P 19 37 01.1 -0.1
baz=75,SNR=8.8
LHEM **Herd Peak** 75.07 49 P P 19 37 02.5 +1.0
B13A **Whitefish** 75.14 40 ⇓P P 19 37 02.2 +0.3
baz=75,SNR=15
I07A **Izee** 75.15 46 ⇑P P 19 37 02.5 +0.6
baz=75,SNR=17
K05A **Summer Lake** 75.19 47 ⇑P P 19 37 02.8 +0.6
baz=75,SNR=15
M04C **Madoel** 75.21 48 P P 19 37 03.0 +0.8
baz=75,SNR=16
F10A **Beach Ranch, E** 75.23 43 ⇓P P 19 37 02.9 +0.5
baz=75
J06A **Christmas Vall** 75.30 47 ⇓P P 19 37 03.4 +0.6
baz=75,SNR=17
M03C **McCloud** 75.34 49 ⇑P P 19 37 03.5 +0.4
baz=75,SNR=12
H08A **Prairie City** 75.35 45 ⇑P P 19 37 03.6 +0.5
baz=75,SNR=14
WDC **Whiskeytown Da** 75.51 50 eP P 19 37 04.3 +0.3
WDC pmax pmax
comp=Z,44nm,1.1s,mb5.0
WDC **Whiskeytown Da** 75.51 50 eP P 19 37 04.3 +0.3
comp=Z,44nm,1.1s,mb5.0
WDC **Whiskeytown Da** 75.51 50 ⇑P P 19 37 04.4 +0.5
baz=75,SNR=9.0
K06A **Valley Falls** 75.52 47 P P 19 37 05.0 +1.0
baz=75,SNR=22
E11A **Beaver Ranch,** 75.53 42 ⇑P P 19 37 04.2 +0.1
baz=75,SNR=14
C13A **Hot Springs** 75.54 40 ⇓P P 19 37 04.4 +0.3
baz=75,SNR=27
O02C **Red Bluff** 75.61 50 ⇑P P 19 37 05.5 +1.0
baz=75,SNR=12
SFJD **Kangerlussuaq** 75.61 2 *i* P P 19 37 04.3 -0.2
SFJD *i* 19 43 25.6
TOO **Toolangi** 75.66 170 eP P 19 37 06.6 +1.8
comp=Z,12nm,0.9s,mb4.5
TOO **Toolangi** 75.66 170 eP P 19 37 06.6 +1.8
TOO pmax pmax
comp=Z,12nm,0.9s,mb4.5
P01C **Double 8 Ranch** 75.70 51 ⇓P P 19 37 05.6 +0.6
baz=75
J07A **Hines** 75.70 46 ⇑P P 19 37 05.9 +0.8
baz=75,SNR=24
KECS **Kecovo** 75.73 321 eP P 19 37 04.7 -0.5
I08A **Drewsey** 75.79 45 ⇑P P 19 37 06.1 +0.6
baz=76
H09A **Durkee** 75.82 44 ⇓P P 19 37 06.1 +0.4
baz=76,SNR=10.0
F11A **Grangeville** 75.86 43 ⇑P P 19 37 05.8 -0.1
baz=76
M05C **Lookout** 75.88 49 ⇑P P 19 37 06.6 +0.5
baz=76,SNR=10
BMO **Blue Mountains** 75.90 44 eP P 19 37 06.4 +0.2
comp=Z,41nm,0.8s,mb5.1
GASB **Alder Springs** 75.97 51 ⇓P P 19 37 07.4 +0.9
baz=76,SNR=12
OKC **Ostrava-Krasne** 75.97 323 eP P 19 37 07.1 +0.5
OKC **Ostrava-Krasne** 75.97 323 epP pP 19 38 43.6 +1.5
D13A **Huson** 75.98 41 ⇑P P 19 37 06.4 -0.2
baz=76,SNR=6.7
HATC **Hat Creek Radi** 76.02 49 ⇓P P 19 37 07.0 +0.2
baz=76,SNR=9.3
MOD **Modoc** 76.04 48 ⇑P P 19 37 07.2 +0.3
baz=76
HOPS **Hopland** 76.15 51 ⇑P P 19 37 07.9 +0.4
baz=76
K07A **Rock Creek Ran** 76.16 47 ⇓P P 19 37 07.9 +0.2
baz=76,SNR=46
O03C **Acorn Hollow,** 76.18 50 ⇑P P 19 37 08.2 +0.5
baz=76
J08A **Circle Bar Ran** 76.19 46 ⇓P P 19 37 08.3 +0.6
baz=76,SNR=46
I09A **Lost Marbles R** 76.21 45 ⇑P P 19 37 07.9 +0.1
baz=76,SNR=12
MORC **Moravsky Berou** 76.30 323 ⇑*i*P P 19 37 08.2 -0.2
MORC **Moravsky Berou** 76.30 323 ⇑*i*P pP 19 38 45.4 +1.3
MORC **Moravsky Berou** 76.30 323 ⇑P P 19 37 08.2 -0.2
FFC **Flin Flon** 76.36 30 P P 19 37 08.6 -0.1
comp=Z,359nm,0.7s,SNR=10
M06C **Likely Place G** 76.37 48 ⇑P P 19 37 08.7 -0.1
baz=76
H10A **Noah's Angus R** 76.37 44 ⇑P P 19 37 08.7 -0.1
baz=76,SNR=61
MSO **Missoula** 76.42 41 eP P 19 37 09.2 +0.1
comp=Z,18nm,1.0s,mb4.7
D14A **Greough** 76.48 40 ⇑P P 19 37 09.2 -0.2
baz=76,SNR=27
DPC **Dobruska-Polom** 76.48 324 eP P 19 37 09.4 0.0
DPC **Dobruska-Polom** 76.48 324 epP pP 19 38 42.4 -2.7
DPC *ex* x 19 38 46.9
UPC **Upice** 76.52 324 eP P 19 37 10.0 +0.4
UPC **Upice** 76.52 324 *ex* x 19 38 36.2
UPC epP pP 19 38 47.0 +1.7
L07A **Adell** 76.53 47 ⇓P P 19 37 10.3 +0.6
baz=76,SNR=19
VYHS **Vyhne** 76.54 322 epP pP 19 38 42.4 -3.1
E13A **Victor** 76.55 41 ⇑P P 19 37 09.6 -0.2
baz=76,SNR=5.6
O04C **Chester** 76.55 49 ⇓P P 19 37 10.3 +0.6
baz=76,SNR=18
GZR **Gura Zlata** 76.56 317 ⇓*i*P pP 19 38 48.1 +2.5
K08A **Mann Creek Ran** 76.58 46 ⇓P P 19 37 10.4 +0.5
baz=76,SNR=20
MNRC **McLaughlin Nat** 76.61 51 ⇓P P 19 37 10.3 +0.3
baz=76,SNR=8.1
WVOR **Wild Horse Val** 76.68 46 eP P 19 37 10.7 +0.2
WVOR pmax pmax
comp=Z,41nm,1.0s,mb5.0
WVOR **Wild Horse Val** 76.68 46 eP P 19 37 10.7 +0.2
comp=Z,41nm,1.0s,mb5.0
H11A **Donnelly** 76.70 43 ⇑P P 19 37 10.4 -0.2
baz=76,SNR=11
CHMT **Chamberlain Mo** 76.72 40 eP P 19 37 10.9 +0.2
ORV **Oroville** 76.77 50 ⇓P P 19 37 11.1 +0.1
baz=76,SNR=17
SUTB **Sutter Butte** 76.80 51 ⇑P P 19 37 11.5 +0.4
baz=76
O05C **Quincy** 76.87 50 ⇑P P 19 37 11.9 +0.3
baz=77,SNR=9.0
F13A **Darby** 76.90 42 ⇓P P 19 37 11.0 -0.7
baz=77,SNR=12
OHCM **Honcut** 76.92 50 eP P 19 37 11.2 -0.5
CVS **Carmenet Viney** 76.92 52 ⇓P P 19 37 12.0 +0.2
baz=77
E14A **Clinton** 76.92 41 ⇓P P 19 37 11.9 +0.1
baz=77,SNR=16
L08A **Fields** 77.00 47 ⇓P P 19 37 12.6 +0.4
baz=77,SNR=29
D15A **Lincoln** 77.01 40 ⇑P P 19 37 12.7 +0.4
baz=77
Q03C **Winters** 77.02 51 ⇑P P 19 37 13.5 +1.2
baz=77
M07A **Soldier Meadow** 77.02 48 ⇓P P 19 37 13.2 +0.8
baz=77,SNR=22
K09A **Rome** 77.03 46 ⇑P P 19 37 13.0 +0.6
baz=77,SNR=17
BZS **Buzias** 77.03 318 ⇑*i*P P 19 37 12.9 +0.5
BZS **Buzias** 77.03 318 ⇓*i*P pP 19 38 50.1 +1.8
BZS **Buzias** 77.03 318 ⇑P P 19 37 12.9 +0.5
N06A **Buffalo Meadow** 77.03 48 ⇑P P 19 37 13.0 +0.6
baz=77,SNR=24
VRAC **Vranov** 77.07 323 ⇓*i*P P 19 37 13.3 +0.7
VRAC **Vranov** 77.07 323 ⇓P P 19 37 13.3 +0.7
PVCC **Panska Ves** 77.16 325 eP P 19 37 13.7 +0.6
PVCC **Panska Ves** 77.16 325 epP pP 19 38 50.1 +1.0
BRG **Berggiesshubel** 77.20 326 eP P 19 37 13.3 -0.1
comp=Z,5.8nm,1.2s,mb4.1
BRG *e* pP 19 38 51.5 +2.2
comp=Z,4.3nm,0.7s
BRG **Berggiesshubel** 77.20 326 eP P 19 37 13.3 0.0
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
BEKR **Beckwourth** 77.27 49 ⇓P P 19 37 13.8 +0.1
baz=77,SNR=23
Q04C **Lincoln** 77.29 51 ⇓P P 19 37 14.2 +0.4
baz=77
CLL **Collm** 77.31 326 *i* P P 19 37 13.4 -0.5
CLL pmax pmax
comp=Z,18nm,0.9s,mb4.7
CLL **Collm** 77.31 326 *i* P P 19 37 13.4 -0.5
comp=Z,18nm,0.9s,mb4.7
CLL *i* pP pP 19 38 51.9 +2.0
E15A **Deer Lodge** 77.36 40 ⇑P P 19 37 14.0 -0.2
baz=77,SNR=18
F14A **Wisdom** 77.39 41 ⇑P P 19 37 14.3 0.0
baz=77
O06A **Flanigan** 77.40 49 ⇑P P 19 37 15.0 +0.6
baz=77,SNR=8.4
M08A **Happy Creek Ra** 77.45 47 ⇓P P 19 37 15.1 +0.4
baz=77,SNR=9.4
P05C **Yuba Gap, Truc** 77.47 50 ⇓P P 19 37 15.2 +0.4
baz=77,SNR=7.8
L09A **Wilkinson Ranc** 77.50 46 ⇓P P 19 37 15.7 +0.8
baz=77
N07B **Gerlach** 77.52 48 ⇑P P 19 37 15.4 +0.3
baz=77,SNR=5.8
PRU **Pruhonice** 77.56 325 eP P 19 37 14.7 -0.6
PRU **Pruhonice** 77.56 325 *ex* x 19 38 45.6
PRU epP pP 19 38 52.3 +1.0
HRY **Holter Researc** 77.58 40 eP P 19 37 15.6 +0.1
JRSC **Jasper Ridge** 77.64 52 ⇑P P 19 37 16.4 +0.7
baz=77
P06A **Stead Airport,** 77.66 49 ⇓P P 19 37 16.5 +0.6
baz=77
EGMT **Eagleton** 77.72 38 eP P 19 37 16.6 +0.4
comp=Z,30nm,0.9s,mb4.9
EGMT **Eagleton** 77.72 38 ⇓P P 19 37 16.1 -0.1
baz=77,SNR=6.1
LAVA **Lava Cap Winer** 77.73 50 ⇑P P 19 37 16.6 +0.4
baz=77,SNR=17
WENL **Wente Brothers** 77.80 52 ⇓P P 19 37 17.2 +0.6
baz=78
F15A **Butte** 77.83 41 ⇓P P 19 37 17.1 +0.4
baz=78,SNR=42
BNLO **Ben Lomond (Sa** 77.85 52 ⇓P P 19 37 17.7 +0.9
baz=78
R04C **Big Horse Ranc** 77.92 51 ⇑P P 19 37 17.8 +0.5
baz=78
O07A **Toulon** 77.97 48 ⇑P P 19 37 18.4 +0.8
baz=78,SNR=16
WCN **Washoe City** 77.98 49 ⇑P P 19 37 18.5 +0.9
baz=78
M09A **Marrel Ranch,** 78.00 47 ⇑P P 19 37 18.2 +0.5
baz=78
N08A **GE Springer Mi** 78.01 48 P P 19 37 18.7 +1.0
baz=78,SNR=34
VTS **Vitosha** 78.14 315 ⇑*i*P pP 19 38 58.0 +3.3
S04C **Ingram Canyon,** 78.14 52 ⇑P P 19 37 18.7 +0.2
baz=78
R05C **Kirkwood Meado** 78.17 50 ⇑P P 19 37 18.9 +0.3
baz=78,SNR=6.1
G15A **Dillon** 78.28 41 P P 19 37 19.9 +0.7
baz=78,SNR=46
O08A **Rochester Mine** 78.31 48 ⇑P P 19 37 20.4 +1.0
baz=78
HLID **Hailey** 78.32 44 eP P 19 37 19.2 -0.2
comp=Z,26nm,0.9s,mb4.8
HLID **Hailey** 78.32 44 ⇓P P 19 37 20.2 +0.8
baz=78,SNR=40
MCMT **McKenzie Canyo** 78.32 42 eP P 19 37 19.2 -0.2
NKC **Novy Kostel** 78.33 326 epP pP 19 38 55.4 -0.3
CMB **Columbia Colle** 78.40 51 eP P 19 37 20.3 +0.5
CMB pmax pmax
comp=Z,63nm,1.3s,mb5.1
CMB **Columbia Colle** 78.40 51 eP P 19 37 20.3 +0.4
comp=Z,63nm,1.3s,mb5.1
CMB **Columbia Colle** 78.40 51 P P 19 37 20.6 +0.8
baz=78,SNR=17
M10A **I.L. Ranch, Tu** 78.46 46 ⇑P P 19 37 21.0 +0.8
baz=78,SNR=19
PACP **Pacheco Peak** 78.48 52 P P 19 37 21.6 +1.3
baz=78,SNR=5.8
KHC **Kasperske Hory** 78.61 325 eP P 19 37 20.8 -0.2
KHC epP pP 19 39 00.0 +2.7
KHC **Kasperske Hory** 78.61 325 epP pP 19 38 54.1 -3.2
KHC **Kasperske Hory** 78.61 325 ⇑eP P 19 37 19.8 -1.2
R06C **Coleville** 78.66 50 ⇓P P 19 37 22.2 +0.9
baz=78,SNR=9.2
HAST **UC Hastings Re** 78.70 53 ⇑P P 19 37 22.3 +0.9
baz=78
GERES **GERESS Array B** 78.75 324 P P 19 37 21.5 -0.3
comp=Z,2.9nm,0.7s,mb4.0,baz=39,slow=5.1,SNR=26
GERES **GERESS Array B** 78.75 324 P P 19 37 21.5 -0.3
GERES pmax pmax
comp=Z,3.0nm,0.7s
BMN **Battle Mountai** 78.77 47 eP P 19 37 22.7 +0.9
BMN pmax pmax
comp=Z,46nm,1.1s,mb5.0
BMN **Battle Mountai** 78.77 47 eP P 19 37 22.7 +0.9
comp=Z,46nm,1.1s,mb5.0
S05C **Merced** 78.86 51 ⇑P P 19 37 22.3 -0.1
baz=79,SNR=6.0
T05C **Eagle Field, D** 78.93 52 ⇓P P 19 37 23.9 +1.2
baz=79
M11A **Holland Ranch,** 78.95 46 ⇓P P 19 37 24.1 +1.3
baz=79,SNR=11
O09A **Fish Creek Ran** 78.96 48 ⇓P P 19 37 23.3 +0.5
baz=79,SNR=9.6
N10A **Dunphy** 79.00 47 ⇑P P 19 37 23.9 +0.8
baz=79
QLMT **Earthquake Lak** 79.06 41 eP P 19 37 24.0 +0.6
V03C **Hunter Liggett** 79.12 53 ⇑P P 19 37 24.3 +0.5
baz=79
U04C **Hernandez Rese** 79.20 52 ⇓P P 19 37 25.1 +1.0
baz=79
GRA1 **Grafenberg Arr** 79.27 326 eP P 19 37 24.7 +0.2
comp=Z,12nm,0.9s,mb4.5
GRA1 epP pP 19 39 03.4 +2.4
GRF **Grafenberg Arr** 79.27 326 eP P 19 37 24.7 +0.2
comp=Z,12nm,0.9s,mb4.5
GRF epP pP 19 39 03.4 +2.4
GRF **Grafenberg Arr** 79.27 326 eP P 19 37 24.7 +0.2
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.5

GRF	Grafenberg Arr	79.27	326	*e*P		P	19 37 24.7	+0.2	
GRF				pmax		pmax			
	comp=Z,12nm,0.9s,mb4.5								
O10A	Cortez Mining,	79.28	47	⇓P		P	19 37 25.4	+0.8	
	baz=79,SNR=11								
GCMT	Greycliff	79.31	40	*e*P		P	19 37 24.9	+0.2	
Q08A	Gabbs	79.36	49	⇓P		P	19 37 25.6	+0.6	
	baz=79,SNR=7.3								
N11A	Elko Archery C	79.38	46	⇓P		P	19 37 25.4	+0.3	
	baz=79								
P09A	Austin	79.39	48	⇑P		P	19 37 25.7	+0.6	
	baz=79								
NVAR	Mina Array Bea	79.41	49	P		P	19 37 26.4	+1.1	
	comp=Z,13nm,0.6s,mb4.7,baz=300,slow=7.2,SNR=58								
NVAR	Mina Array Bea	79.41	49	P		P	19 37 26.4	+1.1	
YMR	Madison River	79.42	41	*e*P		P	19 37 26.1	+0.8	
	comp=Z,136nm,1.6s,mb5.3								
M12A	Wells	79.45	45	⇑P		P	19 37 26.3	+0.8	
	baz=79,SNR=15								
T06C	Millerton Lake	79.46	51	P		P	19 37 26.1	+0.6	
	baz=79,SNR=7.7								
KCC	Kaiser Creek	79.50	51	P		P	19 37 26.7	+1.0	
	baz=79,SNR=9.5								
YNR	Norris Junctio	79.53	41	*e*P		P	19 37 26.9	+1.0	
R08A	Mina	79.58	49	⇓P		P	19 37 26.5	+0.3	
	baz=79								
V04C	Ramage Ranch,	79.60	53	⇑P		P	19 37 26.5	+0.3	
	baz=79								
PKD	Parkfield	79.61	53	⇑P		P	19 37 26.5	+0.1	
	baz=79,SNR=6.6								
YFT	Old Faithful	79.63	41	*e*P		P	19 37 29.4	+3.0	
PERS	Pernice	79.65	322	*i* P		P	19 37 26.5	0.0	
PERS				*e*pP		pP	19 39 04.8	+1.6	
P10A	Eureka	79.74	48	⇑P		P	19 37 27.6	+0.6	
	baz=79								
N12A	Clover Valley,	79.76	46	⇓P		P	19 37 28.0	+0.9	
	baz=79,SNR=17								
Q09A	Carvers	79.83	49	⇓P		P	19 37 28.0	+0.5	
	baz=80								
O11A	Cowboy Ranch,	79.88	47	⇓P		P	19 37 28.3	+0.6	
	baz=80,SNR=15								
M13A	Montello	79.91	45	⇓P		P	19 37 28.5	+0.5	
	baz=80								
FLWY	Flagg Ranch	79.96	41	*e*P		P	19 37 30.1	+1.9	
	comp=Z,101nm,1.3s,mb5.3								
IMW	Indian Meadow	79.96	42	*e*P		P	19 37 29.6	+1.4	
	comp=Z,92nm,1.3s,mb5.2								
RLMT	Red Lodge	79.97	40	*e*P		P	19 37 29.4	+1.1	
	comp=Z,34nm,0.9s,mb5.0								
DCID1	Drake Creek	80.03	42	*e*P		P	19 37 30.0	+1.4	
V05C	Boulder Hill,	80.06	52	⇓P		P	19 37 29.2	+0.5	
	baz=80								
HELL	Mitchell Peak,	80.09	51	⇓P		P	19 37 28.8	0.0	
	baz=80,SNR=12								
MOOW	Moose Ponds	80.16	42	*e*P		P	19 37 29.8	+0.5	
	comp=Z,53nm,1.3s,mb5.0								
P11A	Circle Ranch,	80.20	47	⇑P		P	19 37 30.3	+0.9	
	baz=80								
N13A	Wendover, West	80.23	45	⇓P		P	19 37 30.4	+0.8	
	baz=80,SNR=13								
R09A	Tonopah	80.28	49	⇑P		P	19 37 30.2	+0.4	
	baz=80,SNR=25								
TPH	Tonopah	80.29	49	*e*P		P	19 37 30.6	+0.7	
TPH				pmax		pmax			
	comp=Z,71nm,1.0s,mb5.2								
TPH	Tonopah	80.29	49	*e*P		P	19 37 30.6	+0.6	
	comp=Z,71nm,1.0s,mb5.2								
O12A	Currie	80.31	46	⇑P		P	19 37 30.3	+0.3	
	baz=80,SNR=14								
LOHW	Long Hollow	80.33	42	*e*P		P	19 37 30.9	+0.8	
	comp=Z,13nm,0.8s,mb4.6								
SNOW	Snow King Moun	80.35	42	*e*P		P	19 37 31.2	+1.0	
	comp=Z,9.5nm,0.4s,mb4.8								
LAO	LASA Array	80.37	37	*e*P		P	19 37 30.3	0.0	
	comp=Z,104nm,1.6s,mb5.2								
REDW	Red Top Meadow	80.37	42	*e*P		P	19 37 30.9	+0.6	
	comp=Z,45nm,1.1s,mb5.0								
S09A	Goldfield	80.52	49	⇑P		P	19 37 32.0	+0.9	
	baz=80,SNR=26								
VES	Vestal, Richgr	80.59	52	P		P	19 37 31.8	+0.3	
	baz=80,SNR=5.4								
JAVS	Javornik	80.69	322	*e*P		P	19 37 31.1	-0.9	
JAVS				*e*pP		pP	19 39 10.4	+1.4	
Q11A	Duckwater	80.72	48	⇑P		P	19 37 32.5	+0.4	
	baz=80,SNR=12								
PKM	Peak Mountain	80.73	53	⇓P		P	19 37 33.1	+0.9	
	baz=80,SNR=5.1								
P12A	McGill	80.74	47	P		P	19 37 33.4	+1.1	
	baz=80,SNR=28								
MEM	Membach	80.79	329	P		P	19 37 32.1	-0.4	
CWC	Cottonwood Cre	80.83	51	⇑P		P	19 37 33.0	+0.2	
	baz=80								
BGU	Big Grassy Mou	80.84	45	*e*P		P	19 37 33.5	+0.7	
GRAC	Grapevine Rang	80.90	50	⇓P		P	19 37 33.8	+0.7	
	baz=81								
Q12A	Willow Creek R	81.08	47	⇓P		P	19 37 34.5	+0.5	
	baz=81,SNR=22								
ISA	Isabella	81.08	52	*e*P		P	19 37 33.5	-0.6	
ISA	Isabella	81.08	52	⇑P		P	19 37 33.7	-0.4	
	baz=81,SNR=5.6								
SBC	Santa Barbara	81.09	53	⇑P		P	19 37 34.6	+0.6	
	baz=81								
TRCR	Troy Canyon	81.09	48	*e*P		P	19 37 34.8	+0.7	
HWUT	Hardware Ranch	81.19	44	*e*P		P	19 37 35.2	+0.6	
	comp=Z,59nm,1.1s,mb5.2								
ARVC	Arvin	81.21	52	⇓P		P	19 37 35.4	+0.7	
	baz=81								
DAC	Darwin (Calif)	81.23	51	*e*P		P	19 37 35.3	+0.5	
DAC				pmax		pmax			
	comp=Z,57nm,1.4s,mb5.1								
DAC	Darwin (Calif)	81.23	51	*e*P		P	19 37 35.3	+0.5	
	comp=Z,57nm,1.4s,mb5.1								
MPMC	Manual Prospec	81.44	51	⇓P		P	19 37 36.6	+0.8	
	baz=81,SNR=18								
DUG	Dugway	81.46	45	*e*P		P	19 37 36.5	+0.5	
DUG				pmax		pmax			
	comp=Z,18nm,0.8s,mb4.8								
DUG	Dugway	81.46	45	*e*P		P	19 37 36.5	+0.5	
	comp=Z,18nm,0.8s,mb4.8								
DUG	Dugway	81.46	45	⇑P		P	19 37 36.8	+0.8	
	baz=81,SNR=15								
PDAR	Pinedale Array	81.47	42	P		P	19 37 36.4	+0.4	
	comp=Z,20nm,0.8s,mb4.9,baz=294,slow=1.0,SNR=79								
NOQ	North Oquirrh	81.53	45	*e*P		P	19 37 37.6	+1.2	
	comp=Z,23nm,0.7s,mb5.0								
FURC	Furnace Creek,	81.56	50	⇓P		P	19 37 36.9	+0.4	
	baz=81,SNR=11								
OSI	Osito Adit	81.60	53	⇑P		P	19 37 37.0	+0.3	
	baz=81								
LRMC	Laurel Mountai	81.69	51	⇑P		P	19 37 37.6	+0.4	
	baz=81								
BLG	Laguna Peak	81.71	53	⇓P		P	19 37 37.2	0.0	
	baz=81								
EDW2	Edwards Air Fo	81.89	52	⇓P		P	19 37 38.4	+0.2	
	baz=82,SNR=14								
U10A	Ash Meadows, A	81.91	50	⇓P		P	19 37 39.1	+0.7	
	baz=82,SNR=5.7								
JLU	Jordanelle	81.94	44	*e*P		P	19 37 39.0	+0.5	
CDF	Champ du Feu	81.94	327	*e*P		P	19 37 36.8	-1.7	
	comp=Z,7.8nm,0.7s,mb4.2								
CDF	Champ du Feu	81.94	327	*e*P		P	19 37 36.8	-1.7	
CDF				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.3								
CDF	Champ du Feu	81.94	327	*e*P		P	19 37 36.8	-1.7	
	comp=Z,3.9nm,0.7s,mb4.2								
SNCC	San Nicolas Is	81.97	54	⇓P		P	19 37 39.1	+0.5	
	baz=82								
NLU	North Lily Min	82.03	45	*e*P		P	19 37 39.9	+0.9	
DECC	Green Verdugo	82.09	53	⇓P		P	19 37 39.5	+0.3	
	baz=82								
DAU	Daniels Canyon	82.18	44	*e*P		P	19 37 41.0	+1.3	
ULM	Lac du Bonnet	82.19	30	P		P	19 37 39.0	-0.7	
	comp=Z,46nm,0.9s,mb5.2,baz=324,slow=5.6,SNR=34								
MPU	Maple Canyon	82.24	45	*e*P		P	19 37 40.2	+0.2	
	comp=Z,64nm,1.4s,mb5.2								
SHOC	Shoshone	82.28	50	⇓P		P	19 37 41.0	+0.8	
	baz=82								
U11A	Corn Creek	82.48	49	⇑P		P	19 37 41.6	+0.3	
	baz=82								
RRX	Edison Barstow	82.51	51	⇓P		P	19 37 41.8	+0.4	
	baz=82								
BFSC	Mount Baldy St	82.52	52	⇓P		P	19 37 41.5	+0.1	
	baz=82,SNR=11								
CIS	Catalina Islan	82.58	53	⇑P		P	19 37 42.4	+0.6	
	baz=82								
SCI	San Clemente I	82.77	54	⇓P		P	19 37 43.1	+0.4	
	baz=82								
TUQ	Turquoise Mtn.	82.81	50	⇑P		P	19 37 43.9	+1.0	
	baz=82								
V11A	Goodsprings	82.84	50	⇓P		P	19 37 43.7	+0.6	
	baz=83,SNR=9.1								
CCUT	Cedar City	82.93	48	*e*P		P	19 37 44.7	+1.2	
HEC	Hector,Ludlow	82.96	51	⇓P		P	19 37 44.0	+0.4	
	baz=83,SNR=12								
MSU	Marysvale	82.96	46	*e*P		P	19 37 44.7	+1.0	
BBRC	Big Bear Sol-O	82.96	52	⇑P		P	19 37 44.9	+1.2	
	baz=83								
TMUT	Trail Mountain	82.97	45	*e*P		P	19 37 44.8	+1.1	
U12A	Valley of Fire	82.98	49	⇑P		P	19 37 44.8	+1.0	
	baz=83,SNR=6.8								
MURC	Murrieta	83.22	53	⇑P		P	19 37 44.7	-0.3	
	baz=83								
V12A	Nelson	83.27	50	⇑P		P	19 37 46.1	+0.9	
	baz=83,SNR=16								
RSSD	Black Hills	83.30	38	*e*P		P	19 37 45.7	+0.4	
GMRC	Granite Mounta	83.40	51	P		P	19 37 46.5	+0.7	
	baz=83,SNR=31								
W12A	Cal Nev Ari	83.54	50	⇓P		P	19 37 47.7	+1.2	
	baz=83								
PFO	Pinyon Flat Ob	83.68	52	P		P	19 37 47.9	+0.6	
	comp=Z,266nm,0.8s,SNR=11								
PFO	Pinyon Flat Ob	83.68	52	*e*P		P	19 37 47.4	+0.1	
PFO				pmax		pmax			
	comp=Z,56nm,1.0s,mb5.2								
PFO	Pinyon Flat Ob	83.68	52	*e*P		P	19 37 47.4	+0.1	
	comp=Z,56nm,1.0s,mb5.2								
PFO	Pinyon Flat Ob	83.68	52	⇑P		P	19 37 47.1	-0.2	
	baz=83,SNR=11								
AGMN	Agassiz Refuge	83.74	31	*e*P		P	19 37 47.3	-0.3	
	comp=Z,27nm,1.3s,mb4.8								
109C	Camp Elliot, M	83.75	53	⇓P		P	19 37 47.9	+0.2	
	baz=84								
NEE2	Needles Airpor	84.05	50	⇑P		P	19 37 50.0	+0.9	
	baz=84								
IRM	Iron Mountain	84.13	51	P		P	19 37 50.3	+0.8	
	baz=84,SNR=25								
W13A	Hualapai Mount	84.27	50	⇑P		P	19 37 51.1	+0.9	
	baz=84,SNR=19								
BC3	Big Chuckw Mtn	84.28	52	⇑P		P	19 37 50.7	+0.5	
	baz=84,SNR=8.2								
LOR	Lormes	84.28	328	*e*P		P	19 37 48.0	-2.3	
	comp=Z,7.5nm,0.7s,mb4.2								
LOR	Lormes	84.28	328	*e*P		P	19 37 48.0	-2.3	
LOR				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.3								
LOR	Lormes	84.28	328	*e*P		P	19 37 48.0	-2.3	
	comp=Z,3.8nm,0.7s,mb4.2								
LPL	La Plagne	84.41	326	*e*P		P	19 37 49.2	-1.7	
	comp=Z,7.2nm,0.7s,mb4.2								
LPL	La Plagne	84.41	326	*e*P		P	19 37 49.2	-1.7	
LPL				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.3								
LPL	La Plagne	84.41	326	*e*P		P	19 37 49.2	-1.7	
	comp=Z,3.6nm,0.7s,mb4.2								
LPG	La Plagne	84.41	326	*e*P		P	19 37 49.4	-1.5	
	comp=Z,4.9nm,0.7s,mb4.1								
LPG	La Plagne	84.41	326	*e*P		P	19 37 49.4	-1.5	
LPG				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.0								
LPG	La Plagne	84.41	326	*e*P		P	19 37 49.4	-1.5	
	comp=Z,2.5nm,0.6s,mb4.1								
SWSC	Sam W. Stewart	84.54	52	⇓P		P	19 37 51.5	0.0	
	baz=84								
SSF	Saint Saulge	84.59	328	*e*P		P	19 37 49.8	-2.0	
X13A	Yucca	84.65	50	⇑P		P	19 37 52.0	-0.1	
	baz=84,SNR=8.5								
PDMCI	Parker Dam,Lak	84.66	50	⇑P		P	19 37 51.9	-0.2	
	baz=84,SNR=19								
W14A	Seligman	84.68	49	⇑P		P	19 37 53.2	+1.0	
	baz=84,SNR=9.4								
SMF	Signal de Mont	84.78	328	*e*P		P	19 37 50.8	-1.9	
Y12C	Blythe	84.79	51	⇑P		P	19 37 53.0	+0.2	
	baz=84,SNR=11								
FLN	La Foliniere	84.81	332	*e*P		P	19 37 50.7	-2.1	
LDF	La Druitiere	84.81	331	*e*P		P	19 37 50.8	-2.1	
	comp=Z,59nm,1.3s,mb4.8								
LDF	La Druitiere	84.81	331	*e*P		P	19 37 50.8	-2.1	
LDF				pmax		pmax			
	comp=Z,30nm,1.3s,mb4.9								
LDF	La Druitiere	84.81	331	*e*P		P	19 37 50.8	-2.1	
	comp=Z,30nm,1.3s,mb4.9								
AVF	Avril sur Loir	84.87	328	*e*P		P	19 37 51.3	-1.9	
	comp=Z,63nm,1.5s,mb4.8								
AVF	Avril sur Loir	84.87	328	*e*P		P	19 37 51.3	-1.9	
AVF				pmax		pmax			
	comp=Z,31nm,1.5s,mb4.8								
AVF	Avril sur Loir	84.87	328	*e*P		P	19 37 51.3	-1.9	
	comp=Z,31nm,1.5s,mb4.8								
MBDF	Montbardon	85.00	325	*e*P		P	19 37 52.1	-1.7	
GLA	Glamis	85.07	52	P		P	19 37 54.9	+0.8	
	baz=85,SNR=6.8								
W15A	Williams	85.19	49	⇓P		P	19 37 55.7	+1.0	
	baz=85,SNR=8.5								
ORIF	Oris-en-Rattie	85.25	326	*e*P		P	19 37 53.2	-1.8	
	comp=Z,24nm,1.3s,mb4.5								
ORIF	Oris-en-Rattie	85.25	326	*e*P		P	19 37 53.2	-1.8	
ORIF				pmax		pmax			
	comp=Z,12nm,1.3s,mb4.5								
ORIF	Oris-en-Rattie	85.25	326	*e*P		P	19 37 53.2	-1.8	
	comp=Z,12nm,1.3s,mb4.5								
GRR	Gorron	85.26	332	*e*P		P	19 37 52.8	-2.2	
BGF	Bois d'Agland	85.27	328	*e*P		P	19 37 53.1	-2.0	
X14A	Yava	85.30	50	⇑P		P	19 37 56.2	+0.9	
	baz=85,SNR=16								
WUAZ	Wupatki	85.48	48	*e*P		P	19 37 57.8	+1.6	
	comp=Z,45nm,1.1s,mb5.1								
WUAZ	Wupatki	85.48	48	⇑P		P	19 37 57.3	+1.1	
	baz=85,SNR=11								
Y14A	Wickenburg	85.59	50	⇑P		P	19 37 57.1	+0.4	
	baz=85,SNR=6.9								
PGF	Pioggiola	85.61	322	*e*P		P	19 37 54.8	-2.0	
	comp=Z,13nm,1.0s,mb4.3								
PGF	Pioggiola	85.61	322	*e*P		P	19 37 54.8	-2.0	
PGF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.3								
PGF	Pioggiola	85.61	322	*e*P		P	19 37 54.8	-2.0	
	comp=Z,6.6nm,1.0s,mb4.3								
ISCO	Idaho Springs	85.66	42	*e*P		P	19 37 57.9	+0.9	
ISCO				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.5								
ISCO	Idaho Springs	85.66	42	*e*P		P	19 37 57.9	+0.8	
	comp=Z,9.3nm,0.8s,mb4.6								
X15A	Humboldt	85.68	49	⇑P		P	19 37 57.7	+0.5	
	baz=85,SNR=20								
VIVF	Saint-Julien-l	85.83	326	*e*P		P	19 37 56.0	-1.9	
	comp=Z,15nm,1.1s,mb4.3								
VIVF	Saint-Julien-l	85.83	326	*e*P		P	19 37 56.0	-1.9	
VIVF				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.4								
VIVF	Saint-Julien-l	85.83	326	*e*P		P	19 37 56.0	-1.9	
	comp=Z,7.5nm,1.1s,mb4.3								
FRF	La Foret Royal	85.95	324	*e*P		P	19 37 56.5	-1.9	
MVCO	Mesa Verde	85.95	45	*e*P		P	19 37 59.6	+1.1	
	comp=Z,56nm,1.4s,mb5.1								
MVCO	Mesa Verde	85.95	45	⇓P		P	19 37 59.1	+0.7	
	baz=86,SNR=11								
Z14A	Wintersburg	86.02	50	⇓P		P	19 37 59.5	+0.7	
	baz=86								
SMRF	Simiane la Rot	86.12	325	*e*P		P	19 37 57.5	-1.7	
SCHQ	Schefferville	86.20	12	P		P	19 37 59.8	+0.2	
	comp=Z,24nm,0.9s,mb4.9,baz=0.0,slow=5.2,SNR=16								
LASF	Ste Croix	86.81	326	*e*P		P	19 38 00.6	-1.9	
ECSD	EROS,Sioux Fal	87.04	34	*e*P		P	19 38 03.8	+0.1	
	comp=Z,16nm,1.0s,mb4.7								
116A	Eloy	87.33	50	⇑P		P	19 38 05.8	+0.9	
	baz=87								
RPZ	Rata Peaks	87.82	154	P		P	19 38 09.5	+2.2	
	comp=Z,9.2nm,0.7s,mb4.6,baz=45,slow=16,SNR=3.7								
RPZ	Rata Peaks	87.82	154	P		P	19 38 09.5	+2.2	
ANMO	Albuquerque	88.72	45	⇑*e*P		P	19 38 11.1	-0.4	
ANMO	Albuquerque	88.72	45	*e*P		P	19 38 12.9	+1.4	
	comp=Z,31nm,1.4s,mb4.8								
EPF	Esparros	89.17	328	*e*P		P	19 38 11.9	-1.7	
CBKS	Cedar Bluff	89.42	39	*e*P		P	19 38 14.9	+0.2	
CBKS				pmax		pmax			
	comp=Z,45nm,1.3s,mb5.0								
CBKS	Cedar Bluff	89.42	39	*e*P		P	19 38 14.8	+0.2	
	comp=Z,45nm,1.3s,mb5.0								
ETSF	Etsaut	89.66	328	*e*P		P	19 38 13.8	-2.0	
	comp=Z,10nm,0.8s,mb4.4								
ETSF	Etsaut	89.66	328	*e*P		P	19 38 13.8	-2.0	
ETSF				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
ETSF	Etsaut	89.66	328	*e*P		P	19 38 13.8	-2.0	
	comp=Z,5.2nm,0.8s,mb4.4								
SJPF	Ste Jean	89.75	329	*e*P		P	19 38 14.3	-2.0	
KSU1	Kansas State U	90.71	37	*e*P		P	19 38 20.9	+0.1	
	comp=Z,19nm,0.6s,mb5.1								
AMTX	Amarillo	91.41	43	*e*P		P	19 38 24.9	+1.0	
	comp=Z,21nm,0.9s,mb5.0								
MNTX	Cornudas Mount	91.70	47	*e*P		P	19 38 21.8	-3.5	
	comp=Z,11nm,1.1s,mb4.7								
WMOK	Wichita Mounta	93.05	41	*e*P		P	19 38 30.1	-1.4	
WMOK				pmax		pmax			
	comp=Z,19nm,1.1s,mb4.9								
WMOK	Wichita Mounta	93.05	41	*e*P		P	19 38 30.1	-1.3	
	comp=Z,20nm,1.1s,mb5.0								
LTX	Lajitas	94.44	47	*e*P		P	19 38 37.8	0.0	
LTX				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.9								
LTX	Lajitas	94.44	47	*e*P		P	19 38 37.8	0.0	
	comp=Z,11nm,0.8s,mb4.9								
TXAR	Lajitas Array	94.44	47	P		P	19 38 38.9	+1.1	
	comp=Z,9.4nm,0.6s,mb5.0,baz=291,slow=3.0,SNR=120								
TXAR				PP		PP	19 42 33.8	+1.6	
	comp=Z,1.0nm,1.0s,baz=300,slow=5.2,SNR=3.9								
TXAR	Lajitas Array	94.44	47	P		P	19 38 38.9	+1.1	
TXAR							19 42 33.8		
TXAR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
TXAR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
JCT	Junction City	95.78	44	*e*P		P	19 38 43.5	-0.4	
JCT				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.9								
JCT	Junction City	95.78	44	*e*P		P	19 38 43.5	-0.4	
	comp=Z,5.6nm,0.6s,mb4.9								
MIAR	Mount Ida	95.81	38	*e*P		P	19 38 44.1	+0.1	
MIAR				pmax		pmax			
	comp=Z,27nm,1.2s,mb5.2								
MIAR	Mount Ida	95.81	38	*e*P		P	19 38 44.1	0.0	
	comp=Z,27nm,1.2s,mb5.2								
TORD	Torodi Ar. Bea	112.30	308	PKiKP		PKiKP	19 43 50.6	-0.2	
	comp=Z,0.9nm,0.4s,baz=74,slow=0.6,SNR=20								
TORD				PP		PP	19 44 40.7	-3.2	
	comp=Z,0.8nm,0.7s,baz=32,slow=6.5,SNR=4.9								
TORD				SKP			19 46 44.5		
	comp=Z,0.3nm,0.5s,baz=33,slow=1.2,SNR=4.6								
TORD				PKKPbc		PKKPbc	19 54 41.2	-0.9	
	comp=Z,0.7nm,0.6s,baz=232,slow=2.2,SNR=5.9								
TORD				PKKPab		PKKPab	19 54 53.5	+1.3	
	comp=Z,0.7nm,0.6s,baz=234,slow=3.0,SNR=5.4								
TORD	Torodi Ar. Bea	112.30	308	PKPdf		PKiKP	19 43 50.6	-0.2	
TORD				PP		PP	19 44 40.7	-3.2	
TORD				SKP			19 46 44.5		
TORD				PKKPbc		PKKPbc	19 54 41.2	-0.9	
TORD				PKKPab		PKKPab	19 54 53.5	+1.3	
VNDA	Vanda	116.22	173	PKP		PKPdf	19 43 57.1	-1.2	
	comp=Z,1.3nm,0.5s,baz=332,slow=3.3,SNR=20								
VNDA	Vanda	116.22	173	PKiKP		PKPdf	19 43 57.1	-1.2	
VNDA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
MAW	Mawson	117.52	204	PKP		PKPdf	19 44 00.1	-0.7	
	comp=Z,2.4nm,0.6s,baz=33,slow=7.4,SNR=7.7								
MAW	Mawson	117.52	204	PKiKP		PKPdf	19 44 00.1	-0.7	
MAW				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BOSA	Boshof	120.68	256	PKP		PKPdf	19 44 07.3	+0.4	
	comp=Z,2.9nm,0.9s,baz=119,slow=7.7,SNR=5.3								
BOSA	Boshof	120.68	256	PKiKP		PKPdf	19 44 07.3	+0.4	
BOSA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
LIC	Lamto	121.81	309	*e*PKiKP		PKPdf	19 44 07.8	-1.3	
	comp=Z,9.5nm,0.6s								
SDV	Santo Domingo	128.41	31	*e*PKPdf		PKPdf	19 44 22.6	+0.9	
ROSC	El Rosal	130.32	38	PKP		PKPdf	19 44 27.2	+1.8	
	comp=Z,6.7nm,0.5s,baz=82,slow=19,SNR=7.5								
SNAA	Sanae	139.41	200	PKhKP			19 44 32.8		
	comp=Z,0.8nm,0.6s,baz=180,slow=6.4,SNR=22								
SNAA				SKPbc		SKPbc	19 47 34.8	-1.0	
	comp=Z,3.1nm,1.1s,baz=118,slow=1.4,SNR=7.1								
SNAA	Sanae

KUR AMB AMB 19 34 12.5
107nm,0.8s
KUR AMB AMB 19 34 12.5
215nm,0.8s
KUR *e*S **Sn** **19 35 08.0 -6.9**
KUR A 19 35 17.0
8µm,8.0s
KUR A 19 35 17.0
5µm,8.0s
KUR A 19 35 17.0
323nm,0.8s
KUR A 19 35 17.0
430nm,0.8s
KUR AMS AMS 19 36 46.0
3µm,13.0s
KUR AMS AMS 19 36 46.0
5µm,13.0s
YUK Yuzh-Kuril'sk 7.31 247 *e*P **Pn** **19 34 35.0 -2.1**
YUK *e*S **Sn** **19 35 50.0 -10**
YUK A 19 35 58.2
470nm,0.6s
YUK A 19 35 58.2
190nm,0.5s
YSS Yuzh-Sakhalins 8.48 272⇑ *e*P **Pn** **19 34 55.0 +1.8**
YSS AMB AMB 19 34 57.0
90nm,1.2s
YSS *e*S **Sn** **19 36 29.3 +0.7**
YSS *e*LQ 19 36 54.0
YSS AMS AMS 19 39 03.0
3µm,16.0s
YSS AMS AMS 19 39 03.0
3µm,13.0s
YSS Yuzh-Sakhalins 8.48 272⇑ *e*PN **Pn** **19 34 55.0 +1.8**
YSS *e* 19 36 34.0
YSS pmax pmax
comp=Z,90nm,1.2s
YSS MLR MLR
comp=Z,3µm,16.0s
YSS MLR MLR
comp=N,3µm,13.0s
YSS MLR MLR
comp=E,3µm,15.0s
YSS Yuzh-Sakhalins 8.48 272 *e*P **Pn** **19 34 55.4 +2.2**
UGL Uglegorsk 8.93 286 *e*P **Pn** **19 35 03.6 +4.2**
UGL AMB AMB 19 35 06.0
comp=E,1µm,2.0s
UGL AMB AMB 19 35 06.5
comp=E,320nm,1.2s
UGL *e*L 19 37 05.0
UGL AMS AMS 19 39 32.0
comp=E,2µm,15.0s
UGL AMS AMS 19 39 32.0
comp=E,5µm,12.0s
UGL AMS AMS 19 39 32.0
comp=E,3µm,16.0s
TYV Tymovskoe 8.95 298 *e*P **Pn** **19 35 03.2 +3.7**
TYV AMB AMB 19 35 06.0
comp=E,300nm,1.6s
TYV AMB AMB 19 35 06.0
comp=E,200nm,2.0s
TYV AMB AMB 19 35 07.0
comp=E,500nm,4.0s
TYV AMB AMB 19 35 07.0
comp=E,600nm,4.0s
TYV AMB AMB 19 35 07.0
comp=E,1µm,4.0s
TYV AMS AMS 19 39 52.0
comp=E,2µm,18.0s
TYV AMS AMS 19 39 52.0
comp=E,2µm,18.0s
TYV AMS AMS 19 39 52.0
comp=E,3µm,16.0s
ASAJ Asahikawa 9.37 255 Pn **Pn** **19 35 04.0 -1.4**
ASAJ comp=E,3.0nm,0.3s,baz=26,slow=30,SNR=11 LR LR 19 39 11.3
comp=E,535nm,18.8s,baz=327,slow=41
ERM Erimo 10.07 243 *e*PN **Pn** **19 35 24.7 +10**
NKL Nikolayevsk 10.95 307 *e*P **Pn** **19 35 26.5 -0.6**
NKL AMB AMB 19 35 29.0
comp=E,300nm,1.6s
NKL AMB AMB 19 35 29.0
comp=E,380nm,1.6s
NKL AMB AMB 19 35 30.0
comp=E,800nm,4.0s
NKL AMB AMB 19 35 30.0
comp=E,900nm,4.0s
NKL AMB AMB 19 35 30.0
comp=E,1µm,4.0s
NKL *e*L 19 38 34.0
NKL AMS AMS 19 41 12.0
comp=E,1µm,15.0s
NKL AMS AMS 19 41 12.0
comp=E,2µm,15.0s
NKL AMS AMS 19 41 12.0
comp=E,3µm,15.0s
HABR Khabarovsk 13.55 282 *e*PN **Pn** **19 36 04.9 +2.3**
HABR pmax pmax
comp=Z,33nm,1.5s
KLR Kul'dur 15.70 286 *e*P **Pn** **19 36 29.7 -1.8**
KLR *e*S **Sn** **19 39 27.0 +1.7**
KLR pmax pmax
comp=E,130nm,2.0s
KLR pmax pmax
comp=Z,100nm,2.0s
KLR MLR MLR
comp=E,2µm,14.0s
KLR MLR MLR
comp=E,5µm,14.0s
SEY Seymchan 15.72 355⇑ *e*P **Pn** **19 36 30.1 -1.6**
MAJO Matsushiro 16.57 236 *e*P **Pn** **19 36 37.2 -5.4**
MAJO pmax pmax
comp=Z,110nm,1.3s
MAJO Matsushiro 16.57 236 *e*P **Pn** **19 36 37.2 -5.4**
comp=Z,113nm,1.3s
MJAR Matsushiro Arr 16.57 236 Pn **Pn** **19 36 38.0 -4.6**
comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=6.5
MJAR Matsushiro Arr 16.57 236 P **Pn** **19 36 38.0 -4.6**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
VLA Vladivostok 16.92 264 P **Pn** **19 36 56.0 +9.0**
VLA pmax pmax
comp=Z,94nm,1.6s
VLA MLR MLR
comp=Z,1µm,12.9s
MDJ Mudanjiang 17.97 271 P **Pn** **19 37 00.8 +0.7**
MDJ AP pP 19 37 04.0 -0.7
MDJ XP sP 19 37 05.5 -1.2
MDJ AMB AMB
comp=Z,10.0nm,1.2s
MDJ AMB AMB
comp=Z,224nm,6.4s
MDJ LR LR
comp=E,2µm,14.9s
MDJ LR LR
comp=Z,2µm,14.9s
ZEA Zeya 18.80 300 *e*P **Pn** **19 37 05.0 -5.2**
ZEA AMB AMB 19 37 08.3
comp=Z,33nm,0.9s
ZEA AMB AMB 19 37 08.3
comp=Z,58nm,1.2s
ZEA AMB AMB 19 37 08.3
comp=Z,78nm,1.2s
ZEA AMB AMB 19 37 10.0
comp=Z,700nm,4.0s
ZEA AMB AMB 19 37 10.0
comp=Z,600nm,4.0s
ZEA A 19 40 52.0
comp=Z,600nm,11.0s
ZEA AMB AMB 19 40 55.0
comp=Z,25nm,0.7s
YAK Yakutsk 20.63 325 *e*P **P** **19 37 28.2 -1.5**
YAK *e* 19 37 44.3
YAK *e*S **S** **19 41 11.8 -8.1**
YAK pmax pmax
comp=N,34nm,1.2s
YAK pmax pmax
comp=Z,62nm,1.2s
YAK pmax pmax
comp=E,38nm,1.1s
YAK smax
comp=N,305nm,4.2s
YAK smax
comp=E,201nm,2.6s
YAK MLR MLR
comp=Z,928nm,12.0s,MS4.4
YAK MLR MLR
comp=N,852nm,17.0s,MS4.3
YAK MLR MLR
comp=E,691nm,14.0s,MS4.3
YAK Yakutsk 20.63 325 *e*P **P** **19 37 28.0 -1.8**
comp=E,80nm,0.9s
YAK LR LR
comp=Z,479nm,20.0s,MS3.9
CLNS Chul'man 20.74 308 *e*P **P** **19 37 30.1 -0.8**
CLNS *e* 19 37 42.5
CLNS *e*PPP 19 37 53.1
CLNS *e*S **S** **19 41 17.8 -4.3**
CLNS *e* 19 41 35.1
CLNS *e*SS 19 41 51.2
CLNS pmax pmax
comp=Z,48nm,0.9s
CLNS pmax pmax
comp=N,21nm,0.8s
CLNS pmax pmax
comp=E,29nm,1.1s
CLNS smax
comp=N,37nm,1.2s
CLNS smax
comp=E,25nm,1.2s
CLNS smax
comp=Z,8.0nm,1.1s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS4.5
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,3µm,19.0s,MS4.8
NRGR Nerungri 20.79 308 *e*P **P** **19 37 30.3 -1.1**
CN2 Changchun 21.05 271 *e*P **P** **19 37 31.5 -2.8**
CN2 *e*XP sP 19 37 38.5 -1.9
CN2 *e*S **S** **19 41 18.5 -10**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,900nm,15.0s,MS4.5
CN2 LR LR
comp=E,1µm,15.0s,MS4.5
CN2 LR LR
comp=Z,1µm,13.0s,MS4.5
BILL Bilibino 21.53 11*c* *i*P **P** **19 37 39.0 -0.4**
BILL pmax pmax
comp=Z,47nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,600nm,18.0s,MS4.0
BILL Bilibino 21.53 11 *e*P **P** **19 37 35.7 -3.7**
comp=Z,139nm,1.1s,mb5.3
BILL LR LR
comp=Z,506nm,20.0s,MS3.9
KSRS Korea Array 22.32 254 P **P** **19 37 44.7 -3.1**
comp=Z,4.5nm,0.8s,baz=48,slow=12,SNR=3.8
SNY Shenyang 23.07 268 ⇑P **P** **19 37 54.5 -1.4**
SNY PP 19 38 21.3
SNY S **S** **19 42 04.0 -2.3**
SNY SS 19 42 44.3
SNY AMB AMB
comp=Z,32nm,1.6s,mb4.5
SNY AMB AMB
comp=Z,250nm,3.5s
SNY LR LR
comp=E,1µm,16.3s
SNY LR LR
comp=Z,1µm,17.1s,MS4.5
HIA Hailar 23.53 288 *e*P **P** **19 38 01.3 +0.7**
HIA Hailar 23.53 288 PFAKE 19 38 10.0 +9.4
HIA LR LR
comp=Z,1µm,21.0s,MS4.3
DL2 Dalian 25.74 263 P **P** **19 38 21.3 +0.5**
DL2 S **S** **19 42 48.3 -0.9**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,170nm,4.7s
DL2 LR LR
comp=N,480nm,13.2s,MS4.3
DL2 LR LR
comp=E,380nm,11.8s,MS4.3
DL2 LR LR
comp=Z,430nm,13.4s,MS4.2
BOD Bodaibo 26.72 308 *e*P **P** **19 38 26.6 -3.1**
BOD pmax pmax
comp=Z,41nm,1.3s,mb4.8
CIT Chita 27.07 296 *e*P **P** **19 38 31.5 -1.3**
CIT pmax pmax
comp=Z,71nm,1.4s,mb5.0
TIXI Tiksi 27.33 342 *e*P **P** **19 38 31.7 -3.4**
TIXI pmax pmax
comp=Z,52nm,1.4s,mb4.9
TIXI MLR MLR
comp=Z,1µm,14.0s,MS4.7
TIXI Tiksi 27.33 342 *e*P **P** **19 38 33.4 -1.7**
comp=Z,95nm,1.5s,mb5.1
TIXI LR LR
comp=Z,880nm,19.0s,MS4.3
BJT Baijiatuau 28.91 270 *e*P **P** **19 38 50.4 +1.1**
comp=Z,66nm,1.5s,mb5.1
BJT LR LR
comp=Z,756nm,22.0s,MS4.3
SSE Sheshan 30.63 250 P **P** **19 39 08.5 +4.1**
SSE AP pP 19 39 11.8 +2.9
SSE S **S** **19 44 09.8 +3.7**
SSE XS sS 19 44 14.0 +0.5
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,167nm,5.3s
SSE LR LR
comp=N,91nm,12.1s,MS3.8
SSE LR LR
comp=E,110nm,12.1s,MS3.8
SSE LR LR
comp=Z,142nm,11.3s,MS3.9
SSE Sheshan 30.63 250 P **P** **19 39 08.6 +4.2**
comp=Z,33nm,0.7s,mb5.3
SSE pP pP 19 39 11.7 +2.8
SSE PP PP 19 40 17.3 +3.7
SSE S **S** **19 44 09.8 +3.7**
SSE sS sS 19 44 14.0 +0.5
SSE LR LR
comp=Z,140nm,11.3s,MS3.9
NJ2 Nanjing 31.52 254 *e*P **P** **19 39 15.0 +2.7**
NJ2 AP pP 19 39 20.0 +3.2
NJ2 XP sP 19 39 23.5 +4.9
NJ2 PP PP 19 40 19.5 -4.0
NJ2 S **S** **19 44 21.0 +1.0**
NJ2 XS sS 19 44 29.0 +1.5
NJ2 AMB AMB
comp=Z,450nm,6.0s
NJ2 LR LR
comp=N,2µm,16.5s,MS5.0
NJ2 LR LR
comp=E,1µm,13.5s,MS5.0
NJ2 LR LR
comp=Z,1µm,14.8s,MS4.8
HHC Hu-ho-hao-te 31.66 274 ⇓P **P** **19 39 14.5 +1.0**
HHC AP pP 19 39 18.8 +0.7
HHC PP PP 19 40 17.8 -7.3
HHC PCP PcP 19 42 08.5 +3.2
HHC S **S** **19 44 22.0 -0.3**
HHC XS sS 19 44 29.0 -0.7
HHC SCP ScP 19 45 48.5 +0.4
HHC SS SS 19 46 10.3 -28
HHC AMB AMB
comp=Z,25nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,225nm,6.7s
HHC LR LR
comp=N,544nm,14.0s,MS4.6
HHC LR LR
comp=E,787nm,14.7s,MS4.6
HHC LR LR
comp=Z,956nm,14.7s,MS4.6
SONM Songino Array 32.48 289 P **P** **19 39 19.0 -1.7**
comp=Z,6.3nm,0.9s,mb4.4,baz=63,slow=9.6,SNR=16
SONM LR LR 19 53 57.4
comp=Z,547nm,18.8s,MS4.3,baz=236,slow=39
SONM Songino Array 32.48 289 P **P** **19 39 19.0 -1.7**
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM MLR MLR
comp=Z,547nm,18.8s
IMA2 Indian Mountai 32.51 36 *e*P **P** **19 39 20.2 -0.8**
KDAK Kodiak Island 32.64 52 P **P** **19 39 20.2 -1.9**
comp=Z,18nm,0.9s,mb5.0,baz=304,slow=4.5,SNR=3.5
IRK Irkutsk 32.67 298 *e*P **P** **19 39 20.7 -1.7**
IRK pmax pmax
comp=Z,42nm,1.4s,mb5.2
TLY Talaya 33.17 297*d* *i*P **P** **19 39 27.0 +0.2**
TLY pmax pmax
comp=Z,20nm,1.7s,mb4.8
TLY Talaya 33.17 297 *e*P **P** **19 39 25.2 -1.6**
comp=Z,5.2nm,0.7s,mb4.6
TLY LR LR
comp=Z,230nm,19.0s,MS3.9
ZAK Zakamensk 33.72 295 *e*P **P** **19 39 29.8 -1.7**
ZAK pmax pmax
comp=Z,11nm,1.5s,mb4.6
MCK McKinley 34.29 41 *e*P **P** **19 39 36.1 -0.4**
MCK pmax pmax
comp=Z,19nm,1.3s,mb4.9
MCK McKinley 34.29 41 *e*P **P** **19 39 36.1 -0.5**
comp=Z,19nm,1.3s,mb4.9
SML Sawmill 34.57 44 *e*P **P** **19 39 38.4 -0.6**
GUMO Guam 34.72 198 LR LR 19 51 21.2
comp=Z,112nm,21.2s,MS3.6,baz=70,slow=32
COLA College 34.80 39*d* *i*P **P** **19 39 40.6 -0.4**
COLA College 34.80 39 *e*P **P** **19 39 40.4 -0.5**
comp=Z,85nm,1.4s,mb5.5
COLA LR LR
comp=Z,306nm,19.0s,MS4.1
XAN Xi'an 36.97 266 P **P** **19 39 58.3 -1.2**
XAN AP pP 19 40 09.8 +5.7
XAN AMB AMB
comp=Z,31nm,1.7s,mb4.9
XAN LR LR
comp=N,428nm,15.0s,MS4.5
XAN LR LR
comp=E,357nm,13.3s,MS4.5
XAN LR LR
comp=Z,799nm,15.0s,MS4.6
EGAK Eagle 37.66 39 *e*P **P** **19 40 03.9 -1.5**
KRAR Krasnoyarsk 38.37 307 *e*P **P** **19 40 09.2 -2.2**
KRAR pmax pmax
comp=Z,105nm,1.3s,mb5.4
DAWY Dawson 38.49 40 *e*P **P** **19 40 11.4 -1.0**
LZH Lanzhou 39.28 273 P **P** **19 40 19.0 0.0**
LZH AP pP 19 40 26.8 +3.2
LZH XP sP 19 40 30.8 +5.4
LZH *e*S **S** **19 46 22.3 +3.1**
LZH XS sS 19 46 32.0 +5.3
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,240nm,5.4s
LZH LR LR
comp=E,1µm,14.0s
LZH LR LR
comp=Z,2µm,15.1s,MS5.0
LZH Lanzhou 39.28 273 P **P** **19 40 18.9 -0.1**
LZH *SP sP 19 40 30.7 +5.3
LZH *e*S **S** **19 46 22.3 +3.1**
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.1
LZH MLR MLR
comp=Z,2µm,15.1s,MS5.0
LZH Lanzhou 39.28 273 P **P** **19 40 18.9 -0.1**
comp=Z,40nm,1.0s,mb5.1
LZH pP pP 19 40 26.8 +3.2
LZH sP sP 19 40 30.7 +5.3
LZH *e*S **S** **19 46 22.3 +3.1**
LZH sS sS 19 46 32.0 +5.3
LZH *e*SS SS 19 49 12.0 -0.6
LZH LR LR
comp=Z,2µm,15.1s,MS5.0
GTA Gaotai 40.27 280 P **P** **19 40 27.8 +0.5**
GTA AP pP 19 40 31.3 -0.5
GTA XP sP 19 40 34.3 +0.6
GTA AMB AMB
comp=Z,11nm,2.0s,mb4.2
GTA AMB AMB
comp=Z,140nm,3.8s
GTA LR LR
comp=N,603nm,14.1s,MS4.8
GTA LR LR
comp=E,738nm,13.3s,MS4.8
GTA LR LR
comp=Z,736nm,15.2s,MS4.7
INK Inuvik 40.40 33 P **P** **19 40 28.9 +0.5**
comp=Z,27nm,0.8s,mb5.0,baz=286,slow=6.1,SNR=35
INK LR LR 19 57 05.1
comp=Z,121nm,20.5s,MS3.7,baz=69,slow=36
INK Inuvik 40.40 33 P **P** **19 40 28.9 +0.6**
INK pmax pmax
comp=Z,27nm,0.8s
INK MLR MLR
comp=Z,121nm,20.5s
INK Inuvik 40.40 33 *e*P **P** **19 40 28.6 +0.2**
comp=Z,1µm,0.9s
CD2 Chengdu 42.33 266 P **P** **19 40 43.5 -0.7**
CD2 AP pP 19 40 47.8 -1.0
CD2 XP sP 19 40 50.5 -0.1
CD2 PP PP 19 42 23.8 +1.5
CD2 S **S** **19 47 03.0 -1.7**
CD2 XS sS 19 47 10.3 -2.0
CD2 SS SS 19 50 04.5 -8.9
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
CD2 LR LR
comp=N,480nm,11.8s,MS4.8
CD2 LR LR
comp=E,430nm,11.3s,MS4.8
CD2 LR LR
comp=Z,640nm,12.7s,MS4.7
GYA Guiyang 43.22 259 P **P** **19 40 50.8 -0.6**
GYA AP pP 19 40 54.5 -1.5
GYA XP sP 19 40 57.8 0.0
GYA PP PP 19 42 37.3 +5.5
GYA PCP PcP 19 42 44.5 +4.0
GYA SCP ScP 19 46 35.8 +4.5
GYA S **S** **19 47 17.0 -0.7**
GYA SS SS 19 50 26.8 -4.0
GYA SCS ScS 19 50 52.8 +1.6
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,870nm,16.4s,MS4.9
GYA LR LR
comp=E,760nm,15.8s,MS4.9
GYA LR LR
comp=Z,940nm,15.6s,MS4.8
ZAL Zalesovo 43.43 306 P **P** **19 40 51.2 -1.9**
comp=Z,21nm,1.1s,mb4.8,baz=43,slow=8.1,SNR=29
ZAL LR LR 20 00 40.4
comp=Z,643nm,20.3s,MS4.5,baz=39,slow=38
ZAL Zalesovo 43.43 306 P **P** **19 40 51.2 -1.9**
ZAL pmax pmax
comp=Z,21nm,1.1s
ZAL MLR MLR
comp=Z,643nm,20.3s
ZAL Zalesovo 43.43 306 P **P** **19 40 51.2 -1.9**
TGY Tagaytay City 43.69 232 LR LR 19 58 46.0
comp=Z,2.4nm,19.2s,baz=107,slow=36
NVS Novosibirsk 43.96 308⇑ *i*P **P** **19 40 56.2 -1.1**
NVS *e* 19 42 43.6
NVS *i*S **S** **19 47 20.6 -7.9**
NVS pmax pmax
comp=N,91nm,2.0s
NVS pmax pmax
comp=Z,166nm,2.0s,mb5.4
NVS pmax pmax
comp=E,106nm,1.8s
NVS smax
comp=N,11nm,1.8s
NVS smax
comp=E,31nm,1.8s
WMQ Urumqi 46.03 292⇑ *i*P **P** **19 41 14.8 +1.0**
WMQ AP pP 19 41 19.3 +0.8
WMQ XP sP 19 41 21.8 +1.5
WMQ PCP PcP 19 42 52.5 +2.3
WMQ PP PP 19 43 02.5 +0.7
WMQ PPP 19 43 46.0
WMQ SCP ScP 19 46 43.3 +0.5
WMQ S **S** **19 47 57.5 -1.0**
WMQ XS sS 19 48 05.3 -0.8
WMQ AMB AMB

WMQ AMB AMB
comp=Z,18nm,1.1s,mb4.9
WMQ LR LR
comp=Z,22nm,3.8s
WMQ LR LR
comp=N,780nm,20.5s,MS4.7
WMQ LR LR
comp=E,241nm,20.9s,MS4.7
WMQ LR LR
comp=Z,582nm,16.3s,MS4.6
QIZ Qiongzhong 46.38 248 P P 19 41 18.0 +1.5
QIZ S S 19 48 09.3 +5.8
QIZ AMB AMB
comp=Z,23nm,2.1s,mb4.7
QIZ AMB AMB
comp=Z,379nm,5.7s
QIZ LR LR
comp=E,376nm,18.5s
QIZ LR LR
comp=Z,239nm,17.3s,MS4.2
KMI Kunming 46.73 261 P P 19 41 19.0 -0.4
KMI AMB AMB
comp=Z,12nm,1.5s,mb4.6
KMI Kunming 46.73 261 P P 19 41 18.9 -0.5
comp=Z,12nm,1.5s,mb4.6
KMI LR LR
comp=Z,90nm,49.6s
MKAR Makanchi Array 47.93 298 P P 19 41 27.0 -1.6
comp=Z,38nm,1.1s,mb5.3,baz=60,slow=7.4,SNR=37
MKAR Makanchi Array 47.93 298 P P 19 41 27.0 -1.6
MKAR pmax pmax
comp=Z,38nm,1.1s
MKAR Makanchi Array 47.93 298 P P 19 41 27.0 -1.6
KURK Kurchatov 48.22 304 P P 19 41 29.8 -1.1
comp=Z,376nm,1.2s,SNR=33
ALE Alert 49.02 6 P P 19 41 37.9 +0.8
comp=Z,134nm,1.7s,mb5.7,SNR=8.6
YKA Yellowknife Ar 49.61 38 P P 19 41 41.2 -0.3
comp=Z,12nm,0.8s,mb5.0,baz=295,slow=7.4,SNR=45
YKA Yellowknife Ar 49.61 38 P P 19 41 41.2 -0.4
YKA pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 49.61 38 P P 19 41 41.2 -0.3
BVAR Borovoye Array 51.58 310 P P 19 41 55.4 -1.1
comp=Z,11nm,0.5s,mb5.1,baz=56,slow=7.2,SNR=62
BVAR Borovoye Array 51.58 310 P P 19 41 55.4 -1.0
BVAR pmax pmax
comp=Z,11nm,0.5s
BRVK Borovoye 51.62 310 P P 19 41 56.2 -0.5
comp=Z,200nm,0.6s,mb6.2,SNR=10
BRVK Borovoye 51.62 310 ⇑P P 19 41 55.7 -1.0
SNR=9.6
BRVK Borovoye 51.62 310 *e*P P 19 41 55.3 -1.4
comp=Z,21nm,0.7s,mb5.2
BRVK LR LR
comp=Z,214nm,19.0s,MS4.2
LSA Lhasa 51.65 274 P P 19 41 59.5 +2.5
LSA Lhasa 51.65 274 *e*P P 19 41 58.5 +1.5
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 51.65 274 *e*P P 19 41 58.5 +1.5
comp=Z,12nm,0.8s,mb4.9
KBS Kingsbay 52.14 352⇑ *e*P P 19 42 01.4 +0.8
CHTO Chiang Mai 53.62 258 ⇑P P 19 42 11.7 +0.1
SNR=7.7
CHTO Chiang Mai 53.62 258 *e*P P 19 42 11.4 -0.2
comp=Z,27nm,1.4s,mb5.0
CHTO LR LR
comp=Z,184nm,19.0s,MS4.2
SVE Sverdlovsk 54.36 318 *e*P P 19 42 22.0 +5.0
CHMS Chumysh 54.48 297 P P 19 42 17.7 -0.1
SNR=9.2
USP Ospenovka 54.48 298 P P 19 42 17.3 -0.5
SNR=34
SOKR Solikamsk 54.52 322⇑ *i*P P 19 42 17.1 -1.0
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.4
KBK Karagaybulak 54.55 297 P P 19 42 18.0 -0.4
SNR=15
FRU Bishkek 54.65 297 *e*P P 19 42 19.0 -0.1
FRU *e* 19 42 28.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.4
KZA Kyzart 54.70 296 P P 19 42 20.9 +1.5
SNR=8.7
AAK Ala-Archa 54.84 297 P P 19 42 20.9 +0.4
SNR=15
AAK Ala-Archa 54.84 297 P P 19 42 19.2 -1.2
comp=Z,104nm,1.0s,mb5.8,SNR=11
EDM Edmonton 54.89 47 *e*P P 19 42 20.2 -0.6
EKS2 Erkin-Say 55.26 297 P P 19 42 23.4 0.0
SNR=16
ARU Arti 55.53 318 P P 19 42 24.8 -0.7
comp=Z,261nm,1.3s,mb6.1,SNR=11
ARU Arti 55.53 318⇓ *i*P P 19 42 25.0 -0.5
ARU *e* 19 42 39.2
ARU *e* 19 43 24.6
ARU *e* 19 44 25.7
ARU *e*S S 19 50 03.0 -7.3
ARU *e*SS SS 19 53 57.7 +2.5
ARU pmax pmax
comp=Z,40nm,1.2s,mb5.3
ARU Arti 55.53 318 *e*P P 19 42 24.4 -1.1
comp=Z,19nm,0.6s,mb5.3
AML Almayashu 55.61 297 P P 19 42 27.2 +1.2
SNR=9.6
KSH Kashi 55.73 293 *e*P P 19 42 28.0 +1.1
KSH *e*AP pP 19 42 33.0 +1.4
KSH *e*XP sP 19 42 36.5 +3.1
KSH *e*PCP PcP 19 43 29.5 +3.5
KSH *e*PP PP 19 44 33.5 +2.3
KSH *e*SCP ScP 19 47 26.8 +2.3
KSH *e*S S 19 50 09.5 -3.5
KSH *e*XS sS 19 50 19.5 -1.2
KSH *e*PS 19 50 28.8
KSH *e*SCS ScS 19 52 13.8 -1.8
KSH *e*SS SS 19 53 53.0 -5.3
KSH LR LR
comp=N,1μm,6.1s
KSH LR LR
comp=E,790nm,4.5s
DAG Danmarks Havn 56.12 358⇑ *i*P P 19 42 28.9 -0.7
comp=E,25nm,1.2s,mb5.1
DAG Danmarks Havn 56.12 358⇑ *e*P P 19 42 28.9 -0.7
DAG pmax pmax
comp=Z,25nm,1.2s,mb5.1
DAG Danmarks Havn 56.12 358⇑ *e*P P 19 42 28.9 -0.7
comp=Z,25nm,1.2s,mb5.1
KKN Kakani 56.84 276 *e*P P 19 42 34.7 0.0
comp=Z,190nm,1.6s,mb5.9
DMN Daman 57.07 276 *e*P P 19 42 36.4 0.0
comp=Z,115nm,1.2s,mb5.8
GKN Gorkha 57.13 277 *e*P P 19 42 36.6 -0.3
comp=Z,33nm,0.7s,mb5.5
KEV Kevo 57.26 341 *e*p P 19 42 35.1 -2.7
comp=Z,9.9nm,0.8s,mb4.9
KEV Kevo 57.26 341 *e*P P 19 42 35.1 -2.7
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARCES ARCESS Array B 57.77 341 P P 19 42 40.9 -0.4
comp=Z,28nm,1.1s,mb5.2,baz=23,slow=6.8,SNR=12
ARCES LR LR 20 10 45.9
comp=Z,571nm,18.3s,MS4.7,baz=45,slow=39
ARCES ARCESS Array B 57.77 341 P P 19 42 40.9 -0.4
ARCES pmax pmax
comp=Z,28nm,1.1s
ARCES MLR MLR
comp=Z,571nm,18.3s
ARCES ARCESS Array B 57.77 341 P P 19 42 40.9 -0.4
KOLN Koldanda 57.98 277 *e*P P 19 42 42.6 -0.2
comp=Z,42nm,1.1s,mb5.4
TMCR Tamitsa 58.48 333 *e*P P 19 42 46.1 -0.2
TMCR pmax pmax
comp=Z,75nm,1.1s,mb5.6
BOK Bokaro 59.04 272 *e*P P 19 42 49.5 -0.8
BOK AMb AMB 19 42 56.2
comp=Z,27nm,1.7s,mb5.0
AKTK Aktyubinsk 59.39 312 P P 19 42 52.2 -0.4
AKTO Aktyubinsk 59.39 312 P P 19 42 52.2 -0.4
comp=Z,5.5nm,0.8s,mb4.7,baz=54,slow=4.5,SNR=13
AKTO Aktyubinsk 59.39 312 P P 19 42 52.2 -0.4
AKTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
THN Thein Dam 60.24 287 *ex* x 19 44 27.0
ORR Orenburg 60.24 315 *e*P P 19 42 58.2 -0.3
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.3
ORR MLR MLR
comp=Z,570nm,15.0s,MS4.8
GCMT Greycliff 61.26 53 *e*P P 19 43 05.3 -0.1
NDI New Delhi 61.66 282 *e*P P 19 43 07.0 -1.2
NDI *e*P 19 43 07.6
NDI AMb AMB 19 43 19.5
comp=Z,25nm,1.3s,mb5.2
PDAR Pinedale Array 63.26 55 P P 19 43 18.2 -0.6
comp=Z,1.5nm,1.0s,mb4.1,baz=301,slow=3.1,SNR=6.2
KAF Kangasniemi 63.50 336 *e*p P 19 43 18.8 -1.6
baz=35,slow=6.1
FINES FINESS Array B 64.11 336 P P 19 43 23.7 -0.8
comp=Z,28nm,1.0s,mb5.2,baz=41,slow=7.3,SNR=40
FINES LR LR 20 13 14.4
comp=Z,221nm,19.7s,MS4.3,baz=12,slow=38
FINES FINESS Array B 64.11 336 P P 19 43 23.7 -0.7
FINES pmax pmax
comp=Z,28nm,1.0s
FINES MLR MLR
comp=Z,221nm,19.7s
FINES FINESS Array B 64.11 336 P P 19 43 23.7 -0.8
MOS Moscow 64.75 326 *e*P P 19 43 26.9 -1.8
MOS *e* 19 52 03.2
MOS pmax pmax
comp=Z,177nm,1.7s,mb5.8
VIS Vishakhapatnam 64.93 269 *e*P P 19 43 30.0 +0.2
VIS AMb AMB 19 43 36.7
comp=Z,40nm,1.2s,mb5.3
BHPL Bhopal 65.15 278 *e*P P 19 43 32.8 +1.5
BHPL AMb AMB 19 43 36.5
comp=Z,40nm,0.9s,mb5.4
PSI Prapat 65.61 246 P P 19 43 33.4 -0.8
comp=Z,4.1nm,0.4s,mb4.9,baz=183,slow=9.4,SNR=5.4
PSI Prapat 65.61 246 P P 19 43 33.4 -0.8
PSI pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
PSI Prapat 65.61 246 P P 19 43 33.4 -0.8
OBN Obninsk 65.62 326 *e*P P 19 43 33.4 -0.9
OBN *e* 19 43 45.5
OBN *e* 19 44 05.4
OBN *e* 19 45 56.5
OBN pmax pmax
comp=Z,147nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.5
OBN Obninsk 65.62 326 *e*P P 19 43 33.2 -1.1
comp=Z,312nm,1.6s,mb6.1
VSU Vasula 66.34 333 *e*P P 19 43 39.8 +0.9
VRHR Novokhopersk 66.58 321 *e*P P 19 43 39.8 -0.7
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=E,10.0nm,0.5s
AKL Akola 67.16 276 *ex* x 19 43 40.8
AKL AMb AMB 19 43 50.2
comp=Z,49nm,0.9s,mb5.5
ABKT Ailbek 67.51 302 P P 19 43 46.2 -0.1
comp=Z,163nm,1.1s,mb6.0,SNR=9.6
VRSR Storozhevoye 67.52 322 *e*P P 19 43 46.1 -0.3
VRSR pmax pmax
comp=N,90nm,1.2s
VRSR pmax pmax
comp=Z,70nm,1.2s,mb5.6
VRSR pmax pmax
comp=E,60nm,1.1s
VORD Divnogorie 67.67 322 *e*P P 19 43 44.6 -2.7
VORD pmax pmax
comp=Z,30nm,1.1s,mb5.2
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,40nm,1.3s
AFI Afiamalu 67.75 145 LR LR 20 05 35.9
comp=E,272nm,21.4s,MS4.4,baz=101,slow=29
NB2 NORSAR Subarra 68.13 342 P P 19 43 49.3 -0.9
NB2 NORSAR Subarra 68.13 342 P P 19 43 49.3 -0.9
comp=Z,2.6nm,0.6s,mb4.4,baz=25,slow=6.5
NOA NORSAR Array B 68.13 342 P P 19 43 49.9 -0.4
comp=Z,7.1nm,0.9s,mb4.7,baz=26,slow=6.4,SNR=11
NOA LR LR 20 19 41.4
comp=Z,181nm,18.6s,MS4.3,baz=0.0,slow=41
NOA NORSAR Array B 68.13 342 P P 19 43 49.9 -0.3
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,181nm,18.6s
HYB Hyderabad 68.39 272 *i* P P 19 43 55.5 +3.6
HYB *e* 19 44 16.0
HYB Hyderabad 68.39 272 *e*P P 19 43 55.5 +3.6
WRA Warramunga Arr 69.54 201 P P 19 43 55.9 -3.1
comp=Z,7.3nm,1.0s,mb4.6,baz=19,slow=6.6,SNR=13
WRA Warramunga Arr 69.54 201 P P 19 43 55.9 -3.1
WRA pmax pmax
comp=Z,7.0nm,1.0s
KONO Kongsberg 69.73 342⇑ *e*P P 19 44 01.3 +1.1
ANMO Albuquerque 70.32 60 *i* P P 19 44 07.7 +3.9
POO Poona 70.80 277 *ex* x 19 43 59.5
SUW Suwalki 71.15 332 *e*P P 19 44 07.4 -1.5
SUW *e* pP 19 44 11.2 -2.5
KIV Kislovodsk 71.40 315 P P 19 44 10.3 -0.1
comp=Z,130nm,1.3s,mb5.7,SNR=9.7
KIV Kislovodsk 71.40 315 P P 19 44 11.1 +0.7
SNR=14
KIV Kislovodsk 71.40 315 *e*P P 19 44 10.8 +0.4
KIV *e* 19 44 29.3
KIV *e* 19 46 49.3
KIV *e*S S 19 53 22.7 -5.4
KIV pmax pmax
comp=Z,37nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,484nm,19.0s,MS4.8
KIV Kislovodsk 71.40 315 *e*P P 19 44 10.9 +0.5
comp=Z,47nm,1.2s,mb5.3
KIV LR LR
comp=Z,102nm,19.0s,MS4.1
KAD Karad 71.43 276 *e*P P 19 44 12.6 +2.0
KAD AMb AMB 19 44 17.7
comp=Z,56nm,1.2s,mb5.4
ZEI Tsey 71.69 314 *e*P P 19 44 11.2 -1.0
ZEI *i* 19 44 22.9
ZEI pmax pmax
comp=Z,16nm,1.3s,mb4.8
AKASG Malin Array Be 71.84 327 P P 19 44 11.7 -1.4
comp=Z,15nm,0.8s,mb5.0,baz=33,slow=6.1,SNR=33
AKASG LR LR 20 20 17.9
comp=Z,172nm,18.0s,MS4.4,baz=325,slow=40
AKASG Malin Array Be 71.84 327 P P 19 44 11.7 -1.4
AKASG pmax pmax
comp=Z,15nm,0.8s
AKASG MLR MLR
comp=Z,173nm,18.0s
AKBB Malin Array Si 71.84 327 *e*P P 19 44 10.9 -2.1
KIEV Kiev 71.85 327 *e*P P 19 44 11.6 -1.5
KIEV pmax pmax
comp=Z,37nm,1.2s,mb5.2
KIEV Kiev 71.85 327 *e*P P 19 44 11.6 -1.5
comp=Z,36nm,1.2s,mb5.2
SCHQ Schefferville 72.22 24 LR LR 20 21 19.1
comp=Z,136nm,18.7s,MS4.2,baz=272,slow=40
BSD Bornholm Skovb 72.58 337⇓ *i*P P 19 44 20.3 +2.8
comp=Z,90nm,1.3s,mb5.5
BSD Bornholm Skovb 72.58 337⇓ *i*P P 19 44 20.3 +2.8
BSD pmax pmax
comp=Z,90nm,1.3s,mb5.5
SOC Sochi 73.08 317 *e*P P 19 44 18.5 -2.0
SOC *e* 19 44 36.2
SOC *e* 19 47 11.2
SOC *e*PPP 19 48 56.1
SOC *e*S S 19 53 38.5 -8.9
SOC *e* 19 54 27.0
SOC *e*SSS 20 01 34.0
SOC pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOC MLR MLR
comp=Z,341nm,17.0s,MS4.7
ANN Anapa 73.19 319 *e*P P 19 44 21.0 -0.1
ANN pmax pmax
comp=Z,53nm,1.5s,mb5.2
ASAR Alice Springs 73.22 200 P P 19 44 18.9 -2.3
comp=Z,4.3nm,0.8s,mb4.4,baz=11,slow=5.3,SNR=14
ASAR Alice Springs 73.22 200 P P 19 44 19.0 -2.3
ASAR pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 73.22 311⇑ *e*P P 19 44 22.6 +1.3
GNI pmax pmax
comp=Z,42nm,1.6s
GNI Garni 73.22 311 *e*P P 19 44 22.2 +0.9
comp=Z,110nm,1.5s,mb5.6
GNI LR LR
comp=Z,517nm,19.0s,MS4.8
GKP Gorka Klasztor 73.58 335 *e*P P 19 44 26.9 +3.5
LVV L'vov 74.43 330 *e*P P 19 44 31.3 +3.0
SIM Simferopol' 74.53 321 *e*P P 19 44 29.5 +0.6
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,440nm,16.7s,MS4.8
KIS Kishinev 75.03 325 *e*P P 19 44 32.0 +0.2
KIS *e**PP pP 19 44 45.0 +8.3
KIS *e* 19 47 20.0
KIS *e* 19 54 36.0
KIS Kishinev 75.03 325 *e*P P 19 44 32.0 +0.2
KIS *e*pP pP 19 44 45.0 +8.3
KWP Kalwaria 75.04 330 *e*P P 19 44 31.9 0.0
KWP *e* pP 19 44 35.6 -1.1
KWP Kalwaria 75.04 330 *e*P P 19 44 31.7 -0.2
KWP pmax pmax
comp=Z,120nm,1.2s,mb5.7
OJC Ojcow 75.48 332 *e*P P 19 44 35.7 +1.3
STHS Stebnicka Huta 75.71 331 *e*P P 19 44 36.1 +0.3
STHS pmax pmax
comp=Z,26nm,1.2s,mb5.0
STHS Stebnicka Huta 75.71 331 *e*P P 19 44 36.1 +0.3
comp=Z,26nm,1.2s,mb5.0
KOLS Kolonicke sedl 75.78 330 *e*P P 19 44 35.9 -0.3
TRD Trivandrum 75.81 267 *e*P P 19 44 37.1 +0.8
TRD AMb AMB 19 44 55.7
comp=Z,42nm,1.9s,mb5.0
BURAR Bucovina Array 75.87 328⇑ *i*P P 19 44 35.8 -0.9
BURAR Bucovina Array 75.87 328 ⇑P P 19 44 35.9 -0.8
KELT Kelkit 75.95 315 *i* P P 19 44 32.5 -4.6
TXAR Lajitas Array 75.97 62 P P 19 44 36.4 -0.9
comp=Z,1.7nm,0.7s,mb4.1,baz=297,slow=4.3,SNR=15
KSP Ksiaz 76.00 335 *e*P P 19 44 39.7 +2.3
KSP Ksiaz 76.00 335 *e*P P 19 44 38.8 +1.4
NIE Niedzica 76.01 332 *e*P P 19 44 40.0 +2.5
UZH Uzhgorod 76.04 330 *e*P P 19 44 40.0 +2.4
UZH *i* 19 44 51.2
OKC Ostrava-Krasne 76.33 333 *e*P P 19 44 40.1 +0.8
OKC *e*PCP PcP 19 44 54.8 +3.7
UPC Upice 76.38 335 *e*P P 19 44 39.1 -0.5
DPC Dobruska-Polom 76.43 334 *e*P P 19 44 39.6 -0.3
DPC *ex* x 19 44 56.4
CLL Collm 76.51 337 *e*P P 19 44 40.0 -0.3
comp=Z,13nm,0.9s,mb4.9
CLL *i* Pmax 19 44 42.1
CLL *i* pP pP 19 44 43.8 -1.4
comp=Z,94nm,1.2s
MORC Moravsky Berou 76.57 333⇑ *i*P P 19 44 40.9 +0.2
MORC Moravsky Berou 76.57 333 *e*P P 19 44 40.3 -0.4
MORC pmax pmax
comp=Z,74nm,1.3s,mb5.5
MORC Moravsky Berou 76.57 333 *e*P P 19 44 40.2 -0.4
comp=Z,74nm,1.3s,mb5.5
MORC P pP 19 44 45.6 +0.1
BRG Berggiesshubel 76.64 336 *e*P P 19 44 38.9 -2.1
comp=Z,17nm,1.8s,mb4.7
BRG *i* pP 19 44 43.2 -2.7
comp=Z,28nm,1.2s
KECS Kecovo 76.77 331 *e*P P 19 44 41.3 -0.5
KECS pmax pmax
comp=Z,15nm,1.2s,mb4.8
KECS Kecovo 76.77 331 *e*P P 19 44 41.3 -0.5
comp=Z,14nm,1.2s,mb4.8
VRI Vrincioaia 76.78 326⇑ *i*P P 19 44 44.7 +2.9
VRI Vrincioaia 76.78 326 ⇑P P 19 44 44.7 +2.9
PVCC Panska Ves 76.78 335 *e*P P 19 44 42.0 +0.2
PVCC *ex* x 19 44 58.1
CFR Carcaliu 76.80 325 P P 19 44 45.6 +3.6
BOYT Boyabat 76.99 318 *i* P P 19 44 44.7 +1.7
PRU Pruhonice 77.27 335 *e*P P 19 44 44.7 +0.1
VRAC Vranov 77.28 334⇑ *i*P P 19 44 44.1 -0.5
HARR Harsova 77.29 324 P P 19 44 44.5 -0.2
TIRR Tirgusor 77.29 324⇑ *i*P P 19 44 44.8 +0.1
TIRR Tirgusor 77.29 324 *e*P P 19 44 44.0 -0.7
TIRR pmax pmax
comp=Z,46nm,1.2s,mb5.3
TIRR Tirgusor 77.29 324 *e*P P 19 44 44.0 -0.7
comp=Z,46nm,1.2s,mb5.3
VYHS Vyhne 77.30 332 *e*P P 19 44 44.8 +0.1
VYHS pmax pmax
comp=Z,27nm,1.5s,mb5.0
VYHS Vyhne 77.30 332 *e*P P 19 44 44.8 +0.1
comp=Z,26nm,1.5s,mb5.0
MLR Muntele Rosu 77.39 326⇓ *i*P P 19 44 45.9 +0.6
WTSB Winterswijk 77.44 341 *e*P P 19 44 49.0 +3.5
comp=Z,59nm,1.2s,mb5.4
PSZ Piszkesteto 77.46 331⇑ *i*P P 19 44 48.5 +2.9
PSZ Piszkesteto 77.46 331 *e*P P 19 44 45.9 +0.3
PSZ pmax pmax
comp=Z,55nm,1.4s,mb5.3
PSZ Piszkesteto 77.46 331 *e*P P 19 44 45.9 +0.2
comp=Z,54nm,1.4s,mb5.3
PSZ P pP 19 44 50.2 -0.3
DRGR 77.47 329⇓ *i*P P 19 44 45.9 +0.2
DRGR 77.47 329 ⇓P P 19 44 45.9 +0.2
MOX Moxa 77.48 337 *e*P P 19 44 45.5 -0.3
comp=Z,63nm,1.5s,mb5.3
MOX Moxa 77.48 337 *e*P P 19 44 45.5 -0.3
MOX pmax pmax
comp=Z,63nm,1.5s,mb5.3
NKC Novy Kostel 77.63 337 *e*P P 19 44 45.9 -0.7
MALT Malatya 77.78 314⇓ *i*P P 19 44 48.6 +1.2
MALT Malatya 77.78 314 *e*P P 19 44 48.4 +1.0
MALT pmax pmax
comp=Z,40nm,1.3s,mb5.2
MALT Malatya 77.78 314 *e*P P 19 44 48.4 +0.9
comp=Z,40nm,1.4s,mb5.2
MTUR Matau 77.95 326⇓ *i*P P 19 44 52.0 +3.6
MTUR Matau 77.95 326 ⇓P P 19 44 52.0 +3.6
PSN Preselentsi 78.03 324 *e*P P 19 44 51.0 +2.2
ZST Bratislava 78.11 333 *e*P P 19 44 49.9 +0.6
comp=Z,26nm,1.2s,mb5.0
ZST LR LR
comp=Z,600nm,15.0s,MS5.0
KHC Kasperske Hory 78.32 335 *e*P P 19 44 50.5 +0.1
KHC x x 19 45 05.0
KHC x x 19 45 19.0
KHC Kasperske Hory 78.32 335 *e*P P 19 44 50.5 +0.1
KHC *e* 19 45 05.0
KHC Kasperske Hory 78.32 335 *e*P P 19 44 50.5 +0.1
KHC *e* 19 45 05.0
KHC *e* 19 45 19.0
ELDT Eldivan 78.40 319 *i* P P 19 44 51.5 +0.6
GRA1 Grafenberg Arr 78.45 337 *e*P P 19 44 50.4 -0.8
comp=Z,72nm,1.2s,mb5.5
GRF Grafenberg Arr 78.45 337 *e*P P 19 44 50.4 -0.8
comp=Z,72nm,1.2s,mb5.5
GRF Grafenberg Arr 78.45 337 *e*P P 19 44 50.4 -0.8
GRF pmax pmax
comp=Z,72nm,1.2s,mb5.5
GERES GERESS Array B 78.54 335 P P 19 44 51.4 -0.3
comp=Z,5.2nm,0.8s,mb4.5,baz=34,slow=5.0,SNR=24
GERES LR LR 20 20 30.3
comp=Z,368nm,20.1s,MS4.7,baz=359,slow=36
GERES GERESS Array B 78.54 335 P P 19 44 51.4 -0.2
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES MLR MLR
comp=Z,368nm,20.1s
HGN Heimansgroeve 78.76 341 *e*P P 19 44 54.0 +1.2
comp=Z,45nm,1.0s,mb5.4
BZS Buzias 78.87 329⇓ *i*P P 19 44 53.2 -0.3
BZS Buzias 78.87 329 ⇓P P 19 44 53.2 -0.2
MEM Membach 78.89 341 P P 19 44 53.5 -0.1
MEM AP pP 19 44 55.9 -2.5
BR131 Keskin Array S 78.92 318 *e*P P 19 44 53.9 +0.2
comp=Z,11nm,0.9s,mb4.8
BRTR Keskin Array B 78.92 318 P P 19 44 54.0 +0.2
comp=Z,9.6nm,0.9s,mb4.8,baz=62,slow=2.9,SNR=28
BRTR Keskin Array B 78.92 318 P P 19 44 54.0 +0.2
BRTR pmax pmax
comp=Z,10.0nm,0.9s
SGKT Sivrigoynuk 78.95 319 *i* P P 19 44 54.3 +0.4
TOD Tromm 79.16 338 *e*P P 19 44 57.6 +2.6
ZIMR 79.16 325 P P 19 44 55.0 -0.1
CRAR CRAIOVA 79.19 327 P P 19 44 58.0 +2.8

ANTO	**Ankara**	**79.19 319**	P		**P**	**19 44 56.2**	**+0.9**	
	SNR=9.9							
ANTO	**Ankara**	**79.19 319**	⇓*i*P		**P**	**19 44 55.8**	**+0.6**	
ANTO	**Ankara**	**79.19 319**	*e*P		**P**	**19 44 55.8**	**+0.6**	
ANTO			pmax		pmax			
	comp=Z,25nm,1.0s,mb5.1							
ANTO	**Ankara**	**79.19 319**	*e*P		**P**	**19 44 55.8**	**+0.6**	
	comp=Z,25nm,1.0s,mb5.1							
ABH	**Altenburg**	**79.21 339**	*e*P		**P**	**19 44 58.0**	**+2.7**	
BCLA	**Clavier**	**79.22 341**	P		**P**	**19 44 54.6**	**-0.8**	
SZH	**Strazhica**	**79.27 325**	*e*P		**P**	**19 44 54.0**	**-1.6**	
SNF	**Seneffe**	**79.36 342**	AP		pP	19 45 01.6	+0.6	
PKSM	**Moragy**	**79.37 331**	⇓*i*P		**P**	**19 44 55.5**	**-0.7**	
PKSM	**Moragy**	**79.37 331**	⇓P		**P**	**19 44 55.5**	**-0.7**	
ARSA	**Arzberg**	**79.44 333**	*i* P		**P**	**19 44 57.7**	**+1.1**	
	comp=Z,34nm,1.4s,mb5.1,SNR=9.5							
DOU	**Dourbes**	**79.69 341**	AP		pP	19 45 00.1	-2.7	
JMB	**Yambol**	**79.69 324**	*e*Pn		**P**	**19 45 00.4**	**+2.5**	
STKA	**Stephens Creek**	**79.78 192**	P		**P**	**19 44 55.7**	**-2.7**	
	comp=Z,2.1nm,0.9s,mb4.1,baz=29,slow=6.1,SNR=3.0							
STKA			LR		LR	20 17 27.5		
	comp=Z,118nm,18.6s,MS4.3,baz=205,slow=34							
STKA	**Stephens Creek**	**79.78 192**	P		**P**	**19 44 55.7**	**-2.7**	
KOGS	**Kog**	**79.93 333**	*e*P		**P**	**19 45 00.5**	**+1.3**	
LANF	**Langenberg**	**79.98 339**	*e*P		**P**	**19 45 02.6**	**+3.1**	
PERS	**Pernice**	**80.11 333**	*e*P		**P**	**19 45 02.9**	**+2.7**	
KBA	**Koelnbreinsper**	**80.24 335**	*i* P		**P**	**19 45 01.7**	**+0.8**	
	comp=Z,83nm,1.0s,mb5.6,SNR=13							
KBA	**Koelnbreinsper**	**80.24 335**	*i* P		**P**	**19 45 01.7**	**+0.8**	
KBA			pmax		pmax			
	comp=Z,83nm,1.0s,mb5.6							
DIM	**Dimitrovgrad**	**80.45 324**	*e*P		**P**	**19 45 04.0**	**+1.9**	
BFO	**Black Forest**	**80.46 338**	*e*P		**P**	**19 45 02.9**	**+0.8**	
BFO			pmax		pmax			
	comp=Z,45nm,1.2s,mb5.3							
BFO	**Black Forest**	**80.46 338**	*e*P		**P**	**19 45 02.9**	**+0.8**	
	comp=Z,45nm,1.3s,mb5.2							
SPAK	**Spaichingen-Ko**	**80.55 338**	*e*P		**P**	**19 45 06.5**	**+3.9**	
WTTA	**Wattenberg**	**80.56 336**	⇑*i*P		**P**	**19 45 03.4**	**+0.8**	
	comp=Z,79nm,1.2s,mb5.5							
WTTA	**Wattenberg**	**80.56 336**	⇑*i*P		**P**	**19 45 03.4**	**+0.8**	
WTTA			pmax		pmax			
	comp=Z,79nm,1.2s,mb5.5							
MOTA	**Moosalm**	**80.63 336**	⇓*i*P		**P**	**19 45 03.1**	**+0.1**	
	comp=Z,98nm,1.3s,mb5.6,SNR=27							
MOTA	**Moosalm**	**80.63 336**	⇓*i*P		**P**	**19 45 03.2**	**+0.2**	
MOTA			pmax		pmax			
	comp=Z,98nm,1.3s,mb5.6							
CDF	**Champ du Feu**	**80.64 339**	*e*P		**P**	**19 45 03.9**	**+0.8**	
	comp=Z,196nm,1.7s,mb5.5							
CDF	**Champ du Feu**	**80.64 339**	*e*P		**P**	**19 45 03.9**	**+0.8**	
CDF			pmax		pmax			
	comp=Z,98nm,1.7s,mb5.5							
CDF	**Champ du Feu**	**80.64 339**	*e*P		**P**	**19 45 03.9**	**+0.8**	
	comp=Z,98nm,1.7s,mb5.5							
GRUS	**Gruza**	**80.69 328**	*i* Pn		**P**	**19 45 04.8**	**+1.5**	
CRES	**Cresnjev**	**80.73 333**	*e*P		**P**	**19 45 06.1**	**+2.5**	
PLD	**Plovdiv**	**80.73 325**	*e*P		**P**	**19 45 04.0**	**+0.4**	
DIVS	**Divcibare**	**80.76 329**	*i* Pn		**P**	**19 45 02.4**	**-1.4**	
DIVS	**Divcibare**	**80.76 329**	*e*Pn		**P**	**19 45 06.2**	**+2.5**	
PTCC	**Patocco-Chiusa**	**80.85 334**	P		**P**	**19 45 06.4**	**+2.2**	
ECH	**Echery**	**80.85 339**	*e*P		**P**	**19 45 04.1**	**-0.1**	
VTS	**Vitosha**	**80.89 326**	⇓*i*P		**P**	**19 45 03.7**	**-0.7**	
VTS	**Vitosha**	**80.89 326**	*e*P		**P**	**19 45 05.0**	**+0.6**	
FELD	**Feldberg im Sc**	**80.96 338**	*e*P		**P**	**19 45 04.8**	**0.0**	
GMNA	**Gemona**	**81.00 334**	P		**P**	**19 45 07.5**	**+2.5**	
BOJS	**Bojanci**	**81.08 333**	*e*P		**P**	**19 45 08.2**	**+2.7**	
THEF	**They Montfort**	**81.12 340**	*e*P		**P**	**19 45 07.4**	**+1.8**	
MOF	**Molkenrain**	**81.20 339**	*e*P		**P**	**19 45 07.4**	**+1.4**	
BRMO	**Bormio**	**81.63 336**	P		**P**	**19 45 11.3**	**+3.0**	
LOMF	**Lomont**	**81.74 339**	*e*P		**P**	**19 45 09.2**	**+0.3**	
SRS	**Serrai**	**82.01 325**	*e*Pn		**P**	**19 45 03.4**	**-6.9**	
SKO	**Skopje**	**82.09 327**	*e*Pn		**P**	**19 45 03.5**	**-7.3**	
GRR	**Gorron**	**82.41 344**	*e*P		**P**	**19 45 12.8**	**+0.3**	
	comp=Z,134nm,1.4s,mb5.4							
GRR	**Gorron**	**82.41 344**	*e*P		**P**	**19 45 12.8**	**+0.3**	
GRR			pmax		pmax			
	comp=Z,67nm,1.4s,mb5.4							
GRR	**Gorron**	**82.41 344**	*e*P		**P**	**19 45 12.8**	**+0.3**	
	comp=Z,67nm,1.4s,mb5.4							
GRG	**Griva**	**82.61 326**	*e*Pn		**P**	**19 45 10.7**	**-2.7**	
SMF	**Signal de Mont**	**83.11 341**	*e*P		**P**	**19 45 16.4**	**+0.3**	
	comp=Z,233nm,1.3s,mb5.8							
SMF	**Signal de Mont**	**83.11 341**	*e*P		**P**	**19 45 16.4**	**+0.3**	
SMF			pmax		pmax			
	comp=Z,116nm,1.3s,mb5.8							
SMF	**Signal de Mont**	**83.11 341**	*e*P		**P**	**19 45 16.4**	**+0.3**	
	comp=Z,116nm,1.3s,mb5.8							
RSM	**Repubblica di**	**83.36 334**	P		**P**	**19 45 19.3**	**+1.9**	
LPG	**La Plagne**	**83.49 338**	*e*P		**P**	**19 45 18.9**	**+0.9**	
	comp=Z,156nm,1.2s,mb5.6							
LPG	**La Plagne**	**83.49 338**	*e*P		**P**	**19 45 18.9**	**+0.9**	
LPG			pmax		pmax			
	comp=Z,78nm,1.2s,mb5.6							
LPG	**La Plagne**	**83.49 338**	*e*P		**P**	**19 45 18.9**	**+0.9**	
	comp=Z,78nm,1.2s,mb5.6							
SFI	**Santa Sofia**	**83.56 334**	P		**P**	**19 45 22.6**	**+4.2**	
CRE	**Caprese Michel**	**83.79 334**	P		**P**	**19 45 23.3**	**+3.7**	
PLDF	**La Plantade**	**83.80 340**	*e*P		**P**	**19 45 23.9**	**+4.3**	
SNTG	**Esanatoglia**	**83.83 333**	P		**P**	**19 45 23.4**	**+3.6**	
AGO	**Saint Agoulin**	**83.83 341**	*e*P		**P**	**19 45 21.3**	**+1.5**	
PYM	**Petit Puy Mans**	**84.14 341**	*e*P		**P**	**19 45 26.7**	**+5.3**	
FGMS	**Monte Sant'Ang**	**84.26 331**	P		**P**	**19 45 23.6**	**+1.7**	
SAOF	**Saorge**	**84.69 337**	*e*P		**P**	**19 45 27.4**	**+3.3**	
MVIF	**Mont Vial**	**84.88 337**	*e*P		**P**	**19 45 29.6**	**+4.5**	
SDI	**San Donato**	**84.95 332**	P		**P**	**19 45 28.5**	**+3.0**	
CAF	**Calviac**	**85.13 341**	*e*P		**P**	**19 45 26.8**	**+0.4**	
	comp=Z,127nm,1.4s,mb5.5							
CAF	**Calviac**	**85.13 341**	*e*P		**P**	**19 45 26.8**	**+0.4**	
CAF			pmax		pmax			
	comp=Z,64nm,1.4s,mb5.6							
CAF	**Calviac**	**85.13 341**	*e*P		**P**	**19 45 26.8**	**+0.4**	
	comp=Z,64nm,1.4s,mb5.6							
RFI	**Roccamonfina**	**85.27 332**	P		**P**	**19 45 30.0**	**+3.0**	
CORF	**Corte**	**85.82 335**	*e*P		**P**	**19 45 33.4**	**+3.6**	
TIP	**Timpagrande**	**86.24 329**	*e*P		**P**	**19 45 31.6**	**-0.3**	
NWAO	**Narrogin (SRO)**	**86.87 211**	P		**P**	**19 45 32.7**	**-2.3**	
	comp=Z,6.6nm,0.9s,mb4.9,baz=78,slow=2.7,SNR=5.3							
NWAO	**Narrogin (SRO)**	**86.87 211**	P		**P**	**19 45 32.7**	**-2.2**	
NWAO			pmax		pmax			
	comp=Z,7.0nm,0.9s							
NWAO	**Narrogin (SRO)**	**86.87 211**	P		**P**	**19 45 32.7**	**-2.3**	
ERC	**Erice**	**88.68 331**	P		**P**	**19 45 48.4**	**+4.8**	
ESDC	**Sonseca Array**	**91.41 344**	P		**P**	**19 45 54.6**	**-1.7**	
	comp=Z,1.3nm,0.8s,mb4.3,baz=7.5,slow=6.9,SNR=3.9							
KEST	**Kesra**	**91.82 333**	LR		LR	20 31 45.6		
	comp=Z,86nm,21.2s,MS4.2,baz=353,slow=38							
TORD	**Torodi Ar. Bea**	**115.30 331**	PKP		PKPdf	19 51 30.1	-1.7	
	comp=Z,1.3nm,1.1s,baz=28,slow=1.6,SNR=4.0							
VNDA	**Vanda**	**124.64 178**	PKIKP		PKPdf	19 51 45.0	-4.8	
	comp=Z,1.2nm,0.9s,baz=316,slow=3.2,SNR=6.4							
VNDA	**Vanda**	**124.64 178**	PKIKP		PKPdf	19 51 45.0	-4.8	
VNDA			pmax		pmax			
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**132.82 64**	PKP		PKPdf	19 52 04.9	-0.4	
	comp=Z,1.4nm,0.9s,baz=347,slow=5.7,SNR=5.2							
LPAZ	**La Paz**	**132.82 64**	PKIKP		PKPdf	19 52 04.9	-0.4	
LPAZ			pmax		pmax			
	comp=Z,1.0nm,0.9s							
MAW	**Mawson**	**133.43 212**	PKP		PKPdf	19 52 03.9	-2.6	
	comp=Z,2.5nm,0.9s,baz=1.7,slow=1.1,SNR=3.8							
MAW	**Mawson**	**133.43 212**	PKIKP		PKPdf	19 52 03.9	-2.6	
MAW			pmax		pmax			
	comp=Z,3.0nm,0.9s							
NVL	**N'lazarevskaya**	**150.74 204**	*e*PKIKP		PKPdf	19 52 37.5	+0.5	
NVL			pmax		pmax			
	comp=Z,21nm,1.1s							
SNAA	**Sanae**	**153.50 195**	PKPbc		PKPbc	19 52 44.6	-4.2	
	comp=Z,2.0nm,1.1s,baz=320,slow=1.0,SNR=11							
SNAA	**Sanae**	**153.50 195**	*e*PKPdf		PKPdf	19 52 45.0	+3.9	
SNAA			*e*			19 52 55.6		
SNAA			*e*			19 53 04.5		
SNAA	**Sanae**	**153.50 195**	*e*PKIKP		PKPdf	19 52 44.1	+3.0	
VNA2	**Neumayer--Watz**	**154.91 193**	*e*PKPdf		PKPdf	19 52 48.5	+5.4	
VNA2			*e*			19 52 59.3		
VNA2			*e*			19 53 26.6		
VNA3	**Neumayer Olymp**	**154.96 192**	*e*PKPdf		PKPdf	19 52 47.9	+4.8	
VNA3			*e*			19 52 58.8		
VNA3			*e*			19 53 26.4		

NIED ***27*** *19:34:00,2350N×14450E,h5km,Mw4.2 Best double couple: M0 1.94000×10^15 NP1:φs39.00000°,δ75.00000°,*
λ-115.00000°. NP2:φs279.00000°,δ29.00000°, λ-33.00000°

ISCJB ***27*** *19:34:17.6±0.5,2294N±005×1440E±0.1,h10km,mb4.5/24, MS4.5/1,Error ellipse: s-maj=18.9km s-min=7.0km az=156.7*

BJI ***27*** *19:34:17.0,2300N×14390E,h10km,mB5.1,mb4.8,Ms4.4, Msz4.3*

IDC ***27*** *19:34:17.7±0.6,2294N×14392E,h0km,mb4.4/18, mb1 4.5/22,mb1mx4.4/27,mbtmp4.4/22,ML4.2/4,MS4.0/2, Ms1 4.0/2,ms1mx3.4/28,Error ellipse: s-maj=24.7km s-min=12.2km az=81.0*

NEIC ***27*** *19:34:19.3±0.3,2296N×14387E,h10km,mb4.7/5, MW4.1(NIED),Error ellipse: s-maj=15.9km s-min=6.4km az=84.0*

ISC 27 19:34:21.2±3.6,2298N±005×1440E±01,h21km±24km,n44, σ0§84/41,mb4.5/24,MS4.5/1,1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.41**	**339**	Pn	**Pn**	**19 35 27.6**	**+0.8**
	30nm,0.3s,baz=302,slow=21,SNR=13						
CBIJ				Sn	**Sn**	**19 36 16.1**	**-1.4**
	26nm,0.3s,baz=107,slow=19,SNR=5.4						
MJAR	**Matsushiro Arr**	**14.40**	**341**	Pn	**Pn**	**19 37 42.7**	**-1.0**
	1.0nm,0.3s,baz=162,slow=11,SNR=6.4						
JOW	**Kunigami**	**14.75**	**288**	LR	LR	19 43 04.0	
	comp=Z,253nm,19.1s,baz=80,slow=36						
JNU	**Nakatsue**	**15.34**	**314**	Pn	**Pn**	**19 37 56.6**	**+0.3**
	1.1nm,0.3s,baz=256,slow=21,SNR=6.9						
KSRS	**Korea Array**	**19.97**	**320**	P	**Pn**	**19 38 52.8**	**-0.9**
	baz=134,slow=12,SNR=13						
MDJ	**Mudanjiang**	**24.59**	**335**	P	**P**	**19 39 42.0**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,244nm,5.2s						
SONM	**Songino Array**	**38.84**	**319**	P	**P**	**19 41 45.3**	**+0.7**
	comp=Z,3.1nm,0.5s,mb4.3,baz=129,slow=6.3,SNR=15						
GTA	**Gaotai**	**40.74**	**304**	⇓P	**P**	**19 42 02.0**	**+1.5**
GTA				AP	pP	19 42 05.8	-1.2
GTA				XP	sP	19 42 08.8	-0.8
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
CTA	**Charters Tower**	**42.87**	**177**	*e*P	**P**	**19 42 18.3**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.3						
CTA	**Charters Tower**	**42.87**	**177**	P	**P**	**19 42 17.9**	**+0.1**
	comp=Z,5.8nm,0.7s,mb4.4,baz=350,slow=9.2,SNR=7.4						
WB2	**Warramunga Arr**	**43.69**	**193**	*e*P	**P**	**19 42 24.2**	**-0.2**
WRA	**Warramunga Arr**	**43.69**	**193**	P	**P**	**19 42 24.3**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.1,baz=17,slow=9.1,SNR=40						
FITZ	**Fitzroy Crossi**	**44.59**	**205**	*e*P	**P**	**19 42 31.7**	**0.0**
	comp=Z,5.9nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**44.59**	**205**	P	**P**	**19 42 31.0**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=31,slow=9.5,SNR=12						
AS31	**Alice Springs**	**47.39**	**193**	*e*P	**P**	**19 42 53.3**	**-0.5**
ASAR	**Alice Springs**	**47.39**	**193**	P	**P**	**19 42 53.4**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=16,slow=8.7,SNR=20						
ASPA	**Alice Springs**	**47.39**	**193**	*e*P	**P**	**19 42 53.3**	**-0.5**
TIXI	**Tiksi**	**49.45**	**354**	*e*P	**P**	**19 43 10.0**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**53.68**	**321**	P	**P**	**19 43 41.1**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=21,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**54.38**	**312**	P	**P**	**19 43 47.1**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.2,baz=86,slow=8.6,SNR=9.9						
STKA	**Stephens Creek**	**54.60**	**182**	*e*P	**P**	**19 43 47.5**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**54.60**	**182**	P	**P**	**19 43 47.5**	**-0.5**
	comp=Z,5.9nm,0.6s,mb4.8,baz=354,slow=7.0,SNR=22						
BVAR	**Borovoye Array**	**62.18**	**319**	P	**P**	**19 44 41.4**	**+0.5**
	comp=Z,14nm,0.6s,mb5.3,baz=90,slow=7.2,SNR=23						
BRVK	**Borovoye**	**62.24**	**319**	*e*P	**P**	**19 44 41.1**	**-0.3**
	comp=Z,7.2nm,0.6s,mb5.0						
INK	**Inuvik**	**66.10**	**24**	P	**P**	**19 45 06.9**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.4,baz=282,slow=5.1,SNR=5.5						
AKTK	**Aktyubinsk**	**70.12**	**317**	P	**P**	**19 45 31.6**	**-0.2**
AKTO	**Aktyubinsk**	**70.12**	**317**	P	**P**	**19 45 31.6**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=93,slow=18,SNR=3.7						
RAR	**Rarotonga**	**70.24**	**124**	LR	LR	20 13 35.4	
	comp=Z,242nm,20.1s,MS4.5,baz=270,slow=34						
YKA	**Yellowknife Ar**	**74.98**	**28**	P	**P**	**19 46 00.8**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=292,slow=5.8,SNR=17						
ARCES	**ARCESS Array B**	**77.94**	**342**	P	**P**	**19 46 17.1**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=76,slow=10,SNR=5.5						
KAF	**Kangasniemi**	**81.87**	**335**	*e*p	**P**	**19 46 37.1**	**-1.7**
FINES	**FINESS Array B**	**82.34**	**335**	P	**P**	**19 46 40.6**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.4,baz=69,slow=4.8,SNR=16						
UMR	**Umm Al-Rimmam**	**84.09**	**299**	*e*P	**P**	**19 46 51.1**	**+0.8**
UMR				AMb	AMB	19 46 52.0	
	comp=Z,35nm,0.8s,mb5.5						
KBD	**Kabd**	**84.26**	**299**	*e*P	**P**	**19 46 51.9**	**+0.7**
MIB	**Mutribah**	**84.30**	**300**	*e*P	**P**	**19 46 51.9**	**+0.5**
MIB				AMb	AMB	19 46 53.1	
	comp=Z,72nm,0.7s						
RDF	**Al-Radifah**	**84.47**	**299**	*e*P	**P**	**19 46 53.1**	**+0.9**
RDF				AMb	AMB	19 46 53.9	
	comp=Z,33nm,0.7s,mb5.6						
NAY	**Al-Naaiem**	**84.59**	**299**	*e*P	**P**	**19 46 53.6**	**+0.7**
NAY				AMb	AMB	19 46 54.5	
	comp=Z,41nm,0.7s						
PDAR	**Pinedale Array**	**85.97**	**45**	P	**P**	**19 47 01.4**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.8,baz=292,slow=4.8,SNR=3.9						
AKASG	**Malin Array Be**	**86.89**	**325**	P	**P**	**19 47 03.0**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.6,baz=51,slow=5.2,SNR=10						
NB2	**NORSAR Subarra**	**88.02**	**339**	PKP	**P**	**19 47 08.6**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.3,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**88.02**	**339**	P	**P**	**19 47 08.3**	**-1.5**
	comp=Z,1.6nm,0.9s,mb4.3,baz=40,slow=4.8,SNR=3.5						
BRTR	**Keskin Array B**	**89.99**	**314**	P	**P**	**19 47 18.5**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.5,baz=90,slow=3.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**128.49**	**310**	PKP	PKPdf	19 53 27.1	+0.8
	comp=Z,0.9nm,0.9s,baz=359,slow=1.6,SNR=3.8						
LPAZ	**La Paz**	**149.08**	**83**	PKPbc	PKPbc	19 54 10.5	+2.8
	comp=Z,1.9nm,0.6s,baz=193,slow=17,SNR=4.3						

STR ***27*** *20:27:30.2±0.6,4622N×148E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 27 20:27:30.0±0.1,4633N×153E,h2km,Md2.1/4,Ml2.3/12, Error ellipse: s-maj=1.4km s-min=1.2km az=126.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.48**	**95**	*e*Pg	Pg	20 27 39.4	+0.3
TCF				*e*Sg	Sg	20 27 45.5	+0.2
	4.5nm,0.2s						
BGF	**Bois d'Agland**	**0.94**	**76**	*e*Pg	Pg	20 27 47.8	-0.3
BGF				*e*Sg	Sg	20 27 59.9	-0.4
	22nm,0.2s						
RJF	**Les Rejaudoux**	**1.03**	**180**	*e*Pg	Pg	20 27 49.2	-0.5
RJF				*e*Sg	Sg	20 28 02.3	-0.7
	15nm,0.2s						
AGO	**Saint Agoulin**	**1.15**	**103**	Pg	Pg	20 27 51.7	-0.3
PYM	**Petit Puy Mans**	**1.19**	**119**	Pg	Pg	20 27 52.5	-0.2
MFF	**Saint Martin d**	**1.19**	**284**	*e*Pg	Pg	20 27 52.2	-0.5
MFF				*e*Sg	Sg	20 28 06.7	-1.4
	4.2nm,0.2s						
HYF	**Humbligny**	**1.21**	**39**	*e*Pg	Pg	20 27 53.1	-0.1
HYF				*e*Sg	Sg	20 28 08.4	-0.5
AVF	**Avril sur Loir**	**1.34**	**69**	*e*Pn	Pn	20 27 54.1	-1.6
AVF				*e*Sg	Sg	20 28 10.5	-2.7
	4.0nm,0.3s						
CHIF	**Chize**	**1.36**	**262**	Pg	Pg	20 27 55.7	-0.3
CHIF				Sg	Sg	20 28 12.7	-0.9
CAF	**Calviac**	**1.46**	**165**	*e*Pg	Pg	20 27 57.1	-0.8
CAF				*e*Sg	Sg	20 28 15.7	-1.0
	7.2nm,0.2s						
LFF	**La Frestale**	**1.50**	**202**	*e*Pg	Pg	20 27 58.0	-0.7
LFF				*e*Sg	Sg	20 28 16.7	-1.4
	9.6nm,0.4s						
SSF	**Saint Saulge**	**1.55**	**61**	*e*Pn	Pn	20 27 56.9	-1.7
SSF	**Saint Saulge**	**1.55**	**61**	*e*Pg	Pg	20 27 58.6	-1.1
SSF				*e*Sg	Sg	20 28 17.8	-1.9
	2.6nm,0.3s						
LBL	**Lubilhac**	**1.63**	**132**	Pg	Pg	20 28 00.3	-1.0
SMF	**Signal de Mont**	**1.63**	**78**	*e*Pn	Pn	20 27 58.2	-1.5
SMF				*e*Sg	Sg	20 28 20.5	-1.9
	3.4nm,0.2s						
LOR	**Lormes**	**1.86**	**59**	*e*Pg	Pg	20 28 04.1	-1.5
LOR				*e*Sg	Sg	20 28 27.2	-2.5
	2.3nm,0.2s						
LDF	**La Druitiere**	**2.52**	**334**	*e*Pg	Pg	20 28 17.0	-1.4
VIVF	**Saint-Julien-l**	**2.66**	**123**	*e*Sg	Sg	20 28 53.5	-1.9
	1.4nm,0.3s						
LASF	**Ste Croix**	**2.79**	**143**	*e*Pn	Pn	20 28 13.9	-1.8
LASF	**Ste Croix**	**2.79**	**143**	*e*Pg	Pg	20 28 22.2	-1.3
MTLF	**Montolieu**	**3.03**	**170**	*e*Sg	Sg	20 29 04.8	-2.5
	1.6nm,0.3s						

IDC 27 20:43:04.0±5.8,833S×15782E,h0km,mb4.0/3,mb1 4.1/4, mb1mx3.7/15,mbtmp4.0/4,MS3.3/7,Ms1 3.2/7, ms1mx3.1/26,Error ellipse: s-maj=130.0km s-min=31.3km az=6.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.37**	**118**	Pn	Pn	20 43 44.1	0.0
	26nm,0.3s,baz=258,slow=2.6,SNR=3.6						
HNR				Sn	Sn	20 44 06.6	-7.3
	73nm,0.3s,baz=94,slow=2.9,SNR=7.1						
DZM	**Mont Dzumac**	**15.99**	**150**	LR	LR	20 50 45.5	
	comp=Z,95nm,21.1s,baz=222,slow=29						
CTA	**Charters Tower**	**16.19**	**223**	LR	LR	20 51 54.0	
	comp=Z,89nm,19.7s,baz=49,slow=33						
GUMO	**Guam**	**25.29**	**329**	LR	LR	20 57 39.0	
	comp=Z,48nm,20.3s,baz=124,slow=35						
WRA	**Warramunga Arr**	**25.49**	**241**	P	P	20 48 34.4	+0.6
	2.9nm,0.8s,baz=68,slow=9.2,SNR=20						
WRA				LR	LR	20 58 17.9	
	comp=Z,58nm,18.7s,baz=340,slow=36						
ASAR	**Alice Springs**	**27.52**	**234**	P	P	20 48 52.1	-0.1
	1.3nm,0.9s,baz=63,slow=8.2,SNR=9.3						
ASAR				LR	LR	20 58 43.4	
	comp=Z,59nm,18.1s,baz=355,slow=34						
STKA	**Stephens Creek**	**27.87**	**211**	P	P	20 48 55.8	+0.5
	2.7nm,0.9s,baz=41,slow=14,SNR=4.6						
STKA				LR	LR	20 59 54.7	
	comp=Z,68nm,18.2s,baz=25,slow=36						
URZ	**Urewera**	**34.51**	**153**	LR	LR	20 59 52.0	
	comp=Z,40nm,20.9s,baz=201,slow=29						

ISCJB ***27*** *20:54:59.0±0.6,47.17N±008×1552E±0.1,h10km,mb4.2/33, MS3.8/10,Error ellipse: s-maj=13.6km s-min=7.1km az=99.2*

IDC ***27*** *20:54:58.9±0.7,47.14N×155.17E,h0km,mb4.1/16, mb1 4.2/18,mb1mx4.1/25,mbtmp4.1/18,ML3.6/2,MS3.7/8, Ms1 3.8/8,ms1mx3.4/37,Error ellipse: s-maj=20.0km s-min=15.2km az=142.0*

NEIC ***27*** *20:55:00.7±0.6,47.13N×15520E,h10km,mb4.4/10,Error ellipse: s-maj=14.3km s-min=9.7km az=138.0*

BJI ***27*** *20:55:03.4,4741N×15446E,h10km,mB4.9,mb4.4*

MOS ***27*** *20:55:04.2±2.6,47.17N×15499E,h36km,mb4.5/25,Error ellipse: s-maj=11.2km s-min=6.8km az=102.8*

ISC 27 20:55:00.7±0.6,4719N±008×1552E±01,h10km,n99, σ1§26/97,mb4.2/33,MS3.8/10,7C-13D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.55**	**10**	*e*PN	**Pn**	**20 55 54.0**	**-1.8**
SKR				MLR	MLR		
	comp=E,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
KUR	**Kuril'sk**	**5.44**	**252**	*e*PN	**Pn**	**20 56 20.0**	**-1.8**
PET	**Petropavlovsk**	**6.25**	**20**	*e*PN

YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**21 03 53.3**	**+0.3**
LSA	**Lhasa**	**51.66**	**274**	P	**P**	**21 04 11.0**	**+3.4**
LSA	**Lhasa**	**51.66**	**274**	*e*P	**P**	**21 04 10.5**	**+2.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**51.66**	**274**	*e*P	**P**	**21 04 10.5**	**+2.9**
	comp=Z,2.7nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**51.67**	**310**	*i* P	**P**	**21 04 06.5**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**21 04 07.5**	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.6,baz=57,slow=7.1,SNR=42						
BVAR				LR	LR	21 29 21.1	
	comp=Z,119nm,18.4s,MS4.0,baz=139,slow=40						
BVAR	**Borovoye Array**	**51.67**	**310**	P	**P**	**21 04 07.5**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,119nm,18.4s						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**21 04 07.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**51.71**	**310**	*e*P	**P**	**21 04 07.9**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**21 04 30.6**	**-0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**54.90**	**297**	*e*P	**P**	**21 04 30.6**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.5						
ARU	**Arti**	**55.64**	**318**	⇓*i*P	**P**	**21 04 37.8**	**+1.0**
ARU				*e*		21 05 30.3	
ARU				*e*		21 06 41.6	
ARU				*e*PPP		21 08 00.1	
ARU				*e*S	**S**	**21 12 11.6**	**-11**
ARU				*e*SS	SS	21 16 02.5	-5.3
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**55.64**	**318**	*e*P	**P**	**21 04 36.6**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.8						
NEW	**Newport**	**55.78**	**54**	LR	LR	21 26 30.6	
	comp=Z,102nm,18.4s,MS4.0,baz=46,slow=34						
ARCES	**ARCESS Array B**	**57.90**	**341**	P	**P**	**21 04 52.9**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.3,baz=16,slow=6.8,SNR=4.5						
ARCES				LR	LR	21 31 03.0	
	comp=Z,187nm,20.1s,MS4.2,baz=149,slow=37						
ARCES	**ARCESS Array B**	**57.90**	**341**	P	**P**	**21 04 52.9**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,187nm,20.1s						
AB31	**Akbulak array**	**59.22**	**311**	*i* P	**P**	**21 05 02.3**	**+0.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**63.63**	**336**	*e*p	**P**	**21 05 31.2**	**-0.7**
	baz=36,slow=6.1						
FINES	**FINESS Array B**	**64.24**	**336**	P	**P**	**21 05 36.0**	**+0.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=43,slow=7.4,SNR=29						
FINES	**FINESS Array B**	**64.24**	**336**	P	**P**	**21 05 36.1**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
OBN	**Obninsk**	**65.74**	**326**	*e*P	**P**	**21 05 44.5**	**-1.1**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
NB2	**NORSAR Subarra**	**68.26**	**342**	P	**P**	**21 06 01.5**	**-0.1**
	comp=Z,3.3nm,1.0s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**21 06 01.3**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.4,SNR=3.3						
NOA				LR	LR	21 43 44.7	
	comp=Z,74nm,18.0s,MS4.0,baz=160,slow=43						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**21 06 01.3**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,74nm,18.0s						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**21 06 01.3**	**-0.3**
NOA				LR	LR	21 43 44.7	
WRA	**Warramunga Arr**	**69.41**	**201**	P	**P**	**21 06 07.5**	**-1.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=20,slow=6.8,SNR=9.1						
WRA	**Warramunga Arr**	**69.41**	**201**	P	**P**	**21 06 07.5**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.96**	**327**	P	**P**	**21 06 23.3**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=34,slow=6.2,SNR=15						
AKASG	**Malin Array Be**	**71.96**	**327**	P	**P**	**21 06 23.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**73.09**	**200**	P	**P**	**21 06 31.1**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=16,slow=5.4,SNR=12						
ASAR	**Alice Springs**	**73.09**	**200**	P	**P**	**21 06 31.1**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STHS	**Stebnicka Huta**	**75.83**	**331**	*e*P	**P**	**21 06 51.0**	**+4.0**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
STHS	**Stebnicka Huta**	**75.83**	**331**	*e*P	**P**	**21 06 51.0**	**+4.0**
	comp=Z,4.0nm,0.9s,mb4.3						
KOLS	**Kolonicke sedl**	**75.90**	**330**	*e*P	**P**	**21 06 48.9**	**+1.5**
BURAR	**Bucovina Array**	**75.99**	**328**	⇓*i*P	**P**	**21 06 52.3**	**+4.4**
BURAR	**Bucovina Array**	**75.99**	**328**	⇓P	**P**	**21 06 52.3**	**+4.3**
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**21 06 48.4**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=296,slow=4.2,SNR=6.1						
DPC	**Dobruska-Polom**	**76.56**	**334**	*e*P	**P**	**21 06 56.1**	**+4.9**
CLL	**Collm**	**76.64**	**337**	*i* P	**P**	**21 06 55.3**	**+3.7**
CLL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CLL	**Collm**	**76.64**	**337**	*i* pP	pP	21 06 55.3	+0.4
	comp=Z,11nm,1.1s						
MORC	**Moravsky Berou**	**76.70**	**333**	⇓*i*P	**P**	**21 06 56.6**	**+4.7**
MORC	**Moravsky Berou**	**76.70**	**333**	⇓P	**P**	**21 06 56.6**	**+4.7**
KECS	**Kecovo**	**76.89**	**331**	*e*P	**P**	**21 06 56.1**	**+3.1**
KECS				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
KECS	**Kecovo**	**76.89**	**331**	*e*P	**P**	**21 06 56.1**	**+3.1**
	comp=Z,1.4nm,0.9s,mb3.9						
PVCC	**Panska Ves**	**76.91**	**335**	*e*P	**P**	**21 06 56.9**	**+3.8**
PLOR	**Plostina**	**76.93**	**326**	⇓*i*P	**P**	**21 06 59.3**	**+6.0**
PRU	**Pruhonice**	**77.40**	**335**	*e*P	**P**	**21 07 00.4**	**+4.5**
VRAC	**Vranov**	**77.40**	**334**	⇑*i*P	**P**	**21 07 01.0**	**+5.1**
TIRR	**Tirgusor**	**77.40**	**324**	⇑*i*P	**P**	**21 06 59.7**	**+3.8**
TIRR	**Tirgusor**	**77.40**	**324**	⇑P	**P**	**21 06 59.7**	**+3.7**
MLR	**Muntele Rosu**	**77.50**	**326**	⇓*i*P	**P**	**21 07 01.3**	**+4.8**
DRGR		**77.59**	**329**	⇑*i*P	**P**	**21 07 01.0**	**+4.0**
DRGR		**77.59**	**329**	⇑P	**P**	**21 07 01.1**	**+4.1**
MALT	**Malatya**	**77.88**	**314**	⇑*i*P	**P**	**21 07 00.8**	**+2.2**
MALT	**Malatya**	**77.88**	**314**	⇑P	**P**	**21 07 00.8**	**+2.2**
KHC	**Kasperske Hory**	**78.44**	**335**	*e*P	**P**	**21 07 02.1**	**+0.4**
KHC				*e*pP	pP	21 07 06.1	+1.1
GERES	**GERESS Array B**	**78.67**	**335**	P	**P**	**21 07 01.6**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=37,slow=5.0,SNR=3.0						
GZR	**Gura Zlata**	**78.77**	**328**	⇓*i*P	**P**	**21 07 08.1**	**+4.6**
GZR	**Gura Zlata**	**78.77**	**328**	⇓P	**P**	**21 07 08.1**	**+4.6**
BZS	**Buzias**	**78.99**	**329**	⇓*i*P	**P**	**21 07 08.9**	**+4.2**
BZS	**Buzias**	**78.99**	**329**	⇓P	**P**	**21 07 08.9**	**+4.2**
BR131	**Keskin Array S**	**79.03**	**318**	P	**P**	**21 07 05.8**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**79.03**	**318**	P	**P**	**21 07 06.0**	**+1.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=47,slow=5.0,SNR=11						
BRTR	**Keskin Array B**	**79.03**	**318**	P	**P**	**21 07 06.0**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VTS	**Vitosha**	**81.01**	**326**	⇓*i*P	**P**	**21 07 20.6**	**+5.0**
VTS	**Vitosha**	**81.01**	**326**	⇓P	**P**	**21 07 20.6**	**+5.0**

IDC 27 21:12:05.2±2.8, 1363N×14397E, h97km±49km, mb3.1/4, mb1 3.3/4, mb1mx3.2/20, mbtmp3.1/4, Error ellipse: s-maj=95.7km s-min=21.0km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.88**	**93**	P	Pn	21 12 25.1	+1.1
	346nm,0.3s,baz=346,slow=0.4,SNR=128						
GUMO				S	Sn	21 12 38.9	+0.7
	460nm,0.3s,baz=159,slow=23,SNR=50						
WRA	**Warramunga Arr**	**34.68**	**196**	P	P	21 18 45.7	+0.3
	0.4nm,0.6s,baz=8.4,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**38.35**	**195**	P	P	21 19 16.9	+0.2
	0.1nm,0.5s,baz=20,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**46.20**	**325**	P	P	21 20 21.0	+0.7
	0.3nm,0.6s,baz=126,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**60.85**	**316**	P	P	21 22 07.5	+0.2
	0.3nm,0.4s,baz=92,slow=8.6,SNR=11						
TORD	**Torodi Ar. Bea**	**134.12**	**304**	PKP	PKPdf	21 31 09.7	-1.5
	0.2nm,0.5s,baz=69,slow=1.8,SNR=5.0						

*ISCJB **27** 21:14:15.8±0.2, 3605N±001×11769W±002, h1km, Error ellipse: s-maj=2.0km s-min=1.8km az=37.0*
*NEIC **27** 21:14:16.6, 3606N×11771W, h1km, ML3.7(PAS), After PAS.*
NEIC Felt at Ridgecrest.
ISC 27 21:14:16.3±0.2, 3606N±001×11769W±002, h1km, n86, σ1§09/117, 44C-42D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.16**	**90**	⇓P	**Pg**	**21 14 20.1**	**+0.8**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**21 14 22.9**	**+1.4**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.23**	**20**	*e*P	**Pg**	**21 14 20.7**	**0.0**
CWC	**Cottonwood Cre**	**0.49**	**320**	⇓P	**Pg**	**21 14 26.0**	**+0.3**
	baz=0.5,SNR=200						
CWC				⇑S	**Sg**	**21 14 32.7**	**+0.6**
	baz=0.5						
LRMC	**Laurel Mountai**	**0.58**	**180**	⇓P	**Pg**	**21 14 27.4**	**0.0**
	baz=0.6,SNR=267						
LRMC				⇓S	**Sg**	**21 14 35.5**	**+0.6**
	baz=0.6						
ISA	**Isabella**	**0.75**	**238**	*e*P	**Pg**	**21 14 30.2**	**-0.4**
ISA	**Isabella**	**0.75**	**238**	⇑P	**Pg**	**21 14 30.4**	**-0.2**
	baz=0.7,SNR=642						
ISA				⇓S	**Sg**	**21 14 40.2**	**-0.1**
	baz=0.7						
FURC	**Furnace Creek,**	**0.79**	**58**	⇑P	**Pg**	**21 14 31.9**	**+0.6**
	baz=0.8,SNR=24						
FURC				⇑S	**Sg**	**21 14 43.1**	**+1.6**
	baz=0.8						
GRAC	**Grapevine Rang**	**0.97**	**15**	⇑P	**Pg**	**21 14 34.9**	**0.0**
	baz=1.0,SNR=101						
GRAC				⇓S	**Sg**	**21 14 48.6**	**+1.1**
	baz=1.0						
GSC	**Goldstone**	**1.04**	**136**	*e*P	**Pg**	**21 14 36.0**	**-0.2**
GSC	**Goldstone**	**1.04**	**136**	⇓P	**Pg**	**21 14 36.3**	**0.0**
	baz=1.1,SNR=59						
GSC				⇑S	**Sg**	**21 14 50.4**	**+0.5**
	baz=1.1						
TIN	**Tinemaha**	**1.08**	**337**	⇑P	**Pg**	**21 14 36.9**	**-0.1**
	baz=1.1,SNR=19						
TIN				⇓S	**Sg**	**21 14 52.3**	**+1.2**
	baz=1.1						
VES	**Vestal, Richgr**	**1.15**	**259**	⇓P	**Pg**	**21 14 37.8**	**-0.4**
	baz=1.1						
VES				⇓S	**Sg**	**21 14 53.2**	**0.0**
	baz=1.1						
SHOC	**Shoshone**	**1.16**	**98**	⇓P	**Pg**	**21 14 38.6**	**+0.2**
	baz=1.2,SNR=62						
SHOC				⇑S	**Sg**	**21 14 54.9**	**+1.6**
	baz=1.2						
U10A	**Ash Meadows, A**	**1.16**	**72**	⇓P	**Pg**	**21 14 38.7**	**+0.2**
	baz=1.2,SNR=172						
U10A				⇑S	**Sg**	**21 14 53.9**	**+0.4**
	baz=1.2						
EDW2	**Edwards Air Fo**	**1.20**	**192**	⇓P	**Pg**	**21 14 38.4**	**-0.9**
	baz=1.2,SNR=228						
EDW2				⇑S	**Sg**	**21 14 54.8**	**-0.1**
	baz=1.2						
RCTC	**Rector, Farmer**	**1.28**	**282**	⇓P	**Pg**	**21 14 39.8**	**-1.0**
	baz=1.2,SNR=9.3						
RCTC				⇓S	**Sg**	**21 14 56.9**	**-0.4**
	baz=1.2						
RRX	**Edison Barstow**	**1.30**	**154**	⇑P	**Pg**	**21 14 41.0**	**-0.3**
	baz=1.3,SNR=27						
RRX				⇓S	**Sg**	**21 14 59.2**	**+1.0**
	baz=1.3						
ARVC	**Arvin**	**1.31**	**225**	⇑P	**Pg**	**21 14 40.9**	**-0.5**
	baz=1.3,SNR=44						
ARVC				⇑S	**Sg**	**21 14 57.9**	**-0.6**
	baz=1.3						
MTUM	**Tungsten Hills**	**1.47**	**332**	*e*P	**Pn**	**21 14 43.3**	**-0.5**
TUQ	**Turquoise Mtn.**	**1.57**	**113**	⇑P	**Pn**	**21 14 44.3**	**-0.9**
	baz=1.6,SNR=62						
TUQ				⇑S	**Sn**	**21 15 07.5**	**+1.3**
	baz=1.6						
HEC	**Hector,Ludlow**	**1.66**	**137**	⇑P	**Pn**	**21 14 45.9**	**-0.5**
	baz=1.7						
HEC				⇓S	**Sn**	**21 15 09.6**	**+1.3**
	baz=1.7						
OSI	**Osito Adit**	**1.67**	**211**	⇓P	**Pn**	**21 14 46.3**	**-0.3**
	baz=1.7						
OSI				⇑S	**Sn**	**21 15 09.5**	**+0.8**
	baz=1.7						
S09A	**Goldfield**	**1.70**	**13**	⇑P	**Pn**	**21 14 47.1**	**+0.1**
	baz=1.7,SNR=220						
S09A				⇑S	**Sn**	**21 15 10.9**	**+1.4**
	baz=1.7						
V05C	**Boulder Hill,**	**1.81**	**265**	⇑P	**Pn**	**21 14 49.7**	**+1.2**
	baz=1.8,SNR=18						
V05C				⇓S	**Sn**	**21 15 11.1**	**-1.0**
	baz=1.8						
BFSC	**Mount Baldy St**	**1.82**	**179**	⇓P	**Pn**	**21 14 48.0**	**-0.6**
	baz=1.8,SNR=26						
BFSC				⇓S	**Sn**	**21 15 12.0**	**-0.3**
	baz=1.8						
KCC	**Kaiser Creek**	**1.82**	**314**	⇑P	**Pn**	**21 14 49.7**	**+1.0**
	baz=1.8,SNR=182						
KCC				⇑S	**Sn**	**21 15 12.9**	**+0.6**
	baz=1.8						
MLAC	**Mammoth Lakes**	**1.82**	**330**	⇑P	**Pn**	**21 14 50.2**	**+1.6**
	baz=1.8						
MLAC				⇓S	**Sn**	**21 15 12.6**	**+0.3**
	baz=1.8						
V11A	**Goodsprings**	**1.85**	**96**	⇑P	**Pn**	**21 14 48.6**	**-0.5**
	baz=1.9,SNR=26						
V11A				⇓S	**Sn**	**21 15 14.2**	**+1.1**
	baz=1.9						
DECC	**Green Verdugo**	**1.88**	**196**	⇓P	**Pn**	**21 14 51.5**	**+2.0**
	baz=1.9						
DECC				⇓S	**Sn**	**21 15 14.2**	**+0.3**
	baz=1.9						
T06C	**Millerton Lake**	**1.88**	**301**	⇓P	**Pn**	**21 14 49.5**	**0.0**
	baz=1.8,SNR=16						
T06C				⇑S	**Sn**	**21 15 14.3**	**+0.5**
	baz=1.8						
BBRC	**Big Bear Sol-O**	**1.90**	**160**	⇓P	**Pn**	**21 14 52.2**	**+2.4**
	baz=1.9						
U05C	**Westside ANR,**	**1.98**	**279**	⇑P	**Pn**	**21 14 52.5**	**+1.5**
	baz=1.9						
U05C				⇑S	**Sn**	**21 15 15.8**	**-0.6**
	baz=1.9						
SMMC	**Simmler**	**2.02**	**249**	⇓P	**Pn**	**21 14 52.9**	**+1.4**
	baz=2.0						
SMMC				⇓S	**Sn**	**21 15 16.8**	**-0.6**
	baz=2.0						
TPH	**Tonopah**	**2.05**	**10**	*e*P	**Pn**	**21 14 52.4**	**+0.6**
PTRM	**Twissleman Ran**	**2.09**	**260**	*e*P	**Pn**	**21 14 53.5**	**+1.1**
PKM	**Peak Mountain**	**2.09**	**237**	⇑P	**Pn**	**21 14 54.0**	**+1.6**
	baz=2.1						
GMRC	**Granite Mounta**	**2.09**	**127**	P	**Pn**	**21 14 51.0**	**-1.5**
	baz=2.1,SNR=124						
R09A	**Tonopah**	**2.23**	**13**	⇓P	**Pn**	**21 14 54.1**	**-0.3**
	baz=2.2,SNR=39						
BLG	**Laguna Peak**	**2.25**	**210**	⇓P	**Pn**	**21 14 53.9**	**-0.7**
	baz=2.2						
R07C	**Lee Vining**	**2.30**	**332**	⇑P	**Pn**	**21 15 00.3**	**+5.0**
	baz=2.3						
SBC	**Santa Barbara**	**2.31**	**226**	⇓P	**Pn**	**21 14 59.8**	**+4.3**
	baz=2.3						
PKD	**Parkfield**	**2.31**	**268**	⇓P	**Pn**	**21 14 56.0**	**+0.5**
	baz=2.3,SNR=69						
V12A	**Nelson**	**2.33**	**97**	⇓P	**Pn**	**21 14 54.6**	**-1.1**
	baz=2.4						
FMP	**Fort Macarthur**	**2.40**	**192**	⇑S	**Sn**	**21 15 27.0**	**+0.5**
	baz=2.4						
W12A	**Cal Nev Ari**	**2.42**	**107**	⇑P	**Pn**	**21 15 02.0**	**+5.1**
	baz=2.5						
S05C	**Merced**	**2.48**	**302**	⇓P	**Pn**	**21 15 00.8**	**+3.0**
	baz=2.4						
BELC	**Belle Mtn.**	**2.48**	**145**	⇑P	**Pn**	**21 14 57.2**	**-0.5**
	baz=2.5						
MURC	**Murrieta**	**2.49**	**171**	⇑P	**Pn**	**21 14 57.6**	**-0.2**
	baz=2.5,SNR=15						
U04C	**Hernandez Rese**	**2.52**	**278**	⇓P	**Pn**	**21 15 00.1**	**+1.8**
	baz=2.5						
T05C	**Eagle Field, D**	**2.54**	**290**	⇓P	**Pn**	**21 15 01.7**	**+3.1**
	baz=2.5						
U12A	**Valley of Fire**	**2.58**	**81**	⇑P	**Pn**	**21 14 59.9**	**+0.8**
	baz=2.6,SNR=7.3						
V04C	**Ramage Ranch,**	**2.62**	**262**	⇑P	**Pn**	**21 14 59.8**	**+0.2**
	baz=2.6,SNR=7.5						
PFO	**Pinyon Flat Ob**	**2.65**	**157**	⇓P	**Pn**	**21 14 59.8**	**-0.3**
	baz=2.7						
LRV	**Little Rabbit**	**2.71**	**279**	*e*Pn	**Pn**	**21 15 01.0**	**0.0**
IRM	**Iron Mountain**	**2.82**	**132**	P	**Pn**	**21 15 01.1**	**-1.3**
	baz=2.9,SNR=15						
TRCR	**Troy Canyon**	**2.84**	**36**	*e*Pn	**Pn**	**21 15 01.2**	**-1.5**
V03C	**Hunter Liggett**	**2.87**	**270**	⇑P	**Pn**	**21 15 02.2**	**-0.9**
	baz=2.8,SNR=13						
CMB	**Columbia Colle**	**2.92**	**313**	*e*P	**Pn**	**21 15 05.4**	**+1.5**
PACP	**Pacheco Peak**	**3.05**	**289**	⇑S	**Sn**	**21 15 41.9**	**-0.8**
	baz=3.0						
SAO	**San Andreas Ge**	**3.11**	**284**	*e*P	**Pn**	**21 15 07.6**	**+1.1**
SNCC	**San Nicolas Is**	**3.19**	**209**	⇑S	**Sn**	**21 15 43.9**	**-2.2**
	baz=3.2						
109C	**Camp Elliot, M**	**3.20**	**171**	⇑P	**Pn**	**21 15 07.7**	**0.0**
	baz=3.2						
W13A	**Hualapai Mount**	**3.25**	**106**	P	**Pn**	**21 15 08.0**	**-0.3**
	baz=3.3,SNR=14						
PDMCI	**Parker Dam,Lak**	**3.40**	**120**	⇓P	**Pn**	**21 15 09.6**	**-0.7**
	baz=3.4						
Y12C	**Blythe**	**3.48**	**131**	⇓P	**Pn**	**21 15 10.7**	**-0.8**
	baz=3.5						
X13A	**Yucca**	**3.48**	**114**	⇓P	**Pn**	**21 15 10.9**	**-0.6**
	baz=3.5,SNR=18						
CCUT	**Cedar City**	**3.78**	**66**	*e*P	**Pn**	**21 15 16.7**	**+1.1**
ARUT	**Antelope Range**	**3.82**	**62**	*e*Pn	**Pn**	**21 15 14.5**	**-1.7**
ARUT				*e*Pg	**Pg**	**21 15 27.6**	**-1.8**
GLA	**Glamis**	**3.82**	**141**	*e*P	**Pn**	**21 15 14.7**	**-1.5**
GLA	**Glamis**	**3.82**	**141**	⇑P	**Pn**	**21 15 15.5**	**-0.7**
	baz=3.9						
W14A	**Seligman**	**3.85**	**101**	⇑P	**Pn**	**21 15 16.2**	**-0.3**
	baz=3.9						
X14A	**Yava**	**4.24**	**111**	⇓P	**Pn**	**21 15 21.8**	**-0.1**
	baz=4.3,SNR=5.8						
BMN	**Battle Mountai**	**4.38**	**5**	*e*Pg	**Pg**	**21 15 38.3**	**-1.9**
OHCM	**Honcut**	**4.44**	**319**	*e*Pb	**Pb**	**21 15 33.9**	**-1.1**
NSHM	**Saint Helena R**	**4.62**	**304**	*e*Pg	**Pg**	**21 15 40.5**	**-4.4**
X15A	**Humboldt**	**4.73**	**108**	⇑P	**Pn**	**21 15 28.7**	**0.0**
	baz=4.8						
MSU	**Marysvale**	**5.03**	**59**	*e*Pg	**Pg**	**21 15 50.2**	**-2.5**
ELK	**Elko**	**5.06**	**22**	*e*Pg	**Pg**	**21 15 50.4**	**-2.8**
	12nm,0.5s						
WUAZ	**Wupatki**	**5.16**	**94**	*e*Pg	**Pg**	**21 15 50.7**	**-4.5**
	69nm,0.9s						
115A	**Sonoran Desert**	**5.62**	**125**	⇑P	**Pn**	**21 15 40.4**	**-0.6**
	baz=5.7						
TMUT	**Trail Mountain**	**6.07**	**56**	*e*Pg	**Pg**	**21 16 11.6**	**-1.0**
BGU	**Big Grassy Mou**	**6.08**	**36**	*e*Pg	**Pg**	**21 16 09.9**	**-2.8**
MOD	**Modoc**	**6.18**	**342**	*e*Pg	**Pg**	**21 16 12.5**	**-2.1**
	4.8nm,0.6s						
WVOR	**Wild Horse Val**	**6.41**	**354**	Pn	**Pn**	**21 15 48.1**	**-3.6**
WVOR				*e*Pg	**Pg**	**21 16 16.7**	**-2.3**
MVCO	**Mesa Verde**	**7.48**	**78**	Pn	**Pn**	**21 16 09.7**	**+3.3**
MVCO				*e*Pg	**Pg**	**21 16 36.6**	**-2.9**
HLID	**Hailey**	**7.91**	**18**	Pn	**Pn**	**21 16 12.0**	**-0.3**
	4.6nm,0.7s						

*LDG **27** 21:20:56.5±0.1, 4590N×335E, h10km, Md1.8/2, Ml1.7/5, Error ellipse: s-maj=1.2km s-min=1.0km az=104.0*
STR 27 21:20:56.8±0.1, 4591N×334E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.20**	**314**	Pg	Pg	21 21 01.3	+0.5
AGO				Sg	Sg	21 21 04.4	+0.9
PLDF	**La Plantade**	**0.20**	**73**	Pg	Pg	21 21 01.6	+0.8
PLDF				Sg	Sg	21 21 04.1	+0.5
PYM	**Petit Puy Mans**	**0.28**	**236**	Pg	Pg	21 21 02.7	+0.4
PYM				Sg	Sg	21 21 06.8	+0.8
LBL	**Lubilhac**	**0.68**	**186**	Pg	Pg	21 21 10.0	+0.1
LBL				Sg	Sg	21 21 19.0	+0.3
BGF	**Bois d'Agland**	**0.73**	**332**	*e*Pg	Pg	21 21 10.8	-0.1
BGF				*e*Sg	Sg	21 21 20.2	-0.2
	4.8nm,0.3s						
SMF	**Signal de Mont**	**0.81**	**25**	*e*Pg	Pg	21 21 12.0	-0.4
SMF				*e*Sg	Sg	21 21 22.7	-0.3
	0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**0.87**	**296**	*e*Pg	Pg	21 21 13.4	-0.1
TCF				*e*Sg	Sg	21 21 24.7	-0.2
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**0.88**	**1**	*e*Pg	Pg	21 21 13.5	-0.2
AVF				*e*Sg	Sg	21 21 24.4	-0.7
SSF	**Saint Saulge**	**1.16**	**6**	*e*Sg	Sg	21 21 33.5	-0.5
	2.2nm,0.3s						
LOR	**Lormes**	**1.41**	**15**	*e*Pg

*CSEM **27** 23:00:15.2, 67.19N×2064E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **27** 23:00:15.2, 67.19N×2064E, h0km, ML3.2, Mining explosion.*

HEL 27 23:00:15.8±0.0, 6718N×2064E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**205**	*i* P	Pg	23 00 16.9	-0.2
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	23 00 26.6	-0.6
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	23 00 26.5	-0.7
KUA	**Kurravaara**	**0.78**	**352**	*i* P	Pg	23 00 29.8	-1.1
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	Pg	23 00 31.3	-0.9
SALU	**Saltoluokta** baz=110	**0.85**	**284**	P	Pg	23 00 31.3	-0.9
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	23 00 32.6	-0.9
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	23 00 33.5	-1.1
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	23 00 33.9	-1.2
HARU	**Harads**	**1.03**	**172**	*e*P	Pg	23 00 34.4	-1.2
HARU	**Harads** baz=340	**1.03**	**172**	P	Pg	23 00 34.4	-1.2
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 00 46.4	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	23 00 48.4	-0.1
KIF				*e*S	Sn	23 01 14.4	+2.0
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	23 00 49.8	-0.1
LILU	**Lilltraesk** baz=7.6	**1.93**	**190**	P	Pn	23 00 49.8	-0.1
SGF	**Sodankyl**	**2.30**	**81**	*e*P	Pn	23 00 55.5	+0.6
SGF				*e*S	Sn	23 01 24.9	+1.0

*BJI **27** 23:04:00.8, 47.20N×155.30E, h10km, mB4.8, mb4.2*
*IDC **27** 23:04:00.8±0.8, 4708N×155.20E, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.2/28, mbtmp4.1/20, ML3.8/1, MS3.4/4, Ms1 3.5/4, ms1mx3.1/35, Error ellipse: s-maj=22.6km s-min=18.1km az=128.0*
*ISCJB **27** 23:04:01.5±0.6, 47.19N×008×1552E±0.1, h10km, mb4.3/38, MS3.7/5, Error ellipse: s-maj=14.7km s-min=7.5km az=96.3*
*NEIC **27** 23:04:02.9±0.6, 47.16N×155.26E, h10km, mb4.5/18, Error ellipse: s-maj=15.4km s-min=8.3km az=139.0*
*MOS **27** 23:04:06.7±2.1, 47.14N×154.83E, h37km, mb4.6/29, Error ellipse: s-maj=13.5km s-min=7.5km az=105.8*
*SZGRF **27** 23:04:15.1, 47.91N×155.31E, h33km, mb4.8, East of Kuril Islands, Russia*

ISC 27 23:04:03.0±0.6, 4718N±008×1553E±01, h10km, n113, σ1§46/112, mb4.3/38, MS3.7/5, 13C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.56**	**9**	*e*PN	**Pn**	**23 04 58.0**	**-0.2**
PET	**Petropavlovsk**	**6.25**	**19**	*e*PN	**Pn**	**23 05 29.8**	**-5.4**
PET	**Petropavlovsk**	**6.25**	**19**	Pn	**Pn**	**23 05 33.9**	**-1.3**
YSS	**Yuzh-Sakhalins**	**8.54**	**273**	*e*PN	**Pn**	**23 06 06.2**	**-0.5**
ASAJ	**Asahikawa** comp=Z,65nm,20.2s,baz=166,slow=39	**9.38**	**256**	LR	LR	23 10 07.9	
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=297,slow=30,SNR=4.5	**16.52**	**236**	Pn	**Pn**	**23 07 54.4**	**-0.5**
MAJO	**Matsushiro**	**16.52**	**236**	*e*P	**Pn**	**23 07 55.9**	**+1.1**
MAJO	comp=Z,7.0nm,0.7s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,7.2nm,0.7s	**16.52**	**236**	*e*Pn	**Pn**	**23 07 55.9**	**+1.1**
YAK	**Yakutsk**	**20.78**	**325**	P	**P**	**23 08 43.1**	**-1.1**
BILL	**Bilibino**	**21.67**	**11**	*e*P	**P**	**23 08 51.0**	**-2.7**
BILL	comp=Z,22nm,1.7s,mb4.3			pmax	pmax		
BILL	**Bilibino** comp=Z,6.1nm,0.6s,mb4.2	**21.67**	**11**	*e*P	**P**	**23 08 53.4**	**-0.4**
KSRS	**Korea Array** comp=Z,1.4nm,0.6s,mb3.6,baz=51,slow=11,SNR=4.1	**22.33**	**254**	P	**P**	**23 09 01.5**	**+0.7**
BOD	**Bodaibo**	**26.86**	**309**	*e*P	**P**	**23 09 40.2**	**-3.6**
BOD	comp=Z,7.0nm,1.4s,mb4.0			pmax	pmax		
TIXI	**Tiksi**	**27.49**	**342**	*e*P	**P**	**23 09 45.8**	**-3.6**
TIXI	comp=Z,7.0nm,1.5s,mb4.0			pmax	pmax		
TIXI	comp=Z,137nm,16.0s,MS3.6			MLR	MLR		
TIXI	**Tiksi** comp=Z,2.6nm,0.5s,mb4.0	**27.49**	**342**	P	**P**	**23 09 47.1**	**-2.4**
BJT	**Baijiatuau**	**28.96**	**270**	*e*P	**P**	**23 10 03.2**	**+0.6**
BJT	comp=Z,4.0nm,0.4s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,4.1nm,0.4s,mb4.5	**28.96**	**270**	*e*P	**P**	**23 10 03.2**	**+0.6**
SONM	**Songino Array** comp=Z,1.3nm,0.9s,mb3.9,baz=68,slow=6.9,SNR=6.7	**32.58**	**290**	P	**P**	**23 10 31.8**	**-2.6**
SONM	comp=Z,82nm,18.3s,MS3.5,baz=59,slow=39			LR	LR	23 25 09.2	
SONM	**Songino Array** comp=Z,1.0nm,0.9s	**32.58**	**290**	P	**P**	**23 10 31.8**	**-2.7**
SONM	comp=Z,82nm,18.3s			pmax	pmax		
				MLR	MLR		
COLA	**College**	**34.89**	**39**	*d* iP	**P**	**23 10 52.9**	**-1.7**
COLA	**College** comp=Z,7.8nm,1.0s,mb4.6	**34.89**	**39**	*e*P	**P**	**23 10 54.0**	**-0.6**
XAN	**Xi'an**	**37.01**	**266**	P	**P**	**23 11 11.3**	**-1.5**
XAN	comp=Z,5.0nm,1.5s,mb4.1			AMB	AMB		
DAWY	**Dawson**	**38.58**	**40**	*e*P	**P**	**23 11 25.3**	**-0.7**
INK	**Inuvik** comp=Z,2.9nm,0.7s,mb4.0,baz=303,slow=7.4,SNR=4.7	**40.50**	**33**	P	**P**	**23 11 41.2**	**-0.8**
INK	**Inuvik**	**40.50**	**33**	*e*P	**P**	**23 11 41.9**	**-0.2**
ZAL	**Zalesovo** comp=Z,1.5nm,0.6s,mb3.9,baz=37,slow=9.0,SNR=7.7	**43.56**	**306**	P	**P**	**23 12 05.2**	**-1.9**
ZAL	comp=Z,87nm,21.2s,MS3.6,baz=249,slow=38			LR	LR	23 31 39.0	
ZAL	**Zalesovo** comp=Z,2.0nm,0.6s	**43.56**	**306**	P	**P**	**23 12 05.2**	**-1.9**
ZAL	comp=Z,87nm,21.2s			pmax	pmax		
				MLR	MLR		
NVS	**Novosibirsk**	**44.09**	**308**	*e*P	**P**	**23 12 11.1**	**-0.2**
NVS	comp=Z,12nm,1.7s,mb4.3			pmax	pmax		
NVS	comp=N,10.0nm,1.8s			pmax	pmax		
MKAR	**Makanchi Array** comp=E,2.6nm,0.8s,mb4.3,baz=57,slow=4.5,SNR=14	**48.04**	**298**	P	**P**	**23 12 40.4**	**-2.1**
MKAR	**Makanchi Array** comp=Z,3.0nm,0.8s	**48.04**	**298**	P	**P**	**23 12 40.4**	**-2.0**
MKAR				pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.9s,mb4.1,baz=296,slow=7.2,SNR=6.5	**49.70**	**38**	P	**P**	**23 12 53.4**	**-1.8**
YKA	**Yellowknife Ar** comp=Z,2.0nm,0.9s	**49.70**	**38**	P	**P**	**23 12 53.4**	**-1.7**
YKA				pmax	pmax		
RES	**Resolute Bay** comp=Z,124nm,0.9s	**49.96**	**19**	*e*P	**P**	**23 12 57.0**	**-0.1**
LSA	**Lhasa**	**51.71**	**274**	P	**P**	**23 13 11.0**	**+0.7**
LSA	**Lhasa** comp=Z,2.0nm,0.6s,mb4.2	**51.71**	**274**	*e*P	**P**	**23 13 11.5**	**+1.2**
LSA				pmax	pmax		
LSA	**Lhasa** comp=Z,2.3nm,0.6s,mb4.3	**51.71**	**274**	*e*P	**P**	**23 13 11.5**	**+1.2**
BVAR	**Borovoye Array** comp=Z,2.7nm,0.5s,mb4.4,baz=56,slow=7.5,SNR=18	**51.72**	**310**	P	**P**	**23 13 08.3**	**-2.1**
BVAR	**Borovoye Array** comp=Z,3.0nm,0.5s	**51.72**	**310**	P	**P**	**23 13 08.3**	**-2.1**
BVAR				pmax	pmax		
BRVK	**Borovoye** comp=Z,3.0nm,0.6s,mb4.4	**51.76**	**310**	*e*P	**P**	**23 13 08.6**	**-2.1**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,3.0nm,0.6s,mb4.4	**51.76**	**310**	*e*P	**P**	**23 13 08.6**	**-2.0**
AAK	**Ala-Archa**	**54.95**	**297**	*i*eP	**P**	**23 13 33.9**	**-0.3**
AAK	comp=Z,5.0nm,1.2s,mb4.4			pmax	pmax		
AAK	**Ala-Archa** comp=Z,4.2nm,1.2s,mb4.3	**54.95**	**297**	*e*P	**P**	**23 13 32.9**	**-1.3**
ARU	**Arti**	**55.68**	**318**	*i*eP	**P**	**23 13 39.1**	**-0.3**
ARU	comp=Z,6.0nm,0.7s,mb4.7			pmax	pmax		
ARU	**Arti** comp=Z,6.4nm,0.6s,mb4.8	**55.68**	**318**	*e*P	**P**	**23 13 38.8**	**-0.6**
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**23 14 36.7**	**-1.7**

	comp=Z,2.8nm,0.6s,mb4.5,baz=41,slow=7.4,SNR=33						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**23 14 36.7**	**-1.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**65.78**	**326**	*i*eP	**P**	**23 14 47.9**	**-0.3**
OBN				*e*		23 15 19.5	
OBN				*e*		23 17 12.2	
OBN				*e*		23 23 25.9	
OBN				*e*SS	SS	23 27 39.6	-9.5
OBN	comp=Z,10.0nm,1.6s,mb4.6			pmax	pmax		
OBN	comp=Z,100nm,17.0s,MS4.1			MLR	MLR		
OBN	**Obninsk** comp=Z,8.1nm,0.4s,mb5.1	**65.78**	**326**	*e*P	**P**	**23 14 46.4**	**-1.8**
NB2	**NORSAR Subarra** comp=Z,16nm,1.4s,mb4.8,baz=25,slow=6.5	**68.29**	**342**	P	**P**	**23 15 01.6**	**-2.6**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.6s,mb4.2,baz=25,slow=6.4,SNR=6.3	**68.29**	**342**	P	**P**	**23 15 04.1**	**-0.1**
NOA				LR	LR	23 48 10.6	
NOA	**NORSAR Array B** comp=Z,43nm,20.0s,MS3.7,baz=240,slow=39	**68.29**	**342**	P	**P**	**23 15 04.1**	**-0.1**
NOA	comp=Z,2.0nm,0.6s			pmax	pmax		
NOA	comp=Z,43nm,20.0s			MLR	MLR		
NOA	**NORSAR Array B**	**68.29**	**342**	P	**P**	**23 15 04.1**	**-0.1**
NOA				LR	LR	23 48 10.6	
HFS	**Hagfors** comp=Z,1.5nm,0.4s,mb4.2,baz=62,slow=3.5,SNR=11	**68.56**	**340**	P	**P**	**23 15 06.4**	**+0.5**
HFS	**Hagfors** comp=Z,2.0nm,0.4s	**68.56**	**340**	P	**P**	**23 15 06.4**	**+0.5**
HFS				pmax	pmax		
WRA	**Warramunga Arr** comp=Z,0.8nm,0.9s,mb3.6,baz=23,slow=6.9,SNR=3.5	**69.42**	**201**	P	**P**	**23 15 09.8**	**-1.4**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.9s	**69.42**	**201**	P	**P**	**23 15 09.8**	**-1.4**
WRA				pmax	pmax		
AKASG	**Malin Array Be** comp=Z,3.0nm,0.7s,mb4.4,baz=34,slow=6.3,SNR=17	**72.00**	**327**	P	**P**	**23 15 25.9**	**-1.0**
AKASG	**Malin Array Be** comp=Z,3.0nm,0.7s	**72.00**	**327**	P	**P**	**23 15 25.9**	**-1.0**
AKASG				pmax	pmax		
AKASG	**Malin Array Be**	**72.00**	**327**	P	**P**	**23 15 25.9**	**-1.0**
ASAR	**Alice Springs** comp=Z,0.6nm,0.9s,mb3.5,baz=13,slow=6.9,SNR=4.1	**73.10**	**200**	P	**P**	**23 15 31.6**	**-1.8**
ASAR	**Alice Springs** comp=Z,1.0nm,0.9s	**73.10**	**200**	P	**P**	**23 15 31.7**	**-1.8**
ASAR				pmax	pmax		
STHS	**Stebnicka Huta**	**75.87**	**331**	*e*P	**P**	**23 15 52.8**	**+3.2**
STHS	**Stebnicka Huta**	**75.87**	**331**	*e*P	**P**	**23 15 52.9**	**+3.3**
STHS	comp=Z,4.0nm,0.8s,mb4.4			pmax	pmax		
STHS	**Stebnicka Huta** comp=Z,3.6nm,0.8s,mb4.3	**75.87**	**331**	*e*P	**P**	**23 15 52.9**	**+3.3**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.9s,baz=301,slow=5.4,SNR=3.6	**76.00**	**62**	P	**P**	**23 15 49.7**	**-0.6**
TXAR	**Lajitas Array**	**76.00**	**62**	P	**P**	**23 15 49.7**	**-0.6**
BURAR	**Bucovina Array**	**76.03**	**328**	*i*P	**P**	**23 15 50.6**	**+0.1**
BURAR	**Bucovina Array**	**76.03**	**328**	P	**P**	**23 15 50.6**	**+0.2**
EKA	**Eskdalemuir Ar** comp=Z,1.7nm,0.6s,mb4.1,baz=17,slow=4.7,SNR=5.4	**76.26**	**348**	P	**P**	**23 15 52.8**	**+1.0**
EKA	**Eskdalemuir Ar**	**76.26**	**348**	P	**P**	**23 15 52.8**	**+1.0**
EKA	comp=Z,2.0nm,0.6s			pmax	pmax		
DPC	**Dobruska-Polom**	**76.59**	**334**	*e*P	**P**	**23 15 55.8**	**+2.1**
CLL	**Collm** comp=Z,14nm,1.7s,mb4.6	**76.67**	**337**	*e*P	**P**	**23 15 55.0**	**+0.9**
MORC	**Moravsky Berou**	**76.73**	**333**	*i*P	**P**	**23 15 56.7**	**+2.2**
MORC	**Moravsky Berou**	**76.73**	**333**	P	**P**	**23 15 56.7**	**+2.2**
KECS	**Kecovo**	**76.93**	**331**	*e*P	**P**	**23 15 56.2**	**+0.6**
KECS	comp=Z,2.0nm,0.7s,mb4.2			pmax	pmax		
KECS	**Kecovo** comp=Z,1.9nm,0.7s,mb4.1	**76.93**	**331**	*e*P	**P**	**23 15 56.2**	**+0.6**
PRU	**Pruhonice**	**77.43**	**335**	*e*P	**P**	**23 16 01.1**	**+2.7**
VRAC	**Vranov** comp=Z,1.4nm,0.5s,mb4.2,baz=0.0,slow=3.0,SNR=3.5	**77.44**	**334**	P	**P**	**23 15 59.9**	**+1.5**
VRAC	**Vranov**	**77.44**	**334**	P	**P**	**23 15 59.9**	**+1.5**
VRAC	comp=Z,1.0nm,0.5s			pmax	pmax		
VYHS	**Vyhne**	**77.46**	**332**	*e*P	**P**	**23 16 00.9**	**+2.3**
MLR	**Muntele Rosu** comp=Z,4.2nm,0.7s,mb4.5,baz=207,slow=5.4,SNR=16	**77.55**	**326**	P	**P**	**23 16 00.2**	**+1.1**
MLR	**Muntele Rosu**	**77.55**	**326**	*i*P	**P**	**23 16 00.1**	**+1.0**
MLR	**Muntele Rosu**	**77.55**	**326**	P	**P**	**23 16 00.1**	**+1.0**
DRGR		**77.63**	**329**	*i*P	**P**	**23 16 00.8**	**+1.3**
DRGR		**77.63**	**329**	P	**P**	**23 16 00.8**	**+1.3**
MALT	**Malatya**	**77.92**	**314**	*i*P	**P**	**23 16 01.0**	**-0.2**
MALT	**Malatya**	**77.92**	**314**	P	**P**	**23 16 01.0**	**-0.1**
KHC	**Kasperske Hory**	**78.48**	**335**	*e*P	**P**	**23 16 06.4**	**+2.2**
KHC	**Kasperske Hory**	**78.48**	**335**	P	**P**	**23 16 04.4**	**+0.2**
GRA1	**Grafenberg Arr** comp=Z,11nm,1.4s,mb4.6	**78.61**	**337**	*e*P	**P**	**23 16 08.4**	**+3.4**
GRF	**Grafenberg Arr** comp=Z,11nm,1.4s,mb4.6	**78.61**	**337**	*e*P	**P**	**23 16 08.4**	**+3.4**
GRF	**Grafenberg Arr**	**78.61**	**337**	*e*P	**P**	**23 16 08.4**	**+3.4**
GRF	comp=Z,11nm,1.4s,mb4.6			pmax	pmax		
GRF	**Grafenberg Arr**	**78.61**	**337**	*e*P	**P**	**23 16 08.4**	**+3.4**
GRF	comp=Z,11nm,1.4s,mb4.6			pmax	pmax		
GERES	**GERESS Array B** comp=Z,0.9nm,0.6s,mb3.9,baz=42,slow=6.1,SNR=9.7	**78.70**	**335**	P	**P**	**23 16 06.1**	**+0.6**
GERES	**GERESS Array B** comp=Z,1.0nm,0.6s	**78.70**	**335**	P	**P**	**23 16 06.1**	**+0.6**
GERES				pmax	pmax		
BZS	**Buzias**	**79.03**	**329**	*i*P	**P**	**23 16 08.4**	**+1.2**
BZS	**Buzias**	**79.03**	**329**	P	**P**	**23 16 08.4**	**+1.2**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,mb3.9,baz=85,slow=3.6,SNR=7.4	**79.07**	**318**	P	**P**	**23 16 07.7**	**+0.2**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.8s	**79.07**	**318**	P	**P**	**23 16 07.7**	**+0.2**
BRTR				pmax	pmax		
CDF	**Champ du Feu** comp=Z,6.3nm,0.8s,mb4.3	**80.80**	**339**	*e*P	**P**	**23 16 20.1**	**+3.2**
CDF	**Champ du Feu** comp=Z,3.0nm,0.8s,mb4.3	**80.80**	**339**	*e*P	**P**	**23 16 20.1**	**+3.2**
CDF				pmax	pmax		
CDF	**Champ du Feu** comp=Z,3.2nm,0.8s,mb4.3	**80.80**	**339**	*e*P	**P**	**23 16 20.1**	**+3.2**
VTS	**Vitosha**	**81.05**	**326**	*i*P	**P**	**23 16 20.7**	**+2.5**
GRR	**Gorron**	**82.57**	**344**	*e*P	**P**	**23 16 29.6**	**+3.4**
SMF	**Signal de Mont** comp=Z,32nm,1.1s,mb4.9	**83.27**	**341**	*e*P	**P**	**23 16 32.7**	**+2.9**
SMF	**Signal de Mont** comp=Z,16nm,1.1s,mb5.0	**83.27**	**341**	*e*P	**P**	**23 16 32.7**	**+2.9**
SMF				pmax	pmax		
SMF	**Signal de Mont** comp=Z,16nm,1.1s,mb5.0	**83.27**	**341**	*e*P	**P**	**23 16 32.7**	**+2.9**
LPG	**La Plagne** comp=Z,13nm,0.8s,mb4.8	**83.65**	**338**	*e*P	**P**	**23 16 35.6**	**+3.8**
LPG	**La Plagne** comp=Z,6.0nm,0.8s,mb4.8	**83.65**	**338**	*e*P	**P**	**23 16 35.6**	**+3.8**
LPG				pmax	pmax		
LPG	**La Plagne** comp=Z,6.3nm,0.8s,mb4.8	**83.65**	**338**	*e*P	**P**	**23 16 35.6**	**+3.8**
CAF	**Calviac** comp=Z,4.7nm,0.6s,mb4.5	**85.29**	**341**	*e*P	**P**	**23 16 43.4**	**+3.3**
CAF	**Calviac** comp=Z,2.0nm,0.6s,mb4.4	**85.29**	**341**	*e*P	**P**	**23 16 43.4**	**+3.3**
CAF				pmax	pmax		
CAF	**Calviac** comp=Z,2.3nm,0.6s,mb4.5	**85.29**	**341**	*e*P	**P**	**23 16 43.4**	**+3.3**

*IDC **27** 23:10:13.3±0.7, 15.14S×173.33W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.4/16, mbtmp4.4/9, MS3.9/20, Ms1 3.9/20, ms1mx3.8/27, Error ellipse: s-maj=32.9km s-min=16.0km az=135.0*
*NEIC **27** 23:10:14.8±0.3, 15.12S×173.33W, h10km, mb4.7/17, Error ellipse: s-maj=14.3km s-min=6.8km az=138.0*
*ISCJB **27** 23:10:16.8±0.3, 15.10S±0.10×173.40W±0.09, h35km, mb4.5/24, MS4.0/19, Error ellipse: s-maj=17.1km s-min=7.9km az=99.1*

ISC 27 23:10:18.6±0.3, 1511S±010×17333W±009, h35km, n82, σ0§87/39, mb4.5/24, MS4.0/19, 4C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 625nm,0.3s,baz=184,slow=1.7,SNR=206	**1.92**	**52**	Pn	**Pn**	**23 10 46.7**	**-2.1**
AFI	4μm,0.3s,baz=24,slow=19,SNR=34			Sn	**Sn**	**23 11 05.6**	**-6.1**
AFI	comp=Z,1μm,20.5s,baz=85,slow=33			LR	LR	23 11 16.9	
RAR	**Rarotonga** 4.8nm,0.3s,baz=271,slow=0.9,SNR=6.5	**14.24**	**117**	Pn	**Pn**	**23 13 30.9**	**-6.7**
RAR	comp=Z,58nm,21.2s,baz=250,slow=32			LR	LR	23 17 53.8	
DZM	**Mont Dzumac** comp=Z,181nm,20.2s,MS3.4,baz=30,slow=31	**20.37**	**247**	LR	LR	23 20 51.5	
PPT	**Papeete** 1μm,32.0s	**22.92**	**99**	*e*LQ		23 19 38.4	
PPT	271nm,26.0s			*e*LR	LR	23 20 35.8	
TBI	**Tubuai** 523nm,30.0s	**23.96**	**114**	*e*LQ		23 20 09.4	
TBI	200nm,28.5s			*e*LR	LR	23 20 55.6	
URZ	**Urewera** 20nm,0.3s,mb5.1,baz=14,slow=3.3,SNR=15	**24.56**	**198**	P	**P**	**23 15 34.8**	**-0.3**
URZ	comp=Z,306nm,22.0s,MS3.8,baz=36,slow=32			LR	LR	23 23 31.5	
HNR	**Honiara** comp=Z,134nm,19.3s,MS3.5,baz=176,slow=30	**26.70**	**279**	LR	LR	23 23 39.6	
RKT	**Rikitea** 114nm,27.8s	**37.02**	**108**	*e*LR	LR	23 26 56.4	
PMG	**Port Moresby** 8.1nm,0.7s,mb4.6	**38.98**	**274**	*e*P	**P**	**23 17 41.0**	**-0.4**
TAU	**Tasmania Unive** 61nm,1.3s,mb5.2	**43.58**	**223**	*e*P	**P**	**23 18 18.4**	**-0.7**
STKA	**Stephens Creek** 2.2nm,0.7s,mb4.0	**44.24**	**240**	*e*P	**P**	**23 18 24.1**	**-0.3**
STKA	**Stephens Creek** 1.3nm,0.4s,mb4.0,baz=74,slow=10.0,SNR=5.2	**44.24**	**240**	P	**P**	**23 18 24.1**	**-0.4**
STKA	comp=Z,127nm,20.0s,MS3.8,baz=25,slow=32			LR	LR	23 33 56.5	
WB2	**Warramunga Arr**	**49.96**	**257**	*e*P	**P**	**23 19 08.5**	**-0.6**
WB2	**Warramunga Arr**	**49.96**	**257**	*e*P	**P**	**23 19 09.2**	**+0.1**
WRAB	**Tennant Creek** 1.9nm,0.5s,mb4.4	**49.97**	**257**	*e*P	**P**	**23 19 09.2**	**+0.1**
WRA	**Warramunga Arr** 1.0nm,0.5s,mb4.1,baz=91,slow=6.7,SNR=20	**49.98**	**257**	P	**P**	**23 19 08.9**	**-0.2**
WRA	comp=Z,86nm,18.8s,MS3.8,baz=120,slow=34			LR	LR	23 38 19.6	
AS31	**Alice Springs**	**50.26**	**252**	*e*P	**P**	**23 19 11.7**	**+0.4**
ASAR	**Alice Springs** 3.2nm,0.5s,mb4.6,baz=89,slow=8.0,SNR=56	**50.26**	**252**	P	**P**	**23 19 11.2**	**-0.2**
ASAR	comp=Z,254nm,21.7s,MS4.2,baz=105,slow=34			LR	LR	23 38 22.3	
ASPA	**Alice Springs**	**50.27**	**252**	*e*P	**P**	**23 19 11.7**	**+0.3**
SBA	**Scott Base** 6.7nm,0.7s,mb4.8	**63.54**	**185**	*e*P	**P**	**23 20 46.2**	**+0.7**
VNDA	**Vanda** 6.6nm,0.8s,mb4.7,baz=7.0,slow=6.5,SNR=40	**63.67**	**186**	P	**P**	**23 20 46.3**	**0.0**
VNDA	comp=Z,64nm,18.8s,MS3.8,baz=332,slow=30			LR	LR	23 41 55.0	
NWAO	**Narrogin (SRO)** 2.2nm,0.6s,mb4.4	**64.82**	**240**	*e*P	**P**	**23 20 55.0**	**+1.2**
PFO	**Pinyon Flat Ob** comp=Z,135nm,21.4s,MS4.2,baz=244,slow=29	**72.68**	**47**	LR	LR	23 45 31.9	
LPIG	**La Paz** comp=Z,107nm,19.3s,MS4.1,baz=233,slow=28	**72.83**	**58**	LR	LR	23 44 45.7	
YBH	**Yreka Blue Hor** comp=Z,169nm,20.9s,MS4.3,baz=72,slow=28	**73.33**	**37**	LR	LR	23 44 39.6	
QSPA	**South Pole Qui** 34nm,1.1s,mb5.2	**74.93**	**180**	P	**P**	**23 21 55.9**	**0.0**
KSRS	**Korea Array** comp=Z,38nm,2.7s,MS3.7,baz=105,slow=30	**76.00**	**315**	LR	LR	23 48 55.5	
TXAR	**Lajitas Array** 2.9nm,1.1s,mb4.1,baz=224,slow=5.2,SNR=14	**80.39**	**56**	P	**P**	**23 22 27.1**	**+0.6**
TXAR	comp=Z,72nm,19.5s,MS4.0,baz=10.0,slow=30			LR	LR	23 49 45.5	
TXAR	**Lajitas Array**	**80.39**	**56**	P	**P**	**23 22 27.1**	**+0.6**
TXAR				LR	LR	23 49 45.5	
NEW	**Newport** comp=Z,88nm,18.6s,MS4.1,baz=273,slow=31	**80.43**	**34**	LR	LR	23 51 15.8	
NEW	**Newport** 1.6nm,0.4s,mb4.3	**80.43**	**34**	*e*P	**P**	**23 22 25.9**	**-0.7**
ANMO	**Albuquerque** 2.7nm,1.0s,mb4.1	**80.56**	**50**	*e*P	**P**	**23 22 27.8**	**+0.5**
MCK	**McKinley** 20nm,1.6s,mb4.8	**80.83**	**11**	*e*P	**P**	**23 22 29.3**	**+0.6**
MCMT	**McKenzie Canyo**	**80.99**	**39**	*e*P	**P**	**23 22 30.6**	**+1.0**
MSO	**Missoula** 4.1nm,1.0s,mb4.3	**81.41**	**37**	*e*P	**P**	**23 22 30.9**	**-0.9**
IMW	**Indian Meadow** 5.3nm,1.1s,mb4.5	**81.69**	**40**	*e*P	**P**	**23 22 34.2**	**+0.9**
PDAR	**Pinedale Array** 1.4nm,0.9s,mb3.9,baz=222,slow=2.0,SNR=9.1	**82.00**	**42**	P	**P**	**23 22 35.4**	**+0.5**
PDAR	comp=Z,81nm,19.2s,MS4.1,baz=151,slow=30			LR	LR	23 51 47.4	
COLA	**College** 7.6nm,1.0s,mb4.6	**82.06**	**11**	*e*P	**P**	**23 22 35.6**	**+0.4**
SDCO	**Great Sand Dun** 6.7nm,1.1s,mb4.5	**82.47**	**48**	*e*P	**P**	**23 22 38.0**	**+0.7**
HRY	**Holter Researc**	**82.58**	**38**	*e*P	**P**	**23 22 37.2**	**-0.7**
PAYG	**Puerto Ayora**	**83.11**	**89**	*e*P	**P**	**23 22 41.8**	**+1.1**
RLMT	**Red Lodge** 7.5nm,1.2s,mb4.6	**83.33**	**40**	*e*P	**P**	**23 22 42.9**	**+1.0**
CMIG	**Matias Romero** comp=Z,48nm,18.9s,MS3.9,baz=175,slow=32	**83.72**	**71**	LR	LR	23 54 32.7	
INK	**Inuvik** 56nm,0.7s	**87.97**	**14**	*e*P	**P**	**23 23 02.2**	**-2.6**
MAW	**Mawson** 5.7nm,0.6s,mb5.0	**88.09**	**199**	*i*P	**P**	**23 23 04.7**	**-0.7**
MAW	**Mawson** 9.1nm,0.8s,mb5.0,baz=132,slow=6.2,SNR=18	**88.09**	**199**	P	**P**	**23 23 05.0**	**-0.4**
MAW	comp=Z,129nm,19.0s,MS4.4,baz=72,slow=33			LR	LR	23 58 32.7	
MAW	**Mawson** 14nm,0.9s,mb5.2	**88.09**	**199**	*e*P	**P**	**23 23 05.1**	**-0.4**
YKA	**Yellowknife Ar** 0.5nm,0.7s,mb4.0,baz=241,slow=4.1,SNR=4.3	**89.81**	**23**	P	**P**	**23 23 13.6**	**+0.1**
SNAA	**Sanae** 7.8nm,1.4s,mb5.0	**93.19**	**177**	*e*P	**P**	**23 23 26.4**	**-2.9**
ULM	**Lac du Bonnet** comp=Z,106nm,19.1s,MS4.3,baz=14,slow=32	**93.67**	**39**	LR	LR	23 59 57.3	
SONM	**Songino Array** comp=Z,68nm,21.1s,MS4.1,baz=51,slow=32	**94.67**	**318**	LR	LR	23 59 57.5	
TKL	**Tuckaleechee C** comp=Z,61nm,21.6s,MS4.1,baz=283,slow=30	**98.29**	**55**	LR	LR	23 59 28.1	
MALT	**Malatya**	**143.70**	**316**	*i*P	PKPdf	23 29 50.9	+1.1

σ0§87/18, **2C-3D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.72**	**216**	P	**Pg**	**23 16 40.6**	**+0.9**
DUS	**Dusheti**	**0.92**	**274**	P	**Pg**	**23 16 42.5**	**-1.1**
DUS				S	**Sg**	**23 16 56.8**	**+1.2**
MTA	**Mtatsminda**	**0.92**	**248**	P	**Pg**	**23 16 51.6**	**+8.0**
MTA				S	**Sg**	**23 17 05.8**	**+10**
KZR	**Kazreti**	**1.31**	**241**	P	**Pn**	**23 16 48.4**	**-1.6**
KZR				S	**Sb**	**23 17 07.4**	**+0.1**
SNJR	**Sundja**	**1.32**	**321**	↑*i*PG	**Pg**	**23 16 50.0**	**-1.2**
VLKR	**Vladikavkaz**	**1.37**	**318**	*e*PG	**Pn**	**23 16 50.6**	**-0.2**
LACR	**Lac**	**1.45**	**304**	↓*i*PG	**Pn**	**23 16 50.8**	**-1.1**
MAK	**Makhachkala**	**1.48**	**51**	*e*PG	**Pn**	**23 16 52.8**	**+0.5**
MAK				*i* S	**Sg**	**23 17 13.8**	**+0.3**
ZEI	**Tsey**	**1.68**	**297**	↓*i*PN	**Pn**	**23 16 55.0**	**0.0**
ARNR	**Ardon**	**1.68**	**314**	*e*PN	**Pn**	**23 16 55.9**	**+0.8**
KORR	**Kora**	**1.73**	**308**	↓*i*PN	**Pn**	**23 16 56.7**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.94**	**297**	↑*i*PN	**Pn**	**23 16 59.3**	**+0.6**
PRTR	**Priterechnaya**	**2.10**	**325**	*e*PN	**Pb**	**23 17 02.9**	**-1.0**
PRTR				*e*S	**Sb**	**23 17 30.6**	**+0.7**

*NEIC **28** 00:05:50.0, 3673N×1261W, h0km, MN2.5(MDD), After MDD.*
*MDD **28** 00:05:51.2±2.7, 3672N×1252W, h0km, mb3.9/3, Error ellipse: s-maj=23.5km s-min=19.0km az=74.0, PRXIMO*
*CSEM **28** 00:05:51.3±0.7, 3625N×1225W, h10km, ML2.2, Error ellipse: s-maj=13.7km s-min=12.9km az=75.0*

INMG 28 00:05:52.8±0.6, 3649N×1283W, h10km, ML2.2, Error ellipse: s-maj=6.6km s-min=4.3km az=116.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.45**	**71**	*e*Pn	Pn	00 06 40.7	-5.9
PTEO				*e*Sn	Sn	00 07 16.2	-11
PMAFR	**Mafra**	**3.74**	**48**	*e*Pn	Pn	00 06 44.4	-6.1
PMAFR				*e*Sn	Sn	00 07 24.0	-11
PLOU	**Loures**	**3.77**	**49**	*e*Pn	Pn	00 06 45.1	-5.9
PLOU				*e*Sn	Sn	00 07 24.8	-11
PLOU	12nm,0.1s						
PLOU	**Loures**	**3.77**	**49**	*e*Pn	Pn	00 06 45.1	-5.9
PLOU				*e*Sn	Sn	00 07 24.8	-11
MOE	**Montemor**	**4.10**	**59**	*e*Sn	Sn	00 07 32.0	-12
PBEJ	**Beja**	**4.25**	**67**	*e*Pn	Pn	00 06 51.8	-5.7
PBEJ				*e*Sn	Sn	00 07 35.7	-11
PBEJ	1.4nm,0.1s						
PBEJ	**Beja**	**4.25**	**67**	*e*Pn	Pn	00 06 51.8	-5.7
PBEJ	1.4nm,0.1s			*e*Sn	Sn	00 07 35.7	-11
PESTR	**Estremoz**	**4.79**	**59**	*e*Pn	Pn	00 06 58.9	-6.0
PESTR				*e*Sn	Sn	00 07 48.3	-12
EMIN	**Mina Concepcio** 0.9nm,0.2s,SNR=7.9	**5.08**	**74**	P	Pn	00 07 02.8	-6.2
EMIN				S	Sn	00 07 55.6	-12
	2.2nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio** 0.9nm,0.2s,SNR=7.9	**5.08**	**74**	P	Pn	00 07 02.8	-6.2
EMIN				S	Sn	00 07 55.6	-12
	2.2nm,0.4s,SNR=7.9						
EBAD	**Badajoz** 1.1nm,0.1s,SNR=5.8	**5.14**	**62**	P	Pn	00 07 03.5	-6.3
EBAD				S	Sn	00 07 56.8	-12
	2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz** 1.1nm,0.1s,SNR=5.8	**5.14**	**62**	P	Pn	00 07 03.5	-6.3
EBAD				S	Sn	00 07 56.8	-12
	2.4nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.38**	**50**	*e*Pn	Pn	00 07 07.1	-6.1
ESPR	**Espera** 1.5nm,0.2s,SNR=7.9	**5.62**	**84**	P	Pn	00 07 10.9	-5.5
ESPR				S	Sn	00 08 10.9	-10
	3.5nm,0.2s,SNR=7.9						
ESPR	**Espera** 1.5nm,0.2s,SNR=7.9	**5.62**	**84**	P	Pn	00 07 10.9	-5.4
ESPR				S	Sn	00 08 10.9	-10
	3.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.72**	**41**	*e*Sn	Sn	00 08 10.5	-13
PVRL	**Vila Real**	**6.23**	**38**	*e*Sn	Sn	00 08 22.7	-13
EADA	**Adamuz** 0.7nm,0.1s,SNR=6.8	**6.79**	**73**	P	Pn	00 07 26.2	-6.2
EADA				S	Sn	00 08 38.2	-12
	2.4nm,0.5s,SNR=7.9						
EADA	**Adamuz** 0.7nm,0.1s,SNR=6.8	**6.79**	**73**	P	Pn	00 07 26.2	-6.2
EADA				S	Sn	00 08 38.2	-12
	2.4nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array** 1.6nm,0.3s,baz=249,slow=13,SNR=4.2	**7.68**	**63**	P	Pn	00 07 38.3	-6.4

PGC 28 00:21:26.2±1.6, 5230N×13177W, h20km, ML2.5/5, 105km southeast of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.28**	**2**	Trac			
BNB	**Barry Inlet**	**0.28**	**2**	P	Pb	00 21 32.7	+0.2
BNB				S	Sb	00 21 36.9	+0.2
MOBC	**Moresby Island**	**0.90**	**355**	Trac			
MOBC	**Moresby Island**	**0.90**	**355**	P	Pb	00 21 42.4	-0.7
MOBC				S	Sb	00 21 54.6	0.0
MOBC	**Moresby Island**	**0.90**	**355**	Trac			
MOBC	**Moresby Island**	**0.90**	**355**	P	Pb	00 21 42.4	-0.7
MOBC				S	Sb	00 21 54.6	0.0
DIB	**Dawson Inlet,**	**1.00**	**335**	Trac			
DIB	**Dawson Inlet,**	**1.00**	**335**	P	Pb	00 21 44.3	-0.4
DIB				S	Sb	00 21 58.1	+0.6
DIB	**Dawson Inlet,**	**1.00**	**335**	Trac			
DIB	**Dawson Inlet,**	**1.00**	**335**	P	Pb	00 21 44.3	-0.4
DIB				S	Sb	00 21 58.1	+0.6
VIB	**Van Inlet**	**1.06**	**334**	Trac			
VIB	**Van Inlet**	**1.06**	**334**	P	Pb	00 21 44.6	-1.2
VIB				S	Sb	00 21 59.6	+0.3
VIB	**Van Inlet**	**1.06**	**334**	Trac			
VIB	**Van Inlet**	**1.06**	**334**	P	Pb	00 21 44.6	-1.2
VIB				S	Sb	00 21 59.6	+0.3
BBB	**Bella Bella**	**2.25**	**92**	Trac			
BBB	**Bella Bella**	**2.25**	**92**	Pn	Pn	00 22 01.3	-0.9
BBB	**Bella Bella**	**2.25**	**92**	Trac			
BBB	**Bella Bella**	**2.25**	**92**	Pn	Pn	00 22 01.3	-0.9

*CSEM **28** 00:25:30.6, 6785N×2019E, h1km, ML3.1, Mining explosion. After UPP*
*UPP **28** 00:25:30.6, 6785N×2019E, h1km, ML3.1, Mining explosion.*

HEL 28 00:25:31.1±0.0, 6785N×2022E, h0km, ML1.6, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	*i* P	Pg	00 25 33.0	-0.3
KUA				*i* S	Sg	00 25 34.6	-0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	*i* P	Pg	00 25 39.0	-0.7
NIKU				*i* S	Sg	00 25 45.1	-0.4
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	00 25 43.8	-0.7
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 25 44.4	-1.0
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 25 45.9	-0.2
SALU	**Saltoluokta**	**0.81**	**235**	*i* P	Pg	00 25 45.6	-0.9
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	00 25 53.0	-0.8
KIF				*e*S	Sg	00 26 08.7	-0.3
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 25 56.0	-1.8
KEV	**Kevo**	**3.12**	**49**	*e*SB	Sb	00 27 04.8	-1.3

*ISCJB **28** 00:28:57.5±2.0, 3625±006×10102E±007, h32km±13km, mb4.7/27, MS3.7/4, Error ellipse: s-maj=13.6km s-min=6.9km az=116.5*
*BJI **28** 00:28:57.3, 3605×10090E, h35km, mB5.2, mb4.7*
*NEIC **28** 00:28:59.4±1.0, 3645×10095E, h35km±10km, mb4.5/4, Error ellipse: s-maj=12.6km s-min=7.3km az=65.0*
*IDC **28** 00:29:02.9±2.5, 3545×10109E, h63km±21km, mb4.2/14, mb1 4.3/15, mb1mx4.1/23, mbtmp4.2/15, MS3.7/5, Ms1 3.7/5, ms1mx3.3/37, Error ellipse: s-maj=27.8km s-min=10.6km az=51.0*

ISC 28 00:29:00.3±1.0, 3595±006×10105E±007, h37km±8km, n54, σ0§94/52, mb4.7/27, MS3.7/4, 4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang** 2μm,0.6s	**1.54**	**93**	P	**Pn**	**00 29 26.1**	**+0.9**
PPI	**Padang Panjang** 282nm,1.1s	**3.17**	**348**	P	**Pn**	**00 29 47.4**	**-0.4**
PSI	**Prapat** 3.7nm,0.3s,baz=183,slow=5.1,SNR=8.9	**6.69**	**341**	P	**Pn**	**00 30 35.5**	**-0.6**
PSI				LR	LR	00 33 51.1	
	comp=Z,711nm,18.7s,baz=164,slow=44						
PSI	**Prapat**	**6.69**	**341**	P	**Pn**	**00 30 35.5**	**-0.6**
PSI				LR	LR	00 33 51.1	
KULM	**Kulim**	**8.82**	**357**	*e*Pn	**Pn**	**00 31 05.8**	**+0.5**
KULM				*e*Sn	**Sn**	**00 32 48.2**	**+4.7**
COCO	**West Island** 66nm,0.6s	**9.52**	**206**	*e*Pn	**Pn**	**00 31 11.1**	**-3.6**
BSI	**Banda Aceh** 39nm,1.1s	**10.70**	**327**	P	**Pn**	**00 31 29.4**	**-1.6**
KKM	**Kota Kinabalu**	**17.91**	**58**	P	**Pn**	**00 33 06.1**	**-0.3**
QIZ	**Qiongzhong**	**24.08**	**21**	P	**P**	**00 34 13.3**	**+1.1**
QIZ				S	S	**00 38 25.0**	**-2.1**
QIZ				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**28.07**	**123**	P	**P**	**00 34 48.3**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.1,baz=298,slow=5.6,SNR=6.1						
NWAO	**Narrogin (SRO)**	**32.89**	**154**	P	**P**	**00 35 31.5**	**+0.8**
	comp=Z,1.5nm,0.3s,mb4.3,baz=204,slow=20,SNR=1.9						
NWAO				LR	LR	00 46 56.6	
	comp=Z,177nm,20.8s,MS3.8,baz=93,slow=33						
NWAO	**Narrogin (SRO)**	**32.89**	**154**	P	**P**	**00 35 31.5**	**+0.8**
NWAO				LR	LR	00 46 56.6	
JIRN	**Jiri**	**34.21**	**336**	*e*P	**P**	**00 35 43.9**	**+1.6**
	comp=Z,21nm,0.6s,mb5.2						
LSA	**Lhasa**	**34.43**	**345**	P	**P**	**00 35 44.5**	**+0.3**
LSA	**Lhasa**	**34.43**	**345**	*e*P	**P**	**00 35 44.4**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.5						
PKI	**Pulchoki**	**34.45**	**335**	*e*P	**P**	**00 35 45.1**	**+0.7**
	comp=Z,15nm,0.6s,mb5.1						
GUN	**Gumba**	**34.56**	**336**	*e*P	**P**	**00 35 46.6**	**+1.3**
	comp=Z,103nm,0.5s,mb6.0						
DMN	**Daman**	**34.62**	**335**	*e*P	**P**	**00 35 46.6**	**+0.8**
	comp=Z,32nm,0.9s,mb5.2						
KKN	**Kakani**	**34.70**	**335**	*e*P	**P**	**00 35 47.2**	**+0.7**
	comp=Z,60nm,0.8s,mb5.6						
GKN	**Gorkha**	**35.16**	**334**	*e*P	**P**	**00 35 51.3**	**+0.8**
	comp=Z,54nm,1.0s,mb5.5						
KOLN	**Koldanda**	**35.42**	**333**	*e*P	**P**	**00 35 53.6**	**+0.9**
	comp=Z,28nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**36.30**	**119**	P	**P**	**00 35 59.9**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.6,baz=298,slow=11,SNR=102						
WRA				PcP	PcP	00 38 25.3	+0.8
	comp=Z,1.0nm,0.5s,baz=304,slow=2.3,SNR=3.0						
WRA				S	**S**	**00 41 36.3**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=289,slow=20,SNR=3.4						
WRA				LR	LR	00 53 00.6	
	comp=Z,82nm,18.1s,MS3.5,baz=250,slow=40						
WRAB	**Tennant Creek**	**36.30**	**119**	*e*P	**P**	**00 36 00.5**	**+0.3**
	comp=Z,4.9nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**36.31**	**119**	*e*P	**P**	**00 36 00.2**	**-0.1**
AS31	**Alice Springs**	**37.48**	**125**	*e*P	**P**	**00 36 10.8**	**+0.5**
ASAR	**Alice Springs**	**37.48**	**125**	P	**P**	**00 36 10.9**	**+0.6**
	comp=Z,3.4nm,0.4s,mb4.5,baz=300,slow=7.7,SNR=42						
ASAR				PcP	PcP	00 38 28.6	+0.5
	comp=Z,1.3nm,0.7s,baz=289,slow=2.7,SNR=6.7						
ASAR				S	**S**	**00 41 55.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=264,slow=28,SNR=3.8						
ASAR				LR	LR	00 51 24.9	
	comp=Z,71nm,19.0s,MS3.5,baz=94,slow=36						
ASAR	**Alice Springs**	**37.48**	**125**	P	**P**	**00 36 10.9**	**+0.6**
ASAR				PcP	PcP	00 38 28.6	+0.5
ASAR				S	**S**	**00 41 55.9**	**-0.5**
ASAR				LR	LR	00 51 24.9	
XAN	**Xi'an**	**38.15**	**11**	P	**P**	**00 36 15.0**	**-0.9**
XAN				AP	pP	00 36 22.8	-3.8
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
GTA	**Gaotai**	**42.80**	**359**	*e*P	**P**	**00 36 54.5**	**+0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.1						
STKA	**Stephens Creek**	**47.32**	**131**	P	**P**	**00 37 31.2**	**+1.0**
	comp=Z,3.6nm,0.5s,mb4.5,baz=312,slow=7.3,SNR=12						
KSRS	**Korea Array**	**47.86**	**29**	P	**P**	**00 37 34.0**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.7,baz=224,slow=8.5,SNR=11						
WMQ	**Urumqi**	**48.70**	**347**	↓P	**P**	**00 37 41.5**	**+0.6**
SONM	**Songino Array**	**51.42**	**5**	P	**P**	**00 38 02.2**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0,baz=187,slow=9.2,SNR=104						
SONM				PcP	PcP	00 39 15.6	-0.1
	comp=Z,2.5nm,0.8s,baz=188,slow=4.1,SNR=4.6						
CN2	**Changchun**	**52.02**	**22**	*e*P	**P**	**00 38 04.8**	**-1.3**
MKAR	**Makanchi Array**	**52.83**	**344**	P	**P**	**00 38 11.7**	**-0.4**
	comp=Z,6.8nm,0.7s,mb4.7,baz=156,slow=8.9,SNR=78						
MJAR	**Matsushiro Arr**	**52.86**	**38**	P	**P**	**00 38 10.7**	**-1.5**
	comp=Z,3.5nm,0.5s,mb4.5,baz=217,slow=8.5,SNR=7.7						
ZAL	**Zalesovo**	**58.91**	**349**	P	**P**	**00 38 55.3**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.7,baz=299,slow=6.0,SNR=39						
BRVK	**Borovoye**	**62.09**	**340**	*e*P	**P**	**00 39 15.9**	**-1.4**
	comp=Z,2.0nm,0.5s,mb4.5						
MAW	**Mawson**	**69.02**	**195**	LR	LR	01 03 47.5	
	comp=Z,92nm,18.1s,MS4.1,baz=252,slow=30						
BRTR	**Keskin Array B**	**75.16**	**313**	P	**P**	**00 40 37.0**	**-1.8**
	comp=Z,2.9nm,0.7s,mb4.3,baz=139,slow=7.2,SNR=20						
BR131	**Keskin Array S**	**75.16**	**313**	*e*P	**P**	**00 40 38.1**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.2						
VNDA	**Vanda**	**80.41**	**169**	*e*P	**P**	**00 41 08.0**	**0.0**
MLR	**Muntele Rosu**	**82.17**	**317**	↓*i*P	**P**	**00 41 17.8**	**+0.5**
BURAR	**Bucovina Array**	**83.14**	**319**	↓*i*P	**P**	**00 41 23.5**	**+1.2**
VTS	**Vitosha**	**83.49**	**313**	↓*i*P	**P**	**00 41 23.6**	**-0.6**
FINES	**FINESS Array B**	**86.00**	**332**	P	**P**	**00 41 35.9**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.5,baz=319,slow=8.4,SNR=4.0						
ARCES	**ARCESS Array B**	**88.31**	**340**	P	**P**	**00 41 46.8**	**-1.2**
	comp=Z,5.3nm,1.0s,mb4.7,baz=72,slow=4.0,SNR=8.2						
GERES	**GERESS Array B**	**90.93**	**319**	P	**P**	**00 42 00.5**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.2,baz=77,slow=5.8,SNR=8.5						
WMOK	**Wichita Mounta**	**143.94**	**28**	*e*PKPdf	PKPdf	00 48 29.3	-2.4
WCI	**Wyandotte Cave**	**144.87**	**10**	*e*PKPdf	PKPdf	00 48 32.3	-0.9
LTX	**Lajitas**	**145.28**	**40**	*e*PKPdf	PKPdf	00 48 35.3	+1.3
TXAR	**Lajitas Array**	**145.28**	**40**	PKPbc	PKPbc	00 48 35.1	+1.4
	comp=Z,8.8nm,0.5s,baz=244,slow=0.7,SNR=268						
MIAR	**Mount Ida**	**146.33**	**22**	*e*PKPdf	PKPdf	00 48 36.6	+0.8
JCT	**Junction City**	**146.78**	**34**	*e*PKPdf	PKPdf	00 48 37.4	+0.8

*NEIC **28** 00:34:33.9, 1628N×9743W, h40km, MD3.7(MEX), After MEX.*

MEX 28 00:34:33.8±0.7, 1626N×9742W, h30km±25km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.70**	**281**	*i* P	Pb	00 34 45.0	-2.4
PNIG				*i* S	Sb	00 34 54.5	-2.2
PNIG	**Pinotepa**	**0.70**	**281**	*i* P	Pb	00 34 45.1	-2.4
PNIG				*i* S	Sb	00 34 54.5	-2.2
VHO	**Vista Hermosa**	**1.04**	**39**	*i* P	Pn	00 34 50.2	-2.2
VHO				*i* S	Sn	00 35 03.4	-2.5
OXX	**Oaxaca**	**1.05**	**39**	*i* P	Pn	00 34 50.0	-2.6
OXX				*i* S	Sn	00 35 03.0	-3.2
HUIG	**Huatulco**	**1.35**	**111**	*e*P	Pn	00 34 55.2	-1.4
HUIG				*i* S	Sn	00 35 10.4	-3.1
HUIG	**Huatulco**	**1.35**	**111**	*e*P	Pn	00 34 55.4	-1.2
HUIG				*i* S	Sn	00 35 10.4	-3.1
UTMO	**Huajuapan**	**1.61**	**347**	*i* P	Pn	00 34 58.9	-1.3
UTMO				*i* S	Sn	00 35 18.4	-1.5
MEIG	**Mezcala**	**2.68**	**309**	*e*P	Pn	00 35 12.5	-2.4
MEIG				*i* S	Sn	00 35 44.1	-2.3

*IGQ **28** 00:40:31.2, 2445×7904W, h134km±4km, Mb4.5, Ms4.3, Error ellipse: s-maj=5.1km s-min=2.9km az=86.9*
*ISCJB **28** 00:40:34.7±0.5, 2.175±004×7908W±006, h129km±5km, mb3.7/7, Error ellipse: s-maj=10.6km s-min=7.1km az=176.1*
*IDC **28** 00:40:35.2±2.5, 2.105×7900W, h118km±22km, mb3.6/5, mb1 3.7/11, mb1mx3.6/22, mbtmp3.7/11, MS3.1/1, Ms1 3.1/1, ms1mx2.4/19, Error ellipse: s-maj=33.9km s-min=15.7km az=97.0*
*NEIC **28** 00:40:38.2±1.1, 2.055×7870W, h141km±13km, mb4.0/3, MD4.5(IGQ), Error ellipse: s-maj=13.2km s-min=12.3km az=85.0*

ISC 28 00:40:35.5±0.4, 220S±004×7910W±006, h118km±5km, n49, σ0§97/52, mb3.8/7, 5C-20D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**0.84**	**34**	↓P	**Pn**	**00 40 55.8**	**0.0**
IGUA				S	**Sn**	**00 41 15.4**	**+4.2**
ARRY	**Arrayan**	**0.94**	**43**	↓P	**Pn**	**00 40 55.8**	**-1.0**
PATA	**Patacocha**	**0.96**	**44**	↓P	**Pn**	**00 40 56.3**	**-0.7**
BILB	**Tungurahua vol**	**0.96**	**39**	↓P	**Pn**	**00 40 56.4**	**-0.6**
RETU	**Refugio**	**0.99**	**42**	↓P	**Pn**	**00 40 56.8**	**-0.5**
JUIV	**Juive**	**1.00**	**40**	↓P	**Pn**	**00 40 56.6**	**-0.7**
ULBA	**Ulba**	**1.02**	**43**	↓P	**Pn**	**00 40 56.9**	**-0.7**
RUN5	**Runtun**	**1.03**	**41**	↓P	**Pn**	**00 40 57.0**	**-0.7**
PISA	**Pisayambo**	**1.34**	**32**	↓P	**Pn**	**00 41 01.1**	**+0.1**
CAMI	**Rancho Maria**	**1.62**	**22**	↓P	**Pn**	**00 41 05.0**	**+0.7**
TAMB	**Tambo**	**1.66**	**26**	↓P	**Pn**	**00 41 05.2**	**+0.4**
NAS1	**Nasa**	**1.67**	**22**	↓P	**Pn**	**00 41 05.8**	**+0.9**
VC1	**Cotopaxi 1**	**1.69**	**24**	↓P	**Pn**	**00 41 05.6**	**+0.5**
ANTI	**Antisana**	**1.97**	**29**	↓P	**Pn**	**00 41 09.1**	**+0.5**
CHIS	**Cerro-Chispas-**	**1.98**	**305**	P	**Pn**	**00 41 08.6**	**0.0**
JUA2	**San Juan 2**	**2.03**	**14**	↓P	**Pn**	**00 41 10.2**	**+1.0**
GGP	**Refugio Guagua**	**2.07**	**14**	↓P	**Pn**	**00 41 10.7**	**+1.0**
PINO	**Pino**	**2.08**	**14**	↓P	**Pn**	**00 41 11.0**	**+1.1**
YANA	**Yana**	**2.13**	**14**	↓P	**Pn**	**00 41 11.3**	**+0.8**
MAG1	**Magdalena**	**2.21**	**342**	↓P	**Pn**	**00 41 11.9**	**+0.4**
JAMA	**Jama**	**2.21**	**330**	P	**Pn**	**00 41 10.9**	**-0.7**
JAMA				S	**Sn**	**00 41 38.3**	**-0.9**
CAYR	**Refugio Cayamb**	**2.45**	**27**	↑P	**Pn**	**00 41 15.6**	**+0.9**
OTAV	**Otavalo**	**2.50**	**15**	↑*e*Pn	**Pn**	**00 41 16.4**	**+1.1**
OTAV				*e*Sn	**Sn**	**00 41 43.1**	**-2.7**
CAYA	**Cayambe**	**2.51**	**26**	↑P	**Pn**	**00 41 16.1**	**+0.8**
LAV3	**Lava3-Reventad**	**2.55**	**35**	↑P	**Pn**	**00 41 15.7**	**-0.2**
CONE	**Cono NE Rev Vo**	**2.57**	**35**	↑P	**Pn**	**00 41 16.0**	**-0.1**
CONE				S	**Sn**	**00 41 46.5**	**-0.8**
COTA	**Cotacachi**	**2.63**	**17**	↓P	**Pn**	**00 41 18.1**	**+1.2**
ATAH	**Atahualpa**	**4.83**	**172**	P	**Pn**	**00 41 48.5**	**+2.4**
	6.2nm,0.3s,baz=4.8,slow=7.8,SNR=19						
ATAH				S	**Sn**	**00 42 38.9**	**-2.0**
	10nm,0.3s,baz=65,slow=9.2,SNR=4.6						
ROSC	**El Rosal**	**8.47**	**34**	P	**Pn**	**00 42 34.7**	**-0.8**
	1.1nm,0.3s,baz=106,slow=23,SNR=2.6						
NNA	**Nana**	**9.98**	**167**	P	**Pn**	**00 42 55.3**	**-0.5**
	3.0nm,0.3s,baz=334,slow=12,SNR=6.8						
NNA				S	**Sn**	**00 44 35.3**	**-11**
	4.5nm,0.3s,baz=139,slow=16,SNR=3.9						
PAYG	**Puerto Ayora**	**11.28**	**278**	*e*Pn	**Pn**	**00 43 20.9**	**+7.8**
SDV	**Santo Domingo**	**13.87**	**37**	P	**Pn**	**00 43 44.1**	**-2.9**
	1.2nm,0.3s,baz=308,slow=5.1,SNR=10.0						
SAML	**Samuel** 11nm,1.1s	**17.20**	**114**	*e*P	**Pn**	**00 44 24.0**	**-4.5**
LPAZ	**La Paz** 0.3nm,0.3s,baz=288,slow=6.4,SNR=5.2	**17.69**	**143**	P	**Pn**	**00 44 35.4**	**+1.1**
LPAZ	**La Paz** 1.9nm,0.6s	**17.69**	**143**	*e*P	**Pn**	**00 44 35.3**	**+1.0**
PCRV	**Puerto La Cruz** 1.3nm,0.3s,baz=224,slow=6.3,SNR=3.4	**18.93**	**49**	P	**P**	**00 44 47.8**	**+0.6**
PCRV				LR	LR	00 53 06.9	
	comp=Z,55nm,20.5s,baz=109,slow=40						
SIV	**San Ignacio** 1.7nm,0.5s,mb3.7,baz=319,slow=13,SNR=2.8	**22.44**	**129**	P	**P**	**00 45 27.4**	**+2.8**
LVC	**Limon Verde** 4.3nm,0.6s,mb4.0,baz=89,slow=3.7,SNR=8.4	**22.58**	**155**	P	**P**	**00 45 27.2**	**+1.0**
CFAA	**Coronel Fontan** 0.1nm,0.4s,mb2.9,baz=330,slow=11,SNR=3.9	**31.00**	**162**	P	**P**	**00 46 42.2**	**+0.5**
TRQA	**Tornquist** 2.3nm,0.6s,mb4.2	**38.99**	**158**	*e*P	**P**	**00 47 50.1**	**-0.2**
RCBR	**Riachuelo**	**43.24**	**96**	P	**P**	**00 48 24.2**	**-0.8**
ULM	**Lac du Bonnet** 1.0nm,0.5s,mb4.1,baz=170,slow=11,SNR=4.7	**54.19**	**347**	P	**P**	**00 49 47.5**	**-1.2**
ESDC	**Sonseca Array** 1.1nm,0.6s,mb3.8,baz=262,slow=7.2,SNR=6.7	**80.00**	**49**	P	**P**	**00 52 31.4**	**-0.4**
VNA3	**Neumayer Olymp**	**81.40**	**162**	*e*	**P**	**00 52 39.2**	**0.0**
VNA3				*e*	pP	00 53 12.2	+3.0
TORD	**Torodi Ar. Bea** 0.6nm,0.4s,mb3.8,baz=278,slow=5.8,SNR=28	**81.54**	**76**	P	**P**	**00 52 38.8**	**-1.2**
VNA2	**Neumayer--Watz**	**82.01**	**162**	*e*	**P**	**00 52 42.3**	**-0.1**
VNA2				*e*	pP	00 53 15.3	+2.8
ASAR	**Alice Springs** 0.2nm,0.5s,baz=144,slow=3.6,SNR=3.2	**138.87**	**229**	PKhKP		00 59 39.8	
ASAR				PKP	PKPdf	00 59 48.4	+0.6
	0.6nm,0.7s,baz=138,slow=2.3,SNR=5.2						
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=116,slow=2.4,SNR=10	**140.49**	**235**	PKhKP		00 59 43.8	
WRA				PKP	PKPdf	00 59 49.8	-1.0
	0.8n

comp=Z,0.3nm,0.6s,mb3.4,baz=22,slow=5.1,SNR=3.4
TXAR Lajitas Array 75.67 62 P **P** **00 58 45.0 +1.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=303,slow=5.2,SNR=15
TXAR Lajitas Array 75.67 62 P **P** **00 58 45.0 +1.0**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.68 335 P **P** **00 59 01.2 +0.4**
comp=Z,0.2nm,0.6s,mb3.3,baz=5.2,slow=2.9,SNR=3.7

ISCJB ***28*** *00:56:18.8±0.5, 3946N±004×2280E±004, h17km±22km, Error ellipse: s-maj=6.2km s-min=5.3km az=19.1*
ATH ***28*** *00:56:18.0, 3950N×2279E, h11km±8km, MD2.9/4*
THE ***28*** *00:56:18.8, 3948N×2283E, h13km, ML2.1*
ISC 28 00:56:18.4±0.6, 3948N±003×2280E±004, h17km±8km, n10, σ0°75/16, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.32**	**110**	*e*Pg	**Pg**	**00 56 25.0**	**-0.2**
NEO	**Neokhori**	**0.37**	**117**	*e*PB	**Pg**	**00 56 25.9**	**-0.1**
NEO				*e*SB	**Sg**	**00 56 31.0**	**-0.1**
AGG	**Agios Georgios**	**0.58**	**219**	*e*Pg	**Pg**	**00 56 29.3**	**-0.6**
AGG				*e*Sg	**Sg**	**00 56 39.4**	**+1.6**
THL	**Klokotos Trika**	**0.62**	**278**	*e*PG	**Pg**	**00 56 29.5**	**-1.0**
THL				*e*SB	**Sg**	**00 56 38.3**	**-0.5**
LIT	**Litokhoron**	**0.67**	**339**	*e*Pg	**Pg**	**00 56 31.2**	**-0.3**
LIT				*e*Sg	**Sg**	**00 56 42.2**	**+1.8**
LKR	**Lokris**	**0.84**	**169**	*e*PB	**Pb**	**00 56 34.4**	**-0.1**
AOS	**Alonnisos**	**0.89**	**110**	*e*Pg	**Pg**	**00 56 35.2**	**-0.5**
AOS				*e*Sg	**Sg**	**00 56 48.3**	**+0.9**
EVR	**Evrytania**	**0.95**	**234**	*e*PB	**Pb**	**00 56 36.1**	**-0.3**
PLG	**Polygyros**	**1.02**	**29**	*e*Pg	**Pg**	**00 56 37.9**	**-0.3**
PLG				*e*Sg	**Sg**	**00 56 51.1**	**-0.5**
SOH	**Sokhos**	**1.41**	**17**	*e*Pg	**Pn**	**00 56 43.9**	**+0.6**

IDC ***28*** *00:56:51.9±1.1, 47.10N×15367E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/24, mbtmp3.9/8, ML4.0/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=35.3km s-min=25.6km az=117.0*
ISCJB ***28*** *00:56:55.6±2.1, 472N±0.1×1536E±03, h36km±18km, mb3.9/7, MS3.6/2, Error ellipse: s-maj=37.4km s-min=12.4km az=69.9*
MOS ***28*** *00:56:55.4±2.4, 4709N×15405E, h33km, mb4.3/5, Error ellipse: s-maj=36.0km s-min=15.6km az=66.4*
ISC 28 00:56:57.3±1.9, 472N±01×1536E±03, h36km±16km, n18, σ0°90/16, mb3.9/7, MS3.6/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.87**	**24**	*e*PN	**Pn**	**00 57 55.0**	**+0.7**
SKR				*e*S	**Sn**	**00 58 38.0**	**-0.6**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,110nm,0.6s						
SKR				smax			
	comp=E,140nm,0.6s						
SKR				smax			
	comp=Z,100nm,0.6s						
KUR	**Kuril'sk**	**4.44**	**246**	PN	**Pn**	**00 58 10.0**	**+7.9**
ASAJ	**Asahikawa**	**8.30**	**252**	LR	LR	01 01 41.2	
	comp=Z,62nm,19.2s,baz=143,slow=35						
MJAR	**Matsushiro Arr**	**15.61**	**233**	Pn	**Pn**	**01 00 34.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=129,slow=15,SNR=4.1						
KSRS	**Korea Array**	**21.25**	**252**	LR	LR	01 09 12.0	
	comp=Z,30nm,18.1s,MS2.7,baz=345,slow=35						
INK	**Inuvik**	**41.10**	**33**	P	**P**	**01 04 35.7**	**-1.9**
	comp=Z,3.0nm,0.6s,mb4.1,baz=345,slow=26,SNR=5.5						
INK	**Inuvik**	**41.10**	**33**	P	**P**	**01 04 35.7**	**-1.9**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**01 05 51.7**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=295,slow=7.0,SNR=6.1						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**01 05 51.7**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**01 06 42.4**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.3,baz=28,slow=8.2,SNR=3.9						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**01 06 42.4**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**63.79**	**335**	P	**P**	**01 07 26.1**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.1,baz=42,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**63.79**	**335**	P	**P**	**01 07 26.1**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**67.93**	**341**	P	**P**	**01 07 53.2**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=6.3,SNR=3.0						
NOA	**NORSAR Array B**	**67.93**	**341**	P	**P**	**01 07 53.2**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.73**	**199**	P	**P**	**01 08 20.8**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=8.6,slow=6.0,SNR=5.2						
TXAR	**Lajitas Array**	**76.98**	**61**	P	**P**	**01 08 47.1**	**+0.9**
	comp=Z,0.1nm,0.5s,mb3.0,baz=302,slow=4.1,SNR=4.9						
ATD	**Arta Tunnel**	**95.27**	**293**	LR	LR	01 54 12.5	
	comp=Z,125nm,19.2s,MS4.4,baz=188,slow=36						

IDC 28 01:40:57.6±12.0, 1243S×16704E, h187km±106km, mb3.5/7, mb1 3.6/7, mb1mx3.5/17, mbtmp3.5/7, Error ellipse: s-maj=74.0km s-min=45.7km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.34**	**246**	P	P	01 45 31.2	+1.2
	4.9nm,0.6s,baz=90,slow=14,SNR=7.4						
WRA	**Warramunga Arr**	**32.23**	**252**	P	P	01 47 08.2	-0.1
	0.3nm,0.4s,baz=84,slow=9.0,SNR=7.8						
ASAR	**Alice Springs**	**33.34**	**246**	P	P	01 47 18.1	+0.3
	0.6nm,0.5s,baz=72,slow=9.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**40.27**	**257**	P	P	01 48 16.2	-0.1
	1.1nm,0.8s,baz=85,slow=6.0,SNR=3.4						
SONM	**Songino Array**	**80.52**	**323**	P	P	01 52 49.0	+0.2
	0.4nm,0.6s,baz=130,slow=5.4,SNR=5.5						
MKAR	**Makanchi Array**	**95.39**	**317**	P	P	01 53 60.0	-0.7
	0.7nm,0.5s,baz=80,slow=6.2,SNR=8.2						
YKA	**Yellowknife Ar**	**95.61**	**27**	P	P	01 54 00.7	-1.0
	0.4nm,0.7s,baz=253,slow=5.2,SNR=3.3						
ARCES	**ARCESS Array B**	**117.98**	**346**	PKP	PKPdf	01 59 21.4	-0.6
	2.5nm,0.7s,baz=43,slow=2.1,SNR=11						
FINES	**FINESS Array B**	**123.51**	**339**	PKP	PKPdf	01 59 31.9	-0.7
	2.5nm,1.1s,baz=246,slow=7.5,SNR=4.0						
NOA	**NORSAR Array B**	**128.35**	**345**	PKP	PKPdf	01 59 40.9	-0.9
	1.2nm,0.8s,baz=33,slow=1.9,SNR=3.6						
KEST	**Kesra**	**149.27**	**323**	PKPbc	PKPbc	02 00 23.8	-0.3
	13nm,1.5s,baz=341,slow=2.5,SNR=6.4						
ESDC	**Sonseca Array**	**151.72**	**345**	PKPbc	PKPbc	02 00 30.9	+1.1
	1.6nm,0.8s,baz=14,slow=4.3,SNR=4.7						
ESDC				PKPab	PKPab	02 00 40.8	+1.4
	0.6nm,0.7s,baz=16,slow=3.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.68**	**274**	PKPab	PKPab	02 01 41.3	+1.4
	0.7nm,0.9s,baz=96,slow=3.3,SNR=3.9						

ISCJB ***28*** *01:53:15.8±0.5, 4459N×002×680E±005, h14km±5km, Error ellipse: s-maj=5.7km s-min=3.5km az=142.8*
LDG ***28*** *01:53:17.2±0.1, 4460N×682E, h2km, Md1.8/2, Ml2.0/7, Error ellipse: s-maj=2.7km s-min=1.3km az=75.0*
STR ***28*** *01:53:18.8±1.0, 4452N×688E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 28 01:53:16.6±0.5, 4460N±002×682E±005, h13km±5km, n13, σ0°60/24, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.13**	**346**	*e*Pg	**Pg**	**01 53 20.3**	**+0.3**
MBDF				*e*Sg	**Sg**	**01 53 22.6**	**+0.2**
	107nm,0.2s						
TOUF	**Mont Tournerai**	**0.67**	**152**	Pg	**Pg**	**01 53 29.7**	**+0.1**
TOUF				Sg	**Sg**	**01 53 37.2**	**-1.1**
ORIF	**Oris-en-Rattie**	**0.74**	**296**	*e*Pg	**Pg**	**01 53 31.2**	**+0.3**
ORIF				*e*Sg	**Sg**	**01 53 40.6**	**0.0**
	3.9nm,0.3s						
AUTN	**L'Aution**	**0.75**	**144**	Pg	**Pg**	**01 53 31.6**	**+0.5**
LUCF	**Luceram**	**0.81**	**152**	Pg	**Pg**	**01 53 32.3**	**+0.1**
LUCF				Sg	**Sg**	**01 53 42.9**	**+0.1**
SAOF	**Saorge**	**0.81**	**139**	Pg	**Pg**	**01 53 32.3**	**-0.1**
LPG	**La Plagne**	**0.90**	**357**	*e*Pg	**Pg**	**01 53 34.5**	**+0.5**
LPG				*e*Sg	**Sg**	**01 53 45.2**	**-0.5**
	2.7nm,0.3s						
LPL	**La Plagne**	**0.92**	**356**	*e*Pg	**Pg**	**01 53 34.9**	**+0.6**
LPL				*e*Sg	**Sg**	**01 53 45.5**	**-0.8**
	3.1nm,0.4s						
FRF	**La Foret Royal**	**1.05**	**187**	*e*Pg	**Pg**	**01 53 36.9**	**+0.1**
FRF				*e*Sg	**Sg**	**01 53 50.2**	**-0.3**
	7.3nm,0.2s						
SMRF	**Simiane la Rot**	**1.09**	**235**	*e*Pg	**Pg**	**01 53 38.6**	**+1.0**
SMRF				*e*Sg	**Sg**	**01 53 52.5**	**+0.7**
	5.9nm,0.4s						
LMR	**La Mourre**	**1.29**	**190**	*e*Pg	**Pg**	**01 53 41.3**	**-0.1**
LMR				*e*Sg	**Sg**	**01 53 57.6**	**-0.5**
	3.9nm,0.3s						
VIVF	**Saint-Julien-l**	**1.55**	**280**	*e*Pn	**Pn**	**01 53 44.0**	**+0.2**
VIVF				*e*Sg	**Sg**	**01 54 04.8**	**-1.7**
	1.4nm,0.3s						
PGF	**Pioggiola**	**2.59**	**142**	*e*Pn	**Pn**	**01 53 59.0**	**+0.8**
PGF				*e*Sn	**Sn**	**01 54 28.9**	**-0.6**
	0.6nm,0.2s						

ISCJB ***28*** *01:57:04.3±0.3, 6336N±003×14506W±0.06, h6km, Error ellipse: s-maj=5.3km s-min=3.2km az=103.0*
NEIC ***28*** *01:57:05.1, 6333N×14521W, h6km, ML3.3(AEIC), After AEIC.*
PGC ***28*** *01:57:07.1±19.0, 6331N×14503W, h1km, ML3.6/2, 214km southeast of Fairbanks, Ak Central Alaska*
ISC 28 01:57:04.8±0.8, 6335N±003×14513W±008, h1km±7km, n30, σ0°93/39, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAX	**Paxson**	**0.41**	**202**	P	**Pg**	**01 57 12.5**	**-0.1**
PAX				S	**Sg**	**01 57 17.9**	**0.0**
DOT	**Dot Lake**	**0.57**	**57**	P	**Pg**	**01 57 16.8**	**+1.1**
DOT				S	**Sg**	**01 57 24.6**	**+1.5**
MENT	**Mentasta**	**0.76**	**122**	P	**Pg**	**01 57 19.5**	**+0.1**
BCA3	**Beaver Creek A**	**1.54**	**99**	P	**Pn**	**01 57 32.7**	**-0.8**
IL1	**Eielson Array**	**1.62**	**332**	P	**Pn**	**01 57 33.1**	**-1.5**
MCK	**McKinley**	**1.75**	**284**	P	**Pn**	**01 57 35.6**	**-0.6**
COLA	**College**	**1.94**	**323**	P	**Pn**	**01 57 39.5**	**+0.6**
SML	**Sawmill**	**2.14**	**225**	P	**Pn**	**01 57 40.4**	**-1.2**
DIV	**Divide**	**2.25**	**188**	P	**Pn**	**01 57 42.0**	**-1.1**
EGAK	**Eagle**	**2.26**	**49**	*e*Pn	**Pn**	**01 57 43.6**	**+0.3**
EGAK				*e*Pg	**Pg**	**01 57 48.0**	**-0.2**
EGAK				*e*Sg	**Sg**	**01 58 17.1**	**-0.4**
TRF	**Thorofare Moun**	**2.32**	**275**	P	**Pn**	**01 57 44.1**	**-0.1**
GHO	**Glory Hole Cre**	**2.36**	**230**	P	**Pn**	**01 57 44.3**	**-0.4**
BMRM	**Bremner River**	**2.40**	**174**	P	**Pn**	**01 57 45.6**	**+0.3**
PMR	**Palmer**	**2.56**	**228**	P	**Pn**	**01 57 47.1**	**-0.3**
PMR				*e*Sg	**Sn**	**01 58 21.3**	**+2.1**
KTH	**Kantishna Hill**	**2.61**	**277**	P	**Pn**	**01 57 47.9**	**-0.2**
DAWY	**Dawson**	**2.66**	**72**	Trac			
DAWY	**Dawson**	**2.66**	**72**	Pn	**Pn**	**01 57 48.8**	**0.0**
DAWY				Sg	**Sg**	**01 58 29.5**	**-0.6**
DAWY	**Dawson**	**2.66**	**72**	P	**Pn**	**01 57 48.7**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.82**	**186**	P	**Pn**	**01 57 51.4**	**+0.3**
RAGM	**Ragged Mountai**	**2.98**	**176**	P	**Pn**	**01 57 53.9**	**+0.7**
RC01	**Rabbit Creek A**	**3.13**	**226**	P	**Pn**	**01 57 55.5**	**+0.3**
SLKM	**Skilak Lake**	**3.73**	**222**	P	**Pn**	**01 58 03.7**	**+0.2**
HYT	**Haines Junctio**	**4.39**	**122**	Trac			
HYT	**Haines Junctio**	**4.39**	**122**	Pn	**Pn**	**01 58 12.7**	**+0.1**
HYT				Pg	**Pg**	**01 58 25.1**	**-3.8**
HYT				Sg	**Sg**	**01 59 22.2**	**-3.6**
COLD	**Coldfoot**	**4.44**	**334**	P	**Pn**	**01 58 13.3**	**+0.1**
IMA2	**Indian Mountai**	**4.57**	**310**	*e*Pn	**Pn**	**01 58 15.8**	**+0.7**
IMA2				*e*Sn	**Sn**	**01 59 06.1**	**-2.8**
SVW2	**Sparrevohn**	**5.38**	**250**	*e*P	**Pn**	**01 58 29.4**	**+3.2**
WHY	**Whitehorse**	**5.53**	**115**	Pn	**Pn**	**01 58 28.2**	**0.0**
WHY				Sg	**Sg**	**01 59 56.9**	**-5.6**
WHY	**Whitehorse**	**5.53**	**115**	P	**Pn**	**01 58 28.3**	**+0.1**
INK	**Inuvik**	**6.88**	**39**	Pn	**Pn**	**01 58 47.6**	**+0.8**
INK				Sg	**Sg**	**02 00 40.7**	**-5.2**

ISCJB ***28*** *02:39:12.9±0.3, 5906S±006×1595W±0.1, h10km, mb5.1/32, MS4.9/24, Error ellipse: s-maj=8.2km s-min=7.5km az=69.1*
IDC ***28*** *02:39:13.0±0.6, 5897S×15939W, h0km, mb5.0/12, mb1 5.1/12, mb1mx5.0/15, mbtmp5.0/12, MS4.9/24, Ms1 4.9/24, ms1mx4.8/26, Error ellipse: s-maj=23.7km s-min=14.8km az=32.0*
MOS ***28*** *02:39:13.1±1.4, 5893S×15964W, h10km, mb5.4/12, Error ellipse: s-maj=25.4km s-min=17.1km az=91.5*
NEIC ***28*** *02:39:14.2±0.2, 5900S×15931W, h10km, mb5.2/24, Error ellipse: s-maj=11.6km s-min=7.6km az=194.0*
BJI ***28*** *02:39:14.2, 5900S×15930W, h10km, mB5.9*
GCMT ***28*** *02:39:14.2±0.1, 5908S×15975W, h12km, MW5.4/84, Moment Tensor Solution. s59,c94; s84,c145; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.67±.02; Mθθ-0.96±.03; Mφφ-0.71±.02; Mrθ0.16±.06; Mrφ0.14±.02; Mθφ-0.13±.05; Best double couple: Ms1.36200×10^17 NP1:ϕs295.00000°, δ41.00000°, λ.88.00000°. NP2: ϕs117.00000°, δ49.00000°, λ92.00000°. Principal axes: T 1.6850, Plg86.0000°, Azm41.0000°; N -0.6520, Plg1.0000°, Azm296.0000°; P -1.0380, Plg4.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 02:39:14.5±2.3, 5908S±006×1594W±01, h11km±13km, n133, σ1°03/71, mb5.1/32, MS4.9/24, 9C-5D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**22.57**	**201**	P	**P**	**02 44 16.2**	**+1.6**
	32nm,1.1s,mb4.7,baz=51,slow=11,SNR=30						
VNDA				LR	LR	02 50 47.0	
	comp=Z,6μm,21.1s,MS5.0,baz=99,slow=31						
RPZ	**Rata Peaks**	**23.73**	**297**	P	**P**	**02 44 27.6**	**+1.0**
	21nm,1.1s,mb4.5,baz=143,slow=18,SNR=2.8						
RPZ				LR	LR	02 51 29.8	
	comp=Z,4μm,21.6s,MS4.8,baz=128,slow=31						
URZ	**Urewera**	**25.73**	**314**	P	**P**	**02 44 45.8**	**+1.0**
	29nm,1.0s,mb4.8,baz=186,slow=2.1,SNR=5.5						
URZ				LR	LR	02 52 49.9	
	comp=Z,2μm,20.8s,MS4.6,baz=164,slow=32						
DRV	**Dumont d'Urvil**	**27.57**	**229**	P	**P**	**02 45 00.0**	**-1.5**
DRV				S	**S**	**02 49 43.0**	**+0.4**
DRV				R		02 52 00.0	
QSPA	**South Pole Qui**	**31.05**	**180**	*e*P	**P**	**02 45 33.4**	**+1.0**
RAO	**Raoul Island**	**32.41**	**329**	LR	LR	02 56 24.0	
	comp=Z,656nm,19.4s,MS4.3,baz=129,slow=32						
TBI	**Tubuai**	**36.39**	**15**	*e*P	**P**	**02 46 14.9**	**-3.8**
	84nm,26.5s						
TBI				*e*S	**S**	**02 52 00.8**	**+0.9**
	390nm,27.5s						
TBI				*e*LR	LR	02 55 54.0	
	5μm,28.0s,baz=187						
TBI	**Tubuai**	**36.39**	**15**	*e*P	**P**	**02 46 14.9**	**-3.8**
TBI				*e*S	**S**	**02 52 00.8**	**+0.9**
RAR	**Rarotonga**	**37.82**	**359**	LR	LR	02 57 28.5	
	comp=Z,2μm,20.8s,MS4.8,baz=270,slow=29						
CASY	**Casey**	**38.48**	**221**	*e*P	**P**	**02 46 36.9**	**+0.4**
	94nm,1.4s,mb5.3						
RKT	**Rikitea**	**39.89**	**36**	*e*P	**P**	**02 46 41.7**	**-6.5**
	85nm,27.2s						
RKT	**Rikitea**	**39.89**	**36**	*e*S	**S**	**02 52 45.2**	**-7.7**
	382nm,28.2s						
RKT				*e*LR	LR	02 57 40.3	
	6μm,28.0s,baz=195						
CNB	**Canberra Magne**	**40.79**	**282**	*e*P	**P**	**02 46 58.3**	**+2.6**
	35nm,1.2s,mb4.9						
TOO	**Toolangi**	**41.01**	**277**	*e*P	**P**	**02 46 58.4**	**+0.9**
	19nm,0.9s,mb4.7						
TOO	**Toolangi**	**41.01**	**277**	*e*P	**P**	**02 46 58.4**	**+0.9**
TOO				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
PMSA	**Palmer Station**	**41.14**	**140**	P	**P**	**02 46 59.7**	**+1.1**
	comp=Z,54nm,1.1s,mb5.1,baz=256,slow=8.1,SNR=4.0						
PMSA				LR	LR	03 00 48.1	
	comp=Z,1μm,20.1s,MS4.8,baz=240,slow=31						
PPT	**Papeete**	**42.07**	**14**	*e*S	**S**	**02 53 23.9**	**-1.4**
	comp=Z,590nm,25.8s						
PPT				*e*LR	LR	02 58 41.9	
	comp=Z,5μm,25.5s,baz=194						
PPT	**Papeete**	**42.07**	**14**	LR	LR	02 59 53.3	
	comp=Z,2μm,18.8s,MS4.9,baz=177,slow=30						
ARMA	**Armidale**	**43.60**	**289**	*e*P	**P**	**02 47 19.9**	**+1.3**
DZM	**Mont Dzumac**	**44.25**	**312**	LR	LR	03 02 40.9	

comp=Z,2μm,19.9s,MS5.0,baz=32,slow=32
AFI Afiamalu 46.02 343 LR LR 03 01 42.0
comp=Z,1000nm,21.5s,MS4.7,baz=200,slow=29
USHA Ushuaia 46.09 127 LR LR 03 02 34.1
comp=Z,2μm,19.0s,MS5.1,baz=215,slow=30
RPN Rapa Nui 46.85 69 LR LR 03 01 46.3
comp=Z,1μm,19.9s,MS4.9,baz=32,slow=29
STKA Stephens Creek 47.45 278 *e*P **P** **02 47 49.8 +0.7**
comp=Z,25nm,1.0s,mb5.1
STKA Stephens Creek 47.45 278 P **P** **02 47 49.9 +0.8**
comp=Z,36nm,1.0s,mb5.3,baz=139,slow=7.9,SNR=40
STKA LR LR 03 05 03.6
comp=Z,2μm,18.4s,MS5.1,baz=108,slow=33
VNA3 Neumayer Olymp 48.24 167 ⇓*i* **P** **02 47 54.4 -0.8**
VNA3 *e* 02 48 01.5
VNA3 *e* 02 48 12.7
VNA3 *e* 02 48 17.2
VNA3 *e* 02 48 27.9
SNAA Sanae 48.52 170 ⇓*i* **P** **02 47 56.3 -1.0**
SNAA *e* 02 48 02.2
SNAA *e* 02 48 14.6
SNAA *e* 02 48 18.0
SNAA *e* 02 48 31.4
VNA2 Neumayer--Watz 48.79 168 ⇓*i* **P** **02 47 58.8 -0.7**
VNA2 *e* 02 48 05.9
VNA2 *e* 02 48 16.9
VNA2 *e* 02 48 21.4
VNA2 *e* 02 48 33.7
VNA1 Neumayer--Stat 48.96 168 ⇓*i* **P** **02 48 00.6 -0.2**
VNA1 *e* 02 48 07.7
VNA1 *e* 02 48 19.5
VNA1 *e* 02 48 23.4
VNA1 *e* 02 48 34.7
MAW Mawson 49.88 200 *e*P **P** **02 48 08.2 +0.4**
comp=Z,19nm,1.2s,mb5.0
MAW Mawson 49.88 200 P **P** **02 48 08.8 +1.1**
comp=Z,22nm,1.1s,mb5.1,baz=148,slow=8.9,SNR=26
MAW LR LR 03 07 38.8
comp=Z,461nm,20.4s,MS4.5,baz=145,slow=34
MAW Mawson 49.88 200 *e*P **P** **02 48 08.2 +0.4**
MAW pmax pmax
comp=Z,19nm,1.2s
NVL N'lazarevskaya 50.30 176 *c i*P **P** **02 48 11.0 0.0**
NVL *e*S **S** **02 55 25.5 +2.1**
NVL pmax pmax
comp=Z,98nm,1.1s,mb5.8
SYO Syowa Base 51.48 189⇑ *e*P **P** **02 48 18.0 -1.9**
TAOE Nuku Hiva Isla 52.20 24 *e*S **S** **02 55 49.3 -0.5**
comp=Z,2μm,26.9s
TAOE *e*LR LR 03 03 16.5
comp=Z,8μm,27.9s,baz=209
CTA Charters Tower 54.89 291⇑ *i*P **P** **02 48 45.4 +0.5**
comp=Z,28nm,1.0s,mb5.2
CTA Charters Tower 54.89 291 LR LR 03 08 57.0
comp=Z,1μm,20.1s,MS5.0,baz=222,slow=32
CTA Charters Tower 54.89 291⇑ *i*P **P** **02 48 45.4 +0.5**
CTA pmax pmax
comp=Z,28nm,1.0s
CTAO Charters Tower 54.89 291 *e*P **P** **02 48 45.3 +0.4**
CTAO pmax pmax
comp=Z,54nm,1.1s,mb5.5
CTAO Charters Tower 54.89 291 *e*P **P** **02 48 45.3 +0.4**
comp=Z,54nm,1.1s,mb5.5
FORT Forrest 55.30 267⇑ *i*P **P** **02 48 48.4 +0.5**
comp=Z,25nm,0.9s,mb5.2
ASAR Alice Springs 58.06 277 P **P** **02 49 06.4 -1.2**
comp=Z,25nm,0.9s,mb5.3,baz=144,slow=6.7,SNR=110
ASAR LR LR 03 11 23.1
comp=Z,2μm,18.8s,MS5.2,baz=158,slow=33
AS31 Alice Springs 58.06 277⇑ *i*P **P** **02 49 06.3 -1.3**
ASPA Alice Springs 58.06 277⇑ *i*P **P** **02 49 06.3 -1.3**
HNR Honiara 58.27 311 LR LR 03 12 11.2
comp=Z,492nm,18.2s,MS4.7,baz=181,slow=34
NWAO Narrogin (SRO) 59.12 257 *e*P **P** **02 49 14.5 -0.4**
NWAO pmax pmax
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 59.12 257 *e*P **P** **02 49 14.5 -0.4**
comp=Z,22nm,1.1s,mb5.1
KLBR Kellerberrin 59.92 258⇑ *i*P **P** **02 49 20.7 +0.2**
comp=Z,31nm,1.0s,mb5.3
MUN Mundaring 60.39 257 *e*P **P** **02 49 24.8 +1.1**
WB2 Warramunga Arr 60.93 280⇑ *i*P **P** **02 49 26.0 -1.4**
WRA Warramunga Arr 60.94 280 P **P** **02 49 26.1 -1.3**
comp=Z,29nm,1.0s,mb5.4,baz=153,slow=6.2,SNR=75
WRA LR LR 03 12 04.7
comp=Z,817nm,21.4s,MS4.8,baz=155,slow=32
WRAB Tennant Creek 60.94 280 *e*P **P** **02 49 25.6 -1.8**
WRAB pmax pmax
comp=Z,38nm,1.1s,mb5.4
WRAB Tennant Creek 60.94 280 *e*P **P** **02 49 25.6 -1.8**
comp=Z,38nm,1.1s,mb5.4
TRQA Tornquist 61.76 117 *e*P **P** **02 49 33.0 0.0**
comp=Z,16nm,1.0s,mb5.1
PMG Port Moresby 63.74 298 P **P** **02 49 47.3 +1.1**
comp=Z,33nm,0.9s,mb5.4,baz=188,slow=1.7,SNR=9.2
PMG LR LR 03 12 05.2
comp=Z,911nm,21.9s,MS4.9,baz=200,slow=31
FITZ Fitzroy Crossi 66.94 273 ⇓*i*P **P** **02 50 06.4 -0.5**
comp=Z,17nm,1.1s,mb5.0
FITZ Fitzroy Crossi 66.94 273 P **P** **02 50 06.7 -0.1**
comp=Z,12nm,1.1s,mb4.9,baz=155,slow=8.8,SNR=13
KAKA Kakadu 68.00 282 *e*P **P** **02 50 13.1 -0.5**
comp=Z,20nm,1.1s,mb5.1
NNA Nana 75.98 90 P **P** **02 51 02.1 +0.6**
comp=Z,9.2nm,0.8s,mb4.8
LPAZ La Paz 76.83 100 P **P** **02 51 07.2 +0.9**
comp=Z,6.0nm,1.0s,mb4.5,baz=210,slow=3.4,SNR=12
LPAZ LR LR 03 17 24.0
comp=Z,491nm,20.7s,MS4.8,baz=178,slow=30
LPAZ La Paz 76.83 100 P **P** **02 51 07.2 +0.9**
LPAZ LR LR 03 17 24.0
GUMO Guam 85.25 306 LR LR 03 22 51.3
comp=Z,306nm,21.3s,MS4.7,baz=125,slow=31
OTAV Otavalo 85.53 82 *e*P **P** **02 51 54.1 +1.5**
comp=Z,70nm,1.4s,mb5.7
SAML Samuel 85.57 100 *e*P **P** **02 51 51.8 -0.9**
comp=Z,16nm,1.2s,mb5.1
SUR Sutherland 88.89 180 *e*P **P** **02 52 08.7 -0.1**
comp=Z,15nm,0.9s,mb5.3
JTS JuntasAbangare 90.89 71 *e*P **P** **02 52 17.6 -0.5**
JTS pmax pmax
comp=Z,30nm,1.4s
JTS JuntasAbangare 90.89 71 *e*P **P** **02 52 17.6 -0.5**
comp=Z,30nm,1.4s,mb5.4
KSM Kuching 91.41 270 *e*P **P** **02 52 20.8 +0.2**
ROSC El Rosal 91.58 83 LR LR 03 27 19.8
comp=Z,324nm,18.2s,MS4.8,baz=90,slow=32
ROSC El Rosal 91.58 83 *e*P **P** **02 52 22.9 +1.5**
BOSA Boshof 92.56 184 LR LR 03 31 38.3
comp=Z,1

GTA				XPKP		02 58 29.3		
TORD	**Torodi Ar. Bea**	**132.02**	**155**	PKP	PKPdf	02 58 26.5	-1.6	
	comp=Z,7.0nm,1.2s,baz=232,slow=0.4,SNR=15							
BOD	**Bodaibo**	**134.99**	**311**	*e*PKIKP	PKPdf	02 58 30.1	-3.5	
BOD				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TIXI	**Tiksi**	**139.55**	**332**	*e*PKIKP	PKPdf	02 58 36.1	-5.9	
TIXI				*e*		02 58 39.0		
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.3s							
TIXI	**Tiksi**	**139.55**	**332**	*e*PKPdf	PKPdf	02 58 39.5	-2.5	
MKAR	**Makanchi Array**	**142.24**	**279**	PKhKP		02 58 39.7		
	comp=Z,1.1nm,0.6s,baz=187,slow=2.2,SNR=13							
MKAR	**Makanchi Array**	**142.24**	**279**	PKP		02 58 39.7		
AAK	**Ala-Archa**	**143.37**	**268**	*e*PKIKP	PKPdf	02 58 44.2	-4.7	
FRU	**Bishkek**	**143.45**	**268**	*e*PKHKP		02 58 43.0		
FRU				pmax	pmax			
	comp=Z,50nm,2.2s							
ZAL	**Zalesovo**	**145.45**	**290**	PKPbc	PKPbc	02 58 49.8	-2.7	
	comp=Z,30nm,1.2s,baz=304,slow=3.0,SNR=37							
KKAR	**Karatay Array**	**145.76**	**265**	PKIKP	PKPdf	02 58 52.5	-0.5	
KKAR				pmax	pmax			
	comp=Z,78nm,1.4s							
KURK	**Kurchatov**	**146.61**	**282**	PKP2	PKPab	02 58 53.2	-3.9	
KURK				pmax	pmax			
	comp=Z,24nm,1.1s							
NVS	**Novosibirsk**	**146.71**	**291**	*i* PKP2	PKPab	02 58 53.1	-4.4	
NVS				*e*		03 02 20.5		
NVS				pmax	pmax			
	comp=Z,39nm,1.2s							
NVS				pmax	pmax			
	comp=N,17nm,1.3s							
NVS				pmax	pmax			
	comp=E,16nm,1.2s							
MDT	**Midelt**	**148.79**	**136**	PKPbc	PKPbc	02 59 02.7	+0.8	
	comp=E,13nm,1.1s,baz=201,slow=6.0,SNR=6.3							
EIL	**Elat**	**149.00**	**205**	*e*PKPbc	PKPbc	02 59 01.9	-0.6	
ASF	**Jabal al Asfar**	**150.95**	**209**	PKPbc	PKPbc	02 59 07.2	0.0	
	comp=E,9.0nm,1.1s,baz=58,slow=0.2,SNR=8.5							
ASF				PKPab	PKPab	02 59 14.1	-0.5	
	comp=E,4.0nm,1.1s,baz=215,slow=4.3,SNR=4.0							
VOSK	**Vostochnaya**	**151.65**	**279**	PKIKP	PKPdf	02 59 06.1	+3.5	
VOSK				pmax	pmax			
	comp=Z,48nm,1.5s							
BVA0	**Borovoye Array**	**152.12**	**280**	*i* PKIKP	PKPbc	02 59 07.4	-2.5	
BVA0				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MMAI	**Mount Meron Ar**	**152.12**	**207**	PKPbc	PKPbc	02 59 09.7	-0.3	
	comp=Z,2.9nm,0.8s,baz=76,slow=4.4,SNR=4.1							
MMAI				PKPab	PKPab	02 59 19.4	-0.1	
	comp=Z,8.9nm,1.0s,baz=235,slow=2.9,SNR=8.3							
BRVK	**Borovoye**	**152.19**	**280**	*e*PKIKP	PKPbc	02 59 08.1	-2.0	
ELOJ	**Sierra Loja**	**152.82**	**133**	PKIKP	PKPdf	02 59 04.5	+0.2	
ERON	**Agron**	**152.84**	**134**	PKP	PKPdf	02 59 06.1	+1.7	
EBER	**Berja**	**153.07**	**135**	PKP	PKPdf	02 59 05.3	+0.6	
ECOG	**Cogollos-Vega**	**153.16**	**134**	PKIKP	PKPdf	02 59 05.2	+0.4	
ENIJ	**Nijar**	**153.38**	**136**	PKIKP	PKPdf	02 59 04.5	-0.6	
EQES	**Quesada**	**153.80**	**134**	PKP	PKPdf	02 59 05.0	-0.7	
EBAN	**Banos Encina**	**153.85**	**132**	PKIKP	PKPdf	02 59 05.2	-0.6	
ESDC	**Sonseca Array**	**155.09**	**130**	PKPbc	PKPdf	02 59 07.4	-0.1	
	comp=Z,7.0nm,1.1s,baz=283,slow=1.0,SNR=15							
ESDC				PKPab	PKPab	02 59 31.9	-0.1	
	comp=Z,15nm,1.1s,baz=208,slow=3.7,SNR=13							
AB31	**Akbulak array**	**155.32**	**264**	*i* PKIKP	PKPdf	02 59 15.2	+7.4	
AB31				pmax	pmax			
	comp=Z,4.0nm,1.2s							
KEST	**Kesra**	**155.50**	**157**	PKPab	PKPab	02 59 34.7	+0.9	
	comp=Z,5.0nm,1.0s,baz=222,slow=11,SNR=6.9							
GUD	**Guadarrama**	**155.84**	**129**	PKIKP	PKPdf	02 59 08.8	+0.3	
MALT	**Malatya**	**156.27**	**217**	*e*PKIKP	PKPdf	02 59 08.1	-1.0	
AKTK	**Aktyubinsk**	**157.03**	**264**	PKPab	PKPab	02 59 39.2	-1.2	
AKTO	**Aktyubinsk**	**157.03**	**264**	PKPab	PKPab	02 59 39.2	-1.2	
	comp=Z,15nm,1.0s,baz=121,slow=4.4,SNR=26							
AKTO	**Aktyubinsk**	**157.03**	**264**	PKP2	PKPab	02 59 38.6	-1.8	
AKTO				pmax	pmax			
	comp=Z,1.0nm,1.4s							
BR131	**Keskin Array S**	**158.93**	**209**	*e*PKPdf	PKPdf	02 59 11.8	-0.6	
BRTR	**Keskin Array B**	**158.93**	**209**	PKP	PKPdf	02 59 11.5	-0.9	
	comp=Z,3.8nm,1.1s,baz=147,slow=2.5,SNR=15							
BRTR				PKPab	PKPab	02 59 48.1	-0.5	
	comp=Z,6.3nm,1.2s,baz=163,slow=6.4,SNR=6.4							
BRTR				PP	PP	03 03 29.3	+0.1	
	comp=Z,1.6nm,1.0s,baz=170,slow=7.5,SNR=6.2							
MLR	**Muntele Rosu**	**166.02**	**196**	PKP	PKPdf	02 59 18.9	-0.6	
	comp=Z,6.1nm,1.2s,baz=68,slow=5.9,SNR=4.6							
MLR				PKPab	PKPab	03 00 17.8	-1.8	
	comp=Z,6.2nm,1.0s,baz=169,slow=10,SNR=6.8							
GERES	**GERESS Array B**	**168.98**	**155**	PKP	PKPdf	02 59 18.2	-3.3	
	comp=Z,2.9nm,1.1s,baz=0.0,slow=1.3,SNR=10							
AKASG	**Malin Array Be**	**170.26**	**214**	PKPab	PKPab	03 00 36.9	-1.5	
	comp=Z,4.3nm,0.9s,baz=169,slow=4.2,SNR=12							
STHS	**Stebnicka Huta**	**170.31**	**182**	*e*PKP	PKPdf	02 59 29.3	+6.9	
STHS				*e*	PKPab	03 00 38.2	-0.5	
BRG	**Berggiesshubel**	**170.93**	**152**	*e*P	PKPdf	02 59 19.1	-3.6	
	comp=Z,7.0nm,1.6s							

***IDC* 28 02:46:34.3±20.0, 6082S×15137W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/10, mbtmp4.0/3, Error ellipse: s-maj=959.3km s-min=429.9km az=177.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**51.63**	**272**	P	P	02 55 41.8	-0.8
	0.4nm,0.3s,baz=115,slow=4.2,SNR=4.3						
ASAR	**Alice Springs**	**62.20**	**271**	P	P	02 56 57.3	-0.3
	1.1nm,0.7s,baz=144,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**65.14**	**274**	P	P	02 57 17.2	+0.2
	1.0nm,0.7s,baz=149,slow=5.6,SNR=13						

NEIC ***28*** *02:55:23.9, 1626N×97.44W, h34km, MD4.0(MEX), After MEX.*

MEX 28 02:55:23.6±0.5, 1622N×9743W, h44km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**284**	*i* P	Pn	02 55 35.3	-1.7
PNIG				*i* S	Sn	02 55 45.0	-1.6
PNIG	**Pinotepa**	**0.69**	**284**	*i* P	Pn	02 55 35.3	-1.7
PNIG				*i* S	Sn	02 55 43.8	-2.9
VHO	**Vista Hermosa**	**1.07**	**38**	*i* P	Pn	02 55 40.7	-1.5
VHO				*i* S	Sn	02 55 53.9	-2.0
OXX	**Oaxaca**	**1.09**	**38**	*i* P	Pn	02 55 41.0	-1.4
OXX				*i* S	Sn	02 55 55.0	-1.2
HUIG	**Huatulco**	**1.35**	**109**	*i* P	Pn	02 55 44.5	-1.4
HUIG				*i* S	Sn	02 56 00.5	-2.0
HUIG				*i* S	Sn	02 56 01.2	-1.4
HUIG	**Huatulco**	**1.35**	**109**	*i* P	Pn	02 55 44.6	-1.3
HUIG				*i* S	Sn	02 56 01.2	-1.4
UTMO	**Huajuapan**	**1.64**	**347**	*i* P	Pn	02 55 49.0	-0.9
UTMO				*i* S	Sn	02 56 08.5	-1.3
TPIG	**Tehuac#an**	**2.19**	**2**	*i* P	Pn	02 55 56.5	-1.0
TPIG				*i* S	Sn	02 56 22.5	-0.7
MEIG	**Mezcala**	**2.70**	**309**	*e*P	Pn	02 56 03.3	-1.1
MEIG				*i* S	Sn	02 56 34.7	-1.1
CAIG	**El Cayaco**	**2.84**	**287**	*e*P	Pn	02 56 05.2	-1.2
CAIG				*i* S	Sn	02 56 37.9	-1.6
PLIG	**Platanillo**	**2.93**	**318**	*e*P	Pn	02 56 06.5	-1.2
PLIG				*i* S	Sn	02 56 39.2	-2.4
IIO	**Organos**	**3.57**	**340**	*i* P	Pn	02 56 14.1	-2.3
IIO				*i* S	Sn	02 56 55.6	-1.7
TEIG	**Tepich**	**9.56**	**64**	*e*Pn	Pn	02 57 36.9	-1.7
TEIG				*e*Sn	Sn	02 59 16.0	-8.7

***IDC* 28 02:58:03.8±70.0, 1897S×17903E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, Error ellipse: s-maj=1261.0km s-min=167.4km az=80.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.99**	**242**	P	P	03 05 07.3	+0.9
	1.2nm,0.7s,baz=5.2,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**42.06**	**261**	P	P	03 05 57.7	+0.5
	0.1nm,0.4s,baz=98,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**42.17**	**255**	P	P	03 05 57.6	-0.4
	0.2nm,0.5s,baz=90,slow=8.1,SNR=4.7						

IDC ***28*** *03:30:24.6±8.9, 6.52S×151.03E, h65km±64km, mb3.9/4, mb1 4.1/5, mb1mx3.7/14, mbtmp3.9/5, ML2.7/1, MS4.0/1, Ms1 4.0/1, ms1mx2.4/28, Error ellipse: s-maj=58.6km s-min=50.9km az=62.0*

NEIC 28 03:30:13.1±3.2, 602S×15135E, h10km, mb4.4/2, Error ellipse: s-maj=45.4km s-min=30.7km az=47.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**231**	P	Pn	03 31 33.6	+0.7
	2.3nm,0.3s,baz=90,slow=5.1,SNR=5.0						
PMG				S	Sn	03 32 30.3	-4.3
	2.2nm,0.3s,baz=343,slow=22,SNR=5.8						
CTAO	**Charters Tower**	**14.84**	**199**	*e*Pn	Pn	03 33 43.3	+0.4
	18nm,1.3s						
WB2	**Warramunga Arr**	**21.55**	**228**	*e*P	P	03 35 02.1	-0.5
WRA	**Warramunga Arr**	**21.56**	**229**	P	P	03 35 02.4	-0.3
	4.7nm,0.8s,baz=53,slow=11,SNR=23						
AS31	**Alice Springs**	**24.28**	**222**	*e*P	P	03 35 30.8	+0.3
ASAR	**Alice Springs**	**24.28**	**222**	P	P	03 35 30.6	0.0
	3.2nm,0.6s,baz=54,slow=8.5,SNR=50						
ASPA	**Alice Springs**	**24.29**	**222**	*e*P	P	03 35 30.8	+0.3
STKA	**Stephens Creek**	**27.30**	**198**	*e*P	P	03 35 58.3	+0.5
	2.3nm,0.4s						
STKA	**Stephens Creek**	**27.30**	**198**	P	P	03 35 57.9	+0.1
	3.7nm,0.5s,baz=7.7,slow=9.6,SNR=11						
FITZ	**Fitzroy Crossi**	**27.82**	**242**	*e*P	P	03 36 03.7	+1.2
	5.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.82**	**242**	P	P	03 36 03.4	+0.9
	3.4nm,0.7s,baz=53,slow=8.0,SNR=17						
JHJ	**Hachijo jima 2**	**40.44**	**345**	LR	LR	03 53 20.9	
	comp=Z,204nm,19.0s,baz=345,slow=34						
TORD	**Torodi Ar. Bea**	**149.28**	**286**	PKPbc	PKPbc	03 50 07.0	+4.9
	0.7nm,0.7s,baz=54,slow=2.7,SNR=5.7						

NEIC ***28*** *03:37:19.1±0.7, 47.11N×153.97E, h10km, mb4.1/3, Error ellipse: s-maj=23.3km s-min=12.2km az=137.0*
ISCJB ***28*** *03:37:22.3±1.5, 47.0N±0.1×153.9E±0.2, h48km±13km, mb3.9/10, Error ellipse: s-maj=24.5km s-min=7.7km az=82.3*
MOS ***28*** *03:37:22.3±1.6, 47.07N×153.83E, h49km, mb4.1/8, Error ellipse: s-maj=21.3km s-min=11.2km az=51.4*
IDC ***28*** *03:37:29.0±4.4, 47.09N×153.58E, h90km±39km, mb3.6/9, mb1 3.8/11, mb1mx3.6/23, mbtmp3.6/11, Error ellipse: s-maj=28.7km s-min=18.6km az=109.0*

ISC 28 03:37:24.6±1.3, 471N±01×1539E±02, h55km±12km, n32, σ1°19/32, mb3.9/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.92**	**22**	*e*PN	**Pn**	**03 38 21.4**	**-0.9**
SKR				*e*S	**Sn**	**03 39 07.5**	**+0.5**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=E,160nm,0.9s						
SKR				smax			
	comp=Z,130nm,0.9s						
SKR				smax			
	comp=N,90nm,0.7s						
KUR	**Kuril'sk**	**4.54**	**248**	PN	**Pn**	**03 38 27.5**	**-3.4**
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.38**	**245**	PN	**Pn**	**03 38 54.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**7.59**	**273**	*e*PN	**Pn**	**03 39 14.8**	**+2.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
ASAJ	**Asahikawa**	**8.43**	**254**	P	**Pn**	**03 39 25.8**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=72,slow=15,SNR=4.2						
ASAJ	**Asahikawa**	**8.43**	**254**	PN	**Pn**	**03 39 25.8**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**15.67**	**234**	*e*P	**Pn**	**03 41 00.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	**Matsushiro**	**15.67**	**234**	*e*Pn	**Pn**	**03 41 00.7**	**-1.2**
	comp=Z,5.7nm,0.4s						
MJAR	**Matsushiro Arr**	**15.67**	**234**	P	**Pn**	**03 41 02.7**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=37,slow=10.0,SNR=9.0						
MJAR	**Matsushiro Arr**	**15.67**	**234**	P	**Pn**	**03 41 02.7**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**17.07**	**271**	*e*Pn	**Pn**	**03 41 19.5**	**+0.2**
	comp=Z,4.6nm,0.6s						
KSRS	**Korea Array**	**21.38**	**253**	P	**P**	**03 42 07.5**	**+0.1**
	comp=Z,4.0nm,0.9s,mb3.8,baz=57,slow=10,SNR=6.3						
COLA	**College**	**35.58**	**39**	*e*P	**P**	**03 44 15.6**	**-1.0**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
COLA	**College**	**35.58**	**39**	*e*P	**P**	**03 44 15.6**	**-1.1**
	comp=Z,5.9nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**03 46 17.2**	**+1.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=295,slow=7.0,SNR=11						
YKA	**Yellowknife Ar**	**50.37**	**37**	P	**P**	**03 46 17.2**	**+1.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**03 47 50.9**	**-1.2**
	comp=Z,2.0nm,0.9s,mb4.2,baz=34,slow=7.7,SNR=6.0						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**03 47 50.9**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.09**	**341**	P	**P**	**03 48 17.6**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**03 48 18.1**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2,baz=25,slow=6.3,SNR=6.3						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**03 48 18.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.97**	**200**	P	**P**	**03 48 23.6**	**-0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=18,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**68.97**	**200**	P	**P**	**03 48 23.6**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**03 48 38.5**	**-1.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.2,SNR=4.2						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**03 48 38.5**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.67**	**199**	P	**P**	**03 48 47.3**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=12,slow=6.4,SNR=8.2						
ASAR	**Alice Springs**	**72.67**	**199**	P	**P**	**03 48 47.3**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.90**	**61**	P	**P**	**03 49 12.3**	**+1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=302,slow=4.2,SNR=7.5						
TXAR	**Lajitas Array**	**76.90**	**61**	P	**P**	**03 49 12.3**	**+1.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**78.51**	**317**	P	**P**	**03 49 20.9**	**+1.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=35,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**78.51**	**317**	P	**P**	**03 49 20.9**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CFAA	**Coronel Fontan**	**144.44**	**80**	PKP	PKPdf	03 56 53.5	-1.2
	comp=Z,0.4nm,0.6s,baz=312,slow=6.7,SNR=5.7						

ISCJB ***28*** *03:41:29.1±4.7, 46.67N±0.009×154.7E±0.1, h1km±29km, mb4.2/23, Error ellipse: s-maj=17.9km s-min=11.6km az=94.1*
IDC ***28*** *03:41:30.6±0.7, 46.64N×154.78E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/25, mbtmp4.0/18, ML3.8/1, Error ellipse: s-maj=20.7km s-min=17.0km az=165.0*
NEIC ***28*** *03:41:32.2±0.5, 46.69N×154.73E, h10km, mb4.8/4, Error ellipse: s-maj=12.2km s-min=9.3km az=139.0*
MOS ***28*** *03:41:33.9±1.1, 46.70N×154.56E, h32km, mb4.3/15, Error ellipse: s-maj=16.5km s-min=10.1km az=97.6*

ISC 28 03:41:31.4±4.9, 4671N±009×1547E±01, h4km±30km, n52, σ0°97/51, mb4.1/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.09**	**13**	*e*PN	**Pn**	**03 42 35.0**	**+0.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
KUR	**Kuril'sk**	**4.97**	**255**	PN	**Pn**	**03 42 45.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
MJAR	**Matsushiro Arr**	**15.93**	**236**	Pn	**Pn**	**03 45 18.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=191,slow=23,SNR=2.3						
KSRS	**Korea Array**	**21.82**	**255**	P	**P**	**03 46 27.1**	**+2.5**
	comp=Z,2.8nm,0.6s,mb3.9,baz=54,slow=12,SNR=7.7						

BILL	**Bilibino**	**22.20**	**12**	*e*P	**P**	**03 46 29.1**	**+0.4**	
BILL				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.1							
BILL	**Bilibino**	**22.20**	**12**	*e*P	**P**	**03 46 29.1**	**+0.4**	
	comp=Z,5.4nm,0.6s,mb4.2							
BOD	**Bodaibo**	**26.84**	**309**	*e*P	**P**	**03 47 11.4**	**-1.5**	
BOD				pmax	pmax			
	comp=Z,6.0nm,1.4s,mb3.9							
TIXI	**Tiksi**	**27.82**	**343**	*e*P	**P**	**03 47 20.3**	**-1.3**	
TIXI				*e*		03 50 42.5		
TIXI				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.5							
TIXI	**Tiksi**	**27.82**	**343**	*e*P	**P**	**03 47 20.3**	**-1.4**	
	comp=Z,16nm,1.3s,mb4.5							
TIXI				*e*		03 50 42.5		
SONM	**Songino Array**	**32.36**	**290**	P	**P**	**03 48 01.1**	**-0.7**	
	comp=Z,0.3nm,0.3s,mb3.7,baz=70,slow=8.2,SNR=3.9							
ZAL	**Zalesovo**	**43.52**	**306**	P	**P**	**03 49 35.9**	**0.0**	
	comp=Z,1.7nm,0.5s,mb4.0,baz=43,slow=5.5,SNR=4.6							
ZAL	**Zalesovo**	**43.52**	**306**	P	**P**	**03 49 35.9**	**-0.1**	
ZAL				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ZAL	**Zalesovo**	**43.52**	**306**	P	**P**	**03 49 35.9**	**-0.1**	
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**03 50 10.4**	**-0.2**	
	comp=Z,1.3nm,0.6s,mb4.1,baz=67,slow=7.4,SNR=13							
MKAR	**Makanchi Array**	**47.91**	**298**	P	**P**	**03 50 10.5**	**-0.2**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**03 50 28.6**	**-0.5**	
	comp=Z,0.5nm,0.8s,mb3.6,baz=295,slow=6.8,SNR=3.9							
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**03 50 28.6**	**-0.5**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**03 50 28.6**	**-0.5**	
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**03 50 40.2**	**+0.6**	
	comp=Z,2.7nm,0.5s,mb4.5,baz=56,slow=7.8,SNR=27							
BVAR	**Borovoye Array**	**51.71**	**310**	P	**P**	**03 50 40.2**	**+0.6**	
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
BVA2	**Borovoye Array**	**51.71**	**310**	P	**P**	**03 50 40.1**	**+0.5**	
ARU	**Arti**	**55.77**	**318**	*e*P	**P**	**03 51 08.6**	**-0.7**	
ARU	**Arti**	**55.77**	**318**	*e*P	**P**	**03 51 08.9**	**-0.4**	
	comp=Z,7.9nm,0.5s,mb5.0							
AB31	**Akbulak array**	**59.27**	**311**	*i* P	**P**	**03 51 34.4**	**+0.4**	
AB31				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
AKTK	**Aktyubinsk**	**59.55**	**313**	P	**P**	**03 51 35.9**	**0.0**	
AKTO	**Aktyubinsk**	**59.55**	**313**	P	**P**	**03 51 35.9**	**0.0**	
	comp=Z,1.7nm,0.6s,mb4.3,baz=46,slow=1.9,SNR=5.1							
AKTO	**Aktyubinsk**	**59.55**	**313**	P	**P**	**03 51 35.9**	**-0.1**	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
NVAR	**Mina Array Bea**	**61.50**	**63**	P	**P**	**03 51 49.4**	**+0.1**	
	comp=Z,0.4nm,0.5s,mb3.8,baz=311,slow=8.4,SNR=3.2							
PDAR	**Pinedale Array**	**63.90**	**55**	P	**P**	**03 52 05.0**	**-0.2**	
	comp=Z,0.9nm,0.9s,mb3.8,baz=354,slow=1.5,SNR=5.3							
KAF	**Kangasniemi**	**63.93**	**336**	*e*p	**P**	**03 52 04.7**	**-0.8**	
	comp=Z,7.6nm,0.8s,mb4.8							
KAF	**Kangasniemi**	**63.93**	**336**	*e*P	**P**	**03 52 04.7**	**-0.8**	
KAF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8							
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**03 52 09.5**	**+0.1**	
	comp=Z,2.9nm,0.6s,mb4.5,baz=36,slow=6.9,SNR=15							
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**03 52 09.5**	**+0.1**	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NB2	**NORSAR Subarra**	**68.61**	**342**	P	**P**	**03 52 37.2**	**+1.7**	
	comp=Z,0.9nm,0.5s,mb4.0,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.61**	**342**	P	**P**	**03 52 36.8**	**+1.3**	
	comp=Z,0.9nm,0.6s,mb3.9,baz=30,slow=6.8,SNR=5.9							
NOA	**NORSAR Array B**	**68.61**	**342**	P	**P**	**03 52 36.8**	**+1.3**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**68.83**	**201**	P	**P**	**03 52 35.7**	**-1.2**	
	comp=Z,0.8nm,1.0s,mb3.6,baz=25,slow=7.3,SNR=4.3							
WRA	**Warramunga Arr**	**68.83**	**201**	P	**P**	**03 52 35.7**	**-1.2**	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MDRS	**Chennai**	**69.94**	**268**	*ex*	x	03 52 45.3		
AKASG	**Malin Array Be**	**72.17**	**327**	P	**P**	**03 52 56.4**	**-0.9**	
	comp=Z,0.9nm,0.5s,mb4.0,baz=33,slow=6.2,SNR=6.3							
AKASG	**Malin Array Be**	**72.17**	**327**	P

YSS AMB AMB 03 50 26.7
comp=Z,20nm,0.9s
YSS eLQ 03 52 38.0
YSS AMS AMS 03 55 28.0
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 8.84 272 *e*PN **Pn 03 50 25.0 +1.0**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 8.84 272 *e*Pn **Pn 03 50 24.1 +0.1**
comp=Z,14nm,0.6s
ASAJ Asahikawa 9.73 255 LR LR 03 54 43.2
comp=Z,93nm,18.9s,baz=176,slow=40
ERM Erimo 10.42 244 *e*P **Pn 03 50 47.7 +2.1**
KLR Kul'dur 16.04 285 *e*P **Pn 03 52 01.8 +0.2**
KLR MLR MLR
comp=N,500nm,12.5s
KLR MLR MLR
comp=Z,1μm,12.5s
MJAR Matsushiro Arr 16.89 236 P **Pn 03 52 13.3 +0.8**
comp=Z,0.2nm,0.3s,baz=38,slow=9.9,SNR=7.7
MAJO Matsushiro 16.89 236 *e*P **Pn 03 52 12.9 +0.5**
MAJO pmax pmax
comp=Z,5.0nm,0.5s
MAJO Matsushiro 16.89 236 *e*P **Pn 03 52 12.9 +0.5**
comp=Z,5.3nm,0.5s
ZEA Zeya 19.09 300 *e*P **Pn 03 52 33.8 -5.6**
ZEA AMB AMB 03 52 35.0
comp=Z,28nm,1.2s
YAK Yakutsk 20.80 324 *e*P **P 03 52 57.5 +0.4**
YAK *e* 03 56 49.4
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=Z,28nm,1.4s
YAK pmax pmax
comp=E,25nm,1.5s
YAK pmax pmax
comp=E,24nm,1.4s
YAK pmax pmax
comp=N,17nm,1.3s
BILL Bilibino 21.41 11 *e*P **P 03 53 04.6 +1.0**
BILL *e*S **S 03 56 59.0 -0.5**
BILL pmax pmax
comp=Z,22nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,100nm,18.0s
BILL Bilibino 21.41 11 *e*P **P 03 53 03.6 0.0**
comp=Z,19nm,0.8s,mb4.5
KSRS Korea Array 22.68 254 P **P 03 53 16.7 -0.5**
comp=Z,3.8nm,0.9s,mb3.8,baz=63,slow=9.4,SNR=5.5
HIA Hailar 23.86 288 *e*P **P 03 53 27.0 -2.0**
TIXI Tiksi 27.40 342 *e*P **P 03 54 00.4 -0.6**
TIXI pmax pmax
comp=Z,16nm,0.1s,mb5.5
TIXI Tiksi 27.40 342 *e*P **P 03 54 00.4 -0.6**
comp=Z,16nm,0.1s,mb5.5
NJ2 Nanjing 31.88 255 *e*P **P 03 54 44.0 +3.2**
NJ2 AP pP 03 54 49.0 -0.6
NJ2 XP sP 03 54 51.5 -1.8
NJ2 PP PP 03 55 49.5 -3.5
NJ2 S **S 03 59 52.0 +2.4**
NJ2 XS sS 04 00 01.0 -3.2
NJ2 AMB AMB
comp=Z,740nm,5.6s
SONM Songino Array 32.80 289 P **P 03 54 47.1 -1.8**
comp=Z,1.2nm,0.8s,mb3.9,baz=74,slow=8.8,SNR=8.5
SONM PcP PcP 03 57 32.1 -1.3
comp=Z,0.7nm,0.8s,baz=179,slow=1.9,SNR=3.7
SONM Songino Array 32.80 289 P **P 03 54 47.1 -1.8**
SONM 03 57 32.1
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.8s
COLA College 34.54 39 *e*P **P 03 55 03.8 -0.1**
TATO Taipei 35.11 243 *e*P **P 03 55 08.4 -0.5**
comp=Z,16nm,0.4s,mb5.3
LZH Lanzhou 39.64 273 *e*P **P 03 55 47.5 +0.2**
LZH AP pP 03 55 51.0 -5.2
LZH XP sP 03 55 54.0 -5.9
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.6
LZH Lanzhou 39.64 273 *e*P **P 03 55 47.5 +0.2**
comp=Z,20nm,1.5s,mb4.6
LZH pP pP 03 55 51.0 -5.2
LZH sP sP 03 55 54.0 -5.9
INK Inuvik 40.16 33 P **P 03 55 53.0 +1.4**
comp=Z,4.1nm,0.7s,mb4.3,baz=302,slow=7.9,SNR=8.1
INK Inuvik 40.16 33 P **P 03 55 53.0 +1.4**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 40.16 33 P **P 03 55 53.0 +1.4**
GTA Gaotai 40.62 280 *e*P **P 03 55 56.0 +0.6**
GTA AP pP 03 56 00.3 -4.1
GTA XP sP 03 56 03.0 -5.0
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.2
ZAL Zalesovo 43.70 306 P **P 03 56 19.3 -1.2**
comp=Z,1.5nm,0.6s,mb3.9,baz=42,slow=10.0,SNR=8.1
ZAL PcP PcP 03 58 06.7 -0.5
comp=Z,3.1nm,0.3s,baz=144,slow=1.9,SNR=3.6
ZAL Zalesovo 43.70 306 P **P 03 56 19.3 -1.2**
ZAL 03 58 06.7
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL pmax pmax
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 48.23 298 P **P 03 56 56.6 +0.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=68,slow=7.8,SNR=15
MKAR PcP PcP 03 58 22.5 -0.5
comp=Z,1.4nm,0.9s,baz=46,slow=1.4,SNR=4.0
MKAR Makanchi Array 48.23 298 P **P 03 56 56.6 +0.4**
MKAR 03 58 22.5
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 49.35 38 P **P 03 57 05.5 +0.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=295,slow=7.1,SNR=14
YKA Yellowknife Ar 49.35 38 P **P 03 57 05.5 +0.7**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 49.35 38 P **P 03 57 05.5 +0.7**
RES Resolute Bay 49.67 19 *e*P **P 03 57 07.8 +0.6**
comp=Z,194nm,0.8s
BVAR Borovoye Array 51.83 310 P **P 03 57 23.5 +0.1**
comp=Z,4.4nm,0.5s,mb4.6,baz=60,slow=7.9,SNR=30
BVAR PcP PcP 03 58 34.9 -1.3
comp=Z,1.2nm,0.9s,baz=25,slow=3.8,SNR=2.1
BVAR Borovoye Array 51.83 310 P **P 03 57 23.5 0.0**
BVAR 03 58 34.9
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 51.87 310 *e*P **P 03 57 22.5 -1.3**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 51.87 310 *e*P **P 03 57 22.5 -1.3**
comp=Z,5.6nm,0.6s,mb4.7
AAK Ala-Archa 55.14 297⇑ *e*P **P 03 57 47.0 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
AAK Ala-Archa 55.14 297 *e*P **P 03 57 47.5 -0.3**
comp=Z,3.9nm,0.9s,mb4.4
ARU Arti 55.74 318⇑ *i*P **P 03 57 52.1 0.0**
ARU *e* 03 59 55.6
ARU *e*S **S 04 05 38.0 +1.2**
ARU *e*SS SS 04 09 22.2 -0.2
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.2
ARU Arti 55.74 318 *e*P **P 03 57 51.0 -1.1**
comp=Z,46nm,1.3s,mb5.3
ARCES ARCESS Array B 57.84 342 P **P 03 58 07.5 +0.5**
comp=Z,6.2nm,0.8s,mb4.7,baz=22,slow=8.2,SNR=5.5
ARCES ARCESS Array B 57.84 342 P **P 03 58 07.5 +0.5**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
AKTK Aktyubinsk 59.62 313 P **P 03 58 19.6 +0.2**
AKTO Aktyubinsk 59.62 313 P **P 03 58 19.6 +0.2**
comp=Z,3.4nm,0.9s,mb4.4,baz=64,slow=9.4,SNR=7.7
AKTO Aktyubinsk 59.62 313 P **P 03 58 19.6 +0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3

NVAR Mina Array Bea 60.56 64 P **P 03 58 26.6 +0.7**
comp=Z,1.3nm,0.7s,mb4.1,baz=288,slow=8.8,SNR=8.1
PDAR Pinedale Array 62.93 56 P **P 03 58 42.8 +0.9**
comp=Z,1.8nm,0.9s,mb4.2,baz=299,slow=2.2,SNR=13
FINES FINESS Array B 64.22 336 P **P 03 58 50.0 -0.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=40,slow=7.7,SNR=9.7
FINES FINESS Array B 64.22 336 P **P 03 58 50.0 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 64.22 336 P **P 03 58 50.0 -0.3**
TMUT Trail Mountain 64.25 59 *e*P **P 03 58 56.0 +5.5**
ULM Lac du Bonnet 64.87 42 P **P 03 58 54.6 +0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=270,slow=8.1,SNR=2.9
NB2 NORSAR Subarra 68.19 342 P **P 03 59 15.8 0.0**
comp=Z,1.1nm,0.7s,mb4.0,baz=26,slow=6.5
NOA NORSAR Array B 68.19 342 P **P 03 59 15.8 0.0**
comp=Z,1.7nm,0.7s,mb4.2,baz=26,slow=6.5,SNR=5.3
NOA NORSAR Array B 68.19 342 P **P 03 59 15.8 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 68.19 342 P **P 03 59 15.8 0.0**
WRA Warramunga Arr 69.72 201 P **P 03 59 22.9 -2.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=19,slow=6.6,SNR=17
WRA Warramunga Arr 69.72 201 P **P 03 59 22.9 -2.3**
WRA pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 69.80 342⇑ *e*P **P 03 59 24.4 -1.3**
KIV Kislovodsk 71.62 316 *e*P **P 03 59 39.3 +2.5**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 71.62 316 *e*P **P 03 59 39.3 +2.5**
comp=Z,12nm,0.9s,mb4.8
AKASG Malin Array Be 72.00 327 P **P 03 59 38.0 -1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=34,slow=6.3,SNR=6.4
AKASG Malin Array Be 72.00 327 P **P 03 59 38.0 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 73.40 201 P **P 03 59 46.0 -1.5**
comp=Z,2.0nm,0.9s,mb4.0,baz=16,slow=5.5,SNR=16
ASAR Alice Springs 73.40 201 P **P 03 59 46.0 -1.4**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
KWP Kalwaria 75.18 331 *e*P **P 03 59 58.1 +0.3**
KWP pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KWP Kalwaria 75.18 331 *e*P **P 03 59 58.1 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
TXAR Lajitas Array 75.63 62 P **P 04 00 00.8 +0.4**
comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=3.9,SNR=25
TXAR Lajitas Array 75.63 62 P **P 04 00 00.8 +0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 76.61 337 *e*P **P 04 00 06.0 +0.1**
MORC Moravsky Berou 76.69 334 P **P 04 00 06.4 0.0**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 76.69 334 P **P 04 00 06.4 -0.1**
comp=Z,1.9nm,0.8s,mb4.1
MALT Malatya 78.01 314 *e*P **P 04 00 14.1 +0.3**
MALT pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
MALT Malatya 78.01 314 *e*P **P 04 00 14.1 +0.3**
comp=Z,3.8nm,1.2s,mb4.2
KHC Kasperske Hory 78.42 336 *e*P **P 04 00 15.5 -0.6**
KHC Kasperske Hory 78.42 336⇑ *e*P **P 04 00 14.9 -1.2**
GERES GERESS Array B 78.65 336 P **P 04 00 16.8 -0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=3.8,slow=4.0,SNR=4.4
GERES GERESS Array B 78.65 336 P **P 04 00 16.8 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 79.13 318 *e*P **P 04 00 19.9 -0.1**
comp=Z,0.3nm,0.5s,mb3.5
BRTR Keskin Array B 79.13 318 P **P 04 00 20.2 +0.2**
comp=Z,1.1nm,1.0s,mb3.8,baz=70,slow=4.1,SNR=5.7
BRTR Keskin Array B 79.13 318 P **P 04 00 20.2 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
VNA2 Neumayer--Watz 155.04 193 *e*PKPdf PKPdf 04 08 06.3 -1.9
VNA2 *e* 04 08 12.8
VNA2 *e* 04 08 15.9
VNA2 *e* 04 08 31.0
VNA2 *e* 04 08 41.8
VNA2 *e* 04 08 53.2
VNA2 *e* 04 09 01.9
VNA3 Neumayer Olymp 155.07 191 *e*PKPdf PKPdf 04 08 06.4 -1.9
VNA3 *e* 04 08 15.9
VNA3 *e* 04 08 30.9
VNA3 *e* 04 08 52.9
VNA3 *e* 04 09 01.9

NNC 28 03:52:12.5±12.0, 3694N×7060E, h198km±209km, mb2.1, mpv3.0, 2C-1D, Error ellipse: s-maj=143.3km s-min=64.2km az=19.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.16**	**359**	⇓P	Pn	03 53 41.3	-0.4
	0.8nm,0.2s,baz=173,slow=11						
KK31				⇑S	Sn	03 54 52.9	+0.6
	11nm,0.6s,baz=180,slow=24						
TKM2	**Tokmak 2**	**7.10**	**31**	⇑P	Pn	03 53 54.6	+0.6
	0.2nm,0.5s						
AB31	**Akbulak array**	**14.54**	**331**	P	Pn	03 55 29.0	-0.2
	0.4nm,0.5s,baz=150,slow=11,SNR=7.1						

*IDC **28** 03:53:44.2±0.7, 47.10N×155.62E, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.1/20, ML3.7/2, Error ellipse: s-maj=19.3km s-min=14.4km az=155.0*
*ISCJB **28** 03:53:45.3±1.9, 4729N±008×15567E±008, h12km±11km, mb4.3/30, MS4.9/1, Error ellipse: s-maj=13.8km s-min=7.6km az=130.3*
*NEIC **28** 03:53:45.7±0.5, 4708N×15558E, h10km, mb4.8/6, Error ellipse: s-maj=11.9km s-min=8.5km az=143.0*
*BJI **28** 03:53:46.8, 4755N×155.35E, h9km, mB5.0, mb4.5, Ms5.1, Msz4.9*
*MOS **28** 03:53:49.1±1.1, 4730N×155.59E, h41km, mb4.5/17, Error ellipse: s-maj=11.7km s-min=8.1km az=106.5*

ISC 28 03:53:48.4±1.9, 4730N±008×15571E±008, h22km±12km, h15km±1.2km: pP-P, n74, c0s81/75, mb4.3/30, MS4.9/1, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.40**	**4**	*e*PN	**Pn**	**03 54 38.8**	**-1.2**
SKR				*e*		03 55 20.0	
KUR	**Kuril'sk**	**5.82**	**252**	*e*PN	**Pn**	**03 55 14.0**	**+0.7**
PET	**Petropavlovsk**	**6.03**	**17**	*e*PN	**Pn**	**03 55 16.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.84**	**273**	*e*PN	**Pn**	**03 55 56.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
ASAJ	**Asahikawa**	**9.71**	**256**	Pn	**Pn**	**03 56 05.8**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=78,slow=9.7,SNR=5.7						
ASAJ	**Asahikawa**	**9.71**	**256**	PN	**Pn**	**03 56 05.8**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**13.91**	**282**	*e*P	**Pn**	**03 57 03.4**	**-0.8**
HABR				S	**Sn**	**03 59 37.9**	**0.0**
KLR	**Kul'dur**	**16.06**	**286**	*e*P	**Pn**	**03 57 33.0**	**+0.3**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MJAR	**Matsushiro Arr**	**16.85**	**237**	Pn	**Pn**	**03 57 37.2**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=5.0						
YAK	**Yakutsk**	**20.86**	**324**	*e*P	**P**	**03 58 30.0**	**+1.2**
CN2	**Changchun**	**21.41**	**272**	*e*P	**P**	**03 58 35.8**	**+1.1**
BILL	**Bilibino**	**21.49**	**11**	*e*P	**P**	**03 58 35.8**	**+0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**21.49**	**11**	*e*P	**P**	**03 58 35.8**	**+0.3**
	comp=Z,5.7nm,0.6s,mb4.1						
KSRS	**Korea Array**	**22.66**	**254**	P	**P**	**03 58 47.5**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.0,baz=62,slow=8.8,SNR=9.6						
TIXI	**Tiksi**	**27.47**	**342**	*e*P	**P**	**03 59 31.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
TIXI	**Tiksi**	**27.47**	**342**	*e*P	**P**	**03 59 32.3**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.0						
NJ2	**Nanjing**	**31.86**	**255**	*e*P	**P**	**04 00 13.0**	**+1.3**
NJ2				AP	pP	04 00 18.0	-0.4
NJ2				PP	PP	04 01 17.5	-6.3
NJ2				S	**S**	**04 05 21.0**	**-0.1**
NJ2				XS	sS	04 05 29.0	-3.1
NJ2				AMB	AMB		
	comp=Z,640nm,5.0s						
NJ2				LR	LR		
	comp=N,2μm,14.3s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,15.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,14.5s,MS4.9						
SONM	**Songino Array**	**32.83**	**290**	P	**P**	**04 00 18.7**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=66,slow=8.8,SNR=11						
SONM				PcP	PcP	04 03 03.5	-1.3
	comp=Z,0.5nm,0.8s,baz=84,slow=4.6,SNR=3.6						
SONM	**Songino Array**	**32.83**	**290**	P	**P**	**04 00 18.7**	**-1.5**
SONM						04 03 03.5	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	**Lanzhou**	**39.64**	**273**	*e*P	**P**	**04 01 19.0**	**+0.6**
LZH				*PP	pP	04 01 35.5	+10
LZH				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
LZH	**Lanzhou**	**39.64**	**273**	*e*P	**P**	**04 01 19.0**	**+0.6**
	comp=Z,26nm,1.0s,mb4.9						
LZH				pP	pP	04 01 35.5	+10
LZH				sP	sP	04 01 40.0	+12
INK	**Inuvik**	**40.23**	**33**	P	**P**	**04 01 23.4**	**0.0**
	comp=Z,2.2nm,0.8s,mb3.9,baz=286,slow=8.3,SNR=5.8						
INK	**Inuvik**	**40.23**	**33**	P	**P**	**04 01 23.4**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	**40.63**	**280**	*e*P	**P**	**04 01 27.8**	**+1.2**
GTA				AP	pP	04 01 31.5	-2.0
GTA				XP	sP	04 01 33.8	-2.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**43.74**	**306**	P	**P**	**04 01 51.3**	**-0.7**
	comp=Z,2.4nm,0.5s,mb4.2,baz=28,slow=7.4,SNR=6.3						
ZAL	**Zalesovo**	**43.74**	**306**	P	**P**	**04 01 51.3**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**04 02 26.5**	**-1.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=65,slow=7.5,SNR=13						
MKAR				PcP	PcP	04 03 53.6	-0.8
	comp=Z,0.6nm,0.6s,baz=56,slow=2.8,SNR=4.7						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**04 02 26.5**	**-1.1**
MKAR						04 03 53.7	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.26**	**298**	P	**P**	**04 02 26.5**	**-1.1**
MKAR				PcP	PcP	04 03 53.6	-0.8
KURK	**Kurchatov**	**48.53**	**304**⇑ *i*P		**P**	**04 02 29.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**49.41**	**38**	P	**P**	**04 02 36.9**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=296,slow=7.2,SNR=9.0						
YKA	**Yellowknife Ar**	**49.41**	**38**	*e*P	**P**	**04 02 37.3**	**+0.8**
VOSK	**Vostochnaya**	**51.72**	**310**	P	**P**	**04 02 53.5**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BVA0	**Borovoye Array**	**51.87**	**310**	*i* P	**P**	**04 02 54.9**	**-0.1**
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**04 02 55.2**	**+0.2**
	comp=Z,4.9nm,0.5s,mb4.7,baz=56,slow=7.5,SNR=33						
BVAR	**Borovoye Array**	**51.87**	**310**	P	**P**	**04 02 55.2**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**51.91**	**310**	*e*P	**P**	**04 02 55.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
BRVK	**Borovoye**	**51.91**	**310**	*e*P	**P**	**04 02 55.0**	**-0.3**
	comp=Z,6.8nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**55.17**	**297**	*e*P	**P**	**04 03 19.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ARU	**Arti**	**55.80**	**318**⇓ *i*P		**P**	**04 03 23.9**	**+0.2**
ARU				*e*		04 05 25.7	
ARU				*e*PPP		04 06 46.4	
ARU				*e*S	**S**	**04 11 09.5**	**0.0**
ARU				*e*SS	SS	04 14 55.8	+0.7
ARU				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
ARU	**Arti**	**55.80**	**318**	*e*P	**P**	**04 03 23.6**	**-0.1**
	comp=Z,26nm,1.1s,mb5.2						
ARCES	**ARCESS Array B**	**57.91**	**342**	P	**P**	**04 03 38.5**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=23,slow=6.6,SNR=8.2						
ARCES	**ARCESS Array B**	**57.91**	**342**	P	**P**	**04 03 38.5**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AB31	**Akbulak array**	**59.42**	**311**	*i* P	**P**	**04 03 49.3**	**0.0**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
NVAR	**Mina Array Bea**	**60.60**	**64**	P	**P**	**04 03 58.5**	**+1.1**
	comp=Z,1.3nm,0.9s,mb4.1,baz=285,slow=8.3,SNR=5.7						
NVAR	**Mina Array Bea**	**60.60**	**64**	P	**P**	**04 03 58.5**	**+1.1**
PDAR	**Pinedale Array**	**62.98**	**55**	P	**P**	**04 04 13.6**	**+0.3**
	comp=Z,1.1nm,0.9s,mb4.0,baz=344,slow=2.0,SNR=9.0						
KAF	**Kangasniemi**	**63.68**	**336**	*e*p	**P**	**04 04 17.0**	**-1.0**
SFJD	**Kangerlussuaq**	**64.28**	**11**	*e*P	**P**	**04 04 17.7**	**-4.2**
SFJD				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.3						
SFJD	**Kangerlussuaq**	**64.28**	**11**	*e*P	**P**	**04 04 17.7**	**-4.2**
	comp=Z,56nm,1.8s,mb5.3						
FINES	**FINESS Array B**	**64.28**	**336**	P	**P**	**04 04 21.9**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.4,baz=34,slow=7.3,SNR=16						
FINES	**FINESS Array B**	**64.28**	**336**	*e*P	**P**	**04 04 21.9**	**-0.1**
FINES	**FINESS Array B**	**64.28**	**336**	P	**P**	**04 04 21.9**	**0.0**
NB2	**NORSAR Subarra**	**68.26**	**342**	P	**P**	**04 04 47.5**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**04 04 47.6**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.2,baz=26,slow=6.3,SNR=5.5						
NOA	**NORSAR Array B**	**68.26**	**342**	P	**P**	**04 04 47.6**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**69.64**	**201**	P	**P**	**04 04 53.5**	**-2.5**
	comp=Z,1.9nm,0.9s,mb4.0,baz=18,slow=6.4,SNR=11						
WRA	**Warramunga Arr**	**69.64**	**201**	*e*P	**P**	**04 04 55.2**	**-0.8**
KIV	**Kislovodsk**	**71.67**	**316**⇑ *e*P		**P**	**04 05 08.3**	**-0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**72.06**	**327**	P	**P**	**04 05 09.7**	**-1.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=36,slow=6.8,SNR=5.4						
AKASG	**Malin Array Be**	**72.06**	**327**	*e*P	**P**	**04 05 12.3**	**+1.6**
AKASG	**Malin Array Be**	**72.06**	**327**	P	**P**	**04 05 09.7**	**-1.1**
ASAR	**Alice Springs**	**73.32**	**201**	P	**P**	**04 05 16.6**	**-1.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=17,slow=6.6,SNR=8.9						
ASAR	**Alice Springs**	**73.32**	**201**	P	**P**	**04 05 16.6**	**-1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**04 05 32.5**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=296,slow=4.2,SNR=15						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**04 05 32.5**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**04 05 32.5**	**+0.6**
KHC	**Kasperske Hory**	**78.49**	**336**	*e*P	**P**	**04 05 48.6**	**+0.9**
KHC				epP	pP	04 05 52.9	-2.1
GERES	**GERESS Array B**	**78.72**	**336**	P	**P**	**04 05 49.6**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=35,slow=4.9,SNR=5.2						
GERES	**GERESS Array B**	**78.72**	**336**	P	**P**	**04 05 49.6**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.19**	**318**	P	**P**	**04 05 51.6**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=106,slow=4.1,SNR=3.9						
BRTR	**Keskin Array B**	**79.19**	**318**	*e*P	**P**	**04 05 52.4**	**+0.9**
VNA2	**Neumayer--Watz**	**154.96**	**193**	*e*PKPdf	PKPdf	04 13 34.2	-5.2
VNA2				*e*		04 13 47.4	
VNA2				*e*		04 13 54.5	
VNA2				*e*		04 14 01.7	
VNA2				*e*		04 14 06.6	
VNA2				*e*		04 14 16.8	
VNA3	**Neumayer Olymp**	**155.00**	**191**	*e*PKPdf	PKPdf	04 13 34.0	-5.5
VNA3				*e*		04 13 47.1	
VNA3				*e*		04 13 54.5	
VNA3				*e*		04 14 06.6	

SKHL 28 04:01:25.2±1.3, 5197N×14284E, h10km, mb3.7/2, Ms2.8/1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.11**	**186**	*e*Pg	Pg	04 01 48.0	+1.4

TYV				AMB	AMB	04 01 53.0	
	54nm,0.3s						
TYV				AMB	AMB	04 01 53.0	
	59nm,0.3s						
TYV				*e*Sg	Sg	04 02 03.0	+1.9
TYV				A		04 02 06.0	
	500nm,1.0s						
TYV				AMS	AMS	04 02 28.0	
	500nm,7.0s						
OKH	**Okha**	**1.58**	**2**	*e*Pg	Pg	04 01 57.0	+1.4
OKH				*e*Sg	Sg	04 02 20.0	+3.9
OKH				A		04 02 24.0	
	500nm,0.5s						
NKL	**Nikolayevsk**	**1.77**	**313**	*e*Pg	Pg	04 02 00.5	+1.3
NKL				AMB	AMB	04 02 01.5	
	46nm,0.6s						
NKL				*e*Sg	Sg	04 02 25.5	+3.4
NKL				A		04 02 26.5	
	140nm,0.6s						
NKL				A		04 02 26.5	
	110nm,0.6s						
UGL	**Uglegorsk**	**2.94**	**190**	*e*rx	rx	04 02 10.0	
UGL				*e*Sb	Sb	04 02 50.5	-3.1
GRNR	**Gornyy**	**4.20**	**256**	*e*Pg	Pg	04 02 46.2	+0.6
GRNR				*e*Sb	Sb	04 03 27.5	-2.4
GRNR				*e*Sg	Sg	04 03 44.3	+4.3
GRNR				A		04 03 45.0	
	48nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.02**	**181**	*e*rx	rx	04 04 06.0	
EKMR	**Ekimchan**	**6.14**	**284**	*e*P	Pn	04 03 01.0	+5.1
EKMR				*e*Pg	Pg	04 03 25.9	+3.2
EKMR				AMB	AMB	04 03 26.6	
	4.0nm,0.4s						
EKMR				*e*Sg	Sg	04 04 51.5	+9.3
EKMR				A		04 04 52.6	
	30nm,0.8s						
EKMR				A		04 04 52.6	
	9.0nm,0.8s						
EKMR				A		04 04 52.6	
	24nm,0.8s						
KLR	**Kul'dur**	**7.57**	**253**	*e*P	Sn	04 04 45.0	+3.5
BMKR	**Bomnak**	**8.81**	**294**	*e*rx	rx	04 05 34.1	

*NEIC **28** 04:01:51.3±0.9, 4925N×15582E, h10km, mb3.8/1, Error ellipse: s-maj=31.4km s-min=9.2km az=133.0*
*ISCJB **28** 04:01:54.1±1.3, 4924N±008×1559E±0.1, h53km±10km, mb3.9/16, Error ellipse: s-maj=18.0km s-min=8.0km az=75.7*
*MOS **28** 04:01:54.4±0.9, 4926N×15583E, h55km, mb4.1/11, Error ellipse: s-maj=17.9km s-min=9.1km az=79.7*
*IDC **28** 04:01:57.8±4.4, 4920N×15587E, h69km±40km, mb3.6/15, mb1 3.9/17, mb1mx3.7/27, mbtmp3.6/17, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/54, Error ellipse: s-maj=20.6km s-min=15.5km az=143.0*

ISC 28 04:01:55.9±1.1, 4927N±008×1559E±01, h55km±9km, n38, σ0°81/41, mb3.9/16, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.43**	**6**	⇑*i*PN		**Pn**		**04 02 19.0**	**-0.4**
SKR				*e*S		**Sn**		**04 02 38.0**	**+0.9**
SKR				pmax	pmax				
	comp=N,800nm,2.0s								
SKR				pmax	pmax				
	comp=Z,2μm,2.0s								
SKR				pmax	pmax				
	comp=N,570nm,0.5s								
SKR				pmax	pmax				
	comp=E,230nm,0.5s								
SKR				pmax	pmax				
	comp=Z,1μm,0.5s								
SKR				smax					
	comp=N,4μm,2.0s								
SKR				smax					
	comp=N,4μm,0.5s								
SKR				smax					
	comp=E,5μm,1.0s								
PET	**Petropavlovsk**	**4.15**	**24**	*e*PN		**Pn**		**04 02 55.7**	**-1.0**
PET				*e*S		**Sn**		**04 03 43.5**	**-0.4**
PET				pmax	pmax				
	comp=Z,165nm,0.7s								
PET				smax					
	comp=E,379nm,0.6s								
PET				smax					
	comp=N,463nm,0.6s								
PET				MLR	MLR				
	comp=Z,200nm,16.0s								
PET	**Petropavlovsk**	**4.15**	**24**	⇑*e*Pn		**Pn**		**04 02 55.7**	**-1.0**
PET				*e*Sn		**Sn**		**04 03 43.1**	**-0.8**
ASAJ	**Asahikawa**	**10.47**	**246**	P		**Pn**		**04 04 24.6**	**+1.4**
ASAJ				LR	LR			04 09 28.5	
	comp=Z,3.0nm,0.3s,baz=85,slow=12,SNR=7.5 comp=Z,140nm,18.5s,baz=181,slow=43								
SEY	**Seymchan**	**13.83**	**353**	*e*P		**Pn**		**04 05 10.0**	**+0.9**
MJAR	**Matsushiro Arr**	**18.08**	**232**	P		**Pn**		**04 06 02.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=26,slow=11,SNR=3.3								
MJAR	**Matsushiro Arr**	**18.08**	**232**	P		**Pn**		**04 06 02.3**	**-0.8**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**18.08**	**232**	*e*P		**Pn**		**04 06 02.1**	**-1.0**
MAJO				pmax	pmax				
	comp=Z,4.0nm,0.5s								
MAJO	**Matsushiro**	**18.08**	**232**	*e*Pn		**Pn**		**04 06 02.1**	**-1.0**
	comp=Z,3.7nm,0.5s								
BILL	**Bilibino**	**19.53**	**12**	*e*P		**Pn**		**04 06 20.4**	**-0.1**
BILL				pmax	pmax				
	comp=Z,2.0nm,0.3s								
BILL				MLR	MLR				
	comp=Z,100nm,16.0s								
KSRS	**Korea Array**	**23.36**	**250**	P		**P**		**04 07 00.2**	**+0.7**
	comp=Z,3.6nm,0.9s,mb3.8,baz=57,slow=10,SNR=5.2								
TIXI	**Tiksi**	**25.64**	**341**	*e*P		**P**		**04 07 18.5**	**-1.8**
TIXI				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.0								
INK	**Inuvik**	**38.53**	**34**	P		**P**		**04 09 13.2**	**+0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=326,slow=9.4,SNR=3.9								
INK	**Inuvik**	**38.53**	**34**	P		**P**		**04 09 13.2**	**+0.2**
INK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**47.45**	**297**	P		**P**		**04 10 25.7**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=64,slow=8.6,SNR=4.3								
MKAR	**Makanchi Array**	**47.45**	**297**	P		**P**		**04 10 25.7**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**47.80**	**39**	P		**P**		**04 10 28.7**	**+0.9**
	comp=Z,1.3nm,0.8s,mb4.0,baz=297,slow=7.2,SNR=5.9								
YKA	**Yellowknife Ar**	**47.80**	**39**	P		**P**		**04 10 28.7**	**+0.9**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**47.80**	**39**	P		**P**		**04 10 28.7**	**+0.9**
BVAR	**Borovoye Array**	**50.70**	**309**	P		**P**		**04 10 50.3**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.9,baz=66,slow=8.3,SNR=5.4								
BVAR	**Borovoye Array**	**50.70**	**309**	P		**P**		**04 10 50.3**	**+0.4**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ARU	**Arti**	**54.41**	**317**	*e*P		**P**		**04 11 16.0**	**-1.3**
AKTO	**Aktyubinsk**	**58.42**	**312**	P		**P**		**04 11 45.3**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=53,slow=10,SNR=3.5								
AKTO	**Aktyubinsk**	**58.42**	**312**	P		**P**		**04 11 45.3**	**-0.6**
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.1								
NVAR	**Mina Array Bea**	**59.66**	**65**	P		**P**		**04 11 54.8**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=293,slow=7.7,SNR=4.4								
PDAR	**Pinedale Array**	**61.79**	**56**	P		**P**		**04 12 09.2**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=295,slow=3.0,SNR=7.8								
FINES	**FINESS Array B**	**62.53**	**335**	P		**P**		**04 12 13.5**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.1,baz=66,slow=8.4,SNR=2.6								
FINES	**FINESS Array B**	**62.53**	**335**	P		**P**		**04 12 13.5**	**-0.4**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**70.46**	**327**	P		**P**		**04 13 04.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=29,slow=6.5,SNR=3.0								
WRA	**Warramunga Arr**	**71.51**	**201**	P		**P**		**04 13 10.7**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.2,baz=19,slow=6.5,SNR=12								
WRA	**Warramunga Arr**	**71.51**	**201**	P		**P**		**04 13 10.7**	**-0.2**
WRA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**74.67**	**63**	P		**P**		**04 13 30.0**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=296,slow=4.2,SNR=24								
TXAR	**Lajitas Array**	**74.67**	**63**	P		**P**		**04 13 30.0**	**+0.4**
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ASAR	**Alice Springs**	**75.20**	**201**	P		**P**		**04 13 32.4**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=16,slow=6.4,SNR=7.5								
ASAR	**Alice Springs**	**75.20**	**201**	P		**P**		**04 13 32.4**	**-0.2**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**76.97**	**335**	P		**P**		**04 13 43.0**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=38,slow=6.8,SNR=4.5								
BRTR	**Keskin Array B**	**77.78**	**318**	P		**P**		**04 13 48.7**	**+1.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=93,slow=3.1,SNR=3.6								
BRTR	**Keskin Array B**	**77.78**	**318**	P		**P**		**04 13 48.7**	**+1.5**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								

MAN 28 04:04:43.6, 1822N×12151E, h20km, mb2.7, ML4.2, MS2.5, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.59**	**150**	⇓*e*P			Pb	04 04 50.0	-5.3
PIP	**Pasuquin**	**0.85**	**277**	⇓*i*P			Pb	04 05 00.0	+0.3
PALP	**Palanan**	**1.44**	**143**	⇑*i*P			Pn	04 05 08.2	-0.4
PALP				*i* S			Sn	04 05 29.1	+2.1

*ISCJB **28** 04:06:39.2±0.4, 3555N±002×12084W±003, h25km±2km, Error ellipse: s-maj=4.2km s-min=2.1km az=100.7*
*NEIC **28** 04:06:40.0, 3563N×12075W, h6km, ML4.1(NCEDC), After NCEDC.*
NEIC Felt [IV] at Cayucos, Paso Robles, San Miguel and Templeton; [III] at Atascadero, Cambria, Creston, Los Osos, Morro Bay, Oceano, San Luis Obispo, Santa Margarita and Shandon; [II] at Arroyo Grande, Grover Beach, King City, Lockwood, Nipomo and Pismo Beach. Also felt at Bradley, Fresno, San Ardo, San Simeon and Visalia.

ISC 28 04:06:39.6±0.4, 3558N±002×12082W±003, h16km±2km, n99, σ0°90/145, 51C-51D, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
V04C	**Ramage Ranch,**	**0.07**	**326**	⇑P		**Pg**		**04 06 42.6**	**-0.2**
	baz=0.1,SNR=1000								
V04C				⇑S		**Sg**		**04 06 44.6**	**-0.3**
	baz=0.1								
PKD	**Parkfield**	**0.43**	**32**	⇑P		**Pg**		**04 06 47.2**	**-1.2**
	baz=0.4								
PKD				⇓S		**Sg**		**04 06 52.3**	**-1.9**
	baz=0.4								
PTRM	**Twissleman Ran**	**0.50**	**81**	*e*P		**Pg**		**04 06 48.7**	**-1.0**
V03C	**Hunter Liggett**	**0.56**	**323**	⇓P		**Pg**		**04 06 50.8**	**+0.1**
	baz=0.6,SNR=1000								
V03C				⇑S		**Sg**		**04 06 59.2**	**+1.1**
	baz=0.6								
SMMC	**Simmler**	**0.72**	**111**	P		**Pg**		**04 06 53.4**	**-0.3**
	baz=0.7,SNR=1000								
SMMC				⇑S		**Sg**		**04 07 03.4**	**+0.1**
	baz=0.7								
U04C	**Hernandez Rese**	**0.79**	**2**	⇑P		**Pb**		**04 06 54.2**	**-0.7**
	baz=0.7,SNR=1000								
U04C				⇑S		**Sg**		**04 07 05.4**	**+0.1**
	baz=0.7								
V05C	**Bolder Hill,**	**0.80**	**69**	⇑P		**Pb**		**04 06 55.3**	**+0.2**
	baz=0.7,SNR=934								
LRV	**Little Rabbit**	**0.86**	**349**	*e*P		**Pb**		**04 06 55.8**	**-0.3**
LRV				*e*S		**Sb**		**04 07 08.7**	**+1.3**
U05C	**Westside ANR,**	**0.95**	**37**	⇑P		**Pb**		**04 06 57.9**	**+0.2**
	baz=0.9,SNR=442								
U05C				⇓S		**Sb**		**04 07 10.7**	**+0.8**
	baz=0.9								
HAST	**UC Hastings Re**	**1.00**	**324**	P		**Pb**		**04 06 58.2**	**-0.4**
	baz=1.0,SNR=1000								
HAST				⇑S		**Sb**		**04 07 12.4**	**+0.8**
	baz=1.0								
PKM	**Peak Mountain**	**1.07**	**129**	⇓P		**Pb**		**04 06 59.7**	**0.0**
	baz=1.1,SNR=1000								
PKM				⇓S		**Sb**		**04 07 14.8**	**+1.4**
	baz=1.1								
SAO	**San Andreas Ge**	**1.29**	**337**	*e*P		**Pn**		**04 07 02.0**	**-0.9**
SAO				*e*S		**Sb**		**04 07 19.9**	**+0.1**
T05C	**Eagle Field, D**	**1.32**	**5**	⇑P		**Pn**		**04 07 03.5**	**+0.1**
	baz=1.3,SNR=228								
T05C				⇑S		**Sn**		**04 07 21.2**	**+0.5**
	baz=1.3								
VES	**Vestal, Richgr**	**1.44**	**79**	⇓P		**Pn**		**04 07 03.7**	**-1.4**
	baz=1.4,SNR=502								
VES				⇓S		**Sn**		**04 07 22.4**	**-1.3**
	baz=1.4								
SBC	**Santa Barbara**	**1.45**	**141**	⇓P		**Pn**		**04 07 05.4**	**+0.2**
	baz=1.5								
PACP	**Pacheco Peak**	**1.48**	**345**	⇑P		**Pn**		**04 07 05.6**	**0.0**
	baz=1.4,SNR=237								
PACP				⇓S		**Sn**		**04 07 24.7**	**+0.2**
	baz=1.4								
RCTC	**Rector, Farmer**	**1.48**	**60**	⇑P		**Pn**		**04 07 04.4**	**-1.2**
	baz=1.4,SNR=82								
RCTC				⇑S		**Sn**		**04 07 22.8**	**-1.8**
	baz=1.4								
T06C	**Millerton Lake**	**1.69**	**32**	P		**Pn**		**04 07 07.7**	**-0.7**
	baz=1.6,SNR=131								
T06C				⇑S		**Sn**		**04 07 27.6**	**-2.0**
	baz=1.6								
ARVC	**Arvin**	**1.69**	**105**	⇑P		**Pn**		**04 07 08.0**	**-0.5**
	baz=1.6,SNR=159								
S05C	**Merced**	**1.81**	**13**	⇑P		**Pn**		**04 07 09.7**	**-0.4**
	baz=1.7,SNR=188								
S05C				⇓S		**Sn**		**04 07 32.4**	**-0.3**
	baz=1.7								
HELL	**Mitchell Peak,**	**1.83**	**52**	P		**Pn**		**04 07 09.6**	**-0.7**
	baz=1.7,SNR=347								
HELL				⇓S		**Sn**		**04 07 31.7**	**-1.4**
	baz=1.7								
BNLO	**Ben Lomond (Sa**	**1.90**	**325**	⇑P		**Pn**		**04 07 10.4**	**-0.9**
	baz=1.9,SNR=252								
BNLO				⇑S		**Sn**		**04 07 33.4**	**-1.5**
	baz=1.9								
ISA	**Isabella**	**1.92**	**87**	⇑*i*Pn		**Pn**		**04 07 10.9**	**-0.7**
ISA				*e*S		**Sn**		**04 07 34.8**	**-0.5**
ISA	**Isabella**	**1.92**	**87**	⇑P		**Pn**		**04 07 11.0**	**-0.5**
	baz=1.9,SNR=898								
ISA				⇓S		**Sn**		**04 07 34.9**	**-0.5**
	baz=1.9								
S04C	**Ingram Canyon,**	**1.97**	**348**	P		**Pn**		**04 07 12.4**	**+0.1**
	baz=1.9,SNR=152								
S04C				⇓S		**Sn**		**04 07 36.8**	**+0.2**
	baz=1.9								
OSI	**Osito Adit**	**1.97**	**119**	⇓P		**Pn**		**04 07 13.0**	**+0.6**
	baz=1.9								
BLG	**Laguna Peak**	**2.06**	**135**	⇓P		**Pn**		**04 07 13.0**	**-0.5**
	baz=2.1,SNR=9.9								
BLG				⇑S		**Sn**		**04 07 38.4**	**-0.5**
	baz=2.1								
KCC	**Kaiser Creek**	**2.12**	**34**	P		**Pn**		**04 07 14.6**	**+0.2**
	baz=2.0,SNR=224								
KCC				⇓S		**Sn**		**04 07 39.8**	**-0.6**
	baz=2.0								
JRSC	**Jasper Ridge**	**2.15**	**328**	⇓P		**Pn**		**04 07 13.9**	**-0.9**
	baz=2.1,SNR=83								
JRSC				⇓S		**Sn**		**04 07 40.6**	**-0.5**
	baz=2.1								
WENL	**Wente Brothers**	**2.17**	**340**	⇑P		**Pn**		**04 07 15.1**	**-0.1**
	baz=2.1,SNR=30								
WENL				⇑S		**Sn**		**04 07 42.1**	**+0.4**
	baz=2.1								
SAC	**San Andreas**	**2.38**	**328**	*e*Pn		**Pn**		**04 07 17.6**	**-0.3**
SAC				*e*Sn		**Sn**		**04 07 44.9**	**-1.9**
CWC	**Cottonwood Cre**	**2.38**	**68**	⇓P		**Pn**		**04 07 18.5**	**+0.5**
	baz=2.3								
CWC				⇓S		**Sn**		**04 07 48.1**	**+1.2**
	baz=2.3								
EDW2	**Edwards Air Fo**	**2.42**	**106**	P		**Pn**		**04 07 18.4**	**-0.1**
	baz=2.4,SNR=63								
S06C	**San Francisco**	**2.43**	**18**	P		**Pn**		**04 07 19.4**	**+0.8**
	baz=2.4,SNR=245								
S06C				⇓S		**Sn**		**04 07 48.1**	**+0.1**
	baz=2.4								
DECC	**Green Verdugo**	**2.44**	**122**	⇓P		**Pn**		**04 07 18.7**	**0.0**
	baz=2.4								
CMB	**Columbia Colle**	**2.48**	**8**	*e*Pn		**Pn**		**04 07 19.5**	**+0.2**
CMB				*e*Sn		**Sn**		**04 07 50.0**	**+0.7**
CMB	**Columbia Colle**	**2.48**	**8**	P		**Pn**		**04 07 19.7**	**+0.4**
	baz=2.4,SNR=106								
CMB				⇓S		**Sn**		**04 07 48.7**	**-0.5**
	baz=2.4								
BDM	**Black Diamond**	**2.52**	**341**	⇓P		**Pn**		**04 07 20.2**	**+0.3**
	baz=2.5,SNR=8.3								
MTUM	**Tungsten Hills**	**2.54**	**45**	*e*Pn		**Pn**		**04 07 21.6**	**+1.4**
MTUM				*e*Sn		**Sn**		**04 07 52.0**	**+1.2**
SNCC	**San Nicolas Is**	**2.56**	**155**	*e*Pn		**Pn**		**04 07 21.1**	**+0.7**
SNCC	**San Nicolas Is**	**2.56**	**155**	⇓P		**Pn**		**04 07 21.0**	**+0.6**
	baz=2.6								
SNCC				⇓S		**Sn**		**04 07 51.8**	**+0.6**
	baz=2.6								
TIN	**Tinemaha**	**2.56**	**54**	⇑P		**Pn**		**04 07 22.1**	**+1.6**
	baz=2.5,SNR=30								
TIN				⇓S		**Sn**		**04 07 53.6**	**+2.3**
	baz=2.5								
MLAC	**Mammoth Lakes**	**2.60**	**37**	⇑P		**Pn**		**04 07 22.6**	**+1.7**
	baz=2.5,SNR=20								
MLAC				⇑S		**Sn**		**04 07 53.9**	**+1.7**
	baz=2.5								
R04C	**Big Horse Ranc**	**2.68**	**358**	P		**Pn**		**04 07 21.8**	**-0.3**
	baz=2.6,SNR=35								
R04C				⇓S		**Sn**		**04 07 52.7**	**-1.4**
	baz=2.6								
DAC	**Darwin (Calif)**	**2.71**	**74**	*e*Pn		**Pn**		**04 07 22.6**	**+0.1**
DAC				*e*Sn		**Sn**		**04 07 55.6**	**+0.7**
FARB	**Farallon Islan**	**2.75**	**321**	⇑S		**Sn**		**04 07 54.3**	**-1.6**
	baz=2.7								
MPMC	**Manual Prospec**	**2.75**	**79**	⇓P		**Pn**		**04 07 23.3**	**+0.3**
	baz=2.7,SNR=153								
R07C	**Lee Vining**	**2.88**	**29**	⇓P		**Pn**		**04 07 27.0**	**+2.1**
	baz=2.8								
BFSC	**Mount Baldy St**	**2.92**	**116**	⇓P		**Pn**		**04 07 25.1**	**-0.3**
	baz=2.9,SNR=24								
CIS	**Catalina Islan**	**2.95**	**137**	⇓S		**Sn**		**04 08 00.4**	**-0.4**
	baz=2.9								
CVS	**Carmenet Viney**	**3.06**	**335**	⇓P		**Pn**		**04 07 26.9**	**-0.4**
	baz=3.0,SNR=26								
CVS				⇓S		**Sn**		**04 08 03.6**	**0.0**
	baz=3.0								
GRAC	**Grapevine Rang**	**3.13**	**62**	⇓P		**Pn**		**04 07 29.2**	**+0.9**
	baz=3.0,SNR=30								
R06C	**Coleville**	**3.14**	**20**	⇑P		**Pn**		**04 07 30.4**	**+2.0**
	baz=3.1								
LAVA	**Lava Cap Winer**	**3.17**	**1**	⇓P		**Pn**		**04 07 30.1**	**+1.3**
	baz=3.1								
R05C	**Kirkwood Meado**	**3.18**	**11**	⇑P		**Pn**		**04 07 29.8**	**+0.8**
	baz=3.1,SNR=74								
Q03C	**Winters**	**3.20**	**343**	⇑P		**Pn**		**04 07 30.0**	**+0.8**
	baz=3.2								
RRX	**Edison Barstow**	**3.21**	**101**	⇓P		**Pn**		**04 07 29.6**	**+0.3**
	baz=3.2								
NSHM	**Saint Helena R**	**3.27**	**335**	*e*Pn		**Pn**		**04 07 29.3**	**-0.8**
Q04C	**Lincoln**	**3.29**	**352**	⇑P		**Pn**		**04 07 30.6**	**+0.2**
	baz=3.2,SNR=57								
Q04C				⇑S		**Sn**		**04 08 07.9**	**-1.2**
	baz=3.2								
GSC	**Goldstone**	**3.29**	**94**	*e*Pn		**Pn**		**04 07 29.8**	**-0.7**
GSC				*e*Sn		**Sn**		**04 08 02.0**	**-7.3**
GSC	**Goldstone**	**3.29**	**94**	⇓P		**Pn**		**04 07 30.1**	**-0.3**
	baz=3.2								
BBRC	**Big Bear Sol-O**	**3.46**	**111**	⇓P		**Pn**		**04 07 33.3**	**+0.4**
	baz=3.4								
MNRC	**McLaughlin Nat**	**3.54**	**339**	⇑P		**Pn**		**04 07 34.4**	**+0.5**
	baz=3.5								
MURC	**Murrieta**	**3.58**	**122**	⇓P		**Pn**		**04 07 35.1**	**+0.6**
	baz=3.6								
S09A	**Goldfield**	**3.60**	**52**	⇓P		**Pn**		**04 07 35.7**	**+0.9**
	baz=3.5,SNR=11								
SHOC	**Shoshone**	**3.71**	**84**	⇑P		**Pn**		**04 07 36.2**	**0.0**
	baz=3.6								
P05C	**Yuba Gap, Truc**	**3.72**	**3**	⇑P		**Pn**		**04 07 37.7**	**+1.3**
	baz=3.7								
SUTB	**Sutter Butte**	**3.73**	**348**	⇓P		**Pn**		**04 07 35.7**	**-0.8**
	baz=3.7,SNR=17								
SUTB				⇑S		**Sn**		**04 08 18.0**	**-2.0**
	baz=3.7								
U10A	**Ash Meadows, A**	**3.74**	**76**	⇓P		**Pn**		**04 07 37.0**	**+0.3**
	baz=3.7,SNR=8.8								
HEC	**Hector,Ludlow**	**3.75**	**100**	⇑P		**Pn**		**04 07 36.4**	**-0.4**
	baz=3.7								
OHCM	**Honcut**	**3.79**	**352**	*e*Pn		**Pn**		**04 07 38.1**	**+0.8**
OHCM				*e*Sn		**Sn**		**04 08 21.8**	**+0.3**
WCN	**Washoe City**	**3.81**	**13**	⇑P		**Pn**		**04 07 38.5**	**+0.8**
	baz=3.8								
TPH	**Tonopah**	**3.81**	**48**	*e*Pn		**Pn**		**04 07 45.3**	**+7.6**
TPH				*e*Sn		**Sn**		**04 08 21.2**	**-1.0**
HOPS	**Hopland**	**3.85**	**333**	P		**Pn**		**04 07 37.6**	**-0.6**
	baz=3.8,SNR=21								
ORV	**Oroville**	**4.01**	**352**	⇓P		**Pn**		**04 07 40.7**	**+0.4**
	baz=4.0,SNR=10								
ORV				⇑S		**Sn**		**04 08 26.6**	**-0.4**
	baz=4.0								
109C	**Camp Elliot, M**	**4.08**	**130**	⇑P		**Pn**		**04 07 41.5**	**+0.1**
	baz=4.1								
PFO	**Pinyon Flat Ob**	**4.10**	**117**	*e*Pn		**Pn**		**04 07 41.8**	**+0.2**
PFO				*e*Sn		**Sn**		**04 08 35.5**	**+6.2**
PFO	**Pinyon Flat Ob**	**4.10**	**117**	⇑P		**Pn**		**04 07 41.8**	**+0.2**
	baz=4.1								
BEKR	**Beckwourth**	**4.30**	**5**	⇑P		**Pn**		**04 07 46.0**	**+1.7**
	baz=4.2								
GMRC	**Granite Mounta**	**4.30**	**99**	P		**Pn**		**04 07 43.1**	**-1.3**
	baz=4.2,SNR=6.7								
V11A	**Goodsprings**	**4.39**	**85**	⇓P		**Pn**		**04 07 45.1**	**-0.6**
	baz=4.3,SNR=15								
O04C	**Chester**	**4.74**	**358**	⇓P		**Pn**		**04 07 51.7**	**+1.3**
	baz=4.7								
O07A	**Toulon**	**4.83**	**18**	⇑P		**Pn**		**04 07 52.8**	**+1.1**
	baz=4.8								
V12A	**

Error ellipse: s-maj=14.1km s-min=6.5km az=143.0
IDC ***28*** *04:10:01.6±1.5, 1594S×17502W, h255km±14km, mb3.9/14, mb1 4.0/16, mb1mx4.0/19, mbtmp3.9/16, Error ellipse: s-maj=16.5km s-min=10.4km az=145.0*

ISC 28 04:10:01.5±0.8, 1587S±010×17494W±009, h258km±9km, n95, σ0°83/44, mb4.3/25, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.63**	**58**	P	**Pn**	**04 11 03.1**	**+1.7**
	108nm,0.3s,baz=349,slow=0.5,SNR=76						
AFI				S	**S**	**04 11 47.8**	**-1.1**
	129nm,0.3s,baz=57,slow=23,SNR=8.8						
DZM	**Mont Dzumac**	**18.64**	**248**	P	**P**	**04 13 59.7**	**-0.8**
	0.3nm,0.3s,baz=109,slow=18,SNR=3.2						
URZ	**Urewera**	**23.38**	**196**	P	**P**	**04 14 45.1**	**-2.2**
	11nm,0.6s,mb4.4,baz=313,slow=4.6,SNR=11						
CTA	**Charters Tower**	**37.09**	**258**	P	**P**	**04 16 47.1**	**-0.2**
	5.7nm,0.5s,mb4.3,baz=93,slow=11,SNR=12						
CTAO	**Charters Tower**			*e*P	**P**	**04 16 47.5**	**+0.2**
	5.4nm,0.5s,mb4.2						
CNB	**Canberra Magne**	**37.29**	**232**	↓*i*P	**P**	**04 16 49.2**	**+0.2**
	9.4nm,0.5s,mb4.5						
PMG	**Port Moresby**	**37.49**	**275**	P	**P**	**04 16 52.2**	**+1.5**
	14nm,0.5s,mb4.6,baz=93,slow=3.4,SNR=5.5						
TOO	**Toolangi**	**41.02**	**230**	*e*P	**P**	**04 17 19.7**	**-0.1**
	9.8nm,1.2s,mb3.9						
STKA	**Stephens Creek**	**42.52**	**240**	*e*P	**P**	**04 17 31.7**	**-0.1**
	3.4nm,1.3s,mb3.5						
STKA	**Stephens Creek**	**42.52**	**240**	P	**P**	**04 17 32.2**	**+0.3**
	2.1nm,0.4s,mb3.7,baz=81,slow=9.2,SNR=8.3						
WB2	**Warramunga Arr**	**48.28**	**257**	*e*P	**P**	**04 18 16.3**	**-0.6**
WRA	**Warramunga Arr**	**48.29**	**257**	P	**P**	**04 18 16.9**	**-0.1**
	12nm,0.4s,mb4.6,baz=90,slow=7.3,SNR=172						
WRA				PcP	PcP	04 19 40.3	+0.8
	1.7nm,0.5s,baz=91,slow=3.8,SNR=5.0						
AS31	**Alice Springs**	**48.55**	**252**	*e*P	**P**	**04 18 19.1**	**+0.2**
ASAR	**Alice Springs**	**48.55**	**252**	P	**P**	**04 18 18.9**	**0.0**
	44nm,0.4s,mb5.1,baz=88,slow=7.9,SNR=423						
ASAR				ScP	ScP	04 23 12.5	+2.4
	0.8nm,0.9s,baz=119,slow=2.9,SNR=4.2						
ASAR				S	**S**	**04 24 59.5**	**-0.7**
	0.4nm,0.8s,baz=82,slow=14,SNR=4.4						
ASPA	**Alice Springs**	**48.56**	**252**	*e*P	**P**	**04 18 19.1**	**+0.1**
KAKA	**Kakadu**	**50.98**	**266**	↓*i*P	**P**	**04 18 37.2**	**0.0**
	19nm,0.4s,mb4.8						
FORT	**Forrest**	**53.88**	**243**	*e*P	**P**	**04 18 57.8**	**-0.5**
	23nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.66**	**259**	*e*P	**P**	**04 19 18.6**	**+0.5**
	2.6nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**56.66**	**259**	P	**P**	**04 19 18.7**	**+0.6**
	1.5nm,0.5s,mb3.7,baz=106,slow=1.3,SNR=8.9						
KLBR	**Kellerberrin**	**62.71**	**242**	*e*P	**P**	**04 19 59.0**	**-0.2**
	12nm,0.5s,mb4.8						
VNDA	**Vanda**	**62.77**	**186**	P	**P**	**04 19 59.5**	**0.0**
	1.7nm,0.9s,mb3.6,baz=7.2,slow=6.0,SNR=7.4						
VNDA	**Vanda**	**62.77**	**186**	*e*P	**P**	**04 20 00.8**	**+1.3**
	6.1nm,1.6s,mb4.0						
NWAO	**Narrogin (SRO)**	**63.09**	**241**	P	**P**	**04 20 01.9**	**+0.2**
	11nm,0.8s,mb4.5,baz=124,slow=8.1,SNR=6.0						
NWAO	**Narrogin (SRO)**	**63.09**	**241**	*e*P	**P**	**04 20 01.6**	**-0.1**
	5.3nm,0.5s,mb4.4						
MUN	**Mundaring**	**64.00**	**242**	*e*P	**P**	**04 20 08.1**	**+0.4**
MJAR	**Matsushiro Arr**	**68.35**	**321**	P	**P**	**04 20 33.9**	**-1.3**
	2.0nm,0.4s,mb4.2,baz=142,slow=5.8,SNR=6.6						
LRV	**Little Rabbit**	**72.76**	**43**	*e*P	**P**	**04 21 02.0**	**+0.3**
QSPA	**South Pole Qui**	**74.18**	**180**	*e*P	**P**	**04 21 10.9**	**+1.0**
	3.2nm,0.8s,mb4.0						
KSRS	**Korea Array**	**75.46**	**316**	P	**P**	**04 21 16.7**	**-0.6**
	3.4nm,0.9s,mb4.0,baz=128,slow=5.0,SNR=6.0						
KSM	**Kuching**	**75.75**	**276**	*e*P	**P**	**04 21 19.9**	**+0.9**
CN2	**Changchun**	**80.50**	**321**	*e*P	**P**	**04 21 45.8**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
MCK	**McKinley**	**81.86**	**11**	*e*P	**P**	**04 21 51.3**	**-0.7**
	comp=Z,3.1nm,1.0s,mb4.0						
TXAR	**Lajitas Array**	**82.11**	**57**	P	**P**	**04 21 54.3**	**+1.0**
	comp=Z,2.7nm,1.1s,mb3.9,baz=224,slow=5.2,SNR=14						
MCMT	**McKenzie Canyo**	**82.55**	**39**	*e*P	**P**	**04 21 52.6**	**-3.1**
DLMT	**Dillon**	**82.98**	**39**	*e*P	**P**	**04 21 56.9**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**83.61**	**42**	P	**P**	**04 22 01.9**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.1,baz=205,slow=3.1,SNR=17						
DAWY	**Dawson**	**84.25**	**15**	*e*P	**P**	**04 22 04.2**	**-0.1**
BILL	**Bilibino**	**84.78**	**353**	*e*P	**P**	**04 22 06.8**	**-0.1**
	comp=Z,9.9nm,1.0s,mb4.6						
MAW	**Mawson**	**86.87**	**199**	P	**P**	**04 22 17.3**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=128,slow=8.4,SNR=6.8						
MAW	**Mawson**	**86.87**	**199**	*e*P	**P**	**04 22 16.8**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.2						
SONM	**Songino Array**	**94.20**	**319**	P	**P**	**04 22 51.3**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=107,slow=5.0,SNR=3.3						
SONM	**Songino Array**	**94.20**	**319**	P	**P**	**04 22 51.3**	**+0.1**
ARCES	**ARCESS Array B**	**124.86**	**351**	PKP	PKPdf	04 28 29.9	-0.8
	comp=Z,6.0nm,1.0s,baz=5.7,slow=2.4,SNR=8.9						
FINES	**FINESS Array B**	**132.06**	**347**	PKP	PKPdf	04 28 44.0	-0.4
	comp=Z,1.7nm,0.9s,baz=76,slow=8.0,SNR=3.3						
STHS	**Stebnicka Huta**	**144.03**	**342**	*e*PKP	PKPdf	04 29 05.4	-0.9
STHS	**Stebnicka Huta**	**144.03**	**342**	*e*PKP	PKPdf	04 29 05.5	-0.8
CLL	**Collm**	**144.08**	**351**	*i* PKPdf	PKPdf	04 29 04.6	-1.8
KOLS	**Kolonicke sedl**	**144.14**	**341**	*e*PKP	PKPdf	04 29 05.3	-1.2
UPC	**Upice**	**144.33**	**348**	*e*PKP	PKPdf	04 29 05.9	-0.9
FBE	**Freiberg**	**144.40**	**351**	*e*PKPbc	PKPdf	04 29 05.9	-1.0
DPC	**Dobruska-Polom**	**144.42**	**348**	*e*PKP	PKPdf	04 29 06.5	-0.4
DPC				*ex*	x	04 29 12.3	
OKC	**Ostrava-Krasne**	**144.49**	**345**	*e*PKP	PKPdf	04 29 06.4	-0.7
PVCC	**Panska Ves**	**144.59**	**350**	*e*PKP	PKPdf	04 29 06.8	-0.4
WERD	**Werda**	**145.01**	**352**	*e*PKPbc	PKPbc	04 29 07.9	0.0
TANN	**Tannenbergstha**	**145.03**	**352**	*e*PKPbc	PKPbc	04 29 08.0	0.0
GUNZ	**Gunzen**	**145.09**	**352**	*e*PKPbc	PKPbc	04 29 08.5	+0.3
KECS	**Kecovo**	**145.09**	**342**	*i* PKP	PKPdf	04 29 08.7	+0.6
PRU	**Pruhonice**	**145.11**	**349**	*e*PKP	PKPdf	04 29 08.5	+0.4
PRU				*ex*	x	04 29 14.4	
WERN	**Wernitzgruen**	**145.16**	**352**	*e*PKPbc	PKPbc	04 29 08.6	+0.2
NKC	**Novy Kostel**	**145.21**	**352**	*e*PKP	PKPdf	04 29 08.7	+0.4
NKC				*ex*	x	04 29 14.1	
TIRR	**Tirgusor**	**145.32**	**330**	*e*PKP	PKPdf	04 29 08.8	+0.3
VRAC	**Vranov**	**145.35**	**347**	PKPbc	PKPbc	04 29 09.0	0.0
	comp=Z,1.6nm,0.5s,baz=63,slow=7.0,SNR=4.3						
VYHS	**Vyhne**	**145.55**	**344**	*i* PKP	PKPdf	04 29 09.9	+1.0
BR131	**Keskin Array S**	**145.56**	**319**	*e*PKP	PKPdf	04 29 10.1	+1.2
BRTR	**Keskin Array B**	**145.56**	**319**	PKPbc	PKPbc	04 29 10.2	+0.6
	comp=Z,11nm,0.8s,baz=97,slow=2.4,SNR=52						
TNS	**Taunus Mts**	**145.62**	**356**	*e*PKPbc	PKPbc	04 29 10.8	+1.0
MLR	**Muntele Rosu**	**145.65**	**334**	PKPbc	PKPbc	04 29 11.1	+1.2
	comp=Z,7.4nm,0.9s,baz=353,slow=1.3,SNR=9.6						
ROTZ	**Rotzenmuhle**	**145.69**	**352**	*e*PKPbc	PKPbc	04 29 10.5	+0.5
BAIF	**Baives**	**145.89**	**1**	*e*PKIKP	PKPdf	04 29 11.4	+1.9
	comp=Z,11nm,0.5s						
GRA1	**Grafenberg Arr**	**145.90**	**353**	*e*PKPbc	PKPbc	04 29 10.8	+0.2
GRF	**Grafenberg Arr**	**145.90**	**353**	*e*PKPbc	PKPbc	04 29 10.8	+0.2
KHC	**Kasperske Hory**	**146.10**	**350**	*e*PKP	PKPdf	04 29 11.8	+2.0
KHC				*ex*	x	04 29 18.1	
GERES	**GERESS Array B**	**146.36**	**350**	PKPbc	PKPbc	04 29 12.4	+0.4
	comp=Z,2.8nm,0.8s,baz=29,slow=3.0,SNR=23						
FLN	**La Foliniere**	**146.88**	**7**	*e*PKIKP	PKPdf	04 29 12.8	+1.7
LDF	**La Druitiere**	**147.09**	**6**	*e*PKIKP	PKPdf	04 29 13.2	+1.7
	comp=Z,7.2nm,0.5s						
SGMF	**Saint Gilles**	**147.10**	**9**	*e*PKIKP	PKPdf	04 29 13.4	+1.9
	comp=Z,30nm,0.8s						
GRR	**Gorron**	**147.21**	**7**	*e*PKIKP	PKPdf	04 29 13.7	+2.0
	comp=Z,17nm,0.7s						
QUIF	**Quistinic**	**147.33**	**10**	*e*PKIKP	PKPdf	04 29 13.7	+1.8
CDF	**Champ du Feu**	**147.50**	**357**	*e*PKIKP	PKPdf	04 29 14.2	+2.0
	comp=Z,9.0nm,0.6s						
HAU	**Haudompre**	**147.94**	**358**	*e*PKIKP	PKPdf	04 29 14.8	+1.9
HINF	**Hinteralfeld**	**148.11**	**358**	*e*PKIKP	PKPdf	04 29 15.2	+2.0
LOR	**Lormes**	**148.68**	**2**	*e*PKIKP	PKPdf	04 29 15.8	+1.7
SSF	**Saint Saulge**	**148.87**	**2**	*e*PKIKP	PKPdf	04 29 16.0	+1.6
	comp=Z,5.9nm,0.8s						
AVF	**Avril sur Loir**	**149.14**	**2**	*e*PKIKP	PKPdf	04 29 16.7	+1.9
SMF	**Signal de Mont**	**149.30**	**2**	*e*PKIKP	PKPdf	04 29 17.0	+1.9
BGF	**Bois d'Agland**	**149.35**	**3**	*e*PKIKP	PKPdf	04 29 16.9	+1.7
LPL	**La Plagne**	**150.41**	**358**	*e*PKIKP	PKPdf	04 29 19.0	+2.2
	comp=Z,7.5nm,0.9s						
LPG	**La Plagne**	**150.43**	**358**	*e*PKIKP	PKPdf	04 29 19.0	+2.1
	comp=Z,21nm,1.1s						
ORIF	**Oris-en-Rattie**	**151.03**	**359**	*e*PKIKP	PKPdf	04 29 19.6	+1.8
VIVF	**Saint-Julien-I**	**151.10**	**1**	*e*PKIKP	PKPdf	04 29 19.6	+1.7
	comp=Z,7.5nm,0.7s						
MBDF	**Montbardon**	**151.20**	**357**	*e*PKIKP	PKPdf	04 29 19.9	+1.9
SMRF	**Simiane la Rot**	**151.98**	**359**	*e*PKIKP	PKPdf	04 29 21.0	+1.8
FRF	**La Foret Royal**	**152.37**	**358**	*e*PKIKP	PKPdf	04 29 21.4	+1.6
EPF	**Esparros**	**152.63**	**8**	*e*PKIKP	PKPdf	04 29 21.8	+1.6
TORD	**Torodi Ar. Bea**	**175.77**	**129**	PKP	PKPdf	04 29 40.4	-0.1
	comp=Z,0.8nm,1.0s,baz=346,slow=1.9,SNR=3.3						
TORD				PKPab	PKPab	04 31 21.3	+0.8
	comp=Z,0.8nm,0.9s,baz=255,slow=3.5,SNR=5.3						

ISCJB ***28*** *04:12:33.0±1.5, 216S±03×690E±03, h10km, mb3.8/6, Error ellipse: s-maj=50.0km s-min=27.1km az=69.3*
IDC ***28*** *04:12:33.3±1.4, 2160S×6896E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=57.1km s-min=29.2km az=24.0*
NEIC ***28*** *04:12:34.8±1.1, 2160S×6895E, h10km, mb3.9/1, Error ellipse: s-maj=36.9km s-min=20.1km az=215.0*

ISC 28 04:12:35.6±1.5, 215S±03×690E±03, h10km, n6, σ0°27/6, mb3.8/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**59.49**	**105**	P	**P**	**04 22 39.0**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=246,slow=7.5,SNR=5.1						
WRA	**Warramunga Arr**	**60.71**	**101**	P	**P**	**04 22 46.9**	**-0.3**
	1.4nm,1.0s,mb4.1,baz=256,slow=6.8,SNR=4.6						
AAK	**Ala-Archa**	**63.99**	**4**	*e*P	**P**	**04 23 09.1**	**-0.1**
	0.5nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**69.01**	**10**	P	**P**	**04 23 41.1**	**-0.2**
	1.7nm,0.8s,mb4.0,baz=198,slow=4.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**74.48**	**291**	P	**P**	**04 24 14.2**	**0.0**
	0.8nm,1.0s,mb3.6,baz=101,slow=4.7,SNR=3.1						
SONM	**Songino Array**	**76.73**	**25**	P	**P**	**04 24 27.3**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=214,slow=1.6,SNR=4.0						

ISCJB ***28*** *04:15:06.2±0.6, 217S±01×691E±01, h10km, mb3.9/12, MS3.6/2, Error ellipse: s-maj=22.3km s-min=15.2km az=103.7*
IDC ***28*** *04:15:06.3±0.8, 2168S×6897E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, MS3.7/2, Ms1 3.6/2, ms1mx3.1/46, Error ellipse: s-maj=30.3km s-min=20.0km az=60.0*
NEIC ***28*** *04:15:08.0±0.4, 2168S×6901E, h10km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=11.1km az=52.0*

ISC 28 04:15:08.2±0.6, 217S±01×690E±01, h10km, n15, σ0°50/14, mb3.9/12, MS3.6/2, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**37.07**	**299**	P	**P**	**04 22 19.3**	**+0.8**
	1.4nm,0.4s,mb4.1						
BOSA	**Boshof**	**40.03**	**251**	LR	LR	04 36 05.8	
	comp=Z,102nm,18.4s,MS3.7,baz=22,slow=32						
MAW	**Mawson**	**46.08**	**183**	P	**P**	**04 23 32.8**	**+0.6**
	1.2nm,0.9s,mb3.8,baz=22,slow=14,SNR=2.0						
MAW				LR	LR	04 37 38.3	
	comp=Z,65nm,19.3s,MS3.6,baz=247,slow=29						
ASAR	**Alice Springs**	**59.44**	**105**	P	**P**	**04 25 11.3**	**+0.2**
	1.9nm,0.7s,mb4.3,baz=262,slow=6.3,SNR=20						
AS31	**Alice Springs**	**59.44**	**105**	*e*P	**P**	**04 25 11.0**	**-0.1**
WRA	**Warramunga Arr**	**60.68**	**101**	P	**P**	**04 25 19.7**	**+0.2**
	1.5nm,0.7s,mb4.3,baz=256,slow=6.5,SNR=12						
AAK	**Ala-Archa**	**64.20**	**4**	*e*P	**P**	**04 25 43.1**	**0.0**
	4.1nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**69.21**	**10**	P	**P**	**04 26 14.9**	**-0.2**
	1.8nm,0.9s,mb4.0,baz=172,slow=6.1,SNR=6.0						
BRTR	**Keskin Array B**	**69.45**	**332**	P	**P**	**04 26 16.2**	**-0.4**
	0.8nm,0.8s,mb3.7,baz=148,slow=6.3,SNR=4.4						
VNDA	**Vanda**	**69.60**	**167**	P	**P**	**04 26 16.7**	**-0.8**
	0.5nm,0.8s,mb3.5,baz=288,slow=7.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**74.55**	**291**	P	**P**	**04 26 47.0**	**-0.2**
	0.6nm,0.9s,mb3.5,baz=120,slow=3.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**74.55**	**291**	P	**P**	**04 26 47.0**	**-0.2**
ZAL	**Zalesovo**	**76.53**	**10**	P	**P**	**04 26 59.1**	**+0.6**
	0.9nm,0.3s,mb4.2,baz=332,slow=2.2,SNR=4.1						
SONM	**Songino Array**	**76.92**	**25**	P	**P**	**04 27 01.1**	**+0.4**
	0.7nm,0.7s,mb3.7,baz=197,slow=4.5,SNR=4.0						
AKASG	**Malin Array Be**	**80.16**	**336**	P	**P**	**04 27 17.6**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=129,slow=4.8,SNR=4.6						

MAN 28 04:20:38.0, 939N×12204E, h34km, mb3.0, ML4.3, MS4.2, Negros

IDC ***28*** *04:24:32.0±1.8, 4752N×15369E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=47.8km s-min=24.6km az=161.0*
NEIC ***28*** *04:24:34.2±1.2, 4765N×15396E, h10km, mb3.8/1, Error ellipse: s-maj=32.4km s-min=14.2km az=150.0*
ISCJB ***28*** *04:24:37.8±1.1, 476N±0.1×1533E±02, h48km±9km, mb4.0/12, MS3.7/2, Error ellipse: s-maj=28.0km s-min=6.0km az=90.1*
MOS ***28*** *04:24:37.1±1.9, 4746N×15358E, h54km, mb4.3/4, Error ellipse: s-maj=16.7km s-min=10.1km az=67.2*
SKHL ***28*** *04:24:37.3±1.0, 4740N×15360E, h59km±10km, mb4.9/2*

ISC 28 04:24:40.3±1.0, 477N±01×1533E±02, h56km±8km, n39, σ0°98/46, mb4.0/12, MS3.7/2, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.56**	**30**	*e*P	**Pn**	**04 25 33.0**	**0.0**
SKR				AMB	AMB	04 25 34.9	
	80nm,0.5s						
SKR				*e*S	**Sn**	**04 26 15.0**	**+1.1**
SKR	**Severo-Kuril's**	**3.56**	**30**	*e*PN	**Pn**	**04 25 33.0**	**0.0**
SKR				*e*S	**Sn**	**04 26 15.0**	**+1.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,160nm,0.6s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.6s						
KUR	**Kuril'sk**	**4.45**	**239**	↑*i*P	**Pn**	**04 25 41.4**	**-3.8**
KUR				AMB	AMB	04 25 44.0	
	comp=Z,205nm,0.5s						
KUR				*e*S	**Sn**	**04 26 35.0**	**-0.8**
KUR				A		04 26 51.0	
	comp=Z,387nm,0.7s						
KUR				A		04 26 51.0	
	comp=Z,559nm,0.7s						
KUR	**Kuril'sk**	**4.45**	**239**	↑*i*PN	**Pn**	**04 25 41.4**	**-3.8**
KUR				*e*S	**Sn**	**04 26 35.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,210nm,0.5s						
KUR				smax			
	comp=N,390nm,0.7s						
KUR				smax			
	comp=E,560nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.32**	**238**	*e*P	**Pn**	**04 26 10.5**	**-0.3**
YUK				*e*S	**Sn**	**04 27 21.0**	**-0.5**
YUK				A		04 27 30.0	
	comp=E,420nm,0.6s						
YUK				A		04 27 30.0	
	comp=E,240nm,0.6s						
PET	**Petropavlovsk**	**6.39**	**31**	↓*e*PN	**Pn**	**04 26 11.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.19**	**268**	*e*P	**Pn**	**04 26 29.2**	**+6.4**
YSS				*e*S	**Sn**	**04 27 52.3**	**+9.2**
YSS				*e*LQ		04 28 42.0	
YSS				AMS	AMS	04 29 37.0	
	comp=E,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.19**	**268**	PN	**Pn**	**04 26 29.2**	**+6.4**
YSS				*e*S	**Sn**	**04 27 52.3**	**+9.2**
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.19**	**268**	*e*Pn	**Pn**	**04 26 27.6**	**+4.9**
	comp=Z,30nm,0.6s						
ASAJ	**Asahikawa**	**8.25**	**249**	Pn	**Pn**	**04 26 36.9**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=80,slow=19,SNR=3.1						
ASAJ	**Asahikawa**	**8.25**	**249**	PN	**Pn**	**04 26 36.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	**15.73**	**231**	P	**Pn**	**04 28 19.5**	**+1.3**
MJAR	**Matsushiro Arr**	**15.73**	**231**	Pn	**Pn**	**04 28 19.5**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=31,slow=9.4,SNR=16						
MJAR	**Matsushiro Arr**	**15.73**	**231**	P	**Pn**	**04 28 19.5**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**16.68**	**268**	*e*Pn	**Pn**	**04 28 34.8**	**+4.6**
	comp=Z,6.5nm,0.8s						
YAK	**Yakutsk**	**19.64**	**326**	↓*e*P	**Pn**	**04 29 05.3**	**-0.8**
YAK				pmax	pmax		
	comp=Z,17nm,0.6s						
KSRS	**Korea Array**	**21.19**	**251**	P	**P**	**04 29 21.9**	**+0.9**
	comp=Z,1.5nm,0.6s,mb3.5,baz=65,slow=8.9,SNR=3.2						
BILL	**Bilibino**	**21.49**	**13**	↑*e*P	**P**	**04 29 21.8**	**-2.5**
BILL				*e*S	**S**	**04 33 08.5**	**-11**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
YKA	**Yellowknife Ar**	**50.14**	**37**	P	**P**	**04 33 29.0**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=296,slow=7.1,SNR=4.2						
YKA	**Yellowknife Ar**	**50.14**	**37**	P	**P**	**04 33 29.4**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**04 33 31.9**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=23,slow=7.8,SNR=3.6						
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**04 33 31.9**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**04 35 03.9**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.2,baz=38,slow=7.5,SNR=17						
FINES	**FINESS Array B**	**63.28**	**335**	P	**P**	**04 35 03.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**64.64**	**325**	↓*e*P	**P**	**04 35 11.0**	**-1.1**
OBN				*e**PP	pP	04 35 44.0	+17
OBN				*e*		04 37 34.4	
OBN				*e*S	**S**	**04 43 42.5**	**-5.3**
OBN				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
NB2	**NORSAR Subarra**	**67.42**	**341**	P	**P**	**04 35 30.3**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.42**	**341**	P	**P**	**04 35 30.6**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.3,baz=27,slow=6.4,SNR=6.1						
NOA	**NORSAR Array B**	**67.42**	**341**	P	**P**	**04 35 30.6**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**67.66**	**339**	P	**P**	**04 35 32.0**	**+0.5**
	comp=Z,2.3nm,0.4s,mb4.5,baz=57,slow=5.5,SNR=19						
HFS	**Hagfors**	**67.66**	**339**	P	**P**	**04 35 32.0**	**+0.6**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**70.87**	**326**	P	**P**	**04 35 51.0**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=31,slow=5.5,SNR=6.2						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**04 36 25.0**	**-1.8**
	comp=Z,0.5nm,1.0s,mb3.4,baz=303,slow=5.3,SNR=7.1						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**04 36 25.0**	**-1.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**04 36 25.0**	**-1.8**
GERES	**GERESS Array B**	**77.70**	**334**	P	**P**	**04 36 31.5**	**+0.5**
	comp=Z,0.2nm,0.4s,mb4.3,baz=329,slow=2.3,SNR=3.7						
BRTR	**Keskin Array B**	**77.82**	**317**	P	**P**	**04 36 33.0**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=64,slow=2.9,SNR=5.8						
BRTR	**Keskin Array B**	**77.82**	**317**	P	**P**	**04 36 33.0**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNA2	**Neumayer--Watz**	**154.90**	**195**	*e*PKPdf	PKPbc	04 44 36.0	+0.6
VNA2				*e*		04 44 46.6	
VNA2				*e*		04 44 56.2	
VNA2				*e*		04 45 03.4	
VNA3	**Neumayer Olymp**	**154.99**	**193**	*e*PKPdf	PKPbc	04 44 35.2	-0.4
VNA3

TOO	**Toolangi**	**29.78**	**216**	*e*P		**P**	**04 30 56.6**	**+1.8**
TOO				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.4							
WB2	**Warramunga Arr**	**31.81**	**256**	⇓*i*P		**P**	**04 31 11.8**	**-0.9**
WB2				*e*S		**S**	**04 36 07.4**	**-4.0**
WB2				*e*SCP		ScP	04 37 32.9	+4.3
WB2				*e*SCS		ScS	04 41 26.9	-0.3
WRAB	**Tennant Creek**	**31.81**	**256**	*d i*P		**P**	**04 31 11.7**	**-1.0**
WRA	**Warramunga Arr**	**31.82**	**256**	P		**P**	**04 31 11.9**	**-0.9**
	comp=Z,34nm,0.9s,mb5.1,baz=85,slow=9.0,SNR=150							
WRA				S		**S**	**04 36 11.3**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=93,slow=15,SNR=6.2							
WRA				ScP		ScP	04 37 32.7	+4.1
	comp=Z,3.8nm,0.9s,baz=83,slow=3.5,SNR=9.3							
WRA				LR		LR	04 42 50.6	
	comp=Z,112nm,18.4s,baz=70,slow=34							
WRA	**Warramunga Arr**	**31.82**	**256**	P		**P**	**04 31 11.9**	**-0.9**
WRA				S		**S**	**04 36 11.3**	**-0.3**
RAR	**Rarotonga**	**31.91**	**106**	P		**P**	**04 31 14.4**	**+0.9**
	comp=Z,22nm,0.7s,mb5.0,baz=90,slow=16,SNR=3.6							
AS31	**Alice Springs**	**32.66**	**249**	⇓*i*P		**P**	**04 31 19.6**	**-0.5**
AS31				*e*S		**S**	**04 36 22.8**	**-1.7**
AS31				*e*ScS		ScS	04 41 31.4	-0.1
ASAR	**Alice Springs**	**32.66**	**249**	P		**P**	**04 31 19.6**	**-0.4**
	comp=Z,65nm,0.8s,mb5.4,baz=74,slow=9.3,SNR=477							
ASAR				S		**S**	**04 36 23.5**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=74,slow=16,SNR=5.9							
ASAR				ScP		ScP	04 37 35.6	+4.2
	comp=Z,6.6nm,0.9s,baz=90,slow=3.3,SNR=17							
ASAR				LR		LR	04 44 19.8	
	comp=Z,107nm,20.9s,baz=26,slow=36							
ASAR	**Alice Springs**	**32.66**	**249**	P		**P**	**04 31 19.7**	**-0.4**
ASAR				S		**S**	**04 36 23.5**	**-1.1**
ASPA	**Alice Springs**	**32.66**	**249**	⇓*i*P		**P**	**04 31 19.6**	**-0.5**
ASPA				*e*S		**S**	**04 36 22.8**	**-1.8**
ASPA				*e*SCS		ScS	04 41 31.4	-0.1
KAKA	**Kakadu**	**33.90**	**269**	⇓*i*P		**P**	**04 31 30.7**	**-0.1**
	comp=Z,20nm,0.6s,mb5.0							
FORT	**Forrest**	**39.26**	**239**	⇓*i*P		**P**	**04 32 16.7**	**+0.5**
	comp=Z,119nm,0.6s,mb5.7							
FITZ	**Fitzroy Crossi**	**40.02**	**259**	⇓*i*P		**P**	**04 32 22.4**	**-0.1**
	comp=Z,106nm,0.6s,mb5.7							
FITZ				*e*S		**S**	**04 38 15.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.02**	**259**	P		**P**	**04 32 23.0**	**+0.5**
	comp=Z,80nm,0.8s,mb5.4,baz=104,slow=9.3							
KLBR	**Kellerberrin**	**48.07**	**241**	*e*P		**P**	**04 33 26.2**	**-0.4**
	comp=Z,26nm,0.7s,mb5.0							
KLBR				*e*			04 35 22.6	
NWAO	**Narrogin (SRO)**	**48.72**	**239**	P		**P**	**04 33 31.9**	**+0.4**
	comp=Z,38nm,0.9s,mb5.0,baz=89,slow=7.4,SNR=16							
NWAO				LR		LR	04 55 42.0	
	comp=Z,202nm,18.3s,baz=287,slow=38							
NWAO	**Narrogin (SRO)**	**48.72**	**239**	⇓*e*P		**P**	**04 33 31.5**	**0.0**
NWAO				*e*			04 35 29.9	
NWAO				pmax		pmax		
	comp=Z,28nm,0.8s							
NWAO	**Narrogin (SRO)**	**48.72**	**239**	⇓*e*P		**P**	**04 33 31.5**	**0.0**
	comp=Z,28nm,0.8s,mb4.9							
NWAO				pP		pP	04 34 02.0	-4.7
NWAO				sP		sP	04 34 18.4	-5.6
NWAO				*e*PP		PP	04 35 29.9	+3.9
MUN	**Mundaring**	**49.43**	**241**	⇑*i*P		**P**	**04 33 37.4**	**+0.5**
MUN				*e*			04 35 35.3	
KKM	**Kota Kinabalu**	**54.72**	**289**	⇓*i*P		**P**	**04 34 16.8**	**+0.8**
MJAR	**Matsushiro Arr**	**58.01**	**333**	P		**P**	**04 34 39.7**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.2,baz=170,slow=7.6,SNR=6.3							
MJAR				pP		pP	04 35 11.4	-4.2
	comp=Z,3.2nm,0.8s,baz=167,slow=6.3,SNR=5.7							
MJAR	**Matsushiro Arr**	**58.01**	**333**	P		**P**	**04 34 39.7**	**+0.4**
MJAR				pP		pP	04 35 11.4	-4.2
VNDA	**Vanda**	**62.75**	**181**	P		**P**	**04 35 11.6**	**+0.2**
	comp=Z,11nm,0.6s,mb4.9,baz=360,slow=6.7,SNR=69							
VNDA	**Vanda**	**62.75**	**181**	⇑*i*P		**P**	**04 35 11.4**	**0.0**
VNDA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
VNDA	**Vanda**	**62.75**	**181**	⇑*i*P		**P**	**04 35 11.4**	**0.0**
	comp=Z,9.7nm,0.6s,mb4.8							
SBA	**Scott Base**	**63.03**	**180**	⇑*e*P		**P**	**04 35 14.4**	**+1.1**
SBA				pmax		pmax		
	comp=Z,46nm,0.8s,mb5.4							
SBA	**Scott Base**	**63.03**	**180**	⇑*e*P		**P**	**04 35 14.4**	**+1.1**
	comp=Z,46nm,0.8s,mb5.4							
CASY	**Casey**	**63.44**	**202**	*e*P		**P**	**04 35 16.5**	**+0.6**
	comp=Z,25nm,0.7s,mb5.2							
KSRS	**Korea Array**	**63.84**	**326**	pP		pP	04 35 52.2	-3.4
	comp=Z,3.1nm,0.9s,baz=137,slow=6.9,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**65.34**	**342**	⇓*e*P		**P**	**04 35 29.0**	**+0.7**
YSS				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.7							
NJ2	**Nanjing**	**65.77**	**316**	*e*P		**P**	**04 35 30.0**	**-1.1**
NJ2				AP		pP	04 35 41.0	-27
NJ2				XP		sP	04 35 44.5	-41
NJ2				PP		PP	04 37 57.5	-0.3
NJ2				S		S	04 44 12.0	+7.0
NJ2				XS		sS	04 44 28.0	-41
NJ2				AMB		AMB		
	comp=Z,230nm,6.3s							
NJ2				LR		LR		
	comp=N,1μm,17.3s							
NJ2				LR		LR		
	comp=E,1μm,17.2s							
NJ2				LR		LR		
	comp=Z,2μm,18.5s							
CN2	**Changchun**	**69.75**	**329**	*e*P		**P**	**04 35 52.0**	**-4.0**
KLR	**Kul'dur**	**71.12**	**336**	*e*P		**P**	**04 36 00.0**	**-4.3**
KLR				*e*		pP	04 36 42.0	0.0
NANT	**Nan**	**73.60**	**295**	⇑P		**P**	**04 36 18.0**	**-1.0**
	comp=Z,86nm,1.0s,mb5.4							
XAN	**Xi'an**	**73.78**	**313**	P		**P**	**04 36 20.5**	**+0.4**
XAN				AP		pP	04 36 28.0	-30
XAN				XP		sP	04 36 31.0	-44
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.4							
CHG	**Chiang Mai**	**75.15**	**294**	P		**P**	**04 36 29.5**	**+1.6**
CHTO	**Chiang Mai**	**75.15**	**294**	⇓*e*P		**P**	**04 36 29.0**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.3							
CHTO	**Chiang Mai**	**75.15**	**294**	⇓*e*P		**P**	**04 36 29.0**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.3							
QSPA	**South Pole Qui**	**75.19**	**180**	⇑*i*P		**P**	**04 36 28.3**	**+0.1**
	comp=Z,28nm,0.7s,mb5.0							
MA2	**Magadan**	**75.36**	**351**	P		**P**	**04 36 30.7**	**+1.6**
MA2				pmax		pmax		
	comp=Z,449nm,1.8s,mb5.8							
MA2	**Magadan**	**75.36**	**351**	P		**P**	**04 36 30.7**	**+1.6**
	comp=Z,449nm,1.8s,mb5.8							
CD2	**Chengdu**	**76.10**	**308**	*e*P		**P**	**04 36 34.8**	**+1.5**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.7							
HIA	**Hailar**	**76.39**	**330**	*e*P		**P**	**04 36 32.7**	**-2.3**
SEY	**Seymchan**	**78.39**	**353**	⇑*e*P		**P**	**04 36 44.0**	**-2.1**
LZH	**Lanzhou**	**78.41**	**312**	*e*P		**P**	**04 36 47.5**	**+1.3**
LZH				AP		pP	04 36 54.0	-31
LZH				XP		sP	04 36 58.0	-43
LZH				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.7							
LZH				AMB		AMB		
	comp=Z,127nm,4.0s							
LZH	**Lanzhou**	**78.41**	**312**	*e*P		**P**	**04 36 47.5**	**+1.3**
	comp=Z,30nm,1.5s,mb4.7							
LZH				pP		pP	04 36 54.0	-31
LZH				sP		sP	04 36 58.0	-43
CIT	**Chita**	**81.18**	**330**	*e*P		**P**	**04 36 59.6**	**-1.5**
MAW	**Mawson**	**81.79**	**202**	*e*P		**P**	**04 37 04.6**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.3							
MAW	**Mawson**	**81.79**	**202**	P		**P**	**04 37 04.8**	**+0.4**
	comp=Z,10nm,1.0s,mb4.4,baz=112,slow=6.0,SNR=15							
MAW	**Mawson**	**81.79**	**202**	⇑*i*P		**P**	**04 37 04.7**	**+0.4**
MAW				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MAW	**Mawson**	**81.79**	**202**	⇑*i*P		**P**	**04 37 04.7**	**+0.4**
	comp=Z,9.1nm,0.8s,mb4.5							
YAK	**Yakutsk**	**82.14**	**343**	⇑*e*P		**P**	**04 37 03.7**	**-2.5**
YAK				pmax		pmax		
	comp=Z,43nm,1.0s,mb5.0							
SONM	**Songino Array**	**82.60**	**324**	P		**P**	**04 37 08.4**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.0,baz=149,slow=7.4,SNR=10							
BILL	**Bilibino**	**82.65**	**360**	P		**P**	**04 37 08.6**	**-0.2**
BILL				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.3							
BILL	**Bilibino**	**82.65**	**360**	P		**P**	**04 37 08.6**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.3							
GTA	**Gaotai**	**82.76**	**314**	P		**P**	**04 37 11.0**	**+1.6**
GTA				AMB		AMB		
	comp=Z,8.0nm,1.3s,mb4.3							
LSA	**Lhasa**	**85.64**	**302**	*e*P		**P**	**04 37 25.5**	**+1.6**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**85.64**	**302**	*e*P		**P**	**04 37 25.5**	**+1.6**
	comp=Z,6.3nm,0.6s,mb4.5							
ZAK	**Zakamensk**	**85.66**	**325**	*e*P		**P**	**04 37 23.3**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.4s,mb3.8							
COLA	**College**	**86.41**	**18**	*e*P		**P**	**04 37 27.1**	**-0.6**
SYO	**Syowa Base**	**88.61**	**197**	⇓*e*P		**P**	**04 37 37.3**	**-0.9**
GUN	**Gumba**	**89.47**	**299**	*e*P		**P**	**04 37 43.1**	**+0.9**
	comp=Z,20nm,0.8s,mb5.1							
PKI	**Pulchoki**	**89.77**	**298**	*e*P		**P**	**04 37 44.6**	**+1.0**
	comp=Z,15nm,0.7s,mb5.1							
KKN	**Kakani**	**89.94**	**299**	*e*P		**P**	**04 37 44.9**	**+0.5**
	comp=Z,9.9nm,0.5s,mb5.0							
DMN	**Daman**	**90.04**	**298**	*e*P		**P**	**04 37 45.8**	**+0.9**
	comp=Z,26nm,0.9s,mb5.2							
TIXI	**Tiksi**	**90.08**	**349**	⇑*e*P		**P**	**04 37 41.8**	**-3.2**
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.7s,mb4.3							
GKN	**Gorkha**	**90.55**	**299**	*e*P		**P**	**04 37 47.7**	**+0.5**
	comp=Z,9.7nm,0.6s,mb5.0							
PMSA	**Palmer Station**	**91.66**	**160**	*e*P		**P**	**04 37 50.5**	**-1.9**
	comp=Z,52nm,1.2s,mb5.4							
SNAA	**Sanae**	**93.44**	**183**	P		**P**	**04 37 59.5**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.5,baz=209,slow=3.7,SNR=42							
SNAA	**Sanae**	**93.44**	**183**	⇑*i*P		**P**	**04 37 59.4**	**-1.2**
SNAA				*e*			04 38 01.8	
SNAA				*e*			04 38 04.0	
SNAA				*e*			04 38 08.2	
SNAA				*e*			04 38 16.5	
SNAA				*e*			04 38 22.3	
SNAA	**Sanae**	**93.44**	**183**	⇑*e*P		**P**	**04 37 57.8**	**-2.8**
SNAA	**Sanae**	**93.44**	**183**	*e*P		**P**	**04 37 59.5**	**-1.1**
	comp=Z,7.5nm,0.7s,mb4.9							
VNA3	**Neumayer Olymp**	**94.11**	**181**	⇑*i*P		**P**	**04 38 02.4**	**-1.2**
VNA3				*e*			04 38 04.6	
VNA3				*e*			04 38 07.2	
VNA3				*e*			04 38 11.6	
VNA3				*e*		pP	04 38 42.3	-0.7
VNA3				*e*		pP	04 38 46.4	+3.4
VNA2	**Neumayer--Watz**	**94.37**	**182**	⇑*i*P		**P**	**04 38 04.1**	**-0.8**
VNA2				*e*			04 38 06.1	
VNA2				*e*			04 38 09.4	
VNA2				*e*			04 38 12.9	
VNA2				*e*			04 38 22.2	
VNA2				*e*			04 38 28.4	
VNA2				*e*		pP	04 38 43.8	-0.4
VNA2				*e*		pP	04 38 47.5	+3.3
VNA2				*e*			04 39 04.7	
VNA1	**Neumayer--Stat**	**94.67**	**181**	⇓*i*P		**P**	**04 38 05.9**	**-0.3**
VNA1				*e*			04 38 08.1	
VNA1				*e*			04 38 10.7	
VNA1				*e*			04 38 14.4	
VNA1				*e*			04 38 23.3	
VNA1				*e*			04 38 30.4	
VNA1				*e*		pP	04 38 45.3	-0.3
VNA1				*e*		pP	04 38 49.2	+3.6
TXAR	**Lajitas Array**	**96.31**	**61**	P		**P**	**04 38 15.3**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=259,slow=7.2,SNR=3.6							
TXAR				PKKPbc		PKKPbc	04 55 00.5	+2.0
	comp=Z,0.4nm,0.7s,baz=112,slow=4.7,SNR=4.7							
MKAR	**Makanchi Array**	**97.30**	**316**	P		**P**	**04 38 18.8**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.6,baz=84,slow=6.3,SNR=16							
ZAL	**Zalesovo**	**97.50**	**324**	P		**P**	**04 38 18.8**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.5,baz=11,slow=4.8,SNR=7.1							
YKA	**Yellowknife Ar**	**97.63**	**27**	P		**P**	**04 38 19.2**	**-0.4**
	comp=Z,0.6nm,0.8s,mb4.1,baz=256,slow=4.3,SNR=2.7							
LPAZ	**La Paz**	**117.13**	**117**	PKKPbc		PKKPbc	04 53 55.1	+1.1
	comp=Z,0.4nm,0.4s,baz=121,slow=3.1,SNR=3.9							
ARCES	**ARCESS Array B**	**120.36**	**345**	PKP		PKPdf	04 43 34.9	-0.7
	comp=Z,3.2nm,0.5s,baz=76,slow=2.1,SNR=32							
ARCES	**ARCESS Array B**	**120.36**	**345**	PKP		PKPdf	04 43 34.9	-0.7
BOSA	**Boshof**	**123.31**	**220**	PKP		PKPdf	04 43 43.0	+1.8
	comp=Z,2.9nm,1.0s,baz=38,slow=5.2,SNR=5.5							
GNI	**Garni**	**124.22**	**309**	⇑*i*PKIKP			04 43 33.0	
OBN	**Obninsk**	**124.81**	**328**	⇑*i*PKIKP		PKPdf	04 43 39.4	-4.7
OBN				*e*			04 44 35.0	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KAF	**Kangasniemi**	**125.31**	**339**	*ep*		PKPdf	04 43 43.0	-2.1
	comp=Z,1.7nm,0.4s							
FINES	**FINESS Array B**	**125.83**	**338**	PKP		PKPdf	04 43 46.0	-0.1
	comp=Z,1.1nm,0.5s,baz=96,slow=2.2,SNR=12							
FINES	**FINESS Array B**	**125.83**	**338**	PKP		PKPdf	04 43 46.0	-0.1
NOA	**NORSAR Array B**	**130.74**	**345**	PKP		PKPdf	04 43 55.3	-0.1
	comp=Z,1.1nm,0.8s,baz=32,slow=2.0,SNR=3.4							
NOA				SKPbc		SKPbc	04 47 07.9	+3.0
	comp=Z,7.8nm,0.7s,baz=31,slow=3.0,SNR=18							
HFS	**Hagfors**	**130.84**	**343**	PKP		PKPdf	04 43 55.3	-0.3
	comp=Z,1.7nm,0.8s,baz=67,slow=3.9,SNR=4.4							
HFS				SKPbc		SKPbc	04 47 08.4	+3.1
	comp=Z,6.0nm,0.8s,baz=103,slow=6.5,SNR=9.4							
AKASG	**Malin Array Be**	**130.84**	**326**	SKPbc		SKPbc	04 47 07.9	+2.6
	comp=Z,5.6nm,0.7s,baz=47,slow=4.5,SNR=29							
ASF	**Jabal al Asfar**	**131.79**	**300**	SKPbc		SKPbc	04 47 13.2	+4.5
	comp=Z,1.7nm,0.6s,baz=204,slow=5.3,SNR=4.6							
BRTR	**Keskin Array B**	**132.60**	**311**	PKP		PKPdf	04 44 00.1	+1.2
	comp=Z,0.4nm,0.6s,baz=144,slow=4.4,SNR=4.2							
BRTR				SKPbc		SKPbc	04 47 15.3	+3.8
	comp=Z,2.2nm,0.9s,baz=129,slow=4.0,SNR=9.2							
FDF	**Fort de France**	**133.23**	**84**	*e*P		PKPdf	04 43 56.9	-3.2
GERES	**GERESS Array B**	**139.75**	**333**	PKhKP			04 44 04.6	
	comp=Z,0.5nm,0.6s,baz=58,slow=5.3,SNR=4.5							
GERES				SKPbc		SKPbc	04 47 35.8	+2.4
	comp=Z,1.1nm,0.7s,baz=20,slow=3.1,SNR=5.8							
GERES	**GERESS Array B**	**139.75**	**333**	PKP			04 44 04.6	
GERES				SKPbc		SKPbc	04 47 35.8	+2.4
BOJS	**Bojanci**	**141.41**	**328**	*e*PKPdf		PKPdf	04 44 11.7	-3.5
VISS	**Visnje**	**141.42**	**329**	*i* PKPdf			04 44 08.1	
ROBS	**Robic**	**141.75**	**330**	*e*PKPdf			04 44 08.7	
SNTG	**Esanatoglia**	**144.17**	**327**	PKP		PKPdf	04 44 19.8	-0.3
SFI	**Santa Sofia**	**144.26**	**329**	PKIKP		PKPdf	04 44 21.1	+0.9
ZCCA	**Zocca**	**144.36**	**330**	PKP		PKPdf	04 44 21.6	+1.2
NRCA	**Norcia**	**144.37**	**327**	PKP		PKPdf	04 44 20.2	-0.2
VMG	**Vicchio**	**144.37**	**329**	PKP		PKPdf	04 44 21.5	+1.1
CRE	**Caprese Michel**	**144.42**	**329**	PKIKP		PKPdf	04 44 21.2	+0.7
ASS	**Assisi**	**144.45**	**327**	PKIKP		PKPdf	04 44 20.3	-0.3
AQU	**L'Aquila**	**144.54**	**326**	*e*PKIKP		PKPdf	04 44 20.4	-0.3
GSCL	**Gusciola**	**144.54**	**331**	PKP		PKPdf	04 44 21.5	+0.8
TIP	**Timpagrande**	**144.55**	**319**	*e*PKPdf		PKPdf	04 44 20.8	+0.1
ERBM	**Eremo**	**144.57**	**331**	PKP		PKPdf	04 44 21.7	+0.9
SGO	**Sicignano**	**144.62**	**322**	PKIKP		PKPdf	04 44 20.7	-0.1
ORO	**Oropa**	**144.71**	**335**	PKIKP		PKPdf	04 44 21.7	+0.7
FLN	**La Foliniere**	**144.71**	**346**	*e*PKP1		PKPdf	04 44 21.3	+0.3
	comp=Z,30nm,0.7s							
VVLD	**Villa Vallelon**	**144.75**	**325**	PKP		PKPdf	04 44 20.9	-0.2
SDI	**San Donato**	**144.75**	**325**	PKIKP		PKPdf	04 44 20.8	-0.3
FIAM	**Fiamignano**	**144.76**	**326**	PKP		PKPdf	04 44 21.2	+0.1
LDF	**La Druitiere**	**144.78**	**345**	*e*PKP1		PKPdf	04 44 21.9	+0.8
	comp=Z,26nm,0.7s							
CSNT	**Castellina Chi**	**144.85**	**329**	PKP		PKPdf	04 44 20.5	-0.7
MNS	**Montasola**	**144.91**	**326**	PKIKP		PKPdf	04 44 21.1	-0.2
PII	**Pisa**	**145.04**	**330**	PKP2		PKPab	04 44 21.2	-0.3
SSF	**Saint Saulge**	**145.15**	**340**	*e*PKP1		PKPbc	04 44 22.4	+0.7
	comp=Z,67nm,0.8s							
GRR	**Gorron**	**145.15**	**346**	*e*PKP1		PKPbc	04 44 22.2	+0.5
	comp=Z,57nm,0.8s							
HYF	**Humbligny**	**145.24**	**342**	*e*PKP1		PKPbc	04 44 22.9	+1.0
LPL	**La Plagne**	**145.30**	**336**	*e*PKP1		PKPbc	04 44 23.5	+1.4
	comp=Z,26nm,0.6s							
LPG	**La Plagne**	**145.31**	**336**	*e*PKP1		PKPbc	04 44 23.3	+1.1
	comp=Z,27nm,0.5s							
SMF	**Signal de Mont**	**145.40**	**340**	*e*PKP1		PKPbc	04 44 22.6	+0.1
	comp=Z,115nm,1.2s							
AVF	**Avril sur Loir**	**145.44**	**340**	*e*PKP1		PKPbc	04 44 22.5	-0.1
	comp=Z,46nm,1.1s							
SGMF	**Saint Gilles**	**145.64**	**348**	*e*PKP1		PKPbc	04 44 23.3	+0.1
	comp=Z,111nm,1.2s							
ROSF	**Rostrenen**	**145.70**	**349**	*e*PKP1		PKPbc	04 44 23.4	0.0
BNI	**Bardonecchia**	**145.71**	**335**	*e*PKP2		PKPab	04 44 24.1	+0.1
FIN	**Finale Ligure**	**145.74**	**333**	PKP2		PKPab	04 44 23.5	-0.6
BGF	**Bois d'Agland**	**145.80**	**341**	*e*PKP1		PKPbc	04 44 23.7	0.0
	comp=Z,15nm,0.5s							
MTTG	**Motta San Giov**	**145.90**	**318**	PKP		PKPdf	04 44 25.3	+2.3
DOI	**San Damiano**	**145.92**	**334**	PKIKP		PKPdf	04 44 23.2	+0.1
MBDF	**Montbardon**	**145.94**	**335**	*e*PKP1		PKPbc	04 44 24.9	+0.8
	comp=Z,15nm,0.6s							
QUIF	**Quistinic**	**146.09**	**348**	*e*PKP1		PKPbc	04 44 25.1	+0.6
ORIF	**Oris-en-Rattie**	**146.14**	**336**	*e*PKP1		PKPbc	04 44 25.4	+0.7
	comp=Z,43nm,0.7s							
TCF	**Toulx Ste Croi**	**146.24**	**341**	*e*PKP1		PKPbc	04 44 25.6	+0.6
	comp=Z,23nm,0.9s							
SBF	**Sospel**	**146.35**	**333**	*e*PKP1		PKPbc	04 44 26.1	+0.8
	comp=Z,87nm,0.8s							
MFF	**Saint Martin d**	**146.63**	**344**	*e*PKP1		PKPbc	04 44 26.7	+0.6
	comp=Z,73nm,1.0s							
VIVF	**Saint-Julien-l**	**146.65**	**337**	*e*PKP1		PKPbc	04 44 27.0	+0.8
PGF	**Pioggiola**	**146.66**	**330**	*e*PKP1		PKPbc	04 44 26.9	+0.7
	comp=Z,73nm,0.9s							
FRF	**La Foret Royal**	**146.94**	**334**	*e*PKP1		PKPbc	04 44 27.6	+0.6
	comp=Z,43nm,0.9s							
SMRF	**Simiane la Rot**	**147.04**	**335**	*e*PKP1		PKPbc	04 44 28.0	+0.7
LMR	**La Mourre**	**147.18**	**334**	*e*PKP1		PKPbc	04 44 28.1	+0.5
RJF	**Les Rejaudoux**	**147.34**	**341**	*e*PKP1		PKPbc	04 44 29.5	+1.4
	comp=Z,14nm,0.6s							
CAF	**Calviac**	**147.50**	**340**	*e*PKP1		PKPbc	04 44 30.3	+1.8
LASF	**Ste Croix**	**147.62**	**337**	*e*PKP1		PKPbc	04 44 29.7	+0.9
LFF	**La Frestale**	**147.91**	**342**	*e*PKP1		PKPbc	04 44 30.5	+0.9
	comp=Z,52nm,0.8s							
MTLF	**Montolieu**	**148.85**	**339**	*e*PKP1		PKPbc	04 44 32.8	+0.8
	comp=Z,39nm,0.9s							
EPF	**Esparros**	**149.75**	**341**	*e*PKP1		PKPbc	04 44 35.3	+1.0
	comp=Z,7.3nm,0.5s							
SJPF	**Ste Jean**	**150.15**	**343**	*e*PKP1		PKPbc	04 44 36.4	+1.2
ETSF	**Etsaut**	**150.15**	**342**	*e*PKP1		PKPbc	04 44 36.4	+1.2
	comp=Z,16nm,0.6s							
KEST	**Kesra**	**151.31**	**320**	PKPbc		PKPbc	04 44 39.3	+1.3
	comp=Z,3.1nm,0.6s,baz=58,slow=1.3,SNR=19							
ESDC	**Sonseca Array**	**154.10**	**344**	PKPbc		PKPbc	04 44 46.2	+2.1
	comp=Z,1.0nm,0.7s,baz=297,slow=38,SNR=3.6							
ESDC				PKPab		PKPab	04 44 59.5	+1.2
	comp=Z,1.4nm,0.7s,baz=7.1,slow=6.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**165.93**	**265**	PKP		PKPdf	04 44 50.9	+1.9
	comp=Z,0.9nm,0.8s,baz=192,slow=1.3,SNR=9.1							
TORD				PKPab		PKPab	04 45 50.8	+1.0
	comp=Z,4.4nm,0.8s,baz=97,slow=3.7,SNR=18							
TORD	**Torodi Ar. Bea**	**165.93**	**265**	PKP		PKPdf	04 44 50.9	+1.9
TORD				PKPab		PKPab	04 45 50.8	+1.0

IDC 28 04:31:45.4±4.2, 4567N×15200E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=131.4km s-min=40.5km az=11.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.76**	**298**	P	P	04 40 16.

comp=Z,7.2nm,0.5s,mb4.9
COLA College 86.01 24 *e*P **P** 04 59 16.9 -1.7
comp=Z,2.9nm,0.5s,mb4.5
DAWY Dawson 89.25 25 *e*P **P** 04 59 34.3 +0.1
INK Inuvik 92.41 22 P **P** 04 59 50.0 +1.1
comp=Z,0.7nm,0.4s,mb4.2,baz=259,slow=5.5,SNR=4.4
INK Inuvik 92.41 22 P **P** 04 59 50.0 +1.1
LBTB Lobatse 112.49 240 PKPdf PKiKP 05 05 15.2 +1.5
TORD Torodi Ar. Bea 141.52 284 PKhKP 05 06 03.4
comp=Z,0.8nm,0.7s,baz=46,slow=2.6,SNR=9.3
SIV San Ignacio 147.73 132 PKPbc PKPbc 05 06 26.8 +4.4
comp=Z,1.5nm,0.8s,baz=240,slow=4.6,SNR=7.0

*ISCJB **28** 04:57:03.3±0.5, 3146N±009×4177W±008, h10km, mb4.3/26, MS3.8/12, Error ellipse: s-maj=13.1km s-min=8.9km az=145.1*
*IDC **28** 04:57:03.6±0.6, 3146N×4175W, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/28, mbtmp4.1/17, MS3.8/12, Ms1 3.8/12, ms1mx3.5/29, Error ellipse: s-maj=19.5km s-min=13.7km az=158.0*
*NEIC **28** 04:57:05.1±0.3, 3144N×4175W, h10km, mb4.6/9, Error ellipse: s-maj=9.6km s-min=6.6km az=162.0*
ISC 28 04:57:05.4±0.5, 3150N±009×4175W±008, h10km, n44, σ0§70/37, mb4.3/26, MS3.8/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.35**	**330**	LR	LR	05 13 20.3	
	comp=Z,129nm,20.6s,MS3.5,baz=175,slow=33						
PCRV	**Torodi La Cruz**	**30.00**	**230**	LR	LR	05 12 20.7	
	comp=Z,78nm,20.5s,MS3.3,baz=84,slow=31						
MDT	**Midelt**	**31.36**	**78**	P	**P**	**05 03 26.9**	**+0.8**
	1.6nm,1.1s,mb3.8,baz=304,slow=8.6,SNR=3.7						
SDV	**Santo Domingo**	**35.03**	**236**	P	**P**	**05 03 59.4**	**+1.2**
	9.6nm,1.0s,mb4.7,baz=66,slow=5.8,SNR=8.9						
SDV	**Santo Domingo**	**35.03**	**236**	P	**P**	**05 03 59.4**	**+1.2**
EKA	**Eskdalemuir Ar**	**36.08**	**37**	P	**P**	**05 04 07.1**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=242,slow=7.7,SNR=6.2						
ROSC	**El Rosal**	**40.45**	**236**	LR	LR	05 19 45.5	
	comp=Z,104nm,18.6s,MS3.7,baz=62,slow=34						
TORD	**Torodi Ar. Bea**	**43.81**	**105**	P	**P**	**05 05 11.6**	**+0.2**
	1.3nm,0.6s,mb3.9,baz=311,slow=6.3,SNR=16						
TORD				LR	LR	05 20 05.1	
	comp=Z,77nm,21.8s,MS3.6,baz=320,slow=32						
ULM	**Lac du Bonnet**	**43.95**	**311**	LR	LR	05 24 41.5	
	comp=Z,71nm,18.2s,MS3.6,baz=7.4,slow=38						
KHC	**Kasperske Hory**	**44.66**	**50**	*e*PKP	**P**	**05 05 18.5**	**+0.3**
GERES	**GERESS Array B**	**44.74**	**51**	P	**P**	**05 05 18.6**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=263,slow=6.6,SNR=4.6						
SAML	**Samuel**	**45.15**	**211**	*e*P	**P**	**05 05 21.3**	**-0.8**
	4.8nm,1.2s,mb4.2						
NB2	**NORSAR Subarra**	**45.20**	**33**	P	**P**	**05 05 22.9**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.8,baz=253,slow=7.9						
NOA	**NORSAR Array B**	**45.20**	**33**	P	**P**	**05 05 23.4**	**+0.8**
	comp=Z,4.3nm,1.0s,mb4.2,baz=254,slow=8.2,SNR=4.6						
JCT	**Junction City**	**49.26**	**285**	*e*P	**P**	**05 05 53.0**	**-1.2**
	comp=Z,4.6nm,0.3s,mb5.0						
AMTX	**Amarillo**	**49.62**	**291**	*e*P	**P**	**05 05 57.3**	**+0.4**
	comp=Z,3.4nm,0.6s,mb4.5						
SIV	**San Ignacio**	**50.73**	**204**	P	**P**	**05 06 04.5**	**-0.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=19,slow=2.4,SNR=6.5						
FINES	**FINESS Array B**	**52.35**	**34**	P	**P**	**05 06 18.0**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.3,baz=260,slow=4.3,SNR=9.3						
KAF	**Kangasniemi**	**52.48**	**33**	*e*p	**P**	**05 06 14.3**	**-4.2**
KBS	**Kingsbay**	**52.56**	**11**	P	**P**	**05 06 16.5**	**-2.5**
	comp=Z,22nm,0.8s,mb5.1						
TXAR	**Lajitas Array**	**52.81**	**285**	P	**P**	**05 06 21.1**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.7,baz=100,slow=8.3,SNR=6.6						
TXAR				LR	LR	05 25 21.0	
	comp=Z,82nm,19.5s,MS3.8,baz=0.0,slow=32						
ANMO	**Albuquerque**	**53.40**	**292**	LR	LR	05 26 39.8	
	comp=Z,98nm,21.6s,MS3.8,baz=355,slow=33						
GCMT	**Greycliff**	**53.41**	**306**	*e*P	**P**	**05 06 25.4**	**+0.1**
BNM	**Barren Site**	**53.76**	**291**	*e*P	**P**	**05 06 28.1**	**+0.2**
LPAZ	**La Paz**	**53.84**	**212**	P	**P**	**05 06 28.7**	**+0.2**
	comp=Z,2.3nm,1.0s,mb4.1,baz=4.9,slow=7.4,SNR=7.9						
LPAZ				LR	LR	05 27 46.2	
	comp=Z,44nm,19.0s,MS3.5,baz=121,slow=34						
PDAR	**Pinedale Array**	**53.89**	**302**	P	**P**	**05 06 28.7**	**-0.1**
	comp=Z,4.8nm,1.0s,mb4.4,baz=80,slow=8.1,SNR=25						
PDAR				LR	LR	05 27 34.6	
	comp=Z,192nm,18.6s,MS4.2,baz=102,slow=34						
AKASG	**Malin Array Be**	**54.66**	**47**	P	**P**	**05 06 34.0**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.1,baz=272,slow=6.9,SNR=8.5						
EDM	**Edmonton**	**54.72**	**316**	*e*P	**P**	**05 06 34.5**	**-0.4**
YKA	**Yellowknife Ar**	**54.73**	**327**	P	**P**	**05 06 34.2**	**-0.7**
	comp=Z,2.7nm,1.0s,mb4.2,baz=81,slow=7.0,SNR=8.1						
YKA				LR	LR	05 28 46.7	
	comp=Z,108nm,20.3s,MS3.9,baz=20,slow=35						
YKA	**Yellowknife Ar**	**54.73**	**327**	P	**P**	**05 06 34.2**	**-0.7**
YKA				LR	LR	05 28 46.7	
HWUT	**Hardware Ranch**	**55.60**	**301**	*e*P	**P**	**05 06 41.6**	**+0.4**
NEW	**Newport**	**57.93**	**310**	P	**P**	**05 06 57.8**	**+0.1**
	comp=Z,6.0nm,1.0s,mb4.6,baz=71,slow=4.7,SNR=6.8						
BRTR	**Keskin Array B**	**60.19**	**59**	P	**P**	**05 07 12.1**	**-1.3**
	comp=Z,1.6nm,1.0s,mb4.0,baz=291,slow=4.9,SNR=7.4						
NVAR	**Mina Array Bea**	**61.46**	**300**	P	**P**	**05 07 22.3**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.2,baz=74,slow=7.7,SNR=5.2						
INK	**Inuvik**	**61.78**	**335**	P	**P**	**05 07 24.2**	**-0.1**
	comp=Z,6.6nm,1.0s,mb4.7,baz=102,slow=8.0,SNR=6.8						
INK	**Inuvik**	**61.78**	**335**	*e*P	**P**	**05 07 24.0**	**-0.3**
	comp=Z,374nm,1.3s						
OHCM	**Honcut**	**63.50**	**301**	*e*P	**P**	**05 07 35.9**	**+0.2**
MALT	**Malatya**	**64.17**	**59**	*e*P	**P**	**05 07 40.6**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.0						
COLA	**College**	**68.35**	**334**	*e*P	**P**	**05 08 07.3**	**+0.4**
	comp=Z,4.6nm,0.9s,mb4.5						
MCK	**McKinley**	**69.31**	**333**	*e*P	**P**	**05 08 13.3**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.2						
PMR	**Palmer**	**70.46**	**331**	*e*P	**P**	**05 08 27.1**	**+7.1**
	comp=Z,14nm,0.7s,mb5.0						
KDAK	**Kodiak Island**	**73.97**	**329**	LR	LR	05 41 31.7	
	comp=Z,114nm,19.7s,MS4.2,baz=286,slow=36						
TIXI	**Tiksi**	**76.93**	**3**	*e*P	**P**	**05 08 58.9**	**+1.0**
	comp=Z,0.9nm,0.4s,mb4.0						
KMBO	**Kilima Mbogo**	**81.21**	**97**	LR	LR	05 44 43.5	
	comp=Z,108nm,19.3s,MS4.2,baz=277,slow=35						

*ISCJB **28** 05:07:25.5±1.5, 2425×05×1798E±03, h500km, mb4.0/9, Error ellipse: s-maj=75.6km s-min=22.5km az=146.1*
*IDC **28** 05:07:25.2±3.7, 2382S×1797E, h479km±35km, mb3.3/4, mb1 3.6/4, mb1mx3.2/12, mbtmp3.3/4, Error ellipse: s-maj=119.4km s-min=27.5km az=161.0*
*NEIC **28** 05:07:26.3±1.1, 2427S×1798E, h500km, mb4.3/5, Error ellipse: s-maj=61.5km s-min=18.4km az=163.0*
ISC 28 05:07:26.7±1.5, 2435±05×1799E±03, h500km, n13, σ0§49/13, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**31.38**	**271**	*e*P	**P**	**05 13 06.6**	**+0.9**
	9.6nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**34.48**	**249**	P	**P**	**05 13 32.6**	**+0.6**
	1.9nm,0.5s,mb3.8,baz=87,slow=9.4,SNR=5.1						
STKA	**Stephens Creek**	**34.48**	**249**	*e*P	**P**	**05 13 32.0**	**0.0**
AS31	**Alice Springs**	**41.87**	**261**	*e*P	**P**	**05 14 32.5**	**+0.2**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**05 14 32.5**	**+0.1**
	0.9nm,0.4s,mb3.6,baz=94,slow=7.1,SNR=20						
ASPA	**Alice Springs**	**41.87**	**261**	*e*P	**P**	**05 14 32.5**	**+0.2**
WB2	**Warramunga Arr**	**42.27**	**267**	*e*P	**P**	**05 14 35.1**	**-0.4**
WRAB	**Tennant Creek**	**42.27**	**267**	*e*P	**P**	**05 14 34.9**	**-0.6**
	3.0nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**05 14 35.2**	**-0.3**
	3.0nm,0.3s,mb4.1,baz=104,slow=8.1,SNR=99						
WRA				ScP	ScP	05 19 22.9	+2.3
	0.9nm,0.9s,baz=100,slow=4.0,SNR=4.9						
FORT	**Forrest**	**46.08**	**250**	*e*P	**P**	**05 15 04.4**	**-0.6**
	7.9nm,0.6s,mb4.3						
KAKA	**Kakadu**	**46.24**	**276**	*e*P	**P**	**05 15 05.6**	**-0.7**
	2.0nm,0.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	*e*P	**P**	**05 15 40.2**	**+0.8**
	3.7nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**90.73**	**58**	P	**P**	**05 19 35.8**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=216,slow=7.5,SNR=6.7						

*NEIC **28** 05:18:21.8, 1839N×9476W, h20km, MD4.0(MEX), After MEX.*
MEX 28 05:18:21.6±0.7, 1837N×9467W, h44km±14km, MD4.0, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.41**	**145**	*i* P	Pn	05 18 29.7	-1.6
TUIG				*i* S	Sn	05 18 36.6	-1.6
TUIG	**Tuzandepetl**	**0.41**	**145**	*i* P	Pn	05 18 29.7	-1.6
TUIG				*i* S	Sn	05 18 36.4	-1.9
OXX	**Oaxaca**	**2.34**	**237**	*i* P	Pn	05 18 57.0	-0.6
OXX				*i* S	Sn	05 19 23.0	-2.1
VHO	**Vista Hermosa**	**2.35**	**237**	*i* P	Pn	05 18 57.3	-0.4
VHO				*i* S	Sn	05 19 23.7	-1.7
VHO	**Vista Hermosa**	**2.35**	**237**	*i* P	Pn	05 18 57.0	-0.7
VHO				*i* S	Sn	05 19 22.9	-2.5
TPIG	**Tehuac#an**	**2.56**	**272**	*i* P	Pn	05 18 58.9	-1.6
TPIG				*i* S	Sn	05 19 29.1	-1.3
HUIG	**Huatulco**	**2.93**	**208**	*i* P	Pn	05 19 03.5	-2.2
HUIG				*i* S	Sn	05 19 37.9	-1.7
HUIG	**Huatulco**	**2.93**	**208**	*i* P	Pn	05 19 03.6	-2.1
HUIG				*i* S	Sn	05 19 37.9	-1.7
UTMO	**Huajuapan**	**3.03**	**260**	*e*P	Pn	05 19 05.5	-1.5
UTMO				*i* S	Sn	05 19 40.6	-1.4
CCIG	**Comitan**	**3.19**	**130**	*e*P	Pn	05 19 08.5	-0.7
CCIG				*i* S	Sn	05 19 44.9	-1.1
CCIG	**Comitan**	**3.19**	**130**	*e*P	Pn	05 19 09.5	+0.3
CCIG				*i* S	Sn	05 19 50.4	+4.5
TEIG	**Tepich**	**6.31**	**72**	*e*P	Pn	05 19 52.3	+0.2
TEIG				*i* S	Sn	05 21 02.0	-0.9

*ISCJB **28** 05:19:44.3±1.9, 532S±008×14585E±008, h67km±17km, mb4.3/14, Error ellipse: s-maj=13.6km s-min=12.4km az=147.9*
*NEIC **28** 05:19:46.6±1.8, 525S×14583E, h80km±15km, mb4.7/7, Error ellipse: s-maj=14.6km s-min=10.6km az=164.0*
*IDC **28** 05:19:46.4±2.5, 540S×14576E, h70km±23km, mb4.2/9, mb1 4.4/13, mb1mx4.3/18, mbtmp4.4/13, MS3.3/9, Ms1 3.3/9, ms1mx3.1/27, Error ellipse: s-maj=20.5km s-min=12.5km az=95.0*
ISC 28 05:19:46.8±1.5, 535S±008×14585E±007, h75km±14km, n31, σ0§85/30, mb4.3/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.24**	**162**	P	**Pn**	**05 20 48.4**	**-0.5**
	87nm,0.3s,baz=26,slow=6.0,SNR=105						
PMG				S	**Sn**	**05 21 35.9**	**-1.1**
	95nm,0.3s,baz=99,slow=22,SNR=5.9						
PMG				LR	LR	05 22 14.6	
	comp=Z,197nm,21.8s,baz=22,slow=35						
HNR	**Honiara**	**14.56**	**107**	P	**Pn**	**05 23 09.8**	**+1.0**
	26nm,0.3s,baz=157,slow=1.9,SNR=3.8						
CTA	**Charters Tower**	**14.65**	**178**	*e*P	**Pn**	**05 23 13.8**	**+3.7**
	4.9nm,0.3s						
CTA	**Charters Tower**	**14.65**	**178**	P	**Pn**	**05 23 11.4**	**+1.3**
	2.8nm,0.3s,baz=357,slow=13,SNR=15						
CTAO	**Charters Tower**	**14.65**	**178**	*e*Pn	**Pn**	**05 23 11.3**	**+1.2**
	8.2nm,0.6s						
KAKA	**Kakadu**	**15.12**	**240**	*e*P	**Pn**	**05 23 17.2**	**+1.1**
	68nm,0.5s						
WRAB	**Tennant Creek**	**18.31**	**217**	*e*P	**Pn**	**05 23 54.0**	**-1.6**
	9.8nm,0.7s						
WB2	**Warramunga Arr**	**18.32**	**217**	*e*P	**Pn**	**05 23 55.2**	**-0.5**
WRA	**Warramunga Arr**	**18.32**	**217**	P	**Pn**	**05 23 55.0**	**-0.8**
	1.1nm,0.3s,baz=41,slow=12,SNR=51						
WRA				LR	LR	05 31 27.8	
	comp=Z,86nm,21.2s,baz=55,slow=38						
GUMO	**Guam**	**18.84**	**357**	LR	LR	05 30 22.5	
	comp=Z,31nm,19.6s,baz=51,slow=34						
AS31	**Alice Springs**	**21.54**	**211**	*e*P	**P**	**05 24 31.2**	**+1.4**
ASAR	**Alice Springs**	**21.54**	**211**	P	**P**	**05 24 29.9**	**0.0**
	3.7nm,0.7s,mb3.8,baz=45,slow=7.5,SNR=32						
ASAR				S	**S**	**05 28 23.4**	**-0.9**
	1.3nm,1.0s,baz=33,slow=22,SNR=4.3						
ASAR				LR	LR	05 32 55.2	
	comp=Z,61nm,19.4s,baz=35,slow=37						
ASPA	**Alice Springs**	**21.54**	**211**	*e*P	**P**	**05 24 31.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**23.46**	**236**	*e*P	**P**	**05 24 48.6**	**-0.9**
	20nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**23.46**	**236**	P	**P**	**05 24 49.0**	**-0.5**
	8.4nm,0.5s,mb4.4,baz=54,slow=8.5,SNR=42						
FITZ				LR	LR	05 34 05.3	
	comp=Z,80nm,20.3s,baz=154,slow=37						
ARMA	**Armidale**	**25.52**	**168**	*e*P	**P**	**05 25 09.2**	**+0.9**
DZM	**Mont Dzumac**	**25.95**	**132**	P	**P**	**05 25 12.1**	**-0.1**
	13nm,0.8s,mb4.4,baz=337,slow=4.2,SNR=10						
DZM				LR	LR	05 34 27.4	
	comp=Z,138nm,19.8s,baz=143,slow=34						
STKA	**Stephens Creek**	**26.69**	**188**	P	**P**	**05 25 18.4**	**-0.4**
	6.5nm,0.8s,mb4.2,baz=359,slow=9.2,SNR=10						
STKA				LR	LR	05 35 36.2	
	comp=Z,107nm,21.7s,baz=24,slow=36						
FORT	**Forrest**	**30.33**	**211**	*e*P	**P**	**05 25 51.2**	**0.0**
	19nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**37.07**	**222**	*e*P	**P**	**05 26 50.4**	**+0.8**
	8.0nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**38.26**	**221**	*e*P	**P**	**05 26 60.0**	**+0.4**
	4.7nm,0.8s,mb4.4						
JNU	**Nakatsue**	**40.81**	**341**	LR	LR	05 41 16.9	
	comp=Z,96nm,21.6s,baz=276,slow=32						
RPZ	**Rata Peaks**	**44.19**	**154**	P	**P**	**05 27 49.0**	**+0.7**
	22nm,0.8s,mb5.0,baz=91,slow=1.4,SNR=6.4						
KSRS	**Korea Array**	**45.74**	**340**	P	**P**	**05 28 00.7**	**+0.1**
	5.3nm,0.8s,mb4.3,baz=156,slow=9.1,SNR=11						
KSRS				LR	LR	05 47 41.5	
	comp=Z,37nm,18.6s,baz=86,slow=37						
SONM	**Songino Array**	**63.28**	**331**	P	**P**	**05 30 07.5**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=157,slow=8.0,SNR=4.0						
VNDA	**Vanda**	**72.63**	**176**	P	**P**	**05 31 06.0**	**-0.2**
	5.3nm,0.6s,mb4.5,baz=329,slow=6.4,SNR=52						
MKAR	**Makanchi Array**	**76.27**	**321**	P	**P**	**05 31 27.1**	**-0.3**
	1.5nm,0.9s,mb3.7,baz=98,slow=8.9,SNR=4.7						
MAW	**Mawson**	**82.40**	**203**	P	**P**	**05 32 01.0**	**+0.3**
	3.4nm,0.8s,mb4.2,baz=96,slow=8.8,SNR=5.8						
QSPA	**South Pole Qui**	**84.61**	**180**	*e*P	**P**	**05 32 11.6**	**-0.4**
	5.9nm,0.9s,mb4.5						
DAWY	**Dawson**	**88.17**	**25**	*e*P	**P**	**05 32 27.4**	**-2.0**
DAWY				*e*pP	pP	05 32 49.3	-0.5
TORD	**Torodi Ar. Bea**	**143.82**	**285**	PKhKP		05 39 11.4	
	0.7nm,0.7s,baz=72,slow=4.0,SNR=6.4						

*ISCJB **28** 05:25:11.7±0.2, 4276N±001×19.16E±002, h10km, Error ellipse: s-maj=2.3km s-min=2.0km az=109.2*
*PDG **28** 05:25:11.1±0.1, 4278N×19.15E, h9km±1km*
*CSEM **28** 05:25:11.1±0.1, 4276N×19.19E, h8km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.6km az=93.0*
*NEIC **28** 05:25:11.7±0.2, 4278N×1915E, h9km, ML3.2(PDG), After PDG.*
*PRU **28** 05:25:12.5, 4292N×1970E, h0km*
ISC 28 05:25:12.8±0.2, 4275N±001×1918E±002, h10km, n64, σ1§48/105, 14C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKY	**Niksic**	**0.15**	**296**	⇑*i*Pg	**Pg**	**05 25 13.5**	**-2.7**
NKY				*e*Sg	**Sg**	**05 25 16.1**	**-2.4**
NKY	**Niksic**	**0.15**	**296**	⇑*i*Pg	**Pg**	**05 25 13.5**	**-2.7**
NKY				*e*Sg	**Sg**	**05 25 16.1**	**-2.4**
TTG	**Podgorica**	**0.32**	**170**	⇓*i*Pg	**Pg**	**05 25 17.8**	**-1.4**
TTG				*e*Sg	**Sg**	**05 25 23.4**	**-0.1**
BUM	**Brajici-Budva**	**0.49**	**205**	⇓*i*Pg	**Pg**	**05 25 20.6**	**-1.9**
BUM				*e*Sg	**Sg**	**05 25 28.4**	**-0.5**
BUM	**Brajici-Budva**	**0.49**	**205**	⇓*i*Pg	**Pg**	**05 25 20.5**	**-1.9**
BUM				*e*Sg	**Sg**	**05 25 28.4**	**-0.5**
BRY	**Bratogost**	**0.49**	**288**	⇑*i*Pg	**Pg**	**05 25 19.6**	**-2.8**
BRY				*e*Sg	**Sg**	**05 25 27.0**	**-2.0**
UPM	**Unac-Piva**	**0.50**	**336**	⇓*i*Pg	**Pg**	**05 25 19.8**	**-2.8**
UPM				*e*Sg	**Sg**	**05 25 27.2**	**-1.9**
IVA	**Berane**	**0.54**	**76**	⇓*i*Pg	**Pg**	**05 25 21.6**	**-1.8**
IVA				*e*Sg	**Sg**	**05 25 30.3**	**-0.2**
IVA	**Berane**	**0.54**	**76**	⇓*i*Pg	**Pg**	**05 25 21.5**	**-1.8**
IVA				*e*Sg	**Sg**	**05 25 30.3**	**-0.2**
HCY	**Herceg Novi**	**0.59**	**240**	⇓*i*Pg	**Pg**	**05 25 21.9**	**-2.3**
HCY				*e*Sg	**Sg**	**05 25 31.1**	**-0.8**
PVY	**Plav**	**0.60**	**104**	⇑*i*Pg	**Pg**	**05 25 22.8**	**-1.7**
PVY				*e*Sg	**Sg**	**05 25 33.0**	**+0.6**
PLE	**Pljevlja**	**0.60**	**15**	⇓*i*Pg	**Pg**	**05 25 22.0**	**-2.6**
PLE				*e*Sg	**Sg**	**05 25 31.1**	**-1.3**
PLE	**Pljevlja**	**0.60**	**15**	⇓*i*Pg	**Pg**	**05 25 22.0**	**-2.5**
PLE				*e*Sg	**Sg**	**05 25 31.1**	**-1.3**
TREB	**Trebinje**	**0.61**	**268**	P	**Pg**	**05 25 22.1**	**-2.6**
TREB				S	**Sg**	**05 25 31.1**	**-1.7**
SJES	**Sjenica**	**0.76**	**47**	Pg	**Pg**	**05 25 25.9**	**-1.6**
SJES				Sg	**Sg**	**05 25 39.4**	**+1.9**
ULC	**Ulcinj**	**0.78**	**176**	⇑*i*Pg	**Pg**	**05 25 26.2**	**-1.7**
ULC				*e*Sg	**Sg**	**05 25 38.9**	**+0.8**
PUK	**Puka**	**0.88**	**143**	*i* Pn	**Pn**	**05 25 29.7**	**-1.5**
PUK				*i* Sn	**Sn**	**05 25 46.0**	**+2.0**
STON	**Ston**	**1.10**	**277**	*i* Pn	**Pn**	**05 25 30.1**	**-4.1**
STON				*i* Sg	**Sg**	**05 25 49.0**	**+0.8**
BBLS	**Bajina Basta -**	**1.13**	**8**	*i* Pg	**Pg**	**05 25 32.9**	**-1.7**
BBLS				Sg	**Sg**	**05 25 50.9**	**+1.5**
BBLS	**Bajina Basta -**	**1.13**	**8**	Pg	**Pg**	**05 25 32.9**	**-1.7**
BBLS				Sg	**Sg**	**05 25 50.8**	**+1.5**
PHP	**Peshkopia**	**1.41**	**138**	*i* Pn	**Pg**	**05 25 41.2**	**+1.3**
PHP				*i* Sn	**Sg**	**05 26 04.5**	**+6.2**
DIVS	**Divcibare**	**1.48**	**23**	*i* Pn	**Pn**	**05 25 38.5**	**-1.0**
DIVS				Sn	**Sn**	**05 26 01.0**	**+2.3**
DIVS	**Divcibare**	**1.48**	**23**	*e*P	**Pn**	**05 25 39.3**	**-0.1**
DIVS				*e*S	**Sn**	**05 25 59.4**	**+0.6**
DIVS	**Divcibare**	**1.48**	**23**	*e*P	**Pn**	**05 25 39.3**	**-0.1**
DIVS				Sn	**Sn**	**05 26 01.0**	**+2.2**
TIR	**Tirane**	**1.49**	**160**	*e*P	**Pn**	**05 25 40.0**	**+0.4**
TIR				*e*S	**Sn**	**05 26 00.4**	**+1.4**
SKO	**Skopje**	**1.84**	**114**	*e*Pn	**Pn**	**05 25 46.4**	**+1.9**
SKO				*e*Sn	**Sg**	**05 26 15.4**	**+3.4**
SKO	**Skopje**	**1.84**	**114**	*e*Pn	**Pn**	**05 25 46.3**	**+1.8**
SKO				*e*Sn	**Sg**	**05 26 15.4**	**+3.3**
SVIS	**Svilajnac**	**2.15**	**43**	*i* Pn	**Pn**	**05 25 47.0**	**-1.6**
KBN	**Korca**	**2.44**	**150**	*i* Pn	**Pg**	**05 25 58.5**	**-1.0**
KBN				*i* Sn	**Sg**	**05 26 32.3**	**+1.2**
FGSL	**Fruska Gora**	**2.45**	**10**	Sn	**Sn**	**05 26 22.6**	**-0.3**
STIP	**Stip**	**2.47**	**114**	*e*Pn	**Pn**	**05 25 56.0**	**+2.9**
STIP				*e*Sn	**Sg**	**05 26 30.8**	**-1.3**
STIP	**Stip**	**2.47**	**114**	*e*Pn	**Pn**	**05 25 55.9**	**+2.8**
FGMS	**Monte Sant'Ang**	**2.61**	**248**	Pg	**Pn**	**05 25 56.4**	**+1.3**
RGNG	**Rignano Grg**	**2.88**	**249**	Pg	**Pn**	**05 25 59.4**	**+0.7**
VTS	**Vitosha**	**2.97**	**92**	*e*S	**Sn**	**05 26 32.9**	**-2.8**
VTS	**Vitosha**	**2.97**	**92**	⇓*i*P	**Pn**	**05 26 01.0**	**+1.0**
FG5	**Orsara di Pugl**	**3.26**	**245**	Pg	**Pn**	**05 26 05.5**	**+1.5**
BZS	**Buzias**	**3.36**	**31**	⇓*i*P	**Pn**	**05 26 04.6**	**-0.8**
PKSM	**Moragy**	**3.49**	**354**	⇓*i*P	**Pn**	**05 26 05.8**	**-1.3**
PKSM	**Moragy**	**3.49**	**354**	⇑*e*P	**Pn**	**05 26 05.8**	**-1.3**
NVLJ	**Novalja**	**3.62**	**302**	*i* Pn	**Pn**	**05 26 09.7**	**+0.8**
NVLJ				*i* Sn	**Sn**	**05 26 54.9**	**+3.2**
NVLJ	**Novalja**	**3.62**	**302**	*i* Pn	**Pn**	**05 26 09.6**	**+0.7**
NVLJ				*i* Sn	**Sn**	**05 26 54.8**	**+3.2**
SGO	**Sicignano**	**3.63**	**234**	Pg	**Pn**	**05 26 09.1**	**0.0**
GZR	**Gura Zlata**	**3.70**	**43**	⇑*i*P	**Pn**	**05 26 09.3**	**-0.8**
BOJS	**Bojanci**	**3.95**	**316**	Pn	**Pn**	**05 26 14.0**	**+0.5**
BOJS				Sn	**Sn**	**05 27 00.8**	**+0.9**
GCIS	**Gornji Cirnik**	**4.03**	**322**	Pn	**Pn**	**05 26 13.3**	**+1.7**
GCIS				Sn	**Sn**	**05 27 07.9**	**+6.1**
CRES	**Cresnjev**	**4.08**	**320**	Pn	**Pn**	**05 26 16.0**	**+0.8**
CRES				Sn	**Sn**	**05 27 03.9**	**+0.8**
SDI	**San Donato**	**4.12**	**257**	Pg	**Pn**	**05 26 17.0**	**+1.2**
LEGS	**Legarje**	**4.24**	**320**	Pn	**Pn**	**05 26 17.8**	**+0.4**
AQU	**L'Aquila**	**4.29**	**267**	⇓*i*P	**Pb**	**05 26 24.1**	**-4.2**
VISS	**Visnje**	**4.37**	**316**	Pn	**Pn**	**05 26 20.6**	**+1.4**
NRCA	**Norcia**	**4.47**	**273**	Pg	**Pn**	**05 26 21.0**	**+0.4**
NRCA				Sn	**Sn**	**05 27 07.2**

comp=Z,1.9nm,1.0s,baz=88,slow=16,SNR=11
ASAR Alice Springs 44.59 254 P P 05 55 49.5 +0.7
ASAR 05 57 19.9
ASAR S S **06 01 42.9 -2.5**
ASPA Alice Springs 44.59 254 eP P 05 55 48.8 -0.1
KAKA Kakadu 47.35 269 ⇓iP P 05 56 09.6 -0.2
comp=Z,23nm,0.4s,mb5.1
FORT Forrest 49.83 245 ⇓iP P 05 56 27.7 -0.5
comp=Z,27nm,0.5s,mb4.9
FITZ Fitzroy Crossi 52.81 261 eP P 05 56 50.0 +0.2
comp=Z,8.8nm,0.6s,mb4.3
KLBR Kellerberrin 58.66 243 ⇓iP P 05 57 29.5 -0.8
comp=Z,12nm,0.5s,mb4.4
NWAO Narrogin (SRO) 59.05 242 eP P 05 57 32.6 -0.3
NWAO pmax pmax
comp=Z,8.0nm,0.8s
NWAO Narrogin (SRO) 59.05 242 eP P 05 57 32.6 -0.3
comp=Z,8.3nm,0.8s,mb4.0
MUN Mundaring 59.95 243 eP P 05 57 38.8 -0.2
MJAR Matsushiro Arr 67.69 323 P P 05 58 27.7 -0.5
comp=Z,3.3nm,0.5s,mb4.1,baz=155,slow=5.6,SNR=5.9
MAT Matsushiro 67.69 323 P P 05 58 27.2 -1.0
QSPA South Pole Qui 72.24 180 P P 05 58 54.8 -0.5
comp=Z,1.1nm,0.5s,mb3.5
KSM Kuching 72.44 277 eP P 05 58 56.7 +0.3
PET Petropavlovsk 73.22 346 eP P 05 58 56.5 -4.4
PET pmax pmax
comp=Z,23nm,0.7s,mb4.7
PET Petropavlovsk 73.22 346 eP P 05 58 56.5 -4.4
comp=Z,23nm,0.7s,mb4.7
HAST UC Hastings Re 76.24 44 ⇑P P 05 59 18.2 +0.3
baz=76
PKD Parkfield 76.67 45 ⇓P P 05 59 20.5 +0.3
baz=77
SMMC Simmler 76.69 46 ⇑P P 05 59 20.6 +0.3
baz=77
U04C Hernandez Rese 76.74 45 ⇓P P 05 59 21.2 +0.6
baz=77
PACP Pacheco Peak 76.77 44 ⇓P P 05 59 21.1 +0.3
baz=77
S04C Ingram Canyon, 77.02 43 ⇓P P 05 59 22.4 +0.3
baz=77
MNRC McLaughlin Nat 77.09 42 ⇓P P 05 59 23.1 +0.7
baz=77
Q03C Winters 77.22 42 ⇑P P 05 59 24.2 +1.0
baz=77
ARVC Arvin 77.39 47 ⇓P P 05 59 24.6 +0.5
baz=78
VES Vestal, Richgr 77.60 46 P P 05 59 25.1 -0.1
baz=78,SNR=5.5
O02C Red Bluff 77.63 40 ⇑P P 05 59 25.8 +0.3
baz=78
NJ2 Nanjing 77.69 310 eP P 05 59 25.5 -0.3
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
MURC Murrieta 77.73 49 ⇑P P 05 59 25.8 -0.2
baz=78
BFSC Mount Baldy St 77.74 48 ⇑P P 05 59 25.8 -0.2
baz=78
Q04C Lincoln 77.75 42 ⇑P P 05 59 26.2 +0.2
baz=78
RCTC Rector, Farmer 77.75 45 ⇓P P 05 59 26.4 +0.4
baz=78
T06C Millerton Lake 77.81 45 P P 05 59 26.0 -0.4
baz=78,SNR=8.0
EDW2 Edwards Air Fo 77.84 47 P P 05 59 26.9 +0.3
baz=78,SNR=7.5
ISA Isabella 77.92 46 eP P 05 59 27.4 +0.4
ISA Isabella 77.92 46 P P 05 59 27.4 +0.4
baz=78,SNR=9.0
CMB Columbia Colle 77.93 43 eP P 05 59 26.9 -0.2
CMB Columbia Colle 77.93 43 P P 05 59 27.0 0.0
baz=78,SNR=7.1
WDC Whiskeytown Da 78.02 40 ⇓P P 05 59 28.0 +0.5
baz=78
ORV Oroville 78.08 42 P P 05 59 27.3 -0.5
baz=78,SNR=5.9
HELL Mitchell Peak, 78.09 45 P P 05 59 27.7 -0.2
baz=78,SNR=6.6
LAVA Lava Cap Winer 78.11 43 ⇑P P 05 59 27.6 -0.4
baz=78
S06C San Francisco 78.20 44 ⇓P P 05 59 28.4 -0.1
baz=78
KCC Kaiser Creek 78.25 44 ⇓P P 05 59 28.9 +0.1
baz=78,SNR=5.5
M02C Callahan 78.31 39 ⇓P P 05 59 29.3 +0.2
baz=78
SWSC Sam W. Stewart 78.41 50 ⇑P P 05 59 29.7 +0.1
baz=78
P05C Yuba Gap, Truc 78.50 42 ⇓P P 05 59 30.1 0.0
baz=79
R05C Kirkwood Meado 78.51 43 ⇑P P 05 59 30.3 +0.2
baz=79
YBH Yreka Blue Hor 78.60 39 P P 05 59 30.9 +0.3
comp=Z,8.2nm,0.8s,mb4.1,baz=190,slow=0.9,SNR=13
YBH Yreka Blue Hor 78.60 39 ⇑P P 05 59 30.5 -0.1
baz=79
CWC Cottonwood Cre 78.61 46 ⇓P P 05 59 30.2 -0.4
baz=79
O05C Quincy 78.68 42 ⇑P P 05 59 31.2 +0.2
baz=79
M03C McCloud 78.69 40 ⇓P P 05 59 31.2 +0.1
baz=79
MLAC Mammoth Lakes 78.73 44 ⇑P P 05 59 32.6 +1.3
baz=79
MTUM Tungsten Hills 78.77 45 eP P 05 59 32.1 +0.6
O04C Chester 78.78 41 ⇓P P 05 59 31.7 +0.2
baz=79
BELC Belle Mtn. 78.80 49 ⇑P P 05 59 31.5 -0.2
baz=79
MPMC Manual Prospec 78.81 46 ⇑P P 05 59 31.9 +0.1
baz=79,SNR=8.7
R06C Coleville 78.82 43 P P 05 59 32.4 +0.6
baz=79,SNR=6.9
HATC Hat Creek Radi 78.83 41 ⇓P P 05 59 32.6 +0.8
baz=79
HUMO Hull Mountain 78.97 38 ⇓P P 05 59 32.7 +0.1
baz=79
BEKR Beckwourth 78.98 42 P P 05 59 32.6 -0.1
baz=79,SNR=8.1
WCN Washoe City 79.05 43 ⇑P P 05 59 33.5 +0.5
baz=79
M04C Macdoel 79.16 40 ⇑P P 05 59 33.8 +0.2
baz=79
P06A Stead Airport, 79.17 42 ⇓P P 05 59 33.8 +0.1
baz=79
GLA Glamis 79.18 50 ⇑P P 05 59 34.9 +1.2
baz=79
M05C Lookout 79.34 40 ⇑P P 05 59 34.9 +0.4
baz=80
L04A Klamath Falls 79.36 39 ⇑P P 05 59 35.2 +0.5
baz=80
GRAC Grapevine Rang 79.39 46 P P 05 59 35.1 +0.3
baz=80,SNR=6.8
GMRC Granite Mounta 79.43 48 ⇓P P 05 59 35.3 +0.2
baz=80
FURC Furnace Creek, 79.46 46 ⇑P P 05 59 35.4 +0.2
baz=80
Q07A Schurz 79.47 43 ⇑P P 05 59 35.5 +0.3
baz=80
O06A Flanigan 79.48 42 P P 05 59 35.6 +0.3
baz=80,SNR=8.0
IRM Iron Mountain 79.49 49 ⇓P P 05 59 35.8 +0.5
baz=80
NVAR Mina Array Bea 79.52 44 P P 05 59 35.5 0.0
comp=Z,7.2nm,0.8s,mb4.1,baz=230,slow=9.2,SNR=37
SHOC Shoshone 79.57 47 ⇑P P 05 59 36.0 +0.2
baz=80
R08A Mina 79.61 44 ⇑P P 05 59 36.2 +0.2
baz=80
M06C Likely Place G 79.66 41 P P 05 59 36.7 +0.5
baz=80,SNR=6.1
Y12C Blythe 79.74 50 ⇓P P 05 59 37.2 +0.6
baz=80
P07A Fallon 79.74 43 ⇑P P 05 59 36.9 +0.3
baz=80
U10A Ash Meadows, A 79.80 47 ⇓P P 05 59 37.4 +0.5
baz=80
N06A Buffalo Meadow 79.81 41 P P 05 59 36.9 -0.1
baz=80,SNR=7.0
J04A Umpqua Nationa 79.85 38 ⇓P P 05 59 37.5 +0.3
baz=80
S09A Goldfield 79.86 45 ⇓P P 05 59 37.5 +0.2
baz=80
Q08A Gabbs 80.00 44 P P 05 59 37.8 -0.2
baz=80,SNR=8.5
I04A Tendick Farm, 80.00 38 ⇑P P 05 59 38.1 +0.1
baz=80
O07A Toulon 80.09 42 P P 05 59 38.7 +0.2
baz=80,SNR=8.2
V11A Goodsprings 80.13 47 ⇓P P 05 59 39.3 +0.6
baz=80
MOD Modoc 80.17 40 eP P 05 59 38.8 -0.1
comp=Z,14nm,1.4s,mb4.1
MOD Modoc 80.17 40 ⇑P P 05 59 38.8 -0.1
baz=80
R09A Tonopah 80.24 45 P P 05 59 39.5 +0.2
baz=80,SNR=5.6
W12A Cal Nev Ari 80.25 48 ⇓P P 05 59 39.7 +0.3
baz=80
K05A Summer Lake 80.28 39 ⇓P P 05 59 39.6 +0.2
baz=80
PDMCI Parker Dam,Lak 80.28 49 ⇑P P 05 59 40.1 +0.6
baz=80
N07B Gerlach 80.37 42 ⇓P P 05 59 39.9 0.0
baz=80
U11A Corn Creek 80.46 47 ⇓P P 05 59 41.3 +1.0
baz=81
Q09A Carvers 80.48 44 ⇓P P 05 59 40.7 +0.2
baz=81
V12A Nelson 80.48 48 ⇑P P 05 59 41.2 +0.7
baz=81
M07A Soldier Meadow 80.58 41 P P 05 59 41.6 +0.5
baz=81,SNR=7.5
X13A Yucca 80.65 49 ⇓P P 05 59 41.7 +0.3
baz=81
SHPR Sheep Range 80.65 47 eP P 05 59 41.9 +0.5
Z14A Wintersburg 80.71 51 ⇑P P 05 59 42.7 +1.0
baz=81
K06A Valley Falls 80.71 39 P P 05 59 42.0 +0.3
baz=81,SNR=5.3
G04A Mulino 80.81 37 ⇓P P 05 59 42.1 -0.1
baz=81
L07A Adell 80.83 40 ⇑P P 05 59 42.8 +0.5
baz=81
W13A Hualapai Mount 80.86 49 ⇑P P 05 59 42.9 +0.4
baz=81
I05A Bend 80.89 38 ⇓P P 05 59 42.7 0.0
baz=81
N08A GE Springer Mi 80.90 42 P P 05 59 42.5 -0.2
baz=81,SNR=10
115A Sonoran Desert 80.93 52 ⇑P P 05 59 43.2 +0.4
baz=81
Y14A Wickenburg 80.94 50 P P 05 59 43.1 +0.2
baz=81,SNR=6.3
J06A Christmas Vall 81.02 39 ⇓P P 05 59 43.2 -0.1
baz=81
U12A Valley of Fire 81.05 47 ⇑P P 05 59 44.2 +0.7
baz=81
M08A Happy Creek Ra 81.11 41 ⇑P P 05 59 44.1 +0.4
baz=81
O09A Fish Creek Ran 81.18 43 P P 05 59 44.3 +0.2
baz=81,SNR=7.8
H05A Madras 81.19 37 ⇓P P 05 59 44.1 -0.1
baz=81
116A Eloy 81.25 52 ⇓P P 05 59 45.2 +0.6
baz=81
K07A Rock Creek Ran 81.26 40 P P 05 59 44.6 +0.1
baz=81,SNR=9.5
X14A Yava 81.27 50 P P 05 59 45.2 +0.6
baz=81,SNR=10
BMN Battle Mountai 81.30 43 eP P 05 59 44.6 -0.1
N09A Rock Creek Ran 81.33 42 ⇓P P 05 59 45.1 +0.2
baz=81
P10A Eureka 81.37 44 ⇓P P 05 59 45.3 +0.2
baz=82
I06A Prineville 81.38 39 ⇑P P 05 59 45.7 +0.5
baz=82
W14A Seligman 81.49 49 P P 05 59 46.4 +0.7
baz=82,SNR=8.8
WVOR Wild Horse Val 81.49 40 eP P 05 59 44.9 -0.8
WVOR pmax pmax
comp=Z,17nm,1.0s,mb4.4
WVOR Wild Horse Val 81.49 40 eP P 05 59 44.9 -0.8
comp=Z,17nm,1.0s,mb4.4
Q11A Duckwater 81.50 45 P P 05 59 46.0 +0.2
baz=82,SNR=14
L08A Fields 81.54 41 P P 05 59 46.0 +0.1
baz=82,SNR=14
J07A Hines 81.60 39 P P 05 59 46.5 +0.3
baz=82,SNR=5.4
M09A Marrel Ranch, 81.68 42 P P 05 59 47.3 +0.6
baz=82,SNR=6.5
O10A Cortez Mining, 81.69 43 ⇑P P 05 59 47.0 +0.2
baz=82
K08A Mann Creek Ran 81.75 40 P P 05 59 47.1 0.0
baz=82,SNR=13
X15A Humboldt 81.76 50 P P 05 59 47.6 +0.5
baz=82,SNR=15
H06A Lindquist Farm 81.76 38 P P 05 59 47.0 -0.1
baz=82,SNR=6.6
P11A Circle Ranch, 81.80 44 ⇓P P 05 59 47.5 +0.2
baz=82
TUC Tucson 81.83 52 eP P 05 59 47.9 +0.4
TUC pmax pmax
comp=Z,11nm,1.1s,mb4.2
TUC Tucson 81.83 52 eP P 05 59 47.9 +0.4
comp=Z,11nm,1.1s,mb4.2
L09A Wilkinson Ranc 81.87 41 P P 05 59 47.7 +0.1
baz=82,SNR=8.1
I07A Izee 81.88 39 P P 05 59 48.0 +0.3
baz=82,SNR=7.1
N10A Dunphy 81.91 43 ⇑P P 05 59 48.1 +0.2
baz=82
E05A Randle 82.01 36 ⇑P P 05 59 48.4 0.0
baz=82
W15A Williams 82.06 49 ⇓P P 05 59 49.5 +0.9
baz=82
J08A Circle Bar Ran 82.10 40 P P 05 59 49.0 +0.2
baz=82,SNR=10
F06A Goldendale 82.10 37 ⇓P P 05 59 48.3 -0.5
baz=82
H07A Lands Inn, Kim 82.13 38 P P 05 59 48.9 -0.1
baz=82,SNR=6.7
Q12A Willow Creek R 82.16 45 P P 05 59 49.1 0.0
baz=82,SNR=5.8
O11A Cowboy Ranch, 82.16 44 P P 05 59 49.6 +0.4
baz=82,SNR=12
K09A Rome 82.20 41 P P 05 59 49.2 -0.1
baz=82,SNR=14
D05A Enumclaw 82.26 35 ⇓P P 05 59 49.9 +0.3
baz=82
M10A I.L. Ranch, Tu 82.31 42 P P 05 59 50.5 +0.6
baz=82,SNR=9.1
P12A McGill 82.32 44 ⇓P P 05 59 50.1 +0.2
baz=82
I08A Drewsey 82.34 39 P P 05 59 50.2 +0.1
baz=82,SNR=8.3
G07A Ruggs Ranch, H 82.45 38 ⇓P P 05 59 50.7 +0.1
baz=83
N11A Elko Archery C 82.46 43 ⇑P P 05 59 50.5 -0.2
baz=83
J09A Fry Pan Ranch, 82.53 40 P P 05 59 51.2 +0.2
baz=83,SNR=10
H08A Prairie City 82.62 39 ⇑P P 05 59 51.1 -0.4
baz=83
F07A Phinny Hill Vi 82.66 37 ⇑P P 05 59 51.5 -0.1
baz=83
C05A Tolt Reservoir 82.72 35 ⇓P P 05 59 52.1 +0.1
baz=83
M11A Holland Ranch, 82.75 42 P P 05 59 52.4 +0.3
baz=83,SNR=8.1
O12A Currie 82.83 44 P P 05 59 52.7 +0.2
baz=83,SNR=6.6
WUAZ Wupatki 82.86 49 ⇓P P 05 59 52.8 +0.1
baz=83
I09A Lost Marbles R 82.88 39 ⇓P P 05 59 52.4 -0.4
baz=83
G08A Pilot Rock 82.88 38 P P 05 59 52.3 -0.5
baz=83,SNR=7.1
D06A Cle Elum 82.89 36 ⇑P P 05 59 52.6 -0.3
baz=83
N12A Clover Valley, 82.94 43 P P 05 59 53.4 +0.3
baz=83,SNR=9.4
E07A Sunnyside 83.08 36 ⇓P P 05 59 53.8 0.0
baz=83
HAWA Hanford 83.17 37 eP P 05 59 54.0 -0.2
F08A Pendleton 83.27 38 ⇑P P 05 59 54.6 -0.2
baz=83
H09A Durkee 83.30 39 ⇑P P 05 59 54.7 -0.2
baz=83
M12A Wells 83.30 43 P P 05 59 55.2 +0.3
baz=83,SNR=8.8
N13A Wendover, West 83.48 44 ⇓P P 05 59 56.5 +0.7
baz=84
E08A Dider Farm, El 83.50 37 ⇑P P 05 59 55.4 -0.4
baz=84
C07A Waterville 83.62 35 ⇓P P 05 59 55.5 -0.9
baz=84
PSI Prapat 83.64 275 P P 05 59 56.3 -0.3
comp=Z,9.3nm,0.7s,mb4.4,baz=352,slow=0.6,SNR=9.3
MSU Marysvale 83.70 46 eP P 05 59 57.7 +0.8
F09A S2 Ranch, Elgi 83.73 38 ⇓P P 05 59 56.9 0.0
baz=84
M13A Montello 83.76 43 ⇓P P 05 59 57.5 +0.3
baz=84
H10A Noah's Angus R 83.81 39 P P 05 59 56.9 -0.5
baz=84,SNR=9.1
MAW Mawson 83.87 200 P P 05 59 56.9 -0.8
comp=Z,2.4nm,0.7s,mb3.8,baz=108,slow=4.9,SNR=5.4
MAW Mawson 83.87 200 eP P 05 59 56.1 -1.6
MAW pmax pmax
comp=Z,2.0nm,0.5s
MAW Mawson 83.87 200 eP P 05 59 56.1 -1.6
comp=Z,1.8nm,0.5s,mb3.9
D08A Wollman Farm, 83.89 36 ⇓P P 05 59 57.4 -0.4
baz=84
B07A Winthrop 84.03 35 ⇓P P 05 59 57.6 -0.9
baz=84
E09A Wood Farm, Sta 84.03 37 ⇓P P 05 59 57.8 -0.7
baz=84
DUG Dugway 84.08 45 ⇓P P 05 59 58.4 -0.3
baz=84
D09A Jones Farm, Ri 84.24 37 ⇑P P 05 59 58.6 -0.9
baz=84
F10A Beach Ranch, E 84.27 38 P P 05 59 59.0 -0.6
baz=84,SNR=11
H11A Donnelly 84.32 40 P P 05 59 59.7 -0.2
baz=84,SNR=7.8
B08A Colville Reser 84.40 35 ⇓P P 05 59 59.3 -1.0
baz=84
E10A Myers Farm, Un 84.62 38 ⇑P P 06 00 01.1 -0.3
baz=85
C09A Chrisman Ranch 84.67 36 ⇓P P 06 00 00.8 -0.8
baz=85
HLID Hailey 84.71 41 eP P 06 00 01.8 0.0
HLID Hailey 84.71 41 P P 06 00 01.9 +0.1
baz=85,SNR=11
A08A Turner Farm, O 84.77 35 ⇓P P 06 00 00.9 -1.2
baz=85
GYA Guiyang 84.78 300 P P 06 00 03.5 +1.3
GYA AP pP 06 01 59.8 +0.6
GYA XP sP 06 02 52.3 -1.7
GYA PP PP 06 03 31.3 +3.1
GYA SKS 06 09 35.0
GYA S S 06 09 46.5 +1.2
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,70nm,4.9s
F11A Grangeville 84.86 38 ⇑P P 06 00 00.9 -1.7
baz=85
E11A Bogner Ranch, 85.07 38 ⇑P P 06 00 02.4 -1.2
baz=85
B09A Rice 85.09 36 ⇑P P 06 00 02.9 -0.8
baz=85
SRU San Rafael 85.12 46 eP P 06 00 03.9 +0.1
A09A Danville 85.16 35 ⇑P P 06 00 03.2 -0.8
baz=85
C10A Spilker Farm, 85.23 36 ⇓P P 06 00 03.6 -0.7
baz=85
D11A Klaveano Farm, 85.37 37 ⇑P P 06 00 04.6 -0.5
baz=86
COLA College 85.73 13 ⇓iP P 06 00 03.2 -3.6
COLA College 85.73 13 eP P 06 00 03.6 -3.2
comp=Z,5.7nm,0.8s,mb4.2
F13A Darby 85.90 39 P P 06 00 07.0 -0.6
baz=86,SNR=8.3
XAN Xi'an 86.01 307 P P 06 00 08.8 +0.7
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
B11A Sandpoint 86.09 36 ⇓P P 06 00 07.7 -0.7
baz=86
LTX Lajitas 86.15 58 eP P 06 00 09.6 +0.9
LTX pmax pmax
comp=Z,24nm,1.3s,mb4.7
LTX Lajitas 86.15 58 eP P 06 00 09.6 +0.8
comp=Z,24nm,1.3s,mb4.7
TXAR Lajitas Array 86.15 58 P P 06 00 09.8 +1.1
comp=Z,8.6nm,0.8s,mb4.4,baz=218,slow=6.2,SNR=105
ANMO Albuquerque 86.22 52 P P 06 00 09.1 0.0
comp=Z,4.9nm,1.1s,mb4.1,baz=198,slow=2.7,SNR=11
ANMO Albuquerque 86.22 52 ⇓iP P 06 00 08.2 -0.9
ANMO Albuquerque 86.22 52 eP P 06 00 09.2 +0.1
E13A Victor 86.31 39 ⇑P P 06 00 08.8 -0.7
baz=86
MCMT McKenzie Canyo 86.32 41 eP P 06 00 09.4 -0.1
A11A Hall Mountain, 86.37 36 ⇑P P 06 00 09.2 -0.6
baz=86
D13A Huson 86.49 38 ⇑P P 06 00 09.3 -1.0
baz=87
B12A Libby 86.55 36 ⇓P P 06 00 10.0 -0.6
baz=87
G15A Dillon 86.71 40 P P 06 00 11.4 +0.1
baz=87,SNR=9.5
E14A Clinton 86.72 39 P P 06 00 10.9 -0.5
baz=87,SNR=6.2
DLMT Dillon 86.74 40 eP P 06 00 10.9 -0.6
comp=Z,8.2nm,1.0s,mb4.3
REDW Red Top Meadow 86.88 43 eP P 06 00 12.0 -0.1
comp=Z,15nm,1.1s,mb4.5
SNOW Snow King Moun 86.99 42 eP P 06 00 13.1 +0.4
comp=Z,8.6nm,0.4s,mb4.7
HHC Hu-ho-hao-te 87.04 315 eP P 06 00 12.3 -0.6
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.3
HHC AMB AMB
comp=Z,148nm,5.9s
F15A Butte 87.04 40 ⇑P P 06 00 12.5 -0.4
baz=87
D14A Greenough 87.04 38 ⇑P P 06 00 11.8 -1.1
baz=87
IMW Indian Meadow 87.08 42 eP P 06 00 13.5 +0.4
CHMT Chamberlain Mo 87.11 39 eP P 06 00 12.5 -0.8
MOOW Moose Ponds 87.13 42 eP P 06 00 13.4 +0.1
comp=Z,5.2nm,0.4s,mb4.5
B13A Whitefish 87.14 37 ⇓P P 06 00 12.9 -0.5
baz=87
LOHW Long Hollow 87.16 42 eP P 06 00 13.6 +0.1
comp=Z,8.2nm,0.4s,mb4.7
QLMT Earthquake Lak 87.21 41 eP P 06 00 14.4 +0.6
E15A Deer Lodge 87.23 39 ⇓P P 06 00 13.2 -0.6
baz=87
PDAR Pinedale Array 87.45 44 P P 06 00 14.3 -0.5
comp=Z,4.6nm,0.6s,mb4.3,baz=222,slow=3.5,SNR=45
PDAR PP PP 06 03 47.0 -2.4
comp=Z,0.7nm,0.9s,baz=258,slow=7.0,SNR=4.7
KMI Kunming 87.58 297 P P 06 00 14.5 -0.9
KMI AMB AMB
comp=Z,15nm,1.7s,mb4.5
KMI Kunming 87.58 297 P P 06 00 14.5 -0.9
comp=Z,15nm,1.7s,mb4.5
D15A Lincoln 87.61 39 ⇓P P 06 00 14.8 -0.8
baz=88
PHWY Pilot Hill 89.57 46 eP P 06 00 24.6 -0.1
JCT Junction City 89.69 58 eP P 06 00 24.7 -0.6
JCT pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
JCT Junction City 89.69 58 eP P 06 00 24.7 -0.5
comp=Z,5.0nm,0.9s,mb4.3
LZH Lanzhou 90.64 308 eP P 06 00 30.0 +0.3
LZH AP pP 06 02 24.0 -4.4
LZH XP sP 06 03 17.5 -5.1
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
LZH Lanzhou 90.64 308 eP P 06 00 30.0 +0.3
comp=Z,26nm,1.0s,mb5.1
LZH pP pP 06 02 24.0 -4.4
LZH sP sP 06 03 17.5 -5.1
SNAA Sanae 90.70 179 eP P 06 00 27.6 -2.3
comp=Z,0.4nm,0.5s,mb3.6
VNA3 Neumayer Olymp 90.85 176 eP P 06 00 29.4 -1.2
VNA2 Neumayer--Watz 91.28 177 eP P 06 00 30.1 -2.6
INK Inuvik 91.86 15 P P 06 00 32.6 -2.7
comp=Z,3.5nm,0.9s,mb4.4,baz=200,slow=5.0,SNR=4.8
YKA Yellowknife Ar 94.34 25 P P 06 00 44.7 -2.0
comp=Z,1.6nm,0.8s,mb4.2,baz=236,slow=4.4,SNR=6.5
YKA Yellowknife Ar 94.34 25 P P 06 00 44.7 -2.0
OBN Obninsk 134.10 333 ⇑iPKHKP 06 06 24.5
OBN *e* 06 09 20.1
OBN pmax pmax
comp=Z,31nm,1.7s
NB2 NORSAR Subarra 136.25 353 P PKPdf 06 06 42.0 -2.9

comp=Z,6.0nm,0.9s,baz=30,slow=6.5
BR131 Keskin Array S 144.55 315 *e*PKPbc PKPdf 06 06 58.8 -0.9
BRTR Keskin Array B 144.55 315 PKP PKPdf 06 06 59.4 -0.4
comp=Z,2.3nm,0.7s,baz=119,slow=1.7,SNR=13
CLL Collm 145.32 347⇑ *i*PKIKP PKPdf 06 07 00.8 -0.3
CLL Collm 145.32 347 *i*PKPbc PKPbc 06 07 00.8 -1.4
comp=Z,9.0nm,1.0s
GERES GERESS Array B 147.46 345 PKPbc PKPbc 06 07 07.4 -0.7
comp=Z,1.3nm,0.5s,baz=90,slow=1.3,SNR=7.4

NIED ***28*** *05:55:00.4 62.20N× 153.70E, h41km, Mw4.4 Best double couple: M0 3.99000×10^15 NP1:φs 73.00000°, δ 69.00000°, λ 86.00000°. NP2:φs 265.00000°, δ 22.00000°, λ 101.00000°.*
IDC ***28*** *05:55:32.5± 0.6, 4556N× 15397E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.3/27, mbtmp4.3/20, ML3.9/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/32, Error ellipse: s-maj=17.6km s-min=14.0km az=149.0*
NEIC ***28*** *05:55:33.8± 0.3, 4552N× 15396E, h10km, mb4.7/13, Error ellipse: s-maj=9.2km s-min=6.6km az=146.0*
JMA ***28*** *05:55:34.4± 0.7, 4616N× 15370E, h30km, M4.7*
ISCJB ***28*** *05:55:35.9± 0.4, 4544N± 006× 15365E± 006, h35km, mb4.5/35, MS3.6/7, Error ellipse: s-maj=9.7km s-min=4.0km az=117.7*
BJI ***28*** *05:55:36.2, 4550N× 15301E, h10km, mB4.7, mb4.5*
MOS ***28*** *05:55:37.6± 1.2, 4551N× 15380E, h53km, mb4.7/23, Error ellipse: s-maj=13.5km s-min=9.2km az=92.0*
ISC 28 05:55:37.8± 0.4, 4550N± 006× 15370E± 006, h35km, n118, σ1 9 34/117, mb4.5/35, MS3.6/7, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.12**	**268**	⇑ *i*	PN	**Pn**		**05 56 36.7**	**-1.5**
KUR					pmax	pmax			
	comp=Z,380nm,0.5s								
SKR	**Severo-Kuril's**	**5.43**	**16**	*e*	PN	**Pn**		**05 56 55.5**	**-0.7**
SKR					pmax	pmax			
	comp=Z,50nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.77**	**258**		PN	**Pn**		**05 57 02.0**	**+1.1**
NEM2	**Nemuro 2**	**6.08**	**252**		P	**Pn**		**05 57 04.6**	**-0.6**
NEM2					eS	**Sn**		**05 58 10.7**	**-2.9**
JRA	**Rausu**	**6.31**	**259**		P	**Pn**		**05 57 09.8**	**+1.5**
JAK	**Akkeshi**	**6.93**	**252**		P	**Pn**		**05 57 16.4**	**-0.5**
JAK					eS	**Sn**		**05 58 32.0**	**-2.5**
JTKR	**Abashiri--Toko**	**7.14**	**261**		P	**Pn**		**05 57 21.2**	**+1.5**
JAR	**Ashorobuto**	**7.45**	**256**		P	**Pn**		**05 57 25.3**	**+1.4**
JAR					eS	**Sn**		**05 58 48.1**	**+1.0**
JMP	**Maruseppu**	**7.51**	**262**		P	**Pn**		**05 57 26.3**	**+1.5**
JOB	**Onbets**	**7.55**	**253**		P	**Pn**		**05 57 25.8**	**+0.5**
JOB					eS	**Sn**		**05 58 48.7**	**-0.9**
YSS	**Yuzh-Sakhalins**	**7.73**	**285**	*e*	PN	**Pn**		**05 57 34.0**	**+6.2**
YSS	**Yuzh-Sakhalins**	**7.73**	**285**	*e*	Pn	**Pn**		**05 57 31.7**	**+3.9**
	comp=Z,18nm,0.3s								
JKK2	**Kamakawa 2**	**7.97**	**262**		P	**Pn**		**05 57 32.0**	**+0.9**
JCH	**Churui**	**7.99**	**252**		P	**Pn**		**05 57 31.9**	**+0.6**
JCH					eS	**Sn**		**05 58 58.0**	**-2.4**
ASAJ	**Asahikawa**	**8.02**	**264**		Pn	**Pn**		**05 57 29.7**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=324,slow=33,SNR=4.7								
ASAJ	**Asahikawa**	**8.02**	**264**		PN	**Pn**		**05 57 29.7**	**-2.0**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
JNBK	**Urakawa-nobuka**	**8.54**	**252**		P	**Pn**		**05 57 37.4**	**-1.5**
JNBK					eS	**Sn**		**05 59 10.1**	**-3.8**
JKB	**Kayabe**	**9.86**	**253**		P	**Pn**		**05 57 56.2**	**-0.8**
JKB					eS	**Sn**		**05 59 38.9**	**-7.5**
JANG	**Nango**	**10.30**	**244**		eS	**Sn**		**05 59 50.2**	**-6.9**
JTH	**Tanohata**	**10.33**	**242**		eS	**Sn**		**05 59 50.6**	**-7.3**
JTM	**Tenmabayashi**	**10.36**	**247**		P	**Pn**		**05 58 02.5**	**-1.4**
JTM					eS	**Sn**		**05 59 52.8**	**-5.9**
OFUJ	**Ofunato**	**10.97**	**238**		P	**Pn**		**05 58 10.3**	**-2.0**
OFUJ					eS	**Sn**		**06 00 06.7**	**-7.0**
JRG	**Rokugo**	**11.41**	**242**		P	**Pn**		**05 58 16.5**	**-1.8**
JIO	**Ouri**	**11.57**	**237**		P	**Pn**		**05 58 18.9**	**-1.5**
JIO					eS	**Sn**		**06 00 19.1**	**-9.2**
MAJO	**Matsushiro**	**14.71**	**238**	*e*	P	**Pn**		**05 59 02.6**	**-0.6**
MAJO					pmax	pmax			
	comp=Z,13nm,0.8s								
MAJO	**Matsushiro**	**14.71**	**238**	*e*	Pn	**Pn**		**05 59 02.6**	**-0.6**
	comp=Z,13nm,0.8s								
MJAR	**Matsushiro Arr**	**14.71**	**238**		Pn	**Pn**		**05 59 02.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=219,slow=14,SNR=3.2								
MJAR	**Matsushiro Arr**	**14.71**	**238**		P	**Pn**		**05 59 02.5**	**-0.7**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**14.71**	**238**		Pn	**Pn**		**05 59 02.5**	**-0.7**
MDJ	**Mudanjiang**	**17.05**	**276**		P	**Pn**		**05 59 28.8**	**-4.5**
MDJ					AMB	AMB			
	comp=Z,6.0nm,1.4s								
MDJ					AMB	AMB			
	comp=Z,73nm,5.6s								
MDJ	**Mudanjiang**	**17.05**	**276**	*e*	Pn	**Pn**		**05 59 33.0**	**-0.3**
	comp=Z,12nm,0.6s								
KSRS	**Korea Array**	**20.86**	**256**		P	**P**		**06 00 17.4**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=69,slow=8.9,SNR=7.2								
KSRS					LR	LR		06 08 03.4	
	comp=Z,37nm,18.3s,MS2.8,baz=156,slow=36								
YAK	**Yakutsk**	**21.60**	**329**	*e*	P	**P**		**06 00 23.8**	**-0.7**
YAK					pmax	pmax			
	comp=Z,17nm,0.6s,mb4.7								
YAK	**Yakutsk**	**21.60**	**329**	*e*	P	**P**		**06 00 23.8**	**-0.8**
	comp=Z,17nm,0.6s,mb4.6								
HIA	**Hailar**	**23.18**	**292**		P	**P**		**06 00 42.6**	**+1.2**
BILL	**Bilibino**	**23.52**	**12**⇑	*e*	P	**P**		**06 00 43.9**	**-0.9**
BILL					pmax	pmax			
	comp=Z,20nm,1.6s,mb4.3								
BILL	**Bilibino**	**23.52**	**12**	*e*	P	**P**		**06 00 43.9**	**-0.9**
	comp=Z,6.0nm,0.6s,mb4.2								
BOD	**Bodaibo**	**27.11**	**311**	*e*	P	**P**		**06 01 17.2**	**-0.1**
SONM	**Songino Array**	**32.15**	**291**		P	**P**		**06 02 03.2**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=68,slow=7.4,SNR=12								
SONM					PcP	PcP		06 04 51.4	+1.0
	comp=Z,0.7nm,0.6s,baz=108,slow=1.9,SNR=4.0								
SONM					LR	LR		06 17 38.0	
	comp=Z,69nm,18.2s,MS3.4,baz=38,slow=41								
SONM	**Songino Array**	**32.15**	**291**		P	**P**		**06 02 03.2**	**+1.2**
SONM								06 04 51.4	
SONM					pmax	pmax			
	comp=Z,2.0nm,0.6s								
SONM					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM					MLR	MLR			
	comp=Z,69nm,18.2s								
YHNB	**Yeheng**	**33.30**	**242**	*e*	P	**P**		**06 02 11.9**	**-0.2**
ZAK	**Zakamensk**	**33.59**	**297**	*e*	P	**P**		**06 02 04.6**	**-10**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.9								
KDAK	**Kodiak Island**	**34.59**	**50**		P	**P**		**06 02 20.1**	**-3.1**
	comp=Z,5.5nm,0.6s,mb4.7,baz=253,slow=8.5,SNR=5.7								
SML	**Sawmill**	**36.60**	**42**	*e*	P	**P**		**06 02 38.6**	**-1.9**
LZH	**Lanzhou**	**38.36**	**274**	*e*	P	**P**		**06 03 04.1**	**+8.7**
LZH					pmax	pmax			
	comp=Z,19nm,1.1s,mb4.7								
LZH	**Lanzhou**	**38.36**	**274**	*e*	P	**P**		**06 03 04.1**	**+8.7**
	comp=Z,19nm,1.1s,mb4.7								
LZH					pP	pP		06 03 08.8	+3.2
LZH					sP	sP		06 03 10.5	+0.7
GTA	**Gaotai**	**39.59**	**281**	*e*	P	**P**		**06 03 09.0**	**+3.3**
GTA					AP	pP		06 03 14.0	-1.9
GTA					XP	sP		06 03 17.3	-2.8
GTA					AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.2								
EGAK	**Eagle**	**39.73**	**37**	*e*	P	**P**		**06 03 04.9**	**-2.0**
	comp=Z,3.3nm,0.6s,mb4.2								
CD2	**Chengdu**	**41.20**	**267**		P	**P**		**06 03 21.5**	**+2.5**
CD2					AMB	AMB			
	comp=Z,20nm,0.7s,mb4.9								
INK	**Inuvik**	**42.49**	**32**		P	**P**		**06 03 26.2**	**-3.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=302,slow=12,SNR=4.6								
INK	**Inuvik**	**42.49**	**32**		P	**P**		**06 03 26.3**	**-3.3**
INK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ZAL	**Zalesovo**	**43.70**	**307**		PcP	PcP		06 05 25.8	-0.2
	comp=Z,0.8nm,0.6s,baz=44,slow=6.3,SNR=3.3								
ZAL					LR	LR		06 21 28.6	
	comp=Z,94nm,18.7s,MS3.7,baz=45,slow=36								
MK31	**Makanchi Array**	**47.89**	**299**	*e*	P	**P**		**06 04 13.6**	**+1.2**
MKAR	**Makanchi Array**	**47.89**	**299**		P	**P**		**06 04 13.6**	**+1.2**
	comp=Z,9.4nm,1.2s,mb4.7,baz=63,slow=8.7,SNR=13								
MKAR					LR	LR		06 25 22.8	
	comp=Z,72nm,21.1s,MS3.6,baz=242,slow=37								
MKAR	**Makanchi Array**	**47.89**	**299**		P	**P**		**06 04 13.6**	**+1.2**
MKAR					pmax	pmax			
	comp=Z,9.0nm,1.2s								
MKAR					MLR	MLR			
	comp=Z,72nm,21.1s								
YKA	**Yellowknife Ar**	**51.69**	**36**		P	**P**		**06 04 40.2**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=295,slow=7.1,SNR=13								
YKA	**Yellowknife Ar**	**51.69**	**36**		P	**P**		**06 04 40.2**	**-1.1**
YKA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
YKA	**Yellowknife Ar**	**51.69**	**36**		P	**P**		**06 04 40.2**	**-1.0**
BVAR	**Borovoye Array**	**51.97**	**310**		P	**P**		**06 04 44.3**	**+0.9**
	comp=Z,2.1nm,0.5s,mb4.3,baz=58,slow=7.4,SNR=14								
BVAR					LR	LR		06 26 56.1	
	comp=Z,87nm,20.6s,MS3.8,baz=319,slow=36								
BVAR	**Borovoye Array**	**51.97**	**310**		P	**P**		**06 04 44.3**	**+0.9**
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
BVAR					MLR	MLR			
	comp=Z,87nm,20.6s								
BRVK	**Borovoye**	**52.02**	**310**	*e*	P	**P**		**06 04 44.8**	**+1.1**
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
BRVK	**Borovoye**	**52.02**	**310**	*e*	P	**P**		**06 04 44.8**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.5								
AAK	**Ala-Archa**	**54.77**	**297**	*e*	P	**P**		**06 05 05.1**	**+1.2**
AAK					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
AAK	**Ala-Archa**	**54.77**	**297**	*e*	P	**P**		**06 05 05.1**	**+1.2**
	comp=Z,4.3nm,1.0s,mb4.4								
GUN	**Gumba**	**55.53**	**276**	*e*	P	**P**		**06 05 12.4**	**+3.0**
	comp=Z,7.8nm,0.5s,mb5.0								
KKN	**Kakani**	**56.02**	**277**	*e*	P	**P**		**06 05 15.6**	**+2.6**
ARU	**Arti**	**56.21**	**318**	*e*	P	**P**		**06 05 14.6**	**+0.3**
ARU					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
ARU	**Arti**	**56.21**	**318**	*e*	P	**P**		**06 05 14.6**	**+0.3**
	comp=Z,5.0nm,0.6s,mb4.7								
DMN	**Daman**	**56.26**	**276**	*e*	P	**P**		**06 05 17.0**	**+2.4**
GKN	**Gorkha**	**56.34**	**277**	*e*	P	**P**		**06 05 17.5**	**+2.3**
KOLN	**Koldanda**	**57.21**	**278**	*e*	P	**P**		**06 05 23.3**	**+1.9**
	comp=Z,10nm,0.7s,mb5.0								
ARCES	**ARCESS Array B**	**59.17**	**341**		P	**P**		**06 05 34.1**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=22,slow=6.8,SNR=7.5								
ARCES	**ARCESS Array B**	**59.17**	**341**		P	**P**		**06 05 34.1**	**-1.0**
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.6s								
AKTO	**Aktyubinsk**	**59.87**	**313**		LR	LR		06 31 30.5	
	comp=Z,74nm,20.1s,MS3.8,baz=213,slow=36								
KAKA	**Kakadu**	**61.04**	**204**	*e*	P	**P**		**06 05 48.8**	**+0.9**
	comp=Z,10nm,0.6s,mb5.1								
NVAR	**Mina Array Bea**	**62.66**	**62**		P	**P**		**06 05 58.3**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.3,baz=305,slow=7.7,SNR=9.9								
QLMT	**Earthquake Lak**	**62.81**	**53**	*e*	P	**P**		**06 05 58.9**	**-0.8**
KAF	**Kangasniemi**	**64.75**	**336**	*ep*	P	**P**		**06 06 12.0**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.6								
KAF	**Kangasniemi**	**64.75**	**336**	*e*	P	**P**		**06 06 12.0**	**-0.6**
KAF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
PDAR	**Pinedale Array**	**65.16**	**54**		P	**P**		**06 06 14.6**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=292,slow=3.4,SNR=11								
FINES	**FINESS Array B**	**65.35**	**335**		P	**P**		**06 06 16.4**	**0.0**
	comp=Z,3.6nm,0.6s,mb4.6,baz=45,slow=7.8,SNR=23								
FINES	**FINESS Array B**	**65.35**	**335**		P	**P**		**06 06 16.4**	**0.0**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ULM	**Lac du Bonnet**	**67.20**	**41**		P	**P**		**06 06 26.9**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=336,slow=7.5,SNR=5.3								
ULM	**Lac du Bonnet**	**67.20**	**41**		P	**P**		**06 06 26.9**	**-1.4**
WRAB	**Tennant Creek**	**67.46**	**200**	*e*	P	**P**		**06 06 30.8**	**+0.9**
WRAB					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7								
WRAB	**Tennant Creek**	**67.46**	**200**	*e*	P	**P**		**06 06 30.8**	**+0.8**
	comp=Z,6.0nm,0.8s,mb4.7								
WB2	**Warramunga Arr**	**67.47**	**200**	*e*	P	**P**		**06 06 30.8**	**+0.8**
WRA	**Warramunga Arr**	**67.47**	**200**		P	**P**		**06 06 30.7**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=20,slow=7.2,SNR=34								
WRA	**Warramunga Arr**	**67.47**	**200**		P	**P**		**06 06 30.7**	**+0.7**
WRA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
NOA	**NORSAR Array B**	**69.54**	**342**		P	**P**		**06 06 43.0**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=27,slow=6.3,SNR=7.3								
NOA	**NORSAR Array B**	**69.54**	**342**		P	**P**		**06 06 43.0**	**0.0**
NOA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
HFS	**Hagfors**	**69.77**	**340**		P	**P**		**06 06 44.3**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.6,baz=56,slow=5.6,SNR=12								
HFS	**Hagfors**	**69.77**	**340**		P	**P**		**06 06 44.3**	**-0.1**
HFS					pmax	pmax			
	comp=Z,5.0nm,0.6s								
HFS	**Hagfors**	**69.77**	**340**		P	**P**		**06 06 44.3**	**-0.1**
GOF	**Gofitskoye**	**71.00**	**315**	*e*	P	**P**		**06 06 47.4**	**-4.5**
ASAR	**Alice Springs**	**71.16**	**199**		P	**P**		**06 06 54.6**	**+1.8**
	comp=Z,2.7nm,0.8s,mb4.2,baz=16,slow=5.5,SNR=27								
ASAR	**Alice Springs**	**71.16**	**199**		P	**P**		**06 06 54.7**	**+1.9**
ASAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
AKASG	**Malin Array Be**	**72.81**	**327**		P	**P**		**06 07 03.1**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.4,baz=34,slow=6.1,SNR=16								
AKASG	**Malin Array Be**	**72.81**	**327**		P	**P**		**06 07 03.1**	**+0.3**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
AKBB	**Malin Array Si**	**72.81**	**327**	*e*	P	**P**		**06 07 00.9**	**-1.9**
KIEV	**Kiev**	**72.83**	**327**	*e*	P	**P**		**06 07 02.4**	**-0.4**
KIEV					pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8								
KIEV	**Kiev**	**72.83**	**327**	*e*	P	**P**		**06 07 02.4**	**-0.5**
	comp=Z,14nm,1.2s,mb4.8								
TXAR	**Lajitas Array**	**77.75**	**61**		P	**P**		**06 07 30.8**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.4,baz=308,slow=4.0,SNR=57								
TXAR	**Lajitas Array**	**77.75**	**61**		P	**P**		**06 07 30.8**	**-0.3**
TXAR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
TXAR	**Lajitas Array**	**77.75**	**61**		P	**P**		**06 07 30.8**	**-0.4**
CLL	**Collm**	**77.77**	**336**	*e*	P	**P**		**06 07 32.0**	**+0.7**
FORT	**Forrest**	**79.41**	**202**	*e*	P	**P**		**06 07 42.1**	**+1.8**
	comp=Z,12nm,0.7s,mb4.9								
BRTR	**Keskin Array B**	**79.58**	**317**		P	**P**		**06 07 42.0**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.8,baz=46,slow=5.3,SNR=4.1								
BRTR	**Keskin Array B**	**79.58**	**317**		P	**P**		**06 07 42.0**	**+0.8**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
PPT	**Papeete**	**81.09**	**126**		LR	LR		06 40 23.4	
	comp=Z,102nm,18.4s,MS4.2,baz=7.7,slow=33								
TORD	**Torodi Ar. Bea**	**116.38**	**329**		PKP	PKPdf		06 14 16.4	-1.2
	comp=Z,0.4nm,0.6s,baz=349,slow=1.6,SNR=6.6								
CFAA	**Coronel Fontan**	**144.80**	**82**		PKP	PKPdf		06 15 09.2	-1.8
	comp=Z,0.4nm,0.6s,baz=305,slow=3.0,SNR=9.6								
SNAA	**Sanae**	**151.46**	**195**		PKPbc	PKPbc		06 15 26.4	-1.5
	comp=Z,0.5nm,0.6s,baz=193,slow=7.9,SNR=14								
SNAA	**Sanae**	**151.46**	**195**	*e*		PKPbc		06 15 26.5	-1.4
SNAA				*e*				06 15 33.5	
SNAA				*e*				06 15 38.6	
SNAA	**Sanae**	**151.46**	**195**		PKIKP	PKPbc		06 15 26.4	-1.5
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
VNA2	**Neumayer--Watz**	**152.89**	**194**	*e*		PKPbc		06 15 30.4	-0.8
VNA2				*e*				06 15 39.2	
VNA2				*e*				06 15 49.2	
VNA3	**Neumayer Olymp**	**152.96**	**192**	*e*		PKPbc		06 15 30.1	-1.2
VNA3				*e*				06 15 39.3	
VNA3				*e*				06 15 49.0	
VNA1	**Neumayer--Stat**	**153.27**	**193**	*e*		PKPbc		06 15 32.4	+0.4
VNA1				*e*				06 15 42.6	

SKHL ***28*** *06:54:05.5± 0.8, 4600N× 154.10E, h39km± 5km, mb4.9/5*
IDC ***28*** *06:54:06.2± 0.8, 4666N× 153.35E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.2/24, mbtmp4.1/16, ML3.5/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/34, Error ellipse: s-maj=20.9km s-min=18.5km az=130.0*
ISCJB ***28*** *06:54:11.0± 1.1, 4658N± 007× 153.41E± 009, h48km± 9km, mb4.4/23, MS3.8/3, Error ellipse: s-maj=14.5km s-min=6.4km az=94.8*
MOS ***28*** *06:54:11.4± 1.2, 4664N× 153.29E, h52km, mb4.3/11, Error ellipse: s-maj=13.6km s-min=10.0km az=60.2*
ISC 28 06:54:13.6± 1.1, 4659N± 008× 153.4E± 01, h55km± 8km, n56, σ1 9 13/65, mb4.4/23, MS3.8/3, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.11**	**253**	*e*	P	**Pn**		**06 55 10.0**	**-3.8**
KUR					AMB	AMB		06 55 12.0	
	236nm,0.8s								
KUR					eS	**Sn**		**06 55 59.0**	**-1.5**
KUR					A			06 56 14.0	
	484nm,0.8s								
KUR					A			06 56 14.0	
	430nm,0.8s								
KUR	**Kuril'sk**	**4.11**	**253**	*e*	PN	**Pn**		**06 55 10.0**	**-3.8**
KUR					eS	**Sn**		**06 55 59.0**	**-1.5**
KUR					pmax	pmax			
	comp=Z,240nm,0.8s								
KUR					smax				
	comp=N,480nm,0.8s								
KUR					smax				
	comp=E,430nm,0.8s								
SKR	**Severo-Kuril's**	**4.47**	**23**	*e*	P	**Pn**		**06 55 17.0**	**-1.7**
SKR					AMB	AMB		06 55 22.5	
	comp=E,80nm,0.5s								
SKR					eS	**Sn**		**06 56 10.0**	**+0.6**
SKR					A			06 56 25.9	
	comp=E,330nm,0.9s								
SKR					A			06 56 25.9	
	comp=E,200nm,0.9s								
SKR	**Severo-Kuril's**	**4.47**	**23**	*e*	PN	**Pn**		**06 55 17.0**	**-1.7**
SKR					eS	**Sn**		**06 56 10.0**	**+0.6**
SKR					pmax	pmax			
	comp=Z,80nm,0.5s								
SKR					smax				
	comp=N,330nm,0.9s								
SKR					smax				
	comp=E,200nm,0.9s								
SKR					smax				
	comp=E,200nm,0.9s								
YUK	**Yuzh-Kuril'sk**	**5.91**	**247**	*e*	P	**Pn**		**06 55 37.5**	**-1.0**
YUK					AMB	AMB		06 55 47.5	
	comp=Z,190nm,0.4s								
YUK					eS	**Sn**		**06 56 50.5**	**+5.7**
YUK					A			06 56 57.4	
	comp=Z,330nm,0.6s								
YUK					A			06 56 57.4	
	comp=Z,280nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**5.91**	**247**	*e*	PN	**Pn**		**06 55 37.5**	**-1.0**
YUK					eS	**Sn**		**06 56 50.5**	**+5.7**
YUK					pmax	pmax			
	comp=Z,190nm,0.4s								
YUK					smax				
	comp=N,330nm,0.6s								
YUK					smax				
	comp=E,280nm,0.6s								
PET	**Petropavlovsk**	**7.27**	**26**	*e*	PN	**Pn**		**06 56 04.8**	**+7.7**
PET					pmax	pmax			
	comp=Z,12nm,0.5s								
PET					MLR	MLR			
	comp=Z,100nm,15.0s								
YSS	**Yuzh-Sakhalins**	**7.33**	**277**	⇓ *e*	P	**Pn**		**06 55 59.5**	**+1.5**
YSS					AMB	AMB		06 56 02.7	
	comp=Z,30nm,0.9s								
YSS					AMB	AMB		06 56 02.7	
	comp=Z,30nm,0.9s								
YSS					eS	**Sn**		**06 57 23.0**	**+3.3**
YSS					eLQ			06 58 16.0	
YSS	**Yuzh-Sakhalins**	**7.33**	**277**	⇓ *e*	PN	**Pn**		**06 55 59.5**	**+1.5**
YSS					eS	**Sn**		**06 57 23.0**	**+3.3**
YSS					pmax	pmax			
	comp=E,30nm,0.9s								
YSS					pmax	pmax			
	comp=Z,30nm,0.9s								
ASAJ	**Asahikawa**	**8.01**	**256**		Pn	**Pn**		**06 56 07.3**	**0.0**
	comp=Z,2.9nm,0.3s,baz=109,slow=12,SNR=12								
ASAJ	**Asahikawa**	**8.01**	**256**		PN	**Pn**		**06 56 07.3**	**0.0**
ASAJ					pmax	pmax			
	comp=Z,3.0nm,0.3s								
TYV	**Tymovskoe**	**8.29**	**305**	*e*	P	**Pn**		**06 56 12.0**	**+0.8**
TYV					AMB	AMB		06 56 21.0	
	comp=Z,20nm,0.7s								
ERM	**Erimo**	**8.66**	**242**	*e*	PN	**Pn**		**06 56 17.8**	**+1.6**
MJAR	**Matsushiro Arr**	**15.15**	**234**		Pn	**Pn**		**06 57 42.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=4.2								
MJAR					LR	LR		07 04 12.0	
	comp=Z,55nm,19.3s,baz=10.0,slow=40								
KSRS	**Korea Array**	**20.95**	**253**		P	**P**		**06 58 52.1**	**+0.3**
	comp=Z,5.4nm,1.0s,baz=58,slow=11,SNR=9.4								
BILL	**Bilibino**	**22.50**	**13**⇑	*e*	P	**P**		**06 59 09.

comp=Z,0.8nm,0.6s,mb3.8,baz=297,slow=4.6,SNR=15

TXAR	**Lajitas Array**	**77.39**	**61**	P		**P**	**07 06 03.2**	**+0.6**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KHC	**Kasperske Hory**	**78.47**	**334**⇑	*e*P		**P**	**07 06 08.8**	**+0.2**
BRTR	**Keskin Array B**	**78.65**	**317**	P		**P**	**07 06 09.9**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=58,slow=4.7,SNR=14								
BRTR	**Keskin Array B**	**78.65**	**317**	P		**P**	**07 06 09.9**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GERES	**GERESS Array B**	**78.69**	**334**	P		**P**	**07 06 10.3**	**+0.5**
	comp=Z,0.5nm,0.3s,mb3.9,baz=33,slow=5.1,SNR=5.1								
GERES	**GERESS Array B**	**78.69**	**334**	P		**P**	**07 06 10.3**	**+0.5**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.3s								

SZGRF ***28*** *07:03:34.5, 22.25S×175.57W, h166km, Tonga Islands region*

ISCJB ***28*** *07:03:49.3±0.2, 22.05S±0.05×176.70W±0.05, h160km, mb4.7/40, Error ellipse: s-maj=8.5km s-min=4.0km az=89.5*

MOS ***28*** *07:03:50.5±1.9, 21.87S×176.72W, h162km, mb4.8/16, Error ellipse: s-maj=13.1km s-min=10.8km az=151.5*

NEIC ***28*** *07:03:50.4±0.2, 21.96S×176.65W, mb4.8/28, Error ellipse: s-maj=8.9km s-min=5.2km az=143.0*

GCMT ***28*** *07:03:50.4±0.4, 22.03S×176.10W, h174km±4km, MW5.0/65, Moment Tension Solution. s20,c21; s65,c84; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr=0.80±.20; Mθθ=0.34±.30; Mφφ=-1.14±.31; Mtt=1.15±.17; Mθφ=-0.70±.30; Mrθ=-3.33±.16; Best double couple: M=3.69400×10[16] NP1:ϕs=29.00000°,δ=9.00000°,λ=100.00000°. NP2: ϕs=199.00000°,δ=81.00000°,λ=89.00000°. Principal axes: T 3.3860, Plg=54.0000°, Azm=107.0000°; N 0.6160, Plg=1.0000°, Azm=199.0000°; P -4.0010, Plg=36.0000°, Azm=290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***28*** *07:03:50.2±0.7, 22.00S×176.64W, h154km±6km, mb4.6/17, mb1 4.7/18, mb1mx4.6/21, mbtmp4.5/18, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27 Error ellipse: s-maj=14.5km s-min=11.5km az=147.0*

BJI ***28*** *07:03:50.4, 22.00S×176.60W, h159km, mB5.0, mb4.8*

ISC 28 07:03:50.9±0.2, 22.08S±0.05×176.63W±0.05, h162km, h162km±1.1km:pP-P,n341,σ0.71/240, mb4.7/40, 91C-64D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**7.23**	**189**	LR	LR		07 08 06.1	
	comp=Z,134nm,20.3s,baz=311,slow=35							
AFI	**Afiamalu**	**9.35**	**30**	P	**Pn**		**07 05 51.7**	**-10**
	7.9nm,0.3s,baz=52,slow=7.3,SNR=13							
AFI				S	Sn		07 07 24.3	-22
	8.4nm,0.3s,baz=224,slow=23,SNR=4.1							
AFI	**Afiamalu**	**9.35**	**30**	*e*P	**Pn**		**07 05 51.0**	**-11**
AFI				pmax	pmax			
	comp=Z,34nm,0.6s							
AFI	**Afiamalu**	**9.35**	**30**	*e*Pn	**Pn**		**07 05 51.0**	**-11**
	comp=Z,34nm,0.6s							
AFI				*e*Sn	Sn		07 07 23.6	-22
DZM	**Mont Dzumac**	**15.69**	**267**	*e*P	**Pn**		**07 07 25.6**	**+2.4**
DZM	**Mont Dzumac**	**15.69**	**267**	P	**Pn**		**07 07 28.3**	**+5.1**
	comp=Z,1.5nm,0.3s,baz=81,slow=17,SNR=20							
DZM				LR	LR		07 11 17.8	
	comp=Z,164nm,18.9s,baz=210,slow=28							
RAR	**Rarotonga**	**15.70**	**90**	P	**Pn**		**07 07 18.0**	**-5.3**
	comp=Z,3.7nm,0.3s,baz=270,slow=6.4,SNR=14							
RAR				S	**S**		**07 09 59.5**	**-19**
	comp=Z,6.3nm,0.3s,baz=270,slow=19,SNR=5.7							
URZ	**Urewera**	**17.00**	**197**	P	**Pn**		**07 07 37.4**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=320,slow=4.2,SNR=16							
URZ				S	**S**		**07 10 37.1**	**-10**
	comp=Z,3.2nm,0.3s,baz=125,slow=22,SNR=10							
URZ	**Urewera**	**17.00**	**197**	PN	**Pn**		**07 07 37.3**	**-1.7**
SNZO	**South Karori**	**20.52**	**199**	*e*P	**P**		**07 08 18.0**	**+1.6**
	comp=Z,19nm,0.6s							
QRZ	**Quartz Range**	**20.82**	**204**	PN	**P**		**07 08 19.3**	**-0.4**
NNZ	**Nelson**	**20.86**	**202**	PN	**P**		**07 08 17.6**	**-2.4**
NNZ				SN	**S**		**07 11 57.4**	**-6.2**
THZ	**Tophouse**	**21.51**	**202**	PN	**P**		**07 08 26.1**	**-0.8**
WVZ	**Waitaha Valley**	**23.43**	**204**	PN	**P**		**07 08 45.0**	**-0.4**
RPZ	**Rata Peaks**	**23.87**	**202**	P	**P**		**07 08 49.5**	**+0.1**
	comp=Z,15nm,0.6s,mb4.7,baz=32,slow=2.9,SNR=8.7							
TBI	**Tubuai**	**25.09**	**98**	*e*T			07 33 46.0	
	comp=Z,8.9nm,0.4s							
WKZ	**Wanaka**	**25.57**	**204**	PN	**P**		**07 09 04.0**	**-0.8**
HNR	**Honiara**	**25.76**	**296**	P	**P**		**07 09 07.5**	**+1.0**
	comp=Z,127nm,0.6s,mb5.7,baz=260,slow=3.3,SNR=6.1							
HNR				LR	LR		07 17 09.5	
	comp=Z,146nm,18.8s,baz=180,slow=31							
HNR	**Honiara**	**25.76**	**296**	*e*P	**P**		**07 09 08.0**	**+1.5**
HNR				pmax	pmax			
	comp=Z,116nm,0.8s,mb5.6							
HNR	**Honiara**	**25.76**	**296**	*e*P	**P**		**07 09 08.0**	**+1.5**
	comp=Z,116nm,0.8s,mb5.6							
PAE	**Paea**	**25.80**	**85**	*e*T			07 34 27.4	
	comp=Z,123nm,0.3s							
PPT	**Papeete**	**25.83**	**85**	*e*T			07 34 32.4	
	comp=Z,13nm,0.4s							
PPT	**Papeete**	**25.83**	**85**	LR	LR		07 16 34.9	
	comp=Z,166nm,21.2s,baz=75,slow=30							
TVO	**Taravao**	**26.08**	**85**	*e*T			07 34 34.5	
	comp=Z,12nm,0.4s							
CNB	**Canberra Magne**	**32.44**	**238**	*e*P	**P**		**07 10 07.5**	**+1.8**
	comp=Z,31nm,1.1s,mb5.0							
CTA	**Charters Tower**	**34.63**	**266**	*e*P	**P**		**07 10 25.6**	**+1.0**
	comp=Z,31nm,0.8s,mb5.0							
CTA	**Charters Tower**	**34.63**	**266**	P	**P**		**07 10 25.9**	**+1.3**
	comp=Z,34nm,0.6s,mb5.2,baz=96,slow=11,SNR=35							
CTA				LR	LR		07 22 06.5	
	comp=Z,85nm,18.2s,baz=51,slow=32							
CTA	**Charters Tower**	**34.63**	**266**	*e*P	**P**		**07 10 25.6**	**+1.0**
CTA				pmax	pmax			
	comp=Z,31nm,0.8s							
CTAO	**Charters Tower**	**34.63**	**266**	*e*P	**P**		**07 10 25.7**	**+1.1**
TOO	**Toolangi**	**36.03**	**236**	*e*P	**P**		**07 10 38.2**	**+1.6**
	comp=Z,6.5nm,0.6s,mb4.4							
TOO	**Toolangi**	**36.03**	**236**	*e*P	**P**		**07 10 38.2**	**+1.6**
TOO				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.5							
PMG	**Port Moresby**	**36.95**	**284**	P	**P**		**07 10 45.0**	**+0.7**
	comp=Z,43nm,0.8s,mb5.1,baz=100,slow=4.7,SNR=9.9							
PMG	**Port Moresby**	**36.95**	**284**	*d*↓*i*P	**P**		**07 10 45.0**	**+0.7**
PMG	**Port Moresby**	**36.95**	**284**	*e*P	**P**		**07 10 44.7**	**+0.4**
	comp=Z,46nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**38.28**	**246**	↓*i*P	**P**		**07 10 55.8**	**+0.3**
	comp=Z,18nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.28**	**246**	P	**P**		**07 10 55.3**	**-0.2**
	comp=Z,27nm,0.7s,mb5.0,baz=90,slow=9.4,SNR=77							
RKT	**Rikitea**	**38.38**	**100**	*e*T			07 50 16.1	
	comp=Z,3.7nm,0.2s							
AS31	**Alice Springs**	**45.42**	**258**	*e*P	**P**		**07 11 53.7**	**+0.3**
ASAR	**Alice Springs**	**45.42**	**258**	P	**P**		**07 11 53.3**	**-0.1**
	comp=Z,44nm,0.8s,mb5.2,baz=91,slow=8.1,SNR=301							
ASAR				PcP	PcP		07 13 30.2	+0.5
	comp=Z,3.0nm,0.6s,baz=106,slow=3.9,SNR=5.2							
ASAR				ScP	ScP		07 17 11.2	+4.0
	comp=Z,0.8nm,0.7s,baz=96,slow=4.8,SNR=4.4							
ASAR				LR	LR		07 30 30.9	
	comp=Z,62nm,18.1s,baz=220,slow=35							
ASAR	**Alice Springs**	**45.42**	**258**	P	**P**		**07 11 53.3**	**-0.1**
ASAR							07 13 30.3	
ASPA	**Alice Springs**	**45.42**	**258**	*e*P	**P**		**07 11 53.7**	**+0.3**
WB2	**Warramunga Arr**	**45.65**	**263**	*e*P	**P**		**07 11 54.3**	**-0.9**
WRAB	**Tennant Creek**	**45.66**	**263**	*e*P	**P**		**07 11 54.9**	**-0.3**
WRAB				*e**PP	pP		07 12 30.2	-1.0
WRAB				pmax	pmax			
	comp=Z,55nm,1.0s,mb5.1							
WRAB	**Tennant Creek**	**45.66**	**263**	*e*P	**P**		**07 11 54.9**	**-0.3**
	comp=Z,55nm,1.0s,mb5.1							
WRAB				*e*pP	pP		07 12 30.2	-1.0
WRA	**Warramunga Arr**	**45.66**	**263**	P	**P**		**07 11 54.7**	**-0.6**
	comp=Z,34nm,0.8s,mb5.0,baz=98,slow=8.1,SNR=160							
WRA				ScP	ScP		07 17 12.1	+3.9
	comp=Z,1.2nm,0.9s,baz=95,slow=3.7,SNR=5.0							
KAKA	**Kakadu**	**49.29**	**272**	↓*i*P	**P**		**07 12 22.8**	**-0.5**
	comp=Z,75nm,1.5s,mb5.1							
FORT	**Forrest**	**49.86**	**248**	*e*P	**P**		**07 12 26.6**	**-1.0**
	comp=Z,154nm,0.6s							
GUMO	**Guam**	**51.79**	**310**	P	**P**		**07 12 42.4**	**+0.5**
	comp=Z,142nm,0.8s,baz=180,slow=6.2,SNR=6.4							
FITZ	**Fitzroy Crossi**	**54.09**	**263**	*e*P	**P**		**07 12 58.9**	**0.0**
	comp=Z,29nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**54.09**	**263**	P	**P**		**07 12 58.9**	**0.0**
	comp=Z,23nm,0.8s,mb5.0,baz=93,slow=3.9,SNR=25							
SBA	**Scott Base**	**56.39**	**184**	*e*P	**P**		**07 13 17.4**	**+2.1**
SBA				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.8							
SBA	**Scott Base**	**56.39**	**184**	*e*P	**P**		**07 13 17.4**	**+2.1**
	comp=Z,13nm,0.9s,mb4.8							
VNDA	**Vanda**	**56.46**	**185**	P	**P**		**07 13 15.9**	**+0.2**
	comp=Z,4.8nm,0.9s,mb4.3,baz=360,slow=7.8,SNR=23							
VNDA	**Vanda**	**56.46**	**185**	*e*P	**P**		**07 13 17.0**	**+1.2**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VNDA	**Vanda**	**56.46**	**185**	*e*P	**P**		**07 13 17.0**	**+1.2**
	comp=Z,3.3nm,0.6s,mb4.3							
KLBR	**Kellerberrin**	**58.56**	**246**	*e*P	**P**		**07 13 29.9**	**-0.5**
	comp=Z,20nm,0.9s,mb5.0							
NWAO	**Narrogin (SRO)**	**58.81**	**244**	P	**P**		**07 13 33.1**	**+0.9**
	comp=Z,4.0nm,0.5s,mb4.5,baz=151,slow=6.4,SNR=5.2							
MUN	**Mundaring**	**59.80**	**245**	*e*P	**P**		**07 13 40.2**	**+1.2**
QSPA	**South Pole Qui**	**68.00**	**180**	*e*P	**P**		**07 14 33.3**	**+0.8**
	comp=Z,33nm,0.9s,mb5.1							
MJAR	**Matsushiro Arr**	**72.23**	**323**	P	**P**		**07 14 56.6**	**-1.7**
	comp=Z,2.7nm,0.4s,mb4.3,baz=159,slow=5.3,SNR=6.0							
YSS	**Yuzh-Sakhalins**	**77.87**	**333**⇑	*e*P	**P**		**07 15 29.8**	**-0.8**
YSS				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.5							
U04C	**Hernandez Rese**	**78.48**	**43**	⇑P	**P**		**07 15 35.0**	**+1.0**
	baz=79							
PACP	**Pacheco Peak**	**78.57**	**42**	⇓P	**P**		**07 15 35.5**	**+1.0**
	baz=79							
S04C	**Ingram Canyon,**	**78.86**	**42**	⇑P	**P**		**07 15 36.0**	**+0.1**
	baz=79							
MNRC	**McLaughlin Nat**	**79.05**	**40**	⇑P	**P**		**07 15 37.1**	**+0.1**
	baz=79							
Q03C	**Winters**	**79.15**	**41**	⇓P	**P**		**07 15 37.0**	**-0.6**
	baz=79							
BFSC	**Mount Baldy St**	**79.24**	**46**	⇑P	**P**		**07 15 37.5**	**-0.6**
	baz=79							
VES	**Vestal, Richgr**	**79.25**	**44**	⇓P	**P**		**07 15 38.2**	**0.0**
	baz=79							
S05C	**Merced**	**79.38**	**42**	⇑P	**P**		**07 15 38.6**	**-0.3**
	baz=80							
GASB	**Alder Springs**	**79.38**	**39**	⇑P	**P**		**07 15 38.3**	**-0.6**
	baz=80							
EDW2	**Edwards Air Fo**	**79.39**	**46**	⇓P	**P**		**07 15 38.6**	**-0.3**
	baz=80							
ISA	**Isabella**	**79.54**	**45**	*e*P	**P**		**07 15 38.2**	**-1.5**
ISA				*e*PP	PP		07 18 38.1	-4.3
ISA	**Isabella**	**79.54**	**45**	⇓P	**P**		**07 15 39.8**	**0.0**
	baz=80							
T06C	**Millerton Lake**	**79.56**	**43**	⇓P	**P**		**07 15 39.9**	**0.0**
	baz=80							
O02C	**Red Bluff**	**79.68**	**39**	⇑P	**P**		**07 15 40.8**	**+0.4**
	baz=80							
PFO	**Pinyon Flat Ob**	**79.69**	**47**	⇑P	**P**		**07 15 40.9**	**+0.4**
	baz=80							
CMB	**Columbia Colle**	**79.77**	**42**	*e*P	**P**		**07 15 40.6**	**-0.3**
CMB				*e**PP	pP		07 16 20.1	-0.6
CMB				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.0							
CMB	**Columbia Colle**	**79.77**	**42**	*e*P	**P**		**07 15 40.6**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.0							
CMB				*e*pP	pP		07 16 20.1	-0.6
CMB	**Columbia Colle**	**79.77**	**42**	⇑P	**P**		**07 15 41.0**	**0.0**
	baz=80							
HELL	**Mitchell Peak,**	**79.80**	**44**	⇓P	**P**		**07 15 40.5**	**-0.6**
	baz=80							
N02C	**Big Bar**	**79.80**	**38**	⇓P	**P**		**07 15 40.5**	**-0.6**
	baz=80							
KCC	**Kaiser Creek**	**80.00**	**43**	⇓P	**P**		**07 15 42.2**	**0.0**
	baz=80							
LAVA	**Lava Cap Winer**	**80.00**	**41**	⇑P	**P**		**07 15 41.6**	**-0.6**
	baz=80							
S06C	**San Francisco**	**80.01**	**42**	⇓P	**P**		**07 15 42.3**	**0.0**
	baz=80							
ORV	**Oroville**	**80.04**	**40**	⇑P	**P**		**07 15 42.8**	**+0.4**
	baz=80							
WDC	**Whiskeytown Da**	**80.09**	**39**	⇑P	**P**		**07 15 43.0**	**+0.4**
	baz=80							
CWC	**Cottonwood Cre**	**80.26**	**44**	⇑P	**P**		**07 15 43.6**	**0.0**
	baz=80							
R05C	**Kirkwood Meado**	**80.37**	**41**	⇓P	**P**		**07 15 44.9**	**+0.7**
	baz=80							
BC3	**Big Chuckw Mtn**	**80.40**	**48**	⇑P	**P**		**07 15 45.3**	**+1.0**
	baz=80							
MPMC	**Manual Prospec**	**80.42**	**45**	⇓P	**P**		**07 15 44.5**	**0.0**
	baz=80							
P05C	**Yuba Gap, Truc**	**80.42**	**41**	⇓P	**P**		**07 15 44.5**	**0.0**
	baz=80							
HEC	**Hector,Ludlow**	**80.47**	**46**	⇑P	**P**		**07 15 45.0**	**+0.3**
	baz=81							
MAW	**Mawson**	**80.51**	**200**	P	**P**		**07 15 46.1**	**+1.2**
	comp=Z,11nm,0.8s,mb4.5,baz=128,slow=7.3,SNR=23							
MAW	**Mawson**	**80.51**	**200**	*e*P	**P**		**07 15 45.7**	**+0.8**
MAW				*e**PP	pP		07 16 25.1	+0.3
MAW				pmax	pmax			
	comp=Z,15nm,0.8s							
MAW	**Mawson**	**80.51**	**200**	*e*P	**P**		**07 15 45.7**	**+0.8**
	comp=Z,15nm,0.8s,mb4.7							
MAW				*e*PcP	PcP		07 15 53.3	+1.9
MAW				*e*pP	pP		07 16 25.1	+0.3
R06C	**Coleville**	**80.65**	**42**	⇑P	**P**		**07 15 45.7**	**0.0**
	baz=81							
YBH	**Yreka Blue Hor**	**80.74**	**38**	⇑P	**P**		**07 15 45.8**	**-0.3**
	baz=81							
IRM	**Iron Mountain**	**80.89**	**48**	⇓P	**P**		**07 15 46.3**	**-0.6**
	baz=81							
GMRC	**Granite Mounta**	**80.90**	**47**	⇑P	**P**		**07 15 46.7**	**-0.3**
	baz=81							
BEKR	**Beckwourth**	**80.92**	**40**	⇑P	**P**		**07 15 47.8**	**+0.7**
	baz=81							
GRAC	**Grapevine Rang**	**81.05**	**44**	⇑P	**P**		**07 15 47.5**	**-0.3**
	baz=81							
FURC	**Furnace Creek,**	**81.07**	**45**	⇑P	**P**		**07 15 47.9**	**0.0**
	baz=81							
Y12C	**Blythe**	**81.09**	**48**	⇓P	**P**		**07 15 48.0**	**0.0**
	baz=81							
SHOC	**Shoshone**	**81.12**	**46**	⇓P	**P**		**07 15 47.9**	**-0.3**
	baz=81							
NVAR	**Mina Array Bea**	**81.31**	**43**	P	**P**		**07 15 49.3**	**+0.2**
	comp=Z,2.4nm,0.9s,mb3.8,baz=225,slow=6.8,SNR=10.0							
NVAR				pP	pP		07 16 28.6	-0.5
	comp=Z,1.8nm,0.8s,baz=229,slow=9.0,SNR=3.6							
U10A	**Ash Meadows, A**	**81.39**	**45**	⇑P	**P**		**07 15 50.2**	**+0.7**
	baz=82							
O06A	**Flanigan**	**81.43**	**40**	⇓P	**P**		**07 15 49.8**	**0.0**
	baz=82							
V11A	**Goodsprings**	**81.65**	**46**	⇑P	**P**		**07 15 50.6**	**-0.3**
	baz=82							
PDMCI	**Parker Dam,Lak**	**81.66**	**48**	⇑P	**P**		**07 15 51.3**	**+0.3**
	baz=82							
M06C	**Likely Place G**	**81.69**	**39**	⇑P	**P**		**07 15 51.1**	**0.0**
	baz=82							
N06A	**Buffalo Meadow**	**81.79**	**40**	⇓P	**P**		**07 15 51.3**	**-0.3**
	baz=82							
Q08A	**Gabbs**	**81.80**	**42**	⇑P	**P**		**07 15 52.0**	**+0.3**
	baz=82							
NJ2	**Nanjing**	**81.86**	**309**	*e*P	**P**		**07 15 53.5**	**+1.5**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.7							
R09A	**Tonopah**	**81.97**	**43**	⇓P	**P**		**07 15 53.6**	**+1.0**
	baz=82							
V12A	**Nelson**	**81.98**	**46**	⇓P	**P**		**07 15 53.3**	**+0.6**
	baz=82							
Z14A	**Wintersburg**	**81.98**	**49**	⇓P	**P**		**07 15 53.3**	**+0.6**
	baz=82							
O07A	**Toulon**	**82.00**	**41**	⇑P	**P**		**07 15 53.1**	**+0.3**
	baz=82							
X13A	**Yucca**	**82.04**	**48**	P	**P**		**07 15 53.4**	**+0.4**
	baz=82,SNR=5.1							
SHPR	**Sheep Range**	**82.21**	**46**	*e*P	**P**		**07 15 54.5**	**+0.7**
MOD	**Modoc**	**82.23**	**39**	⇑P	**P**		**07 15 54.3**	**+0.3**
	baz=82							
Y14A	**Wickenburg**	**82.25**	**49**	P	**P**		**07 15 54.4**	**+0.3**
	baz=82,SNR=6.9							
W13A	**Hualapai Mount**	**82.28**	**47**	P	**P**		**07 15 55.0**	**+0.7**
	baz=82,SNR=6.8							
K05A	**Summer Lake**	**82.41**	**38**	⇓P	**P**		**07 15 55.2**	**+0.3**
	baz=82							
116A	**Eloy**	**82.43**	**50**	⇑P	**P**		**07 15 55.6**	**+0.6**
	baz=82							
HABR	**Khabarovsk**	**82.44**	**330**	P	**P**		**07 15 53.1**	**-2.0**
HABR				*e*S	S		07 25 55.0	-2.9
M07A	**Soldier Meadow**	**82.58**	**40**	⇑P	**P**		**07 15 56.1**	**+0.3**
	baz=83							
U12A	**Valley of Fire**	**82.58**	**46**	⇓P	**P**		**07 15 55.8**	**0.0**
	baz=83							
X14A	**Yava**	**82.62**	**48**	P	**P**		**07 15 56.4**	**+0.4**
	baz=83,SNR=5.9							
K06A	**Valley Falls**	**82.82**	**38**	⇓P	**P**		**07 15 57.0**	**0.0**
	baz=83							
N08A	**GE Springer Mi**	**82.83**	**41**	P	**P**		**07 15 57.2**	**+0.1**
	baz=83,SNR=5.6							
L07A	**Adell**	**82.86**	**39**	⇓P	**P**		**07 15 58.5**	**+1.3**
	baz=83							
W14A	**Seligman**	**82.89**	**48**	P	**P**		**07 15 58.0**	**+0.7**
	baz=83,SNR=10							
TUC	**Tucson**	**82.96**	**51**	*e*P	**P**		**07 15 57.8**	**+0.1**
TUC				*e**PP	pP		07 16 35.5	-2.3
TUC				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5							
TUC	**Tucson**	**82.96**	**51**	*e*P	**P**		**07 15 57.8**	**0.0**
	comp=Z,9.1nm,1.0s,mb4.5							
TUC				*e*pP	pP		07 16 35.5	-2.4
O09A	**Fish Creek Ran**	**83.04**	**42**	⇑P	**P**		**07 15 58.4**	**+0.3**
	baz=83							
X15A	**Humboldt**	**83.08**	**49**	P	**P**		**07 15 59.2**	**+0.8**
	baz=83,SNR=8.8							
M08A	**Happy Creek Ra**	**83.08**	**40**	⇓P	**P**		**07 15 59.0**	**+0.6**
	baz=83							
J06A	**Christmas Vall**	**83.16**	**38**	⇑P	**P**		**07 15 58.4**	**-0.4**
	baz=83							
P10A	**Eureka**	**83.17**	**42**	⇑P	**P**		**07 15 59.1**	**+0.3**
	baz=83							
Q11A	**Duckwater**	**83.23**	**43**	⇑P	**P**		**07 15 59.1**	**0.0**
	baz=83							
N09A	**Rock Creek Ran**	**83.24**	**41**	⇓P	**P**		**07 15 59.1**	**0.0**
	baz=83							
K07A	**Rock Creek Ran**	**83.33**	**39**	⇑P	**P**		**07 15 59.9**	**+0.3**
	baz=83							
W15A	**Williams**	**83.43**	**48**	⇑P	**P**		**07 16 01.4**	**+1.3**
	baz=84							
E03A	**Lebam**	**83.44**	**34**	⇓P	**P**		**07 15 59.8**	**-0.4**
	baz=84							
H05A	**Madras**	**83.44**	**36**	⇑P	**P**		**07 16 01.1**	**+0.9**
	baz=84							
L08A	**Fields**	**83.56**	**40**	P	**P**		**07 16 00.9**	**+0.1**
	baz=84,SNR=5.5							
I06A	**Prineville**	**83.56**	**37**	⇓P	**P**		**07 16 00.8**	**0.0**
	baz=84							
M09A	**Marrel Ranch,**	**83.63**	**41**	⇓P	**P**		**07 16 01.1**	**0.0**
	baz=84							
F04A	**Amboy**	**83.63**	**35**	⇑P	**P**		**07 16 01.1**	**-0.1**
	baz=84							
J07A	**Hines**	**83.72**	**38**	⇓P	**P**		**07 16 01.2**	**-0.4**
	baz=84							
G05A	**Wamic**	**83.78**	**36**	⇑P	**P**		**07 16 01.2**	**-0.7**
	baz=84							
N10A	**Dunphy**	**83.78**	**42**	⇑P	**P**		**07 16 02.2**	**+0.3**
	baz=84							
K08A	**Mann Creek Ran**	**83.80**	**39**	P	**P**		**07 16 02.3**	**+0.3**
	baz=84,SNR=6.0							
L09A	**Wilkinson Ranc**	**83.85**	**40**	⇓P	**P**		**07 16 02.6**	**+0.3**
	baz=84							
Q12A	**Willow Creek R**	**83.87**	**44**	⇑P	**P**		**07 16 03.3**	**+0.9**
	baz=84							
O11A	**Cowboy Ranch,**	**83.97**	**42**	P	**P**		**07 16 03.1**	**+0.2**
	baz=84,SNR=7.0							
H06A	**Lindquist Farm**	**83.99**	**37**	⇑P	**P**		**07 16 03.3**	**+0.3**
	baz=84							
I07A	**Izee**	**84.05**	**37**	⇑P	**P**		**07 16 03.2**	**-0.1**
	baz=84							
P12A	**McGill**	**84.06**	**43**	⇓P	**P**		**07 16 03.0**	**-0.4**
	baz=84							
G06A	**Carlson Farm,**	**84.14**	**36**	⇑P	**P**		**07 16 03.7**	**-0.1**
	baz=84							
J08A	**Circle Bar Ran**	**84.19**	**39**	⇑P	**P**		**07 16 04.3**	**+0.3**
	baz=84							
K09A	**Rome**	**84.23**	**39**	⇓P	**P**		**07 16 04.4**	**+0.3**
	baz=84							
M10A	**L.L. Ranch, Tu**	**84.23**	**41**	⇓P	**P**		**07 16 04.8**	**+0.6**
	baz=84							
H07A	**Lands Inn, Kim**	**84.33**	**37**	⇑P	**P**		**07 16 05.3**	**+0.6**
	baz=84							
E05A	**Randle**	**84.39**	**35**	⇑P	**P**		**07 16 05.2**	**+0.2**
	baz=84							
F06A	**Goldendale**	**84.40**	**36**	⇓P	**P**		**07 16 04.7**	**-0.4**
	baz=84							
I08A	**Drewsey**	**84.47**	**38**	⇓P	**P**		**07 16 05.7**	**+0.3**
	baz=85							
J09A	**Fry Pan Ranch,**	**84.60**	**39**	⇑P	**P**		**07 16 06.0**	**-0.1**
	baz=85						

	comp=Z,10.0nm,1.1s,mb4.6									
LTX	**Lajitas**	**86.84**	**57**	*e*P		**P**		**07 16 17.0**	**-0.1**	
	comp=Z,9.6nm,1.1s,mb4.5									
TXAR	**Lajitas Array**	**86.84**	**57**	P		**P**		**07 16 17.4**	**+0.3**	
	comp=Z,6.4nm,1.0s,mb4.4,baz=213,slow=6.0,SNR=52									
TXAR				pP		pP		07 16 56.9	-0.7	
	comp=Z,1.4nm,0.9s,baz=223,slow=8.5,SNR=2.0									
E10A	**Myers Farm, Un**	**86.85**	**37**	⇓P		**P**		**07 16 16.7**	**-0.5**	
	baz=87									
BNM	**Barren Site**	**86.89**	**51**	*e*P		**P**		**07 16 18.1**	**+0.7**	
BNM				*e*pP		pP		07 16 58.3	+0.5	
VNA2	**Neumayer--Watz**	**86.94**	**176**	⇑*i*P		**P**		**07 16 16.8**	**-0.8**	
VNA2				*e*				07 16 18.8		
VNA2				*e*				07 16 24.2		
VNA2				*e*				07 16 31.5		
VNA2				*e*				07 16 33.1		
VNA2				*e*				07 16 36.9		
VNA2				*e*		pP		07 16 57.5	-0.5	
VNA2				*e*				07 17 05.5		
VNA2				*e*				07 17 12.7		
VNA2				*e*				07 17 17.8		
VNA2				*e*				07 17 25.8		
VNA2				*e*				07 17 27.8		
VNA2				*e*				07 17 33.8		
LPM	**Los Pinos Moun**	**86.97**	**51**	*e*P		**P**		**07 16 18.2**	**+0.5**	
LPM				*e*pP		pP		07 16 58.5	+0.3	
C09A	**Chrisman Ranch**	**87.02**	**35**	⇑P		**P**		**07 16 17.8**	**-0.1**	
	baz=87									
F11A	**Grangeville**	**87.03**	**37**	⇑P		**P**		**07 16 16.9**	**-1.1**	
	baz=87									
VNA1	**Neumayer--Stat**	**87.16**	**176**	⇑*i*P		**P**		**07 16 18.2**	**-0.4**	
VNA1				*e*				07 16 19.7		
VNA1				*e*				07 16 25.3		
VNA1				*e*				07 16 33.1		
VNA1				*e*				07 16 38.4		
VNA1				*e*		pP		07 16 58.4	-0.7	
A08A	**Turner Farm, O**	**87.21**	**34**	⇓P		**P**		**07 16 17.7**	**-1.1**	
	baz=87									
ANMO	**Albuquerque**	**87.40**	**51**	*e*P		**P**		**07 16 20.0**	**+0.2**	
ANMO				*e**PP		pP		07 17 00.4	+0.1	
ANMO	**Albuquerque**	**87.40**	**51**	*e*P		**P**		**07 16 19.8**	**0.0**	
	comp=Z,5.4nm,1.2s,mb4.2									
ANMO				*e*pP		pP		07 17 00.4	+0.1	
A09A	**Danville**	**87.58**	**34**	⇓P		**P**		**07 16 20.4**	**-0.2**	
	baz=88									
D11A	**Klaveano Farm,**	**87.62**	**36**	⇑P		**P**		**07 16 20.6**	**-0.2**	
	baz=88									
GDL2	**Guadalupe Moun**	**87.63**	**54**	*e*P		**P**		**07 16 20.9**	**0.0**	
GDL2				*e*pP		pP		07 17 02.0	+0.6	
F13A	**Darby**	**88.01**	**38**	⇓P		**P**		**07 16 23.2**	**+0.5**	
	baz=88									
SEY	**Seymchan**	**88.20**	**346**	⇑*e*P		**P**		**07 16 22.4**	**-1.2**	
MCK	**McKinley**	**88.24**	**12**	*e*P		**P**		**07 16 22.2**	**-1.6**	
MCK					pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.1									
MCK	**McKinley**	**88.24**	**12**	*e*P		**P**		**07 16 22.2**	**-1.6**	
	comp=Z,2.3nm,0.7s,mb4.1									
AHID	**Auburn Hatcher**	**88.28**	**42**	*e*P		**P**		**07 16 24.6**	**+0.6**	
AHID				*e*pP		pP		07 17 07.8	+3.3	
B11A	**Sandpoint**	**88.42**	**35**	⇑P		**P**		**07 16 24.4**	**-0.2**	
	baz=88									
E13A	**Victor**	**88.47**	**38**	⇓P		**P**		**07 16 23.7**	**-1.1**	
	baz=89									
GYA	**Guiyang**	**88.53**	**299**	P		**P**		**07 16 25.8**	**+0.7**	
GYA				AP		pP		07 17 08.5	+2.8	
GYA				XP		sP		07 17 24.8	+2.1	
GYA				PP		PP		07 19 58.5	+3.0	
GYA				SKS				07 26 37.5		
GYA				S		S		07 26 56.0	-1.4	
GYA				AMB		AMB				
	comp=Z,10.0nm,0.8s,mb4.8									
GYA				AMB		AMB				
	comp=Z,90nm,5.0s									
D13A	**Huson**	**88.69**	**37**	⇓P		**P**		**07 16 25.7**	**-0.2**	
	baz=89									
A11A	**Hall Mountain,**	**88.73**	**35**	⇓P		**P**		**07 16 25.9**	**-0.2**	
	baz=89									
G15A	**Dillon**	**88.74**	**40**	⇑P		**P**		**07 16 26.9**	**+0.8**	
	baz=89									
E14A	**Clinton**	**88.85**	**38**	⇑P		**P**		**07 16 26.4**	**-0.2**	
	baz=89									
C13A	**Hot Springs**	**88.96**	**37**	⇑P		**P**		**07 16 27.9**	**+0.8**	
	baz=89									
DLBC	**Dease Lake**	**89.01**	**22**	*e*PKKPbc		PKKPbc		07 34 05.0	+0.4	
QLMT	**Earthquake Lak**	**89.19**	**40**	*e*P		**P**		**07 16 28.7**	**+0.5**	
D14A	**Greenough**	**89.22**	**38**	⇑P		**P**		**07 16 28.1**	**-0.2**	
	baz=89									
PDAR	**Pinedale Array**	**89.24**	**43**	P		**P**		**07 16 27.8**	**-0.7**	
	comp=Z,1.9nm,1.1s,mb4.0,baz=214,slow=4.0,SNR=8.6									
PDAR				pP		pP		07 17 07.4	-1.7	
	comp=Z,0.8nm,0.9s,baz=163,slow=1.5,SNR=2.7									
COLA	**College**	**89.48**	**12**	⇑*e*P		**P**		**07 16 27.9**	**-1.7**	
COLA	**College**	**89.48**	**12**	*e*P		**P**		**07 16 27.4**	**-2.1**	
	comp=Z,6.8nm,0.6s,mb4.8									
LKWY	**Lake**	**89.67**	**41**	*e*P		**P**		**07 16 30.3**	**-0.1**	
LKWY					pmax	pmax				
	comp=Z,12nm,0.7s,mb4.9									
LKWY	**Lake**	**89.67**	**41**	*e*P		**P**		**07 16 30.3**	**-0.1**	
	comp=Z,12nm,0.7s,mb4.9									
D15A	**Lincoln**	**89.75**	**38**	⇑P		**P**		**07 16 30.3**	**-0.5**	
	baz=90									
DAWY	**Dawson**	**90.63**	**15**	*e*P		**P**		**07 16 34.0**	**-0.9**	
DAWY				*e*pP		pP		07 17 15.1	-0.5	
BILL	**Bilibino**	**90.73**	**354**	⇓*i*P		**P**		**07 16 33.5**	**-1.9**	
BILL				*e*S		SKSac		07 26 41.9	-10	
BILL					pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.6									
KMI	**Kunming**	**91.19**	**297**	P		**P**		**07 16 36.5**	**-1.0**	
KMI				AMB		AMB				
	comp=Z,16nm,1.3s,mb4.9									
KMI				LR		LR				
	comp=Z,67nm,26.7s									
KMI	**Kunming**	**91.19**	**297**	P		**P**		**07 16 36.5**	**-1.0**	
	comp=Z,16nm,1.3s,mb4.9									
KMI				LR		LR				
	comp=Z,70nm,26.7s									
HHC	**Hu-ho-hao-te**	**91.36**	**314**	*e*P		**P**		**07 16 39.3**	**+1.0**	
HHC				AMB		AMB				
	comp=Z,14nm,1.2s,mb4.9									
HHC				AMB		AMB				
	comp=Z,92nm,6.0s									
RSSD	**Black Hills**	**93.41**	**44**	*e*P		**P**		**07 16 47.0**	**-0.8**	
RSSD					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6									
RSSD	**Black Hills**	**93.41**	**44**	*e*P		**P**		**07 16 47.0**	**-0.8**	
	comp=Z,4.4nm,0.8s,mb4.6									
YKA	**Yellowknife Ar**	**97.41**	**24**	P		**P**		**07 17 04.5**	**-1.4**	
	comp=Z,0.9nm,0.8s,mb4.2,baz=245,slow=4.6,SNR=4.8									
YKA				pP		pP		07 17 45.5	-1.2	
	comp=Z,1.2nm,0.8s,baz=242,slow=4.7,SNR=4.8									
YKA	**Yellowknife Ar**	**97.41**	**24**	P		**P**		**07 17 04.5**	**-1.4**	
YKA				pP		pP		07 17 45.5	-1.3	
WMQ	**Urumqi**	**108.92**	**310**	PDIF		Pdif		07 17 57.8	+0.6	
WMQ				PP		PP		07 22 34.0	+3.3	
WMQ				PP		PP				
	comp=Z,49nm,8.4s									
WMQ				LR		LR				
	comp=N,49nm,18.1s									
WMQ				LR		LR				
	comp=E,52nm,18.1s									
WMQ				LR		LR				
	comp=Z,44nm,18.4s									
ZAL	**Zalesovo**	**112.53**	**321**	PKiKP		PKiKP		07 22 08.3	+0.5	
	comp=Z,2.7nm,0.3s,baz=167,slow=1.3,SNR=3.2									
MKAR	**Makanchi Array**	**113.20**	**313**	PKiKP		PKiKP		07 22 08.2	-0.9	
	comp=Z,1.1nm,0.8s,baz=45,slow=1.9,SNR=10									
BRVK	**Borovoye**	**121.16**	**320**	*e*PKIKP		PKPdf		07 22 23.9	-0.5	
ZRNK	**Zerenda**	**121.94**	**319**	*e*PKIKP		PKPdf		07 22 25.1	-0.8	
BOSA	**Boshof**	**125.36**	**204**	PKP		PKPdf		07 22 34.0	+1.5	
	comp=Z,2.3nm,0.7s,baz=190,slow=8.2,SNR=5.0									
ARU	**Arti**	**127.22**	**325**	*i* PKIKP		PKPdf		07 22 35.6	-0.4	
ARU				*e*				07 24 39.2		
ARU				*e*				07 29 24.8		
ARU				*e*SS		SS		07 41 37.2	+4.2	
ARU	**Arti**	**127.22**	**325**	*e*PKPdf		PKPdf		07 22 35.2	-0.8	
ARCES	**ARCESS Array B**	**130.69**	**350**	PKP		PKPdf		07 22 41.4	-1.2	
	comp=Z,5.0nm,0.8s,baz=90,slow=2.4,SNR=11									
LSZ	**Lusaka**	**135.61**	**215**	*e*PKIKP		PKPdf		07 22 53.8	+1.9	
KAF	**Kangasniemi**	**137.01**	**344**	*e*pkp				07 22 39.5		
FINES	**FINESS Array B**	**137.64**	**344**	PKhKP				07 22 48.0		
	comp=Z,5.6nm,1.1s,baz=349,slow=1.0,SNR=3.9									
FINES				PKP		PKPdf		07 22 54.7	-0.9	
	comp=Z,3.3nm,0.8s,baz=48,slow=2.8,SNR=7.0									
FINES				SKPbc		SKPbc		07 26 15.4	+1.3	
	comp=Z,2.2nm,1.0s,baz=51,slow=3.7,SNR=5.4									

OBN	**Obninsk**	**138.75**	**332**	⇓*i*PKIKP		PKPdf		07 22 58.6	+1.0	
OBN					pmax	pmax				
	comp=Z,8.0nm,0.7s									
NB2	**NORSAR Subarra**	**140.69**	**354**	PKP				07 22 53.4		
	comp=Z,1.3nm,0.8s,baz=16,slow=3.2									
NOA	**NORSAR Array B**	**140.69**	**354**	PKhKP				07 22 53.6		
	comp=Z,1.0nm,0.6s,baz=14,slow=2.3,SNR=4.5									
NOA				PKP		PKPdf		07 23 02.3	+1.1	
	comp=Z,1.8nm,0.8s,baz=14,slow=4.0,SNR=4.4									
SUW	**Suwalki**	**144.76**	**340**	*e*PKP		PKPdf		07 23 06.3	-2.1	
SUW	**Suwalki**	**144.76**	**340**	*e*PKPdf		PKPdf		07 23 07.0	-1.4	
AKASG	**Malin Array Be**	**145.01**	**331**	PKP		PKPdf		07 23 07.0	-1.8	
	comp=Z,4.9nm,0.4s,baz=42,slow=4.2,SNR=47									
AKBB	**Malin Array Si**	**145.01**	**331**	*e*PKIKP		PKPdf		07 23 06.9	-1.9	
KIEV	**Kiev**	**145.02**	**331**	*e*PKIKP		PKPdf		07 23 07.0	-1.8	
MUD	**Monsted U'grnd**	**145.40**	**354**	*i* P		PKPdf		07 23 09.3	-0.2	
	comp=Z,75nm,1.3s									
MUD	**Monsted U'grnd**	**145.40**	**354**	*i* PKP2		PKPab		07 23 09.3	-0.8	
MUD					pmax	pmax				
	comp=Z,75nm,1.3s									
ELZG	**Elazig**	**145.42**	**306**	*i* P		PKPdf		07 23 11.1	+1.5	
MALT	**Malatya**	**145.89**	**306**	⇓*i*P		PKPdf		07 23 12.0	+1.7	
BSD	**Bornholm Skovb**	**145.90**	**348**	⇑*i*P		PKPdf		07 23 10.5	+0.2	
	comp=Z,33nm,0.7s									
BSD	**Bornholm Skovb**	**145.90**	**348**	⇑*i*PKP2		PKPab		07 23 10.5	-1.5	
BSD					pmax	pmax				
	comp=Z,33nm,0.7s									
GZT	**Gaziantep**	**146.84**	**305**	*i* P		PKPbc		07 23 14.5	+0.5	
BOYT	**Boyabat**	**147.23**	**313**	*i* P		PKPbc		07 23 16.0	+0.9	
CTKT	**Corum**	**147.66**	**312**	*i* P		PKPbc		07 23 16.2	0.0	
LVV	**L'vov**	**147.88**	**335**	*e*PKP2		PKPbc		07 23 16.3	-0.5	
COBT	**Iskenderun**	**148.09**	**304**	*i* P		PKPbc		07 23 18.1	+0.7	
BALT	**Daday**	**148.19**	**315**	*i* P		PKPbc		07 23 17.7	0.0	
AVNT	**Avronos**	**148.36**	**309**	*i* P		PKPbc		07 23 17.8	-0.3	
KWP	**Kalwaria**	**148.54**	**336**	*e*PKP		PKPbc		07 23 18.4	-0.1	
KWP	**Kalwaria**	**148.54**	**336**	*e*PKPbc		PKPbc		07 23 18.4	-0.2	
RUE	**Ruedersdorf**	**148.61**	**348**	*e*PKPbc		PKPbc		07 23 19.2	+0.5	
ELDT	**Eldivan**	**148.65**	**313**	*i* P		PKPbc		07 23 19.0	+0.2	
BR131	**Keskin Array S**	**148.84**	**311**	*e*PKPbc		PKPbc		07 23 18.9	-0.3	
BRTR	**Keskin Array B**	**148.84**	**311**	PKPbc		PKPbc		07 23 18.9	-0.3	
	comp=Z,8.9nm,0.8s,baz=136,slow=4.5,SNR=38									
BURAR	**Bucovina Array**	**149.06**	**331**	⇑*i*P		PKPbc		07 23 20.2	+0.4	
STHS	**Stebnicka Huta**	**149.26**	**337**	*e*PKP		PKPdf		07 23 14.6	-1.3	
STHS				*e*				07 23 21.1		
KOLS	**Kolonicke sedl**	**149.27**	**335**	*e*PKP		PKPbc		07 23 20.2	-0.2	
CFR	**Carcaliu**	**149.30**	**325**	⇑PKP2		PKPbc		07 23 21.3	+0.8	
ANTO	**Ankara**	**149.36**	**312**	⇑*i*P		PKPbc		07 23 21.2	+0.6	
ANTO	**Ankara**	**149.36**	**312**	*e*PKPbc		PKPbc		07 23 20.9	+0.3	
UZH	**Uzhgorod**	**149.51**	**335**	⇓*i*PKP2		PKPbc		07 23 21.0	0.0	
SGKT	**Sivrigoynuk**	**149.53**	**314**	*i* P		PKPbc		07 23 20.9	-0.1	
KSP	**Ksiaz**	**149.56**	**344**	*e*PKP		PKPbc		07 23 21.2	+0.1	
KSP	**Ksiaz**	**149.56**	**344**	*e*PKP2		PKPab		07 23 26.0	-0.6	
VRI	**Vrincioaia**	**149.58**	**327**	⇑*i*P		PKPbc		07 23 21.3	+0.2	
TIRR	**Tirgusor**	**149.61**	**323**	⇓*i*P		PKPbc		07 23 20.3	-0.9	
TIRR	**Tirgusor**	**149.61**	**323**	PKP2		PKPbc		07 23 20.9	-0.3	
TIRR	**Tirgusor**	**149.61**	**323**	*e*PKPbc		PKPbc		07 23 19.9	-1.3	
TIRR				*e*PKPab		PKPab		07 23 26.3	-0.6	
CLZ	**Clausthal**	**149.80**	**351**	*e*PKPbc		PKPbc		07 23 22.1	+0.4	
CLL	**Collm**	**149.88**	**348**	*e*PKPbc		PKPbc		07 23 21.5	-0.3	
	comp=Z,31nm,0.9s									
CLL				*e*PKPab		PKPab		07 23 26.8	-1.1	
CLL				*e*pPKPbc		pPKPbc		07 24 04.0	-0.2	
CLL				*e*pPKPab		pPKPab		07 24 07.2	-1.9	
CLL	**Collm**	**149.88**	**348**	*i* PKP2		PKPbc		07 23 22.2	+0.4	
CLL					pmax	pmax				
	comp=Z,30nm,0.9s									
CLL					pmax	pmax				
	comp=Z,17nm,0.9s									
CLL	**Collm**	**149.88**	**348**	*i* PKPbc		PKPbc		07 23 22.2	+0.4	
	comp=Z,30nm,0.9s									
CLL				*i* PKPab		PKPab		07 23 26.4	-1.5	
	comp=Z,17nm,0.9s									
CLL				*i* pPKPbc		pPKPbc		07 24 04.0	-0.2	
CLL				*i* pPKPab		pPKPab		07 24 07.2	-1.9	
UPC	**Upice**	**149.94**	**344**	⇑ePKP		PKPbc		07 23 23.0	+1.0	
DPC	**Dobruska-Polom**	**150.00**	**343**	⇑*e*PKP		PKPbc		07 23 22.9	-0.7	
BRG	**Berggiesshubel**	**150.09**	**347**	*e*PKPbc		PKPbc		07 23 22.8	+0.4	
BRG	**Berggiesshubel**	**150.09**	**347**	*e*PKP		PKPbc		07 23 22.2	-0.2	
	comp=Z,11nm,0.9s									
BRG				*e*				07 24 01.6		
	comp=Z,19nm,2.0s									
BRG	**Berggiesshubel**	**150.09**	**347**	*e*PKP2		PKPbc		07 23 22.2	-0.2	
BRG					pmax	pmax				
	comp=Z,11nm,1.0s									
BRG					pmax	pmax				
	comp=Z,19nm,2.0s									
FBE	**Freiberg**	**150.17**	**347**	*e*PKPbc		PKPbc		07 23 23.1	+0.5	
MORC	**Moravsky Berou**	**150.18**	**341**	⇓*i*P		PKPbc		07 23 23.4	+0.8	
MORC	**Moravsky Berou**	**150.18**	**341**	⇓P		PKPbc		07 23 23.4	+0.8	
MLR	**Muntele Rosu**	**150.24**	**327**	⇓*i*P		PKPbc		07 23 22.4	-0.3	
MLR	**Muntele Rosu**	**150.24**	**327**	PKIKP		PKPbc		07 23 23.0	+0.3	
PVCC	**Panska Ves**	**150.28**	**346**	⇑*e*PKP		PKPbc		07 23 23.6	+0.8	
KECS	**Kecovo**	**150.32**	**337**	*e*PKP		PKPdf		07 23 19.6	+2.0	
KECS				*e*				07 24 24.7		
EIL	**Elat**	**150.66**	**292**	*e*PKPbc		PKPbc		07 23 24.2	+0.5	
MOX	**Moxa**	**150.77**	**349**	*e*PKPbc		PKPbc		07 23 24.1	+0.1	
MOX	**Moxa**	**150.77**	**349**	*e*PKP		PKPbc		07 23 23.7	-0.3	
	comp=Z,13nm,1.1s									
MOX	**Moxa**	**150.77**	**349**	*e*PKIKP		PKPbc		07 23 23.7	-0.3	
MOX					pmax	pmax				
	comp=Z,13nm,1.1s									
PRU	**Pruhonice**	**150.79**	**345**	⇑*e*PKP		PKPbc		07 23 24.3	+0.3	
PRU				*e*PKPAB		PKPab		07 23 32.4	+0.7	
WERD	**Werda**	**150.83**	**348**	*e*PKPbc		PKPbc		07 23 24.3	+0.2	
TANN	**Tannenbergstha**	**150.83**	**348**	*e*PKPbc		PKPbc		07 23 24.6	+0.5	
TANN				*ep*PKPbc		pPKPbc		07 24 07.9	+1.4	
ESKT	**Eskisehir**	**150.85**	**313**	*i* P		PKPdf		07 23 23.5	+5.1	
VRAC	**Vranov**	**150.87**	**342**	⇓*i*P		PKPbc		07 23 25.1	+0.9	
VYHS	**Vyhne**	**150.89**	**339**	*i* PKP		PKPbc		07 23 24.7	+0.4	
GUNZ	**Gunzen**	**150.91**	**348**	*e*PKPbc		PKPbc		07 23 24.5	+0.2	
WERN	**Wernitzgruen**	**150.97**	**348**	*e*PKPbc		PKPbc		07 23 25.0	+0.6	
NKC	**Novy Kostel**	**151.01**	**348**	⇑*e*PKP		PKPbc		07 23 25.6	+1.1	
MANZ	**Manzenberg**	**151.31**	**348**	*e*PKPbc		PKPbc		07 23 25.8	+0.6	
MEM	**Membach**	**151.45**	**356**	PKP		PKPdf		07 23 19.7	+0.4	
MEM				PKPbc		PKPbc		07 23 25.5	0.0	
ROTZ	**Rotzenmuhle**	**151.50**	**348**	*e*PKPbc		PKPbc		07 23 25.8	+0.1	
TNS	**Taunus Mts**	**151.63**	**353**	*e*PKPbc		PKPbc		07 23 26.1	+0.1	
ULDT	**Uludag**	**151.68**	**315**	*i* P		PKPbc		07 23 25.9	-0.1	
GRF	**Grafenberg Arr**	**151.75**	**349**	*e*PKPbc		PKPbc		07 23 26.5	+0.3	
KHC	**Kasperske Hory**	**151.81**	**346**	⇑*e*PKP		PKPbc		07 23 26.3	-0.1	
KHC				*e*PKPAB		PKPab		07 23 35.8	-0.2	
DOU	**Dourbes**	**152.02**	**358**	PKP		PKPdf		07 23 21.8	+1.7	
DOU				PKPbc		PKPbc		07 23 27.1	+0.3	
GEC2	**GERESS Array S**	**152.05**	**345**	*e*PKPbc		PKPbc		07 23 27.3	+0.4	
GERES	**GERESS Array B**	**152.05**	**345**	PKPbc		PKPbc		07 23 26.5	-0.4	
	comp=Z,4.4nm,0.8s,baz=38,slow=2.4,SNR=25									
BZS	**Buzias**	**152.19**	**332**	⇓*i*P		PKPbc		07 23 27.5	+0.3	
PKSM	**Moragy**	**152.91**	**336**	⇑*i*P		PKPbc		07 23 28.8	0.0	
VTS	**Vitosha**	**153.68**	**326**	⇓*i*P		PKPbc		07 23 31.1	+0.6	
TORD	**Torodi Ar. Bea**	**170.97**	**170**	PKP		PKPdf		07 23 39.8	+0.2	
	comp=Z,1.7nm,0.9s,baz=18,slow=0.3,SNR=11									
TORD				PKPab		PKPab		07 25 00.6	+1.1	
	comp=Z,4.2nm,0.9s,baz=172,slow=4.4,SNR=16									

*CSEM **28** 07:42:56.1±0.2, 3383N×3670E, h8km, Mc1.3, Error ellipse: s-maj=6.3km s-min=5.2km az=106.0*
*ISCJB **28** 07:42:57.8±0.6, 3385N±0.003×3662E±0.006, h17km±10km, Error ellipse: s-maj=7.7km s-min=4.8km az=176.9*
*NSSC **28** 07:42:57, 3385N×3656E, h11km±3km*
*GRAL **28** 07:43:02.1±0.5, 3372N×3636E, h21km±38km, MD3.0*

ISC 28 07:42:57.6±0.6, 3384N±0.003×3662E±0.005, h15km±5km, n15, σ1§19/28, 4D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MARH	**Ras Al Marh**	**0.22**	**328**	⇑*i*P	**Pg**		**07**	**43**	**01.2**	**-1.3**
MARH				⇑S	**Sg**		**07**	**43**	**05.5**	**-0.3**
MARH	**Ras Al Marh**	**0.22**	**328**	⇑P	**Pg**		**07**	**43**	**01.0**	**-1.5**
MARH				⇑S	**Sg**		**07**	**43**	**05.0**	**-0.8**
TOTH	**TOTAH**	**0.51**	**199**	⇓*i*P	**Pg**		**07**	**43**	**06.9**	**-0.7**
TOTH				⇓*i*S	**Sg**		**07**	**43**	**15.1**	**+0.7**
TOTH	**TOTAH**	**0.51**	**199**	⇓P	**Pg**		**07**	**43**	**06.0**	**-1.6**
TOTH				⇓S	**Sg**		**07**	**43**	**15.0**	**+0.6**
ROOS	**tl_alroos**	**0.64**	**59**	⇑*i*P	**Pg**		**07**	**43**	**09.6**	**-0.6**
ROOS				⇑*i*S	**Sg**		**07**	**43**	**20.8**	**+2.1**
ROOS	**tl_alroos**	**0.64**	**59**	⇑P	**Pg**		**07**	**43**	**09.0**	**-1.2**
ROOS				⇑S	**Sg**		**07**	**43**	**20.0**	**+1.3**
HWQ	**Hawqa**	**0.71**	**308**	*e*Pg	**Pg**		**07**	**43**	**13.8**	**+2.4**
HWQ				*e*Sg	**Sg**		**07**	**43**	**22.7**	**+1.9**
RCY	**Rachaya**	**0.76**	**242**	*e*Pg	**Pg**		**07**	**43**	**11.5**	**-0.9**
BHL	**Bhannes**	**0.81**	**275**	*e*Pg	**Pg**		**07**	**43**	**13.1**	**-0.2**
SALA	**Sala**	**1.13**	**175**	⇑*i*P	**Pb**		**07**	**43**	**18.0**	**-0.8**
SALA				⇑*i*S	**Sb**		**07**	**43**	**35.0**	**+1.7**
SALA	**Sala**	**1.13**	**175**	⇑P	**Pb**		**07**	**43**	**17.0**	**-1.8**
SALA				⇑S	**Sb**		**07**	**43**	**35.0**	**+1.7**
BIDA	**Albida**	**1.19**	**348**	⇑*i*P	**Pn**		**07**	**43**	**19.9**	**+0.2**
BIDA				⇑*i*S	**Sb**		**07**	**43**	**35.3**	**+0.2**
BIDA	**Albida**	**1.19**	**348**	⇑P	**Pn**		**07**	**43**	**19.0**	**-0.7**
BIDA				⇑S	**Sb**		**07**	**43**	**35.0**	**-0.1**
WRDH	**Warideh**	**1.67**	**354**	⇑*i*P	**Pn**		**07**	**43**	**26.8**	**+0.6**
WRDH				⇑*i*S	**Sn**		**07**	**43**	**46.8**	**-0.6**
WRDH	**Warideh**	**1.67**	**354**	⇑P	**Pn**		**07**	**43**	**26.0**	**-0.2**
WRDH				⇑S	**Sn**		**07**	**43**	**46.0**	**-1.4**

*BJI **28** 07:44:08.0, 094N×9703E, h30km, mB5.2, mb4.7, Ms5.0, Msz4.7*
*IDC **28** 07:44:10.2±0.9, 153N×9679E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.1/15, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx1.9/37, Error ellipse: s-maj=30.8km s-min=16.3km az=45.0*
*ISCJB **28** 07:44:14.1±2.2, 166N±0.009×969E±0.1, h35km±18km, mb4.2/22, MS4.1/1, Error ellipse: s-maj=22.0km s-min=12.9km az=120.6*
*NEIC **28** 07:44:15.1±0.5, 161N×9688E, h30km, mb4.4/4, Error ellipse: s-maj=12.1km s-min=8.0km az=223.0*

ISC 28 07:44:16.3±2.2, 169N±0.009×969E±0.1, h36km±18km, n29, σ0§73/29, mb4.2/22, MS4.1/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PSI	**Prapat**	**2.28**	**61**	Pn	**Pn**		**07**	**44**	**51.0**	**-0.4**
	6.4nm,0.3s,baz=248,slow=6.1,SNR=18									
PSI		

SONM Songino Array 10.39 98 Pn **Pn** 07 55 50.8 -1.1
0.1nm,0.3s,baz=285,slow=14,SNR=4.9
SONM Lg 07 58 49.9
0.5nm,0.3s,baz=294,slow=28,SNR=4.0
BVAR Borovoye Array 13.07 290 Pn **Pn** 07 56 26.2 -2.3
0.1nm,0.3s,baz=84,slow=16,SNR=3.5
BVAR Sn **Sn** 07 58 47.5 -6.4
0.2nm,0.3s,baz=94,slow=22,SNR=3.8
AKTO Aktyubinsk 20.95 283 P **P** 07 58 06.3 +0.5
0.5nm,0.4s,baz=96,slow=12,SNR=2.8

NIED ***28*** *07:53:00,46.80N×15.360E,h11km,Mw4.6 Best double couple: M0 9.79000×10^15 NP1:ϕ=208.00000°,δ=75.00000°, λ=-95.00000°. NP2:ϕ=46.00000°,δ=16.00000°,λ=-72.00000°.*
ISCJB ***28*** *07:53:50.7±1.2,46.01N±0.05×154.25E±0.03,h2km±7km, mb4.7/76,MS4.5/1, Error ellipse: s-maj=8.0km s-min=3.1km az=147.3*
IDC ***28*** *07:53:52.6±0.5,46.09N×154.34E,h0km,mb4.4/21, mb1 4.6/23,mb1mx4.5/29,mbtmp4.4/23,ML4.2/1,Error ellipse: s-maj=16.3km s-min=12.7km az=147.0*
BJI ***28*** *07:53:53.1,46.23N×154.08E,h7km,mB4.9,mb4.7,Ms4.7, Msz4.5*
NEIC ***28*** *07:53:54.1±0.3,46.07N×154.30E,h10km,mb4.8/38,Error ellipse: s-maj=8.2km s-min=4.9km az=156.0*
MOS ***28*** *07:53:55.7±1.0,46.08N×154.16E,h31km,mb4.8/38,Error ellipse: s-maj=8.8km s-min=7.1km az=83.9*
SKHL ***28*** *07:53:55.4±2.0,46.05N×154.05E,h50km±20km,Ms4.1/2*
JMA ***28*** *07:53:58.3±0.7,46.79N×153.56E,h30km,M5.0*
ISC 28 07:53:54.3±1.3,4607N±005×15424E±003,h11km±8km, h24km±5.6km:pP-P,n297,σ0.96/310,mb4.7/76,MS4.5/1, 58C-42D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.55**	**262**	*e*P		**Pn**	**07 55 00.5**	**-2.6**
KUR					AMB	AMB	07 55 02.0	
	215nm,0.8s							
KUR					AMB	AMB	07 55 02.0	
	537nm,0.8s							
KUR				*e*S		**Sn**	**07 55 51.0**	**-4.9**
KUR				A			07 55 55.5	
	946nm,0.7s							
KUR				A			07 55 55.5	
	688nm,0.7s							
SKR	**Severo-Kuril's**	**4.78**	**14**	*e*P		**Pn**	**07 55 06.5**	**+0.2**
SKR					AMB	AMB	07 55 07.5	
	80nm,0.5s							
SKR				*e*S		**Sn**	**07 55 55.0**	**-6.7**
SKR				A			07 55 57.0	
	170nm,0.7s							
SKR				A			07 55 57.0	
	80nm,0.5s							
SKR					AMS	AMS	07 57 08.0	
	1μm,16.0s							
SKR					AMS	AMS	07 57 08.0	
	3μm,16.0s							
SKR					AMS	AMS	07 57 08.0	
	1μm,16.0s							
SKR					AMS	AMS	07 57 08.0	
	3μm,16.0s							
YUK	**Yuzh-Kuril'sk**	**6.27**	**254**	*e*P		**Pn**	**07 55 27.0**	**+0.2**
YUK					AMB	AMB	07 55 31.7	
	200nm,0.3s							
YUK				*i* S		**Sn**	**07 56 34.5**	**-4.0**
YUK				A			07 56 42.8	
	2μm,0.8s							
YUK				A			07 56 42.8	
	1μm,1.0s							
YUK				A			07 56 45.0	
	580nm,0.6s							
YUK				A			07 56 45.0	
	710nm,0.6s							
NEM2	**Nemuro 2**	**6.63**	**249**	P		**Pn**	**07 55 30.6**	**-1.1**
NEM2				*e*S		**Sn**	**07 56 39.6**	**-7.7**
JRA	**Rausu**	**6.81**	**255**	P		**Pn**	**07 55 35.2**	**+1.1**
JRA				*e*S		**Sn**	**07 56 49.4**	**-2.2**
JNK	**Nakash**	**7.21**	**253**	P		**Pn**	**07 55 39.9**	**+0.2**
JNK				*e*S		**Sn**	**07 56 56.6**	**-5.0**
JAK	**Akkeshi**	**7.48**	**249**	P		**Pn**	**07 55 42.4**	**-1.0**
JAK				*e*S		**Sn**	**07 56 59.9**	**-8.3**
PET	**Petropavlovsk**	**7.52**	**21**	*e*PN		**Pn**	**07 55 38.8**	**-5.2**
PET				MLR		MLR		
	comp=Z,400nm,17.0s							
JTKR	**Abashiri--Toko**	**7.62**	**258**	P		**Pn**	**07 55 45.9**	**+0.7**
JAR	**Ashorobuto**	**7.96**	**253**	P		**Pn**	**07 55 50.5**	**+0.5**
JAR				*e*S		**Sn**	**07 57 16.0**	**-4.0**
YSS	**Yuzh-Sakhalins**	**7.97**	**280**	⇑*i*P		**Pn**	**07 55 52.8**	**+2.7**
YSS				AMB		AMB	07 55 55.0	
	comp=Z,50nm,0.7s							
YSS				*e*S		**Sn**	**07 57 20.3**	**0.0**
YSS				A			07 57 21.9	
	comp=Z,30nm,0.8s							
YSS				*e*LQ			07 57 38.0	
YSS					AMS	AMS	08 00 00.0	
	comp=Z,400nm,14.0s							
YSS					AMS	AMS	08 00 00.0	
	comp=Z,400nm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.97**	**280**	⇑*i*PN		**Pn**	**07 55 52.8**	**+2.7**
YSS				pmax		pmax		
	comp=Z,50nm,0.7s							
YSS				MLR		MLR		
	comp=E,400nm,14.0s							
YSS				MLR		MLR		
	comp=Z,400nm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.97**	**280**	*e*Pn		**Pn**	**07 55 52.6**	**+2.5**
	comp=Z,44nm,0.6s							
JMP	**Maruseppu**	**7.98**	**259**	P		**Pn**	**07 55 51.0**	**+0.8**
JOB	**Onbets**	**8.09**	**251**	P		**Pn**	**07 55 51.4**	**-0.3**
JOB				*e*S		**Sn**	**07 57 16.4**	**-6.7**
JKK2	**Kamakawa 2**	**8.44**	**259**	P		**Pn**	**07 55 57.8**	**+1.3**
ASAJ	**Asahikawa**	**8.47**	**261**	Pn		**Pn**	**07 55 58.1**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=76,slow=22,SNR=8.7							
ASAJ	**Asahikawa**	**8.47**	**261**	P		**Pn**	**07 55 58.6**	**+1.7**
ASAJ	**Asahikawa**	**8.47**	**261**	PN		**Pn**	**07 55 58.1**	**+1.2**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
JCH	**Churui**	**8.53**	**250**	P		**Pn**	**07 55 57.4**	**-0.3**
JCH				*e*S		**Sn**	**07 57 25.9**	**-8.0**
JWK2	**Keihoku**	**8.67**	**269**	P		**Pn**	**07 56 04.5**	**+4.8**
ERM	**Erimo**	**8.95**	**247**	⇑*e*PN		**Pn**	**07 56 04.9**	**+1.3**
JEM	**Erimo**	**8.95**	**247**	P		**Pn**	**07 56 04.4**	**+0.9**
JEM				*e*S		**Sn**	**07 57 37.6**	**-6.8**
TYV	**Tymovskoe**	**9.06**	**306**	*e*P		**Pn**	**07 56 07.0**	**+1.9**
TYV					AMB	AMB	07 56 20.0	
	comp=Z,13nm,0.8s							
TYV					AMB	AMB	07 56 20.0	
	comp=Z,24nm,0.8s							
JNBK	**Urakawa-nobuka**	**9.08**	**249**	P		**Pn**	**07 56 04.6**	**-0.7**
JNBK				*e*S		**Sn**	**07 57 39.0**	**-8.6**
JBT2	**Biratori 2**	**9.11**	**253**	P		**Pn**	**07 56 06.0**	**+0.2**
JEW	**Eniwo**	**9.70**	**255**	*e*S		**Sn**	**07 58 02.0**	**-0.8**
JNB	**Noboribetsu**	**10.13**	**254**	P		**Pn**	**07 56 19.2**	**-0.5**
JKB	**Kayabe**	**10.39**	**251**	P		**Pn**	**07 56 20.8**	**-2.5**
JKB				*e*S		**Sn**	**07 58 09.0**	**-11**
JOT	**Ohata**	**10.63**	**249**	P		**Pn**	**07 56 24.4**	**-2.2**
JOT				*e*S		**Sn**	**07 58 15.1**	**-11**
JSH	**Shimam**	**10.73**	**256**	P		**Pn**	**07 56 28.8**	**+0.9**
JYM2	**Yakumo 2**	**10.73**	**253**	P		**Pn**	**07 56 27.4**	**-0.5**
JANG	**Nango**	**10.89**	**243**	*e*S		**Sn**	**07 58 19.6**	**-12**
JTM	**Tenmabayashi**	**10.93**	**246**	P		**Pn**	**07 56 29.1**	**-1.6**
JTM				*e*S		**Sn**	**07 58 21.1**	**-12**
JTH	**Tanohata**	**10.94**	**240**	*e*S		**Sn**	**07 58 19.8**	**-13**
NKL	**Nikolayevsk**	**11.28**	**314**	*e*L			08 00 12.0	
NKL					AMS	AMS	08 02 36.0	
	comp=Z,1μm,16.0s							
NKL					AMS	AMS	08 02 36.0	
	comp=Z,900nm,16.0s							
NKL					AMS	AMS	08 02 36.0	
	comp=Z,1μm,16.0s							
JOSM	**Okushiri--Mats**	**11.34**	**255**	P		**Pn**	**07 56 35.1**	**-1.2**
JOM	**Ohasama**	**11.57**	**240**	P		**Pn**	**07 56 37.1**	**-2.3**
JOM				*e*S		**Sn**	**07 58 39.4**	**-9.2**
OFUJ	**Ofunato**	**11.60**	**237**	*e*S		**Sn**	**07 58 36.7**	**-13**
JRG	**Rokugo**	**12.02**	**241**	P		**Pn**	**07 56 45.0**	**-0.5**
JRG				*e*S		**Sn**	**07 58 48.9**	**-11**
JMM	**Marumori**	**12.92**	**235**	*e*S		**Sn**	**07 59 10.9**	**-11**
MAJO	**Matsushiro**	**15.33**	**237**	*e*P		**Pn**	**07 57 32.0**	**+1.4**
MAJO					pmax	pmax		
	comp=Z,24nm,0.8s							
MAJO	**Matsushiro**	**15.33**	**237**	*e*P		**Pn**	**07 57 31.9**	**+1.3**
	comp=Z,24nm,0.8s							
MJAR	**Matsushiro Arr**	**15.33**	**237**	Pn		**Pn**	**07 57 29.4**	**-1.2**
	baz=32,slow=11,SNR=5.3							
KLR	**Kul'dur**	**15.47**	**290**	*e*P		**Pn**	**07 57 30.0**	**-2.4**
MDJ	**Mudanjiang**	**17.37**	**274**	*e*P		**Pn**	**07 57 56.9**	**+0.2**
	comp=Z,33nm,1.1s							
ZEA	**Zeya**	**18.91**	**304**	*e*P		**Pn**	**07 58 13.2**	**-2.4**
ZEA					AMB	AMB	07 58 14.9	
	comp=Z,42nm,1.6s							
CN2	**Changchun**	**20.46**	**274**	*e*P		**P**	**07 58 28.0**	**-3.9**
YAK	**Yakutsk**	**21.31**	**327**	*e*P		**P**	**07 58 41.4**	**+0.3**
YAK				*e*S		**S**	**08 02 29.2**	**-8.5**
YAK				pmax		pmax		
	comp=Z,15nm,0.8s,mb4.4							
YAK				smax				
	comp=E,15nm,1.3s							
YAK				smax				
	comp=N,20nm,1.6s							
KSRS	**Korea Array**	**21.36**	**256**	P		**P**	**07 58 44.2**	**+2.6**
	comp=N,6.1nm,0.6s,mb4.1,baz=58,slow=9.8,SNR=14							
SNY	**Shenyang**	**22.40**	**270**	⇓P		**P**	**07 58 53.3**	**+0.5**
SNY					AMB	AMB		
	comp=Z,26nm,0.5s,mb4.9							
SNY					AMB	AMB		
	comp=Z,114nm,5.4s							
SNY					LR	LR		
	comp=N,969nm,13.2s,MS4.5							
SNY					LR	LR		
	comp=E,727nm,10.8s,MS4.5							
SNY					LR	LR		
	comp=Z,1μm,14.4s,MS4.5							
BILL	**Bilibino**	**22.89**	**12**	⇑*e*P		**P**	**07 58 58.7**	**+0.8**
BILL					pmax	pmax		
	comp=Z,53nm,1.7s,mb4.7							
BILL	**Bilibino**	**22.89**	**12**	*e*P		**P**	**07 58 58.3**	**+0.4**
	comp=Z,41nm,1.1s,mb4.8							
BOD	**Bodaibo**	**27.02**	**310**	*e*P		**P**	**07 59 33.8**	**-2.6**
BOD				*e*			07 59 44.5	
BOD					pmax	pmax		
	comp=Z,8.0nm,2.1s,mb3.9							
BOD					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3							
TIXI	**Tiksi**	**28.34**	**343**	⇑*e*P		**P**	**07 59 47.8**	**-0.4**
TIXI					pmax	pmax		
	comp=Z,17nm,2.5s,mb4.2							
NJ2	**Nanjing**	**30.56**	**255**	*e*P		**P**	**08 00 09.5**	**+1.6**
NJ2					AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2							
HHC	**Hu-ho-hao-te**	**31.13**	**276**	*e*P		**P**	**08 00 16.0**	**+3.1**
HHC					AMB	AMB		
	comp=Z,28nm,1.1s,mb5.0							
HHC					AMB	AMB		
	comp=Z,160nm,5.6s							
KDAK	**Kodiak Island**	**33.93**	**50**	P		**P**	**08 00 34.9**	**-2.6**
	comp=Z,14nm,0.7s,mb5.0,baz=268,slow=8.7,SNR=11							
KDAK	**Kodiak Island**	**33.93**	**50**	P		**P**	**08 00 34.9**	**-2.6**
MCK	**McKinley**	**35.67**	**40**	*e*P		**P**	**08 00 51.8**	**-0.7**
MCK					pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5							
MCK	**McKinley**	**35.67**	**40**	*e*P		**P**	**08 00 51.8**	**-0.7**
	comp=Z,9.0nm,1.5s,mb4.5							
SML	**Sawmill**	**35.93**	**43**	*e*P		**P**	**08 00 54.1**	**-0.6**
COLA	**College**	**36.19**	**38**	*e*P		**P**	**08 00 56.6**	**-0.4**
COLA					pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0							
COLA	**College**	**36.19**	**38**	*e*P		**P**	**08 00 56.6**	**-0.4**
	comp=Z,31nm,1.4s,mb5.0							
XAN	**Xi'an**	**36.24**	**267**	P		**P**	**08 00 58.0**	**+0.6**
XAN					AP	pP	08 01 08.5	+7.8
XAN					AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6							
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**08 01 20.0**	**+1.8**
LZH					AP	pP	08 01 30.0	+8.5
LZH					AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**08 01 20.0**	**+1.8**
LZH					*PP	pP	08 01 30.0	+8.5
LZH					*SP	sP	08 01 36.5	+14
LZH					pmax	pmax		
	comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**38.70**	**273**	*e*P		**P**	**08 01 20.0**	**+1.8**
	comp=Z,30nm,1.5s,mb4.8							
LZH					pP	pP	08 01 30.0	+8.5
LZH					sP	sP	08 01 36.5	+14
EGAK	**Eagle**	**39.05**	**38**	*e*P		**P**	**08 01 20.4**	**-0.8**
	comp=Z,9.3nm,1.0s,mb4.5							
GTA	**Gaotai**	**39.85**	**280**	*e*P		**P**	**08 01 29.8**	**+1.9**
GTA					AP	pP	08 01 36.5	+5.4
GTA					XP	sP	08 01 40.0	+7.6
GTA					AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
DAWY	**Dawson**	**39.87**	**39**	*e*P		**P**	**08 01 28.1**	**+0.1**
CD2	**Chengdu**	**41.61**	**267**	P		**P**	**08 01 43.3**	**+0.9**
CD2					XP	sP	08 01 49.8	+2.9
CD2					PP	PP	08 03 22.5	+4.0
CD2					S	**S**	**08 07 58.5**	**0.0**
CD2					AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0							
INK	**Inuvik**	**41.81**	**32**	P		**P**	**08 01 44.2**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.2,baz=244,slow=8.0,SNR=12							
INK	**Inuvik**	**41.81**	**32**	*e*P		**P**	**08 01 44.0**	**0.0**
	comp=Z,91nm,0.6s,mb5.6							
GYA	**Guiyang**	**42.34**	**259**	⇑*i*P		**P**	**08 01 49.0**	**+0.7**
GYA					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**43.65**	**307**	P		**P**	**08 01 58.2**	**-0.8**
	comp=Z,3.5nm,0.3s,mb4.6,baz=71,slow=3.8,SNR=3.9							
ZAL					PcP	PcP	08 03 45.3	-0.9
	comp=Z,1.7nm,0.3s,baz=50,slow=5.0,SNR=4.7							
ZAL	**Zalesovo**	**43.65**	**307**	P		**P**	**08 01 58.2**	**-0.8**
ZAL							08 03 45.3	
ZAL					pmax	pmax		
	comp=Z,4.0nm,0.3s							
ZAL					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ZAL	**Zalesovo**	**43.65**	**307**	P		**P**	**08 01 58.2**	**-0.8**
ZAL					PcP	PcP	08 03 45.3	-0.9
QIZ	**Qiongzhong**	**45.31**	**249**	P		**P**	**08 02 11.5**	**-0.7**
QIZ				*e*S		**S**	**08 08 51.0**	**-1.7**
QIZ					AMB	AMB		
	comp=Z,24nm,1.9s,mb4.7							
DLBC	**Dease Lake**	**45.51**	**46**	*e*P		**P**	**08 02 15.0**	**+1.2**
KMI	**Kunming**	**45.90**	**261**	P		**P**	**08 02 21.0**	**+4.2**
KMI					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
KMI	**Kunming**	**45.90**	**261**	P		**P**	**08 02 21.0**	**+4.2**
	comp=Z,10.0nm,0.6s,mb4.9							
MK31	**Makanchi Array**	**47.95**	**298**	*e*P		**P**	**08 02 32.3**	**-0.6**
MKAR	**Makanchi Array**	**47.95**	**298**	P		**P**	**08 02 33.2**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.7,baz=68,slow=7.6,SNR=36							
MKAR	**Makanchi Array**	**47.95**	**298**	P		**P**	**08 02 33.3**	**+0.4**
MKAR					pmax	pmax		
	comp=Z,4.0nm,0.5s							
YKA	**Yellowknife Ar**	**51.00**	**37**	P		**P**	**08 02 55.9**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=295,slow=7.1,SNR=9.3							
YKA					PcP	PcP	08 04 11.7	-0.5
	comp=Z,0.6nm,0.6s,baz=311,slow=3.9,SNR=4.7							
YKA	**Yellowknife Ar**	**51.00**	**37**	P		**P**	**08 02 55.9**	**-0.3**
YKA							08 04 11.7	
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**51.00**	**37**	P		**P**	**08 02 55.9**	**-0.3**
YKA					PcP	PcP	08 04 11.7	-0.5
LSA	**Lhasa**	**51.09**	**274**	*e*P		**P**	**08 02 59.8**	**+2.9**
LSA					pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**51.09**	**274**	*e*P		**P**	**08 02 59.8**	**+2.8**
	comp=Z,8.7nm,0.6s,mb4.9							
RES	**Resolute Bay**	**51.23**	**19**	*e*P		**P**	**08 02 57.7**	**-0.2**
	comp=Z,108nm,0.6s							
VOSK	**Vostochnaya**	**51.72**	**310**	P		**P**	**08 03 01.1**	**-0.5**
VOSK					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
BVA0	**Borovoye Array**	**51.89**	**310**	*i* P		**P**	**08 03 03.4**	**+0.5**
BVA0					pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9							
BVAR	**Borovoye Array**	**51.89**	**310**	P		**P**	**08 03 02.8**	**-0.1**
	comp=Z,2.6nm,0.4s,mb4.5,baz=50,slow=7.2,SNR=16							
BVAR	**Borovoye Array**	**51.89**	**310**	P		**P**	**08 03 02.8**	**-0.1**
BVAR					pmax	pmax		
	comp=Z,3.0nm,0.4s							
BRVK	**Borovoye**	**51.93**	**310**	P		**P**	**08 03 02.7**	**-0.5**
BRVK					pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3							
BRVK	**Borovoye**	**51.93**	**310**	*e*P		**P**	**08 03 02.6**	**-0.6**
	comp=Z,5.8nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**52.66**	**311**	*e*P		**P**	**08 03 07.7**	**-0.9**
ZRNK					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
ZRNK	**Zerenda**	**52.66**	**311**	*e*P		**P**	**08 03 07.7**	**-0.8**
	comp=Z,5.7nm,0.7s,mb4.6							
D05A	**Enumclaw**	**54.80**	**56**	⇑P		**P**	**08 03 23.7**	**-0.5**
	baz=55							
AAK	**Ala-Archa**	**54.84**	**297**	⇑*e*P		**P**	**08 03 24.8**	**+0.3**
AAK					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
AAK	**Ala-Archa**	**54.84**	**297**	*e*P		**P**	**08 03 24.4**	**-0.1**
	comp=Z,9.0nm,0.8s,mb4.8							
A08A	**Turner Farm, O**	**55.39**	**53**	⇑P		**P**	**08 03 28.1**	**-0.5**
	baz=55							
D06A	**Cle Elum**	**55.45**	**56**	⇑P		**P**	**08 03 28.2**	**-0.8**
	baz=55							
B08A	**Colville Reser**	**55.68**	**54**	⇓P		**P**	**08 03 29.1**	**-1.5**
	baz=55							
A09A	**Danville**	**55.76**	**53**	⇓P		**P**	**08 03 30.0**	**-1.2**
	baz=56							
JIRN	**Jiri**	**55.78**	**276**	*e*P		**P**	**08 03 34.1**	**+2.8**
GUN	**Gumba**	**55.84**	**276**	*e*P		**P**	**08 03 33.0**	**+1.2**
	comp=Z,37nm,0.6s,mb5.6							
ARU	**Arti**	**56.04**	**318**	⇑*i*P		**P**	**08 03 32.8**	**-0.4**
ARU				*e*			08 04 29.6	
ARU				*e*S		**S**	**08 11 22.1**	**+0.6**
ARU				*e*SS		SS	08 15 07.3	-0.3
ARU				pmax		pmax		
	comp=Z,14nm,1.4s,mb4.8							
ARU	**Arti**	**56.04**	**318**	*e*P		**P**	**08 03 32.4**	**-0.8**
	comp=Z,9.7nm,0.6s,mb5.0							
EDM	**Edmonton**	**56.22**	**46**	*e*P		**P**	**08 03 33.8**	**-0.7**
KKN	**Kakani**	**56.33**	**277**	*e*P		**P**	**08 03 36.9**	**+1.6**
	comp=Z,23nm,0.5s,mb5.5							
E07A	**Sunnyside**	**56.37**	**56**	⇓P		**P**	**08 03 33.2**	**-2.3**
	baz=56							
PKI	**Pulchoki**	**56.38**	**276**	*e*P		**P**	**08 03 36.9**	**+1.3**
	comp=Z,14nm,0.5s,mb5.3							
DMN	**Daman**	**56.56**	**276**	*e*P		**P**	**08 03 38.7**	**+1.8**
	comp=Z,34nm,0.5s,mb5.6							
C09A	**Chrisman Ranch**	**56.58**	**54**	⇑P		**P**	**08 03 35.9**	**-1.1**
	baz=56							
H05A	**Madras**	**56.63**	**58**	⇑P		**P**	**08 03 36.5**	**-0.8**
	baz=56							
GKN	**Gorkha**	**56.64**	**277**	*e*P		**P**	**08 03 38.8**	**+1.3**
	comp=Z,28nm,0.5s,mb5.5							
F07A	**Phinny Hill Vi**	**56.69**	**56**	⇑P		**P**	**08 03 36.8**	**-1.1**
	baz=56							
J04A	**Umpqua Nationa**	**56.89**	**60**	⇓P		**P**	**08 03 36.9**	**-2.3**
	baz=57							
A11A	**Hall Mountain,**	**57.00**	**52**	⇓P		**P**	**08 03 40.6**	**+0.6**
	baz=57							
H06A	**Lindquist Farm**	**57.10**	**58**	⇑P		**P**	**08 03 40.9**	**+0.1**
	baz=57							
E09A	**Wood Farm, Sta**	**57.37**	**55**	⇓P		**P**	**08 03 41.6**	**-1.1**
	baz=57							
F08A	**Pendleton**	**57.41**	**56**	⇑P		**P**	**08 03 42.6**	**-0.3**
	baz=57							
KOLN	**Koldanda**	**57.50**	**278**	*e*P		**P**	**08 03 45.1**	**+1.5**
	comp=Z,21nm,0.7s,mb5.3							
G08A	**Pilot Rock**	**57.59**	**57**	⇑P		**P**	**08 03 44.5**	**+0.3**
	baz=57							
I06A	**Prineville**	**57.63**	**59**	⇓P		**P**	**08 03 44.3**	**-0.1**
	baz=57							
K05A	**Summer Lake**	**57.91**	**60**	⇑P		**P**	**08 03 47.5**	**+1.0**
	baz=58							
I07A	**Izee**	**57.97**	**58**	⇓P		**P**	**08 03 47.9**	**+1.1**
	baz=58							
E10A	**Myers Farm, Un**	**57.98**	**55**	⇓P		**P**	**08 03 46.5**	**-0.4**
	baz=58							
J06A	**Christmas Vall**	**58.06**	**59**	⇑P		**P**	**08 03 46.8**	**-0.7**
	baz=58							
D11A	**Klaveano Farm,**	**58.09**	**54**	⇑P		**P**	**08 03 46.4**	**-1.4**
	baz=58							
WDC	**Whiskeytown Da**	**58.15**	**63**	⇑P		**P**	**08 03 45.6**	**-2.5**
	baz=58							
F10A	**Beach Ranch, E**	**58.20**	**55**	⇓P		**P**	**08 03 48.4**	**-0.1**
	baz=58							
H08A	**Prairie City**	**58.20**	**57**	⇑P		**P**	**08 03 48.0**	**-0.5**
	baz=58							
K06A	**Valley Falls**	**58.26**	**60**	⇓P		**P**	**08 03 49.2**	**+0.3**
	baz=58							
B13A	**Whitefish**	**58.36**	**52**	P		**P**	**08 03 49.9**	**+0.3**
	baz=58,SNR=6.4							
E11A	**Bogner Ranch,**	**58.56**	**54**	⇑P		**P**	**08 03 50.3**	**-0.7**
	baz=58							
I08A	**Drewsey**	**58.62**	**58**	⇓P		**P**	**08 03 51.5**	**+0.2**
	baz=58							
C13A	**Hot Springs**	**58.71**	**52**	⇑P		**P**	**08 03 52.3**	**+0.3**
	baz=58							
H09A	**Durkee**	**58.71**	**57**	P		**P**	**08 03 52.9**	**+0.9**
	baz=58,SNR=5.0							
ARCES	**ARCESS Array B**	**58.75**	**341**	P		**P**	**08 03 52.1**	**-0.2**
	comp=Z,5.1nm,0.9s,mb4.6,baz=31,slow=7.1,SNR=7.6							
ARCES	**ARCESS Array B**	**58.75**	**341**	P		**P**	**08 03 52.1**	**-0.2**
ARCES					pmax	pmax		
	comp=Z,5.0nm,0.9s							
MOD	**Modoc**	**58.75**	**61**	⇑P		**P**	**08 03 51.4**	**-0.9**
	baz=58							
F11A	**Grangeville**	**58.86**	**55**	⇓P		**P**	**08 03 53.1**	**0.0**
	baz=59							
K07A	**Rock Creek Ran**	**58.92**	**59**	⇑P		**P**	**08 03 53.9**	**+0.4**
	baz=59							
J08A	**Circle Bar Ran**	**58.99**	**58**	⇑P		**P**	**08 03 53.9**	**-0.1**
	baz=59							
I09A	**L

R06C	**Coleville**	**61.29**	**63**	⇑P		**P**	**08 04 10.3**	**+0.6**
	baz=61							
G15A	**Dillon**	**61.36**	**54**	P		**P**	**08 04 10.6**	**+0.3**
	baz=61,SNR=6.0							
S06C	**San Francisco**	**61.43**	**64**	⇑P		**P**	**08 04 09.7**	**-1.0**
	baz=61							
O09A	**Fish Creek Ran**	**61.67**	**60**	⇓P		**P**	**08 04 12.1**	**-0.2**
	baz=61							
KAKA	**Kakadu**	**61.72**	**204**	*e*P		**P**	**08 04 12.7**	**+0.1**
	comp=Z,12nm,0.6s,mb5.2							
M11A	**Holland Ranch,**	**61.74**	**59**	⇓P		**P**	**08 04 13.3**	**+0.5**
	baz=62							
O10A	**Cortez Mining,**	**62.01**	**60**	⇓P		**P**	**08 04 16.3**	**+1.7**
	baz=62							
Q08A	**Gabbs**	**62.02**	**62**	⇓P		**P**	**08 04 14.8**	**+0.1**
	baz=62							
NVAR	**Mina Array Bea**	**62.06**	**63**	P		**P**	**08 04 15.3**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.5,baz=292,slow=9.1,SNR=13							
NVAR				PcP		PcP	08 04 55.5	+0.2
	comp=Z,1.6nm,0.8s,baz=309,slow=2.4,SNR=4.5							
T06C	**Millerton Lake**	**62.06**	**65**	⇑P		**P**	**08 04 15.1**	**+0.2**
	baz=62							
M12A	**Wells**	**62.27**	**58**	⇓P		**P**	**08 04 17.1**	**+0.8**
	baz=62							
P10A	**Eureka**	**62.45**	**61**	⇑P		**P**	**08 04 17.4**	**-0.1**
	baz=62							
N12A	**Clover Valley,**	**62.54**	**59**	⇓P		**P**	**08 04 18.0**	**-0.1**
	baz=62							
O11A	**Cowboy Ranch,**	**62.62**	**60**	⇑P		**P**	**08 04 18.4**	**-0.2**
	baz=62							
HELL	**Mitchell Peak,**	**62.69**	**65**	⇓P		**P**	**08 04 18.0**	**-1.1**
	baz=62							
M13A	**Montello**	**62.74**	**58**	⇑P		**P**	**08 04 19.6**	**+0.1**
	baz=62							
R09A	**Tonopah**	**62.93**	**62**	P		**P**	**08 04 21.4**	**+0.6**
	baz=63,SNR=6.2							
O12A	**Currie**	**63.08**	**59**	P		**P**	**08 04 22.0**	**+0.3**
	baz=63,SNR=7.3							
S09A	**Goldfield**	**63.16**	**63**	⇑P		**P**	**08 04 22.2**	**-0.1**
	baz=63							
SNOW	**Snow King Moun**	**63.40**	**54**	*e*P		**P**	**08 04 24.8**	**+1.0**
	comp=Z,7.3nm,0.7s,mb4.9							
REDW	**Red Top Meadow**	**63.40**	**54**	*e*P		**P**	**08 04 24.4**	**+0.5**
	comp=Z,8.7nm,0.7s,mb5.0							
Q11A	**Duckwater**	**63.42**	**61**	⇑P		**P**	**08 04 23.7**	**-0.3**
	baz=63							
P12A	**McGill**	**63.48**	**60**	⇑P		**P**	**08 04 25.5**	**+1.1**
	baz=63							
ARVC	**Arvin**	**63.78**	**66**	⇑P		**P**	**08 04 26.7**	**+0.3**
	baz=64							
Q12A	**Willow Creek R**	**63.80**	**60**	⇓P		**P**	**08 04 27.1**	**+0.6**
	baz=64							
MPMC	**Manual Prospec**	**64.04**	**64**	P		**P**	**08 04 28.6**	**+0.5**
	baz=64,SNR=5.0							
FURC	**Furnace Creek,**	**64.18**	**64**	P		**P**	**08 04 29.5**	**+0.5**
	baz=64,SNR=6.0							
DUG	**Dugway**	**64.27**	**58**	*e*P		**P**	**08 04 29.8**	**+0.2**
DUG				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.7							
DUG	**Dugway**	**64.27**	**58**	*e*P		**P**	**08 04 29.8**	**+0.2**
	comp=Z,11nm,1.3s,mb4.7							
DUG	**Dugway**	**64.27**	**58**	P		**P**	**08 04 30.1**	**+0.5**
	baz=64,SNR=6.6							
KAF	**Kangasniemi**	**64.38**	**336**	*e*p		**P**	**08 04 27.3**	**-3.0**
	comp=Z,3.8nm,0.7s,mb4.5							
KAF	**Kangasniemi**	**64.38**	**336**	*e*P		**P**	**08 04 27.3**	**-3.0**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
EDW2	**Edwards Air Fo**	**64.47**	**66**	⇓P		**P**	**08 04 30.6**	**-0.3**
	baz=64							
BW06	**Boulder Array**	**64.51**	**54**	*e*P		**P**	**08 04 31.2**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.6							
PDAR	**Pinedale Array**	**64.51**	**54**	P		**P**	**08 04 31.4**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.4,baz=278,slow=3.1,SNR=26							
U10A	**Ash Meadows, A**	**64.54**	**63**	⇓P		**P**	**08 04 32.2**	**+0.9**
	baz=64							
FINES	**FINESS Array B**	**64.98**	**335**	P		**P**	**08 04 33.5**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.6,baz=38,slow=7.9,SNR=18							
FINES	**FINESS Array B**	**64.98**	**335**	*e*P		**P**	**08 04 33.4**	**-0.9**
U11A	**Corn Creek**	**65.12**	**63**	⇑P		**P**	**08 04 35.7**	**+0.6**
	baz=65							
V11A	**Goodsprings**	**65.47**	**63**	⇓P		**P**	**08 04 37.8**	**+0.3**
	baz=65							
MURC	**Murrieta**	**65.80**	**66**	⇑P		**P**	**08 04 39.2**	**-0.3**
	baz=66							
V12A	**Nelson**	**65.90**	**63**	⇑P		**P**	**08 04 40.5**	**+0.3**
	baz=66							
GMRC	**Granite Mounta**	**66.01**	**64**	⇑P		**P**	**08 04 40.7**	**-0.1**
	baz=66							
OBN	**Obninsk**	**66.31**	**326**	⇓*i*P		**P**	**08 04 44.4**	**+1.6**
OBN				*e*S		S	08 13 31.9	-0.4
OBN				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.9							
SRU	**San Rafael**	**66.32**	**58**	*e*P		**P**	**08 04 43.1**	**+0.2**
SRU				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
SRU	**San Rafael**	**66.32**	**58**	*e*P		**P**	**08 04 43.0**	**+0.1**
	comp=Z,9.5nm,0.9s,mb4.8							
ULM	**Lac du Bonnet**	**66.52**	**41**	P		**P**	**08 04 42.9**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=325,slow=10,SNR=4.0							
RSSD	**Black Hills**	**66.66**	**50**	*e*P		**P**	**08 04 44.6**	**-0.5**
RSSD				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
RSSD	**Black Hills**	**66.66**	**50**	*e*P		**P**	**08 04 44.6**	**-0.5**
	comp=Z,7.0nm,1.0s,mb4.7							
IRM	**Iron Mountain**	**66.73**	**65**	⇓P		**P**	**08 04 45.8**	**+0.2**
	baz=66							
W13A	**Hualapai Mount**	**66.91**	**63**	⇑P		**P**	**08 04 46.7**	**+0.1**
	baz=67							
PDMCI	**Parker Dam,Lak**	**67.27**	**64**	⇑P		**P**	**08 04 48.5**	**-0.5**
	baz=67							
X13A	**Yucca**	**67.27**	**63**	⇓P		**P**	**08 04 49.2**	**+0.2**
	baz=67							
W14A	**Seligman**	**67.33**	**62**	P		**P**	**08 04 50.3**	**+1.0**
	baz=67,SNR=6.8							
W15A	**Williams**	**67.85**	**62**	⇓P		**P**	**08 04 53.3**	**+0.7**
	baz=68							
X14A	**Yava**	**67.94**	**63**	⇑P		**P**	**08 04 54.1**	**+0.9**
	baz=68							
WRAB	**Tennant Creek**	**68.12**	**200**	⇑*e*P		**P**	**08 04 54.6**	**+0.3**
WRAB	**Tennant Creek**	**68.12**	**200**	*e*P		**P**	**08 04 53.4**	**-0.9**
	comp=Z,11nm,0.9s,mb4.9							
WB2	**Warramunga Arr**	**68.13**	**200**	*e*P		**P**	**08 04 54.1**	**-0.3**
WRA	**Warramunga Arr**	**68.14**	**200**	P		**P**	**08 04 54.2**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.7,baz=19,slow=6.6,SNR=27							
WRA	**Warramunga Arr**	**68.14**	**200**	P		**P**	**08 04 54.2**	**-0.2**
WRA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
Y14A	**Wickenburg**	**68.22**	**63**	⇑P		**P**	**08 04 55.6**	**+0.7**
	baz=68							
X15A	**Humboldt**	**68.33**	**63**	P		**P**	**08 04 56.5**	**+0.8**
	baz=68,SNR=7.7							
ISCO	**Idaho Springs**	**68.70**	**54**	*e*P		**P**	**08 04 58.2**	**+0.2**
ISCO				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
ISCO	**Idaho Springs**	**68.70**	**54**	*e*P		**P**	**08 04 58.2**	**+0.2**
	comp=Z,6.8nm,1.3s,mb4.4							
MVCO	**Mesa Verde**	**68.78**	**58**	*e*P		**P**	**08 04 57.9**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.3							
MVCO	**Mesa Verde**	**68.78**	**58**	⇓P		**P**	**08 04 58.4**	**0.0**
	baz=68							
FITZ	**Fitzroy Crossi**	**68.92**	**209**	*e*P		**P**	**08 04 59.7**	**+0.4**
	comp=Z,6.8nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**68.92**	**209**	P		**P**	**08 05 00.2**	**+0.9**
	comp=Z,4.4nm,0.8s,mb4.4,baz=37,slow=3.1,SNR=5.9							
NB2	**NORSAR Subarra**	**69.12**	**342**	P		**P**	**08 05 02.3**	**+1.8**
	comp=Z,6.2nm,0.7s,mb4.7,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.12**	**342**	P		**P**	**08 05 01.6**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.4,baz=26,slow=6.3,SNR=10.0							
NOA	**NORSAR Array B**	**69.12**	**342**	P		**P**	**08 05 01.6**	**+1.1**
NOA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
115A	**Sonoran Desert**	**69.52**	**64**	⇑P		**P**	**08 05 03.4**	**+0.3**
	baz=69							
ANMO	**Albuquerque**	**71.52**	**59**	⇑*e*P		**P**	**08 05 16.0**	**+0.8**
ANMO	**Albuquerque**	**71.52**	**59**	*e*P		**P**	**08 05 15.4**	**+0.2**
	comp=Z,2.4nm,1.0s,mb4.1							
ASAR	**Alice Springs**	**71.82**	**200**	P		**P**	**08 05 18.1**	**+1.0**
	comp=Z,5.8nm,0.9s,mb4.5,baz=12,slow=5.7,SNR=34							
ASAR	**Alice Springs**	**71.82**	**200**	P		**P**	**08 05 18.1**	**+1.0**
ASAR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KIV	**Kislovodsk**	**71.83**	**315**	*e*P		**P**	**08 05 08.7**	**-8.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
AKASG	**Malin Array Be**	**72.54**	**327**	P		**P**	**08 05 19.6**	**-1.8**
	comp=Z,2.3nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=5.0							
AKASG	**Malin Array Be**	**72.54**	**327**	P		**P**	**08 05 19.6**	**-1.8**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
WMOK	**Wichita Mounta**	**76.13**	**54**	*e*P		**P**	**08 05 41.7**	**-0.5**
WMOK				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.4							
WMOK	**Wichita Mounta**	**76.13**	**54**	*e*P		**P**	**08 05 41.6**	**-0.6**
	comp=Z,6.0nm,1.3s,mb4.4							
LTX	**Lajitas**	**77.14**	**61**	*e*P		**P**	**08 05 47.9**	**-0.1**
LTX				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.7							
LTX	**Lajitas**	**77.14**	**61**	*e*P		**P**	**08 05 47.9**	**-0.1**
	comp=Z,14nm,1.3s,mb4.7							
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**	**08 05 47.9**	**-0.1**
	comp=Z,6.2nm,0.7s,mb4.6,baz=303,slow=4.8,SNR=68							
TXAR	**Lajitas Array**	**77.14**	**61**	P		**P**	**08 05 47.9**	**-0.1**
TXAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
CLL	**Collm**	**77.40**	**336**	⇑*i*P		**P**	**08 05 48.9**	**-0.5**
CLL				*e*pP		pP	08 05 54.0	+1.1
CLL				*i* sPcP			08 06 05.8	
MALT	**Malatya**	**78.18**	**314**	*e*P		**P**	**08 05 55.3**	**+1.5**
MALT				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
MALT	**Malatya**	**78.18**	**314**	*e*P		**P**	**08 05 55.3**	**+1.5**
	comp=Z,3.2nm,0.8s,mb4.3							
JCT	**Junction City**	**78.64**	**58**	*e*P		**P**	**08 05 55.9**	**-0.4**
JCT				pmax		pmax		
	comp=Z,4.0nm,0.2s,mb5.0							
JCT	**Junction City**	**78.64**	**58**	*e*P		**P**	**08 05 55.9**	**-0.4**
	comp=Z,3.9nm,0.2s,mb5.0							
KHC	**Kasperske Hory**	**79.18**	**335**	*e*P		**P**	**08 05 57.0**	**-2.3**
KHC				x		x	08 06 01.5	
KHC	**Kasperske Hory**	**79.18**	**335**	⇑*e*P		**P**	**08 05 56.7**	**-2.6**
KHC	**Kasperske Hory**	**79.18**	**335**	*e*P		**P**	**08 05 57.0**	**-2.3**
KHC				*e*		pP	08 06 01.5	-1.3
GERES	**GERESS Array B**	**79.40**	**335**	P		**P**	**08 05 59.3**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=1.4,slow=5.3,SNR=5.7							
GERES	**GERESS Array B**	**79.40**	**335**	P		**P**	**08 05 59.3**	**-1.2**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BR131	**Keskin Array S**	**79.42**	**318**	*e*P		**P**	**08 06 01.1**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**79.42**	**318**	P		**P**	**08 06 01.4**	**+0.8**
	comp=Z,2.7nm,1.0s,mb4.1,baz=54,slow=2.1,SNR=9.6							
BRTR	**Keskin Array B**	**79.42**	**318**	P		**P**	**08 06 01.4**	**+0.8**
BRTR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CDF	**Champ du Feu**	**81.58**	**338**	*e*P		**P**	**08 06 12.3**	**+0.1**
	comp=Z,8.5nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**81.58**	**338**	*e*P		**P**	**08 06 12.3**	**+0.1**
CDF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**81.58**	**338**	*e*P		**P**	**08 06 12.3**	**+0.1**
	comp=Z,4.3nm,0.6s,mb4.6							
GRR	**Gorron**	**83.44**	**344**	*e*P		**P**	**08 06 21.7**	**-0.2**
	comp=Z,44nm,1.2s,mb5.1							
GRR	**Gorron**	**83.44**	**344**	*e*P		**P**	**08 06 21.7**	**-0.2**
GRR				pmax		pmax		
	comp=Z,22nm,1.2s,mb5.1							
GRR	**Gorron**	**83.44**	**344**	*e*P		**P**	**08 06 21.7**	**-0.2**
	comp=Z,22nm,1.2s,mb5.1							
SMF	**Signal de Mont**	**84.07**	**340**	*e*P		**P**	**08 06 24.9**	**-0.2**
	comp=Z,13nm,0.7s,mb4.9							
SMF	**Signal de Mont**	**84.07**	**340**	*e*P		**P**	**08 06 24.9**	**-0.2**
SMF				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.9							
SMF	**Signal de Mont**	**84.07**	**340**	*e*P		**P**	**08 06 24.9**	**-0.2**
	comp=Z,6.7nm,0.7s,mb4.9							
LPG	**La Plagne**	**84.41**	**338**	*e*P		**P**	**08 06 27.0**	**+0.2**
	comp=Z,14nm,0.7s,mb4.9							
LPG	**La Plagne**	**84.41**	**338**	*e*P		**P**	**08 06 27.0**	**+0.2**
LPG				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.9							
LPG	**La Plagne**	**84.41**	**338**	*e*P		**P**	**08 06 27.0**	**+0.2**
	comp=Z,6.9nm,0.7s,mb4.9							
CAF	**Calviac**	**86.11**	**341**	*e*P		**P**	**08 06 35.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**116.07**	**330**	PKP		PKPdf	08 12 36.4	-1.1
	comp=Z,0.4nm,0.5s,baz=358,slow=1.2,SNR=2.6							
CFAA	**Coronel Fontan**	**144.34**	**81**	PKP		PKPdf	08 13 27.8	-2.7
	comp=Z,0.2nm,0.5s,baz=296,slow=3.6,SNR=8.9							
SNAA	**Sanae**	**152.11**	**195**	PKPbc		PKPbc	08 13 47.4	-2.5
	comp=Z,1.2nm,0.7s,baz=189,slow=1.5,SNR=13							
SNAA	**Sanae**	**152.11**	**195**	*e*PKPdf		PKPbc	08 13 47.6	-2.2
SNAA				*e*			08 13 58.2	
SNAA				*e*			08 14 00.2	
SNAA	**Sanae**	**152.11**	**195**	*e*PKPbc		PKPbc	08 13 47.0	-2.9
SNAA				*e*PKPab		PKPab	08 13 57.8	-1.6
VNA2	**Neumayer--Watz**	**153.53**	**193**	*e*PKPdf		PKPdf	08 13 45.3	0.0
VNA2				*e*			08 13 51.0	
VNA2				*e*			08 13 53.4	
VNA2				*e*			08 14 00.2	
VNA2				*e*			08 14 04.2	
VNA2				*e*			08 14 07.0	
VNA3	**Neumayer Olymp**	**153.59**	**192**	*e*PKPdf		PKPdf	08 13 45.1	-0.3
VNA3				*e*			08 13 50.9	
VNA3				*e*			08 13 53.6	
VNA3				*e*			08 14 00.2	
VNA3				*e*			08 14 03.9	
VNA3				*e*			08 14 06.4	
VNA1	**Neumayer--Stat**	**153.92**	**193**	*e*PKPdf		PKPab	08 14 06.1	-0.9
VNA1				*e*			08 14 08.1	

IDC 28 07:55:15.9±8.6, 656S×10928E, h266^{km}±74^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.5/20, mbtmp3.7/6, 2C-1D, Error ellipse: s-maj=79.0km s-min=22.6km az=68.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.65**	**127**	⇑*i*P	P	07 59 25.2	+0.1
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.65**	**127**	P	P	07 59 25.3	+0.2
	0.4nm,0.3s,baz=320,slow=9.7,SNR=11						
KAKA	**Kakadu**	**23.63**	**107**	⇓*i*P	P	08 00 03.1	-0.2
	8.7nm,0.4s						
WRA	**Warramunga Arr**	**27.73**	**121**	P	P	08 00 40.1	+0.1
	1.6nm,0.3s,baz=303,slow=8.8,SNR=35						
WRA				PcP	PcP	08 03 49.7	+0.4
	0.7nm,0.5s,baz=314,slow=2.2,SNR=7.3						
WB2	**Warramunga Arr**	**27.74**	**121**	*e*P	P	08 00 39.3	-0.8
ASPA	**Alice Springs**	**29.14**	**128**	⇑*i*P	P	08 00 52.8	+0.3
ASAR	**Alice Springs**	**29.14**	**128**	P	P	08 00 52.8	+0.2
	5.6nm,0.5s,baz=305,slow=8.6,SNR=68						
ASAR				PcP	PcP	08 03 53.3	+0.4
	0.4nm,0.3s,baz=300,slow=2.5,SNR=5.1						
STKA	**Stephens Creek**	**39.29**	**134**	*e*P	P	08 02 19.7	+0.5
	12nm,0.6s						
STKA	**Stephens Creek**	**39.29**	**134**	P	P	08 02 19.8	+0.5
	9.9nm,0.3s,baz=306,slow=9.3,SNR=68						
SONM	**Songino Array**	**54.22**	**358**	P	P	08 04 14.5	+0.1
	0.7nm,0.6s,baz=179,slow=8.8,SNR=4.5						
VNDA	**Vanda**	**75.99**	**170**	P	P	08 06 32.6	-1.2
	0.5nm,0.4s,baz=320,slow=7.7,SNR=3.1						

NIED ***28*** *08:01:00, 47.10N×155.00E, h17^{km}, Mw5.1 Best double couple: M$_o$5.36000×10^{16} NP1:φ$_s$177.00000°, δ64.00000°, λ-113.00000°. NP2:φ$_s$41.00000°, δ34.00000°, λ-51.00000°.*

IDC ***28*** *08:01:49.9±0.4, 4669N×15560E, h0^{km}, mb5.2/30, mb1 5.3/32, mb1mx5.3/34, mbtmp5.2/32, ML4.5/2, MS4.5/25, Ms1 4.5/25, ms1mx4.3/35, Error ellipse: s-maj=12.8km s-min=9.8km az=127.0*

ISCJB ***28*** *08:01:50.7±0.1, 4657N±003×15558E±002, h16^{km}, mb5.5/334, MS4.7/56, Error ellipse: s-maj=3.7km s-min=1.6km az=159.7*

NEIC ***28*** *08:01:51.8±0.1, 4669N×15553E, h10^{km}, mb5.6/211, MW5.2, Error ellipse: s-maj=3.4km s-min=2.1km az=168.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-6.71; M$_{θθ}$2.37; M$_{φφ}$4.34; M$_{rθ}$2.97; M$_{rφ}$3.12; M$_{θφ}$4.17; Best double couple: M$_o$8.40000×10^{16} NP1: φ$_s$216.00000°, δ64.00000°, λ-90.00000°. NP2:φ$_s$37.00000°, δ26.00000°, λ-89.00000°. Principal axes: T 8.3700, Plg19.0000°, Azm306.0000°; N 0.0800, Plg0.0000°, Azm216.0000°; P -8.4500, Plg71.0000°, Azm125.0000°;*

GCMT ***28*** *08:01:51.8±0.1, 4679N×15572E, h12^{km}, MW5.3/98, Moment Tensor Solution. s59,c99; s98,c208; Duration: 150 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-0.92±.01; M$_{θθ}$0.43±.01; M$_{φφ}$0.48±.01; M$_{rθ}$0.14±.04; M$_{φφ}$0.51±.01; M$_{rφ}$0.14±.04; Best double couple: M$_o$0.96500×10^{17} NP1:φ$_s$44.00000°, δ39.00000°, λ-90.00000°. NP2: φ$_s$224.00000°, δ51.00000°, λ-90.00000°. Principal axes: T 0.9910, Plg6.0000°, Azm314.0000°; N -0.0530, Plg0.0000°, Azm44.0000°; P -0.9380, Plg84.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SKHL ***28*** *08:01:52.1±0.5, 4668N×15566E, h50^{km}±18^{km}, mb5.8/5, mbh5.7/2, Ms5.2/3, msh5.6/5*

BJI ***28*** *08:01:54.3, 4690N×15479E, h10^{km}, mB5.5, mb5.2, Ms5.0, Msz4.6*

MOS ***28*** *08:01:54.4±0.9, 4674N×15555E, h39^{km}, mb5.7/121, MS4.8/35, Error ellipse: s-maj=6.8km s-min=3.9km az=107.8*

SZGRF ***28*** *08:01:56.5, 4656N×15557E, h33^{km}, mb5.7, MS4.8, East of Kuril Islands, Russia*

ISC 28 08:01:52.8±0.1, 4670N±002×15549E±002, h16^{km}, h16^{km}±1.8^{km}: pP-P, n1207, σ0 86/1229, mb5.5/334, MS4.7/56, 140C-167D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**6**	*e*P	**Pn**	**08 02 49.5**	**-4.0**
SKR				AMB	AMB	08 02 53.5	
	2μm,8.0s						
SKR				AMB	AMB	08 02 53.5	
	2μm,8.0s						
SKR				AMB	AMB	08 02 53.5	
	150nm,0.5s						
SKR				AMB	AMB	08 02 53.5	
	170nm,0.5s						
SKR				*e*S	**Sn**	**08 03 33.0**	**-7.2**
SKR				A		08 03 37.0	
	1μm,0.5s						
SKR				A		08 03 37.0	
	2μm,0.5s						
SKR				A		08 03 37.0	
	400nm,0.5s						
SKR				A		08 03 37.0	
	5μm,10.0s						
SKR				A		08 03 37.0	
	12μm,10.0s						
SKR				A		08 03 37.0	
	6μm,10.0s						
SKR				A		08 03 37.0	
	12μm,10.0s						
SKR				AMS	AMS	08 04 50.0	
	5μm,10.0s						
SKR				AMS	AMS	08 04 50.0	
	30μm,10.0s						
SKR				AMS	AMS	08 04 50.0	
	15μm,14.0s						
SKR				AMS	AMS	08 04 50.0	
	5μm,10.0s						
SKR				AMS	AMS	08 04 50.0	
	31μm,10.0s						
SKR				AMS	AMS	08 04 50.0	
	14μm,14.0s						
SKR	**Severo-Kuril's**	**4.01**	**6**	*e*P	**Pn**	**08 02 50.0**	**-3.5**
KUR	**Kuril'sk**	**5.51**	**257**	⇑*i*P	**Pn**	**08 03 11.0**	**-3.1**
KUR				AMB	AMB	08 03 14.0	
	6μm,1.0s						
KUR				*e*S	**Sn**	**08 04 10.0**	**-7.2**
KUR				A		08 04 12.0	
	1μm,0.5s						
KUR				A		08 04 12.0	
	1μm,0.5s						
KUR				A		08 04 19.0	
	12μm,2.0s						
KUR				A		08 04 19.0	
	6μm,2.0s						
KUR				AMS	AMS	08 06 50.0	
	8μm,14.0s						
KUR				AMS	AMS	08 06 50.0	
	4μm,14.0s						
KUR				AMS	AMS	08 06 50.0	
	8μm,14.0s						
KUR	**Kuril'sk**	**5.51**	**257**	⇑*i*PN	**Pn**	**08 03 05.5**	**-8.6**
KUR				pmax	pmax		
	comp=Z,6μm,1.0s						
PET	**Petropavlovsk**	**6.66**	**17**	*e*PN	**Pn**	**08 03 26.5**	**-3.3**
PET				pmax	pmax		
	comp=Z,180nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**6.66**	**17**	*e*P	**Pn**	**08 03 26.6**	**-3.2**
PET				*e*Sn	**Sn**	**08 04 37.6**	**-7.7**
YUK	**Yuzh-Kuril'sk**	**7.29**	**252**	*e*P	**Pn**	**08 03 37.6**	**-0.9**
YUK				AMB	AMB	08 03 39.5	
	comp=Z,280nm,0.4s						
YUK				AMB	AMB	08 03 39.5	
	comp=Z,320nm,0.4s						
YUK				AMB	AMB	08 03 39.5	
	comp=Z,970nm,0.3s						
YUK				AMB	AMB	08 03 42.2	
	comp=Z,2μm,1.5s						
YUK				*i* S	**Sn**	**08 04 56.5**	**-4.3**
YUK				A		08 05 01.5	
	comp=Z,1μm,0.5s						
YUK				A		08 05 01.5	
	comp=Z,900nm,0.5s						
YUK				A		08 05 22.5	
	comp=Z,3μm,2.5s						
YUK				A		08 05 22.5	
	comp=Z,6μm,1.8s						
YUK				AMS	AMS	08 06 21.0	
	comp=Z,26μm,12.0s						
NEM2	**

UGL eS Sn 08 06 06.0 +15
UGL pmax pmax
comp=E,2μm,6.0s
UGL pmax pmax
comp=Z,2μm,6.0s
UGL pmax pmax
comp=N,900nm,5.0s
UGL pmax pmax
comp=Z,510nm,1.3s
UGL smax
comp=N,2μm,11.0s
UGL smax
comp=E,2μm,9.0s
UGL smax
comp=Z,1μm,8.0s
UGL MLR MLR
comp=Z,2μm,17.0s
UGL MLR MLR
comp=N,8μm,15.0s
UGL MLR MLR
comp=E,6μm,15.0s
JKK2 Kamakawa 2 9.42 257 P Pn 08 04 07.8 +0.1
ASAJ Asahikawa 9.43 259 Pn Pn 08 04 08.2 +0.2
comp=E,7.9nm,0.3s,baz=84,slow=14,SNR=65
ASAJ LR LR 08 07 32.7
comp=E,2μm,20.8s,baz=79,slow=36
ASAJ Asahikawa 9.43 259 P Pn 08 04 08.6 +0.7
TYV Tymovskoe 9.44 301 eP Pn 08 04 09.5 +1.4
TYV AMB AMB 08 04 14.0
comp=E,110nm,1.0s
TYV AMB AMB 08 04 14.0
comp=E,281nm,1.0s
TYV AMB AMB 08 04 16.0
comp=E,2μm,7.0s
TYV AMB AMB 08 04 16.0
comp=E,3μm,7.0s
TYV AMB AMB 08 04 16.0
comp=E,2μm,4.0s
TYV eS Sn 08 05 51.2 -2.6
TYV A 08 05 55.0
comp=E,154nm,1.0s
TYV AMS AMS 08 08 14.0
comp=E,8μm,13.0s
TYV AMS AMS 08 08 14.0
comp=E,5μm,15.0s
TYV AMS AMS 08 08 14.0
comp=E,6μm,15.0s
JCH Churui 9.56 249 P Pn 08 04 07.7 -1.9
JCH eS Sn 08 05 46.7 -10
JWK2 Keihoku 9.56 267 P Pn 08 04 11.5 +1.8
JFR Furan 9.80 254 P Pn 08 04 13.5 +0.5
JSS Shosan 9.84 261 P Pn 08 04 15.6 +2.1
JAB Ashibetsu 9.91 256 P Pn 08 04 15.1 +0.6
ERM Erimo 9.99 247 Pn Pn 08 04 15.1 -0.5
comp=E,1μm,0.7s,SNR=24
ERM Erimo 9.99 247 *c*ePN Pn 08 04 14.2 -1.4
ERM Erimo 9.99 247 *e*Pn Pn 08 04 14.7 -0.9
comp=E,152nm,0.8s
ERM eSn Sn 08 06 02.4 -5.0
JEM Erimo 9.99 247 P Pn 08 04 14.6 -1.0
JNBK Urakawa-nobuka 10.11 249 P Pn 08 04 15.1 -2.2
JNBK eS Sn 08 05 59.0 -11
JBT2 Biratori 2 10.13 252 P Pn 08 04 15.9 -1.6
OKH Okha 10.58 315 eP Pn 08 04 24.0 +0.4
OKH AMB AMB 08 04 37.2
comp=E,4μm,6.0s
OKH eS Sn 08 06 17.9 -3.8
OKH eS Sn 08 06 18.0 -3.7
OKH eLQ 08 07 11.8
OKH AMS AMS 08 09 20.0
comp=E,5μm,12.0s
OKH AMS AMS 08 09 20.0
comp=E,5μm,12.0s
JEW Eniwo 10.70 254 P Pn 08 04 24.9 -0.4
JNB Noboribetsu 11.14 253 P Pn 08 04 29.2 -2.1
JNB eS Sn 08 06 26.3 -9.2
JKB Kayabe 11.42 250 P Pn 08 04 31.4 -3.7
JKB eS Sn 08 06 27.1 -15
NKL Nikolayevsk 11.51 310 eP Pn 08 04 34.0 -2.4
NKL AMB AMB 08 04 38.5
comp=E,180nm,1.2s
NKL AMB AMB 08 04 38.5
comp=E,390nm,1.5s
NKL AMB AMB 08 04 38.5
comp=E,450nm,1.5s
NKL eL 08 07 15.0
JOT Ohata 11.67 248 P Pn 08 04 35.0 -3.5
JOT eS Sn 08 06 36.7 -12
JSH Shimam 11.72 255 P Pn 08 04 38.2 -1.0
JYM2 Yakumo 2 11.74 253 P Pn 08 04 37.2 -2.3
JANG Nango 11.94 243 P Pn 08 04 38.3 -4.0
JANG eS Sn 08 06 39.6 -16
JTM Tenmabayashi 11.98 246 P Pn 08 04 38.9 -3.9
JTH Tanohata 12.00 241 P Pn 08 04 38.1 -4.9
JTH eS Sn 08 06 40.7 -16
JOSM Okushiri--Mats 12.35 254 P Pn 08 04 45.0 -2.8
JOM Ohasama 12.63 240 P Pn 08 04 47.8 -3.9
JOM eS Sn 08 06 59.9 -12
OFUJ Ofunato 12.66 238 P Pn 08 04 48.1 -4.1
OFUJ eS Sn 08 06 59.0 -14
JRG Rokugo 13.07 241 P Pn 08 04 54.1 -3.7
JRG eS Sn 08 07 11.3 -12
MA2 Magadan 13.20 349 ePN Pn 08 04 59.0 -0.5
MA2 pmax pmax
comp=Z,20nm,0.8s
MA2 MLR MLR
comp=Z,4μm,16.0s
JIO Ouri 13.27 237 P Pn 08 04 56.1 -4.3
JIO eS Sn 08 07 11.2 -16
TEY Ternei 13.27 270 eP Pn 08 04 59.0 -1.4
HABR Khabarovsk 13.91 285⇑ *i*P Pn 08 05 12.5 +3.3
HABR eS Sn 08 07 51.4 +8.2
HABR pmax pmax
comp=Z,266nm,2.5s
JMM Marumori 13.99 236 eS Sn 08 07 30.2 -15
JYA Atsumi 14.14 241 P Pn 08 05 09.7 -2.6
JFK Kawauchi 14.29 235 P Pn 08 05 10.6 -3.8
JFK eS Sn 08 07 36.7 -16
JFY Yanaizu 14.93 237 P Pn 08 05 19.8 -3.3
JSD Sado 15.37 242 P Pn 08 05 25.4 -3.5
KLR Kul'dur 16.09 288 eP Pn 08 05 38.0 -0.2
KLR eS Sn 08 08 39.0 +2.7
KLR pmax pmax
comp=E,370nm,2.0s
KLR pmax pmax
comp=Z,310nm,2.0s
KLR smax
comp=N,2μm,10.0s
KLR smax
comp=E,700nm,10.0s
KLR MLR MLR
comp=Z,17μm,13.0s
JRY Ryogami san 16.37 235 P Pn 08 05 40.4 -1.4
JRY eS Sn 08 08 29.3 -14
SEY Seymchan 16.37 355⇑ *e*P Pn 08 05 40.5 -1.3
MJAR Matsushiro Arr 16.39 238 Pn Pn 08 05 40.0 -2.1
comp=Z,0.7nm,0.3s,baz=32,slow=11,SNR=43
MJAR LR LR 08 12 47.3
comp=Z,754nm,19.2s,baz=55,slow=40
MJAR Matsushiro Arr 16.39 238 P Pn 08 05 40.1 -2.0
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,754nm,19.2s
MAJO Matsushiro 16.40 238 eP Pn 08 05 39.8 -2.4
MAJO pmax pmax
comp=Z,458nm,1.1s
MAJO Matsushiro 16.40 238 eP Pn 08 05 39.8 -2.3
comp=Z,458nm,1.1s
MAT Matsushiro 16.40 238 P Pn 08 05 39.5 -2.7
MAT S Sn 08 08 37.0 -6.7
MAT Matsushiro 16.40 238 P Pn 08 05 39.3 -2.9
VLA Vladivostok 17.08 266 *i* P Pn 08 05 49.4 -1.4
VLA pmax pmax
comp=Z,234nm,2.2s
VLA MLR MLR
comp=Z,2μm,15.2s
VLA Vladivostok 17.08 266 eP Pn 08 05 48.7 -2.1
JHJ2 Mitsune 18.08 227 P Pn 08 06 02.3 -0.9
MDJ Mudanjiang 18.20 273 P Pn 08 06 02.5 -2.2
MDJ AP pP 08 06 05.5 -3.9
MDJ XP sP 08 06 07.0 -4.5
MDJ S Sn 08 09 23.8 -3.7
MDJ SCP ScP 08 14 12.0 +0.1

MDJ PCS PcS 08 14 13.5 -0.3
MDJ AMB AMB
comp=Z,11nm,1.0s
MDJ AMB AMB
comp=Z,234nm,5.1s
MDJ LR LR
comp=N,2μm,18.9s
MDJ LR LR
comp=E,1μm,31.6s
MDJ LR LR
comp=Z,1μm,32.7s
MDJ Mudanjiang 18.20 273 eP Pn 08 06 02.6 -2.1
comp=Z,67nm,1.0s
MDJ eSn Sn 08 09 27.7 +0.2
JWT Wachi 18.91 240 P Pn 08 06 12.3 -1.1
ZEA Zeya 19.30 302 eP Pn 08 06 12.6 -5.5
ZEA AMB AMB 08 06 15.0
comp=Z,59nm,1.0s
ZEA AMB AMB 08 06 15.0
comp=Z,58nm,1.2s
ZEA AMB AMB 08 06 15.0
comp=Z,64nm,1.2s
ZEA AMB AMB 08 06 23.0
comp=Z,2μm,7.0s
ZEA AMB AMB 08 06 23.0
comp=Z,900nm,8.0s
ZEA eS Sn 08 09 47.3 -6.9
ZEA A 08 09 54.3
comp=E,160nm,1.8s
ZEA A 08 09 54.3
comp=Z,240nm,1.6s
ZEA A 08 10 00.0
comp=Z,1μm,10.0s
YAK Yakutsk 21.27 326 *de*P P 08 06 37.3 -1.0
YAK *e* 08 06 55.5
YAK *i* S S 08 10 26.2 -7.9
YAK *i* 08 10 48.4
YAK pmax pmax
comp=Z,142nm,0.9s,mb5.3
YAK pmax pmax
comp=N,52nm,1.3s
YAK pmax pmax
comp=E,62nm,1.3s
YAK smax
comp=N,671nm,1.6s
YAK smax
comp=Z,433nm,1.9s
YAK smax
comp=E,738nm,1.8s
YAK MLR MLR
comp=N,1μm,14.0s,MS4.5
YAK MLR MLR
comp=E,1μm,14.0s,MS4.5
YAK MLR MLR
comp=Z,1μm,14.0s,MS4.5
YAK Yakutsk 21.27 326 eP P 08 06 36.9 -1.5
comp=Z,96nm,0.7s,mb5.2
CN2 Changchun 21.29 273⇑ P P 08 06 36.0 -2.5
CN2 eXP sP 08 06 43.3 -1.9
CN2 AMB AMB
comp=Z,30nm,0.8s,mb4.7
CN2 LR LR
comp=N,2μm,14.0s,MS4.7
CN2 LR LR
comp=E,2μm,14.0s,MS4.7
CN2 LR LR
comp=Z,2μm,15.0s,MS4.5
CLNS Chul'man 21.30 310 eP P 08 06 37.9 -0.8
CLNS *e* 08 06 53.4
CLNS ePPP 08 06 58.4
CLNS eS S 08 10 29.6 -5.2
CLNS *e* 08 10 48.0
CLNS eSS 08 11 20.8
CLNS *e* 08 17 59.9
CLNS pmax pmax
comp=Z,94nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,42nm,1.1s
CLNS smax
comp=N,205nm,1.7s
CLNS smax
comp=Z,24nm,1.3s
CLNS smax
comp=E,152nm,1.4s
CLNS MLR MLR
comp=E,2μm,11.0s,MS4.7
CLNS MLR MLR
comp=Z,2μm,11.0s,MS4.8
CLNS MLR MLR
comp=N,1μm,13.0s,MS4.7
NRGR Nerungri 21.35 309 eP P 08 06 40.0 +0.8
BILL Bilibino 22.11 11⇓ eP P 08 06 47.1 -0.2
BILL *e* 08 07 07.2
BILL *i* S S 08 10 52.5 +2.0
BILL pmax pmax
comp=Z,261nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,900nm,15.0s,MS4.3
BILL Bilibino 22.11 11 eP P 08 06 46.8 -0.6
comp=Z,133nm,1.0s,mb5.3
CBIJ Chichi jima 22.21 213 P P 08 06 48.2 -0.2
comp=Z,157nm,1.1s,mb5.4,baz=309,slow=16,SNR=3.8
KSRS Korea Array 22.36 256 P P 08 06 51.9 +2.0
comp=Z,52nm,0.8s,mb5.0,baz=56,slow=9.7,SNR=74
KSRS PcP PcP 08 10 45.9 +1.0
comp=Z,5.8nm,0.9s,baz=1.7,slow=0.7,SNR=7.3
KSRS LR LR 08 14 20.8
comp=Z,632nm,20.7s,MS4.0,baz=62,slow=33
KS15 Wonju Array Si 22.39 256 eP P 08 06 51.4 +1.1
JNU Nakatsue 23.12 243 P P 08 06 59.5 +1.4
comp=Z,62nm,0.9s,mb5.0,baz=272,slow=24,SNR=9.7
JNU LR LR 08 15 34.5
comp=Z,2μm,19.5s,MS4.5,baz=76,slow=36
JNU Nakatsue 23.12 243 P P 08 06 57.7 -0.4
SNY Shenyang 23.27 270⇑ P P 08 06 59.5 -0.1
SNY AMB AMB
comp=Z,74nm,0.7s,mb5.2
SNY AMB AMB
comp=Z,1μm,6.0s
SNY LR LR
comp=N,1μm,11.1s,MS4.6
SNY LR LR
comp=E,1μm,14.4s,MS4.6
SNY LR LR
comp=Z,1μm,13.8s,MS4.5
SPIA Saint Paul Isl 23.34 51 eP P 08 07 01.0 +0.7
HIA Hailar 23.93 289 eP P 08 07 04.5 -1.5
HIA pmax pmax
comp=Z,23nm,0.9s
HIA Hailar 23.93 289 eP P 08 07 04.5 -1.5
comp=Z,23nm,0.9s,mb4.6
DL2 Dalian 25.88 265 P P 08 07 25.3 +1.5
DL2 S S 08 11 57.3 +4.3
DL2 AMB AMB
comp=Z,50nm,1.2s,mb4.9
DL2 AMB AMB
comp=Z,400nm,5.7s
DL2 LR LR
comp=N,550nm,15.1s,MS4.3
DL2 LR LR
comp=E,490nm,16.1s,MS4.3
DL2 LR LR
comp=Z,340nm,12.3s,MS4.1
TNA Tin City 27.18 33 eP P 08 07 34.9 -0.6
comp=Z,28nm,1.0s,mb4.8
TNA *e*PcP PcP 08 10 55.6 0.0
BOD Bodaibo 27.29 309 eP P 08 07 34.3 -2.1
CIT Chita 27.53 297 eP P 08 07 37.0 -1.6
CIT *e* 08 07 49.0
CIT *e* 08 08 35.6
CIT *e* 08 10 56.6
CIT pmax pmax
comp=Z,99nm,1.1s,mb5.3
TIXI Tiksi 28.00 342 *d* iP P 08 07 41.8 -1.0
TIXI pmax pmax
comp=Z,48nm,1.0s,mb5.1
TIXI Tiksi 28.00 342 eP P 08 07 41.7 -1.1
comp=Z,32nm,0.8s,mb5.0
BJI Beijing 29.11 271 eP P 08 07 54.3 +1.6
BJI S S 08 12 46.0 +2.1
BJI AMB AMB
comp=Z,21nm,0.9s,mb4.9
BJI LR LR
comp=N,2μm,15.6s,MS4.8

BJI LR LR
comp=E,1μm,18.7s,MS4.8
BJI LR LR
comp=Z,734nm,16.1s,MS4.4
BJI Beijing 29.11 271 eP P 08 07 54.2 +1.5
BJI S S 08 12 46.0 +2.1
BJI pmax pmax
comp=Z,21nm,0.9s,mb4.9
BJI MLR MLR
comp=Z,730nm,16.1s,MS4.4
BJI Beijing 29.11 271 eP P 08 07 54.2 +1.5
comp=Z,21nm,0.9s,mb4.9
BJI S S 08 12 46.0 +2.1
BJI LR LR
comp=Z,730nm,16.1s,MS4.4
BJT Baijiatuan 29.13 271 eP P 08 07 53.8 +1.0
BJT pmax pmax
comp=Z,109nm,1.3s
BJT Baijiatuan 29.13 271 eP P 08 07 53.8 +0.9
comp=Z,108nm,1.3s,mb5.4
JOW Kunigami 29.23 237 P P 08 07 54.6 +0.8
comp=Z,39nm,0.8s,mb5.2,baz=54,slow=8.8,SNR=6.1
TIA Tai'an 30.33 264 eP P 08 08 03.0 -0.5
SSE Sheshan 30.62 252 P P 08 08 06.5 +0.4
SSE S S 08 13 07.0 -0.6
SSE XS sS 08 13 12.3 -3.4
SSE AMB AMB
comp=Z,32nm,1.1s,mb5.1
SSE AMB AMB
comp=Z,126nm,4.7s
SSE LR LR
comp=N,151nm,15.5s,MS4.2
SSE LR LR
comp=E,416nm,15.5s,MS4.2
SSE LR LR
comp=Z,408nm,13.5s,MS4.2
SSE Sheshan 30.62 252 P P 08 08 06.4 +0.3
comp=Z,32nm,1.1s,mb5.1
SSE sP sP 08 08 11.0 -2.0
SSE S S 08 13 07.0 -0.6
SSE sS sS 08 13 12.2 -3.5
SSE SS SS 08 15 16.2 -2.1
SSE LR LR
comp=Z,410nm,13.5s,MS4.2
SVW2 Sparrevohn 31.38 45 eP P 08 08 12.2 -0.5
NJ2 Nanjing 31.56 256 eP P 08 08 16.0 +1.7
NJ2 AP pP 08 08 21.0 +1.8
NJ2 XP sP 08 08 24.5 +3.3
NJ2 PP PP 08 09 20.5 -5.1
NJ2 S S 08 13 23.0 +0.8
NJ2 XS sS 08 13 31.0 +0.7
NJ2 AMB AMB
comp=Z,850nm,5.3s
NJ2 LR LR
comp=N,1μm,14.3s,MS4.9
NJ2 LR LR
comp=E,1μm,16.2s,MS4.9
NJ2 LR LR
comp=Z,2μm,15.5s,MS4.9
HHC Hu-ho-hao-te 31.93 276⇓ *i*P P 08 08 19.0 +1.4
HHC AP pP 08 08 23.5 +1.0
HHC XP sP 08 08 26.0 +1.5
HHC PP PP 08 09 24.8 -4.9
HHC PCP PcP 08 11 10.3 +2.6
HHC S S 08 13 28.3 +0.3
HHC XS sS 08 13 35.0 -1.1
HHC AMB AMB
comp=Z,98nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,590nm,4.3s
HHC LR LR
comp=N,2μm,16.9s
HHC LR LR
comp=E,1μm,11.6s
HHC LR LR
comp=Z,987nm,14.3s,MS4.6
ULN Ulaanbaatar 32.46 290 P P 08 08 22.6 +0.4
SNR=8.3
ULN Ulaanbaatar 32.46 290 *c* iP P 08 08 21.9 -0.3
ULN Ulaanbaatar 32.46 290 eP P 08 08 22.0 -0.2
comp=Z,12nm,0.8s,mb4.8
KDAK Kodiak Island 32.87 51 P P 08 08 23.6 -2.2
comp=Z,41nm,0.8s,mb5.4,baz=280,slow=4.5,SNR=18
SONM Songino Array 32.89 290 P P 08 08 26.3 +0.3
comp=Z,15nm,0.8s,mb5.0,baz=62,slow=8.9,SNR=57
SONM PcP PcP 08 11 10.1 -0.3
comp=Z,4.6nm,0.9s,baz=60,slow=4.5,SNR=5.1
SONM S S 08 13 40.4 -2.6
comp=Z,1.0nm,1.1s,baz=49,slow=20,SNR=3.0
SONM LR LR 08 22 17.9
comp=Z,2μm,18.4s,MS4.7,baz=73,slow=37
SONM Songino Array 32.89 290 P P 08 08 26.3 +0.3
SONM 08 11 10.1
SONM S S 08 13 40.4 -2.6
SONM pmax pmax
comp=Z,15nm,0.8s
SONM smax
comp=N,1.0nm,1.1s
SONM MLR MLR
comp=Z,2μm,18.4s
IMA2 Indian Mountai 32.89 36 eP P 08 08 24.4 -1.6
IMA2 ePcP PcP 08 11 09.6 -0.7
BTO Baotou 33.09 276 eP P 08 08 28.8 +1.0
IRK Irkutsk 33.16 299 eP P 08 08 27.4 -1.0
IRK pmax pmax
comp=Z,57nm,2.2s,mb5.1
TLY Talaya 33.65 298 P P 08 08 33.6 +0.9
comp=Z,195nm,0.8s,mb6.1,SNR=5.5
TLY Talaya 33.65 298⇑ P P 08 08 32.7 0.0
SNR=7.0
TLY Talaya 33.65 298 *c* iP P 08 08 32.4 -0.3
TLY pmax pmax
comp=Z,35nm,1.0s,mb5.2
TLY Talaya 33.65 298 eP P 08 08 32.5 -0.2
comp=Z,29nm,0.9s,mb5.2
ZAK Zakamensk 34.18 296 eP P 08 08 37.1 -0.1
ZAK *e* 08 11 13.6
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
PMR Palmer 34.50 44 eP P 08 08 39.0 -1.0
PMR pmax pmax
comp=Z,50nm,1.2s,mb5.3
PMR Palmer 34.50 44 eP P 08 08 38.5 -1.5
comp=Z,64nm,1.3s,mb5.4
MCK McKinley 34.63 40 eP P 08 08 40.3 -0.9
MCK pmax pmax
comp=Z,34nm,1.1s,mb5.2
MCK McKinley 34.63 40 eP P 08 08 40.3 -0.9
comp=Z,34nm,1.1s,mb5.2
SML Sawmill 34.88 44 eP P 08 08 42.4 -0.9
COLA College 35.16 38 P P 08 08 45.0 -0.8
COLA pmax pmax
comp=Z,65nm,1.0s,mb5.5
COLA College 35.16 38 *i* P P 08 08 44.8 -1.0
DIV Divide 36.14 45 eP P 08 08 53.4 -0.7
comp=Z,108nm,0.9s,mb5.8
QZH Quanzhou 36.49 246 P P 08 08 59.8 +2.6
QZH S S 08 14 41.0 +2.5
QZH AMB AMB
comp=Z,850nm,7.2s
QZH LR LR
comp=N,940nm,11.9s
QZH LR LR
comp=E,640nm,9.8s
QZH LR LR
comp=Z,900nm,17.8s
MENT Mentasta 36.99 42 eP P 08 09 00.9 -0.5
XAN Xi'an 37.14 267 P P 08 09 03.0 +0.3
XAN AP pP 08 09 12.5 +4.9
XAN S S 08 14 47.5 -1.0
XAN AMB AMB
comp=Z,48nm,1.6s,mb5.1
XAN AMB AMB
comp=Z,225nm,6.3s
XAN LR LR
comp=N,389nm,14.9s,MS4.5
XAN LR LR
comp=E,505nm,15.9s,MS4.5
XAN LR LR
comp=Z,939nm,14.9s,MS4.7
EGAK Eagle 38.03 38 eP P 08 09 08.5 -1.7
comp=Z,61nm,1.0s,mb5.3
DAWY Dawson 38.84 39 eP P 08 09 16.2 -0.8
KRAR Krasnoyarsk 38.92 307⇓ eP P 08 09 17.5 -0.2
KRAR pmax pmax
comp=Z,133nm,1.0s,mb5.6

LZH **Lanzhou** 39.52 274 P **P** 08 09 24.5 +1.8
LZH S **S** 08 15 28.0 +3.6
LZH AMB AMB
comp=Z,380nm,1.2s,mb6.0
LZH AMB AMB
comp=Z,1μm,4.2s
LZH LR LR
comp=N,3μm,14.8s
LZH LR LR
comp=Z,4μm,15.6s,MS5.4
LZH Lanzhou 39.52 274 P **P** 08 09 24.5 +1.8
LZH *PP pP 08 09 35.8 +8.1
LZH *SP sP 08 09 41.9 +12
LZH 08 11 02.0
LZH S **S** 08 15 28.0 +3.6
LZH *SS sS 08 15 46.0 +13
LZH pmax pmax
comp=Z,380nm,1.2s,mb6.0
LZH MLR MLR
comp=Z,4μm,15.6s,MS5.4
LZH Lanzhou 39.52 274 P **P** 08 09 24.5 +1.8
comp=Z,380nm,1.2s,mb6.0
LZH pP pP 08 09 35.8 +8.1
LZH sP sP 08 09 41.9 +12
LZH PP PP 08 11 02.0 +8.5
LZH S **S** 08 15 28.0 +3.6
LZH sS sS 08 15 46.0 +13
LZH *e*SS SS 08 18 22.0 +2.9
LZH LR LR
comp=Z,4μm,15.6s,MS5.4
GTA Gaotai 40.59 280 ⇓P **P** 08 09 32.8 +1.2
GTA AP pP 08 09 36.3 -0.3
GTA XP sP 08 09 38.5 -0.1
GTA PP PP 08 11 10.8 +5.7
GTA PCP PcP 08 11 33.8 +0.3
GTA SCP ScP 08 15 23.0 +0.7
GTA PCS PcS 08 15 25.8 +1.6
GTA S **S** 08 15 44.8 +4.4
GTA XS sS 08 15 52.8 +4.2
GTA AMB AMB
comp=Z,34nm,1.3s,mb4.8
GTA AMB AMB
comp=Z,654nm,5.4s
GTA LR LR
comp=N,1μm,14.4s,MS5.0
GTA LR LR
comp=E,1μm,15.2s,MS5.0
GTA LR LR
comp=Z,1μm,15.2s,MS4.9
INK Inuvik 40.82 33 P **P** 08 09 33.0 -0.4
comp=Z,17nm,0.6s,mb4.9,baz=276,slow=6.6,SNR=32
INK Inuvik 40.82 33 *e*P **P** 08 09 33.0 -0.5
comp=Z,524nm,0.5s,mb6.4
SKAG Skagway 41.53 46 *e*P **P** 08 09 40.0 +0.7
comp=Z,71nm,1.2s,mb5.2
CD2 Chengdu 42.51 267 P **P** 08 09 48.3 +1.0
CD2 AP pP 08 09 53.0 +0.7
CD2 XP sP 08 09 56.0 +1.7
CD2 PP PP 08 11 30.3 +4.5
CD2 PCP PcP 08 11 42.0 +2.2
CD2 PCS PcS 08 15 32.5 +0.7
CD2 S **S** 08 16 09.0 +0.2
CD2 XS sS 08 16 16.5 -0.6
CD2 SS SS 08 19 12.8 -5.6
CD2 SCS ScS 08 19 47.5 -0.8
CD2 AMB AMB
comp=Z,250nm,1.0s,mb5.9
CD2 AMB AMB
comp=Z,340nm,4.2s
CD2 LR LR
comp=N,720nm,19.2s,MS4.8
CD2 LR LR
comp=E,660nm,15.6s,MS4.8
CD2 LR LR
comp=Z,630nm,16.8s,MS4.6
GYA Guiyang 43.31 260 ⇓*i*P **P** 08 09 54.5 +0.7
GYA AP pP 08 09 58.8 0.0
GYA XP sP 08 10 01.5 +0.7
GYA PP PP 08 11 38.0 +3.6
GYA PCP PcP 08 11 44.8 +2.3
GYA SCP ScP 08 15 35.0 +1.9
GYA S **S** 08 16 22.0 +1.4
GYA SS SS 08 19 28.0 -6.1
GYA SCS ScS 08 19 53.3 0.0
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,460nm,6.4s
GYA LR LR
comp=N,1μm,15.8s,MS5.0
GYA LR LR
comp=E,870nm,16.4s,MS5.0
GYA LR LR
comp=Z,1μm,16.0s,MS4.9
TGY Tagaytay City 43.48 233 P **P** 08 09 56.2 +1.1
comp=Z,259nm,0.3s,baz=324,slow=21,SNR=3.5
ZAL Zalesovo 43.98 307 P **P** 08 09 59.1 0.0
comp=Z,14nm,0.9s,mb4.7,baz=45,slow=7.9,SNR=22
ZAL PcP PcP 08 11 44.4 -0.4
comp=Z,6.4nm,0.8s,baz=46,slow=5.3,SNR=4.4
ZAL LR LR 08 29 44.2
comp=Z,2μm,21.9s,MS4.9,baz=40,slow=38
ZAL Zalesovo 43.98 307 P **P** 08 09 59.2 0.0
ZAL 08 11 44.4
ZAL pmax pmax
comp=Z,14nm,0.9s
ZAL MLR MLR
comp=Z,2μm,21.9s
DLBC Dease Lake 44.45 46 *e*P **P** 08 10 03.3 +0.4
NVS Novosibirsk 44.51 308 ⇑*i*P **P** 08 10 03.3 -0.2
NVS *i*S **S** 08 16 31.5 -6.7
NVS pmax pmax
comp=N,156nm,2.5s
NVS pmax pmax
comp=Z,282nm,2.5s,mb5.7
NVS pmax pmax
comp=E,204nm,2.2s
NVS smax
comp=N,26nm,2.0s
NVS smax
comp=E,79nm,1.9s
QIZ Qiongzhong 46.34 249 P **P** 08 10 19.5 +1.5
QIZ AP pP 08 10 23.0 0.0
QIZ XP sP 08 10 25.5 +0.5
QIZ PP PP 08 12 11.5 +4.7
QIZ XS sS 08 17 17.5 +4.6
QIZ AMB AMB
comp=Z,52nm,1.8s,mb5.2
QIZ AMB AMB
comp=Z,268nm,6.6s
QIZ LR LR
comp=N,460nm,19.0s,MS4.5
QIZ LR LR
comp=E,427nm,21.8s,MS4.5
QIZ LR LR
comp=Z,526nm,17.0s,MS4.6
WMQ Urumqi 46.46 292 ⇑*i*P **P** 08 10 20.5 +1.6
WMQ AP pP 08 10 25.0 +1.0
WMQ XP sP 08 10 27.5 +1.6
WMQ PCP PcP 08 11 55.8 +2.4
WMQ PP PP 08 12 09.8 +1.8
WMQ PPP 08 12 54.3
WMQ S **S** 08 17 07.0 +0.7
WMQ XS sS 08 17 14.8 +0.2
WMQ AMB AMB
comp=Z,22nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,749nm,6.0s
WMQ LR LR
comp=N,2μm,20.6s,MS5.2
WMQ LR LR
comp=E,580nm,19.4s,MS5.2
WMQ LR LR
comp=Z,816nm,17.1s,MS4.8
KMI Kunming 46.85 262 P **P** 08 10 23.3 +1.4
KMI AP pP 08 10 30.5 +3.5
KMI XP sP 08 10 35.3 +6.4
KMI PP PP 08 12 14.3 +2.3
KMI PPP 08 12 54.5
KMI S **S** 08 17 15.0 +3.2
KMI AMB AMB
comp=Z,62nm,1.6s,mb5.3
KMI AMB AMB
comp=Z,411nm,7.8s
KMI LR LR
comp=N,353nm,17.5s,MS4.6
KMI LR LR
comp=E,514nm,17.5s,MS4.6
KMI LR LR
comp=Z,441nm,19.0s,MS4.4
KMI Kunming 46.85 262 P **P** 08 10 23.3 +1.4
KMI *SP sP 08 10 35.3 +6.4
KMI 08 12 14.3
KMI 08 12 54.5
KMI PPP
KMI S **S** 08 17 15.0 +3.2
KMI *SS sS 08 17 28.6 +8.5
KMI SSS 08 21 45.1
KMI pmax pmax
comp=Z,62nm,1.6s,mb5.3
KMI Kunming 46.85 262 P **P** 08 10 23.3 +1.4
comp=Z,62nm,1.6s,mb5.3
KMI pP pP 08 10 30.5 +3.5
KMI sP sP 08 10 35.3 +6.4
KMI PP PP 08 12 14.3 +2.3
KMI PPP 08 12 54.5
KMI S **S** 08 17 15.0 +3.2
KMI sS sS 08 17 28.6 +8.5
KMI SS SS 08 20 46.4 +8.1
KMI SSS 08 21 45.1
MK31 Makanchi Array 48.41 298 *e*P **P** 08 10 34.1 0.0
MKAR Makanchi Array 48.41 298 P **P** 08 10 33.8 -0.3
comp=Z,10nm,0.6s,mb5.0,baz=68,slow=8.1,SNR=85
MKAR PcP PcP 08 12 00.3 0.0
comp=Z,7.1nm,0.8s,baz=55,slow=3.6,SNR=2.9
MKAR ScP ScP 08 15 54.6 +0.3
comp=Z,1.5nm,0.9s,baz=35,slow=4.4,SNR=3.6
MKAR S **S** 08 17 30.9 -3.2
comp=Z,1.0nm,0.9s,baz=71,slow=13,SNR=2.4
MKAR LR LR 08 30 54.8
comp=Z,551nm,21.7s,MS4.5,baz=58,slow=36
MKAR Makanchi Array 48.41 298 P **P** 08 10 33.8 -0.3
MKAR 08 12 00.3
MKAR S **S** 08 17 30.9 -3.1
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,551nm,21.7s
KURK Kurchatov 48.75 305 P **P** 08 10 36.6 -0.1
comp=Z,555nm,0.9s,mb6.6,SNR=34
YKA Yellowknife Ar 49.98 37 P **P** 08 10 45.2 -0.8
comp=Z,10nm,0.8s,mb4.9,baz=295,slow=7.3,SNR=34
YKA PcP PcP 08 12 05.3 -0.7
comp=Z,7.7nm,1.0s,baz=295,slow=3.5,SNR=7.1
YKA LR LR 08 33 58.4
comp=Z,330nm,19.9s,MS4.3,baz=225,slow=39
YKA Yellowknife Ar 49.98 37 P **P** 08 10 45.2 -0.9
YKA 08 12 05.3
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA MLR MLR
comp=Z,331nm,19.9s
YKA Yellowknife Ar 49.98 37 P **P** 08 10 45.2 -0.8
YKA PcP PcP 08 12 05.3 -0.7
YKA LR LR 08 33 58.4
RES Resolute Bay 50.36 19 *e*P **P** 08 10 48.7 -0.2
comp=Z,494nm,0.8s,mb6.6
RES *e*PcP PcP 08 12 06.5 -0.9
C03A Quillayute Air 51.84 57 ⇓P **P** 08 11 00.2 +0.2
baz=52
LSA Lhasa 51.91 275 P **P** 08 11 04.0 +3.4
LSA Lhasa 51.91 275 *e*P **P** 08 11 03.3 +2.7
LSA *e* 08 12 59.6
LSA pmax pmax
comp=Z,94nm,1.2s,mb5.6
LSA Lhasa 51.91 275 *e*P **P** 08 11 03.3 +2.8
comp=Z,94nm,1.2s,mb5.6
LSA *e*PP PP 08 12 59.6 +1.1
VOSK Vostochnaya 51.99 310 P **P** 08 11 00.2 -1.0
VOSK pmax pmax
comp=Z,44nm,0.9s,mb5.4
BVA0 Borovoye Array 52.15 310 *i*P **P** 08 11 01.7 -0.7
BVA0 pmax pmax
comp=Z,13nm,1.3s,mb4.7
BVAR Borovoye Array 52.15 310 P **P** 08 11 02.3 0.0
comp=Z,61nm,0.9s,mb5.5,baz=58,slow=7.6,SNR=5.9
BVAR S **S** 08 18 24.2 -1.8
comp=Z,3.6nm,0.9s,baz=78,slow=13,SNR=4.1
BVAR Borovoye Array 52.15 310 P **P** 08 11 02.3 -0.1
BVAR S **S** 08 18 24.2 -1.8
BVAR pmax pmax
comp=Z,61nm,0.9s
BVAR smax
comp=N,4.0nm,0.9s
BRVK Borovoye 52.19 310 P **P** 08 11 02.3 -0.3
comp=N,513nm,0.8s,mb6.5,SNR=50
BRVK Borovoye 52.19 310 ⇑P **P** 08 11 03.0 +0.3
SNR=36
BRVK Borovoye 52.19 310 P **P** 08 11 02.3 -0.3
BRVK pmax pmax
comp=Z,65nm,0.8s,mb5.6
BRVK Borovoye 52.19 310 *i*P **P** 08 11 02.3 -0.3
B04A Port Angeles 52.40 57 ⇓P **P** 08 11 03.7 -0.6
baz=52
NANT Nan 52.53 257 ⇓P **P** 08 11 06.0 +0.8
comp=Z,388nm,1.0s,mb6.3
KKM Kota Kinabalu 52.72 232 P **P** 08 11 08.3 +1.7
KKM Kota Kinabalu 52.72 232 P **P** 08 11 08.2 +1.7
A05A Maple Falls 52.73 55 ⇑P **P** 08 11 05.8 -0.9
baz=52
KBS Kingsbay 52.79 352 ⇓*i*P **P** 08 11 06.5 -0.6
KKTK Khon Kaen 52.87 253 ⇑P **P** 08 11 09.5 +1.8
comp=Z,494nm,1.0s,mb6.4
C04A Brinnon 52.88 57 ⇑P **P** 08 11 07.0 -0.8
baz=53
ZRNK Zerenda 52.91 311 *e*P **P** 08 11 07.8 -0.2
ZRNK *e* 08 12 16.5
ZRNK pmax pmax
comp=Z,47nm,0.8s,mb5.5
ZRNK Zerenda 52.91 311 *e*P **P** 08 11 07.8 -0.2
comp=Z,47nm,0.8s,mb5.5
ZRNK *e*PcP PcP 08 12 16.5 -0.4
IMP Imphal 53.10 268 *e*P **P** 08 11 09.0 -0.4
E03A Lebam 53.15 58 ⇑P **P** 08 11 09.6 -0.2
baz=53
TSM Tawau 53.30 229 P **P** 08 11 11.8 +1.0
E04A Onalaska 53.62 58 ⇓P **P** 08 11 13.1 -0.1
baz=53
C05A Tolt Reservoir 53.63 56 ⇑P **P** 08 11 12.9 -0.4
baz=53,SNR=14
CHG Chiang Mai 53.70 259 ⇓P **P** 08 11 15.4 +1.6
comp=Z,72nm,0.9s,mb5.6
CHTO Chiang Mai 53.70 259 ⇓P **P** 08 11 15.5 +1.7
SNR=28
CHTO Chiang Mai 53.70 259 *e*P **P** 08 11 15.3 +1.5
CHTO *e* 08 12 21.8
CHTO pmax pmax
comp=Z,60nm,0.9s,mb5.5
CHTO Chiang Mai 53.70 259 *e*P **P** 08 11 15.3 +1.5
comp=Z,60nm,0.9s,mb5.5
CHTO *e*PcP PcP 08 12 21.8 +1.8
D05A Enumclaw 53.73 57 ⇓P **P** 08 11 14.1 0.0
baz=54,SNR=6.9
G03A Yamhill 53.98 60 ⇓P **P** 08 11 15.4 -0.5
baz=54
SHL Shillong 54.01 270 *i*P **P** 08 11 18.0 +2.0
SHL *e*S **S** 08 18 56.0 +4.7
B07A Winthrop 54.12 55 ⇓P **P** 08 11 16.2 -0.7
baz=54,SNR=7.2
F04A Amboy 54.15 59 ⇓P **P** 08 11 16.7 -0.5
baz=54,SNR=6.8
NLW Nelson Butte 54.20 55 P **P** 08 11 17.4 0.0
E05A Randle 54.20 58 ⇓P **P** 08 11 16.7 -0.8
baz=54
WPW White Pass 54.25 57 P **P** 08 11 17.9 +0.1
H03A Soap Creek Ran 54.32 60 ⇑P **P** 08 11 17.9 -0.4
baz=54
A08A Turner Farm, O 54.33 54 ⇓P **P** 08 11 17.3 -1.1
baz=54,SNR=15
D06A Cle Elum 54.38 56 ⇑P **P** 08 11 18.1 -0.7
baz=54,SNR=14
ULHL Ulahol 54.46 296 P **P** 08 11 20.3 +0.9
SNR=21
TKM2 Tokmak 2 54.48 297 P **P** 08 11 20.7 +1.2
SNR=22
G04A Mulino 54.51 59 ⇑P **P** 08 11 18.9 -0.8
baz=54
TBM Table Mountain 54.54 56 P **P** 08 11 19.8 -0.1
C07A Waterville 54.56 56 ⇑P **P** 08 11 19.1 -1.0
baz=54,SNR=11
B08A Colville Reser 54.61 55 ⇓P **P** 08 11 19.4 -1.1
baz=54,SNR=16
WTV Waterville 54.62 56 P **P** 08 11 20.0 -0.5
E06A Yakima 54.66 57 ⇑P **P** 08 11 19.9 -0.9
baz=54,SNR=8.7
A09A Danville 54.70 54 ⇓P **P** 08 11 20.4 -0.7
baz=54,SNR=20
I03A Eugene 54.71 61 ⇑P **P** 08 11 21.1 -0.1
baz=54
D07A Quincy 54.88 56 ⇑P **P** 08 11 21.9 -0.6
baz=55
CHMS Chumysh 54.96 298 P **P** 08 11 24.2 +1.3
SNR=11
H04A Detroit Lake 54.97 60 ⇓P **P** 08 11 22.9 -0.2
baz=55,SNR=8.5
SVE Sverdlovsk 54.97 318 ⇓*e*P **P** 08 11 23.0 -0.1
SVE pmax pmax
comp=Z,220nm,1.7s,mb5.9
SVE MLR MLR
comp=E,1μm,13.0s
SVE MLR MLR
comp=Z,1μm,13.0s,MS5.2
KBK Karagaybulak 55.03 297 P **P** 08 11 25.0 +1.6
SNR=33
BROR Big Rock Looko 55.05 60 P **P** 08 11 24.3 +0.7
C08A Higginbotham F 55.09 55 ⇑P **P** 08 11 22.8 -1.1
baz=55,SNR=6.3
FRU Bishkek 55.13 298 ⇓*i*P **P** 08 11 25.0 +0.8
FRU pmax pmax
comp=Z,120nm,1.7s,mb5.7
FRU MLR MLR
comp=Z,1μm,13.0s,MS5.1
NST Nakhon Sawan 55.13 255 P **P** 08 11 25.8 +1.6
comp=Z,39nm,1.0s,mb5.4
EDM Edmonton 55.16 47 *e*P **P** 08 11 23.5 -1.0
KZA Kyzart 55.17 297 P **P** 08 11 26.5 +2.0
SNR=31
G05A Wamic 55.18 59 ⇑P **P** 08 11 23.8 -0.7
baz=55
F06A Goldendale 55.20 58 ⇑P **P** 08 11 24.2 -0.5
baz=55
B09A Rice 55.24 54 ⇓P **P** 08 11 24.3 -0.7
baz=55,SNR=14
K02A Glendale 55.26 62 ⇓P **P** 08 11 25.2 +0.1
baz=55,SNR=5.9
E07A Sunnyside 55.30 57 ⇓P **P** 08 11 24.8 -0.6
baz=55,SNR=11
AAK Ala-Archa 55.32 298 P **P** 08 11 27.0 +1.4
SNR=49
AAK Ala-Archa 55.32 298 P **P** 08 11 25.2 -0.4
comp=Z,304nm,0.9s,mb6.3,SNR=35
AAK Ala-Archa 55.32 298 ⇑P **P** 08 11 25.9 +0.4
SNR=30
AAK Ala-Archa 55.32 298 *d*⇓*i*P **P** 08 11 25.0 -0.6
AAK pmax pmax
comp=Z,103nm,1.7s,mb5.6
AAK Ala-Archa 55.32 298 *i*P **P** 08 11 25.1 -0.5
I04A Tendick Farm, 55.33 61 ⇓P **P** 08 11 25.9 +0.2
baz=55,SNR=12
OD2 Odessa Site #2 55.49 55 P **P** 08 11 26.2 -0.6
C09A Chrisman Ranch 55.51 55 ⇑P **P** 08 11 25.9 -1.0
baz=55,SNR=14
L02A Cave Junction 55.53 63 ⇓P **P** 08 11 27.8 +0.7
baz=55,SNR=5.7
UCH Uchtor 55.53 297 P **P** 08 11 29.0 +1.9
SNR=9.9
RSW Rattlesnake Hi 55.54 57 P **P** 08 11 27.4 +0.2
D08A Wollman Farm, 55.56 56 P **P** 08 11 26.4 -0.9
baz=55,SNR=9.1
H05A Madras 55.56 59 ⇑P **P** 08 11 27.7 +0.3
baz=55,SNR=8.7
HAWA Hanford 55.58 57 *e*P **P** 08 11 27.1 -0.4
comp=Z,67nm,1.3s,mb5.5
G06A Carlson Farm, 55.58 58 ⇓P **P** 08 11 27.4 -0.1
baz=55,SNR=6.9
F07A Phinny Hill Vi 55.63 57 ⇑P **P** 08 11 27.6 -0.2
baz=55,SNR=12
HUMO Hull Mountain 55.67 62 *e*P **P** 08 11 28.9 +0.8
comp=Z,77nm,1.3s,mb5.6
HUMO Hull Mountain 55.67 62 ⇓P **P** 08 11 28.7 +0.6
baz=56,SNR=13
EKS2 Erkin-Say 55.74 298 P **P** 08 11 29.6 +1.0
SNR=17
E08A Dider Farm, El 55.80 56 ⇓P **P** 08 11 28.3 -0.7
baz=56
I05A Bend 55.81 60 ⇓P **P** 08 11 29.0 -0.1
baz=56
B10A Chitwood Farm, 55.82 54 ⇓P **P** 08 11 28.2 -1.0
baz=56
J04A Umpqua Nationa 55.83 61 ⇓P **P** 08 11 29.6 +0.4
baz=56,SNR=12
NEW Newport 55.90 54 *e*P **P** 08 11 29.0 -0.7
NEW pmax pmax
comp=Z,57nm,1.4s
NEW Newport 55.90 54 *e*P **P** 08 11 29.0 -0.7
comp=Z,57nm,1.4s,mb5.4
D09A Jones Farm, Ri 55.90 55 P **P** 08 11 29.1 -0.7
baz=56,SNR=11
A11A Hall Mountain, 55.93 53 ⇓P **P** 08 11 29.7 -0.3
baz=56,SNR=18
HNR Honiara 56.02 175 LR LR 08 30 27.7
comp=Z,448nm,21.4s,MS4.5,baz=0,1,slow=31
H06A Lindquist Farm 56.04 59 ⇑P **P** 08 11 30.5 -0.2
baz=56,SNR=17
C10A Spilker Farm, 56.04 54 ⇑P **P** 08 11 29.9 -0.9
baz=56
AML Almayashu 56.09 297 P **P** 08 11 33.3 +2.2
SNR=28
G07A Ruggs Ranch, H 56.13 58 ⇑P **P** 08 11 30.8 -0.6
baz=56,SNR=8.3
ARU Arti 56.15 318 P **P** 08 11 31.5 0.0
comp=Z,708nm,0.8s,SNR=12
ARU Arti 56.15 318 *e*P **P** 08 11 31.0 -0.5
ARU *e* 08 12 28.1
ARU *e* 08 13 37.4
ARU *e*PPP 08 14 49.1
ARU *e*S **S** 08 19 22.1 +2.1
ARU *e*SS SS 08 23 09.8 +3.4
ARU MLR MLR
comp=Z,700nm,20.0s,MS4.8
ARU MLR MLR
comp=N,400nm,19.0s,MS4.7
ARU MLR MLR
comp=E,400nm,19.0s,MS4.7
ARU Arti 56.15 318 *i*P **P** 08 11 31.0 -0.5
KSH Kashi 56.18 294 *i*P **P** 08 11 34.0 +2.3
KSH *e*AP pP 08 11 38.0 +1.1
KSH *e*XP sP 08 11 41.0 +2.2
KSH *e*PCP PcP 08 12 30.3 +0.9
KSH *e*PP PP 08 13 41.5 +4.6
KSH *e*PPP 08 14 58.0
KSH *e*SCP ScP 08 16 28.0 0.0
KSH *e*PCS PcS 08 16 29.3 -0.6
KSH *e*S **S** 08 19 22.3 +1.9
KSH *e*XS sS 08 19 30.0 +1.1
KSH AMB AMB
comp=Z,1μm,5.1s
KHMM Horse Mountain 56.18 64 *e*P **P** 08 11 32.9 +1.1
B11A Sandpoint 56.22 53 ⇑P **P** 08 11 31.5 -0.5
baz=56,SNR=8.9
BUOR Burton Butte 56.29 62 P **P** 08 11 33.7 +1.1
E09A Wood Farm, Sta 56.30 56 ⇓P **P** 08 11 31.9 -0.7
baz=56,SNR=25
YBH Yreka Blue Hor 56.32 63 LR LR 08 33 06.2
comp=Z,207nm,18.5s,MS4.2,baz=303,slow=33
YBH Yreka Blue Hor 56.32 63 *e*P **P** 08 11 33.7 +0.9
YBH pmax pmax
comp=Z,91nm,1.3s
YBH Yreka Blue Hor 56.32 63 *e*P **P** 08 11 33.7 +1.0
comp=Z,91nm,1.3s,mb5.6
YBH Yreka Blue Hor 56.32 63 ⇓P **P** 08 11 33.1 +0.4
baz=56,SNR=14
PMG Port Moresby 56.34 190 LR LR 08 30 59.3
comp=Z,169nm,20.7s,MS4.1,baz=261,slow=31
F08A Pendleton 56.35 57 ⇓P **P** 08 11 32.5 -0.4
baz=56,SNR=12
K04A Chilquin 56.41 62 ⇓P **P** 08 11 33.5 +0.1
baz=56
M02C Callahan 56.43 63 ⇑P **P** 08 11 33.8 +0.3
baz=56,SNR=15
N02C Big Bar 56.48 64 ⇑P **P** 08 11 34.5 +0.6
baz=56
G08A Pilot Rock 56.53 58 P **P** 08 11 34.2 0.0
baz=56,SNR=20
O01C Eel River Cons 56.55 65 ⇓P **P** 08 11 35.1 +0.7
baz=56
I06A Prineville 56.56 59 ⇓P **P** 08 11 34.7 +0.3

baz=56
L04A Klamath Falls 56.57 62 P P 08 11 35.2 +0.7
baz=56,SNR=14
H07A Lands Inn, Kim 56.57 59 P P 08 11 34.5 -0.1
baz=56,SNR=15
JIRN Jiri 56.58 276 eP P 08 11 36.1 +1.5
B12A Libby 56.63 53 ⇓P P 08 11 34.8 -0.2
baz=56
GUN Gumba 56.63 277 eP P 08 11 36.5 +1.5
LHEM Herd Peak 56.68 63 P P 08 11 36.4 +1.1
DAG Danmarks Havn 56.76 358⇑ iP P 08 11 34.4 -1.4
comp=Z,12nm,1.0s,mb4.9
DAG Danmarks Havn 56.76 358⇑ eP P 08 11 34.4 -1.4
DAG pmax pmax
comp=Z,12nm,1.0s,mb4.9
DAG Danmarks Havn 56.76 358⇑ eP P 08 11 34.4 -1.4
comp=Z,12nm,1.0s,mb4.9
M04C Macdoel 56.82 62 ⇑P P 08 11 36.8 +0.5
baz=57,SNR=18
K05A Summer Lake 56.85 61 ⇓P P 08 11 37.0 +0.4
baz=57,SNR=27
F09A S2 Ranch, Elgi 56.90 57 ⇓P P 08 11 37.1 +0.2
baz=57,SNR=14
I07A Izee 56.90 59 ⇓P P 08 11 36.8 -0.1
baz=57,SNR=25
E10A Myers Farm, Un 56.91 55 ⇓P P 08 11 36.2 -0.7
baz=57,SNR=20
M03C McCloud 56.95 63 ⇑P P 08 11 37.7 +0.5
baz=57,SNR=9.6
J06A Christmas Vall 56.99 60 ⇑P P 08 11 37.8 +0.3
baz=57,SNR=25
D11A Klaveano Farm, 57.02 55 ⇑P P 08 11 36.9 -0.8
baz=57
WDC Whiskeytown Da 57.09 64 ⇑P P 08 11 38.5 +0.3
baz=57,SNR=15
KKN Kakani 57.12 277 eP P 08 11 40.0 +1.6
comp=Z,343nm,1.1s,mb6.3
F10A Beach Ranch, E 57.14 56 ⇑P P 08 11 38.0 -0.5
baz=57
H08A Prairie City 57.14 58 ⇓P P 08 11 38.6 0.0
baz=57,SNR=26
PKI Pulchoki 57.17 277 eP P 08 11 40.0 +1.2
comp=Z,259nm,1.3s,mb6.1
O02C Red Bluff 57.17 64 ⇓P P 08 11 39.8 +1.0
baz=57,SNR=9.9
K06A Valley Falls 57.20 61 P P 08 11 40.0 +1.0
baz=57,SNR=30
P01C Double 8 Ranch 57.25 65 ⇓P P 08 11 39.6 +0.2
baz=57
B13A Whitefish 57.30 52 P P 08 11 39.6 -0.1
baz=57,SNR=49
DMN Daman 57.35 277 eP P 08 11 41.6 +1.5
comp=Z,448nm,1.1s,mb6.4
GKN Gorkha 57.42 278 eP P 08 11 42.0 +1.4
comp=Z,426nm,1.2s,mb6.4
J07A Hines 57.42 60 ⇓P P 08 11 41.0 +0.5
baz=57,SNR=16
KK31 Karatay Array 57.45 300 i P P 08 11 40.8 0.0
KK31 pmax pmax
comp=Z,36nm,1.0s,mb5.4
KKAR Karatay Array 57.45 300 P P 08 11 40.8 0.0
KKAR pmax pmax
comp=Z,36nm,1.0s,mb5.4
LVZ Lovozero 57.46 337 P P 08 11 40.6 -0.2
comp=Z,501nm,0.9s,mb6.5,SNR=5.2
LVZ Lovozero 57.46 337⇑ eP P 08 11 40.2 -0.6
LVZ pmax pmax
comp=Z,62nm,0.8s,mb5.7
LVZ MLR MLR
comp=Z,1μm,16.0s,MS5.1
LVZ MLR MLR
comp=N,729nm,18.0s,MS5.0
LVZ MLR MLR
comp=E,840nm,19.0s,MS5.0
E11A Bogner Ranch, 57.49 55 P P 08 11 40.4 -0.7
baz=57,SNR=25
M05C Lookout 57.49 62 P P 08 11 41.8 +0.7
baz=57,SNR=16
GASB Alder Springs 57.53 65 ⇓P P 08 11 42.1 +0.8
baz=57,SNR=9.7
I08A Drewsey 57.55 59 ⇓P P 08 11 41.8 +0.3
baz=57,SNR=26
HATC Hat Creek Radi 57.62 63 ⇑P P 08 11 42.5 +0.5
baz=57,SNR=9.0
C13A Hot Springs 57.64 53 ⇓P P 08 11 42.0 -0.2
baz=57,SNR=7.2
H09A Durkee 57.64 58 ⇓P P 08 11 42.3 +0.2
baz=57,SNR=35
LBCM Butte Creek Ri 57.67 63 P P 08 11 42.6 +0.3
MOD Modoc 57.69 61 eP P 08 11 42.9 +0.4
comp=E,61nm,1.3s,mb5.5
MOD Modoc 57.69 61 ⇑P P 08 11 42.5 +0.1
baz=58,SNR=20
HOPS Hopland 57.69 66 ⇓P P 08 11 42.6 +0.2
baz=58
BMO Blue Mountains 57.74 57 eP P 08 11 42.4 -0.4
comp=E,48nm,1.1s,mb5.4
O03C Acorn Hollow, 57.75 64 ⇑P P 08 11 42.7 -0.2
baz=58
F11A Grangeville 57.80 56 ⇑P P 08 11 42.8 -0.4
baz=58,SNR=23
K07A Rock Creek Ran 57.86 60 ⇑P P 08 11 44.0 +0.3
baz=58,SNR=19
J08A Circle Bar Ran 57.93 59 ⇑P P 08 11 44.4 +0.3
baz=58,SNR=38
KEV Kevo 57.93 341 ep P 08 11 41.9 -2.2
comp=E,30nm,0.9s,mb5.3
KEV Kevo 57.93 341 eP P 08 11 41.9 -2.2
KEV pmax pmax
comp=Z,30nm,0.9s,mb5.3
M06C Likely Place G 57.99 62 ⇓P P 08 11 44.8 +0.2
baz=58,SNR=12
I09A Lost Marbles R 58.00 58 ⇑P P 08 11 44.7 0.0
baz=58,SNR=33
APA Apatity 58.02 337⇑ iP P 08 11 43.8 -1.0
APA i 08 12 35.0
APA pmax pmax
comp=Z,78nm,1.0s,mb5.7
APA MLR MLR
comp=Z,1μm,20.0s,MS5.0
D13A Huson 58.04 54 P P 08 11 44.5 -0.4
baz=58,SNR=17
O04C Chester 58.14 63 ⇓P P 08 11 46.2 +0.5
baz=58,SNR=9.3
MNRC McLaughlin Nat 58.16 66 ⇓P P 08 11 46.0 +0.2
baz=58,SNR=9.6
ELFS Eagle Lake Fie 58.19 63 ⇑P P 08 11 46.6 +0.7
baz=58
L07A Adell 58.20 61 P P 08 11 46.9 +0.8
baz=58,SNR=14
H10A Noah's Angus R 58.22 57 P P 08 11 46.2 0.0
baz=58,SNR=48
NSHM Saint Helena R 58.27 66 eP P 08 11 46.8 +0.2
KOLN Koldanda 58.28 278 eP P 08 11 48.0 +1.4
comp=Z,254nm,1.1s,mb6.2
K08A Mann Creek Ran 58.29 60 ⇑P P 08 11 47.0 +0.3
baz=58,SNR=25
ORV Oroville 58.34 64 P P 08 11 46.6 -0.4
baz=58,SNR=32
SUTB Sutter Butte 58.36 65 ⇓P P 08 11 46.5 -0.6
baz=58,SNR=7.5
J09A Fry Pan Ranch, 58.36 59 ⇓P P 08 11 47.4 +0.3
baz=58,SNR=42
WVOR Wild Horse Val 58.38 60 eP P 08 11 47.2 -0.1
WVOR pmax pmax
comp=Z,60nm,1.2s,mb5.5
WVOR Wild Horse Val 58.38 60 eP P 08 11 47.2 -0.1
comp=Z,60nm,1.2s,mb5.5
ARCES ARCESS Array B 58.43 342 P P 08 11 47.2 -0.5
comp=Z,44nm,0.8s,mb5.5,baz=27,slow=8.2,SNR=39
ARCES LR LR 08 40 23.4
comp=Z,1μm,20.7s,MS5.0,baz=31,slow=40
ARCES ARCESS Array B 58.43 342 P P 08 11 47.2 -0.5
ARCES pmax pmax
comp=Z,44nm,0.8s
ARCES MLR MLR
comp=Z,1μm,20.7s
ARCES ARCESS Array B 58.43 342 P P 08 11 47.2 -0.5
ARCES LR LR 08 40 23.4
ARE0 ARCESS Array S 58.43 342 eP P 08 11 47.1 -0.5
O05C Quincy 58.46 64 P P 08 11 48.3 +0.4
baz=58,SNR=9.7
CVS Carmenet Viney 58.47 66 ⇓P P 08 11 47.8 -0.1
baz=58
OHCM Honcut 58.48 65 eP P 08 11 47.5 -0.5
MSO Missoula 58.49 54 eP P 08 11 47.7 -0.3
comp=Z,64nm,1.3s,mb5.5

FARB Farallon Islan 58.51 67 ⇑P P 08 11 48.2 -0.1
baz=58
Q03C Winters 58.57 66 ⇓P P 08 11 48.8 +0.2
baz=58,SNR=5.8
H11A Donnelly 58.57 57 P P 08 11 48.5 -0.2
baz=58,SNR=65
D14A Greenough 58.58 53 P P 08 11 48.3 -0.4
baz=58,SNR=49
E13A Victor 58.58 54 P P 08 11 48.4 -0.3
baz=58,SNR=30
N06A Buffalo Meadow 58.65 62 P P 08 11 49.7 +0.5
baz=58,SNR=27
M07A Soldier Meadow 58.68 61 ⇓P P 08 11 49.9 +0.5
baz=58,SNR=47
L08A Fields 58.70 60 P P 08 11 50.1 +0.6
baz=58,SNR=25
K09A Rome 58.76 59 P P 08 11 50.3 +0.4
baz=58,SNR=19
CHMT Chamberlain Mo 58.82 53 eP P 08 11 49.8 -0.6
Q04C Lincoln 58.85 65 ⇑P P 08 11 50.3 -0.2
baz=59
BEKR Beckwourth 58.86 63 ⇓P P 08 11 50.4 -0.3
baz=59,SNR=17
F13A Darby 58.88 55 P P 08 11 50.5 -0.3
baz=59,SNR=33
E14A Clinton 58.98 54 ⇓P P 08 11 51.1 -0.4
baz=59
O06A Flanigan 59.01 63 ⇓P P 08 11 52.0 +0.3
baz=59,SNR=19
P05C Yuba Gap, Truc 59.05 64 ⇑P P 08 11 51.8 -0.2
baz=59,SNR=10
BDM Black Diamond 59.07 66 ⇑P P 08 11 52.3 +0.2
baz=59
M08A Happy Creek Ra 59.12 61 ⇑P P 08 11 52.7 +0.3
baz=59,SNR=28
D15A Lincoln 59.14 53 ⇑P P 08 11 52.1 -0.5
baz=59,SNR=23
N07B Gerlach 59.16 62 ⇓P P 08 11 52.9 +0.2
baz=59,SNR=23
JRSC Jasper Ridge 59.17 67 ⇑P P 08 11 52.8 0.0
baz=59
L09A Wilkinson Ranc 59.20 60 ⇓P P 08 11 53.2 +0.2
baz=59,SNR=20
P06A Stead Airport, 59.26 63 ⇑P P 08 11 53.7 +0.3
baz=59
BOK Bokaro 59.29 273 i P P 08 11 54.0 +0.4
BOK i x x 08 15 39.0
LAVA Lava Cap Winer 59.29 65 ⇓P P 08 11 53.4 -0.2
baz=59,SNR=21
WENL Wente Brothers 59.34 66 ⇓P P 08 11 53.7 -0.2
baz=59
BNLO Ben Lomond (Sa 59.38 67 ⇓P P 08 11 54.0 -0.2
baz=59
E15A Deer Lodge 59.45 53 ⇑P P 08 11 54.1 -0.6
baz=59,SNR=40
R04C Big Horse Ranc 59.47 65 ⇑P P 08 11 54.8 -0.1
baz=59
LGTI Lohaghat 59.49 282 i P P 08 11 55.7 +0.7
KLP Kalpa 59.51 285 eP P 08 11 56.2 +1.1
KLP AMb AMb 08 11 57.5
comp=Z,45nm,1.3s,mb5.3
WCN Washoe City 59.57 64 ⇓P P 08 11 55.7 +0.1
baz=59,SNR=12
O07A Toulon 59.59 62 ⇑P P 08 11 56.1 +0.4
baz=59,SNR=36
N08A GE Springer Mi 59.67 61 ⇑P P 08 11 56.2 0.0
baz=59,SNR=18
S04C Ingram Canyon, 59.69 66 ⇑P P 08 11 56.3 -0.1
baz=60
M09A Marrel Ranch, 59.69 60 ⇓P P 08 11 56.8 +0.4
baz=60,SNR=29
AB31 Akbulak array 59.71 311 P P 08 11 56.1 -0.4
AB31 pmax pmax
comp=Z,39nm,0.8s,mb5.5
AB31 Akbulak array 59.71 311⇑ eP P 08 11 56.2 -0.3
FFC Flin Flon 59.72 41 P P 08 11 56.8 +0.2
comp=Z,198nm,1.0s,mb6.1,SNR=7.8
R05C Kirkwood Meado 59.74 64 ⇓P P 08 11 56.8 +0.1
baz=60,SNR=16
KSM Kuching 59.77 235 eP P 08 11 58.6 +1.7
F15A Butte 59.88 54 P P 08 11 57.5 -0.2
baz=60,SNR=64
CMB Columbia Colle 59.95 65 eP P 08 11 58.6 +0.4
CMB pmax pmax
comp=Z,82nm,1.3s,mb5.6
CMB Columbia Colle 59.95 65 eP P 08 11 58.5 +0.4
comp=Z,82nm,1.3s,mb5.6
CMB Columbia Colle 59.95 65 ⇓P P 08 11 58.3 +0.1
baz=60,SNR=26
O08A Rochester Mine 59.95 62 ⇓P P 08 11 58.7 +0.5
baz=60
P07A Fallon 59.96 63 ⇑P P 08 11 58.8 +0.5
baz=60
AKTK Aktyubinsk 59.97 313 P P 08 11 58.5 +0.2
AKTO Aktyubinsk 59.97 313 P P 08 11 58.5 +0.2
comp=Z,37nm,1.0s,mb5.4,baz=58,slow=7.4,SNR=30
AKTO Aktyubinsk 59.97 313 P P 08 11 58.5 +0.2
AKTO pmax pmax
comp=Z,37nm,1.0s,mb5.4
N09A Rock Creek Ran 59.99 61 ⇓P P 08 11 58.6 +0.2
baz=60,SNR=14
PACP Pacheco Peak 60.01 67 ⇑P P 08 11 58.8 +0.1
baz=60,SNR=11
EGMT Eagleton 60.04 51 eP P 08 11 58.3 -0.5
comp=Z,91nm,1.2s,mb5.7
EGMT Eagleton 60.04 51 ⇑P P 08 11 58.1 -0.7
baz=60,SNR=21
DLMT Dillon 60.12 54 eP P 08 11 59.3 0.0
comp=Z,67nm,1.4s,mb5.5
M10A I.L. Ranch, Tu 60.17 60 ⇓P P 08 12 00.1 +0.4
baz=60,SNR=40
HLID Hailey 60.18 57 eP P 08 11 59.7 -0.1
comp=Z,52nm,1.3s,mb5.4
HLID Hailey 60.18 57 ⇓P P 08 11 59.4 -0.3
baz=60,SNR=54
HAST UC Hastings Re 60.23 67 P P 08 12 00.3 +0.2
baz=60,SNR=8.1
R06C Coleville 60.23 64 ⇑P P 08 12 00.5 +0.4
baz=60,SNR=32
G15A Dillon 60.30 54 P P 08 12 00.4 -0.1
baz=60,SNR=30
MCMT McKenzie Canyo 60.30 55 eP P 08 12 00.3 -0.3
P08A Dixie Valley 60.36 62 ⇓P P 08 12 01.4 +0.4
baz=60
Q07A Schurz 60.38 63 ⇑P P 08 12 01.5 +0.4
baz=60
S06C San Francisco 60.38 65 ⇑P P 08 12 00.9 -0.2
baz=60,SNR=31
DDI Dehra Dun 60.40 284 ex P 08 12 03.5 +2.2
S05C Merced 60.41 66 ⇓P P 08 12 00.9 -0.4
baz=60
BMN Battle Mountai 60.43 61 eP P 08 12 01.9 +0.4
BMN pmax pmax
comp=Z,80nm,1.3s,mb5.6
BMN Battle Mountai 60.43 61 eP P 08 12 01.9 +0.5
comp=Z,80nm,1.3s,mb5.6
T05C Eagle Field, D 60.47 66 ⇑P P 08 12 02.0 +0.2
baz=60
O09A Fish Creek Ran 60.61 61 ⇑P P 08 12 03.0 +0.3
baz=60,SNR=34
THN Thein Dam 60.62 287 eP P 08 12 02.1 -0.7
V03C Hunter Liggett 60.66 67 ⇓P P 08 12 03.5 +0.5
baz=60
M11A Holland Ranch, 60.67 60 P P 08 12 03.7 +0.6
baz=60,SNR=42
N10A Dunphy 60.68 61 ⇓P P 08 12 03.7 +0.6
baz=60,SNR=8.8
U04C Hernandez Rese 60.73 67 ⇓P P 08 12 03.8 +0.3
baz=60,SNR=5.5
R07C Lee Vining 60.75 64 ⇑P P 08 12 04.1 +0.4
baz=60
ORR Orenburg 60.84 315 eP P 08 12 04.3 0.0
ORR pmax pmax
comp=Z,70nm,0.9s,mb5.8
ORR MLR MLR
comp=Z,1μm,14.0s,MS5.2
O10A Cortez Mining, 60.95 61 ⇑P P 08 12 05.5 +0.5
baz=61,SNR=20
Q08A Gabbs 60.96 63 P P 08 12 05.5 +0.4
baz=61,SNR=47
NVAR Mina Array Bea 61.00 64 P P 08 12 05.8 +0.5
comp=Z,22nm,0.8s,mb5.3,baz=290,slow=8.6,SNR=91
NVAR Mina Array Bea 61.00 64 P P 08 12 05.8 +0.5
T06C Millerton Lake 61.01 66 P P 08 12 05.2 -0.2
baz=61,SNR=19
P09A Austin 61.02 62 ⇓P P 08 12 05.9 +0.4
baz=61

KCC Kaiser Creek 61.06 65 ⇓P P 08 12 05.4 -0.3
baz=61,SNR=16
N11A Elko Archery C 61.09 60 ⇓P P 08 12 06.4 +0.5
baz=61,SNR=22
SNG Songkhla 61.12 248 P P 08 12 08.0 +1.9
V04C Ramage Ranch, 61.13 68 ⇑P P 08 12 06.4 +0.2
baz=61
PKD Parkfield 61.14 67 ⇓P P 08 12 06.1 -0.2
baz=61,SNR=5.2
U05C Westside ANR, 61.17 67 ⇓P P 08 12 06.5 +0.1
baz=61
MLAC Mammoth Lakes 61.17 65 ⇓P P 08 12 06.9 +0.5
baz=61
R08A Mina 61.17 64 ⇑P P 08 12 06.7 +0.2
baz=61
M12A Wells 61.20 59 ⇑P P 08 12 07.1 +0.4
baz=61,SNR=52
P10A Eureka 61.39 62 ⇓P P 08 12 08.5 +0.5
baz=61,SNR=12
ELK Elko 61.43 60 eP P 08 12 08.7 +0.5
ELK pmax pmax
comp=Z,32nm,1.2s
ELK Elko 61.43 60 eP P 08 12 08.7 +0.5
comp=Z,32nm,1.2s,mb5.3
Q09A Carvers 61.44 63 ⇑P P 08 12 08.8 +0.5
baz=61,SNR=16
YMR Madison River 61.45 54 eP P 08 12 08.8 +0.4
comp=Z,114nm,1.3s,mb5.8
NIL Nilore 61.47 290 P P 08 12 10.1 +1.6
comp=Z,169nm,0.8s,mb6.2,SNR=5.6
N12A Clover Valley, 61.48 60 ⇓P P 08 12 08.9 +0.4
baz=61,SNR=20
MTUM Tungsten Hills 61.51 65 eP P 08 12 09.6 +0.8
PTRM Twissleman Ran 61.53 67 eP P 08 12 09.3 +0.3
O11A Cowboy Ranch, 61.56 61 P P 08 12 09.6 +0.5
baz=61,SNR=25
YNR Norris Junctio 61.58 54 eP P 08 12 10.7 +1.4
V05C Boulder Hill, 61.60 67 ⇑P P 08 12 09.9 +0.6
baz=61
HELL Mitchell Peak, 61.64 66 P P 08 12 09.5 -0.2
baz=61,SNR=35
YFT Old Faithful 61.66 54 eP P 08 12 11.6 +1.8
M13A Montello 61.68 59 ⇓P P 08 12 10.2 +0.2
baz=61,SNR=34
RCTC Rector, Farmer 61.74 66 ⇑P P 08 12 09.7 -0.7
baz=62,SNR=12
P11A Circle Ranch, 61.86 61 ⇓P P 08 12 11.5 +0.3
baz=62,SNR=9.2
R09A Tonopah 61.88 63 P P 08 12 11.5 +0.3
baz=62,SNR=63
SMMC Simmler 61.88 67 ⇓P P 08 12 11.6 +0.3
baz=62
TPH Tonopah 61.89 63 eP P 08 12 11.7 +0.4
TPH pmax pmax
comp=Z,84nm,1.2s,mb5.8
TPH Tonopah 61.89 63 eP P 08 12 11.7 +0.4
comp=Z,84nm,1.2s,mb5.8
TIN Tinemaha 61.90 65 ⇑P P 08 12 11.6 +0.1
baz=62
FLWY Flagg Ranch 61.97 55 eP P 08 12 13.1 +1.2
comp=Z,86nm,1.3s,mb5.7
N13A Wendover, West 61.97 59 ⇑P P 08 12 12.2 +0.3
baz=62,SNR=12
DCID1 Drake Creek 62.00 55 eP P 08 12 13.3 +1.2
NDI New Delhi 62.01 283 eP P 08 12 11.8 -0.4
NDI AMb AMb 08 12 13.2
comp=Z,65nm,1.0s,mb5.7
O12A Currie 62.02 60 P P 08 12 12.3 +0.1
baz=62,SNR=59
RRI2 Red Ridge 62.08 56 eP P 08 12 13.5 +0.8
comp=Z,180nm,1.4s,mb6.0
S09A Goldfield 62.11 64 P P 08 12 13.1 +0.3
baz=62,SNR=32
RLMT Red Lodge 62.11 53 eP P 08 12 13.1 +0.3
comp=Z,86nm,1.3s,mb5.7
VES Vestal, Richgr 62.13 66 P P 08 12 12.5 -0.5
baz=62,SNR=22
MOOW Moose Ponds 62.15 55 eP P 08 12 13.8 +0.6
comp=Z,73nm,1.4s,mb5.6
AYAN Aya Nagar 62.20 283 i P P 08 12 13.1 -0.4
AYAN AMb AMb 08 12 14.5
comp=Z,31nm,1.0s,mb5.4
HVU Hansel Valley 62.23 58 eP P 08 12 14.0 +0.4
HVU pmax pmax
comp=Z,49nm,1.5s,mb5.4
HVU Hansel Valley 62.23 58 eP P 08 12 14.0 +0.3
comp=Z,49nm,1.5s,mb5.4
PKM Peak Mountain 62.26 68 ⇓P P 08 12 14.2 +0.4
baz=62,SNR=5.9
Q11A Duckwater 62.36 62 P P 08 12 14.7 +0.2
baz=62,SNR=24
SONA Sohna 62.38 283 eP P 08 12 15.0 +0.4
SONA AMb AMb 08 12 15.8
comp=Z,40nm,0.7s,mb5.7
CWC Cottonwood Cre 62.38 65 P P 08 12 14.8 +0.1
baz=62,SNR=19
P12A McGill 62.42 61 P P 08 12 15.3 +0.4
baz=62,SNR=16
AGRA Agra 62.46 281⇑ iP P 08 12 16.2 +1.0
AGRA AMb AMb 08 12 18.5
comp=Z,66nm,0.5s,mb6.1
GRAC Grapevine Rang 62.47 64 ⇑P P 08 12 15.8 +0.5
baz=62
KULM Kulim 62.54 247 eP P 08 12 17.2 +1.5
AHID Auburn Hatcher 62.57 56 eP P 08 12 16.4 +0.4
comp=Z,93nm,1.6s,mb5.7
BGU Big Grassy Mou 62.62 59 eP P 08 12 16.5 +0.3
ISA Isabella 62.63 66 eP P 08 12 15.5 -0.8
comp=Z,0.1nm,1.3s
ISA Isabella 62.63 66 ⇑P P 08 12 15.5 -0.8
baz=62,SNR=12
KAKA Kakadu 62.65 205 eP P 08 12 15.9 -0.5
comp=Z,37nm,0.7s,mb5.6
SPUT South Promonto 62.72 58 eP P 08 12 12.2 -4.6
TRCR Troy Canyon 62.72 62 eP P 08 12 17.0 +0.1
Q12A Willow Creek R 62.74 61 ⇑P P 08 12 17.0 0.0
baz=62,SNR=21
ARVC Arvin 62.74 67 ⇑P P 08 12 16.7 -0.3
baz=62,SNR=9.5
LAO LASA Array 62.75 50 eP P 08 12 17.4 +0.3
comp=Z,265nm,1.6s,mb6.1
DAC Darwin (Calif) 62.79 65 eP P 08 12 17.1 -0.3
DAC pmax pmax
comp=Z,31nm,1.2s,mb5.3
DAC Darwin (Calif) 62.79 65 eP P 08 12 17.1 -0.3
comp=Z,31nm,1.2s,mb5.3
IPM Ipoh 62.93 246 P P 08 12 20.3 +2.0
IPM Ipoh 62.93 246 P P 08 12 19.8 +1.5
IPM Ipoh 62.93 246 P P 08 12 18.4 +0.1
MPMC Manual Prospec 62.99 65 ⇑P P 08 12 18.5 -0.2
baz=63,SNR=16
HWUT Hardware Ranch 63.04 57 eP P 08 12 19.3 +0.3
FURC Furnace Creek, 63.12 65 P P 08 12 19.9 +0.3
baz=63,SNR=32
OSI Osito Adit 63.13 67 ⇑P P 08 12 19.6 0.0
baz=63
DUG Dugway 63.21 59 P P 08 12 20.3 +0.1
DUG pmax pmax
comp=Z,95nm,1.3s,mb5.8
DUG Dugway 63.21 59 eP P 08 12 20.5 +0.3
comp=Z,95nm,1.3s,mb5.8
DUG Dugway 63.21 59 ⇑P P 08 12 20.3 +0.1
baz=63
LRMC Laurel Mountai 63.24 66 ⇓P P 08 12 20.3 -0.1
baz=63
NOQ North Oquirrh 63.33 58 eP P 08 12 21.5 +0.6
comp=Z,180nm,1.4s,mb6.0
KHET Khetri 63.35 283 eP P 08 12 21.1 0.0
KHET AMb AMb 08 12 22.7
comp=Z,26nm,1.2s,mb5.3
EDW2 Edwards Air Fo 63.43 67 P P 08 12 21.7 +0.1
baz=63,SNR=29
KGM Kluang 63.43 242 P P 08 12 22.9 +1.2
BW06 Boulder Array 63.45 55 eP P 08 12 21.7 -0.1
comp=Z,85nm,1.3s,mb5.7
PDAR Pinedale Array 63.45 55 P P 08 12 21.7 0.0
comp=Z,25nm,0.9s,mb5.3,baz=287,slow=2.5,SNR=137
U10A Ash Meadows, A 63.49 64 ⇓P P 08 12 22.5 +0.5
baz=63,SNR=17
CTU Camp Tracy 63.52 58 eP P 08 12 22.6 +0.4
comp=Z,31nm,1.2s,mb5.2
DECC Green Verdugo 63.62 67 ⇓P P 08 12 22.7 -0.1
baz=63
JLU Jordanelle 63.75 58 eP P 08 12 24.1 +0.3
NLU North Lily Min 63.80 59 eP P 08 12 24.2 +0.1
SHOC Shoshone 63.85 65 ⇓P P 08 12 24.3 -0.1
baz=64,SNR=5.5

GSC **Goldstone** 63.90 66 *e*P P 08 12 24.9 +0.1
GSC **Goldstone** 63.90 66 ⇑P P 08 12 24.6 -0.2
baz=64,SNR=8.1
DAU **Daniels Canyon** 63.98 58 *e*P P 08 12 26.0 +0.7
MPU **Maple Canyon** 64.02 59 *e*P P 08 12 25.7 +0.2
comp=Z,54nm,1.2s,mb5.5
BFSC **Mount Baldy St** 64.05 67 ⇑P P 08 12 25.7 0.0
baz=64,SNR=9.9
U11A **Corn Creek** 64.07 64 ⇑P P 08 12 26.3 +0.5
baz=64,SNR=6.3
KAF **Kangasniemi** 64.17 336 *e*p P 08 12 24.4 -2.1
comp=Z,52nm,0.9s,mb5.6,baz=35,slow=6.2
KAF **Kangasniemi** 64.17 336 *e*P P 08 12 24.4 -2.1
KAF pmax pmax
comp=Z,52nm,0.9s,mb5.6
TUQ **Turquoise Mtn.** 64.37 65 ⇓P P 08 12 28.1 +0.3
baz=64
ARUT **Antelope Range** 64.38 61 *e*P P 08 12 28.0 +0.1
V11A **Goodsprings** 64.42 64 ⇑P P 08 12 28.4 +0.2
baz=64,SNR=19
BBRC **Big Bear Sol-O** 64.50 66 ⇑P P 08 12 28.7 0.0
baz=64
HEC **Hector,Ludlow** 64.51 66 ⇓P P 08 12 28.4 -0.3
baz=64
CCUT **Cedar City** 64.58 62 *e*P P 08 12 29.7 +0.5
U12A **Valley of Fire** 64.58 63 ⇓P P 08 12 29.2 0.0
baz=64,SNR=7.9
MSU **Marysvale** 64.67 60 P P 08 12 29.9 +0.1
MSU **Marysvale** 64.67 60 *e*P P 08 12 30.2 +0.4
TMUT **Trail Mountain** 64.73 59 *e*P P 08 12 30.6 +0.4
MURC **Murrieta** 64.75 67 P P 08 12 30.2 -0.1
baz=65,SNR=16
FIA1 **FINESS Array S** 64.77 336 *e*P P 08 12 29.6 -0.8
FINES **FINESS Array B** 64.77 336 P P 08 12 29.7 -0.7
comp=Z,37nm,0.8s,mb5.5,baz=46,slow=8.2,SNR=73
FINES LR LR 08 42 41.7
comp=Z,820nm,20.5s,MS4.9,baz=29,slow=38
FINES **FINESS Array B** 64.77 336 P P 08 12 29.7 -0.8
FINES pmax pmax
comp=Z,37nm,0.8s
FINES MLR MLR
comp=Z,820nm,20.5s
V12A **Nelson** 64.85 64 ⇓P P 08 12 31.1 +0.2
baz=65,SNR=29
PUL **Pulkovo** 64.85 333 *e*P P 08 12 30.9 0.0
PUL pmax pmax
comp=E,66nm,0.6s
PUL pmax pmax
comp=Z,67nm,0.6s,mb5.8
PUL pmax pmax
comp=N,152nm,0.9s
PUL MLR MLR
comp=Z,1μm,18.0s,MS5.2
PUL **Pulkovo** 64.85 333 ⇓*e*P P 08 12 31.2 +0.3
SFJD **Kangerlussuaq** 64.91 11 *i* P P 08 12 39.4 +8.1
SFJD **Kangerlussuaq** 64.91 11 P P 08 12 38.4 +7.1
SFJD pmax pmax
comp=Z,42nm,1.0s,mb5.4
GMRC **Granite Mounta** 64.96 65 ⇑P P 08 12 31.5 -0.2
baz=65
W12A **Cal Nev Ari** 65.11 64 ⇑P P 08 12 32.6 -0.1
baz=65,SNR=9.0
VIS **Vishakhapatnam** 65.14 270 ⇓*i*P P 08 12 34.1 +1.3
VIS AMb AMB 08 12 35.6
comp=Z,120nm,1.3s,mb5.8
VIS *i* x x 08 19 11.9
AJM **Ajmer** 65.18 283 ⇓*i*P P 08 12 33.5 +0.4
AJM AMb AMB 08 12 35.0
comp=Z,73nm,1.1s,mb5.6
PFO **Pinyon Flat Ob** 65.22 67 P P 08 12 33.9 +0.6
comp=Z,113nm,1.6s,mb5.7,SNR=5.4
PFO **Pinyon Flat Ob** 65.22 67 P P 08 12 33.0 -0.3
PFO **Pinyon Flat Ob** 65.22 67 ⇑P P 08 12 33.0 -0.4
baz=65,SNR=6.4
SRU **San Rafael** 65.26 59 P P 08 12 33.6 0.0
SRU pmax pmax
comp=Z,48nm,1.0s,mb5.5
SRU **San Rafael** 65.26 59 *e*P P 08 12 33.7 +0.1
comp=Z,48nm,1.0s,mb5.5
109C **Camp Elliot, M** 65.28 68 ⇑P P 08 12 33.5 -0.2
baz=65
MOS **Moscow** 65.40 327 *e*P P 08 12 32.8 -1.7
MOS *e* 08 15 00.1
MOS *e*S S 08 21 18.4 +0.2
MOS pmax pmax
comp=Z,135nm,1.4s,mb5.8
BHPL **Bhopal** 65.45 278 ⇓*i*P P 08 12 35.3 +0.5
BHPL AMb AMB 08 12 36.8
comp=Z,156nm,1.4s,mb5.8
RWWY **Rawlins** 65.47 55 *e*P P 08 12 35.0 0.0
comp=Z,42nm,1.2s,mb5.3
ULM **Lac du Bonnet** 65.48 42 P P 08 12 34.1 -1.0
comp=Z,111nm,0.8s,mb4.9,baz=320,slow=7.9,SNR=11
RSSD **Black Hills** 65.60 51 P P 08 12 35.3 -0.5
RSSD pmax pmax
comp=Z,94nm,1.3s,mb5.7
RSSD **Black Hills** 65.60 51 *e*P P 08 12 35.5 -0.3
comp=Z,94nm,1.3s,mb5.7
NEE2 **Needles Airpor** 65.61 65 ⇑P P 08 12 35.5 -0.4
baz=65
IRM **Iron Mountain** 65.68 65 P P 08 12 36.5 +0.2
baz=66,SNR=29
MONP **Monument Peak** 65.71 67 ⇓P P 08 12 36.6 0.0
baz=66
BC3 **Big Chuckw Mtn** 65.82 66 P P 08 12 37.1 -0.1
baz=66,SNR=10
W13A **Hualapai Mount** 65.85 64 P P 08 12 37.6 +0.2
baz=66,SNR=34
SWSC **Sam W. Stewart** 66.07 67 ⇑P P 08 12 38.4 -0.4
baz=66
X13A **Yucca** 66.22 64 ⇓P P 08 12 39.5 -0.3
baz=66,SNR=42
PDMCI **Parker Dam,Lak** 66.22 65 ⇑P P 08 12 39.4 -0.4
baz=66,SNR=34
MEF **Metsahovi** 66.25 336 P P 08 12 39.4 -0.6
OBN **Obninsk** 66.27 327 ⇓*e*P P 08 12 39.1 -1.0
OBN *e* 08 15 02.9
OBN *e*S S 08 21 31.5 +2.8
OBN *e*SS SS 08 25 43.0 -1.9
OBN pmax pmax
comp=Z,157nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.7
W14A **Seligman** 66.27 63 ⇑P P 08 12 40.6 +0.4
baz=66,SNR=53
Y12C **Blythe** 66.34 65 ⇓P P 08 12 40.5 -0.1
baz=66,SNR=15
GLA **Glamis** 66.61 66 *e*P P 08 12 42.7 +0.4
GLA **Glamis** 66.61 66 ⇑P P 08 12 42.2 -0.1
baz=66,SNR=9.8
PV10 **Paradox Valley** 66.61 58 *e*P P 08 12 43.0 +0.6
PHWY **Pilot Hill** 66.71 54 *e*P P 08 12 42.6 -0.3
W15A **Williams** 66.80 63 ⇑P P 08 12 44.0 +0.5
baz=67,SNR=12
AGMN **Agassiz Refuge** 66.86 43 *e*P P 08 12 42.7 -1.2
comp=Z,106nm,1.4s,mb5.7
X14A **Yava** 66.88 64 P P 08 12 44.8 +0.7
baz=67,SNR=47
CTA **Charters Tower** 66.99 189 *e*P P 08 12 43.7 -1.0
comp=Z,11nm,1.1s,mb4.8
CTA **Charters Tower** 66.99 189 *e*P P 08 12 43.7 -1.0
CTA pmax pmax
comp=Z,11nm,1.1s
CTAO **Charters Tower** 66.99 189 *e*P P 08 12 43.6 -1.1
CTAO pmax pmax
comp=Z,37nm,1.3s,mb5.2
CTAO **Charters Tower** 66.99 189 *e*P P 08 12 43.6 -1.1
comp=Z,37nm,1.3s,mb5.3
VSU **Vasula** 67.01 334 *d i*P P 08 12 44.1 -0.7
VSU **Vasula** 67.01 334 *i* P P 08 12 44.2 -0.6
PV01 **Paradox Valley** 67.05 58 P P 08 12 42.3 -2.8
AFI **Afiamalu** 67.11 145 LR LR 08 34 50.4
comp=Z,467nm,20.9s,MS4.7,baz=307,slow=30
WUAZ **Wupatki** 67.12 62 *e*P P 08 12 46.3 +0.7
comp=Z,73nm,1.3s,mb5.5
WUAZ **Wupatki** 67.12 62 ⇑P P 08 12 46.0 +0.4
baz=67,SNR=6.8
Y14A **Wickenburg** 67.16 64 ⇓P P 08 12 45.9 0.0
baz=67,SNR=37
VRHR **Novokhopersk** 67.21 321 *e*P P 08 12 45.9 -0.2
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
VRHR pmax pmax
comp=N,1.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.7s

X15A **Humboldt** 67.28 63 P P 08 12 47.3 +0.7
baz=67,SNR=71
AKL **Akola** 67.44 277 *e*P P 08 12 48.0 +0.5
AKL AMb AMB 08 12 50.6
comp=Z,133nm,1.3s,mb5.8
Z14A **Wintersburg** 67.58 65 ⇓P P 08 12 48.2 -0.3
baz=67,SNR=5.8
ISCO **Idaho Springs** 67.64 55 P P 08 12 49.2 +0.4
ISCO pmax pmax
comp=Z,88nm,1.4s,mb5.6
ISCO **Idaho Springs** 67.64 55 *e*P P 08 12 49.3 +0.5
comp=Z,88nm,1.4s,mb5.6
MVCO **Mesa Verde** 67.71 59 *e*P P 08 12 49.2 -0.1
comp=Z,82nm,1.5s,mb5.5
MVCO **Mesa Verde** 67.71 59 ⇓P P 08 12 49.3 0.0
baz=68,SNR=22
VRSR **Storozhevoye** 68.15 323 *e*P P 08 12 51.6 -0.5
VRSR *e*S S 08 21 49.2 -2.3
VRSR pmax pmax
comp=N,100nm,0.9s
VRSR pmax pmax
comp=E,80nm,0.9s
VRSR pmax pmax
comp=Z,70nm,0.9s,mb5.7
VRSR smax
comp=N,9.0nm,1.1s
VRSR smax
comp=Z,4.0nm,1.0s
VRSR smax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,610nm,23.0s,MS4.8
VRSR MLR MLR
comp=N,260nm,18.0s
VORD **Divnogorie** 68.30 322 *e*P P 08 12 50.8 -2.2
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.3
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,40nm,0.6s
115A **Sonoran Desert** 68.47 65 ⇓P P 08 12 54.5 +0.4
baz=68,SNR=21
HYB **Hyderabad** 68.63 273 ⇓*i*P P 08 12 55.0 -0.1
HYB **Hyderabad** 68.63 273 ⇓*e*P P 08 12 55.0 -0.1
NB2 **NORSAR Subarra** 68.79 342 P P 08 12 55.4 -0.7
comp=Z,49nm,1.0s,mb5.4,baz=26,slow=6.5
NOA **NORSAR Array B** 68.79 342 P P 08 12 55.4 -0.7
comp=Z,22nm,0.9s,mb5.1,baz=26,slow=6.3,SNR=42
NOA LR LR 08 46 07.0
comp=Z,467nm,19.3s,MS4.7,baz=25,slow=39
NOA **NORSAR Array B** 68.79 342 P P 08 12 55.4 -0.7
NOA pmax pmax
comp=Z,23nm,0.9s
NOA MLR MLR
comp=Z,467nm,19.3s
116A **Eloy** 68.89 65 P P 08 12 56.9 +0.2
baz=69,SNR=17
WRAB **Tennant Creek** 69.01 201 P P 08 12 56.5 -0.9
comp=Z,275nm,0.8s,mb6.2,SNR=12
WRAB **Tennant Creek** 69.01 201 P P 08 12 56.6 -0.8
WRAB pmax pmax
comp=Z,200nm,1.7s,mb5.8
WRAB **Tennant Creek** 69.01 201 *e*P P 08 12 56.8 -0.7
comp=Z,31nm,0.8s,mb5.3
WB2 **Warramunga Arr** 69.02 201 ⇓*i*P P 08 12 56.6 -0.9
WRA **Warramunga Arr** 69.03 201 P P 08 12 56.7 -0.8
comp=Z,27nm,0.8s,mb5.2,baz=20,slow=6.6,SNR=70
WRA LR LR 08 39 07.7
comp=Z,112nm,19.9s,MS4.1,baz=25,slow=32
WRA PKP2bc 08 41 07.6
comp=Z,1.7nm,1.0s,baz=206,slow=2.7,SNR=8.9
WRA **Warramunga Arr** 69.03 201 P P 08 12 56.7 -0.8
WRA LR LR 08 39 07.7
WRA ⇑*e* 08 41 07.6
NAO01 **NORSAR Array S** 69.04 342 *e*P P 08 12 56.9 -0.7
comp=Z,50nm,1.1s,mb5.4
HFA0 **Hagfors New Ar** 69.06 341 P P 08 12 56.6 -1.1
SDCO **Great Sand Dun** 69.10 57 *e*P P 08 12 58.3 +0.4
comp=Z,54nm,1.4s,mb5.3
DZM **Mont Dzumac** 69.16 169 P P 08 12 59.0 +0.7
comp=Z,9.5nm,0.8s,mb4.8,baz=67,slow=12,SNR=5.2
DZM LR LR 08 36 24.4
comp=Z,301nm,21.6s,MS4.5,baz=209,slow=30
TUC **Tucson** 69.64 64 *e*P P 08 13 01.3 0.0
TUC pmax pmax
comp=Z,24nm,1.1s,mb5.0
TUC **Tucson** 69.64 64 *e*P P 08 13 01.3 0.0
comp=Z,24nm,1.1s,mb5.0
ECSD **EROS,Sioux Fal** 69.73 47 *e*P P 08 13 00.5 -1.4
comp=Z,69nm,1.3s,mb5.4
MNK **Minsk** 69.88 331 *e*P P 08 12 58.0 -4.8
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
FITZ **Fitzroy Crossi** 69.89 210 ⇓*i*P P 08 13 03.0 +0.1
comp=Z,29nm,0.8s,mb5.3
FITZ **Fitzroy Crossi** 69.89 210 P P 08 13 03.2 +0.3
comp=Z,14nm,0.8s,mb5.0,baz=32,slow=6.3,SNR=23
MAK **Makhachkala** 70.33 312 *i* P P 08 13 02.9 -2.7
MAK *i* 08 13 25.6
MAK *i* 08 15 48.7
MAK *i*S S 08 22 14.8 -2.4
MAK *e* 08 22 49.9
MAK pmax pmax
comp=Z,44nm,0.4s,mb5.7
KONO **Kongsberg** 70.40 342 ⇑*i*P P 08 13 05.6 -0.4
LAZ **Ladron** 70.43 60 *e*P P 08 13 06.7 +0.5
ANMO **Albuquerque** 70.46 60 *e*P P 08 13 06.2 -0.1
ANMO pmax pmax
comp=Z,26nm,1.1s
ANMO **Albuquerque** 70.46 60 *e*P P 08 13 06.2 -0.1
comp=Z,26nm,1.1s,mb5.1
LENM **Lemitar** 70.69 61 *e*P P 08 13 08.3 +0.6
Y22C **IRIS PASSCAL I** 70.79 61 ⇓P P 08 13 09.2 +0.8
baz=71
LPM **Los Pinos Muon** 70.80 60 *e*P P 08 13 08.9 +0.5
BNM **Barren Site** 70.91 60 *e*P P 08 13 09.2 +0.1
GOF **Gofitskoye** 71.01 316 *e*P P 08 13 03.3 -6.4
GOF *i* 08 13 18.9
GOF *e*S S 08 22 19.6 -5.5
GOF pmax pmax
comp=Z,190nm,1.0s,mb6.0
GOF smax
comp=N,150nm,1.9s
GOF smax
comp=E,130nm,1.9s
POO **Poona** 71.09 277 ⇑*i*P P 08 13 09.0 -1.2
comp=E,130nm,1.0s,mb5.8
CBKS **Cedar Bluff** 71.60 53 *e*P P 08 13 12.1 -1.2
CBKS pmax pmax
comp=Z,102nm,1.4s,mb5.6
CBKS **Cedar Bluff** 71.60 53 *e*P P 08 13 12.1 -1.1
comp=Z,102nm,1.4s,mb5.6
KAD **Karad** 71.71 276 ⇓*i*P P 08 13 14.6 +0.6
KAD AML AML 08 13 17.5
comp=Z,123nm,1.7s
SUW **Suwalki** 71.81 333 *e*P P 08 13 13.5 -1.0
SUW L 08 43 22.9
comp=Z,0.7nm,27.3s
SUW **Suwalki** 71.81 333 *e*P P 08 13 13.6 -1.0
comp=Z,118nm,1.1s,mb5.7
KIV **Kislovodsk** 72.00 316 P P 08 13 16.3 +0.6
comp=Z,367nm,1.2s,mb6.2,SNR=9.6
KIV **Kislovodsk** 72.00 316 P P 08 13 16.8 +1.1
SNR=21
KIV **Kislovodsk** 72.00 316 *e*P P 08 13 16.3 +0.6
KIV *e* 08 13 37.3
KIV *e*S S 08 22 39.5 +3.0
KIV pmax pmax
comp=Z,87nm,1.2s,mb5.6
KIV pmax pmax
comp=Z,306nm,2.3s,mb5.8
KIV MLR MLR
comp=Z,679nm,16.0s,MS5.0
KIV **Kislovodsk** 72.00 316 *i* P P 08 13 16.4 +0.7
ZEI **Tsey** 72.28 314 *e*P P 08 13 17.2 -0.2
ZEI *e* 08 13 35.1
ZEI pmax pmax
comp=Z,33nm,1.2s,mb5.1
AKASG **Malin Array Be** 72.49 327 P P 08 13 17.6 -1.0
comp=Z,27nm,0.9s,mb5.2,baz=33,slow=6.0,SNR=107
AKASG LR LR 08 49 10.1
comp=Z,597nm,18.6s,MS4.9,baz=30,slow=39
AKASG **Malin Array Be** 72.49 327 P P 08 13 17.6 -1.0
AKASG pmax pmax
comp=Z,27nm,0.9s

AKASG MLR MLR
comp=Z,597nm,18.6s
AKBB **Malin Array Si** 72.49 327 *e*P P 08 13 17.6 -1.0
KIEV **Kiev** 72.50 327 *e*P P 08 13 17.8 -0.9
KIEV pmax pmax
comp=Z,91nm,1.3s,mb5.5
KIEV **Kiev** 72.50 327 *e*P P 08 13 17.8 -0.8
comp=Z,91nm,1.3s,mb5.5
AS31 **Alice Springs** 72.70 201 *e*P P 08 13 20.0 +0.1
AS31 *e* 08 13 29.4
ASAR **Alice Springs** 72.70 201 P P 08 13 20.1 +0.3
comp=Z,20nm,0.8s,mb5.1,baz=15,slow=5.8,SNR=140
ASAR PKPPKP 08 41 02.4
comp=Z,0.7nm,1.0s,baz=204,slow=2.7,SNR=4.2
ASPA **Alice Springs** 72.71 201 *e*P P 08 13 20.0 +0.1
ASPA *e* 08 13 29.4
SCHQ **Schefferville** 72.71 24 LR LR 08 48 09.0
comp=Z,248nm,19.6s,MS4.5,baz=303,slow=38
SCIA **State Center** 72.78 47 *e*P P 08 13 19.6 -0.7
comp=Z,94nm,1.2s,mb5.6
KSU1 **Kansas State U** 73.08 51 *e*P P 08 13 20.1 -2.0
comp=Z,18nm,0.8s,mb5.1
BSD **Bornholm Skovb** 73.25 338 ⇓*i*P P 08 13 22.1 -1.0
comp=Z,63nm,1.1s,mb5.5
BSD
comp=Z,460nm,20.0s
BSD **Bornholm Skovb** 73.25 338 ⇓*i*P P 08 13 22.1 -1.0
BSD pmax pmax
comp=Z,63nm,1.1s,mb5.5
BSD MLR MLR
comp=Z,470nm,20.0s,MS4.8
AMTX **Amarillo** 73.30 57 *e*P P 08 13 23.4 0.0
comp=Z,130nm,1.5s,mb5.6
COP **Copenhagen** 73.36 339 *i* P P 08 13 23.7 -0.1
comp=Z,44nm,0.9s,mb5.4
COP
comp=Z,490nm,22.0s
COP **Copenhagen** 73.36 339 *i* P P 08 13 23.7 -0.1
COP pmax pmax
comp=Z,44nm,0.9s,mb5.4
COP MLR MLR
comp=Z,500nm,22.0s,MS4.8
MNTX **Cornudas Mount** 73.37 61 *e*P P 08 13 23.7 -0.1
comp=Z,62nm,1.4s,mb5.3
MUD **Monsted U'grnd** 73.42 341 *i* P P 08 13 24.3 +0.2
comp=Z,33nm,1.0s,mb5.2
MUD **Monsted U'grnd** 73.42 341 *e*P P 08 13 24.3 +0.2
MUD pmax pmax
comp=Z,33nm,1.0s,mb5.2
MUD **Monsted U'grnd** 73.42 341 *e*P P 08 13 24.3 +0.2
comp=Z,33nm,1.0s,mb5.2
JFWS **Jewell Farm** 73.48 44 *e*P P 08 13 22.7 -1.8
JFWS pmax pmax
comp=Z,25nm,1.2s,mb5.0
JFWS **Jewell Farm** 73.48 44 *e*P P 08 13 22.7 -1.8
comp=Z,25nm,1.2s,mb5.0
SOC **Sochi** 73.69 317 *d i*P P 08 13 25.7 0.0
SOC *e* 08 13 39.9
SOC *e*S S 08 22 53.1 -2.7
SOC *e* 08 23 34.6
SOC *e*SS SS 08 27 37.5 -1.6
SOC pmax pmax
comp=Z,302nm,2.0s,mb5.9
SOC pmax pmax
comp=Z,105nm,1.4s,mb5.6
SOC **Sochi** 73.69 317 *e*P P 08 13 25.9 +0.2
GNI **Garni** 73.80 312 *d i*P P 08 13 28.0 +1.6
GNI pmax pmax
comp=Z,116nm,1.7s
GNI **Garni** 73.80 312 *i* P P 08 13 28.0 +1.6
ANN **Anapa** 73.80 319 *e*P P 08 13 26.3 -0.1
ANN pmax pmax
comp=Z,191nm,2.0s,mb5.7
RGN **Rugen** 74.17 338 *e*P P 08 13 28.6 +0.1
comp=Z,144nm,1.0s,mb5.9
GKP **Gorka Klasztor** 74.25 335 *e*P P 08 13 29.1 +0.1
GKP *e*PcP PcP 08 13 38.7 -5.1
GKP L 08 46 00.0
comp=Z,0.8nm,26.5s
GKP **Gorka Klasztor** 74.25 335 *e*P P 08 13 29.1 +0.1
GKP *e* 08 13 38.7
PALK **Pallekele** 74.31 264 P P 08 13 30.9 +1.6
comp=Z,290nm,1.1s,mb6.1,SNR=6.8
PALK **Pallekele** 74.31 264 P P 08 13 30.6 +1.3
SNR=10
PALK **Pallekele** 74.31 264 *e*P P 08 13 30.1 +0.7
comp=Z,70nm,1.1s,mb5.5
MNGI **Mangalore** 74.32 272 *e*P P 08 13 29.7 +0.3
MNGI AMb AMB 08 13 31.4
comp=Z,60nm,1.5s,mb5.3
BCA **Borcka** 74.40 314 *e*PN P 08 13 29.3 -0.5
WMOK **Wichita Mounta** 75.06 55 *e*P P 08 13 32.9 -0.8
WMOK pmax pmax
comp=Z,33nm,1.1s,mb5.2
WMOK **Wichita Mounta** 75.06 55 *e*P P 08 13 32.9 -0.7
comp=Z,33nm,1.1s,mb5.2
LVV **L'vov** 75.08 330 *i* P P 08 13 33.1 -0.7
LVV *e* 08 13 52.5
LVV *e* 08 16 17.9
LVV *e*S S 08 23 16.7 +5.3
LVV *e*PS 08 23 59.9
AGRB **Hanur-Agry** 75.12 312 *e*PN P 08 13 35.1 +1.1
KPL **Plockton** 75.15 350 *e*P P 08 13 37.7 +3.5
KPL AMb AMB 08 13 39.0
comp=Z,133nm,1.6s,mb5.6
SIM **Simferopol'** 75.15 321 P P 08 13 34.6 +0.4
SIM pmax pmax
comp=Z,46nm,1.1s,mb5.3
BSEG **Bad Segeberg** 75.47 340 *e*P P 08 13 35.8 -0.2
comp=Z,47nm,1.1s,mb5.3
BSEG **Bad Segeberg** 75.47 340 *e*P P 08 13 35.8 -0.2
BSEG pmax pmax
comp=Z,47nm,1.1s,mb5.3
VANB **Van** 75.66 311 *e*PN P 08 13 39.8 +2.7
KIS **Kishinev** 75.67 325 ⇑*i*P P 08 13 35.0 -2.2
KIS *e* 08 16 22.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS **Kishinev** 75.67 325 ⇑*i*P P 08 13 35.0 -2.2
comp=Z,400nm,1.0s,mb6.3
KIS LRM 08 52 12.0
comp=Z,300nm,15.0s
KWP **Kalwaria** 75.69 330 *e*P P 08 13 37.5 +0.2
comp=Z,0.4nm,1.2s
KWP *e*PcP PcP 08 13 44.9 -5.1
KWP *e*SKS 08 23 45.4
KWP L 08 45 27.9
comp=Z,0.6nm,27.5s
KWP **Kalwaria** 75.69 330 *e*P P 08 13 37.5 +0.2
comp=Z,242nm,1.0s,mb6.1
EZM **Erzurum** 75.69 314 *e*PN P 08 13 39.0 +1.7
RUE **Ruedersdorf** 75.91 337 *e*P P 08 13 38.5 0.0
comp=Z,76nm,0.8s,mb5.7
TRD **Trivandrum** 76.00 268 *e*P P 08 13 40.6 +1.6
TRD AMb AMB 08 13 41.9
comp=Z,52nm,1.0s,mb5.4
LTX **Lajitas** 76.08 62 P P 08 13 39.5 0.0
LTX pmax pmax
comp=Z,81nm,1.0s,mb5.6
LTX **Lajitas** 76.08 62 *e*P P 08 13 39.9 +0.3
comp=Z,81nm,1.0s,mb5.6
TXAR **Lajitas Array** 76.08 62 P P 08 13 39.5 0.0
comp=Z,55nm,0.9s,mb5.5,baz=298,slow=4.0,SNR=454
TXAR LR LR 08 42 35.1
comp=Z,99nm,19.2s,MS4.1,baz=5.0,slow=32
TXAR **Lajitas Array** 76.08 62 P P 08 13 39.5 0.0
TXAR LR LR 08 42 35.1
OJC **Ojcow** 76.14 332 *e*P P 08 13 39.9 0.0
EDI **Edinburgh** 76.19 348 *e*P P 08 13 42.7 +2.5
EDI AMb AMB 08 13 51.7
comp=Z,61nm,2.0s,mb5.2
STHS **Stebnicka Huta** 76.37 331 *i* P P 08 13 41.9 +0.7
STHS pmax pmax
comp=Z,36nm,0.9s,mb5.3
STHS **Stebnicka Huta** 76.37 331 *i* P P 08 13 41.9 +0.7
comp=Z,36nm,0.9s,mb5.3
KOLS **Kolonicke sedl** 76.44 330 *e*P P 08 13 41.4 -0.2
PGBU **Glenifferbraes** 76.48 349 *e*P P 08 13 46.5 +4.6
PGBU AMb AMB 08 13 53.9
comp=Z,67nm,1.2s,mb5.4
BURAR **Bucovina Array** 76.52 328 ⇓*i*P P 08 13 42.2 +0.2
BURAR **Bucovina Array** 76.52 328 ⇓P P 08 13 42.2 +0.2
CUKT **Cukurca** 76.56 310 *e*PN P 08 13 42.6 +0.4
EZC **Erzincan** 76.58 314 *e*PN P 08 13 44.8 +2.4
KSP **Ksiaz** 76.67 335 *e*P P 08 13 42.9 +0.1

KSP ePcP PcP 08 13 50.6 -3.6
KSP Ksiaz 76.67 335 P **P** **08 13 42.7 -0.1**
NIE Niedzica 76.67 332 *e*P **P** **08 13 43.3 +0.4**
UZH Uzhgorod 76.69 330 *e*P **P** **08 13 42.0 -1.0**
UZH *e* 08 14 01.0
UZH *e* 08 16 43.0
UZH *e*S S 08 23 29.0 -0.1
ESK Eskdalemuir 76.78 348 *e*P **P** **08 13 47.4 +3.9**
ESK AMb AMB 08 13 49.2
comp=Z,133nm,1.6s,mb5.6
ARMA Armidale 76.83 183 *e*P **P** **08 13 44.4 +0.6**
NRDL Niedersach Rie 76.84 339 *e*P **P** **08 13 42.9 -0.9**
comp=Z,54nm,1.2s,mb5.3
BTMT Batman 76.94 312 *e*PN **P** **08 13 43.4 -1.0**
OKC Ostrava-Krasne 76.99 333 *e*P **P** **08 13 44.9 +0.2**
OKC AMS AMS 08 46 40.0
AAM Ann Arbor 77.02 41 *e*P **P** **08 13 44.2 -0.7**
AAM pmax pmax
comp=Z,14nm,0.3s,mb5.4
AAM Ann Arbor 77.02 41 *e*P **P** **08 13 44.2 -0.7**
comp=Z,14nm,0.3s,mb5.4
UPC Upice 77.05 335 *e*P **P** **08 13 45.3 +0.3**
DPC Dobruska-Polom 77.09 335 *e*P **P** **08 13 45.7 +0.4**
DPC AMS AMS 08 51 50.0
FVM French Village 77.14 48 P **P** **08 13 44.5 -1.0**
FVM pmax pmax
comp=Z,51nm,1.2s,mb5.3
FVM French Village 77.14 48 *e*P **P** **08 13 44.5 -1.0**
comp=Z,51nm,1.3s,mb5.3
CLL Collm 77.17 337 *e*P **P** **08 13 45.2 -0.5**
comp=Z,116nm,1.1s,mb5.7
CLL Collm 77.17 337⇓ *i*P **P** **08 13 45.2 -0.5**
CLL *i* 08 13 52.8
CLL pmax pmax
comp=Z,116nm,1.1s,mb5.7
CLL Collm 77.17 337⇓ *i*P **P** **08 13 45.2 -0.5**
comp=Z,116nm,1.1s,mb5.7
CLL *i* pP pP 08 13 50.6 -0.4
CLL *i* sP sP 08 13 52.8 -0.1
MORC Moravsky Berou 77.23 334⇓ *i*P **P** **08 13 46.2 +0.2**
MORC Moravsky Berou 77.23 334 P **P** **08 13 45.6 -0.4**
MORC pmax pmax
comp=Z,61nm,1.0s,mb5.5
MORC Moravsky Berou 77.23 334 P **P** **08 13 46.3 +0.3**
BRG Berggiesshubel 77.31 336 *e*P **P** **08 13 46.2 -0.3**
comp=Z,51nm,1.2s,mb5.3
BRG Berggiesshubel 77.31 336⇓ *i*P **P** **08 13 46.1 -0.3**
comp=Z,31nm,1.2s,mb5.1
BRG *i* 08 13 53.6
comp=Z,31nm,1.3s
BRG *e*PP PP 08 16 36.1 -4.5
comp=Z,17nm,1.8s
BRG Berggiesshubel 77.31 336⇓ *i*P **P** **08 13 46.1 -0.4**
BRG *i* 08 13 53.6
BRG *e* 08 16 36.1
BRG pmax pmax
comp=Z,31nm,1.2s,mb5.1
BRG pmax pmax
comp=Z,17nm,1.8s,mb4.7
KVT Kavak 77.34 318 *e*PN **P** **08 13 47.3 +0.6**
WIT Witteveen 77.35 341 *e*P **P** **08 13 47.5 +0.8**
CLZ Clausthal 77.37 339 *e*P **P** **08 13 47.2 +0.4**
comp=Z,173nm,1.4s,mb5.8
CLZ Clausthal 77.37 339 *e*P **P** **08 13 47.2 +0.4**
CLZ pmax pmax
comp=Z,173nm,1.4s,mb5.8
LIKS Likavka 77.38 332 *e*P **P** **08 13 47.6 +0.7**
LIKS Likavka 77.38 332 *e*P **P** **08 13 47.7 +0.8**
LIKS pmax pmax
comp=Z,45nm,1.0s,mb5.3
LIKS Likavka 77.38 332 *e*P **P** **08 13 47.7 +0.8**
comp=Z,45nm,1.0s,mb5.3
VRI Vrincioaia 77.42 326⇓ *i*P **P** **08 13 47.4 +0.3**
VRI Vrincioaia 77.42 326 P **P** **08 13 47.3 +0.3**
KECS Kecovo 77.43 331 *i*P **P** **08 13 47.3 +0.2**
KECS pmax pmax
comp=Z,24nm,1.0s,mb5.1
KECS Kecovo 77.43 331 *i*P **P** **08 13 47.3 +0.2**
comp=Z,24nm,1.0s,mb5.1
FBE Freiberg 77.43 337 *e*P **P** **08 13 47.0 -0.1**
comp=Z,100nm,1.2s,mb5.6
CFR Carcaliu 77.44 325⇑ P **P** **08 13 47.6 +0.4**
CFR Carcaliu 77.44 325 P **P** **08 13 47.8 +0.6**
PVCC Panska Ves 77.44 336 *e*P **P** **08 13 47.4 +0.2**
PVCC AMS AMS 08 49 00.0
PTK Pertek 77.45 314 *e*PN **P** **08 13 48.0 +0.7**
BANOM Banah 77.50 294⇓ P **P** **08 13 48.0 +0.4**
SNR=9.4
JCT Junction City 77.57 59 P **P** **08 13 47.5 -0.4**
JCT pmax pmax
comp=Z,100nm,1.2s,mb5.6
JCT Junction City 77.57 59 *e*P **P** **08 13 47.5 -0.5**
comp=Z,104nm,1.3s,mb5.6
BZK Bozkurt 77.58 319 *e*PN **P** **08 13 48.0 0.0**
BYBT Boyabat 77.63 319 *e*PN **P** **08 13 49.3 +1.1**
SVSK Karacayir 77.81 316 *e*PN **P** **08 13 49.9 +0.6**
TIRR Tirgusor 77.93 324⇑ *i*P **P** **08 13 50.1 +0.2**
TIRR Tirgusor 77.93 324 P **P** **08 13 49.7 -0.2**
TIRR pmax pmax
comp=Z,110nm,1.2s,mb5.7
TIRR Tirgusor 77.93 324 P **P** **08 13 50.0 +0.1**
HARR Harsova 77.93 325 P **P** **08 13 49.7 -0.2**
PRU Pruhonice 77.94 335 *e*P **P** **08 13 50.2 +0.2**
PRU AMS AMS 08 47 20.0
comp=Z,1μm,24.7s
VRAC Vranov 77.94 334⇓ *i*P **P** **08 13 50.5 +0.5**
VRAC Vranov 77.94 334 P **P** **08 13 50.6 +0.6**
VYHS Vyhne 77.95 332 *i*P **P** **08 13 50.4 +0.3**
VYHS pmax pmax
comp=Z,35nm,1.2s,mb5.2
VYHS Vyhne 77.95 332 *i*P **P** **08 13 50.4 +0.3**
comp=Z,35nm,1.2s,mb5.2
SIUC Southern Illin 77.96 47 *e*P **P** **08 13 49.4 -0.7**
comp=Z,62nm,1.3s,mb5.4
MLR Muntele Rosu 78.03 326⇑ *i*P **P** **08 13 51.0 +0.5**
MLR Muntele Rosu 78.03 326 P **P** **08 13 50.8 +0.3**
MIAR Mount Ida 78.09 52 P **P** **08 13 49.7 -1.1**
MIAR pmax pmax
comp=Z,33nm,1.1s,mb5.2
MIAR Mount Ida 78.09 52 *e*P **P** **08 13 49.7 -1.1**
comp=Z,33nm,1.1s,mb5.2
WTSB Winterswijk 78.11 341 *e*P **P** **08 13 50.8 -0.2**
comp=Z,78nm,1.1s,mb5.6
WTSB *ex* x 08 13 57.2
PSZ Piszkesteto 78.11 331⇓ *i*P **P** **08 13 51.5 +0.6**
PSZ Piszkesteto 78.11 331 P **P** **08 13 51.4 +0.5**
PSZ pmax pmax
comp=Z,58nm,1.1s,mb5.4
PSZ Piszkesteto 78.11 331 P **P** **08 13 51.5 +0.5**
PSZ Piszkesteto 78.11 331⇓ *e*P **P** **08 13 51.4 +0.5**
DRGR 78.12 329⇑ *i*P **P** **08 13 51.2 +0.2**
DRGR 78.12 329 P **P** **08 13 50.9 -0.1**
TANN Tannenbergstha 78.13 337 *e*P **P** **08 13 51.2 +0.2**
comp=Z,105nm,1.8s,mb5.5
WERD Werda 78.14 337 *e*P **P** **08 13 51.2 +0.1**
comp=Z,104nm,1.5s,mb5.5
MOX Moxa 78.15 337 *e*P **P** **08 13 51.2 +0.1**
comp=Z,95nm,1.3s,mb5.6
MOX Moxa 78.15 337 *e*P **P** **08 13 51.1 0.0**
comp=Z,83nm,1.3s,mb5.5
MOX Moxa 78.15 337 *e*P **P** **08 13 51.1 0.0**
MOX pmax pmax
comp=Z,83nm,1.3s,mb5.5
BLO Bloomington 78.16 45 P **P** **08 13 50.2 -1.0**
BLO pmax pmax
comp=Z,16nm,0.9s,mb5.0
BLO Bloomington 78.16 45 *e*P **P** **08 13 50.1 -1.1**
comp=Z,16nm,0.9s,mb5.0
WBK Wadi Bani Khal 78.17 290 P **P** **08 13 53.1 +1.9**
SNR=7.3
GUNZ Gunzen 78.21 337 *e*P **P** **08 13 51.7 +0.2**
comp=Z,67nm,1.2s,mb5.5
KRUC Moravsky 78.22 334 P **P** **08 13 51.8 +0.3**
WERN Wernitzgruen 78.27 337 *e*P **P** **08 13 52.0 +0.2**
comp=Z,65nm,1.0s,mb5.5
NKC Novy Kostel 78.30 337 *e*P **P** **08 13 52.1 +0.1**
TOS Tosya 78.31 319 *e*PN **P** **08 13 52.5 +0.5**
SNX Sinaia 78.31 327⇑ *i*P **P** **08 13 52.8 +0.8**
SNX Sinaia 78.31 327⇑ P **P** **08 13 52.8 +0.7**
MYA Malataya 78.36 314 *e*PN **P** **08 13 53.8 +1.5**
MALT Malatya 78.37 314⇓ *i*P **P** **08 13 54.3 +1.9**
MALT Malatya 78.37 314 P **P** **08 13 54.0 +1.6**
MALT pmax pmax
comp=Z,81nm,1.2s,mb5.5
MALT Malatya 78.37 314 P **P** **08 13 54.3 +1.9**
HATD Hatta, Dubai 78.39 294 P **P** **08 13 53.3 +0.8**
SNR=9.8
UBBA Unterbreizbach 78.40 338 *e*P **P** **08 13 52.6 0.0**
comp=Z,79nm,1.5s,mb5.4
SMDO Samad 78.44 291 P **P** **08 13 53.6 +0.9**
SNR=6.1
BUG Bochum--Univer 78.49 340 *e*P **P** **08 13 52.9 -0.1**
comp=Z,103nm,1.4s,mb5.6
KBI1 Birley Grange 78.51 346 *e*P **P** **08 13 55.9 +2.7**
HOQ Hoqain 78.54 292 P **P** **08 13 54.2 +0.9**
SNR=11
ASHO Ashiyiah 78.54 294 P **P** **08 13 53.9 +0.6**
SNR=8.1
MTUR Matau 78.59 327⇑⇑ *i*P **P** **08 13 54.0 +0.4**
MTUR Matau 78.59 327⇑⇑ P **P** **08 13 54.0 +0.4**
MANZ Manzenberg 78.61 337 *e*P **P** **08 13 53.9 +0.2**
comp=Z,53nm,1.1s,mb5.4
CORM Corum 78.72 318 *e*PN **P** **08 13 54.7 +0.4**
SAFT Safranbolu 78.75 320 *e*PN **P** **08 13 55.3 +0.9**
ZST Bratislava 78.77 333 *e*P **P** **08 13 55.0 +0.4**
ZST pmax pmax
comp=Z,48nm,1.1s,mb5.3
ZST Bratislava 78.77 333 *e*P **P** **08 13 55.0 +0.4**
comp=Z,48nm,1.1s,mb5.3
BUD Budapest 78.78 332 P **P** **08 13 55.2 +0.6**
BUD Budapest 78.78 332 *e*P **P** **08 13 55.6 +1.0**
ROTZ Rotzenmuhle 78.79 337 *e*P **P** **08 13 55.2 +0.5**
comp=Z,84nm,1.1s,mb5.6
CANT Cankiri 78.84 319 *e*PN **P** **08 13 55.5 +0.6**
URFA Urfa 78.86 314 *e*PN **P** **08 13 55.7 +0.6**
JMDO Jabal Madar 78.90 291 P **P** **08 13 56.2 +0.9**
SNR=17
KHC Kasperske Hory 78.98 336 *e*P **P** **08 13 56.3 +0.6**
KHC x x 08 14 07.5
KHC AMS AMS 08 50 30.0
comp=Z,1μm,23.0s
KHC Kasperske Hory 78.98 336 *d i*P **P** **08 13 55.8 +0.1**
KHC Kasperske Hory 78.98 336 *e*P **P** **08 13 56.3 +0.6**
KHC *e* 08 14 07.5
WCI Wyandotte Cave 79.00 45 *e*P **P** **08 13 55.1 -0.8**
WCI pmax pmax
comp=Z,64nm,1.1s,mb5.5
WCI Wyandotte Cave 79.00 45 *e*P **P** **08 13 55.1 -0.7**
comp=Z,64nm,1.1s,mb5.5
ALLY Alegheny Colle 79.10 39 *e*P **P** **08 13 55.8 -0.6**
GRA1 Grafenberg Arr 79.12 337 *e*P **P** **08 13 57.1 +0.6**
comp=Z,162nm,1.2s,mb5.8
GRA1 LR LR
comp=Z,500nm,22.0s,MS4.8
GRF Grafenberg Arr 79.12 337 *e*P **P** **08 13 57.1 +0.6**
comp=Z,162nm,1.2s,mb5.8
GRF *e*L 08 52 17.6
comp=Z,468nm,22.0s
GRF Grafenberg Arr 79.12 337 *e*P **P** **08 13 57.1 +0.6**
GRF pmax pmax
comp=Z,162nm,1.2s,mb5.8
GRF MLR MLR
comp=Z,500nm,22.0s,MS4.8
GRF Grafenberg Arr 79.12 337 *e*P **P** **08 13 57.1 +0.6**
GRF pmax pmax
comp=Z,162nm,1.2s,mb5.8
GRF MLR MLR
comp=Z,500nm,22.0s,MS4.8
GRFO Grafenberg 79.12 337 *e*P **P** **08 13 57.0 +0.5**
GRFO pmax pmax
comp=Z,70nm,0.9s,mb5.6
GRFO Grafenberg 79.12 337 *e*P **P** **08 13 57.0 +0.5**
comp=Z,70nm,0.9s,mb5.6
SBD1 Bryn Du 79.13 347 *e*P **P** **08 13 59.0 +2.5**
WET Wettzell 79.17 336 *e*P **P** **08 13 57.3 +0.5**
comp=Z,99nm,1.1s,mb5.7
WET Wettzell 79.17 336 *e*P **P** **08 13 57.3 +0.5**
WET pmax pmax
comp=Z,99nm,1.1s,mb5.7
UTMT University of 79.19 48 *e*P **P** **08 13 56.1 -0.8**
comp=Z,52nm,0.8s,mb5.5
BNN Bunyan 79.20 316 *e*PN **P** **08 13 57.7 +0.8**
GEC2 GERESS Array S 79.20 335 *e*P **P** **08 13 57.0 0.0**
comp=Z,35nm,0.9s,mb5.3
GERES GERESS Array B 79.20 335 P **P** **08 13 56.8 -0.1**
comp=Z,15nm,0.7s,mb5.0,baz=35,slow=4.9,SNR=94
GERES LR LR 08 50 34.3
comp=Z,845nm,19.7s,MS5.1,baz=18,slow=37
GERES GERESS Array B 79.20 335 P **P** **08 13 56.8 -0.2**
GERES pmax pmax
comp=Z,15nm,0.7s
GERES MLR MLR
comp=Z,845nm,19.7s
BSY Bisya 79.21 292 P **P** **08 13 58.0 +1.1**
SNR=19
STKA Stephens Creek 79.21 192 *e*P **P** **08 13 56.2 -0.8**
comp=Z,11nm,0.7s,mb4.9
STKA Stephens Creek 79.21 192 P **P** **08 13 56.4 -0.6**
comp=Z,13nm,0.7s,mb4.9,baz=344,slow=6.3,SNR=38
STKA LR LR 08 46 28.7
comp=Z,242nm,18.7s,MS4.6,baz=23,slow=34
ARQ Araqi 79.22 292 P **P** **08 13 58.2 +1.2**
SNR=7.4
TNS Taunus Mts 79.34 339 *e*P **P** **08 13 57.9 +0.2**
comp=Z,61nm,0.9s,mb5.5
TNS Taunus Mts 79.34 339 *e*P **P** **08 13 57.9 +0.2**
TNS pmax pmax
comp=Z,61nm,0.9s,mb5.5
CONA Conrad Observa 79.39 334 *i*P **P** **08 13 58.8 +0.9**
comp=Z,60nm,1.6s,mb5.3,SNR=13
SOP Sopron 79.39 333 P **P** **08 13 58.3 +0.3**
SOP Sopron 79.39 333⇑ *e*P **P** **08 13 59.2 +1.2**
HGN Heimansgroeve 79.43 341 *e*P **P** **08 13 57.9 -0.2**
comp=Z,108nm,1.0s,mb5.8
HGN *ex* x 08 14 07.5
TAOE Nuku Hiva Isla 79.43 115 *e*LR LR 08 38 15.4
comp=Z,2μm,22.8s,baz=326
BEBN Eben Emael 79.45 341 P **P** **08 13 58.1 -0.3**
BEBN AP pP 08 14 00.3 -3.4
BZS Buzias 79.52 329⇑ *i*P **P** **08 13 58.5 -0.2**
BZS Buzias 79.52 329 P **P** **08 13 58.3 -0.4**
BR131 Keskin Array S 79.53 318 *e*P **P** **08 13 59.4 +0.6**
comp=Z,41nm,1.0s,mb5.3
BRTR Keskin Array B 79.53 318 P **P** **08 13 59.2 +0.5**
comp=Z,36nm,0.9s,mb5.3,baz=62,slow=2.9,SNR=113
BRTR Keskin Array B 79.53 318 P **P** **08 13 59.3 +0.5**
BRTR pmax pmax
comp=Z,36nm,1.0s
MEM Membach 79.56 341 P **P** **08 13 59.1 +0.3**
MEM AP pP 08 14 01.7 -2.5
MEM XP sP 08 14 03.4 -2.7
UCC Uccle 79.74 342 P **P** **08 13 59.9 0.0**
UCC E 08 14 08.4
KMRS Kahramanmaras 79.76 315 *e*PN **P** **08 14 00.0 0.0**
KAMT Kaman 79.79 318 *e*PN **P** **08 13 59.9 -0.2**
ZIMR 79.80 326 P **P** **08 14 00.2 0.0**
ANTO Ankara 79.81 319⇑ P **P** **08 14 01.4 +1.2**
SNR=23
ANTO Ankara 79.81 319⇑ *i*P **P** **08 14 01.2 +1.0**
ANTO Ankara 79.81 319 P **P** **08 14 01.3 +1.1**
TOD Tromm 79.82 339 *e*P **P** **08 14 00.3 0.0**
GAZ Gaziantep 79.87 314 *e*PN **P** **08 14 01.9 +1.3**
ABH Alteburg 79.87 340 *e*P **P** **08 14 00.8 +0.2**
WVT Waverly 79.88 47 P **P** **08 13 59.7 -1.0**
WVT pmax pmax
comp=Z,13nm,0.8s,mb4.9
WVT Waverly 79.88 47 *e*P **P** **08 13 59.8 -0.9**
comp=Z,13nm,0.8s,mb4.9
BCLA Clavier 79.89 341 P **P** **08 14 00.7 0.0**
BCLA AP pP 08 14 07.6 +1.6
BCLA XP sP 08 14 08.8 +0.9
MOA Molln 79.94 335⇓ *i*P **P** **08 14 01.4 +0.4**
comp=Z,44nm,1.1s,mb5.3,SNR=21
MCH1 Michaelchurch 79.97 347 P **P** **08 14 03.1 +2.0**
MCH1 AMb AMB 08 14 03.9
comp=Z,56nm,1.4s,mb5.3
MCH1 Michaelchurch 79.97 347 *e*P **P** **08 14 02.6 +1.5**
MCH1 *e*P 08 14 03.1
MCH1 AMb AMB 08 14 03.9
comp=Z,56nm,1.4s,mb5.3
PKSM Moragy 80.02 331⇑ *i*P **P** **08 14 01.0 -0.4**
PKSM Moragy 80.02 331 P **P** **08 14 00.9 -0.5**
SNF Seneffe 80.03 342 P **P** **08 14 01.4 -0.1**
SNF XP sP 08 14 05.7 -3.0
UMR Umm Al-Rimmam 80.05 303 *e*P **P** **08 14 01.7 +0.2**
MIB Mutribah 80.08 303 *e*P **P** **08 14 02.1 +0.4**
MIB AMb AMB 08 14 03.8
comp=Z,151nm,1.1s,mb5.8
ARSA Arzberg 80.10 334 *i*P **P** **08 14 02.3 +0.5**
comp=Z,53nm,1.4s,mb5.3,SNR=12
RUP Ruppelstein 80.16 340 *e*P **P** **08 14 02.1 0.0**
SWN1 Swindon 80.24 346 *e*P **P** **08 14 04.4 +1.8**
SWN1 AMb AMB 08 14 16.1
comp=Z,261nm,1.4s,mb6.0
HGH Gray Hill 80.28 346 *e*P **P** **08 14 04.8 +2.0**
GIVF Givet 80.30 341 *e*P **P** **08 14 02.6 -0.3**
comp=Z,163nm,1.4s,mb5.5
GIVF Givet 80.30 341 *e*P **P** **08 14 02.6 -0.3**
GIVF pmax pmax
comp=Z,82nm,1.4s,mb5.5
GIVF Givet 80.30 341 *e*P **P** **08 14 02.6 -0.3**
comp=Z,82nm,1.4s,mb5.5
KOZT Kozan 80.30 315 *e*PN **P** **08 14 02.1 -0.8**
JMB Yambol 80.32 324 P **P** **08 14 03.3 +0.3**
OXF Oxford 80.33 49 *e*P **P** **08 14 02.0 -1.1**
OXF pmax pmax
comp=Z,92nm,1.1s,mb5.6
OXF Oxford 80.33 49 *e*P **P** **08 14 02.3 -0.8**
comp=Z,92nm,1.1s,mb5.6
KBD Kabd 80.34 302 *e*P **P** **08 14 03.4 +0.3**
DOU Dourbes 80.35 341 P **P** **08 14 03.4 +0.2**
DOU XP sP 08 14 07.4 -3.0
DOU E 08 14 10.4
WLF Walferdange 80.41 340 *e*P **P** **08 14 04.3 +0.8**
comp=Z,90nm,1.4s,mb5.5
WLF Walferdange 80.41 340 E 08 14 05.3
WLF XP sP 08 14 09.4 -1.3
WLF Walferdange 80.41 340 *e*P **P** **08 14 03.9 +0.4**
WLF pmax pmax
comp=Z,94nm,1.3s,mb5.6
WLF Walferdange 80.41 340 *e*P **P** **08 14 03.9 +0.4**
comp=Z,94nm,1.3s,mb5.6
BAIF Baives 80.47 342 *e*P **P** **08 14 03.6 -0.2**
comp=Z,140nm,1.3s,mb5.4
BAIF Baives 80.47 342 *e*P **P** **08 14 03.6 -0.2**
BAIF pmax pmax
comp=Z,70nm,1.3s,mb5.4
BAIF Baives 80.47 342 *e*P **P** **08 14 03.6 -0.2**
comp=Z,70nm,1.3s,mb5.4
STU Stuttgart 80.49 338 *e*P **P** **08 14 04.1 +0.2**
comp=Z,113nm,1.2s,mb5.7
FUR Furstenfeldbru 80.50 337 *e*P **P** **08 14 04.4 +0.4**
comp=Z,132nm,1.1s,mb5.8
FUR Furstenfeldbru 80.50 337 *e*P **P** **08 14 04.4 +0.4**
FUR pmax pmax
comp=Z,132nm,1.1s,mb5.8
QRN Al-Qurain 80.53 302 *e*P **P** **08 14 04.2 +0.1**
NAY Al-Naaiem 80.55 303 *e*P **P** **08 14 04.2 -0.1**
NAY AMb AMB 08 14 06.2
comp=Z,101nm,1.1s,mb5.7
RDF Al-Radifah 80.61 302 *e*P **P** **08 14 04.8 +0.2**
RDF AMb AMB 08 14 06.8
comp=Z,249nm,1.0s,mb6.1
BEO Belgrade 80.62 329 *i*P **P** **08 14 03.8 -0.9**
LANF Langenberg 80.65 339 *e*P **P** **08 14 05.1 +0.3**
ADVT Abdulvahap 80.70 321 *e*PN **P** **08 14 04.6 -0.4**
PERS Pernice 80.77 334 *e*P **P** **08 14 05.4 0.0**
PERS *e* 08 14 14.5
EDRB Edirne 80.78 324 *e*PN **P** **08 14 04.5 -1.0**
PPT Papeete 80.82 128 *e*S S 08 24 12.1 -1.1
comp=Z,167nm,25.8s
PPT *e*LR LR 08 39 01.4
comp=Z,930nm,22.2s,baz=326
PPT Papeete 80.82 128 LR LR 08 43 28.6
comp=Z,679nm,19.3s,MS5.0,baz=266,slow=31
KARA Karaisali 80.84 316 *e*PN **P** **08 14 05.5 -0.3**
MCWV Mont Chateau 80.86 40 *e*P **P** **08 14 04.5 -1.4**
comp=Z,76nm,1.3s,mb5.5
KBA Koelnbreinsper 80.90 335 *i*P **P** **08 14 07.3 +1.1**
comp=Z,217nm,1.6s,mb5.8,SNR=32
KBA Koelnbreinsper 80.90 335 *i*P **P** **08 14 07.3 +1.2**
KBA pmax pmax
comp=Z,217nm,1.6s,mb5.8
SSPA Standing Stone 80.90 38 *e*P **P** **08 14 05.2 -0.9**
comp=Z,53nm,1.4s,mb5.3
GEMT Gemlik 80.93 321 *e*PN **P** **08 14 05.6 -0.7**
ESKT Eskisehir 80.96 320 *e*PN **P** **08 14 06.4 0.0**
FORT Forrest 81.00 204 *e*P **P** **08 14 06.5 -0.2**
comp=Z,56nm,0.8s,mb5.5
KIZT Kizilcal 81.02 319 *e*PN **P** **08 14 06.4 -0.4**
OBKA Obir 81.06 334⇓ *i*P **P** **08 14 07.1 +0.2**
comp=Z,32nm,0.9s,mb5.3,SNR=8.2
BFO Black Forest 81.12 339 P **P** **08 14 07.4 +0.1**
comp=Z,471nm,1.1s,mb6.3,SNR=23
BFO Black Forest 81.12 339 *e*P **P** **08 14 07.3 0.0**
comp=Z,127nm,1.2s,mb5.7
BFO Black Forest 81.12 339 *e*P **P** **08 14 07.3 0.0**
BFO pmax pmax
comp=Z,127nm,1.2s,mb5.7
WATA Walderalm 81.17 336⇓ *i*P **P** **08 14 08.2 +0.7**
comp=Z,96nm,1.1s,mb5.6
WATA Walderalm 81.17 336⇓ *i*P **P** **08 14 08.2 +0.6**
WATA pmax pmax
comp=Z,96nm,1.1s,mb5.6
WATA Walderalm 81.17 336⇓ *i*P **P** **08 14 08.2 +0.7**
comp=Z,96nm,1.1s,mb5.6
SPAK Spaichingen-Ko 81.22 338 *e*P **P** **08 14 08.0 +0.2**
WTTA Wattenberg 81.22 336 *i*P **P** **08 14 08.8 +0.9**
comp=Z,157nm,1.2s,mb5.8,SNR=32
WTTA Wattenberg 81.22 336 *i*P **P** **08 14 08.8 +1.0**
WTTA pmax pmax
comp=Z,157nm,1.2s,mb5.8
HTY Hatay 81.22 314 *e*PN **P** **08 14 08.6 +0.8**
MOTA Moosalm 81.30 336 *i*P **P** **08 14 08.9 +0.6**
comp=Z,125nm,1.1s,mb5.8,SNR=38
MOTA Moosalm 81.30 336 *i*P **P** **08 14 08.9 +0.7**
MOTA pmax pmax
comp=Z,125nm,1.1s,mb5.8
CDF Champ du Feu 81.31 339 *e*P **P** **08 14 08.2 -0.1**
comp=Z,232nm,1.1s,mb5.7
CDF Champ du Feu 81.31 339 *e*P **P** **08 14 08.2 -0.1**
CDF pmax pmax
comp=Z,116nm,1.1s,mb5.7
CDF Champ du Feu 81.31 339 *e*P **P** **08 14 08.2 -0.1**
comp=Z,116nm,1.1s,mb5.7
GRUS Gruza 81.34 329 *i*P **P** **08 14 07.6 -0.9**
PLD Plovdiv 81.38 325 P **P** **08 14 09.3 +0.7**
SQTA Sankt Quirin 81.38 336⇓ *i*P **P** **08 14 09.5 +0.8**
comp=Z,111nm,1.2s,mb5.7,SNR=22
SQTA Sankt Quirin 81.38 336⇓ *i*P **P** **08 14 09.5 +0.8**
SQTA pmax pmax
comp=Z,111nm,1.2s,mb5.7
DIVS Divcibare 81.41 329 *i*P **P** **08 14 08.2 -0.6**
DIVS Divcibare 81.41 329 *e*P **P** **08 14 08.5 -0.3**
MERS Mersin 81.41 316 *e*PN **P** **08 14 07.7 -1.1**
LJU Ljubljana 81.48 334 *e*P **P** **08 14 08.9 -0.3**
LJU *i* 08 14 17.5
PTCC Patocco-Chiusa 81.51 335 P **P** **08 14 08.7 -0.7**
ECH Echery 81.52 339 *e*P **P** **08 14 09.4 0.0**
BNT Bandirma 81.54 322 *e*PN **P** **08 14 09.7 +0.2**
VTS Vitosha 81.54 326 *e*P **P** **08 14 09.5 0.0**
VTS Vitosha 81.54 326⇑ *i*P **P** **08 14 09.4 -0.1**
VTS Vitosha 81.54 326 P **P** **08 14 09.7 +0.2**
KONT Konya--Tatoy 81.56 318 *e*PN **P** **08 14 08.8 -0.8**
FELD Feldberg im Sc 81.62 339‖ *e*P **P** **08 14 10.0 0.0**
GMNA Gemona 81.66 335 P **P** **08 14 09.7 -0.5**
TZTN Tazewell 81.67 44 *e*P **P** **08 14 09.4 -0.8**
comp=Z,35nm,1.2s,mb5.2
DAVA Damuels 81.68 337 *i*P **P** **08 14 10.9 +0.6**
comp=Z,102nm,1.0s,mb5.7,SNR=20
VOY Vojsko 81.69 334 *e*P **P** **08 14 09.6 -0.7**
VOY *e* 08 14 11.4
VOY *e* 08 14 33.7
BOJS Bojanci 81.74 333 *e*P **P** **08 14 10.2 -0.4**
BOJS *e* 08 14 19.3
MEZF Maizieres J'vi 81.75 341 *e*P **P** **08 14 10.6 0.0**
comp=Z,122nm,0.9s,mb5.5
MEZF Maizieres J'vi 81.75 341 *e*P **P** **08 14 10.6 0.0**
comp=Z,122nm,0.9s,mb5.8
THEF They Montfort 81.79 340 *e*P **P** **08 14 10.9 +0.1**
BBLS Bajina Basta - 81.82 330 *i*P **P** **08 14 11.6 +0.6**
BARS Barje 81.86 327 *i*P **P** **08 14 10.6 -0.6**
ALN Alexandroupoli 81.86 324 P **P** **08 14 11.3 +0.1**
MOF Molkenrain 81.86 339 *e*P **P** **08 14 10.9 -0.3**
SHUT Suhut-Afyon 81.89 320 *e*PN **P** **08 14 11.2 -0.1**
HAU Haudompre 81.91 340 *e*P **P** **08 14 11.2 -0.3**
comp=Z,92nm,0.9s,mb5.4
HAU *e*R
comp=Z,928nm,23.0s
HAU Haudompre 81.91 340 *e*P **P** **08 14 11.2 -0.3**
HAU pmax pmax
comp=Z,46nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,930nm,23.0s,MS5.1

HAU	**Haudompre**	**81.91**	**340**	*e*P		**P**	**08 14 11.2**	**-0.3**
	comp=Z,46nm,0.9s,mb5.4								
HAU				LR		LR			
	comp=Z,930nm,23.0s,MS5.1								
HINF	**Hinteralfeld**	**81.97**	**339**	*e*P		**P**	**08 14 11.4**	**-0.4**
LUPA	**Lehigh Univers**	**81.99**	**37**	*e*P		**P**	**08 14 10.8**	**-1.0**
MVL	**Millersville**	**82.08**	**38**	*e*P		**P**	**08 14 11.2**	**-1.1**
BBS	**Basel-Blauen**	**82.13**	**339**	*e*P		**P**	**08 14 12.6**	**0.0**
CANB	**Canakkale**	**82.18**	**323**	*e*PN		**P**	**08 14 10.2**	**-2.7**
PLE	**Pljevlja**	**82.29**	**329**	⇓*i*P		**P**	**08 14 13.3**	**-0.2**
BRMO	**Bormio**	**82.29**	**336**	P		**P**	**08 14 14.4**	**+0.9**
	comp=Z,60nm,1.0s,mb5.5								
HDMB	**Hadim**	**82.30**	**317**	*e*PN		**P**	**08 14 13.1**	**-0.4**
IKL	**Isikli**	**82.32**	**316**	*e*PN		**P**	**08 14 10.4**	**-3.2**
CTI	**Castel Tesino**	**82.33**	**336**	P		**P**	**08 14 13.5**	**-0.2**
CTI				pmax		pmax			
	comp=Z,48nm,0.9s,mb5.4								
CTI	**Castel Tesino**	**82.33**	**336**	P		**P**	**08 14 13.5**	**-0.2**
	comp=Z,48nm,0.9s,mb5.4								
LOMF	**Lomont**	**82.41**	**339**	*e*P		**P**	**08 14 14.2**	**+0.1**
ISP	**Isparta**	**82.49**	**319**	P		**P**	**08 14 14.9**	**+0.4**
IVA	**Berane**	**82.52**	**329**	⇓*i*P		**P**	**08 14 13.8**	**-0.8**
UPM	**Unac-Piva**	**82.57**	**330**	⇓*i*P		**P**	**08 14 14.2**	**-0.7**
BLA	**Blacksburg**	**82.60**	**42**	P		**P**	**08 14 14.8**	**-0.3**
BLA				pmax		pmax			
	comp=Z,49nm,1.1s,mb5.5								
BLA	**Blacksburg**	**82.60**	**42**	*e*P		**P**	**08 14 14.2**	**-0.9**
	comp=Z,49nm,1.1s,mb5.5								
EZN	**Ezine**	**82.65**	**323**	*e*PN		**P**	**08 14 14.6**	**-0.7**
FLN	**La Foliniere**	**82.65**	**344**	*e*P		**P**	**08 14 15.0**	**-0.3**
	comp=Z,294nm,1.2s,mb5.9								
FLN				*e*R					
	comp=Z,664nm,19.8s								
FLN	**La Foliniere**	**82.65**	**344**	*e*P		**P**	**08 14 15.0**	**-0.3**
	comp=Z,147nm,1.2s,mb5.9								
PVY	**Plav**	**82.73**	**329**	⇓*i*P		**P**	**08 14 14.9**	**-0.9**
LRAL	**Lakeview Retre**	**82.73**	**49**	*e*P		**P**	**08 14 14.4**	**-1.4**
	comp=Z,6.5nm,0.7s,mb4.8								
LDF	**La Druitiere**	**82.75**	**344**	*e*P		**P**	**08 14 15.3**	**-0.5**
	comp=Z,129nm,1.1s,mb5.6								
LDF	**La Druitiere**	**82.75**	**344**	*e*P		**P**	**08 14 15.3**	**-0.5**
	comp=Z,64nm,1.1s,mb5.6								
HWQ	**Hawqa**	**82.78**	**313**	*e*P		**P**	**08 14 16.4**	**+0.4**
KNT	**Kendrikon**	**82.88**	**326**	*e*P		**P**	**08 14 16.0**	**-0.6**
NKY	**Niksic**	**82.89**	**329**	⇓*i*P		**P**	**08 14 15.6**	**-1.0**
BRY	**Bratogost**	**82.97**	**330**	⇓*i*P		**P**	**08 14 16.1**	**-0.9**
SOH	**Sokhos**	**83.00**	**325**	P		**P**	**08 14 16.9**	**-0.2**
LOS	**Limnos**	**83.07**	**324**	P		**P**	**08 14 17.7**	**+0.2**
GRR	**Gorron**	**83.08**	**344**	*e*P		**P**	**08 14 17.4**	**-0.2**
	comp=Z,505nm,1.3s,mb6.1								
GRR	**Gorron**	**83.08**	**344**	*e*P		**P**	**08 14 17.4**	**-0.2**
	comp=Z,252nm,1.3s,mb6.1								
TTG	**Podgorica**	**83.13**	**329**	⇓*i*P		**P**	**08 14 17.2**	**-0.6**
CBN	**Corbin**	**83.14**	**39**	*e*P		**P**	**08 14 17.5**	**-0.4**
	comp=Z,10nm,0.3s,mb5.3								
LOR	**Lormes**	**83.18**	**341**	*e*P		**P**	**08 14 17.8**	**-0.3**
	comp=Z,307nm,1.3s,mb5.9								
LOR				*e*R					
	comp=Z,1μm,21.5s								
LOR	**Lormes**	**83.18**	**341**	*e*P		**P**	**08 14 17.8**	**-0.3**
	comp=Z,154nm,1.3s,mb5.9								
BHL	**Bhannes**	**83.23**	**313**	*e*P		**P**	**08 14 18.9**	**+0.5**
GRG	**Griva**	**83.25**	**326**	P		**P**	**08 14 18.7**	**+0.2**
CABF	**La Chapelle**	**83.28**	**339**	*e*P		**P**	**08 14 18.6**	**0.0**
	comp=Z,241nm,1.4s,mb5.7								
CABF	**La Chapelle**	**83.28**	**339**	*e*P		**P**	**08 14 18.6**	**0.0**
	comp=Z,121nm,1.4s,mb5.7								
HORT	**Hortiatis**	**83.29**	**326**	P		**P**	**08 14 18.8**	**+0.1**
THE	**Thessaloniki**	**83.31**	**326**	P		**P**	**08 14 18.4**	**-0.4**
BUM	**Brajici-Budva**	**83.37**	**329**	⇓*i*P		**P**	**08 14 18.5**	**-0.6**
HCY	**Herceg Novi**	**83.38**	**329**	⇓*i*P		**P**	**08 14 18.2**	**-0.9**
OG01	**Vacheresse**	**83.39**	**339**	*e*P		**P**	**08 14 19.6**	**+0.4**
HYF	**Humbligny**	**83.45**	**342**	*e*P		**P**	**08 14 19.6**	**+0.1**
SSF	**Saint Saulge**	**83.46**	**341**	*e*P		**P**	**08 14 19.3**	**-0.2**
	comp=Z,126nm,0.9s,mb5.6								
SSF	**Saint Saulge**	**83.46**	**341**	*e*P		**P**	**08 14 19.3**	**-0.2**
	comp=Z,63nm,0.9s,mb5.7								
SGMF	**Saint Gilles**	**83.51**	**345**	*e*P		**P**	**08 14 19.7**	**-0.1**
	comp=Z,135nm,0.9s,mb5.8								
SGMF	**Saint Gilles**	**83.51**	**345**	*e*P		**P**	**08 14 19.7**	**-0.1**
	comp=Z,67nm,0.9s,mb5.8								
CSS	**Prodhromos**	**83.52**	**316**	*e*P		**P**	**08 14 20.1**	**+0.2**
	comp=Z,129nm,1.4s,mb5.9								
ULC	**Ulcinj**	**83.54**	**329**	⇓*i*P		**P**	**08 14 19.3**	**-0.7**
BLCB	**Balcova**	**83.56**	**322**	*e*PN		**P**	**08 14 18.3**	**-1.7**
ROSF	**Rostrenen**	**83.56**	**346**	*e*P		**P**	**08 14 20.0**	**0.0**
	comp=Z,261nm,1.1s,mb6.0								
ROSF	**Rostrenen**	**83.56**	**346**	*e*P		**P**	**08 14 20.0**	**0.0**
	comp=Z,130nm,1.0s,mb6.0								
ORO	**Oropa**	**83.72**	**338**	P		**P**	**08 14 21.3**	**+0.4**
	comp=Z,140nm,1.2s,mb6.0								
AVF	**Avril sur Loir**	**83.75**	**341**	*e*P		**P**	**08 14 20.8**	**-0.2**
	comp=Z,329nm,1.2s,mb6.0								
AVF	**Avril sur Loir**	**83.75**	**341**	*e*P		**P**	**08 14 20.8**	**-0.2**
	comp=Z,165nm,1.2s,mb6.0								
SMF	**Signal de Mont**	**83.77**	**341**	*e*P		**P**	**08 14 21.1**	**-0.1**
	comp=Z,526nm,1.2s,mb6.3								
SMF	**Signal de Mont**	**83.77**	**341**	*e*P		**P**	**08 14 21.1**	**-0.1**
	comp=Z,263nm,1.2s,mb6.2								
QUIF	**Quistinic**	**83.94**	**346**	*e*P		**P**	**08 14 21.8**	**-0.2**
	comp=Z,169nm,1.4s,mb5.7								
QUIF	**Quistinic**	**83.94**	**346**	*e*P		**P**	**08 14 21.8**	**-0.2**
	comp=Z,84nm,1.4s,mb5.7								
LIT	**Litokhoron**	**83.95**	**326**	P		**P**	**08 14 21.7**	**-0.4**
OG05	**Jujurieux**	**83.97**	**340**	*e*P		**P**	**08 14 22.3**	**+0.2**
RSL	**Roselend**	**84.01**	**339**	*e*P		**P**	**08 14 22.9**	**+0.6**
RSM	**Repubblica di**	**84.02**	**334**	P		**P**	**08 14 23.8**	**+1.4**
	comp=Z,187nm,1.3s,mb6.1								
YER	**Yerkesik**	**84.06**	**320**	*e*PN		**P**	**08 14 22.2**	**-0.4**
ZCCA	**Zocca**	**84.07**	**335**	P		**P**	**08 14 24.9**	**+2.2**
BGF	**Bois d'Agland**	**84.08**	**341**	*e*P		**P**	**08 14 22.4**	**-0.3**
FETY	**Fethiye**	**84.12**	**319**	*e*PN		**P**	**08 14 21.9**	**-1.0**
LPL	**La Plagne**	**84.14**	**338**	*e*P		**P**	**08 14 23.8**	**+0.8**
	comp=Z,280nm,1.1s,mb6.0								
LPL	**La Plagne**	**84.14**	**338**	*e*P		**P**	**08 14 23.8**	**+0.8**
	comp=Z,140nm,1.1s,mb6.0								
LPG	**La Plagne**	**84.16**	**338**	*e*P		**P**	**08 14 24.1**	**+1.0**
	comp=Z,395nm,1.1s,mb6.1								
LPG	**La Plagne**	**84.16**	**338**	*e*P		**P**	**08 14 24.1**	**+1.0**
	comp=Z,198nm,1.1s,mb6.2								
ERBM	**Eremo**	**84.17**	**336**	P		**P**	**08 14 24.3**	**+1.1**
	comp=Z,180nm,1.4s,mb6.0								
GSCL	**Gusciola**	**84.18**	**336**	P		**P**	**08 14 24.4**	**+1.2**
	comp=Z,219nm,1.6s,mb6.0								
AOS	**Alonnisos**	**84.20**	**324**	P		**P**	**08 14 23.7**	**+0.4**
DALT	**Dalyan (Mudla)**	**84.21**	**320**	*e*P		**P**	**08 14 22.7**	**-0.7**
GOGA	**Godfrey**	**84.22**	**46**	*e*P		**P**	**08 14 22.6**	**-0.8**
GOGA				pmax		pmax			
	comp=Z,68nm,1.7s,mb5.5								
GOGA	**Godfrey**	**84.22**	**46**	*e*P		**P**	**08 14 22.6**	**-0.9**
	comp=Z,68nm,1.7s,mb5.5								
SEI	**Scarperia**	**84.23**	**335**	P		**P**	**08 14 25.4**	**+1.9**
	comp=Z,250nm,0.9s,mb6.3								
VMG	**Vicchio**	**84.26**	**335**	P		**P**	**08 14 25.5**	**+1.9**
	comp=Z,83nm,0.8s,mb5.9								
BRAL	**Brewton**	**84.29**	**50**	*e*P		**P**	**08 14 23.6**	**-0.2**
	comp=Z,34nm,0.6s,mb5.7								
XOR	**Xorichti**	**84.31**	**325**	P		**P**	**08 14 23.4**	**-0.5**
TOO	**Toolangi**	**84.37**	**188**	*e*P		**P**	**08 14 24.2**	**0.0**
	comp=Z,6.4nm,0.8s,mb4.8								
CRE	**Caprese Michel**	**84.45**	**334**	P		**P**	**08 14 25.7**	**+1.1**
	comp=Z,42nm,1.0s,mb5.5								
PLDF	**La Plantade**	**84.46**	**341**	*e*P		**P**	**08 14 25.5**	**+0.8**
TCF	**Toulx Ste Croi**	**84.47**	**342**	*e*P		**P**	**08 14 24.7**	**0.0**
	comp=Z,71nm,0.9s,mb5.5								
TCF	**Toulx Ste Croi**	**84.47**	**342**	*e*P		**P**	**08 14 24.7**	**0.0**
	comp=Z,36nm,0.9s,mb5.5								
SNTG	**Esanatoglia**	**84.49**	**333**	P		**P**	**08 14 25.1**	**+0.3**
	comp=Z,41nm,0.9s,mb5.6								
AGO	**Saint Agoulin**	**84.50**	**341**	*e*P		**P**	**08 14 25.7**	**+0.9**
BNI	**Bardonecchia**	**84.59**	**338**	*e*P		**P**	**08 14 26.5**	**+1.2**
	comp=Z,90nm,1.0s,mb5.8								
JSC	**Jenkinsville**	**84.59**	**44**	*e*P		**P**	**08 14 23.9**	**-1.4**
MFF	**Saint Martin d**	**84.66**	**343**	*e*P		**P**	**08 14 25.5**	**-0.1**
	comp=Z,135nm,1.1s,mb5.7								
MFF	**Saint Martin d**	**84.66**	**343**	*e*P		**P**	**08 14 25.5**	**-0.1**
	comp=Z,67nm,1.1s,mb5.7								
MEV	**Metsovon**	**84.71**	**326**	P		**P**	**08 14 27.2**	**+1.3**
OG22	**Abries**	**84.73**	**338**	*e*P		**P**	**08 14 26.7**	**+0.7**
ASS	**Assisi**	**84.75**	**334**	P		**P**	**08 14 28.0**	**+1.9**
	comp=Z,3.3nm,0.9s,mb4.5								
CSNT	**Castellina Chi**	**84.78**	**335**	P		**P**	**08 14 26.3**	**0.0**
	comp=Z,280nm,1.7s,mb6.1								
NRCA	**Norcia**	**84.81**	**333**	P		**P**	**08 14 27.1**	**+0.7**
	comp=Z,70nm,0.9s,mb5.8								
MBDF	**Montbardon**	**84.87**	**338**	*e*P		**P**	**08 14 27.0**	**+0.3**
	comp=Z,114nm,1.0s,mb5.7								
MBDF	**Montbardon**	**84.87**	**338**	*e*P		**P**	**08 14 27.0**	**+0.3**
	comp=Z,57nm,1.0s,mb5.7								
FGMS	**Monte Sant'Ang**	**84.91**	**331**	P		**P**	**08 14 26.8**	**-0.1**
	comp=Z,48nm,0.6s,mb5.8								
WHFO	**Wadi Hawf**	**84.91**	**291**	⇓P		**P**	**08 14 26.9**	**0.0**
	SNR=18								
ORIF	**Oris-en-Rattie**	**84.92**	**339**	*e*P		**P**	**08 14 27.5**	**+0.6**
	comp=Z,134nm,1.0s,mb5.7								
ORIF				*e*R					
	comp=Z,568nm,21.8s								
ORIF	**Oris-en-Rattie**	**84.92**	**339**	*e*P		**P**	**08 14 27.5**	**+0.6**
	comp=Z,67nm,1.0s,mb5.7								
AGG	**Agios Georgios**	**84.94**	**325**	P		**P**	**08 14 25.9**	**-1.2**
DOI	**San Damiano**	**84.95**	**338**	P		**P**	**08 14 26.0**	**-1.1**
	comp=Z,51nm,0.8s,mb5.7								
FIN	**Finale Ligure**	**84.97**	**337**	P		**P**	**08 14 27.0**	**-0.2**
	comp=Z,60nm,0.9s,mb5.7								
KLBR	**Kellerberrin**	**85.05**	**212**	*e*P		**P**	**08 14 26.7**	**-0.9**
	comp=Z,31nm,0.8s,mb5.5								
KLBR				*i*			08 14 36.6		
RGNG	**Rignano Grg**	**85.06**	**331**	P		**P**	**08 14 27.4**	**-0.3**
AQU	**L'Aquila**	**85.16**	**333**	*e*P		**P**	**08 14 28.9**	**+0.7**
	comp=Z,52nm,0.6s,mb5.8								
FRNF	**Fournols**	**85.25**	**341**	*e*P		**P**	**08 14 29.1**	**+0.5**
VIVF	**Saint-Julien-l**	**85.27**	**340**	*e*P		**P**	**08 14 28.8**	**+0.1**
	comp=Z,77nm,1.0s,mb5.5								
VIVF	**Saint-Julien-l**	**85.27**	**340**	*e*P		**P**	**08 14 28.8**	**+0.1**
	comp=Z,38nm,1.0s,mb5.5								
SAOF	**Saorge**	**85.36**	**337**	*e*P		**P**	**08 14 29.3**	**+0.2**
CNNC	**Cliffs of the**	**85.38**	**41**	*e*P		**P**	**08 14 29.1**	**-0.2**
	comp=Z,38nm,1.0s,mb5.5								
AUTN	**L'Aution**	**85.38**	**337**	*e*P		**P**	**08 14 29.3**	**0.0**
OG25	**Le Caire**	**85.38**	**339**	*e*P		**P**	**08 14 29.9**	**+0.6**
TOUF	**Mont Tournerai**	**85.41**	**338**	*e*P		**P**	**08 14 30.2**	**+0.8**
SBF	**Sospel**	**85.50**	**337**	*e*P		**P**	**08 14 29.5**	**-0.4**
	comp=Z,196nm,0.9s,mb6.0								
SBF	**Sospel**	**85.50**	**337**	*e*P		**P**	**08 14 29.5**	**-0.4**
	comp=Z,98nm,0.9s,mb6.0								
FG5	**Orsara di Pugl**	**85.52**	**331**	P		**P**	**08 14 30.3**	**+0.3**
	comp=Z,117nm,0.9s,mb6.1								
MVIF	**Mont Vial**	**85.55**	**338**	*e*P		**P**	**08 14 30.2**	**+0.1**
RJF	**Les Rejaudoux**	**85.56**	**342**	*e*P		**P**	**08 14 30.1**	**-0.1**
RJF				*e*R					
	comp=Z,850nm,21.5s								
FG4	**Candela**	**85.57**	**331**	P		**P**	**08 14 30.7**	**+0.5**
	comp=Z,313nm,1.0s,mb6.5								
TBI	**Tubuai**	**85.61**	**131**	*e*S		S	08 25 01.0	-0.8
	comp=Z,206nm,28.0s								
TBI				*e*LR		LR	08 41 01.5		
	comp=Z,1μm,32.0s,baz=319								
SDI	**San Donato**	**85.61**	**332**	P		**P**	**08 14 30.3**	**-0.1**
	comp=Z,102nm,1.2s,mb5.9								
REVF	**Revere**	**85.63**	**337**	*e*P		**P**	**08 14 30.8**	**+0.3**
SGG	**Gregorio Mates**	**85.72**	**332**	P		**P**	**08 14 30.9**	**-0.1**
CAF	**Calviac**	**85.80**	**341**	*e*P		**P**	**08 14 31.0**	**-0.4**
LKD	**Levkas**	**85.87**	**326**	P		**P**	**08 14 31.4**	**-0.3**
SMRF	**Simiane la Rot**	**85.87**	**339**	*e*P		**P**	**08 14 31.6**	**-0.1**
RFI	**Roccamonfina**	**85.92**	**332**	P		**P**	**08 14 32.5**	**+0.5**
	comp=Z,38nm,1.3s,mb5.5								
SANT	**Santorini**	**85.93**	**322**	*e*P		**P**	**08 14 29.6**	**-2.4**
	comp=Z,57nm,1.0s,mb5.8								
MUN	**Mundaring**	**85.96**	**213**	⇑*i*P		**P**	**08 14 31.8**	**-0.3**
FRF	**La Foret Royal**	**85.99**	**338**	*e*P		**P**	**08 14 31.9**	**-0.4**
	comp=Z,207nm,1.4s,mb5.9								
FRF	**La Foret Royal**	**85.99**	**338**	*e*P		**P**	**08 14 31.9**	**-0.4**
	comp=Z,104nm,1.4s,mb5.9								
LFF	**La Frestale**	**86.07**	**342**	*e*P		**P**	**08 14 32.0**	**-0.7**
TAVF	**Tavernes**	**86.09**	**338**	*e*P		**P**	**08 14 33.0**	**+0.2**
PRAF	**Pradon**	**86.14**	**339**	*e*P		**P**	**08 14 34.6**	**+1.6**
SGO	**Sicignano**	**86.15**	**331**	P		**P**	**08 14 32.8**	**-0.3**
	comp=Z,20nm,0.8s,mb5.4								
LASF	**Ste Croix**	**86.20**	**340**	*e*P		**P**	**08 14 33.0**	**-0.3**
LMR	**La Mourre**	**86.24**	**338**	*e*P		**P**	**08 14 32.7**	**-0.8**
	comp=Z,214nm,1.1s,mb6.0								
LMR	**La Mourre**	**86.24**	**338**	*e*P		**P**	**08 14 32.7**	**-0.8**
	comp=Z,107nm,1.1s,mb6.0								
PGF	**Pioggiola**	**86.29**	**336**	*e*P		**P**	**08 14 33.5**	**-0.3**
	comp=Z,201nm,1.2s,mb5.9								
PGF	**Pioggiola**	**86.29**	**336**	*e*P		**P**	**08 14 33.5**	**-0.3**
	comp=Z,101nm,1.2s,mb5.9								
NWAO	**Narrogin (SRO)**	**86.44**	**211**	P		**P**	**08 14 34.2**	**-0.3**
	comp=Z,53nm,0.8s,mb5.8,baz=29,slow=4.6,SNR=30								
NWAO	**Narrogin (SRO)**	**86.44**	**211**	*e*P		**P**	**08 14 34.0**	**-0.6**
	comp=Z,50nm,0.8s,mb5.8								
GELF	**Grande-Etoile**	**86.47**	**339**	*e*P		**P**	**08 14 35.5**	**+0.9**
CORF	**Corte**	**86.48**	**336**	*e*P		**P**	**08 14 35.0**	**+0.3**
TDS	**Terranova Siba**	**86.61**	**330**	P		**P**	**08 14 32.4**	**-2.9**
TIP	**Timpagrande**	**86.89**	**329**	*e*P		**P**	**08 14 36.6**	**-0.1**
EIL	**Elat**	**86.97**	**311**	*e*P		**P**	**08 14 37.0**	**-0.1**
MTLF	**Montolieu**	**87.27**	**341**	*e*P		**P**	**08 14 37.8**	**-0.8**
GVD	**Gavdhos**	**87.82**	**322**	*e*P		**P**	**08 14 40.1**	**-1.1**
	comp=Z,29nm,1.0s,mb5.5								
EJON	**La Jonquera**	**87.97**	**340**	P		**P**	**08 14 40.9**	**-1.0**
	comp=Z,254nm,3.5s								
EPF	**Esparros**	**87.98**	**342**	*e*P		**P**	**08 14 40.7**	**-1.3**
EALK	**Alkurruntz**	**88.18**	**343**	P		**P**	**08 14 41.8**	**-1.1**
	comp=Z,646nm,6.5s								
ELIZ	**Elizondo**	**88.23**	**343**	P		**P**	**08 14 43.0**	**-0.1**
	comp=Z,91nm,2.4s,mb5.6								
ETSF	**Etsaut**	**88.30**	**343**	*e*P		**P**	**08 14 42.7**	**-0.8**
EBIE	**Bielsa**	**88.35**	**342**	P		**P**	**08 14 44.3**	**+0.6**
	comp=Z,12nm,1.0s,mb5.1								
ELAN	**Lanestosa**	**88.53**	**345**	P		**P**	**08 14 43.7**	**-0.8**
	comp=Z,51nm,1.1s,mb5.8								
EARI	**Arriondas**	**88.77**	**346**	P		**P**	**08 14 44.6**	**-1.1**
	comp=Z,679nm,4.0s								
ECRI	**Cripan**	**88.96**	**344**	P		**P**	**08 14 46.0**	**-0.6**
	comp=Z,403nm,4.0s								
VSL	**Villasalto**	**89.00**	**334**	*e*P		**P**	**08 14 46.7**	**-0.1**
	comp=Z,66nm,1.0s,mb5.9								
EPON	**Pontenova**	**89.05**	**347**	P		**P**	**08 14 45.7**	**-1.3**
	comp=Z,69nm,0.9s,mb6.0								
ESAC	**San Caprasio**	**89.41**	**342**	P		**P**	**08 14 50.0**	**+1.3**
	comp=Z,31nm,1.0s,mb5.6								
EPOB	**Poblet**	**89.42**	**341**	P		**P**	**08 14 49.4**	**+0.6**
	comp=Z,9.4nm,1.0s,mb5.1								
PBRG	**Braganca**	**90.48**	**347**	*e*P		**P**	**08 14 53.0**	**-0.7**
	comp=Z,87nm,1.6s,mb5.8								
ETOS	**Mallorca**	**90.52**	**339**	P		**P**	**08 14 53.7**	**-0.2**
	comp=Z,16nm,1.0s,mb5.3								
ETOR	**Torete**	**90.60**	**343**	P		**P**	**08 14 54.2**	**-0.1**
	comp=Z,14nm,0.9s,mb5.3								
ELOB	**Lobios**	**90.61**	**348**	P		**P**	**08 14 53.8**	**-0.5**
	comp=Z,888nm,4.7s								
EMOS	**Mosqueruela**	**90.71**	**342**	P		**P**	**08 14 54.6**	**-0.1**
	comp=Z,24nm,3.5s								
PVRL	**Vila Real**	**91.14**	**347**	*e*P		**P**	**08 14 56.3**	**-0.5**
	comp=Z,86nm,0.9s,mb6.1								
GUD	**Guadarrama**	**91.17**	**345**	P		**P**	**08 14 54.7**	**-2.2**
	comp=Z,760nm,4.4s								
EIBI	**Ibiza**	**91.58**	**340**	P		**P**	**08 14 58.8**	**0.0**
	comp=Z,59nm,2.9s,mb5.4								
PVIS	**Viseu**	**91.72**	**347**	*e*P		**P**	**08 14 58.8**	**-0.7**
	comp=Z,98nm,1.5s,mb5.9								
ESDC	**Sonseca Array**	**92.07**	**344**	P		**P**	**08 15 00.2**	**-0.9**
	comp=Z,13nm,0.9s,mb5.3,baz=7.2,slow=4.1,SNR=35								
ESDC				LR		LR	09 02 30.9		
	comp=Z,328nm,21.4s,MS4.8,baz=345,slow=40								
ESDC	**Sonseca Array**	**92.07**	**344**	P		**P**	**08 15 00.4**	**-0.7**
	comp=Z,10nm,0.8s,mb5.2								
EBEN	**Beniarda**	**92.25**	**341**	P		**P**	**08 15 01.6**	**-0.3**
	comp=Z,33nm,1.5s,mb5.5								
KEST	**Kesra**	**92.48**	**333**	P		**P**	**08 15 03.0**	**0.0**
	comp=Z,11nm,0.9s,mb5.2,baz=320,slow=2.4,SNR=14								
KEST				LR		LR	09 02 07.9		
	comp=Z,154nm,20.2s,MS4.4,baz=344,slow=39								
PCBR	**Castelo Branco**	**92.51**	**347**	*e*P		**P**	**08 15 02.3**	**-0.8**
EVIA	**Vianos**	**92.79**	**343**	P		**P**	**08 15 06.2**	**+1.8**
	comp=Z,7.4nm,0.7s,mb5.2								
PESTR	**Estremoz**	**93.48**	**347**	*e*P		**P**	**08 15 06.5**	**-1.1**
	comp=Z,42nm,1.3s,mb5.7								
RKT	**Rikitea**	**93.54**	**120**	*e*PS		PS	08 27 27.7	-3.0
	comp=Z,199nm,27.5s								
RKT	**Rikitea**	**93.54**	**120**	*e*SS		SS	08 32 43.7	+11
	comp=Z,151nm,26.2s								
RKT				*e*LR		LR	08 44 29.0		
	comp=Z,850nm,33.5s,baz=314								
EHUE	**Huescar**	**93.60**	**343**	P		**P**	**08 15 07.2**	**-0.9**
	comp=Z,6.5nm,2.1s,mb4.7								
EADA	**Adamuz**	**93.65**	**344**	P		**P**	**08 15 08.4**	**+0.1**
	comp=Z,12nm,1.0s,mb5.3								
EQES	**Quesada**	**93.71**	**343**	P		**P**	**08 15 09.4**	**+0.8**
	comp=Z,5.2nm,0.7s,mb5.1								
PBEJ	**Beja**	**94.35**	**347**	*e*P		**P**	**08 15 11.2**	**-0.4**
EMIN	**Mina Concepcio**	**94.41**	**346**	P		**P**	**08 15 11.2**	**-0.7**
	comp=Z,15nm,0.8s,mb5.5								
ESPR	**Espera**	**95.14**	**345**	P		**P**	**08 15 15.6**	**+0.4**
	comp=Z,11nm,0.7s,mb5.4								
EJIF	**Jimena Fronter**	**95.48**	**345**	P		**P**	**08 15 16.7**	**-0.1**
	comp=Z,59nm,3.0s								
TORD	**Torodi Ar. Bea**	**115.95**	**331**	PKP		PKPdf	08 20 32.9	-1.8
	comp=Z,2.2nm,0.9s,baz=356,slow=4.0,SNR=8.6								
TORD				PP		PP	08 21 38.1	-0.7
	comp=Z,3.0nm,0.9s,baz=4.6,slow=8.1,SNR=5.7								
TORD	**Torodi Ar. Bea**	**115.95**	**331**	PKP		PKPdf	08 20 32.9	-1.8
TORD				PP		PP	08 21 38.1	-0.7
VNDA	**Vanda**	**124.00**	**178**	PKP		PKPdf	08 20 47.7	-2.5
	comp=Z,2.9nm,0.8s,baz=301,slow=3.5,SNR=17								
VNDA	**Vanda**	**124.00**	**178**	PKIKP		PKPdf	08 20 47.7	-2.5
VNDA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
VNDA	**Vanda**	**124.00**	**178**	*e*PKPdf		PKPdf	08 20 47.3	-2.9
SBA	**Scott Base**	**124.47**	**177**	*e*PKPdf		PKPdf	08 20 48.9	-2.2
LIC	**Lamto**	**124.54**	**336**	*e*PKIKP		PKPdf	08 20 50.4	-0.8
	comp=Z,25nm,1.0s								
LIC				*e*R					
	comp=Z,375nm,20.5s								
LIC	**Lamto**	**124.54**	**336**	*e*PKPdf		PKPdf	08 20 50.4	-0.8
LIC				LR		LR			
	comp=Z,190nm,20.5s,MS4.8								
SAML	**Samuel**	**130.02**	**54**	*e*PKPdf		PKPdf	08 21 01.2	-0.5
LPAZ	**La Paz**	**132.90**	**65**	PKP		PKPdf	08 21 07.9	+0.7
	comp=Z,6.4nm,1.1s,baz=358,slow=5.1,SNR=14								
LPAZ	**La Paz**	**132.90**	**65**	PKIKP		PKPdf	08 21 07.9	+0.7
LPAZ				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LPAZ	**La Paz**	**132.90**	**65**	*e*PKPdf		PKPdf	08 21 08.0	+0.9
MAW	**Mawson**	**133.01**	**212**	*e*P		PKPdf	08 21 05.2	-2.2
	comp=Z,4.1nm,1.0s								
MAW	**Mawson**	**133.01**	**212**	PKP		PKPdf	08 21 05.7	-1.7
	comp=Z,3.1nm,0.8s,baz=75,slow=2.0,SNR=8.9								
MAW	**Mawson**	**133.01**	**212**	PKIKP		PKPdf	08 21 05.7	-1.7
MAW				pmax		pmax			

STKA	**Stephens Creek**	**38.74**	**243**	P	**P**	**08 25 58.0**	**-0.7**
	1.0nm,0.5s,mb3.6,baz=78,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**45.28**	**261**	P	**P**	**08 26 50.2**	**+0.1**
	0.4nm,0.4s,mb3.4,baz=96,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**45.29**	**256**	P	**P**	**08 26 50.4**	**+0.3**
	1.7nm,0.6s,mb3.7,baz=95,slow=7.7,SNR=26						
ASAR				PcP	PcP	08 28 19.9	+2.1
	0.5nm,0.7s,baz=107,slow=4.9,SNR=4.8						
VNDA	**Vanda**	**59.03**	**185**	P	**P**	**08 28 28.2**	**-0.3**
	0.6nm,0.7s,mb2.9,baz=357,slow=7.4,SNR=5.7						
VNA3	**Neumayer Olymp**	**89.18**	**176**	*e*	**P**	**08 31 18.2**	**-0.1**
VNA3				*e*		08 31 20.9	
VNA2	**Neumayer--Watz**	**89.63**	**177**	*e*	**P**	**08 31 20.4**	**0.0**
VNA2				*e*		08 31 22.8	
VNA2				*e*		08 31 34.1	
VNA1	**Neumayer--Stat**	**89.85**	**176**	*e*	**P**	**08 31 21.9**	**+0.5**
VNA1				*e*		08 31 24.3	
VNA1				*e*		08 31 37.2	
VNA1				*e*		08 31 42.3	

*ISCJB **28** 08:19:35.1±0.4,5103N±002×603E±003,h10km, Error ellipse: s-maj=3.4km s-min=2.5km az=76.5*
*UCC **28** 08:19:36.9±0.4,5115N×597E,h15km±1km, ML2.2*
*LDG **28** 08:19:37.3±0.2,5109N×592E,h4km, Ml3.1/12, Error ellipse: s-maj=3.2km s-min=2.0km az=41.0*
*NEIC **28** 08:19:37.3,5109N×593E,h4km, ML3.1(LDG), After LDG.*
*CSEM **28** 08:19:37.2±0.1,5109N×595E,h5km, ML3.2/15, Error ellipse: s-maj=1.5km s-min=0.9km az=159.0*
*BNS **28** 08:19:38.3±0.6,5112N×604E,h8km±4km, ML2.2*
*BGR **28** 08:19:39.1±0.8,5103N×628E,h10km, ML2.6/3, Error ellipse: s-maj=8.9km s-min=4.4km az=121.0*

ISC 28 08:19:36.2±0.4,5110N±002×599E±003,h19km±3km,n54, σ1§20/95,7C-2D,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODG	**Roetgen-Dahlhe**	**0.13**	**72**	⇑*i*Pg	**Pg**	**08 19 40.5**	**+0.1**
RODG				*e*Sg	**Sg**	**08 19 42.1**	**-1.1**
	3μm,0.3s						
HGN	**Heimansgroeve**	**0.34**	**186**	*e*Pg	**Pg**	**08 19 44.5**	**+0.9**
HGN				*e*Sg	**Sg**	**08 19 49.6**	**+1.0**
BEBN	**Eben Emael**	**0.36**	**213**	⇑P	**Pg**	**08 19 44.8**	**+0.8**
BEBN				S	**Sg**	**08 19 50.2**	**+1.0**
	comp=N,183nm,0.3s						
DREG	**Dreilaegerbach**	**0.47**	**160**	*e*Pg	**Pg**	**08 19 47.1**	**+1.2**
DREG				*e*Sg	**Sg**	**08 19 53.9**	**+1.6**
	comp=N,167nm,0.2s						
MEM	**Membach**	**0.50**	**179**	⇑P	**Pb**	**08 19 47.4**	**+1.0**
MEM				S	**Sg**	**08 19 54.5**	**+1.4**
	comp=E,67nm,0.4s						
MEM	**Membach**	**0.50**	**179**	P	**Pb**	**08 19 47.3**	**+1.0**
KLL	**Kalltalsperre**	**0.50**	**156**	*e*Pg	**Pg**	**08 19 47.6**	**+1.2**
KLL				*e*Sg	**Sg**	**08 19 55.6**	**+2.3**
	comp=E,88nm,0.1s						
STB	**Steinbach**	**0.74**	**133**	⇓*e*Pg	**Pg**	**08 19 52.3**	**+1.4**
STB				*e*Sg	**Sg**	**08 20 02.3**	**+1.5**
	comp=E,79nm,0.1s						
BNS	**Bensberg**	**0.76**	**100**	*e*Pg	**Pg**	**08 19 52.2**	**+1.0**
BNS				*e*Sg	**Sg**	**08 20 02.2**	**+0.8**
BCLA	**Clavier**	**0.81**	**213**	⇑P	**Pb**	**08 19 52.9**	**+1.1**
BCLA				S	**Sb**	**08 20 04.0**	**+1.7**
	comp=N,37nm,0.1s						
BCLA	**Clavier**	**0.81**	**213**	P	**Pb**	**08 19 52.8**	**+1.1**
HOBG	**Hohbusch**	**0.86**	**98**	⇑*i*Pg	**Pg**	**08 19 53.9**	**+0.8**
HOBG				*e*Sg	**Sg**	**08 20 04.9**	**+0.5**
	comp=N,163nm,0.4s						
BUG	**Bochum--Univer**	**0.87**	**67**	*e*Pg	**Pg**	**08 19 53.1**	**-0.2**
	SNR=10						
BUG				*e*Sg	**Sg**	**08 20 03.8**	**-1.1**
	SNR=19						
HILG	**Hillesheim**	**0.93**	**151**	*e*Sg	**Sg**	**08 20 08.1**	**+1.6**
WTSB	**Winterswijk**	**1.00**	**30**	*e*Pg	**Pg**	**08 19 54.9**	**-0.8**
WTSB				*e*Sg	**Sg**	**08 20 07.8**	**-1.1**
UCC	**Uccle**	**1.07**	**254**	⇑P	**Pb**	**08 19 56.5**	**+0.3**
UCC				S	**Sb**	**08 20 11.1**	**+1.3**
BGG	**Burgeitz**	**1.24**	**136**	⇑*e*Pg	**Pg**	**08 20 00.1**	**-0.2**
BGG				*e*Sg	**Sg**	**08 20 16.8**	**+0.2**
	comp=N,82nm,0.1s						
GIVF	**Givet**	**1.25**	**217**	*e*Pg	**Pg**	**08 20 00.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**08 20 16.5**	**-0.2**
	comp=N,90nm,0.2s						
GIVF	**Givet**	**1.25**	**217**	*e*Pg	**Pg**	**08 20 00.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**08 20 16.5**	**-0.2**
	comp=N,45nm,0.2s						
DOU	**Dourbes**	**1.34**	**222**	⇓P	**Pn**	**08 20 01.1**	**+1.2**
DOU				S	**Sn**	**08 20 19.3**	**+2.1**
	comp=N,16nm,0.2s						
DOU	**Dourbes**	**1.34**	**222**	P	**Pn**	**08 20 01.1**	**+1.2**
WLF	**Walferdange**	**1.45**	**176**	*e*Pg	**Pg**	**08 20 04.8**	**+0.7**
	SNR=1.7						
WLF				*e*Sg	**Sg**	**08 20 22.3**	**-0.7**
	SNR=5.6						
BAIF	**Baives**	**1.54**	**228**	*e*Pg	**Pg**	**08 20 05.2**	**-0.8**
BAIF				*e*Sg	**Sg**	**08 20 25.1**	**-1.0**
	comp=N,21nm,0.3s						
BAIF	**Baives**	**1.54**	**228**	*e*Pg	**Pg**	**08 20 05.2**	**-0.8**
BAIF				*e*Sg	**Sg**	**08 20 25.1**	**-1.0**
	comp=N,11nm,0.3s						
RUP	**Ruppelstein**	**1.56**	**154**	*e*Pg	**Pg**	**08 20 06.6**	**+0.2**
RUP				*e*Sg	**Sg**	**08 20 26.3**	**-0.4**
TNS	**Taunus Mts**	**1.80**	**118**	*e*Pg	**Pg**	**08 20 10.1**	**-0.7**
	SNR=3.2						
TNS				*e*Sg	**Sg**	**08 20 29.1**	**-5.1**
	SNR=5.5						
MEZF	**Maizieres J'vi**	**2.67**	**193**	*e*Pg	**Pg**	**08 20 26.2**	**-1.4**
	baz=17						
MEZF				*e*Sg	**Sg**	**08 21 00.4**	**-1.8**
	comp=N,20nm,0.2s,baz=24						
MEZF	**Maizieres J'vi**	**2.67**	**193**	*e*Pg	**Pg**	**08 20 26.2**	**-1.4**
MEZF				*e*Sg	**Sg**	**08 21 00.4**	**-1.8**
	comp=N,10nm,0.2s						
CDF	**Champ du Feu**	**2.82**	**162**	*e*Sg	**Sg**	**08 21 06.0**	**-0.9**
	comp=N,6.0nm,0.3s						
CDF	**Champ du Feu**	**2.82**	**162**	*e*Sg	**Sg**	**08 21 06.0**	**-0.9**
	comp=N,3.0nm,0.3s						
CLZ	**Clausthal**	**2.84**	**73**	*e*Pg	**Pg**	**08 20 28.6**	**-2.1**
	SNR=2.4						
CLZ				*e*Sg	**Sg**	**08 21 03.9**	**-3.6**
	SNR=4.2						
THEF	**They Montfort**	**2.88**	**180**	*e*Sg	**Sg**	**08 21 07.4**	**-1.4**
	comp=N,7.6nm,0.3s						
SFTF	**Sexfontaines**	**2.97**	**192**	*e*Sg	**Sg**	**08 21 09.5**	**-2.1**
	comp=N,21nm,0.3s						
SFTF	**Sexfontaines**	**2.97**	**192**	*e*Sg	**Sg**	**08 21 09.5**	**-2.1**
	comp=N,11nm,0.3s						
HAU	**Haudompre**	**3.11**	**176**	*e*Pg	**Pg**	**08 20 35.2**	**-0.7**
HAU				*e*Sg	**Sg**	**08 21 14.9**	**-1.3**
	comp=N,16nm,0.3s						
HAU	**Haudompre**	**3.11**	**176**	*e*Pg	**Pg**	**08 20 35.2**	**-0.7**
HAU				*e*Sg	**Sg**	**08 21 14.9**	**-1.3**
	comp=N,7.8nm,0.3s						
BFO	**Black Forest**	**3.17**	**150**	*e*Sg	**Sg**	**08 21 15.7**	**-2.3**
	SNR=1.5						
HINF	**Hinteralfeld**	**3.34**	**170**	*e*Pg	**Pg**	**08 20 39.0**	**-1.2**
HINF				*e*Sg	**Sg**	**08 21 22.1**	**-1.4**
	comp=N,4.5nm,0.2s						
HINF	**Hinteralfeld**	**3.34**	**170**	*e*Pg	**Pg**	**08 20 39.0**	**-1.2**
HINF				*e*Sg	**Sg**	**08 21 22.1**	**-1.4**
	comp=N,2.2nm,0.2s						
MOX	**Moxa**	**3.59**	**95**	*e*Sg	**Sg**	**08 21 27.0**	**-4.7**
	SNR=1.7						
WERD	**Werda**	**4.06**	**97**	*e*Sg	**Sg**	**08 21 41.6**	**-5.2**
	SNR=2.1						
LOR	**Lormes**	**4.08**	**201**	*e*Pn	**Pn**	**08 20 38.1**	**+0.5**
LOR				*e*Sn	**Sn**	**08 21 23.8**	**-1.1**
LOR				*e*Sg	**Sg**	**08 21 44.5**	**-2.9**
	comp=N,8.4nm,0.2s						
LOR	**Lormes**	**4.08**	**201**	*e*Pn	**Pn**	**08 20 38.1**	**+0.5**
LOR				*e*Sn	**Sn**	**08 21 23.8**	**-1.1**
LOR				*e*Sg	**Sg**	**08 21 44.5**	**-2.9**
	comp=N,4.2nm,0.2s						
SSF	**Saint Saulge**	**4.36**	**203**	*e*Pn	**Pn**	**08 20 42.2**	**+0.8**
SSF				*e*Sn	**Sn**	**08 21 29.9**	**-1.8**
SSF				*e*Sg	**Sg**	**08 21 53.3**	**-3.0**
	comp=N,10nm,0.5s						
SSF	**Saint Saulge**	**4.36**	**203**	*e*Pn	**Pn**	**08 20 42.2**	**+0.8**
SSF				*e*Sn	**Sn**	**08 21 29.9**	**-1.8**
SSF				*e*Sg	**Sg**	**08 21 53.3**	**-3.0**
	comp=N,5.1nm,0.5s						
AVF	**Avril sur Loir**	**4.65**	**203**	*e*Pn	**Pn**	**08 20 45.9**	**+0.5**
LDF	**La Druitiere**	**4.68**	**240**	*e*Pn	**Pn**	**08 20 46.1**	**+0.3**
LDF				*e*Sn	**Sn**	**08 21 35.7**	**-3.9**
	comp=N,3.0nm,0.2s						
LDF	**La Druitiere**	**4.68**	**240**	*e*Pn	**Pn**	**08 20 46.1**	**+0.3**
LDF				*e*Sn	**Sn**	**08 21 35.7**	**-3.9**
	comp=N,1.5nm,0.2s						
FLN	**La Foliniere**	**4.79**	**243**	*e*Pn	**Pn**	**08 20 47.7**	**+0.4**
BGF	**Bois d'Agland**	**5.00**	**206**	*e*Pn	**Pn**	**08 20 50.9**	**+0.7**
GRR	**Gorron**	**5.20**	**241**	*e*Pn	**Pn**	**08 20 53.3**	**+0.3**
GRR				*e*Sn	**Sn**	**08 21 49.5**	**-3.0**
	comp=N,12nm,0.3s						
GRR	**Gorron**	**5.20**	**241**	*e*Pn	**Pn**	**08 20 53.3**	**+0.3**
GRR				*e*Sn	**Sn**	**08 21 49.5**	**-3.0**
	comp=N,6.0nm,0.3s						
MFF	**Saint Martin d**	**6.05**	**224**	*e*Pn	**Pn**	**08 21 04.9**	**+0.2**
SGMF	**Saint Gilles**	**6.24**	**246**	*e*Pn	**Pn**	**08 21 07.2**	**0.0**

IDC 28 09:00:29.6±1.9,4889N×15335E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/22,mbtmp3.6/4, Error ellipse: s-maj=67.3km s-min=30.2km az=170.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.68**	**248**	P	P	09 05 22.1	+0.3
	0.4nm,0.4s,baz=48,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**46.13**	**296**	P	P	09 08 55.0	-0.7
	0.4nm,0.5s,baz=55,slow=7.7,SNR=4.9						
BVAR	**Borovoye Array**	**49.65**	**308**	P	P	09 09 22.7	-0.2
	0.8nm,0.6s,baz=62,slow=8.2,SNR=5.8						
TXAR	**Lajitas Array**	**76.31**	**61**	P	P	09 12 20.4	+0.1
	0.2nm,0.6s,baz=296,slow=4.3,SNR=5.9						

IDC 28 09:09:40.7±1.3,4582N×15399E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.5/23,mbtmp3.6/4,ML3.4/1, Error ellipse: s-maj=45.9km s-min=30.8km az=169.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.26**	**262**	Pn	Pn	09 11 42.0	+0.2
	0.5nm,0.3s,baz=303,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**47.92**	**298**	P	P	09 18 20.3	-0.4
	0.4nm,0.7s,baz=69,slow=6.2,SNR=6.9						
ASAR	**Alice Springs**	**71.53**	**199**	P	P	09 21 03.2	-0.1
	0.3nm,0.7s,baz=24,slow=5.2,SNR=4.3						
TXAR	**Lajitas Array**	**77.41**	**61**	P	P	09 21 37.9	+0.3
	0.6nm,0.8s,baz=305,slow=4.5,SNR=7.7						

IDC 28 09:10:07.6±0.9,2132S×6690W,h173km±16km,mb3.4/1, mb1 2.9/5,mb1mx2.9/19,mbtmp2.9/5, Error ellipse: s-maj=25.4km s-min=10.6km az=112.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**235**	P	Pn	09 10 48.7	+1.5
	12nm,0.3s,baz=90,slow=5.5,SNR=222						
LVC				S	Sn	09 11 18.8	+1.0
	8.5nm,0.3s,baz=270,slow=21,SNR=24						
LPAZ	**La Paz**	**5.14**	**347**	P	Pn	09 11 25.4	+2.2
	0.4nm,0.3s,baz=160,slow=8.5,SNR=13						
LPAZ				S	Sn	09 12 21.9	-0.5
	0.3nm,0.3s,baz=158,slow=17,SNR=6.7						
SIV	**San Ignacio**	**7.65**	**47**	P	Pn	09 11 58.1	+1.9
	1.3nm,0.3s,baz=249,slow=12,SNR=32						
SIV				S	Sn	09 13 21.5	-0.6
	0.4nm,0.3s,baz=326,slow=23,SNR=9.3						
CFAA	**Coronel Fontan**	**10.31**	**186**	P	Pn	09 12 31.5	+0.3
	0.0nm,0.3s,baz=349,slow=16,SNR=3.5						
CFAA				S	Sn	09 14 20.8	-5.0
	0.0nm,0.3s,baz=288,slow=20,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.53**	**69**	P	P	09 21 33.6	+0.7
	0.5nm,0.4s,baz=248,slow=5.6,SNR=9.9						
MKAR	**Makanchi Array**	**144.37**	**37**	PKP	PKPdf	09 29 22.1	-0.9
	0.3nm,0.4s,baz=325,slow=4.2,SNR=4.1						

IDC 28 09:12:08.0±1.0,2607S×7071E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.8/21,mbtmp4.0/7,MS3.7/1,Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=39.9km s-min=23.0km az=92.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**41.83**	**184**	LR	LR	09 32 43.5	
	comp=Z,98nm,20.3s,baz=56,slow=30						
ASAR	**Alice Springs**	**56.88**	**102**	P	P	09 21 55.1	+0.6
	0.2nm,0.9s,baz=250,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**58.40**	**98**	P	P	09 22 05.1	-0.1
	0.7nm,0.8s,baz=249,slow=7.4,SNR=5.3						
SNAA	**Sanae**	**60.32**	**200**	P	P	09 22 17.8	-0.7
	0.8nm,1.0s,baz=104,slow=4.2,SNR=5.9						
VNDA	**Vanda**	**65.00**	**166**	P	P	09 22 49.7	0.0
	0.6nm,0.6s,baz=271,slow=8.2,SNR=7.2						
MKAR	**Makanchi Array**	**73.27**	**8**	P	P	09 23 40.5	-0.5
	1.6nm,0.7s,baz=204,slow=5.3,SNR=11						
SONM	**Songino Array**	**80.25**	**24**	P	P	09 24 21.0	+0.5
	2.9nm,1.0s,baz=217,slow=3.5,SNR=14						
ZAL	**Zalesovo**	**80.60**	**8**	P	P	09 24 22.2	-0.2
	2.0nm,0.2s,baz=354,slow=4.7,SNR=5.8						

*IDC **28** 09:33:00.3±10.0,5243N×13269W,h0km,mb3.3/1, mb1 3.9/4,mb1mx3.6/22,mbtmp3.5/4,ML3.5/3, Error ellipse: s-maj=175.9km s-min=29.0km az=90.0*
*ISCJB **28** 09:33:03.3±1.2,5256N±005×131.17W±0.08,h2km±9km, mb3.1/1, Error ellipse: s-maj=10.6km s-min=6.4km az=87.0*
*NEIC **28** 09:33:03.9,5229N×13169W,h20km, ML3.5(PGC), After PGC.*
*PGC **28** 09:33:03.9±0.1,5229N×13169W,h20km, ML3.5/7, 107km southeast of Sandspit, Bc Queen Charlotte Islands Region*

ISC 28 09:33:05.7±2.0,5235N±008×1320W±01,h10km±12km,n22, σ1§19/23,mb3.1/1,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.28**	**33**	Trac			
BNB	**Barry Inlet**	**0.28**	**33**	P	**Pg**	**09 33 10.9**	**-0.3**
BNB				S	**Sg**	**09 33 15.1**	**0.0**
MOBC	**Moresby Island**	**0.85**	**4**	Trac			
MOBC	**Moresby Island**	**0.85**	**4**	P	**Pg**	**09 33 20.7**	**-1.5**
MOBC				S	**Sg**	**09 33 32.8**	**-0.6**
DIB	**Dawson Inlet,**	**0.91**	**341**	Trac			
DIB	**Dawson Inlet,**	**0.91**	**341**	P	**Pg**	**09 33 22.5**	**-0.7**
DIB				S	**Sg**	**09 33 37.5**	**+2.5**
VIB	**Van Inlet**	**0.97**	**340**	Trac			
VIB	**Van Inlet**	**0.97**	**340**	P	**Pg**	**09 33 23.5**	**-0.8**
VIB				S	**Sg**	**09 33 38.1**	**+1.3**
NDB	**Naden**	**1.71**	**341**	Trac			
NDB	**Naden**	**1.71**	**341**	P	**Pn**	**09 33 34.1**	**-1.3**
NDB				Sg	**Sg**	**09 34 01.5**	**+0.8**
NDB	**Naden**	**1.71**	**341**	P	**Pn**	**09 33 34.1**	**-1.3**
NDB				Sg	**Sg**	**09 34 01.5**	**+0.8**
HOLB	**Holberg**	**2.96**	**124**	Trac			
HOLB	**Holberg**	**2.96**	**124**	P	**Pn**	**09 33 46.9**	**-5.8**
CRAG	**Craig**	**3.20**	**348**	*e*Pn	**Pn**	**09 33 54.7**	**-1.3**
CRAG				eS	**Sg**	**09 34 44.3**	**-4.2**
PHC	**Port Hardy**	**3.29**	**118**	Trac			
PHC	**Port Hardy**	**3.29**	**118**	P	**Pn**	**09 33 50.9**	**-6.3**
WRAK	**Wrangell Islan**	**4.09**	**357**	*e*Pn	**Pn**	**09 34 07.9**	**-0.3**
DLBC	**Dease Lake**	**6.21**	**10**	*e*Pn	**Pn**	**09 34 38.7**	**+1.4**
DLBC				*e*Sg	**Sg**	**09 36 14.3**	**-11**
YKA	**Yellowknife Ar**	**13.77**	**36**	Pn	**Pn**	**09 36 16.4**	**-4.6**
	0.1nm,0.3s,baz=229,slow=11,SNR=4.7						
NVAR	**Mina Array Bea**	**16.87**	**140**	P	**Pn**	**09 37 03.9**	**+2.0**
	0.1nm,0.3s,baz=317,slow=10,SNR=3.4						
PDAR	**Pinedale Array**	**17.86**	**114**	P	**Pn**	**09 37 14.8**	**+0.7**
	0.1nm,0.3s,baz=305,slow=8.0,SNR=17						
TXAR	**Lajitas Array**	**31.08**	**127**	P	**P**	**09 39 23.1**	**-0.8**
	0.2nm,0.6s,mb3.1,baz=333,slow=6.9,SNR=4.2						

*MOS **28** 09:46:00.7±1.8,4688N×15285E,h33km,mb4.1/7, Error ellipse: s-maj=13.6km s-min=8.6km az=63.7*
*SKHL **28** 09:46:03.4±4.2,4690N×15270E,h52km±15km,mb5.0/3*
*ISCJB **28** 09:46:04.3±1.0,4690N±008×1528E±01,h71km±8km, mb4.1/22, Error ellipse: s-maj=15.7km s-min=6.7km az=97.9*
*IDC **28** 09:46:08.8±3.6,4689N×15267E,h98km±33km,mb3.6/17, mb1 3.8/19,mb1mx3.8/26,mbtmp3.6/19,MS3.2/2, Ms1 3.2/2,ms1mx2.7/48, Error ellipse: s-maj=18.1km s-min=15.7km az=134.0*

ISC 28 09:46:06.3±0.9,4690N±008×1529E±01,h74km±7km,n54, σ0§92/58,mb4.1/22,2C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**246**	*e*P	**Pn**	**09 46 57.5**	**-5.5**
KUR				AMB	AMB	09 46 59.5	
	144nm,0.5s						
KUR				*e*S	**Sn**	**09 47 41.2**	**-5.8**
KUR				A		09 47 59.5	
	380nm,0.5s						
KUR				A		09 47 59.5	
	228nm,0.5s						
SKR	**Severo-Kuril's**	**4.36**	**29**	*e*P	**Pn**	**09 47 10.7**	**+0.7**
SKR				AMB	AMB	09 47 12.0	
	80nm,0.5s						
SKR				*e*S	**Sn**	**09 47 58.0**	**-1.5**
SKR	**Severo-Kuril's**	**4.36**	**29**	*e*PN	**Pn**	**09 47 10.7**	**+0.7**
SKR				*e*S	**Sn**	**09 47 58.0**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,160nm,0.4s						
SKR				smax			
	comp=Z,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**242**	*e*P	**Pn**	**09 47 26.4**	**-1.7**
YUK				AMB	AMB	09 47 27.8	
	comp=Z,140nm,0.3s						
YUK				*e*S	**Sn**	**09 48 40.5**	**+8.5**
YUK				A		09 48 51.0	
	comp=Z,800nm,0.7s						
YUK				A		09 48 51.0	
	comp=Z,250nm,0.6s						
YUK				A		09 48 51.0	
	comp=Z,410nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**242**	*e*PN	**Pn**	**09 47 26.4**	**-1.7**
YUK				S	**Sn**	**09 48 40.5**	**+8.5**
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,410nm,0.6s						
YUK				smax			
	comp=E,800nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.91**	**274**	⇑*i*P	**Pn**	**09 47 45.3**	**+0.4**
PET	**Petropavlovsk**	**7.18**	**29**	*e*PN	**Pn**	**09 47 48.9**	**+0.3**
ASAJ	**Asahikawa**	**7.72**	**253**	P	**Pn**	**09 47 56.4**	**+0.5**
	comp=E,2.6nm,0.3s,baz=77,slow=12,SNR=21						
ASAJ				LR	LR	09 50 41.2	
	comp=E,101nm,19.3s,baz=164,slow=36						
TYV	**Tymovskoe**	**7.80**	**304**	*e*P	**Pn**	**09 47 57.8**	**+0.8**
ERM	**Erimo**	**8.48**	**238**	*e*PN	**Pn**	**09 48 05.9**	**-0.3**
MJAR	**Matsushiro Arr**	**15.03**	**232**	P	**Pn**	**09 49 34.0**	**-0.4**
	comp=E,0.5nm,0.3s,baz=36,slow=9.5,SNR=5.9						
MJAR	**Matsushiro Arr**	**15.03**	**232**	P	**Pn**	**09 49 34.0**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**20.10**	**327**	*e*P	**P**	**09 50 34.9**	**+1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**20.67**	**252**	P	**P**	**09 50 41.0**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=60,slow=10,SNR=9.4						
BILL	**Bilibino**	**22.29**	**13**	⇑*e*P	**P**	**09 50 58.3**	**+1.0**
BILL				*e**PP		09 51 21.2	
BILL				*e*S	**S**	**09 54 47.7**	**-10**
BILL				pmax	pmax		
	comp=Z,15nm,2.5s,mb3.9						
ULN	**Ulaanbaatar**	**30.68**	**289**	*e*P	**P**	**09 52 14.8**	**+1.0**
SONM	**Songino Array**	**31.11**	**289**	P	**P**	**09 52 17.3**	**-0.3**
	comp=Z,0.4nm,0.8s,mb3.2,baz=73,slow=9.8,SNR=2.4						
SONM				LR	LR	10 04 22.4	
	comp=Z,60nm,19.0s,baz=359,slow=35						
COLA	**College**	**36.13**	**39**	*e*P	**P**	**09 53 01.4**	**+0.2**
INK	**Inuvik**	**41.62**	**32**	P	**P**	**09 53 47.5**	**+0.5**
	comp=Z,1.4nm,0.5s,mb3.9,baz=301,slow=5.5,SNR=7.3						
INK	**Inuvik**	**41.62**	**32**	P	**P**	**09 53 47.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**09 54 26.6**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=67,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**09 54 26.6**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**09 54 55.0**	**-2.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=57,slow=10,SNR=3.0						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**09 55 00.2**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=295,slow=7.1,SNR=3.5						
YKA				PcP	PcP	09 56 15.0	-0.4
	comp=Z,0.4nm,0.5s,baz=299,slow=3.4,SNR=5.8						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**09 55 00.2**	**+0.3**
YKA						09 56 15.0	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GUN	**Gumba**	**54.81**	**275**	*e*P	**P**	**09 55 28.9**	**+0.3**
KKN	**Kakani**	**55.29**	**275**	*e*P	**P**	**09 55 33.2**	**+1.1**
	comp=Z,11nm,0.5s,mb5.1						
DMN	**Daman**	**55.53**	**275**	*e*P	**P**	**09 55 34.5**	**+0.7**
	comp=Z,9.8nm,0.5s,mb5.1						
GKN	**Gorkha**	**55.60**	**276**	*e*P	**P**	**09 55 34.7**	**+0.4**
	comp=Z,9.9nm,0.6s,mb5.0						
KOLN	**Koldanda**	**56.45**	**276**	*e*P	**P**	**09 55 41.0**	**+0.6**
	comp=Z,5.4nm,0.6s,mb4.8

VNA3 *e* 10 06 15.2
VNA3 *e* 10 06 36.4

NIED **28** *10:04:00, 3330N×14190E, h5km, Mw4.7 Best double couple: M0=1.46000×10^16 NP1:φ=174.00000°, δ=46.00000°, λ=89.00000°, NP2:φ=357.00000°, δ=44.00000°, λ=92.00000°.*
IDC **28** *10:04:01.7±0.4, 3335N×14182E, h0km, mb4.6/22, mb1 4.7/26, mb1mx4.7/30, mbtmp4.6/26, ML4.2/4, MS4.2/13, Ms1 4.2/13, ms1mx3.9/44, Error ellipse: s-maj=13.6km s-min=11.1km az=80.0*
JMA **28** *10:04:03.7±0.2, 3333N×14190E, h89km±5km, M4.4*
MOS **28** *10:04:05.3±1.0, 3331N×14170E, h33km, mb5.1/51, MS4.2/13, Error ellipse: s-maj=9.9km s-min=5.1km az=113.2*
ISCJB **28** *10:04:07.8±0.2, 3335N±002×14164E±003, h54km, mb4.9/93, MS4.3/24, Error ellipse: s-maj=3.7km s-min=2.8km az=57.5*
BJI **28** *10:04:07.0, 3342N×14189E, h71km, mB4.9, mb4.8, Ms4.6, Msz4.4*
SZGRF **28** *10:04:10.9, 3381N×14157E, h33km, mb5.2, Off east coast of Honshu, Japan*
NEIC **28** *10:04:10.2±0.2, 3333N×14161E, mb4.9/43, MW4.7(NIED), Error ellipse: s-maj=5.5km s-min=4.7km az=168.0*
ISC 28 10:04:09.8±0.2, 3339N±002×14164E±003, h56km, h56km±2.3km; pP-P, n292, σ1§10/310, mb4.9/93, MS4.3/24, 14C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.38**	**337**	P	**Pn**	**10 04 30.1**	**-2.6**
BSO1				S	**Sn**	**10 04 50.2**	**+0.4**
JHJ2	**Mitsune**	**1.55**	**260**	P	**Pn**	**10 04 33.2**	**-1.8**
JHJ2				S	**Sn**	**10 04 54.9**	**+0.9**
JHJ	**Hachijo jima 2**	**1.58**	**261**	Pn	**Pn**	**10 04 33.9**	**-1.5**
	186nm,0.3s,baz=117,slow=6.5,SNR=31						
JHJ				Sn	**Sn**	**10 04 55.1**	**+0.4**
	351nm,0.3s,baz=247,slow=20,SNR=6.1						
BSO3	**Boso 3**	**1.69**	**327**	P	**Pn**	**10 04 34.5**	**-2.4**
BSO4	**Boso 4**	**1.93**	**326**	P	**Pn**	**10 04 38.2**	**-1.9**
BSO4				S	**Sn**	**10 05 05.0**	**+1.8**
KTR	**Katsuura**	**2.07**	**328**	P	**Pn**	**10 04 40.1**	**-2.0**
KTR				S	**Sn**	**10 05 06.7**	**0.0**
JIM2	**Oshima 3**	**2.26**	**307**	P	**Pn**	**10 04 42.2**	**-2.5**
JIZS	**Izushimoda**	**2.65**	**301**	P	**Pn**	**10 04 48.3**	**-1.7**
JOD2	**Odawara 2**	**2.82**	**312**	P	**Pn**	**10 04 49.8**	**-2.5**
JOD2				S	**Sn**	**10 05 24.7**	**-0.4**
JYN	**Shimob**	**3.31**	**310**	P	**Pn**	**10 04 58.7**	**-0.4**
TK01	**Tokai 1**	**3.40**	**277**	S	**Sn**	**10 05 40.5**	**+1.2**
JRY	**Ryogami san**	**3.46**	**320**	P	**Pn**	**10 04 58.9**	**-2.2**
JRY				S	**Sn**	**10 05 41.3**	**+0.5**
JAG	**Ashikaga**	**3.52**	**330**	P	**Pn**	**10 04 59.9**	**-2.0**
JAG				S	**Sn**	**10 05 41.3**	**-1.0**
JIE	**Ise**	**4.22**	**285**	P	**Pn**	**10 05 11.3**	**-0.2**
MJAR	**Matsushiro Arr**	**4.22**	**319**	Pn	**Pn**	**10 05 09.9**	**-1.7**
	8.6nm,0.3s,baz=151,slow=12,SNR=58						
MJAR				Sn	**Sn**	**10 06 01.1**	**+1.6**
	11nm,0.3s,baz=135,slow=23,SNR=6.2						
MJAR	**Matsushiro Arr**	**4.22**	**319**	P	**Pn**	**10 05 09.9**	**-1.6**
MJAR						10 06 01.2	
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR				smax			
	comp=N,11nm,0.3s						
MAJO	**Matsushiro**	**4.22**	**319**	*e*Pn	**Pn**	**10 05 10.6**	**-0.9**
MAJO				*e*Sn	**Sn**	**10 05 59.2**	**-0.4**
MAT	**Matsushiro**	**4.22**	**319**	P	**Pn**	**10 05 10.1**	**-1.5**
MAT				S	**Sn**	**10 06 01.2**	**+1.6**
MAT	**Matsushiro**	**4.22**	**319**	P	**Pn**	**10 05 10.3**	**-1.3**
MAT				S	**Sn**	**10 06 01.0**	**+1.4**
JMM	**Marumori**	**4.52**	**351**	P	**Pn**	**10 05 11.5**	**-4.1**
JMM				S	**Sn**	**10 06 01.6**	**-5.3**
JGM	**Miyama**	**4.67**	**301**	P	**Pn**	**10 05 17.7**	**0.0**
JNS	**Sasagawa**	**4.81**	**338**	P	**Pn**	**10 05 17.5**	**-2.1**
CBIJ	**Chichi jima**	**6.29**	**176**	Pn	**Pn**	**10 05 33.4**	**-6.5**
	comp=N,49nm,0.3s,baz=294,slow=3.5,SNR=16						
CBIJ				Sn	**Sn**	**10 06 41.2**	**-9.2**
	comp=N,35nm,0.3s,baz=294,slow=22,SNR=5.7						
ERM	**Erimo**	**8.70**		*d*P	**Pn**	**10 06 06.8**	**-6.0**
ERM	**Erimo**	**8.70**	**8**	*e*Pn	**Pn**	**10 06 06.7**	**-6.2**
	comp=N,134nm,1.1s						
JNU	**Nakatsue**	**9.02**	**271**	Pn	**Pn**	**10 06 17.2**	**0.0**
	comp=N,0.7nm,0.3s,baz=253,slow=13,SNR=4.0						
JNU				LR	LR	10 09 37.8	
	comp=N,2μm,20.9s,baz=90,slow=37						
ASAJ	**Asahikawa**	**10.74**	**4**	Pn	**Pn**	**10 06 37.0**	**-3.8**
	comp=N,2.2nm,0.3s,baz=218,slow=11,SNR=14						
ASAJ				Sn	**Sn**	**10 08 28.8**	**-11**
	comp=N,0.9nm,0.3s,baz=185,slow=19,SNR=3.1						
YUK	**Yuzh-Kuril'sk**	**11.13**	**16**	P	**Pn**	**10 06 45.0**	**-1.1**
KSRS	**Korea Array**	**11.90**	**294**	Pn	**Pn**	**10 06 58.5**	**+1.8**
	baz=111,slow=13,SNR=7.9						
KSRS				LR	LR	10 11 07.2	
	comp=N,932nm,20.6s,baz=100,slow=35						
VLA	**Vladivostok**	**12.36**	**325**	*i* P	**Pn**	**10 07 00.8**	**-2.1**
YSS	**Yuzh-Sakhalins**	**13.58**	**3**	*e*P	**Pn**	**10 07 12.8**	**-6.7**
YSS				*e*S	**Sn**	**10 09 42.0**	**-6.7**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**13.58**	**3**	*e*Pn	**Pn**	**10 07 13.6**	**-5.9**
	comp=Z,57nm,0.9s						
MDJ	**Mudanjiang**	**14.59**	**324**	P	**Pn**	**10 07 33.8**	**+0.9**
MDJ				S	**Sn**	**10 10 15.3**	**+2.0**
MDJ				SCP	ScP	10 16 10.8	-1.5
MDJ				PCS	PcS	10 16 17.0	-1.3
MDJ				SCS	ScS	10 19 48.8	-1.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,81nm,4.1s						
MDJ				LR	LR		
	comp=N,981nm,19.5s						
MDJ				LR	LR		
	comp=E,390nm,17.6s						
MDJ				LR	LR		
	comp=Z,1μm,20.4s						
HABR	**Khabarovsk**	**15.86**	**344**	⇑*i*P	**Pn**	**10 07 52.6**	**+3.3**
HABR				*e*S	**S**	**10 10 53.4**	**-2.4**
HABR				pmax	pmax		
	comp=Z,106nm,1.3s						
CN2	**Changchun**	**16.35**	**314**	*e*P	**Pn**	**10 07 53.5**	**-2.0**
CN2				*e*AP	pP	10 08 04.5	-5.2
CN2				*e*S	**S**	**10 10 53.0**	**-13**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s						
CN2				LR	LR		
	comp=E,900nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
SNY	**Shenyang**	**16.58**	**306**	⇓P	**Pn**	**10 08 01.0**	**+2.5**
SNY				S	**S**	**10 11 07.0**	**-3.6**
SNY				AMB	AMB		
	comp=Z,28nm,0.6s						
SNY				AMB	AMB		
	comp=Z,379nm,6.3s						
SNY				LR	LR		
	comp=N,664nm,15.0s						
SNY				LR	LR		
	comp=E,579nm,15.6s						
SNY				LR	LR		
	comp=Z,735nm,15.9s						
DL2	**Dalian**	**17.06**	**295**	P	**Pn**	**10 08 04.5**	**+0.1**
DL2				XP	sP	10 08 24.0	-0.7
DL2				S	**S**	**10 11 14.0**	**-6.3**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,180nm,5.4s						
DL2				LR	LR		
	comp=N,360nm,14.9s						
DL2				LR	LR		
	comp=E,990nm,15.2s						
DL2				LR	LR		
	comp=Z,950nm,15.6s						
SSE	**Sheshan**	**17.45**	**268**	P	**Pn**	**10 08 10.0**	**+0.8**
SSE				AP	pP	10 08 23.8	+1.9
SSE				XP	sP	10 08 32.0	+3.0
SSE				S	**S**	**10 11 20.0**	**-8.2**
SSE				XS	sS	10 11 48.3	+0.5
SSE				AMB	AMB		
	comp=Z,26nm,0.9s						
SSE				AMB	AMB		
	comp=Z,183nm,5.8s						
SSE				LR	LR		
	comp=N,726nm,14.8s						
SSE				LR	LR		
	comp=E,534nm,14.8s						
SSE				LR	LR		
	comp=Z,997nm,15.8s						
SSE	**Sheshan**	**17.45**	**268**	P	**Pn**	**10 08 09.9**	**+0.7**
	comp=Z,26nm,0.9s						
SSE				pP	pP	10 08 23.8	+1.9
SSE				sP	sP	10 08 31.9	+2.9
SSE				S	**S**	**10 11 20.0**	**-8.2**
SSE				sS	sS	10 11 48.3	+0.5
KLR	**Kul'dur**	**17.46**	**338**	*e*P	**Pn**	**10 08 02.4**	**-6.9**
KLR				MLR	MLR		
	comp=N,900nm,14.0s						
KLR				MLR	MLR		
	comp=E,700nm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
KLR				MLR	MLR		
	comp=N,1μm,13.0s						
KLR				MLR	MLR		
	comp=E,900nm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
NJ2	**Nanjing**	**19.21**	**272**	*e*P	**Pn**	**10 08 31.0**	**+0.5**
NJ2				AP	pP	10 08 44.0	+2.6
NJ2				XP	sP	10 08 50.5	+2.1
NJ2				PP		10 08 51.5	
NJ2				S	**S**	**10 12 09.0**	**+5.2**
NJ2				XS	sS	10 12 27.0	+3.3
NJ2				AMB	AMB		
	comp=Z,350nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,15.3s						
NJ2				LR	LR		
	comp=E,1μm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,14.5s						
YHNB	**Yeheng**	**19.71**	**249**	*e*P	**Pn**	**10 08 34.2**	**-2.2**
GUMO	**Guam**	**19.93**	**171**	LR	LR	10 14 20.1	
	comp=Z,378nm,20.2s,baz=265,slow=31						
BJI	**Beijing**	**21.42**	**295**	*e*P	**P**	**10 08 51.0**	**-2.1**
BJI				S	**S**	**10 12 49.8**	**+2.2**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.2						
BJI				LR	LR		
	comp=N,480nm,11.8s,MS4.4						
BJI				LR	LR		
	comp=E,831nm,14.7s,MS4.4						
BJI				LR	LR		
	comp=Z,498nm,15.8s,MS4.0						
BJI	**Beijing**	**21.42**	**295**	*e*P	**P**	**10 08 51.1**	**-2.0**
	comp=Z,11nm,0.8s,mb4.2						
BJI				S	**S**	**10 12 49.8**	**+2.2**
BJI				LR	LR		
	comp=Z,500nm,15.8s,MS4.0						
HIA	**Hailar**	**22.72**	**321**	*e*P	**P**	**10 09 05.9**	**-1.0**
HIA				pmax	pmax		
	comp=Z,36nm,1.0s						
HIA	**Hailar**	**22.72**	**321**	*e*P	**P**	**10 09 05.9**	**-0.9**
	comp=Z,36nm,1.0s,mb4.8						
PET	**Petropavlovsk**	**23.11**	**27**	*e*P	**P**	**10 09 08.1**	**-2.8**
PET				pmax	pmax		
	comp=Z,38nm,1.7s,mb4.5						
WHN	**Wuhan**	**23.30**	**270**	P	**P**	**10 09 11.3**	**-1.5**
WHN				AMB	AMB		
	comp=Z,64nm,1.0s,mb5.0						
WHN				LR	LR		
	comp=N,790nm,14.0s,MS4.5						
WHN				LR	LR		
	comp=E,800nm,14.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**25.02**	**296**	*e*P	**P**	**10 09 29.0**	**+0.5**
HHC				AP	pP	10 09 43.5	+1.2
HHC				XP	sP	10 09 50.0	+1.1
HHC				PP		10 10 08.3	
HHC				PCP	PcP	10 13 04.5	+2.4
HHC				S	**S**	**10 13 47.3**	**-1.4**
HHC				XS	sS	10 14 11.5	-0.6
HHC				SS		10 14 49.0	
HHC				AMB	AMB		
	comp=Z,60nm,1.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,442nm,4.4s						
HHC				LR	LR		
	comp=N,701nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=E,558nm,15.1s,MS4.4						
HHC				LR	LR		
	comp=Z,582nm,15.1s,MS4.2						
NRGR	**Nerungri**	**26.02**	**339**	*e*P	**P**	**10 09 39.1**	**+1.6**
CLNS	**Chul'man**	**26.11**	**339**	*e*P	**P**	**10 09 37.6**	**-0.8**
CLNS				*e**PP	pP	10 09 44.0	-8.2
CLNS				*e*SS		10 15 19.0	
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,32nm,1.0s						
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=Z,500nm,14.0s,MS4.2						
BTO	**Baotou**	**26.16**	**295**	*e*P	**P**	**10 09 39.0**	**+0.2**
XAN	**Xi'an**	**27.16**	**281**	P	**P**	**10 09 46.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,25nm,1.6s,mb4.5						
XAN				AMB	AMB		
	comp=Z,133nm,6.6s						
XAN				LR	LR		
	comp=N,389nm,13.1s,MS4.3						
XAN				LR	LR		
	comp=E,525nm,14.7s,MS4.3						
XAN				LR	LR		
	comp=Z,728nm,15.7s,MS4.3						
CIT	**Chita**	**27.53**	**321**	*e*P	**P**	**10 09 51.7**	**+0.6**
CIT				*e*	pP	10 10 06.5	+1.5
CIT				*e*		10 10 38.2	
CIT				pmax	pmax		
	comp=Z,250nm,1.9s,mb5.5						
YAK	**Yakutsk**	**29.67**	**349**	*e*P	**P**	**10 10 09.9**	**-0.2**
YAK				*i* *PP	pP	10 10 18.1	-6.0
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.7s						
YAK				pmax	pmax		
	comp=N,167nm,15.4s						
ULN	**Ulaanbaatar**	**29.68**	**309**	⇑*e*P	**P**	**10 10 12.0**	**+1.7**
SONM	**Songino Array**	**30.10**	**309**	P	**P**	**10 10 15.4**	**+1.5**
	comp=N,25nm,0.8s,mb5.0,baz=108,slow=6.8,SNR=107						
SONM				LR	LR	10 22 45.4	
	comp=N,390nm,19.4s,MS4.1,baz=255,slow=37						
SONM	**Songino Array**	**30.10**	**309**	P	**P**	**10 10 15.4**	**+1.4**
SONM				pmax	pmax		
	comp=Z,25nm,0.9s						
SONM				MLR	MLR		
	comp=Z,390nm,19.4s						
SEY	**Seymchan**	**30.34**	**10**	⇑*e*P	**P**	**10 10 15.8**	**-0.2**
BOD	**Bodaibo**	**30.75**	**331**	*e*P	**P**	**10 10 19.4**	**-0.3**
BOD				*e*		10 10 26.0	
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
BOD				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
GYA	**Guiyang**	**30.98**	**266**	P	**P**	**10 10 23.0**	**+1.3**
GYA				AP	pP	10 10 39.0	+3.3
GYA				XP	sP	10 10 45.3	+3.0
GYA				PP	PP	10 11 26.8	-5.7
GYA				PCP	PcP	10 13 18.5	+1.8
GYA				S	**S**	**10 15 22.0**	**-0.5**
GYA				XS	sS	10 15 48.8	+2.6
GYA				SCP	ScP	10 16 54.5	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,460nm,16.7s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=Z,430nm,16.6s,MS4.2						
LZH	**Lanzhou**	**31.05**	**286**	P	**P**	**10 10 22.0**	**-0.3**
LZH				PP	PP	10 11 32.0	-1.2
LZH				XS	sS	10 15 57.0	+10
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,260nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,14.0s						
LZH				LR	LR		
	comp=Z,3μm,15.3s,MS5.0						
LZH	**Lanzhou**	**31.05**	**286**	P	**P**	**10 10 22.0**	**-0.3**
LZH				*PP	pP	10 10 34.4	-1.9
LZH						10 11 32.0	
LZH				S	**S**	**10 15 32.2**	**+8.7**
LZH				*e*SS	SS	10 17 30.0	-7.9
LZH				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.3						
LZH				MLR	MLR		
	comp=Z,3μm,15.3s,MS5.0						
LZH	**Lanzhou**	**31.05**	**286**	P	**P**	**10 10 22.0**	**-0.3**
	comp=Z,50nm,1.0s,mb5.3						
LZH				pP	pP	10 10 34.4	-1.9
LZH				sP	sP	10 10 41.1	-1.7
LZH				PP	PP	10 11 32.0	-1.2
LZH				S	**S**	**10 15 32.2**	**+8.7**
LZH				sS	sS	10 15 57.0	+10
LZH				*e*SS	SS	10 17 30.0	-7.9
LZH				LR	LR		
	comp=Z,3μm,15.3s,MS5.0						
QIZ	**Qiongzhong**	**31.76**	**251**	P	**P**	**10 10 29.5**	**+0.9**
QIZ				AP	pP	10 10 44.0	+1.4
QIZ				XP	sP	10 10 51.3	+2.2
QIZ				S	**S**	**10 15 35.8**	**+1.2**
QIZ				XS	sS	10 16 02.0	+3.7
QIZ				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,340nm,3.8s						
QIZ				LR	LR		
	comp=N,357nm,15.4s						
QIZ				LR	LR		
	comp=Z,344nm,16.5s,MS4.1						
CD2	**Chengdu**	**32.05**	**276**	P	**P**	**10 10 30.0**	**-1.1**
CD2				AP	pP	10 10 44.8	-0.3
CD2				PP	PP	10 11 38.0	-6.3
CD2				S	**S**	**10 15 36.0**	**-3.2**
CD2				SS	SS	10 17 31.5	-27
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,100nm,4.1s						
CD2				LR	LR		
	comp=N,630nm,16.7s,MS4.5						
CD2				LR	LR		
	comp=E,380nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=Z,440nm,12.0s,MS4.4						
ZAK	**Zakamensk**	**32.78**	**313**	*e*P	**P**	**10 10 38.5**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
TLY	**Talaya**	**32.95**	**315**	*e*P	**P**	**10 10 40.3**	**+1.3**
TLY				*e*		10 18 22.1	
TLY				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
TLY				MLR	MLR		
	comp=Z,429nm,16.0s,MS4.2						
MOY	**Mondy**	**34.52**	**314**	*e*P	**P**	**10 10 53.0**	**+0.4**
KMI	**Kunming**	**34.76**	**267**	P	**P**	**10 10 58.5**	**+3.8**
KMI				AP	pP	10 11 08.8	0.0
KMI				PP	PP	10 12 18.5	+4.2
KMI				S	**S**	**10 16 20.5**	**-0.6**
KMI				XS	sS	10 16 48.3	+3.3
KMI				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.6						
KMI				AMB	AMB		
	comp=Z,74nm,3.6s						
KMI				LR	LR		
	comp=N,342nm,14.8s,MS4.5						
KMI				LR	LR		
	comp=E,592nm,15.4s,MS4.5						
KMI				LR	LR		
	comp=Z,590nm,15.4s,MS4.4						
KMI	**Kunming**	**34.76**	**267**	P	**P**	**10 10 58.5**	**+3.8**
KMI				*PP	pP	10 11 08.8	0.0
KMI				*SP	sP	10 11 13.7	-1.6
KMI						10 12 18.6	
KMI				S	**S**	**10 16 20.5**	**-0.6**
KMI				SS	SS	10 18 32.8	-21
KMI				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
KMI				MLR	MLR		
	comp=Z,590nm,15.4s,MS4.4						
KMI	**Kunming**	**34.76**	**267**	P	**P**	**10 10 58.5**	**+3.8**
	comp=Z,12nm,1.6s,mb4.6						
KMI				pP	pP	10 11 08.8	0.0
KMI				sP	sP	10 11 13.7	-1.6
KMI				PP	PP	10 12 18.6	+4.3
KMI				S	**S**	**10 16 20.5**	**-0.6**
KMI				sS	sS	10 16 48.2	+3.2
KMI				SS	SS	10 18 32.8	-21
KMI				LR	LR		
	comp=Z,590nm,15.4s,MS4.4						
BILL	**Bilibino**	**37.48**	**15**	⇓*i*P	**P**	**10 11 16.4**	**-1.5**
BILL				*e*		10 12 40.2	
BILL				*e*S	**S**	**10 17 13.2**	**+11**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.0						
BILL	**Bilibino**	**37.48**	**15**	*e*P	**P**	**10 11 16.9**	**-1.0**
	comp=Z,18nm,1.1s,mb4.8						
NANT	**Nan**	**39.27**	**259**	⇓P	**P**	**10 11 32.0**	**-1.0**
	comp=Z,139nm,0.9s,mb5.7						
CHG	**Chiang Mai**	**40.71**	**260**	⇓P	**P**	**10 11 44.4**	**-0.5**
	comp=Z,14nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**40.71**	**260**	⇑P	**P**	**10 11 44.7**	**-0.2**
	SNR=8.1						
CHTO	**Chiang Mai**	**40.71**	**260**	*e*P	**P**	**10 11 44.5**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**40.71**	**260**	*e*P	**P**	**10 11 44.5**	**-0.4**
	comp=Z,9.7nm,0.9s,mb4.4						
WMQ	**Urumqi**	**42.75**	**300**	⇓*i*P	**P**	**10 12 03.5**	**+2.0**
WMQ				AP	pP	10 12 18.8	+2.9
WMQ				XP	sP	10 12 26.0	+3.6
WMQ				PP	PP	10 13 46.0	+4.5
WMQ				PCP	PcP	10 13 54.5	+2.3
WMQ				PPP		10 14 21.0	
WMQ				SCP	ScP	10 17 38.8	+0.4
WMQ				S	**S**	**10 18 22.8**	**+1.5**
WMQ				XS	sS	10 18 49.0	+3.4
WMQ				AMB	AMB		
	comp=Z,37nm,1.6s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,39nm,6.8s						
WMQ				LR	LR		
	comp=N,186nm,14.6s,MS4.2						
WMQ				LR	LR		
	comp=E,101nm,15.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,138nm,16.3s,MS3.9						
LSA	**Lhasa**	**42.85**	**279**	P	**P**	**10 12 03.8**	**+1.4**
LSA	**Lhasa**	**42.85**	**279**	*e*P	**P**	**10 12 02.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						

LSA Lhasa 42.85 279 *e*P **P** **10 12 02.9 +0.5**
comp=Z,5.4nm,0.6s,mb4.5
PMG Port Moresby 42.88 172 LR LR 10 26 03.1
comp=Z,834nm,21.4s,MS4.6,baz=198,slow=31
KSM Kuching 43.24 229 *e*P **P** **10 12 05.1 -0.4**
KSM *e*pP pP 10 12 16.7 -3.3
ZAL Zalesovo 44.58 315 P **P** **10 12 16.8 +0.6**
comp=Z,1.6nm,0.8s,mb3.9,baz=18,slow=8.1,SNR=10
ZAL LR LR 10 32 29.5
comp=Z,219nm,18.1s,MS4.1,baz=269,slow=38
ZAL Zalesovo 44.58 315 P **P** **10 12 16.8 +0.6**
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL MLR MLR
comp=Z,219nm,18.1s
NVS Novosibirsk 45.54 316 *e*P **P** **10 12 24.2 +0.3**
NVS *e* pP 10 12 36.8 -1.7
HNR Honiara 46.01 154 P **P** **10 12 27.7 +0.1**
comp=Z,9.9nm,0.3s,mb5.2,baz=249,slow=4.1,SNR=2.3
HNR Honiara 46.01 154 P **P** **10 12 27.7 +0.1**
HNR pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
MK31 Makanchi Array 46.29 305 *e*P **P** **10 12 30.3 +0.5**
MKAR Makanchi Array 46.29 305 P **P** **10 12 30.2 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=88,slow=8.6,SNR=57
MKAR LR LR 10 32 39.6
comp=Z,169nm,19.9s,MS4.0,baz=81,slow=37
MKAR Makanchi Array 46.29 305 P **P** **10 12 30.2 +0.4**
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR MLR MLR
comp=Z,169nm,19.9s
KAKA Kakadu 46.67 192 *e*P **P** **10 12 31.2 -1.6**
comp=Z,18nm,0.7s,mb5.1
JIRN Jiri 47.64 279 *e*P **P** **10 12 40.6 +0.3**
GUN Gumba 47.80 279 *e*P **P** **10 12 42.0 +0.4**
comp=Z,115nm,0.9s,mb5.9
PKI Pulchoki 48.31 279 *e*P **P** **10 12 45.5 0.0**
KKN Kakani 48.34 279 *e*P **P** **10 12 45.7 0.0**
comp=Z,76nm,1.0s,mb5.7
DMN Daman 48.55 279 *e*P **P** **10 12 47.6 +0.2**
comp=Z,71nm,1.1s,mb5.6
GKN Gorkha 48.80 280 *e*P **P** **10 12 49.3 +0.1**
comp=Z,129nm,1.1s,mb5.9
BOK Bokaro 49.38 274 *ex* x 10 14 06.0
BOK AMb AMB 10 14 10.1
comp=Z,11nm,1.2s,mb4.8
KDAK Kodiak Island 49.73 40 P **P** **10 12 55.2 -1.1**
comp=Z,14nm,0.8s,mb5.1,baz=45,slow=1.6,SNR=4.9
KDAK Kodiak Island 49.73 40 P **P** **10 12 55.2 -1.1**
KOLN Koldanda 49.74 280 *e*P **P** **10 12 56.8 +0.4**
comp=Z,240nm,1.7s,mb6.0
IMA2 Indian Mountai 49.75 29 *e*P **P** **10 12 56.0 -0.5**
PSI Prapat 50.16 242 P **P** **10 13 00.1 +0.4**
comp=Z,4.4nm,0.7s,mb4.6,baz=96,slow=8.8,SNR=5.1
PSI Prapat 50.16 242 P **P** **10 13 00.1 +0.5**
PSI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MCK McKinley 51.59 32 *e*P **P** **10 13 11.4 +1.1**
COLA College 52.09 31 ⇑*i*P **P** **10 13 13.3 -0.8**
AAK Ala-Archa 52.45 301 *c i*P **P** **10 13 16.5 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AAK Ala-Archa 52.45 301 *e*P **P** **10 13 16.4 -0.3**
comp=Z,5.5nm,0.8s,mb4.5
BVAR Borovoye Array 53.20 314 LR LR 10 39 01.3
comp=Z,207nm,18.2s,MS4.2,baz=138,slow=39
BRVK Borovoye 53.26 314 P **P** **10 13 23.3 +0.5**
SNR=9.0
BRVK Borovoye 53.26 314 *e*P **P** **10 13 22.8 +0.1**
BRVK pmax pmax
comp=Z,22nm,1.2s,mb5.0
BRVK Borovoye 53.26 314 *e*P **P** **10 13 22.8 0.0**
comp=Z,22nm,1.2s,mb5.0
CTA Charters Tower 53.36 175 *e*P pP 10 13 35.9 -2.4
comp=Z,6.0nm,1.2s
FITZ Fitzroy Crossi 53.43 199 *e*P **P** **10 13 22.9 -1.1**
comp=Z,45nm,0.8s,mb5.5
FITZ Fitzroy Crossi 53.43 199 P **P** **10 13 23.7 -0.2**
comp=Z,26nm,1.0s,mb5.1,baz=14,slow=8.5,SNR=29
WRAB Tennant Creek 53.48 189 *c i*P **P** **10 13 22.7 -1.6**
WB2 Warramunga Arr 53.48 189 *e*P **P** **10 13 22.8 -1.6**
WRA Warramunga Arr 53.49 189 P **P** **10 13 22.8 -1.6**
comp=Z,4.2nm,0.3s,mb4.8,baz=5.7,slow=7.6,SNR=163
WRA Warramunga Arr 53.49 189 P **P** **10 13 22.8 -1.6**
WRA pmax pmax
comp=Z,4.0nm,0.3s
ZRNK Zerenda 54.04 314 *e*P **P** **10 13 28.7 +0.2**
ZRNK pmax pmax
comp=Z,47nm,0.6s,mb5.6
ZRNK Zerenda 54.04 314 *e*P **P** **10 13 28.7 +0.2**
comp=Z,47nm,0.6s,mb5.6
THN Thein Dam 54.48 288 *ex* x 10 13 27.3
NDI New Delhi 54.62 284 *e*P **P** **10 13 33.0 +0.3**
DAWY Dawson 55.78 31 *e*P **P** **10 13 40.7 -0.3**
AS31 Alice Springs 57.21 188 *e*P **P** **10 13 50.0 -1.2**
ASAR Alice Springs 57.21 188 P **P** **10 13 49.9 -1.3**
comp=Z,1.3nm,0.5s,mb4.2,baz=2.3,slow=6.4,SNR=29
ASAR Alice Springs 57.21 188 P **P** **10 13 49.9 -1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASPA Alice Springs 57.21 188 *e*P **P** **10 13 50.0 -1.2**
INK Inuvik 57.56 26 P **P** **10 13 52.6 -1.0**
comp=Z,3.2nm,0.9s,mb4.4,baz=290,slow=3.9,SNR=7.4
INK Inuvik 57.56 26 *e*P **P** **10 13 52.9 -0.7**
comp=Z,490nm,1.4s
SVE Sverdlovsk 58.03 320 *e*P **P** **10 13 57.0 +0.1**
HYB Hyderabad 58.36 271 *i* P **P** **10 13 54.5 -4.8**
HYB Hyderabad 58.36 271 *e*P **P** **10 13 54.5 -4.8**
MDRS Chennai 59.11 265 *e*P **P** **10 14 05.1 +0.7**
MDRS AMb AMB 10 14 12.2
comp=Z,56nm,0.1s
ARU Arti 59.24 320 ⇓*i*P **P** **10 14 04.9 -0.4**
ARU *e* 10 14 49.8
ARU *e* 10 16 12.6
ARU *e*S **S** **10 22 15.6 +6.4**
ARU *e*SS SS 10 26 07.5 +3.2
ARU pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARU Arti 59.24 320 *e*P **P** **10 14 05.0 -0.3**
comp=Z,27nm,0.9s,mb5.3
DZM Mont Dzumac 60.01 153 P **P** **10 14 10.0 -0.6**
comp=Z,6.5nm,0.9s,mb4.7,baz=59,slow=5.9,SNR=3.6
POO Poona 61.76 274 ⇓*i*P **P** **10 14 21.0 -1.5**
comp=Z,50nm,1.0s,mb5.6
KAD Karad 62.07 273 *e*P **P** **10 14 25.1 +0.5**
KAD AMb AMB 10 14 29.9
comp=Z,70nm,2.2s,mb5.4
TRD Trivandrum 64.25 263 *e*P **P** **10 14 39.5 +0.5**
TRD AMb AMB 10 14 54.8
comp=Z,55nm,1.5s,mb5.4
AFI Afiamalu 64.69 129 LR LR 10 40 51.5
comp=Z,340nm,18.7s,MS4.6,baz=284,slow=34
STKA Stephens Creek 64.92 180 P **P** **10 14 42.9 -0.5**
comp=Z,2.9nm,0.8s,mb4.4,baz=351,slow=8.5,SNR=6.4
STKA Stephens Creek 64.92 180 *e*P **P** **10 14 42.6 -0.8**
comp=Z,3.4nm,0.8s,mb4.4
STKA *e*P 10 14 42.9
FORT Forrest 65.10 193 *e*P **P** **10 14 46.3 +1.7**
comp=Z,31nm,0.7s,mb5.4
RES Resolute Bay 66.08 14 *e*P **P** **10 14 50.1 -0.8**
comp=Z,247nm,0.8s
YKA Yellowknife Ar 66.88 29 P **P** **10 14 54.2 -1.8**
comp=Z,4.8nm,1.0s,mb4.5,baz=296,slow=6.5,SNR=9.8
YKA Yellowknife Ar 66.88 29 P **P** **10 14 54.2 -1.8**
YKA pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 67.47 340 P **P** **10 14 58.9 -0.8**
comp=Z,9.2nm,1.2s,mb4.7,baz=62,slow=8.4,SNR=4.0
ARCES LR LR 10 48 20.1
comp=Z,179nm,20.4s,MS4.3,baz=226,slow=39
ARCES ARCESS Array B 67.47 340 P **P** **10 14 58.9 -0.8**
ARCES pmax pmax
comp=Z,9.0nm,1.2s
ARCES MLR MLR
comp=Z,179nm,20.4s
DAG Danmarks Havn 69.42 355 ⇓*i*P **P** **10 15 11.3 -0.6**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 69.42 355 ⇓*e*P **P** **10 15 11.3 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
DAG Danmarks Havn 69.42 355 ⇓*e*P **P** **10 15 11.3 -0.6**
comp=Z,3.7nm,0.8s,mb4.4
NWAO Narrogin (SRO) 69.85 202 *e*P **P** **10 15 14.0 -0.6**
NWAO pmax pmax
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 69.85 202 *e*P **P** **10 15 14.0 -0.5**
comp=Z,18nm,0.8s,mb5.0
OBN Obninsk 71.14 324 ⇓*e*P **P** **10 15 22.2 -0.2**
OBN *e*S S 10 24 35.0 +0.1
OBN *e*SS SS 10 29 09.8 +0.6
OBN pmax pmax
comp=Z,50nm,2.5s,mb5.0
KAF Kangasniemi 71.63 333 *e*p **P** **10 15 23.8 -1.6**
comp=Z,11nm,0.9s,mb4.8,baz=50,slow=5.7
KAF Kangasniemi 71.63 333 *e*P **P** **10 15 23.8 -1.6**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
VRSR Storozhevoye 71.80 320 *e*P **P** **10 15 26.7 +0.3**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,8.0nm,1.0s
EDM Edmonton 72.10 38 *e*P **P** **10 15 27.5 -0.7**
EDM *e**PP pP 10 15 46.0 +2.3
FINES FINESS Array B 72.13 333 P **P** **10 15 28.2 -0.2**
comp=E,8.1nm,0.9s,mb4.6,baz=76,slow=8.6,SNR=13
FINES FINESS Array B 72.13 333 P **P** **10 15 28.2 -0.2**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 72.13 333 P **P** **10 15 28.2 -0.2**
NEW Newport 72.63 43 *e*P **P** **10 15 31.5 +0.2**
NEW *e**PP pP 10 15 48.4 +1.6
NEW pmax pmax
comp=Z,10.0nm,1.2s
NEW Newport 72.63 43 *e*P **P** **10 15 31.5 +0.1**
comp=Z,9.8nm,1.2s,mb4.6
NEW *e*pP pP 10 15 48.4 +1.6
GOF Gofitskoye 72.68 313 *e*P **P** **10 15 24.9 -6.8**
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.3
RAO Raoul Island 73.13 144 LR LR 10 42 55.6
comp=Z,234nm,20.4s,MS4.5,baz=67,slow=32
HATD Hatta, Dubai 73.25 289 P **P** **10 15 36.4 +1.4**
SNR=6.0
ZEI Tsey 73.28 310 *e*P **P** **10 15 34.8 -0.4**
ZEI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BSY Bisya 73.42 287 ⇑P **P** **10 15 37.3 +1.3**
SNR=5.8
KIV Kislovodsk 73.45 312 ⇑P **P** **10 15 38.4 +2.3**
SNR=8.1
KIV Kislovodsk 73.45 312 *e*P **P** **10 15 36.5 +0.3**
KIV pmax pmax
comp=Z,30nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,339nm,20.0s,MS4.6
KIV Kislovodsk 73.45 312 *e*P **P** **10 15 38.4 +2.2**
comp=Z,24nm,1.0s,mb5.1
BMO Blue Mountains 74.28 46 *e*P **P** **10 15 40.9 -0.2**
BMO pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BMO Blue Mountains 74.28 46 *e*P **P** **10 15 40.9 -0.2**
comp=Z,7.3nm,1.3s,mb4.5
OHCM Honcut 74.45 53 *e*P **P** **10 15 42.1 +0.1**
SOC Sochi 75.48 313 *e*P **P** **10 15 48.1 +0.1**
SOC *e*PPP 10 20 31.4
SOC *e*S S 10 25 25.8 +1.7
SOC *e*SS SS 10 30 21.0 +5.5
SOC pmax pmax
comp=Z,36nm,1.1s,mb5.2
CMB Columbia Colle 75.86 54 *e*P **P** **10 15 49.9 -0.2**
CMB *e**PP pP 10 16 07.2 +1.5
ANN Anapa 76.20 315 P **P** **10 15 58.1 +6.0**
HRY Holter Researc 76.49 43 *e*P **P** **10 15 54.4 +0.6**
HRY *e*pP pP 10 16 10.4 +1.1
HRY *e*sP sP 10 16 16.7 +1.2
LRM Limekiln Ridge 76.64 44 *e*P **P** **10 15 54.9 +0.4**
HLID Hailey 76.73 46 *e*P **P** **10 15 50.6 -4.5**
MCMT McKenzie Canyo 76.96 45 *e*P **P** **10 15 58.2 +1.8**
NVAR Mina Array Bea 77.04 53 P **P** **10 15 57.1 +0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=297,slow=4.7,SNR=16
AKASG Malin Array Be 77.30 323 P **P** **10 15 58.0 -0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=46,slow=5.6,SNR=24
AKASG LR LR 10 53 12.2
comp=Z,278nm,19.9s,MS4.6,baz=45,slow=38
AKASG Malin Array Be 77.30 323 P **P** **10 15 58.1 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG MLR MLR
comp=Z,278nm,19.9s
AKBB Malin Array Si 77.30 323 *e*P **P** **10 15 58.0 -0.3**
KIEV Kiev 77.31 323 *e*P **P** **10 15 58.0 -0.3**
KIEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KIEV Kiev 77.31 323 *e*P **P** **10 15 58.0 -0.4**
comp=Z,9.1nm,0.9s,mb4.7
MIB Mutribah 77.50 297 *e*P **P** **10 15 59.4 0.0**
MIB AMb AMB 10 16 00.8
comp=Z,25nm,0.9s,mb5.2
KBD Kabd 77.57 297 *e*P **P** **10 16 00.1 +0.4**
NB2 NORSAR Subarra 77.62 338 P **P** **10 15 59.7 -0.3**
comp=Z,27nm,1.2s,mb5.0,baz=39,slow=5.6
NOA NORSAR Array B 77.62 338 P **P** **10 15 59.9 -0.1**
comp=Z,8.5nm,0.9s,mb4.7,baz=39,slow=5.6,SNR=14
NOA NORSAR Array B 77.62 338 P **P** **10 15 59.9 -0.1**
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA NORSAR Array B 77.62 338 P **P** **10 15 59.9 -0.1**
QLMT Earthquake Lak 77.79 44 *e*P **P** **10 16 02.6 +1.6**
QLMT *e*pP pP 10 16 18.7 +2.1
RDF Al-Radifah 77.80 297 *e*P **P** **10 16 01.4 +0.3**
RDF AMb AMB 10 16 06.4
comp=Z,73nm,1.2s,mb5.5
NAY Al-Naaiem 77.86 297 *e*P **P** **10 16 01.5 +0.1**
NAY AMb AMB 10 16 02.9
comp=Z,32nm,1.0s,mb5.2
YNR Norris Junctio 78.30 44 *e*pP pP 10 16 22.9 +3.5
DCID1 Drake Creek 78.65 45 *e*P pP 10 16 15.6 -5.8
FLWY Flagg Ranch 78.65 44 *e*P **P** **10 16 07.5 +1.7**
DAC Darwin (Calif) 78.68 54 *e*P **P** **10 16 06.1 +0.2**
MOOW Moose Ponds 78.82 45 *e*P **P** **10 16 06.8 +0.2**
comp=Z,17nm,1.4s,mb4.8
RLMT Red Lodge 78.87 43 *e*P **P** **10 16 07.5 +0.5**
comp=Z,9.8nm,1.0s,mb4.7
RLMT *e*pP pP 10 16 24.5 +1.8
REDW Red Top Meadow 78.98 45 *e*P **P** **10 16 09.2 +1.6**
comp=Z,19nm,1.4s,mb4.8
REDW *e*pP pP 10 16 25.4 +2.2
SNOW Snow King Moun 78.98 45 *e*P **P** **10 16 08.8 +1.2**
SNOW *e*pP pP 10 16 25.6 +2.4
MALT Malatya 79.18 309 *e*P **P** **10 16 10.7 +2.0**
MALT *e**PP pP 10 16 22.4 -1.9
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 79.18 309 *e*P **P** **10 16 10.7 +2.0**
comp=Z,13nm,1.1s,mb4.8
MALT *e*pP pP 10 16 22.4 -1.9
HWUT Hardware Ranch 79.57 47 *e*P **P** **10 16 11.3 +0.5**
HWUT *e*pP pP 10 16 28.9 +2.4
DUG Dugway 79.61 49 *e*P **P** **10 16 11.8 +0.8**
DUG *e**PP pP 10 16 28.4 +1.7
DUG pmax pmax
comp=Z,16nm,1.1s,mb4.9
DUG Dugway 79.61 49 *e*P **P** **10 16 11.8 +0.7**
comp=Z,16nm,1.1s,mb4.8
DUG *e*pP pP 10 16 28.4 +1.7
DUG *e*sP sP 10 16 34.0 +1.2
BW06 Boulder Array 80.10 45 *e*P **P** **10 16 15.9 +2.3**
PDAR Pinedale Array 80.10 45 P **P** **10 16 13.3 -0.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=268,slow=1.7,SNR=13
SHPR Sheep Range 80.19 53 *e*P **P** **10 16 14.9 +0.8**
NLU North Lily Min 80.21 48 *e*P **P** **10 16 14.8 +0.5**
NLU *e*pP pP 10 16 31.5 +1.6
JLU Jordanelle 80.23 48 *e*P **P** **10 16 15.3 +1.0**
MPU Maple Canyon 80.45 48 *e*P **P** **10 16 14.4 -1.2**
DAU Daniels Canyon 80.46 48 *e*P **P** **10 16 13.9 -1.7**
PFO Pinyon Flat Ob 80.93 56 *e*P **P** **10 16 17.9 -0.2**
PFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
PFO Pinyon Flat Ob 80.93 56 *e*P **P** **10 16 17.9 -0.2**
comp=Z,15nm,1.1s,mb4.8
MSU Marysvale 80.99 50 *e*P **P** **10 16 19.3 +0.9**
KWP Kalwaria 81.20 325 *e*P **P** **10 16 21.5 +2.0**
KWP Kalwaria 81.20 325 *e*P **P** **10 16 20.2 +0.7**
KWP *e**PP pP 10 16 37.3 +2.0
KWP pmax pmax
comp=Z,49nm,1.3s,mb5.3
KWP Kalwaria 81.20 325 *e*P **P** **10 16 20.2 +0.6**
comp=Z,49nm,1.3s,mb5.3
KWP *e*pP pP 10 16 37.3 +2.0
BRTR Keskin Array B 81.42 312 P **P** **10 16 21.1 +0.4**
comp=Z,10nm,0.9s,mb4.8,baz=75,slow=4.6,SNR=38
BRTR Keskin Array B 81.42 312 P **P** **10 16 21.1 +0.4**
BRTR pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 81.68 48 *e*P **P** **10 16 22.1 0.0**
SRU *e**PP pP 10 16 39.4 +1.6
KOLS Kolonicke sedl 81.88 325 *e*P **P** **10 16 23.4 +0.3**
UZH Uzhgorod 82.08 324 *e*P **P** **10 16 17.0 -7.2**
UZH *e* 10 16 26.0
OJC Ojcow 82.17 327 *e*P **P** **10 16 25.1 +0.5**
PV10 Paradox Valley 83.05 48 *e*P **P** **10 16 30.6 +1.4**
PV10 *e*pP pP 10 16 47.4 +2.4
KECS Kecovo 83.05 325 *e*P **P** **10 16 29.9 +0.7**
KSP Ksiaz 83.30 329 *e*P **P** **10 16 31.4 +0.9**
UPC Upice 83.67 329 *e*P **P** **10 16 33.0 +0.6**
UPC *e*pP pP 10 16 44.8 -3.4
PSZ Piszkesteto 83.73 325 *e*P **P** **10 16 33.7 +1.0**
PSZ *e**PP pP 10 16 45.5 -3.0
PSZ pmax pmax
comp=Z,32nm,1.1s,mb5.4
PSZ Piszkesteto 83.73 325 *e*P **P** **10 16 33.7 +1.0**
comp=Z,32nm,1.1s,mb5.4
PSZ *e*pP pP 10 16 45.5 -3.0
PSZ Piszkesteto 83.73 325 ⇓*e*P **P** **10 16 34.2 +1.5**
VYHS Vyhne 83.83 326 *i* P **P** **10 16 34.2 +1.0**
VYHS *e* pP 10 16 45.4 -3.6
VYHS pmax pmax
comp=Z,11nm,1.2s,mb4.9
VYHS Vyhne 83.83 326 *i* P **P** **10 16 34.2 +1.0**
comp=Z,11nm,1.2s,mb4.9
VYHS *e* pP 10 16 45.4 -3.6
MVCO Mesa Verde 84.10 49 *e*P **P** **10 16 35.1 +0.5**
comp=Z,12nm,1.1s,mb4.9
MVCO *e*pP pP 10 16 51.8 +1.4
PVCC Panska Ves 84.27 329 *e*P **P** **10 16 36.2 +0.7**
PVCC *e*pP pP 10 16 47.1 -4.2
BRG Berggiesshubel 84.28 330 *e*P **P** **10 16 35.6 +0.1**
comp=Z,11nm,1.4s,mb4.8
BRG *e* pP 10 16 47.5 -3.8
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 84.28 330 *e*P **P** **10 16 35.6 +0.1**
BRG *e* pP 10 16 47.5 -3.8
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.8
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CLL Collm 84.35 330 ⇑*i*P **P** **10 16 35.7 -0.2**
CLL *i* pP 10 16 47.8 -3.9
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.2
CLL Collm 84.35 330 ⇑*i*P **P** **10 16 35.7 -0.2**
comp=Z,26nm,1.2s,mb5.2
CLL *i* pP 10 16 47.8 -3.9
CLL *i* pP 10 16 52.1 +0.4
CLL Collm 84.35 330 ⇑*i*P **P** **10 16 35.7 -0.2**
comp=Z,26nm,1.2s,mb5.2
CLL *i* PcP PcP 10 16 39.2 -0.3
CLL *i* pP pP 10 16 47.8 -3.9
CLL *i* sP sP 10 16 52.1 -5.7
PRU Pruhonice 84.69 329 *e*P **P** **10 16 38.3 +0.7**
PRU *e*pP pP 10 16 49.8 -3.6
ZST Bratislava 84.85 326 *e*P **P** **10 16 39.2 +0.8**
TAOE Nuku Hiva Isla 85.12 104 *e*LR LR 10 43 34.1
comp=Z,863nm,21.6s
NKC Novy Kostel 85.39 330 *e*P **P** **10 16 41.7 +0.6**
NKC *e*pP pP 10 16 53.5 -3.4
MOX Moxa 85.42 331 *e*P **P** **10 16 39.5 -1.7**
KHC Kasperske Hory 85.75 329 *e*P **P** **10 16 43.5 +0.7**
KHC *e*pP pP 10 16 55.5 -3.2
GERES GERESS Array B 85.91 329 P **P** **10 16 43.5 -0.2**
comp=Z,1.2nm,0.6s,mb4.3,baz=41,slow=4.3,SNR=9.6
GERES GERESS Array B 85.91 329 P **P** **10 16 43.5 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GRA1 Grafenberg Arr 86.32 330 *e*P **P** **10 16 46.5 +0.8**
comp=Z,27nm,1.5s,mb5.3
GRF Grafenberg Arr 86.32 330 *e*P **P** **10 16 46.5 +0.8**
comp=Z,27nm,1.5s,mb5.3
GRF Grafenberg Arr 86.32 330 *e*P **P** **10 16 46.5 +0.8**
GRF pmax pmax
comp=Z,27nm,1.5s,mb5.3
GRF Grafenberg Arr 86.32 330 *e*P **P** **10 16 46.5 +0.8**
GRF pmax pmax
comp=Z,27nm,1.5s,mb5.3
TBI Tubuai 86.51 121 *e*LR LR 10 44 11.6
comp=Z,211nm,20.8s
ECSD EROS,Sioux Fal 86.67 38 *e*P **P** **10 16 46.7 -0.6**
comp=Z,7.7nm,1.1s,mb4.8
ECSD *e*pP pP 10 17 05.0 +1.8
ANMO Albuquerque 86.79 50 ⇑*i*P **P** **10 16 46.0 -2.0**
LPL La Plagne 91.48 330 *e*P **P** **10 17 11.2 +1.1**
comp=Z,39nm,1.3s,mb5.3
LPL La Plagne 91.48 330 *e*P **P** **10 17 11.2 +1.1**
LPL pmax pmax
comp=Z,19nm,1.3s,mb5.3
LPL La Plagne 91.48 330 *e*P **P** **10 17 11.2 +1.1**
comp=Z,19nm,1.3s,mb5.3
LPG La Plagne 91.48 330 *e*P **P** **10 17 11.4 +1.3**
comp=Z,26nm,1.1s,mb5.2
LPG La Plagne 91.48 330 *e*P **P** **10 17 11.4 +1.3**
LPG pmax pmax
comp=Z,13nm,1.1s,mb5.2
LPG La Plagne 91.48 330 *e*P **P** **10 17 11.4 +1.3**
comp=Z,13nm,1.1s,mb5.2
SMF Signal de Mont 91.72 332 *e*P **P** **10 17 12.5 +1.3**
comp=Z,12nm,0.7s,mb5.0
SMF Signal de Mont 91.72 332 *e*P **P** **10 17 12.5 +1.3**
SMF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
SMF Signal de Mont 91.72 332 *e*P **P** **10 17 12.5 +1.3**
comp=Z,5.9nm,0.7s,mb5.0
AVF Avril sur Loir 91.79 333 *e*P **P** **10 17 12.4 +0.9**
MBDF Montbardon 92.10 330 *e*P **P** **10 17 13.9 +1.0**
comp=Z,12nm,0.8s,mb5.0
MBDF Montbardon 92.10 330 *e*P **P** **10 17 13.9 +1.0**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
MBDF Montbardon 92.10 330 *e*P **P** **10 17 13.9 +1.0**
comp=Z,5.8nm,0.8s,mb5.0
TXAR Lajitas Array 92.19 53 P **P** **10 17 13.4 0.0**
comp=Z,1.9nm,0.8s,mb4.5,baz=272,slow=3.5,SNR=11
TXAR Lajitas Array 92.19 53 P **P** **10 17 13.4 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
SBF Sospel 92.51 329 *e*P **P** **10 17 15.5 +0.7**
VIVF Saint-Julien-l 92.86 331 *e*P **P** **10 17 17.1 +0.6**
LMR La Mourre 93.33 329 *e*P **P** **10 17 19.2 +0.6**
MIAR Mount Ida 94.87 43 *e*P **P** **10 17 26.0 +0.3**
MIAR *e**PP pP 10 17 42.2 +0.6
MIAR pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
MIAR Mount Ida 94.87 43 *e*P **P** **10 17 26.0 +0.3**
comp=Z,8.1nm,1.2s,mb5.0
MIAR *e*pP pP 10 17 42.2 +0.6
RKT Rikitea 97.19 113 *e*LR LR 10 49 11.5
comp=Z,135nm,20.8s
KEST Kesra 98.03 323 LR LR 11 06 36.7
comp=Z,64nm,18.4s,MS4.2,baz=169,slow=38
TORD Torodi Ar. Bea 120.00 314 PKP PKPdf 10 22 54.1 +0.1
comp=Z,1.1nm,0.9s,baz=68,slow=0.9,SNR=4.7
QSPA South Pole Qui 123.14 180 *e*PKPdf PKPdf 10 22 59.5 -0.6
SAML Samuel 146.60 49 *e*PKPbc PKPbc 10 23 44.9 -0.2
LPAZ La Paz 148.23 65 PKPbc PKPbc 10 23 50.5 +1.0
comp=Z,8.0nm,0.9s,baz=351,slow=4.6,SNR=18
LPAZ La Paz 148.23 65 PKP2 PKPab 10 23 50.6 -2.0
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
LVC Limon Verde 151.07 76 *e*PKPdf PKPdf 10 23 47.8 -2.8
LVC *e*PKPbc PKPbc 10 23 57.6 +1.1

*MOS **28** 10:17:39.2± 1.1, 1146S×16644E, h159km, mb5.2/33, Error ellipse: s-maj=8.1km s-min=7.5km az=112.5*
*ISCJB **28** 10:17:40.4± 0.1, 1159S±003×16642E±003, h174km, mb5.2/86, Error ellipse: s-maj=4.9km s-min=3.3km az=140.7*
*BJI **28** 10:17:40.2, 11.14S×16669E, h168km, mB5.3, mb5.5*
*NEIC **28** 10:17:41.5± 0.1, 1156S×16651E, mb5.1/44, Error ellipse: s-maj=5.6km s-min=4.1km az=148.0*

*GCMT **28** 10:17:41.5±0.2,1154S×16636E,h168km±1km,MW5.2/77, Moment Tensor Solution. s55,c79; s77,c125; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr6.21±.16; Mθθ0.38±.22; Mϕϕ-6.59±.21; Mrθ2.27±.18; Mrϕ2.46±.24; Mθϕ2.55±.17; Best double couple: Mo7.66600×10^16 NP1:ϕs140.00000°,δ43.00000°,λ54.00000°. NP2: ϕs5.00000°,δ57.00000°,λ118.00000°. Principal axes: T 7.7240, Plg65.0000°, Azm328.0000°; N -0.1160, Plg23.0000°, Azm168.0000°; P -7.6080, Plg8.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **28** 10:17:42.2±1.4, 1161S×16652E,h180km±11km,mb4.8/27, mb1 4.8/29,mb1mx4.8/30,mbtmp4.8/29,MS3.9/5, Ms1 3.8/5,ms1mx3.5/30 Error ellipse: s-maj=8.4km s-min=8.1km az=104.0*

ISC 28 10:17:42.2±0.1, 1160S±003×16650E±002, h176km, h176km±1.2km; pP-P, n575, σ0°69/426, mb5.2/86, 94C-75D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**288**	P			**Pn**	**10 19 19.6**	**+0.1**
	9.6nm,0.3s,baz=97,slow=1.0,SNR=44								
HNR				S			**Sn**	**10 20 35.5**	**-0.8**
	9.0nm,0.3s,baz=267,slow=18,SNR=1.0								
HNR	**Honiara**	**6.79**	**288**	*e*P			**Pn**	**10 19 19.3**	**-0.2**
HNR				*e*				10 20 30.4	
HNR				pmax		pmax			
	comp=Z,620nm,0.9s								
HNR	**Honiara**	**6.79**	**288**	*e*Pn			**Pn**	**10 19 19.3**	**-0.2**
	comp=Z,620nm,0.9s								
HNR				*e*Sn			**Sn**	**10 20 30.4**	**-5.9**
DZM	**Mont Dzumac**	**10.41**	**180**	*e*P			**Pn**	**10 20 08.1**	**+1.0**
DZM				*e*S			**Sn**	**10 21 58.2**	**-4.6**
DZM	**Mont Dzumac**	**10.41**	**180**	P			**Pn**	**10 20 09.2**	**+2.1**
	comp=Z,8.2nm,0.3s,baz=26,slow=16,SNR=81								
DZM				S			**Sn**	**10 22 01.2**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=145,slow=22,SNR=2.0								
FUNA	**Funafuti**	**12.87**	**77**	*e*Pn			**Pn**	**10 20 38.0**	**-0.9**
	comp=Z,310nm,1.1s								
PMG	**Port Moresby**	**19.14**	**275**	P			**P**	**10 21 52.7**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=118,slow=5.8,SNR=11								
PMG				S			**S**	**10 25 21.4**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=240,slow=16,SNR=1.6								
PMG	**Port Moresby**	**19.14**	**275**	P			**P**	**10 21 52.7**	**+0.8**
PMG				*e*P				10 21 52.8	
PMG				S			**S**	**10 25 21.4**	**+2.1**
CTA	**Charters Tower**	**21.20**	**244**	*e*P			**P**	**10 22 14.7**	**+0.7**
	comp=Z,31nm,0.9s,mb4.6								
CTA				*e*pP				10 22 41.1	
CTA				*e*S			**S**	**10 25 59.7**	**+0.4**
CTA	**Charters Tower**	**21.20**	**244**	P			**P**	**10 22 15.1**	**+1.1**
	comp=Z,43nm,1.0s,mb4.8,baz=70,slow=12,SNR=22								
CTA				S			**S**	**10 25 59.9**	**+0.5**
	comp=Z,5.4nm,1.0s,baz=188,slow=18,SNR=1.8								
CTA	**Charters Tower**	**21.20**	**244**	*e*P			**P**	**10 22 14.7**	**+0.7**
CTA				*e**PP				10 22 41.1	
CTA				*e*S			**S**	**10 25 59.7**	**+0.4**
CTA				pmax		pmax			
	comp=Z,31nm,0.9s								
CTAO	**Charters Tower**	**21.20**	**244**	*e*P			**P**	**10 22 14.7**	**+0.7**
CTAO				pmax		pmax			
	comp=Z,50nm,0.9s,mb4.8								
CTAO	**Charters Tower**	**21.20**	**244**	*e*P			**P**	**10 22 14.7**	**+0.7**
	comp=Z,50nm,0.9s,mb4.8								
AFI	**Afiamalu**	**21.31**	**99**	P			**P**	**10 22 14.9**	**-0.2**
	comp=Z,21nm,0.7s,mb4.6,baz=138,slow=18,SNR=3.6								
RAO	**Raoul Island**	**22.80**	**143**	LR			LR	10 29 15.7	
	comp=Z,178nm,19.4s,baz=152,slow=30								
ARMA	**Armidale**	**23.26**	**214**	*e*P			**P**	**10 22 35.1**	**+1.2**
ARMA				*e*pP				10 23 04.0	
ARMA				*e*PCP		PcP		10 26 17.6	+1.6
URZ	**Urewera**	**28.19**	**162**	P			**P**	**10 23 18.1**	**-0.2**
	comp=Z,5.6nm,0.3s,mb4.8,baz=202,slow=1.8,SNR=8.1								
URZ				S			**S**	**10 27 49.5**	**-1.2**
	comp=Z,9.4nm,1.1s,baz=197,slow=21,SNR=1.6								
CNB	**Canberra Magne**	**28.27**	**211**	*e*P			**P**	**10 23 19.4**	**+0.5**
	comp=Z,27nm,0.9s,mb5.0								
STKA	**Stephens Creek**	**30.56**	**225**	*e*P			**P**	**10 23 39.7**	**+0.6**
	comp=Z,30nm,0.8s,mb5.1								
STKA				*e*PCP		PcP		10 26 33.8	+0.4
STKA				*e*SCP		ScP		10 30 02.4	+3.2
STKA				*e*S		PcS		10 30 15.7	-1.7
STKA	**Stephens Creek**	**30.56**	**225**	P			**P**	**10 23 39.9**	**+0.7**
	comp=Z,32nm,0.8s,mb5.1,baz=36,slow=7.6,SNR=88								
STKA				PcP		PcP		10 26 34.0	+0.5
	comp=Z,18nm,0.8s,baz=15,slow=4.6,SNR=8.0								
STKA				ScP		ScP		10 30 04.1	+4.8
	comp=Z,2.7nm,0.7s,baz=92,slow=5.1,SNR=5.7								
WRAB	**Tennant Creek**	**31.98**	**251**	P			**P**	**10 23 51.3**	**-0.3**
	comp=Z,376nm,1.3s,mb6.0,SNR=27								
WRAB	**Tennant Creek**	**31.98**	**251**	*c iP*			**P**	**10 23 51.2**	**-0.4**
WB2	**Warramunga Arr**	**31.98**	**251**	*e*P			**P**	**10 23 51.2**	**-0.4**
WB2				*e*PCP		PcP		10 26 37.8	+0.5
WB2				*e*S			**S**	**10 28 48.5**	**-1.4**
WB2				*e*SCP		ScP		10 30 09.5	+5.5
WRA	**Warramunga Arr**	**31.99**	**251**	P			**P**	**10 23 51.7**	**0.0**
	comp=Z,66nm,1.1s,mb5.3,baz=82,slow=9.1,SNR=163								
WRA				PcP		PcP		10 26 38.1	+0.8
	comp=Z,15nm,0.9s,baz=80,slow=3.0,SNR=16								
WRA				S			**S**	**10 28 48.0**	**-2.1**
	comp=Z,3.7nm,0.9s,baz=78,slow=15,SNR=7.7								
WRA				ScP		ScP		10 30 09.3	+5.3
	comp=Z,7.8nm,0.9s,baz=81,slow=3.7,SNR=16								
WRA				PKiKP		PKiKP		10 34 04.5	-0.7
	comp=Z,1.3nm,0.7s,baz=346,slow=0.3,SNR=14								
WRA	**Warramunga Arr**	**31.99**	**251**	P			**P**	**10 23 51.7**	**0.0**
WRA								10 26 38.1	
WRA				S			**S**	**10 28 48.0**	**-2.1**
WRA	**Warramunga Arr**	**31.99**	**251**	P			**P**	**10 23 51.7**	**0.0**
WRA				PcP		PcP		10 26 38.1	+0.8
WRA				S			**S**	**10 28 48.0**	**-2.1**
WRA				ScP		ScP		10 30 09.3	+5.3
TOO	**Toolangi**	**31.99**	**213**	*e*P			**P**	**10 23 52.3**	**+0.6**
	comp=Z,16nm,0.8s,mb4.8								
TOO	**Toolangi**	**31.99**	**213**	*e*P			**P**	**10 23 52.3**	**+0.6**
TOO				pmax		pmax			
	comp=Z,16nm,0.8s,mb4.8								
RPZ	**Rata Peaks**	**32.24**	**174**	P			**P**	**10 23 53.3**	**-0.6**
	comp=Z,74nm,0.8s,mb5.5,baz=60,slow=1.9,SNR=19								
GUMO	**Guam**	**32.96**	**319**	P			**P**	**10 23 59.6**	**-0.5**
	comp=Z,98nm,0.7s,mb5.7,baz=176,slow=13,SNR=4.8								
AS31	**Alice Springs**	**33.21**	**244**	*e*P			**P**	**10 24 01.5**	**-0.8**
AS31				*e*PcP		PcP		10 26 40.9	+0.2
AS31				*e*ScP		ScP		10 30 12.1	+3.8
ASAR	**Alice Springs**	**33.21**	**244**	P			**P**	**10 24 01.6**	**-0.7**
	comp=Z,35nm,0.8s,mb5.1,baz=75,slow=9.4,SNR=268								
ASAR				PcP		PcP		10 26 40.8	+0.1
	comp=Z,10nm,0.7s,baz=72,slow=2.8,SNR=16								
ASAR				ScP		ScP		10 30 12.2	+3.9
	comp=Z,11nm,1.0s,baz=82,slow=3.3,SNR=24								
ASAR				PKiKP		PKiKP		10 34 05.0	-1.0
	comp=Z,0.5nm,0.7s,baz=122,slow=1.4,SNR=5.2								
ASAR	**Alice Springs**	**33.21**	**244**	P			**P**	**10 24 01.6**	**-0.7**
ASAR								10 26 40.8	
ASAR	**Alice Springs**	**33.21**	**244**	P			**P**	**10 24 01.6**	**-0.7**
ASAR				PcP		PcP		10 26 40.8	+0.1
ASAR				ScP		ScP		10 30 12.2	+3.9
ASPA	**Alice Springs**	**33.21**	**244**	*e*P			**P**	**10 24 01.5**	**-0.8**
ASPA				*e*PCP		PcP		10 26 40.9	+0.2
ASPA				*e*SCP		ScP		10 30 12.1	+3.8
KAKA	**Kakadu**	**33.30**	**264**	*e*P			**P**	**10 24 03.1**	**0.0**
	comp=Z,74nm,0.6s,mb5.6								
KAKA				*e*PCP		PcP		10 26 41.5	+0.6
FITZ	**Fitzroy Crossi**	**39.95**	**256**	*e*P			**P**	**10 24 59.6**	**+0.3**
	comp=Z,258nm,0.7s,mb6.0								
FITZ				*e*PCP		PcP		10 27 02.1	+1.1
FITZ				*e*SCP		ScP		10 30 12.1	-21
FITZ				*e*S			**S**	**10 30 50.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.95**	**256**	P			**P**	**10 24 59.7**	**+0.4**
	comp=Z,171nm,0.9s,mb5.7,baz=83,slow=9.0,SNR=214								
FITZ				PcP		PcP		10 27 02.3	+1.3
	comp=Z,18nm,0.9s,baz=115,slow=3.1,SNR=3.3								
FITZ				S			**S**	**10 30 51.0**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=270,slow=17,SNR=1.7								
FORT	**Forrest**	**40.33**	**236**	⇑*iP*			**P**	**10 25 02.7**	**+0.3**
	comp=Z,94nm,0.7s,mb5.5								
FORT				*e*S			**S**	**10 30 54.9**	**-2.0**
PPT	**Papeete**	**42.85**	**103**	LR			LR	10 40 45.3	
	comp=Z,132nm,18.4s,baz=273,slow=32								
TBI	**Tubuai**	**43.44**	**112**	*e*S			**S**	**10 31 39.0**	**-3.5**
	comp=Z,122nm,28.2s								
TBI				*e*LQ				10 35 53.0	
	comp=Z,1μm,29.2s								
TBI				*e*LR		LR		10 37 34.5	
	comp=Z,243nm,35.5s								
CBIJ	**Chichi jima**	**45.13**	**329**	P			**P**	**10 25 40.5**	**-0.4**
	comp=Z,64nm,0.8s,mb5.3,baz=273,slow=23,SNR=3.5								
KAPI	**Kappang**	**46.67**	**274**	P			**P**	**10 25 52.1**	**-0.9**
	comp=Z,682nm,0.7s,SNR=11								
KLBR	**Kellerberrin**	**49.04**	**238**	*e*P			**P**	**10 26 10.7**	**-0.5**
	comp=Z,69nm,1.1s,mb5.2								
NWAO	**Narrogin (SRO)**	**49.77**	**237**	P			**P**	**10 26 16.8**	**0.0**
	comp=Z,41nm,0.9s,mb5.0,baz=76,slow=6.4,SNR=22								
NWAO	**Narrogin (SRO)**	**49.77**	**237**	*e*P			**P**	**10 26 16.7**	**-0.1**
NWAO				pmax		pmax			
	comp=Z,50nm,1.0s								
NWAO	**Narrogin (SRO)**	**49.77**	**237**	*e*P			**P**	**10 26 16.7**	**0.0**
	comp=Z,50nm,1.0s,mb5.1								
MUN	**Mundaring**	**50.41**	**238**	*e*P			**P**	**10 26 21.6**	**0.0**
TSM	**Tawau**	**50.87**	**285**	P			**P**	**10 26 25.8**	**+0.7**
TGY	**Tagaytay City**	**51.88**	**298**	P			**P**	**10 26 33.6**	**+1.0**
	comp=Z,119nm,0.3s,baz=172,slow=8.5,SNR=7.6								
PPR	**Puerto Princes**	**52.01**	**292**	⇑*eP*			**P**	**10 26 35.2**	**+1.7**
KKM	**Kota Kinabalu**	**53.00**	**287**	P			**P**	**10 26 41.9**	**+1.2**
KKM	**Kota Kinabalu**	**53.00**	**287**	*e*P			**P**	**10 26 41.4**	**+0.7**
JOW	**Kunigami**	**53.26**	**316**	P			**P**	**10 26 43.6**	**+1.0**
	comp=Z,134nm,0.8s,mb5.7,baz=145,slow=9.4,SNR=22								
MJAR	**Matsushiro Arr**	**54.80**	**332**	P			**P**	**10 26 52.5**	**-1.3**
	comp=Z,21nm,0.8s,mb4.9,baz=165,slow=7.9,SNR=36								
MAJO	**Matsushiro**	**54.80**	**332**	*e*P			**P**	**10 26 52.8**	**-1.0**
MAJO				pmax		pmax			
	comp=Z,40nm,0.9s,mb5.2								
MAJO	**Matsushiro**	**54.80**	**332**	*e*P			**P**	**10 26 52.8**	**-1.1**
	comp=Z,40nm,0.9s,mb5.2								
MAT	**Matsushiro**	**54.80**	**332**	P			**P**	**10 26 52.4**	**-1.4**
JNU	**Nakatsue**	**55.96**	**324**	P			**P**	**10 27 02.1**	**0.0**
	comp=Z,83nm,0.8s,mb5.6,baz=249,slow=20,SNR=24								
RKT	**Rikitea**	**56.71**	**110**	*e*S			**S**	**10 34 41.6**	**-4.4**
	comp=Z,253nm,30.2s								
RKT				*e*LR		LR		10 43 39.4	
	comp=Z,171nm,33.5s								
YHNB	**Yeheng**	**56.90**	**310**	P			**P**	**10 27 05.1**	**-3.6**
KSM	**Kuching**	**57.32**	**279**	*e*P			**P**	**10 27 12.0**	**+0.4**
ERM	**Erimo**	**57.51**	**340**	*e*P			**P**	**10 27 12.8**	**-0.2**
ERM				pmax		pmax			
	comp=Z,24nm,0.7s,mb5.1								
ERM	**Erimo**	**57.51**	**340**	*e*P			**P**	**10 27 12.8**	**-0.2**
	comp=Z,24nm,0.7s,mb5.1								
ASAJ	**Asahikawa**	**59.56**	**340**	P			**P**	**10 27 27.6**	**+0.5**
	comp=Z,86nm,0.7s,mb5.7,baz=215,slow=8.3,SNR=58								
KSRS	**Korea Array**	**60.75**	**325**	P			**P**	**10 27 35.2**	**0.0**
	comp=Z,23nm,0.8s,mb5.1,baz=138,slow=7.0,SNR=58								
KSRS				PP		PP		10 29 46.9	-4.2
	comp=Z,3.3nm,1.0s,baz=129,slow=9.9,SNR=5.0								
KSRS				LR		LR		10 52 14.8	
	comp=Z,74nm,18.2s,baz=306,slow=34								
KS15	**Wonju Array Si**	**60.76**	**325**	*e*P			**P**	**10 27 35.6**	**+0.3**
SSE	**Sheshan**	**60.76**	**316**	P			**P**	**10 27 35.0**	**-0.3**
SSE				AMB		AMB			
	comp=Z,125nm,0.9s,mb5.7								
SSE				AMB		AMB			
	comp=Z,256nm,9.1s								
SSE	**Sheshan**	**60.76**	**316**	P			**P**	**10 27 35.0**	**-0.3**
	comp=Z,125nm,0.9s,mb5.7								
YSS	**Yuzh-Sakhalins**	**62.04**	**342**	*c iP*			**P**	**10 27 43.6**	**-0.3**
YSS				pmax		pmax			
	comp=Z,130nm,1.3s,mb5.6								
YSS	**Yuzh-Sakhalins**	**62.04**	**342**	*e*P			**P**	**10 27 44.0**	**+0.1**
	comp=Z,57nm,0.8s,mb5.5								
NJ2	**Nanjing**	**62.93**	**315**	*e*P			**P**	**10 27 52.0**	**+2.2**
NJ2				AP		pP		10 28 34.0	+3.0
NJ2				XP		sP		10 28 52.5	+2.4
NJ2				PP		PP		10 30 14.5	+4.2
NJ2				S			**S**	**10 36 06.0**	**+0.5**
NJ2				XS		sS		10 37 17.0	0.0
NJ2				AMB		AMB			
	comp=Z,640nm,8.4s								
NJ2				LR		LR			
	comp=N,2μm,18.3s								
NJ2				LR		LR			
	comp=E,2μm,17.5s								
NJ2				LR		LR			
	comp=Z,440nm,19.6s								
VLA	**Vladivostok**	**62.97**	**332**	*d iP*			**P**	**10 27 50.0**	**0.0**
VLA				pmax		pmax			
	comp=Z,122nm,1.7s,mb5.5								
VLA	**Vladivostok**	**62.97**	**332**	*i* P			**P**	**10 27 50.1**	**+0.1**
KGM	**Kluang**	**64.22**	**278**	P			**P**	**10 28 00.1**	**+1.9**
PET	**Petropavlovsk**	**64.71**	**355**	*c iP*			**P**	**10 27 59.8**	**-1.6**
PET				pmax		pmax			
	comp=Z,58nm,1.3s,mb5.2								
PET	**Petropavlovsk**	**64.71**	**355**	⇑*iP*			**P**	**10 27 59.9**	**-1.5**
MDJ	**Mudanjiang**	**65.18**	**332**	P			**P**	**10 28 04.5**	**0.0**
MDJ				AP		pP		10 28 44.8	-1.1
MDJ				XP		sP		10 29 02.8	-2.1
MDJ				PP		PP		10 30 30.0	0.0
MDJ				S		S		10 36 34.0	+0.8
MDJ				SCS		ScS		10 37 43.0	+0.5
MDJ				AMB		AMB			
	comp=Z,55nm,1.5s,mb5.2								
MDJ				AMB		AMB			
	comp=Z,151nm,4.6s								
MDJ	**Mudanjiang**	**65.18**	**332**	*e*P			**P**	**10 28 04.5**	**+0.1**
	comp=Z,81nm,1.3s,mb5.4								
WHN	**Wuhan**	**65.31**	**311**	P			**P**	**10 28 05.3**	**0.0**
WHN				AMB		AMB			
	comp=Z,40nm,0.8s,mb5.3								
VNDA	**Vanda**	**65.95**	**181**	P			**P**	**10 28 08.9**	**-0.5**
	comp=Z,22nm,1.0s,mb4.9,baz=356,slow=6.8,SNR=59								
HABR	**Khabarovsk**	**65.97**	**338**	*i*P			**P**	**10 28 09.9**	**+0.4**
HABR				*e*S		S		10 36 44.2	+1.4
HABR				pmax		pmax			
	comp=Z,83nm,1.0s,mb5.5								
CASY	**Casey**	**66.13**	**202**	*e*P			**P**	**10 28 09.5**	**-1.1**
SBA	**Scott Base**	**66.25**	**180**	*e*P			**P**	**10 28 11.8**	**+0.5**
SBA				pmax		pmax			
	comp=Z,37nm,0.8s,mb5.3								
SBA	**Scott Base**	**66.25**	**180**	*e*P			**P**	**10 28 11.8**	**+0.5**
	comp=Z,37nm,0.8s,mb5.3								
TIA	**Tai'an**	**66.52**	**318**	⇑P			**P**	**10 28 12.3**	**-0.7**
TIA				AMB		AMB			
	comp=Z,55nm,1.2s,mb5.3								
CN2	**Changchun**	**66.59**	**329**	⇑P			**P**	**10 28 13.0**	**-0.5**
CN2				*e*AP		pP		10 28 55.0	-0.1
CN2				*e*XP		sP		10 29 13.8	-0.3
CN2				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.0								
IPM	**Ipoh**	**67.04**	**280**	P			**P**	**10 28 17.4**	**+1.1**
KULM	**Kulim**	**67.61**	**281**	*e*P			**P**	**10 28 20.3**	**+0.5**
KLR	**Kul'dur**	**67.86**	**336**	⇓*iP*			**P**	**10 28 18.2**	**-3.2**
KLR				pmax		pmax			
	comp=E,70nm,1.8s								
KLR				pmax		pmax			
	comp=Z,160nm,1.8s,mb5.5								
PSI	**Prapat**	**68.67**	**278**	P			**P**	**10 28 26.4**	**-0.1**
	comp=Z,62nm,0.8s,mb5.4,baz=120,slow=3.8,SNR=55								
UNV	**Unalaska Valle**	**69.12**	**17**	*e*P			**P**	**10 28 27.9**	**-1.3**
	comp=Z,80nm,0.9s,mb5.5								
GYA	**Guiyang**	**69.34**	**304**	⇓*iP*			**P**	**10 28 31.3**	**+0.7**
GYA				PCP		PcP		10 28 55.0	+2.1
GYA				AP		pP		10 29 15.0	+2.5
GYA				XP		sP		10 29 34.3	+2.9
GYA				PP		PP		10 31 10.3	+4.2
GYA				SCP				10 32 40.5	
GYA				SKS				10 38 11.5	
GYA				SCS		ScS		10 38 13.3	-1.6
GYA				SS		SS		10 41 56.5	+3.2
GYA				AMB		AMB			
	comp=Z,80nm,1.0s,mb5.4								
GYA				AMB		AMB			
	comp=Z,180nm,4.9s								
GYA				LR		LR			
	comp=N,640nm,18.7s								
GYA				LR		LR			
	comp=E,570nm,18.4s								
GYA				LR		LR			
	comp=Z,480nm,19.4s								
BJT	**Baijiatuan**	**69.36**	**321**	*e*P			**P**	**10 28 31.0**	**+0.3**
BJT				pmax		pmax			
	comp=Z,17nm,0.5s								
BJT	**Baijiatuan**	**69.36**	**321**	*e*P			**P**	**10 28 31.0**	**+0.3**
	comp=Z,17nm,0.5s,mb5.0								
BJI	**Beijing**	**69.37**	**321**	*e*P			**P**	**10 28 30.8**	**0.0**
BJI				AMB		AMB			
	comp=Z,60nm,1.1s,mb5.2								
BJI				AMB		AMB			
	comp=Z,440nm,5.2s								
BJI	**Beijing**	**69.37**	**321**	*e*P			**P**	**10 28 30.8**	**0.0**
	comp=Z,60nm,1.1s,mb5.2								
XAN	**Xi'an**	**71.04**	**312**	P			**P**	**10 28 41.3**	**+0.4**
XAN				AMB		AMB			
	comp=Z,88nm,1.0s,mb5.4								
NST	**Nakhon Sawan**	**71.05**	**291**	P			**P**	**10 28 42.0**	**+1.0**
	comp=Z,87nm,0.8s,mb5.5								
NANT	**Nan**	**71.55**	**294**	⇑P			**P**	**10 28 42.0**	**-1.9**
	comp=Z,372nm,0.9s,mb6.1								
KMI	**Kunming**	**72.04**	**301**	P			**P**	**10 28 48.8**	**+1.9**
KMI				AP		pP		10 29 31.3	+2.2
KMI				XP		sP		10 29 50.0	+2.0
KMI				S		S		10 37 54.8	+0.7
KMI				SS		SS		10 42 39.3	+4.7
KMI				AMB		AMB			
	comp=Z,108nm,1.1s,mb5.5								
KMI				LR		LR			
	comp=N,117nm,17.7s								
KMI				LR		LR			
	comp=E,115nm,21.5s								
KMI				LR		LR			
	comp=Z,94nm,16.8s								
KMI	**Kunming**	**72.04**	**301**	P			**P**	**10 28 48.8**	**+1.9**
KMI				*PP		pP		10 29 31.2	+2.1
KMI				S		S		10 37 54.7	+0.6
KMI				SS		SS		10 42 39.3	+4.7
KMI				pmax		pmax			
	comp=Z,108nm,1.1s,mb5.5								
KMI				MLR		MLR			
	comp=Z,90nm,16.8s								
KMI	**Kunming**	**72.04**	**301**	P			**P**	**10 28 48.8**	**+1.9**
	comp=Z,108nm,1.1s,mb5.5								
KMI				pP		pP		10 29 31.2	+2.1
KMI				sP		sP		10 29 49.9	+1.9
KMI				S		S		10 37 54.7	+0.6
KMI				sS		sS		10 39 13.1	+5.7
KMI				SS		SS		10 42 39.3	+4.7
KMI				LR		LR			
	comp=Z,90nm,16.8s								
HHC	**Hu-ho-hao-te**	**72.73**	**319**	⇑*iP*			**P**	**10 28 51.8**	**+0.8**
HHC				AP		pP		10 29 34.3	+1.0
HHC				XP		sP		10 29 53.8	+1.7
HHC				PP		PP		10 31 38.0	+2.9
HHC				S		S		10 38 01.3	-0.6
HHC				SCS		ScS		10 39 39.8	-2.0
HHC				XS		sS		10 39 15.5	+0.1
HHC				SS		SS		10 42 47.8	+2.6
HHC				AMB		AMB			
	comp=Z,47nm,1.3s,mb5.1								
HHC				AMB		AMB			
	comp=Z,249nm,5.8s								
HHC				LR		LR			
	comp=N,167nm,16.5s								
HHC				LR		LR			
	comp=E,155nm,17.3s								
HHC				LR		LR			
	comp=Z,150nm,15.1s								
CHG	**Chiang Mai**	**73.12**	**294**	⇑P			**P**	**10 28 54.4**	**+1.1**
	comp=Z,85nm,1.0s,mb5.4								
CHTO	**Chiang Mai**	**73.12**	**294**	*e*P			**P**	**10 28 54.4**	**+1.1**
CHTO				pmax		pmax			
	comp=Z,106nm,1.0s,mb5.5								
CHTO	**Chiang Mai**	**73.12**	**294**	*e*P			**P**	**10 28 54.4**	**+1.1**
	comp=Z,106nm,1.0s,mb5.5								
HIA	**Hailar**	**73.21**	**330**	*e*P			**P**	**10 28 53.7**	**-0.1**
HIA				pmax		pmax			
	comp=Z,96nm,1.3s								
HIA	**Hailar**	**73.21**	**330**	*e*P			**P**	**10 28 53.7**	**-0.1**
	comp=Z,96nm,1.3s,mb5.4								
CD2	**Chengdu**	**73.52**	**307**	P			**P**	**10 28 56.3**	**+0.7**
CD2				AP		pP		10 29 38.5	+0.5
CD2				XP		sP		10 29 57.5	+0.7
CD2				PP		PP		10 31 44.5	+2.6
CD2				S		S		10 38 10.5	-0.4
CD2				XS		sS		10 39 24.3	-0.2
CD2				AMB		AMB			
	comp=Z,140nm,1.1s,mb5.6								
CD2				LR		LR			
	comp=N,160nm,9.6s								
CD2				LR		LR			
	comp=E,200nm,7.2s								
CD2				LR		LR			
	comp=Z,260nm,10.8s								
BTO	**Baotou**	**73.59**	**319**	*e*P			**P**	**10 28 56.5**	**+0.5**
SEY	**Seymchan**	**75.10**	**353**	⇑*eP*			**P**	**10 29 03.4**	**-1.4**
LZH	**Lanzhou**	**75.67**	**312**	⇑P			**P**	**10 29 09.8**	**+1.8**
LZH				AP		pP		10 29 52.0	+1.4
LZH				XP		sP		10 30

BOD Bodaibo 81.34 335 eP P 10 29 37.6 -1.4
BOD pmax pmax
comp=Z,25nm,1.3s,mb4.7
DIV Divide 81.65 21 eP P 10 29 40.1 -0.6
MCK McKinley 82.43 18 eP P 10 29 43.4 -1.3
P01C Double 8 Ranch 82.48 47 ⇑P P 10 29 45.5 +0.6
baz=83
BNLO Ben Lomond (Sa 82.50 50 ⇓P P 10 29 45.3 +0.2
baz=83
HOPS Hopland 82.50 48 ⇑P P 10 29 45.6 +0.6
baz=83
JRSC Jasper Ridge 82.54 50 ⇓P P 10 29 45.8 +0.5
baz=83
ZAK Zakamensk 82.58 325 eP P 10 29 44.4 -1.0
ZAK pmax pmax
comp=Z,24nm,1.4s,mb4.7
HAST UC Hastings Re 82.71 51 ⇓P P 10 29 46.3 +0.2
baz=83
CVS Carmenet Viney 82.71 49 ⇑P P 10 29 45.7 -0.4
baz=83
V03C Hunter Liggett 82.82 51 ⇓P P 10 29 47.6 +0.8
baz=83
IMA2 Indian Mountai 82.84 15 eP P 10 29 45.9 -0.9
MNRC McLaughlin Nat 82.92 48 ⇓P P 10 29 47.1 -0.1
baz=83
V04C Ramage Ranch, 82.97 52 ⇑P P 10 29 47.7 +0.2
baz=83
TLY Talaya 82.99 326 P P 10 29 47.2 -0.4
comp=Z,296nm,1.1s,mb5.9,SNR=10
TLY Talaya 82.99 326 eP P 10 29 46.8 -0.8
TLY pmax pmax
comp=Z,62nm,1.1s,mb5.2
TLY Talaya 82.99 326 eP P 10 29 47.2 -0.4
comp=Z,47nm,0.9s,mb5.2
GASB Alder Springs 82.99 47 ⇑P P 10 29 48.2 +0.6
baz=83
PACP Pacheco Peak 83.12 50 ⇓P P 10 29 48.8 +0.5
baz=83
O02C Red Bluff 83.13 47 P P 10 29 49.0 +0.7
baz=83,SNR=6.2
Q03C Winters 83.14 48 ⇓P P 10 29 49.2 +0.9
baz=83
SNCC San Nicolas Is 83.25 54 ⇓P P 10 29 48.4 -0.5
baz=83
S04C Ingram Canyon, 83.26 50 ⇑P P 10 29 49.5 +0.5
baz=83
LSA Lhasa 83.27 302 eP P 10 29 50.8 +1.8
LSA pmax pmax
comp=Z,15nm,0.6s,mb4.9
LSA Lhasa 83.27 302 eP P 10 29 50.8 +1.8
comp=Z,15nm,0.6s,mb4.9
U04C Hernandez Rese 83.28 51 ⇑P P 10 29 49.3 +0.2
baz=83
WDC Whiskeytown Da 83.46 46 eP P 10 29 50.0 0.0
WDC pmax pmax
comp=Z,26nm,1.4s,mb4.8
WDC Whiskeytown Da 83.46 46 eP P 10 29 50.0 +0.1
comp=Z,26nm,1.4s,mb4.8
WDC Whiskeytown Da 83.46 46 P P 10 29 50.4 +0.5
baz=84,SNR=5.8
SUTB Sutter Butte 83.52 48 P P 10 29 50.2 -0.1
baz=84,SNR=8.3
M02C Callahan 83.53 46 ⇑P P 10 29 51.9 +1.5
baz=84
COLA College 83.58 18 ⇑iP P 10 29 48.5 -2.1
O03C Acorn Hollow, 83.61 47 ⇓P P 10 29 50.6 -0.1
baz=84
YBH Yreka Blue Hor 83.75 45 P P 10 29 51.4 -0.1
baz=144,slow=5.5
YBH Yreka Blue Hor 83.75 45 eP P 10 29 51.9 +0.4
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 83.75 45 eP P 10 29 51.9 +0.4
comp=Z,20nm,1.0s,mb4.8
YBH Yreka Blue Hor 83.75 45 P P 10 29 52.0 +0.5
baz=84,SNR=7.3
OHCM Honcut 83.77 48 eP P 10 29 51.2 -0.4
ORV Oroville 83.84 48 P P 10 29 51.5 -0.4
baz=84,SNR=11
BLG Laguna Peak 83.88 54 ⇓P P 10 29 52.6 +0.5
baz=84
HUMO Hull Mountain 83.91 44 ⇑P P 10 29 52.8 +0.5
baz=84
S05C Merced 83.95 50 P P 10 29 52.6 +0.1
baz=84,SNR=10
M03C McCloud 84.00 46 P P 10 29 53.0 +0.3
baz=84,SNR=7.9
LAVA Lava Cap Winer 84.12 49 P P 10 29 53.5 +0.1
baz=84,SNR=6.4
CMB Columbia Colle 84.14 49 eP P 10 29 53.2 -0.2
CMB pmax pmax
comp=Z,17nm,1.0s,mb4.7
CMB Columbia Colle 84.14 49 eP P 10 29 53.2 -0.2
comp=Z,17nm,1.0s,mb4.7
CMB Columbia Colle 84.14 49 P P 10 29 53.1 -0.3
baz=84,SNR=8.9
HATC Hat Creek Radi 84.31 47 ⇓P P 10 29 54.8 +0.5
baz=84
T06C Millerton Lake 84.31 51 P P 10 29 54.2 -0.1
baz=84,SNR=12
M04C Macdoel 84.38 46 P P 10 29 55.3 +0.6
baz=84,SNR=5.2
O05C Quincy 84.40 47 P P 10 29 55.1 +0.3
baz=84,SNR=6.0
P05C Yuba Gap, Truc 84.40 48 P P 10 29 55.0 +0.3
baz=84,SNR=12
O04C Chester 84.40 47 ⇑P P 10 29 55.3 +0.5
baz=84
VES Vestal, Richgr 84.42 52 ⇑P P 10 29 54.3 -0.5
baz=84
RCTC Rector, Farmer 84.44 51 ⇓P P 10 29 54.8 -0.2
baz=84
L04A Klamath Falls 84.48 45 ⇑P P 10 29 55.4 +0.2
baz=85
MAW Mawson 84.49 202 eP P 10 29 54.1 -1.1
comp=Z,6.5nm,1.1s,mb4.3
MAW Mawson 84.49 202 P P 10 29 54.6 -0.6
comp=Z,7.6nm,1.0s,mb4.4,baz=118,slow=7.1,SNR=13
MAW LR LR 11 05 40.6
comp=Z,70nm,19.5s,baz=246,slow=34
MAW Mawson 84.49 202 eP P 10 29 54.1 -1.1
MAW pmax pmax
comp=Z,7.0nm,1.1s
S06C San Francisco 84.49 50 P P 10 29 55.1 -0.1
baz=85,SNR=13
R05C Kirkwood Meado 84.59 49 P P 10 29 55.7 0.0
baz=85,SNR=7.5
KCC Kaiser Creek 84.71 50 P P 10 29 56.2 -0.1
baz=85,SNR=8.1
MWC Mount Wilson 84.71 54 eP P 10 29 56.4 +0.1
I04A Tendick Farm, 84.71 43 ⇓P P 10 29 55.6 -0.8
baz=85
M05C Lookout 84.72 46 ⇓P P 10 29 55.9 -0.5
baz=85
HELL Mitchell Peak, 84.72 51 P P 10 29 56.2 -0.1
baz=85,SNR=18
BEKR Beckwourth 84.77 48 P P 10 29 56.5 -0.1
baz=85,SNR=15
ISA Isabella 84.83 52 eP P 10 29 56.9 0.0
ISA Isabella 84.83 52 P P 10 29 57.4 +0.5
baz=85,SNR=5.2
EDW2 Edwards Air Fo 84.96 53 P P 10 29 57.8 +0.3
baz=85,SNR=6.6
E03A Lebam 84.99 41 ⇓P P 10 29 56.9 -0.7
baz=85
R06C Coleville 85.00 49 P P 10 29 58.1 +0.4
baz=85,SNR=12
WCN Washoe City 85.02 48 ⇑P P 10 29 57.7 -0.2
baz=85
BFSC Mount Baldy St 85.03 54 ⇑P P 10 29 58.6 +0.8
baz=85
109C Camp Elliot, M 85.07 55 ⇑P P 10 29 57.6 -0.5
baz=85
M06C Likely Place G 85.14 46 ⇑P P 10 29 58.9 +0.5
baz=85
MLAC Mammoth Lakes 85.17 50 ⇓P P 10 29 58.4 -0.2
baz=85
G04A Mulino 85.19 42 ⇓P P 10 29 58.9 +0.2
baz=85
H04A Detroit Lake 85.19 43 ⇓P P 10 29 58.6 -0.1
baz=85
O06A Flanigan 85.26 48 P P 10 29 59.0 0.0
baz=85,SNR=8.0
MTUM Tungsten Hills 85.29 51 eP P 10 29 59.7 +0.5
CWC Cottonwood Cre 85.37 52 P P 10 30 00.1 +0.6
baz=86,SNR=5.8
N06A Buffalo Meadow 85.44 47 P P 10 29 59.6 -0.3
baz=86,SNR=10
MOD Modoc 85.50 46 eP P 10 30 00.5 +0.3
MOD Modoc 85.50 46 P P 10 30 00.4 +0.2
baz=86,SNR=5.8
I05A Bend 85.62 43 ⇓P P 10 30 00.7 -0.1
baz=86
EGAK Eagle 85.64 20 eP P 10 30 00.1 -0.8
comp=Z,20nm,0.7s,mb5.0
DAC Darwin (Calif) 85.70 52 eP P 10 30 01.7 +0.5
DAC pmax pmax
comp=Z,17nm,1.2s,mb4.7
DAC Darwin (Calif) 85.70 52 eP P 10 30 01.7 +0.5
comp=Z,17nm,1.2s,mb4.7
MPMC Manual Prospec 85.71 52 P P 10 30 01.6 +0.3
baz=86,SNR=7.8
C04A Brinnon 85.81 40 ⇓P P 10 30 02.2 +0.5
baz=86
H05A Madras 85.81 43 ⇓P P 10 30 01.0 -0.8
baz=86
NVAR Mina Array Bea 85.82 50 P P 10 30 01.7 0.0
comp=Z,7.4nm,0.8s,mb4.5,baz=236,slow=8.4,SNR=34
NVAR pP pP 10 30 45.4 0.0
comp=Z,3.6nm,0.8s,baz=240,slow=7.5,SNR=7.5
K06A Valley Falls 85.84 45 P P 10 30 02.3 +0.4
baz=86,SNR=6.4
R08A Mina 85.94 50 ⇑P P 10 30 02.8 +0.4
baz=86
O07A Toulon 85.94 48 P P 10 30 02.9 +0.5
baz=86,SNR=7.8
G05A Wamic 85.96 42 ⇓P P 10 30 02.0 -0.5
baz=86
J06A Christmas Vall 86.06 45 ⇑P P 10 30 03.1 +0.2
baz=86
GRAC Grapevine Rang 86.08 51 ⇓P P 10 30 03.5 +0.4
baz=86
M07A Soldier Meadow 86.13 47 P P 10 30 03.9 +0.6
baz=86,SNR=7.4
E05A Randle 86.15 41 ⇑P P 10 30 02.9 -0.5
baz=86
L07A Adell 86.22 46 P P 10 30 04.0 +0.3
baz=86,SNR=5.6
D05A Enumclaw 86.23 40 ⇑P P 10 30 04.3 +0.5
baz=86
Q08A Gabbs 86.23 49 P P 10 30 03.9 +0.1
baz=86,SNR=9.7
HEC Hector,Ludlow 86.25 53 ⇓P P 10 30 03.3 -0.6
baz=86
I06A Prineville 86.25 44 P P 10 30 04.6 +0.6
baz=86,SNR=6.0
BELC Belle Mtn. 86.28 54 ⇑P P 10 30 04.8 +0.7
baz=86
FURC Furnace Creek, 86.32 52 P P 10 30 04.8 +0.5
baz=86,SNR=7.3
A04A Legoe Bay, Lum 86.35 39 ⇑P P 10 30 04.6 +0.2
baz=86
G06A Carlson Farm, 86.41 43 ⇓P P 10 30 03.6 -1.1
baz=86
S09A Goldfield 86.41 51 P P 10 30 05.0 +0.3
baz=86,SNR=9.3
H06A Lindquist Farm 86.44 43 ⇓P P 10 30 04.7 -0.2
baz=87
F06A Goldendale 86.50 42 ⇑P P 10 30 05.0 -0.2
baz=87
K07A Rock Creek Ran 86.50 45 P P 10 30 04.9 -0.2
baz=87,SNR=6.8
DLBC Dease Lake 86.55 28 eP P 10 30 04.2 -1.2
C05A Tolt Reservoir 86.60 40 ⇓P P 10 30 04.8 -0.8
baz=87
SHOC Shoshone 86.60 52 ⇑P P 10 30 05.7 +0.1
baz=87
BC3 Big Chuckw Mtn 86.62 55 ⇓P P 10 30 05.8 +0.1
baz=87
E06A Yakima 86.64 41 ⇑P P 10 30 05.7 -0.2
baz=87
N08A GE Springer Mi 86.68 47 P P 10 30 06.0 0.0
baz=87,SNR=8.3
J07A Hines 86.68 45 ⇓P P 10 30 05.5 -0.5
baz=87
R09A Tonopah 86.68 50 P P 10 30 06.0 0.0
baz=87,SNR=8.4
M08A Happy Creek Ra 86.71 47 ⇑P P 10 30 06.5 +0.3
baz=87,SNR=6.0
U10A Ash Meadows, A 86.71 52 P P 10 30 06.6 +0.5
baz=87,SNR=5.1
TUQ Turquoise Mtn. 86.75 53 ⇑P P 10 30 06.4 +0.1
baz=87
GMRC Granite Mounta 86.77 54 P P 10 30 06.6 +0.2
baz=87,SNR=6.4
TIXI Tiksi 86.77 349 ciP P 10 30 04.4 -2.0
TIXI i *PP pP 10 30 49.0 -1.1
TIXI pmax pmax
comp=Z,50nm,1.3s,mb5.2
TIXI Tiksi 86.77 349 eP P 10 30 05.2 -1.2
Q09A Carvers 86.78 49 ⇓P P 10 30 06.6 +0.1
baz=87
I07A Izee 86.78 44 P P 10 30 07.0 +0.5
baz=87,SNR=7.6
H07A Lands Inn, Kim 86.91 43 P P 10 30 07.2 +0.1
baz=87,SNR=5.6
GLA Glamis 86.95 56 ⇑P P 10 30 07.7 +0.4
baz=87
L08A Fields 86.97 46 ⇑P P 10 30 07.1 -0.3
baz=87,SNR=11
IRM Iron Mountain 87.00 54 P P 10 30 08.0 +0.5
baz=87,SNR=14
K08A Mann Creek Ran 87.04 45 ⇑P P 10 30 07.3 -0.4
baz=87,SNR=6.1
G07A Ruggs Ranch, H 87.06 43 P P 10 30 07.9 0.0
baz=87,SNR=5.0
F07A Phinny Hill Vi 87.11 42 ⇑P P 10 30 07.9 -0.2
baz=87
N09A Rock Creek Ran 87.14 47 ⇓P P 10 30 08.5 +0.3
baz=87
O09A Fish Creek Ran 87.17 48 P P 10 30 08.8 +0.4
baz=87,SNR=8.4
BMN Battle Mountai 87.23 48 eP P 10 30 08.8 +0.1
BMN pmax pmax
comp=Z,44nm,1.6s,mb5.0
BMN Battle Mountai 87.23 48 eP P 10 30 08.8 +0.1
comp=Z,44nm,1.6s,mb5.0
V11A Goodsprings 87.25 53 P P 10 30 08.9 +0.2
baz=87,SNR=7.6
J08A Circle Bar Ran 87.25 45 P P 10 30 09.1 +0.4
baz=87,SNR=15
I08A Drewsey 87.36 44 ⇓P P 10 30 09.0 -0.3
baz=88,SNR=5.8
M09A Marrel Ranch, 87.37 47 ⇓P P 10 30 09.7 +0.4
baz=88
E07A Sunnyside 87.38 42 ⇓P P 10 30 09.5 +0.1
baz=88
Y12C Blythe 87.39 55 P P 10 30 09.9 +0.5
baz=88,SNR=6.1
L09A Wilkinson Ranc 87.40 46 ⇑P P 10 30 09.5 0.0
baz=88,SNR=8.8
U11A Corn Creek 87.44 52 ⇑P P 10 30 10.7 +1.0
baz=88
H08A Prairie City 87.49 44 ⇓P P 10 30 09.7 -0.2
baz=88
D07A Quincy 87.52 41 ⇓P P 10 30 10.1 +0.1
baz=88
HAWA Hanford 87.53 42 eP P 10 30 10.2 +0.1
W12A Cal Nev Ari 87.53 53 ⇑P P 10 30 10.4 +0.4
baz=88
P10A Eureka 87.55 49 ⇑P P 10 30 09.9 -0.2
baz=88
G08A Pilot Rock 87.55 43 P P 10 30 10.4 +0.2
baz=88,SNR=10
K09A Rome 87.57 46 P P 10 30 10.4 +0.1
baz=88,SNR=11
NEE2 Needles Airpor 87.59 54 ⇓P P 10 30 10.3 0.0
baz=88
C07A Waterville 87.63 40 ⇑P P 10 30 09.7 -0.9
baz=88
SHPR Sheep Range 87.64 52 eP P 10 30 11.1 +0.5
V12A Nelson 87.67 53 ⇓P P 10 30 10.7 0.0
baz=88,SNR=6.1
O10A Cortez Mining, 87.72 48 ⇓P P 10 30 10.6 -0.3
baz=88
J09A Fry Pan Ranch, 87.75 45 P P 10 30 11.6 +0.5
baz=88,SNR=16
F08A Pendleton 87.83 42 ⇑P P 10 30 10.9 -0.6
baz=88
TRCR Troy Canyon 87.83 50 eP P 10 30 11.7 +0.2
N10A Dunphy 87.84 48 ⇑P P 10 30 11.7 +0.1
baz=88
PDMCI Parker Dam,Lak 87.84 55 ⇑P P 10 30 11.2 -0.4
baz=88,SNR=13
B07A Winthrop 87.86 40 ⇑P P 10 30 11.4 -0.3
baz=88
E08A Dider Farm, El 87.87 42 P P 10 30 11.7 0.0
baz=88,SNR=6.3
Q11A Duckwater 87.92 50 P P 10 30 12.2 +0.3
baz=88,SNR=28
I09A Lost Marbles R 87.95 44 P P 10 30 11.8 -0.3
baz=88,SNR=7.2
M10A I.L. Ranch, Tu 88.05 47 ⇓P P 10 30 12.5 0.0
baz=88,SNR=5.2
P11A Circle Ranch, 88.05 49 ⇓P P 10 30 12.8 +0.3
baz=88,SNR=5.5
U12A Valley of Fire 88.10 52 ⇓P P 10 30 13.2 +0.4
baz=88,SNR=5.0
D08A Wollman Farm, 88.15 41 ⇓P P 10 30 12.8 -0.2
baz=88
X13A Yucca 88.17 54 ⇑P P 10 30 13.3 +0.2
baz=88,SNR=5.7
W13A Hualapai Mount 88.26 54 P P 10 30 14.1 +0.6
baz=88,SNR=15
O11A Cowboy Ranch, 88.29 49 P P 10 30 14.2 +0.5
baz=88,SNR=10
C08A Higginbotham F 88.31 41 ⇓P P 10 30 13.2 -0.5
baz=88
B08A Colville Reser 88.31 40 ⇑P P 10 30 14.2 +0.4
baz=88
F09A S2 Ranch, Elgi 88.38 43 ⇓P P 10 30 14.8 +0.7
baz=88
N11A Elko Archery C 88.42 48 P P 10 30 14.8 +0.5
baz=88,SNR=5.9
E09A Wood Farm, Sta 88.48 42 ⇑P P 10 30 14.6 +0.1
baz=89
BMO Blue Mountains 88.52 44 eP P 10 30 14.7 0.0
BMO pmax pmax
comp=Z,21nm,1.4s,mb4.9
BMO Blue Mountains 88.52 44 eP P 10 30 14.7 -0.1
comp=Z,20nm,1.4s,mb4.9
D09A Jones Farm, Ri 88.55 41 P P 10 30 15.1 +0.2
baz=89,SNR=5.4
A08A Turner Farm, O 88.55 39 ⇓P P 10 30 14.3 -0.5
baz=89
Z14A Wintersburg 88.56 56 ⇓P P 10 30 15.2 +0.3
baz=89
M11A Holland Ranch, 88.56 47 ⇑P P 10 30 15.4 +0.4
baz=89,SNR=16
Q12A Willow Creek R 88.59 50 ⇑P P 10 30 15.4 +0.3
baz=89,SNR=13
P12A McGill 88.66 49 P P 10 30 15.8 +0.4
baz=89,SNR=16
Y14A Wickenburg 88.66 55 ⇑P P 10 30 15.7 +0.3
baz=89
C09A Chrisman Ranch 88.81 41 ⇓P P 10 30 16.2 +0.1
baz=89
H10A Noah's Angus R 88.82 44 ⇑P P 10 30 15.9 -0.2
baz=89
X14A Yava 88.88 55 P P 10 30 17.3 +0.9
baz=89,SNR=17
F10A Beach Ranch, E 88.92 43 ⇓P P 10 30 16.0 -0.6
baz=89,SNR=9.2
W14A Seligman 88.92 54 ⇑P P 10 30 17.2 +0.5
baz=89,SNR=5.1
N12A Clover Valley, 88.94 48 ⇓P P 10 30 16.8 +0.1
baz=89,SNR=27
115A Sonoran Desert 88.97 56 ⇓P P 10 30 17.5 +0.6
baz=89
A09A Danville 88.99 40 ⇑P P 10 30 16.5 -0.4
baz=89
O12A Currie 89.00 49 P P 10 30 17.8 +0.8
baz=89,SNR=20
B09A Rice 89.08 40 ⇑P P 10 30 17.1 -0.2
baz=89
E10A Myers Farm, Un 89.15 42 ⇓P P 10 30 17.8 +0.1
baz=89
M12A Wells 89.19 48 ⇓P P 10 30 18.1 +0.3
baz=89,SNR=18
CCUT Cedar City 89.31 52 eP P 10 30 19.1 +0.6
ARUT Antelope Range 89.31 51 eP P 10 30 19.0 +0.6
ARUT e*PP pP 10 31 02.8 +0.4
H11A Donnelly 89.35 44 P P 10 30 18.8 +0.1
baz=90,SNR=11
116A Eloy 89.37 57 ⇓P P 10 30 19.4 +0.7
baz=90,SNR=6.4
X15A Humboldt 89.41 55 ⇓P P 10 30 19.4 +0.5
baz=90,SNR=11
C10A Spilker Farm, 89.43 41 ⇑P P 10 30 18.4 -0.6
baz=90
N13A Wendover, West 89.55 48 P P 10 30 19.9 +0.4
baz=90,SNR=18
W15A Williams 89.56 54 ⇑P P 10 30 18.8 -0.8
baz=90
F11A Grangeville 89.60 43 P P 10 30 18.6 -1.2
baz=90,SNR=6.0
B10A Chitwood Farm, 89.63 40 ⇑P P 10 30 19.5 -0.5
baz=90
NEW Newport 89.68 40 eP P 10 30 19.9 -0.3
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 89.68 40 eP P 10 30 19.9 -0.3
comp=Z,9.6nm,0.9s,mb4.7
E11A Bogner Ranch, 89.70 43 ⇓P P 10 30 18.9 -1.4
baz=90,SNR=9.1
M13A Montello 89.72 48 P P 10 30 20.6 +0.3
baz=90,SNR=28
D11A Klaveano Farm, 89.83 42 ⇓P P 10 30 20.9 +0.1
baz=90
WMQ Urumqi 90.00 315 ⇑iP P 10 30 21.5 -0.2
WMQ AP pP 10 31 05.5 -0.1
WMQ XP sP 10 31 24.0 -0.1
WMQ PP PP 10 33 59.5 +2.4
WMQ SKS 10 40 34.0
WMQ S S 10 40 57.0 -2.4
WMQ XS sS 10 42 14.0 -2.0
WMQ AMB AMB
comp=Z,69nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,386nm,6.3s
WMQ LR LR
comp=N,65nm,18.0s
WMQ LR LR
comp=E,102nm,18.0s
WMQ LR LR
comp=Z,40nm,19.2s
TUC Tucson 90.06 57 eP P 10 30 22.5 +0.5
TUC e*PP pP 10 31 05.2 -0.7
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TUC Tucson 90.06 57 eP P 10 30 22.5 +0.6
comp=Z,3.1nm,0.8s,mb4.3
TUC epP pP 10 31 05.2 -0.7
HLID Hailey 90.14 46 eP P 10 30 22.6 +0.3
comp=Z,12nm,1.0s,mb4.8
HLID Hailey 90.14 46 P P 10 30 22.7 +0.4
baz=90,SNR=16
INK Inuvik 90.19 19 P P 10 30 21.9 -0.6
comp=Z,1.9nm,0.7s,mb4.1,baz=225,slow=4.3,SNR=2.2
INK Inuvik 90.19 19 P P 10 30 21.9 -0.6
B11A Sandpoint 90.22 40 P P 10 30 22.8 +0.2
baz=90,SNR=6.8
WUAZ Wupatki 90.35 54 ⇑P P 10 30 23.9 +0.7
baz=90
A11A Hall Mountain, 90.37 40 ⇑P P 10 30 23.4 0.0
baz=90,SNR=14
DUG Dugway 90.40 49 eP P 10 30 23.6 +0.1
DUG pmax pmax
comp=Z,12nm,1.2s,mb4.7
DUG Dugway 90.40 49 eP P 10 30 23.6 +0.1
comp=Z,12nm,1.2s,mb4.7
DUG Dugway 90.40 49 P P 10 30 23.7 +0.2
baz=90,SNR=8.6
MVU Marysvale 90.43 51 eP P 10 30 23.4 -0.2
comp=Z,17nm,1.3s,mb4.8
BGU Big Grassy Mou 90.43 48 eP P 10 30 23.8 +0.1
MSU Marysvale 90.46 51 eP P 10 30 24.9 +1.1
B12A Libby 90.72 41 ⇓P P 10 30 25.4 +0.4
baz=91
F13A Darby 90.80 43 P P 10 30 24.9 -0.5
baz=91,SNR=21
HVU Hansel Valley 90.83 48 eP P 10 30 26.3 +0.8
HVU e*SP sP 10 31 26.9 -1.0
NLU North Lily Min 90.89 49 eP P 10 30 26.4 +0.6
BSMT Bassoo Peak 91.06 41 eP P 10 30 26.3 -0.3
D13A Huson 91.07 42 ⇓P P 10 30 26.3 -0.3
baz=91
E13A Victor 91.07 43 P P 10 30 26.1 -0.6
baz=91,SNR=10
C13A Hot Springs 91.15 42 ⇑P P 10 30 26.1 -0.9
baz=91
MPU Maple Canyon 91.23 50 eP P 10 30 28.1 +0.7
CTU Camp Tracy 91.31 49 eP P 10 30 28.5 +0.7

B13A	**Whitefish**	**91.41**	**41**	P		**P**	**10 30 28.1**	**-0.1**	
	baz=92,SNR=6.1								
HYB	**Hyderabad**	**91.48**	**287**	*i* P		**P**	**10 30 29.0**	**+0.5**	
HYB	**Hyderabad**	**91.48**	**287**	*e*P		**P**	**10 30 29.0**	**+0.5**	
JLU	**Jordanelle**	**91.51**	**49**	*e*P		**P**	**10 30 29.3**	**+0.7**	
E14A	**Clinton**	**91.53**	**43**	⇓P		**P**	**10 30 28.1**	**-0.7**	
	baz=92,SNR=11								
HWUT	**Hardware Ranch**	**91.67**	**48**	*e*P		**P**	**10 30 29.6**	**+0.2**	
D14A	**Greenough**	**91.69**	**42**	P		**P**	**10 30 29.4**	**-0.1**	
	baz=92,SNR=5.3								
CHMT	**Chamberlain Mo**	**91.82**	**43**	*e*P		**P**	**10 30 29.7**	**-0.4**	
G15A	**Dillon**	**91.89**	**44**	⇑P		**P**	**10 30 30.0**	**-0.4**	
	baz=92,SNR=10								
F15A	**Butte**	**92.05**	**44**	P		**P**	**10 30 30.9**	**-0.2**	
	baz=92,SNR=9.3								
LRM	**Limekiln Ridge**	**92.08**	**44**	*e*P		**P**	**10 30 31.1**	**-0.2**	
E15A	**Deer Lodge**	**92.10**	**43**	P		**P**	**10 30 31.4**	**+0.1**	
	baz=92,SNR=9.0								
D15A	**Lincoln**	**92.33**	**43**	⇑P		**P**	**10 30 31.9**	**-0.5**	
	baz=92,SNR=5.8								
REDW	**Red Top Meadow**	**92.60**	**46**	*e*P		**P**	**10 30 33.1**	**-0.5**	
	comp=Z,17nm,1.5s,mb5.0								
HRY	**Holter Researc**	**92.71**	**43**	*e*P		**P**	**10 30 34.4**	**+0.2**	
MVCO	**Mesa Verde**	**92.99**	**53**	⇓P		**P**	**10 30 35.4**	**-0.2**	
	baz=93								
EDM	**Edmonton**	**93.38**	**36**	*e*P		**P**	**10 30 36.9**	**-0.4**	
BW06	**Boulder Array**	**93.39**	**47**	*e*P		**P**	**10 30 37.0**	**-0.3**	
	comp=Z,13nm,1.6s,mb4.8								
PDAR	**Pinedale Array**	**93.39**	**47**	P		**P**	**10 30 36.6**	**-0.7**	
	comp=Z,2.2nm,0.9s,mb4.3,baz=264,slow=3.0,SNR=11								
PDAR					PKKPbc	PKKPbc	10 47 43.1	0.0	
	comp=Z,1.1nm,0.7s,baz=100,slow=3.4,SNR=10								
ANMO	**Albuquerque**	**94.15**	**55**	⇓*e*P		**P**	**10 30 40.9**	**+0.1**	
ANMO	**Albuquerque**	**94.15**	**55**	*e*P		**P**	**10 30 41.1**	**+0.2**	
EGMT	**Eagleton**	**94.39**	**42**	⇓P		**P**	**10 30 41.7**	**-0.2**	
	baz=94								
MNTX	**Cornudas Mount**	**94.42**	**59**	*e*P		**P**	**10 30 41.9**	**-0.1**	
MK31	**Makanchi Array**	**94.43**	**317**	*e*P		**P**	**10 30 41.7**	**-0.4**	
MKAR	**Makanchi Array**	**94.43**	**317**	P		**P**	**10 30 41.7**	**-0.4**	
	comp=Z,61nm,0.6s,mb5.9,baz=91,slow=6.5,SNR=317								
MKAR					PP	PP	10 34 29.3	-2.5	
	comp=Z,4.8nm,1.0s,baz=98,slow=8.8,SNR=6.1								
MKAR					PKKPbc	PKKPbc	10 47 39.1	-1.3	
	comp=Z,1.2nm,0.8s,baz=278,slow=3.6,SNR=6.8								
MKAR	**Makanchi Array**	**94.43**	**317**	P		**P**	**10 30 41.7**	**-0.4**	
MKAR							10 34 29.3		
MKAR	**Makanchi Array**	**94.43**	**317**	P		**P**	**10 30 41.7**	**-0.4**	
MKAR					PP	PP	10 34 29.3	-2.6	
MKAR					PKKPbc	PKKPbc	10 47 39.1	-1.2	
ZAL	**Zalesovo**	**94.44**	**324**	P		**P**	**10 30 41.2**	**-0.9**	
	comp=Z,11nm,0.9s,mb5.0,baz=0.5,slow=5.5,SNR=14								
SMCO	**Snowmass**	**94.57**	**51**	*e*P		**P**	**10 30 42.7**	**0.0**	
SMCO				*e*PP		PP	10 34 34.9	+2.0	
YKA	**Yellowknife Ar**	**95.13**	**27**	P		**P**	**10 30 42.9**	**-2.4**	
	comp=Z,1.8nm,0.4s,mb4.7,baz=258,slow=4.9,SNR=55								
LTX	**Lajitas**	**95.45**	**61**	*e*P		**P**	**10 30 52.7**	**+6.0**	
TXAR	**Lajitas Array**	**95.45**	**61**	P		**P**	**10 30 46.9**	**+0.1**	
	comp=Z,1.1nm,0.7s,mb4.2,baz=228,slow=4.9,SNR=15								
TXAR					pP	pP	10 31 29.5	-1.3	
	comp=Z,0.6nm,0.9s,baz=191,slow=5.9,SNR=3.8								
TXAR					PP	PP	10 34 38.3	-1.4	
	comp=Z,1.7nm,1.1s,baz=213,slow=4.3,SNR=6.0								
TXAR					PKKPbc	PKKPbc	10 47 39.1	+1.5	
	comp=Z,0.2nm,0.5s,baz=84,slow=4.6,SNR=5.0								
TXAR	**Lajitas Array**	**95.45**	**61**	P		**P**	**10 30 46.9**	**+0.2**	
TXAR				*PP		pP	10 31 29.5	-1.3	
TXAR							10 34 38.3		
TXAR	**Lajitas Array**	**95.45**	**61**	P		**P**	**10 30 46.9**	**+0.1**	
TXAR				pP		pP	10 31 29.5	-1.3	
TXAR				PP		PP	10 34 38.3	-1.4	
TXAR				PKKPbc		PKKPbc	10 47 39.1	+1.5	
NVS	**Novosibirsk**	**95.53**	**325**	*i* P		**P**	**10 30 45.7**	**-1.4**	
POO	**Poona**	**96.09**	**288**	⇓*i*P		**P**	**10 30 46.0**	**-3.7**	
	comp=Z,40nm,1.0s,mb5.7								
VNA3	**Neumayer Olymp**	**97.31**	**181**	*e*P		**P**	**10 30 53.8**	**-1.4**	
VNA3				*e*			10 30 57.0		
VNA3				*e*			10 31 03.9		
VNA3				*e*			10 31 13.3		
VNA3				*e*		pP	10 31 36.6	-2.7	
VNA2	**Neumayer--Watz**	**97.56**	**182**	*e*P		**P**	**10 30 54.5**	**-1.8**	
VNA2				*e*			10 30 57.4		
VNA2				*e*			10 31 04.8		
VNA2				*e*			10 31 06.6		
VNA2				*e*			10 31 12.8		
VNA2				*e*		pP	10 31 37.0	-3.5	
AAK	**Ala-Archa**	**99.21**	**312**	*de*P		Pdif	10 31 02.1	-1.6	
AAK					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.9								
AAK	**Ala-Archa**	**99.21**	**312**	*e*P		Pdif	10 31 02.5	-1.2	
BVAR	**Borovoye Array**	**102.84**	**322**	PKiKP		PKiKP	10 35 38.0	-1.3	
	comp=Z,2.8nm,0.8s,baz=116,slow=2.6,SNR=6.2								
BRVK	**Borovoye**	**102.90**	**322**	*e*P		Pdif	10 31 18.8	-1.3	
ZRNK	**Zerenda**	**103.67**	**322**	*e*P		Pdif	10 31 22.0	-1.5	
ZRNK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ZRNK	**Zerenda**	**103.67**	**322**	*e*Pdif		Pdif	10 31 22.0	-1.5	
	comp=Z,3.5nm,0.8s								
AKTK	**Aktyubinsk**	**110.62**	**320**	Pdif		Pdif	10 31 52.0	-2.5	
AKTK				PKPdf		PKiKP	10 35 53.3	-0.4	
AKTO	**Aktyubinsk**	**110.62**	**320**	Pdiff		Pdif	10 31 52.0	-2.5	
	comp=Z,0.8nm,0.8s,baz=78,slow=7.2,SNR=4.4								
AKTO					PKiKP	PKiKP	10 35 53.3	-0.4	
	comp=Z,1.8nm,0.7s,baz=110,slow=2.4,SNR=5.7								
ARCES	**ARCESS Array B**	**117.05**	**346**	PKP		PKPdf	10 36 04.8	-1.3	
	comp=Z,11nm,0.5s,baz=87,slow=2.2,SNR=86								
SUMG	**Summit**	**117.27**	**8**	*e*PKPdf		PKPdf	10 36 06.7	+0.2	
LPAZ	**La Paz**	**119.28**	**116**	PKP		PKPdf	10 36 11.6	+1.3	
	comp=Z,2.5nm,0.7s,baz=218,slow=2.3,SNR=12								
QRN	**Al-Qurain**	**120.48**	**297**	*e*P		PKPdf	10 36 13.2	+0.6	
RDF	**Al-Radifah**	**120.79**	**297**	*e*P		PKPdf	10 36 13.7	+0.5	
RDF					AMb	AMB	10 36 14.4		
	comp=Z,82nm,1.2s								
MIB	**Mutribah**	**120.91**	**298**	*e*P		PKPdf	10 36 13.7	+0.2	
MIB					AMb	AMB	10 36 14.6		
	comp=Z,44nm,0.9s								
NAY	**Al-Naaiem**	**121.03**	**297**	*e*P		PKPdf	10 36 13.8	0.0	
NAY					AMb	AMB	10 36 14.7		
	comp=Z,17nm,0.9s								
OBN	**Obninsk**	**121.66**	**329**	⇓*i*PKIKP		PKPdf	10 36 14.2	-0.7	
OBN				*e*			10 36 55.5		
OBN				*i*			10 37 48.0		
OBN					pmax	pmax			
	comp=Z,17nm,0.9s								
VOR	**Voronezh**	**121.72**	**324**	PKIKP		PKPdf	10 36 14.0	-1.0	
VOR					pmax	pmax			
	comp=Z,90nm,2.0s								
VRSR	**Storozhevoye**	**121.93**	**324**	*e*PKIKP		PKPdf	10 36 15.3	-0.1	
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
VRSR					pmax	pmax			
	comp=N,4.0nm,1.4s								
VRSR					pmax	pmax			
	comp=E,5.0nm,0.7s								
FINES	**FINESS Array B**	**122.55**	**339**	PKP		PKPdf	10 36 15.5	-1.2	
	comp=E,6.2nm,0.6s,baz=63,slow=1.7,SNR=26								
FINES	**FINESS Array B**	**122.55**	**339**	PKP		PKPdf	10 36 15.5	-1.2	
SDV	**Santo Domingo**	**123.79**	**87**	*e*PKPdf		PKPdf	10 36 19.2	+0.2	
VSU	**Vasula**	**124.27**	**336**	*i* PKIKP		PKPdf	10 36 19.3	-0.6	
VSU	**Vasula**	**124.27**	**336**	*i* PKP		PKPdf	10 36 19.3	-0.6	
BOSA	**Boshof**	**125.21**	**222**	PKP		PKPdf	10 36 22.4	+0.7	
	comp=E,18nm,1.0s,baz=161,slow=0.5,SNR=14								
BOSA	**Boshof**	**125.21**	**222**	PKP		PKPdf	10 36 22.4	+0.7	
SUR	**Sutherland**	**125.33**	**216**	*e*PKPdf		PKPdf	10 36 22.6	+0.6	
MALT	**Malatya**	**126.77**	**309**	⇓*i*P		PKPdf	10 36 25.7	+1.0	
MALT	**Malatya**	**126.77**	**309**	⇓P		PKPdf	10 36 25.7	+1.0	
NB2	**NORSAR Subarra**	**127.42**	**345**	PKPdf		PKPdf	10 36 24.6	-1.4	
	comp=Z,9.9nm,1.1s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**127.42**	**345**	PKP		PKPdf	10 36 25.1	-0.9	
	comp=Z,7.2nm,0.8s,baz=32,slow=2.0,SNR=20								
HFS	**Hagfors**	**127.53**	**343**	PKP		PKPdf	10 36 23.9	-2.3	
	comp=Z,5.6nm,0.6s,baz=111,slow=8.1,SNR=9.1								
AKASG	**Malin Array Be**	**127.73**	**327**	PKP		PKPdf	10 36 25.6	-1.0	
	comp=Z,0.8nm,0.4s,baz=53,slow=1.9,SNR=22								
AKASG					PP	PP	10 38 25.3	-5.0	
	comp=Z,2.5nm,0.9s,baz=47,slow=6.8,SNR=9.0								
KMBO	**Kilima Mbogo**	**128.01**	**259**	PKP		PKPdf	10 36 28.7	+1.6	
	comp=Z,4.2nm,0.9s,baz=30,slow=18,SNR=7.1								
KMBO	**Kilima Mbogo**	**128.01**	**259**	*e*PKPdf		PKPdf	10 36 29.3	+2.2	
HUMP	**Col San Antoni**	**129.13**	**76**	*e*PKPdf		PKPdf	10 36 29.0	-0.2	
ASF	**Jabal al Asfar**	**129.46**	**302**	PKP		PKPdf	10 36 30.3	+0.5	
	comp=Z,2.9nm,0.5s,baz=49,slow=0.8,SNR=5.2								
BR131	**Keskin Array S**	**129.88**	**313**	*e*PP		PP	10 38 42.8	-1.5	
BRTR	**Keskin Array B**	**129.88**	**313**	PKP		PKPdf	10 36 30.3	-0.3	
	comp=Z,2.8nm,0.8s,baz=132,slow=3.7,SNR=16								
BRTR					PP	PP	10 38 43.0	-1.2	
	comp=Z,2.4nm,1.0s,baz=103,slow=2.7,SNR=7.0								
ANTO	**Ankara**	**130.44**	**313**	*e*PKIKP		PKPdf	10 36 32.2	+0.5	
MMAI	**Mount Meron Ar**	**130.50**	**304**	PKP		PKPdf	10 36 33.0	+1.2	
	comp=Z,1.3nm,0.3s,baz=342,slow=9.6,SNR=8.3								
LSZ	**Lusaka**	**130.83**	**238**	*e*PKIKP		PKPdf	10 36 34.3	+1.9	
LSZ				*e*			10 38 49.7		
CFR	**Carcaliu**	**131.24**	**321**	⇑PKIKP		PKPdf	10 36 34.9	+1.7	
EIL	**Elat**	**131.60**	**299**	*e*PKPdf		PKPdf	10 36 34.7	+0.8	
BURAR	**Bucovina Array**	**131.63**	**326**	⇑P		PKPdf	10 36 34.9	+0.9	
BURAR	**Bucovina Array**	**131.63**	**326**	⇑P		PKPdf	10 36 34.9	+1.0	
MLR	**Munteln Rosu**	**132.39**	**323**	PKP		PKPdf	10 36 35.0	-0.4	
	comp=Z,4.1nm,0.8s,baz=14,slow=3.9,SNR=6.2								
MLR	**Muntele Rosu**	**132.39**	**323**	⇑*i*P		PKPdf	10 36 34.5	-0.9	
MLR	**Muntele Rosu**	**132.39**	**323**	⇑P		PKPdf	10 36 34.5	-0.9	
KOLS	**Kolonicke sedl**	**132.41**	**329**	*e*PKP		PKPdf	10 36 35.4	0.0	
STHS	**Stebnicka Huta**	**132.62**	**330**	*e*PKP		PKPdf	10 36 36.4	+0.6	
OJC	**Ojcow**	**132.78**	**331**	*e*PKP		PKPdf	10 36 35.9	-0.2	
NIE	**Niedzica**	**133.07**	**330**	*e*PKP		PKPdf	10 36 37.5	+0.8	
DRGR		**133.50**	**326**	⇑*i*P		PKPdf	10 36 37.7	+0.2	
DRGR		**133.50**	**326**	⇑P		PKPdf	10 36 37.7	+0.2	
KECS	**Kecovo**	**133.60**	**329**	*e*PKP		PKPdf	10 36 35.1	-2.6	
OKC	**Ostrava-Krasne**	**133.81**	**332**	*e*PKPdf		PKPdf	10 36 38.2	+0.1	
MORC	**Moravsky Berou**	**134.13**	**332**	⇓*i*P		PKPdf	10 36 39.0	+0.3	
MORC	**Moravsky Berou**	**134.13**	**332**	⇓P		PKPdf	10 36 39.0	+0.4	
UPC	**Upice**	**134.28**	**334**	*e*PKPdf		PKPdf	10 36 40.2	+1.3	
GZR	**Gura Zlata**	**134.29**	**324**	⇑*i*P		PKPdf	10 36 39.9	+0.9	
GZR	**Gura Zlata**	**134.29**	**324**	⇑P		PKPdf	10 36 39.9	+0.9	
VYHS	**Vyhne**	**134.42**	**330**	*e*PKP		PKPdf	10 36 39.0	-0.2	
BZS	**Buzias**	**134.81**	**325**	⇑*i*P		PKPdf	10 36 39.3	-0.6	
BZS	**Buzias**	**134.81**	**325**	⇑P		PKPdf	10 36 39.3	-0.6	
BRG	**Berggiesshubel**	**134.87**	**336**	*i* P		PKPdf	10 36 40.1	0.0	
	comp=Z,7.7nm,0.9s								
PVCC	**Panska Ves**	**134.88**	**335**	*e*PKPdf		PKPdf	10 36 40.4	+0.3	
VRAC	**Vranov**	**134.90**	**332**	PKP		PKPdf	10 36 40.8	+0.7	
	comp=Z,2.6nm,0.4s,baz=99,slow=3.4,SNR=3.5								
CLL	**Collm**	**134.90**	**337**	*i* PKPdf		PKPdf	10 36 39.7	-0.4	
	comp=Z,16nm,0.9s								
PRU	**Pruhonice**	**135.30**	**334**	*e*PKPdf		PKPdf	10 36 41.0	+0.2	
EKA	**Eskdalemuir Ar**	**135.62**	**352**	PKP		PKPdf	10 36 40.9	-0.6	
	comp=Z,2.4nm,0.7s,baz=7.3,slow=2.3,SNR=7.5								
VTS	**Vitosha**	**135.62**	**321**	⇑*i*P		PKPdf	10 36 39.0	-2.5	
VTS	**Vitosha**	**135.62**	**321**	⇑P		PKPdf	10 36 39.0	-2.5	
MOX	**Moxa**	**135.96**	**337**	*e*PKIKP		PKPdf	10 36 42.0	-0.1	
PKSM	**Moragy**	**136.04**	**328**	⇓*i*P		PKPdf	10 36 42.1	-0.1	
PKSM	**Moragy**	**136.04**	**328**	⇓P		PKPdf	10 36 42.1	-0.2	
KHC	**Kasperske Hory**	**136.36**	**334**	*e*PKPdf		PKPdf	10 36 43.2	+0.4	
GERES	**GERESS Array B**	**136.52**	**334**	PKP		PKPdf	10 36 42.9	-0.2	
	comp=Z,6.2nm,0.8s,baz=48,slow=2.0,SNR=24								
GERES						SKP	10 40 00.6		
	comp=Z,1.1nm,0.8s,baz=41,slow=4.3,SNR=4.0								
DIVS	**Divcibare**	**136.66**	**325**	⇑P		PKPdf	10 36 43.2	-0.2	
TSUM	**Tsumeb**	**136.69**	**225**	*e*PKPdf		PKPdf	10 36 44.5	+1.0	
GRA1	**Grafenberg Arr**	**136.88**	**337**	*e*PKPdf		PKPdf	10 36 44.8	+1.0	
GRF	**Grafenberg Arr**	**136.88**	**337**	*e*PKPdf		PKPdf	10 36 44.8	+1.0	
MEM	**Membach**	**137.94**	**341**	PKP		PKPdf	10 36 45.7	0.0	
IDI	**Anoyia**	**138.00**	**311**	PKP		PKPdf	10 36 46.5	+0.7	
	comp=Z,9.4nm,0.7s,baz=45,slow=5.8,SNR=5.6								
WLF	**Walferdange**	**138.72**	**341**	PKP		PKPdf	10 36 49.8	+2.6	
DOU	**Dourbes**	**138.82**	**342**	PKP		PKPdf	10 36 47.4	0.0	
TIP	**Timpagrande**	**141.58**	**321**	*e*PKPdf		PKPdf	10 36 52.9	+0.5	
LPL	**La Plagne**	**142.04**	**337**	*e*PKP1		PKPdf	10 36 49.0	-4.2	
LPG	**La Plagne**	**142.05**	**337**	*e*PKP1		PKPdf	10 36 49.0	-4.2	
SMF	**Signal de Mont**	**142.11**	**340**	*e*PKP1		PKPdf	10 36 49.0	-4.3	
SGMF	**Saint Gilles**	**142.33**	**348**	*e*PKP1		PKPdf	10 36 49.0	-4.7	
BNI	**Bardonecchia**	**142.45**	**336**	*e*PKIKP		PKPdf	10 36 51.2	-2.7	
MBMF	**Montbardon**	**142.68**	**336**	*e*PKP1		PKPdf	10 36 50.2	-4.1	
ORIF	**Orsieres-Rattie**	**142.87**	**337**	*e*PKP1		PKPdf	10 36 51.3	-3.3	
	comp=Z,58nm,0.8s								
SAOF	**Saorge**	**142.97**	**334**	PKP		PKPdf	10 36 50.6	-4.2	
AUTN	**L'Aution**	**143.01**	**335**	PKP		PKPdf	10 36 51.4	-3.5	
TOUF	**Mont Tournerai**	**143.08**	**335**	PKP		PKPdf	10 36 51.2	-3.8	
SBF	**Sospel**	**143.12**	**334**	*e*PKP1		PKPdf	10 36 51.3	-3.8	
	comp=Z,98nm,0.8s								
MVIF	**Mont Vial**	**143.21**	**335**	PKP		PKPdf	10 36 51.4	-3.8	
REVF	**Revere**	**143.25**	**334**	PKP		PKPdf	10 36 52.3	-3.0	
MFF	**Saint Martin d**	**143.32**	**345**	*e*PKP1		PKPdf	10 36 52.4	-3.0	
	comp=Z,49nm,0.8s								
VIVF	**Saint-Julien-l**	**143.38**	**338**	*e*PKP1		PKPdf	10 36 52.7	-2.8	
	comp=Z,73nm,0.9s								
PGF	**Pioggiola**	**143.47**	**332**	*e*PKP1		PKPdf	10 36 52.3	-3.4	
	comp=Z,65nm,0.8s								
LBL	**Lubilhac**	**143.55**	**340**	PKP		PKPdf	10 36 54.2	-1.6	
FRF	**La Foret Royal**	**143.70**	**335**	*e*PKP1		PKPdf	10 36 53.4	-2.7	
	comp=Z,127nm,0.9s								
SMRF	**Simiane la Rot**	**143.78**	**336**	*e*PKP1		PKPdf	10 36 54.1	-2.1	
	comp=Z,68nm,0.9s								
LMR	**La Mourre**	**143.94**	**335**	*e*PKP1		PKPdf	10 36 54.5	-2.0	
	comp=Z,242nm,1.0s								
RJF	**Les Rejaudoux**	**144.04**	**342**	*e*PKP1		PKPdf	10 36 54.3	-2.4	
	comp=Z,60nm,0.9s								
PRAF	**Pradon**	**144.09**	**337**	PKP		PKPdf	10 36 55.5	-1.3	
GELF	**Grande-Etoile**	**144.34**	**336**	PKP		PKPdf	10 36 55.9	-1.3	
LASF	**Ste Croix**	**144.34**	**338**	*e*PKP1		PKPdf	10 36 55.5	-1.7	
	comp=Z,220nm,1.0s								
VSL	**Villasalto**	**145.59**	**328**	*e*PKPdf		PKPdf	10 36 59.9	+0.5	
FILF	**Fillols**	**146.13**	**338**	PKP		PKPdf	10 37 01.6	+1.3	
VIEF	**Viey**	**146.69**	**342**	PKP		PKPdf	10 37 03.7	+2.5	
ATE	**Arette**	**146.72**	**343**	PKP		PKPdf	10 37 03.2	+1.9	
EALK	**Alkurruntz**	**146.82**	**344**	PKP		PKPdf	10 37 01.9	+0.4	
EBIE	**Bielsa**	**146.83**	**341**	PKP		PKPdf	10 37 03.1	+1.7	
ELIZ	**Elizondo**	**146.88**	**344**	PKP2		PKPab	10 37 04.1	-1.3	
EARI	**Arrionndas**	**147.61**	**349**	PKP		PKPbc	10 37 06.6	+0.9	
ECRI	**Cripan**	**147.66**	**345**	PKP2		PKPab	10 37 06.2	-2.3	
EPOB	**Poblet**	**147.72**	**339**	PKP		PKPbc	10 37 06.3	+0.3	
ESAC	**San Caprasio**	**147.90**	**341**	PKP		PKPbc	10 37 07.1	+0.6	
EPON	**Pontenova**	**147.91**	**351**	PKP		PKPbc	10 37 08.5	+2.0	
KEST	**Kesra**	**148.30**	**323**	PKPbc		PKPbc	10 37 08.1	+0.6	
	comp=Z,15nm,0.7s,baz=92,slow=0.2,SNR=29								
ERTA	**Horta de San J**	**148.32**	**340**	PKP		PKPdf	10 37 08.9	+5.0	
ETOS	**Mallorca**	**148.44**	**336**	PKP		PKPbc	10 37 08.2	+0.4	
EMAZ	**Mazaricos**	**148.52**	**354**	PKP		PKPbc	10 37 10.1	+2.0	
STS	**Santiago**	**148.53**	**353**	PKP2		PKPbc	10 37 08.6	+0.5	
CMAH	**Djebel Manchou**	**148.75**	**326**	P		PKPbc	10 37 09.0	+0.3	
ERUA	**La Rua**	**148.83**	**351**	PKP2		PKPbc	10 37 09.8	+1.0	
EMOS	**Mosqueruela**	**149.12**	**340**	PKP		PKPbc	10 37 10.1	+0.5	
ETOR	**Torete**	**149.20**	**343**	PKP2		PKPbc	10 37 10.7	+0.9	
CKFL	**Kef-Lekhel**	**149.30**	**327**	P		PKPbc	10 37 11.5	+1.5	
PBRG	**Braganca**	**149.33**	**350**	*e*PKPbc		PKPbc	10 37 10.1	0.0	
PBRG	**Braganca**	**149.33**	**350**	*e*PKPab		PKPab	10 37 15.5	+0.2	
CASM	**Ain Smara**	**149.53**	**327**	P		PKPbc	10 37 11.0	+0.4	
DFRA	**Djebel Bou Aff**	**149.63**	**328**	P		PKPbc	10 37 12.0	+1.2	
EIBI	**Ibiza**	**149.66**	**337**	PKP		PKPbc	10 37 11.5	+0.6	
GUD	**Guadarrama**	**149.92**	**346**	PKP2		PKPbc	10 37 12.1	+0.6	
PVRL	**Vila Real**	**150.01**	**351**	*e*PKPbc		PKPbc	10 37 12.3	+0.6	
EBEN	**Beniarda**	**150.53**	**339**	PKP		PKPbc	10 37 13.5	+0.5	
ESDC	**Sonseca Array**	**150.79**	**345**	PKPbc		PKPbc	10 37 13.4	-0.2	
	comp=Z,10nm,0.8s,baz=18,slow=2.3,SNR=31								
ESDC					PKPab	PKPab	10 37 22.0	+0.7	
	comp=Z,5.1nm,0.5s,baz=12,slow=3.8,SNR=14								
ESDC					PP	PP	10 40 50.3	-1.6	
	comp=Z,0.5nm,0.4s,baz=13,slow=6.8,SNR=5.2								
ESDC	**Sonseca Array**	**150.79**	**345**	PKP		PKPbc	10 37 14.1	+0.5	
ESLA	**Sonseca Array**	**150.79**	**345**	*e*PKPdf		PKPbc	10 37 14.2	+0.6	
ETOB	**Tobarra**	**151.03**	**340**	PKP		PKPbc	10 37 14.0	-0.2	
EVIA	**Vianos**	**151.34**	**342**	PKIKP		PKPbc	10 37 16.0	+1.1	
PCBR	**Castelo Branco**	**151.37**	**350**	*e*PKPbc		PKPbc	10 37 15.2	+0.3	
EMUR	**La Murta**	**151.65**	**339**	PKP		PKPbc	10 37 14.4	-1.2	
EHUE	**Huescar**	**152.12**	**341**	PKIKP		PKPbc	10 37 16.6	-0.1	
EBAN	**Banos Encina**	**152.16**	**343**	PKIKP		PKPbc	10 37 17.5	+0.8	
EQES	**Quesada**	**152.28**	**342**	PKP		PKPbc	10 37 17.3	+0.3	
PESTR	**Estremoz**	**152.34**	**350**	*e*PKPbc		PKPbc	10 37 16.6	-0.5	
PESTR	**Estremoz**	**152.34**	**350**	*e*PKPab		PKPab	10 37 28.7	+0.9	
EADA	**Adamuz**	**152.37**	**345**	PKP		PKPbc	10 37 16.4	-0.7	
ENIJ	**Nijar**	**152.77**	**340**	PKIKP		PKPbc	10 37 18.1	0.0	
ELUQ	**Luque**	**152.85**	**344**	PKIKP		PKPbc	10 37 18.1	-0.2	
ECOG	**Cogollos-Vega**	**152.92**	**342**	PKIKP		PKPbc	10 37 18.4	0.0	
PBEJ	**Beja**	**153.21**	**350**	*e*PKPbc		PKPbc	10 37 19.7	+0.7	
PBEJ	**Beja**	**153.21**	**350**	*e*PKPab		PKPab	10 37 32.4	+0.9	
ELOJ	**Sierra Loja**	**153.21**	**343**	PKIKP		PKPbc	10 37 19.7	+0.7	
EMIN	**Mina Concepcio**	**153.23**	**348**	PKP		PKPbc	10 37 20.2	+1.1	
ESPR	**Espera**	**153.91**	**346**	PKP		PKPbc	10 37 21.3	+0.7	
TOA0	**Torodi Ar. Sit**	**165.07**	**278**	*e*PKPdf		PKPdf	10 37 25.4	+0.2	
TORD	**Torodi Ar. Bea**	**165.07**	**278**	PKP		PKPdf	10 37 25.4	+0.2	
	comp=Z,9.3nm,1.0s,baz=11,slow=1.5,SNR=33								
TORD					PKPab	PKPab	10 38 23.7	+0.7	
	comp=Z,6.6nm,1.0s,baz=74,slow=4.5,SNR=12								
TORD	**Torodi Ar. Bea**	**165.07**	**278**	PKP		PKPdf	10 37 25.4	+0.2	
TORD					PKPab	PKPab	10 38 23.7	+0.7	
LIC	**Lamto**	**170.07**	**238**	*e*PKP2		PKPab	10 38 44.7	-

MAIM		**1.02**	**125**	P	**Pb**	**12**	**26**	**50.4 -1.1**
MAIM		**1.02**	**125**	Pg	**Pg**	**12**	**26**	**51.8 +0.2**
ROB	**Roburent**	**1.06**	**259**	P	**Pb**	**12**	**26**	**51.7 -0.5**
PZZT	**Monte Pizzetto**	**1.16**	**108**	Pg	**Pg**	**12**	**26**	**53.6 -0.6**
PZZT				Sg	**Sg**	**12**	**27**	**12.0 +2.7**
	65nm,0.4s							
PII	**Pisa**	**1.16**	**132**	Pg	**Pg**	**12**	**26**	**54.3 +0.1**
PII				Sg	**Sg**	**12**	**27**	**10.4 +1.0**
	38nm,0.2s							
MONE	**Monesi**	**1.21**	**250**	P	**Pn**	**12**	**26**	**53.5 -1.1**
NEGI	**Negi**	**1.34**	**241**	P	**Pn**	**12**	**26**	**55.1 -1.3**
ENR	**Entracque**	**1.40**	**259**	P	**Pn**	**12**	**26**	**56.3 -0.9**
STV	**Sta Anna Valdi**	**1.46**	**261**	P	**Pn**	**12**	**26**	**57.2 -0.8**
DOI	**San Damiano**	**1.49**	**271**	Pg	**Pg**	**12**	**27**	**00.3 -0.2**
	59nm,0.4s							
SBF	**Sospel**	**1.50**	**246**	*e*Pn	**Pn**	**12**	**26**	**58.8 +0.1**
SBF				*e*Sg	**Sg**	**12**	**27**	**20.3 0.0**
	9.9nm,0.2s							
PZZ	**Prazzo**	**1.59**	**271**	P	**Pn**	**12**	**26**	**59.3 -0.6**
MBDF	**Montbardon**	**1.84**	**278**	*e*Pn	**Pn**	**12**	**27**	**06.0 +2.7**
MBDF				*e*Sn	**Sn**	**12**	**27**	**27.9 +1.4**
	15nm,0.5s							
PGF	**Pioggiola**	**1.97**	**187**	*e*Pn	**Pn**	**12**	**27**	**04.8 -0.2**
PGF				*e*Sn	**Sn**	**12**	**27**	**28.1 -1.5**
LPG	**La Plagne**	**2.08**	**299**	*e*Pn	**Pn**	**12**	**27**	**08.9 +2.3**
LPL	**La Plagne**	**2.10**	**300**	*e*Pn	**Pn**	**12**	**27**	**08.3 +1.4**
FRF	**La Foret Royal**	**2.15**	**245**	*e*Pn	**Pn**	**12**	**27**	**08.4 +0.9**
FRF				*e*Sn	**Sn**	**12**	**27**	**33.2 -1.0**
	4.2nm,0.3s							
LMR	**La Mourre**	**2.35**	**241**	*e*Pn	**Pn**	**12**	**27**	**10.4 +0.1**
LMR				*e*Sn	**Sn**	**12**	**27**	**37.3 -1.7**
	4.2nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.49**	**281**	*e*Pn	**Pn**	**12**	**27**	**15.2 +2.9**
SMRF	**Simiane la Rot**	**2.75**	**260**	*e*Pn	**Pn**	**12**	**27**	**16.6 +0.8**
SMRF				*e*Sn	**Sn**	**12**	**27**	**48.3 -0.6**
	3.0nm,0.5s							
CABF	**La Chapelle**	**3.10**	**314**	*e*Pn	**Pn**	**12**	**27**	**22.4 +1.8**
VIVF	**Saint-Julien-l**	**3.34**	**278**	*e*Pn	**Pn**	**12**	**27**	**26.5 +2.6**
HAU	**Haudompre**	**4.07**	**331**	*e*Pn	**Pn**	**12**	**27**	**33.8 -0.1**
HAU				*e*Sn	**Sn**	**12**	**28**	**20.7 -0.8**
	4.2nm,0.3s							
CDF	**Champ du Feu**	**4.16**	**341**	*e*Pn	**Pn**	**12**	**27**	**34.3 -0.9**
CDF				*e*Sn	**Sn**	**12**	**28**	**23.5 -0.2**
	2.2nm,0.3s							
SMF	**Signal de Mont**	**4.41**	**301**	*e*Pn	**Pn**	**12**	**27**	**39.9 +1.3**
SMF				*e*Sn	**Sn**	**12**	**28**	**28.9 -0.9**
	1.1nm,0.3s							
LOR	**Lormes**	**4.71**	**308**	*e*Pn	**Pn**	**12**	**27**	**44.1 +1.3**
AVF	**Avril sur Loir**	**4.77**	**301**	*e*Pn	**Pn**	**12**	**27**	**43.5 -0.1**

*ISCJB **28** 13:09:34.1±1.0, 5982N±007×2425E±009, h0km, Error ellipse: s-maj=10.6km s-min=4.5km az=122.4*
*HEL **28** 13:09:35.5±0.2, 5981N×2424E, h0km, ML2.1, ML2.4(UPP), Explosion*
*IDC **28** 13:09:36.0±2.5, 5988N×2436E, h0km, mb1 3.5/2, mb1mx3.1/20, mbtmp3.4/2, ML3.4/2, Error ellipse: s-maj=27.5km s-min=12.3km az=157.0*

ISC 28 13:09:35.1±1.1, 5984N±007×2426E±010, h0km, n14, σ0s59/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.39**	**10**	*e*P	**Pg**	**13 09 42.9**	**+0.4**
MEF				*e*S	**Sg**	**13 09 48.0**	**+0.4**
PVF	**Pernaja**	**1.07**	**48**	*e*P	**Pg**	**13 09 55.3**	**-0.4**
PVF				*e*S	**Sg**	**13 10 08.9**	**-0.7**
RAF	**Rauma**	**1.72**	**315**	*e*P	**Pn**	**13 10 06.1**	**-0.2**
RAF				*e*S	**Sn**	**13 10 28.5**	**-0.4**
FIA0	**FINESS Array S**	**1.84**	**28**	*e*P	**Pn**	**13 10 09.0**	**+1.0**
FIA0				*e*S	**Sn**	**13 10 32.1**	**+0.1**
FIA0				MSG		13 10 36.6	
	comp=Z,11nm,0.1s						
FINES	**FINESS Array B**	**1.84**	**28**	Pn	**Pn**	**13 10 09.1**	**+1.0**
	comp=Z,4.2nm,0.3s,baz=213,slow=14,SNR=117						
FINES				Sn	**Sn**	**13 10 32.9**	**+0.9**
	comp=Z,4.2nm,0.3s,baz=208,slow=24,SNR=19						
FINES				Rg		13 10 44.1	
	comp=Z,5.9nm,0.8s,baz=208,slow=32,SNR=4.9						
AAL	**Aland**	**2.17**	**281**	*e*P	**Pn**	**13 10 13.7**	**+1.2**
AAL				*e*S	**Sn**	**13 10 39.9**	**-0.1**
KAF	**Kangasniemi**	**2.49**	**23**	MSG		13 10 54.7	
	comp=Z,8.7nm,0.2s						
NRTU	**Norrtaelje**	**2.85**	**269**	*e*P	**Pn**	**13 10 22.3**	**+0.4**
GRAU	**Graesoe**	**2.91**	**282**	*e*P	**Pn**	**13 10 22.2**	**-0.4**
GRAU				*e*S	**Sn**	**13 10 58.3**	**0.0**
FLYU	**Flymyra**	**3.22**	**278**	*e*P	**Pn**	**13 10 27.1**	**+0.2**
OSTU	**Oestervaala**	**3.60**	**279**	*e*P	**Pn**	**13 10 31.9**	**-0.2**
BACU	**Backbrunna**	**3.61**	**273**	*e*P	**Pn**	**13 10 32.5**	**+0.2**
NOA	**NORSAR Array B**	**6.57**	**286**	Pn	**Pn**	**13 11 12.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=95,slow=14,SNR=2.6						
NOA				Sn	**Sn**	**13 12 23.6**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=98,slow=19,SNR=2.7						
ARCES	**ARCESS Array B**	**9.76**	**3**	Pn	**Pn**	**13 11 55.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=184,slow=12,SNR=33						
ARCES				Sn	**Sn**	**13 13 38.0**	**-8.9**
	comp=Z,0.1nm,0.3s,baz=177,slow=22,SNR=2.6						

IDC 28 13:20:42.7±1.1, 4605N×15427E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=33.6km s-min=27.7km az=96.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.49**	**261**	Pn	Pn	13 22 47.2	+0.4
	0.3nm,0.3s,baz=68,slow=19,SNR=3.8						
MKAR	**Makanchi Array**	**47.98**	**298**	P	P	13 29 22.6	-0.6
	0.7nm,0.7s,baz=64,slow=6.8,SNR=7.4						
FINES	**FINESS Array B**	**65.01**	**335**	P	P	13 31 23.4	-1.1
	1.0nm,0.8s,baz=18,slow=6.3,SNR=3.5						
WRA	**Warramunga Arr**	**68.12**	**200**	P	P	13 31 44.2	-0.2
	0.4nm,0.8s,baz=18,slow=6.5,SNR=3.3						
HFS	**Hagfors**	**69.39**	**340**	P	P	13 31 52.6	+0.3
	2.2nm,0.8s,baz=49,slow=9.7,SNR=4.1						
ASAR	**Alice Springs**	**71.81**	**200**	P	P	13 32 07.2	+0.1
	0.2nm,0.7s,baz=11,slow=6.3,SNR=5.0						
TXAR	**Lajitas Array**	**77.13**	**61**	P	P	13 32 38.2	+0.2
	0.3nm,0.7s,baz=317,slow=3.8,SNR=3.5						

*IDC **28** 13:24:00.8±2.7, 5975N×2450E, h0km, mb1 3.7/2, mb1mx3.2/20, mbtmp3.5/2, ML3.6/2, Error ellipse: s-maj=30.5km s-min=11.6km az=152.0*
*ISCJB **28** 13:24:00.1±0.4, 5985N±003×2429E±005, h0km, Error ellipse: s-maj=5.0km s-min=3.8km az=135.7*
*NAO **28** 13:24:01.6±0.9, 5981N×2433E, ML2.2*
*HEL **28** 13:24:01.8±0.1, 5983N×2423E, h0km, ML2.2, ML2.8(UPP), ML2.2(NAO), Explosion*
*UPP **28** 13:24:01.4, 60.11N×2433E, h0km, ML2.8, Suspected Mining explosion.*
*BER **28** 13:24:02.2±3.8, 5983N×2427E, h0km, ML2.2(NAO), Suspected explosion*
*CSEM **28** 13:24:04.1±0.4, 5999N×2377E, h1km, ML2.2, Error ellipse: s-maj=12.5km s-min=3.0km az=141.0, Suspected Mining explosion.*

ISC 28 13:24:01.2±0.4, 5985N±003×2429E±005, h0km, n33, σ0s93/48, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.37**	**8**	*e*P	**Pg**	**13 24 09.0**	**+0.6**
MEF				*e*S	**Sg**	**13 24 14.2**	**+0.9**
PVF	**Pernaja**	**1.05**	**48**	*e*P	**Pg**	**13 24 21.1**	**-0.2**
PVF				*e*S	**Sg**	**13 24 35.0**	**0.0**
RAF	**Rauma**	**1.72**	**314**	*e*P	**Pn**	**13 24 32.2**	**-0.1**
RAF				*e*S	**Sn**	**13 24 54.2**	**-0.8**
FIA0	**FINESS Array S**	**1.83**	**28**	Pg	**Pg**	**13 24 35.0**	**-1.2**
	baz=225,slow=16						
FIA0				Lg		13 24 58.9	
	baz=206,slow=28						
FIA0	**FINESS Array S**	**1.83**	**28**	*e*P	**Pn**	**13 24 34.9**	**+1.0**
FIA0				*e*S	**Sn**	**13 24 58.1**	**+0.4**
FIA0				MSG		13 25 02.2	
	comp=Z,15nm,0.2s						
FINES	**FINESS Array B**	**1.83**	**28**	Pn	**Pn**	**13 24 35.1**	**+1.2**
	comp=Z,4.9nm,0.3s,baz=205,slow=15,SNR=97						
FINES				Sn	**Sn**	**13 24 58.6**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=195,slow=21,SNR=7.3						
FINES				Rg		13 25 11.1	
	comp=Z,2.9nm,0.3s,baz=235,slow=25,SNR=5.5						
VSU	**Vasula**	**1.88**	**137**	Pg	**Pg**	**13 24 35.3**	**-1.9**
VSU				Lg		13 24 59.4	
VSU	**Vasula**	**1.88**	**137**	*e*P	**Pn**	**13 24 35.1**	**+0.5**
VSU				*e*S	**Sn**	**13 24 59.0**	**+0.1**
AAL	**Aland**	**2.18**	**281**	*e*P	**Pn**	**13 24 39.2**	**+0.5**
AAL				*e*S	**Sn**	**13 25 07.9**	**+1.5**
KAF	**Kangasniemi**	**2.48**	**23**	MSG		13 25 19.8	
	comp=Z,12nm,0.2s						
NRTU	**Norrtaelje**	**2.87**	**269**	*e*P	**Pn**	**13 24 48.2**	**0.0**
GRAU	**Graesoe**	**2.92**	**282**	*e*P	**Pn**	**13 24 48.4**	**-0.5**
GRAU				*e*S	**Sn**	**13 25 23.9**	**-0.8**
GRAU	**Graesoe**	**2.92**	**282**	P	**Pn**	**13 24 48.3**	**-0.6**
SUF	**Sumiainen**	**3.02**	**17**	MSG		13 25 34.7	
	comp=Z,7.3nm,0.2s						
FLYU	**Flymyra**	**3.23**	**278**	*e*P	**Pn**	**13 24 53.2**	**+0.1**
NYNU	**Nynaeshamn**	**3.32**	**258**	*e*P	**Pn**	**13 24 54.6**	**+0.3**
OSTU	**Oestervaala**	**3.61**	**279**	*e*P	**Pn**	**13 24 58.0**	**-0.4**
BACU	**Backbrunna**	**3.62**	**273**	*e*P	**Pn**	**13 24 59.1**	**+0.6**
ESKU	**Eskilstuna**	**4.07**	**265**	*e*P	**Pn**	**13 25 05.4**	**+0.8**
VIKU	**Vikbolandet**	**4.13**	**254**	*e*P	**Pn**	**13 25 07.4**	**+1.8**
FALU	**Falun**	**4.27**	**282**	*e*P	**Pn**	**13 25 07.6**	**+0.1**
LNKU	**Linkoeping**	**4.82**	**254**	*e*P	**Pn**	**13 25 16.7**	**+1.7**
HFS	**Hagfors**	**5.33**	**278**	Pn	**Pn**	**13 25 22.0**	**+0.1**
	baz=113,slow=12						
HFS				Sn	**Sn**	**13 26 22.1**	**-2.0**
	baz=90,slow=28						
HFS				Lg		13 26 44.2	
	baz=86,slow=37						
HFS	**Hagfors**	**5.33**	**278**	*e*P	**Pn**	**13 25 22.0**	**+0.1**
HFS				*e*S	**Sn**	**13 26 22.1**	**-2.0**
HFS				*e*SG		13 26 44.2	
HFS	**Hagfors**	**5.33**	**278**	Pn	**Pn**	**13 25 22.0**	**0.0**
	SNR=1.6						
HFS				Sn	**Sn**	**13 26 22.0**	**-2.0**
	SNR=50						
NB2	**NORSAR Subarra**	**6.58**	**286**	Pn	**Pn**	**13 25 37.8**	**-1.4**
	baz=92,slow=14						
NB2				Sn	**Sn**	**13 26 51.2**	**-3.6**
	baz=97,slow=28						
NB2				Lg		13 27 23.6	
NB2	**NORSAR Subarra**	**6.58**	**286**	*e*P	**Pn**	**13 25 37.8**	**-1.4**
NB2				*e*S	**Sn**	**13 26 51.2**	**-3.6**
NB2				*e*SG		13 27 23.6	
NOA	**NORSAR Array B**	**6.58**	**286**	Pn	**Pn**	**13 25 38.0**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=100,slow=13,SNR=3.3						
NOA				Sn	**Sn**	**13 26 51.1**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=98,slow=18,SNR=2.4						
APA0	**Apatity Array**	**8.68**	**23**	Pn	**Pn**	**13 26 07.9**	**-0.1**
	baz=210,slow=16						
APA0	**Apatity Array**	**8.68**	**23**	*e*P	**Pn**	**13 26 07.9**	**-0.1**
ARA0	**ARCESS Array S**	**9.74**	**3**	Pn	**Pn**	**13 26 22.0**	**-0.6**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**13 28 06.5**	**-6.2**
	baz=178,slow=28						
ARA0	**ARCESS Array S**	**9.74**	**3**	*e*P	**Pn**	**13 26 22.0**	**-0.6**
ARA0				*e*S	**Sn**	**13 28 06.5**	**-6.2**
ARCES	**ARCESS Array B**	**9.74**	**3**	Pn	**Pn**	**13 26 21.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=185,slow=13,SNR=33						
ARCES				Sn	**Sn**	**13 28 06.8**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=178,slow=23,SNR=3.1						

*ISCJB **28** 13:33:33.0±0.5, 5985N±004×2427E±006, h0km, Error ellipse: s-maj=5.7km s-min=4.7km az=9.2*
*IDC **28** 13:33:33.7±2.3, 5971N×2450E, h0km, mb1 3.6/3, mb1mx3.3/21, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=27.9km s-min=9.0km az=150.0*
*CSEM **28** 13:33:33.8±0.1, 5975N×2414E, h1km, ML2.3, Error ellipse: s-maj=2.9km s-min=2.2km az=1.0, Suspected Mining explosion.*
*HEL **28** 13:33:34.8±0.1, 5982N×2422E, h0km, ML2.3, ML2.7(UPP), ML2.3(NAO), Explosion*
*NAO **28** 13:33:35.2±1.0, 5980N×2436E, ML2.3*
*BER **28** 13:33:35.8±4.2, 5981N×2434E, h0km, ML2.3(NAO), Suspected explosion*
*UPP **28** 13:33:41.1, 5991N×2329E, h0km, ML2.7, Suspected Mining explosion.*

ISC 28 13:33:34.1±0.4, 5984N±004×2426E±006, h0km, n38, σ0s87/53, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.39**	**10**	*e*P	**Pg**	**13 33 42.1**	**+0.5**
PVF	**Pernaja**	**1.07**	**48**	*e*P	**Pg**	**13 33 54.2**	**-0.5**
RAF	**Rauma**	**1.72**	**315**	*e*P	**Pn**	**13 34 05.4**	**+0.1**
RAF				*e*S	**Sn**	**13 34 27.7**	**-0.2**
FIA0	**FINESS Array S**	**1.85**	**28**	Pg	**Pg**	**13 34 08.2**	**-1.3**
	baz=215,slow=16						
FIA0				Lg		13 34 33.5	
	baz=207,slow=28						
FIA0	**FINESS Array S**	**1.85**	**28**	*e*P	**Pn**	**13 34 08.1**	**+1.0**
FIA0				*e*S	**Sn**	**13 34 31.8**	**+0.7**
FIA0				MSG		13 34 35.7	
	comp=Z,21nm,0.2s						
FINES	**FINESS Array B**	**1.85**	**28**	Pn	**Pn**	**13 34 08.2**	**+1.1**
	comp=Z,5.2nm,0.3s,baz=201,slow=14,SNR=121						
FINES				Sn	**Sn**	**13 34 33.7**	**+2.6**
	comp=Z,8.9nm,0.3s,baz=211,slow=26,SNR=22						
FINES				Rg		13 34 41.5	
	comp=Z,9.8nm,0.4s,baz=210,slow=15,SNR=4.0						
VSU	**Vasula**	**1.88**	**136**	Pg	**Pg**	**13 34 08.3**	**-1.8**
VSU				Lg		13 34 32.9	
VSU	**Vasula**	**1.88**	**136**	*e*P	**Pn**	**13 34 07.8**	**+0.3**
VSU				*e*S	**Sn**	**13 34 32.1**	**+0.2**
AAL	**Aland**	**2.17**	**281**	*e*P	**Pn**	**13 34 11.9**	**+0.5**
KAF	**Kangasniemi**	**2.50**	**23**	MSG		13 34 54.7	
	comp=Z,16nm,0.2s						
NRTU	**Norrtaelje**	**2.85**	**269**	*e*P	**Pn**	**13 34 21.2**	**+0.4**
NRTU	**Norrtaelje**	**2.85**	**269**	P	**Pn**	**13 34 21.2**	**+0.3**
GRAU	**Graesoe**	**2.91**	**282**	*e*P	**Pn**	**13 34 21.3**	**-0.3**
FLYU	**Flymyra**	**3.22**	**278**	*e*P	**Pn**	**13 34 26.0**	**+0.1**
NYNU	**Nynaeshamn**	**3.30**	**258**	*e*P	**Pn**	**13 34 27.7**	**+0.7**
OSTU	**Oestervaala**	**3.59**	**279**	*e*P	**Pn**	**13 34 31.1**	**0.0**
BACU	**Backbrunna**	**3.61**	**273**	*e*P	**Pn**	**13 34 31.6**	**+0.4**
ESKU	**Eskilstuna**	**4.05**	**265**	*e*P	**Pn**	**13 34 38.4**	**+1.0**
VIKU	**Vikbolandet**	**4.11**	**254**	*e*P	**Pn**	**13 34 38.2**	**0.0**
FALU	**Falun**	**4.26**	**283**	*e*P	**Pn**	**13 34 40.7**	**+0.5**
HASU	**Hassela**	**4.39**	**305**	*e*P	**Pn**	**13 34 42.8**	**+0.8**
NRAU	**Nora**	**4.68**	**271**	*e*P	**Pn**	**13 34 46.5**	**+0.6**
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**13 34 55.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=113,slow=12,SNR=22						
HFS				Sn	**Sn**	**13 35 54.5**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=92,slow=25,SNR=5.4						
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**13 34 55.4**	**+0.7**
	baz=117,slow=12						
HFS				Sn	**Sn**	**13 35 55.4**	**-1.2**
	baz=107,slow=22						
HFS	**Hagfors**	**5.31**	**278**	*e*P	**Pn**	**13 34 55.4**	**+0.7**
HFS				*e*S	**Sn**	**13 35 55.4**	**-1.2**
HFS	**Hagfors**	**5.31**	**278**	*e*	**Pn**	**13 34 55.4**	**+0.7**
HFS				*e*S	**Sn**	**13 35 55.4**	**-1.2**
NB2	**NORSAR Subarra**	**6.57**	**286**	Pn	**Pn**	**13 35 11.1**	**-0.9**
	baz=92,slow=14						
NB2				Sn	**Sn**	**13 36 24.7**	**-2.8**
	baz=98,slow=28						
NB2	**NORSAR Subarra**	**6.57**	**286**	*e*P	**Pn**	**13 35 11.1**	**-0.9**
NB2				*e*S	**Sn**	**13 36 24.7**	**-2.8**
NB2	**NORSAR Subarra**	**6.57**	**286**	*e*	**Pn**	**13 35 11.1**	**-0.9**
NB2				*e*S	**Sn**	**13 36 24.7**	**-2.8**
NOA	**NORSAR Array B**	**6.57**	**286**	Pn	**Pn**	**13 35 11.0**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=92,slow=13,SNR=3.6						
NOA				Sn	**Sn**	**13 36 24.5**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=121,slow=14,SNR=2.5						
APA0	**Apatity Array**	**8.70**	**23**	Pn	**Pn**	**13 35 41.8**	**+0.6**
	baz=218,slow=12						
APA0	**Apatity Array**	**8.70**	**23**	*e*P	**Pn**	**13 35 41.8**	**+0.6**
APA0	**Apatity Array**	**8.70**	**23**	*e*	**Pn**	**13 35 41.8**	**+0.6**
ARA0	**ARCESS Array S**	**9.76**	**3**	Pn	**Pn**	**13 35 54.6**	**-1.0**
	baz=176,slow=12						
ARA0				Sn	**Sn**	**13 37 39.9**	**-6.1**
	baz=190,slow=18						
ARA0	**ARCESS Array S**	**9.76**	**3**	*e*P	**Pn**	**13 35 54.6**	**-1.0**
ARA0				*e*S	**Sn**	**13 37 39.9**	**-6.1**
ARA0	**ARCESS Array S**	**9.76**	**3**	*e*	**Pn**	**13 35 54.6**	**-1.0**
ARA0				*e*		13 37 39.9	
ARA0	**ARCESS Array S**	**9.76**	**3**	Pn	**Pn**	**13 35 54.7**	**-1.0**
	SNR=2.8						
ARA0				Sn	**Sn**	**13 37 39.8**	**-6.1**
ARCES	**ARCESS Array B**	**9.76**	**3**	Pn	**Pn**	**13 35 54.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=181,slow=13,SNR=46						
ARCES				Sn	**Sn**	**13 37 41.2**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=192,slow=20,SNR=3.8						

*ISCJB **28** 13:33:46.0±0.6, 5978N±004×2408E±007, h0km, Error ellipse: s-maj=5.6km s-min=4.9km az=42.9*
*IDC **28** 13:33:46.3±2.4, 5967N×2449E, h0km, mb1 3.6/3, mb1mx3.2/21, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=28.5km s-min=9.5km az=151.0*
*HEL **28** 13:33:47.9±0.2, 5980N×2419E, h0km, ML2.3(NAO), Explosion*

ISC 28 13:33:47.2±0.6, 5980N±004×2414E±007, h0km, n14, σ0s84/26, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.14**	**48**	*e*P	**Pg**	**13 34 08.4**	**-0.7**
RAF	**Rauma**	**1.71**	**317**	*e*P	**Pn**	**13 34 17.6**	**-0.6**
RAF				*e*S	**Sn**	**13 34 41.4**	**+0.7**
VJF	**Virojoki**	**1.86**	**65**	*e*P	**Pn**	**13 34 19.6**	**-0.7**
VJF				*e*S	**Sn**	**13 34 44.4**	**-0.1**
VSU	**Vasula**	**1.89**	**134**	*e*P	**Pn**	**13 34 20.8**	**+0.1**
VSU				*e*S	**Sn**	**13 34 45.1**	**-0.2**
FIA0	**FINESS Array S**	**1.91**	**29**	*e*P	**Pn**	**13 34 20.1**	**-0.9**
FIA0				*e*S	**Sn**	**13 34 45.1**	**-0.6**
FINES	**FINESS Array B**	**1.91**	**29**	Pn	**Pn**	**13 34 21.1**	**+0.2**
	6.0nm,0.3s,baz=201,slow=14,SNR=20						
FINES				Sn	**Sn**	**13 34 46.6**	**+0.9**
	7.2nm,0.3s,baz=213,slow=28,SNR=10						
FINES				Rg		13 34 56.3	
	3.4nm,0.2s,baz=203,slow=33,SNR=5.0						
KEF	**Keuruu**	**2.41**	**8**	*e*P	**Pn**	**13 34 28.4**	**+0.6**
KEF				*e*S	**Sn**	**13 34 58.2**	**+0.3**
KAF	**Kangasniemi**	**2.55**	**23**	*e*P	**Pn**	**13 34 31.2**	**+1.4**
KAF				*e*S	**Sn**	**13 35 03.1**	**+1.5**
SUF	**Sumiainen**	**3.09**	**17**	*e*P	**Pn**	**13 34 38.1**	**+0.9**
SUF				*e*SB	**Sb**	**13 35 19.8**	**-1.5**
VAF	**Ylistaro**	**3.33**	**348**	*e*P	**Pn**	**13 34 41.6**	**+1.0**
VAF				*e*SB	**Sb**	**13 35 27.3**	**-1.0**
KJN	**Kajaani**	**4.62**	**20**	*e*SG	**Sg**	**13 36 09.4**	**-6.3**
HFS	**Hagfors**	**5.26**	**278**	Pn	**Pn**	**13 35 07.4**	**+0.3**
	0.8nm,0.3s,baz=95,slow=18,SNR=9.2						
HFS				Sn	**Sn**	**13 36 08.4**	**0.0**
	1.3nm,0.3s,baz=103,slow=24,SNR=5.1						
NOA	**NORSAR Array B**	**6.53**	**287**	Pn	**Pn**	**13 35 24.0**	**-0.4**
	0.9nm,0.3s,baz=95,slow=14,SNR=3.4						
NOA				Sn	**Sn**	**13 36 36.0**	**-3.5**
	0.7nm,0.3s,baz=274,slow=19,SNR=2.5						
ARCES	**ARCESS Array B**	**9.80**	**3**	Pn	**Pn**	**13 36 08.5**	**-0.8**
	0.8nm,0.3s,baz=184,slow=13,SNR=11						
ARCES				Sn	**Sn**	**13 37 54.6**	**-5.4**
	0.3nm,0.3s,baz=178,slow=23,SNR=3.1						

MAN 28 13:40:00.0, 1243N×12516E, h12km, mb2.3, ML3.9, MS1.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.27**	**188**	*e*P	Pn	13 40 21.1	-2.4
PLP				*e*S	Sb	13 40 36.4	-3.6
PVCP	**Virac**	**1.52**	**320**	*i*P	Pn	13 40 26.8	-0.3
PVCP				*i* S	Sn	13 40 50.4	+3.6

*ISCJB **28** 13:43:34.4±0.4, 5983N±003×2427E±006, h0km, Error ellipse: s-maj=4.9km s-min=4.1km az=115.0*
*IDC **28** 13:43:35.5±2.6, 5976N×2437E, h0km, mb1 3.8/2, mb1mx3.3/20, mbtmp3.7/2, ML3.7/2, Error ellipse: s-maj=29.3km s-min=10.6km az=157.0*
*CSEM **28** 13:43:35.8±0.1, 5977N×2418E, h2km, ML2.2, Error ellipse: s-maj=2.7km s-min=2.3km az=165.0, Suspected Mining explosion.*
*NAO **28** 13:43:36.4±1.0, 5983N×2430E, ML2.2*
*BER **28** 13:43:36.8±4.7, 5981N×2426E, h0km, ML2.2(NAO), Suspected explosion*
*HEL **28** 13:43:36.1±0.1, 5982N×2423E, h0km, ML2.2, ML2.6(UPP), ML2.2(NAO), Explosion*
*UPP **28** 13:43:40.0, 5985N×2364E, h0km, ML2.6, Suspected Mining explosion.*

ISC 28 13:43:35.5±0.4, 5983N±003×2427E±006, h0km, n33, σ0s76/47, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.40**	**9**	*e*P	**Pg**	**13 43 43.4**	**+0.4**
MEF				*e*S	**Sg**	**13 43 48.3**	**+0.1**
PVF	**Pernaja**	**1.07**	**47**	*e*P	**Pg**	**13 43 55.6**	**-0.4**
PVF				*e*S	**Sg**	**13 44 09.5**	**-0.5**
RAF	**Rauma**	**1.73**	**315**	*e*P	**Pn**	**13 44 06.7**	**-0.1**
RAF				*e*S	**Sn**	**

ARCES	**ARCESS Array B**	**9.76**	**3**	Pn		**Pn**	**13 45 56.8**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=183,slow=13,SNR=43							
ARCES				Sn		**Sn**	**13 47 41.9**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=184,slow=23,SNR=4.2							

*NEIC **28** 13:44:29.7, 3846S×176.14E, h138km, MG3.8(WEL), After WEL.*

WEL 28 13:44:29.5±0.2, 3846S×17615E, h140km±2km, ML3.6/12, 4C-2D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.50**	**215**	PN	Pn	13 44 49.5	-0.1
TGRZ	**Tauranga**	**0.73**	**7**	P	Pn	13 44 51.2	+0.1
TGRZ	**Tauranga**	**0.73**	**7**	PN	Pn	13 44 51.2	+0.2
BKZ	**Black Stump Fm**	**0.76**	**159**	⇑PN	Pn	13 44 51.6	+0.3
BKZ				SN	Sn	13 45 07.8	0.0
URZ	**Urewera**	**0.78**	**76**	P	Pn	13 44 51.4	-0.1
URZ	**Urewera**	**0.78**	**76**	⇓PN	Pn	13 44 51.4	0.0
URZ				SN	Sn	13 45 07.9	-0.3
WTVZ	**West Tongariro**	**0.79**	**213**	P	Pn	13 44 51.6	+0.1
WTVZ	**West Tongariro**	**0.79**	**213**	PN	Pn	13 44 51.6	+0.1
TWVZ	**Taurewa**	**0.83**	**222**	P	Pn	13 44 51.8	0.0
TWVZ	**Taurewa**	**0.83**	**222**	⇑PN	Pn	13 44 51.8	0.0
NGZ	**Ngauruhoe**	**0.83**	**211**	P	Pn	13 44 52.0	+0.1
NGZ	**Ngauruhoe**	**0.83**	**211**	PN	Pn	13 44 52.1	+0.3
TOZ	**Tahuroa Road**	**0.89**	**325**	P	Pn	13 44 52.3	0.0
TOZ	**Tahuroa Road**	**0.89**	**325**	⇑PN	Pn	13 44 52.3	0.0
TUVZ	**Tukino**	**0.90**	**205**	⇑PN	Pn	13 44 52.7	+0.3
FWVZ	**Far West T-bar**	**0.92**	**210**	P	Pn	13 44 52.6	0.0
FWVZ	**Far West T-bar**	**0.92**	**210**	PN	Pn	13 44 52.6	+0.1
DRZ	**Dome Shelter**	**0.93**	**209**	P	Pn	13 44 53.1	+0.4
DRZ				P		13 44 53.3	
DRZ	**Dome Shelter**	**0.93**	**209**	PN	Pn	13 44 53.3	+0.7
TRVZ	**Turoa**	**0.96**	**209**	PN	Pn	13 44 53.0	+0.1
WNVZ	**Wahianoa**	**0.97**	**206**	P	Pn	13 44 53.2	+0.2
WNVZ	**Wahianoa**	**0.97**	**206**	PN	Pn	13 44 53.2	+0.2
MOVZ	**Moawhango**	**1.00**	**198**	P	Pn	13 44 53.0	-0.2
MOVZ	**Moawhango**	**1.00**	**198**	PN	Pn	13 44 52.9	-0.3
HIZ	**Hauiti**	**1.01**	**266**	*e*P	Pn	13 44 53.2	-0.2
HIZ	**Hauiti**	**1.01**	**266**	PN	Pn	13 44 53.2	-0.2
MWZ	**Matawai**	**1.09**	**84**	P	Pn	13 44 54.4	+0.3
MWZ	**Matawai**	**1.09**	**84**	PN	Pn	13 44 54.4	+0.3
KNZ	**Kokohu**	**1.32**	**116**	P	Pn	13 44 56.8	+0.5
WAZ	**Wanganui**	**1.58**	**214**	P	Pn	13 44 58.7	-0.4
WAZ	**Wanganui**	**1.58**	**214**	PN	Pn	13 44 58.7	-0.4
TSZ	**Takapari Road**	**1.61**	**185**	P	Pn	13 44 58.9	-0.5
TSZ	**Takapari Road**	**1.61**	**185**	PN	Pn	13 44 58.9	-0.5
WPHZ	**Waipukurau**	**1.62**	**172**	PN	Pn	13 44 59.3	-0.2
PXZ	**Pawanui**	**1.67**	**161**	PN	Pn	13 44 60.0	-0.1
PUZ	**Puketiti**	**1.71**	**78**	P	Pn	13 45 00.5	0.0
PUZ	**Puketiti**	**1.71**	**78**	PN	Pn	13 45 00.5	0.0
KUZ	**Kuaotunu**	**1.74**	**349**	P	Pn	13 45 00.6	-0.3
KUZ	**Kuaotunu**	**1.74**	**349**	⇓PN	Pn	13 45 00.6	-0.4
MXZ	**Matakaoa Point**	**1.93**	**63**	P	Pn	13 45 03.3	+0.2
MXZ	**Matakaoa Point**	**1.93**	**63**	PN	Pn	13 45 03.3	+0.2
BFZ	**Birch Farm**	**2.22**	**178**	P	Pn	13 45 05.4	-1.2
BFZ	**Birch Farm**	**2.22**	**178**	PN	Pn	13 45 05.7	-1.2
MRZ	**Mangatainoka R**	**2.24**	**191**	P	Pn	13 45 05.4	-1.5
MRZ	**Mangatainoka R**	**2.24**	**191**	PN	Pn	13 45 05.3	-1.6
KIW	**Kapiti Island**	**2.58**	**201**	P	Pn	13 45 08.8	-2.3
MTW	**Mount Morrison**	**2.74**	**190**	P	Pn	13 45 10.7	-2.4
MTW	**Mount Morrison**	**2.74**	**190**	PN	Pn	13 45 10.7	-2.5
CAW	**Cannon Point**	**2.77**	**197**	P	Pn	13 45 11.2	-2.3
CAW	**Cannon Point**	**2.77**	**197**	PN	Pn	13 45 11.2	-2.3
TRWZ	**Traveller**	**2.96**	**187**	PN	Pn	13 45 13.4	-2.4
PAWZ	**Paruwai Farm**	**2.97**	**190**	P	Pn	13 45 13.5	-2.6
PAWZ	**Paruwai Farm**	**2.97**	**190**	PN	Pn	13 45 13.4	-2.6
MRW	**Makara Radio**	**2.98**	**201**	PN	Pn	13 45 13.5	-2.7
WEL	**Wellington**	**3.02**	**200**	P	Pn	13 45 14.0	-2.6
WEL	**Wellington**	**3.02**	**200**	PN	Pn	13 45 13.9	-2.7
MSWZ	**Moikau Station**	**3.03**	**193**	PN	Pn	13 45 14.0	-2.8
SNZO	**South Karori**	**3.06**	**201**	P	Pn	13 45 14.2	-2.9
TCW	**Tory Channel**	**3.10**	**207**	PN	Pn	13 45 14.9	-2.9
BHW	**Baring Head**	**3.11**	**198**	P	Pn	13 45 14.8	-3.0
NNZ	**Nelson**	**3.48**	**217**	PN	Pn	13 45 19.5	-3.2
QRZ	**Quartz Range**	**3.66**	**229**	*e*P	Pn	13 45 21.7	-3.3
BSWZ	**Blackbirch Sta**	**3.69**	**207**	P	Pn	13 45 22.3	-3.1
THZ	**Tophouse**	**4.13**	**216**	*e*P	Pn	13 45 28.1	-3.1
THZ	**Tophouse**	**4.13**	**216**	PN	Pn	13 45 28.0	-3.2
KHZ	**Kahutara**	**4.43**	**206**	*e*P	Pn	13 45 31.3	-3.8
LTZ	**Lake Taylor**	**5.23**	**213**	*e*P	Pn	13 45 41.5	-4.3
MQZ	**McQueen's Vall**	**5.87**	**206**	P	Pn	13 45 48.7	-5.6
ODZ	**Otahua Downs**	**7.76**	**210**	*e*P	Pn	13 46 14.5	-5.1

*ISCJB **28** 13:52:29.8±0.5, 5983N±003×2423E±006, h0km, Error ellipse: s-maj=4.9km s-min=4.2km az=137.7*
*NAO **28** 13:52:31.9±1.0, 5982N×2428E, ML2.3*
*HEL **28** 13:52:31.8±0.1, 5983N×2421E, h0km, ML2.2, ML2.6(UPP), ML2.3(NAO), Explosion*
*CSEM **28** 13:52:31.3±0.1, 5979N×2412E, h1km, ML2.3, Error ellipse: s-maj=4.4km s-min=3.3km az=4.0, Suspected Mining explosion.*
*BER **28** 13:52:32.7±4.4, 5982N×2428E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **28** 13:52:33.4±0.9, 5996N×2424E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.7/3, Error ellipse: s-maj=10.8km s-min=7.9km az=153.0*
*UPP **28** 13:52:43.1, 5968N×2252E, h0km, ML2.6, Suspected Mining explosion.*

ISC 28 13:52:31.0±0.4, 5984N±003×2423E±006, h0km, n30, σ0s78/44, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.39**	**12**	*e*P	**Pg**	**13 52 39.0**	**+0.5**
MEF				*e*S	**Sg**	**13 52 44.1**	**+0.6**
PVF	**Pernaja**	**1.08**	**48**	*e*P	**Pg**	**13 52 51.2**	**-0.5**
PVF				*e*S	**Sg**	**13 53 05.1**	**-0.6**
RAF	**Rauma**	**1.71**	**315**	*e*P	**Pn**	**13 53 02.2**	**+0.2**
RAF				*e*S	**Sn**	**13 53 24.1**	**-0.4**
FIA0	**FINESS Array S** baz=221,slow=16	**1.85**	**29**	Pg	**Pg**	**13 53 05.0**	**-1.4**
FIA0				Lg		13 53 30.2	
	baz=208,slow=28						
FIA0	**FINESS Array S**	**1.85**	**29**	*e*P	**Pn**	**13 53 04.9**	**+1.0**
FIA0				*e*S	**Sn**	**13 53 28.0**	**-0.1**
FIA0				MSG		13 53 32.6	
	comp=Z,18nm,0.2s						
FINES	**FINESS Array B**	**1.85**	**29**	Pn	**Pn**	**13 53 05.1**	**+1.1**
	comp=Z,4.7nm,0.3s,baz=223,slow=15,SNR=108						
FINES				Sn	**Sn**	**13 53 29.9**	**+1.9**
	comp=Z,7.4nm,0.3s,baz=211,slow=27,SNR=25						
FINES				Rg		13 53 40.4	
	comp=Z,4.1nm,0.6s,baz=200,slow=32,SNR=5.7						
VSU	**Vasula**	**1.89**	**136**	Pg	**Pg**	**13 53 06.4**	**-0.8**
VSU				Lg		13 53 29.6	
VSU	**Vasula**	**1.89**	**136**	*e*P	**Pn**	**13 53 05.7**	**+1.1**
VSU				*e*S	**Sn**	**13 53 29.2**	**+0.1**
AAL	**Aland**	**2.16**	**281**	*e*P	**Pn**	**13 53 08.8**	**+0.7**
KAF	**Kangasniemi** comp=Z,14nm,0.2s	**2.50**	**23**	MSG		13 53 51.5	
NRTU	**Norrtaelje**	**2.84**	**269**	*e*P	**Pn**	**13 53 18.1**	**+0.5**
GRAU	**Graesoe**	**2.90**	**282**	*e*P	**Pn**	**13 53 18.3**	**-0.1**
SUF	**Sumiainen** comp=Z,5.5nm,0.2s	**3.04**	**17**	MSG		13 54 04.8	
FLYU	**Flymyra**	**3.20**	**278**	*e*P	**Pn**	**13 53 22.9**	**+0.3**
NYNU	**Nynaeshamn**	**3.29**	**258**	*e*P	**Pn**	**13 53 24.8**	**+1.0**
OSTU	**Oestervaala**	**3.58**	**279**	*e*P	**Pn**	**13 53 27.9**	**+0.1**
BACU	**Backbrunna**	**3.60**	**273**	*e*P	**Pn**	**13 53 28.6**	**+0.6**
HFS	**Hagfors** comp=Z,0.5nm,0.3s,baz=109,slow=12,SNR=22	**5.30**	**278**	Pn	**Pn**	**13 53 51.9**	**+0.5**
HFS				Sn	**Sn**	**13 54 52.7**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=87,slow=25,SNR=11						
HFS				Lg		13 55 18.0	
	comp=Z,1.3nm,0.3s,baz=78,slow=30,SNR=5.6						
HFS	**Hagfors** baz=116,slow=12	**5.30**	**278**	Pn	**Pn**	**13 53 52.0**	**+0.6**
HFS				Sn	**Sn**	**13 54 52.1**	**-1.1**
	baz=74,slow=28						
HFS				Lg		13 55 14.2	
	baz=88,slow=37						
HFS	**Hagfors**	**5.30**	**278**	*e*P	**Pn**	**13 53 52.0**	**+0.6**
HFS				*e*S	**Sn**	**13 54 52.1**	**-1.1**
HFS				*e*SG		13 55 14.2	
HFS	**Hagfors** SNR=50	**5.30**	**278**	Pn	**Pn**	**13 53 52.0**	**+0.6**
HFS				Sn	**Sn**	**13 54 52.1**	**-1.1**
	SNR=6.8						
NB2	**NORSAR Subarra** baz=95,slow=14	**6.55**	**286**	Pn	**Pn**	**13 54 08.0**	**-0.7**
NB2				Sn	**Sn**	**13 55 22.5**	**-1.6**
	baz=98,slow=22						
NB2	**NORSAR Subarra**	**6.55**	**286**	*e*P	**Pn**	**13 54 08.0**	**-0.7**
NB2				*e*S	**Sn**	**13 55 22.5**	**-1.6**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.3s,baz=95,slow=14,SNR=3.0	**6.55**	**286**	Pn	**Pn**	**13 54 08.0**	**-0.6**
NOA				Sn	**Sn**	**13 55 20.1**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=135,slow=23,SNR=2.5						
APA0	**Apatity Array** baz=196,slow=14	**8.70**	**23**	Pn	**Pn**	**13 54 38.7**	**+0.6**
APA0	**Apatity Array**	**8.70**	**23**	*e*P	**Pn**	**13 54 38.7**	**+0.6**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.3s,baz=343,slow=13,SNR=2.6	**9.59**	**161**	Pn	**Pn**	**13 54 49.2**	**-1.1**
ARA0	**ARCESS Array S** baz=185,slow=14	**9.75**	**3**	Pn	**Pn**	**13 54 51.7**	**-0.8**
ARA0				Sn	**Sn**	**13 56 36.7**	**-6.1**
ARA0	**ARCESS Array S**	**9.75**	**3**	*e*P	**Pn**	**13 54 51.7**	**-0.8**
ARA0				*e*S	**Sn**	**13 56 36.7**	**-6.1**
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.3s,baz=182,slow=13,SNR=43	**9.75**	**3**	Pn	**Pn**	**13 54 52.0**	**-0.5**
ARCES				Sn	**Sn**	**13 56 35.8**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=25,SNR=2.6						

*MOS **28** 13:54:05.4±0.9, 767S×10786E, h33km, mb5.1/14, Error ellipse: s-maj=17.6km s-min=8.4km az=119.3*
*BJI **28** 13:54:07.7, 770S×10780E, h38km, mB5.4, mb4.6*
*NEIC **28** 13:54:07.7±1.3, 774S×10780E, h38km±11km, mb5.1/10, Error ellipse: s-maj=11.0km s-min=5.4km az=53.0*
NEIC Felt [III] at Ciamis and Tasikmalaya and [II] at Bandung and Pangandaran.
*IDC **28** 13:54:09.0±1.7, 773S×10782E, h49km±15km, mb4.4/18, mb1 4.5/19, mb1mx4.3/26, mbtmp4.4/19, ML4.2/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/34, Error ellipse: s-maj=20.5km s-min=10.8km az=64.0*
*ISCJB **28** 13:54:11.9±0.7, 767S±006×10793E±005, h92km±6km, mb4.6/39, Error ellipse: s-maj=11.2km s-min=6.0km az=86.2*

ISC 28 13:54:13.1±0.7, 770S±005×10790E±005, h87km±6km, h88km±1.5km: pP-P, n102, σ0s86/86, mb4.6/39, 8C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi** 5μm,0.7s	**1.26**	**17**	P	**Pn**	**13 54 34.2**	**-1.4**
BJII	**Banjamegara** 1μm,0.6s	**1.83**	**79**	P	**Pn**	**13 54 42.3**	**-0.7**
TNG	**Tangerang** 2μm,0.9s	**1.96**	**321**	P	**Pn**	**13 54 47.5**	**+2.9**
SBJI	**Serang** 2μm,1.1s	**2.35**	**312**	P	**Pn**	**13 54 49.8**	**0.0**
KLI	**Kotabumi** 793nm,0.8s	**4.13**	**313**	P	**Pn**	**13 55 15.2**	**+1.4**
KRKI	**Karangkates** 1μm,0.8s	**4.54**	**96**	P	**Pn**	**13 55 19.7**	**+0.4**
KMMI	**Kalianget** 83nm,0.7s	**6.05**	**84**	P	**Pn**	**13 55 39.9**	**-0.1**
KSI	**Kapahiang** 439nm,0.6s	**6.63**	**307**	P	**Pn**	**13 55 47.5**	**-0.4**
NBBI	**Negara** 311nm,0.7s	**6.69**	**96**	P	**Pn**	**13 55 52.4**	**+3.7**
PSI	**Prapat** 1.1nm,0.3s,baz=154,slow=9.7,SNR=4.4	**13.74**	**319**	P	**Pn**	**13 57 18.3**	**-5.8**
PSI				LR	LR	14 03 23.9	
	comp=Z,161nm,20.8s,baz=132,slow=41						
PSI	**Prapat**	**13.74**	**319**	P	**Pn**	**13 57 18.3**	**-5.8**
PSI				LR	LR	14 03 23.9	
FITZ	**Fitzroy Crossi** 94nm,0.6s	**20.13**	**123**	⇑*i*P	**P**	**13 58 40.5**	**+0.4**
FITZ				*e*S	**S**	**14 02 11.5**	**-10**
FITZ	**Fitzroy Crossi** 55nm,0.7s,baz=291,slow=6.8,SNR=135	**20.13**	**123**	P	**P**	**13 58 40.6**	**+0.5**
FITZ				S	**S**	**14 02 11.6**	**-10**
	1.1nm,0.3s,baz=0.0,slow=20,SNR=4.5						
FITZ				LR	LR	14 05 53.4	
	comp=Z,77nm,19.2s,baz=280,slow=35						
AAI	**Ambon** 119nm,0.6s	**20.58**	**80**	P	**P**	**13 58 45.4**	**+0.4**
KAKA	**Kakadu** 26nm,0.6s,mb4.8	**24.65**	**104**	*e*P	**P**	**13 59 25.0**	**-0.6**
KAKA				*e*S	**S**	**14 03 57.5**	**+17**
MUN	**Mundaring**	**25.37**	**163**	*e*P	**P**	**13 59 31.5**	**-0.6**
KLBR	**Kellerberrin** 13nm,0.9s,mb4.3	**25.49**	**160**	*e*P	**P**	**13 59 32.0**	**-1.2**
NWAO	**Narrogin (SRO)** 16nm,1.0s,mb4.5,baz=46,slow=8.2,SNR=6.4	**26.56**	**162**	P	**P**	**13 59 40.6**	**-2.2**
NWAO				LR	LR	14 08 28.4	
	comp=Z,105nm,21.8s,baz=210,slow=32						
WRA	**Warramunga Arr** 4.6nm,0.4s,mb4.4,baz=289,slow=12,SNR=66	**28.36**	**118**	P	**P**	**13 59 58.8**	**-0.1**
WRA				PcP	PcP	14 03 10.4	+0.9
	1.6nm,0.4s,baz=312,slow=2.1,SNR=9.4						
WRA				LR	LR	14 10 07.8	
	comp=Z,57nm,21.4s,baz=200,slow=34						
WRA	**Warramunga Arr**	**28.36**	**118**	P	**P**	**13 59 58.8**	**-0.1**
WRA						14 03 10.4	
WB2	**Warramunga Arr**	**28.37**	**118**	*e*P	**P**	**13 59 58.3**	**-0.7**
ASPA	**Alice Springs**	**29.56**	**125**	*e*P	**P**	**14 00 10.2**	**+0.6**
AS31	**Alice Springs**	**29.56**	**125**	*e*P	**P**	**14 00 09.6**	**0.0**
AS31				*e*P		14 00 10.2	
ASAR	**Alice Springs** 7.6nm,0.8s,mb4.3,baz=304,slow=8.7,SNR=50	**29.56**	**125**	P	**P**	**14 00 09.4**	**-0.1**
ASAR				PcP	PcP	14 03 13.7	+1.1
	1.9nm,0.4s,baz=315,slow=2.0,SNR=12						
ASAR				LR	LR	14 11 28.3	
	comp=Z,75nm,19.5s,baz=351,slow=35						
ASAR	**Alice Springs**	**29.56**	**125**	P	**P**	**14 00 09.5**	**-0.1**
ASAR						14 03 13.7	
ASAR	**Alice Springs**	**29.56**	**125**	P	**P**	**14 00 09.4**	**-0.1**
ASAR				PcP	PcP	14 03 13.7	+1.1
ASAR				LR	LR	14 11 28.3	
CTA	**Charters Tower** 15nm,0.9s,mb4.8	**39.11**	**112**	⇑*i*P	**P**	**14 01 33.3**	**+1.4**
CTA	**Charters Tower**	**39.11**	**112**	⇑*i*P	**P**	**14 01 33.3**	**+1.4**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**39.11**	**112**	*e*P	**P**	**14 01 32.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**39.11**	**112**	*e*P	**P**	**14 01 32.4**	**+0.5**
	comp=Z,21nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**39.52**	**132**	⇑*i*P	**P**	**14 01 35.8**	**+0.5**
	comp=Z,77nm,0.5s,mb5.8						
STKA	**Stephens Creek**	**39.52**	**132**	P	**P**	**14 01 35.9**	**+0.6**
	comp=Z,84nm,0.5s,mb5.8,baz=308,slow=7.9,SNR=317						
STKA				PcP	PcP	14 03 42.1	+0.8
	comp=Z,7.1nm,0.7s,baz=309,slow=5.3,SNR=3.0						
STKA				LR	LR	14 17 10.4	
	comp=Z,85nm,20.8s,baz=277,slow=35						
JOW	**Kunigami**	**39.61**	**29**	P	**P**	**14 01 37.3**	**+1.3**
	comp=Z,6.5nm,0.5s,mb4.7,baz=186,slow=10,SNR=4.7						
NJ2	**Nanjing**	**40.89**	**14**	*e*P	**P**	**14 01 45.5**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
JIRN	**Jiri** comp=Z,3.9nm,0.2s,mb4.8	**40.95**	**330**	*e*P	**P**	**14 01 46.7**	**-0.4**
KKN	**Kakani**	**41.51**	**329**	*e*P	**P**	**14 01 51.1**	**-0.6**
XAN	**Xi'an**	**41.52**	**1**	P	**P**	**14 01 54.0**	**+2.2**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
GKN	**Gorkha**	**42.01**	**329**	*e*P	**P**	**14 01 54.2**	**-1.6**
KOLN	**Koldanda** comp=Z,6.4nm,0.4s,mb4.8	**42.37**	**327**	*e*P	**P**	**14 01 57.8**	**-0.9**
ARMA	**Armidale**	**46.71**	**125**	*e*P	**P**	**14 02 35.6**	**+2.3**
HNR	**Honiara**	**51.46**	**96**	*e*P	**P**	**14 03 10.1**	**+0.6**
HNR				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
HNR	**Honiara** comp=Z,25nm,0.8s,mb5.3	**51.46**	**96**	*e*P	**P**	**14 03 10.1**	**+0.6**
SONM	**Songino Array** comp=Z,1.7nm,0.5s,mb4.3,baz=174,slow=8.1,SNR=19	**55.30**	**359**	P	**P**	**14 03 37.9**	**+0.2**
SONM				PcP	PcP	14 04 38.0	+0.6
	comp=Z,3.2nm,0.5s,baz=178,slow=4.4,SNR=14						
SONM				ScP	ScP	14 08 30.1	+1.9
	comp=Z,1.0nm,0.8s,baz=149,slow=3.0,SNR=5.7						
SONM				LR	LR	14 29 21.1	
	comp=Z,78nm,19.3s,baz=184,slow=38						
SONM	**Songino Array**	**55.30**	**359**	P	**P**	**14 03 37.9**	**+0.3**
SONM						14 04 38.0	
AAK	**Ala-Archa**	**58.61**	**332**	*de*P	**P**	**14 04 00.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
MK31	**Makanchi Array**	**58.84**	**340**	*i* P	**P**	**14 04 02.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
MK31	**Makanchi Array**	**58.84**	**340**	*e*P	**P**	**14 04 02.7**	**+0.2**
MKAR	**Makanchi Array**	**58.84**	**340**	P	**P**	**14 04 01.6**	**-1.0**
	comp=Z,9.7nm,0.5s,mb5.1,baz=154,slow=5.7,SNR=133						
MKAR	**Makanchi Array**	**58.84**	**340**	P	**P**	**14 04 02.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**62.60**	**26**	⇑*e*P	**P**	**14 04 28.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
ZAL	**Zalesovo**	**64.42**	**345**	P	**P**	**14 04 40.2**	**+0.1**
	comp=Z,3.2nm,0.4s,mb4.5,baz=312,slow=2.3,SNR=9.8						
ZAL	**Zalesovo**	**64.42**	**345**	P	**P**	**14 04 40.2**	**+0.1**
MAW	**Mawson** comp=Z,3.8nm,0.5s,mb4.5,baz=54,slow=6.7,SNR=24	**66.96**	**197**	P	**P**	**14 04 56.0**	**-0.4**
MAW				LR	LR	14 28 59.7	
	comp=Z,44nm,18.5s,baz=72,slow=31						
VOSK	**Vostochnaya**	**67.89**	**337**	P	**P**	**14 05 01.9**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
BVA0	**Borovoye Array**	**68.35**	**337**	*i* P	**P**	**14 05 05.4**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**68.35**	**337**	P	**P**	**14 05 05.4**	**+0.3**
	comp=Z,11nm,0.6s,mb4.9,baz=144,slow=9.0,SNR=80						
BRVK	**Borovoye**	**68.42**	**337**	*e*P	**P**	**14 05 05.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
BRVK	**Borovoye**	**68.42**	**337**	*e*P	**P**	**14 05 05.9**	**+0.3**
	comp=Z,6.9nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**68.85**	**336**	*e*P	**P**	**14 05 07.9**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
ZRNK	**Zerenda** comp=Z,10nm,0.5s,mb4.9	**68.85**	**336**	*e*P	**P**	**14 05 07.9**	**-0.3**
AB31	**Akbulak array**	**70.46**	**329**	*i* P	**P**	**14 05 17.9**	**-0.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
KMBO	**Kilima Mbogo** comp=Z,32nm,18.4s,baz=91,slow=32	**70.67**	**272**	LR	LR	14 31 59.7	
YAK	**Yakutsk**	**71.55**	**11**	⇑*e*P	**P**	**14 05 24.0**	**-0.7**
YAK				*i* *PP	pP	14 05 46.9	-0.2
YAK				pmax	pmax		
	comp=Z,31nm,2.3s,mb4.7						
AKTK	**Aktyubinsk**	**72.17**	**329**	P	**P**	**14 05 28.4**	**0.0**
AKTO	**Aktyubinsk** comp=Z,3.7nm,0.5s,mb4.5,baz=121,slow=8.2,SNR=11	**72.17**	**329**	P	**P**	**14 05 28.4**	**0.0**
AKTO	**Aktyubinsk**	**72.17**	**329**	*i* P	**P**	**14 05 28.1**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,2.4s,mb3.5						
VNDA	**Vanda** comp=Z,5.4nm,0.9s,mb4.3,baz=302,slow=6.3,SNR=25	**75.12**	**170**	P	**P**	**14 05 45.3**	**-0.4**
SYO	**Syowa Base**	**75.16**	**200**	⇑*e*P	**P**	**14 05 45.0**	**-0.9**
ARU	**Arti**	**75.63**	**334**	⇓*i*P	**P**	**14 05 48.6**	**-0.1**
ARU				*e*		14 08 38.8	
ARU				*e*S	S	14 15 22.6	-0.3
ARU				*e*SS	SS	14 20 13.7	-1.9
ARU				*e*SSS		14 23 35.0	
ARU				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.2						
MMAI	**Mount Meron Ar** comp=Z,32nm,18.1s,baz=110,slow=40	**79.73**	**305**	LR	LR	14 47 09.7	
BOSA	**Boshof** comp=Z,1.6nm,0.4s,mb4.2,baz=129,slow=6.6,SNR=4.4	**79.92**	**242**	P	**P**	**14 06 13.6**	**+1.1**
BOSA	**Boshof**	**79.92**	**242**	P	**P**	**14 06 13.6**	**+1.1**
TIXI	**Tiksi**	**80.39**	**7**	⇑*e*P	**P**	**14 06 13.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
QSPA	**South Pole Qui** comp=Z,8.3nm,0.2s,mb5.2	**82.30**	**180**	*e*P	**P**	**14 06 24.8**	**-0.3**
BRTR	**Keskin Array B** comp=Z,1.5nm,0.8s,mb3.9,baz=125,slow=6.5,SNR=7.8	**82.95**	**312**	P	**P**	**14 06 29.4**	**+0.9**
OBN	**Obninsk**	**85.79**	**327**	⇓*e*P	**P**	**14 06 42.1**	**-0.7**
OBN				*e*		14 10 03.4	
OBN				*e*S	S	14 17 07.8	-0.8
OBN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
SNAA	**Sanae** comp=Z,3.3nm,0.7s,mb4.5,baz=119,slow=4.4,SNR=43	**89.13**	**197**	P	**P**	**14 06 59.2**	**+0.4**
SNAA	**Sanae**	**89.13**	**197**	*e*P	**P**	**14 06 59.1**	**+0.3**
SNAA				*e*	pP	14 07 22.0	0.0
SNAA	**Sanae**	**89.13**	**197**	*d* *iP	**P**

0.3nm,0.5s,mb3.5,baz=345,slow=9.3,SNR=3.3
ASAR Alice Springs 36.89 168 P **P 14 05 28.4 +0.8**
0.5nm,0.4s,mb3.7,baz=352,slow=7.4,SNR=9.1
SONM Songino Array 38.74 339 P **P 14 05 42.6 -0.7**
1.0nm,0.8s,mb3.6,baz=160,slow=11,SNR=2.8
STKA Stephens Creek 46.70 162 P **P 14 06 48.4 +0.5**
1.3nm,0.8s,mb3.9,baz=350,slow=12,SNR=2.3
MKAR Makanchi Array 50.03 322 P **P 14 07 13.2 -0.4**
0.7nm,0.6s,mb3.9,baz=115,slow=8.9,SNR=4.3
BVAR Borovoye Array 59.61 325 P **P 14 08 23.0 +0.2**
0.8nm,0.8s,mb3.8,baz=111,slow=7.9,SNR=4.2

*ISCJB **28** 14:00:31.3±0.5,5983N×003×2428E×006,h0km, Error ellipse: s-maj=5.2km s-min=4.0km az=121.0*
*CSEM **28** 14:00:32.3±0.1,5981N×2423E,h1km,ML2.3, Error ellipse: s-maj=2.8km s-min=2.4km az=32.0, Suspected Mining explosion.*
*IDC **28** 14:00:33.4±2.3,5987N×2434E,h0km,mb1 3.6/3, mb1mx3.2/21,mbtmp3.5/3,ML3.7/2, Error ellipse: s-maj=28.5km s-min=9.5km az=151.0*
*NAO **28** 14:00:33.3±1.0,5984N×2431E,ML2.3*
*BER **28** 14:00:33.8±3.2,5983N×2431E,h0km,ML2.3(NAO), Suspected explosion*
*HEL **28** 14:00:33.2±0.1,5983N×2422E,h0km,ML2.3,ML2.6(UPP), ML2.3(NAO), Explosion*
*UPP **28** 14:00:35.1,5987N×2394E,h0km,ML2.6, Suspected Mining explosion.*

ISC 28 14:00:32.4±0.5,5984N±003×2427E±006,h0km,n34, σ0§93/48,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.38**	**10**	*e*P		**Pg**	**14 00 40.2**	**+0.4**
MEF				*e*S		**Sg**	**14 00 45.3**	**+0.6**
PVF	**Pernaja**	**1.06**	**48**	*e*P		**Pg**	**14 00 52.4**	**-0.5**
PVF				*e*S		**Sg**	**14 01 06.4**	**-0.3**
RAF	**Rauma**	**1.72**	**315**	*e*P		**Pn**	**14 01 03.5**	**0.0**
RAF				*e*S		**Sn**	**14 01 25.1**	**-1.0**
FIA0	**FINESS Array S**	**1.84**	**28**	Pg		**Pg**	**14 01 06.5**	**-1.2**
	baz=210,slow=18							
FIA0				Lg			14 01 30.0	
	baz=206,slow=28							
FIA0	**FINESS Array S**	**1.84**	**28**	*e*P		**Pn**	**14 01 06.2**	**+0.9**
FIA0				*e*S		**Sn**	**14 01 30.2**	**+1.0**
FIA0				MSG			14 01 33.9	
	comp=Z,19nm,0.2s							
FIA0	**FINESS Array S**	**1.84**	**28**	Pg		**Pg**	**14 01 06.4**	**-1.3**
	SNR=173							
FINES	**FINESS Array B**	**1.84**	**28**	Pn		**Pn**	**14 01 06.3**	**+1.1**
	comp=Z,5.3nm,0.3s,baz=203,slow=14,SNR=113							
FINES				Sn		**Sn**	**14 01 30.0**	**+0.8**
	comp=Z,3.1nm,0.3s,baz=193,slow=24,SNR=4.8							
FINES				Rg			14 01 42.4	
	comp=Z,3.1nm,0.3s,baz=209,slow=25,SNR=5.8							
VSU	**Vasula**	**1.88**	**136**	Pg		**Pg**	**14 01 07.0**	**-1.4**
VSU				Lg			14 01 31.0	
VSU	**Vasula**	**1.88**	**136**	*e*S		**Sn**	**14 01 30.6**	**+0.4**
AAL	**Aland**	**2.17**	**281**	*e*P		**Pn**	**14 01 10.5**	**+0.6**
AAL				*e*S		**Sn**	**14 01 39.1**	**+1.7**
KAF	**Kangasniemi**	**2.49**	**23**	MSG			14 01 53.0	
	comp=Z,14nm,0.2s							
NRTU	**Norrtaelje**	**2.86**	**269**	*e*P		**Pn**	**14 01 19.7**	**+0.5**
GRAU	**Graesoe**	**2.91**	**282**	*e*P		**Pn**	**14 01 19.4**	**-0.6**
SUF	**Sumiainen**	**3.03**	**17**	MSG			14 02 11.8	
	comp=Z,7.3nm,0.2s							
FLYU	**Flymyra**	**3.22**	**278**	*e*P		**Pn**	**14 01 23.9**	**-0.4**
NYNU	**Nynaeshamn**	**3.31**	**258**	*e*P		**Pn**	**14 01 26.1**	**+0.7**
OSTU	**Oestervaala**	**3.60**	**279**	*e*P		**Pn**	**14 01 29.3**	**-0.2**
BACU	**Backbrunna**	**3.61**	**273**	*e*P		**Pn**	**14 01 30.3**	**+0.6**
GOTU	**Gotland**	**3.67**	**236**	*e*P		**Pn**	**14 01 30.9**	**+0.5**
ESKU	**Eskilstuna**	**4.05**	**265**	*e*P		**Pn**	**14 01 36.8**	**+1.0**
UMAU	**Umeaa**	**4.40**	**339**	*e*P		**Pn**	**14 01 41.8**	**+1.4**
HFS	**Hagfors**	**5.32**	**278**	Pn		**Pn**	**14 01 53.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=113,slow=12,SNR=29							
HFS				Lg			14 03 15.1	
	comp=Z,1.7nm,0.3s,baz=98,slow=28,SNR=3.0							
HFS	**Hagfors**	**5.32**	**278**	Pn		**Pn**	**14 01 53.5**	**+0.5**
	baz=98,slow=14							
HFS				Sn		**Sn**	**14 02 53.3**	**-1.7**
	baz=102,slow=22							
HFS				Lg			14 03 15.3	
	baz=88,slow=37							
HFS	**Hagfors**	**5.32**	**278**	*e*P		**Pn**	**14 01 53.5**	**+0.5**
HFS				*e*S		**Sn**	**14 02 53.3**	**-1.7**
HFS				*e*SG			14 03 15.3	
HFS	**Hagfors**	**5.32**	**278**	Pn		**Pn**	**14 01 53.5**	**+0.4**
	SNR=2.7							
HFS				Sn		**Sn**	**14 02 53.3**	**-1.7**
	SNR=8.5							
NB2	**NORSAR Subarra**	**6.57**	**286**	Pn		**Pn**	**14 02 09.3**	**-1.0**
	baz=92,slow=14							
NB2				Sn		**Sn**	**14 03 23.9**	**-2.0**
	baz=102,slow=22							
NB2	**NORSAR Subarra**	**6.57**	**286**	*e*P		**Pn**	**14 02 09.3**	**-1.0**
NB2				*e*S		**Sn**	**14 03 23.9**	**-2.0**
NOA	**NORSAR Array B**	**6.57**	**286**	Pn		**Pn**	**14 02 09.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=94,slow=13,SNR=3.9							
NOA				Sn		**Sn**	**14 03 20.7**	**-5.2**
	comp=Z,0.7nm,0.3s,baz=125,slow=21,SNR=2.4							
NOA				Lg			14 03 58.2	
	comp=Z,0.8nm,0.3s,baz=121,slow=20,SNR=2.6							
APA0	**Apatity Array**	**8.69**	**23**	Pn		**Pn**	**14 02 40.5**	**+1.1**
	baz=215,slow=14							
APA0	**Apatity Array**	**8.69**	**23**	*e*P		**Pn**	**14 02 40.5**	**+1.1**
ARA0	**ARCESS Array S**	**9.75**	**3**	Pn		**Pn**	**14 02 52.9**	**-1.1**
	baz=178,slow=14							
ARA0				Sn		**Sn**	**14 04 37.9**	**-6.2**
	baz=178,slow=28							
ARA0	**ARCESS Array S**	**9.75**	**3**	*e*P		**Pn**	**14 02 52.9**	**-1.1**
ARA0				*e*S		**Sn**	**14 04 37.9**	**-6.2**
ARA0	**ARCESS Array S**	**9.75**	**3**	Pn		**Pn**	**14 02 52.8**	**-1.1**
	SNR=0.8							
ARA0				Sn		**Sn**	**14 04 37.9**	**-6.2**
ARCES	**ARCESS Array B**	**9.75**	**3**	Pn		**Pn**	**14 02 52.8**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=182,slow=13,SNR=53							
ARCES				Sn		**Sn**	**14 04 38.0**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=184,slow=23,SNR=3.8							

*NEIC **28** 14:06:01.4,33.16S×68.98W,h7km,ML2.6(GUC), After GUC.*

GUC 28 14:06:01.4±0.6,3316S×6898W,h7km±12km,MD3.5, ML2.6,5C-2D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FCH	**Farellones**	**1.11**	**261**	⇑*i*P		Pg	14 06 22.1	-0.7
FCH				*i* S		Sg	14 06 38.3	+1.1
FCH				AML		AML	14 06 39.3	
	comp=E,232nm,0.7s							
LMEL	**Las Melosas**	**1.23**	**236**	*e*P		Pb	14 06 24.1	-0.9
LMEL				*i* S		Sg	14 06 41.4	+0.4
LMEL				AML		AML	14 06 44.1	
	comp=N,425nm,0.2s							
LMEL	**Las Melosas**	**1.23**	**236**	*e*P		Pb	14 06 24.1	-0.9
LMEL				*i* S		Sg	14 06 41.4	+0.4
CLCH	**Cerro Calan**	**1.33**	**259**	*i* P		Pn	14 06 25.9	-0.4
CLCH				*i* S		Sb	14 06 44.9	+1.0
CLCH				AML		AML	14 06 48.5	
	comp=E,196nm,0.4s							
PCH	**Pirque**	**1.36**	**250**	⇓*i*P		Pn	14 06 26.9	+0.1
PCH				*i* S		Sb	14 06 45.5	+0.5
PEL	**Peldehue**	**1.43**	**270**	⇑*i*P		Pn	14 06 27.7	-0.1
PEL				*i* S		Sb	14 06 47.6	+0.8
PEL				AML		AML	14 06 48.1	
	comp=N,136nm,0.2s							
JACH	**Jahuel**	**1.44**	**289**	*e*P		Pn	14 06 27.8	-0.1
CHCH	**Chadas Angostu**	**1.60**	**241**	⇑*i*P		Pn	14 06 30.6	+0.6
CHCH				*i* S		Sn	14 06 52.7	+1.8
CACH	**El Canelo**	**1.66**	**234**	⇓*i*P		Pn	14 06 31.9	+1.1
CACH				*i* S		Sn	14 06 55.1	+2.7
CICH	**Cipreses**	**1.67**	**226**	*e*P		Pn	14 06 32.1	+1.1
CICH				*i* S		Sn	14 06 55.4	+2.7
TACH	**Talagante**	**1.71**	**253**	⇑*i*P		Pn	14 06 32.6	+1.0
TACH				*i* S		Sn	14 06 56.4	+2.6
LNV	**Longovilo**	**2.18**	**248**	⇑*i*P		Pn	14 06 39.9	+1.8
LNV				*i* S		Sn	14 07 09.9	+4.6

*ISCJB **28** 14:07:12.4±0.4,5983N×003×2428E×006,h0km, Error ellipse: s-maj=4.9km s-min=4.0km az=121.1*

*NAO **28** 14:07:14.3±1.0,5981N×2428E,ML2.3*
*BER **28** 14:07:14.9±4.4,5981N×2429E,h0km,ML2.3(NAO), Suspected explosion*
*HEL **28** 14:07:14.4±0.1,5983N×2423E,h0km,ML2.2,ML2.2(UPP), ML2.3(NAO), Explosion*
*IDC **28** 14:07:15.9±1.0,5995N×2424E,h0km,mb1 3.5/4, mb1mx3.2/22,mbtmp3.4/4,ML3.7/3, Error ellipse: s-maj=12.4km s-min=8.1km az=154.0*

ISC 28 14:07:13.6±0.4,5983N±003×2428E±006,h0km,n34, σ0§90/45,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.39**	**9**	*e*P		**Pg**	**14 07 21.6**	**+0.5**
MEF				*e*S		**Sg**	**14 07 26.7**	**+0.5**
PVF	**Pernaja**	**1.07**	**47**	*e*P		**Pg**	**14 07 33.8**	**-0.3**
PVF				*e*S		**Sg**	**14 07 47.4**	**-0.5**
RAF	**Rauma**	**1.73**	**315**	*e*P		**Pn**	**14 07 44.8**	**-0.1**
RAF				*e*S		**Sn**	**14 08 07.2**	**-0.4**
FIA0	**FINESS Array S**	**1.84**	**28**	Pg		**Pg**	**14 07 47.6**	**-1.4**
	baz=221,slow=16							
FIA0				Lg			14 08 12.8	
	baz=206,slow=28							
FIA0	**FINESS Array S**	**1.84**	**28**	*e*P		**Pn**	**14 07 47.5**	**+1.0**
FIA0				*e*S		**Sn**	**14 08 10.6**	**+0.1**
FIA0				MSG			14 08 15.2	
	comp=Z,20nm,0.2s							
FINES	**FINESS Array B**	**1.84**	**28**	Pn		**Pn**	**14 07 47.9**	**+1.4**
	comp=Z,4.6nm,0.3s,baz=211,slow=14,SNR=89							
FINES				Sn		**Sn**	**14 08 12.8**	**+2.2**
	comp=Z,7.2nm,0.3s,baz=210,slow=26,SNR=24							
FINES				Rg			14 08 23.6	
	comp=Z,6.0nm,0.6s,baz=207,slow=32,SNR=6.9							
VSU	**Vasula**	**1.87**	**136**	Pg		**Pg**	**14 07 47.3**	**-2.1**
VSU				Lg			14 08 12.2	
VSU	**Vasula**	**1.87**	**136**	*e*P		**Pn**	**14 07 47.4**	**+0.6**
VSU				*e*S		**Sn**	**14 08 12.1**	**+1.0**
AAL	**Aland**	**2.18**	**281**	*e*P		**Pn**	**14 07 51.9**	**+0.8**
KAF	**Kangasniemi**	**2.49**	**22**	MSG			14 08 34.2	
	comp=Z,13nm,0.2s							
GRAU	**Graesoe**	**2.92**	**282**	*e*P		**Pn**	**14 08 00.9**	**-0.4**
SUF	**Sumiainen**	**3.04**	**17**	MSG			14 08 47.4	
	comp=Z,5.7nm,0.2s							
FLYU	**Flymyra**	**3.23**	**278**	*e*P		**Pn**	**14 08 05.5**	**0.0**
NYNU	**Nynaeshamn**	**3.31**	**258**	*e*P		**Pn**	**14 08 07.4**	**+0.8**
OSTU	**Oestervaala**	**3.61**	**279**	*e*P		**Pn**	**14 08 10.6**	**-0.2**
BACU	**Backbrunna**	**3.62**	**273**	*e*P		**Pn**	**14 08 11.6**	**+0.7**
ESKU	**Eskilstuna**	**4.06**	**265**	*e*P		**Pn**	**14 08 17.9**	**+1.0**
FALU	**Falun**	**4.27**	**283**	*e*P		**Pn**	**14 08 20.3**	**+0.5**
HASU	**Hassela**	**4.40**	**305**	*e*P		**Pn**	**14 08 22.6**	**+1.0**
NRAU	**Nora**	**4.69**	**271**	*e*P		**Pn**	**14 08 25.6**	**0.0**
LNKU	**Linkoeping**	**4.81**	**254**	*e*P		**Pn**	**14 08 28.2**	**+1.0**
ASKU	**Askersund**	**4.92**	**263**	*e*P		**Pn**	**14 08 29.0**	**+0.1**
HFS	**Hagfors**	**5.32**	**278**	Pn		**Pn**	**14 08 34.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=108,slow=13,SNR=16							
HFS				Sn		**Sn**	**14 09 33.5**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=85,slow=25,SNR=9.6							
HFS				Lg			14 10 02.4	
	comp=Z,1.3nm,0.3s,baz=82,slow=31,SNR=5.4							
HFS	**Hagfors**	**5.32**	**278**	Pn		**Pn**	**14 08 34.5**	**+0.2**
	baz=119,slow=12							
HFS				Sn		**Sn**	**14 09 34.9**	**-1.4**
	baz=78,slow=28							
HFS				Lg			14 09 56.8	
	baz=83,slow=37							
HFS	**Hagfors**	**5.32**	**278**	*e*P		**Pn**	**14 08 34.5**	**+0.2**
HFS				*e*S		**Sn**	**14 09 34.9**	**-1.4**
HFS				*e*SG			14 09 56.8	
NB2	**NORSAR Subarra**	**6.58**	**286**	Pn		**Pn**	**14 08 50.6**	**-1.0**
	baz=93,slow=14							
NB2				Sn		**Sn**	**14 10 04.6**	**-2.7**
	baz=96,slow=22							
NB2				Lg			14 10 38.2	
	baz=106,slow=28							
NB2	**NORSAR Subarra**	**6.58**	**286**	*e*P		**Pn**	**14 08 50.6**	**-1.0**
NB2				*e*S		**Sn**	**14 10 04.6**	**-2.7**
NB2				*e*SG			14 10 38.2	
NOA	**NORSAR Array B**	**6.58**	**286**	Pn		**Pn**	**14 08 50.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=95,slow=14,SNR=3.0							
NOA				Sn		**Sn**	**14 10 02.6**	**-4.7**
	comp=Z,0.5nm,0.3s,baz=102,slow=20,SNR=2.4							
APA0	**Apatity Array**	**8.70**	**23**	Pn		**Pn**	**14 09 20.8**	**+0.1**
	baz=211,slow=12							
APA0	**Apatity Array**	**8.70**	**23**	*e*P		**Pn**	**14 09 20.8**	**+0.1**
AKASG	**Malin Array Be**	**9.57**	**161**	Pn		**Pn**	**14 09 31.5**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=341,slow=13,SNR=3.6							
ARA0	**ARCESS Array S**	**9.76**	**3**	Pn		**Pn**	**14 09 34.5**	**-0.7**
	baz=178,slow=16							
ARA0	**ARCESS Array S**	**9.76**	**3**	*e*P		**Pn**	**14 09 34.5**	**-0.7**
ARCES	**ARCESS Array B**	**9.76**	**3**	Pn		**Pn**	**14 09 34.7**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=183,slow=13,SNR=39							
ARCES				Sn		**Sn**	**14 11 18.4**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=178,slow=25,SNR=2.8							

*ISCJB **28** 14:11:23.9±0.4,4194N±003×14233E±004,h71km±4km, mb3.8/6, Error ellipse: s-maj=6.3km s-min=4.1km az=112.0*
*MOS **28** 14:11:23.5±0.9,4184N×14258E,h85km,mb3.9/5, Error ellipse: s-maj=22.0km s-min=17.6km az=110.2*
*NEIC **28** 14:11:25.0±1.2,4190N×14244E,h74km±17km, MG3.4(JMA), Error ellipse: s-maj=33.7km s-min=18.9km az=62.0*
*IDC **28** 14:11:24.4±3.5,4194N×14250E,h68km±33km,mb3.6/6, mb1 3.6/7,mb1mx3.4/24,mbtmp3.5/7, Error ellipse: s-maj=46.4km s-min=24.8km az=80.0*
*JMA **28** 14:11:24.5±0.2,4194N×14232E,h66km±3km,M3.4 Broadband fault plane solution: P waves. NP1: ϕ±152.00000°,δ11.00000°,λ27.00000°. NP2:ϕ±35.00000°, δ85.00000°,λ100.00000°. Principal axes: T Plg49.0000°, Azm316.0000°; N Plg10.0000°, Azm214.0000°; P Plg39.0000°, Azm116.0000°;*
JMA Felt I J1.

ISC 28 14:11:24.7±0.4,4194N±003×14232E±004,h65km±4km, n32,σ0§52/47,mb3.8/6,3C-7D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNBK	**Urakawa-nobuka**	**0.47**	**44**	⇑P		**Pn**	**14 11 36.1**	**-0.7**
ERM	**Erimo**	**0.63**	**83**	*e*Pn		**Pn**	**14 11 38.5**	**0.0**
ERM				*e*Sn		**Sn**	**14 11 47.2**	**-1.4**
JEM	**Erimo**	**0.63**	**83**	⇑P		**Sn**	**14 11 38.6**	**+0.1**
JEM				*e*S		**Sn**	**14 11 48.8**	**+0.2**
JBT2	**Biratori 2**	**0.83**	**2**	⇓P		**Pn**	**14 11 40.7**	**-0.2**
JBT2				*e*S		**Sn**	**14 11 52.9**	**+0.1**
JKB	**Kayabe**	**0.96**	**267**	⇓P		**Pn**	**14 11 42.2**	**-0.3**
JKB				*e*S		**Sn**	**14 11 55.3**	**-0.3**
JCH	**Churui**	**1.02**	**49**	⇑P		**Pn**	**14 11 43.4**	**+0.1**
JCH				*e*S		**Sn**	**14 11 57.4**	**+0.3**
JNB	**Noboribetsu**	**1.08**	**299**	⇓P		**Pn**	**14 11 43.4**	**-0.7**
JNB				*e*S		**Sn**	**14 11 57.7**	**-0.8**
JEW	**Eniwo**	**1.10**	**325**	⇓P		**Pn**	**14 11 44.5**	**+0.2**
JEW				*e*S		**Sn**	**14 11 59.0**	**+0.2**
JOT	**Ohata**	**1.10**	**240**	⇓P		**Pn**	**14 11 44.3**	**0.0**
JOT				*e*S		**Sn**	**14 11 58.9**	**0.0**
JFR	**Furan**	**1.23**	**9**	⇓P		**Pn**	**14 11 45.8**	**-0.2**
JFR				*e*S		**Sn**	**14 12 01.9**	**-0.1**
JYM2	**Yakumo 2**	**1.46**	**277**	P		**Pn**	**14 11 48.7**	**-0.3**
JOB	**Onbets**	**1.48**	**49**	P		**Pn**	**14 11 50.2**	**+1.0**
JSR	**Shiriuchi**	**1.48**	**254**	P		**Pn**	**14 11 49.4**	**+0.1**
JSR				*e*S		**Sn**	**14 12 08.2**	**+0.5**
JANG	**Nango**	**1.68**	**201**	P		**Pn**	**14 11 52.5**	**+0.5**
JANG				*e*S		**Sn**	**14 12 13.2**	**+0.6**
JAR	**Ashorobuto**	**1.73**	**38**	P		**Pn**	**14 11 53.2**	**+0.6**
JAR				*e*S		**Sn**	**14 12 14.2**	**+0.6**
JHR	**Hokuryu**	**1.85**	**347**	⇓P		**Pn**	**14 11 55.2**	**+1.0**
ASAJ	**Asahikawa**	**2.18**	**5**	P		**Pn**	**14 11 59.4**	**+0.7**
ASAJ	9.1nm,0.3s,baz=213,slow=12,SNR=93			S		**Sn**	**14 12 24.6**	**0.0**
	6.4nm,0.3s,baz=345,slow=32,SNR=14							
ASAJ	**Asahikawa**	**2.18**	**5**	P		**Pn**	**14 11 59.4**	**+0.7**
ASAJ				S		**Sn**	**14 12 24.6**	**0.0**
ASAJ				pmax		pmax		
	comp=Z,9.0nm,0.3s							
ASAJ				smax				
	comp=N,6.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.34**	**50**	*e*P		**Pn**	**14 12 14.7**	**+0.3**
YUK				*e*S		**Sn**	**14 12 52.0**	**-0.8**
YUK				pmax		pmax		
	comp=Z,180nm,0.3s							
YUK				smax				
	comp=N,340nm,0.5s							
YUK				smax				
	comp=E,140nm,0.5s							
VLA	**Vladivostok**	**7.79**	**282**	*e*P		**Pn**	**14 13 20.1**	**+4.8**
VLA				pmax		pmax		
	comp=Z,61nm,1.4s							
SONM	**Songino Array**	**25.96**	**295**	P		**P**	**14 16 51.2**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.2,baz=77,slow=8.9,SNR=4.9							
SONM	**Songino Array**	**25.96**	**295**	P		**P**	**14 16 51.2**	**+0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**42.27**	**298**	*e*P		**P**	**14 19 12.0**	**+0.3**
MKAR	**Makanchi Array**	**42.27**	**298**	P		**P**	**14 19 11.9**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=90,slow=8.7,SNR=5.1							
MKAR	**Makanchi Array**	**42.27**	**298**	P		**P**	**14 19 12.0**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**47.90**	**309**	P		**P**	**14 19 56.5**	**+0.2**
	comp=Z,1.2nm,0.3s,mb4.2,baz=80,slow=9.3,SNR=8.2							
BVAR	**Borovoye Array**	**47.90**	**309**	P		**P**	**14 19 56.5**	**+0.2**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
WRA	**Warramunga Arr**	**62.01**	**189**	P		**P**	**14 21 37.3**	**-0.9**
	comp=Z,0.7nm,1.1s,mb3.6,baz=6.2,slow=6.8,SNR=5.3							
FINES	**FINESS Array B**	**64.82**	**332**	P		**P**	**14 21 56.0**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=62,slow=8.4,SNR=11							
FINES	**FINESS Array B**	**64.82**	**332**	P		**P**	**14 21 56.0**	**-0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
HFS	**Hagfors**	**69.91**	**335**	P		**P**	**14 22 28.1**	**-0.7**
	comp=Z,0.8nm,0.3s,mb4.0,baz=53,slow=7.6,SNR=5.6							
HFS	**Hagfors**	**69.91**	**335**	P		**P**	**14 22 28.1**	**-0.7**
HFS				pmax		pmax		
	comp=Z,1.0nm,0.3s							

*IDC **28** 14:12:31.8±0.8,4720N×15255E,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.8/21,mbtmp3.8/7, Error ellipse: s-maj=34.8km s-min=22.9km az=115.0*
*NEIC **28** 14:12:33.9±0.8,4726N×15281E,h10km, Error ellipse: s-maj=31.1km s-min=16.6km az=133.0*
*ISCJB **28** 14:12:40.4±1.1,472N±0.1×1522E±02,h84km±12km, mb3.7/7, Error ellipse: s-maj=30.0km s-min=7.7km az=99.2*
*MOS **28** 14:12:40.5±1.9,4710N×15261E,h83km,mb4.0/4, Error ellipse: s-maj=30.7km s-min=15.2km az=51.2*

ISC 28 14:12:41.8±1.0,472N±01×1523E±02,h79km±11km,n33, σ1§12/40,mb3.7/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.63**	**239**	*e*PN		**Pn**	**14 13 35.0**	**-0.6**
KUR				*e*S		**Sn**	**14 14 23.0**	**+5.6**
KUR				pmax		pmax		
	comp=Z,90nm,0.5s							
KUR				smax				
	comp=N,190nm,0.5s							
KUR				smax				
	comp=E,150nm,0.5s							
SKR	**Severo-Kuril's**	**4.31**	**35**	*e*PN		**Pn**	**14 13 44.3**	**-0.6**
SKR				*e*			14 14 27.0	
YUK	**Yuzh-Kuril'sk**	**5.50**	**237**	*e*PN		**Pn**	**14 14 06.3**	**+5.3**
JRA	**Rausu**	**5.98**	**240**	P		**Pn**	**14 14 10.6**	**+2.9**
NEM2	**Nemuro 2**	**5.99**	**233**	P		**Pn**	**14 14 07.5**	**-0.3**
NEM2				*e*S		**Sn**	**14 15 14.3**	**-0.6**
JNK	**Nakash**	**6.42**	**239**	P		**Pn**	**14 14 15.9**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.50**	**271**	*e*PN		**Pn**	**14 14 20.7**	**+5.9**
YSS	**Yuzh-Sakhalins**	**6.50**	**271**	*e*P		**Pn**	**14 14 20.8**	**+6.0**
JAK	**Akkeshi**	**6.81**	**235**	P		**Pn**	**14 14 18.7**	**-0.2**
JAK				*e*S		**Sn**	**14 15 35.1**	**+0.2**
JAR	**Ashorobuto**	**7.15**	**240**	P		**Pn**	**14 14 26.3**	**+2.6**
JAR				*e*S		**Sn**	**14 15 48.9**	**+5.5**
JKK2	**Kamakawa 2**	**7.46**	**247**	P		**Pn**	**14 14 32.4**	**+4.5**
JCH	**Churui**	**7.81**	**237**	P		**Pn**	**14 14 33.6**	**+1.0**
JCH				*e*S		**Sn**	**14 15 59.1**	**-0.2**
ERM	**Erimo**	**8.31**	**235**	*e*PN		**Pn**	**14 14 40.5**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.37**	**237**	P		**Pn**	**14 14 40.2**	**0.0**
JNBK				*e*S		**Sn**	**14 16 12.3**	**-0.7**
JKB	**Kayabe**	**9.62**	**241**	P		**Pn**	**14 14 57.1**	**-0.2**
JKB				*e*S		**Sn**	**14 16 42.2**	**-1.3**
JANG	**Nango**	**10.34**	**233**	P		**Pn**	**14 15 03.9**	**-3.2**
JANG				*e*S		**Sn**	**14 16 54.1**	**-7.0**
JRG	**Rokugo**	**11.51**	**232**	P		**Pn**	**14 15 20.6**	**-2.4**
JIO	**Ouri**	**11.85**	**226**	*e*S		**Sn**	**14 17 29.5**	**-8.4**
KSRS	**Korea Array**	**20.39**	**250**	P		**P**	**14 17 15.9**	**+3.8**
	comp=E,1.0nm,0.5s,baz=56,slow=10,SNR=4.3							
MKAR	**Makanchi Array**	**46.22**	**297**	PcP		PcP	14 22 34.4	+1.1
	comp=E,0.6nm,0.8s,baz=72,slow=4.7,SNR=3.4							
NVAR	**Mina Array Bea**	**62.74**	**62**	P		**P**	**14 22 57.9**	**-0.6**
	comp=E,0.6nm,0.6s,mb3.7,baz=296,slow=9.0,SNR=4.0							
NVAR	**Mina Array Bea**	**62.74**	**62**	P		**P**

JEW				*e*S		**Sn**	**14 18 59.5**	**-0.4**
JHR	**Hokuryu**	**0.67**	**332**	P		**Pn**	**14 18 45.2**	**+0.4**
JHR				*e*S		**Sn**	**14 19 01.1**	**+0.5**
JKK2	**Kamakawa 2**	**0.84**	**31**	P		**Pn**	**14 18 46.2**	**+0.2**
JKK2				*e*S		**Sn**	**14 19 02.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.98**	**153**	P		**Pn**	**14 18 47.9**	**+0.7**
JNBK				*e*S		**Sn**	**14 19 06.3**	**+1.3**
ASAJ	**Asahikawa**	**1.01**	**18**	Pg		**Pn**	**14 18 47.5**	**0.0**
	20nm,0.3s,baz=218,slow=9.5,SNR=257							
ASAJ				Lg			14 19 05.1	
	6.9nm,0.3s,baz=30,slow=27,SNR=20							
ASAJ	**Asahikawa**	**1.01**	**18**	P		**Pn**	**14 18 47.4**	**-0.1**
ASAJ				*e*S		**Sn**	**14 19 04.9**	**-0.7**
JCH	**Churui**	**1.04**	**121**	P		**Pn**	**14 18 47.0**	**-0.8**
JCH				*e*S		**Sn**	**14 19 04.1**	**-1.9**
JAR	**Ashorobuto**	**1.19**	**83**	P		**Pn**	**14 18 49.6**	**+0.4**
JAR				*e*S		**Sn**	**14 19 09.3**	**+0.8**
JSK	**Shakotan**	**1.24**	**280**	P		**Pn**	**14 18 50.0**	**+0.3**
ERM	**Erimo**	**1.36**	**147**	*e*P		**Pn**	**14 18 53.1**	**+2.2**
ERM				*e*S		**Sn**	**14 19 12.5**	**+0.9**
JYG	**Yagishiri**	**1.38**	**338**	P		**Pn**	**14 18 51.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.51**	**57**	P		**Pn**	**14 18 53.2**	**+0.6**
JTKR				*e*S		**Sn**	**14 19 15.1**	**+0.5**
JKB	**Kayabe**	**1.51**	**214**	P		**Pn**	**14 18 52.6**	**0.0**
JKB				*e*S		**Sn**	**14 19 14.2**	**-0.4**
JSE	**Soyaes**	**1.83**	**10**	P		**Pn**	**14 18 56.5**	**+0.3**
JAK	**Akkeshi**	**1.87**	**94**	P		**Pn**	**14 18 56.1**	**-0.6**
JAK				*e*S		**Sn**	**14 19 20.3**	**-1.5**
JOT	**Ohata**	**1.95**	**205**	P		**Pn**	**14 18 57.5**	**-0.1**
JOT				*e*S		**Sn**	**14 19 22.7**	**-0.9**
YSS	**Yuzh-Sakhalins**	**3.82**	**6**	*e*P		**Pn**	**14 19 21.8**	**+0.4**
SONM	**Songino Array**	**25.35**	**293**	P		**P**	**14 23 37.7**	**-0.2**
	0.8nm,0.8s,mb3.3,baz=79,slow=7.5,SNR=5.3							
MK31	**Makanchi Array**	**41.62**	**297**	*e*P		**P**	**14 25 58.7**	**+0.5**
MKAR	**Makanchi Array**	**41.62**	**297**	P		**P**	**14 25 58.7**	**+0.5**
	0.5nm,0.6s,mb3.3,baz=81,slow=10,SNR=5.1							
MKAR	**Makanchi Array**	**41.62**	**297**	P		**P**	**14 25 58.7**	**+0.5**
FINES	**FINESS Array B**	**63.70**	**331**	P		**P**	**14 28 39.7**	**-0.8**
	0.9nm,0.7s,mb3.7,baz=56,slow=10,SNR=4.2							
FINES	**FINESS Array B**	**63.70**	**331**	P		**P**	**14 28 39.7**	**-0.8**
HFS	**Hagfors**	**68.76**	**335**	P		**P**	**14 29 12.2**	**-0.6**
	0.6nm,0.4s,mb3.7,baz=46,slow=4.2,SNR=4.1							

*ISCJB **28** 14:19:18.1±1.5,470N×02×1558E±02,h10km,mb3.7/5, Error ellipse: s-maj=32.3km s-min=13.3km az=100.7*
*IDC **28** 14:19:18.9±2.4,4706N×15601E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/24,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=75.3km s-min=28.3km az=176.0*
*MOS **28** 14:19:20.8±1.6,4666N×15580E,h35km,mb4.1/3,Error ellipse: s-maj=38.3km s-min=22.0km az=171.8*

ISC 28 14:19:19.7±1.5,470N±02×1558E±02,h10km,n13, σ1§22/13,mb3.7/5,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.73**	**3**	*e*PN	**Pn**	**14 20 15.5**	**-1.8**
KUR	**Kuril'sk**	**5.76**	**255**	*i*PN	**Pn**	**14 20 43.2**	**-2.0**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.55**	**251**	*e*PN	**Pn**	**14 21 09.4**	**-0.4**
ASAJ	**Asahikawa**	**9.67**	**258**	Pn	**Pn**	**14 21 43.0**	**+4.1**
	comp=Z,0.6nm,0.3s,baz=56,slow=15,SNR=4.1						
ASAJ	**Asahikawa**	**9.67**	**258**	PN	**Pn**	**14 21 43.0**	**+4.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**32.97**	**290**	P	**P**	**14 25 55.2**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=72,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**14 28 03.9**	**+1.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=78,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**14 28 03.9**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**52.12**	**310**	P	**P**	**14 28 31.1**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=56,slow=8.7,SNR=3.9						
BVAR	**Borovoye Array**	**52.12**	**310**	P	**P**	**14 28 31.1**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.61**	**336**	P	**P**	**14 29 57.8**	**+0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=36,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**64.61**	**336**	P	**P**	**14 29 57.8**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**75.80**	**62**	P	**P**	**14 31 05.7**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=4.0,SNR=5.6						

*IDC **28** 14:33:41.7±0.7, 1316N×12474E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/25, mbtmp4.2/16, ML3.9/1, Error ellipse: s-maj=49.9km s-min=12.1km az=74.0*
*ISCJB **28** 14:33:47.6±1.1, 1326N±005×1249E±0.1, h59km±10km, mb4.3/21, Error ellipse: s-maj=17.7km s-min=7.0km az=145.4*
*MAN **28** 14:33:47.3, 1309N×12457E, h146km, mb3.7, ML4.8, MS4.9*
*NEIC **28** 14:33:47.9±1.4, 1325N×12501E, h48km±14km, mb4.6/6, Error ellipse: s-maj=15.3km s-min=5.4km az=75.0*
*BJI **28** 14:33:48.7, 1357N×12446E, h29km, mb4.3*

ISC 28 14:33:49.0±1.0,1329N±005×12494E±009,h54km±9km, n37,σ0§94/40,mb4.3/21,2C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**2.11**	**179**	*e*P	**Pn**	**14 34 21.8**	**0.0**
PLP				*e*S	**Sn**	**14 34 49.2**	**+2.4**
GQP	**Guinayangan**	**2.50**	**285**	*i*P	**Pn**	**14 34 25.1**	**-2.0**
GQP				*i* S	**Sn**	**14 34 59.4**	**+3.0**
RCP	**Roxas**	**2.74**	**232**	*e*P	**Pn**	**14 34 30.8**	**+0.3**
PCPH	**Palayan**	**4.36**	**302**	*e*P	**Pn**	**14 34 50.6**	**-1.9**
PCPH				*e*S	**Sn**	**14 35 36.4**	**-5.7**
BCPH	**Baguio City Da**	**5.22**	**307**	*i*P	**Sn**	**14 35 55.3**	**-7.9**
CVP	**Callao Caves**	**5.32**	**326**	*e*P	**Pn**	**14 35 07.0**	**+1.2**
JOW	**Kunigami**	**13.84**	**13**	Pn	**Pn**	**14 37 01.2**	**-1.0**
	1.3nm,0.3s,baz=150,slow=8.1,SNR=6.4						
KSM	**Kuching**	**18.64**	**232**	*e*P	**Pn**	**14 38 02.5**	**-0.5**
KSRS	**Korea Array**	**24.22**	**6**	P	**P**	**14 39 01.7**	**+1.2**
	4.0nm,1.1s,mb3.8,baz=181,slow=10,SNR=4.5						
XAN	**Xi'an**	**25.27**	**328**	P	**P**	**14 39 09.5**	**-0.6**
XAN				AP	pP	14 39 20.0	-3.6
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
CD2	**Chengdu**	**26.24**	**315**	*e*P	**P**	**14 39 18.8**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.19**	**179**	*e*P	**P**	**14 40 01.8**	**-1.1**
	comp=Z,2.5nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.19**	**179**	P	**P**	**14 40 01.7**	**-1.2**
	comp=Z,1.5nm,0.4s,mb4.2,baz=17,slow=8.3,SNR=12						
WRAB	**Tennant Creek**	**34.28**	**164**	*e*P	**P**	**14 40 30.8**	**+0.8**
WRA	**Warramunga Arr**	**34.29**	**164**	P	**P**	**14 40 29.1**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=342,slow=8.9,SNR=17						
WRA				PcP	PcP	14 43 06.4	+1.1
	comp=Z,0.5nm,0.6s,baz=340,slow=2.7,SNR=6.4						
WB2	**Warramunga Arr**	**34.29**	**164**	*e*P	**P**	**14 40 30.4**	**+0.4**
LSA	**Lhasa**	**35.26**	**303**	*e*P	**P**	**14 40 39.6**	**+1.3**
	comp=Z,13nm,1.3s,mb4.7						
ULN	**Ulaanbaatar**	**37.56**	**340**	*e*P	**P**	**14 40 58.7**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.2						
AS31	**Alice Springs**	**37.76**	**167**	*e*P	**P**	**14 40 59.4**	**-0.1**
ASAR	**Alice Springs**	**37.76**	**167**	P	**P**	**14 40 59.1**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=346,slow=6.9,SNR=53						
ASAR				PcP	PcP	14 43 16.4	+0.8
	comp=Z,0.7nm,0.5s,baz=342,slow=3.0,SNR=5.2						
ASPA	**Alice Springs**	**37.76**	**167**	*e*P	**P**	**14 40 59.7**	**+0.1**
SONM	**Songino Array**	**37.76**	**340**	P	**P**	**14 41 00.4**	**+0.8**
	comp=Z,2.3nm,0.5s,mb4.1,baz=157,slow=9.6,SNR=28						
SONM				PcP	PcP	14 43 16.3	+0.8
	comp=Z,0.4nm,0.7s,baz=148,slow=3.8,SNR=2.8						
NWAO	**Narrogin (SRO)**	**46.54**	**189**	P	**P**	**14 42 09.3**	**-1.7**
	comp=Z,4.5nm,0.6s,mb4.6,baz=17,slow=17,SNR=5.6						
STKA	**Stephens Creek**	**47.66**	**161**	*e*P	**P**	**14 42 19.3**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**47.66**	**161**	P	**P**	**14 42 20.1**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=44,slow=17,SNR=3.2						
MK31	**Makanchi Array**	**48.86**	**322**	*e*P	**P**	**14 42 29.6**	**+0.6**
MKAR	**Makanchi Array**	**48.86**	**322**	P	**P**	**14 42 29.6**	**+0.6**
	comp=Z,3.1nm,0.6s,mb4.5,baz=113,slow=8.3,SNR=30						
MKAR				PcP	PcP	14 43 53.6	+0.7
	comp=Z,1.7nm,0.8s,baz=96,slow=5.4,SNR=4.5						
ZAL	**Zalesovo**	**51.38**	**331**	P	**P**	**14 42 48.8**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=5.4,slow=7.8,SNR=9.4						
BVAR	**Borovoye Array**	**58.46**	**325**	P	**P**	**14 43 39.8**	**+0.6**
	comp=Z,2.8nm,0.5s,mb4.6,baz=130,slow=5.6,SNR=18						
BRVK	**Borovoye**	**58.53**	**325**	*e*P	**P**	**14 43 40.0**	**+0.2**
	comp=Z,9.9nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**59.22**	**324**	*e*P	**P**	**14 43 44.6**	**0.0**
	comp=Z,7.9nm,0.5s,mb5.0						
AKTK	**Aktyubinsk**	**65.19**	**320**	P	**P**	**14 44 24.4**	**-0.1**
AKTO	**Aktyubinsk**	**65.19**	**320**	P	**P**	**14 44 24.4**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=87,slow=9.1,SNR=5.6						
ARCES	**ARCESS Array B**	**80.93**	**339**	P	**P**	**14 45 57.8**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7,baz=75,slow=6.5,SNR=6.8						
FINES	**FINESS Array B**	**82.64**	**331**	P	**P**	**14 46 06.0**	**-0.5**
	comp=Z,2.0nm,1.0s,mb4.1,baz=108,slow=6.2,SNR=6.0						
HFS	**Hagfors**	**88.79**	**332**	P	**P**	**14 46 36.3**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.4,baz=115,slow=9.9,SNR=4.1						
NOA	**NORSAR Array B**	**89.49**	**334**	P	**P**	**14 46 39.1**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.3,baz=62,slow=4.7,SNR=3.5						

*NEIC **28** 14:34:15.2, 1979N×9611W, h10km, MD3.6(MEX), After MEX.*

MEX 28 14:34:17.2±1.0,1969N×9621W,h14km±3km,MD3.6, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.20**	**279**	*i* P	Pg	14 34 21.1	-0.6
LVIG				*i* S	Sg	14 34 24.7	-0.1
TPIG	**Tehuac#an**	**1.67**	**221**	*e*P	Pn	14 34 41.8	-4.1
TPIG				*i* S	Sn	14 35 03.6	-3.6
IIO	**Organos**	**2.37**	**268**	*i* P	Pn	14 34 52.7	-2.9
IIO				*i* S	Sn	14 35 20.3	-4.2
IIO				*i* S	Sn	14 35 29.7	+5.2
UTMO	**Huajuapan**	**2.39**	**219**	*e*P	Pn	14 34 52.3	-3.6
UTMO				*i* S	Sn	14 35 21.5	-3.4
OXX	**Oaxaca**	**2.64**	**191**	*e*P	Pn	14 34 57.0	-2.3
OXX				*i* S	Sn	14 35 27.0	-4.2
VHO	**Vista Hermosa**	**2.65**	**191**	*i* P	Pn	14 34 56.9	-2.6
VHO				*i* S	Sn	14 35 28.5	-3.0
VHO	**Vista Hermosa**	**2.65**	**191**	*i* P	Pn	14 34 56.9	-2.6
VHO				*i* S	Sn	14 35 26.7	-4.7

*IDC **28** 14:38:17.7±0.6, 1315N×12478E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/26, mbtmp4.5/16, ML3.9/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/38, Error ellipse: s-maj=31.4km s-min=11.7km az=79.0*
*MAN **28** 14:38:20.3, 1340N×12505E, h117km, mb4.3, ML5.2, MS4.4*
*MOS **28** 14:38:20.2±0.9, 1323N×12498E, h33km, mb4.9/7, Error ellipse: s-maj=16.0km s-min=8.4km az=119.4*
*NEIC **28** 14:38:23.5±1.2, 1317N×12485E, h43km±11km, mb4.6/11, Error ellipse: s-maj=9.7km s-min=5.7km az=77.0*
*ISCJB **28** 14:38:25.8±0.8, 1326N±004×12486E±005, h64km±7km, mb4.5/35, Error ellipse: s-maj=9.3km s-min=5.3km az=135.3*
*BJI **28** 14:38:27.7, 1285N×12476E, h123km, mB5.1, mb4.6*

ISC 28 14:38:25.4±0.7,1326N±004×12485E±006,h60km±7km, n78,σ0§96/79,mb4.5/35,6C-5D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**2.08**	**177**	*e*P	**Pn**	**14 38 58.9**	**+1.0**
PLP				*e*S	**Sn**	**14 39 24.7**	**+2.0**
GQP	**Guinayangan**	**2.43**	**286**	*i*P	**Pn**	**14 39 00.6**	**-2.0**
GQP				*e*S	**Sn**	**14 39 35.4**	**+4.3**
RCP	**Roxas**	**2.66**	**231**	*e*P	**Pn**	**14 39 05.0**	**-0.8**
	5µm,0.5s						
KALP	**Kalibo**	**2.91**	**238**	*e*P	**Pn**	**14 39 09.6**	**+0.3**
	1818µm,1.0s						
LLP	**Lapu-Lapu**	**3.05**	**197**	*e*P	**Pn**	**14 39 10.7**	**-0.4**
LLP				*e*S	**Sn**	**14 39 54.5**	**+8.1**
TGY	**Tagaytay City**	**3.90**	**283**	*i* S	**Sn**	**14 40 07.2**	**0.0**
TGY	**Tagaytay City**	**3.90**	**283**	Pn	**Pn**	**14 39 21.7**	**-1.1**
	46nm,0.3s,baz=124,slow=12,SNR=8.3						
SNPH	**Sibulan**	**4.20**	**202**	*e*P	**Pn**	**14 39 27.5**	**+0.6**
BCPH	**Baguio City Da**	**5.17**	**307**	*i*P	**Pn**	**14 39 37.2**	**-2.9**
CVP	**Callao Caves**	**5.30**	**327**	*e*P	**Pn**	**14 39 42.0**	**+0.1**
KKM	**Kota Kinabalu**	**11.13**	**231**	P	**Pn**	**14 41 04.5**	**+2.9**
JOW	**Kunigami**	**13.88**	**13**	Pn	**Pn**	**14 41 37.9**	**-1.2**
	1.0nm,0.3s,baz=148,slow=9.5,SNR=3.9						
JOW				LR	LR	14 46 01.5	
	comp=Z,208nm,19.5s,baz=189,slow=33						
QIZ	**Qiongzhong**	**15.52**	**294**	P	**Pn**	**14 42 04.5**	**+4.2**
QIZ				XP	sP	14 42 37.3	+13
QIZ				S	**S**	**14 44 51.5**	**-12**
QIZ				AMB	AMB		
	comp=Z,34nm,2.0s						
QIZ				AMB	AMB		
	comp=Z,279nm,3.9s						
KSM	**Kuching**	**18.56**	**232**	*e*P	**Pn**	**14 42 38.5**	**+0.6**
GUMO	**Guam**	**19.47**	**87**	LR	LR	14 48 29.1	
	comp=Z,196nm,18.8s,baz=222,slow=31						
JNU	**Nakatsue**	**20.52**	**15**	P	**P**	**14 42 59.4**	**+0.7**
	comp=Z,15nm,0.6s,baz=220,slow=12,SNR=21						
JNU				LR	LR	14 49 56.9	
	comp=Z,256nm,19.1s,baz=250,slow=34						
CBIJ	**Chichi jima**	**21.27**	**47**	LR	LR	14 49 49.6	
	comp=Z,165nm,19.3s,baz=223,slow=32						
KMI	**Kunming**	**23.95**	**303**	P	**P**	**14 43 34.3**	**+0.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.0						
KMI	**Kunming**	**23.95**	**303**	P	**P**	**14 43 34.2**	**+0.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.0						
KMI	**Kunming**	**23.95**	**303**	P	**P**	**14 43 34.2**	**+0.4**
	comp=Z,9.0nm,1.4s,mb4.0						
JHJ	**Hachijo jima 2**	**24.01**	**32**	LR	LR	14 50 25.2	
	comp=Z,213nm,20.8s,baz=197,slow=30						
KSRS	**Korea Array**	**24.25**	**6**	P	**P**	**14 43 36.5**	**-0.1**
	comp=Z,2.8nm,0.8s,mb3.7,baz=185,slow=11,SNR=6.8						
KSRS				LR	LR	14 53 00.7	
	comp=Z,98nm,20.4s,baz=343,slow=36						
KULM	**Kulim**	**25.14**	**254**	P	**P**	**14 43 43.1**	**-1.7**
XAN	**Xi'an**	**25.25**	**328**	P	**P**	**14 43 45.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.6						
XAN				LR	LR		
	comp=N,89nm,9.5s						
XAN				LR	LR		
	comp=Z,199nm,12.3s						
CM31	**Chiang Mai Arr**	**25.44**	**285**	*e*P	**P**	**14 43 46.7**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**26.10**	**25**	LR	LR	14 52 32.2	
	comp=Z,208nm,18.3s,baz=200,slow=33						
CD2	**Chengdu**	**26.20**	**316**	P	**P**	**14 43 55.3**	**+1.0**
CD2				XP	sP	14 44 32.5	+16
CD2				PP		14 44 42.3	
CD2				S	**S**	**14 48 17.0**	**-5.0**
CD2				SS		14 49 34.0	
				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
PSI	**Prapat**	**27.66**	**250**	P	**P**	**14 44 06.8**	**-0.6**
	comp=Z,2.8nm,0.5s,mb4.1,baz=54,slow=4.0,SNR=5.4						
PSI				LR	LR	14 55 12.4	
	comp=Z,237nm,18.0s,baz=66,slow=37						
PSI	**Prapat**	**27.66**	**250**	P	**P**	**14 44 06.8**	**-0.6**
PSI				LR	LR	14 55 12.4	
LZH	**Lanzhou**	**29.55**	**324**	*e*P	**P**	**14 44 26.3**	**+2.1**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
LZH	**Lanzhou**	**29.55**	**324**	*e*P	**P**	**14 44 26.2**	**+2.0**
LZH				*SP	sP	14 44 33.0	-13
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
LZH	**Lanzhou**	**29.55**	**324**	*e*P	**P**	**14 44 26.2**	**+2.0**
	comp=Z,21nm,1.3s,mb4.7						
LZH				pP	pP	14 44 30.1	-9.0
LZH				sP	sP	14 44 33.0	-13
FITZ	**Fitzroy Crossi**	**31.17**	**179**	*e*P	**P**	**14 44 37.6**	**-0.9**
	comp=Z,7.5nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.17**	**179**	P	**P**	**14 44 37.4**	**-1.1**
	comp=Z,3.7nm,0.3s,mb4.6,baz=14,slow=8.7,SNR=34						
GTA	**Gaotai**	**34.16**	**324**	*e*P	**P**	**14 45 05.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
WRAB	**Tennant Creek**	**34.28**	**164**	*e*P	**P**	**14 45 06.8**	**+1.1**
WRAB	**Tennant Creek**	**34.28**	**164**	*e*P	**P**	**14 45 05.5**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**34.29**	**164**	P	**P**	**14 45 04.4**	**-1.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=342,slow=9.2,SNR=18						
WRA				PcP	PcP	14 47 42.0	+1.2
	comp=Z,3.2nm,0.8s,baz=341,slow=3.4,SNR=14						
WB2	**Warramunga Arr**	**34.29**	**164**	*e*P	**P**	**14 45 04.6**	**-1.2**
LSA	**Lhasa**	**35.20**	**303**	P	**P**	**14 45 15.3**	**+1.7**
LSA	**Lhasa**	**35.20**	**303**	*e*P	**P**	**14 45 14.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
LSA	**Lhasa**	**35.20**	**303**	*e*P	**P**	**14 45 14.7**	**+1.0**
	comp=Z,20nm,1.1s,mb5.0						
HABR	**Khabarovsk**	**36.12**	**12**	*e*P	**P**	**14 45 19.1**	**-2.4**
HIA	**Hailar**	**36.15**	**354**	*i*P	**P**	**14 45 21.8**	**0.0**
HIA	**Hailar**	**36.15**	**354**	*e*P	**P**	**14 45 22.1**	**+0.3**
	comp=Z,2.1nm,0.4s,mb4.4						
ULN	**Ulaanbaatar**	**37.56**	**340**	*c*P	**P**	**14 45 34.7**	**+1.0**
ULN	**Ulaanbaatar**	**37.56**	**340**	*e*P	**P**	**14 45 34.9**	**+1.2**
	comp=Z,5.5nm,0.8s,mb4.3						
AS31	**Alice Springs**	**37.75**	**166**	*e*P	**P**	**14 45 35.3**	**0.0**
ASPA	**Alice Springs**	**37.75**	**166**	*e*P	**P**	**14 45 35.3**	**0.0**
ASAR	**Alice Springs**	**37.75**	**166**	P	**P**	**14 45 35.1**	**-0.2**
	comp=Z,4.0nm,0.5s,mb4.4,baz=345,slow=6.8,SNR=90						
ASAR				PcP	PcP	14 47 52.5	+1.3
	comp=Z,2.4nm,0.6s,baz=345,slow=3.0,SNR=9.0						
ASAR				S	**S**	**14 51 21.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=350,slow=14,SNR=6.0						
SONM	**Songino Array**	**37.75**	**340**	P	**P**	**14 45 36.1**	**+0.8**
	comp=Z,3.7nm,0.6s,mb4.3,baz=155,slow=9.7,SNR=37						
SONM				LR	LR	15 02 20.7	
	comp=Z,114nm,18.1s,baz=201,slow=38						
GUN	**Gumba**	**39.10**	**298**	*e*P	**P**	**14 45 47.1**	**+0.4**
	comp=Z,49nm,0.9s,mb5.2						
PKI	**Pulchoki**	**39.43**	**297**	*e*P	**P**	**14 45 49.3**	**-0.1**
KKN	**Kakani**	**39.59**	**298**	*e*P	**P**	**14 45 50.5**	**-0.2**
	comp=Z,29nm,1.0s,mb5.0						
DMN	**Daman**	**39.70**	**297**	*e*P	**P**	**14 45 51.5**	**-0.1**
GKN	**Gorkha**	**40.19**	**298**	*e*P	**P**	**14 45 55.2**	**-0.5**
ZAK	**Zakamensk**	**41.00**	**339**	*e*P	**P**	**14 46 01.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.1s,mb3.4						
KOLN	**Koldanda**	**41.04**	**297**	*e*P	**P**	**14 46 02.7**	**0.0**
	comp=Z,28nm,0.9s,mb4.9						
HNR	**Honiara**	**41.50**	**121**	LR	LR	15 00 27.8	
	comp=Z,122nm,20.8s,baz=359,slow=32						
FORT	**Forrest**	**43.89**	**176**	*e*P	**P**	**14 46 25.4**	**-0.4**
	comp=Z,16nm,0.5s,mb5.0						
HYB	**Hyderabad**	**44.76**	**281**	*i* P	**P**	**14 46 33.0**	**+0.2**
HYB	**Hyderabad**	**44.76**	**281**	*e*P	**P**	**14 46 33.0**	**+0.2**
KLBR	**Kellerberrin**	**45.11**	**189**	*e*P	**P**	**14 46 33.9**	**-1.7**
	comp=Z,21nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.49**	**189**	P	**P**	**14 46 45.6**	**-0.9**
	comp=Z,7.3nm,0.6s,mb4.8,baz=1.7,slow=2.7,SNR=12						
STKA	**Stephens Creek**	**47.66**	**161**	*e*P	**P**	**14 46 56.3**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**47.66**	**161**	P	**P**	**14 46 56.5**	**+0.9**
	comp=Z,4.1nm,0.9s,mb4.5,baz=337,slow=8.8,SNR=7.0						
YAK	**Yakutsk**	**48.82**	**3**	*e*P	**P**	**14 47 04.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
MK31	**Makanchi Array**	**48.83**	**322**	*e*P	**P**	**14 47 04.8**	**+0.2**
MKAR	**Makanchi Array**	**48.83**	**322**	P	**P**	**14 47 05.8**	**+1.2**
	comp=Z,16nm,1.0s,mb5.0,baz=114,slow=8.6,SNR=44						
MKAR				PcP	PcP	14 48 29.4	+1.0
	comp=Z,3.9nm,0.8s,baz=106,slow=4.3,SNR=4.1						
ZAL	**Zalesovo**	**51.36**	**331**	P	**P**	**14 47 24.9**	**+1.2**
	comp=Z,4.2nm,1.0s,mb4.3,baz=359,slow=7.4,SNR=20						
NVS	**Novosibirsk**	**52.63**	**331**	*e*P	**P**	**14 47 33.8**	**+0.6**
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s

YKA	**Yellowknife Ar**	**12.46**	**77**	Pn		**Pn**	**14 44 27.9 +2.9**
	0.2nm,0.3s,baz=277,slow=13,SNR=8.2						
YKA				Lg			14 48 03.8
	baz=284,slow=30,SNR=3.2						
YKA				LR		LR	14 49 41.7
	comp=Z,85nm,19.1s,baz=155,slow=39						
NEW	**Newport**	**19.54**	**124**	LR		LR	14 54 19.1
	comp=Z,61nm,18.6s,baz=348,slow=39						
PDAR	**Pinedale Array**	**27.07**	**121**	P		**P**	**14 47 15.9 +5.7**
	1.0nm,0.8s,mb3.4,baz=328,slow=7.0,SNR=8.3						
TXAR	**Lajitas Array**	**41.09**	**125**	P		**P**	**14 49 16.2 +4.7**
	0.2nm,0.6s,mb3.0,baz=321,slow=7.1,SNR=4.1						

*IDC **28** 14:44:20.8±0.8,3844N×7086E,h0km,mb4.0/12, mb1 4.2/15,mb1mx4.0/27,mbtmp4.0/15,ML4.0/3,Error ellipse: s-maj=19.7km s-min=14.1km az=49.0*
*MOS **28** 14:44:25.1±1.5,3873N×7077E,h33km,mb4.3/14,Error ellipse: s-maj=15.5km s-min=8.4km az=90.5*
*NNC **28** 14:44:25.6±3.7,3852N×7033E,h101km±52km,mb3.7, mpv4.1,Error ellipse: s-maj=29.5km s-min=17.1km az=14.0*
*BJI **28** 14:44:26.4,3877N×7094E,h23km,mb4.2,ML4.0*
*ISCJB **28** 14:44:27.0±1.1,3869N±005×7059E±008,h58km±10km, mb4.0/15,Error ellipse: s-maj=11.6km s-min=6.1km az=107.0*
*NEIC **28** 14:44:28.7±1.2,3886N×7086E,h48km±11km,mb4.2/1, Error ellipse: s-maj=12.2km s-min=10.6km az=123.0*

ISC 28 14:44:30.7±0.6,3884N±004×7067E±006,h75km±7km,n73, σ1§40/83,mb3.9/15,3C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**4.02**	**34**	P		**Pn**	**14 45 29.4**	**-0.4**
	SNR=98							
KSH	**Kashi**	**4.18**	**79**	*e*P		**Pn**	**14 45 25.8**	**-6.1**
KSH				SG		**Sn**	**14 46 25.0**	**+5.5**
KSH				Smax				
	comp=N,1μm,0.8s							
KSH				Smax				
	comp=E,1μm,0.8s							
KK31	**Karatay Array**	**4.26**	**358**	↑P		**Pn**	**14 45 33.0**	**-0.1**
	comp=E,43nm,0.6s,baz=183,slow=13,SNR=236							
KK31				↑S		**Sn**	**14 46 25.5**	**+4.0**
	comp=E,121nm,0.5s,baz=187,slow=26							
UCH	**Uchtor**	**4.48**	**40**	P		**Pn**	**14 45 36.1**	**+0.1**
	SNR=19							
KBL	**Kabul**	**4.48**	**197**	*e*Pg		**Pn**	**14 45 35.5**	**-0.7**
EKS2	**Erkin-Say**	**4.49**	**31**	P		**Pn**	**14 45 37.9**	**+1.7**
	SNR=112							
KZA	**Kyzart**	**4.76**	**46**	P		**Pn**	**14 45 39.7**	**-0.2**
	SNR=15							
AAK	**Ala-Archa**	**4.78**	**36**	P		**Pn**	**14 45 42.1**	**+2.0**
	SNR=18							
AAK	**Ala-Archa**	**4.78**	**36**	*e*P		**Pn**	**14 45 38.9**	**-1.2**
FRU	**Bishkek**	**4.99**	**36**	↓*e*PN		**Pn**	**14 45 43.8**	**+0.8**
FRU				pmax	pmax			
	comp=Z,130nm,1.9s							
FRU				pmax	pmax			
	comp=E,690nm,1.9s							
KBK	**Karagaybulak**	**5.01**	**39**	P		**Pn**	**14 45 46.0**	**+2.7**
	SNR=371							
CEP	**Cherat**	**5.11**	**168**	P		**Pn**	**14 45 46.2**	**+1.6**
CEP				S		**Sn**	**14 46 32.0**	**-10**
CHMS	**Chumysh**	**5.18**	**35**	P		**Pn**	**14 45 47.4**	**+1.8**
	SNR=11							
USP	**Ospenovka**	**5.29**	**32**	P		**Pn**	**14 45 48.2**	**+1.1**
	SNR=44							
TKM2	**Tokmak 2**	**5.53**	**41**	P		**Pn**	**14 45 52.4**	**+2.1**
	SNR=37							
TKM2	**Tokmak 2**	**5.53**	**41**	↓P		**Pn**	**14 45 50.4**	**0.0**
	comp=E,5.3nm,0.7s							
TKM2				↓S		**Sn**	**14 46 59.1**	**+6.5**
	comp=E,11nm,0.8s							
CHCP	**Chirah Chowk**	**5.58**	**157**	P		**Pn**	**14 45 59.1**	**+8.0**
THW	**Thamme Wali**	**6.09**	**171**	P		**Pn**	**14 46 58.1**	**0.0**
MKAR	**Makanchi Array**	**11.65**	**43**	Lg			14 50 41.4	
	comp=E,0.1nm,0.3s,baz=257,slow=32,SNR=2.7							
AB31	**Akbulak array**	**12.94**	**327**	↓P		**Pn**	**14 47 27.7**	**-3.8**
	comp=E,7.6nm,0.5s							
AB31				↑S		**Sn**	**14 49 48.7**	**-4.9**
	comp=E,11nm,0.6s							
KURK	**Kurchatov**	**13.14**	**23**	↓P		**Pn**	**14 47 35.4**	**+1.3**
	comp=E,27nm,1.0s							
WMQ	**Urumqi**	**13.72**	**63**	*e*P		**Pn**	**14 47 39.5**	**-2.3**
VOSK	**Vostochnaya**	**13.89**	**1**	↓P		**Pn**	**14 47 41.0**	**-2.9**
	comp=E,5.0nm,0.6s							
ZRNK	**Zerenda**	**14.16**	**356**	*e*P		**Pn**	**14 47 45.1**	**-2.4**
ZRNK				pmax	pmax			
	comp=Z,606nm,2.4s							
ZRNK	**Zerenda**	**14.16**	**356**	*e*P		**Pn**	**14 47 45.1**	**-2.4**
	comp=Z,606nm,2.4s							
BVA0	**Borovoye Array**	**14.19**	**359**	↓P		**Pn**	**14 47 44.0**	**-3.9**
	comp=Z,1.2nm,0.7s,baz=163,slow=8.8,SNR=22							
BVAR	**Borovoye Array**	**14.19**	**359**	Pn		**Pn**	**14 47 45.0**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=161,slow=9.2,SNR=22							
BVAR				Sn		**Sn**	**14 50 23.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=169,slow=24,SNR=5.0							
BVAR	**Borovoye Array**	**14.19**	**359**	P		**Pn**	**14 47 45.0**	**-2.9**
BVAR							14 50 23.1	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR				smax				
	comp=N,1.0nm,0.3s							
BRVK	**Borovoye**	**14.22**	**359**	*e*P		**Pn**	**14 47 47.4**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,102nm,0.6s							
BRVK	**Borovoye**	**14.22**	**359**	*e*Pn		**Pn**	**14 47 47.4**	**-1.0**
	comp=Z,102nm,0.6s							
AKTK	**Aktyubinsk**	**14.65**	**326**	Pn		**Pn**	**14 47 52.3**	**-1.6**
AKTK				Sn		**Sn**	**14 50 35.3**	**+0.2**
AKTO	**Aktyubinsk**	**14.65**	**326**	↓P		**Pn**	**14 47 52.2**	**-1.7**
	comp=Z,0.2nm,0.9s							
AKTO				↓S		**Sn**	**14 50 31.3**	**-3.8**
	comp=Z,1.2nm,1.6s							
AKTO	**Aktyubinsk**	**14.65**	**326**	Pn		**Pn**	**14 47 52.3**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=136,slow=14,SNR=12							
AKTO				Sn		**Sn**	**14 50 35.3**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=170,slow=23,SNR=7.1							
AKTO	**Aktyubinsk**	**14.65**	**326**	P		**Pn**	**14 47 52.3**	**-1.6**
AKTO							14 50 35.3	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO				smax				
	comp=N,1.0nm,0.3s							
KOLN	**Koldanda**	**15.43**	**132**	*e*P		**Pn**	**14 47 57.8**	**-6.1**
	comp=N,11nm,0.6s							
KOLN				eS		**S**	**14 50 46.1**	**-19**
GKN	**Gorkha**	**15.88**	**129**	*e*P		**Pn**	**14 48 04.3**	**-5.3**
	comp=N,39nm,0.7s							
KKN	**Kakani**	**16.43**	**128**	*e*P		**Pn**	**14 48 13.5**	**-2.9**
	comp=N,18nm,0.7s							
DMN	**Daman**	**16.45**	**129**	*e*P		**Pn**	**14 48 11.2**	**-5.5**
PKI	**Pulchoki**	**16.66**	**128**	*e*P		**Pn**	**14 48 18.6**	**-0.7**
GUN	**Gumba**	**16.72**	**126**	*e*P		**Pn**	**14 48 17.6**	**-2.4**
	comp=N,17nm,0.5s							
ZAL	**Zalesovo**	**17.92**	**28**	P		**Pn**	**14 48 33.5**	**-1.2**
	comp=N,1.0nm,0.3s,baz=253,slow=8.5,SNR=3.7							
ZAL	**Zalesovo**	**17.92**	**28**	P		**Pn**	**14 48 33.5**	**-1.2**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ARU	**Arti**	**19.34**	**339**	*e*P		**Pn**	**14 48 51.7**	**-0.1**
ARU				eS		**S**	**14 52 24.3**	**-0.5**
GNI	**Garni**	**20.03**	**282**	P		**P**	**14 49 01.1**	**+3.7**
	comp=Z,3.7nm,0.4s,baz=20,slow=15,SNR=3.1							
GNI	**Garni**	**20.03**	**282**	P		**P**	**14 49 01.1**	**+3.6**
GNI				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KIV	**Kislovodsk**	**21.55**	**293**	*e*P		**P**	**14 49 09.8**	**-4.0**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.0							
GTA	**Gaotai**	**22.58**	**79**	*e*P		**P**	**14 49 26.3**	**+1.6**
GTA				AP			14 49 31.8	
GTA				XP		sP	14 49 34.3	-15
GTA				AMB	AMB			
	comp=Z,8.0nm,0.9s,mb4.0							
SONM	**Songino Array**	**27.29**	**59**	P		**P**	**14 50 08.4**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.1,baz=253,slow=9.1,SNR=4.2							
SONM	**Songino Array**	**27.29**	**59**	P		**P**	**14 50 08.4**	**+0.4**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**31.32**	**306**	P		**P**	**14 50 45.7**	**+2.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=111,slow=8.2,SNR=5.8							
AKASG	**Malin Array Be**	**31.32**	**306**	P		**P**	**14 50 45.7**	**+2.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MLR	**Muntele Rosu**	**33.46**	**296**	P		**P**	**14 51 03.2**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.1,baz=53,slow=5.1,SNR=3.5							
MLR	**Muntele Rosu**	**33.46**	**296**	P		**P**	**14 51 03.2**	**+0.7**
MLR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
HFS	**Hagfors**	**41.08**	**320**	P		**P**	**14 52 08.3**	**+1.4**
	comp=Z,3.9nm,0.5s,mb4.5,baz=102,slow=12,SNR=6.3							
HFS	**Hagfors**	**41.08**	**320**	P		**P**	**14 52 08.3**	**+1.4**
HFS				pmax	pmax			
	comp=Z,4.0nm,0.5s							
GERES	**GERESS Array B**	**41.40**	**303**	P		**P**	**14 52 13.4**	**+3.9**
	comp=Z,0.6nm,0.5s,mb3.7,baz=76,slow=4.1,SNR=3.4							
GERES	**GERESS Array B**	**41.40**	**303**	P		**P**	**14 52 13.4**	**+3.9**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**42.37**	**322**	P		**P**	**14 52 18.5**	**+1.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=94,slow=8.1,SNR=5.9							
NOA	**NORSAR Array B**	**42.37**	**322**	P		**P**	**14 52 18.5**	**+1.1**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**42.37**	**322**	P		**P**	**14 52 18.5**	**+1.1**
TIXI	**Tiksi**	**43.72**	**23**	*e*P		**P**	**14 52 27.5**	**-0.8**
TIXI				*e*			14 52 33.4	
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
TIXI	**Tiksi**	**43.72**	**23**	*e*P		**P**	**14 52 28.3**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.2							
MJAR	**Matsushiro Arr**	**52.37**	**70**	P		**P**	**14 53 33.4**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.2,baz=289,slow=11,SNR=4.3							
MJAR	**Matsushiro Arr**	**52.37**	**70**	P		**P**	**14 53 33.4**	**-1.6**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**65.53**	**267**	P		**P**	**14 55 07.3**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.9,baz=52,slow=5.7,SNR=8.1							
INK	**Inuvik**	**71.64**	**9**	P		**P**	**14 55 44.9**	**+0.8**
	comp=Z,1.3nm,0.6s,mb3.9,baz=355,slow=9.0,SNR=2.3							
INK	**Inuvik**	**71.64**	**9**	P		**P**	**14 55 44.9**	**+0.8**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**78.92**	**2**	P		**P**	**14 56 27.4**	**+1.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=350,slow=5.6,SNR=7.6							
YKA	**Yellowknife Ar**	**78.92**	**2**	P		**P**	**14 56 27.4**	**+1.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**83.45**	**122**	P		**P**	**14 56 49.9**	**0.0**
	comp=Z,1.5nm,0.9s,mb3.8,baz=322,slow=5.2,SNR=10							
WRA	**Warramunga Arr**	**83.45**	**122**	P		**P**	**14 56 49.9**	**0.0**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**85.81**	**125**	P		**P**	**14 57 01.6**	**-0.2**
	comp=Z,0.8nm,0.9s,mb3.6,baz=308,slow=4.5,SNR=7.2							
ASAR	**Alice Springs**	**85.81**	**125**	P		**P**	**14 57 01.6**	**-0.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							

*ISCJB **28** 14:49:20.7±0.4,5979N±003×2429E±005,h0km,Error ellipse: s-maj=4.5km s-min=3.6km az=132.0*
*CSEM **28** 14:49:21.7±0.1,5977N×2421E,h1km,ML2.2,Error ellipse: s-maj=2.7km s-min=2.2km az=177.0,Suspected Mining explosion.*
*NAO **28** 14:49:22.3±1.0,5981N×2429E,ML2.2*
*BER **28** 14:49:22.8±3.5,5981N×2429E,h0km,ML2.2(NAO), Suspected explosion*
*HEL **28** 14:49:22.4±0.1,5979N×2424E,h0km,ML2.6(UPP), ML2.2(NAO),Explosion*
*IDC **28** 14:49:23.8±1.0,5993N×2426E,h0km,mb1 3.4/4, mb1mx3.2/22,mbtmp3.4/4,ML3.7/3,Error ellipse: s-maj=12.0km s-min=8.4km az=149.0*
*UPP **28** 14:49:25.0,5985N×2385E,h0km,ML2.6,Suspected Mining explosion.*

ISC 28 14:49:21.7±0.4,5980N±003×2430E±005,h0km,n36, σ0§97/55,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**0.43**	**7**	*e*P		**Pg**	**14 49 29.4**	**-0.4**
PVF	**Pernaja**	**1.09**	**45**	*e*P		**Pg**	**14 49 41.8**	**-0.7**
PVF				eS		**Sg**	**14 49 55.8**	**-0.8**
RAF	**Rauma**	**1.76**	**316**	*e*P		**Pn**	**14 49 52.9**	**-0.5**
RAF				eS		**Sn**	**14 50 15.6**	**-0.8**
VJF	**Virojoki**	**1.79**	**64**	*e*P		**Pn**	**14 49 54.1**	**+0.2**
VJF				eS		**Sn**	**14 50 17.7**	**+0.4**
VSU	**Vasula**	**1.84**	**136**	Pg		**Pg**	**14 49 56.0**	**-0.9**
VSU				Lg			14 50 20.2	
VSU	**Vasula**	**1.84**	**136**	*e*P		**Pn**	**14 49 55.4**	**+1.0**
VSU				eS		**Sn**	**14 50 18.5**	**+0.1**
FIA0	**FINESS Array S**	**1.87**	**27**	Pg		**Pg**	**14 49 55.5**	**-2.0**
	baz=207,slow=14							
FIA0				Lg			14 50 20.7	
	baz=206,slow=28							
FIA0	**FINESS Array S**	**1.87**	**27**	*e*P		**Pn**	**14 49 55.5**	**+0.6**
FIA0				eS		**Sn**	**14 50 18.6**	**-0.6**
FINES	**FINESS Array B**	**1.87**	**27**	Pn		**Pn**	**14 49 55.7**	**+0.8**
	5.6nm,0.3s,baz=216,slow=12,SNR=147							
FINES				Sn		**Sn**	**14 50 20.8**	**+1.5**
	7.1nm,0.3s,baz=209,slow=25,SNR=22							
FINES				Rg			14 50 29.9	
	2.4nm,0.3s,baz=186,slow=33,SNR=5.2							
AAL	**Aland**	**2.20**	**282**	*e*P		**Pn**	**14 49 59.8**	**+0.4**
AAL				eS		**Sn**	**14 50 28.5**	**+1.2**
KEF	**Keuruu**	**2.40**	**6**	*e*P		**Pn**	**14 50 03.9**	**+1.7**
KEF				eS		**Sn**	**14 50 32.9**	**+0.7**
KAF	**Kangasniemi**	**2.52**	**22**	*e*P		**Pn**	**14 50 05.3**	**+1.4**
KAF				eS		**Sn**	**14 50 36.2**	**+0.8**
NRTU	**Norrtaelje**	**2.87**	**270**	*e*P		**Pn**	**14 50 09.0**	**+0.3**
GRAU	**Graesoe**	**2.94**	**283**	*e*P		**Pn**	**14 50 08.8**	**-0.7**
SUF	**Sumiainen**	**3.07**	**16**	*e*P		**Pn**	**14 50 12.5**	**+1.1**
SUF				eS		**Sn**	**14 50 47.7**	**-1.0**
FLYU	**Flymyra**	**3.24**	**279**	*e*P		**Pn**	**14 50 14.0**	**+0.2**
NYNU	**Nynaeshamn**	**3.31**	**259**	*e*P		**Pn**	**14 50 15.4**	**+0.6**
VAF	**Ylistaro**	**3.35**	**347**	*e*P		**Pn**	**14 50 16.6**	**+1.4**
VAF				eS		**Sn**	**14 50 56.1**	**+0.3**
OSTU	**Oestervaala**	**3.62**	**280**	*e*P		**Pn**	**14 50 18.6**	**-0.4**
BACU	**Backbrunna**	**3.63**	**274**	*e*P		**Pn**	**14 50 19.5**	**+0.4**
ESKU	**Eskilstuna**	**4.07**	**265**	*e*P		**Pn**	**14 50 26.0**	**+0.9**
HEMU	**Hemsoen**	**4.18**	**316**	*e*P		**Pn**	**14 50 27.7**	**+0.9**
HFS	**Hagfors**	**5.34**	**278**	Pn		**Pn**	**14 50 42.5**	**0.0**
	0.4nm,0.3s,baz=109,slow=13,SNR=22							
HFS				Sn		**Sn**	**14 51 42.4**	**-2.4**
	1.4nm,0.3s,baz=91,slow=24,SNR=11							
HFS				Lg			14 52 03.2	
	1.1nm,0.3s,baz=86,slow=31,SNR=6.6							
HFS	**Hagfors**	**5.34**	**278**	Pn		**Pn**	**14 50 42.5**	**-0.1**
	baz=108,slow=12							
HFS				Sn		**Sn**	**14 51 42.3**	**-2.5**
	baz=80,slow=37							
HFS				Lg			14 52 04.8	
	baz=102,slow=18							
HFS	**Hagfors**	**5.34**	**278**	*e*P		**Pn**	**14 50 42.5**	**-0.1**
HFS				eS		**Sn**	**14 51 42.3**	**-2.5**
HFS				eSG			14 52 04.8	
HFS	**Hagfors**	**5.34**	**278**	Pn		**Pn**	**14 50 42.5**	**-0.1**
	SNR=1.8							
HFS				Sn		**Sn**	**14 51 42.3**	**-2.5**
	SNR=0.1							
LILU	**Lilltraesk**	**5.88**	**341**	*e*P		**Pn**	**14 50 50.5**	**+0.5**
NB2	**NORSAR Subarra**	**6.60**	**287**	Pn		**Pn**	**14 50 58.6**	**-1.3**
	baz=90,slow=14							
NB2				Sn		**Sn**	**14 52 12.0**	**-3.8**
	baz=97,slow=22							
NB2	**NORSAR Subarra**	**6.60**	**287**	*e*P		**Pn**	**14 50 58.6**	**-1.3**
NB2				eS		**Sn**	**14 52 12.0**	**-3.8**
NOA	**NORSAR Array B**	**6.60**	**287**	Pn		**Pn**	**14 50 58.4**	**-1.5**
	0.7nm,0.3s,baz=95,slow=14,SNR=4.0							
NOA				Sn		**Sn**	**14 52 11.1**	**-4.7**
	0.6nm,0.3s,baz=148,slow=14,SNR=2.4							
APA0	**Apatity Array**	**8.73**	**22**	Pn		**Pn**	**14 51 28.4**	**-0.7**
	baz=203,slow=14							
APA0	**Apatity Array**	**8.73**	**22**	*e*P		**Pn**	**14 51 28.4**	**-0.7**
AKASG	**Malin Array Be**	**9.54**	**161**	Pn		**Pn**	**14 51 39.4**	**-0.8**
	1.1nm,0.3s,baz=340,slow=12,SNR=4.5							
ARA0	**ARCESS Array S**	**9.79**	**3**	Pn		**Pn**	**14 51 42.3**	**-1.4**
	baz=177,slow=14							
ARA0	**ARCESS Array S**	**9.79**	**3**	*e*P		**Pn**	**14 51 42.3**	**-1.4**
ARCES	**ARCESS Array B**	**9.79**	**3**	Pn		**Pn**	**14 51 42.5**	**-1.3**
	0.8nm,0.3s,baz=181,slow=13,SNR=43							
ARCES				Sn		**Sn**	**14 53 27.6**	**-6.8**
	0.2nm,0.3s,baz=185,slow=20,SNR=3.3							

*NEIC **28** 15:07:43.1,3606N×2242E,h43km,MD3.6(ATH),After ATH.*

ATH 28 15:07:43.1,3606N×2242E,h43km,MD3.6/4,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KYTH	**Kithira**	**0.55**	**66**	*e*P		Pn	15 07 55.0	+0.5
VLI	**Veliai**	**0.78**	**32**	*e*P		Pn	15 07 59.1	+1.5
ITM	**Ithomi**	**1.19**	**341**	*e*P		Pn	15 08 04.4	+1.2
VAM	**Vamos**	**1.59**	**114**	*e*P		Pn	15 08 10.4	+1.7
IDI	**Anoyia**	**2.15**	**110**	P		Pn	15 08 17.3	+0.8
NEO	**Neokhori**	**3.30**	**11**	P		Pn	15 08 37.9	+5.6
KARP	**Karpathos**	**3.89**	**96**	P		Pn	15 08 43.1	+2.8

IDC 28 15:10:12.3±2.0,075S×12752E,h0km,mb3.2/3,mb1 3.5/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=157.4km s-min=25.7km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.21**	**161**	P		P	15 14 49.3	+0.6
	0.4nm,0.6s,baz=340,slow=11,SNR=7.3							
ASAR	**Alice Springs**	**23.61**	**165**	P		P	15 15 24.9	-0.1
	0.5nm,0.7s,baz=344,slow=12,SNR=9.8							
MKAR	**Makanchi Array**	**61.68**	**326**	P		P	15 20 32.2	+0.1
	0.3nm,0.5s,baz=117,slow=8.1,SNR=7.0							

*BJI **28** 15:15:45.6,4690N×15500E,h10km,mB4.6,mb4.3,Ms4.1, Msz4.0*
*ISCJB **28** 15:15:46.4±0.6,4703N±007×15502E±0.10,h10km, mb4.3/41,MS3.3/1,Error ellipse: s-maj=12.2km s-min=6.1km az=96.1*
*NEIC **28** 15:15:47.6±0.6,4692N×15496E,h10km,mb4.6/12,Error ellipse: s-maj=14.5km s-min=9.1km az=138.0*
*MOS **28** 15:15:49.1±1.5,4692N×15487E,h33km,mb4.6/24,Error ellipse: s-maj=10.5km s-min=7.7km az=92.6*
*IDC **28** 15:15:51.4±6.8,4683N×15496E,h33km±51km,mb3.9/18, mb1 4.2/19,mb1mx4.1/25,mbtmp4.0/19,ML4.2/1,Error ellipse: s-maj=19.1km s-min=15.4km az=156.0*

ISC 28 15:15:48.2±0.5,4705N±007×15500E±010,h10km,n95, σ1§17/96,mb4.3/41,MS3.3/1,9C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.71**	**11**	*e*PN		**Pn**	**15 16 44.8**	**-0.8**
KUR	**Kuril'sk**	**5.28**	**252**	↑*i*PN		**Pn**	**15 17 03.2**	**-3.9**
KUR				pmax	pmax			
	comp=Z,320nm,0.8s							
PET	**Petropavlovsk**	**6.43**	**20**	*e*PN		**Pn**	**15 17 24.0**	**+1.1**
PET				pmax	pmax			
	comp=Z,16nm,0.8s							
PET	**Petropavlovsk**	**6.43**	**20**	*e*P		**Pn**	**15 17 22.6**	**-0.3**
PET				eS		**Sn**	**15 18 35.7**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**7.08**	**248**	*e*PN		**Pn**	**15 17 29.9**	**-2.1**
YUK				pmax	pmax			
	comp=Z,160nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.37**	**274**	*de*PN		**Pn**	**15 17 54.9**	**+5.3**
YSS	**Yuzh-Sakhalins**	**8.37**	**274**	*e*P		**Pn**	**15 17 52.8**	**+3.2**
ASAJ	**Asahikawa**	**9.18**	**256**	Pn		**Pn**	**15 18 01.5**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=78,slow=20,SNR=6.7							
ASAJ	**Asahikawa**	**9.18**	**256**	PN		**Pn**	**15 18 01.5**	**+0.9**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ERM	**Erimo**	**9.83**	**244**	*e*PN		**Pn**	**15 18 08.3**	**-1.4**
MAJO	**Matsushiro**	**16.30**	**236**	*e*P		**Pn**	**15 19 32.8**	**-4.4**
MAJO				pmax	pmax			
	comp=Z,18nm,0.8s							
MAJO	**Matsushiro**	**16.30**	**236**	*e*P		**Pn**	**15 19 32.8**	**-4.5**
	comp=Z,18nm,0.8s							
MAT	**Matsushiro**	**16.30**	**236**	P		**Pn**	**15 19 32.2**	**-5.0**
MJAR	**Matsushiro Arr**	**16.30**	**236**	Pn		**Pn**	**15 19 31.2**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=5.1							
MJAR	**Matsushiro Arr**	**16.30**	**236**	Pn		**Pn**	**15 19 31.2**	**-6.0**
YAK	**Yakutsk**	**20.79**	**325**	↑*e*P		**P**	**15 20 28.6**	**-0.9**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
YAK	**Yakutsk**	**20.79**	**325**	*e*P		**P**	**15 20 28.1**	**-1.3**
	comp=Z,7.6nm,0.6s							
BILL	**Bilibino**	**21.83**	**11**	↑*e*P		**P**	**15 20 39.4**	**-1.3**
BILL				eS		**S**	**15 24 37.1**	**-4.8**
BILL				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.2							
BILL				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.3							
BILL	**Bilibino**	**21.83**	**11**	P		**P**	**15 20 38.7**	**-2.0**
	comp=Z,28nm,1.4s,mb4.5							
KSRS	**Korea Array**	**22.12**	**254**	P		**P**	**15 20 43.2**	**-0.5**
	comp=Z,2.1nm,0.6s,mb3.7,baz=60,slow=10,SNR=8.9							
HIA	**Hailar**	**23.49**	**288**	↑*e*

LSA	Lhasa	51.54	274	*e*P		P		15 24 57.4	+3.1
	comp=Z,4.8nm,0.6s,mb4.6								
BVA0	Borovoye Array	51.66	310	*i* P		P		15 24 55.3	+0.1
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.9s,mb3.8								
BVAR	Borovoye Array	51.66	310	P		P		15 24 55.3	+0.1
	comp=Z,3.1nm,0.4s,mb4.6,baz=55,slow=8.2,SNR=26								
BVAR				PcP	PcP			15 26 08.5	-0.2
	comp=Z,1.6nm,0.7s,baz=59,slow=4.3,SNR=4.0								
BVAR	Borovoye Array	51.66	310	P		P		15 24 55.3	+0.1
BVAR								15 26 08.5	
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.4s								
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BRVK	Borovoye	51.70	310	*e*P		P		15 24 55.2	-0.3
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.6								
BRVK	Borovoye	51.70	310	*e*P		P		15 24 55.2	-0.3
	comp=Z,4.9nm,0.6s,mb4.6								
ZRNK	Zerenda	52.42	310	*e*P		P		15 25 00.7	-0.1
ZRNK				pmax	pmax				
	comp=Z,4.0nm,0.4s,mb4.7								
ZRNK	Zerenda	52.42	310	*e*P		P		15 25 00.7	-0.1
	comp=Z,3.9nm,0.4s,mb4.7								
AAK	Ala-Archa	54.85	297⇑	*e*P		P		15 25 19.0	+0.3
AAK				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4								
AAK	Ala-Archa	54.85	297	*e*P		P		15 25 18.7	0.0
	comp=Z,2.7nm,0.8s,mb4.3								
ARU	Arti	55.66	318	*e*P		P		15 25 25.5	+1.0
ARU				*e*				15 26 22.8	
ARU				*e*				15 27 29.1	
ARU				*e*PPP				15 28 42.0	
ARU				*e*S		S		15 33 10.1	-0.5
ARU	Arti	55.66	318	*e*P		P		15 25 24.3	-0.2
	comp=Z,8.8nm,0.7s,mb4.9								
JIRN	Jiri	56.20	276	*e*P		P		15 25 31.4	+3.0
	comp=Z,3.7nm,0.3s,mb5.0								
GUN	Gumba	56.26	276	*e*P		P		15 25 32.3	+3.5
KKN	Kakani	56.74	276	*e*P		P		15 25 34.6	+2.4
	comp=Z,11nm,0.6s,mb5.1								
DMN	Daman	56.98	276	*e*P		P		15 25 35.3	+1.4
	comp=Z,7.1nm,0.4s,mb5.0								
GKN	Gorkha	57.04	277	*e*P		P		15 25 35.8	+1.5
	comp=Z,11nm,0.5s,mb5.2								
KOLN	Koldanda	57.89	278	*e*P		P		15 25 41.1	+0.8
ARCES	ARCESS Array B	57.99	341	P		P		15 25 41.7	+0.7
	comp=Z,5.9nm,0.9s,mb4.6,baz=40,slow=8.3,SNR=5.2								
ARCES	ARCESS Array B	57.99	341	P		P		15 25 41.7	+0.7
ARCES				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ARCES	ARCESS Array B	57.99	341	P		P		15 25 41.7	+0.7
AB31	Akbulak array	59.22	311	*i* P		P		15 25 50.0	+0.4
AB31				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.2								
NVAR	Mina Array Bea	61.15	64	P		P		15 26 03.6	+0.8
	comp=Z,0.4nm,0.5s,mb3.8,baz=287,slow=7.2,SNR=3.5								
NVAR	Mina Array Bea	61.15	64	P		P		15 26 03.6	+0.8
PDAR	Pinedale Array	63.52	55	P		P		15 26 18.5	-0.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=291,slow=4.1,SNR=5.4								
KAF	Kangasniemi	63.71	336	*e*P		P		15 26 16.9	-3.0
	comp=Z,1.1nm,0.4s,mb4.2,baz=35,slow=6.2								
KAF	Kangasniemi	63.71	336	*e*P		P		15 26 16.9	-3.0
KAF				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.2								
FINES	FINESS Array B	64.31	335	P		P		15 26 24.3	+0.4
	comp=Z,4.4nm,0.6s,mb4.7,baz=32,slow=6.7,SNR=14								
FINES	FINESS Array B	64.31	335	*i* P		P		15 26 24.2	+0.3
FINES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FINES	FINESS Array B	64.31	335	P		P		15 26 24.3	+0.4
NB2	NORSAR Subarra	68.36	342	P		P		15 26 49.9	+0.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=27,slow=6.5								
NOA	NORSAR Array B	68.36	342	P		P		15 26 50.4	+0.6
	comp=Z,1.9nm,0.7s,mb4.2,baz=28,slow=6.4,SNR=5.2								
NOA	NORSAR Array B	68.36	342	P		P		15 26 50.4	+0.6
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRA	Warramunga Arr	69.23	201	P		P		15 26 52.8	-2.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=6.8,SNR=5.5								
WRA	Warramunga Arr	69.23	201	P		P		15 26 52.8	-2.5
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KIV	Kislovodsk	71.51	315	*e*P		P		15 27 13.7	+4.5
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.6								
AKASG	Malin Array Be	72.01	327	P		P		15 27 12.1	-0.1
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=5.9,SNR=6.3								
AKASG	Malin Array Be	72.01	327	*i* P		P		15 27 12.1	-0.1
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ASAR	Alice Springs	72.92	200	P		P		15 27 16.2	-1.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=17,slow=6.1,SNR=12								
ASAR	Alice Springs	72.92	200	P		P		15 27 16.3	-1.3
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TXAR	Lajitas Array	76.22	62	P		P		15 27 37.3	+0.5
	comp=Z,3.4nm,0.5s,mb4.5,baz=301,slow=4.3,SNR=36								
TXAR	Lajitas Array	76.22	62	P		P		15 27 37.3	+0.5
TXAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CLL	Collm	76.72	337	*i* P		P		15 27 43.4	+3.8
CLL				pmax	pmax				
	comp=Z,17nm,1.3s,mb4.8								
CLL	Collm	76.72	337	*i* pP		pP		15 27 43.4	+0.5
	comp=Z,17nm,1.3s								
KHC	Kasperske Hory	78.52	335	*e*P		P		15 27 50.0	+0.3
KHC	Kasperske Hory	78.52	335⇑	*e*P		P		15 27 51.0	+1.3
GERES	GERESS Array B	78.74	335	P		P		15 27 51.5	+0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=23,slow=4.4,SNR=5.0								
GERES	GERESS Array B	78.74	335	P		P		15 27 51.5	+0.6
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BRTR	Keskin Array B	79.05	318	P		P		15 27 53.5	+0.9
	comp=Z,1.2nm,0.8s,mb3.9,baz=57,slow=4.6,SNR=6.4								
BRTR	Keskin Array B	79.05	318⇑	*e*P		P		15 27 53.5	+0.9
TORD	Torodi Ar. Bea	115.48	331	PKP		PKPdf		15 34 29.4	-0.9
	comp=Z,0.4nm,0.8s,baz=343,slow=4.5,SNR=3.2								

NEIC ***28*** *15:19:29.5±1.8, 609S×151 69E, h10km, mb4.3/3, Error ellipse: s-maj=39.6km s-min=28.3km az=137.0*
ISCJB ***28*** *15:19:36.0±5.1, 62S±03°×1514E±0.3, h59km±35km, mb4.0/4, MS3.2/4, Error ellipse: s-maj=52.1km s-min=37.9km az=115.1*
IDC ***28*** *15:19:36.8±8.3, 620S×151 37E, h48km±61km, mb4.0/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML2.8/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/31, Error ellipse: s-maj=60.6km s-min=51.3km az=77.0*

ISC 28 15:19:37.1±5.0, 61S±03°×1514E±03, h59km±33km, n16, σ0§43/14, mb4.0/4, MS3.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	Port Moresby	5.29	231	P		Pn	15 20 53.3	-0.3
	2.2nm,0.3s,baz=71,slow=10,SNR=9.2							
PMG				S		Sn	15 21 53.3	+0.2
	9.3nm,0.3s,baz=180,slow=18,SNR=10							
PMG				LR		LR	15 22 29.1	
	comp=Z,73nm,18.4s,baz=74,slow=33							
PMG	Port Moresby	5.29	231	*e*P		Pn	15 20 53.8	+0.3
PMG				S		Sn	15 21 53.3	+0.2
PMG				LR		LR	15 22 29.1	
CTA	Charters Tower	14.75	199	LR		LR	15 27 40.4	
	comp=Z,85nm,20.9s,baz=43,slow=33							
KAKA	Kakadu	19.77	249	*e*P		Pn	15 24 04.3	0.0
	16nm,1.0s							
GUMO	Guam	20.60	342	LR		LR	15 31 02.0	
	comp=Z,35nm,20.7s,MS2.7,baz=66,slow=33							
WB2	Warramunga Arr	21.49	229	*e*P		P	15 24 20.6	-0.3
WRA	Warramunga Arr	21.50	229	P		P	15 24 20.4	-0.6
	6.7nm,1.1s,mb4.0,baz=55,slow=11,SNR=17							
AS31	Alice Springs	24.21	222	*e*P		P	15 24 48.0	-0.3
ASAR	Alice Springs	24.22	222	P		P	15 24 48.1	-0.2
	4.6nm,0.7s,mb4.0,baz=52,slow=9.3,SNR=57							
ASAR				LR		LR	15 33 26.4	
	comp=Z,48nm,18.2s,MS3.0,baz=353,slow=34							
ASPA	Alice Springs	24.22	222	*e*P		P	15 24 48.0	-0.3
STKA	Stephens Creek	27.21	198	*e*P		P	15 25 15.9	+0.5
	1.9nm,0.6s,mb3.8							
STKA	Stephens Creek	27.21	198	P		P	15 25 16.1	+0.7
	3.5nm,0.9s,mb3.9,baz=20,slow=10,SNR=7.3							
STKA				LR		LR	15 34 55.1	
	comp=Z,72nm,18.6s,MS3.3,baz=24,slow=34							
FITZ	Fitzroy Crossi	27.77	242	*e*P		P	15 25 21.4	+1.0
	3.7nm,0.3s,mb4.5							
FITZ	Fitzroy Crossi	27.77	242	P		P	15 25 21.0	+0.7
	2.5nm,0.6s,mb4.0,baz=45,slow=9.0,SNR=12							
RPZ	Rata Peaks	41.27	158	LR		LR	15 41 23.8	
	comp=Z,155nm,18.9s,MS3.9,baz=332,slow=32							
TORD	Torodi Ar. Bea	149.30	285	PKPbc		PKPbc	15 39 21.1	+1.9
	1.5nm,0.6s,baz=73,slow=3.0,SNR=10							

NEIC ***28*** *15:20:21.1, 3308S×6893W, h11km±3km, MLb3.4(GUC), After GUC.*

GUC 28 15:20:21.1±0.8, 3308S×6893W, h11km±3km, MD3.8, ML3.4, 5C-8D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDZ	Mendoza	0.20	19⇓	*i* P		Pg	15 20 25.3	-0.2
MDZ				*i*			15 20 27.0	
MDZ				*i*			15 20 28.3	
MDZ				S		Sg	15 20 29.2	+0.7
YECH	El Yeso	1.13	238⇓	*i* P		Pb	15 20 42.0	-0.6
YECH				*i* S		Sb	15 20 58.5	+1.2
YECH				AML		AML	15 21 00.5	
	comp=N,1μm,0.5s							
FCH	Farellones	1.17	257⇓	*i* P		Pb	15 20 43.0	-0.3
FCH				*i* S		Sb	15 20 59.8	+1.4
FCH				AML		AML	15 21 00.3	
	comp=N,1μm,0.2s							
LMEL	Las Melosas	1.31	234⇓	*i* P		Pn	15 20 45.2	-0.1
LMEL				*i* S		Sb	15 21 03.7	+1.2
LMEL				AML		AML	15 21 05.4	
	comp=E,1μm,0.5s							
LMEL	Las Melosas	1.31	234⇓	*i* P		Pn	15 20 45.2	-0.1
LMEL				*i* S		Sb	15 21 03.7	+1.2
CLCH	Cerro Calan	1.38	256⇓	*i* P		Pn	15 20 46.6	+0.3
CLCH				*i* S		Sn	15 21 06.1	+1.6
CLCH				AML		AML	15 21 09.8	
	comp=E,1μm,0.5s							
PCH	Pirque	1.43	247⇑	*i* P		Pn	15 20 47.7	+0.7
PCH				*i* S		Sn	15 21 07.8	+2.1
JACH	Jahuel	1.45	285⇓	*i* P		Pn	15 20 47.9	+0.6
JACH				*i* S		Sn	15 21 07.9	+1.6
PEL	Peldehue	1.48	267⇑	*i* P		Pn	15 20 48.1	+0.5
PEL				*i* S		Sn	15 21 08.5	+1.8
PEL				AML		AML	15 21 12.7	
	comp=N,641nm,0.4s							
ANTU	Antumapu	1.51	251	*i* P		Pn	15 20 48.1	+0.1
ANTU				*i* S		Sn	15 21 09.3	+1.7
ANTU				AML		AML	15 21 14.0	
	comp=E,555nm,0.6s							
ANTU	Antumapu	1.51	251	*i* P		Pn	15 20 48.1	+0.1
ANTU				*i* S		Sn	15 21 09.3	+1.7
RCDM	Rinconada Maip	1.62	255⇑	*i* P		Pn	15 20 51.0	+1.4
RCDM				*i* S		Sn	15 21 13.3	+2.8
RCDM				AML		AML	15 21 14.8	
	comp=N,210nm,0.2s							
RCDM				AML		AML	15 21 14.8	
	comp=E,212nm,0.3s							
RCDM	Rinconada Maip	1.62	255⇑	*i* P		Pn	15 20 51.0	+1.4
RCDM				*i* S		Sn	15 21 13.3	+2.8
CHCH	Chadas Angostu	1.67	239	*e*P		Pn	15 20 51.6	+1.3
CHCH				*i* S		Sn	15 21 14.5	+2.8
CACH	El Canelo	1.74	233	*e*P		Pn	15 20 52.8	+1.7
CACH				*i* S		Sn	15 21 16.4	+3.1
ROCH	El Roble	1.75	273	*e*P		Pn	15 20 53.2	+1.8
CICH	Cipreses	1.75	225⇑	*i* P		Pn	15 20 52.9	+1.5
CICH				*i* S		Sn	15 21 17.2	+3.5
TACH	Talagante	1.78	251	*i* P		Pn	15 20 53.5	+1.8
LCCH	Las Cruces	2.25	259	*e*P		Pn	15 21 00.6	+2.5
LNV	Longovilo	2.25	246	*e*P		Pn	15 21 00.7	+2.5
SFDO	San Fernando	2.31	228	*e*P		Pn	15 21 02.8	+3.7
CMCH	Combarbala	2.59	317	*e*S		Sn	15 21 41.5	+7.3
CMCH				AML		AML	15 21 43.6	
	comp=E,2μm,0.7s							
TLL	Tololo Astrono	3.31	331	*e*P		Pn	15 21 19.0	+6.2
TLL				*i* S		Sn	15 22 04.0	+12
TLL				AML		AML	15 22 07.3	
	comp=N,280nm,0.5s							
TLL	Tololo Astrono	3.31	331	*e*P		Pn	15 21 19.0	+6.2
TLL				*i* S		Sn	15 22 04.0	+12

ISCJB ***28*** *15:20:50.6±0.4, 4773N±005×15628E±009, h10km, mb4.1/19, MS3.6/3, Error ellipse: s-maj=9.6km s-min=7.0km az=61.3*
BJI ***28*** *15:20:50.1, 4760N×15620E, h10km, mB4.7, Ms3.9, Msz3.8*
IDC ***28*** *15:20:50.8±0.6, 4750N×15638E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.2/25, mbtmp4.2/16, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/40, Error ellipse: s-maj=19.7km s-min=15.3km az=140.0*
NEIC ***28*** *15:20:52.2±0.4, 4761N×15624E, h10km, mb4.3/5, Error ellipse: s-maj=11.8km s-min=9.3km az=134.0*
MOS ***28*** *15:20:55.4±1.9, 4768N×15603E, h48km, mb4.3/15, Error ellipse: s-maj=13.2km s-min=9.9km az=94.8*

ISC 28 15:20:52.4±0.4, 4772N±006×15626E±009, h10km, n63, σ1§37/64, mb4.1/19, MS3.6/3, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	Severo-Kuril's	2.96	358	*e*PN		Pn	15 21 38.5	-1.0
SKR				*e*S		Sn	15 22 12.5	-2.6
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,240nm,0.6s							
SKR				smax				
	comp=E,240nm,0.6s							
SKR				smax				
	comp=Z,80nm,0.6s							
PET	Petropavlovsk	5.52	15	*e*PN		Pn	15 22 15.3	+0.7
PET				pmax	pmax			
	comp=Z,28nm,0.6s							
PET				MLR	MLR			
	comp=Z,100nm,13.0s							
PET	Petropavlovsk	5.52	15	*e*P		Pn	15 22 13.6	-1.0
	comp=Z,17nm,0.5s							
KUR	Kuril'sk	6.31	250⇑	*i* PN		Pn	15 22 22.4	-3.1
KUR				pmax	pmax			
	comp=Z,280nm,0.9s							
YSS	Yuzh-Sakhalins	9.21	270	*e*PN		Pn	15 23 07.7	+2.5
YSS	Yuzh-Sakhalins	9.21	270	*e*P		Pn	15 23 08.7	+3.5
	comp=Z,10nm,0.6s							
ASAJ	Asahikawa	10.18	254	Pn		Pn	15 23 19.8	+1.2
	comp=Z,0.5nm,0.3s,baz=116,slow=11,SNR=12							
ASAJ	Asahikawa	10.18	254	PN		Pn	15 23 19.8	+1.2
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ERM	Erimo	10.91	243	PN		Pn	15 23 26.8	-1.7
ERM				pmax	pmax			
	comp=Z,68nm,0.6s							
ERM	Erimo	10.91	243	P		Pn	15 23 26.8	-1.7
	comp=Z,68nm,0.6s							
KLR	Kul'dur	16.31	284	*e*P		Pn	15 24 39.7	-1.8
KLR				MLR	MLR			
	comp=Z,1μm,13.5s							
MAT	Matsushiro	17.39	237	P		Pn	15 24 58.2	+3.0
MAT				*e*S		Sn	15 28 11.8	+3.1
MJAR	Matsushiro Arr	17.39	237	P		Pn	15 24 59.3	+4.1
	comp=Z,0.3nm,0.3s,baz=35,slow=11,SNR=6.7							
YAK	Yakutsk	20.74	323	*e*P		P	15 25 31.7	-1.4
YAK				pmax	pmax			
	comp=Z,10.0nm,0.7s							
YAK	Yakutsk	20.74	323	*e*P		P	15 25 31.6	-1.4
	comp=Z,10nm,0.7s							
CN2	Changchun	21.78	271	*e*P		P	15 25 40.0	-4.3
KSRS	Korea Array	23.13	254	P		P	15 25 59.4	+0.7
	comp=Z,5.1nm,1.0s,mb3.9,baz=50,slow=12,SNR=7.1							
KSRS				LR		LR	15 36 03.0	
	comp=Z,65nm,18.1s,MS3.1,baz=65,slow=39							
TIXI	Tiksi	27.18	341	*i* P		P	15 26 34.9	-1.2
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.6							
TIXI				MLR	MLR			
	comp=Z,119nm,17.0s,MS3.5							
MK31	Makanchi Array	48.39	298	*e*P		P	15 29 34.7	+0.2
MKAR	Makanchi Array	48.39	298	P		P	15 29 35.0	+0.5
	comp=Z,3.8nm,0.7s,mb4.5,baz=65,slow=7.9,SNR=23							
MKAR	Makanchi Array	48.39	298	P		P	15 29 35.0	+0.5
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MKAR	Makanchi Array	48.39	298	P		P	15 29 35.0	+0.5
YKA	Yellowknife Ar	48.85	38	P		P	15 29 37.1	-0.9
	comp=Z,0.7nm,0.7s,mb3.8,baz=293,slow=7.3,SNR=3.5							
YKA	Yellowknife Ar	48.85	38	P		P	15 29 37.1	-0.9
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	Borovoye Array	51.89	310	P		P	15 30 00.7	-0.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=51,slow=7.8,SNR=5.8							
BVAR	Borovoye Array	51.89	310	P		P	15 30 00.7	-0.3
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRVK	Borovoye	51.92	310	*e*P		P	15 30 01.3	0.0
LSA	Lhasa	52.35	275	P		P	15 30 07.5	+3.0
ZRNK	Zerenda	52.64	310	*e*P		P	15 30 06.1	-0.5
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
ZRNK	Zerenda	52.64	310	*e*P		P	15 30 06.1	-0.5
	comp=Z,2.3nm,0.8s,mb4.2							
AAK	Ala-Archa	55.31	297	*e*P		P	15 30 26.1	0.0
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
AAK	Ala-Archa	55.31	297	*e*P		P	15 30 26.1	-0.1
	comp=Z,3.4nm,0.8s,mb4.4							
ARU	Arti	55.73	318	*e*P		P	15 30 29.0	-0.1
HLID	Hailey	59.18	58	*e*P		P	15 30 54.3	+0.8
	comp=Z,2.2nm,1.0s,mb4.1							
NVAR	Mina Array Bea	60.08	65	P		P	15 31 00.6	+0.9
	comp=Z,2.0nm,0.7s,mb4.3,baz=303,slow=7.7,SNR=11							
BW06	Boulder Array	62.43	56	*e*P		P	15 31 16.0	+0.4
PDAR	Pinedale Array	62.43	56	P		P	15 31 16.1	+0.5
	comp=Z,1.6nm,0.9s,mb4.2,baz=286,slow=2.9,SNR=11							
FINES	FINESS Array B	64.05	336	P		P	15 31 28.0	+1.7
	comp=Z,2.6nm,1.0s,mb4.2,baz=52,slow=12,SNR=5.2							
FINES	FINESS Array B	64.05	336	P		P	15 31 28.0	+1.7
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
FINES	FINESS Array B	64.05	336	P		P	15 31 28.0	+1.7
NB2	NORSAR Subarra	67.97	342	P		P	15 31 53.7	+2.1
	comp=Z,1.1nm,0.7s,mb4.0,baz=25,slow=6.5							
NOA	NORSAR Array B	67.97	342	P		P	15 31 53.7	+2.1
	comp=Z,1.8nm,0.8s,mb4.2,baz=25,slow=6.5,SNR=5.6							
NOA	NORSAR Array B	67.97	342	P		P	15 31 53.7	+2.1
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	NORSAR Array B	67.97	342	P		P	15 31 53.7	+2.1
WB2	Warramunga Arr	70.17	202	*e*P		P	15 32 03.0	-2.2
WRA	Warramunga Arr	70.17	202	P		P	15 32 03.3	-2.0
	comp=Z,3.3nm,0.7s,mb4.4,baz=21,slow=6.6,SNR=29							
WRA	Warramunga Arr	70.17	202	P		P	15 32 03.3	-1.9
WRA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FITZ	Fitzroy Crossi	71.05	211	*e*P		P	15 32 09.8	-0.7
	comp=Z,9.7nm,0.9s,mb4.7							
FITZ	Fitzroy Crossi	71.05	211	P		P	15 32 10.2	-0.4
	comp=Z,5.4nm,0.8s,mb4.5,baz=14,slow=2.9,SNR=8.7							
AKASG	Malin Array Be	71.90	328	P		P	15 32 16.7	+1.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=34,slow=6.2,SNR=6.5							
AKASG				LR		LR	16 05 56.7	
	comp=Z,126nm,18.1s,MS4.2,baz=300,slow=38							
AKASG	Malin Array Be	71.90	328	P		P	15 32 16.7	+1.0
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,126nm,18.1s							
AS31	Alice Springs	73.85	201	*e*P		P	15 32 26.3	-1.0
ASAR	Alice Springs	73.85	201	P		P	15 32 26.4	-0.9
	comp=Z,5.1nm,0.8s,mb4.5,baz=14,slow=5.5,SNR=62							
ASAR	Alice Springs	73.85	201	P		P	15 32 26.4	-0.9
ASAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ASPA	Alice Springs	73.86	201	*e*P		P	15 32 26.3	-1.0
TXAR	Lajitas Array	75.14	63	P		P	15 32 35.2	+0.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=294,slow=3.9,SNR=14							
TXAR	Lajitas Array	75.14	63	P		P	15 32 35.2	+0.4
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CLL	Collm	76.43	337	*e*pP		pP	15 32 48.0	+2.5
KHC	Kasperske Hory	78.26	336	*e*P		P	15 32 55.5	+3.1
GERES	GERESS Array B	78.48	336	P		P	15 32 55.9	+2.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=28,slow=6.0,SNR=3.9							
GERES	GERESS Array B	78.48	336	P		P	15 32 55.9	+2.3
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	Keskin Array B	79.12	319	P		P	15 32 58.0	+0.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=91,slow=7.9,SNR=3.6							
BRTR	Keskin Array B	79.12	319	P		P	15 32 58.0	+0.9
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							

NIED ***28*** *15:21:00, 4690N×153.10E, h8km, Mw4.3 Best double couple: M0 3.36000×10^15 NP1:φ§329.00000°, δ76.00000°, λ66.00000°. NP2:φ§211.00000°, δ27.00000°, λ149.00000°.*
BJI ***28*** *15:21:42.0, 4690N×15300E, h10km, mB4.4, mb4.5, Ms3.8, Msz3.6*
NEIC ***28*** *15:21:43.4±0.3, 4687N×15297E, h10km, mb4.5/18, Error ellipse: s-maj=10.2km s-min=6.2km az=148.0*
JMA ***28*** *15:21:45.3±0.8, 4691N×15309E, h30km, M4.8*
ISCJB ***28*** *15:21:

YUK pmax pmax
comp=Z,180nm,0.4s
YUK smax
comp=N,2μm,1.3s
YUK smax
comp=E,2μm,1.0s
YUK smax
comp=N,730nm,0.5s
YUK smax
comp=E,380nm,0.5s
NEM2 Nemuro 2 6.10 239 P **Pn** **15 23 15.0 -1.3**
NEM2 *e*S **Sn** **15 24 21.5 -3.3**
JRA Rausu 6.17 246 P **Pn** **15 23 18.9 +1.7**
JNK Nakash 6.60 244 P **Pn** **15 23 23.9 +0.8**
JNK *e*S **Sn** **15 24 37.0 0.0**
JTKR Abashiri--Toko 6.92 249 P **Pn** **15 23 29.2 +1.6**
JAK Akkeshi 6.94 240 P **Pn** **15 23 26.6 -1.2**
JAK *e*S **Sn** **15 24 42.3 -3.0**
YSS Yuzh-Sakhalins 6.96 275 *e*P **Pn** **15 23 31.0 +2.9**
YSS AMB AMB 15 23 33.3
comp=E,50nm,0.9s
YSS AMB AMB 15 23 33.3
comp=E,50nm,0.9s
YSS *e*S **Sn** **15 24 49.0 +3.2**
YSS *e*LQ 15 25 20.0
YSS AMS AMS 15 26 10.0
comp=E,500nm,14.0s
YSS AMS AMS 15 26 10.0
comp=E,500nm,14.0s
YSS Yuzh-Sakhalins 6.96 275 *e*PN **Pn** **15 23 31.0 +2.9**
YSS *e*S **Sn** **15 24 49.0 +3.2**
YSS pmax pmax
comp=E,50nm,0.9s
YSS pmax pmax
comp=E,50nm,0.9s
YSS MLR MLR
comp=E,500nm,14.0s
YSS MLR MLR
comp=E,500nm,14.0s
YSS Yuzh-Sakhalins 6.96 275 *e*P **Pn** **15 23 31.3 +3.2**
comp=E,37nm,0.8s
JMP Maruseppu 7.26 251 P **Pn** **15 23 33.8 +1.6**
JAR Ashorobuto 7.34 245 P **Pn** **15 23 34.3 +1.0**
JAR *e*S **Sn** **15 24 54.6 -0.5**
JOB Onbets 7.51 242 P **Pn** **15 23 36.0 +0.4**
JOB *e*S **Sn** **15 24 56.5 -2.9**
ASAJ Asahikawa 7.71 254 P **Pn** **15 23 39.8 +1.4**
comp=Z,4.9nm,0.3s,baz=87,slow=11,SNR=26
ASAJ Asahikawa 7.71 254 P **Pn** **15 23 41.7 +3.3**
ASAJ Asahikawa 7.71 254 PN **Pn** **15 23 39.8 +1.4**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
JKK2 Kamakawa 2 7.72 252 P **Pn** **15 23 40.8 +2.3**
JWK2 Keihoku 7.79 263 P **Pn** **15 23 44.8 +5.3**
TYV Tymovskoe 7.91 305 *e*P **Pn** **15 23 42.0 +1.0**
TYV AMB AMB 15 23 47.5
comp=Z,40nm,1.0s
TYV AMB AMB 15 23 47.5
comp=Z,46nm,1.0s
TYV AMS AMS 15 29 06.0
comp=Z,500nm,10.0s
TYV AMS AMS 15 29 06.0
comp=Z,600nm,13.0s
JCH Churui 7.96 242 P **Pn** **15 23 41.3 -0.5**
JCH *e*S **Sn** **15 25 06.0 -4.4**
JFR Furan 8.15 247 P **Pn** **15 23 46.9 +2.6**
JEM Erimo 8.44 239 P **Pn** **15 23 48.6 +0.3**
JEM *e*S **Sn** **15 25 18.7 -3.4**
ERM Erimo 8.44 239⇑ *e*PN **Pn** **15 23 48.9 +0.6**
JBT2 Biratori 2 8.49 246 P **Pn** **15 23 49.5 +0.5**
JNBK Urakawa-nobuka 8.52 242 P **Pn** **15 23 48.4 -1.1**
JNBK *e*S **Sn** **15 25 19.4 -4.8**
JNB Noboribetsu 9.48 247 P **Pn** **15 24 01.6 -1.0**
JKB Kayabe 9.80 244 P **Pn** **15 24 05.4 -1.6**
JKB *e*S **Sn** **15 25 48.9 -6.6**
JSH Shimam 10.04 250 P **Pn** **15 24 10.6 +0.4**
JYM2 Yakumo 2 10.09 247 P **Pn** **15 24 09.2 -1.7**
JTM Tenmabayashi 10.43 239 P **Pn** **15 24 12.9 -2.7**
JTM *e*S **Sn** **15 26 01.6 -9.3**
JANG Nango 10.44 236 P **Pn** **15 24 11.5 -4.2**
JANG *e*S **Sn** **15 26 00.0 -11**
JTH Tanohata 10.54 234 *e*S **Sn** **15 26 02.4 -11**
JOSM Okushiri--Mats 10.68 249 P **Pn** **15 24 17.7 -1.3**
OFUJ Ofunato 11.25 231 P **Pn** **15 24 22.7 -4.1**
OFUJ *e*S **Sn** **15 26 20.5 -10**
JRG Rokugo 11.60 235 P **Pn** **15 24 28.7 -2.8**
JRG *e*S **Sn** **15 26 29.7 -10**
JIO Ouri 11.88 230 P **Pn** **15 24 31.7 -3.7**
HABR Khabarovsk 12.17 285 *e*PN **Pn** **15 24 38.7 -0.6**
HABR *e*S **Sn** **15 26 55.8 +2.5**
JYA Atsumi 12.67 235 *e*S **Sn** **15 26 59.3 -6.3**
MA2 Magadan 12.89 355 *e*PN **Pn** **15 24 49.8 +0.6**
MA2 pmax pmax
comp=N,10.0nm,0.5s
MA2 pmax pmax
comp=Z,20nm,0.5s
JFK Kawauchi 12.95 228 *e*S **Sn** **15 27 00.8 -12**
MAJO Matsushiro 14.97 232 P **Pn** **15 25 18.4 +1.4**
MAJO pmax pmax
comp=Z,11nm,0.5s
MAJO Matsushiro 14.97 232 P **Pn** **15 25 18.4 +1.5**
comp=Z,11nm,0.5s
MJAR Matsushiro Arr 14.97 232 P **Pn** **15 25 16.8 -0.2**
comp=Z,1.1nm,0.3s,baz=34,slow=10.0,SNR=4.9
MJAR Matsushiro Arr 14.97 232 P **Pn** **15 25 16.8 -0.2**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MDJ Mudanjiang 16.42 271 *e*P **Pn** **15 25 36.1 +0.7**
comp=Z,9.9nm,0.8s
YAK Yakutsk 20.23 327⇑ *e*P **P** **15 26 18.4 -0.8**
YAK pmax pmax
comp=Z,16nm,0.7s
YAK Yakutsk 20.23 327 *e*P **P** **15 26 19.6 +0.4**
KSRS Korea Array 20.66 252 P **P** **15 26 24.9 +1.0**
comp=Z,4.1nm,0.6s,baz=58,slow=8.8,SNR=5.4
SNY Shenyang 21.49 267⇑ P **P** **15 26 34.0 +1.2**
SNY AMB AMB
comp=Z,20nm,0.6s,mb4.6
SNY AMB AMB
comp=Z,425nm,4.8s
SNY LR LR
comp=N,122nm,14.4s,MS3.7
SNY LR LR
comp=E,155nm,12.6s,MS3.7
SNY LR LR
comp=Z,178nm,17.4s,MS3.5
JNU Nakatsue 21.60 239 P **P** **15 26 34.4 +0.4**
comp=Z,9.2nm,0.6s,mb4.4,baz=237,slow=12,SNR=5.2
BILL Bilibino 22.41 13⇑ *e*P **P** **15 26 38.3 -4.3**
BILL *e*S **S** **15 30 42.7 -2.7**
BILL pmax pmax
comp=Z,9.0nm,1.7s,mb3.9
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.3
ULN Ulaanbaatar 30.75 289⇑ *e*P **P** **15 27 59.3 +0.6**
ULN Ulaanbaatar 30.75 289 *e*P **P** **15 28 01.9 +3.2**
comp=Z,4.6nm,0.9s,mb4.3
SONM Songino Array 31.19 289 P **P** **15 28 03.1 +0.5**
comp=Z,1.0nm,0.7s,mb3.8,baz=68,slow=8.0,SNR=6.1
SONM PcP PcP 15 30 56.6 +0.3
comp=Z,0.9nm,0.9s,baz=115,slow=2.8,SNR=4.0
SONM Songino Array 31.19 289 P **P** **15 28 03.1 +0.5**
SONM 15 30 56.6
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.9s
IMA2 Indian Mountai 33.88 36 *e*P **P** **15 28 26.0 -0.1**
XAN Xi'an 35.37 265 P **P** **15 28 39.0 0.0**
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.8
COLA College 36.22 38*c* *i*P **P** **15 28 45.1 -1.1**
COLA College 36.22 38 *e*P **P** **15 28 46.2 +0.1**
comp=Z,5.5nm,0.8s,mb4.5
LZH Lanzhou 37.74 272 *e*P **P** **15 29 00.5 +1.4**
LZH AP pP 15 29 05.0 -8.4
LZH XP sP 15 29 08.3 -12
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH Lanzhou 37.74 272 *e*P **P** **15 29 00.5 +1.4**
comp=Z,19nm,1.0s,mb4.8
LZH pP pP 15 29 05.1 -8.3
GTA Gaotai 38.82 279 *e*P **P** **15 29 10.0 +1.8**
GTA AP pP 15 29 14.5 -8.0
GTA XP sP 15 29 17.0 -12
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.1
CD2 Chengdu 40.73 265 P **P** **15 29 25.0 +0.9**
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
INK Inuvik 41.72 32 P **P** **15 29 32.6 +0.5**
comp=Z,4.7nm,0.5s,mb4.4,baz=289,slow=7.3,SNR=13
INK Inuvik 41.72 32 P **P** **15 29 32.7 +0.5**
INK pmax pmax
comp=Z,5.0nm,0.5s
ZAL Zalesovo 42.50 306 PcP PcP 15 31 31.2 +0.8
comp=Z,1.0nm,0.3s,baz=68,slow=5.4,SNR=6.0
MK31 Makanchi Array 46.80 297 *e*P **P** **15 30 12.0 -0.8**
MKAR Makanchi Array 46.80 297 P **P** **15 30 12.5 -0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=70,slow=7.8,SNR=6.8
MKAR PcP PcP 15 31 44.8 -0.3
comp=Z,1.5nm,0.8s,baz=76,slow=4.7,SNR=4.1
MKAR LR LR 15 51 02.3
comp=Z,191nm,18.3s,MS4.1,baz=0.6,slow=38
MKAR Makanchi Array 46.80 297 P **P** **15 30 12.5 -0.3**
MKAR 15 31 44.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,191nm,18.3s
LSA Lhasa 50.13 273 *e*P **P** **15 30 40.2 +1.8**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
LSA Lhasa 50.13 273 *e*P **P** **15 30 40.2 +1.9**
comp=Z,8.0nm,0.6s,mb4.9
BVAR Borovoye Array 50.73 309 P **P** **15 30 42.2 -0.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=61,slow=9.2,SNR=3.7
BVAR PcP PcP 15 31 58.4 -1.0
comp=Z,1.4nm,0.6s,baz=41,slow=3.1,SNR=5.8
BVAR Borovoye Array 50.73 309 P **P** **15 30 42.2 -0.8**
BVAR 15 31 58.4
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 50.78 309 *e*P **P** **15 30 42.3 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 50.78 309 *e*P **P** **15 30 42.3 -1.0**
comp=Z,2.6nm,0.8s,mb4.2
YKA Yellowknife Ar 51.00 37 P **P** **15 30 44.9 0.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=296,slow=7.1,SNR=13
YKA LR LR 15 55 22.4
comp=Z,44nm,18.8s,MS3.5,baz=170,slow=40
YKA Yellowknife Ar 51.00 37 P **P** **15 30 44.9 -0.1**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA MLR MLR
comp=Z,44nm,18.8s
YKA Yellowknife Ar 51.00 37 P **P** **15 30 44.9 0.0**
YKA LR LR 15 55 22.4
ZRNK Zerenda 51.51 310 *e*P **P** **15 30 47.5 -1.2**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ZRNK Zerenda 51.51 310 *e*P **P** **15 30 47.5 -1.2**
comp=Z,1.1nm,0.6s,mb4.0
CHTO Chiang Mai 51.98 256 *e*P **P** **15 30 53.7 +1.4**
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHTO Chiang Mai 51.98 256 *e*P **P** **15 30 53.7 +1.4**
comp=Z,8.0nm,0.9s,mb4.7
AAK Ala-Archa 53.70 296⇑ *e*P **P** **15 31 04.2 -0.7**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ARU Arti 54.90 317⇓ *i*P **P** **15 31 10.9 -2.8**
ARU *e*PPP 15 34 26.1
ARU *e*S **S** **15 38 49.5 -1.6**
ARU *e*SS SS 15 42 28.8 -6.2
ARU pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
EDM Edmonton 56.41 46 *e*P **P** **15 31 24.5 0.0**
ARCES ARCESS Array B 57.79 341 P **P** **15 31 33.0 -1.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=39,slow=7.8,SNR=4.8
ARCES ARCESS Array B 57.79 341 P **P** **15 31 33.0 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 57.79 341 P **P** **15 31 33.0 -1.3**
comp=Z,3.2nm,1.3s,mb4.3
HLID Hailey 61.62 56 *e*P **P** **15 32 00.8 +0.2**
NVAR Mina Array Bea 62.56 62 P **P** **15 32 08.1 +1.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=302,slow=8.1,SNR=6.1
KAF Kangasniemi 63.37 335 *e*p **P** **15 32 09.8 -2.4**
comp=Z,4.4nm,0.6s,mb4.8,baz=36,slow=6.2
KAF Kangasniemi 63.37 335 *e*P **P** **15 32 09.8 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
PSI Prapat 63.95 244 P **P** **15 32 17.8 +1.7**
comp=Z,2.7nm,0.5s,mb4.6,baz=107,slow=3.8,SNR=4.2
PSI Prapat 63.95 244 P **P** **15 32 17.8 +1.7**
PSI pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
PSI Prapat 63.95 244 P **P** **15 32 17.8 +1.7**
FINES FINESS Array B 63.96 335 P **P** **15 32 15.5 -0.7**
comp=Z,5.5nm,0.5s,mb4.9,baz=37,slow=7.4,SNR=30
FINES FINESS Array B 63.96 335 *i*P **P** **15 32 15.0 -1.2**
FINES pmax pmax
comp=Z,6.0nm,0.5s
BW06 Boulder Array 64.86 54 *e*P **P** **15 32 21.8 -0.2**
PDAR Pinedale Array 64.86 54 P **P** **15 32 22.6 +0.6**
comp=Z,2.8nm,0.9s,mb4.3,baz=292,slow=2.0,SNR=14
OBN Obninsk 65.21 325⇑ *e*P **P** **15 32 23.7 -0.6**
OBN *e*S S 15 41 00.3 -3.1
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ULM Lac du Bonnet 66.61 41 P **P** **15 32 32.6 -0.6**
comp=Z,7.0nm,0.8s,mb4.3,baz=297,slow=7.7,SNR=4.4
HYB Hyderabad 66.85 271 *i*P **P** **15 32 35.0 +0.2**
HYB Hyderabad 66.85 271 *e*P **P** **15 32 35.0 +0.2**
NB2 NORSAR Subarra 68.17 341 P **P** **15 32 42.1 -1.0**
comp=Z,5.5nm,0.6s,mb4.8,baz=27,slow=6.5
NOA NORSAR Array B 68.17 341 P **P** **15 32 42.7 -0.4**
comp=Z,12nm,0.8s,mb5.0,baz=27,slow=6.3,SNR=19
NOA NORSAR Array B 68.17 341 P **P** **15 32 42.7 -0.4**
NOA pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 68.47 199⇓ *e*P **P** **15 32 44.9 -0.1**
WRA Warramunga Arr 68.48 199 P **P** **15 32 44.7 -0.3**
comp=Z,1.1nm,1.0s,mb3.8,baz=13,slow=6.7,SNR=5.8
WRA Warramunga Arr 68.48 199 *i*P **P** **15 32 46.2 +1.1**
WRA pmax pmax
comp=Z,1.0nm,1.0s
ISCO Idaho Springs 69.05 54 *e*P **P** **15 32 49.5 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
ISCO Idaho Springs 69.05 54 *e*P **P** **15 32 49.5 +0.8**
comp=Z,2.5nm,0.3s,mb4.6
FITZ Fitzroy Crossi 69.09 208 P **P** **15 32 49.8 +1.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=207,slow=2.3,SNR=2.4
AKASG Malin Array Be 71.45 326 P **P** **15 33 02.2 -1.1**
comp=Z,7.2nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=31
AKASG Malin Array Be 71.45 326 P **P** **15 33 02.2 -1.1**
KIEV Kiev 71.46 326 *e*P **P** **15 33 01.9 -1.4**
ASAR Alice Springs 72.18 198 P **P** **15 33 08.4 +0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=11,slow=5.3,SNR=9.4
OJC Ojcow 75.24 331 *e*P **P** **15 33 24.7 -0.9**
STHS Stebnicka Huta 75.43 330 *i*P **P** **15 33 27.4 +0.7**
comp=Z,5.7nm,0.8s,mb4.5
KOLS Kolonicke sedl 75.48 329 *e*P **P** **15 33 26.0 -0.9**
BURAR Bucovina Array 75.50 326⇓ *i*P **P** **15 33 27.0 -0.1**
UPC Upice 76.20 333 *e*P **P** **15 33 31.4 +0.3**
DPC Dobruska-Polom 76.24 333 *e*P **P** **15 33 31.7 +0.4**
MORC Moravsky Berou 76.36 332⇑ *i*P **P** **15 33 32.0 0.0**
CLL Collm 76.39 335 *i*P **P** **15 33 31.3 -0.9**
comp=Z,12nm,1.0s,mb4.8
KECS Kecovo 76.49 330 *e*P **P** **15 33 32.4 -0.3**
comp=Z,2.9nm,1.0s,mb4.2
MLR Muntele Rosu 76.97 325⇑ *i*P **P** **15 33 35.7 +0.3**
MALT Malatya 77.03 313 *e*P **P** **15 33 37.2 +1.4**
comp=Z,1.6nm,0.8s,mb4.0
VYHS Vyhne 77.04 331 *e*P **P** **15 33 35.7 -0.1**
comp=Z,5.5nm,1.2s,mb4.4
PRU Pruhonice 77.11 334 *e*P **P** **15 33 36.2 0.0**
TXAR Lajitas Array 77.61 60 P **P** **15 33 39.7 +0.7**
comp=Z,2.0nm,0.5s,mb4.3,baz=301,slow=4.7,SNR=19
KHC Kasperske Hory 78.16 334 *e*P **P** **15 33 42.0 -0.1**
GZR Gura Zlata 78.28 327⇑ *i*P **P** **15 33 42.3 -0.4**
BR131 Keskin Array S 78.28 317 *e*P **P** **15 33 43.4 +0.6**
comp=Z,1.8nm,0.8s,mb4.0
BRTR Keskin Array B 78.28 317 P **P** **15 33 43.4 +0.6**
comp=Z,2.9nm,0.8s,mb4.2,baz=72,slow=4.0,SNR=11
GERES GERESS Array B 78.38 334 P **P** **15 33 43.1 -0.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=35,slow=4.9,SNR=7.6
VTS Vitosha 80.47 325⇑ *i*P **P** **15 33 54.8 +0.1**
PPT Papeete 82.29 126 LR LR 16 06 07.1
comp=Z,142nm,18.9s,MS4.4,baz=344,slow=32
CFAA Coronel Fontan 145.13 79 PKPbc PKPbc 15 41 19.2 -0.4
comp=Z,0.6nm,0.7s,baz=255,slow=3.7,SNR=8.7
CFAA Coronel Fontan 145.13 79 PKPbc PKPbc 15 41 19.2 -0.4
SNAA Sanae 152.53 196 *e*PKPdf PKPbc 15 41 36.1 -2.7
SNAA *e* 15 41 42.6
SNAA *e* 15 41 50.8
VNA2 Neumayer--Watz 153.98 195 *e*PKPdf PKPbc 15 41 39.7 -2.3
VNA2 *e* 15 41 47.4
VNA2 *e* 15 41 54.0
VNA2 *e* 15 42 08.9
VNA3 Neumayer Olymp 154.08 193 *e*PKPdf PKPbc 15 41 40.2 -2.0
VNA3 *e* 15 41 47.3
VNA3 *e* 15 41 54.3
VNA3 *e* 15 42 09.0

*ISCJB **28** 15:29:56.5±1.5,55S±0.1×1496E±02,h134km±12km, mb4.0/7,Error ellipse: s-maj=43.0km s-min=10.5km az=44.1*
*IDC **28** 15:30:00.6±1.8,569S×14952E,h156km±13km,mb3.7/8, mb1 3.8/10,mb1mx3.7/17,mbtmp3.8/10,Error ellipse: s-maj=39.8km s-min=10.0km az=111.0*
*NEIC **28** 15:30:01.5±3.0,554S×14931E,h162km±24km,mb4.6/3, Error ellipse: s-maj=36.6km s-min=23.0km az=88.0*

ISC 28 15:30:00.6±1.4,57S±01×1495E±02,h156km±10km,n19, σ0°74/25,mb4.0/7,1C-2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
PMG	**Port Moresby**	**4.40**	**212**	P		**Pn**	**15 31 05.5**		**-0.7**
	14nm,0.3s,baz=5.7,slow=6.9,SNR=38								
PMG				S		**Sn**	**15 31 58.3**		**+1.0**
	3.4nm,0.3s,baz=162,slow=24,SNR=4.0								
PMG	**Port Moresby**	**4.40**	**212**	*e*P		**Pn**	**15 31 05.5**		**-0.7**
PMG						*e*Sn	**Sn**	**15 31 57.8**	**+0.4**
CTA	**Charters Tower**	**14.69**	**192**	*e*P		**Pn**	**15 33 24.3**		**+3.5**
	8.9nm,0.8s								
CTA	**Charters Tower**	**14.69**	**192**	P		**Pn**	**15 33 20.9**		**+0.1**
	0.6nm,0.3s,baz=12,slow=13,SNR=11								
CTAO	**Charters Tower**	**14.69**	**192**	*e*P		**Pn**	**15 33 24.1**		**+3.3**
	11nm,0.8s								
KAKA	**Kakadu**	**18.26**	**246**⇑	*i*P		**P**	**15 34 02.0**		**-0.2**
	12nm,0.3s								
WB2	**Warramunga Arr**	**20.48**	**225**⇓	*i*P		**P**	**15 34 25.9**		**-0.3**
WB2						*e*S	**S**	**15 38 06.4**	**-0.3**
WRA	**Warramunga Arr**	**20.49**	**225**	P		**P**	**15 34 26.0**		**-0.2**
	2.8nm,0.4s,baz=50,slow=11,SNR=34								
WRA				S		**S**	**15 38 05.7**		**-1.1**
	2.0nm,0.8s,baz=38,slow=20,SNR=5.5								
WRA				ScP		ScP	15 41 54.2		+0.9
	1.1nm,1.0s,baz=46,slow=2.9,SNR=5.6								
AS31	**Alice Springs**	**23.38**	**218**	*e*P		**P**	**15 34 55.5**		**+0.3**
AS31						*e*S	**S**	**15 38 56.6**	**+0.1**
ASAR	**Alice Springs**	**23.39**	**218**	P		**P**	**15 34 55.6**		**+0.3**
	4.0nm,0.4s,mb4.2,baz=57,slow=8.7,SNR=167								
ASAR				S		**S**	**15 38 59.2**		**+2.7**
	0.3nm,0.6s,baz=52,slow=14,SNR=5.0								
ASPA	**Alice Springs**	**23.39**	**218**	*e*P		**P**	**15 34 55.6**		**+0.3**
ASPA						*e*S	**S**	**15 38 56.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**26.40**	**240**⇓	*i*P		**P**	**15 35 22.4**		**-0.2**
	7.4nm,0.4s,mb4.7								
FITZ	**Fitzroy Crossi**	**26.40**	**240**	P		**P**	**15 35 22.5**		**-0.1**
	4.5nm,0.4s,mb4.4,baz=58,slow=6.6,SNR=30								
STKA	**Stephens Creek**	**27.12**	**195**	P		**P**	**15 35 27.5**		**-1.4**
	0.6nm,0.4s,mb3.6,baz=32,slow=11,SNR=4.5								
KSRS	**Korea Array**	**47.39**	**337**	P		**P**	**15 38 19.6**		**+0.6**
	3.6nm,0.6s,mb4.2,baz=154,slow=8.3,SNR=16								
ASAJ	**Asahikawa**	**49.94**	**353**	P		**P**	**15 38 39.0**		**+0.5**
	9.3nm,1.1s,mb4.3,baz=155,slow=8.0,SNR=7.7								
SONM	**Songino Array**	**65.37**	**330**	P		**P**	**15 40 26.0**		**-0.2**
	0.5nm,0.5s,mb3.6,baz=144,slow=4.5,SNR=6.6								
MKAR	**Makanchi Array**	**78.86**	**320**	P		**P**	**15 41 46.0**		**-0.4**
	0.7nm,0.9s,mb3.3,baz=102,slow=8.6,SNR=8.2								
TORD	**Torodi Ar. Bea**	**147.44**	**286**	PKPbc		PKPbc	15 49 25.5		-0.5
	0.3nm,0.4s,baz=68,slow=1.4,SNR=2.2								

IDC 28 15:38:03.5±20.0,4723N×15536E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/22,mbtmp3.6/3,Error ellipse: s-maj=651.4km s-min=40.3km az=63.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
MKAR	**Makanchi Array**	**48.09**	**298**	P		P	15 46 44.5		-0.3
	0.5nm,0.7s,baz=65,slow=7.7,SNR=5.0								
WRA	**Warramunga Arr**	**69.49**	**201**	P		P	15 49 13.1		-0.7
	0.4nm,0.7s,baz=21,slow=6.5,SNR=5.3								
ASAR	**Alice Springs**	**73.17**	**201**	P		P	15 49 36.4		+0.4
	0.6nm,0.8s,baz=16,slow=5.5,SNR=11								

*ISCJB **28** 15:47:38.5±0.9,4828N±006×15424E±009,h62km±8km, mb4.0/18,Error ellipse: s-maj=12.7km s-min=5.1km az=93.8*
*MOS **28** 15:47:39.1±1.4,4827N×15424E,h70km,mb4.3/10,Error ellipse: s-maj=13.5km s-min=9.1km az=62.7*
*BJI **28** 15:47:40.6,4751N×15404E,h67km,mB5.0,mb4.3*
*NEIC **28** 15:47:42.5±1.5,4828N×15407E,h82km±14km,mb4.3/3, Error ellipse: s-maj=10.5km s-min=7.9km az=116.0*
*IDC **28** 15:47:44.6±3.5,4829N×15406E,h101km±31km,mb3.7/16, mb1 3.9/18,mb1mx3.8/25,mbtmp3.7/18,MS3.2/1, Ms1 3.2/1,ms1mx2.2/47,Error ellipse: s-maj=18.1km s-min=12.8km az=130.0*

ISC 28 15:47:40.7±0.8,4831N±006×15423E±009,h67km±7km, n58,σ0°96/58,mb3.9/18,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
SKR	**Severo-Kuril's**	**2.68**	**27**	*e*PN		**Pn**	**15 48 20.5**		**-0.9**
SKR				*e*S		**Sn**	**15 48 52.4**		**-0.3**
SKR				pmax		pmax			
	comp=N,80nm,0.5s								
SKR				pmax		pmax			
	comp=Z,90nm,0.5s								
SKR				smax					
	comp=N,480nm,0.6s								
SKR				smax					
	comp=E,320nm,0.5s								
SKR				smax					
	comp=Z,220nm,0.5s								
KUR	**Kuril'sk**	**5.34**	**237**⇓	*i*PN		**Pn**	**15 48 56.2**		**-1.6**
KUR				*e*S		**Sn**	**15 49 57.0**		**-1.0**
KUR				pmax		pmax			
	comp=E,280nm,1.0s								
KUR				smax					
	comp=N,230nm,0.7s								
KUR				smax					
	comp=E,420nm,0.7s								
PET	**Petropavlovsk**	**5.50**	**29**	*e*PN		**Pn**	**15 49 00.4**		**+0.5**
PET				*e*S		**Sn**	**15 50 01.4**		**-0.3**
PET				pmax		pmax			
	comp=Z,34nm,0.6s								
PET				smax					
	comp=N,124nm,0.7s								
PET				smax					
	comp=E,180nm,0.9s								
PET				MLR		MLR			
	comp=Z,100nm,19.0s								
PET	**Petropavlovsk**	**5.50**	**29**	*e*P		**Pn**	**15 49 00.1**		**+0.2**
	comp=Z,16nm,0.4s								
PET				*e*S		**Sn**	**15 50 01.3**		**-0.4**
YUK	**Yuzh-Kuril'sk**	**7.21**	**237**	*e*PN		**Pn**	**15 49 23.1**		**-0.3**
YUK				S		**Sn**	**15 50 49.5**		**+5.7**
YUK				pmax		pmax			
	comp=Z,190nm,0.5s								
YUK				smax					
	comp=N,140nm,0.4s								
YUK				smax					
	comp=E,310nm,0.7s								
YSS	**Yuzh-Sakhalins**	**7.87**	**264**⇓	*e*PN		**Pn**	**15 49 34.3**		**+1.9**
YSS				*e*S		**Sn**	**15 51 01.5**		**+1.6**
YSS				pmax		pmax			
	comp=Z,40nm,0.8s								
YSS				smax					
	comp=E,40nm,0.8s								

YSS	**Yuzh-Sakhalins**	**7.87**	**264**	*e*P		**Pn**	**15 49 34.8**	**+2.4**
	comp=E,44nm,0.8s							
ASAJ	**Asahikawa**	**9.09**	**247**	P		**Pn**	**15 49 51.9**	**+2.8**
	comp=E,2.8nm,0.3s,baz=65,slow=15,SNR=26							
ASAJ	**Asahikawa**	**9.09**	**247**	PN		**Pn**	**15 49 51.9**	**+2.9**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ERM	**Erimo**	**10.03**	**235**	*e*PN		**Pn**	**15 50 01.4**	**-0.5**
ERM				pmax	pmax			
	comp=Z,23nm,0.4s							
ERM	**Erimo**	**10.03**	**235**	*e*P		**Pn**	**15 50 01.4**	**-0.5**
	comp=Z,23nm,0.4s							
KLR	**Kul'dur**	**14.85**	**282**	*e*P		**Pn**	**15 51 06.2**	**-0.6**
MJAR	**Matsushiro Arr**	**16.64**	**231**	P		**Pn**	**15 51 30.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=29,slow=11,SNR=5.8							
MJAR	**Matsushiro Arr**	**16.64**	**231**	P		**Pn**	**15 51 30.5**	**+1.0**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**19.46**	**324**	*e*P		**Pn**	**15 52 04.4**	**+0.7**
YAK				pmax	pmax			
	comp=Z,16nm,0.8s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.3s							
YAK	**Yakutsk**	**19.46**	**324**	*e*P		**Pn**	**15 52 02.7**	**-0.9**
	comp=E,18nm,0.7s							
CLNS	**Chul'man**	**19.64**	**307**	*e*P		**Pn**	**15 52 07.0**	**+1.3**
CLNS				pmax	pmax			
	comp=Z,25nm,0.9s							
CLNS				pmax	pmax			
	comp=N,10.0nm,1.1s							
CLNS				pmax	pmax			
	comp=E,13nm,0.9s							
CN2	**Changchun**	**20.42**	**268**	*e*P		**P**	**15 52 11.0**	**-1.2**
CN2				AMB	AMB			
	comp=Z,20nm,1.0s							
KSRS	**Korea Array**	**22.01**	**250**	P		**P**	**15 52 30.3**	**+1.0**
	comp=Z,8.0nm,0.8s,mb4.1,baz=48,slow=11,SNR=15							
CBIJ	**Chichi jima**	**23.17**	**208**	LR		LR	16 02 29.8	
	comp=Z,52nm,18.6s,baz=346,slow=38							
SONM	**Songino Array**	**31.56**	**287**	P		**P**	**15 53 55.8**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.4,baz=52,slow=9.3,SNR=3.2							
SONM				PcP	PcP		15 56 47.4	-0.3
	comp=Z,0.3nm,0.5s,baz=85,slow=1.7,SNR=3.0							
SONM	**Songino Array**	**31.56**	**287**	P		**P**	**15 53 55.8**	**-0.8**
SONM							15 56 47.4	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**39.93**	**33**	P		**P**	**15 55 08.4**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.0,baz=271,slow=6.1,SNR=4.9							
INK	**Inuvik**	**39.93**	**33**	P		**P**	**15 55 08.4**	**+0.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**42.34**	**305**	PcP		PcP	15 57 21.0	+0.6
	comp=Z,0.9nm,0.8s,baz=42,slow=5.9,SNR=6.2							
MKAR	**Makanchi Array**	**46.91**	**297**	P		**P**	**15 56 03.0**	**-1.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=64,slow=7.5,SNR=8.7							
MKAR	**Makanchi Array**	**46.91**	**297**	P		**P**	**15 56 03.0**	**-1.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**49.23**	**38**	P		**P**	**15 56 23.1**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.3,baz=299,slow=7.4,SNR=14							
BVAR	**Borovoye Array**	**50.46**	**309**	P		**P**	**15 56 31.0**	**-0.6**
	comp=Z,1.5nm,0.4s,mb4.2,baz=58,slow=6.9,SNR=12							
BVAR				PcP	PcP		15 57 48.6	-0.3
	comp=Z,0.8nm,0.4s,baz=106,slow=0.7,SNR=5.4							
BVAR	**Borovoye Array**	**50.46**	**309**	P		**P**	**15 56 31.0**	**-0.6**
BVAR							15 57 48.6	
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**51.22**	**309**	*e*P		**P**	**15 56 36.4**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
ZRNK	**Zerenda**	**51.22**	**309**	*e*P		**P**	**15 56 36.4**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.2							
EDM	**Edmonton**	**54.70**	**47**	*e*P		**P**	**15 57 03.1**	**+0.2**
AKTO	**Aktyubinsk**	**58.25**	**312**	PcP		PcP	15 58 17.7	-1.0
	comp=Z,1.0nm,0.7s,baz=79,slow=5.2,SNR=3.9							
NVAR	**Mina Array Bea**	**61.05**	**64**	P		**P**	**15 57 47.9**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=305,slow=6.3,SNR=3.8							
FINES	**FINESS Array B**	**62.95**	**335**	P		**P**	**15 57 58.5**	**-1.7**
	comp=Z,2.1nm,1.0s,mb4.0,baz=39,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**62.95**	**335**	P		**P**	**15 57 58.5**	**-1.6**
FINES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
PDAR	**Pinedale Array**	**63.23**	**55**	P		**P**	**15 58 03.0**	**+1.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=297,slow=1.3,SNR=5.9							
NOA	**NORSAR Array B**	**67.00**	**341**	P		**P**	**15 58 26.3**	**-0.1**
	comp=Z,1.4nm,0.9s,mb3.8,baz=26,slow=6.1,SNR=2.7							
NOA	**NORSAR Array B**	**67.00**	**341**	P		**P**	**15 58 26.3**	**-0.1**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WB2	**Warramunga Arr**	**70.23**	**200**	*e*P		**P**	**15 58 45.8**	**-0.7**
WRA	**Warramunga Arr**	**70.23**	**200**	P		**P**	**15 58 45.8**	**-0.8**
	comp=Z,3.4nm,0.6s,mb4.3,baz=17,slow=6.6,SNR=36							
WRA	**Warramunga Arr**	**70.23**	**200**	P		**P**	**15 58 45.8**	**-0.7**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**70.88**	**209**	*e*P		**P**	**15 58 50.3**	**-0.1**
	comp=Z,5.6nm,1.3s,mb4.2							
FITZ	**Fitzroy Crossi**	**70.88**	**209**	P		**P**	**15 58 50.4**	**0.0**
	baz=63,slow=18							
SCHQ	**Schefferville**	**71.58**	**24**	P		**P**	**15 58 55.3**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.2,baz=339,slow=8.6,SNR=5.0							
AS31	**Alice Springs**	**73.93**	**199**	*e*P		**P**	**15 59 08.7**	**+0.1**
ASAR	**Alice Springs**	**73.93**	**199**	P		**P**	**15 59 08.3**	**-0.3**
	comp=Z,1.5nm,0.6s,mb3.9,baz=13,slow=5.4,SNR=44							
ASAR	**Alice Springs**	**73.93**	**199**	P		**P**	**15 59 08.3**	**-0.3**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASPA	**Alice Springs**	**73.93**	**199**	*e*P		**P**	**15 59 08.7**	**+0.1**
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**15 59 22.1**	**+1.1**
	comp=Z,1.7nm,0.8s,mb3.8,baz=300,slow=4.6,SNR=14							
TXAR	**Lajitas Array**	**76.08**	**62**	P		**P**	**15 59 22.1**	**+1.1**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**77.38**	**335**	P		**P**	**15 59 27.9**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.3,baz=23,slow=5.3,SNR=3.8							
BRTR	**Keskin Array B**	**77.77**	**317**	P		**P**	**15 59 31.8**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=29,slow=3.3,SNR=3.5							
BRTR	**Keskin Array B**	**77.77**	**317**	P		**P**	**15 59 31.8**	**+1.3**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**114.13**	**331**	PKP		PKiKP	16 06 12.2	0.0
	comp=Z,0.3nm,0.4s,baz=5.3,slow=2.0,SNR=4.8							
CFAA	**Coronel Fontan**	**143.95**	**78**	PKP		PKPdf	16 07 05.6	-2.8
	comp=Z,0.4nm,0.7s,baz=290,slow=4.0,SNR=5.1							
CFAA	**Coronel Fontan**	**143.95**	**78**	PKP		PKPdf	16 07 05.6	-2.8

*IDC **28** 15:52:02.3±2.2, 48.40N×154.68E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, ML3.9/1, MS3.4/6, Ms1 3.4/6, ms1mx2.9/48, Error ellipse: s-maj=56.6km s-min=29.6km az=66.0*
*ISCJB **28** 15:52:09.8±1.2, 48.3N±0.1×154.3E±0.2, h59km±12km, mb3.8/5, MS3.3/5, Error ellipse: s-maj=24.6km s-min=6.4km az=85.0*
*MOS **28** 15:52:10.6±1.3, 48.29N×154.28E, h70km, mb4.1/4, Error ellipse: s-maj=27.5km s-min=12.7km az=54.7*
*NEIC **28** 15:52:13.3±1.3, 48.34N×154.34E, h78km±13km, Error ellipse: s-maj=19.4km s-min=11.5km az=134.0*

ISC 28 15:52:11.8±1.0, 483N±01×1543E±02, h63km±11km, n23, σ1§01/23, mb3.9/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.64**	**26**	*e*PN		**Pn**	**15 52 52.5**	**+0.5**
SKR				*e*S		**Sn**	**15 53 21.5**	**-1.4**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,390nm,0.5s							
SKR				smax				
	comp=E,230nm,0.3s							
SKR				smax				
	comp=Z,80nm,0.5s							
KUR	**Kuril'sk**	**5.39**	**237**	*e*PN		**Pn**	**15 53 27.5**	**-2.1**
KUR				*e*S		**Sn**	**15 54 29.0**	**-1.4**
KUR				pmax	pmax			
	comp=Z,130nm,0.8s							
KUR				smax				
	comp=N,170nm,0.7s							
KUR				smax				
	comp=E,260nm,0.7s							
PET	**Petropavlovsk**	**5.46**	**29**	*e*PN		**Pn**	**15 53 31.5**	**+1.0**
PET				*e*S		**Sn**	**15 54 31.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**7.26**	**237**	PN		**Pn**	**15 53 55.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.92**	**264**	*e*PN		**Pn**	**15 54 06.0**	**+1.7**
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.92**	**264**	*e*P		**Pn**	**15 54 06.4**	**+2.1**
	comp=Z,18nm,0.7s							
ASAJ	**Asahikawa**	**9.14**	**247**	Pn		**Pn**	**15 54 23.1**	**+2.3**
	comp=Z,1.8nm,0.3s,baz=79,slow=12,SNR=21							
ASAJ				LR		LR	15 57 30.6	
	comp=Z,161nm,20.0s,baz=0.1,slow=35							
MJAR	**Matsushiro Arr**	**16.69**	**231**	Pn		**Pn**	**15 56 01.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=11,SNR=8.9							
KSRS	**Korea Array**	**22.07**	**250**	P		**P**	**15 57 01.6**	**+0.2**
	comp=Z,2.3nm,0.8s,mb3.7,baz=42,slow=11,SNR=6.8							
KSRS				LR		LR	16 05 03.2	
	comp=Z,78nm,19.9s,baz=155,slow=35							
JNU	**Nakatsue**	**23.23**	**238**	LR		LR	16 06 24.3	
	comp=Z,77nm,20.0s,baz=267,slow=37							
SONM	**Songino Array**	**31.61**	**287**	LR		LR	16 11 31.9	
	comp=Z,97nm,18.7s,baz=1.6,slow=37							
GUMO	**Guam**	**35.50**	**196**	LR		LR	16 12 00.0	
	comp=Z,37nm,19.3s,baz=94,slow=34							
MKAR	**Makanchi Array**	**46.95**	**297**	P		**P**	**16 00 36.0**	**-0.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=48,slow=4.3,SNR=3.4							
MKAR				LR		LR	16 21 50.1	
	comp=Z,46nm,18.5s,baz=1.1,slow=38							
MKAR	**Makanchi Array**	**46.95**	**297**	P		**P**	**16 00 36.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKAR				MLR	MLR			
	comp=Z,47nm,18.5s							
BVAR	**Borovoye Array**	**50.50**	**309**	P		**P**	**16 01 02.8**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=57,slow=7.5,SNR=5.6							
BVAR	**Borovoye Array**	**50.50**	**309**	P		**P**	**16 01 02.8**	**-0.6**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WB2	**Warramunga Arr**	**70.26**	**200**	*e*P		**P**	**16 03 17.7**	**-0.6**
WRA	**Warramunga Arr**	**70.26**	**200**	P		**P**	**16 03 17.7**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.3,baz=17,slow=6.6,SNR=30							
WRA	**Warramunga Arr**	**70.26**	**200**	P		**P**	**16 03 17.7**	**-0.6**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AS31	**Alice Springs**	**73.95**	**199**	*e*P		**P**	**16 03 40.8**	**+0.5**
ASAR	**Alice Springs**	**73.95**	**199**	P		**P**	**16 03 40.6**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=13,slow=5.2,SNR=28							
ASAR	**Alice Springs**	**73.95**	**199**	P		**P**	**16 03 40.7**	**+0.4**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASPA	**Alice Springs**	**73.96**	**199**	*e*P		**P**	**16 03 40.8**	**+0.5**

*ISCJB **28** 16:18:53.0±0.4, 43.17N±0.03×041W±0.03, h0km, Error ellipse: s-maj=3.8km s-min=2.7km az=155.2*
*STR **28** 16:18:53.8±0.2, 43.12N×043W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **28** 16:18:54.3±0.1, 43.08N×043W, h8km, ML2.6/3, Error ellipse: s-maj=1.4km s-min=0.8km az=1.0*
*LDG **28** 16:18:54.1±0.1, 43.08N×044W, h10km, Md2.0/3, Ml2.3/3, Error ellipse: s-maj=2.2km s-min=1.2km az=166.0*
*MDD **28** 16:18:54.7±0.3, 43.09N×044W, h0km, mbLg1.4/12, Error ellipse: s-maj=2.8km s-min=1.3km az=8.0, PRXIMO*

ISC 28 16:18:53.6±0.6, 431ON±003×043W±003, h13km±6km, n32, σ0§49/46, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
REYF	**Montagne du Re**	**0.04**	**143**	Pg		**Pg**	**16 18 56.0**	**0.0**
REYF				Sg		**Sg**	**16 18 57.4**	**-0.3**
REYF	**Montagne du Re**	**0.04**	**143**	Pg		**Pg**	**16 18 56.1**	**+0.1**
REYF				Lg			16 18 57.5	
ATE	**Arette**	**0.20**	**265**	Pg		**Pg**	**16 18 58.0**	**-0.1**
ATE				Sg		**Sg**	**16 19 01.1**	**0.0**
ATE	**Arette**	**0.20**	**265**	Pg		**Pg**	**16 18 58.0**	**-0.1**
ATE				Lg			16 19 01.1	
ETSF	**Etsaut**	**0.23**	**205**	*e*Pg		**Pg**	**16 18 58.4**	**-0.1**
ETSF				*e*Sg		**Sg**	**16 19 01.1**	**-0.7**
	66nm,0.3s							
ETSF	**Etsaut**	**0.23**	**205**	*e*Pg		**Pg**	**16 18 58.4**	**-0.1**
ETSF				*e*Sg		**Sg**	**16 19 01.1**	**-0.7**
	33nm,0.3s							
FDAF	**Les Forges d'A**	**0.30**	**200**	Pg		**Pg**	**16 18 59.8**	**0.0**
FDAF				Lg			16 19 04.1	
LABF	**Labassere**	**0.37**	**99**	Pg		**Pg**	**16 19 01.3**	**+0.2**
LABF				Sg		**Sg**	**16 19 07.0**	**+0.9**
LABF	**Labassere**	**0.37**	**99**	Pg		**Pg**	**16 19 01.4**	**+0.3**
LABF				Lg			16 19 06.9	
VIEF	**Viey**	**0.40**	**123**	Pg		**Pg**	**16 19 01.7**	**+0.2**
VIEF				Sg		**Sg**	**16 19 06.9**	**0.0**
VIEF	**Viey**	**0.40**	**123**	Pg		**Pg**	**16 19 01.6**	**+0.1**
VIEF				Lg			16 19 07.1	
LARF	**Larrau**	**0.42**	**261**	Pg		**Pg**	**16 19 02.0**	**+0.1**
LARF				Sg		**Sg**	**16 19 08.1**	**+0.6**
LARF	**Larrau**	**0.42**	**261**	Pg		**Pg**	**16 19 02.1**	**+0.2**
LARF				Lg			16 19 08.2	
EPF	**Esparros**	**0.57**	**97**	*e*Pg		**Pg**	**16 19 05.1**	**+0.4**
EPF				*e*Sg		**Sg**	**16 19 13.1**	**+0.9**
	11nm,0.2s							
EPF	**Esparros**	**0.57**	**97**	*e*Pg		**Pg**	**16 19 05.1**	**+0.4**
EPF				*e*Sg		**Sg**	**16 19 13.1**	**+0.9**
	5.6nm,0.2s							
SJPF	**Ste Jean**	**0.58**	**271**	*e*Pg		**Pg**	**16 19 05.6**	**+0.6**
SJPF				*e*Sg		**Sg**	**16 19 12.4**	**-0.4**
	8.5nm,0.2s							
SJPF	**Ste Jean**	**0.58**	**271**	*e*Pg		**Pg**	**16 19 05.6**	**+0.6**
SJPF				*e*Sg		**Sg**	**16 19 12.4**	**-0.4**
	4.2nm,0.2s							
EBIE	**Bielsa**	**0.59**	**135**	Pg		**Pg**	**16 19 05.3**	**+0.1**
	2.0nm,0.3s,SNR=24							
EBIE				Lg			16 19 13.0	
	9.2nm,0.3s,SNR=24							
EBIE	**Bielsa**	**0.59**	**135**	Pg		**Pg**	**16 19 05.3**	**+0.1**
	2.0nm,0.3s,SNR=24							
EALK	**Alkurruntz**	**0.80**	**279**	Pg		**Pg**	**16 19 09.3**	**+0.2**
	8.4nm,0.5s,SNR=6.0							
EALK				Lg			16 19 19.6	
	2.0nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	**0.81**	**275**	Pg		**Pg**	**16 19 09.4**	**+0.1**
	0.4nm,0.2s,SNR=7.9							
ELIZ				Lg			16 19 20.0	
	1.7nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.84**	**260**	Lg			16 19 20.3	
	1.3nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**1.38**	**181**	Pg		**Pg**	**16 19 20.4**	**+0.3**
	0.9nm,0.3s,SNR=7.9							
ESAC				Lg			16 19 38.6	
	38nm,0.3s,SNR=11							
ESAC	**San Caprasio**	**1.38**	**181**	Pg		**Pg**	**16 19 20.4**	**+0.2**
	0.9nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**1.95**	**82**	*e*Pg		**Pg**	**16 19 30.7**	**-0.3**
MTLF				*e*Sg		**Sg**	**16 19 55.7**	**-0.6**
	4.1nm,0.4s							
MTLF	**Montolieu**	**1.95**	**82**	*e*Pg		**Pg**	**16 19 30.7**	**-0.3**
MTLF				*e*Sg		**Sg**	**16 19 55.7**	**-0.6**
	2.0nm,0.4s							
LFF	**La Frestale**	**2.02**	**24**	*e*Pg		**Pg**	**16 19 31.8**	**-0.6**
LFF				*e*Sg		**Sg**	**16 19 58.9**	**+0.3**
	7.8nm,0.2s							
LFF	**La Frestale**	**2.02**	**24**	*e*Pg		**Pg**	**16 19 31.8**	**-0.6**
LFF				*e*Sg		**Sg**	**16 19 58.9**	**+0.3**
	3.9nm,0.2s							
EPOB	**Poblet**	**2.08**	**147**	Pg		**Pg**	**16 19 32.1**	**-1.3**
	0.2nm,0.2s,SNR=7.9							
EPOB				Lg			16 19 59.5	
	6.5nm,0.5s,SNR=7.9							
EPOB	**Poblet**	**2.08**	**147**	Pg		**Pg**	**16 19 32.1**	**-1.4**
	0.2nm,0.2s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.61**	**32**	*e*Sg		**Sg**	**16 20 16.6**	**-0.8**
	2.4nm,0.2s							
RJF	**Les Rejaudoux**	**2.61**	**32**	*e*Sg		**Sg**	**16 20 16.6**	**-0.8**
	1.2nm,0.2s							

*BJI **28** 16:22:17.7, 892S×159.89E, h181km, mB5.4, mb4.9*
*ISCJB **28** 16:22:19.2±0.6, 886S±007×159.29E±007, h166km±6km, mb4.3/22, Error ellipse: s-maj=11.8km s-min=9.9km az=88.0*
*NEIC **28** 16:22:20.6±0.3, 881S×159.35E, mb4.6/12, Error ellipse: s-maj=8.0km s-min=6.8km az=131.0*
*IDC **28** 16:22:20.4±0.4, 888S×159.33E, h161km±3km, mb4.1/14, mb1 4.2/17, mb1mx4.2/20, mbtmp4.1/17, MS3.7/5, Ms1 3.7/5, ms1mx3.2/27, Error ellipse: s-maj=12.1km s-min=10.6km az=46.0*

ISC 28 16:22:20.5±0.6, 882S±007×1593E±006, h162km±6km, h165km±2.3km; pP-P, n44, σ0§78/44, mb4.3/22, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**0.86**	**135**	P		**Pn**	**16 22 45.4**	**+0.1**
	782nm,0.3s,baz=251,slow=1.7,SNR=380							
HNR				S		**Sn**	**16 23 04.1**	**-0.2**
	740nm,0.3s,baz=84,slow=21,SNR=16							
HNR	**Honiara**	**0.86**	**135**	*e*Pn		**Pn**	**16 22 45.3**	**0.0**
HNR				*e*Sn		**Sn**	**16 23 02.8**	**-1.5**
PMG	**Port Moresby**	**12.03**	**266**	P		**Pn**	**16 25 08.2**	**+1.5**
	0.4nm,0.3s,baz=82,slow=6.5,SNR=13							
PMG	**Port Moresby**	**12.03**	**266**	*e*P		**Pn**	**16 25 08.7**	**+2.0**
DZM	**Mont Dzumac**	**14.85**	**153**	P		**Pn**	**16 25 42.9**	**+0.5**
	0.3nm,0.3s,baz=335,slow=13,SNR=4.1							
DZM				LR		LR	16 29 31.6	
	comp=Z,425nm,18.4s,baz=14,slow=29							
CTA	**Charters Tower**	**16.89**	**227**	*e*P		**Pn**	**16 26 09.4**	**+2.1**
	14nm,0.9s							
CTA	**Charters Tower**	**16.89**	**227**	P		**Pn**	**16 26 08.1**	**+0.8**
	0.8nm,0.3s,baz=53,slow=13,SNR=11							
CTA				LR		LR	16 32 05.5	
	comp=Z,226nm,18.3s,baz=48,slow=35							
CTAO	**Charters Tower**	**16.89**	**227**	*e*P		**Pn**	**16 26 08.9**	**+1.6**
	27nm,1.6s							
FUNA	**Funafuti**	**19.64**	**91**	*e*P		**P**	**16 26 37.7**	**+1.0**
	177nm,1.4s							
ARMA	**Armidale**	**22.66**	**197**	*e*P		**P**	**16 27 09.3**	**+1.3**
WB2	**Warramunga Arr**	**26.56**	**243**	*e*P		**P**	**16 27 43.2**	**-0.1**
WRA	**Warramunga Arr**	**26.57**	**243**	P		**P**	**16 27 43.4**	**0.0**
	3.8nm,0.7s,mb4.1,baz=68,slow=9.2,SNR=47							
WRA				pP		pP	16 28 15.3	-1.5
	4.9nm,0.9s,baz=67,slow=9.4,SNR=3.5							
WRA				LR		LR	16 37 38.0	
	comp=Z,179nm,21.2s,baz=70,slow=35							
STKA	**Stephens Creek**	**28.25**	**213**	*e*P		**P**	**16 27 58.1**	**-0.2**
	4.2nm,0.3s,mb4.7							
STKA	**Stephens Creek**	**28.25**	**213**	P		**P**	**16 27 58.1**	**-0.1**
	5.1nm,0.4s,mb4.6,baz=48,slow=14,SNR=37							
STKA				pP		pP	16 28 31.8	-0.2
	5.7nm,0.9s,baz=44,slow=15,SNR=3.4							
STKA				LR		LR	16 37 33.2	
	comp=Z,106nm,21.7s,baz=29,slow=32							
AS31	**Alice Springs**	**28.45**	**236**	*e*P		**P**	**16 27 59.2**	**-0.9**
ASAR	**Alice Springs**	**28.45**	**236**	P		**P**	**16 27 59.4**	**-0.7**
	1.1nm,0.3s,mb4.0,baz=64,slow=10,SNR=74							
ASAR				pP		pP	16 28 34.9	+1.1
	2.3nm,0.8s,baz=66,slow=9.9,SNR=3.8							
ASAR				LR		LR	16 38 21.4	
	comp=Z,127nm,19.0s,baz=64,slow=34							
ASPA	**Alice Springs**	**28.45**	**236**	*e*P		**P**	**16 27 59.3**	**-0.9**
AFI	**Afiamalu**	**28.76**	**103**	P		**P**	**16 28 03.2**	**+0.4**
	61nm,1.1s,mb5.2,baz=278,slow=3.0,SNR=5.6							
AFI	**Afiamalu**	**28.76**	**103**	*e*P		**P**	**16 28 03.1**	**+0.2**
	22nm,0.8s,mb4.9							
URZ	**Urewera**	**33.41**	**154**	P		**P**	**16 28 42.9**	**-0.7**
	2.8nm,0.3s,mb4.5,baz=157,slow=7.6,SNR=5.9							
FITZ	**Fitzroy Crossi**	**33.98**	**251**	*e*P		**P**	**16 28 47.9**	**-0.7**
	4.8nm,1.2s,mb4.1							
RPZ	**Rata Peaks**	**36.24**	**166**	P		**P**	**16 29 07.6**	**-0.2**
	12nm,0.9s,mb4.5,baz=148,slow=11,SNR=5.0							
MJAR	**Matsushiro Arr**	**49.29**	**337**	P		**P**	**16 30 52.3**	**-0.5**
	6.8nm,0.7s,mb4.4,baz=168,slow=8.7,SNR=20							
MAT	**Matsushiro**	**49.29**	**337**	P		**P**	**16 30 52.3**	**-0.6**
KSRS	**Korea Array**	**54.61**	**329**	P		**P**	**16 31 33.0**	**+0.7**
	6.7nm,0.6s,mb4.5,baz=143,slow=7.0,SNR=25							
CN2	**Changchun**	**60.72**	**332**	*e*P		**P**	**16 32 15.0**	**+0.2**
CN2				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.2							
VNDA	**Vanda**	**68.69**	**179**	P		**P**	**16 33 05.6**	**-0.8**
	comp=Z,1.2nm,0.9s,mb3.6,baz=317,slow=6.3,SNR=5.2							
VNDA				pP		pP	16 33 44.9	-0.2
	comp=Z,0.7nm,0.8s,baz=25,slow=5.4,SNR=2.3							
ULN	**Ulaanbaatar**	**72.87**	**326**	*e*P		**P**	**16 33 32.1**	**+0.5**
	comp=Z,9.7nm,1.2s,mb4.

ZAL	**Zalesovo**	**43.67**	**306**	P	**P**	**16 44 08.4**	**-0.3**
	comp=Z,1.7nm,0.7s,mb3.9,baz=42,slow=8.7,SNR=11						
ZAL	**Zalesovo**	**43.67**	**306**	P	**P**	**16 44 08.4**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**48.20**	**298**	P	**P**	**16 44 44.5**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.1,baz=56,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**48.20**	**298**	P	**P**	**16 44 44.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**48.46**	**304**	P	**P**	**16 44 46.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**16 44 53.5**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=295,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**16 44 53.5**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**16 44 53.5**	**+0.1**
BVA0	**Borovoye Array**	**51.80**	**310**	P	**P**	**16 45 12.0**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**51.80**	**310**	P	**P**	**16 45 12.0**	**+0.1**
	comp=Z,3.5nm,0.6s,mb4.5,baz=45,slow=4.3,SNR=18						
BVAR	**Borovoye Array**	**51.80**	**310**	P	**P**	**16 45 12.0**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**51.84**	**310**	P	**P**	**16 45 13.6**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**51.84**	**310**	*e*P	**P**	**16 45 13.6**	**+1.5**
LSA	**Lhasa**	**51.98**	**274**	*e*P	**P**	**16 45 18.4**	**+5.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.98**	**274**	*e*P	**P**	**16 45 18.4**	**+5.2**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.55**	**310**	*e*P	**P**	**16 45 17.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.55**	**310**	*e*P	**P**	**16 45 17.5**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.4						
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**16 45 40.2**	**-0.3**
ARU	**Arti**	**55.72**	**318**	*e*P	**P**	**16 45 40.2**	**-0.3**
	comp=Z,7.7nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**57.81**	**341**	P	**P**	**16 45 55.9**	**+0.4**
	comp=Z,5.8nm,0.8s,mb4.7,baz=16,slow=16,SNR=3.8						
ARCES	**ARCESS Array B**	**57.81**	**341**	P	**P**	**16 45 55.9**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AB31	**Akbulak array**	**59.35**	**311**	*i* P	**P**	**16 46 06.5**	**+0.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AKTK	**Aktyubinsk**	**59.59**	**313**	P	**P**	**16 46 08.2**	**+0.4**
AKTO	**Aktyubinsk**	**59.59**	**313**	P	**P**	**16 46 08.2**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=81,slow=6.7,SNR=9.1						
AKTO	**Aktyubinsk**	**59.59**	**313**	P	**P**	**16 46 08.0**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,3.0nm,2.6s,mb3.9						
PDAR	**Pinedale Array**	**62.95**	**55**	P	**P**	**16 46 31.2**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.8,baz=302,slow=2.8,SNR=3.8						
FINES	**FINESS Array B**	**64.19**	**336**	P	**P**	**16 46 38.2**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=38,slow=8.7,SNR=9.2						
FINES	**FINESS Array B**	**64.19**	**336**	P	**P**	**16 46 38.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.19**	**336**	P	**P**	**16 46 38.2**	**-0.5**
NB2	**NORSAR Subarra**	**68.17**	**342**	P	**P**	**16 47 03.8**	**-0.5**
	comp=Z,6.5nm,1.2s,mb4.5,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.17**	**342**	P	**P**	**16 47 03.5**	**-0.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=25,slow=6.5,SNR=5.0						
NOA	**NORSAR Array B**	**68.17**	**342**	P	**P**	**16 47 03.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.97**	**327**	P	**P**	**16 47 26.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=33,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**71.97**	**327**	P	**P**	**16 47 26.9**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**76.59**	**337**	*e*P	**P**	**16 47 52.0**	**-2.5**

NEIC ***28*** *16:37:13.7±0.8, 255S×12971E, h10km, mb4.1/2, Error ellipse: s-maj=41.2km s-min=8.6km az=72.0*
IDC ***28*** *16:37:14.3±2.0, 3.10S×128.45E, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=128.4km s-min=17.7km az=70.0*
ISCJB ***28*** *16:37:15.1±1.1, 26S±0.1×1297E±0.4, h33km, mb4.1/3, Error ellipse: s-maj=52.5km s-min=10.9km az=142.5*
ISC 28 16:37:16.9±4.7, 26S±01×1297E±04, h30km±34km, n10, σ0s54/11, mb4.1/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.93**	**194**	*e*P	**Pn**	**16 40 58.6**	**-0.2**
	5.0nm,0.6s						
WRA	**Warramunga Arr**	**17.83**	**166**	P	**Pn**	**16 41 22.4**	**-0.4**
	0.5nm,0.3s,baz=340,slow=11,SNR=38						
WB2	**Warramunga Arr**	**17.84**	**166**	*e*P	**Pn**	**16 41 22.9**	**+0.1**
AS31	**Alice Springs**	**21.34**	**169**	*e*P	**P**	**16 42 01.6**	**+0.1**
ASAR	**Alice Springs**	**21.35**	**169**	P	**P**	**16 42 01.9**	**+0.4**
	8.1nm,0.7s,mb4.2,baz=347,slow=11,SNR=90						
ASAR				S	**S**	**16 45 57.0**	**0.0**
	1.0nm,0.9s,baz=349,slow=23,SNR=4.4						
ASPA	**Alice Springs**	**21.35**	**169**	*e*P	**P**	**16 42 01.7**	**+0.1**
LSA	**Lhasa**	**48.88**	**314**	*e*P	**P**	**16 46 00.1**	**+0.3**
	1.8nm,0.6s,mb4.3						
MK31	**Makanchi Array**	**64.41**	**326**	P	**P**	**16 47 50.7**	**+0.5**
MKAR	**Makanchi Array**	**64.41**	**326**	P	**P**	**16 47 50.8**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=123,slow=8.3,SNR=6.5						
BRVK	**Borovoye**	**74.28**	**327**	*e*P	**P**	**16 48 49.8**	**-1.5**

NEIC ***28*** *16:41:25.3, 1854N×10137W, h76km, MD3.9(MEX), After MEX.*
MEX 28 16:41:25.8±0.6, 1855N×10134W, h71km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.94**	**187**	*i* P	Pn	16 41 42.3	-1.3
ZIIG				*i* S	Sn	16 41 55.1	-1.7
MOIG	**Morelia**	**1.14**	**7**	*i* P	Pn	16 41 44.7	-1.3
MOIG				*i* S	Sn	16 41 59.7	-1.5
MEIG	**Mezcala**	**1.75**	**110**	*i* P	Pn	16 41 52.8	-1.2
MEIG				*i* S	Sn	16 42 14.1	-1.3
PLIG	**Platanillo**	**1.75**	**95**	*i* P	Pn	16 41 52.9	-1.2
PLIG				*e*S	Sn	16 42 14.4	-1.1
PLIG	**Platanillo**	**1.75**	**95**	*i* P	Pn	16 41 52.9	-1.2
PLIG				*i* S	Sn	16 42 16.2	+0.7
CAIG	**El Cayaco**	**1.81**	**145**	*i* P	Pn	16 41 53.0	-1.8
CAIG				*i* S	Sn	16 42 13.9	-2.9
CAIG	**El Cayaco**	**1.81**	**145**	*i* P	Pn	16 41 53.0	-1.8
CAIG				*i* S	Sn	16 42 13.0	-3.9
ACX	**Acapulco**	**2.15**	**141**	*e*P	Pn	16 41 58.0	-1.5
ACX				*i* S	Sn	16 42 31.0	+5.8
SFJM	**Santa Fe**	**2.51**	**321**	*i* P	Pn	16 42 03.0	-1.3
SFJM				*i* S	Sn	16 42 33.0	-0.9
PPM	**Popocatepetl**	**2.62**	**78**	*e*P	Pn	16 42 06.6	+0.8
PPM				*i* S	Sn	16 42 35.2	-1.4
PPM	**Popocatepetl**	**2.62**	**78**	*e*P	Pn	16 42 06.6	+0.8
PPM				*i* S	Sn	16 42 39.2	+2.7
IIO	**Organos**	**2.68**	**67**	*i* P	Pn	16 42 18.0	+11
IIO				*i* S	Sn	16 42 50.5	+12
UTMO	**Huajuapan**	**3.43**	**101**	*i* P	Pn	16 42 17.1	+0.2
UTMO				*i* S	Sn	16 42 55.1	-1.3

NIED ***28*** *16:46:00, 4690N×15380E, h41km, Mw4.8 Best double couple: M0 1.67000×10^16 NP1:φ=69.00000°, δ=80.00000°, λ=-94.00000°. NP2:φ=272.00000°, δ=11.00000°, λ=-68.00000°.*
SKHL ***28*** *16:46:19.5±1.8, 4637N×15396E, h43km±13km, Ms4.5/3, msh5.4/2*
IDC ***28*** *16:46:19.2±0.4, 4659N×15365E, h0km, mb4.5/25, mb1 4.7/26, mb1mx4.6/29, mbtmp4.5/26, ML3.7/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/33, Error ellipse: s-maj=14.5km s-min=12.0km az=148.0*
ISCJB ***28*** *16:46:20.2±0.1, 4645N±004×15379E±003, h18km, mb4.7/99, MS4.0/20, Error ellipse: s-maj=5.3km s-min=2.1km az=144.4*
JMA ***28*** *16:46:20.0±0.7, 4693N×15383E, h30km, M5.0*

NEIC ***28*** *16:46:21.2±0.2, 4659N×15373E, h10km, mb4.8/48, Error ellipse: s-maj=7.5km s-min=4.8km az=153.0*
BJI ***28*** *16:46:21.1, 4684N×15357E, h13km, mB4.9, mb4.6, Ms4.3, Msz4.1*
MOS ***28*** *16:46:24.8±1.4, 4663N×15362E, h47km, mb4.9/54, Error ellipse: s-maj=7.8km s-min=5.9km az=107.3*
SZGRF ***28*** *16:46:35.2, 4821N×15327E, h33km, mb4.8, Kuril Islands, Russia*
ISC 28 16:46:20.4±1.1, 4659N±003×15373E±003, h5km±6km, h19km±2.7km: pP-P, n390, σ1s01/409, mb4.7/99, MS4.0/20, 58C-57D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.31**	**254**	*i* P	**Pn**	**16 47 25.3**	**-1.3**
KUR				AMB	AMB	16 47 26.0	
	602nm,0.7s						
KUR				*e*S	**Sn**	**16 48 16.0**	**-1.2**
KUR				A		16 48 24.0	
	9μm,2.0s						
KUR				A		16 48 24.0	
	4μm,2.0s						
KUR				A		16 48 31.5	
	542nm,0.7s						
KUR				A		16 48 31.5	
	1μm,0.7s						
KUR	**Kuril'sk**	**4.31**	**254**	*i* PN	**Pn**	**16 47 25.3**	**-1.3**
KUR				*e*S	**Sn**	**16 48 16.0**	**-1.2**
KUR				pmax	pmax		
	comp=Z,60nm,0.7s						
KUR				smax			
	comp=N,9μm,2.0s						
KUR				smax			
	comp=E,4μm,2.0s						
KUR				smax			
	comp=N,540nm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
SKR	**Severo-Kuril's**	**4.40**	**20**	*e*P	**Pn**	**16 47 27.5**	**-0.3**
SKR				AMB	AMB	16 47 29.9	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	16 47 29.9	
	comp=E,150nm,0.5s						
SKR				*e*S	**Sn**	**16 48 13.0**	**-6.3**
SKR				A		16 48 16.1	
	comp=E,250nm,0.5s						
SKR				A		16 48 16.1	
	comp=E,150nm,0.5s						
SKR				A		16 48 16.1	
	comp=E,90nm,0.5s						
SKR				A		16 48 22.0	
	comp=E,1μm,8.0s						
SKR				A		16 48 22.0	
	comp=E,2μm,10.0s						
SKR				A		16 48 22.0	
	comp=E,1μm,10.0s						
SKR				AMS	AMS	16 49 18.0	
	comp=E,3μm,12.0s						
SKR				AMS	AMS	16 49 18.0	
	comp=E,1μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**6.11**	**248**	*e*P	**Pn**	**16 47 52.3**	**+1.0**
YUK				AMB	AMB	16 47 59.8	
	comp=E,390nm,0.5s						
YUK				*e*S	**Sn**	**16 49 00.5**	**-1.0**
YUK				A		16 49 13.5	
	comp=E,420nm,0.5s						
YUK				A		16 49 13.5	
	comp=E,1μm,0.6s						
YUK				A		16 49 23.0	
	comp=E,2μm,1.0s						
YUK				A		16 49 23.0	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**6.51**	**243**	P	**Pn**	**16 47 55.9**	**-1.0**
NEM2				*e*S	**Sn**	**16 49 06.3**	**-5.2**
JRA	**Rausu**	**6.62**	**250**	P	**Pn**	**16 48 00.0**	**+1.6**
JNK	**Nakash**	**7.05**	**248**	P	**Pn**	**16 48 05.2**	**+1.0**
JNK				*e*S	**Sn**	**16 49 22.1**	**-2.6**
PET	**Petropavlovsk**	**7.19**	**24**	*e*PN	**Pn**	**16 48 04.0**	**-2.1**
PET				pmax	pmax		
	comp=Z,30nm,0.6s						
PET				MLR	MLR		
	comp=Z,900nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,8.0s						
PET	**Petropavlovsk**	**7.19**	**24**	*e*P	**Pn**	**16 48 04.1**	**-2.1**
	comp=Z,125nm,1.1s						
JAK	**Akkeshi**	**7.36**	**244**	P	**Pn**	**16 48 07.3**	**-1.2**
JAK				*e*S	**Sn**	**16 49 26.2**	**-6.1**
JTKR	**Abashiri--Toko**	**7.40**	**253**	P	**Pn**	**16 48 11.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.54**	**277**	*i* P	**Pn**	**16 48 15.0**	**+4.0**
YSS				AMB	AMB	16 48 18.7	
	comp=Z,90nm,1.0s						
YSS				AMB	AMB	16 48 18.7	
	comp=Z,90nm,1.0s						
YSS				*e*S	**Sn**	**16 49 41.6**	**+4.7**
YSS				A		16 49 45.0	
	comp=Z,50nm,0.7s						
YSS				*e*LQ		16 50 10.0	
YSS				AMS	AMS	16 51 32.0	
	comp=Z,800nm,15.0s						
YSS				AMS	AMS	16 51 32.0	
	comp=Z,500nm,14.0s						
YSS				AMS	AMS	16 51 32.0	
	comp=Z,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.54**	**277**	*i* PN	**Pn**	**16 48 15.0**	**+4.0**
YSS				*e*S	**Sn**	**16 49 41.6**	**+4.7**
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=N,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.54**	**277**	*e*P	**Pn**	**16 48 15.6**	**+4.6**
	comp=E,49nm,0.8s						
JMP	**Maruseppu**	**7.75**	**254**	P	**Pn**	**16 48 15.8**	**+1.9**
JAR	**Ashorobuto**	**7.79**	**249**	P	**Pn**	**16 48 15.7**	**+1.3**
JAR				*e*S	**Sn**	**16 49 41.3**	**-1.7**
JOB	**Onbets**	**7.95**	**246**	P	**Pn**	**16 48 15.8**	**-0.7**
JOB				*e*S	**Sn**	**16 49 42.5**	**-4.3**
JKK2	**Kamakawa 2**	**8.21**	**255**	P	**Pn**	**16 48 22.2**	**+2.0**
ASAJ	**Asahikawa**	**8.22**	**257**	Pn	**Pn**	**16 48 23.6**	**+3.3**
	comp=E,3.4nm,0.3s,baz=94,slow=14,SNR=33						
ASAJ	**Asahikawa**	**8.22**	**257**	P	**Pn**	**16 48 23.3**	**+3.0**
ASAJ	**Asahikawa**	**8.22**	**257**	PN	**Pn**	**16 48 23.6**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
UGL	**Uglegorsk**	**8.23**	**292**	*e*P	**Pn**	**16 48 27.0**	**+6.5**
UGL				AMB	AMB	16 48 30.0	
	comp=Z,98nm,0.9s						
UGL				AMS	AMS	16 52 07.0	
	comp=Z,1μm,15.0s						
UGL				AMS	AMS	16 52 07.0	
	comp=Z,700nm,15.0s						
UGL				AMS	AMS	16 52 07.0	
	comp=Z,2μm,12.0s						
JCH	**Churui**	**8.39**	**245**	P	**Pn**	**16 48 22.2**	**-0.5**
JCH				*e*S	**Sn**	**16 49 52.1**	**-5.7**
TYV	**Tymovskoe**	**8.48**	**304**	*e*P	**Pn**	**16 48 27.2**	**+3.4**
TYV				AMB	AMB	16 48 38.2	
	comp=Z,115nm,1.0s						
TYV				*e*S	**Sn**	**16 50 00.5**	**+0.6**
TYV				A		16 50 03.2	
	comp=Z,40nm,1.0s						
TYV				AMS	AMS	16 52 06.0	
	comp=Z,900nm,15.0s						
TYV				AMS	AMS	16 52 06.0	
	comp=Z,2μm,15.0s						
TYV				AMS	AMS	16 52 06.0	
	comp=Z,2μm,15.0s						
JFR	**Furan**	**8.61**	**251**	P	**Pn**	**16 48 28.4**	**+2.7**
ERM	**Erimo**	**8.85**	**243**	*e*PN	**Pn**	**16 48 29.4**	**+0.5**
ERM	**Erimo**	**8.85**	**243**	*e*P	**Pn**	**16 48 30.0**	**+1.1**
	comp=Z,74nm,0.7s						
JBT2	**Biratori 2**	**8.95**	**249**	P	**Pn**	**16 48 30.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.95**	**245**	P	**Pn**	**16 48 29.3**	**-1.0**
JNBK				*e*S	**Sn**	**16 50 05.8**	**-5.7**
JNB	**Noboribetsu**	**9.95**	**250**	P	**Pn**	**16 48 44.1**	**+0.1**
JNB				*e*S	**Sn**	**16 50 31.2**	**-4.9**
JKB	**Kayabe**	**10.25**	**247**	P	**Pn**	**16 48 46.4**	**-1.7**
JKB				*e*S	**Sn**	**16 50 35.0**	**-8.3**
JYM2	**Yakumo 2**	**10.55**	**250**	P	**Pn**	**16 48 51.2**	**-1.1**
JANG	**Nango**	**10.82**	**239**	P	**Pn**	**16 48 52.4**	**-3.6**
JANG				*e*S	**Sn**	**16 50 45.8**	**-12**
JTM	**Tenmabayashi**	**10.84**	**242**	P	**Pn**	**16 48 54.2**	**-2.0**
JTH	**Tanohata**	**10.90**	**237**	*e*S	**Sn**	**16 50 46.6**	**-13**
OFUJ	**Ofunato**	**11.59**	**234**	*e*S	**Sn**	**16 51 04.0**	**-12**
JRG	**Rokugo**	**11.97**	**238**	*e*S	**Sn**	**16 51 15.0**	**-11**
JIO	**Ouri**	**12.21**	**233**	P	**Pn**	**16 49 12.0**	**-3.0**
JIO				*e*S	**Sn**	**16 51 17.9**	**-14**
HABR	**Khabarovsk**	**12.76**	**285**	*e*PN	**Pn**	**16 49 26.0**	**+3.5**
HABR				*e*S	**Sn**	**16 51 48.7**	**+3.7**
JFY	**Yanaizu**	**13.87**	**234**	P	**Pn**	**16 49 36.3**	**-1.3**
KLR	**Kul'dur**	**14.97**	**288**	*e*P	**Pn**	**16 49 56.2**	**+3.6**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
MJAR	**Matsushiro Arr**	**15.32**	**235**	Pn	**Pn**	**16 49 54.4**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=9.1						
MAJO	**Matsushiro**	**15.32**	**235**	*e*P	**Pn**	**16 49 55.0**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,34nm,0.9s						
MAJO	**Matsushiro**	**15.32**	**235**	*e*P	**Pn**	**16 49 55.0**	**-2.3**
	comp=Z,34nm,0.9s						
MAT	**Matsushiro**	**15.32**	**235**	P	**Pn**	**16 49 57.2**	**-0.1**
MAT				*e*S	**Sn**	**16 52 51.0**	**+3.6**
VLA	**Vladivostok**	**15.86**	**265**	P	**Pn**	**16 50 05.0**	**+0.7**
VLA				pmax	pmax		
	comp=Z,59nm,1.3s						
VLA				MLR	MLR		
	comp=Z,500nm,14.9s						
SEY	**Seymchan**	**16.40**	**358**	*e*P	**Pn**	**16 50 10.3**	**-1.0**
MDJ	**Mudanjiang**	**16.99**	**272**	P	**Pn**	**16 50 18.8**	**0.0**
MDJ				AP	pP	16 50 23.5	+1.4
MDJ				S	**Sn**	**16 53 27.8**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,47nm,3.8s						
MDJ				LR	LR		
	comp=N,250nm,14.2s						
MDJ				LR	LR		
	comp=E,275nm,18.4s						
MDJ				LR	LR		
	comp=Z,508nm,17.5s						
JHJ	**Hachijo jima 2**	**17.15**	**223**	LR	LR	16 54 49.9	
	comp=Z,121nm,21.5s,baz=20,slow=30						
ZEA	**Zeya**	**18.34**	**303**	*e*P	**Pn**	**16 50 36.2**	**+0.7**
ZEA				AMB	AMB	16 50 38.9	
	comp=Z,18nm,0.8s						
ZEA				AMB	AMB	16 50 38.9	
	comp=Z,16nm,0.9s						
CN2	**Changchun**	**20.08**	**272**	*e*P	**P**	**16 50 53.5**	**-1.2**
CN2				*e*XP	sP	16 51 01.0	+4.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.0						
CN2				LR	LR		
	comp=Z,500nm,15.0s,MS4.0						
CLNS	**Chul'man**	**20.45**	**311**	*e*P	**P**	**16 50 58.2**	**-0.5**
CLNS				*e*PPP		16 51 12.2	
CLNS				*e*SS		16 54 46.9	
CLNS				*e*		16 55 30.5	
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,200nm,12.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s,MS4.6						
YAK	**Yakutsk**	**20.69**	**327**	*e*P	**P**	**16 51 00.0**	**-1.3**
YAK				*e*		16 54 44.4	
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,15nm,1.3s						
YAK				pmax	pmax		
	comp=E,16nm,1.3s						
YAK				MLR	MLR		
	comp=Z,211nm,20.0s,MS3.5						
YAK				MLR	MLR		
	comp=N,192nm,17.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,188nm,16.0s,MS3.7						
YAK	**Yakutsk**	**20.69**	**327**	*e*P	**P**	**16 50 59.5**	**-1.8**
	comp=E,23nm,0.6s						
KSRS	**Korea Array**	**21.15**	**254**	P	**P**	**16 51 06.9**	**+0.6**
	comp=E,4.6nm,0.6s,mb4.0,baz=60,slow=9.7,SNR=19						
JNU	**Nakatsue**	**22.00**	**240**	LR	LR	16 59 12.9	
	comp=E,475nm,20.7s,MS3.9,baz=91,slow=35						
SNY	**Shenyang**	**22.05**	**269**	P	**P**	**16 51 16.5**	**+0.5**
SNY				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.6						
SNY				AMB	AMB		
	comp=Z,275nm,3.5s						
SNY				LR	LR		
	comp=N,350nm,15.3s,MS4.1						
SNY				LR	LR		
	comp=E,395nm,13.2s,MS4.1						
SNY				LR	LR		
	comp=Z,249nm,20.1s						
BILL	**Bilibino**	**22.46**	**12**	*e*P	**P**	**16 51 20.1**	**-0.2**
BILL				*e*S	**S**	**16 55 22.6**	**-4.9**
BILL				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
BILL	**Bilibino**	**22.46**	**12**	*e*P	**P**	**16 51 19.1**	**-1.2**
	comp=Z,7.0nm,0.6s,mb4.3						
HIA	**Hailar**	**22.82**	**289**	*e*P	**P**	**16 51 23.2**	**-0.9**
HIA				pmax	pmax		
	comp=Z,11nm,1.0s						
HIA	**Hailar**	**22.82**	**289**	*e*P	**P**	**16 51 23.2**	**-0.9**
	comp=Z,11nm,1.0s,mb4.2						
BOD	**Bodaibo**	**26.42**	**310**	*e*P	**P**	**16 51 56.1**	**-1.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**27.75**	**343**	*e*P	**P**	**16 52 06.1**	**-3.8**
TIXI				*e*		16 52 23.6	
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,390nm,15.0s,MS4.1						
BJI	**Beijing**	**27.90**	**270**	*e*P	**P**	**16 52 14.0**	**+2.8**
BJI				S	**S**	**16 56 55.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,0

SSE LR LR
comp=N,66nm,18.1s,MS3.5
SSE LR LR
comp=E,68nm,18.1s,MS3.5
SSE LR LR
comp=Z,85nm,18.1s,MS3.4
SSE Sheshan 29.44 250 P **P** **16 52 26.0 +1.1**
comp=Z,30nm,0.8s,mb5.1
SSE sP sP 16 52 29.8 +2.7
SSE S **S** **16 57 18.1 -1.3**
SSE sS sS 16 57 24.1 +2.1
SSE LR LR
comp=Z,90nm,18.1s,MS3.4
NJ2 Nanjing 30.36 254 *e*P **P** **16 52 35.0 +1.9**
NJ2 AP pP 16 52 40.0 +5.4
NJ2 XP sP 16 52 43.5 +8.2
NJ2 PP PP 16 53 35.5 -6.0
NJ2 S **S** **16 57 34.0 +0.1**
NJ2 AMB AMB
comp=Z,640nm,5.6s
NJ2 LR LR
comp=N,1µm,14.6s,MS4.9
NJ2 LR LR
comp=E,1µm,14.5s,MS4.9
NJ2 LR LR
comp=Z,1µm,13.3s,MS4.8
ULN Ulaanbaatar 31.35 290⇑ *e*P **P** **16 52 43.3 +1.4**
ULN Ulaanbaatar 31.35 290 *e*P **P** **16 52 44.0 +2.1**
comp=Z,7.7nm,0.9s,mb4.5
SONM Songino Array 31.79 290 P **P** **16 52 44.5 -1.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=84,slow=8.3,SNR=5.0
SONM LR LR 17 06 45.0
comp=Z,290nm,18.1s,MS4.0,baz=44,slow=39
SONM Songino Array 31.79 290 P **P** **16 52 44.5 -1.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,290nm,18.1s
SVW2 Sparrevohn 32.31 45 *e*P **P** **16 52 50.4 +0.1**
ZAK Zakamensk 33.13 295 *e*P **P** **16 52 56.2 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
IMA2 Indian Mountai 33.69 36 *e*P **P** **16 53 02.4 0.0**
KDAK Kodiak Island 33.88 51 P **P** **16 53 02.4 -1.6**
comp=Z,11nm,0.7s,mb4.9,baz=123,slow=19,SNR=6.4
KDAK Kodiak Island 33.88 51 P **P** **16 53 02.4 -1.6**
WHN Wuhan 34.30 256 *e*P **P** **16 53 08.0 +0.4**
SML Sawmill 35.80 43 *e*P **P** **16 53 19.1 -1.5**
XAN Xi'an 35.92 266 P **P** **16 53 22.5 +0.9**
XAN AP pP 16 53 30.0 +6.8
XAN XP sP 16 53 33.8 +10
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
XAN LR LR
comp=E,148nm,11.9s
XAN LR LR
comp=Z,198nm,14.4s,MS4.0
COLA College 36.00 38*d* *i*P **P** **16 53 22.2 -0.1**
COLA College 36.00 38 *e*P **P** **16 53 22.4 +0.1**
comp=Z,11nm,0.9s,mb4.8
DIV Divide 37.07 44 *e*P **P** **16 53 30.7 -0.7**
LZH Lanzhou 38.32 272 *e*P **P** **16 53 43.5 +1.5**
LZH AP pP 16 53 54.0 +10
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,176nm,4.5s
LZH Lanzhou 38.32 272 *e*P **P** **16 53 43.5 +1.5**
comp=Z,42nm,1.5s,mb5.0
LZH pP pP 16 53 54.0 +10
LZH sP sP 16 53 58.5 +14
EGAK Eagle 38.87 38 *e*P **P** **16 53 46.0 -0.6**
comp=Z,14nm,1.1s,mb4.6
GTA Gaotai 39.41 280 P **P** **16 53 54.0 +2.8**
GTA AP pP 16 53 57.5 +4.8
GTA XP sP 16 53 59.0 +5.6
GTA PP PP 16 55 30.3 +8.8
GTA PCP PcP 16 56 00.5 +1.2
GTA S **S** **16 59 58.3 +5.0**
GTA XS sS 17 00 05.5 +10
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.2
GTA AMB AMB
comp=Z,134nm,5.9s
GTA LR LR
comp=N,213nm,15.6s,MS4.2
GTA LR LR
comp=E,153nm,15.6s,MS4.2
GTA LR LR
comp=Z,249nm,15.6s,MS4.2
CD2 Chengdu 41.29 266 P **P** **16 54 07.0 +0.3**
CD2 AP pP 16 54 11.5 +3.2
CD2 XP sP 16 54 14.0 +5.1
CD2 PP PP 16 55 45.5 +3.6
CD2 S **S** **17 00 19.8 -1.5**
CD2 XS sS 17 00 27.5 +3.6
CD2 SS SS 17 03 17.0 -7.5
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,160nm,4.5s
CD2 LR LR
comp=N,200nm,10.8s,MS4.4
CD2 LR LR
comp=E,220nm,10.8s,MS4.4
CD2 LR LR
comp=Z,150nm,12.0s,MS4.1
INK Inuvik 41.56 32 P **P** **16 54 08.8 -0.2**
comp=Z,2.6nm,0.8s,mb3.9,baz=254,slow=7.4,SNR=4.9
INK PcP PcP 16 56 05.8 -0.4
comp=Z,2.2nm,0.7s,baz=149,slow=3.0,SNR=3.2
INK Inuvik 41.56 32 P **P** **16 54 08.8 -0.2**
INK 16 56 05.9
INK pmax pmax
comp=Z,3.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 41.56 32 P **P** **16 54 08.8 -0.2**
INK PcP PcP 16 56 05.8 -0.4
GYA Guiyang 42.09 258 P **P** **16 54 14.5 +1.2**
GYA AP pP 16 54 18.8 +3.9
GYA XP sP 16 54 21.5 +6.0
GYA PP PP 16 55 55.5 +4.9
GYA PCP PcP 16 56 10.8 +2.8
GYA SCP ScP 17 00 00.3 +1.2
GYA S **S** **17 00 34.3 +1.1**
GYA SS SS 17 03 34.8 -5.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,430nm,16.4s,MS4.6
GYA LR LR
comp=E,470nm,15.8s,MS4.6
GYA LR LR
comp=Z,390nm,16.0s,MS4.4
ZAL Zalesovo 43.07 306 P **P** **16 54 19.0 -2.2**
comp=Z,1.5nm,0.5s,mb4.0,baz=67,slow=6.5,SNR=7.1
ZAL Zalesovo 43.07 306 P **P** **16 54 19.0 -2.2**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
QIZ Qiongzhong 45.17 248 P **P** **16 54 39.3 +1.2**
QIZ S **S** **17 01 18.8 +0.6**
QIZ AMB AMB
comp=Z,27nm,2.2s,mb4.7
QIZ LR LR
comp=N,227nm,19.0s
WMQ Urumqi 45.38 292⇑ *i*P **P** **16 54 39.8 +0.1**
WMQ AP pP 16 54 44.3 +3.0
WMQ XP sP 16 54 46.8 +4.8
WMQ PCP PcP 16 56 19.8 +0.7
WMQ PP PP 16 56 26.5 +0.7
WMQ PPP 16 57 07.8
WMQ SCP ScP 17 00 10.5 -1.9
WMQ PCS PcS 17 00 12.8 -0.2
WMQ S **S** **17 01 19.0 -2.2**
WMQ XS sS 17 01 27.5 +3.7
WMQ AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,166nm,6.0s
WMQ LR LR
comp=N,131nm,16.0s,MS4.0
WMQ LR LR
comp=E,48nm,19.0s,MS4.0
WMQ LR LR
comp=Z,182nm,16.0s,MS4.1
DLBC Dease Lake 45.41 46 P **P** **16 54 41.7 +1.7**
KMI Kunming 45.63 260 P **P** **16 54 42.8 +1.1**
KMI AP pP 16 54 50.0 +6.7
KMI XP sP 16 54 54.3 +10
KMI PP PP 16 56 26.5 -1.9
KMI S **S** **17 01 28.5 +3.7**
KMI SS SS 17 04 41.5 -7.4
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
KMI AMB AMB
comp=Z,71nm,4.3s
KMI LR LR
comp=N,142nm,17.4s,MS4.1
KMI LR LR
comp=E,132nm,19.7s,MS4.1
KMI LR LR
comp=Z,94nm,14.4s
KMI Kunming 45.63 260 P **P** **16 54 42.8 +1.1**
KMI *SP sP 16 54 54.2 +10
KMI 16 56 26.6
KMI PPP 16 57 08.9
KMI S **S** **17 01 28.5 +3.7**
KMI SS SS 17 04 41.5 -7.4
KMI MLR MLR
comp=Z,90nm,14.4s,MS3.9
KMI Kunming 45.63 260 P **P** **16 54 42.8 +1.1**
KMI pP pP 16 54 49.9 +6.6
KMI sP sP 16 54 54.2 +10
KMI PP PP 16 56 26.6 -1.8
KMI PPP 16 57 08.9
KMI S **S** **17 01 28.5 +3.7**
KMI sS sS 17 01 44.6 +17
KMI SS SS 17 04 41.5 -7.4
KMI LR LR
comp=Z,90nm,14.4s,MS3.9
MK31 Makanchi Array 47.39 298 *i* P **P** **16 54 54.0 -1.6**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
MK31 Makanchi Array 47.39 298 *e*P **P** **16 54 54.3 -1.2**
MKAR Makanchi Array 47.39 298 P **P** **16 54 54.0 -1.6**
comp=Z,3.9nm,0.5s,mb4.6,baz=66,slow=7.6,SNR=57
MKAR LR LR 17 16 26.2
comp=Z,234nm,18.2s,MS4.2,baz=173,slow=38
MKAR Makanchi Array 47.39 298 *i* P **P** **16 54 54.4 -1.2**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 47.81 304 *i* P **P** **16 54 56.2 -2.6**
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSA Lhasa 50.71 274 P **P** **16 55 24.8 +3.8**
LSA Lhasa 50.71 274 *e*P **P** **16 55 23.5 +2.5**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 50.71 274 *e*P **P** **16 55 23.4 +2.5**
comp=Z,9.4nm,0.6s,mb4.9
YKA Yellowknife Ar 50.80 37 P **P** **16 55 21.6 -0.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=297,slow=7.2,SNR=18
YKA PcP PcP 16 56 37.7 -0.8
comp=Z,1.3nm,0.6s,baz=304,slow=3.6,SNR=5.0
YKA Yellowknife Ar 50.80 37 P **P** **16 55 21.6 -0.1**
YKA 16 56 37.7
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 50.80 37 P **P** **16 55 21.6 -0.1**
YKA PcP PcP 16 56 37.7 -0.8
BVA0 Borovoye Array 51.29 310 *i* P **P** **16 55 22.9 -2.5**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
BVAR Borovoye Array 51.29 310 P **P** **16 55 23.5 -1.8**
comp=Z,2.9nm,0.5s,mb4.5,baz=46,slow=8.6,SNR=16
BVAR Borovoye Array 51.29 310 P **P** **16 55 23.5 -1.9**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 51.33 310 *e*P **P** **16 55 24.2 -1.5**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 51.33 310 *e*P **P** **16 55 24.2 -1.4**
comp=Z,5.1nm,0.6s,mb4.6
CHTO Chiang Mai 52.49 257 *e*P **P** **16 55 35.2 +0.9**
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.8
CHTO Chiang Mai 52.49 257 *e*P **P** **16 55 35.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
AAK Ala-Archa 54.29 297*d* *i*P **P** **16 55 46.1 -1.4**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 54.29 297 *e*P **P** **16 55 45.9 -1.6**
comp=Z,14nm,1.4s,mb4.7
KSH Kashi 55.11 293 *e*P **P** **16 55 59.0 +5.5**
KSH *e*AP pP 16 56 03.5 +8.4
KSH *e*XP sP 16 56 06.3 +11
KSH *e*PCP PcP 16 56 57.5 +2.7
KSH *e*SCP ScP 17 00 54.0 -0.1
KSH *e*PCS PcS 17 00 56.3 +1.6
KSH *e*S **S** **17 03 43.3 +6.6**
KSH *e*XS sS 17 03 51.3 +12
JIRN Jiri 55.38 275 *e*P **P** **16 55 56.3 +0.9**
comp=Z,11nm,0.5s,mb5.2
ARU Arti 55.42 318⇓ *i*P **P** **16 55 53.7 -2.0**
ARU *e* 16 56 51.6
ARU *e* 16 57 54.4
ARU *e*S **S** **17 03 36.2 -4.7**
ARU *e*SS SS 17 07 19.6 -5.8
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 55.42 318 *e*P **P** **16 55 53.6 -2.1**
comp=Z,5.7nm,0.5s,mb4.9
GUN Gumba 55.44 276 *e*P **P** **16 55 57.1 +1.3**
comp=Z,22nm,0.5s,mb5.4
B08A Colville Reser 55.66 54 ⇓P **P** **16 55 56.6 -0.9**
baz=55
A09A Danville 55.74 53 ⇑P **P** **16 55 57.1 -0.9**
baz=56
KKN Kakani 55.92 276 *e*P **P** **16 56 00.9 +1.6**
comp=Z,21nm,0.6s,mb5.4
PKI Pulchoki 55.97 276 *e*P **P** **16 56 00.6 +0.9**
EDM Edmonton 56.12 46 *e*P **P** **16 56 00.7 -0.1**
EDM *e* 16 56 10.9
DMN Daman 56.16 276 *e*P **P** **16 56 02.6 +1.6**
comp=Z,60nm,1.0s,mb5.6
GKN Gorkha 56.23 276 *e*P **P** **16 56 02.7 +1.2**
comp=Z,30nm,0.5s,mb5.5
E07A Sunnyside 56.37 56 ⇑P **P** **16 56 02.4 -0.2**
baz=56
C09A Chrisman Ranch 56.56 54 ⇓P **P** **16 56 03.4 -0.5**
baz=56
D08A Wollman Farm, 56.62 55 ⇑P **P** **16 56 02.6 -1.7**
baz=56
DAG Danmarks Havn 56.83 358⇑ *i*P **P** **16 56 04.2 -1.6**
comp=Z,6.3nm,1.2s,mb4.5
DAG Danmarks Havn 56.83 358⇑ *e*P **P** **16 56 04.2 -1.6**
DAG pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
DAG Danmarks Havn 56.83 358⇑ *e*P **P** **16 56 04.2 -1.6**
comp=Z,6.3nm,1.2s,mb4.5
J04A Umpqua Nationa 56.94 60 ⇓P **P** **16 56 06.9 +0.3**
baz=57
A11A Hall Mountain, 56.96 52 ⇑P **P** **16 56 06.1 -0.6**
baz=57
KOLN Koldanda 57.09 277 *e*P **P** **16 56 09.0 +1.4**
comp=Z,47nm,1.0s,mb5.5
E09A Wood Farm, Sta 57.37 55 ⇑P **P** **16 56 08.2 -1.4**
baz=57
F08A Pendleton 57.42 56 ⇑P **P** **16 56 10.2 +0.2**
baz=57
J05A Fort Rock 57.44 60 ⇓P **P** **16 56 10.7 +0.6**
baz=57
YBH Yreka Blue Hor 57.45 62 P **P** **16 56 09.6 -0.6**
comp=Z,3.5nm,0.8s,mb4.4,baz=292,slow=5.4,SNR=3.6
YBH Yreka Blue Hor 57.45 62 P **P** **16 56 09.6 -0.6**
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 57.45 62 ⇓P **P** **16 56 10.0 -0.2**
baz=57
G08A Pilot Rock 57.61 57 ⇑P **P** **16 56 09.6 -1.7**
baz=57
M04C Macdoel 57.95 61 ⇓P **P** **16 56 13.5 -0.2**
baz=58
F09A S2 Ranch, Elgi 57.97 56 ⇓P **P** **16 56 14.6 +0.8**
baz=58
J06A Christmas Vall 58.10 59 ⇓P **P** **16 56 14.4 -0.3**
baz=58
ARCES ARCESS Array B 58.15 341 P **P** **16 56 14.1 -1.0**
comp=Z,4.9nm,0.7s,mb4.6,baz=29,slow=10,SNR=9.0
ARCES ARCESS Array B 58.15 341 P **P** **16 56 14.1 -1.0**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
H08A Prairie City 58.23 57 ⇑P **P** **16 56 15.8 +0.2**
baz=58
K06A Valley Falls 58.30 60 ⇓P **P** **16 56 15.9 -0.3**
baz=58
B13A Whitefish 58.32 52 ⇓P **P** **16 56 16.3 0.0**
baz=58
E11A Bogner Ranch, 58.55 54 ⇑P **P** **16 56 17.4 -0.5**
baz=58
I08A Drewsey 58.64 58 ⇓P **P** **16 56 18.2 -0.4**
baz=58
C13A Hot Springs 58.67 52 ⇓P **P** **16 56 18.8 0.0**
baz=58
H09A Durkee 58.72 57 ⇑P **P** **16 56 18.7 -0.4**
baz=58
MOD Modoc 58.80 61 ⇓P **P** **16 56 19.4 -0.3**
baz=59
AB31 Akbulak array 58.86 310 *i* P **P** **16 56 18.4 -1.6**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
F11A Grangeville 58.86 55 ⇑P **P** **16 56 19.9 -0.2**
baz=59
K07A Rock Creek Ran 58.97 59 ⇑P **P** **16 56 20.5 -0.3**
baz=59
J08A Circle Bar Ran 59.02 58 ⇑P **P** **16 56 21.2 0.0**
baz=59
D13A Huson 59.08 53 ⇓P **P** **16 56 20.8 -0.9**
baz=59
AKTK Aktyubinsk 59.15 312 P **P** **16 56 20.6 -1.5**
AKTO Aktyubinsk 59.15 312 P **P** **16 56 20.6 -1.5**
comp=Z,1.0nm,0.5s,mb4.1,baz=72,slow=6.2,SNR=5.7
AKTO Aktyubinsk 59.15 312 P **P** **16 56 20.6 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
O04C Chester 59.27 62 ⇑P **P** **16 56 24.3 +1.4**
baz=59
H10A Noah's Angus R 59.29 56 ⇓P **P** **16 56 22.9 -0.1**
baz=59
L07A Adell 59.31 60 ⇓P **P** **16 56 24.4 +1.3**
baz=59
K08A Mann Creek Ran 59.39 59 ⇑P **P** **16 56 24.3 +0.6**
baz=59
J09A Fry Pan Ranch, 59.45 58 ⇓P **P** **16 56 24.7 +0.6**
baz=59
ORV Oroville 59.48 63 ⇓P **P** **16 56 23.6 -0.8**
baz=59
THN Thein Dam 59.49 286 *e*P **P** **16 56 23.3 -1.2**
D14A Greenough 59.61 52 P **P** **16 56 25.4 +0.1**
baz=59,SNR=5.8
H11A Donnelly 59.64 56 ⇑P **P** **16 56 25.4 -0.1**
baz=59
N06A Buffalo Meadow 59.78 61 ⇑P **P** **16 56 26.5 +0.1**
baz=60
M07A Soldier Meadow 59.79 60 P **P** **16 56 27.3 +0.8**
baz=60,SNR=6.2
L08A Fields 59.80 59 ⇓P **P** **16 56 26.3 -0.3**
baz=60
F13A Darby 59.94 54 ⇑P **P** **16 56 27.0 -0.5**
baz=60
BEKR Beckwourth 59.99 62 ⇓P **P** **16 56 27.4 -0.5**
baz=60
E14A Clinton 60.02 53 ⇓P **P** **16 56 28.2 +0.1**
baz=60
M08A Happy Creek Ra 60.23 60 ⇓P **P** **16 56 29.5 0.0**
baz=60
LAVA Lava Cap Winer 60.44 64 ⇓P **P** **16 56 29.9 -1.0**
baz=60
E15A Deer Lodge 60.48 52 ⇓P **P** **16 56 31.3 +0.1**
baz=60
O07A Toulon 60.71 61 ⇓P **P** **16 56 33.2 +0.4**
baz=60
HRY Holter Researc 60.75 52 *e*P **P** **16 56 33.6 +0.5**
N08A GE Springer Mi 60.78 60 ⇓P **P** **16 56 33.7 +0.4**
baz=61
M09A Marrel Ranch, 60.80 59 ⇓P **P** **16 56 34.3 +1.0**
baz=61
F15A Butte 60.92 53 P **P** **16 56 35.0 +0.7**
baz=61,SNR=6.8
EGMT Eagleton 61.05 50 ⇓P **P** **16 56 35.1 0.0**
baz=61
CMB Columbia Colle 61.10 64 ⇓P **P** **16 56 35.6 +0.2**
baz=61
N09A Rock Creek Ran 61.10 60 ⇑P **P** **16 56 36.1 +0.7**
baz=61
PACP Pacheco Peak 61.17 66 ⇓P **P** **16 56 35.3 -0.6**
baz=61
HLID Hailey 61.25 56 *e*P **P** **16 56 37.0 +0.5**
comp=Z,2.6nm,1.1s,mb4.3
HLID *e* 16 56 48.0
HLID Hailey 61.25 56 ⇓P **P** **16 56 36.4 -0.1**
baz=61
M10A I.L. Ranch, Tu 61.28 59 ⇓P **P** **16 56 37.0 +0.3**
baz=61
G15A Dillon 61.34 54 ⇓P **P** **16 56 36.6 -0.5**
baz=61
MCMT McKenzie Canyo 61.35 54 *e*P **P** **16 56 37.3 +0.1**
R06C Coleville 61.37 63 ⇑P **P** **16 56 37.2 -0.1**
baz=61
S06C San Francisco 61.52 64 ⇓P **P** **16 56 37.6 -0.7**
baz=61
S05C Merced 61.56 65 ⇓P **P** **16 56 37.6 -1.0**
baz=61
O09A Fish Creek Ran 61.73 60 ⇓P **P** **16 56 39.5 -0.2**
baz=62
M11A Holland Ranch, 61.77 59 ⇓P **P** **16 56 40.6 +0.6**
baz=62
KAKA Kakadu 62.04 204 *e*P **P** **16 56 41.2 -0.6**
comp=Z,10.0nm,0.6s,mb5.1
Q08A Gabbs 62.09 62 ⇑P **P** **16 56 42.9 +0.8**
baz=62
NVAR Mina Array Bea 62.13 63 P **P** **16 56 42.4 -0.1**
comp=Z,4.2nm,0.7s,mb4.7,baz=301,slow=8.5,SNR=20
QLMT Earthquake Lak 62.14 53 *e*P **P** **16 56 43.2 +0.7**
QLMT *e* 16 56 54.1
KCC Kaiser Creek 62.20 64 ⇑P **P** **16 56 43.7 +0.9**
baz=62
M12A Wells 62.30 58 P **P** **16 56 44.5 +0.9**
baz=62,SNR=5.2
GCMT Greycliff 62.50 52 *e*P **P** **16 56 45.8 +0.9**
GCMT *e* 16 56 56.6
N12A Clover Valley, 62.58 59 ⇑P **P** **16 56 45.7 +0.3**
baz=62
O11A Cowboy Ranch, 62.67 60 ⇓P **P** **16 56 45.8 -0.2**
baz=62
M13A Montello 62.77 58 ⇑P **P** **16 56 47.0 +0.3**
baz=62
HELL Mitchell Peak, 62.79 65 P **P** **16 56 46.6 -0.2**
baz=63,SNR=6.6
R09A Tonopah 63.01 62 ⇓P **P** **16 56 48.4 +0.2**
baz=63
O12A Currie 63.12 59 P **P** **16 56 49.5 +0.5**
baz=63,SNR=8.2
S09A Goldfield 63.24 63 ⇑P **P** **16 56 49.4 -0.4**
baz=63
REDW Red Top Meadow 63.39 54 *e*P **P** **16 56 51.4 +0.6**
comp=Z,22nm,1.1s,mb5.2
Q11A Duckwater 63.48 61 ⇓P **P** **16 56 51.5 +0.1**
baz=63
CWC Cottonwood Cre 63.53 64 ⇓P **P** **16 56 52.0 +0.3**
baz=63
P12A McGill 63.53 60 ⇓P **P** **16 56 52.1 +0.4**
baz=63
KAF Kangasniemi 63.77 335 *ep* **P** **16 56 51.6 -1.7**
comp=Z,7.0nm,0.7s,mb4.8,baz=36,slow=6.3
KAF Kangasniemi 63.77 335 *eP* **P** **16 56 51.6 -1.7**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
Q12A Willow Creek R 63.85 60 ⇓P **P** **16 56 53.7 -0.2**
baz=64
MPMC Manual Prospec 64.14 64 P **P** **16 56 55.9 +0.2**
baz=64,SNR=5.7
FURC Furnace Creek, 64.27 63 P **P** **16 56 56.9 +0.3**
baz=64,SNR=6.5
DUG Dugway 64.30 58 *e*P **P** **16 56 57.4 +0.6**
DUG *e* 16 57 08.2
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
DUG Dugway 64.30 58 *eP* **P** **16 56 57.4 +0.6**
comp=Z,7.4nm,1.0s,mb4.7
DUG *e* 16 57 08.2
DUG Dugway 64.30 58 P **P** **16 56 57.7 +0.9**
baz=64,SNR=6.4
FIA1 FINESS Array S 64.37 335 *eP* **P** **16 56 55.6 -1.6**

FINES	**FINESS Array B**	**64.37**	**335**	P		**P**		**16 56 55.3**	**-2.0**
	comp=Z,5.5nm,0.5s,mb4.8,baz=36,slow=7.8,SNR=44									
FINES	**FINESS Array B**	**64.37**	**335**	*i* P		**P**		**16 56 56.0**	**-1.3**
FINES				pmax		pmax				
	comp=Z,6.0nm,0.5s									
PSI	**Prapat**	**64.39**	**245**	P		**P**		**16 56 57.6**	**+0.2**
	comp=Z,1.8nm,0.4s,mb4.5,baz=193,slow=23,SNR=6.3									
PSI	**Prapat**	**64.39**	**245**	P		**P**		**16 56 57.6**	**+0.2**
PSI				pmax		pmax				
	comp=Z,2.0nm,0.4s,mb4.5									
PDAR	**Pinedale Array**	**64.50**	**54**	P		**P**		**16 56 58.3**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.5,baz=295,slow=1.9,SNR=34									
EDW2	**Edwards Air Fo**	**64.58**	**65**	⇓P		**P**		**16 56 58.7**	**0.0**
	baz=64									
U10A	**Ash Meadows, A**	**64.62**	**63**	⇑P		**P**		**16 56 59.5**	**+0.6**
	baz=64									
TUQ	**Turquoise Mtn.**	**65.51**	**64**	P		**P**		**16 57 04.9**	**+0.2**
	baz=65,SNR=5.5									
V11A	**Goodsprings**	**65.55**	**63**	⇑P		**P**		**16 57 04.0**	**-1.0**
	baz=65									
HEC	**Hector,Ludlow**	**65.65**	**65**	⇑P		**P**		**16 57 05.3**	**-0.3**
	baz=65									
OBN	**Obninsk**	**65.68**	**326**	⇓*e*P		**P**		**16 57 04.3**	**-1.5**
OBN				*e*S		S		17 05 49.0	-3.3
OBN				pmax		pmax				
	comp=Z,47nm,2.5s,mb5.1									
OBN				MLR		MLR				
	comp=Z,100nm,15.0s,MS4.1									
V12A	**Nelson**	**65.98**	**63**	⇑P		**P**		**16 57 07.4**	**-0.3**
	baz=66									
GMRC	**Granite Mounta**	**66.10**	**64**	P		**P**		**16 57 08.9**	**+0.4**
	baz=66,SNR=5.8									
SRU	**San Rafael**	**66.35**	**58**	*e*P		**P**		**16 57 10.3**	**+0.2**
SRU				pmax		pmax				
	comp=Z,11nm,0.9s,mb4.9									
SRU	**San Rafael**	**66.35**	**58**	*e*P		**P**		**16 57 10.3**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9									
ULM	**Lac du Bonnet**	**66.37**	**41**	P		**P**		**16 57 09.8**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.6,baz=345,slow=9.6,SNR=6.4									
ULM	**Lac du Bonnet**	**66.37**	**41**	P		**P**		**16 57 09.8**	**-0.4**
IRM	**Iron Mountain**	**66.83**	**64**	P		**P**		**16 57 13.4**	**+0.3**
	baz=67,SNR=6.1									
BC3	**Big Chuckw Mtn**	**66.97**	**65**	⇑P		**P**		**16 57 13.8**	**-0.2**
	baz=67									
W13A	**Hualapai Mount**	**66.99**	**63**	⇑P		**P**		**16 57 13.8**	**-0.3**
	baz=67									
X13A	**Yucca**	**67.36**	**63**	⇑P		**P**		**16 57 16.2**	**-0.3**
	baz=67									
PDMCI	**Parker Dam,Lak**	**67.36**	**64**	⇑P		**P**		**16 57 16.5**	**0.0**
	baz=67									
W14A	**Seligman**	**67.41**	**62**	P		**P**		**16 57 17.5**	**+0.7**
	baz=67,SNR=11									
Y12C	**Blythe**	**67.49**	**64**	⇓P		**P**		**16 57 17.1**	**-0.3**
	baz=67									
PV10	**Paradox Valley**	**67.70**	**57**	*e*P		**P**		**16 57 19.2**	**+0.5**
PV10				*e*				16 57 30.2		
GLA	**Glamis**	**67.76**	**65**	⇑P		**P**		**16 57 18.2**	**-0.8**
	baz=68									
W15A	**Williams**	**67.93**	**62**	⇑P		**P**		**16 57 21.0**	**+0.9**
	baz=68									
X14A	**Yava**	**68.02**	**63**	P		**P**		**16 57 21.6**	**+1.0**
	baz=68,SNR=5.6									
Y14A	**Wickenburg**	**68.30**	**63**	⇑P		**P**		**16 57 22.5**	**0.0**
	baz=68									
X15A	**Humboldt**	**68.41**	**62**	⇑P		**P**		**16 57 24.0**	**+0.9**
	baz=68									
WRAB	**Tennant Creek**	**68.48**	**200**	*d* iP		**P**		**16 57 22.0**	**-1.6**
WB2	**Warramunga Arr**	**68.49**	**200**	*e*P		**P**		**16 57 22.3**	**-1.4**
WB2				*e*				16 57 34.2		
WRA	**Warramunga Arr**	**68.50**	**200**	P		**P**		**16 57 22.7**	**-0.9**
	comp=Z,7.9nm,0.8s,mb4.8,baz=17,slow=6.7,SNR=38									
WRA	**Warramunga Arr**	**68.50**	**200**	P		**P**		**16 57 22.7**	**-1.0**
WRA				pmax		pmax				
	comp=Z,8.0nm,0.8s									
NB2	**NORSAR Subarra**	**68.52**	**341**	P		**P**		**16 57 22.8**	**-1.0**
	comp=Z,12nm,0.6s,mb5.0,baz=27,slow=6.5									
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**		**16 57 23.2**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=27,slow=6.3,SNR=52									
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**		**16 57 23.2**	**-0.6**
NOA				pmax		pmax				
	comp=Z,12nm,0.6s									
ISCO	**Idaho Springs**	**68.69**	**54**	*e*P		**P**		**16 57 25.7**	**+0.8**
ISCO				*e*				16 57 36.2		
ISCO				pmax		pmax				
	comp=Z,4.0nm,0.8s,mb4.4									
ISCO	**Idaho Springs**	**68.69**	**54**	*e*P		**P**		**16 57 25.7**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.4									
ISCO				*e*				16 57 36.2		
MVCO	**Mesa Verde**	**68.81**	**58**	⇑P		**P**		**16 57 25.7**	**+0.1**
	baz=69									
FITZ	**Fitzroy Crossi**	**69.20**	**209**	*e*P		**P**		**16 57 28.0**	**-0.1**
	comp=Z,8.8nm,0.7s,mb4.8									
FITZ				*e*				16 57 39.3		
ECSD	**EROS,Sioux Fal**	**70.69**	**46**	*e*P		**P**		**16 57 36.4**	**-0.9**
	comp=Z,8.4nm,0.9s,mb4.7									
ECSD				*e*				16 57 47.0		
KIV	**Kislovodsk**	**71.22**	**315**	*c* iP		**P**		**16 57 41.4**	**+1.0**
KIV				pmax		pmax				
	comp=Z,14nm,1.3s,mb4.7									
SUW	**Suwalki**	**71.34**	**332**	*e*P		**P**		**16 57 42.2**	**+1.0**
ZEI	**Tsey**	**71.48**	**313**	*e*P		**P**		**16 57 44.8**	**+2.8**
ZEI				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb4.3									
ANMO	**Albuquerque**	**71.56**	**59**	⇓*e*P		**P**		**16 57 42.6**	**+0.1**
ANMO				*e**PP		pP		16 57 53.2	+9.1
AKASG	**Malin Array Be**	**71.92**	**327**	P		**P**		**16 57 43.4**	**-1.3**
	comp=Z,7.1nm,0.7s,mb4.7,baz=33,slow=6.1,SNR=30									
AKASG	**Malin Array Be**	**71.92**	**327**	*i* P		**P**		**16 57 43.4**	**-1.2**
AKASG				pmax		pmax				
	comp=Z,7.0nm,0.7s									
KIEV	**Kiev**	**71.93**	**327**	*e*P		**P**		**16 57 42.7**	**-2.0**
KIEV				pmax		pmax				
	comp=Z,28nm,1.1s,mb5.1									
KIEV	**Kiev**	**71.93**	**327**	*e*P		**P**		**16 57 42.7**	**-2.0**
	comp=Z,28nm,1.1s,mb5.1									
AS31	**Alice Springs**	**72.19**	**199**	*e*P		**P**		**16 57 46.3**	**0.0**
AS31				*e*				16 57 57.3		
ASAR	**Alice Springs**	**72.19**	**199**	P		**P**		**16 57 46.4**	**+0.1**
	comp=Z,14nm,0.8s,mb5.0,baz=11,slow=5.3,SNR=169									
ASAR	**Alice Springs**	**72.19**	**199**	P		**P**		**16 57 46.4**	**+0.1**
ASAR				pmax		pmax				
	comp=Z,14nm,0.8s									
ASPA	**Alice Springs**	**72.19**	**199**	*e*P		**P**		**16 57 46.3**	**0.0**
ASPA				*e*				16 57 57.3		
GNI	**Garni**	**72.96**	**311**	P		**P**		**16 57 52.0**	**+1.1**
	comp=Z,3.7nm,0.6s,mb4.5,baz=337,slow=7.7,SNR=4.4									
GNI	**Garni**	**72.96**	**311**	⇓*e*P		**P**		**16 57 52.4**	**+1.5**
GNI				pmax		pmax				
	comp=Z,24nm,1.7s									
GNI	**Garni**	**72.96**	**311**	*e*P		**P**		**16 57 52.6**	**+1.7**
	comp=Z,9.9nm,0.8s,mb4.8									
OJC	**Ojcow**	**75.67**	**331**	*e*P		**P**		**16 58 05.7**	**-0.9**
STHS	**Stebnicka Huta**	**75.87**	**330**	*e*P		**P**		**16 58 08.5**	**+0.7**
STHS				pmax		pmax				
	comp=Z,10.0nm,0.8s,mb4.8									
STHS	**Stebnicka Huta**	**75.87**	**330**	*e*P		**P**		**16 58 08.5**	**+0.7**
	comp=Z,9.6nm,0.8s,mb4.8									
KOLS	**Kolonicke sedl**	**75.92**	**329**	*e*P		**P**		**16 58 08.0**	**-0.1**
KSP	**Ksiaz**	**76.24**	**334**	*e*P		**P**		**16 58 10.5**	**+0.6**
KSP	**Ksiaz**	**76.24**	**334**	*e*P		**P**		**16 58 10.4**	**+0.5**
UPC	**Upice**	**76.62**	**334**	*e*P		**P**		**16 58 12.8**	**+0.8**
DPC	**Dobruska-Polom**	**76.66**	**334**	*e*P		**P**		**16 58 12.6**	**+0.3**
MORC	**Moravsky Berou**	**76.78**	**333**	*e*P		**P**		**16 58 12.4**	**-0.6**
MORC				pmax		pmax				
	comp=Z,7.0nm,0.7s,mb4.7									
MORC	**Moravsky Berou**	**76.78**	**333**	*e*P		**P**		**16 58 12.4**	**-0.6**
	comp=Z,6.6nm,0.7s,mb4.7									
LPIG	**La Paz**	**76.79**	**69**	LR		LR		17 28 58.8		
	comp=Z,56nm,18.4s,MS3.9,baz=21,slow=33									
CLL	**Collm**	**76.79**	**336**	*i* P		**P**		**16 58 12.5**	**-0.5**
CLL				pmax		pmax				
	comp=Z,19nm,0.6s,mb5.2									
CLL	**Collm**	**76.79**	**336**	*i* P		**P**		**16 58 12.5**	**-0.5**
	comp=Z,19nm,0.6s,mb5.2									
BOYT	**Boyabat**	**76.87**	**317**	*i* P		**P**		**16 58 13.0**	**-0.5**
KECS	**Kecovo**	**76.93**	**330**	*e*P		**P**		**16 58 13.6**	**-0.2**
KECS				pmax		pmax				
	comp=Z,4.0nm,0.9s,mb4.3									
KECS	**Kecovo**	**76.93**	**330**	*e*P		**P**		**16 58 13.6**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.3									
PVCC	**Panska Ves**	**77.03**	**335**	*e*P		**P**		**16 58 14.9**	**+0.5**
LTX	**Lajitas**	**77.20**	**61**	*e*P		**P**		**16 58 15.3**	**-0.1**
LTX				*e*				16 58 26.3		
LTX				pmax		pmax				
	comp=Z,18nm,0.9s,mb5.0									
LTX	**Lajitas**	**77.20**	**61**	*e*P		**P**		**16 58 15.3**	**-0.1**
	comp=Z,18nm,0.9s,mb5.0									
LTX				*e*PcP		PcP		16 58 26.3	+0.2	
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**		**16 58 15.4**	**0.0**
	comp=Z,14nm,0.6s,mb5.0,baz=301,slow=4.2,SNR=124									
TXAR	**Lajitas Array**	**77.20**	**61**	P		**P**		**16 58 15.4**	**0.0**
TXAR				pmax		pmax				
	comp=Z,14nm,0.6s									
VYHS	**Vyhne**	**77.48**	**331**	*e*P		**P**		**16 58 17.0**	**+0.1**
VYHS				pmax		pmax				
	comp=Z,3.0nm,0.6s,mb4.4									
VYHS	**Vyhne**	**77.48**	**331**	*e*P		**P**		**16 58 17.0**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.4									
BALT	**Daday**	**77.48**	**318**	*i* P		**P**		**16 58 17.8**	**+0.8**
PRU	**Pruhonice**	**77.52**	**334**	*e*P		**P**		**16 58 17.9**	**+0.8**
CTKT	**Corum**	**77.55**	**317**	*i* P		**P**		**16 58 18.3**	**+1.0**
MALT	**Malatya**	**77.57**	**313**	*e*P		**P**		**16 58 18.7**	**+1.3**
MALT				pmax		pmax				
	comp=Z,13nm,1.1s,mb4.8									
MALT	**Malatya**	**77.57**	**313**	*e*P		**P**		**16 58 18.6**	**+1.2**
	comp=Z,13nm,1.1s,mb4.8									
MOX	**Moxa**	**77.77**	**336**	*e*P		**P**		**16 58 18.2**	**-0.3**
NKC	**Novy Kostel**	**77.91**	**336**	*e*P		**P**		**16 58 20.1**	**+0.8**
ZST	**Bratislava**	**78.31**	**332**	*e*P		**P**		**16 58 22.4**	**+0.9**
KHC	**Kasperske Hory**	**78.57**	**335**	*e*P		**P**		**16 58 22.6**	**-0.4**
KHC				pP		pP		16 58 29.5	+4.9	
KHC	**Kasperske Hory**	**78.57**	**335**	*e*P		**P**		**16 58 22.6**	**-0.4**
KHC				*e*				16 58 29.5		
JCT	**Junction City**	**78.66**	**58**	*e*P		**P**		**16 58 23.1**	**-0.4**
JCT				pmax		pmax				
	comp=Z,8.0nm,0.8s,mb4.7									
JCT	**Junction City**	**78.66**	**58**	*e*P		**P**		**16 58 23.1**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.7									
GRA1	**Grafenberg Arr**	**78.74**	**336**	*e*P		**P**		**16 58 23.9**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.5									
GRF	**Grafenberg Arr**	**78.74**	**336**	*e*P		**P**		**16 58 23.9**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.5									
GRF	**Grafenberg Arr**	**78.74**	**336**	*e*P		**P**		**16 58 23.9**	**0.0**
GRF				pmax		pmax				
	comp=Z,7.0nm,1.0s,mb4.5									
GRF	**Grafenberg Arr**	**78.74**	**336**	*e*P		**P**		**16 58 23.9**	**0.0**
GRF				pmax		pmax				
	comp=Z,7.0nm,1.0s,mb4.5									
GERES	**GERESS Array B**	**78.79**	**334**	P		**P**		**16 58 24.2**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.3,baz=35,slow=5.3,SNR=22									
GERES	**GERESS Array B**	**78.79**	**334**	P		**P**		**16 58 24.2**	**0.0**
GERES				pmax		pmax				
	comp=Z,3.0nm,0.6s									
BR131	**Keskin Array S**	**78.80**	**317**	*e*P		**P**		**16 58 24.6**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.4									
BRTR	**Keskin Array B**	**78.80**	**317**	P		**P**		**16 58 24.9**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.5,baz=69,slow=3.7,SNR=21									
BRTR	**Keskin Array B**	**78.80**	**317**	*i* P		**P**		**16 58 24.8**	**+0.6**
BRTR				pmax		pmax				
	comp=Z,5.0nm,0.7s									
SGKT	**Sivrigoynuk**	**78.86**	**319**	*i* P		**P**		**16 58 25.2**	**+0.7**
STKA	**Stephens Creek**	**78.86**	**190**	P		**P**		**16 58 24.4**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=19,slow=13,SNR=5.3									
CONA	**Conrad Observa**	**78.94**	**333**	⇑*i*P		**P**		**16 58 25.5**	**+0.5**
	comp=Z,4.2nm,0.6s,mb4.5									
UMR	**Umm Al-Rimmam**	**79.07**	**301**	*e*P		**P**		**16 58 26.6**	**+0.8**
UMR				AMb		AMB		16 58 27.4		
	comp=Z,38nm,0.5s,mb5.6									
MIB	**Mutribah**	**79.11**	**302**	*e*P		**P**		**16 58 26.7**	**+0.8**
MIB				AMb		AMB		16 58 27.6		
	comp=Z,46nm,0.6s,mb5.6									
MEM	**Membach**	**79.25**	**340**	P		**P**		**16 58 26.5**	**-0.2**
MEM				AP		pP		16 58 28.0	-0.4	
KBD	**Kabd**	**79.36**	**301**	*e*P		**P**		**16 58 28.5**	**+1.2**
QRN	**Al-Qurain**	**79.55**	**301**	*e*P		**P**		**16 58 29.5**	**+1.2**
NAY	**Al-Naaiem**	**79.58**	**302**	*e*P		**P**		**16 58 29.2**	**+0.7**
NAY				AMb		AMB		16 58 30.1		
	comp=Z,14nm,0.7s,mb5.0									
BCLA	**Clavier**	**79.59**	**340**	P		**P**		**16 58 29.8**	**+1.2**
RDF	**Al-Radifah**	**79.63**	**301**	*e*P		**P**		**16 58 29.8**	**+1.0**
RDF				AMb		AMB		16 58 30.7		
	comp=Z,43nm,0.6s,mb5.6									
ARSA	**Arzberg**	**79.64**	**333**	⇑*i*P		**P**		**16 58 30.2**	**+1.4**
	comp=Z,6.6nm,1.1s,mb4.5									
COBT	**Iskenderun**	**80.05**	**313**	*i* P		**P**		**16 58 32.1**	**+1.0**
DOU	**Dourbes**	**80.06**	**340**	P		**P**		**16 58 32.3**	**+1.2**
KBA	**Koelnbreinsper**	**80.48**	**334**	⇑*i*P		**P**		**16 58 34.0**	**+0.7**
	comp=Z,24nm,0.8s,mb5.2									
KBA	**Koelnbreinsper**	**80.48**	**334**	⇑*i*P		**P**		**16 58 34.0**	**+0.7**
KBA				pmax		pmax				
	comp=Z,24nm,0.8s,mb5.2									
WATA	**Walderalm**	**80.77**	**335**	⇑*i*P		**P**		**16 58 35.5**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.5									
WATA	**Walderalm**	**80.77**	**335**	⇑*i*P		**P**		**16 58 35.5**	**+0.6**
WATA				pmax		pmax				
	comp=Z,5.0nm,0.8s,mb4.5									
WTTA	**Wattenberg**	**80.82**	**335**	⇑*i*P		**P**		**16 58 35.9**	**+0.8**
	comp=Z,14nm,0.6s,mb5.1									
WTTA	**Wattenberg**	**80.82**	**335**	⇑*i*P		**P**		**16 58 35.9**	**+0.7**
WTTA				pmax		pmax				
	comp=Z,14nm,0.6s,mb5.1									
CDF	**Champ du Feu**	**80.97**	**338**	*e*P		**P**		**16 58 36.4**	**+0.4**
	comp=Z,20nm,0.8s,mb4.8									
CDF	**Champ du Feu**	**80.97**	**338**	*e*P		**P**		**16 58 36.4**	**+0.4**
CDF				pmax		pmax				
	comp=Z,10.0nm,0.8s,mb4.8									
CDF	**Champ du Feu**	**80.97**	**338**	*e*P		**P**		**16 58 36.4**	**+0.4**
	comp=Z,10nm,0.8s,mb4.8									
SQTA	**Sankt Quirin**	**80.98**	**335**	⇑*i*P		**P**		**16 58 36.7**	**+0.6**
	comp=Z,4.5nm,0.9s,mb4.4									
SQTA	**Sankt Quirin**	**80.98**	**335**	⇑*i*P		**P**		**16 58 36.7**	**+0.7**
SQTA				pmax		pmax				
	comp=Z,5.0nm,0.9s,mb4.4									
GRR	**Gorron**	**82.85**	**343**	*e*P		**P**		**16 58 45.9**	**0.0**
	comp=Z,44nm,1.2s,mb5.0									
GRR	**Gorron**	**82.85**	**343**	*e*P		**P**		**16 58 45.9**	**0.0**
GRR				pmax		pmax				
	comp=Z,22nm,1.3s,mb5.0									
GRR	**Gorron**	**82.85**	**343**	*e*P		**P**		**16 58 45.9**	**0.0**
	comp=Z,22nm,1.3s,mb5.0									
TKL	**Tuckaleechee C**	**83.20**	**44**	P		**P**		**16 58 47.0**	**-0.7**
	comp=Z,4.1nm,0.8s,mb4.5,baz=3.1,slow=4.0,SNR=4.1									
TKL	**Tuckaleechee C**	**83.20**	**44**	P		**P**		**16 58 47.0**	**-0.7**
TKL				pmax		pmax				
	comp=Z,4.0nm,0.8s,mb4.5									
SMF	**Signal de Mont**	**83.47**	**340**	*e*P		**P**		**16 58 49.1**	**0.0**
	comp=Z,70nm,1.2s,mb5.3									
SMF	**Signal de Mont**	**83.47**	**340**	*e*P		**P**		**16 58 49.1**	**0.0**
SMF				pmax		pmax				
	comp=Z,35nm,1.2s,mb5.3									
SMF	**Signal de Mont**	**83.47**	**340**	*e*P		**P**		**16 58 49.1**	**0.0**
	comp=Z,35nm,1.2s,mb5.3									
LPG	**La Plagne**	**83.80**	**337**	*e*P		**P**		**16 58 51.2**	**+0.4**
	comp=Z,16nm,0.8s,mb4.9									
LPG	**La Plagne**	**83.80**	**337**	*e*P		**P**		**16 58 51.2**	**+0.4**
LPG				pmax		pmax				
	comp=Z,8.0nm,0.8s,mb4.9									
LPG	**La Plagne**	**83.80**	**337**	*e*P		**P**		**16 58 51.2**	**+0.4**
	comp=Z,8.3nm,0.8s,mb4.9									
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**		**16 58 59.4**	**0.0**
	comp=Z,6.3nm,0.7s,mb4.6									
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**		**16 58 59.4**	**0.0**
CAF				pmax		pmax				
	comp=Z,3.0nm,0.7s,mb4.6									
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**		**16 58 59.4**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.7									
EIL	**Elat**	**86.12**	**310**	*e*P		**P**		**16 59 04.3**	**+1.8**
	comp=Z,192nm,1.0s									
KEST	**Kesra**	**92.02**	**332**	P		**P**		**16 59 31.1**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.3,baz=312,slow=9.5,SNR=3.6									
TORD	**Torodi Ar. Bea**	**115.45**	**330**	PKP		PKPdf		17 05 02.1	-1.3	
	comp=Z,0.5nm,0.5s,baz=8.3,slow=1.1,SNR=3.4									
MIR	**Mirnyy**	**121.91**	**204**	*d* iPKIKP				17 05 04.5		
MIR				pmax		pmax				
	comp=Z,300nm,1.0s									
MIR				MLR		MLR				
	comp=Z,4µm,17.0s									
VNDA	**Vanda**	**123.93**	**178**	PKP		PKPdf		17 05 17.3	-2.3	
	comp=Z,0.7nm,0.9s,baz=359,slow=4.3,SNR=3.9									
VNDA	**Vanda**	**123.93**	**178**	PKIKP		PKPdf		17 05 17.3	-2.3	
VNDA				pmax		pmax				
	comp=Z,1.0nm,0.9s									
MAW	**Mawson**	**132.28**	**211**	PKP		PKPdf		17 05 33.8	-1.7	
	comp=Z,1.0nm,0.6s,baz=200,slow=1.9,SNR=8.4									
MAW	**Mawson**	**132.28**	**211**	PKIKP		PKPdf		17 05 33.8	-1.7	
MAW				pmax		pmax				
	comp=Z,1.0nm,0.6s									
LPAZ	**La Paz**	**134.04**	**63**	PKP		PKPdf		17 05 40.4	+1.6	
	comp=Z,0.4nm,0.5s,baz=227,slow=5.1,SNR=3.5									
CFAA	**Coronel Fontan**	**144.61**	**80**	PKP		PKPdf		17 05 55.4	-2.6	
	comp=Z,1.3nm,0.9s,baz=266,slow=2.4,SNR=13									
CFAA	**Coronel Fontan**	**144.61**	**80**	PKP		PKPdf		17 05 55.4	-2.6	
SNAA	**Sanae**	**152.51**	**196**	PKPbc		PKPbc		17 06 15.1	-2.7	
	comp=Z,1.4nm,0.6s,baz=182,slow=1.4,SNR=23									
SNAA				PKPab		PKPab		17 06 26.0	-2.1	
	comp=Z,1.8nm,0.8s,baz=179,slow=5.4,SNR=10									
SNAA	**Sanae**	**152.51**	**196**	*e*PKPdf		PKPdf		17 06 13.7	+2.8	
SNAA				*e*				17 06 25.7		
SNAA				*e*				17 06 36.2		
SNAA	**Sanae**	**152.51**	**196**	*e*PKPbc		PKPbc		17 06 15.3	-2.5	
SNAA				*e*PKPab		PKPab		17 06 25.9	-2.2	
VNA2	**Neumayer--Watz**	**153.95**	**194**	*e*PKPdf		PKPdf		17 06 10.9	-2.0	
VNA2				*e*				17 06 18.3		
VNA2				*e*				17 06 31.7		
VNA2				*e*				17 06 43.0		
VNA3	**Neumayer Olymp**	**154.02**	**192**	*e*PKPdf		PKPbc		17 06 18.1	-3.0	
VNA3				*e*				17 06 31.7		
VNA3				*e*				17 06 42.8		
VNA1	**Neumayer--Stat**	**154.33**	**194**	*e*PKPdf		PKPab		17 06 34.2	-1.6	
VNA1				*e*				17 06 44.8		

ISCJB ***28*** *16:46:28.3±0.7, 6358S×1705E±03, h10km, mb4.1/5, MS4.7/15, Error ellipse: s-maj=21.6km s-min=10.5km az=170.2*

IDC ***28*** *16:46:31.2±1.2, 6308S×17063E, h0km, mb4.1/4, mb1 4.2/4, mb1mx4.2/6, mbtmp4.1/4, MS4.7/17, Ms1 4.7/17, ms1mx4.5/22, Error ellipse: s-maj=48.0km s-min=29.4km az=63.0*

NEIC ***28*** *16:46:32.3±0.7, 6357S×16977E, h10km, Error ellipse: s-maj=33.4km s-min=16.1km az=75.0*

GCMT ***28*** *16:46:32.3±0.1, 6327S×171.1E, h12km, MW5.4/89, Moment Tensor Solution. s67,c104; s89,c149; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.24±.02; $M_{\theta\theta}$1.38±.02; $M_{\phi\phi}$-1.14±.02; $M_{r\theta}$-0.88±.05; $M_{\theta\phi}$-0.21±.02; $M_{r\phi}$0.04±.05; Best double couple: $M_0$1.47000×10^{17} NP1ϕ_s323.00000°,δ71.00000°, λ15.00000°. NP2ϕ_s228.00000°,δ76.00000°,λ161.00000°. Principal axes: T 1.7810, Plg24.0000°, Azm184.0000°; N -0.6210, Plg66.0000°, Azm13.0000°; P -1.1590, Plg3.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 16:46:29.4±0.7, 6357S×1707E×03, h10km, n35, σ0 95/18, mb4.1/5, MS4.7/15, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.29**	**188**	Pn		**Pn**	**16 49 52.1**	**+0.4**
	0.4nm,0.3s,baz=34,slow=16,SNR=37						
VNDA				LR		LR	16 54 16.7	
	comp=Z,5µm,21.5s,baz=20,slow=32						
VNDA	**Vanda**	**14.29**	**188**	*e*P		**Pn**	**16 49 51.2**	**-0.

AVH	**Avacha**	**2.61**	**273**	*e*P		Pn	16 50 33.5	+3.3
AVH				*i* S		Sn	16 51 04.4	+3.7
PET	**Petropavlovsk**	**2.67**	**268**	*e*P		Pn	16 50 33.9	+2.8
PET				*i* S		Sn	16 51 05.9	+3.6
PET	**Petropavlovsk**	**2.67**	**268**	*e*P		Pn	16 50 33.9	+2.8
PET				*i* S		Sn	16 51 05.9	+3.6
TUMR	**Tumrok**	**2.69**	**321**	*e*P		Pn	16 50 34.6	+3.3
TUMR				*i* S		Sn	16 51 06.4	+3.7
TUMR	**Tumrok**	**2.69**	**321**	*e*P		Pn	16 50 34.6	+3.3
TUMR				*i* S		Sn	16 51 06.4	+3.7
RUS	**Russkaya**	**2.88**	**256**	*e*P		Pn	16 50 36.3	+2.3
RUS				*i* S		Sn	16 51 09.9	+2.5
RUS	**Russkaya**	**2.88**	**256**	*e*P		Pn	16 50 36.3	+2.3
RUS				*i* S		Sn	16 51 09.9	+2.5
KBTR	**Krutoberegovo**	**3.00**	**357**	*e*P		Pn	16 50 36.7	+1.1
KBTR				*i* S		Sn	16 51 10.5	+0.2
KBTR	**Krutoberegovo**	**3.00**	**357**	*e*P		Pn	16 50 36.7	+1.1
KBTR				*i* S		Sn	16 51 10.5	+0.2
KMNR	**Kamenistaya**	**3.03**	**328**	*e*P		Pn	16 50 39.2	+3.1
KMNR				*i* S		Sn	16 51 14.2	+3.0
KMNR	**Kamenistaya**	**3.03**	**328**	*e*P		Pn	16 50 39.2	+3.1
KMNR				*i* S		Sn	16 51 14.2	+3.0
ZLN	**Zelenaya**	**3.10**	**336**	*e*P		Pn	16 50 40.2	+3.2
ZLN				*i* S		Sn	16 51 16.2	+3.4
ZLN	**Zelenaya**	**3.10**	**336**	*e*P		Pn	16 50 40.2	+3.2
ZLN				*i* S		Sn	16 51 16.2	+3.4
GRL	**Gorelyy**	**3.11**	**260**	*e*P		Pn	16 50 40.0	+2.9
GRL				*i* S		Sn	16 51 16.2	+3.3
GRL	**Gorelyy**	**3.11**	**260**	*e*P		Pn	16 50 40.0	+2.9
GRL				*i* S		Sn	16 51 16.2	+3.3
GNL	**Ganaly**	**3.11**	**281**	*e*P		Pn	16 50 40.4	+3.3
GNL				*i* S		Sn	16 51 16.4	+3.4
GNL	**Ganaly**	**3.11**	**281**	*e*P		Pn	16 50 40.4	+3.3
GNL				*i* S		Sn	16 51 16.4	+3.4
KPT	**Kopyto**	**3.21**	**330**	*e*P		Pn	16 50 41.1	+2.5
KPT				*i* S		Sn	16 51 18.5	+2.9
KPT	**Kopyto**	**3.21**	**330**	*e*P		Pn	16 50 41.1	+2.5
KPT				*i* S		Sn	16 51 18.5	+2.9
KRSR	**Krestovskiy**	**3.34**	**335**	*e*P		Pn	16 50 42.4	+2.1
KRSR				*i* S		Sn	16 51 20.8	+2.1
KRSR	**Krestovskiy**	**3.34**	**335**	*e*P		Pn	16 50 42.4	+2.1
KRSR				*i* S		Sn	16 51 20.8	+2.1
KOZ	**Kozyrevsk**	**3.40**	**328**	*e*P		Pn	16 50 44.1	+3.0
KOZ				*i* S		Sn	16 51 23.7	+3.5
KOZ	**Kozyrevsk**	**3.40**	**328**	*e*P		Pn	16 50 44.1	+3.0
KOZ				*i* S		Sn	16 51 23.7	+3.5
KLY	**Klyuchi**	**3.40**	**337**	*e*P		Pn	16 50 43.4	+2.2
KLY				*i* S		Sn	16 51 22.3	+2.0
KLY	**Klyuchi**	**3.40**	**337**	*e*P		Pn	16 50 43.4	+2.2
KLY				*i* S		Sn	16 51 22.3	+2.0
SRDR	**Sredinnyy**	**3.66**	**329**	*e*P		Pn	16 50 46.9	+2.2
SRDR				*i* S		Sn	16 51 28.8	+2.1
SRDR	**Sredinnyy**	**3.66**	**329**	*e*P		Pn	16 50 46.9	+2.2
SRDR				*i* S		Sn	16 51 28.8	+2.1

ISCJB ***28*** *16:49:50.6±0.8, 465N±02×1553E±02, h10km, mb4.1/12, Error ellipse: s-maj=24.9km s-min=16.0km az=10.1*
IDC ***28*** *16:49:50.7±0.9, 4643N×15535E, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/23, mbtmp4.0/10, Error ellipse: s-maj=28.9km s-min=21.5km az=177.0*
NEIC ***28*** *16:49:52.3±0.7, 4646N×15534E, h10km, mb4.4/1, Error ellipse: s-maj=20.7km s-min=12.4km az=182.0*
MOS ***28*** *16:49:53.8±1.5, 4641N×15497E, h33km, mb4.2/8, Error ellipse: s-maj=27.1km s-min=19.4km az=108.8*

ISC 28 16:49:52.3±0.8, 466N±02×1553E±02, h10km, n24, σ0s75/24, mb4.1/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KUR	**Kuril'sk**	**5.34**	**258**			PN	**Pn**	**16 51 07.5**	**-4.6**
KUR						pmax	pmax		
	comp=Z,90nm,0.8s								
TIXI	**Tiksi**	**28.09**	**343**			*e*P	**P**	**16 55 42.7**	**-1.5**
TIXI						pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0								
MKAR	**Makanchi Array**	**48.35**	**298**			P	**P**	**16 58 34.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.8,baz=61,slow=6.8,SNR=5.0								
MKAR	**Makanchi Array**	**48.35**	**298**			P	**P**	**16 58 34.7**	**+0.5**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**50.19**	**37**			P	**P**	**16 58 47.8**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=295,slow=7.4,SNR=4.6								
YKA	**Yellowknife Ar**	**50.19**	**37**			P	**P**	**16 58 47.8**	**-0.4**
YKA						pmax	pmax		
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**52.13**	**310**			P	**P**	**16 59 02.2**	**-0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=66,slow=8.9,SNR=4.2								
BVAR	**Borovoye Array**	**52.13**	**310**			P	**P**	**16 59 02.2**	**-0.6**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
BRVK	**Borovoye**	**52.17**	**310**			P	**P**	**16 59 03.3**	**+0.2**
NVAR	**Mina Array Bea**	**61.20**	**63**			P	**P**	**17 00 07.2**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.2,baz=301,slow=8.8,SNR=6.8								
BW06	**Boulder Array**	**63.65**	**55**			*e*P	**P**	**17 00 23.7**	**0.0**
	comp=Z,3.1nm,1.1s,mb4.2								
PDAR	**Pinedale Array**	**63.65**	**55**			P	**P**	**17 00 23.9**	**+0.2**
	comp=Z,2.1nm,1.0s,mb4.1,baz=300,slow=2.9,SNR=6.7								
FINES	**FINESS Array B**	**64.85**	**336**			P	**P**	**17 00 33.0**	**+1.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=38,slow=8.0,SNR=7.8								
FINES	**FINESS Array B**	**64.85**	**336**			P	**P**	**17 00 33.0**	**+1.5**
FINES						pmax	pmax		
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**72.52**	**201**			P	**P**	**17 01 18.8**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=20,slow=5.3,SNR=10								
ASAR	**Alice Springs**	**72.52**	**201**			P	**P**	**17 01 18.8**	**-0.5**
ASAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**72.53**	**327**			P	**P**	**17 01 18.9**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=31,slow=5.1,SNR=4.2								
AKASG	**Malin Array Be**	**72.53**	**327**			P	**P**	**17 01 18.9**	**-0.6**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.5s								
TXAR	**Lajitas Array**	**76.28**	**62**			P	**P**	**17 01 41.5**	**+0.2**
	comp=Z,4.0nm,0.5s,mb4.6,baz=308,slow=4.7,SNR=28								
TXAR	**Lajitas Array**	**76.28**	**62**			P	**P**	**17 01 41.5**	**+0.2**
TXAR						pmax	pmax		
	comp=Z,4.0nm,0.5s								
TXAR	**Lajitas Array**	**76.28**	**62**			P	**P**	**17 01 41.5**	**+0.2**
KHC	**Kasperske Hory**	**79.06**	**336**			*e*P	**P**	**17 01 56.5**	**-0.2**
BRTR	**Keskin Array B**	**79.55**	**318**			P	**P**	**17 02 00.7**	**+1.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=92,slow=4.2,SNR=4.2								
BRTR	**Keskin Array B**	**79.55**	**318**			P	**P**	**17 02 00.7**	**+1.3**
BRTR						pmax	pmax		
	comp=Z,1.0nm,0.8s								

IDC 28 16:55:54.5±4.4, 4751N×15555E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=148.6km s-min=38.9km az=8.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MKAR	**Makanchi Array**	**48.07**	**298**			P	P	17 04 35.7	0.0
	0.9nm,1.1s,baz=56,slow=7.6,SNR=4.6								
BVAR	**Borovoye Array**	**51.66**	**310**			P	P	17 05 02.0	-1.0
	0.6nm,0.5s,baz=69,slow=8.1,SNR=4.9								
FINES	**FINESS Array B**	**64.05**	**336**			P	P	17 06 29.8	-0.3
	0.8nm,0.5s,baz=36,slow=7.3,SNR=8.1								
TXAR	**Lajitas Array**	**75.67**	**62**			P	P	17 07 41.7	+0.1
	0.2nm,0.5s,baz=331,slow=7.2,SNR=2.7								

NEIC ***28*** *17:22:00.9±0.5, 4697N×15401E, h10km, mb4.1/3, Error ellipse: s-maj=12.4km s-min=9.1km az=150.0*
ISCJB ***28*** *17:22:02.5±1.5, 4699N±009×1540E±01, h33km±12km, mb3.9/18, Error ellipse: s-maj=18.1km s-min=10.3km az=100.5*
MOS ***28*** *17:22:03.1±1.3, 4698N×15401E, h40km, mb4.2/11, Error ellipse: s-maj=13.9km s-min=11.7km az=83.9*
IDC ***28*** *17:22:07.0±4.8, 4697N×15396E, h56km±44km, mb3.5/14, mb1 3.8/15, mb1mx3.7/24, mbtmp3.5/15, ML3.6/1, Error ellipse: s-maj=20.6km s-min=19.6km az=170.0*

ISC 28 17:22:05.1±1.3, 4702N±009×1540E±01, h40km±11km, n43, σ0s93/43, mb3.9/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**3.92**	**20**			*e*PN	**Pn**	**17 23 01.8**	**-0.9**
KUR	**Kuril'sk**	**4.64**	**250**			*e*PN	**Pn**	**17 23 12.0**	**-0.6**
KUR						pmax	pmax		
	comp=Z,110nm,0.8s								
YSS	**Yuzh-Sakhalins**	**7.71**	**274**			*e*PN	**Pn**	**17 23 58.0**	**+3.3**
YSS						*e*		17 25 31.2	
YSS	**Yuzh-Sakhalins**	**7.71**	**274**			*e*Pn	**Pn**	**17 23 56.6**	**+1.9**
ASAJ	**Asahikawa**	**8.53**	**254**			P	**Pn**	**17 24 07.5**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=66,slow=25,SNR=8.5								
ASAJ	**Asahikawa**	**8.53**	**254**			PN	**Pn**	**17 24 07.5**	**+1.6**
ASAJ						pmax	pmax		
	comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**9.23**	**241**			*e*PN	**Pn**	**17 24 14.1**	**-1.5**
YAK	**Yakutsk**	**20.43**	**326**			*e*P	**P**	**17 26 39.1**	**+0.2**
KSRS	**Korea Array**	**21.47**	**253**			P	P	**17 26 50.9**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.4,baz=60,slow=8.7,SNR=5.5								
TIXI	**Tiksi**	**27.39**	**343**			*e*P	**P**	**17 27 46.7**	**+0.1**
TIXI						pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0								
TIXI	**Tiksi**	**27.39**	**343**			*e*P	**P**	**17 27 46.7**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.0								
SONM	**Songino Array**	**31.83**	**289**			P	**P**	**17 28 25.8**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.4,baz=66,slow=7.6,SNR=3.0								
SONM	**Songino Array**	**31.83**	**289**			P	**P**	**17 28 25.8**	**-0.2**
SONM						pmax	pmax		
	comp=Z,1.0nm,0.8s								
IMA2	**Indian Mountai**	**33.22**	**36**			*e*P	**P**	**17 28 38.5**	**+0.3**
INK	**Inuvik**	**41.09**	**33**			*e*P	**P**	**17 29 45.5**	**+0.6**
	comp=Z,70nm,0.7s,mb5.4								
MK31	**Makanchi Array**	**47.37**	**298**			*e*P	**P**	**17 30 34.0**	**-1.1**
MKAR	**Makanchi Array**	**47.37**	**298**			P	**P**	**17 30 34.3**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=64,slow=7.0,SNR=5.2								
MKAR	**Makanchi Array**	**47.37**	**298**			P	**P**	**17 30 34.3**	**-0.8**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
LSA	**Lhasa**	**50.88**	**274**			*e*P	**P**	**17 31 04.8**	**+2.8**
LSA						pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3								
LSA	**Lhasa**	**50.88**	**274**			*e*P	**P**	**17 31 04.8**	**+2.8**
	comp=Z,2.9nm,0.8s,mb4.3								
BVAR	**Borovoye Array**	**51.17**	**310**			P	**P**	**17 31 02.7**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=52,slow=9.6,SNR=3.9								
BVAR	**Borovoye Array**	**51.17**	**310**			P	**P**	**17 31 02.7**	**-1.4**
BVAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**51.20**	**310**			*e*P	**P**	**17 31 04.1**	**-0.3**
BRVK						pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9								
BRVK	**Borovoye**	**51.20**	**310**			*e*P	**P**	**17 31 04.1**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8								
NVAR	**Mina Array Bea**	**61.76**	**63**			P	**P**	**17 32 19.3**	**-0.2**
	comp=Z,0.9nm,0.8s,mb4.0,baz=286,slow=7.4,SNR=4.7								
FINES	**FINESS Array B**	**64.06**	**335**			P	**P**	**17 32 34.4**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=35,slow=7.0,SNR=6.5								
FINES	**FINESS Array B**	**64.06**	**335**			P	**P**	**17 32 34.4**	**-0.4**
FINES						pmax	pmax		
	comp=Z,2.0nm,0.8s								
PDAR	**Pinedale Array**	**64.08**	**54**			P	**P**	**17 32 35.7**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=318,slow=2.3,SNR=9.0								
NB2	**NORSAR Subarra**	**68.17**	**342**			P	**P**	**17 33 01.6**	**+0.4**
	comp=Z,4.9nm,1.0s,mb4.5,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**68.17**	**342**			P	**P**	**17 33 01.6**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=27,slow=6.4,SNR=5.9								
NOA	**NORSAR Array B**	**68.17**	**342**			P	**P**	**17 33 01.6**	**+0.4**
NOA						pmax	pmax		
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**68.98**	**200**			P	**P**	**17 33 05.3**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=14,slow=7.4,SNR=3.3								
AKASG	**Malin Array Be**	**71.66**	**327**			P	**P**	**17 33 22.2**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=32,slow=6.0,SNR=4.9								
AKASG	**Malin Array Be**	**71.66**	**327**			P	**P**	**17 33 22.2**	**-0.5**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**71.66**	**327**			P	**P**	**17 33 22.2**	**-0.5**
ASAR	**Alice Springs**	**72.67**	**199**			P	**P**	**17 33 28.4**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=7.6,slow=5.1,SNR=15								
ASAR	**Alice Springs**	**72.67**	**199**			P	**P**	**17 33 28.4**	**-0.2**
ASAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
CLL	**Collm**	**76.47**	**336**			*e*P	**P**	**17 33 50.0**	**-0.7**
TXAR	**Lajitas Array**	**76.82**	**61**			P	**P**	**17 33 53.4**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.2,baz=300,slow=4.3,SNR=31								
TXAR	**Lajitas Array**	**76.82**	**61**			P	**P**	**17 33 53.4**	**+0.7**
TXAR						pmax	pmax		
	comp=Z,2.0nm,0.7s								
GERES	**GERESS Array B**	**78.48**	**335**			P	**P**	**17 34 02.4**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=34,slow=7.1,SNR=3.5								
BRTR	**Keskin Array B**	**78.61**	**317**			P	**P**	**17 34 03.9**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=90,slow=3.7,SNR=3.5								
BRTR	**Keskin Array B**	**78.61**	**317**			P	**P**	**17 34 03.9**	**+1.2**
BRTR						pmax	pmax		
	comp=Z,1.0nm,0.5s								

ISCJB ***28*** *17:30:37.2±1.7, 4695N±007×15408E±008, h17km±12km, mb4.3/36, MS4.5/2, Error ellipse: s-maj=12.7km s-min=6.9km az=106.3*
NEIC ***28*** *17:30:37.8±0.4, 4697N×15400E, h10km, mb4.4/8, Error ellipse: s-maj=11.0km s-min=7.0km az=147.0*
BJI ***28*** *17:30:37.4, 4674N×15458E, h37km, mB5.1, mb4.2, Ms4.9, Msz4.6*
MOS ***28*** *17:30:41.8±1.0, 4685N×15390E, h57km, mb4.4/22, Error ellipse: s-maj=13.1km s-min=9.5km az=95.3*
IDC ***28*** *17:30:44.2±4.2, 4693N×15392E, h59km±38km, mb3.7/17, mb1 4.0/19, mb1mx3.9/26, mbtmp3.8/19, ML3.6/2, Error ellipse: s-maj=17.7km s-min=17.1km az=170.0*

ISC 28 17:30:40.8±1.9, 4698N±007×15409E±008, h28km±13km, n91, σ1s27/92, mb4.3/36, MS4.5/2, 8C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**3.94**	**19**			*e*PN	**Pn**	**17 31 37.5**	**-1.8**
KUR	**Kuril'sk**	**4.67**	**250**			*e*PN	**Pn**	**17 31 46.0**	**-3.4**
KUR						*e*S	**Sn**	**17 32 47.0**	**+4.4**
KUR						pmax	pmax		
	comp=Z,140nm,0.6s								
KUR						smax			
	comp=N,280nm,0.9s								
KUR						smax			
	comp=E,170nm,0.9s								
YUK	**Yuzh-Kuril'sk**	**6.49**	**246**			*e*PN	**Pn**	**17 32 14.0**	**-0.4**
YUK						S	**Sn**	**17 33 33.5**	**+6.0**
YUK						smax			
	comp=N,210nm,0.7s								
YUK						smax			
	comp=E,250nm,0.7s								
PET	**Petropavlovsk**	**6.73**	**24**			*e*PN	**Pn**	**17 32 16.0**	**-1.6**
PET						MLR	MLR		
	comp=Z,100nm,14.0s								
PET	**Petropavlovsk**	**6.73**	**24**			*e*P	**Pn**	**17 32 16.0**	**-1.6**
	comp=Z,1.3nm,0.6s								
YSS	**Yuzh-Sakhalins**	**7.76**	**274**			*e*P	**Pn**	**17 32 35.0**	**+3.2**
	comp=Z,19nm,0.6s								
ASAJ	**Asahikawa**	**8.56**	**255**			P	**Pn**	**17 32 44.8**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=69,slow=15,SNR=11								
ASAJ	**Asahikawa**	**8.56**	**255**			PN	**Pn**	**17 32 44.8**	**+2.0**
ASAJ						pmax	pmax		
	comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**9.26**	**242**			*e*PN	**Pn**	**17 32 52.4**	**+0.1**
ERM	**Erimo**	**9.26**	**242**			*e*P	**Pn**	**17 32 51.5**	**-0.8**
MJAR	**Matsushiro Arr**	**15.76**	**234**			P	**Pn**	**17 34 19.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=334,slow=37,SNR=3.7								
CN2	**Changchun**	**20.32**	**272**			*e*P	**P**	**17 35 16.5**	**+2.0**
CLNS	**Chul'man**	**20.39**	**310**			*e*P	**P**	**17 35 16.6**	**+1.3**
CLNS						pmax	pmax		
	comp=Z,12nm,0.9s								
CLNS						pmax	pmax		
	comp=N,4.0nm,0.7s								
CLNS						pmax	pmax		
	comp=E,13nm,1.0s								
YAK	**Yakutsk**	**20.50**	**326**			*e*P	**P**	**17 35 17.7**	**+1.2**
YAK						pmax	pmax		
	comp=Z,15nm,1.7s								
YAK	**Yakutsk**	**20.50**	**326**			P	**P**	**17 35 16.5**	**0.0**
	comp=Z,9.1nm,0.8s								
KSRS	**Korea Array**	**21.51**	**253**			P	**P**	**17 35 27.4**	**+0.1**
	comp=Z,1.5nm,0.8s,mb3.5,baz=65,slow=9.3,SNR=6.2								
BILL	**Bilibino**	**22.02**	**12**			*e*P	**P**	**17 35 33.6**	**+0.7**
BILL						*e*S	**S**	**17 39 28.3**	**-6.0**
BILL						pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7								
BILL	**Bilibino**	**22.02**	**12**			*e*P	**P**	**17 35 32.8**	**-0.1**
TIXI	**Tiksi**	**27.44**	**343**			*e*P	**P**	**17 36 25.4**	**+1.2**
TIXI						pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6								

NJ2	**Nanjing**	**30.71**	**254**	*e*P		**P**	**17 36 52.0**	**-1.2**
NJ2				AP	pP		17 37 03.0	+1.5
NJ2				XP	sP		17 37 05.5	+0.6
NJ2				PP	PP		17 37 53.5	-9.2
NJ2				S	**S**		**17 41 52.0**	**-2.2**
NJ2				XS	sS		17 42 08.0	+0.1
NJ2				AMB	AMB			
	comp=Z,810nm,7.0s							
NJ2				LR	LR			
	comp=N,1μm,16.5s,MS4.8							
NJ2				LR	LR			
	comp=E,1μm,17.5s,MS4.8							
NJ2				LR	LR			
	comp=Z,1μm,15.3s,MS4.6							
COLA	**College**	**35.54**	**39**	*e*P		**P**	**17 37 36.0**	**+0.7**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
COLA	**College**	**35.54**	**39**	*e*P		**P**	**17 37 36.0**	**+0.7**
	comp=Z,6.3nm,0.7s,mb4.7							
KRAR	**Krasnoyarsk**	**37.99**	**307**	*e*P		**P**	**17 37 56.0**	**-0.1**
KRAR				pmax	pmax			
	comp=Z,12nm,0.6s,mb4.8							
EGAK	**Eagle**	**38.40**	**39**	*e*P		**P**	**17 37 59.5**	**-0.1**
ZAL	**Zalesovo**	**43.04**	**306**	P		**P**	**17 38 36.3**	**-1.6**
	comp=Z,1.4nm,0.6s,mb3.9,baz=60,slow=5.5,SNR=6.6							
ZAL	**Zalesovo**	**43.04**	**306**	P		**P**	**17 38 36.3**	**-1.6**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**47.43**	**298**	*e*P		**P**	**17 39 11.1**	**-1.7**
MKAR	**Makanchi Array**	**47.43**	**298**	P		**P**	**17 39 11.5**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=69,slow=7.9,SNR=14							
MKAR	**Makanchi Array**	**47.43**	**298**	*i* P		**P**	**17 39 11.5**	**-1.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**50.34**	**37**	P		**P**	**17 39 35.0**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=294,slow=6.6,SNR=3.4							
YKA				PcP	PcP		17 40 53.1	-0.3
	comp=Z,0.9nm,0.8s,baz=303,slow=3.6,SNR=4.0							
YKA	**Yellowknife Ar**	**50.34**	**37**	P		**P**	**17 39 35.0**	**0.0**
YKA				PcP	PcP		17 40 53.1	-0.3
LSA	**Lhasa**	**50.93**	**274**	P		**P**	**17 39 40.0**	**+0.5**
LSA	**Lhasa**	**50.93**	**274**	*e*P		**P**	**17 39 41.4**	**+1.9**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.93**	**274**	*e*P		**P**	**17 39 41.4**	**+1.9**
	comp=Z,3.7nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**51.23**	**310**	P		**P**	**17 39 40.7**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=57,slow=7.4,SNR=8.3							
BVAR	**Borovoye Array**	**51.23**	**310**	P		**P**	**17 39 40.7**	**-1.1**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**51.27**	**310**	*e*P		**P**	**17 39 40.4**	**-1.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.27**	**310**	*e*P		**P**	**17 39 40.4**	**-1.7**
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**52.00**	**310**	*e*P		**P**	**17 39 45.9**	**-1.6**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**52.00**	**310**	*e*P		**P**	**17 39 45.9**	**-1.5**
	comp=Z,2.0nm,0.8s,mb4.1							
ARU	**Arti**	**55.30**	**318**	*i* P		**P**	**17 40 09.9**	**-1.8**
ARU				*e*			17 41 06.7	
ARU				*e*			17 42 16.1	
ARU				*e*S		**S**	**17 47 52.6**	**-1.2**
ARU				*e*SS		SS	17 51 27.8	-10
ARU				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
ARU	**Arti**	**55.30**	**318**	*e*P		**P**	**17 40 09.5**	**-2.2**
	comp=Z,4.8nm,0.8s,mb4.6							
GUN	**Gumba**	**55.65**	**276**	*e*P		**P**	**17 40 15.4**	**+1.2**
	comp=Z,8.1nm,0.4s,mb5.1							
KKN	**Kakani**	**56.13**	**276**	*e*P		**P**	**17 40 19.0**	**+1.3**
DMN	**Daman

LPG	**La Plagne**	**83.53**	**338**	*eP*		**P**	**17 43 10.6**	**+4.5**
	comp=Z,13nm,0.9s,mb4.8							
CAF	**Calviac**	**85.22**	**340**	*eP*		**P**	**17 43 18.8**	**+4.2**
	comp=Z,16nm,1.1s,mb4.8							
CFAA	**Coronel Fontan**	**144.29**	**80**	PKP	PKPdf		17 50 11.3	-2.7
	comp=Z,0.2nm,0.5s,baz=342,slow=3.1,SNR=3.7							
VNA2	**Neumayer--Watz**	**154.39**	**194**	*e*PKPdf	PKPbc		17 50 36.6	-1.8
VNA2				*e*			17 50 41.2	
VNA3	**Neumayer Olymp**	**154.46**	**192**	*e*PKPdf	PKPbc		17 50 36.9	-1.7
VNA3				*e*			17 50 41.0	

*NEIC **28** 17:45:27.9, 34.34S×70.16W, h6km, ML2.6(GUC), After GUC.*

GUC 28 17:45:27.9±0.9, 34.34S×70.16W, h6km±2km, MD3.9, ML2.6, 8C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.21**	**275**	⇑*iP*	Pg	17 45 33.0	+0.9
CICH				*i* S	Sg	17 45 36.5	+1.6
CACH	**El Canelo**	**0.42**	**301**	⇑*iP*	Pg	17 45 36.6	+0.6
CACH				*i* S	Sg	17 45 42.4	+0.8
LMEL	**Las Melosas**	**0.49**	**356**	⇑*iP*	Pg	17 45 38.2	+0.9
LMEL				*i* S	Sg	17 45 45.7	+2.0
LMEL				AML	AML	17 45 46.4	
	comp=N,546nm,0.1s						
LMEL	**Las Melosas**	**0.49**	**356**	⇑*iP*	Pg	17 45 38.2	+0.9
LMEL				*i* S	Sg	17 45 45.7	+2.0
CHCH	**Chadas Angostu**	**0.57**	**315**	⇓*iP*	Pg	17 45 39.7	+0.8
CHCH				*i* S	Sg	17 45 48.0	+1.7
SFDO	**San Fernando**	**0.76**	**248**	⇑*iP*	Pg	17 45 42.3	-0.1
PCH	**Pirque**	**0.77**	**338**	⇓*iP*	Pg	17 45 43.5	+0.8
PCH				*i* S	Sg	17 45 54.5	+1.7
ANTU	**Antumapu**	**0.86**	**333**	*eP*	Pg	17 45 44.6	+0.2
ANTU				*i* S	Sg	17 45 57.4	+1.9
ANTU				AML	AML	17 45 58.3	
	comp=E,822nm,0.3s						
ANTU	**Antumapu**	**0.86**	**333**	*eP*	Pg	17 45 44.6	+0.2
ANTU				*i* S	Sg	17 45 57.4	+1.9
TACH	**Talagante**	**0.94**	**316**	⇑*iP*	Pg	17 45 45.6	-0.3
CLCH	**Cerro Calan**	**0.99**	**342**	⇑*iP*	Pg	17 45 47.4	+0.5
CLCH				*i* S	Sg	17 46 01.6	+1.9
CLCH				AML	AML	17 46 05.8	
	comp=E,407nm,0.7s						
RCDM	**Rinconada Maip**	**1.00**	**328**	*eP*	Pg	17 45 47.0	-0.1
RCDM				*i* S	Sg	17 46 01.0	+0.9
RCDM				AML	AML	17 46 02.7	
	comp=E,387nm,0.3s						
RCDM	**Rinconada Maip**	**1.00**	**328**	*eP*	Pg	17 45 47.0	-0.1
RCDM				*i* S	Sg	17 46 01.0	+0.9
FCH	**Farellones**	**1.01**	**354**	⇑*eP*	Pg	17 45 47.5	+0.2
FCH				*i* S	Sg	17 46 02.2	+1.8
FCH				AML	AML	17 46 09.2	
	comp=N,166nm,0.3s						
LNV	**Longovilo**	**1.10**	**290**	⇓*iP*	Pg	17 45 48.3	-0.8
LNV				*i* S	Sg	17 46 03.3	0.0
PEL	**Peldehue**	**1.27**	**340**	⇓*iP*	Pn	17 45 52.2	0.0
PEL				*i* S	Sg	17 46 10.2	+1.6
PEL				AML	AML	17 46 11.7	
	comp=N,442nm,0.8s						
PACH	**Papudo**	**2.09**	**329**	*eP*	Pn	17 46 06.1	+2.7

*NEIC **28** 18:08:10.2, 31.26S×68.81W, h140km, MG3.6(GUC), After GUC.*

GUC 28 18:08:10.2±0.7, 31.26S×68.81W, h140km, ML3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**1.62**	**181**	*eP*	Pn	18 08 39.2	-1.1
MDZ				*i* S	Sn	18 09 00.9	-2.5
CMCH	**Combarbala**	**1.88**	**272**	*eP*	Pn	18 08 43.9	+0.7
CMCH				*i* S	Sn	18 09 09.7	+1.1
CMCH				AML	AML	18 09 11.4	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**1.88**	**272**	*eP*	Pn	18 08 43.9	+0.7
CMCH				*i* S	Sn	18 09 09.7	+1.1
TLL	**Tololo Astrono**	**2.03**	**302**	*eP*	Pn	18 08 46.5	+1.4
TLL				*i* S	Sn	18 09 13.3	+1.5
TLL				AML	AML	18 09 20.0	
	comp=N,270nm,0.5s						
TLL	**Tololo Astrono**	**2.03**	**302**	*eP*	Pn	18 08 46.5	+1.4
TLL				*i* S	Sn	18 09 13.3	+1.5
OVCH	**Ovalle**	**2.15**	**287**	*eP*	Pn	18 08 47.0	+0.5
OVCH				*i* S	Sn	18 09 14.6	+0.2
OVCH				AML	AML	18 09 19.4	
	comp=N,367nm,0.7s						
OVCH	**Ovalle**	**2.15**	**287**	*eP*	Pn	18 08 47.0	+0.5
OVCH				*i* S	Sn	18 09 14.6	+0.2
FCH	**Farellones**	**2.42**	**211**	*eP*	Pn	18 08 51.2	+1.4
FCH				*i* S	Sn	18 09 22.4	+2.1
FCH				AML	AML	18 09 26.4	
	comp=E,98nm,0.3s						
PEL	**Peldehue**	**2.46**	**220**	*eP*	Pn	18 08 50.7	+0.3
PEL				*i* S	Sn	18 09 21.9	+0.6
PEL				AML	AML	18 09 27.1	
	comp=E,182nm,0.5s						
CLCH	**Cerro Calan**	**2.59**	**214**	*i* S	Sn	18 09 25.3	+1.2
CLCH				AML	AML	18 09 33.1	
	comp=E,206nm,0.5s						
PCH	**Pirque**	**2.77**	**211**	*eP*	Pn	18 08 55.0	+0.8
RCDM	**Rinconada Maip**	**2.80**	**217**	*eP*	Pn	18 08 55.1	+0.6
RCDM				*i* S	Sn	18 09 29.4	+0.6
CHCH	**Chadas Angostu**	**3.09**	**210**	*eP*	Pn	18 08 58.8	+0.5
CACH	**El Canelo**	**3.23**	**207**	*eP*	Pn	18 09 01.3	+1.2
LVC	**Limon Verde**	**8.61**	**359**	*e*Pn	Pn	18 10 09.8	-1.9
	comp=E,5.5nm,0.6s						
TRQA	**Tornquist**	**8.81**	**142**	*e*Pn	Pn	18 10 11.7	-2.7
	comp=E,7.8nm,0.4s						

*NEIC **28** 18:15:25.0±0.6, 58.45S×149.98E, h10km, mb4.4/6, Error ellipse: s-maj=15.8km s-min=10.9km az=119.0*
*ISCJB **28** 18:15:27.6±2.5, 59.50S±0.1×149.8E±0.2, h33km±20km, mb4.1/6, MS3.5/3, Error ellipse: s-maj=34.6km s-min=15.6km az=53.2*
*IDC **28** 18:15:32.8±6.2, 60.80S×149.78E, h53km±49km, mb3.8/5, mb1 4.1/7, mb1mx3.8/15, mbtmp4.0/7, ML3.7/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=50.1km s-min=33.0km az=98.0*

ISC 28 18:15:28.5±2.7, 59.50S±0.1×149.9E±0.2, h30km±19km, n26, σ0.99/26, mb4.1/6, MS3.5/4, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.43**	**218**	P	**Pn**	**18 16 34.9**	**+1.3**
	36nm,0.3s,baz=38,slow=6.5,SNR=145						
PMG				S	**Sn**	**18 17 22.7**	**-1.4**
	35nm,0.3s,baz=13,slow=18,SNR=8.9						
PMG				LR	LR	18 18 24.4	
	comp=Z,525nm,21.1s,baz=7.4,slow=41						
PMG	**Port Moresby**	**4.43**	**218**	P	**Pn**	**18 16 34.9**	**+1.3**
PMG				*e*Sn	**Sn**	**18 17 22.6**	**-1.5**
PMG				S	**Sn**	**18 17 22.7**	**-1.4**
PMG				LR	LR	18 18 24.4	
CTA	**Charters Tower**	**14.53**	**194**	*eP*	**Pn**	**18 18 47.7**	**-4.3**
	5.7nm,1.1s						
CTA	**Charters Tower**	**14.53**	**194**	P	**Pn**	**18 18 51.2**	**-0.8**
	0.2nm,0.3s,baz=68,slow=9.3,SNR=3.8						
CTA				LR	LR	18 24 03.6	
	comp=Z,126nm,19.1s,baz=79,slow=36						
CTAO	**Charters Tower**	**14.53**	**194**	*e*Pn	**Pn**	**18 18 50.9**	**-1.1**
	17nm,1.3s						
KAKA	**Kakadu**	**18.53**	**247**	*eP*	**Pn**	**18 19 37.5**	**-5.3**
	7.1nm,0.4s						
GUMO	**Guam**	**20.02**	**345**	LR	LR	18 26 05.7	
	comp=Z,130nm,20.8s,MS3.3,baz=82,slow=31						
WRAB	**Tennant Creek**	**20.58**	**226**	*eP*	**P**	**18 20 04.9**	**0.0**
	16nm,0.8s						
WRAB				*e*		18 20 13.6	
WB2	**Warramunga Arr**	**20.59**	**226**	⇓*iP*	**P**	**18 20 05.3**	**+0.3**
WB2				*eS*	**S**	**18 23 48.3**	**-5.3**
WRA	**Warramunga Arr**	**20.60**	**226**	P	**P**	**18 20 05.5**	**+0.4**
	4.1nm,0.5s,baz=51,slow=11,SNR=80						
DZM	**Mont Dzumac**	**22.64**	**137**	LR	LR	18 27 25.0	
	comp=Z,168nm,18.9s,MS3.5,baz=240,slow=32						
AS31	**Alice Springs**	**23.44**	**220**	*eP*	**P**	**18 20 34.9**	**-0.5**
AS31				*eS*	**S**	**18 24 47.0**	**+0.6**
ASAR	**Alice Springs**	**23.44**	**220**	P	**P**	**18 20 35.7**	**+0.3**
	1.5nm,0.5s,mb3.7,baz=58,slow=8.9,SNR=73						
ASPA	**Alice Springs**	**23.44**	**220**	*eP*	**P**	**18 20 34.9**	**-0.5**
ASPA				*eS*	**S**	**18 24 47.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**26.63**	**241**	⇑*iP*	**P**	**18 21 04.5**	**+0.2**
	23nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**26.63**	**241**	P	**P**	**18 21 04.6**	**+0.2**
	5.2nm,0.5s,mb4.3,baz=57,slow=6.8,SNR=36						
STKA	**Stephens Creek**	**26.98**	**196**	*eP*	**P**	**18 21 08.5**	**+1.0**
	2.4nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**26.98**	**196**	P	**P**	**18 21 08.7**	**+1.2**
	3.7nm,0.7s,mb4.0,baz=34,slow=13,SNR=5.4						
STKA				LR	LR	18 31 47.2	
	comp=Z,109nm,18.4s,MS3.5,baz=27,slow=36						
MJAR	**Matsushiro Arr**	**43.64**	**346**	LR	LR	18 39 19.2	
	comp=Z,75nm,21.0s,MS3.6,baz=85,slow=33						
MAJO	**Matsushiro**	**43.65**	**346**	P	**P**	**18 23 28.6**	**-1.7**
ULN	**Ulaanbaatar**	**65.48**	**330**	P	**P**	**18 26 04.4**	**-4.3**
	2.5nm,1.1s,mb4.2						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**18 26 13.6**	**+2.9**
	0.5nm,0.6s,mb3.7,baz=142,slow=5.8,SNR=4.7						
QSPA	**South Pole Qui**	**84.05**	**180**	*eP*	**P**	**18 27 55.5**	**-0.7**
	8.2nm,1.1s,mb4.8						
GERES	**GERESS Array B**	**123.47**	**327**	PKP	PKPdf	18 34 23.2	+0.5
	0.2nm,0.3s,baz=101,slow=3.1,SNR=4.6						
LPAZ	**La Paz**	**136.35**	**121**	PKP	PKPdf	18 34 50.8	+3.6
	1.1nm,0.7s,baz=274,slow=2.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**147.90**	**285**	PKPbc	PKPbc	18 35 11.8	+1.1
	2.0nm,0.3s,baz=82,slow=2.4,SNR=52						

IDC 28 18:16:23.4±4.6, 22.75S×175.38W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/29, Error ellipse: s-maj=225.9km s-min=44.6km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.55**	**87**	LR	LR	18 23 03.3	
	comp=Z,125nm,20.0s,baz=84,slow=28						
DZM	**Mont Dzumac**	**16.83**	**269**	Pn	Pn	18 20 26.4	+6.1
	0.5nm,0.3s,baz=90,slow=19,SNR=6.9						
TBI	**Tubuai**	**23.85**	**97**	*e*LR	LR	18 26 55.1	
	144nm,23.8s						
PPT	**Papeete**	**24.74**	**83**	*e*LR	LR	18 27 21.0	
	112nm,22.0s						
CTA	**Charters Tower**	**35.76**	**267**	P	P	18 23 25.0	+1.1
	3.2nm,0.5s,baz=96,slow=12,SNR=8.0						
RKT	**Rikitea**	**37.13**	**99**	*e*LR	LR	18 33 03.4	
	88nm,23.2s						
ASAR	**Alice Springs**	**46.42**	**258**	P	P	18 24 52.1	+0.4
	0.9nm,0.8s,baz=100,slow=8.0,SNR=5.7						
ASAR				LR	LR	18 45 10.5	
	comp=Z,79nm,18.3s,baz=260,slow=37						
WRA	**Warramunga Arr**	**46.74**	**264**	P	P	18 24 53.9	-0.4
	1.7nm,0.5s,baz=102,slow=8.2,SNR=19						
FITZ	**Fitzroy Crossi**	**55.17**	**263**	P	P	18 25 58.2	+0.5
	1.9nm,0.8s,baz=102,slow=7.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**55.17**	**263**	*eS*	P	18 25 58.1	+0.4
AKASG	**Malin Array Be**	**146.15**	**332**	PKPbc	PKPbc	18 36 04.7	-0.8
	0.4nm,0.4s,baz=38,slow=4.1,SNR=5.2						
BRTR	**Keskin Array B**	**150.15**	**311**	PKPbc	PKPbc	18 36 16.1	-0.1
	0.5nm,0.7s,baz=166,slow=6.7,SNR=5.1						
CLL	**Collm**	**150.76**	**349**	*i* P	PKPab	18 36 28.8	+4.2
CLL				*i* x	x	18 36 31.0	
	comp=Z,10.0nm,1.1s						

MEX 28 18:24:29.3±0.7, 1709N×10021W, h41km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.07**	**234**	*i* P	Pn	18 24 34.4	-1.5
CAIG				*i* S	Sn	18 24 38.8	-1.7
ACX	**Acapulco**	**0.35**	**129**	*i* P	Pn	18 24 36.5	-1.7
ACX				*i* S	Sn	18 24 43.0	-1.5
MEIG	**Mezcala**	**1.00**	**34**	*i* P	Pn	18 24 45.8	-1.0
MEIG				*i* S	Sn	18 24 57.4	-2.3

*IDC **28** 18:24:52.6±0.8, 3724N×6978E, h0km, mb3.9/11, mb1 4.0/16, mb1mx3.9/26, mbtmp4.0/16, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=17.9km s-min=14.6km az=19.0*
*BJI **28** 18:24:54.3, 3772N×6945E, h26km, mb4.5, ML3.8*
*NEIC **28** 18:24:56.6±0.7, 3772N×6970E, h10km, mb4.0/7, Error ellipse: s-maj=12.5km s-min=8.8km az=169.0*
*MOS **28** 18:24:56.7±1.9, 3753N×6967E, h36km, mb4.1/9, Error ellipse: s-maj=10.8km s-min=7.1km az=91.0*
*ISCJB **28** 18:24:56.9±0.7, 3753N±0.003×6956E±0.005, h41km±8km, mb4.0/20, MS3.5/2, Error ellipse: s-maj=7.1km s-min=5.6km az=152.9*
*NNC **28** 18:24:56.6±3.1, 37.41N×69.38E, h33km±28km, mb3.8, mpv3.6, Error ellipse: s-maj=24.7km s-min=20.8km az=63.0*

ISC 28 18:24:59.0±0.6, 37.52N±0.003×69.53E±0.005, h46km±7km, n82, σ1.44/92, mb4.0/20, MS3.5/2, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.17**	**152**	P	**Pn**	**18 25 56.2**	**-3.8**
CEP				S	**Sn**	**18 27 00.0**	**+13**
CHCP	**Chirah Chowk**	**4.91**	**141**	P	**Pn**	**18 26 11.7**	**+1.5**
THW	**Thamme Wali**	**5.05**	**158**	P	**Pn**	**18 26 12.1**	**0.0**
SBDP	**Sheikh Budin**	**5.31**	**168**	P	**Pn**	**18 26 15.4**	**-0.3**
KSH	**Kashi**	**5.44**	**66**	⇓*iP*	**Pn**	**18 26 18.0**	**+0.6**
KSH				S	**Sn**	**18 27 20.3**	**+1.6**
KSH				Smax			
	comp=N,394nm,1.1s						
KSH				Smax			
	comp=E,320nm,0.9s						
AML	**Almayashu**	**5.61**	**34**	P	**Pn**	**18 26 20.4**	**+0.5**
	SNR=44						
KK31	**Karatay Array**	**5.63**	**7**	Pn	**Pn**	**18 26 20.9**	**+0.9**
	comp=E,2.1nm,0.3s,baz=174,slow=12,SNR=188						
KK31				⇑Pg	Pn	18 26 42.0	+22
	comp=E,3.8nm,0.4s,baz=188,slow=14,SNR=4.2						
KK31				⇑Sn	**Sn**	**18 27 25.5**	**+2.1**
	comp=E,9.5nm,0.5s						
KK31				⇓Lg		18 27 57.5	
	comp=E,48nm,0.8s,baz=198,slow=25						
DRP	**Derazinda**	**5.79**	**174**	P	**Pn**	**18 26 22.6**	**+0.3**
UCH	**Uchtor**	**6.07**	**38**	P	**Pn**	**18 26 26.6**	**+0.5**
	SNR=47						
EKS2	**Erkin-Say**	**6.08**	**31**	P	**Pn**	**18 26 27.3**	**+1.0**
	SNR=16						
KZA	**Kyzart**	**6.34**	**42**	P	**Pn**	**18 26 30.1**	**+0.3**
	SNR=38						
AAK	**Ala-Archa**	**6.37**	**35**	P	**Pn**	**18 26 30.9**	**+0.6**
	SNR=55						
AAK	**Ala-Archa**	**6.37**	**35**	*e*iPN	**Pn**	**18 26 30.4**	**+0.1**
AAK	**Ala-Archa**	**6.37**	**35**	*e*Pn	**Pn**	**18 26 30.0**	**-0.2**
	comp=E,27nm,0.4s						
FRU	**Bishkek**	**6.58**	**35**	⇓*e*PN	**Pn**	**18 26 34.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,40nm,1.8s						
KBK	**Karagaybulak**	**6.60**	**37**	P	**Pn**	**18 26 35.0**	**+1.5**
	SNR=19						
CHMS	**Chumysh**	**6.78**	**34**	P	**Pn**	**18 26 36.9**	**+1.1**
	SNR=14						
USP	**Ospenovka**	**6.88**	**32**	P	**Pn**	**18 26 37.6**	**+0.3**
	SNR=29						
ULHL	**Ulahol**	**7.00**	**45**	P	**Pn**	**18 26 38.3**	**-0.5**
	SNR=14						
TKM2	**Tokmak 2**	**7.12**	**39**	P	**Pn**	**18 26 41.1**	**+0.6**
	SNR=14						
TKM2	**Tokmak 2**	**7.12**	**39**	⇓P	**Pn**	**18 26 40.9**	**+0.4**
	comp=Z,2.3nm,0.7s						
THN	**Thein Dam**	**7.18**	**133**	*eP*	**Pn**	**18 26 39.4**	**-1.9**
THN				*eS*	**Sn**	**18 28 11.2**	**+10**
MK31	**Makanchi Array**	**13.23**	**42**	P	**Pn**	**18 28 02.3**	**-1.8**
	comp=Z,4.1nm,0.7s,baz=228,slow=14,SNR=16						
MKAR	**Makanchi Array**	**13.23**	**42**	Pn	**Pn**	**18 28 02.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=230,slow=14,SNR=16						
MKAR	**Makanchi Array**	**13.23**	**42**	*i* P	**Pn**	**18 28 02.5**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**13.23**	**42**	Pn	**Pn**	**18 28 02.5**	**-1.7**
AB31	**Akbulak array**	**13.63**	**332**	P	**Pn**	**18 28 07.7**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=154,slow=12,SNR=59						
AB31				S	**Sn**	**18 30 38.0**	**-1.4**
	comp=Z,2.9nm,0.3s,baz=150,slow=24,SNR=6.1						
AKTK	**Aktyubinsk**	**15.31**	**331**	Pn	**Pn**	**18 28 31.6**	**-0.4**
AKTK				Sn	**Sn**	**18 31 16.6**	**-3.9**
AKTK				Lg		18 33 19.3	
AKTK				LR	LR	18 35 10.5	
AKTO	**Aktyubinsk**	**15.31**	**331**	⇓P	**Pn**	**18 28 31.2**	**-0.7**
	comp=Z,0.4nm,0.9s						
AKTO	**Aktyubinsk**	**15.31**	**331**	Pn	**Pn**	**18 28 31.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=137,slow=13,SNR=12						
AKTO				Sn	**Sn**	**18 31 16.6**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=340,slow=20,SNR=4.7						
AKTO				Lg		18 33 19.3	
	comp=Z,0.2nm,0.3s,baz=53,slow=19,SNR=2.6						
AKTO				LR	LR	18 35 10.5	
	comp=Z,117nm,20.5s,baz=143,slow=40						
AKTO	**Aktyubinsk**	**15.31**	**331**	P	**Pn**	**18 28 31.6**	**-0.4**
AKTO						18 31 16.6	
AKTO				MLR	MLR		
	comp=Z,117nm,20.5s						
ZRNK	**Zerenda**	**15.44**	**359**	*eP*	**Pn**	**18 28 30.7**	**-2.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZRNK	**Zerenda**	**15.44**	**359**	*e*Pn	**Pn**	**18 28 30.7**	**-2.9**
	comp=Z,3.0nm,0.4s						
BVA0	**Borovoye Array**	**15.52**	**2**	P	**Pn**	**18 28 32.2**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=173,slow=13,SNR=26						
BVAR	**Borovoye Array**	**15.52**	**2**	Pn	**Pn**	**18 28 32.9**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=170,slow=13,SNR=14						
BVAR	**Borovoye Array**	**15.52**	**2**	P	**Pn**	**18 28 32.9**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**15.55**	**2**	*eP*	**Pn**	**18 28 32.5**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**15.55**	**2**	*e*Pn	**Pn**	**18 28 32.5**	**-2.5**
	comp=Z,3.4nm,0.6s						
ORR	**Orenburg**	**17.54**	**328**	*eP*	**Pn**	**18 29 01.2**	**+1.1**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GNI	**Garni**	**19.47**	**285**	P	**Pn**	**18 29 25.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=272,slow=22,SNR=3.7						
GNI	**Garni**	**19.47**	**285**	*eP*	**Pn**	**18 29 24.4**	**+1.0**
ZAL	**Zalesovo**	**19.51**	**28**	P	**Pn**	**18 29 21.4**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=262,slow=9.2,SNR=9.7						
ZAL	**Zalesovo**	**19.51**	**28**	*i* P	**Pn**	**18 29 21.7**	**-2.1**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LSA	**Lhasa**	**19.60**	**107**	*eP*	**Pn**	**18 29 24.0**	**-0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**19.60**	**107**	*eP*	**Pn**	**18 29 24.0**	**-0.9**
	comp=Z,3.5nm,0.8s						
NVS	**Novosibirsk**	**19.69**	**24**	*i* P	**Pn**	**18 29 22.8**	**-3.2**
ARU	**Arti**	**20.30**	**342**	⇑*iP*	**P**	**18 29 33.1**	**+2.3**
ARU				*e*		18 29 50.0	
ARU				*eS*	**S**	**18 33 21.6**	**+5.8**
ARU				*e*SS		18 33 41.5	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARU	**Arti**	**20.30**	**342**	*eP*	**P**	**18 29 29.2**	**-1.6**
	comp=Z,10nm,0.8s						
KIV	**Kislovodsk**	**21.27**	**296**	*eP*	**P**	**18 29 42.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
KIV				MLR	MLR		
	comp=Z,122nm,14.0s,MS3.4						
KIV	**Kislovodsk**	**21.27**	**296**	*eP*	**P**	**18 29 37.0**	**-4.4**
	comp=Z,8.3nm,0.6s,mb4.2						
SOC	**Sochi**	**23.37**	**294**	*eP*	**P**	**18 30 00.2**	**-3.3**
SOC				*eS*	**S**	**18 34 10.4**	**-2.4**
SOC				*e*SS		18 34 59.3	
SOC				pmax	pmax		
	comp=Z,32nm,0.9s,mb4.8						
GTA	**Gaotai**	**23.74**	**76**	*eP*	**P**	**18 30 07.0**	**+0.1**
GTA				AP		18 30 13.0	
GTA				XP	sP	18 30 15.5	-9.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.6						
MALT	**Malatya**	**24.49**	**281**	P	**P**	**18 30 18.3**	**+4.6**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
MALT	**Malatya**	**24.49**	**281**	P	**P**	**18 30 18.3**	**+4.5**
	comp=Z,1.1nm,0.5s,mb3.5						
ANN	**Anapa**	**25.12**	**297**	*eP*	**P**	**18 30 17.8**	**-1.6**
ANN				*eS*	**S**	**18 34 41.7**	**+0.8**
ANN				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.8						
ZAK	**Zakamensk**	**27.24**	**51**	*eP*	**P**	**18 30 42.0**	**+3.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
BRTR	**Keskin Array B**	**28.01**	**286**	P	**P**	**18 30 48.9**	**+3.4**
	comp=Z,0.4nm,0.5s,mb3.3,baz=108,slow=7.9,SNR=4.3						
BRTR	**Keskin Array B**	**28.01**	**286**	⇑*eP*	**P**	**18 30 50.7**	**+5.2**
OBN	**Obninsk**	**28.40**	**319**	⇑*eP*	**P**	**18 30 51.0**	**+2.1**
OBN				*eS*	**S**	**18 35 39.5**	**+6.8**
OBN				pmax	pmax		
	comp=Z,25nm,2.5s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
SONM	**Songino Array**	**28.75**	**57**	P	**P**	**18 30 52.3**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=273,slow=8.9,SNR=6.8						
SONM	**Songino Array**	**28.75**	**57**	P	**P**	**18 30 52.3**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.20**	**57**	⇑*eP*	**P**	**18 30 55.6**	**-0.4**
AKASG	**Malin Array Be**	**31.39**	**308**	P	**P**	**18 31 17.2**	**+1.8**
	comp=Z,0.5nm,0.5s,mb3.6,baz=

PET				*i* S		Sn	18 36 32.5	+1.4
NLC	**Nalytchevo**	**2.52**	**15**	*e*P		Pn	18 36 05.9	+0.2
NLC				*e*S		Sn	18 36 36.8	0.0
NLC	**Nalytchevo**	**2.52**	**15**	*e*P		Pn	18 36 05.9	+0.2
NLC				*e*S		Sn	18 36 36.8	0.0
SPN	**Mys Shipunski**	**2.60**	**25**	*e*P		Pn	18 36 08.6	+1.8
SPN				*i* S		Sn	18 36 41.0	+2.3
SPN	**Mys Shipunski**	**2.60**	**25**	*e*P		Pn	18 36 08.6	+1.8
SPN				*i* S		Sn	18 36 41.0	+2.3
GNL	**Ganaly**	**2.96**	**357**	*e*P		Pn	18 36 13.4	+1.7
GNL				*i* S		Sn	18 36 49.1	+1.6
GNL	**Ganaly**	**2.96**	**357**	*e*P		Pn	18 36 13.4	+1.7
GNL				*i* S		Sn	18 36 49.1	+1.6
MKZ	**Mys Kozlova**	**4.37**	**28**	*e*P		Pn	18 36 32.5	+1.4
MKZ				*e*S		Sn	18 37 23.0	+0.7
MKZ	**Mys Kozlova**	**4.37**	**28**	*e*P		Pn	18 36 32.5	+1.4
MKZ				*e*S		Sn	18 37 23.0	+0.7
KBTR	**Krutoberegovo**	**6.12**	**25**	*e*P		Pn	18 36 57.4	+2.3
KBTR	**Krutoberegovo**	**6.12**	**25**	*e*P		Pn	18 36 57.4	+2.3

*CSEM **28** 18:38:54.4±1.0, 3865N×2860W, h7km±5km, ML1.9, Error ellipse: s-maj=4.1km s-min=2.6km az=52.0, After PDA*

*PDA **28** 18:38:54.4±1.0, 3865N×2860W, h7km±5km, MD2.7, ML1.9, Error ellipse: s-maj=4.1km s-min=2.6km az=52.0*

SVSA 28 18:38:54.4±1.0, 3865N×2860W, h7km±5km, MD2.7, ML1.9, Error ellipse: s-maj=4.1km s-min=2.6km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.08**	**257**	*i* P	Pg	18 38 56.1	-0.3
PCED				*e*S	Sg	18 38 58.1	+0.3
PCED	217nm,0.2s						
PCED	**Cedros**	**0.08**	**257**	*i* P	Pg	18 38 56.1	-0.3
PCED				*e*S	Sg	18 38 58.1	+0.3
CALA	**Caldeira**	**0.11**	**231**	*e*P	Pg	18 38 56.6	-0.2
CALA				*e*S	Sg	18 38 58.7	+0.3
HOR	**Horta**	**0.12**	**192**	*e*P	Pg	18 38 56.3	-0.8
HOR				*e*S	Sg	18 38 58.6	-0.3
PICO	**Pico**	**0.20**	**138**	*e*P	Pg	18 38 58.0	-0.4
PICO				*i* S	Sg	18 39 01.1	0.0
PCND	**Candelaria**	**0.21**	**149**	*e*P	Pg	18 38 58.6	+0.1
PCND				*e*S	Sg	18 39 01.4	+0.1
PCND	162nm,0.2s						
PTEI	**Pico do Teixo**	**0.24**	**129**	*e*S	Sg	18 39 02.5	+0.1
PTEI	83nm,0.3s						
PBOI	**Pico dos Bois**	**0.27**	**141**	*e*S	Sg	18 39 03.2	-0.2
PBOI	18nm,0.1s						
ROSA	**Rosais**	**0.29**	**75**	*i* P	Pg	18 38 59.3	-0.7
ROSA				*e*S	Sg	18 39 03.4	-0.4
ROSA	**Rosais**	**0.29**	**75**	*e*S	Sg	18 39 03.4	-0.4
PAMA	**Santo Amaro**	**0.33**	**84**	*e*P	Pg	18 39 00.6	-0.2
PAMA				*e*S	Sg	18 39 05.1	0.0
PAMA	40nm,0.3s						
PAMA	**Santo Amaro**	**0.33**	**84**	*e*P	Pg	18 39 00.6	-0.2
PAMA				*e*S	Sg	18 39 05.1	0.0
PMAN	**Manadas**	**0.40**	**92**	*e*P	Pg	18 39 00.9	-1.2
PMAN				*e*S	Sg	18 39 06.4	-1.0
PMAN	49nm,0.2s						
PMAN	**Manadas**	**0.40**	**92**	*e*P	Pg	18 39 00.9	-1.2
PMAN				*e*S	Sg	18 39 06.4	-1.0
PID	**Ribeirinha**	**0.43**	**119**	*e*P	Pg	18 39 01.9	-0.8
PID				*e*S	Sg	18 39 08.2	-0.1

*MOS **28** 18:54:42.2±1.9, 3799S×17720E, h33km, mb5.0/4, Error ellipse: s-maj=25.8km s-min=14.7km az=131.7*

*BJI **28** 18:54:47.5, 3820S×17690E, h83km, mB5.3, mb5.2, Ms4.8, Msz4.4*

*ISCJB **28** 18:54:49.8±0.3, 3828S±003×17690E±005, h98km±2km, mb4.8/19, Error ellipse: s-maj=7.0km s-min=4.7km az=22.1*

*IDC **28** 18:54:49.8±0.4, 3826S×17701E, h92km±5km, mb4.4/7, mb1 4.4/8, mb1mx4.3/11, mbtmp4.4/8, MS3.6/8, Ms1 3.6/8, ms1mx3.5/12, Error ellipse: s-maj=22.8km s-min=18.1km az=40.0*

*GCMT **28** 18:54:51.5±0.5, 3813S×17668E, h93km±5km, MW5.0/50, Moment Tensor Solution. s21,c26; s50,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.02±.17; $M_{\theta\theta}$-1.13±.19; $M_{\phi\phi}$0.10±.19; $M_{r\theta}$1.97±.11; $M_{r\phi}$3.05±.18; $M_{\theta\phi}$0.59±.11; Best double couple: $M_0$3.83100×10^{16} NP1:ϕ_s350.00000°, δ55.00000°, λ165.00000°. NP2: ϕ_s89.00000°, δ77.00000°, λ36.00000°. Principal axes: T 3.7430, Plg34.0000°, Azm315.0000°; N 0.1730, Plg53.0000°, Azm106.0000°; P -3.9180, Plg14.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 18:54:51.5, 38.16S×176.86E, h83km, mb4.7/12, After WEL.*

*WEL **28** 18:54:51.5±0.1, 38.16S×176.86E, h84km±1km, ML5.5/24, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, reported intensity MM 5.*

WEL Felt from Bay of Plenty to Manawatu, and from Wanganui to Gisborne, maximum.

ISC 28 18:54:50.7±0.3, 3829S±003×17690E±005, h91km±2km, n222, σ1$30/198, mb4.8/19, 26C-30D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.17**	**80**	P	**Pn**	**18 55 03.5**	**-0.3**
URZ	4μm,0.3s,baz=266,slow=3.3			S	**Sn**	**18 55 13.3**	**-0.1**
	8μm,0.3s,baz=89,slow=20,SNR=142						
URZ	**Urewera**	**0.17**	**80**	⇑P	**Pn**	**18 55 03.5**	**-0.2**
URZ	**Urewera**	**0.17**	**80**	⇑P*	**Pn**	**18 55 03.5**	**-0.2**
URZ				S*	**Sn**	**18 55 13.1**	**-0.3**
URZ				S*	**Sn**	**18 55 13.4**	**0.0**
EDRZ	**Edgecumbe**	**0.22**	**324**	⇑P	**Pn**	**18 55 03.2**	**-0.7**
EDRZ	**Edgecumbe**	**0.22**	**324**	⇑P*	**Pn**	**18 55 03.2**	**-0.7**
EDRZ				S*	**Sn**	**18 55 13.1**	**-0.6**
TAZ	**Tarawera**	**0.32**	**280**	P	**Pn**	**18 55 04.1**	**-0.3**
TAZ	**Tarawera**	**0.32**	**280**	P*	**Pn**	**18 55 04.2**	**-0.2**
MARZ	**Manawahe**	**0.35**	**329**	⇑P	**Pn**	**18 55 03.9**	**-0.7**
MARZ	**Manawahe**	**0.35**	**329**	⇑P*	**Pn**	**18 55 03.9**	**-0.7**
MKRZ	**Makatiti**	**0.38**	**293**	P*	**Pn**	**18 55 04.7**	**0.0**
MWZ	**Matawai**	**0.49**	**96**	⇑P	**Pn**	**18 55 06.3**	**+0.8**
MWZ	**Matawai**	**0.49**	**96**	⇑P*	**Pn**	**18 55 06.3**	**+0.8**
LIRZ	**Lichensteins R**	**0.50**	**304**	⇑P	**Pn**	**18 55 04.8**	**-0.8**
LIRZ	**Lichensteins R**	**0.50**	**304**	⇑P*	**Pn**	**18 55 04.8**	**-0.8**
PATZ	**Paeroa**	**0.52**	**259**	⇑P	**Pn**	**18 55 05.5**	**-0.2**
PATZ	**Paeroa**	**0.52**	**259**	⇑P*	**Pn**	**18 55 05.5**	**-0.2**
UTU	**Utuhina**	**0.57**	**281**	⇑P	**Pn**	**18 55 06.0**	**-0.2**
UTU	**Utuhina**	**0.57**	**281**	⇑P*	**Pn**	**18 55 06.0**	**-0.1**
KARZ	**Kaharoa**	**0.58**	**297**	⇑P	**Pn**	**18 55 05.4**	**-0.9**
KARZ	**Kaharoa**	**0.58**	**297**	⇑P*	**Pn**	**18 55 05.4**	**-0.9**
TGRZ	**Tauranga**	**0.75**	**317**	⇓P	**Pn**	**18 55 06.8**	**-1.1**
TGRZ	**Tauranga**	**0.75**	**317**	⇓P*	**Pn**	**18 55 06.8**	**-1.0**
WIZ	**White Island**	**0.79**	**17**	⇓P	**Pn**	**18 55 07.0**	**-1.2**
WIZ	**White Island**	**0.79**	**17**	⇓P*	**Pn**	**18 55 07.0**	**-1.3**
WHTZ	**Whakaora**	**0.83**	**243**	P	**Pn**	**18 55 09.4**	**+0.7**
WHTZ	**Whakaora**	**0.83**	**243**	P*	**Pn**	**18 55 09.4**	**+0.8**
HATZ	**Hinemaiaia**	**0.88**	**226**	P	**Pn**	**18 55 09.9**	**+0.8**
HATZ	**Hinemaiaia**	**0.88**	**226**	P*	**Pn**	**18 55 09.9**	**+0.8**
BKZ	**Black Stump Fm**	**0.94**	**200**	P	**Pn**	**18 55 11.1**	**+1.3**
BKZ	**Black Stump Fm**	**0.94**	**200**	P*	**Pn**	**18 55 11.1**	**+1.4**
KNZ	**Kokohu**	**0.95**	**141**	P	**Pn**	**18 55 11.4**	**+1.5**
KNZ	**Kokohu**	**0.95**	**141**	PN	**Pn**	**18 55 11.5**	**+1.6**
WATZ	**Wairara**	**1.01**	**245**	P	**Pn**	**18 55 11.1**	**+0.5**
WATZ	**Wairara**	**1.01**	**245**	P*	**Pn**	**18 55 11.1**	**+0.5**
RATZ	**Rangitukua**	**1.06**	**237**	P	**Pn**	**18 55 12.0**	**+0.8**
RATZ	**Rangitukua**	**1.06**	**237**	P*	**Pn**	**18 55 12.0**	**+0.8**
RITZ	**Rihia Road**	**1.07**	**230**	P	**Pn**	**18 55 12.7**	**+1.4**
RITZ	**Rihia Road**	**1.07**	**230**	P*	**Pn**	**18 55 12.8**	**+1.5**
PUZ	**Puketiti**	**1.09**	**79**	*e*P	**Pn**	**18 55 12.0**	**+0.5**
PUZ	**Puketiti**	**1.09**	**79**	PN	**Pn**	**18 55 12.2**	**+0.7**
MYRZ	**Mayor Island**	**1.13**	**332**	P*	**Pn**	**18 55 10.8**	**-1.2**
KATZ	**Kakaramea**	**1.17**	**234**	P	**Pn**	**18 55 13.3**	**+0.8**
KATZ	**Kakaramea**	**1.17**	**234**	P*	**Pn**	**18 55 13.4**	**+1.0**
TOZ	**Tahuroa Road**	**1.24**	**296**	⇑P	**Pn**	**18 55 12.6**	**-0.7**
TOZ	**Tahuroa Road**	**1.24**	**296**	⇑P*	**Pn**	**18 55 12.6**	**-0.7**
OTVZ	**Oturere**	**1.31**	**228**	⇓P*	**Pn**	**18 55 15.8**	**+1.7**
WTVZ	**West Tongariro**	**1.32**	**231**	P	**Pn**	**18 55 15.5**	**+1.2**
WTVZ	**West Tongariro**	**1.32**	**231**	P*	**Pn**	**18 55 15.5**	**+1.2**
MXZ	**Matakaoa Point**	**1.32**	**57**	⇓*e*P	**Pn**	**18 55 15.0**	**+0.7**
MXZ	**Matakaoa Point**	**1.32**	**57**	⇓P*	**Pn**	**18 55 15.0**	**+0.7**
NGZ	**Ngauruhoe**	**1.35**	**229**	⇓P	**Pn**	**18 55 16.3**	**+1.6**
NGZ	**Ngauruhoe**	**1.35**	**229**	⇓P*	**Pn**	**18 55 16.3**	**+1.6**
TUVZ	**Tukino**	**1.38**	**225**	P	**Pn**	**18 55 17.3**	**+2.2**
TUVZ	**Tukino**	**1.38**	**225**	P*	**Pn**	**18 55 16.7**	**+1.6**
TWVZ	**Taurewa**	**1.39**	**235**	⇓P	**Pn**	**18 55 16.2**	**+1.1**
TWVZ	**Taurewa**	**1.39**	**235**	⇓P*	**Pn**	**18 55 16.2**	**+1.1**
WPVZ	**Whakapapa**	**1.40**	**229**	P	**Pn**	**18 55 16.8**	**+1.5**
WPVZ	**Whakapapa**	**1.40**	**229**	P*	**Pn**	**18 55 16.8**	**+1.5**
FWVZ	**Far West T-bar**	**1.43**	**227**	⇑P*	**Pn**	**18 55 17.3**	**+1.6**
MOVZ	**Moawhango**	**1.44**	**218**	⇓P	**Pn**	**18 55 16.8**	**+1.1**
MOVZ	**Moawhango**	**1.44**	**218**	⇓P*	**Pn**	**18 55 16.8**	**+1.1**
DRZ	**Dome Shelter**	**1.44**	**226**	P	**Pn**	**18 55 17.5**	**+1.8**
DRZ	**Dome Shelter**	**1.44**	**226**	P*	**Pn**	**18 55 17.5**	**+1.7**
WNVZ	**Wahianoa**	**1.46**	**224**	P	**Pn**	**18 55 17.5**	**+1.5**
WNVZ	**Wahianoa**	**1.46**	**224**	P*	**Pn**	**18 55 17.5**	**+1.5**
TRVZ	**Turoa**	**1.46**	**226**	⇓P*	**Pn**	**18 55 17.7**	**+1.6**
MTVZ	**Mangateitei**	**1.57**	**225**	P*	**Pn**	**18 55 18.7**	**+1.3**
PKVZ	**Pokaka**	**1.58**	**230**	⇓P*	**Pn**	**18 55 18.9**	**+1.4**
HIZ	**Hauiti**	**1.62**	**261**	P	**Pn**	**18 55 18.6**	**+0.5**
HIZ	**Hauiti**	**1.62**	**261**	PN	**Pn**	**18 55 18.6**	**+0.5**
PXZ	**Pawanui**	**1.74**	**181**	PN	**Pn**	**18 55 20.1**	**+0.5**
KUZ	**Kuaotunu**	**1.80**	**328**	⇓P	**Pn**	**18 55 19.0**	**-1.4**
KUZ	**Kuaotunu**	**1.80**	**328**	⇓PN	**Pn**	**18 55 19.0**	**-1.4**
WPHZ	**Waipukurau**	**1.81**	**191**	PN	**Pn**	**18 55 20.9**	**+0.5**
VRZ	**Vera Road**	**1.88**	**243**	⇓P	**Pn**	**18 55 22.6**	**+1.3**
VRZ	**Vera Road**	**1.88**	**243**	⇓PN	**Pn**	**18 55 22.5**	**+1.2**
TSZ	**Takapari Road**	**1.92**	**202**	P	**Pn**	**18 55 22.0**	**+0.2**
TSZ	**Takapari Road**	**1.92**	**202**	PN	**Pn**	**18 55 22.0**	**+0.1**
RAEZ	**Rainy Point**	**2.20**	**242**	P	**Pn**	**18 55 27.5**	**+1.9**
RAEZ	**Rainy Point**	**2.20**	**242**	PN	**Pn**	**18 55 27.5**	**+1.9**
NEZ	**North Egmont**	**2.40**	**245**	P	**Pn**	**18 55 30.1**	**+1.8**
NEZ	**North Egmont**	**2.40**	**245**	PN	**Pn**	**18 55 30.1**	**+1.9**
BFZ	**Birch Farm**	**2.44**	**192**	P	**Pn**	**18 55 28.2**	**-0.6**
BFZ	**Birch Farm**	**2.44**	**192**	PN	**Pn**	**18 55 28.2**	**-0.6**
PKE	**Pukeiti**	**2.45**	**247**	P	**Pn**	**18 55 30.4**	**+1.5**
PKE	**Pukeiti**	**2.45**	**247**	PN	**Pn**	**18 55 30.4**	**+1.4**
NRZ	**Ngariki Road**	**2.55**	**245**	P	**Pn**	**18 55 31.6**	**+1.4**
NRZ	**Ngariki Road**	**2.55**	**245**	PN	**Pn**	**18 55 31.6**	**+1.4**
NWEZ	**Newall Road**	**2.57**	**247**	P	**Pn**	**18 55 32.0**	**+1.5**
NWEZ	**Newall Road**	**2.57**	**247**	PN	**Pn**	**18 55 32.0**	**+1.5**
MRZ	**Mangatainoka R**	**2.58**	**203**	P	**Pn**	**18 55 30.1**	**-0.6**
MRZ	**Mangatainoka R**	**2.58**	**203**	PN	**Pn**	**18 55 29.8**	**-0.9**
TIWZ	**Tintock**	**2.61**	**197**	*e*PN	**Pn**	**18 55 30.4**	**-0.6**
KIW	**Kapiti Island**	**3.00**	**210**	P	**Pn**	**18 55 34.9**	**-1.3**
KIW	**Kapiti Island**	**3.00**	**210**	PN	**Pn**	**18 55 35.0**	**-1.2**
WCZ	**Waipu Caves**	**3.11**	**318**	⇑P	**Pn**	**18 55 37.3**	**-0.4**
WCZ	**Waipu Caves**	**3.11**	**318**	⇑PN	**Pn**	**18 55 37.3**	**-0.4**
CAW	**Cannon Point**	**3.15**	**206**	P	**Pn**	**18 55 36.5**	**-1.8**
CAW	**Cannon Point**	**3.15**	**206**	PN	**Pn**	**18 55 36.5**	**-1.8**
TRWZ	**Traveller**	**3.25**	**196**	PN	**Pn**	**18 55 37.7**	**-1.9**
PAWZ	**Paruwai Farm**	**3.29**	**200**	P	**Pn**	**18 55 38.4**	**-1.8**
PAWZ	**Paruwai Farm**	**3.29**	**200**	PN	**Pn**	**18 55 38.4**	**-1.8**
MSWZ	**Moikau Station**	**3.37**	**202**	P	**Pn**	**18 55 39.2**	**-2.1**
MSWZ	**Moikau Station**	**3.37**	**202**	PN	**Pn**	**18 55 39.2**	**-2.0**
MRW	**Makara Radio**	**3.39**	**209**	P	**Pn**	**18 55 39.6**	**-1.9**
MRW	**Makara Radio**	**3.39**	**209**	PN	**Pn**	**18 55 39.6**	**-1.9**
DUWZ	**D'Urville Isla**	**3.41**	**222**	PN	**Pn**	**18 55 40.2**	**-1.6**
WEL	**Wellington**	**3.42**	**208**	PN	**Pn**	**18 55 40.0**	**-1.9**
SNZO	**South Karori**	**3.46**	**209**	P	**Pn**	**18 55 40.3**	**-2.1**
SNZO	**South Karori**	**3.46**	**209**	PN	**Pn**	**18 55 40.3**	**-2.2**
BHW	**Baring Head**	**3.49**	**206**	*e*PN	**Pn**	**18 55 40.5**	**-2.3**
TCW	**Tory Channel**	**3.55**	**214**	P	**Pn**	**18 55 41.4**	**-2.3**
TCW	**Tory Channel**	**3.55**	**214**	PN	**Pn**	**18 55 41.6**	**-2.1**
TUWZ	**Tuamarina**	**3.88**	**215**	PN	**Pn**	**18 55 45.9**	**-2.2**
NNZ	**Nelson**	**3.99**	**222**	P	**Pn**	**18 55 47.0**	**-2.6**
NNZ	**Nelson**	**3.99**	**222**	PN	**Pn**	**18 55 47.0**	**-2.6**
OUZ	**Omahuta**	**4.05**	**318**	P	**Pn**	**18 55 50.5**	**0.0**
OUZ	**Omahuta**	**4.05**	**318**	PN	**Pn**	**18 55 50.5**	**0.0**
BSWZ	**Blackbirch Sta**	**4.14**	**213**	P	**Pn**	**18 55 49.2**	**-2.4**
BSWZ	**Blackbirch Sta**	**4.14**	**213**	PN	**Pn**	**18 55 49.2**	**-2.4**
QRZ	**Quartz Range**	**4.23**	**232**	P	**Pn**	**18 55 50.8**	**-2.0**
QRZ	**Quartz Range**	**4.23**	**232**	PN	**Pn**	**18 55 50.8**	**-2.0**
THZ	**Tophouse**	**4.63**	**220**	P	**Pn**	**18 55 55.7**	**-2.6**
THZ	**Tophouse**	**4.63**	**220**	PN	**Pn**	**18 55 55.7**	**-2.6**
KHZ	**Kahutara**	**4.86**	**211**	*e*P	**Pn**	**18 55 58.2**	**-3.2**
KHZ	**Kahutara**	**4.86**	**211**	*e*PN	**Pn**	**18 55 58.2**	**-3.2**
DSZ	**Denniston Nort**	**5.22**	**227**	P	**Pn**	**18 56 03.0**	**-3.3**
DSZ	**Denniston Nort**	**5.22**	**227**	PN	**Pn**	**18 56 03.0**	**-3.3**
LTZ	**Lake Taylor**	**5.71**	**217**	P	**Pn**	**18 56 08.9**	**-4.1**
LTZ	**Lake Taylor**	**5.71**	**217**	PN	**Pn**	**18 56 08.9**	**-4.0**
CRLZ	**Canterbury Las**	**6.20**	**210**	*e*PN	**Pn**	**18 56 15.3**	**-4.3**
MQZ	**McQueen's Vall**	**6.30**	**209**	*e*PN	**Pn**	**18 56 16.0**	**-4.9**
WVZ	**Waitaha Valley**	**6.70**	**222**	*e*PN	**Pn**	**18 56 21.2**	**-5.2**
RPZ	**Rata Peaks**	**7.00**	**217**	P	**Pn**	**18 56 27.4**	**-3.1**
RPZ	16nm,0.3s,baz=46,slow=1.6,SNR=44			S	**Sn**	**18 57 42.1**	**-6.4**
	31nm,0.3s,baz=350,slow=22,SNR=8.3						
RPZ	**Rata Peaks**	**7.00**	**217**	*e*PN	**Pn**	**18 56 25.1**	**-5.4**
FOZ	**Fox Glacier**	**7.59**	**224**	*e*PN	**Pn**	**18 56 32.4**	**-6.1**
LBZ	**Lake Benmore**	**7.91**	**218**	*e*PN	**Pn**	**18 56 37.8**	**-5.2**
ODZ	**Otahua Downs**	**8.21**	**213**	*e*PN	**Pn**	**18 56 41.5**	**-5.6**
WKZ	**Wanaka**	**8.81**	**220**	*e*PN	**Pn**	**18 56 50.1**	**-5.1**
HHSZ	**Highcliff Hill**	**8.92**	**210**	*e*PN	**Pn**	**18 56 52.4**	**-4.3**
EASZ	**Earnscleugh**	**8.96**	**217**	*e*PN	**Pn**	**18 56 51.7**	**-5.9**
TUZ	**Tuapeka**	**9.37**	**213**	*e*PN	**Pn**	**18 56 57.9**	**-4.9**
RAO	**Raoul Island**	**9.99**	**27**	LR	LR	19 00 12.5	
	comp=Z,162nm,20.7s,baz=127,slow=32						
DZM	**Mont Dzumac**	**18.50**	**328**	*e*P	**Pn**	**18 59 00.9**	**+0.1**
DZM	**Mont Dzumac**	**18.50**	**328**	P	**Pn**	**18 59 00.9**	**+0.1**
	1.8nm,0.3s,baz=141,slow=12,SNR=21						
AFI	**Afiamalu**	**26.28**	**26**	LR	LR	19 09 20.2	
	comp=Z,93nm,21.7s,baz=217,slow=33						
RAR	**Rarotonga**	**26.34**	**56**	LR	LR	19 07 38.0	
	comp=Z,223nm,21.4s,baz=276,slow=29						
STKA	**Stephens Creek**	**29.47**	**272**	*e*P	**P**	**19 00 46.9**	**+1.0**
	2.6nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**29.47**	**272**	P	**P**	**19 00 47.0**	**+1.1**
	1.8nm,0.6s,mb3.9,baz=96,slow=12,SNR=6.4						
STKA				LR	LR	19 09 52.7	
	comp=Z,173nm,21.0s,baz=311,slow=31						
CTA	**Charters Tower**	**32.12**	**296**	⇓*i*P	**P**	**19 01 10.8**	**+1.6**
	9.0nm,1.1s,mb4.4						
CTA	**Charters Tower**	**32.12**	**296**	⇓*i*P	**P**	**19 01 10.8**	**+1.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CTAO	**Charters Tower**	**32.12**	**296**	*e*P	**P**	**19 01 10.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**32.12**	**296**	*e*P	**P**	**19 01 10.2**	**+1.0**
	comp=Z,22nm,1.1s,mb4.8						
HNR	**Honiara**	**32.53**	**328**	P	**P**	**19 01 13.9**	**+1.1**
	comp=Z,66nm,0.8s,mb5.5,baz=180,slow=0.4,SNR=9.2						
HNR	**Honiara**	**32.53**	**328**	*e*P	**P**	**19 01 14.0**	**+1.2**
HNR				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.6						
HNR	**Honiara**	**32.53**	**328**	*e*P	**P**	**19 01 14.0**	**+1.2**
	comp=Z,76nm,0.8s,mb5.6						
PMG	**Port Moresby**	**39.25**	**309**	⇓*e*P	**P**	**19 02 10.0**	**-0.2**
PMG	**Port Moresby**	**39.25**	**309**	*e*P	**P**	**19 02 11.6**	**+1.3**
	comp=Z,25nm,0.9s,mb5.0						
AS31	**Alice Springs**	**39.29**	**279**	*e*P	**P**	**19 02 10.7**	**+0.2**
ASAR	**Alice Springs**	**39.29**	**279**	P	**P**	**19 02 10.9**	**+0.4**
	comp=Z,13nm,0.8s,mb4.8,baz=118,slow=7.4,SNR=90						
ASAR				ScP	ScP	19 07 51.4	-6.4
	comp=Z,2.1nm,0.8s,baz=127,slow=4.4,SNR=9.3						
ASAR				S	**S**	**19 08 01.9**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=128,slow=14,SNR=4.3						
ASAR				LR	LR	19 16 06.0	
	comp=Z,114nm,20.5s,baz=131,slow=32						
ASAR	**Alice Springs**	**39.29**	**279**	P	**P**	**19 02 11.0**	**+0.5**
ASAR				S	**S**	**19 08 02.0**	**-2.6**
ASPA	**Alice Springs**	**39.29**	**279**	*e*P	**P**	**19 02 10.7**	**+0.2**
SBA	**Scott Base**	**39.90**	**183**	*e*P	**P**	**19 02 19.4**	**+3.8**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
SBA	**Scott Base**	**39.90**	**183**	*e*P	**P**	**19 02 19.4**	**+3.8**
	comp=Z,8.9nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**41.01**	**284**	⇓*i*P	**P**	**19 02 24.2**	**-0.6**
WRAB	**Tennant Creek**	**41.02**	**284**	*d*iP	**P**	**19 02 24.7**	**-0.1**
WRAB	**Tennant Creek**	**41.02**	**284**	*e*P	**P**	**19 02 24.3**	**-0.5**
	comp=Z,8.9nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**41.02**	**284**	P	**P**	**19 02 24.2**	**-0.7**
	comp=Z,6.7nm,0.7s,mb4.6,baz=123,slow=7.8,SNR=94						
WRA				ScP	ScP	19 07 58.0	-6.5
	comp=Z,1.4nm,0.9s,baz=125,slow=3.9,SNR=6.5						
CASY	**Casey**	**46.22**	**211**	*e*P	**P**	**19 03 06.3**	**-0.2**
KAKA	**Kakadu**	**46.93**	**291**	*e*P	**P**	**19 03 11.3**	**-0.8**
	comp=Z,4.7nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**48.78**	**280**	⇓*i*P	**P**	**19 03 24.7**	**-1.7**
	comp=Z,13nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**51.84**	**180**	*e*P	**P**	**19 03 52.8**	**+3.4**
	comp=Z,16nm,0.4s,mb5.4						
MIR	**Mirnyy**	**53.20**	**210**	*e*P	**P**	**19 03 55.5**	**-4.0**
MIR				*e*		19 04 08.0	
MIR				pmax	pmax		
	comp=Z,220nm,1.5s						
MAW	**Mawson**	**63.44**	**203**	*e*P	**P**	**19 05 11.5**	**+0.7**
	comp=Z,5.4nm,1.1s,mb4.4						
MAW	**Mawson**	**63.44**	**203**	P	**P**	**19 05 10.9**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=109,slow=7.1,SNR=10						
MAW				LR	LR	19 30 33.2	
	comp=Z,61nm,18.5s,baz=255,slow=34						
MAW	**Mawson**	**63.44**	**203**	*e*P	**P**	**19 05 11.5**	**+0.7**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SYO	**Syowa Base**	**68.46**	**195**	⇓*e*P	**P**	**19 05 43.0**	**+0.1**
SNAA	**Sanae**	**70.34**	**180**	*e*P	**P**	**19 05 55.9**	**+1.4**
SNAA				*e*		19 05 57.0	
SNAA				*e*		19 06 00.7	
SNAA	**Sanae**	**70.34**	**180**	*c*iP	**P**	**19 05 55.0**	**+0.5**
SNAA	**Sanae**	**70.34**	**180**	*e*P	**P**	**19 05 55.5**	**+1.0**
	comp=Z,11nm,1.2s,mb4.6						
VNA3	**Neumayer Olymp**	**70.67**	**178**	*e*P	**P**	**19 05 58.1**	**+1.6**
VNA3				*e*		19 06 03.9	
VNA3				*e*	pP	19 06 18.7	-1.2
VNA2	**Neumayer--Watz**	**71.05**	**179**	*e*P	**P**	**19 06 00.5**	**+1.7**
VNA2				*e*		19 06 02.1	
VNA2				*e*		19 06 06.2	
VNA2				*e*		19 06 14.0	
VNA2				*e*		19 06 17.0	
VNA2				*e*		19 06 37.6	
VNA2				*e*		19 06 44.7	
VNA1	**Neumayer--Stat**	**71.31**	**178**	*e*P	**P**	**19 06 02.5**	**+2.1**
VNA1				*e*		19 06 08.5	
VNA1				*e*		19 06 16.0	
VNA1				*e*		19 06 20.0	
KKM	**Kota Kinabalu**	**71.42**	**294**	*e*P	**P**	**19 06 01.2**	**+0.1**
KSM	**Kuching**	**72.74**	**286**	*e*P	**P**	**19 06 07.9**	**-1.0**
PSI	**Prapat**	**82.31**	**280**	P	**P**	**19 07 01.1**	**-1.1**
KULM	**Kul

H02A					⇑S		Sn	19 07 55.7	-0.5
	baz=2.3								
K02A	**Glendale**	**2.53**	**101**		P		**Pn**	**19 07 25.4**	**-1.0**
	baz=2.5,SNR=48								
K02A					⇓S		**Sn**	**19 07 56.7**	**-0.8**
	baz=2.5								
L02A	**Cave Junction**	**2.66**	**115**		⇑P		**Pn**	**19 07 27.9**	**-0.4**
	baz=2.7,SNR=15								
L02A					⇓S		**Sn**	**19 08 00.8**	**-0.1**
	baz=2.7								
MPOR	**Mary's Peak**	**2.67**	**62**		P		**Pn**	**19 07 27.2**	**-1.2**
I03A	**Eugene**	**2.68**	**75**		⇑P		**Pn**	**19 07 28.4**	**-0.1**
	baz=2.6,SNR=128								
I03A					⇑S		**Sn**	**19 08 00.8**	**-0.5**
	baz=2.6								
COR	**Corvallis**	**2.86**	**62**		*e*Pn		**Pn**	**19 07 30.4**	**-0.6**
H03A	**Soap Creek Ran**	**2.91**	**61**		P		**Pn**	**19 07 30.9**	**-0.8**
	baz=2.8,SNR=34								
H03A					⇓S		**Sn**	**19 08 07.0**	**0.0**
	baz=2.8								
HUMO	**Hull Mountain**	**2.95**	**103**		*e*Pn		**Pn**	**19 07 31.1**	**-1.1**
HUMO	**Hull Mountain**	**2.95**	**103**		⇓P		**Pn**	**19 07 31.3**	**-0.9**
	baz=2.9,SNR=28								
HUMO					⇑S		**Sn**	**19 08 07.6**	**-0.3**
	baz=2.9								
G03A	**Yamhill**	**3.25**	**51**		⇑P		**Pn**	**19 07 35.9**	**-0.5**
	baz=3.1,SNR=12								
I04A	**Tendick Farm,**	**3.27**	**80**		⇑P		**Pn**	**19 07 36.1**	**-0.4**
	baz=3.2,SNR=28								
I04A					⇓S		**Sn**	**19 08 15.8**	**0.0**
	baz=3.2								
YBH	**Yreka Blue Hor**	**3.45**	**116**		Pn		**Pn**	**19 07 40.4**	**+1.3**
	1.3nm,0.3s,baz=295,slow=12,SNR=16								
YBH					Sn		**Sn**	**19 08 23.3**	**+3.1**
	1.3nm,0.3s,baz=116,slow=17,SNR=6.5								
YBH	**Yreka Blue Hor**	**3.45**	**116**		*e*Pn		**Pn**	**19 07 39.8**	**+0.7**
YBH	**Yreka Blue Hor**	**3.45**	**116**		⇑P		**Pn**	**19 07 38.9**	**-0.2**
	baz=3.5,SNR=9.3								
YBH					⇑S		**Sn**	**19 08 20.4**	**+0.2**
	baz=3.5								
J04A	**Umpqua Nationa**	**3.47**	**90**		⇓P		**Pn**	**19 07 39.7**	**+0.4**
	baz=3.4								
SSOR	**Sweet Springs**	**3.52**	**63**		P		**Pn**	**19 07 40.4**	**+0.3**
FRIS	**Frissel Point**	**3.56**	**74**		P		**Pn**	**19 07 41.1**	**+0.5**
H04A	**Detroit Lake**	**3.64**	**66**		P		**Pn**	**19 07 42.0**	**+0.3**
	baz=3.5,SNR=102								
H04A					⇓S		**Sn**	**19 08 26.4**	**+1.5**
	baz=3.5								
G04A	**Mulino**	**3.67**	**57**		⇓P		**Pn**	**19 07 42.5**	**+0.4**
	baz=3.5								
G04A					⇑S		**Sn**	**19 08 26.8**	**+1.1**
	baz=3.5								
HUOR	**Husband**	**3.72**	**76**		P		**Pn**	**19 07 43.6**	**+0.8**
BKCOR	**Black Crater**	**3.86**	**73**		P		**Pn**	**19 07 45.3**	**+0.5**
BPO	**Bald Peter**	**3.96**	**68**		P		**Pn**	**19 07 46.9**	**+0.7**
E03A	**Lebam**	**3.99**	**35**		⇑P		**Pn**	**19 07 45.9**	**-0.6**
	baz=3.8								
E03A					⇓S		**Sn**	**19 08 32.3**	**-1.2**
	baz=3.8								
VLMM	**Larch Mountain**	**4.10**	**56**		P		**Pn**	**19 07 48.7**	**+0.6**
F04A	**Amboy**	**4.11**	**49**		P		**Pn**	**19 07 48.4**	**+0.2**
	baz=4.0,SNR=41								
F04A					⇓S		**Sn**	**19 08 37.4**	**+0.9**
	baz=4.0								
TDH	**Tom, Dick, Har**	**4.14**	**60**		P		**Pn**	**19 07 49.2**	**+0.6**
H05A	**Madras**	**4.27**	**70**		⇑P		**Pn**	**19 07 50.6**	**+0.1**
	baz=4.2								
VLL	**Laurance Lake**	**4.29**	**58**		P		**Pn**	**19 07 51.7**	**+1.0**
FL2	**Flat Top 2**	**4.31**	**47**		P		**Pn**	**19 07 51.3**	**+0.3**
VFP	**Flag Point**	**4.36**	**61**		P		**Pn**	**19 07 52.1**	**+0.6**
G05A	**Wamic**	**4.42**	**62**		⇓P		**Pn**	**19 07 53.0**	**+0.5**
	baz=4.3,SNR=21								
TDL	**Tradedollar La**	**4.48**	**46**		P		**Pn**	**19 07 53.6**	**+0.3**
G06A	**Carlson Farm,**	**4.86**	**65**		P		**Pn**	**19 07 58.7**	**+0.2**
	baz=4.7,SNR=31								
J06A	**Christmas Vall**	**4.89**	**88**		⇓P		**Pn**	**19 07 59.1**	**+0.2**
	baz=4.8,SNR=6.8								
H06A	**Lindquist Farm**	**4.91**	**71**		P		**Pn**	**19 07 59.8**	**+0.6**
	baz=4.8,SNR=91								
F06A	**Goldendale**	**4.99**	**58**		P		**Pn**	**19 08 00.8**	**+0.5**
	baz=4.9,SNR=16								
D05A	**Enumclaw**	**5.18**	**40**		⇓P		**Pn**	**19 08 03.1**	**+0.2**
	baz=5.0								
E06A	**Yakima**	**5.28**	**50**		⇑P		**Pn**	**19 08 04.8**	**+0.6**
	baz=5.1,SNR=16								
B04A	**Port Angeles**	**5.29**	**25**		⇑P		**Pn**	**19 08 04.0**	**-0.4**
	baz=5.1								
I07A	**Izee**	**5.38**	**79**		⇓P		**Pn**	**19 08 06.3**	**+0.6**
	baz=5.3,SNR=7.8								
H07A	**Lands Inn, Kim**	**5.42**	**74**		⇑P		**Pn**	**19 08 06.8**	**+0.7**
	baz=5.3,SNR=26								
G07A	**Ruggs Ranch, H**	**5.51**	**67**		⇓P		**Pn**	**19 08 07.5**	**0.0**
	baz=5.4,SNR=23								
F07A	**Phinny Hill Vi**	**5.58**	**60**		⇑P		**Pn**	**19 08 08.5**	**+0.1**
	baz=5.5								
C05A	**Tolt Reservoir**	**5.69**	**38**		⇑P		**Pn**	**19 08 09.7**	**-0.2**
	baz=5.5								
L07A	**Adell**	**5.69**	**101**		⇓P		**Pn**	**19 08 09.7**	**-0.2**
	baz=5.7								
D06A	**Cle Elum**	**5.75**	**45**		⇑P		**Pn**	**19 08 11.0**	**+0.3**
	baz=5.6								
PGC	**Sidney**	**5.84**	**23**		*e*Pn		**Pn**	**19 08 09.9**	**-2.1**
E07A	**Sunnyside**	**5.93**	**54**		⇑P		**Pn**	**19 08 13.5**	**+0.2**
	baz=5.8								
B05A	**Bryant**	**5.96**	**32**		⇓P		**Pn**	**19 08 13.1**	**-0.5**
	baz=5.8								
G08A	**Pilot Rock**	**6.00**	**68**		⇑P		**Pn**	**19 08 14.1**	**-0.1**
	baz=5.9,SNR=16								
H08A	**Prairie City**	**6.03**	**76**		⇑P		**Pn**	**19 08 13.8**	**-0.9**
	baz=5.9								
HAWA	**Hanford**	**6.05**	**57**		*e*Pn		**Pn**	**19 08 14.7**	**-0.1**
	20nm,0.8s								
E08A	**Dider Farm, El**	**6.38**	**57**		⇑P		**Pn**	**19 08 19.4**	**0.0**
	baz=6.3								
C07A	**Waterville**	**6.47**	**45**		⇑P		**Pn**	**19 08 21.1**	**+0.4**
	baz=6.3,SNR=11								
R04C	**Big Horse Ranc**	**6.76**	**136**		⇓P		**Pn**	**19 08 23.6**	**-1.0**
	baz=6.8								
H09A	**Durkee**	**6.77**	**75**		⇑P		**Pn**	**19 08 24.6**	**-0.1**
	baz=6.7								
F09A	**S2 Ranch, Elgi**	**6.83**	**66**		⇓P		**Pn**	**19 08 25.3**	**-0.3**
	baz=6.7								
BMO	**Blue Mountains**	**7.05**	**74**		*e*Pn		**Pn**	**19 08 28.3**	**-0.2**
	4.6nm,0.7s								
CMB	**Columbia Colle**	**7.21**	**135**		*e*Pn		**Pn**	**19 08 35.0**	**+4.3**
	31nm,1.5s								
F10A	**Beach Ranch, E**	**7.36**	**66**		⇑P		**Pn**	**19 08 32.7**	**-0.2**
	baz=7.2								
H10A	**Noah's Angus R**	**7.41**	**77**		⇑P		**Pn**	**19 08 33.0**	**-0.5**
	baz=7.3								
C09A	**Chrisman Ranch**	**7.51**	**50**		⇓P		**Pn**	**19 08 34.3**	**-0.6**
	baz=7.4								
B09A	**Rice**	**7.94**	**47**		⇓P		**Pn**	**19 08 40.6**	**-0.1**
	baz=7.8								
H11A	**Donnelly**	**7.94**	**76**		⇑P		**Pn**	**19 08 41.3**	**+0.5**
	baz=7.8								
E11A	**Bogner Ranch,**	**8.15**	**64**		⇑P		**Pn**	**19 08 43.2**	**-0.5**
	baz=8.0								
NEW	**Newport**	**8.41**	**51**		Pn		**Pn**	**19 08 47.5**	**+0.3**
	0.5nm,0.3s,baz=240,slow=12,SNR=4.6								
NEW					LR		LR	19 12 05.1	
	comp=Z,355nm,18.8s,baz=244,slow=39								
NEW	**Newport**	**8.41**	**51**		*e*Pn		**Pn**	**19 08 47.2**	**0.0**
	14nm,1.1s								
A11A	**Hall Mountain,**	**9.21**	**49**		⇓P		**Pn**	**19 08 58.5**	**+0.2**
	baz=9.1								
F13A	**Darby**	**9.28**	**70**		⇑P		**Pn**	**19 08 59.0**	**-0.1**
	baz=9.2								
D13A	**Huson**	**9.53**	**62**		⇑P		**Pn**	**19 09 02.5**	**-0.1**
	baz=9.4								
C13A	**Hot Springs**	**9.66**	**59**		⇑P		**Pn**	**19 09 04.8**	**+0.4**
	baz=9.5								
MSO	**Missoula**	**9.79**	**64**		*e*Pn		**Pn**	**19 09 05.9**	**-0.2**
	2.9nm,0.7s								
B13A	**Whitefish**	**10.01**	**55**		⇑P		**Pn**	**19 09 09.6**	**+0.4**
	baz=9.9								
MCMT	**McKenzie Canyo**	**10.20**	**77**		*e*Pn		**Pn**	**19 09 13.1**	**+1.3**
CHMT	**Chamberlain Mo**	**10.27**	**65**		*e*Pn		**Pn**	**19 09 12.3**	**-0.4**
G15A	**Dillon**	**10.48**	**75**		⇓P		**Pn**	**19 09 16.2**	**+0.6**
	baz=10								
F15A	**Butte**	**10.55**	**71**		⇓P		**Pn**	**19 09 16.8**	**+0.2**
	baz=10								
E15A	**Deer Lodge**	**10.56**	**68**		⇓P		**Pn**	**19 09 16.6**	**-0.1**
	baz=10								
D15A	**Lincoln**	**10.78**	**65**		⇑P		**Pn**	**19 09 19.8**	**+0.1**
	baz=11								
PDAR	**Pinedale Array**	**12.67**	**87**		Pn		**Pn**	**19 09 48.3**	**+2.7**
	0.0nm,0.3s,baz=272,slow=15,SNR=4.7								
PDAR					LR		LR	19 14 53.5	
	comp=Z,201nm,19.8s,baz=353,slow=39								
YKA	**Yellowknife Ar**	**20.52**	**16**		P		**P**	**19 11 23.9**	**+0.2**
	0.4nm,0.6s,baz=216,slow=10,SNR=4.4								
YKA					LR		LR	19 20 10.1	
	comp=Z,420nm,21.6s,MS2.8,baz=215,slow=40								
YKA	**Yellowknife Ar**	**20.52**	**16**		P		**P**	**19 11 23.9**	**+0.2**
YKA					LR		LR	19 20 10.1	
ULM	**Lac du Bonnet**	**22.21**	**61**		P		**P**	**19 11 42.1**	**+0.2**
	4.8nm,0.9s,mb3.9,baz=269,slow=12,SNR=4.2								
ULM					LR		LR	19 20 48.2	
	comp=Z,85nm,21.3s,MS3.1,baz=357,slow=38								
ULM	**Lac du Bonnet**	**22.21**	**61**		P		**P**	**19 11 42.1**	**+0.2**
ULM					LR		LR	19 20 48.2	
LTX	**Lajitas**	**23.22**	**119**		P		**P**	**19 11 54.5**	**+1.8**
	4.0nm,1.0s,mb3.8								
TXAR	**Lajitas Array**	**23.22**	**119**		P		**P**	**19 11 55.0**	**+2.4**
	0.4nm,0.7s,mb3.0,baz=298,slow=7.9,SNR=5.8								
WMOK	**Wichita Mounta**	**23.35**	**102**		*e*Pn		**P**	**19 11 54.7**	**+0.7**
	3.6nm,0.8s,mb3.9								
LPIG	**La Paz**	**23.51**	**139**		LR		LR	19 20 53.7	
	comp=Z,64nm,19.6s,MS3.1,baz=12,slow=36								
INK	**Inuvik**	**25.30**	**354**		P		**P**	**19 12 11.6**	**-0.5**
	2.1nm,1.0s,mb3.6,baz=121,slow=5.9,SNR=3.2								
INK					LR		LR	19 21 36.4	
	comp=Z,89nm,20.2s,MS3.3,baz=11,slow=35								
ZRNK	**Zerenda**	**83.14**	**350**		P		**P**	**19 19 11.5**	**-0.3**
	0.7nm,0.7s,mb3.8								

*ISCJB **28** 19:30:03.5±0.5, 6781N×003×20.10E±009, h0km, Error ellipse: s-maj=5.7km s-min=4.2km az=86.2*
*CSEM **28** 19:30:03.3±0.2, 6774N×2013E, h2km, ML3.4, Suspected Mining explosion.*
*UPP **28** 19:30:03.8, 6791N×20.15E, h0km, ML3.4, Suspected Mining explosion.*
*HEL **28** 19:30:04.9±0.2, 6785N×20.16E, h0km, ML3.4(UPP), ML1.9(BER), ML2.0(NAO), Explosion*
*NAO **28** 19:30:04.0±2.3, 6781N×2045E, ML2.0*
*BER **28** 19:30:07.6±4.0, 6782N×2012E, h0km, ML1.9, ML2.0(NAO), Suspected explosion*

ISC 28 19:30:03.7±0.5, 6778N±003×2014E±008, h0km, n26, σ1§15/31, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.20**	**23**	*i* P	**Pg**	**19 30 05.6**	**-1.9**
NIKU	**Nikkaluokta**	**0.43**	**283**	*i* P	**Pg**	**19 30 12.1**	**+0.1**
SALU	**Saltoluokta**	**0.74**	**238**	*i* P	**Pg**	**19 30 18.6**	**+0.7**
LANU	**Lannavaara**	**0.75**	**68**	*i* P	**Pg**	**19 30 17.9**	**-0.2**
MASU	**Masugnsbyn**	**0.78**	**113**	*i* P	**Pg**	**19 30 19.5**	**+0.8**
KIF	**Kilpisjarvi**	**1.26**	**11**	*e*P	**Pg**	**19 30 27.8**	**-0.1**
KIF				*e*S	**Sg**	**19 30 43.6**	**-0.6**
PAJU	**Pajala**	**1.38**	**122**	*e*P	**Pg**	**19 30 29.6**	**-0.5**
HARU	**Harads**	**1.65**	**168**	*e*P	**Pn**	**19 30 35.8**	**+1.8**
KTK1	**Kautokeino**	**1.69**	**41**	*e*P	**Pn**	**19 30 34.7**	**+0.2**
KTK1				*e*Sg	**Sg**	**19 30 60.0**	**+1.9**
KTK1				AML	AML	19 31 02.5	
	comp=Z,13nm,0.3s						
KTK1	**Kautokeino**	**1.69**	**41**	*e*P	**Pn**	**19 30 34.7**	**+0.2**
	SNR=50						
KTK1				*e*Sg	**Sg**	**19 31 00.0**	**+1.9**
	comp=Z,13nm,0.3s,SNR=90						
TRO	**Tromso**	**1.92**	**347**	*e*P	**Pn**	**19 30 37.7**	**+0.1**
TRO				*e*Sg	**Sg**	**19 31 05.1**	**-0.2**
TRO				AML	AML	19 31 08.0	
	comp=Z,14nm,0.5s						
TRO	**Tromso**	**1.92**	**347**	*e*P	**Pn**	**19 30 37.7**	**+0.1**
	SNR=50						
TRO				*e*Sg	**Sg**	**19 31 05.1**	**-0.2**
	SNR=90						
ARA0	**ARCESS Array S**	**2.64**	**46**	P	**Pn**	**19 30 47.0**	**-0.6**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**19 31 23.6**	**+3.2**
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**2.64**	**46**	*e*P	**Pn**	**19 30 47.0**	**-0.6**
ARA0				*e*SG	**Sn**	**19 31 23.6**	**+3.2**
ARA0	**ARCESS Array S**	**2.64**	**46**	Pn	**Pn**	**19 30 47.0**	**-0.6**
	SNR=9.5						
ARA0				Sn	**Sn**	**19 31 23.5**	**+3.2**
	SNR=50						
MOR8	**Moi Rana**	**2.76**	**237**	*e*Sg	**Sg**	**19 31 29.3**	**-3.0**
MOR8				AML	AML	19 31 30.9	
	comp=Z,19nm,0.5s						
STOK	**Stokkvaagen**	**3.14**	**246**	*e*Sg	**Sg**	**19 31 48.0**	**+3.3**
NSS	**Namsos**	**4.65**	**229**	*e*Sg	**Sg**	**19 32 32.6**	**-0.4**
NSS				AML	AML	19 32 37.6	
	comp=Z,7.3nm,0.4s						
NSS	**Namsos**	**4.65**	**229**	*e*Sg	**Sg**	**19 32 32.6**	**-0.4**
	comp=Z,7.3nm,0.4s,SNR=90						
APA0	**Apatity Array**	**4.90**	**86**	Sn	**Sn**	**19 32 15.1**	**-1.0**
	baz=285,slow=22						
APA0				Lg		19 32 34.9	
	baz=290,slow=37						
APA0	**Apatity Array**	**4.90**	**86**	*e*S	**Sn**	**19 32 15.1**	**-1.0**
APA0				*e*SG		19 32 34.9	
FIA0	**FINESS Array S**	**6.85**	**155**	Sn	**Sn**	**19 33 02.9**	**-1.1**
	slow=22						
FIA0				Lg		19 33 39.0	
	baz=338,slow=28						
FIA0	**FINESS Array S**	**6.85**	**155**	*e*S	**Sn**	**19 33 02.9**	**-1.1**
FIA0				*e*SG		19 33 39.0	
NB2	**NORSAR Subarra**	**7.78**	**214**	Lg		19 34 13.2	
NB2	**NORSAR Subarra**	**7.78**	**214**	Lg		19 34 13.2	
NB2	**NORSAR Subarra**	**7.78**	**214**	*e*		19 34 13.2	

*ISCJB **28** 19:30:41.9±0.5, 5030N±003×1869E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.4km az=37.9*
*WAR **28** 19:30:43.8, 5026N×1883E, ML2.8, Mining Induced*
*CSEM **28** 19:30:43.1±0.2, 5033N×1881E, h2km, ML3.4/5, Error ellipse: s-maj=6.1km s-min=2.8km az=12.0*
*IPEC **28** 19:30:43.2±0.2, 5029N×1879E, h4km±1km, ML2.4/3, Error ellipse: s-maj=2.2km s-min=0.8km az=166.0*
*PRU **28** 19:30:44.1, 5027N×1874E, h0km*
*VIE **28** 19:30:46.8±0.6, 4975N×1881E, h0km, mb1.9/3, ML2.8/4, Error ellipse: s-maj=3.8km s-min=3.1km az=37.0 41 km ESE of Ostrava Suspected Mining induced.*

ISC 28 19:30:43.1±0.4, 5026N±003×1874E±003, h0km, n36, σ1§09/63, 6C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.39**	**244**	*e*Pg	**Pg**	**19 30 53.0**	**+2.3**
RAC				*e*Sg	**Sg**	**19 30 59.5**	**+3.7**
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*PG	**Pg**	**19 30 55.4**	**+1.3**
OKC				*e*SG	**Sg**	**19 31 02.3**	**+0.8**
	106nm,0.5s						
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*Pg	**Pg**	**19 30 55.2**	**+1.1**
OKC				*e*Sg	**Sg**	**19 31 02.5**	**+1.0**
OJC	**Ojcow**	**0.68**	**93**	*e*Pg	**Pg**	**19 30 55.8**	**-0.3**
OJC				*e*Sg	**Sg**	**19 31 04.4**	**-0.5**
OJC	**Ojcow**	**0.68**	**93**	*e*Pg	**Pg**	**19 30 55.7**	**-0.4**
OJC				*e*Sg	**Sg**	**19 31 04.0**	**-0.9**
MORC	**Moravsky Berou**	**0.91**	**239**	⇑*i* P	**Sg**	**19 31 14.2**	**+1.7**
MORC	**Moravsky Berou**	**0.91**	**239**	*e*Pg	**Pg**	**19 31 01.4**	**+0.8**
MORC				*e*Sg	**Sg**	**19 31 13.3**	**+0.8**
	52nm,0.1s						
LIKS	**Likavka**	**1.23**	**169**	*e*PN	**Pn**	**19 31 06.9**	**-0.7**
LIKS				*e*SN	**Sn**	**19 31 24.4**	**-0.5**
NIE	**Niedzica**	**1.32**	**129**	*e*Pg	**Pg**	**19 31 07.9**	**-0.5**
NIE				*e*Sg	**Sg**	**19 31 26.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	**Pg**	**19 31 12.2**	**-0.7**
DPC				*e*SG	**Sg**	**19 31 33.3**	**+0.2**
	39nm,0.4s						
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*Pn	**Pn**	**19 31 11.6**	**-0.4**
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*Pg	**Pg**	**19 31 12.2**	**-0.7**
DPC				*e*Sg	**Sg**	**19 31 32.8**	**-0.3**
KSP	**Ksiaz**	**1.67**	**291**	*e*Pn	**Pn**	**19 31 13.9**	**+0.3**
KSP	**Ksiaz**	**1.67**	**291**	*i* Pg	**Pg**	**19 31 15.7**	**+0.6**
KSP				*e*Sg	**Sg**	**19 31 38.2**	**+1.4**
VRAC	**Vranov**	**1.69**	**237**	⇑*i* P	**Sg**	**19 31 37.0**	**-0.3**
VRAC	**Vranov**	**1.69**	**237**	*e*Pn	**Pn**	**19 31 14.4**	**+0.5**
VRAC				*e*Sg	**Sg**	**19 31 37.0**	**-0.3**
	55nm,0.3s						
UPC	**Upice**	**1.77**	**279**	*e*PG	**Pg**	**19 31 15.8**	**-1.2**
VYHS	**Vyhne**	**1.77**	**178**	*e*PN	**Pn**	**19 31 14.5**	**-0.5**
VYHS				*e*SN	**Sn**	**19 31 37.3**	**-0.8**
STHS	**Stebnicka Huta**	**1.82**	**117**	*e*PN	**Pn**	**19 31 17.0**	**+1.2**
STHS				*e*SN	**Sn**	**19 31 43.6**	**+4.0**
KRUC	**Moravsky**	**1.94**	**233**	*e*Pn	**Pn**	**19 31 17.6**	**+0.3**
SMOL	**Smolenice**	**1.95**	**207**	*e*SN	**Sn**	**19 31 42.8**	**+0.2**
KECS	**Kecovo**	**2.11**	**147**	*e*PN	**Pn**	**19 31 22.2**	**+2.5**
KECS				*e*SN	**Sn**	**19 31 49.4**	**+2.8**
ZST	**Bratislava**	**2.33**	**208**	*e*SN	**Sn**	**19 31 51.3**	**-0.7**
PSZ	**Piszkesteto**	**2.46**	**162**	⇑*i* P	**Pn**	**19 31 31.1**	**+6.6**
KOLS	**Kolonicke sedl**	**2.65**	**119**	*e*PG	**Pg**	**19 31 31.9**	**-2.1**
PVCC	**Panska Ves**	**2.69**	**277**	*e*PN	**Pn**	**19 31 27.6**	**0.0**
PVCC				*e*PG	**Pg**	**19 31 33.6**	**-1.0**
PRU	**Pruhonice**	**2.72**	**266**	*e*PN	**Pn**	**19 31 28.5**	**+0.5**
PRU				*e*PG	**Pg**	**19 31 33.4**	**-1.8**
PRU				*e*SG	**Sg**	**19 32 10.3**	**-0.2**
	15nm,0.5s						
CONA	**Conrad Observa**	**3.00**	**220**	⇓*i* Pn	**Pn**	**19 31 31.4**	**-0.6**
CONA				⇑*i* Sn	**Sn**	**19 32 05.4**	**-3.3**
BRG	**Berggiesshubel**	**3.12**	**283**	PG	**Pg**	**19 31 42.5**	**-0.5**
BRG				SG	**Sg**	**19 32 22.9**	**-0.6**
	4.5nm,0.5s						
KHC	**Kasperske Hory**	**3.54**	**253**	*e*PN	**Pn**	**19 31 40.9**	**+1.6**
KHC				*e*PG	**Pg**	**19 31 48.6**	**-2.4**
KHC				*e*SN	**Sn**	**19 32 16.8**	**-5.0**
KHC				*e*SG	**Sg**	**19 32 36.9**	**+0.1**
	26nm,0.5s						
CLL	**Collm**	**3.79**	**288**	*e*Pg	**Pg**	**19 31 58.0**	**+2.2**
CLL				*e*Sg	**Sg**	**19 32 45.0**	**0.0**
	comp=Z,16nm,1.0s						
MOA	**Molln**	**3.81**	**232**	⇑*i* Pn	**Pn**	**19 31 43.0**	**0.0**
MOA				⇓*i* Pg	**Pg**	**19 31 54.9**	**-1.2**
MOA				⇓*i* Sg	**Sg**	**19 32 43.9**	**-1.5**
	comp=Z,10.0nm,0.5s						
NKC	**Novy Kostel**	**4.04**	**272**	*e*PG	**Pg**	**19 31 56.7**	**-3.9**
NKC				*e*SG	**Sg**	**19 32 52.9**	**-0.1**
	comp=Z,11nm,0.6s						
MOX	**Moxa**	**4.57**	**278**	(SG)	**Sg**	**19 33 10.0**	**0.0**
BURAR	**Bucovina Array**	**5.02**	**119**	⇑*i* P	**Pn**	**19 31 59.7**	**0.0**
BZS	**Buzias**	**5.03**	**156**	⇓*i* P	**Pn**	**19 32 00.5**	**+0.7**

*ISCJB **28** 19:34:33.6±1.2, 638S±02×1692E±07, h10km, mb4.0/4, MS4.0/13, Error ellipse: s-maj=47.2km s-min=16.4km az=140.5*
*IDC **28** 19:34:33.7±1.4, 6350S×170.11E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.9/7, mbtmp3.8/3, MS4.0/13, Ms1 4.0/13, ms1mx3.9/15, Error ellipse: s-maj=124.7km s-min=33.7km az=42.0*
*NEIC **28** 19:34:34.8±0.9, 6377S×16964E, h10km, mb4.2/1, Error ellipse: s-maj=41.4km s-min=16.5km az=73.0*

ISC 28 19:34:34.9±1.2, 638S±02×1695E±07, h10km, n20, σ1§56/6, mb4.0/4, MS4.0/13, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**14.17**	**182**	*e*Pn	**Pn**	**19 37 56.5**	**+0.9**
	20nm,0.9s						
RPZ	**Rata Peaks**	**20.12**	**3**	LR	LR	19 45 17.8	
	comp=Z,706nm,18.1s,MS4.0,baz=164,slow=32						
URZ	**Urewera**	**25.96**	**14**	LR	LR	19 48 24.3	
	comp=Z,472nm,20.9s,MS4.0,baz=209,slow=32						
STKA	**Stephens Creek**	**36.40**	**318**	LR	LR	19 54 07.0	
	comp=Z,207nm,19.1s,MS3.9,baz=172,slow=32						
MAW	**Mawson**	**38.84**	**216**	LR	LR	19 57 52.0	
	comp=Z,288nm,21.0s,MS4.1,baz=326,slow=36						
NWAO	**Narrogin (SRO)**	**44.48**	**288**	LR	LR	19 57 05.9	
	comp=Z,414nm,21.0s,MS4.3,baz=89,slow=30						
SNAA	**Sanae**	**44.72**	**183**	P	**P**	**19 42 45.4**	**-2.7**
	4.0nm,1.1s,mb4.2						
CTA	**Charters Tower**	**46.40**	**329**	LR	LR	19 59 51.4	
	comp=Z,162nm,18.7s,MS4.0,baz=160,slow=33						
ASAR	**Alice Springs**	**46.45**	**313**	P	**P**	**19 43 02.5**	**+0.6**
	1.0nm,0.8s,mb3.8,baz=158,slow=8.4,SNR=7.0						
RAR	**Rarotonga**	**47.28**	**41**	LR	LR	19 56 30.7	
	comp=Z,208nm,21.0s,MS4.1,baz=270,slow=28						
TBI	**Tubuai**	**48.63**	**54**	*e*LQ		19 54 09.9	
	486nm,27.0s						
TBI

RIB2 *e*S Sn 19 38 13.6 -8.2
RIB2
30nm,0.3s
RIB2 Ribeirinha 2.35 123 *e*P Pn 19 37 48.2 -4.3
RIB2 *e*S Sn 19 38 13.6 -8.2
PFAV Pico das Favas 2.39 122 *e*P Pn 19 37 48.8 -4.2

KISR ***28*** *19:39:05.0±1.0, 3197N×5024E, h25km±504km, ML3.0*
THR ***28*** *19:39:06.6±0.3, 3196N×5003E, h15km, ML3.1*
CSEM ***28*** *19:39:06.6, 3196N×5003E, h15km, ML3.1, After THR*
ISCJB ***28*** *19:39:07.5±0.8, 3202N±006×5000E±010, h10km, Error ellipse: s-maj=12.9km s-min=6.4km az=59.5*
ISC 28 19:39:08.5±0.8, 3204N±006×5002E±010, h10km, n9, σ0s98/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.03**	**274**	*e*Pg	**Pg**	**19 39 26.3**	**-2.1**
SHGR				AML	AML	19 39 48.8	
	comp=N,446nm,0.9s						
NASN	**Na'in**	**2.48**	**71**	*e*Pn	**Pn**	**19 39 49.0**	**0.0**
ASAO	**Ashtian**	**2.50**	**0**	*e*Pn	**Pn**	**19 39 50.1**	**+0.8**
ASAO				AML	AML	19 40 40.1	
	comp=N,81nm,0.4s						
ASAO				AML	AML	19 40 43.5	
	comp=E,70nm,0.7s						
MIB	**Mutribah**	**3.20**	**227**	*e*P	**Pn**	**19 39 58.6**	**-0.3**
MIB				*e*S	**Sn**	**19 40 38.1**	**+1.1**
MIB				AML	AML	19 40 49.5	
	comp=Z,26nm,0.5s						
KBD	**Kabd**	**3.48**	**216**	*e*P	**Pn**	**19 40 02.3**	**-0.4**
KBD				AML	AML	19 40 49.2	
	comp=Z,73nm,0.2s						
NAY	**Al-Naaiem**	**3.67**	**221**	*e*P	**Pn**	**19 40 04.9**	**-0.4**
NAY				AML	AML	19 40 49.3	
	comp=Z,9.9nm,0.4s						
NAY				*e*S	**Sn**	**19 40 50.3**	**+1.8**
QRN	**Al-Qurain**	**3.75**	**209**	*e*P	**Pn**	**19 40 05.1**	**-1.3**
QRN				*e*S	**Sn**	**19 40 50.7**	**+0.1**
QRN				AML	AML	19 40 57.9	
	comp=Z,22nm,0.3s						
RDF	**Al-Radifah**	**3.76**	**215**	*e*P	**Pn**	**19 40 06.0**	**-0.6**
RDF				AML	AML	19 40 55.3	
	comp=Z,20nm,0.4s						
SNGE	**Sanandaj**	**3.78**	**325**	*e*Pn	**Pn**	**19 40 07.6**	**+0.9**
SNGE				AML	AML	19 41 25.2	
	comp=N,24nm,1.1s						

WEL 28 19:39:11.0±0.6, 4759S×16544E, h33km, ML3.5/5, Error ellipse: s-maj=5.9km s-min=5.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.90**	**67**	*e*PN	Pn	19 39 39.6	-1.4
APZ				SN	Sn	19 40 02.0	-1.7
WHZ	**Wether Hill Ro**	**2.42**	**46**	*e*PN	Pn	19 39 46.9	-1.3
WHZ				SN	Sn	19 40 15.1	-1.6
SYZ	**Scrubby Hill**	**2.74**	**69**	*e*PN	Pn	19 39 52.2	-0.4
SYZ				SN	Sn	19 40 23.2	-1.3
MLZ	**Mavora Lakes**	**2.94**	**41**	*e*PN	Pn	19 39 54.3	-0.9
TUZ	**Tuapeka**	**3.31**	**62**	*e*PN	Pn	19 39 59.7	-0.8
EAZ	**Earnscleugh**	**3.57**	**50**	*e*PN	Pn	19 40 03.7	-0.3
ODZ	**Otahua Downs**	**4.42**	**57**	*e*PN	Pn	19 40 14.5	-1.1

ISCJB ***28*** *19:42:33.0±0.3, 4792N±002×752E±002, h11km±3km, Error ellipse: s-maj=3.6km s-min=2.4km az=167.3*
LEDBW ***28*** *19:42:33.8±0.1, 47919N±0008×7547E±0005, h4km±2km, ML1.6, Error ellipse: s-maj=2.6km s-min=1.6km az=16.0*
STR ***28*** *19:42:33.6±0.2, 4792N×755E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***28*** *19:42:33.4, 4788N×752E, h-3km±3km, ML1.7/8*
LDG ***28*** *19:42:34.1±0.1, 4792N×753E, h3km, Md2.2/3, Ml2.3/7, Error ellipse: s-maj=2.8km s-min=1.3km az=125.0*
ISC 28 19:42:33.5±0.3, 4792N±002×751E±002, h13km±5km, n38, σ0s59/59, 2C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BREM	**Bremgarten**	**0.08**	**94**	⇑*i*Pg	**Pg**	**19 42 35.6**	**-0.7**
BREM					Sx	19 42 37.3	
ENDD	**Endenburg**	**0.26**	**142**	⇑*i*Pg	**Pg**	**19 42 38.6**	**-0.3**
ENDD				*i* Sg	**Sg**	**19 42 42.3**	**-0.2**
ENDD					Sx	19 42 45.3	
MOF	**Molkenrain**	**0.26**	**256**	Pg	**Pg**	**19 42 39.3**	**+0.4**
MOF				Sg	**Sg**	**19 42 43.5**	**+0.9**
MOF	**Molkenrain**	**0.26**	**256**	⇑*i*P*	**Pg**	**19 42 39.5**	**+0.5**
MOF				*i* S*	**Sg**	**19 42 43.7**	**+1.1**
MOF	**Molkenrain**	**0.26**	**256**	⇑*i*Pg	**Pg**	**19 42 39.5**	**+0.5**
MOF				*i* Sg	**Sg**	**19 42 43.7**	**+1.1**
KIZ	**Kirchzarten**	**0.28**	**82**	⇑*e*P*	**Pg**	**19 42 39.0**	**-0.4**
KIZ				S*	**Sg**	**19 42 42.8**	**-0.5**
KIZ	**Kirchzarten**	**0.28**	**82**	⇑*e*Pg	**Pg**	**19 42 39.0**	**-0.4**
KIZ				Sg	**Sg**	**19 42 42.8**	**-0.5**
FELD	**Feldberg im Sc**	**0.34**	**97**	P*	**Pg**	**19 42 40.1**	**-0.2**
FELD				S*	**Sg**	**19 42 44.7**	**-0.3**
ECH	**Echery**	**0.38**	**322**	Pg	**Pg**	**19 42 41.3**	**+0.2**
ECH				Sg	**Sg**	**19 42 46.8**	**+0.6**
ECH	**Echery**	**0.38**	**322**	⇓*i*P*	**Pg**	**19 42 41.5**	**+0.4**
ECH				S*	**Sg**	**19 42 46.9**	**+0.7**
HINF	**Hinteralfeld**	**0.45**	**257**	*e*Pg	**Pg**	**19 42 42.5**	**+0.1**
HINF				*e*Sg	**Sg**	**19 42 48.3**	**-0.1**
	6.3nm,0.2s						
BBS	**Basel-Blauen**	**0.45**	**180**	P*	**Pg**	**19 42 42.5**	**+0.1**
CDF	**Champ du Feu**	**0.52**	**343**	*e*Pg	**Pg**	**19 42 44.0**	**+0.3**
CDF				*e*Sg	**Sg**	**19 42 51.0**	**+0.4**
	10nm,0.2s						
BOURR	**Bourrignon**	**0.56**	**200**	⇓*i*Pn	**Pg**	**19 42 44.2**	**-0.2**
	89nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.57**	**133**	*e*P	**Pg**	**19 42 44.7**	**+0.1**
	42nm,1.6s						
BALST	**Balsthal**	**0.59**	**167**	⇓*i*P	**Pg**	**19 42 45.2**	**+0.1**
	112nm,0.5s						
SLE	**Schleitheim**	**0.68**	**102**	⇓*i*P	**Pg**	**19 42 46.5**	**-0.3**
	219nm,0.3s						
BFO	**Black Forest**	**0.69**	**53**	P*	**Pb**	**19 42 47.4**	**0.0**
BFO				PmP		19 42 48.0	
BFO				S*	**Sg**	**19 42 56.0**	**0.0**
BFO				SmS		19 42 58.1	
BFO	**Black Forest**	**0.69**	**53**	Px	Px	19 42 47.4	
BFO				Sg	**Sg**	**19 42 56.0**	**0.0**
BFO				SmS		19 42 58.1	
LOMF	**Lomont**	**0.73**	**219**	Pg	**Pg**	**19 42 58.5**	**+0.8**
LOMF				Sg	**Sg**	**19 42 58.4**	**+1.2**
LOMF	**Lomont**	**0.73**	**219**	*e*Pg	**Pg**	**19 42 49.4**	**+1.8**
LOMF				Sg	**Sg**	**19 42 58.6**	**+1.4**
HAU	**Haudompre**	**0.78**	**277**	*e*Pg	**Pg**	**19 42 49.0**	**+0.3**
HAU				*e*Sg	**Sg**	**19 42 59.3**	**+0.4**
	12nm,0.2s						
TRULL	**Truellikon**	**0.84**	**108**	⇓*i*P	**Pg**	**19 42 50.4**	**+0.7**
	47nm,0.3s						
STEIN	**Stein am Rhein**	**0.95**	**105**	*e*P	**Pb**	**19 42 52.3**	**+0.4**
	33nm,0.4s						
SISB	**Singen-Schiene**	**1.01**	**103**	Pg	**Pg**	**19 42 53.3**	**+0.3**
SISB				Sg	**Sg**	**19 43 06.6**	**+0.4**
THEF	**They Montfort**	**1.06**	**287**	Pg	**Pg**	**19 42 54.5**	**+0.5**
THEF	**They Montfort**	**1.06**	**287**	Px	Px	19 42 54.5	
WILA	**Wila**	**1.07**	**117**	⇓*i*P	**Pb**	**19 42 54.6**	**+0.7**
	89nm,1.8s						
GUT	**Gutenstein**	**1.09**	**81**	⇓*i*Pg	**Pg**	**19 42 54.7**	**+0.2**
GUT				Sg	**Sg**	**19 43 09.3**	**+0.5**
LBG	**Lerchenberg**	**1.14**	**49**	Pg	**Pg**	**19 42 55.4**	**-0.1**
LBG				Sg	**Sg**	**19 43 10.8**	**+0.5**
BUCH	**Bad Urach**	**1.35**	**66**	Sg	**Sg**	**19 43 16.1**	**-0.8**
CABF	**La Chapelle**	**1.62**	**217**	*e*Pn	**Pn**	**19 43 02.1**	**+0.2**
CABF				*e*Sg	**Sg**	**19 43 25.8**	**0.0**
	5.5nm,0.3s						
UBR	**Ueberruh**	**1.77**	**97**	Pg	**Pg**	**19 43 07.7**	**+0.2**
UBR				Sg	**Sg**	**19 43 30.1**	**-0.3**
SIND	**Sindeldorf**	**2.00**	**43**	Sg	**Sg**	**19 43 36.5**	**-1.3**
LOR	**Lormes**	**2.55**	**257**	*e*Pg	**Pg**	**19 43 21.8**	**-0.6**
LOR				*e*Sg	**Sg**	**19 43 54.4**	**-1.1**
	2.3nm,0.3s						
SMF	**Signal de Mont**	**2.80**	**244**	*e*Sg	**Sg**	**19 44 02.7**	**-0.8**
	1.1nm,0.2s						
SSF	**Saint Saulge**	**2.84**	**254**	*e*Pg	**Pg**	**19 43 27.1**	**-0.9**
SSF				*e*Sg	**Sg**	**19 44 04.1**	**-0.8**
	3.3nm,0.3s						
AVF	**Avril sur Loir**	**3.04**	**250**	*e*Sg	**Sg**	**19 44 09.8**	**-1.4**

0.4nm,0.2s

IDC 28 19:49:42.3±1.2, 1131N×13870E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx1.9/31, Error ellipse: s-maj=58.0km s-min=19.8km az=86.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.44**	**69**	LR	LR	19 53 22.7	
	comp=Z,373nm,18.5s,baz=260,slow=34						
WRA	**Warramunga Arr**	**31.35**	**188**	P	P	19 56 04.9	+0.4
	0.9nm,0.6s,baz=6.0,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**35.07**	**188**	P	P	19 56 36.9	-0.1
	1.2nm,0.5s,baz=14,slow=13,SNR=40						
ASAR				PcP	PcP	19 59 08.9	+0.1
	0.2nm,0.7s,baz=28,slow=4.2,SNR=4.2						
SONM	**Songino Array**	**45.37**	**330**	P	P	19 58 02.0	-0.3
	0.3nm,0.7s,baz=108,slow=14,SNR=3.2						
NWAO	**Narrogin (SRO)**	**48.52**	**204**	P	P	19 58 27.4	+0.4
	4.8nm,0.5s,baz=23,slow=8.2,SNR=8.1						
MKAR	**Makanchi Array**	**59.05**	**318**	P	P	19 59 44.6	+0.6
	1.0nm,0.8s,baz=104,slow=8.4,SNR=5.3						
YKA	**Yellowknife Ar**	**87.61**	**26**	P	P	20 02 32.3	-0.1
	0.5nm,0.7s,baz=291,slow=4.9,SNR=3.0						

MOS ***28*** *20:24:58.9±0.9, 5368N×16373W, h10km, mb5.2/75, MS4.6/9, Error ellipse: s-maj=9.5km s-min=4.4km az=92.6*
IDC ***28*** *20:24:59.8±0.6, 5364N×16363W, h0km, mb4.5/25, mb1 4.6/26, mb1mx4.6/30, mbtmp4.5/26, ML4.1/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/35, Error ellipse: s-maj=19.8km s-min=12.3km az=179.0*
ISCJB ***28*** *20:25:00.4±1.6, 5362N±005×16365W±004, h11km±9km, mb4.9/140, MS4.4/30, Error ellipse: s-maj=8.5km s-min=4.1km az=0.7*
NEIC ***28*** *20:25:01.0±1.7, 5359N×16365W, h8km±10km, mb5.0/82, MS4.5/1, Error ellipse: s-maj=7.3km s-min=3.8km az=178.0*
GCMT ***28*** *20:25:01.0±0.3, 5346N×16354W, h19km±1km, MW5.0/73, Moment Tensor Solution. s37,c53; s73,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.09±.18; $M_{\theta\theta}$-2.21±.12; $M_{\phi\phi}$-0.87±.10; $M_{r\theta}$3.23±.29; $M_{\theta\phi}$-1.41±.07; $M_{r\phi}$0.70±.22; Best double couple: M_o4.52600×10^{16} NP1:ϕ_s225.00000°, δ24.00000°, λ65.00000°. NP2: ϕ_s72.00000°, δ69.00000°, λ100.00000°. Principal axes: T 4.6180, Plg65.0000°, Azm359.0000°; N -0.1800, Plg10.0000°, Azm248.0000°; P -4.4350, Plg23.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***28*** *20:25:02.7, 5417N×16439W, h10km, mB5.2, mb5.0, Ms4.9, Msz4.5*
SZGRF ***28*** *20:25:12.1, 5484N×16125W, h33km, mb5.1, Alaska Peninsula, United States*
ISC 28 20:25:03.3±1.3, 5365N±005×16365W±004, h21km±8km, h20km±4.8km: pP-P, n394, σ0s97/392, mb4.9/140, MS4.4/30, 26C-21D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.22**	**6**	*e*Pn	**Pn**	**20 25 25.8**	**+0.7**
AKA	**Akutan**	**1.34**	**292**	P	**Pn**	**20 25 27.2**	**+0.4**
AKA				S	**Sn**	**20 25 46.9**	**+2.9**
AKUT	**Akutan**	**1.35**	**292**	*e*Pn	**Pn**	**20 25 27.3**	**+0.5**
AKUT				*e*Sn	**Sn**	**20 25 42.1**	**-1.9**
AKLV	**Akutan Long Va**	**1.46**	**292**	P	**Pn**	**20 25 28.8**	**+0.5**
UNV	**Unalaska Valle**	**1.70**	**278**	*e*Pn	**Pn**	**20 25 31.4**	**-0.4**
UNV				*e*Sn	**Sn**	**20 25 54.2**	**+1.3**
SDPT	**Sand Point**	**2.52**	**46**	*e*Pn	**Pn**	**20 25 42.8**	**-0.1**
CHGN	**Chignik**	**4.02**	**47**	P	**Pn**	**20 26 03.6**	**0.0**
SPIA	**Saint Paul Isl**	**5.16**	**316**	P	**Pn**	**20 26 21.6**	**+2.3**
KDAK	**Kodiak Island**	**7.50**	**52**	Pn	**Pn**	**20 26 49.6**	**-1.7**
	3.2nm,0.3s,baz=154,slow=15,SNR=25						
KDAK				Sn	**Sn**	**20 28 09.2**	**-6.5**
	1.4nm,0.3s,baz=342,slow=23,SNR=5.6						
KDAK	**Kodiak Island**	**7.50**	**52**	*e*Pn	**Pn**	**20 26 49.2**	**-2.1**
SVW2	**Sparrevohn**	**8.64**	**27**	*e*Pn	**Pn**	**20 27 08.7**	**+1.6**
SLKM	**Skilak Lake**	**10.02**	**41**	*e*P	**Pn**	**20 27 26.1**	**+0.1**
AMKA	**Amchitka**	**10.63**	**265**	*e*Pn	**Pn**	**20 27 31.8**	**-2.6**
PMR	**Palmer**	**11.11**	**38**	P	**Pn**	**20 27 41.4**	**+0.5**
SML	**Sawmill**	**11.54**	**39**	*e*P	**Pn**	**20 27 46.6**	**-0.2**
EYAK	**Cordova Ski Ar**	**11.91**	**47**	*e*Pn	**Pn**	**20 27 49.0**	**-2.8**
TNA	**Tin City**	**12.14**	**352**	*e*Pn	**Pn**	**20 27 56.6**	**+1.6**
DIV	**Divide**	**12.18**	**45**	*e*Pn	**Pn**	**20 27 53.4**	**-2.1**
DIV				*e*Sn	**Sn**	**20 30 06.2**	**-4.4**
MCK	**McKinley**	**12.64**	**31**	*e*P	**Pn**	**20 28 03.2**	**+1.4**
MCK				pmax	pmax		
	comp=Z,20nm,1.2s						
MCK	**McKinley**	**12.64**	**31**	*e*Pn	**Pn**	**20 28 03.2**	**+1.4**
	comp=Z,20nm,1.2s						
IMA2	**Indian Mountai**	**13.40**	**18**	*e*Pn	**Pn**	**20 28 14.0**	**+1.8**
COLA	**College**	**13.80**	**29**	*e*P	**Pn**	**20 28 15.4**	**-2.2**
COLA	**College**	**13.80**	**29**	*e*Pn	**Pn**	**20 28 19.8**	**+2.2**
MENT	**Mentasta**	**13.95**	**40**	*e*Pn	**Pn**	**20 28 17.1**	**-2.6**
EGAK	**Eagle**	**15.92**	**37**	*e*Pn	**Pn**	**20 28 46.3**	**+0.4**
	comp=Z,32nm,1.1s						
DAWY	**Dawson**	**16.20**	**40**	*e*Pn	**Pn**	**20 28 46.7**	**-2.8**
WRAK	**Wrangell Islan**	**18.07**	**69**	*e*Pn	**Pn**	**20 29 17.4**	**+4.3**
	comp=Z,65nm,1.4s						
DLBC	**Dease Lake**	**19.25**	**62**	*e*Pn	**Pn**	**20 29 27.9**	**+0.6**
BILL	**Bilibino**	**20.24**	**327**	⇓*e*P	**P**	**20 29 37.5**	**+0.5**
BILL				pmax	pmax		
	comp=Z,53nm,1.0s						
BILL				MLR	MLR		
	comp=Z,3μm,17.0s,MS4.7						
BILL	**Bilibino**	**20.24**	**327**	*e*Pn	**P**	**20 29 38.0**	**+0.9**
	comp=Z,53nm,1.0s						
INK	**Inuvik**	**20.39**	**32**	P	**P**	**20 29 36.7**	**-2.0**
	comp=Z,8.3nm,0.7s,baz=245,slow=10,SNR=6.2						
INK	**Inuvik**	**20.39**	**32**	*e*P	**P**	**20 29 35.7**	**-3.0**
	comp=Z,494nm,0.6s						
PET	**Petropavlovsk**	**22.35**	**284**	*d i*P	**P**	**20 30 00.9**	**+1.2**
PET				pmax	pmax		
	comp=Z,51nm,1.3s,mb4.8						
PET	**Petropavlovsk**	**22.35**	**284**	*e*P	**P**	**20 29 57.6**	**-2.1**
	comp=Z,58nm,1.3s,mb4.8						
SEY	**Semchan**	**24.43**	**310**	⇓*e*P	**P**	**20 30 18.2**	**-2.1**
YKA	**Yellowknife Ar**	**26.77**	**51**	P	**P**	**20 30 40.9**	**-0.7**
	comp=Z,12nm,1.1s,mb4.3,baz=273,slow=9.2,SNR=24						
YKA				LR	LR	20 42 18.2	
	comp=Z,1μm,18.3s,MS4.5,baz=335,slow=39						
YKA	**Yellowknife Ar**	**26.77**	**51**	*i* P	**P**	**20 30 41.7**	**+0.1**
YKA				pmax	pmax		
	comp=Z,12nm,1.1s						
HAWA	**Hanford**	**28.87**	**86**	*e*P	**P**	**20 31 02.0**	**+1.7**
	comp=Z,13nm,1.0s,mb4.6						
NEW	**Newport**	**29.37**	**81**	P	**P**	**20 31 06.7**	**+1.9**
	comp=Z,1.7nm,0.6s,mb4.0,baz=280,slow=15,SNR=2.5						
NEW				LR	LR	20 40 35.0	
	comp=Z,337nm,20.9s,MS3.9,baz=188,slow=32						
EDM	**Edmonton**	**29.47**	**70**	*e*P	**P**	**20 31 06.2**	**+0.6**
YBH	**Yreka Blue Hor**	**29.61**	**97**	LR	LR	20 39 53.3	
	comp=Z,662nm,21.3s,MS4.2,baz=306,slow=30						
WVOR	**Wild Horse Val**	**31.60**	**92**	*e*P	**P**	**20 31 26.2**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.9						
WVOR	**Wild Horse Val**	**31.60**	**92**	*e*P	**P**	**20 31 26.1**	**+1.7**
	comp=Z,26nm,1.4s,mb4.9						
MCMT	**McKenzie Canyo**	**33.67**	**84**	*e*P	**P**	**20 31 44.0**	**+1.4**
RES	**Resolute Bay**	**33.70**	**27**	*e*P	**P**	**20 31 40.9**	**-2.0**
	comp=Z,389nm,1.2s						
YSS	**Yuzh-Sakhalins**	**34.17**	**281**	⇑*e*P	**P**	**20 31 48.9**	**+2.0**
YSS				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
NVAR	**Mina Array Bea**	**34.31**	**98**	P	**P**	**20 31 49.5**	**+1.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=300,slow=9.0,SNR=6.0						
YAK	**Yakutsk**	**34.94**	**311**	*e*P	**P**	**20 31 52.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,921nm,18.0s,MS4.6						
YAK				MLR	MLR		
	comp=N,704nm,15.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,770nm,17.0s,MS4.7						
YAK	**Yakutsk**	**34.94**	**311**	*e*P	**P**	**20 31 51.5**	**-2.1**
	comp=E,15nm,0.8s,mb5.0						
ASAJ	**Asahikawa**	**35.81**	**277**	LR	LR	20 44 31.5	
	comp=E,382nm,21.3s,MS4.1,baz=91,slow=33						
DAC	**Darwin (Calif)**	**36.18**	**100**	*e*P	**P**	**20 32 06.3**	**+2.0**
DAC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DAC	**Darwin (Calif)**	**36.18**	**100**	*e*P	**P**	**20 32 06.3**	**+2.0**
	comp=Z,4.2nm,0.9s,mb4.4						
DUG	**Dugway**	**36.44**	**91**	*e*P	**P**	**20 32 05.4**	**-1.1**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
DUG	**Dugway**	**36.44**	**91**	*e*P	**P**	**20 32 05.3**	**-1.1**
	comp=Z,9.6nm,1.0s,mb4.7						
ERM	**Erimo**	**36.72**	**274**	P	**P**	**20 32 09.2**	**+0.4**
ERM				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.3						
ERM	**Erimo**	**36.72**	**274**	P	**P**	**20 32 09.2**	**+0.3**
	comp=Z,53nm,1.0s,mb5.3						
PDAR	**Pinedale Array**	**36.80**	**85**	P	**P**	**20 32 08.5**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=78,slow=41,SNR=3.6						
PDAR				LR	LR	20 44 41.2	
	comp=Z,177nm,21.6s,MS3.8,baz=128,slow=32						
GSC	**Goldstone**	**37.32**	**100**	*e*P	**P**	**20 32 16.0**	**+2.1**
HABR	**Khabarovsk**	**37.81**	**288**	*e*P	**P**	**20 32 17.0**	**-1.1**
HABR				*e*S	**S**	**20 38 04.2**	**-3.8**
HABR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
TMUT	**Trail Mountain**	**37.96**	**90**	*e*P	**P**	**20 32 17.2**	**-2.2**
SRU	**San Rafael**	**38.49**	**90**	*e*P	**P**	**20 32 23.4**	**-0.5**
SRU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
SRU	**San Rafael**	**38.49**	**90**	*e*P	**P**	**20 32 23.4**	**-0.5**
	comp=Z,5.7nm,1.2s,mb4.2						
ALE	**Alert**	**38.63**	**12**	P	**P**	**20 32 24.9**	**-0.1**
	comp=Z,108nm,1.1s,mb5.5,SNR=9.7						
CLNS	**Chul'man**	**39.17**	**304**	*e*P	**P**	**20 32 27.5**	**-2.0**
CLNS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,20nm,1.2s						
CLNS				pmax	pmax		
	comp=E,37nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,300nm,18.0s,MS5.0						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s,MS5.0						
KLR	**Kul'dur**	**39.27**	**291**	*e*P	**P**	**20 32 24.0**	**-6.4**
PV10	**Paradox Valley**	**39.85**	**90**	*e*P	**P**	**20 32 38.3**	**+3.1**
PV01	**Paradox Valley**	**40.29**	**90**	*e*P	**P**	**20 32 37.7**	**-1.2**
ULM	**Lac du Bonnet**	**40.48**	**66**	P	**P**	**20 32 39.8**	**-0.7**
	comp=E,2.3nm,0.8s,mb4.0,baz=303,slow=7.8,SNR=3.1						
ULM				LR	LR	20 50 53.2	
	comp=E,301nm,18.6s,MS4.2,baz=268,slow=38						
AGMN	**Agassiz Refuge**	**41.55**	**69**	P	**P**	**20 32 48.4**	**-0.8**
	comp=E,43nm,1.3s,mb4.9						
MJAR	**Matsushiro Arr**	**43.16**	**271**	P	**P**	**20 33 02.1**	**-0.2**
	comp=E,11nm,1.0s,mb4.5,baz=34,slow=7.5,SNR=13						
MJAR				LR	LR	20 50 59.3	
	comp=E,293nm,19.7s,MS4.2,baz=70,slow=36						
MAJO	**Matsushiro**	**43.16**	**271**	*e*P	**P**	**20 33 02.4**	**0.0**
MAJO				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**43.16**	**271**	*e*P	**P**	**20 33 02.4**	**0.0**
	comp=Z,31nm,0.9s,mb5.0						
MAT	**Matsushiro**	**43.16**	**271**	P	**P**	**20 33 02.4**	**0.0**
ANMO	**Albuquerque**	**43.68**	**92**	P	**P**	**20 33 07.3**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=6.3,slow=9.2,SNR=1.7						
ANMO				PcP	PcP	20 34 54.2	+0.7
	comp=Z,3.3nm,1.1s,baz=344,slow=1.9,SNR=3.0						
ANMO	**Albuquerque**	**43.68**	**92**	P	**P**	**20 33 07.3**	**+0.8**
ANMO				PcP	PcP	20 34 54.2	+0.7
BOD	**Bodaibo**	**43.85**	**310**	*e*P	**P**	**20 33 06.1**	**-1.8**
BOD				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.5						
HIA	**Hailar**	**45.78**	**297**	*e*P	**P**	**20 33 21.6**	**-1.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**45.78**	**297**	*e*P	**P**	**20 33 21.6**	**-1.7**
	comp=Z,10nm,0.8s,mb4.8						
CN2	**Changchun**	**45.95**	**288**	*e*P	**P**	**20 33 23.8**	**-0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.4						
CIT	**Chita**	**47.33**	**304**	*e*P	**P**	**20 33 34.6**	**-0.8**
CIT				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
DAG	**Danmarks Havn**	**47.97**	**10**	⇑*i*P	**P**	**20 33 40.0**	**-0.4**
	comp=Z,23nm,1.1s,mb5.1						
DAG	**Danmarks Havn**	**47.97**	**10**	⇑*i*P	**P**	**20 33 40.0**	**-0.4**
DAG				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
KSRS	**Korea Array**	**48.64**	**280**	P	**P**	**20 33 46.4**	**+0.7**

KRAR Krasnoyarsk 54.06 318⇓ *e*P P **20 34 25.8 -0.4**
KRAR pmax pmax
comp=Z,26nm,1.0s,mb5.1

OXF Oxford 54.08 79 P P **20 34 25.2 -1.2**
OXF pmax pmax
comp=Z,44nm,1.1s,mb5.3

OXF Oxford 54.08 79 P P **20 34 25.2 -1.1**
comp=Z,44nm,1.1s,mb5.3

KEV Kevo 56.66 356 *e*p P **20 34 41.6 -3.3**
KEV Kevo 56.66 356 *e*P P **20 34 43.4 -1.5**
KEV pmax pmax
comp=Z,63nm,1.3s,mb5.5

KEV Kevo 56.66 356 *e*P P **20 34 43.4 -1.6**
comp=Z,63nm,1.3s,mb5.5

ARCES ARCESS Array B 56.95 356 P P **20 34 45.2 -1.7**
comp=Z,2.0nm,0.5s,mb4.4,baz=10,slow=8.1,SNR=18
ARCES LR LR 21 01 19.9
comp=Z,414nm,18.7s,MS4.6,baz=350,slow=38

ARCES ARCESS Array B 56.95 356 P P **20 34 45.2 -1.7**
ARCES LR LR 21 01 19.9

SSE Sheshan 57.06 279 P P **20 34 49.5 +1.7**
SSE XP sP 20 35 02.8 +5.8
SSE S **S** **20 42 38.0 -3.4**
SSE XS sS 20 42 54.0 +1.6
SSE SCS ScS 20 44 37.0 +1.0
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.3

SSE AMB AMB
comp=Z,156nm,6.6s

SSE LR LR
comp=N,96nm,17.5s,MS4.0

SSE LR LR
comp=E,56nm,17.5s,MS4.0

SSE LR LR
comp=Z,118nm,16.3s,MS4.1

SSE Sheshan 57.06 279 P P **20 34 49.5 +1.7**
comp=Z,28nm,0.8s,mb5.3

SSE sP sP 20 35 02.7 +5.7
SSE S **S** **20 42 38.1 -3.3**
SSE sS sS 20 42 53.9 +1.5
SSE ScS ScS 20 44 36.9 +0.9
SSE LR LR
comp=Z,120nm,16.3s,MS4.1

NJ2 Nanjing 57.74 281 *e*P P **20 34 53.0 +0.5**
NJ2 AP pP 20 34 58.0 -1.2
NJ2 XP sP 20 35 00.5 -1.2
NJ2 PP PP 20 37 03.5 +2.9
NJ2 S **S** **20 42 50.0 -0.3**
NJ2 XS sS 20 42 58.0 -3.2
NJ2 AMB AMB
comp=Z,630nm,9.4s

NJ2 LR LR
comp=N,1μm,22.3s,MS5.1

NJ2 LR LR
comp=E,1μm,23.5s,MS5.1

NJ2 LR LR
comp=Z,630nm,24.6s,MS4.6

NVS Novosibirsk 58.65 321 *i*P P **20 34 57.2 -1.7**
ZAL Zalesovo 58.76 320 P P **20 34 59.3 -0.4**
comp=Z,4.3nm,1.0s,mb4.4

ZAL LR LR 21 03 37.0
comp=Z,812nm,18.4s,MS4.9,baz=72,slow=39

XAN Xi'an 61.97 290 P P **20 35 21.3 -0.4**
XAN AP pP 20 35 31.5 +3.1
XAN AMB AMB
comp=Z,11nm,1.5s,mb4.8

SOKR Solíkamsk 62.55 338⇑ *i*P P **20 35 24.9 -0.6**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.4

SOKR MLR MLR
comp=Z,400nm,19.0s,MS4.6

GTA Gaotai 62.90 300 ⇑P P **20 35 27.3 -0.5**
GTA PCP PcP 20 36 04.8 -1.1
GTA PP PP 20 37 48.0 +1.8
GTA PPP 20 39 18.5
GTA SCP ScP 20 40 06.8 -0.1
GTA AMB AMB
comp=Z,17nm,1.2s,mb5.0

GTA AMB AMB
comp=Z,152nm,6.1s

GTA LR LR
comp=N,183nm,18.2s,MS4.4

GTA LR LR
comp=E,126nm,16.3s,MS4.4

GTA LR LR
comp=Z,140nm,18.2s,MS4.2

LZH Lanzhou 63.25 295 *e*P P **20 35 30.0 -0.2**
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.5

LZH AMB AMB
comp=Z,231nm,4.3s

LZH Lanzhou 63.25 295 *e*P P **20 35 30.0 -0.2**
comp=Z,56nm,1.5s,mb5.5

LZH pP pP 20 35 42.5 +5.6
LZH sP sP 20 35 53.5 +14
KURK Kurchatov 63.63 321 P P **20 35 32.8 +0.1**
comp=Z,134nm,1.1s,mb5.9,SNR=17

KURK Kurchatov 63.63 321 P P **20 35 32.0 -0.7**
KURK pmax pmax
comp=Z,19nm,1.2s,mb5.0

SVE Sverdlovsk 64.09 335 *e*P P **20 35 36.0 +0.2**
KAF Kangasniemi 64.32 355 *e*p P **20 35 34.5 -2.7**
BVA0 Borovoye Array 64.59 327 *i*P P **20 35 38.8 -0.2**
BVA0 pmax pmax
comp=Z,6.0nm,1.2s,mb4.5

BVAR Borovoye Array 64.59 327 P P **20 35 38.9 -0.1**
comp=Z,21nm,1.0s,mb5.1,baz=51,slow=5.9,SNR=67

BRVK Borovoye 64.59 327 ⇓P P **20 35 39.0 0.0**
SNR=11

BRVK Borovoye 64.59 327 *e*P P **20 35 38.4 -0.6**
BRVK pmax pmax
comp=Z,31nm,1.1s,mb5.2

BRVK Borovoye 64.59 327 *e*P P **20 35 38.4 -0.6**
comp=Z,31nm,1.1s,mb5.2

VOSK Vostochnaya 64.65 327 P P **20 35 38.7 -0.7**
VOSK pmax pmax
comp=Z,11nm,0.9s,mb4.9

ARU Arti 64.97 336 P P **20 35 41.4 -0.1**
comp=Z,156nm,1.0s,SNR=16

ARU Arti 64.97 336⇓ *e*P P **20 35 40.9 -0.6**
ARU pmax pmax
comp=Z,29nm,1.0s,mb5.3

ARU Arti 64.97 336 *e*P P **20 35 40.5 -0.9**
comp=Z,26nm,0.9s,mb5.3

FIA1 FINESS Array S 65.00 355 *e*P P **20 35 39.9 -1.7**
FINES FINESS Array B 65.00 355 P P **20 35 40.7 -0.9**
comp=Z,12nm,0.9s,mb4.9,baz=26,slow=4.9,SNR=18
FINES LR LR 21 06 36.0
comp=Z,226nm,19.3s,MS4.4,baz=140,slow=38

FINES FINESS Array B 65.00 355 *i*P P **20 35 40.2 -1.4**
FINES pmax pmax
comp=Z,12nm,0.9s

ZRNK Zerenda 65.09 328 *e*P P **20 35 41.6 -0.7**
ZRNK pmax pmax
comp=Z,49nm,1.2s,mb5.4

ZRNK Zerenda 65.09 328 *e*P P **20 35 41.6 -0.7**
comp=Z,49nm,1.2s,mb5.4

MKAR Makanchi Array 65.35 316 P P **20 35 43.0 -1.0**
comp=Z,1.8nm,0.4s,mb4.4,baz=48,slow=7.6,SNR=48

WMQ Urumqi 65.38 311 *e*P P **20 35 44.8 +0.6**
NB2 NORSAR Subarra 65.59 3 P P **20 35 44.9 -0.6**
comp=Z,27nm,1.2s,mb5.2,baz=0.7,slow=6.5

NOA NORSAR Array B 65.59 3 P P **20 35 45.7 +0.2**
comp=Z,13nm,1.0s,mb4.9,baz=356,slow=6.4,SNR=14
NOA LR LR 21 05 24.5
comp=Z,175nm,20.4s,MS4.2,baz=0.0,slow=37

NOA NORSAR Array B 65.59 3 P P **20 35 45.7 +0.2**
NOA LR LR 21 05 24.4
KONO Kongsberg 66.93 4⇑ *e*P P **20 35 54.3 +0.2**
CD2 Chengdu 67.20 291 P P **20 35 55.5 -0.3**
CD2 AP pP 20 35 59.0 -3.5
CD2 XP sP 20 36 00.5 -4.5
CD2 PP PP 20 38 24.8 +0.9
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.3

CD2 AMB AMB
comp=Z,60nm,7.6s

CD2 LR LR
comp=N,360nm,14.4s,MS4.8

CD2 LR LR
comp=E,340nm,16.8s,MS4.8

CD2 LR LR
comp=Z,360nm,19.2s,MS4.6

VSU Vasula 67.93 354⇓ *i*P P **20 36 00.4 0.0**
GYA Guiyang 68.96 286 P P **20 36 09.3 +2.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8

TGY Tagaytay City 70.12 267 P P **20 36 14.5 +0.4**
comp=Z,48nm,0.3s,baz=224,slow=23,SNR=4.2

ORR Orenburg 70.29 336 *e*P P **20 36 14.4 -0.6**
ORR pmax pmax
comp=Z,50nm,1.4s,mb5.2

OBN Obninsk 70.33 348⇓ *e*P P **20 36 14.4 -0.9**
OBN *e* 20 36 36.7
OBN *e* 20 38 46.3
OBN *e*S S 20 45 17.1 -9.3
OBN pmax pmax
comp=Z,45nm,1.7s,mb5.1

OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6

AKTK Aktyubinsk 70.53 333 P P **20 36 16.9 +0.4**
AKTO Aktyubinsk 70.53 333 P P **20 36 16.9 +0.3**
comp=Z,38nm,1.0s,mb5.3,baz=33,slow=6.5,SNR=57

AB31 Akbulak array 71.07 331 *e*P P **20 36 19.8 0.0**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.2

TKM2 Tokmak 2 71.24 318 P P **20 36 21.9 +1.0**
SNR=13

TKM2 Tokmak 2 71.24 318 P P **20 36 21.3 +0.4**
TKM2 pmax pmax
comp=Z,26nm,1.2s,mb5.0

USP Ospenovka 71.38 319 P P **20 36 21.6 -0.1**
SNR=15

CHMS Chumysh 71.51 319 P P **20 36 23.4 +0.9**
SNR=13

FRU Bishkek 71.70 319 *e*P P **20 36 24.0 +0.4**
FRU pmax pmax
comp=Z,120nm,2.2s,mb5.4

FRU MLR MLR
comp=N,600nm,17.0s

FRU MLR MLR
comp=Z,900nm,17.0s,MS5.1

KBK Karagaybulak 71.72 318 P P **20 36 24.1 +0.3**
SNR=15

AAK Ala-Archa 71.92 319 P P **20 36 25.3 +0.4**
SNR=18

AAK Ala-Archa 71.92 319 ⇓P P **20 36 24.8 -0.2**
SNR=12

AAK Ala-Archa 71.92 319*c i*P P **20 36 24.3 -0.6**
AAK pmax pmax
comp=Z,21nm,1.0s,mb5.0

AAK Ala-Archa 71.92 319 *e*P P **20 36 23.7 -1.2**
comp=Z,26nm,1.2s,mb5.0

PPT Papeete 71.95 166 *e*S S 20 45 29.8 -15
comp=Z,84nm,25.0s

PPT *e*LR LR 20 57 54.8
comp=Z,265nm,22.8s

PPT Papeete 71.95 166 LR LR 21 06 22.9
comp=Z,291nm,18.1s,MS4.6,baz=350,slow=34

KZA Kyzart 72.09 318 P P **20 36 27.3 +1.3**
SNR=7.2

EKS2 Erkin-Say 72.18 319 P P **20 36 27.6 +1.1**
SNR=20

KMI Kunming 72.22 288 P P **20 36 25.3 -1.5**
KMI AP pP 20 36 30.5 -3.1
KMI XP sP 20 36 33.8 -2.3
KMI PP PP 20 39 08.5 +1.2
KMI AMB AMB
comp=Z,8.0nm,1.8s,mb4.3

KMI AMB AMB
comp=Z,125nm,4.5s

KMI LR LR
comp=N,227nm,21.3s,MS4.6

KMI LR LR
comp=E,276nm,19.4s,MS4.6

KMI LR LR
comp=Z,268nm,22.2s,MS4.5

KMI Kunming 72.22 288 P P **20 36 25.3 -1.5**
KMI *PP pP 20 36 30.6 -3.0
KMI 20 39 08.6
KMI S S 20 45 46.2 -2.1
KMI SS SS 20 50 30.5 +4.4
KMI pmax pmax
comp=Z,8.0nm,1.8s,mb4.3

KMI MLR MLR
comp=Z,270nm,22.2s,MS4.5

KMI Kunming 72.22 288 P P **20 36 25.3 -1.5**
comp=Z,8.0nm,1.8s,mb4.3

KMI pP pP 20 36 30.6 -3.0
KMI sP sP 20 36 33.7 -2.4
KMI PP PP 20 39 08.6 +1.3
KMI S S 20 45 46.2 -2.1
KMI sS sS 20 45 57.9 -1.7
KMI SS SS 20 50 30.5 +4.4
KMI SSS 20 53 50.7
KMI LR LR
comp=Z,270nm,22.2s,MS4.5

UCH Uchtor 72.26 319 P P **20 36 28.5 +1.6**
SNR=6.8

SUW Suwalki 72.56 356 *e*P P **20 36 28.4 -0.4**
AML Almayashu 72.66 319 P P **20 36 30.8 +1.4**
SNR=18

KKAR Karatay Array 73.04 322 *i*P P **20 36 31.2 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6

VRSR Storozhevoye 73.77 345 *e*P P **20 36 34.9 -1.0**
VRSR pmax pmax
comp=N,10.0nm,0.8s

VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8

VRSR pmax pmax
comp=E,10.0nm,1.0s

NRDL Niedersach Rie 74.10 4 *e*P P **20 36 37.0 -0.8**
comp=Z,18nm,1.1s,mb4.9

RUE Ruedersdorf 74.22 2 *e*P P **20 36 39.0 +0.4**
comp=Z,18nm,1.0s,mb5.0

CLZ Clausthal 74.76 4 *e*P P **20 36 42.1 +0.4**
comp=Z,32nm,1.2s,mb5.1

CLZ Clausthal 74.76 4 *e*P P **20 36 42.1 +0.4**
CLZ pmax pmax
comp=Z,32nm,1.2s,mb5.1

LSA Lhasa 74.91 300 P P **20 36 44.0 +1.4**
LSA Lhasa 74.91 300 *e*P P **20 36 43.4 +0.8**
LSA pmax pmax
comp=Z,19nm,0.9s,mb5.0

LSA Lhasa 74.91 300 *e*P P **20 36 43.4 +0.8**
comp=Z,19nm,0.9s,mb5.0

BUG Bochum--Univer 75.01 6 *e*P P **20 36 42.7 -0.4**
comp=Z,46nm,1.3s,mb5.2

CLL Collm 75.38 2 *e*P P **20 36 45.0 -0.3**
comp=Z,17nm,1.1s,mb4.9

CLL Collm 75.38 2⇑ *i*P P **20 36 44.8 -0.5**
CLL pmax pmax
comp=Z,17nm,1.1s,mb4.9

CLL Collm 75.38 2⇑ *i*P P **20 36 44.8 -0.5**
comp=Z,17nm,1.1s,mb4.9

AKASG Malin Array Be 75.46 352 P P **20 36 44.6 -1.1**
comp=Z,2.4nm,0.4s,mb4.5,baz=8.8,slow=5.7,SNR=30

KIEV Kiev 75.47 352 *e*P P **20 36 44.1 -1.7**
KIEV pmax pmax
comp=Z,38nm,1.4s,mb5.1

KIEV Kiev 75.47 352 *e*P P **20 36 44.0 -1.7**
comp=Z,38nm,1.4s,mb5.1

MEM Membach 75.75 7 P P **20 36 47.6 +0.2**
FBE Freiberg 75.78 2 *e*P P **20 36 47.8 +0.3**
comp=Z,23nm,1.1s,mb5.0

BRG Berggiesshubel 75.83 2 *e*P P **20 36 47.6 -0.2**
comp=Z,26nm,1.4s,mb5.0

BRG Berggiesshubel 75.83 2 *e*P P **20 36 47.8 -0.1**
comp=Z,15nm,1.4s,mb4.7

BRG *e* 20 36 58.7
comp=Z,7.2nm,1.3s

BRG Berggiesshubel 75.83 2 *e*P P **20 36 47.8 -0.1**
BRG *e* 20 36 58.7
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.7

BCLA Clavier 75.89 7 P P **20 36 48.9 +0.7**
MOX Moxa 76.01 3 *e*P P **20 36 48.9 +0.1**
comp=Z,21nm,1.1s,mb5.0

MOX Moxa 76.01 3 *e*P P **20 36 49.1 +0.3**
comp=Z,28nm,1.4s,mb5.0

MOX *e* 20 36 59.9
MOX Moxa 76.01 3 *e*P P **20 36 49.1 +0.3**
MOX *e* 20 36 59.9
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.0

DOU Dourbes 76.16 8 P P **20 36 50.5 +0.8**
BAIF Baives 76.16 8 *e*P P **20 36 49.6 -0.1**
comp=Z,30nm,1.1s,mb4.8

BAIF Baives 76.16 8 *e*P P **20 36 49.6 -0.1**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb4.8

BAIF Baives 76.16 8 *e*P P **20 36 49.6 -0.1**
comp=Z,15nm,1.1s,mb4.8

GIVF Givet 76.17 8 *e*P P **20 36 49.6 -0.2**
PVCC Panska Ves 76.19 1 *e*P P **20 36 49.8 -0.1**
UPC Upice 76.22 0 *e*P P **20 36 50.8 +0.8**
DPC Dobruska-Polom 76.38 0 *e*P P **20 36 51.6 +0.7**
DPC *e*PCP PcP 20 37 02.4 -0.3
WERN Wernitzgruen 76.39 3 *e*P P **20 36 51.1 +0.1**
comp=Z,15nm,1.3s,mb4.8

NKC Novy Kostel 76.44 3 *e*P P **20 36 51.7 +0.4**
NKC *e*PCP PcP 20 37 02.4 -0.6
OJC Ojcow 76.47 358 *e*P P **20 36 50.8 -0.7**
LVV L'vov 76.70 355 *e*P P **20 36 53.3 +0.5**
PRU Pruhonice 76.73 1 *e*P P **20 36 53.2 +0.3**
PRU *e*PCP PcP 20 37 04.0 -0.2
OKC Ostrava-Krasne 76.88 359 *e*P P **20 36 54.3 +0.5**
OKC *e*PCP PcP 20 37 05.7 +0.8
ROTZ Rotzenmuhle 76.90 3 *e*P P **20 36 54.2 +0.3**
comp=Z,18nm,1.3s,mb4.8

GRA1 Grafenberg Arr 76.94 3 *e*P P **20 36 54.4 +0.2**
comp=Z,14nm,1.0s,mb4.8

GRF Grafenberg Arr 76.94 3 *e*P P **20 36 54.4 +0.2**
comp=Z,14nm,1.0s,mb4.8

GRF Grafenberg Arr 76.94 3 *e*P P **20 36 54.4 +0.2**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8

GRF Grafenberg Arr 76.94 3 *e*P P **20 36 54.4 +0.2**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8

GRFO Grafenberg 76.95 3 *e*P P **20 36 54.5 +0.3**
GRFO pmax pmax
comp=Z,17nm,1.2s,mb4.8

GRFO Grafenberg 76.95 3 *e*P P **20 36 54.5 +0.4**
comp=Z,17nm,1.2s,mb4.8

MORC Moravsky Berou 76.95 359⇑ *i*P P **20 36 54.1 -0.1**
MORC Moravsky Berou 76.95 359 *e*P P **20 36 53.9 -0.3**
comp=Z,6.3nm,1.2s,mb4.4

KWP Kalwaria 76.96 356 *e*P P **20 36 54.5 +0.3**
KWP pmax pmax
comp=Z,32nm,1.0s,mb5.2

KWP Kalwaria 76.96 356 *e*P P **20 36 54.5 +0.3**
comp=Z,32nm,1.0s,mb5.2

FLN La Foliniere 76.98 11 *e*P P **20 36 54.2 -0.1**
ROSF Rostrenen 77.04 13 *e*P P **20 36 54.8 +0.1**
comp=Z,268nm,1.5s,mb5.6

ROSF Rostrenen 77.04 13 *e*P P **20 36 54.8 +0.1**
ROSF pmax pmax
comp=Z,134nm,1.5s,mb5.7

ROSF Rostrenen 77.04 13 *e*P P **20 36 54.8 +0.1**
comp=Z,134nm,1.5s,mb5.7

LDF La Druitiere 77.18 11 *e*P P **20 36 55.3 -0.2**
comp=Z,34nm,1.0s,mb4.9

LDF La Druitiere 77.18 11 *e*P P **20 36 55.3 -0.2**
LDF pmax pmax
comp=Z,17nm,1.0s,mb4.9

LDF La Druitiere 77.18 11 *e*P P **20 36 55.3 -0.2**
comp=Z,17nm,1.0s,mb4.9

SGMF Saint Gilles 77.22 13 *e*P P **20 36 55.7 0.0**
STHS Stebnicka Huta 77.23 357 *e*P P **20 36 56.7 +1.0**
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8

STHS Stebnicka Huta 77.23 357 *e*P P **20 36 56.7 +1.0**
comp=Z,9.8nm,0.8s,mb4.8

NIE Niedzica 77.25 357 *e*P P **20 36 56.5 +0.6**
GRR Gorron 77.30 12 *e*P P **20 36 56.0 -0.1**
VRAC Vranov 77.42 360⇓ *i*P P **20 36 58.3 +1.5**
VRAC Vranov 77.42 360 ⇑P P **20 36 58.3 +1.5**
QUIF Quistinic 77.47 13 *e*P P **20 36 57.2 +0.1**
comp=Z,71nm,1.2s,mb5.2

QUIF Quistinic 77.47 13 *e*P P **20 36 57.2 +0.1**
QUIF pmax pmax
comp=Z,36nm,1.2s,mb5.2

QUIF Quistinic 77.47 13 *e*P P **20 36 57.2 +0.1**
comp=Z,36nm,1.2s,mb5.2

WET Wettzell 77.54 2 *e*P P **20 36 57.6 +0.1**
comp=Z,16nm,1.4s,mb4.8

WET Wettzell 77.54 2 *e*P P **20 36 57.6 +0.1**
WET pmax pmax
comp=Z,16nm,1.4s,mb4.8

KHC Kasperske Hory 77.57 2 *e*P P **20 36 58.2 +0.5**
KHC *e*PCP PcP 20 37 09.2 +1.3
TBI Tubuai 77.65 167 *e*LR LR 21 00 37.2
comp=Z,232nm,32.5s,baz=338

KOLS Kolonicke sedl 77.67 356 *e*P P **20 36 59.0 +0.8**
MEZF Maizieres J'vi 77.78 8 *e*P P **20 36 58.4 -0.4**
SHL Shillong 77.85 297 *e*P P **20 36 58.4 -0.8**
GEC2 GERESS Array S 77.86 2 *e*P P **20 36 59.9 +0.6**
comp=Z,14nm,1.2s,mb4.8

GEC2 GERESS Array S 77.86 2 *e*P P **20 36 59.9 +0.6**
GEC2 pmax pmax
comp=Z,14nm,1.2s,mb4.8

GERES GERESS Array B 77.86 2 P P **20 36 59.3 0.0**
comp=Z,4.1nm,1.0s,mb4.3,baz=0.0,slow=4.0,SNR=23

CDF Champ du Feu 78.03 6 *e*P P **20 37 00.3 +0.1**
comp=Z,7.0nm,0.6s,mb4.5

CDF Champ du Feu 78.03 6 *e*P P **20 37 00.3 +0.1**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5

CDF Champ du Feu 78.03 6 *e*P P **20 37 00.3 +0.1**
comp=Z,3.5nm,0.6s,mb4.5

BFO Black Forest 78.17 5 *e*P P **20 37 00.9 -0.1**
comp=Z,92nm,2.5s,mb5.3

BFO Black Forest 78.17 5 *e*P P **20 37 00.9 -0.1**
BFO pmax pmax
comp=Z,92nm,2.5s,mb5.3

KECS Kecovo 78.19 357 *e*P P **20 37 01.1 0.0**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4

KECS Kecovo 78.19 357 *e*P P **20 37 01.1 0.0**
comp=Z,5.0nm,1.0s,mb4.4

VYHS Vyhne 78.21 358 *e*P P **20 37 01.5 +0.3**
VYHS Vyhne 78.21 358 *e*P P **20 37 01.6 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5

VYHS Vyhne 78.21 358 *e*P P **20 37 01.6 +0.4**
comp=Z,7.1nm,1.1s,mb4.5

HAU Haudompre 78.37 7 *e*P P **20 37 02.0 -0.1**
comp=Z,9.7nm,0.7s,mb4.5

HAU Haudompre 78.37 7 *e*P P **20 37 02.0 -0.1**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5

HAU Haudompre 78.37 7 *e*P P **20 37 02.0 -0.1**
comp=Z,4.8nm,0.7s,mb4.5

ZST Bratislava 78.53 359 *e*P P **20 37 04.0 +1.0**
ZST pmax pmax
comp=Z,10.0nm,1.0s,mb4.7

ZST MLR MLR
comp=Z,200nm,18.3s,MS4.5

ZST Bratislava 78.53 359 *e*P P **20 37 04.0 +1.0**
comp=Z,10nm,1.0s,mb4.7

ZST LR LR
comp=Z,200nm,18.3s,MS4.5

HINF Hinteralfeld 78.59 7 *e*P P **20 37 03.2 -0.1**
comp=Z,5.3nm,0.6s,mb4.3

HINF Hinteralfeld 78.59 7 *e*P P **20 37 03.2 -0.1**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4

HINF Hinteralfeld 78.59 7 *e*P P **20 37 03.2 -0.1**
comp=Z,2.7nm,0.6s,mb4.3

PSZ Piszkesteto 78.77 358⇑ *i*P P **20 37 05.6 +1.3**
PSZ Piszkesteto 78.77 358 *e*P P **20 37 05.2 +0.9**
PSZ *e* 20 37 15.5
PSZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

PSZ Piszkesteto 78.77 358 *e*P P **20 37 05.2 +0.9**
comp=Z,9.6nm,0.9s,mb4.7

PSZ *e* 20 37 15.5
CONA Conrad Observa 78.80 0⇓ *i*P P **20 37 05.6 +1.1**
comp=Z,9.1nm,1.1s,mb4.6

BURAR Bucovina Array 78.83 354⇑ *i*P P **20 37 04.5 -0.2**
BURAR Bucovina Array 78.83 354 ⇑P P **20 37 04.5 -0.2**
LOR Lormes 78.90 9 *e*P P **20 37 05.0 0.0**
comp=Z,44nm,1.3s,mb4.9

LOR Lormes 78.90 9 *e*P P **20 37 05.0 0.0**
LOR pmax pmax
comp=Z,22nm,1.3s,mb4.9

LOR Lormes 78.90 9 *e*P P **20 37 05.0 0.0**
comp=Z,22nm,1.3s,mb4.9

GUN Gumba 79.05 302 *e*P P **20 37 06.4 +0.5**
comp=Z,75nm,0.8s,mb5.7

SSF Saint Saulge 79.08 9 *e*P P **20 37 05.7 -0.3**
comp=Z,16nm,0.8s,mb4.7

SSF Saint Saulge 79.08 9 *e*P P **20 37 05.7 -0.3**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7

SSF	Saint Saulge	79.08	9	eP		P	20 37 05.7	-0.3
	comp=Z,8.1nm,0.8s,mb4.7							
JIRN	Jiri	79.10	302	eP		P	20 37 07.0	+0.9
	comp=Z,47nm,0.5s,mb5.7							
MFF	Saint Martin d	79.14	11	eP		P	20 37 06.0	-0.4
MOTA	Moosalm	79.29	4	⇓iP		P	20 37 07.8	+0.7
	comp=Z,22nm,1.2s,mb5.0							
MOTA	Moosalm	79.29	4	⇓iP		P	20 37 07.8	+0.7
MOTA				pmax	pmax			
	comp=Z,22nm,1.2s,mb5.0							
AVF	Avril sur Loir	79.33	9	eP		P	20 37 07.1	-0.3
	comp=Z,14nm,0.8s,mb4.7							
AVF	Avril sur Loir	79.33	9	eP		P	20 37 07.1	-0.3
AVF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
AVF	Avril sur Loir	79.33	9	eP		P	20 37 07.1	-0.3
	comp=Z,7.2nm,0.8s,mb4.7							
SQTA	Sankt Quirin	79.41	4	⇓iP		P	20 37 08.8	+1.0
	comp=Z,25nm,1.2s,mb5.0							
SQTA	Sankt Quirin	79.41	4	⇓iP		P	20 37 08.8	+1.0
SQTA				pmax	pmax			
	comp=Z,25nm,1.2s,mb5.0							
KKN	Kakani	79.45	303	eP		P	20 37 08.1	+0.1
ARSA	Arzberg	79.48	1	⇓iP		P	20 37 09.4	+1.2
	comp=Z,13nm,1.1s,mb4.8							
BGF	Bois d'Agland	79.51	9	eP		P	20 37 08.2	-0.2
SMF	Signal de Mont	79.52	9	eP		P	20 37 08.4	0.0
	comp=Z,42nm,1.1s,mb5.0							
SMF	Signal de Mont	79.52	9	eP		P	20 37 08.4	0.0
SMF				pmax	pmax			
	comp=Z,21nm,1.1s,mb5.0							
SMF	Signal de Mont	79.52	9	eP		P	20 37 08.4	0.0
	comp=Z,21nm,1.1s,mb5.0							
PKI	Pulchoki	79.57	303	eP		P	20 37 08.8	+0.1
GKN	Gorkha	79.60	303	eP		P	20 37 08.6	-0.2
	comp=Z,106nm,1.1s,mb5.7							
KBA	Koelnbreinsper	79.62	2	⇓iP		P	20 37 10.4	+1.5
	comp=Z,36nm,1.2s,mb5.2							
KBA	Koelnbreinsper	79.62	2	⇓iP		P	20 37 10.5	+1.6
KBA				pmax	pmax			
	comp=Z,37nm,1.2s,mb5.2							
DMN	Daman	79.69	303	eP		P	20 37 09.5	+0.2
	comp=Z,40nm,0.8s,mb5.4							
TCF	Toulx Ste Croi	79.72	10	eP		P	20 37 08.9	-0.6
	comp=Z,36nm,1.3s,mb4.8							
TCF	Toulx Ste Croi	79.72	10	eP		P	20 37 08.9	-0.6
TCF				pmax	pmax			
	comp=Z,18nm,1.3s,mb4.8							
TCF	Toulx Ste Croi	79.72	10	eP		P	20 37 08.9	-0.6
	comp=Z,18nm,1.3s,mb4.8							
CABF	La Chapelle	79.74	7	eP		P	20 37 09.5	-0.1
	comp=Z,33nm,1.0s,mb4.9							
CABF	La Chapelle	79.74	7	eP		P	20 37 09.5	-0.1
CABF				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9							
CABF	La Chapelle	79.74	7	eP		P	20 37 09.5	-0.1
	comp=Z,16nm,1.0s,mb4.9							
DRGR		79.79	356	⇑iP		P	20 37 10.7	+0.8
DRGR		79.79	356	⇑P		P	20 37 10.7	+0.8
KIV	Kislovodsk	80.19	341	eP		P	20 37 12.4	+0.4
KIV				eS		S	20 47 13.4	-2.5
KIV				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8							
KIV	Kislovodsk	80.19	341	P		P	20 37 11.1	-1.0
	comp=Z,17nm,1.0s,mb4.9							
OBKA	Obir	80.21	1	⇓iP		P	20 37 13.1	+1.0
	comp=Z,22nm,1.0s,mb5.1							
KOLN	Koldanda	80.31	304	eP		P	20 37 13.0	+0.3
	comp=Z,68nm,1.0s,mb5.5							
RKT	Rikitea	80.38	153	eLR		LR	21 01 46.1	
	comp=Z,276nm,32.0s,baz=342							
PKSM	Moragy	80.50	358	⇑iP		P	20 37 13.3	-0.4
PKSM	Moragy	80.50	358	⇑P		P	20 37 13.3	-0.4
LPL	La Plagne	80.87	7	eP		P	20 37 15.9	+0.2
	comp=Z,9.2nm,1.0s,mb4.4							
LPL	La Plagne	80.87	7	eP		P	20 37 15.9	+0.2
LPL				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
LPL	La Plagne	80.87	7	eP		P	20 37 15.9	+0.2
	comp=Z,4.6nm,1.0s,mb4.4							
LFF	La Frestale	80.89	11	eP		P	20 37 15.5	-0.3
	comp=Z,89nm,1.4s,mb5.2							
LFF	La Frestale	80.89	11	eP		P	20 37 15.5	-0.3
LFF				pmax	pmax			
	comp=Z,44nm,1.4s,mb5.2							
LFF	La Frestale	80.89	11	eP		P	20 37 15.5	-0.3
	comp=Z,44nm,1.4s,mb5.2							
LPG	La Plagne	80.89	7	eP		P	20 37 16.0	+0.2
	comp=Z,22nm,1.3s,mb4.6							
LPG	La Plagne	80.89	7	eP		P	20 37 16.0	+0.2
LPG				pmax	pmax			
	comp=Z,11nm,1.3s,mb4.6							
LPG	La Plagne	80.89	7	eP		P	20 37 16.0	+0.2
	comp=Z,11nm,1.3s,mb4.6							
BZS	Buzias	81.01	356	⇑iP		P	20 37 16.3	-0.1
BZS	Buzias	81.01	356	⇑P		P	20 37 16.2	-0.2
CAF	Calviac	81.05	10	eP		P	20 37 16.4	-0.2
ZEI	Tsey	81.09	340	eP		P	20 37 17.2	+0.4
ZEI				e			20 40 19.8	
ZEI				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
BNI	Bardonecchia	81.33	7	eP		P	20 37 19.3	+1.2
BNI				pmax	pmax			
	comp=Z,22nm,1.2s,mb5.0							
BNI	Bardonecchia	81.33	7	eP		P	20 37 19.3	+1.2
	comp=Z,22nm,1.2s,mb5.0							
VIVF	Saint-Julien-l	81.37	8	eP		P	20 37 18.3	0.0
	comp=Z,53nm,1.5s,mb4.9							
VIVF	Saint-Julien-l	81.37	8	eP		P	20 37 18.3	0.0
VIVF				pmax	pmax			
	comp=Z,26nm,1.5s,mb4.9							
VIVF	Saint-Julien-l	81.37	8	eP		P	20 37 18.3	0.0
	comp=Z,26nm,1.5s,mb5.0							
ORIF	Oris-en-Rattie	81.40	8	eP		P	20 37 18.4	-0.1
	comp=Z,65nm,1.6s,mb5.0							
ORIF	Oris-en-Rattie	81.40	8	eP		P	20 37 18.4	-0.1
ORIF				pmax	pmax			
	comp=Z,33nm,1.6s,mb5.0							
ORIF	Oris-en-Rattie	81.40	8	eP		P	20 37 18.4	-0.1
	comp=Z,33nm,1.6s,mb5.0							
MBDF	Montbardon	81.66	7	eP		P	20 37 19.8	-0.1
	comp=Z,16nm,0.8s,mb4.7							
MBDF	Montbardon	81.66	7	eP		P	20 37 19.8	-0.1
MBDF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
MBDF	Montbardon	81.66	7	eP		P	20 37 19.8	-0.1
	comp=Z,8.2nm,0.8s,mb4.7							
TIRR	Tirgusor	81.73	351	⇑iP		P	20 37 19.9	-0.3
TIRR	Tirgusor	81.73	351	⇑P		P	20 37 19.9	-0.4
LASF	Ste Croix	82.07	9	eP		P	20 37 21.9	-0.1
SMRF	Simiane la Rot	82.32	8	eP		P	20 37 23.2	-0.1
SBF	Sospel	82.57	6	eP		P	20 37 24.4	-0.2
NDI	New Delhi	82.59	309	eP		P	20 37 24.1	-0.6
NDI				AMb		AMB	20 37 25.5	
	comp=Z,29nm,0.7s,mb5.4							
FRF	La Foret Royal	82.81	7	eP		P	20 37 25.5	-0.4
	comp=Z,27nm,1.1s,mb4.9							
FRF	La Foret Royal	82.81	7	eP		P	20 37 25.5	-0.4
FRF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
FRF	La Foret Royal	82.81	7	eP		P	20 37 25.5	-0.4
	comp=Z,14nm,1.1s,mb4.9							
LMR	La Mourre	83.03	7	eP		P	20 37 26.7	-0.3
GNI	Garni	83.42	338	P		P	20 37 29.5	+0.4
	comp=Z,7.7nm,1.0s,mb4.7,baz=5.0,slow=10,SNR=3.7							
GNI	Garni	83.42	338	⇓eP		P	20 37 30.8	+1.7
GNI				pmax	pmax			
	comp=Z,9.0nm,1.0s							
GNI	Garni	83.42	338	P		P	20 37 26.6	-2.5
	comp=Z,36nm,1.4s,mb5.2							
PGF	Pioggiola	83.97	5	eP		P	20 37 31.8	-0.1
	comp=Z,84nm,1.4s,mb5.4							
PGF	Pioggiola	83.97	5	eP		P	20 37 31.8	-0.1
PGF				pmax	pmax			
	comp=Z,42nm,1.4s,mb5.4							
PGF	Pioggiola	83.97	5	eP		P	20 37 31.8	-0.1
	comp=Z,42nm,1.4s,mb5.4							
BALT	Daday	84.07	347	iP		P	20 37 32.8	+0.5
SKO	Skopje	84.66	356	iP		P	20 37 36.7	+1.3
CTKT	Corum	84.77	346	iP		P	20 37 36.0	+0.1
STIP	Stip	84.90	356	iP		P	20 37 36.9	+0.3
ELDT	Eldivan	85.09	347	iP		P	20 37 38.4	+0.9
SGKT	Sivrigoynuk	85.18	348	iP		P	20 37 38.6	+0.6
VAY	Valandovo	85.26	355	iP		P	20 37 38.7	+0.3
KRUS	Krusevo	85.27	356	iP		P	20 37 39.3	+0.9
ESDC	Sonseca Array	85.41	16	P		P	20 37 38.5	-0.7
	comp=Z,1.4nm,0.8s,mb4.2,baz=336,slow=5.1,SNR=7.0							
ESDC				LR	LR		21 17 34.4	
	comp=Z,213nm,19.4s,MS4.5,baz=310,slow=37							
OHR	Ohrid	85.54	357	iP		P	20 37 39.7	-0.1
BIA	Bitola	85.61	356	iP		P	20 37 40.3	+0.1
AJM	Ajmer	85.65	310	eP		P	20 37 39.5	-0.8
AJM				AMb	AMB		20 37 42.3	
	comp=Z,31nm,1.4s,mb5.3							
ANTO	Ankara	85.78	347	⇓iP		P	20 37 42.4	+1.4
ANTO	Ankara	85.78	347	eP		P	20 37 41.7	+0.8
	comp=Z,26nm,1.2s,mb5.3							
BR131	Keskin Array S	85.81	347	eP		P	20 37 41.2	+0.1
	comp=Z,9.2nm,1.0s,mb5.0							
BRTR	Keskin Array B	85.81	347	P		P	20 37 42.0	+0.8
	comp=Z,10nm,1.0s,mb5.0,baz=42,slow=2.0,SNR=36							
ULDT	Uludag	85.94	350	iP		P	20 37 42.5	+0.7
ESKT	Eskisehir	86.36	349	iP		P	20 37 44.1	+0.2
MALT	Malatya	86.44	343	⇑iP		P	20 37 46.2	+2.0
MALT	Malatya	86.44	343	eP		P	20 37 45.2	+0.9
	comp=Z,15nm,1.4s,mb5.0							
KSM	Kuching	86.47	268	eP		P	20 37 44.4	0.0
BHPL	Bhopal	87.11	306	eP		P	20 37 46.8	-0.7
VIS	Vishakhapatnam	88.79	299	eP		P	20 37 55.0	-0.5
VIS				AMb	AMB		20 37 56.7	
	comp=Z,15nm,1.3s,mb5.2							
AKL	Akola	89.47	305	eP		P	20 37 57.9	-0.8
AKL				AMb	AMB		20 38 11.2	
	comp=Z,18nm,1.4s,mb5.2							
WRA	Warramunga Arr	90.55	236	P		P	20 38 02.2	-1.5
	comp=Z,0.5nm,0.9s,mb3.8,baz=32,slow=5.7,SNR=4.1							
HYB	Hyderabad	91.49	302	iP		P	20 38 08.5	+0.4
HYB	Hyderabad	91.49	302	eP		P	20 38 08.5	+0.4
KAD	Karad	93.74	306	eP		P	20 38 19.3	+0.8
KAD				AMb	AMB		20 38 22.6	
	comp=Z,13nm,1.0s,mb5.3							
ASAR	Alice Springs	93.91	235	P		P	20 38 17.3	-2.0
	comp=Z,1.4nm,1.2s,mb4.3,baz=38,slow=4.7,SNR=4.0							
TORD	Torodi Ar. Bea	112.30	15	PKiKP	PKiKP		20 43 35.6	-1.8
	comp=Z,0.3nm,0.4s,baz=334,slow=2.1,SNR=5.8							
TSUM	Tsumeb	145.61	358	ePKPdf	PKPdf		20 44 39.3	-0.6
LBTB	Lobatse	150.57	343	ePKIKP	PKPdf		20 44 52.9	+4.8
MAW	Mawson	154.04	219	PKPbc	PKPbc		20 44 58.9	-2.4
	comp=Z,2.0nm,0.9s,baz=162,slow=2.2,SNR=3.7							
BOSA	Boshof	154.15	342	PKPbc	PKPbc		20 45 01.1	-0.4
	comp=Z,1.6nm,0.5s,baz=312,slow=6.1,SNR=4.8							

BJI ***28*** *20:34:20.9, 51.30N×179.50W, h10km, mB5.1, mb4.8, Ms4.8, Msz4.5*

MOS ***28*** *20:34:21.7±0.9, 51.38N×179.39W, h27km, mb5.0/83, MS4.1/6, Error ellipse: s-maj=9.6km s-min=4.9km az=97.2*

ISCJB ***28*** *20:34:24.5±0.6, 51.50N±004×179.54W±0.03, h42km±5km, mb4.8/130, MS4.4/13, Error ellipse: s-maj=6.9km s-min=2.9km az=7.7*

IDC ***28*** *20:34:24.4±3.5, 51.43N×179.53W, h33km±25km, mb4.4/25, mb1 4.6/26, mb1mx4.5/30, mbtmp4.4/26, MS3.9/3, Ms1 3.9/3, ms1mx3.4/35, Error ellipse: s-maj=17.1km s-min=10.5km az=169.0*

NEIC ***28*** *20:34:25.9±0.5, 51.35N×179.48W, h50km±4km, mb4.8/90, MS4.4/2, ML4.7(AEIC), Error ellipse: s-maj=6.0km s-min=3.3km az=173.0*

SZGRF ***28*** *20:34:26.0, 51.20N×178.33E, h33km, mb4.8, Rat Islands, Aleutian Islands, United States*

ISC 28 20:34:26.4±0.5, 51.51N±004×179.56W±003, h48km±4km, n505, σ0.9 91/509, mb4.8/130, MS4.4/13, 84C-81D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.72	260	P		P	Pn	20 34 38.6	-1.7
AMKA				S		S	Sn	20 34 50.0	-0.4
ATKA	Atka Island	3.40	76	P		P	Pn	20 35 15.8	-1.1
ATKA				S		S	Sn	20 35 57.5	+1.6
SMY	Shemya	4.09	290	P		P	Pn	20 35 28.0	+1.6
FX1	Attu Island--F	4.68	290	P		P	Pn	20 35 35.7	+1.2
SPIA	Saint Paul Isl	7.86	40	P		P	Pn	20 36 19.8	+1.8
UNV	Unalaska Valle	8.28	68	P		P	Pn	20 36 22.3	-1.4
AKUT	Akutan	8.76	67	ePn		P	Pn	20 36 31.4	+1.0
SDPT	Sand Point	12.01	64	eP		P	Pn	20 37 14.7	-0.1
	16nm,0.3s								
CHGN	Chignik	13.34	61	eP		P	Pn	20 37 32.8	-0.1
TNA	Tin City	15.30	19	Pn		P	Pn	20 38 04.6	+5.5
	43nm,1.4s								
SVW2	Sparrevohn	16.31	45	eP		P	Pn	20 38 14.8	+2.8
KDAK	Kodiak Island	16.75	57	Pn		P	Pn	20 38 14.2	-3.4
	baz=253,slow=5.6,SNR=5.1								
KDAK				Sn		S	Sn	20 41 15.3	-7.4
	0.3nm,0.3s,baz=179,slow=6.1,SNR=4.4								
KDAK	Kodiak Island	16.75	57	ePn		P	Pn	20 38 14.6	-3.0
BILL	Bilibino	17.96	343	⇓iP		P	Pn	20 38 36.3	+3.8
BILL				eS		S	Sn	20 41 46.7	-9.5
BILL				pmax	pmax				
	comp=Z,19nm,0.8s								
BILL				MLR	MLR				
	comp=Z,400nm,17.0s								
BILL	Bilibino	17.96	343	ePn		P	Pn	20 38 35.8	+3.2
	comp=Z,18nm,0.8s								
PMR	Palmer	19.39	47	eP		P	Pn	20 38 51.0	+1.3
PMR				pmax	pmax				
	comp=Z,25nm,1.0s								
PMR	Palmer	19.39	47	eP		P	Pn	20 38 51.0	+1.3
	comp=Z,25nm,1.0s								
IMA2	Indian Mountai	19.59	32	eP		P	Pn	20 38 51.9	-0.2
SML	Sawmill	19.81	47	eP		P	Pn	20 38 50.5	-4.2
MCK	McKinley	20.21	41	eP		P	P	20 38 55.9	-1.3
EYAK	Cordova Ski Ar	20.73	51	eP		P	P	20 39 00.5	-2.2
DIV	Divide	20.83	49	eP		P	P	20 39 02.5	-1.4
COLA	College	21.10	39	diP		P	P	20 39 07.8	+1.0
COLA	College	21.10	39	eP		P	P	20 39 07.4	+0.6
	comp=Z,18nm,0.9s,mb4.4								
MENT	Mentasta	22.19	45	eP		P	P	20 39 19.0	+0.6
EGAK	Eagle	23.76	41	eP		P	P	20 39 33.5	-0.9
	comp=Z,36nm,0.9s,mb4.8								
DAWY	Dawson	24.34	43	eP		P	P	20 39 38.8	-0.8
YSS	Yuzh-Sakhalins	24.83	274	⇓iP		P	P	20 39 45.5	+1.4
YSS				pmax	pmax				
	comp=Z,60nm,1.0s,mb5.1								
YSS				MLR	MLR				
	comp=Z,500nm,16.0s,MS4.1								
YSS	Yuzh-Sakhalins	24.83	274	eP		P	P	20 39 45.0	+0.8
	comp=Z,64nm,1.0s,mb5.1								
ASAJ	Asahikawa	26.23	269	P		P	P	20 39 56.4	-0.4
	comp=Z,21nm,1.0s,mb4.6,baz=21,slow=12,SNR=9.7								
ASAJ	Asahikawa	26.23	269	P		P	P	20 39 56.4	-0.4
ASAJ				pmax	pmax				
	comp=Z,21nm,1.0s								
INK	Inuvik	27.63	35	P		P	P	20 40 07.8	-1.5
	comp=Z,1.6nm,0.3s,mb4.1,baz=253,slow=9.1,SNR=6.5								
INK				PcP	PcP			20 43 24.0	-1.7
	comp=Z,4.5nm,0.7s,baz=322,slow=3.6,SNR=8.2								
INK	Inuvik	27.63	35	P		P	P	20 40 07.8	-1.5
INK								20 43 24.0	
INK				pmax	pmax				
	comp=Z,2.0nm,0.3s								
INK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
INK	Inuvik	27.63	35	eP		P	P	20 40 08.7	-0.6
	comp=Z,321nm,1.1s,mb5.9								
YAK	Yakutsk	28.97	311	⇓eP		P	P	20 40 20.0	-1.3
YAK				pmax	pmax				
	comp=Z,20nm,2.5s,mb4.4								
HABR	Khabarovsk	28.98	282	eP		P	P	20 40 20.2	-1.2
HABR				eS		S	S	20 45 09.3	+0.3
TIXI	Tiksi	30.29	331	⇑eP		P	P	20 40 33.7	+0.8
TIXI	Tiksi	30.29	331	eP		P	P	20 40 32.8	-0.1
	comp=Z,1.8nm,0.7s,mb3.9								
KLR	Kul'dur	30.68	285	eP		P	P	20 40 33.3	-3.2
KLR				pmax	pmax				
	comp=E,43nm,1.2s								
KLR				pmax	pmax				
	comp=Z,40nm,1.2s,mb5.1								
MAJO	Matsushiro	33.34	260	P		P	P	20 40 59.4	-0.3
MAJO				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
MAJO	Matsushiro	33.34	260	P		P	P	20 40 59.4	-0.3
	comp=Z,9.3nm,0.9s,mb4.7								
MDJ	Mudanjiang	34.08	279	P		P	P	20 41 07.0	+0.8
MDJ				AMB	AMB				
	comp=Z,57nm,3.6s								
MDJ	Mudanjiang	34.08	279	P		P	P	20 41 05.5	-0.7
	comp=Z,7.1nm,0.9s,mb4.6								
YKA	Yellowknife Ar	35.49	46	P		P	P	20 41 17.2	-1.1
	comp=Z,5.7nm,0.6s,mb4.7,baz=281,slow=8.1,SNR=48								
YKA				PcP	PcP			20 43 46.4	-0.5
	comp=Z,2.5nm,0.6s,baz=288,slow=3.1,SNR=18								
YKA				ScP	ScP			20 47 28.9	+0.2
	comp=Z,2.2nm,0.6s,baz=293,slow=3.4,SNR=17								
YKA				LR	LR			20 54 56.5	
	comp=Z,158nm,21.2s,MS3.7,baz=250,slow=35								
YKA	Yellowknife Ar	35.49	46	P		P	P	20 41 17.2	-1.1
YKA								20 43 46.4	
YKA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
YKA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
YKA				pmax	pmax				
	comp=N,2.0nm,0.6s								
YKA				MLR	MLR				
	comp=Z,158nm,21.2s								
YKA	Yellowknife Ar	35.49	46	P		P	P	20 41 17.2	-1.1
YKA				PcP	PcP			20 43 46.4	-0.5
YKA				ScP	ScP			20 47 28.9	+0.2
YKA				LR	LR			20 54 56.5	
B05A	Bryant	36.35	72	⇑P		P	P	20 41 25.6	-0.1
	baz=36								
D05A	Enumclaw	36.92	73	⇑P		P	P	20 41 31.0	+0.5
	baz=37								
F04A	Amboy	37.27	75	⇓P		P	P	20 41 33.6	0.0
	baz=37								
B07A	Winthrop	37.43	71	⇓P		P	P	20 41 34.8	-0.1
	baz=37								
D06A	Cle Elum	37.60	73	⇓P		P	P	20 41 36.8	+0.5
	baz=38								
G04A	Mulino	37.61	77	⇓P		P	P	20 41 37.3	+0.9
	baz=38								
A08A	Turner Farm, O	37.70	69	⇑P		P	P	20 41 36.5	-0.7
	baz=38								
HIA	Hailar	37.79	291	eP		P	P	20 41 37.7	-0.2
HIA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HIA	Hailar	37.79	291	eP		P	P	20 41 37.7	-0.2
	comp=Z,8.4nm,0.7s,mb4.6								
C07A	Waterville	37.83	72	⇓P		P	P	20 41 37.5	-0.8
	baz=38								
B08A	Colville Reser	37.94	70	P		P	P	20 41 39.1	-0.1
	baz=38,SNR=5.7								
H04A	Detroit Lake	38.05	77	⇓P		P	P	20 41 40.1	-0.1
	baz=38								
A09A	Danville	38.09	69	⇑P		P	P	20 41 40.1	-0.4
	baz=38								
D07A	Quincy	38.12	72	⇓P		P	P	20 41 40.2	-0.5
	baz=38								
G05A	Wamic	38.29	76	⇑P		P	P	20 41 42.1	0.0
	baz=38								
I04A	Tendick Farm,	38.38	78	⇓P		P	P	20 41 42.8	-0.1
	baz=38								
E07A	Sunnyside	38.51	73	⇓P		P	P	20 41 44.0	+0.1
	baz=38								
B09A	Rice	38.61	70	⇑P		P	P	20 41 45.0	+0.2
	baz=38								
H05A	Madras	38.66	77	⇑P		P	P	20 41 46.1	+0.9
	baz=38								
HAWA	Hanford	38.78	73	eP		P	P	20 41 45.8	-0.5
	comp=Z,11nm,0.8s,mb4.7								
F07A	Phinny Hill Vi	38.80	74	P		P	P	20 41 47.1	+0.7
	baz=39,SNR=5.2								
D08A	Wollman Farm,	38.81	72	⇑P		P	P	20 41 46.3	-0.2
	baz=39								
C09A	Chrisman Ranch	38.83	71	⇓P		P	P	20 41 45.6	-1.1
	baz=39								
J04A	Umpqua Nationa	38.87	79	⇑P		P	P	20 41 48.1	+1.1
	baz=39								
E08A	Dider Farm, El	39.02	73	⇑P		P	P	20 41 48.0	-0.2
	baz=39								
H06A	Lindquist Farm	39.15	76	⇓P		P	P	20 41 49.6	+0.3
	baz=39								
KSRS	Korea Array	39.16	270	P		P	P	20 41 50.5	+1.1
	comp=Z,7.7nm,0.8s,mb4.5,baz=58,slow=8.1,SNR=16								
EDM	Edmton	39.16	61	eP		P	P	20 41 47.8	-1.6
D09A	Jones Farm, Ri	39.18	72	⇓P		P	P	20 41 48.4	-1.1
	baz=39								
G07A	Ruggs Ranch, H	39.28	75	⇓P		P	P	20 41 50.1	-0.3
	baz=39								
NEW	Newport	39.28	69	P		P	P	20 41 50.0	-0.4
	comp=Z,9.9nm,0.6s,mb4.7,baz=305,slow=6.9,SNR=11								
NEW				LR	LR			20 56 30.2	
	comp=Z,131nm,18.1s,MS3.8,baz=128,slow=34								
NEW	Newport	39.28	69	eP		P	P	20 41 49.6	-0.8
NEW				pmax	pmax				
	comp=Z,6.0nm,0.6s								
NEW	Newport	39.28	69	eP		P	P	20 41 49.6	-0.9
	comp=Z,5.8nm,0.6s,mb4.5								
YBH	Yreka Blue Hor	39.33	81	P		P	P	20 41 51.8	+0.9
	comp=Z,6.0nm,0.7s,mb4.4,baz=348,slow=6.0,SNR=8.8								
YBH				LR	LR			20 56 01.7	
	comp=Z,180nm,18.7s,MS3.9,baz=340,slow=33								
YBH	Yreka Blue Hor	39.33	81	eP		P	P	20 41 52.5	+1.6
YBH				pmax	pmax				
	comp=Z,21nm,1.4s								
YBH	Yreka Blue Hor	39.33

baz=41
F11A Grangeville 41.05 72 ⇓P P 20 42 04.2 -0.9
baz=41
C13A Hot Springs 41.06 69 ⇓P P 20 42 03.8 -1.4
baz=41
I09A Lost Marbles R 41.13 75 ⇑P P 20 42 04.4 -1.3
baz=41
O04C Chester 41.15 82 ⇓P P 20 42 07.2 +1.3
baz=41
L07A Adell 41.25 79 ⇓P P 20 42 07.8 +1.1
baz=41
ORV Oroville 41.35 83 ⇑P P 20 42 07.1 -0.4
baz=41
K08A Mann Creek Ran 41.37 77 ⇓P P 20 42 07.8 +0.2
baz=41
H10A Noah's Angus R 41.39 74 ⇑P P 20 42 07.9 0.0
baz=41
D13A Huson 41.43 69 ⇓P P 20 42 07.7 -0.5
baz=41
WVOR Wild Horse Val 41.44 78 eP P 20 42 07.9 -0.4
WVOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
WVOR Wild Horse Val 41.44 78 eP P 20 42 07.9 -0.4
comp=Z,8.9nm,0.7s,mb4.5
J09A Fry Pan Ranch, 41.47 76 P P 20 42 08.8 +0.3
baz=41,SNR=6.9
N06A Buffalo Meadow 41.67 81 ⇓P P 20 42 10.6 +0.4
baz=42,SNR=7.2
M07A Soldier Meadow 41.71 79 P P 20 42 11.6 +1.1
baz=42,SNR=12
L08A Fields 41.76 78 ⇓P P 20 42 11.7 +0.8
baz=42,SNR=5.3
H11A Donnelly 41.77 73 ⇑P P 20 42 11.0 0.0
baz=42
K09A Rome 41.85 77 ⇑P P 20 42 09.9 -1.7
baz=42
E13A Victor 41.93 70 ⇓P P 20 42 11.1 -1.2
baz=42
D14A Greenough 41.99 69 P P 20 42 12.2 -0.6
baz=42,SNR=9.3
O06A Flanigan 42.02 81 ⇑P P 20 42 13.4 +0.3
baz=42
M08A Happy Creek Ra 42.16 79 ⇑P P 20 42 15.9 +1.7
baz=42
N07B Gerlach 42.19 80 P P 20 42 16.9 +2.5
baz=42,SNR=6.3
F13A Darby 42.19 71 P P 20 42 13.9 -0.4
baz=42,SNR=6.8
LAVA Lava Cap Winer 42.30 84 ⇑P P 20 42 15.9 +0.6
baz=42
D15A Lincoln 42.59 69 P P 20 42 16.9 -0.8
baz=42,SNR=6.4
O07A Toulon 42.61 81 ⇓P P 20 42 19.5 +1.7
baz=42,SNR=6.0
N08A GE Springer Mi 42.70 80 ⇑P P 20 42 19.0 +0.4
baz=42
R05C Kirkwood Meado 42.74 83 ⇑P P 20 42 19.5 +0.6
baz=43
M09A Marrel Ranch, 42.75 78 ⇑P P 20 42 19.4 +0.5
baz=43
E15A Deer Lodge 42.84 69 ⇑P P 20 42 18.6 -1.1
baz=43,SNR=6.0
N09A Rock Creek Ran 43.03 79 ⇑P P 20 42 21.7 +0.4
baz=43
R06C Coleville 43.24 83 ⇓P P 20 42 23.5 +0.6
baz=43
F15A Butte 43.24 70 ⇑P P 20 42 21.1 -1.8
baz=43
M10A I.L. Ranch, Tu 43.24 78 ⇑P P 20 42 23.1 +0.2
baz=43
S06C San Francisco 43.39 84 ⇓P P 20 42 24.3 +0.2
baz=43
G15A Dillon 43.62 71 P P 20 42 25.4 -0.6
baz=44,SNR=6.8
O09A Fish Creek Ran 43.64 80 ⇓P P 20 42 26.2 +0.1
baz=44,SNR=7.2
EGMT Eagleton 43.66 66 ⇓P P 20 42 25.6 -0.7
baz=44
M11A Holland Ranch, 43.75 77 P P 20 42 27.7 +0.6
baz=44,SNR=11
Q08A Gabbs 43.98 82 ⇑P P 20 42 30.1 +1.3
baz=44
O10A Cortez Mining, 43.99 79 ⇓P P 20 42 30.0 +1.1
baz=44
NVAR Mina Array Bea 44.01 82 P P 20 42 30.4 +1.3
comp=Z,3.1nm,0.7s,mb4.2,baz=309,slow=7.8,SNR=14
NVAR Mina Array Bea 44.01 82 P P 20 42 30.4 +1.3
KCC Kaiser Creek 44.06 84 ⇑P P 20 42 29.8 +0.2
baz=44
N11A Elko Archery C 44.15 78 ⇓P P 20 42 30.0 -0.2
baz=44
M12A Wells 44.30 77 P P 20 42 31.9 +0.6
baz=44,SNR=7.4
P10A Eureka 44.42 80 ⇓P P 20 42 32.8 +0.4
baz=44
Q09A Carvers 44.45 81 ⇓P P 20 42 34.0 +1.3
baz=44
MTUM Tungsten Hills 44.51 84 P P 20 42 32.7 -0.4
N12A Clover Valley, 44.55 77 ⇓P P 20 42 34.3 +0.8
baz=44
O11A Cowboy Ranch, 44.61 79 ⇓P P 20 42 34.6 +0.8
baz=44
M13A Montello 44.78 76 P P 20 42 35.5 +0.2
baz=45,SNR=9.0
BJI Beijing 44.88 281 eP P 20 42 36.8 +0.7
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.7
BJI LR LR
comp=N,489nm,21.5s,MS4.5
BJI LR LR
comp=E,347nm,25.4s,MS4.5
BJI LR LR
comp=Z,331nm,20.7s,MS4.2
BJI Beijing 44.88 281 eP P 20 42 36.8 +0.7
comp=Z,11nm,0.8s,mb4.7
BJI LR LR
comp=Z,330nm,20.7s,MS4.2
R09A Tonopah 44.89 82 ⇑P P 20 42 37.4 +1.3
baz=45,SNR=7.7
P11A Circle Ranch, 44.90 79 ⇑P P 20 42 36.6 +0.4
baz=45
BJT Baijiatuau 44.90 281 eP P 20 42 36.5 +0.3
BJT pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuau 44.90 281 eP P 20 42 36.5 +0.3
comp=Z,5.2nm,0.5s,mb4.6
O12A Currie 45.08 78 P P 20 42 37.9 +0.2
baz=45,SNR=10.0
S09A Goldfield 45.11 82 ⇓P P 20 42 38.2 +0.3
baz=45
Q11A Duckwater 45.39 80 P P 20 42 40.0 -0.1
baz=45,SNR=7.3
P12A McGill 45.46 79 ⇓P P 20 42 40.8 +0.1
baz=45,SNR=6.0
GRAC Grapevine Rang 45.48 83 ⇓P P 20 42 41.7 +1.0
baz=45
TLY Talaya 45.59 302 ceP P 20 42 42.7 +1.0
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.9
TLY Talaya 45.59 302 eP P 20 42 41.5 -0.2
comp=Z,6.8nm,0.6s,mb4.8
BGU Big Grassy Mou 45.73 76 eP P 20 42 42.2 -0.6
ULN Ulaanbaatar 45.77 296 c iP P 20 42 44.2 +1.1
ULN Ulaanbaatar 45.77 296 eP P 20 42 43.9 +0.7
comp=Z,4.6nm,0.6s,mb4.6
Q12A Willow Creek R 45.78 79 ⇑P P 20 42 43.9 +0.7
baz=46
MPMC Manual Prospec 46.00 84 ⇓P P 20 42 46.1 +1.2
baz=46
FURC Furnace Creek, 46.13 84 ⇑P P 20 42 46.5 +0.6
baz=46
SONM Songino Array 46.16 296 P P 20 42 47.6 +1.4
comp=Z,2.6nm,0.4s,mb4.5,baz=64,slow=7.9,SNR=47
SONM Songino Array 46.16 296 P P 20 42 47.6 +1.4
SONM pmax pmax
comp=Z,3.0nm,0.4s
FCC Fort Churchill 46.21 46 eP P 20 42 45.0 -1.6
FCC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FCC Fort Churchill 46.21 46 eP P 20 42 45.0 -1.6
comp=Z,6.7nm,0.8s,mb4.6
LRMC Laurel Mountai 46.25 85 ⇓P P 20 42 50.0 +3.2
baz=46
DUG Dugway 46.30 77 eP P 20 42 46.8 -0.5
DUG pmax pmax
comp=Z,18nm,0.8s,mb5.0
DUG Dugway 46.30 77 eP P 20 42 46.8 -0.5
comp=Z,18nm,0.8s,mb5.0
DUG Dugway 46.30 77 P P 20 42 47.5 +0.2
baz=46,SNR=14
ZAK Zakamensk 46.48 301 ⇑iP P 20 42 50.0 +1.3
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
U10A Ash Meadows, A 46.49 83 ⇑P P 20 42 51.0 +2.2
baz=46
PDAR Pinedale Array 46.72 72 P P 20 42 50.0 -0.5
comp=Z,17nm,0.7s,mb5.1,baz=321,slow=3.2,SNR=136
NLU North Lily Min 46.90 77 eP P 20 42 52.1 +0.2
GSC Goldstone 46.91 85 P P 20 42 51.0 -1.1
GSC Goldstone 46.91 85 ⇑P P 20 42 53.9 +1.9
baz=47
V12A Nelson 47.85 83 ⇓P P 20 42 59.3 0.0
baz=48
GMRC Granite Mounta 47.97 84 ⇓P P 20 43 00.8 +0.6
baz=48
NJ2 Nanjing 48.33 271 eP P 20 43 06.0 +2.9
NJ2 PP PP 20 44 58.5 +2.6
NJ2 S S 20 50 02.0 +2.3
NJ2 AMB AMB
comp=Z,530nm,5.3s
NJ2 LR LR
comp=N,2μm,17.6s,MS5.2
NJ2 LR LR
comp=E,1μm,16.5s,MS5.2
NJ2 LR LR
comp=Z,1μm,18.3s,MS5.0
W13A Hualapai Mount 48.86 83 ⇑P P 20 43 08.7 +1.6
baz=49
W14A Seligman 49.28 82 ⇓P P 20 43 11.3 +1.0
baz=49
KBS Kingsbay 49.64 357 eP P 20 43 10.7 -2.4
KBS pmax pmax
comp=Z,28nm,0.8s,mb5.3
KBS Kingsbay 49.64 357 eP P 20 43 10.7 -2.4
comp=Z,28nm,0.8s,mb5.3
W15A Williams 49.81 82 ⇑P P 20 43 15.7 +1.3
baz=50
X14A Yava 49.89 83 ⇑P P 20 43 14.7 -0.3
baz=50
WUAZ Wupatki 50.14 81 ⇓P P 20 43 17.3 +0.4
baz=50
SPB4 Spitsbergen Ar 50.21 356 eP P 20 43 16.7 -0.7
X15A Humboldt 50.28 82 ⇑P P 20 43 19.6 +1.6
baz=50
XAN Xi'an 53.17 280 P P 20 43 39.0 -0.5
XAN AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
XAN LR LR
comp=N,134nm,19.3s,MS4.3
XAN LR LR
comp=E,206nm,20.2s,MS4.3
XAN LR LR
comp=Z,335nm,21.2s,MS4.4
ANMO Albuquerque 53.53 78 P P 20 43 42.8 +0.7
comp=Z,0.8nm,0.5s,mb3.9,baz=327,slow=7.7,SNR=4.1
ANMO Albuquerque 53.53 78 ⇓iP P 20 43 44.6 +2.5
ZAL Zalesovo 53.61 313 P P 20 43 41.8 -1.0
comp=Z,0.6nm,0.4s,mb3.9,baz=123,slow=11,SNR=2.8
ZAL PcP PcP 20 44 49.5 +0.7
comp=Z,3.4nm,0.7s,baz=62,slow=5.0,SNR=16
ZAL Zalesovo 53.61 313 P P 20 43 41.8 -0.9
ZAL 20 44 49.5
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 54.89 286 eP P 20 43 53.0 +1.0
LZH AP pP 20 44 01.0 -4.3
LZH XP sP 20 44 04.0 -6.8
LZH AMB AMB
comp=Z,24nm,1.0s,mb5.2
LZH Lanzhou 54.89 286 eP P 20 43 53.0 +1.0
comp=Z,24nm,1.0s,mb5.2
LZH pP pP 20 44 01.0 -4.3
LZH sP sP 20 44 04.0 -6.8
GTA Gaotai 55.08 291 ⇑P P 20 43 54.5 +1.1
GTA PP PP 20 46 00.5 +3.6
GTA S S 20 51 40.0 +7.6
GTA XS sS 20 51 47.3 -7.4
GTA AMB AMB
comp=Z,21nm,1.6s,mb4.9
GTA AMB AMB
comp=Z,125nm,6.1s
GTA LR LR
comp=N,461nm,16.7s,MS4.8
GTA LR LR
comp=E,467nm,18.3s,MS4.8
GTA LR LR
comp=Z,704nm,16.0s,MS4.8
KEV Kevo 57.50 349 P P 20 44 10.4 -0.2
KEV pmax pmax
comp=Z,39nm,1.1s,mb5.3
KEV Kevo 57.50 349 P P 20 44 10.3 -0.3
comp=Z,39nm,1.1s,mb5.3
ARCES ARCESS Array B 57.88 350 P P 20 44 12.9 -0.4
comp=Z,1.7nm,0.3s,mb4.5,baz=28,slow=7.6,SNR=34
ARCES ARCESS Array B 57.88 350 P P 20 44 13.0 -0.3
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARE0 ARCESS Array S 57.88 350 P P 20 44 12.1 -1.2
WMOK Wichita Mounta 58.31 73 eP P 20 44 15.1 -1.2
WMOK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
WMOK Wichita Mounta 58.31 73 eP P 20 44 15.1 -1.2
comp=Z,4.0nm,0.6s,mb4.6
TRO Tromso 58.41 353 eP P 20 44 16.1 -1.0
CD2 Chengdu 58.48 281 eP P 20 44 18.0 +0.5
CD2 PP PP 20 46 29.3 +2.1
CD2 S S 20 52 15.8 -1.6
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CD2 LR LR
comp=N,540nm,15.6s,MS4.8
CD2 LR LR
comp=E,80nm,13.2s,MS4.8
CD2 LR LR
comp=Z,300nm,15.6s,MS4.5
KTK1 Kautokeino 58.62 351 eP P 20 44 18.2 -0.3
WMQ Urumqi 58.87 302 eP P 20 44 21.3 +1.1
LTX Lajitas 59.10 81 eP P 20 44 22.4 +0.6
LTX pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LTX Lajitas 59.10 81 eP P 20 44 22.4 +0.6
comp=Z,2.9nm,0.6s,mb4.5
TXAR Lajitas Array 59.10 81 P P 20 44 21.2 -0.6
comp=Z,3.8nm,0.7s,mb4.5,baz=302,slow=4.9,SNR=30
TXAR Lajitas Array 59.10 81 P P 20 44 21.2 -0.6
TXAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 59.58 308 P P 20 44 25.0 -0.1
comp=Z,3.0nm,0.3s,mb4.8,baz=47,slow=7.1,SNR=126
MKAR PcP PcP 20 45 12.1 0.0
comp=Z,2.5nm,0.5s,baz=36,slow=3.9,SNR=6.2
MKAR Makanchi Array 59.58 308 ⇑eP P 20 44 25.0 -0.1
MKAR Makanchi Array 59.58 308 P P 20 44 25.0 -0.1
MKAR PcP PcP 20 45 12.1 0.0
GYA Guiyang 59.84 275 P P 20 44 29.0 +2.1
GYA AP pP 20 44 33.8 -6.5
GYA XP sP 20 44 35.0 -11
GYA PCP PcP 20 45 15.5 +2.5
GYA PP PP 20 46 43.8 +4.6
GYA SCP ScP 20 49 15.0 +5.0
GYA S S 20 52 39.3 +4.4
GYA PS 20 52 55.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,340nm,18.0s,MS4.6
GYA LR LR
comp=E,240nm,19.4s,MS4.6
GYA LR LR
comp=Z,270nm,18.7s,MS4.4
SCHQ Schefferville 60.20 38 P P 20 44 28.4 -1.0
comp=Z,4.9nm,0.5s,mb4.8,baz=348,slow=7.0,SNR=14
BVA0 Borovoye Array 60.48 319 iP P 20 44 30.6 -0.7
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BRVK Borovoye 60.50 319 eP P 20 44 30.2 -1.2
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRVK Borovoye 60.50 319 eP P 20 44 30.2 -1.2
comp=Z,4.9nm,0.6s,mb4.7
MIAR Mount Ida 61.53 70 eP P 20 44 35.3 -3.1
MIAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MIAR Mount Ida 61.53 70 eP P 20 44 35.3 -3.1
comp=Z,7.8nm,0.8s,mb4.9
MOR8 Moi Rana 62.16 354 eP P 20 44 42.1 -0.6
ARU Arti 62.24 328 ⇓iP P 20 44 42.7 -0.5
ARU e 20 46 58.0
ARU eS S 20 53 07.9 +2.4
ARU eSS SS 20 57 10.5 +1.3
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ARU Arti 62.24 328 eP P 20 44 42.7 -0.5
USIN University of 62.49 63 eP P 20 44 43.5 -1.3
comp=Z,32nm,0.4s,mb5.8
KMI Kunming 63.24 277 P P 20 44 55.5 +5.7
KMI XP sP 20 45 02.8 -6.0
KMI PP PP 20 47 14.0 +4.8
KMI S S 20 53 23.0 +5.0
KMI SS SS 20 57 26.5 +1.7
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,124nm,4.5s
KMI LR LR
comp=N,244nm,20.4s,MS4.6
KMI LR LR
comp=E,276nm,19.5s,MS4.6
KMI LR LR
comp=Z,268nm,23.2s,MS4.3
KMI Kunming 63.24 277 P P 20 44 55.5 +5.7
KMI *SP sP 20 45 02.7 -6.1
KMI 20 47 13.9
KMI S S 20 53 23.1 +5.1
KMI SS SS 20 57 26.6 +1.8
KMI SSS 21 00 16.8
KMI pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,270nm,23.2s,MS4.4
KMI Kunming 63.24 277 P P 20 44 55.5 +5.7
comp=Z,6.0nm,1.0s,mb4.7
KMI sP sP 20 45 02.7 -6.1
KMI PP PP 20 47 13.9 +4.7
KMI S S 20 53 23.1 +5.1
KMI SS SS 20 57 26.6 +1.8
KMI SSS 21 00 16.8
KMI LR LR
comp=Z,270nm,23.2s,MS4.4
QIZ Qiongzhong 63.29 267 P P 20 44 48.5 -1.7
QIZ S S 20 53 21.3 +2.6
QIZ AMB AMB
comp=Z,29nm,2.1s,mb5.0
QIZ LR LR
comp=E,241nm,21.6s
QIZ LR LR
comp=Z,158nm,29.1s
WVT Waverly 63.71 65 eP P 20 44 50.4 -2.5
WVT pmax pmax
comp=Z,12nm,0.8s,mb5.0
WVT Waverly 63.71 65 eP P 20 44 50.4 -2.5
comp=Z,12nm,0.8s,mb5.0
NSS Namsos 63.95 354 eP P 20 44 54.3 -0.2
NSS AMb AMB 20 45 04.3
comp=Z,72nm,2.1s,mb5.3
NSS Namsos 63.95 354 eP P 20 44 54.3 -0.2
comp=Z,72nm,2.1s,mb5.3
OXF Oxford 63.97 67 eP P 20 44 53.6 -1.0
OXF pmax pmax
comp=Z,50nm,0.7s,mb5.7
OXF Oxford 63.97 67 eP P 20 44 53.6 -1.0
comp=Z,50nm,0.7s,mb5.7
KAF Kangasniemi 64.88 347 ep P 20 44 59.3 -1.3
comp=Z,4.6nm,0.4s,mb4.9
KAF Kangasniemi 64.88 347 eP P 20 44 59.3 -1.3
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
FINES FINESS Array B 65.55 347 P P 20 45 04.2 -0.8
comp=Z,2.2nm,0.3s,mb4.6,baz=11,slow=7.6,SNR=49
FINES FINESS Array B 65.55 347 iP P 20 45 04.1 -0.8
FINES pmax pmax
comp=Z,2.0nm,0.3s
USP Ospenovka 65.93 310 P P 20 45 09.2 +1.8
SNR=5.2
KBK Karagaybulak 66.18 309 P P 20 45 09.8 +0.9
SNR=6.4
AAK Ala-Archa 66.41 309 P P 20 45 11.2 +0.8
SNR=9.1
AAK Ala-Archa 66.41 309 ⇑eP P 20 45 09.5 -1.0
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 66.41 309 eP P 20 45 09.4 -1.0
comp=Z,11nm,1.0s,mb4.8
EKS2 Erkin-Say 66.74 310 P P 20 45 13.6 +1.0
SNR=12
LSA Lhasa 66.95 289 P P 20 45 16.5 +2.6
LSA Lhasa 66.95 289 eP P 20 45 16.2 +2.3
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 66.95 289 eP P 20 45 16.2 +2.4
comp=Z,11nm,0.6s,mb5.1
AML Almayashu 67.18 309 P P 20 45 16.8 +1.4
SNR=9.4
AKTO Aktyubinsk 67.30 324 iP P 20 45 15.7 -0.4
NB2 NORSAR Subarra 67.47 354 P P 20 45 16.9 -0.3
comp=Z,1.3nm,0.6s,mb4.1,baz=8.8,slow=6.2
NOA NORSAR Array B 67.47 354 P P 20 45 17.1 -0.1
comp=Z,10nm,0.6s,mb5.0,baz=7.2,slow=6.3,SNR=35
NOA NORSAR Array B 67.47 354 P P 20 45 17.1 -0.1
NOA pmax pmax
comp=Z,10.0nm,0.6s
AB31 Akbulak array 67.54 322 P P 20 45 17.1 -0.6
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
NAO01 NORSAR Array S 67.68 354 eP P 20 45 18.2 -0.4
comp=Z,4.6nm,0.6s,mb4.7
KK31 Karatay Array 67.94 312 iP P 20 45 20.2 0.0
KK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KKAR Karatay Array 67.94 312 iP P 20 45 20.2 0.0
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
JSC Jenkinsville 68.72 62 eP P 20 45 24.2 -0.8
KKM Kota Kinabalu 69.39 253 eP P 20 45 29.1 -0.1
SHL Shillong 69.56 286 eP P 20 45 27.8 -2.5
OBN Obninsk 69.58 339 ⇑eP P 20 45 28.8 -1.5
OBN e 20 45 52.9
OBN e 20 48 02.1
OBN eS S 20 54 29.1 -5.7
OBN pmax pmax
comp=Z,29nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
OBN Obninsk 69.58 339 eP P 20 45 28.8 -1.6
SUW Suwalki 73.14 346 eP P 20 45 51.4 -0.4
SUW Suwalki 73.14 346 P P 20 45 49.9 -2.0
comp=Z,19nm,0.8s,mb5.1
THN Thein Dam 73.60 302 eP P 20 45 54.0 -0.5
AKASG Malin Array Be 75.27 342 P P 20 46 03.9 -0.4
comp=Z,11nm,0.5s,mb5.1,baz=21,slow=5.9,SNR=28
AKASG Malin Array Be 75.27 342 iP P 20 46 03.9 -0.4
AKASG pmax pmax
comp=Z,11nm,0.5s
KIEV Kiev 75.28 342 eP P 20 46 03.6 -0.7
KIEV pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
KIEV Kiev 75.28 342 eP P 20 46 03.6 -0.7
comp=Z,8.9nm,0.4s,mb5.0
NDI New Delhi 75.69 298 eP P 20 46 07.2 +0.5
NDI AMb AMB 20 46 08.1
comp=Z,16nm,0.3s,mb5.4
KAKA Kakadu 76.27 228 eP P 20 46 06.4 -3.5
comp=Z,7.7nm,0.6s,mb4.8
KSM Kuching 76.57 255 eP P 20 46 10.8 -0.8
CLL Collm 77.01 352 ⇑iP P 20 46 13.5 -0.6
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 77.01 352 ⇑iP P 20 46 13.5 -0.6
comp=Z,7.0nm,0.8s,mb4.6
OJC Ojcow 77.32 347 eP P 20 46 15.9 0.0
CTA Charters Tower 77.33 213 eP P 20 46 15.1 -0.8
comp=Z,4.0nm,0.9s,mb4.3
CTA Charters Tower 77.33 213 eP P 20 46 15.1 -0.8
CTA pmax pmax
comp=Z,4.0nm,0.9s

CTAO	**Charters Tower**	**77.33**	**213**	*eP*	**P**	**20 46 14.6**	**-1.3**
CTAO					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
CTAO	**Charters Tower**	**77.33**	**213**	*eP*	**P**	**20 46 14.6**	**-1.3**
	comp=Z,7.1nm,0.9s,mb4.6								
BRG	**Berggiesshubel**	**77.35**	**351**	*eP*	**P**	**20 46 15.7**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5								
BRG	**Berggiesshubel**	**77.35**	**351**	*eP*	**P**	**20 46 15.7**	**-0.3**
BRG					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
KWP	**Kalwaria**	**77.46**	**345**	*eP*	**P**	**20 46 17.4**	**+0.7**
KWP	**Kalwaria**	**77.46**	**345**	*eP*	**P**	**20 46 16.8**	**+0.1**
	comp=Z,40nm,0.4s,mb5.7								
UPC	**Upice**	**77.50**	**350**	*eP*	**P**	**20 46 17.1**	**+0.2**
DPC	**Dobruska-Polom**	**77.62**	**350**	*eP*	**P**	**20 46 17.8**	**+0.2**
MOX	**Moxa**	**77.78**	**353**	*eP*	**P**	**20 46 18.3**	**-0.1**
	comp=Z,15nm,1.2s,mb4.8								
MOX	**Moxa**	**77.78**	**353**	*eP*	**P**	**20 46 18.3**	**-0.1**
MOX					pmax	pmax			
	comp=Z,15nm,1.2s,mb4.8								
STHS	**Stebnicka Huta**	**77.90**	**346**	*eP*	**P**	**20 46 20.2**	**+1.1**
STHS					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
STHS	**Stebnicka Huta**	**77.90**	**346**	*eP*	**P**	**20 46 20.2**	**+1.1**
	comp=Z,8.0nm,0.9s,mb4.7								
OKC	**Ostrava-Krasne**	**77.91**	**348**	*eP*	**P**	**20 46 19.2**	**+0.1**
NIE	**Niedzica**	**78.03**	**347**	*eP*	**P**	**20 46 20.6**	**+0.8**
MORC	**Moravsky Berou**	**78.04**	**349**	*⇑iP*	**P**	**20 46 19.9**	**0.0**
MORC	**Moravsky Berou**	**78.04**	**349**	*⇑P*	**P**	**20 46 19.9**	**0.0**
KIV	**Kislovodsk**	**78.12**	**330**	*eP*	**P**	**20 46 20.8**	**+0.5**
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
NKC	**Novy Kostel**	**78.12**	**352**	*eP*	**P**	**20 46 20.6**	**+0.3**
MEM	**Membach**	**78.15**	**356**	P	**P**	**20 46 21.3**	**+0.8**
PRU	**Pruhonice**	**78.17**	**351**	*eP*	**P**	**20 46 20.5**	**-0.1**
KOLS	**Kolonicke sedl**	**78.21**	**345**	*eP*	**P**	**20 46 21.2**	**+0.4**
SNF	**Seneffe**	**78.31**	**357**	P	**P**	**20 46 21.4**	**+0.1**
BCLA	**Clavier**	**78.36**	**357**	P	**P**	**20 46 22.0**	**+0.3**
VRAC	**Vranov**	**78.62**	**349**	*⇓iP*	**P**	**20 46 23.1**	**0.0**
VRAC	**Vranov**	**78.62**	**349**	*⇓P*	**P**	**20 46 23.1**	**0.0**
DOU	**Dourbes**	**78.71**	**357**	P	**P**	**20 46 23.6**	**0.0**
BAIF	**Baives**	**78.76**	**358**	*eP*	**P**	**20 46 24.2**	**+0.4**
	comp=Z,41nm,1.0s,mb5.0								
BAIF	**Baives**	**78.76**	**358**	*eP*	**P**	**20 46 24.2**	**+0.4**
BAIF					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0								
BAIF	**Baives**	**78.76**	**358**	*eP*	**P**	**20 46 24.2**	**+0.4**
	comp=Z,20nm,1.0s,mb5.0								
GRA1	**Grafenberg Arr**	**78.76**	**353**	*eP*	**P**	**20 46 24.3**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**78.76**	**353**	*eP*	**P**	**20 46 24.3**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**78.76**	**353**	*eP*	**P**	**20 46 24.3**	**+0.5**
GRF					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**78.76**	**353**	*eP*	**P**	**20 46 24.3**	**+0.5**
GRF					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
AJM	**Ajmer**	**78.83**	**298**	*eP*	**P**	**20 46 24.6**	**+0.4**
AJM				AMb	AMB	20 46 25.7			
	comp=Z,24nm,0.6s,mb5.3								
KECS	**Kecovo**	**78.92**	**347**	*eP*	**P**	**20 46 25.2**	**+0.5**
KECS					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
KECS	**Kecovo**	**78.92**	**347**	*eP*	**P**	**20 46 25.2**	**+0.5**
	comp=Z,7.3nm,1.1s,mb4.5								
BURAR	**Bucovina Array**	**78.99**	**343**	*⇑iP*	**P**	**20 46 25.8**	**+0.7**
BURAR	**Bucovina Array**	**78.99**	**343**	*⇑P*	**P**	**20 46 25.8**	**+0.6**
KHC	**Kasperske Hory**	**79.11**	**351**	*eP*	**P**	**20 46 26.1**	**+0.3**
KHC	**Kasperske Hory**	**79.11**	**351**	*dP*	**P**	**20 46 26.3**	**+0.5**
VYHS	**Vyhne**	**79.14**	**348**	*eP*	**P**	**20 46 26.4**	**+0.5**
VYHS					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4								
VYHS	**Vyhne**	**79.14**	**348**	*eP*	**P**	**20 46 26.4**	**+0.5**
	comp=Z,6.6nm,1.3s,mb4.4								
GEC2	**GERESS Array S**	**79.38**	**351**	*eP*	**P**	**20 46 26.7**	**-0.6**
GERES	**GERESS Array B**	**79.38**	**351**	P	**P**	**20 46 27.2**	**0.0**
	comp=Z,3.5nm,0.5s,mb4.5,baz=24,slow=6.0,SNR=47								
GERES	**GERESS Array B**	**79.38**	**351**	P	**P**	**20 46 27.2**	**-0.1**
GERES					pmax	pmax			
	comp=Z,4.0nm,0.5s								
PSZ	**Piszkesteto**	**79.56**	**347**	*⇓iP*	**P**	**20 46 28.5**	**+0.3**
PSZ	**Piszkesteto**	**79.56**	**347**	*⇓P*	**P**	**20 46 28.5**	**+0.3**
ZST	**Bratislava**	**79.65**	**349**	*eP*	**P**	**20 46 28.9**	**+0.2**
ZST					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
ZST	**Bratislava**	**79.65**	**349**	*eP*	**P**	**20 46 28.9**	**+0.2**
	comp=Z,11nm,1.0s,mb4.7								
BHPL	**Bhopal**	**79.81**	**294**	*eP*	**P**	**20 46 29.2**	**-0.4**
BHPL				AMb	AMB	20 46 32.1			
	comp=Z,27nm,1.4s,mb5.0								
CONA	**Conrad Observa**	**80.06**	**350**	*⇑iP*	**P**	**20 46 31.7**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5								
FLN	**La Foliniere**	**80.10**	**1**	*eP*	**P**	**20 46 30.8**	**-0.4**
	comp=Z,25nm,0.8s,mb4.9								
FLN	**La Foliniere**	**80.10**	**1**	*eP*	**P**	**20 46 30.8**	**-0.4**
FLN					pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9								
FLN	**La Foliniere**	**80.10**	**1**	*eP*	**P**	**20 46 30.8**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9								
DRGR		**80.22**	**345**	*⇑iP*	**P**	**20 46 31.7**	**-0.1**
DRGR		**80.22**	**345**	*⇑P*	**P**	**20 46 31.7**	**-0.1**
LDF	**La Druitiere**	**80.27**	**0**	*eP*	**P**	**20 46 31.7**	**-0.4**
	comp=Z,26nm,0.7s,mb5.0								
LDF	**La Druitiere**	**80.27**	**0**	*eP*	**P**	**20 46 31.7**	**-0.4**
LDF					pmax	pmax			
	comp=Z,13nm,0.7s,mb5.0								
LDF	**La Druitiere**	**80.27**	**0**	*eP*	**P**	**20 46 31.7**	**-0.4**
	comp=Z,13nm,0.7s,mb5.0								
CDF	**Champ du Feu**	**80.28**	**355**	*eP*	**P**	**20 46 32.0**	**-0.1**
	comp=Z,9.7nm,0.7s,mb4.6								
CDF	**Champ du Feu**	**80.28**	**355**	*eP*	**P**	**20 46 32.0**	**-0.1**
CDF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
CDF	**Champ du Feu**	**80.28**	**355**	*eP*	**P**	**20 46 32.0**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.5								
MEZF	**Maizieres J'vi**	**80.29**	**357**	*eP*	**P**	**20 46 32.3**	**+0.1**
VRI	**Vrincioaia**	**80.39**	**342**	*⇓iP*	**P**	**20 46 33.6**	**+0.9**
VRI	**Vrincioaia**	**80.39**	**342**	*⇓P*	**P**	**20 46 33.6**	**+0.9**
PLOR	**Plostina**	**80.42**	**342**	*⇑iP*	**P**	**20 46 33.8**	**+0.9**
GRR	**Gorron**	**80.47**	**1**	*eP*	**P**	**20 46 32.9**	**-0.3**
	comp=Z,56nm,1.0s,mb5.2								
GRR	**Gorron**	**80.47**	**1**	*eP*	**P**	**20 46 32.9**	**-0.3**
GRR					pmax	pmax			
	comp=Z,28nm,1.0s,mb5.2								
GRR	**Gorron**	**80.47**	**1**	*eP*	**P**	**20 46 32.9**	**-0.3**
	comp=Z,28nm,1.0s,mb5.2								
SGMF	**Saint Gilles**	**80.58**	**2**	*eP*	**P**	**20 46 33.7**	**0.0**
	comp=Z,24nm,0.7s,mb4.9								
SGMF	**Saint Gilles**	**80.58**	**2**	*eP*	**P**	**20 46 33.7**	**0.0**
SGMF					pmax	pmax			
	comp=Z,12nm,0.7s,mb4.9								
SGMF	**Saint Gilles**	**80.58**	**2**	*eP*	**P**	**20 46 33.7**	**0.0**
	comp=Z,12nm,0.7s,mb4.9								
VIS	**Vishakhapatnam**	**80.65**	**287**	*eP*	**P**	**20 46 33.8**	**-0.3**
VIS				AMb	AMB	20 46 35.6			
	comp=Z,12nm,1.1s,mb4.8								
HAU	**Haudompre**	**80.73**	**356**	*eP*	**P**	**20 46 34.5**	**0.0**
ARSA	**Arzberg**	**80.77**	**350**	*⇑iP*	**P**	**20 46 35.4**	**+0.6**
	comp=Z,6.0nm,0.6s,mb4.7								
MLR	**Muntele Rosu**	**80.90**	**342**	*⇓iP*	**P**	**20 46 36.0**	**+0.6**
MLR	**Muntele Rosu**	**80.90**	**342**	*⇓P*	**P**	**20 46 36.0**	**+0.6**
QUIF	**Quistinic**	**80.91**	**2**	*eP*	**P**	**20 46 35.5**	**0.0**
WATA	**Walderalm**	**81.07**	**352**	*⇑iP*	**P**	**20 46 36.8**	**+0.4**
	comp=Z,9.4nm,1.0s,mb4.7								
WATA	**Walderalm**	**81.07**	**352**	*⇑iP*	**P**	**20 46 36.8**	**+0.5**
WATA					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
MOTA	**Moosalm**	**81.10**	**353**	*⇑iP*	**P**	**20 46 36.6**	**+0.1**
	comp=Z,16nm,1.3s,mb4.8								
MOTA	**Moosalm**	**81.10**	**353**	*⇑iP*	**P**	**20 46 36.6**	**+0.1**
MOTA					pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8								
WTTA	**Wattenberg**	**81.14**	**352**	*⇑iP*	**P**	**20 46 37.5**	**+0.8**
	comp=Z,18nm,0.7s,mb5.1								
WTTA	**Wattenberg**	**81.14**	**352**	*⇑iP*	**P**	**20 46 37.5**	**+0.8**
WTTA					pmax	pmax			
	comp=Z,18nm,0.7s,mb5.1								
KBA	**Koelnbreinsper**	**81.17**	**351**	*⇑iP*	**P**	**20 46 38.0**	**+1.2**
	comp=Z,30nm,0.5s,mb5.5								
KBA	**Koelnbreinsper**	**81.17**	**351**	*⇑iP*	**P**	**20 46 38.0**	**+1.2**
KBA					pmax	pmax			
	comp=Z,31nm,0.5s,mb5.5								
SQTA	**Sankt Quirin**	**81.22**	**353**	*⇑iP*	**P**	**20 46 37.6**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.4								
SQTA	**Sankt Quirin**	**81.22**	**353**	*⇑iP*	**P**	**20 46 37.6**	**+0.5**
SQTA					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
TIRR	**Tirgusor**	**81.39**	**340**	*⇑iP*	**P**	**20 46 37.2**	**-0.8**
TIRR	**Tirgusor**	**81.39**	**340**	*⇑P*	**P**	**20 46 37.1**	**-0.9**
PKSM	**Moragy**	**81.40**	**347**	*⇓iP*	**P**	**20 46 37.6**	**-0.5**
PKSM	**Moragy**	**81.40**	**347**	*⇓P*	**P**	**20 46 37.6**	**-0.5**
BZS	**Buzias**	**81.54**	**345**	*⇑iP*	**P**	**20 46 38.6**	**-0.2**
BZS	**Buzias**	**81.54**	**345**	*⇑P*	**P**	**20 46 38.6**	**-0.2**
LOR	**Lormes**	**81.56**	**358**	*eP*	**P**	**20 46 38.9**	**0.0**
	comp=Z,11nm,0.6s,mb4.6								
LOR	**Lormes**	**81.56**	**358**	*eP*	**P**	**20 46 38.9**	**0.0**
LOR					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
LOR	**Lormes**	**81.56**	**358**	*eP*	**P**	**20 46 38.9**	**0.0**
	comp=Z,5.3nm,0.6s,mb4.7								
GZR	**Gura Zlata**	**81.57**	**344**	*⇓iP*	**P**	**20 46 39.7**	**+0.7**
GZR	**Gura Zlata**	**81.57**	**344**	*⇓P*	**P**	**20 46 39.7**	**+0.8**
OBKA	**Obir**	**81.61**	**350**	*⇑iP*	**P**	**20 46 40.1**	**+0.9**
	comp=Z,11nm,0.5s,mb5.1								
SSF	**Saint Saulge**	**81.77**	**358**	*eP*	**P**	**20 46 40.0**	**-0.1**
	comp=Z,8.4nm,0.5s,mb4.6								
SSF	**Saint Saulge**	**81.77**	**358**	*eP*	**P**	**20 46 40.0**	**-0.1**
SSF					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6								
SSF	**Saint Saulge**	**81.77**	**358**	*eP*	**P**	**20 46 40.0**	**-0.1**
	comp=Z,4.2nm,0.5s,mb4.6								
WB2	**Warramunga Arr**	**81.77**	**223**	*eP*	**P**	**20 46 34.5**	**-5.6**
WRA	**Warramunga Arr**	**81.78**	**223**	P	**P**	**20 46 37.9**	**-2.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=34,slow=6.3,SNR=21								
WRA	**Warramunga Arr**	**81.78**	**223**	P	**P**	**20 46 37.9**	**-2.2**
WRA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
PTCC	**Patocco-Chiusa**	**81.83**	**351**	P	**P**	**20 46 40.1**	**-0.3**
	comp=Z,9.5nm,0.9s,mb4.7								
AKL	**Akola**	**82.04**	**293**	*eP*	**P**	**20 46 40.6**	**-0.9**
AKL				AMb	AMB	20 46 44.4			
	comp=Z,18nm,1.6s,mb4.8								
AVF	**Avril sur Loir**	**82.05**	**358**	*eP*	**P**	**20 46 41.4**	**-0.1**
	comp=Z,11nm,0.6s,mb4.6								
AVF	**Avril sur Loir**	**82.05**	**358**	*eP*	**P**	**20 46 41.4**	**-0.1**
AVF					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
AVF	**Avril sur Loir**	**82.05**	**358**	*eP*	**P**	**20 46 41.4**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.7								
CABF	**La Chapelle**	**82.14**	**356**	*eP*	**P**	**20 46 42.2**	**+0.2**
SMF	**Signal de Mont**	**82.18**	**358**	*eP*	**P**	**20 46 42.1**	**-0.1**
	comp=Z,17nm,0.7s,mb4.8								
SMF	**Signal de Mont**	**82.18**	**358**	*eP*	**P**	**20 46 42.1**	**-0.1**
SMF					pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
SMF	**Signal de Mont**	**82.18**	**358**	*eP*	**P**	**20 46 42.1**	**-0.1**
	comp=Z,8.7nm,0.7s,mb4.8								
MFF	**Saint Martin d**	**82.27**	**0**	*eP*	**P**	**20 46 42.7**	**+0.1**
	comp=Z,32nm,1.0s,mb4.9								
MFF	**Saint Martin d**	**82.27**	**0**	*eP*	**P**	**20 46 42.7**	**+0.1**
MFF					pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9								
MFF	**Saint Martin d**	**82.27**	**0**	*eP*	**P**	**20 46 42.7**	**+0.1**
	comp=Z,16nm,1.0s,mb4.9								
CTI	**Castel Tesino**	**82.34**	**352**	P	**P**	**20 46 42.7**	**-0.3**
CTI					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
CTI	**Castel Tesino**	**82.34**	**352**	P	**P**	**20 46 42.7**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.6								
TCF	**Toulx Ste Croi**	**82.57**	**359**	*eP*	**P**	**20 46 44.2**	**0.0**
SVIS	**Svilajnac**	**82.89**	**345**	*iP*	**P**	**20 46 46.1**	**+0.2**
LPL	**La Plagne**	**83.20**	**356**	*eP*	**P**	**20 46 47.6**	**+0.1**
	comp=Z,4.7nm,0.6s,mb4.4								
LPL	**La Plagne**	**83.20**	**356**	*eP*	**P**	**20 46 47.6**	**+0.1**
LPL					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
LPL	**La Plagne**	**83.20**	**356**	*eP*	**P**	**20 46 47.6**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.4								
LPG	**La Plagne**	**83.22**	**356**	*eP*	**P**	**20 46 47.8**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.5								
LPG	**La Plagne**	**83.22**	**356**	*eP*	**P**	**20 46 47.8**	**+0.2**
LPG					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
LPG	**La Plagne**	**83.22**	**356**	*eP*	**P**	**20 46 47.8**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5								
DIVS	**Divcibare**	**83.28**	**346**	*iP*	**P**	**20 46 48.1**	**+0.2**
RJF	**Les Rejaudoux**	**83.56**	**359**	*eP*	**P**	**20 46 49.1**	**-0.2**
HYB	**Hyderabad**	**83.72**	**290**	*iP*	**P**	**20 46 50.5**	**+0.3**
HYB	**Hyderabad**	**83.72**	**290**	*eP*	**P**	**20 46 50.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**83.84**	**356**	*eP*	**P**	**20 46 50.8**	**0.0**
	comp=Z,8.8nm,0.5s,mb4.8								
ORIF	**Oris-en-Rattie**	**83.84**	**356**	*eP*	**P**	**20 46 50.8**	**0.0**
ORIF					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.8								
ORIF	**Oris-en-Rattie**	**83.84**	**356**	*eP*	**P**	**20 46 50.8**	**0.0**
	comp=Z,4.4nm,0.5s,mb4.8								
LFF	**La Frestale**	**83.93**	**360**	*eP*	**P**	**20 46 50.6**	**-0.6**
	comp=Z,58nm,1.1s,mb5.3								
LFF	**La Frestale**	**83.93**	**360**	*eP*	**P**	**20 46 50.6**	**-0.6**
LFF					pmax	pmax			
	comp=Z,29nm,1.1s,mb5.3								
LFF	**La Frestale**	**83.93**	**360**	*eP*	**P**	**20 46 50.6**	**-0.6**
	comp=Z,29nm,1.1s,mb5.3								
CAF	**Calviac**	**83.94**	**359**	*eP*	**P**	**20 46 50.6**	**-0.7**
	comp=Z,16nm,0.9s,mb4.8								
CAF	**Calviac**	**83.94**	**359**	*eP*	**P**	**20 46 50.6**	**-0.7**
CAF					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
CAF	**Calviac**	**83.94**	**359**	*eP*	**P**	**20 46 50.6**	**-0.7**
	comp=Z,7.8nm,0.9s,mb4.8								
VIVF	**Saint-Julien-l**	**83.94**	**357**	*eP*	**P**	**20 46 51.5**	**+0.2**
MBDF	**Montbardon**	**83.99**	**355**	*eP*	**P**	**20 46 51.4**	**-0.1**
	comp=Z,10nm,0.6s,mb4.8								
MBDF	**Montbardon**	**83.99**	**355**	*eP*	**P**	**20 46 51.4**	**-0.1**
MBDF					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.8								
MBDF	**Montbardon**	**83.99**	**355**	*eP*	**P**	**20 46 51.4**	**-0.1**
	comp=Z,5.1nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**84.17**	**231**	*eP*	**P**	**20 46 51.2**	**-1.3**
	comp=Z,15nm,0.6s,mb5.3								
VTS	**Vitosha**	**84.21**	**343**	*⇑iP*	**P**	**20 46 53.0**	**+0.3**
VTS	**Vitosha**	**84.21**	**343**	*⇑P*	**P**	**20 46 53.0**	**+0.4**
SFI	**Santa Sofia**	**84.45**	**352**	P	**P**	**20 46 55.0**	**+1.1**
MALT	**Malatya**	**84.58**	**331**	*⇓iP*	**P**	**20 46 55.6**	**+1.1**
MALT	**Malatya**	**84.58**	**331**	*⇓P*	**P**	**20 46 55.6**	**+1.1**
BR131	**Keskin Array S**	**84.63**	**335**	*eP*	**P**	**20 46 54.8**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.5								
BRTR	**Keskin Array B**	**84.63**	**335**	P	**P**	**20 46 55.2**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.7,baz=50,slow=3.1,SNR=24								
BRTR	**Keskin Array B**	**84.63**	**335**	*⇑eP*	**P**	**20 46 55.2**	**+0.4**
LASF	**Ste Croix**	**84.75**	**358**	*eP*	**P**	**20 46 55.2**	**-0.2**
SMRF	**Simiane la Rot**	**84.79**	**356**	*eP*	**P**	**20 46 55.2**	**-0.4**
	comp=Z,29nm,0.9s,mb5.1								
SMRF	**Simiane la Rot**	**84.79**	**356**	*eP*	**P**	**20 46 55.2**	**-0.4**
	comp=Z,29nm,0.9s,mb5.4								
SBF	**Sospel**	**84.81**	**355**	*eP*	**P**	**20 46 55.6**	**-0.1**
CSNT	**Castellina Chi**	**84.93**	**352**	P	**P**	**20 46 56.1**	**-0.2**
SNTG	**Esanatoglia**	**84.99**	**351**	P	**P**	**20 46 57.3**	**+0.7**
	comp=Z,20nm,0.6s,mb5.4								
FRF	**La Foret Royal**	**85.16**	**355**	*eP*	**P**	**20 46 57.0**	**-0.4**
	comp=Z,17nm,0.5s,mb5.1								
FRF	**La Foret Royal**	**85.16**	**355**	*eP*	**P**	**20 46 57.0**	**-0.4**
FRF					pmax	pmax			
	comp=Z,8.0nm,0.5s,mb5.1								
FRF	**La Foret Royal**	**85.16**	**355**	*eP*	**P**	**20 46 57.0**	**-0.4**
	comp=Z,8.4nm,0.5s,mb5.1								
AS31	**Alice Springs**	**85.26**	**222**	*eP*	**P**	**20 46 56.6**	**-1.3**
ASAR	**Alice Springs**	**85.26**	**222**	P	**P**	**20 46 56.4**	**-1.6**
	comp=Z,2.4nm,0.6s,mb4.5,baz=24,slow=5.7,SNR=33								
ASAR	**Alice Springs**	**85.26**	**222**	P	**P**	**20 46 56.4**	**-1.6**
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ASPA	**Alice Springs**	**85.27**	**222**	*eP*	**P**	**20 46 56.6**	**-1.4**
LMR	**La Mourre**	**85.39**	**356**	*eP*	**P**	**20 46 58.4**	**-0.2**
	comp=Z,11nm,0.5s,mb4.9								
LMR	**La Mourre**	**85.39**	**356**	*eP*	**P**	**20 46 58.4**	**-0.2**
LMR					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.9								
LMR	**La Mourre**	**85.39**	**356**	*eP*	**P**	**20 46 58.4**	**-0.2**
	comp=Z,5.4nm,0.5s,mb4.9								
NRCA	**Norcia**	**85.39**	**351**	P	**P**	**20 46 59.7**	**+1.1**
MTLF	**Montolieu**	**85.52**	**359**	*eP*	**P**	**20 46 58.7**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.8								
MTLF	**Montolieu**	**85.52**	**359**	*eP*	**P**	**20 46 58.7**	**-0.5**
MTLF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.7								
MTLF	**Montolieu**	**85.52**	**359**	*eP*	**P**	**20 46 58.7**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.8								
SJPF	**Ste Jean**	**85.75**	**1**	*eP*	**P**	**20 46 59.7**	**-0.7**
	comp=Z,22nm,0.8s,mb5.1								
SJPF	**Ste Jean**	**85.75**	**1**	*eP*	**P**	**20 46 59.7**	**-0.7**
SJPF					pmax	pmax			
	comp=Z,11nm,0.8s,mb5.1								
SJPF	**Ste Jean**	**85.75**	**1**	*eP*	**P**	**20 46 59.7**	**-0.7**
	comp=Z,11nm,0.8s,mb5.1								
AQU	**L'Aquila**	**85.84**	**350**	P	**P**	**20 47 01.8**	**+1.0**
EPF	**Esparros**	**85.84**	**0**	*eP*	**P**	**20 47 00.5**	**-0.3**
ETSF	**Etsaut**	**85.97**	**1**	*eP*	**P**	**20 47 01.3**	**-0.2**
	comp=Z,17nm,0.6s,mb5.1								
ETSF	**Etsaut**	**85.97**	**1**	*eP*	**P**	**20 47 01.3**	**-0.2**
ETSF					pmax	pmax			
	comp=Z,8.0nm,0.6s,mb5.1								
ETSF	**Etsaut**	**85.97**	**1**	*eP*	**P**	**20 47 01.3**	**-0.2**
	comp=Z,8.3nm,0.6s,mb5.1								
PGF	**Pioggiola**	**86.03**	**354**	*eP*	**P**	**20 47 01.5**	**-0.2**
	comp=Z,23nm,0.7s,mb5.2								
PGF	**Pioggiola**	**86.03**	**354**	*eP*	**P**	**20 47 01.5**	**-0.2**
PGF					pmax	pmax			
	comp=Z,11nm,0.7s,mb5.2								
PGF	**Pioggiola**	**86.03**	**354**	*eP*	**P**	**20 47 01.5**	**-0.2**
	comp=Z,11nm,0.7s,mb5.2								
MDRS	**Chennai**	**86.12**	**286**	*eP*	**P**	**20 47 01.4**	**-0.8**
MDRS				AMb	AMB	20 47 02.0			
	comp=Z,34nm,0.2s								
KAD	**Karad**	**86.35**	**293**	*eP*	**P**	**20 47 03.3**	**0.0**
KAD				AMb	AMB	20 47 05.2			
	comp=Z,18nm,1.3s,mb5.2								
SDI	**San Donato**	**86.43**	**350**	P	**P**	**20 47 03.9**	**+0.2**
ESDC	**Sonseca Array**	**89.11**	**3**	P	**P**	**20 47 15.7**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.6,baz=349,slow=4.1,SNR=10.0								
STKA	**Stephens Creek**	**89.78**	**212**	*eP*	**P**	**20 47 18.3**	**-1.4**
	comp=Z,3.7nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**89.78**	**212**	P	**P**	**20 47 18.5**	**-1.2**
	comp=Z,3.4nm,0.6s,mb4.8,baz=354,slow=9.8,SNR=8.4								
KEST	**Kesra**	**92.78**	**353**	P	**P**	**20 47 32.5**	**-1.1**
	comp=Z,0.7nm,0.5s,mb4.4,baz=213,slow=4.4,SNR=7.4								
TORD	**Torodi Ar. Bea**	**115.61**	**359**	PKP	PKPdf	20 53 02.5	-0.7		
	comp=Z,2.1nm,0.4s,baz=351,slow=2.2,SNR=43								
LIC	**Lamto**	**

YSS 2µm,16.0s AMS AMS 21 18 52.0
YSS 2µm,17.0s
YSS Yuzh-Sakhalins 6.13 284 ⇓*i*PN **Pn 21 16 34.2 +1.8**
YSS *e*S **Sn 21 17 44.6 +3.5**
YSS pmax pmax
comp=E,150nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s
YSS smax
comp=E,100nm,0.7s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=E,2µm,16.0s
YSS Yuzh-Sakhalins 6.13 284 *e*Pn **Pn 21 16 34.4 +2.0**
comp=E,91nm,0.4s
ASAJ LR LR 21 19 14.3
comp=E,2µm,18.9s,baz=270,slow=39
ASAJ Asahikawa 6.48 259 P **Pn 21 16 39.9 +2.7**
ASAJ *e*S **Sn 21 17 55.8 +6.0**
JCH Churui 6.59 245 P **Pn 21 16 38.2 -0.6**
JCH *e*S **Sn 21 17 51.0 -1.6**
JWK2 Keihoku 6.71 270 P **Pn 21 16 44.3 +3.9**
JFR Furan 6.83 251 P **Pn 21 16 43.4 +1.4**
JFR *e*S **Sn 21 18 00.8 +2.3**
JSS Shosan 6.92 262 P **Pn 21 16 49.7 +6.5**
JAB Ashibetsu 6.94 254 P **Pn 21 16 46.1 +2.5**
ERM Erimo 7.05 241 *d i*PN **Pn 21 16 46.2 +1.2**
ERM Erimo 7.05 241 *e*Pn **Pn 21 16 45.3 +0.3**
comp=E,653nm,0.4s
JEM Erimo 7.05 241 P **Pn 21 16 45.4 +0.4**
JEM *e*S **Sn 21 18 03.5 -0.2**
JNBK Urakawa-nobuka 7.15 244 P **Pn 21 16 45.6 -0.8**
JNBK *e*S **Sn 21 18 05.2 -1.1**
JBT2 Biratori 2 7.16 249 P **Pn 21 16 46.2 -0.3**
JBT2 *e*S **Sn 21 18 06.9 +0.5**
UGL Uglegorsk 7.17 301 *e*P **Pn 21 16 50.0 +3.3**
UGL AMB AMB 21 16 56.0
comp=E,102nm,0.8s
UGL AMS AMS 21 19 51.0
comp=E,2µm,14.0s
UGL AMS AMS 21 19 51.0
comp=E,2µm,14.0s
UGL AMS AMS 21 19 51.0
comp=E,2µm,16.0s
JHR Hokuryu 7.20 257 P **Pn 21 16 50.5 +3.5**
JEW Eniwo 7.73 251 P **Pn 21 16 55.7 +1.4**
JEW *e*S **Sn 21 18 21.1 +0.6**
TYV Tymovskoe 7.77 314 *e*P **Pn 21 16 56.0 +1.1**
TYV AMB AMB 21 16 58.0
comp=E,60nm,0.8s
TYV *e*S **Sn 21 18 22.5 +0.9**
TYV A 21 18 27.0
comp=E,66nm,0.7s
TYV A 21 18 27.0
comp=E,72nm,0.7s
TYV AMS AMS 21 20 14.0
comp=E,3µm,15.0s
TYV AMS AMS 21 20 14.0
comp=E,3µm,14.0s
JNB Noboribetsu 8.17 250 P **Pn 21 17 00.7 +0.4**
JNB *e*S **Sn 21 18 29.5 -1.7**
JSK Shakotan 8.18 257 P **Pn 21 17 05.5 +4.9**
JKB Kayabe 8.45 247 P **Pn 21 17 03.3 -0.9**
JKB *e*S **Sn 21 18 32.5 -5.7**
PET Petropavlovsk 8.67 30 *e*PN **Pn 21 17 14.3 +7.1**
PET pmax pmax
comp=Z,42nm,0.8s
PET MLR MLR
comp=Z,1µm,14.0s
PET Petropavlovsk 8.67 30 *e*Pn **Pn 21 17 05.6 -1.6**
comp=Z,20nm,0.6s
JSH Shimam 8.75 253 P **Pn 21 17 09.8 +1.5**
JSH *e*S **Sn 21 18 47.2 +1.6**
JYM2 Yakumo 2 8.77 249 P **Pn 21 17 07.9 -0.7**
JYM2 *e*S **Sn 21 18 43.2 -2.8**
JANG Nango 9.03 237 P **Pn 21 17 08.8 -3.3**
JANG *e*S **Sn 21 18 42.8 -10**
JSR Shiriuchi 9.03 246 P **Pn 21 17 11.2 -0.9**
JSR *e*S **Sn 21 18 47.0 -5.4**
JTM Tenmabayashi 9.04 240 P **Pn 21 17 10.2 -2.1**
JTM *e*S **Sn 21 18 45.4 -7.2**
JTH Tanohata 9.11 234 *e*S **Sn 21 18 43.9 -11**
JOSM Okushiri--Mats 9.37 251 P **Pn 21 17 16.1 -0.8**
JOSM *e*S **Sn 21 18 59.6 -1.3**
OKH Okha 9.55 328 *e*P **Pn 21 17 21.9 +2.6**
OKH *e*S **Sn 21 19 03.9 -1.4**
OKH *e*L 21 20 21.8
OKH AMS AMS 21 21 31.8
comp=Z,3µm,17.0s
OKH AMS AMS 21 21 31.8
comp=Z,3µm,16.0s
OKH AMS AMS 21 21 31.8
comp=Z,4µm,12.0s
OFUJ Ofunato 9.82 231 P **Pn 21 17 19.2 -3.7**
OFUJ *e*S **Sn 21 19 02.6 -9.2**
JRG Rokugo 10.18 235 P **Pn 21 17 25.5 -2.4**
JRG *e*S **Sn 21 19 15.1 -5.5**
JOG2 Oga 2 10.34 240 P **Pn 21 17 29.3 -0.8**
JIO Ouri 10.45 229 P **Pn 21 17 28.1 -3.4**
JIO *e*S **Sn 21 19 16.5 -11**
TEY Ternei 10.46 271 *e*P **Pn 21 17 33.0 +1.3**
TEY AMS AMS 21 21 57.0
comp=Z,1µm,15.0s
TEY AMS AMS 21 21 57.0
comp=Z,1µm,15.0s
JYA Atsumi 11.25 235 P **Pn 21 17 39.8 -2.7**
JYA *e*S **Sn 21 19 39.3 -7.5**
HABR Khabarovsk 11.49 290 ⇓*i*PN **Pn 21 17 50.8 +5.0**
HABR *e*S **Sn 21 20 02.5 +10**
HABR pmax pmax
comp=Z,117nm,1.6s
JFK Kawauchi 11.51 227 P **Pn 21 17 42.1 -4.0**
JFY Yanaizu 12.10 231 P **Pn 21 17 51.9 -2.2**
JAG Ashikaga 12.96 228 P **Pn 21 18 03.2 -2.7**
MJAR Matsushiro Arr 13.54 232 P **Pn 21 18 11.0 -2.9**
comp=Z,0.7nm,0.3s,baz=28,slow=13,SNR=14
MJAR Matsushiro Arr 13.54 232 P **Pn 21 18 11.0 -2.8**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 13.54 232 *e*P **Pn 21 18 10.2 -3.6**
MAJO pmax pmax
comp=Z,56nm,0.8s
MAJO Matsushiro 13.54 232 *e*Pn **Pn 21 18 10.2 -3.6**
comp=Z,56nm,0.8s
MAT Matsushiro 13.54 232 P **Pn 21 18 10.8 -3.0**
MAT *e*S **Sn 21 20 38.0 -4.8**
KLR Kul'dur 13.75 292 *e*P **Pn 21 18 17.2 +0.5**
KLR *e* 21 21 00.0
KLR pmax pmax
comp=E,100nm,1.4s
KLR pmax pmax
comp=Z,72nm,1.4s
KLR MLR MLR
comp=Z,2µm,14.0s
VLA Vladivostok 14.21 266 *d i*P **Pn 21 18 22.7 -0.2**
VLA pmax pmax
comp=Z,65nm,1.3s
MDJ Mudanjiang 15.44 274 *e*Pn **Pn 21 18 41.0 +1.9**
comp=Z,24nm,0.6s
JHJ Hachijo jima 2 15.47 219 LR LR 21 24 35.8
comp=Z,173nm,18.6s,baz=73,slow=37
ZEA Zeya 17.49 306 *e*P **Pn 21 19 03.2 -1.7**
ZEA AMB AMB 21 19 05.6
comp=Z,92nm,1.4s
ZEA AMB AMB 21 19 05.6
comp=Z,72nm,1.2s
ZEA AMB AMB 21 19 05.6
comp=Z,58nm,1.2s
CN2 Changchun 18.53 273 *e*P **Pn 21 19 16.3 -1.3**
CN2 AMB AMB
comp=Z,30nm,0.6s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,18.0s
CN2 LR LR
comp=E,900nm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
KSRS Korea Array 19.39 253 P **Pn 21 19 26.6 -1.2**
baz=56,slow=12,SNR=20
KSRS LR LR 21 26 33.0
comp=Z,354nm,18.1s,baz=56,slow=36
CLNS Chul'man 19.83 314 *e*P **Pn 21 19 33.6 +0.5**
CLNS *e*S **S 21 23 18.0 +6.0**
CLNS pmax pmax
comp=Z,68nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.7s
CLNS pmax pmax
comp=E,32nm,1.0s
CLNS smax
comp=E,30nm,1.1s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS smax
comp=N,15nm,1.0s
CLNS MLR MLR
comp=Z,1µm,16.0s
CLNS MLR MLR
comp=N,300nm,17.0s
CLNS MLR MLR
comp=E,2µm,18.0s
CBIJ Chichi jima 20.02 205 LR LR 21 26 34.1
comp=E,125nm,19.2s,MS3.3,baz=6.6,slow=34
JNU Nakatsue 20.20 239 P **P 21 19 36.4 +1.1**
comp=E,45nm,1.0s,baz=245,slow=20,SNR=3.7
JNU LR LR 21 27 19.0
comp=E,715nm,21.4s,MS4.0,baz=327,slow=36
SNY Shenyang 20.44 269 ⇑P **P 21 19 39.0 +1.1**
SNY S **S 21 23 25.0 +0.8**
SNY AMB AMB
comp=Z,16nm,0.6s
SNY AMB AMB
comp=Z,279nm,5.4s
SNY LR LR
comp=N,300nm,19.2s,MS4.0
SNY LR LR
comp=E,584nm,20.4s,MS4.0
SNY LR LR
comp=Z,655nm,15.6s,MS4.1
YAK Yakutsk 20.57 330 *e*P **P 21 19 40.4 +1.1**
YAK *e* 21 19 56.5
YAK *e*S **S 21 23 26.2 -0.6**
YAK *i* SS 21 23 45.4
YAK *i* SSS 21 23 59.5
YAK pmax pmax
comp=Z,114nm,0.8s
YAK pmax pmax
comp=N,69nm,1.2s
YAK pmax pmax
comp=E,55nm,1.1s
YAK pmax pmax
comp=Z,349nm,2.7s
YAK pmax pmax
comp=N,152nm,1.9s
YAK pmax pmax
comp=E,129nm,1.9s
YAK smax
comp=N,341nm,3.9s
YAK smax
comp=E,465nm,6.6s
YAK MLR MLR
comp=N,477nm,19.0s,MS4.1
YAK MLR MLR
comp=Z,624nm,19.0s,MS4.0
YAK MLR MLR
comp=E,609nm,22.0s,MS4.1
YAK Yakutsk 20.57 330 *e*P **P 21 19 39.8 +0.5**
comp=E,137nm,0.8s
HIA Hailar 21.61 291 *e*P **P 21 19 46.8 -3.6**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 21.61 291 *e*P **P 21 19 46.8 -3.7**
comp=Z,13nm,0.7s,mb4.5
BILL Bilibino 23.64 14 ⇑*e*P **P 21 20 09.5 -1.9**
BILL *e* 21 20 40.4
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BILL MLR MLR
comp=Z,700nm,17.0s,MS4.2
BILL Bilibino 23.64 14 *e*P **P 21 20 08.0 -3.4**
comp=Z,5.2nm,0.5s,mb4.2
CIT Chita 25.47 298 *e*P **P 21 20 29.2 +1.1**
BOD Bodaibo 25.75 312 *e*P **P 21 20 29.1 -1.6**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
BJI Beijing 26.31 270 *e*P **P 21 20 37.8 +2.1**
BJI AMB AMB
comp=Z,32nm,0.7s,mb5.0
BJI LR LR
comp=N,265nm,12.2s,MS4.3
BJI LR LR
comp=E,499nm,15.4s,MS4.3
BJI LR LR
comp=Z,505nm,18.2s,MS4.1
BJI Beijing 26.31 270 *e*P **P 21 20 37.8 +2.1**
comp=Z,32nm,0.7s,mb5.0
BJI S **S 21 25 19.9 +15**
BJI LR LR
comp=Z,510nm,18.2s,MS4.1
BJT Baijiatuau 26.32 270 *e*P **P 21 20 36.7 +0.9**
BJT pmax pmax
comp=Z,23nm,0.6s
BJT Baijiatuau 26.32 270 *e*P **P 21 20 36.7 +0.9**
comp=Z,23nm,0.6s,mb4.9
JOW Kunigami 26.39 232 P **P 21 20 36.0 -0.5**
comp=Z,29nm,0.9s,mb4.8,baz=42,slow=6.0,SNR=5.0
TIA Tai'an 27.42 262 *e*P **P 21 20 46.0 +0.3**
SSE Sheshan 27.65 249 P **P 21 20 46.8 -0.9**
SSE AP pP 21 21 03.5 +3.6
SSE S **S 21 25 21.3 -5.1**
SSE XS sS 21 25 50.8 +4.0
SSE AMB AMB
comp=Z,47nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,75nm,4.2s
SSE LR LR
comp=N,154nm,17.0s,MS3.7
SSE LR LR
comp=E,100nm,17.0s,MS3.7
SSE LR LR
comp=Z,185nm,16.0s,MS3.8
SSE Sheshan 27.65 249 P **P 21 20 46.7 -1.0**
comp=Z,47nm,0.8s,mb5.2
SSE pP pP 21 21 03.4 +3.5
SSE S **S 21 25 21.2 -5.2**
SSE sS sS 21 25 50.8 +4.0
SSE LR LR
comp=Z,190nm,16.0s,MS3.8
TIXI Tiksi 28.12 345 ⇑*i*P **P 21 20 51.1 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
TIXI Tiksi 28.12 345 *e*P **P 21 20 51.5 -0.4**
comp=Z,9.1nm,0.5s,mb4.7
NJ2 Nanjing 28.59 253 *e*P **P 21 20 59.0 +2.9**
NJ2 AP pP 21 21 11.0 +2.8
NJ2 XP sP 21 21 17.5 +3.8
NJ2 PP PP 21 21 52.5 -8.7
NJ2 S **S 21 25 43.0 +1.8**
NJ2 XS sS 21 26 03.0 +1.4
NJ2 AMB AMB
comp=Z,520nm,5.4s
NJ2 LR LR
comp=N,1µm,14.3s,MS4.8
NJ2 LR LR
comp=E,1µm,13.5s,MS4.8
NJ2 LR LR
comp=Z,140nm,14.6s,MS3.7
ULN Ulaanbaatar 30.14 290 ⇓*i*P **P 21 21 10.2 +0.3**
ULN Ulaanbaatar 30.14 290 *e*P **P 21 21 10.4 +0.5**
comp=Z,2.7nm,0.5s,mb4.2
ULN *e*PcP PcP 21 24 06.5 -3.8
SONM Songino Array 30.58 290 P **P 21 21 13.0 -0.8**
comp=Z,2.4nm,0.6s,mb4.2,baz=82,slow=7.3,SNR=19
SONM PcP PcP 21 24 11.3 -0.1
comp=Z,2.5nm,1.0s,baz=114,slow=3.1,SNR=4.4
SONM ScP ScP 21 27 49.9 -0.3
comp=Z,0.8nm,0.9s,baz=96,slow=1.5,SNR=3.9
SONM LR LR 21 34 30.1
comp=Z,556nm,19.3s,MS4.2,baz=1.7,slow=38
SONM Songino Array 30.58 290 P **P 21 21 13.0 -0.7**
SONM 21 24 11.3
SONM 21 27 49.9
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM MLR MLR
comp=Z,556nm,19.3s
TLY Talaya 31.62 298 *e*P **P 21 21 23.4 +0.5**
TLY pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
TLY MLR MLR
comp=Z,745nm,17.0s,MS4.4
TLY Talaya 31.62 298 *e*P **P 21 21 23.3 +0.4**
ZAK Zakamensk 32.06 296 *e*P **P 21 21 27.2 +0.4**
WHN Wuhan 32.55 255 P **P 21 21 31.0 -0.1**
SVW2 Sparrevohn 34.02 44 P **P 21 21 42.9 -1.0**
XAN Xi'an 34.27 265 P **P 21 21 46.0 0.0**
XAN AMB AMB
comp=Z,18nm,1.2s,mb4.9
IMA2 Indian Mountai 35.30 35 *e*P **P 21 21 53.4 -1.5**
IMA2 *e*PcP PcP 21 24 24.0 -0.6
KDAK Kodiak Island 35.64 50 P **P 21 21 56.8 -1.1**
comp=Z,15nm,0.7s,mb5.0,baz=278,slow=2.3,SNR=5.4
LZH Lanzhou 36.76 272 *e*P **P 21 22 07.8 +0.4**
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,170nm,5.6s
LZH LR LR
comp=N,2µm,15.7s
LZH LR LR
comp=Z,2µm,16.8s,MS5.0
LZH Lanzhou 36.76 272 *e*P **P 21 22 07.7 +0.3**
LZH *SP sP 21 22 15.8 -9.4
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.2
LZH MLR MLR
comp=Z,2µm,16.8s,MS5.0
LZH Lanzhou 36.76 272 *e*P **P 21 22 07.7 +0.3**
comp=Z,40nm,1.0s,mb5.2
LZH pP pP 21 22 12.1 -7.6
LZH sP sP 21 22 15.8 -9.4
LZH LR LR
comp=Z,2µm,16.8s,MS5.0
MCK McKinley 37.17 39 *e*P **P 21 22 09.3 -1.6**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
MCK McKinley 37.17 39 *e*P **P 21 22 09.3 -1.6**
comp=Z,2.8nm,0.9s,mb4.1
SML Sawmill 37.50 43 *e*P **P 21 22 12.2 -1.5**
COLA College 37.65 38 *ce*P **P 21 22 13.5 -1.4**
COLA College 37.65 38 *e*P **P 21 22 14.1 -0.8**
comp=Z,4.2nm,0.6s,mb4.3
GTA Gaotai 37.98 279 P **P 21 22 19.0 +1.3**
GTA PP PP 21 23 49.5 +4.4
GTA PPP 21 24 12.0
GTA PCP PcP 21 24 34.0 +1.3
GTA S **S 21 28 11.5 +4.9**
GTA AMB AMB
comp=Z,10.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,275nm,5.9s
GTA LR LR
comp=N,213nm,14.8s,MS4.3
GTA LR LR
comp=E,301nm,12.6s,MS4.3
GTA LR LR
comp=Z,499nm,16.4s,MS4.4
CD2 Chengdu 39.63 265 P **P 21 22 32.0 +0.4**
CD2 AP pP 21 22 44.3 +0.3
CD2 XP sP 21 22 49.8 +0.4
CD2 PP PP 21 24 08.0 +4.8
CD2 S **S 21 28 31.5 +0.1**
CD2 XS sS 21 28 52.0 -0.2
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.5
CD2 AMB AMB
comp=Z,150nm,6.2s
CD2 LR LR
comp=N,240nm,15.6s,MS4.3
CD2 LR LR
comp=E,270nm,14.4s,MS4.3
CD2 LR LR
comp=Z,330nm,14.4s,MS4.3
ZAL Zalesovo 42.27 306 P **P 21 22 52.7 -0.6**
comp=Z,2.2nm,0.5s,mb4.0,baz=46,slow=6.9,SNR=10
ZAL PcP PcP 21 24 46.7 +0.2
comp=Z,6.7nm,0.7s,baz=25,slow=4.6,SNR=22
ZAL LR LR 21 41 18.4
comp=Z,345nm,21.5s,MS4.2,baz=32,slow=37
ZAL Zalesovo 42.27 306 P **P 21 22 52.7 -0.6**
ZAL 21 24 46.7
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL MLR MLR
comp=Z,345nm,21.5s
INK Inuvik 43.12 32 P **P 21 22 59.8 -0.4**
comp=Z,12nm,0.8s,mb4.6,baz=302,slow=8.7,SNR=12
INK Inuvik 43.12 32 *e*P **P 21 22 59.3 -0.9**
comp=Z,216nm,0.5s
QIZ Qiongzhong 43.38 246 P **P 21 23 00.5 -1.8**
QIZ S **S 21 29 28.0 +1.1**
QIZ AMB AMB
comp=Z,20nm,2.5s,mb4.4
QIZ LR LR
comp=N,184nm,20.8s,MS4.2
QIZ LR LR
comp=E,303nm,22.5s,MS4.2
QIZ LR LR
comp=Z,263nm,20.6s,MS4.1
KMI Kunming 43.91 259 ⇑P **P 21 23 07.5 +1.0**
KMI AP pP 21 23 24.0 +4.9
KMI XP sP 21 23 28.3 +3.8
KMI S **S 21 29 35.3 +0.6**
KMI AMB AMB
comp=Z,24nm,1.3s,mb4.8
KMI LR LR
comp=N,174nm,12.8s,MS4.3
KMI LR LR
comp=E,190nm,12.2s,MS4.3
KMI LR LR
comp=Z,185nm,14.4s,MS4.1
KMI Kunming 43.91 259 ⇑P **P 21 23 07.4 +0.9**
KMI *PP pP 21 23 23.9 +4.8
KMI S **S 21 29 35.2 +0.5**
KMI pmax pmax
comp=Z,24nm,1.3s,mb4.8
KMI MLR MLR
comp=Z,190nm,14.4s,MS4.2
KMI Kunming 43.91 259 ⇑P **P 21 23 07.4 +0.9**
comp=Z,24nm,1.3s,mb4.8
KMI pP pP 21 23 23.9 +4.8
KMI sP sP 21 23 28.3 +3.8
KMI S **S 21 29 35.2 +0.5**
KMI LR LR
comp=Z,190nm,14.4s,MS4.2
WMQ Urumqi 44.20 291 *e*P **P 21 23 11.0 +2.1**
MKAR Makanchi Array 46.37 297 P **P 21 23 25.4 -0.6**
comp=Z,6.9nm,0.6s,mb4.8,baz=70,slow=6.9,SNR=44
MKAR PcP PcP 21 25 00.1 -0.3
comp=Z,5.6nm,0.6s,baz=66,slow=3.9,SNR=10.0
MKAR Makanchi Array 46.37 297 P **P 21 23 25.4 -0.6**
MKAR 21 25 00.1
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 46.37 297 P **P 21 23 25.4 -0.6**
MKAR PcP PcP 21 25 00.1 -0.3
KURK Kurchatov 46.95 304 P **P 21 23 30.0 -0.6**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
DLBC Dease Lake 47.13 45 *e*P **P 21 23 32.8 +0.8**
LSA Lhasa 49.16 273 P **P 21 23 50.0 +2.3**
LSA Lhasa 49.16 273 *e*P **P 21 23 49.6 +1.9**
LSA pmax pmax
comp=Z,35nm,0.6s,mb5.6
LSA Lhasa 49.16 273 *e*P **P 21 23 49.6 +2.0**
comp=Z,35nm,0.6s,mb5.6
KKM Kota Kinabalu 49.94 229 *e*P **P 21 23 52.6 -1.0**
VOSK Vostochnaya 50.41 309 P **P 21 23 55.1 -2.1**
VOSK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BVA0 Borovoye Array 50.60 309 *i*P **P 21 23 59.0 +0.4**
BVAR Borovoye Array 50.60 309 P **P 21 23 57.9 -0.7**
comp=Z,3.8nm,0.5s,mb4.6,baz=52,slow=7.2,SNR=36
BVAR PcP PcP 21 25 14.4 -1.3

comp=Z,3.5nm,0.8s,baz=101,slow=3.0,SNR=9.3
BVAR Borovoye Array 50.60 309 P **P** **21 23 57.9 -0.7**
BVAR 21 25 14.4
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 50.64 310 *e*P **P** **21 23 57.5 -1.4**
BRVK *e* 21 25 14.9
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 50.64 310 *e*P **P** **21 23 57.5 -1.3**
comp=Z,6.4nm,0.6s,mb4.7
BRVK *e*PcP PcP 21 25 14.8 -1.0
CHTO Chiang Mai 50.75 256 *e*P **P** **21 24 00.2 +0.5**
CHTO pmax pmax
comp=Z,27nm,0.9s,mb5.2
CHTO Chiang Mai 50.75 256 *e*P **P** **21 24 00.2 +0.5**
comp=Z,27nm,0.9s,mb5.2
CM31 Chiang Mai Arr 51.00 256 *e*P **P** **21 24 02.3 +0.8**
ZRNK Zerenda 51.38 310 *e*P **P** **21 24 02.2 -2.2**
ZRNK *e* 21 25 17.4
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZRNK Zerenda 51.38 310 *e*P **P** **21 24 02.2 -2.2**
comp=Z,3.6nm,0.6s,mb4.5
ZRNK *e*PcP PcP 21 25 17.4 -1.2
RES Resolute Bay 52.16 18 *e*P **P** **21 24 08.3 -1.9**
comp=Z,217nm,0.8s
ULHL Ulahol 52.33 295 P **P** **21 24 14.9 +3.3**
SNR=5.5
TKM2 Tokmak 2 52.39 296 P **P** **21 24 14.7 +2.7**
SNR=7.5
YKA Yellowknife Ar 52.42 36 P **P** **21 24 11.5 -0.7**
comp=Z,6.6nm,0.8s,mb4.6,baz=297,slow=6.9,SNR=32
YKA PcP PcP 21 25 21.3 -1.2
comp=Z,2.3nm,0.9s,baz=303,slow=3.5,SNR=3.9
YKA LR LR 21 48 36.4
comp=Z,85nm,20.0s,MS3.8,baz=215,slow=38
YKA Yellowknife Ar 52.42 36 P **P** **21 24 11.5 -0.7**
YKA 21 25 21.3
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA MLR MLR
comp=Z,85nm,20.0s
YKA Yellowknife Ar 52.42 36 P **P** **21 24 11.5 -0.7**
YKA PcP PcP 21 25 21.3 -1.2
YKA LR LR 21 48 36.4
USP Ospenovka 52.90 297 P **P** **21 24 15.5 -0.2**
SNR=27
KBK Karagaybulak 52.94 296 P **P** **21 24 16.6 +0.6**
SNR=10
KZA Kyzart 53.05 295 P **P** **21 24 21.0 +4.2**
SNR=12
AAK Ala-Archa 53.23 296 P **P** **21 24 19.7 +1.5**
SNR=13
AAK Ala-Archa 53.23 296⇓ *e*P **P** **21 24 18.0 -0.2**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AAK Ala-Archa 53.23 296 *e*P **P** **21 24 16.6 -1.6**
comp=Z,8.3nm,0.6s,mb4.8
EKS2 Erkin-Say 53.67 297 P **P** **21 24 24.4 +3.0**
SNR=26
JIRN Jiri 53.86 274 *e*P **P** **21 24 23.9 +1.1**
comp=Z,105nm,0.6s,mb5.9
GUN Gumba 53.92 275 *e*P **P** **21 24 24.0 +0.8**
comp=Z,39nm,0.4s,mb5.7
AML Almayashu 54.00 296 P **P** **21 24 27.4 +3.5**
SNR=6.0
KKN Kakani 54.41 275 *e*P **P** **21 24 27.6 +0.8**
comp=Z,89nm,0.6s,mb5.9
PKI Pulchoki 54.46 275 *e*P **P** **21 24 27.7 +0.6**
comp=Z,59nm,0.6s,mb5.7
DMN Daman 54.65 275 *e*P **P** **21 24 29.6 +1.1**
comp=Z,95nm,0.7s,mb5.9
GKN Gorkha 54.73 276 *e*P **P** **21 24 29.8 +0.7**
comp=Z,125nm,0.8s
ARU Arti 54.96 317⇑ *i*P **P** **21 24 31.1 +0.3**
ARU *e* 21 24 48.9
ARU *e* 21 25 31.3
ARU *e* 21 26 33.7
ARU *e*S **S** **21 32 09.5 +0.2**
ARU *e*SS SS 21 35 52.6 -0.7
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.6
ARU MLR MLR
comp=N,100nm,15.0s,MS4.5
ARU MLR MLR
comp=E,300nm,16.0s,MS4.5
ARU Arti 54.96 317 *e*P **P** **21 24 28.6 -2.2**
comp=E,9.2nm,0.6s,mb5.0
HNR Honiara 55.45 170 LR LR 21 43 11.9
comp=E,206nm,21.8s,MS4.2,baz=360,slow=30
KKAR Karatay Array 55.46 299 *i* P **P** **21 24 35.0 +0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KOLN Koldanda 55.60 276 *e*P **P** **21 24 36.3 +0.9**
comp=Z,89nm,0.8s,mb5.9
B05A Bryant 55.95 54⇑P **P** **21 24 37.8 0.0**
baz=56
A07A Ashnola River, 56.48 52⇑P **P** **21 24 41.6 0.0**
baz=56
C05A Tolt Reservoir 56.49 54⇑P **P** **21 24 41.5 -0.2**
baz=56
D05A Enumclaw 56.59 55⇓P **P** **21 24 42.8 +0.3**
baz=56
KSM Kuching 56.94 232 *e*P **P** **21 24 45.2 +0.3**
B07A Winthrop 56.95 53⇑P **P** **21 24 45.0 0.0**
baz=57
F04A Amboy 57.04 56⇑P **P** **21 24 44.9 -0.7**
baz=57
A08A Turner Farm, O 57.15 52 P **P** **21 24 46.2 -0.2**
baz=57,SNR=5.4
D06A Cle Elum 57.24 54⇑P **P** **21 24 46.9 -0.2**
baz=57
C07A Waterville 57.41 53⇓P **P** **21 24 47.1 -1.2**
baz=57
B08A Colville Reser 57.44 52 P **P** **21 24 48.4 -0.1**
baz=57,SNR=6.4
A09A Danville 57.51 51 P **P** **21 24 49.1 +0.2**
baz=57,SNR=7.1
D07A Quincy 57.73 54⇑P **P** **21 24 49.1 -1.4**
baz=58
H04A Detroit Lake 57.87 57⇑P **P** **21 24 51.0 -0.5**
baz=58
C08A Higginbotham F 57.92 53⇑P **P** **21 24 52.0 +0.1**
baz=58
B09A Rice 58.06 52⇑P **P** **21 24 52.0 -0.8**
baz=58
G05A Wamic 58.06 56⇑P **P** **21 24 52.6 -0.2**
baz=58
F06A Goldendale 58.08 55⇑P **P** **21 24 52.5 -0.4**
baz=58
E07A Sunnyside 58.16 54⇓P **P** **21 24 52.8 -0.7**
baz=58
AB31 Akbulak array 58.17 310 *e*P **P** **21 24 52.3 -1.3**
AB31 pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
THN Thein Dam 58.19 285 *e*P **P** **21 24 51.9 -1.8**
I04A Tendick Farm, 58.24 58⇓P **P** **21 24 53.0 -1.1**
baz=58
C09A Chrisman Ranch 58.34 52⇑P **P** **21 24 54.3 -0.5**
baz=58
D08A Wollman Farm, 58.41 53⇓P **P** **21 24 55.1 -0.1**
baz=58
ARCES ARCESS Array B 58.41 340 P **P** **21 24 53.9 -1.4**
comp=Z,3.9nm,0.7s,mb4.5,baz=35,slow=7.0,SNR=11
ARCES LR LR 21 53 32.6
comp=Z,85nm,19.6s,MS3.9,baz=301,slow=40
ARCES ARCESS Array B 58.41 340 P **P** **21 24 53.9 -1.4**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,85nm,19.6s
H05A Madras 58.45 57⇓P **P** **21 24 56.4 +0.8**
baz=58
G06A Carlson Farm, 58.46 56⇓P **P** **21 24 56.0 +0.3**
baz=58
F07A Phinny Hill Vi 58.50 55 P **P** **21 24 56.6 +0.7**
baz=58,SNR=5.4
AKTO Aktyubinsk 58.52 312 P **P** **21 24 57.0 +1.0**
B10A Chitwood Farm, 58.64 51⇑P **P** **21 24 57.0 +0.2**
baz=58
E08A Dider Farm, El 58.65 54⇑P **P** **21 24 56.8 -0.1**
baz=58
NEW Newport 58.71 51 *e*P **P** **21 24 56.5 -0.9**
NEW pmax pmax
comp=Z,67nm,1.9s
NEW Newport 58.71 51 *e*P **P** **21 24 56.5 -0.8**
comp=Z,67nm,1.9s,mb5.3
A11A Hall Mountain, 58.73 50 P **P** **21 24 58.4 +1.0**
baz=58,SNR=7.6
J04A Umpqua Nationa 58.74 59⇑P **P** **21 24 58.5 +0.9**
baz=58
D09A Jones Farm, Ri 58.74 53⇓P **P** **21 24 56.8 -0.8**
baz=58
C10A Spilker Farm, 58.87 52⇓P **P** **21 24 58.9 +0.5**
baz=59
H06A Lindquist Farm 58.93 56⇓P **P** **21 24 58.7 -0.1**
baz=59
G07A Ruggs Ranch, H 59.01 55⇓P **P** **21 24 59.8 +0.4**
baz=59
B11A Sandpoint 59.02 51⇓P **P** **21 25 00.0 +0.5**
baz=59
E09A Wood Farm, Sta 59.15 54 P **P** **21 25 00.6 +0.2**
baz=59,SNR=7.8
F08A Pendleton 59.21 55⇑P **P** **21 25 00.8 0.0**
baz=59
J05A Fort Rock 59.23 58⇓P **P** **21 25 01.6 +0.6**
baz=59
YBH Yreka Blue Hor 59.25 60 P **P** **21 25 01.0 -0.1**
comp=Z,2.1nm,0.7s,mb4.3,baz=313,slow=1.7,SNR=5.5
YBH Yreka Blue Hor 59.25 60 P **P** **21 25 01.0 -0.1**
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 59.25 60⇑P **P** **21 25 01.7 +0.7**
baz=59
M02C Callahan 59.36 61⇓P **P** **21 25 02.8 +1.0**
baz=59
G08A Pilot Rock 59.40 55 P **P** **21 25 02.8 +0.7**
baz=59,SNR=6.6
I06A Prineville 59.46 57⇓P **P** **21 25 02.5 0.0**
baz=59
L04A Klamath Falls 59.49 59⇓P **P** **21 25 03.3 +0.6**
baz=59
ORR Orenburg 59.51 314 *e*P **P** **21 25 02.1 -0.8**
ORR pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KULM Kulim 59.59 243 *e*P **P** **21 25 04.2 +0.8**
M04C Macdoel 59.75 60⇓P **P** **21 25 04.9 +0.3**
baz=60
E10A Myers Farm, Un 59.75 53⇓P **P** **21 25 04.8 +0.3**
baz=60
F09A S2 Ranch, Elgi 59.76 54⇓P **P** **21 25 05.2 +0.7**
baz=60
I07A Izee 59.79 56⇑P **P** **21 25 05.4 +0.5**
baz=60
D11A Klaveano Farm, 59.85 52⇓P **P** **21 25 04.7 -0.5**
baz=60
J06A Christmas Vall 59.90 58 P **P** **21 25 06.6 +1.1**
baz=60,SNR=5.2
F10A Beach Ranch, E 59.99 54⇑P **P** **21 25 07.0 +0.9**
baz=60
H08A Prairie City 60.02 56⇓P **P** **21 25 06.2 -0.1**
baz=60
WDC Whiskeytown Da 60.03 61⇑P **P** **21 25 07.1 +0.6**
baz=60
B13A Whitefish 60.09 50 P **P** **21 25 07.2 +0.4**
baz=60,SNR=13
K06A Valley Falls 60.10 58 P **P** **21 25 08.0 +1.1**
baz=60,SNR=7.8
O02C Red Bluff 60.12 62⇓P **P** **21 25 07.7 +0.6**
baz=60
J07A Hines 60.32 57⇑P **P** **21 25 08.8 +0.4**
baz=60
E11A Bogner Ranch, 60.33 53⇑P **P** **21 25 08.5 0.0**
baz=60
M05C Lookout 60.42 60⇓P **P** **21 25 09.8 +0.7**
baz=60
I08A Drewsey 60.44 56⇓P **P** **21 25 09.8 +0.6**
baz=60
C13A Hot Springs 60.44 51⇑P **P** **21 25 09.2 -0.1**
baz=60
GASB Alder Springs 60.47 62⇓P **P** **21 25 10.2 +0.8**
baz=60
H09A Durkee 60.51 55⇓P **P** **21 25 10.0 +0.2**
baz=60
HATC Hat Creek Radi 60.55 61⇓P **P** **21 25 10.0 0.0**
baz=60
MOD Modoc 60.60 59⇑P **P** **21 25 10.3 -0.1**
baz=60
F11A Grangeville 60.64 53⇑P **P** **21 25 11.6 +1.0**
baz=60
KAKA Kakadu 60.66 201 *e*P **P** **21 25 10.1 -0.6**
comp=Z,21nm,0.9s,mb5.3
K07A Rock Creek Ran 60.76 58 P **P** **21 25 12.6 +1.1**
baz=60,SNR=6.3
J08A Circle Bar Ran 60.82 57⇑P **P** **21 25 12.5 +0.7**
baz=60
D13A Huson 60.86 51⇓P **P** **21 25 11.8 -0.3**
baz=61
M06C Likely Place G 60.92 60⇓P **P** **21 25 13.4 +0.9**
baz=61
O04C Chester 61.08 61⇑P **P** **21 25 13.8 +0.3**
baz=61
H10A Noah's Angus R 61.08 55 P **P** **21 25 14.2 +0.6**
baz=61,SNR=5.0
MNRC McLaughlin Nat 61.10 63⇓P **P** **21 25 13.9 +0.1**
baz=61
L07A Adell 61.11 58⇓P **P** **21 25 14.4 +0.6**
baz=61
K08A Mann Creek Ran 61.19 57 P **P** **21 25 15.2 +0.9**
baz=61,SNR=8.2
F12A Elk City 61.22 53⇑P **P** **21 25 15.1 +0.6**
baz=61
J09A Fry Pan Ranch, 61.25 56 P **P** **21 25 15.8 +1.1**
baz=61,SNR=5.2
WVOR Wild Horse Val 61.28 58 *e*P **P** **21 25 12.4 -2.6**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
WVOR Wild Horse Val 61.28 58 *e*P **P** **21 25 12.4 -2.6**
comp=Z,8.9nm,0.9s,mb4.9
ORV Oroville 61.28 62⇓P **P** **21 25 13.4 -1.6**
baz=61
MSO Missoula 61.30 51 *e*P **P** **21 25 14.3 -0.8**
comp=Z,14nm,1.3s,mb4.9
SUTB Sutter Butte 61.30 62⇓P **P** **21 25 13.8 -1.3**
baz=61
D14A Greenough 61.38 51 P **P** **21 25 15.4 -0.2**
baz=61,SNR=12
O05C Quincy 61.39 61⇑P **P** **21 25 15.5 -0.2**
baz=61
E13A Victor 61.40 52⇑P **P** **21 25 16.8 +1.1**
baz=61
OHCM Honcut 61.42 62 *e*P **P** **21 25 15.5 -0.4**
H11A Donnelly 61.43 54⇑P **P** **21 25 15.9 -0.1**
baz=61
N06A Buffalo Meadow 61.58 60⇓P **P** **21 25 17.0 0.0**
baz=61
M07A Soldier Meadow 61.59 59 P **P** **21 25 17.9 +0.8**
baz=61,SNR=5.5
L08A Fields 61.60 58 P **P** **21 25 17.9 +0.8**
baz=61,SNR=5.8
CHMT Chamberlain Mo 61.62 51 *e*P **P** **21 25 16.5 -0.7**
K09A Rome 61.66 57⇓P **P** **21 25 17.0 -0.5**
baz=61
F13A Darby 61.72 52⇓P **P** **21 25 18.3 +0.4**
baz=61
BEKR Beckwourth 61.79 61⇓P **P** **21 25 18.7 +0.3**
baz=62
E14A Clinton 61.80 51⇓P **P** **21 25 18.5 +0.1**
baz=62
O06A Flanigan 61.94 60⇑P **P** **21 25 19.2 -0.2**
baz=62
D15A Lincoln 61.94 50⇓P **P** **21 25 19.8 +0.4**
baz=62
M08A Happy Creek Ra 62.03 58⇓P **P** **21 25 20.4 +0.4**
baz=62
N07B Gerlach 62.08 59⇑P **P** **21 25 21.0 +0.6**
baz=62
H12A Diamond D Ranc 62.18 54⇑P **P** **21 25 20.1 -0.9**
baz=62
G13A Cobalt 62.20 53⇑P **P** **21 25 20.3 -0.8**
baz=62
LAVA Lava Cap Winer 62.24 62⇑P **P** **21 25 20.3 -1.1**
baz=62
E15A Deer Lodge 62.26 51⇓P **P** **21 25 22.2 +0.7**
baz=62
O07A Toulon 62.52 60 P **P** **21 25 24.0 +0.8**
baz=62,SNR=7.3
N08A GE Springer Mi 62.58 59⇓P **P** **21 25 24.6 +0.9**
baz=62
M09A Marrel Ranch, 62.60 58⇓P **P** **21 25 24.2 +0.4**
baz=62
S04C Ingram Canyon, 62.64 63⇓P **P** **21 25 23.7 -0.4**
baz=62
F15A Butte 62.70 51 P **P** **21 25 24.8 +0.3**
baz=62,SNR=15
FCC Fort Churchill 62.74 32 *e*P **P** **21 25 23.4 -1.3**
EGMT Eagleton 62.80 48⇑P **P** **21 25 25.3 +0.2**
baz=62
CMB Columbia Colle 62.90 62⇓P **P** **21 25 26.5 +0.7**
baz=63
N09A Rock Creek Ran 62.90 58⇓P **P** **21 25 25.7 -0.1**
baz=63
PACP Pacheco Peak 62.97 64⇑P **P** **21 25 26.3 0.0**
baz=63
M10A I.L. Ranch, Tu 63.07 57⇓P **P** **21 25 26.8 -0.2**
baz=63,SNR=6.5
G15A Dillon 63.12 52 P **P** **21 25 27.7 +0.4**
baz=63,SNR=6.2
MCMT McKenzie Canyo 63.13 53 *e*P **P** **21 25 27.1 -0.2**
R06C Coleville 63.17 62⇓P **P** **21 25 28.3 +0.6**
baz=63
S06C San Francisco 63.33 62 P **P** **21 25 29.2 +0.5**
baz=63,SNR=6.3
S05C Merced 63.36 63⇑P **P** **21 25 28.8 0.0**
baz=63
O09A Fish Creek Ran 63.53 59⇑P **P** **21 25 31.0 +1.1**
baz=63
M11A Holland Ranch, 63.57 57⇑P **P** **21 25 31.6 +1.4**
baz=63
R07C Lee Vining 63.69 62⇑P **P** **21 25 31.9 +0.9**
baz=63
KAF Kangasniemi 63.86 335 *e*p **P** **21 25 27.9 -4.2**
comp=Z,7.4nm,0.8s,mb4.8
KAF Kangasniemi 63.86 335 *e*P **P** **21 25 27.9 -4.2**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
O10A Cortez Mining, 63.86 58⇑P **P** **21 25 32.5 +0.4**
baz=64
Q08A Gabbs 63.90 60 P **P** **21 25 33.2 +0.9**
baz=64,SNR=5.8
QLMT Earthquake Lak 63.92 52 *e*P **P** **21 25 33.0 +0.4**
NVAR Mina Array Bea 63.94 61 P **P** **21 25 33.2 +0.6**
comp=Z,5.2nm,0.8s,mb4.6,baz=290,slow=8.6,SNR=20
NVAR Mina Array Bea 63.94 61 P **P** **21 25 33.2 +0.5**
N11A Elko Archery C 63.99 58⇓P **P** **21 25 33.9 +0.9**
baz=64
KCC Kaiser Creek 64.00 62⇑P **P** **21 25 33.7 +0.6**
baz=64
M12A Wells 64.09 57 P **P** **21 25 34.7 +1.0**
baz=64,SNR=5.5
GCMT Greycliff 64.26 50 *e*P **P** **21 25 34.6 -0.2**
N12A Clover Valley, 64.38 57⇓P **P** **21 25 36.3 +0.8**
baz=64
FIA1 FINESS Array S 64.44 334 *e*P **P** **21 25 33.8 -2.2**
FINES FINESS Array B 64.44 334 P **P** **21 25 34.5 -1.5**
comp=Z,4.7nm,0.6s,mb4.7,baz=44,slow=6.8,SNR=18
FINES LR LR 21 55 44.4
comp=Z,262nm,19.0s,MS4.4,baz=349,slow=38
FINES FINESS Array B 64.44 334 P **P** **21 25 34.5 -1.5**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES MLR MLR
comp=Z,262nm,19.0s
O11A Cowboy Ranch, 64.47 58⇑P **P** **21 25 36.8 +0.7**
baz=64
M13A Montello 64.56 56⇓P **P** **21 25 37.5 +0.7**
baz=64
HELL Mitchell Peak, 64.59 63 P **P** **21 25 36.7 -0.3**
baz=64,SNR=5.8
R09A Tonopah 64.81 60⇑P **P** **21 25 38.6 +0.2**
baz=64
O12A Currie 64.92 57 P **P** **21 25 39.9 +0.8**
baz=65,SNR=5.7
S09A Goldfield 65.04 61⇓P **P** **21 25 40.5 +0.6**
baz=65
LOHW Long Hollow 65.15 52 *e*P **P** **21 25 41.6 +1.0**
REDW Red Top Meadow 65.17 53 *e*P **P** **21 25 40.4 -0.4**
comp=Z,22nm,1.3s,mb5.0
Q11A Duckwater 65.28 59⇓P **P** **21 25 41.8 +0.3**
baz=65
P12A McGill 65.33 58⇓P **P** **21 25 42.2 +0.5**
baz=65
CWC Cottonwood Cre 65.33 63⇓P **P** **21 25 42.1 +0.4**
baz=65
GRAC Grapevine Rang 65.41 62⇓P **P** **21 25 42.5 +0.2**
baz=65
OBN Obninsk 65.47 325⇑ *e*P **P** **21 25 43.8 +1.1**
OBN *e* 21 28 07.6
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
Q12A Willow Creek R 65.65 59⇑P **P** **21 25 45.1 +1.2**
baz=65
CTA Charters Tower 65.69 185 *e*P **P** **21 25 44.1 0.0**
comp=Z,5.6nm,1.2s,mb4.5
CTA Charters Tower 65.69 185 LR LR 21 53 01.8
comp=Z,89nm,18.4s,MS4.0,baz=153,slow=35
CTA Charters Tower 65.69 185 *e*P **P** **21 25 44.1 0.0**
CTA pmax pmax
comp=Z,6.0nm,1.2s
CTAO Charters Tower 65.69 185 *e*P **P** **21 25 43.0 -1.1**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CTAO Charters Tower 65.69 185 *e*P **P** **21 25 43.0 -1.0**
comp=Z,7.3nm,1.0s,mb4.7
MPMC Manual Prospec 65.94 63 P **P** **21 25 45.9 +0.2**
baz=56,SNR=5.8
FURC Furnace Creek, 66.07 62⇑P **P** **21 25 47.3 +0.8**
baz=66
DUG Dugway 66.10 56 P **P** **21 25 47.6 +0.9**
baz=66,SNR=5.2
LRMC Laurel Mountai 66.19 63⇑P **P** **21 25 47.1 -0.2**
baz=66
PDAR Pinedale Array 66.28 53 P **P** **21 25 47.8 -0.1**
comp=Z,2.9nm,0.9s,mb4.3,baz=298,slow=3.2,SNR=20
EDW2 Edwards Air Fo 66.38 64⇑P **P** **21 25 48.7 +0.2**
baz=66
GSC Goldstone 66.85 63 P **P** **21 25 50.9 -0.6**
baz=67
WRAB Tennant Creek 67.18 197 *c i*P **P** **21 25 52.5 -1.1**
WB2 Warramunga Arr 67.19 197 *e*P **P** **21 25 52.8 -0.9**
WB2 *e*pP pP 21 26 06.0 -0.9
WB2 Warramunga Arr 67.19 197 *e*P **P** **21 25 52.7 -0.9**
WB2 *e* pP 21 26 04.0 -2.9
WRA Warramunga Arr 67.19 197 P **P** **21 25 53.1 -0.6**
comp=Z,28nm,0.8s,mb5.3,baz=16,slow=6.7,SNR=117
WRA Warramunga Arr 67.19 197 *i* P **P** **21 25 53.0 -0.7**
WRA pmax pmax
comp=Z,28nm,0.8s
TUQ Turquoise Mtn. 67.31 62⇓P **P** **21 25 54.9 +0.4**
baz=67
CCUT Cedar City 67.50 59 *e*P **P** **21 25 56.0 +0.4**
MSU Marysvale 67.57 58 *e*P **P** **21 25 56.3 +0.2**
FITZ Fitzroy Crossi 67.72 207 *e*P **P** **21 25 57.1 +0.1**
comp=Z,13nm,0.9s,mb5.0
FITZ *e*pP pP 21 26 10.2 0.0
GMRC Granite Mounta 67.91 63⇓P **P** **21 25 58.3 +0.1**
baz=68
ULM Lac du Bonnet 68.04 40 P **P** **21 25 57.8 -1.2**
comp=Z,3.4nm,0.7s,mb4.5,baz=319,slow=6.4,SNR=7.1
ULM LR LR 21 55 19.7
comp=Z,87nm,19.4s,MS4.0,baz=109,slow=36
SRU San Rafael 68.14 56 *e*P **P** **21 25 59.3 -0.4**
SRU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SRU San Rafael 68.14 56 *e*P **P** **21 25 59.3 -0.4**
comp=Z,4.1nm,0.6s,mb4.6
BELC Belle Mtn. 68.20 63⇑P **P** **21 25 59.9 -0.1**
baz=68
RSSD Black Hills 68.36 49 *e*P **P** **21 25 59.2 -1.9**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
RSSD Black Hills 68.36 49 *e*P **P** **21 25 59.2 -1.9**
comp=Z,2.2nm,0.6s,mb4.4
POO Poona 68.39 275 *i* P **P** **21 25 58.0 -3.2**
IRM Iron Mountain 68.63 63⇓P **P** **21 26 02.6 -0.1**
baz=68
BC3 Big Chuckw Mtn 68.77 63⇑P **P** **21 26 03.8 +0.2**
baz=68
W13A Hualapai Mount 68.79 61⇑P **P** **21 26 04.4 +0.6**
baz=68
NB2 NORSAR Subarra 68.79 340 P **P** **21 26 02.3 -1.4**
comp=Z,3.5nm,0.6s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 68.79 340 P **P** **21 26 02.5 -1.2**
comp=Z,4.6nm,0.7s,mb4.5,baz=27,slow=6.4,SNR=17
NOA LR LR 22 01 57.6
comp=Z,140nm,18.7s,MS4.2,baz=345,slow=41
NOA NORSAR Array B 68.79 340 P **P** **21 26 02.6 -1.1**

NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,140nm,18.7s
DZM Mont Dzumac 68.86 165 P **P 21 26 04.1 0.0**
comp=Z,15nm,0.9s,mb4.9,baz=16,slow=7.8,SNR=7.0
X13A Yucca 69.16 62 ⇑P **P 21 26 06.8 +0.8**
baz=69
PDMCI Parker Dam,Lak 69.16 62 ⇓P **P 21 26 07.1 +1.0**
baz=69
W14A Seligman 69.21 61 P **P 21 26 07.3 +1.0**
baz=69,SNR=6.7
PV10 Paradox Valley 69.50 56 *e*P **P 21 26 08.4 +0.3**
X14A Yava 69.82 61 ⇑P **P 21 26 11.2 +1.2**
baz=70
Y14A Wickenburg 70.11 62 ⇓P **P 21 26 12.2 +0.3**
baz=70
X15A Humboldt 70.21 61 ⇓P **P 21 26 13.5 +1.1**
baz=70
KIV Kislovodsk 70.66 314 *e*P **P 21 26 16.0 +0.8**
KIV pmax pmax
comp=Z,12nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,587nm,19.0s,MS4.9
KIV Kislovodsk 70.66 314 *e*P **P 21 26 15.6 +0.4**
comp=Z,11nm,0.6s,mb5.0
ZEI Tsey 70.87 312 *e*P **P 21 26 14.7 -1.8**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AS31 Alice Springs 70.89 197 *e*P **P 21 26 16.6 0.0**
ASAR Alice Springs 70.90 197 P **P 21 26 17.1 +0.4**
comp=Z,16nm,0.8s,mb5.0,baz=11,slow=5.8,SNR=142
ASAR LR LR 21 54 01.6
comp=Z,114nm,21.5s,MS4.1,baz=1.3,slow=33
ASAR Alice Springs 70.90 197 P **P 21 26 17.1 +0.4**
ASAR pmax pmax
comp=Z,16nm,0.8s
ASAR MLR MLR
comp=Z,114nm,21.5s
ASPA Alice Springs 70.90 197 *e*P **P 21 26 17.0 +0.3**
ASPA *e*pP pP 21 26 29.5 -0.5
AKASG Malin Array Be 71.72 325 P **P 21 26 20.4 -1.3**
comp=Z,3.6nm,0.5s,mb4.6,baz=34,slow=6.2,SNR=12
AKASG LR LR 22 00 27.6
comp=Z,289nm,19.1s,MS4.6,baz=25,slow=38
AKASG Malin Array Be 71.72 325 *i* P **P 21 26 20.3 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 71.72 325 *e*P **P 21 26 19.3 -2.3**
KIEV Kiev 71.73 325 *e*P **P 21 26 18.8 -2.9**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KIEV Kiev 71.73 325 *e*P **P 21 26 18.8 -3.0**
comp=Z,6.4nm,0.6s,mb4.7
GNI Garni 72.28 310*c i*P **P 21 26 26.3 +1.3**
GNI pmax pmax
comp=Z,9.0nm,1.3s
GNI Garni 72.28 310 *e*P **P 21 26 24.8 -0.2**
comp=Z,12nm,0.9s,mb4.8
ECSD EROS,Sioux Fal 72.42 45 *e*P **P 21 26 23.9 -2.0**
comp=Z,37nm,1.6s,mb5.1
ANMO Albuquerque 73.35 57⇓*i*P **P 21 26 31.9 +0.6**
SCHQ Schefferville 74.68 22 P **P 21 26 38.4 -0.8**
comp=Z,8.5nm,0.9s,mb4.7,baz=3.8,slow=4.7,SNR=4.8
SCHQ LR LR 22 00 21.2
comp=Z,138nm,18.2s,MS4.3,baz=318,slow=36
OJC Ojcow 75.63 330 *e*P **P 21 26 44.0 -0.5**
BURAR Bucovina Array 75.77 326⇓*i*P **P 21 26 45.0 -0.4**
BURAR Bucovina Array 75.77 326 ⇓P **P 21 26 45.0 -0.3**
STHS Stebnicka Huta 75.79 329 *e*P **P 21 26 45.7 +0.2**
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STHS Stebnicka Huta 75.79 329 *e*P **P 21 26 45.7 +0.2**
comp=Z,11nm,0.8s,mb4.8
KOLS Kolonicke sedl 75.81 328 *e*P **P 21 26 44.9 -0.7**
NIE Niedzica 76.12 330 *e*P **P 21 26 47.6 +0.3**
BOYT Boyabat 76.39 316 *i* P **P 21 26 49.3 +0.4**
OKC Ostrava-Krasne 76.52 331 *e*P **P 21 26 49.4 -0.2**
VRI Vrincioaia 76.58 324⇓*i*P **P 21 26 49.3 -0.6**
VRI Vrincioaia 76.58 324 ⇓P **P 21 26 49.3 -0.6**
PLOR Plostina 76.62 324⇓*i*P **P 21 26 50.1 -0.1**
UPC Upice 76.65 333 *e*P **P 21 26 50.1 -0.2**
DPC Dobruska-Polom 76.68 332 *e*P **P 21 26 50.1 -0.4**
MORC Moravsky Berou 76.77 331⇑*i*P **P 21 26 50.9 -0.1**
MORC Moravsky Berou 76.77 331 *e*P **P 21 26 50.3 -0.7**
comp=Z,15nm,0.9s,mb4.9
KECS Kecovo 76.84 329 *e*P **P 21 26 51.2 -0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 76.84 329 *e*P **P 21 26 51.2 -0.2**
comp=Z,3.8nm,0.9s,mb4.3
CLL Collm 76.89 335 *i* P **P 21 26 50.4 -1.3**
CLL pmax pmax
comp=Z,22nm,1.0s,mb5.0
CLL Collm 76.89 335 *i* P **P 21 26 50.4 -1.3**
comp=Z,22nm,1.0s,mb5.0
MALT Malatya 76.97 312⇓*i*P **P 21 26 53.2 +1.0**
MALT Malatya 76.97 312 *e*P **P 21 26 52.9 +0.7**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 76.98 334 *e*P **P 21 26 51.5 -0.8**
comp=Z,11nm,1.5s,mb4.5
BRG Berggiesshubel 76.98 334 *e*P **P 21 26 51.5 -0.7**
BRG pmax pmax
comp=Z,11nm,1.5s,mb4.6
TIRR Tirgusor 77.00 322⇑*i*P **P 21 26 51.5 -0.8**
TIRR Tirgusor 77.00 322 ⇑P **P 21 26 51.5 -0.8**
BALT Daday 77.03 317 *i* P **P 21 26 53.4 +0.9**
CTKT Corum 77.06 316 *i* P **P 21 26 52.8 +0.1**
PVCC Panska Ves 77.09 333 *e*P **P 21 26 52.6 -0.2**
MLR Muntele Rosu 77.20 324⇑*i*P **P 21 26 54.3 +0.8**
MLR Muntele Rosu 77.20 324 ⇑P **P 21 26 54.3 +0.8**
VYHS Vyhne 77.42 330 *e*P **P 21 26 54.3 -0.4**
VYHS Vyhne 77.42 330 *e*P **P 21 26 54.4 -0.3**
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VYHS Vyhne 77.42 330 *e*P **P 21 26 54.4 -0.3**
comp=Z,5.4nm,0.9s,mb4.5
DRGR 77.42 327⇓*i*P **P 21 26 54.4 -0.3**
DRGR 77.42 327 ⇓P **P 21 26 54.4 -0.3**
VRAC Vranov 77.49 332⇓*i*P **P 21 26 55.1 0.0**
VRAC Vranov 77.49 332 ⇓P **P 21 26 55.1 0.0**
PSZ Piszkesteto 77.53 329⇑*i*P **P 21 26 55.2 -0.1**
PSZ Piszkesteto 77.53 329 *e*P **P 21 26 54.3 -1.0**
comp=Z,10nm,1.0s,mb4.7
PRU Pruhonice 77.57 333 *e*P **P 21 26 55.1 -0.4**
STKA Stephens Creek 77.77 189 *e*P **P 21 26 56.9 +0.3**
comp=Z,2.2nm,0.6s,mb4.3
STKA *e*pP pP 21 27 09.8 -0.3
STKA Stephens Creek 77.77 189 P **P 21 26 56.5 -0.2**
comp=Z,3.4nm,0.6s,mb4.5,baz=39,slow=0.8,SNR=5.7
STKA LR LR 22 01 59.1
comp=Z,121nm,18.8s,MS4.2,baz=25,slow=36
STKA Stephens Creek 77.77 189 P **P 21 26 56.4 -0.2**
MOX Moxa 77.88 335 *e*P **P 21 26 56.5 -0.8**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 77.88 335 *e*P **P 21 26 56.5 -0.8**
MOX pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
NKC Novy Kostel 78.00 334 *e*P **P 21 26 57.4 -0.5**
GZT Gaziantep 78.14 312 *i* P **P 21 26 58.8 +0.2**
MIB Mutribah 78.18 301 *e*P **P 21 26 58.9 0.0**
MIB AMb AMB 21 27 00.1
comp=Z,57nm,0.7s,mb5.6
ZST Bratislava 78.28 331 *e*P **P 21 27 00.2 +0.8**
comp=Z,11nm,1.0s,mb4.7
ZST LR LR
comp=Z,200nm,21.9s,MS4.4
BR131 Keskin Array S 78.31 316 *e*P **P 21 26 59.4 -0.3**
comp=Z,4.6nm,0.8s,mb4.5
BRTR Keskin Array B 78.31 316 P **P 21 26 59.7 +0.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=71,slow=4.2,SNR=25
BRTR LR LR 22 08 00.9
comp=Z,204nm,18.8s,MS4.5,baz=95,slow=41
BRTR Keskin Array B 78.31 316 *i* P **P 21 26 59.7 +0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
SGKT Sivrigoynuk 78.41 317 *i* P **P 21 27 00.1 -0.1**
LPIG La Paz 78.58 67 LR LR 21 58 09.2
comp=Z,55nm,19.4s,MS3.9,baz=255,slow=33
QRN Al-Qurain 78.59 299 *e*P **P 21 27 01.2 +0.1**
QRN AMb AMB 21 27 02.5
comp=Z,54nm,0.8s,mb5.5
ANTO Ankara 78.61 316 *e*P **P 21 27 01.5 +0.2**
ANTO pmax pmax
comp=Z,9.0nm,0.6s,mb4.9

ANTO Ankara 78.61 316 *e*P **P 21 27 01.5 +0.2**
comp=Z,9.1nm,0.6s,mb4.9
KHC Kasperske Hory 78.62 333 *e*P **P 21 27 01.1 -0.3**
NAY Al-Naaiem 78.64 300 *e*P **P 21 27 01.3 -0.2**
NAY AMb AMB 21 27 02.6
comp=Z,23nm,0.7s,mb5.2
RDF Al-Radifah 78.68 300 *e*P **P 21 27 01.8 +0.1**
BZS Buzias 78.82 327⇓*i*P **P 21 27 01.7 -0.8**
BZS Buzias 78.82 327 ⇓P **P 21 27 01.7 -0.7**
GERES GERESS Array B 78.83 333 P **P 21 27 02.1 -0.5**
comp=Z,4.5nm,0.7s,mb4.5,baz=34,slow=5.2,SNR=43
GERES LR LR 22 06 06.4
comp=Z,319nm,19.8s,MS4.7,baz=189,slow=39
GERES GERESS Array B 78.83 333 P **P 21 27 02.1 -0.4**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES MLR MLR
comp=Z,319nm,19.8s
GRA1 Grafenberg Arr 78.85 335 *e*P **P 21 27 02.4 -0.2**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.85 335 *e*P **P 21 27 02.4 -0.2**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.85 335 *e*P **P 21 27 02.4 -0.2**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.85 335 *e*P **P 21 27 02.4 -0.2**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
CONA Conrad Observa 78.93 331⇑*i*P **P 21 27 03.3 +0.2**
comp=Z,6.9nm,0.7s,mb4.7,SNR=11
TXAR Lajitas Array 79.00 59 P **P 21 27 03.2 -0.2**
comp=Z,3.8nm,0.7s,mb4.4,baz=300,slow=4.0,SNR=39
TXAR Lajitas Array 79.00 59 P **P 21 27 03.3 -0.1**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
FORT Forrest 79.06 200 *e*P **P 21 27 03.7 -0.1**
comp=Z,30nm,0.7s,mb5.3
BEBN Eben Emael 79.38 339 P **P 21 27 05.1 -0.3**
PKSM Moragy 79.43 329⇓*i*P **P 21 27 04.8 -1.0**
PKSM Moragy 79.43 329 ⇓P **P 21 27 04.8 -1.0**
COBT Iskenderun 79.43 312 *i* P **P 21 27 06.8 +0.9**
MEM Membach 79.46 338 P **P 21 27 05.6 -0.4**
MOA Molln 79.53 332⇑*i*P **P 21 27 05.8 -0.5**
comp=Z,6.6nm,0.8s,mb4.6
BCLA Clavier 79.82 339 P **P 21 27 07.4 -0.5**
BCLA E 21 27 08.6
SNF Seneffe 79.99 339 P **P 21 27 08.3 -0.5**
ULDT Uludag 80.12 319 *i* P **P 21 27 09.8 +0.4**
STU Stuttgart 80.26 336 P **P 21 27 09.2 -1.1**
WLF Walferdange 80.29 338 P **P 21 27 11.9 +1.5**
DOU Dourbes 80.29 339 P **P 21 27 09.5 -0.9**
KBA Koelnbreinsper 80.50 332⇓*i*P **P 21 27 11.9 +0.4**
comp=Z,24nm,0.9s,mb5.1,SNR=9.1
KBA Koelnbreinsper 80.50 332⇓*i*P **P 21 27 11.9 +0.3**
KBA pmax pmax
comp=Z,24nm,0.9s,mb5.1
VTS Vitosha 80.71 324⇓*i*P **P 21 27 12.4 -0.3**
VTS Vitosha 80.71 324 ⇓P **P 21 27 12.4 -0.2**
WATA Walderalm 80.84 334⇓*i*P **P 21 27 13.3 -0.1**
comp=Z,12nm,1.0s,mb4.8
WATA Walderalm 80.84 334⇓*i*P **P 21 27 13.3 -0.1**
WATA pmax pmax
comp=Z,12nm,1.0s,mb4.8
MIAR Mount Ida 80.87 49 *e*P **P 21 27 12.7 -0.8**
MIAR pmax pmax
comp=Z,14nm,1.1s,mb4.8
MIAR Mount Ida 80.87 49 *e*P **P 21 27 12.7 -0.8**
comp=Z,14nm,1.1s,mb4.8
WTTA Wattenberg 80.88 334⇑*i*P **P 21 27 13.7 +0.1**
comp=Z,16nm,0.8s,mb5.0,SNR=7.9
WTTA Wattenberg 80.88 334⇑*i*P **P 21 27 13.7 +0.1**
WTTA pmax pmax
comp=Z,16nm,0.8s,mb5.0
MOTA Moosalm 80.97 334 *i* P **P 21 27 14.2 +0.1**
comp=Z,23nm,1.2s,mb5.0,SNR=7.7
MOTA Moosalm 80.97 334 *i* P **P 21 27 14.2 +0.1**
MOTA pmax pmax
comp=Z,23nm,1.2s,mb5.0
SQTA Sankt Quirin 81.05 334⇑*i*P **P 21 27 14.4 -0.1**
comp=Z,15nm,1.1s,mb4.8,SNR=6.4
SQTA Sankt Quirin 81.05 334⇑*i*P **P 21 27 14.5 0.0**
SQTA pmax pmax
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 81.13 337 *e*P **P 21 27 13.8 -1.1**
comp=Z,30nm,1.0s,mb4.9
CDF Champ du Feu 81.13 337 *e*P **P 21 27 13.8 -1.1**
CDF pmax pmax
comp=Z,15nm,1.0s,mb4.9
CDF Champ du Feu 81.13 337 *e*P **P 21 27 13.8 -1.1**
comp=Z,15nm,1.0s,mb4.9
CSS Prodhromos 82.17 313 *e*P **P 21 27 19.8 -0.6**
comp=Z,8.9nm,0.8s,mb4.8
ASF Jabal al Asfar 82.43 309 LR LR 22 09 38.0
comp=Z,121nm,18.4s,MS4.3,baz=81,slow=40
PPT Papeete 82.53 124 LR LR 21 55 01.7
comp=Z,316nm,21.7s,MS4.6,baz=315,slow=29
MMAI Mount Meron Ar 82.59 310 LR LR 22 08 47.1
comp=Z,286nm,19.2s,MS4.7,baz=345,slow=39
KLBR Kellerberrin 82.81 208 *e*P **P 21 27 23.0 -0.7**
comp=Z,68nm,1.6s,mb5.4
GRR Gorron 83.17 342 *e*P **P 21 27 24.3 -1.3**
comp=Z,28nm,0.8s,mb5.0
GRR Gorron 83.17 342 *e*P **P 21 27 24.3 -1.3**
GRR pmax pmax
comp=Z,14nm,0.8s,mb5.0
GRR Gorron 83.17 342 *e*P **P 21 27 24.3 -1.3**
comp=Z,14nm,0.8s,mb5.0
BDRM Kayabasi 83.38 318 *i* P **P 21 27 25.8 -0.9**
SMF Signal de Mont 83.68 338 *e*P **P 21 27 26.9 -1.3**
comp=Z,73nm,1.1s,mb5.4
SMF Signal de Mont 83.68 338 *e*P **P 21 27 26.9 -1.3**
SMF pmax pmax
comp=Z,37nm,1.1s,mb5.4
SMF Signal de Mont 83.68 338 *e*P **P 21 27 26.9 -1.3**
comp=Z,37nm,1.1s,mb5.4
LPG La Plagne 83.94 336 *e*P **P 21 27 28.7 -0.8**
comp=Z,20nm,0.8s,mb5.0
LPG La Plagne 83.94 336 *e*P **P 21 27 28.7 -0.8**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LPG La Plagne 83.94 336 *e*P **P 21 27 28.7 -0.8**
comp=Z,9.8nm,0.8s,mb5.0
NWAO Narrogin (SRO) 84.21 208 *e*P **P 21 27 30.5 -0.4**
NWAO pmax pmax
comp=Z,11nm,0.8s
NWAO Narrogin (SRO) 84.21 208 *e*P **P 21 27 30.5 -0.4**
comp=Z,11nm,0.8s,mb5.0
EIL Elat 85.42 309 *e*P **P 21 27 36.6 -0.4**
comp=Z,80nm,0.6s
CAF Calviac 85.73 339 *e*P **P 21 27 37.2 -1.4**
comp=Z,22nm,1.0s,mb5.0
CAF Calviac 85.73 339 *e*P **P 21 27 37.2 -1.4**
CAF pmax pmax
comp=Z,11nm,1.0s,mb5.0
CAF Calviac 85.73 339 *e*P **P 21 27 37.2 -1.4**
comp=Z,11nm,1.0s,mb5.0
JSC Jenkinsville 87.20 41 P **P 21 27 38.7 -7.1**
LHS Liberty Hill 87.25 41 *e*P **P 21 27 46.2 +0.2**
KEST Kesra 91.97 330 P **P 21 28 08.9 +0.8**
comp=Z,1.6nm,0.9s,mb4.3,baz=328,slow=8.4,SNR=4.4
KEST LR LR 22 11 41.1
comp=Z,98nm,19.4s,MS4.3,baz=329,slow=37
ESDC Sonseca Array 92.14 341 P **P 21 28 10.0 +1.1**
comp=Z,1.3nm,0.9s,mb4.2,baz=19,slow=4.0,SNR=4.2
ESDC LR LR 22 15 15.3
comp=Z,177nm,21.0s,MS4.5,baz=215,slow=39
MDT Midelt 98.85 340 LR LR 22 22 26.4
comp=Z,107nm,18.0s,MS4.4,baz=205,slow=41
TORD Torodi Ar. Bea 115.33 327 PKP PKPdf 21 33 39.8 -1.1
comp=Z,0.5nm,0.7s,baz=42,slow=1.7,SNR=5.4
QSPA South Pole Qui 135.48 180 *e*PKPdf PKPdf 21 34 17.9 -1.4
LPAZ La Paz 135.84 61 PKP PKPdf 21 34 20.7 +0.7
comp=Z,1.7nm,0.8s,baz=359,slow=4.6,SNR=9.1
MAIT Maitri 148.27 204 *e*PKPdf PKPdf 21 34 43.3 +1.3
SNAA Sanae 151.26 197 PKPbc PKPbc 21 34 50.5 -2.3
comp=Z,2.9nm,0.6s,baz=172,slow=2.8,SNR=46
SNAA Sanae 151.26 197 *e*PKPdf PKPdf 21 34 50.4 +3.6
SNAA *e* 21 35 01.8
SNAA Sanae 151.26 197⇑*i*PKIKP PKPdf 21 34 50.2 +3.4
SNAA Sanae 151.26 197 *e*PKPbc PKPbc 21 34 50.3 -2.5
VNA2 Neumayer--Watz 152.74 195 *e*PKPdf PKPbc 21 34 54.2 -1.9
VNA2 *e* 21 35 05.1
VNA2 *e* 21 35 12.0
VNA2 *e* 21 35 18.8
PMSA Palmer Station 152.80 147 *e*PKPbc PKPbc 21 34 51.8 -4.5
VNA3 Neumayer Olymp 152.85 193 *e*PKPdf PKPbc 21 34 54.2 -2.2
VNA3 *e* 21 35 05.0
VNA3 *e* 21 35 14.0
VNA1 Neumayer--Stat 153.12 195 *e*PKPdf PKPbc 21 34 54.3 -2.6
VNA1 *e* 21 35 06.6

IDC 28 21:15:31.5±9.6, 1956S×17292W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=188.3km s-min=157.3km az=23.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.45**	**259**	P	Pn	21 19 59.2	-1.4
	0.4nm,0.3s,baz=81,slow=18,SNR=7.7						
STKA	**Stephens Creek**	**42.49**	**244**	P	P	21 23 28.2	-0.1
	1.5nm,0.5s,baz=102,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**49.38**	**255**	P	P	21 24 23.3	+0.6
	1.9nm,0.8s,baz=92,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**49.46**	**260**	P	P	21 24 24.0	+0.7
	0.9nm,0.6s,baz=98,slow=6.0,SNR=15						

CASC 28 21:38:58.5±2.4, 1322N×9007W, h17km±16km, MD3.5, 4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.75**	**35**	*e*P	x	21 39 21.0	
SBLS				*e*S	x	21 39 32.5	
SNJE	**San Jose**	**0.79**	**35**	*e*P	x	21 39 21.4	
SNJE				*e*S	x	21 39 33.0	
RTR	**El Retiro**	**0.79**	**31**	*e*P	x	21 39 21.7	
RTR				*e*S	x	21 39 33.0	
BOQS	**Boqueron**	**0.92**	**56**⇓	*e*P	x	21 39 22.8	
BOQS				*e*S	x	21 39 35.9	
RBDL	**Robledal**	**0.96**	**23**⇓	*e*P	x	21 39 24.8	
RBDL				*e*S	x	21 39 39.6	
LFRS	**El Faro**	**1.06**	**68**	*e*P	x	21 39 24.0	
LFRS				*e*S	x	21 39 38.8	
LFU	**La Fuente**	**1.06**	**60**	*e*P	x	21 39 24.6	
LFU				*e*S	x	21 39 39.4	
LBRS	**Las Brisas**	**1.12**	**63**⇓	*e*P	x	21 39 25.5	
LBRS				*e*S	x	21 39 40.6	
LCBS	**La Ceiba**	**1.14**	**68**	*e*P	x	21 39 25.3	
LCBS				*e*S	x	21 39 40.3	
SNVI	**San Vicente**	**1.26**	**72**	*e*P	x	21 39 27.1	
SNVI				*e*S	x	21 39 44.3	
MTO2	**Montecristo 2**	**1.36**	**30**⇓	*e*P	x	21 39 30.5	
MTO2				*e*S	x	21 39 50.2	
FUG	**Fuego 3**	**1.44**	**328**	*e*P	Pn	21 39 23.9	+0.2
BLLM	**Bellamira**	**1.79**	**83**	*e*P	x	21 39 32.4	
BLLM				*e*S	x	21 39 56.2	
TP2	**Tecpan 2**	**1.81**	**329**	*e*P	Pn	21 39 28.7	-0.2
TP2				*e*S	Sn	21 39 54.2	+2.7
MRL	**Marmol**	**1.87**	**11**	*e*P	Pn	21 39 30.9	+1.2
CNCH	**Conchagua**	**2.17**	**88**	*e*P	x	21 39 39.6	
CNCH				*e*S	x	21 40 06.5	

*ISCJB **28** 21:58:58.2±1.7, 467N±02×1523E±03, h53km±13km, mb4.3/10, Error ellipse: s-maj=38.6km s-min=14.1km az=92.1*
*IDC **28** 21:58:58.0±9.5, 4676N×15243E, h44km±76km, mb3.6/6, mb1 3.7/7, mb1mx3.4/24, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=89.6km s-min=29.4km az=86.0*
*MOS **28** 21:58:59.3±0.8, 4677N×15206E, h69km, mb4.3/4, Error ellipse: s-maj=30.4km s-min=19.2km az=62.8*
ISC 28 21:59:00.1±1.6, 467N±02×1523E±03, h55km±12km, n21, σ1§41/21, mb4.3/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.42**	**246**	*e*PN	**Pn**	**21 59 50.0**	**-0.9**
KUR				pmax	pmax		
	comp=E,70nm,0.6s						
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR	**Severo-Kuril's**	**4.70**	**31**	*e*PN	**Pn**	**22 00 09.7**	**+1.3**
ASAJ	**Asahikawa**	**7.29**	**252**	P	**Pn**	**22 00 43.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=59,slow=19,SNR=2.8						
MKAR	**Makanchi Array**	**46.44**	**297**	P	**P**	**22 07 20.6**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=67,slow=7.4,SNR=7.6						
KKN	**Kakani**	**54.91**	**275**	*e*P	**P**	**22 08 27.9**	**+2.7**
	comp=Z,8.4nm,0.6s,mb5.0						
KKN	**Kakani**	**54.91**	**275**	*e*P	**P**	**22 08 28.0**	**+2.8**
	comp=Z,8.4nm,0.6s,mb5.0						
DMN	**Daman**	**55.15**	**275**	*e*P	**P**	**22 08 29.3**	**+2.4**
	comp=Z,12nm,0.8s,mb5.0						
DMN	**Daman**	**55.15**	**275**	*e*P	**P**	**22 08 29.3**	**+2.4**
	comp=Z,12nm,0.8s,mb5.0						
GKN	**Gorkha**	**55.22**	**275**	*e*P	**P**	**22 08 29.1**	**+1.7**
	comp=Z,9.6nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.22**	**275**	*e*P	**P**	**22 08 29.1**	**+1.7**
	comp=Z,9.6nm,0.6s,mb5.0						
KOLN	**Koldanda**	**56.08**	**276**	*e*P	**P**	**22 08 35.4**	**+1.8**
	comp=Z,7.4nm,0.7s,mb4.8						
KOLN	**Koldanda**	**56.08**	**276**	*e*P	**P**	**22 08 35.5**	**+1.9**
	comp=Z,7.4nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**63.81**	**334**	P	**P**	**22 09 25.3**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=32,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**63.81**	**334**	P	**P**	**22 09 25.3**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**22 09 52.4**	**-1.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=3.0						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**22 09 52.4**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.27**	**339**	P	**P**	**22 09 53.9**	**-1.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=69,slow=8.1,SNR=11						
HFS	**Hagfors**	**68.27**	**339**	P	**P**	**22 09 53.9**	**-1.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**22 10 12.6**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=34,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**22 10 12.6**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.01**	**198**	P	**P**	**22 10 17.4**	**-0.7**
	comp=Z,0.4nm,1.0s,mb3.3,baz=7.5,slow=5.3,SNR=5.1						

*IDC **28** 22:04:29.1±1.1, 3462N×3209E, h0km, mb3.8/7, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML4.0/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=22.0km s-min=16.4km az=15.0*
*CSEM **28** 22:04:29.8±0.0, 3443N×3206E, h10km, Mw3.9, Error ellipse: s-maj=1.4km s-min=1.1km az=91.0*
*NIC **28** 22:04:32.5±0.3, 3457N×3202E, h22km, mb4.1, ML3.9, MW3.9*
*GII **28** 22:04:32.4±0.4, 3451N×3213E, h17km±3km, mb4.1/7, ML3.9/10*
*ISCJB **28** 22:04:32.0±0.2, 3444N±002×3206E±002, h43km±6km, mb3.7/9, MS3.6/1, Error ellipse: s-maj=3.1km s-min=2.4km az=120.5*
*NEIC **28** 22:04:32.5, 3457N×3202E, h22km, mb3.9/2, ML3.8(ISK), ML3.9(NIC), After NIC.*
*HLW **28** 22:04:32.6, 3451N×3200E, h33km, Mb4.4*
*GRAL **28** 22:04:33.5±1.7, 3456N×3212E, h30km±16km, MD4.1*
*NSSC **28** 22:04:41, 3454N×3290E, h40km*
*ATH **28** 22:05:18.5, 3598N×2806E, h48km±9km, MD3.7/5*
ISC 28 22:04:33.8±0.2, 3446N±002×3208E±002, h39km±6km, n155, σ1§07/194, mb3.7/9, MS3.6/1, 6C-19D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPCY	**Paphos**	**0.47**	**27**⇑	*i*P	**Pn**	**22 04 41.2**	**-2.9**
AKMC	**Akamas**	**0.60**	**20**⇑	*i*P	**Pn**	**22 04 43.4**	**-2.4**
SZAC	**Souni-Zanaja**	**0.72**	**66**⇓	*i*P	**Pn**	**22 04 45.8**	**-1.7**
ALFC	**Alevga**	**0.81**	**31**⇑	P	**Pn**	**22 04 46.5**	**-2.2**
	54nm,0.4s						
ALFC				S	**Sn**	**22 04 56.7**	**-2.9**
ALFC	**Alevga**	**0.81**	**31**⇑	*e*P	**Pn**	**22 04 46.5**	**-2.2**
	54nm,0.4s						
CSS	**Prodhromos**	**1.14**	**64**	P	**Pn**	**22 04 51.6**	**-1.6**
	32nm,0.3s						
CSS				S	**Sn**	**22 05 07.4**	**-0.3**
CSS	**Prodhromos**	**1.14**	**64**	*i*P	**Pn**	**22 04 51.5**	**-1.7**
CSS				*i*S	**Sn**	**22 05 12.0**	**+4.3**

CSS	Prodhromos	1.14	64	⇓	*e*Pn	Pn	22 04 51.3	-1.9
CSS					*e*S	Sn	22 05 05.4	-2.3
CSS	Prodhromos	1.14	64	⇓	*e*Pn	Pn	22 04 51.3	-1.9
CSS	Prodhromos	1.14	64		P	Pn	22 04 51.6	-1.6
	32nm,0.3s							
MAMC	Mammari	1.17	53		P	Pn	22 04 52.5	-1.1
PHNC	Paralimni	1.69	71		P	Pn	22 05 01.8	+1.0
	61nm,0.7s							
IKL	Isikli	2.20	36		*i* PN	Pn	22 05 07.2	-0.6
IKL					*i* SN	Sn	22 05 33.0	-0.9
IKL	Isikli	2.20	36		Pn	Pn	22 05 07.2	-0.6
IKL					Sg	Sn	22 05 32.2	-1.6
IKL	Isikli	2.20	36		Pn	Pn	22 05 07.2	-0.6
IKL					Sg	Sn	22 05 32.2	-1.6
IKL					*i* Sn	Sn	22 05 33.0	-0.8
HDMB	Hadim	2.52	7		*i* PN	Pn	22 05 12.6	+0.5
ELL	Elmali	2.89	323		*i* PN	Pn	22 05 18.4	+1.2
HNTI	Hanita	2.92	117		Pn	Pn	22 05 18.3	+0.7
BHL	Bhannes	3.01	100		*e*Pn	Pn	22 05 17.3	-1.6
BHL					Sn	Sn	22 05 49.6	-4.2
OFRI	'Ofer	3.04	126		Pn	Pn	22 05 19.5	+0.2
OFRI	'Ofer	3.04	126		P	Pn	22 05 19.2	-0.1
MERS	Mersin	3.12	39		*i* PN	Pn	22 05 21.5	+1.2
MMA0	Mount Meron ar	3.12	117		Pn	Pn	22 05 19.4	-1.0
MMAI	Mount Meron Ar	3.12	117		Pn	Pn	22 05 19.5	-0.9
	31nm,0.3s,baz=316,slow=12,SNR=282							
MMAI					Sn	Sn	22 05 55.2	-1.2
	84nm,0.3s,baz=306,slow=26,SNR=13							
HWQ	Hawqa	3.20	92		*e*Pn	Pn	22 05 20.9	-0.6
HWQ					Sn	Sn	22 05 56.9	-1.5
BCK	Bucak	3.23	338		*i* PN	Pn	22 05 23.4	+1.5
KSDI	Kefar Szold	3.23	112		Pn	Pn	22 05 21.7	-0.2
KSDI	Kefar Szold	3.23	112		P	Pn	22 05 21.9	-0.1
RCY	Rachaya	3.25	106		*e*Pn	Pn	22 05 21.6	-0.7
RCY					Sn	Sn	22 05 58.5	-1.2
HRI	Mount Hermon	3.26	110		Pn	Pn	22 05 22.4	+0.1
FETY	Fethiye	3.27	312		*i* PN	Pn	22 05 23.4	+0.9
SLTI	Sal'it	3.32	131		Pn	Pn	22 05 23.3	+0.1
SLTI					Sn	Sn	22 06 02.0	+0.7
SLTI	Sal'it	3.32	131		P	Pn	22 05 23.3	+0.1
SLTI					S	Sn	22 06 00.9	-0.5
BRDR	Barbar	3.38	107	⇓	*i* P	Pn	22 05 24.0	0.0
BRBR	Barbar	3.38	107	⇓	*i* P	Pn	22 05 23.0	-1.0
BRBR				⇓	S	Sn	22 05 54.0	-8.9
KRTS	Karatas	3.41	51		PN	Pn	22 05 25.3	+0.9
KSHT	Keshet	3.44	114		Pn	Pn	22 05 25.2	+0.4
MMLI	Mount Malkishu	3.44	125		Pn	Pn	22 05 25.1	+0.2
MMLI	Mount Malkishu	3.44	125		P	Pn	22 05 25.0	+0.1
GOLH	Golhisar	3.44	324		*i* P	Pn	22 05 27.2	+2.3
GOLH					*i* S	Sn	22 06 03.3	-1.2
ARNB	Al Arnab	3.48	65	⇓	*i* P	Pn	22 05 25.1	-0.2
ARNB	Al Arnab	3.48	65	⇓	P	Pn	22 05 25.0	-0.3
ARNB				⇓	S	Sn	22 05 55.0	-10
KONT	Konya--Tatoy	3.48	4		PN	Pn	22 05 26.8	+1.3
SLNF	Slenfeh	3.58	70	⇓	*i* P	Pn	22 05 26.0	-0.7
SLNF	Slenfeh	3.58	70	⇓	P	Pn	22 05 25.0	-1.7
QASN	Qassioun	3.60	104	⇑	*i* P	Pn	22 05 27.6	+0.5
QASN	Qassioun	3.60	104	⇑	P	Pn	22 05 27.0	-0.1
QASN				⇑	S	Sn	22 06 00.0	-8.4
ISP	Isparta	3.61	340		PN	Pn	22 05 27.3	+0.5
HMDT	Nahal Hemdat	3.63	126		Pn	Pn	22 05 27.8	+0.4
ARG	Arkhangelos	3.68	300		*e*P	Pn	22 05 27.5	-0.6
KARA	Karaisali	3.69	40		PN	Pn	22 05 29.3	+1.1
TCHB	Talchebab	3.70	118	⇓	*i* P	Pn	22 05 28.7	+0.3
TCHB	Talchebab	3.70	118	⇓	P	Pn	22 05 28.0	-0.4
HTY	Hatay	3.71	62		PN	Pn	22 05 28.8	+0.3
AMAZ	Amatzia	3.77	140		Pn	Pn	22 05 29.5	+0.2
TOTH	TOTAH	3.78	106	⇓	*i* P	Pn	22 05 29.5	+0.1
TOTH	TOTAH	3.78	106	⇓	P	Pn	22 05 29.0	-0.4
TOTH				⇓	S	Sn	22 06 04.0	-8.6
TKTP	Tekketepe	3.84	339		*i* P	Pn	22 05 31.8	+1.4
TKTP					*i* S	Sn	22 06 14.1	-0.2
CEYT	Ceyhan	3.92	48		PN	Pn	22 05 32.2	+0.9
AMAG	Maghara	3.92	166	⇑	P	Pn	22 05 31.5	0.0
DRGI	Dragot	3.99	135		Pn	Pn	22 05 32.9	+0.6
DSI	Dead Sea	4.00	135		Pn	Pn	22 05 33.4	+0.9
DSI	Dead Sea	4.00	135		Pn	Pn	22 05 33.3	+0.8
KZIT	Kziot	4.05	151		Pn	Pn	22 05 33.6	+0.5
KZIT					Sn	Sn	22 06 20.9	+1.6
KZIT	Kziot	4.05	151		P	Pn	22 05 33.6	+0.5
KZIT					S	Sn	22 06 18.1	-1.2
KZIT	Kziot	4.05	151		Pn	Pn	22 05 33.6	+0.5
KZIT					Sn	Sn	22 06 20.9	+1.6
RTMI	Retamim	4.05	146		Pn	Pn	22 05 33.6	+0.5
RTMI	Retamim	4.05	146		P	Pn	22 05 33.9	+0.8
DNZL	Cakiroluk	4.05	324		*i* P	Pn	22 05 40.9	+7.7
DNZL					*i* S	Sn	22 06 26.1	+6.6
DENT	Denizli	4.11	324		PN	Pn	22 05 35.5	+1.5
SVTA	Shivta	4.12	148		Pn	Pn	22 05 34.7	+0.6
MASH	Mash'abbe Sade	4.14	146		Pn	Pn	22 05 34.8	+0.4
MASH	Mash'abbe Sade	4.14	146		P	Pn	22 05 35.2	+0.8
KAP	Karpathos	4.17	286		*e*P	Pn	22 05 34.7	-0.2
MZDA	Masada	4.18	138		Pn	Pn	22 05 35.2	+0.2
MZDA					Sn	Sn	22 06 23.5	+0.9
MZDA	Masada	4.18	138		P	Pn	22 05 35.6	+0.6
MZDA					S	Sn	22 06 23.0	+0.4
KARP	Karpathos	4.18	286		P	Pn	22 05 35.6	+0.6
SALA	Sala	4.25	113	⇓	*i* P	Pn	22 05 36.7	+0.7
SALA	Sala	4.25	113	⇓	P	Pn	22 05 36.0	0.0
SALA				⇓	S	Sn	22 06 16.0	-8.4
SHUT	Suhut-Afyon	4.26	344		*e*PN	Pn	22 05 37.4	+1.3
KOZT	Kozan	4.28	44		PN	Pn	22 05 37.2	+0.9
KHL	Karahalli	4.37	333		*e*PN	Pn	22 05 38.4	+0.8
KIZT	Kizilcal	4.41	358		*e*PN	Pn	22 05 40.0	+1.8
HHAG	Hagoal	4.50	180		P	Pn	22 05 39.4	+0.1
KOT	Kottamia	4.53	183		P	Pn	22 05 40.0	+0.3
KOT					S	Sn	22 06 28.5	-2.6
BDRM	Kayabasi	4.58	306		*i* P	Pn	22 05 40.1	-0.3
BDRM					*i* S	Sn	22 06 26.9	-5.5
SQR		4.63	190		P	Pn	22 05 41.7	+0.6
ASF	Jabal al Asfar	4.63	118		Pn	Pn	22 05 41.7	+0.6
	3.4nm,0.3s,baz=180,slow=6.2,SNR=88							
ASF					Sn	Sn	22 06 37.0	+3.3
	3.8nm,0.3s,baz=4.0,slow=23,SNR=7.4							
SUZ		4.65	172		P	Pn	22 05 41.4	-0.1
HMYD	Mayadein	4.78	194		P	Pn	22 05 43.9	+0.7
HNKL	Nakhl	4.80	160		P	Pn	22 05 43.7	+0.2
HNKL					S	Sn	22 06 36.0	-1.8
HSAF	As Saff	4.85	185		P	Pn	22 05 44.1	0.0
ZKR	Zakros	4.87	279		*i* P	Pn	22 05 44.0	-0.5
ZKR					*i* S	Sn	22 06 38.4	-1.2
GLL	Jalalah	4.88	184		P	Pn	22 05 44.7	+0.1
KMRS	Kahramanmaras	4.95	51		*e*PN	Pn	22 05 46.9	+1.3
GAZ	Gaziantep	4.97	56		*e*PN	Pn	22 05 46.1	+0.3
HNAT	Natroun	4.97	195		P	Pn	22 05 46.5	+0.7
KAMT	Kaman	5.07	14		*e*PN	Pn	22 05 49.5	+2.3
HRFI	Mount Harif	5.07	150		Pn	Pn	22 05 47.8	+0.5
ZNM		5.12	172		P	Pn	22 05 48.2	+0.4
ZAF		5.18	175		P	Pn	22 05 48.8	+0.1
BNN	Bunyan	5.32	34		*e*PN	Pn	22 05 52.3	+1.6
SMG	Samos	5.34	309		*e*P	Pn	22 05 50.9	0.0
AQBJ	Aqaba	5.35	151		Pn	Pn	22 05 51.6	+0.5
EIL	Elat	5.36	152		*e*Pn	Pn	22 05 51.4	+0.2
	756nm,0.6s							
EIL					*e*Sn	Sn	22 06 51.6	-0.1
EIL	Elat	5.36	152		*e*Pn	Pn	22 05 51.4	+0.2
	756nm,0.6s							
EIL					*e*Sn	Sn	22 06 51.6	-0.1
HMAT	Matruh	5.38	233		P	Pn	22 05 50.7	-0.8
HMAT					S	Sn	22 06 47.2	-4.9
NPS	Neapolis	5.38	280		*e*P	Pn	22 05 52.7	+1.2
BRTR	Keskin Array B	5.40	13		Pn	Pn	22 05 50.8	-0.9
	0.2nm,0.3s,baz=190,slow=16,SNR=11							
BR131	Keskin Array S	5.40	13		*e*Pn	Pn	22 05 51.0	-0.7
	6.5nm,0.8s							
BR131	Keskin Array S	5.40	13		*e*Pn	Pn	22 05 51.0	-0.7
	6.4nm,0.8s							
ANTO	Ankara	5.43	6		Pn	Pn	22 05 47.7	-4.4
	14nm,0.9s							
HBNS	Bani Suwayf	5.54	188		P	Pn	22 05 54.4	+0.7
HRDS	Abu Rudays	5.83	169		P	Pn	22 05 57.4	-0.2
APE	Apeiranthos	5.93	298		P	Pn	22 05 59.4	+0.4
IDI	Anoyia	5.97	280		Pn	Pn	22 05 58.1	-1.4
	1.8nm,0.3s,baz=239,slow=22,SNR=29							
IDI					Sn	Sn	22 07 04.8	-1.9
	8.7nm,0.3s,baz=290,slow=21,SNR=9.6							
HDHB	Dhahab	6.12	159		P	Pn	22 06 02.1	+0.5
GRB	Gharib	6.20	174		P	Pn	22 06 02.1	-0.7
MALT	Malatya	6.40	51		*e*Pn	Pn	22 06 05.1	-0.3
	5.1nm,0.6s							
MALT					*e*Sn	Sn	22 07 20.7	+3.5
MALT	Malatya	6.40	51		*e*Pn	Pn	22 06 05.1	-0.3
	5.1nm,0.6s							
MYA	Malataya	6.41	51		*e*P	Pn	22 06 06.8	+1.3
GVD	Gavdhos	6.60	276		*e*Pn	Pn	22 06 06.9	-1.3
	9.3nm,0.4s							
GVD					*e*Sn	Sn	22 07 18.4	-3.8
GVD	Gavdhos	6.60	276		*e*Pn	Pn	22 06 06.9	-1.3
	9.3nm,0.4s							
GVD					*e*Sn	Sn	22 07 18.4	-3.8
SHRM		6.78	164		P	Pn	22 06 11.0	+0.3
ASUT		7.06	184		P	Pn	22 06 15.0	+0.5
SWA1		7.50	228		P	Pn	22 06 20.1	-0.4
SWA1					S	Sn	22 07 38.2	-6.1
SWA2		7.67	229		P	Pn	22 06 22.1	-0.8
LIA	Limnos Island	7.73	317		P	Pn	22 06 25.3	+1.6
VLI	Veliai	7.78	289		*e*P	Pn	22 06 22.2	-2.2
HFRF	Wahat Farafira	7.98	205		P	Pn	22 06 26.4	-0.7
NVR	Nevrokopi	9.46	319		P	Pn	22 06 51.1	+3.7
GNI	Garni	11.56	57		LR	LR	22 12 31.5	
	comp=Z,109nm,18.6s,baz=356,slow=42							
BURAR	Bucovina Array	14.12	341	⇑	*i* P	Pn	22 07 59.8	+8.8
VAE	Valguarnera	14.62	287		Pn	Pn	22 07 56.8	-1.2
	0.4nm,0.3s,baz=78,slow=2.4,SNR=3.0							
VAE	Valguarnera	14.62	287		Pn	Pn	22 07 56.8	-1.2
KIEV	Kiev	16.36	353		*e*Pn	Pn	22 08 17.7	-2.7
	8.3nm,0.6s							
KIEV					*e*		22 08 21.9	
AKASG	Malin Array Be	16.36	354		Pn	Pn	22 08 20.4	0.0
	1.8nm,0.3s,baz=173,slow=10.0,SNR=41							
AKBB	Malin Array Si	16.36	354		*e*P	Pn	22 08 20.9	+0.4
KEST	Kesra	18.65	280		P	Pn	22 08 48.2	-0.5
	0.0nm,0.3s,baz=238,slow=15,SNR=3.5							
GERES	GERESS Array B	19.80	322		P	Pn	22 09 00.7	-1.9
	0.4nm,0.3s,baz=126,slow=9.6,SNR=20							
BRG	Berggiesshubel	21.05	327		*e*P	P	22 09 23.4	+9.2
	4.0nm,1.2s,mb3.6							
MOX	Moxa	22.00	324		*e*P	P	22 09 26.1	+1.7
AKTK	Aktyubinsk	24.74	42		P	P	22 09 50.8	-0.7
AKTK	Aktyubinsk	24.74	42		P	P	22 09 50.8	-0.6
AKTO	Aktyubinsk	24.74	42		P	P	22 09 50.8	-0.7
	1.7nm,0.7s,mb3.7,baz=196,slow=4.8,SNR=5.6							
FINES	FINESS Array B	27.27	354		P	P	22 10 12.8	-1.5
	2.8nm,0.5s,mb4.0,baz=158,slow=11,SNR=24							
FINES	FINESS Array B	27.27	354		P	P	22 10 12.8	-1.5
NOA	NORAR Array B	29.79	340		P	P	22 10 36.3	-0.5
	1.4nm,0.9s,mb3.7,baz=156,slow=9.7,SNR=3.3							
BRVK	Borovoye	32.75	44		*e*P	P	22 11 03.4	+0.6
	0.4nm,0.3s,mb3.8							
BRVK	Borovoye	32.75	44		*e*P	P	22 11 03.4	+0.6
TORD	Torodi Ar. Bea	34.75	240		P	P	22 11 22.3	+2.1
	0.3nm,0.5s,mb3.5,baz=32,slow=9.1,SNR=4.8							
ARCES	ARCESS Array B	35.32	356		P	P	22 11 23.2	-1.9
	2.4nm,0.6s,mb4.3,baz=161,slow=7.7,SNR=11							
ARCES	ARCESS Array B	35.32	356		P	P	22 11 23.2	-1.9
MKAR	Makanchi Array	39.41	56		P	P	22 12 00.6	+0.9
	0.6nm,0.8s,mb3.4,baz=281,slow=8.7,SNR=3.3							
SONM	Songino Array	55.48	52		P	P	22 14 05.1	+0.6
	0.3nm,0.5s,mb3.6,baz=290,slow=7.8,SNR=3.4							
SONM					LR	LR	22 40 32.7	
	comp=Z,50nm,19.1s,MS3.6,baz=49,slow=39							

*ISCJB **28** 22:11:54.5±2.1, 708S±007×1295E±0.1, h98km±22km, mb4.1/6, Error ellipse: s-maj=22.6km s-min=9.6km az=139.5*
*NEIC **28** 22:11:55.8±2.0, 7.10S×129.53E, h93km±22km, mb4.1/3, Error ellipse: s-maj=21.4km s-min=11.4km az=46.0*
*IDC **28** 22:11:55.5±5.7, 7.706S×129.58E, h88km±52km, mb3.9/4, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, ML4.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/23, Error ellipse: s-maj=88.8km s-min=25.2km az=65.0*

ISC 28 22:11:57.7±2.5, 738S±009×1294E±01, h120km±27km, n17, σ0s99/19, mb4.1/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.26	198	P		Pn	Pn	22 14 39.1	+4.1
	3.0nm,0.3s,baz=29,slow=12,SNR=57								
FITZ				S		Sn	Sn	22 16 37.9	-1.0
	1.3nm,0.3s,baz=38,slow=14,SNR=3.0								
WRA	Warramunga Arr	13.39	159	P		Pn	Pn	22 15 03.6	+0.6
	4.2nm,0.3s,baz=335,slow=13,SNR=51								
WRA				S		Sn	Sn	22 17 26.0	-4.5
	6.7nm,0.3s,baz=335,slow=22,SNR=14								
WB2	Warramunga Arr	13.39	159	*e*Pn		Pn	Pn	22 15 03.2	+0.2
WB2				*e*Sn		Sn	Sn	22 17 25.8	-4.8
AS31	Alice Springs	16.77	165	*e*Pn		Pn	Pn	22 15 48.9	+3.5
AS31				*e*Sn		Sn	Sn	22 18 52.7	+0.8
ASAR	Alice Springs	16.77	165	P		Pn	Pn	22 15 48.3	+2.9
	1.8nm,0.3s,baz=336,slow=10,SNR=84								
ASAR				S		S	S	22 18 51.0	-1.4
	1.8nm,0.3s,baz=354,slow=25,SNR=10.0								
ASAR				LR		LR	LR	22 21 53.4	
	comp=Z,68nm,19.0s,baz=179,slow=35								
ASAR				ScP		ScP	ScP	22 23 50.2	+0.1
	0.3nm,0.3s,baz=0.4,slow=1.5,SNR=5.9								
PMG	Port Moresby	17.72	98	*e*P		Pn	Pn	22 15 55.5	-1.4
	4.8nm,0.6s								
KKM	Kota Kinabalu	18.70	315	*e*P		P	P	22 16 06.1	-0.6
LSA	Lhasa	52.03	317	*e*P		P	P	22 20 54.9	-0.1
	0.7nm,0.3s,mb4.2								
SONM	Songino Array	58.60	342	P		P	P	22 21 42.3	+0.3
	0.8nm,0.5s,mb4.0,baz=158,slow=6.4,SNR=6.4								
MKAR	Makanchi Array	68.19	327	P		P	P	22 22 45.9	+0.7
	3.3nm,0.4s,mb4.5,baz=115,slow=8.6,SNR=132								
ZAL	Zalesovo	71.64	334	P		P	P	22 23 05.8	-0.5
	1.1nm,0.4s,mb4.0,baz=86,slow=1.3,SNR=5.4								
KURK	Kurchatov	72.51	329	*e*P		P	P	22 23 11.1	-0.3
	3.7nm,0.9s,mb4.2								
AKTK	Aktyubinsk	83.98	322	P		P	P	22 24 14.8	+0.2
AKTO	Aktyubinsk	83.98	322	P		P	P	22 24 14.8	+0.2
	0.6nm,0.3s,mb3.9,baz=87,slow=9.1,SNR=2.8								
TORD	Torodi Ar. Bea	128.26	281	PKP		PKPdf		22 30 52.5	+2.5
	0.6nm,0.6s,baz=98,slow=2.2,SNR=4.4								
TORD	Torodi Ar. Bea	128.26	281	PKP		PKPdf		22 30 52.5	+2.5
LPAZ	La Paz	150.80	14	PKPbc		PKPbc		22 31 40.0	+4.0
	1.6nm,0.4s,baz=43,slow=4.6,SNR=14								

*ISCJB **28** 22:16:15.2±0.7, 1453S±006×7373W±007, h77km±7km, mb4.6/27, Error ellipse: s-maj=14.6km s-min=5.4km az=102.2*
*NEIC **28** 22:16:17.2±0.8, 1456S×7359W, h82km±7km, mb4.8/17, Error ellipse: s-maj=11.4km s-min=6.0km az=58.0*
*IDC **28** 22:16:18.5±0.9, 1454S×7380W, h96km±6km, mb4.3/10, mb1 4.5/13, mb1mx4.4/17, mbtmp4.4/13, MS3.7/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=24.6km s-min=11.5km az=41.0*
*BJI **28** 22:16:19.1, 1460S×7360W, h82km, mB5.4*

ISC 28 22:16:15.9±0.7, 1454S±006×7363W±007, h67km±6km, n88, σ1s02/71, mb4.6/26, 2C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARE	Arequipa	2.82	133	⇑	*i* P	Pn	Pn	22 17 01.3	+2.8
ARE					*i* S	Sn	Sn	22 17 34.4	+3.1
NNA	Nana	4.02	309		P	Pn	Pn	22 17 15.9	+0.9
	72nm,0.3s,baz=130,slow=11,SNR=41								
NNA				S		Sn	Sn	22 18 00.1	-0.8
	92nm,0.3s,baz=207,slow=22,SNR=4.2								
NNA	Nana	4.02	309	P		Pn	Pn	22 17 15.9	+0.9
NNA				S		Sn	Sn	22 18 00.1	-0.8
LPAZ	La Paz	5.59	109	P		Pn	Pn	22 17 40.8	+4.4
	52nm,0.3s,baz=287,slow=11,SNR=178								
ATAH	Atahualpa	8.83	328	P		Pn	Pn	22 18 20.4	-0.3
	1.1nm,0.3s,baz=185,slow=17,SNR=5.4								
ATAH				S		Sn	Sn	22 19 56.9	-1.7
	4.9nm,0.3s,baz=331,slow=21,SNR=2.9								
LVC	Limon Verde	9.19	152	P		Pn	Pn	22 18 25.2	-0.5
	18nm,0.3s,baz=270,slow=4.0,SNR=143								
LVC				S		Sn	Sn	22 20 04.0	-3.6
	12nm,0.3s,baz=90,slow=21,SNR=11								
LVC				LR		LR	LR	22 22 36.5	
	comp=Z,267nm,19.4s,baz=270,slow=41								
LVC	Limon Verde	9.19	152	*e*Pn		Pn	Pn	22 18 25.2	-0.5
LVC				*e*Sn		Sn	Sn	22 20 02.8	-4.8
SAML	Samuel	11.64	63	*e*Pn		Pn	Pn	22 18 58.2	-0.9
SAML				*e*Sn		Sn	Sn	22 21 02.8	-4.5
SIV	San Ignacio	12.21	98	P		Pn	Pn	22 19 05.3	-1.5
	6.9nm,0.3s,baz=279,slow=12,SNR=114								
OTAV	Otavalo	15.43	342	*e*P		Pn	Pn	22 19 53.1	+3.6
CFAA	Coronel Fontan	17.69	165	P		Pn	Pn	22 20 17.0	-0.7
	0.1nm,0.3s,baz=340,slow=11,SNR=6.3								

ROSC	El Rosal	19.28	358		P	Pn	22 20 39.8	+3.1
	1.6nm,0.3s,baz=91,slow=22,SNR=9.4							
ROSC	El Rosal	19.28	358		*e*P	Pn	22 20 37.0	+0.2
SDV	Santo Domingo	23.46	7		P	P	22 21 19.8	+0.4
	12nm,0.8s,mb4.3,baz=202,slow=7.4,SNR=5.5							
SDV	Santo Domingo	23.46	7		*e*P	P	22 21 20.2	+0.9
JTS	JuntasAbangare	27.10	335		P	P	22 21 52.8	+0.5
TEIG	Tepich	37.42	337		*e*P	P	22 23 23.9	+1.5
	26nm,0.9s,mb5.2							
WVT	Waverly	52.15	345		*e*P	P	22 25 20.4	+1.0
	5.7nm,0.5s,mb4.9							
MIAR	Mount Ida	52.36	339		*e*P	P	22 25 21.1	+0.1
	12nm,0.8s,mb5.0							
LTX	Lajitas	52.38	327		*e*P	P	22 25 21.7	+0.6
	4.7nm,0.8s,mb4.6							
TXAR	Lajitas Array	52.38	327		P	P	22 25 21.3	+0.2
	3.8nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=40							
SIUC	Southern Illin	54.00	345		*e*P	P	22 25 32.5	-0.5
	14nm,0.3s,mb5.5							
WMOK	Wichita Mounta	54.52	335		*e*P	P	22 25 37.7	+0.9
	4.0nm,0.8s,mb4.5							
GDL2	Guadalupe Moun	55.01	328		*e*P	P	22 25 39.2	-1.1
KSU1	Kansas State U	57.52	339		P	P	22 25 56.8	-1.4
ANMO	Albuquerque	58.25	328		*e*P	P	22 26 04.0	+0.7
SDCO	Great Sand Dun	60.01	331		*e*P	P	22 26 11.3	-4.2
	19nm,1.1s,mb5.0							
GLA	Glamis	61.53	321		*e*P	P	22 26 25.6	-0.3
ECSD	EROS,Sioux Fal	61.68	341		*e*P	P	22 26 25.4	-1.4
	8.0nm,1.3s,mb4.6							
ISCO	Idaho Springs	61.72	332		*e*P	P	22 26 27.4	+0.3
	2.2nm,0.7s,mb4.3							
PV01	Paradox Valley	61.79	329		*e*P	P	22 26 28.8	+1.2
SMCO	Snowmass	61.84	331		*e*P	P	22 26 28.6	+0.7
	2.1nm,0.2s,mb4.8							
PHWY	Pilot Hill	62.87	333		*e*P	P	22 26 35.7	+0.9
SRU	San Rafael	63.52	329		*e*P	P	22 26 40.3	+1.2
MSU	Marysvale	63.93	327		*e*P	P	22 26 43.1	+1.3
RWWY	Rawlins	63.96	333		*e*P	P	22 26 36.9	-5.1
DAC	Darwin (Calif)	65.40	322		*e*P	P	22 26 51.2	-0.1
	5.3nm,1.1s,mb4.3							
DUG	Dugway	65.50	328		*e*P	P	22 26 53.3	+1.2
	15nm,1.3s,mb4.7							
DUG					*e*pP	pP	22 27 04.2	-5.7
ISA	Isabella	65.52	321		P	P	22 26 53.3	+1.1
AGMN	Agassiz Refuge	65.61	344		*e*P	P	22 26 51.8	-0.9
	4.8nm,0.7s,mb4.4							
BW06	Boulder Array	65.88	332		*e*P	P	22 26 55.4	+1.0
	5.8nm,0.6s,mb4.6							
HWUT	Hardware Ranch	65.93	330		P	P	22 26 54.5	-0.3
ULM	Lac du Bonnet	67.41	345		P	P	22 27 02.6	-1.5
	5.3nm,0.7s,mb4.5,baz=151,slow=8.3,SNR=8.7							
VNA3	Neumayer Olymp	68.07	162		*e*	P	22 27 07.4	-0.9
VNA3					*e*		22 27 09.8	
VNA1	Neumayer--Stat	68.30	161		*e*	P	22 27

PPT	**Papeete**	**23.20**	**84**	*e*LQ		22 32 42.8		
	456nm,29.0s							
PPT				*e*LR	LR	22 33 48.1		
	228nm,21.2s,baz=263							
PPT	**Papeete**	**23.20**	**84**	LR	LR	22 35 26.9		
	comp=Z,331nm,18.3s,MS3.8,baz=282,slow=31							
HNR	**Honiara**	**27.98**	**292**	LR	LR	22 38 39.3		
	comp=Z,61nm,18.5s,MS3.2,baz=0.5,slow=34							
HNR	**Honiara**	**27.98**	**292**	P	**P**	**22 29 00.8**	**-0.1**	
RKT	**Rikitea**	**35.89**	**100**	*e*LR	LR	22 39 29.3		
	153nm,30.2s							
CTA	**Charters Tower**	**37.26**	**265**	*e*P	**P**	**22 30 21.8**	**-0.1**	
	3.5nm,1.4s,mb4.0							
CTA	**Charters Tower**	**37.26**	**265**	P	**P**	**22 30 20.9**	**-1.0**	
	3.3nm,0.6s,mb4.3,baz=90,slow=7.1,SNR=5.5							
CTAO	**Charters Tower**	**37.26**	**265**	*e*P	**P**	**22 30 21.3**	**-0.6**	
	2.7nm,0.5s,mb4.3							
TAU	**Tasmania Unive**	**38.63**	**228**	*e*P	**P**	**22 30 34.1**	**+0.7**	
	164nm,1.5s,mb5.5							
STKA	**Stephens Creek**	**40.84**	**246**	*e*P	**P**	**22 30 52.9**	**+1.1**	
	2.4nm,0.9s,mb3.8							
STKA	**Stephens Creek**	**40.84**	**246**	P	**P**	**22 30 51.4**	**-0.4**	
	1.8nm,0.6s,mb3.9,baz=129,slow=20,SNR=3.9							
ASAR	**Alice Springs**	**48.05**	**257**	P	**P**	**22 31 48.7**	**-0.7**	
	3.6nm,0.7s,mb4.5,baz=93,slow=8.1,SNR=33							
ASAR				PcP	PcP	22 33 19.9	+2.9	
	0.8nm,0.6s,baz=102,slow=2.5,SNR=5.2							
WB2	**Warramunga Arr**	**48.29**	**262**	*e*P	**P**	**22 31 50.5**	**-0.7**	
WB2	**Warramunga Arr**	**48.29**	**262**	*e*P	**P**	**22 31 50.4**	**-0.8**	
WRA	**Warramunga Arr**	**48.30**	**262**	P	**P**	**22 31 49.9**	**-1.4**	
	3.8nm,0.7s,mb4.5,baz=101,slow=8.0,SNR=29							
KAKA	**Kakadu**	**51.89**	**271**	*e*P	**P**	**22 32 18.1**	**-0.4**	
	18nm,1.5s,mb4.8							
FORT	**Forest**	**52.43**	**247**	*e*P	**P**	**22 32 22.5**	**0.0**	
	24nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**56.73**	**262**	*e*P	**P**	**22 32 54.0**	**+0.2**	
	12nm,1.3s,mb4.8							
CASY	**Casey**	**64.60**	**206**	P	**P**	**22 33 49.5**	**+2.1**	
MJAR	**Matsushiro Arr**	**73.49**	**321**	P	**P**	**22 34 44.7**	**+2.2**	
	3.7nm,0.6s,mb4.5,baz=152,slow=5.4,SNR=9.7							
MAW	**Mawson**	**81.77**	**199**	P	**P**	**22 35 31.9**	**+3.2**	
	1.1nm,0.6s,mb4.0,baz=141,slow=11,SNR=6.4							
MAW				LR	LR	23 09 53.6		
	comp=Z,99nm,19.1s,MS4.2,baz=242,slow=34							
MAW	**Mawson**	**81.77**	**199**	*e*P	**P**	**22 35 32.1**	**+3.4**	
	1.1nm,0.5s,mb4.0							
MAW				LR	LR	23 09 53.6		
LZH	**Lanzhou**	**96.58**	**306**	*e*P	**P**	**22 36 40.5**	**+0.8**	
	19nm,1.1s,mb5.4							
LZH				pP	pP	22 36 45.0	-5.8	
LZH				sP	sP	22 36 48.1	-6.7	
LPAZ	**La Paz**	**98.02**	**111**	LR	LR	23 13 04.5		
	comp=Z,64nm,21.0s,MS4.1,baz=68,slow=30							
AKASG	**Malin Array Be**	**145.84**	**334**	PKPbc	PKPbc	22 42 51.2	+2.2	
	2.2nm,0.6s,baz=37,slow=4.2,SNR=16							
CLL	**Collm**	**149.93**	**351**	*e*PKPbc	PKPbc	22 43 03.0	+2.9	
BRG	**Berggiesshubel**	**150.21**	**350**	*e*P	PKPbc	22 43 06.2	+5.5	
	2.0nm,2.1s							
BRTR	**Keskin Array B**	**150.47**	**314**	PKPbc	PKPbc	22 43 04.9	+3.5	
	1.1nm,0.8s,baz=138,slow=4.5,SNR=3.6							
KHC	**Kasperske Hory**	**151.96**	**350**⇑	*e*PKP	PKPbc	22 43 07.5	+2.7	
GERES	**GERESS Array B**	**152.21**	**349**	PKPbc	PKPbc	22 43 09.4	+4.0	
	0.4nm,0.6s,baz=102,slow=2.3,SNR=3.5							

IDC ***28*** *22:28:55.1±2.5,56.15N×2929W,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.7/12,mbtmp3.7/3,MS2.6/1,Ms1 2.6/1, ms1mx2.6/17,Error ellipse: s-maj=89.8km s-min=34.2km az=5.0*

ISCJB ***28*** *22:28:56.2±0.7,555S±0.1×297W±02,h10km,mb4.3/7, MS2.6/1,Error ellipse: s-maj=16.4km s-min=13.9km az=34.6*

NEIC ***28*** *22:29:00.4±0.6,5526S×2978W,h35km,mb4.1/4,Error ellipse: s-maj=16.4km s-min=12.1km az=186.0*

ISC 28 22:28:57.8±0.7,556S±01×297W±02,h10km,n14,σ1§56/14, mb4.3/7,MS2.6/1,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.13**	**285**	*e*Pn		**Pn**	**22 29 59.3**	**-1.6**
HOPE				*e*Sn		**Sn**	**22 30 40.9**	**-8.3**
SNAA	**Sanae**	**19.76**	**155**	*e*P		**Pn**	**22 33 30.4**	**+1.0**
	3.6nm,0.6s							
TRIS	**Tristan da Cun**	**21.95**	**40**	*e*P		**P**	**22 33 53.2**	**+1.6**
QSPA	**South Pole Qui**	**34.68**	**180**	*e*P		**P**	**22 35 49.0**	**+1.4**
	9.0nm,0.2s,mb5.3							
CFAA	**Coronel Fontan**	**36.07**	**295**	P		**P**	**22 36 03.9**	**+4.3**
	0.4nm,0.8s,mb3.4,baz=130,slow=7.9,SNR=5.1							
CFAA				LR		LR	22 49 27.2	
	comp=Z,8.8nm,18.0s,MS2.6,baz=210,slow=34							
MAW	**Mawson**	**41.37**	**145**	*e*P		**P**	**22 36 38.8**	**-5.2**
	2.1nm,0.8s,mb3.8							
BOSA	**Boshof**	**47.24**	**79**	*e*P		**P**	**22 37 30.3**	**-0.8**
LPAZ	**La Paz**	**48.95**	**308**	P		**P**	**22 37 46.0**	**+1.7**
	1.2nm,0.6s,mb4.1,baz=133,slow=7.0,SNR=6.8							
LPAZ	**La Paz**	**48.95**	**308**	P		**P**	**22 37 46.0**	**+1.7**
LBTB	**Lobatse**	**50.24**	**76**	*e*P		**P**	**22 37 52.6**	**-1.5**
	2.1nm,0.6s,mb4.3							
TSUM	**Tsumeb**	**50.71**	**64**	P		**P**	**22 37 56.1**	**-1.6**
CASY	**Casey**	**54.82**	**162**	*e*P		**P**	**22 38 25.0**	**-3.0**
	9.2nm,0.5s,mb5.1							
TORD	**Torodi Ar. Bea**	**73.37**	**32**	P		**P**	**22 40 31.1**	**+1.3**
	0.6nm,0.6s,mb3.7,baz=198,slow=6.2,SNR=12							
SONM	**Songino Array**	**152.12**	**88**	PKPbc	PKPbc	22 48 50.7	-2.7	
	0.8nm,1.0s,baz=216,slow=1.2,SNR=3.7							

WEL 28 22:36:24.1±0.3,4028S×17705E,h5km,ML3.6/23,2C, Error ellipse: s-maj=2.5km s-min=1.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.29**	**329**	⇑P	G	Pg	22 36 31.6	+1.9
PXZ				SG		Sg	22 36 33.9	+0.5
PXZ				SG		Sg	22 36 34.3	+0.8
WPHZ	**Waipukurau**	**0.52**	**294**	⇑P	G	Pg	22 36 34.6	+0.5
TSZ	**Takapari Road**	**0.86**	**284**	P*		Pb	22 36 40.7	-0.9
TIWZ	**Tintock**	**1.02**	**240**	P*		Pb	22 36 45.0	+0.8
MRZ	**Mangatainoka R**	**1.19**	**251**	P*		Pb	22 36 46.8	-0.3
MRZ				S*		Sb	22 37 01.3	-1.4
BKZ	**Black Stump Fm**	**1.19**	**339**	P*		Pb	22 36 46.1	-1.1
MOVZ	**Moawhango**	**1.33**	**311**	P*		Pb	22 36 47.9	-1.6
KNZ	**Kokohu**	**1.35**	**21**	*e*PN		Pn	22 36 48.9	-0.7
MTW	**Mount Morrison**	**1.47**	**233**	PN		Pn	22 36 50.1	-1.2
WNVZ	**Wahianoa**	**1.47**	**310**	PN		Pn	22 36 50.9	-0.3
TUVZ	**Tukino**	**1.48**	**313**	PN		Pn	22 36 50.7	-0.7
TRVZ	**Turoa**	**1.52**	**310**	PN		Pn	22 36 51.7	-0.2
DRZ	**Dome Shelter**	**1.52**	**311**	*e*PN		Pn	22 36 51.8	-0.2
FWVZ	**Far West T-bar**	**1.54**	**311**	*e*PN		Pn	22 36 51.3	-1.0
NGZ	**Ngauruhoe**	**1.57**	**314**	*e*PN		Pn	22 36 52.4	-0.2
WPVZ	**Whakapapa**	**1.58**	**312**	*e*PN		Pn	22 36 52.6	-0.2
WTVZ	**West Tongariro**	**1.62**	**315**	*e*PN		Pn	22 36 52.8	-0.5
PKVZ	**Pokaka**	**1.64**	**306**	PN		Pn	22 36 53.7	+0.1
CAW	**Cannon Point**	**1.72**	**241**	PN		Pn	22 36 54.1	-0.6
KIW	**Kapiti Island**	**1.73**	**250**	*e*PN		Pn	22 36 54.6	-0.3
TWVZ	**Taurewa**	**1.73**	**314**	*e*PN		Pn	22 36 55.6	+0.7
MWZ	**Matawai**	**1.98**	**11**	*e*PN		Pn	22 36 57.0	-1.2

ISCJB ***28*** *22:49:47.2±0.7,2110S±006×688W±0.1,h129km±9km, mb3.7/4,Error ellipse: s-maj=18.7km s-min=10.5km az=1.3*

NEIC ***28*** *22:49:48.3±0.7,2104S×6879W,h117km±8km,mb3.5/3, Error ellipse: s-maj=13.4km s-min=9.0km az=87.0*

IDC ***28*** *22:49:48.2±0.7,2104S×6884W,h114km±7km,mb3.6/3, mb1 4.0/5,mb1mx3.7/15,mbtmp3.7/5,Error ellipse: s-maj=27.1km s-min=8.7km az=100.0*

ISC 28 22:49:48.4±0.7,2108S±006×688W±01,h120km±9km,n17, σ0§90/19,mb3.8/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.52**	**184**	P		**Pn**	**22 50 16.7**	**+0.6**
	31nm,0.3s,baz=90,slow=3.1,SNR=374							
LVC				S		**Sn**	**22 50 37.7**	**+0.5**
	204nm,0.3s,baz=90,slow=21,SNR=116							
LPAZ	**La Paz**	**4.81**	**8**	P		**Pn**	**22 50 59.7**	**+0.9**
	4.6nm,0.3s,baz=206,slow=7.3,SNR=83							
LPAZ	**La Paz**	**4.81**	**8**	P		**Pn**	**22 50 59.7**	**+0.9**
LPAZ				*e*Sn		**Sn**	**22 51 33.5**	**-20**
SIV	**San Ignacio**	**8.90**	**57**	P		**Pn**	**22 51 52.6**	**-1.5**
	4.5nm,0.3s,baz=245,slow=11,SNR=93							
CFAA	**Coronel Fontan**	**10.49**	**177**	P		**Pn**	**22 52 12.6**	**-2.9**
	0.1nm,0.3s,baz=348,slow=14,SNR=9.2							
CFAA				S		**Sn**	**22 54 03.2**	**-7.8**
	0.1nm,0.3s,baz=217,slow=15,SNR=3.8							
CFAA	**Coronel Fontan**	**10.49**	**177**	P		**Pn**	**22 52 12.6**	**-2.9**
CFAA				S		**Sn**	**22 54 03.2**	**-7.8**
NNA	**Nana**	**11.89**	**318**	*e*Pn		**Pn**	**22 52 33.4**	**-0.6**
SAML	**Samuel**	**13.22**	**25**	*e*P		**Pn**	**22 52 51.5**	**0.0**
	0.9nm,0.6s							
TRQA	**Tornquist**	**17.91**	**162**	*e*P		**Pn**	**22 53 49.8**	**0.0**
	2.2nm,0.8s							
SDV	**Santo Domingo**	**29.84**	**356**	*e*P		**P**	**22 55 44.5**	**+0.3**
	1.6nm,0.7s,mb3.8							
TXAR	**Lajitas Array**	**60.35**	**325**	P		**P**	**22 59 44.8**	**0.0**
	0.2nm,0.6s,mb3.3,baz=148,slow=5.3,SNR=3.5							
NVAR	**Mina Array Bea**	**75.23**	**322**	P		**P**	**23 01 17.4**	**-0.6**
	1.4nm,0.3s,mb4.2,baz=165,slow=10,SNR=8.1							
TOA0	**Torodi Ar. Sit**	**77.11**	**70**	*e*P		**P**	**23 01 29.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P		**P**	**23 01 29.5**	**+0.9**
	1.5nm,0.5s,mb3.9,baz=257,slow=5.4,SNR=29							
TORD				pP		pP	23 01 57.9	-0.8
	0.5nm,0.5s,baz=258,slow=5.8,SNR=2.1							
TORD				sP		sP	23 02 10.3	-1.2
	1.7nm,0.8s,baz=259,slow=4.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P		**P**	**23 01 29.5**	**+0.9**
TORD				pP		pP	23 01 57.9	-0.8
TORD				sP		sP	23 02 10.3	-1.2
MKAR	**Makanchi Array**	**145.23**	**36**	PKPbc		PKPbc	23 09 13.3	+1.5
	0.8nm,0.5s,baz=320,slow=3.1,SNR=14							
MKAR				pPKPbc			23 09 43.2	
	1.1nm,0.8s,baz=317,slow=4.0,SNR=3.9							
MKAR	**Makanchi Array**	**145.23**	**36**	PKPbc		PKPbc	23 09 13.3	+1.5
MKAR				pPKPbc			23 09 43.2	

ISCJB ***28*** *23:16:44.2±0.6,4683N±008×1554E±01,h10km,mb4.1/28, Error ellipse: s-maj=14.3km s-min=7.8km az=90.2*

IDC ***28*** *23:16:44.3±0.8,4680N×1554E,h0km,mb3.9/19, mb1 4.1/21,mb1mx4.1/29,mbtmp3.9/21,ML3.8/2,MS2.6/1, Ms1 2.6/1,ms1mx2.1/36,Error ellipse: s-maj=21.7km s-min=17.1km az=128.0*

NEIC ***28*** *23:16:45.9±0.6,4683N×1554 1E,h10km,mb4.4/6,Error ellipse: s-maj=15.5km s-min=10.1km az=133.0*

MOS ***28*** *23:16:48.6±1.5,4677N×1554 3E,h43km,mb4.3/19,Error ellipse: s-maj=12.6km s-min=10.7km az=103.8*

ISC 28 23:16:45.8±0.6,4689N±008×1555E±01,h10km,n64, σ1§25/66,mb4.1/28,6C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.81**	**6**	*e*PN		**Pn**	**23 17 41.0**	**-3.5**
SKR				pmax		pmax		
	comp=Z,50nm,0.5s							
KUR	**Kuril'sk**	**5.59**	**256**	*e*PN		**Pn**	**23 18 06.0**	**-2.9**
KUR				pmax		pmax		
	comp=Z,130nm,0.7s							
PET	**Petropavlovsk**	**6.46**	**17**	*e*PN		**Pn**	**23 18 18.7**	**-2.2**
ASAJ	**Asahikawa**	**9.50**	**258**	Pn		**Pn**	**23 19 04.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=106,slow=17,SNR=4.4							
ASAJ				LR		LR	23 22 47.2	
	comp=Z,40nm,19.9s,baz=188,slow=38							
HABR	**Khabarovsk**	**13.89**	**284**	*e*P		**Pn**	**23 20 03.6**	**+1.0**
MAJO	**Matsushiro**	**16.52**	**237**	*e*P		**Pn**	**23 20 36.8**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MAJO	**Matsushiro**	**16.52**	**237**	*e*Pn		**Pn**	**23 20 36.8**	**-0.8**
	comp=Z,8.5nm,0.7s							
MJAR	**Matsushiro Arr**	**16.52**	**237**	Pn		**Pn**	**23 20 34.8**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=31,slow=14,SNR=5.1							
MDJ	**Mudanjiang**	**18.22**	**272**	*e*Pn		**Pn**	**23 20 56.1**	**-2.7**
YAK	**Yakutsk**	**21.13**	**325**	*e*P		**P**	**23 21 30.8**	**+0.1**
YAK				pmax		pmax		
	comp=Z,16nm,0.4s,mb4.7							
YAK	**Yakutsk**	**21.13**	**325**	*e*P		**P**	**23 21 30.8**	**+0.1**
	comp=Z,16nm,0.4s,mb4.7							
BILL	**Bilibino**	**21.91**	**11**⇓	*e*P		**P**	**23 21 39.4**	**+0.3**
BILL				*e**PP			23 21 58.9	
BILL				*e*S		**S**	**23 25 37.7**	**-3.3**
BILL				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.2							
KSRS	**Korea Array**	**22.43**	**255**	P		**P**	**23 21 44.9**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.4,baz=214,slow=32,SNR=3.0							
SONM	**Songino Array**	**32.85**	**290**	P		**P**	**23 23 18.2**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=45,slow=9.7,SNR=5.5							
SONM	**Songino Array**	**32.85**	**290**	P		**P**	**23 23 18.2**	**-1.4**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YHNB	**Yeheng**	**35.08**	**243**	P		**P**	**23 23 39.8**	**+0.9**
INK	**Inuvik**	**40.64**	**33**	P		**P**	**23 24 24.8**	**-1.1**
	comp=Z,1.3nm,0.5s,mb3.8,baz=329,slow=5.3,SNR=3.8							
INK	**Inuvik**	**40.64**	**33**	P		**P**	**23 24 24.8**	**-1.1**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**43.89**	**306**	P		**P**	**23 24 50.8**	**-1.7**
	comp=Z,1.2nm,0.5s,mb3.9,baz=14,slow=5.1,SNR=5.0							
ZAL	**Zalesovo**	**43.89**	**306**	P		**P**	**23 24 50.8**	**-1.6**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.35**	**298**	P		**P**	**23 25 26.7**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=70,slow=7.1,SNR=8.7							
MKAR	**Makanchi Array**	**48.35**	**298**⇑	*e*P		**P**	**23 25 27.8**	**+0.3**
MKAR	**Makanchi Array**	**48.35**	**298**	P		**P**	**23 25 26.7**	**-0.9**
KURK	**Kurchatov**	**48.66**	**304**⇑	*i*P		**P**	**23 25 30.0**	**0.0**
KURK	**Kurchatov**	**48.66**	**304**	*e*P		**P**	**23 25 29.2**	**-0.8**
	comp=Z,4.9nm,0.6s,mb4.7							
YKA	**Yellowknife Ar**	**49.81**	**37**	P		**P**	**23 25 37.8**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=293,slow=7.5,SNR=4.5							
YKA	**Yellowknife Ar**	**49.81**	**37**	P		**P**	**23 25 37.8**	**-0.9**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
LSA	**Lhasa**	**51.92**	**275**	*e*P		**P**	**23 25 55.1**	**+0.4**
LSA				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
LSA	**Lhasa**	**51.92**	**275**	*e*P		**P**	**23 25 55.1**	**+0.5**
	comp=Z,1.6nm,0.4s,mb4.3							
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**23 25 55.7**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
BRVK	**Borovoye**	**52.08**	**310**	*e*P		**P**	**23 25 55.7**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.5							
ZRNK	**Zerenda**	**52.80**	**311**	*e*P		**P**	**23 26 00.8**	**-0.4**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**52.80**	**311**	*e*P		**P**	**23 26 00.8**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1							
AAK	**Ala-Archa**	**55.25**	**297**⇑	*e*P		**P**	**23 26 20.3**	**+1.2**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb4.2							
ARU	**Arti**	**56.02**	**318**⇑	*i*P		**P**	**23 26 23.9**	**-0.7**
ARU				*e*			23 28 29.1	
ARU				*e*S		**S**	**23 34 02.1**	**-11**
ARU				*e*SS		SS	23 37 48.6	-10
ARU				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
AKTK	**Aktyubinsk**	**59.86**	**313**	P		**P**	**23 26 51.1**	**-0.5**
AKTO	**Aktyubinsk**	**59.86**	**313**	P		**P**	**23 26 51.1**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=132,slow=2.7,SNR=4.5							
AKTO	**Aktyubinsk**	**59.86**	**313**	P		**P**	**23 26 51.1**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**	**23 27 22.9**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=37,slow=4.8,SNR=12							
FINES	**FINESS Array B**	**64.61**	**336**	*i*P		**P**	**23 27 22.8**	**-0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
OBN	**Obninsk**	**66.12**	**327**⇑	*e*P		**P**	**23 27 35.0**	**+1.8**
OBN				*i* *PP		pP	23 28 03.9	+27
OBN				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
NOA	**NORSAR Array B**	**68.62**	**342**	P		**P**	**23 27 50.7**	**+1.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=25,slow=6.3,SNR=3.2							
NOA	**NORSAR Array B**	**68.62**	**342**	P		**P**	**23 27 50.7**	**+1.7**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**68.89**	**341**	P		**P**	**23 27 52.2**	**+1.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=25,slow=3.9,SNR=6.3							
HFS	**Hagfors**	**68.89**	**341**	P		**P**	**23 27 52.2**	**+1.5**
HFS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**69.22**	**201**	P		**P**	**23 27 52.3**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=19,slow=6.7,SNR=8.0							
WRA	**Warramunga Arr**	**69.22**	**201**	P		**P**	**23 27 52.3**	**-0.4**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**72.34**	**327**	P		**P**	**23 28 12.2**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=34,slow=6.0,SNR=3.7							
AKASG	**Malin Array Be**	**72.34**	**327**	*i*P		**P**	**23 28 16.3**	**+4.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.90**	**201**	P		**P**	**23 28 15.1**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=14,slow=6.1,SNR=12							
ASAR	**Alice Springs**	**72.90**	**201**	P		**P**	**23 28 15.1**	**+0.1**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**75.97**	**62**	P		**P**	**23 28 32.8**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=301,slow=4.6,SNR=7.5							
BURAR	**Bucovina Array**	**76.37**	**328**⇑	*i*P		**P**	**23 28 36.4**	**+1.2**
EKA	**Eskdalemuir Ar**	**76.58**	**348**	P		**P**	**23 28 37.6**	**+1.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=15,slow=4.7,SNR=7.3							
EKA	**Eskdalemuir Ar**	**76.58**	**348**	P		**P**	**23 28 37.6**	**+1.2**
EKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MLR	**Muntele Rosu**	**77.89**	**326**	P		**P**	**23 28 45.9**	**+2.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=104,slow=2.5,SNR=6.5							
MLR	**Muntele Rosu**	**77.89**	**326**⇓	*i*P		**P**	**23 28 48.0**	**+4.3**
MLR	**Muntele Rosu**	**77.89**	**326**	P		**P**	**23 28 45.9**	**+2.2**
MLR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KHC	**Kasperske Hory**	**78.82**	**336**	*e*P		**P**	**23 28 52.5**	**+3.7**
GERES	**GERESS Array B**	**79.04**	**335**	P		**P**	**23 28 52.4**	**+2.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=33,slow=5.1,SNR=5.4							
GERES	**GERESS Array B**	**79.04**	**335**	P		**P**	**23 28 52.4**	**+2.3**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**79.41**	**318**	P		**P**	**23 28 52.8**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=2.7,SNR=3.1							
BRTR	**Keskin Array B**	**79.41**	**318**	P		**P**	**23 28 52.8**	**+0.7**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MMAI	**Mount Meron Ar**	**83.95**	**313**	P		**P**	**23 29 16.2**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=53,slow=5.6,SNR=3.2							

ATH ***28*** *23:19:58.3,37.19N×2844E,h36km,MD3.2/4*

CSEM ***28*** *23:20:00.7±0.1,3704N×2800E,h2km,MD3.2,Error ellipse: s-maj=3.1km s-min=2.1km az=21.0*

ISCJB ***28*** *23:20:01.5±0.6,3702N±004×2795E±004,h2km±6km, Error ellipse: s-maj=6.3km s-min=5.1km az=23.5*

ISK ***28*** *23:20:01.2,3705N×2798E,h5km,MD2.9*

NEIC ***28*** *23:20:01.4,3706N×2798E,h13km,MD3.0(ISK), MD3.2(ATH),After ISK.*

ISC 28 23:20:01.8±0.6,3703N±004×2796E±004,h2km±6km,n26, σ0§78/33,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.28**	**68**	*i*PG		**Pg**	**23 20 07.0**	**-0.2**
YER				*i*SG		**Sg**	**23 20 10.9**	**0.0**
YER	**Yerkesik**	**0.28**	**68**	Pg		**Pg**	**23 20 07.6**	**+0.4**
YER				Sg		**Sg**	**23 20 10.6**	**-0.3**
MLSB	**Milas**	**0.30**	**332**	PG		**Pg**	**23 20 08.1**	**+0.4**
MLSB				SG		**Sg**	**23 20 12.0**	**+0.4**
MLSB	**Milas**	**0.30**	**332**	Pg		**Pg**	**23 20 08.2**	**+0.5**
MLSB				Sg		**Sg**	**23 20 12.2**	**+0.6**
MLSB	**Milas**	**0.30**	**332**	*e*Pg		**Pg**	**23 20 08.1**	**+0.4**
MLSB				Sg		**Sg**	**23 20 12.2**	**+0.6**
BDRM	**Kayabasi**	**0.41**	**275**	*i*P		**Pg**	**23 20 10.1**	**+0.4**
DAT	**Datca**	**0.43**	**226**	PG		**Pg**	**23 20 10.0**	**0.0**
DALT	**Dalyan (Mudla)

KRUC	**Moravsky**	**2.09**	**237**	*e*Pn		**Pn**	**23 22 59.2**	**-0.8**
KRUC				*e*Sn		**Sn**	**23 23 28.3**	**+1.6**
	12nm,0.3s							
PSZ	**Piszkesteto**	**2.38**	**166**	⇑P		**Pg**	**23 23 08.9**	**-0.5**
PSZ	**Piszkesteto**	**2.38**	**166**	*e*Pg		**Pg**	**23 23 09.8**	**+0.4**
PSZ				*e*SB		**Sb**	**23 23 36.2**	**-1.1**
PSZ	**Piszkesteto**	**2.38**	**166**	⇑*i*P		**Pg**	**23 23 08.9**	**-0.5**
PSZ				*e*Sn		**Sb**	**23 23 36.2**	**-1.1**
KWP	**Kalwaria**	**2.43**	**103**	*e*Pn		**Pn**	**23 23 05.0**	**+0.3**
KWP				*e*Sn		**Sb**	**23 23 39.4**	**+0.4**
KWP	**Kalwaria**	**2.43**	**103**	*e*Pn		**Pn**	**23 23 05.0**	**+0.2**
KWP				*e*Sn		**Sb**	**23 23 39.4**	**+0.5**
KOLS	**Kolonicke sedl**	**2.46**	**121**	*e*PN		**Pn**	**23 23 06.5**	**+1.3**
KOLS				*e*PG		**Pg**	**23 23 12.5**	**+1.5**
PVCC	**Panska Ves**	**2.89**	**278**	P		**Pn**	**23 23 10.8**	**-0.2**
PVCC	**Panska Ves**	**2.89**	**278**	P		**Pn**	**23 23 10.8**	**-0.3**
PRU	**Pruhonice**	**2.92**	**267**	*e*PN		**Pn**	**23 23 10.8**	**-0.6**
PRU				*e*PG		**Pg**	**23 23 18.3**	**-1.4**
PRU				*e*SG		**Sg**	**23 23 58.3**	**+0.7**
	13nm,0.6s							
CONA	**Conrad Observa**	**3.12**	**224**	⇑*i*Pn		**Pn**	**23 23 13.7**	**-0.5**
CONA				⇑*i*Sn		**Sn**	**23 23 48.0**	**-4.1**
BRG	**Berggiesshubel**	**3.33**	**283**	PG		**Pb**	**23 23 23.9**	**+0.2**
BRG				SG		**Sg**	**23 24 10.6**	**-0.1**
	3.9nm,0.4s							
KHC	**Kasperske Hory**	**3.73**	**255**	*e*PN		**Pn**	**23 23 22.7**	**+0.2**
KHC				*ex*		x	23 23 29.5	
KHC				*ex*		x	23 23 35.5	
KHC				*e*SG		**Sg**	**23 24 23.6**	**+0.1**
	11nm,0.6s							
GERES	**GERESS Array B**	**3.75**	**250**	Pn		**Pn**	**23 23 23.6**	**+0.6**
	0.8nm,0.3s,baz=67,slow=14,SNR=24							
GERES				Pg		**Pg**	**23 23 32.9**	**-2.8**
	1.1nm,0.3s,baz=66,slow=17,SNR=18							
GERES				Lg			23 24 24.0	
	2.4nm,0.3s,baz=67,slow=28,SNR=11							
GERES	**GERESS Array B**	**3.75**	**250**	Pg		**Pg**	**23 23 32.9**	**-2.9**
MOA	**Molln**	**3.95**	**235**	⇓*i*Pn		**Pn**	**23 23 24.3**	**-1.4**
MOA				⇑*i*Pg		**Pg**	**23 23 37.8**	**-1.7**
MOA				⇑*i*Sg		**Sg**	**23 24 31.3**	**+0.5**
	comp=Z,7.1nm,0.6s							
CLL	**Collm**	**3.99**	**288**	*e*Pg		**Pg**	**23 23 40.0**	**-0.3**
CLL				*e*Sg		**Sg**	**23 24 36.0**	**+3.9**
DRGR		**4.21**	**143**	⇓*i*P		**Sn**	**23 24 17.2**	**-1.9**
NKC	**Novy Kostel**	**4.25**	**273**	P		**Pn**	**23 23 30.4**	**+0.8**
NKC	**Novy Kostel**	**4.25**	**273**	P		**Pn**	**23 23 30.4**	**+0.7**
NKC				*e*Sg		**Sg**	**23 24 40.5**	**+0.3**
MOX	**Moxa**	**4.78**	**278**	(PG)		**Pn**	**23 23 37.6**	**+0.6**
MOX				(SG)		**Pg**	**23 24 01.6**	**+6.3**
BURAR	**Bucovina Array**	**4.83**	**120**	⇑*i*P		**Pn**	**23 23 37.7**	**0.0**
BURAR	**Bucovina Array**	**4.83**	**120**	⇑P		**Pn**	**23 23 37.7**	**0.0**
BZS	**Buzias**	**4.92**	**159**	⇑*i*P		**Pn**	**23 23 38.8**	**-0.2**
BZS	**Buzias**	**4.92**	**159**	⇑P		**Pn**	**23 23 38.8**	**-0.3**
GZR	**Gura Zlata**	**5.45**	**151**	⇓*i*P		**Pn**	**23 23 46.8**	**+0.6**
GZR	**Gura Zlata**	**5.45**	**151**	⇓P		**Pn**	**23 23 46.8**	**+0.6**
BSD	**Bornholm Skovb**	**5.50**	**334**	*i*P		**Pn**	**23 23 46.9**	**-0.1**
BSD				*i*S		**Sn**	**23 24 46.5**	**-4.5**
NOA	**NORSAR Array B**	**11.69**	**341**	Pn		**Pn**	**23 25 07.9**	**-3.9**
	0.1nm,0.3s,baz=161,slow=12,SNR=2.4							
FINES	**FINESS Array B**	**11.90**	**17**	Pn		**Pn**	**23 25 11.7**	**-3.0**
	0.1nm,0.3s,baz=189,slow=13,SNR=6.9							
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn		**Pn**	**23 26 52.3**	**-2.7**
	0.1nm,0.3s,baz=187,slow=14,SNR=4.4							

BJI ***28*** *23:28:36.0, 1289N×9325E, h41km, mB5.0, mb4.6, Ms4.2, Msz3.7*
MOS ***28*** *23:28:37.2±1.0, 1316N×9329E, h33km, mb4.7/13, Error ellipse: s-maj=11.7km s-min=6.6km az=98.2*
ISCJB ***28*** *23:28:38.7±0.6, 1313N±003×9329E±003, h48km±6km, mb4.3/41, MS4.0/7, Error ellipse: s-maj=5.1km s-min=4.9km az=85.7*
NEIC ***28*** *23:28:38.6±0.3, 1312N×9323E, h30km, mb4.5/15, Error ellipse: s-maj=7.6km s-min=6.4km az=65.0*
IDC ***28*** *23:28:39.5±2.1, 1314N×9328E, h38km±17km, mb4.0/18, mb1 4.1/19, mb1mx4.1/24, mbtmp4.0/19, ML3.8/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/35, Error ellipse: s-maj=19.8km s-min=15.5km az=63.0*

ISC 28 23:28:40.9±0.5, 1314N±003×9323E±003, h50km±5km, h40km±3.4km:pP-P,n121,σ1s04/124, mb4.3/41, MS4.0/7, 7C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.55**	**198**	*e*P	**Pn**	**23 29 01.1**	**-4.9**
PBA				*e*S	**Sn**	**23 29 23.7**	**-1.3**
NNT	**Nongplab**	**6.36**	**94**	P	**Pn**	**23 30 12.9**	**+0.9**
NST	**Nakhon Sawan**	**7.14**	**69**	P	**Pn**	**23 30 23.0**	**+0.3**
	82nm,0.7s						
CM31	**Chiang Mai Arr**	**7.62**	**45**	*e*Pn	**Pn**	**23 30 30.0**	**+0.6**
CM31				*e*Sn	**Sn**	**23 31 54.2**	**-0.2**
CHG	**Chiang Mai**	**7.87**	**43**	⇑P	**Pn**	**23 30 32.6**	**-0.1**
	61nm,0.9s						
CHTO	**Chiang Mai**	**7.87**	**43**	*e*P	**Pn**	**23 30 32.6**	**-0.1**
CHTO				*e*		23 32 00.8	
CHTO				pmax	pmax		
	comp=Z,78nm,0.9s						
CHTO	**Chiang Mai**	**7.87**	**43**	*e*Pn	**Pn**	**23 30 32.6**	**-0.1**
	comp=Z,78nm,0.9s						
CHTO				*e*Sn	**Sn**	**23 32 00.8**	**+0.4**
NANT	**Nan**	**9.12**	**51**	⇑P	**Pn**	**23 30 50.0**	**+0.2**
	comp=Z,550nm,0.8s						
KKTK	**Khon Kaen**	**9.80**	**70**	P	**Pn**	**23 31 02.0**	**+2.8**
	comp=Z,926nm,0.6s						
VIS	**Vishakhapatnam**	**10.58**	**297**	*e*P	**Pn**	**23 31 07.5**	**-2.3**
VIS				*e*S	**Sn**	**23 32 55.9**	**-11**
KULM	**Kulim**	**10.69**	**136**	*e*Pn	**Pn**	**23 31 10.0**	**-1.3**
KULM				*e*Sn	**Sn**	**23 33 09.9**	**+0.4**
PSI	**Prapat**	**11.71**	**151**	Pn	**Pn**	**23 31 26.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=317,slow=13,SNR=6.0						
SHL	**Shillong**	**12.43**	**354**	*e*P	**Pn**	**23 31 33.0**	**-2.0**
SHL				*ex*	x	23 33 47.0	
MDRS	**Chennai**	**12.65**	**271**	*e*P	**Pn**	**23 31 36.1**	**-1.9**
MDRS				AMb	AMB	23 31 37.8	
	comp=Z,17nm,0.4s						
PALK	**Pallekele**	**13.64**	**246**	Pn	**Pn**	**23 31 52.4**	**+0.9**
KMI	**Kunming**	**14.92**	**36**	P	**Pn**	**23 32 10.8**	**+2.3**
KMI				AP	pP	23 32 15.3	-9.2
KMI				XP	sP	23 32 18.3	-12
KMI				PP		23 32 21.0	
KMI				AMB	AMB		
	comp=Z,14nm,1.3s						
KMI				LR	LR		
	comp=N,259nm,21.5s						
KMI				LR	LR		
	comp=E,218nm,27.4s						
KMI				LR	LR		
	comp=Z,278nm,23.5s						
KMI	**Kunming**	**14.92**	**36**	P	**Pn**	**23 32 10.8**	**+2.3**
	comp=Z,14nm,1.3s						
KMI				pP	pP	23 32 15.2	-9.3
KMI				sP	sP	23 32 18.2	-13
KMI				PP		23 32 20.9	
KMI				PPP		23 32 27.4	
KMI				S	**Sn**	**23 34 37.4**	**-15**
KMI				SS		23 34 57.9	
PKI	**Pulchoki**	**16.11**	**334**	*e*P	**Pn**	**23 32 24.0**	**0.0**
GUN	**Gumba**	**16.22**	**336**	*e*P	**Pn**	**23 32 26.3**	**+1.0**
	comp=Z,16nm,0.6s						
DMN	**Daman**	**16.28**	**333**	*e*P	**Pn**	**23 32 25.8**	**-0.2**
KKN	**Kakani**	**16.36**	**334**	*e*P	**Pn**	**23 32 27.7**	**+0.6**
LSA	**Lhasa**	**16.59**	**354**	P	**Pn**	**23 32 30.5**	**+0.5**
LSA	**Lhasa**	**16.59**	**354**	*e*P	**Pn**	**23 32 30.4**	**+0.4**
LSA				*e*		23 35 31.6	
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**16.59**	**354**	*e*Pn	**Pn**	**23 32 30.4**	**+0.4**
	comp=Z,13nm,0.8s						
LSA				*e*Sn	**Sn**	**23 35 31.6**	**-1.6**
TRD	**Trivandrum**	**16.63**	**256**	*e*P	**Pn**	**23 32 33.1**	**+2.6**
TRD				AMb	AMB	23 32 49.5	
	comp=Z,46nm,1.1s						
GKN	**Gorkha**	**16.82**	**333**	*e*P	**Pn**	**23 32 32.6**	**-0.3**
QIZ	**Qiongzhong**	**17.00**	**68**	P	**Pn**	**23 32 35.3**	**+0.3**
QIZ				AP	pP	23 32 46.3	-1.3
QIZ				S	**S**	**23 35 39.3**	**-12**
QIZ				AMB	AMB		
	comp=Z,22nm,2.5s						
QIZ				LR	LR		
	comp=E,345nm,23.0s						
QIZ				LR	LR		
	comp=Z,465nm,23.7s						

KOLN	**Koldanda**	**17.11**	**330**	*e*P		**Pn**	**23 32 37.1**	**+0.6**
	comp=Z,13nm,0.4s							
BHPL	**Bhopal**	**18.05**	**306**	*e*P		**Pn**	**23 32 49.2**	**+1.2**
BHPL				AMb	AMB		23 32 51.9	
	comp=Z,19nm,1.4s							
KAD	**Karad**	**18.84**	**285**	*e*P		**Pn**	**23 32 55.6**	**-1.9**
KAD				AMb	AMB		23 32 59.6	
	comp=Z,23nm,1.6s							
CD2	**Chengdu**	**20.17**	**27**	P		**P**	**23 33 11.5**	**+0.4**
CD2				AMB	AMB			
	comp=Z,50nm,0.7s							
KSM	**Kuching**	**20.50**	**123**	P		**P**	**23 33 16.7**	**+2.0**
NDI	**New Delhi**	**21.48**	**319**	*e*P		**P**	**23 33 25.1**	**-0.1**
NDI				AMb	AMB		23 33 44.9	
	comp=Z,20nm,1.5s,mb4.2							
AJM	**Ajmer**	**21.92**	**310**	*e*P		**P**	**23 33 31.3**	**+1.4**
AJM				AMb	AMB		23 33 37.1	
	comp=Z,20nm,1.4s,mb4.4							
KKM	**Kota Kinabalu**	**23.72**	**105**	*e*P		**P**	**23 33 46.6**	**-1.6**
LZH	**Lanzhou**	**24.76**	**21**	*e*P		**P**	**23 33 58.0**	**+0.2**
LZH				AP			23 34 10.8	
LZH				XP	sP		23 34 14.0	-2.4
LZH				AMB	AMB			
	comp=Z,130nm,1.2s,mb5.3							
LZH				AMB	AMB			
	comp=Z,290nm,4.2s							
LZH				LR	LR			
	comp=E,440nm,13.0s							
LZH				LR	LR			
	comp=Z,660nm,14.2s,MS4.3							
LZH	**Lanzhou**	**24.76**	**21**	*e*P		**P**	**23 33 57.9**	**+0.1**
LZH				*e*PP			23 34 10.7	
LZH				pmax	pmax			
	comp=Z,130nm,1.2s,mb5.3							
LZH				MLR	MLR			
	comp=Z,660nm,14.2s,MS4.3							
LZH	**Lanzhou**	**24.76**	**21**	*e*P		**P**	**23 33 57.9**	**+0.1**
	comp=Z,130nm,1.2s,mb5.3							
LZH				pP			23 34 10.7	
LZH				sP	sP		23 34 13.9	-2.5
LZH				LR	LR			
	comp=Z,660nm,14.2s,MS4.3							
XAN	**Xi'an**	**25.22**	**32**	P		**P**	**23 34 00.5**	**-1.5**
XAN				AP	pP		23 34 09.3	-5.4
XAN				AMB	AMB			
	comp=Z,9.0nm,0.9s,mb4.3							
XAN				LR	LR			
	comp=E,201nm,21.2s							
XAN				LR	LR			
	comp=Z,221nm,25.0s,MS3.6							
COCO	**West Island**	**25.42**	**172**	*e*P		**P**	**23 34 02.5**	**-1.2**
	comp=Z,59nm,0.9s,mb5.1							
GTA	**Gaotai**	**26.81**	**11**	⇑P		**P**	**23 34 17.5**	**+1.2**
GTA				AMB	AMB			
	comp=Z,18nm,1.2s,mb4.5							
NJ2	**Nanjing**	**30.10**	**47**	*e*P		**P**	**23 34 46.0**	**+0.4**
NJ2				AP	pP		23 34 57.0	-1.4
NJ2				XP	sP		23 34 59.5	-4.8
NJ2				PP	PP		23 35 44.5	-10
NJ2				S	**S**		**23 39 40.0**	**-0.7**
NJ2				XS	sS		23 39 56.0	-6.4
NJ2				AMB	AMB			
	comp=Z,640nm,5.7s							
NJ2				LR	LR			
	comp=N,1μm,16.5s,MS4.6							
NJ2				LR	LR			
	comp=E,640nm,15.5s,MS4.6							
NJ2				LR	LR			
	comp=Z,450nm,14.6s,MS4.2							
AAK	**Ala-Archa**	**33.57**	**335**	⇓*e*P		**P**	**23 35 16.0**	**-0.1**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.2							
AAK	**Ala-Archa**	**33.57**	**335**	*e*P		**P**	**23 35 16.7**	**+0.6**
	comp=Z,4.2nm,1.2s,mb4.2							
MKAR	**Makanchi Array**	**34.79**	**347**	P		**P**	**23 35 27.1**	**+0.5**
	comp=Z,4.9nm,0.8s,mb4.5,baz=158,slow=8.6,SNR=25							
SONM	**Songino Array**	**36.29**	**15**	P		**P**	**23 35 40.3**	**+0.8**
	comp=Z,7.1nm,1.0s,mb4.6,baz=199,slow=7.2,SNR=35							
SONM				PcP	PcP		23 38 03.8	+0.3
	comp=Z,1.1nm,0.8s,baz=222,slow=0.7,SNR=3.8							
SONM				ScP	ScP		23 41 46.4	+0.6
	comp=Z,2.1nm,1.0s,baz=199,slow=3.7,SNR=11							
SONM				LR	LR		23 52 56.0	
	comp=Z,146nm,21.5s,MS3.7,baz=9.1,slow=40							
SONM	**Songino Array**	**36.29**	**15**	P		**P**	**23 35 40.3**	**+0.8**
SONM							23 38 03.8	
ULN	**Ulaanbaatar**	**36.49**	**16**	*e*P		**P**	**23 35 42.0**	**+0.8**
ULN				*e*	pP		23 35 53.5	-0.7
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**36.49**	**16**	*e*P		**P**	**23 35 42.0**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.2							
ULN				*e*	pP		23 35 53.5	-0.7
ZAK	**Zakamensk**	**38.04**	**10**	*e*P		**P**	**23 35 54.6**	**+0.3**
ZAK				*e*			23 38 09.6	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.9							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb3.8							
KSRS	**Korea Array**	**39.27**	**46**	P		**P**	**23 36 04.0**	**-0.7**
	comp=Z,10.0nm,0.7s,mb4.6,baz=242,slow=9.1,SNR=25							
KURK	**Kurchatov**	**39.32**	**345**	⇓*i*P		**P**	**23 36 05.4**	**+0.3**
KURK	**Kurchatov**	**39.32**	**345**	*e*P		**P**	**23 36 05.2**	**+0.2**
	comp=Z,8.6nm,1.1s,mb4.4							
TLY	**Talaya**	**39.35**	**10**	P		**P**	**23 36 04.7**	**-0.6**
CN2	**Changchun**	**41.19**	**36**	⇓P		**P**	**23 36 20.5**	**0.0**
CN2				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7							
ZAL	**Zalesovo**	**41.24**	**352**	P		**P**	**23 36 20.6**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.0,baz=301,slow=9.7,SNR=16							
HIA	**Hailar**	**42.12**	**26**	*e*P		**P**	**23 36 28.1**	**-0.1**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HIA	**Hailar**	**42.12**	**26**	*e*P		**P**	**23 36 28.1**	**-0.1**
	comp=Z,7.4nm,0.9s,mb4.3							
BVAR	**Borovoye Array**	**43.76**	**340**	P		**P**	**23 36 40.8**	**-0.6**
	comp=Z,1.8nm,0.7s,mb3.9,baz=134,slow=8.5,SNR=12							
BRVK	**Borovoye**	**43.82**	**340**	*e*P		**P**	**23 36 41.4**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
BRVK	**Borovoye**	**43.82**	**340**	*e*P		**P**	**23 36 41.4**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.2							
ZRNK	**Zerenda**	**44.16**	**339**	*e*P		**P**	**23 36 44.4**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**44.16**	**339**	*e*P		**P**	**23 36 44.4**	**-0.2**
	comp=Z,5.1nm,0.9s,mb4.2							
FITZ	**Fitzroy Crossi**	**44.56**	**133**	P		**P**	**23 36 46.2**	**-1.7**
	comp=Z,2.1nm,0.6s,mb4.2,baz=336,slow=5.0,SNR=7.7							
MAJO	**Matsushiro**	**46.46**	**52**	P		**P**	**23 37 01.8**	**-1.0**
MJAR	**Matsushiro Arr**	**46.46**	**52**	P		**P**	**23 37 02.5**	**-0.4**
	comp=Z,1.3nm,0.2s,mb4.4,baz=255,slow=7.6,SNR=5.2							
MJAR				PcP	PcP		23 38 36.9	+0.1
	comp=Z,2.5nm,0.7s,baz=208,slow=1.4,SNR=6.8							
MJAR				LR	LR		23 58 40.4	
	comp=Z,176nm,18.7s,MS4.0,baz=155,slow=39							
MJAR	**Matsushiro Arr**	**46.46**	**52**	P		**P**	**23 37 02.5**	**-0.3**
MJAR							23 38 36.9	
AKTK	**Aktyubinsk**	**46.95**	**330**	P		**P**	**23 37 06.4**	**-0.3**
AKTO	**Aktyubinsk**	**46.95**	**330**	P		**P**	**23 37 06.4**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=121,slow=7.8,SNR=4.3							
BOD	**Bodaibo**	**47.29**	**15**	*e*P		**P**	**23 37 07.3**	**-2.0**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
GNI	**Garni**	**50.22**	**312**	⇓*e*P		**P**	**23 37 31.0**	**-0.8**
GNI				pmax	pmax			
	comp=Z,13nm,1.7s							
GNI	**Garni**	**50.22**	**312**	*e*P		**P**	**23 37 34.1**	**+2.4**
ARU	**Arti**	**50.74**	**336**	⇑*i*P		**P**	**23 37 35.6**	**-0.1**
ARU				*e*			23 39 28.2	
ARU				*e*S		**S**	**23 44 49.1**	**+1.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
ARU	**Arti**	**50.74**	**336**	*e*P		**P**	**23 37 35.5**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0							
KIV	**Kislovodsk**	**52.89**	**316**	*e*P		**P**	**23 37 53.5**	**+1.7**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
YSS	**Yuzh-Sakhalins**	**53.29**	**41**	*e*P		**P**	**23 37 53.4**	**-1.3**
YSS				pmax	pmax			
	comp=Z,19nm,0.7s,mb5.1							
YSS	**Yuzh-Sakhalins**	**53.29**	**41**	*e*P		**P**	**23 37 53.4**	**-1.3**
	comp=Z,19nm,0.7s,mb5.1							
MALT	**Malatya**	**54.47**	**308**	P		**P**	**23 38 04.3**	**+1.0**
KMBO	**Kilima Mbogo**	**57.28**	**260**	LR	LR		00 00 02.8	
	comp=Z,157nm,18.0s,MS4.2,baz=84,slow=33							

BRTR	**Keskin Array B**	**58.40**	**309**	P		**P**	**23 38 31.9**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=117,slow=6.7,SNR=4.4							
BRTR	**Keskin Array B**	**58.40**	**309**	⇑*e*P		**P**	**23 38 34.0**	**+2.8**
OBN	**Obninsk**	**60.50**	**327**	⇑*e*P		**P**	**23 38 46.1**	**+0.4**
OBN				*e*			23 39 25.2	
OBN				pmax	pmax			
	comp=Z,19nm,2.2s,mb4.7							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s,MS4.0							
CTAO	**Charters Tower**	**61.73**	**122**	*e*P		**P**	**23 38 53.9**	**-0.1**
TIXI	**Tiksi**	**62.29**	**12**	⇑*e*P		**P**	**23 38 56.2**	**-1.6**
TIXI				pmax	pmax			
	comp=Z,18nm,1.7s,mb4.9							
TIXI	**Tiksi**	**62.29**	**12**	*e*P		**P**	**23 38 56.3**	**-1.5**
	comp=Z,15nm,1.1s,mb5.0							
AKASG	**Malin Array Be**	**63.53**	**320**	P		**P**	**23 39 05.2**	**-0.9**
	comp=Z,0.1nm,0.3s,mb3.4,baz=88,slow=4.3,SNR=6.4							
PET	**Petropavlovsk**	**64.86**	**37**	*i*P		**P**	**23 39 13.1**	**-1.7**
FINES	**FINESS Array B**	**67.68**	**331**	P		**P**	**23 39 31.8**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.4,baz=122,slow=6.9,SNR=8.7							
FINES	**FINESS Array B**	**67.68**	**331**	*i*P		**P**	**23 39 32.5**	**-0.3**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**67.68**	**331**	P		**P**	**23 39 31.8**	**-1.0**
KAF	**Kangasniemi**	**67.74**	**332**	*e*P		**P**	**23 39 31.5**	**-1.7**
	comp=Z,6.0nm,0.9s,mb4.6							
KAF	**Kangasniemi**	**67.74**	**332**	*e*P		**P**	**23 39 31.5**	**-1.7**
KAF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
ARCES	**ARCESS Array B**	**70.04**	**340**	P		**P**	**23 39 47.1**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.3,baz=109,slow=7.5,SNR=9.2							
BILL	**Bilibino**	**71.57**	**22**	P		**P**	**23 39 55.9**	**-0.9**
BILL	**Bilibino**	**71.57**	**22**	P		**P**	**23 39 55.9**	**-0.9**
DPC	**Dobruska-Polom**	**71.65**	**319**	*e*P		**P**	**23 39 58.7**	**+1.4**
PRU	**Pruhonice**	**72.79**	**319**	*e*P		**P**	**23 40 04.9**	**+0.8**
BRG	**Berggiesshubel**	**73.18**	**319**	*e*P		**P**	**23 40 07.1**	**+0.7**
	comp=Z,6.5nm,1.4s,mb4.4							
BRG	**Berggiesshubel**	**73.18**	**319**	*e*P		**P**	**23 40 07.1**	**+0.8**
BRG				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.4							
GERES	**GERESS Array B**	**73.35**	**317**	P		**P**	**23 40 08.1**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=94,slow=5.6,SNR=17							
KHC	**Kasperske Hory**	**73.43**	**318**	*e*P		**P**	**23 40 08.0**	**+0.2**
KHC	**Kasperske Hory**	**73.43**	**318**	⇓*i*P		**P**	**23 40 08.2**	**+0.4**
NB2	**NORSAR Subarra**	**74.74**	**330**	P		**P**	**23 40 14.9**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.2,baz=89,slow=6.2							
NOA	**NORSAR Array B**	**74.74**	**330**	P		**P**	**23 40 14.9**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=5.8,SNR=4.8							
LBTB	**Lobatse**	**76.04**	**240**	P		**P**	**23 40 22.9**	**0.0**
BOSA	**Boshof**	**77.67**	**237**	P		**P**	**23 40 33.2**	**+1.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=50,slow=7.9,SNR=4.6							
BOSA	**Boshof**	**77.67**	**237**	P		**P**	**23 40 33.9**	**+1.8**
MAW	**Mawson**	**83.48**	**191**	P		**P**	**23 41 03.8**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.4,baz=16,slow=9.3,SNR=5.5							
IMA2	**Indian Mountai**	**87.11**	**22**	*e*P		**P**	**23 41 21.7**	**+0.4**
IMA2				*e*PP	PP		23 44 40.0	-5.3
ESDC	**Sonseca Array**	**87.17**	**310**	P		**P**	**23 41 21.7**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.9,baz=57,slow=2.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**88.53**	**283**	P		**P**	**23 41 29.2**	**+1.0**
	comp=Z,0.9nm,0.9s,mb4.1,baz=89,slow=3.3,SNR=4.8							
TORD	**Torodi Ar. Bea**	**88.53**	**283**	P		**P**	**23 41 29.2**	**+1.0**
MCK	**McKinley**	**90.01**	**23**	*e*P		**P**	**23 41 35.0**	**0.0**
MCK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.7							
MCK	**McKinley**	**90.01**	**23**	*e*P		**P**	**23 41 35.0**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.7							
DAWY	**Dawson**	**93.28**	**20**	*e*P		**P**	**23 41 50.3**	**+0.1**
PVNV	**Vila Nova**	**104.15**	**316**	*i*S		Sdif	23 54 25.4	-0.6
PVNV								
	comp=Z,57nm,0.1s							
RIB2	**Ribeirinha**	**104.21**	**316**	*e*S		Sdif	23 54 25.0	-1.4
RIB2								
	comp=Z,

ASAR 23 41 18.3
ASPA Alice Springs 24.34 222 *e*P **P** **23 37 39.4 +0.5**
ASPA *e*S **S** **23 42 03.1 +9.4**
STKA Stephens Creek 27.42 198 *e*P **P** **23 38 06.1 -0.6**
comp=Z,16nm,1.0s,mb4.5
STKA *e*S **S** **23 42 34.9 -7.4**
STKA Stephens Creek 27.42 198 P **P** **23 38 06.7 -0.1**
comp=Z,18nm,0.9s,mb4.6,baz=13,slow=9.8,SNR=11
STKA LR LR 23 49 55.3
comp=Z,300nm,18.3s,baz=21,slow=38
FITZ Fitzroy Crossi 27.81 242 *e*P **P** **23 38 10.0 -0.2**
comp=Z,140nm,0.7s,mb5.6
FITZ *e*S **S** **23 42 56.1 +7.6**
FITZ Fitzroy Crossi 27.81 242 P **P** **23 38 10.7 +0.5**
comp=Z,82nm,0.8s,mb5.3,baz=78,slow=7.6,SNR=96
FITZ LR LR 23 50 08.7
comp=Z,306nm,18.7s,baz=43,slow=38
FORT Forrest 33.01 218 *e*P **P** **23 38 54.2 -1.9**
comp=Z,65nm,0.8s,mb5.5
CBIJ Chichi jima 33.92 345 LR LR 23 51 03.9
comp=Z,388nm,19.5s,baz=98,slow=33
JOW Kunigami 39.39 327 P **P** **23 39 51.4 +0.9**
comp=Z,31nm,1.0s,mb5.1,baz=152,slow=12,SNR=3.7
JOW LR LR 23 52 55.8
comp=Z,245nm,20.6s,baz=91,slow=31
URZ Urewera 39.88 148 P **P** **23 39 54.4 -0.3**
comp=Z,3.7nm,0.6s,mb4.4,baz=308,slow=8.6,SNR=3.4
KLBR Kellerberrin 40.47 227 *e*P **P** **23 39 58.7 -0.8**
comp=Z,26nm,0.7s,mb5.2
NWAO Narrogin (SRO) 41.56 225 P **P** **23 40 06.2 -2.2**
comp=Z,17nm,0.9s,mb4.8,baz=58,slow=6.8,SNR=3.4
NWAO Narrogin (SRO) 41.56 225 P **P** **23 40 06.2 -2.2**
MUN Mundaring 41.79 227 *e*P **P** **23 40 10.1 -0.2**
MJAR Matsushiro Arr 43.91 345 ScP ScP 23 45 59.8 +1.3
comp=Z,0.9nm,0.4s,baz=174,slow=6.2,SNR=5.8
MAJO Matsushiro 43.91 345 *e*P **P** **23 40 25.2 -2.3**
SSE Sheshan 46.65 324 P **P** **23 40 49.5 +0.4**
SSE XP sP 23 41 02.3 -11
SSE S **S** **23 47 35.5 +1.9**
SSE XS sS 23 47 49.5 -12
SSE AMB AMB
comp=Z,19nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,83nm,4.1s
SSE LR LR
comp=N,127nm,16.5s
SSE LR LR
comp=E,93nm,16.5s
SSE LR LR
comp=Z,180nm,16.9s
SSE Sheshan 46.65 324 P **P** **23 40 49.5 +0.4**
comp=Z,19nm,0.7s,mb4.9
SSE sP sP 23 41 02.3 -11
SSE S **S** **23 47 35.6 +2.0**
SSE sS sS 23 47 49.6 -12
SSE LR LR
comp=Z,180nm,16.9s
QIZ Qiongzhong 47.71 302 P **P** **23 40 59.0 +1.6**
QIZ S **S** **23 47 50.3 +1.7**
QIZ LR LR
comp=E,276nm,25.6s
QIZ LR LR
comp=Z,458nm,23.7s
KSRS Korea Array 48.27 335 P **P** **23 41 02.4 +0.7**
comp=Z,3.8nm,0.9s,mb4.2,baz=155,slow=8.2,SNR=7.0
NJ2 Nanjing 48.72 323 *e*P **P** **23 41 06.0 +0.8**
NJ2 PP PP 23 43 00.5 +1.8
NJ2 S **S** **23 48 01.0 -2.0**
NJ2 AMB AMB
comp=Z,750nm,7.4s
NJ2 LR LR
comp=N,1μm,23.5s
NJ2 LR LR
comp=E,850nm,25.5s
NJ2 LR LR
comp=Z,750nm,24.6s
PSI Prapat 52.97 278 P **P** **23 41 37.3 +0.2**
comp=Z,3.9nm,0.3s,mb4.9,baz=183,slow=8.9,SNR=6.4
HABR Khabarovsk 55.94 347 *e*P **P** **23 41 57.5 -1.1**
KMI Kunming 56.32 305 P **P** **23 42 03.5 +2.1**
KMI AP pP 23 42 16.5 -1.9
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
KMI Kunming 56.32 305 P **P** **23 42 03.5 +2.1**
KMI *PP pP 23 42 16.6 -1.8
KMI pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
KMI Kunming 56.32 305 P **P** **23 42 03.5 +2.1**
comp=Z,10.0nm,1.3s,mb4.7
KMI pP pP 23 42 16.6 -1.8
XAN Xi'an 56.35 318 P **P** **23 42 01.5 0.0**
XAN AP pP 23 42 10.5 -8.0
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.9
KLR Kul'dur 57.44 345 *e*P **P** **23 42 05.2 -4.1**
CD2 Chengdu 58.28 312 P **P** **23 42 16.0 +0.9**
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
PPT Papeete 58.88 107 *e*S **S** **23 50 22.4 +2.2**
comp=Z,84nm,26.2s
PPT eLR LR 23 59 39.9
comp=Z,177nm,30.0s
TBI Tubuai 59.53 114 *e*S **S** **23 50 30.3 +1.7**
comp=Z,123nm,26.0s
TBI eLR LR 00 00 07.9
comp=Z,396nm,38.0s,baz=276
LZH Lanzhou 60.93 317 *e*P **P** **23 42 34.5 +1.1**
LZH AP pP 23 42 42.5 -8.1
LZH XP sP 23 42 50.5 -7.4
LZH AMB AMB
comp=Z,32nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,128nm,4.0s
LZH Lanzhou 60.93 317 *e*P **P** **23 42 34.5 +1.1**
LZH *PP pP 23 42 42.5 -8.1
LZH *SP sP 23 42 50.5 -7.4
LZH pmax pmax
comp=Z,32nm,1.5s,mb5.1
LZH Lanzhou 60.93 317 *e*P **P** **23 42 34.5 +1.1**
comp=Z,32nm,1.5s,mb5.1
LZH pP pP 23 42 42.5 -8.1
LZH sP sP 23 42 50.5 -7.4
HIA Hailar 61.38 337 *i*P **P** **23 42 36.6 +0.2**
MA2 Magadan 65.23 360 *e*P **P** **23 43 01.1 -0.7**
MA2 pmax pmax
comp=Z,71nm,0.4s,mb5.8
MA2 Magadan 65.23 360 *e*P **P** **23 43 01.1 -0.8**
comp=Z,71nm,0.4s,mb5.8
GTA Gaotai 65.40 318 *e*P **P** **23 43 04.3 +1.3**
GTA AP pP 23 43 08.8 -12
GTA XP sP 23 43 12.0 -16
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.2
ULN Ulaanbaatar 66.09 329 *e*P **P** **23 43 08.2 +0.8**
ULN Ulaanbaatar 66.09 329 *e*P **P** **23 43 07.7 +0.2**
comp=Z,4.9nm,0.9s,mb4.3
SONM Songino Array 66.41 329 P **P** **23 43 10.0 +0.5**
comp=Z,5.7nm,0.9s,mb4.4,baz=146,slow=4.5,SNR=24
SONM LR LR 00 11 41.4
comp=Z,120nm,19.3s,baz=132,slow=36
SONM PKPPKP 00 11 44.8
comp=Z,0.4nm,0.7s,baz=298,slow=3.1,SNR=4.0
LSA Lhasa 67.58 305 *e*P **P** **23 43 18.7 +1.8**
LSA pmax pmax
comp=Z,13nm,0.9s,mb4.8
LSA Lhasa 67.58 305 *e*P **P** **23 43 18.7 +1.9**
comp=Z,13nm,0.9s,mb4.8
ZAK Zakamensk 69.61 330 *e*P **P** **23 43 28.3 -1.2**
ZAK *e* pP 23 43 46.5 -0.5
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
YAK Yakutsk 69.71 349 *e*P **P** **23 43 29.6 -0.5**
YAK pmax pmax
comp=Z,24nm,1.3s,mb4.9
GUN Gumba 71.36 302 *e*P **P** **23 43 40.6 +0.4**
comp=Z,52nm,0.8s,mb5.4
PKI Pulchoki 71.66 301 *e*P **P** **23 43 42.5 +0.5**
KKN Kakani 71.83 302 *e*P **P** **23 43 43.3 +0.3**
comp=Z,30nm,0.8s,mb5.2
DMN Daman 71.93 301 *e*P **P** **23 43 44.1 +0.5**
comp=Z,63nm,1.0s,mb5.4
MIR Mirnyy 72.39 201 *d i*P **P** **23 43 49.0 +2.6**
MIR pmax pmax
comp=Z,300nm,1.0s
SBA Scott Base 72.41 177 *e*P **P** **23 43 47.4 +0.9**
SBA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SBA Scott Base 72.41 177 *e*P **P** **23 43 47.4 +0.9**
comp=Z,6.0nm,0.8s,mb4.5
GKN Gorkha 72.44 302 *e*P **P** **23 43 46.7 +0.1**
comp=Z,54nm,0.9s,mb5.4
RKT Rikitea 72.81 112 *e*LR LR 00 06 14.6
comp=Z,315nm,31.0s
KOLN Koldanda 73.26 301 *e*P **P** **23 43 51.5 0.0**
comp=Z,45nm,0.8s,mb5.4
HYB Hyderabad 75.39 290 *i* P **P** **23 44 04.0 +0.1**
HYB Hyderabad 75.39 290 *e*P **P** **23 44 04.0 +0.1**
BHPL Bhopal 77.59 295 *e*P **P** **23 44 16.0 -0.3**
BHPL AMb AMB 23 44 17.1
comp=Z,20nm,0.6s,mb5.0
KDAK Kodiak Island 77.81 27 P **P** **23 44 18.0 +0.5**
comp=Z,12nm,1.0s,mb4.6,baz=279,slow=13,SNR=2.7
TIXI Tiksi 78.74 353 *e*P **P** **23 44 22.3 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
KAD Karad 79.48 289 *e*P **P** **23 44 27.1 +0.4**
KAD AMb AMB 23 44 29.0
comp=Z,20nm,1.4s,mb4.8
MKAR Makanchi Array 80.12 319 P **P** **23 44 29.9 -0.2**
comp=Z,1.8nm,0.6s,mb4.1,baz=100,slow=6.2,SNR=24
ZAL Zalesovo 81.19 327 P **P** **23 44 34.8 -1.1**
comp=Z,1.8nm,0.4s,mb4.2,baz=7.0,slow=7.5,SNR=9.0
ZAL LR LR 00 22 18.4
comp=Z,130nm,18.5s,baz=92,slow=37
MCK McKinley 82.42 23 *e*P **P** **23 44 41.2 -1.2**
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
MCK McKinley 82.42 23 *e*P **P** **23 44 41.2 -1.2**
comp=Z,9.6nm,0.9s,mb4.6
COLA College 83.40 22 *d i*P **P** **23 44 46.6 -0.8**
COLA College 83.40 22 *e*P **P** **23 44 46.5 -0.9**
comp=Z,7.6nm,0.8s,mb4.6
KURK Kurchatov 83.66 322 *c i*P **P** **23 44 47.9 -0.8**
KURK Kurchatov 83.66 322 *e*P **P** **23 44 47.6 -1.1**
comp=Z,8.1nm,0.9s,mb4.5
MAW Mawson 84.01 203 *e*P **P** **23 44 50.2 -0.3**
comp=Z,6.1nm,0.7s,mb4.5
MAW Mawson 84.01 203 P **P** **23 44 50.3 -0.3**
comp=Z,9.7nm,0.9s,mb4.7,baz=86,slow=4.9,SNR=16
MAW LR LR 00 20 00.5
comp=Z,101nm,18.0s,baz=64,slow=34
MAW Mawson 84.01 203 *e*P **P** **23 44 50.2 -0.3**
MAW pmax pmax
comp=Z,6.0nm,0.7s
QSPA South Pole Qui 84.11 180 *e*P **P** **23 44 50.3 -0.7**
comp=Z,22nm,1.0s,mb4.9
FRU Bishkek 84.24 314 *e*P **P** **23 44 50.0 -1.7**
AAK Ala-Archa 84.28 314 *c i*P **P** **23 44 51.2 -0.7**
AAK pmax pmax
comp=Z,14nm,1.7s,mb4.5
AAK Ala-Archa 84.28 314 *e*P **P** **23 44 51.9 0.0**
comp=Z,6.6nm,0.9s,mb4.5
EGAK Eagle 85.93 23 *e*P **P** **23 44 59.7 -0.4**
comp=Z,15nm,1.1s,mb4.8
DAWY Dawson 86.38 24 *e*P **P** **23 45 03.5 +1.1**
BVAR Borovoye Array 89.17 323 P **P** **23 45 14.1 -1.6**
comp=Z,2.1nm,0.8s,mb4.2,baz=104,slow=6.3,SNR=6.5
ZRNK Zerenda 89.98 323 *e*P **P** **23 45 18.6 -0.9**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
ZRNK Zerenda 89.98 323 *e*P **P** **23 45 18.6 -0.9**
comp=Z,1.3nm,0.6s,mb4.2
INK Inuvik 89.99 21 P **P** **23 45 19.6 +0.1**
comp=Z,12nm,1.1s,mb5.0,baz=239,slow=7.0,SNR=6.6
INK Inuvik 89.99 21 *e*P **P** **23 45 19.3 -0.2**
NVAR Mina Array Bea 93.94 52 P **P** **23 45 39.6 +1.8**
comp=Z,2.3nm,0.7s,mb4.6,baz=266,slow=7.0,SNR=7.8
YKA Yellowknife Ar 97.07 28 P **P** **23 45 52.2 +0.1**
comp=Z,2.6nm,0.8s,mb4.7,baz=268,slow=4.7,SNR=12
YKA Yellowknife Ar 97.07 28 P P **23 45 52.2 +0.1**
PDAR Pinedale Array 100.69 48 P Pdif 23 46 08.1 -0.1
comp=Z,0.9nm,1.0s,baz=299,slow=3.1,SNR=4.8
SNAA Sanae 100.78 188 *e*P Pdif 23 46 08.5 -0.1
ARCES ARCESS Array B 107.42 343 PKiKP PKiKP 23 50 45.9 -0.5
comp=Z,3.0nm,0.9s,baz=44,slow=1.2,SNR=6.3
FINES FINESS Array B 111.37 335 PKiKP PKiKP 23 50 53.3 -0.5
comp=Z,1.3nm,0.8s,baz=64,slow=3.2,SNR=5.1
FINES FINESS Array B 111.37 335 PKPdf PKiKP 23 50 53.3 -0.5
AKASG Malin Array Be 114.45 324 PKP PKiKP 23 50 59.1 -0.5
comp=Z,2.5nm,0.7s,baz=64,slow=1.9,SNR=12
BRTR Keskin Array B 114.85 311 PKP PKiKP 23 50 59.9 -0.6
comp=Z,1.9nm,0.9s,baz=90,slow=2.5,SNR=7.2
NB2 NORSAR Subarra117.37 339 PKIKP PKPdf 23 51 05.0 -0.3
NB2 NORSAR Subarra117.37 339 PKPdf PKPdf 23 51 05.0 -0.3
comp=Z,0.2nm,0.6s,baz=61,slow=2.7
NOA NORSAR Array B117.37 339 PKP PKPdf 23 51 05.0 -0.3
comp=Z,1.7nm,0.9s,baz=255,slow=1.7,SNR=4.2
NOA NORSAR Array B117.37 339 PKPdf 23 51 05.0 -0.3
NOA NORSAR Array B117.37 339 PKP PKPdf 23 51 05.0 -0.3
BOSA Boshof 117.77 233 PKP PKPdf 23 51 07.0 +1.0
comp=Z,3.3nm,1.1s,baz=291,slow=1.6,SNR=3.4
BURAR Bucovina Array 118.08 322 *i*P PKPdf 23 51 07.7 +1.0
BURAR Bucovina Array 118.08 322 ||P PKPdf 23 51 07.7 +1.1
MLR Muntele Rosu 118.46 319 ||*i*P PKPdf 23 51 07.9 +0.5
MLR Muntele Rosu 118.46 319 ||P PKPdf 23 51 07.9 +0.5
KWP Kalwaria 118.70 325 *e*PKIKP PKPdf 23 51 08.2 +0.3
DRGR 119.98 322 ||*i*P PKPdf 23 51 10.1 -0.2
DRGR 119.98 322 ||P PKPdf 23 51 10.1 -0.2
NIE Niedzica 120.17 325 *e*P PKPdf 23 51 12.1 +1.4
GZR Gura Zlata 120.54 320 ||*i*P PKPdf 23 51 11.1 -0.3
GZR Gura Zlata 120.54 320 ||P PKPdf 23 51 11.1 -0.3
OKC Ostrava-Krasne 121.17 326 *e*PKPdf PKPdf 23 51 13.5 +0.9
BZS Buzias 121.18 321 ||*i*P PKPdf 23 51 12.8 +0.2
BZS Buzias 121.18 321 ||P PKPdf 23 51 12.8 +0.2
VTS Vitosha 121.41 317 ||*i*P PKPdf 23 51 13.9 +0.8
VTS Vitosha 121.41 317 ||P PKPdf 23 51 13.8 +0.8
MORC Moravsky Berou 121.53 327 ||*i*P PKPdf 23 51 14.0 +0.7
MORC Moravsky Berou 121.53 327 ||P PKPdf 23 51 14.0 +0.7
DPC Dobruska-Polom 121.87 328 *e*PKPdf PKPdf 23 51 15.1 +1.1
UPC Upice 121.95 328 *e*PKPdf PKPdf 23 51 14.9 +0.8
VRAC Vranov 122.30 327 ⇑P PKPdf 23 51 15.9 +1.1
VRAC Vranov 122.30 327 ⇑P PKPdf 23 51 15.8 +1.1
BSEG Bad Segeberg 122.58 334 *e*PKPdf PKPdf 23 51 16.3 +1.0
PVCC Panska Ves 122.69 329 *e*PKPdf PKPdf 23 51 16.6 +1.1
PKSM Moragy 122.73 323 ⇑*i*P PKPdf 23 51 15.7 +0.1
PKSM Moragy 122.73 323 ⇑P PKPdf 23 51 15.7 +0.1
BRG Berggiesshubel 122.81 329 *e*PKPdf PKPdf 23 51 16.4 +0.6
BRG Berggiesshubel 122.81 329 *i* P PKPdf 23 51 16.4 +0.6
comp=Z,9.3nm,0.9s
DIVS Divcibare 122.89 320 ||*i*P PKPdf 23 51 16.4 +0.4
CLL Collm 123.02 330 ⇑*i*PKIKP PKPdf 23 51 16.3 +0.1
CLL Collm 123.02 330 ⇑*i*PKPdf PKPdf 23 51 16.3 +0.1
comp=Z,15nm,0.9s
PRU Pruhonice 123.02 328 *e*PKPdf PKPdf 23 51 17.1 +0.9
FBE Freiberg 123.08 330 *e*PKPdf PKPdf 23 51 17.1 +0.8
CONA Conrad Observa 123.47 326 ⇑*i*PKiKP PKiKP 23 51 17.6 +0.3
comp=Z,6.7nm,0.8s
TANN Tannenbergstha 123.83 330 *e*PKPdf PKPdf 23 51 18.3 +0.6
NKC Novy Kostel 123.95 329 *e*PKPdf PKPdf 23 51 18.9 +0.9
WERN Wernitzgruen 123.96 329 *e*PKPdf PKPdf 23 51 18.8 +0.8
KHC Kasperske Hory 124.03 328 *e*PKPdf PKPdf 23 51 19.0 +0.9
MOX Moxa 124.11 330 *e*PKIKP PKPdf 23 51 20.0 +1.7
GERES GERESS Array B 124.13 327 PKP PKPdf 23 51 19.0 +0.7
comp=Z,8.6nm,0.7s,baz=70,slow=1.5,SNR=72
MANZ Manzenberg 124.28 329 *e*PKPdf PKPdf 23 51 19.6 +1.0
GRA1 Grafenberg Arr 124.91 329 *e*PKPdf PKPdf 23 51 20.6 +0.8
GRF Grafenberg Arr 124.91 329 *e*PKPdf PKPdf 23 51 20.6 +0.8
WATA Walderalm 126.18 327 ||*i*P PKPdf 23 51 22.6 +0.4
comp=Z,12nm,1.1s
WTTA Wattenberg 126.19 327 ⇑*i*P PKPdf 23 51 22.7 +0.4
comp=Z,28nm,0.9s
MOTA Moosalm 126.43 327 ||*i*P PKPdf 23 51 23.2 +0.5
comp=Z,14nm,0.9s
SQTA Sankt Quirin 126.44 327 ⇑*i*P PKPdf 23 51 23.5 +0.8
comp=Z,12nm,1.0s
SQTA Sankt Quirin 126.44 327 ⇑*i*P PKPdf 23 51 23.5 +0.8
CFAA Coronel Fontan 127.02 137 PKP PKPdf 23 51 24.4 +0.6
comp=Z,0.4nm,0.7s,baz=256,slow=3.9,SNR=6.1
CFAA Coronel Fontan 127.02 137 PKP PKPdf 23 51 24.4 +0.6
DAVA Damuels 127.12 328 ⇑*i*P PKPdf 23 51 24.7 +0.7
comp=Z,16nm,0.8s
GIVF Givet 127.69 333 *e*PKIKP PKPdf 23 51 25.6 +0.5
CDF Champ du Feu 127.72 330 *e*PKIKP PKPdf 23 51 25.2 +0.1
comp=Z,13nm,1.1s
BAIF Baives 128.00 334 *e*PKIKP PKPdf 23 51 26.3 +0.6
comp=Z,28nm,1.1s
HINF Hinteralfeld 128.33 330 *e*PKIKP PKPdf 23 51 26.4 +0.1
comp=Z,47nm,1.2s
HAU Haudompre 128.45 330 *e*PKIKP PKPdf 23 51 27.0 +0.5
comp=Z,26nm,0.8s
MEZF Maizieres J'vi 128.73 332 *e*PKIKP PKPdf 23 51 27.5 +0.4
comp=Z,94nm,1.4s
CABF La Chapelle 129.53 329 *e*PKIKP PKPdf 23 51 29.5 +0.9
comp=Z,36nm,0.9s
LPL La Plagne 129.92 328 *e*PKIKP PKPdf 23 51 30.4 +1.1
comp=Z,14nm,0.7s
LPG La Plagne 129.93 328 *e*PKIKP PKPdf 23 51 30.4 +1.0
comp=Z,14nm,0.7s
LOR Lormes 130.17 331 *e*PKIKP PKPdf 23 51 29.9 +0.1
comp=Z,39nm,1.3s
BNI Bardonecchia 130.26 327 *e*PKIKP PKPdf 23 51 31.7 +1.7
MBDF Montbardon 130.42 327 *e*PKIKP PKPdf 23 51 30.7 +0.4
SSF Saint Saulge 130.48 331 *e*PKIKP PKPdf 23 51 32.0 +1.6
comp=Z,21nm,1.0s
PGF Pioggiola 130.52 323 *e*PKIKP PKPdf 23 51 31.1 +0.6
comp=Z,38nm,1.0s
SBF Sospel 130.61 326 *e*PKIKP PKPdf 23 51 31.1 +0.5
SMF Signal de Mont 130.62 331 *e*PKIKP PKPdf 23 51 31.4 +0.7
AVF Avril sur Loir 130.75 331 *e*PKIKP PKPdf 23 51 31.2 +0.3
comp=Z,9.5nm,1.0s
ORIF Oris-en-Rattie 130.77 328 *e*PKIKP PKPdf 23 51 31.8 +0.8
comp=Z,13nm,0.7s
LDF La Druitiere 130.97 335 *e*PKIKP PKPdf 23 51 31.6 +0.3
comp=Z,86nm,1.6s
FLN La Foliniere 130.98 335 *e*PKIKP PKPdf 23 51 31.9 +0.5
BGF Bois d'Agland 131.16 331 *e*PKIKP PKPdf 23 51 32.0 +0.3
comp=Z,18nm,0.8s
FRF La Foret Royal 131.24 326 *e*PKIKP PKPdf 23 51 32.3 +0.5
comp=Z,34nm,1.1s
VIVF Saint-Julien-l 131.45 328 *e*PKIKP PKPdf 23 51 33.0 +0.8
LMR La Mourre 131.46 326 *e*PKIKP PKPdf 23 51 33.0 +0.7
comp=Z,35nm,1.1s
SMRF Simiane la Rot 131.56 327 *e*PKIKP PKPdf 23 51 33.2 +0.8
comp=Z,38nm,1.0s
TCF Toulx Ste Croi 131.66 331 *e*PKIKP PKPdf 23 51 32.2 -0.4
comp=Z,63nm,1.3s
SGMF Saint Gilles 132.23 337 *e*PKIKP PKPdf 23 51 34.0 +0.3
comp=Z,48nm,1.1s
ROSF Rostrenen 132.44 337 *e*PKIKP PKPdf 23 51 34.6 +0.5
MFF Saint Martin d 132.51 333 *e*PKIKP PKPdf 23 51 35.1 +0.9
CAF Calviac 132.72 330 *e*PKIKP PKPdf 23 51 35.5 +0.9
KEST Kesra 134.11 316 PKP PKPdf 23 51 39.1 +1.9
comp=Z,4.3nm,0.9s,baz=303,slow=4.8,SNR=10
EMIR Miracle 135.14 328 PKP PKPdf 23 51 40.0 +0.8
LPAZ La Paz 135.25 120 PKP PKPdf 23 51 41.4 +2.0
comp=Z,2.1nm,0.8s,baz=301,slow=0.8,SNR=8.9
EBIE Bielsa 135.30 330 PKP PKPdf 23 51 42.2 +2.7
ETSF Etsaut 135.49 330 *e*PKIKP PKPdf 23 51 40.6 +0.8
EIBI Ibiza 137.23 325 PKP PKPdf 23 51 45.1 +2.0
EMOS Mosqueruela 137.30 328 PKP PKPdf 23 51 45.6 +2.4
ETOR Torete 137.79 330 PKIKP PKPdf 23 51 46.1 +2.0
SDV Santo Domingo 138.36 83 *e*P PKPdf 23 51 47.0 +1.9
GUD Guadarrama 138.95 331 PKIKP PKPdf 23 51 46.3 +0.1
ETOB Tobarra 139.11 327 PKP PKPdf 23 51 46.7 +0.2
ESDC Sonseca Array 139.61 330 PKP PKPdf 23 51 49.6 +2.2
comp=Z,1.5nm,0.8s,baz=14,slow=2.0,SNR=5.0
ESDC Sonseca Array 139.61 330 PKP PKPdf 23 51 48.9 +1.4
EVIA Vianos 139.63 328 PKIKP PKPdf 23 51 48.7 +1.2
EQES Quesada 140.55 327 PKP PKPdf 23 51 49.5 +0.4
EADA Adamuz 141.06 329 PKP PKPdf 23 51 50.5 +0.4
EBER Berja 141.11 326 PKP PKPdf 23 51 52.1 +1.9
ELOJ Sierra Loja 141.61 328 PKIKP PKPdf 23 51 52.9 +1.9
EMIN Mina Concepcio 142.42 331 PKP PKPdf 23 51 53.2 +0.7
ESPR Espera 142.71 329 PKP PKPdf 23 51 49.6 -3.4
TOA0 Torodi Ar. Sit 149.15 286 *e*PKPdf PKPdf 23 52 04.8 +0.9
TOA0 *e*PKPbc PKPbc 23 52 09.6 +1.4
TOA0 *e*PKPab PKPab 23 52 14.0 +1.3
TORD Torodi Ar. Bea 149.15 286 PKPbc PKPbc 23 52 09.2 +1.0
comp=Z,34nm,0.7s,baz=69,slow=3.0,SNR=168
LIC Lamto 156.42 272 *e*PKIKP PKPdf 23 52 14.5 0.0

MOS ***28*** *23:36:31.3±1.6, 4827N×154.28E, h33km, mb4.5/24, Error ellipse: s-maj=11.8km s-min=7.6km az=91.5*
SKHL ***28*** *23:36:35.9±0.4, 4830N×154.10E, h56km±9km, mb4.8/3*
ISCJB ***28*** *23:36:36.5±0.8, 4829N±005×154.18E±007, h79km±7km, mb4.2/36, Error ellipse: s-maj=9.6km s-min=5.1km az=97.5*
IDC ***28*** *23:36:38.8±4.9, 4829N×154.10E, h83km±44km, mb3.8/20, mb1 4.0/21, mb1mx4.0/26, mbtmp3.8/21, ML4.1/1, MS3.6/2, Ms1 3.7/2, ms1mx2.9/38, Error ellipse: s-maj=16.2km s-min=13.0km az=127.0*
BJI ***28*** *23:36:40.4, 4830N×154.10E, h101km, mB4.3, mb4.2*
NEIC ***28*** *23:36:40.5±1.1, 4831N×154.10E, h102km±9km, mb4.4/18, Error ellipse: s-maj=9.2km s-min=6.0km az=141.0*

ISC 28 23:36:39.7±0.8, 4835N±005×15411E±007, h94km±7km, n114, σ0.9 99/120, mb4.2/36, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.68**	**29**	*e*P	**Pn**	**23 37 17.0**	**-4.0**
SKR				AMB	AMB	23 37 19.5	
	80nm,0.5s						
SKR				AMB	AMB	23 37 19.5	
	150nm,0.5s						
SKR				*e*S	**Sn**	**23 37 48.1**	**-4.6**
SKR				A		23 37 53.6	
	2μm,0.2s						
SKR				A		23 37 53.6	
	1μm,0.2s						
SKR				A		23 37 53.6	
	230nm,0.5s						
SKR	**Severo-Kuril's**	**2.68**	**29**	*e*PN	**Pn**	**23 37 17.0**	**-4.0**
SKR				*e*S	**Sn**	**23 37 48.1**	**-4.6**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,2μm,0.3s						
SKR				smax			
	comp=E,1μm,0.3s						
KUR	**Kuril'sk**	**5.30**	**236**	*e*P	**Pn**	**23 37 52.0**	**-4.4**
KUR				AMB	AMB	23 37 59.0	
	comp=E,138nm,0.7s						
KUR				AMB	AMB	23 37 59.0	
	comp=E,86nm,0.7s						
KUR				AMB	AMB	23 37 59.0	
	comp=E,155nm,0.7s						
KUR				*i* S	**Sn**	**23 38 54.0**	**-2.1**
KUR				A		23 39 12.8	
	comp=E,236nm,0.8s						
KUR				A		23 39 12.8	
	comp=E,323nm,0.8s						
KUR	**Kuril'sk**	**5.30**	**236**	*e*PN	**Pn**	**23 37 52.0**	**-4.4**
KUR				*i* S	**Sn**	**23 38 54.0**	**-2.1**
KUR				pmax	pmax		
	comp=N,140nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,150nm,0.7s						
KUR				smax			
	comp=E,320nm,0.8s						
PET	**Petropavlovsk**	**5.50**	**30**	*e*P	**Pn**	**23 38 00.2**	**+1.1**
PET	**Petropavlovsk**	**5.50**	**30**	*e*PN	**Pn**	**23 37 58.6**	**-0.5**
PET				*e*S	**Sn**	**23 38 57.7**	**-3.3**
PET				pmax	pmax		
	comp=Z,19nm,0.4s						
PET				smax			
	comp=E,284nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**5.50**	**30**	*e*Pn	**Pn**	**23 38 00.2**	**+1.1**
	comp=Z,39nm,0.4s						
PET				*e*Sn	**Sn**	**23 38 58.3**	**-2.7**
YSS	**Yuzh-Sakhalins**	**7.79**	**264**	||*e*P	**Pn**	**23 38 31.0**	**+0.6**
YSS				*e*S	**Sn**	**23 39 57.0**	**0.0**
YSS				A		23 40 01.8	
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.79**	**264**	*e*Pn	**Pn**	**23 38 30.8**	**+0.5**
	comp=Z,34nm,0.4s						
TYV	**Tymovskoe**	**7.85**	**293**	*e*P	**Pn**	**23 38 32.5**	**+1.3**
TYV				AMB	AMB	23 38 36.0	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	23 38 36.0	
	comp=Z,41nm,1.0s						
ASAJ	**Asahikawa**	**9.03**	**246**	P	**Pn**	**23 38 48.2**	**+1.1**
	comp=Z,4.2nm,0.3s,baz=70,slow=12,SNR=24						
ASAJ				LR	LR	23 41 54.0	
	comp=Z,197nm,19.3s,baz=210,slow=35						

MA2	**Magadan**	**11.42**	**351**	*e*PN		**Pn**	**23 39 19.4**	**-0.3**
KLR	**Kul'dur**	**14.76**	**282**	*e*P		**Pn**	**23 40 07.9**	**+4.3**
MJAR	**Matsushiro Arr**	**16.60**	**231**	P		**Pn**	**23 40 26.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=26,slow=11,SNR=12							
MDJ	**Mudanjiang**	**17.27**	**267**	*e*P		**Pn**	**23 40 35.5**	**+0.7**
	comp=Z,6.1nm,0.4s							
YAK	**Yakutsk**	**19.38**	**324**⇑	*e*P		**Pn**	**23 41 00.9**	**+0.8**
YAK	**Yakutsk**	**19.38**	**324**	*e*P		**Pn**	**23 40 59.4**	**-0.7**
CLNS	**Chul'man**	**19.55**	**307**	*e*P		**Pn**	**23 41 03.4**	**+1.4**
CLNS					pmax	pmax		
	comp=Z,24nm,0.6s							
CLNS					pmax	pmax		
	comp=N,15nm,0.7s							
CLNS					pmax	pmax		
	comp=E,23nm,0.8s							
CN2	**Changchun**	**20.34**	**268**	*e*P		**P**	**23 41 06.5**	**-1.9**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.8s							
BILL	**Bilibino**	**20.68**	**13**⇑	*e*P		**P**	**23 41 12.1**	**0.0**
BILL				*e*S		**S**	**23 44 56.5**	**-1.4**
BILL					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BILL					MLR	MLR		
	comp=Z,100nm,17.0s							
KSRS	**Korea Array**	**21.95**	**250**	P		**P**	**23 41 25.8**	**+0.1**
	comp=Z,10nm,0.7s,mb4.3,baz=45,slow=10,SNR=22							
HIA	**Hailar**	**22.54**	**285**	*e*P		**P**	**23 41 32.4**	**+0.5**
BJT	**Baijiatuan**	**28.21**	**267**	P		**P**	**23 42 24.7**	**+1.1**
SONM	**Songino Array**	**31.47**	**287**	P		**P**	**23 42 52.6**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.5,baz=65,slow=7.0,SNR=4.7							
SONM					PcP	PcP		
	comp=Z,0.8nm,0.7s,baz=123,slow=2.4,SNR=4.7							
SONM	**Songino Array**	**31.47**	**287**	P		**P**	**23 42 52.6**	**+0.3**
SONM							23 45 43.7	
SONM					pmax	pmax		
	comp=Z,1.0nm,0.9s							
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
PMR	**Palmer**	**33.99**	**46**	*e*P		**P**	**23 43 19.7**	**+5.4**
PMR					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3							
PMR	**Palmer**	**33.99**	**46**	*e*P		**P**	**23 43 19.7**	**+5.4**
	comp=Z,5.1nm,0.9s,mb4.3							
MCK	**McKinley**	**34.00**	**42**	*e*P		**P**	**23 43 14.6**	**+0.2**
COLA	**College**	**34.47**	**40***d*	*i*P		**P**	**23 43 19.0**	**+0.6**
COLA	**College**	**34.47**	**40**	*e*P		**P**	**23 43 18.9**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.3							
TATO	**Taipei**	**34.64**	**239**	*e*P		**P**	**23 43 20.2**	**+0.3**
YHNB	**Yeheng**	**34.94**	**239**	P		**P**	**23 43 22.2**	**-0.3**
INK	**Inuvik**	**39.94**	**33**	P		**P**	**23 44 04.7**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.2,baz=280,slow=3.7,SNR=10							
INK	**Inuvik**	**39.94**	**33**	P		**P**	**23 44 04.7**	**0.0**
INK					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ZAL	**Zalesovo**	**42.26**	**305**	P		**P**	**23 44 24.4**	**+0.8**
	comp=Z,0.6nm,0.3s,mb3.8,baz=52,slow=9.7,SNR=2.7							
ZAL					PcP	PcP	23 46 16.9	+1.0
	comp=Z,1.8nm,0.8s,baz=4.1,slow=2.2,SNR=5.3							
ZAL	**Zalesovo**	**42.26**	**305**	P		**P**	**23 44 24.5**	**+0.8**
ZAL							23 46 16.9	
ZAL					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ZAL					pmax	pmax		
	comp=Z,2.0nm,0.8s							
ZAL	**Zalesovo**	**42.26**	**305**	P		**P**	**23 44 24.4**	**+0.8**
ZAL					PcP	PcP	23 46 16.9	+1.0
MKAR	**Makanchi Array**	**46.82**	**296**	P		**P**	**23 45 00.1**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.7,baz=61,slow=6.3,SNR=7.3							
MKAR	**Makanchi Array**	**46.82**	**296**	P		**P**	**23 45 00.1**	**+0.1**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**47.05**	**303**	P		**P**	**23 45 01.7**	**-0.1**
RES	**Resolute Bay**	**49.10**	**19**	*e*P		**P**	**23 45 17.9**	**+0.3**
	comp=Z,69nm,0.5s							
YKA	**Yellowknife Ar**	**49.24**	**38**	P		**P**	**23 45 19.0**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=298,slow=7.2,SNR=16							
YKA	**Yellowknife Ar**	**49.24**	**38**	P		**P**	**23 45 19.0**	**+0.4**
YKA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BVAR	**Borovoye Array**	**50.37**	**309**	P		**P**	**23 45 27.2**	**0.0**
	comp=Z,2.5nm,0.3s,mb4.5,baz=58,slow=7.3,SNR=21							
BVAR					PcP	PcP	23 46 44.7	+0.3
	comp=Z,1.7nm,0.4s,baz=88,slow=1.6,SNR=5.9							
BVAR	**Borovoye Array**	**50.37**	**309**	P		**P**	**23 45 27.2**	**0.0**
BVAR							23 46 44.7	
BVAR					pmax	pmax		
	comp=Z,3.0nm,0.4s							
BVAR					pmax	pmax		
	comp=Z,2.0nm,0.4s							
BRVK	**Borovoye**	**50.41**	**309**	*e*P		**P**	**23 45 27.4**	**-0.1**
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
BRVK	**Borovoye**	**50.41**	**309**	*e*P		**P**	**23 45 27.4**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.4							
LSA	**Lhasa**	**50.87**	**273**	*e*P		**P**	**23 45 31.3**	**+0.4**
LSA					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
LSA	**Lhasa**	**50.87**	**273**	*e*P		**P**	**23 45 31.3**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.4							
ZRNK	**Zerenda**	**51.13**	**309**	*e*P		**P**	**23 45 32.6**	**-0.3**
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
ZRNK	**Zerenda**	**51.13**	**309**	*e*P		**P**	**23 45 32.6**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.5							
CHTO	**Chiang Mai**	**53.15**	**256**	*e*P		**P**	**23 45 48.3**	**+0.5**
CHTO					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
CHTO	**Chiang Mai**	**53.15**	**256**	*e*P		**P**	**23 45 48.3**	**+0.5**
	comp=Z,7.2nm,0.9s,mb4.7							
AAK	**Ala-Archa**	**53.74**	**296**	*e*P		**P**	**23 45 51.8**	**-0.3**
AAK					pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
AAK	**Ala-Archa**	**53.74**	**296**	*e*P		**P**	**23 45 51.8**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2							
ARU	**Arti**	**54.29**	**317**⇓	*i*P		**P**	**23 45 54.9**	**-1.3**
ARU				*e*			23 47 56.2	
ARU				*e*S		**S**	**23 53 26.1**	**-0.6**
ARU				*e*SS		SS	23 57 09.0	-0.8
ARU					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
ARU	**Arti**	**54.29**	**317**	*e*P		**P**	**23 45 55.7**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.5							
NEW	**Newport**	**55.68**	**54**	P		**P**	**23 46 06.7**	**+0.5**
ARCES	**ARCESS Array B**	**56.56**	**341**	P		**P**	**23 46 12.2**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.3,baz=51,slow=7.1,SNR=4.6							
ARCES	**ARCESS Array B**	**56.56**	**341**	P		**P**	**23 46 12.2**	**-0.3**
ARCES					pmax	pmax		
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**61.11**	**64**	P		**P**	**23 46 44.0**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=284,slow=7.3,SNR=2.4							
FINES	**FINESS Array B**	**62.88**	**335**	P		**P**	**23 46 54.7**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=44,slow=6.8,SNR=17							
HWUT	**Hardware Ranch**	**62.93**	**57**	*e*P		**P**	**23 46 56.8**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.7							
PDAR	**Pinedale Array**	**63.27**	**55**	P		**P**	**23 46 59.4**	**+1.0**
	comp=Z,1.4nm,1.0s,mb3.9,baz=288,slow=1.4,SNR=4.8							
KAKA	**Kakadu**	**63.76**	**204**	*e*P		**P**	**23 47 00.6**	**-1.0**
	comp=Z,3.6nm,0.5s,mb4.5							
RSSD	**Black Hills**	**65.28**	**51**	*e*P		**P**	**23 47 12.2**	**+0.7**
RSSD					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9							
RSSD	**Black Hills**	**65.28**	**51**	*e*P		**P**	**23 47 12.2**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.0							
NOA	**NORSAR Array B**	**66.93**	**341**	P		**P**	**23 47 21.6**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.8,baz=23,slow=6.5,SNR=3.7							
NOA					LR	LR	00 19 54.1	
	comp=Z,93nm,19.4s,baz=150,slow=39							
CTA	**Charters Tower**	**68.48**	**188**	P		**P**	**23 47 30.9**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.0,baz=346,slow=17,SNR=3.4							
CTA	**Charters Tower**	**68.48**	**188**	P		**P**	**23 47 30.9**	**-0.9**
CTA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CTA	**Charters Tower**	**68.48**	**188**	P		**P**	**23 47 30.9**	**-0.9**
WRAB	**Tennant Creek**	**70.23**	**200**	*e*P		**P**	**23 47 42.2**	**-0.4**
WB2	**Warramunga Arr**	**70.24**	**200**	*e*P		**P**	**23 47 41.9**	**-0.7**
WB2	**Warramunga Arr**	**70.24**	**200**	*e*P		**P**	**23 47 42.0**	**-0.6**
WRA	**Warramunga Arr**	**70.24**	**200**	P		**P**	**23 47 42.1**	**-0.6**
	comp=Z,5.7nm,0.6s,mb4.5,baz=15,slow=6.3,SNR=27							
WRA	**Warramunga Arr**	**70.24**	**200**	P		**P**	**23 47 42.1**	**-0.5**
WRA					pmax	pmax		
	comp=Z,6.0nm,0.6s							
ANMO	**Albuquerque**	**70.43**	**59**⇑	*e*P		**P**	**23 47 44.3**	**+0.6**
ANMO				*i* *PP		pP	23 48 03.6	-4.2
ANMO	**Albuquerque**	**70.43**	**59**	*e*P		**P**	**23 47 44.2**	**+0.4**
AKASG	**Malin Array Be**	**70.59**	**326**	P		**P**	**23 47 44.2**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=30,slow=5.8,SNR=4.7							
AKASG	**Malin Array Be**	**70.59**	**326**	*i* P		**P**	**23 47 46.7**	**+2.0**
SCHQ	**Schefferville**	**71.58**	**24**	P		**P**	**23 47 51.5**	**+0.8**
	comp=Z,2.4nm,0.4s,mb4.4,baz=51,slow=8.5,SNR=11							
AS31	**Alice Springs**	**73.94**	**199**	*e*P		**P**	**23 48 05.1**	**+0.4**
ASAR	**Alice Springs**	**73.94**	**199**	P		**P**	**23 48 05.0**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.1,baz=12,slow=5.5,SNR=29							
ASAR	**Alice Springs**	**73.94**	**199**	P		**P**	**23 48 05.1**	**+0.4**
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
ASPA	**Alice Springs**	**73.94**	**199**	*e*P		**P**	**23 48 05.1**	**+0.4**
DPC	**Dobruska-Polom**	**75.20**	**334**	*e*P		**P**	**23 48 13.5**	**+1.5**
CLL	**Collm**	**75.28**	**336**	*e*P		**P**	**23 48 13.0**	**+0.5**
	comp=Z,5.0nm,0.6s,mb4.4							
TXAR	**Lajitas Array**	**76.13**	**62**	P		**P**	**23 48 18.0**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.9,baz=301,slow=5.4,SNR=17							
TXAR	**Lajitas Array**	**76.13**	**62**	P		**P**	**23 48 18.0**	**+0.7**
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**76.13**	**62**	P		**P**	**23 48 18.0**	**+0.8**
KHC	**Kasperske Hory**	**77.09**	**335**	*e*P		**P**	**23 48 23.9**	**+1.2**
KHC	**Kasperske Hory**	**77.09**	**335**⇑	*e*P		**P**	**23 48 23.2**	**+0.5**
GERES	**GERESS Array B**	**77.31**	**334**	P		**P**	**23 48 24.6**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=28,slow=5.5,SNR=12							
GERES	**GERESS Array B**	**77.31**	**334**	P		**P**	**23 48 24.6**	**+0.7**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**77.68**	**317**	P		**P**	**23 48 27.2**	**+1.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=81,slow=2.4,SNR=6.5							
BRTR	**Keskin Array B**	**77.68**	**317**	*i* P		**P**	**23 48 27.2**	**+1.2**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
CDF	**Champ du Feu**	**79.43**	**338**	*e*P		**P**	**23 48 33.6**	**-2.0**
	comp=Z,11nm,1.1s,mb4.3							
CDF	**Champ du Feu**	**79.43**	**338**	*e*P		**P**	**23 48 33.6**	**-2.0**
CDF					pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3							
CDF	**Champ du Feu**	**79.43**	**338**	*e*P		**P**	**23 48 33.6**	**-2.0**
	comp=Z,5.7nm,1.1s,mb4.3							
GRR	**Gorron**	**81.23**	**343**	*e*P		**P**	**23 48 42.8**	**-2.4**
	comp=Z,288nm,1.9s							
GRR	**Gorron**	**81.23**	**343**	*e*P		**P**	**23 48 42.8**	**-2.4**
GRR					pmax	pmax		
	comp=Z,144nm,1.9s							
GRR	**Gorron**	**81.23**	**343**	*e*P		**P**	**23 48 42.8**	**-2.4**
	comp=Z,144nm,1.9s							
SMF	**Signal de Mont**	**81.90**	**340**	*e*P		**P**	**23 48 46.1**	**-2.7**
	comp=Z,11nm,1.0s,mb4.4							
SMF	**Signal de Mont**	**81.90**	**340**	*e*P		**P**	**23 48 46.1**	**-2.7**
SMF					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4							
SMF	**Signal de Mont**	**81.90**	**340**	*e*P		**P**	**23 48 46.1**	**-2.7**
	comp=Z,5.6nm,1.0s,mb4.3							
LPG	**La Plagne**	**82.27**	**337**	*e*P		**P**	**23 48 48.6**	**-2.1**
	comp=Z,4.0nm,0.6s,mb4.1							
LPG	**La Plagne**	**82.27**	**337**	*e*P		**P**	**23 48 48.6**	**-2.1**
LPG					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
LPG	**La Plagne**	**82.27**	**337**	*e*P		**P**	**23 48 48.6**	**-2.1**
	comp=Z,2.0nm,0.6s,mb4.1							
CAF	**Calviac**	**83.93**	**340**	*e*P		**P**	**23 48 56.6**	**-2.7**
	comp=Z,13nm,1.0s,mb4.4							
CAF	**Calviac**	**83.93**	**340**	*e*P		**P**	**23 48 56.6**	**-2.7**
CAF					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
CAF	**Calviac**	**83.93**	**340**	*e*P		**P**	**23 48 56.6**	**-2.7**
	comp=Z,6.5nm,1.0s,mb4.4							
TORD	**Torodi Ar. Bea**	**114.05**	**330**	PKP		PKiKP	23 55 07.7	-0.1
	comp=Z,0.6nm,0.8s,baz=13,slow=2.1,SNR=4.6							
CFAA	**Coronel Fontan**	**144.02**	**78**	PKP		PKPdf	23 56 01.7	-2.5
	comp=Z,0.1nm,0.4s,baz=277,slow=2.7,SNR=5.5							
CFAA	**Coronel Fontan**	**144.02**	**78**	PKP		PKPdf	23 56 01.7	-2.5

IDC 28 23:51:01.0±4.2, 4742N×15554E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.7/3, Error ellipse: s-maj=141.5km s-min=37.7km az=10.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.10**	**298**	P		P		23 59 42.2	-0.3
	0.7nm,0.8s,baz=76,slow=7.5,SNR=5.4								
FINES	**FINESS Array B**	**64.13**	**336**	P		P		00 01 36.5	-0.6
	0.8nm,0.6s,baz=37,slow=6.5,SNR=12								
TXAR	**Lajitas Array**	**75.72**	**62**	P		P		00 02 48.6	+0.2
	0.4nm,0.5s,baz=292,slow=4.3,SNR=6.0								

IDC 28 23:58:38.3±6.1, 3073N×14125E, h38km±52km, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx1.7/34, Error ellipse: s-maj=46.9km s-min=20.4km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.33**	**337**	Pn		Pn		00 00 09.1	+0.1
	1.3nm,0.3s,baz=161,slow=12,SNR=5.8								
JOW	**Kunigami**	**12.02**	**254**	LR		LR		00 04 35.3	
	comp=Z,62nm,21.8s,baz=142,slow=30								
SONM	**Songino Array**	**31.59**	**313**	P		P		00 04 57.9	+0.6
	0.2nm,0.4s,baz=119,slow=10,SNR=6.8								
MKAR	**Makanchi Array**	**47.58**	**307**	P		P		00 07 09.9	-0.3
	0.4nm,0.4s,baz=85,slow=9.1,SNR=16								
WRA	**Warramunga Arr**	**50.81**	**188**	P		P		00 07 34.5	-0.4
	1.2nm,0.4s,baz=5.5,slow=7.6,SNR=47								
WRA				PcP		PcP		00 08 52.7	+1.4
	0.2nm,0.5s,baz=3.1,slow=3.8,SNR=3.2								
ASAR	**Alice Springs**	**54.54**	**188**	P		P		00 08 02.3	-0.1
	0.5nm,0.5s,baz=8.1,slow=6.3,SNR=11								
FINES	**FINESS Array B**	**74.34**	**333**	P		P		00 10 10.8	-1.1
	1.6nm,0.9s,baz=93,slow=6.7,SNR=5.1								
TXAR	**Lajitas Array**	**94.07**	**52**	P		P		00 11 53.0	+0.4
	0.2nm,0.7s,baz=250,slow=2.6,SNR=3.2								

*ISK **28** 23:58:43.5, 3625N×3120E, h8km, MD3.6*
*CSEM **28** 23:58:44.7±0.1, 3625N×3122E, h60km, Mw2.9, Error ellipse: s-maj=2.2km s-min=1.6km az=30.0*
*ISCJB **28** 23:58:45.5±0.7, 3613N±005×3127E±005, h61km±43km, Error ellipse: s-maj=9.5km s-min=4.8km az=75.2*
*NEIC **28** 23:58:45.7, 3627N×3123E, h79km, MD3.6(ISK), After ISK.*
*NIC **28** 23:58:49.1±0.3, 3621N×3166E, h25km, ML3.3, MW2.9*
ISC 28 23:58:44.7±1.0, 3615N±005×3126E±005, h18km±8km, n41, σ1º06/49, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**1.25**	**299**	PN		**Pn**		**23 59 05.6**	**-1.6**
ELL	**Elmali**	**1.25**	**299**	Pn		**Pg**		**23 59 08.1**	**-0.7**
ELL	**Elmali**	**1.25**	**299**	Pn		**Pg**		**23 59 08.1**	**-0.7**
HDMB	**Hadim**	**1.28**	**50**	PN		**Pn**		**23 59 08.3**	**+0.7**
HDMB	**Hadim**	**1.28**	**50**	Pn		**Pn**		**23 59 08.3**	**+0.8**
HDMB	**Hadim**	**1.28**	**50**	Pn		**Pn**		**23 59 08.4**	**+0.8**
AKMC	**Akamas**	**1.42**	**142**	P		**Pn**		**23 59 10.2**	**+0.8**
BCK	**Bucak**	**1.42**	**338**	PN		**Pn**		**23 59 09.4**	**-0.1**
BCK	**Bucak**	**1.42**	**338**	Pn		**Pn**		**23 59 09.7**	**+0.2**
ALFC	**Alevga**	**1.47**	**132**	⇑P		**Pn**		**23 59 09.4**	**-0.8**
	12nm,0.2s								
ALFC				S		**Sn**		**23 59 26.5**	**-2.4**
PPCY	**Paphos**	**1.54**	**145**	P		**Pn**		**23 59 12.2**	**+1.1**
GOLH	**Golhisar**	**1.75**	**309**	*i* P		**Pg**		**23 59 17.0**	**-1.3**
GOLH				*i* S		**Sg**		**23 59 43.1**	**+2.0**
ISP	**Isparta**	**1.80**	**341**	PN		**Pn**		**23 59 13.7**	**-1.0**
ISP	**Isparta**	**1.80**	**341**	Pn		**Pn**		**23 59 13.7**	**-1.0**
FETY	**Fethiye**	**1.83**	**286**	PN		**Pn**		**23 59 15.1**	**0.0**
FETY	**Fethiye**	**1.83**	**286**	Pn		**Pn**		**23 59 15.2**	**0.0**
MAMC	**Mammari**	**1.86**	**121**	P		**Pn**		**23 59 15.0**	**-0.6**
SZAC	**Souni-Zanaja**	**1.92**	**136**	P		**Pn**		**23 59 17.3**	**+1.0**
SZAC				S		**Sn**		**23 59 39.5**	**-0.4**
IKL	**Isikli**	**1.96**	**87**	PN		**Pn**		**23 59 18.5**	**+1.5**
IKL	**Isikli**	**1.96**	**87**	Pn		**Pn**		**23 59 18.5**	**+1.6**
KONT	**Konya--Tatoy**	**2.00**	**26**	PN		**Pn**		**23 59 17.2**	**-0.3**
KONT	**Konya--Tatoy**	**2.00**	**26**	Pn		**Pn**		**23 59 17.3**	**-0.2**
KONT	**Konya--Tatoy**	**2.00**	**26**	Pn		**Pn**		**23 59 17.3**	**-0.2**
TKTP	**Tekketepe**	**2.04**	**339**	*i* P		**Pg**		**23 59 19.5**	**-4.3**
TKTP				*i* S		**Sg**		**23 59 48.6**	**-1.6**
CSS	**Prodhromos**	**2.06**	**124**	P		**Pn**		**23 59 17.7**	**-0.6**
	0.9nm,0.2s								
CSS				S		**Sn**		**23 59 40.1**	**-3.3**
DALT	**Dalyan (Mudla)**	**2.21**	**287**	*e*PN		**Pn**		**23 59 20.6**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.21**	**287**	Pn		**Pn**		**23 59 20.7**	**+0.3**
DNZL	**Cakiroluk**	**2.35**	**312**	*i* P		**Pg**		**23 59 30.3**	**+0.5**
DNZL				*i* S		**Sg**		**00 00 04.5**	**+4.2**
SHUT	**Suhut-Afyon**	**2.47**	**347**	*e*PN		**Pn**		**23 59 23.8**	**-0.1**
YER	**Yerkesik**	**2.59**	**293**	*e*PN		**Pn**		**23 59 25.7**	**0.0**
YER	**Yerkesik**	**2.59**	**293**	Pn		**Pn**		**23 59 26.6**	**+0.9**
MERS	**Mersin**	**2.72**	**74**	*e*PN		**Pn**		**23 59 29.5**	**+2.1**
KIZT	**Kizilcal**	**2.77**	**10**	*e*PN		**Pn**		**23 59 27.8**	**-0.3**
KIZT	**Kizilcal**	**2.77**	**10**	Pn		**Pn**		**23 59 27.9**	**-0.2**
KIZT	**Kizilcal**	**2.77**	**10**	Pn		**Pn**		**23 59 27.9**	**-0.2**
DAT	**Datca**	**3.03**	**282**	*e*PN		**Pn**		**23 59 32.2**	**+0.5**
BDRM	**Kayabasi**	**3.21**	**288**	*i* P		**Pn**		**23 59 34.3**	**+0.2**
BDRM				*i* S		**Sb**		**00 00 20.0**	**+0.2**
KAMT	**Kaman**	**3.76**	**30**	*e*PN		**Pn**		**23 59 41.8**	**+0.1**
KAMT	**Kaman**	**3.76**	**30**	Pn		**Pn**		**23 59 41.9**	**+0.2**
KAMT	**Kaman**	**3.76**	**30**	Pn		**Pn**		**23 59 41.9**	**+0.2**
COBT	**Iskenderun**	**4.05**	**83**	*i* P		**Pn**		**23 59 46.8**	**+1.1**
COBT				*i* S		**Sb**		**00 00 40.0**	**-3.9**

*ISCJB **29** 00:11:54.5±0.6, 4755N±009×1560E±0.1, h10km, mb3.9/14, Error ellipse: s-maj=14.4km s-min=9.5km az=109.8*
*IDC **29** 00:11:54.8±1.1, 4751N×15607E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=36.8km s-min=25.0km az=164.0*
*NEIC **29** 00:11:56.3±0.4, 4752N×15595E, h10km, mb4.2/7, Error ellipse: s-maj=10.7km s-min=7.2km az=144.0*
*MOS **29** 00:11:58.0±1.4, 4750N×15586E, h36km, mb4.3/6, Error ellipse: s-maj=17.1km s-min=10.8km az=91.7*
ISC 29 00:11:55.0±5.9, 4754N±009×1560E±01, h2km±36km, n32, σ0º82/32, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.15**	**2**	*e*PN		**Pn**		**00 12 49.4**	**+3.8**
YSS	**Yuzh-Sakhalins**	**9.02**	**271**	PN		**Pn**		**00 14 06.1**	**-0.1**
MA2	**Magadan**	**12.45**	**348**	PN		**Pn**		**00 14 53.1**	**0.0**
MAJO	**Matsushiro**	**17.13**	**237**	*e*P		**Pn**		**00 15 55.2**	**-0.3**
BILL	**Bilibino**	**21.22**	**11**	P		**P**		**00 16 41.5**	**-0.5**
BILL	**Bilibino**	**21.22**	**11**	P		**P**		**00 16 41.5**	**-0.5**
KSRS	**Korea Array**	**22.90**	**254**	P		**P**		**00 17 01.9**	**+1.9**
	2.2nm,0.9s,mb3.6,baz=52,slow=10.0,SNR=3.8								
HIA	**Hailar**	**23.98**	**288**	P		**P**		**00 17 09.6**	**-1.2**
ULN	**Ulaanbaatar**	**32.49**	**289**	*e*P		**P**		**00 18 26.2**	**-0.7**
ULN					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.0								
ULN	**Ulaanbaatar**	**32.49**	**289**	*e*P		**P**		**00 18 26.2**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.8								
PMR	**Palmer**	**33.67**	**45**	P		**P**		**00 18 36.1**	**-1.1**
MCK	**McKinley**	**33.78**	**41**	P		**P**		**00 18 38.4**	**+0.3**
ENH	**Enshi**	**39.43**	**261**	*e*P		**P**		**00 19 26.9**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.5								
MKAR	**Makanchi Array**	**48.31**	**298**	P		**P**		**00 20 37.5**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=67,slow=7.6,SNR=7.6								
MKAR	**Makanchi Array**	**48.31**	**298**	P		**P**		**00 20 37.5**	**-0.2**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
**K

0 Moment tensor: Scale 10^{16}Nm; M_m4.48±.20; $M_{\theta\theta}$-1.22±.13; $M_{\phi\phi}$-3.26±.15; $M_{r\theta}$1.77±.26; $M_{\theta\phi}$2.19±.10; $M_{\phi r}$-3.60±.29; Best double couple: M_w6.08000×10^{16} NP1:ϕ_s323.00000°,δ25.00000°,λ82.00000°. NP2: ϕ_s152.00000°,δ66.00000°,λ94.00000°. Principal axes: T 6.0050, Plg69.0000°, Azm69.0000°; N 0.1500, Plg3.0000°, Azm330.0000°; P -6.1550, Plg21.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 29 00:48:04.1±0.2,**594N**±003×**12434E**±003,**h52**km, **h52**km±2.5km:**pP-P,n297,**σ1§**05**/291,**mb5.0**/101,**MS4.2**/24, **31C-21D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.62**	**77**	⇓*i*P		**Pn**	**00 48 18.5**	**+1.5**
GSPH				*i*S		**Sn**	**00 48 33.0**	**+6.7**
CTBH	**Cotabato--PC H**	**1.27**	**356**	⇑*i*P		**Pn**	**00 48 23.2**	**-2.3**
CTBH				*i*S		**Sn**	**00 48 40.0**	**-1.6**
DAV	**Davao City (W)**	**1.67**	**48**	*e*P		**Pn**	**00 48 27.2**	**-3.6**
DAV	**Davao City (W)**	**1.67**	**48**	*e*Pn		**Pn**	**00 48 32.0**	**+1.2**
IPIL	**Ipil**	**2.54**	**316**	⇓*e*P		**Pn**	**00 48 38.6**	**-4.2**
IPIL				*e*S		**Sn**	**00 49 06.3**	**-6.2**
DCPH	**Dipolog City**	**2.80**	**340**	⇓*i*P		**Pn**	**00 48 44.1**	**-2.3**
SNPH	**Sibulan**	**3.55**	**342**	*e*P		**Pn**	**00 48 56.5**	**-0.2**
SCPH	**Surigao**	**3.98**	**17**	*e*P		**Pn**	**00 48 58.2**	**-4.3**
SCPH				*e*S		**Sn**	**00 49 46.2**	**-1.7**
LLP	**Lapu-Lapu**	**4.36**	**355**	*e*P		**Pn**	**00 49 10.0**	**+2.2**
LLP				*e*S		**Sn**	**00 49 49.8**	**-7.5**
TSM	**Tawau**	**6.65**	**256**	P		**Pn**	**00 49 33.6**	**-5.5**
KKM	**Kota Kinabalu**	**8.08**	**271**	P		**Pn**	**00 49 56.1**	**-2.7**
KKM	**Kota Kinabalu**	**8.08**	**271**	*e*Pn		**Pn**	**00 49 55.7**	**-3.0**
KKM				*e*Sn		**Sn**	**00 51 21.2**	**-7.5**
KSM	**Kuching**	**14.69**	**253**	*e*Pn		**Pn**	**00 51 27.4**	**-1.3**
KSM				*e*			00 51 35.0	
YHNB	**Yeheng**	**18.84**	**352**	P		**Pn**	**00 52 19.5**	**-1.1**
QIZ	**Qiongzhong**	**19.20**	**314**	P		**Pn**	**00 52 24.3**	**-0.6**
QIZ				AP		pP	00 52 33.5	-1.8
QIZ				XP		sP	00 52 40.5	-1.4
QIZ				S		**S**	**00 55 55.3**	**-2.9**
QIZ				XS		sS	00 56 11.5	-5.8
QIZ				AMB		AMB		
	comp=Z,17nm,1.6s							
QIZ				LR		LR		
	comp=N,707nm,15.1s							
QIZ				LR		LR		
	comp=E,527nm,15.4s							
QIZ				LR		LR		
	comp=Z,982nm,18.9s							
GZH	**Guangzhou**	**20.07**	**329**	P		**P**	**00 52 35.5**	**+2.5**
GZH				S		**S**	**00 56 22.3**	**+6.6**
GZH				LR		LR		
	comp=N,790nm,18.0s,MS4.3							
GZH				LR		LR		
	comp=E,726nm,15.5s,MS4.3							
GZH				LR		LR		
	comp=Z,881nm,17.7s,MS4.2							
KAKA	**Kakadu**	**20.21**	**157**	*e*P		**P**	**00 52 34.4**	**-0.1**
	comp=Z,63nm,0.6s							
JOW	**Kunigami**	**21.11**	**10**	P		**P**	**00 52 43.6**	**-0.7**
	comp=Z,30nm,1.1s,mb4.6,baz=176,slow=11,SNR=2.6							
JOW				LR		LR	01 00 18.7	
	comp=Z,598nm,19.3s,MS4.0,baz=320,slow=35							
KGM	**Kluang**	**21.32**	**260**	P		**P**	**00 52 47.2**	**+0.6**
IPM	**Ipoh**	**23.26**	**268**	P		**P**	**00 53 06.7**	**-0.4**
KKTK	**Khon Kaen**	**23.47**	**298**	P		**P**	**00 53 08.0**	**-1.0**
KULM	**Kulim**	**23.58**	**270**	*e*P		**P**	**00 53 09.6**	**-0.4**
KULM				*e*			00 53 21.1	
FITZ	**Fitzroy Crossi**	**23.93**	**177**	*e*P		**P**	**00 53 09.6**	**-3.6**
	comp=Z,63nm,1.1s,mb5.0							
FITZ				eS		**S**	**00 57 26.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.93**	**177**	P		**P**	**00 53 11.7**	**-1.5**
	comp=Z,28nm,0.8s,mb4.8,baz=8.2,slow=8.7,SNR=50							
PSI	**Prapat**	**25.53**	**264**	P		**P**	**00 53 27.9**	**+0.2**
	comp=Z,35nm,0.8s,mb4.9,baz=93,slow=5.4,SNR=52							
PSI				LR		LR	01 06 16.3	
	comp=Z,109nm,19.0s,MS3.4,baz=298,slow=43							
PSI	**Prapat**	**25.53**	**264**	P		**P**	**00 53 27.9**	**+0.2**
PSI				LR		LR	01 06 16.3	
NST	**Nakhon Sawan**	**25.64**	**294**	P		**P**	**00 53 27.8**	**-0.9**
WHN	**Wuhan**	**26.21**	**340**	P		**P**	**00 53 36.3**	**+2.4**
NANT	**Nan**	**26.34**	**301**	⇑P		**P**	**00 53 34.5**	**-0.6**
	comp=Z,728nm,1.0s							
GYA	**Guiyang**	**26.47**	**322**	⇑*i*P		**P**	**00 53 37.8**	**+1.6**
GYA				AP		pP	00 53 50.8	+1.3
GYA				XP		sP	00 53 55.8	+0.1
GYA				PCP		PcP	00 57 03.0	+2.8
GYA				S		**S**	**00 58 07.8**	**+1.4**
GYA				XS		sS	00 58 28.0	-0.9
GYA				SS			00 59 19.8	
GYA				AMB		AMB		
	comp=Z,30nm,0.8s,mb4.9							
GYA				AMB		AMB		
	comp=Z,160nm,4.6s							
GYA				LR		LR		
	comp=N,670nm,15.4s,MS4.5							
GYA				LR		LR		
	comp=E,740nm,15.3s,MS4.5							
GYA				LR		LR		
	comp=Z,750nm,15.0s,MS4.4							
NJ2	**Nanjing**	**26.48**	**350**	*e*P		**P**	**00 53 38.0**	**+1.7**
NJ2				AP		pP	00 53 50.0	+0.5
NJ2				XP		sP	00 53 55.5	-0.3
NJ2				PP			00 54 23.5	
NJ2				S		**S**	**00 58 07.0**	**+0.5**
NJ2				XS		sS	00 58 27.0	-2.0
NJ2				AMB		AMB		
	comp=Z,840nm,4.4s							
NJ2				LR		LR		
	comp=N,1μm,15.5s,MS4.7							
NJ2				LR		LR		
	comp=E,740nm,15.5s,MS4.7							
NJ2				LR		LR		
	comp=Z,520nm,14.6s,MS4.2							
CBIJ	**Chichi jima**	**27.04**	**37**	P		**P**	**00 53 42.2**	**+0.9**
	comp=Z,118nm,0.8s,mb5.5,baz=273,slow=14,SNR=4.2							
CBIJ				LR		LR	01 02 28.7	
	comp=Z,228nm,20.7s,MS3.7,baz=206,slow=32							
PMG	**Port Moresby**	**27.38**	**124**	P		**P**	**00 53 45.0**	**+0.6**
	comp=Z,33nm,0.8s,mb4.9,baz=324,slow=5.5,SNR=13							
PMG				LR		LR	01 04 15.1	
	comp=Z,347nm,19.2s,MS3.9,baz=294,slow=35							
PMG	**Port Moresby**	**27.38**	**124**	*c i*P		**P**	**00 53 44.8**	**+0.4**
PMG	**Port Moresby**	**27.38**	**124**	*e*P		**P**	**00 53 45.0**	**+0.5**
	comp=Z,43nm,0.9s,mb5.0							
WRAB	**Tennant Creek**	**27.54**	**159**	P		**P**	**00 53 45.0**	**-0.8**
	comp=Z,187nm,0.5s,mb6.0,SNR=15							
WRAB	**Tennant Creek**	**27.54**	**159**	*c i*P		**P**	**00 53 45.5**	**-0.3**
WRAB	**Tennant Creek**	**27.54**	**159**	*e*P		**P**	**00 53 45.3**	**-0.5**
	comp=Z,46nm,0.8s,mb5.2							
WRA	**Warramunga Arr**	**27.54**	**159**	P		**P**	**00 53 45.4**	**-0.5**
	comp=Z,11nm,0.5s,mb4.7,baz=332,slow=11,SNR=179							
WB2	**Warramunga Arr**	**27.55**	**159**	⇑*i*P		**P**	**00 53 45.4**	**-0.5**
WB2				*e*S		S	00 58 46.9	+24
WB2	**Warramunga Arr**	**27.55**	**159**	*e*P		**P**	**00 53 45.4**	**-0.5**
JNU	**Nakatsue**	**27.72**	**12**	LR		LR	01 03 49.0	
	comp=Z,956nm,18.7s,MS4.4,baz=227,slow=34							
CHG	**Chiang Mai**	**27.85**	**300**	⇑P		**P**	**00 53 50.7**	**+2.0**
	comp=Z,12nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**27.85**	**300**	*e*P		**P**	**00 53 49.3**	**+0.6**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.3							
CHTO	**Chiang Mai**	**27.85**	**300**	*e*P		**P**	**00 53 49.3**	**+0.6**
	comp=Z,7.9nm,0.9s,mb4.3							
KMI	**Kunming**	**28.14**	**315**	P		**P**	**00 53 51.5**	**+0.3**
KMI				XP		sP	00 54 06.8	-3.9
KMI				PP		PP	00 54 42.0	-13
KMI				S		**S**	**00 58 33.0**	**+0.3**
KMI				XS		sS	00 58 54.0	-1.3
KMI				SS		SS	01 00 00.3	-33
KMI				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.5							
KMI				AMB		AMB		
	comp=Z,169nm,4.8s							
KMI				LR		LR		
	comp=N,354nm,18.8s,MS4.2							
KMI				LR		LR		
	comp=E,361nm,14.4s,MS4.2							
KMI				LR		LR		
	comp=Z,447nm,17.5s,MS4.1							
KMI	**Kunming**	**28.14**	**315**	P		**P**	**00 53 51.5**	**+0.3**
KMI				*PP		pP	00 54 00.2	-4.3
KMI				*SP		sP	00 54 06.8	-3.9
KMI				S		**S**	**00 58 33.1**	**+0.4**
KMI				*SS		sS	00 58 54.0	-1.3
KMI				SS		SS	01 00 00.2	-33
KMI				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.5							
KMI				MLR		MLR		
	comp=Z,450nm,17.5s,MS4.1							
KMI	**Kunming**	**28.14**	**315**	P		**P**	**00 53 51.5**	**+0.3**
	comp=Z,13nm,1.1s,mb4.5							
KMI				pP		pP	00 54 00.2	-4.3
KMI				sP		sP	00 54 06.8	-3.9
KMI				PP		PP	00 54 42.1	-13
KMI				S		**S**	**00 58 33.1**	**+0.4**
KMI				sS		sS	00 58 54.0	-1.3
KMI				SS		SS	01 00 00.2	-33
KMI				LR		LR		
	comp=Z,450nm,17.5s,MS4.1							
AS31	**Alice Springs**	**30.88**	**163**	*e*P		**P**	**00 54 15.4**	**0.0**
ASAR	**Alice Springs**	**30.88**	**163**	P		**P**	**00 54 15.5**	**+0.1**
	comp=Z,11nm,0.7s,mb4.8,baz=335,slow=6.3,SNR=116							
ASAR				SCP		ScP	01 00 51.5	+2.0
	comp=Z,1.9nm,1.0s,baz=358,slow=3.9,SNR=6.1							
ASPA	**Alice Springs**	**30.88**	**163**	*e*P		**P**	**00 54 15.4**	**0.0**
XAN	**Xi'an**	**31.40**	**335**	P		**P**	**00 54 19.8**	**-0.2**
XAN				AMB		AMB		
	comp=Z,18nm,1.1s,mb4.8							
CD2	**Chengdu**	**31.47**	**325**	⇓*i*P		**P**	**00 54 21.8**	**+1.2**
CD2				AP		pP	00 54 33.8	-0.2
CD2				XP		sP	00 54 39.0	-1.2
CD2				PP		PP	00 55 27.3	-5.1
CD2				PCP		PcP	00 57 13.5	+0.8
CD2				S		**S**	**00 59 26.3**	**+1.4**
CD2				XS		sS	00 59 46.5	-1.0
CD2				SS		SS	01 01 17.5	-24
CD2				SCS		ScS	01 04 48.0	-1.2
CD2				AMB		AMB		
	comp=Z,50nm,1.2s,mb5.2							
CD2				AMB		AMB		
	comp=Z,110nm,10.2s							
CD2				LR		LR		
	comp=N,540nm,15.6s,MS4.6							
CD2				LR		LR		
	comp=E,910nm,16.8s,MS4.6							
CD2				LR		LR		
	comp=Z,530nm,15.6s,MS4.3							
KSRS	**Korea Array**	**31.53**	**5**	P		**P**	**00 54 20.9**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.4,baz=184,slow=10.0,SNR=13							
KSRS				LR		LR	01 08 27.9	
	comp=Z,290nm,18.5s,MS4.0,baz=9.6,slow=39							
MAJO	**Matsushiro**	**33.00**	**21**	P		**P**	**00 54 34.0**	**-0.1**
MJAR	**Matsushiro Arr**	**33.00**	**21**	P		**P**	**00 54 32.6**	**-1.4**
	comp=Z,4.8nm,0.7s,mb4.5,baz=195,slow=8.7,SNR=7.1							
MJAR				LR		LR	01 06 38.3	
	comp=Z,327nm,19.8s,MS4.0,baz=205,slow=34							
CTA	**Charters Tower**	**33.67**	**141**	⇑*i*P		**P**	**00 54 41.1**	**+1.2**
	comp=Z,9.0nm,0.9s,mb4.7							
CTA	**Charters Tower**	**33.67**	**141**	P		**P**	**00 54 40.9**	**+1.0**
	comp=Z,12nm,0.9s,mb4.8,baz=314,slow=10.0,SNR=12							
CTA	**Charters Tower**	**33.67**	**141**	⇑*i*P		**P**	**00 54 41.1**	**+1.2**
CTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CTAO	**Charters Tower**	**33.67**	**141**	*e*P		**P**	**00 54 40.9**	**+1.0**
CTAO				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.0							
CTAO	**Charters Tower**	**33.67**	**141**	*e*P		**P**	**00 54 40.9**	**+1.0**
	comp=Z,19nm,1.0s,mb5.0							
BJT	**Baijiatuau**	**34.71**	**349**	*e*P		**P**	**00 54 49.4**	**+0.5**
BJT				pmax		pmax		
	comp=Z,30nm,0.7s							
BJT	**Baijiatuau**	**34.71**	**349**	*e*P		**P**	**00 54 49.4**	**+0.5**
	comp=Z,30nm,0.7s,mb5.3							
BJI	**Beijing**	**34.73**	**349**	P		**P**	**00 54 49.5**	**+0.4**
BJI				XP		sP	00 55 08.5	-0.3
BJI				SS		SS	01 02 38.3	-9.5
BJI				AMB		AMB		
	comp=Z,55nm,0.8s,mb5.5							
BJI				AMB		AMB		
	comp=Z,101nm,3.5s							
BJI				LR		LR		
	comp=N,471nm,16.8s,MS4.4							
BJI				LR		LR		
	comp=E,229nm,16.2s,MS4.4							
BJI				LR		LR		
	comp=Z,342nm,23.1s							
BJI	**Beijing**	**34.73**	**349**	P		**P**	**00 54 49.6**	**+0.5**
BJI				*SP		sP	00 55 08.5	-0.3
BJI				S		**S**	**01 00 06.7**	**-8.9**
BJI				pmax		pmax		
	comp=Z,55nm,0.8s,mb5.5							
BJI				MLR		MLR		
	comp=Z,340nm,23.1s,MS4.0							
BJI	**Beijing**	**34.73**	**349**	P		**P**	**00 54 49.6**	**+0.5**
	comp=Z,55nm,0.8s,mb5.5							
BJI				sP		sP	00 55 08.5	-0.3
BJI				S		**S**	**01 00 06.7**	**-8.9**
BJI				sS		sS	01 00 30.8	-7.5
BJI				SS		SS	01 02 38.3	-9.5
BJI				LR		LR		
	comp=Z,340nm,23.1s,MS4.0							
LZH	**Lanzhou**	**35.41**	**331**	*e*P		**P**	**00 54 56.5**	**+1.6**
LZH				AP		pP	00 55 10.3	+1.9
LZH				XP		sP	00 55 16.5	+1.9
LZH				PP		PP	00 56 17.8	+1.8
LZH				PCP		PcP	00 57 25.8	+1.9
LZH				*e*S		**S**	**01 00 28.0**	**+2.0**
LZH				XS		sS	01 00 50.3	+1.5
LZH				AMB		AMB		
	comp=Z,95nm,1.4s,mb5.5							
LZH				AMB		AMB		
	comp=Z,263nm,4.7s							
LZH				LR		LR		
	comp=N,2μm,16.0s							
LZH				LR		LR		
	comp=Z,3μm,17.1s,MS5.1							
LZH	**Lanzhou**	**35.41**	**331**	*e*P		**P**	**00 54 56.6**	**+1.7**
LZH				*PP		pP	00 55 10.2	+1.8
LZH							00 56 17.8	
LZH							00 57 25.7	
LZH				*e*S		**S**	**01 00 28.1**	**+2.1**
LZH				SS		SS	01 02 45.0	-17
LZH				pmax		pmax		
	comp=Z,95nm,1.4s,mb5.5							
LZH				MLR		MLR		
	comp=Z,3μm,17.1s,MS5.1							
LZH	**Lanzhou**	**35.41**	**331**	*e*P		**P**	**00 54 56.6**	**+1.7**
	comp=Z,95nm,1.4s,mb5.5							
LZH				pP		pP	00 55 10.2	+1.8
LZH				sP		sP	00 55 16.6	+2.0
LZH				PP		PP	00 56 17.8	+1.8
LZH				PcP		PcP	00 57 25.7	+1.8
LZH				*e*S		**S**	**01 00 28.1**	**+2.1**
LZH				sS		sS	01 00 50.3	+1.5
LZH				SS		SS	01 02 45.0	-17
LZH				LR		LR		
	comp=Z,3μm,17.1s,MS5.1							
HHC	**Hu-ho-hao-te**	**36.59**	**344**	⇑P		**P**	**00 55 06.5**	**+1.5**
HHC				AP		pP	00 55 19.0	+0.4
HHC				XP		sP	00 55 24.8	+0.1
HHC				PP		PP	00 56 33.0	+4.0
HHC				PCP		PcP	00 57 29.5	+2.1
HHC				S		**S**	**01 00 47.5**	**+3.5**
HHC				XS		sS	01 01 06.8	-0.1
HHC				SS		SS	01 03 17.0	-8.5
HHC				AMB		AMB		
	comp=Z,24nm,1.3s,mb4.9							
HHC				AMB		AMB		
	comp=Z,144nm,5.6s							
HHC				LR		LR		
	comp=N,370nm,14.8s,MS4.4							
HHC				LR		LR		
	comp=E,380nm,15.9s,MS4.4							
HHC				LR		LR		
	comp=Z,346nm,14.9s,MS4.3							
SHL	**Shillong**	**36.66**	**306**	*e*P		**P**	**00 55 03.9**	**-1.7**
FORT	**Forrest**	**36.69**	**175**	*e*P		**P**	**00 55 05.3**	**-0.6**
	comp=Z,35nm,0.7s,mb5.3							
KLBR	**Kellerberrin**	**37.85**	**189**	*e*P		**P**	**00 55 14.5**	**-1.2**
	comp=Z,64nm,1.4s,mb5.2							
MUN	**Mundaring**	**38.50**	**191**	*e*P		**P**	**00 55 29.7**	**+8.5**
HNR	**Honiara**	**38.63**	**113**	P		**P**	**00 55 21.8**	**-0.5**
	comp=Z,30nm,0.3s,mb5.5,baz=270,slow=9.9,SNR=3.8							
HNR				LR		LR	01 10 15.9	
	comp=Z,189nm,20.0s,MS3.9,baz=359,slow=34							
MDJ	**Mudanjiang**	**38.79**	**6**	P		**P**	**00 55 24.3**	**+0.7**
MDJ				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,143nm,4.8s							
MDJ				LR		LR		
	comp=N,208nm,20.9s,MS4.0							
MDJ				LR		LR		
	comp=E,185nm,25.7s,MS4.0							
MDJ				LR		LR		
	comp=Z,232nm,19.2s							
LSA	**Lhasa**	**39.20**	**311**	P		**P**	**00 55 31.5**	**+4.5**
LSA	**Lhasa**	**39.20**	**311**	*e*P		**P**	**00 55 29.0**	**+2.0**
LSA				pmax		pmax		
	comp=Z,18nm,0.6s,mb5.0							
LSA	**Lhasa**	**39.20**	**311**	*e*P		**P**	**00 55 29.0**	**+2.0**
	comp=Z,18nm,0.6s,mb5.0							
NWAO	**Narrogin (SRO)**	**39.24**	**189**	P		**P**	**00 55 25.8**	**-1.6**
	comp=Z,10nm,0.8s,mb4.6,baz=0.0,slow=7.1,SNR=3.1							
GTA	**Gaotai**	**39.99**	**330**	⇑*i*P		**P**	**00 55 35.0**	**+1.4**
GTA				AP		pP	00 55 47.3	0.0
GTA				XP		sP	00 55 53.0	-0.4
GTA				PP		PP	00 57 12.5	+6.2
GTA				PPP			00 57 37.5	
GTA				SCP		ScP	01 01 25.0	+2.5
GTA				PCS		PcS	01 01 27.0	-1.2
GTA				S		**S**	**01 01 38.5**	**+3.1**
GTA				XS		sS	01 02 00.0	+1.6
GTA				SS		SS	01 04 32.8	-1.1
GTA				AMB		AMB		
	comp=Z,34nm,1.2s,mb5.0							
GTA				AMB		AMB		
	comp=Z,190nm,4.7s							
GTA				LR		LR		
	comp=N,468nm,18.3s,MS4.4							
GTA				LR		LR		
	comp=E,288nm,21.7s,MS4.4							
GTA				LR		LR		
	comp=Z,601nm,22.1s,MS4.4							
BOK	**Bokaro**	**40.99**	**300**	*e*P		**P**	**00 55 39.8**	**-2.1**
STKA	**Stephens Creek**	**41.05**	**157**	*e*P		**P**	**00 55 43.4**	**+1.0**
	comp=Z,28nm,1.0s,mb4.8							
STKA	**Stephens Creek**	**41.05**	**157**	P		**P**	**00 55 43.4**	**+1.0**
	comp=Z,41nm,1.1s,mb5.0,baz=332,slow=8.1,SNR=24							
ASAJ	**Asahikawa**	**41.26**	**20**	P		**P**	**00 55 44.8**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.4,baz=148,slow=5.1,SNR=4.1							
VIS	**Vishakhapatnam**	**41.71**	**290**	*e*P		**P**	**00 55 48.1**	**+0.3**
GUN	**Gumba**	**42.51**	**305**	*e*P		**P**	**00 55 55.3**	**+1.0**
	comp=Z,137nm,0.7s,mb5.8							
PKI	**Pulchoki**	**42.76**	**305**	*e*P		**P**	**00 55 57.0**	**+0.7**
KKN	**Kakani**	**42.95**	**305**	*e*P		**P**	**00 55 58.3**	**+0.5**
	comp=Z,53nm,0.9s,mb5.2							
DMN	**Daman**	**43.02**	**305**	*e*P		**P**	**00 55 59.3**	**+0.9**
	comp=Z,56nm,0.9s,mb5.3							
HIA	**Hailar**	**43.35**	**356**	*de*P		**P**	**00 56 01.4**	**+0.3**
HIA	**Hailar**	**43.35**	**356**	*e*P		**P**	**00 56 00.9**	**-0.2**
	comp=Z,32nm,1.3s,mb4.9							
GKN	**Gorkha**	**43.55**	**305**	*e*P		**P**	**00 56 02.9**	**+0.2**
KLR	**Kul'dur**	**43.59**	**7**	*e*P		**P**	**00 55 57.9**	**-5.1**
YSS	**Yuzh-Sakhalins**	**43.83**	**18**	⇑*e*P		**P**	**00 56 04.9**	**0.0**
YSS				pmax		pmax		
	comp=Z,32nm,1.3s,mb4.9							
MDRS	**Chennai**	**44.01**	**283**	*e*P		**P**	**00 56 06.1**	**-0.2**
MDRS				AMb		AMB	00 56 09.6	
	comp=Z,74nm,0.2s,mb6.0							
ULN	**Ulaanbaatar**	**44.31**	**343**	P		**P**	**00 56 10.2**	**+1.4**
	SNR=20							
ULN	**Ulaanbaatar**	**44.31**	**343**	*c i*P		**P**	**00 56 09.4**	**+0.6**
ULN	**Ulaanbaatar**	**44.31**	**343**	*e*P		**P**	**00 56 09.8**	**+1.0**
	comp=Z,59nm,1.3s,mb5.2							
KOLN	**Koldanda**	**44.31**	**304**	*e*P		**P**	**00 56 09.5**	**+0.7**
	comp=Z,60nm,1.0s,mb5.3							
SONM	**Songino Array**	**44.47**	**343**	P		**P**	**00 56 10.8**	**+0.7**
	comp=Z,19nm,0.9s,mb4.8,baz=157,slow=9.5,SNR=110							
SONM				LR		LR	01 18 35.7	
	comp=Z,190nm,19.2s,MS4.0,baz=171,slow=41							
ARMA	**Armidale**	**44.62**	**146**	⇑*i*P		**P**	**00 56 12.7**	**+1.4**
CIT	**Chita**	**46.79**	**351**	*e*P		**P**	**00 56 28.5**	**+0.1**
CNB	**Canberra Magne**	**47.32**	**152**	*e*P		**P**	**00 56 34.2**	**+1.7**
	comp=Z,24nm,1.0s,mb5.1							
TOO	**Toolangi**	**47.57**	**157**	*e*P		**P**	**00 56 36.5**	**+2.0**
	comp=Z,24nm,1.6s,mb5.0							
TOO	**Toolangi**	**47.57**	**157**	*e*P		**P**	**00 56 36.5**	**+2.0**
TOO				pmax		pmax		
	comp=Z,24nm,1.6s,mb5.0							
ZAK	**Zakamensk**	**47.68**	**342**	*e*P		**P**	**00 56 35.6**	**+0.3**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
AKL	**Akola**	**48.13**	**292**	*e*P		**P**	**00 56 38.8**	**0.0**
AKL				AMb		AMB	00 56 44.7	
	comp=Z,36nm,1.5s,mb5.2							
BHPL	**Bhopal**	**48.29**	**296**	*e*P		**P**	**00 56 41.0**	**+1.0**
TLY	**Talaya**	**48.71**	**343**	P		**P**	**00 56 44.5**	**+1.3**
	SNR=8.7							
TLY	**Talaya**	**48.71**	**343**	*c i*P		**P**	**00 56 44.0**	**+0.7**
TLY				pmax		pmax		
	comp=Z,27nm,1.7s,mb5.0							
TLY	**Talaya**	**48.71**	**343**	*e*P		**P**	**00 56 44.2**	**+1.0**
IRK	**Irkutsk**	**49.03**	**344**	*e*P		**P**	**00 56 44.4**	**-1.3**
IRK				pmax		pmax		
	comp=Z,46nm,1.5s,mb5.3							
MNGI	**Mangalore**	**49.27**	**282**	*e*P		**P**	**00 56 47.5**	**0.0**
MNGI				AMb		AMB	00 57 29.3	
	comp=Z,24nm,0.9s,mb5.2							
MOY	**Mondy**	**49.51**	**341**	*e*P		**P**	**00 56 50.6**	**+1.2**
MOY				pmax		pmax		
	comp=Z,43nm,1.9s,mb5.2							
WMQ	**Urumqi**	**49.56**	**325**	⇑*i*P		**P**	**00 56 50.8**	**+1.1**
WMQ				AP		pP	00 57 02.3	-1.5
WMQ				XP		sP	00 57 06.8	-3.0
WMQ				PCP		PcP	00 58 12.5	+1.7
WMQ				PP		PP	00 58 46.0	+1.6
WMQ				PPP		

YAK Yakutsk 56.11 3 *e*P P **00 57 36.7 -1.3**
YAK pmax pmax
comp=Z,50nm,1.0s,mb5.5
YAK pmax pmax
comp=N,29nm,1.2s
YAK pmax pmax
comp=E,16nm,1.3s
YAK Yakutsk 56.11 3 *e*P P **00 57 37.5 -0.5**
comp=E,34nm,0.6s,mb5.5
KZA Kyzart 56.38 317 P P **00 57 41.9 +1.9**
SNR=14
TKM2 Tokmak 2 56.52 319 P P **00 57 42.3 +1.3**
SNR=7.6
KBK Karagaybulak 56.83 318 P P **00 57 44.5 +1.3**
SNR=7.4
UCH Uchtor 56.94 317 P P **00 57 45.9 +2.0**
SNR=24
AAK Ala-Archa 57.13 318 P P **00 57 50.2 +4.9**
SNR=11
AAK Ala-Archa 57.13 318 P P **00 57 45.4 +0.1**
comp=E,57nm,1.0s,mb5.5,SNR=6.4
AAK Ala-Archa 57.13 318 P P **00 57 45.8 +0.5**
SNR=6.9
AAK Ala-Archa 57.13 318⇑ *e*P P **00 57 45.1 -0.2**
AAK pmax pmax
comp=Z,14nm,1.7s,mb4.7
AAK Ala-Archa 57.13 318 *e*P P **00 57 45.2 -0.1**
USP Ospenovka 57.39 318 P P **00 57 47.7 +0.5**
SNR=18
AML Almayashu 57.46 317 P P **00 57 49.0 +1.4**
SNR=15
ZAL Zalesovo 57.55 334 P P **00 57 47.7 -0.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=349,slow=8.4,SNR=13
ZAL LR LR 01 24 29.9
comp=Z,146nm,20.4s,MS4.1,baz=204,slow=38
ZAL Zalesovo 57.55 334 P P **00 57 47.7 -0.5**
ZAL LR LR 01 24 29.9
EKS2 Erkin-Say 57.62 318 P P **00 57 49.7 +1.0**
SNR=7.5
KURK Kurchatov 58.61 328 P P **00 57 55.7 +0.1**
comp=Z,161nm,0.7s,SNR=23
KURK Kurchatov 58.61 328 P P **00 57 55.8 +0.2**
SNR=8.7
KURK Kurchatov 58.61 328*c i*P P **00 57 55.6 0.0**
KURK Kurchatov 58.61 328 *e*P P **00 57 55.7 +0.1**
comp=Z,19nm,0.8s,mb5.2
NVS Novosibirsk 58.84 334 *i*P P **00 57 56.1 -1.1**
NVS pmax pmax
comp=Z,16nm,1.2s,mb4.9
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
KK31 Karatay Array 60.00 317 *i*P P **00 58 05.5 +0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KKAR Karatay Array 60.00 317 *i*P P **00 58 05.5 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SEY Seymchan 60.46 14⇓ *i*P P **00 58 09.0 +0.6**
VOSK Vostochnaya 63.72 327 P P **00 58 29.4 -0.9**
BVA0 Borovoye Array 64.18 327 *i*P P **00 58 32.6 -0.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
BRVK Borovoye 64.25 327 P P **00 58 33.6 -0.1**
comp=Z,112nm,1.6s,mb5.7,SNR=6.5
BRVK Borovoye 64.25 327 P P **00 58 33.7 0.0**
SNR=8.1
BRVK Borovoye 64.25 327 *e*P P **00 58 34.0 +0.2**
ZRNK Zerenda 64.90 327 *e*P P **00 58 37.3 -0.6**
ZRNK *e* pP 00 58 51.4 -1.1
ZRNK pmax pmax
comp=Z,56nm,0.8s,mb5.7
ZRNK Zerenda 64.90 327 *e*P P **00 58 37.3 -0.7**
comp=Z,56nm,0.8s,mb5.6
ZRNK *e* pP 00 58 51.4 -1.1
TIXI Tiksi 65.69 2*c i*P P **00 58 41.3 -1.8**
TIXI pmax pmax
comp=Z,52nm,1.3s,mb5.4
TIXI Tiksi 65.69 2 *e*P P **00 58 41.1 -2.0**
AFI Afiamalu 66.38 108 LR LR 01 23 14.9
comp=Z,217nm,18.5s,MS4.4,baz=65,slow=32
BILL Bilibino 68.06 16⇑ *i*P P **00 58 58.2 +0.1**
BILL pmax pmax
comp=Z,21nm,1.7s,mb4.9
BILL Bilibino 68.06 16 P P **00 58 56.4 -1.7**
AB31 Akbulak array 68.94 321 *i*P P **00 59 02.9 -0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ARU Arti 71.80 328 P P **00 59 20.0 -1.1**
comp=Z,118nm,0.6s,mb6.0,SNR=6.4
ARU Arti 71.80 328⇑ *i*P P **00 59 19.6 -1.5**
ARU *e* pP 00 59 37.0 +1.1
ARU *e* 01 01 55.2
ARU *e*S S 01 08 38.2 +0.6
ARU pmax pmax
comp=Z,24nm,1.5s,mb4.9
ARU Arti 71.80 328 *e*P P **00 59 20.0 -1.1**
comp=Z,27nm,1.1s,mb5.1
ORR Orenburg 72.74 322 *e*P P **00 59 26.3 -0.4**
ORR pmax pmax
comp=Z,20nm,1.2s,mb4.9
CASY Casey 72.74 186 *e*P P **00 59 26.9 +0.2**
comp=Z,31nm,0.8s,mb5.3
UNV Unalaska Valle 72.99 35 *e*P P **00 59 28.3 +0.1**
comp=Z,105nm,0.9s,mb5.8
AKUT Akutan 73.47 35 *e*P P **00 59 30.9 -0.1**
comp=Z,119nm,1.1s,mb5.7
AKUT *e* pP 00 59 47.0 +1.1
QRN Al-Qurain 75.27 298 *e*P P **00 59 42.0 +0.6**
QRN AMb AMB 00 59 44.2
comp=Z,98nm,0.7s,mb5.8
UMR Umm Al-Rimmam 75.46 299 *e*P P **00 59 43.2 +0.6**
RDF Al-Radifah 75.59 298 *e*P P **00 59 43.8 +0.4**
RDF AMb AMB 00 59 44.9
comp=Z,41nm,0.7s,mb5.5
MIB Mutribah 75.80 299 *e*P P **00 59 44.6 +0.1**
MIB AMb AMB 00 59 46.1
comp=Z,119nm,0.6s,mb6.0
NAY Al-Naaiem 75.87 299 *e*P P **00 59 45.0 +0.1**
NAY AMb AMB 00 59 46.4
comp=Z,32nm,0.7s,mb5.4
SDPT Sand Point 76.72 35 *e*P P **00 59 49.6 -0.1**
CHGN Chignik 78.01 34 *e*P P **00 59 56.6 -0.3**
GNI Garni 78.24 310 *e*P P **00 59 57.1 -1.1**
GNI pmax pmax
comp=Z,19nm,1.7s
GNI Garni 78.24 310 *e*P P **01 00 00.9 +2.7**
ZEI Tsey 78.97 312 *e*P P **01 00 02.7 +0.5**
ZEI *i* pP 01 00 19.2 +2.0
ZEI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIV Kislovodsk 79.89 313 *e*P P **01 00 07.8 +0.5**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
KIV Kislovodsk 79.89 313 *e*P P **01 00 06.8 -0.5**
comp=Z,5.9nm,0.6s,mb4.7
SVW2 Sparrevohn 80.03 29 *e*P P **01 00 08.4 +0.4**
KDAK Kodiak Island 81.31 33 P P **01 00 15.0 +0.2**
comp=Z,208nm,1.7s,mb5.8,SNR=7.0
KDAK Kodiak Island 81.31 33 P P **01 00 14.6 -0.3**
comp=Z,18nm,0.6s,mb5.2,baz=291,slow=5.0,SNR=14
IMA2 Indian Mountai 81.34 24 *e*P P **01 00 15.1 +0.1**
VRSR Storozhevoye 82.36 321 *e*P P **01 00 19.2 -1.2**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SLKM Skilak Lake 82.62 30 *e*P P **01 00 21.1 -0.6**
MALT Malatya 83.15 308⇓ *i*P P **01 00 25.7 +1.3**
MALT Malatya 83.15 308 ⇓P P **01 00 25.7 +1.3**
PMR Palmer 83.16 29 *e*P P **01 00 24.3 -0.2**
PMR pmax pmax
comp=Z,36nm,1.0s,mb5.4
PMR MLR MLR
comp=Z,800nm,19.0s,MS5.1
PMR Palmer 83.16 29 *e*P P **01 00 24.3 -0.2**
comp=Z,36nm,1.0s,mb5.3
PMR LR LR
comp=Z,800nm,19.0s,MS5.1
MCK McKinley 83.26 27 *e*P P **01 00 22.9 -2.1**
MCK pmax pmax
comp=Z,36nm,0.8s,mb5.5
MCK McKinley 83.26 27 *e*P P **01 00 22.9 -2.1**
comp=Z,36nm,0.8s,mb5.5
SML Sawmill 83.54 29 *e*P P **01 00 26.8 +0.4**
COLA College 83.73 25*c i*P P **01 00 26.4 -1.0**
COLA College 83.73 25 *e*P P **01 00 26.6 -0.8**
comp=Z,14nm,0.8s,mb5.2
OBN Obninsk 83.89 325 *e*P P **01 00 27.0 -1.2**
OBN *i* 01 03 49.0
OBN pmax pmax
comp=Z,26nm,1.6s,mb5.1
DIV Divide 84.79 29 *e*P P **01 00 33.6 +0.8**
COBT Iskenderun 84.97 306 *i*P P **01 00 34.9 +1.2**
MAW Mawson 85.01 200 *e*P P **01 00 33.1 -0.8**
comp=Z,3.2nm,1.1s,mb4.4
MAW Mawson 85.01 200 P P **01 00 32.9 -0.9**
comp=Z,2.6nm,1.0s,mb4.3,baz=106,slow=7.4,SNR=4.1
MAW Mawson 85.01 200 *e*P P **01 00 33.1 -0.8**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MENT Mentasta 85.64 27 *e*P P **01 00 37.5 +0.5**
BOYT Boyabat 85.69 311 *i*P P **01 00 37.2 -0.1**
CTKT Corum 85.83 310 *i*P P **01 00 38.4 +0.4**
AVNT Avonos 85.92 308 *i*P P **01 00 38.7 +0.2**
EIL Elat 86.56 299 *e*P P **01 00 42.7 +1.1**
EGAK Eagle 86.59 25 *e*P P **01 00 41.3 -0.5**
comp=Z,9.6nm,0.6s,mb5.2
EGAK *e* pP 01 00 56.0 -0.8
BR131 Keskin Array S 86.78 309 *e*P P **01 00 42.3 -0.4**
comp=Z,1.8nm,0.6s,mb4.5
BRTR Keskin Array B 86.78 309 P P **01 00 41.8 -0.9**
comp=Z,3.3nm,0.6s,mb4.8,baz=110,slow=4.6,SNR=20
BALT Daday 86.82 311 *i*P P **01 00 41.4 -1.4**
SBA Scott Base 86.85 172 *e*P P **01 00 42.0 -1.0**
SBA pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
SBA Scott Base 86.85 172 *e*P P **01 00 42.0 -1.0**
comp=Z,8.5nm,1.3s,mb4.8
KMBO Kilima Mbogo 87.22 269 P P **01 00 44.9 +0.1**
comp=Z,0.7nm,0.3s,mb4.4,baz=31,slow=24,SNR=3.1
KMBO Kilima Mbogo 87.22 269 *i*P P **01 00 47.2 +2.4**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
ANTO Ankara 87.42 310⇓ *i*P P **01 00 45.5 -0.3**
ANTO Ankara 87.42 310 ⇓P P **01 00 45.5 -0.2**
CSS Prodhromos 87.46 305 *e*P P **01 00 46.0 +0.1**
comp=Z,18nm,0.8s,mb5.3
ARCES ARCESS Array B 87.56 340 P P **01 00 45.0 -1.4**
comp=Z,7.8nm,0.7s,mb5.0,baz=69,slow=6.8,SNR=17
SGKT Sivrigoynuk 87.91 310 *i*P P **01 00 47.1 -1.0**
KAF Kangasniemi 88.54 332 *e*p P **01 00 47.9 -3.2**
comp=Z,19nm,0.7s,mb5.5,baz=76,slow=4.4
KAF Kangasniemi 88.54 332 *e*P P **01 00 47.9 -3.2**
KAF pmax pmax
comp=Z,19nm,0.7s,mb5.5
AKASG Malin Array Be 88.68 321 P P **01 00 50.7 -1.0**
comp=Z,2.7nm,0.6s,mb4.7,baz=69,slow=4.2,SNR=15
HENT Hendek 88.76 311 *i*P P **01 00 51.3 -0.8**
FINES FINESS Array B 88.77 332 P P **01 00 51.0 -1.2**
comp=Z,6.5nm,0.7s,mb5.1,baz=51,slow=5.5,SNR=26
FINES FINESS Array B 88.77 332 P P **01 00 51.0 -1.2**
VSU Vasula 88.95 329⇑ *e*P P **01 00 51.5 -1.5**
INK Inuvik 88.98 21 P P **01 00 52.1 -1.0**
comp=Z,12nm,0.9s,mb5.2,baz=274,slow=4.3,SNR=15
INK Inuvik 88.98 21 *e*P P **01 00 52.5 -0.7**
comp=Z,591nm,1.1s
TIRR Tirgusor 90.10 315⇑ *i*P P **01 00 56.3 -2.1**
TIRR Tirgusor 90.10 315 ⇑P P **01 00 56.3 -2.1**
ULDT Uludag 90.18 310 *i*P P **01 00 58.3 -0.5**
VRI Vrincioaia 91.06 316⇓ *i*P P **01 03.4 +0.6**
VRI Vrincioaia 91.06 316 ⇓P P **01 03.4 +0.5**
MLR Muntele Rosu 91.66 316⇑ *i*P P **01 05.3 -0.3**
MLR Muntele Rosu 91.66 316 ⇑P P **01 05.3 -0.4**
SUW Suwalki 91.75 325 *e*P P **01 05.2 -0.9**
SUW Suwalki 91.75 325 *e*P P **01 04.8 -1.3**
BURAR Bucovina Array 91.77 318⇓ *i*P P **01 06.1 -0.1**
BURAR Bucovina Array 91.77 318 ⇓P P **01 06.1 -0.1**
KWP Kalwaria 93.00 320 *e*P P **01 11.6 -0.2**
DLBC Dease Lake 93.07 30 P P **01 13.0 +0.9**
KOLS Kolonicke sedl 93.43 320 *e*P P **01 15.0 +1.2**
UZH Uzhgorod 93.48 319⇑ *i*P P **01 14.0 0.0**
UZH *e* pP 01 01 31.2 +2.0
DRGR 93.61 318⇓ *i*P P **01 14.3 -0.3**
DRGR 93.61 318 ⇓P P **01 14.3 -0.3**
SYO Syowa Base 93.62 201⇑ *e*P P **01 14.0 -0.7**
SYO Syowa Base 93.62 201⇓ *e*PcP PcP 01 01 16.8 +1.6
STHS Stebnicka Huta 93.97 320 *e*P P **01 16.6 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
STHS Stebnicka Huta 93.97 320 *e*P P **01 01 16.6 +0.3**
comp=Z,2.0nm,0.8s,mb4.6
BZS Buzias 94.61 317⇓ *i*P P **01 01 18.2 -1.0**
BZS Buzias 94.61 317 ⇓P P **01 01 18.2 -1.1**
KECS Kecovo 94.68 320 *e*P P **01 01 18.9 -0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
KECS Kecovo 94.68 320 *e*P P **01 01 18.9 -0.7**
comp=Z,2.6nm,1.0s,mb4.6
PSZ Piszkesteto 95.21 319 P P **01 01 21.6 -0.4**
PSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
PSZ Piszkesteto 95.21 319 P P **01 01 21.6 -0.3**
comp=Z,3.9nm,1.0s,mb4.8
VYHS Vyhne 95.74 320 *e*P P **01 01 24.2 -0.2**
NB2 NORSAR Subarra 95.75 333 P P **01 01 22.4 -2.0**
comp=Z,7.6nm,0.8s,mb5.2,baz=66,slow=4.6
NOA NORSAR Array B 95.75 333 P P **01 01 22.7 -1.8**
comp=Z,5.2nm,0.7s,mb5.1,baz=66,slow=4.5,SNR=18
NOA NORSAR Array B 95.75 333 P P **01 01 22.7 -1.8**
QSPA South Pole Qui 95.84 180 *e*P P **01 01 25.0 +0.2**
comp=Z,9.5nm,0.1s
PKSM Moragy 96.48 318⇓ *i*P P **01 01 27.2 -0.5**
PKSM Moragy 96.48 318 ⇓P P **01 01 27.2 -0.6**
BRG Berggiesshubel 98.05 323 *e*P P **01 01 34.4 -0.4**
comp=Z,2.4nm,0.9s,mb4.7
BRG Berggiesshubel 98.05 323 *e*P P **01 01 34.4 -0.4**
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
YKA Yellowknife Ar 98.46 24 P P **01 01 35.6 -1.1**
comp=Z,2.9nm,0.8s,mb4.8,baz=300,slow=4.7,SNR=15
YKA PKKPbc PKKPbc 01 18 04.1 -2.2
comp=Z,0.7nm,0.5s,baz=118,slow=2.8,SNR=10
YKA Yellowknife Ar 98.46 24 P P **01 01 35.6 -1.1**
YKA PKKPbc PKKPbc 01 18 04.1 -2.2
GERES GERESS Array B 98.88 321 P P **01 01 38.2 -0.4**
comp=Z,0.7nm,0.7s,mb4.3,baz=73,slow=4.5,SNR=6.3
SUMG Summit 100.85 355 *e*Pdif Pdif 01 01 51.3 +4.0
ELK Elko 100.41 44 *e*PKiKP PKiKP 01 06 27.1 +0.4
HWUT Hardware Ranch 110.50 42 *e*PKiKP PKiKP 01 06 31.6 +1.0
ARUT Antelope Range 110.94 46 *e*P Pdif 01 02 34.0 +1.8
PDAR Pinedale Array 111.22 40 PKiKP PKiKP 01 06 32.5 +0.6
comp=Z,0.3nm,0.6s,baz=81,slow=1.2,SNR=3.9
RSSD Black Hills 113.86 36 *e*PKIKP PKiKP 01 06 36.7 -0.3
ULM Lac du Bonnet 114.13 27 PKP PKiKP 01 06 36.5 -1.0
comp=Z,2.3nm,0.6s,baz=254,slow=2.2,SNR=8.6
PV01 Paradox Valley 114.19 44 *e*PKiKP PKiKP 01 06 36.9 -0.7
ANMO Albuquerque 117.24 46 *e*PKIKP PKPdf 01 06 44.6 +1.1
ECSD EROS,Sioux Fal 118.28 33 *e*PKPdf PKPdf 01 06 44.9 -0.6
SCHQ Schefferville 118.73 7 PKP PKPdf 01 06 46.1 -0.2
comp=Z,2.5nm,0.7s,baz=185,slow=12,SNR=3.8
TORD Torodi Ar. Bea 119.96 289 PKP PKPdf 01 06 48.3 -0.4
comp=Z,0.9nm,0.6s,baz=72,slow=1.0,SNR=9.6
TORD PP PP 01 08 09.7 -3.6
comp=Z,0.9nm,0.8s,baz=53,slow=3.2,SNR=4.0
KSU1 Kansas State U 121.33 37 *e*PKPdf PKPdf 01 06 50.8 -0.5
LTX Lajitas 122.07 50 *e*PKiKP PKPdf 01 06 53.3 +0.5
TXAR Lajitas Array 122.07 50 PKP PKPdf 01 06 53.6 +0.9
comp=Z,0.8nm,0.6s,baz=213,slow=1.1,SNR=14
WMOK Wichita Mounta 122.66 42 *e*PKIKP PKPdf 01 06 53.7 -0.2
JCT Junction City 124.36 47 *e*PKiKP PKPdf 01 06 57.6 +0.5
WVT Waverly 128.41 33 *e*PKiKP PKPdf 01 07 04.5 -0.4
PLAL Pickwick Lake 129.11 35 *e*PKPdf PKPdf 01 07 05.5 -0.7
TZTN Tazewell 130.32 30 *e*PKPdf PKPdf 01 07 09.6 +1.1
TKL Tuckaleechee C 130.90 31 PKP PKPdf 01 07 10.2 +0.6
comp=Z,9.0nm,0.6s,baz=146,slow=2.6,SNR=18
LRAL Lakeview Retre 131.14 35 *e*PKPdf PKPdf 01 07 10.6 +0.6
JTS JuntasAbangare 146.67 61 *e*PKiKP PKPdf 01 07 39.0 +0.7
TRQA Tornquist 147.52 171 *e*PKP PKPdf 01 07 42.8 +3.1
SDV Santo Domingo 159.03 46 *e*PKPdf PKPdf 01 07 56.7 +0.5
LPAZ La Paz 164.03 131 PKP PKPdf 01 08 03.1 +1.7
comp=Z,3.8nm,1.1s,baz=266,slow=0.7,SNR=8.3
LPAZ La Paz 164.03 131 *e*PKPdf PKPdf 01 08 03.5 +2.1

NEIC ***29*** *00:49:06.5, 3805S×17879E, h12km, ML3.9(WEL), After WEL.*
WEL 29 00:49:07.0±0.4, 3791S×17869E, h12km±2km, ML3.9/6, 4C-2D, Error ellipse: s-maj=3.0km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.38**	**245**	⇑P	P	Pg	00 49 15.0	+0.5
PUZ				S		Sg	00 49 19.5	-0.1
PUZ	**Puketiti**	**0.38**	**245**	⇑P*	P	Pg	00 49 15.0	+0.4
PUZ				S*		Sg	00 49 19.5	-0.1
PUZ				S*		Sg	00 49 19.6	0.0
MXZ	**Matakaoa Point**	**0.46**	**319**	⇑P	P	Pg	00 49 15.8	-0.3
MXZ				S		Sg	00 49 21.7	-0.5
MXZ	**Matakaoa Point**	**0.46**	**319**	⇑P*	P	Pg	00 49 15.8	-0.3
MXZ				S*		Sg	00 49 21.7	-0.5
MWZ	**Matawai**	**1.01**	**245**	⇓P	P	Pb	00 49 25.8	-0.6
MWZ				S		Sg	00 49 39.1	-0.5
MWZ	**Matawai**	**1.01**	**245**	⇓P*	P	Pb	00 49 25.8	-0.6
MWZ				S*		Sb	00 49 39.1	-0.6
MWZ				S*		Sb	00 49 39.4	-0.2
URZ	**Urewera**	**1.29**	**254**	P		Pn	00 49 30.1	-0.8
URZ	**Urewera**	**1.29**	**254**	PN		Pn	00 49 30.1	-0.8
URZ				SN		Sn	00 49 47.7	-0.4
URZ				SN		Sn	00 49 47.9	-0.2
KNZ	**Kokohu**	**1.37**	**215**	*e*P		Pn	00 49 30.4	-1.5
KNZ	**Kokohu**	**1.37**	**215**	PN		Pn	00 49 30.4	-1.5
KNZ				SN		Sn	00 49 48.2	-1.7
BKZ	**Black Stump Fm**	**2.13**	**233**	P		Pn	00 49 41.8	-0.6
BKZ	**Black Stump Fm**	**2.13**	**233**	PN		Pn	00 49 41.8	-0.6
MRZ	**Mangatainoka R**	**3.66**	**220**	*e*P		Pn	00 50 00.4	-3.0
MRZ				P			00 50 00.6	
MRZ	**Mangatainoka R**	**3.66**	**220**	PN		Pn	00 50 00.6	-2.8

NEIC ***29*** *00:53:23.4, 3440N×574W, h0km, MG3.5(MDD), After MDD.*
CNRM ***29*** *00:53:24.9, 3423N×564W, h2km, MD2.9*
CSEM ***29*** *00:53:24.9±1.0, 3468N×575W, h2km, MD2.9, Error ellipse: s-maj=22.5km s-min=20.1km az=50.0*
MDD 29 00:53:22.0±1.3, 3431N×569W, h0km, mb3.6/3, Error ellipse: s-maj=36.2km s-min=9.7km az=71.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**1.38**	**157**	*i*S		Sg	00 54 06.0	-0.5
EGRO	**El Granado**	**3.53**	**336**	P		Pn	00 54 16.8	-1.2
	1.0nm,0.1s,SNR=9.9							
EGRO				S		Sn	00 54 57.3	-3.2
	2.3nm,0.2s,SNR=5.0							
EGRO	**El Granado**	**3.53**	**336**	P		Pn	00 54 16.8	-1.2
	1.0nm,0.1s,SNR=9.9							
EGRO				S		Sn	00 54 57.3	-3.2
	2.3nm,0.2s,SNR=5.0							
EMIN	**Mina Concepcio**	**3.54**	**347**	P		Pn	00 54 16.2	-2.0
	0.5nm,0.1s,SNR=8.3							
EMIN				S		Sn	00 54 56.5	-4.2
	0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54**	**347**	P		Pn	00 54 16.2	-2.0
	0.5nm,0.1s,SNR=8.3							
EMIN				S		Sn	00 54 56.5	-4.2
	0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.95**	**13**	P		Pn	00 54 23.4	-0.4
	0.3nm,0.2s,SNR=7.9							
EADA				S		Sn	00 55 06.8	-4.0
	0.9nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.95**	**13**	P		Pn	00 54 23.4	-0.4
	0.3nm,0.2s,SNR=7.9							
EADA				S		Sn	00 55 06.8	-4.0
	0.9nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**4.10**	**335**	*e*Pn		Pn	00 54 24.7	-1.2
PBEJ				*e*Sn		Sn	00 55 11.6	-3.1
PBEJ								
	1.0nm,0.4s							
EBAD	**Badajoz**	**4.56**	**347**	P		Pn	00 54 31.9	-0.3
	1.3nm,0.1s,SNR=6.3							
EBAD				S		Sn	00 55 20.2	-5.7
	1.6nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.56**	**347**	P		Pn	00 54 31.9	-0.3
	1.3nm,0.1s,SNR=6.3							
EBAD				S		Sn	00 55 20.2	-5.7
	1.6nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**5.70**	**346**	*e*Pn		Pn	00 54 47.6	-0.3
PCBR				*e*Sn		Sn	00 55 49.8	-4.2

NEIC ***29*** *01:01:20.6±0.8, 623S×15166E, h10km, mb4.1/5, Error ellipse: s-maj=20.3km s-min=12.6km az=120.0*
ISCJB ***29*** *01:01:26.7±4.4, 63S±0.1×151.4E±0.02, h62km±33km, mb3.8/7, Error ellipse: s-maj=34.0km s-min=22.4km az=12.6*
IDC ***29*** *01:01:26.4±8.2, 637S×15154E, h47km±60km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=83.2km s-min=36.2km az=106.0*
ISC 29 01:01:27.9±4.2, 63S±01×1515E±02, h59km±32km, n17, σ0s75/17, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**234**	P		**Pn**	**01 02 44.2**	**+0.6**
	2.0nm,0.3s,baz=71,slow=10,SNR=8.3							
PMG				S		**Sn**	**01 03 42.3**	**-0.5**
	1.2nm,0.3s,baz=26,slow=5.6,SNR=3.7							
KAKA	**Kakadu**	**19.79**	**250**	*e*P		**Pn**	**01 05 52.4**	**-2.8**
	12nm,1.1s							
WRAB	**Tennant Creek**	**21.43**	**229**	*e*P		**P**	**01 06 11.0**	**+0.1**
	2.4nm,0.7s,mb3.6							
WB2	**Warramunga Arr**	**21.43**	**229**	*e*P		**P**	**01 06 11.0**	**+0.1**
WRA	**Warramunga Arr**	**21.44**	**229**	P		**P**	**01 06 10.9**	**-0.1**
	2.3nm,0.7s,mb3.6,baz=58,slow=10,SNR=17							
AS31	**Alice Springs**	**24.13**	**223**	*e*P		**P**	**01 06 39.0**	**+0.9**
ASAR	**Alice Springs**	**24.13**	**223**	P		**P**	**01 06 38.8**	**+0.7**
	4.6nm,0.9s,mb3.9,baz=53,slow=9.3,SNR=33							
ASPA	**Alice Springs**	**24.13**	**223**	*e*P		**P**	**01 06 39.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.77**	**243**	*e*P		**P**	**01 07 11.8**	**+0.8**
	5.7nm,0.4s,mb4.5							
FITZ	**Fitzroy Crossi**	**27.77**	**243**	P		**P**	**01 07 11.6**	**+0.6**
	2.1nm,0.8s,mb3.8,baz=46,slow=11,SNR=7.3							
CASY	**Casey**	**66.18**	**197**	P		**P**	**01 12 08.1**	**-1.1**
SONM	**Songino Array**	**66.90**	**329**	P		**P**	**01 12 13.9**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=146,slow=5.3,SNR=4.7							
VNDA	**Vanda**	**71.37**	**178**	*e*P		**P**	**01 12 41.2**	**-0.2**
	0.2nm,0.7s,mb3.2							
SBA	**Scott Base**	**71.94**	**177**	P		**P**	**01 12 44.4**	**-0.5**
BRVK	**Borovoye**	**89.72**	**323**	*e*P		**P**	**01 14 19.8**	**+0.2**
	2.2nm,0.7s,mb4.6							
ZRNK	**Zerenda**	**90.46**	**323**	P		**P**	**01 14 22.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.45**	**285**	PKPbc	PKPbc		01 21 11.5	+1.3
	1.1nm,0.6s,baz=78,slow=2.6,SNR=22							

IGQ 29 01:05:45.9, 267S×7857W, h5km±2km, Mb4.2, Ms4.0, 8C-4D, Error ellipse: s-maj=10.8km s-min=2.7km az=3.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.16**	**6**	⇓P	P	Pg	01 06 07.5	-0.6
PATA	**Patacocha**	**1.17**	**7**	⇑P	P	Pg	01 06 08.1	-0.1
IGUA	**Igualata**	**1.17**	**357**	⇑P	P	Pg	01 06 08.9	+0.6
IGUA				S		Sg	01 06 24.8	+1.2
RETU	**Refugio**	**1.22**	**6**	P	P	Pg	01 06 09.5	+0.3
ULBA	**Ulba**	**1.22**	**8**	⇓P	P	Pg	01 06 09.5	+0.2
ULBA				S		Sg	01 06 27.1	+1.9
BILB	**Tungurahua vol**	**1.23**	**3**	P	P	Pg	01 06 09.0	-0.3
BILB				S		Sg	01 06 27.0	+1.8
JUIV	**Juive**	**1.24**	**5**	P	P	Pg	01 06 09.2	-0.5
JUIV				S		Sg	01 06 27.7	+1.9
RUN5	**Runtun**	**1.25**	**7**	P	P	Pg	01 06 09.5	-0.4
PISA	**Pisayambo**	**1.61**	**7**	P	P	Pn	01 06 16.6	+1.7
TAMB	**Tambo**	**1.97**	**6**	P	P	Pn	01 06 23.3	+3.4
CAMI	**Rancho Maria**	**1.98**	**2**	⇑P	P	Pn	01 06 23.5	+3.5
VC1	**Cotopaxi 1**	**2.02**	**5**	⇑P	P	Pn	01 06 24.6	+4.0
VC1				S		Sn	01 06 53.2	+7.0
NAS1	**Nasa**	**2.02**	**3**	P	P	Pn	01 06 24.5	+3.9
ANTI	**Antisana**	**2.24**	**11**	⇓P	P	Pn	01 06 27.3	+3.6
JUA2	**San Juan 2**	**2.44**	**359**	⇑P	P	Pn	01 06 31.5	+5.1
GGP	**Refugio Guagua**	**2.48**	**359**	⇑P	P	Pn	01 06 31.5	+4.7
PINO	**Pino**	**2.50**	**359**	P	P	Pn	01 06 32.3	+5.2
YANA	**Yana**	**2.54**	**360**	P	P	Pn	01 06 33.2	+5.6
LAV3	**Lava3-Reventad**	**2.72**	**20**	⇓P	P	Pn	01 06 35.0	+4.8
LAV3				S		Sn	01 07 12.7	+9.2

CAYR	**Refugio Cayamb**	**2.73**	**12**	⇑P	Pn	01 06 36.8	+6.5
CONE	**Cono NE Rev Vo**	**2.74**	**20**	P	Pn	01 06 35.6	+5.1
CONE				S	Sn	01 07 15.3	+11
CAYA	**Cayambe**	**2.78**	**12**	⇑P	Pn	01 06 37.6	+6.6
MAG1	**Magdalena**	**2.85**	**335**	P	Pn	01 06 35.4	+3.4
COTA	**Cotacachi**	**2.99**	**4**	P	Pn	01 06 43.3	+9.4

*ISCJB **29** 01:16:00.6±1.7, 215N±0.1×1430E±0.2, h436km±23km, mb3.6/9, Error ellipse: s-maj=30.4km s-min=17.0km az=150.6*

*IDC **29** 01:16:00.3±20.0, 2151N×14302E, h418km±228km, mb3.2/7, mb1 3.3/7, mb1mx3.0/22, mbtmp3.2/7, Error ellipse: s-maj=60.8km s-min=25.4km az=58.0*

*NEIC **29** 01:16:01.6±1.1, 2152N×14299E, h433km±14km, mb4.2/3, Error ellipse: s-maj=19.3km s-min=9.9km az=77.0*

ISC 29 01:16:01.7±1.6, 215N±01×1430E±02, h436km±21km, n12, σ0°40/12, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.10**	**167**	P	**P**	**01 17 58.2**	**+0.2**
MAJO	**Matsushiro** 2.5nm,0.3s	**15.53**	**345**	*e*P	**P**	**01 19 18.4**	**-0.3**
NACB	**Ninganchiao**	**19.93**	**282**	*e*P	**P**	**01 20 03.6**	**+0.4**
BJT	**Baijiatuan** 5.7nm,0.4s,mb4.2	**29.35**	**315**	*e*P	**P**	**01 21 26.7**	**-0.6**
LZH	**Lanzhou** 12nm,1.1s,mb4.1	**37.01**	**302**	*e*P	**P**	**01 22 33.0**	**+0.5**
WRA	**Warramunga Arr** 1.0nm,0.6s,mb3.3,baz=16,slow=8.6,SNR=18	**42.10**	**192**	P	**P**	**01 23 13.5**	**-0.3**
FITZ	**Fitzroy Crossi** 0.6nm,0.5s,mb3.2,baz=25,slow=14,SNR=3.0	**42.93**	**205**	P	**P**	**01 23 20.0**	**-0.3**
MKAR	**Makanchi Array** 0.6nm,0.9s,mb2.8,baz=85,slow=6.1,SNR=2.4	**54.70**	**313**	P	**P**	**01 24 48.6**	**+0.2**
BVAR	**Borovoye Array** 0.9nm,0.3s,mb3.7,baz=94,slow=7.8,SNR=9.0	**62.70**	**320**	P	**P**	**01 25 42.3**	**-0.2**
YKA	**Yellowknife Ar** 0.6nm,0.6s,mb3.4,baz=291,slow=5.8,SNR=5.6	**76.66**	**28**	P	**P**	**01 27 06.7**	**+0.3**
ARCES	**ARCESS Array B** 6.1nm,0.9s,mb4.2,baz=74,slow=9.0,SNR=5.3	**79.02**	**341**	P	**P**	**01 27 19.9**	**+0.6**
FINES	**FINESS Array B** 0.7nm,0.6s,mb3.6,baz=80,slow=4.5,SNR=7.5	**83.26**	**334**	P	**P**	**01 27 40.8**	**-0.5**

*ISCJB **29** 01:30:19.5±1.7, 6.18N±0.08×1274E±0.1, h85km±16km, mb4.0/12, Error ellipse: s-maj=21.8km s-min=12.3km az=138.3*

*NEIC **29** 01:30:20.5±1.5, 6.12N×12741E, h73km±14km, mb4.7/7, Error ellipse: s-maj=16.9km s-min=9.4km az=67.0*

*IDC **29** 01:30:28.4±12.0, 6.11N×12750E, h154km±113km, mb3.5/7, mb1 3.5/7, mb1mx3.3/20, mbtmp3.5/7, Error ellipse: s-maj=104.4km s-min=20.7km az=67.0*

ISC 29 01:30:20.3±1.6, 620N±008×1274E±01, h73km±15km, n20, σ0°66/18, mb4.0/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.04**	**295**	Pn	**Pn**	**01 30 52.4**	**-0.3**
GUMO	**Guam**	**18.66**	**66**	P	**Pn**	**01 34 34.0**	**+0.5**
NACB	**Ninganchiao**	**18.74**	**343**	*e*P	**Pn**	**01 34 40.3**	**+5.9**
TATO	**Taipei** 18nm,0.5s	**19.53**	**344**	*e*P	**Pn**	**01 34 44.0**	**+0.2**
FITZ	**Fitzroy Crossi** 0.8nm,0.5s,mb3.3,baz=17,slow=11,SNR=4.1	**24.21**	**184**	P	**P**	**01 35 30.6**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.5s,mb3.1,baz=346,slow=9.8,SNR=7.6	**26.84**	**166**	P	**P**	**01 35 53.9**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.4s,mb3.4,baz=343,slow=7.0,SNR=8.6	**30.34**	**168**	P	**P**	**01 36 24.2**	**-0.8**
MDJ	**Mudanjiang** 4.4nm,0.4s,mb4.6	**38.31**	**2**	*e*P	**P**	**01 37 34.0**	**+0.1**
STKA	**Stephens Creek** 0.9nm,0.4s,mb4.0,baz=3.4,slow=12,SNR=3.4	**40.20**	**161**	P	**P**	**01 37 49.6**	**+0.1**
LSA	**Lhasa** 2.4nm,0.4s,mb4.4	**41.40**	**309**	*e*P	**P**	**01 38 03.1**	**+3.7**
YAK	**Yakutsk** 16nm,0.3s	**55.74**	**1**	*e*P	**P**	**01 39 47.4**	**-2.1**
MKAR	**Makanchi Array** 1.3nm,0.4s,mb4.4,baz=116,slow=7.6,SNR=31	**55.97**	**324**	P	**P**	**01 39 51.3**	**+0.3**
KURK	**Kurchatov** 4.0nm,0.4s,mb4.8	**60.07**	**326**	*e*P	**P**	**01 40 20.3**	**+0.5**
BVAR	**Borovoye Array** 1.2nm,0.5s,mb4.0,baz=120,slow=8.5,SNR=9.2	**65.67**	**326**	P	**P**	**01 40 57.0**	**+0.1**
BRVK	**Borovoye** 1.7nm,0.6s,mb4.0	**65.74**	**326**	*e*P	**P**	**01 40 56.9**	**-0.4**
ZRNK	**Zerenda** 4.0nm,0.3s,mb4.7	**66.41**	**326**	*e*P	**P**	**01 41 01.8**	**+0.2**
AKTK	**Aktyubinsk**	**72.19**	**321**	P	**P**	**01 41 37.4**	**+0.1**
AKTO	**Aktyubinsk** 1.0nm,0.6s,mb3.8,baz=93,slow=9.0,SNR=3.9	**72.19**	**321**	P	**P**	**01 41 37.4**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=66,slow=2.0,SNR=5.3	**122.79**	**290**	PKP	PKPdf	01 49 06.7	-1.1
TORD	**Torodi Ar. Bea**	**122.79**	**290**	PKP	PKPdf	01 49 06.7	-1.1

*BJI **29** 01:32:12.7, 199N×12882E, h59km, mB6.2, mb5.8, Ms6.0, Msz5.8*

*MOS **29** 01:32:16.3±1.3, 262N×12820E, h33km, mb6.2/53, MS5.8/66, Error ellipse: s-maj=7.7km s-min=4.3km az=113.9*

*ISCJB **29** 01:32:16.6±0.1, 257N±002×128.39E±002, h40km, mb6.0/168, MS5.8/217, Error ellipse: s-maj=3.5km s-min=2.6km az=127.1*

*GCMT **29** 01:32:17.9±0.1, 270N×12833E, h36km, MW6.2/112, Moment Tensor Solution. s112,c260; s108,c394; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.74±.01; $M_{\theta\theta}$-2.27±.01; $M_{\phi\phi}$1.53±.01; $M_{r\theta}$-0.23±.02; $M_{\theta\phi}$0.07±.01; $M_{\phi r}$1.97±.03; Best double couple: M_o2.72600×10^{18} NP1:ϕ_s55.00000°, δ57.00000°, λ25.00000°. NP2:ϕ_s310.00000°, δ69.00000°, λ145.00000°. Principal axes: T 3.1460, Plg39.0000°, Azm269.0000°; N -0.8400, Plg50.0000°, Azm104.0000°; P -2.3060, Plg7.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **29** 01:32:17.9±0.1, 252N×12828E, h39km, mb5.9/62, ME6.1, MS5.9/153, MW6.2 Error ellipse: s-maj=5.4km s-min=3.8km az=65.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^{18}Nm; M_{rr}0.96; $M_{\theta\theta}$-2.06; $M_{\phi\phi}$1.10; $M_{r\theta}$0.09; $M_{\theta\phi}$0.14; $M_{\phi r}$1.43; Best double couple: M_o2.30000×10^{18} NP1:ϕ_s57.00000°, δ61.00000°, λ34.00000°. NP2:ϕ_s308.00000°, δ60.00000°, λ146.00000°. Principal axes: T 2.4700, Plg44.0000°, Azm273.0000°; N -0.4000, Plg46.0000°, Azm92.0000°; P -2.0700, Plg1.0000°, Azm182.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s59.00000°, δ60.00000°, λ35.00000°. NP2:ϕ_s310.00000°, δ60.00000°, λ145.00000°. Principal axes: T Plg45.0000°, Azm275.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm185.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC A mosque, a school and over 50 homes heavily damaged on Morotai. Felt [IV] on Ternate and [III] on Halmahera and at Manado, Sulawesi. Felt at Davao, Philippines.

*IDC **29** 01:32:20.2±1.0, 253N×12829E, h62km±7km, mb5.4/33, mb1 5.4/35, mb1mx5.4/36, mbtmp5.4/35, MS5.7/23, Ms1 5.7/23, ms1mx5.6/33 Error ellipse: s-maj=10.5km s-min=5.6km az=73.0*

ISC 29 01:32:18.6±0.1, 257N±002×12845E±002, h42km, h42km±1.5km: pP-P, n809, σ1s27/555, mb6.0/167, MS5.8/217, 105C-63D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**4.94**	**315**	*e*P	**Pn**	**01 33 33.5**	**+3.2**
GSPH				*i* S	**Sn**	**01 34 30.5**	**+4.4**
DAV	**Davao City (W)** SNR=67	**5.31**	**327**	P	**Pn**	**01 33 41.2**	**+6.0**
DAV	**Davao City (W)**	**5.31**	**327**	*e*Pb	**Pn**	**01 33 41.0**	**+5.8**
DAV				*e*Sn	**Sn**	**01 34 45.3**	**+10**
AAI	**Ambon** 2μm,0.9s	**6.22**	**182**	P	**Pn**	**01 33 50.7**	**+2.8**
CTBH	**Cotabato--PC H**	**6.24**	**318**	⇓*e*P	**Pn**	**01 33 50.3**	**+2.2**
CTBH				*i* S	**Sn**	**01 34 58.6**	**+0.6**
SCPH	**Surigao**	**7.74**	**338**	*e*P	**Pn**	**01 34 10.7**	**+2.0**
SCPH						01 34 13.3	
IPIL	**Ipil**	**7.82**	**312**	⇓*e*P	**Pn**	**01 34 10.9**	**+1.2**
IPIL				*e*S	**Sn**	**01 35 36.6**	**-0.3**
SNPH	**Sibulan**	**8.49**	**323**	⇑*e*P	**Pn**	**01 34 23.0**	**+4.0**
PLP	**Palo**	**9.21**	**338**	*e*P	**Pn**	**01 34 32.6**	**+3.9**
PLP				*e*S	**Sn**	**01 36 17.7**	**+6.7**
PCI	**Palu** 1μm,0.9s	**9.28**	**248**	P	**Pn**	**01 34 30.6**	**+0.8**
RCP	**Roxas**	**10.57**	**328**	*e*P	**Pn**	**01 34 52.0**	**+4.6**
TSM	**Tawau**	**10.70**	**279**	P	**Pn**	**01 34 51.7**	**+2.5**
KALP	**Kalibo**	**10.89**	**326**	*e*P	**Pn**	**01 34 58.2**	**+6.4**
TARAI	**Tarakan** 5μm,1.5s	**10.90**	**274**	P	**Pn**	**01 34 53.2**	**+1.3**
PPR	**Puerto Princes**	**12.02**	**307**	*e*P	**Pn**	**01 35 09.2**	**+2.0**
KKM	**Kota Kinabalu**	**12.68**	**286**	⇑*e*Pn	**Pn**	**01 35 16.4**	**+0.1**
KKM				*e*Sn	**Sn**	**01 37 40.4**	**+4.4**
GQP	**Guinayangan** 352μm,1.0s	**12.73**	**333**	⇓*e*P	**Pn**	**01 35 23.8**	**+6.9**
TGY	**Tagaytay City** 140nm,0.8s,mb6.1,baz=188,slow=8.1,SNR=9.4	**13.65**	**327**	P	**Pn**	**01 35 31.8**	**+2.3**
TGY				LR	LR	01 42 02.7	
	comp=Z,264nm,19.4s,baz=141,slow=43						
WSI	**Waingapu** 3μm,1.4s	**14.63**	**214**	P	**Pn**	**01 35 44.4**	**+1.7**
KAKA	**Kakadu** 499nm,0.6s	**15.69**	**165**	*e*P	**Pn**	**01 35 54.1**	**-2.5**
KAKA				*e*SCP	ScP	01 44 26.7	+0.6
BCPH	**Baguio City Da**	**15.76**	**331**	⇑*i*P	**Pn**	**01 36 04.8**	**+7.4**
KMMI	**Kalianget** 9μm,1.1s	**17.33**	**236**	P	**Pn**	**01 36 17.0**	**-0.3**
NBBI	**Negara** 5μm,0.8s	**17.56**	**232**	P	**Pn**	**01 36 22.3**	**+2.1**
KSM	**Kuching**	**18.17**	**267**	⇑*i*Pn	**Pn**	**01 36 27.7**	**+0.2**
KSM				*e*Sn	**Sn**	**01 39 50.9**	**+1.6**
KSM				*e*PcP	PcP	01 41 06.7	+7.5
KRKI	**Karangkates** 9μm,0.8s	**19.19**	**236**	P	**Pn**	**01 36 40.5**	**+0.6**
GUMO	**Guam** 24nm,0.3s,baz=204,slow=6.5,SNR=19	**19.57**	**55**	P	**Pn**	**01 36 44.1**	**-0.3**
GUMO				LR	LR	01 43 18.3	
	comp=Z,23μm,21.7s,baz=232,slow=33						
GUMO	**Guam**	**19.57**	**55**	*e*Pn	**Pn**	**01 36 46.4**	**+1.9**
FITZ	**Fitzroy Crossi** 434nm,1.0s	**20.73**	**188**	*e*P	**P**	**01 36 53.1**	**-2.3**
FITZ				*e*S	**S**	**01 40 26.5**	**-18**
FITZ				*e*SCP	ScP	01 44 36.6	-0.3
FITZ	**Fitzroy Crossi** 79nm,0.7s,baz=23,slow=10,SNR=35	**20.73**	**188**	P	**P**	**01 36 54.5**	**-0.9**
FITZ				S	**S**	**01 40 39.5**	**-5.1**
	58nm,0.9s,baz=0.0,slow=13,SNR=1.7						
FITZ				ScP	ScP	01 44 35.8	-1.2
	34nm,0.9s,baz=237,slow=4.4,SNR=3.4						
FITZ				LR	LR	01 45 52.3	
	comp=Z,26μm,20.2s,MS5.6,baz=6.5,slow=39						
BJII	**Banjamegara** 2μm,1.9s,mb6.1	**21.14**	**242**	P	**P**	**01 36 58.8**	**-1.0**
JCJI	**Jatiwangi** 1μm,1.5s,mb6.2	**22.07**	**246**	P	**P**	**01 37 12.9**	**+3.1**
PMG	**Port Moresby** 92nm,0.9s,mb5.2,baz=330,slow=7.0,SNR=27	**22.11**	**123**	P	**P**	**01 37 10.3**	**0.0**
PMG				ScP	ScP	01 44 38.9	-1.4
	31nm,0.9s,baz=258,slow=6.3,SNR=4.8						
PMG				LR	LR	01 46 32.6	
	comp=Z,18μm,18.4s,MS5.5,baz=306,slow=38						
PMG	**Port Moresby**	**22.11**	**123**	*d*P	**P**	**01 37 11.5**	**+1.2**
PMG	**Port Moresby** 1μm,1.1s,mb6.2	**22.11**	**123**	*e*P	**P**	**01 37 12.2**	**+1.9**
PMG				LR	LR		
	comp=Z,27μm,21.0s,MS5.6						
NACB	**Ninganchiao**	**22.47**	**343**	*e*P	**P**	**01 37 16.7**	**+2.6**
NACB				*e*S	**S**	**01 41 20.0**	**+1.5**
LEM	**Lembang** comp=Z,3μm,0.9s,mb6.7	**22.80**	**246**	P	**P**	**01 37 17.1**	**-0.4**
YHNB	**Yeheng**	**23.00**	**343**	⇑*i*P	**P**	**01 37 20.5**	**+0.8**
YHNB				*e*S	**S**	**01 41 31.2**	**+4.1**
WRAB	**Tennant Creek**	**23.10**	**166**	⇓*i*P	**P**	**01 37 19.7**	**-1.0**
WRAB				*e*S	**S**	**01 41 26.8**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,1μm,0.8s,mb6.4						
WRAB				MLR	MLR		
	comp=Z,13μm,22.0s,MS5.3						
WRAB	**Tennant Creek** comp=Z,1μm,0.8s,mb6.4	**23.10**	**166**	⇓*i*P	**P**	**01 37 19.7**	**-1.0**
WRAB				*e*S	**S**	**01 41 26.8**	**-2.0**
WRAB				LR	LR		
	comp=Z,13μm,22.0s,MS5.3						
WRA	**Warramunga Arr** comp=Z,336nm,0.8s,mb5.8,baz=338,slow=11,SNR=123	**23.11**	**166**	P	**P**	**01 37 20.6**	**-0.2**
WRA				S	**S**	**01 41 25.4**	**-3.4**
	comp=Z,56nm,1.1s,baz=346,slow=13,SNR=3.2						
WRA				ScP	ScP	01 44 40.4	-2.5
	comp=Z,20nm,0.7s,baz=338,slow=3.0,SNR=6.1						
WRA				P3KPbc		02 10 48.9	
	comp=Z,2.4nm,0.8s,baz=169,slow=3.9,SNR=14						
WRA	**Warramunga Arr**	**23.11**	**166**	P	**P**	**01 37 20.6**	**-0.2**
WRA				S	**S**	**01 41 25.4**	**-3.5**
WRA	**Warramunga Arr**	**23.11**	**166**	P	**P**	**01 37 20.6**	**-0.2**
WRA				S	**S**	**01 41 25.4**	**-3.4**
WRA				ScP	ScP	01 44 40.4	-2.5
WB2	**Warramunga Arr**	**23.11**	**166**	⇓*i*P	**P**	**01 37 20.7**	**-0.1**
WB2				*e*S	**S**	**01 41 21.0**	**-7.9**
WB2				*e*SCP	ScP	01 44 41.3	-1.6
TATO	**Taipei** comp=Z,568nm,1.0s,mb6.0	**23.26**	**344**	*e*P	**P**	**01 37 23.8**	**+1.4**
TATO				LR	LR		
	comp=Z,12μm,20.0s,MS5.3						
TNG	**Tangerang** comp=Z,2μm,1.2s,mb6.5	**23.45**	**248**	P	**P**	**01 37 26.7**	**+2.5**
SBJI	**Serang** comp=Z,2μm,0.9s,mb6.6	**23.91**	**249**	P	**P**	**01 37 30.1**	**+1.7**
HKC	**Hong Kong**	**24.02**	**326**	*e*P	**P**	**01 37 28.0**	**-1.4**
JOW	**Kunigami** comp=Z,860nm,0.9s,mb6.2,baz=185,slow=8.4,SNR=89	**24.12**	**360**	P	**P**	**01 37 29.8**	**-0.6**
JOW				S	**S**	**01 41 42.8**	**-2.5**
	comp=Z,35nm,1.1s,baz=217,slow=20,SNR=5.0						
JOW				LR	LR	01 46 11.2	
	comp=Z,25μm,20.5s,MS5.7,baz=185,slow=34						
QZH	**Quanzhou**	**24.19**	**338**	⇑*i*P	**P**	**01 37 31.0**	**0.0**
QZH				S	**S**	**01 41 45.3**	**-1.0**
QZH				XS	sS	01 42 14.0	+8.8
QZH				LR	LR		
	comp=N,38μm,20.4s						
QZH				LR	LR		
	comp=E,12μm,14.2s						
QZH				LR	LR		
	comp=Z,50μm,26.5s						
QIZ	**Qiongzhong**	**24.48**	**313**	P	**P**	**01 37 34.0**	**+0.4**
QIZ				AP		01 37 45.5	
QIZ				XP	sP	01 37 53.5	+3.5
QIZ				S	**S**	**01 41 49.8**	**-1.2**
QIZ				XS	sS	01 42 14.0	+4.1
QIZ				AMB	AMB		
	comp=Z,450nm,1.2s,mb5.8						
QIZ				AMB	AMB		
	comp=Z,8μm,8.8s						
QIZ				LR	LR		
	comp=N,33μm,15.3s						
QIZ				LR	LR		
	comp=Z,35μm,26.8s						
QIZ	**Qiongzhong** comp=Z,1μm,1.5s,mb6.2	**24.48**	**313**	⇓*i*P	**P**	**01 37 33.1**	**-0.5**
QIZ				*e*S	**S**	**01 41 54.7**	**+3.7**
QIZ				LR	LR		
	comp=Z,16μm,20.0s,MS5.5						
KLI	**Kotabumi** comp=Z,2μm,0.9s,mb6.6	**24.71**	**253**	P	**P**	**01 37 37.2**	**+1.5**
GZH	**Guangzhou**	**25.11**	**326**	P	**P**	**01 37 40.3**	**+1.0**
GZH				S	**S**	**01 42 00.5**	**-0.6**
GZH				LR	LR		
	comp=N,24μm,25.2s,MS5.8						
GZH				LR	LR		
	comp=E,22μm,23.9s,MS5.8						
GZH				LR	LR		
	comp=Z,36μm,23.9s,MS5.8						
KGM	**Kluang**	**25.12**	**269**	P	**P**	**01 37 41.4**	**+1.9**
KSI	**Kapahiang** comp=Z,2μm,0.8s,mb6.7	**26.58**	**257**	P	**P**	**01 37 52.7**	**+0.1**
AS31	**Alice Springs**	**26.61**	**169**	⇓*e*P	**P**	**01 37 52.9**	**-0.1**
AS31				*e*PcP	PcP	01 41 16.8	+0.6
AS31				*e*S	**S**	**01 42 25.0**	**+0.1**
ASAR	**Alice Springs** comp=Z,96nm,0.7s,mb5.5,baz=349,slow=6.4,SNR=140	**26.61**	**169**	P	**P**	**01 37 52.5**	**-0.5**
ASAR				PcP	PcP	01 41 16.8	+0.5
	comp=Z,33nm,0.6s,baz=350,slow=2.3,SNR=8.6						
ASAR				S	**S**	**01 42 20.4**	**-4.6**
	comp=Z,17nm,1.1s,baz=355,slow=29,SNR=2.6						
ASAR				ScP	ScP	01 44 50.7	-2.1
	comp=Z,67nm,1.0s,baz=6.8,slow=2.8,SNR=10						
ASAR				P3KPbc		02 10 34.6	
	comp=Z,2.6nm,0.8s,baz=159,slow=4.7,SNR=18						
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**01 37 52.5**	**-0.5**
ASAR						01 41 16.8	
ASAR				S	**S**	**01 42 20.4**	**-4.5**
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**01 37 52.5**	**-0.5**
ASAR				PcP	PcP	01 41 16.8	+0.5
ASAR				S	**S**	**01 42 20.4**	**-4.6**
ASAR				ScP	ScP	01 44 50.7	-2.1
ASAR				*e*		02 10 34.6	
ASPA	**Alice Springs**	**26.61**	**169**	*e*P	**P**	**01 37 52.8**	**-0.2**
ASPA				*e*S	**S**	**01 42 21.9**	**-3.0**
ASPA				*e*SCP	ScP	01 44 51.2	-1.6
IPM	**Ipoh**	**27.44**	**275**	P	**P**	**01 38 01.5**	**+1.1**
CBIJ	**Chichi jima** comp=Z,402nm,0.7s,mb6.1,baz=181,slow=1.2,SNR=14	**27.70**	**27**	P	**P**	**01 38 02.0**	**-0.7**
CBIJ				LR	LR	01 47 52.1	
	comp=Z,12μm,20.2s,MS5.5,baz=210,slow=34						
KULM	**Kulim**	**27.87**	**276**	⇑*i*P	**P**	**01 38 03.7**	**-0.5**
KULM				*e*S	**S**	**01 43 02.0**	**+17**
SNG	**Songkhla** comp=Z,696nm,0.9s,mb6.3	**28.10**	**280**	P	**P**	**01 38 07.0**	**+0.7**
PPI	**Padang Panjang** comp=Z,232nm,1.2s,mb5.7	**28.21**	**264**	P	**P**	**01 38 06.1**	**-1.2**
CTA	**Charters Tower** comp=Z,129nm,0.9s,mb5.7	**28.50**	**143**	⇑*i*P	**P**	**01 38 13.0**	**+3.1**
CTA				*e*S	**S**	**01 42 54.9**	**+0.3**
CTA				*e*SCP	ScP	01 44 59.4	+0.9
CTA				*e*SCS	ScS	01 48 39.7	-12
CTA	**Charters Tower** comp=Z,157nm,0.8s,mb5.8,baz=325,slow=11,SNR=40	**28.50**	**143**	P	**P**	**01 38 10.5**	**+0.6**
CTA				S	**S**	**01 42 56.0**	**+1.4**
	comp=Z,27nm,1.0s,baz=272,slow=18,SNR=1.7						
CTA				LR	LR	01 51 11.8	
	comp=Z,18μm,19.7s,MS5.7,baz=324,slow=40						
CTA	**Charters Tower**	**28.50**	**143**	⇑*i*P	**P**	**01 38 13.0**	**+3.1**
CTA				*e*S	**S**	**01 42 54.9**	**+0.3**
CTA				pmax	pmax		
	comp=Z,129nm,0.9s						
CTAO	**Charters Tower**	**28.50**	**143**	⇓*i*P	**P**	**01 38 09.9**	**0.0**
CTAO				pmax	pmax		
	comp=Z,199nm,0.9s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,20μm,21.0s,MS5.7						
CTAO	**Charters Tower** comp=Z,199nm,0.9s,mb5.8	**28.50**	**143**	⇓*i*P	**P**	**01 38 09.9**	**0.0**
CTAO				LR	LR		
	comp=Z,20μm,21.0s,MS5.7						
KKTK	**Khon Kaen** comp=Z,4μm,0.4s	**28.69**	**300**	⇑P	**P**	**01 38 12.5**	**+1.0**
SSE	**Sheshan**	**29.19**	**347**	P	**P**	**01 38 17.0**	**+1.0**
SSE				AP	pP	01 38 29.8	+2.4
SSE				XP	sP	01 38 36.0	+3.6
SSE				S	**S**	**01 43 07.0**	**+1.6**
SSE				XS	sS	01 43 29.8	+5.3
SSE				PCS	PcS	01 45 05.5	+0.1
SSE				AMB	AMB		
	comp=Z,138nm,0.8s,mb5.7						
SSE				AMB	AMB		
	comp=Z,4μm,10.9s						
SSE				LR	LR		
	comp=N,5μm,20.9s,MS5.5						
SSE				LR	LR		
	comp=E,12μm,20.9s,MS5.5						
SSE				LR	LR		
	comp=Z,12μm,19.5s,MS5.5						
SSE	**Sheshan** comp=Z,138nm,0.8s,mb5.7	**29.19**	**347**	P	**P**	**01 38 16.9**	**+0.9**
SSE				pP	pP	01 38 29.7	+2.3
SSE				sP	sP	01 38 36.0	+3.6
SSE				S	**S**	**01 43 07.0**	**+1.6**
SSE				sS	sS	01 43 29.7	+5.2
SSE				PcS	PcS	01 45 05.5	+0.1
SSE				LR	LR		
	comp=Z,12μm,19.5s,MS5.5						
PSI	**Prapat** comp=Z,53nm,0.9s,mb5.3,baz=100,slow=3.5,SNR=34	**29.50**	**271**	P	**P**	**01 38 18.0**	**-0.7**
PSI				S	**S**	**01 43 08.9**	**-1.4**
	comp=Z,12nm,1.0s,baz=176,slow=13,SNR=3.2						
PSI				ScP	ScP	01 44 59.8	-1.9
	comp=Z,27nm,1.0s,baz=215,slow=5.7,SNR=3.8						
PSI	**Prapat**	**29.50**	**271**	P	**P**	**01 38 18.0**	**-0.7**
PSI				S	**S**	**01 43 08.9**	**-1.4**
PSI				ScP	ScP	01 44 59.8	-1.9
NNT	**Nongplab**	**30.12**	**291**	P	**P**	**01 38 25.2**	**+1.0**
JNU	**Nakatsue** comp=Z,559nm,0.9s,mb6.3,baz=214,slow=19,SNR=48	**30.47**	**4**	P	**P**	**01 38 27.6**	**+0.2**
JNU				S	**S**	**01 43 23.8**	**-1.8**
	comp=Z,42nm,1.1s,baz=227,slow=19,SNR=2.3						
JNU				LR	LR	01 49 35.4	
	comp=Z,32μm,20.4s,MS6.0,baz=276,slow=34						
NJ2	**Nanjing**	**30.68**	**344**	*e*P	**P**	**01 38 31.0**	**+1.8**
NJ2				AP	pP	01 38 43.0	+2.4
NJ2				XP	sP	01 38 49.5	+3.8
NJ2				PP	PP	01 39 33.5	-5.4
NJ2				S	**S**	**01 43 30.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,7μm,6.4s						
NJ2				LR	LR		
	comp=N,23μm,14.3s,MS6.0						
NJ2				LR	LR		
	comp=E,10μm,15.5s,MS6.0						
NJ2				LR	LR		
	comp=Z,11μm,16.7s,MS5.6						
NST	**Nakhon Sawan** comp=Z,192nm,0.8s,mb6.0	**30.78**	**297**	⇑P	**P**	**01 38 31.0**	**+0.9**
WHN	**Wuhan**	**30.86**	**336**	⇓P	**P**	**01 38 33.0**	**+2.3**
WHN				AP	pP	01 38 42.5	+0.3
WHN				S	**S**	**01 43 29.0**	**-2.6**
WHN				LR	LR		
	comp=N,25μm,25.0s,MS5.9						
WHN				LR	LR		
	comp=E,24μm,22.0s,MS5.9						
GYA	**Guiyang**	**31.64**	**321**	⇑*i*P	**P**	**01 38 39.3**	**+1.7**
GYA				PP	PP	01 39 47.8	-1.8
GYA				S	**S**	**01 43 43.8**	**-0.1**
GYA				XS	sS	01 44 13.8	+11
GYA				SCP	ScP	01 45 07.0	-1.7
GYA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,2μm,9.1s						
GYA				LR	LR		
	comp=N,13μm,20.4s,MS5.8						
GYA				LR	LR		
	comp=E,17μm,18.9s,MS5.8						
GYA				LR	LR		
	comp=Z,16μm,19.7s,MS5.7						
JHJ	**Hachijo jima 2** comp=Z,14μm,18.2s,MS5.7,baz=96,slow=37	**32.19**	**18**

KMI AMB AMB
comp=Z,3μm,6.2s
KMI LR LR
comp=N,13μm,25.0s,MS5.7
KMI LR LR
comp=E,14μm,22.0s,MS5.7
KMI Kunming 33.41 314 P **P** **01 38 55.1 +2.0**
KMI *PP pP 01 39 06.9 +2.3
KMI *SP sP 01 39 13.7 +4.1
KMI 01 40 06.8
KMI PPP 01 40 21.4
KMI S **S** **01 44 05.2 -6.2**
KMI pmax pmax
comp=Z,169nm,1.5s,mb5.8
KMI Kunming 33.41 314 P **P** **01 38 55.1 +2.0**
comp=Z,169nm,1.5s,mb5.8
KMI pP pP 01 39 06.9 +2.3
KMI sP sP 01 39 13.7 +4.1
KMI PP PP 01 40 06.8 -2.4
KMI PPP 01 40 21.4
KMI S **S** **01 44 05.2 -6.2**
KMI sS sS 01 44 27.2 -3.4
KMI SS SS 01 46 01.0 -36
KMI SSS 01 46 23.4
HNR Honiara 33.57 111 P **P** **01 38 54.2 -0.2**
comp=Z,107nm,0.5s,mb6.0,baz=352,slow=1.8,SNR=9.7
HNR LR LR 01 53 08.6
comp=Z,8μm,19.1s,MS5.5,baz=359,slow=37
HNR Honiara 33.57 111⇓*eP* **P** **01 38 55.2 +0.7**
HNR *e*PP pP 01 39 05.8 -0.2
HNR pmax pmax
comp=Z,2μm,1.2s,mb6.8
HNR Honiara 33.57 111⇓*eP* **P** **01 38 55.1 +0.7**
comp=Z,2μm,1.2s,mb6.8
HNR *ep*P pP 01 39 05.8 -0.1
HNR LR LR 01 53 08.6
COCO West Island 34.67 244 *eP* **P** **01 39 04.0 -0.1**
comp=Z,384nm,1.0s,mb6.3
COCO LR LR
comp=Z,2μm,21.0s,MS4.8
KS15 Wonju Array Si 34.70 359 *eP* **P** **01 39 04.8 +0.4**
KSRS Korea Array 34.72 359 P **P** **01 39 04.5 0.0**
comp=Z,283nm,0.8s,mb6.3,baz=175,slow=10,SNR=317
KSRS ScP ScP 01 45 17.3 -2.1
comp=Z,7.6nm,0.7s,baz=178,slow=4.0,SNR=6.9
MAJO Matsushiro 34.98 14 *eP* **P** **01 39 05.5 -1.2**
comp=Z,316nm,0.9s,mb6.2
MAJO LR LR
comp=Z,21μm,22.0s,MS5.8
MAT Matsushiro 34.98 14 P **P** **01 39 05.3 -1.4**
MAT S **S** **01 44 28.0 -7.6**
MJAR Matsushiro Arr 34.98 14 P **P** **01 39 05.7 -1.0**
comp=Z,176nm,0.7s,mb6.1,baz=185,slow=9.1,SNR=189
MJAR ScP ScP 01 45 18.5 -1.9
comp=Z,7.0nm,0.9s,baz=180,slow=4.3,SNR=3.6
MJAR Matsushiro Arr 34.98 14 P **P** **01 39 05.7 -1.0**
MJAR ScP ScP 01 45 18.5 -1.9
TIA Tai'an 35.07 344 ⇑P **P** **01 39 07.0 -0.5**
TIA AP pP 01 39 20.8 +1.8
TIA XP sP 01 39 29.5 +5.4
TIA S **S** **01 44 30.0 -7.1**
TIA AMB AMB
comp=Z,59nm,1.0s,mb5.5
TIA LR LR
comp=N,3μm,12.0s,MS5.5
TIA LR LR
comp=E,5μm,12.0s,MS5.5
KLBR Kellerberrin 35.47 196 *eP* **P** **01 39 09.4 -1.5**
comp=E,244nm,0.8s,mb6.2
XAN Xi'an 36.23 332 P **P** **01 39 17.8 +0.4**
XAN S **S** **01 44 50.0 -4.8**
XAN AMB AMB
comp=Z,375nm,1.3s,mb6.2
XAN LR LR
comp=N,9μm,27.5s
XAN LR LR
comp=Z,17μm,27.5s,MS5.7
MUN Mundaring 36.28 198 *eP* **P** **01 39 11.3 -6.5**
MUN *eS* **S** **01 44 47.0 -8.5**
MUN *eSS* SS 01 47 00.1 -35
MUN Mundaring 36.28 198 *eP* **P** **01 39 11.3 -6.5**
MUN *eS* **S** **01 44 47.0 -8.5**
STKA Stephens Creek 36.46 161⇓*iP* **P** **01 39 19.3 -0.1**
comp=Z,332nm,0.8s,mb6.3
STKA *e*SCP ScP 01 45 27.6 +1.8
STKA *e*SS SS 01 47 48.9 +10
STKA Stephens Creek 36.46 161 P **P** **01 39 19.5 +0.1**
comp=Z,202nm,0.7s,mb6.1,baz=336,slow=8.5,SNR=114
STKA S **S** **01 44 55.7 -2.6**
comp=Z,34nm,1.1s,baz=3.7,slow=14,SNR=2.3
STKA ScP ScP 01 45 24.9 -0.9
comp=Z,52nm,0.9s,baz=346,slow=10.0,SNR=4.1
STKA LR LR 01 56 29.2
comp=Z,17μm,19.6s,MS5.8,baz=332,slow=40
STKA Stephens Creek 36.46 161⇓*eP* **P** **01 39 19.2 -0.2**
STKA *ep*P pP 01 39 31.6 +0.6
STKA *e*PP PP 01 40 43.9 +1.1
STKA *e*S **S** **01 44 55.3 -3.1**
PBA Port Blair 36.52 286 *eP* **P** **01 39 17.3 -2.6**
PBA *ex* x 01 39 19.0
comp=Z,128nm,1.4s
PBA *ex* x 01 43 41.5
CD2 Chengdu 36.59 323⇑*iP* **P** **01 39 20.5 0.0**
CD2 AP pP 01 39 35.8 +3.7
CD2 XP sP 01 39 43.0 +5.9
CD2 PP PP 01 40 46.5 +2.2
CD2 PCP PcP 01 41 43.0 -0.1
CD2 S **S** **01 44 57.3 -3.0**
CD2 XS sS 01 45 24.5 +4.9
CD2 SCS ScS 01 49 26.8 -6.1
CD2 AMB AMB
comp=Z,400nm,0.9s,mb6.2
CD2 AMB AMB
comp=Z,3μm,8.3s
CD2 LR LR
comp=N,21μm,25.2s,MS6.0
CD2 LR LR
comp=E,24μm,20.4s,MS6.0
CD2 LR LR
comp=Z,19μm,22.8s,MS5.8
DL2 Dalian 36.70 351⇑*iP* **P** **01 39 22.3 +0.9**
DL2 AP pP 01 39 34.0 +1.0
DL2 XP sP 01 39 40.5 +2.5
DL2 PP PP 01 40 45.8 +0.4
DL2 S **S** **01 45 00.0 -1.9**
DL2 AMB AMB
comp=Z,120nm,0.8s,mb5.8
DL2 AMB AMB
comp=Z,630nm,5.4s
DL2 LR LR
comp=N,3μm,19.3s,MS5.6
DL2 LR LR
comp=E,10μm,19.7s,MS5.6
DL2 LR LR
comp=Z,6μm,19.6s,MS5.4
NWAO Narrogin (SRO) 36.87 196 P **P** **01 39 21.9 -1.0**
comp=Z,65nm,0.6s,mb5.6,baz=24,slow=7.2,SNR=42
NWAO Narrogin (SRO) 36.87 196 *eP* **P** **01 39 22.0 -0.9**
NWAO LR LR
comp=Z,7μm,19.0s,MS5.5
BJT Baijiatuau 38.90 345⇑*iP* **P** **01 39 39.4 -0.6**
BJT *e**PP pP 01 39 52.8 +1.1
BJT *eS* **S** **01 45 32.2 -3.2**
BJT pmax pmax
comp=Z,297nm,0.8s
BJT MLR MLR
comp=Z,13μm,22.0s
BJT Baijiatuau 38.90 345⇑*iP* **P** **01 39 39.4 -0.7**
comp=Z,298nm,0.8s,mb6.1
BJT *ep*P pP 01 39 52.8 +1.1
BJT *eS* **S** **01 45 32.2 -3.2**
BJT LR LR
comp=Z,13μm,22.0s,MS5.7
BJI Beijing 38.92 345 P **P** **01 39 40.0 -0.2**
BJI AP pP 01 39 53.0 +1.2
BJI XP sP 01 39 59.0 +2.2
BJI S **S** **01 45 33.0 -2.6**
BJI SS SS 01 48 32.0 +3.7
BJI AMB AMB
comp=Z,351nm,1.1s,mb6.0
BJI LR LR
comp=N,5μm,25.1s,MS5.7
BJI LR LR
comp=E,13μm,27.4s,MS5.7
BJI LR LR
comp=Z,9μm,24.3s,MS5.5
BJI Beijing 38.92 345 P **P** **01 39 40.1 -0.1**
BJI *PP pP 01 39 53.1 +1.3
BJI S **S** **01 45 33.0 -2.6**
BJI 01 49 46.2
BJI pmax pmax
comp=Z,351nm,1.1s,mb6.0
BJI MLR MLR
comp=Z,9μm,24.3s,MS5.5
BJI Beijing 38.92 345 P **P** **01 39 40.1 -0.1**
comp=Z,351nm,1.1s,mb6.0
BJI pP pP 01 39 53.1 +1.3
BJI sP sP 01 39 58.9 +2.1
BJI S **S** **01 45 33.0 -2.6**
BJI sS sS 01 45 57.5 +2.5
BJI SS SS 01 48 32.1 +3.8
BJI ScS ScS 01 49 46.2 0.0
BJI LR LR
comp=Z,9μm,24.3s,MS5.5
SNY Shenyang 39.33 354⇑P **P** **01 39 42.5 -1.1**
SNY AP pP 01 39 55.5 +0.3
SNY XP sP 01 39 59.8 -0.4
SNY SCP ScP 01 45 29.0 -7.6
SNY AMB AMB
comp=Z,60nm,0.7s,mb5.4
SNY AMB AMB
comp=Z,2μm,4.5s
SNY LR LR
comp=E,8μm,21.6s
SNY LR LR
comp=Z,13μm,19.6s,MS5.8
ARMA Armidale 39.57 148 *eP* **P** **01 39 46.1 +0.5**
ARMA *e*SCP ScP 01 45 38.3 +0.7
ARMA *eS* sS 01 46 05.2 +0.5
ARMA *e*SS SS 01 48 48.9 +7.7
IMP Imphal 39.94 307 *eP* **P** **01 39 48.0 -0.6**
IMP *ex* x 01 45 36.0
LZH Lanzhou 40.37 329⇑P **P** **01 39 53.5 +1.2**
LZH AP pP 01 40 06.8 +2.9
LZH XP sP 01 40 10.5 +1.6
LZH PP PP 01 41 31.0 +5.3
LZH PCP PcP 01 41 56.3 +1.4
LZH PCS PcS 01 45 46.0 +0.6
LZH S **S** **01 45 58.5 +1.1**
LZH XS sS 01 46 21.0 +4.2
LZH AMB AMB
comp=Z,890nm,1.4s,mb6.3
LZH AMB AMB
comp=Z,2μm,4.0s
LZH LR LR
comp=N,7μm,14.9s
LZH LR LR
comp=Z,11μm,17.3s,MS5.8
LZH Lanzhou 40.37 329⇑P **P** **01 39 53.5 +1.2**
LZH *PP pP 01 40 06.8 +2.9
LZH 01 41 31.0
LZH 01 41 56.3
LZH S **S** **01 45 58.4 +1.0**
LZH SS SS 01 48 54.0 -3.3
LZH 01 49 54.0
LZH pmax pmax
comp=Z,890nm,1.4s,mb6.3
LZH MLR MLR
comp=Z,11μm,17.3s,MS5.8
LZH Lanzhou 40.37 329⇑P **P** **01 39 53.5 +1.2**
comp=Z,890nm,1.4s,mb6.3
LZH pP pP 01 40 06.8 +2.9
LZH sP sP 01 40 10.4 +1.5
LZH PP PP 01 41 31.0 +5.3
LZH PcP PcP 01 41 56.3 +1.4
LZH ScP ScP 01 45 40.8 +0.1
LZH PcS PcS 01 45 45.9 +0.5
LZH S **S** **01 45 58.4 +1.0**
LZH sS sS 01 46 21.0 +4.2
LZH SS SS 01 48 54.0 -3.3
LZH ScS ScS 01 49 54.0 -0.7
LZH LR LR
comp=Z,11μm,17.3s,MS5.8
VLA Vladivostok 40.49 4 *eP* **P** **01 39 54.2 +1.0**
VLA *e* 01 41 54.0
VLA *i*S **S** **01 45 58.0 -1.1**
VLA *e*SS SS 01 48 57.6 -2.0
VLA pmax pmax
comp=Z,590nm,1.5s,mb6.1
VLA MLR MLR
comp=Z,5μm,17.0s,MS5.5
VLA Vladivostok 40.49 4 *iP* **P** **01 39 53.7 +0.5**
HHC Hu-ho-hao-te 41.04 340⇑*iP* **P** **01 39 58.5 +0.7**
HHC AP pP 01 40 17.3 +7.8
HHC PP PP 01 41 37.5 +4.5
HHC PCP PcP 01 41 57.0 0.0
HHC SCP ScP 01 45 39.8 -3.5
HHC S **S** **01 46 06.5 -0.8**
HHC XS sS 01 46 36.8 +10
HHC AMB AMB
comp=Z,81nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,2μm,5.2s
HHC LR LR
comp=N,13μm,21.0s,MS5.9
HHC LR LR
comp=E,11μm,19.6s,MS5.9
HHC LR LR
comp=Z,14μm,20.8s,MS5.8
CN2 Changchun 41.14 357 *eP* **P** **01 39 58.5 -0.1**
CN2 PP PP 01 41 39.5 +5.5
CN2 *eS* **S** **01 46 05.5 -3.3**
CN2 SS SS 01 49 11.0 -1.5
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CN2 LR LR
comp=N,9μm,20.0s,MS5.7
CN2 LR LR
comp=E,5μm,20.0s,MS5.7
CN2 LR LR
comp=Z,11μm,21.0s,MS5.7
BTO Baotou 41.37 339 *eP* **P** **01 40 00.3 -0.1**
ERM Erimo 41.42 17 *diP* **P** **01 40 02.4 +1.5**
ERM Erimo 41.42 17 *iP* **P** **01 40 02.4 +1.5**
AGT Agartala 41.73 304 *i* x x 01 40 09.0
AGT *i* x x 01 41 42.0
MDJ Mudanjiang 41.88 1 P **P** **01 40 04.8 +0.2**
MDJ AP pP 01 40 17.8 +1.4
MDJ XP sP 01 40 24.0 +2.7
MDJ PCP PcP 01 42 00.0 +0.2
MDJ S **S** **01 46 18.5 -1.2**
MDJ XS sS 01 46 41.8 +2.6
MDJ SS SS 01 49 27.0 -0.2
MDJ AMB AMB
comp=Z,151nm,1.1s,mb5.5
MDJ AMB AMB
comp=Z,1μm,4.9s
MDJ LR LR
comp=N,6μm,17.8s,MS5.7
MDJ LR LR
comp=E,8μm,19.1s,MS5.7
MDJ LR LR
comp=Z,9μm,19.1s,MS5.7
MDJ Mudanjiang 41.88 1⇑*eP* **P** **01 40 05.5 +0.9**
comp=Z,329nm,1.1s,mb5.9
MDJ *ep*P pP 01 40 16.1 -0.3
MDJ *eS* **S** **01 46 16.9 -2.8**
MDJ LR LR
comp=Z,10μm,21.0s,MS5.7
SHL Shillong 41.94 306⇓*iP* **P** **01 40 05.0 -0.2**
comp=Z,447nm,0.8s,mb6.2
SHL *eS* **S** **01 46 19.0 -1.7**
RIV Riverview 42.06 151 *eP* **P** **01 40 12.0 +5.9**
RIV *ep*P pP 01 40 20.7 +2.9
CNB Canberra Magne 42.48 154 *eP* **P** **01 40 13.1 +3.6**
comp=Z,213nm,1.7s,mb5.5
CNB *ep*P pP 01 40 22.5 +1.3
TOO Toolangi 42.96 160 *eP* **P** **01 40 15.7 +2.3**
comp=Z,102nm,0.8s,mb5.6
TOO *eS* **S** **01 46 28.0 -7.6**
TOO *e*SS SS 01 49 51.4 +3.0
TOO Toolangi 42.96 160 *eP* **P** **01 40 15.7 +2.3**
TOO *e*SS SS 01 49 51.4 +3.0
TOO pmax pmax
comp=Z,102nm,0.8s,mb5.6
TURI Tura 43.19 305 *eP* **P** **01 40 13.0 -2.3**
TURI *ex* x 01 41 10.0
ASAJ Asahikawa 43.22 15 P **P** **01 40 14.9 -0.6**
comp=Z,158nm,0.7s,mb5.8,baz=230,slow=13,SNR=49
ASAJ LR LR 01 56 37.7
comp=Z,11μm,21.8s,MS5.7,baz=214,slow=34
CAL Calcutta 43.68 300 *eP* **P** **01 40 22.3 +3.1**
CAL *eS* **S** **01 46 50.7 +4.5**
YUK Yuzh-Kuril'sk 44.08 18 *eP* **P** **01 40 26.0 +3.6**
YUK *eS* sS 01 47 10.0 -1.5
YUK pmax pmax
comp=Z,2μm,1.0s,mb6.8
YUK pmax pmax
comp=N,5μm,2.0s
YUK smax
comp=E,11μm,6.0s
YUK smax
comp=N,5μm,5.0s
YUK MLR MLR
comp=Z,8μm,20.0s,MS5.7
YUK MLR MLR
comp=N,12μm,19.0s,MS5.9
YUK MLR MLR
comp=E,9μm,20.0s,MS5.9
DZM Mont Dzumac 44.47 125 *eP* **P** **01 40 28.1 +2.6**
DZM Mont Dzumac 44.47 125 P **P** **01 40 27.4 +1.8**
comp=E,20nm,0.8s,mb4.9,baz=329,slow=14,SNR=7.8
LSA Lhasa 44.49 311 P **P** **01 40 28.0 +2.3**
LSA AP pP 01 40 36.8 -0.7
LSA S **S** **01 46 55.0 -3.0**
LSA AMB AMB
comp=Z,70nm,0.8s,mb5.4
LSA AMB AMB
comp=Z,4μm,8.9s
LSA LR LR
comp=N,8μm,15.1s,MS5.9
LSA LR LR
comp=E,8μm,11.7s,MS5.9
LSA Lhasa 44.49 311⇑*iP* **P** **01 40 27.4 +1.7**
LSA *e* 01 42 15.7
LSA *eS* **S** **01 46 59.4 +1.4**
LSA pmax pmax
comp=Z,263nm,0.7s,mb6.1
LSA MLR MLR
comp=Z,10μm,22.0s,MS5.7
LSA Lhasa 44.49 311⇑*iP* **P** **01 40 27.4 +1.7**
comp=Z,263nm,0.7s,mb6.1
LSA *e*PcP PcP 01 42 15.7 +7.1
LSA *e*ScP ScP 01 45 55.6 -1.6
LSA *eS* **S** **01 46 59.4 +1.4**
LSA LR LR
comp=Z,10μm,22.0s,MS5.7
GTA Gaotai 44.97 328 *eP* **P** **01 40 29.8 +0.2**
GTA AP pP 01 40 43.0 +1.6
GTA XP sP 01 40 48.5 +2.2
GTA PCP PcP 01 42 12.0 +1.8
GTA PP PP 01 42 16.5 +1.4
GTA S **S** **01 47 03.5 -1.5**
GTA SCS ScS 01 50 21.3 -1.9
GTA AMB AMB
comp=Z,300nm,0.9s,mb6.1
GTA AMB AMB
comp=Z,2μm,7.6s
GTA LR LR
comp=N,7μm,19.4s,MS5.8
GTA LR LR
comp=E,9μm,20.5s,MS5.8
GTA LR LR
comp=Z,13μm,19.4s,MS5.9
YSS Yuzh-Sakhalins 45.92 14*c iP* **P** **01 40 38.0 +0.9**
YSS pmax pmax
comp=Z,269nm,1.3s,mb6.0
YSS Yuzh-Sakhalins 45.92 14 *eP* **P** **01 40 37.8 +0.8**
comp=Z,307nm,1.1s,mb6.2
YSS LR LR
comp=Z,17μm,22.0s,MS5.9
HABR Khabarovsk 46.08 6⇑*iP* **P** **01 40 38.8 +0.5**
HABR *e* 01 40 56.1
HABR *eS* **S** **01 47 20.7 -0.2**
HABR pmax pmax
comp=Z,283nm,1.2s,mb6.1
HABR MLR MLR
comp=Z,8μm,18.0s,MS5.7
BOK Bokaro 46.23 301 *eP* **P** **01 40 40.5 +1.1**
BOK AMb AMB 01 40 44.4
comp=Z,232nm,1.5s,mb5.9
BOK *i* S **S** **01 47 21.6 -1.4**
KLR Kul'dur 46.57 3 *eP* **P** **01 40 37.8 -4.4**
KLR *eS* **S** **01 47 21.0 -6.9**
KLR pmax pmax
comp=N,330nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s,mb5.7
KLR pmax pmax
comp=N,1μm,10.0s
KLR pmax pmax
comp=Z,3μm,10.0s
KLR smax
comp=N,3μm,12.0s
KLR smax
comp=E,3μm,12.0s
VIS Vishakhapatnam 46.74 292 *eP* **P** **01 40 43.7 +0.2**
VIS AMb AMB 01 40 50.2
comp=Z,522nm,1.2s,mb6.3
VIS *i* S **S** **01 47 28.5 -1.8**
HIA Hailar 47.11 352*c iP* **P** **01 40 46.2 -0.2**
HIA Hailar 47.11 352⇑*iP* **P** **01 40 46.3 -0.1**
JIRN Jiri 47.44 306 *eP* **P** **01 40 50.5 +1.5**
comp=Z,1μm,0.8s,mb6.8
PALK Pallekele 47.78 277 P **P** **01 40 51.3 -0.3**
SNR=9.6
PALK Pallekele 47.78 277 *eP* **P** **01 40 53.0 +1.4**
comp=Z,591nm,1.8s,mb6.3
PALK LR LR
comp=Z,868nm,20.0s,MS4.7
GUN Gumba 47.79 306 *eP* **P** **01 40 52.4 +0.7**
comp=Z,1μm,0.6s
PKI Pulchoki 48.04 305 *eP* **P** **01 40 54.3 +0.7**
comp=Z,460nm,0.7s,mb6.6
KKN Kakani 48.23 306 *eP* **P** **01 40 55.8 +0.7**
comp=Z,752nm,0.8s,mb6.8
DMN Daman 48.30 305 *eP* **P** **01 40 56.4 +0.8**
comp=Z,867nm,0.8s,mb6.8
TAU Tasmania Unive 48.37 161 *eP* **P** **01 41 00.1 +3.9**
ULN Ulaanbaatar 48.76 341 P **P** **01 40 58.9 -0.2**
SNR=144
ULN Ulaanbaatar 48.76 341⇑*iP* **P** **01 40 58.7 -0.4**
ULN LR LR
comp=Z,12μm,21.0s,MS5.8
MDRS Chennai 48.79 285⇑*iP* **P** **01 40 59.3 -0.1**
MDRS *eP* 01 41 00.9
MDRS AMb AMB 01 41 02.9
comp=Z,481nm,0.8s,mb6.6
GKN Gorkha 48.84 306 *eP* **P** **01 41 00.1 +0.4**
comp=Z,492nm,0.7s,mb6.6
SONM Songino Array 48.95 340 P **P** **01 41 00.0 -0.6**
comp=Z,74nm,0.7s,mb5.8,baz=153,slow=7.5,SNR=256
SONM ScP ScP 01 46 13.3 -2.6
comp=Z,12nm,0.9s,baz=154,slow=3.3,SNR=4.0
SONM LR LR 02 03 00.5
comp=Z,13μm,21.2s,MS5.9,baz=156,slow=38
SONM PKPPKP 02 11 58.1
comp=Z,1.4nm,1.1s,baz=242,slow=3.1,SNR=3.1
KOLN Koldanda 49.59 305 *eP* **P** **01 41 06.1 +0.6**
comp=Z,1μm,0.7s
SALM Salem 50.60 283 *eP* **P** **01 41 13.0 -0.2**
SALM *ex* x 01 41 14.0
CIT Chita 50.83 348 *eP* **P** **01 41 15.1 +0.2**
CIT *e* *eP* 01 41 29.2 +2.4
CIT *e* 01 44 06.1
CIT *e* 01 48 26.1
CIT pmax pmax
comp=Z,299nm,1.0s,mb6.2
HYB Hyderabad 51.13 290⇑*iP* **P** **01 41 17.0 -0.1**
comp=Z,1μm,1.0s,mb6.8
HYB *e*PP PP 01 43 16.0 +2.0
HYB *eS* **S** **01 48 28.0 -4.0**
HYB *e* 01 52 38.0
HYB Hyderabad 51.13 290⇑*eP* **P** **01 41 17.0 -0.1**
HYB *eS* **S** **01 48 31.0 -1.0**
HYB pmax pmax
comp=Z,1μm,1.0s,mb6.8
HYB Hyderabad 51.13 290⇑*eP* **P** **01 41 17.0 -0.1**
comp=Z,1μm,1.0s,mb6.8
HYB *eS* **S** **01 48 31.0 -1.0**
JBP Jabalpur 51.17 298⇑*eP* **P** **01 41 19.9 +2.4**
JBP *ex* x 01 41 30.6
comp=Z,464nm,1.6s

JBP eS **S** **01 48 36.1 +3.5**
NGP **Nagpur** **51.48 295** eP **P** **01 41 18.3 -1.5**
NGP ⇓eS **S** **01 48 37.3 +0.4**
TRD **Trivandrum** **51.56 279** eP **P** **01 41 19.4 -0.9**
TRD eS **S** **01 48 37.4 -0.5**
FUNA **Funafuti** **51.78 103** P **P** **01 41 24.2 +2.3**
comp=Z,577nm,1.2s,mb6.4
FUNA LR LR
comp=E,18μm,20.0s,MS6.1
ZAK **Zakamensk** **52.19 340** eP **P** **01 41 24.4 -0.6**
ZAK e 01 42 42.8
ZAK pmax pmax
comp=Z,32nm,0.8s,mb5.3
ZAK pmax pmax
comp=Z,45nm,0.8s,mb5.5
LGTI **Lohaghat** **52.95 305** *i* P **P** **01 41 31.0 +0.3**
PTH **Pithoragarh** **53.01 306** eP **P** **01 41 33.1 +2.0**
TLY **Talaya** **53.17 341** P **P** **01 41 33.6 +1.3**
SNR=25
TLY **Talaya** **53.17 341** *c i* P **P** **01 41 31.7 -0.6**
TLY e 01 43 33.0
TLY eS **S** **01 48 58.8 -1.2**
TLY e 01 51 16.4
TLY pmax pmax
comp=Z,86nm,1.5s,mb5.5
TLY MLR MLR
comp=Z,10μm,22.0s,MS5.8
TLY **Talaya** **53.17 341** eP **P** **01 41 32.8 +0.5**
TLY LR LR
comp=Z,2μm,22.0s,MS5.2
LATR **Latur** **53.18 291** eP **P** **01 41 32.5 +0.1**
AKL **Akola** **53.23 294**⇑ *i* P **P** **01 41 33.6 +0.9**
AKL ex x 01 41 36.7
comp=Z,1μm,0.9s
AKL *i* S **S** **01 49 00.8 0.0**
SKR **Severo-Kuril's** **53.32 22** eP **P** **01 41 30.0 -3.4**
SKR eS **S** **01 48 58.0 -4.1**
SKR pmax pmax
comp=N,480nm,1.5s
SKR pmax pmax
comp=Z,640nm,1.5s,mb6.3
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax
comp=N,6μm,24.0s
SKR smax
comp=E,10μm,12.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.5
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.7
SKR MLR MLR
comp=E,2μm,16.0s,MS5.5
IRK **Irkutsk** **53.45 342** eP **P** **01 41 34.0 -0.3**
IRK e pP 01 41 43.4 -3.0
IRK e 01 43 30.3
IRK eS **S** **01 49 02.0 -1.8**
IRK e 01 51 24.7
IRK pmax pmax
comp=Z,152nm,1.4s,mb5.7
BHPL **Bhopal** **53.46 297** eP **P** **01 41 34.5 +0.1**
BHPL AMb AMB 01 41 38.1
comp=Z,506nm,1.0s,mb6.4
NRGR **Nerungri** **54.01 357** eP **P** **01 41 39.2 +0.8**
NRGR pmax pmax
comp=Z,273nm,0.7s,mb6.3
MNGI **Mangalore** **54.02 284** *i* P **P** **01 41 38.4 -0.2**
MNGI AMb AMB 01 41 41.5
comp=Z,334nm,0.0s
MNGI *i* S **S** **01 49 09.8 -1.8**
MOY **Mondy** **54.06 339** eP **P** **01 41 39.5 +0.7**
MOY pmax pmax
comp=Z,296nm,3.1s
CLNS **Chul'man** **54.18 358** eP **P** **01 41 39.1 -0.6**
CLNS e*PP pP 01 41 44.9 -6.8
CLNS e 01 43 37.3
CLNS pmax pmax
comp=Z,124nm,0.7s,mb6.0
CLNS pmax pmax
comp=N,86nm,0.8s
CLNS pmax pmax
comp=E,34nm,0.6s
CLNS pmax pmax
comp=N,52nm,0.9s
CLNS pmax pmax
comp=Z,50nm,0.9s,mb5.4
CLNS pmax pmax
comp=E,46nm,1.0s
CLNS MLR MLR
comp=Z,5μm,16.0s,MS5.7
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.5
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.5
CLNS **Chul'man** **54.18 358** eP **P** **01 41 39.0 -0.7**
WMQ **Urumqi** **54.66 325**⇓ *i* P **P** **01 41 44.0 +0.9**
WMQ AP pP 01 42 02.8 +7.6
WMQ PCP PcP 01 42 46.0 +0.4
WMQ PP PP 01 43 49.0 +3.1
WMQ PPP 01 45 01.5
WMQ SCP ScP 01 46 36.3 -4.3
WMQ PCS PcS 01 46 44.5 -0.8
WMQ S **S** **01 49 16.3 -3.8**
WMQ PS 01 49 39.3
WMQ XS sS 01 49 49.3 +9.1
WMQ SCS ScS 01 51 22.5 -6.3
WMQ AMB AMB
comp=Z,320nm,0.8s,mb6.4
WMQ AMB AMB
comp=Z,2μm,4.7s
WMQ LR LR
comp=N,22μm,26.2s,MS6.2
WMQ LR LR
comp=E,12μm,24.3s,MS6.2
WMQ LR LR
comp=Z,12μm,22.4s,MS5.9
DDI **Dehra Dun** **55.04 306** eP **P** **01 41 47.8 +1.9**
NDI **New Delhi** **55.19 303** eP **P** **01 41 45.0 -2.0**
NDI eP 01 41 46.5
NDI AMb AMB 01 41 54.3
comp=Z,383nm,1.0s,mb6.4
KAD **Karad** **55.22 289** eP **P** **01 41 44.3 -2.9**
KAD AMb AMB 01 41 50.3
comp=Z,212nm,1.1s,mb6.1
POO **Poona** **55.73 291**⇑ *i* P **P** **01 41 48.0 -2.9**
comp=Z,460nm,1.0s,mb6.5
POO *ex* x 01 43 05.6
PET **Petropavlovsk** **56.14 21**⇓ *i* P **P** **01 41 55.5 +1.7**
PET eS **S** **01 49 41.0 +1.0**
PET ePPS 01 49 57.0
PET eSS SS 01 53 20.7 -6.0
PET pmax pmax
comp=Z,377nm,1.2s,mb6.3
PET pmax pmax
comp=Z,1μm,2.2s,mb6.5
PET pmax pmax
comp=Z,300nm,12.3s
PET smax
comp=N,2μm,12.8s
PET MLR MLR
comp=Z,5μm,20.0s,MS5.6
PET MLR MLR
comp=Z,4μm,21.0s
PET **Petropavlovsk** **56.14 21** eP **P** **01 41 54.3 +0.5**
PET LR LR
comp=Z,5μm,20.0s,MS5.6
BOD **Bodaibo** **56.26 351** eP **P** **01 41 53.6 -1.1**
BOD e 01 42 11.2
BOD pmax pmax
comp=Z,110nm,1.1s,mb5.8
BOD pmax pmax
comp=Z,166nm,1.2s,mb5.9
SDNR **Sundarnagar** **56.32 307** eP **P** **01 41 56.5 +1.4**
SDNR *ex* x 01 49 48.5
AJM **Ajmer** **56.74 300** eP **P** **01 41 58.3 +0.2**
AJM AMb AMB 01 42 07.4
comp=Z,258nm,0.9s,mb6.3
DGAR **Diego Garcia** **56.75 259**⇓ *i* P **P** **01 41 56.8 -1.4**
DGAR **Diego Garcia** **56.75 259** eP **P** **01 41 58.5 +0.3**
DGAR LR LR
comp=Z,845nm,20.0s,MS4.8
BOM **Bombay** **56.76 291** eP **P** **01 41 56.2 -2.0**
BOM *ex* x 01 42 06.8
comp=Z,338nm,1.5s
BOM eS **S** **01 49 45.4 -2.7**
MIDW **Midway** **57.52 58** eP **P** **01 42 04.8 +1.2**
MIDW eS **S** **01 49 55.4 -2.8**
THN **Thein Dam** **57.64 307** eP **P** **01 42 03.5 -0.9**
THN eS **S** **01 49 58.4 -1.2**
YAK **Yakutsk** **59.32 1** eP **P** **01 42 15.1 -1.1**
YAK e 01 43 02.2
YAK e 01 44 26.2
YAK ePPP 01 45 49.4
YAK eS **S** **01 50 17.1 -4.5**
YAK e 01 51 58.5
YAK eSS SS 01 54 14.1 -2.6
YAK pmax pmax
comp=Z,415nm,0.8s,mb6.5
YAK pmax pmax
comp=N,246nm,1.3s
YAK pmax pmax
comp=E,22nm,0.7s
YAK pmax pmax
comp=N,259nm,1.7s
YAK pmax pmax
comp=Z,223nm,1.7s,mb5.9
YAK pmax pmax
comp=E,122nm,1.6s
YAK smax
comp=N,2μm,5.8s
YAK smax
comp=Z,525nm,3.8s
YAK smax
comp=E,3μm,6.4s
YAK **Yakutsk** **59.32 1** eP **P** **01 42 14.5 -1.7**
YAK LR LR
comp=Z,8μm,21.0s,MS5.8
MA2 **Magadan** **59.42 13** eP **P** **01 42 17.0 +0.2**
MA2 eS **S** **01 50 21.7 -1.1**
MA2 e 01 52 01.3
MA2 eSSS 01 56 41.9
MA2 pmax pmax
comp=Z,200nm,0.8s,mb6.2
MA2 MLR MLR
comp=Z,4μm,19.0s,MS5.5
MA2 **Magadan** **59.42 13**⇑ eP **P** **01 42 17.3 +0.5**
MKAR **Makanchi Array** **59.48 325** P **P** **01 42 16.5 -0.8**
comp=Z,106nm,0.7s,mb6.0,baz=119,slow=7.2,SNR=334
MKAR ScP ScP 01 46 58.6 -3.3
comp=Z,11nm,0.8s,baz=108,slow=4.0,SNR=3.6
MKAR S **S** **01 50 22.4 -1.3**
comp=Z,3.1nm,1.1s,baz=134,slow=12,SNR=3.2
MKAR PKPPKP 02 11 47.7
comp=Z,1.8nm,0.8s,baz=320,slow=3.6,SNR=5.9
MKAR **Makanchi Array** **59.48 325**⇑ eP **P** **01 42 16.5 -0.8**
MKAR **Makanchi Array** **59.48 325** P **P** **01 42 16.5 -0.8**
MKAR ScP ScP 01 46 58.6 -3.3
MKAR S **S** **01 50 22.4 -1.3**
MKAR P'P' 02 11 47.7
RPZ **Rata Peaks** **59.83 145** P **P** **01 42 19.4 -0.3**
comp=Z,162nm,1.4s,mb5.9,baz=235,slow=12,SNR=3.9
KSH **Kashi** **60.07 315**⇑ *i* P **P** **01 42 23.0 +1.7**
KSH eAP pP 01 42 35.0 +1.5
KSH eXP sP 01 42 41.5 +3.1
KSH ePCP PcP 01 43 08.5 +1.6
KSH ePP PP 01 44 37.0 +2.9
KSH ePCS PcS 01 47 09.5 +0.3
KSH S **S** **01 50 30.3 -1.0**
KSH eSCS ScS 01 52 05.3 -3.1
KSH eSS SS 01 54 28.3 -0.2
KSH LR LR
comp=N,15μm,12.5s
KSH LR LR
comp=E,12μm,9.6s
KSH LR LR
comp=Z,29μm,14.6s,MS6.6
RAO **Raoul Island** **60.26 126** eP **P** **01 42 22.1 -0.5**
RAO e 01 44 46.2
RAO eS **S** **01 50 38.4 +4.7**
KRAR **Krasnoyarsk** **60.45 338**⇓ eP **P** **01 42 23.7 -0.2**
KRAR pmax pmax
comp=Z,113nm,0.8s,mb6.0
KRAR MLR MLR
comp=Z,12μm,23.0s,MS6.0
URZ **Urewera** **60.53 137** P **P** **01 42 25.1 +0.7**
comp=Z,2.5nm,0.4s,baz=355,slow=12,SNR=2.9
SNZO **South Karori** **60.59 141** eP pP 01 42 35.9 -1.2
SNZO eS **S** **01 50 44.1 +6.2**
SNZO LR LR
comp=Z,13μm,20.0s,MS6.1
AAA **Alma-Ata** **61.01 319** *i* P **P** **01 42 28.6 +0.9**
AAA *i* S **S** **01 50 42.8 -0.5**
AAA pmax pmax
comp=Z,2μm,11.1s
AAA smax
comp=N,5μm,13.8s
AAA MLR MLR
comp=Z,9μm,21.7s,MS5.9
AAA **Alma-Ata** **61.01 319** *i* P **P** **01 42 28.3 +0.6**
ULHL **Ulahol** **61.03 318** P **P** **01 42 29.8 +1.9**
SNR=13
AFI **Afiamalu** **61.46 107** P **P** **01 42 33.2 +2.5**
AFI e*PP pP 01 42 45.5 +2.5
AFI pmax pmax
comp=Z,36nm,0.3s,mb6.0
AFI MLR MLR
comp=Z,5μm,19.0s,MS5.7
AFI **Afiamalu** **61.46 107** P **P** **01 42 33.2 +2.5**
comp=Z,36nm,0.3s,mb6.0
AFI epP pP 01 42 45.5 +2.5
AFI LR LR
comp=Z,5μm,19.0s,MS5.7
KZA **Kyzart** **61.62 317** P **P** **01 42 32.5 +0.7**
SNR=79
TKM2 **Tokmak 2** **61.75 318** P **P** **01 42 33.0 +0.3**
SNR=48
KBK **Karagaybulak** **62.07 318** P **P** **01 42 37.3 +2.4**
SNR=14
UCH **Uchtor** **62.19 317** P **P** **01 42 36.7 +1.1**
SNR=92
CHMS **Chumysh** **62.34 318** P **P** **01 42 38.3 +1.6**
SNR=19
AAK **Ala-Archa** **62.36 318** P **P** **01 42 38.4 +1.5**
SNR=22
AAK **Ala-Archa** **62.36 318**⇑ P **P** **01 42 36.5 -0.3**
SNR=55
AAK **Ala-Archa** **62.36 318** *c i* P **P** **01 42 36.0 -0.8**
AAK pmax pmax
comp=Z,80nm,2.5s,mb5.4
AAK MLR MLR
comp=Z,14μm,22.0s,MS6.1
AAK **Ala-Archa** **62.36 318** eP **P** **01 42 36.1 -0.7**
AAK LR LR
comp=Z,3μm,22.0s,MS5.5
FRU **Bishkek** **62.36 318** eP **P** **01 42 37.0 +0.2**
FRU *i* 01 42 55.0
FRU *i* S **S** **01 51 00.0 -0.4**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.7
FRU smax
comp=N,5μm,4.0s
ZAL **Zalesovo** **62.40 333** P **P** **01 42 35.8 -1.2**
comp=N,26nm,0.7s,mb5.5,baz=347,slow=5.8,SNR=106
ZAL S **S** **01 50 57.3 -3.5**
comp=N,3.3nm,1.0s,baz=252,slow=24,SNR=7.3
ZAL PKPPKP 02 11 38.5
comp=N,1.8nm,0.2s,baz=193,slow=4.5,SNR=4.3
ZAL LR LR 02 12 27.5
comp=N,8μm,21.2s,MS5.8,baz=339,slow=39
ZAL **Zalesovo** **62.40 333** P **P** **01 42 35.8 -1.3**
ZAL S **S** **01 50 57.3 -3.5**
SMY **Shemya** **62.60 29** eP **P** **01 42 39.3 +0.9**
SMY pmax pmax
comp=Z,443nm,1.2s,mb6.5
SMY MLR MLR
comp=Z,8μm,21.0s,MS5.8
SMY **Shemya** **62.60 29** eP **P** **01 42 39.3 +0.9**
comp=Z,442nm,1.2s,mb6.5
SMY LR LR
comp=Z,8μm,21.0s,MS5.8
USP **Ospenovka** **62.62 318** P **P** **01 42 38.2 -0.4**
SNR=86
AML **Almayashu** **62.70 317** P **P** **01 42 39.4 +0.3**
SNR=59
SEY **Seymchan** **62.78 12**⇑ eP **P** **01 42 41.2 +1.6**
EKS2 **Erkin-Say** **62.86 317** P **P** **01 42 40.6 +0.4**
SNR=67
KURK **Kurchatov** **63.64 327** P **P** **01 42 44.5 -0.8**
SNR=16
KURK **Kurchatov** **63.64 327** *c* eP **P** **01 42 44.6 -0.7**
NVS **Novosibirsk** **63.68 333** eP **P** **01 42 43.7 -1.8**
NVS *i* *PP PcP 01 43 22.5 +1.0
NVS *i* S **S** **01 51 12.3 -4.5**
NVS *i* 01 52 29.3
NVS pmax pmax
comp=Z,255nm,1.4s,mb6.1
NVS pmax pmax
comp=N,63nm,0.7s
NVS pmax pmax
comp=E,75nm,0.7s
NVS smax
comp=N,312nm,2.6s
NVS smax
comp=E,252nm,1.9s
AMKA **Amchitka** **64.53 33** eP **P** **01 42 51.6 +0.5**
AMKA ePcP PcP 01 43 26.2 +1.3
KK31 **Karatay Array** **65.25 317** *i* P **P** **01 42 54.7 -1.1**
KK31 pmax pmax
comp=Z,132nm,0.8s,mb6.0
KKAR **Karatay Array** **65.25 317** P **P** **01 42 54.7 -1.1**
KKAR pmax pmax
comp=Z,105nm,0.8s,mb5.9
TIXI **Tiksi** **68.98 0** eP **P** **01 43 12.8 -6.7**
TIXI eS S 01 52 13.3 -7.8
TIXI pmax pmax
comp=E,24nm,0.7s
TIXI pmax pmax
comp=Z,186nm,0.7s,mb6.1
TIXI pmax pmax
comp=Z,741nm,2.0s,mb6.3
TIXI MLR MLR
comp=Z,6μm,18.0s,MS5.9
TIXI **Tiksi** **68.98 0** eP **P** **01 43 17.7 -1.8**
TIXI LR LR
comp=Z,7μm,19.0s,MS5.9
BVA0 **Borovoye Array** **69.22 327** *i* P **P** **01 43 19.1 -1.9**
BVA0 pmax pmax
comp=Z,95nm,1.3s,mb5.6
BVAR **Borovoye Array** **69.22 327** P **P** **01 43 19.8 -1.2**
comp=Z,76nm,0.8s,mb5.7,baz=122,slow=7.2,SNR=173
BVAR S S 01 52 20.2 -3.8
comp=Z,0.4nm,0.4s,baz=56,slow=8.4,SNR=3.4
BVAR PKPPKP 02 11 30.3
comp=Z,2.1nm,1.0s,baz=270,slow=3.0,SNR=7.8
BVAR LR LR 02 17 36.8
comp=Z,4μm,20.2s,MS5.6,baz=223,slow=39
BVAR **Borovoye Array** **69.22 327** P **P** **01 43 19.8 -1.2**
BVAR S S 01 52 20.2 -3.8
BRVK **Borovoye** **69.30 327** P **P** **01 43 20.2 -1.2**
SNR=124
BRVK **Borovoye** **69.30 327** eP **P** **01 43 18.8 -2.7**
comp=Z,424nm,1.0s,mb6.3
BRVK LR LR
comp=Z,1μm,21.0s,MS5.1
DRV **Dumont d'Urvil** **69.57 175** P **P** **01 43 21.0 -2.2**
DRV S S 01 52 24.0 -4.1
DRV SS SS 01 56 53.0 -3.3
CASY **Casey** **69.89 188** eP **P** **01 43 24.9 -0.2**
CASY eS S 01 52 24.9 -7.0
CASY **Casey** **69.89 188**⇑ eP **P** **01 43 24.7 -0.4**
comp=Z,38nm,0.7s,mb5.4
ZRNK **Zerenda** **69.95 326**⇑ eP **P** **01 43 24.7 -0.8**
ZRNK e 01 43 33.3
ZRNK e 01 46 02.2
ZRNK pmax pmax
comp=Z,20nm,2.1s
ZRNK **Zerenda** **69.95 326**⇑ eP **P** **01 43 24.7 -0.8**
comp=Z,20nm,2.1s
ZRNK e 01 43 33.3
ZRNK ePP PP 01 46 02.2 +1.6
WBK **Wadi Bani Khal** **70.09 293**⇓ P **P** **01 43 27.2 +0.9**
SNR=23
BILL **Bilibino** **70.23 14** *c i* P **P** **01 43 26.9 -0.3**
BILL pmax pmax
comp=Z,93nm,0.8s,mb5.8
JMDO **Jabal Madar** **70.86 293**⇑ P **P** **01 43 32.1 +1.1**
SNR=51
BIDO **Bidbid** **70.95 294**⇓ P **P** **01 43 31.5 0.0**
SNR=40
SMDO **Samad** **70.98 293**⇓ P **P** **01 43 32.2 +0.5**
SNR=24
HOQ **Hoqain** **71.70 294** P **P** **01 43 37.5 +1.4**
SNR=11
BSY **Bisya** **71.73 293**⇑ P **P** **01 43 36.3 +0.1**
SNR=33
ARQ **Araqi** **72.40 294** P **P** **01 43 40.6 +0.3**
SNR=29
SPIA **Saint Paul Isl** **72.62 30** eP **P** **01 43 43.8 +2.2**
SHAO **Shalim** **72.88 288** P **P** **01 43 43.0 -0.1**
SNR=12
HATD **Hatta, Dubai** **72.89 295** P **P** **01 43 43.7 +0.5**
SNR=14
ASHO **Ashiyiah** **72.94 295**⇑ P **P** **01 43 43.0 -0.5**
SNR=17
ABKT **Ailbek** **72.95 309** P **P** **01 43 43.4 -0.2**
comp=Z,627nm,1.0s,mb6.5,SNR=18
MSEY **Mahe Island** **73.27 264** eP **P** **01 43 45.7 +0.3**
MSEY LR LR
comp=Z,443nm,20.0s,MS4.7
UNV **Unalaska Valle** **73.40 34** eP **P** **01 43 47.8 +1.5**
UNV LR LR
comp=Z,17μm,22.0s,MS6.3
MIR **Mirnyy** **73.45 194** *d i* P **P** **01 43 49.0 +2.5**
MIR e 01 53 10.0
MIR pmax pmax
comp=Z,800nm,1.0s,mb6.6
MIR pmax pmax
comp=Z,1μm,4.0s
KIP **Kipapa** **73.74 69**⇑ eP **P** **01 43 51.6 +3.4**
KIP **Kipapa** **73.74 69** eP **P** **01 43 52.3 +4.1**
KIP LR LR
comp=Z,9μm,20.0s,MS6.0
HON **Honolulu** **73.74 69** eP **P** **01 43 52.7 +4.5**
AKUT **Akutan** **73.90 34**⇓ *i* P **P** **01 43 50.1 +0.9**
comp=Z,459nm,0.8s,mb6.5
AKUT *e* pP 01 44 01.3 -0.4
AKUT LR LR
comp=Z,5μm,22.0s,MS5.8
AB31 **Akbulak array** **74.13 321** *i* P **P** **01 43 49.3 -1.2**
AB31 pmax pmax
comp=Z,88nm,0.8s,mb5.7
AB31 **Akbulak array** **74.13 321**⇑ eP **P** **01 43 49.3 -1.2**
WHFO **Wadi Hawf** **74.64 288**⇓ P **P** **01 43 53.2 -0.3**
SNR=23
ABTO **Aybut** **75.07 287** P **P** **01 43 57.3 +1.4**
SNR=10
AKTK **Aktyubinsk** **75.63 322** P **P** **01 43 58.2 -0.9**
AKTK LR LR 02 21 29.3
AKTO **Aktyubinsk** **75.63 322** P **P** **01 43 58.2 -0.9**
comp=Z,35nm,0.8s,mb5.3,baz=109,slow=5.7,SNR=78
AKTO LR LR 02 21 29.3
comp=Z,7μm,20.3s,MS6.0,baz=218,slow=39
SVE **Sverdlovsk** **75.84 328**⇓ eP **P** **01 44 00.0 -0.4**
SVE e 01 46 59.0
SVE eS S 01 53 32.0 -7.5
SVE pmax pmax
comp=Z,270nm,1.5s,mb6.0
SVE MLR MLR
comp=E,3μm,20.0s
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.8
KHU **Kahuku** **75.87 71** eP **P** **01 44 04.9 +4.4**
KHU e 01 44 13.1
POHA **Pohakuloa** **75.97 70** eP **P** **01 44 05.5 +4.4**
comp=Z,284nm,0.9s,mb6.2
POHA LR LR
comp=Z,11μm,22.0s,MS6.1
ARU **Arti** **76.83 328**⇑ *i* P **P** **01 44 04.3 -1.6**
ARU e pP 01 44 16.8 -1.7
ARU e 01 46 56.9
ARU ePPP 01 48 40.7
ARU eS S 01 53 45.6 -4.7
ARU e 01 54 13.5
ARU eSSS 02 01 55.3
ARU pmax pmax
comp=Z,93nm,0.7s,mb5.8
ARU MLR MLR
comp=Z,4μm,24.0s,MS5.7
ARU MLR MLR
comp=N,3μm,19.0s,MS5.8
ARU MLR MLR
comp=E,4μm,22.0s,MS5.8
ARU **Arti** **76.83 328** eP **P** **01 44 03.6 -2.3**
comp=E,93nm,0.6s,mb5.9

ARU LR LR
comp=Z,1μm,20.0s,MS5.2
TNA Tin City 76.98 22 *e*P **P 01 44 08.7 +1.9**
TNA LR LR
comp=Z,3μm,22.0s,MS5.6
SDPT Sand Point 77.19 34⇓ *i*P **P 01 44 09.2 +1.2**
SDPT *e*PcP PcP 01 44 19.2 +0.6
SDPT LR LR
comp=Z,4μm,21.0s,MS5.7
ORR Orenburg 77.90 322 *e*P **P 01 44 10.1 -1.8**
ORR S S 01 53 51.0 -11
ORR MLR MLR
comp=Z,8μm,28.0s,MS5.9
CHGN Chignik 78.54 33 *e*P **P 01 44 16.3 +0.8**
SOKR Solikamsk 78.56 330*c i*P **P 01 44 13.4 -2.2**
SOKR S S 01 54 05.4 -3.6
SOKR SS SS 01 59 08.6 -4.5
SOKR pmax pmax
comp=Z,140nm,1.2s,mb5.8
SOKR MLR MLR
comp=Z,7μm,25.0s,MS5.9
MUKL Al Mukalla 79.12 284⇑ *e*P **P 01 44 19.1 +0.4**
MUKL AMb AMB 01 44 19.9
comp=Z,112nm,0.9s,mb5.8
QRN Al-Qurain 80.47 299 *e*P **P 01 44 25.0 -1.0**
QRN AMb AMB 01 44 35.0
comp=Z,491nm,0.5s,mb6.7
KBD Kabd 80.68 299 *e*P **P 01 44 25.9 -1.2**
KBD AMb AMB 01 44 36.3
comp=Z,802nm,0.7s,mb6.7
RDF Al-Radifah 80.80 299 *e*P **P 01 44 27.1 -0.6**
RDF AMb AMB 01 44 36.8
comp=Z,369nm,0.7s,mb6.4
SVW2 Sparrevohn 80.98 29 *e*P **P 01 44 29.8 +1.1**
MIB Mutribah 81.02 300 *e*P **P 01 44 27.4 -1.4**
MIB AMb AMB 01 44 38.0
comp=Z,402nm,0.7s,mb6.5
NAY Al-Naaiem 81.08 299 *e*P **P 01 44 27.6 -1.6**
NAY AMb AMB 01 44 38.3
comp=Z,252nm,0.7s,mb6.3
MAK Makhachkala 81.62 313*c i*P **P 01 44 31.9 -0.2**
MAK *e* 01 47 39.3
MAK *i* PPP 01 49 31.1
MAK *i* S S 01 54 38.0 -3.3
MAK *i* 01 54 48.6
MAK *i* SS SS 02 00 02.8 +3.8
MAK pmax pmax
comp=Z,99nm,0.9s,mb5.7
MAK pmax pmax
comp=N,188nm,1.3s
MAK pmax pmax
comp=E,164nm,1.0s
MAK pmax pmax
comp=Z,1μm,3.2s
MAK smax
comp=N,6μm,8.9s
MAK smax
comp=E,6μm,9.7s
KDAK Kodiak Island 81.94 32 P **P 01 44 34.5 +0.7**
comp=E,289nm,0.7s,mb6.3,baz=251,slow=3.0,SNR=79
KDAK Kodiak Island 81.94 32 *e*P **P 01 44 34.4 +0.6**
KDAK LR LR
comp=Z,2μm,22.0s,MS5.3
VNDA Vanda 82.07 173⇑ *e*P **P 01 44 33.4 -1.1**
VNDA *e* pP 01 44 46.0 -1.2
VNDA *e* 01 47 41.6
VNDA *e*S S 01 54 38.2 -7.7
VNDA pmax pmax
comp=Z,79nm,0.9s
VNDA MLR MLR
comp=Z,5μm,20.0s
VNDA Vanda 82.07 173⇑ *e*P **P 01 44 33.4 -1.1**
comp=Z,78nm,0.9s,mb5.6
VNDA *e* pP 01 44 46.0 -1.1
VNDA *e*PP PP 01 47 41.6 -1.2
VNDA *e*S S 01 54 38.2 -7.7
VNDA LR LR
comp=Z,5μm,20.0s,MS5.8
IMA2 Indian Mountai 82.74 24 *e*P **P 01 44 38.6 +0.6**
LBOS 82.80 284⇑ *e*P **P 01 44 39.1 +0.9**
LBOS AMb AMB 01 44 40.5
comp=Z,524nm,1.3s,mb6.4
SBA Scott Base 82.97 172 *e*P **P 01 44 39.1 0.0**
SBA LR LR
comp=Z,4μm,19.0s,MS5.8
PPT Papeete 83.12 108 *e*P **P 01 44 42.7 +2.8**
comp=Z,57nm,1.2s,mb5.5
PPT *e*pP pP 01 44 54.0 +1.4
comp=Z,173nm,1.4s
PPT Papeete 83.12 108 *e*LQ 02 07 26.0
comp=Z,9μm,33.2s
PPT Papeete 83.12 108 *e*PP PP 01 48 04.0 +13
comp=Z,606nm,26.0s
PPT Papeete 83.12 108 *e*S S 01 54 56.1 -0.5
comp=Z,3μm,26.8s
PPT *e*SS SS 02 00 48.2 +27
comp=Z,3μm,29.5s
PPT *e*LR LR 02 10 59.3
comp=Z,16μm,27.2s,baz=281
PPT Papeete 83.12 108 LR LR 02 17 55.8
comp=Z,3μm,19.4s,MS5.7,baz=269,slow=33
PPT Papeete 83.12 108 *e*P **P 01 44 42.7 +2.8**
PPT *e**PP pP 01 44 54.0 +1.4
PPT *e*S S 01 54 56.1 -0.5
PPT Papeete 83.12 108 *e*P **P 01 44 42.7 +2.8**
PPT *e*pP pP 01 44 54.0 +1.4
PPT *e*PP PP 01 48 04.0 +13
PPT *e*S S 01 54 56.1 -0.5
PPT *e*SS SS 02 00 48.2 +27
PPT *e*LQ 02 07 26.0
PAE Paea 83.13 108 *e*P **P 01 44 42.4 +2.4**
comp=Z,145nm,1.3s,mb5.8
PAE *e*pP pP 01 44 55.0 +2.3
comp=Z,363nm,1.3s
MAW Mawson 83.28 201 *e*S S 01 54 53.9 -4.3
MAW Mawson 83.28 201 P **P 01 44 39.9 -0.8**
comp=Z,99nm,0.9s,mb5.9,baz=55,slow=5.9,SNR=64
MAW LR LR 02 19 32.2
comp=Z,4μm,21.1s,MS5.7,baz=60,slow=34
MAW Mawson 83.28 201 *e*P **P 01 44 39.7 -1.0**
MAW *e*S S 01 54 53.9 -4.3
MAW pmax pmax
comp=Z,71nm,0.8s
MAW Mawson 83.28 201 *e*P **P 01 44 39.7 -1.0**
comp=Z,71nm,0.8s,mb5.8
MAW *e*S S 01 54 53.9 -4.3
TVO Taravao 83.45 108 *e*P **P 01 44 44.3 +2.7**
comp=Z,147nm,1.1s,mb5.9
TVO *e*pP pP 01 44 55.8 +1.5
comp=Z,554nm,1.4s
SLKM Skilak Lake 83.49 29 *e*P **P 01 44 42.1 +0.3**
SLKM PcP PcP 01 44 46.6 +0.5
GNI Garni 83.54 310 P **P 01 44 42.2 +0.1**
comp=Z,11nm,0.7s,mb5.1,baz=330,slow=2.7,SNR=10
GNI Garni 83.54 310 P **P 01 44 43.0 +0.9**
SNR=13
GNI Garni 83.54 310*c i*P **P 01 44 42.3 +0.2**
GNI pmax pmax
comp=Z,200nm,5.0s
GNI MLR MLR
comp=Z,2μm,16.0s
GNI Garni 83.54 310 *e*P **P 01 44 42.4 +0.3**
GNI LR LR
comp=Z,2μm,19.0s,MS5.5
DHBB Dhamar BB 83.62 284⇑ *e*P **P 01 44 43.4 +0.9**
DHBB AMb AMB 01 44 45.3
comp=Z,324nm,1.1s,mb6.4
BHD Baghdad 83.64 303 *ex* x 01 44 44.0
BHD *ex* x 01 45 10.0
BHD *ex* x 01 54 35.0
BHD *ex* x 01 54 56.0
DUS Dusheti 83.64 312 P **P 01 44 42.7 0.0**
TBI Tubuai 83.75 114 *e*LQ 02 07 52.1
comp=Z,4μm,40.8s
TBI Tubuai 83.75 114 *e*pP pP 01 44 56.8 +0.9
comp=Z,443nm,1.2s
TBI *e*PP PP 01 48 01.9 +5.4
comp=Z,673nm,26.8s
TBI Tubuai 83.75 114 *e*S S 01 55 01.2 -1.7
comp=Z,1μm,35.2s
TBI *e*SS SS 02 01 02.5 +32
comp=Z,2μm,31.5s
TBI *e*LR LR 02 11 16.1
comp=Z,13μm,35.0s,baz=284
TBI Tubuai 83.75 114 *e*P **P 01 44 46.6 +3.4**
TBI *e*pP pP 01 44 56.8 +0.9
TBI *e*PP PP 01 48 01.9 +5.4
TBI *e*S S 01 55 01.2 -1.7
TBI *e*SS SS 02 01 02.5 +32
TBI *e*LQ 02 07 52.1
TRBA At Turbah 83.91 283⇑ *e*P **P 01 44 44.8 +0.8**
PMR Palmer 84.13 28 *e*P **P 01 44 44.5 -0.6**
PMR pmax pmax
comp=Z,604nm,1.4s,mb6.5
PMR MLR MLR
comp=Z,4μm,23.0s,MS5.7
PMR Palmer 84.13 28 *e*P **P 01 44 44.5 -0.6**
comp=Z,604nm,1.4s,mb6.5
PMR LR LR
comp=Z,4μm,23.0s,MS5.7
ZEI Tsey 84.26 313 *e*P **P 01 44 45.7 -0.1**
ZEI *e**PP pP 01 44 55.3 -3.2
ZEI *e* 01 48 06.9
ZEI *e*S S 01 55 07.0 -1.1
ZEI pmax pmax
comp=Z,29nm,0.6s,mb5.6
ZEI smax
comp=N,96nm,2.0s
HAKT HAKKARI 84.28 307 *i* P **P 01 44 45.8 0.0**
MCK McKinley 84.43 26 *e*P **P 01 44 46.4 -0.2**
MCK LR LR
comp=Z,2μm,22.0s,MS5.5
SML Sawmill 84.53 28 *e*P **P 01 44 47.5 +0.4**
TVAN Van 84.53 308 *i* P **P 01 44 47.8 +0.7**
PMOR Pomariorio Ree 84.53 105 *e*P **P 01 44 49.6 +2.5**
comp=Z,106nm,1.2s,mb5.9
PMOR *e*pP pP 01 45 01.1 +1.2
comp=Z,150nm,1.2s
DIGO Kars 84.59 310 *i* P **P 01 44 48.0 +0.5**
PECR Pechory 84.74 326*k i*P **P 01 44 46.4 -1.8**
PECR *e*S S 01 55 03.4 -9.5
PECR pmax pmax
comp=Z,2μm,1.3s
PECR pmax pmax
comp=Z,2μm,6.0s
PECR pmax pmax
comp=E,800nm,5.2s
PECR smax
comp=E,2μm,7.4s
PECR MLR MLR
comp=E,2μm,20.0s
PECR MLR MLR
comp=Z,16μm,20.0s,MS6.4
PECR MLR MLR
comp=Z,14μm,20.0s
PECR MLR MLR
comp=E,2μm,17.0s
MSL Mosul 84.75 306 *ex* x 01 44 50.0
MSL *ex* x 01 54 47.0
VAH Vaihoa 84.81 105 *e*P **P 01 44 50.9 +2.4**
comp=E,117nm,1.3s,mb5.8
VAH *e*pP pP 01 45 02.4 +1.1
comp=E,124nm,1.1s
COLA College 85.00 25 P **P 01 44 49.6 +0.1**
COLA pmax pmax
comp=Z,47nm,1.0s,mb5.6
COLA College 85.00 25⇑ *i*P **P 01 44 48.6 -0.9**
KIV Kislovodsk 85.18 314 P **P 01 44 51.1 +0.7**
SNR=18
KIV Kislovodsk 85.18 314*c i*P **P 01 44 49.5 -0.9**
KIV *e* 01 48 08.5
KIV *e* 01 55 09.5
KIV *e*SSS 02 04 21.0
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,2μm,19.0s,MS5.6
KIV Kislovodsk 85.18 314 *e*P **P 01 44 50.9 +0.5**
KIV LR LR
comp=Z,704nm,21.0s,MS5.0
ARTV Artvin 85.70 311 *i* P **P 01 44 53.4 +0.4**
EYAK Cordova Ski Ar 85.70 30⇓ *i*P **P 01 44 55.1 +2.1**
DIV Divide 85.72 29 *e*P **P 01 44 54.1 +1.1**
DIV LR LR
comp=Z,10μm,20.0s,MS6.2
VRHR Novokhopersk 86.02 321 *e*P **P 01 44 54.5 -0.1**
VRHR *e**PP pP 01 45 01.6 -5.7
VRHR pmax pmax
comp=Z,70nm,0.6s,mb6.1
VRHR pmax pmax
comp=N,3.0nm,1.1s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR MLR MLR
comp=N,40nm,23.0s,MS5.5
VRHR MLR MLR
comp=Z,2μm,23.0s,MS5.5
VRHR MLR MLR
comp=E,3μm,27.0s,MS5.5
ERZM Erzurum 86.13 310 *i* P **P 01 44 56.2 +1.1**
SOC Sochi 87.33 313*c i*P **P 01 44 59.5 -1.5**
SOC *e**PP pP 01 45 08.6 -5.1
SOC *e* 01 48 27.2
SOC *e*PPP 01 50 15.9
SOC *e*S SKSac 01 55 22.2 -2.9
SOC *e* 01 55 32.4
SOC *e*SS SS 02 01 19.1 -4.0
SOC *e*SSS 02 04 56.4
SOC pmax pmax
comp=Z,18nm,0.6s,mb5.5
SOC pmax pmax
comp=Z,640nm,3.8s
SOC MLR MLR
comp=Z,4μm,18.0s,MS5.8
VOR Voronezh 87.53 322 *e*P **P 01 45 00.5 -1.5**
VOR S SKSac 01 55 23.5 -2.9
VOR pmax pmax
comp=N,110nm,1.4s
VOR pmax pmax
comp=Z,270nm,1.4s,mb6.3
VOR smax
comp=N,110nm,1.4s
VRSR Storozhevoye 87.55 321 *e*P **P 01 45 00.7 -1.3**
VRSR *e**PP pP 01 45 09.2 -5.6
VRSR *e**SP sP 01 45 13.4 -6.2
VRSR *e*S S 01 55 33.5 -6.8
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR smax
comp=N,2μm,6.6s
VRSR smax
comp=Z,410nm,7.3s
VRSR smax
comp=E,860nm,6.1s
VRSR MLR MLR
comp=N,2μm,25.0s,MS5.8
VRSR MLR MLR
comp=Z,4μm,25.0s,MS5.8
VRSR MLR MLR
comp=E,4μm,24.0s,MS5.8
EGAK Eagle 87.86 25⇓ *e*P **P 01 45 03.9 +0.4**
comp=E,58nm,0.9s,mb5.8
EGAK LR LR
comp=Z,3μm,22.0s,MS5.7
TMCR Tamitsa 87.89 334 P **P 01 45 03.4 -0.2**
TMCR pmax pmax
comp=Z,64nm,0.8s,mb5.9
DESE Dese 88.35 281 *e*P **P 01 45 07.5 +1.7**
MOS Moscow 88.36 326 *e*P **P 01 45 04.4 -1.5**
MOS *e* 01 45 12.5
MOS *e* 01 48 29.4
MOS *e* 01 55 25.0
MOS *i*S S 01 55 41.2 -6.8
MOS *e*PS 01 56 58.9
MOS *e*SS SS 02 01 32.7 -5.5
MOS pmax pmax
comp=Z,82nm,1.3s,mb5.8
MOS MLR MLR
comp=Z,6μm,20.0s,MS6.0
MALT Malatya 88.44 308⇑ *i*P **P 01 45 05.7 -0.6**
MALT Malatya 88.44 308 ⇑P **P 01 45 05.7 -0.6**
ATAB Bozova 88.58 307 *i* P **P 01 45 06.1 -0.8**
DAWY Dawson 88.65 26 *e*P **P 01 45 07.3 0.0**
ANN Anapa 88.93 315*d* P **P 01 45 06.1 -2.5**
ANN *i**PP pP 01 45 16.6 -4.8
ANN *i* pP 01 45 20.6 -0.8
ANN *e* 01 48 35.3
ANN *e*PPP 01 50 31.8
ANN *e* 01 55 32.3
ANN *e*SS SS 02 01 44.6 -1.9
ANN pmax pmax
comp=Z,153nm,0.7s,mb6.4
OBN Obninsk 88.99 325*c i*P **P 01 45 06.8 -2.1**
OBN *e* 01 48 42.1
OBN *i* S S 01 55 46.1 -7.8
OBN *e*PS PS 01 56 59.2 -4.1
OBN *i* SS SS 02 01 43.7 -3.6
OBN pmax pmax
comp=Z,122nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,6μm,18.0s,MS6.1
LVZ Lovozero 89.07 338⇑ *e*P **P 01 45 07.7 -1.5**
LVZ *e* 01 55 44.1
LVZ pmax pmax
comp=Z,111nm,1.3s,mb6.0
LVZ pmax pmax
comp=N,39nm,1.8s
LVZ pmax pmax
comp=E,21nm,0.9s
FURI Furi 89.39 279 *e*P **P 01 45 04.7 -6.0**
FURI S PP 01 48 47.7 +5.7
ASF Jabal al Asfar 89.97 302 P **P 01 45 13.9 +0.4**
comp=E,21nm,0.8s,mb5.5,baz=321,slow=3.1,SNR=33
INK Inuvik 90.60 22 P **P 01 45 15.6 -0.8**
comp=E,52nm,1.0s,mb5.8,baz=273,slow=4.3,SNR=69
INK Inuvik 90.60 22 P **P 01 45 15.6 -0.8**
HWQ Hawqa 90.64 304 *e*P **P 01 45 14.8 -1.8**
BHL Bhannes 90.91 304 *e*P **P 01 45 16.1 -1.7**
SKAG Skagway 90.97 31 *e*P **P 01 45 19.4 +1.3**
comp=E,106nm,1.2s,mb6.0
SKAG LR LR
comp=Z,4μm,22.0s,MS5.8
AVNT Avonos 91.22 309 *i* P **P 01 45 18.4 -0.8**
KMBO Kilima Mbogo 91.25 269 P **P 01 45 19.1 -0.3**
comp=Z,24nm,1.0s,mb5.5,baz=45,slow=6.2,SNR=25
KMBO LR LR 02 23 05.0
comp=Z,2μm,21.1s,MS5.5,baz=88,slow=33
KMBO Kilima Mbogo 91.25 269 ⇑P **P 01 45 21.4 +2.0**
SNR=25
KMBO Kilima Mbogo 91.25 269 P **P 01 45 19.4 0.0**
KMBO pmax pmax
comp=Z,90nm,1.4s
SIM Simferopol' 91.28 315*c e*P **P 01 45 17.5 -2.0**
SIM *e**SP sP 01 45 34.0 -3.1
SIM *e* 01 49 01.0
SIM *i* 01 55 46.0
SIM *e*S S 01 56 12.0 -3.0
SIM *e*PS PS 01 57 24.0 -4.6
SIM *e*SS SS 02 02 23.0 +2.6
SIM *e*SSS 02 05 55.0
SIM pmax pmax
comp=Z,19nm,0.7s,mb5.5
SIM MLR MLR
comp=Z,5μm,23.0s,MS5.9
CDAG Cicekdag 91.53 310 *i* P **P 01 45 19.0 -1.6**
KEV Kevo 91.56 340 *e*P **P 01 45 17.6 -3.2**
KEV *e*S S 01 56 17.0 -0.6
KEV MLR MLR
comp=Z,4μm,20.0s,MS5.9
KEV Kevo 91.56 340 *e*P **P 01 45 17.6 -3.2**
KEV *e*PP PP 01 49 15.7 +16
KEV *e*S S 01 56 16.9 -0.6
KEV *e*PKKPdf PKKPdf 02 02 46.2 +8.9
KEV LR LR
comp=Z,4μm,20.0s,MS5.9
TAOE Nuku Hiva Isla 91.77 99 *e*S S 01 56 15.9 -3.6
comp=Z,41μm,40.0s
TAOE *e*SS SS 02 02 34.0 +6.5
comp=Z,8μm,31.3s
TAOE *e*LR LR 02 14 52.3
comp=Z,32μm,24.9s,baz=273
EIL Elat 91.79 300 *e*P **P 01 45 22.2 +0.3**
PUL Pulkovo 91.90 330⇑ *e*P **P 01 45 21.6 -0.8**
PUL *e* 01 56 09.1
PUL *e*SS SS 02 02 36.8 +7.5
PUL pmax pmax
comp=N,37nm,0.6s
PUL pmax pmax
comp=Z,37nm,0.6s,mb5.9
PUL pmax pmax
comp=E,12nm,0.3s
SPB4 Spitsbergen Ar 91.94 349 *e*P **P 01 45 21.4 -1.2**
SYO Syowa Base 91.97 201⇓ *e*P **P 01 45 21.5 -1.2**
BR131 Keskin Array S 92.08 310 *e*P **P 01 45 22.2 -1.0**
comp=E,13nm,0.8s,mb5.3
BR131 *e* pP 01 45 36.9 +0.8
BR131 *e*PP PP 01 49 07.7 +4.3
BR131 LR LR
comp=Z,1μm,21.0s,MS5.4
BRTR Keskin Array B 92.08 310 P **P 01 45 21.7 -1.5**
comp=Z,3.8nm,0.8s,baz=115,slow=5.0,SNR=14
BRTR PP PP 01 49 00.5 -2.9
comp=Z,4.4nm,0.9s,baz=110,slow=7.2,SNR=3.5
BRTR PKKPbc PKKPbc 02 02 38.5 -0.5
comp=Z,2.3nm,0.9s,baz=226,slow=3.6,SNR=7.6
BRTR LR LR 02 30 16.5
comp=Z,2μm,21.9s,MS5.5,baz=58,slow=38
BRTR Keskin Array B 92.08 310 P **P 01 45 21.7 -1.5**
BRTR 01 49 00.5
BRTR 02 02 38.6
ARCES ARCESS Array B 92.12 340 P **P 01 45 21.3 -2.1**
comp=Z,56nm,0.8s,mb6.0,baz=82,slow=4.7,SNR=36
ARCES PKiKP PKiKP 01 50 11.8 -1.4
comp=Z,4.4nm,0.9s,baz=37,slow=2.3,SNR=6.6
ARCES PKKPbc PKKPbc 02 02 39.1 +0.1
comp=Z,4.1nm,0.8s,baz=256,slow=3.6,SNR=6.4
ARCES LR LR 02 34 34.5
comp=Z,3μm,18.8s,MS5.7,baz=262,slow=40
ARE0 ARCESS Array S 92.12 340 *e*P **P 01 45 22.4 -1.0**
KBS Kingsbay 92.43 350 *e*P **P 01 45 24.9 0.0**
KBS *e*SKS 01 55 56.5
KBS AMS AMS 02 29 36.5
comp=Z,3μm,25.3s,MS5.7
QSPA South Pole Qui 92.49 180 *e*P **P 01 45 24.7 -0.4**
QSPA *e* pP 01 45 37.6 -0.3
BJO Bjornoya 92.62 345 AMS AMS 02 30 26.2
comp=Z,3μm,21.7s,MS5.8
ANTO Ankara 92.72 310⇑ *i*P **P 01 45 25.2 -1.0**
ANTO Ankara 92.72 310 ⇑P **P 01 45 25.2 -1.0**
ANTO LR LR
comp=Z,1μm,20.0s,MS5.4
CSS Prodhromos 92.74 305⇑ *e*P **P 01 45 24.9 -1.4**
comp=Z,16nm,1.6s,mb5.2
CSS *e*PP PP 01 49 09.8 +1.3
WRAK Wrangell Islan 92.96 33⇓ *e*P **P 01 45 29.2 +1.9**
comp=Z,162nm,0.8s,mb6.5
WRAK LR LR
comp=Z,2μm,19.0s,MS5.5
KTK1 Kautokeino 93.03 340 *e*P **P 01 45 25.1 -2.5**
SGKT Sivrigoymuk 93.20 311 *i* P **P 01 45 28.5 +0.1**
KAF Kangasniemi 93.41 333 *ep* **P 01 45 26.3 -3.1**
comp=Z,7.5nm,0.7s,mb5.2,baz=75,slow=4.2
KAF Kangasniemi 93.41 333 *e*P **P 01 45 26.3 -3.1**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
FIA1 FINESS Array S 93.66 332 *e*P **P 01 45 30.2 -0.2**
FIA1 *e* pP 01 45 42.9 -0.4
FINES FINESS Array B 93.66 332 P **P 01 45 28.5 -2.0**
comp=Z,4.4nm,0.7s,mb5.0,baz=68,slow=4.4,SNR=12
FINES PKKPbc PKKPbc 02 02 35.2 +0.2
comp=Z,3.2nm,1.0s,baz=160,slow=6.1,SNR=4.3
FINES LR LR 02 31 10.4
comp=Z,5μm,21.9s,MS6.0,baz=218,slow=38
FINES FINESS Array B 93.66 332 *i* P **P 01 45 28.5 -2.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
DLBC Dease Lake 93.84 31 *e*P **P 01 45 32.3 +0.9**
AKASG Malin Array Be 93.87 321 P **P 01 45 29.2 -2.2**
comp=Z,5.7nm,0.9s,mb5.0,baz=70,slow=4.2,SNR=18
AKASG PKKPbc PKKPbc 02 02 33.0 -1.4
comp=Z,0.3nm,0.3s,baz=261,slow=3.9,SNR=4.3
AKASG LR LR 02 33 01.8
comp=Z,3μm,21.3s,MS5.7,baz=85,slow=39
AKASG Malin Array Be 93.87 321 *i* P **P 01 45 30.2 -1.3**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 93.87 321 *e*P **P 01 45 29.6 -1.9**
AKBB *e* pP 01 45 42.4 -1.9
AKBB *e* 01 49 18.7
KIEV Kiev 93.88 321 *e*P **P 01 45 30.6 -0.9**
KIEV *e* 01 49 19.1

KIEV pmax pmax
comp=Z,66nm,1.4s,mb5.9
KIEV MLR MLR
comp=Z,3µm,20.0s,MS5.8
KIEV Kiev 93.88 321 *e*P **P 01 45 30.6 -0.9**
comp=Z,66nm,1.4s,mb5.9
KIEV *e*PP PP 01 49 19.1 +1.6
KIEV LR LR
comp=Z,3µm,20.0s,MS5.8
VSU Vasula 93.94 329⇓ *i*P **P 01 45 32.7 +0.9**
MNK Minsk 94.08 325 *e*P **P 01 45 29.0 -3.5**
ESKT Eskisehir 94.24 310 *i* P **P 01 45 31.7 -1.5**
TRO Tromso 94.31 341 *e*P **P 01 45 31.3 -2.2**
TRO *e*SKS 01 56 05.8
TRO *e*SS SS 02 03 03.5 -0.4
TRO AMS AMS 02 31 45.0
comp=Z,4µm,23.0s,MS5.9
KIS Kishinev 94.70 317 *e*P **P 01 45 40.0 +4.7**
KIS *e* 01 49 30.0
KIS *e* 01 56 02.0
KIS Kishinev 94.70 317 *e*PP PP 01 49 30.0 +6.1
KIS Kishinev 94.70 317 *e*PS PS 01 58 30.0 +24
ISP Isparta 94.71 308⇑ *e*P **P 01 45 35.5 +0.2**
ISP Isparta 94.71 308⇑ *e*P **P 01 45 35.6 +0.3**
ALE Alert 94.86 1 P **P 01 45 36.0 0.0**
comp=Z,103nm,0.8s,mb6.3,SNR=8.0
TIRR Tirgusor 95.37 315⇑ *i*P **P 01 45 35.7 -2.7**
TIRR Tirgusor 95.37 315 ⇑P **P 01 45 35.7 -2.6**
CFR Carcaliu 95.45 316 P **P 01 45 43.3 +4.6**
VRI Vrincioaia 96.31 317⇑ *i*P **P 01 45 43.1 +0.4**
VRI Vrincioaia 96.31 317 P **P 01 45 43.6 +0.9**
VRI Vrincioaia 96.31 317 ⇑P **P 01 45 43.1 +0.5**
SUW Suwalki 96.85 325 *e*P **P 01 45 44.5 -0.6**
SUW *e*SKS 01 56 17.4
SUW L 02 28 05.6
comp=Z,4.7nm,28.0s
SUW Suwalki 96.85 325 *e*P **P 01 45 44.1 -1.0**
comp=Z,125nm,1.0s,mb6.3
SUW *e* pP 01 45 57.2 -0.8
MLR Muntele Rosu 96.92 316 P **P 01 45 44.4 -1.0**
comp=Z,7.4nm,0.9s,mb5.1,baz=226,slow=0.7,SNR=11
MLR Muntele Rosu 96.92 316⇓ *i*P **P 01 45 46.3 +0.9**
MLR Muntele Rosu 96.92 316 ⇓P **P 01 45 46.3 +0.9**
BURAR Bucovina Array 97.00 318⇓ *i*P **P 01 45 45.3 -0.5**
BURAR Bucovina Array 97.00 318 ⇓P **P 01 45 45.3 -0.5**
RKT Rikitea 97.05 113 *e*PP PP 01 49 50.3 +8.3
comp=Z,514nm,28.8s
RKT Rikitea 97.05 113 *e*PS PS 01 58 36.1 +4.0
comp=Z,2µm,29.5s
RKT Rikitea 97.05 113 *e*SKSac SKSac 01 56 22.3 +2.6
comp=Z,4µm,30.8s
RKT *e*SS SS 02 04 13.5 +31
comp=Z,1µm,31.0s
RKT *e*LR LR 02 17 23.9
comp=Z,9µm,32.2s,baz=280
MOR8 Moi Rana 97.15 338 *e*P **P 01 45 43.5 -3.0**
MOR8 AMb AMB 01 45 50.2
comp=Z,58nm,1.3s,mb5.8
MOR8 Moi Rana 97.15 338 *e*P **P 01 45 43.5 -3.0**
comp=Z,58nm,1.3s,mb5.8
LVV L'vov 97.31 321 *e*P **P 01 45 45.5 -1.7**
LVV *e* 01 49 45.3
LVV *e*PPP 01 51 47.9
LVV *e* 01 56 13.1
LVV *e*S S 01 57 02.9 -5.0
LVV *e*SS SS 02 03 52.7 +6.3
LVV *e*SSS 02 07 22.7
KWP Kalwaria 98.19 321 *e*P **P 01 45 50.6 -0.5**
KWP *e*pP pP 01 45 59.0 -5.0
KWP *e*SKS 01 56 22.6
KWP L 02 29 22.3
comp=Z,4.2nm,27.5s
KWP Kalwaria 98.19 321 *e*P **P 01 45 50.3 -0.8**
comp=Z,34nm,1.0s,mb5.8
KWP *e* pP 01 46 03.5 -0.4
KWP *e*PP PP 01 49 45.4 -5.4
DAG Danmarks Havn 98.61 353⇑ *i*P **P 01 45 50.2 -2.8**
comp=Z,38nm,0.7s,mb6.0
DAG Danmarks Havn 98.61 353⇑ *e*P **P 01 45 50.2 -2.8**
DAG pmax pmax
comp=Z,38nm,0.7s,mb6.0
DAG Danmarks Havn 98.61 353⇑ *e*P **P 01 45 50.2 -2.8**
comp=Z,38nm,0.7s,mb6.0
RES Resolute Bay 98.63 11⇑ *i*P **P 01 45 52.8 -0.3**
RES Resolute Bay 98.63 11⇓ *i*PcP PcP 01 45 52.8 -0.3
comp=Z,3µm,1.0s
RES *e*PP PP 01 49 54.8 +0.6
KOLS Kolonicke sedl 98.63 320 PDIF **P 01 45 57.6 +4.5**
KOLS pPDIF 01 46 05.9
KOLS Kolonicke sedl 98.63 320 *e*P **P 01 45 57.6 +4.5**
KOLS *e* 01 46 05.9
UZH Uzhgorod 98.69 320⇓ *i*P **P 01 45 53.8 +0.4**
UZH *e* 01 49 53.0
UZH *e* 01 56 23.0
UZH *e*S S 01 57 16.0 -3.6
UZH MLR MLR
comp=Z,2µm,19.0s,MS5.7
NSS Namsos 98.77 337 *e*P **P 01 45 51.4 -2.3**
NSS AMS AMS 02 34 33.7
comp=Z,7µm,24.6s,MS6.0
DRGR 98.85 318⇑ *i*P **P 01 45 57.5 +3.4**
DRGR 98.85 318 ⇑P **P 01 45 57.5 +3.5**
STHS Stebnicka Huta 99.17 321 PDIF **P 01 45 57.2 +1.7**
STHS pPDIF pP 01 46 10.0 +1.7
STHS Stebnicka Huta 99.17 321 *e*P **P 01 45 57.2 +1.7**
STHS *e* pP 01 46 10.0 +1.7
STHS pmax pmax
comp=Z,10.0nm,0.7s,mb5.5
STHS Stebnicka Huta 99.17 321 *e*P **P 01 45 57.2 +1.7**
comp=Z,10nm,0.7s,mb5.5
STHS *e* pP 01 46 10.0 +1.7
VTS Vitosha 99.44 314⇓ *i*P **P 01 46 05.0 +8.3**
VTS Vitosha 99.44 314 ⇓P **P 01 46 05.0 +8.3**
NIE Niedzica 99.75 321 *e*Pdiff Pdif 01 45 59.1 +1.0
NIE *e*PP PP 01 50 05.5 +2.8
YKA Yellowknife Ar 99.83 25 P Pdif 01 45 57.9 -0.5
comp=Z,20nm,0.8s,baz=301,slow=4.6,SNR=91
YKA PP PP 01 50 05.5 +2.3
comp=Z,1.9nm,0.8s,baz=303,slow=6.5,SNR=4.1
YKA PKiKP PKiKP 01 50 26.8 +0.2
comp=Z,2.0nm,0.7s,baz=303,slow=1.6,SNR=8.6
YKA PKKPbc PKKPbc 02 02 17.5 -0.7
comp=Z,2.9nm,0.8s,baz=110,slow=2.4,SNR=12
YKA LR LR 02 32 30.3
comp=Z,2µm,20.9s,MS5.6,baz=235,slow=36
YKA Yellowknife Ar 99.83 25⇑ *e*P Pdif 01 45 57.9 -0.5
YKA Yellowknife Ar 99.83 25 P Pdif 01 45 57.9 -0.5
YKA PP PP 01 50 05.5 +2.3
OJC Ojcow 99.85 322 *e*Pdiff Pdif 01 46 00.9 +2.4
OJC *e*PP PP 01 50 03.0 -0.5
OJC *e*SKSac SKSac 01 56 33.4 -0.4
OJC *e*SP SP 01 58 50.9 -6.3
OJC *e*SS SS 02 04 10.1 -12
OJC L 02 39 02.1
comp=Z,12nm,22.0s
OJC Ojcow 99.85 322 *e*P Pdif 01 46 00.9 +2.4
OJC *e* 01 50 03.0
OJC *e* 01 56 33.4
OJC *e*SP SP 01 58 50.9 -6.3
BZS Buzias 99.86 317⇓ *i*P Pdif 01 46 01.9 +3.3
BZS Buzias 99.86 317 ⇓P Pdif 01 46 01.9 +3.3
KECS Kecovo 99.89 320 PDIF Pdif 01 45 58.8 +0.1
KECS pPDIF 01 46 12.7
KECS *e*PP PP 01 50 06.2 +2.4
KECS Kecovo 99.89 320 *e*P Pdif 01 45 58.8 +0.1
KECS *e* 01 46 12.7
KECS *e* 01 50 06.3
KECS pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
KECS Kecovo 99.89 320 *e*P Pdif 01 45 58.8 +0.1
comp=Z,6.9nm,0.7s
KECS *e* 01 46 12.7
KECS *e*PP PP 01 50 06.3 +2.5
PSZ Piszkesteto 100.42 320 *e*P Pdif 01 46 01.5 +0.4
PSZ pmax pmax
comp=Z,20nm,1.0s
PSZ Piszkesteto 100.42 320 *e*Pdif Pdif 01 46 01.5 +0.4
comp=Z,20nm,1.0s
PSZ Piszkesteto 100.42 320⇓ *e*pP 01 46 14.0
LSZ Lusaka 100.57 255⇑ ⇑P Pdif 01 46 01.6 -0.2
SNR=9.8
LSZ Lusaka 100.57 255 *e*P Pdif 01 46 01.2 -0.6
LSZ pmax pmax
comp=Z,9.0nm,0.8s
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.6
LSZ Lusaka 100.57 255 *e*Pdif Pdif 01 46 01.2 -0.6
comp=Z,9.2nm,0.8s
LSZ LR LR
comp=Z,2µm,20.0s,MS5.6
NB2 NORSAR Subarra100.58 334 P Pdif 01 45 59.2 -2.6
comp=Z,6.9nm,0.8s,baz=64,slow=4.6
NOA NORSAR Array B 100.58 334 P Pdif 01 45 59.3 -2.5
comp=Z,7.1nm,0.9s,baz=64,slow=4.6,SNR=11
NOA PP PP 01 50 04.4 -4.6
comp=Z,3.5nm,1.0s,baz=64,slow=9.0,SNR=3.5
NOA PKKPbc PKKPbc 02 02 17.0 +0.9
comp=Z,2.4nm,0.9s,baz=247,slow=4.4,SNR=4.3
NOA NORSAR Array B 100.58 334 P Pdif 01 45 59.3 -2.5
NOA PP PP 01 50 04.4 -4.6
NOA PKKPbc PKKPbc 02 02 17.0 +0.9
NAO01 NORSAR Array S 100.81 334 *e*Pdif Pdif 01 46 02.7 -0.1
comp=Z,14nm,0.8s
NAO01 *e*PP PP 01 50 09.5 -1.2
NAO01 LR LR
comp=Z,9µm,21.0s,MS6.3
CMW Cultus Mountai 100.84 40 P Pdif 01 46 04.9 +2.0
VYHS Vyhne 100.94 320 PDIF Pdif 01 46 03.5 +0.1
VYHS pPDIF 01 46 15.9
VYHS *e*PP PP 01 50 08.6 -3.1
VYHS Vyhne 100.94 320 *e*PKP PKiKP 01 50 31.5 +2.8
VYHS Vyhne 100.94 320 *e*P Pdif 01 46 03.5 +0.1
VYHS *e* 01 50 08.6
VYHS pmax pmax
comp=Z,24nm,2.1s
VYHS Vyhne 100.94 320 *e*P Pdif 01 46 03.5 +0.1
comp=Z,24nm,2.1s
VYHS *e* 01 46 15.9
VYHS *e*PP PP 01 50 08.6 -3.1
VYHS *e* 01 50 31.5
VYHS LR LR
comp=Z,2µm,30.7s,MS5.5
NVL N'lazarevskaya 100.98 198 *e*P Pdif 01 46 00.8 -2.7
NVL *i* S SKSac 01 56 35.3 -4.0
NVL pmax pmax
comp=Z,13nm,0.9s
NVL MLR MLR
comp=Z,4µm,19.0s,MS6.0
NVL MLR MLR
comp=N,1µm,19.0s
OKC Ostrava-Krasne 100.98 322 *e*PDIF Pdif 01 46 05.9 +2.3
OKC *e*SKS 01 56 43.2
OKC AMS AMS 02 34 00.0
comp=N,3µm,22.4s
OKC Ostrava-Krasne 100.98 322 *e*Pdif Pdif 01 46 05.9 +2.3
OKC *e* 01 56 43.2
JCW Jim Creek 101.03 40 P Pdif 01 46 05.4 +1.6
COR Corvallis 101.08 44 *e*P Pdif 01 46 07.6 +3.6
COR *e* 01 50 12.7
COR MLR MLR
comp=Z,3µm,20.0s,MS5.8
BUD Budapest 101.11 319⇑ *e*pP 01 46 18.0
BSD Bornholm Skovb 101.11 328 *i* PP 01 50 05.9 -7.1
BSD *i* 01 59 28.8
BSD
comp=Z,3µm,20.0s
BSD Bornholm Skovb 101.11 328 *i* PP 01 50 05.9 -7.1
BSD *i* 01 59 28.8
FL2 Flat Top 2 101.31 42 P Pdif 01 46 08.2 +3.2
TDL Tradedollar La 101.36 42 P Pdif 01 46 08.2 +3.0
DIVS Divcibare 101.36 316⇓ *i*P Pdif 01 46 04.8 -0.5
JMIC Jan Mayen 101.37 347 AMS AMS 02 36 00.2
comp=Z,2µm,26.1s,MS5.6
MORC Moravsky Berou 101.37 322⇑ *i*P Pdif 01 46 09.6 +4.3
MORC Moravsky Berou 101.37 322 P Pdif 01 46 09.5 +4.2
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 101.37 322 ⇑P Pdif 01 46 09.6 +4.3
PTCN Pitcairn Islan 101.46 115 PFAKE 01 46 20.0 +14
PTCN LR LR
comp=Z,5µm,20.0s,MS6.0
PKSM Moragy 101.72 318⇓ *i*P Pdif 01 46 12.0 +5.2
KSP Ksiaz 101.80 323 *e*P Pdif 01 46 06.0 -1.2
KSP *e* 01 50 17.5
KSP *e*SP SP 01 59 15.0 -2.9
KSP *e*SS SS 02 04 52.0 +2.9
KSP MLR MLR
comp=Z,12µm,20.5s,MS6.4
HUMO Hull Mountain 101.83 46 PFAKE 01 46 20.0 +13
HUMO LR LR
comp=Z,4µm,21.0s,MS5.9
KONO Kongsberg 101.91 333 *e*PP PP 01 50 06.6 -12
KONO LR LR
comp=Z,7µm,22.0s,MS6.1
DPC Dobruska-Polom 101.94 323 *e*PDIF Pdif 01 46 11.0 +3.2
DPC *e*PP PP 01 50 18.6 -0.7
DPC *ex* x 01 57 02.1
DPC AMS AMS 02 34 40.0
comp=Z,5µm,21.8s
DPC Dobruska-Polom 101.94 323 *e*P Pdif 01 46 11.0 +3.2
DPC *e* 01 50 18.6
DPC MLR MLR
comp=Z,5µm,21.8s,MS6.0
UPC Upice 102.08 323 *e*PDIF Pdif 01 46 08.8 +0.4
UPC *e*PP PP 01 50 19.4 -0.9
VRAC Vranov 102.11 322⇑ *i*P Pdif 01 46 10.5 +1.9
VRAC Vranov 102.11 322 ⇑P Pdif 01 46 10.5 +1.9
ZST Bratislava 102.14 320 pPDIF 01 46 20.3
ZST *e*PP PP 01 50 17.9 -2.8
ZST Bratislava 102.14 320 *e*P 01 46 20.3
ZST *e* 01 50 17.9
ZST Bratislava 102.14 320 *e*P 01 46 20.3
ZST *e*PP PP 01 50 17.9 -2.8
ZST LR LR
comp=Z,1µm,27.2s,MS5.3
COP Copenhagen 102.21 329 *i* P PP 01 50 20.5 -0.8
COP *i* 01 57 13.6
COP *i* 02 05 02.7
COP
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 102.23 46 P Pdif 01 46 10.8 +1.7
comp=Z,1.9nm,0.7s,baz=300,slow=3.0,SNR=2.7
YBH Yreka Blue Hor 102.23 46 P Pdif 01 46 10.8 +1.7
YBH LR LR
comp=Z,3µm,20.0s,MS5.8
WTV Waterville 102.44 40 P Pdif 01 46 11.8 +1.8
HOPS Hopland 102.64 49 *e*Pdif 01 46 26.3
HOPS *e*PP PP 01 50 40.0 +16
HOPS LR LR
comp=Z,3µm,20.0s,MS5.9
WDC Whiskeytown Da 102.64 48 PFAKE 01 46 20.0 +9.1
WDC LR LR
comp=Z,6µm,21.0s,MS6.1
LBTB Lobatse 102.73 245 *e*P Pdif 01 46 10.4 -1.0
LBTB *e* 01 50 23.9
LBTB MLR MLR
comp=Z,2µm,22.0s,MS5.6
BOSA Boshof 102.81 241 P Pdif 01 46 12.8 +1.1
comp=Z,6.7nm,0.9s,baz=111,slow=3.8,SNR=7.9
BOSA Boshof 102.81 241 P Pdif 01 46 12.8 +1.1
BOSA LR LR
comp=Z,2µm,21.0s,MS5.7
PVCC Panska Ves 102.94 323 *e*PDIF Pdif 01 46 12.4 +0.2
PVCC *ex* x 01 57 16.4
PVCC AMS AMS 02 35 50.0
comp=Z,6µm,21.4s
HAWA Hanford 103.12 41 *e*Pdif Pdif 01 46 15.1 +2.1
comp=Z,7.9nm,0.8s
HAWA *e*PP PP 01 50 29.6 +1.5
HAWA LR LR
comp=Z,4µm,21.0s,MS6.0
PRU Pruhonice 103.14 323 *e*PDIF Pdif 01 46 15.5 +2.3
PRU *e*SKS 01 56 44.8
PRU *e*SDIF Sdif 01 57 54.7 -2.1
PRU AMS AMS 02 35 50.0
comp=Z,4µm,19.6s
BRG Berggiesshubel 103.19 324 *e*Pdiff Pdif 01 46 13.0 -0.4
BRG Berggiesshubel 103.19 324 *e* Pdif 01 46 12.0 -1.4
comp=Z,5.9nm,1.5s
BRG *e* 01 46 17.7
comp=Z,3.6nm,0.8s
BRG *e* 01 46 28.2
comp=Z,18nm,1.7s
BRG *i* 01 49 26.1
comp=Z,18nm,1.8s
BRG *i* PP PP 01 50 30.8 +2.2
comp=Z,14nm,1.5s
BRG PP PP 01 50 33.0 +4.4
BRG SKS SKSac 01 56 46.0 -3.8
BRG SDIF Sdif 01 57 50.0 -7.2
BRG *e*SP SP 01 59 58.0 +25
BRG *e* 02 11 04.6
comp=Z,16nm,1.8s
BRG
comp=N,4µm,34.3s
BRG
comp=E,3µm,27.8s
BRG
comp=Z,3µm,23.6s
ARSA Arzberg 103.45 320⇓ *i*P 01 46 28.6
comp=Z,13nm,1.8s
ARSA Arzberg 103.45 320⇑ *i*Pdiff Pdif 01 46 14.9 +0.4
ARSA ⇓ *i*Pdiff 01 46 28.6
comp=Z,13nm,1.8s
ARSA Arzberg 103.45 320⇓ *i*P 01 46 28.6
LBCM Butte Creek Ri 103.45 47 P Pdif 01 46 17.3 +2.8
MUD Monsted U'grnd 103.54 330 *i* P PKiKP 01 50 34.8 +1.4
MUD *i* 01 58 03.5
MUD *i* 02 05 20.1
MUD
comp=Z,4µm,21.0s
CLL Collm 103.58 324 *e*Pdiff Pdif 01 46 14.9 -0.2
comp=Z,12nm,1.3s
CLL *e*pPdiff 01 46 27.0
CLL *e*PP PP 01 50 32.0 +0.5
CLL *e* 01 51 03.1
CLL *e*Sdiff Sdif 01 58 01.8 +1.3
CLL *e*PS PS 01 59 52.5 +10
CLL *e*PPS 02 00 36.5
CLL *e*SS SS 02 05 20.8 +7.1
CLL *e*SSS 02 09 09.8
CLL *e*L 02 43 01.7
comp=Z,5µm,20.0s
CLL Collm 103.58 324 *i* P Pdif 01 46 14.8 -0.3
CLL *e* 01 50 32.0
CLL *e*S Sdif 01 57 56.0 -4.5
CLL pmax pmax
comp=Z,12nm,1.3s
CLL MLR MLR
comp=Z,5µm,18.8s,MS6.0
CLL Collm 103.58 324 *i* Pdif Pdif 01 46 14.8 -0.3
comp=Z,12nm,1.3s
CLL *e* 01 46 31.0
CLL *e*PP PP 01 50 32.0 +0.5
CLL *e*Sdif Sdif 01 57 56.0 -4.5
CLL LR LR
comp=Z,5µm,18.8s,MS6.0
CLL Collm 103.58 324 *i* Pdif Pdif 01 46 14.8 -0.3
comp=Z,12nm,1.3s
CLL *e*sPdif 01 46 31.0
CLL *e*PP PP 01 50 32.0 +0.5
CLL *i* pPP 01 50 41.2
CLL *i* x x 01 51 03.0
CLL *e*Sdif Sdif 01 57 56.0 -4.5
CLL *e*PPS 02 00 30.0
CLL *e*SS SS 02 05 20.0 +6.3
CLL *e*SSS 02 09 06.0
CLL *ex* x 02 11 24.0
CLL LmV 02 42 00.0
comp=Z,5µm,18.8s
GCIS Gornji Cirnik 103.82 318 *e* 01 46 29.3
MOD Modoc 103.92 46 *e*Pdif Pdif 01 46 18.1 +1.4
comp=Z,2.3nm,0.6s
MOD *e*PKiKP PKiKP 01 50 34.3 +0.2
MOD LR LR
comp=Z,1µm,21.0s,MS5.4
KHC Kasperske Hory 104.03 322 *e*PDIF Pdif 01 46 19.6 +2.5
KHC *e*pP 01 46 30.5
KHC *e*PP PP 01 50 36.5 +1.6
KHC *ex* x 01 50 42.5
KHC *e*SKS 01 56 51.3
KHC AMS AMS 02 35 40.0
comp=Z,4µm,22.4s
KHC Kasperske Hory 104.03 322⇑ *e*P Pdif 01 46 15.8 -1.3
NEW Newport 104.05 39 Pdiff Pdif 01 46 17.9 +0.7
comp=Z,6.1nm,0.8s,baz=286,slow=3.7,SNR=10
NEW Newport 104.05 39 P Pdif 01 46 18.5 +1.3
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 104.05 39 Pdif Pdif 01 46 17.9 +0.7
GERES GERESS Array B 104.06 322 Pdiff Pdif 01 46 16.5 -0.7
comp=Z,0.7nm,0.8s,baz=46,slow=7.0,SNR=5.2
GERES PKiKP PKiKP 01 50 35.1 +0.8
comp=Z,3.6nm,0.9s,baz=54,slow=5.0,SNR=4.5
GERES PKKPbc PKKPbc 02 02 07.3 +1.4
comp=Z,1.1nm,0.7s,baz=219,slow=1.7,SNR=6.5
NKC Novy Kostel 104.31 323 *e*SKS 01 57 18.1
NKC AMS AMS 02 36 50.0
comp=Z,6µm,21.1s
EDM Edmonton 104.37 33 *e*P Pdif 01 46 21.2 +2.6
EDM *i* 01 50 35.3
EDM Edmonton 104.37 33 *e*Pdif Pdif 01 46 21.2 +2.5
EDM *e*PKiKP PKiKP 01 50 35.3 +0.4
SAO San Andreas Ge 104.42 51 *e*Pdif Pdif 01 46 24.6 +5.7
SAO *e*PKiKP 01 50 52.8
LJU Ljubljana 104.49 319 *e* 01 46 32.2
LJU *e*PP PP 01 50 42.1 +3.8
LJU *e* 01 50 57.6
LJU *e* 01 56 49.9
LJU *e* 01 57 34.1
LJU *e*Sdiff Sdif 01 58 06.7 -1.4
SNAA Sanae 104.53 194 PKKPbc PKKPbc 02 02 04.7 +0.2
comp=Z,3.1nm,0.9s,baz=319,slow=4.7,SNR=10
SNAA Sanae 104.53 194 *e*Pdiff Pdif 01 46 23.3 +4.0
SNAA *e* 01 46 35.2
SNAA *e* 01 46 37.2
SNAA *e* 01 46 43.2
SNAA *e* 01 46 49.2
SNAA Sanae 104.53 194 *e* PKKPbc 02 02 04.5 0.0
SNAA *e* 02 02 15.3
SNAA *e* 02 02 23.1
SNAA Sanae 104.53 194 *e*P Pdif 01 46 21.5 +2.2
SNAA pmax pmax
comp=Z,12nm,1.0s
SNAA Sanae 104.53 194 *e*Pdif Pdif 01 46 21.5 +2.2
comp=Z,12nm,1.0s
MOX Moxa 104.64 324 *e*P Pdif 01 46 24.9 +5.1
MOX
comp=Z,3µm,22.0s
CLZ Clausthal 104.88 326 *e*Pdiff Pdif 01 46 22.7 +1.8
VOY Vojsko 104.91 319 *e* PP 01 50 50.5 +9.1
VOY *e* 01 51 34.2
CMB Columbia Colle 104.92 50 P 01 46 33.5
CMB Columbia Colle 104.92 50 *e*Pdif Pdif 01 46 22.4 +1.4
comp=Z,8.6nm,1.2s
CMB LR LR
comp=Z,4µm,20.0s,MS5.9
WVOR Wild Horse Val 104.95 45 *e*P Pdif 01 46 23.0 +1.8
WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR MLR MLR
comp=Z,4µm,22.0s,MS5.9
WVOR Wild Horse Val 104.95 45 *e*Pdif Pdif 01 46 23.0 +1.8
comp=Z,6.5nm,0.8s
WVOR LR LR
comp=Z,4µm,22.0s,MS5.9
BMO Blue Mountains 105.09 42 *e*P Pdif 01 46 26.7 +4.9
BMO MLR MLR
comp=Z,4µm,22.0s,MS6.0
GRA1 Grafenberg Arr 105.25 323 P Pdif 01 46 19.6 -2.9
GRA1 LR LR
comp=Z,5µm,21.5s,MS6.0
GRF Grafenberg Arr 105.25 323 *e*Pdiff Pdif 01 46 19.6 -2.9
GRF *e*L 02 38 07.0
comp=Z,5µm,21.5s
GRFO Grafenberg 105.25 323 *e*P Pdif 01 46 25.7 +3.2
GRFO *i* 01 50 46.9
GRFO Grafenberg 105.25 323 *e*Pdif Pdif 01 46 25.7 +3.2
GRFO *e*PKiKP 01 50 46.9
VNA2 Neumayer--Watz 106.13 194 *e*Pdiff Pdif 01 46 28.6 +2.2
VNA2 Neumayer--Watz 106.13 194 *e*Pdiff Pdif 01 46 28.6 +2.2
VNA2 *e* 01 46 37.2
VNA2 *e* 01 46 39.0
VNA2 *e* 01 46 43.6
VNA2 *e* 01 46 49.0
VNA2 *e* 01 46 56.7
VNA2 *e* 01 47 01.1
SUR Sutherland 106.26 237 *e*Pdif Pdif 01 46 28.8 +1.8
SUR *e* 01 50 47.8
NVAR Mina Array Bea 106.38 49 Pdiff Pdif 01 46 30.4 +2.9

comp=Z,2.9nm,0.7s,baz=265,slow=4.6,SNR=7.3
NVAR PKiKP PKiKP 01 50 40.2 +1.6
comp=Z,2.5nm,0.8s,baz=282,slow=3.0,SNR=4.3
NVAR PKKPbc PKKPbc 02 02 00.6 +1.7
comp=Z,2.0nm,0.8s,baz=83,slow=2.8,SNR=5.6
VNA3 Neumayer Olymp 106.43 193 *e*Pdiff Pdif 01 46 28.7 +0.9
VNA3 Neumayer Olymp 106.43 193 *e*Pdiff Pdif 01 46 28.7 +0.9
VNA3 *e* 01 46 37.3
VNA3 *e* 01 46 44.2
VNA3 *e* 01 46 49.1
VNA3 *e* 01 46 54.5
VNA3 *e* 01 46 56.9
AQU L'Aquila 106.48 316 ||*i*P 01 46 49.9
AQU L'Aquila 106.48 316 ||P 01 46 49.9
BMN Battle Mountai 106.58 47 *e*PKiKP PKiKP 01 50 39.0 0.0
BMN LR LR
comp=Z,4μm,20.0s,MS5.9
MSO Missoula 106.58 39 *e*PKiKP PKiKP 01 50 39.3 +0.4
MSO LR LR
comp=Z,3μm,20.0s,MS5.8
SNCC San Nicolas Is 106.83 54 PFAKE 01 50 50.0 +11
SNCC LR LR
comp=Z,7μm,20.0s,MS6.2
CHMT Chamberlain Mo 106.99 39 *e*Pdif Pdif 01 46 31.5 +1.3
ISA Isabella 107.03 52 PFAKE 01 50 50.0 +10
ISA LR LR
comp=Z,965nm,20.0s,MS5.3
TPH Tonopah 107.30 49 PFAKE 01 50 50.0 +10
TPH LR LR
comp=Z,2μm,20.0s,MS5.7
BFO Black Forest 107.54 323 *e*PP PP 01 50 58.0 -2.8
BFO LR LR
comp=Z,1μm,20.0s,MS5.4
DAC Darwin (Calif) 107.55 51 *e*P Pdif 01 46 35.1 +2.4
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC MLR MLR
comp=Z,6μm,19.0s,MS6.2
DAC Darwin (Calif) 107.55 51 *e*Pdif Pdif 01 46 35.1 +2.3
comp=Z,3.4nm,0.8s
DAC LR LR
comp=Z,6μm,19.0s,MS6.2
ELK Elko 107.90 46 PFAKE 01 50 50.0 +8.6
ELK LR LR
comp=Z,4μm,20.0s,MS5.9
MCMT McKenzie Canyo 108.06 41 Pdif Pdif 01 46 36.7 +1.6
MCMT *e*PKiKP PKiKP 01 50 42.6 +0.9
TRCR Troy Canyon 108.44 48 *e*PKiKP PKiKP 01 50 43.0 +0.5
EGMT Eagleton 108.68 37 PFAKE 01 50 50.0 +7.1
EGMT LR LR
comp=Z,3μm,22.0s,MS5.8
PFO Pinyon Flat Ob 109.21 53 PFAKE 01 51 00.0 +16
PFO LR LR
comp=Z,1μm,20.0s,MS5.5
YMR Madison River 109.36 41 PFAKE 01 51 00.0 +16
YMR LR LR
comp=Z,7μm,21.0s,MS6.2
LPG La Plagne 109.73 321 *e*P Pdif 01 46 50.6 +8.2
comp=Z,13nm,1.0s
LPL La Plagne 109.73 321 *e*P Pdif 01 46 50.5 +8.0
comp=Z,36nm,1.3s
LKWY Lake 109.77 41 PFAKE 01 51 00.0 +15
LKWY LR LR
comp=Z,8μm,22.0s,MS6.2
DUG Dugway 109.83 46 *e*Pdif Pdif 01 46 45.4 +2.5
DUG *e*PKiKP PKiKP 01 50 46.4 +1.3
DUG LR LR
comp=Z,3μm,19.0s,MS5.9
REDW Red Top Meadow 109.96 42 *e*PKiKP PKiKP 01 50 47.3 +2.0
LOHW Long Hollow 110.03 42 *e*PKiKP PKiKP 01 50 47.2 +1.8
AHID Auburn Hatcher 110.04 43 PFAKE 01 51 00.0 +15
AHID LR LR
comp=Z,3μm,20.0s,MS5.8
ESK Eskdalemuir 110.06 333 PFAKE 01 51 00.0 +15
ESK LR LR
comp=Z,1μm,19.0s,MS5.6
HWUT Hardware Ranch 110.17 44 Pdif Pdif 01 46 42.5 -2.0
HWUT LR LR
comp=Z,3μm,21.0s,MS5.8
RLMT Red Lodge 110.26 40 PFAKE 01 51 00.0 +14
RLMT LR LR
comp=Z,4μm,20.0s,MS6.0
TSUM Tsumeb 110.54 251 PFAKE 01 51 00.0 +14
TSUM LR LR
comp=Z,3μm,22.0s,MS5.8
SFJD Kangerlussuaq 110.58 360 PFAKE 01 51 00.0 +14
SFJD LR LR
comp=Z,4μm,22.0s,MS6.0
GLA Glamis 110.67 53 PKIKP PKiKP 01 50 47.5 +0.9
MPU Maple Canyon 110.73 45 PFAKE 01 51 00.0 +13
MPU LR LR
comp=Z,3μm,21.0s,MS5.9
MVU Marysvale 110.88 47 PFAKE 01 51 00.0 +13
MVU LR LR
comp=Z,3μm,20.0s,MS5.9
MSU Marysvale 110.90 47 *e*PKIKP PKiKP 01 50 49.2 +2.1
BW06 Boulder Array 111.07 42 PFAKE 01 51 00.0 +13
BW06 LR LR
comp=Z,3μm,22.0s,MS5.8
PDAR Pinedale Array 111.07 42 Pdiff Pdif 01 46 53.8 +5.3
comp=Z,0.7nm,0.9s,baz=305,slow=5.2,SNR=4.5
PDAR PKiKP PKiKP 01 50 49.1 +1.7
comp=Z,1.4nm,0.7s,baz=136,slow=1.3,SNR=7.8
PDAR PKKPbc PKKPbc 02 01 43.7 -0.3
comp=Z,3.0nm,0.9s,baz=115,slow=4.6,SNR=7.8
TMUT Trail Mountain 111.31 46 *e*PKiKP PKiKP 01 50 49.3 +1.4
LAO LASA Array 111.42 37 *e*PKiKP PKiKP 01 50 48.2 +0.2
LAO LR LR
comp=Z,3μm,20.0s,MS5.8
KEST Kesra 111.68 310 PKiKP PKiKP 01 50 49.9 +1.3
comp=Z,2.7nm,1.0s,baz=288,slow=5.1,SNR=3.9
KEST PP PP 01 51 30.6 -0.2
comp=Z,7.7nm,0.9s,baz=331,slow=4.5,SNR=5.5
KEST PKKPbc PKKPbc 02 01 43.4 +1.5
comp=Z,1.7nm,0.8s,baz=335,slow=4.6,SNR=5.0
SRU San Rafael 111.87 46 *e*PKIKP PKiKP 01 50 50.4 +1.5
WUAZ Wupatki 112.57 50 *e*PKiKP PKiKP 01 50 52.5 +2.3
WUAZ LR LR
comp=Z,4μm,19.0s,MS6.1
CMAH Djebel Manchou 112.82 312 P PP 01 51 55.0 +16
CGMA Guelma 112.89 311 P PP 01 51 51.0 +12
RWWY Rawlins 113.11 42 *e*PKiKP PKiKP 01 50 52.2 +1.0
PV10 Paradox Valley 113.23 46 *e*PKiKP PKiKP 01 50 52.8 +1.3
CKFL Kef-Lekhel 113.43 312 P PP 01 51 55.0 +12
CASM Ain Smara 113.65 312 P PP 01 51 53.0 +8.1
PV01 Paradox Valley 113.66 46 *e*PKiKP PKiKP 01 50 53.7 +1.4
DFRA Djebel Bou Aff 114.00 312 P PP 01 51 44.0 -3.3
RSSD Black Hills 114.03 39 *e*PKiKP PKiKP 01 50 53.4 +0.4
RSSD MLR MLR
comp=Z,3μm,20.0s,MS5.9
MVCO Mesa Verde 114.08 47 *e*PKiKP PKiKP 01 50 55.3 +2.2
MVCO LR LR
comp=Z,4μm,19.0s,MS6.0
TUC Tucson 114.14 53 *e*PKIKP PKiKP 01 50 54.3 +1.1
TUC MLR MLR
comp=Z,4μm,20.0s,MS6.1
CMER Merouana 114.34 311 P PP 01 51 50.0 +0.3
EMIR Miracle 114.73 319 PKP PKiKP 01 50 54.8 +0.4
ETOS Mallorca 114.85 316 PKP PKiKP 01 50 55.3 +0.7
MSKU Masuku 114.89 269 PFAKE 01 51 10.0 +15
MSKU LR LR
comp=Z,8.0nm,19.0s
ISCO Idaho Springs 115.04 44 *e*PKIKP PKiKP 01 50 55.9 +0.9
ISCO MLR MLR
comp=Z,4μm,20.0s,MS6.0
ULM Lac du Bonnet 115.12 30 PKP PKiKP 01 50 55.0 -0.1
comp=Z,7.1nm,0.9s,baz=208,slow=3.4,SNR=7.2
ULM PKKPbc PKKPbc 02 01 32.0 +1.7
comp=Z,2.0nm,0.8s,baz=239,slow=8.6,SNR=2.9
EBIE Bielsa 115.25 320 PKP 01 50 54.5
EPOB Poblet 115.29 319 PKP PKPdf 01 50 55.6 +0.1
ERTA Horta de San J 115.97 318 PKP PKPdf 01 50 56.3 -0.5
SDCO Great Sand Dun 116.03 46 *e*PKPdf PKPdf 01 50 58.6 +1.8
SDCO *e*PP PP 01 52 04.0 +2.4
SDCO LR LR
comp=Z,5μm,19.0s,MS6.2
ESAC San Caprasio 116.12 320 PKP PKPdf 01 50 55.9 -1.1
EIBI Ibiza 116.20 316 PKP PKPdf 01 50 57.0 -0.2
LAZ Ladron 116.21 49 *e*PKPdf PKPdf 01 50 59.2 +2.0
AGMN Agassiz Refuge 116.37 31 PFAKE 01 51 10.0 +12
AGMN LR LR
comp=Z,4μm,22.0s,MS6.0
LENM Lemitar 116.43 50 *e*PKPdf PKPdf 01 50 58.9 +1.3
ANMO Albuquerque 116.50 49*c i*PKIKP PKPdf 01 50 59.4 +1.6
ANMO Albuquerque 116.50 49 *e*PKPdf PKPdf 01 50 59.5 +1.7
ANMO LR LR
comp=Z,3μm,20.0s,MS5.8
LPM Los Pinos Moun 116.63 49 *e*PKPdf PKPdf 01 50 59.0 +0.9
BNM Barren Site 116.70 50 *e*PKPdf PKPdf 01 50 59.7 +1.5
EMOS Mosqueruela 116.80 318 PKP PKPdf 01 50 57.6 -0.7
ELAN Lanestosa 117.20 322 PKP PKPdf 01 50 58.1 -1.0
PMSA Palmer Station 117.28 174 PFAKE 01 51 10.0 +11
PMSA LR LR
comp=Z,3μm,21.0s,MS6.0
ETOR Torete 117.61 319 PKIKP PKPdf 01 51 00.4 +0.5
ETOB Tobarra 118.37 317 PKP PKPdf 01 51 02.3 +0.9
MNTX Cornudas Mount 118.63 52 *e*PKPdf PKPdf 01 51 03.0 +1.1
MNTX LR LR
comp=Z,3μm,20.0s,MS5.9
ECSD EROS,Sioux Fal 118.73 36 *e*PKPdf PKPdf 01 51 02.0 0.0
ECSD *e*PP PP 01 52 28.3 +7.9
ECSD LR LR
comp=Z,4μm,22.0s,MS6.0
EYMN Ely 118.81 30 *e*PKPdf PKPdf 01 51 02.2 0.0
EYMN LR LR
comp=Z,3μm,22.0s,MS5.9
EVIA Vianos 119.02 317 PKIKP PKPdf 01 51 01.8 -0.8
GUD Guadarrama 119.06 320 PKIKP PKPdf 01 51 02.9 +0.2
ESDC Sonseca Array 119.45 319 PKP PKPdf 01 51 02.8 -0.7
comp=Z,1.3nm,0.6s,baz=41,slow=2.4,SNR=4.2
ESDC PP PP 01 52 25.1 -0.3
comp=Z,6.6nm,1.0s,baz=51,slow=7.1,SNR=7.0
ESDC PKKPbc PKKPbc 02 01 18.1 +3.1
comp=Z,0.5nm,0.5s,baz=245,slow=3.3,SNR=4.6
ESDC Sonseca Array 119.45 319 PKP PKPdf 01 51 02.5 -1.0
ESLA Sonseca Array 119.45 319 PFAKE 01 51 20.0 +17
ESLA LR LR
comp=Z,12μm,20.0s,MS6.5
CBKS Cedar Bluff 119.50 42 PFAKE 01 51 20.0 +16
CBKS LR LR
comp=Z,2μm,20.0s,MS5.8
ENIJ Nijar 119.64 316 PKIKP PKPdf 01 51 03.8 0.0
RPN Rapa Nui 119.66 120 PFAKE 01 51 20.0 +16
RPN LR LR
comp=Z,1μm,19.0s,MS5.5
PAB San Pablo 119.77 319 PFAKE 01 51 20.0 +16
PAB LR LR
comp=Z,3μm,22.0s,MS5.8
EQES Quesada 119.83 317 PKP PKPdf 01 51 03.9 -0.3
PBRG Braganca 120.02 323 *e*PKPdf PKPdf 01 51 08.3 +3.8
AMTX Amarillo 120.07 47 *e*PKPdf PKPdf 01 51 05.9 +1.3
AMTX *e*PP PP 01 52 34.7 +5.1
AMTX LR LR
comp=Z,3μm,20.0s,MS5.9
EBAN Banos Encina 120.13 318 PKIKP PKPdf 01 51 05.9 +1.1
EBER Berja 120.16 316 PKP PKPdf 01 51 05.3 +0.5
ECOG Cogollos-Vega 120.43 317 PKIKP PKPdf 01 51 04.5 -0.8
STS Santiago 120.45 324 PKIKP PKPdf 01 51 02.1 -3.3
EADA Adamuz 120.66 318 PKP PKPdf 01 51 04.9 -0.9
EGUA Guajares 120.66 316 PKIKP PKPdf 01 51 05.5 -0.3
ERON Agron 120.73 316 PKP PKPdf 01 51 05.0 -0.9
EALB Alboran 120.73 315 PKP PKPdf 01 51 07.0 +1.1
ELOB Lobios 120.78 323 PKP PKPdf 01 51 05.5 -0.5
ELOJ Sierra Loja 120.90 317 PKIKP PKPdf 01 51 05.9 -0.3
LTX Lajitas 120.92 53 *e*PKIKP PKPdf 01 51 07.8 +1.5
LTX MLR MLR
comp=Z,10μm,20.0s,MS6.5
TXAR Lajitas Array 120.92 53 PKP PKPdf 01 51 07.3 +1.1
comp=Z,9.4nm,0.8s,baz=227,slow=1.0,SNR=43
TXAR PKKPbc PKKPbc 02 01 11.4 +1.9
comp=Z,3.2nm,0.8s,baz=124,slow=6.9,SNR=8.1
TXAR Lajitas Array 120.92 53 PKP PKPdf 01 51 07.3 +1.0
TXAR PKKPbc PKKPbc 02 01 11.4 +1.9
PVRL Vila Real 120.92 323 *e*PKPdf PKPdf 01 51 07.6 +1.3
PVIS Viseu 121.36 322 *e*PKPdf PKPdf 01 51 07.8 +0.7
KSU1 Kansas State U 121.40 40 *e*PKPdf PKPdf 01 51 07.7 +0.5
KSU1 LR LR
comp=Z,4μm,21.0s,MS6.1
SCHQ Schefferville 121.41 10 PKP PKPdf 01 51 06.7 -0.6
comp=Z,9.4nm,0.7s,baz=254,slow=3.6,SNR=12
SCHQ Schefferville 121.41 10 PKP PKPdf 01 51 06.7 -0.6
SCHQ LR LR
comp=Z,4μm,20.0s,MS6.1
PCBR Castelo Branco 121.61 321 *e*PKPdf PKPdf 01 51 08.4 +0.8
EMIJ Mijas 121.63 316 PKP PKPdf 01 51 08.6 +1.0
SCIA State Center 121.83 36 *e*PKPdf PKPdf 01 51 08.5 +0.4
SCIA LR LR
comp=Z,3μm,22.0s,MS5.9
EBAD Badajoz 121.94 320 PKP PKPdf 01 51 08.7 +0.5
EJIF Jimena Fronter 122.17 317 PKIKP PKPdf 01 51 09.7 +1.0
ESPR Espera 122.21 317 PKP PKPdf 01 51 09.2 +0.4
WMOK Wichita Mounta 122.23 46 *e*PKIKP PKPdf 01 51 08.9 +0.1
WMOK *e* 01 52 47.0
WMOK MLR MLR
comp=Z,3μm,20.0s,MS5.9
PESTR Estremoz 122.25 320 *e*PKPdf PKPdf 01 51 10.2 +1.4
EMIN Mina Concepcio 122.27 319 PKP PKPdf 01 51 09.3 +0.5
EVO Evora 122.71 320 *e*PKIKP PKPdf 01 51 08.9 -0.8
comp=Z,84nm,1.2s
JFWS Jewell Farm 122.85 33 *e*PKIKP PKPdf 01 51 09.4 -0.6
JFWS MLR MLR
comp=Z,3μm,22.0s,MS5.9
PBEJ Beja 122.90 319 *e*PKPdf PKPdf 01 51 11.4 +1.3
EGRO El Granado 122.93 319 PKP PKPdf 01 51 09.9 -0.2
PLOU Loures 123.23 321 *e*PKPdf PKPdf 01 51 09.0 -1.7
JCT Junction City 123.48 51 *e*PKIKP PKPdf 01 51 11.8 +0.6
JCT MLR MLR
comp=Z,5μm,19.0s,MS6.2
GLMI Grayling 124.36 28 *e*PKP PKPdf 01 51 13.7 +0.9
GLMI LR LR
comp=Z,3μm,21.0s,MS5.9
SFJM Santa Fe 124.58 63 *i*P PKPdf 01 51 16.0 +2.7
TOAO Torodi Ar. Sit 124.91 288 *e*PKPdf PKPdf 01 51 13.9 0.0
TOA0 *e*PP PP 01 53 01.8 -0.6
TORD Torodi Ar. Bea 124.91 288 PKP PKPdf 01 51 13.7 -0.2
comp=Z,22nm,0.8s,baz=49,slow=1.9,SNR=18
TORD PKKPbc 02 00 56.6
comp=Z,1.0nm,0.8s,baz=249,slow=3.2,SNR=9.0
HDIL Hopedale 124.96 35 PFAKE 01 51 30.0 +16
HDIL LR LR
comp=Z,3μm,22.0s,MS5.9
FVM French Village 125.96 38 *e*PKIKP PKPdf 01 51 16.3 +0.4
FVM *e* 01 53 08.6
MIAR Mount Ida 125.97 43 *e*PKIKP PKPdf 01 51 17.0 +1.0
MIAR *e* 01 53 11.5
MIAR MLR MLR
comp=Z,4μm,20.0s,MS6.1
KVTX Kingsville 126.28 53 PFAKE 01 51 30.0 +13
KVTX LR LR
comp=Z,4μm,21.0s,MS6.1
UALR University of 126.67 42 *e*PKPdf PKPdf 01 51 18.5 +1.2
HKT Hockley 126.76 49 *e*PKIKP PKPdf 01 51 19.0 +1.5
HKT MLR MLR
comp=Z,6μm,19.0s,MS6.3
SIUC Southern Illin 126.86 37 *e*PKPdf PKPdf 01 51 18.8 +1.1
HOPE Hope Point 127.00 191 PFAKE 01 51 30.0 +12
HOPE LR LR
comp=Z,968nm,22.0s,MS5.4
BLO Bloomington 127.46 34 *e*PKIKP PKPdf 01 51 18.6 -0.2
USIN University of 127.63 36 *e*PKPdf PKPdf 01 51 17.9 -1.2
USIN *e* 01 51 32.4
WCI Wyandotte Cave 128.24 35 *e*PKIKP PKPdf 01 51 20.6 +0.3
WCI MLR MLR
comp=Z,3μm,20.0s,MS6.0
LONY Lake Ozonia 128.71 21 *e*PKPdf PKPdf 01 51 21.2 0.0
LONY LR LR
comp=Z,3μm,22.0s,MS6.0
WVT Waverly 128.74 38 *e*PKIKP PKPdf 01 51 22.1 +0.9
WVT *e* 01 53 28.0
WVT MLR MLR
comp=Z,4μm,20.0s,MS6.1
OXF Oxford 128.77 41 *e*PKIKP PKPdf 01 51 22.6 +1.3
OXF MLR MLR
comp=Z,5μm,19.0s,MS6.2
PLAL Pickwick Lake 129.32 39 *e*PKPdf PKPdf 01 51 22.9 +0.5
PLAL LR LR
comp=Z,4μm,22.0s,MS6.1
NCB Newcomb 129.40 21 *e*PKPdf PKPdf 01 51 24.3 +1.8
NCB *e*PP PP 01 53 31.9 -0.1
NCB LR LR
comp=Z,3μm,21.0s,MS6.0
PKME Peaks-Kenny Pk 129.82 16 *e*PKPdf PKPdf 01 51 23.8 +0.5
ACCN Adirondack Com 130.11 21 *e*PKPdf PKPdf 01 51 23.3 -0.5
ACCN *e*SKP 01 54 41.8
BINY Binghamton 130.24 24 *e*PKPdf PKPdf 01 51 25.6 +1.5
BINY *e*SKPbc SKPbc 01 54 43.2 -0.4
BINY LR LR
comp=Z,3μm,22.0s,MS5.9
HNH Hanover 130.31 20 *e*PKPdf PKPdf 01 51 24.9 +0.7
MCWV Mont Chateau 130.59 29 PKPdf PKPdf 01 51 24.6 -0.2
MCWV LR LR
comp=Z,3μm,21.0s,MS6.0
SSPA Standing Stone 130.72 26 *e*PKPdf PKPdf 01 51 21.9 -3.1
SSPA LR LR
comp=Z,3μm,21.0s,MS6.0
EFI East Falkland 130.76 175 PFAKE 01 51 40.0 +15
EFI LR LR
comp=Z,818nm,20.0s,MS5.4
TZTN Tazewell 130.98 34 *e*PKPdf PKPdf 01 51 24.7 -0.8
TZTN LR LR
comp=Z,6μm,20.0s,MS6.3
LRAL Lakeview Retre 131.25 40 *e*PKPdf PKPdf 01 51 27.6 +1.5
LRAL LR LR
comp=Z,5μm,22.0s,MS6.1
HRV Harvard--Oak R 131.61 20 PFAKE 01 51 40.0 +13
HRV LR LR
comp=Z,2μm,21.0s,MS5.9
WES Weston 131.80 20 PFAKE 01 51 40.0 +13
WES LR LR
comp=Z,1μm,20.0s,MS5.7
MVL Millersville 131.92 26 *e*PKPdf PKPdf 01 51 27.8 +0.5
MVL *e*PP PP 01 53 53.4 +5.0
PAL Palisades 132.07 23 *e*PKIKP PKPdf 01 51 28.0 +0.4
PAL *e* 01 53 48.7
BLA Blacksburg 132.19 31 *e*PKIKP PKPdf 01 51 26.9 -0.9
BLA MLR MLR
comp=Z,3μm,19.0s,MS6.1
HUIG Huatulco 132.32 66 *i*P PKPdf 01 51 30.5 +2.5
BRAL Brewton 132.48 43 PFAKE 01 51 40.0 +12
BRAL LR LR
comp=Z,4μm,20.0s,MS6.1
LIC Lamto 132.74 281 *e*PKIKP PKPdf 01 51 28.4 -0.4
comp=Z,54nm,0.9s
CBN Corbin 132.92 28 *e*PKPdf PKPdf 01 51 29.9 +0.7
CBN LR LR
comp=Z,5μm,22.0s,MS6.1
CMIG Matias Romero 132.99 64 PKP PKPdf 01 51 31.2 +2.0
comp=Z,14nm,0.7s,baz=306,slow=2.4,SNR=19
CMIG SKPbc SKPbc 01 54 52.8 -0.7
comp=Z,14nm,0.8s,baz=335,slow=2.9,SNR=8.7
SHEL Horse Pasture 133.01 251 PFAKE 01 51 40.0 +11
SHEL LR LR
comp=Z,704nm,22.0s,MS5.3
GOGA Godfrey 133.22 37 *e*PKIKP PKPdf 01 51 31.0 +1.3
GOGA MLR MLR
comp=Z,4μm,22.0s,MS6.0
CNNC Cliffs of the 135.01 31 PFAKE 01 51 50.0 +17
CNNC LR LR
comp=Z,3μm,20.0s,MS6.0
NHSC New Hope 135.38 35 PFAKE 01 51 50.0 +16
NHSC LR LR
comp=Z,3μm,21.0s,MS5.9
CCIG Comitan 135.74 64 *e*P PKPdf 01 51 37.0 +2.5
TEIG Tepich 137.44 56 PKPdf PKPdf 01 51 35.8 -1.8
TEIG LR LR
comp=Z,2μm,21.0s,MS5.9
DWPF Disney 138.09 41 PFAKE 01 51 50.0 +11
DWPF LR LR
comp=Z,3μm,20.0s,MS6.0
SOR Soroa 140.28 49 *e*P PKPdf 01 51 44.6 +1.9
TGUH Tegucigalpa,Un 140.92 64 *e*PKPdf PKPdf 01 51 45.6 +1.6
TGUH LR LR
comp=Z,3μm,22.0s,MS5.9
PAYG Puerto Ayora 141.23 88 PFAKE 01 52 00.0 +15
PAYG LR LR
comp=Z,5μm,20.0s,MS6.2
ASCN Ascension 142.61 260 PFAKE 01 52 00.0 +13
ASCN LR LR
comp=Z,333nm,21.0s,MS5.1
MGV Manicaragua 142.94 47 *e*P PKPdf 01 51 48.5 +0.9
BBSR BB Station 143.08 19 PFAKE 01 52 00.0 +12
BBSR LR LR
comp=Z,2μm,22.0s,MS5.9
TRQA Tornquist 143.41 166 *e*PKPdf PKPdf 01 51 45.8 -2.6
TRQA *e* 01 52 03.0
TRQA LR LR
comp=Z,3μm,19.0s,MS6.1
VCR Vista de Mar 143.79 69 *e*P PKPdf 01 51 50.7 +1.6
RIN3 Volcan Rincon 143.81 68 *e*P PKPdf 01 51 48.9 -0.2
JCR Jicaral 144.36 69 *e*P PKPdf 01 51 51.4 +1.3
JTS JuntasAbangare 144.37 68 PKP PKPdf 01 51 49.5 -0.5
comp=Z,54nm,0.6s,baz=326,slow=3.8,SNR=30
JTS JuntasAbangare 144.37 68||*e*P PKPdf 01 51 48.6 -1.5
JTS JuntasAbangare 144.37 68 PKIKP PKPdf 01 51 49.2 -0.9
CAO Cobano 144.42 69||*e*P PKPdf 01 51 51.7 +1.6
CLCH Cerro Calan 144.56 152 *i*P PKPdf 01 51 50.3 0.0
VACR Volcan Arenal 144.56 68||*e*P PKPdf 01 51 50.8 +0.4
PEL Peldehue 144.69 152||*i*P PKPdf 01 51 50.3 -0.3
FCH Farellones 144.73 152||*i*P PKPdf 01 51 50.9 +0.2
EPA Esparza 144.80 69||*e*P PKPdf 01 51 52.6 +1.8
PRS1 Puriscal 145.07 69 *e*P PKPbc 01 51 53.5 +2.8
CCCC Cccc 145.11 46 *e*P PKPbc 01 51 54.2 +3.3
LAJ Bijagual 145.28 69 *e*P PKPbc 01 51 53.5 +2.1
OCM Ochomogo 145.42 69 *e*P PKPbc 01 51 55.2 +3.3
LCR2 La Lucha 2 145.43 69 *e*P PKPdf 01 51 54.4 +2.5
IRZ2 Volcan Irazu 2 145.46 68 *e*P PKPdf 01 51 54.5 +2.5
ICR Volcan Irazu 145.51 68 *e*P PKPdf 01 51 54.5 +2.5
BUS Buena Vista 145.72 69 *e*P PKPbc 01 51 56.2 +3.3
MDZ Mendoza 145.76 154||*i*PKP2 PKPab 01 51 54.9 +1.6
LMGC Las Mercedes 146.38 47 *e*P PKPdf 01 51 54.5 +1.0
CTCR Cotoan 146.87 70 *e*P PKPbc 01 51 57.6 +1.4
CVJ Coleyville 147.10 50||*e*P PKPbc 01 51 59.7 +2.8
CFAA Coronel Fontan 147.11 153 PKPbc PKPbc 01 51 55.3 -1.6
comp=Z,20nm,0.8s,baz=227,slow=2.6,SNR=63
MCJ Malvern 147.16 51||*e*P PKPbc 01 51 59.8 +2.7
BBJ Bamboo Saint A 147.21 50 *e*P PKPbc 01 51 58.5 +1.3
LPA La Plata 147.28 170*ce*PKP PKPdf 01 51 57.0 +2.0
LPA *ep*PKP pPKPdf 01 52 08.0 -0.3
LPA
comp=Z,3μm,18.0s
RCC Rio Carpintero 147.37 46 *e*P PKPdf 01 51 57.8 +2.6
STH Stony Hill 147.74 50||*e*P PKPbc 01 52 01.4 +2.8
MASC Masc 148.27 44 *e*P PKPbc 01 52 03.2 +3.2
ATAH Atahualpa 152.89 100 PKP PKPdf 01 52 06.5 +2.7
comp=Z,42nm,1.0s,baz=156,slow=1.9,SNR=20
ATAH PKPbc PKPbc 01 52 14.1 +3.0
comp=Z,59nm,0.8s,baz=186,slow=3.1,SNR=15
ATAH PKPab PKPab 01 52 23.8 +1.5
comp=Z,60nm,0.8s,baz=198,slow=1.0,SNR=8.5
OTAV Otavalo 152.96 84 *e*PKPdf PKPdf 01 52 06.5 +2.6
OTAV LR LR
comp=Z,4μm,19.0s,MS6.3
NNA Nana 153.25 112 PKP PKPdf 01 52 05.9 +1.6
comp=Z,32nm,1.0s,baz=198,slow=10.0,SNR=4.6
NNA PKPbc PKPbc 01 52 13.5 +1.6
comp=Z,27nm,1.0s,baz=20,slow=4.2,SNR=6.9
NNA PKPab PKPab 01 52 24.7 +1.0
comp=Z,32nm,0.8s,baz=277,slow=9.9,SNR=5.7
LVC Limon Verde 153.91 141 PFAKE 01 52 20.0 +15
LVC LR LR
comp=Z,3μm,22.0s,MS6.1
CPD Cerro la Pandu 155.10 34 *e*PKIKP PKPdf 01 52 08.4 +1.4
MTP Monte Pirata 155.25 33 *e*PKPbc PKiKP 01 52 19.4 +3.2
MTP *e*PKPab PKPab 01 52 33.4 +1.1
ARE Arequipa 156.01 126 *e*P pPKPdf 01 52 22.0 +0.6
ROSC El Rosal 156.07 72 PKP PKPdf 01 52 10.1 +1.9
comp=Z,5.1nm,0.4s,baz=275,slow=23,SNR=6.6
ROSC PKPab PKPab 01 52 39.3 +3.5
comp=Z,13nm,0.5s,baz=92,slow=11,SNR=7.0
SDV Santo Domingo 157.83 59 PKP PKPdf 01 52 11.1 +0.6
comp=Z,33nm,0.8s,baz=26,slow=0.8,SNR=27
SDV PKPab PKPab 01 52 46.6 +3.2
comp=Z,31nm,0.7s,baz=244,slow=6.0,SNR=5.1
CAM4 Nova Friburgo 158.49 203 (P) PKPab 01 52 44.0 -2.3
CAM4 *i* 01 52 52.1
CAM4 *i* 01 53 11.4
CAM4 *i* 01 53 25.5
LPAZ La Paz 158.74 131 PKP PKPdf 01 52 13.7 +2.1
comp=Z,20nm,1.1s,baz=14,slow=1.4,SNR=25
LPAZ PKPab PKPab 01 52 49.1 +1.8
comp=Z,15nm,0.8s,baz=138,slow=5.9,SNR=5.1
CAM3 Guarapari 159.00 210 (P) PKPab 01 52 44.0 -4.5
CAM3 *i* 01 52 52.1
CAM3 *i* 01 53 11.4
CAM3 *i* 01 53 25.5
PCRV Puerto La Cruz 161.82 46 PKPab PKPab 01 53 02.8 +2.0
comp=Z,15nm,0.8s,baz=243,slow=1.4,SNR=3.9
BBGH Gun Hill 162.48 27 PFAKE 01 52 30.0 +14
BBGH LR LR
comp=Z,5μm,22.0s
SIV San Ignacio 163.70 145 PKP PKPdf 01 52 18.1 +1.3

comp=Z,16nm,0.9s,baz=218,slow=2.1,SNR=36
SIV PKPab PKPab 01 53 10.9 +1.9
comp=Z,18nm,1.0s,baz=305,slow=0.6,SNR=5.9
RCBR Riachuelo 164.07 258 PFAKE
RCBR LR LR 01 52 30.0 +13
comp=Z,3µm,20.0s
SAML Samuel 166.81 119 *e*PKPdf PKPdf 01 52 20.1 +0.6
SAML *e*PKPab PKPab 01 53 25.4 +2.7
SAML LR LR
comp=Z,4µm,22.0s

IDC ***29*** *01:32:30.8±3.0, 46°64′N×153°05′E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/22, mbtmp4.0/8, Error ellipse: s-maj=80.4km s-min=29.3km az=6.0*
ISCJB ***29*** *01:32:37.8±1.9, 47.1N×02.1532E±02, h43km±15km, mb4.0/8, Error ellipse: s-maj=44.9km s-min=11.1km az=107.8*
MOS ***29*** *01:32:37.8±0.6, 47.12N×153.08E, h46km, mb4.2/8, Error ellipse: s-maj=35.7km s-min=17.2km az=72.0*

ISC 29 01:32:39.7±1.7, 471N±02×1532E±02, h46km±14km, n18, σ0°61/19, mb4.0/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.04**	**27**	*e*PN		**Pn**	**01 33 39.0**	**+0.1**
SKR				*e*			01 34 23.4	
KUR	**Kuril'sk**	**4.16**	**245**	*e*PN		**Pn**	**01 33 39.5**	**-1.1**
KUR				*e*S		**Sn**	**01 34 29.0**	**+1.0**
KUR				smax				
	comp=N,300nm,0.8s							
KUR				smax				
	comp=E,150nm,0.8s							
INK	**Inuvik**	**41.30**	**33**	P		**P**	**01 40 21.2**	**+0.8**
	comp=E,1.6nm,0.4s,mb4.0,baz=276,slow=6.9,SNR=8.3							
INK	**Inuvik**	**41.30**	**33**	P		**P**	**01 40 21.3**	**+0.8**
INK				pmax		pmax		
	comp=Z,2.0nm,0.4s							
YKA	**Yellowknife Ar**	**50.58**	**37**	P		**P**	**01 41 33.6**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=294,slow=7.2,SNR=8.4							
YKA	**Yellowknife Ar**	**50.58**	**37**	P		**P**	**01 41 33.6**	**0.0**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**57.51**	**341**	P		**P**	**01 42 24.4**	**+0.2**
	comp=Z,3.7nm,1.0s,mb4.4,baz=32,slow=8.6,SNR=3.4							
ARCES	**ARCESS Array B**	**57.51**	**341**	P		**P**	**01 42 24.4**	**+0.3**
ARCES				pmax		pmax		
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**63.72**	**335**	P		**P**	**01 43 06.3**	**-0.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=40,slow=7.9,SNR=17							
FINES	**FINESS Array B**	**63.72**	**335**	P		**P**	**01 43 06.3**	**-0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NOA	**NORSAR Array B**	**67.88**	**341**	P		**P**	**01 43 33.5**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=25,slow=6.4,SNR=2.4							
NOA	**NORSAR Array B**	**67.88**	**341**	P		**P**	**01 43 33.5**	**+0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**71.26**	**326**	P		**P**	**01 43 53.0**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=35,slow=5.3,SNR=6.3							
AKASG	**Malin Array Be**	**71.26**	**326**	P		**P**	**01 43 53.0**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**77.25**	**61**	P		**P**	**01 44 28.9**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=300,slow=5.0,SNR=19							
TXAR	**Lajitas Array**	**77.25**	**61**	P		**P**	**01 44 29.0**	**+0.1**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**78.15**	**317**	P		**P**	**01 44 33.8**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=46,slow=8.3,SNR=4.0							
BRTR	**Keskin Array B**	**78.15**	**317**	P		**P**	**01 44 33.8**	**-0.1**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							

IDC 29 01:50:50.6±1.9, 2388S×6662W, h176km±19km, mb3.2/3, mb1 3.5/6, mb1mx3.5/17, mbtmp3.4/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/10, Error ellipse: s-maj=36.2km s-min=17.6km az=72.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**300**	P		Pn	01 51 34.7	+2.1
	45nm,0.3s,baz=90,slow=4.7,SNR=767							
LVC				S		Sn	01 52 06.0	+0.8
	baz=270,slow=19							
LVC				LR		LR	01 52 36.0	
	comp=Z,279nm,19.3s,baz=270,slow=43							
LPAZ	**La Paz**	**7.69**	**349**	P		Pn	01 52 39.0	-0.7
	0.6nm,0.3s,baz=182,slow=8.1,SNR=6.8							
CFAA	**Coronel Fontan**	**7.82**	**190**	P		Pn	01 52 40.2	-1.3
	0.4nm,0.3s,baz=299,slow=3.6,SNR=3.8							
CFAA				S		Sn	01 54 02.3	-7.0
	0.1nm,0.3s,baz=123,slow=18,SNR=7.5							
SNAA	**Sanae**	**59.34**	**161**	P		P	02 00 34.0	-0.1
	0.5nm,1.0s,baz=280,slow=11,SNR=3.4							
TXAR	**Lajitas Array**	**63.79**	**324**	P		P	02 01 03.9	0.0
	0.6nm,0.8s,baz=159,slow=7.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**76.20**	**69**	P		P	02 02 19.6	+0.2
	1.1nm,0.8s,baz=245,slow=5.0,SNR=4.2							
WRA	**Warramunga Arr**	**131.89**	**207**	PKP		PKPdf	02 09 42.7	-0.2
	0.2nm,0.3s,baz=154,slow=2.0,SNR=8.9							
MKAR	**Makanchi Array**	**146.21**	**40**	PKPbc		PKPbc	02 10 10.5	+0.3
	1.1nm,0.7s,baz=309,slow=3.4,SNR=10							

ISCJB ***29*** *01:55:09.3±6.5, 250N±0.10×128.1E±0.1, h28km±47km, mb4.2/14, Error ellipse: s-maj=28.1km s-min=10.2km az=122.1*
NEIC ***29*** *01:55:13.1±1.8, 244N×128°05E, h43km±17km, mb4.3/6, Error ellipse: s-maj=19.7km s-min=6.5km az=59.0*
IDC ***29*** *01:55:15.1±3.1, 242N×128°06E, h65km±28km, mb3.7/9, mb1 3.9/9, mb1mx3.7/18, mbtmp3.7/9, Error ellipse: s-maj=52.1km s-min=13.5km az=71.0*

ISC 29 01:55:12.7±2.5, 248N±009×1281E±01, h39km±24km, n22, σ0°70/20, mb4.2/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.36**	**287**	Pn		**Pn**	**01 58 06.0**	**0.0**
FITZ	**Fitzroy Crossi**	**20.59**	**187**	P		**P**	**01 59 46.9**	**-1.5**
	1.5nm,0.8s,baz=12,slow=6.3,SNR=3.2							
PMG	**Port Moresby**	**22.37**	**122**	P		**P**	**02 00 07.2**	**-0.3**
WRAB	**Tennant Creek**	**23.10**	**165**	*e*P		**P**	**02 00 15.4**	**+0.3**
	9.5nm,0.3s,mb4.7							
WRA	**Warramunga Arr**	**23.11**	**165**	P		**P**	**02 00 15.6**	**+0.3**
	8.7nm,0.4s,mb4.5,baz=344,slow=10,SNR=112							
WRA				PcP		PcP	02 04 02.6	-0.4
	0.3nm,0.4s,baz=343,slow=2.1,SNR=4.3							
WB2	**Warramunga Arr**	**23.11**	**165**	*e*P		**P**	**02 00 15.8**	**+0.5**
WB2				*e*			02 00 26.3	
AS31	**Alice Springs**	**26.59**	**168**	*e*P		**P**	**02 00 47.4**	**+0.1**
AS31				*e*PcP		PcP	02 04 10.2	-0.5
ASAR	**Alice Springs**	**26.59**	**168**	P		**P**	**02 00 47.6**	**+0.4**
	2.6nm,0.7s,mb3.9,baz=355,slow=8.1,SNR=5.9							
ASAR				PcP		PcP	02 04 09.7	-1.0
	1.5nm,0.4s,baz=354,slow=2.2,SNR=15							
ASAR				ScP		ScP	02 07 44.0	-3.6
	0.4nm,0.8s,baz=334,slow=2.9,SNR=4.3							
CTA	**Charters Tower**	**28.55**	**142**	P		**P**	**02 01 05.8**	**+0.2**
	2.8nm,0.7s,mb4.1,baz=326,slow=11,SNR=1.9							
KSRS	**Korea Array**	**34.81**	**360**	P		**P**	**02 01 58.8**	**-1.0**
	1.8nm,0.7s,mb4.1,baz=174,slow=9.1,SNR=4.4							
STKA	**Stephens Creek**	**36.49**	**160**	P		**P**	**02 02 14.1**	**-0.1**
	2.1nm,0.5s,mb4.4,baz=338,slow=9.1,SNR=12							
NWAO	**Narrogin (SRO)**	**36.68**	**195**	*e*P		**P**	**02 02 16.4**	**+0.7**
	26nm,1.1s,mb5.0							
SONM	**Songino Array**	**48.92**	**341**	P		**P**	**02 03 56.4**	**+1.6**
	0.6nm,0.5s,mb3.9,baz=126,slow=6.7,SNR=3.5							
MKAR	**Makanchi Array**	**59.35**	**325**	P		**P**	**02 05 10.5**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=116,slow=7.9,SNR=11							
MKAR	**Makanchi Array**	**59.35**	**325**	P		**P**	**02 05 10.5**	**-0.4**
KURK	**Kurchatov**	**63.52**	**327**	*e*P		**P**	**02 05 39.0**	**0.0**
	2.7nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**69.10**	**327**	P		**P**	**02 06 15.3**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=123,slow=5.3,SNR=2.8							
BRVK	**Borovoye**	**69.18**	**327**	*e*P		**P**	**02 06 15.7**	**+0.4**
	1.4nm,0.6s,mb4.1							
DRV	**Dumont d'Urvil**	**69.51**	**175**	R			02 06 00.0	
ZRNK	**Zerenda**	**69.83**	**326**	*e*P		**P**	**02 06 18.4**	**-0.9**
	0.9nm,0.5s,mb4.0							
VNDA	**Vanda**	**82.02**	**173**	*e*P		**P**	**02 07 27.6**	**-1.2**
	1.0nm,0.6s,mb3.9							
TORD	**Torodi Ar. Bea**	**124.59**	**288**	PKP		PKPdf	02 14 07.8	-0.1
	0.3nm,0.6s,baz=51,slow=2.2,SNR=3.0							

IDC ***29*** *02:11:40.1±0.6, 258N×128°29E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/22, mbtmp4.3/14, Error ellipse: s-maj=36.5km s-min=12.6km az=75.0*
ISCJB ***29*** *02:11:43.4±5.2, 260N±008×1284E±0.1, h32km±38km, mb4.2/21, Error ellipse: s-maj=22.4km s-min=8.8km az=121.3*
NEIC ***29*** *02:11:48.2±1.6, 250N×128°25E, h62km±15km, mb4.2/13, Error ellipse: s-maj=18.9km s-min=5.0km az=64.0*

ISC 29 02:11:46.0±2.2, 260N±008×1285E±01, h37km±21km, n41, σ0°84/39, mb4.2/21, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.74**	**286**	*e*Pn		**Pn**	**02 14 43.6**	**-1.0**
KAKA	**Kakadu**	**15.70**	**166**	*e*P		**Pn**	**02 15 24.6**	**+0.3**
	8.9nm,0.7s							
FITZ	**Fitzoy Crossi**	**20.77**	**188**	*e*P		**P**	**02 16 23.3**	**-0.3**
	4.2nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.77**	**188**	P		**P**	**02 16 22.5**	**-1.1**
	2.0nm,0.7s,baz=13,slow=11,SNR=2.9							
PMG	**Port Moresby**	**22.07**	**123**	*e*P		**P**	**02 16 46.3**	**+8.7**
	7.3nm,0.8s,mb4.2							
WRAB	**Tennant Creek**	**23.11**	**166**	*e*P		**P**	**02 16 48.8**	**+0.2**
	18nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**23.12**	**166**	P		**P**	**02 16 48.9**	**+0.2**
	13nm,0.6s,mb4.5,baz=342,slow=10.0,SNR=75							
WRA				PcP		PcP	02 20 36.6	+0.1
	0.3nm,0.3s,baz=342,slow=2.0,SNR=4.9							
WB2	**Warramunga Arr**	**23.12**	**166**	‖	*i*P		**02 16 48.5**	**-0.2**
AS31	**Alice Springs**	**26.63**	**169**	*e*P		**P**	**02 17 21.3**	**+0.4**
ASAR	**Alice Springs**	**26.63**	**169**	P		**P**	**02 17 21.2**	**+0.3**
	3.0nm,0.5s,mb4.1,baz=353,slow=8.0,SNR=66							
ASAR				PcP		PcP	02 20 44.5	+0.3
	2.1nm,0.4s,baz=356,slow=2.2,SNR=16							
ASPA	**Alice Springs**	**26.63**	**169**	*e*P		**P**	**02 17 21.3**	**+0.4**
CTA	**Charters Tower**	**28.48**	**143**	*e*P		**P**	**02 17 43.5**	**+6.0**
	2.5nm,0.7s,mb3.8							
CTA	**Charters Tower**	**28.48**	**143**	P		**P**	**02 17 39.4**	**+1.9**
	6.3nm,0.7s,mb4.4,baz=321,slow=13,SNR=4.2							
CTAO	**Charters Tower**	**28.48**	**143**	*e*P		**P**	**02 17 43.3**	**+5.8**
	6.3nm,0.7s,mb4.3							
KSRS	**Korea Array**	**34.69**	**359**	P		**P**	**02 18 32.6**	**+0.6**
	1.5nm,0.5s,mb4.2,baz=174,slow=9.3,SNR=4.3							
MJAR	**Matsushiro Arr**	**34.94**	**14**	P		**P**	**02 18 34.0**	**-0.2**
	2.2nm,0.6s,mb4.3,baz=190,slow=10.0,SNR=4.3							
MJAR	**Matsuhiro Arr**	**34.94**	**14**	P		**P**	**02 18 34.0**	**-0.2**
STKA	**Stephens Creek**	**36.47**	**161**	*e*P		**P**	**02 18 46.7**	**-0.6**
	2.0nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**36.47**	**161**	P		**P**	**02 18 47.0**	**-0.3**
	3.3nm,0.3s,mb4.7,baz=345,slow=7.1,SNR=20							
STKA				PcP		PcP	02 21 10.7	+0.1
	1.2nm,0.4s,baz=316,slow=10,SNR=3.5							
GUN	**Gumba**	**47.83**	**306**	*e*P		**P**	**02 20 21.2**	**+1.3**
PKI	**Pulchoki**	**48.08**	**305**	*e*P		**P**	**02 20 22.4**	**+0.6**
DMN	**Daman**	**48.34**	**305**	*e*P		**P**	**02 20 24.6**	**+0.8**
ULN	**Ulaanbaatar**	**48.75**	**341**	*e*P		**P**	**02 20 27.4**	**+0.4**
	1.5nm,0.5s,mb4.3							
GKN	**Gorkha**	**48.88**	**306**	*e*P		**P**	**02 20 28.6**	**+0.7**
SONM	**Songino Array**	**48.94**	**340**	P		**P**	**02 20 28.5**	**0.0**
	1.2nm,0.7s,mb4.0,baz=151,slow=8.1,SNR=9.0							
KOLN	**Koldanda**	**49.63**	**305**	*e*P		**P**	**02 20 35.0**	**+1.3**
HYB	**Hyderabad**	**51.18**	**290**	*i* P		**P**	**02 20 47.0**	**+1.6**
MKAR	**Makanchi Array**	**59.50**	**325**	P		**P**	**02 21 45.0**	**-0.3**
	1.3nm,0.4s,mb4.3,baz=111,slow=8.2,SNR=33							
KURK	**Kurchatov**	**63.65**	**327**	*e*P		**P**	**02 22 12.2**	**-1.0**
	2.3nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**69.24**	**327**	P		**P**	**02 22 48.7**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=65,slow=8.1,SNR=3.5							
BRVK	**Borovoye**	**69.31**	**327**	*e*P		**P**	**02 22 48.3**	**-1.1**
	1.2nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**69.97**	**326**	*e*P		**P**	**02 22 52.4**	**-1.1**
	1.4nm,0.6s,mb4.1							
AKTK	**Aktyubinsk**	**75.65**	**322**	P		**P**	**02 23 26.3**	**-0.8**
AKTO	**Aktyubinsk**	**75.65**	**322**	P		**P**	**02 23 26.3**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=82,slow=7.1,SNR=2.3							
KDAK	**Kodiak Island**	**81.88**	**32**	P		**P**	**02 24 02.6**	**+1.2**
	14nm,1.0s,mb4.8,baz=319,slow=12,SNR=5.6							
VNDA	**Vanda**	**82.09**	**173**	*e*P		**P**	**02 24 01.1**	**-1.4**
	1.8nm,0.8s,mb4.0							
MCK	**McKinley**	**84.37**	**26**	*e*P		**P**	**02 24 15.0**	**+0.7**
	1.5nm,0.7s,mb4.2							
INK	**Inuvik**	**90.55**	**22**	P		**P**	**02 24 43.2**	**-0.9**
	0.8nm,0.5s,mb4.3,baz=326,slow=3.0,SNR=1.8							
ARCES	**ARCESS Array B**	**92.12**	**340**	P		**P**	**02 24 49.9**	**-1.5**
	2.1nm,0.8s,mb4.5,baz=72,slow=6.2,SNR=3.7							
TXAR	**Lajitas Array**	**120.85**	**53**	PKP		PKPdf	02 30 35.4	+1.3
	0.4nm,0.7s,baz=169,slow=1.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**124.97**	**288**	PKP		PKPdf	02 30 41.5	-0.6
	0.2nm,0.3s,baz=40,slow=2.0,SNR=10							

BJI ***29*** *02:36:09.2, 53°40N×35°20W, h10km, mB4.9, mb4.6, Ms4.6, Msz4.3*
ISCJB ***29*** *02:36:12.6±0.3, 53°47N±007×35.17W±005, h10km, mb4.3/61, Error ellipse: s-maj=10.3km s-min=4.3km az=9.4*
IDC ***29*** *02:36:12.8±0.7, 53°54N×35°11W, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.1/26, mbtmp4.1/18, ML3.4/2, Error ellipse: s-maj=21.4km s-min=13.0km az=2.0*
NEIC ***29*** *02:36:14.2±0.2, 53°42N×35°16W, h10km, mb4.5/45, Error ellipse: s-maj=7.5km s-min=3.1km az=183.0*
CSEM ***29*** *02:36:15.6±0.1, 53°55N×35°16W, h33km, mb4.5/43, Error ellipse: s-maj=3.4km s-min=1.5km az=7.0*

ISC 29 02:36:14.2±0.3, 53°48N±007×3514W±005, h10km, n137, σ0°75/129, mb4.3/61, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.53**	**287**	P		**Pn**	**02 40 30.1**	**-0.8**
	0.4nm,0.3s,baz=58,slow=13,SNR=5.7							
EKA	**Eskdamuir Ar**	**18.62**	**71**	P		**Pn**	**02 40 30.4**	**-1.7**
	0.2nm,0.3s,baz=221,slow=16,SNR=5.9							
ROSF	**Rostrenen**	**20.63**	**91**	*e*P		**P**	**02 40 54.9**	**+1.1**
QUIF	**Quistinic**	**20.89**	**92**	*e*P		**P**	**02 40 57.3**	**+0.8**
SGMF	**Saint Gilles**	**21.10**	**91**	*e*P		**P**	**02 40 59.6**	**+0.8**
	148nm,1.6s,mb4.8							
SGMF	**Saint Gilles**	**21.10**	**91**	*e*P		**P**	**02 40 59.6**	**+0.8**
	74nm,1.6s,mb4.8							
GRR	**Gorron**	**22.05**	**89**	*e*P		**P**	**02 41 09.2**	**+0.1**
FLN	**La Foliniere**	**22.12**	**88**	*e*P		**P**	**02 41 09.3**	**-0.4**
	47nm,1.2s,mb4.5							
FLN	**La Foliniere**	**22.12**	**88**	*e*P		**P**	**02 41 09.3**	**-0.4**
	24nm,1.2s,mb4.5							
LDF	**La Druitiere**	**22.40**	**88**	*e*P		**P**	**02 41 12.6**	**-0.2**
	54nm,1.2s,mb4.5							
LDF	**La Druitiere**	**22.40**	**88**	*e*P		**P**	**02 41 12.6**	**-0.2**
	27nm,1.2s,mb4.5							
MFF	**Saint Martin d**	**23.32**	**93**	*e*P		**P**	**02 41 21.9**	**-0.6**
	179nm,1.7s,mb4.9							
MFF	**Saint Martin d**	**23.32**	**93**	*e*P		**P**	**02 41 21.9**	**-0.6**
	90nm,1.7s,mb4.9							
EVO	**Evora**	**23.86**	**118**	*e*P		**P**	**02 41 28.7**	**+1.0**
BAIF	**Baives**	**24.37**	**82**	*e*P		**P**	**02 41 31.8**	**-0.6**
	13nm,0.8s,mb4.1							
BAIF	**Baives**	**24.37**	**82**	*e*P		**P**	**02 41 31.8**	**-0.6**
	6.6nm,0.8s,mb4.1							
SJPF	**Ste Jean**	**24.61**	**101**	*e*P		**P**	**02 41 34.1**	**-0.5**
LFF	**La Frestale**	**24.72**	**96**	*e*P		**P**	**02 41 35.3**	**-0.3**
TCF	**Toulx Ste Croi**	**24.89**	**92**	*e*P		**P**	**02 41 37.0**	**-0.1**
	63nm,1.6s,mb4.6							
TCF	**Toulx Ste Croi**	**24.89**	**92**	*e*P		**P**	**02 41 37.0**	**-0.1**
	32nm,1.6s,mb4.6							
RJF	**Les Rejaudoux**	**24.99**	**94**	*e*P		**P**	**02 41 38.0**	**0.0**
ETSF	**Etsaut**	**25.13**	**101**	*e*P		**P**	**02 41 39.7**	**+0.4**
	9.6nm,0.8s,mb4.1							
ETSF	**Etsaut**	**25.13**	**101**	*e*P		**P**	**02 41 39.7**	**+0.4**
	4.8nm,0.8s,mb4.1							
BGF	**Bois d'Agland**	**25.13**	**90**	*e*P		**P**	**02 41 39.4**	**+0.1**
	12nm,0.7s,mb4.2							
BGF	**Bois d'Agland**	**25.13**	**90**	*e*P		**P**	**02 41 39.4**	**+0.1**
	5.8nm,0.7s,mb4.2							
ESDC	**Sonseca Array**	**25.25**	**111**	P		**P**	**02 41 40.6**	**+0.2**
	5.1nm,1.0s,mb4.0,baz=314,slow=9.0,SNR=14							
SSF	**Saint Saulge**	**25.28**	**89**	*e*P		**P**	**02 41 39.9**	**-0.8**
	25nm,1.1s,mb4.3							
SSF	**Saint Saulge**	**25.28**	**89**	*e*P		**P**	**02 41 39.9**	**-0.8**
	13nm,1.1s,mb4.3							
AVF	**Avril sur Loir**	**25.32**	**90**	*e*P		**P**	**02 41 40.9**	**-0.1**
	65nm,1.4s,mb4.7							
AVF	**Avril sur Loir**	**25.32**	**90**	*e*P		**P**	**02 41 40.9**	**-0.1**
	32nm,1.4s,mb4.7							
LOR	**Lormes**	**25.39**	**88**	*e*P		**P**	**02 41 41.3**	**-0.4**
	60nm,1.3s,mb4.7							
LOR	**Lormes**	**25.39**	**88**	*e*P		**P**	**02 41 41.3**	**-0.4**
	30nm,1.3s,mb4.7							
MEZF	**Maizieres J'vi**	**25.53**	**85**	*e*P		**P**	**02 41 43.1**	**+0.2**
	23nm,0.8s,mb4.5							
MEZF	**Maizieres J'vi**	**25.53**	**85**	*e*P		**P**	**02 41 43.1**	**+0.2**
	11nm,0.8s,mb4.5							
NAO01	**NORSAR Array S**	**25.55**	**55**	*e*P		**P**	**02 41 42.6**	**-0.5**
	6.6nm,0.8s,mb4.2							
EPF	**Esparros**	**25.58**	**100**	*e*P		**P**	**02 41 43.8**	**+0.4**
SMF	**Signal de Mont**	**25.68**	**89**	*e*P		**P**	**02 41 44.6**	**+0.3**
	48nm,1.4s,mb4.5							
SMF	**Signal de Mont**	**25.68**	**89**	*e*P		**P**	**02 41 44.6**	**+0.3**
	24nm,1.4s,mb4.5							
NOA	**NORSAR Array B**	**25.69**	**54**	P		**P**	**02 41 44.0**	**-0.4**
	2.8nm,0.9s,mb3.8,baz=275,slow=9.1,SNR=2.9							
MTLF	**Montolieu**	**26.50**	**97**	*e*P		**P**	**02 41 51.3**	**-0.5**
HAU	**Haudompre**	**26.53**	**85**	*e*P		**P**	**02 41 51.9**	**-0.1**
	29nm,1.2s,mb4.4							
HAU	**Haudompre**	**26.53**	**85**	*e*P		**P**	**02 41 51.9**	**-0.1**
	14nm,1.2s,mb4.4							
CDF	**Champ du Feu**	**26.89**	**83**	*e*P		**P**	**02 41 55.6**	**+0.3**
	7.7nm,0.7s,mb4.0							
CDF	**Champ du Feu**	**26.89**	**83**	*e*P		**P**	**02 41 55.6**	**+0.3**
	3.8nm,0.7s,mb4.0							
HINF	**Hinteralfeld**	**26.92**	**85**	*e*P		**P**	**02 41 55.7**	**+0.2**
LPL	**La Plagne**	**27.99**	**89**	*e*P		**P**	**02 42 05.9**	**+0.8**
LPG	**La Plagne**	**28.01**	**89**	*e*P		**P**	**02 42 06.0**	**+0.7**
CLL	**Collm**	**29.02**	**75**	*i* P		**P**	**02 42 14.7**	**+0.4**
	comp=Z,8.0nm,0.9s,mb4.5							
BRG	**Berggiesshubel**	**29.74**	**75**	*e*P		**P**	**02 42 21.3**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.0							
BRG				*e*			02 42 26.7	
	comp=Z,2.5nm,1.1s							
GERES	**GERESS Array B**	**30.49**	**79**	P		**P**	**02 42 27.5**	**+0.2**
	comp=Z,2.1nm,1.0s,mb3.8,baz=303,slow=7.5,SNR=11							
MORC	**Moravsky Berou**	**32.29**	**75**	*e*P		**P**	**02 42 44.0**	**+0.8**
	comp=Z,6.0nm,1.0s,mb4.4							
MORC	**Moravsky Berou**	**32.29**	**75**	*e*P		**P**	**02 42 44.0**	**+0.8**
	comp=Z,6.0nm,1.0s,mb4.4							
FINES	**FINESS Array B**	**32.71**	**51**	P		**P**	**02 42 46.5**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=356,slow=7.6,SNR=5.3							
VYHS	**Vyhne**	**33.65**	**76**	*e*P		**P**	**02 42 55.6**	**+0.6**
PSZ	**Piszkesteto**	**34.55**	**76**	*e*P		**P**	**02 43 03.0**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3							
PSZ	**Piszkesteto**	**34.55**	**76**	*e*P		**P**	**02 43 03.0**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**34.59**	**73**	*e*P		**P**	**02 43 04.3**	**+1.1**
KEST	**Kesra**	**35.61**	**102**	P		**P**	**02 43 11.7**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.2,baz=9.7,slow=1.9,SNR=6.4							
AKASG	**Malin Array Be**	**38.45**	**67**	P		**P**	**02 43 35.2**	**-0.9**
	comp=Z,1.8nm,0.8s,mb3.9,baz=300,slow=8.6,SNR=10							
AKBB	**Malin Array Si**	**38.45**	**67**	*e*P		**P**	**02 43 35.6**	**-0.4**
AKBB	**Malin Array Si**	**38.45**	**67**	*e*P		**P**	**02 43 35.7**	**-0.4**
WVT	**Waverly**	**40.19**	**266**	*e*P		**P**	**02 43 49.7**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.1							
WVT	**Waverly**	**40.19**	**266**	*e*P		**P**	**02 43 49.7**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.1							
YKA	**Yellowknife Ar**	**40.46**	**315**	P		**P**	**02 43 51.9**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.5,baz=62,slow=9.4,SNR=4.0							
FVM	**French Village**	**40.51**	**270**	*e*P		**P**	**02 43 52.2**	**-1.1**
	comp=Z,7.1nm,0.9s,mb4.3							
INK	**Inuvik**	**44.61**	**328**	P		**P**	**02 44

	comp=Z,4.8nm,1.1s,mb4.3									
LPAZ	**La Paz**	**75.05**	**213**	*eP*		**P**		**02 47 56.3**	**+0.2**	
	comp=Z,2.5nm,0.9s,mb4.1									
LPAZ	**La Paz**	**75.05**	**213**	*eP*		**P**		**02 47 56.3**	**+0.2**	
	comp=Z,2.5nm,0.9s,mb4.1									
GTA	**Gaotai**	**79.64**	**34**	*eP*		**P**		**02 48 21.5**	**-0.3**	
GTA					AP	pP		02 48 29.8	+4.7	
GTA					AMB	AMB				
	comp=Z,4.0nm,1.0s,mb4.3									
LZH	**Lanzhou**	**83.98**	**32**	*eP*		**P**		**02 48 38.5**	**-6.2**	
LZH					AMB	AMB				
	comp=Z,19nm,1.1s,mb5.1									
LZH	**Lanzhou**	**83.98**	**32**	*eP*		**P**		**02 48 38.5**	**-6.2**	
	comp=Z,19nm,1.1s,mb5.1									
LZH					pP	pP		02 48 43.1	-4.9	
LZH					sP	sP		02 48 46.0	-3.2	
VNA2	**Neumayer--Watz**	**125.68**	**169**	*e*		PKPdf		02 55 13.9	-2.0	
VNA2				*e*				02 55 28.7		
VNA2				*e*				02 55 46.8		
VNA2				*e*				02 55 58.2		
VNA3	**Neumayer Olymp**	**125.74**	**170**	*e*		PKPdf		02 55 13.8	-2.2	
VNA3				*e*				02 55 28.7		
VNA3				*e*				02 55 46.6		
VNA3				*e*				02 55 58.9		
SNAA	**Sanae**	**126.92**	**168**	*e*		PKPdf		02 55 16.2	-2.1	
SNAA				*e*				02 55 29.1		
SNAA				*e*				02 55 57.9		
WRA	**Warramunga Arr**	**145.55**	**18**	PKPbc		PKPbc		02 55 52.2	-0.5	
	comp=Z,2.0nm,0.8s,baz=345,slow=3.5,SNR=15									
AS31	**Alice Springs**	**149.09**	**20**	*e*PKPbc		PKPbc		02 56 01.4	-1.2	
ASAR	**Alice Springs**	**149.09**	**20**	PKPbc		PKPbc		02 56 01.2	-1.4	
	comp=Z,3.8nm,0.6s,baz=352,slow=2.4,SNR=57									
ASAR	**Alice Springs**	**149.09**	**20**	PKPbc		PKPbc		02 56 01.2	-1.5	
VNDA	**Vanda**	**155.08**	**189**	*e*PKPbc		PKPdf		02 56 14.2	+6.7	

*NEIC **29** 02:38:25.3, 3237S×7176W, h22km, ML3.2(GUC), After GUC.*

GUC 29 02:38:25.3±0.8, 3237S×7176W, h22km±10km, MD3.8, ML3.2, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
PACH	**Papudo**	**0.32**	**121**	⇓*iP*		Pb	02	38	32.7	+0.3
PACH				*i* S		Sb	02	38	37.7	+0.5
IHA	**Instituto Hidr**	**0.66**	**172**	⇑*iP*		Pb	02	38	37.9	-0.3
IHA				*i* S		Sb	02	38	47.0	+0.2
ROCH	**El Roble**	**0.87**	**134**	⇑*iP*		Pb	02	38	41.1	-0.6
ROCH				*i* S		Sb	02	38	53.2	+0.3
JACH	**Jahuel**	**1.03**	**108**	⇑*iP*		Pn	02	38	43.9	-0.4
JACH				*i* S		Sb	02	38	57.9	+0.4
LCCH	**Las Cruces**	**1.11**	**172**	⇑*iP*		Pn	02	38	44.7	-0.8
LCCH				*i* S		Sb	02	38	59.2	-0.7
PEL	**Peldehue**	**1.19**	**131**	⇑*iP*		Pn	02	38	46.4	-0.2
PEL				*i* S		Sn	02	39	02.2	+0.3
PEL					AML	AML	02	39	03.8	
	comp=E,3μm,0.3s									
RCDM	**Rinconada Maip**	**1.37**	**145**	⇓*iP*		Pn	02	38	48.9	-0.1
RCDM				*i* S		Sn	02	39	06.6	+0.1
RCDM					AML	AML	02	39	09.3	
	comp=E,702nm,0.5s									
RCDM	**Rinconada Maip**	**1.37**	**145**	⇓*iP*		Pn	02	38	48.9	-0.1
RCDM				*i* S		Sn	02	39	06.6	+0.1
CLCH	**Cerro Calan**	**1.45**	**135**	⇓*iP*		Pn	02	38	50.3	+0.2
CLCH				*i* S		Sn	02	39	09.5	+1.1
CLCH					AML	AML	02	39	12.2	
	comp=E,464nm,0.5s									
TACH	**Talagante**	**1.45**	**152**	⇑*iP*		Pn	02	38	50.3	+0.2
TACH				*i* S		Sn	02	39	09.6	+1.1
ANTU	**Antumapu**	**1.52**	**142**	⇑*iP*		Pn	02	38	51.2	+0.1
ANTU				*i* S		Sn	02	39	11.3	+1.0
ANTU					AML	AML	02	39	17.6	
	comp=N,622nm,0.4s									
ANTU	**Antumapu**	**1.52**	**142**	⇑*iP*		Pn	02	38	51.2	+0.1
ANTU				*i* S		Sn	02	39	11.3	+1.0
FCH	**Farellones**	**1.56**	**128**	*eP*		Pn	02	38	52.0	+0.3
FCH				*i* S		Sn	02	39	12.9	+1.8
FCH					AML	AML	02	39	14.9	
	comp=E,278nm,0.4s									
LNV	**Longovilo**	**1.61**	**170**	*i* S		Sn	02	39	13.0	+0.7
PCH	**Pirque**	**1.62**	**140**	⇑*iP*		Pn	02	38	53.2	+0.6
PCH				*i* S		Sn	02	39	14.5	+1.7
CHCH	**Chadas Angostu**	**1.81**	**150**	*eP*		Pn	02	38	56.2	+1.1
CHCH				*i* S		Sn	02	39	19.9	+2.5
CACH	**El Canelo**	**1.99**	**151**	*eP*		Pn	02	38	59.5	+2.0

*IDC **29** 02:42:45.2±0.7, 5354N×3494W, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, MS4.7/1, Ms1 4.7/1, ms1mx3.8/25, Error ellipse: s-maj=27.0km s-min=17.6km az=171.0*

*ISCJB **29** 02:42:46.3±0.4, 535N±0.1×347W±0.1, h10km, mb3.9/19, MS4.6/1, Error ellipse: s-maj=18.1km s-min=9.3km az=168.0*

*NEIC **29** 02:42:48.1±0.5, 5348N×3469W, h10km, mb4.1/11, Error ellipse: s-maj=20.7km s-min=9.8km az=175.0*

*CSEM **29** 02:42:48.1, 5348N×3469W, h10km, mb4.1/11, After NEIC*

ISC 29 02:42:48.1±0.4, 535N±01×347W±01, h10km, n40, σ1§04/35, mb3.9/19, MS4.6/1, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
ESDC	**Sonseca Array**	**25.00**	**111**	P		**P**	**02**	**48**	**11.7**	**-0.3**
	1.9nm,1.0s,mb3.6,baz=312,slow=9.1,SNR=5.8									
MDT	**Midelt**	**29.78**	**122**	LR		LR	02	59	08.7	
	comp=Z,2μm,20.6s,MS4.6,baz=16,slow=33									
GERES	**GERESS Array B**	**30.23**	**79**	P		**P**	**02**	**48**	**59.1**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=276,slow=12,SNR=4.0									
WCI	**Wyandotte Cave**	**38.14**	**268**	*eP*		**P**	**02**	**50**	**08.0**	**+0.6**
	5.6nm,0.8s,mb4.3									
WCI	**Wyandotte Cave**	**38.14**	**268**	*eP*		**P**	**02**	**50**	**08.0**	**+0.6**
	5.6nm,0.8s,mb4.3									
WVT	**Waverly**	**40.45**	**267**	*eP*		**P**	**02**	**50**	**27.1**	**+0.4**
	1.9nm,0.8s,mb3.9									
BR131	**Keskin Array S**	**47.12**	**78**	*eP*		**P**	**02**	**51**	**22.0**	**+1.7**
	0.7nm,0.7s,mb3.7									
BR131	**Keskin Array S**	**47.12**	**78**	*eP*		**P**	**02**	**51**	**22.0**	**+1.7**
	0.7nm,0.7s,mb3.7									
BRTR	**Keskin Array B**	**47.12**	**78**	P		**P**	**02**	**51**	**20.8**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=325,slow=6.0,SNR=5.9									
WMOK	**Wichita Mounta**	**47.94**	**274**	*eP*		**P**	**02**	**51**	**26.6**	**0.0**
	1.7nm,0.9s,mb4.1									
WMOK	**Wichita Mounta**	**47.94**	**274**	*eP*		**P**	**02**	**51**	**26.6**	**-0.1**
	1.7nm,0.9s,mb4.1									
BW06	**Boulder Array**	**48.90**	**289**	*eP*		**P**	**02**	**51**	**33.9**	**-0.2**
	1.0nm,0.7s,mb4.0									
BW06	**Boulder Array**	**48.90**	**289**	*eP*		**P**	**02**	**51**	**33.9**	**-0.2**
	1.0nm,0.7s,mb4.0									
PDAR	**Pinedale Array**	**48.90**	**289**	P		**P**	**02**	**51**	**31.2**	**-2.9**
	0.8nm,0.7s,mb3.8,baz=62,slow=7.2,SNR=5.5									
TORD	**Torodi Ar. Bea**	**49.47**	**130**	P		**P**	**02**	**51**	**37.6**	**-0.9**
	1.4nm,0.9s,mb4.0,baz=331,slow=7.9,SNR=8.0									
HWUT	**Hardware Ranch**	**50.79**	**290**	*eP*		**P**	**02**	**51**	**49.0**	**+0.6**
	3.2nm,0.8s,mb4.3									
HWUT	**Hardware Ranch**	**50.79**	**290**	*eP*		**P**	**02**	**51**	**49.0**	**+0.6**
	3.2nm,0.8s,mb4.3									
MALT	**Malatya**	**50.84**	**76**	*eP*		**P**	**02**	**51**	**50.0**	**+1.2**
MALT	**Malatya**	**50.84**	**76**	*eP*		**P**	**02**	**51**	**50.0**	**+1.1**
PV10	**Paradox Valley**	**51.50**	**285**	*eP*		**P**	**02**	**51**	**55.8**	**+2.0**
PV10	**Paradox Valley**	**51.50**	**285**	*eP*		**P**	**02**	**51**	**55.8**	**+2.0**
MNTX	**Cornudas Mount**	**54.00**	**276**	*eP*		**P**	**02**	**52**	**13.2**	**+0.9**
	0.9nm,0.6s,mb3.9									
MNTX	**Cornudas Mount**	**54.00**	**276**	*eP*		**P**	**02**	**52**	**13.2**	**+0.9**
	0.9nm,0.6s,mb3.9									
TXAR	**Lajitas Array**	**54.69**	**273**	P		**P**	**02**	**52**	**15.2**	**-2.1**
	0.4nm,0.8s,mb3.5,baz=14,slow=7.5,SNR=3.5									
ZRNK	**Zerenda**	**56.45**	**45**	*eP*		**P**	**02**	**52**	**29.6**	**-0.4**
	1.5nm,1.0s,mb4.0									
ZRNK	**Zerenda**	**56.45**	**45**	*eP*		**P**	**02**	**52**	**29.6**	**-0.4**
	1.5nm,1.0s,mb4.0									
BRVK	**Borovoye**	**56.91**	**44**	*eP*		**P**	**02**	**52**	**34.0**	**+0.7**
	2.5nm,0.9s,mb4.2									
BRVK	**Borovoye**	**56.91**	**44**	*eP*		**P**	**02**	**52**	**34.0**	**+0.7**
	2.5nm,0.9s,mb4.2									
ROSC	**El Rosal**	**58.26**	**228**	P		**P**	**02**	**52**	**42.2**	**-0.5**
	7.0nm,0.7s,mb4.8,baz=101,slow=19,SNR=2.4									
MKAR	**Makanchi Array**	**66.66**	**42**	P		**P**	**02**	**53**	**38.0**	**-0.9**
	0.9nm,0.8s,mb3.6,baz=7.8,slow=9.8,SNR=4.2									
SAML	**Samuel**	**66.72**	**211**	*eP*		**P**	**02**	**53**	**39.8**	**+0.5**
	1.4nm,0.9s,mb4.0									
SAML	**Samuel**	**66.72**	**211**	*eP*		**P**	**02**	**53**	**39.8**	**+0.5**
	1.4nm,0.9s,mb4.0									
SONM	**Songino Array**	**73.80**	**26**	P		**P**	**02**	**54**	**21.0**	**-1.7**
	0.7nm,0.9s,mb3.6,baz=332,slow=12,SNR=4.6									
LPAZ	**La Paz**	**75.19**	**213**	P		**P**	**02**	**54**	**29.7**	**-1.0**
	1.2nm,0.9s,mb3.8,baz=30,slow=13,SNR=5.2									
LPAZ	**La Paz**	**75.19**	**213**	*eP*		**P**	**02**	**54**	**31.0**	**+0.2**
	1.5nm,1.0s,mb3.9									
LPAZ	**La Paz**	**75.19**	**213**	*eP*		**P**	**02**	**54**	**31.0**	**+0.3**
	1.5nm,1.0s,mb3.9									
WRA	**Warramunga Arr**	**145.47**	**18**	PKPbc		PKPbc	03	02	24.0	-2.4
	1.2nm,0.9s,baz=343,slow=3.2,SNR=7.9									
AS31	**Alice Springs**	**149.01**	**21**	*e*PKPdf		PKPdf	03	02	32.4	+0.1
AS31	**Alice Springs**	**149.01**	**21**	*e*PKPdf		PKPdf	03	02	32.4	+0.2
ASAR	**Alice Springs**	**149.01**	**21**	PKPbc		PKPbc	03	02	33.6	-2.7
	1.4nm,0.6s,baz=350,slow=2.3,SNR=24									

FUNV 29 03:04:18.3, 923N×7006W, h5km, MW3.6, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
SANV	**Sanarito**	**0.58**	**62**	*eP*		Pg	03	04	29.2	-0.3
SANV				*eS*		Sg	03	04	37.8	+0.7
CURV	**Curarigua**	**0.79**	**7**	*eP*		Pg	03	04	32.6	-0.7
CURV				*eS*		Sg	03	04	43.9	+0.3
QARV	**Quebrada Arrib**	**1.08**	**335**	*eP*		Pg	03	04	38.9	-0.1
QARV				*eS*		Sg	03	04	53.0	+0.1
TEPV	**Terepaima**	**1.12**	**49**	*eS*		Sg	03	04	54.9	+0.4
SOCV	**Socops**	**1.23**	**220**	*eP*		Pg	03	04	41.2	-0.6
SOCV				*eS*		Sg	03	04	57.3	-0.4
VIGV	**El Vigia**	**1.35**	**253**	*eP*		Pn	03	04	42.7	-1.0
VIGV				*eS*		Sb	03	05	00.9	-0.6
SIQV	**Siquisique**	**1.43**	**10**	*eP*		Pn	03	04	44.2	-0.7
SIQV				*eS*		Sb	03	05	04.3	+0.3
DABV	**Dabajuro**	**1.78**	**341**	*eP*		Pn	03	04	49.4	-0.3
DABV				*eS*		Sn	03	05	12.8	+0.2
ELOV	**Elorza**	**2.29**	**166**	*eP*		Pn	03	04	56.3	-0.3
TURV	**Turiamo**	**2.50**	**61**	*eP*		Pn	03	04	59.1	-0.5
CAPV	**Capacho**	**2.61**	**239**	*eP*		Pn	03	05	01.8	+0.7
VIRV	**Villa del Rosa**	**2.64**	**299**	*eP*		Pn	03	05	00.9	-0.6

*CSEM **29** 03:33:25.2±1.2, 4565N×2648E, h150km±10km, MD3.5/2, Error ellipse: s-maj=12.2km s-min=5.8km az=3.0, After BUC*

BUC 29 03:33:25.2±1.2, 4565N×2648E, h150km±10km, MD3.4/2, 5C-1D, Error ellipse: s-maj=12.2km s-min=5.8km az=3.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
VRI	**Vrincioaia**	**0.28**	**38**	⇑*iP*		Pn	03	33	45.8	+0.1
VRI				*i* S		Sn	03	34	01.0	-0.3
BRD	**Bordesti**	**0.39**	**103**	⇑*iP*		Pn	03	33	47.5	+1.4
MLR	**Muntele Rosu**	**0.41**	**248**	⇓*iP*		Pn	03	33	46.3	+0.1
MLR				*i* S		Sn	03	34	02.1	0.0
SNX	**Sinaia**	**0.74**	**247**	⇑*iP*		Pn	03	33	48.6	+0.6
MTUR	**Matau**	**1.08**	**248**	⇑*iP*		Pn	03	33	51.1	+0.4
TIRR	**Tirgusor**	**1.81**	**130**	⇑*iP*		Pn	03	33	58.6	+0.5
TIRR				*i* S		Sn	03	34	22.1	-1.3

*IDC **29** 03:54:47.9±1.7, 1576N×9239W, h147km±22km, mb3.5/5, mb1 3.9/8, mb1mx3.5/21, mbtmp3.6/8, Error ellipse: s-maj=57.5km s-min=12.6km az=48.0*

*ISCJB **29** 03:54:49.3±0.5, 1557N±006×9267W±004, h169km±5km, mb3.8/7, Error ellipse: s-maj=10.8km s-min=5.3km az=28.3*

*NEIC **29** 03:54:52.0, 1568N×9266W, h170km, mb4.0/10, MD4.2(MEX), After MEX.*

*MEX **29** 03:54:53.4±0.7, 1565N×9272W, h156km±11km, MD4.2*

ISC 29 03:54:50.5±0.5, 1557N±006×9268W±004, h163km±5km, n40, σ1§36/58, mb3.8/7, 3C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
CCIG	**Comitan**	**0.88**	**36**	*i* P		**Pn**	**03**	**55**	**16.0**	**+0.5**
CCIG				*i* S		**Sn**	**03**	**55**	**34.8**	**+0.1**
CCIG	**Comitan**	**0.88**	**36**	⇑*iP*		**Pn**	**03**	**55**	**16.1**	**+0.5**
CCIG				*i* S		**Sn**	**03**	**55**	**34.8**	**+0.1**
CMIG	**Matias Romero**	**2.60**	**306**	P		**Pn**	**03**	**55**	**33.6**	**+0.2**
	79nm,0.3s,baz=104,slow=8.1,SNR=1153									
CMIG					S	**Sn**	**03**	**56**	**05.4**	**-1.3**
	124nm,0.3s,baz=328,slow=19,SNR=46									
TUIG	**Tuzandepetl**	**2.96**	**326**	*eP*		**Pn**	**03**	**55**	**37.8**	**-0.1**
TUIG				*i* S		**Sn**	**03**	**56**	**13.1**	**-1.6**
HUIG	**Huatulco**	**3.31**	**274**	⇑*iP*		**Pn**	**03**	**55**	**42.4**	**+0.2**
HUIG				*i* S		**Sn**	**03**	**56**	**22.2**	**-0.2**
OXX	**Oaxaca**	**4.17**	**292**	*i* P		**Pn**	**03**	**55**	**55.5**	**+2.3**
OXX				*i* S		**Sn**	**03**	**56**	**41.0**	**-1.1**
VHO	**Vista Hermosa**	**4.17**	**292**	*i* P		**Pn**	**03**	**55**	**55.4**	**+2.2**
VHO				*i* S		**Sn**	**03**	**56**	**41.6**	**-0.6**
VHO	**Vista Hermosa**	**4.17**	**292**	⇑*iP*		**Pn**	**03**	**55**	**55.4**	**+2.2**
VHO				*i* S		**Sn**	**03**	**56**	**41.1**	**-1.1**
TPIG	**Tehuac#an**	**5.30**	**303**	*i* P		**Pn**	**03**	**56**	**08.7**	**+0.6**
TPIG				*i* S		**Sn**	**03**	**57**	**07.4**	**-1.3**
PNIG	**Pinotepa**	**5.31**	**280**	*i* P		**Pn**	**03**	**56**	**09.4**	**+1.2**
PNIG				*i* S		**Sn**	**03**	**57**	**08.5**	**-0.4**
UTMO	**Huajuapan**	**5.40**	**295**	*i* P		**Pn**	**03**	**56**	**11.4**	**+2.0**
UTMO				*i* S		**Sn**	**03**	**57**	**10.1**	**-1.0**
TGUH	**Tegucigalpa,Un**	**5.44**	**105**	*e*Pn		**Pn**	**03**	**56**	**09.1**	**-0.8**
	24nm,0.9s									
TEIG	**Tepich**	**6.24**	**41**	*i* P		**Pn**	**03**	**56**	**16.0**	**-4.5**
TEIG				*i* S		**Sn**	**03**	**57**	**24.2**	**-6.9**
TEIG	**Tepich**	**6.24**	**41**	*e*Pn		**Pn**	**03**	**56**	**15.5**	**-5.0**
TEIG				*i* S		**Sn**	**03**	**57**	**32.9**	**+1.8**
IIO	**Organos**	**7.02**	**306**	*i* P		**Pn**	**03**	**56**	**33.1**	**+2.4**
IIO				*i* S		**Sn**	**03**	**57**	**52.5**	**+2.9**
MEIG	**Mezcala**	**7.05**	**290**	*i* P		**Pn**	**03**	**56**	**32.5**	**+1.3**
MEIG				*i* S		**Sn**	**03**	**57**	**49.2**	**-1.2**
ACX	**Acapulco**	**7.07**	**281**	*e*P		**Pn**	**03**	**56**	**32.0**	**+0.5**
PLIG	**Platanillo**	**7.11**	**294**	*i* P		**Pn**	**03**	**56**	**32.7**	**+0.8**
PLIG				*i* S		**Sn**	**03**	**57**	**49.5**	**-2.3**
CAIG	**El Cayaco**	**7.43**	**282**	*e*P		**Pn**	**03**	**56**	**38.0**	**+1.7**
JTS	**JuntasAbangare**	**9.18**	**124**	P		**Pn**	**03**	**56**	**57.3**	**-2.0**
	4.0nm,0.3s,baz=313,slow=15,SNR=15									
JTS					S	**Sn**	**03**	**58**	**30.5**	**-11**
	0.7nm,0.3s,baz=288,slow=19,SNR=2.4									
JTS	**JuntasAbangare**	**9.18**	**124**	*e*Pn		**Pn**	**03**	**56**	**56.0**	**-3.3**
JTS					S	**Sn**	**03**	**58**	**30.5**	**-11**
LTX	**Lajitas**	**17.03**	**325**	*eP*		**Pn**	**03**	**58**	**39.4**	**+0.4**
	8.4nm,1.2s									
TXAR	**Lajitas Array**	**17.03**	**325**	P		**Pn**	**03**	**58**	**38.9**	**-0.1**
	0.3nm,0.3s,baz=152,slow=13,SNR=44									
TXAR	**Lajitas Array**	**17.03**	**325**	P		**Pn**	**03**	**58**	**38.9**	**-0.1**
MNTX	**Cornudas Mount**	**19.80**	**326**	*eP*		**P**	**03**	**59**	**08.1**	**-0.2**
	8.8nm,1.2s									
WMOK	**Wichita Mounta**	**19.86**	**345**	*eP*		**P**	**03**	**59**	**07.2**	**-1.8**
	2.0nm,0.7s									
OTAV	**Otavalo**	**20.72**	**136**	*eP*		**P**	**03**	**59**	**21.6**	**+3.5**
	3.0nm,0.6s									
AMTX	**Amarillo**	**20.86**	**339**	*eP*		**P**	**03**	**59**	**17.6**	**-2.1**
	4.6nm,0.4s									
WVT	**Waverly**	**20.93**	**11**	*eP*		**P**	**03**	**59**	**22.2**	**+1.9**
	2.7nm,0.6s									
BNM	**Barren Site**	**22.37**	**328**	*eP*		**P**	**03**	**59**	**35.5**	**+0.2**
SDV	**Santo Domingo**	**22.53**	**105**	*eP*		**P**	**03**	**59**	**32.7**	**-4.1**
ANMO	**Albuquerque**	**22.92**	**330**	P		**P**	**03**	**59**	**40.1**	**-0.2**
	0.6nm,0.6s,mb3.2,baz=135,slow=12,SNR=3.9									
ANMO	**Albuquerque**	**22.92**	**330**	*eP*		**P**	**03**	**59**	**40.3**	**0.0**
	0.7nm,0.3s,mb3.6									
NVAR	**Mina Array Bea**	**32.05**	**320**	P		**P**	**04**	**01**	**03.1**	**+1.4**
	2.2nm,0.7s,mb4.0,baz=138,slow=7.7,SNR=6.7									
WVOR	**Wild Horse Val**	**34.83**	**325**	*eP*		**P**	**04**	**01**	**26.6**	**+0.8**
	1.6nm,0.7s,mb3.8									
SAML	**Samuel**	**38.04**	**128**	*eP*		**P**	**04**	**01**	**48.3**	**-4.7**
	5.6nm,1.1s,mb4.1									
LPAZ	**La Paz**	**39.86**	**142**	P		**P**	**04**	**02**	**07.8**	**-0.3**
	1.4nm,0.6s,mb3.8,baz=299,slow=4.9,SNR=5.2									
SIV	**San Ignacio**	**44.24**	**134**	P		**P**	**04**	**02**	**41.3**	**-2.3**
	2.4nm,0.5s,mb4.1,baz=300,slow=8.2,SNR=16									
YKA	**Yellowknife Ar**	**49.35**	**347**	P		**P**	**04**	**03**	**19.7**	**-3.6**
	0.9nm,0.4s,mb3.7,baz=152,slow=7.3,SNR=13									
YKA	**Yellowknife Ar**	**49.35**	**347**	P		**P**	**04**	**03**	**19.7**	**-3.6**

*ISCJB **29** 03:55:25.6±0.7, 534N±02×353W±02, h10km, mb3.7/8, Error ellipse: s-maj=28.8km s-min=15.6km az=178.3*

*IDC **29** 03:55:26.2±0.8, 5341N×3523W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=31.5km s-min=20.3km az=165.0*

*NEIC **29** 03:55:27.5±0.6, 5340N×3525W, h10km, mb3.9/1, Error ellipse: s-maj=25.6km s-min=14.5km az=176.0*

*CSEM **29** 03:55:27.5, 5340N×3525W, h10km, mb3.9/1, After NEIC*

ISC 29 03:55:27.4±0.8, 534N±02×353W±02, h10km, n13, σ0§91/11, mb3.7/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
BRTR	**Keskin Array B**	**47.45**	**78**	P		**P**	**04**	**04**	**02.6**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=294,slow=11,SNR=2.9									
PDAR	**Pinedale Array**	**48.61**	**289**	P		**P**	**04**	**04**	**10.6**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=57,slow=7.8,SNR=5.4									
TORD	**Torodi Ar. Bea**	**49.68**	**130**	P		**P**	**04**	**04**	**18.2**	**-1.1**
	0.7nm,0.9s,mb3.7,baz=340,slow=4.7,SNR=3.7									
HWUT	**Hardware Ranch**	**50.50**	**289**	*eP*		**P**	**04**	**04**	**25.5**	**0.0**
	0.7nm,0.5s,mb4.0									
HWUT	**Hardware Ranch**	**50.50**	**289**	*eP*		**P**	**04**	**04**	**25.5**	**-0.1**
	0.7nm,0.5s,mb4.0									
PV10	**Paradox Valley**	**51.20**	**284**	*eP*		**P**	**04**	**04**	**30.6**	**-0.3**
PV10	**Paradox Valley**	**51.20**	**284**	*eP*		**P**	**04**	**04**	**30.6**	**-0.2**
TXAR	**Lajitas Array**	**54.36**	**272**	P		**P**	**04**	**04**	**53.6**	**-0.6**
	0.3nm,0.9s,mb3.2,baz=49,slow=8.5,SNR=3.0									
BVAR	**Borovoye Array**	**57.25**	**44**	P		**P**	**04**	**05**	**14.5**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=335,slow=6.4,SNR=2.7									
ROSC	**El Rosal**	**57.98**	**228**	P		**P**	**04**	**05**	**22.5**	**+2.5**
	4.1nm,0.7s,mb4.6,baz=76,slow=19,SNR=3.5									
SONM	**Songino Array**	**73.99**	**26**	P		**P**	**04**	**07**	**04.1**	**+1.0**
	0.1nm,0.3s,mb3.3,baz=300,slow=3.2,SNR=2.7									
WRA	**Warramunga Arr**	**145.63**	**18**	PKPbc		PKPbc	04	15	07.1	+1.0
	0.7nm,1.0s,baz=347,slow=4.3,SNR=3.2									
ASAR	**Alice Springs**	**149.17**	**20**	PKPbc		PKPbc	04	15	15.5	-0.5
	0.6nm,0.6s,baz=348,slow=2.4,SNR=8.2									

*ISCJB **29** 04:07:57.1±1.1, 94S±02×1595E±03, h107km±18km, mb3.7/6, Error ellipse: s-maj=58.0km s-min=23.4km az=67.2*

*NEIC **29** 04:07:57.9±1.0, 938S×1595?E, h105km±15km, mb3.9/2, Error ellipse: s-maj=49.8km s-min=17.2km az=125.0*

*IDC **29** 04:07:57.4±0.8, 942S×1596E, h104km±18km, mb3.7/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, Error ellipse: s-maj=56.4km s-min=24.7km az=118.0*

ISC 29 04:07:58.0±1.1, 94S±02×1596E±03, h107km±15km, n10, σ0§96/11, mb3.7/6, Bougainville - Solomon Islands region

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

14nm,1.3s,mb4.5
JTS JuntasAbangare 41.13 255 *e*P P **04 19 19.1 -1.8**
9.4nm,1.0s,mb4.4
OTAV Otavalo 41.48 237 *e*P P **04 19 24.2 +0.4**
14nm,1.3s,mb4.4
SIV San Ignacio 44.86 203 P P **04 19 50.2 -0.9**
6.4nm,1.0s,mb4.4,baz=63,slow=8.8,SNR=9.3
BNI Bardonecchia 45.01 52 *e*P P **04 19 53.4 +1.1**
66nm,1.8s,mb5.2
TOA0 Torodi Ar. Sit 45.39 97 *e*P P **04 19 55.4 0.0**
TORD Torodi Ar. Bea 45.39 97 P P **04 19 54.3 -1.1**
1.8nm,0.9s,mb3.9,baz=297,slow=9.2,SNR=8.3
TORD LR LR 04 38 15.1
comp=Z,644nm,18.2s,MS4.6,baz=290,slow=35
ULM Lac du Bonnet 45.66 316 P P **04 19 56.4 -1.1**
1.9nm,0.7s,mb4.2,baz=98,slow=12,SNR=3.6
ULM LR LR 04 36 56.1
comp=Z,214nm,19.6s,MS4.1,baz=64,slow=33
KEST Kesra 46.84 65 P P **04 20 08.2 +1.5**
5.1nm,1.1s,mb4.4,baz=256,slow=5.4,SNR=6.9
KEST LR LR 04 37 06.4
comp=Z,94nm,19.6s,MS3.8,baz=302,slow=33
WMOK Wichita Mounta 46.86 294 *e*P P **04 20 06.5 -0.4**
15nm,1.4s,mb4.7
LPAZ La Paz 47.98 211 P P **04 20 15.5 -0.1**
7.6nm,0.9s,mb4.7,baz=25,slow=8.3,SNR=7.2
LPAZ LR LR 04 40 19.1
comp=Z,251nm,19.1s,MS4.2,baz=70,slow=36
LPAZ La Paz 47.98 211 *e*P P **04 20 15.7 +0.1**
8.9nm,0.9s,mb4.8
AMTX Amarillo 49.22 295 *e*P P **04 20 25.6 +0.4**
50nm,1.8s,mb5.2
NKC Novy Kostel 49.51 45 *e*P P **04 20 28.8 +1.4**
NKC *e*pP pP 04 20 34.1 +3.6
CLL Collm 49.99 44 *e*P P **04 20 31.0 0.0**
CLL *e*(sP) sP 04 20 37.0 +1.6
KHC Kasperske Hory 50.12 47 *e*P P **04 20 30.8 -1.3**
KHC *e*pP pP 04 20 34.8 -0.4
GERES GERESS Array B 50.18 47 P P **04 20 29.7 -2.8**
1.1nm,0.9s,mb3.9,baz=271,slow=7.5,SNR=6.9
GERES LR LR 04 37 06.9
comp=Z,208nm,21.0s,MS4.1,baz=268,slow=30
GERES GERESS Array B 50.18 47 P P **04 20 29.7 -2.8**
GERES LR LR 04 37 06.9
BRG Berggiesshubel 50.53 45 *e*P P **04 20 41.8 +6.7**
12nm,1.7s,mb4.6
PRU Pruhonice 50.82 46 *e*P P **04 20 45.3 +8.0**
NB2 NORSAR Subarra 51.06 31 P P **04 20 39.3 +0.2**
comp=Z,18nm,1.2s,mb4.9,baz=253,slow=7.9
NOA NORSAR Array B 51.06 31 P P **04 20 40.0 +0.9**
comp=Z,3.0nm,1.0s,mb4.2,baz=253,slow=7.5,SNR=2.9
NOA LR LR 04 38 30.1
comp=Z,278nm,18.9s,MS4.3,baz=250,slow=32
NOA NORSAR Array B 51.06 31 P P **04 20 40.0 +0.9**
NOA LR LR 04 38 30.1
TXAR Lajitas Array 51.74 288 P P **04 20 42.5 -1.7**
comp=Z,0.5nm,0.8s,mb3.5,baz=99,slow=7.6,SNR=6.7
TXAR PcP PcP 04 21 57.5 0.0
comp=Z,0.6nm,1.0s,baz=98,slow=4.6,SNR=2.7
TXAR LR LR 04 41 08.6
comp=Z,215nm,21.3s,MS4.2,baz=185,slow=34
UPC Upice 51.81 45 *e*P P **04 20 42.1 -2.6**
UPC *e*pP pP 04 20 52.0 +4.1
DPC Dobruska-Polom 51.99 45 *e*P P **04 20 47.4 +1.3**
DPC *e*pP pP 04 20 53.4 +4.1
ANMO Albuquerque 53.11 295 *e*P P **04 20 54.9 +0.5**
comp=Z,15nm,1.8s,mb4.6
BNM Barren Site 53.37 294 *e*P P **04 20 56.8 +0.5**
LVC Limon Verde 53.89 208 P P **04 21 01.6 +1.5**
comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=11,SNR=2.6
BW06 Boulder Array 54.63 305 *e*P P **04 21 04.7 -0.8**
comp=Z,30nm,1.8s,mb5.0
PDAR Pinedale Array 54.63 305 P P **04 21 05.5 0.0**
comp=Z,3.2nm,0.9s,mb4.3,baz=88,slow=8.7,SNR=12
PDAR LR LR 04 41 58.1
comp=Z,324nm,20.4s,MS4.4,baz=102,slow=33
LOHW Long Hollow 55.32 306 *e*P P **04 21 10.4 -0.1**
comp=Z,14nm,1.4s,mb4.8
YMR Madison River 55.50 308 *e*P P **04 21 14.3 +2.6**
comp=Z,45nm,1.7s,mb5.2
SRU San Rafael 55.74 301 *e*P P **04 21 13.6 +0.1**
comp=Z,6.0nm,0.9s,mb4.6
HWUT Hardware Ranch 56.23 304 *e*P P **04 21 16.8 -0.1**
comp=Z,5.3nm,1.1s,mb4.5
WUAZ Wupatki 56.98 297 *e*P P **04 21 22.5 +0.1**
comp=Z,9.1nm,0.9s,mb4.8
MSU Marysvale 57.11 300 *e*P P **04 21 24.0 +0.7**
TUC Tucson 57.13 293 *e*P P **04 21 25.4 +2.0**
comp=Z,14nm,1.8s,mb4.7
DUG Dugway 57.34 302 *e*P P **04 21 25.1 +0.1**
comp=Z,6.6nm,1.2s,mb4.5
YKA Yellowknife Ar 57.80 329 P P **04 21 26.0 -2.2**
comp=Z,1.6nm,0.9s,mb4.1,baz=94,slow=7.6,SNR=8.1
YKA LR LR 04 45 37.0
comp=Z,311nm,18.9s,MS4.4,baz=140,slow=35
FINES FINESS Array B 58.19 32 P P **04 21 30.7 -0.2**
comp=Z,2.5nm,0.9s,mb4.2,baz=308,slow=9.4,SNR=4.4
FINES LR LR 04 43 36.3
comp=Z,191nm,20.4s,MS4.2,baz=156,slow=33
FINES FINESS Array B 58.19 32 P P **04 21 30.7 -0.2**
FINES LR LR 04 43 36.3
CCUT Cedar City 58.19 299 *e*P P **04 21 31.4 +0.5**
LPIG La Paz 58.79 283 LR LR 04 46 09.2
comp=Z,188nm,19.2s,MS4.2,baz=74,slow=35
ARCES ARCESS Array B 58.80 23 P P **04 21 34.9 -0.3**
comp=Z,2.9nm,0.8s,mb4.4,baz=245,slow=2.6,SNR=4.2
ARCES LR LR 04 42 09.3
comp=Z,132nm,21.5s,MS4.0,baz=95,slow=31
NEW Newport 59.42 312 *e*P P **04 21 39.0 -0.4**
comp=Z,15nm,1.2s,mb4.9
IDI Anoyia 59.45 63 P P **04 21 40.5 +0.9**
comp=Z,11nm,1.2s,mb4.8,baz=301,slow=12,SNR=2.9
AKASG Malin Array Be 60.21 45 P P **04 21 42.4 -2.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=270,slow=6.4,SNR=7.4
AKASG LR LR 04 45 47.6
comp=Z,196nm,19.5s,MS4.3,baz=255,slow=34
AKASG Malin Array Be 60.21 45 P P **04 21 42.4 -2.5**
AKASG LR LR 04 45 47.6
WVOR Wild Horse Val 61.31 306 *e*P P **04 21 52.0 -0.4**
comp=Z,8.0nm,1.4s,mb4.7
PFO Pinyon Flat Ob 61.48 296 LR LR 04 45 57.7
comp=Z,294nm,21.0s,MS4.4,baz=109,slow=34
OHCM Honcut 64.07 303 *e*P P **04 22 12.2 +1.4**
BR131 Keskin Array S 65.22 56 *e*P P **04 22 18.9 +0.6**
comp=Z,4.6nm,1.0s,mb4.5
BRTR Keskin Array B 65.22 56 P P **04 22 18.3 0.0**
comp=Z,2.5nm,1.0s,mb4.2,baz=272,slow=5.7,SNR=12
BRTR LR LR 04 48 53.4
comp=Z,130nm,20.4s,MS4.1,baz=310,slow=34
MALT Malatya 69.19 57 *e*P P **04 22 43.4 -0.1**
comp=Z,14nm,1.3s,mb4.8
COLA College 71.91 334 *e*P P **04 22 59.5 -0.6**
comp=Z,7.4nm,1.3s,mb4.5
GNI Garni 73.24 53 P P **04 23 09.7 +1.7**
comp=Z,1.3nm,0.3s,mb4.3,baz=329,slow=5.9,SNR=4.9
GNI Garni 73.24 53 *e*P P **04 23 09.3 +1.3**
comp=Z,24nm,1.3s,mb5.0
ARU Arti 75.50 34 *e*P P **04 23 20.8 -0.4**
AKTK Aktyubinsk 77.83 40 P P **04 23 35.2 +0.9**
AKTO Aktyubinsk 77.83 40 P P **04 23 35.2 +0.9**
comp=Z,3.7nm,1.1s,mb4.2,baz=292,slow=8.2,SNR=5.6
TIXI Tiksi 82.30 2 *e*P P **04 23 58.3 -0.2**
comp=Z,8.0nm,1.0s,mb4.6
ZRNK Zerenda 82.48 34 *e*P P **04 23 58.8 -0.6**
comp=Z,13nm,1.4s,mb4.7
BRVK Borovoye 83.06 33 *e*P P **04 24 02.6 +0.2**
comp=Z,11nm,1.3s,mb4.7
BVAR Borovoye Array 83.13 33 P P **04 24 03.3 +0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=282,slow=2.9,SNR=6.2
KMBO Kilima Mbogo 83.32 95 LR LR 05 00 51.2
comp=Z,602nm,19.2s,MS5.0,baz=96,slow=35
LBTB Lobatse 84.88 121 *e*P P **04 24 11.0 -0.7**
comp=Z,4.0nm,0.9s,mb4.5
BOSA Boshof 86.52 124 LR LR 04 57 04.0
comp=Z,159nm,18.2s,MS4.5,baz=356,slow=32
KURK Kurchatov 88.56 32 *e*P P **04 24 27.7 -2.0**
comp=Z,13nm,1.7s,mb5.0
PMSA Palmer Station 91.93 188 LR LR 05 09 08.0
comp=Z,117nm,18.8s,MS4.3,baz=332,slow=38
WMQ Urumqi 97.80 33 ⇑*iP* P **04 25 12.3 +0.1**
WMQ AP pP 04 25 16.8 +1.2
WMQ XP sP 04 25 19.8 +3.1
WMQ PP PP 04 29 13.3 +3.0
WMQ SKS 04 35 48.3
WMQ S S 04 36 33.5 -4.7
WMQ XS sS 04 36 42.5 -1.2
WMQ AMB AMB
comp=Z,67nm,8.7s
WMQ LR LR
comp=N,296nm,19.5s,MS4.8
WMQ LR LR
comp=E,153nm,20.5s,MS4.8
WMQ LR LR
comp=Z,294nm,17.1s,MS4.8
VNA3 Neumayer Olymp 100.25 169 *e*Pdiff Pdif 04 25 20.6 -2.6
VNA3 *e* 04 25 40.0
VNA2 Neumayer--Watz 100.39 168 *e*Pdiff Pdif 04 25 20.1 -3.7
VNA2 *e* 04 25 31.1
VNA2 *e* 04 25 38.9
LZH Lanzhou 111.31 27 *e*PKP PKiKP 04 30 07.5 -3.3
LZH XPKP 04 30 12.5
LZH Lanzhou 111.31 27 *e*P PKiKP 04 30 07.4 -3.4
LZH pP 04 30 10.3
LZH sP 04 30 12.4
CD2 Chengdu 115.71 30 *e*PKP PKPdf 04 30 17.3 -1.9
KMI Kunming 120.08 34 PKP PKPdf 04 30 26.5 -1.2
KMI Kunming 120.08 34 P PKPdf 04 30 26.4 -1.3
KMI pP 04 30 33.4
KMI sP 04 30 36.2
GYA Guiyang 120.82 30 *e*PDIF Pdif 04 26 53.0 -1.6
GYA PKP PKPdf 04 30 28.3 -0.8
GYA PP PP 04 32 00.5 +3.1
GYA PKS 04 34 03.5
GYA SKS SKSdf 04 37 38.0 -3.2
GYA SKKS SKKSac 04 38 51.5 -5.8
GYA PP PP
comp=Z,110nm,7.6s
GYA LR LR
comp=N,270nm,20.8s,MS5.0
GYA LR LR
comp=E,190nm,20.6s,MS5.0
GYA LR LR
comp=Z,240nm,21.4s,MS4.8

NEIC ***29*** *04:33:07.5±4.5, 1952S×17558W, h141km±38km, mb4.1/3, Error ellipse: s-maj=82.2km s-min=15.4km az=159.0*
ISCJB ***29*** *04:33:13.4±4.6, 184S±06×176.1W±03, h197km±40km, mb3.6/6, Error ellipse: s-maj=110.0km s-min=22.2km az=128.1*
IDC ***29*** *04:33:14.3±7.7, 1829S×17609W, h190km±62km, mb3.7/5, mb1 3.9/6, mb1mx3.6/16, mbtmp3.7/6, MS4.2/1, Ms1 4.1/1, ms1mx3.0/33, Error ellipse: s-maj=178.0km s-min=21.3km az=156.0*

ISC 29 04:33:07.6±6.2, 195S±07×1756W±03, h137km±52km, n13, σ0°36/13, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.67**	**34**	P	**Pn**	**04 34 43.0**	**0.0**
	1.6nm,0.3s,baz=113,slow=22,SNR=3.6						
AFI				S	**Sn**	**04 35 49.9**	**-7.9**
	12nm,0.3s,baz=57,slow=20,SNR=9.0						
AFI				LR	LR	04 36 40.8	
	comp=Z,92nm,21.6s,baz=254,slow=34						
CTA	**Charters Tower**	**35.85**	**262**	P	**P**	**04 39 54.7**	**+0.7**
	2.1nm,0.5s,mb4.0,baz=113,slow=9.1,SNR=4.1						
CTAO	**Charters Tower**	**35.85**	**262**	*e*P	**P**	**04 39 54.7**	**+0.8**
	3.9nm,0.8s,mb4.1						
PMG	**Port Moresby**	**37.36**	**280**	*e*P	**P**	**04 40 06.8**	**0.0**
	1.1nm,0.9s,mb3.5						
AS31	**Alice Springs**	**46.95**	**256**	*e*P	**P**	**04 41 24.4**	**-0.1**
ASAR	**Alice Springs**	**46.95**	**256**	P	**P**	**04 41 24.8**	**+0.3**
	5.2nm,0.7s,mb4.2,baz=86,slow=8.4,SNR=51						
WB2	**Warramunga Arr**	**46.97**	**261**	*e*P	**P**	**04 41 24.2**	**-0.4**
WB2	**Warramunga Arr**	**46.97**	**261**	*e*P	**P**	**04 41 24.0**	**-0.6**
WRA	**Warramunga Arr**	**46.99**	**261**	P	**P**	**04 41 24.3**	**-0.4**
	1.5nm,0.4s,mb4.0,baz=97,slow=6.0,SNR=68						
FITZ	**Fitzroy Crossi**	**55.41**	**261**	*e*P	**P**	**04 42 27.4**	**-0.1**
	3.8nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**55.41**	**261**	P	**P**	**04 42 27.2**	**-0.3**
	1.2nm,0.7s,mb3.7,baz=82,slow=6.5,SNR=4.2						
TXAR	**Lajitas Array**	**84.63**	**56**	P	**P**	**04 45 25.7**	**+0.1**
	0.5nm,1.0s,mb3.2,baz=224,slow=8.2,SNR=4.0						
ULM	**Lac du Bonnet**	**98.43**	**40**	LR	LR	05 21 24.7	
	comp=Z,108nm,21.4s,baz=33,slow=30						

NIED ***29*** *04:44:00, 4740N×15450E, h32km, Mw4.9 Best double couple: M₀2.72000×10¹⁶ NP1:φ₀238.00000°, δ57.00000°, λ89.00000°. NP2:φ₀61.00000°, δ33.00000°, λ92.00000°.*
BJI ***29*** *04:44:34.7, 4769N×15486E, h31km, mB5.0, mb4.8, Ms4.6, Msz4.3*
IDC ***29*** *04:44:35.6±0.5, 4754N×15404E, h0km, mb4.6/23, mb1 4.8/24, mb1mx4.8/25, mbtmp4.6/24, ML4.2/1, MS4.2/21, Ms1 4.2/21, ms1mx4.0/43, Error ellipse: s-maj=16.5km s-min=12.3km az=145.0*
ISCJB ***29*** *04:44:37.7±0.8, 4749N±003×154.13E±002, h23km±6km, mb5.0/155, MS4.3/39, Error ellipse: s-maj=4.6km s-min=2.2km az=149.4*
NEIC ***29*** *04:44:40.8±1.5, 4756N×15402E, h32km±10km, mb5.1/105, Error ellipse: s-maj=4.7km s-min=2.7km az=166.0*
MOS ***29*** *04:44:40.2±1.0, 4758N×154.11E, h40km, mb5.1/69, MS4.2/16, Error ellipse: s-maj=7.0km s-min=4.9km az=88.0*
SKHL ***29*** *04:44:40.4±1.6, 4750N×154.10E, h51km±18km, mb6.1/1, mbh5.5/1, Ms4.5/3, msh5.6/2*
SZGRF ***29*** *04:44:45.9, 4769N×15250E, h33km, mb5.2, Kuril Islands, Russia*

ISC 29 04:44:41.7±0.4, 4759N±003×15406E±002, h36km±3km, h22km±2.9km:pP-P, n675, σ0°81/694, mb5.0/155, MS4.3/37, 134C-100D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.38**	**23**	*e*P	**Pn**	**04 45 31.5**	**-0.3**
SKR				AMB	AMB	04 45 36.0	
	2μm,2.0s						
SKR				AMB	AMB	04 45 36.0	
	2μm,4.0s						
SKR				AMB	AMB	04 45 36.0	
	1μm,4.0s						
SKR				AMB	AMB	04 45 36.9	
	390nm,0.5s						
SKR				AMB	AMB	04 45 36.9	
	340nm,0.5s						
SKR				AMB	AMB	04 45 36.9	
	920nm,0.5s						
SKR				*e*S	**Sn**	**04 46 10.5**	**-0.2**
SKR				A		04 46 25.0	
	7μm,8.0s						
SKR				A		04 46 25.0	
	5μm,8.0s						
SKR				A		04 46 25.0	
	5μm,4.0s						
SKR				A		04 46 25.0	
	7μm,8.0s						
SKR				A		04 46 25.0	
	5μm,8.0s						
SKR				A		04 46 25.0	
	1μm,0.9s						
SKR				A		04 46 25.0	
	2μm,0.6s						
SKR				A		04 46 25.0	
	1μm,0.6s						
SKR				AMS	AMS	04 47 00.0	
	3μm,12.0s						
SKR				AMS	AMS	04 47 00.0	
	4μm,12.0s						
SKR				AMS	AMS	04 47 00.0	
	5μm,14.0s						
SKR				AMS	AMS	04 47 00.0	
	3μm,12.0s						
SKR				AMS	AMS	04 47 00.0	
	4μm,12.0s						
SKR				AMS	AMS	04 47 00.0	
	5μm,14.0s						
SKR	**Severo-Kuril's**	**3.38**	**23**	*e*PN	**Pn**	**04 45 31.5**	**-0.3**
SKR				*e*S	**Sn**	**04 46 10.5**	**-0.2**
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,1μm,4.0s						
SKR				pmax	pmax		
	comp=N,390nm,0.5s						
SKR				pmax	pmax		
	comp=E,340nm,0.5s						
SKR				pmax	pmax		
	comp=Z,920nm,0.5s						
SKR				smax			
	comp=N,2μm,0.6s						
SKR				smax			
	comp=E,1μm,0.6s						
SKR				smax			
	comp=N,5μm,4.0s						
SKR				smax			
	comp=E,7μm,8.0s						
SKR				MLR	MLR		
	comp=N,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
KUR	**Kuril'sk**	**4.89**	**243**	⇓*iP*	**Pn**	**04 45 51.4**	**-1.3**
KUR				AMB	AMB	04 45 55.0	
	comp=E,194nm,0.8s						
KUR				AMB	AMB	04 45 55.0	
	comp=E,183nm,0.8s						
KUR				AMB	AMB	04 45 55.0	
	comp=E,559nm,0.8s						
KUR				*i* S	**Sn**	**04 46 46.0**	**-2.0**
KUR				A		04 46 57.2	
	comp=E,14μm,2.0s						
KUR				A		04 46 57.2	
	comp=E,10μm,2.0s						
KUR				A		04 47 06.5	
	comp=E,3μm,0.9s						
KUR				A		04 47 06.5	
	comp=E,2μm,0.9s						
PET	**Petropavlovsk**	**6.18**	**27**	*e*PN	**Pn**	**04 46 09.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,113nm,0.8s						
PET				MLR	MLR		
	comp=Z,2μm,22.0s						
PET	**Petropavlovsk**	**6.18**	**27**	*e*Pn	**Pn**	**04 46 09.7**	**-0.7**
PET				*e*Sn	**Sn**	**04 47 18.5**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**6.74**	**241**	*e*P	**Pn**	**04 46 20.3**	**+2.2**
YUK				AMB	AMB	04 46 22.0	
	comp=Z,260nm,0.4s						
YUK				*e*S	**Sn**	**04 47 34.0**	**+0.3**
YUK				A		04 47 39.0	
	comp=Z,310nm,0.5s						
YUK				A		04 47 39.0	
	comp=Z,420nm,0.5s						
YUK				A		04 47 53.0	
	comp=Z,5μm,2.0s						
YUK				A		04 47 53.0	
	comp=Z,2μm,1.0s						
NEM2	**Nemuro 2**	**7.21**	**237**	P	**Pn**	**04 46 23.5**	**-1.1**
NEM2				*e*S	**Sn**	**04 47 39.8**	**-5.4**
JRA	**Rausu**	**7.24**	**243**	P	**Pn**	**04 46 27.8**	**+2.9**
JNK	**Nakash**	**7.68**	**242**	P	**Pn**	**04 46 32.2**	**+1.2**
JNK				*e*S	**Sn**	**04 47 58.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.72**	**269**	⇑*iP*	**Pn**	**04 46 36.0**	**+4.5**
YSS				AMB	AMB	04 46 38.0	
	comp=Z,300nm,0.7s						
YSS				*e*S	**Sn**	**04 48 02.0**	**+4.3**
YSS				A		04 48 06.0	
	comp=Z,100nm,0.8s						
YSS				A		04 48 06.0	
	comp=Z,150nm,0.8s						
YSS				*e*LQ		04 48 17.0	
YSS				*e*LR	LR	04 48 50.0	
YSS				AMS	AMS	04 49 18.0	
	comp=Z,2μm,17.0s						
YSS				AMS	AMS	04 49 18.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.72**	**269**	⇑*i*PN	**Pn**	**04 46 36.0**	**+4.5**
YSS				pmax	pmax		
	comp=Z,300nm,0.7s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.72**	**269**	*e*Pn	**Pn**	**04 46 36.0**	**+4.5**
YSS				*e*Sn	**Sn**	**04 48 01.4**	**+3.7**
JTKR	**Abashiri--Toko**	**7.97**	**247**	P	**Pn**	**04 46 37.0**	**+2.1**
JAK	**Akkeshi**	**8.04**	**239**	P	**Pn**	**04 46 35.0**	**-0.9**
JAK				*e*S	**Sn**	**04 48 01.4**	**-4.2**
UGL	**Uglegorsk**	**8.13**	**285**	⇑*iP*	**Pn**	**04 46 42.8**	**+5.6**
UGL				*e*P		04 46 42.8	
UGL				AMB	AMB	04 46 44.0	
	comp=E,550nm,1.0s						
UGL				AMB	AMB	04 46 44.0	
	comp=E,210nm,0.8s						
UGL				*e*L		04 48 36.0	
UGL				AMS	AMS	04 50 10.0	
	comp=E,1μm,14.0s						
UGL				AMS	AMS	04 50 10.0	
	comp=E,2μm,14.0s						
UGL				AMS	AMS	04 50 10.0	
	comp=E,2μm,15.0s						
UGL	**Uglegorsk**	**8.13**	**285**	⇑*i*PN	**Pn**	**04 46 42.8**	**+5.6**
UGL				pmax	pmax		
	comp=Z,210nm,0.8s						
UGL				pmax	pmax		
	comp=Z,550nm,1.0s						
UGL				MLR	MLR		
	comp=Z,3μm,15.0s						
UGL				MLR	MLR		
	comp=N,1μm,14.0s						
UGL				MLR	MLR		
	comp=E,2μm,14.0s						
TYV	**Tymovskoe**	**8.15**	**298**	*e*P	**Pn**	**04 46 42.0**	**+4.5**
TYV				AMB	AMB	04 46 53.2	
	comp=E,44nm,0.8s						
TYV				AMB	AMB	04 46 53.2	
	comp=E,127nm,0.8s						
TYV				*e*S	**Sn**	**04 48 12.2**	**+3.9**
TYV				A		04 48 16.0	
	comp=E,88nm,1.0s						
TYV				AMS	AMS	04 50 14.0	
	comp=E,2μm,16.0s						
TYV				AMS	AMS	04 50 14.0	
	comp=E,2μm,16.0s						
TYV				AMS	AMS	04 50 14.0	
	comp=E,1μm,14.0s						
JMP	**Maruseppu**	**8.29**	**248**	P	**Pn**	**04 46 43.2**	**+3.8**
JAR	**Ashorobuto**	**8.41**	**243**	P	**Pn**	**04 46 42.4**	**+1.4**
JAR				*e*S	**Sn**	**04 48 15.1**	**+0.4**
JOB	**Onbets**	**8.60**	**241**	P	**Pn**	**04 46 44.0**	**+0.4**
JOB				*e*S	**Sn**	**04 48 16.3**	**-3.1**
JWK2	**Keihoku**	**8.70**	**259**	P	**Pn**	**04 46 51.4**	**+6.4**
ASAJ	**Asahikawa**	**8.72**	**251**	Pn	**Pn**	**04 46 50.1**	**+4.9**
	comp=E,5.8nm,0.3s,baz=94,slow=16,SNR=20						
ASAJ				LR	LR	04 49 56.3	
	comp=E,2μm,19.4s,baz=22,slow=37						
ASAJ	**Asahikawa**	**8.72**	**251**	P	**Pn**	**04 46 50.3**	**+5.0**
ASAJ	**Asahikawa**	**8.72**	**251**	PN	**Pn**	**04 46 50.2**	**+4.9**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.4s						
JKK2	**Kamakawa 2**	**8.74**	**249**	P	**Pn**	**04 46 49.0**	**+3.5**
JCH	**Churui**	**9.05**	**241**	P	**Pn**	**04 46 48.9**	**-0.9**
JCH				*e*S	**Sn**	**04 48 24.5**	**-5.9**
OKH	**Okha**	**9.26**	**314**	*e*P	**Pn**	**04 46 54.0**	**+1.4**
OKH				AMB	AMB	04 46 55.5	
	comp=Z,400nm,0.5s						
OKH				*e*S	**Sn**	**04 48 39.0**	**+3.6**
OKH				A		04 48 39.8	
	comp=Z,300nm,0.8s						
OKH				*e*L		04 49 16.0	
OKH				AMS	AMS	04 52 29.2	
	comp=Z,3μm,12.0s						
OKH				AMS	AMS	04 52 29.2	
	comp=Z,3μm,12.0s						
JAB	**Ashibetsu**	**9.26**	**248**	P	**Pn**	**04 46 58.4**	**+5.8**
JEM	**Erimo**	**9.54**	**238**	P	**Pn**	**04 46 56.4**	**-0.1**
ERM	**Erimo**	**9.54**	**238**	Pn	**Pn**	**04 46 58.2**	**+1.7**
	comp=E,719nm,1.0s,SNR=6.1						
ERM	**Erimo**	**9.54**	**238**	*e*PN	**Pn**	**04 46 54.1**	**-2.4**
ERM				pmax	pmax		
	comp=E,84nm,0.6s						
ERM	**Erimo**	**9.54**	**238**	*e*Pn	**Pn**	**04 46 54.1**	**-2.4**
	comp=E,84nm,0.6s						
ERM				*e*Sn	**Sn**	**04 48 40.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**9.62**	**241**	P	**Pn**	**04 46 56.4**	**-1.1**
JKB	**Kayabe**	**10.88**	**243**	P	**Pn**	**04 47 13.4**	**-1.4**
JKB				*e*S	**Sn**	**04 49 06.5**	**-8.7**
JSH	**Shimam**	**11.07**	**249**	P	**Pn**	**04 47 18.7**	**+1.3**
JYM2	**Yakumo 2**	**11.15**	**246**	P	**Pn**	**04 47 18.9**	**+0.4**

JTM **Tenmabayashi** 11.54 239 P **Pn** 04 47 21.3 -2.5
JTM eS **Sn** 04 49 20.3 -11
JANG Nango 11.56 236 P **Pn** 04 47 20.0 -4.1
JTH Tanohata 11.66 233 eS **Sn** 04 49 22.0 -12
MA2 Magadan 12.16 352 d iPN **Pn** 04 47 35.2 +2.8
MA2 eS **Sn** 04 49 52.6 +5.9
MA2 pmax pmax
comp=Z,80nm,0.6s
MA2 MLR MLR
comp=Z,8μm,8.2s
MA2 Magadan 12.16 352 ePn **Pn** 04 47 34.5 +2.2
comp=Z,61nm,0.6s
TEY Ternei 12.34 264 eP **Pn** 04 47 32.0 -2.8
TEY AMS AMS 04 52 54.0
comp=Z,1μm,14.0s
OFUJ Ofunato 12.39 231 P **Pn** 04 47 31.9 -3.5
OFUJ eS **Sn** 04 49 40.4 -12
JRG Rokugo 12.72 235 P **Pn** 04 47 36.6 -3.4
JRG eS **Sn** 04 49 50.8 -9.5
HABR Khabarovsk 12.76 281⇓ ePN **Pn** 04 47 46.4 +5.9
HABR S **Sn** 04 50 15.6 +14
HABR pmax pmax
comp=Z,156nm,1.6s
JIO Ouri 13.02 230 P **Pn** 04 47 40.9 -3.1
KLR Kul'dur 14.90 285 eP **Pn** 04 48 11.7 +2.0
KLR eS **Sn** 04 51 00.0 +6.5
KLR pmax pmax
comp=Z,57nm,1.6s
KLR pmax pmax
comp=E,68μm,1.6s
KLR MLR MLR
comp=Z,4μm,12.5s
MJAR Matsushiro Arr 16.11 232 Pn **Pn** 04 48 24.1 -1.2
comp=Z,0.9nm,0.3s,baz=33,slow=12,SNR=14
MJAR Matsushiro Arr 16.11 232 P **Pn** 04 48 24.1 -1.2
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 16.11 232 eP **Pn** 04 48 24.5 -0.8
MAT Matsushiro 16.11 232 P **Pn** 04 48 23.9 -1.4
MAT S **S** 04 51 29.0 -6.1
VLA Vladivostok 16.20 262 P **Pn** 04 48 29.0 +2.6
VLA pmax pmax
comp=Z,81nm,1.4s
VLA MLR MLR
comp=Z,700nm,14.5s
MDJ Mudanjiang 17.21 269 P **Pn** 04 48 41.8 +2.6
MDJ AP pP 04 48 48.5 -1.3
MDJ XP sP 04 48 51.3 -3.1
MDJ S **S** 04 51 53.5 -4.2
MDJ XS sS 04 52 12.5 +0.1
MDJ PCP PcP 04 53 23.0 +1.6
MDJ PCS PcS 04 56 58.5 +1.0
MDJ AMB AMB
comp=Z,25nm,1.2s
MDJ AMB AMB
comp=Z,158nm,3.6s
MDJ LR LR
comp=N,248nm,17.1s
MDJ LR LR
comp=E,354nm,20.9s
MDJ LR LR
comp=Z,527nm,19.1s
MDJ Mudanjiang 17.21 269 eP **Pn** 04 48 41.4 +2.2
comp=Z,33nm,1.1s
ZEA Zeya 18.01 300 eP **Pn** 04 48 49.1 0.0
ZEA AMB AMB 04 48 52.2
comp=Z,35nm,1.0s
ZEA AMB AMB 04 48 52.2
comp=Z,64nm,1.0s
YAK Yakutsk 19.98 325 eP **P** 04 49 14.0 +3.2
YAK e 04 49 29.2
YAK eS **S** 04 52 51.5 -2.1
YAK eSSS 04 53 21.2
YAK e 04 53 35.3
YAK pmax pmax
comp=Z,144nm,1.3s
YAK pmax pmax
comp=N,55nm,1.1s
YAK pmax pmax
comp=N,47nm,0.8s
YAK pmax pmax
comp=N,60nm,1.4s
YAK pmax pmax
comp=E,51nm,1.3s
YAK smax
comp=N,275nm,3.7s
YAK smax
comp=E,105nm,2.8s
YAK MLR MLR
comp=E,295nm,18.0s
YAK MLR MLR
comp=Z,516nm,18.0s
YAK MLR MLR
comp=N,456nm,16.0s
YAK Yakutsk 19.98 325 eP **P** 04 49 10.8 0.0
comp=N,119nm,0.8s
CLNS Chul'man 19.99 308 eP **P** 04 49 15.0 +4.1
CLNS e 04 49 26.2
CLNS e 04 52 58.7
CLNS eS **S** 04 53 13.4 +20
CLNS e 05 00 46.6
CLNS pmax pmax
comp=Z,77nm,1.0s
CLNS pmax pmax
comp=N,66nm,1.2s
CLNS pmax pmax
comp=E,47nm,1.1s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS pmax pmax
comp=Z,73nm,1.0s
CLNS pmax pmax
comp=N,77nm,1.2s
CLNS smax
comp=E,1μm,12.5s
CLNS smax
comp=Z,202nm,13.8s
CLNS smax
comp=N,143nm,13.3s
CLNS MLR MLR
comp=Z,500nm,15.0s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=E,600nm,13.0s
CN2 Changchun 20.29 270 eP **P** 04 49 15.8 +1.6
CN2 eXP sP 04 49 26.0 -2.2
CN2 eS **S** 04 52 56.0 -3.7
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,15.0s,MS4.4
CN2 LR LR
comp=E,700nm,15.0s,MS4.4
CN2 LR LR
comp=Z,700nm,18.0s,MS4.1
BILL Bilibino 21.43 13⇑ eP **P** 04 49 23.8 -2.7
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
BILL Bilibino 21.43 13 eP **P** 04 49 23.9 -2.6
comp=Z,14nm,0.8s,mb4.3
KSRS Korea Array 21.67 252 P **P** 04 49 29.4 +0.3
comp=Z,14nm,0.8s,mb4.4,baz=57,slow=10.0,SNR=24
KSRS LR LR 04 56 35.5
comp=Z,571nm,21.9s,MS3.9,baz=48,slow=33
KS15 Wonju Array Si 21.70 252 eP **P** 04 49 31.6 +2.1
SNY Shenyang 22.33 266 ⇓P **P** 04 49 37.8 +1.7
SNY AP 04 49 42.3
SNY XP sP 04 49 46.0 -4.2
SNY S **S** 04 53 44.3 +4.6
SNY XS sS 04 53 58.5 +3.5
SNY AMB AMB
comp=Z,29nm,1.3s,mb4.5
SNY AMB AMB
comp=Z,280nm,12.0s
SNY LR LR
comp=N,527nm,12.5s,MS4.5
SNY LR LR
comp=E,1μm,14.4s,MS4.5
SNY LR LR
comp=Z,746nm,15.6s,MS4.2
CBIJ Chichi jima 22.48 209 LR LR 04 56 59.7
comp=Z,192nm,21.5s,MS3.5,baz=158,slow=33
BOD Bodaibo 25.97 308 eP **P** 04 50 09.4 -1.3
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
CIT Chita 26.27 295 eP **P** 04 50 15.0 +1.5
TIXI Tiksi 26.85 343 eP **P** 04 50 18.2 -0.5
TIXI eS **S** 04 54 56.5 +3.8
TIXI e*SS sS 04 55 17.5 +7.7
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.0
TIXI MLR MLR
comp=Z,613nm,15.0s,MS4.3
TIXI Tiksi 26.85 343 eP **P** 04 50 17.6 -1.1
BJI Beijing 28.14 269 eP **P** 04 50 33.8 +3.5
BJI AMB AMB
comp=Z,13nm,1.2s,mb4.4
BJI LR LR
comp=E,626nm,16.4s
BJI LR LR
comp=Z,601nm,23.0s
BJI Beijing 28.14 269 eP **P** 04 50 33.8 +3.5
comp=Z,13nm,1.2s,mb4.4
BJI S S 04 55 40.1 +27
BJI LR LR
comp=Z,600nm,23.0s,MS4.1
JOW Kunigami 28.95 233 LR LR 05 02 52.5
comp=Z,173nm,18.9s,MS3.7,baz=102,slow=38
SSE Sheshan 30.01 249 P **P** 04 50 46.0 -0.8
SSE XP sP 04 50 58.5 -3.0
SSE S **S** 04 55 42.5 +0.1
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,209nm,9.2s
SSE LR LR
comp=N,156nm,21.0s,MS3.8
SSE LR LR
comp=E,183nm,21.0s,MS3.8
SSE LR LR
comp=Z,310nm,26.3s
SSE Sheshan 30.01 249 P **P** 04 50 46.0 -0.8
comp=Z,40nm,0.7s,mb5.3
SSE sP sP 04 50 58.6 -2.9
SSE S **S** 04 55 42.4 0.0
SSE LR LR
comp=Z,310nm,26.3s,MS3.8
NJ2 Nanjing 30.86 253 eP **P** 04 50 56.0 +1.6
NJ2 AP pP 04 51 04.0 -0.7
NJ2 XP sP 04 51 06.5 -2.6
NJ2 PP PP 04 51 57.5 -6.9
NJ2 S **S** 04 55 57.0 +1.2
NJ2 AMB AMB
comp=Z,650nm,5.8s
NJ2 LR LR
comp=N,1μm,14.4s,MS4.8
NJ2 LR LR
comp=E,460nm,13.5s,MS4.8
NJ2 LR LR
comp=Z,630nm,15.4s,MS4.4
HHC Hu-ho-hao-te 30.89 273 eP **P** 04 50 55.5 +0.9
HHC AP pP 04 51 00.0 -4.9
HHC PP PP 04 51 56.8 -7.9
HHC PCP PcP 04 53 47.5 -3.2
HHC S **S** 04 55 57.5 +1.3
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,125nm,5.6s
HHC LR LR
comp=N,362nm,13.0s,MS4.5
HHC LR LR
comp=E,476nm,11.6s,MS4.5
HHC LR LR
comp=Z,483nm,16.2s,MS4.2
SVW2 Sparrevohn 31.44 46 eP **P** 04 50 59.5 0.0
SONM Songino Array 31.68 288 P **P** 04 51 01.5 0.0
comp=Z,2.7nm,0.9s,mb4.1,baz=61,slow=7.9,SNR=8.3
SONM PcP PcP 04 53 51.5 -1.3
comp=Z,1.8nm,0.8s,baz=83,slow=1.9,SNR=5.4
SONM LR LR 05 04 15.5
comp=Z,494nm,21.3s,MS4.2,baz=280,slow=37
SONM Songino Array 31.68 288 P **P** 04 51 01.5 0.0
SONM 04 53 51.5
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM MLR MLR
comp=Z,494nm,21.3s
TLY Talaya 32.38 296 eP **P** 04 51 10.5 +2.8
TLY eSS SS 04 58 34.4 -5.0
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,644nm,17.0s,MS4.4
TLY Talaya 32.38 296 eP **P** 04 51 09.1 +1.3
comp=Z,11nm,1.0s,mb4.6
IMA2 Indian Mountai 32.74 37 eP **P** 04 51 10.5 -0.4
ZAK Zakamensk 32.92 294 eP **P** 04 51 09.0 -3.5
KDAK Kodiak Island 33.07 52 P **P** 04 51 12.7 -1.1
comp=Z,16nm,0.9s,mb5.0,baz=274,slow=4.6,SNR=5.0
KDAK Kodiak Island 33.07 52 eP **P** 04 51 11.7 -2.1
comp=Z,24nm,0.8s,mb5.2
PMR Palmer 34.55 45 eP **P** 04 51 25.8 -0.8
PMR 04 51 46.3
PMR pmax pmax
comp=Z,14nm,0.8s,mb4.9
PMR Palmer 34.55 45 eP **P** 04 51 26.2 -0.4
comp=Z,12nm,0.8s,mb4.9
MCK McKinley 34.59 41 eP **P** 04 51 26.5 -0.5
MCK pmax pmax
comp=Z,17nm,0.9s,mb5.0
MCK McKinley 34.59 41 eP **P** 04 51 26.5 -0.4
comp=Z,17nm,0.9s,mb5.0
WHN Wuhan 34.77 255 P **P** 04 51 28.5 0.0
SML Sawmill 34.91 44 P **P** 04 51 29.1 -0.7
SML Sawmill 34.91 44 eP **P** 04 51 29.2 -0.5
COLA College 35.08 39 c iP **P** 04 51 28.7 -2.5
COLA College 35.08 39 eP **P** 04 51 31.2 0.0
comp=Z,56nm,0.7s,mb5.6
DIV Divide 36.20 45 eP **P** 04 51 40.5 -0.3
comp=Z,71nm,0.6s,mb5.8
XAN Xi'an 36.24 265 P **P** 04 51 41.5 +0.4
MENT Mentasta 36.98 42 eP **P** 04 51 47.8 +0.4
EGAK Eagle 37.94 39 eP **P** 04 51 54.6 -0.9
comp=Z,48nm,0.7s,mb5.3
LZH Lanzhou 38.51 271 eP **P** 04 52 02.5 +2.1
LZH AP pP 04 52 09.8 -1.1
LZH XP sP 04 52 13.0 -2.2
LZH PP PP 04 53 34.0 +5.1
LZH eS **S** 04 57 55.0 +1.4
LZH SS SS 05 00 37.5 -6.4
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,185nm,5.0s
LZH LR LR
comp=E,785nm,17.0s
LZH LR LR
comp=Z,1μm,18.0s,MS4.7
LZH Lanzhou 38.51 271 eP **P** 04 52 02.5 +2.1
LZH *SP sP 04 52 13.0 -2.2
LZH 04 53 34.1
LZH eS **S** 04 57 55.1 +1.5
LZH SS SS 05 00 37.5 -6.4
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,1μm,18.0s,MS4.7
LZH Lanzhou 38.51 271 eP **P** 04 52 02.5 +2.1
comp=Z,56nm,1.5s,mb5.1
LZH pP pP 04 52 09.8 -1.1
LZH sP sP 04 52 13.0 -2.2
LZH PP PP 04 53 34.1 +5.2
LZH eS **S** 04 57 55.1 +1.5
LZH sS sS 04 58 06.4 -4.5
LZH SS SS 05 00 37.5 -6.4
LZH LR LR
comp=Z,1μm,18.0s,MS4.7
DAWY Dawson 38.78 40 eP **P** 04 52 02.6 0.0
GTA Gaotai 39.48 279 eP **P** 04 52 09.0 +0.5
GTA AP pP 04 52 17.3 -1.7
GTA XP sP 04 52 22.3 -1.1
GTA PP PP 04 53 45.0 +5.5
GTA PPP 04 54 07.8
GTA PCP PcP 04 54 15.8 0.0
GTA S **S** 04 58 11.0 +2.8
GTA AMB AMB
comp=Z,5.0nm,1.8s
GTA AMB AMB
comp=Z,121nm,7.2s
GTA LR LR
comp=N,306nm,14.8s,MS4.4
GTA LR LR
comp=E,368nm,16.4s,MS4.4
GTA LR LR
comp=Z,365nm,15.6s,MS4.3
INK Inuvik 40.59 33 P **P** 04 52 18.1 +0.4
comp=Z,26nm,0.6s,mb5.0,baz=292,slow=6.8,SNR=59
INK Inuvik 40.59 33 P **P** 04 52 18.2 +0.5
INK Inuvik 40.59 33 eP **P** 04 52 17.9 +0.1
comp=Z,883nm,0.7s
CD2 Chengdu 41.60 265⇑ iP **P** 04 52 25.8 -0.2
CD2 AP pP 04 52 33.3 -3.2
CD2 XP sP 04 52 36.5 -4.4
CD2 PP PP 04 54 05.5 +3.0
CD2 S **S** 04 58 39.8 +0.1
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,120nm,8.2s
CD2 LR LR
comp=N,600nm,16.8s,MS4.7
CD2 LR LR
comp=E,410nm,14.4s,MS4.7
CD2 LR LR
comp=Z,470nm,15.5s,MS4.5
GYA Guiyang 42.53 257⇑ iP **P** 04 52 35.5 +1.9
GYA AP pP 04 52 39.8 -4.4
GYA XP sP 04 52 42.5 -6.0
GYA PP PP 04 54 16.3 +3.8
GYA PCP PcP 04 54 28.3 +2.6
GYA S **S** 04 58 56.8 +3.4
GYA SS SS 05 01 59.5 -4.4
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,870nm,5.0s
GYA LR LR
comp=N,870nm,16.4s,MS4.9
GYA LR LR
comp=E,970nm,15.8s,MS4.9
GYA LR LR
comp=Z,760nm,15.6s,MS4.7
ZAL Zalesovo 42.67 305 P **P** 04 52 35.4 +0.7
comp=Z,5.3nm,0.8s,mb4.3,baz=45,slow=9.0,SNR=23
ZAL PcP PcP 04 54 25.8 -0.3
comp=Z,2.8nm,0.3s,baz=133,slow=1.3,SNR=3.5
ZAL Zalesovo 42.67 305 P **P** 04 52 35.4 +0.7
ZAL 04 54 25.8
ZAL pmax pmax
comp=Z,5.0nm,0.8s
NVS Novosibirsk 43.20 307 eP **P** 04 52 37.7 -1.3
NVS pmax pmax
comp=Z,29nm,1.9s,mb4.7
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
DLBC Dease Lake 44.55 47 eP **P** 04 52 51.4 +1.5
WMQ Urumqi 45.23 291⇑ iP **P** 04 52 55.0 -0.3
WMQ AP pP 04 53 02.5 -3.4
WMQ XP sP 04 53 06.0 -4.2
WMQ PCP PcP 04 54 35.5 +0.6
WMQ PP PP 04 54 41.5 +0.1
WMQ PPP 04 55 23.0
WMQ SCP ScP 04 58 25.3 +0.7
WMQ PCS PcS 04 58 28.0 -0.8
WMQ S **S** 04 59 33.0 +0.2
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,117nm,5.6s
WMQ LR LR
comp=N,296nm,19.2s,MS4.3
WMQ LR LR
comp=E,154nm,21.6s,MS4.3
WMQ LR LR
comp=Z,296nm,19.3s,MS4.2
KMI Kunming 46.03 260 P **P** 04 53 02.5 +0.9
KMI AP pP 04 53 07.8 -4.5
KMI XP sP 04 53 10.0 -6.6
KMI PP PP 04 54 49.3 -0.6
KMI S **S** 04 59 44.5 +0.1
KMI AMB AMB
comp=Z,25nm,1.2s,mb5.0
KMI LR LR
comp=N,316nm,17.1s,MS4.3
KMI LR LR
comp=E,181nm,21.3s,MS4.3
KMI LR LR
comp=Z,211nm,21.3s,MS4.1
KMI Kunming 46.03 260 P **P** 04 53 02.6 +1.0
KMI *SP sP 04 53 10.0 -6.6
KMI 04 54 49.3
KMI S **S** 04 59 44.4 0.0
KMI SS SS 05 03 00.1 -9.5
KMI SSS 05 04 01.4
KMI pmax pmax
comp=Z,25nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,210nm,21.3s,MS4.0
KMI Kunming 46.03 260 P **P** 04 53 02.6 +1.0
comp=Z,25nm,1.2s,mb5.0
KMI pP pP 04 53 07.7 -4.6
KMI sP sP 04 53 10.0 -6.6
KMI PP PP 04 54 49.3 -0.6
KMI S **S** 04 59 44.4 0.0
KMI SS SS 05 03 00.1 -9.5
KMI SSS 05 04 01.4
KMI LR LR
comp=Z,210nm,21.3s,MS4.0
MK31 Makanchi Array 47.13 297 i P **P** 04 53 08.9 -1.3
MK31 pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
MKAR Makanchi Array 47.13 297 P **P** 04 53 09.3 -1.0
comp=Z,9.1nm,0.8s,mb4.8,baz=64,slow=8.4,SNR=21
MKAR LR LR 05 12 21.8
comp=Z,190nm,21.9s,MS4.0,baz=279,slow=35
MKAR Makanchi Array 47.13 297⇑ eP **P** 04 53 11.5 +1.3
MKAR Makanchi Array 47.13 297 P **P** 04 53 09.3 -1.0
MKAR LR LR 05 12 21.8
KURK Kurchatov 47.44 303 P **P** 04 53 11.4 -1.2
comp=Z,296nm,0.8s,SNR=16
KURK Kurchatov 47.44 303 ⇓P **P** 04 53 11.6 -1.0
SNR=12
KURK Kurchatov 47.44 303 d iP **P** 04 53 11.5 -1.1
KURK Kurchatov 47.44 303 eP **P** 04 53 10.8 -1.8
comp=Z,35nm,0.8s,mb5.3
RES Resolute Bay 49.83 19 eP **P** 04 53 31.4 +0.4
RES Resolute Bay 49.83 19 eP **P** 04 53 30.8 -0.2
comp=Z,325nm,0.9s
YKA Yellowknife Ar 49.86 37 P **P** 04 53 31.1 -0.1
comp=Z,14nm,0.7s,mb5.1,baz=297,slow=7.4,SNR=64
YKA PcP PcP 04 54 50.6 -0.8
comp=Z,3.8nm,0.7s,baz=301,slow=3.6,SNR=9.0
YKA LR LR 05 18 09.1
comp=Z,113nm,19.7s,MS3.9,baz=215,slow=40
YKA Yellowknife Ar 49.86 37 P **P** 04 53 31.2 0.0
YKA 04 54 50.7
VOSK Vostochnaya 50.67 309 P **P** 04 53 35.6 -1.7
VOSK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BVA0 Borovoye Array 50.83 309 i P **P** 04 53 37.5 -1.0
BRVK Borovoye 50.87 309 P **P** 04 53 38.4 -0.4
comp=Z,132nm,0.8s,mb5.9,SNR=7.7
BRVK Borovoye 50.87 309 ⇑P **P** 04 53 38.4 -0.5
SNR=7.5
BRVK Borovoye 50.87 309 eP **P** 04 53 37.8 -1.0
comp=Z,21nm,0.9s,mb5.1
LSA Lhasa 50.88 273 P **P** 04 53 36.0 -2.9
LSA Lhasa 50.88 273 eP **P** 04 53 40.7 +1.8
LSA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
LSA Lhasa 50.88 273 eP **P** 04 53 40.7 +1.8
comp=Z,10nm,0.5s,mb5.0
ZRNK Zerenda 51.59 310 eP **P** 04 53 43.0 -1.2
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.8
ZRNK Zerenda 51.59 310 eP **P** 04 53 43.0 -1.2
comp=Z,11nm,0.8s,mb4.8
KBS Kingsbay 51.77 351⇑ iP **P** 04 53 45.5 -0.1
B04A Port Angeles 52.72 57 ⇑P **P** 04 53 52.5 -0.2
baz=53

A04A **Legoe Bay, Lum** 52.82 56 ⇓P P 04 53 53.3 0.0
baz=53
CHTO **Chiang Mai** 52.94 257 P P 04 53 56.0 +1.7
SNR=12
CHTO **Chiang Mai** 52.94 257 eP P 04 53 54.9 +0.6
CHTO pmax pmax
comp=Z,32nm,1.1s,mb5.2
CHTO **Chiang Mai** 52.94 257 eP P 04 53 54.9 +0.6
comp=Z,32nm,1.1s,mb5.2
A05A **Maple Falls** 53.01 55 ⇓P P 04 53 54.8 -0.1
baz=53
C04A **Brinnon** 53.21 57 ⇑P P 04 53 56.2 -0.1
baz=53
CMW **Cultus Mountai** 53.30 56 P P 04 53 57.0 +0.1
B05A **Bryant** 53.41 56 ⇑P P 04 53 57.4 -0.3
baz=53,SNR=8.7
E03A **Lebam** 53.51 58 ⇑P P 04 53 58.7 +0.2
baz=53
JCW **Jim Creek** 53.54 56 P P 04 53 58.5 -0.2
B06A **Marblemount** 53.61 55 ⇑P P 04 53 58.7 -0.5
baz=53
C05A **Tolt Reservoir** 53.95 56 P P 04 54 01.6 -0.1
baz=54,SNR=9.2
E04A **Onalaska** 53.97 58 ⇓P P 04 54 01.9 0.0
baz=54
AAK **Ala-Archa** 54.05 296 P P 04 54 01.8 -0.6
comp=Z,54nm,0.9s,mb5.5,SNR=6.1
AAK **Ala-Archa** 54.05 296 ⇑eP P 04 54 00.6 -1.8
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
AAK **Ala-Archa** 54.05 296 eP P 04 54 00.8 -1.6
comp=Z,15nm,1.1s,mb4.8
D05A **Enumclaw** 54.06 57 ⇓P P 04 54 02.8 +0.3
baz=54,SNR=6.2
PNT **Penticton** 54.20 54 P P 04 54 02.9 -0.6
B07A **Winthrop** 54.40 55 ⇑P P 04 54 04.6 -0.3
baz=54,SNR=11
F04A **Amboy** 54.52 58 P P 04 54 05.8 0.0
baz=54,SNR=7.3
E05A **Randle** 54.54 57 ⇑P P 04 54 05.5 -0.5
baz=54
A08A **Turner Farm, O** 54.59 54 ⇑P P 04 54 06.1 -0.3
baz=54,SNR=15
D06A **Cle Elum** 54.70 56 ⇑P P 04 54 06.9 -0.2
baz=54,SNR=11
H03A **Soap Creek Ran** 54.72 60 ⇑P P 04 54 07.6 +0.3
baz=55
I02A **Mapleton** 54.78 61 ⇑P P 04 54 07.8 0.0
baz=55
ARU **Arti** 54.83 317 ⇑eP P 04 54 06.9 -1.2
ARU pmax pmax
comp=Z,22nm,2.5s,mb4.7
ARU **Arti** 54.83 317 eP P 04 54 06.9 -1.2
comp=Z,10.0nm,0.7s,mb5.0
TBM **Table Mountain** 54.85 56 P P 04 54 08.0 -0.2
C07A **Waterville** 54.86 55 ⇑P P 04 54 07.6 -0.7
baz=55,SNR=14
B08A **Colville Reser** 54.89 54 ⇑P P 04 54 08.1 -0.4
baz=55,SNR=17
G04A **Mulino** 54.89 59 ⇑P P 04 54 08.6 +0.1
baz=55
WTV **Waterville** 54.92 55 P P 04 54 08.1 -0.6
KSH **Kashi** 54.93 292 eP P 04 54 14.0 +5.2
KSH eAP pP 04 54 21.5 +1.8
KSH eXP sP 04 54 24.8 +0.9
KSH ePP PP 04 56 19.3 +7.3
KSH eS S 05 01 55.5 +7.5
KSH eXS sS 05 02 08.5 +2.6
A09A **Danville** 54.95 54 ⇑P P 04 54 08.9 -0.1
baz=55,SNR=22
E06A **Yakima** 54.99 57 ⇓P P 04 54 09.2 0.0
baz=55
EBG **Ellensburg** 55.02 57 P P 04 54 09.5 +0.1
I03A **Eugene** 55.13 61 ⇑P P 04 54 10.5 +0.2
baz=55
D07A **Quincy** 55.19 56 ⇑P P 04 54 10.2 -0.5
baz=55,SNR=7.9
EDM **Edmonton** 55.27 47 eP P 04 54 11.0 -0.2
J02A **Umpqua** 55.30 62 ⇑P P 04 54 12.2 +0.7
baz=55,SNR=5.9
HOOD **Mount Hood Mea** 55.30 59 eP P 04 54 12.2 +0.7
H04A **Detroit Lake** 55.36 60 ⇑P P 04 54 12.1 +0.1
baz=55,SNR=5.5
C08A **Higginbotham F** 55.37 55 ⇑P P 04 54 11.5 -0.5
baz=55,SNR=5.2
VFP **Flag Point** 55.41 59 P P 04 54 12.6 +0.3
B09A **Rice** 55.50 54 ⇓P P 04 54 12.7 -0.2
baz=55,SNR=8.2
G05A **Wamic** 55.54 59 ⇑P P 04 54 13.5 +0.3
baz=55
F06A **Goldendale** 55.55 58 ⇓P P 04 54 13.3 0.0
baz=55
GUN **Gumba** 55.57 275 eP P 04 54 14.2 +0.8
comp=Z,18nm,0.4s,mb5.4
E07A **Sunnyside** 55.62 57 ⇑P P 04 54 13.7 -0.1
baz=55,SNR=11
K02A **Glendale** 55.70 62 ⇑P P 04 54 14.8 +0.4
baz=56
I04A **Tendick Farm,** 55.74 61 P P 04 54 15.0 +0.3
baz=56,SNR=7.4
OD2 **Odessa Site #2** 55.78 55 P P 04 54 14.3 -0.6
C09A **Chrisman Ranch** 55.79 55 ⇓P P 04 54 14.6 -0.4
baz=56,SNR=16
D08A **Wollman Farm,** 55.86 56 ⇑P P 04 54 15.1 -0.4
baz=56,SNR=9.8
HAWA **Hanford** 55.90 57 eP P 04 54 15.7 -0.1
comp=Z,23nm,0.9s,mb5.2
G06A **Carlson Farm,** 55.94 58 ⇑P P 04 54 16.1 0.0
baz=56
H05A **Madras** 55.94 59 ⇑P P 04 54 16.4 +0.3
baz=56,SNR=11
L02A **Cave Junction** 55.99 63 ⇑P P 04 54 16.7 +0.2
baz=56
KKN **Kakani** 56.05 275 eP P 04 54 18.3 +1.4
B10A **Chitwood Farm,** 56.08 54 ⇑P P 04 54 16.4 -0.6
baz=56
E08A **Dider Farm, El** 56.11 56 ⇓P P 04 54 16.8 -0.5
baz=56,SNR=8.0
PKI **Pulchoki** 56.11 275 eP P 04 54 18.2 +0.9
HUMO **Hull Mountain** 56.11 62 eP P 04 54 17.6 +0.3
comp=Z,21nm,1.2s,mb5.0
HUMO **Hull Mountain** 56.11 62 ⇓P P 04 54 17.4 +0.1
baz=56
NEW **Newport** 56.15 54 eP P 04 54 17.2 -0.4
NEW pmax pmax
comp=Z,16nm,1.0s
NEW **Newport** 56.15 54 eP P 04 54 17.2 -0.4
comp=Z,16nm,1.0s,mb5.0
NEW ePcP PcP 04 55 14.9 -0.2
A11A **Hall Mountain,** 56.16 53 ⇑P P 04 54 18.1 +0.4
baz=56,SNR=8.6
D09A **Jones Farm, Ri** 56.20 55 ⇑P P 04 54 17.3 -0.7
baz=56,SNR=5.5
J04A **Umpqua Nationa** 56.24 61 ⇓P P 04 54 18.9 +0.7
baz=56,SNR=16
DMN **Daman** 56.29 275 eP P 04 54 19.7 +1.1
comp=Z,98nm,0.9s,mb5.8
C10A **Spilker Farm,** 56.31 54 ⇓P P 04 54 18.3 -0.4
baz=56,SNR=6.0
GKN **Gorkha** 56.35 276 eP P 04 54 19.9 +0.9
comp=Z,38nm,0.6s,mb5.6
VIPM **Ingram Point** 56.38 59 P P 04 54 19.7 +0.5
H06A **Lindquist Farm** 56.41 59 ⇓P P 04 54 19.5 +0.1
baz=56,SNR=11
G07A **Ruggs Ranch, H** 56.48 58 P P 04 54 20.0 +0.1
baz=56,SNR=5.2
E09A **Wood Farm, Sta** 56.61 56 ⇓P P 04 54 20.4 -0.4
baz=56,SNR=29
KHMM **Horse Mountain** 56.67 64 eP P 04 54 22.2 +0.9
F08A **Pendleton** 56.67 57 ⇑P P 04 54 21.3 0.0
baz=56,SNR=8.9
J05A **Fort Rock** 56.73 60 ⇑P P 04 54 22.7 +0.9
baz=57,SNR=19
YBH **Yreka Blue Hor** 56.78 63 LR LR 05 14 32.1
comp=Z,146nm,19.9s,MS4.1,baz=2.8,slow=32
YBH **Yreka Blue Hor** 56.78 63 eP P 04 54 23.1 +1.1
YBH pmax pmax
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** 56.78 63 eP P 04 54 23.1 +1.0
comp=Z,14nm,0.9s,mb5.0
YBH **Yreka Blue Hor** 56.78 63 ⇑P P 04 54 22.8 +0.8
baz=57,SNR=8.7
APA **Apatity** 56.82 337 ⇓*i* P P 04 54 26.4 +4.0
APA *e* 04 55 15.6
APA pmax pmax
comp=Z,43nm,1.4s,mb5.3
K04A **Chilquin** 56.84 61 ⇓P P 04 54 22.8 +0.3
baz=57
G08A **Pilot Rock** 56.87 57 P P 04 54 22.9 +0.2
baz=57,SNR=9.4
M02C **Callahan** 56.89 63 ⇓P P 04 54 23.5 +0.7
baz=57,SNR=5.1
H07A **Lands Inn, Kim** 56.94 58 P P 04 54 23.3 +0.1
baz=57,SNR=10
I06A **Prineville** 56.94 59 P P 04 54 23.8 +0.6
baz=57,SNR=12
N02C **Big Bar** 56.96 64 ⇓P P 04 54 23.5 +0.2
baz=57
L04A **Klamath Falls** 57.01 62 ⇑P P 04 54 24.1 +0.5
baz=57
PMG **Port Moresby** 57.07 188 LR LR 05 13 12.1
comp=Z,165nm,21.0s,MS4.1,baz=34,slow=30
KOLN **Koldanda** 57.20 277 eP P 04 54 25.6 +0.6
comp=Z,30nm,0.7s,mb5.4
E10A **Myers Farm, Un** 57.20 55 ⇓P P 04 54 24.7 -0.4
baz=57,SNR=15
F09A **S2 Ranch, Elgi** 57.22 56 ⇓P P 04 54 25.3 +0.1
baz=57,SNR=6.0
M04C **Macdoel** 57.27 62 P P 04 54 26.3 +0.7
baz=57,SNR=7.4
I07A **Izee** 57.27 59 P P 04 54 26.1 +0.6
baz=57,SNR=11
ARCES **ARCESS Array B** 57.27 341 P P 04 54 23.5 -2.0
comp=Z,2.7nm,0.7s,mb4.4,baz=36,slow=9.0,SNR=5.4
ARCES LR LR 05 22 32.5
comp=Z,307nm,19.2s,MS4.4,baz=26,slow=40
ARCES **ARCESS Array B** 57.27 341 P P 04 54 23.5 -2.0
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,307nm,19.2s
ARCES **ARCESS Array B** 57.27 341 P P 04 54 23.5 -2.0
ARCES LR LR 05 22 32.5
D11A **Klaveano Farm,** 57.30 54 ⇓P P 04 54 25.0 -0.7
baz=57
J06A **Christmas Vall** 57.39 60 P P 04 54 27.1 +0.7
baz=57,SNR=16
M03C **McCloud** 57.41 63 ⇑P P 04 54 26.7 +0.2
baz=57
F10A **Beach Ranch, E** 57.44 56 P P 04 54 26.9 +0.2
baz=57,SNR=9.3
H08A **Prairie City** 57.49 58 ⇓P P 04 54 27.6 +0.5
baz=57,SNR=22
B13A **Whitefish** 57.52 52 P P 04 54 27.6 +0.3
baz=57,SNR=20
WDC **Whiskeytown Da** 57.57 64 eP P 04 54 27.2 -0.4
WDC pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
WDC **Whiskeytown Da** 57.57 64 eP P 04 54 27.2 -0.4
comp=Z,3.8nm,0.6s,mb4.6
WDC **Whiskeytown Da** 57.57 64 ⇓P P 04 54 27.8 +0.1
baz=57
K06A **Valley Falls** 57.60 60 ⇓P P 04 54 28.6 +0.7
baz=57,SNR=21
BSMT **Bassoo Peak** 57.66 53 eP P 04 54 28.6 +0.4
O02C **Red Bluff** 57.66 64 ⇑P P 04 54 29.1 +0.8
baz=58
P01C **Double 8 Ranch** 57.76 65 ⇓P P 04 54 29.4 +0.5
baz=58
E11A **Bogner Ranch,** 57.78 55 P P 04 54 28.5 -0.6
baz=58,SNR=12
J07A **Hines** 57.81 59 ⇑P P 04 54 29.8 +0.5
baz=58,SNR=6.4
C13A **Hot Springs** 57.88 53 ⇓P P 04 54 30.0 +0.1
baz=58,SNR=6.2
I08A **Drewsey** 57.91 58 ⇓P P 04 54 30.6 +0.5
baz=58,SNR=20
M05C **Lookout** 57.94 62 ⇑P P 04 54 30.7 +0.5
baz=58,SNR=7.7
H09A **Durkee** 57.98 57 ⇓P P 04 54 31.2 +0.7
baz=58,SNR=24
GASB **Alder Springs** 58.03 65 ⇓P P 04 54 31.7 +0.9
baz=58
BMO **Blue Mountains** 58.07 57 eP P 04 54 31.5 +0.4
comp=Z,21nm,0.7s,mb5.3
HATC **Hat Creek Radi** 58.08 63 ⇓P P 04 54 31.5 +0.3
baz=58
F11A **Grangeville** 58.09 55 ⇓P P 04 54 30.8 -0.5
baz=58,SNR=12
MOD **Modoc** 58.11 61 eP P 04 54 31.9 +0.5
comp=Z,12nm,0.7s,mb5.0
MOD **Modoc** 58.11 61 ⇓P P 04 54 31.8 +0.3
baz=58,SNR=18
O03C **Acorn Hollow,** 58.23 64 ⇑P P 04 54 32.1 -0.2
baz=58
K07A **Rock Creek Ran** 58.26 60 ⇑P P 04 54 33.0 +0.5
baz=58,SNR=13
BOK **Bokaro** 58.28 271 eP P 04 54 33.1 +0.5
BOK AMb AMB 04 54 36.0
comp=Z,18nm,0.4s,mb5.5
D13A **Huson** 58.30 53 ⇑P P 04 54 32.5 -0.2
baz=58,SNR=10
J08A **Circle Bar Ran** 58.30 59 ⇑P P 04 54 33.2 +0.4
baz=58,SNR=14
I09A **Lost Marbles R** 58.35 58 P P 04 54 33.5 +0.4
baz=58,SNR=19
M06C **Likely Place G** 58.44 62 ⇓P P 04 54 33.9 +0.3
baz=58
H10A **Noah's Angus R** 58.55 57 ⇓P P 04 54 34.5 0.0
baz=58,SNR=28
O04C **Chester** 58.61 63 ⇓P P 04 54 35.4 +0.4
baz=58,SNR=7.4
L07A **Adell** 58.61 61 ⇓P P 04 54 35.6 +0.6
baz=58
AKTO **Aktyubinsk** 58.65 312 LR LR 05 20 24.4
comp=Z,317nm,20.5s,MS4.4,baz=232,slow=37
MNRC **McLaughlin Nat** 58.67 65 ⇓P P 04 54 35.9 +0.6
baz=58
K08A **Mann Creek Ran** 58.68 60 ⇑P P 04 54 35.8 +0.4
baz=58,SNR=21
J09A **Fry Pan Ranch,** 58.73 59 ⇑P P 04 54 36.2 +0.5
baz=59,SNR=18
MSO **Missoula** 58.74 53 eP P 04 54 35.5 -0.3
comp=Z,24nm,1.2s,mb5.1
WVOR **Wild Horse Val** 58.77 60 eP P 04 54 36.2 +0.2
WVOR pmax pmax
comp=Z,18nm,0.9s,mb5.1
WVOR **Wild Horse Val** 58.77 60 eP P 04 54 36.1 +0.1
comp=Z,18nm,0.9s,mb5.1
D14A **Greenough** 58.82 53 P P 04 54 36.5 +0.1
baz=59,SNR=39
ORV **Oroville** 58.83 64 P P 04 54 35.8 -0.7
baz=59,SNR=11
E13A **Victor** 58.84 54 ⇑P P 04 54 36.3 -0.2
baz=59,SNR=13
SUTB **Sutter Butte** 58.85 65 ⇑P P 04 54 35.9 -0.7
baz=59
H11A **Donnelly** 58.89 56 ⇓P P 04 54 36.9 0.0
baz=59,SNR=62
O05C **Quincy** 58.93 63 ⇑P P 04 54 37.4 +0.3
baz=59
OHCM **Honcut** 58.97 64 eP P 04 54 36.6 -0.9
CHMT **Chamberlain Mo** 59.06 53 eP P 04 54 37.7 -0.4
L08A **Fields** 59.09 60 ⇑P P 04 54 38.5 +0.2
baz=59,SNR=21
M07A **Soldier Meadow** 59.10 61 ⇓P P 04 54 38.9 +0.6
baz=59,SNR=23
N06A **Buffalo Meadow** 59.10 62 ⇓P P 04 54 38.3 0.0
baz=59,SNR=8.7
K09A **Rome** 59.14 59 P P 04 54 39.0 +0.4
baz=59,SNR=7.8
F13A **Darby** 59.16 55 ⇓P P 04 54 38.6 -0.1
baz=59,SNR=19
E14A **Clinton** 59.24 54 ⇓P P 04 54 39.2 -0.1
baz=59,SNR=22
BEKR **Beckwourth** 59.33 63 P P 04 54 39.9 0.0
baz=59,SNR=11
D15A **Lincoln** 59.38 53 ⇓P P 04 54 40.2 0.0
baz=59,SNR=8.3
O06A **Flanigan** 59.46 63 ⇓P P 04 54 41.0 +0.1
baz=59
P05C **Yuba Gap, Truc** 59.53 64 ⇓P P 04 54 41.4 +0.2
baz=59
M08A **Happy Creek Ra** 59.53 61 ⇓P P 04 54 41.9 +0.6
baz=59,SNR=8.0
N07B **Gerlach** 59.59 62 ⇑P P 04 54 42.0 +0.3
baz=59,SNR=9.7
L09A **Wilkinson Ranc** 59.59 60 ⇓P P 04 54 42.4 +0.6
baz=59,SNR=6.2
F14A **Wisdom** 59.68 54 ⇓P P 04 54 42.4 +0.1
baz=60
FFC **Flin Flon** 59.68 41 P P 04 54 42.8 +0.5
comp=Z,194nm,0.8s,SNR=7.8
E15A **Deer Lodge** 59.69 53 P P 04 54 42.7 +0.3
baz=60,SNR=13
LAVA **Lava Cap Winer** 59.79 64 P P 04 54 42.9 -0.2
baz=60,SNR=6.0
O07A **Toulon** 60.03 62 ⇑P P 04 54 45.1 +0.3
baz=60,SNR=17
WCN **Washoe City** 60.04 63 ⇑P P 04 54 45.0 +0.2
baz=60,SNR=5.9
N08A **GE Springer Mi** 60.09 61 ⇑P P 04 54 45.3 +0.1
baz=60,SNR=7.0
M09A **Marrel Ranch,** 60.09 60 ⇑P P 04 54 45.4 +0.2
baz=60,SNR=8.5
F15A **Butte** 60.14 54 P P 04 54 45.8 +0.3
baz=60,SNR=26
LRM **Limekiln Ridge** 60.17 54 eP P 04 54 46.0 +0.3
EGMT **Eagleton** 60.22 50 eP P 04 54 46.2 +0.1
EGMT **Eagleton** 60.22 50 ⇑P P 04 54 45.9 -0.1
baz=60
R05C **Kirkwood Meado** 60.23 64 ⇓P P 04 54 46.1 0.0
baz=60
DLMT **Dillon** 60.38 54 eP P 04 54 47.6 +0.5
comp=Z,8.7nm,0.8s,mb4.8
O08A **Rochester Mine** 60.38 62 ⇓P P 04 54 47.2 0.0
baz=60
N09A **Rock Creek Ran** 60.41 61 ⇓P P 04 54 47.4 +0.1
baz=60,SNR=8.2
P07A **Fallon** 60.42 63 ⇓P P 04 54 47.6 +0.2
baz=60
CMB **Columbia Colle** 60.46 65 eP P 04 54 47.9 +0.3
CMB pmax pmax
comp=Z,28nm,1.4s,mb5.1
CMB **Columbia Colle** 60.46 65 eP P 04 54 47.9 +0.2
comp=Z,28nm,1.5s,mb5.1
CMB **Columbia Colle** 60.46 65 P P 04 54 47.7 +0.1
baz=60,SNR=6.8
PACP **Pacheco Peak** 60.55 66 ⇑P P 04 54 48.1 -0.2
baz=60
M10A **I.L. Ranch, Tu** 60.56 60 ⇓P P 04 54 48.8 +0.4
baz=60,SNR=15
G15A **Dillon** 60.56 54 ⇓P P 04 54 48.2 -0.2
baz=60,SNR=24
MCMT **McKenzie Canyo** 60.58 55 eP P 04 54 48.6 +0.1
R06C **Coleville** 60.72 64 ⇓P P 04 54 49.7 +0.3
baz=61,SNR=7.6
P08A **Dixie Valley** 60.80 62 ⇑P P 04 54 50.4 +0.4
baz=61
BMN **Battle Mountai** 60.85 61 eP P 04 54 50.9 +0.6
comp=Z,20nm,0.7s,mb5.3
NDI **New Delhi** 60.87 282 eP P 04 54 51.9 +1.4
NDI AMb AMB 04 54 53.2
comp=Z,30nm,0.2s,mb6.1
S06C **San Francisco** 60.88 65 P P 04 54 50.5 0.0
baz=61,SNR=8.4
S05C **Merced** 60.93 65 ⇑P P 04 54 51.0 +0.2
baz=61
T05C **Eagle Field, D** 61.00 66 ⇑P P 04 54 51.7 +0.3
baz=61
O09A **Fish Creek Ran** 61.03 61 P P 04 54 52.2 +0.6
baz=61,SNR=13
M11A **Holland Ranch,** 61.06 59 P P 04 54 52.7 +1.0
baz=61,SNR=16
QLMT **Earthquake Lak** 61.36 54 eP P 04 54 54.5 +0.7
O10A **Cortez Mining,** 61.37 61 ⇑P P 04 54 54.5 +0.7
baz=61,SNR=7.0
Q08A **Gabbs** 61.42 63 ⇑P P 04 54 54.1 -0.1
baz=61,SNR=16
NVAR **Mina Array Bea** 61.47 63 P P 04 54 54.8 +0.3
comp=Z,7.6nm,0.7s,mb5.0,baz=294,slow=8.2,SNR=27
N11A **Elko Archery C** 61.48 60 ⇓P P 04 54 54.9 +0.3
baz=61,SNR=5.4
T06C **Millerton Lake** 61.52 65 ⇓P P 04 54 54.5 -0.4
baz=61
KCC **Kaiser Creek** 61.56 65 P P 04 54 55.3 +0.2
baz=61,SNR=5.1
M12A **Wells** 61.58 59 ⇓P P 04 54 55.6 +0.3
baz=61,SNR=14
GCMT **Greycliff** 61.70 52 eP P 04 54 56.7 +0.7
YMR **Madison River** 61.72 54 eP P 04 54 56.9 +0.7
comp=Z,56nm,1.4s,mb5.5
P10A **Eureka** 61.81 61 ⇓P P 04 54 57.2 +0.4
baz=62,SNR=5.1
ELK **Elko** 61.82 60 eP P 04 54 57.8 +0.9
ELK pmax pmax
comp=Z,12nm,1.0s
ELK **Elko** 61.82 60 eP P 04 54 57.8 +0.9
comp=Z,12nm,0.9s,mb5.0
YNR **Norris Junctio** 61.84 54 eP P 04 54 58.9 +1.9
N12A **Hover Valley,** 61.86 59 ⇑P P 04 54 57.5 +0.4
baz=62,SNR=8.4
Q09A **Carvers** 61.89 62 ⇓P P 04 54 57.5 +0.1
baz=62
O11A **Cowboy Ranch,** 61.96 60 ⇑P P 04 54 58.1 +0.2
baz=62,SNR=13
M13A **Montello** 62.04 58 ⇓P P 04 54 58.8 +0.4
baz=62,SNR=15
HELL **Mitchell Peak,** 62.16 65 P P 04 54 58.6 -0.5
baz=62,SNR=10.0
FLWY **Flagg Ranch** 62.24 54 eP P 04 55 01.0 +1.3
comp=Z,21nm,1.1s,mb5.2
RCTC **Rector, Farmer** 62.26 66 ⇑P P 04 54 59.2 -0.6
baz=62
P11A **Circle Ranch,** 62.28 61 ⇑P P 04 55 00.4 +0.5
baz=62
DCID1 **Drake Creek** 62.29 55 eP P 04 55 01.7 +1.6
R09A **Tonopah** 62.34 63 P P 04 55 00.5 +0.1
baz=62,SNR=16
RLMT **Red Lodge** 62.34 53 eP P 04 55 00.9 +0.5
comp=Z,18nm,0.8s,mb5.2
N13A **Wendover, West** 62.35 59 ⇑P P 04 55 00.5 +0.1
baz=62
O12A **Currie** 62.41 60 ⇑P P 04 55 01.0 +0.1
baz=62,SNR=15
MOOW **Moose Ponds** 62.43 55 eP P 04 55 02.1 +1.1
comp=Z,12nm,0.8s,mb5.1
HVU **Hansel Valley** 62.57 57 eP P 04 55 02.2 +0.3
HVU pmax pmax
comp=Z,11nm,0.9s,mb5.0
HVU **Hansel Valley** 62.57 57 eP P 04 55 02.2 +0.3
comp=Z,11nm,0.9s,mb5.0
S09A **Goldfield** 62.58 63 P P 04 55 02.1 +0.1
baz=62,SNR=9.3
LOHW **Long Hollow** 62.60 55 eP P 04 55 03.0 +0.9
comp=Z,24nm,1.1s,mb5.2
REDW **Red Top Meadow** 62.62 55 eP P 04 55 03.3 +1.1
comp=Z,24nm,0.7s,mb5.4
VES **Vestal, Richgr** 62.66 66 ⇓P P 04 55 01.8 -0.7
baz=62
Q11A **Duckwater** 62.79 61 P P 04 55 03.4 0.0
baz=63,SNR=5.3
PKM **Peak Mountain** 62.81 67 ⇑P P 04 55 03.5 0.0
baz=63
P12A **McGill** 62.83 60 ⇑P P 04 55 03.7 +0.1
baz=63
CWC **Cottonwood Cre** 62.89 65 ⇓P P 04 55 03.8 -0.2
baz=63,SNR=5.1
LAO **LASA Array** 62.92 50 eP P 04 55 04.3 +0.1
comp=Z,41nm,0.9s,mb5.6
KAF **Kangasniemi** 62.95 335 ep P 04 55 02.5 -2.0
baz=36,slow=6.3
GRAC **Grapevine Rang** 62.96 64 ⇑P P 04 55 04.5 0.0
baz=63
KAKA **Kakadu** 63.06 204 eP P 04 55 03.8 -1.3
comp=Z,5.1nm,0.6s,mb4.8
Q12A **Willow Creek R** 63.16 61 ⇓P P 04 55 05.9 +0.1
baz=63,SNR=6.0
TRCR **Troy Canyon** 63.16 62 eP P 04 55 05.3 -0.5
DAC **Darwin (Calif)** 63.29 65 eP P 04 55 06.8 +0.1
HWUT **Hardware Ranch** 63.37 57 eP P 04 55 07.9 +0.7
comp=Z,32nm,1.2s,mb5.3
MPMC **Manual Prospec** 63.50 65 ⇓P P 04 55 08.0 -0.1
baz=63,SNR=6.6
FIA1 **FINESS Array S** 63.55 335 eP P 04 55 06.6 -1.9
FINES **FINESS Array B** 63.56 335 P P 04 55 06.9 -1.5
comp=Z,5.2nm,0.6s,mb4.8,baz=40,slow=8.0,SNR=29
FINES LR LR 05 26 01.9
comp=Z,268nm,20.5s,MS4.4,baz=357,slow=39
FINES **FINESS Array B** 63.56 335 *i* P P 04 55 06.9 -1.6
FINES pmax pmax
comp=Z,5.0nm,0.6s
DUG **Dugway** 63.58 59 eP P 04 55 09.1 +0.5
DUG pmax pmax
comp=Z,25nm,0.9s,mb5.2
DUG **Dugway** 63.58 59 eP P 04 55 09.1 +0.4
comp=Z,25nm,0.9s,mb5.2
DUG **Dugway** 63.58 59 ⇓P P 04 55 08.8 +0.1
baz=63,SNR=23
FURC **Furnace Creek,** 63.62 64 ⇓P P 04 55 08.6 -0.2
baz=64,SNR=7.2
NOQ **North Oquirrh** 63.68 58 eP P 04 55 10.2 +0.9

OSI **Osito Adit** 63.68 67 ⇓P P 04 55 09.2 -0.1
baz=64
BW06 **Boulder Array** 63.73 55 eP P 04 55 09.8 +0.2
comp=Z,21nm,0.9s,mb5.2
PDAR **Pinedale Array** 63.73 55 P P 04 55 09.8 +0.2
comp=Z,14nm,0.8s,mb5.1,baz=292,slow=1.8,SNR=120
LRMC **Laurel Mountai** 63.76 65 ⇓P P 04 55 09.5 -0.3
baz=64
CTU **Camp Tracy** 63.87 58 eP P 04 55 10.3 -0.2
comp=Z,14nm,0.8s,mb5.1
EDW2 **Edwards Air Fo** 63.96 66 ⇓P P 04 55 11.0 -0.2
baz=64,SNR=6.6
U10A **Ash Meadows, A** 63.97 64 ⇑P P 04 55 11.4 +0.2
baz=64
AJM **Ajmer** 64.04 281 eP P 04 55 09.9 -1.7
AJM AMb AMB 04 55 14.8
comp=Z,32nm,1.1s,mb5.2
JLU **Jordanelle** 64.10 58 eP P 04 55 12.6 +0.6
DECC **Green Verdugo** 64.17 67 ⇑P P 04 55 12.6 +0.1
baz=64
NLU **North Lily Min** 64.17 58 eP P 04 55 13.0 +0.6
VIS **Vishakhapatnam** 64.18 268 eP P 04 55 13.5 +0.9
VIS AMb AMB 04 55 19.1
comp=Z,25nm,0.8s,mb5.3
DAU **Daniels Canyon** 64.33 58 eP P 04 55 14.4 +0.8
SHOC **Shoshone** 64.34 64 ⇓P P 04 55 13.9 +0.2
baz=64
BHPL **Bhopal** 64.36 277 eP P 04 55 13.4 -0.4
BHPL AMb AMB 04 55 16.5
comp=Z,46nm,0.8s,mb5.5
MPU **Maple Canyon** 64.38 58 eP P 04 55 14.5 +0.6
comp=Z,21nm,0.8s,mb5.2
GSC **Goldstone** 64.42 65 eP P 04 55 14.2 +0.1
GSC **Goldstone** 64.42 65 ⇑P P 04 55 14.1 0.0
baz=64
U11A **Corn Creek** 64.54 63 ⇑P P 04 55 15.4 +0.4
baz=64
BFSC **Mount Baldy St** 64.59 66 ⇓P P 04 55 15.0 -0.3
baz=64
SHPR **Sheep Range** 64.62 63 eP P 04 55 15.5 +0.1
ARUT **Antelope Range** 64.80 61 eP P 04 55 16.4 -0.2
TUQ **Turquoise Mtn.** 64.87 64 P P 04 55 16.9 -0.1
baz=65,SNR=9.2
V11A **Goodsprings** 64.90 64 ⇑P P 04 55 17.2 0.0
baz=65,SNR=5.5
OBN **Obninsk** 64.98 326 eP P 04 55 16.9 -0.9
OBN pmax pmax
comp=Z,13nm,1.3s,mb4.8
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
CCUT **Cedar City** 65.00 61 eP P 04 55 18.2 +0.3
HEC **Hector,Ludlow** 65.02 65 ⇓P P 04 55 17.8 -0.2
baz=65
PSI **Prapat** 65.03 245 P P 04 55 17.8 -0.3
comp=Z,1.9nm,0.3s,mb4.5,baz=306,slow=11,SNR=4.0
PSI **Prapat** 65.03 245 P P 04 55 17.8 -0.3
PSI pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
MSU **Marysvale** 65.06 60 eP P 04 55 19.0 +0.7
TMUT **Trail Mountain** 65.10 58 eP P 04 55 18.8 +0.2
MURC **Murrieta** 65.30 67 ⇑P P 04 55 19.2 -0.6
baz=65
V12A **Nelson** 65.33 64 ⇑P P 04 55 20.1 +0.1
baz=65
GMRC **Granite Mounta** 65.46 65 ⇑P P 04 55 20.8 -0.2
baz=65,SNR=9.4
ULM **Lac du Bonnet** 65.46 42 P P 04 55 20.4 -0.5
comp=Z,3.8nm,0.6s,mb4.6,baz=314,slow=6.1,SNR=12
W12A **Cal Nev Ari** 65.60 64 ⇓P P 04 55 21.4 -0.4
baz=65
SRU **San Rafael** 65.62 58 eP P 04 55 22.2 +0.3
comp=Z,30nm,0.7s,mb5.4
RWWY **Rawlins** 65.75 54 eP P 04 55 22.3 -0.4
comp=Z,21nm,0.9s,mb5.2
BELC **Belle Mtn.** 65.78 66 ⇓P P 04 55 22.0 -0.9
baz=66
RSSD **Black Hills** 65.79 51 eP P 04 55 22.8 -0.2
RSSD pmax pmax
comp=Z,32nm,0.7s,mb5.5
RSSD **Black Hills** 65.79 51 eP P 04 55 22.8 -0.2
comp=Z,32nm,0.7s,mb5.5
109C **Camp Elliot, M** 65.83 67 ⇓P P 04 55 22.7 -0.5
baz=66
IRM **Iron Mountain** 66.19 65 ⇑P P 04 55 25.2 -0.4
baz=66
W13A **Hualapai Mount** 66.33 63 ⇓P P 04 55 26.4 -0.1
baz=66
BC3 **Big Chuckw Mtn** 66.34 66 P P 04 55 26.1 -0.5
baz=66,SNR=5.7
AKL **Akola** 66.38 275 eP P 04 55 26.4 -0.4
AKL AMb AMB 04 55 30.4
comp=Z,53nm,0.9s,mb5.6
X13A **Yucca** 66.70 64 ⇓P P 04 55 28.6 -0.3
baz=66,SNR=9.3
PDMCI **Parker Dam,Lak** 66.71 64 ⇓P P 04 55 28.5 -0.5
baz=67,SNR=6.8
W14A **Seligman** 66.74 63 ⇑P P 04 55 29.6 +0.5
baz=67,SNR=8.9
Y12C **Blythe** 66.85 65 ⇑P P 04 55 29.3 -0.5
baz=67,SNR=6.6
AGMN **Agassiz Refuge** 66.87 43 eP P 04 55 29.3 -0.7
comp=Z,26nm,1.4s,mb5.1
PV10 **Paradox Valley** 66.97 58 eP P 04 55 31.3 +0.7
GLA **Glamis** 67.14 66 eP P 04 55 31.5 -0.1
GLA **Glamis** 67.14 66 ⇓P P 04 55 31.3 -0.3
baz=67,SNR=6.4
W15A **Williams** 67.25 62 ⇓P P 04 55 32.7 +0.3
baz=67
X14A **Yava** 67.36 63 ⇑P P 04 55 33.3 +0.3
baz=67
PV01 **Paradox Valley** 67.41 58 eP P 04 55 33.3 -0.1
WUAZ **Wupatki** 67.56 62 ⇑P P 04 55 34.4 +0.1
baz=67
NB2 **NORSAR Subarra** 67.64 341 P P 04 55 33.0 -1.8
comp=Z,3.2nm,0.8s,mb4.4,baz=28,slow=6.5
NOA **NORSAR Array B** 67.64 341 P P 04 55 33.7 -1.1
comp=Z,2.8nm,0.6s,mb4.5,baz=26,slow=6.4,SNR=13
NOA LR LR 05 30 03.8
comp=Z,179nm,18.4s,MS4.3,baz=15,slow=40
NOA **NORSAR Array B** 67.64 341 P P 04 55 33.7 -1.1
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA MLR MLR
comp=Z,179nm,18.4s
NOA **NORSAR Array B** 67.64 341 P P 04 55 33.7 -1.1
NOA LR LR 05 30 03.8
Y14A **Wickenburg** 67.65 64 P P 04 55 34.8 -0.1
baz=68,SNR=8.3
X15A **Humboldt** 67.74 63 ⇑P P 04 55 35.7 +0.2
baz=68
ISCO **Idaho Springs** 67.92 55 P P 04 55 37.3 +0.7
ISCO pmax pmax
comp=Z,14nm,0.7s,mb5.1
ISCO **Idaho Springs** 67.92 55 eP P 04 55 37.3 +0.7
comp=Z,20nm,0.8s,mb5.2
Z14A **Wintersburg** 68.08 64 ⇓P P 04 55 37.4 -0.2
baz=68
MVCO **Mesa Verde** 68.08 59 eP P 04 55 37.4 -0.2
comp=Z,9.6nm,0.7s,mb4.9
MVCO **Mesa Verde** 68.08 59 ⇑P P 04 55 37.6 0.0
baz=68,SNR=9.3
115A **Sonoran Desert** 68.97 64 ⇑P P 04 55 42.9 -0.2
baz=69,SNR=5.6
116A **Eloy** 69.39 64 ⇓P P 04 55 45.3 -0.4
baz=69
SDCO **Great Sand Dun** 69.42 56 eP P 04 55 46.0 +0.1
comp=Z,7.2nm,0.7s,mb4.7
WRAB **Tennant Creek** 69.51 200⇑eP P 04 55 43.1 -3.4
WB2 **Warramunga Arr** 69.52 200 eP P 04 55 45.2 -1.3
WRA **Warramunga Arr** 69.52 200 P P 04 55 45.1 -1.4
comp=Z,6.3nm,1.1s,mb4.5,baz=17,slow=6.4,SNR=20
WRA **Warramunga Arr** 69.52 200 P P 04 55 45.1 -1.4
WRA pmax pmax
comp=Z,6.0nm,1.1s
ECSD **EROS,Sioux Fal** 69.84 47 eP P 04 55 47.5 -1.0
comp=Z,32nm,0.8s,mb5.3
TUC **Tucson** 70.12 64 eP P 04 55 50.0 -0.2
TUC pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
TUC **Tucson** 70.12 64 eP P 04 55 50.0 -0.3
comp=Z,7.7nm,1.3s,mb4.5
FITZ **Fitzroy Crossi** 70.19 209⇑iP P 04 55 50.3 -0.4
comp=Z,9.4nm,0.7s,mb4.8
KAD **Karad** 70.66 275 eP P 04 55 53.9 +0.4
KAD AMb AMB 04 55 58.9
comp=Z,29nm,0.9s,mb5.2
KIV **Kislovodsk** 70.68 315⇑eP P 04 55 51.2 -2.4
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,300nm,17.0s,MS4.6
LAZ **Ladron** 70.83 60 eP P 04 55 55.0 +0.4
ANMO **Albuquerque** 70.84 59⇓iP P 04 55 53.6 -1.0
ANMO **Albuquerque** 70.84 59 eP P 04 55 55.0 +0.4
comp=Z,9.6nm,0.7s,mb4.8
Y22C **IRIS PASSCAL I** 71.19 60 ⇓P P 04 55 57.1 +0.4
baz=71
AKASG **Malin Array Be** 71.21 327 P P 04 55 55.0 -1.9
comp=Z,1.7nm,0.4s,mb4.4,baz=34,slow=6.4,SNR=9.7
AKASG LR LR 05 34 23.3
comp=Z,194nm,18.2s,MS4.4,baz=30,slow=42
KIEV **Kiev** 71.22 327 eP P 04 55 55.2 -1.7
KIEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIEV **Kiev** 71.22 327 eP P 04 55 55.2 -1.7
comp=Z,5.0nm,0.7s,mb4.5
BNM **Barren Site** 71.31 60 eP P 04 55 57.9 +0.5
SCHQ **Schefferville** 72.28 23 P P 04 56 03.2 -0.1
comp=Z,8.4nm,0.7s,mb4.8,baz=359,slow=8.2,SNR=7.5
SCHQ LR LR 05 32 26.3
comp=Z,127nm,20.0s,MS4.2,baz=323,slow=40
GNI **Garni** 72.48 311⇑eP P 04 56 04.5 0.0
GNI pmax pmax
comp=Z,32nm,2.5s
ANN **Anapa** 72.49 318 eP P 04 55 58.8 -5.7
ANN e*PP pP 04 56 09.4 -6.3
ANN e 04 56 16.2
ANN ePPP 05 00 24.3
ANN eS S 05 05 20.6 -5.5
ANN eSS SS 05 10 01.7 -3.5
ANN pmax pmax
comp=Z,25nm,1.1s,mb5.1
SCIA **State Center** 72.86 46 eP P 04 56 06.3 -0.4
comp=Z,48nm,0.6s,mb5.6
AS31 **Alice Springs** 73.21 199⇑iP P 04 56 08.6 -0.2
ASAR **Alice Springs** 73.21 199 P P 04 56 08.6 -0.2
comp=Z,8.2nm,0.7s,mb4.8,baz=8.7,slow=5.6,SNR=85
ASAR **Alice Springs** 73.21 199 P P 04 56 08.6 -0.2
ASAR pmax pmax
comp=Z,8.0nm,0.7s
ASPA **Alice Springs** 73.21 199⇑iP P 04 56 08.6 -0.2
KSU1 **Kansas State U** 73.26 50 eP P 04 56 07.3 -1.8
comp=Z,23nm,0.7s,mb5.2
AMTX **Amarillo** 73.62 56 eP P 04 56 11.6 +0.3
comp=Z,30nm,0.9s,mb5.2
MNTX **Cornudas Mount** 73.79 61 eP P 04 56 12.1 -0.1
comp=Z,5.2nm,0.6s,mb4.6
GDL2 **Guadalupe Moun** 74.03 60 eP P 04 56 13.7 0.0
KIS **Kishinev** 74.38 325 eP P 04 56 14.0 -1.7
KIS e 04 56 29.0
KIS **Kishinev** 74.38 325 eUNK P 04 56 14.0 -1.7
KWP **Kalwaria** 74.43 330 eP P 04 56 15.9 -0.1
KWP **Kalwaria** 74.43 330 eP P 04 56 15.7 -0.2
comp=Z,44nm,1.2s,mb5.3
OJC **Ojcow** 74.89 332 eP P 04 56 18.2 -0.5
STHS **Stebnicka Huta** 75.11 330 eP P 04 56 19.9 0.0
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS **Stebnicka Huta** 75.11 330 eP P 04 56 19.9 0.0
comp=Z,6.8nm,0.8s,mb4.6
KOLS **Kolonicke sedl** 75.18 329 eP P 04 56 20.1 -0.2
BURAR **Bucovina Array** 75.24 327⇑iP P 04 56 20.3 -0.4
WMOK **Wichita Mounta** 75.34 54 eP P 04 56 20.8 -0.4
WMOK pmax pmax
comp=Z,17nm,0.9s,mb5.0
WMOK **Wichita Mounta** 75.34 54 eP P 04 56 20.8 -0.4
comp=Z,17nm,0.9s,mb5.0
NIE **Niedzica** 75.42 331 eP P 04 56 21.8 +0.1
KSP **Ksiaz** 75.44 334 eP P 04 56 21.0 -0.8
OKC **Ostrava-Krasne** 75.75 332 eP P 04 56 22.4 -1.2
UPC **Upice** 75.82 334 eP P 04 56 22.3 -1.7
DPC **Dobruska-Polom** 75.86 334 eP P 04 56 24.0 -0.2
CLL **Collm** 75.97 336⇑iP P 04 56 23.9 -0.9
comp=Z,23nm,0.8s,mb5.2
CLL **Collm** 75.97 336⇑iP P 04 56 23.9 -0.9
CLL pmax pmax
comp=Z,23nm,0.8s,mb5.2
MORC **Moravsky Berou** 76.00 333⇑iP P 04 56 24.7 -0.3
MORC **Moravsky Berou** 76.00 333 P P 04 56 24.8 -0.2
BRG **Berggiesshubel** 76.09 335 iP P 04 56 24.9 -0.7
comp=Z,5.6nm,0.9s,mb4.5
BRG **Berggiesshubel** 76.09 335 iP P 04 56 24.9 -0.6
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS **Kecovo** 76.17 330 eP P 04 56 25.1 -0.9
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS **Kecovo** 76.17 330 eP P 04 56 25.1 -0.9
comp=Z,2.8nm,0.8s,mb4.2
CLZ **Clausthal** 76.18 338⇑iP P 04 56 26.0 0.0
comp=Z,13nm,0.7s,mb5.0
CLZ **Clausthal** 76.18 338 iP P 04 56 26.0 0.0
CLZ pmax pmax
comp=Z,13nm,0.7s,mb5.0
FBE **Freiberg** 76.22 336⇑iP P 04 56 25.8 -0.4
LPIG **La Paz** 76.22 69 LR LR 05 22 41.3
comp=Z,73nm,19.9s,MS4.0,baz=35,slow=30
PVCC **Panska Ves** 76.22 335 eP P 04 56 25.7 -0.6
BOYT **Boyabat** 76.29 317 iP P 04 56 27.6 +0.9
LTX **Lajitas** 76.52 61 eP P 04 56 28.0 +0.1
comp=Z,30nm,0.7s,mb5.3
TXAR **Lajitas Array** 76.52 61 P P 04 56 27.9 -0.1
comp=Z,27nm,0.7s,mb5.3,baz=298,slow=4.3,SNR=377
TXAR **Lajitas Array** 76.52 61 P P 04 56 27.9 0.0
TXAR pmax pmax
comp=Z,27nm,0.7s
TIRR **Tirgusor** 76.63 323⇑iP P 04 56 28.7 +0.1
VRAC **Vranov** 76.70 333⇓iP P 04 56 28.9 -0.1
VRAC **Vranov** 76.70 333 P P 04 56 29.4 +0.4
VYHS **Vyhne** 76.71 331 iP P 04 56 28.9 -0.1
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VYHS **Vyhne** 76.71 331 iP P 04 56 28.9 -0.1
comp=Z,4.7nm,0.9s,mb4.4
PRU **Pruhonice** 76.71 334 eP P 04 56 28.9 -0.1
MLR **Muntele Rosu** 76.75 325⇓iP P 04 56 29.4 +0.2
MLR **Muntele Rosu** 76.75 325 P P 04 56 30.4 +1.2
BALT **Daday** 76.88 318 iP P 04 56 30.7 +0.7
WERD **Werda** 76.93 336⇑iP P 04 56 30.0 -0.3
MOX **Moxa** 76.94 337⇑iP P 04 56 29.9 -0.4
MOX **Moxa** 76.94 337 eP P 04 56 29.8 -0.5
comp=Z,19nm,1.2s,mb4.9
MOX **Moxa** 76.94 337 eP P 04 56 29.8 -0.5
MOX pmax pmax
comp=Z,19nm,1.2s,mb4.9
CTKT **Corum** 76.97 317 iP P 04 56 31.4 +0.9
GUNZ **Gunzen** 77.00 336⇑iP P 04 56 30.5 -0.2
comp=Z,12nm,0.8s,mb4.9
MALT **Malatya** 77.05 313⇑iP P 04 56 32.3 +1.3
MALT **Malatya** 77.05 313 P P 04 56 32.5 +1.6
WERN **Wernitzgruen** 77.06 336⇑iP P 04 56 31.1 +0.1
NKC **Novy Kostel** 77.09 336 eP P 04 56 30.7 -0.4
HATD **Hatta, Dubai** 77.15 293 ⇓P P 04 56 31.8 +0.3
SNR=6.4
FVM **French Village** 77.25 47 eP P 04 56 31.4 -0.6
FVM pmax pmax
comp=Z,19nm,0.7s,mb5.1
FVM **French Village** 77.25 47 eP P 04 56 31.4 -0.7
comp=Z,19nm,0.7s,mb5.1
MANZ **Manzenberg** 77.41 336⇑iP P 04 56 32.8 -0.1
ZST **Bratislava** 77.53 332 iP P 04 56 34.1 +0.5
comp=Z,8.6nm,0.9s,mb4.7
ZST LR LR
comp=Z,300nm,19.8s,MS4.6
ROTZ **Rotzenmuhle** 77.58 336⇑iP P 04 56 33.9 0.0
JMDO **Jabal Madar** 77.67 290 ⇑P P 04 56 34.7 +0.3
SNR=5.1
KHC **Kasperske Hory** 77.76 335 eP P 04 56 34.8 -0.1
KHC pP pP 04 56 41.5 -4.7
KHC **Kasperske Hory** 77.76 335 eP P 04 56 34.8 -0.1
KHC e 04 56 41.5
GRA1 **Grafenberg Arr** 77.92 336⇑iP P 04 56 36.1 +0.3
comp=Z,27nm,0.7s,mb5.3
GRF **Grafenberg Arr** 77.92 336⇑iP P 04 56 36.1 +0.3
comp=Z,27nm,0.7s,mb5.3
GRF **Grafenberg Arr** 77.92 336 iP P 04 56 36.1 +0.3
GRF pmax pmax
comp=Z,27nm,0.7s,mb5.3
GRF **Grafenberg Arr** 77.92 336⇑iP P 04 56 36.1 +0.3
GRF pmax pmax
comp=Z,27nm,0.7s,mb5.3
GRFO **Grafenberg** 77.92 336 P P 04 56 36.1 +0.3
GRFO pmax pmax
comp=Z,16nm,0.8s,mb5.0
GRFO **Grafenberg** 77.92 336 eP P 04 56 35.9 +0.1
comp=Z,16nm,0.8s,mb5.0
JCT **Junction City** 77.93 58 eP P 04 56 35.4 -0.5
JCT pmax pmax
comp=Z,19nm,0.7s,mb5.1
JCT **Junction City** 77.93 58 eP P 04 56 35.4 -0.5
comp=Z,19nm,0.7s,mb5.1
WET **Wettzell** 77.95 335⇑iP P 04 56 36.2 +0.2
comp=Z,13nm,0.8s,mb4.9
WET **Wettzell** 77.95 335 iP P 04 56 36.2 +0.2
WET pmax pmax
comp=Z,13nm,0.8s,mb4.9
GEC2 **GERESS Array S** 77.98 334⇑iP P 04 56 35.7 -0.4
GEC2 **GERESS Array S** 77.98 334 P P 04 56 35.8 -0.3
GERES **GERESS Array B** 77.98 334 P P 04 56 35.8 -0.3
comp=Z,4.2nm,0.6s,mb4.5,baz=30,slow=5.5,SNR=46
GERES LR LR 05 34 34.6
comp=Z,256nm,18.6s,MS4.6,baz=35,slow=38
GERES **GERESS Array B** 77.98 334 P P 04 56 35.8 -0.3
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES MLR MLR
comp=Z,256nm,18.6s
GZR **Gura Zlata** 78.02 327⇓iP P 04 56 36.0 -0.4
GZR **Gura Zlata** 78.02 327 P P 04 56 36.4 0.0
SIUC **Southern Illin** 78.05 46 eP P 04 56 35.5 -1.0
comp=Z,27nm,0.8s,mb5.2
CONA **Conrad Observa** 78.15 333⇑iP P 04 56 37.4 +0.3
comp=Z,12nm,1.1s,mb4.7
TNS **Taunus Mts** 78.15 338⇑iP P 04 56 37.0 -0.1
BLO **Bloomington** 78.19 44 eP P 04 56 36.4 -0.9
BLO pmax pmax
comp=Z,20nm,0.7s,mb5.2
BLO **Bloomington** 78.19 44 eP P 04 56 36.4 -0.9
comp=Z,20nm,0.6s,mb5.2
BR131 **Keskin Array S** 78.22 317 eP P 04 56 38.0 +0.5
comp=Z,5.7nm,0.9s,mb4.5
BRTR **Keskin Array B** 78.22 317 P P 04 56 37.6 +0.2
comp=Z,5.6nm,0.9s,mb4.5,baz=73,slow=3.7,SNR=24
BRTR LR LR 05 38 57.5
comp=Z,156nm,18.6s,MS4.4,baz=216,slow=42
GZT **Gaziantep** 78.23 313 iP P 04 56 38.7 +1.2
BZS **Buzias** 78.25 328⇑iP P 04 56 36.7 -0.9
BZS **Buzias** 78.25 328 P P 04 56 37.2 -0.4
SGKT **Sivrigoynuk** 78.25 319 iP P 04 56 38.3 +0.7
BEBN **Eben Emael** 78.29 340 P P 04 56 37.4 -0.5
MIAR **Mount Ida** 78.29 51 eP P 04 56 37.4 -0.5
MIAR pmax pmax
comp=Z,17nm,0.8s,mb5.0
MIAR **Mount Ida** 78.29 51 eP P 04 56 37.4 -0.5
comp=Z,17nm,0.8s,mb5.0
MEM **Membach** 78.39 340 P P 04 56 38.4 0.0
ANTO **Ankara** 78.49 318⇑iP P 04 56 39.4 +0.4
ANTO **Ankara** 78.49 318 P P 04 56 39.9 +0.9
ANTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ANTO **Ankara** 78.49 318 eP P 04 56 39.3 +0.3
comp=Z,7.3nm,0.8s,mb4.7
USIN **University of** 78.61 45 eP P 04 56 39.7 +0.1
BCLA **Clavier** 78.73 340 P P 04 56 40.2 0.0
PKSM **Moragy** 78.77 330⇑iP P 04 56 39.4 -1.1
PKSM **Moragy** 78.77 330 P P 04 56 39.5 -0.9
MIB **Mutribah** 78.78 302 eP P 04 56 40.6 +0.1
MIB AMb AMB 04 56 43.7
comp=Z,79nm,0.7s,mb5.7
ALLY **Alegheny Colle** 79.01 38 eP P 04 56 41.8 0.0
WCI **Wyandotte Cave** 79.05 44 P P 04 56 41.8 -0.2
WCI pmax pmax
comp=Z,56nm,0.8s,mb5.5
WCI **Wyandotte Cave** 79.05 44 eP P 04 56 41.2 -0.8
comp=Z,56nm,0.8s,mb5.5
DOU **Dourbes** 79.19 341 P P 04 56 41.0 -1.8
QRN **Al-Qurain** 79.23 301 eP P 04 56 42.7 -0.3
QRN AMb AMB 04 56 44.2
comp=Z,84nm,0.9s,mb5.7
WLF **Walferdange** 79.23 339 P P 04 56 45.5 +2.5
NAY **Al-Naaiem** 79.25 302 eP P 04 56 42.7 -0.4
NAY AMb AMB 04 56 46.2
comp=Z,48nm,0.9s,mb5.4
RDF **Al-Radifah** 79.31 301 eP P 04 56 43.6 +0.2
RDF AMb AMB 04 56 48.0
comp=Z,123nm,0.9s,mb5.8
COBT **Iskenderun** 79.53 314 iP P 04 56 45.6 +0.9
PERS **Pernice** 79.53 333 eP P 04 56 44.4 -0.3
ESKT **Eskisehir** 79.65 319 iP P 04 56 45.8 +0.5
KBA **Koelnbreinsper** 79.68 334⇓iP P 04 56 46.3 +0.9
comp=Z,45nm,1.0s,mb5.4
KBA **Koelnbreinsper** 79.68 334⇓iP P 04 56 46.3 +0.9
KBA pmax pmax
comp=Z,45nm,1.0s,mb5.3
STKA **Stephens Creek** 79.89 191 P P 04 56 46.0 -0.6
comp=Z,0.9nm,0.4s,mb4.1,baz=232,slow=9.9,SNR=2.9
BFO **Black Forest** 79.93 338 P P 04 56 46.0 -0.8
comp=Z,76nm,1.4s,mb5.4,SNR=5.0
BFO **Black Forest** 79.93 338 P P 04 56 46.5 -0.3
BFO pmax pmax
comp=Z,24nm,1.2s,mb5.0
BFO **Black Forest** 79.93 338 eP P 04 56 46.2 -0.6
comp=Z,24nm,1.3s,mb5.0
WVT **Waverly** 79.98 46 P P 04 56 46.8 -0.3
WVT pmax pmax
comp=Z,16nm,0.8s,mb5.0
WVT **Waverly** 79.98 46 eP P 04 56 46.6 -0.5
comp=Z,16nm,0.8s,mb5.0
WTTA **Wattenberg** 80.01 335 iP P 04 56 47.6 +0.4
comp=Z,27nm,0.9s,mb5.2,SNR=8.9
WTTA **Wattenberg** 80.01 335 iP P 04 56 47.6 +0.4
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
WTTA **Wattenberg** 80.01 335 iP P 04 56 47.6 +0.4
comp=Z,27nm,0.9s,mb5.2
GCIS **Gornji Cirnik** 80.06 332 eP P 04 56 46.8 -0.7
MOTA **Moosalm** 80.08 335⇑iP P 04 56 47.9 +0.2
comp=Z,32nm,1.2s,mb5.1,SNR=9.1
MOTA **Moosalm** 80.08 335⇑iP P 04 56 47.9 +0.3
MOTA pmax pmax
comp=Z,32nm,1.2s,mb5.1
CDF **Champ du Feu** 80.12 338 eP P 04 56 47.1 -0.8
comp=Z,50nm,1.3s,mb5.0
CDF **Champ du Feu** 80.12 338 eP P 04 56 47.1 -0.8
CDF pmax pmax
comp=Z,25nm,1.3s,mb5.0
CDF **Champ du Feu** 80.12 338 eP P 04 56 47.1 -0.8
comp=Z,25nm,1.3s,mb5.0
DIVS **Divcibare** 80.14 328⇓iP P 04 56 47.1 -0.9
SQTA **Sankt Quirin** 80.17 335⇓iP P 04 56 48.6 +0.5
comp=Z,34nm,1.4s,mb5.1,SNR=6.3
SQTA **Sankt Quirin** 80.17 335⇓iP P 04 56 48.6 +0.5
SQTA pmax pmax
comp=Z,34nm,1.4s,mb5.1
VTS **Vitosha** 80.25 325⇑iP P 04 56 48.5 -0.1
VTS **Vitosha** 80.25 325 P P 04 56 48.3 -0.2
OXF **Oxford** 80.47 49 eP P 04 56 49.3 -0.5
comp=Z,25nm,0.7s,mb5.2
DAVA **Damuels** 80.48 336⇑iP P 04 56 49.8 +0.1
comp=Z,27nm,1.6s,mb4.9,SNR=7.7
TAOE **Nuku Hiva Isla** 80.69 114 eLR LR 05 22 21.7
comp=Z,916nm,24.1s
PLAL **Pickwick Lake** 80.77 47 eP P 04 56 50.4 -1.0
comp=Z,14nm,0.8s,mb5.0
MCWV **Mont Chateau** 80.79 39 eP P 04 56 51.4 -0.1
comp=Z,28nm,0.8s,mb5.2
SSPA **Standing Stone** 80.79 37 eP P 04 56 50.7 -0.8
comp=Z,18nm,1.3s,mb4.8
PMOR **Pomariorio Ree** 80.97 124 eT 06 25 52.7
comp=Z,15nm,0.2s
TZTN **Tazewell** 81.70 43 eP P 04 56 56.0 -0.3
GRR **Gorron** 81.95 343 eP P 04 56 56.9 -0.7
comp=Z,68nm,1.3s,mb5.1
GRR **Gorron** 81.95 343 eP P 04 56 56.9 -0.7
GRR pmax pmax
comp=Z,34nm,1.3s,mb5.1
GRR **Gorron** 81.95 343 eP P 04 56 56.9 -0.7
comp=Z,34nm,1.3s,mb5.1
MVL **Millersville** 81.96 37 eP P 04 56 57.3 -0.3
PPT **Papeete** 82.13 127 eLR LR 05 23 05.8
comp=Z,319nm,22.5s,baz=324
PPT **Papeete** 82.13 127 eT 06 27 26.5
comp=Z,4.7nm,0.2s
PPT **Papeete** 82.13 127 LR LR 05 27 43.8
comp=Z,286nm,19.9s,MS4.6,baz=307,slow=32
PAE **Paea** 82.21 127 eT 06 27 29.5
comp=Z,4.8nm,0.2s
TKL **Tuckaleechee C** 82.31 44 LR LR 05 32 28.9

comp=Z,148nm,20.8s,MS4.3,baz=260,slow=35
BLA Blacksburg 82.57 41 P **P** **04 57 00.8 0.0**
BLA pmax pmax
comp=Z,23nm,1.0s,mb5.2
BLA Blacksburg 82.57 41 *eP* **P** **04 57 00.3 -0.6**
comp=Z,23nm,1.1s,mb5.1
SMF Signal de Mont 82.61 340 *eP* **P** **04 57 00.4 -0.6**
comp=Z,117nm,1.4s,mb5.4
SMF Signal de Mont 82.61 340 *eP* **P** **04 57 00.4 -0.6**
SMF pmax pmax
comp=Z,59nm,1.4s,mb5.4
SMF Signal de Mont 82.61 340 *eP* **P** **04 57 00.4 -0.6**
comp=Z,58nm,1.4s,mb5.4
LRAL Lakeview Retre 82.86 48 *eP* **P** **04 57 01.8 -0.6**
comp=Z,13nm,0.8s,mb5.0
LPG La Plagne 82.96 337 *eP* **P** **04 57 03.0 +0.1**
comp=Z,26nm,0.8s,mb5.0
LPG La Plagne 82.96 337 *eP* **P** **04 57 03.0 +0.1**
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.0
LPG La Plagne 82.96 337 *eP* **P** **04 57 03.0 +0.1**
comp=Z,13nm,0.8s,mb5.0
GOGA Godfrey 84.29 45 *eP* **P** **04 57 09.6 -0.1**
JSC Jenkinsville 84.62 43 P **P** **04 57 11.2 -0.1**
JSC Jenkinsville 84.62 43 *eP* **P** **04 57 10.8 -0.5**
CAF Calviac 84.64 340 *eP* **P** **04 57 10.4 -1.0**
comp=Z,12nm,0.9s,mb4.7
CAF Calviac 84.64 340 *eP* **P** **04 57 10.4 -1.0**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CAF Calviac 84.64 340 *eP* **P** **04 57 10.4 -1.0**
comp=Z,5.8nm,0.9s,mb4.7
TIP Timpagrande 85.62 328 *eP* **P** **04 57 15.8 -0.5**
EIL Elat 85.65 310 *eP* **P** **04 57 17.1 +0.6**
TBI Tubuai 86.93 130 *e*LR LR 05 25 23.7
comp=Z,298nm,23.8s,baz=321
TBI Tubuai 86.93 130 *eT* 06 33 14.5
comp=Z,7.6nm,0.2s
ESDC Sonseca Array 90.94 343 P **P** **04 57 40.3 -1.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=12,slow=2.8,SNR=3.8
KEST Kesra 91.24 332 P **P** **04 57 42.1 -1.0**
comp=Z,2.6nm,1.0s,mb4.5,baz=27,slow=2.3,SNR=2.8
KEST LR LR 05 42 40.0
comp=Z,75nm,19.3s,MS4.1,baz=276,slow=38
TORD Torodi Ar. Bea 114.70 330 PKP PKiKP 05 03 16.9 -1.2
comp=Z,1.2nm,0.5s,baz=13,slow=1.7,SNR=30
TORD Torodi Ar. Bea 114.70 330 PKP PKiKP 05 03 16.9 -1.2
LPAZ La Paz 133.38 63 PKP PKPdf 05 03 54.5 +0.6
comp=Z,1.7nm,1.0s,baz=300,slow=4.8,SNR=4.0
BOSA Boshof 136.36 277 PKP PKPdf 05 03 59.5 +0.1
comp=Z,1.4nm,0.6s,baz=76,slow=4.2,SNR=3.1
BOSA Boshof 136.36 277 PKIKP PKPdf 05 03 59.5 +0.1
BOSA pmax pmax
comp=Z,1.0nm,0.6s
CFAA Coronel Fontan 144.20 79 PKP PKPdf 05 04 10.3 -3.3
comp=Z,0.6nm,0.7s,baz=283,slow=2.6,SNR=10.0
CFAA Coronel Fontan 144.20 79 PKP PKPdf 05 04 10.3 -3.3
SNAA Sanae 153.54 196 PKPbc PKPbc 05 04 32.8 -3.5
comp=Z,0.8nm,0.7s,baz=166,slow=4.3,SNR=11
SNAA Sanae 153.54 196 PKIKP PKPdf 05 04 32.8 +4.2
SNAA pmax pmax
comp=Z,1.0nm,0.7s
VNA2 Neumayer--Watz 154.98 194 *e*PKPdf PKPdf 05 04 27.6 -3.0
VNA2 *e* 05 04 36.8
VNA2 *e* 05 04 45.5
VNA2 *e* 05 04 50.0
VNA2 *e* 05 04 53.3
VNA2 *e* 05 04 56.0
VNA2 *e* 05 04 58.8
VNA2 *e* 05 05 06.5
VNA2 *e* 05 05 13.5
VNA2 *e* 05 05 21.2
VNA3 Neumayer Olymp 155.05 192 *e*PKPdf PKPdf 05 04 36.7 +6.0
VNA3 *e* 05 04 46.5
VNA3 *e* 05 04 52.7
VNA3 *e* 05 05 06.2
VNA3 *e* 05 05 13.8
VNA3 *e* 05 05 22.9

IDC 29 05:01:03.2± 7.7, 4977S×12188E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/10, mbtmp3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/14, Error ellipse: s-maj=652.3km s-min=69.8km az=104.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.18**	**347**		LR	LR	05 09 56.7	
	comp=Z,210nm,21.6s,baz=290,slow=31							
ASAR	**Alice Springs**	**27.71**	**24**	P		P	05 06 52.9	-0.2
	0.5nm,0.8s,baz=184,slow=11,SNR=3.7							
WRA	**Warramunga Arr**	**31.38**	**23**	P		P	05 07 25.8	+0.1
	0.4nm,1.0s,baz=199,slow=9.6,SNR=3.3							
YKA	**Yellowknife Ar**	**147.19**	**46**	PKPbc		PKPbc	05 20 46.3	-2.0
	1.1nm,0.8s,baz=272,slow=2.5,SNR=6.0							

MOS ***29*** *05:09:23.4± 1.1, 53.63N×163.72W, h15km, mb4.6/5, Error ellipse: s-maj=25.8km s-min=11.5km az=94.4*
BJI ***29*** *05:09:23.6, 5350N×163.60W, h19km, mB5.4, mb4.7, Ms4.8, Msz4.3*
IDC ***29*** *05:09:23.6± 1.4, 53.82N×163.62W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, ML3.1/1, Error ellipse: s-maj=35.3km s-min=16.6km az=177.0*
ISCJB ***29*** *05:09:27.5± 1.2, 53.7N± 0.1× 163.59W± 007, h45km± 8km, mb4.1/20, Error ellipse: s-maj=19.5km s-min=6.4km az=159.8*
NEIC ***29*** *05:09:27.7, 53.46N×163.61W, h39km, mb4.4/7, ML3.5(AEIC), ML3.7(PMR), After AEIC.*

ISC 29 05:09:24.8± 2.4, 5359N± 010×16358W± 006, h14km± 14km, n44, σ0§85/50, mb4.1/20, 4C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKUT	**Akutan**	**1.41**	**294**	P		**Pn**	**05 09 50.8**	**+0.7**
AKUT				S		**Sn**	**05 10 09.7**	**+1.3**
AKLV	**Akutan Long Va**	**1.52**	**293**	P		**Pn**	**05 09 52.3**	**+0.7**
UNV	**Unalaska Valle**	**1.75**	**279**	P		**Pn**	**05 09 54.7**	**-0.1**
UNV				S		**Sn**	**05 10 17.3**	**+0.3**
SDPT	**Sand Point**	**2.53**	**45**	P		**Pn**	**05 10 06.8**	**+1.3**
SDPT				S		**Sn**	**05 10 36.3**	**+0.3**
CHGN	**Chignik**	**4.03**	**46**	*e*P		**Pn**	**05 10 27.0**	**+0.9**
KDAK	**Kodiak Island**	**7.50**	**52**	Pn		**Pn**	**05 11 11.8**	**-2.0**
	0.3nm,0.3s,baz=290,slow=15,SNR=11							
KDAK				Sn		**Sn**	**05 12 32.7**	**-5.9**
	1.0nm,0.3s,baz=332,slow=18,SNR=7.1							
COLA	**College**	**13.83**	**29**↓	*e*P		**Pn**	**05 12 40.5**	**+0.1**
DAWY	**Dawson**	**16.21**	**40**	*e*P		**Pn**	**05 13 16.9**	**+4.6**
BILL	**Bilibino**	**20.31**	**327**↑	*e*P		**P**	**05 13 59.5**	**-0.9**
INK	**Inuvik**	**20.42**	**32**	P		**P**	**05 14 00.8**	**-0.7**
	1.4nm,0.6s,baz=246,slow=10,SNR=3.7							
INK	**Inuvik**	**20.42**	**32**	*e*P		**P**	**05 14 04.8**	**+3.3**
	293nm,1.1s							
YKA	**Yellowknife Ar**	**26.78**	**51**	P		**P**	**05 15 05.3**	**+1.0**
	0.8nm,0.7s,mb3.4,baz=268,slow=7.5,SNR=4.3							
YKA				S		**S**	**05 19 40.5**	**+0.7**
	0.8nm,0.9s,baz=262,slow=6.6,SNR=2.8							
YKA	**Yellowknife Ar**	**26.78**	**51**	P		**P**	**05 15 05.3**	**+1.0**
YKA				S		**S**	**05 19 40.5**	**+0.7**
TIXI	**Tiksi**	**33.52**	**328**↓	*e*P		**P**	**05 16 03.0**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,11nm,2.5s,mb4.3							
PDAR	**Pinedale Array**	**36.77**	**85**	P		**P**	**05 16 32.8**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.3,baz=325,slow=4.2,SNR=3.6							
MNTX	**Cornudas Mount**	**46.56**	**94**	*e*P		**P**	**05 17 52.7**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7							
TXAR	**Lajitas Array**	**49.29**	**95**	P		**P**	**05 18 13.8**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=299,slow=5.2,SNR=10							
ULN	**Ulaanbaatar**	**53.27**	**303**	*e*P		**P**	**05 18 42.8**	**-0.3**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**53.27**	**303**	*e*P		**P**	**05 18 42.8**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.4							
SONM	**Songino Array**	**53.62**	**303**	P		**P**	**05 18 45.5**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=41,slow=7.8,SNR=11							
WVT	**Waverly**	**53.84**	**76**	*e*P		**P**	**05 18 46.9**	**-0.4**
WVT				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
WVT	**Waverly**	**53.84**	**76**	*e*P		**P**	**05 18 46.9**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.3							
KURK	**Kurchatov**	**63.70**	**321**↑	*e*P		**P**	**05 19 56.3**	**+0.4**
KURK	**Kurchatov**	**63.70**	**321**	*e*P		**P**	**05 19 56.0**	**+0.1**
	comp=Z,3.7nm,1.0s,mb4.4							
BRVK	**Borovoye**	**64.66**	**327**	*e*P		**P**	**05 20 01.9**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**64.66**	**327**	*e*P		**P**	**05 20 01.9**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.2							
FINES	**FINESS Array B**	**65.05**	**355**	P		**P**	**05 20 02.2**	**-2.6**
	comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=14,SNR=6.1							
FINES	**FINESS Array B**	**65.05**	**355**	P		**P**	**05 20 02.2**	**-2.6**
ZRNK	**Zerenda**	**65.16**	**328**	*e*P		**P**	**05 20 05.4**	**0.0**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
ZRNK	**Zerenda**	**65.16**	**328**	*e*P		**P**	**05 20 05.3**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**65.42**	**316**	P		**P**	**05 20 06.1**	**-1.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=52,slow=7.9,SNR=4.5							
MKAR	**Makanchi Array**	**65.42**	**316**↑	*e*P		**P**	**05 20 06.9**	**-0.2**
NB2	**NORSAR Subarra**	**65.64**	**3**	P		**P**	**05 20 07.4**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.3,baz=358,slow=6.9							
NOA	**NORSAR Array B**	**65.64**	**3**	P		**P**	**05 20 07.8**	**-0.8**
	comp=Z,2.5nm,0.9s,mb4.2,baz=357,slow=6.7,SNR=4.0							
CD2	**Chengdu**	**67.25**	**291**	*e*P		**P**	**05 20 18.5**	**-0.4**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
AKTK	**Aktyubinsk**	**70.60**	**333**	P		**P**	**05 20 39.5**	**-0.2**
AKTO	**Aktyubinsk**	**70.60**	**333**	P		**P**	**05 20 39.5**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=14,slow=3.1,SNR=14							
AAK	**Ala-Archa**	**71.99**	**319**↑	*e*P		**P**	**05 20 48.0**	**-0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**71.99**	**319**	*e*P		**P**	**05 20 47.6**	**-0.5**
	comp=Z,2.7nm,1.0s,mb4.1							
AKASG	**Malin Array Be**	**75.52**	**352**	P		**P**	**05 21 07.0**	**-1.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=14,slow=5.9,SNR=4.1							
AKASG	**Malin Array Be**	**75.52**	**352**	*i* P		**P**	**05 21 08.8**	**0.0**
GERES	**GERESS Array B**	**77.91**	**2**	P		**P**	**05 21 22.3**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=14,slow=2.8,SNR=4.0							
BR131	**Keskin Array S**	**85.87**	**347**	*e*P		**P**	**05 22 05.4**	**+1.2**
BRTR	**Keskin Array B**	**85.87**	**347**	P		**P**	**05 22 04.8**	**+0.6**
	comp=Z,1.8nm,1.0s,mb4.3,baz=37,slow=2.3,SNR=6.4							

IDC 29 05:11:36.3± 2.2, 228N×12753E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=157.9km s-min=26.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.08**	**163**	P		P	05 16 44.0	+0.5
	1.0nm,0.4s,baz=343,slow=10,SNR=18							
ASAR	**Alice Springs**	**26.53**	**167**	P		P	05 17 15.2	-0.4
	0.3nm,0.5s,baz=353,slow=7.5,SNR=5.5							
MKAR	**Makanchi Array**	**59.19**	**325**	P		P	05 21 39.6	+0.5
	0.3nm,0.4s,baz=106,slow=8.0,SNR=4.7							

MOS ***29*** *05:28:23.3± 1.5, 2207N×143.14E, h33km, mb4.4/4, Error ellipse: s-maj=33.5km s-min=15.4km az=109.8*
ISCJB ***29*** *05:28:25.9± 0.8, 219N± 0.1× 1430E± 02, h47km, mb3.9/12, Error ellipse: s-maj=27.6km s-min=13.5km az=155.0*
NEIC ***29*** *05:28:27.5± 0.6, 2193N×14308E, mb4.2/3, Error ellipse: s-maj=24.2km s-min=12.6km az=81.0*
IDC ***29*** *05:28:27.3± 1.1, 2190N×143.18E, h47km± 8km, mb3.6/9, mb1 3.8/9, mb1mx3.7/20, mbtmp3.6/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=29.6km s-min=19.3km az=75.0*

ISC 29 05:28:27.9± 0.8, 219N± 01×1431E± 02, h49km, h49km± 1.9km:pP-P, n20, σ0§93/19, mb3.9/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**15.57**	**318**	LR		LR	05 37 13.8	
	comp=Z,142nm,18.1s,baz=268,slow=34							
KSRS	**Korea Array**	**20.32**	**323**	P		**P**	**05 33 01.5**	**+1.7**
	3.4nm,0.7s,baz=135,slow=10,SNR=9.4							
KLR	**Kul'dur**	**28.72**	**344**	*e*P		**P**	**05 34 16.2**	**-4.3**
SONM	**Songino Array**	**39.15**	**320**	P		**P**	**05 35 50.5**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=128,slow=6.5,SNR=11							
SONM				pP		pP	05 36 03.9	+0.2
	0.8nm,0.5s,baz=130,slow=7.5,SNR=4.4							
ZAK	**Zakamensk**	**42.15**	**322**	*e*P		**P**	**05 36 10.1**	**-5.4**
ZAK				*e*			05 36 15.3	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.8							
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P		**P**	**05 36 18.7**	**+0.6**
WRAB				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.1							
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P		**P**	**05 36 18.7**	**+0.6**
	comp=Z,5.3nm,1.1s,mb4.1							
WRA	**Warramunga Arr**	**42.48**	**192**	P		**P**	**05 36 17.7**	**-0.5**
	comp=Z,1.7nm,0.9s,mb3.7,baz=12,slow=8.7,SNR=7.5							
ASAR	**Alice Springs**	**46.19**	**192**	P		**P**	**05 36 48.0**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=20,slow=10,SNR=5.2							
ZAL	**Zalesovo**	**54.02**	**322**	P		**P**	**05 37 46.2**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=3.2,slow=6.7,SNR=8.6							
MKAR	**Makanchi Array**	**54.52**	**313**	P		**P**	**05 37 51.3**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.8,baz=84,slow=15,SNR=3.0							
MKAR				pP		pP	05 38 03.7	-0.5
	comp=Z,0.3nm,0.5s,baz=93,slow=7.8,SNR=1.8							
MKAR	**Makanchi Array**	**54.52**	**313**	P		**P**	**05 37 51.3**	**+0.5**
MKAR				pP		pP	05 38 03.7	-0.5
AAK	**Ala-Archa**	**60.00**	**307**	*e*P		**P**	**05 38 29.4**	**-0.1**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**60.00**	**307**	*e*P		**P**	**05 38 29.4**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.1							
BRVK	**Borovoye**	**62.54**	**319**	*e*P		**P**	**05 38 46.7**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.4							
BRVK	**Borovoye**	**62.54**	**319**	*e*P		**P**	**05 38 46.7**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.3							
YKA	**Yellowknife Ar**	**76.29**	**28**	P		**P**	**05 40 10.4**	**-1.1**
	comp=Z,4.2nm,1.2s,mb4.2,baz=292,slow=5.7,SNR=4.4							
YKA				pP		pP	05 40 23.8	-1.7
	comp=Z,0.8nm,0.7s,baz=292,slow=5.9,SNR=4.3							
YKA	**Yellowknife Ar**	**76.29**	**28**	P		**P**	**05 40 10.4**	**-1.1**
YKA				pP		pP	05 40 23.8	-1.7
NVAR	**Mina Array Bea**	**83.05**	**51**	P		**P**	**05 40 49.6**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=248,slow=7.8,SNR=3.7							
BRTR	**Keskin Array B**	**90.16**	**313**	P		**P**	**05 41 21.4**	**-1.5**
	comp=Z,0.7nm,0.8s,mb4.0,baz=76,slow=5.2,SNR=4.0							

MOS ***29*** *05:32:40.7± 0.8, 4433N×14988E, h33km, mb4.6/5, Error ellipse: s-maj=31.1km s-min=18.6km az=16.5*
NEIC ***29*** *05:32:53.8± 0.9, 4503N×14751E, h10km, mb4.1/2, Error ellipse: s-maj=24.4km s-min=12.3km az=147.0*
ISCJB ***29*** *05:32:60.0± 0.9, 4430N± 008×1478E± 0.1, h114km± 6km, mb4.0/15, Error ellipse: s-maj=15.6km s-min=9.5km az=93.5*
SKHL ***29*** *05:33:00.2± 2.0, 4420N×14820E, h66km± 4km, mb5.3/2*
JMA ***29*** *05:33:02.5± 0.3, 4407N×14777E, h90km, M4.1*
IDC ***29*** *05:33:04.6± 3.3, 4439N×14760E, h133km± 30km, mb3.6/11, mb1 3.7/12, mb1mx3.6/24, mbtmp3.6/12, Error ellipse: s-maj=22.3km s-min=20.1km az=139.0*

ISC 29 05:33:00.3± 0.8, 4437N± 007×1478E± 01, h100km± 4km, n48, σ1§18/62, mb4.0/15, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.86**	**2**↑	*i*P		**Pn**	**05 33 17.8**	**-1.4**
KUR				AMB	AMB		05 33 18.3	
	460nm,0.5s							
KUR				AMB	AMB		05 33 18.3	
	1μm,0.5s							
KUR				*i* S		**Sn**	**05 33 32.5**	**-0.9**
KUR				A			05 33 33.7	
	4μm,0.5s							
KUR				A			05 33 33.7	
	4μm,0.5s							
KUR				A			05 33 37.0	
	2μm,1.6s							
KUR	**Kuril'sk**	**0.86**	**2**↑	*i*PN		**Pn**	**05 33 17.8**	**-1.4**
KUR				*i* S		**Sn**	**05 33 32.5**	**-0.9**
KUR				pmax	pmax			
	comp=N,460nm,0.5s							
KUR				pmax	pmax			
	comp=E,460nm,0.5s							
KUR				pmax	pmax			
	comp=Z,1μm,0.5s							
KUR				smax				
	comp=N,4μm,0.5s							
KUR				smax				
	comp=E,4μm,0.5s							
KUR				smax				
	comp=N,2μm,1.6s							
YUK	**Yuzh-Kuril'sk**	**1.45**	**257**	*e*P		**Pn**	**05 33 26.5**	**+0.6**
YUK				AMB	AMB		05 33 27.5	
	comp=N,210nm,0.1s							
YUK				AMB	AMB		05 33 27.5	
	comp=N,2μm,0.4s							
YUK				*i* S		**Sn**	**05 33 44.8**	**-0.5**
YUK				A			05 33 48.0	
	comp=N,3μm,0.4s							
YUK				A			05 33 48.0	
	comp=N,3μm,0.4s							
YUK				A			05 33 48.0	
	comp=N,5μm,1.0s							
YUK				A			05 33 48.0	
	comp=N,6μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**1.45**	**257**	*e*PN		**Pn**	**05 33 26.5**	**+0.6**
YUK				pmax	pmax			
	comp=Z,2μm,0.4s							
YUK				pmax	pmax			
	comp=N,210nm,0.2s							
NEM2	**Nemuro 2**	**1.81**	**237**	P		**Pn**	**05 33 30.3**	**0.0**
NEM2				*e*S		**Sn**	**05 33 50.8**	**-2.4**
JRA	**Rausu**	**1.99**	**258**	P		**Pn**	**05 33 34.0**	**+1.3**
JRA				*e*S		**Sn**	**05 33 58.7**	**+1.3**
JNK	**Nakash**	**2.37**	**252**	P		**Pn**	**05 33 38.9**	**+1.2**
JAK	**Akkeshi**	**2.65**	**240**	P		**Pn**	**05 33 41.3**	**0.0**
JAK				*e*S		**Sn**	**05 34 10.6**	**-2.3**
JTKR	**Abashiri--Toko**	**2.84**	**263**	P		**Pn**	**05 33 45.2**	**+1.3**
JTKR				*e*S		**Sn**	**05 34 19.3**	**+1.8**
JAR	**Ashorobuto**	**3.12**	**251**	P		**Pn**	**05 33 48.9**	**+1.3**
JAR				*e*S		**Sn**	**05 34 25.2**	**+1.1**
JKK2	**Kamakawa 2**	**3.69**	**264**	P		**Pn**	**05 33 57.2**	**+2.0**
JCH	**Churui**	**3.69**	**243**	P		**Pn**	**05 33 55.4**	**+0.2**
JCH				*e*S		**Sn**	**05 34 35.2**	**-2.5**
ASAJ	**Asahikawa**	**3.76**	**268**	P		**Pn**	**05 33 58.6**	**+2.4**
	comp=N,3.2nm,0.3s,baz=58,slow=9.5,SNR=4.4							
ASAJ	**Asahikawa**	**3.76**	**268**	PN		**Pn**	**05 33 58.7**	**+2.5**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ERM	**Erimo**	**4.14**	**237**	*e*Pn		**Pn**	**05 34 00.7**	**-0.7**
ERM				*e*Pg		**Pn**	**05 34 16.0**	**+15**
ERM				*e*Sn		**Sn**	**05 34 47.7**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.25**	**242**	P		**Pn**	**05 34 02.5**	**-0.2**
JNBK				*e*S		**Sn**	**05 34 47.7**	**-3.5**
YSS	**Yuzh-Sakhalins**	**4.39**	**308**	*e*P		**Pn**	**05 34 04.0**	**-0.7**
JKB	**Kayabe**	**5.55**	**246**	P		**Pn**	**05 34 20.7**	**+0.3**
JKB				*e*S		**Sn**	**05 35 19.0**	**-3.9**
JOT	**Ohata**	**5.80**	**241**	P		**Pn**	**05 34 23.5**	**-0.3**
JOT				*e*S		**Sn**	**05 35 22.6**	**-6.4**
YAK	**Yakutsk**	**20.63**	**335**	*e*P		**P**	**05 37 26.1**	**-5.5**
YAK				pmax	pmax			
	comp=Z,24nm,0.6s							
SONM	**Songino Array**	**28.69**	**292**	P		**P**	**05 38 48.1**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.6,baz=86,slow=8.6,SNR=7.4							
SONM	**Songino Array**	**28.69**	**292**	P		**P**	**05 38 48.1**	**+0.4**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
IMA2	**Indian Mountai**	**37.89**	**34**	*e*P		**P**	**05 40 08.7**	**+1.1**
MK31	**Makanchi Array**	**44.73**	**297**	*i* P		**P**	**05 41 04.1**	**+0.6**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.4							
MKAR	**Makanchi Array**	**44.73**	**297**	P		**P**	**05 41 03.8**	**+0.3**
	comp=Z,2.8nm,0.5s,mb4.2,baz=78,slow=9.7,SNR=21							
MKAR	**Makanchi Array**	**44.73**	**297**	*i* P		**P**	**05 41 04.3**	**+0.8**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
INK	**Inuvik**	**45.62**	**31**	P		**P**	**05 41 11.8**	**+1.3**
	comp=Z,1.9nm,0.3s,mb4.2,baz=296,slow=6.9,SNR=14							
INK	**Inuvik**	**45.62**	**31**	P		**P**	**05 41 11.9**	**+1.3**
INK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
INK	**Inuvik**	**45.62**	**31**	*e*P		**P**	**05 41 11.9**	**+1.3**
	comp=Z,50nm,0.3s							
ZRNK	**Zerenda**	**50.28**	**309**	*e*P		**P**	**05 41 45.5**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.1							
AAK	**Ala-Archa**	**51.53**	**295**	*e*P		**P**	**05 41 55.8**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.2							
RES	**Resolute Bay**	**54.23**	**17**	*e*P		**P**	**05 42 15.0**	**-0.7**
	comp=Z,105nm,0.8s							
YKA	**Yellowknife Ar**	**55.02**	**34**	P		**P**	**05 42 22.7**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=302,slow=6.9,SNR=4.2							
AKTK	**Aktyubinsk**	**57.50**	**311**	P		**P**	**05 42 38.7**	**-0.3**
AKTO	**Aktyubinsk**	**57.50**	**311**	P		**P**	**05 42 38.7**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=71,slow=10,SNR=3.7							
KEV	**Kevo**	**58.30**	**339**	*ep*		**P**	**05 42 42.8**	**-1.8**
ARCES	**ARCESS Array B**	**58.84**	**340**	P		**P**	**05 42 46.7**	**-1.6**
	comp=Z,4.3nm,0.8s,mb4.5,baz=46,slow=7.2,SNR=19							
ARCES	**ARCESS Array B**	**58.84**	**340**	P		**P**	**05 42 46.7**	**-1.6**
KAF	**Kangasniemi**	**63.98**	**334**	*ep*		**P**	**05 43 21.6**	**-1.3**
	baz=42,slow=6.2							
FINES	**FINESS Array B**	**64.54**	**333**	P		**P**	**05 43 25.7**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.3,baz=44,slow=7.6,SNR=16							
WRA	**Warramunga Arr**	**65.17**	**194**	P		**P**	**05 43 30.9**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=13,slow=7.0,SNR=2.6							
NB2	**NORSAR Subarra**	**69.20**	**339**	P		**P**	**05 43 55.9**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.20**	**339**	P		**P**	**05 43 56.0**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.1

BHPL				*e*S		**Sn**	**05 43 08.7 -2.4**
BHPL				AML		AML	05 43 31.4
	comp=N,162nm,0.4s						
BHPL				AML		AML	05 43 31.7
	comp=E,509nm,0.5s						
THN	**Thein Dam**	**4.97**	**350**	*e*P		**Pn**	**05 42 30.8 +1.3**
THN				*ex*		x	05 43 52.6
DLH	**Dalhousie**	**5.04**	**353**	*ex*		x	05 42 39.0
DLH				*ex*		x	05 43 47.0
JBP	**Jabalpur**	**5.25**	**145**	*i* P		**Pg**	**05 42 53.8 -1.0**
JBP				*i* S		**Sg**	**05 43 56.0 -6.7**
SARP	**Sargodha**	**5.62**	**322**	||P	**Pn**	**05 42 27.4 -11**
SARP				S		**Sn**	**05 43 38.0 -5.4**
NGP	**Nagpur**	**6.69**	**161**	*e*P		**Pn**	**05 42 52.9 -0.3**
NGP				*e*S		**Sn**	**05 44 05.8 -3.9**
NGP				*ex*		x	05 44 42.3
	comp=N,58nm,0.3s						
THW	**Thamme Wali**	**6.79**	**322**	P		**Pn**	**05 42 54.0 -0.6**
AKL	**Akola**	**6.80**	**178**	*e*P		**Pn**	**05 42 54.9 +0.3**
AKL				*e*S		**Sn**	**05 44 07.1 -5.2**
AKL				AML		AML	05 44 54.7
	comp=E,90nm,0.5s						
AKL				AML		AML	05 44 55.7
	comp=N,92nm,0.5s						
CHCP	**Chirah Chowk**	**6.80**	**335**	P		**Pn**	**05 42 59.6 +4.9**
BHV	**Bhavnagar**	**7.10**	**217**	*ex*		x	05 42 42.0
CEP	**Cherat**	**7.52**	**328**	P		**Pn**	**05 43 04.4 -0.2**
CEP				S		**Sn**	**05 44 25.0 -5.2**
BHJ	**Bhuj**	**7.68**	**238**	*ex*		**Sn**	**05 44 34.2 +0.1**
BOK	**Bokaro**	**9.06**	**112**	*i* S		**Sn**	**05 45 01.2 -6.8**
LATR	**Latur**	**9.07**	**181**	*ex*		x	05 44 50.9
BOM	**Bombay**	**9.31**	**204**	*ex*		**Sn**	**05 45 16.7 +2.6**
BOM				*ex*		x	05 45 16.9
	comp=Z,63nm,0.6s						
BOM				*ex*		x	05 46 00.0
POO	**Poona**	**9.34**	**197**	*ex*		x	05 44 59.0
LSA	**Lhasa**	**12.86**	**77**	Pn		**Pn**	**05 44 17.4 -0.2**
AAK	**Ala-Archa**	**15.18**	**354**	*e*P		**Pn**	**05 44 52.2 +2.9**
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**19.73**	**11**	P		**Pn**	**05 45 44.0 -2.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**19.73**	**11**	P		**Pn**	**05 45 44.0 -2.1**
KURK	**Kurchatov**	**23.20**	**3**	P		**P**	**05 46 25.6 +3.6**
	comp=Z,5.5nm,1.2s,mb3.9						
BVAR	**Borovoye Array**	**25.91**	**351**	P		**P**	**05 46 48.1 +1.0**
	comp=Z,0.7nm,0.6s,mb3.4,baz=162,slow=9.8,SNR=2.8						
AKTK	**Aktyubinsk**	**26.96**	**333**	P		**P**	**05 46 59.5 +2.8**
AKTO	**Aktyubinsk**	**26.96**	**333**	P		**P**	**05 46 59.5 +2.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=125,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**51.25**	**339**	P		**P**	**05 50 17.5 -1.4**
	comp=Z,4.0nm,1.0s,mb4.3,baz=102,slow=8.4,SNR=3.7						
WRA	**Warramunga Arr**	**73.04**	**124**	P		**P**	**05 52 43.4 -1.8**
	comp=Z,0.2nm,0.5s,mb3.3,baz=318,slow=5.6,SNR=6.2						
WRAB	**Tennant Creek**	**73.05**	**124**	*e*P		**P**	**05 52 43.8 -1.4**
	comp=Z,2.1nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**75.06**	**127**	P		**P**	**05 52 55.5 -1.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=319,slow=5.2,SNR=4.2						

NEIC ***29*** *05:44:59.4, 1659N×94.10W, h111km, MD3.9(MEX), After MEX.*

MEX 29 05:44:59.3±1.1, 1659N×9409W, h113km±20km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.48**	**348**	*i*	P		Pn	05 45 24.4	-1.6
TUIG				*i*	S		Sn	05 45 44.7	-1.5
CCIG	**Comitan**	**1.90**	**99**	*i*	P		Pn	05 45 30.8	-0.4
CCIG				*i*	S		Sn	05 45 54.2	-1.3
HUIG	**Huatulco**	**2.10**	**248**	*i*	P		Pn	05 45 31.4	-2.3
HUIG				*i*	S		Sn	05 45 59.1	-0.8
HUIG	**Huatulco**	**2.10**	**248**	*i*	P		Pn	05 45 31.4	-2.3
HUIG				*i*	S		Sn	05 45 59.2	-0.7
OXX	**Oaxaca**	**2.57**	**281**	*i*	P		Pn	05 45 40.0	+0.3
OXX				*i*	S		Sn	05 46 07.0	-3.7
VHO	**Vista Hermosa**	**2.58**	**281**	*i*	P		Pn	05 45 39.9	+0.1
VHO				*i*	S		Sn	05 46 10.0	-0.9
TPIG	**Tehuac#an**	**3.61**	**301**	*i*	P		Pn	05 45 52.9	-0.6
TPIG				*i*	S		Sn	05 46 34.2	-1.2
UTMO	**Huajuapan**	**3.76**	**290**	*i*	P		Pn	05 45 55.5	+0.1
UTMO				*i*	S		Sn	05 46 37.5	-1.3
IIO	**Organos**	**5.32**	**305**	*i*	P		Pn	05 46 21.0	+4.6
IIO				*i*	S		Sn	05 47 18.9	+2.3
PLIG	**Platanillo**	**5.47**	**290**	*i*	P		Pn	05 46 18.9	+0.5
PLIG				*i*	S		Sn	05 47 17.1	-2.9
TEIG	**Tepich**	**6.60**	**56**	*i*	P		Pn	05 46 30.8	-3.0
TEIG				*i*	S		Sn	05 47 44.6	-3.0
TEIG	**Tepich**	**6.60**	**56**	*i*	P		Pn	05 46 30.0	-3.8
TEIG				*i*	S		Sn	05 47 41.7	-5.9

IDC 29 05:45:01.1±1.5, 2186N×14315E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, MS3.8/1, Ms1 3.8/1, ms1mx2.5/26, Error ellipse: s-maj=55.9km s-min=31.0km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.20**	**320**	P			P	05 52 31.1	+0.3
	0.4nm,0.5s,baz=113,slow=6.0,SNR=5.0								
ASAR	**Alice Springs**	**46.13**	**192**	P			P	05 53 27.3	+0.2
	0.2nm,0.5s,baz=16,slow=11,SNR=5.2								
AFI	**Afiamalu**	**56.72**	**125**	LR			LR	06 15 18.6	
	comp=Z,86nm,20.7s,baz=77,slow=32								
BVAR	**Borovoye Array**	**62.53**	**319**	P			P	05 55 26.2	-0.3
	0.7nm,0.5s,baz=75,slow=9.5,SNR=5.0								
YKA	**Yellowknife Ar**	**76.33**	**28**	P			P	05 56 51.8	0.0
	0.2nm,0.4s,baz=291,slow=5.7,SNR=4.3								

ISCJB ***29*** *05:53:54.8±0.9, 218N±0.1×1429E±0.3, h100km, mb4.0/14, Error ellipse: s-maj=37.9km s-min=10.8km az=148.3*
IDC ***29*** *05:53:55.9±9.0, 2183N×14299E, h97km±82km, mb3.6/10, mb1 3.8/10, mb1mx3.6/22, mbtmp3.6/10, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=44.5km s-min=14.8km az=74.0*
NEIC ***29*** *05:54:07.2±0.6, 2177N×14278E, h200km, mb3.9/6, Error ellipse: s-maj=27.8km s-min=9.2km az=73.0*

ISC 29 05:53:56.7±6.9, 219N±01×1430E±03, h102km±62km, n19, σ0§66/17, mb4.0/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.28**	**323**	P			**P**	**05 58 24.4**	**+0.2**
	3.4nm,0.7s,baz=144,slow=10,SNR=9.9								
ULN	**Ulaanbaatar**	**38.73**	**321**	*e*P			**P**	**06 01 10.8**	**-0.1**
	1.7nm,0.8s,mb3.9								
SONM	**Songino Array**	**39.10**	**320**	P			**P**	**06 01 13.1**	**-0.8**
	1.5nm,0.8s,mb3.9,baz=128,slow=8.1,SNR=16								
CTA	**Charters Tower**	**41.81**	**175**	P			**P**	**06 01 37.8**	**+1.5**
	1.0nm,0.3s,mb4.0,baz=15,slow=6.8,SNR=4.2								
CTAO	**Charters Tower**	**41.81**	**175**	*e*P			**P**	**06 01 36.9**	**+0.6**
	5.8nm,1.0s,mb4.3								
WRAB	**Tennant Creek**	**42.39**	**192**	*e*P			**P**	**06 01 41.2**	**+0.3**
	3.9nm,1.2s,mb4.0								
WRA	**Warramunga Arr**	**42.40**	**192**	P			**P**	**06 01 40.8**	**-0.3**
	1.2nm,0.9s,mb3.6,baz=17,slow=9.2,SNR=7.5								
WRA				LR			LR	06 16 58.8	
	comp=Z,28nm,20.4s,baz=130,slow=33								
ASAR	**Alice Springs**	**46.11**	**192**	P			**P**	**06 02 08.6**	**-2.0**
	0.6nm,0.7s,mb3.4,baz=17,slow=9.6,SNR=6.7								
ASAR				LR			LR	06 20 16.1	
	comp=Z,39nm,18.4s,baz=357,slow=34								
STKA	**Stephens Creek**	**53.45**	**181**	*e*P			**P**	**06 03 06.8**	**+0.6**
ZAL	**Zalesovo**	**53.98**	**322**	P			**P**	**06 03 10.7**	**+0.6**
	1.8nm,0.3s,mb4.5,baz=153,slow=2.3,SNR=7.8								
MKAR	**Makanchi Array**	**54.46**	**313**	P			**P**	**06 03 13.9**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=94,slow=11,SNR=4.0								
KURK	**Kurchatov**	**57.24**	**317**	*e*P			**P**	**06 03 33.2**	**-0.1**
	2.7nm,0.9s,mb4.3								
AAK	**Ala-Archa**	**59.93**	**307**	*e*P			**P**	**06 03 52.0**	**0.0**
	2.0nm,0.9s,mb4.2								
BVAR	**Borovoye Array**	**62.44**	**319**	P			**P**	**06 04 08.8**	**-0.2**
	2.7nm,0.7s,mb4.4,baz=92,slow=8.0,SNR=18								
BRVK	**Borovoye**	**62.50**	**319**	*e*P			**P**	**06 04 09.7**	**+0.3**
	4.9nm,1.0s,mb4.5								
YKA	**Yellowknife Ar**	**76.39**	**28**	P			**P**	**06 05 34.4**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=293,slow=5.9,SNR=5.5								
BRTR	**Keskin Array B**	**90.11**	**313**	P			**P**	**06 06 45.6**	**+0.4**
	0.6nm,0.8s,mb3.8,baz=48,slow=2.0,SNR=4.0								
LPAZ	**La Paz**	**150.10**	**85**	PKPbc			PKPbc	06 13 36.4	+1.0
	1.2nm,0.8s,baz=357,slow=1.7,SNR=4.5								
LPAZ	**La Paz**	**150.10**	**85**	PKPbc			PKPbc	06 13 36.4	+1.0

CSEM ***29*** *06:23:08.5±0.1, 3905N×2776E, h12km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.3km az=46.0*
ISK ***29*** *06:23:08.2, 3908N×2773E, h7km, MD3.4*
NEIC ***29*** *06:23:08.4, 3906N×2773E, h12km, MD3.4(ISK), MD3.7(ATH), After ISK.*
ISCJB ***29*** *06:23:08.4±0.2, 3906N±002×27.77E±002, h7km, Error ellipse: s-maj=2.3km s-min=2.2km az=145.7*
ATH ***29*** *06:23:09.3, 3900N×2779E, h41km±4km, MD3.7/3*
SOF ***29*** *06:23:10.3, 3931N×2770E, h10km, MD3.0*

ISC 29 06:23:09.1±0.3, 3908N±002×2774E±002, h8km±3km, n70, σ1§01/93, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.20**	**163**	*i*	PG		**Pg**	**06 23 12.9**	**-0.4**
BTOK	**Tokmak**	**0.72**	**18**	*i*	P		**Pg**	**06 23 22.8**	**-0.3**
BTOK				*i*	S		**Sg**	**06 23 33.0**	**+0.6**
KDAG	**Bornova**	**0.77**	**209**	*i*	P		**Pg**	**06 23 22.9**	**-0.9**
KDAG				*i*	S		**Sg**	**06 23 35.7**	**+1.9**
AYVA	**Ayvalik**	**0.85**	**286**	*i*	P		**Pg**	**06 23 26.0**	**+0.6**
AYVA				*i*	S		**Sg**	**06 23 38.4**	**+2.0**
DST	**Dursunbey**	**0.87**	**52**	*i*	PG		**Pg**	**06 23 25.2**	**-0.7**
BLCB	**Balcova**	**0.88**	**218**	*i*	PG		**Pg**	**06 23 25.5**	**-0.5**
BLCB	**Balcova**	**0.88**	**218**	*e*	P		**Pg**	**06 23 25.6**	**-0.4**
CANB	**Canakkale**	**1.07**	**331**	*i*	PG		**Pg**	**06 23 29.5**	**-0.3**
CANB				*i*	SG		**Sg**	**06 23 43.6**	**-0.1**
CANB	**Canakkale**	**1.07**	**331**	*i*	P		**Pg**	**06 23 29.1**	**-0.6**
CANB				*i*	S		**Sg**	**06 23 44.3**	**+0.6**
URLA	**Izmir**	**1.14**	**232**	*i*	P		**Pg**	**06 23 30.1**	**-1.0**
URLA				*i*	S		**Sg**	**06 23 46.6**	**+0.7**
PRK	**Paraskevi**	**1.15**	**279**	*e*	P		**Pg**	**06 23 31.2**	**0.0**
PRK				*e*	S		**Sg**	**06 23 47.1**	**+0.9**
EDC	**Edincik**	**1.27**	**4**	*i*	PN		**Pn**	**06 23 32.9**	**-0.3**
KCT	**Karacabey**	**1.28**	**22**	*i*	PN		**Pn**	**06 23 32.7**	**-0.6**
BNT	**Bandirma**	**1.29**	**6**	*i*	PN		**Pn**	**06 23 33.0**	**-0.4**
EZN	**Ezine**	**1.32**	**305**		PN		**Pn**	**06 23 33.7**	**-0.2**
GDZ	**Gediz**	**1.36**	**89**	*i*	P		**Pn**	**06 23 34.4**	**0.0**
GDZ				*i*	S		**Sb**	**06 23 51.6**	**-0.7**
BOZC	**Bozcaada**	**1.51**	**301**	*i*	P		**Pn**	**06 23 35.9**	**-0.6**
BOZC				*i*	S		**Sg**	**06 24 00.0**	**+2.3**
ULDT	**Uludag**	**1.52**	**45**	*i*	P		**Pn**	**06 23 35.8**	**-0.8**
ULDT				*i*	S		**Sn**	**06 23 56.9**	**+0.4**
SMG	**Samos**	**1.54**	**208**	*e*	P		**Pn**	**06 23 35.1**	**-1.7**
KHL	**Karahalli**	**1.59**	**118**		PN		**Pn**	**06 23 37.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.67**	**345**		PN		**Pn**	**06 23 38.6**	**0.0**
SART	**Tekirdag**	**1.67**	**345**	*i*	P		**Pn**	**06 23 38.7**	**0.0**
SART				*i*	S		**Sn**	**06 24 01.6**	**+1.4**
DNZL	**Cakiroluk**	**1.72**	**143**	*i*	P		**Pg**	**06 23 44.8**	**+2.6**
DNZL				*i*	S		**Sg**	**06 24 12.0**	**+7.5**
MFT	**Murefte**	**1.75**	**349**		PN		**Pn**	**06 23 40.5**	**+0.8**
GEMT	**Gemlik**	**1.76**	**39**		PN		**Pn**	**06 23 39.5**	**-0.4**
MLSB	**Milas**	**1.78**	**179**	*e*	PN		**Pn**	**06 23 40.8**	**+0.7**
IZI	**Iznik**	**1.84**	**46**		PN		**Pn**	**06 23 40.5**	**-0.5**
ALT	**Altintas**	**1.85**	**90**	*e*	PN		**Pn**	**06 23 40.6**	**-0.5**
YLV	**Yalova**	**1.95**	**40**	*e*	PN		**Pn**	**06 23 43.4**	**+0.9**
YER	**Yerkesik**	**1.98**	**167**	*e*	PN		**Pn**	**06 23 42.5**	**-0.5**
BDRM	**Kayabasi**	**2.02**	**187**	*i*	P		**Pn**	**06 23 41.6**	**-1.8**
BDRM				*i*	S		**Sg**	**06 24 13.4**	**-0.6**
ADVT	**Abdulvahap**	**2.05**	**48**	*e*	PN		**Pn**	**06 23 44.6**	**+0.6**
BADT	**Buyukada**	**2.07**	**30**	*e*	PN		**Pn**	**06 23 43.5**	**-0.6**
CTT	**Catalca**	**2.14**	**14**	*e*	PN		**Pn**	**06 23 44.4**	**-0.7**
LOS	**Limnos**	**2.23**	**294**	*e*	P		**Pn**	**06 23 46.7**	**+0.3**
ISK	**Istanbul-Kandi**	**2.23**	**27**	*e*	P		**Pn**	**06 23 45.0**	**-1.3**
ISK	**Istanbul-Kandi**	**2.23**	**27**	*e*	P		**Pn**	**06 23 45.0**	**-1.4**
ALN	**Alexandroupoli**	**2.24**	**325**	*e*	P		**Pn**	**06 23 46.7**	**+0.2**
BORA	**Eskisehir**	**2.25**	**68**	*i*	P		**Pn**	**06 23 48.6**	**+1.9**
BORA				*i*	S		**Sg**	**06 24 20.3**	**-1.2**
SHUT	**Suhut-Afyon**	**2.26**	**102**	*e*	PN		**Pn**	**06 23 46.8**	**0.0**
TKTP	**Tekketepe**	**2.27**	**116**	*i*	P		**Pn**	**06 23 46.3**	**-0.7**
TKTP				*i*	S		**Sg**	**06 24 30.7**	**+8.5**
HRT	**Hereke**	**2.29**	**40**	*e*	PN		**Pn**	**06 23 47.9**	**+0.7**
GOLH	**Golhisar**	**2.33**	**141**	*i*	P		**Pn**	**06 23 47.2**	**-0.6**
GOLH				*i*	S		**Sg**	**06 24 25.2**	**+1.2**
DAT	**Datca**	**2.35**	**183**	*e*	PN		**Pn**	**06 23 48.7**	**+0.7**
KLYT	**Kilyos**	**2.39**	**24**	*e*	PN		**Pn**	**06 23 47.9**	**-0.7**
DALT	**Dalyan (Mudla)**	**2.41**	**163**	*e*	PN		**Pn**	**06 23 49.2**	**+0.4**
ESKT	**Eskisehir**	**2.46**	**79**	*i*	P		**Pb**	**06 23 53.7**	**+0.2**
ESKT				*i*	S		**Sg**	**06 24 27.6**	**-0.4**
ESKT	**Eskisehir**	**2.46**	**79**	*e*	Pn		**Pn**	**06 23 50.6**	**+1.1**
ISP	**Isparta**	**2.50**	**119**	*e*	PN		**Pn**	**06 23 50.5**	**+0.4**
ISP	**Isparta**	**2.50**	**119**	*e*	Pn		**Pn**	**06 23 49.4**	**-0.7**
ISP				*e*	Pg		**Pg**	**06 23 56.7**	**-0.3**
APE	**Apeiranthos**	**2.65**	**222**	*e*	P		**Pn**	**06 23 50.4**	**-1.8**
APE	**Apeiranthos**	**2.65**	**222**	*i*	P		**Pg**	**06 23 59.0**	**-1.0**
FETY	**Fethiye**	**2.66**	**156**	*e*	PN		**Pn**	**06 23 51.9**	**-0.4**
RDO	**Rodhopi**	**2.67**	**322**	*e*	P		**Pn**	**06 23 52.9**	**+0.5**
EDRB	**Edirne**	**2.87**	**345**	*e*	PN		**Pn**	**06 23 56.0**	**+0.8**
HENT	**Hendek**	**2.99**	**53**	*i*	P		**Pn**	**06 23 58.2**	**+1.3**
HENT				*i*	S		**Sg**	**06 24 46.2**	**+0.9**
KDZ	**Kurdzhali**	**3.12**	**326**		P		**Sg**	**06 23 58.1**	**+0.9**
KDZ					Sg		**Sg**	**06 24 47.4**	**-2.0**
OUR	**Ouranopolis**	**3.16**	**295**	*e*	P		**Pn**	**06 23 57.3**	**-1.8**
RZN	**Rozhen**	**3.48**	**319**	*e*	P		**Pn**	**06 24 03.0**	**-0.6**
JMB	**Yambol**	**3.50**	**346**	*e*	Sg		**Sg**	**06 24 59.7**	**-1.8**
SGKT	**Sivrigoynuk**	**3.65**	**64**	*i*	P		**Pn**	**06 24 07.7**	**+1.8**
SGKT				*i*	S		**Sg**	**06 25 07.4**	**+1.1**
NVR	**Nevrokopi**	**3.74**	**309**	*e*	P		**Pn**	**06 24 08.3**	**+1.2**
MMB	**Musomiste**	**3.96**	**311**		P		**Pn**	**06 24 11.0**	**+0.8**
ANTO	**Ankara**	**3.99**	**77**	*e*	Pg		**Pg**	**06 24 25.1**	**-0.5**
ANTO				*e*	Sg		**Sg**	**06 25 21.4**	**+4.0**
ANTO	**Ankara**	**3.99**	**77**	*e*	Pg		**Pg**	**06 24 25.1**	**-0.5**
ANTO				*e*	Sg		**Sg**	**06 25 21.4**	**+4.0**
PRD	**Provadia**	**4.13**	**357**	*e*	Sg		**Sg**	**06 25 18.0**	**-3.7**
PVL	**Pavlikeni**	**4.52**	**337**	*e*	P		**Pn**	**06 24 20.0**	**+2.2**
VTS	**Vitosha**	**4.91**	**317**		Sg		**Sg**	**06 25 45.4**	**-1.5**
VTS	**Vitosha**	**4.91**	**317**	*i*	P		**Sg**	**06 25 44.7**	**-2.2**
MLR	**Muntele Rosu**	**6.55**	**349**	*i*	P		**Pn**	**06 24 52.8**	**+7.1**

STR ***29*** *06:26:58.6±0.1, 4301N×000E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 29 06:26:58.1±0.1, 4304N×002W, h9km, Md1.8/3, Ml1.6/2, Error ellipse: s-maj=2.8km s-min=1.2km az=173.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**84**	Pg			Pg	06 27 00.6	+0.4
LABF				Sg			Sg	06 27 02.0	+0.3
VIEF	**Viey**	**0.16**	**168**	Pg			Pg	06 27 01.7	+0.2
VIEF				Sg			Sg	06 27 04.1	+0.2
EPF	**Esparros**	**0.27**	**92**	*e*Pg			Pg	06 27 03.2	-0.2
EPF				*e*Sg			Sg	06 27 07.1	+0.1
	4.9nm,0.2s								
ETSF	**Etsaut**	**0.42**	**250**	*e*Pg			Pg	06 27 06.6	+0.3
ETSF				*e*Sg			Sg	06 27 11.9	+0.1
	4.0nm,0.2s								
SJPF	**Ste Jean**	**0.88**	**275**	*e*Pg			Pg	06 27 14.5	-0.6
SJPF				*e*Sg			Sg	06 27 26.1	-0.5
	1.3nm,0.3s								
MTLF	**Montolieu**	**1.67**	**79**	*e*Pg			Pg	06 27 29.3	-0.7
MTLF				*e*Sg			Sg	06 27 50.5	-1.1
	1.7nm,0.3s								

NEIC ***29*** *06:52:22.5, 3784N×2095E, h20km, ML3.7(ATH), After ATH.*

ATH 29 06:52:22.5, 3784N×2095E, h20km±2km, MD3.5/7, ML3.7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.46**	**62**	*e*P	B		Pb	06 52 31.5	-0.5
RLS				*e*S	B		Sb	06 52 38.7	+0.3
ITM	**Ithomi**	**1.02**	**130**	*e*P	N		Pn	06 52 42.5	+0.9
ITM				*e*S	N		Sn	06 52 55.8	+0.5
EVR	**Evrytania**	**1.27**	**32**		PN		Pn	06 52 46.7	+1.6
LKR	**Lokris**	**1.81**	**63**	*e*P	N		Pn	06 52 54.4	+2.0
KEK	**Kerkira**	**2.08**	**335**	*e*P	N		Pn	06 52 58.3	+2.1
ATH	**Athens Observa**	**2.19**	**86**	*e*P	N		Pn	06 53 00.0	+2.2
NEO	**Neokhori**	**2.31**	**50**	*e*P	B		Pb	06 53 02.0	-1.4

ISCJB ***29*** *06:53:29.9±0.5, 2906N±003×5264E±003, h11km±3km, mb4.0/4, MS3.6/3, Error ellipse: s-maj=5.2km s-min=4.2km az=67.2*
THR ***29*** *06:53:29.5±0.3, 2899N×5238E, h14km±4km, ML3.6*
CSEM ***29*** *06:53:29.8±0.1, 2905N×5263E, h12km, ML3.6, Error ellipse: s-maj=3.4km s-min=2.5km az=73.0*
NEIC ***29*** *06:53:29.9, 2899N×5240E, h15km, mb3.3/1, ML3.6(THR), After THR.*
IDC ***29*** *06:53:29.7±4.9, 2912N×5254E, h0km, mb4.1/4, mb1 4.0/5, mb1mx3.6/24, mbtmp4.0/5, ML3.4/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/40, Error ellipse: s-maj=102.8km s-min=32.7km az=124.0*
TEH ***29*** *06:53:30.0, 2895N×5267E, h8km, Mn3.6*
KISR ***29*** *06:53:31.3±0.4, 2887N×5258E, h34km, ML3.5*

ISC 29 06:53:31.0±0.5, 2907N±003×5263E±003, h5km±4km, n42, σ1§09/55, mb4.0/4, MS3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**0.08**	**106**	*e*P	g		**Pg**	**06 53 31.5**	**-1.2**
IMOK				*e*S	g		**Sg**	**06 53 33.1**	**-0.8**
ISRV	**Sarvestan**	**0.53**	**53**	*e*P	g		**Pg**	**06 53 39.8**	**-1.3**
ISRV				*e*S	g		**Sg**	**06 53 48.4**	**+0.4**
SHI	**Shiraz**	**0.58**	**350**	*e*P	g		**Pg**	**06 53 41.9**	**-0.3**
SHI				*e*S	g		**Sg**	**06 53 51.9**	**+2.1**
GHIR	**Ghir-Karzin**	**0.84**	**158**	*e*P	g		**Pg**	**06 53 46.2**	**-0.9**
GHIR				*e*S	g		**Sg**	**06 53 58.5**	**+0.5**
GHIR				AML		AML		06 54 10.5	
	comp=N,2μm,0.5s								
GHIR	**Ghir-Karzin**	**0.84**	**158**	*e*Pg			**Pg**	**06 53 46.0**	**-1.1**
GHIR				*e*Sg			**Sg**	**06 53 58.5**	**+0.5**
	SNR=90								
IPAR	**Pars**	**0.85**	**25**	*e*Pg			**Pg**	**06 53 45.5**	**-1.9**
IPAR				*e*Sg			**Sg**	**06 53 59.3**	**+0.8**
IKAZ	**Kazeroon**	**0.99**	**316**	*e*Pg			**Pg**	**06 53 49.8**	**-0.2**
IMEH	**Mehriz**	**2.88**	**36**	*e*Pn			**Pn**	**06 54 19.8**	**+2.2**
ISAD	**Sadrabad**	**2.98**	**18**	*e*Pn			**Pn**	**06 54 20.0**	**+1.3**
ISAD				*e*Sn			**Sn**	**06 54 55.0**	**0.0**
ICHK	**Chekchek**	**3.52**	**25**	*e*Pn			**Pn**	**06 54 26.0**	**-0.3**
BNDS	**Bandar-Abbas**	**3.54**	**117**	*e*Pn			**Pn**	**06 54 28.6**	**+2.0**
BNDS				AML		AML		06 55 45.2	
	comp=E,74nm,0.4s								
BNDS	**Bandar-Abbas**	**3.54**	**117**	*e*Pn			**Pn**	**06 54 28.0**	**+1.4**
IBAF	**Bafgh**	**3.57**	**45**	*e*Pn			**Pn**	**06 54 27.6**	**+0.5**
IBAF				*e*Sn			**Sn**	**06 55 07.8**	**-1.9**
KRBR	**Kerman**	**3.71**	**75**	*e*Pn			**Pn**	**06 54 32.0**	**+3.1**
KRBR				*e*Sg			**Sg**	**06 55 32.1**	**+1.9**
KRBR				AML		AML		06 55 38.7	
	comp=N,82nm,0.5s								
KRBR				AML		AML		06 55 41.7	
	comp=E,93nm,0.8s								
KRBR	**Kerman**	**3.71**	**75**	*e*Pn			**Pn**	**06 54 32.0**	**+3.0**
	SNR=52								
KRBR				*e*Sg			**Sg**	**06 55 32.2**	**+1.9**
	SNR=90								
NASN	**Na'in**	**3.72**	**2**	*e*Pn			**Pn**	**06 54 30.1**	**+1.0**
NASN	**Na'in**	**3.72**	**2**	*e*Pn			**Pn**	**06 54 30.0**	**+0.9**
IZEF	**Zefreh**	**3.83**	**356**	*e*Pn			**Pn**	**06 54 31.0**	**+0.5**
IZEF				*e*Sn			**Sn**	**06 55 15.5**	**-0.4**
IPIR	**Pirpir**	**3.90**	**338**	*e*

GNL	**Ganaly**	**2.44**	**262**	*e*P	Pn	07 07 00.4	+2.6
GNL				*i* S	Sn	07 07 30.5	+3.5
GNL	**Ganaly**	**2.44**	**262**	*e*P	Pn	07 07 00.4	+2.6
GNL				*i* S	Sn	07 07 30.5	+3.5
BDR	**Baidarnaya**	**2.51**	**350**	P	Pn	07 07 01.4	+2.7
BDR				*i* S	Sn	07 07 31.8	+3.3
BDR	**Baidarnaya**	**2.51**	**350**	P	Pn	07 07 01.4	+2.7
BDR				*i* S	Sn	07 07 31.8	+3.3
SRDR	**Sredinnyy**	**2.57**	**330**	*e*P	Pn	07 07 01.0	+1.4
SRDR				*i* S	Sn	07 07 32.2	+2.0
SRDR	**Sredinnyy**	**2.57**	**330**	*e*P	Pn	07 07 01.0	+1.4
SRDR				*i* S	Sn	07 07 32.2	+2.0
SRKR	**Sorokina**	**2.59**	**350**	P	Pn	07 07 00.8	+0.9
SRKR				*i* S	Sn	07 07 31.0	+0.3
SRKR	**Sorokina**	**2.59**	**350**	P	Pn	07 07 00.8	+0.9
SRKR				*i* S	Sn	07 07 31.0	+0.3
RUS	**Russkaya**	**2.69**	**233**	*e*P	Pn	07 07 02.7	+1.5
RUS				*e*S	Sn	07 07 34.4	+1.3
RUS	**Russkaya**	**2.69**	**233**	*e*P	Pn	07 07 02.7	+1.5
RUS				*e*S	Sn	07 07 34.4	+1.3
GRL	**Gorelyy**	**2.83**	**238**	P	Pn	07 07 06.1	+2.9
GRL				*i* S	Sn	07 07 40.6	+4.1
GRL	**Gorelyy**	**2.83**	**238**	P	Pn	07 07 06.1	+2.9
GRL				*i* S	Sn	07 07 40.6	+4.1

*ISCJB **29** 07:09:26.4±1.5, 78S±0.1×1230E±0.1, h202km±13km, mb4.3/4, Error ellipse: s-maj=23.9km s-min=11.7km az=113.5*

*NEIC **29** 07:09:29.5±2.2, 787S×12294E, h213km±22km, mb4.5/6, Error ellipse: s-maj=20.4km s-min=15.9km az=72.0*

*IDC **29** 07:09:33.4±3.7, 819S×12264E, h255km±41km, mb3.4/2, mb1 3.7/5, mb1mx3.3/15, mbtmp3.5/5, Error ellipse: s-maj=106.8km s-min=15.1km az=58.0*

ISC 29 07:09:31.5±1.4, 80S±0.1×1230E±0.1, h226km±13km, n15, σ0§88/22, mb4.3/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.37**	**166**	*e*P		**Pn**		**07 11 55.2**	**+0.2**
	11nm,0.8s								
FITZ				*e*S		**S**		**07 13 49.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.37**	**166**	P		**Pn**		**07 11 55.3**	**+0.3**
	0.6nm,0.3s,baz=6.5,slow=9.2,SNR=15								
FITZ				S		**S**		**07 13 51.1**	**-0.2**
	1.7nm,0.3s,baz=199,slow=6.4,SNR=8.3								
KAKA	**Kakadu**	**10.41**	**118**	*e*P		**Pn**		**07 11 54.3**	**-1.2**
	29nm,0.4s								
WRA	**Warramunga Arr**	**16.18**	**138**	P		**P**		**07 13 06.0**	**+0.3**
	1.0nm,0.3s,baz=311,slow=13,SNR=66								
WRA				S		**S**		**07 15 57.7**	**-6.0**
	0.1nm,0.3s,baz=315,slow=19,SNR=4.1								
WRAB	**Tennant Creek**	**16.18**	**138**	*e*P		**P**		**07 13 06.0**	**+0.3**
	5.1nm,0.7s								
WRAB				*e*S		**S**		**07 16 04.5**	**+0.9**
WB2	**Warramunga Arr**	**16.19**	**138**	*e*P		**P**		**07 13 05.9**	**+0.1**
WB2				*e*S		**S**		**07 16 00.8**	**-3.0**
ASPA	**Alice Springs**	**18.77**	**147**	*e*P		**P**		**07 13 34.8**	**+1.0**
ASPA				*e*S		**S**		**07 16 54.9**	**-0.3**
AS31	**Alice Springs**	**18.77**	**147**	*e*P		**P**		**07 13 34.8**	**+1.0**
AS31				*e*S		**S**		**07 16 54.9**	**-0.3**
ASAR	**Alice Springs**	**18.77**	**147**	P		**P**		**07 13 34.9**	**+1.1**
	1.4nm,0.3s,baz=335,slow=13,SNR=74								
ASAR				S		**S**		**07 16 55.2**	**0.0**
	0.0nm,0.3s,baz=317,slow=19,SNR=7.8								
FORT	**Forrest**	**23.16**	**169**	*e*P		**P**		**07 14 18.1**	**+0.2**
	16nm,0.8s,mb4.6								
KLBR	**Kellerberrin**	**23.98**	**191**	*e*P		**P**		**07 14 25.1**	**-0.3**
	115nm,1.9s,mb5.2								
STKA	**Stephens Creek**	**29.40**	**146**	*e*P		**P**		**07 15 14.2**	**+0.4**
	2.9nm,0.6s,mb4.1								
STKA	**Stephens Creek**	**29.40**	**146**	P		**P**		**07 15 14.2**	**+0.5**
	2.3nm,0.3s,mb4.2,baz=311,slow=9.6,SNR=8.0								
MKAR	**Makanchi Array**	**65.45**	**330**	P		**P**		**07 19 48.9**	**-1.2**
	0.5nm,0.8s,mb3.2,baz=146,slow=6.3,SNR=4.5								
MIV	**Mineville/With**	**141.27**	**19**	*e*Pdif		Pdif		07 25 48.2	-6.0

*ISCJB **29** 07:11:30.5±2.0, 18S±0.1×1022E±0.2, h190km±18km, mb4.0/13, Error ellipse: s-maj=31.3km s-min=15.1km az=94.8*

*NEIC **29** 07:11:31.9±1.6, 190S×102.18E, h189km±15km, mb3.8/1, Error ellipse: s-maj=22.4km s-min=11.4km az=46.0*

*IDC **29** 07:11:32.0±2.8, 192S×102.14E, h188km±26km, mb3.7/13, mb1 3.8/14, mb1mx3.6/23, mbtmp3.7/14, Error ellipse: s-maj=22.0km s-min=12.1km az=51.0*

ISC 29 07:11:31.7±2.0, 18S±0.1×1022E±0.2, h182km±18km, n18, σ0§70/17, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.63**	**324**	P		**Pn**		**07 12 53.7**	**-0.1**
	1.2nm,0.3s,baz=174,slow=8.8,SNR=7.8								
WRA	**Warramunga Arr**	**36.20**	**122**	P		**P**		**07 18 16.6**	**-0.1**
	1.3nm,0.4s,mb3.9,baz=297,slow=12,SNR=4.0								
ASAR	**Alice Springs**	**37.60**	**128**	P		**P**		**07 18 28.6**	**-0.1**
	2.8nm,0.5s,mb4.2,baz=303,slow=7.9,SNR=16								
CTA	**Charters Tower**	**46.68**	**116**	P		**P**		**07 19 41.8**	**-0.2**
	1.0nm,0.3s,mb3.9,baz=270,slow=8.1,SNR=3.4								
SONM	**Songino Array**	**49.55**	**4**	P		**P**		**07 20 06.9**	**+2.9**
	3.9nm,0.4s,mb4.3,baz=187,slow=9.7,SNR=32								
MKAR	**Makanchi Array**	**51.46**	**343**	P		**P**		**07 20 18.9**	**+0.7**
	2.0nm,0.4s,mb4.1,baz=159,slow=8.6,SNR=27								
MKAR	**Makanchi Array**	**51.46**	**343**	P		**P**		**07 20 18.9**	**+0.7**
ZAL	**Zalesovo**	**57.39**	**348**	P		**P**		**07 21 01.4**	**+0.4**
	1.5nm,0.3s,mb4.2,baz=325,slow=6.8,SNR=5.2								
BVAR	**Borovoye Array**	**60.78**	**339**	P		**P**		**07 21 23.8**	**-0.4**
	1.5nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=9.0								
AKTK	**Aktyubinsk**	**64.26**	**330**	P		**P**		**07 21 46.6**	**-0.6**
AKTO	**Aktyubinsk**	**64.26**	**330**	P		**P**		**07 21 46.6**	**-0.6**
	0.9nm,0.4s,mb4.0,baz=135,slow=2.9,SNR=6.4								
MATP	**Matopo**	**74.14**	**249**	P		**P**		**07 22 48.9**	**+0.9**
	2.6nm,0.5s,mb4.2,baz=90,slow=5.4,SNR=9.1								
BR131	**Keskin Array S**	**74.83**	**312**	*e*P		**P**		**07 22 51.5**	**-0.4**
	1.4nm,0.7s,mb3.7								
BRTR	**Keskin Array B**	**74.83**	**312**	P		**P**		**07 22 51.5**	**-0.5**
	1.9nm,0.7s,mb3.8,baz=146,slow=7.2,SNR=9.7								
BOSA	**Boshof**	**77.71**	**241**	P		**P**		**07 23 08.5**	**+0.3**
	1.4nm,0.5s,mb3.8,baz=151,slow=21,SNR=4.5								
AKASG	**Malin Array Be**	**80.69**	**322**	P		**P**		**07 23 23.8**	**-0.5**
	0.2nm,0.3s,mb3.2,baz=95,slow=3.9,SNR=2.5								
ARCES	**ARCESS Array B**	**87.03**	**340**	P		**P**		**07 23 56.0**	**-0.4**
	3.5nm,1.0s,mb4.2,baz=97,slow=5.3,SNR=4.9								
TXAR	**Lajitas Array**	**143.15**	**39**	PKP		PKPdf		07 30 43.0	-0.9
	0.4nm,0.4s,baz=234,slow=0.7,SNR=15								

*ISCJB **29** 07:22:49.7±0.2, 4666N±001×8106W±002, h0km, mb3.6/3, Error ellipse: s-maj=1.9km s-min=1.6km az=109.2*

*IDC **29** 07:22:54.1±1.0, 4644N×8117W, h0km, mb3.6/4, mb1 4.2/7, mb1mx3.8/25, mbtmp4.0/7, ML3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/40, Error ellipse: s-maj=17.6km s-min=11.9km az=97.0*

*OTT **29** 07:22:55.2±0.1, 4648N×8118W, h2km, MN4.1/20*

OTT Mining event, Sudbury. Felt. 6km northeast from Lively, Ontario Felt. Felt in the Sudbury, On region. Mining induced.

*NEIC **29** 07:22:55.1, 4648N×81.17W, h1km, MN4.1(OTT), After OTT.*

NEIC Felt [III] at Sudbury. Also felt at Valley East.

ISC 29 07:22:52.5±0.2, 4662N±001×8105W±002, h0km, n152, σ1§61/340, mb3.6/3, 1C-5D, Ontario

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SSNO	**Creighton Mine**	**0.17**	**214**	⇓P		**Pg**		**07 22 55.5**	**-0.4**
SSNO					SG	**Sg**		**07 22 55.8**	**-2.3**
SSNO					Trac			07 22 55.8	
	comp=Z,20μm,0.0s								
SUNO	**Sudbury Onapin**	**0.21**	**278**	⇑P		**Pg**		**07 22 58.7**	**+2.2**
SUNO					SG	**Sg**		**07 23 01.2**	**+2.1**
SUNO					Trac			07 23 01.6	
	comp=Z,3μm,0.1s								
RSPO	**Restoule Provi**	**1.04**	**121**	⇓P		**Pg**		**07 23 14.2**	**+1.7**
RSPO					SG	**Sg**		**07 23 28.0**	**+1.9**
RSPO					Trac			07 23 29.7	
	comp=Z,450nm,0.2s								
HSMO	**Haileybury Sch**	**1.21**	**51**	PG		**Pg**		**07 23 19.8**	**+4.0**
HSMO					SG	**Sg**		**07 23 36.3**	**+4.9**
HSMO					Trac			07 23 40.4	
	comp=Z,881nm,0.1s								
HSMO	**Haileybury Sch**	**1.21**	**51**	Pg		**Pg**		**07 23 19.8**	**+4.0**
HSMO					Sg	**Sg**		**07 23 36.3**	**+4.9**
EEO	**Eldee**	**1.36**	**88**	PG		**Pg**		**07 23 21.1**	**+2.4**
EEO					SG	**Sg**		**07 23 39.9**	**+3.6**
EEO					Trac			07 23 43.7	
	comp=Z,1μm,0.1s								
EEO	**Eldee**	**1.36**	**88**	Pg		**Pg**		**07 23 21.1**	**+2.4**
EEO					Sg	**Sg**		**07 23 39.9**	**+3.6**
KLBO	**Killbear Provi**	**1.39**	**155**	⇓PG		**Pg**		**07 23 18.5**	**-0.6**
KLBO					SG	**Sg**		**07 23 34.6**	**-2.5**
KLBO					Trac			07 23 36.6	
	comp=Z,336nm,0.1s								
KLBO	**Killbear Provi**	**1.39**	**155**	Pg		**Pg**		**07 23 18.5**	**-0.6**
KLBO					Sg	**Sg**		**07 23 34.6**	**-2.5**
TOBO	**Tobermory, Bru**	**1.43**	**194**	⇓PG		**Pg**		**07 23 18.0**	**-1.9**
TOBO					SG	**Sg**		**07 23 33.7**	**-4.8**
TOBO					Trac			07 23 36.2	
	comp=Z,458nm,0.2s								
TOBO	**Tobermory, Bru**	**1.43**	**194**	Pg		**Pg**		**07 23 18.0**	**-1.9**
TOBO					Sg	**Sg**		**07 23 33.7**	**-4.8**
BUKO	**Buck Lake**	**1.64**	**135**	⇓PG		**Pg**		**07 23 23.6**	**-0.5**
BUKO					SG	**Sg**		**07 23 44.4**	**-0.9**
BUKO					Trac			07 23 46.8	
	comp=Z,163nm,0.1s								
BUKO	**Buck Lake**	**1.64**	**135**	Pg		**Pg**		**07 23 23.6**	**-0.5**
BUKO					Sg	**Sg**		**07 23 44.4**	**-0.9**
TIMO	**Timmins Ontari**	**1.86**	**355**	PN		**Pn**		**07 23 29.4**	**+3.7**
TIMO					SN	**Sn**		**07 23 55.2**	**+5.3**
TIMO					Trac			07 23 57.8	
	comp=Z,1μm,0.3s								
TIMO	**Timmins Ontari**	**1.86**	**355**	Pn		**Pn**		**07 23 29.4**	**+3.7**
TIMO					Sn	**Sn**		**07 23 55.2**	**+5.3**
KILO	**Kirkland Lake**	**2.09**	**25**	PN		**Pn**		**07 23 31.7**	**+3.0**
KILO					PG	**Pg**		**07 23 34.8**	**+2.3**
KILO					SG	**Sg**		**07 24 03.7**	**+4.1**
ALGO	**Algonquin Park**	**2.18**	**107**	PG		**Pg**		**07 23 33.4**	**-1.0**
ALGO					SG	**Sg**		**07 24 02.9**	**+0.2**
ALGO					Trac			07 24 09.1	
	comp=Z,1μm,0.1s								
ALGO	**Algonquin Park**	**2.18**	**107**	Pg		**Pg**		**07 23 33.4**	**-1.0**
ALGO					Sg	**Sg**		**07 24 02.9**	**+0.2**
CLWO	**Collingwood**	**2.23**	**166**	PN		**Pn**		**07 23 32.3**	**+1.5**
CLWO					SN	**Sn**		**07 23 58.6**	**-0.4**
CLWO					SG	**Sg**		**07 24 01.6**	**-2.6**
CLWO					Trac			07 24 03.3	
	comp=Z,968nm,0.2s								
CLWO	**Collingwood**	**2.23**	**166**	Pn		**Pn**		**07 23 32.3**	**+1.5**
CLWO					Sn	**Sn**		**07 23 58.6**	**-0.4**
SADO	**Sadowa**	**2.28**	**143**	PN		**Pn**		**07 23 32.9**	**+1.5**
SADO					SG	**Sg**		**07 24 02.2**	**-3.6**
SADO					Trac			07 24 03.6	
	comp=Z,623nm,0.2s								
SADO	**Sadowa**	**2.28**	**143**	Pn		**Pn**		**07 23 32.9**	**+1.5**
BRCO	**Bruce Peninsul**	**2.39**	**187**	PN		**Pn**		**07 23 33.6**	**+0.7**
BRCO					SN	**Sn**		**07 24 02.7**	**-0.1**
BRCO					Trac			07 24 08.1	
	comp=Z,804nm,0.2s								
CRLO	**Chalk River**	**2.61**	**101**	PN		**Pn**		**07 23 39.0**	**+3.1**
CRLO					SN	**Sn**		**07 24 14.3**	**+6.0**
CRLO					SG	**Sg**		**07 24 18.0**	**+1.6**
CRLO					Trac			07 24 20.6	
	comp=Z,298nm,0.2s								
CRLO	**Chalk River**	**2.61**	**101**	Pn		**Pn**		**07 23 39.0**	**+3.1**
CRLO					Sn	**Sn**		**07 24 14.3**	**+6.0**
BANO	**Bancroft**	**2.70**	**125**	PN		**Pn**		**07 23 39.0**	**+1.8**
BANO					SN	**Sn**		**07 24 12.6**	**+2.0**
BANO					Trac			07 24 19.6	
	comp=Z,138nm,0.1s								
BANO	**Bancroft**	**2.70**	**125**	Pn		**Pn**		**07 23 39.0**	**+1.8**
BANO					Sn	**Sn**		**07 24 12.6**	**+2.0**
PEMO	**Pembroke**	**2.80**	**108**	PN		**Pn**		**07 23 41.2**	**+2.6**
PEMO					SN	**Sn**		**07 24 17.7**	**+4.6**
PEMO					Trac			07 24 23.6	
	comp=Z,327nm,0.2s								
PEMO	**Pembroke**	**2.80**	**108**	Pn		**Pn**		**07 23 41.2**	**+2.6**
PEMO					Sn	**Sn**		**07 24 17.7**	**+4.6**
VLDQ	**Val d'Or**	**2.87**	**57**	PN		**Pn**		**07 23 41.2**	**+1.7**
VLDQ					PG	**Pg**		**07 23 45.8**	**-1.7**
VLDQ					SN	**Sn**		**07 24 15.2**	**+0.5**
VLDQ					SG	**Sg**		**07 24 23.0**	**-1.6**
VLDQ					Trac			07 24 25.4	
	comp=Z,320nm,0.2s								
VLDQ	**Val d'Or**	**2.87**	**57**	Pn		**Pn**		**07 23 41.2**	**+1.7**
VLDQ					Pg	**Pg**		**07 23 45.8**	**-1.7**
VLDQ					Sn	**Sn**		**07 24 15.2**	**+0.5**
VLDQ					Sg	**Sg**		**07 24 23.0**	**-1.6**
PKRO	**Pickering**	**3.00**	**152**	PN		**Pn**		**07 23 42.8**	**+1.5**
PKRO					SN	**Sn**		**07 24 18.0**	**+0.2**
PKRO					Trac			07 24 27.9	
	comp=Z,862nm,0.2s								
PKRO	**Pickering**	**3.00**	**152**	Pn		**Pn**		**07 23 42.8**	**+1.5**
PKRO					Sn	**Sn**		**07 24 18.0**	**+0.2**
KAPO	**Kapuskasing**	**3.00**	**341**	PN		**Pn**		**07 23 44.5**	**+3.1**
KAPO					SN	**Sn**		**07 24 20.3**	**+2.7**
KAPO					SG	**Sg**		**07 24 28.3**	**-0.7**
KAPO					Trac			07 24 32.3	
	comp=Z,165nm,0.2s								
ACTO	**Acton**	**3.09**	**167**	PN		**Pn**		**07 23 43.3**	**+0.8**
ACTO					SN	**Sn**		**07 24 20.2**	**+0.1**
ACTO					Trac			07 24 28.1	
	comp=Z,294nm,0.2s								
ACTO	**Acton**	**3.09**	**167**	Pn		**Pn**		**07 23 43.3**	**+0.8**
ACTO					Sn	**Sn**		**07 24 20.2**	**+0.1**
PLVO	**Plevna**	**3.19**	**118**	PN		**Pn**		**07 23 45.8**	**+1.8**
PLVO					SN	**Sn**		**07 24 23.6**	**+0.8**
PLVO					SG	**Sg**		**07 24 33.6**	**-1.5**
PLVO					Trac			07 24 41.9	
	comp=Z,122nm,0.2s								
DELO	**Deloro Mine**	**3.19**	**130**	PN		**Pn**		**07 23 45.5**	**+1.5**
DELO					SN	**Sn**		**07 24 22.2**	**-0.6**
DELO					SG	**Sg**		**07 24 30.6**	**-4.6**
DELO					Trac			07 24 38.1	
	comp=Z,236nm,0.3s								
DELO	**Deloro Mine**	**3.19**	**130**	Pn		**Pn**		**07 23 45.5**	**+1.5**
DELO					Sn	**Sn**		**07 24 22.2**	**-0.6**
WLVO	**Wesleyville**	**3.28**	**144**	PN		**Pn**		**07 23 46.4**	**+1.3**
WLVO					SN	**Sn**		**07 24 24.0**	**-0.9**
WLVO					SG	**Sg**		**07 24 30.5**	**-7.4**
WLVO					Trac			07 24 40.2	
	comp=Z,485nm,0.3s								
RD01	**Burlington**	**3.32**	**165**	PN		**Pn**		**07 23 47.0**	**+1.3**
RD01					SN	**Sn**		**07 24 26.4**	**+0.6**
RD01					Trac			07 24 39.0	
	comp=Z,521nm,0.3s								
RD02	**Waterdown**	**3.40**	**165**	PN		**Pn**		**07 23 48.4**	**+1.5**
RD02					PG	**Pg**		**07 23 52.0**	**-5.8**
RD02					SN	**Sn**		**07 24 28.9**	**+0.9**
RD02					SG	**Sg**		**07 24 34.7**	**-7.2**
RD02					Trac			07 24 42.0	
	comp=Z,226nm,0.2s								
MALO	**McAlpine Lake**	**3.52**	**14**	PN		**Pn**		**07 23 51.2**	**+2.7**
MALO					PG	**Pg**		**07 24 01.0**	**+1.0**
MALO					SN	**Sn**		**07 24 33.9**	**+3.1**
MALO					SG	**Sg**		**07 24 47.6**	**+2.0**
MALO					Trac			07 24 51.2	
	comp=Z,154nm,0.2s								
RD03	**Mount Hope**	**3.52**	**167**	PN		**Pn**		**07 23 49.8**	**+1.3**
RD03					SN	**Sn**		**07 24 32.8**	**+2.0**
GRQ	**Grand Remous**	**3.58**	**88**	PN		**Pn**		**07 23 52.1**	**+2.9**
GRQ					PG	**Pg**		**07 23 59.3**	**-1.8**
GRQ					SN	**Sn**		**07 24 35.0**	**+2.8**
GRQ					SG	**Sg**		**07 24 46.9**	**-0.6**
GRQ					Trac			07 24 53.1	
	comp=Z,255nm,0.3s								
OTRO	**Otter Rapids**	**3.59**	**354**	PN		**Pn**		**07 23 52.8**	**+3.3**
OTRO					PG	**Pg**		**07 23 59.8**	**-1.5**
OTRO					SN	**Sn**		**07 24 34.6**	**+2.0**
OTRO					SG	**Sg**		**07 24 47.6**	**-0.3**
OTRO					Trac			07 24 51.7	
	comp=Z,191nm,0.1s								
RD04	**Stoney Creek**	**3.59**	**164**	PN		**Pn**		**07 23 50.2**	**+0.8**
RD04					PG	**Pg**		**07 23 54.9**	**-6.5**
RD04					SN	**Sn**		**07 24 32.3**	**-0.3**
RD04					SG	**Sg**		**07 24 41.7**	**-6.3**
RD04					Trac			07 24 42.0	
	comp=Z,222nm,0.3s								
TYNO	**Tyneside**	**3.62**	**166**	PN		**Pn**		**07 23 51.7**	**+1.9**
TYNO					PG	**Pg**		**07 23 55.2**	**-6.7**
TYNO					SN	**Sn**		**07 24 31.6**	**-1.7**
TYNO					SG	**Sg**		**07 24 45.5**	**-3.3**
TYNO					Trac			07 24 52.1	
	comp=Z,194nm,0.2s								
STCO	**Saint Catharin**	**3.66**	**158**	PN		**Pn**		**07 23 51.5**	**+1.2**
STCO					SN	**Sn**		**07 24 30.9**	**-3.3**
STCO					SG	**Sg**		**07 24 41.6**	**-8.5**
STCO					Trac			07 24 43.6	
	comp=Z,334nm,0.2s								
EFO	**Effingham**	**3.73**	**160**	PN		**Pn**		**07 23 52.7**	**+1.3**
EFO					SN	**Sn**		**07 24 35.0**	**-1.1**
EFO					SG	**Sg**		**07 24 42.7**	**-10**
EFO					Trac			07 24 51.9	
	comp=Z,354nm,0.4s								
MPPO	**Murphy's Point**	**3.83**	**117**	PN		**Pn**		**07 23 54.2**	**+1.5**
MPPO					SN	**Sn**		**07 24 40.0**	**+1.6**
MPPO					SG	**Sg**		**07 24 49.2**	**-6.3**
MPPO					Trac			07 24 56.8	
	comp=Z,191nm,0.3s								
MEDO	**Medina**	**3.91**	**151**	PN		**Pn**		**07 23 55.0**	**+1.1**
MEDO					SN	**Sn**		**07 24 40.9**	**+0.5**
MEDO					SG	**Sg**		**07 24 54.1**	**-4.2**
MEDO					Trac			07 24 57.4	
	comp=Z,372nm,0.3s								
OTT	**Ottawa**	**3.91**	**106**	PN		**Pn**		**07 23 56.3**	**+2.5**
OTT					PN	**Pn**		**07 23 56.6**	**+2.7**
OTT					PG	**Pg**		**07 24 03.0**	**-4.5**
OTT					PG	**Pg**		**07 24 03.1**	**-4.4**
OTT					SN	**Sn**		**07 24 41.1**	**+0.6**
OTT					SN	**Sn**		**07 24 41.4**	**+0.9**
OTT					SG	**Sg**		**07 24 55.0**	**-3.2**
OTT					SG	**Sg**		**07 24 55.7**	**-2.5**
OTT					Trac			07 25 00.4	
	comp=Z,149nm,0.2s								
OTT					Trac			07 25 00.6	
	comp=Z,229nm,0.3s								
PECO	**Prince Edward**	**3.92**	**132**	PN		**Pn**		**07 23 55.1**	**+1.1**
PECO					SN	**Sn**		**07 24 41.3**	**+0.6**
PECO					SG	**Sg**		**07 24 51.4**	**-7.1**
PECO					Trac			07 24 56.9	
	comp=Z,191nm,0.2s								
GAC	**Glen Almond**	**3.98**	**101**	PN		**Pn**		**07 23 56.7**	**+1.9**
GAC					PN	**Pn**		**07 23 57.1**	**+2.3**
GAC					SN	**Sn**		**07 24 41.6**	**-0.5**
GAC					SN	**Sn**		**07 24 43.8**	**+1.7**
GAC					SG	**Sg**		**07 24 56.9**	**-3.4**
GAC					SG	**Sg**		**07 24 59.0**	**-1.3**
GAC					Trac			07 25 04.0	
	comp=Z,273nm,0.5s								
GAC					Trac			07 25 05.6	
	comp=Z,159nm,0.2s								
KGNO	**Kingston**	**4.00**	**125**	PN		**Pn**		**07 23 57.1**	**+2.1**
KGNO					PG	**Pg**		**07 24 02.6**	**-6.6**
KGNO					SN	**Sn**		**07 24 42.4**	**-0.2**
KGNO					SG	**Sg**		**07 24 55.1**	**-5.9**
KGNO					Trac			07 24 60.0	
	comp=Z,172nm,0.2s								
PNPO	**Pukaskwa Natio**	**4.06**	**301**	PN		**Pn**		**07 23 57.3**	**+1.4**
PNPO					SN	**Sn**		**07 24 44.0**	**-0.1**
PNPO					SG	**Sg**		**07 24 57.0**	**-5.9**
PNPO					Trac			07 24 59.9	
	comp=Z,160nm,0.3s								
WBO	**Williamsburg**	**4.35**	**110**	PN		**Pn**		**07 24 01.5**	**+1.6**
WBO					PG	**Pg**		**07 24 11.2**	**-4.7**
WBO					SN	**Sn**		**07 24 52.7**	**+1.5**
WBO					SG	**Sg**		**07 25 07.1**	**-5.1**
WBO					Trac			07 25 15.3	
	comp=Z,276nm,0.4s								
ALFO	**Alfred**	**4.40**	**101**	PN		**Pn**		**07 24 02.6**	**+2.1**
ALFO					SN	**Sn**		**07 24 54.1**	**+1.7**
ALFO					SG	**Sg**		**07 25 11.0**	**-2.9**
ALFO					Trac			07 25 13.4	
	comp=Z,306nm,0.5s								
TRQ	**Mont Tremblant**	**4.51**	**93**	PN		**Pn**		**07 24 04.5**	**+2.5**
TRQ					PG	**Pg**		**07 24 14.2**	**-4.8**
TRQ					SN	**Sn**		**07 24 57.6**	**+2.4**
TRQ					SG	**Sg**		**07 25 14.1**	**-3.3**
TRQ					Trac			07 25 24.5	
	comp=Z,123nm,0.3s								
MSNY	**Massena**	**4.62**	**108**	*e*Pn		**Pn**		**07 24 06.0**	**+2.5**
MSNO	**Moosonee Ontar**	**4.69**	**3**	PN		**Pn**		**07 24 08.3**	**+3.7**
MSNO					SN	**Sn**		**07 25 02.9**	**+3.2**
MSNO					SG	**Sg**		**07 25 21.8**	**-1.4**
MSNO					Trac			07 25 31.4	
	comp=Z,65nm,0.1s								
AAM	**Ann Arbor**	**4.70**	**204**	Pn		**Pn**		**07 24 05.5**	**+0.8**
PTN	**Potsdam (NY)**	**4.72**	**113**	PN		**Pn**		**07 24 05.8**	**+0.8**
PTN					SN	**Sn**		**07 24 59.6**	**-0.9**
PTN					SG	**Sg**		**07 25 17.8**	**-6.6**
MRHQ	**Morin Heights**	**4.80**	**96**	PN		**Pn**	

	comp=Z,75nm,0.3s							
DAQ	**Lac Daran**	**6.81**	**75**	PN	**Pn**	**07 24 34.2**	**+0.6**
DAQ				SN	**Sn**	**07 25 50.8**	**-1.0**
DAQ				SG	**Sg**	**07 26 28.3**	**-2.8**
DAQ				Trac		07 26 36.0	
	comp=Z,70nm,0.3s						
HNH	**Hanover**	**6.84**	**112**	*e*Pn	**Pn**	**07 24 35.5**	**+1.4**
	15nm,0.6s						
MCWV	**Mont Chateau**	**7.01**	**172**	*e*Pn	**Pn**	**07 24 36.9**	**+0.4**
	24nm,0.4s						
MCWV				*e*Sn	**Sn**	**07 25 55.4**	**-1.5**
EYMN	**Ely**	**7.23**	**284**	PN	**Pn**	**07 24 38.6**	**-0.8**
EYMN				SN	**Sn**	**07 25 55.9**	**-6.3**
EYMN				LG		07 26 37.0	
EYMN	**Ely**	**7.23**	**284**	*e*Pn	**Pn**	**07 24 39.1**	**-0.3**
	14nm,0.7s						
A54	**Misere**	**7.32**	**80**	PN	**Pn**	**07 24 40.6**	**-0.1**
A54				SN	**Sn**	**07 26 03.0**	**-1.4**
A54				LG		07 26 42.5	
A54				Trac		07 26 49.5	
	comp=Z,131nm,0.5s						
FFD	**Franklin Falls**	**7.36**	**112**	*e*Pn	**Pn**	**07 24 44.6**	**+3.4**
	47nm,0.3s						
LMQ	**La Malbaie**	**7.38**	**79**	PN	**Pn**	**07 24 41.5**	**-0.1**
LMQ				SN	**Sn**	**07 26 03.5**	**-2.5**
LMQ				LG		07 26 42.1	
LMQ				Trac		07 26 55.5	
	comp=Z,92nm,0.3s						
MVL	**Millersville**	**7.45**	**151**	*e*Pn	**Pn**	**07 24 42.1**	**-0.3**
MVL				*e*Sn	**Sn**	**07 26 04.8**	**-2.7**
ATKO	**Atikokan Iron**	**7.45**	**291**	PN	**Pn**	**07 24 42.4**	**-0.2**
ATKO				SN	**Sn**	**07 26 02.3**	**-5.4**
ATKO				SG	**Sg**	**07 26 48.2**	**-3.7**
ATKO				Trac		07 26 53.7	
	comp=Z,2µm,0.5s						
A11	**Saint Roch-des**	**7.46**	**81**	PN	**Pn**	**07 24 42.9**	**+0.4**
A11				SN	**Sn**	**07 26 04.4**	**-3.5**
A11				LG		07 26 44.8	
A11				Trac		07 26 59.8	
	comp=Z,80nm,0.6s						
JFWS	**Jewell Farm**	**7.52**	**244**	PN	**Pn**	**07 24 43.0**	**-0.4**
JFWS				SN	**Sn**	**07 26 02.9**	**-6.5**
JFWS				LG		07 26 43.9	
JFWS	**Jewell Farm**	**7.52**	**244**	*e*Pn	**Pn**	**07 24 43.3**	**-0.1**
	26nm,0.5s						
JFWS				*e*Sn	**Sn**	**07 26 01.6**	**-7.8**
A61	**Sainte Mathild**	**7.55**	**78**	PN	**Pn**	**07 24 43.7**	**-0.2**
A61				SN	**Sn**	**07 26 07.8**	**-2.3**
A61				LG		07 26 49.9	
A61				Trac		07 26 53.5	
	comp=Z,56nm,0.3s						
BRNJ	**Basking Ridge**	**7.56**	**139**	*e*Pb	**Pb**	**07 24 58.7**	**-5.9**
A16	**Riviere Ouelle**	**7.59**	**80**	PN	**Pn**	**07 24 44.3**	**-0.1**
A16				SN	**Sn**	**07 26 07.7**	**-3.5**
A16				LG		07 26 49.5	
A16				Trac		07 26 55.2	
	comp=Z,83nm,0.5s						
PAL	**Palisades**	**7.62**	**135**	*e*Pn	**Pn**	**07 24 45.2**	**+0.4**
	84nm,0.8s						
A64	**Saint Simeon**	**7.69**	**77**	PN	**Pn**	**07 24 45.6**	**-0.2**
A64				SN	**Sn**	**07 26 11.6**	**-2.0**
A64				LG		07 26 51.6	
A64				Trac		07 27 01.2	
	comp=Z,70nm,0.3s						
CPNY	**Central Park**	**7.76**	**136**	*e*Pg	**Pg**	**07 25 23.0**	**+1.8**
CPNY				*e*Sn	**Sn**	**07 26 15.9**	**+0.6**
A21	**Saint Andre**	**7.82**	**78**	PN	**Pn**	**07 24 47.3**	**-0.2**
A21				SN	**Sn**	**07 26 13.5**	**-3.3**
A21				LG		07 26 55.9	
A21				Trac		07 27 07.7	
	comp=Z,207nm,0.7s						
PKLO	**Pickle Lake**	**7.82**	**312**	PN	**Pn**	**07 24 48.0**	**+0.4**
PKLO				SN	**Sn**	**07 26 11.8**	**-5.0**
PKLO				LG		07 26 53.4	
PKLO				Trac		07 26 58.6	
	comp=Z,59nm,0.3s						
HRV	**Harvard--Oak R**	**7.92**	**118**	Pn	**Pn**	**07 24 50.2**	**+1.2**
	66nm,0.5s						
SOLO	**Sioux Lookout**	**8.10**	**299**	PN	**Pn**	**07 24 51.3**	**-0.2**
SOLO				SN	**Sn**	**07 26 17.3**	**-6.4**
SOLO				SG	**Sg**	**07 27 01.0**	**-12**
SOLO				Trac		07 27 07.8	
	comp=Z,44nm,0.4s						
SILO	**Sutton Inlier**	**8.25**	**344**	PN	**Pn**	**07 24 55.1**	**+1.7**
SILO				SN	**Sn**	**07 26 23.5**	**-3.8**
SILO				LG		07 27 09.0	
SILO				Trac		07 27 12.4	
	comp=Z,36nm,0.4s						
WVL	**Waterville**	**8.25**	**100**	LG		07 27 06.6	
LG4Q	**La Grande 4**	**8.32**	**30**	PN	**Pn**	**07 24 54.8**	**+0.5**
LG4Q				SN	**Sn**	**07 26 24.9**	**-4.1**
LG4Q				LG		07 27 13.9	
LG4Q				Trac		07 27 16.6	
	comp=Z,50nm,0.4s						
BLO	**Bloomington**	**8.45**	**210**	*e*Pn	**Pn**	**07 24 53.9**	**-2.3**
	7.8nm,0.4s						
MUMO	**Musselwhite Mi**	**8.53**	**318**	SN	**Sn**	**07 26 29.3**	**-4.9**
MUMO				LG		07 27 12.8	
MUMO				Trac		07 27 17.8	
	comp=Z,15nm,0.2s						
EPLO	**Experimental L**	**9.01**	**294**	PN	**Pn**	**07 25 03.0**	**-0.9**
EPLO				SN	**Sn**	**07 26 39.2**	**-6.9**
EPLO				Trac		07 27 37.0	
	comp=Z,550nm,0.3s						
EPLO				LG		07 27 37.9	
MNQ	**Manicouagan**	**9.03**	**60**	PN	**Pn**	**07 25 04.4**	**+0.2**
MNQ				SN	**Sn**	**07 26 43.8**	**-2.8**
MNQ				LG		07 27 33.6	
MNQ				Trac		07 27 43.3	
	comp=Z,110nm,0.5s						
CNQ	**Baie Comeau**	**9.11**	**68**	PN	**Pn**	**07 25 04.8**	**-0.5**
CNQ				SN	**Sn**	**07 26 45.2**	**-3.4**
CNQ				LG		07 27 38.1	
CNQ				Trac		07 27 54.1	
	comp=Z,54nm,0.3s						
WCI	**Wyandotte Cave**	**9.23**	**207**	*e*Pn	**Pn**	**07 25 05.0**	**-1.9**
	46nm,0.8s						
BLA	**Blacksburg**	**9.41**	**177**	*e*Pn	**Pn**	**07 25 09.4**	**+0.1**
	14nm,0.8s						
BLA				*e*Sn	**Sn**	**07 26 52.6**	**-3.3**
RLKO	**Red Lake**	**9.49**	**303**	PN	**Pn**	**07 25 08.2**	**-2.2**
RLKO				SN	**Sn**	**07 26 50.0**	**-7.8**
RLKO				LG		07 27 44.4	
RLKO				Trac		07 28 00.2	
	comp=Z,174nm,0.6s						
GSQ	**Grosses Roches**	**9.66**	**71**	PN	**Pn**	**07 25 12.4**	**-0.4**
GSQ				SN	**Sn**	**07 27 01.3**	**-0.9**
GSQ				LG		07 27 52.4	
SNQN	**Sanikiliuq**	**10.01**	**6**	PN	**Pn**	**07 25 19.1**	**+1.6**
SNQN				SN	**Sn**	**07 27 05.0**	**-5.5**
SNQN				LG		07 28 06.9	
GGN	**Saint George**	**10.03**	**93**	PN	**Pn**	**07 25 18.0**	**+0.2**
GGN				SN	**Sn**	**07 27 06.9**	**-4.0**
GGN				SG	Sn	07 28 04.9	+54
SMQ	**Clarke City**	**10.20**	**64**	PN	**Pn**	**07 25 19.2**	**-0.9**
SMQ				SN	**Sn**	**07 27 09.9**	**-5.3**
SMQ				LG		07 28 14.7	
TZTN	**Tazewell**	**10.23**	**191**	*e*Pn	**Pn**	**07 25 18.8**	**-1.8**
	64nm,0.8s						
BATG	**Bathurst New B**	**10.28**	**81**	PN	**Pn**	**07 25 19.4**	**-1.8**
BATG				SN	**Sn**	**07 27 11.4**	**-5.7**
BATG				LG		07 28 21.7	
GASG	**Gaspe, Quebec**	**10.32**	**72**	PN	**Pn**	**07 25 20.7**	**-1.1**
GASG				SN	**Sn**	**07 27 15.0**	**-3.2**
GASG				LG		07 28 20.7	
GASG				Trac		07 28 21.7	
	comp=Z,9.7nm,0.1s						
ULM	**Lac du Bonnet**	**10.50**	**296**	Pn	**Pn**	**07 25 21.4**	**-2.9**
	2.9nm,0.3s,baz=109,slow=12,SNR=53						
ULM				SN	**Sn**	**07 27 10.7**	**-12**
	1.7nm,0.3s,baz=71,slow=8.0,SNR=6.2						
ULM				LG		07 28 15.0	
	5.1nm,0.3s,baz=181,slow=22,SNR=8.3						
ULM	**Lac du Bonnet**	**10.50**	**296**	PN	**Pn**	**07 25 21.7**	**-2.6**
ULM				SN	**Sn**	**07 27 14.1**	**-8.6**
ULM				LG		07 28 16.6	
ULM				Trac		07 28 28.4	
	comp=Z,36nm,0.5s						
ULM	**Lac du Bonnet**	**10.50**	**296**	*e*Pn	**Pn**	**07 25 21.6**	**-2.7**
	9.7nm,0.4s						
ULM				*e*Sn	**Sn**	**07 27 11.9**	**-11**
FVM	**French Village**	**11.06**	**222**	*e*Pn	**Pn**	**07 25 30.3**	**-1.8**
	6.5nm,0.3s						

TKL	**Tuckaleechee C**	**11.14**	**192**	Pn	**Pn**	**07 25 29.4**	**-3.7**
	1.3nm,0.3s,baz=42,slow=9.7,SNR=16						
TKL				Sn	**Sn**	**07 27 28.3**	**-10**
	0.9nm,0.3s,baz=25,slow=14,SNR=3.3						
TKL				Lg		07 28 26.9	
	1.9nm,0.3s,baz=119,slow=15,SNR=3.5						
LMN	**Caledonia Moun**	**11.28**	**88**	PN	**Pn**	**07 25 34.2**	**-0.8**
LMN				SN	**Sn**	**07 27 35.8**	**-6.0**
LMN				LG		07 28 49.9	
ECSD	**EROS,Sioux Fal**	**11.36**	**261**	*e*Pn	**Pn**	**07 25 34.0**	**-2.1**
	3.8nm,0.5s						
WVT	**Waverly**	**11.64**	**208**	*e*Pn	**Pn**	**07 25 36.7**	**-3.2**
	3.0nm,0.4s						
WVT				*e*Sn	**Sn**	**07 27 44.0**	**-6.6**
INUQ	**Inukjuak**	**11.99**	**7**	PN	**Pn**	**07 25 44.0**	**-0.7**
INUQ				SN	**Sn**	**07 27 54.9**	**-4.2**
SCHQ	**Schefferville**	**12.18**	**42**	Pn	**Pn**	**07 25 47.0**	**-0.2**
	0.8nm,0.3s,baz=232,slow=12,SNR=9.3						
SCHQ				Sn	**Sn**	**07 27 55.4**	**-8.3**
	1.8nm,0.3s,baz=330,slow=16,SNR=6.1						
SCHQ				Lg		07 29 09.8	
	2.4nm,0.3s,baz=171,slow=6.9,SNR=4.7						
SCHQ	**Schefferville**	**12.18**	**42**	PN	**Pn**	**07 25 46.5**	**-0.7**
SCHQ				SN	**Sn**	**07 27 56.1**	**-7.6**
SCHQ				LG		07 29 16.8	
SCHQ				Trac		07 29 16.9	
	comp=Z,232nm,1.9s						
SCHQ	**Schefferville**	**12.18**	**42**	Pn	**Pn**	**07 25 47.0**	**-0.2**
SCHQ				Sn	**Sn**	**07 27 55.4**	**-8.3**
SCHQ				Lg		07 29 09.8	
MALG	**Malagash, Nova**	**12.31**	**87**	PN	**Pn**	**07 25 48.7**	**-0.4**
MALG				SN	**Sn**	**07 28 04.8**	**-2.2**
TIGG	**Tignish, PEI**	**12.37**	**82**	PN	**Pn**	**07 25 40.0**	**-10**
NATG	**Natashquan Que**	**12.65**	**66**	PN	**Pn**	**07 25 51.5**	**-2.2**
NATG				SN	**Sn**	**07 28 07.3**	**-7.9**
NATG				LG		07 29 28.5	
GBN	**Guysborough**	**13.63**	**88**	PN	**Pn**	**07 26 06.8**	**-0.4**
GBN				SN	**Sn**	**07 28 33.1**	**-6.2**
CHEG	**Cheticamp, Nov**	**13.98**	**82**	PN	**Pn**	**07 26 09.5**	**-2.4**
CHEG				SN	**Sn**	**07 28 39.6**	**-8.2**
AKVQ	**Akulik**	**14.32**	**6**	PN	**Pn**	**07 26 15.8**	**-0.7**
AKVQ				SN	**Sn**	**07 28 46.9**	**-9.1**
AKVQ				LG		07 30 10.9	
FCC	**Fort Churchill**	**14.47**	**332**	PN	**Pn**	**07 26 14.1**	**-4.5**
FCC				SN	**Sn**	**07 28 48.4**	**-11**
FCC				LG		07 30 15.4	
CODG	**Codroy Newfoun**	**14.86**	**77**	PN	**Pn**	**07 26 21.7**	**-2.1**
DRLN	**Deer Lake**	**15.98**	**72**	PN	**Pn**	**07 26 32.0**	**-6.7**
DRLN				SN	**Sn**	**07 29 27.1**	**-10**
DRLN				LG		07 31 14.6	
SEDN	**First Sedna Si**	**17.62**	**345**	PN	**Pn**	**07 26 56.4**	**-3.1**
SEDN				SN	**Sn**	**07 30 02.3**	**-14**
FRB	**Frobisher Bay**	**18.53**	**18**	PN	**Pn**	**07 27 07.5**	**-3.2**
PDAR	**Pinedale Array**	**20.58**	**270**	P	**P**	**07 27 33.6**	**+0.7**
	2.1nm,0.6s,baz=66,slow=11,SNR=27						
ANMO	**Albuquerque**	**22.39**	**248**	P	**P**	**07 27 54.1**	**+1.6**
	2.0nm,0.8s,mb3.6,baz=58,slow=9.8,SNR=9.3						
TXAR	**Lajitas Array**	**24.67**	**234**	P	**P**	**07 28 15.9**	**+0.9**
	0.7nm,0.7s,mb3.5,baz=52,slow=7.5,SNR=7.8						
YKA	**Yellowknife Ar**	**24.72**	**322**	P	**P**	**07 28 16.7**	**+1.2**
	1.1nm,0.5s,mb3.8,baz=111,slow=9.8,SNR=14						
YKA	**Yellowknife Ar**	**24.72**	**322**	P	**P**	**07 28 16.7**	**+1.2**

*ISCJB **29** 07:25:15.4±0.5, 533N±0.1×353W±0.1, h10km, mb4.2/19, MS3.5/7, Error ellipse: s-maj=19.2km s-min=8.4km az=164.7*
*IDC **29** 07:25:15.3±0.6, 5325Nx3536W, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/27, mbtmp4.0/16, ML3.8/1, MS3.5/8, Ms1 3.5/8, ms1mx3.0/38, Error ellipse: s-maj=23.9km s-min=13.5km az=168.0*
*NEIC **29** 07:25:17.1±0.4, 5326Nx3529W, h10km, mb4.7/5, Error ellipse: s-maj=16.8km s-min=7.4km az=172.0*
*CSEM **29** 07:25:17.1, 5326Nx3529W, h10km, mb4.7/5, After NEIC*
ISC 29 07:25:17.1±0.5, 533N±01×353W±01, h10km, n38, σ0§87/29, mb4.2/19, MS3.5/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.51**	**287**	LR	LR	07 34 30.1	
	comp=Z,103nm,20.2s,baz=236,slow=30						
EKA	**Eskdalemuir Ar**	**18.76**	**71**	P	**Pn**	**07 29 37.6**	**+0.9**
	0.2nm,0.3s,baz=283,slow=25,SNR=5.3						
ESDC	**Sonseca Array**	**25.26**	**110**	P	**P**	**07 30 43.1**	**-0.2**
	2.4nm,0.8s,mb3.8,baz=316,slow=9.1,SNR=8.3						
NOA	**NORSAR Array B**	**25.87**	**54**	P	**P**	**07 30 49.7**	**+0.8**
	2.5nm,0.8s,mb3.8,baz=276,slow=10.0,SNR=3.1						
NOA				LR	LR	07 39 50.5	
	comp=Z,47nm,20.5s,MS3.0,baz=285,slow=34						
GERES	**GERESS Array B**	**30.61**	**78**	P	**P**	**07 31 30.8**	**-0.4**
	0.7nm,0.6s,mb3.6,baz=289,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**32.90**	**51**	P	**P**	**07 31 49.5**	**-1.8**
	1.1nm,0.7s,mb3.9,baz=290,slow=11,SNR=3.9						
FINES				LR	LR	07 44 19.2	
	comp=Z,73nm,21.0s,MS3.4,baz=317,slow=35						
ULM	**Lac du Bonnet**	**36.64**	**290**	LR	LR	07 47 23.5	
	comp=Z,53nm,18.1s,MS3.4,baz=66,slow=36						
SIUC	**Southern Illin**	**39.88**	**269**	*e*P	**P**	**07 32 51.3**	**+0.4**
	23nm,0.9s,mb4.9						
KSU1	**Kansas State U**	**43.41**	**277**	*e*P	**P**	**07 33 19.6**	**-0.3**
	12nm,0.6s,mb4.8						
KSU1	**Kansas State U**	**43.41**	**277**	*e*P	**P**	**07 33 19.6**	**-0.3**
	12nm,0.6s,mb4.8						
MIAR	**Mount Ida**	**44.61**	**269**	*e*P	**P**	**07 33 30.0**	**+0.5**
	9.8nm,1.0s,mb4.6						
MIAR	**Mount Ida**	**44.61**	**269**	*e*P	**P**	**07 33 30.0**	**+0.5**
	9.8nm,1.0s,mb4.6						
INK	**Inuvik**	**44.73**	**328**	LR	LR	07 52 34.4	
	comp=Z,64nm,18.5s,MS3.6,baz=66,slow=37						
BRTR	**Keskin Array B**	**47.50**	**77**	P	**P**	**07 33 53.2**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=331,slow=7.4,SNR=7.5						
PDAR	**Pinedale Array**	**48.63**	**289**	P	**P**	**07 33 59.8**	**-1.2**
	1.1nm,0.5s,mb4.1,baz=54,slow=8.1,SNR=9.0						
TORD	**Torodi Ar. Bea**	**49.62**	**130**	P	**P**	**07 34 07.7**	**-0.9**
	1.6nm,0.7s,mb4.2,baz=333,slow=7.8,SNR=9.3						
HWUT	**Hardware Ranch**	**50.52**	**289**	*e*P	**P**	**07 34 15.8**	**+0.4**
	7.3nm,0.7s,mb4.7						
HWUT	**Hardware Ranch**	**50.52**	**289**	*e*P	**P**	**07 34 15.8**	**+0.4**
	7.3nm,0.7s,mb4.7						
PV10	**Paradox Valley**	**51.21**	**285**	*e*P	**P**	**07 34 21.6**	**+0.9**
PV10	**Paradox Valley**	**51.21**	**285**	*e*P	**P**	**07 34 21.6**	**+1.0**
ANMO	**Albuquerque**	**52.03**	**280**	P	**P**	**07 34 26.8**	**0.0**
	1.3nm,0.7s,mb4.0,baz=54,slow=8.7,SNR=3.4						
ANMO	**Albuquerque**	**52.03**	**280**	P	**P**	**07 34 26.8**	**0.0**
TXAR	**Lajitas Array**	**54.35**	**272**	P	**P**	**07 34 42.6**	**-1.2**
	1.5nm,0.9s,mb3.9,baz=56,slow=6.8,SNR=7.8						
BVAR	**Borovoye Array**	**57.35**	**44**	P	**P**	**07 35 06.2**	**+0.8**
	1.2nm,0.7s,mb4.1,baz=305,slow=5.2,SNR=6.1						
ROSC	**El Rosal**	**57.87**	**228**	P	**P**	**07 35 10.4**	**+1.4**
	15nm,0.9s,mb5.0,baz=269,slow=23,SNR=7.4						
ROSC	**El Rosal**	**57.87**	**228**	*e*P	**P**	**07 35 11.3**	**+2.3**
ROSC	**El Rosal**	**57.87**	**228**	*e*P	**P**	**07 35 11.3**	**+2.3**
PFO	**Pinyon Flat Ob**	**58.84**	**285**	P	**P**	**07 35 15.4**	**-0.3**
	3.2nm,0.8s,mb4.4,baz=45,slow=8.6,SNR=2.9						
PFO	**Pinyon Flat Ob**	**58.84**	**285**	*e*P	**P**	**07 35 15.7**	**-0.1**
	5.4nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**62.15**	**35**	LR	LR	08 01 42.1	
	comp=Z,42nm,18.5s,MS3.6,baz=260,slow=35						
MKAR	**Makanchi Array**	**67.03**	**41**	P	**P**	**07 36 09.4**	**-0.9**
	1.1nm,0.9s,mb3.9,baz=338,slow=4.6,SNR=4.1						
MKAR				LR	LR	08 07 07.1	
	comp=Z,51nm,18.7s,MS3.8,baz=174,slow=37						
SONM	**Songino Array**	**74.12**	**26**	P	**P**	**07 36 53.7**	**+0.2**
	1.2nm,1.0s,mb3.8,baz=324,slow=7.7,SNR=5.2						
LPAZ	**La Paz**	**74.85**	**213**	P	**P**	**07 36 57.1**	**-0.6**
	1.3nm,0.9s,mb3.9,baz=37,slow=13,SNR=4.6						
KMBO	**Kilima Mbogo**	**80.53**	**105**	LR	LR	08 14 53.3	
	comp=Z,32nm,18.6s,MS3.7,baz=97,slow=37						
WRA	**Warramunga Arr**	**145.76**	**18**	PKPbc	PKPbc	07 44 55.8	-0.5
	1.1nm,0.8s,baz=342,slow=3.1,SNR=7.3						
WB2	**Warramunga Arr**	**145.76**	**18**	*e*P	PKPdf	07 44 55.5	-0.3
ASAR	**Alice Springs**	**149.30**	**20**	PKPbc	PKPbc	07 45 05.5	-0.6
	1.0nm,0.5s,baz=353,slow=2.4,SNR=19						
ASAR	**Alice Springs**	**149.30**	**20**	PKPbc	PKPbc	07 45 05.4	-0.6

*IDC **29** 07:32:56.6±1.1, 591Nx12427E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, MS3.2/1, Ms1 3.2/1, ms1mx1.8/36, Error ellipse: s-maj=47.4km s-min=17.4km az=65.0*
*MAN **29** 07:32:57.3, 573Nx12401E, h14km, mb4.3, ML5.2, MS3.4*
*ISCJB **29** 07:32:59.4±0.5, 596N±004×12421E±006, h33km, mb3.9/7, MS3.0/1, Error ellipse: s-maj=8.9km s-min=5.8km az=142.4*
*NEIC **29** 07:33:04.9±1.9, 592Nx12432E, h67km±22km, mb4.2/2, Error ellipse: s-maj=24.3km s-min=9.2km az=66.0*
ISC 29 07:33:00.6±4.2, 601N±005×12422E±007, h27km±32km, n19, σ0§92/21, mb3.9/7, MS3.0/1, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.21**	**1**	⇑*i*P	**Pn**	**07 33 22.6**	**+1.0**
CTBH						07 33 40.4	
DAV	**Davao City (W)**	**1.72**	**52**	⇓*i*P	**Pn**	**07 33 27.4**	**-1.4**
DAV	**Davao City (W)**	**1.72**	**52**	*e*Pn	**Pn**	**07 33 32.4**	**+3.7**
DAV				*e*Sn	**Sn**	**07 33 49.9**	**+0.1**
IPIL	**Ipil**	**2.41**	**317**	⇑*e*P	**Pn**	**07 33 37.9**	**-0.3**
IPIL				*e*S	**Sn**	**07 34 05.5**	**-1.3**
DCPH	**Dipolog City**	**2.70**	**342**	⇓*e*P	**Sn**	**07 34 13.3**	**-0.7**
KAKA	**Kakadu**	**20.31**	**156**	*e*P	**P**	**07 37 34.4**	**0.0**
	8.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.00**	**177**	*e*P	**P**	**07 38 12.5**	**-0.4**
	4.9nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.00**	**177**	P	**P**	**07 38 12.1**	**-0.8**
	2.3nm,0.8s,mb3.6,baz=31,slow=12,SNR=5.2						
PSI	**Prapat**	**25.41**	**264**	P	**P**	**07 38 27.7**	**+1.9**
	2.4nm,0.6s,mb3.9,baz=27,slow=6.8,SNR=4.1						
PSI				LR	LR	07 47 45.5	
	comp=Z,50nm,20.6s,MS3.0,baz=195,slow=35						
PSI	**Prapat**	**25.41**	**264**	P	**P**	**07 38 27.7**	**+1.8**
PSI				LR	LR	07 47 45.5	
WRA	**Warramunga Arr**	**27.64**	**159**	P	**P**	**07 38 44.6**	**-1.3**
	2.3nm,0.5s,mb4.1,baz=333,slow=10,SNR=43						
WB2	**Warramunga Arr**	**27.65**	**159**	*e*P	**P**	**07 38 45.2**	**-0.8**
AS31	**Alice Springs**	**30.97**	**163**	*e*P	**P**	**07 39 16.0**	**+0.6**
ASAR	**Alice Springs**	**30.97**	**163**	P	**P**	**07 39 15.2**	**-0.3**
	1.1nm,0.7s,mb3.8,baz=347,slow=6.7,SNR=20						
ASPA	**Alice Springs**	**30.97**	**163**	*e*P	**P**	**07 39 16.0**	**+0.5**
STKA	**Stephens Creek**	**41.16**	**157**	P	**P**	**07 40 42.1**	**-0.4**
	2.9nm,0.8s,mb3.9,baz=326,slow=12,SNR=4.0						
SONM	**Songino Array**	**44.38**	**343**	P	**P**	**07 41 09.7**	**+1.1**
	1.2nm,0.8s,mb3.7,baz=158,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**54.27**	**326**	P	**P**	**07 42 25.4**	**+1.1**
	1.0nm,0.8s,mb3.6,baz=133,slow=7.4,SNR=5.0						
MKAR				PcP	PcP	07 43 27.9	-0.3
	1.0nm,0.8s,baz=139,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**54.27**	**326**	P	**P**	**07 42 25.4**	**+1.1**
MKAR				PcP	PcP	07 43 27.9	-0.3

*ISCJB **29** 07:35:09.6±0.6, 4740N±008×1557E±01, h10km, mb4.0/23, Error ellipse: s-maj=13.1km s-min=8.1km az=110.5*
*IDC **29** 07:35:09.8±0.7, 47.33Nx155.74E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.1/29, mbtmp4.0/19, ML3.6/1, Error ellipse: s-maj=20.7km s-min=15.3km az=158.0*
*NEIC **29** 07:35:11.5±0.5, 4742Nx155.74E, h10km, mb4.6/2, Error ellipse: s-maj=12.9km s-min=8.7km az=163.0*
*MOS **29** 07:35:13.1±0.9, 4739Nx155.56E, h34km, mb4.4/12, Error ellipse: s-maj=16.8km s-min=10.3km az=91.7*
ISC 29 07:35:11.6±2.7, 4746N±008×1557E±01, h10km±17km, n48, σ0§79/50, mb4.0/23, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.24**	**5**	*e*PN	**Pn**	**07 36 02.3**	**-0.1**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
PET	**Petropavlovsk**	**5.89**	**18**	*e*Pn	**Pn**	**07 36 37.2**	**-1.6**
PET				*e*Sn	**Sn**	**07 37 40.8**	**-5.5**
YSS	**Yuzh-Sakhalins**	**8.82**	**271**	*e*PN	**Pn**	**07 37 17.0**	**-2.0**
YSS	**Yuzh-Sakhalins**	**8.82**	**271**	*e*Pn	**Pn**	**07 37 20.1**	**+1.1**
ASAJ	**Asahikawa**	**9.73**	**255**	Pn	**Pn**	**07 37 31.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=90,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**9.73**	**255**	PN	**Pn**	**07 37 31.5**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.44**	**243**	*e*PN	**Pn**	**07 37 42.2**	**+1.0**
BILL	**Bilibino**	**21.33**	**11**	*e*P	**P**	**07 40 00.4**	**+1.7**
BILL				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.1						
KSRS	**Korea Array**	**22.68**	**254**	P	**P**	**07 40 14.1**	**+1.0**
	comp=Z,1.8nm,0.8s,mb3.5,baz=64,slow=9.2,SNR=3.8						
TIXI	**Tiksi**	**27.31**	**342**	*e*P	**P**	**07 40 55.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						

EKA Eskdalemuir Ar 76.04 348 P P 07 47 00.1 +1.0
EKA pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 79.05 318 P P 07 47 15.9 0.0
comp=Z,0.3nm,0.3s,mb3.7,baz=19,slow=9.2,SNR=2.5

ISCJB ***29*** *08:06:36.2±0.6, 68N±0.1×7299W±008, h175km±9km, mb3.5/6, Error ellipse: s-maj=21.3km s-min=8.0km az=115.6*
IDC ***29*** *08:06:36.2±0.7, 674N×7294W, h162km±7km, mb3.3/6, mb1 3.6/10, mb1mx3.4/21, mbtmp3.4/10, Error ellipse: s-maj=20.1km s-min=7.4km az=135.0*
NEIC ***29*** *08:06:37.3±0.6, 671N×7294W, h175km±6km, Error ellipse: s-maj=14.7km s-min=8.9km az=157.0*

ISC 29 08:06:37.2±0.6, 68N±01×7298W±008, h169km±8km, n16, σ0§90/15, mb3.5/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.33**	**215**	P	**Pn**	**08 07 17.8**	**+0.6**
	44nm,0.3s,baz=280,slow=21,SNR=282						
ROSC				S	**Sn**	**08 07 47.3**	**-0.8**
	126nm,0.3s,baz=101,slow=16,SNR=13						
SDV	**Santo Domingo**	**3.14**	**48**	P	**Pn**	**08 07 27.4**	**+0.4**
	17nm,0.3s,baz=244,slow=3.8,SNR=130						
SDV				S	**Sn**	**08 08 03.8**	**-1.9**
	27nm,0.3s,baz=283,slow=11,SNR=31						
PCRV	**Puerto La Cruz**	**8.92**	**67**	P	**Pn**	**08 08 43.4**	**+0.8**
	0.4nm,0.3s,baz=257,slow=11,SNR=5.1						
PCRV				S	**Sn**	**08 10 23.1**	**+1.2**
	0.6nm,0.3s,baz=53,slow=20,SNR=2.9						
JTS	**JuntasAbangare**	**12.35**	**287**	P	**Pn**	**08 09 28.5**	**+1.1**
	0.3nm,0.3s,baz=320,slow=18,SNR=2.9						
TXAR	**Lajitas Array**	**36.61**	**312**	P	**P**	**08 13 27.2**	**+0.1**
	0.3nm,0.6s,mb3.1,baz=122,slow=9.2,SNR=6.1						
SCHQ	**Schefferville**	**48.19**	**5**	P	**P**	**08 15 01.3**	**+0.8**
	2.1nm,0.4s,mb4.1,baz=194,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**48.21**	**324**	P	**P**	**08 15 00.4**	**-0.2**
	0.2nm,0.5s,mb3.0,baz=134,slow=7.7,SNR=2.5						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	**P**	**08 16 47.5**	**-1.0**
	0.5nm,0.6s,mb3.6,baz=135,slow=6.4,SNR=6.5						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	**P**	**08 16 47.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	**P**	**08 17 51.2**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=288,slow=6.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	**P**	**08 17 51.2**	**-0.7**
ARCES	**ARCESS Array B**	**86.67**	**20**	P	**P**	**08 19 01.0**	**-0.8**
	5.3nm,1.1s,mb4.3,baz=291,slow=2.8,SNR=3.3						
MKAR	**Makanchi Array**	**122.33**	**20**	PKP	PKPdf	08 25 11.9	-0.2
	0.3nm,0.4s,baz=279,slow=2.2,SNR=5.9						
SONM	**Songino Array**	**125.64**	**1**	PKP	PKPdf	08 25 19.3	+0.9
	0.2nm,0.6s,baz=356,slow=4.3,SNR=2.5						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	08 26 06.2	+0.5
	0.4nm,0.5s,baz=125,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	08 26 09.3	+0.6
	0.5nm,0.4s,baz=108,slow=2.7,SNR=20						
WRA				pPKPbc	pPKPbc	08 26 51.2	-1.4
	0.4nm,0.5s,baz=105,slow=2.7,SNR=2.5						

LDG ***29*** *08:41:24.9±0.1, 1829S×16748E, h10km, Mb5.0/3, Ms4.6/8, Error ellipse: s-maj=16.4km s-min=3.6km az=97.0*
ISCJB ***29*** *08:41:25.7±0.3, 1855S±0.004×16798E±0.006, h33km, mb4.8/40, MS4.5/26, Error ellipse: s-maj=8.4km s-min=5.1km az=31.2*
BJI ***29*** *08:41:25.2, 18.12S×16837E, h25km, mB5.4, mb5.0, Ms4.9, Msz4.5*
GCMT ***29*** *08:41:26.1±0.3, 1842S×16788E, h31km±1km, MW5.2/75, Moment Tensor Solution. s50,c72; s75,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.21±.21; Mθθ1.78±.17; Mϕϕ-5.99±.16; Mrθ-0.75±.26; Mθϕ0.82±.15; Mϕr-4.56±.26; Best double couple: M₀6.96800×10¹⁶ NP1:ϕs335.00000°, δ27.00000°, λ60.00000°. NP2: ϕs187.00000°, δ67.00000°, λ104.00000°. Principal axes: T 6.1780, Plg65.0000°, Azm122.0000°; N 1.5800, Plg13.0000°, Azm2.0000°; P -7.7580, Plg21.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***29*** *08:41:26.6±5.3, 1844S×168.12E, h30km±37km, mb4.4/18, mb1 4.5/21, mb1mx4.5/22, mbtmp4.5/21, MS4.5/22, Ms1 4.5/22, ms1mx4.3/27 Error ellipse: s-maj=16.3km s-min=15.6km az=50.0*
NEIC ***29*** *08:41:26.1±2.5, 1851S×16806E, h23km±17km, mb5.0/23, MS5.0/2, Error ellipse: s-maj=9.5km s-min=8.2km az=145.0*
NEIC Felt at Port-Vila.
MOS ***29*** *08:41:29.7±2.5, 1788S×16783E, h33km, mb5.1/19, MS4.6/6, Error ellipse: s-maj=13.9km s-min=10.1km az=29.7*

ISC 29 08:41:27.2±2.6, 1855S±004×16809E±006, h33km±18km, h32km±3.4km: pP-P, n173, σ1§05/99, mb4.8/40, MS4.5/26, 13C-8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.83**	**203**	*eP*	**Pn**	**08 42 22.5**	**-1.3**
DZM				*eS*	**Sn**	**08 43 06.0**	**-1.6**
DZM	**Mont Dzumac**	**3.83**	**203**	Pn	**Pn**	**08 42 23.1**	**-0.7**
	16nm,0.3s,baz=49,slow=17,SNR=78						
DZM				Sn	**Sn**	**08 43 06.1**	**-1.5**
	96nm,0.3s,baz=322,slow=23,SNR=17						
DZM				LR	LR	08 43 46.7	
	comp=Z,3μm,19.1s,baz=20,slow=36						
HNR	**Honiara**	**12.02**	**318**	Pn	**Pn**	**08 44 15.0**	**-1.0**
	19nm,0.3s,baz=136,slow=0.9,SNR=20						
HNR				LR	LR	08 48 13.8	
	comp=Z,2μm,19.8s,baz=178,slow=34						
HNR	**Honiara**	**12.02**	**318**	*eP*	**Pn**	**08 44 15.6**	**-0.5**
HNR				pmax	pmax		
	comp=Z,292nm,1.0s						
HNR	**Honiara**	**12.02**	**318**	*e*Pn	**Pn**	**08 44 15.6**	**-0.5**
	comp=Z,292nm,1.0s						
FUNA	**Funafuti**	**14.68**	**49**	*e*Pn	**Pn**	**08 44 53.8**	**+1.3**
RAO	**Raoul Island**	**16.64**	**132**	LR	LR	08 50 20.7	
	comp=Z,2μm,21.1s,baz=181,slow=32						
ARMA	**Armidale**	**19.05**	**229**	*eP*	**Pn**	**08 45 51.8**	**+4.3**
AFI	**Afiamalu**	**19.87**	**80**	P	**Pn**	**08 45 55.4**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=107,slow=22,SNR=4.0						
AFI				LR	LR	08 51 56.8	
	comp=Z,1μm,21.3s,baz=252,slow=32						
AFI	**Afiamalu**	**19.87**	**80**	*eP*	**Pn**	**08 45 54.5**	**-2.7**
AFI				pmax	pmax		
	comp=Z,29nm,0.8s						
AFI	**Afiamalu**	**19.87**	**80**	*eP*	**Pn**	**08 45 54.5**	**-2.7**
	comp=Z,29nm,0.8s						
CTA	**Charters Tower**	**20.66**	**262**	*i*P	**P**	**08 46 05.9**	**+1.8**
	comp=Z,18nm,1.1s						
CTA	**Charters Tower**	**20.66**	**262**	P	**P**	**08 46 05.8**	**+1.7**
	comp=Z,10nm,0.7s,baz=85,slow=12,SNR=12						
CTA				LR	LR	08 53 10.6	
	comp=Z,2μm,20.2s,MS4.5,baz=68,slow=34						
CTA	**Charters Tower**	**20.66**	**262**	*i*P	**P**	**08 46 05.9**	**+1.8**
CTA				pmax	pmax		
	comp=Z,18nm,1.1s						
CTAO	**Charters Tower**	**20.66**	**262**	*e*P	**P**	**08 46 05.8**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,47nm,1.2s						
CTAO	**Charters Tower**	**20.66**	**262**	*e*P	**P**	**08 46 05.8**	**+1.7**
	comp=Z,47nm,1.2s						
URZ	**Urewera**	**21.16**	**160**	P	**P**	**08 46 10.3**	**+0.9**
	comp=Z,30nm,0.8s,mb4.7,baz=305,slow=7.5,SNR=13						
URZ				LR	LR	08 53 29.4	
	comp=Z,2μm,19.5s,MS4.6,baz=203,slow=34						
PMG	**Port Moresby**	**22.23**	**291**	P	**P**	**08 46 20.8**	**-0.1**
	comp=Z,7.0nm,0.7s,mb4.2,baz=144,slow=10,SNR=4.0						
PMG				LR	LR	08 53 59.6	
	comp=Z,2μm,18.3s,MS4.5,baz=120,slow=34						
PMG	**Port Moresby**	**22.23**	**291**	*e*P	**P**	**08 46 21.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,60nm,1.3s						
PMG	**Port Moresby**	**22.23**	**291**	*e*P	**P**	**08 46 21.0**	**+0.1**
	comp=Z,60nm,1.3s,mb4.9						
RPZ	**Rata Peaks**	**25.22**	**175**	P	**P**	**08 46 51.3**	**+1.5**
	comp=Z,34nm,0.7s,mb5.0,baz=33,slow=3.2,SNR=7.1						
RPZ	**Rata Peaks**	**25.22**	**175**	P	**P**	**08 46 51.3**	**+1.5**
STKA	**Stephens Creek**	**27.31**	**236**	⇑*i*P	**P**	**08 47 10.2**	**+1.5**
	comp=Z,29nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**27.31**	**236**	P	**P**	**08 47 10.0**	**+1.3**
	comp=Z,11nm,0.8s,mb4.4,baz=71,slow=8.7,SNR=22						
STKA				PcP	PcP	08 50 28.6	+1.0
	comp=Z,6.8nm,0.8s,baz=121,slow=3.7,SNR=3.6						
STKA				LR	LR	08 56 58.0	
	comp=Z,713nm,21.8s,MS4.2,baz=180,slow=34						
RAR	**Rarotonga**	**30.31**	**100**	LR	LR	08 57 02.7	
	comp=Z,818nm,21.0s,MS4.3,baz=265,slow=31						
WB2	**Warramunga Arr**	**31.85**	**262**	*eP*	**P**	**08 47 48.0**	**-1.0**
WB2				*e*	pP	08 47 59.3	+0.6
WRAB	**Tennant Creek**	**31.86**	**262**	*eP*	**P**	**08 47 48.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**31.86**	**262**	*eP*	**P**	**08 47 48.5**	**-0.5**
	comp=Z,9.1nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**31.86**	**262**	P	**P**	**08 47 48.3**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.5,baz=98,slow=8.4,SNR=33						
WRA				PcP	PcP	08 50 39.9	+0.6
	comp=Z,2.8nm,0.8s,baz=93,slow=2.8,SNR=7.3						
WRA				LR	LR	09 00 07.3	
	comp=Z,605nm,18.8s,MS4.3,baz=80,slow=35						
WRA	**Warramunga Arr**	**31.86**	**262**	P	**P**	**08 47 48.3**	**-0.8**
WRA				AMB	AMB	08 50 39.9	
AS31	**Alice Springs**	**32.24**	**255**	⇓*i*P	**P**	**08 47 52.4**	**0.0**
ASAR	**Alice Springs**	**32.25**	**255**	P	**P**	**08 47 52.4**	**0.0**
	comp=Z,27nm,0.8s,mb5.2,baz=80,slow=8.7,SNR=315						
ASAR				PcP	PcP	08 50 39.2	-1.1
	comp=Z,1.9nm,0.8s,baz=90,slow=4.3,SNR=4.2						
ASAR				LR	LR	09 00 59.3	
	comp=Z,1μm,18.7s,MS4.7,baz=83,slow=36						
ASAR	**Alice Springs**	**32.25**	**255**	P	**P**	**08 47 52.4**	**0.0**
ASAR						08 50 39.2	
ASAR	**Alice Springs**	**32.25**	**255**	P	**P**	**08 47 52.4**	**0.0**
ASAR				PcP	PcP	08 50 39.2	-1.1
ASAR				LR	LR	09 00 59.3	
ASPA	**Alice Springs**	**32.25**	**255**	⇓*i*P	**P**	**08 47 52.4**	**-0.1**
GUMO	**Guam**	**39.29**	**323**	LR	LR	09 02 51.9	
	comp=Z,547nm,21.9s,MS4.3,baz=96,slow=33						
TBI	**Tubuai**	**39.83**	**104**	*e*S	**S**	**08 55 06.4**	**+6.9**
	comp=Z,274nm,30.8s						
TBI				*e*LQ		08 58 13.1	
	comp=Z,686nm,31.2s						
TBI				*e*LR	LR	09 00 03.9	
	comp=Z,1μm,28.0s,baz=270						
PPT	**Papeete**	**40.20**	**95**	*e*S	**S**	**08 55 14.4**	**+9.4**
	comp=Z,351nm,25.5s						
PPT				*e*LQ		08 58 22.5	
	comp=Z,766nm,29.2s						
PPT				*e*LR	LR	09 00 19.4	
	comp=Z,2μm,26.2s,baz=262						
PPT	**Papeete**	**40.20**	**95**	LR	LR	09 01 01.9	
	comp=Z,592nm,20.6s,MS4.4,baz=255,slow=29						
FITZ	**Fitzroy Crossi**	**40.23**	**264**	⇓*i*P	**P**	**08 49 01.2**	**+0.6**
	comp=Z,38nm,0.7s,mb5.2						
FITZ				*e*	pP	08 49 12.2	+1.7
FITZ	**Fitzroy Crossi**	**40.23**	**264**	P	**P**	**08 49 01.5**	**+0.8**
	comp=Z,18nm,0.7s,mb4.9,baz=115,slow=7.9,SNR=26						
FITZ				LR	LR	09 05 18.5	
	comp=Z,1μm,20.0s,MS4.7,baz=87,slow=36						
NWAO	**Narrogin (SRO)**	**47.57**	**242**	P	**P**	**08 49 59.4**	**-0.1**
	comp=Z,18nm,0.7s,mb5.2,baz=57,slow=5.1,SNR=9.3						
NWAO				LR	LR	09 10 41.3	
	comp=Z,599nm,18.9s,MS4.6,baz=94,slow=37						
TAOE	**Nuku Hiva Isla**	**51.05**	**86**	*e*S	**S**	**08 57 50.7**	**+9.4**
	comp=Z,1μm,26.3s						
TAOE				*e*LR	LR	09 05 24.1	
	comp=Z,3μm,24.9s						
CBIJ	**Chichi jima**	**51.86**	**330**	LR	LR	09 10 08.8	
	comp=Z,420nm,20.6s,MS4.5,baz=302,slow=33						
RKT	**Rikitea**	**53.14**	**105**	*e*S	**S**	**08 58 17.9**	**+8.0**
	comp=Z,257nm,26.8s						
RKT				*e*LR	LR	09 06 12.1	
	comp=Z,669nm,28.5s						
VNDA	**Vanda**	**59.09**	**182**	*e*P	**P**	**08 51 24.0**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**59.09**	**182**	*e*P	**P**	**08 51 24.0**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.5						
SBA	**Scott Base**	**59.34**	**180**	*e*P	**P**	**08 51 27.0**	**+1.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**59.34**	**180**	*e*P	**P**	**08 51 26.9**	**+1.0**
	comp=Z,8.7nm,0.8s,mb4.8						
JOW	**Kunigami**	**59.39**	**318**	LR	LR	09 17 20.4	
	comp=Z,312nm,18.0s,MS4.5,baz=139,slow=36						
MJAR	**Matsushiro Arr**	**61.64**	**333**	P	**P**	**08 51 40.3**	**-1.2**
	comp=Z,4.3nm,1.0s,mb4.5,baz=161,slow=7.2,SNR=5.9						
ASAJ	**Asahikawa**	**66.58**	**340**	P	**P**	**08 52 13.3**	**-0.6**
	comp=Z,7.4nm,0.9s,mb4.7,baz=172,slow=20,SNR=3.3						
KSRS	**Korea Array**	**67.32**	**326**	P	**P**	**08 52 19.1**	**+0.4**
	comp=Z,2.6nm,1.0s,mb4.2,baz=192,slow=5.9,SNR=4.2						
KSRS				LR	LR	09 18 54.8	
	comp=Z,148nm,20.0s,MS4.2,baz=132,slow=33						
NJ2	**Nanjing**	**68.96**	**316**	*eP*	**P**	**08 52 29.0**	**0.0**
NJ2				AP	pP	08 52 40.0	+0.7
NJ2				XP	sP	08 52 43.5	+0.3
NJ2				PP	PP	08 55 03.5	+2.1
NJ2				S	S	09 01 29.0	-2.2
NJ2				AMB	AMB		
	comp=Z,740nm,8.8s						
NJ2				LR	LR		
	comp=N,540nm,22.3s,MS4.9						
NJ2				LR	LR		
	comp=E,660nm,23.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,350nm,21.7s,MS4.6						
YSS	**Yuzh-Sakhalins**	**69.08**	**342**	*eP*	**P**	**08 52 30.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
PSI	**Prapat**	**71.23**	**280**	P	**P**	**08 52 42.7**	**-0.2**
	comp=Z,6.1nm,0.9s,mb4.5,baz=293,slow=4.6,SNR=6.7						
PSI	**Prapat**	**71.23**	**280**	P	**P**	**08 52 42.7**	**-0.2**
QSPA	**South Pole Qui**	**71.50**	**180**	*eP*	**P**	**08 52 45.2**	**+0.7**
	comp=Z,31nm,0.8s,mb5.3						
MDJ	**Mudanjiang**	**72.00**	**332**	P	**P**	**08 52 48.0**	**+0.4**
MDJ				S	S	09 02 14.0	+7.3
MDJ				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,192nm,5.0s						
MDJ				LR	LR		
	comp=N,115nm,26.3s,MS4.2						
MDJ				LR	LR		
	comp=E,94nm,21.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,152nm,20.9s,MS4.2						
MDJ	**Mudanjiang**	**72.00**	**332**	*eP*	**P**	**08 52 48.1**	**+0.6**
	comp=Z,19nm,0.9s,mb5.0						
CN2	**Changchun**	**73.31**	**329**	⇑P	**P**	**08 52 55.5**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
KLR	**Kul'dur**	**74.80**	**336**	*eP*	**P**	**08 53 02.0**	**-2.0**
NANT	**Nan**	**75.86**	**296**	⇑P	**P**	**08 53 10.0**	**-0.1**
	comp=Z,99nm,1.1s,mb5.7						
KMI	**Kunming**	**76.98**	**302**	P	**P**	**08 53 19.0**	**+2.5**
KMI				AP	pP	08 53 26.0	-1.0
KMI				XP	sP	08 53 29.8	-1.1
KMI				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
KMI				LR	LR		
	comp=N,137nm,24.0s,MS4.5						
KMI				LR	LR		
	comp=E,230nm,24.0s,MS4.5						
KMI				LR	LR		
	comp=Z,171nm,24.0s,MS4.3						
KMI	**Kunming**	**76.98**	**302**	P	**P**	**08 53 19.0**	**+2.5**
	comp=Z,26nm,0.8s,mb5.2						
KMI				pP	pP	08 53 26.0	-1.0
KMI				sP	sP	08 53 29.7	-1.2
KMI				PcP	PcP	08 53 52.0	+25
KMI				PP	PP	08 55 45.3	-25
KMI				LR	LR		
	comp=Z,170nm,24.0s,MS4.3						
CHTO	**Chiang Mai**	**77.37**	**295**	*eP*	**P**	**08 53 19.7**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**77.37**	**295**	*eP*	**P**	**08 53 19.7**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8						
MAW	**Mawson**	**78.66**	**202**	*eP*	**P**	**08 53 26.8**	**+1.0**
	comp=Z,4.5nm,1.0s,mb4.3						
MAW	**Mawson**	**78.66**	**202**	P	**P**	**08 53 26.7**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=102,slow=7.4,SNR=8.5						
MAW				LR	LR	09 23 32.4	
	comp=Z,254nm,19.4s,MS4.6,baz=72,slow=32						
MAW	**Mawson**	**78.66**	**202**	*eP*	**P**	**08 53 26.8**	**+1.0**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LZH	**Lanzhou**	**81.46**	**312**	*eP*	**P**	**08 53 42.8**	**+1.9**
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH	**Lanzhou**	**81.46**	**312**	*eP*	**P**	**08 53 42.8**	**+1.9**
	comp=Z,30nm,1.3s,mb5.1						
LZH				sP	sP	08 53 47.7	-7.6
SEY	**Seymchan**	**82.14**	**353**	*eP*	**P**	**08 53 43.0**	**-1.5**
SYO	**Syowa Base**	**85.29**	**196**	⇑*e*P	**P**	**08 54 00.4**	**-0.2**
SYO	**Syowa Base**	**85.29**	**196**	⇑*e*PcP	PcP	08 54 02.4	-1.3
ULN	**Ulaanbaatar**	**85.66**	**324**	⇑*i*P	**P**	**08 54 02.7**	**+0.2**
ULN	**Ulaanbaatar**	**85.66**	**324**	*eP*	**P**	**08 54 03.1**	**+0.6**
	comp=Z,15nm,1.1s,mb5.1						
GTA	**Gaotai**	**85.86**	**314**	*eP*	**P**	**08 54 05.0**	**+1.5**
GTA				AP	pP	08 54 12.0	-2.1
GTA				XP	sP	08 54 15.5	-2.4
GTA				PP	PP	08 57 21.5	-1.7
GTA				PPP		08 59 15.0	
GTA				S	S	09 04 27.8	-6.6
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,73nm,7.2s						
GTA				LR	LR		
	comp=N,106nm,19.4s,MS4.5						
GTA				LR	LR		
	comp=E,161nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=Z,168nm,20.5s,MS4.4						
YAK	**Yakutsk**	**85.89**	**343**	*eP*	**P**	**08 54 02.8**	**-0.8**
YAK				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.5						
YAK	**Yakutsk**	**85.89**	**343**	*eP*	**P**	**08 54 02.9**	**-0.7**
SONM	**Songino Array**	**86.02**	**324**	P	**P**	**08 54 04.7**	**+0.4**
	comp=Z,8.3nm,1.1s,mb4.9,baz=140,slow=4.8,SNR=23						
SONM				LR	LR	09 29 19.8	
	comp=Z,139nm,21.1s,MS4.3,baz=359,slow=33						
BILL	**Bilibino**	**86.34**	**359**	*c iP*	**P**	**08 54 04.3**	**-1.6**
BILL				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.4						
BILL	**Bilibino**	**86.34**	**359**	*eP*	**P**	**08 54 04.6**	**-1.2**
	comp=Z,29nm,1.1s,mb5.4						
WDC	**Whiskeytown Da**	**87.15**	**46**	*eP*	**P**	**08 54 13.0**	**+3.2**
WDC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
WDC	**Whiskeytown Da**	**87.15**	**46**	*eP*	**P**	**08 54 13.0**	**+3.2**
	comp=Z,6.5nm,0.9s,mb4.9						
CMB	**Columbia Colle**	**87.51**	**49**	*eP*	**P**	**08 54 13.9**	**+2.4**
CMB				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
CMB	**Columbia Colle**	**87.51**	**49**	*eP*	**P**	**08 54 13.8**	**+2.3**
	comp=Z,12nm,1.0s,mb5.1						
HUMO	**Hull Mountain**	**87.81**	**44**	*eP*	**P**	**08 54 16.5**	**+3.6**
	comp=Z,9.2nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**89.10**	**325**	*eP*	**P**	**08 54 18.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**89.16**	**49**	P	**P**	**08 54 18.8**	**-0.6**
	comp=Z,1.2nm,0.8s,mb4.3,baz=239,slow=6.2,SNR=3.1						
NVAR	**Mina Array Bea**	**89.16**	**49**	P	**P**	**08 54 18.8**	**-0.6**
MAIT	**Maitri**	**89.40**	**188**	*eP*	**P**	**08 54 20.0**	**-0.5**
SNAA	**Sanae**	**89.80**	**183**	*eP*	**P**	**08 54 22.1**	**-0.2**
SNAA	**Sanae**	**89.80**	**183**	*eP*	**P**	**08 54 21.7**	**-0.6**
	comp=Z,11nm,0.9s,mb5.2						
VNA3	**Neumayer Olymp**	**90.43**	**181**	⇑*i*P	**P**	**08 54 24.5**	**-0.8**
VNA3				*e*		08 54 25.6	
VNA3				*e*		08 54 29.1	
VNA3				*e*	pP	08 54 32.5	-3.5
VNA3				*e*	pP	08 54 36.3	+0.3
VNA3				*e*		08 54 41.3	
VNA3				*e*		08 54 45.7	
WVOR	**Wild Horse Val**	**90.60**	**45**	*eP*	**P**	**08 54 25.9**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
WVOR	**Wild Horse Val**	**90.60**	**45**	*eP*	**P**	**08 54 25.9**	**-0.2**
	comp=Z,12nm,1.0s,mb5.2						
VNA2	**Neumayer--Watz**	**90.71**	**181**	*eP*	**P**	**08 54 26.2**	**-0.4**
VNA2				*e*		08 54 27.3	
VNA2				*e*		08 54 30.4	
VNA2				*e*	pP	08 54 34.0	-3.2
VNA2				*e*	pP	08 54 38.0	+0.8
VNA2				*e*		08 54 42.8	
VNA2				*e*		08 54 48.0	
VNA2				*e*		08 54 55.3	
VNA1	**Neumayer--Stat**	**91.00**	**181**	⇓*i*P	**P**	**08 54 28.0**	**+0.1**
VNA1				*e*		08 54 28.9	
VNA1				*e*		08 54 32.9	
VNA1				*e*	pP	08 54 35.4	-3.2
VNA1				*e*	pP	08 54 39.3	+0.7
VNA1				*e*		08 54 44.3	
VNA1				*e*		08 54 49.8	
HAWA	**Hanford**	**91.69**	**41**	*eP*	**P**	**08 54 30.8**	**-0.3**
	comp=Z,12nm,0.9s,mb5.2						
TIXI	**Tiksi**	**93.85**	**348**	⇓*i*P	**P**	**08 54 38.2**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,117nm,18.0s,MS4.4						
TIXI	**Tiksi**	**93.85**	**348**	*eP*	**P**	**08 54 39.2**	**-1.9**
PDAR	**Pinedale Array**	**96.95**	**47**	P	**P**	**08 54 54.7**	**-0.5**
	comp=Z,0.4nm,0.9s,mb3.9,baz=258,slow=3.6,SNR=2.3						
PDAR				LR	LR	09 29 08.0	
	comp=Z,148nm,21.1s,MS4.4,baz=259,slow=30						
TXAR	**Lajitas Array**	**97.39**	**62**	P	**P**	**08 54 56.8**	**-0.5**
	comp=Z,0.5nm,0.6s,mb4.1,baz=231,slow=4.8,SNR=4.

CDF	**Champ du Feu**	**146.38**	**337**	*e*PKP1	PKPbc	09 01 04.4	-0.2
	comp=Z,26nm,0.7s						
HINF	**Hinteralfeld**	**147.03**	**337**	*e*PKP1	PKPbc	09 01 05.9	-0.5
HAU	**Haudompre**	**147.06**	**337**	*e*PKP1	PKPbc	09 01 06.3	-0.2
	comp=Z,20nm,0.7s						
HAU				*e*R			
	comp=Z,286nm,20.5s						
HAU	**Haudompre**	**147.06**	**337**	*e*PKP	PKPdf	09 01 06.3	+1.9
HAU				LR	LR		
	comp=Z,290nm,20.5s,MS5.0						
MEZF	**Maizieres J'vi**	**147.10**	**339**	*e*PKP1	PKPbc	09 01 06.9	+0.3
	comp=Z,41nm,0.8s						
CABF	**La Chapelle**	**148.32**	**336**	*e*PKP1	PKPbc	09 01 10.3	+0.4
	comp=Z,37nm,1.0s						
FLN	**La Foliniere**	**148.47**	**345**	*e*PKP1	PKPbc	09 01 09.8	-0.5
	comp=Z,73nm,1.0s						
LDF	**La Druitiere**	**148.54**	**345**	*e*PKP1	PKPbc	09 01 09.8	-0.7
	comp=Z,22nm,0.8s						
LOR	**Lormes**	**148.57**	**339**	*e*PKP1	PKPbc	09 01 10.1	-0.5
	comp=Z,35nm,0.9s						
LOR				*e*R			
	comp=Z,277nm,22.2s						
LOR	**Lormes**	**148.57**	**339**	*e*PKP	PKPbc	09 01 10.1	-0.5
LOR				LR	LR		
	comp=Z,280nm,22.3s,MS5.0						
SSF	**Saint Saulge**	**148.87**	**339**	*e*PKP1	PKPbc	09 01 10.9	-0.4
	comp=Z,58nm,1.0s						
GRR	**Gorron**	**148.91**	**346**	*e*PKP1	PKPbc	09 01 11.2	-0.2
LPL	**La Plagne**	**148.97**	**334**	*e*PKP1	PKPbc	09 01 11.6	0.0
	comp=Z,111nm,0.6s						
HYF	**Humbligny**	**148.97**	**341**	*e*PKP1	PKPbc	09 01 11.9	+0.3
LPG	**La Plagne**	**148.97**	**334**	*e*PKP1	PKPbc	09 01 12.2	+0.6
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**149.12**	**339**	*e*PKP1	PKPbc	09 01 11.6	-0.4
	comp=Z,43nm,1.0s						
AVF	**Avril sur Loir**	**149.16**	**339**	*e*PKP1	PKPbc	09 01 11.7	-0.4
	comp=Z,22nm,0.9s						
BNI	**Bardonecchia**	**149.36**	**334**	*e*PKPbc	PKPbc	09 01 13.3	+0.7
BNI				*e*PKPab	PKPab	09 01 18.7	+1.4
SGMF	**Saint Gilles**	**149.41**	**348**	*e*PKP1	PKPbc	09 01 12.2	-0.5
	comp=Z,66nm,1.0s						
ROSF	**Rostrenen**	**149.47**	**349**	*e*PKP1	PKPbc	09 01 12.2	-0.6
	comp=Z,130nm,1.3s						
BGF	**Bois d'Agland**	**149.53**	**340**	*e*PKP1	PKPbc	09 01 13.7	+0.7
	comp=Z,21nm,0.7s						
QUIF	**Quistinic**	**149.85**	**348**	*e*PKP1	PKPbc	09 01 13.1	-0.7
SBF	**Sospel**	**149.97**	**331**	*e*PKP1	PKPbc	09 01 13.7	-0.4
TCF	**Toulx Ste Croi**	**149.97**	**340**	*e*PKP1	PKPbc	09 01 13.9	-0.2
	comp=Z,52nm,1.1s						
PGF	**Pioggiola**	**150.22**	**328**	*e*PKP1	PKPbc	09 01 14.7	0.0
	comp=Z,28nm,0.8s						
VIVF	**Saint-Julien-l**	**150.34**	**336**	*e*PKP1	PKPbc	09 01 15.1	+0.2
MFF	**Saint Martin d**	**150.39**	**343**	*e*PKP1	PKPbc	09 01 14.8	-0.3
	comp=Z,70nm,1.1s						
FRF	**La Foret Royal**	**150.56**	**332**	*e*PKP1	PKPbc	09 01 15.1	-0.4
SMRF	**Simiane la Rot**	**150.70**	**334**	*e*PKP1	PKPbc	09 01 16.2	+0.4
	comp=Z,70nm,1.2s						
LMR	**La Mourre**	**150.81**	**332**	*e*PKP1	PKPbc	09 01 15.8	-0.3
	comp=Z,20nm,0.8s						
RJF	**Les Rejaudoux**	**151.07**	**340**	*e*PKP1	PKPbc	09 01 16.6	-0.1
	comp=Z,36nm,1.0s						
RJF				*e*R			
	comp=Z,248nm,20.5s						
RJF	**Les Rejaudoux**	**151.07**	**340**	*e*PKP	PKPbc	09 01 16.6	-0.1
RJF				LR	LR		
	comp=Z,250nm,20.5s,MS5.0						
LASF	**Ste Croix**	**151.31**	**336**	*e*PKP1	PKPbc	09 01 17.4	+0.2
	comp=Z,31nm,0.8s						
LFF	**La Frestale**	**151.64**	**341**	*e*PKP1	PKPbc	09 01 18.0	0.0
	comp=Z,37nm,0.9s						
ESDC	**Sonseca Array**	**157.85**	**344**	PKPab	PKPab	09 01 53.0	-0.2
	comp=Z,0.3nm,0.3s,baz=17,slow=3.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**165.85**	**250**	PKP	PKPdf	09 01 28.7	+0.3
	comp=Z,2.6nm,0.8s,baz=344,slow=1.1,SNR=14						
TORD				PKPab	PKPab	09 02 29.2	+1.0
	comp=Z,2.2nm,0.8s,baz=102,slow=3.4,SNR=6.7						

IDC 29 08:58:43.0±8.3, 256N×12819E, h85km±81km, mb3.2/6, mb1 3.3/6, mb1mx3.3/17, mbtmp3.2/6, Error ellipse: s-maj=70.1km s-min=17.7km az=76.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.68**	**187**	P	P	09 03 16.2	+0.1
	1.3nm,0.7s,baz=0.0,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**23.16**	**165**	P	P	09 03 41.7	-0.3
	0.6nm,0.4s,baz=346,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.65**	**168**	P	P	09 04 14.2	+0.5
	0.3nm,0.4s,baz=352,slow=7.8,SNR=9.0						
ASAR				PcP	PcP	09 07 36.2	+0.7
	0.3nm,0.4s,baz=344,slow=2.0,SNR=7.3						
KSRS	**Korea Array**	**34.73**	**360**	P	P	09 05 25.0	+0.1
	0.9nm,0.7s,baz=174,slow=9.4,SNR=3.4						
SONM	**Songino Array**	**48.87**	**341**	P	P	09 07 20.5	+0.5
	0.2nm,0.8s,baz=159,slow=9.3,SNR=2.0						
MKAR	**Makanchi Array**	**59.34**	**325**	P	P	09 08 36.0	-0.1
	0.2nm,0.3s,baz=133,slow=8.1,SNR=3.5						

WEL 29 09:19:40.1±0.5, 3838S×17872E, h12km, ML3.5/4, 1C, Error ellipse: s-maj=3.8km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.47**	**310**	P*	Pg	09 19 49.5	+0.1
PUZ				S*	Sg	09 19 55.7	-0.1
MXZ	**Matakaoa Point**	**0.88**	**338**	P*	Pb	09 19 56.1	-1.2
MXZ				S*	Sb	09 20 08.6	-0.4
MXZ				S*	Sb	09 20 08.6	-0.4
MWZ	**Matawai**	**0.94**	**272**	⇑P*	Pb	09 19 57.7	-0.7
MWZ				S*	Sb	09 20 09.8	-0.9
KNZ	**Kokohu**	**1.04**	**232**	*e*P*	Pb	09 19 59.4	-0.7
KNZ				S*	Sb	09 20 13.7	0.0
URZ	**Urewera**	**1.27**	**275**	PN	Pn	09 20 02.3	-1.4
URZ				S*	Sb	09 20 19.5	-0.8
KUZ	**Kuaotunu**	**2.89**	**303**	PN	Pn	09 20 23.7	-2.2

IDC 29 09:23:30.1±7.8, 3528S×17948E, h149km±78km, mb3.2/2, mb1 3.5/3, mb1mx3.3/11, mbtmp3.3/3, Error ellipse: s-maj=94.4km s-min=47.7km az=178.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.46**	**202**	*e*PN	Pn	09 24 10.8	0.0
MXZ				SN	Sn	09 24 43.5	+1.5
PUZ	**Puketiti**	**2.95**	**199**	*e*PN	Pn	09 24 16.8	0.0
PUZ				SN	Sn	09 24 54.9	+2.0
MWZ	**Matawai**	**3.42**	**207**	*e*PN	Pn	09 24 22.9	+0.1
MWZ				SN	Sn	09 25 04.4	+0.7
URZ	**Urewera**	**3.53**	**212**	P	Pn	09 24 24.2	0.0
	4.6nm,0.3s,baz=27,slow=2.3,SNR=24						
URZ				S	Sn	09 25 06.5	+0.4
	8.5nm,0.3s,baz=149,slow=15,SNR=7.3						
URZ	**Urewera**	**3.53**	**212**	*e*PN	Pn	09 24 23.5	-0.6
URZ				SN	Sn	09 25 07.8	+1.7
KNZ	**Kokohu**	**4.00**	**201**	*e*PN	Pn	09 24 29.5	-0.8
BKZ	**Black Stump Fm**	**4.55**	**211**	*e*PN	Pn	09 24 36.3	-1.2
PXZ	**Pawanui**	**5.17**	**203**	*e*PN	Pn	09 24 42.5	-3.3
TCW	**Tory Channel**	**7.20**	**213**	*e*PN	Pn	09 25 07.8	-4.9
TUWZ	**Tuamarina**	**7.52**	**214**	*e*PN	Pn	09 25 12.0	-5.1
THZ	**Tophouse**	**8.27**	**217**	*e*PN	Pn	09 25 21.7	-5.3
KHZ	**Kahutara**	**8.49**	**211**	*e*PN	Pn	09 25 26.0	-4.0
ASAR	**Alice Springs**	**41.01**	**274**	P	P	09 30 58.5	0.0
	0.4nm,0.4s,baz=115,slow=7.8,SNR=19						
WRA	**Warramunga Arr**	**42.45**	**279**	P	P	09 31 10.3	+0.2
	0.4nm,0.4s,baz=120,slow=6.9,SNR=27						
FINES	**FINESS Array B**	**148.85**	**335**	PKPbc	PKPbc	09 42 58.7	-1.3
	0.6nm,0.6s,baz=80,slow=3.8,SNR=2.8						

*HLW **29** 09:31:33.0, 31.32N×35.92E, h15km, Mb3.1*
*ISCJB **29** 09:31:42.4±0.6, 3089N±003×3506E±005, h0km, Error ellipse: s-maj=6.8km s-min=4.4km az=155.4*
*CSEM **29** 09:31:42.1±0.1, 3087N×3503E, h1km, ML2.5, Error ellipse: s-maj=2.1km s-min=1.5km az=95.0, Mining explosion.*
*GII **29** 09:31:42.2±0.1, 3090N×3501E, h0km±3km, ML2.5/4*
ISC 29 09:31:42.9±0.6, 3090N±003×3505E±005, h0km, n17, σ1s02/21, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASH	**Mash'abbe Sade**	**0.25**	**293**	Pg	**Pg**	**09 31 47.5**	**-0.1**
MASH				Sg	**Sg**	**09 31 52.5**	**+1.6**
MASH	**Mash'abbe Sade**	**0.25**	**293**	Pg	**Pg**	**09 31 47.5**	**-0.2**
MASH				Sg	**Sg**	**09 31 52.5**	**+1.6**
RTMI	**Retamim**	**0.35**	**297**	Pg	**Pg**	**09 31 49.5**	**0.0**
ZFRI	**Zfri**	**0.36**	**162**	Pg	**Pg**	**09 31 50.3**	**+0.5**
SVTA	**Shivta**	**0.37**	**275**	Pg	**Pg**	**09 31 49.8**	**-0.2**
RMNI	**Mount Ramon**	**0.39**	**220**	Pg	**Pg**	**09 31 50.4**	**-0.1**
YTIR	**Yattir**	**0.47**	**7**	Pg	**Pg**	**09 31 52.7**	**+0.9**
MZDA	**Masada**	**0.49**	**33**	Pg	**Pg**	**09 31 52.8**	**+0.5**
KZIT	**Kziot**	**0.56**	**271**	Pg	**Pg**	**09 31 53.4**	**-0.3**
HRFI	**Mount Harif**	**0.86**	**181**	Pg	**Pg**	**09 31 59.3**	**-0.1**
AQBJ	**Aqaba**	**1.17**	**180**	Pg	**Pg**	**09 32 05.4**	**+0.1**
EIL	**Elat**	**1.23**	**184**	Pg	**Pg**	**09 32 06.0**	**-0.4**
EIL				Sg	**Sg**	**09 32 23.8**	**+1.4**
HNKL	**Nakhl**	**1.34**	**224**	P	**Pg**	**09 32 07.3**	**-1.2**
HMDT	**Nahal Hemdat**	**1.41**	**17**	Pn	**Pn**	**09 32 09.0**	**-0.8**
AMAG	**Maghara**	**1.61**	**261**	P	**Pn**	**09 32 11.5**	**-1.0**
HDHB	**Dhahab**	**2.20**	**190**	P	**Pn**	**09 32 16.9**	**-3.8**
HKAT	**Jabal Katrina**	**2.54**	**202**	P	**Pn**	**09 32 23.3**	**-2.0**
HKAT				S	**Sn**	**09 32 59.8**	**+2.7**

*ISCJB **29** 09:39:41.4±0.7, 1861S±005×6877W±009, h147km±7km, mb3.7/7, Error ellipse: s-maj=13.9km s-min=7.7km az=26.6*
*NEIC **29** 09:39:41.2±0.9, 1856S×6897W, h130km±9km, mb3.6/1, Error ellipse: s-maj=16.4km s-min=11.4km az=81.0*
*IDC **29** 09:39:42.0±0.9, 1857S×6882W, h134km±8km, mb3.7/6, mb1 3.8/9, mb1mx3.6/18, mbtmp3.6/9, Error ellipse: s-maj=21.2km s-min=8.3km az=97.0*
ISC 29 09:39:42.5±0.7, 1861S±005×6878W±009, h142km±7km, n19, σ0s91/16, mb3.7/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.39**	**15**	P	**Pn**	**09 40 22.7**	**+0.9**
	10nm,0.3s,baz=186,slow=4.8,SNR=432						
LPAZ				S	**Sn**	**09 40 52.1**	**0.0**
	3.9nm,0.3s,baz=220,slow=25,SNR=9.7						
LVC	**Limon Verde**	**3.99**	**182**	P	**Pn**	**09 40 43.2**	**+0.9**
	6.1nm,0.3s,baz=90,slow=7.3,SNR=59						
LVC				S	**Sn**	**09 41 28.7**	**-0.1**
	21nm,0.3s,baz=90,slow=20,SNR=14						
SIV	**San Ignacio**	**7.81**	**72**	P	**Pn**	**09 41 33.2**	**-0.2**
	2.2nm,0.3s,baz=267,slow=12,SNR=40						
SIV				S	**Sn**	**09 42 59.6**	**-0.8**
	0.3nm,0.3s,baz=325,slow=13,SNR=7.6						
NNA	**Nana**	**10.18**	**309**	P	**Pn**	**09 41 59.8**	**-5.2**
	7.9nm,0.3s,baz=137,slow=12,SNR=14						
CFAA	**Coronel Fontan**	**12.95**	**178**	P	**Pn**	**09 42 39.1**	**-2.1**
	0.0nm,0.3s,baz=313,slow=9.4,SNR=6.0						
OTAV	**Otavalo**	**21.00**	**332**	*e*P	**P**	**09 44 14.6**	**0.0**
	0.6nm,0.3s						
SNAA	**Sanae**	**64.97**	**161**	P	**P**	**09 50 08.6**	**+1.6**
	0.3nm,0.6s,mb3.3,baz=308,slow=12,SNR=4.7						
PDAR	**Pinedale Array**	**71.68**	**330**	P	**P**	**09 50 48.0**	**-0.8**
	0.2nm,0.6s,mb3.0,baz=133,slow=7.7,SNR=2.4						
ULM	**Lac du Bonnet**	**72.61**	**342**	P	**P**	**09 50 53.0**	**-1.3**
	2.6nm,0.6s,mb4.1,baz=118,slow=5.0,SNR=6.9						
TOA0	**Torodi Ar. Sit**	**76.29**	**71**	*e*P	**P**	**09 51 16.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.29**	**71**	P	**P**	**09 51 16.4**	**+0.9**
	4.0nm,0.7s,mb4.2,baz=251,slow=5.4,SNR=29						
ESDC	**Sonseca Array**	**83.70**	**45**	P	**P**	**09 51 55.5**	**+0.1**
	0.4nm,0.4s,mb3.5,baz=245,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**88.51**	**341**	P	**P**	**09 52 18.6**	**-0.3**
	1.2nm,0.4s,mb4.2,baz=132,slow=4.7,SNR=21						
YKA				pP	pP	09 52 55.5	+0.6
	0.4nm,0.5s,baz=132,slow=4.7,SNR=2.3						
ASAR	**Alice Springs**	**132.51**	**209**	PKP	PKPdf	09 58 41.5	+1.4
	0.3nm,0.9s,baz=146,slow=1.5,SNR=4.6						
WRA	**Warramunga Arr**	**135.48**	**212**	PKP	PKPdf	09 58 47.6	+2.0
	0.3nm,0.5s,baz=145,slow=1.6,SNR=9.9						
WRA				pPKP	pPKPdf	09 59 24.5	+1.1
	0.4nm,0.8s,baz=153,slow=1.8,SNR=2.6						
WRA	**Warramunga Arr**	**135.48**	**212**	PKP	PKPdf	09 58 47.6	+2.0
WRA				pPKP	pPKPdf	09 59 24.5	+1.1
ZAL	**Zalesovo**	**139.28**	**24**	PKP	PKPdf	09 58 54.0	+1.3
	1.1nm,0.3s,baz=326,slow=4.6,SNR=4.4						
ZAL	**Zalesovo**	**139.28**	**24**	PKP	PKPdf	09 58 54.0	+1.3
SONM	**Songino Array**	**150.58**	**7**	PKPbc	PKPbc	09 59 19.0	+1.5
	2.6nm,0.6s,baz=318,slow=1.6,SNR=19						

*IDC **29** 09:44:40.5±1.0, 332S×14609E, h0km, mb4.3/8, mb1 4.4/11, mb1mx4.3/17, mbtmp4.4/11, ML3.7/3, MS3.7/14, Ms1 3.7/14, ms1mx3.6/21, Error ellipse: s-maj=28.8km s-min=16.7km az=80.0*
*ISCJB **29** 09:44:43.6±0.7, 3395S±008×14605E±009, h35km, mb4.1/7, MS3.8/10, Error ellipse: s-maj=13.4km s-min=11.8km az=146.6*
ISC 29 09:44:45.8±0.7, 3395S±008×14604E±009, h35km, n22, σ0s95/17, mb4.1/7, MS3.8/10, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.08**	**170**	Pn	**Pn**	**09 46 11.8**	**-1.4**
	3.7nm,0.3s,baz=17,slow=6.3,SNR=10						
PMG				LR	LR	09 48 20.2	
	comp=Z,238nm,20.0s,baz=0.1,slow=36						
HNR	**Honiara**	**15.06**	**114**	Pn	**Pn**	**09 48 16.2**	**+0.3**
	2.0nm,0.3s,baz=233,slow=1.3,SNR=3.6						
HNR				LR	LR	09 53 01.7	
	comp=Z,208nm,19.0s,baz=358,slow=33						
KAKA	**Kakadu**	**16.33**	**235**	*e*P	**Pn**	**09 48 30.9**	**-1.4**
	43nm,0.6s						
CTA	**Charters Tower**	**16.60**	**179**	*e*P	**Pn**	**09 48 38.7**	**+3.0**
	3.6nm,0.6s						
CTA	**Charters Tower**	**16.60**	**179**	Pn	**Pn**	**09 48 37.2**	**+1.5**
	0.2nm,0.3s,baz=324,slow=9.4,SNR=4.1						
CTA				LR	LR	09 54 08.5	
	comp=Z,99nm,20.6s,baz=181,slow=34						
GUMO	**Guam**	**16.90**	**356**	LR	LR	09 54 20.4	
	comp=Z,79nm,18.2s,baz=169,slow=34						
WB2	**Warramunga Arr**	**20.02**	**214**	*e*P	**P**	**09 49 15.9**	**+0.4**
WRA	**Warramunga Arr**	**20.03**	**214**	P	**P**	**09 49 16.0**	**+0.4**
	22nm,0.8s,baz=38,slow=9.6,SNR=104						
WRA				LR	LR	09 57 07.2	
	comp=Z,131nm,19.2s,MS3.3,baz=30,slow=37						
ASAR	**Alice Springs**	**23.32**	**209**	P	**P**	**09 49 50.8**	**-0.1**
	14nm,0.8s,mb4.5,baz=44,slow=7.7,SNR=177						
ASAR				LR	LR	09 59 04.2	
	comp=Z,165nm,19.8s,MS3.5,baz=39,slow=37						
ASPA	**Alice Springs**	**23.33**	**209**	*e*P	**P**	**09 49 50.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.76**	**232**	*e*P	**P**	**09 50 04.4**	**+0.4**
	34nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.76**	**232**	P	**P**	**09 50 04.1**	**0.0**
	16nm,0.7s,mb4.7,baz=56,slow=9.3,SNR=35						
FITZ				LR	LR	10 00 30.4	
	comp=Z,225nm,18.5s,MS3.7,baz=56,slow=38						
DZM	**Mont Dzumac**	**27.15**	**135**	P	**P**	**09 50 24.7**	**-1.0**
	6.8nm,1.0s,mb4.1,baz=328,slow=17,SNR=3.1						
DZM				LR	LR	09 59 59.4	
	comp=Z,249nm,18.6s,MS3.8,baz=304,slow=34						
STKA	**Stephens Creek**	**28.65**	**188**	*e*P	**P**	**09 50 43.8**	**+4.8**
	3.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**09 50 41.4**	**+2.3**
	3.1nm,0.8s,mb4.1,baz=4.8,slow=15,SNR=5.8						
STKA				LR	LR	10 03 02.1	
	comp=Z,218nm,19.5s,MS3.8,baz=13,slow=38						
JNU	**Nakatsue**	**39.04**	**340**	LR	LR	10 07 43.9	
	comp=Z,164nm,18.7s,MS3.9,baz=76,slow=36						
KSRS	**Korea Array**	**43.98**	**339**	P	**P**	**09 52 48.7**	**-0.9**
	0.8nm,0.7s,mb3.6,baz=152,slow=9.8,SNR=3.1						
KSRS				LR	LR	10 07 33.3	
	comp=Z,82nm,21.3s,MS3.6,baz=13,slow=31						
SONM	**Songino Array**	**61.67**	**331**	P	**P**	**09 55 00.8**	**+0.7**
	0.8nm,0.8s,mb3.9,baz=137,slow=7.9,SNR=5.8						
MKAR	**Makanchi Array**	**74.89**	**320**	P	**P**	**09 56 23.3**	**+0.4**
	2.1nm,1.0s,mb4.0,baz=116,slow=6.9,SNR=6.8						
ZAL	**Zalesovo**	**76.31**	**328**	LR	LR	10 28 48.5	
	comp=Z,88nm,21.5s,MS4.0,baz=37,slow=35						
AKTO	**Aktyubinsk**	**91.32**	**320**	LR	LR	10 37 14.2	
	comp=Z,92nm,18.2s,MS4.3,baz=254,slow=34						
YKA	**Yellowknife Ar**	**97.31**	**28**	LR	LR	10 41 10.0	
	comp=Z,39nm,19.5s,MS3.9,baz=180,slow=35						

IDC 29 09:58:48.3±1.2, 4631N×15535E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/22, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/33, Error ellipse: s-maj=52.8km s-min=34.0km az=103.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**63.75**	**55**	LR	LR	10 34 27.4	
	comp=Z,46nm,21.9s,baz=143,slow=34						
FINES	**FINESS Array B**	**65.09**	**336**	P	P	10 09 30.1	-0.5
	0.5nm,0.3s,baz=44,slow=7.6,SNR=7.3						
WRA	**Warramunga Arr**	**68.63**	**201**	P	P	10 09 53.2	0.0
	0.4nm,1.0s,baz=19,slow=6.9,SNR=3.6						
TXAR	**Lajitas Array**	**76.35**	**62**	P	P	10 10 39.5	+0.2
	0.5nm,0.8s,baz=288,slow=4.5,SNR=5.3						

*ISCJB **29** 10:01:21.0±1.1, 493N±01.1×1545E±02, h131km±9km, mb3.5/8, Error ellipse: s-maj=23.9km s-min=13.7km az=111.6*
*MOS **29** 10:01:21.3±1.3, 4931N×15451E, h138km, mb3.5/5, Error ellipse: s-maj=35.0km s-min=20.6km az=73.8*
*IDC **29** 10:01:26.3±4.5, 4922N×15434E, h168km±43km, mb3.3/8, mb1 3.6/9, mb1mx3.4/23, mbtmp3.3/9, Error ellipse: s-maj=25.6km s-min=16.3km az=137.0*
ISC 29 10:01:22.0±1.1, 493N±01×1545E±02, h125km±9km, n16, σ0s92/17, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.72**	**36**	*e*PN	**Pn**	**10 01 52.0**	**-0.3**
SKR				*e*S	**Sn**	**10 02 15.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=E,160nm,0.6s						
SKR				smax			
	comp=N,500nm,0.2s						
SKR				smax			
	comp=E,760nm,0.2s						
ASAJ	**Asahikawa**	**9.70**	**242**	P	**Pn**	**10 03 39.8**	**+1.5**
	comp=E,0.4nm,0.3s,baz=142,slow=1.3,SNR=4.9						
YAK	**Yakutsk**	**18.80**	**322**	*e*P	**P**	**10 05 32.3**	**+0.7**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
MKAR	**Makanchi Array**	**46.66**	**296**	P	**P**	**10 09 37.1**	**-0.7**
	comp=E,0.5nm,0.7s,mb3.3,baz=79,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**46.66**	**296**	P	**P**	**10 09 37.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**48.32**	**38**	P	**P**	**10 09 51.3**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.5,baz=300,slow=7.1,SNR=2.8						
YKA	**Yellowknife Ar**	**48.32**	**38**	P	**P**	**10 09 51.3**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**60.43**	**64**	P	**P**	**10 11 19.0**	**+0.8**
	comp=Z,0.7nm,0.4s,mb4.0,baz=302,slow=9.4,SNR=2.7						
FINES	**FINESS Array B**	**62.15**	**335**	P	**P**	**10 11 28.4**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=29,slow=8.7,SNR=4.0						
FINES	**FINESS Array B**	**62.15**	**335**	P	**P**	**10 11 28.5**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**62.49**	**56**	P	**P**	**10 11 33.1**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=339,slow=2.6,SNR=7.6						
WRA	**Warramunga Arr**	**71.23**	**200**	P	**P**	**10 12 26.1**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=18,slow=6.3,SNR=5.3						
ASAR	**Alice Springs**	**74.93**	**200**	P	**P**	**10 12 48.1**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=13,slow=5.5,SNR=8.7						
ASAR	**Alice Springs**	**74.93**	**200**	P	**P**	**10 12 48.1**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.43**	**62**	P	**P**	**10 12 52.5**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.6,baz=301,slow=5.3,SNR=12						
TXAR	**Lajitas Array**	**75.43**	**62**	P	**P**	**10 12 52.5**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 29 10:05:59.3±3.2, 4689S×9969E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/11, mbtmp3.8/4, MS3.7/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=152.3km s-min=25.0km az=136.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**28.04**	**209**	P	P	10 11 51.8	-0.4
	1.7nm,1.0s,baz=39,slow=15,SNR=2.2						
STKA	**Stephens Creek**	**35.24**	**80**	P	P	10 12 55.4	-0.1
	2.4nm,0.8s,baz=237,slow=9.8,SNR=

ISC 29 10:54:41.7±2.1, 466N±03×1526E±04, h35km, n8, σ0§09/8, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.66**	**28**	ePN	**Pn**	**10 55 49.5**	**0.0**
YKA	**Yellowknife Ar**	**51.21**	**37**	P	**P**	**11 03 41.5**	**0.0**
	0.8nm,0.8s,mb3.7,baz=299,slow=6.8,SNR=4.4						
YKA	**Yellowknife Ar**	**51.21**	**37**	P	**P**	**11 03 41.5**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.00**	**335**	P	**P**	**11 05 11.4**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=42,slow=5.9,SNR=4.4						
FINES	**FINESS Array B**	**64.00**	**335**	P	**P**	**11 05 11.4**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.22**	**341**	P	**P**	**11 05 38.8**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.2,baz=29,slow=6.5,SNR=3.1						
NOA	**NORSAR Array B**	**68.22**	**341**	P	**P**	**11 05 38.8**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**77.83**	**60**	P	**P**	**11 06 35.5**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=301,slow=4.6,SNR=5.1						

*ISCJB **29** 10:57:28.6±1.3, 4203N±007×7753E±008, h10km, Error ellipse: s-maj=11.3km s-min=7.6km az=127.7*
*NNC **29** 10:57:29.4±1.2, 4208N×7728E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=7.8km s-min=5.2km az=138.0*
*KNET **29** 10:57:30.2±0.8, 4208N×7722E, h13km±2km, ml3.0, Error ellipse: s-maj=6.4km s-min=4.7km az=13.0*

ISC 29 10:57:30.1±1.3, 4209N±007×7749E±008, h10km, n12, σ1§32/22, 15C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.94**	**280**	⇑P	**Pg**	**10 57 45.0**	**-3.2**
	28nm,0.1s,SNR=12						
ULHL				⇓S	**Sg**	**10 57 56.2**	**-4.2**
	122nm,0.1s						
KNDC	**Almaty**	**1.19**	**341**	⇑P	**Pb**	**10 57 51.3**	**-1.5**
	44nm,0.2s						
KNDC				⇑S	**Sb**	**10 58 07.8**	**-0.5**
	116nm,0.3s						
TKM2	**Tokmak 2**	**1.63**	**301**	⇓P	**Pn**	**10 57 57.4**	**-1.4**
	17nm,0.1s,SNR=123						
TKM2				⇓S	**Sn**	**10 58 18.3**	**-1.5**
	275nm,0.1s						
TKM2	**Tokmak 2**	**1.63**	**301**	⇓P	**Pn**	**10 57 57.4**	**-1.4**
	0.2nm,0.2s						
TKM2				⇓S	**Sn**	**10 58 17.9**	**-1.9**
	1.2nm,0.2s						
KZA	**Kyzart**	**1.67**	**270**	⇑P	**Pn**	**10 57 57.9**	**-1.5**
	33nm,0.3s,SNR=62						
KZA				⇑S	**Sn**	**10 58 18.9**	**-1.9**
	46nm,0.1s						
KBK	**Karagaybulak**	**1.96**	**288**	⇑P	**Pn**	**10 58 03.3**	**-0.2**
	17nm,0.2s,SNR=11						
KBK				⇑S	**Sn**	**10 58 29.1**	**+0.9**
	129nm,0.3s						
UCH	**Uchtor**	**2.21**	**275**	⇑P	**Pn**	**10 58 07.5**	**+0.6**
	14nm,0.3s,SNR=26						
UCH				⇓S	**Sn**	**10 58 35.4**	**+1.1**
	19nm,0.2s						
CHMS	**Chumysh**	**2.22**	**295**	⇑P	**Pn**	**10 58 07.3**	**+0.3**
	4.4nm,0.1s,SNR=6.0						
CHMS				⇑S	**Sn**	**10 58 35.1**	**+0.7**
	69nm,0.3s						
AAK	**Ala-Archa**	**2.28**	**285**	⇑P	**Pn**	**10 58 08.7**	**+0.9**
	8.7nm,0.2s,SNR=18						
AAK				⇓S	**Sn**	**10 58 38.1**	**+2.1**
	62nm,0.3s						
USP	**Ospenovka**	**2.50**	**299**	⇑P	**Pn**	**10 58 11.0**	**+0.2**
	9.6nm,0.2s,SNR=17						
USP				⇑S	**Sn**	**10 58 43.7**	**+2.4**
	52nm,0.3s						
KK31	**Karatay Array**	**5.25**	**283**	Pn	**Pn**	**10 58 48.2**	**-0.4**
	0.6nm,0.4s,baz=191,slow=15,SNR=10						
KK31				⇑Lg		11 00 08.5	
	1.6nm,0.3s,baz=102,slow=24,SNR=13						
MK31	**Makanchi Array**	**5.83**	**35**	⇑Pn	**Pn**	**10 58 58.2**	**+1.7**
	0.3nm,0.3s,baz=184,slow=16,SNR=4.2						
MK31				⇓Lg		11 00 35.3	
	2.1nm,0.6s,baz=217,slow=26,SNR=3.7						

CSEM 29 11:17:11.6±1.4, 4196N×264E, h0km, mb3.6/1, Error ellipse: s-maj=15.9km s-min=4.0km az=138.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EJON	**La Jonquera**	**0.52**	**21**	Pg	Pg	11 17 21.3	-0.4
	7.3nm,0.3s,SNR=7.9						
EJON				Lg		11 17 28.2	
	6.2nm,0.2s,SNR=6.1						
EMIR	**Miracle**	**0.83**	**267**	Pg	Pg	11 17 27.7	+0.1
	7.6nm,0.3s,SNR=4.6						
EMIR				Lg		11 17 38.7	
	7.9nm,0.2s						
EPOB	**Poblet**	**1.32**	**243**	Pg	Pg	11 17 34.9	-1.9
	5.9nm,0.3s,SNR=11						
EPOB				Lg		11 17 52.5	
	1.6nm,0.2s,SNR=7.7						
EBIE	**Bielsa**	**1.99**	**292**	Pn	Pn	11 17 45.9	-0.6
	5.7nm,0.3s,SNR=18						
EBIE				Lg		11 18 13.3	
	3.8nm,0.2s						
ERTA	**Horta de San J**	**2.00**	**241**	Lg		11 18 16.3	
	2.1nm,0.2s,SNR=7.9						

ISC 29 11:18:34.3±0.8, 4885N±004×2043E±007, h10km±7km, n5, σ0§53/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KECS	**Kecovo**	**0.37**	**174**	*i* PG	**Pg**	**11 18 41.2**	**-0.3**
KECS				*e*SG	**Sg**	**11 18 46.9**	**+0.5**
STHS	**Stebnicka Huta**	**0.78**	**43**	*e*PG	**Pg**	**11 18 48.0**	**-1.3**
STHS				*e*SG	**Sg**	**11 19 00.0**	**+0.4**
VYHS	**Vyhne**	**1.11**	**252**	*e*PN	**Pn**	**11 18 56.0**	**+0.1**
VYHS				*e*SN	**Sn**	**11 19 11.0**	**-0.2**
KOLS	**Kolonicke sedl**	**1.22**	**85**	*e*PN	**Pn**	**11 18 57.1**	**-0.3**
KOLS				*e*SN	**Sn**	**11 19 14.4**	**+0.4**
OJC	**Ojcow**	**1.43**	**344**	*e*Pg	**Pg**	**11 19 02.0**	**+0.3**
OJC				*e*Sg	**Sg**	**11 19 20.7**	**+0.4**

*ISCJB **29** 11:23:41.0±1.8, 4.4S±01×15293E±006, h51km±14km, mb4.2/8, MS3.6/4, Error ellipse: s-maj=19.5km s-min=9.7km az=175.4*
*IDC **29** 11:23:44.8±2.1, 4.50S×15287E, h67km±16km, mb3.9/6, mb1 4.0/9, mb1mx3.8/18, mbtmp4.0/9, MS3.4/7, Ms1 3.4/7, ms1mx3.0/20, Error ellipse: s-maj=22.1km s-min=15.7km az=158.0*
*NEIC **29** 11:23:57.2±2.4, 4.88S×15220E, h135km±15km, mb4.5/5, Error ellipse: s-maj=36.2km s-min=12.5km az=180.0*

ISC 29 11:23:44.7±1.5, 44S±01×15292E±006, h70km±11km, n20, σ0§75/24, mb4.1/8, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.57**	**229**	P	**Pn**	**11 25 32.7**	**+0.4**
	2.8nm,0.3s,baz=33,slow=8.6,SNR=10						
PMG				S	**Sn**	**11 26 56.6**	**+0.1**
	5.5nm,0.3s,baz=112,slow=20,SNR=10.0						
PMG				LR	LR	11 28 30.7	
	comp=Z,81nm,20.5s,baz=232,slow=38						
PMG	**Port Moresby**	**7.57**	**229**	*e*Pn	**Pn**	**11 25 33.7**	**+1.4**
	16nm,0.6s						
PMG				*e*Sn	**Sn**	**11 26 56.2**	**-0.3**
HNR	**Honiara**	**8.57**	**126**	P	**Pn**	**11 25 47.1**	**+1.2**
	3.0nm,0.3s,baz=274,slow=5.9,SNR=4.8						
HNR				S	**Sn**	**11 27 20.3**	**-0.8**
	2.3nm,0.3s,baz=265,slow=7.9,SNR=2.3						
HNR	**Honiara**	**8.57**	**126**	S	**Sn**	**11 27 20.3**	**-0.8**
CTA	**Charters Tower**	**16.88**	**202**	P	**Pn**	**11 27 37.1**	**+0.8**
	0.3nm,0.3s,baz=25,slow=9.8,SNR=5.5						
CTA				LR	LR	11 32 54.2	
	comp=Z,101nm,18.5s,baz=213,slow=33						
GUMO	**Guam**	**19.59**	**336**	LR	LR	11 34 04.4	
	comp=Z,77nm,19.2s,baz=94,slow=32						
KAKA	**Kakadu**	**21.85**	**247**	*e*P	**P**	**11 28 30.1**	**-1.3**
	13nm,0.8s,mb4.3						
DZM	**Mont Dzumac**	**21.90**	**144**	P	**P**	**11 28 32.0**	**0.0**
	17nm,0.9s,mb4.4,baz=322,slow=11,SNR=22						
DZM				LR	LR	11 35 55.0	
	comp=Z,179nm,18.3s,baz=333,slow=33						
WRAB	**Tennant Creek**	**23.77**	**228**	*e*P	**P**	**11 28 50.5**	**-0.3**
	11nm,0.8s,mb4.2						
WRAB				*e*S	**S**	**11 33 03.2**	**+2.1**
WB2	**Warramunga Arr**	**23.78**	**228**	⇓*i* P	**P**	**11 28 50.6**	**-0.2**
WB2				*e*S	**S**	**11 33 01.9**	**+0.7**
WRA	**Warramunga Arr**	**23.79**	**228**	P	**P**	**11 28 50.6**	**-0.2**
	5.8nm,0.3s,mb4.3,baz=52,slow=9.8,SNR=131						
WRA				S	**S**	**11 33 01.1**	**-0.3**
	2.8nm,1.0s,baz=46,slow=17,SNR=6.1						
WRA				ScP	ScP	11 36 08.4	+3.6
	1.3nm,1.0s,baz=49,slow=2.7,SNR=7.6						
AS31	**Alice Springs**	**26.51**	**222**	*e*P	**P**	**11 29 15.1**	**-0.5**
ASAR	**Alice Springs**	**26.51**	**222**	P	**P**	**11 29 15.3**	**-0.3**
	1.3nm,0.5s,mb3.8,baz=55,slow=9.2,SNR=27						
ASAR				S	**S**	**11 33 45.3**	**+0.5**
	0.2nm,0.8s,baz=43,slow=16,SNR=3.1						
ASPA	**Alice Springs**	**26.52**	**222**	*e*P	**P**	**11 29 15.1**	**-0.5**
STKA	**Stephens Creek**	**29.31**	**200**	P	**P**	**11 29 40.3**	**-0.2**
	2.2nm,0.8s,mb3.8,baz=31,slow=14,SNR=2.9						
STKA				LR	LR	11 41 00.4	
	comp=Z,95nm,19.6s,baz=26,slow=35						
FITZ	**Fitzroy Crossi**	**29.95**	**241**	*e*P	**P**	**11 29 45.1**	**-1.1**
	10nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**29.95**	**241**	P	**P**	**11 29 45.8**	**-0.4**
	3.2nm,0.6s,mb4.1,baz=91,slow=7.9,SNR=15						
SONM	**Songino Array**	**66.06**	**328**	LR	LR	12 00 25.9	
	comp=Z,48nm,19.0s,baz=322,slow=33						
MKAR	**Makanchi Array**	**80.12**	**319**	P	**P**	**11 35 48.1**	**+1.1**
	0.6nm,0.9s,mb3.4,baz=116,slow=6.6,SNR=3.2						
MKAR				LR	LR	12 10 30.4	
	comp=Z,33nm,19.1s,baz=173,slow=35						
TORD	**Torodi Ar. Bea**	**150.30**	**289**	PKPbc	PKPbc	11 43 28.4	+0.5
	1.6nm,1.0s,baz=88,slow=2.0,SNR=6.8						

*CSEM **29** 11:29:20.8±0.9, 3865N×2858W, h6km±4km, ML2.2, Error ellipse: s-maj=3.4km s-min=2.7km az=159.0, After PDA*
*PDA **29** 11:29:20.8±0.9, 3865N×2858W, h6km±4km, MD2.8, ML2.2, Error ellipse: s-maj=3.4km s-min=2.7km az=159.0*

SVSA 29 11:29:20.8±0.9, 3865N×2858W, h6km±4km, MD2.8, ML2.2, Error ellipse: s-maj=3.4km s-min=2.7km az=159.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.12**	**235**	*e*P	Pg	11 29 23.3	0.0
CALA				*e*S	Sg	11 29 25.2	+0.2
HOR	**Horta**	**0.13**	**198**	*e*P	Pg	11 29 22.9	-0.6
HOR				*e*S	Sg	11 29 25.1	-0.2
PICO	**Pico**	**0.19**	**141**	*e*P	Pg	11 29 24.3	-0.3
PCND	**Candelaria**	**0.20**	**153**	*e*P	Pg	11 29 25.1	+0.3
PCND				*i* S	Sg	11 29 28.2	+0.7
PCND							
	116nm,0.1s						
PTEI	**Pico do Teixo**	**0.23**	**131**	*e*P	Pg	11 29 25.7	+0.3
PTEI				*e*S	Sg	11 29 28.6	+0.1
PTEI							
	66nm,0.1s						
ROSA	**Rosais**	**0.27**	**75**	*e*P	Pg	11 29 25.9	-0.3
ROSA				*e*S	Sg	11 29 29.3	-0.5
PMAN	**Manadas**	**0.39**	**92**	*e*P	Pg	11 29 27.5	-0.8
PMAN				*e*S	Sg	11 29 32.8	-0.5
PMAN							
	372nm,0.1s						
PMAN	**Manadas**	**0.39**	**92**	*e*P	Pg	11 29 27.5	-0.8
PMAN				*e*S	Sg	11 29 32.8	-0.5
PID	**Ribeirinha**	**0.42**	**120**	*e*P	Pg	11 29 28.2	-0.7
PID				*e*S	Sg	11 29 33.3	-1.0

*MOS **29** 11:31:54.1±2.1, 49.14N×142.09E, h10km, mb3.9/2, Error ellipse: s-maj=42.7km s-min=14.8km az=83.7*
MOS Felt (II-III) at Uglegorsk, Shakhtersk.

SKHL 29 11:31:51.7±0.4, 4902N×14181E, h10km, mb4.9/2, 2C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.18**	**71**	*e*Pg	Pg	11 31 55.7	+0.2
UGL				AMB	AMB	11 31 56.5	
	2µm,0.3s						
UGL				AMB	AMB	11 31 56.5	
	3µm,0.3s						
UGL				AMB	AMB	11 31 56.5	
	4µm,0.3s						
UGL				*i* Sg	Sg	11 31 58.5	+0.4
UGL				A		11 31 59.5	
	4µm,0.3s						
UGL				A		11 31 59.5	
	7µm,0.3s						
UGL	**Uglegorsk**	**0.18**	**71**	⇓*i* PN	Pg	11 31 56.0	+0.5
UGL				*i* S	Sg	11 31 58.5	+0.4
UGL				pmax	pmax		
	comp=N,2µm,0.3s						
UGL				pmax	pmax		
	comp=E,3µm,0.3s						
UGL				pmax	pmax		
	comp=Z,4µm,0.3s						
UGL				smax			
	comp=N,4µm,0.3s						
UGL				smax			
	comp=E,7µm,0.3s						
TYV	**Tymovskoe**	**1.92**	**16**	*e*P	Pn	11 32 23.0	-1.5
TYV				AMB	AMB	11 32 23.2	
	comp=E,90nm,0.5s						
TYV				*e*Pg	Pg	11 32 31.0	+2.4
TYV				*e*S	Sn	11 32 47.8	-0.9
TYV				*e*Sg	Sg	11 32 55.9	+2.3
TYV				A		11 32 57.0	
	comp=E,63nm,0.7s						
TYV	**Tymovskoe**	**1.92**	**16**	*e*PN	Pn	11 32 22.8	-1.7
TYV				*e*		11 32 55.0	
TYV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TYV				smax			
	comp=N,63nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.16**	**163**	*e*Pb	Pb	11 32 31.5	+0.6
YSS				⇑*i* Pg	Pg	11 32 34.8	+1.6
YSS				*e*Sg	Sg	11 33 03.6	+2.4
YSS				A		11 33 07.2	
	comp=N,60nm,0.7s						
YSS				A		11 33 07.2	
	comp=N,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**2.16**	**163**	⇑PN	Pn	11 32 32.7	+4.9
YSS				*e*		11 33 03.6	
YSS				smax			
	comp=N,60nm,0.7s						
YSS				smax			
	comp=E,50nm,0.7s						
GRNR	**Gornyy**	**3.90**	**299**	*e*P	Pn	11 32 50.2	-1.4
GRNR				AMB	AMB	11 32 50.8	
	comp=E,20nm,0.5s						
GRNR				*e*Pg	Pg	11 33 06.5	+0.1
GRNR				*e*Sb	Sb	11 33 46.0	-1.8
NKL	**Nikolayevsk**	**4.20**	**351**	*e*S	Sn	11 33 45.5	+0.7
HABR	**Khabarovsk**	**4.51**	**266**	PN	Pn	11 33 06.5	+6.5
HABR				*e*		11 34 03.3	
EKMR	**Ekimchan**	**6.90**	**309**	*e*Pg	Pg	11 34 08.0	+4.2
EKMR				*e*Sg	Sg	11 35 40.8	+7.6
EKMR				A		11 35 41.8	
	comp=E,22nm,0.9s						
EKMR				A		11 35 41.8	
	comp=E,13nm,0.9s						
YASR	**Yasnyy**	**9.68**	**301**	*e*S	Sn	11 36 06.0	+6.2
YASR				A		11 36 54.8	
	comp=E,7.0nm,0.8s						
BMKR	**Bomnak**	**9.83**	**310**	*e*rx	rx	11 37 00.5	
ZEA	**Zeya**	**10.25**	**303**	*e*rx	rx	11 37 18.1	
BILL	**Bilibino**	**22.65**	**24**	*e*P	P	11 36 55.7	+2.8
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**65.16**	**320**	*i* P	P	11 42 40.5	+7.6
WRA	**Warramunga Arr**	**68.97**	**188**	*e*P	P	11 43 02.5	+5.4
WRA	**Warramunga Arr**	**68.97**	**188**	*i* P	P	11 43 02.5	+5.4

*ISCJB **29** 11:45:57.2±3.5, 25S±0.1×129.1E±04, h21km±25km, mb3.9/3, MS3.3/2, Error ellipse: s-maj=64.4km s-min=12.9km az=141.7*
*IDC **29** 11:46:05.1±3.8, 2.77S×129.03E, h75km±34km, mb3.6/3, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.4/23, Error ellipse: s-maj=90.6km s-min=12.9km az=72.0*

ISC 29 11:46:06.4±2.4, 28S±02×1290E±04, h86km±23km, n11, σ0§78/11, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.43**	**161**	*e*P	**Pn**	**11 48 34.2**	**+1.2**
	8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.59**	**192**	*e*P	**Pn**	**11 49 41.1**	**-0.1**
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.59**	**192**	P	**Pn**	**11 49 41.0**	**-0.2**
	0.2nm,0.3s,baz=15,slow=13,SNR=9.7						
WRA	**Warramunga Arr**	**17.83**	**163**	P	**Pn**	**11 50 07.6**	**-1.2**
	0.4nm,0.3s,baz=340,slow=12,SNR=39						
WRA				S	**S**	**11 53 27.1**	**-0.8**
	0.1nm,0.3s,baz=350,slow=19,SNR=3.0						
WB2	**Warramunga Arr**	**17.84**	**163**	*e*P	**Pn**	**11 50 08.5**	**-0.3**
ASAR	**Alice Springs**	**21.30**	**168**	P	**P**	**11 50 46.1**	**+0.2**
	11nm,1.0s,mb4.1,baz=346,slow=11,SNR=58						
ASAR				S	**S**	**11 54 39.5**	**+1.9**
	0.5nm,0.6s,baz=350,slow=24,SNR=5.0						
ASPA	**Alice Springs**	**21.30**	**168**	*e*P	**P**	**11 50 46.2**	**+0.2**
JOW	**Kunigami**	**29.44**	**359**	LR	LR	12 04 10.8	
	comp=Z,83nm,19.7s,baz=163,slow=37						
NWAO	**Narrogin (SRO)**	**31.97**	**199**	LR	LR	12 07 10.8	
	comp=Z,52nm,18.8s,baz=99,slow=40						
MKAR	**Makanchi Array**	**64.19**	**326**	P	**P**	**11 56 31.4**	**-0.5**
	1.1nm,1.0s,mb3.6,baz=112,slow=8.7,SNR=3.6						
BVAR	**Borovoye Array**	**74.00**	**328**	P	**P**	**11 57 33.1**	**+0.5**
	0.7nm,0.7s,mb3.5,baz=116,slow=6.8,SNR=5.0						

IDC 29 11:51:28.2±3.0, 262S×10188E, h223km±26km, mb3.3/7, mb1 3.4/8, mb1mx3.2/20, mbtmp3.3/8, Error ellipse: s-maj=72.3km s-min=13.5km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.14**	**331**	P	Pn	11 52 56.8	-0.8
	0.7nm,0.3s,baz=145,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**36.06**	**121**	P	P	11 58 08.3	-0.2
	0.2nm,0.4s,baz=297,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**37.38**	**127**	P	P	11 58 20.3	+0.8
	0.2nm,0.4s,baz=305,slow=7.9,SNR=7.6						
SONM	**Songino Array**	**50.40**	**4**	P	P	12 00 03.0	+0.1
	2.3nm,0.7s,baz=187,slow=9.3,SNR=15						
SONM				PcP	PcP	12 01 18.2	+0.4
	0.4nm,0.4s,baz=190,slow=4.6,SNR=4.0						
MKAR	**Makanchi Array**	**52.14**	**343**	P	P	12 00 15.4	-0.4
	0.4nm,0.4s,baz=149,slow=8.8,SNR=11						
ZAL	**Zalesovo**	**58.13**	**348**	P	P	12 00 58.5	0.0
	1.6nm,0.3s,baz=22,slow=2.1,SNR=3.0						
BVAR	**Borovoye Array**	**61.42**	**339**	P	P	12 01 20.6	-0.2
	0.4nm,0.2s,baz=124,slow=7.4,SNR=3.7						
ARCES	**ARCESS Array B**	**87.69**	**340**	P	P	12 03 51.5	0.0
	1.9nm,1.0s,baz=92,slow=5.4,SNR=3.6						
TXAR	**Lajitas Array**	**144.01**	**40**	PKP	PKPdf	12 10 36.9	-0.1
	0.2nm,0.5s,baz=296,slow=1.2,SNR=8.4						

*IDC **29** 11:53:48.0±1.1, 261N×12721E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, Error ellipse: s-maj=65.7km s-min=18.1km az=73.0*
*ISCJB **29** 11:54:01.6±4.9, 25N±01×127.1E±03, h132km±48km, mb4.0/9, Error ellipse: s-maj=55.2km s-min=18.8km az=147.7*
*NEIC **29** 11:54:03.6±3.5, 249N×12722E, h136km±34km, mb4.3/5, Error ellipse: s-maj=35.1km s-min=12.6km az=73.0*

ISC 29 11:54:03.6±4.7, 25N±01×1272E±03, h134km±46km, n16, σ0§52/16, mb4.0/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.97**	**161**	*e*P	**Pn**	**11 57 41.5**	**+0.8**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.52**	**184**	*e*P	**P**	**11 58 30.6**	**-0.5**
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.52**	**184**	P	**P**	**11 58 29.7**	**-1.4**
	1.6nm,0.3s,baz=17,slow=6.4,SNR=12						
WRAB	**Tennant Creek**	**23.36**	**163**	*e*P	**P**	**11 58 59.5**	**-0.5**
	5.8nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**23.37**	**163**	P	**P**	**11 58 59.4**	**-0.7**
	7.5nm,0.7s,mb4.2,baz=340,slow=10,SNR=73						
WRA				PcP	PcP	12 02 44.5	+1.8
	0.1nm,0.4s,baz=338,slow=2.5,SNR=4.8						
WB2	**Warramunga Arr**	**23.37**	**163**	*e*P	**P**	**11 58 59.6**	**-0.4**
AS31	**Alice Springs**	**26.80**	**166**	*e*P	**P**	**11 59 31.0**	**-0.1**
ASAR	**Alice Springs**	**26.80**	**166**	P	**P**	**11 59 31.1**	**+0.1**
	0.6nm,0.3s,mb3.7,baz=342,slow=7.7,SNR=27						
ASAR				PcP	PcP	12 02 52.3	+1.9
	0.5nm,0.6s,baz=341,slow=2.1,SNR=5.6						
ASPA	**Alice Springs**	**26.80**	**166**	*e*P	**P**	**11 59 31.1**	**0.0**
KLBR	**Kellerberrin**	**35.06**	**194**	*e*P	**P**	**12 00 44.0**	**+0.5**
	5.2nm,0.3s,mb4.6						
NWAO	**Narrogin (SRO)**	**36.46**	**194**	P	**P**	**12 00 56.0**	**+0.5**
	12nm,1.0s,mb4.5,baz=62,slow=13,SNR=7.7						
STKA	**Stephens Creek**	**36.81**	**159**	P	**P**	**12 00 58.9**	**+0.4**
	8.3nm,0.6s,mb4.5,baz=341,slow=7.9,SNR=24						
STKA	**Stephens Creek**	**36.81**	**159**	*e*P	**P**	**12 00 58.9**	**+0.4**
SONM	**Songino Array**	**48.62**	**341**	P	**P**	**12 02 33.7**	**+0.1**
	0.4nm,0.8s,mb3.1,baz=167,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**58.84**	**325**	P	**P**	**12 03 47.7**	**-0.3**
	0.2nm,0.4s,mb3.3,baz=117,slow=7.4,SNR=6.4						
VNDA	**Vanda**	**82.14**	**173**	*e*P	**P**	**12 06 09.9**	**+0.6**
	0.5nm,0.4s,mb3.5						

*NEIC **29** 11:59:29.3±0.7, 148S×13579E, h30km, mb4.3/5, Error ellipse: s-maj=27.3km s-min=10.3km az=73.0*
NEIC Felt [III] at Ransiki.
*IDC **29** 11:59:32.3±4.3, 152S×13386E, h59km±40km, mb3.9/7, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, ML4.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=41.9km s-min=12.8km az=79.0*
*ISCJB **29** 11:59:33.0±3.5, 159S±007×1339E±02, h84km±35km, mb4.1/8, Error ellipse: s-maj=29.4km s-min=10.7km az=171.7*

ISC 29 11:59:30.4±2.9, 147S±010×1340E±02, h40km±29km, n20, σ0§90/23, mb4.2/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**18.36**	**179**	*e*P	**Pn**	**12 03 41.0**	**-0.8**
	17nm,0.6s						
WRA	**Warramunga Arr**	**18.37**	**179**	P	**Pn**	**12 03 41.8**	**-0.1**
	3.1nm,0.3s,baz=360,slow=12,SNR=132						
WRA				S	**S**	**12 06

0.2nm,0.4s,mb3.4,baz=132,slow=8.0,SNR=3.4
TORD Torodi Ar. Bea 131.35 286 PKP PKPdf 12 18 39.0 +0.7
0.3nm,0.7s,baz=11,slow=1.5,SNR=2.5
LPAZ La Paz 151.95 130 PKPbc PKPbc 12 19 23.4 +2.5
0.6nm,0.5s,baz=326,slow=3.6,SNR=4.0

*IDC **29** 12:04:03.5±0.5, 664N×7455W, h58km±4km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, MS3.1/5, Ms1 3.1/5, ms1mx2.9/24, Error ellipse: s-maj=22.4km s-min=5.8km az=78.0*
*ISCJB **29** 12:04:05.4±0.9, 650N±007×7471W±007, h95km±10km, mb4.0/9, Error ellipse: s-maj=13.0km s-min=9.7km az=71.3*
ISC 29 12:04:06.7±0.8, 646N±006×7472W±007, h90km±9km, n18, σ0§57/16, mb4.0/9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.64**	**166**	P	**Pn**		**12 04 34.3**	**0.0**
	181nm,0.3s,baz=321,slow=2.7,SNR=140							
ROSC				S	**Sn**		**12 04 55.3**	**+0.2**
	295nm,0.3s,baz=58,slow=23,SNR=24							
SDV	**Santo Domingo**	**4.71**	**59**	P	**Pn**		**12 05 14.7**	**-0.6**
	5.0nm,0.3s,baz=286,slow=2.1,SNR=36							
SDV				S	**Sn**		**12 06 09.1**	**+0.4**
	22nm,0.3s,baz=269,slow=23,SNR=7.7							
PCRV	**Puerto La Cruz**	**10.64**	**69**	P	**Pn**		**12 06 36.2**	**+0.1**
	0.7nm,0.3s,baz=158,slow=5.4,SNR=3.7							
PCRV				S	**Sn**		**12 08 27.9**	**-5.3**
	0.6nm,0.3s,baz=209,slow=13,SNR=2.1							
JTS	**JuntasAbangare**	**10.81**	**291**	P	**Pn**		**12 06 38.4**	**-0.1**
	6.3nm,0.3s,baz=316,slow=17,SNR=18							
JTS				LR	LR		12 11 02.4	
	comp=Z,93nm,21.0s,baz=304,slow=38							
ATAH	**Atahualpa**	**13.87**	**195**	LR	LR		12 12 23.9	
	comp=Z,59nm,18.1s,baz=184,slow=35							
CMIG	**Matias Romero**	**22.36**	**300**	LR	LR		12 17 21.3	
	comp=Z,69nm,19.1s,baz=151,slow=36							
LPAZ	**La Paz**	**23.52**	**164**	P	**P**		**12 09 08.8**	**+0.2**
	2.3nm,0.5s,mb3.8,baz=341,slow=6.8,SNR=8.3							
SIV	**San Ignacio**	**26.08**	**149**	P	**P**		**12 09 31.3**	**-0.5**
	3.4nm,0.7s,mb3.9,baz=321,slow=11,SNR=18							
TKL	**Tuckaleechee C**	**30.23**	**345**	LR	LR		12 22 39.2	
	comp=Z,40nm,18.3s,baz=46,slow=37							
TXAR	**Lajitas Array**	**35.53**	**313**	P	**P**		**12 10 55.5**	**+0.5**
	1.0nm,0.9s,mb3.8,baz=126,slow=8.7,SNR=8.4							
TXAR				sP	sP		12 11 16.9	-9.2
	2.6nm,1.1s,baz=128,slow=8.2,SNR=6.6							
TXAR				PcP	PcP		12 13 23.3	+1.1
	0.4nm,0.8s,baz=126,slow=6.5,SNR=3.7							
TXAR				LR	LR		12 26 32.0	
	comp=Z,34nm,19.7s,baz=10.0,slow=38							
ULM	**Lac du Bonnet**	**47.10**	**342**	P	**P**		**12 12 28.4**	**-1.2**
	2.5nm,0.5s,mb4.2,baz=155,slow=7.5,SNR=10							
ULM				sP	sP		12 12 50.9	-11
	2.6nm,0.5s,baz=144,slow=7.9,SNR=4.1							
PDAR	**Pinedale Array**	**47.45**	**325**	P	**P**		**12 12 32.6**	**+0.4**
	2.3nm,1.0s,mb3.8,baz=127,slow=7.1,SNR=10							
PDAR				sP	sP		12 12 54.2	-10
	1.4nm,1.0s,baz=129,slow=12,SNR=4.0							
SCHQ	**Schefferville**	**48.65**	**6**	P	**P**		**12 12 42.0**	**+0.5**
	4.4nm,0.8s,mb4.5,baz=142,slow=9.4,SNR=4.0							
YKA	**Yellowknife Ar**	**63.06**	**340**	P	**P**		**12 14 23.9**	**-0.5**
	3.7nm,0.6s,mb4.5,baz=134,slow=6.6,SNR=38							
YKA				pP	pP		12 14 40.4	-6.6
	1.0nm,0.5s,baz=134,slow=6.6,SNR=4.6							
YKA				sP	sP		12 14 46.9	-10
	5.3nm,0.9s,baz=129,slow=7.4,SNR=9.8							
TORD	**Torodi Ar. Bea**	**75.36**	**78**	P	**P**		**12 15 39.8**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=285,slow=4.8,SNR=2.5							
TORD				pP	pP		12 15 56.8	-6.9
	0.3nm,0.5s,baz=287,slow=5.6,SNR=2.5							
ARCES	**ARCESS Array B**	**87.56**	**20**	P	**P**		**12 16 45.7**	**+1.1**
	3.9nm,1.0s,mb4.4,baz=260,slow=5.1,SNR=2.8							
ASAR	**Alice Springs**	**147.61**	**235**	PKPbc	PKPbc		12 23 41.5	+0.9
	1.3nm,0.6s,baz=122,slow=3.8,SNR=4.3							
ASAR				pPKPbc	pPKPbc		12 23 58.1	-7.3
	3.0nm,0.7s,baz=118,slow=3.3,SNR=5.7							
WRA	**Warramunga Arr**	**148.77**	**242**	PKPbc	PKPbc		12 23 44.2	+0.6
	1.6nm,0.6s,baz=111,slow=3.3,SNR=4.8							
WRA				pPKPbc	pPKPbc		12 24 01.5	-7.0
	1.9nm,0.5s,baz=107,slow=2.9,SNR=5.3							

*CSEM **29** 12:05:27.3±0.6, 3595N×1275E, h10km, MD3.1/15, ML3.8/3, Error ellipse: s-maj=9.2km s-min=3.5km az=17.0, After ROM*
*NEIC **29** 12:05:27.3, 3595N×1275E, h10km, ML3.4(ROM), After ROM.*
ROM 29 12:05:27.3±0.6, 3595N×1275E, h10km, MD3.1/15, Ml3.4/10, Error ellipse: s-maj=9.2km s-min=3.5km az=17.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**1.05**	**325**	Pg	Pg		12 05 47.1	-0.5
	521nm,0.4s							
WDD	**Wield Dalam**	**1.44**	**93**	Pg	Pg		12 05 54.9	0.0
WDD				Sg	Sg		12 06 12.5	-1.1
FAVR	**Favara**	**1.50**	**29**	Pg	Pg		12 05 56.0	-0.2
	273nm,0.6s							
CLTB	**Caltabellotta**	**1.67**	**13**	Pg	Pn		12 05 55.3	-1.2
	167nm,0.3s							
RAFF	**Raffo Rosso**	**1.81**	**45**	Pg	Pn		12 05 58.6	+0.1
	415nm,0.8s							
HMDC	**Modica**	**1.92**	**58**	Pg	Pn		12 06 00.1	+0.1
HMDC				Sg	Sn		12 06 22.9	-1.3
CORL	**Corleone**	**1.99**	**13**	Pg	Pn		12 06 00.9	-0.1
	329nm,0.6s							
HVZN	**Vizzini**	**2.00**	**52**	Pg	Pn		12 06 01.3	+0.2
HVZN				Sg	Sn		12 06 27.3	+1.2
	626nm,0.6s							
PZI	**Palazzolo**	**2.08**	**57**	Pg	Pn		12 06 02.8	+0.5
	129nm,0.1s							
HAVL	**Avola**	**2.16**	**62**	Pg	Pn		12 06 03.6	+0.3
SSY	**Sortino**	**2.22**	**57**	Pg	Pn		12 06 04.8	+0.7
SSY				Sg	Sn		12 06 31.9	+0.3
	712nm,0.8s							
CSLB	**Castelbuono**	**2.24**	**27**	Pg	Pn		12 06 05.3	+0.9
	40nm,0.2s							
GIB	**Gibilmanna**	**2.27**	**26**	Pg	Pn		12 06 05.5	+0.6
GIB				Sg	Sn		12 06 35.3	+2.3
	527nm,0.6s							
HAGA	**Augusta**	**2.34**	**55**	Pg	Pn		12 06 06.1	+0.2
MNO	**Monte Soro**	**2.52**	**38**	Pg	Pn		12 06 09.9	+1.7
	206nm,0.6s							
MTTG	**Motta San Giov**	**3.12**	**48**	Pg	Pn		12 06 17.7	+1.2
	82nm,0.5s							
MSRU	**Castanea**	**3.19**	**43**	Pg	Pn		12 06 18.5	+1.0
	233nm,1.1s							
SOI	**Samo**	**3.38**	**50**	Pg	Pn		12 06 21.0	+0.8
	9.0nm,0.2s							
JOPP	**Joppolo**	**3.64**	**42**	Pg	Pn		12 06 23.8	+0.1
	19nm,0.6s							
PLAC	**Placanica**	**3.85**	**49**	Pg	Pn		12 06 27.8	+1.2
	13nm,0.6s							
VSL	**Villasalto**	**4.44**	**324**	Pg	Pn		12 06 35.4	+0.8
	18nm,0.6s							
DGI	**Dorgali Grotta**	**5.01**	**331**	Pg	Pn		12 06 43.9	+1.3
	16nm,0.5s							

*ISCJB **29** 12:12:40.5±1.7, 878S±008×11780E±007, h115km±16km, mb4.2/15, Error ellipse: s-maj=15.3km s-min=7.1km az=71.8*
*NEIC **29** 12:12:46.2±1.5, 894S×11782E, h154km±16km, mb4.7/7, Error ellipse: s-maj=16.9km s-min=6.9km az=54.0*
*IDC **29** 12:12:46.6±2.8, 887S×11791E, h162km±27km, mb3.8/11, mb1 3.9/13, mb1mx3.8/20, mbtmp3.8/13, MS2.6/1, Ms1 2.6/1, ms1mx1.8/25, Error ellipse: s-maj=18.9km s-min=8.7km az=51.0*
ISC 29 12:12:46.3±1.2, 887S±008×11794E±007, h153km±13km, n29, σ1§12/37, mb4.2/15, 2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.84**	**142**	*e*P	**Pn**		**12 15 28.7**	**-1.6**
	28nm,1.1s							
FITZ				*e*S	**Sn**		**12 17 32.0**	**-9.2**
FITZ	**Fitzroy Crossi**	**11.84**	**142**	P	**Pn**		**12 15 28.8**	**-1.5**
	1.8nm,0.3s,baz=335,slow=6.9,SNR=34							
FITZ				S	**Sn**		**12 17 32.9**	**-8.2**
	2.9nm,0.3s,baz=187,slow=22,SNR=6.3							
FITZ				LR	LR		12 20 05.6	
	comp=Z,34nm,21.4s,baz=100,slow=37							
KSM	**Kuching**	**12.79**	**323**	*e*Pn	**Pn**		**12 15 43.4**	**+0.9**
KAKA	**Kakadu**	**14.74**	**106**	*e*P	**Pn**		**12 16 06.9**	**-0.4**
	26nm,0.5s							
KAKA				*e*S	**Sn**		**12 18 48.5**	**-2.6**
KKM	**Kota Kinabalu**	**14.92**	**353**	*e*Pn	**Pn**		**12 16 12.2**	**+2.7**
WRA	**Warramunga Arr**	**19.30**	**127**	P	**P**		**12 17 00.6**	**+1.2**
	4.9nm,0.3s,baz=299,slow=12,SNR=521							
WRA				S	**S**		**12 20 29.3**	**-0.3**
	1.1nm,0.3s,baz=298,slow=24,SNR=5.5							
WRAB	**Tennant Creek**	**19.30**	**126**	*e*P	**P**		**12 17 00.9**	**+1.4**
	19nm,0.4s							
WRAB				*e*S	**S**		**12 20 30.4**	**+0.7**
WB2	**Warramunga Arr**	**19.31**	**127**	⇓*i*P	**P**		**12 17 00.5**	**+1.0**
WB2				*e*S	**S**		**12 20 28.7**	**-1.1**
ASPA	**Alice Springs**	**21.20**	**136**	⇓*i*P	**P**		**12 17 20.7**	**+0.9**
ASPA				*e*S	**S**		**12 21 15.5**	**+8.7**
AS31	**Alice Springs**	**21.21**	**136**	*e*P	**P**		**12 17 20.5**	**+0.7**
AS31				*e*S	**S**		**12 21 15.5**	**+8.7**
ASAR	**Alice Springs**	**21.21**	**136**	P	**P**		**12 17 20.8**	**+0.9**
	2.7nm,0.4s,mb3.9,baz=311,slow=10,SNR=101							
ASAR				S	**S**		**12 21 06.8**	**0.0**
	1.2nm,0.8s,baz=305,slow=18,SNR=4.5							
PSI	**Prapat**	**22.22**	**301**	P	**P**		**12 17 28.3**	**-2.2**
	5.2nm,0.4s,mb4.4,baz=174,slow=8.8,SNR=6.6							
PSI	**Prapat**	**22.22**	**301**	P	**P**		**12 17 28.3**	**-2.2**
KLBR	**Kellerberrin**	**22.60**	**180**	*e*P	**P**		**12 17 32.9**	**-1.1**
	37nm,1.2s,mb4.7							
FORT	**Forrest**	**23.75**	**158**	*e*P	**P**		**12 17 44.9**	**+0.4**
	37nm,0.7s,mb5.0							
NWAO	**Narrogin (SRO)**	**23.94**	**181**	P	**P**		**12 17 45.1**	**-1.2**
	9.7nm,0.8s,mb4.4,baz=328,slow=7.0,SNR=6.7							
STKA	**Stephens Creek**	**31.72**	**140**	*e*P	**P**		**12 18 57.0**	**+1.5**
	2.2nm,0.5s,mb4.1							
STKA	**Stephens Creek**	**31.72**	**140**	P	**P**		**12 18 56.4**	**+0.8**
	2.7nm,0.5s,mb4.2,baz=135,slow=14,SNR=9.5							
KSRS	**Korea Array**	**47.02**	**11**	P	**P**		**12 21 02.5**	**+0.4**
	1.6nm,0.8s,mb3.7,baz=189,slow=7.1,SNR=4.4							
SONM	**Songino Array**	**57.38**	**351**	P	**P**		**12 22 18.2**	**-0.3**
	1.3nm,0.5s,mb4.0,baz=167,slow=7.7,SNR=17							
MK31	**Makanchi Array**	**63.87**	**334**	*e*P	**P**		**12 23 02.1**	**-0.4**
MKAR	**Makanchi Array**	**63.87**	**334**	P	**P**		**12 23 01.0**	**-1.5**
	0.6nm,0.4s,mb3.8,baz=153,slow=6.2,SNR=24							
MKAR				pP	pP		12 23 39.0	+0.1
	2.2nm,0.9s,baz=149,slow=6.9,SNR=3.5							
ZAL	**Zalesovo**	**68.55**	**340**	P	**P**		**12 23 30.8**	**-1.5**
	0.9nm,0.4s,mb3.9,baz=130,slow=7.9,SNR=2.8							
MAW	**Mawson**	**69.00**	**200**	P	**P**		**12 23 34.6**	**-0.5**
	1.9nm,0.8s,mb3.9,baz=0.0,slow=10,SNR=4.4							
OPO	**Ambohidratompo**	**69.05**	**254**	P	**P**		**12 23 36.1**	**+0.7**
	2.6nm,0.6s,mb4.1,baz=43,slow=2.6,SNR=7.1							
VNDA	**Vanda**	**72.28**	**171**	*e*P	**P**		**12 23 55.8**	**+0.9**
	0.5nm,0.4s,mb3.6							
LSZ	**Lusaka**	**87.46**	**255**	*e*P	**P**		**12 25 17.3**	**+0.9**
	4.3nm,0.5s,mb4.5							
BOSA	**Boshof**	**88.15**	**241**	P	**P**		**12 25 19.4**	**-0.3**
	2.2nm,0.5s,mb4.2,baz=138,slow=4.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**117.41**	**280**	PKP	PKPdf		12 31 14.1	+0.5
	0.6nm,0.7s,baz=45,slow=1.1,SNR=3.8							

*ISCJB **29** 12:17:34.8±0.3, 3284N±001×11594W±002, h11km±2km, Error ellipse: s-maj=2.6km s-min=2.4km az=116.9*
*ECX **29** 12:17:35.9±0.8, 3283N×11596W, h3km, MD3.8, ML3.8*
*NEIC **29** 12:17:35.5, 3282N×11597W, h3km, ML3.8(PAS), After PAS.*
NEIC Felt at Chula Vista, El Cajon, Escondido, Jacumba, Jamul, Ocotillo Wells, San Diego and Temecula.
ISC 29 12:17:35.1±0.3, 3283N±002×11596W±002, h10km±2km, n58, σ0§79/90, 29C-30D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRR	**Carrizo Plain**	**0.06**	**352**	⇓*e*P	**Pg**		**12 17 36.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.18**	**52**	⇑P	**Pg**		**12 17 39.2**	**+0.3**
	baz=0.2,SNR=1000							
SWSC				⇓S	**Sg**		**12 17 42.2**	**+0.7**
	baz=0.2							
YUH	**Yuha Desert**	**0.19**	**170**	⇓*e*P	**Pg**		**12 17 39.2**	**+0.1**
COK	**Cook Ranch**	**0.20**	**85**	⇑*e*P	**Pg**		**12 17 40.1**	**+0.8**
DVTC	**Desert V Tower**	**0.21**	**215**	⇓P	**Pg**		**12 17 39.7**	**+0.2**
	baz=0.2,SNR=1000							
DVTC				⇑S	**Sg**		**12 17 43.2**	**+0.8**
	baz=0.2							
RMX	**La Rumorosa**	**0.25**	**204**	⇑*e*P	**Pg**		**12 17 40.5**	**+0.3**
RMX				*e*S	**Sg**		**12 17 44.4**	**+0.8**
RMX				⇑*e*			12 17 45.5	
	comp=N,8μm,0.4s							
SGL	**Mount Signal**	**0.27**	**132**	⇑*e*P	**Pg**		**12 17 41.0**	**+0.4**
MONP	**Monument Peak**	**0.39**	**279**	P	**Pg**		**12 17 43.3**	**+0.5**
	baz=0.4,SNR=1000							
MONP				⇓S	**Sg**		**12 17 48.8**	**+0.8**
	baz=0.4							
CPBX	**Cerro Prieto**	**0.69**	**126**	*e*P	**Pg**		**12 17 48.7**	**+0.2**
CPBX				*e*S	**Sg**		**12 17 57.1**	**-0.4**
CBX	**Cerro Bola**	**0.79**	**229**	⇑*e*P	**Pg**		**12 17 50.3**	**0.0**
CBX				*e*S	**Sg**		**12 18 00.7**	**+0.2**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	*e*Pg	**Pg**		**12 17 52.0**	**0.0**
PFO				*e*Sg	**Sg**		**12 18 04.8**	**+1.3**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	P	**Pg**		**12 17 52.0**	**-0.1**
	baz=0.9,SNR=1000							
PFO				⇓S	**Sg**		**12 18 04.1**	**+0.6**
	baz=0.9							
RDX	**Rancho Dowling**	**0.90**	**179**	⇓*e*P	**Pg**		**12 17 51.9**	**-0.4**
RDX				*e*S	**Sg**		**12 18 03.7**	**-0.3**
RDX				⇓*e*			12 18 10.3	
	comp=N,3μm,0.7s							
BC3	**Big Chuckw Mtn**	**0.93**	**27**	⇓P	**Pg**		**12 17 52.6**	**-0.3**
	baz=0.9,SNR=168							
BC3				⇓S	**Sg**		**12 18 06.3**	**+1.3**
	baz=0.9							
109C	**Camp Elliot, M**	**0.96**	**274**	⇓P	**Pg**		**12 17 53.1**	**-0.5**
	baz=0.9,SNR=86							
109C				⇑S	**Sg**		**12 18 05.7**	**-0.6**
	baz=0.9							
GLA	**Glamis**	**0.98**	**77**	*e*Pg	**Pg**		**12 17 53.2**	**-0.7**
GLA				*e*Sg	**Sg**		**12 18 06.7**	**+0.1**
GLA	**Glamis**	**0.98**	**77**	⇓P	**Pg**		**12 17 53.2**	**-0.7**
	baz=1.0,SNR=156							
GLA				⇑S	**Sg**		**12 18 06.4**	**-0.3**
	baz=1.0							
EMX	**El Mayor**	**1.04**	**144**	*e*P	**Pg**		**12 17 53.9**	**-1.1**
EMX				*e*S	**Sg**		**12 18 07.8**	**-0.7**
EMX				⇓*e*			12 18 13.1	
	comp=E,3μm,0.6s							
ENX	**Ensenada**	**1.12**	**212**	*e*P	**Pb**		**12 17 55.9**	**-0.7**
ENX				*e*S	**Sg**		**12 18 10.2**	**-1.0**
ENX				⇓*e*			12 18 14.4	
	comp=N,2μm,0.8s							
BELC	**Belle Mtn.**	**1.17**	**358**	⇓P	**Pb**		**12 17 56.2**	**-1.2**
	baz=1.2,SNR=30							
BELC				⇑S	**Sb**		**12 18 12.9**	**+0.4**
	baz=1.2							
PBX	**Punta Banda**	**1.27**	**211**	*e*P	**Pn**		**12 17 58.5**	**-0.4**
PBX				*e*S	**Sb**		**12 18 15.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.29**	**205**	*e*P	**Pn**		**12 17 58.5**	**-0.7**
ECNX				*e*P			12 17 56.0	
ECNX				*e*S	**Sb**		**12 18 11.1**	**-5.0**
ECNX				*e*S	**Sb**		**12 18 15.6**	**-0.5**
MURC	**Murrieta**	**1.29**	**307**	⇑P	**Pn**		**12 17 58.4**	**-0.8**
	baz=1.2,SNR=117							
MURC				⇑S	**Sb**		**12 18 16.3**	**+0.2**
	baz=1.2							
IRM	**Iron Mountain**	**1.49**	**27**	⇑P	**Pn**		**12 18 00.7**	**-1.3**
	baz=1.5,SNR=117							
Y12C	**Blythe**	**1.51**	**52**	⇑P	**Pn**		**12 18 00.9**	**-1.3**
	baz=1.5,SNR=18							
Y12C				⇓S	**Sn**		**12 18 21.9**	**-0.2**
	baz=1.5							
BBRC	**Big Bear Sol-O**	**1.64**	**331**	⇓P	**Pn**		**12 18 04.0**	**0.0**
	baz=1.6,SNR=211							
BBRC				⇑S	**Sn**		**12 18 24.9**	**-0.2**
	baz=1.6							
SPX	**San Pedro Mart**	**1.83**	**167**	*e*PN	**Pn**		**12 18 09.0**	**+2.4**
SPX				*e*S	**Sn**		**12 18 31.6**	**+1.7**
GMRC	**Granite Mounta**	**1.96**	**7**	⇓P	**Pn**		**12 18 07.5**	**-0.9**
	baz=2.0,SNR=60							
BFSC	**Mount Baldy St**	**2.00**	**315**	⇑P	**Pn**		**12 18 08.2**	**-0.7**
	baz=2.0,SNR=108							
HEC	**Hector,Ludlow**	**2.02**	**351**	⇑P	**Pn**		**12 18 08.6**	**-0.6**
	baz=2.0							
CIS	**Catalina Islan**	**2.13**	**286**	⇑S	**Sn**		**12 18 37.9**	**+0.7**
	baz=2.1							
SCI	**San Clemente I**	**2.18**	**275**	⇓S	**Sn**		**12 18 39.0**	**+0.5**
	baz=2.1							
X13A	**Yucca**	**2.50**	**45**	⇑P	**Pn**		**12 18 15.6**	**-0.2**
	baz=2.5							
GSC	**Goldstone**	**2.56**	**344**	*e*Pg	**Pg**		**12 18 23.5**	**-0.7**
GSC				*e*S	**Sn**		**12 18 54.4**	**+6.5**
Z14A	**Wintersburg**	**2.58**	**77**	⇓P	**Pn**		**12 18 16.8**	**-0.2**
	baz=2.6,SNR=10							
EDW2	**Edwards Air Fo**	**2.65**	**321**	⇓P	**Pn**		**12 18 17.8**	**-0.1**
	baz=2.6							
Y14A	**Wickenburg**	**2.71**	**65**	⇑P	**Pn**		**12 18 18.8**	**+0.1**
	baz=2.7,SNR=22							
W13A	**Hualapai Mount**	**2.84**	**37**	⇑P	**Pn**		**12 18 20.6**	**+0.1**
	baz=2.9,SNR=8.8							
LRMC	**Laurel Mountai**	**3.00**	**332**	⇓P	**Pn**		**12 18 22.6**	**-0.1**
	baz=3.0							
SNCC	**San Nicolas Is**	**3.02**	**279**	⇓S	**Sn**		**12 18 60.0**	**+0.7**
	baz=3.0							
V12A	**Nelson**	**3.03**	**17**	⇓P	**Pn**		**12 18 22.8**	**-0.3**
	baz=3.0,SNR=5.9							
V12A				⇓S	**Sn**		**12 19 00.9**	**+1.4**
	baz=3.0							
X14A	**Yava**	**3.04**	**57**	⇓P	**Pn**		**12 18 22.7**	**-0.5**
	baz=3.1,SNR=15							
115A	**Sonoran Desert**	**3.15**	**91**	⇑P	**Pn**		**12 18 24.2**	**-0.6**
	baz=3.2,SNR=18							
115A				⇑S	**Sn**		**12 19 02.3**	**-0.1**
	baz=3.2							
ARVC	**Arvin**	**3.31**	**315**	⇓P	**Pn**		**12 18 27.6**	**+0.7**
	baz=3.3							
W14A	**Seligman**	**3.37**	**44**	⇑P	**Pn**		**12 18 28.5**	**+0.7**
	baz=3.4,SNR=18							
W14A				⇑S	**Sn**		**12 19 07.9**	**+0.1**
	baz=3.4							
MPMC	**Manual Prospec**	**3.46**	**339**	⇓P	**Pn**		**12 18 29.5**	**+0.4**
	baz=3.4							
ISA	**Isabella**	**3.51**	**324**	*e*Pn	**Pn**		**12 18 30.9**	**+1.2**
ISA				*e*Pg	**Pg**		**12 18 39.0**	**-3.3**
ISA	**Isabella**	**3.51**	**324**	⇓P	**Pn**		**12 18 29.6**	**-0.1**
	baz=3.5							
X15A	**Humboldt**	**3.52**	**61**	⇓P	**Pn**		**12 18 29.5**	**-0.4**
	baz=3.5,SNR=21							
SBC	**Santa Barbara**	**3.52**	**298**	⇑S	**Sn**		**12 19 12.3**	**+0.7**
	baz=3.5							
116A	**Eloy**	**3.60**	**93**	⇑P	**Pn**		**12 18 30.4**	**-0.5**
	baz=3.6							
DAC	**Darwin (Calif)**	**3.69**	**339**	*e*Pg	**Pg**		**12 18 42.6**	**-3.3**
DAC				*e*Sg	**Sg**		**12 19 32.5**	**-1.2**
U12A	**Valley of Fire**	**3.78**	**18**	⇑P	**Pn**		**12 18 33.8**	**+0.4**
	baz=3.8							
SMMC	**Simmler**	**4.17**	**308**	⇓P	**Pn**		**12 18 38.8**	**+0.1**
	baz=4.1							
TUC	**Tucson**	**4.40**	**95**	*e*Pn	**Pn**		**12 18 41.3**	**-0.7**
TUC				*e*Sg	**Sg**		**12 19 58.7**	**+2.3**
CCUT	**Cedar City**	**5.17**	**24**	*e*Pn	**Pn**		**12 18 54.3**	**+1.8**
CMB	**Columbia Colle**	**6.32**	**326**	Pn	**Pn**		**12 19 15.1**	**+6.7**
	comp=N,4.8nm,0.6s							
CMB				*e*Pg	**Pg**		**12 19 30.4**	**-5.8**
CMB				*e*Sg	**Sg**		**12 20 52.8**	**-5.3**
MSU	**Marysvale**	**6.45**	**27**	*e*Pn	**Pn**		**12 19 14.9**	**+4.8**

*IDC **29** 12:36:53.3±0.8, 298N×7948W, h0km, mb3.8/9, mb1 4.1/9, mb1mx4.1/16, mbtmp3.8/9, MS3.2/5, Ms1 3.2/5, ms1mx3.1/26, Error ellipse: s-maj=39.1km s-min=17.4km az=51.0*
*ISCJB **29** 12:37:00.6±2.0, 303N±008×7947W±009, h64km±20km, mb3.9/10, Error ellipse: s-maj=16.5km s-min=11.3km az=66.1*
ISC 29 12:37:02.8±1.6, 301N±008×7948W±009, h66km±16km, n30, σ0§68/15, mb3.8/10, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**5.46**	**70**	Pn	**Pn**		**12 38 21.3**	**-0.2**
	7.2nm,0.3s,baz=293,slow=4.0,SNR=8.0							
ROSC				Sn	**Sn**		**12 39 24.0**	**+1.1**
	1.5nm,0.3s,baz=81,slow=19,SNR=2.0							
ROSC				LR	LR		12 40 54.1	
	comp=Z,108nm,18.4s,baz=305,slow=44							
JTS	**JuntasAbangare**	**9.04**	**323**	LR	LR		12 42 07.4	
	comp=Z,125nm,19.6s,baz=314,slow=35							
ATAH	**Atahualpa**	**10.01**	**174**	Pn	**Pn**		**12 39 24.3**	**+0.6**
	1.4nm,0.3s,baz=19,slow=6.6,SNR=4.2							
SDV	**Santo Domingo**	**10.56**	**56**	Pn	**Pn**		**12 39 30.3**	**-0.9**
	4.1nm,0.3s,baz=266,slow=5.7,SNR=19							
SDV				Sn	**Sn**		**12 41 27.4**	**-0.4**
	0.6nm,0.3s,baz=56,slow=20,SNR=5.6							
**CMI

SKR				*e*S		**Sn**	12 58 30.0	**-1.0**	
SKR				pmax	pmax				
	comp=Z,100nm,0.4s								
SKR				smax					
	comp=N,490nm,0.4s								
SKR				smax					
	comp=E,600nm,0.4s								
SKR				smax					
	comp=Z,110nm,0.4s								
SPN	**Mys Shipunski**	**2.43**	**2**	*e*P		**Pn**	12 58 02.0	**-1.0**	
SPN				*i* S		**Sn**	12 58 29.6	**-1.9**	
SPN	**Mys Shipunski**	**2.43**	**2**	*e*P		**Pn**	12 58 02.0	**-1.0**	
SPN				*i* S		**Sn**	12 58 29.6	**-1.9**	
PET	**Petropavlovsk**	**2.48**	**342**	*i* P		**Pn**	12 58 03.2	**-0.5**	
PET				*i* S		**Sn**	12 58 31.9	**-0.8**	
PET	**Petropavlovsk**	**2.48**	**342**	*i* P		**Pn**	12 58 03.2	**-0.5**	
PET				*i* S		**Sn**	12 58 31.9	**-0.8**	
NLC	**Nalytchevo**	**2.53**	**352**	*e*P		**Pn**	12 58 04.3	**0.0**	
NLC				*i* S		**Sn**	12 58 33.6	**-0.2**	
NLC	**Nalytchevo**	**2.53**	**352**	*e*P		**Pn**	12 58 04.3	**0.0**	
NLC				*i* S		**Sn**	12 58 33.6	**-0.2**	
AVH	**Avacha**	**2.70**	**345**	*e*P		**Pn**	12 58 07.1	**+0.5**	
AVH				*i* S		**Sn**	12 58 38.4	**+0.4**	
AVH	**Avacha**	**2.70**	**345**	*e*P		**Pn**	12 58 07.1	**+0.5**	
AVH				*i* S		**Sn**	12 58 38.4	**+0.4**	
GNL	**Ganaly**	**3.26**	**339**	*e*P		**Pn**	12 58 15.2	**+0.8**	
GNL				*i* S		**Sn**	12 58 52.9	**+1.0**	
GNL	**Ganaly**	**3.26**	**339**	*e*P		**Pn**	12 58 15.2	**+0.8**	
GNL				*i* S		**Sn**	12 58 52.9	**+1.0**	
MKZ	**Mys Kozlova**	**4.05**	**15**	*i* P		**Pn**	12 58 23.5	**-1.7**	
MKZ				*i* S		**Sn**	12 59 07.0	**-4.3**	
MKZ	**Mys Kozlova**	**4.05**	**15**	*i* P		**Pn**	12 58 23.5	**-1.7**	
MKZ				*i* S		**Sn**	12 59 07.0	**-4.3**	
TUMR	**Tumrok**	**4.62**	**2**	P		**Pn**	12 58 33.5	**+0.4**	
TUMR				*i* S		**Sn**	12 59 24.1	**-1.4**	
TUMR	**Tumrok**	**4.62**	**2**	P		**Pn**	12 58 33.5	**+0.4**	
TUMR				*i* S		**Sn**	12 59 24.1	**-1.4**	
KMNR	**Kamenistaya**	**5.10**	**2**	P		**Pn**	12 58 40.8	**+1.2**	
KMNR	**Kamenistaya**	**5.10**	**2**	P		**Pn**	12 58 40.8	**+1.2**	
KPT	**Kopyto**	**5.31**	**2**	P		**Pn**	12 58 43.5	**+1.0**	
KPT	**Kopyto**	**5.31**	**2**	P		**Pn**	12 58 43.5	**+1.0**	
ZLN	**Zelenaya**	**5.38**	**5**	P		**Pn**	12 58 45.3	**+1.8**	
ZLN	**Zelenaya**	**5.38**	**5**	P		**Pn**	12 58 45.3	**+1.8**	
KOZ	**Kozyrevsk**	**5.40**	**360**	P		**Pn**	12 58 44.3	**+0.6**	
KOZR	**Kozyr**	**5.40**	**360**	PN		**Pn**	12 58 44.3	**+0.5**	
SRDR	**Sredinnyy**	**5.66**	**359**	P		**Pn**	12 58 47.5	**+0.2**	
SRDR	**Sredinnyy**	**5.66**	**359**	P		**Pn**	12 58 47.5	**+0.2**	
KLY	**Klyuchi**	**5.67**	**4**	P		**Pn**	12 58 48.0	**+0.5**	
SRKR	**Sorokina**	**6.04**	**7**	P		**Pn**	12 58 52.3	**-0.3**	
SRKR	**Sorokina**	**6.04**	**7**	P		**Pn**	12 58 52.3	**-0.3**	
YKA	**Yellowknife Ar**	**45.05**	**41**	P		**P**	13 05 37.8	**+0.1**	
	comp=Z,0.8nm,0.9s,mb3.6,baz=291,slow=7.0,SNR=2.8								
YKA	**Yellowknife Ar**	**45.05**	**41**	P		**P**	13 05 37.8	**+0.1**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
MKAR	**Makanchi Array**	**49.14**	**297**	P		**P**	13 06 12.4	**+2.9**	
	comp=Z,0.4nm,0.5s,mb3.7,baz=58,slow=7.0,SNR=14								
PDAR	**Pinedale Array**	**58.83**	**59**	P		**P**	13 07 18.6	**-1.8**	
	comp=Z,0.7nm,0.8s,mb3.7,baz=338,slow=1.6,SNR=5.2								
TXAR	**Lajitas Array**	**71.71**	**66**	P		**P**	13 08 44.4	**+0.7**	
	comp=Z,1.1nm,0.7s,mb3.9,baz=301,slow=4.3,SNR=12								
TXAR	**Lajitas Array**	**71.71**	**66**	P		**P**	13 08 44.4	**+0.7**	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**73.83**	**205**	P		**P**	13 08 55.7	**-0.6**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=19,slow=6.0,SNR=6.2								
WRA	**Warramunga Arr**	**73.83**	**205**	P		**P**	13 08 55.7	**-0.6**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								

*ATH **29** 13:30:32.4,3909N×2783E,h13km±12km,MD3.5/3*
*ISK **29** 13:30:33.3,3905N×2773E,h13km,MD3.4*
*CSEM **29** 13:30:33.2±0.1,3905N×2775E,h12km,MD3.5,Error ellipse: s-maj=1.6km s-min=1.1km az=102.0*
*NEIC **29** 13:30:33.5,3899N×2777E,h22km,MD3.3(ISK), MD3.5(ATH),After ISK.*
*ISCJB **29** 13:30:34.6±0.3,3904N±002×2776E±003,h18km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=90.0*

ISC 29 13:30:34.1±0.4,3906N±002×2775E±002,h10km±3km,n69, σ0s99/90,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.19**	**165**	*i* PG	**Pg**	**13 30 37.7**	**-0.3**
AKS				*i* SG	**Sg**	**13 30 40.8**	**+0.1**
AKS	**Akhisar**	**0.19**	**165**	Pg	**Pg**	**13 30 38.0**	**-0.1**
AKS				Sg	**Sg**	**13 30 42.0**	**+1.3**
AKS	**Akhisar**	**0.19**	**165**	Pg	**Pg**	**13 30 38.0**	**0.0**
AKS				*i* Sg	**Sg**	**13 30 40.8**	**+0.1**
BTOK	**Tokmak**	**0.73**	**17**	*i* P	**Pg**	**13 30 47.6**	**-0.7**
BTOK				*i* S	**Sg**	**13 30 57.9**	**0.0**
KDAG	**Bornova**	**0.76**	**210**	*i* P	**Pg**	**13 30 47.6**	**-1.0**
KDAG				*i* S	**Sg**	**13 31 01.2**	**+2.7**
IZM	**Izmir**	**0.76**	**210**	*i* PG	**Pg**	**13 30 48.1**	**-0.7**
IZM				*i* SG	**Sg**	**13 30 59.1**	**+0.4**
IZM	**Izmir**	**0.76**	**210**	Pg	**Pg**	**13 30 48.2**	**-0.6**
IZM				Sg	**Sg**	**13 30 59.2**	**+0.4**
IZM	**Izmir**	**0.76**	**210**	Pg	**Pg**	**13 30 48.2**	**-0.6**
IZM				*i* Sg	**Sg**	**13 30 59.1**	**+0.4**
AYVA	**Ayvalik**	**0.86**	**287**	*i* P	**Pg**	**13 30 50.7**	**0.0**
AYVA				*i* S	**Sg**	**13 31 03.2**	**+1.4**
BLCB	**Balcova**	**0.87**	**220**	*i* PG	**Pg**	**13 30 50.2**	**-0.7**
DST	**Dursunbey**	**0.87**	**51**	*i* PG	**Pg**	**13 30 50.4**	**-0.5**
DST				*i* SG	**Sg**	**13 31 04.3**	**+2.0**
DST	**Dursunbey**	**0.87**	**51**	Pg	**Pg**	**13 30 50.4**	**-0.5**
DST				Sg	**Sg**	**13 31 04.4**	**+2.1**
CANB	**Canakkale**	**1.09**	**331**	PN	**Pn**	**13 30 54.8**	**-0.7**
CANB	**Canakkale**	**1.09**	**331**	*i* P	**Pg**	**13 30 54.8**	**-0.4**
CANB				*i* S	**Sg**	**13 31 08.8**	**-0.5**
CANB	**Canakkale**	**1.09**	**331**	Pn	**Pn**	**13 30 55.0**	**-0.5**
CANB	**Canakkale**	**1.09**	**331**	Pn	**Pn**	**13 30 55.0**	**-0.5**
URLA	**Izmir**	**1.14**	**233**	*i* P	**Pb**	**13 30 54.9**	**-1.1**
URLA				*i* S	**Sb**	**13 31 11.3**	**+0.5**
URLA	**Izmir**	**1.14**	**233**	*i* P	**Pb**	**13 30 54.8**	**-1.1**
PRK	**Paraskevi**	**1.16**	**280**	*e*PB	**Pb**	**13 30 55.9**	**-0.4**
PRK				*e*SB	**Sb**	**13 31 11.9**	**+0.4**
EDC	**Edincik**	**1.29**	**4**	PN	**Pn**	**13 30 57.5**	**-0.7**
EDC	**Edincik**	**1.29**	**4**	Pn	**Pn**	**13 30 57.5**	**-0.7**
KCT	**Karacabey**	**1.29**	**21**	PN	**Pn**	**13 30 57.9**	**-0.4**
BNT	**Bandirma**	**1.30**	**6**	PN	**Pn**	**13 30 57.0**	**-1.4**
BNT	**Bandirma**	**1.30**	**6**	Pn	**Pn**	**13 30 57.1**	**-1.3**
EZN	**Ezine**	**1.34**	**305**	*e*PN	**Pn**	**13 30 57.9**	**-1.0**
EZN	**Ezine**	**1.34**	**305**	Pn	**Pn**	**13 30 58.0**	**-1.0**
EZN	**Ezine**	**1.34**	**305**	Pn	**Pn**	**13 30 58.0**	**-0.9**
GDZ	**Gediz**	**1.35**	**88**	*i* P	**Pn**	**13 30 58.8**	**-0.2**
GDZ				*i* S	**Sb**	**13 31 16.4**	**-0.4**
ULDT	**Uludag**	**1.52**	**44**	*i* P	**Pn**	**13 31 01.2**	**-0.2**
ULDT				*i* S	**Sn**	**13 31 22.7**	**+1.4**
SMG	**Samos**	**1.53**	**208**	*e*PG	**Pg**	**13 31 01.7**	**-1.7**
SMG				*e*SB	**Sb**	**13 31 23.9**	**+2.0**
BOZC	**Bozcaada**	**1.53**	**301**	*i* P	**Pn**	**13 31 00.1**	**-1.4**
BOZC				*i* S	**Sn**	**13 31 23.0**	**+1.5**
KHL	**Karahalli**	**1.57**	**117**	*e*PN	**Pn**	**13 31 01.0**	**-1.1**
KHL	**Karahalli**	**1.57**	**117**	Pn	**Pn**	**13 31 00.7**	**-1.3**
DNZL	**Cakiroluk**	**1.71**	**143**	*i* P	**Pg**	**13 31 09.4**	**+2.6**
DNZL				*i* S	**Sg**	**13 31 35.7**	**+6.7**
MLSB	**Milas**	**1.76**	**179**	*e*PN	**Pn**	**13 31 03.9**	**-0.8**
MFT	**Murefte**	**1.76**	**348**	*e*PN	**Pn**	**13 31 05.1**	**+0.4**
GEMT	**Gemlik**	**1.77**	**38**	*e*PN	**Pn**	**13 31 04.3**	**-0.5**
GEMT	**Gemlik**	**1.77**	**38**	Pn	**Pn**	**13 31 04.4**	**-0.4**
GEMT	**Gemlik**	**1.77**	**38**	Pn	**Pn**	**13 31 04.4**	**-0.4**
ALT	**Altintas**	**1.84**	**89**	*e*PN	**Pn**	**13 31 05.2**	**-0.6**
ALT	**Altintas**	**1.84**	**89**	Pn	**Pn**	**13 31 04.4**	**-1.4**
YLV	**Yalova**	**1.96**	**39**	*e*PN	**Pn**	**13 31 07.1**	**-0.3**
YER	**Yerkesik**	**1.97**	**167**	*e*PN	**Pn**	**13 31 07.3**	**-0.2**
YER	**Yerkesik**	**1.97**	**167**	Pn	**Pn**	**13 31 04.8**	**-2.7**
BDRM	**Kayabasi**	**2.00**	**187**	*i* P	**Pn**	**13 31 10.0**	**+1.9**
ADVT	**Abdulvahap**	**2.06**	**48**	*e*PN	**Pn**	**13 31 09.4**	**+0.6**
ADVT	**Abdulvahap**	**2.06**	**48**	Pn	**Pn**	**13 31 09.4**	**+0.6**
BADT	**Buyukada**	**2.08**	**30**	*e*PN	**Pn**	**13 31 08.5**	**-0.5**
BADT	**Buyukada**	**2.08**	**30**	Pn	**Pn**	**13 31 08.0**	**-1.0**
ENEZ	**Enez**	**2.08**	**324**	*e*PN	**Pn**	**13 31 08.9**	**-0.1**
ISK	**Istanbul-Kandi**	**2.24**	**26**	*e*PN	**Pn**	**13 31 12.1**	**+0.8**
BORA	**Eskisehir**	**2.25**	**68**	*i* P	**Pb**	**13 31 15.0**	**+0.2**
BORA				*i* S	**Sg**	**13 31 45.3**	**-1.0**
TKTP	**Tekketepe**	**2.26**	**116**	*i* P	**Pn**	**13 31 11.1**	**-0.4**
HRT	**Hereke**	**2.30**	**39**	*e*PN	**Pn**	**13 31 13.0**	**+0.9**
GOLH	**Golhisar**	**2.31**	**141**	*i* P	**Pn**	**13 31 08.7**	**-3.6**
DAT	**Datca**	**2.33**	**183**	*e*PN	**Pn**	**13 31 12.6**	**+0.1**
DALT	**Dalyan (Mudla)**	**2.39**	**163**	*e*PN	**Pn**	**13 31 13.1**	**-0.3**
DALT	**Dalyan (Mudla)**	**2.39**	**163**	Pn	**Pn**	**13 31 11.2**	**-2.1**
KLYT	**Kilyos**	**2.41**	**24**	*e*PN	**Pn**	**13 31 13.8**	**+0.2**
ESKT	**Eskisehir**	**2.45**	**78**	*e*PN	**Pn**	**13 31 15.1**	**+0.9**
ESKT	**Eskisehir**	**2.45**	**78**	*i* P	**Pb**	**13 31 18.9**	**+0.6**
ESKT	**Eskisehir**	**2.45**	**78**	Pn	**Pb**	**13 31 18.6**	**+0.3**
FETY	**Fethiye**	**2.64**	**156**	*e*PN	**Pn**	**13 31 16.2**	**-0.6**
RDO	**Rodhopi**	**2.69**	**322**	*e*PN	**Pn**	**13 31 18.0**	**+0.6**
EDRB	**Edirne**	**2.89**	**345**	*e*PN	**Pn**	**13 31 20.4**	**+0.2**
EDRB	**Edirne**	**2.89**	**345**	Pn	**Pn**	**13 31 20.9**	**+0.6**
HENT	**Hendek**	**3.00**	**53**	*i* P	**Pb**	**13 31 28.9**	**+1.3**
HENT				*i* S	**Sg**	**13 32 10.8**	**+0.5**
KIZT	**Kizilcal**	**3.23**	**92**	*e*PN	**Pn**	**13 31 25.8**	**+1.0**
KIZT	**Kizilcal**	**3.23**	**92**	Pn	**Pn**	**13 31 25.9**	**+1.1**

*IDC **29** 13:40:48.0±0.8,5362N×16364W,h0km,mb4.2/22, mb1 4.3/23,mb1mx4.2/31,mbtmp4.2/23,ML3.9/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/37,Error ellipse: s-maj=25.9km s-min=11.9km az=7.0*
*MOS **29** 13:40:48.6±0.9,5368N×16362W,h16km,mb4.8/18,Error ellipse: s-maj=16.6km s-min=10.4km az=108.0*
*BJI **29** 13:40:49.7,5360N×16360W,h24km,mB5.1,mb4.6,Ms4.6, Msz4.4*
*NEIC **29** 13:40:51.7±1.9,5359N×16362W,h24km±13km,mb4.6/10, ML3.9(AEIC),Error ellipse: s-maj=10.3km s-min=4.4km az=187.0*
*ISCJB **29** 13:40:53.3±0.7,5370N±006×16365W±004,h49km±6km, mb4.4/38,MS3.8/11,Error ellipse: s-maj=9.7km s-min=3.9km az=15.9*

ISC 29 13:40:54.3±0.7,5371N±006×16368W±004,h43km±6km, n173,σ0s75/178,mb4.4/38,MS3.8/11,39C-37D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.16**	**8**	P	**Pn**	**13 41 14.6**	**+0.5**
AKUT	**Akutan**	**1.31**	**290**	P	**Pn**	**13 41 15.7**	**-0.4**
AKUT				S	**Sn**	**13 41 34.8**	**+2.4**
AKLV	**Akutan Long Va**	**1.42**	**290**	P	**Pn**	**13 41 17.2**	**-0.5**
AKLV				S	**Sn**	**13 41 37.1**	**+2.0**
UNV	**Unalaska Valle**	**1.68**	**276**	P	**Pn**	**13 41 19.6**	**-1.6**
UNV				S	**Sn**	**13 41 41.1**	**-0.4**
SDPT	**Sand Point**	**2.49**	**47**	P	**Pn**	**13 41 31.7**	**-0.6**
SDPT				S	**Sn**	**13 42 01.1**	**-0.3**
CHGN	**Chignik**	**3.99**	**47**	P	**Pn**	**13 41 52.3**	**-0.6**
KDAK	**Kodiak Island**	**7.47**	**52**	Pn	**Pn**	**13 42 37.3**	**-3.4**
	1.9nm,0.3s,baz=158,slow=22,SNR=20						
SVW2	**Sparrevohn**	**8.60**	**27**	*e*Pn	**Pn**	**13 42 57.9**	**+1.7**
IMA2	**Indian Mountai**	**13.35**	**18**	*e*Pn	**Pn**	**13 44 05.5**	**+4.4**
COLA	**College**	**13.75**	**29**	*e*P	**Pn**	**13 44 13.5**	**+6.9**
DAWY	**Dawson**	**16.16**	**41**	*e*P	**Pn**	**13 44 37.0**	**-1.4**
BILL	**Bilibino**	**20.18**	**327**	*e*P	**P**	**13 45 26.8**	**+1.6**
BILL				*e*		13 48 58.1	
BILL				pmax	pmax		
	comp=Z,20nm,1.2s						
BILL	**Bilibino**	**20.18**	**327**	*e*P	**P**	**13 45 26.6**	**+1.4**
	comp=Z,18nm,1.0s						
INK	**Inuvik**	**20.35**	**32**	P	**P**	**13 45 25.4**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=261,slow=12,SNR=7.9						
A04A	**Legoe Bay, Lum**	**25.87**	**84**	⇑P	**P**	**13 46 21.6**	**-0.3**
	baz=26						
A05A	**Maple Falls**	**26.12**	**83**	⇓P	**P**	**13 46 25.1**	**+0.9**
	baz=26						
C04A	**Brinnon**	**26.18**	**87**	⇑P	**P**	**13 46 25.9**	**+1.1**
	baz=26						
B05A	**Bryant**	**26.44**	**85**	⇓P	**P**	**13 46 27.4**	**+0.2**
	baz=26						
YKA	**Yellowknife Ar**	**26.75**	**51**	P	**P**	**13 46 30.0**	**+0.2**
	comp=Z,2.8nm,0.7s,mb3.9,baz=268,slow=7.8,SNR=22						
YKA				LR	LR	13 58 08.7	
	comp=Z,120nm,18.7s,MS3.5,baz=85,slow=39						
C05A	**Tolt Reservoir**	**26.95**	**86**	⇓P	**P**	**13 46 31.6**	**-0.1**
	baz=27						
D05A	**Enumclaw**	**27.02**	**87**	⇓P	**P**	**13 46 33.7**	**+1.4**
	baz=27						
A07A	**Ashnola River,**	**27.10**	**82**	⇑P	**P**	**13 46 34.3**	**+1.2**
	baz=27						
E05A	**Randle**	**27.47**	**88**	⇓P	**P**	**13 46 36.2**	**-0.2**
	baz=27						
B07A	**Winthrop**	**27.52**	**83**	⇓P	**P**	**13 46 38.6**	**+1.8**
	baz=27						
D06A	**Cle Elum**	**27.70**	**86**	⇓P	**P**	**13 46 38.6**	**+0.2**
	baz=28						
E06A	**Yakima**	**27.95**	**87**	⇓P	**P**	**13 46 39.9**	**-0.7**
	baz=28						
B08A	**Colville Reser**	**28.03**	**83**	⇓P	**P**	**13 46 40.8**	**-0.6**
	baz=28						
D07A	**Quincy**	**28.21**	**85**	⇑P	**P**	**13 46 42.6**	**-0.4**
	baz=28						
H04A	**Detroit Lake**	**28.22**	**92**	⇓P	**P**	**13 46 43.4**	**+0.4**
	baz=28						
E07A	**Sunnyside**	**28.60**	**86**	⇑P	**P**	**13 46 46.0**	**-0.4**
	baz=28						
F07A	**Phinny Hill Vi**	**28.91**	**88**	⇑P	**P**	**13 46 49.3**	**+0.2**
	baz=29						
D08A	**Wollman Farm,**	**28.91**	**85**	⇓P	**P**	**13 46 48.8**	**-0.4**
	baz=29						
E08A	**Dider Farm, El**	**29.11**	**86**	⇑P	**P**	**13 46 50.9**	**-0.1**
	baz=29						
H06A	**Lindquist Farm**	**29.29**	**90**	⇓P	**P**	**13 46 52.3**	**-0.2**
	baz=29						
NEW	**Newport**	**29.38**	**81**	P	**P**	**13 46 52.4**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.0,baz=304,slow=7.5,SNR=4.2						
NEW				LR	LR	13 56 03.9	
	comp=Z,131nm,20.3s,MS3.5,baz=100,slow=31						
G07A	**Ruggs Ranch, H**	**29.39**	**89**	⇓P	**P**	**13 46 53.6**	**+0.1**
	baz=29						
EDM	**Edmonton**	**29.46**	**70**	*e*P	**P**	**13 46 53.9**	**-0.2**
J05A	**Fort Rock**	**29.57**	**93**	⇓P	**P**	**13 46 55.7**	**+0.6**
	baz=30						
YBH	**Yreka Blue Hor**	**29.63**	**97**	P	**P**	**13 46 55.0**	**-0.6**
	comp=Z,1.8nm,0.8s,mb3.8,baz=286,slow=2.1,SNR=4.6						
YBH				LR	LR	13 56 09.3	
	comp=Z,133nm,18.2s,MS3.6,baz=344,slow=31						
E09A	**Wood Farm, Sta**	**29.64**	**85**	P	**P**	**13 46 55.7**	**0.0**
	baz=30,SNR=5.8						
F08A	**Pendleton**	**29.64**	**87**	⇑P	**P**	**13 46 55.2**	**-0.5**
	baz=30						
G08A	**Pilot Rock**	**29.80**	**88**	⇓P	**P**	**13 46 56.9**	**-0.2**
	baz=30						
H07A	**Lands Inn, Kim**	**29.82**	**90**	⇓P	**P**	**13 46 58.0**	**+0.7**
	baz=30						
D10A	**Wagner Farm, O**	**29.88**	**84**	⇓P	**P**	**13 46 57.7**	**-0.1**
	baz=30						
K05A	**Summer Lake**	**30.11**	**94**	⇑P	**P**	**13 47 00.4**	**+0.6**
	baz=30						
M04C	**Macdoel**	**30.11**	**96**	⇓P	**P**	**13 47 00.1**	**+0.2**
	baz=30						
I07A	**Izee**	**30.15**	**90**	P	**P**	**13 47 00.7**	**+0.6**
	baz=30,SNR=6.7						
J06A	**Christmas Vall**	**30.24**	**92**	P	**P**	**13 47 01.3**	**+0.4**
	baz=30,SNR=5.9						
E10A	**Myers Farm, Un**	**30.27**	**85**	⇓P	**P**	**13 47 00.8**	**-0.4**
	baz=30						
H08A	**Prairie City**	**30.40**	**89**	⇑P	**P**	**13 47 02.8**	**+0.4**
	baz=30						
K06A	**Valley Falls**	**30.44**	**93**	⇑P	**P**	**13 47 03.7**	**+0.9**
	baz=30						
F10A	**Beach Ranch, E**	**30.47**	**86**	⇑P	**P**	**13 47 02.5**	**-0.4**
	baz=30						
L05A	**Lakeview**	**30.55**	**95**	⇓P	**P**	**13 47 04.3**	**+0.6**
	baz=30						
O02C	**Red Bluff**	**30.56**	**99**	⇑P	**P**	**13 47 03.1**	**-0.7**
	baz=30						
I08A	**Drewsey**	**30.80**	**90**	P	**P**	**13 47 06.5**	**+0.6**
	baz=31,SNR=8.4						
MOD	**Modoc**	**30.95**	**95**	⇑P	**P**	**13 47 07.8**	**+0.6**
	baz=31						
K07A	**Rock Creek Ran**	**31.11**	**92**	⇓P	**P**	**13 47 09.2**	**+0.6**
	baz=31						
F11A	**Grangeville**	**31.15**	**85**	⇑P	**P**	**13 47 08.2**	**-0.7**
	baz=31						
C13A	**Hot Springs**	**31.16**	**81**	⇑P	**P**	**13 47 08.8**	**-0.3**
	baz=31						
J08A	**Circle Bar Ran**	**31.17**	**91**	P	**P**	**13 47 09.6**	**+0.4**
	baz=31,SNR=5.6						
I09A	**Lost Marbles R**	**31.26**	**89**	⇓P	**P**	**13 47 10.0**	**+0.1**
	baz=31						
H10A	**Noah's Angus R**	**31.50**	**87**	P	**P**	**13 47 12.0**	**-0.1**
	baz=31,SNR=26						
K08A	**Mann Creek Ran**	**31.53**	**92**	P	**P**	**13 47 13.2**	**+0.8**
	baz=31,SNR=7.2						
J09A	**Fry Pan Ranch,**	**31.61**	**90**	P	**P**	**13 47 13.7**	**+0.7**
	baz=32,SNR=6.1						
F12A	**Elk City**	**31.75**	**84**	⇑P	**P**	**13 47 13.8**	**-0.4**
	baz=32						
H11A	**Donnelly**	**31.87**	**87**	P	**P**	**13 47 15.1**	**-0.3**
	baz=32,SNR=9.2						
M07A	**Soldier Meadow**	**31.94**	**94**	⇓P	**P**	**13 47 15.9**	**0.0**
	baz=32						
L08A	**Fields**	**31.94**	**92**	⇓P	**P**	**13 47 16.2**	**+0.3**
	baz=32						
N06A	**Buffalo Meadow**	**31.94**	**96**	⇑P	**P**	**13 47 15.6**	**-0.4**
	baz=32						
K09A	**Rome**	**32.00**	**91**	⇑P	**P**	**13 47 16.8**	**+0.3**
	baz=32						
E13A	**Victor**	**32.02**	**83**	⇑P	**P**	**13 47 16.5**	**-0.1**
	baz=32						
D14A	**Greenough**	**32.09**	**81**	⇓P	**P**	**13 47 17.2**	**-0.1**
	baz=32						
F13A	**Darby**	**32.28**	**84**	⇑P	**P**	**13 47 19.4**	**+0.5**
	baz=32						
I11A	**Placerville**	**32.35**	**88**	⇓P	**P**	**13 47 19.6**	**+0.1**
	baz=32						
E14A	**Clinton**	**32.44**	**82**	⇓P	**P**	**13 47 19.9**	**-0.4**
	baz=32						
H12A	**Diamond D Ranc**	**32.65**	**86**	⇑P	**P**	**13 47 21.3**	**-0.8**
	baz=32						
G13A	**Cobalt**	**32.71**	**85**	⇑P	**P**	**13 47 23.5**	**+0.8**
	baz=33						
F14A	**Wisdom**	**32.83**	**83**	⇑P	**P**	**13 47 24.6**	**+0.8**
	baz=33						
O07A	**Toulon**	**32.88**	**96**	⇑P	**P**	**13 47 24.1**	**-0.1**
	baz=33						
M09A	**Marrel Ranch,**	**32.94**	**93**	⇑P	**P**	**13 47 25.2**	**+0.6**
	baz=33						
N09A	**Rock Creek Ran**	**33.24**	**94**	⇓P	**P**	**13 47 27.9**	**+0.6**
	baz=33						
TIXI	**Tiksi**	**33.40**	**328**	*e*P	**P**	**13 47 26.7**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,259nm,15.0s,MS4.1						
TIXI	**Tiksi**	**33.40**	**328**	*e*P	**P**	**13 47 27.9**	**-0.8**
	comp=Z,8.9nm,1.0s,mb4.7						
M10A	**I.L. Ranch, Tu**	**33.42**	**92**	⇓P	**P**	**13 47 30.1**	**+1.2**
	baz=33						
MCMT	**McKenzie Canyo**	**33.68**	**84**	*e*P	**P**	**13 47 30.8**	**-0.3**
G15A	**Dillon**	**33.70**	**83**	⇑P	**P**	**13 47 31.5**	**+0.1**
	baz=34						
O09A	**Fish Creek Ran**	**33.87**	**94**	⇓P	**P**	**13 47 32.7**	**-0.1**
	baz=34						
M11A	**Holland Ranch,**	**33.92**	**91**	⇑P	**P**	**13 47 32.9**	**-0.3**
	baz=34						
NVAR	**Mina Array Bea**	**34.34**	**98**	P	**P**	**13 47 36.2**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.1,baz=300,slow=10,SNR=9.0						
NVAR	**Mina Array Bea**	**34.34**	**98**	P	**P**	**13 47 36.2**	**-0.7**
M12A	**Wells**	**34.45**	**91**	P	**P**	**13 47 38.5**	**+0.7**
	baz=34,SNR=5.3						
N12A	**Clover Valley,**	**34.72**	**92**	P	**P**	**13 47 40.5**	**+0.4**
	baz=35,SNR=7.9						
O11A	**Cowboy Ranch,**	**34.80**	**93**	⇑P	**P**	**13 47 42.1**	**+1.2**
	baz=35						
YAK	**Yakutsk**	**34.89**	**311**	*e*P	**P**	**13 47 40.8**	**-0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
M13A	**Montello**	**34.93**	**90**	P	**P**	**13 47 42.4**	**+0.5**
	baz=35,SNR=5.5						
HELL	**Mitchell Peak,**	**35.09**	**101**	⇑P	**P**	**13 47 43.2**	**-0.2**
	baz=35						
R09A	**Tonopah**	**35.19**	**97**	⇑P	**P**	**13 47 44

NJ2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.3							
ZAL	**Zalesovo**	**58.70**	**320**	P	**P**	**13 50 47.6**	**+0.1**	
	comp=Z,1.0nm,0.7s,mb3.9,baz=72,slow=8.0,SNR=6.8							
ZAL				LR	LR	14 19 43.5		
	comp=Z,126nm,18.2s,MS4.1,baz=325,slow=40							
GTA	**Gaotai**	**62.85**	**300**	*e*P	**P**	**13 51 16.0**	**+0.2**	
GTA				AP	pP	13 51 25.3	-2.9	
GTA				XP	sP	13 51 30.5	-2.6	
GTA				PP	PP	13 53 37.0	+2.7	
GTA				PPP		13 55 08.5		
GTA				S	**S**	**13 59 46.8**	**+4.6**	
GTA				XS	sS	13 59 53.8	-9.0	
GTA				PS		14 00 05.5		
GTA				SS	SS	14 03 52.8	+5.1	
GTA				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.6							
GTA				AMB	AMB			
	comp=Z,73nm,7.2s							
GTA				LR	LR			
	comp=N,147nm,15.6s,MS4.5							
GTA				LR	LR			
	comp=E,166nm,14.8s,MS4.5							
GTA				LR	LR			
	comp=Z,239nm,13.3s,MS4.5							
LZH	**Lanzhou**	**63.21**	**295**	*e*P	**P**	**13 51 18.0**	**-0.2**	
LZH				AP	pP	13 51 27.0	-3.5	
LZH				XP	sP	13 51 32.0	-3.4	
LZH				AMB	AMB			
	comp=Z,19nm,1.2s,mb5.1							
LZH	**Lanzhou**	**63.21**	**295**	*e*P	**P**	**13 51 18.1**	**-0.1**	
LZH				*PP	pP	13 51 27.0	-3.5	
LZH				pmax	pmax			
	comp=Z,19nm,1.2s,mb5.1							
LZH	**Lanzhou**	**63.21**	**295**	*e*P	**P**	**13 51 18.1**	**-0.1**	
	comp=Z,19nm,1.2s,mb5.1							
LZH				pP	pP	13 51 27.0	-3.5	
LZH				sP	sP	13 51 32.1	-3.3	
KURK	**Kurchatov**	**63.58**	**321**	*e*P	**P**	**13 51 19.9**	**-0.7**	
KURK	**Kurchatov**	**63.58**	**321**	*e*P	**P**	**13 51 20.6**	**0.0**	
	comp=Z,4.8nm,0.9s,mb4.5							
BVAR	**Borovoye Array**	**64.53**	**327**	P	**P**	**13 51 27.4**	**+0.6**	
	comp=Z,5.3nm,0.8s,mb4.6,baz=54,slow=7.5,SNR=21							
ARU	**Arti**	**64.91**	**336**	*e*P	**P**	**13 51 29.3**	**0.0**	
ARU				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
ARU	**Arti**	**64.91**	**336**	*e*P	**P**	**13 51 29.5**	**+0.2**	
	comp=Z,5.8nm,0.9s,mb4.6							
FINES	**FINESS Array B**	**64.93**	**355**	P	**P**	**13 51 28.7**	**-0.8**	
	comp=Z,2.4nm,0.8s,mb4.3,baz=1.4,slow=7.6,SNR=5.4							
FINES	**FINESS Array B**	**64.93**	**355**	*i* P	**P**	**13 51 29.6**	**+0.1**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**65.30**	**316**	P	**P**	**13 51 31.4**	**-0.4**	
	comp=Z,1.7nm,0.9s,mb4.1,baz=50,slow=3.8,SNR=7.3							
MKAR	**Makanchi Array**	**65.30**	**316**	*i* P	**P**	**13 51 31.3**	**-0.5**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**65.53**	**3**	P	**P**	**13 51 33.8**	**+0.5**	
	comp=Z,3.4nm,0.8s,mb4.4,baz=356,slow=6.5							
NOA	**NORSAR Array B**	**65.53**	**3**	P	**P**	**13 51 33.4**	**+0.1**	
	comp=Z,3.0nm,0.9s,mb4.3,baz=357,slow=6.6,SNR=5.0							
OBN	**Obninsk**	**70.26**	**348**	*e*P	**P**	**13 52 02.8**	**-0.3**	
OBN				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
AKTK	**Aktyubinsk**	**70.47**	**333**	P	**P**	**13 52 05.1**	**+0.8**	
AKTO	**Aktyubinsk**	**70.47**	**333**	P	**P**	**13 52 05.1**	**+0.8**	
	comp=Z,8.2nm,0.9s,mb4.7,baz=26,slow=5.5,SNR=28							
AKTO	**Aktyubinsk**	**70.47**	**333**	*i* P	**P**	**13 52 04.6**	**+0.3**	
AB31	**Akbulak array**	**71.00**	**331**	*i* P	**P**	**13 52 07.1**	**-0.5**	
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
PPT	**Papeete**	**72.01**	**166**	LR	LR	14 18 57.6		
	comp=Z,84nm,18.7s,MS4.0,baz=5.7,slow=32							
CLL	**Collm**	**75.32**	**2**	*e*P	**P**	**13 52 35.0**	**+1.9**	
AKASG	**Malin Array Be**	**75.40**	**352**	P	**P**	**13 52 34.4**	**+0.9**	
	comp=Z,1.8nm,0.5s,mb4.2,baz=11,slow=5.7,SNR=5.2							
AKASG	**Malin Array Be**	**75.40**	**352**	P	**P**	**13 52 34.4**	**+0.9**	
GERES	**GERESS Array B**	**77.80**	**2**	P	**P**	**13 52 47.7**	**+0.6**	
	comp=Z,0.8nm,0.7s,mb3.8,baz=345,slow=4.7,SNR=5.7							
KIV	**Kislovodsk**	**80.13**	**341**	*e*P	**P**	**13 52 56.0**	**-3.8**	
KIV				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
KIV				MLR	MLR			
	comp=Z,64nm,20.0s,MS4.0							
BRTR	**Keskin Array B**	**85.75**	**347**	P	**P**	**13 53 29.6**	**+0.7**	
	comp=Z,3.4nm,1.0s,mb4.5,baz=24,slow=4.5,SNR=7.3							
BRTR	**Keskin Array B**	**85.75**	**347**	*i* P	**P**	**13 53 30.8**	**+1.9**	
BRTR				pmax	pmax			
	comp=Z,3.0nm,1.0s							

*IDC **29** 13:48:49.1±0.7, 3479N×7368E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, ML3.9/3, Error ellipse: s-maj=20.6km s-min=13.5km az=59.0*

*NEIC **29** 13:48:50.1±1.3, 3463N×7360E, h10km, mb4.1/4, Error ellipse: s-maj=22.0km s-min=13.7km az=206.0*

*NDI **29** 13:48:51.6±3.2, 3498N×7393E, h10km, ML3.9, mb4.1(NEIC)*

*MOS **29** 13:48:52.4±1.1, 3479N×7368E, h33km, mb4.4/10, Error ellipse: s-maj=18.0km s-min=7.7km az=96.6*

*ISCJB **29** 13:48:53.1±0.5, 3482N±003×7399E±005, h44km±7km, mb4.0/14, Error ellipse: s-maj=7.3km s-min=4.4km az=119.7*

*BJI **29** 13:48:57.5, 3487N×7457E, h5km, mb4.4, ML3.7*

ISC 29 13:48:54.7±0.4, 3485N±003×7391E±005, h39km±6km, n70, σ1§28/86, mb4.0/14, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRNI	**Srinagar**	**1.08**	**134**	*e*P		**Pn**	**13 49 11.7**	**-1.5**
SRNI				*ex*		x	13 49 37.5	
CHCP	**Chirah Chowk**	**1.30**	**204**	P		**Pn**	**13 49 15.3**	**-1.1**
CEP	**Cherat**	**1.95**	**239**	P		**Pn**	**13 49 24.2**	**-1.0**
CEP				S		**Sn**	**13 49 44.0**	**-4.4**
JMU	**Jammu**	**2.28**	**159**	*e*P		**Pn**	**13 49 34.0**	**+4.2**
JMU				*e*S		**Sn**	**13 50 00.0**	**+3.3**
THW	**Thamme Wali**	**2.73**	**222**	P		**Pn**	**13 49 36.8**	**+0.8**
THN	**Thein Dam**	**2.84**	**148**	*e*P		**Pn**	**13 49 38.8**	**+1.3**
THN				*ex*		x	13 50 18.7	
SARP	**Sargodha**	**3.10**	**200**	P		**Pn**	**13 49 41.8**	**+0.8**
SBDP	**Sheikh Budin**	**3.63**	**226**	P		**Pn**	**13 49 48.3**	**0.0**
BHK	**Bhakra**	**4.02**	**148**	*e*P		**Pn**	**13 49 55.0**	**+1.4**
SDNR	**Sundarnagar**	**4.21**	**142**	*e*P		**Pn**	**13 49 58.0**	**+1.7**
SDNR				*e*S		**Sn**	**13 50 44.0**	**-0.2**
DRP	**Derazinda**	**4.39**	**226**	P		**Pn**	**13 50 00.5**	**+1.8**
SMLA	**Simla**	**4.61**	**143**	*e*P		**Pn**	**13 50 03.0**	**+1.2**
SMLA				*e*S		**Sn**	**13 50 56.0**	**+1.9**
KSH	**Kashi**	**4.94**	**19**	*e*P		**Pn**	**13 50 12.8**	**+6.5**
KSH				S		**Sn**	**13 51 01.0**	**-1.2**
KSH				Smax				
	comp=N,330nm,1.0s							
KSH				Smax				
	comp=E,524nm,1.3s							
KKR	**Kurukshetra**	**5.46**	**152**	*e*S		**Sn**	**13 51 17.0**	**+2.0**
KKR				AML		AML	13 51 48.8	
	comp=Z,126nm,0.5s							
RTK	**Rohtak**	**6.18**	**159**	*e*P		**Pn**	**13 50 23.7**	**+0.4**
RTK				*e*S		**Sn**	**13 51 31.2**	**-1.4**
NDI	**New Delhi**	**6.76**	**155**	*e*P		**Pn**	**13 50 30.0**	**-1.3**
NDI				*e*S		**Sn**	**13 51 45.0**	**-2.0**
NDI				*e*SN		**Sn**	**13 51 45.0**	**-2.0**
AYAN	**Aya Nagar**	**6.91**	**156**	*e*P		**Pn**	**13 50 34.4**	**+1.0**
AYAN				*e*S		**Sn**	**13 51 50.4**	**-0.4**
KHET	**Khetri**	**6.95**	**166**	*e*P		**Pn**	**13 50 34.0**	**+0.2**
KHET				*e*S		**Sn**	**13 51 48.1**	**-3.5**
SONA	**Sohna**	**7.11**	**157**	*e*P		**Pn**	**13 50 36.0**	**-0.2**
SONA				*e*S		**Sn**	**13 51 54.2**	**-1.5**
SONA				AML		AML	13 51 57.3	
	comp=E,85nm,0.3s							
SONA				AML		AML	13 51 59.1	
	comp=N,77nm,0.5s							
AAK	**Ala-Archa**	**7.78**	**3**	*e*P		**Pn**	**13 50 47.2**	**+1.8**
AAK	**Ala-Archa**	**7.78**	**3**	*e*Pn		**Pn**	**13 50 47.7**	**+2.3**
	comp=N,4.6nm,0.7s							
AGRA	**Agra**	**8.35**	**154**	*e*P		**Pn**	**13 50 53.7**	**+0.7**
AGRA				*e*S		**Sn**	**13 52 21.9**	**-4.1**
AGRA				AML		AML	13 53 27.4	
	comp=N,87nm,0.2s							
AGRA				AML		AML	13 53 28.6	
	comp=E,96nm,0.4s							
AJM	**Ajmer**	**8.37**	**175**	*e*P		**Pn**	**13 50 55.0**	**+1.6**
KK31	**Karatay Array**	**8.65**	**343**	*i* P		**Pn**	**13 50 58.3**	**+1.0**
KK31				pmax		pmax		
	comp=Z,5.0nm,0.2s							
KKAR	**Karatay Array**	**8.65**	**343**	*i* P		**Pn**	**13 50 58.3**	**+1.0**
KKAR				S		**Sn**	**13 52 32.5**	**-1.1**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.2s							
KKAR				smax				
	comp=Z,1.0nm,0.2s							
KOLN	**Koldanda**	**10.88**	**128**	*e*P		**Pn**	**13 51 26.4**	**-1.4**
	comp=Z,9.3nm,0.3s							
GKN	**Gorkha**	**11.42**	**124**	*e*P		**Pn**	**13 51 34.0**	**-1.1**
	comp=Z,22nm,0.3s							
DMN	**Daman**	**11.99**	**124**	*e*P		**Pn**	**13 51 41.7**	**-1.2**
	comp=Z,30nm,0.5s							
KKN	**Kakani**	**11.99**	**123**	*e*P		**Pn**	**13 51 41.5**	**-1.5**
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**12.22**	**123**	*e*P		**Pn**	**13 51 44.7**	**-1.4**
GUN	**Gumba**	**12.34**	**121**	*e*P		**Pn**	**13 51 46.1**	**-1.6**
JIRN	**Jiri**	**12.71**	**121**	*e*P		**Pn**	**13 51 51.4**	**-1.4**
	comp=Z,72nm,0.5s							
MKAR	**Makanchi Array**	**13.50**	**25**	Pn		**Pn**	**13 52 06.8**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=209,slow=15,SNR=3.8							
LSA	**Lhasa**	**15.45**	**105**	P		**Pn**	**13 52 32.5**	**+2.8**
LSA	**Lhasa**	**15.45**	**105**	*e*P		**Pn**	**13 52 32.0**	**+2.3**
LSA				pmax		pmax		
	comp=Z,11nm,0.8s							
LSA	**Lhasa**	**15.45**	**105**	*e*P		**Pn**	**13 52 32.0**	**+2.3**
	comp=Z,11nm,0.8s							
KURK	**Kurchatov**	**16.22**	**11**	*e*P		**Pn**	**13 52 41.7**	**+2.1**
KURK	**Kurchatov**	**16.22**	**11**	*e*P		**Pn**	**13 52 43.1**	**+3.5**
	comp=Z,6.0nm,0.9s							
BVAR	**Borovoye Array**	**18.34**	**353**	P		**Pn**	**13 53 04.3**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=156,slow=9.0,SNR=22							
AKTK	**Aktyubinsk**	**19.41**	**328**	P		**Pn**	**13 53 17.1**	**-1.7**
AKTK				S		**S**	**13 56 54.2**	**-0.5**
AKTO	**Aktyubinsk**	**19.41**	**328**	P		**Pn**	**13 53 17.1**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=131,slow=10,SNR=11							
AKTO				S		**S**	**13 56 54.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=22,slow=10,SNR=3.6							
AKTO	**Aktyubinsk**	**19.41**	**328**	P		**Pn**	**13 53 17.1**	**-1.7**
AKTO				S		**S**	**13 56 54.3**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.56**	**19**	P		**P**	**13 53 30.4**	**+0.5**
	comp=Z,7.0nm,0.4s,baz=261,slow=7.5,SNR=22							
ZAL	**Zalesovo**	**20.56**	**19**	*i* P		**P**	**13 53 30.7**	**+0.8**
ZAL				pmax		pmax		
	comp=Z,7.0nm,0.4s							
NVS	**Novosibirsk**	**21.02**	**15**	*e*P		**P**	**13 53 31.8**	**-3.0**
ARU	**Arti**	**23.99**	**339**	*e*P		**P**	**13 54 05.7**	**+0.2**
ARU				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.1							
ARU	**Arti**	**23.99**	**339**	*e*P		**P**	**13 54 06.0**	**+0.4**
	comp=Z,2.5nm,0.6s,mb3.8							
SONM	**Songino Array**	**27.40**	**52**	P		**P**	**13 54 37.5**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=251,slow=8.8,SNR=4.6							
SONM	**Songino Array**	**27.40**	**52**	P		**P**	**13 54 37.5**	**+1.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
OBN	**Obninsk**	**32.73**	**320**	*e*P		**P**	**13 55 24.0**	**+0.5**
OBN				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
FINES	**FINESS Array B**	**40.17**	**326**	P		**P**	**13 56 26.8**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.9,baz=122,slow=11,SNR=11							
FINES	**FINESS Array B**	**40.17**	**326**	*i* P		**P**	**13 56 27.2**	**+0.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KAF	**Kangasniemi**	**40.29**	**328**	*e*p		**P**	**13 56 27.8**	**-0.1**
	baz=109,slow=8.2							
ARCES	**ARCESS Array B**	**43.57**	**338**	P		**P**	**13 56 55.2**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.0,baz=115,slow=8.0,SNR=12							
ARCES	**ARCESS Array B**	**43.57**	**338**	P		**P**	**13 56 55.2**	**+0.5**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	**46.44**	**21**	*i* P		**P**	**13 57 16.0**	**-1.5**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
TIXI	**Tiksi**	**46.44**	**21**	*e*P		**P**	**13 57 18.0**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3							
NOA	**NORSAR Array B**	**47.12**	**324**	P		**P**	**13 57 22.4**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.1,baz=95,slow=7.7,SNR=3.0							
NOA	**NORSAR Array B**	**47.12**	**324**	P		**P**	**13 57 22.4**	**-0.4**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ESDC	**Sonseca Array**	**60.33**	**300**	P		**P**	**13 58 59.1**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=72,slow=8.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**68.08**	**271**	P		**P**	**13 59 49.9**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.6,baz=45,slow=5.8,SNR=41							
INK	**Inuvik**	**75.13**	**10**	P		**P**	**14 00 33.2**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=307,slow=7.2,SNR=4.2							
INK	**Inuvik**	**75.13**	**10**	P		**P**	**14 00 33.2**	**+0.6**
INK				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BOSA	**Boshof**	**78.07**	**222**	P		**P**	**14 00 48.6**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=71,slow=2.1,SNR=7.4							
BOSA	**Boshof**	**78.07**	**222**	P		**P**	**14 00 48.6**	**-0.7**
BOSA				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**79.11**	**124**	P		**P**	**14 00 56.4**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=322,slow=4.9,SNR=20							
WRA	**Warramunga Arr**	**79.11**	**124**	*i* P		**P**	**14 00 56.4**	**+1.4**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**81.37**	**127**	P		**P**	**14 01 08.2**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=148,slow=7.9,SNR=4.2							
YKA	**Yellowknife Ar**	**82.75**	**4**	P		**P**	**14 01 14.6**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=348,slow=5.3,SNR=15							
YKA	**Yellowknife Ar**	**82.75**	**4**	*e*P		**P**	**14 01 15.0**	**+0.6**

*NEIC **29** 14:11:02.8, 3597N×2311E, h19km, MD3.5(ATH), After ATH.*

*ATH **29** 14:11:02.8, 3597N×2311E, h19km±1km, MD3.5/13*

*ISCJB **29** 14:11:04.2±0.7, 3606N±005×2325E±006, h10km, Error ellipse: s-maj=9.6km s-min=4.1km az=93.4*

ISC 29 14:11:04.0±1.0, 3602N±005×2321E±007, h4km±7km, n20, σ0§66/24, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KYTH	**Kithira**	**0.29**	**332**	*e*PB		**Pg**	**14 11 09.0**	**-0.7**
VLI	**Veliai**	**0.73**	**343**	*i* PN		**Pg**	**14 11 17.1**	**-0.9**
VLI				*e*SN		**Sg**	**14 11 28.6**	**+1.2**
VAM	**Vamos**	**1.01**	**127**	*e*PN		**Pg**	**14 11 23.4**	**0.0**
VAM				*e*SN		**Sg**	**14 11 37.5**	**+1.0**
GVD	**Gavdhos**	**1.38**	**148**	*e*PN		**Pn**	**14 11 29.0**	**-0.9**
ITM	**Ithomi**	**1.55**	**319**	*e*PN		**Pn**	**14 11 31.2**	**-1.1**
NAIG	**Nisos Aigina**	**1.75**	**7**	*e*PN		**Pn**	**14 11 34.8**	**-0.2**
SANT	**Santorini**	**1.85**	**78**	*e*Pn		**Pn**	**14 11 36.0**	**-0.4**
SANT				*e*Sg		**Sg**	**14 12 02.9**	**-0.6**
SANT	**Santorini**	**1.85**	**78**	*e*Pn		**Pn**	**14 11 36.0**	**-0.5**
SANT				*e*Sg		**Sg**	**14 12 02.9**	**-0.6**
KVR	**Kavouri**	**1.86**	**14**	*e*PN		**Pn**	**14 11 37.0**	**+0.5**
MGER	**Gerania Oros**	**1.96**	**1**	*e*PB		**Pn**	**14 11 37.5**	**-0.5**
PTL	**Penteli**	**2.09**	**14**	*e*PN		**Pn**	**14 11 39.5**	**-0.2**
NPS	**Neapolis**	**2.10**	**110**	*e*PB		**Pn**	**14 11 40.5**	**+0.7**
APE	**Apeiranthos**	**2.14**	**60**	P		**Pn**	**14 11 40.0**	**-0.4**
XRY	**Khrisi**	**2.33**	**119**	*e*PN		**Pn**	**14 11 43.0**	**0.0**
LKR	**Lokris**	**2.63**	**356**	P		**Pn**	**14 11 47.2**	**+0.1**
EVR	**Evrytania**	**3.10**	**339**	*e*PN		**Pn**	**14 11 54.0**	**+0.4**
KARP	**Karpathos**	**3.25**	**97**	*e*PN		**Pn**	**14 11 56.0**	**+0.4**
NEO	**Neokhori**	**3.28**	**0**	P		**Pn**	**14 11 57.1**	**+1.0**
SMG	**Samos**	**3.36**	**59**	P		**Pn**	**14 11 57.0**	**-0.2**
KEK	**Kerkira**	**4.57**	**325**	P		**Pn**	**14 12 14.8**	**+1.0**

*IDC **29** 14:24:28.7±1.2, 950S×11776E, h0km, mb4.2/6, mb1 4.3/8, mb1mx4.1/18, mbtmp4.2/8, ML4.1/2, Error ellipse: s-maj=75.5km s-min=16.0km az=52.0*

*NEIC **29** 14:24:34.4±0.5, 935S×11800E, h35km, mb3.7/1, Error ellipse: s-maj=22.5km s-min=7.8km az=47.0*

*ISCJB **29** 14:24:39.1±2.5, 9.1S±0.1×1185E±0.1, h92km±23km, mb4.2/6, Error ellipse: s-maj=27.7km s-min=10.7km az=85.3*

ISC 29 14:24:48.5±2.8, 90S±01×1189E±02, h160km±26km, n24, σ0§96/32, mb4.2/6, 1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**11.19**	**145**	*e*P		**Pn**	**14 27 14.4**	**-9.4**
	3.1nm,0.3s							
FITZ				*e*S		**Sn**	**14 29 11.1**	**-17**
FITZ	**Fitzroy Crossi**	**11.19**	**145**	Pn		**Pn**	**14 27 14.2**	**-10**
	0.9nm,0.3s,baz=342,slow=7.6,SNR=28							
FITZ				Sn		**Sn**	**14 29 11.1**	**-17**
	3.9nm,0.3s,baz=186,slow=18,SNR=15							
KAKA	**Kakadu**	**13.84**	**107**	*e*P		**Pn**	**14 27 56.8**	**-1.1**
	7.6nm,0.4s							
KAKA				*e*S		**Sn**	**14 30 31.3**	**-0.1**
WRA	**Warramunga Arr**	**18.50**	**128**	P		**P**	**14 28 52.6**	**+0.3**
	0.6nm,0.3s,baz=295,slow=13,SNR=30							
WRA				S		**S**	**14 32 10.0**	**-5.0**
	0.5nm,0.3s,baz=291,slow=24,SNR=7.6							
WRAB	**Tennant Creek**	**18.50**	**128**	*e*P		**P**	**14 28 53.2**	**+0.8**
	3.0nm,0.6s							
WB2	**Warramunga Arr**	**18.51**	**128**	*i* P		**P**	**14 28 52.9**	**+0.5**
WB2				*e*S		**S**	**14 32 09.2**	**-6.0**
WB2	**Warramunga Arr**	**18.51**	**128**	*e*P		**P**	**14 28 53.1**	**+0.7**
WB2				*e*S		**S**	**14 32 09.2**	**-6.0**
ASPA	**Alice Springs**	**20.48**	**137**	*e*P		**P**	**14 29 13.4**	**-0.3**
ASPA				*e*S		**S**	**14 32 53.8**	**-0.3**
AS31	**Alice Springs**	**20.49**	**137**	*e*P		**P**	**14 29 13.1**	**-0.7**
AS31				*e*Pn		**P**	**14 29 16.9**	**+3.2**
AS31				*e*S		**S**	**14 32 53.8**	**-0.3**
ASAR	**Alice Springs**	**20.49**	**137**	P		**P**	**14 29 13.4**	**-0.4**
	6.7nm,0.7s,baz=301,slow=9.9,SNR=37							
ASAR				S		**S**	**14 32 54.0**	**-0.1**
	1.4nm,0.5s,baz=301,slow=21,SNR=4.6							
KLBR	**Kellerberrin**	**22.49**	**182**	*e*P		**P**	**14 29 38.6**	**+4.1**
	76nm,1.6s,mb4.9							
MUN	**Mundaring**	**22.99**	**186**	*e*P		**P**	**14 29 43.4**	**+4.3**
CTA	**Charters Tower**	**28.67**	**116**	P		**P**	**14 30 34.0**	**+3.8**
	2.1nm,0.8s,mb3.9,baz=356,slow=13,SNR=3.1							
CTA	**Charters Tower**	**28.67**	**116**	P		**P**	**14 30 34.0**	**+3.8**
CTAO	**Charters Tower**	**28.67**	**116**	*e*P		**P**	**14 30 35.1**	**+4.9**
STKA	**Stephens Creek**	**31.04**	**140**	*e*P		**P**	**14 30 52.1**	**+1.1**
	2.2nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**31.04**	**140**	P		**P**	**14 30 51.8**	**+0.7**
	2.6nm,0.5s,mb4.3,baz=303,slow=8.7,SNR=10							
STKA	**Stephens Creek**	**31.04**	**140**	*e*P		**P**	**14 30 52.0**	**+0.9**
SONM	**Songino Array**	**57.66**	**350**	P		**P**	**14 34 24.0**	**+2.0**
	2.3nm,0.8s,mb4.1,baz=168,slow=6.5,SNR=13							
MKAR	**Makanchi Array**	**64.40**	**333**	P		**P**	**14 35 06.0**	**-1.4**
	0.5nm,0.4s,mb3.7,baz=140,slow=6.5,SNR=22							
ZAL	**Zalesovo**	**69.00**	**339**	P		**P**	**14 35 35.9**	**-0.6**
	2.4nm,0.3s,mb4.3,baz=56,slow=3.6,SNR=4.7							
VNDA	**Vanda**	**72.00**	**171**	*e*P		**P**	**14 35 53.8**	**-0.8**
YKA	**Yellowknife Ar**	**114.26**	**24**	PKP		PKiKP	14 43 10.5	+1.7
	0.4nm,0.4s,baz=306,slow=2.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**118.32**	**280**	PKP		PKPdf	14 43 17.2	+0.6
	0.4nm,0.5s,baz=65,slow=1.7,SNR=7.9							

*NEIC **29** 14:30:50.6, 1957N×6773W, h40km, MD3.6(RSPR), After RSPR.*

RSPR 29 14:30:50.6, 1957N×6773W, h40km±14km, MD3.6/11, MD3.6/11, 12C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSP	**Las Mesas**	**1.51**	**156**	*e*P		**Pn**	**14 31 14.4**	**-0.7**
LSP				*e*S		Sn	14 31 32.5	-1.1
LRS	**Lares**	**1.52**	**147**	*e*P		Pn	14 31 14.0	-1.2
LRS				*e*S		Sn	14 31 32.6	-1.2
AOPR	**Arecibo Observ**	**1.52**	**143**	*e*P		Pn	14 31 14.1	-1.2
AOPR				*e*S		Sn	14 31 32.6	-1.3
CRPR	**Cabo Rojo, PR**	**1.66**	**159**	*e*P		Pn	14 31 15.9	-1.3
CRPR				*e*S		Sn	14 31 35.9	-1.3
GBPR	**Guanica, Bosqu**	**1.78**	**153**	*e*P		Pn	14 31 18.1	-0.7
GBPR	**Guanica, Bosqu**	**1.78**	**153**	*e*S		Sn	14 31 39.3	-0.9
CELP	**Cerrillos**	**1.84**	**144**	*e*P		Pn	14 31 18.9	-0.7
CELP				*e*S		Sn	14 31 40.6	-1.0
ICM	**Isla Caja Muer**	**2.02**	**145**	*e*P		Pn	14 31 21.1	-1.0
ICM				*e*S		Sn	14 31 45.4

LPIG *i*S Sb 14 36 05.7 +0.3
116A Eloy 6.28 18 ⇑P Pn 14 35 31.8 -2.0
baz=6.2,SNR=11
115A Sonoran Desert 6.28 14 ⇑P Pn 14 35 31.3 -2.6
baz=6.2,SNR=23
DVTC Desert V Tower 6.31 344 ⇓P Pn 14 35 34.4 +0.1
baz=6.2
TUC Tucson 6.36 26 *e*Pn Pn 14 35 33.6 -1.4
TUC *e*Sg Sb 14 37 09.8 +1.7
GLA Glamis 6.47 354 *e*Pn Pn 14 35 33.9 -2.6
GLA Glamis 6.47 354 ⇑P Pn 14 35 34.7 -1.8
baz=6.4,SNR=7.5
SWSC Sam W. Stewart 6.51 347 ⇓P Pn 14 35 37.8 +0.8
baz=6.4
MONP Monument Peak 6.61 342 ⇓P Pn 14 35 38.5 +0.2
baz=6.5
Z14A Wintersburg 6.81 8 ⇑P Pn 14 35 39.0 -2.1
baz=6.7,SNR=12
109C Camp Elliot, M 6.82 338 ⇓P Pn 14 35 38.8 -2.5
baz=6.7
BC3 Big Chuckw Mtn 7.14 350 ⇑P Pn 14 35 45.3 -0.4
baz=7.0
Y12C Blythe 7.15 357 ⇑P Pn 14 35 43.7 -2.1
baz=7.1,SNR=27
PFO Pinyon Flat Ob 7.30 344 Pn Pn 14 35 49.2 +1.3
0.3nm,0.3s,baz=166,slow=12,SNR=3.0
PFO Lg 14 37 25.1
1.4nm,0.3s,baz=74,slow=8.4,SNR=4.0
PFO Pinyon Flat Ob 7.30 344 Pn Pn 14 35 45.5 -2.4
43nm,1.1s
PFO Lg 14 37 25.1
PFO *e*S Sn 14 37 25.3 +14
PFO Pinyon Flat Ob 7.30 344 ⇑P Pn 14 35 48.7 +0.9
baz=7.2
Y14A Wickenburg 7.37 7 ⇓P Pn 14 35 48.1 -0.8
baz=7.3
MURC Murrieta 7.50 339 ⇓P Pn 14 35 49.8 -0.9
baz=7.4
BELC Belle Mtn. 7.58 347 ⇓P Pn 14 35 52.5 +0.9
baz=7.5
IRM Iron Mountain 7.60 353 ⇓P Pn 14 35 49.9 -2.1
baz=7.5,SNR=7.5
PDMCI Parker Dam,Lak 7.68 359 ⇑P Pn 14 35 51.9 -1.2
baz=7.6
X14A Yava 7.91 7 ⇓P Pn 14 35 54.9 -1.4
baz=7.8,SNR=35
X13A Yucca 7.98 1 ⇓P Pn 14 35 55.3 -1.8
baz=7.9
X15A Humboldt 8.02 11 ⇓P Pn 14 35 56.4 -1.3
baz=7.9,SNR=25
NEE2 Needles Airpor 8.16 357 ⇓P Pn 14 35 59.8 +0.1
baz=8.1
BFSC Mount Baldy St 8.24 339 ⇑P Pn 14 36 00.5 -0.2
baz=8.1
GMRC Granite Mounta 8.28 351 ⇑P Pn 14 36 00.4 -0.9
baz=8.2
HEC Hector,Ludlow 8.45 347 ⇑P Pn 14 36 03.8 +0.2
baz=8.3
W13A Hualapai Mount 8.48 1 ⇑P Pn 14 36 03.3 -0.7
baz=8.4,SNR=12
W14A Seligman 8.63 5 ⇓P Pn 14 36 05.9 -0.2
baz=8.6,SNR=20
W15A Williams 8.69 10 ⇑P Pn 14 36 07.0 +0.1
baz=8.6,SNR=11
W12A Cal Nev Ari 8.71 355 ⇑P Pn 14 36 06.0 -1.2
baz=8.6
EDW2 Edwards Air Fo 8.93 339 ⇑P Pn 14 36 09.2 -1.1
baz=8.8
OSI Osito Adit 8.96 334 ⇑P Pn 14 36 09.1 -1.5
baz=8.8
TUQ Turquoise Mtn. 8.96 350 ⇓P Pn 14 36 09.4 -1.3
baz=8.9
GSC Goldstone 9.00 345 *e*P Pn 14 36 10.8 -0.4
GSC Goldstone 9.00 345 ⇑P Pn 14 36 10.8 -0.4
baz=8.9
V12A Nelson 9.13 356 ⇑P Pn 14 36 12.9 -0.1
baz=9.0,SNR=12
WUAZ Wupatki 9.18 14 *e*Pn Pn 14 36 13.3 -0.4
54nm,0.9s
WUAZ Wupatki 9.18 14 ⇓P Pn 14 36 13.1 -0.6
baz=9.1
V11A Goodsprings 9.29 353 ⇓P Pn 14 36 15.2 0.0
baz=9.2
LRMC Laurel Mountai 9.39 341 ⇑P Pn 14 36 15.2 -1.4
baz=9.3
ARVC Arvin 9.45 335 ⇑P Pn 14 36 17.8 +0.4
baz=9.3
SHOC Shoshone 9.47 349 ⇓P Pn 14 36 19.6 +1.9
baz=9.4
LTX Lajitas 9.56 71 *e*Pn Pn 14 36 22.7 +3.9
31nm,1.0s
TXAR Lajitas Array 9.56 71 Pn Pn 14 36 24.1 +5.3
1.1nm,0.3s,baz=255,slow=10.0,SNR=63
TXAR Lg 14 39 01.4
0.3nm,0.3s,baz=233,slow=23,SNR=3.5
Y22C IRIS PASSCAL I 9.65 38 ⇓P Pn 14 36 20.6 +0.5
baz=9.6
PKM Peak Mountain 9.66 330 ⇓P Pn 14 36 19.1 -1.0
baz=9.5
LENM Lemitar 9.70 37 *e*Pn Pn 14 36 21.1 +0.4
LAZ Ladron 9.79 36 *e*Pn Pn 14 36 20.9 -1.1
ISA Isabella 9.81 338 *e*Pn Pn 14 36 22.0 -0.3
ISA Isabella 9.81 338 ⇓P Pn 14 36 20.8 -1.5
baz=9.7
U12A Valley of Fire 9.82 358 ⇑P Pn 14 36 20.9 -1.5
baz=9.7,SNR=7.1
U11A Corn Creek 9.87 354 ⇓P Pn 14 36 24.4 +1.4
baz=9.8
BNM Barren Site 9.87 39 *e*P Pn 14 36 23.9 +0.8
BNM *e*S Sn 14 38 44.0 +30
MPMC Manual Prospec 9.89 343 ⇓P Pn 14 36 22.4 -1.0
baz=9.8,SNR=5.7
U10A Ash Meadows, A 9.99 349 ⇑P Pn 14 36 25.4 +0.6
baz=9.9
SMMC Simmler 10.09 331 ⇓P Pn 14 36 27.1 +1.1
baz=10.0
DAC Darwin (Calif) 10.12 343 *e*P Pn 14 36 27.0 +0.4
34nm,1.6s
VES Vestal, Richgr 10.18 336 ⇑P Pn 14 36 27.2 -0.2
baz=10
CWC Cottonwood Cre 10.41 342 ⇑P Pn 14 36 30.3 -0.1
baz=10
ANMO Albuquerque 10.57 36 Pn Pn 14 36 33.5 +0.9
1.3nm,0.3s,baz=219,slow=11,SNR=44
ANMO Lg 14 39 27.5
0.3nm,0.3s,baz=323,slow=17,SNR=3.1
ANMO Albuquerque 10.57 36 *e*P Pn 14 36 33.4 +0.8
16nm,0.7s
GRAC Grapevine Rang 10.76 346 ⇑P Pn 14 36 34.8 -0.4
baz=11
HELL Mitchell Peak, 10.92 338 ⇑P Pn 14 36 37.0 -0.5
baz=11
CCUT Cedar City 10.94 3 *e*P Pn 14 36 39.8 +2.0
ARUT Antelope Range 11.17 2 *e*P Pn 14 36 43.3 +2.3
U04C Hernandez Rese 11.31 331 ⇑P Pn 14 36 43.3 +0.4
baz=11
S09A Goldfield 11.42 347 ⇓P Pn 14 36 45.6 +1.3
baz=11,SNR=14
T06C Milleton Lake 11.45 336 ⇑P Pn 14 36 44.5 -0.2
baz=11
MVCO Mesa Verde 11.58 23 *e*P Pn 14 36 46.5 0.0
18nm,0.7s
MVCO Mesa Verde 11.58 23 ⇑P Pn 14 36 47.7 +1.2
baz=12
KCC Kaiser Creek 11.60 339 ⇓P Pn 14 36 47.0 +0.2
baz=12,SNR=7.0
TPH Tonopah 11.76 348 *e*P Pn 14 36 50.6 +1.6
67nm,1.5s
TRCR Troy Canyon 11.80 354 *e*P Pn 14 36 50.6 +1.2
R09A Tonopah 11.89 348 ⇑P Pn 14 36 50.8 0.0
baz=12,SNR=20
S05C Merced 11.98 335 ⇓P Pn 14 36 52.1 +0.1
baz=12
MSU Marysvale 11.99 7 *e*P Pn 14 36 54.2 +2.1
R08A Mina 12.21 345 ⇓P Pn 14 36 56.5 +1.3
baz=12
S06C San Francisco 12.28 338 ⇑P Pn 14 36 56.2 0.0
baz=12,SNR=13
Q11A Duckwater 12.29 354 ⇓P Pn 14 36 56.8 +0.5
baz=12,SNR=9.8
NVAR Mina Array Bea 12.34 344 Pn Pn 14 36 55.3 -1.6
0.2nm,0.3s,baz=157,slow=9.7,SNR=15
NVAR Lg 14 40 10.7
0.1nm,0.3s,baz=156,slow=18,SNR=2.1
PV01 Paradox Valley 12.39 20 *e*P Pn 14 36 55.5 -2.2
Q12A Willow Creek R 12.43 357 ⇑P Pn 14 36 58.8 +0.7
baz=12,SNR=7.3
PV10 Paradox Valley 12.48 18 P Pn 14 36 59.4 +0.6
Q09A Carvers 12.49 349 ⇑P Pn 14 37 00.9 +2.0
baz=12
CMB Columbia Colle 12.61 336 ⇑P Pn 14 37 00.4 -0.1
baz=12
Q08A Gabbs 12.66 346 ⇓P Pn 14 37 01.0 -0.3
baz=13
R06C Coleville 12.74 340 ⇑P Pn 14 37 03.3 +1.0
baz=13,SNR=12
SRU San Rafael 12.82 12 *e*P Pn 14 37 02.9 -0.6
32nm,1.1s
P12A McGill 12.87 357 ⇓P Pn 14 37 05.0 +0.9
baz=13,SNR=14
TMUT Trail Mountain 12.89 10 *e*P Pn 14 37 07.2 +2.8
P11A Circle Ranch, 13.01 354 ⇓P Pn 14 37 07.4 +1.4
baz=13
JCT Junction City 13.09 70 *e*P Pn 14 37 13.8 +6.7
208nm,1.2s
R05C Kirkwood Meado 13.10 339 ⇓P Pn 14 37 07.5 +0.2
baz=13
P10A Eureka 13.15 352 ⇓P Pn 14 37 09.4 +1.4
baz=13
SDCO Great Sand Dun 13.25 31 P Pn 14 37 06.1 -3.2
66nm,1.8s
NLU North Lily Min 13.43 6 *e*P Pn 14 37 13.2 +1.5
MPU Maple Canyon 13.53 8 P Pn 14 37 13.9 +0.7
53nm,1.5s
WCN Washoe City 13.55 341 ⇓P Pn 14 37 13.7 +0.3
baz=14
O11A Cowboy Ranch, 13.57 355 ⇓P Pn 14 37 14.2 +0.5
baz=14
DUG Dugway 13.60 4 P Pn 14 37 11.9 -2.3
75nm,1.5s
DUG Dugway 13.60 4 ⇑P Pn 14 37 13.5 -0.7
baz=14
O12A Currie 13.65 358 ⇓P Pn 14 37 14.1 -0.8
baz=14
O09A Fish Creek Ran 13.79 350 ⇓P Pn 14 37 17.0 +0.2
baz=14,SNR=6.1
O10A Cortez Mining, 13.82 352 ⇑P Pn 14 37 17.6 +0.5
baz=14
P05C Yuba Gap, Truc 13.82 338 ⇑P Pn 14 37 18.0 +0.9
baz=14
DAU Daniels Canyon 13.97 9 *e*P Pn 14 37 17.9 -1.3
BMN Battle Mountai 14.05 350 *e*P Pn 14 37 20.1 -0.2
38nm,1.4s
O07A Toulon 14.12 345 ⇑P Pn 14 37 21.5 +0.3
baz=14
JLU Jordanelle 14.13 8 *e*P Pn 14 37 21.6 +0.2
MNRC McLaughlin Nat 14.14 332 ⇓P Pn 14 37 20.0 -1.5
baz=14
ELK Elko 14.15 356 *e*P Pn 14 37 23.0 +1.3
SUTB Sutter Butte 14.18 335 ⇑P Pn 14 37 21.8 -0.2
baz=14
CTU Camp Tracy 14.19 7 *e*P Pn 14 37 23.0 +0.9
28nm,1.0s
N13A Wendover, West 14.23 359 ⇑P Pn 14 37 25.1 +2.5
baz=14,SNR=5.3
N12A Clover Valley, 14.25 357 ⇓P Pn 14 37 24.5 +1.5
baz=14
BEKR Beckwourth 14.25 340 ⇓P Pn 14 37 23.2 +0.2
baz=14
N11A Elko Archery C 14.26 355 ⇑P Pn 14 37 23.7 +0.6
baz=14
ORV Oroville 14.35 336 ⇑P Pn 14 37 21.7 -2.7
baz=14
N09A Rock Creek Ran 14.51 349 ⇑P Pn 14 37 27.7 +1.1
baz=14
O05C Quincy 14.52 338 ⇑P Pn 14 37 25.2 -1.4
baz=14
M13A Montello 14.73 360 ⇓P Pn 14 37 31.5 +2.0
baz=15,SNR=6.5
N07B Gerlach 14.73 345 ⇑P Pn 14 37 30.1 +0.5
baz=15,SNR=9.9
M12A Wells 14.80 357 P Pn 14 37 31.4 +0.8
baz=15,SNR=6.5
M11A Holland Ranch, 14.87 355 ⇑P Pn 14 37 32.9 +1.5
baz=15
N06A Buffalo Meadow 14.92 343 ⇑P Pn 14 37 32.8 +0.7
baz=15,SNR=27
ISCO Idaho Springs 14.92 26 *e*P Pn 14 37 32.3 +0.1
27nm,1.6s
M10A I.L. Ranch, Tu 15.04 353 ⇓P Pn 14 37 34.9 +1.2
baz=15,SNR=11
ELFS Eagle Lake Fie 15.05 340 ⇓P Pn 14 37 35.4 +1.5
baz=15,SNR=7.2
M09A Marrel Ranch, 15.06 350 ⇓P Pn 14 37 34.4 +0.4
baz=15
HVU Hansel Valley 15.18 4 *e*P Pn 14 37 36.1 +0.5
52nm,1.1s
M08A Happy Creek Ra 15.25 347 ⇑P Pn 14 37 36.7 +0.2
baz=15,SNR=11
M07A Sonier Meadow 15.36 345 ⇓P Pn 14 37 38.5 +0.6
baz=15,SNR=20
O02C Red Bluff 15.38 334 ⇓P Pn 14 37 34.9 -3.3
baz=15
WMOK Wichita Mounta 15.41 55 P Pn 14 37 39.5 +0.8
13nm,0.8s
HATC Hat Creek Radi 15.46 338 ⇓P Pn 14 37 39.0 -0.3
baz=15
M06C Likely Place G 15.52 342 ⇓P Pn 14 37 40.3 +0.3
baz=15,SNR=21
WDC Whiskytown Da 15.64 335 ⇓P Pn 14 37 41.2 -0.4
baz=16,SNR=8.5
L09A Wilkinson Ranc 15.68 350 ⇓P Pn 14 37 43.9 +1.8
baz=16
M05C Lookout 15.86 340 ⇓P Pn 14 37 45.1 +0.7
baz=16,SNR=25
L08A Fields 15.96 348 P Pn 14 37 46.5 +0.8
baz=16,SNR=27
L07A Adell 15.99 346 ⇑P Pn 14 37 46.6 +0.4
baz=16,SNR=22
RWWY Rawlins 16.07 19 *e*P Pn 14 37 47.0 -0.2
73nm,1.8s
M03C McCloud 16.10 337 ⇑P Pn 14 37 47.9 +0.4
baz=16,SNR=10
MOD Modoc 16.12 343 *e*P Pn 14 37 47.7 -0.1
110nm,1.9s
MOD Modoc 16.12 343 ⇓P Pn 14 37 47.5 -0.4
baz=16,SNR=16
N02C Big Bar 16.14 334 ⇑P Pn 14 37 47.9 -0.2
baz=16
PHWY Pilot Hill 16.29 24 P Pn 14 37 49.6 -0.4
K09A Rome 16.35 350 P Pn 14 37 51.5 +0.7
baz=16,SNR=53
HKT Hockley 16.37 74 *e*P Pn 14 37 55.2 +4.1
119nm,1.6s
L05A Lakeview 16.40 342 ⇓P Pn 14 37 52.1 +0.7
baz=16
M04C Macdoel 16.46 339 P Pn 14 37 52.9 +0.7
baz=16,SNR=40
M02C Callahan 16.46 336 ⇑P Pn 14 37 52.5 +0.3
baz=16,SNR=6.8
K08A Mann Creek Ran 16.51 348 P Pn 14 37 52.8 0.0
baz=16,SNR=38
PDAR Pinedale Array 16.54 12 Pn Pn 14 37 52.8 -0.5
0.1nm,0.3s,baz=182,slow=8.3,SNR=13
PDAR LR LR 14 44 14.4
comp=Z,1μm,18.0s,baz=204,slow=38
K07A Rock Creek Ran 16.62 346 P Pn 14 37 55.4 +1.2
baz=16,SNR=32
YBH Yreka Blue Hor 16.71 337 Pn Pn 14 37 52.9 -2.5
0.1nm,0.3s,baz=137,slow=6.8,SNR=5.2
YBH LR LR 14 43 35.6
comp=Z,925nm,20.0s,baz=338,slow=35
YBH Yreka Blue Hor 16.71 337 ⇑P Pn 14 37 53.7 -1.6
baz=17
L04A Klamath Falls 16.83 339 P Pn 14 37 58.2 +1.3
baz=17,SNR=13
REDW Red Top Meadow 16.93 8 *e*P Pn 14 38 00.8 +2.7
174nm,2.0s
K06A Valley Falls 16.95 344 ⇓P Pn 14 37 59.1 +0.8
baz=17,SNR=14
J09A Fry Pan Ranch, 16.99 351 P Pn 14 37 59.9 +1.0
baz=17,SNR=16
K05A Summer Lake 17.05 343 ⇓P Pn 14 38 00.3 +0.7
baz=17
J08A Circle Bar Ran 17.11 349 P Pn 14 38 01.3 +0.9
baz=17,SNR=34
DCID1 Drake Creek 17.12 7 *e*P Pn 14 38 03.0 +2.5
K04A Chilquin 17.18 340 ⇑P Pn 14 38 02.3 +1.0
baz=17
J07A Hines 17.29 347 ⇓P Pn 14 38 04.1 +1.5
baz=17,SNR=9.0
MOOW Moose Ponds 17.32 8 *e*P Pn 14 38 03.6 +0.5
166nm,1.8s
I11A Placerville 17.35 355 ⇓P Pn 14 38 05.3 +1.9
baz=17
J06A Christmas Vall 17.35 345 P Pn 14 38 04.6 +1.2
baz=17,SNR=24
I09A Lost Marbles R 17.60 351 ⇑P Pn 14 38 08.1 +1.6
baz=18,SNR=12
J05A Fort Rock 17.66 342 ⇑P Pn 14 38 08.2 +0.9
baz=18
FLWY Flagg Ranch 17.66 8 *e*P Pn 14 38 08.0 +0.8
59nm,1.2s
I08A Drewsey 17.67 349 ⇑P Pn 14 38 08.7 +1.3
baz=18,SNR=9.1
H12A Diamond D Ranc 17.93 358 ⇑P Pn 14 38 12.1 +1.6
baz=18
I07A Izee 18.00 347 ⇑P Pn 14 38 12.6 +1.1
baz=18,SNR=21
I06A Prineville 18.02 345 ⇓P Pn 14 38 12.5 +0.8
baz=18,SNR=12
H10A Noah's Angus R 18.09 354 P Pn 14 38 13.3 +0.8
baz=18,SNR=25
H11A Donnelly 18.14 355 ⇑P Pn 14 38 13.8 +0.6
baz=18,SNR=10
YMR Madison River 18.20 7 *e*P Pn 14 38 12.3 -1.6
32nm,1.2s
MCMT McKenzie Canyo 18.22 3 P Pn 14 38 15.2 +1.1
H09A Durkee 18.27 352 ⇓P Pn 14 38 16.2 +1.4
baz=18,SNR=36
H08A Prairie City 18.27 349 ⇑P Pn 14 38 15.5 +0.7
baz=18,SNR=17
YNR Morris Junctio 18.28 8 *e*P Pn 14 38 15.8 +0.8
QLMT Earthquake Lak 18.32 6 P Pn 14 38 14.2 -1.2
BMO Blue Mountains 18.41 353 *e*P Pn 14 38 16.6 +0.2
96nm,1.8s
G13A Cobalt 18.46 360 ⇑P Pn 14 38 18.2 +1.1
baz=18
H07A Lands Inn, Kim 18.51 347 ⇑P Pn 14 38 18.2 +0.5
baz=18
G15A Dillon 18.57 3 ⇓P Pn 14 38 19.0 +0.6
baz=18,SNR=25
VIPM Ingram Point 18.65 345 P Pn 14 38 20.9 +1.5
DLMT Dillon 18.77 3 *e*P Pn 14 38 20.4 -0.4
54nm,1.3s
H06A Lindquist Farm 18.80 346 ⇓P Pn 14 38 21.8 +0.6
baz=19,SNR=13
H05A Madras 18.93 344 ⇓P Pn 14 38 21.1 -1.7
baz=19
G08A Pilot Rock 19.07 349 ⇓P Pn 14 38 24.7 +0.1
baz=19,SNR=28
F12A Elk City 19.15 357 ⇑P Pn 14 38 24.4 -1.1
baz=19
F13A Darby 19.16 359 ⇓P Pn 14 38 25.6 0.0
baz=19,SNR=16
G07A Ruggs Ranch, H 19.18 348 P Pn 14 38 25.6 -0.2
baz=19,SNR=21
F14A Wisdom 19.19 1 ⇓P Pn 14 38 25.3 -0.6
baz=19,SNR=13
KSU1 Kansas State U 19.19 45 *e*P Pn 14 38 24.1 -1.8
94nm,1.4s
F15A Butte 19.25 3 ⇑P Pn 14 38 25.5 -1.1
baz=19,SNR=12
RSSD Black Hills 19.27 22 *e*P Pn 14 38 24.5 -2.4
12nm,1.0s
MIAR Mount Ida 19.29 61 *e*P Pn 14 38 26.8 -0.4
52nm,1.5s
F11A Grangeville 19.33 356 ⇓P Pn 14 38 26.3 -1.3
baz=19
G06A Carlson Farm, 19.34 346 ⇓P Pn 14 38 26.5 -1.3
baz=19,SNR=10
GCMT Greycliff 19.47 9 *e*P Pn 14 38 28.7 -0.6
G05A Wamic 19.51 344 ⇓P Pn 14 38 26.2 -3.6
baz=19,SNR=6.4
F10A Beach Ranch, E 19.51 353 ⇓P Pn 14 38 28.9 -0.9
baz=19,SNR=21
F08A Pendleton 19.54 350 ⇓P Pn 14 38 28.9 -1.2
baz=20,SNR=11
E14A Clinton 19.79 1 ⇓P Pn 14 38 31.9 -1.2
baz=20,SNR=18
E11A Bogner Ranch, 19.80 356 P Pn 14 38 31.2 -2.0
baz=20,SNR=14
E13A Victor 19.81 360 ⇓P Pn 14 38 31.8 -1.5
baz=20,SNR=17
E15A Deer Lodge 19.82 3 ⇑P Pn 14 38 32.7 -0.8
baz=20,SNR=19
F07A Phinny Hill Vi 19.83 348 ⇑P Pn 14 38 32.7 -0.9
baz=20,SNR=7.9
F06A Goldendale 19.88 346 ⇑P Pn 14 38 31.4 -2.7
baz=20
E10A Myers Farm, Un 20.00 354 ⇓P Pn 14 38 33.6 -2.0
baz=20
CMIG Matias Romero 20.11 114 P P 14 38 42.8 +7.7
12nm,0.8s,baz=296,slow=8.1,SNR=14
CMIG LR LR 14 46 30.2
comp=Z,4μm,20.8s,MS4.7,baz=276,slow=37
E09A Wood Farm, Sta 20.15 352 P P 14 38 35.4 -0.1
baz=20,SNR=8.8
MSO Missoula 20.20 0 *e*P P 14 38 36.5 +0.5
29nm,1.2s
HAWA Hanford 20.24 349 *e*P P 14 38 34.2 -2.3
112nm,1.6s
E08A Dider Farm, El 20.26 350 ⇓P P 14 38 36.7 0.0
baz=20
CHMT Chamberlain Mo 20.29 2 *e*P P 14 38 36.4 -0.7
F04A Amboy 20.43 343 ⇑P P 14 38 37.8 -0.7
baz=20
D15A Lincoln 20.45 3 ⇓P P 14 38 38.8 +0.1
baz=20,SNR=20
D14A Greenough 20.45 1 P P 14 38 38.0 -0.8
baz=20,SNR=33
E07A Sunnyside 20.46 348 ⇑P P 14 38 38.6 -0.2
baz=20,SNR=13
D13A Huson 20.46 359 ⇑P P 14 38 38.7 -0.2
baz=20,SNR=27
D11A Klaveano Farm, 20.50 355 ⇑P P 14 38 38.6 -0.7
baz=20,SNR=17
D10A Wagner Farm, O 20.58 354 ⇑P P 14 38 38.4 -1.8
baz=20
E06A Yakima 20.66 346 ⇓P P 14 38 41.3 +0.2
baz=21,SNR=9.6
D09A Jones Farm, Ri 20.71 352 ⇑P P 14 38 39.7 -1.9
baz=21
D08A Wollman Farm, 20.79 351 ⇓P P 14 38 42.1 -0.4
baz=21
E05A Randle 20.85 345 ⇑P P 14 38 42.8 -0.3
baz=21,SNR=5.9
EBG Ellensburg 20.93 347 P P 14 38 45.3 +1.3
LAO LASA Array 20.99 15 *e*P P 14 38 42.2 -2.4
70nm,1.4s
C13A Hot Springs 21.05 359 ⇓P P 14 38 44.6 -0.6
baz=21,SNR=30
OD2 Odessa Site #2 21.09 351 P P 14 38 45.6 0.0
D07A Quincy 21.09 349 ⇓P P 14 38 45.3 -0.4
baz=21,SNR=5.5
E04A Onalaska 21.12 343 ⇑P P 14 38 46.9 +0.9
baz=21
BSMT Bassoo Peak 21.23 359 P P 14 38 47.1 -0.1
D06A Cle Elum 21.25 347 ⇓P P 14 38 47.2 -0.2
baz=21
E03A Lebam 21.30 342 ⇓P P 14 38 45.3 -2.7
baz=21
C10A Spilker Farm, 21.34 354 ⇑P P 14 38 47.9 -0.5
baz=21
C09A Chrisman Ranch 21.43 352 ⇓P P 14 38 48.4 -1.0
baz=21
D05A Enumclaw 21.50 345 ⇓P P 14 38 50.0 -0.1
baz=21
C08A Higginbotham F 21.52 351 ⇓P P 14 38 50.4 +0.1
baz=21
ETW Entiat 21.55 348 P P 14 38 51.1 +0.5
C07A Waterville 21.59 349 P P 14 38 51.1 +0.1
baz=22,SNR=15
EGMT Eagleton 21.65 8 *e*P P 14 38 50.8 -0.9
56nm,1.0s,mb5.0
EGMT Eagleton 21.65 8 ⇓P P 14 38 51.5 -0.3
baz=22
B13A Whitefish 21.75 359 P P 14 38 52.8 +0.1
baz=22,SNR=14
NEW Newport 21.77 354 P P 14 38 50.5 -2.4
22nm,1.0s,mb4.5,baz=175,slow=13,SNR=19
NEW LR LR 14 46 47.4
comp=Z,690nm,19.9s,MS4.1,baz=182,slow=36
NEW Newport 21.77 354 *e*P P 14 38 49.8 -3.2
49nm,1.2s,mb4.8
B10A Chitwood Farm, 21.81 354 ⇑P P 14 38 52.9 -0.5
baz=22
B12A Libby 21.87 357 ⇓P P 14 38 54.1 0.0
baz=22
WRW Wenatchee Ridg 21.90 348 P P 14 38 55.1 +0.7
C05A Tolt Reservoir 21.91 346 ⇑P P 14 38 54.0 -0.5
baz=22
B09A Rice 22.03 353 ⇑P P 14 38 54.8 -1.0

baz=22
B08A Colville Reser 22.12 351 P **P** 14 38 56.8 0.0
baz=22,SNR=16
ECSD EROS,Sioux Fal 22.18 35 *e*P **P** 14 38 56.7 -0.7
69nm,1.0s,mb5.0
C04A Brinnon 22.23 344 ⇓P **P** 14 38 57.2 -0.7
baz=22
B07A Winthrop 22.34 349 ⇓P **P** 14 38 59.2 0.0
baz=22,SNR=40
A11A Hall Mountain, 22.40 356 ⇑P **P** 14 38 59.3 -0.5
baz=22
B05A Bryant 22.54 346 ⇑P **P** 14 38 59.8 -1.4
baz=22
A09A Danville 22.62 352 P **P** 14 39 02.0 -0.1
baz=22,SNR=20
B06A Marblemount 22.65 347 ⇓P **P** 14 39 01.7 -0.7
baz=23
A08A Turner Farm, O 22.69 351 P **P** 14 39 03.7 +0.9
baz=23,SNR=17
FVM French Village 22.89 54 *e*P **P** 14 39 06.0 +1.1
8.9nm,0.8s,mb4.2
SCIA State Center 22.92 43 P **P** 14 39 05.3 +0.1
92nm,1.2s,mb5.1
A07A Ashnola River, 22.96 349 ⇓P **P** 14 39 06.1 +0.5
baz=23
A04A Legoe Bay, Lum 23.10 345 ⇓P **P** 14 39 06.9 -0.3
baz=23
A05A Maple Falls 23.23 346 ⇓P **P** 14 39 08.5 0.0
baz=23
SIUC Southern Illin 23.68 56 *e*P **P** 14 39 14.0 +0.9
32nm,0.8s,mb4.8
WVT Waverly 24.24 61 *e*P **P** 14 39 20.1 +1.9
33nm,1.0s,mb4.7
EDM Edmonton 26.60 1 *e*P **P** 14 39 38.2 -1.4
TKL Tuckaleechee C 27.34 63 P **P** 14 39 47.2 +0.9
7.8nm,0.7s,mb4.3,baz=238,slow=7.4,SNR=6.5
TKL LR LR 14 50 57.1
comp=Z,1μm,18.4s,MS4.6,baz=256,slow=37
ULM Lac du Bonnet 27.43 26 P **P** 14 39 45.3 -1.8
22nm,0.8s,mb4.7,baz=222,slow=11,SNR=20
ULM LR LR 14 51 05.3
comp=Z,715nm,18.6s,MS4.3,baz=272,slow=38
ULM Lac du Bonnet 27.43 26 *e*P **P** 14 39 45.4 -1.7
47nm,1.0s,mb5.0
YKA Yellowknife Ar 35.90 360 P **P** 14 40 57.8 -3.6
0.8nm,0.8s,mb3.7,baz=178,slow=8.6,SNR=5.5
DAWY Dawson 40.92 343 *e*P **P** 14 41 44.4 +0.8
OTAV Otavalo 43.10 122 P **P** 14 42 04.3 +2.7
33nm,1.4s,mb4.9
INK Inuvik 43.35 350 P **P** 14 42 02.5 -1.0
10nm,1.1s,mb4.5,baz=157,slow=8.7,SNR=8.9
INK Inuvik 43.35 350 *e*P **P** 14 42 03.1 -0.4
537nm,1.2s
ROSC El Rosal 43.62 113 LR LR 15 01 58.5
comp=Z,242nm,18.0s,MS4.2,baz=48,slow=38
SCHQ Schefferville 44.34 37 P **P** 14 42 11.5 +0.1
13nm,1.1s,mb4.6,baz=261,slow=4.4,SNR=4.1
SCHQ LR LR 14 59 06.4
comp=Z,525nm,18.7s,MS4.5,baz=271,slow=34
SCHQ Schefferville 44.34 37 P **P** 14 42 11.5 +0.1
SCHQ LR LR 14 59 06.4
SVW2 Sparrevohn 44.38 333 *e*P **P** 14 42 10.3 -1.5
SDV Santo Domingo 44.66 105 *e*P **P** 14 42 19.0 +4.9
12nm,0.7s,mb4.8
IMA2 Indian Mountai 46.55 339 P **P** 14 42 28.9 -0.1
RKT Rikitea 53.41 204 *e*S **S** 14 50 55.8 +2.5
48nm,26.0s
RKT *e*LR LR 14 58 46.9
405nm,25.5s
PPT Papeete 55.85 222 *e*S **S** 14 51 30.5 +4.4
238nm,29.0s
PPT *e*LQ 14 57 33.5
263nm,22.8s
PPT *e*LR LR 14 59 51.4
155nm,21.8s,baz=25
TBI Tubuai 60.33 218 *e*S **S** 14 52 25.9 +1.3
206nm,28.8s
TBI *e*LQ 14 59 31.6
356nm,29.0s
TBI *e*LR LR 15 01 57.8
108nm,26.2s
LPAZ La Paz 61.68 128 P **P** 14 44 24.8 +5.4
3.6nm,1.1s,mb4.4,baz=356,slow=10.0,SNR=6.3
LPAZ LR LR 15 08 49.7
comp=Z,152nm,19.6s,MS4.2,baz=89,slow=34
LPAZ La Paz 61.68 128 P **P** 14 44 24.8 +5.4
LPAZ LR LR 15 08 49.7
TIXI Tiksi 72.96 343 *e*P **P** 14 45 29.6 -1.2
2.2nm,0.7s,mb4.2
ARCES ARCESS Array B 79.79 13 P **P** 14 46 09.4 -0.2
2.5nm,0.7s,mb4.2,baz=320,slow=5.4,SNR=8.5
FINES FINESS Array B 86.54 18 P **P** 14 46 45.0 +0.5
1.6nm,0.5s,mb4.5,baz=14,slow=2.6,SNR=13
MJAR Matsushiro Arr 97.48 310 LR LR 15 20 59.9
comp=Z,221nm,18.5s,MS4.6,baz=85,slow=32
KSRS Korea Array 93.75 315 LR LR 15 25 43.7
comp=Z,71nm,19.1s,MS4.1,baz=171,slow=33
SONM Songino Array 97.48 334 P **P** 14 47 36.7 +1.4
0.9nm,1.0s,mb4.2,baz=27,slow=2.9,SNR=3.9
SONM LR LR 15 32 31.6
comp=Z,236nm,19.1s,MS4.7,baz=187,slow=36
HHC Hu-ho-hao-te 100.67 327 *e*P Pdif 14 47 49.5 -0.1
HHC AP 14 47 54.3
HHC PP PP 14 51 59.3 +2.6
HHC SKS 14 58 28.0
HHC S Sdif 14 59 21.5 -5.4
HHC SS SS 15 06 24.8 +1.3
HHC AMB AMB
comp=Z,10.0nm,1.1s
HHC AMB AMB
comp=Z,155nm,6.4s
HHC LR LR
comp=N,178nm,18.6s,MS4.8
HHC LR LR
comp=E,201nm,18.2s,MS4.8
HHC LR LR
comp=Z,154nm,16.6s,MS4.6
NJ2 Nanjing 102.93 316 *e*P Pdif 14 48 01.5 +1.9
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
WMQ Urumqi 107.15 344 PDIF Pdif 14 48 15.5 -2.8
WMQ PP PP 14 52 45.8 +0.8
WMQ PP PP
comp=Z,88nm,4.4s
WMQ LR LR
comp=N,86nm,21.1s,MS4.5
WMQ LR LR
comp=E,117nm,21.1s,MS4.5
WMQ LR LR
comp=Z,117nm,19.5s,MS4.5
LZH Lanzhou 108.15 328 *e*P Pdif 14 48 18.4 -4.4
comp=Z,13nm,1.0s
LZH pP 14 48 21.4
LZH sP 14 48 23.6
LZH LR LR
comp=Z,490nm,18.0s,MS5.1
CD2 Chengdu 112.37 325 *e*PKP PKiKP 14 52 36.3 -1.1
CD2 XPKP 14 52 41.8
CD2 PP PP 14 53 24.5 +1.7
CD2 PKS 14 56 11.8
CD2 SKS SKSdf 14 59 43.5 -6.0
CD2 PP PP
comp=Z,120nm,8.2s
CD2 LR LR
comp=N,180nm,18.0s,MS4.9
CD2 LR LR
comp=E,220nm,15.6s,MS4.9
CD2 LR LR
comp=Z,140nm,16.8s,MS4.6
GYA Guiyang 114.29 320 *e*PDIF Pdif 14 48 51.5 +1.4
GYA PKP PKiKP 14 52 42.5 +1.5
GYA PP PP 14 53 40.8 +4.4
GYA PKS 14 56 17.8
GYA SKS SKSdf 14 59 52.3 -0.9
GYA SKKS SKKSac 15 00 33.0 -5.4
GYA PP PP
comp=Z,110nm,7.6s
GYA LR LR
comp=N,180nm,19.8s,MS4.9
GYA LR LR
comp=E,240nm,20.4s,MS4.9
GYA LR LR
comp=Z,160nm,20.8s,MS4.6
WRA Warramunga Arr 117.48 260 PKP PKPdf 14 52 48.7 +1.5
comp=Z,0.5nm,0.6s,baz=65,slow=2.2,SNR=12
KMI Kunming 117.53 322 PKP PKPdf 14 52 47.5 +0.2
KMI PP PP 14 53 59.5 +0.3
KMI SS SS 15 10 09.3 -1.1
KMI PP PP
comp=Z,56nm,7.8s
KMI LR LR
comp=N,144nm,16.0s,MS4.8
KMI LR LR
comp=E,119nm,16.0s,MS4.8
KMI LR LR
comp=Z,228nm,16.0s,MS4.9
KMI Kunming 117.53 322 PKP PKPdf 14 52 47.5 +0.2
KMI pPKP pPKPdf 14 52 56.8 +6.1
KMI sPKP 14 53 00.3
KMI PP PP 14 53 59.5 +0.3
KMI SS SS 15 10 09.2 -1.2
KMI LR LR
comp=Z,230nm,16.0s,MS4.9
ASAR Alice Springs 119.09 256 PKP PKPdf 14 52 51.6 +1.3
comp=Z,0.4nm,0.5s,baz=84,slow=2.2,SNR=11

*IDC **29** 15:12:20.8±7.2, 3787N×7399E, h102km±65km, mb3.4/4, mb1 3.5/8, mb1mx3.2/25, mbtmp3.4/8, ML3.7/4, Error ellipse: s-maj=49.4km s-min=23.6km az=27.0*
*MOS **29** 15:12:23.6±2.0, 3788N×7400E, h150km, mb4.1/2, Error ellipse: s-maj=32.7km s-min=10.5km az=89.4*
*NEIC **29** 15:12:24.5±3.6, 3793N×7411E, h140km±30km, Error ellipse: s-maj=34.1km s-min=21.2km az=203.0*
*ISCJB **29** 15:12:26.4±0.6, 3806N±005×742E±0.1, h173km±9km, mb3.5/4, Error ellipse: s-maj=15.4km s-min=7.1km az=148.2*

ISC 29 15:12:27.3±0.6, 3809N±005×740E±01, h172km±9km, n24, σ1§16/28, mb3.5/4, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.04**	**357**	P		**Pn**	**15 13 28.9**	**+0.3**
	SNR=84							
KZA	**Kyzart**	**4.09**	**13**	P		**Pn**	**15 13 29.4**	**+0.1**
	SNR=14							
UCH	**Uchtor**	**4.15**	**5**	P		**Pn**	**15 13 30.2**	**+0.2**
	SNR=20							
ULHL	**Ulahol**	**4.48**	**22**	P		**Pn**	**15 13 34.6**	**+0.3**
	SNR=5.5							
AAK	**Ala-Archa**	**4.55**	**4**	*e*PN		**Pn**	**15 13 34.5**	**-0.7**
EKS2	**Erkin-Say**	**4.57**	**358**	P		**Pn**	**15 13 36.5**	**+1.1**
	SNR=13							
KBK	**Karagaybulak**	**4.61**	**9**	P		**Pn**	**15 13 37.4**	**+1.4**
	SNR=6.2							
KK31	**Karatay Array**	**5.67**	**333**	P		**Pn**	**15 13 49.6**	**-0.2**
	2.4nm,0.5s,baz=164,slow=18,SNR=56							
KK31				S		**Sn**	**15 14 49.1**	**-5.6**
	22nm,0.5s,baz=166,slow=30,SNR=23							
THN	**Thein Dam**	**5.81**	**166**	*e*P		**Pn**	**15 13 52.1**	**+0.4**
THN				*e*S		**Sn**	**15 14 56.1**	**-1.9**
MKAR	**Makanchi Array**	**10.62**	**32**	P		**Pn**	**15 14 53.5**	**-1.4**
	0.1nm,0.3s,baz=225,slow=16,SNR=4.4							
KURK	**Kurchatov**	**13.04**	**13**	*e*P		**Pn**	**15 15 30.6**	**+4.5**
BVAR	**Borovoye Array**	**15.15**	**352**	P		**Pn**	**15 15 51.2**	**-1.2**
	0.2nm,0.3s,baz=160,slow=11,SNR=6.3							
BRVK	**Borovoye**	**15.19**	**351**	*e*P		**Pn**	**15 15 55.9**	**+3.0**
AKTK	**Aktyubinsk**	**16.80**	**322**	P		**Pn**	**15 16 12.2**	**-0.2**
AKTK				S		**S**	**15 19 16.4**	**-1.7**
AKTO	**Aktyubinsk**	**16.80**	**322**	P		**Pn**	**15 16 12.2**	**-0.2**
	0.3nm,0.3s,baz=108,slow=11,SNR=6.2							
AKTO				S		**S**	**15 19 16.4**	**-1.7**
	0.2nm,0.3s,baz=19,slow=18,SNR=4.0							
ZAL	**Zalesovo**	**17.49**	**22**	P		**Pn**	**15 16 20.0**	**-0.7**
	1.8nm,0.3s,baz=260,slow=6.8,SNR=14							
ZAL	**Zalesovo**	**17.49**	**22**	P		**Pn**	**15 16 20.0**	**-0.7**
ZAL				pmax	pmax			
	comp=Z,2.0nm,0.3s							
NVS	**Novosibirsk**	**17.89**	**18**	*e*P		**Pn**	**15 16 24.3**	**-1.1**
FINES	**FINESS Array B**	**37.56**	**324**	P		**P**	**15 19 26.2**	**+1.5**
	comp=Z,2.8nm,1.0s,mb3.9,baz=115,slow=9.0,SNR=5.2							
FINES	**FINESS Array B**	**37.56**	**324**	P		**P**	**15 19 26.2**	**+1.4**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**40.63**	**336**	P		**P**	**15 19 52.0**	**+1.8**
	comp=Z,4.5nm,1.1s,mb4.0,baz=110,slow=7.8,SNR=9.1							
ARCES	**ARCESS Array B**	**40.63**	**336**	P		**P**	**15 19 52.0**	**+1.7**
ARCES				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**68.15**	**270**	P		**P**	**15 23 10.4**	**+1.7**
	comp=Z,0.3nm,0.6s,mb3.2,baz=57,slow=5.0,SNR=3.2							
WRA	**Warramunga Arr**	**80.83**	**124**	P		**P**	**15 24 22.2**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.0,baz=325,slow=4.6,SNR=5.7							

*IDC **29** 15:19:00.5±2.5, 896S×10793E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=125.3km s-min=19.3km az=51.0*
*ISCJB **29** 15:19:04.4±1.3, 885±03×1082E±04, h35km, mb4.1/11, Error ellipse: s-maj=68.0km s-min=12.1km az=95.3*
*NEIC **29** 15:19:06.2±1.3, 889S×1080E, h35km, mb4.1/2, Error ellipse: s-maj=69.0km s-min=11.6km az=52.0*

ISC 29 15:19:06.4±1.3, 89S±03×1081E±04, h35km, n15, σ0§57/14, mb4.1/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.67**	**116**	P		**P**	**15 24 51.1**	**+0.1**
	0.5nm,0.8s,mb3.2,baz=291,slow=10,SNR=6.8							
ASAR	**Alice Springs**	**28.75**	**124**	P		**P**	**15 24 59.6**	**-1.0**
	0.5nm,0.7s,mb3.3,baz=294,slow=7.3,SNR=4.7							
STKA	**Stephens Creek**	**38.61**	**131**	P		**P**	**15 26 27.2**	**+1.1**
	1.2nm,0.5s,mb3.9,baz=134,slow=21,SNR=3.5							
GUN	**Gumba**	**42.41**	**330**	*e*P		**P**	**15 26 58.1**	**+0.5**
DMN	**Daman**	**42.55**	**329**	*e*P		**P**	**15 26 59.2**	**+0.5**
KKN	**Kakani**	**42.61**	**330**	*e*P		**P**	**15 26 59.1**	**-0.1**
	7.7nm,0.7s,mb4.5							
GKN	**Gorkha**	**43.11**	**329**	*e*P		**P**	**15 27 03.2**	**0.0**
	9.4nm,0.8s,mb4.6							
KOLN	**Koldanda**	**43.46**	**328**	*e*P		**P**	**15 27 06.1**	**+0.1**
	12nm,0.7s,mb4.7							
SONM	**Songino Array**	**56.49**	**359**	P		**P**	**15 28 45.4**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=173,slow=8.0,SNR=8.2							
ULN	**Ulaanbaatar**	**56.51**	**359**	*e*P		**P**	**15 28 45.2**	**+0.2**
	1.7nm,0.7s,mb4.2							
MK31	**Makanchi Array**	**60.01**	**340**	*e*P		**P**	**15 29 09.6**	**+0.1**
MKAR	**Makanchi Array**	**60.01**	**340**	P		**P**	**15 29 09.1**	**-0.4**
	2.1nm,0.6s,mb4.4,baz=143,slow=7.6,SNR=19							
BVAR	**Borovoye Array**	**69.50**	**337**	P		**P**	**15 30 10.4**	**-1.0**
	1.1nm,0.6s,mb4.0,baz=158,slow=9.3,SNR=7.7							
BRVK	**Borovoye**	**69.57**	**337**	*e*P		**P**	**15 30 11.2**	**-0.6**
	1.2nm,0.6s,mb4.0							
TXAR	**Lajitas Array**	**143.97**	**51**	PKP		PKPdf	15 38 39.8	+1.7
	0.7nm,0.6s,baz=74,slow=3.9,SNR=4.5							

*ISCJB **29** 15:22:08.4±0.8, 536N±02×353W±02, h10km, mb3.6/9, Error ellipse: s-maj=25.7km s-min=12.9km az=53.1*
*IDC **29** 15:22:08.7±1.1, 5359N×3527W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=38.0km s-min=20.5km az=24.0*
*NEIC **29** 15:22:10.0±0.5, 5356N×3529W, h10km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=10.2km az=209.0*

ISC 29 15:22:10.0±0.8, 536N±02×353W±02, h10km, n14, σ0§81/12, mb3.6/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.36**	**111**	P		**P**	**15 27 36.1**	**-1.2**
	0.2nm,0.3s,mb3.1,baz=320,slow=13,SNR=2.0							
RES	**Resolute Bay**	**31.32**	**334**	P		**P**	**15 28 30.3**	**-0.1**
	217nm,1.1s							
AKASG	**Malin Array Be**	**38.46**	**67**	P		**P**	**15 29 33.1**	**+1.1**
	0.2nm,0.3s,mb3.3,baz=300,slow=8.4,SNR=3.0							
KIS	**Kishinev**	**40.20**	**73**	LRM		**P**	**15 29 46.0**	**-0.5**
	200nm,14.0s							
YKA	**Yellowknife Ar**	**40.32**	**315**	P		**P**	**15 29 46.4**	**-1.1**
	0.6nm,0.8s,mb3.4,baz=54,slow=10.0,SNR=5.1							
BW06	**Boulder Array**	**48.54**	**289**	*e*P		**P**	**15 30 53.3**	**0.0**
	1.4nm,0.7s,mb4.1							
PDAR	**Pinedale Array**	**48.54**	**289**	P		**P**	**15 30 54.0**	**+0.7**
	1.4nm,0.7s,mb4.1,baz=62,slow=7.6,SNR=9.5							
TOA0	**Torodi Ar. Sit**	**49.81**	**130**	*e*P		**P**	**15 31 03.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**49.81**	**130**	P		**P**	**15 31 03.4**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=329,slow=7.9,SNR=7.6							
MKAR	**Makanchi Array**	**66.78**	**42**	P		**P**	**15 33 01.1**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=307,slow=4.4,SNR=2.7							
ZAK	**Zakamensk**	**70.66**	**27**	*e*P		**P**	**15 33 29.3**	**+3.5**
ZAK				pmax	pmax			
	comp=Z,2.0nm,2.0s,mb3.7							
SONM	**Songino Array**	**73.82**	**26**	P		**P**	**15 33 45.1**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=19,slow=4.9,SNR=3.6							
WRA	**Warramunga Arr**	**145.44**	**17**	PKPbc	PKPbc		15 41 47.8	-0.4
	comp=Z,0.6nm,0.9s,baz=340,slow=3.2,SNR=4.9							
ASAR	**Alice Springs**	**148.99**	**20**	PKPbc	PKPbc		15 41 58.1	-0.1
	comp=Z,0.6nm,0.6s,baz=347,slow=2.3,SNR=13							

*IDC **29** 15:22:21.6±0.5, 5364N×3548W, h0km, mb4.3/24, mb1 4.4/26, mb1mx4.4/30, mbtmp4.3/26, ML3.5/2, MS4.7/1, Ms1 4.7/1, ms1mx3.5/24, Error ellipse: s-maj=17.8km s-min=10.4km az=175.0*
*CSEM **29** 15:22:22.2±0.0, 5398N×3534W, h9km, mb4.9/78, Ms4.2, Mw5.1, Error ellipse: s-maj=3.2km s-min=1.0km az=8.0*
*MOS **29** 15:22:22.4±0.9, 5377N×3543W, h10km, mb5.1/54, MS4.4/7, Error ellipse: s-maj=9.2km s-min=6.2km az=172.1*
*BJI **29** 15:22:22.0, 5390N×3540W, h10km, mB5.3, mb4.9, Ms4.9, Msz4.5*
*ISCJB **29** 15:22:22.1±2.2, 5383N±005×3542W±003, h6km±14km, mb4.7/120, MS4.5/13, Error ellipse: s-maj=8.7km s-min=2.6km az=17.1*
*GCMT **29** 15:22:24.4±0.2, 5378N×3525W, h12km, MW5.1/82, Moment Tensor Solution. s33,c38; s82,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.64±.13; $M_{\theta\theta}$0.21±.14; $M_{\phi\phi}$4.43±.11; $M_{r\theta}$1.31±.39; $M_{\theta\phi}$0.56±.12; $M_{\phi r}$0.68±.40; Best double couple: M_o4.79200×10^{16} NP1:ϕ_s355.00000°, δ41.00000°, λ-110.00000°. NP2: ϕ_s201.00000°, δ52.00000°, λ-73.00000°. Principal axes: T 4.5840, Plg5.0000°, Azm279.0000°; N 0.4170, Plg13.0000°, Azm10.0000°; P -5.0010, Plg76.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 15:22:24.4±0.1, 5389N×3539W, h10km, mb4.9/83, MS4.4/5 Error ellipse: s-maj=7.2km s-min=2.6km az=190.0*

ISC 29 15:22:24.3±2.4, 5386N±005×3538W±003, h9km±15km, h15km±2.1km:pP-P, n463, σ0§81/460, mb4.7/120, MS4.5/13, 67C-63D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.10**	**337**	*e*P		**Pn**	**15 26 03.3**	**+5.5**
SFJD				pmax	pmax			
	comp=Z,49nm,1.0s							
SFJD	**Kangerlussuaq**	**15.10**	**337**	*e*P		**Pn**	**15 26 03.3**	**+5.5**
	comp=Z,49nm,1.0s							
SCHQ	**Schefferville**	**18.29**	**286**	P		**Pn**	**15 26 37.2**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=88,slow=7.5,SNR=11							
SCHQ	**Schefferville**	**18.29**	**286**	*e*P		**Pn**	**15 26 37.5**	**-0.7**
SCHQ	**Schefferville**	**18.29**	**286**	*e*P		**Pn**	**15 26 37.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**18.64**	**72**	P		**Pn**	**15 26 41.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=279,slow=7.5,SNR=4.4							
EMAZ	**Mazaricos**	**20.52**	**111**	P		**P**	**15 27 04.2**	**+1.4**
	comp=Z,164nm,1.8s							
EMAZ	**Mazaricos**	**20.52**	**111**	P		**P**	**15 27 04.2**	**+1.4**
	comp=Z,164nm,1.8s							
ROSF	**Rostrenen**	**20.79**	**92**	*e*P		**P**	**15 27 05.0**	**-0.7**
	comp=Z,239nm,1.6s							
ROSF	**Rostrenen**	**20.79**	**92**	*e*P		**P**	**15 27 05.0**	**-0.7**
ROSF				pmax	pmax			
	comp=Z,119nm,1.6s							
ROSF	**Rostrenen**	**20.79**	**92**	*e*P		**P**	**15 27 05.0**	**-0.7**
	comp=Z,119nm,1.6s							
STS	**Santiago**	**20.80**	**111**	P		**P**	**15 27 06.3**	**+0.5**
STS				pmax	pmax			
	comp=Z,265nm,1.8s							
STS	**Santiago**	**20.80**	**111**	P		**P**	**15 27 06.3**	**+0.4**
	comp=Z,265nm,1.8s							
STS	**Santiago**	**20.80**	**111**	P		**P**	**15 27 06.3**	**+0.5**
	comp=Z,265nm,1.8s							
QUIF	**Quistinic**	**21.05**	**93**	*e*P		**P**	**15 27 08.2**	**-0.3**
	comp=Z,384nm,1.5s,mb5.2							
QUIF	**Quistinic**	**21.05**	**93**	*e*P		**P**	**15 27 08.2**	**-0.3**
QUIF				pmax	pmax			
	comp=Z,192nm,1.5s,mb5.2							
QUIF	**Quistinic**	**21.05**	**93**	*e*P		**P**	**15 27 08.2**	**-0.3**
	comp=Z,192nm,1.5s,mb5.2							
EZAM	**Zamans**	**21.21**	**113**	P		**P**	**15 27 10.6**	**+0.3**
EZAM				pmax	pmax			
	comp=Z,135nm,1.4s,mb5.1							
EZAM	**Zamans**	**21.21**	**113**	P		**P**	**15 27 10.6**	**+0.3**
	comp=Z,135nm,1.4s,mb5.1							
EZAM	**Zamans**	**21.21**	**113**	P		**P**	**15 27 10.6**	**+0.3**
	comp=Z,135nm,1.4s,mb5.1							
SGMF	**Saint Gilles**	**21.25**	**92**	*e*P		**P**	**15 27 10.0**	**-0.7**
	comp=Z,123nm,1.1s,mb4.8							
SGMF	**Saint Gilles**	**21.25**	**92**	*e*P		**P**	**15 27 10.0**	**-0.7**
SGMF				pmax	pmax			
	comp=Z,62nm,1.1s,mb4.8							
SGMF	**Saint Gilles**	**21.25**	**92**	*e*P		**P**	**15 27 10.0**	**-0.7**
	comp=Z,62nm,1.1s,mb4.8							
EPON	**Pontenova**	**21.30**	**108**	P		**P**	**15 27 10.9**	**-0.3**
	comp=Z,130nm,1.4s,mb5.1							
EPON	**Pontenova**	**21.30**	**108**	P		**P**	**15 27 10.9**	**-0.3**
	comp=Z,130nm,1.4s,mb5.1							
ELOB	**Lobios**	**21.75**	**112**	P		**P**	**15 27 17.2**	**+1.2**
	comp=Z,150nm,1.6s,mb5.2							
ELOB	**Lobios**	**21.75**	**112**	P		**P**	**15 27 17.2**	**+1.1**
	comp=Z,150nm,1.6s,mb5.2							
PCAB	**Cabril**	**21.88**	**113**	*e*P		**P**	**15 27 20.2**	**+2.8**
	comp=Z,152nm,1.5s,mb5.2							
GRR	**Gorron**	**22.19**	**90**	*e*P		**P**	**15 27 20.2**	**-0.6**
	comp=Z,98nm,1.2s,mb4.8							
GRR	**Gorron**	**22.19**	**90**	*e*P		**P**	**15 27 20.2**	**-0.6**
GRR				pmax	pmax			
	comp=Z,49nm,1.2s,mb4.8							
GRR	**Gorron**	**22.19**	**90**	*e*P		**P**	**15 27 20.2**	**-0.6**
	comp=Z,49nm,1.2s,mb4.8							
FLN	**La Foliniere**	**22.25**	**89**	*e*P		**P**	**15 27 21.0**	**-0.4**
	comp=Z,122nm,1.3s,mb4.9							
FLN				*e*R				
	comp=Z,2μm,21.0s							
FLN	**La Foliniere**	**22.25**	**89**	*e*P		**P**	**15 27 21.0**	**-0.4**
FLN				pmax	pmax			
	comp=Z,61nm,1.3s,mb4.9							
FLN				MLR	MLR			
	comp=Z,2μm,21.0s,MS4.4							
FLN	**La Foliniere**	**22.25**	**89**	*e*P		**P**	**15 27 21.0**	**-0.4**
	comp=Z,61nm,1.3s,mb4.9							
FLN				LR	LR			
	comp=Z,2μm,21.0s,MS4.4							
PVRL	**Vila Real**	**22.34**	**113**	*e*P		**P**	**15 27 24.6**	**+2.2**
	comp=Z,100nm,1.7s,mb5.0							
EARI	**Arriondas**	**22.41**	**106**	P		**P**	**15 27 24.9**	**+1.8**
	comp=Z,166nm,1.6s,mb5.2							
EARI	**Arriondas**	**22.41**	**106**	P		**P**	**15 27 24.9**	**+1.8**
	comp=Z,166nm,1.6s,mb5.2							
ECAL	**Calabor**	**22.43**	**110**	P		**P**	**15 27 25.8**	**+2.4**
	comp=Z,104nm,1.6s,mb5.0							
PBRG	**Braganca**	**22.52**	**111**	*e*P		**P**	**15 27 24.0**	**-0.3**
	comp=Z,97nm,1.4s,mb5.0							
LDF	**La Druitiere**	**22.54**	**89**	*e*P		**P**	**15 27 23.9**	**-0.6**
	comp=Z,149nm,1.5s,mb4.9							
LDF	**La Druitiere**	**22.54**	**89**	*e*P		**P**	**15 27 23.9**	**-0.6**
LDF				pmax	pmax			
	comp=Z,74nm,1.5s,mb4.9							
LDF	**La Druitiere**	**22.54**	**89**	*e*P		**P**	**15 27 23.9**	**-0.6**
	comp=Z,74nm,1.5s,mb4.9							
PMAFR	**Mafra**	**23.18**	**119**	*e*P		**P**	**15 27 35.0**	**+3.7**
	comp=Z,171nm,1.6s,mb5.2							
PCBR	**Castelo Branco**	**23.48**	**115**	*e*P		**P**	**15 27 33.7**	**-0.8**
	comp=Z,146nm,1.5s,mb5.2							
MFF	**Saint Martin d**	**23.49**	**94**	*e*P		**P**	**15 27 34.1**	**-0.4**
	comp=Z,240nm,1.7s,mb5.1							
MFF	**Saint Martin d**	**23.49**	**94**	*e*P		**P**	**15 27 34.1**	**-0.4**
MFF				pmax	pmax			
	comp=Z,120nm,1.7s,mb5.0							
MFF	**Saint Martin d**	**23.49**	**94**	*e*P		**P**	**15 27 34.1**	**-0.4**
	comp=Z,120nm,1.7s,mb5.1							
PESTR	**Estremoz**	**24.13**	**117**	*e*P		**P**	**15 27 40.8**	**+0.3**
	comp=Z,45nm,1.4s,mb4.7							
EVO	**Evora**	**24.16**	**118**	*e*P		**P**	**15 27 40.4**	**-0.3**
	comp=Z,179nm,1.9s,mb4.9							
EVO				*e*R				
	comp=Z,1μm,18.2s							
BAIF	**Baives**	**24.46**	**83**	*e*P		**P**	**15 27 41.6**	**-1.9**
EBAD	**Badajoz**	**24.52**	**116**	P		**P**	**15 27 45.7**	**+1.7**

GUD pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
GUD Guadarrama 24.74 110 P **P 15 27 47.2 +1.1**
comp=Z,10nm,0.7s,mb4.5
GUD Guadarrama 24.74 110 P **P 15 27 47.2 +1.1**
comp=Z,10.0nm,0.7s,mb4.5
GIVF Givet 24.80 82 *e*P **P 15 27 44.9 -1.7**
SJPF Ste Jean 24.82 102 *e*P **P 15 27 46.5 -0.3**
comp=Z,135nm,1.7s,mb4.9
SJPF Ste Jean 24.82 102 *e*P **P 15 27 46.5 -0.3**
SJPF pmax pmax
comp=Z,68nm,1.7s,mb4.9
SJPF Ste Jean 24.82 102 *e*P **P 15 27 46.5 -0.3**
comp=Z,68nm,1.7s,mb4.9
LFF La Frestale 24.90 96 *e*P **P 15 27 47.5 0.0**
KONO Kongsberg 24.93 58 *e*P **P 15 27 49.4 +1.7**
TCF Toulx Ste Croi 25.04 92 *e*P **P 15 27 47.9 -0.9**
comp=Z,75nm,1.2s,mb4.8
TCF Toulx Ste Croi 25.04 92 *e*P **P 15 27 47.9 -0.9**
TCF pmax pmax
comp=Z,37nm,1.2s,mb4.8
TCF Toulx Ste Croi 25.04 92 *e*P **P 15 27 47.9 -0.9**
comp=Z,38nm,1.2s,mb4.8
RJF Les Rejaudoux 25.16 95 *e*P **P 15 27 49.0 -0.8**
comp=Z,83nm,1.4s,mb4.8
RJF *e*R
comp=Z,1μm,21.2s
RJF Les Rejaudoux 25.16 95 *e*P **P 15 27 49.0 -0.8**
RJF pmax pmax
comp=Z,42nm,1.4s,mb4.8
RJF MLR MLR
comp=Z,1μm,21.3s,MS4.4
RJF Les Rejaudoux 25.16 95 *e*P **P 15 27 49.0 -0.8**
comp=Z,42nm,1.4s,mb4.8
RJF LR LR
comp=Z,1μm,21.3s,MS4.4
BGF Bois d'Agland 25.28 91 *e*P **P 15 27 50.1 -0.8**
ETSF Etsaut 25.34 101 *e*P **P 15 27 51.5 0.0**
SSF Saint Saulge 25.42 90 *e*P **P 15 27 51.3 -0.9**
comp=Z,182nm,1.5s,mb5.1
SSF Saint Saulge 25.42 90 *e*P **P 15 27 51.3 -0.9**
SSF pmax pmax
comp=Z,91nm,1.5s,mb5.1
SSF Saint Saulge 25.42 90 *e*P **P 15 27 51.3 -0.9**
comp=Z,91nm,1.5s,mb5.1
EMIN Mina Concepcio 25.43 118 P **P 15 27 54.1 +1.8**
comp=Z,20nm,1.4s,mb4.4
EMIN Mina Concepcio 25.43 118 P **P 15 27 54.1 +1.8**
comp=Z,20nm,1.4s,mb4.4
AVF Avril sur Loir 25.46 90 *e*P **P 15 27 51.6 -1.0**
comp=Z,190nm,1.5s,mb5.1
AVF Avril sur Loir 25.46 90 *e*P **P 15 27 51.6 -1.0**
AVF pmax pmax
comp=Z,95nm,1.5s,mb5.1
AVF Avril sur Loir 25.46 90 *e*P **P 15 27 51.6 -1.0**
comp=Z,95nm,1.5s,mb5.1
ESDC Sonseca Array 25.52 111 P **P 15 27 51.5 -1.5**
comp=Z,12nm,0.9s,mb4.4,baz=310,slow=8.2,SNR=20
ESDC Sonseca Array 25.52 111 P **P 15 27 52.9 -0.2**
comp=Z,18nm,1.1s,mb4.5
ESDC Sonseca Array 25.52 111 P **P 15 27 52.9 -0.2**
comp=Z,18nm,1.1s,mb4.5
ESLA Sonseca Array 25.52 111 *e*P **P 15 27 52.7 -0.3**
comp=Z,17nm,1.4s,mb4.4
ESLA Sonseca Array 25.52 111 *e*P **P 15 27 52.7 -0.4**
comp=Z,17nm,1.4s,mb4.4
LOR Lormes 25.52 89 *e*P **P 15 27 52.3 -0.8**
comp=Z,176nm,1.4s,mb5.1
LOR *e*R
comp=Z,1μm,21.8s
LOR Lormes 25.52 89 *e*P **P 15 27 52.3 -0.8**
LOR pmax pmax
comp=Z,88nm,1.4s,mb5.1
LOR MLR MLR
comp=Z,1μm,21.8s,MS4.4
LOR Lormes 25.52 89 *e*P **P 15 27 52.3 -0.8**
comp=Z,88nm,1.4s,mb5.1
LOR LR LR
comp=Z,1μm,21.8s,MS4.4
NB2 NORSAR Subarra 25.59 55 P **P 15 27 53.7 0.0**
comp=Z,66nm,2.0s,mb4.8,baz=275,slow=10
NOA NORSAR Array B 25.59 55 P **P 15 27 54.0 +0.3**
comp=Z,4.4nm,0.8s,mb4.0,baz=276,slow=9.8,SNR=5.6
NOA PcP PcP 15 31 25.3 +0.7
comp=Z,2.2nm,0.9s,baz=349,slow=9.0,SNR=3.3
MEZF Maizieres J'vi 25.64 85 *e*P **P 15 27 53.6 -0.6**
comp=Z,82nm,1.0s,mb4.9
MEZF Maizieres J'vi 25.64 85 *e*P **P 15 27 53.6 -0.6**
comp=Z,41nm,1.0s,mb4.9
CAF Calviac 25.69 95 *e*P **P 15 27 53.9 -0.8**
EPF Esparros 25.78 100 *e*P **P 15 27 55.3 -0.2**
ETOR Torete 25.81 107 P **P 15 27 56.4 +0.7**
ETOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
ETOR Torete 25.81 107 P **P 15 27 56.4 +0.7**
comp=Z,10.0nm,1.1s,mb4.3
SMF Signal de Mont 25.82 90 *e*P **P 15 27 54.8 -1.1**
comp=Z,106nm,1.4s,mb4.9
SMF Signal de Mont 25.82 90 *e*P **P 15 27 54.8 -1.1**
SMF pmax pmax
comp=Z,53nm,1.4s,mb4.9
SMF Signal de Mont 25.82 90 *e*P **P 15 27 54.8 -1.1**
comp=Z,53nm,1.4s,mb4.9
EBIE Bielsa 25.88 101 P **P 15 27 56.4 +0.1**
comp=Z,54nm,1.5s,mb4.9
EBIE Bielsa 25.88 101 P **P 15 27 56.4 0.0**
comp=Z,54nm,1.5s,mb4.9
EADA Adamuz 26.25 114 P **P 15 28 01.2 +1.4**
comp=Z,71nm,1.5s,mb5.0
EADA Adamuz 26.25 114 P **P 15 28 01.2 +1.4**
comp=Z,71nm,1.5s,mb5.0
ESPR Espera 26.53 118 P **P 15 28 04.0 +1.7**
comp=Z,70nm,1.3s,mb5.0
ESPR Espera 26.53 118 P **P 15 28 04.1 +1.8**
comp=Z,70nm,1.3s,mb5.0
HAU Haudompre 26.64 86 *e*P **P 15 28 02.8 -0.4**
HAU *e*R
comp=Z,792nm,18.5s
HAU Haudompre 26.64 86 *e*P **P 15 28 02.8 -0.4**
HAU LR LR
comp=Z,790nm,18.5s,MS4.3
EBAN Banos Encina 26.68 113 P **P 15 28 04.9 +1.2**
EBAN pmax pmax
comp=Z,28nm,1.1s,mb4.7
EBAN Banos Encina 26.68 113 P **P 15 28 04.9 +1.2**
comp=Z,28nm,1.1s,mb4.7
MTLF Montolieu 26.69 98 *e*P **P 15 28 03.2 -0.5**
ELUQ Luque 26.86 115 P **P 15 28 06.8 +1.5**
ELUQ pmax pmax
comp=Z,43nm,1.2s,mb4.8
ELUQ Luque 26.86 115 P **P 15 28 06.8 +1.5**
comp=Z,43nm,1.2s,mb4.8
ELUQ Luque 26.86 115 P **P 15 28 06.8 +1.5**
comp=Z,43nm,1.2s,mb4.8
HFS Hagfors 26.91 57 P **P 15 28 04.9 -0.7**
comp=Z,3.8nm,0.8s,mb4.0,baz=248,slow=6.1,SNR=4.7
CDF Champ du Feu 26.99 84 *e*P **P 15 28 06.3 -0.1**
HINF Hinteralfeld 27.03 86 *e*P **P 15 28 06.4 -0.3**
EVIA Vianos 27.05 111 P **P 15 28 06.0 -1.0**
EVIA pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
EVIA Vianos 27.05 111 P **P 15 28 06.0 -0.9**
comp=Z,9.9nm,0.9s,mb4.3
EVIA Vianos 27.05 111 P **P 15 28 06.0 -1.0**
comp=Z,10.0nm,0.9s,mb4.3
CABF La Chapelle 27.17 88 *e*P **P 15 28 07.9 -0.2**
comp=Z,184nm,1.9s,mb5.0
CABF La Chapelle 27.17 88 *e*P **P 15 28 07.9 -0.2**
CABF pmax pmax
comp=Z,92nm,1.9s,mb5.0
CABF La Chapelle 27.17 88 *e*P **P 15 28 07.9 -0.2**
comp=Z,92nm,1.9s,mb5.0
ELOJ Sierra Loja 27.23 115 P **P 15 28 08.1 -0.5**
ELOJ pmax pmax
comp=Z,21nm,1.0s,mb4.6
ELOJ Sierra Loja 27.23 115 P **P 15 28 08.1 -0.5**
comp=Z,21nm,1.0s,mb4.6
ELOJ Sierra Loja 27.23 115 P **P 15 28 08.1 -0.5**
comp=Z,21nm,1.0s,mb4.6
LASF Ste Croix 27.23 95 *e*P **P 15 28 08.4 -0.2**
VIVF Saint-Julien-l 27.27 93 *e*P **P 15 28 08.9 0.0**
comp=Z,82nm,1.5s,mb4.7
VIVF Saint-Julien-l 27.27 93 *e*P **P 15 28 08.9 0.0**
VIVF pmax pmax
comp=Z,41nm,1.5s,mb4.7
VIVF Saint-Julien-l 27.27 93 *e*P **P 15 28 08.9 0.0**
comp=Z,41nm,1.5s,mb4.7

EMIJ Mijas 27.33 117 P **P 15 28 09.1 -0.4**
comp=Z,66nm,1.7s,mb4.9
EMIJ Mijas 27.33 117 P **P 15 28 09.1 -0.4**
comp=Z,66nm,1.7s,mb4.9
EQES Quesada 27.34 113 P **P 15 28 08.8 -0.7**
comp=Z,58nm,1.8s,mb4.8
EQES Quesada 27.34 113 P **P 15 28 08.8 -0.7**
comp=Z,58nm,1.8s,mb4.8
ERON Agron 27.51 115 P **P 15 28 10.6 -0.5**
comp=Z,5.5nm,0.6s,mb4.4
EHUE Huescar 27.59 112 P **P 15 28 10.9 -0.9**
EHUE pmax pmax
comp=Z,24nm,1.2s,mb4.7
EHUE Huescar 27.59 112 P **P 15 28 10.9 -0.8**
comp=Z,24nm,1.2s,mb4.7
EHUE Huescar 27.59 112 P **P 15 28 10.9 -0.9**
comp=Z,24nm,1.2s,mb4.7
BFO Black Forest 27.65 84 *e*P **P 15 28 13.1 +0.8**
BFO pmax pmax
comp=Z,33nm,1.6s,mb4.7
BFO Black Forest 27.65 84 *e*P **P 15 28 13.1 +0.7**
comp=Z,34nm,1.6s,mb4.7
BFO Black Forest 27.65 84 *e*P **P 15 28 13.1 +0.8**
comp=Z,33nm,1.6s,mb4.7
ORIF Oris-en-Rattie 27.95 92 *e*P **P 15 28 15.1 +0.1**
comp=Z,66nm,1.4s,mb4.8
ORIF *e*R
comp=Z,2μm,22.0s
ORIF Oris-en-Rattie 27.95 92 *e*P **P 15 28 15.1 +0.1**
ORIF pmax pmax
comp=Z,33nm,1.4s,mb4.8
ORIF Oris-en-Rattie 27.95 92 *e*P **P 15 28 15.1 +0.1**
comp=Z,33nm,1.4s,mb4.8
LPL La Plagne 28.13 90 *e*P **P 15 28 16.7 +0.1**
comp=Z,45nm,1.5s,mb4.6
LPL La Plagne 28.13 90 *e*P **P 15 28 16.7 +0.1**
LPL pmax pmax
comp=Z,23nm,1.5s,mb4.6
LPL La Plagne 28.13 90 *e*P **P 15 28 16.7 +0.1**
comp=Z,22nm,1.5s,mb4.6
LPG La Plagne 28.15 90 *e*P **P 15 28 17.2 +0.4**
comp=Z,48nm,1.4s,mb4.6
LPG La Plagne 28.15 90 *e*P **P 15 28 17.2 +0.4**
LPG pmax pmax
comp=Z,24nm,1.4s,mb4.6
LPG La Plagne 28.15 90 *e*P **P 15 28 17.2 +0.4**
comp=Z,24nm,1.4s,mb4.6
SMRF Simiane la Rot 28.30 94 *e*P **P 15 28 18.9 +0.7**
comp=Z,155nm,1.8s,mb5.0
SMRF Simiane la Rot 28.30 94 *e*P **P 15 28 18.9 +0.7**
comp=Z,77nm,1.8s,mb5.0
MBDF Montbardon 28.59 91 *e*P **P 15 28 20.5 -0.2**
CLL Collm 29.06 75 *i* P **P 15 28 23.8 -1.1**
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.5
CLL Collm 29.06 75 *i* P **P 15 28 23.8 -1.1**
comp=Z,12nm,1.1s,mb4.5
FRF La Foret Royal 29.18 93 *e*P **P 15 28 26.0 +0.1**
LMR La Mourre 29.23 94 *e*P **P 15 28 26.3 -0.1**
SBF Sospel 29.47 92 *e*P **P 15 28 27.7 -0.8**
BRG Berggiesshubel 29.78 75 *e*P **P 15 28 32.1 +0.8**
comp=Z,3.0nm,1.0s,mb4.0
BRG *e* pP 15 28 36.3 +2.4
comp=Z,4.1nm,0.8s
BRG *e* 15 29 26.6
comp=Z,8.5nm,1.5s
BRG
comp=N,292nm,15.2s
BRG
comp=E,540nm,19.2s
BRG
comp=Z,555nm,14.9s
BRG Berggiesshubel 29.78 75 *e*P **P 15 28 32.1 +0.8**
BRG *e* pP 15 28 36.3 +2.3
BRG *e* 15 29 26.6
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
BRG MLR MLR
comp=Z,560nm,14.9s,MS4.3
BRG Berggiesshubel 29.78 75 *e*P **P 15 28 32.1 +0.8**
comp=Z,3.0nm,1.0s,mb4.0
BRG *e* pP 15 28 36.3 +2.4
BRG *e* 15 29 26.6
BRG LR LR
comp=Z,560nm,14.9s,MS4.3
KHC Kasperske Hory 30.35 79 *e*P **P 15 28 36.5 +0.2**
GERES GERESS Array B 30.55 79 P **P 15 28 37.9 -0.2**
comp=Z,3.0nm,1.1s,mb4.1,baz=287,slow=6.5,SNR=11
RES Resolute Bay 31.07 334 *e*P **P 15 28 41.8 -0.9**
comp=Z,378nm,1.0s
PGF Pioggiola 31.16 93 *e*P **P 15 28 43.1 -0.4**
ARCES ARCESS Array B 31.18 36 P **P 15 28 42.9 -0.8**
comp=Z,4.2nm,0.9s,mb4.3,baz=270,slow=7.0,SNR=6.2
ARCES ARCESS Array B 31.18 36 P **P 15 28 42.8 -0.8**
VRAC Vranov 32.01 77 LR LR 15 41 26.8
comp=Z,1μm,18.4s,MS4.6,baz=207,slow=36
JAVS Javornik 32.26 84 *e*P **P 15 28 53.9 +0.8**
CEY Cerknica 32.56 84 *e*P **P 15 28 56.2 +0.5**
CEY Cerknica 32.56 84 *e*P **P 15 28 56.2 +0.4**
FINES FINESS Array B 32.59 52 P **P 15 28 55.4 -0.6**
comp=Z,5.1nm,1.0s,mb4.4,baz=293,slow=10,SNR=5.1
VYHS Vyhne 33.70 77 *e*P **P 15 29 05.0 -0.7**
VYHS pmax pmax
comp=Z,62nm,3.2s
VYHS Vyhne 33.70 77 *e*P **P 15 29 05.0 -0.7**
comp=Z,62nm,3.2s
STHS Stebnicka Huta 34.62 74 *e*P **P 15 29 14.3 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 34.62 74 *e*P **P 15 29 14.3 +0.6**
comp=Z,2.6nm,0.9s,mb4.2
KECS Kecovo 34.65 76 *e*P **P 15 29 11.2 -2.8**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 34.65 76 *e*P **P 15 29 11.2 -2.8**
comp=Z,1.8nm,0.7s,mb4.1
KEST Kesra 35.82 102 P **P 15 29 22.5 -1.6**
comp=Z,3.4nm,1.1s,mb4.2,baz=298,slow=5.2,SNR=3.5
ULM Lac du Bonnet 36.39 290 P **P 15 29 26.6 -2.3**
comp=Z,10nm,0.9s,mb4.7,baz=68,slow=7.9,SNR=7.5
ULM Lac du Bonnet 36.39 290 *e*P **P 15 29 28.0 -1.0**
comp=Z,17nm,1.0s,mb4.9
ULM Lac du Bonnet 36.39 290 *e*P **P 15 29 28.0 -0.9**
comp=Z,17nm,1.0s,mb4.9
TZTN Tazewell 37.27 262 P **P 15 29 36.4 0.0**
comp=Z,85nm,1.6s,mb5.3
TZTN Tazewell 37.27 262 P **P 15 29 36.4 0.0**
comp=Z,85nm,1.6s,mb5.3
KIEV Kiev 38.43 68 *e*P **P 15 29 45.3 -0.9**
KIEV pmax pmax
comp=Z,27nm,1.5s,mb4.8
KIEV Kiev 38.43 68 *e*P **P 15 29 45.3 -0.9**
comp=Z,27nm,1.5s,mb4.8
KIEV Kiev 38.43 68 *e*P **P 15 29 45.3 -0.9**
comp=Z,27nm,1.5s,mb4.8
AKASG Malin Array Be 38.43 68 P **P 15 29 44.8 -1.5**
comp=Z,4.0nm,0.9s,mb4.2,baz=302,slow=8.5,SNR=14
AKASG Malin Array Be 38.43 68 *i* P **P 15 29 46.5 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 38.43 68 *e*P **P 15 29 45.4 -0.8**
SIUC Southern Illin 39.83 269 *e*P **P 15 29 57.2 -0.7**
SIUC Southern Illin 39.83 269 *e*P **P 15 29 57.2 -0.7**
YKA Yellowknife Ar 40.09 315 P **P 15 29 58.2 -1.9**
comp=Z,2.6nm,0.8s,mb4.0,baz=63,slow=8.7,SNR=9.9
YKA PcP PcP 15 32 00.9 -3.8
comp=Z,0.7nm,0.8s,baz=63,slow=3.5,SNR=4.4
YKA Yellowknife Ar 40.09 315 P **P 15 29 58.2 -2.0**
YKA PcP PcP 15 32 00.9 -3.8
YKA Yellowknife Ar 40.09 315 PcP PcP 15 32 00.9 -3.8
OBN Obninsk 40.10 58 *e*P **P 15 30 01.9 +1.7**
OBN *e* 15 32 04.8
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.5
KIS Kishinev 40.19 73 *e*P **P 15 30 02.0 +1.0**
KIS *e* 15 31 33.0
KIS *e*S **S 15 36 07.0 -0.9**
KIS MLR MLR
comp=Z,2μm,14.0s,MS5.0
KIS MLR MLR
comp=Z,800nm,14.0s
KIS Kishinev 40.19 73 *e*PP PP 15 31 33.0 -0.4
KIS *e*S **S 15 36 07.0 -0.9**
KIS *e*L 15 42 12.0

KIS LRM 15 48 04.0
comp=Z,800nm,14.0s
FVM French Village 40.37 270 *e*P **P 15 30 02.2 -0.2**
FVM pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
FVM French Village 40.37 270 *e*P **P 15 30 02.2 -0.2**
comp=Z,8.9nm,0.8s,mb4.5
FVM French Village 40.37 270 *e*P **P 15 30 02.2 -0.2**
comp=Z,8.9nm,0.8s,mb4.5
ECSD EROS,Sioux Fal 40.39 281 *e*P **P 15 30 02.9 +0.3**
comp=Z,30nm,1.2s,mb4.9
VRSR Storozhevoye 43.49 62 *e*P **P 15 30 29.0 +1.1**
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,8.0nm,1.4s
VRSR pmax pmax
comp=E,9.0nm,0.9s
LAO LASA Array 44.10 291 *e*P **P 15 30 33.9 +1.1**
comp=E,83nm,1.3s,mb5.3
LAO LASA Array 44.10 291 *e*P **P 15 30 33.9 +1.1**
comp=E,83nm,1.3s,mb5.3
INK Inuvik 44.21 328 P **P 15 30 32.8 -0.9**
comp=E,7.3nm,1.1s,mb4.3,baz=46,slow=8.1,SNR=8.0
EGMT Eagleton 45.23 294 *e*P **P 15 30 42.4 +0.5**
comp=E,58nm,1.4s,mb5.2
EGMT Eagleton 45.23 294 ⇑P **P 15 30 41.9 0.0**
baz=45,SNR=6.7
EGMT Eagleton 45.23 294 *e*P **P 15 30 42.3 +0.4**
comp=E,58nm,1.4s,mb5.2
GCMT Greycliff 46.54 292 *e*P **P 15 30 52.1 -0.1**
GCMT Greycliff 46.54 292 *e*P **P 15 30 52.1 -0.1**
PHWY Pilot Hill 47.02 284 *e*P **P 15 30 55.8 -0.1**
PHWY Pilot Hill 47.02 284 *e*P **P 15 30 55.8 -0.1**
D15A Lincoln 47.32 295 ⇓P **P 15 30 58.5 +0.3**
baz=47,SNR=7.3
BR131 Keskin Array S 47.43 78 *e*P **P 15 31 01.2 +2.1**
comp=E,5.3nm,0.9s,mb4.5
BR131 Keskin Array S 47.43 78 *e*P **P 15 31 01.2 +2.0**
comp=E,5.3nm,0.9s,mb4.5
BRTR Keskin Array B 47.43 78 P **P 15 30 59.0 -0.2**
comp=E,4.8nm,0.9s,mb4.5,baz=303,slow=5.9,SNR=11
WMOK Wichita Mounta 47.51 273 *e*P **P 15 30 58.9 -0.9**
WMOK pmax pmax
comp=Z,33nm,1.7s,mb5.1
WMOK Wichita Mounta 47.51 273 *e*P **P 15 30 58.9 -0.9**
comp=Z,33nm,1.7s,mb5.1
WMOK Wichita Mounta 47.51 273 *e*P **P 15 30 58.9 -0.9**
comp=Z,33nm,1.7s,mb5.1
B13A Whitefish 47.53 297 ⇓P **P 15 31 00.2 +0.3**
baz=47
E15A Deer Lodge 47.77 294 ⇓P **P 15 31 01.6 -0.1**
baz=48
RWWY Rawlins 47.77 286 *e*P **P 15 31 02.0 +0.2**
comp=E,18nm,0.9s,mb5.1
RWWY Rawlins 47.77 286 *e*P **P 15 31 02.0 +0.2**
comp=E,18nm,0.9s,mb5.1
D14A Greenough 47.82 296 ⇑P **P 15 31 02.0 -0.1**
baz=48
C13A Hot Springs 48.02 297 ⇑P **P 15 31 03.4 -0.3**
baz=48
F15A Butte 48.05 294 ⇓P **P 15 31 04.1 +0.1**
baz=48,SNR=5.9
B12A Libby 48.06 298 ⇓P **P 15 31 04.0 0.0**
baz=48
ISCO Idaho Springs 48.09 283 P **P 15 31 04.7 +0.4**
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ISCO Idaho Springs 48.09 283 P **P 15 31 04.7 +0.4**
comp=Z,2.4nm,0.8s,mb4.3
ISCO Idaho Springs 48.09 283 P **P 15 31 04.7 +0.4**
comp=Z,2.4nm,0.8s,mb4.3
A11A Hall Mountain, 48.16 299 ⇓P **P 15 31 05.0 +0.2**
baz=48
E14A Clinton 48.23 295 ⇓P **P 15 31 05.7 +0.4**
baz=48
D13A Huson 48.32 296 ⇑P **P 15 31 06.0 0.0**
baz=48
BW06 Boulder Array 48.40 289 *e*P **P 15 31 06.0 -0.7**
comp=Z,7.8nm,0.8s,mb4.8
BW06 Boulder Array 48.40 289 *e*P **P 15 31 06.0 -0.6**
comp=Z,7.8nm,0.8s,mb4.8
PDAR Pinedale Array 48.40 289 P **P 15 31 06.0 -0.7**
comp=Z,4.5nm,0.6s,mb4.7,baz=63,slow=7.8,SNR=27
PDAR Pinedale Array 48.40 289 P **P 15 31 05.9 -0.7**
DLMT Dillon 48.41 293 *e*P **P 15 31 07.5 +0.8**
comp=Z,11nm,1.0s,mb4.8
DLMT Dillon 48.41 293 *e*P **P 15 31 07.5 +0.7**
comp=Z,11nm,1.0s,mb4.8
G15A Dillon 48.48 293 ⇑P **P 15 31 07.4 +0.1**
baz=48,SNR=6.9
E13A Victor 48.59 295 ⇓P **P 15 31 08.0 -0.1**
baz=48
DAWY Dawson 48.66 325 *e*P **P 15 31 08.9 +0.3**
DAWY Dawson 48.66 325 *e*P **P 15 31 08.9 +0.2**
REDW Red Top Meadow 48.73 290 *e*P **P 15 31 09.0 -0.2**
comp=Z,46nm,1.7s,mb5.2
REDW Red Top Meadow 48.73 290 *e*P **P 15 31 09.0 -0.2**
comp=Z,46nm,1.7s,mb5.2
MCMT McKenzie Canyo 48.89 293 *e*P **P 15 31 10.6 +0.2**
MCMT McKenzie Canyo 48.89 293 *e*P **P 15 31 10.6 +0.2**
F13A Darby 49.08 295 ⇑P **P 15 31 11.7 -0.1**
baz=49,SNR=7.7
GOF Gofitskoye 49.26 66 *e*P **P 15 31 14.5 +1.3**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.4
D11A Klaveano Farm, 49.34 297 ⇓P **P 15 31 13.1 -0.8**
baz=49
B09A Rice 49.42 300 ⇑P **P 15 31 14.3 -0.2**
baz=49,SNR=6.9
G13A Cobalt 49.47 294 ⇑P **P 15 31 15.0 +0.1**
baz=49
F12A Elk City 49.60 295 ⇑P **P 15 31 15.8 0.0**
baz=49
A08A Turner Farm, O 49.66 301 ⇑P **P 15 31 16.1 -0.2**
baz=50
ARU Arti 49.66 47 ⇑*i*P **P 15 31 17.4 +1.1**
ARU *e* 15 33 06.2
ARU *e*PPP 15 34 02.0
ARU *e*S **S 15 38 24.7 -0.3**
ARU *e*SS SS 15 41 56.2 -1.0
ARU *e*SSS 15 43 18.9
ARU pmax pmax
comp=Z,12nm,1.3s,mb4.8
E11A Bogner Ranch, 49.72 296 P **P 15 31 16.4 -0.4**
baz=50,SNR=6.1
KIV Kislovodsk 49.78 68 *e*P **P 15 31 10.0 -7.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,463nm,18.0s,MS4.5
D10A Wagner Farm, O 49.84 298 ⇑P **P 15 31 17.0 -0.7**
baz=50
C09A Chrisman Ranch 49.88 299 ⇓P **P 15 31 17.5 -0.4**
baz=50
F11A Grangeville 49.99 296 ⇓P **P 15 31 18.7 -0.2**
baz=50
TOA0 Torodi Ar. Sit 50.02 130 *e*P **P 15 31 15.5 -3.6**
TORD Torodi Ar. Bea 50.02 130 P **P 15 31 16.0 -3.1**
comp=Z,14nm,1.1s,mb4.9,baz=327,slow=7.3,SNR=14
B08A Colville Reser 50.07 300 ⇑P **P 15 31 19.2 -0.2**
baz=50
E10A Myers Farm, Un 50.11 297 ⇓P **P 15 31 19.5 -0.3**
baz=50
A07A Ashnola River, 50.16 301 ⇓P **P 15 31 19.9 -0.2**
baz=50
H12A Diamond D Ranc 50.16 294 ⇑P **P 15 31 20.0 -0.1**
baz=50
B07A Winthrop 50.40 301 ⇑P **P 15 31 21.5 -0.4**
baz=50
F10A Beach Ranch, E 50.51 297 ⇓P **P 15 31 22.3 -0.4**
baz=50
E09A Wood Farm, Sta 50.64 298 ⇓P **P 15 31 22.8 -1.0**
baz=50
H11A Donnelly 50.69 295 ⇓P **P 15 31 23.8 -0.3**
baz=50
C07A Waterville 50.87 300 ⇓P **P 15 31 24.8 -0.7**
baz=51
PV10 Paradox Valley 51.02 284 *e*P **P 15 31 27.8 +1.2**
MALT Malatya 51.14 76 *e*P **P 15 31 27.6 +0.1**
MALT pmax pmax
comp=Z,19nm,1.4s,mb4.8
MALT Malatya 51.14 76 *e*P **P 15 31 27.6 0.0**
comp=Z,20nm,1.4s,mb4.8
MALT Malatya 51.14 76 *e*P **P 15 31 27.6 +0.1**
comp=Z,20nm,1.4s,mb4.8
JCT Junction City 51.14 270 *e*P **P 15 31 25.5 -2.0**

JCT pmax pmax
comp=Z,14nm,0.9s,mb4.9
JCT Junction City 51.14 270 *e*P **P 15 31 25.5 -2.0**
comp=Z,14nm,0.9s,mb4.9
JCT Junction City 51.14 270 *e*P **P 15 31 25.5 -2.0**
comp=Z,14nm,0.9s,mb4.9
D07A Quincy 51.15 299 ⇑P **P 15 31 26.8 -0.8**
baz=51
H10A Noah's Angus R 51.16 295 ⇑P **P 15 31 26.3 -1.4**
baz=51
I11A Placerville 51.18 294 ⇑P **P 15 31 27.3 -0.5**
baz=51
BMO Blue Mountains 51.28 295 *e*P **P 15 31 27.6 -1.0**
comp=Z,6.1nm,1.0s,mb4.5
BMO Blue Mountains 51.28 295 *e*P **P 15 31 27.6 -1.0**
comp=Z,6.1nm,1.0s,mb4.5
SRU San Rafael 51.37 286 *e*P **P 15 31 28.9 -0.3**
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU San Rafael 51.37 286 *e*P **P 15 31 28.9 -0.4**
comp=Z,8.7nm,0.8s,mb4.7
SRU San Rafael 51.37 286 *e*P **P 15 31 28.9 -0.3**
comp=Z,8.7nm,0.8s,mb4.7
F08A Pendleton 51.44 297 ⇓P **P 15 31 28.8 -1.0**
baz=51
MVCO Mesa Verde 51.50 283 *e*P **P 15 31 31.0 +0.7**
comp=Z,9.2nm,0.9s,mb4.7
MVCO Mesa Verde 51.50 283 ⇓P **P 15 31 29.7 -0.6**
baz=51
MVCO Mesa Verde 51.50 283 *e*P **P 15 31 31.0 +0.7**
comp=Z,9.2nm,0.9s,mb4.7
D06A Cle Elum 51.60 300 ⇓P **P 15 31 30.2 -0.7**
baz=51
H09A Durkee 51.60 296 ⇑P **P 15 31 30.4 -0.6**
baz=51
IMA2 Indian Mountai 51.61 333 *e*P **P 15 31 31.5 +0.5**
IMA2 Indian Mountai 51.61 333 *e*P **P 15 31 31.5 +0.5**
TMUT Trail Mountain 51.63 286 *e*P **P 15 31 29.9 -1.3**
TMUT Trail Mountain 51.63 286 *e*P **P 15 31 30.0 -1.2**
G08A Pilot Rock 51.87 297 ⇑P **P 15 31 32.2 -0.8**
baz=52
ANMO Albuquerque 51.89 279 *e*P **P 15 31 33.8 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 51.89 279 *e*P **P 15 31 33.8 +0.7**
comp=Z,5.6nm,1.0s,mb4.5
ANMO Albuquerque 51.89 279 *e*P **P 15 31 33.8 +0.7**
comp=Z,5.6nm,1.0s,mb4.5
M13A Montello 51.90 290 ⇑P **P 15 31 32.7 -0.5**
baz=52
DUG Dugway 51.93 288 P **P 15 31 33.3 -0.1**
DUG pmax pmax
comp=Z,11nm,0.9s,mb4.8
DUG Dugway 51.93 288 P **P 15 31 33.3 -0.1**
comp=Z,11nm,0.9s,mb4.8
DUG Dugway 51.93 288 ⇑P **P 15 31 33.1 -0.4**
baz=52
DUG Dugway 51.93 288 P **P 15 31 33.3 -0.1**
comp=Z,11nm,0.9s,mb4.8
E06A Yakima 52.10 299 ⇓P **P 15 31 33.8 -0.8**
baz=52
I09A Lost Marbles R 52.10 295 ⇓P **P 15 31 34.2 -0.5**
baz=52
N13A Wendover, West 52.26 290 ⇓P **P 15 31 35.4 -0.5**
baz=52
G07A Ruggs Ranch, H 52.26 297 ⇑P **P 15 31 35.2 -0.7**
baz=52
M12A Wells 52.28 291 ⇑P **P 15 31 35.6 -0.4**
baz=52
LPM Los Pinos Moun 52.44 279 *e*P **P 15 31 37.8 +0.5**
LPM Los Pinos Moun 52.44 279 *e*P **P 15 31 37.8 +0.6**
E05A Randle 52.49 300 ⇑P **P 15 31 36.7 -0.8**
baz=52
F06A Goldendale 52.51 298 ⇓P **P 15 31 37.3 -0.4**
baz=52
J09A Fry Pan Ranch, 52.53 294 ⇑P **P 15 31 37.1 -0.8**
baz=52
BNM Barren Site 52.55 278 *e*P **P 15 31 38.7 +0.7**
I08A Drewsey 52.59 295 ⇓P **P 15 31 37.8 -0.5**
baz=52
H07A Lands Inn, Kim 52.66 297 ⇑P **P 15 31 38.7 -0.2**
baz=52
MSU Marysvale 52.72 286 *e*P **P 15 31 39.7 +0.4**
N12A Clover Valley, 52.73 290 ⇓P **P 15 31 39.4 0.0**
baz=53
LENM Lemitar 52.74 279 *e*P **P 15 31 40.2 +0.8**
M11A Holland Ranch, 52.75 291 ⇓P **P 15 31 39.9 +0.4**
baz=53
J08A Circle Bar Ran 52.91 295 ⇑P **P 15 31 40.7 0.0**
baz=53,SNR=7.2
K09A Rome 52.95 294 ⇓P **P 15 31 41.8 +0.8**
baz=53,SNR=7.3
O12A Currie 52.96 290 P **P 15 31 42.1 +1.0**
baz=53,SNR=5.7
H06A Lindquist Farm 52.97 297 P **P 15 31 41.3 +0.2**
baz=53,SNR=6.3
M10A I.L. Ranch, Tu 53.10 292 ⇑P **P 15 31 43.2 +1.1**
baz=53
K08A Mann Creek Ran 53.34 294 ⇓P **P 15 31 44.7 +0.8**
baz=53
AKTK Aktyubinsk 53.35 53 P **P 15 31 44.0 +0.1**
AKTK Aktyubinsk 53.35 53 P **P 15 31 44.0 +0.1**
AKTO Aktyubinsk 53.35 53 P **P 15 31 44.0 +0.1**
comp=Z,2.4nm,1.0s,mb4.1,baz=296,slow=9.8,SNR=4.5
L09A Wilkinson Ranc 53.38 293 ⇓P **P 15 31 44.7 +0.5**
baz=53
E03A Lebam 53.42 301 ⇑P **P 15 31 44.6 +0.1**
baz=53
I06A Prineville 53.44 296 ⇑P **P 15 31 45.0 +0.4**
baz=53
GNI Garni 53.46 70 P **P 15 31 46.0 +1.2**
comp=Z,2.1nm,0.4s,mb4.4,baz=235,slow=7.6,SNR=3.6
GNI Garni 53.46 70 *e*P **P 15 31 46.8 +2.0**
GNI pmax pmax
comp=Z,40nm,2.2s
LIC Lamto 53.49 141 *e*P **P 15 31 43.4 -1.6**
comp=Z,44nm,1.3s,mb4.9
LIC *e*R
comp=Z,606nm,20.8s
LIC Lamto 53.49 141 *e*P **P 15 31 43.4 -1.6**
comp=Z,22nm,1.3s,mb4.9
LIC LR LR
comp=Z,300nm,20.8s,MS4.3
H05A Madras 53.50 298 ⇓P **P 15 31 45.4 +0.4**
baz=53
O11A Cowboy Ranch, 53.56 290 P **P 15 31 46.9 +1.4**
baz=53,SNR=7.9
P12A McGill 53.60 289 P **P 15 31 46.9 +1.1**
baz=53,SNR=8.2
WVOR Wild Horse Val 53.62 294 *e*P **P 15 31 46.4 +0.4**
WVOR pmax pmax
comp=Z,45nm,1.4s,mb5.2
WVOR Wild Horse Val 53.62 294 *e*P **P 15 31 46.4 +0.4**
comp=Z,45nm,1.4s,mb5.2
WVOR Wild Horse Val 53.62 294 *e*P **P 15 31 46.4 +0.4**
comp=Z,45nm,1.4s,mb5.2
L08A Fields 53.63 294 P **P 15 31 47.3 +1.3**
baz=54,SNR=7.8
M09A Marrel Ranch, 53.67 292 ⇓P **P 15 31 46.7 +0.4**
baz=54
K07A Rock Creek Ran 53.78 295 ⇓P **P 15 31 47.3 +0.3**
baz=54
Q12A Willow Creek R 53.85 289 ⇓P **P 15 31 48.0 +0.3**
baz=54
J06A Christmas Vall 53.88 296 ⇑P **P 15 31 48.2 +0.4**
baz=54
O10A Cortez Mining, 53.92 291 ⇑P **P 15 31 48.6 +0.4**
baz=54
CCUT Cedar City 54.06 286 P **P 15 31 47.7 -1.4**
CCUT Cedar City 54.06 286 P **P 15 31 47.7 -1.4**
N09A Rock Creek Ran 54.10 292 ⇓P **P 15 31 50.1 +0.7**
baz=54
M08A Happy Creek Ra 54.16 293 ⇓P **P 15 31 50.7 +0.8**
baz=54
K06A Valley Falls 54.24 295 ⇑P **P 15 31 51.0 +0.5**
baz=54
TXAR Lajitas Array 54.27 272 P **P 15 31 50.0 -0.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=61,slow=10,SNR=9.7
TXAR PcP PcP 15 32 52.9 -1.9
comp=Z,2.4nm,1.0s,baz=72,slow=4.1,SNR=3.9
TXAR Lajitas Array 54.27 272 PcP PcP 15 32 52.9 -1.9
L07A Adell 54.29 294 ⇓P **P 15 31 51.1 +0.3**
baz=54
TIXI Tiksi 54.29 6 *e*P **P 15 31 50.1 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WUAZ Wupatki 54.34 283 *e*P **P 15 31 51.6 +0.4**
comp=Z,15nm,1.4s,mb4.7
WUAZ Wupatki 54.34 283 ⇓P **P 15 31 51.6 +0.4**
baz=54
WUAZ Wupatki 54.34 283 *e*P **P 15 31 51.6 +0.4**
comp=Z,15nm,1.4s,mb4.7
P10A Eureka 54.37 290 ⇑P **P 15 31 51.7 +0.3**
baz=54
O09A Fish Creek Ran 54.39 291 ⇑P **P 15 31 52.2 +0.7**
baz=54
J05A Fort Rock 54.43 296 ⇑P **P 15 31 52.4 +0.5**
baz=54
Q11A Duckwater 54.45 289 ⇓P **P 15 31 52.1 +0.1**
baz=54
M07A Soldier Meadow 54.63 293 ⇑P **P 15 31 53.6 +0.3**
baz=54
K05A Summer Lake 54.63 296 ⇑P **P 15 31 53.5 +0.1**
baz=54
MOD Modoc 54.89 295 ⇓P **P 15 31 55.0 -0.1**
baz=55
L05A Lakeview 55.07 295 ⇓P **P 15 31 56.8 +0.3**
baz=55
W15A Williams 55.10 283 ⇑P **P 15 31 57.4 +0.7**
baz=55
K04A Chilquin 55.16 296 ⇓P **P 15 31 57.4 +0.3**
baz=55
Q09A Carvers 55.31 290 ⇑P **P 15 31 58.8 +0.6**
baz=55
O07A Toulon 55.32 292 ⇓P **P 15 31 58.9 +0.6**
baz=55
N06A Buffalo Meadow 55.44 293 P **P 15 32 00.2 +1.1**
baz=55,SNR=7.5
M06C Likely Place G 55.47 294 ⇑P **P 15 32 00.0 +0.7**
baz=55
W14A Seligman 55.55 284 ⇓P **P 15 32 00.3 +0.4**
baz=55
L04A Klamath Falls 55.55 296 ⇑P **P 15 32 00.2 +0.3**
baz=55
X15A Humboldt 55.57 283 ⇑P **P 15 32 00.3 +0.1**
baz=55
R09A Tonopah 55.67 289 ⇑P **P 15 32 01.0 +0.2**
baz=56
Q08A Gabbs 55.71 290 ⇑P **P 15 32 01.3 +0.2**
baz=56
M05C Lookout 55.72 295 ⇑P **P 15 32 01.4 +0.3**
baz=56
M04C Macdoel 55.80 295 ⇓P **P 15 32 01.7 0.0**
baz=56
TPH Tonopah 55.87 289 *e*P **P 15 32 02.4 +0.2**
TPH pmax pmax
comp=Z,17nm,0.9s,mb5.1
TPH Tonopah 55.87 289 *e*P **P 15 32 02.4 +0.2**
comp=Z,17nm,0.9s,mb5.1
TPH Tonopah 55.87 289 *e*P **P 15 32 02.4 +0.2**
comp=Z,17nm,0.9s,mb5.1
ELFS Eagle Lake Fie 56.01 294 ⇑P **P 15 32 04.1 +0.8**
baz=56
W13A Hualapai Mount 56.09 284 ⇑P **P 15 32 03.9 +0.1**
baz=56
S09A Goldfield 56.12 289 ⇓P **P 15 32 04.1 +0.1**
baz=56
NVAR Mina Array Bea 56.22 290 P **P 15 32 04.0 -0.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=69,slow=5.4,SNR=6.8
HATC Hat Creek Radi 56.27 294 ⇑P **P 15 32 05.4 +0.3**
baz=56
YBH Yreka Blue Hor 56.30 296 ⇑P **P 15 32 04.5 -0.8**
baz=56
M03C McCloud 56.30 295 ⇓P **P 15 32 05.1 -0.2**
baz=56
BEKR Beckwourth 56.34 293 ⇑P **P 15 32 05.8 +0.2**
baz=56
Y14A Wickenburg 56.41 283 ⇑P **P 15 32 06.5 +0.4**
baz=56
X13A Yucca 56.42 284 ⇑P **P 15 32 06.6 +0.4**
baz=56
V11A Goodsprings 56.44 286 ⇓P **P 15 32 06.4 +0.1**
baz=56
U10A Ash Meadows, A 56.54 287 ⇓P **P 15 32 07.1 0.0**
baz=56
O05C Quincy 56.58 293 ⇓P **P 15 32 06.5 -0.8**
baz=56
M02C Callahan 56.61 296 ⇓P **P 15 32 07.0 -0.5**
baz=56
Z14A Wintersburg 56.79 282 ⇑P **P 15 32 08.7 -0.1**
baz=57
115A Sonoran Desert 56.85 281 ⇓P **P 15 32 10.2 +1.0**
baz=57
BVAR Borovoye Array 56.98 44 P **P 15 32 10.5 +0.3**
comp=Z,2.8nm,0.8s,mb4.3,baz=307,slow=5.4,SNR=8.3
N02C Big Bar 57.26 296 ⇑P **P 15 32 11.3 -0.8**
baz=57
GMRC Granite Mounta 57.33 285 ⇓P **P 15 32 12.2 -0.4**
baz=57
LAVA Lava Cap Winer 57.33 292 ⇑P **P 15 32 11.9 -0.7**
baz=57
DAC Darwin (Calif) 57.35 288 *e*P **P 15 32 12.1 -0.7**
DAC pmax pmax
comp=Z,17nm,1.3s,mb4.9
DAC Darwin (Calif) 57.35 288 *e*P **P 15 32 12.1 -0.7**
comp=Z,17nm,1.3s,mb4.9
DAC Darwin (Calif) 57.35 288 *e*P **P 15 32 12.1 -0.7**
comp=Z,17nm,1.3s,mb4.9
Y12C Blythe 57.42 284 ⇓P **P 15 32 13.6 +0.3**
baz=57
MPMC Manual Prospec 57.45 288 ⇑P **P 15 32 13.7 +0.3**
baz=57
S06C San Francisco 57.47 291 ⇓P **P 15 32 14.3 +0.7**
baz=57
IRM Iron Mountain 57.48 285 ⇓P **P 15 32 13.3 -0.4**
baz=57
CWC Cottonwood Cre 57.51 289 ⇑P **P 15 32 13.5 -0.4**
baz=57
SUTB Sutter Butte 57.57 293 ⇓P **P 15 32 14.3 0.0**
baz=57
KCC Kaiser Creek 57.57 290 ⇓P **P 15 32 14.4 0.0**
baz=57
GSC Goldstone 57.61 287 ⇓P **P 15 32 14.9 +0.3**
baz=58
HELL Mitchell Peak, 57.87 289 ⇑P **P 15 32 16.9 +0.5**
baz=58
LRMC Laurel Mountai 57.98 287 ⇑P **P 15 32 17.7 +0.5**
baz=58
T06C Millerton Lake 58.02 290 ⇑P **P 15 32 18.0 +0.5**
baz=58
BC3 Big Chuckw Mtn 58.02 284 ⇑P **P 15 32 18.6 +1.1**
baz=58
ROSC El Rosal 58.21 227 P **P 15 32 17.6 -1.3**
comp=Z,7.7nm,0.4s,mb5.1,baz=270,slow=23,SNR=8.9
ROSC El Rosal 58.21 227 *e*P **P 15 32 18.9 +0.1**
ROSC El Rosal 58.21 227 *e*P **P 15 32 19.0 +0.2**
ISA Isabella 58.29 288 ⇓P **P 15 32 20.4 +1.0**
baz=58
ISA Isabella 58.29 288 *e*P **P 15 32 19.8 +0.4**
VES Vestal, Richgr 58.50 289 ⇑P **P 15 32 20.9 +0.1**
baz=58
EDW2 Edwards Air Fo 58.58 287 ⇑P **P 15 32 22.5 +1.1**
baz=58
PFO Pinyon Flat Ob 58.63 285 ⇓P **P 15 32 21.9 +0.1**
baz=58
WENL Wente Brothers 58.70 292 ⇓P **P 15 32 22.8 +0.5**
baz=58
ZAL Zalesovo 61.72 35 P **P 15 32 42.4 -0.6**
comp=Z,0.6nm,0.6s,mb3.9,baz=157,slow=12,SNR=3.8
ZAL Zalesovo 61.72 35 P **P 15 32 42.3 -0.7**
KURK Kurchatov 62.05 41 *e*P **P 15 32 45.9 +0.8**
KRAR Krasnoyarsk 62.57 30 *e*P **P 15 32 50.2 +1.6**
KRAR pmax pmax
comp=Z,17nm,1.2s,mb5.0
YAK Yakutsk 63.85 8 *e*P **P 15 32 58.5 +1.4**
YAK pmax pmax
comp=Z,22nm,1.8s,mb4.9
OTAV Otavalo 64.15 229 *e*P **P 15 32 57.6 -1.5**
comp=Z,26nm,1.7s,mb5.0
MKAR Makanchi Array 66.64 42 P **P 15 33 15.7 +0.4**
comp=Z,2.3nm,0.8s,mb4.3,baz=324,slow=6.0,SNR=7.8
MKAR Makanchi Array 66.64 42 *e*P **P 15 33 18.2 +2.9**
AAK Ala-Archa 66.73 49 *e*P **P 15 33 16.7 +0.9**
AAK pmax pmax
comp=Z,14nm,2.1s,mb4.6
KSH Kashi 69.89 50 *e*P **P 15 33 38.3 +2.7**
KSH *e*AP pP 15 33 42.8 +4.3
KSH *e*XP sP 15 33 45.8 +6.2
KSH *e*PCP PcP 15 34 01.8 +3.8
KSH *e*PP PP 15 36 15.3 +5.2
KSH *e*S S 15 42 47.8 +2.3
KSH *e*XS sS 15 42 55.3 +5.0
KSH *e*SKS 15 43 34.0
WMQ Urumqi 71.22 40 ⇓P **P 15 33 44.3 +0.6**
WMQ AP pP 15 33 49.3 +2.7
WMQ XP sP 15 33 51.5 +3.8
WMQ PCP PcP 15 34 04.3 +0.6
WMQ PP PP 15 36 24.5 +2.9
WMQ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,251nm,4.0s
WMQ LR LR
comp=N,113nm,20.3s,MS4.5
WMQ LR LR
comp=E,285nm,20.3s,MS4.5
WMQ LR LR
comp=Z,152nm,22.6s,MS4.2
SONM Songino Array 73.63 26 P **P 15 33 57.5 -0.6**
comp=Z,1.9nm,0.7s,mb4.2,baz=328,slow=4.9,SNR=10
ULN Ulaanbaatar 73.77 25 ⇑*i*P **P 15 33 58.8 -0.1**
ULN Ulaanbaatar 73.77 25 *e*P **P 15 33 59.2 +0.3**
comp=Z,22nm,1.3s,mb4.9
ULN Ulaanbaatar 73.77 25 *e*P **P 15 33 59.2 +0.3**
comp=Z,22nm,1.3s,mb4.9
HIA Hailar 75.12 17 *e*P **P 15 34 07.6 +0.8**
LPAZ La Paz 75.29 212 P **P 15 34 04.7 -3.1**
comp=Z,3.2nm,1.0s,mb4.2,baz=358,slow=11,SNR=7.8
LPAZ La Paz 75.29 212 *e*P **P 15 34 06.2 -1.6**
LPAZ pmax pmax
comp=Z,8.0nm,1.3s
LPAZ La Paz 75.29 212 *e*P **P 15 34 06.2 -1.6**
comp=Z,8.5nm,1.3s,mb4.5
KMBO Kilima Mbogo 80.73 105 *i*P **P 15 34 44.0 +6.0**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
HHC Hu-ho-hao-te 81.47 25 *e*P **P 15 34 41.0 -0.9**
HHC AP pP 15 34 45.8 +1.0
HHC XP sP 15 34 48.0 +2.1
HHC PP PP 15 37 48.5 +0.5
HHC S S 15 44 49.8 -3.7
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,185nm,6.2s
HHC LR LR
comp=N,327nm,19.6s,MS4.9
HHC LR LR
comp=E,403nm,21.0s,MS4.9
HHC LR LR
comp=Z,260nm,21.6s,MS4.5
LZH Lanzhou 83.73 32 *e*P **P 15 34 53.8 +0.1**
LZH AP pP 15 34 56.5 -0.1
LZH XP sP 15 35 02.0 +4.3
LZH AMB AMB
comp=Z,23nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,112nm,4.8s
LZH Lanzhou 83.73 32 *e*P **P 15 34 53.8 +0.1**
LZH *PP pP 15 34 56.5 -0.1
LZH *SP sP 15 35 01.9 +4.2
LZH pmax pmax
comp=Z,23nm,1.2s,mb5.2
LZH Lanzhou 83.73 32 *e*P **P 15 34 53.8 +0.1**
comp=Z,23nm,1.2s,mb5.2
LZH pP pP 15 34 56.5 -0.1
LZH sP sP 15 35 01.9 +4.2
LZH Lanzhou 83.73 32 *e*P **P 15 34 53.8 +0.1**
comp=Z,23nm,1.2s,mb5.2
LZH pP pP 15 34 56.5 -0.1
LSZ Lusaka 87.50 120 *e*P **P 15 35 10.8 -1.7**
LSZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
LSZ Lusaka 87.50 120 *e*P **P 15 35 10.8 -1.7**
comp=Z,8.0nm,1.3s,mb4.8
CD2 Chengdu 88.46 34 *e*P **P 15 35 16.3 -0.7**
CD2 AP pP 15 35 21.0 +1.0
CD2 XP sP 15 35 23.5 +2.5
CD2 PP PP 15 38 46.5 +1.6
CD2 SKS 15 45 42.3
CD2 S S 15 45 59.3 -3.6
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.2s
NJ2 Nanjing 91.58 22 *e*P **P 15 35 33.5 +1.9**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.7
WHN Wuhan 91.94 26 *e*P **P 15 35 33.0 -0.3**
KMI Kunming 93.42 37 P **P 15 35 38.3 -1.8**
KMI AMB AMB
comp=Z,4.0nm,1.4s,mb4.7
KMI Kunming 93.42 37 P **P 15 35 38.3 -1.8**
comp=Z,4.0nm,1.4s,mb4.7
GYA Guiyang 93.53 34 P **P 15 35 41.8 +1.2**
GYA PP PP 15 39 26.8 +1.8
GYA SKS 15 46 13.5
GYA S S 15 46 45.3 -3.9
GYA PS PS 15 48 03.8 +0.6
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,340nm,20.4s,MS4.9
GYA LR LR
comp=E,270nm,19.8s,MS4.9
GYA LR LR
comp=Z,260nm,20.0s,MS4.7
WRA Warramunga Arr 145.23 17 PKPbc PKPbc 15 42 00.1 -1.9
comp=Z,1.8nm,1.0s,baz=342,slow=2.9,SNR=11
ASAR Alice Springs 146.78 19 PKPbc PKPbc 15 42 09.2 -2.9
comp=Z,1.4nm,0.6s,baz=352,slow=2.3,SNR=14

*ISCJB **29** 15:28:10.7±0.4, 5370N±010ₓ35.38W±009, h10ᵏᵐ, mb4.0/25, Error ellipse: s-maj=14.3km s-min=7.1km az=23.1*
*IDC **29** 15:28:10.6±0.6, 5369Nₓ3532W, h0ᵏᵐ, mb3.9/18, mb1 4.1/19, mb1mx4.1/26, mbtmp3.9/19, ML2.7/1, Error ellipse: s-maj=21.2km s-min=12.7km az=179.0*
*BJI **29** 15:28:12.1, 5370Nₓ3540W, h10ᵏᵐ, mB5.0, mb4.8, Ms4.7, Msz4.4*
*NEIC **29** 15:28:12.2±0.4, 5367Nₓ3538W, h10ᵏᵐ, mb4.4/6, Error ellipse: s-maj=13.7km s-min=6.7km az=190.0*
*CSEM **29** 15:28:12.1, 5367Nₓ3538W, h10ᵏᵐ, mb4.4/6, After NEIC*
ISC 29 15:28:12.3±0.4, 5372N±010ₓ3536W±009, h10ᵏᵐ, n52, σ0ˢ97/49, mb4.0/25, 1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.34**	**286**	P	**Pn**	**15 32 26.0**	**-0.7**
	0.2nm,0.3s,baz=67,slow=13,SNR=3.6						
SCHQ	**Schefferville**	**18.34**	**286**	*e*P	**Pn**	**15 32 24.9**	**-1.8**
SCHQ	**Schefferville**	**18.34**	**286**	*e*P	**Pn**	**15 32 24.9**	**-1.8**
QUIF	**Quistinic**	**21.03**	**93**	*e*P	**P**	**15 32 56.9**	**+0.7**
	50nm,1.1s,mb4.5						
QUIF	**Quistinic**	**21.03**	**93**	*e*P	**P**	**15 32 56.9**	**+0.7**
	25nm,1.1s,mb4.5						
EVO	**Evora**	**24.08**	**118**	*e*P	**P**	**15 33 28.3**	**+0.4**
BGF	**Bois d'Agland**	**25.27**	**91**	*e*P	**P**	**15 33 38.8**	**+0.1**
	27nm,0.8s,mb4.5						
BGF	**Bois d'Agland**	**25.27**	**91**	*e*P	**P**	**15 33 38.8**	**+0.1**
	14nm,0.8s,mb4.5						
SSF	**Saint Saulge**	**25.41**	**89**	*e*P	**P**	**15 33 40.5**	**+0.6**
	12nm,1.0s,mb4.1						
SSF	**Saint Saulge**	**25.41**	**89**	*e*P	**P**	**15 33 40.5**	**+0.6**
	5.9nm,1.0s,mb4.1						
AVF	**Avril sur Loir**	**25.45**	**90**	*e*P	**P**	**15 33 40.4**	**+0.1**
	8.8nm,0.8s,mb4.0						
AVF	**Avril sur Loir**	**25.45**	**90**	*e*P	**P**	**15 33 40.4**	**+0.1**
	4.4nm,0.8s,mb4.0						
ESDC	**Sonseca Array**	**25.46**	**111**	P	**P**	**15 33 39.8**	**-0.6**
	0.6nm,0.5s,mb3.4,baz=318,slow=9.3,SNR=4.2						
LOR	**Lormes**	**25.52**	**89**	*e*P	**P**	**15 33 40.5**	**-0.4**
NOA	**NORSAR Array B**	**25.66**	**55**	P	**P**	**15 33 42.0**	**-0.2**
	2.2nm,0.9s,mb3.7,baz=274,slow=9.0,SNR=3.6						
NOA	**NORSAR Array B**	**25.66**	**55**	P	**P**	**15 33 42.0**	**-0.2**
SMF	**Signal de Mont**	**25.82**	**90**	*e*P	**P**	**15 33 43.9**	**+0.3**
GERES	**GERESS Array B**	**30.57**	**79**	P	**P**	**15 34 26.5**	**+0.4**
	0.2nm,0.2s,mb3.5,baz=294,slow=4.9,SNR=3.3						
RES	**Resolute Bay**	**31.20**	**334**	*e*P	**P**	**15 34 32.0**	**+0.3**
	226nm,0.9s						
RES	**Resolute Bay**	**31.20**	**334**	*e*P	**P**	**15 34 32.0**	**+0.3**
	226nm,0.9s						
ARCES	**ARCESS Array B**	**31.29**	**36**	P	**P**	**15 34 31.9**	**-0.6**
	1.4nm,0.7s,mb3.9,baz=262,slow=7.2,SNR=5.3						
FINES	**FINESS Array B**	**32.67**	**51**	P	**P**	**15 34 42.3**	**-2.3**

1.6nm,0.7s,mb4.1,baz=305,slow=4.9,SNR=2.8
AKASG Malin Array Be 38.48 67 P **P** 15 35 33.1 -1.4
0.6nm,0.6s,mb3.5,baz=298,slow=8.5,SNR=3.6
YKA Yellowknife Ar 40.20 315 P **P** 15 35 47.9 -1.0
1.5nm,1.0s,mb3.7,baz=62,slow=9.0,SNR=5.1
YKA PcP PcP 15 37 51.8 -1.1
0.6nm,0.7s,baz=58,slow=3.4,SNR=4.0
YKA Yellowknife Ar 40.20 315 P **P** 15 35 47.9 -1.0
YKA PcP PcP 15 37 51.8 -1.1
YKA Yellowknife Ar 40.20 315 PcP PcP 15 37 51.8 -1.1
INK Inuvik 44.34 328 P **P** 15 36 22.4 -0.2
1.9nm,1.0s,mb3.8,baz=10,slow=7.8,SNR=2.6
BRTR Keskin Array B 47.45 78 P **P** 15 36 47.9 +0.7
1.3nm,0.7s,mb4.0,baz=304,slow=5.9,SNR=5.8
BRTR Keskin Array B 47.45 78 P **P** 15 36 47.8 +0.6
BW06 Boulder Array 48.45 289 *eP* **P** 15 36 54.3 -0.5
3.8nm,0.8s,mb4.5
BW06 Boulder Array 48.45 289 *eP* **P** 15 36 54.3 -0.6
3.8nm,0.8s,mb4.5
PDAR Pinedale Array 48.45 289 P **P** 15 36 54.5 -0.4
2.6nm,0.6s,mb4.5,baz=63,slow=7.9,SNR=21
TOA0 Torodi Ar. Sit 49.92 130 *eP* **P** 15 37 05.0 -1.1
TOA0 Torodi Ar. Sit 49.92 130 *eP* **P** 15 37 05.0 -1.1
TORD Torodi Ar. Bea 49.92 130 P **P** 15 37 04.4 -1.8
3.0nm,0.9s,mb4.3,baz=334,slow=7.7,SNR=12
PV10 Paradox Valley 51.06 284 *eP* **P** 15 37 16.7 +2.0
PV10 Paradox Valley 51.06 284 *eP* **P** 15 37 16.7 +1.9
AKTK Aktyubinsk 53.43 53 P **P** 15 37 32.9 +0.6
AKTO Aktyubinsk 53.43 53 P **P** 15 37 32.9 +0.6
1.2nm,0.8s,mb3.9,baz=302,slow=2.2,SNR=3.9
TXAR Lajitas Array 54.28 272 P **P** 15 37 38.0 -0.5
0.4nm,0.6s,mb3.5,baz=58,slow=8.9,SNR=3.3
TXAR Lajitas Array 54.28 272 P **P** 15 37 38.0 -0.6
NVAR Mina Array Bea 56.28 290 P **P** 15 37 54.2 +1.2
0.8nm,0.7s,mb3.9,baz=57,slow=6.8,SNR=3.4
ZAL Zalesovo 61.84 35 P **P** 15 38 31.9 +0.4
0.6nm,0.4s,mb4.0,baz=146,slow=6.1,SNR=3.4
MKAR Makanchi Array 66.75 41 P **P** 15 39 03.8 +0.1
0.9nm,0.8s,mb3.9,baz=353,slow=8.6,SNR=4.7
WMQ Urumqi 71.33 40 ||P **P** 15 39 34.5 +2.3
WMQ AP pP 15 39 39.5 +4.1
WMQ XP sP 15 39 41.8 +5.2
WMQ PCP PcP 15 39 54.0 +2.1
WMQ PP PP 15 42 15.0 +4.7
WMQ S S 15 48 51.5 +1.6
WMQ XS sS 15 49 00.0 +4.7
WMQ AMB AMB
comp=Z,3.0nm,0.4s,mb4.6
WMQ AMB AMB
comp=Z,122nm,9.7s
SONM Songino Array 73.76 26 P **P** 15 39 46.1 -0.6
comp=Z,1.3nm,0.9s,mb3.9,baz=332,slow=6.3,SNR=6.3
ULN Ulaanbaatar 73.90 25 *eP* **P** 15 39 48.4 +1.0
comp=Z,4.8nm,1.4s,mb4.2
ULN Ulaanbaatar 73.90 25 *eP* **P** 15 39 48.4 +0.9
comp=Z,4.8nm,1.4s,mb4.2
LPAZ La Paz 75.18 213 P **P** 15 39 56.5 +1.6
comp=Z,1.6nm,0.7s,mb4.0,baz=118,slow=5.1,SNR=7.3
LPAZ La Paz 75.18 213 P **P** 15 39 56.5 +1.6
WRA Warramunga Arr 145.37 17 PKPbc PKPbc 15 47 49.3 -1.0
comp=Z,0.9nm,0.8s,baz=346,slow=3.4,SNR=8.5
ASAR Alice Springs 148.92 19 PKPbc PKPbc 15 47 58.3 -2.0
comp=Z,1.0nm,0.8s,baz=355,slow=2.4,SNR=14

SSNC 29 15:32:09.8, 1981N×7542W, h0km, MD2.5, ML3.6, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.32**	**305**	⇑*i*	PG	15 32 17.0	+1.2
	baz=125						
RCC				*i*	SG	15 32 22.3	+2.4
	comp=N,81μm,0.1s						
RCC				*i*			
	comp=E,92μm,0.1s						

ISCJB ***29*** *15:38:42.8±0.1, 5382N±002×3544W±001, h10km, mb5.5/337, MS5.3/206, Error ellipse: s-maj=3.6km s-min=1.2km az=12.2*

CSEM ***29*** *15:38:42.9±0.0, 5388N×3545W, h13km, mb5.6/99, Ms5.3, Mw5.6, Error ellipse: s-maj=2.6km s-min=0.9km az=2.0*

IDC ***29*** *15:38:42.2±0.4, 5372N×3536W, h0km, mb4.9/29, mb1 5.0/32, mb1mx5.0/32, mbtmp4.9/32, ML3.8/3, MS5.1/27, Ms1 5.1/27, ms1mx5.0/35, Error ellipse: s-maj=15.5km s-min=8.8km az=173.0*

BJI ***29*** *15:38:43.1, 5424N×3554W, h10km, mB5.9, mb5.4, Ms5.5, Msz5.2*

MOS ***29*** *15:38:43.7±1.0, 5379N×3540W, h17km, mb5.7/153, MS5.3/69, Error ellipse: s-maj=5.5km s-min=3.7km az=164.5*

GCMT ***29*** *15:38:44.5±0.1, 5374N×3526W, h12km, MW5.6/100, Moment Tensor Solution. s72,c116; s100,c271; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr=3.16±.04; Mθθ=0.12±.04; Mϕϕ 3.28±.03; Mrθ 0.36±.12; Mθϕ 0.03±.03; Mϕr 0.37±.11; Best double couple: M☐3.26300×10^17 NP1:ϕs=354.00000°, δ42.00000°, λ=-100.00000°. NP2:ϕs=187.00000°, δ49.00000°, λ=-81.00000°. Principal axes: T 3.3020, Plg3.0000°, Azm271.0000°; N -0.0770, Plg7.0000°, Azm1.0000°; P -3.2230, Plg83.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***29*** *15:38:44.5±0.1, 5374N×3544W, h10km, mb5.6/242, MS5.3/155, MW5.6 Error ellipse: s-maj=4.8km s-min=1.8km az=185.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17 Nm; Mrr=2.42; Mθθ 0.77; Mϕϕ 1.65; Mrθ 0.65; Mθϕ 1.35; Mϕr-0.75; Best double couple: M☐2.70000×10^17 NP1:ϕs 17.00000°, δ51.00000°, λ=117.00000°. NP2:ϕs 235.00000°, δ46.00000°, λ=-61.00000°. Principal axes: T 2.6400, Plg3.0000°, Azm125.0000°; N 0.1500, Plg20.0000°, Azm34.0000°; P -2.7900, Plg69.0000°, Azm222.0000°;*

IGIL ***29*** *15:38:44.5, 5367N×3531W, h10km, mb5.5*

SZGRF ***29*** *15:38:49.9, 5401N×3456W, h13km, mb5.5, MS5.3, Reykjanes Ridge*

ISC 29 15:38:43.0±1.0, 5382N±003×3541W±002, h0km±6km, n1425, σ1°01/1374, mb5.5/337, MS5.3/206, 135C-146D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.06**	**28**	Pn	**Pn**	**15 41 51.6**	**+1.9**
	0.7nm,0.3s,baz=236,slow=6.6,SNR=4.2						
BORG				LR	LR	15 45 17.4	
	comp=Z,9μm,20.5s,baz=225,slow=30						
SFJD	**Kangerlussuaq**	**15.13**	**337**	P	**Pn**	**15 42 12.0**	**-5.9**
SFJD				pmax	pmax		
	comp=Z,390nm,1.4s						
SFJD	**Kangerlussuaq**	**15.13**	**337**	*i* P	**Pn**	**15 42 23.4**	**+5.5**
	comp=Z,18nm,1.4s						
SFJD				*e*S	**Sn**	**15 45 08.2**	**+2.1**
KAR1	**Arisaig**	**17.03**	**68**	*e*P	**Pn**	**15 42 42.4**	**0.0**
KPL	**Plockton**	**17.11**	**66**	*e*P	**Pn**	**15 42 44.4**	**+0.9**
KPL				AMb	AMB	15 42 52.8	
	comp=Z,319nm,1.6s						
KPL				AMS	AMS	15 48 21.3	
	comp=Z,16μm,18.4s						
DLF	**Lyons Farm**	**17.12**	**80**	*e*P	**Pn**	**15 42 42.6**	**-1.0**
KSB	**Sheil Bridge**	**17.24**	**67**	*e*P	**Pn**	**15 42 46.3**	**+1.1**
KAC	**Achnashellach**	**17.30**	**66**	*e*P	**Pn**	**15 42 45.6**	**-0.3**
MDO	**Dochfour**	**17.81**	**66**	*e*P	**Pn**	**15 42 54.0**	**+1.7**
PGBU	**Glenifferbraes**	**17.86**	**71**	*e*P	**Pn**	**15 42 52.0**	**-0.8**
PGBU				AMb	AMB	15 42 57.1	
	comp=Z,148nm,1.6s						
GAL1	**Galloway**	**17.86**	**74**	*e*P	**Pn**	**15 42 53.7**	**+0.9**
GAL1				AMb	AMB	15 42 59.7	
	comp=Z,150nm,1.3s						
GAL1				AMS	AMS	15 48 42.1	
	comp=Z,15μm,18.7s						
MVH1	**Achvaich**	**17.90**	**64**	*e*P	**Pn**	**15 42 54.2**	**+0.9**
WIM	**Isle of Man**	**18.01**	**76**	*e*P	**Pn**	**15 42 54.1**	**-0.6**
WCB1	**Church Bay**	**18.25**	**79**	*e*P	**Pn**	**15 42 57.0**	**-0.6**
SCHQ	**Schefferville**	**18.28**	**286**	P	**Pn**	**15 42 57.2**	**-0.8**
SCHQ				LR	LR	15 48 52.7	
	comp=Z,1.1nm,0.3s,baz=78,slow=8.7,SNR=16						
	comp=Z,7μm,21.8s,baz=82,slow=33						
SCHQ	**Schefferville**	**18.28**	**286**	*e*P	**Pn**	**15 42 54.5**	**-3.5**
	comp=Z,129nm,1.1s						
GCD	**Castle Douglas**	**18.30**	**74**	*e*P	**Pn**	**15 42 57.4**	**-0.9**
MCD	**Coleburn Disti**	**18.41**	**65**	*e*P	**Pn**	**15 42 58.3**	**-1.2**
YRE	**Yr Eifl**	**18.43**	**80**	*e*P	**Pn**	**15 42 58.6**	**-1.2**
EDI	**Edinburgh**	**18.57**	**70**	*e*P	**Pn**	**15 42 59.9**	**-1.6**
EDI				AMb	AMB	15 43 10.8	
	comp=Z,274nm,1.7s						
EDI				AMS	AMS	15 49 04.6	
	comp=Z,12μm,19.4s						
ESK	**Eskdalemuir**	**18.64**	**72**	*e*P	**Pn**	**15 43 01.8**	**-0.7**
ESK				AMb	AMB	15 43 10.2	
	comp=Z,125nm,3.0s						
ESK				AMS	AMS	15 49 16.1	
	comp=Z,15μm,18.5s						
ESK	**Eskdalemuir**	**18.64**	**72**	*e*P	**Pn**	**15 43 01.7**	**-0.7**
ESK				pmax	pmax		
	comp=Z,2μm,2.8s						
ESK	**Eskdalemuir**	**18.64**	**72**	*e*P	**Pn**	**15 43 01.7**	**-0.7**
	comp=Z,2μm,2.8s						
EKA	**Eskdalemuir Ar**	**18.67**	**72**	P	**Pn**	**15 43 01.4**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=278,slow=10,SNR=31						
ECK	**Cauldkaine Hil**	**18.71**	**73**	*e*P	**Pn**	**15 43 03.2**	**0.0**
HTL	**Hartland**	**19.00**	**86**	*e*P	**Pn**	**15 43 06.7**	**0.0**
HTL				AMb	AMB	15 43 14.5	
	comp=Z,116nm,1.5s						
HTL				AMS	AMS	15 49 29.5	
	comp=Z,11μm,19.2s						
SBD1	**Bryn Du**	**19.13**	**80**	*e*P	**Pn**	**15 43 06.6**	**-1.7**
XAL	**Allendale**	**19.28**	**73**	*e*P	**Pn**	**15 43 09.0**	**-1.2**
HEX	**Exmoor**	**19.38**	**85**	*e*P	**Pn**	**15 43 11.0**	**-0.3**
HLM1	**Long Mynd**	**19.46**	**81**	*e*P	**Pn**	**15 43 11.9**	**-0.3**
DYA	**Yadsworthy**	**19.53**	**87**	*e*P	**Pn**	**15 43 11.9**	**-1.3**
MCH1	**Michaelchurch**	**19.54**	**82**	*e*P	**Pn**	**15 43 11.7**	**-1.6**
MCH1				AMb	AMB	15 43 20.2	
	comp=Z,113nm,1.4s						
MCH1				AMS	AMS	15 49 45.8	
	comp=Z,8μm,19.0s						
HGH	**Gray Hill**	**19.77**	**83**	*e*P	**Pn**	**15 43 15.0**	**-1.0**
KWE	**Weaver Farm**	**19.92**	**79**	*e*P	**Pn**	**15 43 16.9**	**-0.8**
KBI1	**Birley Grange**	**20.04**	**78**	*e*P	**P**	**15 43 17.1**	**-0.3**
SWN1	**Swindon**	**20.41**	**83**	*e*P	**P**	**15 43 23.0**	**+1.5**
SWN1				AMb	AMB	15 43 27.0	
	comp=Z,271nm,1.4s						
EMAZ	**Mazaricos**	**20.53**	**111**	P	**P**	**15 43 23.2**	**+0.4**
	comp=Z,695nm,1.4s						
EMAZ	**Mazaricos**	**20.53**	**111**	P	**P**	**15 43 23.2**	**+0.4**
	comp=Z,695nm,1.4s						
STS	**Santiago**	**20.80**	**111**	P	**P**	**15 43 24.7**	**-1.1**
STS				pmax	pmax		
	comp=Z,295nm,1.0s						
STS	**Santiago**	**20.80**	**111**	P	**P**	**15 43 24.7**	**-1.1**
	comp=Z,295nm,1.0s						
STS	**Santiago**	**20.80**	**111**	P	**P**	**15 43 24.7**	**-1.1**
	comp=Z,295nm,1.0s						
ROSF	**Rostrenen**	**20.81**	**92**	*e*P	**P**	**15 43 24.7**	**-1.1**
	comp=Z,402nm,1.3s						
ROSF	**Rostrenen**	**20.81**	**92**	*e*P	**P**	**15 43 24.7**	**-1.1**
ROSF				pmax	pmax		
	comp=Z,201nm,1.3s						
ROSF	**Rostrenen**	**20.81**	**92**	*e*P	**P**	**15 43 24.7**	**-1.1**
	comp=Z,201nm,1.3s						
JMIC	**Jan Mayen**	**20.91**	**25**	LR	LR	15 49 28.6	
	comp=Z,10μm,19.1s,MS5.2,baz=250,slow=31						
JMIC	**Jan Mayen**	**20.91**	**25**	AMS	AMS	15 49 53.0	
	comp=Z,8μm,17.7s,MS5.1						
QUIF	**Quistinic**	**21.07**	**93**	*e*P	**P**	**15 43 27.6**	**-1.0**
	comp=Z,725nm,1.2s,mb5.6						
QUIF	**Quistinic**	**21.07**	**93**	*e*P	**P**	**15 43 27.6**	**-1.0**
QUIF				pmax	pmax		
	comp=Z,362nm,1.2s,mb5.6						
QUIF	**Quistinic**	**21.07**	**93**	*e*P	**P**	**15 43 27.6**	**-1.0**
	comp=Z,362nm,1.2s,mb5.6						
EZAM	**Zamans**	**21.22**	**113**	P	**P**	**15 43 29.6**	**-0.7**
EZAM				pmax	pmax		
	comp=Z,156nm,1.1s,mb5.2						
EZAM	**Zamans**	**21.22**	**113**	P	**P**	**15 43 29.6**	**-0.6**
	comp=Z,156nm,1.1s,mb5.2						
EZAM	**Zamans**	**21.22**	**113**	P	**P**	**15 43 29.6**	**-0.7**
	comp=Z,156nm,1.1s,mb5.2						
SGMF	**Saint Gilles**	**21.27**	**92**	*e*P	**P**	**15 43 29.5**	**-1.3**
	comp=Z,547nm,1.2s,mb5.4						
SGMF	**Saint Gilles**	**21.27**	**92**	*e*P	**P**	**15 43 29.5**	**-1.3**
SGMF				pmax	pmax		
	comp=Z,273nm,1.2s,mb5.5						
SGMF	**Saint Gilles**	**21.27**	**92**	*e*P	**P**	**15 43 29.5**	**-1.3**
	comp=Z,273nm,1.2s,mb5.5						
EPON	**Pontenova**	**21.30**	**108**	P	**P**	**15 43 31.1**	**-0.1**
	comp=Z,606nm,1.5s,mb5.7						
EPON	**Pontenova**	**21.30**	**108**	P	**P**	**15 43 31.1**	**-0.1**
	comp=Z,606nm,1.5s,mb5.7						
ELOB	**Lobios**	**21.75**	**112**	P	**P**	**15 43 36.7**	**+0.6**
	comp=Z,740nm,1.6s,mb5.9						
ELOB	**Lobios**	**21.75**	**112**	P	**P**	**15 43 36.7**	**+0.7**
	comp=Z,740nm,1.6s,mb5.9						
PCAB	**Cabril**	**21.88**	**112**	*e*P	**P**	**15 43 39.0**	**+1.6**
	comp=Z,498nm,1.5s,mb5.7						
ERUA	**La Rua**	**21.91**	**110**	P	**P**	**15 43 37.7**	**0.0**
ERUA				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.0						
ERUA	**La Rua**	**21.91**	**110**	P	**P**	**15 43 37.7**	**0.0**
	comp=Z,50nm,0.7s,mb5.0						
ERUA	**La Rua**	**21.91**	**110**	P	**P**	**15 43 37.7**	**0.0**
	comp=Z,50nm,0.7s,mb5.0						
PTO	**Porto**	**21.96**	**114**	*e*P	**P**	**15 43 38.9**	**+0.6**
	comp=Z,490nm,1.6s,mb5.7						
GRR	**Gorron**	**22.21**	**90**	*e*P	**P**	**15 43 39.7**	**-1.2**
	comp=Z,487nm,1.3s,mb5.5						
GRR	**Gorron**	**22.21**	**90**	*e*P	**P**	**15 43 39.7**	**-1.2**
GRR				pmax	pmax		
	comp=Z,243nm,1.3s,mb5.5						
GRR	**Gorron**	**22.21**	**90**	*e*P	**P**	**15 43 39.7**	**-1.2**
	comp=Z,243nm,1.3s,mb5.5						
FLN	**La Foliniere**	**22.27**	**89**	*e*P	**P**	**15 43 40.4**	**-1.1**
	comp=Z,718nm,1.4s,mb5.6						
FLN				*e*R			
	comp=Z,14μm,21.0s						
FLN	**La Foliniere**	**22.27**	**89**	*e*P	**P**	**15 43 40.4**	**-1.1**
FLN				pmax	pmax		
	comp=Z,359nm,1.4s,mb5.6						
FLN				MLR	MLR		
	comp=Z,14μm,21.0s,MS5.4						
FLN	**La Foliniere**	**22.27**	**89**	*e*P	**P**	**15 43 40.4**	**-1.1**
	comp=Z,359nm,1.4s,mb5.6						
FLN				LR	LR		
	comp=Z,14μm,21.0s,MS5.4						
PVRL	**Vila Real**	**22.35**	**113**	*e*P	**P**	**15 43 43.8**	**+1.4**
	comp=Z,400nm,1.6s,mb5.6						
EARI	**Arriondas**	**22.42**	**106**	P	**P**	**15 43 42.5**	**-0.7**
	comp=Z,82nm,1.1s,mb5.1						
EARI	**Arriondas**	**22.42**	**106**	P	**P**	**15 43 42.5**	**-0.7**
	comp=Z,82nm,1.1s,mb5.1						
ECAL	**Calabor**	**22.44**	**110**	P	**P**	**15 43 43.4**	**+0.1**
	comp=Z,596nm,2.2s,mb5.6						
ECAL	**Calabor**	**22.44**	**110**	P	**P**	**15 43 43.4**	**+0.1**
	comp=Z,596nm,2.2s,mb5.6						
PBRG	**Braganca**	**22.53**	**111**	*e*P	**P**	**15 43 45.7**	**+1.4**
	comp=Z,478nm,1.6s,mb5.8						
LDF	**La Druitiere**	**22.56**	**89**	*e*P	**P**	**15 43 43.5**	**-1.1**
	comp=Z,636nm,1.4s,mb5.7						
LDF	**La Druitiere**	**22.56**	**89**	*e*P	**P**	**15 43 43.5**	**-1.1**
LDF				pmax	pmax		
	comp=Z,318nm,1.4s,mb5.7						
LDF	**La Druitiere**	**22.56**	**89**	*e*P	**P**	**15 43 43.5**	**-1.1**
	comp=Z,318nm,1.4s,mb5.7						
PVIS	**Viseu**	**22.64**	**114**	*e*P	**P**	**15 43 46.2**	**+0.7**
	comp=Z,254nm,1.7s,mb5.5						
LRYF	**La Roche-sur-Y**	**22.69**	**95**	*e*P	**P**	**15 43 45.8**	**-0.2**
BER	**Bergen**	**22.77**	**57**	*e*P	**P**	**15 43 47.5**	**+0.6**
BER				*e*S	**S**	**15 47 58.8**	**+1.7**
BER	**Bergen**	**22.77**	**57**	*e*P	**P**	**15 43 41.9**	**-5.0**
MENF	**Mencas**	**23.08**	**83**	*e*P	**P**	**15 43 50.8**	**+0.7**
LCHF	**La Chataignera**	**23.12**	**94**	*e*P	**P**	**15 43 50.4**	**-0.1**
PMAFR	**Mafra**	**23.18**	**119**	*e*P	**P**	**15 43 50.9**	**-0.3**
	comp=Z,247nm,1.3s,mb5.6						
PMAFR				*e*LQ		15 48 01.7	
PMAFR				*e*LR	LR	15 49 28.7	
	comp=Z,8μm,20.7s						
PLOU	**Loures**	**23.30**	**119**	*e*P	**P**	**15 43 52.4**	**-0.1**
	comp=Z,366nm,1.7s,mb5.6						
PKME	**Peaks-Kenny Pk**	**23.40**	**262**	*e*P	**P**	**15 43 51.5**	**-2.1**
	comp=Z,728nm,1.7s,mb5.9						
PKME				LR	LR		
	comp=Z,12μm,20.0s,MS5.4						
PKME	**Peaks-Kenny Pk**	**23.40**	**262**	*e*P	**P**	**15 43 51.5**	**-2.0**
	comp=Z,728nm,1.7s,mb5.9						
LIS	**Lisbon**	**23.43**	**119**	*e*P	**P**	**15 43 52.4**	**-1.4**
LIS				AMb	AMB	15 44 08.4	
	comp=Z,315nm,1.5s,mb5.6						
LIS				*e*S	**S**	**15 48 05.6**	**-2.2**
LIS				*e*S	**S**	**15 48 07.0**	**-0.8**
LIS	**Lisbon**	**23.43**	**119**	*e*P	**P**	**15 43 52.4**	**-1.4**
LIS				*e*S	**S**	**15 48 05.6**	**-2.2**
LIS							
	comp=Z,315nm,1.5s						
LIS	**Lisbon**	**23.43**	**119**	*e*P	**P**	**15 43 52.4**	**-1.4**
LIS				*e*S	**S**	**15 48 05.6**	**-2.2**
ELAN	**Lanestosa**	**23.48**	**104**	P	**P**	**15 43 54.4**	**0.0**
	comp=Z,31nm,0.9s,mb4.8						
ELAN	**Lanestosa**	**23.48**	**104**	P	**P**	**15 43 54.4**	**0.0**
	comp=Z,31nm,0.9s,mb4.8						
PCBR	**Castelo Branco**	**23.49**	**115**	*e*P	**P**	**15 43 53.4**	**-1.0**
	comp=Z,374nm,1.7s,mb5.6						
MFF	**Saint Martin d**	**23.50**	**93**	*e*P	**P**	**15 43 52.8**	**-1.8**
	comp=Z,1μm,1.7s,mb5.8						
MFF	**Saint Martin d**	**23.50**	**93**	*e*P	**P**	**15 43 52.8**	**-1.8**
MFF				pmax	pmax		
	comp=Z,524nm,1.7s,mb5.8						
MFF	**Saint Martin d**	**23.50**	**93**	*e*P	**P**	**15 43 52.8**	**-1.8**
	comp=Z,524nm,1.7s,mb5.8						
CHIF	**Chize**	**23.59**	**95**	*e*P	**P**	**15 43 55.1**	**-0.4**
MOL	**Molde**	**23.84**	**51**	*e*P	**P**	**15 43 57.7**	**-0.1**
MOL				*e*S	**S**	**15 48 19.0**	**+4.5**
PESTR	**Estremoz**	**24.13**	**117**	*e*P	**P**	**15 43 58.7**	**-1.8**
	comp=Z,217nm,1.8s,mb5.4						
PESTR				*e*LQ		15 48 27.2	
PESTR				*e*LR	LR	15 50 04.7	
	comp=Z,14μm,18.6s						
EVO	**Evora**	**24.16**	**118**	*e*P	**P**	**15 43 58.7**	**-2.0**
	comp=Z,228nm,1.4s,mb5.2						
EVO				*e*R			
	comp=Z,12μm,19.8s						
UCC	**Uccle**	**24.28**	**81**	P	**P**	**15 44 03.2**	**+1.4**
SNF	**Seneffe**	**24.35**	**82**	P	**P**	**15 44 01.7**	**-0.7**
ECRI	**Cripan**	**24.40**	**104**	P	**P**	**15 44 03.3**	**+0.4**
ECRI				pmax	pmax		
	comp=Z,95nm,1.2s,mb5.2						
ECRI	**Cripan**	**24.40**	**104**	P	**P**	**15 44 03.3**	**+0.4**
	comp=Z,95nm,1.2s,mb5.2						
ECRI	**Cripan**	**24.40**	**104**	P	**P**	**15 44 03.3**	**+0.4**
	comp=Z,95nm,1.2s,mb5.2						
BAIF	**Baives**	**24.49**	**83**	*e*P	**P**	**15 44 01.3**	**-2.4**
EBAD	**Badajoz**	**24.52**	**116**	P	**P**	**15 44 02.6**	**-1.4**
	comp=Z,350nm,1.9s,mb5.8						
EBAD	**Badajoz**	**24.52**	**116**	P	**P**	**15 44 02.7**	**-1.3**
	comp=Z,350nm,1.9s,mb5.8						
PTEO	**Sao Teotonio**	**24.54**	**121**	*e*P	**P**	**15 44 03.9**	**-0.3**
	comp=Z,237nm,1.7s,mb5.6						
EALK	**Alkurruntz**	**24.60**	**102**	P	**P**	**15 44 05.1**	**+0.3**
	comp=Z,49nm,1.1s,mb5.2						
EALK	**Alkurruntz**	**24.60**	**102**	P	**P**	**15 44 05.1**	**+0.3**
	comp=Z,49nm,1.1s,mb5.2						
PBEJ	**Beja**	**24.61**	**119**	*e*P	**P**	**15 44 04.3**	**-0.6**
	comp=Z,206nm,1.7s,mb5.6						
DOU	**Dourbes**	**24.70**	**82**	P	**P**	**15 44 05.3**	**-0.3**
GUD	**Guadarrama**	**24.75**	**109**	P	**P**	**15 44 05.3**	**-0.8**
GUD				pmax	pmax		
	comp=Z,79nm,1.2s,mb5.3						
GUD	**Guadarrama**	**24.75**	**109**	P	**P**	**15 44 05.3**	**-0.8**
	comp=Z,79nm,1.2s,mb5.3						
GUD	**Guadarrama**	**24.75**	**109**	P	**P**	**15 44 05.3**	**-0.8**
	comp=Z,79nm,1.2s,mb5.3						
PMPS	**Porto Santo**	**24.81**	**139**	*e*P	**P**	**15 44 06.2**	**-0.4**
	comp=Z,322nm,1.2s,mb5.9						
GIVF	**Givet**	**24.83**	**82**	*e*P	**P**	**15 44 04.1**	**-2.7**
	comp=Z,182nm,1.4s,mb5.3						
GIVF	**Givet**	**24.83**	**82**	*e*P	**P**	**15 44 04.1**	**-2.7**
GIVF				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.3						
GIVF	**Givet**	**24.83**	**82**	*e*P	**P**	**15 44 04.1**	**-2.7**
	comp=Z,91nm,1.4s,mb5.3						
SJPF	**Ste Jean**	**24.83**	**102**	*e*P	**P**	**15 44 04.8**	**-2.1**
	comp=Z,108nm,1.2s,mb5.2						
SJPF	**Ste Jean**	**24.83**	**102**	*e*P	**P**	**15 44 04.8**	**-2.1**
SJPF				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.2						
SJPF	**Ste Jean**	**24.83**	**102**	*e*P	**P**	**15 44 04.8**	**-2.1**
	comp=Z,54nm,1.2s,mb5.2						
PMAR	**Madeira**	**24.88**	**141**	*e*P	**P**	**15 44 08.9**	**+1.6**
WIT	**Witteveen**	**24.89**	**75**	*e*P	**P**	**15 44 08.9**	**+1.5**
LFF	**La Frestale**	**24.92**	**96**	*e*P	**P**	**15 44 06.6**	**-1.0**
KONO	**Kongsberg**	**24.96**	**58**	*e*P	**P**	**15 44 08.2**	**+0.2**
KONO				*e*S	**S**	**15 48 34.0**	**+1.4**
KONO	**Kongsberg**	**24.96**	**58**	*c i*P	**P**	**15 44 07.4**	**-0.6**
KONO	**Kongsberg**	**24.96**	**58**	*e*P	**P**	**15 44 08.6**	**+0.5**
	comp=Z,235nm,1.4s,mb5.7						
KONO				LR	LR		
	comp=Z,8μm,21.0s,MS5.2						
KONO	**Kongsberg**	**24.96**	**58**	*e*P	**P**	**15 44 08.6**	**+0.6**
	comp=Z,235nm,1.4s,mb5.7						
BCLA	**Clavier**	**24.98**	**81**	P	**P**	**15 44 08.5**	**+0.3**
BEBN	**Eben Emael**	**25.05**	**80**	P	**P**	**15 44 09.3**	**+0.5**
TCF	**Toulx Ste Croi**	**25.06**	**92**	*e*P	**P**	**15 44 07.6**	**-1.3**
	comp=Z,433nm,1.2s,mb5.7						
TCF	**Toulx Ste Croi**	**25.06**	**92**	*e*P	**P**	**15 44 07.6**	**-1.3**
TCF				pmax	pmax		
	comp=Z,217nm,1.2s,mb5.8						
TCF	**Toulx Ste Croi**	**25.06**	**92**	*e*P	**P**	**15 44 07.6**	**-1.3**
	comp=Z,217nm,1.2s,mb5.8						
RJF	**Les Rejaudoux**	**25.18**	**95**	*e*P	**P**	**15 44 08.6**	**-1.4**
	comp=Z,412nm,1.4s,mb5.7						
RJF				*e*R			
	comp=Z,13μm,22.5s						
RJF	**Les Rejaudoux**	**25.18**	**95**	*e*P	**P**	**15 44 08.6**	**-1.4**
R

AVF **Avril sur Loir** 25.48 90 *e*P P 15 44 11.2 -1.6
comp=Z,550nm,1.3s,mb5.8
AVF **Avril sur Loir** 25.48 90 *e*P P 15 44 11.2 -1.6
AVF pmax pmax
comp=Z,275nm,1.3s,mb5.8
AVF **Avril sur Loir** 25.48 90 *e*P P 15 44 11.2 -1.6
comp=Z,275nm,1.3s,mb5.8
NAO01 **NORSAR Array S** 25.48 55 *e*P P 15 44 12.0 -0.8
comp=Z,70nm,1.2s,mb5.3
NAO01 LR LR
comp=Z,8µm,20.0s,MS5.2
NAO01 **NORSAR Array S** 25.48 55 *e*P P 15 44 12.0 -0.8
comp=Z,70nm,1.2s,mb5.3
VERF **Verneugheol** 25.51 93 *e*P P 15 44 12.9 -0.1
ESDC **Sonseca Array** 25.52 111 P P 15 44 11.6 -1.5
comp=Z,65nm,1.0s,mb5.2,baz=313,slow=8.4,SNR=75
ESDC PcP PcP 15 47 42.7 -1.9
comp=Z,2.0nm,0.7s,baz=313,slow=1.6,SNR=4.5
ESDC LR LR 15 52 11.5
comp=Z,8µm,18.8s,MS5.3,baz=310,slow=32
ESDC **Sonseca Array** 25.52 111 PcP PcP 15 47 42.7 -2.0
ESLA **Sonseca Array** 25.52 111 *e*P P 15 44 11.0 -2.1
comp=Z,59nm,1.3s,mb5.1
ESLA LR LR
comp=Z,52µm,19.0s,MS6.1
ESLA **Sonseca Array** 25.52 111 *e*P P 15 44 11.0 -2.1
comp=Z,59nm,1.3s,mb5.1
LOR **Lormes** 25.54 89 *e*P P 15 44 11.1 -2.2
comp=Z,658nm,1.5s,mb5.8
LOR eR
comp=Z,10µm,22.0s
LOR **Lormes** 25.54 89 *e*P P 15 44 11.1 -2.2
LOR pmax pmax
comp=Z,329nm,1.5s,mb5.7
LOR MLR MLR
comp=Z,10µm,22.0s,MS5.3
LOR **Lormes** 25.54 89 *e*P P 15 44 11.1 -2.2
comp=Z,329nm,1.5s,mb5.7
LOR LR LR
comp=Z,10µm,22.0s,MS5.3
NB2 **NORSAR Subarra** 25.62 55 P P 15 44 11.4 -2.7
NB2 **NORSAR Subarra** 25.62 55 P P 15 44 13.1 -1.0
comp=Z,767nm,2.5s,mb5.9,baz=276,slow=10
NOA **NORSAR Array B** 25.62 55 P P 15 44 12.9 -1.1
comp=Z,17nm,0.9s,mb4.7,baz=276,slow=9.5,SNR=16
NOA LR LR 15 53 11.5
comp=Z,4µm,18.5s,MS5.0,baz=275,slow=34
MEZF **Maizieres J'vi** 25.66 85 *e*P P 15 44 13.0 -1.4
comp=Z,255nm,1.1s,mb5.5
MEZF **Maizieres J'vi** 25.66 85 *e*P P 15 44 13.0 -1.4
comp=Z,255nm,1.0s,mb5.8
VIEF **Viey** 25.70 101 *e*P P 15 44 15.5 +0.8
CAF **Calviac** 25.71 95 *e*P P 15 44 13.4 -1.4
comp=Z,430nm,1.6s,mb5.5
CAF **Calviac** 25.71 95 *e*P P 15 44 13.4 -1.4
CAF pmax pmax
comp=Z,215nm,1.6s,mb5.5
CAF **Calviac** 25.71 95 *e*P P 15 44 13.4 -1.4
comp=Z,215nm,1.6s,mb5.5
BUG **Bochum--Univer** 25.73 78 *e*P P 15 44 15.7 +0.7
comp=Z,245nm,1.6s,mb5.6
BUG **Bochum--Univer** 25.73 78 P P 15 44 15.8 +0.8
AGO **Saint Agoulin** 25.73 92 *e*P P 15 44 15.1 +0.1
EPF **Esparros** 25.79 100 *e*P P 15 44 13.6 -2.0
comp=Z,202nm,1.7s,mb5.2
EPF **Esparros** 25.79 100 *e*P P 15 44 13.6 -2.0
EPF pmax pmax
comp=Z,101nm,1.7s,mb5.2
EPF **Esparros** 25.79 100 *e*P P 15 44 13.6 -2.0
comp=Z,101nm,1.7s,mb5.2
WLF **Walferdange** 25.79 82 P P 15 44 16.7 +1.1
WLF **Walferdange** 25.79 82 P P 15 44 12.5 -3.1
WLF pmax pmax
comp=Z,250nm,2.0s,mb5.5
WLF **Walferdange** 25.79 82 P P 15 44 12.5 -3.1
comp=Z,245nm,2.0s,mb5.5
ETOR **Torete** 25.82 107 P P 15 44 16.8 +1.0
ETOR pmax pmax
comp=Z,31nm,0.9s,mb4.9
ETOR **Torete** 25.82 107 P P 15 44 16.8 +1.0
comp=Z,31nm,0.9s,mb4.9
ETOR **Torete** 25.82 107 P P 15 44 16.8 +1.0
comp=Z,31nm,0.9s,mb4.9
PYM **Petit Puy Mans** 25.82 92 *e*P P 15 44 16.6 +0.8
SMF **Signal de Mont** 25.84 90 *e*P P 15 44 14.3 -1.8
comp=Z,423nm,1.3s,mb5.6
SMF **Signal de Mont** 25.84 90 *e*P P 15 44 14.3 -1.8
SMF pmax pmax
comp=Z,212nm,1.3s,mb5.6
SMF **Signal de Mont** 25.84 90 *e*P P 15 44 14.3 -1.8
comp=Z,212nm,1.3s,mb5.6
NSS **Namsos** 25.88 47 *e*P P 15 44 15.0 -1.4
NSS *e*S S 15 48 53.2 +6.0
NSS AMS AMS 15 53 03.5
comp=Z,5µm,20.2s,MS5.0
EBIE **Bielsa** 25.89 101 P P 15 44 18.1 +1.6
comp=Z,17nm,0.8s,mb4.7
EBIE **Bielsa** 25.89 101 P P 15 44 18.1 +1.6
comp=Z,17nm,0.8s,mb4.7
RESF **Ens** 25.93 100 *e*P P 15 44 17.9 +1.1
HNH **Hanover** 26.05 262 *e*P P 15 44 19.0 +1.1
comp=Z,20nm,1.6s,mb4.5
HNH **Hanover** 26.05 262 *e*P P 15 44 19.0 +1.1
comp=Z,20nm,1.6s,mb4.5
PLDF **La Plantade** 26.06 91 *e*P P 15 44 17.8 -0.2
LBL **Lubilhac** 26.24 93 *e*P P 15 44 20.1 +0.5
EADA **Adamuz** 26.26 114 P P 15 44 19.1 -0.7
comp=Z,35nm,1.0s,mb4.9
MLS **Moulis** 26.28 99 *e*P P 15 44 19.4 -0.6
WES **Weston** 26.28 259 *e*P P 15 44 20.3 +0.3
WES pmax pmax
comp=Z,385nm,1.8s,mb5.7
WES MLR MLR
comp=Z,5µm,19.0s,MS5.1
WES **Weston** 26.28 259 *e*P P 15 44 20.3 +0.3
comp=Z,385nm,1.8s,mb5.7
WES LR LR
comp=Z,5µm,19.0s,MS5.1
WES **Weston** 26.28 259 *e*P P 15 44 20.3 +0.3
comp=Z,385nm,1.8s,mb5.7
THEF **They Montfort** 26.34 85 *e*P P 15 44 20.8 +0.2
HRV **Harvard--Oak R** 26.34 259 *e*P P 15 44 21.1 +0.5
HRV pmax pmax
comp=Z,228nm,1.6s,mb5.5
HRV MLR MLR
comp=Z,8µm,19.0s,MS5.3
HRV **Harvard--Oak R** 26.34 259 *e*P P 15 44 21.1 +0.5
comp=Z,228nm,1.6s,mb5.5
HRV LR LR
comp=Z,8µm,19.0s,MS5.3
HRV **Harvard--Oak R** 26.34 259 *e*P P 15 44 21.1 +0.5
comp=Z,228nm,1.6s,mb5.5
COLF **Collangettes** 26.35 92 *e*P P 15 44 20.9 +0.3
SALF **Salau** 26.45 100 *e*P P 15 44 26.0 +4.4
ESPR **Espera** 26.54 118 P P 15 44 23.5 +1.2
comp=Z,63nm,1.2s,mb5.2
ESPR **Espera** 26.54 118 P P 15 44 23.5 +1.2
comp=Z,63nm,1.2s,mb5.2
BSEG **Bad Segeberg** 26.60 71 P P 15 44 22.2 -0.7
HAU **Haudompre** 26.66 85 *e*P P 15 44 22.3 -1.1
comp=Z,286nm,1.2s,mb5.6
HAU eR
comp=Z,7µm,18.8s
HAU **Haudompre** 26.66 85 *e*P P 15 44 22.3 -1.1
HAU pmax pmax
comp=Z,143nm,1.3s,mb5.5
HAU MLR MLR
comp=Z,7µm,18.8s,MS5.2
HAU **Haudompre** 26.66 85 *e*P P 15 44 22.3 -1.1
comp=Z,143nm,1.3s,mb5.5
HAU LR LR
comp=Z,7µm,18.8s,MS5.2
EBAN **Banos Encina** 26.69 113 P P 15 44 23.9 +0.2
EBAN pmax pmax
comp=Z,42nm,0.8s,mb5.2
EBAN **Banos Encina** 26.69 113 P P 15 44 23.9 +0.2
comp=Z,42nm,0.8s,mb5.2
EBAN **Banos Encina** 26.69 113 P P 15 44 23.9 +0.2
comp=Z,42nm,0.8s,mb5.2
MTLF **Montolieu** 26.71 98 *e*P P 15 44 22.8 -1.1
comp=Z,390nm,1.6s,mb5.6
MTLF **Montolieu** 26.71 98 *e*P P 15 44 22.8 -1.1
MTLF pmax pmax
comp=Z,195nm,1.6s,mb5.6
MTLF **Montolieu** 26.71 98 *e*P P 15 44 22.8 -1.1
comp=Z,195nm,1.6s,mb5.6
MSNY **Massena** 26.84 267 P P 15 44 27.3 +2.3
MSNY **Massena** 26.84 267 P P 15 44 27.3 +2.3
ELUQ **Luque** 26.87 115 P P 15 44 25.7 +0.4
ELUQ pmax pmax
comp=Z,186nm,1.2s,mb5.7
ELUQ **Luque** 26.87 115 P P 15 44 25.7 +0.4
comp=Z,186nm,1.2s,mb5.7
ELUQ **Luque** 26.87 115 P P 15 44 25.7 +0.4
comp=Z,186nm,1.2s,mb5.7
LONY **Lake Ozonia** 26.88 266 *e*P P 15 44 25.8 +0.4
comp=Z,113nm,1.6s,mb5.3
LONY LR LR
comp=Z,12µm,19.0s,MS5.5
LONY **Lake Ozonia** 26.88 266 *e*P P 15 44 25.8 +0.4
comp=Z,113nm,1.6s,mb5.3
TNS **Taunus Mts** 26.90 80 *e*P P 15 44 26.7 +1.1
comp=Z,129nm,1.6s,mb5.4
TNS **Taunus Mts** 26.90 80 *e*P P 15 44 26.7 +1.1
TNS pmax pmax
comp=Z,129nm,1.6s,mb5.4
HFS **Hagfors** 26.95 57 P P 15 44 24.7 -1.3
comp=Z,20nm,0.9s,mb4.8,baz=255,slow=5.8,SNR=11
HFS LR LR 15 53 42.1
comp=Z,8µm,19.9s,MS5.3,baz=278,slow=33
QUA2 **Belchertown** 26.95 260 *e*P P 15 44 25.3 -0.7
comp=Z,266nm,1.7s,mb5.7
QUA2 **Belchertown** 26.95 260 *e*P P 15 44 25.3 -0.7
comp=Z,266nm,1.7s,mb5.7
CDF **Champ du Feu** 27.02 84 *e*P P 15 44 25.5 -1.1
comp=Z,126nm,1.6s,mb5.1
CDF **Champ du Feu** 27.02 84 *e*P P 15 44 25.5 -1.1
CDF pmax pmax
comp=Z,63nm,1.6s,mb5.1
CDF **Champ du Feu** 27.02 84 *e*P P 15 44 25.5 -1.1
comp=Z,63nm,1.6s,mb5.1
CARF **Carcanieres** 27.02 99 *e*P P 15 44 26.7 +0.1
EMOS **Mosqueruela** 27.02 106 P P 15 44 27.7 +1.0
EMOS **Mosqueruela** 27.02 106 P P 15 44 27.7 +1.0
ECH **Echery** 27.04 84 *e*P P 15 44 27.1 +0.3
NCB **Newcomb** 27.04 265 *e*P P 15 44 26.4 -0.4
comp=Z,203nm,1.7s,mb5.6
NCB LR LR
comp=Z,10µm,20.0s,MS5.4
HINF **Hinteralfeld** 27.05 85 *e*P P 15 44 25.8 -1.1
comp=Z,262nm,1.6s,mb5.4
HINF **Hinteralfeld** 27.05 85 *e*P P 15 44 25.8 -1.1
HINF pmax pmax
comp=Z,131nm,1.6s,mb5.4
HINF **Hinteralfeld** 27.05 85 *e*P P 15 44 25.8 -1.1
comp=Z,131nm,1.6s,mb5.4
ACCN **Adirondack Com** 27.05 263 *e*P P 15 44 26.6 -0.3
ACCN **Adirondack Com** 27.05 263 *e*P P 15 44 26.6 -0.4
EJIF **Jimena Fronter** 27.05 118 P P 15 44 26.6 -0.4
EVIA **Vianos** 27.06 111 P P 15 44 26.8 -0.2
EVIA pmax pmax
comp=Z,32nm,1.0s,mb5.0
EVIA **Vianos** 27.06 111 P P 15 44 26.8 -0.2
comp=Z,32nm,1.0s,mb5.0
EVIA **Vianos** 27.06 111 P P 15 44 26.8 -0.2
comp=Z,32nm,1.0s,mb5.0
LANF **Langenberg** 27.07 83 *e*P P 15 44 28.0 +0.9
ERTA **Horta de San J** 27.09 104 P P 15 44 28.6 +1.2
comp=Z,38nm,1.1s,mb5.0
ERTA **Horta de San J** 27.09 104 P P 15 44 28.5 +1.2
comp=Z,38nm,1.1s,mb5.0
LRDF **Laroque-de-Fa** 27.14 98 *e*P P 15 44 28.2 +0.5
EMIR **Miracle** 27.17 101 P P 15 44 32.2 +4.1
CABF **La Chapelle** 27.19 88 *e*P P 15 44 27.1 -1.1
comp=Z,557nm,1.9s,mb5.7
CABF **La Chapelle** 27.19 88 *e*P P 15 44 27.1 -1.1
CABF pmax pmax
comp=Z,278nm,1.9s,mb5.7
CABF **La Chapelle** 27.19 88 *e*P P 15 44 27.1 -1.1
comp=Z,278nm,1.9s,mb5.7
MOF **Molkenrain** 27.20 85 *e*P P 15 44 29.1 +0.8
ELOJ **Sierra Loja** 27.23 115 P P 15 44 28.4 -0.2
COP **Copenhagen** 27.25 67 *i* P P 15 44 21.4 -7.3
COP *i* S S 15 49 11.9 +3.2
COP LR LR
comp=Z,5µm,20.0s
COP **Copenhagen** 27.25 67 *e*P P 15 44 21.4 -7.3
COP *i* S S 15 49 11.9 +3.2
COP LR LR
comp=Z,5µm,20.0s,MS5.0
LASF **Ste Croix** 27.25 95 *e*P P 15 44 27.8 -0.9
comp=Z,357nm,1.7s,mb5.5
LOMF **Lomont** 27.26 86 *e*P P 15 44 29.3 +0.5
EPOB **Poblet** 27.27 102 P P 15 44 29.1 +0.2
EPOB **Poblet** 27.27 102 P P 15 44 29.1 +0.2
VIVF **Saint-Julien-l** 27.29 93 *e*P P 15 44 28.3 -0.8
comp=Z,656nm,1.9s,mb5.7
VIVF **Saint-Julien-l** 27.29 93 *e*P P 15 44 28.3 -0.8
VIVF pmax pmax
comp=Z,328nm,1.9s,mb5.7
VIVF **Saint-Julien-l** 27.29 93 *e*P P 15 44 28.3 -0.8
comp=Z,328nm,1.9s,mb5.7
EMIJ **Mijas** 27.34 117 P P 15 44 29.8 +0.3
comp=Z,127nm,1.3s,mb5.5
EMIJ **Mijas** 27.34 117 P P 15 44 29.8 +0.3
comp=Z,127nm,1.3s,mb5.5
EQES **Quesada** 27.34 113 P P 15 44 29.2 -0.3
EQES **Quesada** 27.34 113 P P 15 44 29.2 -0.3
CLZ **Clausthal** 27.37 75 *e*P P 15 44 30.9 +1.1
comp=Z,181nm,1.5s,mb5.6
CLZ **Clausthal** 27.37 75 *e*P P 15 44 30.9 +1.1
CLZ pmax pmax
comp=Z,181nm,1.5s,mb5.6
ECOG **Cogollos-Vega** 27.45 114 P P 15 44 31.4 +0.8
ERON **Agron** 27.51 115 P P 15 44 31.7 +0.6
comp=Z,5.4nm,0.5s,mb4.6
ETOB **Tobarra** 27.58 110 P P 15 44 33.2 +1.5
comp=Z,27nm,1.0s,mb5.0
ETOB **Tobarra** 27.58 110 P P 15 44 33.2 +1.5
comp=Z,27nm,1.0s,mb5.0
EHUE **Huescar** 27.59 112 P P 15 44 31.5 -0.3
SJAF **Saint Jean de** 27.61 99 *e*P P 15 44 32.3 +0.3
EJON **La Jonquera** 27.64 99 P P 15 44 33.2 +1.0
BFO **Black Forest** 27.68 83 P P 15 44 33.9 +1.3
comp=Z,233nm,1.5s,mb5.8,SNR=8.4
BFO **Black Forest** 27.68 83 *e*P P 15 44 33.3 +0.7
comp=Z,174nm,1.6s,mb5.6
BFO **Black Forest** 27.68 83 *e*P P 15 44 33.3 +0.7
BFO pmax pmax
comp=Z,174nm,1.6s,mb5.6
OG01 **Vacheresse** 27.69 88 *e*P P 15 44 32.5 -0.2
FELD **Feldberg im Sc** 27.70 84 *e*P P 15 44 33.4 +0.6
GRN **Grenoble** 27.71 91 *e*P P 15 44 33.4 +0.5
EGUA **Guajares** 27.78 115 P P 15 44 33.3 -0.2
SULZ **Sulz-Cheisache** 27.93 85 ⇓P P 15 44 35.3 +0.4
ORIF **Oris-en-Rattie** 27.97 92 *e*P P 15 44 34.3 -0.9
comp=Z,437nm,1.8s,mb5.7
ORIF eR
comp=Z,15µm,21.8s
ORIF **Oris-en-Rattie** 27.97 92 *e*P P 15 44 34.3 -0.9
ORIF pmax pmax
comp=Z,218nm,1.8s,mb5.7
ORIF **Oris-en-Rattie** 27.97 92 *e*P P 15 44 34.3 -0.9
comp=Z,218nm,1.8s,mb5.7
STU **Stuttgart** 27.98 82 *e*P P 15 44 36.0 +0.7
STU **Stuttgart** 27.98 82 *e*P P 15 44 34.5 -0.8
STU **Stuttgart** 27.98 82 *e*P P 15 44 34.5 -0.8
RSL **Roselend** 27.99 90 *e*P P 15 44 35.8 +0.4
SLE **Schleitheim** 28.04 84 ⇑P P 15 44 35.7 -0.1
EBER **Berja** 28.10 114 P P 15 44 36.1 -0.3
EBER **Berja** 28.10 114 P P 15 44 36.1 -0.2
LPL **La Plagne** 28.15 90 *e*P P 15 44 36.1 -0.7
comp=Z,269nm,1.7s,mb5.5
LPL **La Plagne** 28.15 90 *e*P P 15 44 36.1 -0.7
LPL pmax pmax
comp=Z,135nm,1.7s,mb5.5
LPL **La Plagne** 28.15 90 *e*P P 15 44 36.1 -0.7
comp=Z,135nm,1.7s,mb5.5
LPG **La Plagne** 28.17 90 *e*P P 15 44 36.4 -0.6
comp=Z,407nm,1.8s,mb5.7
LPG **La Plagne** 28.17 90 *e*P P 15 44 36.4 -0.6
LPG pmax pmax
comp=Z,204nm,1.8s,mb5.7
LPG **La Plagne** 28.17 90 *e*P P 15 44 36.4 -0.6
comp=Z,204nm,1.8s,mb5.7
LKBD **Leukerbad** 28.22 88 ⇑P P 15 44 38.5 +1.1
DIX **Grande Dixence** 28.25 88 ⇓P P 15 44 39.3 +1.6
SMRF **Simiane la Rot** 28.32 93 *e*P P 15 44 38.1 -0.2
comp=Z,436nm,1.8s,mb5.7
SMRF **Simiane la Rot** 28.32 93 *e*P P 15 44 38.1 -0.2
comp=Z,436nm,1.8s,mb6.0
EMUR **La Murta** 28.32 110 P P 15 44 39.0 +0.6
EMUR **La Murta** 28.32 110 P P 15 44 39.0 +0.7
BNI **Bardonecchia** 28.37 91 *e*P P 15 44 39.5 +0.7
BNI pmax pmax
comp=Z,47nm,1.2s,mb5.2
BNI **Bardonecchia** 28.37 91 *e*P P 15 44 39.5 +0.7
comp=Z,47nm,1.2s,mb5.2
BNI **Bardonecchia** 28.37 91 *e*P P 15 44 39.5 +0.7
comp=Z,47nm,1.2s,mb5.2
ENIJ **Nijar** 28.41 113 P P 15 44 39.1 -0.1
WILA **Wila** 28.46 85 ⇓P P 15 44 41.1 +1.6
MUO **Muotathal** 28.52 86 ⇓P P 15 44 42.1 +2.0
MOX **Moxa** 28.56 77 *e*P P 15 44 41.4 +0.9
comp=Z,226nm,2.3s,mb5.6
MOX **Moxa** 28.56 77 *e*P P 15 44 40.7 +0.2
comp=Z,223nm,2.4s,mb5.6
MOX
comp=Z,6µm,21.0s
MOX **Moxa** 28.56 77 *e*P P 15 44 40.7 +0.2
MOX pmax pmax
comp=Z,223nm,2.4s,mb5.6
MOX MLR MLR
comp=Z,6µm,21.0s,MS5.2
MMK **Mattmark** 28.60 88 ⇑P P 15 44 43.0 +2.2
MBDF **Montbardon** 28.60 91 *e*P P 15 44 40.0 -0.8
comp=Z,176nm,1.4s,mb5.4
MBDF **Montbardon** 28.60 91 *e*P P 15 44 40.0 -0.8
MBDF pmax pmax
comp=Z,88nm,1.4s,mb5.4
MBDF **Montbardon** 28.60 91 *e*P P 15 44 40.0 -0.8
comp=Z,88nm,1.4s,mb5.4
EALB **Alboran** 28.73 115 P P 15 44 42.0 0.0
EALB **Alboran** 28.73 115 P P 15 44 42.0 0.0
GRFO **Grafenberg** 28.75 79 *e*P P 15 44 42.1 0.0
GRFO pmax pmax
comp=Z,160nm,1.7s,mb5.6
GRFO MLR MLR
comp=Z,6µm,19.0s,MS5.2
GRFO **Grafenberg** 28.75 79 *e*P P 15 44 42.1 0.0
comp=Z,160nm,1.7s,mb5.6
GRFO LR LR
comp=Z,6µm,19.0s,MS5.2
GRFO **Grafenberg** 28.75 79 *e*P P 15 44 42.1 0.0
comp=Z,160nm,1.7s,mb5.6
GRA1 **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
comp=Z,222nm,1.8s,mb5.7
GRA1 *e*pP 15 44 46.7
GRA1 LR LR
comp=Z,7µm,18.6s,MS5.3
GRA1 **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
comp=Z,222nm,1.8s,mb5.7
GRA1 *e*pP 15 44 46.7
GRF **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
comp=Z,222nm,1.8s,mb5.7
GRF *e*pP 15 44 46.7
GRF *e*L 15 55 14.7
comp=Z,7µm,18.6s
GRF **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
GRF *e**PP 15 44 46.7
GRF pmax pmax
comp=Z,222nm,1.8s,mb5.7
GRF MLR MLR
comp=Z,7µm,18.6s,MS5.3
GRF **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
GRF *e**PP 15 44 46.7
GRF pmax pmax
comp=Z,222nm,1.8s,mb5.7
GRF MLR MLR
comp=Z,7µm,18.6s,MS5.3
GRF **Grafenberg Arr** 28.75 79 *e*P P 15 44 43.3 +1.2
comp=Z,222nm,1.8s,mb5.7
GRF *e*pP 15 44 46.7
SURF **Saint Ours** 28.77 92 *e*P P 15 44 43.3 +1.0
BSD **Bornholm Skovb** 28.77 67 *i* P P 15 44 44.1 +1.8
comp=Z,65nm,1.2s,mb5.3
BSD
comp=Z,8µm,19.0s
BSD **Bornholm Skovb** 28.77 67 *e*P P 15 44 44.1 +1.8
BSD pmax pmax
comp=Z,65nm,1.2s,mb5.3
BSD **Bornholm Skovb** 28.77 67 *e*P P 15 44 44.1 +1.8
comp=Z,65nm,1.2s,mb5.3
LLS **Linth-Limmern** 28.80 86 ⇓P P 15 44 44.8 +2.2
ORO **Oropa** 28.83 89 P P 15 44 45.3 +2.4
ORO pmax pmax
comp=Z,208nm,1.2s,mb5.8
ORO **Oropa** 28.83 89 P P 15 44 45.3 +2.4
comp=Z,208nm,1.2s,mb5.8
TRO **Tromso** 28.91 36 *e*P P 15 44 43.5 -0.1
TRO *e*S S 15 49 35.5 +0.5
TRO AMS AMS 15 53 44.5
comp=Z,2µm,21.4s,MS4.6
DOI **San Damiano** 29.01 91 P P 15 44 45.8 +1.3
DOI pmax pmax
comp=Z,106nm,1.4s,mb5.5
DOI **San Damiano** 29.01 91 P P 15 44 45.8 +1.3
comp=Z,106nm,1.4s,mb5.5
CLL **Collm** 29.09 75 *e*P P 15 44 45.6 +0.5
comp=Z,102nm,1.4s,mb5.5
CLL **Collm** 29.09 75⇑*i*P P 15 44 45.5 +0.4
CLL *i* 15 44 49.7
CLL *e*S S 15 49 37.0 -0.7
CLL pmax pmax
comp=Z,52nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,8µm,13.5s,MS5.5
CLL **Collm** 29.09 75⇑*i*P P 15 44 45.5 +0.4
comp=Z,52nm,1.1s,mb5.3
CLL *i* 15 44 49.7
CLL *e*S S 15 49 37.0 -0.7
CLL LR LR
comp=Z,8µm,13.5s,MS5.5
CLL **Collm** 29.09 75 *e*P P 15 44 44.0 -1.1
comp=Z,8.0nm,0.7s,mb4.7
CLL ⇑*i*Pmax 15 44 45.5
comp=Z,52nm,1.1s
CLL *i* (sP) sP 15 44 49.7 +4.6
CLL *e*S S 15 49 37.0 -0.7
DAVA **Damuels** 29.09 84⇑*i*P P 15 44 46.1 +0.9
comp=Z,576nm,4.8s
BINY **Binghamton** 29.13 263 PFAKE 15 45 00.0 +14
BINY LR LR
comp=Z,9µm,20.0s,MS5.4
MANZ **Manzenberg** 29.13 78 *e*P P 15 44 46.5 +1.0
TANN **Tannenbergstha** 29.15 77 *e*P P 15 44 46.5 +0.8
comp=Z,119nm,1.5s,mb5.5
FRF **La Foret Royal** 29.19 93 *e*P P 15 44 45.2 -0.9
comp=Z,268nm,1.5s,mb5.5
FRF **La Foret Royal** 29.19 93 *e*P P 15 44 45.2 -0.9
FRF pmax pmax
comp=Z,134nm,1.5s,mb5.5
FRF **La Foret Royal** 29.19 93 *e*P P 15 44 45.2 -0.9
comp=Z,134nm,1.5s,mb5.5
TUE **Stuetta** 29.20 86 P P 15 44 47.7 +1.6
NKC **Novy Kostel** 29.22 77 *e*P P 15 44 47.5 +1.2
NKC AMS AMS 15 55 10.0
comp=Z,9µm,19.6s
LMR **La Mourre** 29.24 94 *e*P P 15 44 45.3 -1.2
comp=Z,193nm,1.6s,mb5.4
LMR **La Mourre** 29.24 94 *e*P P 15 44 45.3 -1.2
LMR pmax pmax
comp=Z,96nm,1.5s,mb5.4
LMR **La Mourre** 29.24 94 *e*P P 15 44 45.3 -1.2
comp=Z,96nm,1.5s,mb5.4
BRNJ **Basking Ridge** 29.25 259 P P 15 44 46.0 -0.6
BRNJ **Basking Ridge** 29.25 259 P P 15 44 46.0 -0.5
BERN **Bernov** 29.26 77 ⇑P P 15 44 51.6 +4.9
VDL **Val di Lei** 29.26 86 ⇓P P 15 44 49.4 +2.7
ROTZ **Rotzenmuhle** 29.29 78 *e*P P 15 44 48.1 +1.2
comp=Z,143nm,1.9s,mb5.5
FUR **Furstenfeldbru** 29.49 82 *e*P P 15 44 49.8 +1.1
comp=Z,161nm,1.4s,mb5.7
FUR **Furstenfeldbru** 29.49 82 *e*P P 15 44 49.8 +1.1
FUR pmax pmax
comp=Z,161nm,1.4s,mb5.7
SBF **Sospel** 29.49 92 *e*P P 15 44 47.1 -1.6
comp=Z,197nm,1.5s,mb5.4
SBF **Sospel** 29.49 92 *e*P P 15 44 47.1 -1.6
SBF pmax pmax
comp=Z,98nm,1.5s,mb5.4
SBF **Sospel** 29.49 92 *e*P P 15 44 47.1 -1.6
comp=Z,98nm,1.5s,mb5.4
BJO1 **Bjornoya** 29.72 26 *e*P P 15 44 57.2 +6.5
BJO1 LR LR
comp=Z,3µm,18.8s,MS5.0
IMI **Imperia** 29.73 92 P P 15 44 51.7 +0.9
comp=Z,41nm,1.0s,mb5.2

FIN Finale Ligure 29.75 91 P **P** **15 44 51.7 +0.7**
FIN pmax pmax
comp=Z,218nm,1.7s,mb5.7
FIN Finale Ligure 29.75 91 P **P** **15 44 51.7 +0.7**
comp=Z,218nm,1.7s,mb5.7
PCP Pian Castagno 29.76 90 P **P** **15 44 53.2 +2.1**
PCP pmax pmax
comp=Z,267nm,2.4s,mb5.7
PCP Pian Castagno 29.76 90 P **P** **15 44 53.2 +2.1**
comp=Z,267nm,2.4s,mb5.7
BJO Bjornoya 29.77 26 *e*P **P** **15 44 51.8 +0.5**
BJO AMS AMS 15 54 07.3
comp=Z,3µm,18.8s,MS5.0
MOTA Moosalm 29.79 83⇓*i*P **P** **15 44 53.1 +1.7**
comp=Z,146nm,1.6s,mb5.6,SNR=9.6
MOTA Moosalm 29.79 83⇓*i*P **P** **15 44 53.1 +1.8**
MOTA pmax pmax
comp=Z,146nm,1.6s,mb5.6
KBS Kingsbay 29.80 17 *e*S **S** **15 49 49.6 +0.6**
KBS AMS AMS 15 54 14.2
comp=Z,1µm,19.6s,MS4.5
KBS Kingsbay 29.80 17 PFAKE 15 45 00.0 +8.5
KBS LR LR
comp=Z,3µm,19.0s,MS4.9
ALE Alert 29.80 353 P **P** **15 44 51.0 -0.5**
comp=Z,123nm,1.2s,mb5.6,SNR=7.3
BRG Berggiesshubel 29.80 75 *e*P **P** **15 44 52.1 +0.6**
comp=Z,162nm,2.1s,mb5.5
BRG Berggiesshubel 29.80 75 *e*P **P** **15 44 51.8 +0.2**
comp=Z,16nm,1.2s,mb4.7
BRG PP PP 15 45 41.0 -18
BRG *e*PCP PcP 15 47 55.5 +0.5
comp=Z,7.5nm,1.2s
BRG S **S** **15 49 43.0 -6.0**
BRG *e* 15 51 40.7
comp=Z,28nm,2.2s
BRG *e* 15 55 33.1
comp=Z,1.1nm,1.9s
BRG
comp=N,2µm,14.9s
BRG
comp=E,3µm,14.1s
BRG
comp=Z,6µm,15.1s
BRG Berggiesshubel 29.80 75 *e*P **P** **15 44 51.8 +0.3**
BRG *e* 15 47 55.6
BRG S **S** **15 49 43.0 -6.0**
BRG *e* 15 51 40.7
BRG *e* 15 55 33.1
BRG pmax pmax
comp=Z,16nm,1.2s,mb4.7
BRG MLR MLR
comp=Z,6µm,15.0s,MS5.3
BRG Berggiesshubel 29.80 75 *e*P **P** **15 44 51.8 +0.2**
comp=Z,16nm,1.2s,mb4.7
BRG PP PP 15 45 41.0 -18
BRG *e*PcP PcP 15 47 55.5 +0.5
BRG S **S** **15 49 43.0 -6.0**
BRG *e* 15 51 40.7
BRG *e* 15 55 33.1
BRG LR LR
comp=Z,6µm,15.0s,MS5.3
SQTA Sankt Quirin 29.91 83⇑*i*P **P** **15 44 53.0 +0.5**
comp=Z,149nm,1.7s,mb5.5,SNR=7.0
SQTA Sankt Quirin 29.91 83⇑*i*P **P** **15 44 53.0 +0.6**
SQTA pmax pmax
comp=Z,149nm,1.7s,mb5.5
BBSR BB Station 29.93 236 PFAKE 15 45 00.0 +7.4
BBSR LR LR
comp=Z,6µm,22.0s,MS5.2
WET Wettzell 29.96 79 *e*P **P** **15 44 53.8 +0.9**
comp=Z,75nm,1.5s,mb5.3
WET Wettzell 29.96 79 *e*P **P** **15 44 53.8 +0.9**
WET pmax pmax
comp=Z,75nm,1.5s,mb5.3
MABI Malga Bissina 30.10 86 P **P** **15 44 56.2 +2.1**
comp=Z,184nm,3.6s
WTTA Wattenberg 30.14 83⇓*i*P **P** **15 44 55.6 +1.1**
comp=Z,1µm,5.2s,SNR=14
WTTA Wattenberg 30.14 83⇓*i*P **P** **15 44 55.6 +1.1**
WTTA pmax pmax
comp=Z,1µm,5.2s
BOB Bobbio (Coli) 30.17 89 P **P** **15 44 57.2 +2.5**
BOB pmax pmax
comp=Z,417nm,2.4s,mb5.8
BOB Bobbio (Coli) 30.17 89 P **P** **15 44 57.2 +2.5**
comp=Z,416nm,2.4s,mb5.8
APPI Appiano 30.30 85 P **P** **15 44 58.2 +2.3**
comp=Z,267nm,2.4s,mb5.7
PVCC Panska Ves 30.31 76 *e*P **P** **15 44 56.8 +0.8**
PVCC AMS AMS 15 57 40.0
comp=Z,9µm,14.3s
KHC Kasperske Hory 30.37 79 *e*P **P** **15 44 56.8 +0.3**
KHC x x 15 45 52.5
KHC AMS AMS 15 56 20.0
comp=Z,8µm,18.1s
KHC Kasperske Hory 30.37 79 *e*P **P** **15 44 55.9 -0.6**
KHC Kasperske Hory 30.37 79 *e*P **P** **15 44 56.8 +0.3**
KHC *e* 15 45 52.5
KHC LR LR
comp=Z,8µm,18.1s,MS5.4
PRU Pruhonice 30.54 77 *e*P **P** **15 44 58.9 +0.9**
PRU AMS AMS 15 56 20.0
comp=Z,8µm,17.4s
GEC2 GERESS Array S 30.58 79 *e*P **P** **15 44 59.4 +1.1**
comp=Z,116nm,1.6s,mb5.6
GEC2 GERESS Array S 30.58 79 *e*P **P** **15 44 59.4 +1.1**
GEC2 pmax pmax
comp=Z,116nm,1.6s,mb5.6
GERES GERESS Array B 30.58 79 P **P** **15 44 57.3 -1.0**
comp=Z,12nm,1.0s,mb4.8,baz=302,slow=7.7,SNR=40
GERES LR LR 15 56 57.3
comp=Z,8µm,18.1s,MS5.4,baz=284,slow=36
GERES GERESS Array B 30.58 79 P **P** **15 44 57.3 -1.0**
GERES LR LR 15 56 57.3
GKP Gorka Klasztor 30.69 69 *e*P **P** **15 45 01.4 +2.0**
GKP L 15 57 46.3
comp=Z,14nm,17.3s
MVL Millersville 30.73 260 *e*P **P** **15 44 59.6 0.0**
MVL Millersville 30.73 260 *e*P **P** **15 44 59.6 -0.1**
SEST Monte Rota 30.75 84 P **P** **15 45 02.1 +2.3**
comp=Z,2µm,5.3s
CTI Castel Tesino 30.78 85 P **P** **15 45 01.6 +1.5**
CTI pmax pmax
comp=Z,105nm,1.5s,mb5.5
CTI Castel Tesino 30.78 85 P **P** **15 45 01.6 +1.5**
comp=Z,105nm,1.5s,mb5.5
ERBM Eremo 30.93 89 P **P** **15 45 03.9 +2.4**
comp=Z,899nm,2.7s,mb6.2
EBNR Beni Rached 30.98 109 P **P** **15 45 05.2 +3.3**
EANR 'Ain N'Sour 30.98 110 P **P** **15 45 03.2 +1.3**
ECHA Ech Chlef 30.99 110 P **P** **15 45 04.8 +2.9**
VLC Villacollemand 31.07 89 *e*P **P** **15 45 02.3 -0.3**
comp=Z,105nm,1.4s,mb5.6
VLC Villacollemand 31.07 89 *e*P **P** **15 45 02.3 -0.3**
comp=Z,105nm,1.4s,mb5.6
GSCL Gusciola 31.08 89 P **P** **15 45 03.5 +0.8**
comp=Z,77nm,1.2s,mb5.5
RES Resolute Bay 31.09 334 P **P** **15 45 03.4 +0.5**
RES Resolute Bay 31.09 334 *e*P **P** **15 45 03.1 +0.3**
comp=Z,5µm,1.4s
RES Resolute Bay 31.09 334 *e*P **P** **15 45 03.1 +0.2**
comp=Z,5µm,1.4s
UPC Upice 31.15 75 *e*P **P** **15 45 02.8 -0.6**
FVI Forni Avoltri 31.16 83 P **P** **15 45 05.3 +1.8**
FVI pmax pmax
comp=Z,467nm,2.6s,mb6.0
FVI Forni Avoltri 31.16 83 P **P** **15 45 05.3 +1.8**
comp=Z,466nm,2.6s,mb6.0
KSP Ksiaz 31.16 74 *e*P **P** **15 45 04.5 +1.0**
comp=Z,1.4nm,4.6s
KSP *e*PP PP 15 45 56.3 -17
KSP *e*S **S** **15 50 18.4 +8.1**
KSP L 15 55 05.9
comp=Z,12nm,26.0s
KSP Ksiaz 31.16 74 *e*P **P** **15 45 04.2 +0.7**
KSP *e*S **S** **15 50 07.0 -3.3**
PGF Pioggiola 31.18 93 *e*P **P** **15 45 02.5 -1.2**
comp=Z,98nm,1.3s,mb5.3
PGF Pioggiola 31.18 93 *e*P **P** **15 45 02.5 -1.2**
PGF pmax pmax
comp=Z,49nm,1.3s,mb5.3
PGF Pioggiola 31.18 93 *e*P **P** **15 45 02.5 -1.2**
comp=Z,49nm,1.3s,mb5.3
ARCES ARCESS Array B 31.22 36 P **P** **15 45 02.7 -1.3**
comp=Z,34nm,1.0s,mb5.2,baz=265,slow=8.4,SNR=22
ARCES LR LR 15 56 26.1
comp=Z,930nm,18.2s,MS4.5,baz=262,slow=34
ARE0 ARCESS Array S 31.22 36 *e*P **P** **15 45 03.1 -0.9**
ARE0 ARCESS Array S 31.22 36 *e*P **P** **15 45 03.1 -0.9**
SSPA Standing Stone 31.22 263 *e*P **P** **15 45 03.6 -0.4**
comp=Z,285nm,2.0s,mb5.8
SSPA LR LR
comp=Z,8µm,19.0s,MS5.4
SSPA Standing Stone 31.22 263 *e*P **P** **15 45 03.6 -0.4**
comp=Z,285nm,2.0s,mb5.8
KBA Koelnbreinsper 31.24 82⇑*i*P **P** **15 45 05.7 +1.5**
comp=Z,1µm,5.2s
KBA Koelnbreinsper 31.24 82⇑*i*P **P** **15 45 05.7 +1.5**
KBA pmax pmax
comp=Z,1µm,5.2s
MAIM 31.27 89 P **P** **15 45 05.5 +1.1**
comp=Z,471nm,2.8s,mb5.9
ZCCA Zocca 31.31 88 P **P** **15 45 07.3 +2.5**
comp=Z,110nm,1.3s,mb5.6
MOA Molln 31.39 80⇑*i*P **P** **15 45 04.9 -0.6**
comp=Z,298nm,2.5s,mb5.8,SNR=18
DPC Dobruska-Polom 31.40 75 *e*P **P** **15 45 05.1 -0.5**
DPC AMS AMS 15 58 00.0
comp=Z,6µm,14.6s
PII Pisa 31.40 90 P **P** **15 45 06.4 +0.8**
PII pmax pmax
comp=Z,583nm,2.4s,mb6.1
PII Pisa 31.40 90 P **P** **15 45 06.4 +0.8**
comp=Z,583nm,2.4s,mb6.1
ETRT Tiaret 31.50 111 P **P** **15 45 06.9 +0.4**
PTCC Patocco-Chiusa 31.59 83 P **P** **15 45 08.5 +1.2**
comp=Z,128nm,1.9s,mb5.5
KEV Kevo 31.73 36 *e*p **P** **15 45 05.4 -3.1**
comp=Z,10.0nm,0.8s,mb4.8
KEV Kevo 31.73 36 *e*P **P** **15 45 05.4 -3.1**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KEV Kevo 31.73 36 P **P** **15 45 08.8 +0.3**
comp=Z,10.0nm,0.8s,mb4.8
OUL Oulu 31.78 45 P **P** **15 45 08.4 -0.6**
VMG Vicchio 31.86 89 P **P** **15 45 12.3 +2.6**
comp=Z,99nm,1.4s,mb5.5
CADS Cadrg 31.91 83 *e*P **P** **15 45 10.0 -0.1**
CADS *e* 15 50 29.3
CSNT Castellina Chi 32.00 90 P **P** **15 45 14.4 +3.6**
comp=Z,164nm,1.6s,mb5.7
FCC Fort Churchill 32.01 303 *e*P **P** **15 45 11.3 +0.3**
FCC pmax pmax
comp=Z,195nm,1.4s,mb5.8
FCC Fort Churchill 32.01 303 *e*P **P** **15 45 11.3 +0.3**
comp=Z,195nm,1.4s,mb5.8
FCC Fort Churchill 32.01 303 *e*P **P** **15 45 11.3 +0.3**
comp=Z,195nm,1.4s,mb5.8
VRAC Vranov 32.03 77 P **P** **15 45 10.6 -0.6**
comp=Z,2.8nm,0.6s,baz=302,slow=8.0,SNR=12
VRAC Vranov 32.03 77⇑*i*P **P** **15 45 11.8 +0.6**
VRAC Vranov 32.03 77⇑P **P** **15 45 11.8 +0.7**
KRUC Moravsky 32.04 77 P **P** **15 45 12.3 +1.1**
SFI Santa Sofia 32.08 88 P **P** **15 45 13.2 +1.7**
SFI pmax pmax
comp=Z,245nm,1.5s,mb5.9
SFI Santa Sofia 32.08 88 P **P** **15 45 13.2 +1.7**
comp=Z,245nm,1.5s,mb5.9
VOY Vojsko 32.11 84 *e*P **P** **15 45 11.3 -0.5**
VOY *e* 15 45 15.8
VOY *e* 15 45 37.3
VOY Vojsko 32.11 84 *e*P **P** **15 45 11.3 -0.5**
VOY *e* 15 45 15.8
MEF Metsahovi 32.15 54 P **P** **15 45 15.2 +3.0**
TRI Trieste 32.21 84 P **P** **15 45 12.6 -0.1**
OBKA Obir 32.24 82⇑*i*P **P** **15 45 13.4 +0.4**
comp=Z,714nm,4.2s,SNR=10
CRE Caprese Michel 32.30 89 P **P** **15 45 14.6 +1.1**
CRE pmax pmax
comp=Z,75nm,1.4s,mb5.4
CRE Caprese Michel 32.30 89 P **P** **15 45 14.6 +1.1**
comp=Z,74nm,1.4s,mb5.4
MORC Moravsky Berou 32.36 75⇓*i*P **P** **15 45 13.4 -0.6**
MORC Moravsky Berou 32.36 75 P **P** **15 45 15.4 +1.4**
MORC Moravsky Berou 32.36 75 ⇓P **P** **15 45 13.4 -0.6**
RSM Repubblica di 32.42 88 P **P** **15 45 16.2 +1.6**
RSM pmax pmax
comp=Z,181nm,1.3s,mb5.8
RSM Repubblica di 32.42 88 P **P** **15 45 16.2 +1.6**
comp=Z,181nm,1.3s,mb5.8
ARSA Arserg 32.43 81⇑*i*P **P** **15 45 15.7 +1.0**
comp=Z,627nm,4.7s,SNR=10.0
LJU Ljubljana 32.48 83 *e*P **P** **15 45 15.0 -0.1**
PERS Pernice 32.51 82 *e*P **P** **15 45 15.6 +0.2**
PERS *e* 15 46 28.9
CBN Corbin 32.51 259 PFAKE 15 45 30.0 +15
CBN LR LR
comp=Z,6µm,22.0s,MS5.3
KAF Kangasniemi 32.56 50 *e*p **P** **15 45 15.4 -0.4**
comp=Z,58nm,1.0s,mb5.5,baz=282,slow=9.1
KAF Kangasniemi 32.56 50 *e*P **P** **15 45 15.4 -0.4**
KAF pmax pmax
comp=Z,59nm,1.0s,mb5.5
CEY Cerknica 32.58 84 *e*P **P** **15 45 16.0 0.0**
FINES FINESS Array B 32.62 52 P **P** **15 45 15.2 -1.2**
comp=Z,20nm,0.9s,mb5.1,baz=343,slow=6.0,SNR=30
FINES LR LR 15 57 02.5
comp=Z,5µm,20.7s,MS5.2,baz=283,slow=34
FINES FINESS Array B 32.62 52 P **P** **15 45 15.1 -1.2**
FIA1 FINESS Array S 32.62 52 *e*P **P** **15 45 16.6 +0.3**
FIA1 FINESS Array S 32.62 52 *e*P **P** **15 45 16.6 +0.2**
OKC Ostrava-Krasne 32.68 75 *e*P **P** **15 45 17.9 +1.1**
OKC AMS AMS 15 59 00.0
comp=Z,6µm,14.4s
FSSB Fossombrone 32.75 88 P **P** **15 45 18.3 +0.8**
SOP Sopron 32.81 79⇑*e*P **P** **15 45 18.2 +0.2**
SOP Sopron 32.81 79 P **P** **15 45 18.8 +0.8**
ZST Bratislava 32.87 78 *e*P **P** **15 45 19.7 +1.2**
ZST *e*PCP PcP 15 48 04.7 +1.5
ZST Bratislava 32.87 78 *e*P **P** **15 45 19.7 +1.2**
ZST *e* 15 48 04.7
ZST pmax pmax
comp=Z,33nm,1.3s,mb5.1
ZST MLR MLR
comp=Z,6µm,14.3s,MS5.4
ZST Bratislava 32.87 78 *e*P **P** **15 45 19.7 +1.2**
comp=Z,33nm,1.3s,mb5.1
ZST *e*PcP PcP 15 48 04.7 +1.5
ZST LR LR
comp=Z,6µm,14.3s,MS5.4
ZST Bratislava 32.87 78 *e*P **P** **15 45 19.7 +1.2**
comp=Z,33nm,1.3s,mb5.1
JAVC Velka Javorina 32.87 77 P **P** **15 45 20.0 +1.5**
MCWV Mont Chateau 33.00 263 *e*P **P** **15 45 19.7 +0.1**
comp=Z,200nm,1.5s,mb5.8
MCWV LR LR
comp=Z,13µm,19.0s,MS5.7
MCWV Mont Chateau 33.00 263 *e*P **P** **15 45 19.7 +0.1**
comp=Z,200nm,1.5s,mb5.8
SNTG Esanatoglia 33.10 89 P **P** **15 45 21.1 +0.6**
comp=Z,180nm,1.6s,mb5.8
CRES Cresnjev 33.14 83 P **P** **15 45 22.2 +1.3**
CING Cingoli 33.18 88 P **P** **15 45 22.1 +0.9**
comp=Z,99nm,1.4s,mb5.5
BOJS Bojanci 33.20 83 *e*P **P** **15 45 21.4 0.0**
SET Setif 33.23 105 P **P** **15 45 23.0 +1.4**
TOLF Tolfa 33.25 91 P **P** **15 45 22.9 +1.1**
comp=Z,170nm,1.3s,mb5.8
DFRA Djebel Bou Aff 33.26 104 P **P** **15 45 26.0 +4.1**
KOGS Kog 33.27 81 *e*P **P** **15 45 20.3 -1.7**
VSL Villasalto 33.31 97 *e*P **P** **15 45 20.9 -1.5**
comp=Z,157nm,1.6s,mb5.7
VSL Villasalto 33.31 97 *e*P **P** **15 45 20.9 -1.5**
comp=Z,157nm,1.6s,mb5.7
OJC Ojcow 33.44 73 *e*P **P** **15 45 23.9 +0.4**
MNS Montasola 33.46 90 P **P** **15 45 24.3 +0.6**
MNS pmax pmax
comp=Z,236nm,1.9s,mb5.8
MNS Montasola 33.46 90 P **P** **15 45 24.3 +0.6**
comp=Z,236nm,1.9s,mb5.8
AAM Ann Arbor 33.60 270 PFAKE 15 45 40.0 +15
AAM LR LR
comp=Z,17µm,20.0s,MS5.8
LIKS Likavka 33.60 75 *e*P **P** **15 45 25.0 +0.1**
LIKS pmax pmax
comp=Z,38nm,1.2s,mb5.2
LIKS Likavka 33.60 75 *e*P **P** **15 45 25.0 +0.1**
comp=Z,38nm,1.2s,mb5.2
SUW Suwalki 33.65 65 *e*P **P** **15 45 25.6 +0.3**
SUW *e*pP 15 45 30.1
SUW *e*PP PP 15 46 41.1 -0.2
SUW *e*PcP PcP 15 47 52.0 -13
SUW L 15 56 13.4
comp=Z,4.8nm,27.0s
SUW Suwalki 33.65 65 *e*P **P** **15 45 25.6 +0.3**
SUW *e**PP 15 45 30.1
SUW *e* 15 46 41.1
SUW Suwalki 33.65 65 *e*P **P** **15 45 24.0 -1.3**
comp=Z,124nm,1.1s,mb5.8
SUW Suwalki 33.65 65 *e*P **P** **15 45 24.0 -1.3**
comp=Z,124nm,1.1s,mb5.8
CAEH 'Ain El Ouahch 33.66 103 P **P** **15 45 28.0 +2.6**
MTCE Montecelio 33.72 91 P **P** **15 45 26.9 +1.0**
comp=Z,91nm,0.5s,mb6.0
VYHS Vyhne 33.72 76 *e*P **P** **15 45 26.8 +0.8**
VYHS pmax pmax
comp=Z,59nm,1.7s,mb5.2
VYHS MLR MLR
comp=Z,5µm,18.8s,MS5.2
VYHS Vyhne 33.72 76 *e*P **P** **15 45 26.8 +0.8**
comp=Z,58nm,1.7s,mb5.2
VYHS LR LR
comp=Z,5µm,18.8s,MS5.2
VYHS Vyhne 33.72 76 *e*P **P** **15 45 26.8 +0.8**
comp=Z,58nm,1.7s,mb5.2
VSU Vasula 33.83 57 *e*P **P** **15 45 26.2 -0.7**
CKFL Kef-Lekhel 33.85 104 P **P** **15 45 28.0 +1.0**
CERT Cerreto 33.90 90 P **P** **15 45 28.3 +0.8**
comp=Z,98nm,1.1s,mb5.7
CTEI Djebel Teioual 33.90 104 P **P** **15 45 29.0 +1.5**
AQU L'Aquila 33.91 90 *e*P **P** **15 45 28.3 +0.7**
AQU pmax pmax
comp=Z,53nm,1.0s,mb5.4
AQU L'Aquila 33.91 90 *e*P **P** **15 45 28.3 +0.8**
comp=Z,53nm,1.0s,mb5.4
AQU L'Aquila 33.91 90 *e*P **P** **15 45 28.3 +0.7**
comp=Z,53nm,1.0s,mb5.4
CMER Merouana 33.93 105 P **P** **15 45 30.0 +2.3**
CMAH Djebel Manchou 34.09 103 P **P** **15 45 27.0 -2.2**
NIE Niedzica 34.12 74 *e*P **P** **15 45 31.0 +1.6**
NIE Niedzica 34.12 74 P **P** **15 45 30.0 +0.6**
APA Apatity 34.32 39⇓*i*P **P** **15 45 31.0 -0.2**
APA *i* 15 45 35.2
APA *e*S **S** **15 50 54.0 -5.5**
APA pmax pmax
comp=Z,130nm,1.2s,mb5.7
BUD Budapest 34.35 78⇑*e*P **P** **15 45 32.3 +0.9**
PSZ Piszkesteto 34.63 77⇓*i*P **P** **15 45 33.6 -0.2**
PSZ Piszkesteto 34.63 77 P **P** **15 45 35.2 +1.4**
PSZ pmax pmax
comp=Z,100nm,1.6s,mb5.5
PSZ Piszkesteto 34.63 77⇑*e*P **P** **15 45 33.1 -0.7**
STHS Stebnicka Huta 34.65 74 *e*P **P** **15 45 34.0 0.0**
STHS *e*PCP PcP 15 48 07.5 -0.8
STHS Stebnicka Huta 34.65 74 *e*P **P** **15 45 34.1 +0.1**
STHS *e* 15 48 07.5
STHS pmax pmax
comp=Z,16nm,1.1s,mb4.9
STHS Stebnicka Huta 34.65 74 *e*P **P** **15 45 34.1 +0.1**
comp=Z,16nm,1.1s,mb4.8
STHS *e*PcP PcP 15 48 07.5 -0.8
STHS Stebnicka Huta 34.65 74 *e*P **P** **15 45 34.1 +0.1**
comp=Z,16nm,1.1s,mb4.8
STHS Stebnicka Huta 34.65 74 *e*PcP PcP 15 48 07.5 -0.8
KECS Kecovo 34.68 76 *e*P **P** **15 45 35.3 +1.1**
KECS *e*PP PP 15 47 01.6 +8.9
KECS *e*PCP PcP 15 48 05.2 -3.2
KECS Kecovo 34.68 76 *e*P **P** **15 45 35.4 +1.2**
KECS *e* 15 48 05.2
KECS pmax pmax
comp=Z,26nm,2.0s,mb4.8
KECS Kecovo 34.68 76 *e*P **P** **15 45 35.4 +1.2**
comp=Z,26nm,2.0s,mb4.8
KECS *e*PP PP 15 47 01.6 +8.9
KECS *e*PcP PcP 15 48 05.2 -3.2
PKSM Moragy 34.80 80⇓*i*P **P** **15 45 35.8 +0.5**
PKSM Moragy 34.80 80 ⇓P **P** **15 45 35.8 +0.5**
CNNC Cliffs of the 34.87 255 *e*P **P** **15 45 35.4 -0.4**
comp=Z,337nm,1.6s,mb6.0
CNNC LR LR
comp=Z,12µm,19.0s,MS5.7
CNNC Cliffs of the 34.87 255 *e*P **P** **15 45 35.4 -0.5**
comp=Z,337nm,1.6s,mb6.0
BLA Blacksburg 34.96 260 *e*P **P** **15 45 36.1 -0.6**
BLA MLR MLR
comp=Z,8µm,20.0s,MS5.5
EYMN Ely 35.06 284 *e*P **P** **15 45 36.6 -0.9**
comp=Z,344nm,1.5s,mb6.1
EYMN LR LR
comp=Z,3µm,22.0s,MS5.1
EYMN Ely 35.06 284 *e*P **P** **15 45 36.6 -0.9**
comp=Z,344nm,1.5s,mb6.1
PUL Pulkovo 35.12 53*de*P **P** **15 45 39.7 +1.6**
PUL *e*S **S** **15 51 15.8 +4.0**
PUL *e*SS SS 15 53 31.7 -12
PUL *e*SSS 15 53 46.8
KWP Kalwaria 35.37 73 *e*P **P** **15 45 41.9 +1.7**
comp=Z,1.7nm,4.8s
KWP *e*PP PP 15 47 08.0 +7.7
KWP L 15 57 37.0
comp=Z,3.8nm,25.6s
KOLS Kolonicke sedl 35.47 74 *e*P **P** **15 45 42.0 +0.9**
KOLS *e*PP PP 15 47 11.1 +10
KOLS *e*PCP PcP 15 48 14.3 +3.6
KOLS Kolonicke sedl 35.47 74 *e*P **P** **15 45 42.0 +0.9**
KOLS *e*PP PP 15 47 11.1 +10
KOLS *e*PcP PcP 15 48 14.3 +3.6
KOLS *e*PcP PcP 15 48 14.6 +3.9
UZH Uzhgorod 35.64 74 *e*P **P** **15 45 41.0 -1.5**
UZH *e*S **S** **15 51 18.0 -1.7**
UZH MLR MLR
comp=Z,5µm,14.0s,MS5.4
KEST Kesra 35.83 102 P **P** **15 45 43.3 -0.9**
comp=Z,17nm,1.0s,mb4.8,baz=127,slow=0.5,SNR=23
KEST LR LR 15 57 51.7
comp=Z,1µm,20.4s,MS4.7,baz=88,slow=32
MNK Minsk 35.92 63 *e*P **P** **15 45 41.0 -4.0**
LVV L'vov 36.02 72 *e*P **P** **15 45 46.9 +1.1**
LVV *e* 15 47 08.3
LVV *e*PPP 15 47 27.7
LVV *e*S **S** **15 51 27.1 +1.5**
LVV *e*SS SS 15 53 46.7 -16
LVV MLR MLR
comp=E,5µm,16.0s,MS5.4
LVV MLR MLR
comp=N,1µm,15.0s,MS5.4
LVV MLR MLR
comp=Z,6µm,17.0s,MS5.4
STON Ston 36.14 85 *i*P **P** **15 45 45.7 -1.1**
ULM Lac du Bonnet 36.38 290 P **P** **15 45 47.7 -1.2**
comp=Z,46nm,1.2s,mb5.2,baz=66,slow=8.5,SNR=14
ULM PcP PcP 15 48 11.3 -2.1
comp=Z,8.1nm,1.0s,baz=40,slow=3.5,SNR=4.3
ULM LR LR 15 59 24.6
comp=Z,6µm,18.9s,MS5.4,baz=61,slow=34
ULM Lac du Bonnet 36.38 290 *e*P **P** **15 45 48.1 -0.8**
comp=Z,300nm,1.5s,mb5.9
ULM Lac du Bonnet 36.38 290 *e*P **P** **15 45 48.1 -0.8**
comp=Z,300nm,1.5s,mb5.9
BEO Belgrade 36.63 81 *i*P **P** **15 45 51.1 +0.1**
DIVS Divcibare 36.77 82 *i*P **P** **15 45 57.4 +5.2**
CUC Castrocucco 36.80 91 P **P** **15 45 51.6 -0.8**
DRGR 36.85 77⇓*i*P **P** **15 45 52.7 -0.2**
DRGR 36.85 77 ⇓P **P** **15 45 52.7 -0.2**
BZS Buzias 36.86 79⇑*i*P **P** **15 45 52.6 -0.4**
BZS Buzias 36.86 79 ⇑P **P** **15 45 52.6 -0.3**
TMCR Tamitsa 37.07 44 *e*P **P** **15 45 55.3 +0.6**
TMCR pmax pmax
comp=Z,143nm,1.2s,mb5.6
LHS Liberty Hill 37.09 257 P **P** **15 45 57.1 +2.2**
JFWS Jewell Farm 37.14 276 *e*P **P** **15 45 55.4 +0.1**
JFWS pmax pmax
comp=Z,98nm,1.4s,mb5.3
JFWS MLR MLR
comp=Z,16µm,20.0s,MS5.8
JFWS Jewell Farm 37.14 276 *e*P **P** **15 45 55.4 +0.1**
comp=Z,98nm,1.4s,mb5.3
JFWS LR LR
comp=Z,16µm,20.0s,MS5.8
JFWS Jewell Farm 37.14 276 *e*P **P** **15 45 55.4 +0.1**
comp=Z,98nm,1.4s,mb5.3
TZTN Tazewell 37.25 262 *e*P **P** **15 45 56.7 +0.4**
comp=Z,360nm,1.4s,mb5.9
TZTN LR LR

comp=Z,7µm,20.0s,MS5.4
TZTN Tazewell 37.25 262 *e*P **P 15 45 56.7 +0.5**
comp=Z,360nm,1.4s,mb5.9
BLO Bloomington 37.26 268 *e*P **P 15 45 56.4 +0.1**
BLO pmax pmax
comp=Z,27nm,0.8s,mb5.0
BLO Bloomington 37.26 268 *e*P **P 15 45 56.4 0.0**
comp=Z,27nm,0.8s,mb5.0
BLO Bloomington 37.26 268 *e*P **P 15 45 56.4 +0.1**
comp=Z,27nm,0.8s,mb5.0
GRUS Gruza 37.32 82 *i* P **P 15 45 56.5 -0.4**
AGMN Agassiz Refuge 37.37 287 *e*P **P 15 45 57.3 0.0**
comp=Z,232nm,1.7s,mb5.6
AGMN LR LR
comp=Z,7µm,19.0s,MS5.5
AGMN Agassiz Refuge 37.37 287 *e*P **P 15 45 57.3 0.0**
comp=Z,232nm,1.7s,mb5.6
SVIS Svilajnac 37.38 81 *i* P **P 15 45 57.0 -0.4**
JSC Jenkinsville 37.49 257 P **P 15 45 59.1 +0.8**
JSC Jenkinsville 37.49 257 P **P 15 45 55.7 -2.6**
JSC Jenkinsville 37.49 257 P **P 15 45 55.7 -2.6**
FFC Flin Flon 37.56 299 P **P 15 45 59.4 +0.5**
comp=Z,338nm,1.3s,mb5.9,SNR=9.2
NHSC New Hope 37.72 255 *e*P **P 15 45 59.7 -0.5**
comp=Z,682nm,1.4s,mb6.2
NHSC LR LR
comp=Z,5µm,22.0s,MS5.3
NHSC New Hope 37.72 255 *e*P **P 15 45 59.7 -0.5**
comp=Z,682nm,1.4s,mb6.2
WCI Wyandotte Cave 37.74 267 *e*P **P 15 46 00.5 +0.1**
WCI pmax pmax
comp=Z,226nm,1.5s,mb5.7
WCI Wyandotte Cave 37.74 267 *e*P **P 15 46 00.5 +0.1**
comp=Z,226nm,1.5s,mb5.7
WCI Wyandotte Cave 37.74 267 *e*P **P 15 46 00.5 +0.1**
comp=Z,226nm,1.5s,mb5.7
COW Cow Castle Cre 37.81 256 P **P 15 46 00.7 -0.4**
COW Cow Castle Cre 37.81 256 P **P 15 46 00.7 -0.4**
BURAR Bucovina Array 37.84 74⇓ *i*P **P 15 46 01.2 -0.1**
BURAR Bucovina Array 37.84 74⇓P **P 15 46 01.2 0.0**
TIP Timpagrande 37.88 91 *e*P **P 15 45 58.8 -2.8**
TKL Tuckaleechee C 37.99 261 P **P 15 46 01.6 -1.0**
comp=Z,34nm,1.2s,mb5.0,baz=76,slow=7.9,SNR=6.4
HDIL Hopedale 38.02 272 PFAKE 15 46 10.0 +7.2
HDIL LR LR
comp=Z,8µm,19.0s,MS5.5
KMPD K-Podol'skiy 38.04 72 P **P 15 46 02.0 -0.9**
KIEV Kiev 38.46 68 *e*P **P 15 46 04.8 -1.7**
KIEV pmax pmax
comp=Z,51nm,1.1s,mb5.2
KIEV MLR MLR
comp=Z,3µm,19.0s,MS5.1
KIEV Kiev 38.46 68 *e*P **P 15 46 04.8 -1.7**
comp=Z,51nm,1.1s,mb5.2
KIEV LR LR
comp=Z,3µm,19.0s,MS5.1
KIEV Kiev 38.46 68 *e*P **P 15 46 04.8 -1.7**
comp=Z,51nm,1.1s,mb5.2
AKASG Malin Array Be 38.46 67 P **P 15 46 04.6 -1.9**
comp=Z,20nm,0.9s,mb4.8,baz=302,slow=8.5,SNR=48
PP PP 15 47 32.8 -1.5
comp=Z,2.1nm,0.8s,baz=296,slow=11,SNR=6.0
AKASG PcP PcP 15 48 16.5 -3.2
comp=Z,5.5nm,0.8s,baz=289,slow=3.9,SNR=8.8
AKASG LR LR 16 01 45.7
comp=Z,3µm,18.6s,MS5.2,baz=305,slow=36
AKASG Malin Array Be 38.46 67 *i* P **P 15 46 04.5 -2.0**
AKASG pmax pmax
comp=Z,20nm,1.0s
AKASG Malin Array Be 38.46 67 PP PP 15 47 32.8 -1.6
AKBB Malin Array Si 38.46 67 *e*P **P 15 46 04.8 -1.7**
BARS Barje 38.61 83 *i* P **P 15 46 09.5 +1.7**
USIN University of 38.72 268 *e*P **P 15 46 08.5 -0.2**
comp=Z,269nm,1.4s,mb5.7
USIN University of 38.72 268 *e*P **P 15 46 08.5 -0.2**
comp=Z,269nm,1.4s,mb5.7
SKO Skopje 38.89 84 *i* P **P 15 46 11.2 +1.0**
OHR Ohrid 39.05 85 *i* P **P 15 46 12.4 +0.9**
KRUS Krusevo 39.15 85 *i* P **P 15 46 12.5 +0.2**
KEK Kerkira 39.34 88 *e*P **P 15 46 15.0 +1.1**
GOGA Godfrey 39.39 259 *e*P **P 15 46 14.4 +0.1**
GOGA pmax pmax
comp=Z,340nm,1.9s,mb5.7
GOGA MLR MLR
comp=Z,4µm,19.0s,MS5.3
GOGA Godfrey 39.39 259 *e*P **P 15 46 14.4 +0.1**
comp=Z,340nm,1.9s,mb5.7
GOGA LR LR
comp=Z,4µm,19.0s,MS5.3
GOGA Godfrey 39.39 259 *e*P **P 15 46 14.4 +0.1**
comp=Z,340nm,1.9s,mb5.7
BIA Bitola 39.41 85 *i* P **P 15 46 14.8 +0.3**
MLR Muntele Rosu 39.44 76 P **P 15 46 14.6 -0.1**
comp=Z,11nm,1.0s,mb4.5,baz=208,slow=2.3,SNR=11
MLR PcP PcP 15 48 20.3 -2.5
comp=Z,12nm,0.9s,baz=175,slow=2.2,SNR=5.8
MLR LR LR 16 01 48.7
comp=Z,4µm,21.9s,MS5.2,baz=298,slow=35
MLR Muntele Rosu 39.44 76⇓ *i*P **P 15 46 15.8 +1.1**
MLR Muntele Rosu 39.44 76⇓P **P 15 46 15.8 +1.1**
SCIA State Center 39.50 277 *e*P **P 15 46 17.3 +2.1**
comp=Z,287nm,1.6s,mb5.7
SCIA LR LR
comp=Z,17µm,20.0s,MS5.9
STIP Stip 39.51 84 *i* P **P 15 46 14.4 -0.8**
VTS Vitosha 39.56 82⇑ *i*P **P 15 46 16.6 +0.9**
VTS Vitosha 39.56 82 *e*P **P 15 46 15.5 +0.8**
VRI Vrincioaia 39.67 75⇑ *i*P **P 15 46 17.2 +0.5**
SLM Saint Louis 39.81 270 *e*P **P 15 46 18.0 +0.2**
SLM pmax pmax
comp=Z,145nm,1.2s,mb5.5
SLM Saint Louis 39.81 270 *e*P **P 15 46 18.0 +0.3**
comp=Z,145nm,1.2s,mb5.5
SLM Saint Louis 39.81 270 *e*P **P 15 46 18.0 +0.2**
comp=Z,145nm,1.2s,mb5.5
SIUC Southern Illin 39.81 269 *e*P **P 15 46 17.2 -0.6**
comp=Z,210nm,1.1s,mb5.7
SIUC Southern Illin 39.81 269 *e*P **P 15 46 17.2 -0.6**
comp=Z,210nm,1.1s,mb5.7
KKB Krupnik 39.93 83 *e*P **P 15 46 20.4 +1.6**
VAY Valandovo 39.96 84 *i* P **P 15 46 17.2 -1.9**
JAN Janina 40.00 87 *e*P **P 15 46 21.0 +1.6**
WVT Waverly 40.05 266 *e*P **P 15 46 19.4 -0.4**
WVT pmax pmax
comp=Z,222nm,1.6s,mb5.5
WVT Waverly 40.05 266 *e*P **P 15 46 19.4 -0.4**
comp=Z,222nm,1.6s,mb5.5
WVT Waverly 40.05 266 *e*P **P 15 46 19.4 -0.4**
comp=Z,222nm,1.6s,mb5.5
YKA Yellowknife Ar 40.11 315 P **P 15 46 19.9 -0.3**
comp=Z,18nm,1.0s,mb4.6,baz=60,slow=8.0,SNR=18
YKA PcP PcP 15 48 22.8 -2.1
comp=Z,5.4nm,0.8s,baz=64,slow=3.6,SNR=12
YKA LR LR 16 01 29.9
comp=Z,389nm,18.6s,MS4.3,baz=240,slow=34
YKA Yellowknife Ar 40.11 315 P **P 15 46 19.9 -0.4**
YKA 15 48 22.8
YKA Yellowknife Ar 40.11 315 P **P 15 46 19.9 -0.3**
YKA PcP PcP 15 48 22.8 -2.1
YKA LR LR 16 01 29.9
YKA Yellowknife Ar 40.11 315 PcP PcP 15 48 22.8 -2.1
OBN Obninsk 40.14 58 *e*P **P 15 46 19.8 -0.7**
OBN *e* 15 47 57.1
OBN *e* 15 48 20.4
OBN *e*S **S 15 52 21.3 -6.6**
OBN pmax pmax
comp=Z,217nm,2.8s,mb5.3
OBN MLR MLR
comp=Z,5µm,18.0s,MS5.4
OBN Obninsk 40.14 58 *e*P **P 15 46 20.4 -0.1**
comp=Z,100nm,1.1s,mb5.4
OBN LR LR
comp=Z,1µm,19.0s,MS4.8
OBN Obninsk 40.14 58 *e*P **P 15 46 20.4 -0.1**
comp=Z,100nm,1.1s,mb5.4
KIS Kishinev 40.22 73⇓ *e*P **P 15 46 20.0 -1.2**
KIS *e* 15 47 56.0
KIS *e*PPP 15 48 23.0
KIS *e*S **S 15 52 26.0 -3.2**
KIS *e* 15 55 16.0
KIS pmax pmax
comp=N,300nm,2.0s
KIS pmax pmax
comp=E,300nm,2.0s
KIS pmax pmax
comp=Z,300nm,2.0s,mb5.6
KIS smax
comp=E,2µm,12.0s
KIS MLR MLR
comp=N,5µm,16.0s,MS5.6
KIS MLR MLR
comp=E,5µm,16.0s,MS5.6
KIS MLR MLR
comp=Z,10µm,16.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,16.0s
KIS Kishinev 40.22 73 *e*P **P 15 46 20.0 -1.2**
comp=Z,300nm,2.0s,mb5.6
KIS Kishinev 40.22 73 *e*PP PP 15 47 56.0 +2.4
FVM French Village 40.35 270 *e*P **P 15 46 22.0 -0.3**
FVM pmax pmax
comp=Z,236nm,1.4s,mb5.6
FVM French Village 40.35 270 *e*P **P 15 46 22.0 -0.2**
comp=Z,236nm,1.4s,mb5.6
FVM French Village 40.35 270 *e*P **P 15 46 22.0 -0.3**
comp=Z,236nm,1.4s,mb5.6
MOS Moscow 40.36 57 *e*P **P 15 46 20.0 -2.4**
MOS *e* 15 47 53.5
MOS pmax pmax
comp=Z,91nm,1.8s,mb5.1
MOS MLR MLR
comp=Z,2µm,14.0s,MS5.2
ECSD EROS,Sioux Fal 40.38 281 *e*P **P 15 46 22.8 +0.2**
comp=Z,306nm,1.4s,mb5.7
ECSD LR LR
comp=Z,7µm,19.0s,MS5.5
ECSD EROS,Sioux Fal 40.38 281 *e*P **P 15 46 22.8 +0.3**
comp=Z,306nm,1.4s,mb5.7
MMB Musomiste 40.48 83 *e*P **P 15 46 23.3 0.0**
LKD Levkas 40.49 88 P **P 15 46 25.4 +1.9**
LIT Litokhoron 40.68 85 P **P 15 46 25.9 +0.9**
SRS Serrai 40.69 83 P **P 15 46 26.6 +1.5**
PLD Plovdiv 40.73 81 *e*P **P 15 46 25.3 -0.1**
VLS Valsamata 40.80 89 *e*P **P 15 46 27.0 +1.0**
CFR Carcaliu 40.88 75 P **P 15 46 18.4 -8.3**
PLAL Pickwick Lake 40.99 265 PFAKE 15 46 40.0 +12
PLAL LR LR
comp=Z,9µm,19.0s,MS5.7
RZN Rozhen 41.00 82 *e*P **P 15 46 28.7 +1.1**
EVR Evrytania 41.04 87 *e*P **P 15 46 29.5 +1.5**
AGG Agios Georgios 41.28 87 P **P 15 46 31.2 +1.2**
KDZ Kurdzhali 41.43 81 *e*P **P 15 46 33.6 +2.4**
PRD Provadia 41.63 78 *e*P **P 15 46 31.7 -1.2**
LRAL Lakeview Retre 41.72 261 *e*P **P 15 46 33.2 -0.4**
comp=Z,404nm,1.9s,mb5.8
LRAL LR LR
comp=Z,6µm,20.0s,MS5.5
LRAL Lakeview Retre 41.72 261 *e*P **P 15 46 33.2 -0.4**
comp=Z,404nm,1.9s,mb5.8
OXF Oxford 42.10 265 *e*P **P 15 46 34.9 -1.8**
OXF pmax pmax
comp=Z,258nm,1.2s,mb5.8
OXF MLR MLR
comp=Z,10µm,19.0s,MS5.7
OXF Oxford 42.10 265 *e*P **P 15 46 34.9 -1.8**
comp=Z,258nm,1.2s,mb5.8
OXF LR LR
comp=Z,10µm,19.0s,MS5.7
OXF Oxford 42.10 265 *e*P **P 15 46 34.9 -1.8**
comp=Z,258nm,1.2s,mb5.8
DWPF Disney 42.17 251 PFAKE 15 46 50.0 +13
DWPF LR LR
comp=Z,3µm,19.0s,MS5.2
ITM Ithomi 42.26 89 *e*P **P 15 46 39.5 +1.5**
VLI Veliai 43.17 89 *e*P **P 15 46 47.0 +1.7**
PECR Pechory 43.20 53 *e*P **P 15 46 46.3 +0.7**
PECR *i* 15 48 35.0
PECR pmax pmax
comp=Z,2µm,1.8s,mb6.5
BRAL Brewton 43.22 259 *e*P **P 15 46 46.8 +1.0**
comp=Z,962nm,1.9s,mb6.2
BRAL LR LR
comp=Z,9µm,19.0s,MS5.7
BRAL Brewton 43.22 259 *e*P **P 15 46 46.8 +1.0**
comp=Z,962nm,1.9s,mb6.2
KSU1 Kansas State U 43.27 276 *e*P **P 15 46 44.8 -1.4**
comp=Z,447nm,1.6s,mb6.0
KSU1 LR LR
comp=Z,16µm,19.0s,MS5.9
KSU1 Kansas State U 43.27 276 *e*P **P 15 46 44.8 -1.4**
comp=Z,447nm,1.6s,mb6.0
CANB Canakkale 43.43 82 *i* P **P 15 46 43.5 -4.0**
VRSR Storozhevoye 43.52 62 *e*P **P 15 46 48.3 +0.1**
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,50nm,1.1s
VRSR pmax pmax
comp=E,60nm,1.0s
UALR University of 43.66 268 *e*P **P 15 46 48.6 -0.7**
comp=E,314nm,1.6s,mb5.8
UALR University of 43.66 268 *e*P **P 15 46 48.6 -0.7**
comp=E,314nm,1.6s,mb5.8
VORD Divnogorie 43.72 62 *e*P **P 15 46 45.2 -4.6**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
LAO LASA Array 44.09 291 *e*P **P 15 46 54.0 +1.2**
comp=Z,531nm,1.4s,mb6.1
LAO LR LR
comp=Z,9µm,19.0s,MS5.7
LAO LASA Array 44.09 291 *e*P **P 15 46 54.0 +1.2**
comp=Z,531nm,1.4s,mb6.1
EDM Edmonton 44.12 302 *e*P **P 15 46 53.4 +0.4**
INK Inuvik 44.23 328 *e*P **P 15 46 52.7 -1.3**
comp=Z,3µm,1.3s
INK Inuvik 44.23 328 *e*P **P 15 46 52.7 -1.2**
comp=Z,3µm,1.3s
RSSD Black Hills 44.41 287 P **P 15 46 56.6 +1.2**
RSSD pmax pmax
comp=Z,16nm,1.1s,mb4.7
RSSD Black Hills 44.41 287 P **P 15 46 56.6 +1.2**
comp=Z,16nm,1.1s,mb4.7
SIM Simferopol' 44.42 72 P **P 15 46 58.6 +3.2**
SIM 15 48 47.0
SIM *i* S **S 15 53 38.0 +6.9**
SIM pmax pmax
comp=Z,90nm,7.1s
SIM MLR MLR
comp=Z,5µm,15.0s,MS5.5
MIAR Mount Ida 44.54 269 *e*P **P 15 46 56.1 -0.3**
MIAR pmax pmax
comp=Z,253nm,1.3s,mb6.0
MIAR MLR MLR
comp=Z,8µm,19.0s,MS5.7
MIAR Mount Ida 44.54 269 *e*P **P 15 46 56.1 -0.3**
comp=Z,253nm,1.3s,mb6.0
MIAR LR LR
comp=Z,8µm,19.0s,MS5.7
MIAR Mount Ida 44.54 269 *e*P **P 15 46 56.1 -0.3**
comp=Z,253nm,1.3s,mb6.0
ULDT Uludag 44.57 81 *i* P **P 15 46 51.2 -5.4**
BBGH Gun Hill 44.85 214 PFAKE 15 47 10.0 +11
BBGH LR LR
comp=Z,4µm,20.0s,MS5.3
VRHR Novokhopersk 44.86 61 *e*P **P 15 46 55.6 -3.3**
VRHR *e*S **S 15 53 40.0 +2.5**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,2.0nm,0.8s
VRHR pmax pmax
comp=E,2.0nm,0.4s
VRHR smax
comp=E,280nm,2.8s
VRHR smax
comp=Z,300nm,3.5s
VRHR smax
comp=N,5.0nm,1.3s
GVD Gavdhos 45.13 90 *e*P **P 15 47 01.8 +0.7**
comp=N,91nm,1.0s,mb5.7
GVD Gavdhos 45.13 90 *e*P **P 15 47 01.8 +0.7**
comp=N,91nm,1.0s,mb5.7
HENT Hendek 45.16 79 *i* P **P 15 46 56.0 -5.3**
EGMT Eagleton 45.23 294 *e*P **P 15 47 01.4 -0.4**
comp=N,352nm,1.4s,mb6.1
EGMT LR LR
comp=Z,7µm,19.0s,MS5.6
EGMT Eagleton 45.23 294⇑P **P 15 47 02.4 +0.6**
baz=45,SNR=41
EGMT Eagleton 45.23 294 *e*P **P 15 47 01.4 -0.5**
comp=Z,352nm,1.4s,mb6.1
CCCC Cccc 45.71 241 *e*P **P 15 47 04.2 -1.4**
ESKT Eskisehir 45.97 80 *i* P **P 15 47 06.5 -1.2**
SEYT Eskypehyr 45.97 80 *i* P **P 15 47 06.5 -1.3**
SGKT Sivrigoynuk 45.99 78 *i* P **P 15 47 06.5 -1.4**
XRY Khrisi 46.06 89 *e*P **P 15 47 08.0 -0.5**
BALT Daday 46.14 76 *i* P **P 15 47 07.5 -1.6**
ZKR Zakros 46.20 88 P **P 15 47 10.8 +1.2**
ANN Anapa 46.37 70 *d i*P **P 15 47 11.5 +0.6**
ANN *i* *PP 15 47 14.7
ANN *e* 15 48 44.6
ANN *e* 15 49 01.9
ANN *e*PPP 15 49 42.4
ANN *e*S **S 15 54 01.0 +1.7**
ANN pmax pmax
comp=Z,114nm,2.1s,mb5.5
ANN MLR MLR
comp=Z,7µm,18.0s,MS5.7
KARP Karpathos 46.47 87 *e*P **P 15 47 11.0 -0.6**
GCMT Greycliff 46.54 292 *e*P **P 15 47 12.4 +0.3**
GCMT Greycliff 46.54 292 *e*P **P 15 47 12.4 +0.2**
TKTP Tekketepe 46.64 82 *i* P **P 15 47 09.4 -3.6**
RLMT Red Lodge 46.73 291 PFAKE 15 47 30.0 +16
RLMT LR LR
comp=Z,7µm,19.0s,MS5.7
GOLH Golhisar 46.73 83 *i* P **P 15 47 09.4 -4.4**
ELDT Eldivan 46.84 77 *i* P **P 15 47 14.2 -0.4**
ANTO Ankara 46.88 78 P **P 15 47 17.5 +2.7**
SNR=14
ANTO Ankara 46.88 78 *e*P **P 15 47 13.4 -1.5**
ANTO pmax pmax
comp=Z,141nm,1.6s,mb5.8
ANTO MLR MLR
comp=Z,5µm,19.0s,MS5.5
ANTO Ankara 46.88 78 *e*P **P 15 47 13.4 -1.5**
comp=Z,141nm,1.6s,mb5.8
ANTO LR LR
comp=Z,5µm,19.0s,MS5.5
ANTO Ankara 46.88 78 *e*P **P 15 47 13.4 -1.5**
comp=Z,141nm,1.6s,mb5.8
PHWY Pilot Hill 47.01 284 *e*P **P 15 47 15.9 0.0**
PHWY Pilot Hill 47.01 284 *e*P **P 15 47 15.9 0.0**
SOKR Solikamsk 47.03 44 *c i*P **P 15 47 16.2 +0.1**
SOKR S **S 15 54 14.8 +6.0**
SOKR pmax pmax
comp=Z,120nm,1.3s,mb5.9
BOYT Boyabat 47.08 75 *i* P **P 15 47 14.2 -2.3**
SOR Soroa 47.23 248 *e*P **P 15 47 19.1 +1.5**
D15A Lincoln 47.31 295⇑P **P 15 47 18.7 +0.4**
baz=47,SNR=70
KDHN Kadinhani 47.37 80 *i* P **P 15 47 18.0 -0.7**
BR131 Keskin Array S 47.46 78 *e*P **P 15 47 19.5 +0.1**
comp=Z,19nm,0.9s,mb5.2
BR131 LR LR
comp=Z,1µm,19.0s,MS4.8
BR131 Keskin Array S 47.46 78 *e*P **P 15 47 19.5 +0.1**
comp=Z,19nm,0.9s,mb5.2
BRTR Keskin Array B 47.46 78 P **P 15 47 19.2 -0.2**
comp=Z,17nm,0.8s,mb5.2,baz=306,slow=5.7,SNR=51
BRTR PcP PcP 15 48 49.4 -0.4
comp=Z,9.3nm,1.1s,baz=270,slow=2.9,SNR=4.0
BRTR LR LR 16 08 57.4
comp=Z,4µm,18.2s,MS5.4,baz=302,slow=38
BRTR Keskin Array B 47.46 78⇑ *e*P **P 15 47 19.6 +0.2**
BRTR Keskin Array B 47.46 78 PcP PcP 15 48 49.4 -0.4
WMOK Wichita Mounta 47.50 273 *e*P **P 15 47 18.9 -0.8**
WMOK *e* 15 48 50.5
WMOK pmax pmax
comp=Z,154nm,1.4s,mb5.9
WMOK Wichita Mounta 47.50 273 *e*P **P 15 47 18.9 -0.8**
comp=Z,154nm,1.4s,mb5.9
WMOK *e*PcP PcP 15 48 50.5 +0.6
B13A Whitefish 47.53 297⇓P **P 15 47 19.7 -0.3**
baz=48,SNR=32
CTKT Corum 47.53 76 *i* P **P 15 47 19.0 -1.0**
RWWY Rawlins 47.76 286 *e*P **P 15 47 22.1 +0.4**
comp=Z,744nm,1.9s,mb6.5
E15A Deer Lodge 47.76 294⇑P **P 15 47 21.9 +0.1**
baz=48,SNR=34
YNR Norris Junctio 47.77 291 *e*P **P 15 47 23.9 +2.1**
YNR Norris Junctio 47.77 291 *e*P **P 15 47 23.9 +2.1**
CHMT Chamberlain Mo 47.79 295 *e*P **P 15 47 21.9 0.0**
CHMT Chamberlain Mo 47.79 295 *e*P **P 15 47 21.9 -0.1**
D14A Greenough 47.82 296⇓P **P 15 47 21.9 -0.3**
baz=48
CDAG Cicekdag 47.95 77 *i* P **P 15 47 15.1 -8.1**
YMR Madison River 47.95 291 *e*P **P 15 47 24.2 +1.0**
comp=Z,181nm,1.8s,mb5.9
YMR LR LR
comp=Z,8µm,20.0s,MS5.7
YMR Madison River 47.95 291 *e*P **P 15 47 24.2 +0.9**
comp=Z,181nm,1.8s,mb5.9
C13A Hot Springs 48.02 297⇓P **P 15 47 23.7 0.0**
baz=48,SNR=48
YFT Old Faithful 48.02 291 *e*P **P 15 47 25.7 +2.0**
YFT Old Faithful 48.02 291 *e*P **P 15 47 25.7 +1.9**
F15A Butte 48.05 294 P **P 15 47 24.6 +0.6**
baz=48,SNR=39
B12A Libby 48.06 298⇓P **P 15 47 24.1 0.0**
baz=48,SNR=5.8
ISCO Idaho Springs 48.08 283 *e*P **P 15 47 25.0 +0.8**
ISCO pmax pmax
comp=Z,131nm,1.2s,mb5.9
ISCO MLR MLR
comp=Z,5µm,20.0s,MS5.5
ISCO Idaho Springs 48.08 283 *e*P **P 15 47 25.0 +0.8**
comp=Z,131nm,1.2s,mb5.9
ISCO LR LR
comp=Z,5µm,20.0s,MS5.5
ISCO Idaho Springs 48.08 283 *e*P **P 15 47 25.0 +0.8**
comp=Z,131nm,1.2s,mb5.9
QLMT Earthquake Lak 48.11 292 *e*P **P 15 47 24.7 +0.3**
QLMT Earthquake Lak 48.11 292 *e*P **P 15 47 24.7 +0.3**
A11A Hall Mountain, 48.16 299⇓P **P 15 47 24.9 +0.1**
baz=48,SNR=51
FLWY Flagg Ranch 48.18 291 *e*P **P 15 47 25.8 +0.8**
comp=Z,229nm,1.7s,mb6.0
FLWY Flagg Ranch 48.18 291 *e*P **P 15 47 25.8 +0.8**
comp=Z,229nm,1.7s,mb6.0
MSO Missoula 48.21 296 *e*P **P 15 47 25.1 -0.2**
comp=Z,17nm,1.1s,mb5.1
MSO LR LR
comp=Z,6µm,19.0s,MS5.6
MSO Missoula 48.21 296 *e*P **P 15 47 25.1 -0.1**
comp=Z,17nm,1.1s,mb5.1
E14A Clinton 48.23 295⇓P **P 15 47 25.7 +0.3**
baz=48,SNR=20
D13A Huson 48.32 296⇓P **P 15 47 26.0 -0.1**
baz=48,SNR=37
BW06 Boulder Array 48.39 289 *e*P **P 15 47 26.0 -0.6**
comp=Z,124nm,1.4s,mb5.8
BW06 LR LR
comp=Z,5µm,19.0s,MS5.5
BW06 Boulder Array 48.39 289 *e*P **P 15 47 26.0 -0.6**
comp=Z,124nm,1.4s,mb5.8
PDAR Pinedale Array 48.39 289 P **P 15 47 26.1 -0.6**
comp=Z,8.0nm,0.6s,mb5.0,baz=62,slow=7.4,SNR=49
PDAR PcP PcP 15 48 52.2 -1.0
comp=Z,6.6nm,1.0s,baz=94,slow=5.9,SNR=4.1
PDAR PP PP 15 49 09.9 -9.2
comp=Z,0.9nm,0.5s,baz=64,slow=7.1,SNR=6.4
PDAR LR LR 16 06 49.4
comp=Z,6µm,18.1s,MS5.6,baz=42,slow=35
PDAR Pinedale Array 48.39 289 P **P 15 47 26.0 -0.6**
PDAR Pinedale Array 48.39 289 PcP PcP 15 48 52.2 -0.9
DLMT Dillon 48.41 293 *e*P **P 15 47 27.3 +0.5**
comp=Z,211nm,1.4s,mb6.1
DLMT Dillon 48.41 293 *e*P **P 15 47 27.3 +0.5**
comp=Z,211nm,1.4s,mb6.1
SOC Sochi 48.41 70 *e*P **P 15 47 23.2 -3.6**
SOC *e**PP 15 47 28.1
SOC *e* 15 48 56.9
SOC *e* 15 49 19.3
SOC *e*PPP 15 50 05.8
SOC *e*S **S 15 54 23.0 -5.4**
SOC pmax pmax
comp=Z,31nm,1.1s,mb5.3
SOC MLR MLR
comp=Z,4µm,19.0s,MS5.4
SOC Sochi 48.41 70 *i* P **P 15 47 24.5 -2.3**
MOOW Moose Ponds 48.42 290 *e*P **P 15 47 26.9 +0.1**
comp=Z,127nm,1.6s,mb5.8
MOOW Moose Ponds 48.42 290 *e*P **P 15 47 26.9 0.0**

comp=Z,127nm,1.6s,mb5.8
G15A Dillon 48.47 293 ⇓P P 15 47 27.7 +0.4
baz=48,SNR=71
F14A Wisdom 48.54 294 ⇓P P 15 47 27.9 +0.1
baz=48,SNR=6.5
E13A Victor 48.59 295 ⇓P P 15 47 27.8 -0.3
baz=48,SNR=25
DAWY Dawson 48.68 325 eP P 15 47 29.1 +0.2
DLBC Dease Lake 48.72 316 eP P 15 47 31.9 +2.7
REDW Red Top Meadow 48.73 290 eP P 15 47 29.3 +0.1
comp=Z,324nm,1.7s,mb6.1
REDW Red Top Meadow 48.73 290 eP P 15 47 29.3 +0.1
comp=Z,324nm,1.7s,mb6.1
DCID1 Drake Creek 48.76 291 eP P 15 47 28.9 -0.5
DCID1 Drake Creek 48.76 291 eP P 15 47 29.0 -0.5
AVNT Avonos 48.79 78 i P P 15 47 28.6 -1.2
EGAK Eagle 48.80 327 eP P 15 47 28.4 -1.4
comp=Z,188nm,1.8s,mb5.8
EGAK LR LR
comp=Z,2μm,19.0s,MS5.0
EGAK Eagle 48.80 327 eP P 15 47 28.4 -1.4
comp=Z,188nm,1.8s,mb5.8
MCMT McKenzie Canyo 48.89 293 eP P 15 47 31.2 +0.7
NEW Newport 48.99 299 eP P 15 47 31.1 -0.1
NEW pmax pmax
comp=Z,235nm,1.7s
NEW MLR MLR
comp=Z,5μm,20.0s
NEW Newport 48.99 299 eP P 15 47 31.1 -0.1
comp=Z,235nm,1.7s,mb5.9
NEW LR LR
comp=Z,5μm,20.0s,MS5.5
NEW Newport 48.99 299 eP P 15 47 31.1 -0.1
comp=Z,235nm,1.7s,mb5.9
RRI2 Red Ridge 49.00 290 eP P 15 47 28.8 -2.5
comp=Z,112nm,1.4s,mb5.7
B10A Chitwood Farm, 49.02 299 ⇓P P 15 47 31.2 -0.2
baz=49
F13A Darby 49.08 295 ⇑P P 15 47 31.6 -0.3
baz=49,SNR=40
AMTX Amarillo 49.11 275 PFAKE 15 47 40.0 +7.8
AMTX LR LR
comp=Z,11μm,19.0s,MS5.9
HKT Hockley 49.16 266 eP P 15 47 30.9 -1.6
HKT pmax pmax
comp=Z,233nm,1.8s,mb5.9
HKT MLR MLR
comp=Z,10μm,19.0s,MS5.8
HKT Hockley 49.16 266 eP P 15 47 30.9 -1.7
comp=Z,232nm,1.8s,mb5.9
HKT LR LR
comp=Z,10μm,19.0s,MS5.8
HKT Hockley 49.16 266 eP P 15 47 30.9 -1.6
comp=Z,232nm,1.8s,mb5.9
AHID Auburn Hatcher 49.25 290 PFAKE 15 47 50.0 +17
AHID LR LR
comp=Z,8μm,19.0s,MS5.7
A09A Danville 49.29 300 ⇑P P 15 47 33.3 -0.2
baz=49
D11A Klaveano Farm, 49.34 297 ⇓P P 15 47 33.3 -0.6
baz=49,SNR=13
C10A Spilker Farm, 49.36 298 ⇓P P 15 47 34.1 0.0
baz=49
SDCO Great Sand Dun 49.39 281 PFAKE 15 47 50.0 +16
SDCO LR LR
comp=Z,15μm,20.0s,MS6.0
B09A Rice 49.42 300 ⇑P P 15 47 34.5 0.0
baz=49,SNR=44
G13A Cobalt 49.47 294 ⇓P P 15 47 35.0 +0.1
baz=49
F12A Elk City 49.59 295 ⇓P P 15 47 35.6 -0.2
baz=50
A08A Turner Farm, O 49.66 301 ⇑P P 15 47 36.0 -0.4
baz=50,SNR=21
ARU Arti 49.70 47 P P 15 47 36.4 -0.3
comp=Z,239nm,1.5s,mb5.9,SNR=10
ARU Arti 49.70 47 ⇓iP P 15 47 35.6 -1.1
ARU *e* 15 48 53.8
ARU *e* 15 49 31.4
ARU *e*S **S 15 54 45.7 -0.8**
ARU *e*SS SS 15 58 17.8 -0.9
ARU *e*SSS 15 59 38.4
ARU pmax pmax
comp=Z,71nm,1.6s,mb5.3
ARU Arti 49.70 47 eP P 15 47 36.1 -0.6
comp=Z,171nm,1.7s,mb5.7
ARU LR LR
comp=Z,1μm,20.0s,MS4.9
ARU Arti 49.70 47 eP P 15 47 36.1 -0.6
comp=Z,171nm,1.7s,mb5.7
E11A Bogner Ranch, 49.72 296 P P 15 47 36.1 -0.7
baz=50,SNR=32
KIV Kislovodsk 49.81 68 P P 15 47 39.4 +1.9
comp=Z,161nm,1.0s,mb5.9,SNR=8.8
KIV Kislovodsk 49.81 68 P P 15 47 39.9 +2.3
SNR=9.4
KIV Kislovodsk 49.81 68 eP P 15 47 38.1 +0.6
KIV *e*S **S 15 54 45.4 -2.6**
KIV *e*SS SS 15 58 16.6 -3.8
KIV pmax pmax
comp=Z,19nm,0.6s,mb5.2
KIV MLR MLR
comp=Z,3μm,18.0s,MS5.3
KIV Kislovodsk 49.81 68 eP P 15 47 38.7 +1.2
comp=Z,98nm,1.5s,mb5.5
KIV LR LR
comp=Z,853nm,20.0s,MS4.8
KIV Kislovodsk 49.81 68 eP P 15 47 38.7 +1.2
comp=Z,98nm,1.5s,mb5.5
D10A Wagner Farm, O 49.83 298 ⇓P P 15 47 37.2 -0.5
baz=50
C09A Chrisman Ranch 49.88 299 ⇑P P 15 47 37.3 -0.8
baz=50
F11A Grangeville 49.99 296 ⇑P P 15 47 38.5 -0.4
baz=50
TOA0 Torodi Ar. Sit 50.02 130 eP P 15 47 36.2 -2.8
TORD Torodi Ar. Bea 50.02 130 P P 15 47 36.4 -2.7
comp=Z,40nm,1.0s,mb5.3,baz=331,slow=7.0,SNR=94
TORD PcP PcP 15 48 57.3 -1.8
comp=Z,4.7nm,0.9s,baz=325,slow=5.1,SNR=1.5
TORD LR LR 16 06 30.5
comp=Z,2μm,19.7s,MS5.2,baz=310,slow=33
B08A Colville Reser 50.07 300 ⇓P P 15 47 38.9 -0.6
baz=50,SNR=40
E10A Myers Farm, Un 50.11 297 ⇓P P 15 47 39.1 -0.8
baz=50,SNR=16
H12A Diamond D Ranc 50.16 294 ⇓P P 15 47 40.4 +0.2
baz=50
A07A Ashnola River, 50.16 301 ⇓P P 15 47 40.3 +0.1
baz=50
HWUT Hardware Ranch 50.27 289 eP P 15 47 40.7 -0.3
comp=Z,186nm,1.3s,mb5.9
HWUT LR LR
comp=Z,5μm,20.0s,MS5.5
HWUT Hardware Ranch 50.27 289 eP P 15 47 40.7 -0.3
comp=Z,186nm,1.3s,mb5.9
C08A Higginbotham F 50.29 299 ⇓P P 15 47 40.6 -0.6
baz=50
SVE Sverdlovsk 50.33 45 ⇓eP P 15 47 42.0 +0.5
SVE *e*S **S 15 55 00.0 +4.7**
SVE pmax pmax
comp=Z,260nm,2.3s,mb5.8
SVE MLR MLR
comp=E,2μm,16.0s
SVE MLR MLR
comp=Z,3μm,16.0s,MS5.5
D09A Jones Farm, Ri 50.37 298 ⇓P P 15 47 41.5 -0.2
baz=50
B07A Winthrop 50.40 301 ⇑P P 15 47 41.1 -0.9
baz=50,SNR=7.1
F10A Beach Ranch, E 50.51 297 ⇓P P 15 47 42.3 -0.5
baz=50,SNR=27
CSS Prodhromos 50.51 83 P P 15 47 40.8 -2.1
comp=Z,41nm,1.2s,mb5.2
CSS Prodhromos 50.51 83 P P 15 47 40.8 -2.0
comp=Z,41nm,1.2s,mb5.2
E09A Wood Farm, Sta 50.64 298 ⇑P P 15 47 42.8 -1.0
baz=51,SNR=19
H11A Donnelly 50.69 295 ⇑P P 15 47 43.8 -0.3
baz=51,SNR=43
D08A Wollman Farm, 50.69 299 ⇑P P 15 47 44.1 -0.1
baz=51
COLA College 50.83 329 P P 15 47 46.7 +1.4
COLA pmax pmax
comp=Z,100nm,1.7s,mb5.5
COLA College 50.83 329 eP P 15 47 45.0 -0.3
comp=Z,105nm,1.7s,mb5.5
COLA LR LR
comp=Z,2μm,22.0s,MS5.1
COLA College 50.83 329 eP P 15 47 45.0 -0.3
comp=Z,105nm,1.7s,mb5.5
HVU Hansel Valley 50.84 290 eP P 15 47 45.1 -0.2
HVU pmax pmax
comp=Z,99nm,1.4s,mb5.5
HVU Hansel Valley 50.84 290 eP P 15 47 45.1 -0.2
comp=Z,99nm,1.4s,mb5.5
HVU Hansel Valley 50.84 290 eP P 15 47 45.1 -0.2
comp=Z,99nm,1.4s,mb5.5
C07A Waterville 50.87 300 ⇓P P 15 47 44.5 -1.1
baz=51,SNR=23
JLU Jordanelle 50.88 288 eP P 15 47 44.6 -1.0
JLU Jordanelle 50.88 288 eP P 15 47 44.6 -1.0
DAU Daniels Canyon 50.90 287 eP P 15 47 46.2 +0.5
PV01 Paradox Valley 50.90 283 eP P 15 47 46.7 +0.9
SPUT South Promonto 50.97 289 P P 15 47 43.9 -2.4
SPUT South Promonto 50.97 289 P P 15 47 43.9 -2.4
CTU Camp Tracy 50.99 288 eP P 15 47 46.2 -0.3
comp=Z,106nm,1.6s,mb5.5
CTU Camp Tracy 50.99 288 eP P 15 47 46.2 -0.2
comp=Z,106nm,1.6s,mb5.5
PV10 Paradox Valley 51.01 284 eP P 15 47 47.9 +1.3
PV10 Paradox Valley 51.01 284 eP P 15 47 47.9 +1.3
A05A Maple Falls 51.05 302 ⇓P P 15 47 46.2 -0.7
baz=51
ORR Orenburg 51.05 53 eP P 15 47 46.6 -0.3
ORR pmax pmax
comp=Z,50nm,1.5s,mb5.2
ETW Entiat 51.07 300 P P 15 47 46.3 -0.7
ETW Entiat 51.07 300 P P 15 47 46.3 -0.7
JCT Junction City 51.12 270 eP P 15 47 46.4 -1.0
JCT pmax pmax
comp=Z,218nm,1.4s,mb5.9
JCT MLR MLR
comp=Z,8μm,20.0s,MS5.7
JCT Junction City 51.12 270 eP P 15 47 46.4 -1.1
comp=Z,218nm,1.4s,mb5.9
JCT LR LR
comp=Z,8μm,20.0s,MS5.7
JCT Junction City 51.12 270 eP P 15 47 46.4 -1.0
comp=Z,218nm,1.4s,mb5.9
E08A Dider Farm, El 51.13 298 ⇑P P 15 47 46.8 -0.8
baz=51
COBT Iskenderun 51.14 79 i P P 15 47 43.9 -3.7
D07A Quincy 51.15 299 ⇓P P 15 47 46.9 -0.8
baz=51
H10A Noah's Angus R 51.16 295 P P 15 47 46.9 -0.8
baz=51,SNR=7.1
MALT Malatya 51.17 76 ⇓iP P 15 47 48.1 +0.3
MALT Malatya 51.17 76 ⇓P P 15 47 48.1 +0.3
ARTV Artvin 51.22 71 i P P 15 47 43.9 -4.3
NOQ North Oquirrh 51.22 288 eP P 15 47 49.1 +0.9
comp=Z,366nm,1.7s,mb6.0
NOQ North Oquirrh 51.22 288 eP P 15 47 49.1 +0.9
comp=Z,366nm,1.7s,mb6.0
ZEI Tsey 51.26 68 eP P 15 47 50.0 +1.6
ZEI *e**PP 15 47 53.9
ZEI *e* 15 49 04.1
ZEI pmax pmax
comp=Z,32nm,1.1s,mb5.2
GBL Gable Mountain 51.27 298 P P 15 47 48.7 +0.1
BMO Blue Mountains 51.28 296 eP P 15 47 47.6 -1.0
comp=Z,55nm,1.3s,mb5.3
BMO LR LR
comp=Z,5μm,19.0s,MS5.6
BMO Blue Mountains 51.28 296 eP P 15 47 47.6 -1.0
comp=Z,55nm,1.3s,mb5.3
SRU San Rafael 51.36 286 P P 15 47 49.8 +0.6
SRU pmax pmax
comp=Z,90nm,1.3s,mb5.5
SRU San Rafael 51.36 286 eP P 15 47 47.9 -1.3
comp=Z,90nm,1.3s,mb5.5
SRU San Rafael 51.36 286 eP P 15 47 47.9 -1.3
comp=Z,90nm,1.3s,mb5.5
ELZG Elazig 51.37 75 i P P 15 47 47.7 -1.5
MPU Maple Canyon 51.38 287 eP P 15 47 50.0 +0.6
comp=Z,140nm,1.4s,mb5.7
MPU LR LR
comp=Z,8μm,19.0s,MS5.8
MPU Maple Canyon 51.38 287 eP P 15 47 50.0 +0.6
comp=Z,140nm,1.4s,mb5.7
F08A Pendleton 51.44 297 ⇑P P 15 47 49.3 -0.6
baz=51,SNR=7.3
HAWA Hanford 51.45 298 eP P 15 47 48.3 -1.6
comp=Z,97nm,1.7s,mb5.5
HAWA Hanford 51.45 298 eP P 15 47 48.3 -1.6
comp=Z,97nm,1.7s,mb5.5
MVCO Mesa Verde 51.49 283 eP P 15 47 51.1 +0.9
comp=Z,260nm,1.7s,mb5.9
MVCO LR LR
comp=Z,6μm,20.0s,MS5.6
MVCO Mesa Verde 51.49 283 ⇑P P 15 47 50.2 0.0
baz=51
MVCO Mesa Verde 51.49 283 eP P 15 47 51.2 +1.0
comp=Z,260nm,1.7s,mb5.9
E07A Sunnyside 51.50 299 ⇑P P 15 47 49.5 -0.8
baz=51,SNR=5.5
B05A Bryant 51.53 302 ⇓P P 15 47 51.0 +0.4
baz=51
A04A Legoe Bay, Lum 51.54 302 ⇓P P 15 47 49.7 -0.9
baz=52
BGU Big Grassy Mou 51.55 289 eP P 15 47 50.1 -0.5
BGU Big Grassy Mou 51.55 289 eP P 15 47 50.1 -0.6
H09A Durkee 51.60 296 ⇓P P 15 47 50.2 -0.7
baz=52,SNR=9.2
D06A Cle Elum 51.60 300 ⇓P P 15 47 49.7 -1.3
baz=52
TMUT Trail Mountain 51.62 286 eP P 15 47 51.5 +0.3
TMUT Trail Mountain 51.62 286 eP P 15 47 51.5 +0.3
IMA2 Indian Mountai 51.63 333 eP P 15 47 51.4 +0.1
EBG Ellensburg 51.64 299 P P 15 47 51.0 -0.3
EBG Ellensburg 51.64 299 P P 15 47 51.0 -0.3
NLU North Lily Min 51.67 288 eP P 15 47 51.4 -0.1
NLU North Lily Min 51.67 288 eP P 15 47 51.4 -0.1
SIT Sitka 51.78 317 PFAKE 15 48 00.0 +7.6
SIT LR LR
comp=Z,6μm,19.0s,MS5.6
G08A Pilot Rock 51.87 297 ⇑P P 15 47 52.0 -1.1
baz=52,SNR=39
ANMO Albuquerque 51.87 279 eP P 15 47 53.8 +0.7
ANMO Albuquerque 51.87 279 eP P 15 47 54.1 +1.1
comp=Z,101nm,1.4s,mb5.6
ANMO LR LR
comp=Z,14μm,20.0s,MS6.0
ANMO Albuquerque 51.87 279 eP P 15 47 54.1 +1.0
comp=Z,101nm,1.4s,mb5.6
M13A Montello 51.89 290 ⇓P P 15 47 53.3 +0.1
baz=52,SNR=23
DUG Dugway 51.92 288 eP P 15 47 53.4 0.0
DUG pmax pmax
comp=Z,193nm,1.5s,mb5.8
DUG MLR MLR
comp=Z,3μm,19.0s,MS5.4
DUG Dugway 51.92 288 eP P 15 47 53.4 0.0
comp=Z,194nm,1.5s,mb5.8
DUG LR LR
comp=Z,3μm,19.0s,MS5.4
DUG Dugway 51.92 288 ⇑P P 15 47 53.4 -0.1
baz=52
DUG Dugway 51.92 288 eP P 15 47 53.4 0.0
comp=Z,193nm,1.5s,mb5.8
F07A Phinny Hill Vi 51.98 298 ⇓P P 15 47 53.4 -0.5
baz=52
MCK McKinley 51.98 329 eP P 15 47 53.1 -0.8
MCK pmax pmax
comp=Z,138nm,1.8s,mb5.6
MCK MLR MLR
comp=Z,890nm,19.0s,MS4.8
MCK McKinley 51.98 329 eP P 15 47 53.1 -0.7
comp=Z,138nm,1.8s,mb5.6
MCK LR LR
comp=Z,890nm,19.0s,MS4.8
MCK McKinley 51.98 329 eP P 15 47 53.1 -0.8
comp=Z,138nm,1.8s,mb5.6
E06A Yakima 52.10 299 P P 15 47 54.2 -0.5
baz=52,SNR=42
I09A Lost Marbles R 52.10 295 ⇓P P 15 47 54.2 -0.5
baz=52,SNR=42
KVTX Kingsville 52.15 266 PFAKE 15 48 10.0 +15
KVTX LR LR
comp=Z,6μm,19.0s,MS5.7
TEIG Tepich 52.20 251 PFAKE 15 48 10.0 +14
TEIG LR LR
comp=Z,3μm,21.0s,MS5.4
H08A Prairie City 52.23 296 ⇑P P 15 47 54.6 -1.2
baz=52,SNR=6.6
N13A Wendover, West 52.25 290 ⇓P P 15 47 56.2 +0.3
baz=52,SNR=6.0
G07A Ruggs Ranch, H 52.26 297 ⇑P P 15 47 55.2 -0.8
baz=52,SNR=14
M12A Wells 52.27 291 P P 15 47 56.8 +0.8
baz=52,SNR=37
BNGL BINGOL 52.29 73 i P P 15 47 55.4 -0.8
LPM Los Pinos Moun 52.42 279 eP P 15 47 57.7 +0.6
E05A Randle 52.49 300 ⇓P P 15 47 55.9 -1.7
baz=52
F06A Goldendale 52.51 298 ⇑P P 15 47 57.2 -0.6
baz=52
J09A Fry Pan Ranch, 52.52 294 ⇑P P 15 47 57.4 -0.5
baz=52,SNR=42
HWQ Hawqa 52.53 81 eP P 15 47 57.9 0.0
BNM Barren Site 52.53 278 eP P 15 47 59.0 +1.0
BNM Barren Site 52.53 278 eP P 15 47 59.0 +1.0
DIGO Kars 52.55 71 i P P 15 47 57.3 -0.8
I08A Drewsey 52.58 295 ⇑P P 15 47 57.8 -0.5
baz=52,SNR=7.6
BHL Bhannes 52.62 82 eP P 15 47 57.9 -0.7
LAZ Ladron 52.66 279 eP P 15 48 01.6 +2.7
LAZ Ladron 52.66 279 eP P 15 48 01.6 +2.7
H07A Lands Inn, Kim 52.66 297 ⇑P P 15 47 58.4 -0.5
baz=53
MSU Marysvale 52.71 286 eP P 15 47 59.9 +0.6
N12A Clover Valley, 52.72 290 ⇓P P 15 47 59.6 +0.2
baz=53,SNR=33
LENM Lemitar 52.73 279 eP P 15 47 59.7 +0.3
LENM Lemitar 52.73 279 eP P 15 47 59.7 +0.3
MVU Marysvale 52.74 286 PFAKE 15 48 10.0 +11
MVU LR LR
comp=Z,3μm,19.0s,MS5.4
M11A Holland Ranch, 52.74 291 P P 15 48 01.0 +1.5
baz=53,SNR=71
Y22C IRIS PASSCAL I 52.76 279 ⇓P P 15 48 00.5 +0.9
baz=53
G06A Carlson Farm, 52.79 298 ⇓P P 15 47 59.2 -0.7
baz=53,SNR=5.7
DIV Divide 52.84 325 PFAKE 15 48 10.0 +10
DIV LR LR
comp=Z,10μm,20.0s,MS5.8
J08A Circle Bar Ran 52.91 295 ⇑P P 15 48 00.3 -0.4
baz=53,SNR=59
ELK Elko 52.91 290 eP P 15 48 01.6 +0.9
ELK pmax pmax
comp=Z,163nm,1.5s
ELK MLR MLR
comp=Z,5μm,19.0s
ELK Elko 52.91 290 eP P 15 48 01.6 +0.9
comp=Z,163nm,1.5s,mb5.7
ELK LR LR
comp=Z,5μm,19.0s,MS5.6
ELK Elko 52.91 290 eP P 15 48 01.6 +0.9
comp=Z,163nm,1.5s,mb5.7
K09A Rome 52.95 294 P P 15 48 02.2 +1.2
baz=53,SNR=138
O12A Currie 52.96 290 ⇓P P 15 48 01.2 +0.1
baz=53,SNR=48
E04A Onalaska 52.96 300 ⇑P P 15 47 59.9 -1.2
baz=53
I07A Izee 52.97 296 ⇑P P 15 48 00.2 -1.0
baz=53,SNR=8.9
H06A Lindquist Farm 52.97 297 ⇑P P 15 48 00.9 -0.3
baz=53,SNR=32
SDV Santo Domingo 52.98 226 eP P 15 47 58.7 -2.5
comp=Z,138nm,1.9s,mb5.6
SDV LR LR
comp=Z,421nm,20.0s,MS4.5
MAK Makhachkala 53.09 66 ci P P 15 48 03.2 +1.1
MAK *e* 15 49 58.8
MAK *e*PPP 15 51 05.8
MAK *i*S **S 15 55 35.2 +1.9**
MAK *e*SS SS 15 59 09.2 -3.3
MAK pmax pmax
comp=Z,248nm,1.2s,mb6.0
MAK MLR MLR
comp=Z,4μm,15.0s,MS5.6
M10A I.L. Ranch, Tu 53.10 292 ⇓P P 15 48 02.7 +0.6
baz=53,SNR=13
N11A Elko Achery C 53.13 291 ⇑P P 15 48 03.2 +0.8
baz=53,SNR=5.3
G05A Wamic 53.14 298 ⇑P P 15 48 01.8 -0.7
baz=53
SML Sawmill 53.20 327 eP P 15 48 04.1 +1.2
MARD Mardin 53.21 75 i P P 15 47 59.2 -3.7
F04A Amboy 53.25 300 ⇑P P 15 48 01.6 -1.6
baz=53
VIPM Ingram Point 53.27 297 P P 15 48 03.8 +0.4
K08A Mann Creek Ran 53.34 294 P P 15 48 04.5 +0.6
baz=53,SNR=53
J07A Hines 53.34 295 ⇓P P 15 48 03.1 -0.9
baz=53
L09A Wilkinson Ranc 53.38 293 ⇑P P 15 48 05.3 +1.1
baz=53,SNR=34
AKTK Aktyubinsk 53.38 53 i P P 15 48 03.5 -0.8
AKTO Aktyubinsk 53.38 53 i P P 15 48 03.5 -0.8
E03A Lebam 53.42 301 ⇓P P 15 48 04.5 -0.1
baz=53,SNR=14
I06A Prineville 53.44 296 ⇑P P 15 48 04.8 +0.2
baz=53,SNR=5.5
LIC Lamto 53.47 141 ⇓iP P 15 48 02.2 -2.7
comp=Z,143nm,1.1s,mb5.5
LIC *e*R
comp=Z,5μm,20.5s
LIC Lamto 53.47 141 ⇓iP P 15 48 02.2 -2.7
comp=Z,72nm,1.1s,mb5.5
LIC LR LR
comp=Z,3μm,20.5s,MS5.3
GNI Garni 53.49 70 P P 15 48 05.2 +0.1
comp=Z,18nm,0.8s,mb5.0,baz=23,slow=4.3,SNR=14
GNI Garni 53.49 70 ⇓P P 15 48 06.7 +1.6
SNR=10.0
GNI Garni 53.49 70 eP P 15 48 05.4 +0.3
GNI pmax pmax
comp=Z,224nm,2.4s
GNI Garni 53.49 70 eP P 15 48 05.8 +0.7
comp=Z,371nm,1.8s,mb6.0
GNI LR LR
comp=Z,3μm,22.0s,MS5.3
GNI Garni 53.49 70 eP P 15 48 05.8 +0.7
comp=Z,371nm,1.8s,mb6.0
H05A Madras 53.50 298 ⇓P P 15 48 03.6 -1.5
baz=53,SNR=7.3
MNTX Cornudas Mount 53.55 275 PFAKE 15 48 20.0 +15
MNTX LR LR
comp=Z,8μm,19.0s,MS5.8
O11A Cowboy Ranch, 53.56 290 P P 15 48 06.5 +1.0
baz=54,SNR=70
P12A McGill 53.59 289 ⇓P P 15 48 06.3 +0.5
baz=54,SNR=55
PMR Palmer 53.62 327 eP P 15 48 06.4 +0.4
PMR pmax pmax
comp=Z,340nm,1.9s,mb6.0
PMR MLR MLR
comp=Z,900nm,19.0s,MS4.8
PMR Palmer 53.62 327 eP P 15 48 06.4 +0.4
comp=Z,340nm,1.9s,mb6.0
PMR LR LR
comp=Z,900nm,19.0s,MS4.8
PMR Palmer 53.62 327 eP P 15 48 06.4 +0.4
comp=Z,340nm,1.9s,mb6.0
WVOR Wild Horse Val 53.62 294 eP P 15 48 06.5 +0.5
WVOR pmax pmax
comp=Z,360nm,1.6s,mb6.2
WVOR Wild Horse Val 53.62 294 eP P 15 48 06.5 +0.5
comp=Z,360nm,1.6s,mb6.2
WVOR Wild Horse Val 53.62 294 eP P 15 48 06.5 +0.5
comp=Z,360nm,1.6s,mb6.2
L08A Fields 53.63 294 P P 15 48 07.2 +1.2
baz=54,SNR=80
M09A Marrel Ranch, 53.66 292 ⇑P P 15 48 07.3 +1.0
baz=54,SNR=43
K07A Rock Creek Ran 53.77 295 P P 15 48 07.7 +0.5
baz=54,SNR=25
Q12A Willow Creek R 53.85 289 ⇓P P 15 48 08.5 +0.9
baz=54,SNR=5.7
J06A Christmas Vall 53.88 296 ⇓P P 15 48 08.0 +0.2
baz=54,SNR=40
O10A Cortez Mining, 53.92 291 ⇑P P 15 48 08.7 +0.5
baz=54,SNR=15
ARUT Antelope Range 53.93 286 eP P 15 48 08.7 +0.5
H04A Detroit Lake 53.98 298 ⇑P P 15 48 09.6 +1.0
baz=54
KMOR Kings Mountain 54.00 300 P P 15 48 09.3 +0.5

KMOR **Kings Mountain** 54.00 300 P P 15 48 09.3 +0.5
P11A **Circle Ranch,** 54.01 290 ⇓P P 15 48 09.8 +0.9
baz=54,SNR=6.4
CCUT **Cedar City** 54.05 286 eP P 15 48 09.7 +0.5
CCUT **Cedar City** 54.05 286 eP P 15 48 09.6 +0.5
N09A **Rock Creek Ran** 54.10 292 P P 15 48 10.4 +1.0
baz=54,SNR=30
G03A **Yamhill** 54.11 300 ⇓P P 15 48 09.4 -0.2
baz=54
M08A **Happy Creek Ra** 54.15 293 P P 15 48 11.2 +1.3
baz=54,SNR=43
BMN **Battle Mountai** 54.22 291 eP P 15 48 10.5 +0.1
BMN pmax pmax
comp=Z,144nm,1.5s,mb5.8
BMN MLR MLR
comp=Z,6µm,20.0s,MS5.6
BMN **Battle Mountai** 54.22 291 eP P 15 48 10.5 +0.1
comp=Z,144nm,1.5s,mb5.8
BMN LR LR
comp=Z,6µm,20.0s,MS5.6
BMN **Battle Mountai** 54.22 291 eP P 15 48 10.5 +0.1
comp=Z,144nm,1.5s,mb5.8
LTX **Lajitas** 54.25 272 eP P 15 48 09.7 -0.9
LTX pmax pmax
comp=Z,145nm,1.6s,mb5.8
LTX MLR MLR
comp=Z,7µm,19.0s,MS5.8
LTX **Lajitas** 54.25 272 eP P 15 48 09.7 -0.9
comp=Z,145nm,1.6s,mb5.8
LTX LR LR
comp=Z,7µm,19.0s,MS5.8
LTX **Lajitas** 54.25 272 eP P 15 48 09.6 -1.0
comp=Z,145nm,1.6s,mb5.8
TXAR **Lajitas Array** 54.25 272 P P 15 48 10.3 -0.3
comp=Z,31nm,1.2s,mb5.2,baz=71,slow=5.4,SNR=25
TXAR PcP PcP 15 49 14.5 -0.4
comp=Z,15nm,0.9s,baz=61,slow=4.1,SNR=8.7
TXAR LR LR 16 10 58.1
comp=Z,6µm,18.2s,MS5.7,baz=50,slow=36
TXAR **Lajitas Array** 54.25 272 P P 15 48 10.3 -0.3
TXAR 15 49 14.5
TXAR **Lajitas Array** 54.25 272 PcP PcP 15 49 14.5 -0.4
L07A **Adell** 54.28 294 ⇓P P 15 48 11.3 +0.5
baz=54,SNR=30
TIXI **Tiksi** 54.33 6 eP P 15 48 09.5 -1.7
TIXI e 15 50 15.6
TIXI eS S 15 55 45.6 -4.5
TIXI eSS SS 15 59 24.9 -7.2
TIXI pmax pmax
comp=Z,47nm,1.0s,mb5.5
TIXI MLR MLR
comp=Z,259nm,15.0s,MS4.4
TIXI **Tiksi** 54.33 6 eP P 15 48 10.7 -0.5
comp=Z,157nm,1.5s,mb5.8
TIXI LR LR
comp=Z,803nm,22.0s,MS4.7
TIXI **Tiksi** 54.33 6 eP P 15 48 10.7 -0.5
comp=Z,157nm,1.5s,mb5.8
WUAZ **Wupatki** 54.33 283 eP P 15 48 11.5 +0.3
comp=Z,173nm,1.5s,mb5.9
WUAZ **Wupatki** 54.33 283 ⇓P P 15 48 11.8 +0.6
baz=54
WUAZ **Wupatki** 54.33 283 eP P 15 48 11.5 +0.3
comp=Z,173nm,1.5s,mb5.9
P10A **Eureka** 54.36 290 ⇑P P 15 48 12.0 +0.6
baz=54,SNR=5.4
O09A **Fish Creek Ran** 54.38 291 P P 15 48 12.6 +1.0
baz=54,SNR=52
J05A **Fort Rock** 54.43 296 ⇑P P 15 48 12.8 +0.9
baz=54
Q11A **Duckwater** 54.44 289 P P 15 48 12.4 +0.4
baz=54,SNR=44
ASF **Jabal al Asfar** 54.58 82 P P 15 48 12.4 -0.6
comp=Z,12nm,1.0s,mb4.9,baz=167,slow=2.5,SNR=26
COR **Corvallis** 54.62 299 eP P 15 48 15.0 +1.7
COR pmax pmax
comp=Z,327nm,1.5s,mb6.1
COR MLR MLR
comp=Z,4µm,20.0s,MS5.5
COR **Corvallis** 54.62 299 eP P 15 48 15.0 +1.7
comp=Z,327nm,1.5s,mb6.1
COR LR LR
comp=Z,4µm,20.0s,MS5.5
COR **Corvallis** 54.62 299 eP P 15 48 15.0 +1.7
comp=Z,327nm,1.5s,mb6.1
M07A **Soldier Meadow** 54.63 293 ⇑P P 15 48 14.0 +0.7
baz=54,SNR=33
K05A **Summer Lake** 54.63 296 ⇑P P 15 48 14.0 +0.6
baz=54
I04A **Tendick Farm,** 54.70 298 ⇑P P 15 48 12.2 -1.7
baz=55,SNR=9.6
HAKT **HAKKARI** 54.71 73 i P P 15 48 11.7 -2.2
TRCR **Troy Canyon** 54.75 288 eP P 15 48 14.2 0.0
SLKM **Skilak Lake** 54.78 327 eP P 15 48 15.7 +1.2
P09A **Austin** 54.78 291 ⇑P P 15 48 15.1 +0.6
baz=55
O08A **Rochester Mine** 54.83 292 ⇓P P 15 48 15.3 +0.5
baz=55
MOD **Modoc** 54.88 295 eP P 15 48 15.2 0.0
comp=Z,103nm,1.4s,mb5.7
MOD LR LR
comp=Z,2µm,21.0s,MS5.1
MOD **Modoc** 54.88 295 ⇓P P 15 48 14.2 -1.0
baz=55,SNR=38
MOD **Modoc** 54.88 295 eP P 15 48 15.2 0.0
comp=Z,103nm,1.4s,mb5.7
H02A **Toledo** 54.92 299 ⇑P P 15 48 15.8 +0.3
baz=55
J04A **Umpqua Nationa** 54.92 297 ⇑P P 15 48 15.5 +0.1
baz=55,SNR=6.8
N07B **Gerlach** 54.94 293 ⇓P P 15 48 16.4 +0.8
baz=55,SNR=5.9
I03A **Eugene** 55.03 298 ⇓P P 15 48 16.3 0.0
baz=55
L05A **Lakeview** 55.07 295 ⇓P P 15 48 17.1 +0.6
baz=55
W15A **Williams** 55.09 283 ⇓P P 15 48 17.5 +0.8
baz=55,SNR=6.0
AB31 **Akbulak array** 55.10 53 ⇑eP P 15 48 16.3 -0.5
K04A **Chilquin** 55.16 296 ⇓P P 15 48 17.3 +0.2
baz=55
P08A **Dixie Valley** 55.20 291 ⇑P P 15 48 17.9 +0.4
baz=55
EIL **Elat** 55.25 86 eP P 15 48 17.9 0.0
comp=Z,4µm,1.9s
EIL **Elat** 55.25 86 eP P 15 48 17.9 +0.1
comp=Z,4µm,1.9s
I02A **Mapleton** 55.30 299 ⇓P P 15 48 18.5 +0.3
baz=55
Q09A **Carvers** 55.31 290 ⇓P P 15 48 19.0 +0.7
baz=55,SNR=6.0
O07A **Toulon** 55.32 292 ⇓P P 15 48 19.0 +0.6
baz=55,SNR=20
HOG **Hogback Mounta** 55.40 296 P P 15 48 19.4 +0.5
HOG **Hogback Mounta** 55.40 296 P P 15 48 19.4 +0.5
N06A **Buffalo Meadow** 55.43 293 ⇑P P 15 48 19.7 +0.5
baz=55,SNR=61
M06C **Likely Place G** 55.46 294 ⇓P P 15 48 19.9 +0.5
baz=55,SNR=6.0
U12A **Valley of Fire** 55.51 286 ⇑P P 15 48 19.4 -0.2
baz=55
W14A **Seligman** 55.53 284 ⇓P P 15 48 20.3 +0.4
baz=56,SNR=25
L04A **Klamath Falls** 55.55 296 ⇓P P 15 48 19.6 -0.3
baz=56,SNR=5.8
TNA **Tin City** 55.55 338 eP P 15 48 19.1 -1.0
comp=Z,106nm,1.5s,mb5.7
TNA LR LR
comp=Z,2µm,21.0s,MS5.0
TNA **Tin City** 55.55 338 eP P 15 48 19.1 -0.9
comp=Z,106nm,1.5s,mb5.7
X15A **Humboldt** 55.56 283 P P 15 48 21.4 +1.2
baz=56,SNR=29
J02A **Umpqua** 55.61 298 ⇑P P 15 48 20.0 -0.5
baz=56
R09A **Tonopah** 55.66 289 P P 15 48 21.3 +0.5
baz=56,SNR=84
Q08A **Gabbs** 55.70 290 P P 15 48 21.4 +0.3
baz=56,SNR=28
M05C **Lookout** 55.72 295 P P 15 48 21.7 +0.5
baz=56,SNR=43
P07A **Fallon** 55.76 292 ⇑P P 15 48 22.1 +0.6
baz=56
M04C **Macdoel** 55.79 295 ⇑P P 15 48 21.7 0.0
baz=56,SNR=35
HUMO **Hull Mountain** 55.81 297 eP P 15 48 19.5 -2.4
comp=Z,49nm,1.5s,mb5.3
HUMO LR LR
comp=Z,3µm,19.0s,MS5.4
O06A **Flanigan** 55.84 293 ⇓P P 15 48 22.9 +0.8
baz=56
TPH **Tonopah** 55.86 289 eP P 15 48 22.9 +0.7
TPH pmax pmax
comp=Z,175nm,1.3s,mb5.9
TPH MLR MLR
comp=Z,5µm,19.0s,MS5.6
TPH **Tonopah** 55.86 289 eP P 15 48 22.9 +0.7
comp=Z,175nm,1.3s,mb5.9
TPH LR LR
comp=Z,5µm,19.0s,MS5.6
TPH **Tonopah** 55.86 289 eP P 15 48 22.9 +0.7
comp=Z,175nm,1.3s,mb5.9
X14A **Yava** 55.95 283 ⇓P P 15 48 23.4 +0.5
baz=56,SNR=5.8
K02A **Glendale** 55.98 297 ⇑P P 15 48 22.1 -1.0
baz=56
U11A **Corn Creek** 55.99 287 ⇑P P 15 48 23.0 -0.1
baz=56
SVW2 **Sparrevohn** 56.00 330 eP P 15 48 26.1 +2.8
ELFS **Eagle Lake Fie** 56.01 294 ⇑P P 15 48 23.9 +0.6
baz=56,SNR=7.0
W13A **Hualapai Mount** 56.08 284 ⇓P P 15 48 24.3 +0.5
baz=56
S09A **Goldfield** 56.11 289 ⇑P P 15 48 23.9 -0.2
baz=56,SNR=53
Q07A **Schurz** 56.14 291 ⇑P P 15 48 23.8 -0.4
baz=56
R08A **Mina** 56.16 290 ⇓P P 15 48 24.3 -0.1
baz=56,SNR=5.2
V12A **Nelson** 56.18 286 ⇑P P 15 48 24.7 +0.2
baz=56
NVAR **Mina Array Bea** 56.22 290 P P 15 48 24.8 +0.1
comp=Z,34nm,1.2s,mb5.2,baz=43,slow=5.5,SNR=21
NVAR PcP PcP 15 49 23.5 +1.0
comp=Z,6.7nm,1.1s,baz=21,slow=7.7,SNR=2.1
P06A **Stead Airport,** 56.22 292 ⇓P P 15 48 25.5 +0.7
baz=56
HATC **Hat Creek Radi** 56.27 294 P P 15 48 25.4 +0.3
baz=56,SNR=23
TUC **Tucson** 56.28 280 eP P 15 48 25.5 +0.3
TUC pmax pmax
comp=Z,104nm,1.5s,mb5.6
TUC MLR MLR
comp=Z,15µm,20.0s,MS6.1
TUC **Tucson** 56.28 280 eP P 15 48 25.5 +0.2
comp=Z,104nm,1.5s,mb5.6
TUC LR LR
comp=Z,15µm,20.0s,MS6.1
TUC **Tucson** 56.28 280 eP P 15 48 25.5 +0.3
comp=Z,104nm,1.5s,mb5.6
YBH **Yreka Blue Hor** 56.29 296 eP P 15 48 23.6 -1.7
YBH pmax pmax
comp=Z,53nm,1.3s
YBH MLR MLR
comp=Z,4µm,19.0s
YBH **Yreka Blue Hor** 56.29 296 eP P 15 48 23.6 -1.7
comp=Z,53nm,1.3s,mb5.4
YBH LR LR
comp=Z,4µm,19.0s,MS5.5
YBH **Yreka Blue Hor** 56.29 296 P P 15 48 23.9 -1.5
baz=56,SNR=13
YBH **Yreka Blue Hor** 56.29 296 eP P 15 48 23.6 -1.7
comp=Z,53nm,1.3s,mb5.4
M03C **McCloud** 56.30 295 ⇓P P 15 48 25.0 -0.3
baz=56,SNR=6.9
BEKR **Beckwourth** 56.34 293 ⇓P P 15 48 25.8 +0.2
baz=56,SNR=34
Y14A **Wickenburg** 56.40 283 ⇓P P 15 48 26.7 +0.6
baz=56,SNR=5.3
WCN **Washoe City** 56.40 292 ⇓P P 15 48 26.6 +0.5
baz=56,SNR=5.5
X13A **Yucca** 56.41 284 ⇓P P 15 48 26.7 +0.5
baz=56
O04C **Chester** 56.41 294 ⇑P P 15 48 26.1 -0.1
baz=56,SNR=6.4
V11A **Goodsprings** 56.43 286 ⇓P P 15 48 26.5 +0.2
baz=56,SNR=5.4
K01A **Sixes** 56.47 298 ⇑P P 15 48 26.5 -0.1
baz=56
L02A **Cave Junction** 56.47 297 ⇓P P 15 48 25.6 -1.0
baz=56,SNR=7.6
W12A **Cal Nev Ari** 56.50 285 ⇑P P 15 48 26.8 0.0
baz=56
U10A **Ash Meadows, A** 56.53 287 ⇑P P 15 48 27.4 +0.4
baz=56,SNR=5.1
O05C **Quincy** 56.57 293 ⇑P P 15 48 27.6 +0.3
baz=56
M02C **Callahan** 56.61 296 ⇑P P 15 48 25.8 -1.8
baz=56
116A **Eloy** 56.63 281 ⇓P P 15 48 28.0 +0.3
baz=57
TGUH **Tegucigalpa,Un** 56.66 246 eP P 15 48 26.3 -1.6
comp=Z,150nm,1.3s,mb5.9
TGUH LR LR
comp=Z,3µm,19.0s,MS5.4
TGUH **Tegucigalpa,Un** 56.66 246 eP P 15 48 26.3 -1.6
comp=Z,150nm,1.3s,mb5.9
GRAC **Grapevine Rang** 56.70 288 ⇓P P 15 48 27.9 -0.4
baz=57,SNR=5.4
NEE2 **Needles Airpor** 56.73 285 ⇓P P 15 48 28.3 -0.2
baz=57
Z14A **Wintersburg** 56.78 282 ⇑P P 15 48 29.4 +0.6
baz=57,SNR=24
R06C **Coleville** 56.78 291 ⇑P P 15 48 29.0 +0.1
baz=57
PDMCI **Parker Dam,Lak** 56.79 284 P P 15 48 29.5 +0.6
baz=57,SNR=5.5
FURC **Furnace Creek,** 56.80 288 ⇓P P 15 48 29.0 +0.1
baz=57
115A **Sonoran Desert** 56.84 281 ⇓P P 15 48 30.5 +1.3
baz=57,SNR=11
P05C **Yuba Gap, Truc** 56.87 293 ⇓P P 15 48 29.8 +0.4
baz=57,SNR=5.9
R07C **Lee Vining** 56.87 291 ⇑P P 15 48 29.7 +0.2
baz=57
BRVK **Borovoye** 56.96 44 P P 15 48 29.2 -0.9
comp=Z,255nm,1.1s,mb6.2,SNR=10.0
BRVK **Borovoye** 56.96 44 ⇑P P 15 48 30.3 +0.2
SNR=32
BRVK **Borovoye** 56.96 44 eP P 15 48 29.4 -0.7
BRVK pmax pmax
comp=Z,91nm,1.4s,mb5.6
BRVK MLR MLR
comp=Z,1µm,22.0s,MS4.9
BRVK **Borovoye** 56.96 44 eP P 15 48 29.4 -0.7
comp=Z,91nm,1.4s,mb5.6
BRVK LR LR
comp=Z,1µm,22.0s,MS4.9
BRVK **Borovoye** 56.96 44 eP P 15 48 29.4 -0.7
comp=Z,91nm,1.4s,mb5.6
M01C **Crescent City** 56.96 297 ⇓P P 15 48 29.6 -0.5
baz=57
R05C **Kirkwood Meado** 57.00 292 ⇓P P 15 48 30.0 -0.4
baz=57
TUQ **Turquoise Mtn.** 57.00 286 ⇓P P 15 48 30.8 +0.4
baz=57
WDC **Whiskeytown Da** 57.02 295 eP P 15 48 29.0 -1.5
WDC pmax pmax
comp=Z,62nm,1.6s,mb5.4
WDC MLR MLR
comp=Z,3µm,19.0s,MS5.4
WDC **Whiskeytown Da** 57.02 295 eP P 15 48 29.0 -1.5
comp=Z,62nm,1.6s,mb5.4
WDC LR LR
comp=Z,3µm,19.0s,MS5.4
WDC **Whiskeytown Da** 57.02 295 ⇑P P 15 48 28.4 -2.1
baz=57
WDC **Whiskeytown Da** 57.02 295 eP P 15 48 29.0 -1.5
comp=Z,62nm,1.6s,mb5.4
BVA0 **Borovoye Array** 57.02 44 i P P 15 48 30.5 0.0
BVA0 pmax pmax
comp=Z,37nm,2.0s,mb5.1
MLAC **Mammoth Lakes** 57.08 290 ⇑P P 15 48 30.9 0.0
baz=57
O03C **Acorn Hollow,** 57.15 294 ⇑P P 15 48 30.6 -0.8
baz=57,SNR=5.5
ORV **Oroville** 57.18 293 ⇓P P 15 48 30.6 -1.0
baz=57,SNR=24
N02C **Big Bar** 57.25 296 ⇑P P 15 48 31.1 -1.1
baz=57,SNR=6.2
GMRC **Granite Mounta** 57.32 285 ⇓P P 15 48 32.6 0.0
baz=57,SNR=5.6
LAVA **Lava Cap Winer** 57.33 292 ⇑P P 15 48 32.1 -0.6
baz=57,SNR=5.9
DAC **Darwin (Calif)** 57.35 288 eP P 15 48 33.2 +0.4
DAC pmax pmax
comp=Z,148nm,1.4s,mb5.8
DAC MLR MLR
comp=Z,2µm,22.0s,MS5.2
DAC **Darwin (Calif)** 57.35 288 eP P 15 48 33.2 +0.4
comp=Z,148nm,1.4s,mb5.8
DAC LR LR
comp=Z,2µm,22.0s,MS5.2
DAC **Darwin (Calif)** 57.35 288 eP P 15 48 33.2 +0.4
comp=Z,148nm,1.4s,mb5.8
BILL **Bilibino** 57.39 351 eP P 15 48 32.1 -1.0
BILL pmax pmax
comp=Z,58nm,2.0s,mb5.3
BILL **Bilibino** 57.39 351 P P 15 48 33.5 +0.4
comp=Z,63nm,1.5s,mb5.4
BILL LR LR
comp=Z,2µm,20.0s,MS5.2
BILL **Bilibino** 57.39 351 P P 15 48 33.5 +0.4
comp=Z,63nm,1.5s,mb5.4
Y12C **Blythe** 57.41 284 ⇓P P 15 48 33.4 +0.1
baz=57,SNR=24
O02C **Red Bluff** 57.43 295 ⇓P P 15 48 33.4 0.0
baz=57
MPMC **Manual Prospec** 57.44 288 ⇓P P 15 48 33.3 -0.2
baz=57,SNR=37
S06C **San Francisco** 57.46 291 ⇓P P 15 48 33.8 +0.1
baz=57,SNR=42
IRM **Iron Mountain** 57.48 285 ⇑P P 15 48 34.0 +0.3
baz=57,SNR=5.6
VOSK **Vostochnaya** 57.49 44 P P 15 48 33.5 -0.3
VOSK pmax pmax
comp=Z,156nm,1.8s,mb5.7
CWC **Cottonwood Cre** 57.50 289 ⇑P P 15 48 34.3 +0.4
baz=57,SNR=6.0
KCC **Kaiser Creek** 57.56 290 ⇑P P 15 48 34.4 0.0
baz=58
SUTB **Sutter Butte** 57.56 293 ⇑P P 15 48 33.4 -0.9
baz=58
GSC **Goldstone** 57.60 287 ⇓P P 15 48 35.1 +0.5
baz=58
GSC **Goldstone** 57.60 287 eP P 15 48 35.1 +0.5
Q04C **Lincoln** 57.62 293 ⇑P P 15 48 34.5 -0.2
baz=58
JCC **Jacoby Creek** 57.64 296 ⇓P P 15 48 34.4 -0.5
baz=58
CMB **Columbia Colle** 57.65 291 eP P 15 48 34.8 -0.1
CMB pmax pmax
comp=Z,122nm,1.6s,mb5.7
CMB MLR MLR
comp=Z,6µm,19.0s,MS5.7
CMB **Columbia Colle** 57.65 291 eP P 15 48 34.8 -0.2
comp=Z,122nm,1.6s,mb5.7
CMB LR LR
comp=Z,6µm,19.0s,MS5.7
CMB **Columbia Colle** 57.65 291 ⇑P P 15 48 35.2 +0.2
baz=58,SNR=5.5
CMB **Columbia Colle** 57.65 291 eP P 15 48 34.8 -0.1
comp=Z,122nm,1.6s,mb5.7
KDAK **Kodiak Island** 57.66 326 PFAKE 15 48 50.0 +15
KDAK LR LR
comp=Z,554nm,19.0s,MS4.7
HEC **Hector,Ludlow** 57.67 286 ⇓P P 15 48 35.6 +0.5
baz=58
GASB **Alder Springs** 57.77 294 ⇑P P 15 48 35.3 -0.5
baz=58
R04C **Big Horse Ranc** 57.79 292 ⇓P P 15 48 36.0 0.0
baz=58
HELL **Mitchell Peak,** 57.86 289 P P 15 48 37.0 +0.6
baz=58,SNR=64
LRMC **Laurel Mountai** 57.97 287 ⇑P P 15 48 37.5 +0.2
baz=58,SNR=6.1
T06C **Milleton Lake** 58.01 290 ⇑P P 15 48 37.1 -0.4
baz=58,SNR=15
BC3 **Big Chuckw Mtn** 58.01 284 ⇓P P 15 48 38.0 +0.5
baz=58,SNR=6.1
RRX **Edison Barstow** 58.01 286 ⇑P P 15 48 37.7 +0.2
baz=58
O01C **Eel River Cons** 58.01 295 ⇓P P 15 48 37.7 +0.2
baz=58
BELC **Belle Mtn.** 58.08 285 ⇑P P 15 48 38.6 +0.6
baz=58,SNR=5.8
GLA **Glamis** 58.09 283 ⇓P P 15 48 38.6 +0.5
baz=58,SNR=5.5
GLA **Glamis** 58.09 283 eP P 15 48 38.9 +0.9
S05C **Merced** 58.11 291 ⇑P P 15 48 38.7 +0.6
baz=58
Q03C **Winters** 58.12 293 ⇑P P 15 48 38.2 0.0
baz=58
ROSC **El Rosal** 58.17 227 P P 15 48 38.9 +0.3
comp=Z,30nm,0.8s,mb5.4,baz=103,slow=13,SNR=23
ROSC LR LR 16 11 00.2
comp=Z,569nm,21.9s,MS4.6,baz=23,slow=33
ROSC **El Rosal** 58.17 227 eP P 15 48 39.2 +0.6
ROSC **El Rosal** 58.17 227 eP P 15 48 39.2 +0.6
P01C **Double H Ranch** 58.23 295 ⇑P P 15 48 38.7 -0.3
baz=58,SNR=5.8
ISA **Isabella** 58.28 288 eP P 15 48 39.9 +0.5
comp=Z,0.2nm,1.4s
ISA LR LR
comp=Z,443nm,20.0s,MS4.6
ISA **Isabella** 58.28 288 ⇓P P 15 48 40.1 +0.7
baz=58,SNR=22
ISA **Isabella** 58.28 288 eP P 15 48 39.9 +0.5
comp=Z,2.2nm,1.4s
BBRC **Big Bear Sol-O** 58.41 286 ⇑P P 15 48 41.4 +1.1
baz=58
HOPS **Hopland** 58.43 294 eP P 15 48 41.1 +0.7
comp=Z,405nm,1.5s,mb6.2
HOPS LR LR
comp=Z,4µm,20.0s,MS5.5
HOPS **Hopland** 58.43 294 ⇑P P 15 48 41.1 +0.6
baz=58,SNR=6.4
HOPS **Hopland** 58.43 294 eP P 15 48 41.1 +0.7
comp=Z,405nm,1.5s,mb6.2
VES **Vestal, Richgr** 58.50 289 ⇑P P 15 48 41.0 +0.1
baz=58,SNR=6.5
BDM **Black Diamond** 58.52 292 ⇓P P 15 48 41.6 +0.5
baz=58
S04C **Ingram Canyon,** 58.55 292 ⇑P P 15 48 41.5 +0.2
baz=58,SNR=5.3
CVS **Carmenet Viney** 58.56 293 ⇑P P 15 48 41.8 +0.4
baz=58,SNR=7.1
JTS **JuntasAbangare** 58.57 241 eP P 15 48 42.3 +0.9
JTS **JuntasAbangare** 58.57 241 eP P 15 48 37.3 -4.0
comp=Z,135nm,1.6s,mb5.7
JTS LR LR
comp=Z,818nm,20.0s,MS4.8
EDW2 **Edwards Air Fo** 58.58 287 ⇓P P 15 48 41.8 +0.4
baz=58,SNR=24
PFO **Pinyon Flat Ob** 58.62 285 P P 15 48 42.8 +1.0
comp=Z,370nm,1.1s,mb6.3,SNR=7.0
PFO **Pinyon Flat Ob** 58.62 285 P P 15 48 42.7 +0.9
PFO pmax pmax
comp=Z,120nm,1.2s,mb5.8
PFO **Pinyon Flat Ob** 58.62 285 eP P 15 48 42.0 +0.2
comp=Z,117nm,1.3s,mb5.8
PFO LR LR
comp=Z,542nm,20.0s,MS4.7
PFO **Pinyon Flat Ob** 58.62 285 ⇓P P 15 48 42.1 +0.3
baz=58,SNR=15
PFO **Pinyon Flat Ob** 58.62 285 eP P 15 48 42.0 +0.2
comp=Z,117nm,1.3s,mb5.8
T05C **Eagle Field, D** 58.62 291 ⇑P P 15 48 41.8 0.0
baz=58
U05C **Westside ANR,** 58.72 290 ⇑P P 15 48 42.7 +0.3
baz=59
SWSC **Sam W. Stewart** 58.73 284 ⇑P P 15 48 43.1 +0.5
baz=59,SNR=5.2
BFSC **Mount Baldy St** 58.85 286 ⇑P P 15 48 43.9 +0.5
baz=59,SNR=5.2
ARVC **Arvin** 58.87 288 ⇑P P 15 48 43.8 +0.3
baz=59
PACP **Pacheco Peak** 58.88 291 ⇓P P 15 48 44.7 +1.1
baz=59,SNR=6.6
MURC **Murrieta** 59.05 286 ⇑P P 15 48 45.6 +0.8
baz=59,SNR=5.9
U04C **Hernandez Rese** 59.07 290 ⇓P P 15 48 45.8 +0.9
baz=59
DVTC **Desert V Tower** 59.11 284 ⇓P P 15 48 45.9 +0.8
baz=59
MONP **Monument Peak** 59.12 284 ⇑P P 15 48 46.2 +1.0
baz=59,SNR=12
SAO **San Andreas Ge** 59.15 291 eP P 15 48 47.4 +2.0
SAO pmax pmax
comp=Z,63nm,1.2s,mb5.5
SAO MLR MLR
comp=Z,4µm,20.0s,MS5.5
SAO **San Andreas Ge** 59.15 291 eP P 15 48 47.4 +2.0

comp=Z,63nm,1.2s,mb5.5
SAO LR LR
comp=Z,4μm,20.0s,MS5.5
SAO San Andreas Ge 59.15 291 *e*P **P 15 48 47.4 +2.0**
comp=Z,63nm,1.2s,mb5.5
OSI Osito Adit 59.18 287 ⇑P **P 15 48 46.5 +0.8**
baz=59
PKD Parkfield 59.24 290 ⇓P **P 15 48 46.7 +0.7**
baz=59
FMP Fort Macarthur 59.59 286 ⇓P **P 15 48 48.1 -0.4**
baz=60
PKM Peak Mountain 59.60 288 ⇓P **P 15 48 48.5 0.0**
baz=60
NVS Novosibirsk 60.49 36 *e*P **P 15 48 53.5 -1.2**
NVS *e* 15 49 38.0
NVS *e* 15 51 03.3
NVS pmax pmax
comp=Z,149nm,1.6s,mb5.8
NVS pmax pmax
comp=N,63nm,1.7s
NVS pmax pmax
comp=E,28nm,1.5s
SNCC San Nicolas Is 60.63 287 PFAKE 15 49 10.0 +14
SNCC LR LR
comp=Z,3μm,20.0s,MS5.4
ZAL Zalesovo 61.77 35 P **P 15 49 03.1 -0.2**
comp=Z,3.9nm,0.8s,mb4.7,baz=154,slow=9.5,SNR=19
PcP PcP 15 49 43.8 -0.7
ZAL comp=Z,7.7nm,1.1s,baz=144,slow=3.5,SNR=5.7
ZAL LR LR 16 16 05.2
comp=Z,1μm,21.4s,MS5.1,baz=158,slow=36
ZAL Zalesovo 61.77 35 P **P 15 49 03.1 -0.2**
ZAL 15 49 43.8
ZAL Zalesovo 61.77 35 PcP PcP 15 49 43.8 -0.7
KURK Kurchatov 62.09 41 P **P 15 49 04.8 -0.7**
comp=Z,225nm,1.2s,mb6.3,SNR=11
KURK Kurchatov 62.09 41 P **P 15 49 05.3 -0.2**
SNR=22
KURK Kurchatov 62.09 41 *e*P **P 15 49 03.7 -1.8**
KURK pmax pmax
comp=Z,58nm,1.2s,mb5.7
KURK MLR MLR
comp=Z,549nm,22.0s,MS4.7
KURK Kurchatov 62.09 41 *e*P **P 15 49 03.7 -1.8**
comp=Z,58nm,1.2s,mb5.7
KURK LR LR
comp=Z,549nm,22.0s,MS4.7
KURK Kurchatov 62.09 41 *e*P **P 15 49 03.7 -1.8**
comp=Z,58nm,1.2s,mb5.7
ABKT Ailbek 62.35 63 P **P 15 49 07.7 +0.5**
comp=Z,185nm,1.2s,mb6.2,SNR=13
MIB Mutribah 62.40 77 *e*P **P 15 49 07.5 -0.1**
MIB AMb AMB 15 49 14.9
comp=Z,238nm,1.3s,mb6.3
KRAR Krasnoyarsk 62.61 30⇑*i*P **P 15 49 08.8 -0.2**
KRAR pmax pmax
comp=Z,97nm,1.2s,mb5.8
NAY Al-Naaiem 62.76 77 *e*P **P 15 49 08.6 -1.3**
NAY AMb AMB 15 49 15.7
comp=Z,59nm,1.1s,mb5.7
KBD Kabd 63.08 77 *e*P **P 15 49 11.4 -0.6**
RDF Al-Radifah 63.18 77 *e*P **P 15 49 11.6 -1.1**
RDF AMb AMB 15 49 18.9
comp=Z,236nm,1.1s,mb6.2
SEY Seymchan 63.42 356 *e*P **P 15 49 14.3 -0.1**
YAK Yakutsk 63.89 8 *e*P **P 15 49 15.8 -1.7**
YAK pmax pmax
comp=Z,42nm,1.2s,mb5.5
YAK pmax pmax
comp=N,40nm,1.6s
YAK pmax pmax
comp=E,11nm,1.2s
YAK Yakutsk 63.89 8 *e*P **P 15 49 17.0 -0.5**
comp=E,84nm,1.4s,mb5.8
YAK Yakutsk 63.89 8 *e*P **P 15 49 17.0 -0.5**
comp=E,84nm,1.4s,mb5.8
ASCN Ascension 64.05 157 PFAKE 15 49 30.0 +12
ASCN LR LR
comp=Z,165nm,20.0s,MS4.2
OTAV Otavalo 64.11 229 *e*P **P 15 49 18.5 -0.5**
comp=Z,52nm,0.6s,mb5.9
OTAV Otavalo 64.11 229 *e*P **P 15 49 18.5 -0.4**
comp=Z,52nm,0.6s,mb5.9
KK31 Karatay Array 64.58 51 *i*P **P 15 49 21.8 -0.2**
KKAR Karatay Array 64.58 51 P **P 15 49 21.8 -0.2**
KKAR pmax pmax
comp=Z,153nm,1.6s,mb6.0
BOD Bodaibo 65.97 17 *e*P **P 15 49 28.2 -2.8**
BOD pmax pmax
comp=Z,25nm,1.4s,mb5.2
EKS2 Erkin-Say 66.42 49 P **P 15 49 34.6 +0.7**
SNR=20
FRU Bishkek 66.66 49 *i*P **P 15 49 35.0 -0.4**
FRU pmax pmax
comp=Z,130nm,2.2s,mb5.8
MK31 Makanchi Array 66.69 41 *e*P **P 15 49 34.9 -0.7**
MKAR Makanchi Array 66.69 41 P **P 15 49 34.5 -1.1**
comp=Z,7.5nm,0.8s,mb5.0,baz=327,slow=4.3,SNR=30
MKAR LR LR 16 19 12.5
comp=Z,1μm,18.5s,MS5.1,baz=302,slow=36
MKAR Makanchi Array 66.69 41⇑*e*P **P 15 49 35.0 -0.6**
AAK Ala-Archa 66.77 49 P **P 15 49 37.3 +1.2**
SNR=14
AAK Ala-Archa 66.77 49 P **P 15 49 36.7 +0.6**
comp=Z,194nm,1.4s,mb6.1,SNR=10
AAK Ala-Archa 66.77 49 ⇑P **P 15 49 36.2 +0.1**
SNR=28
AAK Ala-Archa 66.77 49 *e*P **P 15 49 35.4 -0.7**
AAK pmax pmax
comp=Z,87nm,1.6s,mb5.7
AAK Ala-Archa 66.77 49 *e*P **P 15 49 36.0 -0.1**
comp=Z,108nm,1.5s,mb5.9
AAK LR LR
comp=Z,787nm,20.0s,MS4.9
AAK Ala-Archa 66.77 49 *e*P **P 15 49 36.0 -0.1**
comp=Z,108nm,1.5s,mb5.9
AML Almayashu 66.80 50 P **P 15 49 37.8 +1.5**
SNR=10
SAML Samuel 66.81 210 *e*P **P 15 49 33.1 -3.3**
comp=Z,33nm,1.1s,mb5.5
SAML LR LR
comp=Z,2μm,21.0s,MS5.3
TKM2 Tokmak 2 67.03 48 P **P 15 49 41.3 +3.5**
SNR=5.7
UCH Uchtor 67.10 49 P **P 15 49 40.2 +2.0**
SNR=20
AAA Alma-Ata 67.34 47 *i*P **P 15 49 41.0 +1.3**
AAA pmax pmax
comp=Z,1μm,4.1s
KZA Kyzart 67.55 49 P **P 15 49 42.7 +1.6**
SNR=13
CLNS Chul'man 68.53 11 *e*P **P 15 49 44.9 -2.4**
CLNS pmax pmax
comp=Z,25nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,26nm,1.6s
CLNS pmax pmax
comp=E,6.0nm,1.5s
CLNS MLR MLR
comp=Z,500nm,16.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,600nm,18.0s,MS4.9
MOY Mondy 68.74 27 *e*P **P 15 49 48.0 -0.5**
MOY pmax pmax
comp=Z,105nm,2.7s,mb5.6
IRK Irkutsk 69.08 25 *e*P **P 15 49 48.5 -2.2**
IRK pmax pmax
comp=Z,134nm,1.8s,mb5.9
TLY Talaya 69.43 26 *e*P **P 15 49 52.4 -0.4**
TLY *e*S S 15 58 56.1 -5.0
TLY *e*SSS 16 06 30.0
TLY pmax pmax
comp=Z,24nm,1.4s,mb5.2
TLY Talaya 69.43 26 *e*P **P 15 49 51.0 -1.8**
TLY LR LR
comp=Z,242nm,19.0s,MS4.5
TLY Talaya 69.43 26 *e*P **P 15 49 51.0 -1.8**
KSH Kashi 69.93 50 P **P 15 49 57.5 +1.6**
KSH *e*AP 15 50 01.0
KSH *e*XP sP 15 50 04.0 +8.0
KSH *e*PCP PcP 15 50 19.0 +0.7
KSH *e*PP PP 15 52 34.0 +3.5
KSH *e*S S 15 59 06.5 -0.5
KSH *e*XS sS 15 59 14.0 +6.9
KSH *e*PS 15 59 37.0
KSH *e*SKS 15 59 53.0
KSH *e*SCS ScS 15 59 55.5 -3.8
KSH AMB AMB
comp=Z,2μm,5.1s
ZAK Zakamensk 70.52 27 *e*P **P 15 50 01.1 +1.6**
ZAK pmax pmax
comp=Z,11nm,1.6s,mb4.7
PAYG Puerto Ayora 70.63 240 PFAKE 15 50 10.0 +10
PAYG LR LR
comp=Z,2μm,20.0s,MS5.3
HATD Hatta, Dubai 71.23 74 ⇓P **P 15 50 03.7 -0.1**
SNR=25
WMQ Urumqi 71.26 40 ⇓P **P 15 50 04.3 +0.2**
WMQ AP 15 50 09.3
WMQ XP sP 15 50 11.5 +7.4
WMQ PCP PcP 15 50 24.3 +0.3
WMQ PP PP 15 52 44.5 +2.6
WMQ S S 15 59 20.3 -2.2
WMQ XS sS 15 59 27.3 +4.7
WMQ AMB AMB
comp=Z,45nm,1.2s,mb5.5
WMQ LR LR
comp=N,1μm,26.2s,MS5.2
WMQ LR LR
comp=E,1μm,21.2s,MS5.2
WMQ LR LR
comp=Z,1μm,24.5s,MS5.2
CIT Chita 71.38 20 *e*P **P 15 50 04.8 0.0**
CIT *e* 15 50 16.6
CIT *e* 15 52 39.6
CIT pmax pmax
comp=Z,113nm,2.1s,mb5.6
PET Petropavlovsk 72.88 351 *e*P **P 15 50 12.8 -1.0**
PET MLR MLR
comp=Z,1μm,20.0s,MS5.1
BIDO Bidbid 73.38 73 P **P 15 50 15.2 -1.5**
SNR=7.0
BSY Bisya 73.46 74 P **P 15 50 15.6 -1.7**
SNR=16
SONM Songino Array 73.67 26 P **P 15 50 18.1 -0.3**
comp=Z,18nm,1.0s,mb5.0,baz=332,slow=5.9,SNR=52
SONM LR LR 16 26 00.4
comp=Z,790nm,18.3s,MS5.0,baz=102,slow=38
SMDO Samad 73.70 73 P **P 15 50 17.3 -1.3**
SNR=15
ULN Ulaanbaatar 73.81 25 P **P 15 50 19.4 +0.2**
SNR=43
ULN Ulaanbaatar 73.81 25 *e*P **P 15 50 18.5 -0.8**
ULN Ulaanbaatar 73.81 25 *e*P **P 15 50 19.0 -0.2**
comp=Z,132nm,1.3s,mb5.8
SHEL Horse Pasture 74.01 150 PFAKE 15 50 30.0 +10
SHEL LR LR
comp=Z,209nm,20.0s,MS4.4
JMDO Jabal Madar 74.27 74 ⇑P **P 15 50 21.8 -0.1**
SNR=8.2
NNA Nana 74.41 222 PFAKE 15 50 30.0 +7.2
NNA LR LR
comp=Z,292nm,22.0s,MS4.5
HIA Hailar 75.16 17 *e*P **P 15 50 26.4 -0.7**
HIA pmax pmax
comp=Z,60nm,1.4s
HIA MLR MLR
comp=Z,1μm,21.0s
HIA Hailar 75.16 17 *e*P **P 15 50 26.4 -0.7**
comp=Z,60nm,1.4s,mb5.4
HIA LR LR
comp=Z,1μm,21.0s,MS5.2
HIA Hailar 75.16 17 *e*P **P 15 50 26.4 -0.7**
comp=Z,60nm,1.4s,mb5.4
LPAZ La Paz 75.25 212 P **P 15 50 26.5 -1.2**
comp=Z,16nm,1.0s,mb5.0,baz=12,slow=7.2,SNR=21
LPAZ LR LR 16 22 07.3
comp=Z,535nm,18.6s,MS4.9,baz=192,slow=35
LPAZ La Paz 75.25 212 *e*P **P 15 50 26.1 -1.5**
LPAZ pmax pmax
comp=Z,55nm,1.4s
LPAZ MLR MLR
comp=Z,693nm,20.0s
LPAZ La Paz 75.25 212 *e*P **P 15 50 26.1 -1.5**
comp=Z,55nm,1.4s,mb5.4
LPAZ LR LR
comp=Z,693nm,20.0s,MS5.0
THN Thein Dam 75.58 55 *e*P **P 15 50 29.1 -0.4**
KLR Kul'dur 76.75 9 *e*P **P 15 50 32.0 -4.2**
KLR *e*S S 16 00 23.5 -0.8
KLR pmax pmax
comp=N,90nm,2.6s
KLR pmax pmax
comp=Z,260nm,2.6s,mb5.9
KLR pmax pmax
comp=Z,1μm,6.0s
KLR MLR MLR
comp=E,900nm,17.0s
HABR Khabarovsk 77.76 6⇓*e*P **P 15 50 40.1 -1.7**
HABR *e* 15 50 49.2
HABR *e*S S 16 00 32.8 -2.5
HABR *e* 16 01 01.6
HABR pmax pmax
comp=Z,52nm,2.8s,mb5.2
NDI New Delhi 79.39 56 *e*P **P 15 50 50.0 -0.8**
NDI *e*P 15 50 51.7
NDI AMb AMB 15 50 58.4
comp=Z,205nm,1.6s,mb5.9
GTA Gaotai 79.45 34⇓*i*P **P 15 50 49.5 -1.6**
GTA AP 15 50 55.8
GTA XP sP 15 50 58.5 +7.3
GTA PP PP 15 53 50.8 -0.4
GTA PPP 15 55 43.3
GTA S S 16 00 50.3 -3.1
GTA XS sS 16 00 59.0 +5.6
GTA SKS 16 01 00.8
GTA PS 16 01 37.3
GTA SS SS 16 05 58.3 -2.2
GTA AMB AMB
comp=Z,16nm,1.8s,mb4.8
GTA AMB AMB
comp=Z,543nm,7.2s
GTA LR LR
comp=N,866nm,20.9s,MS5.2
GTA LR LR
comp=E,665nm,18.6s,MS5.2
GTA LR LR
comp=Z,1μm,18.2s,MS5.3
YSS Yuzh-Sakhalins 79.59 1 *e*P **P 15 50 50.8 -1.1**
YSS pmax pmax
comp=Z,155nm,1.5s,mb5.7
YSS Yuzh-Sakhalins 79.59 1 *e*P **P 15 50 51.0 -0.9**
comp=Z,149nm,1.4s,mb5.7
YSS Yuzh-Sakhalins 79.59 1 *e*P **P 15 50 51.0 -0.9**
comp=Z,149nm,1.4s,mb5.7
AJM Ajmer 79.93 59 *e*P **P 15 50 53.0 -0.7**
KMBO Kilima Mbogo 80.74 105 P **P 15 50 58.1 0.0**
comp=Z,2.6nm,0.2s,mb4.9,baz=63,slow=20,SNR=9.0
KMBO LR LR 16 26 38.6
comp=Z,1μm,20.1s,MS5.2,baz=282,slow=36
KMBO Kilima Mbogo 80.74 105 *e*P **P 15 50 58.8 +0.7**
KMBO pmax pmax
comp=Z,35nm,1.6s
KMBO MLR MLR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 80.74 105 *e*P **P 15 50 58.8 +0.7**
comp=Z,35nm,1.6s,mb5.1
KMBO LR LR
comp=Z,1μm,20.0s,MS5.2
KMBO Kilima Mbogo 80.74 105 *e*P **P 15 50 58.8 +0.7**
comp=Z,35nm,1.6s,mb5.1
MDJ Mudanjiang 81.10 11 P **P 15 50 58.3 -1.8**
MDJ AP 15 51 01.5
MDJ S S 16 01 09.5 -1.3
MDJ AMB AMB
comp=Z,20nm,1.9s,mb4.8
MDJ LR LR
comp=E,334nm,32.6s
MDJ LR LR
comp=Z,286nm,37.3s,MS4.3
MDJ Mudanjiang 81.10 11 *e*P **P 15 50 59.2 -0.9**
comp=Z,70nm,1.3s,mb5.5
MDJ LR LR
comp=Z,583nm,22.0s,MS4.9
MDJ Mudanjiang 81.10 11 *e*P **P 15 50 59.2 -0.9**
comp=Z,70nm,1.3s,mb5.5
BTO Baotou 81.35 26 *e*P **P 15 51 01.8 +0.4**
CN2 Changchun 81.38 14 *e*P **P 15 51 00.8 -0.7**
CN2 *e*XP sP 15 51 07.8 +6.2
CN2 *e*S S 16 01 09.0 -4.7
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 LR LR
comp=N,700nm,16.0s,MS5.2
CN2 LR LR
comp=E,500nm,16.0s,MS5.2
CN2 LR LR
comp=Z,600nm,16.0s,MS5.0
LVC Limon Verde 81.43 211 *e*P **P 15 51 00.7 -1.1**
comp=Z,86nm,1.3s,mb5.6
LVC LR LR
comp=Z,1μm,21.0s,MS5.2
HHC Hu-ho-hao-te 81.51 25⇓*i*P **P 15 51 01.5 -0.7**
HHC XP sP 15 51 08.5 +6.2
HHC PP PP 15 54 09.5 +1.2
HHC S S 16 01 11.0 -4.0
HHC XS sS 16 01 17.8 +2.7
HHC SS SS 16 06 30.5 -0.9
HHC AMB AMB
comp=Z,27nm,1.5s,mb5.2
HHC AMB AMB
comp=Z,788nm,5.5s
HHC LR LR
comp=N,783nm,22.5s,MS5.2
HHC LR LR
comp=E,636nm,17.9s,MS5.2
HHC LR LR
comp=Z,914nm,21.6s,MS5.1
VLA Vladivostok 82.82 9 *e*P **P 15 51 09.0 -0.1**
VLA *e* 15 51 13.2
VLA pmax pmax
comp=Z,113nm,2.3s,mb5.7
VLA MLR MLR
comp=Z,600nm,16.3s,MS5.0
VLA Vladivostok 82.82 9 *e*P **P 15 51 08.8 -0.3**
SNY Shenyang 83.03 16 ⇓P **P 15 51 08.3 -1.9**
SNY AP 15 51 20.8
SNY S S 16 01 26.5 -4.1
SNY PS 16 02 11.5
SNY SS SS 16 06 48.5 -5.4
SNY AMB AMB
comp=Z,56nm,2.3s,mb5.4
SNY AMB AMB
comp=Z,325nm,4.0s
SNY LR LR
comp=N,556nm,17.5s,MS5.3
SNY LR LR
comp=E,804nm,14.1s,MS5.3
SNY LR LR
comp=Z,623nm,16.5s,MS5.1
KOLN Koldanda 83.20 51 *e*P **P 15 51 10.5 -0.6**
comp=Z,186nm,1.4s,mb6.1
BJI Beijing 83.36 22 *e*P **P 15 51 11.0 -0.9**
BJI AMB AMB
comp=Z,35nm,1.9s,mb5.3
BJI AMB AMB
comp=Z,744nm,5.7s
BJI LR LR
comp=E,657nm,18.1s
BJI LR LR
comp=Z,1μm,21.9s,MS5.2
BJI Beijing 83.36 22 *e*P **P 15 51 11.1 -0.8**
comp=Z,35nm,1.9s,mb5.3
BJI LR LR
comp=Z,1μm,21.9s,MS5.2
BJT Baijiatuau 83.38 22 P **P 15 51 10.6 -1.4**
BJT pmax pmax
comp=Z,101nm,1.4s
BJT MLR MLR
comp=Z,1μm,21.0s
BJT Baijiatuau 83.38 22 P **P 15 51 10.6 -1.4**
comp=Z,101nm,1.4s,mb5.9
BJT LR LR
comp=Z,1μm,21.0s,MS5.3
BJT Baijiatuau 83.38 22 P **P 15 51 10.6 -1.4**
comp=Z,101nm,1.4s,mb5.9
GKN Gorkha 83.47 50 *e*P **P 15 51 11.9 -0.6**
comp=Z,196nm,1.3s,mb6.2
LZH Lanzhou 83.78 32 *e*P **P 15 51 14.8 +0.8**
LZH AP 15 51 18.8
LZH XP sP 15 51 20.0 +5.9
LZH PP PP 15 54 29.0 +2.1
LZH SKS 16 01 34.0
LZH *e*S S 16 01 36.0 -2.2
LZH XS sS 16 01 41.0 +2.8
LZH SS SS 16 07 06.5 +1.5
LZH AMB AMB
comp=Z,102nm,1.1s,mb6.0
LZH AMB AMB
comp=Z,462nm,4.0s
LZH LR LR
comp=N,985nm,14.0s
LZH LR LR
comp=Z,2μm,17.0s,MS5.5
LZH Lanzhou 83.78 32 *e*P **P 15 51 14.8 +0.8**
LZH *PP 15 51 18.8
LZH *SP sP 15 51 19.9 +5.8
LZH 15 54 29.1
LZH 16 01 34.0
LZH *e*S S 16 01 36.0 -2.2
LZH SS SS 16 07 06.6 +1.6
LZH pmax pmax
comp=Z,102nm,1.1s,mb6.0
LZH MLR MLR
comp=Z,2μm,17.0s,MS5.5
LZH Lanzhou 83.78 32 *e*P **P 15 51 14.8 +0.8**
comp=Z,102nm,1.1s,mb6.0
LZH pP 15 51 18.8
LZH sP sP 15 51 19.9 +5.8
LZH PP PP 15 54 29.1 +2.2
LZH SKS 16 01 34.0
LZH *e*S S 16 01 36.0 -2.2
LZH sS sS 16 01 41.1 +2.9
LZH SS SS 16 07 06.6 +1.6
LZH LR LR
comp=Z,2μm,17.0s,MS5.5
KKN Kakani 83.95 50 *e*P **P 15 51 14.5 -0.4**
comp=Z,254nm,1.4s,mb6.3
BHPL Bhopal 84.01 58 *e*P **P 15 51 14.5 -0.8**
BHPL AMb AMB 15 51 21.2
comp=Z,70nm,1.3s,mb5.7
DMN Daman 84.03 50 *e*P **P 15 51 15.3 0.0**
comp=Z,304nm,1.3s,mb6.4
GUN Gumba 84.12 49 *e*P **P 15 51 15.8 0.0**
comp=Z,244nm,1.2s,mb6.3
PKI Pulchoki 84.20 50 *e*P **P 15 51 15.9 -0.3**
comp=Z,141nm,1.3s,mb6.0
ERM Erimo 84.53 1 PFAKE 15 51 30.0 +12
ERM LR LR
comp=Z,246nm,20.0s,MS4.6
LSA Lhasa 84.85 45 P **P 15 51 21.0 +1.5**
LSA Lhasa 84.85 45 *e*P **P 15 51 18.0 -1.5**
LSA pmax pmax
comp=Z,84nm,1.8s,mb5.7
LSA MLR MLR
comp=Z,2μm,19.0s,MS5.5
LSA Lhasa 84.85 45 *e*P **P 15 51 18.0 -1.5**
comp=Z,84nm,1.8s,mb5.7
LSA LR LR
comp=Z,2μm,19.0s,MS5.5
DL2 Dalian 85.54 18 P **P 15 51 22.0 -0.9**
DL2 S S 16 01 52.5 -3.2
DL2 XS sS 16 02 00.5 +4.7
DL2 SS SS 16 07 30.5 -0.5
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.5
DL2 AMB AMB
comp=Z,320nm,5.8s
DL2 LR LR
comp=N,290nm,14.8s,MS5.0
DL2 LR LR
comp=E,280nm,14.1s,MS5.0
DL2 LR LR
comp=Z,450nm,18.3s,MS4.9
TSUM Tsumeb 85.76 131 *e*P **P 15 51 20.5 -3.6**
comp=Z,38nm,1.5s,mb5.3
TSUM LR LR
comp=Z,843nm,19.0s,MS5.2
AKL Akola 85.91 60 *e*P **P 15 51 23.4 -1.3**
AKL AMb AMB 15 51 30.6
comp=Z,72nm,1.2s,mb5.7
POO Poona 86.05 64 *e*P **P 15 51 25.0 -0.5**
XAN Xi'an 87.21 29 P **P 15 51 29.5 -1.6**
XAN AP 15 51 40.0
XAN S S 16 01 58.5 -13

XAN AMB AMB
comp=Z,33nm,1.6s,mb5.3
XAN LR LR
comp=E,735nm,23.8s
XAN LR LR
comp=Z,1μm,22.2s,MS5.2
TIA Tai'an 87.23 22 *e*P **P 15 51 31.0 -0.3**
KAD Karad 87.24 64 *e*P **P 15 51 31.1 -0.2**
KAD AMb AMB 15 51 36.3
comp=Z,73nm,1.5s,mb5.7
LSZ Lusaka 87.50 120 P **P 15 51 32.2 -0.4**
SNR=11
LSZ Lusaka 87.50 120 *e*P **P 15 51 31.2 -1.4**
LSZ pmax pmax
comp=Z,52nm,1.4s,mb5.7
LSZ MLR MLR
comp=Z,1μm,21.0s,MS5.2
LSZ Lusaka 87.50 120 *e*P **P 15 51 31.2 -1.4**
comp=Z,52nm,1.4s,mb5.7
LSZ LR LR
comp=Z,1μm,21.0s,MS5.2
BOK Bokaro 87.65 52 *e*P **P 15 51 32.9 -0.3**
BOK AMb AMB 15 51 39.8
comp=Z,56nm,1.3s,mb5.7
KSRS Korea Array 87.96 13 P **P 15 51 32.9 -1.8**
comp=Z,13nm,1.2s,mb5.1,baz=347,slow=5.6,SNR=8.0
KSRS LR LR 16 34 20.4
comp=Z,559nm,18.1s,MS5.0,baz=337,slow=38
CD2 Chengdu 88.51 34⇓ *i*P **P 15 51 36.3 -1.0**
CD2 AP 15 51 41.0
CD2 XP sP 15 51 43.5 +6.1
CD2 PP PP 15 55 06.3 +1.1
CD2 SKS 16 02 02.3
CD2 S S 16 02 19.3 -5.1
CD2 XS sS 16 02 27.3 +2.9
CD2 PS 16 03 26.5
CD2 SS SS 16 08 12.5 -1.9
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.8
CD2 AMB AMB
comp=Z,500nm,10.8s
CD2 LR LR
comp=N,1μm,21.6s,MS5.4
CD2 LR LR
comp=E,1μm,20.4s,MS5.4
CD2 LR LR
comp=Z,2μm,20.4s,MS5.4
HYB Hyderabad 89.45 61 *i*P **P 15 51 39.0 -2.8**
HYB *e*SKS 16 02 32.0
HYB *e*SS SS 16 08 28.0 -0.1
HYB Hyderabad 89.45 61 *e*P **P 15 51 39.0 -2.8**
MAJO Matsushiro 89.83 5 PFAKE 15 51 50.0 +6.4
MAJO LR LR
comp=Z,677nm,22.0s,MS5.0
MJAR Matsushiro Arr 89.83 5 P **P 15 51 43.3 -0.3**
comp=Z,3.4nm,1.0s,mb4.5,baz=342,slow=4.9,SNR=5.0
VIS Vishakhapatnam 91.61 57 *e*P **P 15 51 51.8 0.0**
VIS AMb AMB 15 51 58.1
comp=Z,30nm,0.8s,mb5.7
NJ2 Nanjing 91.62 22 *e*P **P 15 51 53.0 +1.1**
NJ2 AP 15 51 59.0
NJ2 XP sP 15 52 01.5 +10
NJ2 S S 16 02 52.0 -1.2
NJ2 XS sS 16 02 59.0 +5.8
NJ2 AMB AMB
comp=Z,640nm,9.5s
NJ2 LR LR
comp=N,460nm,25.3s,MS5.1
NJ2 LR LR
comp=E,850nm,25.5s,MS5.1
NJ2 LR LR
comp=Z,740nm,26.7s,MS5.0
WHN Wuhan 91.99 26 P **P 15 51 54.3 +0.7**
WHN SKS 16 02 28.0
WHN LR LR
comp=N,932nm,18.0s,MS5.3
WHN LR LR
comp=E,320nm,14.0s,MS5.3
SSE Sheshan 93.03 20 P **P 15 51 56.3 -2.1**
SSE PP PP 15 55 37.0 -4.1
SSE S S 16 02 59.3 -6.6
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.9
SSE AMB AMB
comp=Z,160nm,5.5s
SSE LR LR
comp=N,356nm,20.0s,MS5.0
SSE LR LR
comp=E,483nm,20.0s,MS5.0
SSE LR LR
comp=Z,898nm,19.2s,MS5.2
SSE Sheshan 93.03 20 P **P 15 51 56.2 -2.2**
comp=Z,35nm,0.7s,mb5.9
SSE sP sP 15 52 00.8 +2.4
SSE PP PP 15 55 37.0 -4.1
SSE S S 16 02 59.3 -6.6
SSE sS sS 16 03 05.1 -0.8
SSE LR LR
comp=Z,900nm,19.2s,MS5.2
KMI Kunming 93.46 37 P **P 15 51 59.5 -0.9**
KMI AP 15 52 06.5
KMI XP sP 15 52 09.3 +8.9
KMI PP PP 15 55 40.8 -3.7
KMI PPP 15 57 52.5
KMI SKS 16 02 33.3
KMI S S 16 03 04.5 -5.1
KMI PS PS 16 04 18.3 -4.0
KMI SS SS 16 09 22.0 -3.9
KMI SSS 16 12 57.5
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,269nm,4.8s
KMI LR LR
comp=N,852nm,20.3s,MS5.3
KMI LR LR
comp=E,573nm,19.2s,MS5.3
KMI LR LR
comp=Z,809nm,20.3s,MS5.2
KMI Kunming 93.46 37 P **P 15 51 59.5 -0.9**
KMI *PP 15 52 06.6
KMI *SP sP 15 52 09.3 +8.9
KMI 15 55 40.8
KMI PPP 15 57 52.4
KMI 16 02 33.2
KMI S S 16 03 04.5 -5.1
KMI PS PS 16 04 18.3 -4.0
KMI SS SS 16 09 22.0 -3.9
KMI pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
KMI MLR MLR
comp=Z,810nm,20.3s,MS5.2
KMI Kunming 93.46 37 P **P 15 51 59.5 -0.9**
comp=Z,9.0nm,1.2s,mb5.1
KMI pP 15 52 06.6
KMI sP sP 15 52 09.3 +8.9
KMI PP PP 15 55 40.8 -3.7
KMI PPP 15 57 52.4
KMI SKS 16 02 33.2
KMI S S 16 03 04.5 -5.1
KMI PS PS 16 04 18.3 -4.0
KMI SS SS 16 09 22.0 -3.9
KMI SSS 16 12 57.6
KMI LR LR
comp=Z,810nm,20.3s,MS5.2
GYA Guiyang 93.58 34⇑ *i*P **P 15 52 00.8 -0.1**
GYA SKS 16 02 33.5
GYA S S 16 03 05.5 -5.2
GYA SS SS 16 09 25.8 -1.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,670nm,7.2s
GYA LR LR
comp=N,1μm,20.4s,MS5.5
GYA LR LR
comp=E,970nm,20.8s,MS5.5
GYA LR LR
comp=Z,1μm,21.4s,MS5.3
MDRS Chennai 93.97 62 *e*P **P 15 52 04.5 +1.8**
MDRS AMb AMB 15 52 11.3
comp=Z,42nm,0.1s
MSEY Mahe Island 94.26 92 PFAKE 15 52 20.0 +16
MSEY LR LR
comp=Z,169nm,21.0s,MS4.5

TRQA Tornquist 94.34 201 PFAKE 15 52 10.0 +5.5
TRQA LR LR
comp=Z,1μm,19.0s,MS5.3
LBTB Lobatse 94.47 127 *e*P **P 15 52 04.0 -1.0**
LBTB pmax pmax
comp=Z,15nm,1.2s,mb5.2
LBTB MLR MLR
comp=Z,1μm,21.0s,MS5.3
LBTB Lobatse 94.47 127 *e*P **P 15 52 04.0 -1.0**
comp=Z,15nm,1.2s,mb5.2
LBTB LR LR
comp=Z,1μm,21.0s,MS5.3
BOSA Boshof 97.37 129 P **P 15 52 17.1 -1.1**
comp=Z,5.5nm,1.0s,mb5.1,baz=302,slow=6.5,SNR=4.8
BOSA LR LR 16 34 03.3
comp=Z,2μm,20.6s,MS5.5,baz=338,slow=34
CHTO Chiang Mai 97.73 43 PFAKE 15 52 30.0 +10
CHTO LR LR
comp=Z,1μm,22.0s,MS5.4
CM31 Chiang Mai Arr 98.05 43 PFAKE 15 52 30.0 +8.7
CM31 LR LR
comp=Z,1μm,22.0s,MS5.4
JOW Kunigami 98.45 15 LR LR 16 36 14.9
comp=Z,509nm,21.2s,MS5.0,baz=345,slow=35
SUR Sutherland 98.64 135 PFAKE 15 52 30.0 +6.0
SUR LR LR
comp=Z,352nm,21.0s,MS4.8
TATO Taipei 99.02 21 PFAKE 15 52 40.0 +14
TATO LR LR
comp=Z,888nm,20.0s,MS5.3
PALK Pallekele 99.07 64 PFAKE 15 52 40.0 +14
PALK LR LR
comp=Z,286nm,21.0s,MS4.8
QIZ Qiongzhong 101.53 33 P Pdif 15 52 34.0 -2.8
QIZ S Sdif 16 04 15.0 -3.6
QIZ AMB AMB
comp=Z,21nm,1.8s
QIZ LR LR
comp=E,722nm,18.9s
QIZ LR LR
comp=Z,816nm,20.1s,MS5.2
QIZ Qiongzhong 101.53 33 PFAKE 15 52 50.0 +13
QIZ LR LR
comp=Z,846nm,20.0s,MS5.3
DGAR Diego Garcia 106.47 80 PFAKE 15 57 20.0 +10
DGAR LR LR
comp=Z,236nm,19.0s,MS4.8
PTCN Pitcairn Islan 112.54 258 PFAKE 15 57 30.0 +8.8
PTCN LR LR
comp=Z,1μm,22.0s,MS5.5
RKT Rikitea 113.90 263 *e*PP PP 15 58 13.3 -3.7
comp=Z,66nm,30.0s
RKT Rikitea 113.90 263 *e*SP SP 16 07 52.2 -1.6
comp=Z,254nm,30.3s
RKT *e*SS SS 16 14 21.2 +14
comp=Z,328nm,30.2s
RKT *e*LR LR 16 31 36.5
comp=Z,2μm,39.8s,baz=36
PPT Papeete 118.24 279 *e*PP PP 15 58 33.2 -14
comp=Z,65nm,25.5s
PPT Papeete 118.24 279 *e*SP SP 16 08 31.1 -2.2
comp=Z,361nm,26.5s
PPT *e*SS SS 16 15 13.9 +10
comp=Z,1μm,27.2s
PPT *e*LR LR 16 33 42.6
comp=Z,2μm,24.0s,baz=30
PMSA Palmer Station 120.31 194 PFAKE 15 57 50.0 +14
PMSA LR LR
comp=Z,651nm,22.0s,MS5.2
TBI Tubuai 122.64 275 *e*PP PP 15 58 52.0 -26
comp=Z,77nm,29.2s
TBI Tubuai 122.64 275 *e*SP SP 16 09 11.1 -1.6
comp=Z,137nm,28.0s
TBI *e*SS SS 16 16 28.0 +27
comp=Z,845nm,34.5s
TBI *e*LR LR 16 35 50.4
comp=Z,2μm,21.8s,baz=40
COCO West Island 123.96 61 PFAKE 15 57 50.0 +6.9
COCO LR LR
comp=Z,200nm,19.0s,MS4.8
FUNA Funafuti 126.96 315 PFAKE 15 58 00.0 +11
FUNA LR LR
comp=Z,3μm,19.0s,MS6.0
SNAA Sanae 127.29 168 *e*PKIKP PKPdf 15 57 46.0 -3.5
AFI Afiamalu 127.52 302 PFAKE 15 58 00.0 +10
AFI LR LR
comp=Z,1μm,19.0s,MS5.5
NVL N'lazarevskaya 128.79 162 *e*PKIKP PKPdf 15 57 51.9 -0.4
NVL pmax pmax
comp=Z,34nm,1.8s
NVL MLR MLR
comp=Z,381nm,17.0s,MS5.2
HNR Honiara 134.04 339 PFAKE 15 58 10.0 +7.7
HNR LR LR
comp=Z,667nm,19.0s,MS5.4
SYO Syowa Base 134.10 151⇑ *e*PKPdf PKPdf 15 58 00.7 -1.7
SYO Syowa Base 134.10 151⇑ *e*pPKPdf pPKPdf 15 58 03.3 +0.9
PMG Port Moresby 135.66 356 PFAKE 15 58 20.0 +15
PMG LR LR
comp=Z,407nm,19.0s,MS5.2
MAW Mawson 140.95 143 *e*PKP PKPdf 15 58 10.1 -4.9
comp=Z,83nm,1.0s
MAW Mawson 140.95 143 PKhKP 15 58 08.7
comp=Z,10nm,1.0s,baz=240,slow=3.8,SNR=5.8
QSPA South Pole Qui 143.71 180 *e*PKPpre 15 58 13.3
QSPA LR LR
comp=Z,462nm,20.0s,MS5.2
DZM Mont Dzumac 144.22 324 *e*P PKPdf 15 58 17.6 -3.2
DZM Mont Dzumac 144.22 324 PKP PKPdf 15 58 18.4 -2.4
comp=Z,32nm,1.2s,baz=42,slow=9.4,SNR=8.4
WRA Warramunga Ar 145.27 17 PKPbc PKPbc 15 58 20.2 -2.1
comp=Z,7.5nm,0.9s,baz=342,slow=2.8,SNR=35
WB2 Warramunga Arr 145.28 17 *e*PKP PKPdf 15 58 21.2 -1.4
CTA Charters Tower 146.30 357 *e*P PKPdf 15 58 25.4 +1.0
comp=Z,23nm,1.4s
CTA Charters Tower 146.30 357 PKPbc PKPbc 15 58 24.6 -0.9
comp=Z,24nm,1.1s,baz=0.1,slow=4.1,SNR=16
CTAO Charters Tower 146.30 357 *e*PKP2 PKPab 15 58 26.1 -0.2
CTAO MLR MLR
comp=Z,410nm,21.0s,MS5.2
AS31 Alice Springs 148.82 19 *e*PKP PKPdf 15 58 30.7 +2.1
ASAR Alice Springs 148.82 19 PKPbc PKPbc 15 58 30.4 -2.1
comp=Z,11nm,0.8s,baz=351,slow=2.4,SNR=79
ASPA Alice Springs 148.82 19 *e*PKP PKPdf 15 58 30.7 +2.1
MUN Mundaring 150.19 54 *e*PKP PKPdf 15 58 33.7 +3.0
KLBR Kellerberrin 150.60 52 *e*PKP PKPdf 15 58 33.0 +1.6
comp=Z,83nm,1.6s
NWAO Narrogin (SRO) 151.46 54 PFAKE 15 58 40.0 +7.3
NWAO LR LR
comp=Z,587nm,19.0s,MS5.4
MIR Mirnyy 152.31 138 *e*PKIKP PKPdf 15 58 39.0 +5.0
MIR pmax pmax
comp=Z,420nm,1.0s
URZ Urewera 152.89 292 PKP PKPdf 15 58 33.1 -1.7
comp=Z,14nm,1.0s,baz=63,slow=9.0
URZ PKPbc PKPbc 15 58 40.7 -1.3
comp=Z,25nm,1.0s,baz=5.6,slow=9.4,SNR=3.6
SBA Scott Base 154.60 191 *e*PKIKP PKPdf 15 58 33.8 -3.5
SBA MLR MLR
comp=Z,468nm,19.0s,MS5.3
VNDA Vanda 155.39 189 PKP PKPdf 15 58 34.0 -4.3
comp=Z,2.3nm,1.0s,baz=251,slow=2.9,SNR=11
VNDA Vanda 155.39 189 *e*PKPdf PKPdf 15 58 34.5 -3.9
STKA Stephens Creek 157.96 7 PKPab PKPab 15 59 09.8 -4.9
comp=Z,3.2nm,0.9s,baz=143,slow=8.6,SNR=2.8
CASY Casey 159.26 140 PFAKE 15 58 50.0 +6.8
CASY LR LR
comp=Z,866nm,20.0s,MS5.6
TAU Tasmania Unive 168.93 349 PFAKE 15 59 00.0 +8.0
TAU LR LR
comp=Z,249nm,19.0s

MAN 29 15:40:48.9,672N×12582E,h33km,mb3.4,ML4.6,MS3.3,
Mindanao

*MOS **29** 15:41:10.4±0.9,5623N×16306E,h15km,mb4.3/1, Error ellipse: s-maj=30.3km s-min=14.0km az=62.8*
KRSC 29 15:41:11.1±0.4,5620N×16293E,h11km±10km,ML4.2,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.06**	**277**	*i* P		Pg	15 41 14.6	+1.2
BDR	**Baidarnaya**	**1.03**	**292**	*i* P		Pg	15 41 30.8	-0.1
BDR				*i* S		Sg	15 41 45.7	+1.5
BDR	**Baidarnaya**	**1.03**	**292**	*i* P		Pg	15 41 30.8	-0.1
BDR				*i* S		Sg	15 41 45.7	+1.5
SRKR	**Sorokina**	**1.08**	**296**	*i* P		Pb	15 41 31.6	-0.2
SRKR				*i* S		Sb	15 41 46.1	+0.2
SRKR	**Sorokina**	**1.08**	**296**	*i* P		Pb	15 41 31.6	-0.2
SRKR				*i* S		Sb	15 41 46.1	+0.2
ZLN	**Zelenaya**	**1.21**	**262**	*i* P		Pn	15 41 34.4	+0.5
ZLN				*i* S		Sb	15 41 51.5	+2.0
ZLN	**Zelenaya**	**1.21**	**262**	*i* P		Pn	15 41 34.4	+0.5
ZLN				*i* S		Sb	15 41 51.5	+2.0
KLY	**Klyuchi**	**1.28**	**276**	*i* P		Pn	15 41 32.9	-2.0
KLY				*i* S		Sb	15 41 49.3	-2.2
KLY	**Klyuchi**	**1.28**	**276**	*i* P		Pn	15 41 32.9	-2.0
KLY				*i* S		Sb	15 41 49.3	-2.2
KRSR	**Krestovskiy**	**1.32**	**272**	*e*P		Pn	15 41 35.3	-0.2
KRSR				*i* S		Sb	15 41 53.4	+0.6
KRSR	**Krestovskiy**	**1.32**	**272**	*e*P		Pn	15 41 35.3	-0.2
KRSR				*i* S		Sb	15 41 53.4	+0.6
KPT	**Kopyto**	**1.54**	**262**	*e*P		Pn	15 41 39.5	+1.1
KPT				*i* S		Sn	15 42 00.7	+2.3
KPT	**Kopyto**	**1.54**	**262**	*e*P		Pn	15 41 39.5	+1.1
KPT				*i* S		Sn	15 42 00.7	+2.3
KMNR	**Kamenistaya**	**1.58**	**255**	*e*P		Pn	15 41 40.5	+1.5
KMNR				*i* S		Sn	15 42 02.5	+3.1
KMNR	**Kamenistaya**	**1.58**	**255**	*e*P		Pn	15 41 40.5	+1.5
KMNR				*i* S		Sn	15 42 02.5	+3.1
KOZR	**Kozyr**	**1.70**	**267**	PN		Pn	15 41 42.5	+1.8
KOZR				S		Sn	15 42 05.9	+3.4
KOZ	**Kozyrevsk**	**1.72**	**267**	*e*P		Pn	15 41 42.5	+1.6
KOZ				*i* S		Sn	15 42 05.9	+3.1
KOZ	**Kozyrevsk**	**1.72**	**267**	*e*P		Pn	15 41 42.5	+1.6
KOZ				*i* S		Sn	15 42 05.9	+3.1
MKZ	**Mys Kozlova**	**1.78**	**203**	*e*P		Pn	15 41 42.7	+0.9
MKZ				*i* S		Sn	15 42 05.1	+0.6
MKZ	**Mys Kozlova**	**1.78**	**203**	*e*P		Pn	15 41 42.7	+0.9
MKZ				*i* S		Sn	15 42 05.1	+0.6
SRDR	**Sredinnyy**	**1.80**	**275**	*i* P		Pn	15 41 43.4	+1.4
SRDR				*i* S		Sn	15 42 07.0	+2.2
SRDR	**Sredinnyy**	**1.80**	**275**	*i* P		Pn	15 41 43.4	+1.4
SRDR				*i* S		Sn	15 42 07.0	+2.2
TUMR	**Tumrok**	**1.82**	**241**	*i* P		Pn	15 41 44.3	+1.9
TUMR				*i* S		Sn	15 42 09.3	+3.9
TUMR	**Tumrok**	**1.82**	**241**	*i* P		Pn	15 41 44.3	+1.9
TUMR				*i* S		Sn	15 42 09.3	+3.9
SPN	**Mys Shipunski**	**3.54**	**210**	*e*P		Pn	15 42 07.0	+1.1
SPN				*i* S		Sn	15 42 47.1	-0.7
SPN	**Mys Shipunski**	**3.54**	**210**	*e*P		Pn	15 42 07.0	+1.1
SPN				*i* S		Sn	15 42 47.1	-0.7
NLC	**Nalytchevo**	**3.68**	**216**	*e*P		Pn	15 42 08.5	+0.6
NLC				*i* S		Sn	15 42 51.6	+0.3
NLC	**Nalytchevo**	**3.68**	**216**	*e*P		Pn	15 42 08.5	+0.6
NLC				*i* S		Sn	15 42 51.6	+0.3
AVH	**Avacha**	**3.81**	**221**	*e*P		Pn	15 42 12.7	+2.9
AVH				*e*S		Sn	15 42 57.3	+2.7
AVH	**Avacha**	**3.81**	**221**	*e*P		Pn	15 42 12.7	+2.9
AVH				*e*S		Sn	15 42 57.3	+2.7
GNL	**Ganaly**	**3.82**	**231**	*e*P		Pn	15 42 12.6	+2.8
GNL				*e*S		Sn	15 42 57.2	+2.5
GNL	**Ganaly**	**3.82**	**231**	*e*P		Pn	15 42 12.6	+2.8
GNL				*e*S		Sn	15 42 57.2	+2.5
PET	**Petropavlovsk**	**4.04**	**220**	*e*P		Pn	15 42 15.2	+2.4
PET				*i* S		Sn	15 43 03.0	+2.9
PET	**Petropavlovsk**	**4.04**	**220**	*e*P		Pn	15 42 15.2	+2.4
PET				*i* S		Sn	15 43 03.0	+2.9
RUS	**Russkaya**	**4.58**	**216**	*e*P		Pn	15 42 21.9	+1.7
RUS				*i* S		Sn	15 43 13.8	+0.5
RUS	**Russkaya**	**4.58**	**216**	*e*P		Pn	15 42 21.9	+1.7
RUS				*i* S		Sn	15 43 13.8	+0.5
GRL	**Gorelyy**	**4.63**	**220**	P		Pn	15 42 24.8	+3.9
GRL				*i* S		Sn	15 43 18.3	+3.6
GRL	**Gorelyy**	**4.63**	**220**	P		Pn	15 42 24.8	+3.9
GRL				*i* S		Sn	15 43 18.3	+3.6

KRSC 29 15:46:55.5±0.3,5619N×16291E,h12km±11km,ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.05**	**290**	*i* P		Pg	15 46 59.1	+1.3
KBTR				*e*S		Sg	15 47 01.4	+1.9
KBTR	**Krutoberegovo**	**0.05**	**290**	*i* P		Pg	15 46 59.1	+1.3
KBTR				*e*S		Sg	15 47 01.4	+1.9
BDR	**Baidarnaya**	**1.02**	**293**	*i* P		Pb	15 47 15.2	+0.1
BDR				*e*S		Sb	15 47 29.4	+1.0
BDR	**Baidarnaya**	**1.02**	**293**	*i* P		Pb	15 47 15.2	+0.1
BDR				*e*S		Sb	15 47 29.4	+1.0
SRKR	**Sorokina**	**1.07**	**296**	*i* P		Pb	15 47 15.9	-0.1
SRKR				*e*S		Sb	15 47 31.0	+1.0
SRKR	**Sorokina**	**1.07**	**296**	*i* P		Pb	15 47 15.9	-0.1
SRKR				*e*S		Sb	15 47 31.0	+1.0
ZLN	**Zelenaya**	**1.19**	**263**	*i* P		Pn	15 47 18.7	+0.7
ZLN				*e*S		Sb	15 47 35.5	+2.1
ZLN	**Zelenaya**	**1.19**	**263**	*i* P		Pn	15 47 18.7	+0.7
ZLN				*e*S		Sb	15 47 35.5	+2.1
KLY	**Klyuchi**	**1.27**	**277**	*i* P		Pn	15 47 17.3	-1.7
KLY				*e*S		Sb	15 47 33.0	-2.5
KLY	**Klyuchi**	**1.27**	**277**	*i* P		Pn	15 47 17.3	-1.7
KLY				*e*S		Sb	15 47 33.0	-2.5
KRSR	**Krestovskiy**	**1.31**	**272**	*e*P		Pn	15 47 19.6	0.0
KRSR				*e*S		Sb	15 47 37.5	+0.7
KRSR	**Krestovskiy**	**1.31**	**272**	*e*P		Pn	15 47 19.6	0.0
KRSR				*e*S		Sb	15 47 37.5	+0.7
KPT	**Kopyto**	**1.52**	**263**	*e*P		Pn	15 47 23.3	+0.8
KPT				S		Sn	15 47 44.1	+1.8
KPT	**Kopyto**	**1.52**	**263**	*e*P		Pn	15 47 23.3	+0.8
KPT				S		Sn	15 47 44.1	+1.8
KMNR	**Kamenistaya**	**1.56**	**255**	*e*P		Pn	15 47 24.8	+1.7
KMNR				*e*S		Sn	15 47 46.9	+3.6
KMNR	**Kamenistaya**	**1.56**	**255**	*e*P		Pn	15 47 24.8	+1.7
KMNR				*e*S		Sn	15 47 46.9	+3.6
KOZ	**Kozyrevsk**	**1.71**	**267**	*e*P		Pn	15 47 26.8	+1.8
KOZ				*e*S		Sn	15 47 50.2	+3.4
KOZ	**Kozyrevsk**	**1.71**	**267**	*e*P		Pn	15 47 26.8	+1.8
KOZ				*e*S		Sn	15 47 50.2	+3.4
MKZ	**Mys Kozlova**	**1.77**	**203**	*e*P		Pn	15 47 27.2	+1.3
MKZ				*e*S		Sn	15 47 49.7	+1.3
MKZ	**Mys Kozlova**	**1.77**	**203**	*e*P		Pn	15 47 27.2	+1.3
MKZ				*e*S		Sn	15 47 49.7	+1.3
SRDR	**Sredinnyy**	**1.79**	**275**	*e*P		Pn	15 47 27.7	+1.6
SRDR				*e*S		Sn	15 47 51.4	+2.6
SRDR	**Sredinnyy**	**1.79**	**275**	*e*P		Pn	15 47 27.7	+1.6
SRDR				*e*S		Sn	15 47 51.4	+2.6
TUMR	**Tumrok**	**1.81**	**241**	*i* P		Pn	15 47 28.7	+2.2
TUMR				*e*S		Sn	15 47 53.0	+3.7
TUMR	**Tumrok**	**1.81**	**241**	*i* P		Pn	15 47 28.7	+2.2
TUMR				*e*S		Sn	15 47 53.0	+3.7
SPN	**Mys Shipunski**	**3.52**	**210**	P		Pn	15 47 48.9	-1.1
SPN				S		Sn	15 48 29.3	-2.3
SPN	**Mys Shipunski**	**3.52**	**210**	P		Pn	15 47 48.9	-1.1
SPN				S		Sn	15 48 29.3	-2.3
NLC	**Nalytchevo**	**3.67**	**216**	S		Sn	15 48 37.9	+2.8
NLC	**Nalytchevo**	**3.67**	**216**	S		Sn	15 48 37.9	+2.8
AVH	**Avacha**	**3.80**	**221**	P		Pn	15 47 57.0	+3.2
AVH	**Avacha**	**3.80**	**221**	P		Pn	15 47 57.0	+3.2
GNL	**Ganaly**	**3.80**	**231**	P		Pn	15 47 56.4	+2.5
GNL	**Ganaly**	**3.80**	**231**	P		Pn	15 47 56.4	+2.5
PET	**Petropavlovsk**	**4.02**	**220**	S		Sn	15 48 47.5	+3.5
PET	**Petropavlovsk**	**4.02**	**220**	S		Sn	15 48 47.5	+3.5
RUS	**Russkaya**	**4.56**	**216**	P		Pn	15 48 06.8	+2.5
RUS	**Russkaya**	**4.56**	**216**	P		Pn	15 48 06.8	+2.5

*IDC **29** 16:04:05.1±1.9,2603N×9598E,h0km,mb3.2/4,mb1 3.4/4, mb1mx3.3/22,mbtmp3.2/4, Error ellipse: s-maj=85.5km s-min=24.4km az=69.0*
*ISCJB **29** 16:04:20.7±2.0,2601N±0.1×9577E±0.2,h163km±25km, mb3.1/4, Error ellipse: s-maj=35.1km s-min=20.1km az=128.3*
ISC 29 16:04:20.4±2.4,262N±02×958E±02,h138km±31km,n7,
σ1§21/8,mb3.1/4,1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.23**	**230**	*e*P		**Pn**	**16 04 57.0**	**-0.7**
IMP				*e*S		**Sn**	**16 05 28.0**	**+1.7**
SHL	**Shillong**	**3.61**	**260**	*e*PN		**Pn**	**16 05 14.3**	**-0.9**

SHL eSN Sn 16 05 57.0 -0.6
SONM Songino Array 23.11 18 P P 16 09 14.1 0.0
0.3nm,0.4s,mb3.1,baz=195,slow=10,SNR=3.9
MKAR Makanchi Array 23.16 336 P P 16 09 15.7 +1.1
0.3nm,0.4s,mb3.1,baz=146,slow=10,SNR=5.2
TRD Trivandrum 25.13 229|| eP pP 16 10 03.4 +1.8
WRA Warramunga Arr 59.20 137 P P 16 14 06.5 -0.4
0.2nm,0.5s,mb3.2,baz=323,slow=7.5,SNR=6.3
ASAR Alice Springs 61.79 140 P P 16 14 24.4 -0.1
0.2nm,0.5s,mb3.2,baz=323,slow=6.3,SNR=6.9

*BJI **29** 16:15:08.4,2680N×11420W,h10km,mB5.2,mb4.9,Ms4.8, Msz4.8*
*ISCJB **29** 16:15:12.2±0.5,2688N±005×11405W±004,h10km, mb4.5/15,MS4.3/9,Error ellipse: s-maj=6.8km s-min=4.4km az=45.7*
*MEX **29** 16:15:12.3,2670N×11409W,h10km*
*IDC **29** 16:15:12.1±0.9,2707N×11434W,h0km,mb4.4/11, mb1 4.5/16,mb1mx4.4/26,mbtmp4.4/16,ML4.3/5,MS4.2/13, Ms1 4.2/13,ms1mx4.1/39,Error ellipse: s-maj=22.6km s-min=13.6km az=53.0*
*NEIC **29** 16:15:13.5±0.6,2679N×11420W,h10km,mb4.5/18,Error ellipse: s-maj=10.0km s-min=6.1km az=57.0*
NEIC Felt at Bahia Asuncion.
ISC 29 16:15:11.7±0.5,2665N±004×11407W±004,h10km,n277, σ0s88/269,mb4.5/15,MS4.3/9,85C-83D,Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**4.24**	**126**	Pn	**Pb**	**16 16 25.4**	**-1.0**
	82nm,0.3s,baz=299,slow=3.3,SNR=48						
LPIG				Sn	**Sb**	**16 17 16.3**	**-1.3**
	19nm,0.3s,baz=348,slow=17,SNR=6.8						
LPIG				Lg		16 17 40.2	
	baz=15,slow=22,SNR=2.5						
LPIG	**La Paz**	**4.24**	**126**	*i* P	**Pb**	**16 16 25.9**	**-0.5**
LPIG				*i* S	**Sg**	**16 17 29.4**	**+1.5**
115A	**Sonoran Desert**	**6.24**	**14**	P	**Pn**	**16 16 42.8**	**-1.0**
	baz=6.1,SNR=32						
116A	**Eloy**	**6.24**	**19**	⇓P	**Pn**	**16 16 41.9**	**-1.9**
	baz=6.1,SNR=7.0						
TUC	**Tucson**	**6.33**	**26**	*e*Pn	**Pn**	**16 16 44.0**	**-1.0**
	33nm,0.8s						
TUC				S	**Sb**	**16 18 11.9**	**-5.6**
GLA	**Glamis**	**6.42**	**354**	*e*Pn	**Pn**	**16 16 44.4**	**-1.8**
GLA	**Glamis**	**6.42**	**354**	⇑P	**Pn**	**16 16 45.7**	**-0.5**
	baz=6.2						
SWSC	**Sam W. Stewart**	**6.45**	**347**	⇓P	**Pn**	**16 16 46.1**	**-0.5**
	baz=6.2						
MONP	**Monument Peak**	**6.55**	**342**	⇑P	**Pn**	**16 16 46.8**	**-1.2**
	baz=6.3						
109C	**Camp Elliot, M**	**6.76**	**338**	⇓P	**Pn**	**16 16 50.5**	**-0.4**
	baz=6.5						
Z14A	**Wintersburg**	**6.76**	**8**	P	**Pn**	**16 16 49.2**	**-1.7**
	baz=6.6,SNR=12						
BC3	**Big Chuckw Mtn**	**7.08**	**351**	⇑P	**Pn**	**16 16 54.3**	**-1.1**
	baz=6.9						
Y12C	**Blythe**	**7.09**	**357**	P	**Pn**	**16 16 53.6**	**-1.8**
	baz=6.9,SNR=19						
PFO	**Pinyon Flat Ob**	**7.24**	**344**	Pn	**Pn**	**16 16 59.0**	**+1.5**
	0.3nm,0.3s,baz=165,slow=12,SNR=3.2						
PFO				Lg		16 18 36.1	
	0.5nm,0.3s,baz=254,slow=20,SNR=2.8						
PFO				LR	LR	16 18 58.3	
	comp=Z,2μm,19.8s,baz=153,slow=33						
PFO	**Pinyon Flat Ob**	**7.24**	**344**	Pn	**Pn**	**16 17 00.2**	**+2.7**
	33nm,0.9s						
Y14A	**Wickenburg**	**7.32**	**7**	⇑P	**Pn**	**16 16 57.5**	**-1.2**
	baz=7.1,SNR=18						
MURC	**Murrieta**	**7.44**	**339**	⇓P	**Pn**	**16 16 58.7**	**-1.6**
	baz=7.2						
BELC	**Belle Mtn.**	**7.51**	**348**	⇓P	**Pn**	**16 17 00.6**	**-0.8**
	baz=7.3						
IRM	**Iron Mountain**	**7.54**	**353**	P	**Pn**	**16 17 00.2**	**-1.5**
	baz=7.3,SNR=18						
PDMCI	**Parker Dam,Lak**	**7.63**	**360**	⇑P	**Pn**	**16 17 01.6**	**-1.2**
	baz=7.4,SNR=12						
X14A	**Yava**	**7.86**	**7**	P	**Pn**	**16 17 05.2**	**-0.8**
	baz=7.7,SNR=27						
X13A	**Yucca**	**7.92**	**1**	⇓P	**Pn**	**16 17 05.6**	**-1.3**
	baz=7.7						
X15A	**Humboldt**	**7.97**	**11**	⇓P	**Pn**	**16 17 07.1**	**-0.4**
	baz=7.8,SNR=15						
NEE2	**Needles Airpor**	**8.11**	**357**	⇓P	**Pn**	**16 17 07.9**	**-1.5**
	baz=7.9						
GMRC	**Granite Mounta**	**8.22**	**351**	⇓P	**Pn**	**16 17 09.6**	**-1.4**
	baz=8.0						
HEC	**Hector,Ludlow**	**8.38**	**347**	⇓P	**Pn**	**16 17 12.4**	**-0.8**
	baz=8.2						
W13A	**Hualapai Mount**	**8.43**	**1**	⇓P	**Pn**	**16 17 13.0**	**-0.8**
	baz=8.2,SNR=15						
W14A	**Seligman**	**8.58**	**5**	⇓P	**Pn**	**16 17 15.7**	**-0.2**
	baz=8.4,SNR=24						
W15A	**Williams**	**8.64**	**10**	⇑P	**Pn**	**16 17 16.8**	**0.0**
	baz=8.5,SNR=8.3						
W12A	**Cal Nev Ari**	**8.65**	**356**	⇓P	**Pn**	**16 17 15.7**	**-1.2**
	baz=8.4						
EDW2	**Edwards Air Fo**	**8.87**	**339**	⇓P	**Pn**	**16 17 19.6**	**-0.3**
	baz=8.6						
GSC	**Goldstone**	**8.94**	**345**	⇓P	**Pn**	**16 17 20.1**	**-0.7**
	baz=8.7						
V12A	**Nelson**	**9.07**	**356**	⇓P	**Pn**	**16 17 21.9**	**-0.8**
	baz=8.9						
WUAZ	**Wupatki**	**9.14**	**14**	*e*P	**Pn**	**16 17 23.2**	**-0.3**
WUAZ	**Wupatki**	**9.14**	**14**	⇑P	**Pn**	**16 17 24.0**	**+0.5**
	baz=9.0						
V11A	**Goodsprings**	**9.23**	**353**	⇑P	**Pn**	**16 17 24.7**	**-0.2**
	baz=9.0						
LRMC	**Laurel Mountai**	**9.33**	**341**	⇓P	**Pn**	**16 17 25.5**	**-0.8**
	baz=9.1						
ARVC	**Arvin**	**9.39**	**335**	⇑P	**Pn**	**16 17 27.0**	**+0.1**
	baz=9.1						
SHOC	**Shoshone**	**9.41**	**349**	⇑P	**Pn**	**16 17 27.5**	**+0.1**
	baz=9.2						
TXAR	**Lajitas Array**	**9.57**	**71**	Pn	**Pn**	**16 17 34.5**	**+5.0**
	0.8nm,0.3s,baz=245,slow=12,SNR=60						
TXAR				Lg		16 20 10.8	
	0.0nm,0.3s,baz=243,slow=22,SNR=2.7						
TXAR				LR	LR	16 21 08.0	
	comp=Z,2μm,21.8s,baz=180,slow=37						
PKM	**Peak Mountain**	**9.59**	**330**	⇑P	**Pn**	**16 17 30.0**	**+0.2**
	baz=9.3						
Y22C	**IRIS PASSCAL I**	**9.63**	**38**	⇑P	**Pn**	**16 17 31.1**	**+0.8**
	baz=9.6						
LENM	**Lemitar**	**9.67**	**38**	*e*P	**Pn**	**16 17 30.3**	**-0.6**
ISA	**Isabella**	**9.74**	**338**	⇑P	**Pn**	**16 17 32.2**	**+0.3**
	baz=9.5						
U12A	**Valley of Fire**	**9.76**	**358**	⇓P	**Pn**	**16 17 31.6**	**-0.5**
	baz=9.6						
U11A	**Corn Creek**	**9.81**	**354**	⇑P	**Pn**	**16 17 33.2**	**+0.4**
	baz=9.6						
MPMC	**Manual Prospec**	**9.83**	**344**	⇓P	**Pn**	**16 17 33.3**	**+0.3**
	baz=9.6						
BNM	**Barren Site**	**9.85**	**39**	*e*P	**Pn**	**16 17 32.7**	**-0.7**
U10A	**Ash Meadows, A**	**9.93**	**349**	⇓P	**Pn**	**16 17 35.1**	**+0.7**
	baz=9.7						
LPM	**Los Pinos Moun**	**9.97**	**38**	*e*Pn	**Pn**	**16 17 35.2**	**+0.2**
SMMC	**Simmler**	**10.02**	**331**	⇓P	**Pn**	**16 17 35.9**	**+0.2**
	baz=9.8						
VES	**Vestal, Richgr**	**10.12**	**336**	⇓P	**Pn**	**16 17 36.8**	**-0.1**
	baz=9.9						
ANMO	**Albuquerque**	**10.54**	**36**	Pn	**Pn**	**16 17 44.2**	**+1.4**
	0.7nm,0.3s,baz=220,slow=12,SNR=24						
ANMO				Lg		16 20 37.7	
	0.2nm,0.3s,baz=311,slow=21,SNR=4.8						
ANMO	**Albuquerque**	**10.54**	**36**	*e*Pn	**Pn**	**16 17 43.7**	**+0.9**
	12nm,0.7s						
V04C	**Ramage Ranch,**	**10.68**	**329**	⇓P	**Pn**	**16 17 44.9**	**+0.2**
	baz=10						
PKD	**Parkfield**	**10.79**	**331**	⇓P	**Pn**	**16 17 45.4**	**-0.8**
	baz=10						
HELL	**Mitchell Peak,**	**10.85**	**338**	⇑P	**Pn**	**16 17 47.1**	**0.0**
	baz=11						
CCUT	**Cedar City**	**10.89**	**3**	*e*P	**Pn**	**16 17 47.8**	**+0.3**
ARUT	**Antelope Range**	**11.12**	**3**	P	**Pn**	**16 17 51.1**	**+0.4**
V03C	**Hunter Liggett**	**11.17**	**329**	⇓P	**Pn**	**16 17 51.5**	**+0.1**
	baz=11						
U04C	**Hernandez Rese**	**11.25**	**331**	⇑P	**Pn**	**16 17 52.9**	**+0.5**
	baz=11						
S09A	**Goldfield**	**11.36**	**347**	⇓P	**Pn**	**16 17 54.9**	**+0.9**
	baz=11,SNR=7.8						
T06C	**Millerton Lake**	**11.38**	**336**	⇓P	**Pn**	**16 17 54.9**	**+0.6**
	baz=11						
KCC	**Kaiser Creek**	**11.54**	**339**	⇓P	**Pn**	**16 17 57.4**	**+1.0**
	baz=11						
MVCO	**Mesa Verde**	**11.54**	**23**	⇑P	**Pn**	**16 17 57.8**	**+1.3**
	baz=11,SNR=6.1						
TPH	**Tonopah**	**11.70**	**348**	*e*P	**Pn**	**16 17 59.4**	**+0.7**
	18nm,1.2s						
TRCR	**Troy Canyon**	**11.74**	**354**	*e*P	**Pn**	**16 18 00.2**	**+1.1**
R09A	**Tonopah**	**11.83**	**348**	P	**Pn**	**16 18 01.2**	**+0.7**
	baz=12,SNR=20						
S05C	**Merced**	**11.91**	**335**	⇑P	**Pn**	**16 18 02.3**	**+0.8**
	baz=12						
MSU	**Marysvale**	**11.94**	**7**	*e*P	**Pn**	**16 18 04.2**	**+2.3**
PACP	**Pacheco Peak**	**12.01**	**331**	⇓P	**Pn**	**16 18 03.1**	**+0.2**
	baz=12						
R08A	**Mina**	**12.15**	**345**	⇑P	**Pn**	**16 18 05.6**	**+0.8**
	baz=12						
R07C	**Lee Vining**	**12.15**	**341**	⇓P	**Pn**	**16 18 06.0**	**+1.1**
	baz=12						
S06C	**San Francisco**	**12.22**	**338**	⇑P	**Pn**	**16 18 05.9**	**+0.2**
	baz=12						
Q11A	**Duckwater**	**12.23**	**354**	⇓P	**Pn**	**16 18 06.6**	**+0.6**
	baz=12,SNR=20						
NVAR	**Mina Array Bea**	**12.28**	**344**	Pn	**Pn**	**16 18 07.3**	**+0.8**
	0.1nm,0.3s,baz=150,slow=12,SNR=17						
NVAR	**Mina Array Bea**	**12.28**	**344**	Pn	**Pn**	**16 18 07.3**	**+0.8**
PV01	**Paradox Valley**	**12.35**	**21**	*e*P	**Pn**	**16 18 08.7**	**+1.1**
Q12A	**Willow Creek R**	**12.37**	**357**	⇓P	**Pn**	**16 18 09.1**	**+1.2**
	baz=12,SNR=7.0						
Q09A	**Carvers**	**12.43**	**349**	⇓P	**Pn**	**16 18 10.0**	**+1.4**
	baz=12						
CMB	**Columbia Colle**	**12.54**	**336**	*e*P	**Pn**	**16 18 10.3**	**+0.2**
	8.3nm,1.1s						
CMB	**Columbia Colle**	**12.54**	**336**	⇑P	**Pn**	**16 18 10.4**	**+0.2**
	baz=12						
Q08A	**Gabbs**	**12.60**	**346**	⇑P	**Pn**	**16 18 11.4**	**+0.4**
	baz=12						
R06C	**Coleville**	**12.68**	**340**	⇑P	**Pn**	**16 18 13.0**	**+1.0**
	baz=12						
WENL	**Wente Brothers**	**12.73**	**331**	⇓P	**Pn**	**16 18 14.4**	**+1.7**
	baz=12						
SRU	**San Rafael**	**12.78**	**13**	*e*P	**Pn**	**16 18 15.2**	**+1.8**
	28nm,0.9s						
P12A	**McGill**	**12.81**	**357**	P	**Pn**	**16 18 14.5**	**+0.7**
	baz=13,SNR=14						
TMUT	**Trail Mountain**	**12.84**	**10**	*e*P	**Pn**	**16 18 15.7**	**+1.5**
Q07A	**Schurz**	**12.88**	**343**	⇑P	**Pn**	**16 18 16.2**	**+1.4**
	baz=13						
P11A	**Circle Ranch,**	**12.95**	**354**	⇓P	**Pn**	**16 18 16.7**	**+1.0**
	baz=13						
R05C	**Kirkwood Meado**	**13.04**	**339**	⇓P	**Pn**	**16 18 18.0**	**+1.1**
	baz=13						
P10A	**Eureka**	**13.09**	**352**	⇑P	**Pn**	**16 18 17.8**	**+0.1**
	baz=13						
JCT	**Junction City**	**13.10**	**70**	*e*P	**Pn**	**16 18 22.9**	**+5.1**
	116nm,1.0s						
NLU	**North Lily Min**	**13.37**	**7**	*e*P	**Pn**	**16 18 23.9**	**+2.4**
MPU	**Maple Canyon**	**13.48**	**8**	*e*P	**Pn**	**16 18 22.3**	**-0.8**
	42nm,1.3s						
WCN	**Washoe City**	**13.49**	**341**	⇑P	**Pn**	**16 18 23.7**	**+0.7**
	baz=13						
O11A	**Cowboy Ranch,**	**13.51**	**355**	⇑P	**Pn**	**16 18 24.0**	**+0.5**
	baz=13						
DUG	**Dugway**	**13.55**	**4**	*e*P	**Pn**	**16 18 23.1**	**-0.8**
	31nm,1.2s						
DUG	**Dugway**	**13.55**	**4**	⇑P	**Pn**	**16 18 24.6**	**+0.7**
	baz=13						
O12A	**Currie**	**13.60**	**358**	⇑P	**Pn**	**16 18 25.1**	**+0.5**
	baz=13						
CVS	**Carmenet Viney**	**13.63**	**331**	⇑P	**Pn**	**16 18 25.3**	**+0.2**
	baz=13						
O09A	**Fish Creek Ran**	**13.73**	**350**	⇑P	**Pn**	**16 18 26.9**	**+0.4**
	baz=14,SNR=5.6						
O10A	**Cortez Mining,**	**13.76**	**352**	⇑P	**Pn**	**16 18 27.3**	**+0.5**
	baz=14,SNR=6.1						
DAU	**Daniels Canyon**	**13.93**	**9**	*e*P	**Pn**	**16 18 29.5**	**+0.5**
O07A	**Toulon**	**14.06**	**345**	⇓P	**Pn**	**16 18 31.3**	**+0.4**
	baz=14						
NOQ	**North Oquirrh**	**14.06**	**6**	*e*P	**Pn**	**16 18 32.1**	**+1.2**
	89nm,1.3s						
MNRC	**McLaughlin Nat**	**14.07**	**332**	⇑P	**Pn**	**16 18 31.9**	**+0.8**
	baz=14						
JLU	**Jordanelle**	**14.09**	**8**	P	**Pn**	**16 18 30.9**	**-0.4**
SUTB	**Sutter Butte**	**14.11**	**335**	⇑P	**Pn**	**16 18 32.6**	**+1.0**
	baz=14						
CTU	**Camp Tracy**	**14.14**	**7**	*e*P	**Pn**	**16 18 33.9**	**+2.0**
	53nm,1.2s						
N13A	**Wendover, West**	**14.17**	**360**	⇓P	**Pn**	**16 18 33.3**	**+0.9**
	baz=14						
BEKR	**Beckwourth**	**14.19**	**340**	⇑P	**Pn**	**16 18 33.3**	**+0.7**
	baz=14						
N12A	**Clover Valley,**	**14.19**	**357**	P	**Pn**	**16 18 33.1**	**+0.5**
	baz=14,SNR=5.8						
N11A	**Elko Archery C**	**14.20**	**355**	⇓P	**Pn**	**16 18 32.8**	**0.0**
	baz=14						
ORV	**Orrville**	**14.29**	**336**	⇓P	**Pn**	**16 18 34.0**	**0.0**
	baz=14						
N09A	**Rock Creek Ran**	**14.45**	**349**	⇑P	**Pn**	**16 18 36.1**	**-0.2**
	baz=14						
N07B	**Gerlach**	**14.67**	**345**	⇑P	**Pn**	**16 18 38.9**	**-0.3**
	baz=14						
M13A	**Montello**	**14.68**	**360**	⇓P	**Pn**	**16 18 39.0**	**-0.3**
	baz=14						
M12A	**Wells**	**14.75**	**357**	⇑P	**Pn**	**16 18 40.5**	**+0.2**
	baz=15						
M11A	**Holland Ranch,**	**14.81**	**355**	⇑P	**Pn**	**16 18 41.0**	**-0.1**
	baz=15						
N06A	**Buffalo Meadow**	**14.85**	**343**	⇓P	**Pn**	**16 18 42.1**	**+0.4**
	baz=15,SNR=8.5						
ISCO	**Idaho Springs**	**14.89**	**26**	*e*P	**Pn**	**16 18 43.3**	**+1.1**
	16nm,1.3s						
M10A	**I.L. Ranch, Tu**	**14.97**	**353**	⇓P	**Pn**	**16 18 43.6**	**+0.2**
	baz=15,SNR=9.0						
ELFS	**Eagle Lake Fie**	**14.99**	**340**	⇓P	**Pn**	**16 18 44.3**	**+0.8**
	baz=15						
M09A	**Marrel Ranch,**	**15.00**	**350**	⇓P	**Pn**	**16 18 44.2**	**+0.5**
	baz=15						
HVU	**Hansel Valley**	**15.13**	**4**	*e*P	**Pn**	**16 18 51.6**	**+6.2**
	36nm,1.0s						
M08A	**Happy Creek Ra**	**15.19**	**348**	⇑P	**Pn**	**16 18 46.5**	**+0.4**
	baz=15						
M07A	**Soldier Meadow**	**15.29**	**345**	⇓P	**Pn**	**16 18 47.8**	**+0.2**
	baz=15,SNR=15						
HATC	**Hat Creek Radi**	**15.40**	**338**	⇓P	**Pn**	**16 18 49.7**	**+0.7**
	baz=15						
WMOK	**Wichita Mounta**	**15.41**	**55**	*e*P	**Pn**	**16 18 49.9**	**+0.7**
	21nm,1.1s						
M06C	**Likely Place G**	**15.46**	**342**	⇓P	**Pn**	**16 18 50.1**	**+0.4**
	baz=15						
WDC	**Whiskeytown Da**	**15.57**	**335**	P	**Pn**	**16 18 50.4**	**-0.9**
	12nm,1.1s						
WDC	**Whiskeytown Da**	**15.57**	**335**	⇑P	**Pn**	**16 18 50.1**	**-1.1**
	baz=15						
L09A	**Wilkinson Ranc**	**15.62**	**350**	⇓P	**Pn**	**16 18 51.8**	**0.0**
	baz=15,SNR=6.2						
O01C	**Eel River Cons**	**15.71**	**331**	⇑P	**Pn**	**16 18 52.7**	**-0.3**
	baz=16						
M05C	**Lookout**	**15.79**	**340**	P	**Pn**	**16 18 54.6**	**+0.5**
	baz=16,SNR=9.1						
L08A	**Fields**	**15.90**	**348**	⇑P	**Pn**	**16 18 55.7**	**+0.2**
	baz=16,SNR=13						
L07A	**Adell**	**15.93**	**346**	⇓P	**Pn**	**16 18 56.4**	**+0.4**
	baz=16,SNR=9.0						
M03C	**McCloud**	**16.03**	**338**	⇓P	**Pn**	**16 18 57.6**	**+0.4**
	baz=16						
MOD	**Modoc**	**16.06**	**343**	P	**Pn**	**16 18 57.7**	**+0.2**
	baz=16,SNR=9.2						
N02C	**Big Bar**	**16.07**	**334**	⇑P	**Pn**	**16 18 57.5**	**-0.2**
	baz=16						
WVOR	**Wild Horse Val**	**16.19**	**348**	*e*P	**Pn**	**16 18 58.0**	**-1.2**
	42nm,1.7s						
K09A	**Rome**	**16.29**	**350**	⇑P	**Pn**	**16 19 00.4**	**-0.1**
	baz=16,SNR=36						
L05A	**Lakeview**	**16.34**	**342**	⇑P	**Pn**	**16 19 01.3**	**+0.2**
	baz=16						
M02C	**Callahan**	**16.39**	**336**	⇑P	**Pn**	**16 19 01.9**	**0.0**
	baz=16						
M04C	**Macdoel**	**16.39**	**339**	P	**Pn**	**16 19 03.0**	**+1.2**
	baz=16,SNR=7.1						
K08A	**Mann Creek Ran**	**16.45**	**348**	⇓P	**Pn**	**16 19 02.6**	**+0.1**
	baz=16,SNR=11						
PDAR	**Pinedale Array**	**16.50**	**12**	Pn	**Pn**	**16 19 02.6**	**-0.5**
	0.1nm,0.3s,baz=186,slow=11,SNR=17						
PDAR				LR	LR	16 24 42.1	
	comp=Z,740nm,21.1s,baz=172,slow=35						
K07A	**Rock Creek Ran**	**16.55**	**346**	⇑P	**Pn**	**16 19 04.0**	**+0.1**
	baz=16,SNR=15						
YBH	**Yreka Blue Hor**	**16.64**	**337**	Pn	**Pn**	**16 19 05.6**	**+0.6**
	0.1nm,0.3s,baz=132,slow=6.4,SNR=7.4						
YBH				LR	LR	16 24 21.3	
	comp=Z,220nm,20.6s,baz=344,slow=34						
YBH	**Yreka Blue Hor**	**16.64**	**337**	*e*P	**Pn**	**16 19 06.5**	**+1.5**
	6.3nm,1.0s						
YBH	**Yreka Blue Hor**	**16.64**	**337**	⇑P	**Pn**	**16 19 05.1**	**0.0**
	baz=16						
L04A	**Klamath Falls**	**16.77**	**339**	⇑P	**Pn**	**16 19 06.3**	**-0.2**
	baz=16						
RRI2	**Red Ridge**	**16.81**	**7**	*e*P	**Pn**	**16 19 06.9**	**-0.2**
	32nm,1.0s						
K06A	**Valley Falls**	**16.89**	**344**	⇓P	**Pn**	**16 19 08.5**	**+0.4**
	baz=17						
J09A	**Fry Pan Ranch,**	**16.93**	**351**	⇑P	**Pn**	**16 19 08.7**	**+0.1**
	baz=17,SNR=13						
K05A	**Summer Lake**	**16.98**	**343**	⇑P	**Pn**	**16 19 10.2**	**+0.9**
	baz=17						
J08A	**Circle Bar Ran**	**17.05**	**349**	P	**Pn**	**16 19 10.3**	**+0.2**
	baz=17,SNR=25						
K04A	**Chilquin**	**17.12**	**340**	⇓P	**Pn**	**16 19 11.2**	**+0.2**
	baz=17						
J07A	**Hines**	**17.22**	**347**	⇑P	**Pn**	**16 19 13.1**	**+0.8**
	baz=17						
M01C	**Crescent City**	**17.27**	**334**	⇓P	**Pn**	**16 19 13.2**	**+0.3**
	baz=17						
MOOW	**Moose Ponds**	**17.27**	**8**	*e*P	**Pn**	**16 19 13.3**	**+0.4**
	29nm,1.1s						
J06A	**Christmas Vall**	**17.29**	**345**	⇑P	**Pn**	**16 19 13.6**	**+0.4**
	baz=17,SNR=11						
I11A	**Placerville**	**17.29**	**355**	⇑P	**Pn**	**16 19 14.1**	**+0.9**
	baz=17						
I09A	**Lost Marbles R**	**17.54**	**351**	P	**Pn**	**16 19 16.9**	**+0.6**
	baz=17,SNR=11						
J05A	**Fort Rock**	**17.59**	**342**	⇓P	**Pn**	**16 19 17.4**	**+0.4**
	baz=17						
I08A	**Drewsey**	**17.61**	**349**	⇑P	**Pn**	**16 19 17.6**	**+0.5**
	baz=17,SNR=20						
FLWY	**Flagg Ranch**	**17.61**	**8**	*e*P	**Pn**	**16 19 17.7**	**+0.6**
	50nm,1.0s						
J04A	**Umpqua Nationa**	**17.80**	**340**	⇓P	**Pn**	**16 19 20.2**	**+0.7**
	baz=18						
H12A	**Diamond D Ranc**	**17.87**	**358**	⇑P	**Pn**	**16 19 21.2**	**+0.8**
	baz=18						
I07A	**Izee**	**17.94**	**347**	P	**Pn**	**16 19 22.3**	**+1.0**
	baz=18,SNR=15						
I06A	**Prineville**	**17.96**	**345**	⇓P	**Pn**	**16 19 21.9**	**+0.5**
	baz=18,SNR=7.6						
H10A	**Noah's Angus R**	**18.03**	**354**	P	**Pn**	**16 19 22.9**	**+0.6**
	baz=18,SNR=15						
H11A	**Donnelly**	**18.08**	**356**	⇓P	**Pn**	**16 19 22.7**	**-0.3**
	baz=18						
MCMT	**McKenzie Canyo**	**18.17**	**3**	*e*P	**Pn**	**16 19 25.2**	**+1.2**
H09A	**Durkee**	**18.21**	**352**	⇓P	**Pn**	**16 19 24.8**	**+0.2**
	baz=18,SNR=15						
H08A	**Prairie City**	**18.21**	**349**	P	**Pn**	**16 19 25.1**	**+0.5**
	baz=18,SNR=12						
QLMT	**Earthquake Lak**	**18.27**	**6**	*e*P	**Pn**	**16 19 26.0**	**+0.8**
BMO	**Blue Mountains**	**18.35**	**353**	*e*P	**Pn**	**16 19 25.7**	**-0.6**
	24nm,1.2s						
G13A	**Cobalt**	**18.41**	**360**	⇓P	**Pn**	**16 19 26.9**	**-0.1**
	baz=18						
H07A	**Lands Inn, Kim**	**18.44**	**348**	⇓P	**Pn**	**16 19 27.9**	**+0.5**
	baz=18						
G15A	**Dillon**	**18.52**	**4**	⇑P	**Pn**	**16 19 28.9**	**+0.5**
	baz=18,SNR=11						
DLMT	**Dillon**	**18.71**	**3**	*e*P	**Pn**	**16 19 27.0**	**-3.7**
	35nm,1.4s						
H06A	**Lindquist Farm**	**18.74**	**346**	⇓P	**Pn**	**16 19 31.1**	**+0.1**
	baz=18						
H05A	**Madras**	**18.86**	**344**	⇑P	**Pn**	**16 19 32.4**	**-0.1**
	baz=19						
G08A	**Pilot Rock**	**19.01**	**349**	P	**Pn**	**16 19 34.5**	**+0.3**
	baz=19,SNR=8.5						
F12A	**Elk City**	**19.09**	**357**	⇓P	**Pn**	**16 19 34.4**	**-0.9**
	baz=19						
F13A	**Darby**	**19.10**	**359**	P	**Pn**	**16 19 35.1**	**-0.2**
	baz=19,SNR=11						
G07A	**Ruggs Ranch, H**	**19.11**	**348**	P	**Pn**	**16 19 35.4**	**-0.1**
	baz=19,SNR=9.6						
F14A	**Wisdom**	**19.13**	**1**	P	**Pn**	**16 19 35.6**	**-0.1**
	baz=19,SNR=14						
F15A	**Butte**	**19.20**	**3**	⇓P	**Pn**	**16 19 35.9**	**-0.6**
	baz=19,SNR=8.0						
F11A	**Grangeville**	**19.27**	**356**	⇓P	**Pn**	**16 19 36.4**	**-1.1**
	baz=19						
G06A	**Carlson Farm,**	**19.28**	**346**	P	**Pn**	**16 19 37.3**	**-0.2**
	baz=19,SNR=6.5						
G05A	**Wamic**	**19.44**	**344**	⇑P	**Pn**	**16 19 38.2**	**-1.3**
	baz=19						
F10A	**Beach Ranch, E**	**19.45**	**353**	⇓P	**Pn**	**16 19 39.3**	**-0.3**
	baz=19,SNR=6.7						
F08A	**Pendleton**	**19.48**	**350**	⇓P	**Pn**	**16 19 39.8**	**0.0**
	baz=19,SNR=6.2						
E14A	**Clinton**	**19.73**	**1**	⇓P	**Pn**	**16 19 41.4**	**-1.5**
	baz=20						
E11A	**Bogner Ranch,**

baz=22
C05A **Tolt Reservoir** 21.85 346 ⇑P P 16 20 03.7 -0.6
baz=22
B09A **Rice** 21.97 353 ⇑P P 16 20 05.2 -0.4
baz=22
B08A **Colville Reser** 22.06 351 P P 16 20 05.5 -1.1
baz=22,SNR=12
ECSD **EROS,Sioux Fal** 22.15 35 *eP* P 16 20 06.7 -0.9
54nm,1.1s,mb4.9
C04A **Brinnon** 22.16 344 ⇑P P 16 20 07.2 -0.5
baz=22
B07A **Winthrop** 22.28 349 ⇓P P 16 20 08.1 -0.9
baz=22,SNR=20
A11A **Hall Mountain,** 22.34 356 ⇑P P 16 20 08.9 -0.7
baz=22
B05A **Bryant** 22.47 346 ⇑P P 16 20 10.2 -0.8
baz=22
A09A **Danville** 22.57 352 P P 16 20 11.1 -0.9
baz=22,SNR=7.6
B06A **Marblemount** 22.59 347 ⇑P P 16 20 11.1 -1.1
baz=22
A08A **Turner Farm, O** 22.63 351 ⇑P P 16 20 12.6 -0.1
baz=22,SNR=8.0
A07A **Ashnola River,** 22.89 349 ⇑P P 16 20 14.9 -0.6
baz=23
SCIA **State Center** 22.90 43 *eP* P 16 20 16.2 +0.7
30nm,0.7s,mb4.8
A04A **Legoe Bay, Lum** 23.04 345 ⇑P P 16 20 16.5 -0.5
baz=23
A05A **Maple Falls** 23.17 346 ⇓P P 16 20 17.0 -1.4
baz=23
WVT **Waverly** 24.25 61 *eP* P 16 20 30.7 +2.0
25nm,1.0s,mb4.6
EDM **Edmonton** 26.55 1 *eP* P 16 20 49.3 -0.3
TKL **Tuckaleechee C** 27.35 63 P P 16 20 58.1 +1.3
4.1nm,0.4s,mb4.3,baz=232,slow=5.4,SNR=6.9
TKL LR LR 16 32 27.6
comp=Z,542nm,20.4s,MS4.1,baz=251,slow=38
ULM **Lac du Bonnet** 27.39 26 P P 16 20 55.9 -1.3
16nm,0.9s,mb4.5,baz=217,slow=9.2,SNR=13
ULM LR LR 16 30 46.6
comp=Z,479nm,20.2s,MS4.1,baz=184,slow=34
ULM **Lac du Bonnet** 27.39 26 *eP* P 16 20 55.3 -1.9
25nm,1.0s,mb4.7
JTS **JuntasAbangare** 31.93 115 P P 16 21 42.9 +5.4
4.5nm,0.7s,mb4.4,baz=261,slow=13,SNR=4.1
YKA **Yellowknife Ar** 35.84 360 P P 16 22 09.6 -1.9
0.4nm,0.5s,mb3.6,baz=176,slow=8.2,SNR=4.4
YKA PcP PcP 16 24 38.3 -0.5
0.4nm,0.6s,baz=170,slow=2.2,SNR=5.3
YKA LR LR 16 38 09.5
comp=Z,50nm,19.0s,MS3.3,baz=305,slow=39
YKA **Yellowknife Ar** 35.84 360 P P 16 22 09.6 -1.9
YKA PcP PcP 16 24 38.3 -0.5
YKA LR LR 16 38 09.5
INK **Inuvik** 43.29 350 LR LR 16 40 55.3
comp=Z,670nm,18.3s,MS4.6,baz=240,slow=36
ROSC **El Rosal** 43.67 113 LR LR 16 44 41.8
comp=Z,162nm,18.1s,MS4.0,baz=24,slow=40
SVW2 **Sparrevohn** 44.32 333 *eP* P 16 23 21.1 -0.7
SCHQ **Schefferville** 44.32 37 P P 16 23 23.4 +1.6
12nm,1.1s,mb4.5,baz=262,slow=15,SNR=4.1
SCHQ **Schefferville** 44.32 37 P P 16 23 23.4 +1.6
SDV **Santo Domingo** 44.71 105 *eP* P 16 23 28.8 +3.9
14nm,0.8s,mb4.8
IMA2 **Indian Mountai** 46.49 339 *eP* P 16 23 37.8 -1.2
LPAZ **La Paz** 61.74 128 P P 16 25 37.5 +7.2
1.4nm,0.8s,mb4.1,baz=2.7,slow=8.2,SNR=5.9
LPAZ **La Paz** 61.74 128 P P 16 25 37.5 +7.2
RAR **Rarotonga** 65.00 227 LR LR 16 47 15.1
comp=Z,1µm,18.2s,MS5.2,baz=355,slow=30
ARCES **ARCESS Array B** 79.75 13 P P 16 27 19.5 -0.4
3.0nm,0.8s,mb4.3,baz=308,slow=6.0,SNR=5.7
FINES **FINESS Array B** 86.50 18 P P 16 27 54.8 +0.1
1.7nm,0.6s,mb4.5,baz=310,slow=4.5,SNR=8.9
GUMO **Guam** 93.61 287 LR LR 17 04 17.8
comp=Z,260nm,19.3s,MS4.7,baz=23,slow=32
SONM **Songino Array** 97.42 334 P P 16 28 46.8 +1.3
1.4nm,0.8s,mb4.4,baz=16,slow=4.6,SNR=8.1
HHC **Hu-ho-hao-te** 100.61 327 *eP* Pdif 16 28 59.5 -0.3
HHC AMB AMB
comp=Z,11nm,1.0s
LZH **Lanzhou** 108.08 328 *eP* Pdif 16 29 28.7 -4.3
comp=Z,13nm,1.0s
LZH pP 16 29 32.0
LZH sP 16 29 33.4
CD2 **Chengdu** 112.31 325 *e*PKP PKiKP 16 33 46.3 -1.4
WRA **Warramunga Arr** 117.46 260 PKP PKPdf 16 33 59.1 +1.4
comp=Z,0.6nm,0.7s,baz=67,slow=1.9,SNR=10
KMI **Kunming** 117.47 322 PKP PKPdf 16 34 00.0 +2.4
KMI **Kunming** 117.47 322 P PKPdf 16 34 00.1 +2.5
KMI sP 16 34 12.4
ASAR **Alice Springs** 119.07 257 PKP PKPdf 16 34 02.1 +1.4
comp=Z,0.3nm,0.6s,baz=77,slow=2.2,SNR=7.0

MAN 29 16:26:43.2,1807N×12087E,h33km,mb2.7,ML4.1,MS1.8, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.35**	**318**	⇓*iP*	Pb	16 26 53.0	+1.4

IGQ 29 16:28:15.8,070S×8068W,h39km±4km,Mb4.2,Ms4.0, 7C-1D,Error ellipse: s-maj=10.6km s-min=2.3km az=22.0,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.35**	**188**	⇑P	Pn	16 28 24.4	-0.1
CHIS				S	Sn	16 28 29.2	-1.4
JAMA	**Jama**	**0.64**	**47**	⇓P	Pn	16 28 29.1	+0.6
JAMA				S	Sn	16 28 37.2	-0.3
MAG1	**Magdalena**	**1.10**	**55**	P	Pn	16 28 37.1	+2.4
JUA2	**San Juan 2**	**2.13**	**77**	⇑P	Pn	16 28 50.6	+1.8
PINO	**Pino**	**2.14**	**75**	⇑P	Pn	16 28 50.5	+1.6
GGP	**Refugio Guagua**	**2.17**	**76**	⇑P	Pn	16 28 50.7	+1.6
CAMI	**Rancho Maria**	**2.17**	**89**	P	Pn	16 28 51.7	+2.3
IGUA	**Igualata**	**2.19**	**111**	P	Pn	16 28 51.5	+1.9
YANA	**Yana**	**2.19**	**75**	P	Pn	16 28 51.1	+1.5
NAS1	**Nasa**	**2.20**	**88**	P	Pn	16 28 52.3	+2.5
VC1	**Cotopaxi 1**	**2.28**	**89**	⇑P	Pn	16 28 53.8	+2.9
BILB	**Tungurahua vol**	**2.30**	**109**	P	Pn	16 28 54.8	+3.6
TAMB	**Tambo**	**2.31**	**90**	P	Pn	16 28 54.5	+3.2
PISA	**Pisayambo**	**2.32**	**99**	P	Pn	16 28 54.4	+3.0
JUIV	**Juive**	**2.33**	**108**	⇑P	Pn	16 28 56.5	+4.9
RETU	**Refugio**	**2.35**	**108**	P	Pn	16 28 56.6	+4.7
ARRY	**Arrayan**	**2.36**	**110**	P	Pn	16 28 53.9	+1.9
RUN5	**Runtun**	**2.37**	**108**	P	Pn	16 28 54.6	+2.6
PATA	**Patacocha**	**2.38**	**110**	P	Pn	16 28 54.5	+2.2
ULBA	**Ulba**	**2.39**	**108**	⇑P	Pn	16 28 54.9	+2.5
ANTI	**Antisana**	**2.53**	**84**	P	Pn	16 28 57.3	+2.9
COTA	**Cotacachi**	**2.56**	**66**	P	Pn	16 28 57.5	+2.8
CAYR	**Refugio Cayamb**	**2.77**	**75**	P	Pn	16 29 01.8	+4.2
CAYA	**Cayambe**	**2.80**	**74**	P	Pn	16 29 01.8	+3.8
CONE	**Cono NE Rev Vo**	**3.10**	**78**	P	Pn	16 29 08.4	+6.2

*ISCJB **29** 16:31:28.5±0.7,537N±0.1×354W±0.1,h10km,mb3.8/14, MS3.8/4,Error ellipse: s-maj=19.0km s-min=12.2km az=179.4*
*IDC **29** 16:31:28.9±0.9,5372N×3545W,h0km,mb3.8/13, mb1 4.0/14,mb1mx3.9/25,mbtmpb3.8/14,ML3.5/1,MS3.9/5, Ms1 3.9/5,ms1mx3.2/40,Error ellipse: s-maj=27.5km s-min=18.0km az=178.0*
*NEIC **29** 16:31:30.2±0.5,5367N×3545W,h10km,mb4.0/1,Error ellipse: s-maj=16.5km s-min=10.6km az=180.0*
*CSEM **29** 16:31:30.2,5367N×3545W,h10km,mb4.0/1,After NEIC*
ISC 29 16:31:30.3±0.7,537N±01×354W±01,h10km,n24,σ0s85/19, mb3.8/14,MS3.8/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.30**	**286**	LR	LR	16 41 04.0
	comp=Z,415nm,21.3s,baz=79,slow=31						
EKA	**Eskdalemuir Ar**	**18.70**	**72**	P	**Pn**	**16 35 50.6**	**+1.6**
	0.1nm,0.3s,baz=318,slow=6.1,SNR=4.1						
ESDC	**Sonseca Array**	**25.49**	**111**	P	**P**	**16 36 58.4**	**-0.2**
	0.3nm,0.3s,mb3.4,baz=338,slow=34,SNR=4.1						
NOA	**NORSAR Array B**	**25.68**	**55**	P	**P**	**16 37 00.6**	**+0.2**
	1.0nm,0.9s,mb3.4,baz=63,slow=14,SNR=2.4						
NOA				LR	LR	16 44 55.2	
	comp=Z,146nm,20.4s,MS3.5,baz=290,slow=31						
GERES	**GERESS Array B**	**30.60**	**79**	LR	LR	16 49 13.8	
	comp=Z,248nm,18.0s,MS3.9,baz=84,slow=35						
ARCES	**ARCESS Array B**	**31.29**	**36**	P	**P**	**16 37 49.1**	**-1.3**
	3.6nm,1.0s,mb4.2,baz=289,slow=7.6,SNR=4.9						
VRAC	**Vranov**	**32.06**	**76**	LR	LR	16 49 46.3	
	comp=Z,176nm,18.4s,MS3.8,baz=278,slow=34						
FINES	**FINESS Array B**	**32.68**	**51**	P	**P**	**16 38 02.0**	**-0.6**
	1.0nm,0.7s,mb3.9,baz=267,slow=9.7,SNR=2.6						
FINES				LR	LR	16 49 00.3	
	comp=Z,293nm,19.8s,MS4.0,baz=360,slow=32						
AKASG	**Malin Array Be**	**38.50**	**67**	P	**P**	**16 38 51.9**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=299,slow=8.4,SNR=4.5						
AKASG	**Malin Array Be**	**38.50**	**67**	P	**P**	**16 38 51.8**	**-0.8**
BRTR	**Keskin Array B**	**47.48**	**78**	P	**P**	**16 40 07.2**	**+1.8**
	1.1nm,0.7s,mb3.9,baz=313,slow=5.5,SNR=3.5						
BW06	**Boulder Array**	**48.42**	**289**	*eP*	**P**	**16 40 12.9**	**+0.3**
	0.8nm,0.5s,mb4.0						
PDAR	**Pinedale Array**	**48.42**	**289**	P	**P**	**16 40 12.5**	**-0.1**
	0.9nm,0.5s,mb4.0,baz=64,slow=7.3,SNR=12						
TOA0	**Torodi Ar. Sit**	**49.96**	**130**	*eP*	**P**	**16 40 23.9**	**-0.5**
TOA0	**Torodi Ar. Sit**	**49.96**	**130**	*eP*	**P**	**16 40 23.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**49.96**	**130**	P	**P**	**16 40 23.7**	**-0.6**
	2.4nm,0.8s,mb4.3,baz=332,slow=7.5,SNR=9.2						
TXAR	**Lajitas Array**	**54.25**	**272**	P	**P**	**16 40 57.0**	**+0.6**
	0.6nm,1.0s,mb3.5,baz=57,slow=9.1,SNR=4.0						
BVAR	**Borovoye Array**	**57.09**	**44**	P	**P**	**16 41 16.6**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=294,slow=11,SNR=3.3						
ZAL	**Zalesovo**	**61.84**	**35**	P	**P**	**16 41 50.0**	**+0.5**
	2.6nm,0.4s,mb4.0,baz=54,slow=4.3,SNR=4.3						
MKAR	**Makanchi Array**	**66.76**	**41**	P	**P**	**16 42 22.5**	**+0.8**
	2.2nm,1.1s,mb4.1,baz=333,slow=4.1,SNR=4.3						
MKAR	**Makanchi Array**	**66.76**	**41**	P	**P**	**16 42 22.5**	**+0.8**
SONM	**Songino Array**	**73.76**	**26**	P	**P**	**16 43 03.4**	**-1.2**
	0.6nm,0.8s,mb3.6,baz=332,slow=6.5,SNR=4.1						
WRA	**Warramunga Arr**	**145.36**	**17**	PKPbc	PKPbc	16 51 08.2	0.0
	0.9nm,0.9s,baz=345,slow=3.8,SNR=21						
ASAR	**Alice Springs**	**148.91**	**19**	PKPbc	PKPbc	16 51 17.6	-0.7
	0.7nm,0.8s,baz=359,slow=2.6,SNR=7.5						

*NEIC **29** 16:56:40.8±2.2,3628N×7088E,h209km±18km,mb5.0/3, Error ellipse: s-maj=19.7km s-min=12.1km az=210.0*
*MOS **29** 16:56:41.2±1.1,3637N×7083E,h228km,mb4.2/4,Error ellipse: s-maj=23.5km s-min=9.1km az=84.1*
*IDC **29** 16:56:42.0±6.1,3633N×7089E,h220km±57km,mb3.3/8, mb1 3.4/11,mb1mx3.2/24,mbtmpb3.3/11,MS3.5/1, Ms1 3.5/1,ms1mx2.9/27,Error ellipse: s-maj=30.6km s-min=17.5km az=22.0*
*ISCJB **29** 16:56:45.0±0.5,3660N±004×7094E±009,h253km±6km, mb3.4/9,Error ellipse: s-maj=11.6km s-min=5.5km az=156.3*
ISC 29 16:56:46.0±0.5,3660N±004×7097E±009,h248km±6km, n51,σ0s74/55,mb3.4/9,2C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.88**	**164**	⇑P	**Pn**	**16 57 37.7**	**+0.7**
CEP				S	**S**	**16 58 11.0**	**-6.3**
CHCP	**Chirah Chowk**	**3.49**	**147**	P	**Pn**	**16 57 43.8**	**+0.1**
THW	**Thamme Wali**	**3.85**	**170**	P	**Pn**	**16 57 48.5**	**+0.6**
SBDP	**Sheikh Budin**	**4.29**	**182**	P	**Pn**	**16 57 52.2**	**-0.9**
SARP	**Sargodha**	**4.88**	**163**	P	**Pn**	**16 58 00.3**	**+0.1**
THN	**Thein Dam**	**5.71**	**135**	*eP*	**Pn**	**16 58 10.7**	**+0.2**
THN				*eS*	**S**	**16 59 16.8**	**-1.2**
AML	**Almayashu**	**5.91**	**20**	P	**Pn**	**16 58 12.6**	**-0.3**
	SNR=145						
UCH	**Uchtor**	**6.25**	**25**	P	**Pn**	**16 58 17.2**	**0.0**
	SNR=88						
KZA	**Kyzart**	**6.39**	**30**	P	**Pn**	**16 58 18.7**	**-0.3**
	SNR=26						
EKS2	**Erkin-Say**	**6.43**	**19**	P	**Pn**	**16 58 19.1**	**-0.2**
	SNR=20						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**16 58 21.6**	**-0.1**
	SNR=28						
AAK	**Ala-Archa**	**6.61**	**23**	*e*PN	**Pn**	**16 58 20.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,19nm,0.5s						
AAK	**Ala-Archa**	**6.61**	**23**	*e*Pn	**Pn**	**16 58 20.4**	**-1.2**
	comp=Z,19nm,0.5s						
AAK				*e*S	**S**	**16 59 22.7**	**-16**
KBK	**Karagaybulak**	**6.78**	**26**	P	**Pn**	**16 58 24.5**	**+0.6**
	SNR=5.6						
ULHL	**Ulahol**	**6.96**	**34**	P	**Pn**	**16 58 26.1**	**0.0**
	SNR=15						
CHMS	**Chumysh**	**7.02**	**23**	P	**Pn**	**16 58 26.5**	**-0.3**
	SNR=9.7						
SDNR	**Sundarnagar**	**7.12**	**134**	*eP*	**Pn**	**16 58 27.5**	**-0.6**
SDNR				*eS*	**S**	**16 59 45.0**	**-5.1**
USP	**Ospenovka**	**7.19**	**21**	P	**Pn**	**16 58 29.2**	**+0.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**7.25**	**28**	P	**Pn**	**16 58 29.6**	**-0.1**
	SNR=15						
MK31	**Makanchi Array**	**13.22**	**36**	*eP*	**Pn**	**16 59 44.5**	**-0.2**
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**16 59 44.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**13.22**	**36**	*iP*	**Pn**	**16 59 45.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	**Koldanda**	**13.85**	**126**	*eP*	**Pn**	**16 59 53.5**	**+1.2**
	comp=Z,3.4nm,0.3s						
GKN	**Gorkha**	**14.38**	**123**	*eP*	**Pn**	**16 59 59.2**	**+0.4**
DMN	**Daman**	**14.95**	**123**	*eP*	**Pn**	**17 00 06.6**	**+1.0**
KKN	**Kakani**	**14.95**	**122**	*eP*	**Pn**	**17 00 05.6**	**-0.1**
KURK	**Kurchatov**	**15.14**	**19**	*eP*	**Pn**	**17 00 06.5**	**-1.4**
PKI	**Pulchoki**	**15.18**	**122**	*eP*	**Pn**	**17 00 09.1**	**+0.7**
GUN	**Gumba**	**15.29**	**120**	*eP*	**Pn**	**17 00 10.4**	**+0.7**
BVAR	**Borovoye Array**	**16.43**	**359**	P	**P**	**17 00 22.6**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=164,slow=11,SNR=20						
BVAR				LR	LR	17 08 26.0	
	comp=Z,164nm,18.4s,baz=226,slow=42						
BRVK	**Borovoye**	**16.46**	**359**	*eP*	**P**	**17 00 21.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**16.46**	**359**	*eP*	**P**	**17 00 21.9**	**0.0**
	comp=Z,2.4nm,0.6s						
AKTK	**Aktyubinsk**	**16.68**	**330**	P	**P**	**17 00 24.9**	**+0.7**
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**P**	**17 00 24.9**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=139,slow=9.9,SNR=27						
ZAL	**Zalesovo**	**19.82**	**25**	P	**P**	**17 00 58.6**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=244,slow=6.2,SNR=8.5						
ARU	**Arti**	**21.53**	**341**	*eP*	**P**	**17 01 16.4**	**+0.7**
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**17 03 34.7**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.5,baz=120,slow=11,SNR=6.5						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**17 03 34.7**	**-0.5**
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**17 04 05.5**	**+0.2**
	comp=Z,0.9nm,0.5s,mb3.5,baz=111,slow=7.4,SNR=9.5						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**17 04 05.5**	**+0.2**
YAK	**Yakutsk**	**43.90**	**36**	*i*P	**P**	**17 04 27.8**	**-0.4**
YAK				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.0						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**17 04 30.5**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.2,baz=100,slow=7.7,SNR=2.8						
TIXI	**Tiksi**	**45.69**	**22**	*eP*	**P**	**17 04 42.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.4						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**17 07 02.8**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.8,baz=54,slow=6.1,SNR=15						
INK	**Inuvik**	**73.81**	**9**	*eP*	**P**	**17 07 53.4**	**0.0**
	comp=Z,38nm,0.5s						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**17 08 33.9**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.4,baz=349,slow=5.3,SNR=7.8						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**17 08 33.9**	**+0.1**
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**17 08 37.8**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.1,baz=325,slow=5.1,SNR=14						
WRA	**Warramunga Arr**	**82.07**	**122**	*i*P	**P**	**17 08 37.2**	**-1.5**
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**17 08 48.6**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=309,slow=4.8,SNR=6.8						
AGMN	**Agassiz Refuge**	**94.66**	**351**	*eP*	**P**	**17 09 40.9**	**+2.0**
	comp=Z,10nm,0.8s						

IDC 29 17:12:10.6±1.6,5417N×3555W,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.8/24,mbtmpb3.8/8,MS3.7/1,Ms1 3.7/1, ms1mx3.4/15,Error ellipse: s-maj=45.6km s-min=24.8km az=9.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**12.79**	**28**	LR	LR	17 19 11.1	
	comp=Z,356nm,19.7s,baz=55,slow=33						
ESDC	**Sonseca Array**	**25.72**	**111**	P	P	17 17 43.4	+0.9
	0.2nm,0.3s,baz=312,slow=10,SNR=7.4						
HFS	**Hagfors**	**26.82**	**57**	P	P	17 17 53.4	+0.9
	10.0nm,1.2s,baz=264,slow=13,SNR=3.4						
GERES	**GERESS Array B**	**30.59**	**80**	P	P	17 18 24.9	-1.2
	0.4nm,0.6s,baz=319,slow=5.3,SNR=3.7						
ARCES	**ARCESS Array B**	**30.99**	**37**	P	P	17 18 29.4	-0.2
	2.5nm,0.9s,baz=297,slow=11,SNR=3.5						
AKASG	**Malin Array Be**	**38.41**	**68**	P	P	17 19 31.8	-1.9
	0.6nm,0.7s,baz=305,slow=8.1,SNR=2.7						
BRTR	**Keskin Array B**	**47.47**	**78**	P	P	17 20 46.6	-0.5
	0.4nm,0.5s,baz=304,slow=6.1,SNR=3.0						
PDAR	**Pinedale Array**	**48.20**	**288**	P	P	17 20 52.5	-0.3
	0.6nm,0.6s,baz=64,slow=8.0,SNR=5.4						
SONM	**Songino Array**	**73.39**	**26**	P	P	17 23 44.7	+0.3
	0.9nm,0.9s,baz=344,slow=4.9,SNR=4.7						

*IDC **29** 17:12:22.0±0.7,5372N×3549W,h0km,mb3.9/17, mb1 4.1/19,mb1mx4.0/27,mbtmpb3.9/19,ML3.2/2,Error ellipse: s-maj=23.6km s-min=12.3km az=12.0*
*ISCJB **29** 17:12:23.0±0.5,540N±0.1×3564W±009,h10km,mb4.2/33, MS4.0/3,Error ellipse: s-maj=18.1km s-min=6.6km az=24.9*
*NEIC **29** 17:12:24.3±0.5,5385N×3567W,h10km,mb4.7/15, MS4.0/1,Error ellipse: s-maj=17.0km s-min=6.3km az=192.0*
*CSEM **29** 17:12:26.6±0.1,5420N×3562W,h33km,mb4.6/16,Ms3.9, Error ellipse: s-maj=8.9km s-min=2.6km az=9.0*
ISC 29 17:12:24.4±0.5,539N±01×3563W±009,h10km,n65, σ0s96/63,mb4.2/33,MS4.0/3,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.12**	**286**	P	**Pn**	**17 16 36.2**	**0.0**
	0.3nm,0.3s,baz=163,slow=9.0,SNR=3.7						
EKA	**Eskdalemuir Ar**	**18.76**	**73**	P	**Pn**	**17 16 43.5**	**-0.5**
	0.1nm,0.3s,baz=297,slow=7.7,SNR=3.5						
QUIF	**Quistinic**	**21.20**	**93**	*eP*	**P**	**17 17 10.7**	**+0.5**
	47nm,1.0s,mb4.5						
QUIF	**Quistinic**	**21.20**	**93**	*eP*	**P**	**17 17 10.7**	**+0.5**
	24nm,1.0s,mb4.5						
SGMF	**Saint Gilles**	**21.40**	**92**	*eP*	**P**	**17 17 12.7**	**+0.4**
	27nm,0.8s,mb4.3						
SGMF	**Saint Gilles**	**21.40**	**92**	*eP*	**P**	**17 17 12.7**	**+0.4**
	13nm,0.8s,mb4.3						
GRR	**Gorron**	**22.35**	**90**	*eP*	**P**	**17 17 23.0**	**+0.6**
	63nm,1.2s,mb4.6						
GRR	**Gorron**	**22.35**	**90**	*eP*	**P**	**17 17 23.0**	**+0.6**
	32nm,1.2s,mb4.6						
LDF	**La Druitiere**	**22.69**	**89**	*eP*	**P**	**17 17 26.7**	**+0.7**
	67nm,1.4s,mb4.6						
LDF	**La Druitiere**	**22.69**	**89**	*eP*	**P**	**17 17 26.7**	**+0.7**
	34nm,1.4s,mb4.6						
MFF	**Saint Martin d**	**23.64**	**94**	*eP*	**P**	**17 17 36.1**	**+0.1**
	42nm,1.0s,mb4.5						
MFF	**Saint Martin d**	**23.64**	**94**	*eP*	**P**	**17 17 36.1**	**+0.1**
	21nm,1.0s,mb4.5						
EVO	**Evora**	**24.33**	**118**	*eP*	**P**	**17 17 41.9**	**-0.3**
	10nm,0.8s,mb4.0						
EVO				*eR*			
	417nm,17.5s						
BAIF	**Baives**	**24.60**	**83**	*eP*	**P**	**17 17 44.6**	**-0.1**
	27nm,1.2s,mb4.4						
BAIF	**Baives**	**24.60**	**83**	*eP*	**P**	**17 17 44.6**	**-0.1**
	13nm,1.2s,mb4.4						
TCF	**Toulx Ste Croi**	**25.20**	**92**	*eP*	**P**	**17 17 50.9**	**+0.8**
	41nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**25.20**	**92**	*eP*	**P**	**17 17 50.9**	**+0.8**
	20nm,1.2s,mb4.5						
RJF	**Les Rejaudoux**	**25.32**	**95**	*eP*	**P**	**17 17 52.0**	**+0.8**
	29nm,1.1s,mb4.4						
RJF				*eR*			
	488nm,17.0s						
RJF	**Les Rejaudoux**	**25.32**	**95**	*eP*	**P**	**17 17 52.0**	**+0.8**
	14nm,1.1s,mb4.4						
RJF				LR	LR		
	comp=Z,490nm,17.0s,MS4.1						
BGF	**Bois d'Agland**	**25.43**	**91**	*eP*	**P**	**17 17 52.8**	**+0.5**
	comp=Z,66nm,0.9s,mb4.9						
BGF	**Bois d'Agland**	**25.43**	**91**	*eP*	**P**	**17 17 52.8**	**+0.5**
	comp=Z,33nm,0.9s,mb4.9						
SSF	**Saint Saulge**	**25.57**	**89**	*eP*	**P**	**17 17 54.2**	**+0.7**
	comp=Z,76nm,1.5s,mb4.7						
SSF	**Saint Saulge**	**25.57**	**89**	*eP*	**P**	**17 17 54.2**	**+0.7**
	comp=Z,38nm,1.5s,mb4.7						
AVF	**Avril sur Loir**	**25.61**	**90**	*eP*	**P**	**17 17 54.4**	**+0.5**
	comp=Z,72nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**25.61**	**90**	*eP*	**P**	**17 17 54.4**	**+0.5**
	comp=Z,36nm,1.3s,mb4.8						
NB2	**NORSAR Subarra**	**25.67**	**55**	P	**P**	**17 17 53.8**	**-0.6**
	comp=Z,9.9nm,1.0s,mb4.3,baz=274,slow=9.3						
NOA	**NORSAR Array B**	**25.67**	**55**	P	**P**	**17 17 54.8**	**+0.4**
	comp=Z,3.4nm,0.8s,mb3.9,baz=276,slow=9.5,SNR=3.8						
LOR	**Lormes**	**25.67**	**89**	*eP*	**P**	**17 17 54.3**	**-0.1**
LOR				*eR*			
	comp=Z,464nm,22.0s						
LOR	**Lormes**	**25.67**	**89**	*eP*	**P**	**17 17 54.3**	**-0.1**
LOR				LR	LR		
	comp=Z,460nm,22.0s,MS4.0						
ESDC	**Sonseca Array**	**25.68**	**111**	P	**P**	**17 17 52.0**	**-2.5**
	comp=Z,6.1nm,0.9s,mb4.1,baz=312,slow=9.6,SNR=8.8						
ESDC	**Sonseca Array**	**25.68**	**111**	P	**P**	**17 17 52.0**	**-2.5**
MEZF	**Maizieres J'vi**	**25.78**	**85**	*eP*	**P**	**17 17 56.1**	**+0.6**
SMF	**Signal de Mont**	**25.98**	**90**	*eP*	**P**	**17 17 57.5**	**+0.3**
	comp=Z,45nm,1.3s,mb4.5						
SMF	**

*CSEM **29** 17:14:10.1±0.3,3604N×2667E, h25km, MD3.1, Error ellipse: s-maj=12.2km s-min=2.2km az=123.0*
*ISK **29** 17:14:12.9, 3617N×2675E, h27km, MD3.1*
ISC 29 17:14:10.1±0.8,**3634N**±006×**2667E**±007,**h129**km±10km, **n18,σ0§84/22, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.83**	**62**	*i* PG	**Pn**	**17 14 30.6**	**-0.8**
KARP	**Karpathos**	**0.89**	**153**	*e*P	**Pn**	**17 14 32.5**	**+0.6**
KARP				*e*S	**Sn**	**17 14 48.5**	**+0.1**
ARG	**Arkhangelos**	**1.19**	**96**	*e*P	**Pn**	**17 14 35.5**	**+0.8**
SMG	**Samos**	**1.37**	**6**	*e*P	**Pn**	**17 14 35.8**	**-0.9**
NPS	**Neapolis**	**1.38**	**219**	*e*P	**Pn**	**17 14 36.7**	**-0.1**
YER	**Yerkesik**	**1.52**	**58**	PN	**Pn**	**17 14 39.0**	**+0.7**
YER				SN	**Sn**	**17 14 58.4**	**-1.4**
DALT	**Dalyan (Mudla)**	**1.64**	**74**	PN	**Pn**	**17 14 40.4**	**+0.7**
DALT				SN	**Sn**	**17 15 01.4**	**-0.9**
XRY	**Khrisi**	**1.67**	**209**	*e*P	**Pn**	**17 14 40.5**	**+0.5**
FETY	**Fethiye**	**1.97**	**81**	PN	**Pn**	**17 14 45.3**	**+1.7**
VAM	**Vamos**	**2.21**	**246**	*e*P	**Pn**	**17 14 46.0**	**-0.6**
GVD	**Gavdhos**	**2.58**	**235**	*e*P	**Pn**	**17 14 52.5**	**+1.2**
ELL	**Elmali**	**2.64**	**80**	PN	**Pn**	**17 14 53.6**	**+1.6**
VLI	**Veliai**	**3.03**	**278**	*e*P	**Pn**	**17 14 57.0**	**0.0**
HMAT	**Matruh**	**5.25**	**176**	P	**Pn**	**17 15 25.9**	**-0.6**
SWA1		**7.11**	**187**	P	**Pn**	**17 15 51.2**	**-0.3**
SWA1				S	**Sn**	**17 17 05.5**	**-5.2**
SWA2		**7.15**	**189**	P	**Pn**	**17 15 51.5**	**-0.7**
AMAG	**Maghara**	**7.88**	**134**	P	**Pn**	**17 16 01.2**	**-0.8**
HFRF	**Wahat Farafira**	**9.27**	**171**	P	**Pn**	**17 16 20.3**	**-0.4**

*IDC **29** 17:16:58.4±1.1, 5371N×3544W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=38.6km s-min=21.0km az=15.0*
*CSEM **29** 17:16:59.9, 5368N×3539W, h10km, mb3.5/1, After NEIC*
NEIC 29 17:16:59.9±0.8,**5368N×3539W, h10**km,**mb3.5**/1,**Error ellipse: s-maj=31.5km s-min=14.0km az=192.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.33**	**286**	P	Pn	17 21 14.7	+0.4
	0.3nm,0.3s,baz=80,slow=12,SNR=3.8						
SCHQ	**Schefferville**	**18.33**	**286**	*e*P	Pn	17 21 14.9	+0.7
	2.8nm,0.7s						
SCHQ	**Schefferville**	**18.33**	**286**	*e*P	Pn	17 21 14.9	+0.7
	2.8nm,0.7s						
ESDC	**Sonseca Array**	**25.46**	**111**	P	P	17 22 29.1	+1.1
	0.4nm,0.3s,baz=315,slow=12,SNR=3.7						
NOA	**NORSAR Array B**	**25.70**	**55**	P	P	17 22 30.8	+0.6
	1.4nm,0.8s,baz=256,slow=9.5,SNR=2.9						
BRTR	**Keskin Array B**	**47.48**	**78**	P	P	17 25 35.5	+0.5
	0.7nm,0.8s,baz=285,slow=3.1,SNR=3.0						
PDAR	**Pinedale Array**	**48.45**	**289**	P	P	17 25 42.4	-0.1
	0.8nm,0.7s,baz=70,slow=7.8,SNR=4.3						
PDAR	**Pinedale Array**	**48.45**	**289**	P	P	17 25 42.3	-0.1
TORD	**Torodi Ar. Bea**	**49.91**	**130**	P	P	17 25 52.9	-0.8
	1.5nm,0.8s,baz=334,slow=4.8,SNR=6.3						
SONM	**Songino Array**	**73.80**	**26**	P	P	17 28 32.7	-1.8
	0.7nm,0.8s,baz=321,slow=5.3,SNR=5.1						
ASAR	**Alice Springs**	**148.96**	**19**	PKPbc	PKPbc	17 36 47.2	-0.8
	0.7nm,0.9s,baz=330,slow=2.1,SNR=3.5						

*NEIC **29** 17:20:03.0±0.8, 4729N×15290E, h10km, Error ellipse: s-maj=28.4km s-min=13.2km az=135.0*
*ISCJB **29** 17:20:09.4±1.4, 4707N±0.1×1528E±0.2, h88km±13km, mb3.5/11, Error ellipse: s-maj=24.0km s-min=10.9km az=93.4*
*MOS **29** 17:20:10.3±1.1, 4709N×15270E, h97km, mb3.5/1, Error ellipse: s-maj=22.2km s-min=12.9km az=58.6*
*IDC **29** 17:20:12.7±4.0, 4706N×15275E, h102km±37km, mb3.4/12, mb1 3.6/14, mb1mx3.5/26, mbtmp3.4/14, Error ellipse: s-maj=23.8km s-min=17.9km az=124.0*
ISC 29 17:20:11.1±1.3,**471N**±01×**1528E**±02,**h89**km±12km,**n20, σ0§79/20,mb3.5**/11,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.22**	**30**	*e*PN	**Pn**	**17 21 12.9**	**-0.2**
SKR				*e*		17 21 54.5	
YSS	**Yuzh-Sakhalins**	**6.89**	**273**	*e*PN	**Pn**	**17 21 50.3**	**+0.9**
ASAJ	**Asahikawa**	**7.76**	**251**	P	**Pn**	**17 22 01.4**	**+0.1**
	0.7nm,0.3s,baz=122,slow=5.5,SNR=6.8						
ASAJ	**Asahikawa**	**7.76**	**251**	PN	**Pn**	**17 22 01.4**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.55**	**237**	*e*PN	**Pn**	**17 22 10.4**	**-1.7**
MJAR	**Matsushiro Arr**	**15.12**	**231**	P	**Pn**	**17 23 40.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=43,slow=8.3,SNR=6.4						
KSRS	**Korea Array**	**20.71**	**251**	P	**P**	**17 24 46.1**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=56,slow=10,SNR=4.3						
INK	**Inuvik**	**41.49**	**33**	P	**P**	**17 27 49.0**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=60,slow=2.3,SNR=3.7						
INK	**Inuvik**	**41.49**	**33**	*e*P	**P**	**17 27 49.9**	**+0.5**
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**17 28 29.7**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.2,baz=76,slow=6.1,SNR=2.8						
YKA	**Yellowknife Ar**	**50.79**	**37**	P	**P**	**17 29 02.8**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=296,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**17 30 32.6**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=42,slow=8.8,SNR=5.3						
PDAR	**Pinedale Array**	**64.72**	**54**	P	**P**	**17 30 40.0**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=354,slow=1.5,SNR=3.6						
NB2	**NORSAR Subarra**	**67.87**	**341**	P	**P**	**17 31 00.1**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=31,slow=6.9						
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**	**17 30 59.1**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.0,baz=25,slow=6.4,SNR=4.0						
HFS	**Hagfors**	**68.09**	**339**	P	**P**	**17 31 00.6**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.2,baz=57,slow=5.5,SNR=8.3						
WRA	**Warramunga Arr**	**68.75**	**199**	P	**P**	**17 31 04.5**	**-1.0**
	comp=Z,0.2nm,0.9s,mb3.0,baz=32,slow=1.7,SNR=3.5						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**17 31 20.1**	**-0.2**
	comp=Z,0.9nm,0.3s,mb4.0,baz=35,slow=6.3,SNR=9.5						
ASAR	**Alice Springs**	**72.44**	**198**	P	**P**	**17 31 28.1**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=12,slow=6.0,SNR=6.2						
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**17 31 57.9**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=322,slow=5.7,SNR=5.2						

*ISCJB **29** 17:25:13.9±0.8, 2491S±007×17992W±009, h475km±10km, mb4.3/19, Error ellipse: s-maj=13.1km s-min=10.6km az=174.0*
*IDC **29** 17:25:13.9±1.3, 2485S×17990W, h466km±13km, mb3.7/10, mb1 3.9/12, mb1mx3.8/16, mbtmp3.8/12, Error ellipse: s-maj=15.5km s-min=13.7km az=5.0*
*NEIC **29** 17:25:14.8±1.0, 2487S×17976W, h482km±11km, mb4.6/11, Error ellipse: s-maj=13.5km s-min=12.1km az=58.0*
ISC 29 17:25:14.6±0.7,**2496S**±007×**17984W**±009,**h471**km±9km, **n44,σ1§01/50,mb4.3**/19,**4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.60**	**159**	P	**P**	**17 26 38.0**	**+1.6**
	120nm,0.3s,baz=79,slow=20,SNR=8.0						
RAO				S	**S**	**17 27 41.7**	**-1.3**
	72nm,0.3s,baz=80,slow=22,SNR=2.3						
RAO	**Raoul Island**	**4.60**	**159**	*e*P	**P**	**17 26 38.1**	**+1.8**
RAO				S	**S**	**17 27 41.7**	**-1.3**
DZM	**Mont Dzumac**	**12.91**	**280**	*e*P	**P**	**17 28 04.7**	**+1.7**
DZM	**Mont Dzumac**	**12.91**	**280**	P	**P**	**17 28 06.1**	**+3.1**
	1.3nm,0.3s,baz=85,slow=17,SNR=25						
AFI	**Afiamalu**	**13.36**	**36**	P	**P**	**17 28 01.9**	**-5.9**
	4.3nm,0.3s,baz=23,slow=13,SNR=9.7						
AFI				S	**S**	**17 30 22.3**	**-8.6**
	4.4nm,0.3s,baz=195,slow=20,SNR=5.8						
AFI	**Afiamalu**	**13.36**	**36**	*e*P	**P**	**17 28 01.9**	**-5.9**
AFI				*e*S	**S**	**17 30 19.3**	**-12**
AFI				S	**S**	**17 30 22.3**	**-8.6**
URZ	**Urewera**	**13.51**	**190**	P	**P**	**17 28 07.8**	**-1.6**
	4.9nm,0.3s,baz=15,slow=6.4,SNR=10						
URZ				S	**S**	**17 30 32.8**	**-0.8**
	1.6nm,0.3s,baz=18,slow=18,SNR=3.5						
FUNA	**Funafuti**	**16.37**	**357**	*e*P	**P**	**17 28 38.5**	**-1.2**
RPZ	**Rata Peaks**	**20.14**	**199**	P	**P**	**17 29 14.8**	**-1.1**
	11nm,0.4s,baz=347,slow=7.9,SNR=7.8						
HNR	**Honiara**	**24.67**	**305**	P	**P**	**17 29 54.9**	**-1.8**
	29nm,0.7s,mb4.8,baz=84,slow=3.6,SNR=3.3						
CNB	**Canberra Magne**	**28.46**	**241**	*e*P	**P**	**17 30 32.8**	**+2.6**
	19nm,1.1s,mb4.5						
CTA	**Charter Tower**	**31.64**	**272**	⇓ *i* P	**P**	**17 30 59.2**	**+1.4**
	22nm,0.3s,mb5.1						
CTAO	**Charter Tower**	**31.64**	**272**	*e*P	**P**	**17 30 59.1**	**+1.3**
	36nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**34.47**	**250**	*e*P	**P**	**17 31 23.0**	**+1.1**
	3.7nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**34.47**	**250**	P	**P**	**17 31 22.7**	**+0.8**
	4.4nm,0.4s,mb4.3,baz=95,slow=10.0,SNR=30						
STKA	**Stephens Creek**	**34.47**	**250**	*e*P	**P**	**17 31 22.8**	**+1.0**
PMG	**Port Moresby**	**34.99**	**290**	*e*P	**P**	**17 31 26.2**	**0.0**
	18nm,0.7s,mb4.6						
AS31	**Alice Springs**	**42.01**	**262**	*e*P	**P**	**17 32 24.0**	**+0.5**
AS31				*e*S	**S**	**17 38 07.0**	**-0.4**
ASAR	**Alice Springs**	**42.01**	**262**	P	**P**	**17 32 23.6**	**+0.1**
	3.6nm,0.3s,mb4.2,baz=92,slow=7.4,SNR=166						
ASAR				S	**S**	**17 38 06.5**	**-0.8**
	0.4nm,0.7s,baz=93,slow=16,SNR=3.5						
ASPA	**Alice Springs**	**42.02**	**262**	⇓ *i* P	**P**	**17 32 24.0**	**+0.5**
ASPA				*e*S	**S**	**17 38 07.0**	**-0.4**
WB2	**Warramunga Arr**	**42.48**	**267**	⇓ *i* P	**P**	**17 32 27.2**	**+0.1**
WB2				*e*S	**S**	**17 38 11.9**	**-2.2**
WB2	**Warramunga Arr**	**42.48**	**267**	*e*P	**P**	**17 32 27.3**	**+0.2**
WB2				*e*S	**S**	**17 38 11.9**	**-2.2**
WRAB	**Tennant Creek**	**42.48**	**267**	*e*P	**P**	**17 32 27.1**	**0.0**
	8.1nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**42.49**	**267**	P	**P**	**17 32 27.1**	**-0.1**
	12nm,0.3s,mb4.8,baz=99,slow=6.9,SNR=765						
WRA				ScP	ScP	17 37 17.4	+2.6
	2.8nm,0.8s,baz=102,slow=3.7,SNR=12						
WRA				S	**S**	**17 38 12.4**	**-1.8**
	1.3nm,0.8s,baz=103,slow=15,SNR=7.3						
FORT	**Forrest**	**46.09**	**251**	*e*P	**P**	**17 32 54.9**	**-0.2**
	7.1nm,0.2s,mb4.8						
KAKA	**Kakadu**	**46.56**	**276**	⇓ *i* P	**P**	**17 32 58.4**	**-0.3**
	8.2nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	*e*P	**P**	**17 33 31.7**	**+0.6**
	14nm,0.6s,mb4.5						
VNDA	**Vanda**	**53.34**	**185**	P	**P**	**17 33 49.6**	**+1.0**
	1.4nm,0.9s,mb3.3,baz=342,slow=7.1,SNR=6.6						
VNDA	**Vanda**	**53.34**	**185**	*e*P	**P**	**17 33 49.8**	**+1.1**
KLBR	**Kellerberrin**	**54.72**	**248**	*e*P	**P**	**17 33 58.5**	**0.0**
	5.1nm,0.4s,mb4.2						
MUN	**Mundaring**	**55.95**	**247**	*e*P	**P**	**17 34 07.4**	**+0.3**
QSPA	**South Pole Qui**	**65.12**	**180**	*e*P	**P**	**17 35 09.2**	**+1.3**
	3.8nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**72.85**	**326**	P	**P**	**17 35 53.9**	**-0.7**
	0.9nm,0.6s,mb3.5,baz=169,slow=4.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**72.85**	**326**	P	**P**	**17 35 53.9**	**-0.7**
MAW	**Mawson**	**76.81**	**200**	P	**P**	**17 36 17.2**	**+0.2**
	2.2nm,0.5s,mb3.9,baz=128,slow=6.9,SNR=14						
KSRS	**Korea Array**	**79.15**	**320**	P	**P**	**17 36 29.4**	**-0.1**
	1.2nm,0.6s,mb3.6,baz=127,slow=4.7,SNR=4.9						
MNTX	**Cornudas Mount**	**90.70**	**55**	*e*P	**P**	**17 37 26.0**	**-0.2**
	1.0nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**90.87**	**58**	P	**P**	**17 37 27.3**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=209,slow=6.1,SNR=14						
ARCES	**ARCESS Array B**	**132.95**	**348**	PKP	PKPdf	17 43 32.5	-3.1
	3.5nm,1.0s,baz=23,slow=4.0,SNR=5.3						
NOA	**NORSAR Array B**	**134.15**	**351**	PKP	PKPdf	17 43 50.5	-3.8
	2.2nm,0.8s,baz=7.4,slow=2.4,SNR=3.6						
HFS	**Hagfors**	**143.61**	**349**	PKP	PKPdf	17 43 51.7	-3.3
	5.6nm,0.4s,baz=72,slow=4.8,SNR=54						
AKASG	**Malin Array Be**	**145.94**	**327**	PKPbc	PKPbc	17 43 58.9	-1.8
	0.9nm,0.4s,baz=45,slow=4.2,SNR=9.6						
BRTR	**Keskin Array B**	**148.32**	**306**	PKPbc	PKPbc	17 44 04.8	-2.3
	0.4nm,0.5s,baz=105,slow=2.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**168.16**	**187**	PKPab	PKPab	17 45 37.7	0.0
	0.8nm,0.7s,baz=170,slow=4.4,SNR=6.3						

*NIED **29** 17:25:00, 4580N×15250E, h23km, Mw4.7 Best double couple: M0 1.33000×10^16 NP1:φ§237.00000°, δ57.00000°, λ118.00000°. NP2:φ§14.00000°, δ42.00000°, λ55.00000°.*
*SKHL **29** 17:25:43.2±0.0, 4493N×15316E, h48km±17km, Ms4.7/5, msh5.2/1*
*JMA **29** 17:25:49.9±1.0, 4580N×15254E, h30km, M5.1*
*IDC **29** 17:25:49.3±0.6, 4568N×15206E, h0km, mb4.4/20, mb1 4.5/22, mb1mx4.4/28, mbtmp4.3/22, ML3.5/2, MS4.3/11, Ms1 4.3/11, ms1mx3.8/38, Error ellipse: s-maj=17.4km s-min=15.1km az=159.0*
*BJI **29** 17:25:49.4, 4589N×15235E, h16km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*ISCJB **29** 17:25:50.6±1.0, 4558N±005×152.19E±005, h20km±7km, mb4.7/75, MS4.3/21, Error ellipse: s-maj=8.9km s-min=4.5km az=119.9*
*NEIC **29** 17:25:51.4±0.4, 4576N×152.17E, h10km, mb4.9/39, MS4.1/1, Error ellipse: s-maj=10.6km s-min=6.8km az=153.0*
*MOS **29** 17:25:53.4±1.1, 4577N×15208E, h33km, mb5.1/28, MS4.1/10, Error ellipse: s-maj=8.6km s-min=5.7km az=115.4*
*SZGRF **29** 17:26:15.0, 49.11N×151.34E, h33km, mb5.5, Northwest of Kuril Islands, Russia*
ISC 29 17:25:53.6±1.1,**4571N**±005×**15216E**±006,**h26**km±7km, **h20**km±2.4km**:pP-P,n246,**σ1§**20**/263,**mb4.7**/75,**MS4.3**/21, **14C-10D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.06**	**262**	*e*P	**Pn**	**17 26 38.5**	**-1.8**
KUR				AMB	AMB	17 26 53.2	
	198nm,0.7s						
KUR				AMB	AMB	17 26 53.2	
	292nm,0.7s						
KUR				AMB	AMB	17 26 53.2	
	602nm,0.7s						
KUR				*i* S	**Sn**	**17 27 20.0**	**+4.0**
KUR				A		17 27 22.4	
	15μm,1.6s						
KUR				A		17 27 22.4	
	12μm,1.6s						
KUR				A		17 27 28.0	
	6μm,0.8s						
KUR				A		17 27 28.0	
	8μm,0.8s						
KUR				AMS	AMS	17 28 12.0	
	8μm,10.0s						
KUR				AMS	AMS	17 28 12.0	
	9μm,10.0s						
KUR				AMS	AMS	17 28 12.0	
	9μm,10.0s						
KUR	**Kuril'sk**	**3.06**	**262**	*e*PN	**Pn**	**17 26 38.5**	**-1.8**
KUR				*i* S	**Sn**	**17 27 20.0**	**+4.0**
KUR				pmax	pmax		
	comp=N,200nm,0.7s						
KUR				pmax	pmax		
	comp=E,290nm,0.7s						
KUR				pmax	pmax		
	comp=Z,600nm,0.7s						
KUR				smax			
	comp=N,15μm,1.6s						
KUR				smax			
	comp=E,12μm,1.6s						
KUR				smax			
	comp=N,6μm,0.8s						
KUR				smax			
	comp=E,8μm,0.8s						
KUR				MLR	MLR		
	comp=N,8μm,10.0s						
KUR				MLR	MLR		
	comp=E,9μm,10.0s						
KUR				MLR	MLR		
	comp=Z,9μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**4.78**	**252**	*e*P	**Pn**	**17 27 05.0**	**+1.1**
YUK				AMB	AMB	17 27 06.3	
	comp=Z,180nm,0.5s						
YUK				*e*S	**Sn**	**17 28 06.4**	**+7.9**
YUK				A		17 28 12.7	
	comp=Z,5μm,1.0s						
YUK				A		17 28 12.7	
	comp=Z,8μm,1.0s						
YUK				A		17 28 13.5	
	comp=Z,4μm,0.8s						
YUK				AMS	AMS	17 29 09.0	
	comp=Z,8μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**4.78**	**252**	*e*PN	**Pn**	**17 27 05.0**	**+1.1**
YUK				*e*S	**Sn**	**17 28 06.4**	**+7.9**
YUK				pmax	pmax		
	comp=Z,180nm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,8μm,1.0s						
YUK				smax			
	comp=N,2100μm,0.7s						
YUK				smax			
	comp=E,4μm,0.9s						
YUK				MLR	MLR		
	comp=N,8μm,15.0s						
NEM2	**Nemuro 2**	**5.16**	**245**	P	**Pn**	**17 27 07.7**	**-1.3**
NEM2				*e*S	**Sn**	**17 28 06.4**	**-1.3**
JRA	**Rausu**	**5.32**	**253**	P	**Pn**	**17 27 12.4**	**+1.2**
SKR	**Severo-Kuril's**	**5.63**	**27**	*e*P	**Pn**	**17 27 15.5**	**-0.1**
SKR				AMB	AMB	17 27 24.6	
	comp=N,60nm,0.6s						
SKR				AMB	AMB	17 27 24.6	
	comp=N,100nm,0.6s						
SKR				*e*S	**Sn**	**17 28 18.1**	**-1.3**
SKR				A		17 28 43.0	
	comp=N,2μm,4.0s						
SKR				A		17 28 46.4	
	comp=N,390nm,0.9s						
SKR				A		17 28 46.4	
	comp=N,210nm,0.9s						
SKR				A		17 28 46.4	
	comp=N,90nm,0.9s						
SKR				AMS	AMS	17 29 40.0	
	comp=N,3μm,14.0s						
SKR				AMS	AMS	17 29 40.0	
	comp=N,5μm,14.0s						
SKR				AMS	AMS	17 29 40.0	
	comp=N,3μm,14.0s						
SKR				AMS	AMS	17 29 40.0	
	comp=N,2μm,14.0s						
SKR				AMS	AMS	17 29 40.0	
	comp=N,4μm,14.0s						
JNK	**Nakash**	**5.72**	**251**	P	**Pn**	**17 27 17.2**	**+0.4**
JAK	**Akkeshi**	**6.00**	**246**	P	**Pn**	**17 27 19.6**	**-1.1**
JAK				*e*S	**Sn**	**17 28 25.3**	**-3.3**
JTKR	**Abashiri--Toko**	**6.12**	**256**	P	**Pn**	**17 27 23.8**	**+1.5**
JAR	**Ashorobuto**	**6.47**	**251**	P	**Pn**	**17 27 27.9**	**+0.8**
JMP	**Maruseppu**	**6.49**	**258**	P	**Pn**	**17 27 28.9**	**+1.6**
JOB	**Onbets**	**6.60**	**248**	P	**Pn**	**17 27 28.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**6.63**	**284**	⇓ *e*P	**Pn**	**17 27 33.0**	**+3.7**
YSS				AMB	AMB	17 27 36.0	
	comp=N,30nm,1.0s						
YSS				*e*S	**Sn**	**17 28 52.5**	**+8.5**
YSS				A		17 28 54.5	
	comp=N,60nm,1.0s						
YSS				*e*LQ		17 28 58.0	
YSS				AMS	AMS	17 30 04.0	
	comp=N,2μm,17.0s						
YSS				AMS	AMS	17 30 04.0	
	comp=N,3μm,17.0s						
YSS				AMS	AMS	17 30 04.0	
	comp=N,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.63**	**284**	*e*PN	**Pn**	**17 27 32.6**	**+3.3**
YSS				pmax	pmax		
	comp=Z,62nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.63**	**284**	*e*P	**Pn**	**17 27 32.6**	**+3.3**
	comp=Z,62nm,0.7s						
JSE	**Soyaes**	**6.79**	**267**	P	**Pn**	**17 27 35.8**	**+4.2**
JKK2	**Kamakawa 2**	**6.95**	**258**	P	**Pn**	**17 27 35.6**	**+1.9**
ASAJ	**Asahikawa**	**6.98**	**260**	Pn	**Pn**	**17 27 34.9**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=90,slow=12,SNR=12						
ASAJ				LR	LR	17 30 26.0	
	comp=Z,2μm,18.0s,baz=19,slow=40						
ASAJ	**Asahikawa**	**6.98**	**260**	P	**Pn**	**17 27 36.9**	**+2.8**
ASAJ	**Asahikawa**	**6.98**	**260**	PN	**Pn**	**17 27 34.9**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.0s						
JCH	**Churui**	**7.05**	**247**	P	**Pn**	**17 27 34.4**	**-0.6**
JCH				*e*S	**Sn**	**17 28 53.3**	**-1.0**
JWK2	**Keihoku**	**7.22**	**271**	P	**Pn**	**17 27 41.0**	**+3.5**
JFR	**Furan**	**7.31**	**253**	P	**Pn**	**17 27 39.7**	**+1.1**
JAB	**Ashibetsu**	**7.43**	**256**	P	**Pn**	**17 27 41.8**	**+1.5**
JEM	**Erimo**	**7.48**	**244**	P	**Pn**	**17 27 41.7**	**+0.7**
ERM	**Erimo**	**7.49**	**244**	*e*PN	**Pn**	**17 27 42.6**	**+1.6**
ERM				pmax	pmax		
	comp=Z,175nm,0.5s						
ERM	**Erimo**	**7.49**	**244**	*e*P	**Pn**	**17 27 42.6**	**+1.6**
	comp=Z,175nm,0.5s						
JNBK	**Urakawa-nobuka**	**7.60**	**246**	P	**Pn**	**17 27 42.0**	**-0.7**
JBT2	**Biratori 2**	**7.62**	**251**	P	**Pn**	**17 27 42.6**	**-0.3**
UGL	**Uglegorsk**	**7.63**	**300**	*e*P	**Pn**	**17 27 51.0**	**+7.9**
UGL				AMB	AMB	17 27 51.5	
	comp=Z,79nm,0.7s						
UGL				*e*S	**Sn**	**17 29 15.0**	**+6.3**
UGL				A		17 29 20.5	
	comp=Z,160nm,0.6s						
UGL				A		17 29 20.5	
	comp=Z,200nm,0.8s						
UGL				*e*L		17 29 43.0	
UGL				AMS	AMS	17 30 54.0	
	comp=Z,1μm,17.0s						
UGL				AMS	AMS	17 30 54.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	17 30 54.0	
	comp=Z,2μm,15.0s						
UGL	**Uglegorsk**	**7.63**	**300**	*e*PN	**Pn**	**17 27 51.0**	**+7.9**
UGL				S	**Sn**	**17 29 15.0**	**+6.3**
UGL				pmax	pmax		
	comp=Z,79nm,0.7s						
UGL				smax			
	comp=N,200nm,0.8s						
UGL				smax			
	comp=E,160nm,0.6s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
UGL				MLR	MLR		
	comp=N,1μm,17.0s						
TYV	**Tymovskoe**	**8.17**	**313**	*e*P	**Pn**	**17 27 53.8**	**+3.4**
TYV				AMB	AMB	17 27 57.0	
	comp=N,64nm,1.0s						
TYV				AMB	AMB	17 27 57.0	
	comp=N,11nm,0.8s						
TYV				A		17 29 34.8	
	comp=N,55nm,0.8s						
TYV				AMS	AMS	17 31 10.0	
	comp=N,3μm,18.0s						
TYV				AMS	AMS	17 31 10.0	
	comp=N,2μm,16

KLR pmax pmax
comp=E,90nm,1.4s
KLR pmax pmax
comp=Z,62nm,1.4s
KLR MLR MLR
comp=Z,4µm,13.0s
VLA Vladivostok 14.71 267 *e*P **Pn 17 29 19.2 -0.7**
VLA pmax pmax
comp=Z,35nm,0.9s
VLA MLR MLR
comp=Z,1µm,17.6s
MDJ Mudanjiang 15.95 274 P **Pn 17 29 36.0 -0.2**
MDJ S **Sn 17 32 32.0 -0.2**
MDJ AMB AMB
comp=Z,23nm,1.2s
MDJ AMB AMB
comp=Z,100nm,4.3s
MDJ LR LR
comp=E,457nm,16.6s
MDJ LR LR
comp=Z,638nm,17.8s
MDJ Mudanjiang 15.95 274 *e*P **Pn 17 29 36.5 +0.3**
comp=Z,42nm,1.0s
ZEA Zeya 17.93 306 *e*P **Pn 17 29 57.8 -3.2**
ZEA AMB AMB 17 30 04.5
comp=Z,35nm,1.0s
ZEA AMB AMB 17 30 04.5
comp=Z,29nm,1.2s
ZEA AMB AMB 17 30 04.5
comp=Z,64nm,1.2s
CN2 Changchun 19.04 274 *e*P **Pn 17 30 11.8 -2.7**
CN2 *e*S **Sn 17 33 40.0 -7.0**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
KSRS Korea Array 19.87 254 P **Pn 17 30 21.6 -2.8**
baz=56,slow=12,SNR=11
KSRS LR LR 17 37 26.8
comp=Z,334nm,18.5s,baz=64,slow=35
CLNS Chul'man 20.22 313 *e*P **P 17 30 28.1 +1.6**
CLNS *e* 17 30 36.5
CLNS *e*PPP 17 30 41.5
CLNS pmax pmax
comp=Z,12nm,0.7s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS MLR MLR
comp=Z,900nm,16.0s,MS4.2
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.3
CLNS MLR MLR
comp=E,900nm,14.0s,MS4.3
JNU Nakatsue 20.63 240 LR LR 17 38 12.2
comp=E,2µm,19.8s,MS4.4,baz=84,slow=36
YAK Yakutsk 20.86 330 *e*P **P 17 30 32.3 -1.2**
YAK *e**PP 17 30 51.5
YAK *e*S **S 17 34 09.9 -15**
YAK *e**SS sS 17 34 42.4 +6.3
YAK *e* 17 34 47.4
YAK *e* 17 41 56.5
YAK pmax pmax
comp=Z,164nm,1.0s
YAK pmax pmax
comp=N,91nm,1.2s
YAK pmax pmax
comp=E,78nm,1.2s
YAK smax
comp=E,190nm,3.1s
YAK smax
comp=Z,128nm,3.1s
YAK smax
comp=N,153nm,3.0s
YAK Yakutsk 20.86 330 *e*P **P 17 30 32.0 -1.4**
comp=N,148nm,0.8s
HIA Hailar 22.10 291 *e*P **P 17 30 43.4 -3.4**
HIA Hailar 22.10 291 P **P 17 30 47.1 +0.4**
comp=N,20nm,0.9s,mb4.5
BILL Bilibino 23.55 13 *e*P **P 17 31 01.8 -0.2**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
BILL Bilibino 23.55 13 *e*P **P 17 31 01.6 -0.4**
comp=Z,9.8nm,0.9s,mb4.2
CIT Chita 25.93 298 *e*P **P 17 31 22.7 -1.0**
CIT pmax pmax
comp=Z,35nm,1.2s,mb4.8
BOD Bodaibo 26.16 311 *e*P **P 17 31 23.9 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb3.9
BJI Beijing 26.82 271 *e*P **P 17 31 34.0 +2.3**
BJI AMB AMB
comp=Z,32nm,0.9s,mb4.8
BJI LR LR
comp=E,824nm,14.7s
BJI LR LR
comp=Z,544nm,18.1s,MS4.2
BJI Beijing 26.82 271 *e*P **P 17 31 34.1 +2.4**
comp=Z,32nm,0.9s,mb4.8
BJI S **S 17 36 22.5 +16**
BJI LR LR
comp=Z,540nm,18.1s,MS4.2
BJT Baijiatuau 26.83 271 *e*P **P 17 31 32.4 +0.6**
BJT pmax pmax
comp=Z,25nm,0.8s
BJT Baijiatuau 26.83 271 *e*P **P 17 31 32.4 +0.6**
comp=Z,25nm,0.8s,mb4.8
SSE Sheshan 28.11 250 P **P 17 31 47.3 +4.0**
SSE XP sP 17 32 00.0 +5.9
SSE S **S 17 36 35.0 +8.2**
SSE AMB AMB
comp=Z,24nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,157nm,4.7s
SSE LR LR
comp=N,214nm,17.0s,MS4.0
SSE LR LR
comp=E,284nm,17.0s,MS4.0
SSE LR LR
comp=Z,360nm,17.4s,MS4.0
SSE Sheshan 28.11 250 P **P 17 31 47.3 +4.0**
comp=Z,24nm,0.7s,mb4.9
SSE sP sP 17 32 00.0 +5.9
SSE S **S 17 36 35.1 +8.3**
SSE sS sS 17 36 50.1 +11
SSE LR LR
comp=Z,360nm,17.4s,MS4.0
TIXI Tiksi 28.28 345 *e*P **P 17 31 39.8 -5.0**
TIXI *e*S **S 17 36 27.8 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.0
TIXI MLR MLR
comp=Z,334nm,16.0s,MS4.0
TIXI Tiksi 28.28 345 *e*P **P 17 31 42.5 -2.2**
comp=Z,1.8nm,0.6s,mb3.9
NJ2 Nanjing 29.07 254 *e*P **P 17 31 53.0 +1.2**
NJ2 AP pP 17 31 58.0 -1.4
NJ2 XP sP 17 32 01.5 -1.1
NJ2 PP PP 17 32 47.5 -10
NJ2 S **S 17 36 43.0 +1.2**
NJ2 XS sS 17 36 51.0 -3.4
NJ2 AMB AMB
comp=Z,560nm,4.5s
NJ2 LR LR
comp=N,540nm,13.3s,MS4.5
NJ2 LR LR
comp=E,550nm,14.5s,MS4.5
NJ2 LR LR
comp=Z,640nm,14.7s,MS4.4
HHC Hu-ho-hao-te 29.72 275 ⇑P **P 17 31 58.8 +1.3**
HHC PP PP 17 32 55.0 -10
HHC PCP PcP 17 35 03.5 +2.4
HHC S **S 17 36 52.8 +0.8**
HHC XS sS 17 37 00.0 -4.6
HHC SS SS 17 38 24.8 -34
HHC AMB AMB
comp=Z,29nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,107nm,4.9s
HHC LR LR
comp=N,515nm,13.9s,MS4.5
HHC LR LR
comp=E,701nm,14.7s,MS4.5
HHC LR LR
comp=Z,940nm,14.3s,MS4.6
ULN Ulaanbaatar 30.63 291 *e*P **P 17 32 05.8 +0.2**
ULN Ulaanbaatar 30.63 291 *e*P **P 17 32 06.3 +0.8**
comp=Z,5.2nm,1.0s,mb4.3
SONM Songino Array 31.07 291 P **P 17 32 08.9 -0.5**
comp=Z,2.2nm,0.9s,mb4.0,baz=89,slow=9.5,SNR=8.5
SONM LR LR 17 45 42.6
comp=Z,780nm,18.2s,MS4.4,baz=172,slow=38
ZAK Zakamensk 32.53 296 *e*P **P 17 32 21.7 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
GUMO Guam 32.61 193 LR LR 17 43 08.7
comp=Z,101nm,21.8s,MS3.5,baz=60,slow=32
XAN Xi'an 34.78 266 P **P 17 32 42.0 +0.2**
XAN AP pP 17 32 51.3 +1.8
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.7
XAN LR LR
comp=N,172nm,17.5s,MS4.1
XAN LR LR
comp=E,213nm,16.2s,MS4.1
XAN LR LR
comp=Z,364nm,17.5s,MS4.2
LZH Lanzhou 37.27 273 *e*P **P 17 33 04.8 +1.6**
LZH AP pP 17 33 07.8 -3.1
LZH XP sP 17 33 10.0 -4.1
LZH AMB AMB
comp=Z,78nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,260nm,4.5s
LZH LR LR
comp=N,495nm,15.1s
LZH LR LR
comp=Z,771nm,16.5s,MS4.6
LZH Lanzhou 37.27 273 *e*P **P 17 33 04.7 +1.5**
LZH *SP sP 17 33 10.0 -4.1
LZH pmax pmax
comp=Z,78nm,1.2s,mb5.4
LZH MLR MLR
comp=Z,770nm,16.5s,MS4.6
LZH Lanzhou 37.27 273 *e*P **P 17 33 04.7 +1.5**
comp=Z,78nm,1.2s,mb5.4
LZH pP pP 17 33 07.7 -3.2
LZH sP sP 17 33 10.0 -4.1
LZH LR LR
comp=Z,770nm,16.5s,MS4.6
GTA Gaotai 38.49 280 *e*P **P 17 33 14.8 +1.3**
GTA AP pP 17 33 22.5 +1.3
GTA XP sP 17 33 26.8 +2.4
GTA PP PP 17 34 50.5 +8.8
GTA PPP 17 35 15.0
GTA PCP PcP 17 35 27.0 +0.9
GTA S **S 17 39 13.5 +6.1**
GTA AMB AMB
comp=Z,38nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,241nm,5.4s
GTA LR LR
comp=N,338nm,17.5s
GTA LR LR
comp=E,419nm,12.2s
GTA LR LR
comp=Z,485nm,14.8s,MS4.5
CD2 Chengdu 40.14 266 ⇑*i*P **P 17 33 27.5 +0.3**
CD2 AP pP 17 33 32.0 -3.0
CD2 XP sP 17 33 35.0 -3.2
CD2 PP PP 17 35 03.8 +4.1
CD2 S **S 17 39 32.5 +0.3**
CD2 SS SS 17 42 23.0 -7.3
CD2 AMB AMB
comp=Z,40nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,160nm,6.8s
CD2 LR LR
comp=N,290nm,15.6s,MS4.5
CD2 LR LR
comp=E,510nm,19.2s,MS4.5
CD2 LR LR
comp=Z,470nm,17.8s,MS4.4
ZAL Zalesovo 42.70 306 P **P 17 33 46.8 -1.5**
comp=Z,0.8nm,0.3s,mb4.0,baz=353,slow=6.4,SNR=3.8
ZAL PcP PcP 17 35 39.9 +0.2
comp=Z,1.7nm,0.8s,baz=44,slow=4.7,SNR=7.6
ZAL LR LR 17 53 43.4
comp=Z,706nm,18.8s,MS4.6,baz=50,slow=39
ZAL Zalesovo 42.70 306 P **P 17 33 46.8 -1.5**
ZAL 17 35 39.9
INK Inuvik 42.88 32 P **P 17 33 49.1 -0.6**
comp=Z,3.0nm,0.8s,mb4.0,baz=263,slow=5.0,SNR=8.6
INK Inuvik 42.88 32 *e*P **P 17 33 50.0 +0.2**
comp=Z,303nm,1.3s
KMI Kunming 44.41 260 P **P 17 34 04.3 +2.3**
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
KMI Kunming 44.41 260 P **P 17 34 04.2 +2.2**
KMI pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
KMI Kunming 44.41 260 P **P 17 34 04.2 +2.2**
comp=Z,7.0nm,1.2s,mb4.3
WMQ Urumqi 44.69 292 ⇑P **P 17 34 05.0 +0.7**
WMQ AP pP 17 34 09.5 -2.6
WMQ XP sP 17 34 12.0 -3.3
WMQ PCP PcP 17 35 49.0 +2.5
WMQ PP PP 17 35 50.0 +1.2
WMQ PPP 17 36 28.5
WMQ S **S 17 40 39.3 +0.1**
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,182nm,5.5s
WMQ LR LR
comp=N,269nm,20.2s,MS4.2
WMQ LR LR
comp=E,151nm,21.4s,MS4.2
WMQ LR LR
comp=Z,213nm,15.5s
MK31 Makanchi Array 46.84 298 *e*P **P 17 34 19.5 -1.7**
MKAR Makanchi Array 46.84 298 P **P 17 34 20.2 -1.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=70,slow=8.5,SNR=17
MKAR PcP PcP 17 35 53.9 -0.1
comp=Z,1.5nm,0.8s,baz=43,slow=2.3,SNR=3.8
MKAR LR LR 17 55 03.0
comp=Z,742nm,18.9s,MS4.7,baz=262,slow=38
MKAR Makanchi Array 46.84 298 P **P 17 34 20.2 -1.0**
MKAR 17 35 53.9
KURK Kurchatov 47.39 304 *e*P **P 17 34 23.8 -1.8**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KURK Kurchatov 47.39 304 *e*P **P 17 34 23.8 -1.8**
comp=Z,5.6nm,0.9s,mb4.5
LSA Lhasa 49.67 273 P **P 17 34 45.8 +2.7**
LSA Lhasa 49.67 273 *e*P **P 17 34 45.1 +2.0**
LSA pmax pmax
comp=Z,11nm,0.7s,mb5.0
LSA Lhasa 49.67 273 *e*P **P 17 34 45.1 +2.0**
comp=Z,11nm,0.7s,mb5.0
BVAR Borovoye Array 51.01 310 P **P 17 34 51.4 -1.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=39,slow=9.6,SNR=6.5
BVAR PcP PcP 17 36 08.2 -0.8
comp=Z,2.6nm,0.8s,baz=111,slow=3.8,SNR=6.6
BRVK Borovoye 51.05 310 *e*P **P 17 34 51.5 -2.0**
CHTO Chiang Mai 51.24 257 *e*P **P 17 34 55.7 +0.8**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CHTO Chiang Mai 51.24 257 *e*P **P 17 34 55.7 +0.8**
comp=Z,5.9nm,0.8s,mb4.6
YKA Yellowknife Ar 52.15 36 P **P 17 35 02.1 +0.4**
comp=Z,2.5nm,0.9s,mb4.1,baz=298,slow=7.2,SNR=9.5
YKA Yellowknife Ar 52.15 36 P **P 17 35 02.1 +0.4**
AAK Ala-Archa 53.71 297 *e*P **P 17 35 12.5 -0.7**
AAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
AAK Ala-Archa 53.71 297 *e*P **P 17 35 12.5 -0.7**
comp=Z,14nm,0.8s,mb4.9
GUN Gumba 54.44 275 *e*P **P 17 35 19.5 +1.0**
comp=Z,39nm,0.9s,mb5.3
KKN Kakani 54.93 275 *e*P **P 17 35 23.0 +0.9**
comp=Z,25nm,0.9s,mb5.3
PKI Pulchoki 54.97 275 *e*P **P 17 35 23.6 +1.2**
comp=Z,15nm,0.7s,mb5.2
DMN Daman 55.16 275 *e*P **P 17 35 25.0 +1.2**
comp=Z,42nm,1.0s,mb5.4
GKN Gorkha 55.24 276 *e*P **P 17 35 25.2 +0.8**
comp=Z,57nm,1.0s,mb5.5
ARU Arti 55.33 318 ⇑*i*P **P 17 35 21.9 -3.1**
ARU *e* 17 35 36.8
ARU *e* 17 36 24.6
ARU *e* 17 37 26.6
ARU *e*S **S 17 42 59.2 -8.4**
ARU *e*SS SS 17 46 50.2 -1.9
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.8
ARU Arti 55.33 318 *e*P **P 17 35 22.0 -3.0**
comp=Z,4.7nm,0.6s,mb4.7
KOLN Koldanda 56.11 276 *e*P **P 17 35 31.7 +1.1**
comp=Z,55nm,0.9s,mb5.6
KEV Kevo 58.10 340 *e*p **P 17 35 42.1 -2.6**
ARCES ARCESS Array B 58.61 341 P **P 17 35 47.7 -0.6**
comp=Z,10nm,0.9s,mb4.8,baz=39,slow=7.9,SNR=9.9
ARCES LR LR 18 03 14.4
comp=Z,160nm,18.6s,MS4.2,baz=28,slow=38
THN Thein Dam 58.69 286 *e*P **P 17 35 47.1 -1.7**
AKTK Aktyubinsk 58.93 312 P **P 17 35 49.6 -0.9**
AKTO Aktyubinsk 58.93 312 P **P 17 35 49.6 -0.9**
comp=Z,1.4nm,0.6s,mb4.2,baz=63,slow=12,SNR=5.8
NVAR Mina Array Bea 63.50 61 P **P 17 36 22.0 +0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=284,slow=7.6,SNR=5.4
KAF Kangasniemi 64.10 335 *e*p **P 17 36 23.2 -2.2**
comp=Z,12nm,0.7s,mb5.0,baz=38,slow=6.2
KAF Kangasniemi 64.10 335 *e*P **P 17 36 23.2 -2.2**
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.0
RRI2 Red Ridge 64.53 53 *e*P **P 17 36 27.2 -1.0**
comp=Z,6.3nm,0.8s,mb4.7
FIA1 FINESS Array S 64.69 335 *e*P **P 17 36 28.3 -1.0**
FINES FINESS Array B 64.69 335 P **P 17 36 28.3 -1.0**
comp=Z,14nm,0.8s,mb5.0,baz=47,slow=8.4,SNR=34
FINES FINESS Array B 64.69 335 ⇑*e*P **P 17 36 28.2 -1.1**
FINES FINESS Array B 64.69 335 P **P 17 36 28.3 -1.0**
DUG Dugway 65.69 57 *e*P **P 17 36 36.0 +0.3**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
DUG Dugway 65.69 57 *e*P **P 17 36 36.0 +0.3**
comp=Z,3.8nm,0.9s,mb4.4
OBN Obninsk 65.79 325 *e*P **P 17 36 35.5 -0.9**
OBN pmax pmax
comp=Z,20nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
BW06 Boulder Array 65.89 53 *e*P **P 17 36 38.0 +1.0**
comp=Z,5.2nm,1.1s,mb4.5
PDAR Pinedale Array 65.89 53 P **P 17 36 36.6 -0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=278,slow=3.0,SNR=10
WRA Warramunga Arr 67.32 198 P **P 17 36 45.1 -1.0**
comp=Z,1.7nm,1.0s,mb4.0,baz=14,slow=6.7,SNR=6.2
VRSR Storozhevoye 67.50 321 *e*P **P 17 36 47.7 +0.4**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SRU San Rafael 67.73 56 *e*P **P 17 36 49.9 +1.1**
SRU pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
SRU San Rafael 67.73 56 *e*P **P 17 36 49.9 +1.2**
comp=Z,3.4nm,0.9s,mb4.4
NB2 NORSAR Subarra 68.99 341 P **P 17 36 55.9 -0.7**
comp=Z,23nm,0.9s,mb5.1,baz=28,slow=6.5
NOA NORSAR Array B 68.99 341 P **P 17 36 56.0 -0.6**
comp=Z,16nm,0.9s,mb5.0,baz=29,slow=6.2,SNR=22
NOA LR LR 18 13 59.0
comp=Z,113nm,18.6s,MS4.1,baz=0.0,slow=42
HFS Hagfors 69.19 339 P **P 17 36 57.1 -0.8**
comp=Z,11nm,0.6s,mb4.9,baz=52,slow=5.8,SNR=27
ASAR Alice Springs 71.02 198 P **P 17 37 09.3 +0.2**
comp=Z,2.4nm,1.0s,mb4.1,baz=5.0,slow=6.6,SNR=10
ZEI Tsey 71.27 312 *e*P **P 17 37 10.4 -0.2**
ZEI pmax pmax
comp=Z,12nm,0.9s,mb4.8
AKASG Malin Array Be 72.04 326 P **P 17 37 14.6 -0.6**
comp=Z,18nm,0.8s,mb5.0,baz=34,slow=6.1,SNR=56
AKASG LR LR 18 11 04.2
comp=Z,182nm,19.9s,MS4.3,baz=325,slow=38
AKASG Malin Array Be 72.04 326 P **P 17 37 14.6 -0.7**
AKASG LR LR 18 11 04.2
AKBB Malin Array Si 72.04 326 *e*P **P 17 37 14.6 -0.6**
AKBB *e* 17 37 19.7
KIEV Kiev 72.05 326 *e*P **P 17 37 14.6 -0.7**
KIEV *e* pP 17 37 20.4 -3.1
KIEV pmax pmax
comp=Z,22nm,0.9s,mb5.1
KIEV Kiev 72.05 326 *e*P **P 17 37 14.6 -0.7**
comp=Z,22nm,0.9s,mb5.1
KIEV *e* pP 17 37 20.4 -3.1
GNI Garni 72.70 310 *e*P **P 17 37 19.1 0.0**
GNI pmax pmax
comp=Z,32nm,1.5s
GNI Garni 72.70 310 *e*P **P 17 37 21.0 +1.9**
comp=Z,15nm,0.9s,mb4.9
ANN Anapa 73.00 317 *e*P **P 17 37 20.0 -1.0**
ANN *e**PP pP 17 37 38.5 +9.3
ANN *e* 17 40 04.5
ANN *e*PPP 17 41 49.6
ANN *e*S S 17 46 44.3 -2.0
ANN *e*SS SS 17 51 28.8 +1.7
ANN pmax pmax
comp=Z,42nm,1.1s,mb5.3
KIS Kishinev 75.14 324 *e*P **P 17 37 32.0 -1.4**
KIS *e* 17 37 44.0
KIS Kishinev 75.14 324 *e*P **P 17 37 32.0 -1.4**
KIS LRM 18 13 40.0
comp=Z,300nm,16.0s
KIS Kishinev 75.14 324 LRM 17 38 18.0
comp=Z,500nm,16.0s
KWP Kalwaria 75.37 329 *e*P **P 17 37 35.4 +0.6**
OJC Ojcow 75.91 331 *e*P **P 17 37 37.3 -0.5**
STHS Stebnicka Huta 76.08 329 *e*P **P 17 37 39.3 +0.5**
STHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
STHS Stebnicka Huta 76.08 329 *e*P **P 17 37 39.3 +0.5**
comp=Z,15nm,1.0s,mb4.9
BURAR Bucovina Array 76.09 326 ⇓*i*P **P 17 37 39.3 +0.4**
BURAR Bucovina Array 76.09 326 ⇓P **P 17 37 39.3 +0.5**
KOLS Kolonicke sedl 76.11 329 *e*P **P 17 37 39.0 0.0**
UZH Uzhgorod 76.36 328 *e*P **P 17 37 40.2 -0.2**
UZH *i* pP 17 37 47.4 -1.3
NIE Niedzica 76.40 330 *e*P **P 17 37 41.9 +1.2**
KSP Ksiaz 76.53 333 *e*P **P 17 37 41.1 -0.3**
OKC Ostrava-Krasne 76.79 331 *e*P **P 17 37 43.7 +0.8**
UPC Upice 76.91 333 *e*P **P 17 37 43.7 +0.2**
DPC Dobruska-Polom 76.95 333 *e*P **P 17 37 44.2 +0.5**
MORC Moravsky Berou 77.05 332 ⇑*i*P **P 17 37 44.7 +0.4**
MORC Moravsky Berou 77.05 332 ⇑P **P 17 37 44.7 +0.4**
CLL Collm 77.13 335 *e*P **P 17 37 44.2 -0.6**
CLL Collm 77.13 335 ⇑*i*P **P 17 37 44.3 -0.5**
CLL *i* pP 17 37 51.0 -2.1
CLL pmax pmax
comp=Z,23nm,1.1s,mb5.0
CLL Collm 77.13 335 ⇑*i*P **P 17 37 44.3 -0.5**
comp=Z,23nm,1.1s,mb5.0
CLL *i* pP 17 37 51.0 -2.1
CLL Collm 77.13 335 ⇑*i*P **P 17 37 44.3 -0.5**
comp=Z,23nm,1.1s,mb5.0
CLL *i* (pP) pP 17 37 51.0 -2.1
CLL *e*sPcP 17 37 59.0
KECS Kecovo 77.13 329 *e*P **P 17 37 43.8 -1.0**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 77.13 329 *e*P **P 17 37 43.8 -1.0**
comp=Z,6.0nm,0.9s,mb4.5
EKA Eskdalemuir Ar 77.19 346 P **P 17 37 45.0 0.0**
comp=Z,4.1nm,0.8s,mb4.4,baz=19,slow=4.6,SNR=5.0
BRG Berggiesshubel 77.23 334 *e*P **P 17 37 45.2 -0.2**
comp=Z,9.4nm,1.4s,mb4.5
BRG Berggiesshubel 77.23 334 *e*P **P 17 37 45.2 -0.2**
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
PVCC Panska Ves 77.34 334 *e*P **P 17 37 46.6 +0.6**
MALT Malatya 77.37 312 ⇓*i*P **P 17 37 48.2 +2.1**
MALT Malatya 77.37 312 ⇓P **P 17 37 48.2 +2.1**
CLZ Clausthal 77.41 337 *e*P **P 17 37 46.4 +0.1**
MLR Muntele Rosu 77.53 324 ⇓*i*P **P 17 37 48.1 +1.1**
MLR Muntele Rosu 77.53 324 ⇓P **P 17 37 48.1 +1.1**
VYHS Vyhne 77.70 330 *i* P **P 17 37 48.3 +0.3**
VYHS pmax pmax

comp=Z,8.0nm,1.2s,mb4.5
VYHS Vyhne 77.70 330 *i* P **P 17 37 48.3 +0.3**
comp=Z,8.4nm,1.2s,mb4.5
VRAC Vranov 77.76 332 ⇓*i* P **P 17 37 49.3 +1.0**
VRAC Vranov 77.76 332 ⇓P **P 17 37 49.3 +1.0**
PRU Pruhonice 77.83 334 *e*P **P 17 37 49.0 +0.3**
MOX Moxa 78.13 336 *e*P **P 17 37 50.0 -0.3**
NKC Novy Kostel 78.25 335 *e*P **P 17 37 48.2 -2.8**
ZST Bratislava 78.55 331 *e*P **P 17 37 54.3 +1.6**
ZST pmax pmax
comp=Z,16nm,1.4s,mb4.8
ZST Bratislava 78.55 331 *e*P **P 17 37 54.3 +1.6**
comp=Z,16nm,1.4s,mb4.8
TXAR Lajitas Array 78.58 60 P **P 17 37 53.7 +0.8**
comp=Z,1.6nm,0.5s,mb4.2,baz=299,slow=4.8,SNR=15
TXAR Lajitas Array 78.58 60 P **P 17 37 53.7 +0.8**
MIB Mutribah 78.64 301 *e*P **P 17 37 53.5 +0.3**
MIB AMb AMB 17 37 55.8
comp=Z,56nm,0.8s,mb5.5
BR131 Keskin Array S 78.69 316 *e*P **P 17 37 54.0 +0.6**
comp=Z,1.0nm,0.6s,mb3.9
BRTR Keskin Array B 78.69 316 P **P 17 37 54.2 +0.8**
comp=Z,4.3nm,1.0s,mb4.3,baz=87,slow=2.6,SNR=13
KBD Kabd 78.88 300 *e*P **P 17 37 55.0 +0.5**
KHC Kasperske Hory 78.88 334 *e*P **P 17 37 55.1 +0.6**
KHC *e*pP pP 17 37 58.5 -4.3
KHC Kasperske Hory 78.88 334 ⇑*i* P **P 17 37 54.0 -0.5**
QRN Al-Qurain 79.05 300 *e*P **P 17 37 55.9 +0.5**
QRN AMb AMB 17 37 57.3
comp=Z,57nm,1.1s,mb5.4
GRA1 Grafenberg Arr 79.09 335 *e*P **P 17 37 56.0 +0.4**
comp=Z,81nm,2.0s,mb5.3
GRF Grafenberg Arr 79.09 335 *e*P **P 17 37 56.0 +0.4**
comp=Z,81nm,2.0s,mb5.3
GRF Grafenberg Arr 79.09 335 *e*P **P 17 37 56.0 +0.4**
GRF pmax pmax
comp=Z,81nm,2.0s,mb5.3
GRF Grafenberg Arr 79.09 335 *e*P **P 17 37 56.0 +0.4**
GRF pmax pmax
comp=Z,81nm,2.0s,mb5.3
GERES GERESS Array B 79.09 334 P **P 17 37 55.4 -0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=37,slow=5.5,SNR=9.9
GERES LR LR 18 17 34.2
comp=Z,193nm,19.2s,MS4.5,baz=212,slow=39
NAY Al-Naaiem 79.10 301 *e*P **P 17 37 56.1 +0.4**
NAY AMb AMB 17 37 57.4
comp=Z,26nm,0.9s,mb5.2
BZS Buzias 79.13 327 ⇑*i* P **P 17 37 56.2 +0.3**
BZS Buzias 79.13 327 ⇑P **P 17 37 56.2 +0.4**
MEM Membach 79.68 339 P **P 17 37 59.7 +0.9**
BCLA Clavier 80.03 339 P **P 17 38 03.4 +2.6**
GRUS Gruza 80.93 327 *i* P **P 17 38 04.1 -1.5**
DIVS Divcibare 81.03 327 *i* P **P 17 38 06.0 -0.1**
VTS Vitosha 81.04 324 ⇓*i* P **P 17 38 06.7 +0.6**
BFO Black Forest 81.15 337 *e*P **P 17 38 07.1 +0.4**
BFO pmax pmax
comp=Z,16nm,1.3s,mb4.8
BFO Black Forest 81.15 337 *e*P **P 17 38 07.1 +0.4**
comp=Z,16nm,1.3s,mb4.8
CDF Champ du Feu 81.36 337 *e*P **P 17 38 08.1 +0.2**
comp=Z,19nm,1.0s,mb4.7
CDF Champ du Feu 81.36 337 *e*P **P 17 38 08.1 +0.2**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CDF Champ du Feu 81.36 337 *e*P **P 17 38 08.1 +0.2**
comp=Z,9.4nm,1.0s,mb4.7
CSS Prodhromos 82.56 313 *e*P **P 17 38 14.5 +0.3**
comp=Z,10nm,0.8s,mb4.9
GRR Gorron 83.36 342 *e*P **P 17 38 17.7 -0.6**
comp=Z,68nm,1.3s,mb5.2
GRR Gorron 83.36 342 *e*P **P 17 38 17.7 -0.6**
GRR pmax pmax
comp=Z,34nm,1.3s,mb5.2
GRR Gorron 83.36 342 *e*P **P 17 38 17.7 -0.6**
comp=Z,34nm,1.3s,mb5.2
SMF Signal de Mont 83.89 339 *e*P **P 17 38 20.8 -0.3**
comp=Z,61nm,1.2s,mb5.3
SMF Signal de Mont 83.89 339 *e*P **P 17 38 20.8 -0.3**
SMF pmax pmax
comp=Z,30nm,1.2s,mb5.3
SMF Signal de Mont 83.89 339 *e*P **P 17 38 20.8 -0.3**
comp=Z,30nm,1.2s,mb5.3
LPG La Plagne 84.17 336 *e*P **P 17 38 23.2 +0.7**
comp=Z,30nm,1.2s,mb5.0
LPG La Plagne 84.17 336 *e*P **P 17 38 23.2 +0.7**
LPG pmax pmax
comp=Z,15nm,1.2s,mb5.0
LPG La Plagne 84.17 336 *e*P **P 17 38 23.2 +0.7**
comp=Z,15nm,1.2s,mb5.0
EIL Elat 85.84 309 *e*P **P 17 38 31.8 +0.9**
comp=Z,338nm,1.0s
CAF Calviac 85.95 339 *e*P **P 17 38 30.9 -0.5**
CFAA Coronel Fontan 145.83 80 PKPbc PKPbc 17 45 30.3 -0.1
comp=Z,0.1nm,0.3s,baz=321,slow=6.5,SNR=3.0
SNAA Sanae 151.37 196 PKPbc PKPbc 17 45 41.8 -3.1
comp=Z,1.5nm,1.1s,baz=225,slow=4.3,SNR=3.5
SNAA Sanae 151.37 196 PKPbc PKPbc 17 45 41.8 -3.1
VNA2 Neumayer--Watz 152.84 195 *e*PKPdf PKPdf 17 45 38.7 -2.3
VNA2 Neumayer--Watz 152.84 195 *e*PKPdf PKPdf 17 45 38.7 -2.3
VNA2 Neumayer--Watz 152.84 195 *e*PKPdf PKPab 17 46 00.3 +1.1
VNA2 Neumayer--Watz 152.84 195 *e*PKPdf PKPab 17 46 00.3 +1.1
VNA2 *e* 17 46 12.7
VNA3 Neumayer Olymp 152.94 193 *e*PKPdf PKPdf 17 45 35.7 -5.5
VNA3 Neumayer Olymp 152.94 193 *e*PKPdf PKPdf 17 45 35.7 -5.5

*IDC **29** 17:42:55.0±1.7, 35.37N×141.64E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, ML3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/44, Error ellipse: s-maj=45.2km s-min=22.4km az=75.0*
*ISCJB **29** 17:42:59.6±0.9, 35.30N±0.04×141.17E±0.08, h40km±10km, mb3.6/3, Error ellipse: s-maj=11.2km s-min=6.1km az=7.8*
*JMA **29** 17:42:59.0±0.1, 35.31N×141.22E, h33km±2km, M3.4*
ISC 29 17:42:60.0±0.9, 3530N±003×14115E±007, h30km±5km, n18, σ1§18/26, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**329**	P	**Pb**	**17 43 09.1**	**-0.8**
CHOJ				S	**Sb**	**17 43 16.6**	**0.0**
BSO1	**Boso 1**	**0.66**	**193**	P	**Pb**	**17 43 12.1**	**-0.9**
KTR	**Katsuura**	**0.70**	**258**	P	**Pb**	**17 43 13.1**	**-0.6**
KTR				*e*S	**Sb**	**17 43 23.0**	**-0.1**
BSO3	**Boso 3**	**0.73**	**227**	P	**Pb**	**17 43 13.6**	**-0.5**
BSO3				S	**Sb**	**17 43 25.4**	**+1.7**
BSO4	**Boso 4**	**0.74**	**245**	P	**Pb**	**17 43 13.9**	**-0.4**
BSO4				S	**Sb**	**17 43 25.7**	**+1.7**
JCN	**Nagara**	**0.79**	**279**	P	**Pn**	**17 43 15.2**	**+0.2**
JYT	**Yasato**	**1.21**	**320**	P	**Pn**	**17 43 20.1**	**-0.7**
JYT				*e*S	**Sn**	**17 43 37.1**	**+0.9**
JHO	**Hitachi**	**1.39**	**340**	P	**Pn**	**17 43 23.0**	**-0.3**
JIM2	**Oshima 3**	**1.53**	**248**	P	**Pn**	**17 43 23.8**	**-1.4**
JIM2				S	**Sn**	**17 43 41.6**	**-2.5**
JOD2	**Odawara 2**	**1.69**	**269**	P	**Pn**	**17 43 26.7**	**-0.7**
JOD2				S	**Sn**	**17 43 45.9**	**-2.1**
JHJ	**Hachijo jima 2**	**2.45**	**208**	Pn	**Pn**	**17 43 39.2**	**+1.3**
	14nm,0.3s,baz=205,slow=7.8,SNR=12						
JHJ				Sn	**Sn**	**17 44 06.1**	**-0.8**
	35nm,0.3s,baz=91,slow=22,SNR=5.5						
MJAR	**Matsushiro Arr**	**2.69**	**298**	Pn	**Pn**	**17 43 43.6**	**+2.4**
	3.8nm,0.3s,baz=98,slow=13,SNR=60						
MJAR				LR	LR	17 44 21.6	
	comp=Z,257nm,22.0s,baz=145,slow=29						
MAT	**Matsushiro**	**2.69**	**298**	P	**Pn**	**17 43 43.7**	**+2.5**
MAT				*e*S	**Sn**	**17 44 13.3**	**+0.5**
JNU	**Nakatsue**	**8.78**	**259**	LR	LR	17 47 29.0	
	comp=Z,132nm,21.0s,baz=300,slow=30						
ASAJ	**Asahikawa**	**8.88**	**7**	Pn	**Pn**	**17 45 04.8**	**-1.4**
	0.9nm,0.3s,baz=339,slow=20,SNR=7.1						
MKAR	**Makanchi Array**	**44.88**	**304**	P	**P**	**17 51 12.4**	**+0.8**
	0.6nm,0.8s,mb3.5,baz=96,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**55.32**	**188**	P	**P**	**17 52 31.0**	**+0.2**
	0.6nm,0.4s,mb4.0,baz=22,slow=7.3,SNR=27						
ASAR	**Alice Springs**	**59.04**	**188**	P	**P**	**17 52 58.5**	**+1.5**
	0.2nm,0.6s,mb3.4,baz=4.0,slow=8.0,SNR=6.9						

*ISCJB **29** 18:04:10.1±0.6, 37.71N±0.08×1355E±0.1, h374km±9km, mb3.2/4, Error ellipse: s-maj=14.9km s-min=11.0km az=83.9*
*JMA **29** 18:04:10.9±0.3, 37.54N×135.58E, h374km, M3.3*
*IDC **29** 18:04:10.7±1.1, 37.78N×135.58E, h367km±15km, mb3.0/4, mb1 3.2/7, mb1mx3.0/25, mbtmp3.1/7, Error ellipse: s-maj=22.5km s-min=15.0km az=58.0*
ISC 29 18:04:11.1±0.6, 3770N±010×1355E±01, h365km±9km, n16, σ0§69/23, mb3.2/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**2.44**	**121**	P	**Pn**	**18 05 07.0**	**+0.1**
JNG				S	**S**	**18 05 52.3**	**+0.4**
MAT	**Matsushiro**	**2.45**	**117**	P	**Pn**	**18 05 06.9**	**-0.1**
MAT				*e*S	**S**	**18 05 49.0**	**-3.0**
MAT	**Matsushiro**	**2.45**	**117**	P	**Pn**	**18 05 06.7**	**-0.3**
MAT				S	**S**	**18 05 50.3**	**-1.7**
MJAR	**Matsushiro Arr**	**2.45**	**117**	P	**Pn**	**18 05 07.4**	**+0.4**
	3.2nm,0.3s,baz=300,slow=9.4,SNR=34						
JRY	**Ryogami san**	**3.20**	**121**	P	**Pn**	**18 05 13.6**	**+0.3**
JFT	**Otama**	**3.84**	**91**	P	**Pn**	**18 05 20.0**	**+0.7**
JMM	**Marumori**	**4.19**	**86**	P	**Pn**	**18 05 22.8**	**0.0**
JMM				S	**S**	**18 06 21.0**	**+0.2**
JFK	**Kawauchi**	**4.28**	**93**	P	**Pn**	**18 05 23.2**	**-0.5**
JFK				S	**S**	**18 06 18.6**	**-3.9**
JRG	**Rokugo**	**4.36**	**66**	P	**Pn**	**18 05 25.5**	**+0.9**
JMK	**Ichinoseki**	**4.66**	**73**	P	**Pn**	**18 05 28.5**	**+0.8**
JMK				S	**S**	**18 06 29.1**	**-0.7**
KSRS	**Korea Array**	**6.03**	**270**	P	**Pn**	**18 05 42.9**	**+0.2**
	baz=83,slow=12,SNR=22						
ASAJ	**Asahikawa**	**8.36**	**38**	P	**Pn**	**18 06 09.7**	**+0.1**
	2.2nm,0.3s,baz=244,slow=11,SNR=39						
ASAJ				S	**S**	**18 07 41.8**	**-4.6**
	0.6nm,0.3s,baz=293,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**23.52**	**305**	P	**P**	**18 08 49.8**	**0.0**
	1.0nm,0.4s,mb3.4,baz=113,slow=10,SNR=9.5						
MKAR	**Makanchi Array**	**39.76**	**301**	P	**P**	**18 11 08.8**	**-0.9**
	0.3nm,0.5s,mb2.8,baz=85,slow=10,SNR=10.0						
WRA	**Warramunga Arr**	**57.34**	**181**	P	**P**	**18 13 22.1**	**-0.1**
	1.6nm,0.4s,mb3.7,baz=357,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**61.06**	**182**	P	**P**	**18 13 47.5**	**+0.2**
	0.3nm,0.4s,mb3.1,baz=1.9,slow=6.5,SNR=6.7						

*ISCJB **29** 18:04:50.6±8.9, 230S±09×1797W±09, h584km±49km, mb3.9/6, Error ellipse: s-maj=185.3km s-min=39.6km az=84.7*
*NEIC **29** 18:04:52.0±6.0, 23.19S×179.91W, h563km±28km, mb4.9/3, Error ellipse: s-maj=122.3km s-min=25.5km az=223.0*
*IDC **29** 18:04:52.3±9.4, 23.16S×179.90W, h568km±70km, mb3.3/6, mb1 3.4/7, mb1mx3.2/16, mbtmp3.2/7, Error ellipse: s-maj=143.1km s-min=27.6km az=43.0*
ISC 29 18:04:51.1±8.6, 232S±09×1798W±09, h557km±40km, n13, σ0§28/12, mb3.8/6, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.76**	**272**	P	**P**	**18 07 37.2**	**-0.1**
	0.2nm,0.3s,baz=109,slow=18,SNR=3.4						
CTA	**Charters Tower**	**31.67**	**269**	⇓*i* P	**P**	**18 10 30.1**	**+0.8**
	7.3nm,0.4s,mb4.6						
CTA	**Charters Tower**	**31.67**	**269**	P	**P**	**18 10 30.1**	**+0.8**
	9.9nm,0.5s,mb4.6,baz=99,slow=10,SNR=29						
CTAO	**Charters Tower**	**31.67**	**269**	*e*P	**P**	**18 10 29.8**	**+0.6**
	9.8nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**35.16**	**247**	P	**P**	**18 10 58.6**	**0.0**
	2.9nm,0.9s,mb3.8,baz=96,slow=10,SNR=4.8						
AS31	**Alice Springs**	**42.34**	**260**	⇓*i* P	**P**	**18 11 56.6**	**0.0**
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**18 11 56.6**	**0.0**
	2.7nm,0.6s,mb4.0,baz=94,slow=7.2,SNR=76						
ASPA	**Alice Springs**	**42.34**	**260**	⇓*i* P	**P**	**18 11 56.6**	**0.0**
WB2	**Warramunga Arr**	**42.63**	**265**	⇓*i* P	**P**	**18 11 58.6**	**-0.3**
WRA	**Warramunga Arr**	**42.65**	**265**	P	**P**	**18 11 58.6**	**-0.4**
	1.4nm,0.5s,mb3.6,baz=98,slow=7.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**51.07**	**265**	P	**P**	**18 13 02.3**	**-0.1**
	1.3nm,0.5s,mb3.6,baz=98,slow=7.4,SNR=8.1						
VNDA	**Vanda**	**55.09**	**185**	P	**P**	**18 13 31.0**	**0.0**
	0.5nm,0.7s,mb2.9,baz=16,slow=5.7,SNR=4.1						
PLAL	**Pickwick Lake**	**104.25**	**58**	*e*P	Pdif	18 17 59.1	+3.5
	6.9nm,0.4s						

*ISCJB **29** 18:07:02.2±1.0, 4555N±003×1571E±005, h10km, Error ellipse: s-maj=6.1km s-min=4.3km az=74.1*
*CSEM **29** 18:07:02.3±0.3, 4557N×1573E, h25km, ML3.1/5, Error ellipse: s-maj=4.5km s-min=3.1km az=127.0*
*LJU **29** 18:07:03.3, 4559N×1568E, h17km, ML2.0*
*VIE **29** 18:07:03.9±0.4, 4559N×1570E, h9km±6km, mb1.9/1, ML2.9/1, Error ellipse: s-maj=2.9km s-min=1.6km az=129.0 17 km NE of Karlovac*
ISC 29 18:07:02.3±1.2, 4554N±004×1575E±006, h10km, n39, σ0§63/64, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.34**	**345**	*i* Pg	**Pg**	**18 07 08.3**	**-0.8**
GCIS				*i*		18 07 09.3	
GCIS				*i* Sg	**Sg**	**18 07 13.8**	**0.0**
GCIS							
	comp=Z,110nm,0.1s						
GCIS	**Gornji Cirnik**	**0.34**	**345**	Pg	**Pg**	**18 07 08.3**	**-0.8**
GCIS				*i* Sg	**Sg**	**18 07 13.8**	**+0.1**
	comp=Z,110nm,0.1s						
BOJS	**Bojanci**	**0.35**	**265**	*i* Pg	**Pg**	**18 07 10.2**	**+0.8**
BOJS				*i* Sg	**Sg**	**18 07 15.0**	**+0.9**
BOJS							
	comp=Z,46nm,0.1s						
BOJS	**Bojanci**	**0.35**	**265**	*i* Pg	**Pg**	**18 07 10.2**	**+0.9**
BOJS				*i* Sg	**Sg**	**18 07 15.0**	**+0.9**
	comp=Z,46nm,0.1s						
CRES	**Cresnjev**	**0.36**	**324**	*i* Pg	**Pg**	**18 07 09.6**	**+0.2**
CRES				*i* Sg	**Sg**	**18 07 14.2**	**0.0**
CRES							
	comp=Z,66nm,0.1s						
CRES	**Cresnjev**	**0.36**	**324**	*i* Pg	**Pg**	**18 07 09.6**	**+0.2**
CRES				*i* Sg	**Sg**	**18 07 14.1**	**-0.1**
	comp=Z,66nm,0.1s						
SISC	**Sisak**	**0.44**	**98**	*e*Pg	**Pg**	**18 07 00.3**	**-11**
SISC				*i* Sg	**Sg**	**18 07 07.7**	**-9.1**
CESS	**Cesta pri Krsk**	**0.48**	**335**	*i* Sg	**Sg**	**18 07 18.1**	**-0.1**
CESS							
	comp=Z,64nm,0.1s						
CESS	**Cesta pri Krsk**	**0.48**	**335**	*i* Sg	**Sg**	**18 07 18.0**	**-0.1**
	comp=Z,64nm,0.1s						
GOLS	**Golise**	**0.48**	**349**	*i* Pg	**Pg**	**18 07 12.0**	**+0.3**
GOLS				*i* Sg	**Sg**	**18 07 18.0**	**-0.2**
GOLS							
	comp=Z,45nm,0.1s						
GOLS	**Golise**	**0.48**	**349**	*i* Pg	**Pg**	**18 07 12.0**	**+0.2**
GOLS				*i* Sg	**Sg**	**18 07 18.0**	**-0.1**
	comp=Z,45nm,0.1s						
LEGS	**Legarje**	**0.51**	**324**	*i* Pg	**Pg**	**18 07 12.3**	**0.0**
LEGS				*e*Sg	**Sg**	**18 07 18.9**	**-0.2**
DOBS	**Dobrina**	**0.65**	**342**	*i* Sg	**Sg**	**18 07 22.8**	**-0.5**
DOBS							
	comp=Z,30nm,0.1s						
DOBS	**Dobrina**	**0.65**	**342**	*i* Sg	**Sg**	**18 07 22.8**	**-0.5**
	comp=Z,30nm,0.1s						
VISS	**Visnje**	**0.69**	**293**	*i* Pg	**Pg**	**18 07 16.2**	**+0.4**
VISS				*i* Sg	**Sg**	**18 07 23.9**	**-1.0**
VISS							
	comp=Z,33nm,0.2s						
VISS	**Visnje**	**0.69**	**293**	*i* Pg	**Pg**	**18 07 16.2**	**+0.4**
VISS				*i* Sg	**Sg**	**18 07 23.9**	**-1.0**
	comp=Z,33nm,0.2s						
PDKS	**Podkum**	**0.75**	**315**	*i* Pg	**Pg**	**18 07 17.2**	**+0.5**
PDKS				*e*Sg	**Sg**	**18 07 26.8**	**+0.3**
PDKS							
	comp=Z,41nm,0.1s						
PDKS	**Podkum**	**0.75**	**315**	*i* Pg	**Pg**	**18 07 17.2**	**+0.5**
PDKS				*e*Sg	**Sg**	**18 07 26.8**	**+0.3**
	comp=Z,41nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.93**	**308**	*i* Pg	**Pg**	**18 07 20.6**	**+0.4**
GROS	**Grobnik**	**0.94**	**349**	*i* Pg	**Pg**	**18 07 21.1**	**+0.6**
GROS	**Grobnik**	**0.94**	**349**	*i* Pg	**Pg**	**18 07 21.0**	**+0.5**
CEY	**Cerknica**	**0.95**	**283**	*i* Pg	**Pg**	**18 07 21.4**	**+0.7**
CEY							
	comp=Z,10.0nm,0.1s						
CEY	**Cerknica**	**0.95**	**283**	*i* Pg	**Pg**	**18 07 21.4**	**+0.7**
	comp=Z,10.0nm,0.1s						
LJU	**Ljubljana**	**1.00**	**301**	*i* Pg	**Pg**	**18 07 21.6**	**+0.1**
LJU				*i* Sg	**Sg**	**18 07 34.7**	**+0.2**
LJU							
	comp=Z,12nm,0.1s						
LJU	**Ljubljana**	**1.00**	**301**	*i* Pg	**Pg**	**18 07 21.6**	**+0.1**
LJU				*i* Sg	**Sg**	**18 07 34.7**	**+0.2**
	comp=Z,12nm,0.1s						
ZAVS	**Zavodnje**	**1.03**	**331**	*i* Sg	**Sg**	**18 07 35.7**	**+0.1**
NVLJ	**Novalja**	**1.16**	**213**	*i* Pn	**Pn**	**18 07 11.5**	**-13**
NVLJ				*i* Sn	**Sn**	**18 07 34.2**	**-6.2**
PERS	**Pernice**	**1.19**	**338**	*i* Pg	**Pg**	**18 07 25.8**	**+0.7**
PERS							
	comp=Z,43nm,0.2s						
PERS	**Pernice**	**1.19**	**338**	*i* Pg	**Pg**	**18 07 25.8**	**+0.7**
	comp=Z,43nm,0.2s						
MOZS	**Mozjanca**	**1.19**	**310**	*i* Pg	**Pg**	**18 07 25.2**	**0.0**
MOZS				*i* Sg	**Sg**	**18 07 41.0**	**+0.4**
SKDS	**Skadanscina**	**1.22**	**271**	*i* Pg	**Pg**	**18 07 25.1**	**-0.7**
JAVS	**Javornik**	**1.24**	**287**	*e*Pg	**Pg**	**18 07 25.6**	**-0.5**
JAVS				*i* Sg	**Sg**	**18 07 42.5**	**+0.3**
JAVS							
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**1.24**	**287**	*e*Pg	**Pg**	**18 07 25.6**	**-0.5**
JAVS				*i* Sg	**Sg**	**18 07 42.5**	**+0.4**
	comp=Z,4.0nm,0.1s						
OBKA	**Obir**	**1.29**	**320**	⇓*i* Pg	**Pg**	**18 07 27.6**	**+0.6**
OBKA				⇑*i* Sg	**Sg**	**18 07 44.3**	**+0.6**
	comp=Z,60nm,0.4s						
VOY	**Vojsko**	**1.39**	**292**	*e*Pg	**Pg**	**18 07 28.7**	**-0.4**
VOY				*e*Sg	**Sg**	**18 07 47.4**	**+0.2**
VOJS	**Vojsko**	**1.40**	**291**	*i* Pg	**Pg**	**18 07 27.8**	**-1.4**
VOJS				*i*		18 07 29.4	
VOJS				*i* Sg	**Sg**	**18 07 47.6**	**+0.2**
GORS	**Gorjuse**	**1.46**	**303**	*i* Pg	**Pg**	**18 07 29.8**	**-0.4**
GORS				*i*		18 07 30.3	
CADS	**Cadrg**	**1.57**	**297**	*e*Pg	**Pg**	**18 07 30.1**	**-2.3**
CADS				*e*Sg	**Sg**	**18 07 51.9**	**-0.9**
CADS							
	comp=Z,12nm,0.2s						
CADS	**Cadrg**	**1.57**	**297**	*e*Pg	**Pg**	**18 07 30.1**	**-2.4**
CADS				*e*Sg	**Sg**	**18 07 51.9**	**-0.9**
	comp=Z,12nm,0.2s						

*MOS **29** 18:08:25.1±1.0, 6.13S×154.73E, h41km, mb5.6/27, Error ellipse: s-maj=8.6km s-min=6.9km az=89.9*
*BJI **29** 18:08:26.8, 6.06S×155.19E, h68km, mB5.3, mb5.3, Ms4.8, Msz4.4*
*ISCJB **29** 18:08:27.3±0.1, 6.25S±003×154.70E±002, h57km, mb5.4/99, MS4.5/38, Error ellipse: s-maj=4.4km s-min=3.3km az=179.7*
*IDC **29** 18:08:30.6±1.5, 6.28S×154.79E, h79km±13km, mb4.9/29, mb1 5.0/33, mb1mx5.0/34, mbtmp5.0/33, MS4.4/27, Ms1 4.4/27, ms1mx4.3/33, Error ellipse: s-maj=9.7km s-min=8.8km az=79.0*
*NEIC **29** 18:08:31.0±0.8, 6.33S×154.80E, h86km±7km, mb5.2/31, Error ellipse: s-maj=4.7km s-min=4.6km az=105.0*
*GCMT **29** 18:08:31.0±0.2, 6.55S×154.79E, h51km, MW5.2/80, Moment Tensor Solution. s80,c118; s68,c104; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.88±.02; $M_{\theta\theta}$-0.42±.01; $M_{\phi\phi}$-0.45±.02; $M_{r\theta}$-0.02±.01; $M_{\theta\phi}$0.56±.01; $M_{r\phi}$0.02±.01; Best double couple: $M_0$0.93500×10^{17} NP1:ϕ_s136.00000°, δ44.00000°, λ90.00000°. NP2:ϕ_s316.00000°, δ46.00000°, λ90.00000°. Principal axes: T 0.8750, Plg89.0000°, Azm232.0000°; N 0.1200, Plg0.0000°, Azm136.0000°; P -0.9950, Plg1.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 18:08:29.2±0.1, 627S±003×15477E±002, h59km, h59km±2.8km:pP-P, n475, σ0§96/437, mb5.4/99, MS4.5/38, 97C-75D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.02**	**122**	P	**Pn**	**18 09 55.5**	**-0.1**
	122nm,0.3s,baz=258,slow=1.2,SNR=81						
HNR				S	**Sn**	**18 11 07.6**	**+4.5**
	111nm,0.3s,baz=268,slow=7.3,SNR=12						
HNR				LR	LR	18 12 11.4	
	comp=Z,5μm,19.2s,baz=355,slow=37						
HNR	**Honiara**	**6.02**	**122**	*e*P	**Pn**	**18 09 55.2**	**-0.4**
HNR				pmax	pmax		
	comp=Z,2μm,0.9s						
HNR	**Honiara**	**6.02**	**122**	*e*P	**Pn**	**18 09 55.2**	**-0.4**
	comp=Z,2μm,0.9s						
PMG	**Port Moresby**	**8.16**	**247**	P	**Pn**	**18 10 26.1**	**+1.2**
	comp=Z,60nm,0.3s,baz=61,slow=7.5,SNR=142						
PMG				S	**Sn**	**18 11 59.5**	**+3.9**
	comp=Z,93nm,0.3s,baz=161,slow=20,SNR=11						
PMG				LR	LR	18 13 29.3	
	comp=Z,5μm,20.6s,baz=232,slow=36						
PMG	**Port Moresby**	**8.16**	**247**	*e*P	**Pn**	**18 10 26.0**	**+1.1**
PMG				pmax	pmax		
	comp=Z,1μm,0.8s						
PMG	**Port Moresby**	**8.16**	**247**	*e*P	**Pn**	**18 10 26.0**	**+1.1**
	comp=Z,1μm,0.8s						
CTA	**Charters Tower**	**16.04**	**210**	⇓*i* P	**Pn**	**18 12 11.3**	**+0.5**
	comp=Z,44nm,0.9s						
CTA				*e*S	**S**	**18 15 20.5**	**+2.1**
CTA	**Charters Tower**	**16.04**	**210**	P	**Pn**	**18 12 11.4**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=41,slow=14,SNR=33						
CTA				LR	LR	18 17 36.9	
	comp=Z,2μm,21.2s,baz=23,slow=34						
CTA	**Charters Tower**	**16.04**	**210**	⇓*i* P	**Pn**	**18 12 11.3**	**+0.5**
CTA				pmax	pmax		
	comp=Z,44nm,0.9s						
CTAO	**Charters Tower**	**16.04**	**210**	*e*P	**Pn**	**18 12 10.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,91nm,1.1s						
CTAO	**Charters Tower**	**16.04**	**210**	*e*P	**Pn**	**18 12 10.9**	**+0.1**
	comp=Z,91nm,1.1s						
DZM	**Mont Dzumac**	**19.34**	**145**	*e*P	**Pn**	**18 12 49.5**	**-1.8**
DZM	**Mont Dzumac**	**19.34**	**145**	P	**Pn**	**18 12 49.6**	**-1.7**
	comp=Z,9.0nm,0.3s,baz=332,slow=9.4,SNR=169						
DZM				LR	LR	18 19 19.9	
	comp=Z,1μm,20.9s,baz=302,slow=34						
GUMO	**Guam**	**22.04**	**334**	P	**P**	**18 13 19.5**	**+0.7**
	comp=Z,104nm,0.8s,mb5.3,baz=165,slow=12,SNR=3.7						
GUMO				LR	LR	18 21 03.2	
	comp=Z,437nm,19.2s,MS3.9,baz=148,slow=34						
KAKA	**Kakadu**	**22.93**	**252**	⇑*i* P	**P**	**18 13 27.7**	**-0.4**
	comp=Z,29nm,0.6s,mb4.9						
KAKA				*e*		18 13 36.4	
WRAB

ASPA eSCS ScS 18 24 50.3 +0.6
STKA Stephens Creek 28.30 204⇑ *i*P **P 18 14 15.8 -1.3**
comp=Z,11nm,0.6s,mb4.7
STKA *e*PCP PcP 18 17 28.1 -0.7
STKA Stephens Creek 28.30 204 P **P 18 14 16.1 -1.0**
comp=Z,12nm,0.6s,mb4.7,baz=21,slow=10,SNR=43
STKA PcP PcP 18 17 28.2 -0.6
comp=Z,14nm,0.7s,baz=79,slow=2.0,SNR=6.3
STKA LR LR 18 25 43.4
comp=Z,2μm,18.8s,MS4.6,baz=20,slow=36
FITZ Fitzroy Crossi 30.75 245 *e*P **P 18 14 38.3 -0.5**
comp=Z,48nm,0.7s,mb5.4
FITZ *e* 18 14 47.1
FITZ *e*PCP PcP 18 17 35.6 +0.5
FITZ Fitzroy Crossi 30.75 245 P **P 18 14 38.4 -0.4**
comp=Z,27nm,0.6s,mb5.2,baz=81,slow=7.7,SNR=73
FITZ PcP PcP 18 17 35.5 +0.4
comp=Z,20nm,0.8s,baz=220,slow=2.1,SNR=4.6
TOO Toolangi 32.29 194 *e*P **P 18 14 52.1 -0.2**
comp=Z,13nm,1.6s,mb4.5
TOO Toolangi 32.29 194 *e*P **P 18 14 52.1 -0.2**
TOO pmax pmax
comp=Z,13nm,1.6s,mb4.5
AFI Afiamalu 33.77 106 P **P 18 15 02.6 -2.6**
comp=Z,22nm,0.2s,mb5.7,baz=111,slow=8.6,SNR=8.4
AFI LR LR 18 27 01.2
comp=Z,620nm,18.4s,MS4.4,baz=275,slow=33
KAPI Kappang 34.87 270 P **P 18 15 14.5 -0.2**
comp=Z,144nm,0.7s,mb6.0,SNR=5.2
FORT Forrest 34.97 222 *e*P **P 18 15 15.1 -0.5**
comp=Z,53nm,0.7s,mb5.6
FORT *e* 18 15 24.6
FORT *e* 18 17 46.7
CBIJ Chichi jima 35.33 340 LR LR 18 28 44.0
comp=Z,122nm,19.9s,MS3.7,baz=35,slow=34
TAU Tasmania Unive 37.08 189 P **P 18 15 34.6 +1.0**
comp=Z,346nm,1.1s,mb6.1,SNR=5.9
URZ Urewera 37.75 151 P **P 18 15 38.4 -0.8**
comp=Z,42nm,0.7s,mb5.3,baz=319,slow=3.2,SNR=14
TSM Tawau 38.30 285 P **P 18 15 45.4 +1.4**
TGY Tagaytay City 39.20 301 P **P 18 15 52.8 +1.3**
comp=Z,72nm,0.4s,baz=331,slow=7.4,SNR=4.6
PPR Puerto Princes 39.28 294 *e*P **P 18 15 53.9 +1.7**
RPZ Rata Peaks 39.95 162 P **P 18 15 56.8 -0.9**
comp=Z,59nm,0.7s,mb5.4,baz=19,slow=0.9,SNR=20
RPZ LR LR 18 30 21.6
comp=Z,770nm,18.1s,MS4.6,baz=320,slow=33
KKM Kota Kinabalu 40.38 287 P **P 18 16 02.7 +1.5**
KKM Kota Kinabalu 40.38 287 *e*P **P 18 16 02.0 +0.7**
JHJ Hachijo jima 2 41.67 341 LR LR 18 31 42.7
comp=Z,258nm,21.3s,MS4.1,baz=112,slow=33
JOW Kunigami 41.73 323 P **P 18 16 12.8 +0.4**
comp=Z,22nm,0.5s,mb5.0,baz=153,slow=8.5,SNR=12
JOW LR LR 18 29 50.0
comp=Z,298nm,21.4s,MS4.1,baz=43,slow=31
KLBR Kellerberrin 42.78 229 *e*P **P 18 16 19.9 -1.0**
comp=Z,57nm,0.7s,mb5.4
KLBR *e*PCP PcP 18 18 10.8 -0.5
MUN Mundaring 44.13 230 *e*P **P 18 16 31.0 -0.7**
MUN ePCP PcP 18 18 15.5 -0.4
NACB Ninganchiao 44.29 314 *e*P **P 18 16 33.7 +0.6**
YHNB Yeheng 44.76 315 *e*P **P 18 16 37.6 +0.9**
KSM Kuching 45.05 278 *e*P **P 18 16 39.7 +0.6**
JNU Nakatsue 45.27 331 P **P 18 16 40.6 -0.2**
comp=Z,24nm,0.5s,mb5.3,baz=216,slow=12,SNR=14
JNU LR LR 18 31 34.1
comp=Z,575nm,21.8s,MS4.5,baz=248,slow=31
MJAR Matsushiro Arr 45.32 341 P **P 18 16 39.7 -1.6**
comp=Z,4.8nm,0.9s,baz=157,slow=7.4,SNR=9.4
MJAR LR LR 18 33 56.8
comp=Z,178nm,21.1s,MS4.0,baz=145,slow=34
RAR Rarotonga 46.40 113 P **P 18 16 47.3 -2.4**
comp=Z,14nm,0.7s,mb5.0,baz=270,slow=11,SNR=4.0
RAR LR LR 18 34 09.6
comp=Z,257nm,19.4s,MS4.2,baz=263,slow=33
QZH Quanzhou 46.92 313⇑ *i*P **P 18 16 54.5 +0.7**
QZH S **S** **18 23 38.3 -2.2**
QZH AMB AMB
comp=Z,160nm,1.1s,mb5.9
QZH LR LR
comp=Z,840nm,22.5s,MS4.7
SSE Sheshan 49.10 321 P **P 18 17 12.3 +1.7**
SSE AP pP 18 17 30.0 +4.0
SSE XP sP 18 17 38.0 +5.2
SSE S **S** **18 24 12.0 +0.7**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,165nm,4.2s
SSE LR LR
comp=N,103nm,24.0s,MS3.9
SSE LR LR
comp=E,123nm,24.0s,MS3.9
SSE LR LR
comp=Z,186nm,22.3s,MS4.0
SSE Sheshan 49.10 321 P **P 18 17 12.2 +1.6**
comp=Z,28nm,0.8s,mb5.3
SSE pP pP 18 17 29.9 +3.9
SSE sP sP 18 17 38.0 +5.2
SSE S **S** **18 24 11.9 +0.6**
SSE LR LR
comp=Z,190nm,22.3s,MS4.0
GZH Guangzhou 49.90 307 P **P 18 17 17.8 +1.1**
GZH S **S** **18 24 22.0 -0.5**
GZH LR LR
comp=N,221nm,6.1s
GZH LR LR
comp=E,288nm,15.9s
GZH LR LR
comp=Z,520nm,19.9s,MS4.5
KSRS Korea Array 50.19 332 P **P 18 17 18.4 -0.5**
comp=Z,19nm,0.8s,mb5.2,baz=148,slow=8.2,SNR=51
KSRS LR LR 18 36 41.5
comp=Z,126nm,21.1s,MS3.9,baz=149,slow=34
QIZ Qiongzhong 50.90 301 P **P 18 17 25.0 +0.8**
QIZ AP pP 18 17 42.5 +2.8
QIZ XP sP 18 17 51.0 +4.5
QIZ S **S** **18 24 41.8 +5.5**
QIZ XS sS 18 25 08.0 +5.5
QIZ AMB AMB
comp=Z,58nm,1.6s,mb5.3
QIZ AMB AMB
comp=Z,275nm,7.2s
QIZ LR LR
comp=E,300nm,19.8s
QIZ LR LR
comp=Z,366nm,34.9s
NJ2 Nanjing 51.21 320 *e*P **P 18 17 30.0 +3.4**
NJ2 XP sP 18 17 57.5 +8.6
NJ2 PP PP 18 19 28.5 +4.7
NJ2 S **S** **18 24 42.0 +1.3**
NJ2 XS sS 18 25 14.0 +7.1
NJ2 AMB AMB
comp=Z,850nm,6.6s
NJ2 LR LR
comp=N,640nm,18.6s,MS4.9
NJ2 LR LR
comp=E,830nm,17.5s,MS4.9
NJ2 LR LR
comp=Z,730nm,19.7s,MS4.7
ASAJ Asahikawa 51.34 349 P **P 18 17 28.2 +0.7**
comp=Z,7.9nm,0.6s,mb4.9,baz=209,slow=13,SNR=9.1
ASAJ LR LR 18 36 41.7
comp=Z,439nm,21.0s,MS4.5,baz=180,slow=33
KGM Kluang 52.02 277 P **P 18 17 33.8 +1.1**
WHN Wuhan 53.27 316⇑ P **P 18 17 42.5 +0.7**
WHN AMB AMB
comp=Z,48nm,1.0s,mb5.4
DL2 Dalian 54.43 328 P **P 18 17 50.3 0.0**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
IPM Ipoh 54.71 280 P **P 18 17 53.2 +0.8**
KULM Kulim 55.23 281 *e*P **P 18 17 55.9 -0.2**
PPT Papeete 55.42 107 *e*S **S 18 25 35.4 -2.4**
comp=Z,167nm,26.0s
PPT *e*LR LR 18 33 56.6
comp=Z,458nm,27.2s
PPT Papeete 55.42 107 LR LR 18 36 44.7
comp=Z,202nm,18.5s,MS4.2,baz=182,slow=31
MDJ Mudanjiang 55.48 338 P **P 18 17 57.8 -0.1**
MDJ XP sP 18 18 24.0 +3.7
MDJ S **S** **18 25 35.8 -2.8**
MDJ AMB AMB
comp=Z,21nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,85nm,5.3s
MDJ LR LR
comp=N,97nm,25.6s,MS3.9
MDJ LR LR
comp=E,98nm,24.0s,MS3.9
MDJ LR LR
comp=Z,131nm,22.0s,MS4.0
MDJ Mudanjiang 55.48 338 *e*P **P 18 17 57.7 -0.3**
comp=Z,9.7nm,0.8s,mb4.9
KKTK Khon Kaen 56.08 294 ⇓P **P 18 18 03.5 +1.3**
comp=Z,741nm,0.6s
TBI Tubuai 56.17 114 *e*S **S 18 25 45.2 -2.6**
comp=Z,218nm,28.5s
TBI *e*LQ 18 31 48.8
comp=Z,482nm,41.0s
TBI *e*LR LR 18 34 19.1
comp=Z,1μm,29.0s
CN2 Changchun 56.44 335 ⇑P **P 18 18 04.0 -0.8**
CN2 *e*AP pP 18 18 23.5 +3.0
CN2 *e*S **S** **18 25 49.0 -2.3**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.5
CN2 LR LR
comp=E,200nm,16.0s,MS4.5
CN2 LR LR
comp=Z,200nm,15.0s,MS4.3
GYA Guiyang 56.84 307⇑ *i*P **P 18 18 08.5 +0.9**
GYA AP pP 18 18 28.0 +4.7
GYA XP sP 18 18 36.3 +6.3
GYA PCP PcP 18 19 04.3 +1.7
GYA PP PP 18 20 19.3 +4.9
GYA SCP ScP 18 22 56.0 -1.1
GYA S **S** **18 25 57.3 +0.8**
GYA PS 18 26 20.5
GYA XS sS 18 26 30.3 +7.2
GYA SCS ScS 18 27 49.0 -2.6
GYA SS SS 18 29 47.0 +1.7
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,670nm,6.4s
GYA LR LR
comp=N,680nm,17.9s,MS4.9
GYA LR LR
comp=E,570nm,18.4s,MS4.9
GYA LR LR
comp=Z,670nm,18.9s,MS4.8
HABR Khabarovsk 57.19 345 *e*P **P 18 18 08.9 -1.2**
HABR *e*S **S** **18 25 58.2 -3.0**
BJT Baijiatuan 58.18 326 *e*P **P 18 18 16.2 -0.8**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuan 58.18 326 *e*P **P 18 18 16.2 -0.8**
comp=Z,13nm,0.6s,mb5.1
BJI Beijing 58.20 326 *e*P **P 18 18 16.3 -0.8**
BJI AMB AMB
comp=Z,12nm,0.7s,mb5.0
BJI LR LR
comp=Z,200nm,24.8s,MS4.1
BJI Beijing 58.20 326 *e*P **P 18 18 16.2 -0.9**
BJI S **S** **18 26 25.9 +12**
BJI pmax pmax
comp=Z,12nm,0.7s,mb5.0
BJI MLR MLR
comp=Z,200nm,24.8s,MS4.1
BJI Beijing 58.20 326 *e*P **P 18 18 16.2 -0.9**
comp=Z,12nm,0.7s,mb5.0
BJI S **S** **18 26 25.9 +12**
BJI LR LR
comp=Z,200nm,24.8s,MS4.1
NST Nakhon Sawan 58.32 293 ⇓P **P 18 18 19.2 +1.2**
comp=Z,117nm,0.8s,mb6.0
KLR Kul'dur 58.81 343 *e*P **P 18 18 17.5 -3.9**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,36nm,1.0s,mb5.4
NANT Nan 58.81 296 ⇑P **P 18 18 20.0 -1.4**
comp=Z,769nm,0.6s
XAN Xi'an 59.03 316 P **P 18 18 22.5 -0.4**
XAN AMB AMB
comp=Z,44nm,0.9s,mb5.5
XAN LR LR
comp=E,154nm,26.9s
XAN LR LR
comp=Z,272nm,26.2s,MS4.3
PET Petropavlovsk 59.16 3⇑ *i*P **P 18 18 23.6 -0.2**
PET pmax pmax
comp=Z,81nm,0.8s,mb5.8
PET Petropavlovsk 59.16 3⇑ *i*P **P 18 18 23.7 -0.1**
KMI Kunming 59.43 304 P **P 18 18 27.5 +1.8**
KMI AP pP 18 18 41.0 -0.5
KMI PP PP 18 20 37.0 -0.3
KMI S **S** **18 26 34.5 +4.2**
KMI XS sS 18 26 59.3 +2.3
KMI SS SS 18 30 32.0 +6.0
KMI AMB AMB
comp=Z,71nm,1.2s,mb5.6
KMI AMB AMB
comp=Z,239nm,5.3s
KMI LR LR
comp=N,188nm,21.8s,MS4.3
KMI LR LR
comp=E,224nm,25.4s,MS4.3
KMI LR LR
comp=Z,331nm,24.0s,MS4.4
KMI Kunming 59.43 304 P **P 18 18 27.5 +1.8**
KMI *PP pP 18 18 40.9 -0.6
KMI *SP sP 18 18 47.4 -0.8
KMI 18 20 36.9
KMI S **S** **18 26 34.5 +4.2**
KMI SS SS 18 30 31.9 +5.9
KMI pmax pmax
comp=Z,71nm,1.2s,mb5.6
KMI MLR MLR
comp=Z,330nm,24.0s,MS4.4
KMI Kunming 59.43 304 P **P 18 18 27.5 +1.8**
comp=Z,71nm,1.2s,mb5.6
KMI pP pP 18 18 40.9 -0.6
KMI sP sP 18 18 47.4 -0.8
KMI PP PP 18 20 36.9 -0.4
KMI S **S** **18 26 34.5 +4.2**
KMI sS sS 18 26 59.2 +2.2
KMI SS SS 18 30 31.9 +5.9
KMI LR LR
comp=Z,330nm,24.0s,MS4.4
CHG Chiang Mai 60.38 296 ⇑P **P 18 18 33.5 +1.3**
comp=Z,114nm,0.9s,mb5.9
CHTO Chiang Mai 60.38 296 ⇑P **P 18 18 33.7 +1.4**
SNR=32
CHTO Chiang Mai 60.38 296 *e*P **P 18 18 33.3 +1.1**
CHTO pmax pmax
comp=Z,106nm,0.9s,mb5.9
CHTO Chiang Mai 60.38 296 *e*P **P 18 18 33.3 +1.0**
comp=Z,106nm,0.9s,mb5.9
CD2 Chengdu 61.17 310⇑ *i*P **P 18 18 38.0 +0.4**
CD2 AP pP 18 18 57.5 +4.0
CD2 XP sP 18 19 06.0 +5.8
CD2 PP PP 18 20 56.0 +3.2
CD2 S **S** **18 26 51.3 -1.4**
CD2 XS sS 18 27 24.8 +5.3
CD2 SS SS 18 30 54.5 +1.1
CD2 AMB AMB
comp=Z,100nm,0.6s,mb6.1
CD2 AMB AMB
comp=Z,150nm,6.2s
CD2 LR LR
comp=N,1μm,22.8s,MS5.1
CD2 LR LR
comp=E,1μm,22.8s,MS5.1
CD2 LR LR
comp=Z,420nm,21.6s,MS4.5
HHC Hu-ho-hao-te 61.38 324 ⇑P **P 18 18 39.0 0.0**
HHC AP pP 18 18 59.0 +4.1
HHC XP sP 18 19 07.3 +5.8
HHC PP PP 18 20 58.0 +3.4
HHC SCP ScP 18 23 13.8 -3.4
HHC S **S** **18 26 53.5 -1.8**
HHC XS sS 18 27 28.0 +5.9
HHC SCS ScS 18 28 19.3 -5.8
HHC SS SS 18 30 57.5 +0.9
HHC AMB AMB
comp=Z,19nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,102nm,5.7s
HHC LR LR
comp=N,214nm,16.3s,MS4.5
HHC LR LR
comp=E,193nm,16.3s,MS4.5
HHC LR LR
comp=Z,229nm,17.8s,MS4.4
BTO Baotou 62.14 323 *e*P **P 18 18 44.0 -0.1**
HIA Hailar 63.17 335⇑ *i*P **P 18 18 50.7 -0.3**
LZH Lanzhou 63.64 315 *e*P **P 18 18 55.0 +0.9**
LZH AP pP 18 19 14.0 +3.9
LZH XP sP 18 19 21.5 +4.8
LZH PP PP 18 21 18.5 +4.0
LZH *eS **S** **18 27 24.0 +0.3**
LZH XS sS 18 27 53.0 +2.3
LZH SS SS 18 31 34.0 +2.0
LZH AMB AMB
comp=Z,65nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,200nm,4.0s
LZH LR LR
comp=E,2μm,12.9s
LZH Lanzhou 63.64 315 *e*P **P 18 18 55.0 +0.9**
LZH *PP pP 18 19 14.1 +4.0
LZH 18 21 18.4
LZH *eS **S** **18 27 24.0 +0.3**
LZH *SS sS 18 27 53.0 +2.3
LZH SS SS 18 31 34.1 +2.1
LZH pmax pmax
comp=Z,65nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,3μm,15.0s,MS5.6
LZH Lanzhou 63.64 315 *e*P **P 18 18 55.0 +0.9**
comp=Z,65nm,1.2s,mb5.5
LZH pP pP 18 19 14.1 +4.0
LZH sP sP 18 19 21.5 +4.8
LZH PP PP 18 21 18.4 +3.9
LZH *eS **S** **18 27 24.0 +0.3**
LZH sS sS 18 27 53.0 +2.3
LZH SS SS 18 31 34.1 +2.1
LZH LR LR
comp=Z,3μm,15.0s,MS5.6
MA2 Magadan 65.71 358 *e*P **P 18 19 06.9 -0.6**
MA2 pmax pmax
comp=Z,50nm,0.7s,mb5.7
MA2 Magadan 65.71 358 *e*P **P 18 19 06.8 -0.7**
comp=Z,62nm,0.8s,mb5.7
CASY Casey 67.21 198 *e*P **P 18 19 15.6 -1.5**
CLNS Chul'man 67.47 343 *e*P **P 18 19 15.3 -3.5**
CLNS pmax pmax
comp=Z,26nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,11nm,1.0s
CIT Chita 67.86 334 *e*P **P 18 19 21.2 0.0**
CIT pmax pmax
comp=Z,47nm,2.0s,mb5.2
GTA Gaotai 68.06 317⇑ *i*P **P 18 19 23.0 +0.5**
GTA AP pP 18 19 43.3 +4.7
GTA XP sP 18 19 50.0 +4.8
GTA PP PP 18 21 56.0 +2.9
GTA PPP 18 23 33.5
GTA S S 18 28 16.3 -1.2
GTA XS sS 18 28 50.3 +5.6
GTA PS 18 28 52.0
GTA SS SS 18 32 39.5 -1.1
GTA AMB AMB
comp=Z,24nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,148nm,7.6s
GTA LR LR
comp=N,122nm,17.1s,MS4.3
GTA LR LR
comp=E,144nm,19.8s,MS4.3
GTA LR LR
comp=Z,240nm,24.7s,MS4.3
ULN Ulaanbaatar 68.27 328 ⇓P **P 18 19 24.5 +0.7**
SNR=6.5
ULN Ulaanbaatar 68.27 328*c i*P **P 18 19 23.2 -0.6**
ULN Ulaanbaatar 68.27 328⇑ *i*P **P 18 19 23.3 -0.5**
SONM Songino Array 68.61 327 P **P 18 19 26.0 +0.1**
comp=Z,20nm,0.7s,mb5.2,baz=143,slow=5.3,SNR=158
SONM PKP2bc 18 47 42.6
comp=Z,1.8nm,0.9s,baz=289,slow=3.3,SNR=12
SONM LR LR 18 50 49.3
comp=Z,181nm,19.2s,MS4.3,baz=354,slow=37
SONM Songino Array 68.61 327 P **P 18 19 26.0 +0.1**
SONM ⇑*e* 18 47 42.6
SONM LR LR 18 50 49.2
SHL Shillong 68.73 300⇑ *i*P **P 18 19 27.5 +0.8**
SHL *eS* S 18 28 26.0 +0.5
SEY Seymchan 69.03 359⇓ *i*P **P 18 19 27.1 -1.4**
SEY Seymchan 69.03 359⇓ *i*P **P 18 19 27.2 -1.3**
RKT Rikitea 69.42 112 *e*LR LR 18 40 27.4
comp=Z,768nm,29.2s
LSA Lhasa 70.68 304 P **P 18 19 40.0 +1.4**
YAK Yakutsk 70.80 348 *e*P **P 18 19 38.3 -1.1**
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.3
YAK pmax pmax
comp=N,16nm,1.4s
YAK Yakutsk 70.80 348 *e*P **P 18 19 38.7 -0.7**
comp=N,39nm,0.7s,mb5.4
VNDA Vanda 71.31 178 P **P 18 19 41.2 -1.2**
comp=N,8.9nm,0.7s,mb4.8,baz=339,slow=6.3,SNR=53
VNDA Vanda 71.31 178 P **P 18 19 41.2 -1.2**
ZAK Zakamensk 71.76 328⇑ *i*P **P 18 19 45.0 -0.2**
ZAK *e* pP 18 19 59.6 -1.8
ZAK pmax pmax
comp=Z,27nm,0.8s,mb5.2
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
SBA Scott Base 71.82 177 *e*P **P 18 19 44.4 -1.2**
SBA pmax pmax
comp=Z,64nm,1.6s,mb5.3
SBA Scott Base 71.82 177 *e*P **P 18 19 44.4 -1.2**
comp=Z,64nm,1.6s,mb5.3
BOD Bodaibo 71.86 338 *e*P **P 18 19 43.6 -2.2**
BOD pmax pmax
comp=Z,13nm,0.9s,mb4.9
TLY Talaya 72.33 329 *e*P **P 18 19 48.5 -0.1**
TLY *e* pP 18 20 02.9 -1.9
TLY pmax pmax
comp=Z,14nm,0.8s,mb4.9
TLY Talaya 72.33 329⇑ *i*P **P 18 19 48.3 -0.3**
IRK Irkutsk 72.34 330 *e*P **P 18 19 46.7 -2.0**
IRK *e* pP 18 20 00.7 -4.2
IRK pmax pmax
comp=Z,51nm,0.8s,mb5.5
MIR Mirnyy 73.28 202*c i*P **P 18 19 55.0 +0.8**
MIR *i* pP 18 20 07.0 -3.5
MIR pmax pmax
comp=Z,400nm,1.0s,mb6.3
BOK Bokaro 73.47 297 *ex* x 18 20 10.2
BOK AMb AMB 18 20 12.7
comp=Z,108nm,1.0s,mb5.7
JIRN Jiri 74.22 301 *e*P **P 18 20 01.0 +1.3**
comp=Z,52nm,0.4s,mb5.8
VIS Vishakhapatnam 74.41 290 *e*P **P 18 20 00.8 -0.1**
VIS AMb AMB 18 20 02.8
comp=Z,81nm,0.9s,mb5.7
GUN Gumba 74.55 301 *e*P **P 18 20 02.3 +0.7**
comp=Z,234nm,0.7s,mb6.2
BILL Bilibino 74.58 4*c i*P **P 18 20 01.4 -0.4**
BILL pmax pmax
comp=Z,87nm,1.0s,mb5.6
BILL Bilibino 74.58 4⇑ *i*P **P 18 20 01.5 -0.3**
PKI Pulchoki 74.86 301 *e*P **P 18 20 03.7 +0.3**
comp=Z,62nm,0.8s,mb5.6
KKN Kakani 75.03 301 *e*P **P 18 20 04.7 +0.3**
comp=Z,123nm,0.7s,mb6.0
PALK Pallekele 75.10 279 P **P 18 20 06.9 +2.1**
comp=Z,403nm,0.8s,mb6.4,SNR=9.2
PALK Pallekele 75.10 279 P **P 18 20 06.1 +1.3**
SNR=6.0
PALK Pallekele 75.10 279 *e*P **P 18 20 05.9 +1.1**
comp=Z,46nm,1.0s,mb5.4
DMN Daman 75.13 301 *e*P **P 18 20 05.5 +0.5**
comp=Z,159nm,0.7s,mb6.1
GKN Gorkha 75.64 301 *e*P **P 18 20 07.8 -0.1**
comp=Z,134nm,0.7s,mb6.0
MDRS Chennai 76.46 285 *e*P **P 18 20 13.5 +1.0**

KOLN Koldanda 76.46 300 *e*P P 18 20 12.5 -0.1
comp=Z,152nm,0.7s,mb6.0
KDAK Kodiak Island 76.61 26 P P 18 20 12.2 -1.3
comp=Z,19nm,0.9s,mb5.0,baz=34,slow=3.3,SNR=6.5
SVW2 Sparrevohn 77.41 22 *e*P P 18 20 17.8 -0.1
WMQ Urumqi 78.14 317 ⇓P P 18 20 22.5 +0.5
WMQ PCP PcP 18 20 32.0 +0.7
WMQ AP pP 18 20 42.5 +4.1
WMQ XP sP 18 20 51.0 +6.0
WMQ PP PP 18 23 22.3 +3.2
WMQ PPP 18 25 11.5
WMQ S S 18 30 09.5 -2.3
WMQ SKS 18 30 25.0
WMQ SCS ScS 18 30 32.5 -4.4
WMQ XS sS 18 30 44.5 +4.9
WMQ PS 18 31 01.5
WMQ AMB AMB
comp=Z,18nm,0.5s,mb5.3
WMQ AMB AMB
comp=Z,267nm,5.4s
WMQ LR LR
comp=N,130nm,20.1s,MS4.4
WMQ LR LR
comp=E,101nm,20.1s,MS4.4
WMQ LR LR
comp=Z,138nm,22.0s,MS4.2
HYB Hyderabad 78.82 289 ⇑ *i*P P 18 20 25.0 -0.7
HYB *e* pP 18 20 40.5 -1.7
HYB Hyderabad 78.82 289 ⇑ *e*P P 18 20 25.0 -0.7
HYB *e* pP 18 20 40.5 -1.7
TRD Trivandrum 78.95 280 *e*P P 18 20 27.7 +1.3
SLKM Skilak Lake 79.17 24 *e*P P 18 20 26.9 -0.7
TIXI Tiksi 79.61 352 *e*P P 18 20 26.3 -3.7
TIXI *e* pP 18 20 43.6 -2.9
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TIXI Tiksi 79.61 352 *e*P P 18 20 28.4 -1.6
LGTI Lohaghat 79.73 301 *i*P P 18 20 30.3 -0.4
KRAR Krasnoyarsk 80.02 330 ⇓ *i*P P 18 20 31.0 -1.2
KRAR pmax pmax
comp=Z,15nm,0.7s,mb5.0
PMR Palmer 80.22 24 *e*P P 18 20 32.2 -1.1
PMR pmax pmax
comp=Z,31nm,1.1s,mb5.2
PMR Palmer 80.22 24 *e*P P 18 20 32.2 -1.1
comp=Z,31nm,1.1s,mb5.2
SML Sawmill 80.65 24 *e*P P 18 20 35.0 -0.6
AKL Akola 80.83 292 *e*P P 18 20 36.1 -0.5
BHPL Bhopal 80.92 295 *e*P P 18 20 36.3 -0.8
BHPL AMb AMB 18 20 37.8
comp=Z,46nm,0.4s,mb5.8
IMA2 Indian Mountai 81.19 19 *e*P P 18 20 37.7 -0.8
MCK McKinley 81.47 22 *e*P P 18 20 38.0 -2.0
MCK pmax pmax
comp=Z,10μm,1.0s
MCK McKinley 81.47 22 *e*P P 18 20 38.0 -2.0
comp=Z,10μm,1.0s
NDI New Delhi 82.16 300 *e*P P 18 20 42.1 -1.5
NDI AMb AMB 18 20 43.3
comp=Z,33nm,2.2s,mb4.9
COLA College 82.49 21 *e*P P 18 20 43.9 -1.4
MK31 Makanchi Array 82.71 319 *i*P P 18 20 45.8 -0.7
MK31 pmax pmax
comp=Z,37nm,0.6s,mb5.6
MK31 Makanchi Array 82.71 319 *e*P P 18 20 45.6 -0.9
MKAR Makanchi Array 82.71 319 P P 18 20 45.7 -0.8
comp=Z,60nm,0.8s,mb5.7,baz=94,slow=6.2,SNR=209
MKAR Makanchi Array 82.71 319 *e*P P 18 20 45.8 -0.7
MKAR pmax pmax
comp=Z,22nm,0.6s
MKAR Makanchi Array 82.71 319 P P 18 20 45.7 -0.8
KAD Karad 82.92 288 *e*P P 18 20 47.7 +0.1
KAD AMb AMB 18 20 48.4
comp=Z,76nm,0.9s,mb5.7
POO Poona 83.42 289 *e*P P 18 20 48.0 -2.1
ZAL Zalesovo 83.46 326 P P 18 20 49.1 -1.3
comp=Z,19nm,0.7s,mb5.2,baz=358,slow=5.6,SNR=94
QSPA South Pole Qui 83.70 180 *e*P P 18 20 50.4 -1.2
comp=Z,72nm,0.7s,mb5.9
QSPA *e* pP 18 21 03.3 -4.9
AJM Ajmer 83.99 297 *i*P P 18 20 53.0 -0.1
THN Thein Dam 84.16 303 *e*P P 18 20 52.1 -1.8
NVS Novosibirsk 84.62 327 ⇑ *i*P P 18 20 54.1 -2.2
NVS *i* pP 18 21 09.0 -3.9
NVS *e*S S 18 31 19.1 +0.3
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,29nm,1.2s
NVS pmax pmax
comp=Z,39nm,1.2s,mb5.4
NVS smax
comp=N,20nm,2.2s
EGAK Eagle 84.94 23 *e*P P 18 20 57.2 -0.6
comp=N,18nm,0.9s,mb5.2
EGAK *e* pP 18 21 12.4 -2.0
MAW Mawson 84.98 203 *e*P P 18 20 57.0 -1.0
comp=N,50nm,0.6s,mb5.8
MAW Mawson 84.98 203 P P 18 20 57.1 -0.9
comp=N,54nm,0.6s,mb5.9,baz=96,slow=6.1,SNR=186
MAW LR LR 18 55 31.4
comp=N,182nm,19.4s,MS4.5,baz=70,slow=33
MAW Mawson 84.98 203 *e*P P 18 20 57.0 -1.0
MAW pmax pmax
comp=Z,50nm,0.6s
DAWY Dawson 85.32 24 *e*P P 18 20 58.4 -1.3
KSH Kashi 85.37 310 ⇑P P 18 21 01.5 +1.5
KSH *e*AP pP 18 21 22.3 +5.6
KSH *e*XP sP 18 21 30.5 +7.3
KSH *e*PP PP 18 24 22.5 +3.9
KSH *e*SKS 18 31 16.3
KSH *e*S S 18 31 23.5 -2.7
KSH *e*XS sS 18 32 01.3 +6.9
KSH *e*PS 18 32 34.0
KSH *e*SS SS 18 37 06.0 +4.0
KSH AMB AMB
comp=Z,1μm,5.2s
KURK Kurchatov 86.12 322 P P 18 21 02.4 -1.3
comp=Z,176nm,0.5s,SNR=25
KURK Kurchatov 86.12 322 *e*P P 18 21 01.4 -2.3
KURK pmax pmax
comp=Z,9.0nm,0.3s,mb5.5
KURK Kurchatov 86.12 322 *e*P P 18 21 01.4 -2.4
comp=Z,9.2nm,0.3s,mb5.5
TKM2 Tokmak 2 86.35 314 P P 18 21 04.3 -0.6
SNR=24
KZA Kyzart 86.43 313 P P 18 21 06.5 +1.3
SNR=19
KBK Karagaybulak 86.77 313 P P 18 21 07.0 +0.2
SNR=9.9
CHMS Chumysh 86.98 314 P P 18 21 07.3 -0.6
SNR=8.8
UCH Uchtor 87.00 313 P P 18 21 08.3 +0.3
SNR=12
AAK Ala-Archa 87.09 313 P P 18 21 08.2 -0.3
SNR=22
AAK Ala-Archa 87.09 313 P P 18 21 07.0 -1.5
comp=Z,119nm,0.6s,mb6.3,SNR=17
AAK Ala-Archa 87.09 313 P P 18 21 07.2 -1.3
SNR=27
AAK Ala-Archa 87.09 313 ⇑ *i*P P 18 21 07.3 -1.2
USP Ospenovka 87.21 314 P P 18 21 09.0 -0.1
SNR=9.1
AML Almayashu 87.58 313 P P 18 21 12.0 +1.2
SNR=22
EKS2 Erkin-Say 87.62 313 P P 18 21 11.3 +0.3
SNR=19
N02C Big Bar 87.97 49 ⇓P P 18 21 13.4 +0.7
baz=88
L02A Cave Junction 87.99 47 ⇓P P 18 21 10.7 -2.1
baz=88
K02A Glendale 88.18 47 ⇓P P 18 21 13.4 -0.2
baz=88
CVS Carmenet Viney 88.20 51 ⇑P P 18 21 14.1 +0.3
baz=88
GASB Alder Springs 88.22 50 ⇑P P 18 21 14.8 +1.0
baz=88
J02A Umpqua 88.22 46 ⇓P P 18 21 13.9 +0.1
baz=88
BNLO Ben Lomond (Sa 88.23 53 ⇓P P 18 21 14.5 +0.6
baz=88
O02C Red Bluff 88.25 49 P P 18 21 15.9 +1.9
baz=88,SNR=6.0
MNRC McLaughlin Nat 88.30 51 ⇓P P 18 21 14.9 +0.6
baz=88
M02C Callahan 88.41 48 ⇓P P 18 21 15.4 +0.7
baz=88
WDC Whiskeytown Da 88.50 49 ⇑P P 18 21 15.9 +0.7
baz=89
HUMO Hull Mountain 88.54 47 ⇑P P 18 21 15.7 +0.4
baz=89,SNR=7.4
YBH Yreka Blue Hor 88.57 48 P P 18 21 15.7 +0.2
comp=Z,5.3nm,0.8s,mb4.9,baz=317,slow=2.8,SNR=14
YBH LR LR 18 54 41.9
comp=Z,789nm,19.7s,MS5.1,baz=336,slow=31
YBH Yreka Blue Hor 88.57 48 ⇓P P 18 21 16.5 +1.0
baz=89
HAST UC Hastings Re 88.61 53 ⇓P P 18 21 15.7 0.0
baz=89
H03A Soap Creek Ran 88.65 45 ⇓P P 18 21 16.6 +0.7
baz=89
E03A Lebam 88.80 43 ⇑P P 18 21 16.4 -0.2
baz=89
V03C Hunter Liggett 88.81 54 ⇓P P 18 21 17.2 +0.6
baz=89
SUTB Sutter Butte 88.86 51 ⇓P P 18 21 16.6 -0.3
baz=89
PACP Pacheco Peak 88.91 53 ⇓P P 18 21 16.8 -0.3
baz=89
M03C McCloud 88.93 48 ⇑P P 18 21 16.6 -0.6
baz=89
S04C Ingram Canyon, 88.95 52 ⇓P P 18 21 17.6 +0.3
baz=89
INK Inuvik 89.12 21 P P 18 21 16.7 -1.4
comp=Z,7.6nm,0.9s,mb5.0,baz=231,slow=3.0,SNR=15
INK LR LR 18 58 46.3
comp=Z,569nm,18.6s,MS5.0,baz=228,slow=34
ORV Oroville 89.13 50 ⇑P P 18 21 18.5 +0.3
baz=89
U04C Hernandez Rese 89.22 53 ⇑P P 18 21 20.4 +1.8
baz=89
J04A Umpqua Nationa 89.25 47 ⇓P P 18 21 19.4 +0.7
baz=89
PKD Parkfield 89.35 54 ⇑P P 18 21 21.0 +1.8
baz=89
HATC Hat Creek Radi 89.35 49 ⇓P P 18 21 20.1 +0.9
baz=89
C04A Brinnon 89.40 42 ⇑P P 18 21 18.9 -0.5
baz=90
H04A Detroit Lake 89.43 45 ⇓P P 18 21 19.3 -0.2
baz=90
LBCM Butte Creek Ri 89.44 49 P P 18 21 19.7 +0.1
F04A Amboy 89.47 44 ⇓P P 18 21 18.9 -0.9
baz=90
O04C Chester 89.56 50 ⇓P P 18 21 20.8 +0.6
baz=90
LAVA Lava Cap Winer 89.60 51 P P 18 21 20.6 +0.3
baz=90,SNR=5.6
O05C Quincy 89.64 50 ⇓P P 18 21 21.4 +0.9
baz=90
M05C Lookout 89.67 48 ⇓P P 18 21 21.0 +0.3
baz=90
SMMC Simmler 89.70 55 ⇑P P 18 21 23.3 +2.4
baz=90
S05C Merced 89.72 53 ⇓P P 18 21 21.5 +0.6
baz=90
CMB Columbia Colle 89.77 52 *e*P P 18 21 20.7 -0.4
CMB pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
CMB Columbia Colle 89.77 52 *e*P P 18 21 20.7 -0.4
comp=Z,4.2nm,0.5s,mb5.0
CMB Columbia Colle 89.77 52 ⇓P P 18 21 21.7 +0.6
baz=90
P05C Yuba Gap, Truc 89.78 51 ⇓P P 18 21 22.1 +0.9
baz=90
PKM Peak Mountain 89.79 55 ⇓P P 18 21 22.1 +0.9
baz=90
J05A Fort Rock 89.89 47 P P 18 21 22.2 +0.5
baz=90,SNR=8.0
L05A Lakeview 90.00 48 ⇑P P 18 21 22.5 +0.3
baz=90
BEKR Beckwourth 90.05 50 ⇑P P 18 21 23.0 +0.6
baz=90
K05A Summer Lake 90.06 47 ⇓P P 18 21 22.2 -0.3
baz=90
B05A Bryant 90.07 42 ⇑P P 18 21 22.6 +0.1
baz=90
H05A Maras 90.10 45 ⇑P P 18 21 23.7 +1.0
baz=90
R05C Kirkwood Meado 90.10 51 ⇑P P 18 21 23.3 +0.6
baz=90
G05A Wamic 90.13 45 ⇓P P 18 21 23.2 +0.4
baz=90
M06C Likely Place G 90.15 49 ⇓P P 18 21 23.8 +0.9
baz=90
T06C Millerton Lake 90.16 53 P P 18 21 23.6 +0.7
baz=90,SNR=6.0
S06C San Francisco 90.17 52 P P 18 21 23.7 +0.7
baz=90,SNR=17
A05A Maple Falls 90.20 41 ⇑P P 18 21 23.5 +0.4
baz=90
MOD Modoc 90.37 48 *e*P P 18 21 23.9 0.0
comp=Z,6.6nm,1.1s,mb4.9
MOD Modoc 90.37 48 ⇑P P 18 21 24.0 0.0
baz=90
WCN Wahoe City 90.43 51 ⇑P P 18 21 24.5 +0.3
baz=90
RPW Rockport 90.48 41 P P 18 21 23.7 -0.8
O06A Flanigan 90.49 50 ⇑P P 18 21 26.0 +1.5
baz=91
KCC Kaiser Creek 90.51 53 P P 18 21 25.4 +0.8
baz=91,SNR=7.1
VES Vestal, Richgr 90.51 54 ⇑P P 18 21 24.5 -0.1
baz=91
B06A Marblemount 90.52 41 ⇑P P 18 21 24.1 -0.5
baz=91
K06A Valley Falls 90.54 47 ⇓P P 18 21 24.7 0.0
baz=91
E06A Yakima 90.56 43 ⇑P P 18 21 24.5 -0.3
baz=91
R06C Coleville 90.56 51 P P 18 21 25.8 +0.9
baz=91,SNR=11
N06A Buffalo Meadow 90.57 49 P P 18 21 25.2 +0.4
baz=91,SNR=14
F06A Goldendale 90.58 44 ⇓P P 18 21 24.0 -0.9
baz=91
HELL Mitchell Peak, 90.67 53 ⇓P P 18 21 24.9 -0.4
baz=91,SNR=7.5
J06A Christmas Vall 90.67 47 P P 18 21 24.9 -0.4
baz=91,SNR=6.1
I06A Prineville 90.72 46 ⇑P P 18 21 25.3 -0.3
baz=91
D06A Cle Elum 90.74 43 ⇓P P 18 21 24.5 -1.2
baz=91
H06A Lindquist Farm 90.75 45 ⇑P P 18 21 26.0 +0.3
baz=91
R07C Lee Vining 90.83 52 ⇑P P 18 21 26.6 +0.6
baz=91
EBG Ellensburg 90.89 43 P P 18 21 26.3 0.0
DECC Green Verdugo 90.93 56 ⇓P P 18 21 26.4 -0.1
baz=91
ISA Isabella 90.98 54 ⇓P P 18 21 27.6 +0.9
baz=91
L07A Adell 91.10 48 P P 18 21 27.8 +0.5
baz=91,SNR=11
M07A Soldier Meadow 91.15 49 P P 18 21 28.1 +0.5
baz=91,SNR=5.2
F07A Phinny Hill Vi 91.19 44 ⇑P P 18 21 27.1 -0.6
baz=91
O07A Toulon 91.22 50 P P 18 21 28.7 +0.8
baz=91,SNR=9.5
N07B Gerlach 91.22 49 ⇓P P 18 21 28.8 +0.9
baz=91
I07A Izee 91.25 46 ⇓P P 18 21 28.3 +0.3
baz=91
K07A Rock Creek Ran 91.26 47 P P 18 21 28.4 +0.4
baz=91,SNR=7.1
H07A Lands Inn, Kim 91.27 45 ⇓P P 18 21 28.4 +0.3
baz=91
EDW2 Edwards Air Fo 91.28 55 P P 18 21 29.5 +1.4
baz=91,SNR=6.9
G07A Ruggs Ranch, H 91.29 45 P P 18 21 27.8 -0.4
baz=91,SNR=5.7
J07A Hines 91.30 47 ⇓P P 18 21 27.9 -0.3
baz=91
A07A Ashnola River, 91.31 41 ⇑P P 18 21 27.7 -0.6
baz=91
E07A Sunnyside 91.33 43 P P 18 21 28.1 -0.3
baz=91,SNR=5.2
D07A Quincy 91.33 43 P P 18 21 28.3 -0.1
baz=91,SNR=7.2
C07A Waterville 91.34 42 ⇑P P 18 21 28.2 -0.3
baz=91
CWC Cottonwood Cre 91.39 54 ⇓P P 18 21 28.9 +0.2
baz=91
B07A Winthrop 91.41 42 ⇑P P 18 21 28.2 -0.6
baz=92
WTV Waterville 91.41 42 P P 18 21 28.1 -0.6
NVAR Mina Array Bea 91.45 52 P P 18 21 29.7 +0.7
comp=Z,23nm,0.8s,mb5.5,baz=263,slow=7.6,SNR=73
NVAR PKKPbc PKKPbc 18 38 50.9 +1.7
comp=Z,0.3nm,0.5s,baz=76,slow=3.4,SNR=4.0
NVAR Mina Array Bea 91.45 52 P P 18 21 29.7 +0.7
NVAR PKKPbc PKKPbc 18 38 50.9 +1.7
BFSC Mount Baldy St 91.48 56 ⇑P P 18 21 29.9 +0.8
baz=92
BVA0 Borovoye Array 91.58 323 *i*P P 18 21 26.7 -2.9
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BVAR Borovoye Array 91.58 323 P P 18 21 27.5 -2.0
comp=Z,25nm,0.8s,mb5.6,baz=105,slow=5.5,SNR=135
BVAR LR LR 19 01 43.8
comp=Z,121nm,20.7s,MS4.3,baz=319,slow=35
R08A Mina 91.59 52 P P 18 21 30.8 +1.2
baz=92,SNR=9.4
LRMC Laurel Mountai 91.59 55 P P 18 21 31.1 +1.5
baz=92,SNR=6.4
EPH Ephrata 91.61 43 P P 18 21 29.2 -0.5
BRVK Borovoye 91.65 323 P P 18 21 27.7 -2.2
comp=Z,146nm,1.1s,mb6.2,SNR=19
BRVK Borovoye 91.65 323 ⇓P P 18 21 28.0 -1.9
SNR=6.8
BRVK Borovoye 91.65 323 *e*P P 18 21 27.8 -2.1
WVOR Wild Horse Val 91.67 48 *e*P P 18 21 29.9 -0.1
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
WVOR Wild Horse Val 91.67 48 *e*P P 18 21 29.9 -0.1
comp=Z,5.5nm,0.8s,mb4.9
M08A Happy Creek Ra 91.75 49 ⇑P P 18 21 30.3 0.0
baz=92
G08A Pilot Rock 91.79 45 P P 18 21 30.3 -0.2
baz=92,SNR=7.4
Q08A Gabbs 91.79 51 P P 18 21 31.1 +0.6
baz=92,SNR=14
109C Camp Elliot, M 91.79 57 ⇓P P 18 21 31.6 +1.1
baz=92
K08A Mann Creek Ran 91.82 47 ⇓P P 18 21 30.9 +0.3
baz=92
MPMC Manual Prospec 91.82 54 P P 18 21 32.0 +1.3
baz=92,SNR=14
L08A Fields 91.86 48 P P 18 21 31.2 +0.4
baz=92,SNR=8.9
E08A Dider Farm, El 91.86 44 ⇓P P 18 21 30.3 -0.6
baz=92
J08A Circle Bar Ran 91.90 47 P P 18 21 30.9 -0.1
baz=92,SNR=5.5
B08A Colville Reser 91.91 42 ⇑P P 18 21 30.2 -0.9
baz=92
F08A Pendleton 91.97 44 ⇓P P 18 21 31.4 0.0
baz=92
A08A Turner Farm, O 92.03 41 ⇑P P 18 21 31.0 -0.6
baz=92
D08A Wollman Farm, 92.03 43 ⇓P P 18 21 30.4 -1.2
baz=92
C08A Higginbotham F 92.03 42 ⇓P P 18 21 31.3 -0.3
baz=92
OD2 Odessa Site #2 92.21 43 P P 18 21 31.9 -0.6
S09A Goldfield 92.21 52 P P 18 21 33.3 +0.8
baz=92,SNR=19
N09A Rock Creek Ran 92.32 49 ⇑P P 18 21 33.8 +0.9
baz=92
L09A Wilkinson Ranc 92.34 48 ⇓P P 18 21 33.0 0.0
baz=92
MONP Monument Peak 92.36 57 ⇑P P 18 21 34.0 +0.8
baz=92
Q09A Carvers 92.37 51 P P 18 21 34.5 +1.3
baz=92,SNR=8.6
K09A Rome 92.37 47 ⇓P P 18 21 32.5 -0.7
baz=92
FURC Furnace Creek, 92.37 54 P P 18 21 34.4 +1.2
baz=92,SNR=5.1
R09A Tonopah 92.39 52 P P 18 21 33.9 +0.6
baz=92,SNR=18
PFO Pinyon Flat Ob 92.41 57 P P 18 21 33.8 +0.5
comp=Z,8.1nm,0.7s,mb5.2,baz=269,slow=0.9,SNR=6.1
PFO LR LR 18 59 37.4
comp=Z,340nm,18.3s,MS4.8,baz=212,slow=33
PFO Pinyon Flat Ob 92.41 57 ⇓P P 18 21 33.2 -0.1
baz=92
J09A Fry Pan Ranch, 92.42 47 ⇑P P 18 21 33.1 -0.3
baz=92
M09A Marrel Ranch, 92.44 49 P P 18 21 34.3 +0.8
baz=92,SNR=6.0
D09A Jones Farm, Ri 92.44 43 ⇑P P 18 21 32.6 -0.9
baz=92
A09A Danville 92.48 41 ⇓P P 18 21 33.1 -0.6
baz=93
E09A Wood Farm, Sta 92.49 44 P P 18 21 33.2 -0.5
baz=93,SNR=10
I09A Lost Marbles R 92.50 46 ⇑P P 18 21 32.5 -1.3
baz=93
O09A Fish Creek Ran 92.50 50 P P 18 21 34.9 +1.0
baz=93,SNR=9.8
BMN Battle Mountai 92.50 50 *e*P P 18 21 34.1 +0.3
BMN *e* pP 18 21 48.8 -1.8
BMN pmax pmax
comp=Z,15nm,1.0s,mb5.4
BMN Battle Mountai 92.50 50 *e*P P 18 21 34.1 +0.3
comp=Z,15nm,1.0s,mb5.4
BMN *e* pP 18 21 48.8 -1.8
C09A Chrisman Ranch 92.55 42 ⇑P P 18 21 33.4 -0.6
baz=93
HEC Hector,Ludlow 92.63 55 P P 18 21 35.4 +1.0
baz=93,SNR=9.3
B09A Rice 92.70 42 ⇓P P 18 21 34.1 -0.6
baz=93
SHOC Shoshone 92.78 54 ⇓P P 18 21 35.6 +0.5
baz=93
U10A Ash Meadows, A 92.79 54 ⇓P P 18 21 36.3 +1.1
baz=93
BELC Belle Mtn. 92.83 56 P P 18 21 36.7 +1.4
baz=93,SNR=5.7
BMO Blue Mountains 92.90 45 *e*P P 18 21 34.7 -0.9
BMO *e* pP 18 21 49.6 -2.8
BMO pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BMO Blue Mountains 92.90 45 *e*P P 18 21 34.7 -1.0
comp=Z,4.1nm,0.8s,mb4.9
BMO *e* pP 18 21 49.6 -2.9
SYO Syowa Base 92.94 199 ⇓ *i*P P 18 21 33.5 -2.3
SYO Syowa Base 92.94 199 ⇓ *i*PcP PcP 18 21 34.7 -1.7
P10A Eureka 93.00 51 ⇑P P 18 21 36.9 +0.8
baz=93
F10A Beach Ranch, E 93.07 44 P P 18 21 36.0 -0.5
baz=93,SNR=6.3
GMRC Granite Mounta 93.18 56 P P 18 21 38.2 +1.2
baz=93,SNR=7.5
E10A Myers Farm, Un 93.20 44 ⇑P P 18 21 36.7 -0.3
baz=93
BC3 Big Chuckw Mtn 93.24 57 P P 18 21 38.7 +1.5
baz=93,SNR=6.2
H10A Noah's Angus R 93.27 46 P P 18 21 36.5 -0.9
baz=93,SNR=11
B10A Chitwood Farm, 93.30 42 ⇑P P 18 21 36.9 -0.6
baz=93
NEW Newport 93.37 42 P P 18 21 37.1 -0.7
comp=Z,6.0nm,0.5s,mb5.3,baz=229,slow=6.2,SNR=11
NEW LR LR 18 56 21.9
comp=Z,997nm,20.5s,MS5.3,baz=341,slow=31
V11A Goodsprings 93.46 54 ⇑P P 18 21 39.3 +1.1
baz=94
P11A Circle Ranch, 93.54 51 ⇑P P 18 21 39.4 +0.8
baz=94
IRM Iron Mountain 93.54 56 P P 18 21 40.0 +1.4
baz=94,SNR=5.6
Q11A Duckwater 93.55 51 P P 18 21 39.9 +1.2
baz=94,SNR=16
TRCR Troy Canyon 93.56 52 *e*P P 18 21 38.1 -0.6
TRCR *e* pP 18 21 54.0 -1.5
N11A Elko Archery C 93.67 50 ⇑P P 18 21 39.4 +0.2
baz=94
O11A Cowboy Ranch, 93.67 50 P P 18 21 40.2 +1.1
baz=94,SNR=5.9
M11A Holland Ranch, 93.68 49 ⇓P P 18 21 38.8 -0.4
baz=94
I11A Placerville 93.77 46 ⇓P P 18 21 39.3 -0.4
baz=94
D11A Klaveano Farm, 93.78 43 ⇑P P 18 21 38.7 -1.0
baz=94
H11A Donnelly 93.80 46 ⇓P P 18 21 39.7 -0.1

	baz=94								
E11A	**Bogner Ranch,** baz=94,SNR=9.6	93.81	44	P		P	18 21 38.8	-1.0	
W12A	**Cal Nev Ari** baz=94	93.87	55	⇑P		P	18 21 40.9	+0.8	
V12A	**Nelson** baz=94	93.92	55	⇑P		P	18 21 40.8	+0.5	
A11A	**Hall Mountain,** baz=94,SNR=13	93.93	41	P		P	18 21 40.6	+0.2	
NEE2	**Needles Airpor** baz=94	94.03	56	⇓P		P	18 21 41.3	+0.4	
P12A	**McGill** baz=94,SNR=7.5	94.19	51	P		P	18 21 42.8	+1.2	
N12A	**Clover Valley,** baz=94,SNR=11	94.20	50	P		P	18 21 42.3	+0.7	
Q12A	**Willow Creek R** baz=94,SNR=14	94.21	51	P		P	18 21 42.8	+1.1	
U12A	**Valley of Fire** baz=94	94.23	54	⇑P		P	18 21 42.9	+1.1	
M12A	**Wells** baz=94,SNR=7.2	94.33	49	P		P	18 21 43.0	+0.7	
O12A	**Currie** baz=94,SNR=9.9	94.37	50	P		P	18 21 43.0	+0.6	
PDMCI	**Parker Dam,Lak** baz=94	94.39	56	⇓P		P	18 21 42.9	+0.4	
B12A	**Libby** baz=94	94.40	42	⇑P		P	18 21 42.5	-0.1	
F12A	**Elk City** baz=94	94.42	45	⇓P		P	18 21 42.3	-0.4	
H12A	**Diamond D Ranc** baz=95	94.61	46	⇑P		P	18 21 42.2	-1.3	
W13A	**Hualapai Mount** baz=95,SNR=7.8	94.66	55	P		P	18 21 45.2	+1.5	
X13A	**Yucca** baz=95	94.66	56	⇑P		P	18 21 45.1	+1.4	
N13A	**Wendover, West** baz=95	94.83	50	⇑P		P	18 21 44.7	+0.2	
M13A	**Montello** baz=95	94.89	49	⇓P		P	18 21 45.0	+0.2	
C13A	**Hot Springs** baz=95	95.03	43	⇑P		P	18 21 44.7	-0.7	
F13A	**Darby** baz=95,SNR=9.0	95.07	45	P		P	18 21 44.8	-0.8	
G13A	**Cobalt** baz=95	95.09	45	⇓P		P	18 21 44.7	-1.1	
B13A	**Whitefish** baz=95	95.14	42	⇓P		P	18 21 45.2	-0.7	
E13A	**Victor** baz=95	95.21	44	⇑P		P	18 21 46.1	-0.1	
CCUT	**Cedar City**	95.25	53	*e*P		P	18 21 47.6	+1.1	
YKA	**Yellowknife Ar** comp=Z,10nm,0.6s,mb5.5,baz=266,slow=4.5,SNR=130	95.80	28	P		P	18 21 48.0	-0.9	
YKA					PKKP	PKKPbc	18 38 36.1	-1.8	
	comp=Z,2.0nm,0.5s,baz=86,slow=2.8,SNR=24								
YKA	**Yellowknife Ar**	95.80	28	P		P	18 21 48.0	-0.9	
YKA					PKKP	PKKPbc	18 38 36.1	-1.8	
EDM	**Edmonton**	96.10	37	*e*P		P	18 21 49.1	-1.2	
EDM				*e*		pP	18 22 04.2	-2.9	
MSU	**Marysvale**	96.25	52	*e*P		P	18 21 52.6	+1.6	
MSU				*e*		pP	18 22 06.8	-1.0	
E15A	**Deer Lodge** baz=96	96.28	44	⇑P		P	18 21 49.4	-1.7	
G15A	**Dillon** baz=96	96.33	45	⇑P		P	18 21 49.9	-1.4	
F15A	**Butte** baz=96	96.36	45	⇓P		P	18 21 50.4	-1.1	
WUAZ	**Wupatki** baz=97	96.73	55	⇑P		P	18 21 54.5	+1.3	
HWUT	**Hardware Ranch** comp=Z,3.6nm,0.8s,mb4.8	96.86	49	*e*P		P	18 21 52.9	-0.8	
TMUT	**Trail Mountain**	97.04	51	*e*P		P	18 21 55.1	+0.5	
TMUT				*e*		pP	18 22 09.5	-1.9	
DAU	**Daniels Canyon**	97.04	50	*e*P		P	18 21 55.1	+0.5	
SRU	**San Rafael**	97.56	51	*e*P		P	18 21 56.9	0.0	
SRU					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb5.0								
SRU	**San Rafael** comp=Z,3.4nm,0.6s,mb5.0	97.56	51	*e*P		P	18 21 56.9	0.0	
AB31	**Akbulak array**	97.86	319	⇑*e*P		P	18 21 55.3	-3.0	
EGMT	**Eagleton** baz=98	98.28	42	⇑P		P	18 21 59.6	-0.6	
PDAR	**Pinedale Array** comp=Z,3.4nm,0.8s,mb4.9,baz=254,slow=1.4,SNR=17	98.38	48	P		P	18 21 59.6	-0.9	
PDAR					PKKPbc	PKKPbc	18 38 30.3	-0.5	
	comp=Z,0.5nm,0.5s,baz=88,slow=4.6,SNR=8.0								
PDAR					LR	LR	19 02 48.2		
	comp=Z,369nm,18.1s,MS4.9,baz=305,slow=33								
ARU	**Arti**	98.62	326	⇑*i*P		P	18 21 58.1	-3.6	
ARU				*e*			18 26 00.0		
ARU				*e*S		SKSac	18 32 26.6	-8.0	
ARU				*e*SP		SP	18 34 57.2	+6.1	
ARU				*e*SSS			18 43 58.6		
ARU				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb5.2								
ARU	**Arti**	98.62	326	⇑*i*P		P	18 21 58.9	-2.8	
AKTK	**Aktyubinsk**	99.10	320	P		P	18 22 01.0	-2.8	
AKTO	**Aktyubinsk** comp=Z,2.1nm,0.7s,mb4.8,baz=107,slow=6.3,SNR=11	99.10	320	P		P	18 22 01.0	-2.8	
ORR	**Orenburg**	101.10	321	*e*P		Pdif	18 22 09.8	-2.9	
ORR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
VNA3	**Neumayer Olymp**	101.96	185	*e*Pdiff		Pdif	18 22 14.3	-2.2	
VNA3				*e*			18 22 21.3		
VNA3				*e*			18 22 36.2		
VNA3				*e*			18 22 44.5		
VNA3				*e*			18 26 25.3		
VNA3				*e*			18 26 37.0		
VNA2	**Neumayer--Watz**	102.05	186	*e*Pdiff		Pdif	18 22 15.1	-1.8	
VNA2				*e*			18 22 21.5		
VNA2				*e*			18 22 25.2		
VNA2				*e*			18 22 35.4		
VNA2				*e*			18 22 44.3		
VNA2				*e*			18 26 27.4		
VNA2				*e*			18 26 38.2		
VNA2				*e*			18 26 46.4		
TXAR	**Lajitas Array** comp=Z,2.2nm,0.7s,baz=104,slow=3.8,SNR=14	103.11	61	PKKPbc		PKKPbc	18 38 18.4	+1.1	
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.7s,baz=90,slow=2.4,SNR=6.4	108.83	343	PKiKP		PKiKP	18 26 50.2	-1.5	
ARCES				PKKPbc		PKKPbc	18 37 56.9	-2.8	
	comp=Z,1.8nm,0.8s,baz=274,slow=2.6,SNR=5.2								
ARCES	**ARCESS Array B**	108.83	343	PKPdf		PKiKP	18 26 50.2	-1.5	
ARCES				PKKPbc		PKKPbc	18 37 56.9	-2.8	
FINES	**FINESS Array B** comp=Z,1.7nm,0.9s,baz=91,slow=5.6,SNR=3.8	113.19	336	Pdiff		Pdif	18 23 03.9	-2.5	
FINES				PKKPbc		PKKPbc	18 37 44.4	-1.1	
	comp=Z,1.7nm,0.7s,baz=220,slow=3.8,SNR=6.7								
FINES	**FINESS Array B**	113.19	336	Pdif		Pdif	18 23 03.9	-2.5	
FINES				PKKPbc		PKKPbc	18 37 44.4	-1.1	
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,baz=49,slow=2.6,SNR=9.7	116.82	325	PKP		PKPdf	18 27 05.0	-1.9	
AKASG				PKKPbc		PKKPbc	18 37 31.4	-1.7	
	comp=Z,0.9nm,0.6s,baz=257,slow=3.9,SNR=8.8								
LRAL	**Lakeview Retre**	116.99	56	*e*PKPdf		PKPdf	18 27 05.9	-1.4	
KMBO	**Kilima Mbogo** comp=Z,0.5nm,0.3s,baz=117,slow=2.3,SNR=4.8	117.20	266	PKP		PKPdf	18 27 08.0	+0.4	
KMBO	**Kilima Mbogo**	117.20	266	⇑*i*PKIKP		PKPdf	18 27 09.1	+1.5	
BRTR	**Keskin Array B** comp=Z,1.3nm,0.5s,baz=129,slow=3.2,SNR=7.6	117.73	312	PKP		PKPdf	18 27 07.2	-1.4	
BRTR				PKKPbc		PKKPbc	18 37 29.2	-0.5	
	comp=Z,0.9nm,0.8s,baz=214,slow=5.8,SNR=5.0								
NB2	**NORSAR Subarra**	118.94	341	PKIKP		PKPdf	18 27 09.8	-1.2	
NB2	**NORSAR Subarra** comp=Z,2.3nm,0.9s,baz=44,slow=1.9	118.94	341	PKPdf		PKPdf	18 27 09.8	-1.2	
NOA	**NORSAR Array B** comp=Z,1.6nm,0.7s,baz=46,slow=2.0,SNR=5.8	118.94	341	PKP		PKPdf	18 27 07.9	-3.1	
NOA				PKKPbc		PKKPbc	18 37 25.0	-0.4	
	comp=Z,1.0nm,0.7s,baz=251,slow=4.3,SNR=3.4								
BOSA	**Boshof** comp=Z,7.8nm,0.5s,baz=129,slow=1.2,SNR=23	120.30	232	PKP		PKPdf	18 27 13.7	+0.1	
BOSA				PKKPbc		PKKPbc	18 37 20.4	-0.1	
	comp=Z,2.2nm,0.7s,baz=328,slow=6.4,SNR=5.0								
KONO	**Kongsberg**	120.52	340	⇑*i*PKIKP		PKPdf	18 27 14.9	+0.9	
JTS	**JuntasAbangare**	120.83	82	*e*PKIKP		PKPdf	18 27 12.5	-2.1	
MLR	**Muntele Rosu** comp=Z,2.0nm,0.5s,baz=239,slow=3.6,SNR=4.2	121.03	320	PKKPbc		PKKPbc	18 37 16.6	-1.1	
BLA	**Blacksburg**	121.22	50	*e*PKIKP		PKPdf	18 27 14.0	-1.4	
SCHQ	**Schefferville** comp=Z,3.1nm,0.7s,baz=238,slow=6.9,SNR=5.0	121.23	27	PKP		PKPdf	18 27 12.7	-2.7	
SCHQ				PKKPbc		PKKPbc	18 37 16.8	-0.2	
	comp=Z,3.8nm,0.7s,baz=194,slow=8.3,SNR=4.5								
SCHQ	**Schefferville**	121.23	27	PKP		PKPdf	18 27 12.7	-2.7	
SCHQ				PKKPbc		PKKPbc	18 37 16.8	-0.2	
LBTB	**Lobatse**	121.61	236	*e*PKIKP		PKPdf	18 27 15.8	-0.3	
KOLS	**Kolonicke sedl**	121.63	325	*e*PKP		PKPdf	18 27 15.5	-0.7	
LHS	**Liberty Hill**	121.69	53	*e*PKIKP		PKPdf	18 27 15.8	-0.5	
STHS	**Stebnicka Huta**	121.95	326	*e*PKP		PKPdf	18 27 15.7	-1.1	
SSPA	**Standing Stone**	121.95	45	*e*PKPdf		PKPdf	18 27 15.2	-1.6	
LSZ	**Lusaka**	122.92	247	*e*PKIKP		PKPdf	18 27 19.0	+0.4	
LSZ				*e*			18 27 33.9		
CFAA	**Coronel Fontan** comp=Z,0.8nm,0.7s,baz=246,slow=3.0,SNR=13	124.31	135	PKP		PKPdf	18 27 19.4	-1.9	
PVCC	**Panska Ves**	124.82	330	*e*PKPDF		PKPdf	18 27 22.1	-0.2	
PVCC				*ex*		x	18 27 36.8		
BRG	**Berggiesshubel** comp=Z,8.0nm,1.4s	124.90	331	*e*P		PKPdf	18 27 21.5	-0.9	
BRG				*e*			18 27 36.5		
	comp=Z,2.7nm,1.1s								
CLL	**Collm**	125.07	332	*e*PKPdf		PKPdf	18 27 22.0	-0.8	
CLL				*i* pPKPdf		pPKPdf	18 27 36.3	-3.9	
NKC	**Novy Kostel**	126.04	331	*e*PKPDF		PKPdf	18 27 24.3	-0.3	
NKC				*ex*		x	18 27 39.1		
KHC	**Kasperske Hory**	126.20	329	*e*PKPDF		PKPdf	18 27 24.0	-0.9	
KHC				*ex*		x	18 27 38.8		
GERES	**GERESS Array B** comp=Z,3.6nm,0.8s,baz=70,slow=1.6,SNR=22	126.32	329	PKP		PKPdf	18 27 24.2	-0.9	
LVC	**Limon Verde**	128.53	125	*e*PKPdf		PKPdf	18 27 29.1	-0.3	
MEM	**Membach**	128.69	335	PKP		PKPdf	18 27 29.4	-0.3	
BCLA	**Clavier**	129.13	335	PKP		PKPdf	18 27 28.2	-2.3	
HINF	**Hinteralfeld**	130.38	332	*e*PKIKP		PKPdf	18 27 31.1	-1.8	
TSUM	**Tsumeb**	130.82	238	*e*PKPdf		PKPdf	18 27 33.6	-0.1	
ROSC	**El Rosal** comp=Z,24nm,0.5s,baz=79,slow=1.1,SNR=11	131.12	89	PKP		PKPdf	18 27 35.2	+0.9	
LPAZ	**La Paz** comp=Z,3.1nm,0.6s,baz=355,slow=1.9,SNR=14	132.00	118	PKP		PKPdf	18 27 37.2	+1.2	
LPAZ	**La Paz**	132.00	118	PKP		PKPdf	18 27 37.2	+1.2	
LPAZ				*e*PKPdf		PKPdf	18 27 37.3	+1.4	
LPL	**La Plagne** comp=Z,5.9nm,0.8s	132.07	330	*e*PKIKP		PKPdf	18 27 34.5	-1.6	
LPG	**La Plagne** comp=Z,4.3nm,0.6s	132.08	330	*e*PKIKP		PKPdf	18 27 34.7	-1.4	
SSF	**Saint Saulge**	132.46	334	*e*PKIKP		PKPdf	18 27 34.9	-1.9	
MBDF	**Montbardon**	132.61	329	*e*PKIKP		PKPdf	18 27 35.4	-1.7	
SMF	**Signal de Mont** comp=Z,8.3nm,0.9s	132.62	333	*e*PKIKP		PKPdf	18 27 35.5	-1.6	
PGF	**Pioggiola** comp=Z,8.5nm,0.8s	132.88	325	*e*PKIKP		PKPdf	18 27 36.1	-1.5	
BGF	**Bois d'Agland**	133.14	334	*e*PKIKP		PKPdf	18 27 36.4	-1.7	
TCF	**Toulx Ste Croi**	133.62	334	*e*PKIKP		PKPdf	18 27 37.8	-1.2	
SDV	**Santo Domingo**	134.94	84	*e*P		PKPdf	18 27 41.1	-0.3	
KEST	**Kesra** comp=Z,2.2nm,1.1s,baz=164,slow=4.8,SNR=3.8	136.80	318	PKP		PKPdf	18 27 46.0	+1.1	
CAM4	**Nova Friburgo**	146.87	150	*e*P		PKPdf	18 28 04.8	+1.9	
CAM4				*i*			18 28 06.3		
CAM4				*i*			18 28 20.4		
CAM4				*i*			18 28 20.4		
CAM3	**Guarapari**	149.25	151	*e*P		PKPbc	18 28 10.6	-0.5	
CAM3				*i*			18 28 15.7		
CAM3				*i*			18 28 26.9		
TOA0	**Torodi Ar. Sit**	152.61	286	*e*PKPdf		PKPdf	18 28 10.9	-1.1	
TOA0				*e*PKPbc		PKPbc	18 28 18.3	-0.7	
TORD	**Torodi Ar. Bea** comp=Z,3.7nm,0.8s,baz=328,slow=0.9,SNR=23	152.61	286	PKP		PKPdf	18 28 10.7	-1.2	
TORD				PKPbc		PKPbc	18 28 18.6	-0.4	
	comp=Z,11nm,0.7s,baz=45,slow=2.1,SNR=72								
TORD				PKPab		PKPab	18 28 29.9	+0.3	
	comp=Z,16nm,0.8s,baz=78,slow=3.8,SNR=11								
LIC	**Lamto** comp=Z,9.9nm,0.9s	159.92	271	*e*PKIKP		PKPdf	18 28 19.6	-1.9	

NIED ***29*** *18:08:00,4590N×15230E,h17km,Mw4.0 Best double couple: M₀1.10000×10¹⁵ NP1:φ=231.00000°, δ58.00000°, λ127.00000°. NP2:φ=356.00000°, δ48.00000°, λ46.00000°.*
IDC ***29*** *18:08:56.9±1.6,4570N×15200E,h0km,mb3.8/15, mb1 4.0/16,mb1mx3.9/25,mbtmp3.8/16,Error ellipse: s-maj=46.1km s-min=19.4km az=175.0*
BJI ***29*** *18:08:58.2,4518N×15237E,h34km,mB4.8,mb4.4,Ms4.4, Msz4.2*
NEIC ***29*** *18:08:59.5±0.7,4590N×15204E,h10km,mb4.5/2,Error ellipse: s-maj=18.6km s-min=9.5km az=161.0*
MOS ***29*** *18:09:00.4±1.1,4584N×15214E,h33km,mb4.7/2,Error ellipse: s-maj=13.3km s-min=12.0km az=28.7*
ISCJB ***29*** *18:09:03.8±1.1,453N±0.1×1520E±0.1,h86km±11km, mb3.8/18,Error ellipse: s-maj=19.7km s-min=9.6km az=129.8*

ISC 29 18:09:04.9±1.0,453N±01×1521E±01,h81km±10km,n60, σ1§12/68,mb3.8/18,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	2.95	270	PN	Pn	18 09 49.5	-0.1
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
YUK	**Yuzh-Kuril'sk**	4.59	256	*e*PN	Pn	18 10 12.3	+0.5
NEM2	**Nemuro 2**	4.92	249	P	Pn	18 10 15.0	-1.3
NEM2				*e*S	Sn	18 11 12.2	+0.3
JRA	**Rausu**	5.13	257	P	Pn	18 10 19.8	+0.7
JNK	**Nakash**	5.52	254	P	Pn	18 10 24.8	+0.3
JNK				*e*S	Sn	18 11 27.6	+1.0
JAK	**Akkeshi**	5.77	249	P	Pn	18 10 26.4	-1.5
JAK				*e*S	Sn	18 11 32.4	-0.2
JTKR	**Abashiri--Toko**	5.96	260	P	Pn	18 10 30.9	+0.4
JAR	**Ashorobuto**	6.27	254	P	Pn	18 10 35.2	+0.5
JAR				*e*S	Sn	18 11 47.1	+2.2
JMP	**Maruseppu**	6.33	261	P	Pn	18 10 36.5	+0.9
JOB	**Onbets**	6.38	251	*e*S	Sn	18 11 48.3	+0.7
YSS	**Yuzh-Sakhalins**	6.67	288	*e*PN	Pn	18 10 39.9	-0.2
YSS				pmax	pmax		
	comp=Z,17nm,0.6s						
YSS	**Yuzh-Sakhalins** comp=Z,17nm,0.6s	6.67	288	*e*P	Pn	18 10 39.9	-0.3
JKK2	**Kamakawa 2**	6.79	261	P	Pn	18 10 43.0	+1.1
JCH	**Churui**	6.82	250	P	Pn	18 10 41.5	-0.7
JCH				*e*S	Sn	18 11 57.5	-0.8
ASAJ	**Asahikawa** comp=Z,1.7nm,0.3s,baz=91,slow=12,SNR=9.2	6.84	263	Pn	Pn	18 10 42.1	-0.4
ASAJ	**Asahikawa**	6.84	263	P	Pn	18 10 43.9	+1.4
ASAJ	**Asahikawa**	6.84	263	PN	Pn	18 10 42.1	-0.4
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JFR	**Furan**	7.12	256	P	Pn	18 10 48.4	+2.1
JEM	**Erimo**	7.23	246	P	Pn	18 10 48.8	+0.9
ERM	**Erimo**	7.23	246	PN	Pn	18 10 49.6	+1.7
ERM				pmax	pmax		
	comp=Z,46nm,0.6s						
ERM	**Erimo** comp=Z,46nm,0.6s	7.23	246	P	Pn	18 10 49.6	+1.7
JNBK	**Urakawa-nobuka**	7.37	249	P	Pn	18 10 48.6	-1.2
JNBK				*e*S	Sn	18 12 10.3	-1.5
JBT2	**Biratori 2**	7.42	254	P	Pn	18 10 49.7	-0.7
JKB	**Kayabe**	8.69	251	P	Pn	18 11 06.7	-1.0
JYM2	**Yakumo 2**	9.04	254	P	Pn	18 11 12.4	-0.1
JANG	**Nango**	9.17	241	P	Pn	18 11 12.1	-2.2
JANG				*e*S	Sn	18 12 50.6	-5.1
JTM	**Tenmabayashi**	9.21	245	P	Pn	18 11 14.1	-0.8
JTM				*e*S	Sn	18 12 52.7	-4.2
JTH	**Tanohata**	9.22	238	*e*S	Sn	18 12 51.1	-5.9
MJAR	**Matsushiro Arr** comp=Z,2.1nm,0.3s,baz=18,slow=16,SNR=4.6	13.62	235	Pn	Pn	18 12 13.4	-1.1
YAK	**Yakutsk**	21.18	330	*e*P	P	18 13 40.4	-3.2
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.6						
YAK	**Yakutsk** comp=Z,24nm,0.8s,mb4.6	21.18	330	*e*P	P	18 13 40.4	-3.2
SONM	**Songino Array** comp=Z,0.2nm,0.5s,mb3.1,baz=72,slow=6.4,SNR=3.0	31.14	291	P	P	18 15 17.6	+1.7
GZH	**Guangzhou** comp=N,221nm,6.1s	38.42	248	P	P	18 16 17.8	-0.8
GZH				LR	LR		
	comp=E,288nm,15.9s						
GZH				LR	LR		
	comp=Z,520nm,19.9s						
GTA	**Gaotai**	38.48	280	*e*P	P	18 16 22.3	+3.3
GTA				AP	pP	18 16 31.0	-7.2
GTA				XP	sP	18 16 35.3	-12
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
INK	**Inuvik** comp=Z,0.5nm,0.5s,mb3.5,baz=280,slow=5.4,SNR=2.8	43.28	31	P	P	18 16 57.8	-0.6
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,mb3.6,baz=72,slow=7.4,SNR=13	46.96	298	P	P	18 17 27.2	-0.4
MKAR				PcP	PcP	18 19 01.3	+2.5
	comp=Z,0.6nm,0.8s,baz=45,slow=3.4,SNR=2.5						
MKAR	**Makanchi Array**	46.96	298	P	P	18 17 27.2	-0.4
MKAR				PcP	PcP	18 19 01.3	+2.5
KURK	**Kurchatov**	47.56	304	*e*P	P	18 17 31.0	-1.2
LSA	**Lhasa**	49.62	274	*e*P	P	18 17 51.2	+3.2
BVAR	**Borovoye Array** comp=Z,0.4nm,0.5s,mb3.7,baz=66,slow=8.6,SNR=4.9	51.21	310	P	P	18 17 59.1	-0.9
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.2s,mb3.3,baz=296,slow=6.8,SNR=2.8	52.53	36	P	P	18 18 09.7	-0.2
AAK	**Ala-Archa**	53.82	297	*e*P	P	18 18 20.0	+0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa** comp=Z,2.7nm,0.8s,mb4.3	53.82	297	*e*P	P	18 18 20.0	+0.7
KEV	**Kevo**	58.46	340	*e*p	P	18 18 47.7	-4.7
ARCES	**ARCESS Array B** comp=Z,2.9nm,0.9s,mb4.3,baz=60,slow=7.2,SNR=3.9	58.98	341	P	P	18 18 54.5	-1.4
AKTK	**Aktyubinsk**	59.14	312	P	P	18 18 57.6	+0.5
AKTO	**Aktyubinsk** comp=Z,0.8nm,0.6s,mb4.0,baz=67,slow=9.2,SNR=4.8	59.14	312	P	P	18 18 57.6	+0.5
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.8s,mb3.6,baz=297,slow=10.0,SNR=2.5	63.78	61	P	P	18 19 30.2	+1.9
KAF	**Kangasniemi**	64.44	335	*e*p	P	18 19 31.1	-1.6
FINES	**FINESS Array B** comp=Z,3.5nm,0.6s,mb4.3,baz=42,slow=7.3,SNR=19	65.03	335	P	P	18 19 35.2	-1.3
FINES	**FINESS Array B**	65.03	335	P	P	18 19 35.2	-1.3
PDAR	**Pinedale Array** comp=Z,0.6nm,0.9s,mb3.4,baz=264,slow=1.3,SNR=4.0	66.21	53	P	P	18 19 45.5	+1.4
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.7s,mb3.2,baz=32,slow=6.5	69.36	341	P	P	18 20 02.9	-1.0
NOA	**NORSAR Array B** comp=Z,2.6nm,0.8s,mb4.1,baz=29,slow=6.4,SNR=5.9	69.36	341	P	P	18 20 03.5	-0.3
AKASG	**Malin Array Be** comp=Z,2.3nm,0.5s,mb4.3,baz=34,slow=6.2,SNR=18	72.33	326	P	P	18 20 21.9	0.0
AKASG	**Malin Array Be**	72.33	326	P	P	18 20 21.9	0.0
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,mb3.3,baz=288,slow=3.6,SNR=4.3	78.86	60	P	P	18 21 00.0	+0.8
BRTR	**Keskin Array B** comp=Z,0.8nm,0.7s,mb3.7,baz=106,slow=5.1,SNR=4.5	78.93	316	P	P	18 21 00.7	+1.1
KHC	**Kasperske Hory**	79.22	334	*e*P	P	18 21 05.5	+4.4
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,mb3.4,baz=36,slow=5.4,SNR=6.2	79.43	333	P	P	18 21 02.3	0.0

CSEM ***29*** *18:27:20.8±0.9,3887N×473W,h0km,mb3.5/4,Error ellipse: s-maj=11.1km s-min=10.7km az=96.0,After MDD*

NEIC 29 18:27:20.8,3887N×473W,h0km,MG3.5(MDD),After MDD.,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada** 7.5nm,0.9s,SNR=4.9	1.69	129	P	Pn	18 27 52.0	+0.5
ELOJ	**Sierra Loja**	1.78	165	P	Pn	18 27 53.0	+0.2
ELOJ	**Sierra Loja** SNR=7.9	1.78	165	P	Pn	18 27 53.0	+0.2
GUD	**Guadarrama**	1.82	14	P	Pn	18 27 51.5	-1.8
GUD	**Guadarrama** SNR=7.9	1.82	14	P	Pn	18 27 51.6	-1.8
ECOG	**Cogollos-Vega**	1.84	150	P	Pn	18 27 53.0	-0.6
ECOG	**Cogollos-Vega** SNR=7.9	1.84	150	P	Pn	18 27 53.0	-0.6
EMIN	**Mina Concepcio**	1.89	235	P	Pn	18 27 56.8	+2.5
EMIN	**Mina Concepcio** 15nm,0.8s,SNR=15	1.89	235	P	Pn	18 27 56.8	+2.6
EQUE	**Quentar** SNR=7.9	1.95	148	P	Pn	18 27 53.0	-2.1
ERON	**Agron**	1.99	158	P	Pn	18 27 53.2	-2.5
ERON	**Agron** 4.6nm,0.4s,SNR=10.0	1.99	158	P	Pn	18 27 53.2	-2.5
ESPR	**Espera**	2.19	204	P	Pn	18 27 58.4	-0.1
ESPR	**Espera** 34nm,0.7s,SNR=25	2.19	204	P	Pn	18 27 58.3	-0.1
EMIJ	**Mijas**	2.31	181	P	Pn	18 27 57.2	-2.8
EMIJ	**Mijas** SNR=7.9	2.31	181	P	Pn	18 27 57.2	-2.8
EJIF	**Jimena Fronter** SNR=7.9	2.49	194	P	Pn	18 27 57.3	-5.2
EGRO	**El Granado** SNR=7.9	2.55	239	P	Pn	18 27 57.8	-5.5

IDC ***29*** *18:37:22.0±2.7,2368S×17993W,h494km±24km,mb3.2/6, mb1 3.5/7,mb1mx3.3/13,mbtmp3.3/7,Error ellipse: s-maj=32.3km s-min=21.3km az=25.0*
ISCJB ***29*** *18:37:25.0±4.3,2385S±02×1799E±02,h540km±49km, mb3.9/9,Error ellipse: s-maj=40.7km s-min=21.5km az=57.5*
NEIC ***29*** *18:37:24.5±2.6,2375S×17999W,h522km±29km,mb4.3/3, Error ellipse: s-maj=26.3km s-min=13.9km az=208.0*

ISC 29 18:37:25.3±3.9,238S±02×1800W±02,h529km±43km,n16, σ0§39/14,mb3.9/9,South of Fiji Islands

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

KUR A 19 01 42.8
4µm,2.0s
KUR A 19 01 47.8
2µm,0.8s
KUR A 19 01 47.8
752nm,0.8s
KUR Kuril'sk 3.66 259 ⇑ *i*PN **Pn 19 00 46.5 -1.5**
KUR *i* S **Sn 19 01 29.0 -1.8**
KUR pmax pmax
comp=N,520nm,0.6s
KUR pmax pmax
comp=E,300nm,0.6s
KUR pmax pmax
comp=Z,1µm,0.6s
KUR smax
comp=N,5µm,2.0s
KUR smax
comp=E,4µm,2.0s
KUR smax
comp=N,2µm,0.8s
KUR smax
comp=E,750nm,0.8s
SKR Severo-Kuril's 5.08 23 *e*rx rx 19 01 47.0
YUK Yuzh-Kuril'sk 5.41 251 *e*P **Pn 19 01 13.5 +1.3**
YUK AMB AMB 19 01 14.4
comp=E,340nm,0.4s
YUK *e*S **Sn 19 02 14.7 +0.6**
YUK A 19 02 17.0
comp=E,810nm,0.5s
YUK A 19 02 17.0
comp=E,380nm,0.5s
YUK A 19 02 33.0
comp=E,2µm,1.0s
YUK A 19 02 33.0
comp=E,4µm,2.0s
NEM2 Nemuro 2 5.80 245 P **Pn 19 01 17.1 -0.4**
NEM2 *e*S **Sn 19 02 18.5 -5.1**
JRA Rausu 5.94 252 P **Pn 19 01 21.4 +2.0**
JRA *e*S **Sn 19 02 28.8 +1.7**
JNK Nakash 6.35 250 P **Pn 19 01 26.2 +1.1**
JNK *e*S **Sn 19 02 35.1 -2.2**
JAK Akkeshi 6.64 245 P **Pn 19 01 28.7 -0.4**
JAK *e*S **Sn 19 02 41.1 -3.4**
JTKR Abashiri--Toko 6.74 255 P **Pn 19 01 32.6 +2.2**
YSS Yuzh-Sakhalins 7.09 281 *e*P **Pn 19 01 38.0 +2.8**
YSS AMB AMB 19 01 40.2
comp=E,30nm,0.9s
YSS *e*S **Sn 19 02 57.0 +1.6**
YSS A 19 02 59.0
comp=E,20nm,0.7s
YSS AMS AMS 19 04 12.0
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 7.09 281 *e*PN **Pn 19 01 38.0 +2.8**
YSS *e*S **Sn 19 02 57.0 +1.6**
YSS pmax pmax
comp=Z,300nm,0.9s
YSS smax
comp=N,200nm,0.7s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 7.09 281 *e*P **Pn 19 01 37.9 +2.7**
comp=Z,19nm,0.3s
JMP Maruseppu 7.09 257 P **Pn 19 01 37.8 +2.5**
JAR Ashorobuto 7.10 250 P **Pn 19 01 36.9 +1.5**
JAR *e*S **Sn 19 02 54.1 -1.6**
JOB Onbets 7.24 247 P **Pn 19 01 37.9 +0.6**
JOB *e*S **Sn 19 02 56.2 -3.0**
JSE Soyaes 7.36 265 P **Pn 19 01 43.0 +4.0**
JKK2 Kamakawa 2 7.56 257 P **Pn 19 01 44.4 +2.8**
ASAJ Asahikawa 7.58 259 Pn **Pn 19 01 45.2 +3.3**
comp=Z,13nm,0.3s,baz=79,slow=21,SNR=47
ASAJ LR LR 19 04 31.8
comp=Z,491nm,18.7s,baz=112,slow=38
ASAJ Asahikawa 7.58 259 P **Pn 19 01 45.1 +3.2**
JCH Churui 7.69 247 P **Pn 19 01 43.1 -0.3**
JCH *e*S **Sn 19 03 04.9 -5.2**
JWK2 Keihoku 7.77 268 P **Pn 19 01 50.1 +5.5**
PET Petropavlovsk 7.89 26 *e*PN **Pn 19 01 46.2 0.0**
PET *e*S **Sn 19 03 08.8 -6.4**
JFR Furan 7.93 252 P **Pn 19 01 49.3 +2.5**
UGL Uglegorsk 7.95 296 *e*P **Pn 19 01 49.0 +2.0**
UGL AMB AMB 19 01 51.0
comp=Z,49nm,0.4s
UGL AMS AMS 19 04 56.0
comp=Z,600nm,16.0s
UGL AMS AMS 19 04 56.0
comp=Z,500nm,16.0s
UGL AMS AMS 19 04 56.0
comp=Z,450nm,17.0s
JAB Ashibetsu 8.04 255 P **Pn 19 01 50.3 +2.0**
ERM Erimo 8.13 244 *e*PN **Pn 19 01 48.6 -0.9**
ERM Erimo 8.13 244 *e*P **Pn 19 01 50.9 +1.4**
comp=Z,77nm,0.5s
JEM Erimo 8.13 244 P **Pn 19 01 50.8 +1.3**
JNBK Urakawa-nobuka 8.24 246 P **Pn 19 01 50.6 -0.4**
JNBK *e*S **Sn 19 03 18.4 -5.4**
JBT2 Biratori 2 8.25 250 P **Pn 19 01 51.8 +0.6**
TYV Tymovskoe 8.35 309 *e*P **Pn 19 01 54.0 +1.5**
TYV AMB AMB 19 02 03.0
comp=Z,15nm,0.8s
TYV AMB AMB 19 02 03.0
comp=Z,34nm,0.8s
JEW Eniwo 8.83 253 P **Pn 19 02 01.4 +2.3**
JNB Noboribetsu 9.27 251 P **Pn 19 02 05.5 +0.4**
JKB Kayabe 9.55 248 P **Pn 19 02 08.4 -0.5**
JKB *e*S **Sn 19 03 48.9 -7.0**
JSH Shimam 9.85 254 P **Pn 19 02 15.0 +1.9**
JYM2 Yakumo 2 9.87 251 P **Pn 19 02 13.5 +0.2**
JANG Nango 10.09 240 P **Pn 19 02 13.6 -2.8**
JANG *e*S **Sn 19 03 58.8 -10**
JTM Tenmabayashi 10.12 243 P **Pn 19 02 15.6 -1.1**
JTM *e*S **Sn 19 04 00.1 -10**
JSR Shiriuchi 10.12 248 P **Pn 19 02 15.7 -1.1**
JTH Tanohata 10.16 237 P **Pn 19 02 14.6 -2.7**
JTH *e*S **Sn 19 03 59.3 -12**
JOSM Okushiri--Mats 10.48 252 P **Pn 19 02 22.0 +0.4**
NKL Nikolayevsk 10.65 316 *e*P **Pn 19 02 24.0 0.0**
NKL AMB AMB 19 02 27.3
comp=Z,43nm,1.0s
NKL *e*L 19 05 34.0
NKL AMS AMS 19 07 20.0
comp=Z,1µm,14.0s
NKL AMS AMS 19 07 20.0
comp=Z,1µm,14.0s
OFUJ Ofunato 10.85 234 P **Pn 19 02 24.3 -2.4**
OFUJ *e*S **Sn 19 04 16.9 -11**
JRG Rokugo 11.23 238 P **Pn 19 02 30.1 -1.9**
JRG *e*S **Sn 19 04 28.8 -10**
JIO Ouri 11.46 233 P **Pn 19 02 32.8 -2.4**
JIO *e*S **Sn 19 04 29.8 -13**
HABR Khabarovsk 12.39 288 *e*PN **Pn 19 02 55.4 +7.5**
HABR S **Sn 19 05 13.4 +7.8**
JFK Kawauchi 12.51 230 P **Pn 19 02 47.6 -1.9**
JFK *e*S **Sn 19 04 56.7 -12**
JFY Yanaizu 13.12 233 P **Pn 19 02 56.9 -0.9**
MAJO Matsushiro 14.58 234 *e*P **Pn 19 03 14.1 -3.6**
MAT Matsushiro 14.58 234 P **Pn 19 03 15.3 -2.4**
MJAR Matsushiro Arr 14.58 234 Pn **Pn 19 03 15.8 -1.9**
comp=Z,0.3nm,0.3s,baz=26,slow=14,SNR=7.7
MJAR Matsushiro Arr 14.58 234 Pn **Pn 19 03 15.8 -1.9**
KLR Kul'dur 14.62 290 *e*P **Pn 19 03 16.7 -1.6**
VLA Vladivostok 15.28 266 P **Pn 19 03 27.0 -0.1**
VLA MLR MLR
comp=Z,400nm,19.2s
MDJ Mudanjiang 16.47 273 P **Pn 19 03 43.5 +0.9**
MDJ S **Sn 19 06 46.5 +1.4**
MDJ AMB AMB
comp=Z,19nm,1.0s
MDJ AMB AMB
comp=Z,143nm,5.1s
MDJ LR LR
comp=E,115nm,21.9s
MDJ LR LR
comp=Z,162nm,19.9s
MDJ Mudanjiang 16.47 273 *e*P **Pn 19 03 42.7 +0.1**
comp=Z,27nm,1.0s
ZEA Zeya 18.17 304 *e*P **Pn 19 04 04.2 +0.5**
ZEA AMB AMB 19 04 05.1
comp=Z,12nm,1.0s
CN2 Changchun 19.56 273 *e*P **Pn 19 04 20.0 -0.6**
CN2 *e*AP pP 19 04 23.8 +0.1
CN2 *e*S **Sn 19 07 51.5 -8.3**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
CLNS Chul'man 20.39 312 *e*P **P 19 04 26.8 -1.4**
CLNS pmax pmax
comp=Z,15nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS MLR MLR
comp=Z,400nm,16.0s,MS3.9
CLNS MLR MLR
comp=N,100nm,15.0s
KSRS Korea Array 20.49 254 P **P 19 04 28.6 -0.7**
comp=N,2.3nm,0.7s,baz=62,slow=10.0,SNR=5.9
KSRS LR LR 19 11 40.6
comp=N,110nm,18.2s,MS3.3,baz=55,slow=35
YAK Yakutsk 20.84 328 *e*P **P 19 04 31.8 -1.3**
YAK pmax pmax
comp=Z,23nm,0.5s
YAK Yakutsk 20.84 328 *e*P **P 19 04 31.1 -2.0**
comp=Z,34nm,0.6s
JNU Nakatsue 21.27 240 P **P 19 04 38.6 +0.8**
comp=Z,20nm,1.0s,mb4.4,baz=242,slow=12,SNR=2.6
BILL Bilibino 23.09 13 *e*P **P 19 04 57.4 +0.3**
BILL pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
BILL Bilibino 23.09 13 *e*P **P 19 04 57.4 +0.2**
comp=Z,5.5nm,0.6s,mb4.2
BOD Bodaibo 26.34 311 *e*P **P 19 05 24.1 -3.2**
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb3.8
BJI Beijing 27.36 271 *e*P **P 19 05 38.8 +2.3**
BJI S **S 19 10 21.0 +5.2**
BJI AMB AMB
comp=Z,15nm,0.9s,mb4.5
BJI LR LR
comp=E,290nm,15.0s
BJI LR LR
comp=Z,163nm,16.7s,MS3.7
BJI Beijing 27.36 271 *e*P **P 19 05 38.8 +2.3**
comp=Z,15nm,0.9s,mb4.5
BJI S **S 19 10 21.1 +5.3**
BJI LR LR
comp=Z,160nm,16.7s,MS3.7
BJT Baijiatuan 27.37 271 *e*P **P 19 05 38.6 +2.0**
NJ2 Nanjing 29.69 254 *e*P **P 19 05 59.0 +1.8**
NJ2 AP pP 19 06 04.0 +1.9
NJ2 XP sP 19 06 07.5 +3.4
NJ2 PP PP 19 06 54.5 -10
NJ2 S **S 19 10 53.0 +0.6**
NJ2 XS sS 19 11 02.0 +1.6
NJ2 AMB AMB
comp=Z,740nm,5.4s
NJ2 LR LR
comp=N,750nm,15.6s,MS4.6
NJ2 LR LR
comp=E,630nm,13.5s,MS4.6
NJ2 LR LR
comp=Z,470nm,14.4s,MS4.3
HHC Hu-ho-hao-te 30.23 275 *e*P **P 19 06 02.5 +0.5**
HHC PP PP 19 07 00.5 -10
HHC PCP PcP 19 09 05.3 +2.7
HHC S **S 19 10 59.3 -1.6**
HHC SS SS 19 12 36.5 -33
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,150nm,5.5s
HHC LR LR
comp=N,161nm,14.3s,MS4.1
HHC LR LR
comp=E,244nm,13.7s,MS4.1
HHC LR LR
comp=Z,231nm,17.7s,MS3.9
ULN Ulaanbaatar 31.02 290 *e*P **P 19 06 07.2 -1.8**
ULN Ulaanbaatar 31.02 290 *e*P **P 19 06 08.4 -0.6**
comp=Z,4.1nm,1.1s,mb4.2
SONM Songino Array 31.46 290 P **P 19 06 11.7 -1.1**
comp=Z,0.7nm,0.4s,mb3.9,baz=81,slow=6.0,SNR=15
SONM LR LR 19 19 17.4
comp=Z,128nm,20.2s,MS3.6,baz=49,slow=37
IMA2 Indian Mountai 34.43 35 *e*P **P 19 06 39.2 +0.3**
XAN Xi'an 35.35 266 P **P 19 06 46.8 +0.1**
XAN AP pP 19 06 53.0 +1.4
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
LZH Lanzhou 37.80 273 *e*P **P 19 07 09.3 +1.7**
LZH AP pP 19 07 13.5 +0.9
LZH XP sP 19 07 16.5 +2.0
LZH AMB AMB
comp=Z,40nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,143nm,4.5s
LZH Lanzhou 37.80 273 *e*P **P 19 07 09.2 +1.6**
LZH *SP sP 19 07 16.5 +2.0
LZH pmax pmax
comp=Z,40nm,1.2s,mb5.0
LZH Lanzhou 37.80 273 *e*P **P 19 07 09.2 +1.6**
comp=Z,40nm,1.2s,mb5.0
LZH pP pP 19 07 13.4 +0.8
LZH sP sP 19 07 16.5 +2.0
GTA Gaotai 38.97 280 *e*P **P 19 07 18.3 +0.8**
GTA AP pP 19 07 23.8 +1.4
GTA PP PP 19 08 52.5 +5.7
GTA PCP PcP 19 09 28.8 +1.0
GTA S **S 19 13 16.8 +1.3**
GTA XS sS 19 13 24.0 +0.4
GTA SS SS 19 16 00.3 -7.1
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.3
GTA AMB AMB
comp=Z,202nm,4.6s
GTA LR LR
comp=N,135nm,14.5s,MS3.9
GTA LR LR
comp=E,92nm,18.3s,MS3.9
GTA LR LR
comp=Z,138nm,15.2s,MS3.9
CD2 Chengdu 40.71 266 *e*P **P 19 07 32.5 +0.5**
CD2 AP pP 19 07 37.0 +0.1
CD2 XP sP 19 07 39.5 +0.6
CD2 PP PP 19 09 09.5 +3.7
CD2 S **S 19 13 40.0 -1.6**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,190nm,13.2s,MS4.3
CD2 LR LR
comp=E,280nm,16.8s,MS4.3
CD2 LR LR
comp=Z,150nm,14.4s,MS4.0
GYA Guiyang 41.46 258 P **P 19 07 39.8 +1.7**
GYA AP pP 19 07 43.8 +0.7
GYA XP sP 19 07 46.5 +1.5
GYA PP PP 19 09 18.8 +4.9
GYA PCP PcP 19 09 39.5 +3.7
GYA S **S 19 13 53.8 +1.1**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,340nm,15.8s,MS4.5
GYA LR LR
comp=E,410nm,15.6s,MS4.5
GYA LR LR
comp=Z,390nm,15.4s,MS4.4
INK Inuvik 42.30 32 P **P 19 07 45.6 +0.6**
comp=Z,2.3nm,0.4s,mb4.1,baz=295,slow=7.4,SNR=22
INK Inuvik 42.30 32 *e*P **P 19 07 44.2 -0.8**
comp=Z,136nm,0.6s
ZAL Zalesovo 42.94 306 P **P 19 07 48.5 -1.7**
comp=Z,2.0nm,0.4s,mb4.2,baz=83,slow=4.4,SNR=7.4
ZAL PcP PcP 19 09 40.5 -0.1
comp=Z,1.1nm,0.5s,baz=313,slow=0.7,SNR=4.5
ZAL LR LR 19 27 26.9
comp=Z,354nm,18.1s,MS4.3,baz=35,slow=39
ZAL Zalesovo 42.94 306 P **P 19 07 48.5 -1.7**
ZAL 19 09 40.5
KMI Kunming 45.01 260 P **P 19 08 08.0 +1.2**
KMI AP pP 19 08 14.0 +2.2
KMI XP sP 19 08 17.5 +3.8
KMI PP PP 19 09 52.3 +0.3
KMI PPP 19 10 31.5
KMI S **S 19 14 47.0 +2.3**
KMI SS SS 19 18 02.0 -4.6
KMI SSS 19 18 51.0
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,132nm,5.1s
KMI LR LR
comp=N,118nm,18.8s,MS4.0
KMI LR LR
comp=E,98nm,17.8s,MS4.0
KMI LR LR
comp=Z,91nm,18.8s,MS3.7
KMI Kunming 45.01 260 P **P 19 08 08.1 +1.3**
KMI *SP sP 19 08 17.6 +3.9
KMI 19 09 52.2
KMI PPP 19 10 31.4
KMI S **S 19 14 47.0 +2.3**
KMI SS SS 19 18 01.9 -4.7
KMI SSS 19 18 51.0
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KMI MLR MLR
comp=Z,90nm,18.8s,MS3.7
KMI Kunming 45.01 260 P **P 19 08 08.1 +1.3**
comp=Z,7.0nm,1.0s,mb4.5
KMI pP pP 19 08 14.1 +2.3
KMI sP sP 19 08 17.6 +3.9
KMI PP PP 19 09 52.2 +0.2
KMI PPP 19 10 31.4
KMI S **S 19 14 47.0 +2.3**
KMI SS SS 19 18 01.9 -4.7
KMI SSS 19 18 51.0
KMI LR LR
comp=Z,90nm,18.8s,MS3.7
WMQ Urumqi 45.07 292 ⇑ P **P 19 08 08.3 +1.0**
WMQ AP pP 19 08 12.8 +0.5
WMQ XP sP 19 08 15.3 +1.1
WMQ PCP PcP 19 09 51.0 +3.1
WMQ PP PP 19 09 53.8 +1.1
WMQ PPP 19 10 33.3
WMQ S **S 19 14 43.5 -2.1**
WMQ AMB AMB
comp=Z,8.0nm,0.4s,mb4.9
WMQ AMB AMB
comp=Z,91nm,4.0s
WMQ LR LR
comp=N,109nm,16.7s,MS3.9
WMQ LR LR
comp=E,66nm,18.7s,MS3.9
WMQ LR LR
comp=Z,57nm,17.7s,MS3.5
MK31 Makanchi Array 47.16 298 *i* P **P 19 08 22.2 -1.5**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
MK31 Makanchi Array 47.16 298 *e*P **P 19 08 21.8 -2.0**
MKAR Makanchi Array 47.16 298 P **P 19 08 22.4 -1.4**
comp=Z,1.7nm,0.4s,mb4.3,baz=64,slow=6.9,SNR=84
MKAR PcP PcP 19 09 55.1 -0.1
comp=Z,0.7nm,0.5s,baz=82,slow=1.3,SNR=5.3
MKAR LR LR 19 29 07.4
comp=Z,166nm,19.1s,MS4.0,baz=356,slow=37
MKAR Makanchi Array 47.16 298 P **P 19 08 22.4 -1.3**
MKAR 19 09 55.1
KURK Kurchatov 47.65 304 *e*P **P 19 08 25.1 -2.5**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KURK Kurchatov 47.65 304 *e*P **P 19 08 25.1 -2.5**
comp=Z,4.0nm,0.6s,mb4.6
LSA Lhasa 50.20 274 P **P 19 08 49.8 +2.7**
LSA Lhasa 50.20 274 *e*P **P 19 08 49.2 +2.1**
LSA pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
LSA Lhasa 50.20 274 *e*P **P 19 08 49.2 +2.1**
comp=Z,8.5nm,0.4s,mb5.1
BRVK Borovoye 51.25 310 *e*P **P 19 08 53.2 -1.8**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 51.25 310 *e*P **P 19 08 53.2 -1.8**
comp=Z,5.4nm,0.8s,mb4.5
YKA Yellowknife Ar 51.55 36 P **P 19 08 57.4 +0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=295,slow=6.9,SNR=8.1
YKA Yellowknife Ar 51.55 36 P **P 19 08 57.4 +0.2**
CHTO Chiang Mai 51.85 257 *e*P **P 19 09 00.7 +1.2**
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHTO Chiang Mai 51.85 257 *e*P **P 19 09 00.7 +1.1**
comp=Z,8.0nm,0.9s,mb4.7
AAK Ala-Archa 54.04 297 *e*P **P 19 09 13.7 -2.0**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK Ala-Archa 54.04 297 *e*P **P 19 09 13.7 -2.0**
comp=Z,6.1nm,0.9s,mb4.5
KSH Kashi 54.81 293 *e*P **P 19 09 23.3 +2.0**
KSH *e*AP pP 19 09 27.3 +0.9
KSH *e*XP sP 19 09 30.8 +2.5
KSH *e*PCP PcP 19 10 25.3 +1.7
KSH *e*PP PP 19 11 26.0 +1.9
KSH *e*SCP ScP 19 14 21.8 +0.4
KSH *e*S **S 19 16 59.8 -1.8**
KSH *e*XS sS 19 17 10.5 +0.6
KSH *e*PS 19 17 20.8
KSH *e*SCS ScS 19 19 08.0 -2.0
KSH *e*SS SS 19 20 42.0 -2.8
JIRN Jiri 54.89 275 *e*P **P 19 09 23.3 +1.4**
comp=Z,16nm,0.2s,mb5.6
GUN Gumba 54.95 275 *e*P **P 19 09 23.4 +1.1**
comp=Z,28nm,0.4s,mb5.6
KKN Kakani 55.44 276 *e*P **P 19 09 27.1 +1.3**
comp=Z,15nm,0.4s,mb5.4
ARU Arti 55.44 318 *e*P **P 19 09 23.6 -2.3**
ARU pmax pmax
comp=Z,11nm,0.4s,mb5.2
ARU Arti 55.44 318 *e*P **P 19 09 23.6 -2.2**
comp=Z,10nm,0.4s,mb5.2
PKI Pulchoki 55.48 275 *e*P **P 19 09 27.0 +0.8**
DMN Daman 55.67 276 *e*P **P 19 09 28.9 +1.4**
comp=Z,15nm,0.4s,mb5.4
GKN Gorkha 55.75 276 *e*P **P 19 09 29.1 +1.0**
comp=Z,24nm,0.5s,mb5.5
KK31 Karatay Array 56.23 299 *i* P **P 19 09 30.2 -1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KKAR Karatay Array 56.23 299 *i* P **P 19 09 30.2 -1.3**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KOLN Koldanda 56.61 277 *e*P **P 19 09 35.6 +1.4**
comp=Z,17nm,0.5s,mb5.3
KEV Kevo 57.95 341 *e*p **P 19 09 41.0 -2.7**
comp=Z,1.7nm,0.4s,mb4.4
KEV Kevo 57.95 341 *e*P **P 19 09 41.0 -2.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ARCES ARCESS Array B 58.46 341 P **P 19 09 45.9 -1.4**
comp=Z,1.6nm,0.4s,mb4.4,baz=40,slow=7.2,SNR=36
ARCES ARCESS Array B 58.46 341 P **P 19 09 45.9 -1.4**
AB31 Akbulak array 58.78 310 *e*P **P 19 09 47.8 -1.7**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
NVAR Mina Array Bea 62.86 62 P **P 19 10 18.7 +1.5**
comp=Z,0.8nm,0.7s,mb4.0,baz=301,slow=6.7,SNR=3.7
KAF Kangasniemi 64.02 335 *e*p **P 19 10 22.4 -2.5**
baz=37,slow=6.3
FINES FINESS Array B 64.61 335 P **P 19 10 27.1 -1.7**
comp=Z,3.3nm,0.4s,mb4.7,baz=36,slow=7.7,SNR=55
PDAR Pinedale Array 65.25 54 P **P 19 10 34.0 +1.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=222,slow=2.0,SNR=4.1
HYB Hyderabad 66.90 271 *i* P **P 19 10 44.0 +0.5**
HYB Hyderabad 66.90 271 *e*P **P 19 10 44.0 +0.5**
VRSR Storozhevoye 67.57 321 *e*P **P 19 10 46.5 -1.3**
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,20nm,1.0s
WRA Warramunga Arr 67.83 199 P **P 19 10 49.6 +0.2**
comp=E,1.4nm,0.8s,mb4.1,baz=15,slow=6.7,SNR=9.3

WRA	**Warramunga Arr**	**67.83**	**199**	*i* P		**P**	**19 10 49.5**	**+0.1**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
NB2	**NORSAR Subarra**	**68.84**	**341**	P		**P**	**19 10 54.7**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.6,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.84**	**341**	P		**P**	**19 10 54.9**	**-0.9**
	comp=Z,6.9nm,0.5s,mb4.8,baz=28,slow=6.4,SNR=26							
ASAR	**Alice Springs**	**71.52**	**198**	P		**P**	**19 11 13.3**	**+1.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=12,slow=6.0,SNR=14							
SUW	**Suwalki**	**71.54**	**331**	*e*P		**P**	**19 11 11.8**	**-0.5**
AKASG	**Malin Array Be**	**72.05**	**326**	P		**P**	**19 11 14.1**	**-1.3**
	comp=Z,2.5nm,0.3s,mb4.6,baz=35,slow=6.1,SNR=20							
AKBB	**Malin Array Si**	**72.05**	**326**	*e*P		**P**	**19 11 13.9**	**-1.5**
KIEV	**Kiev**	**72.06**	**326**	*e*P		**P**	**19 11 12.4**	**-3.1**
KIEV					pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
KIEV	**Kiev**	**72.06**	**326**	*e*P		**P**	**19 11 12.4**	**-3.1**
	comp=Z,10.0nm,0.7s,mb4.8							
GNI	**Garni**	**72.89**	**310**	LR		LR	19 47 17.6	
	comp=Z,100nm,18.6s,MS4.1,baz=332,slow=39							
KWP	**Kalwaria**	**75.35**	**329**	*e*P		**P**	**19 11 35.0**	**+0.2**
OJC	**Ojcow**	**75.86**	**331**	*e*P		**P**	**19 11 37.3**	**-0.4**
STHS	**Stebnicka Huta**	**76.05**	**330**	*i* P		**P**	**19 11 39.2**	**+0.4**
STHS				*e*			19 11 46.8	
STHS					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
STHS	**Stebnicka Huta**	**76.05**	**330**	*i* P		**P**	**19 11 39.2**	**+0.4**
	comp=Z,9.2nm,0.8s,mb4.8							
STHS				*e*		pP	19 11 42.4	-1.6
STHS				*e*			19 11 46.8	
KOLS	**Kolonicke sedl**	**76.09**	**329**	*e*P		**P**	**19 11 38.6**	**-0.4**
BURAR	**Bucovina Array**	**76.10**	**327**	⇓*i*P		**P**	**19 11 38.8**	**-0.2**
BURAR	**Bucovina Array**	**76.10**	**327**	⇓P		**P**	**19 11 38.8**	**-0.2**
NIE	**Niedzica**	**76.37**	**330**	*e*P		**P**	**19 11 41.3**	**+0.7**
NRDL	**Niedersach Rie**	**76.78**	**338**	*e*P		**P**	**19 11 41.5**	**-1.4**
DPC	**Dobruska-Polom**	**76.89**	**333**	*e*P		**P**	**19 11 43.8**	**+0.3**
VRI	**Vrincioaia**	**76.94**	**325**	⇑*i*P		**P**	**19 11 45.0**	**+1.2**
VRI	**Vrincioaia**	**76.94**	**325**	⇑P		**P**	**19 11 45.0**	**+1.2**
PLOR	**Plostina**	**76.98**	**325**	⇑*i*P		**P**	**19 11 45.5**	**+1.5**
MORC	**Moravsky Berou**	**76.99**	**332**	⇑*i*P		**P**	**19 11 43.9**	**-0.2**
MORC	**Moravsky Berou**	**76.99**	**332**	⇑P		**P**	**19 11 43.9**	**-0.2**
CLL	**Collm**	**77.04**	**336**	*e*P		**P**	**19 11 43.1**	**-1.3**
CLL	**Collm**	**77.04**	**336**	*i* P		**P**	**19 11 43.8**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0							
CLL				*e*		pP	19 11 47.0	-2.6
CLL	**Collm**	**77.04**	**336**	*i* P		**P**	**19 11 43.8**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0							
CLL				*e*pP		pP	19 11 47.0	-2.6
CLL				*i* pPcP			19 11 56.4	
	comp=Z,8.0nm,0.9s							
KECS	**Kecovo**	**77.11**	**330**	*e*P		**P**	**19 11 44.2**	**-0.6**
KECS				*e*pP		pP	19 11 49.3	-0.7
KECS	**Kecovo**	**77.11**	**330**	*e*P		**P**	**19 11 44.3**	**-0.5**
KECS				*e*		pP	19 11 49.3	-0.7
KECS					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
KECS	**Kecovo**	**77.11**	**330**	*e*P		**P**	**19 11 44.3**	**-0.5**
	comp=Z,4.6nm,1.1s,mb4.3							
KECS				*e*		pP	19 11 49.3	-0.7
BRG	**Berggiesshubel**	**77.15**	**335**	*e*P		**P**	**19 11 45.6**	**+0.6**
BRG	**Berggiesshubel**	**77.15**	**335**	*e*P		**P**	**19 11 44.6**	**-0.4**
	comp=Z,2.7nm,1.1s,mb4.1							
BRG	**Berggiesshubel**	**77.15**	**335**	*e*P		**P**	**19 11 44.6**	**-0.4**
BRG					pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1							
CLZ	**Clausthal**	**77.30**	**337**	*e*P		**P**	**19 11 44.3**	**-1.5**
MALT	**Malatya**	**77.53**	**313**	⇑*i*P		**P**	**19 11 48.6**	**+1.5**
MALT	**Malatya**	**77.53**	**313**	⇑P		**P**	**19 11 48.6**	**+1.5**
MLR	**Muntele Rosu**	**77.56**	**325**	⇓*i*P		**P**	**19 11 47.6**	**+0.3**
MLR	**Muntele Rosu**	**77.56**	**325**	⇓P		**P**	**19 11 47.6**	**+0.4**
VYHS	**Vyhne**	**77.67**	**331**	*e*P		**P**	**19 11 47.9**	**0.0**
VYHS				*e*pP		pP	19 11 52.1	-1.0
DRGR		**77.73**	**328**	⇑*i*P		**P**	**19 11 48.4**	**+0.2**
DRGR		**77.73**	**328**	⇑P		**P**	**19 11 48.4**	**+0.2**
PRU	**Pruhonice**	**77.75**	**334**	*e*P		**P**	**19 11 49.7**	**+1.3**
TXAR	**Lajitas Array**	**77.93**	**60**	P		**P**	**19 11 50.2**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=305,slow=4.5,SNR=12							
TXAR	**Lajitas Array**	**77.93**	**60**	P		**P**	**19 11 50.2**	**+0.8**
MOX	**Moxa**	**78.03**	**336**	*e*P		**P**	**19 11 50.7**	**+0.8**
STKA	**Stephens Creek**	**78.25**	**190**	LR		LR	19 47 16.2	
	comp=Z,47nm,19.2s,MS3.8,baz=204,slow=36							
ZST	**Bratislava**	**78.51**	**332**	*e*P		**P**	**19 11 58.0**	**+5.4**
KHC	**Kasperske Hory**	**78.81**	**334**	*e*P		**P**	**19 11 54.3**	**+0.1**
KHC	**Kasperske Hory**	**78.81**	**334**	⇑*i*P		**P**	**19 11 54.0**	**-0.2**
BR131	**Keskin Array S**	**78.81**	**317**	*e*P		**P**	**19 11 54.5**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.5							
BRTR	**Keskin Array B**	**78.81**	**317**	P		**P**	**19 11 55.0**	**+0.8**
	comp=Z,5.6nm,1.0s,mb4.5,baz=48,slow=3.7,SNR=17							
MIB	**Mutribah**	**78.92**	**301**	*e*P		**P**	**19 11 55.1**	**+0.3**
MIB				AMb		AMB	19 11 56.8	
	comp=Z,42nm,0.5s,mb5.6							
GRA1	**Grafenberg Arr**	**79.00**	**336**	*e*P		**P**	**19 11 55.6**	**+0.4**
	comp=Z,9.0nm,0.7s,mb4.8							
GRF	**Grafenberg Arr**	**79.00**	**336**	*e*P		**P**	**19 11 55.6**	**+0.4**
	comp=Z,9.0nm,0.7s,mb4.8							
GRF	**Grafenberg Arr**	**79.00**	**336**	*e*P		**P**	**19 11 55.6**	**+0.4**
GRF					pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8							
GRF	**Grafenberg Arr**	**79.00**	**336**	*e*P		**P**	**19 11 55.6**	**+0.4**
GRF					pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8							
WET	**Wettzell**	**79.00**	**335**	*e*P		**P**	**19 11 55.6**	**+0.3**
GERES	**GERESS Array B**	**79.02**	**334**	P		**P**	**19 11 55.2**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=35,slow=5.8,SNR=27							
CONA	**Conrad Observa**	**79.15**	**332**	⇑*i*P		**P**	**19 11 56.5**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.2							
TNS	**Taunus Mts**	**79.28**	**338**	*e*P		**P**	**19 11 56.4**	**-0.4**
NAY	**Al-Naaiem**	**79.38**	**301**	*e*P		**P**	**19 11 57.4**	**0.0**
NAY				AMb		AMB	19 11 59.4	
	comp=Z,14nm,0.8s,mb5.0							
RDF	**Al-Radifah**	**79.44**	**301**	*e*P		**P**	**19 11 57.9**	**+0.2**
RDF				AMb		AMB	19 12 00.9	
	comp=Z,39nm,0.7s,mb5.5							
PKSM	**Moragy**	**79.70**	**330**	⇑*i*P		**P**	**19 11 58.2**	**-0.9**
PKSM	**Moragy**	**79.70**	**330**	⇑P		**P**	**19 11 58.1**	**-0.9**
FUR	**Furstenfeldbru**	**80.36**	**335**	*e*P		**P**	**19 12 04.1**	**+1.5**
WLF	**Walferdange**	**80.39**	**339**	*e*P		**P**	**19 12 02.8**	**0.0**
BFO	**Black Forest**	**81.04**	**337**	*e*P		**P**	**19 12 05.9**	**-0.4**
WTTA	**Wattenberg**	**81.06**	**334**	⇓*i*P		**P**	**19 12 07.3**	**+0.9**
	comp=Z,19nm,1.0s,mb5.0							
WTTA	**Wattenberg**	**81.06**	**334**	⇓*i*P		**P**	**19 12 07.3**	**+0.9**
WTTA					pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0							
VTS	**Vitosha**	**81.07**	**325**	⇓*i*P		**P**	**19 12 06.8**	**+0.4**
VTS	**Vitosha**	**81.07**	**325**	⇓P		**P**	**19 12 06.8**	**+0.4**
MOTA	**Moosalm**	**81.14**	**335**	⇑*i*P		**P**	**19 12 07.0**	**+0.2**
	comp=Z,7.0nm,0.9s,mb4.6							
MOTA	**Moosalm**	**81.14**	**335**	⇑*i*P		**P**	**19 12 07.0**	**+0.2**
MOTA					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**19 12 06.8**	**-0.6**
	comp=Z,15nm,0.9s,mb4.6							
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**19 12 06.8**	**-0.6**
CDF					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**19 12 06.8**	**-0.6**
	comp=Z,7.4nm,0.9s,mb4.6							
ASF	**Jabal al Asfar**	**83.05**	**310**	LR		LR	19 52 51.6	
	comp=Z,40nm,18.2s,MS3.8,baz=44,slow=38							
MMAI	**Mount Meron Ar**	**83.18**	**311**	LR		LR	19 54 43.1	
	comp=Z,82nm,18.0s,MS4.2,baz=60,slow=40							
GRR	**Gorron**	**83.19**	**343**	*e*P		**P**	**19 12 17.1**	**-0.5**
	comp=Z,25nm,1.1s,mb4.9							
GRR	**Gorron**	**83.19**	**343**	*e*P		**P**	**19 12 17.1**	**-0.5**
GRR					pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8							
GRR	**Gorron**	**83.19**	**343**	*e*P		**P**	**19 12 17.1**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8							
SMF	**Signal de Mont**	**83.77**	**339**	*e*P		**P**	**19 12 20.3**	**-0.2**
	comp=Z,44nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**83.77**	**339**	*e*P		**P**	**19 12 20.3**	**-0.2**
SMF					pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2							
SMF	**Signal de Mont**	**83.77**	**339**	*e*P		**P**	**19 12 20.3**	**-0.2**
	comp=Z,22nm,1.2s,mb5.2							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**19 12 22.7**	**+0.6**
	comp=Z,8.5nm,0.8s,mb4.6							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**19 12 22.7**	**+0.6**
LPG					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**19 12 22.7**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.6							
CAF	**Calviac**	**85.81**	**340**	*e*P		**P**	**19 12 30.0**	**-0.8**
EIL	**Elat**	**86.04**	**310**	*e*P		**P**	**19 12 32.8**	**+0.8**
	comp=Z,140nm,0.9s							

TORD	**Torodi Ar. Bea**	**115.62**	**329**	PKP		PKPdf	19 18 32.9	-0.6
	comp=Z,0.3nm,0.5s,baz=16,slow=1.7,SNR=3.5							
VNA2	**Neumayer--Watz**	**153.31**	**194**	*e*PKPdf		PKiKP	19 19 55.5	+6.0
VNA2				*e*			19 20 05.5	
VNA2				*e*			19 20 12.4	
VNA3	**Neumayer Olymp**	**153.40**	**192**	*e*PKPdf		PKiKP	19 19 55.3	+5.6
VNA3				*e*			19 20 04.2	
VNA3				*e*			19 20 13.8	

IDC ***29*** *19:19:16.5±0.7, 47.16N×152.82E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=24.1km s-min=18.4km az=122.0*
ISCJB ***29*** *19:19:26.3±1.3, 47.1N±0.1×152.7E±0.2, h93km±12km, mb3.7/10, Error ellipse: s-maj=24.2km s-min=9.5km az=95.5*
MOS ***29*** *19:19:26.0±1.3, 47.11N×152.63E, h91km, mb4.0/5, Error ellipse: s-maj=23.8km s-min=12.6km az=58.5*

ISC 29 19:19:27.9±1.2, 47.1N±0.1×152.7E±0.2, h93km±11km, n22, σ0.9 94/24, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**242**	*e*PN		**Pn**		**19 20 21.0**	**-3.7**
KUR						*e*S	**Sn**	**19 21 08.0**	**-0.8**
KUR					pmax	pmax			
	comp=Z,100nm,0.7s								
KUR					smax				
	comp=N,430nm,0.8s								
KUR					smax				
	comp=E,390nm,0.8s								
SKR	**Severo-Kuril's**	**4.22**	**31**	*e*PN		**Pn**		**19 20 30.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**5.69**	**240**	PN		**Pn**		**19 20 49.9**	**0.0**
YUK						*e*S	**Sn**	**19 21 57.2**	**+3.3**
YUK					smax				
	comp=N,180nm,0.5s								
YUK					smax				
	comp=E,190nm,0.5s								
ASAJ	**Asahikawa**	**7.68**	**251**	Pn		**Pn**		**19 21 18.7**	**+1.8**
	comp=E,1.0nm,0.3s,baz=86,slow=19,SNR=6.3								
ASAJ						LR	LR	19 23 43.8	
	comp=E,61nm,19.4s,baz=62,slow=34								
MJAR	**Matsushiro Arr**	**15.08**	**231**	Pn		**Pn**		**19 22 53.7**	**-2.1**
	comp=E,0.2nm,0.3s,baz=44,slow=12,SNR=3.4								
KSRS	**Korea Array**	**20.63**	**251**	P		**P**		**19 23 59.2**	**-0.5**
	comp=E,1.5nm,0.6s,baz=54,slow=12,SNR=5.1								
SONM	**Songino Array**	**30.93**	**289**	P		**P**		**19 25 36.5**	**+0.7**
	comp=E,0.3nm,0.8s,baz=32,slow=5.6,SNR=2.3								
YKA	**Yellowknife Ar**	**50.80**	**37**	P		**P**		**19 28 17.9**	**-0.8**
	comp=E,0.4nm,0.4s,mb3.8,baz=298,slow=7.0,SNR=6.0								
ARCES	**ARCESS Array B**	**57.40**	**341**	P		**P**		**19 29 06.7**	**+0.1**
	comp=E,1.1nm,0.9s,mb3.9,baz=39,slow=7.6,SNR=4.7								
ARCES	**ARCESS Array B**	**57.40**	**341**	P		**P**		**19 29 06.7**	**+0.1**
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.9s								
FINES	**FINESS Array B**	**63.57**	**334**	P		**P**		**19 29 48.9**	**+0.4**
	comp=Z,2.5nm,0.9s,mb4.0,baz=46,slow=8.2,SNR=7.9								
FINES	**FINESS Array B**	**63.57**	**334**	P		**P**		**19 29 48.9**	**+0.3**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
PDAR	**Pinedale Array**	**64.77**	**54**	P		**P**		**19 29 56.4**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=297,slow=2.2,SNR=4.9								
NOA	**NORSAR Array B**	**67.77**	**341**	P		**P**		**19 30 15.5**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.0,baz=25,slow=6.4,SNR=3.8								
NOA	**NORSAR Array B**	**67.77**	**341**	P		**P**		**19 30 15.5**	**-0.1**
NOA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
WRA	**Warramunga Arr**	**68.77**	**199**	P		**P**		**19 30 21.9**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=16,slow=6.7,SNR=7.9								
AKASG	**Malin Array Be**	**71.06**	**326**	P		**P**		**19 30 35.5**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.7,baz=33,slow=5.8,SNR=6.6								
ASAR	**Alice Springs**	**72.47**	**198**	P		**P**		**19 30 45.6**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.7,baz=12,slow=5.4,SNR=12								
ASAR	**Alice Springs**	**72.47**	**198**	P		**P**		**19 30 45.6**	**+1.3**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**77.57**	**60**	P		**P**		**19 31 14.0**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=302,slow=4.4,SNR=17								
TXAR	**Lajitas Array**	**77.57**	**60**	P		**P**		**19 31 14.0**	**+0.4**
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
GERES	**GERESS Array B**	**77.98**	**334**	P		**P**		**19 31 15.2**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.3,baz=34,slow=5.5,SNR=3.8								

IDC ***29*** *19:32:04.8±2.1, 22.98N×144.29E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.8/24, mbtmp3.8/11, ML3.4/1, Error ellipse: s-maj=88.4km s-min=15.2km az=76.0*
NEIC ***29*** *19:32:07.0±1.3, 22.95N×144.07E, h10km, mb4.5/1, Error ellipse: s-maj=56.8km s-min=10.7km az=75.0*
ISCJB ***29*** *19:32:08.5±1.6, 23.0N±0.1×144.1E±0.5, h35km, mb3.8/9, Error ellipse: s-maj=67.6km s-min=8.0km az=151.7*

ISC 29 19:32:10.2±1.6, 23.0N±0.1×144.2E±0.5, h35km, n14, σ0.5 75/15, mb3.8/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.44**	**336**	Pn		**Pn**		**19 33 14.9**	**-0.1**
	4.1nm,0.3s,baz=195,slow=16,SNR=2.9								
CBIJ						Sn	**Sn**	**19 34 04.3**	**-1.3**
	14nm,0.3s,baz=282,slow=23,SNR=6.1								
KSRS	**Korea Array**	**20.07**	**319**	P		**P**		**19 36 41.6**	**+1.1**
	0.9nm,0.8s,baz=152,slow=8.7,SNR=3.1								
SONM	**Songino Array**	**38.94**	**319**	P		**P**		**19 39 33.6**	**+0.9**
	0.2nm,0.5s,mb3.1,baz=133,slow=7.2,SNR=4.4								
CTA	**Charters Tower**	**42.91**	**177**	P		**P**		**19 40 05.5**	**+0.2**
	1.9nm,0.4s,mb4.1,baz=344,slow=9.5,SNR=5.6								
CTA	**Charters Tower**	**42.91**	**177**	P		**P**		**19 40 05.5**	**+0.1**
CTAO	**Charters Tower**	**42.91**	**177**	*e*P		**P**		**19 40 06.5**	**+1.2**
	13nm,1.4s,mb4.5								
WB2	**Warramunga Arr**	**43.79**	**193**	*e*P		**P**		**19 40 12.4**	**0.0**
WRA	**Warramunga Arr**	**43.79**	**193**	P		**P**		**19 40 12.7**	**+0.2**
	0.4nm,0.3s,mb3.6,baz=16,slow=9.1,SNR=12								
FITZ	**Fitzroy Crossi**	**44.74**	**206**	P		**P**		**19 40 19.9**	**-0.1**
	1.8nm,0.9s,mb3.9,baz=23,slow=6.4,SNR=2.5								
ASAR	**Alice Springs**	**47.49**	**193**	P		**P**		**19 40 40.0**	**-1.7**
	0.2nm,0.6s,mb3.2,baz=16,slow=8.9,SNR=5.0								
MKAR	**Makanchi Array**	**54.51**	**312**	P		**P**		**19 41 34.6**	**+0.2**
	0.3nm,0.4s,mb3.7,baz=89,slow=9.1,SNR=8.6								
STKA	**Stephens Creek**	**54.66**	**183**	P		**P**		**19 41 35.0**	**-0.5**
	1.6nm,0.8s,mb4.1,baz=11,slow=5.2,SNR=4.1								
BVAR	**Borovoye Array**	**62.29**	**319**	P		**P**		**19 42 29.2**	**+0.5**
	1.3nm,0.5s,mb4.4,baz=98,slow=7.4,SNR=10								
FINES	**FINESS Array B**	**82.39**	**335**	P		**P**		**19 44 28.7**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=46,slow=5.5,SNR=4.8								

IDC 29 19:44:08.9±5.5, 3134S×179.19W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, Error ellipse: s-maj=241.7km s-min=53.1km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.05**	**269**	P		P		19 52 01.9	-0.3
	0.4nm,0.7s,baz=107,slow=7.9,SNR=7.0								
WRA	**Warramunga Arr**	**43.12**	**274**	P		P		19 52 11.6	+0.7
	0.8nm,0.5s,baz=114,slow=7.8,SNR=21								
ARCES	**ARCESS Array B**	**139.28**	**347**	PKP		PKPdf		20 03 37.6	-0.3
	2.8nm,1.0s,baz=11,slow=1.2,SNR=5.6								
FINES	**FINESS Array B**	**145.66**	**339**	PKPbc		PKPbc		20 03 47.6	-1.8
	1.4nm,0.8s,baz=47,slow=3.9,SNR=7.0								

IDC ***29*** *19:52:08.2±1.0, 67.65N×131.01E, h0km, mb4.2/3, mb1 4.6/7, mb1mx4.3/14, mbtmp4.5/7, ML4.6/4, Error ellipse: s-maj=49.8km s-min=19.3km az=71.0*
NEIC ***29*** *19:52:09.8±0.6, 67.79N×131.04E, h10km, mb4.7/2, Error ellipse: s-maj=18.6km s-min=9.3km az=74.0*
ISCJB ***29*** *19:52:18.7±1.5, 7.16S±0.006×130.8E±0.1, h115km±16km, mb4.5/10, Error ellipse: s-maj=20.8km s-min=7.5km az=146.9*

ISC 29 19:52:17.2±2.6, 71S±0.1×130.98E±0.10, h81km±29km, n27, σ1.9 20/35, mb4.5/10, 2D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.74**	**166**	⇓*i*P		**Pn**		**19 53 43.2**	**+3.3**
	55nm,0.3s								
KAKA						*e*S	**Sn**	**19 54 49.5**	**+5.1**
FITZ	**Fitzroy Crossi**	**12.10**	**205**	*e*P		**Pn**		**19 55 08.1**	**+1.6**
	35nm,0.3s								
FITZ						*e*S	**Sn**	**19 57 16.0**	**-3.5**
FITZ	**Fitzroy Crossi**	**12.10**	**205**	Pn		**Pn**		**19 55 08.1**	**+1.6**
	6.7nm,0.3s,baz=37,slow=12,SNR=144								
FITZ						Sn	**Sn**	**19 57 18.7**	**-0.8**
	4.2nm,0.3s,baz=190,slow=19,SNR=11								
WRAB	**Tennant Creek**	**13.15**	**166**	*e*P		**Pn**		**19 55 19.9**	**-0.7**
	30nm,0.6s								
WRA	**Warramunga Arr**	**13.16**	**166**	Pn		**Pn**		**19 55 20.0**	**-0.7**
	4.6nm,0.3s,baz=344,slow=14,SNR=132								
WRA						Sn	**Sn**	**19 57 44.1**	**-1.2**
	4.5nm,0.3s,baz=354,slow=23,SNR=8.8								
WB2	**Warramunga Arr**	**13.16**	**166**	⇓*i*P		**Pn**		**19 55 20.0**	**-0.8**
WB2						*e*S	**Sn**	**19 57 43.6**	**-1.8**
PMG	**Port Moresby**	**16.17**	**99**	Pn		**Pn**		**19 55 58.8**	**-0.7**
	0.9nm,0.3s,baz=282,slow=6.1,SNR=5.6								
AS31	**Alice Springs**	**16.69**	**171**	*e*P		**Pn**		**19 56 07.5**	**+1.5**
AS31						*e*S	**S**	**19 59 07.2**	**-10**
ASAR	**Alice Springs**	**16.70**	**171**	P		**Pn**		**19 56 08.1**	**+2.1**
	3.1nm,0.3s,baz=347,slow=8.5,SNR=102								
ASAR						S	**S**	**19 59 08.5**	**-8.6**
	0.9nm,0.3s,baz=356,slow=28,SNR=8.5								
ASPA	**Alice Springs**	**16.70**	**171**	*e*P		**Pn**		**19 56 07.5**	**+1.5**
ASPA						*e*S	**S**	**19 59 07.2**	**-10**
CTA	**Charters Tower**	**19.64**	**133**	P		**Pn**		**19 56 47.2**	**+5.8**
	0.2nm,0.3s,baz=318,slow=13,SNR=3.6								
CTA						S	**S**	**20 00 29.5**	**+13**
	0.1nm,0.3s,baz=198,slow=22,SNR=2.2								
CTA	**Charters Tower**	**19.64**	**133**	P		**Pn**		**19 56 47.2**	**+5.8**
CTA						S	**S**	**20 00 29.5**	**+13**
FORT	**Forrest**	**23.70**	**186**	*e*P		**P**		**19 57 27.6**	**+6.0**
	32nm,0.6s,mb4.8								
STKA	**Stephens Creek**	**26.55**	**159**	P		**P**		**19 57 50.5**	**+3.1**
	1.3nm,0.3s,mb3.9,baz=333,slow=6.8,SNR=6.5								
LSA	**Lhasa**	**52.96**	**316**	*e*P		**P**		**20 01 25.8**	**+0.5**
	2.9nm,0.8s,mb4.4								
JIRN	**Jiri**	**55.40**	**311**	*e*P		**P**		**20 01 42.9**	**-0.1**
GUN	**Gumba**	**55.76**	**311**	*e*P		**P**		**20 01 45.8**	**+0.2**
	13nm,0.6s,mb5.1								
PKI	**Pulchoki**	**55.94**	**310**	*e*P		**P**		**20 01 46.0**	**-0.9**
KKN	**Kakani**	**56.15**	**310**	*e*P		**P**		**20 01 48.1**	**-0.3**
	6.1nm,0.5s,mb4.9								
DMN	**Daman**	**56.19**	**310**	*e*P		**P**		**20 01 48.9**	**+0.2**
GKN	**Gorkha**	**56.75**	**310**	*e*P		**P**		**20 01 52.3**	**-0.4**
	7.9nm,0.3s,mb5.2								
KOLN	**Koldanda**	**57.42**	**309**	*e*P		**P**		**20 01 57.3**	**-0.1**
	18nm,1.0s,mb5.0								
SONM	**Songino Array**	**58.86**	**341**	P		**P**		**20 02 07.1**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=161,slow=7.4,SNR=5.6								
MKAR	**Makanchi Array**

RUN5	**Runtun**	**2.17**	**100**	P	Pn	20 00 50.5 +2.5
PATA	**Patacocha**	**2.17**	**102**	⇓P	Pn	20 00 50.2 +2.1
PISA	**Pisayambo**	**2.17**	**90**	P	Pn	20 00 50.2 +2.0
ULBA	**Ulba**	**2.19**	**100**	P	Pn	20 00 50.6 +2.3
ANTI	**Antisana**	**2.47**	**76**	P	Pn	20 00 52.7 +0.5
CAYR	**Refugio Cayamb**	**2.76**	**68**	P	Pn	20 01 01.5 +5.3
CAYA	**Cayambe**	**2.80**	**67**	P	Pn	20 01 01.2 +4.4

IDC 29 20:18:39.3±22.0, 6413S×17912E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.8/8, mbtmp3.6/3, ML3.3/1, MS3.6/6, Ms1 3.5/6, ms1mx3.3/19, Error ellipse: s-maj=572.0km s-min=49.8km az=81.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.48**	**195**	Pn	Pn	20 22 04.9	-0.5
	0.1nm,0.3s,baz=31,slow=17,SNR=9.7						
VNDA				LR	LR	20 26 10.9	
	comp=Z,174nm,18.2s,baz=295,slow=31						
RPZ	**Rata Peaks**	**20.97**	**343**	LR	LR	20 29 02.3	
	comp=Z,208nm,20.0s,baz=198,slow=30						
MAW	**Mawson**	**40.91**	**212**	LR	LR	20 43 47.4	
	comp=Z,39nm,18.1s,baz=70,slow=37						
ASAR	**Alice Springs**	**50.06**	**302**	P	P	20 27 35.9	+0.1
	0.7nm,0.9s,baz=166,slow=8.5,SNR=4.5						
PPT	**Papeete**	**51.16**	**40**	LR	LR	20 44 34.1	
	comp=Z,63nm,20.5s,baz=360,slow=30						
WRA	**Warramunga Arr**	**53.30**	**304**	P	P	20 27 59.4	-0.6
	1.0nm,0.9s,baz=155,slow=6.7,SNR=4.6						
HNR	**Honiara**	**56.28**	**337**	LR	LR	20 49 48.5	
	comp=Z,44nm,18.7s,baz=179,slow=33						
BOSA	**Boshof**	**85.31**	**203**	LR	LR	21 05 03.7	
	comp=Z,45nm,20.5s,baz=9.7,slow=33						

ISCJB 29 20:39:16.6±0.4, 3640N±002×7059E±004, h219km±4km, mb4.0/22, Error ellipse: s-maj=5.5km s-min=3.5km az=151.0

BJI 29 20:39:17.7, 3645N×7055E, h213km, mB4.5, mb4.8

MOS 29 20:39:18.3±0.9, 3659N×7049E, h227km, mb4.3/7, Error ellipse: s-maj=11.5km s-min=6.9km az=85.3

NEIC 29 20:39:19.0±0.5, 3654N×7050E, mb4.5/8, Error ellipse: s-maj=9.3km s-min=8.9km az=118.0

IDC 29 20:39:18.3±0.8, 3636N×7051E, h222km±7km, mb3.7/16, mb1 3.8/19, mb1mx3.7/27, mbtmp3.8/19, Error ellipse: s-maj=13.0km s-min=10.7km az=170.0

ISC 29 20:39:17.2±0.4, 3644N±003×7051E±005, h207km±5km, h223km±1.4km: pP-P, n97, σ0§92/112, mb4.0/22, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.85**	**156**	⇓P	Pn	20 40 07.5	+2.1
CHCP	**Chirah Chowk**	**3.58**	**140**	⇓P	Pn	20 40 16.2	+2.2
SBDP	**Sheikh Budin**	**4.14**	**177**	⇑P	Pn	20 40 20.9	0.0
DRP	**Derazinda**	**4.69**	**183**	⇓P	Pn	20 40 29.0	+1.2
DRP				S	Sn	20 41 22.0	-1.5
SARP	**Sargodha**	**4.85**	**158**	P	Pn	20 40 30.4	+0.6
SARP				S	Sn	20 41 26.0	-1.1
KSH	**Kashi**	**5.30**	**53**	⇑*i*P	Pn	20 40 37.0	+1.5
KSH				S	Sn	20 41 36.5	-0.9
KSH				Smax			
	comp=N,1μm,0.3s						
KSH				Smax			
	comp=E,2μm,0.3s						
THN	**Thein Dam**	**5.87**	**131**	*e*P	Pn	20 40 43.0	+0.2
THN				*e*S	Sn	20 41 49.2	-1.5
DLH	**Dalhousie**	**5.95**	**129**	*e*P	Pn	20 40 44.0	+0.2
DLH				*e*S	Sn	20 41 51.0	-1.5
AML	**Almayashu**	**6.20**	**23**	P	Pn	20 40 46.9	-0.1
	SNR=149						
UCH	**Uchtor**	**6.56**	**27**	P	Pn	20 40 51.9	+0.3
	SNR=59						
EKS2	**Erkin-Say**	**6.71**	**21**	P	Pn	20 40 53.6	0.0
	SNR=33						
KZA	**Kyzart**	**6.72**	**32**	P	Pn	20 40 53.7	-0.1
	SNR=7.4						
AAK	**Ala-Archa**	**6.91**	**25**	P	Pn	20 40 56.5	+0.3
	SNR=19						
AAK	**Ala-Archa**	**6.91**	**25**	*e*PN	Pn	20 40 55.1	-1.1
AAK				pmax	pmax		
	comp=Z,15nm,0.5s						
AAK	**Ala-Archa**	**6.91**	**25**	*e*P	Pn	20 40 55.1	-1.1
	comp=Z,15nm,0.5s						
KBK	**Karagaybulak**	**7.09**	**28**	P	Pn	20 40 59.1	+0.5
	SNR=14						
SDNR	**Sundarnagar**	**7.28**	**131**	*e*P	Pn	20 41 00.6	-0.5
SDNR				*e*S	Sn	20 42 19.0	-4.8
ULHL	**Ulahol**	**7.30**	**36**	P	Pn	20 41 01.4	+0.1
	SNR=17						
CHMS	**Chumysh**	**7.32**	**25**	P	Pn	20 41 01.3	-0.2
	SNR=6.8						
USP	**Ospenovka**	**7.47**	**23**	P	Pn	20 41 03.5	-0.1
	SNR=9.8						
TKM2	**Tokmak 2**	**7.57**	**30**	P	Pn	20 41 04.7	0.0
	SNR=25						
RTK	**Rohtak**	**8.90**	**144**	⇑*i*P	Pn	20 41 22.5	+0.4
KHET	**Khetri**	**9.47**	**150**	*e*P	Pn	20 41 28.5	-0.9
KHET				*e*S	Sn	20 43 09.6	-5.9
KHET				AML	AML	20 43 12.4	
	comp=E,142nm,0.5s						
KHET				AML	AML	20 43 12.8	
	comp=N,99nm,0.4s						
NDI	**New Delhi**	**9.58**	**142**	*e*P	Pn	20 41 30.9	+0.1
NDI				*e*S	Sn	20 43 13.4	-4.7
NDI				AML	AML	20 43 15.9	
	comp=N,70nm,0.4s						
NDI				AML	AML	20 43 18.5	
	comp=E,63nm,0.5s						
AYAN	**Aya Nagar**	**9.70**	**143**	*ex*	x	20 41 09.6	
AYAN				*e*S	Sn	20 43 15.6	-5.4
SONA	**Sohna**	**9.88**	**144**	*ex*	x	20 41 29.5	
SONA				*e*S	Sn	20 43 18.7	-6.4
SONA				AML	AML	20 43 22.5	
	comp=N,71nm,0.4s						
AJM	**Ajmer**	**10.54**	**159**	*i* P	Pn	20 41 42.0	-1.1
AJM				*i* S	Sn	20 43 35.0	-5.9
LGTI	**Lohaghat**	**10.74**	**128**	*i* P	Pn	20 41 45.0	-0.8
LGTI				*e*S	Sn	20 43 37.5	-8.3
AGRA	**Agra**	**11.14**	**143**	*e*S	S	20 43 48.3	-7.0
AGRA				AML	AML	20 43 48.9	
	comp=E,66nm,0.5s						
AGRA				AML	AML	20 43 51.2	
	comp=N,61nm,0.3s						
MK31	**Makanchi Array**	**13.57**	**37**	*e*P	Pn	20 42 20.9	-0.6
MKAR	**Makanchi Array**	**13.57**	**37**	P	Pn	20 42 21.2	-0.3
	comp=N,1.6nm,0.3s,baz=218,slow=12,SNR=31						
KOLN	**Koldanda**	**14.05**	**124**	*e*P	Pn	20 42 27.1	-0.3
	comp=N,33nm,0.3s						
KOLN				*e*S	S	20 44 55.4	-8.3
BHPL	**Bhopal**	**14.45**	**154**	*e*P	Pn	20 42 36.4	+4.1
BHPL				*ex*	x	20 45 06.1	
GKN	**Gorkha**	**14.61**	**121**	*e*P	Pn	20 42 34.2	0.0
	comp=N,47nm,0.3s						
GKN				*e*S	S	20 45 06.0	-10
DMN	**Daman**	**15.18**	**121**	*e*P	Pn	20 42 41.7	+0.5
	comp=N,88nm,0.5s						
DMN				*e*S	S	20 45 20.6	-8.8
KKN	**Kakani**	**15.18**	**120**	*e*P	Pn	20 42 41.7	+0.4
	comp=N,109nm,0.4s						
PKI	**Pulchoki**	**15.41**	**121**	*e*P	Pn	20 42 45.6	+1.6
	comp=N,52nm,0.3s						
KURK	**Kurchatov**	**15.42**	**20**	*e*P	Pn	20 42 42.7	-1.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**15.42**	**20**	*e*P	Pn	20 42 42.7	-1.4
	comp=Z,3.4nm,0.8s						
GUN	**Gumba**	**15.53**	**119**	*e*P	Pn	20 42 46.5	+1.0
	comp=Z,50nm,0.3s						
JIRN	**Jiri**	**15.90**	**119**	*e*P	Pn	20 42 51.1	+1.2
	comp=Z,158nm,0.5s						
BVAR	**Borovoye Array**	**16.58**	**360**	P	P	20 42 57.2	+0.2
	comp=Z,2.6nm,0.3s,baz=159,slow=11,SNR=34						
BRVK	**Borovoye**	**16.62**	**360**	*e*P	P	20 42 57.2	-0.2
BRVK				pmax	pmax		
	comp=Z,13nm,0.6s						
BRVK	**Borovoye**	**16.62**	**360**	*e*P	P	20 42 57.1	-0.2
	comp=Z,13nm,0.6s						
AKTK	**Aktyubinsk**	**16.64**	**331**	P	P	20 42 57.9	+0.3
AKTO	**Aktyubinsk**	**16.64**	**331**	P	P	20 42 57.9	+0.3
	comp=Z,9.9nm,0.3s,baz=140,slow=10,SNR=132						
LSA	**Lhasa**	**18.54**	**105**	P	P	20 43 22.0	+3.7
LSA	**Lhasa**	**18.54**	**105**	*e*P	P	20 43 21.8	+3.5
LSA				pmax	pmax		
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**18.54**	**105**	*e*P	P	20 43 21.8	+3.5
	comp=Z,17nm,0.6s						
ORR	**Orenburg**	**18.87**	**328**	*e*P	P	20 43 21.1	-0.8
ORR				pmax	pmax		
	comp=Z,70nm,0.5s						
ZAL	**Zalesovo**	**20.12**	**25**	P	P	20 43 35.6	+0.4
	comp=Z,7.4nm,0.4s,baz=242,slow=6.1,SNR=11						
HYB	**Hyderabad**	**20.24**	**157**	*i* P	P	20 43 40.0	+3.4
HYB	**Hyderabad**	**20.24**	**157**	*e*P	P	20 43 40.0	+3.4
NVS	**Novosibirsk**	**20.38**	**21**	*e*P	P	20 43 38.4	+0.4
NVS				*e*S	S	20 47 07.7	-7.0
NVS				pmax	pmax		
	comp=N,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVS				smax			
	comp=N,22nm,2.0s						
KBD	**Kabd**	**20.47**	**256**	*e*P	P	20 43 39.2	+0.2
KBD				AMb	AMB	20 43 43.1	
	comp=Z,60nm,0.4s						
MIB	**Mutribah**	**20.48**	**258**	*e*P	P	20 43 39.2	+0.1
MIB				AMb	AMB	20 43 42.6	
	comp=Z,21nm,0.6s						
GNI	**Garni**	**20.54**	**288**	P	P	20 43 42.2	+2.5
	comp=Z,3.9nm,0.4s,baz=104,slow=12,SNR=8.5						
GNI	**Garni**	**20.54**	**288**	*e*P	P	20 43 40.7	+1.0
RDF	**Al-Radifah**	**20.70**	**255**	*e*P	P	20 43 41.4	0.0
RDF				AMb	AMB	20 43 48.0	
	comp=Z,22nm,0.4s						
NAY	**Al-Naaiem**	**20.80**	**257**	*e*P	P	20 43 42.5	+0.1
NAY				AMb	AMB	20 43 45.6	
	comp=Z,13nm,0.8s						
ZEI	**Tsey**	**21.41**	**295**	*e*P	P	20 43 49.7	+0.8
ARU	**Arti**	**21.56**	**342**	⇑*i*P	P	20 43 49.9	-0.6
ARU				*e*S	S	20 47 35.5	+0.3
ARU				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
ARU	**Arti**	**21.56**	**342**	*e*P	P	20 43 50.2	-0.4
	comp=Z,21nm,0.8s,mb4.7						
GTA	**Gaotai**	**23.26**	**74**	P	P	20 44 08.0	+1.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**27.33**	**49**	*e*P	P	20 44 44.0	+1.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**28.69**	**55**	P	P	20 44 56.5	+1.6
	comp=Z,4.0nm,0.7s,mb4.2,baz=262,slow=9.2,SNR=41						
BRTR	**Keskin Array B**	**29.08**	**288**	P	P	20 44 58.8	+0.5
	comp=Z,0.6nm,0.7s,mb3.4,baz=98,slow=7.6,SNR=4.1						
BRTR				pP	pP	20 45 43.9	+3.8
	comp=Z,1.1nm,0.6s,baz=97,slow=9.4,SNR=4.1						
ULN	**Ulaanbaatar**	**29.14**	**55**	*e*P	P	20 44 59.9	+1.1
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**29.14**	**55**	*e*P	P	20 44 59.9	+1.1
	comp=Z,3.6nm,0.8s,mb4.0						
CIT	**Chita**	**33.99**	**49**	*e*P	P	20 45 41.8	+0.6
BOD	**Bodaibo**	**35.65**	**39**	*e*P	P	20 45 54.9	-0.4
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
FINES	**FINESS Array B**	**37.31**	**326**	P	P	20 46 09.4	-0.1
	comp=Z,3.0nm,0.7s,mb4.0,baz=123,slow=9.8,SNR=16						
FINES	**FINESS Array B**	**37.31**	**326**	*e*P	P	20 46 09.0	-0.4
KAF	**Kangasniemi**	**37.46**	**327**	*ep*	P	20 46 09.4	-1.3
	baz=113,slow=8.4						
KEV	**Kevo**	**40.71**	**338**	*ep*	P	20 46 36.4	-1.2
ARCES	**ARCESS Array B**	**41.05**	**338**	P	P	20 46 40.0	-0.4
	comp=Z,3.1nm,0.6s,mb3.9,baz=106,slow=8.3,SNR=19						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	P	20 46 40.0	-0.4
HFS	**Hagfors**	**42.87**	**322**	P	P	20 46 54.6	-0.5
	comp=Z,1.9nm,0.3s,mb4.0,baz=98,slow=9.7,SNR=18						
HFS				pP	pP	20 47 41.8	+2.7
	comp=Z,2.1nm,0.6s,baz=95,slow=11,SNR=2.7						
NB2	**NORSAR Subarra**	**44.19**	**323**	P	P	20 47 04.9	-0.7
	comp=Z,1.6nm,0.6s,mb3.5,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**44.19**	**323**	P	P	20 47 05.2	-0.3
	comp=Z,1.3nm,0.4s,mb3.6,baz=98,slow=7.8,SNR=6.2						
NOA				pP	pP	20 47 53.0	+3.1
	comp=Z,1.4nm,0.7s,baz=94,slow=8.2,SNR=2.6						
YAK	**Yakutsk**	**44.24**	**35**	*e*P	P	20 47 05.5	-0.5
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.5						
YAK	**Yakutsk**	**44.24**	**35**	*e*P	P	20 47 05.6	-0.4
	comp=Z,17nm,0.7s,mb4.5						
KSRS	**Korea Array**	**45.27**	**71**	P	P	20 47 14.3	+0.2
	comp=Z,1.3nm,0.7s,mb3.4,baz=277,slow=6.1,SNR=3.2						
TIXI	**Tiksi**	**45.98**	**22**	⇑*i*P	P	20 47 18.1	-1.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
TIXI	**Tiksi**	**45.98**	**22**	*e*P	P	20 47 19.3	-0.4
	comp=Z,4.1nm,0.3s,mb4.2						
VLA	**Vladivostok**	**46.72**	**62**	*e*P	P	20 47 25.0	-0.4
VLA				pmax	pmax		
	comp=Z,64nm,1.3s,mb4.8						
HABR	**Khabarovsk**	**47.77**	**54**	*e*P	P	20 47 30.1	-3.4
KMBO	**Kilima Mbogo**	**48.50**	**227**	P	P	20 47 40.0	+1.0
	comp=Z,0.8nm,0.4s,mb3.4,baz=37,slow=24,SNR=5.0						
KMBO	**Kilima Mbogo**	**48.50**	**227**	⇑*e*P	P	20 47 41.0	+1.9
TORD	**Torodi Ar. Bea**	**65.32**	**268**	P	P	20 49 35.5	-1.6
	comp=Z,2.7nm,0.5s,mb4.2,baz=49,slow=6.0,SNR=76						
TORD				pP	pP	20 50 26.2	+1.3
	comp=Z,1.4nm,0.9s,baz=47,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**65.32**	**268**	P	P	20 49 35.5	-1.6
TORD				pP	pP	20 50 26.2	+1.3
BOSA	**Boshof**	**77.45**	**220**	P	P	20 50 49.4	-0.2
	comp=Z,1.1nm,0.4s,mb3.8,baz=41,slow=7.3,SNR=5.1						
KDAK	**Kodiak Island**	**79.40**	**22**	P	P	20 51 00.1	-0.1
	comp=Z,8.9nm,0.8s,mb4.5,baz=339,slow=9.5,SNR=4.1						
YKA	**Yellowknife Ar**	**81.32**	**2**	P	P	20 51 10.0	-0.5
	comp=Z,0.7nm,0.5s,mb3.5,baz=350,slow=5.3,SNR=9.7						
YKA				pP	pP	20 52 03.1	+2.8
	comp=Z,0.5nm,0.5s,baz=353,slow=5.3,SNR=4.1						
YKA	**Yellowknife Ar**	**81.32**	**2**	P	P	20 51 10.0	-0.5
YKA				pP	pP	20 52 03.1	+2.7
WRA	**Warramunga Arr**	**82.29**	**122**	P	P	20 51 14.5	-1.0
	comp=Z,3.0nm,0.5s,mb4.2,baz=320,slow=4.8,SNR=54						
ASAR	**Alice Springs**	**84.54**	**125**	P	P	20 51 26.0	-1.0
	comp=Z,3.3nm,0.6s,mb4.3,baz=310,slow=5.0,SNR=26						

IDC 29 20:42:45.7±1.4, 289S×12952E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, ML4.1/2, MS3.9/2, Ms1 3.9/2, ms1mx2.5/34, Error ellipse: s-maj=71.6km s-min=23.8km az=66.0

NEIC 29 20:42:47.4±0.9, 296S×12957E, h10km, mb4.2/2, Error ellipse: s-maj=34.1km s-min=12.0km az=71.0

ISCJB 29 20:42:49.2±0.9, 3.1S±0.1×1295E±0.2, h35km, mb4.0/5, MS3.9/2, Error ellipse: s-maj=36.9km s-min=12.8km az=140.8

ISC 29 20:42:51.2±0.9, 30S±0.1×1295E±0.2, h35km, n17, σ1§02/15, mb4.0/5, MS3.9/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.06**	**163**	*e*P	Pn	20 45 12.0	-1.2
	5.3nm,0.2s						
FITZ	**Fitzroy Crossi**	**15.46**	**194**	*e*P	Pn	20 46 27.4	+0.8
	4.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.46**	**194**	Pn	Pn	20 46 26.8	+0.3
	0.3nm,0.3s,baz=22,slow=16,SNR=7.5						
WRA	**Warramunga Arr**	**17.47**	**165**	P	Pn	20 46 50.6	-1.5
	1.1nm,0.3s,baz=352,slow=12,SNR=25						
WB2	**Warramunga Arr**	**17.48**	**165**	*e*P	Pn	20 46 49.9	-2.2
AS31	**Alice Springs**	**20.96**	**169**	*e*P	P	20 47 32.1	+0.9
ASAR	**Alice Springs**	**20.96**	**169**	P	P	20 47 32.1	+0.9
	13nm,0.4s,baz=347,slow=11,SNR=169						
ASPA	**Alice Springs**	**20.96**	**169**	*e*P	P	20 47 32.1	+0.9
CTA	**Charters Tower**	**23.56**	**137**	P	P	20 47 59.6	+1.0
	1.7nm,0.4s,mb3.8,baz=323,slow=15,SNR=4.3						
STKA	**Stephens Creek**	**30.88**	**160**	P	P	20 49 04.8	+0.6
	3.3nm,1.0s,mb4.1,baz=354,slow=10.0,SNR=7.6						
STKA	**Stephens Creek**	**30.88**	**160**	P	P	20 49 04.8	+0.6
RAO	**Raoul Island**	**56.24**	**123**	LR	LR	21 13 30.6	
	comp=Z,137nm,18.2s,MS4.1,baz=15,slow=33						
MKAR	**Makanchi Array**	**64.65**	**326**	P	P	20 53 24.9	-0.5
	0.5nm,0.6s,mb3.7,baz=112,slow=7.7,SNR=4.7						
KURK	**Kurchatov**	**68.89**	**328**	*e*P	P	20 53 52.0	-0.3
	4.1nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**74.45**	**327**	LR	LR	21 25 01.8	
	comp=Z,48nm,20.9s,MS3.8,baz=266,slow=34						
VNDA	**Vanda**	**76.44**	**173**	P	P	20 54 37.4	+0.2
	1.4nm,1.1s,mb3.8,baz=329,slow=5.9,SNR=3.7						
VNDA	**Vanda**	**76.44**	**173**	P	P	20 54 37.4	+0.2

IDC 29 20:48:05.4±2.9, 4746N×156.12E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=97.1km s-min=27.3km az=3.0

MOS 29 20:48:07.4±0.2, 4736N×15603E, h31km, mb4.0/3, Error ellipse: s-maj=75.8km s-min=33.6km az=91.0

ISCJB 29 20:48:08.8±1.5, 475N±02×156.1E±0.2, h35km, mb3.7/5, Error ellipse: s-maj=29.6km s-min=22.7km az=13.2

ISC 29 20:48:10.8±1.5, 475N±02×1561E±02, h35km, n9, σ0§66/9, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.17**	**0**	*e*PN	Pn	20 48 58.5	+0.3
INK	**Inuvik**	**39.92**	**33**	P	P	20 55 40.8	-0.6
	1.1nm,0.6s,mb3.8,baz=320,slow=8.8,SNR=5.6						
INK	**Inuvik**	**39.92**	**33**	P	P	20 55 40.8	-0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.38**	**298**	P	P	20 56 49.9	+0.7
	comp=Z,0.6nm,0.8s,mb3.7,baz=57,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**48.38**	**298**	P	P	20 56 49.9	+0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.93**	**310**	P	P	20 57 15.3	-0.8
	comp=Z,0.2nm,0.4s,mb3.4,baz=69,slow=6.5,SNR=5.2						
NVAR	**Mina Array Bea**	**60.28**	**64**	P	P	20 58 16.6	+0.9
	comp=Z,0.2nm,0.3s,mb3.6,baz=282,slow=9.1,SNR=4.1						
TXAR	**Lajitas Array**	**75.35**	**63**	P	P	20 59 50.0	-0.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=292,slow=4.4,SNR=9.3						
TXAR	**Lajitas Array**	**75.35**	**63**	P	P	20 59 50.1	-0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

OTT 29 20:49:21.9±0.9, 6744N×6481W, h18km, MN2.9/2, 35km west from Qikiqtarjuaq, Nu Baffin Island, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.02**	**204**	PN	Pn	20 50 22.0	-0.6
FRB				SN	Sn	20 51 07.3	-1.9
FRB				LG		20 51 20.6	
FRB				Trac		20 51 30.8	
	comp=Z,9.3nm,0.1s						
ILON	**Igloolik, Nuna**	**6.57**	**295**	PN	Pn	20 50 57.3	-0.3
ILON				SN	Sn	20 52 07.3	-4.7
ILON				LG		20 52 34.8	
ILON				Trac		20 52 41.9	
	comp=Z,7.9nm,0.7s						
PINU	**Pond Inlet**	**6.92**	**326**	PN	Pn	20 51 02.1	-0.3
PINU				SN	Sn	20 52 14.6	-6.0
IVKQ	**Ivujivik**	**7.50**	**234**	PN	Pn	20 51 06.5	-3.9
IVKQ				LG		20 53 08.4	
IVKQ				Trac		20 53 15.9	
	comp=Z,17nm,1.3s						
QILN	**Qililugaq Expl**	**8.45**	**275**	PN	Pn	20 51 19.1	-4.3
QILN				SN	Sn	20 52 49.9	-8.4
QILN				LG		20 53 35.1	
QILN				Trac		20 53 51.6	
	comp=Z,64nm,2.7s						
SEDN	**First Sedna Si**	**11.74**	**262**	PN	Pn	20 52 03.4	-5.0
SEDN				SN	Sn	20 54 07.9	-11
RES	**Resolute Bay**	**12.01**	**320**	PN	Pn	20 52 02.4	-10
RES				SN	Sn	20 54 08.2	-17

IDC 29 20:52:40.6±1.0, 4704N×15399E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.9/26, mbtmp3.8/13, ML3.5/1, Error ellipse: s-maj=25.9km s-min=20.9km az=148.0

NEIC 29 20:52:42.7±0.9, 4710N×15400E, h10km, mb4.2/1, Error ellipse: s-maj=22.8km s-min=14.7km az=136.0

ISCJB 29 20:52:43.4±3.6, 4711N±01×1540E±02, h26km±25km, mb4.1/17, Error ellipse: s-maj=26.8km s-min=11.8km az=93.0

MOS 29 20:52:44.9±1.4, 4715N×15395E, h39km, mb4.5/1, Error ellipse: s-maj=20.5km s-min=14.4km az=76.9

ISC 29 20:52:45.5±3.7, 471N±01×1541E±02, h29km±26km, n27, σ1§01/27, mb4.1/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.79**	**20**	*e*PN	Pn	20 53 42.0	0.0
SKR				*e*		20 54 26.5	
ASAJ	**Asahikawa**	**8.61**	**254**	Pn	Pn	20 54 49.3	+1.2
	0.5nm,0.3s,baz=85,slow=21,SNR=3.6						
ASAJ	**Asahikawa**	**8.61**	**254**	PN	Pn	20 54 49.3	+1.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.85**	**234**	Pn	Pn	20 56 25.6	-0.9
	comp=Z,0.2nm,0.3s,baz=88,slow=35,SNR=3.2						
KSRS	**Korea Array**	**21.56**	**253**	P	P	20 57 32.5	0.0
	comp=Z,1.3nm,0.8s,mb3.4,baz=62,slow=10,SNR=4.4						
SONM	**Songino Array**	**31.85**	**289**	P	P	20 59 06.6	-1.2
	comp=Z,0.2nm,0.5s,mb3.2,baz=79,slow=9.1,SNR=3.2						
INK	**Inuvik**	**40.96**	**33**	P	P	21 00 25.9	+0.3
	comp=Z,0.8nm,0.5s,mb3.6,baz=270,slow=13,SNR=4.4						
INK	**Inuvik**	**40.96**	**33**	P	P	21 00 25.9	+0.3
ZAL	**Zalesovo**	**42.96**	**306**	P	P	21 00 40.3	-1.6
	comp=Z,0.8nm,0.5s,mb3.8,baz=92,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**47.37**	**297**	P	P	21 01 14.5	-2.4
	comp=Z,0.

TXAR	**Lajitas Array**	**77.97**	**60**	P		**P**		**21 14 47.1**	**-3.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=296,slow=4.4,SNR=5.3								
TXAR	**Lajitas Array**	**77.97**	**60**	P		**P**		**21 14 47.1**	**-3.4**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								

*ISCJB **29** 21:10:54.4±0.3, 3284N±002×11595W±002, h5km±3km, Error ellipse: s-maj=2.9km s-min=2.3km az=115.0*
*ECX **29** 21:10:55.8±0.8, 3284N×11597W, h2km, ML4.1*
*NEIC **29** 21:10:55.0, 3282N×11598W, h0km, ML4.0(PAS), After PAS.*
NEIC Felt [III] at Pine Valley and [II] at El Centro, La Jolla and San Diego. Felt at Manhattan Beach. Also felt at Yuma, Arizona.

ISC 29 21:10:55.0±0.3, 3283N±002×11595W±002, h2km±3km, n74, σ0§99/108, 24C-30D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart**	**0.17**	**50**	P	**Pg**	**21 10 59.0**	**+0.6**
	baz=0.2,SNR=832						
SWSC				⇑S	**Sg**	**21 11 02.7**	**+2.1**
	baz=0.2						
YUH	**Yuha Desert**	**0.18**	**172**	*e*P	**Pg**	**21 10 59.0**	**+0.4**
COK	**Cook Ranch**	**0.19**	**84**	⇑*e*P	**Pg**	**21 10 60.0**	**+1.2**
DVTC	**Desert V Tower**	**0.21**	**216**	⇓P	**Pg**	**21 10 59.5**	**+0.4**
	baz=0.2,SNR=740						
DVTC				⇓S	**Sg**	**21 11 02.9**	**+1.1**
	baz=0.2						
RMX	**La Rumorosa**	**0.25**	**205**	⇑*i*P	**Pg**	**21 11 00.4**	**+0.5**
RMX				*e*S	**Sg**	**21 11 04.4**	**+1.3**
RMX				⇓*e*		21 11 05.0	
	comp=N,24μm,0.5s						
MONP	**Monument Peak**	**0.40**	**279**	⇓P	**Pg**	**21 11 03.0**	**+0.4**
	baz=0.4,SNR=530						
MONP				⇑S	**Sg**	**21 11 08.6**	**+0.8**
	baz=0.4						
CPBX	**Cerro Prieto**	**0.69**	**127**	*e*P	**Pg**	**21 11 08.4**	**+0.2**
CBX	**Cerro Bola**	**0.79**	**230**	⇑*e*P	**Pg**	**21 11 10.0**	**-0.1**
CBX				*e*S	**Sg**	**21 11 20.8**	**+0.4**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	*e*Pg	**Sg**	**21 11 11.4**	**-0.6**
PFO				*e*Sg	**Sg**	**21 11 23.1**	**-0.3**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	P	**Pg**	**21 11 11.8**	**-0.2**
	baz=0.9,SNR=958						
PFO				⇑S	**Sg**	**21 11 24.2**	**+0.8**
	baz=0.9						
RDX	**Rancho Dowling**	**0.90**	**180**	*e*P	**Pg**	**21 11 11.9**	**-0.3**
RDX				*e*S	**Sg**	**21 11 24.5**	**+0.7**
RDX				⇓*e*		21 11 27.2	
	comp=N,5μm,0.4s						
BC3	**Big Chuckw Mtn**	**0.92**	**27**	P	**Pg**	**21 11 12.7**	**-0.1**
	baz=0.9,SNR=168						
BC3				⇓S	**Sg**	**21 11 25.9**	**+1.2**
	baz=0.9						
109C	**Camp Elliot, M**	**0.97**	**274**	⇑P	**Pg**	**21 11 12.9**	**-0.8**
	baz=1.0,SNR=51						
109C				⇑S	**Sg**	**21 11 25.7**	**-0.5**
	baz=1.0						
GLA	**Glamis**	**0.97**	**77**	*e*Pg	**Pg**	**21 11 12.7**	**-1.0**
GLA				*e*Sg	**Sg**	**21 11 26.5**	**+0.2**
GLA	**Glamis**	**0.97**	**77**	P	**Pg**	**21 11 13.1**	**-0.5**
	baz=1.0,SNR=352						
GLA				⇓S	**Sg**	**21 11 26.7**	**+0.4**
	baz=1.0						
ENX	**Ensenada**	**1.12**	**213**	*e*P	**Pg**	**21 11 15.8**	**-0.7**
ENX				*e*S	**Sg**	**21 11 31.0**	**0.0**
ENX				⇓*e*		21 11 34.2	
	comp=N,6μm,0.8s						
BELC	**Belle Mtn.**	**1.17**	**358**	⇓P	**Pg**	**21 11 16.3**	**-1.1**
	baz=1.2,SNR=30						
BELC				⇑S	**Sg**	**21 11 32.9**	**+0.4**
	baz=1.2						
PBX	**Punta Banda**	**1.27**	**211**	*e*P	**Pg**	**21 11 18.4**	**-0.9**
PBX				*e*S	**Sg**	**21 11 35.5**	**-0.3**
ECNX	**Esteban Cantu**	**1.29**	**205**	*e*P	**Pg**	**21 11 18.9**	**-0.8**
ECNX				⇓*e*P		21 11 16.1	
ECNX				*e*S	**Sg**	**21 11 31.2**	**-5.3**
ECNX				*e*S	**Sg**	**21 11 36.4**	**-0.1**
MURC	**Murrieta**	**1.30**	**307**	⇓P	**Pg**	**21 11 18.5**	**-1.4**
	baz=1.3,SNR=132						
MURC				⇓S	**Sg**	**21 11 37.3**	**+0.6**
	baz=1.3						
IRM	**Iron Mountain**	**1.49**	**27**	⇓P	**Pn**	**21 11 20.8**	**-1.9**
	baz=1.5,SNR=23						
IRM				⇑S	**Sb**	**21 11 43.3**	**+0.6**
	baz=1.5						
Y12C	**Blythe**	**1.51**	**52**	⇑P	**Pn**	**21 11 21.1**	**-2.0**
	baz=1.5,SNR=65						
Y12C				⇓S	**Sn**	**21 11 43.2**	**0.0**
	baz=1.5						
BBRC	**Big Bear Sol-O**	**1.64**	**331**	⇓P	**Pn**	**21 11 23.7**	**-1.2**
	baz=1.6,SNR=49						
BBRC				⇑S	**Sn**	**21 11 47.0**	**+0.5**
	baz=1.6						
GMRC	**Granite Mounta**	**1.96**	**7**	⇓P	**Pn**	**21 11 28.4**	**-0.9**
	baz=2.0						
BFSC	**Mount Baldy St**	**2.00**	**315**	⇓P	**Pn**	**21 11 28.4**	**-1.4**
	baz=2.0,SNR=24						
BFSC				⇓S	**Sn**	**21 11 56.9**	**+1.5**
	baz=2.0						
HEC	**Hector,Ludlow**	**2.02**	**351**	⇓P	**Pn**	**21 11 29.1**	**-1.0**
	baz=2.0						
PDMCI	**Parker Dam,Lak**	**2.11**	**45**	⇑P	**Pn**	**21 11 29.8**	**-1.4**
	baz=2.1						
PDMCI				⇑S	**Sn**	**21 11 59.1**	**+1.0**
	baz=2.1						
CIS	**Catalina Islan**	**2.13**	**286**	⇓P	**Pn**	**21 11 30.7**	**-1.0**
	baz=2.1						
CIS				⇑S	**Sn**	**21 11 59.5**	**+0.7**
	baz=2.1						
FMP	**Fort Macarthur**	**2.15**	**295**	⇑P	**Pn**	**21 11 31.7**	**-0.1**
	baz=2.1,SNR=11						
FMP				⇑S	**Sn**	**21 12 00.1**	**+1.1**
	baz=2.1						
SCI	**San Clemente I**	**2.19**	**275**	⇑P	**Pn**	**21 11 31.9**	**-0.5**
	baz=2.2,SNR=15						
SCI				⇑S	**Sn**	**21 11 59.3**	**-0.7**
	baz=2.2						
X13A	**Yucca**	**2.50**	**45**	⇓P	**Pn**	**21 11 36.9**	**+0.3**
	baz=2.5,SNR=9.9						
GSC	**Goldstone**	**2.56**	**344**	*e*Pn	**Pn**	**21 11 36.3**	**-1.2**
GSC				*e*Pg	**Pg**	**21 11 42.9**	**-1.3**
Y14A	**Wickenburg**	**2.70**	**65**	⇓P	**Pn**	**21 11 39.3**	**-0.1**
	baz=2.7,SNR=8.6						
W13A	**Hualapai Mount**	**2.84**	**37**	⇓P	**Pn**	**21 11 41.1**	**-0.3**
	baz=2.9,SNR=8.5						
SNCC	**San Nicolas Is**	**3.03**	**279**	*e*Pn	**Pn**	**21 11 44.4**	**+0.5**
SNCC	**San Nicolas Is**	**3.03**	**279**	⇓S	**Sn**	**21 12 21.0**	**+0.3**
	baz=3.0						
V12A	**Nelson**	**3.03**	**17**	⇑P	**Pn**	**21 11 43.8**	**-0.1**
	baz=3.0,SNR=36						
X14A	**Yava**	**3.03**	**57**	P	**Pn**	**21 11 43.8**	**-0.2**
	baz=3.0,SNR=18						
115A	**Sonoran Desert**	**3.14**	**91**	P	**Pn**	**21 11 44.6**	**-0.9**
	baz=3.2,SNR=18						
W14A	**Seligman**	**3.37**	**44**	⇓P	**Pn**	**21 11 48.7**	**+0.1**
	baz=3.4						
MPMC	**Manual Prospec**	**3.46**	**339**	⇓P	**Pn**	**21 11 48.9**	**-1.0**
	baz=3.5,SNR=26						
X15A	**Humboldt**	**3.51**	**61**	P	**Pn**	**21 11 50.3**	**-0.3**
	baz=3.5,SNR=28						
ISA	**Isabella**	**3.51**	**324**	*e*Pn	**Pn**	**21 11 49.7**	**-0.9**
ISA				*e*Pg	**Pg**	**21 12 01.9**	**-0.5**
ISA	**Isabella**	**3.51**	**324**	⇑P	**Pn**	**21 11 50.2**	**-0.4**
	baz=3.5,SNR=50						
DAC	**Darwin (Calif)**	**3.70**	**339**	*e*Pn	**Pn**	**21 11 52.2**	**-0.9**
PKM	**Peak Mountain**	**3.82**	**304**	⇑P	**Pn**	**21 11 55.1**	**+0.2**
	baz=3.8						
W15A	**Williams**	**3.85**	**52**	⇓P	**Pn**	**21 11 55.9**	**+0.6**
	baz=3.9						
GRAC	**Grapevine Rang**	**4.32**	**345**	⇓P	**Pn**	**21 12 02.2**	**+0.5**
	baz=4.3,SNR=8.8						
TUC	**Tucson**	**4.39**	**95**	*e*Pn	**Pn**	**21 12 01.2**	**-1.5**
PTRM	**Twissleman Ran**	**4.51**	**310**	Pn	**Pn**	**21 12 07.6**	**+3.3**
HELL	**Mitchell Peak,**	**4.60**	**328**	⇓P	**Pn**	**21 12 05.3**	**-0.2**
	baz=4.6,SNR=12						
WUAZ	**Wupatki**	**4.65**	**54**	*e*Pn	**Pn**	**21 12 06.9**	**+0.7**
WUAZ	**Wupatki**	**4.65**	**54**	⇑P	**Pn**	**21 12 06.6**	**+0.5**
	baz=4.7						
S09A	**Goldfield**	**4.99**	**348**	⇑P	**Pn**	**21 12 11.5**	**+0.6**
	baz=5.0						
MTUM	**Tungsten Hills**	**5.00**	**335**	Pn	**Pn**	**21 12 18.3**	**+7.3**
CCUT	**Cedar City**	**5.17**	**24**	*e*Pn	**Pn**	**21 12 13.9**	**+0.6**
KCC	**Kaiser Creek**	**5.26**	**329**	⇓P	**Pn**	**21 12 15.1**	**+0.4**
	baz=5.3,SNR=7.3						
TPH	**Tonopah**	**5.33**	**349**	*e*Pg	**Pg**	**21 12 32.6**	**-4.6**
	comp=N,39nm,1.0s						
ARUT	**Antelope Range**	**5.36**	**22**	*e*Pn	**Pn**	**21 12 18.0**	**+2.1**
LRV	**Little Rabbit**	**5.50**	**312**	*e*Pn	**Pn**	**21 12 18.3**	**+0.3**
TRCR	**Troy Canyon**	**5.52**	**3**	P	**Pn**	**21 12 25.0**	**+6.8**
TRCR				*e*Pg	**Pg**	**21 12 38.0**	**-2.8**
SAO	**San Andreas Ge**	**5.99**	**312**	P	**Pn**	**21 12 31.2**	**+6.6**
	comp=N,17nm,0.7s						
SAO				*e*Pg	**Pg**	**21 12 52.6**	**+2.9**
CMB	**Columbia Colle**	**6.33**	**326**	*e*Pn	**Pn**	**21 12 33.9**	**+4.6**
	comp=N,12nm,0.6s						
MSU	**Marysvale**	**6.45**	**27**	*e*Pn	**Pn**	**21 12 34.9**	**+3.9**
MVCO	**Mesa Verde**	**7.51**	**52**	*e*Pn	**Pn**	**21 12 47.5**	**+1.9**
	comp=N,8.9nm,0.7s						
MVCO				*e*Pg	**Pg**	**21 13 16.6**	**-2.4**
SRU	**San Rafael**	**7.66**	**34**	*e*Pn	**Pn**	**21 12 49.0**	**+1.5**
	comp=N,20nm,0.8s						
DUG	**Dugway**	**7.77**	**18**	*e*Pn	**Pn**	**21 12 49.5**	**+0.4**
DUG				*e*Pg	**Pg**	**21 13 24.1**	**+0.2**
OHCM	**Honcut**	**7.88**	**327**	P	**Pn**	**21 12 55.1**	**+4.4**
PV10	**Paradox Valley**	**7.89**	**44**	*e*Pn	**Pn**	**21 12 49.9**	**-0.8**
PV01	**Paradox Valley**	**8.02**	**47**	*e*Pn	**Pn**	**21 12 53.2**	**+0.8**
PV01				*e*Sg	**Sg**	**21 15 05.7**	**-6.6**
ANMO	**Albuquerque**	**8.17**	**72**	*e*Pn	**Pn**	**21 12 57.1**	**+2.5**
ANMO				*e*Pg	**Pg**	**21 13 26.9**	**-4.6**
MNTX	**Cornudas Mount**	**9.02**	**94**	*e*Pn	**Pn**	**21 13 06.1**	**-0.2**
	comp=N,6.9nm,0.6s						
KIPM	**Iron Peak**	**9.24**	**321**	P	**Pn**	**21 13 10.5**	**+1.3**
LTX	**Lajitas**	**11.09**	**105**	Pn	**Pn**	**21 13 33.2**	**-1.4**

IDC 29 21:11:42.8±5.7, 2071S×17787W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.1/13, mbtmp4.5/3, 1C-3D, Error ellipse: s-maj=166.7km s-min=90.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.81**	**244**	P	P	21 19 00.8	0.0
	3.5nm,0.5s,baz=96,slow=10,SNR=16						
ASAR	**Alice Springs**	**44.59**	**257**	P	P	21 19 56.9	+0.2
	4.9nm,0.6s,baz=98,slow=7.6,SNR=54						
ASPA	**Alice Springs**	**44.59**	**257**	⇓*i*P	P	21 19 56.8	+0.2
WB2	**Warramunga Arr**	**44.68**	**262**	⇓*i*P	P	21 19 58.0	+0.7
WRA	**Warramunga Arr**	**44.69**	**262**	P	P	21 19 58.1	+0.6
	2.5nm,0.2s,baz=96,slow=8.2,SNR=207						
KAKA	**Kakadu**	**48.10**	**271**	⇓*i*P	P	21 20 26.2	+2.0
	5.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**53.12**	**262**	⇑*i*P	P	21 21 02.2	+0.1
	2.8nm,0.3s						
AKASG	**Malin Array Be**	**143.25**	**331**	PKP	PKPdf	21 31 18.3	-0.6
	0.7nm,0.4s,baz=44,slow=4.2,SNR=5.9						

*ISCJB **29** 21:12:51.8±0.4, 3284N±002×11595W±003, h6km±3km, Error ellipse: s-maj=3.8km s-min=2.7km az=57.9*
*NEIC **29** 21:12:52.4, 3283N×11598W, h2km, ML3.5(PAS), After PAS.*
*ECX **29** 21:12:53.0±0.6, 3282N×11594W, h1km, MD3.5, ML3.6*

ISC 29 21:12:52.1±0.4, 3283N±002×11595W±003, h7km±3km, n26, σ0§69/44, 14C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart**	**0.17**	**48**	P	**Pg**	**21 12 55.9**	**+0.2**
	baz=0.2,SNR=101						
SWSC				⇓S	**Sg**	**21 12 58.8**	**+0.8**
	baz=0.2						
DVTC	**Desert V Tower**	**0.21**	**218**	⇑P	**Pg**	**21 12 56.4**	**0.0**
	baz=0.2,SNR=127						
DVTC				⇓S	**Sg**	**21 12 59.8**	**+0.6**
	baz=0.2						
RMX	**La Rumorosa**	**0.25**	**206**	⇑*e*P	**Pg**	**21 12 57.3**	**+0.3**
RMX				*e*S	**Sg**	**21 13 01.2**	**+0.8**
RMX				⇑*e*		21 13 01.6	
	comp=N,6μm,0.2s						
MONP	**Monument Peak**	**0.40**	**279**	⇓P	**Pg**	**21 12 59.8**	**-0.2**
	baz=0.4,SNR=57						
MONP				⇓S	**Sg**	**21 13 05.5**	**+0.2**
	baz=0.4						
CBX	**Cerro Bola**	**0.79**	**230**	*e*P	**Pg**	**21 13 07.2**	**-0.2**
CBX				*e*S	**Sg**	**21 13 18.9**	**+1.3**
PFO	**Pinyon Flat Ob**	**0.89**	**332**	*e*Pg	**Pg**	**21 13 08.6**	**-0.6**
PFO				*e*Sg	**Sg**	**21 13 20.2**	**-0.6**
PFO	**Pinyon Flat Ob**	**0.89**	**332**	P	**Pg**	**21 13 08.8**	**-0.5**
	baz=0.9,SNR=63						
PFO				⇓S	**Sg**	**21 13 21.4**	**+0.6**
	baz=0.9						
RDX	**Rancho Dowling**	**0.89**	**180**	⇓*e*P	**Pg**	**21 13 08.8**	**-0.4**
RDX				*e*S	**Sg**	**21 13 20.7**	**-0.1**
RDX				⇓*e*		21 13 25.1	
	comp=N,2μm,0.4s						
BC3	**Big Chuckw Mtn**	**0.93**	**27**	P	**Pg**	**21 13 09.7**	**-0.2**
	baz=0.9,SNR=54						
BC3				⇓S	**Sg**	**21 13 22.9**	**+0.9**
	baz=0.9						
GLA	**Glamis**	**0.97**	**76**	*e*Pg	**Pg**	**21 13 08.5**	**-2.3**
GLA				*e*S	**Sg**	**21 13 22.9**	**-0.4**
GLA	**Glamis**	**0.97**	**76**	⇑P	**Pg**	**21 13 10.1**	**-0.7**
	baz=1.0						
GLA				⇓S	**Sg**	**21 13 24.1**	**+0.7**
	baz=1.0						
109C	**Camp Elliot, M**	**0.98**	**274**	P	**Pg**	**21 13 10.1**	**-0.7**
	baz=0.9,SNR=19						
109C				⇑S	**Sg**	**21 13 22.5**	**-1.0**
	baz=0.9						
ENX	**Ensenada**	**1.12**	**213**	⇑*e*P	**Pg**	**21 13 13.0**	**-0.6**
ENX				*e*S	**Sg**	**21 13 28.1**	**0.0**
ENX				⇑*e*		21 13 33.0	
	comp=N,2μm,0.6s						
BELC	**Belle Mtn.**	**1.17**	**358**	⇓S	**Sg**	**21 13 29.4**	**-0.5**
	baz=1.2						
PBX	**Punta Banda**	**1.27**	**212**	⇑*e*P	**Pn**	**21 13 15.7**	**-0.5**
PBX				*e*S	**Sb**	**21 13 32.9**	**+0.2**
ECNX	**Esteban Cantu**	**1.29**	**205**	⇓*e*P	**Pn**	**21 13 15.8**	**-0.7**
ECNX				⇓*e*P		21 13 13.0	
ECNX				*e*S	**Sb**	**21 13 28.6**	**-4.8**
ECNX				*e*S	**Sb**	**21 13 33.5**	**+0.1**
MURC	**Murrieta**	**1.30**	**307**	P	**Pn**	**21 13 16.1**	**-0.6**
	baz=1.3,SNR=41						
MURC				⇑S	**Sb**	**21 13 33.4**	**-0.4**
	baz=1.3						
IRM	**Iron Mountain**	**1.49**	**26**	⇑S	**Sn**	**21 13 38.1**	**-0.8**
	baz=1.5						
Y12C	**Blythe**	**1.51**	**52**	⇑S	**Sn**	**21 13 39.6**	**+0.2**
	baz=1.5						
BBRC	**Big Bear Sol-O**	**1.65**	**331**	⇑S	**Sn**	**21 13 43.7**	**+0.9**
	baz=1.6						
BFSC	**Mount Baldy St**	**2.01**	**315**	⇑S	**Sn**	**21 13 52.5**	**+0.8**
	baz=2.0						
CIS	**Catalina Islan**	**2.14**	**286**	⇑S	**Sn**	**21 13 55.9**	**+0.9**
	baz=2.1						
SCI	**San Clemente I**	**2.19**	**275**	⇓S	**Sn**	**21 13 55.9**	**-0.4**
	baz=2.2						
GSC	**Goldstone**	**2.57**	**344**	Pn	**Pn**	**21 13 35.0**	**+0.9**
GSC				*e*Pg	**Pg**	**21 13 42.2**	**+0.8**
ISA	**Isabella**	**3.52**	**324**	*e*Pg	**Pg**	**21 13 56.0**	**-3.6**
DAC	**Darwin (Calif)**	**3.70**	**339**	*e*Pg	**Pg**	**21 14 02.6**	**-0.4**

KRSC 29 21:15:33.3±0.7, 5559N×16263E, h53km±52km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.63**	**10**	*e*P	Pn	21 15 46.8	+0.5
KBTR				*e*S	Sn	21 15 57.2	+1.5
KBTR	**Krutoberegovo**	**0.63**	**10**	*e*P	Pn	21 15 46.8	+0.5
KBTR				*e*S	Sn	21 15 57.2	+1.5
ZLN	**Zelenaya**	**1.12**	**293**	*e*P	Pn	21 15 53.8	+1.2
ZLN				*e*S	Sn	21 16 08.8	+1.8
ZLN	**Zelenaya**	**1.12**	**293**	*e*P	Pn	21 15 53.8	+1.2
ZLN				*e*S	Sn	21 16 08.8	+1.8
MKZ	**Mys Kozlova**	**1.16**	**207**	*e*P	Pn	21 15 53.4	+0.2
MKZ				*e*S	Sn	21 16 08.4	+0.4
MKZ	**Mys Kozlova**	**1.16**	**207**	*e*P	Pn	21 15 53.4	+0.2
MKZ				*e*S	Sn	21 16 08.4	+0.4
BDR	**Baidarnaya**	**1.26**	**321**	*e*P	Pn	21 15 56.3	+1.7
BDR				*e*S	Sn	21 16 13.2	+2.7
BDR	**Baidarnaya**	**1.26**	**321**	*e*P	Pn	21 15 56.3	+1.7
BDR				*e*S	Sn	21 16 13.2	+2.7
KRSR	**Krestovskiy**	**1.32**	**299**	*e*P	Pn	21 15 56.3	+0.9
KRSR				S	Sn	21 16 13.3	+1.4
KRSR	**Krestovskiy**	**1.32**	**299**	*e*P	Pn	21 15 56.3	+0.9
KRSR				S	Sn	21 16 13.3	+1.4
KLY	**Klyuchi**	**1.33**	**304**	*e*P	Pn	21 15 55.2	-0.3
KLY				*e*S	Sn	21 16 11.5	-0.6
KLY	**Klyuchi**	**1.33**	**304**	*e*P	Pn	21 15 55.2	-0.3
KLY				*e*S	Sn	21 16 11.5	-0.6
SRKR	**Sorokina**	**1.34**	**323**	*e*P	Pn	21 15 57.4	+1.7
SRKR				S	Sn	21 16 15.3	+2.8
SRKR	**Sorokina**	**1.34**	**323**	*e*P	Pn	21 15 57.4	+1.7
SRKR				S	Sn	21 16 15.3	+2.8
KMNR	**Kamenistaya**	**1.37**	**278**	*i*P	Pn	21 15 58.2	+2.2
KMNR				*e*S	Sn	21 16 16.2	+3.2
KMNR	**Kamenistaya**	**1.37**	**278**	*i*P	Pn	21 15 58.2	+2.2
KMNR				*e*S	Sn	21 16 16.2	+3.2
KPT	**Kopyto**	**1.41**	**286**	*i*P	Pn	21 15 58.6	+2.0
KPT				*e*S	Sn	21 16 16.7	+2.6
KPT	**Kopyto**	**1.41**	**286**	*i*P	Pn	21 15 58.6	+2.0
KPT				*e*S	Sn	21 16 16.7	+2.6
TUMR	**Tumrok**	**1.45**	**259**	*i*P	Pn	21 15 59.7	+2.6
TUMR				*e*S	Sn	21 16 18.4	+3.4
TUMR	**Tumrok**	**1.45**	**259**	*i*P	Pn	21 15 59.7	+2.6
TUMR				*e*S	Sn	21 16 18.4	+3.4
KOZ	**Kozyrevsk**	**1.62**	**288**	P	Pn	21 16 02.4	+2.9
KOZ				*e*S	Sn	21 16 23.9	+4.6
KOZ	**Kozyrevsk**	**1.62**	**288**	P	Pn	21 16 02.4	+2.9
KOZ				*e*S	Sn	21 16 23.9	+4.6
SRDR	**Sredinnyy**	**1.79**	**295**	*i*P	Pn	21 16 04.4	+2.6
SRDR				*e*S	Sn	21 16 27.1	+3.7
SRDR	**Sredinnyy**	**1.79**	**295**	*i*P	Pn	21 16 04.4	+2.6
SRDR				*e*S	Sn	21 16 27.1	+3.7
SPN	**Mys Shipunski**	**2.93**	**212**	P	Pn	21 16 18.8	+1.5
SPN				*e*S	Sn	21 16 51.9	+0.7
SPN	**Mys Shipunski**	**2.93**	**212**	P	Pn	21 16 18.8	+1.5
SPN				*e*S	Sn	21 16 51.9	+0.7
NLC	**Nalytchevo**	**3.09**	**220**	S	Sn	21 16 57.5	+2.2
NLC	**Nalytchevo**	**3.09**	**220**	S	Sn	21 16 57.5	+2.2
AVH	**Avacha**	**3.25**	**226**	P	Pn	21 16 25.1	+3.3
AVH	**Avacha**	**3.25**	**226**	P	Pn	21 16 25.1	+3.3
GNL	**Ganaly**	**3.32**	**237**	P	Pn	21 16 26.1	+3.4
GNL	**Ganaly**	**3.32**	**237**	P	Pn	21 16 26.1	+3.4
PET	**Petropavlovsk**	**3.47**	**224**	S	Sn	21 17 08.3	+3.7
PET	**Petropavlovsk**	**3.47**	**224**	S	Sn	21 17 08.3	+3.7
RUS	**Russkaya**	**3.99**	**219**	P	Pn	21 16 34.0	+2.1
RUS	**Russkaya**	**3.99**	**219**	P	Pn	21 16 34.0	+2.1

*ISCJB **29** 21:20:46.3±0.5, 3683N±002×12150W±003, h11km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=85.4*
*IDC **29** 21:20:46.4±2.7, 3675N×12180W, h0km, mb1 3.8/4, mb1mx3.5/22, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=26.8km s-min=13.7km az=92.0*
*NEIC **29** 21:20:46.0, 3685N×12145W, h3km, MW3.7(BRK), After NCEDC.*
NEIC Felt [IV] at Hollister and San Juan Bautista; [II] at Berkeley, Redwood City, San Mateo, San Ramon and Seaside. Felt at Alameda, Aromas, Daly City, Dublin, Emeryville, Monterey, Morgan Hill, Oakland, Palo Alto, Pleasanton, Salinas, San Francisco, San Jose, San Ramon, Sunnyvale and Watsonville.

ISC 29 21:20:46.8±0.4, 3683N±002×12149W±003, h11km±2km, n62, σ1§00/79, 24C-15D, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAO	**San Andreas Ge**	**0.07**	**155**	*e*P	**Pg**	**21 20 48.4**	**-0.8**
PACP	**Pacheco Peak**	**0.24**	**41**	⇓P	**Pg**	**21 20 51.7**	**-0.1**
	baz=0.2						
PACP				⇓S	**Sg**	**21 20 55.8**	**+0.7**
	baz=0.2						
HAST	**UC Hastings Re**	**0.44**	**187**	⇑P	**Pg**	**21 20 55.8**	**+0.4**
	baz=0.5,SNR=1000						
HAST				⇓S	**Sg**	**21 21 02.3**	**+0.9**
	baz=0.5						
BNLO	**Ben Lomond (Sa**	**0.63**	**299**	⇑P	**Pg**	**21 20 58.9**	**-0.1**
	baz=0.6,SNR=212						
BNLO				⇓S	**Sg**	**21 21 08.1**	**+0.8**
	baz=0.6						
T05C	**Eagle Field, D**	**0.65**	**84**	⇑P	**Pg**	**21 21 00.8**	**+1.3**
	baz=0.6,SNR=38						
T05C				⇑S	**Sg**	**21 21 09.3**	**+1.2**
	baz=0.6						
S04C	**Ingram Canyon,**	**0.69**	**10**	P	**Pg**	**21 21 00.3**	**+0.1**
	baz=0.7,SNR=690						
S04C				⇑S	**Sg**	**21 21 10.7**	**+1.6**
	baz=0.7						
U04C	**Hernandez Rese**	**0.73**	**129**	⇑P	**Pg**	**21 21 01.1**	**+0.1**
	baz=0.7,SNR=461						
WENL	**Wente Brothers**	**0.82**	**345**	⇑P	**Pg**	**21 21 03.1**	**+0.4**
	baz=0.8,SNR=176						
WENL				⇓S	**Sg**	**21 21 14.4**	**+0.9**
	baz=0.8						
V03C	**Hunter Liggett**	**0.83**	**166**	⇑P	**Pg**	**21 21 02.9**	**+0.1**
	baz=0.8,SNR=753						
JRSC	**Jasper Ridge**	**0.83**	**314**	P	**Pg**	**21 21 02.9**	**0.0**
	baz=0.8,SNR=74		

NVAR				Sn		Sb	21 22 18.9	+2.4	
	8.1nm,0.3s,baz=230,slow=19,SNR=7.2								
NVAR				Lg			21 22 27.4		
	12nm,0.3s,baz=146,slow=32,SNR=8.4								
NVAR	**Mina Array Bea**	**2.99**	**57**	Pn		**Pb**	**21 21 39.7**	**-0.4**	
NVAR				Sn		**Sb**	**21 22 18.9**	**+2.4**	
NVAR				Lg			21 22 27.4		
DAC	**Darwin (Calif)**	**3.18**	**99**	*e*Pn		**Pn**	**21 21 38.5**	**+1.8**	
KCPM	**Cahto Peak**	**3.30**	**331**	*e*Pn		**Pn**	**21 21 39.9**	**+1.6**	
KIPM	**Iron Peak**	**3.37**	**333**	*e*Pn		**Pn**	**21 21 37.5**	**-1.8**	
TPH	**Tonopah**	**3.61**	**69**	*e*Pg		**Pg**	**21 21 54.2**	**-1.9**	
WDC	**Whiskeytown Da**	**3.84**	**348**	*e*Pn		**Pn**	**21 21 45.8**	**0.0**	
GSC	**Goldstone**	**4.08**	**110**	*e*Pn		**Pn**	**21 21 49.4**	**+0.2**	
KHMM	**Horse Mountain**	**4.41**	**337**	*e*Pn		**Pn**	**21 21 54.9**	**+1.3**	
BMN	**Battle Mountai**	**4.91**	**42**	Pn		**Pn**	**21 22 02.1**	**+1.7**	
TRCR	**Troy Canyon**	**4.93**	**70**	*e*Pg		**Pg**	**21 22 19.6**	**-1.6**	
YBH	**Yreka Blue Hor**	**4.99**	**349**	*e*Pb		**Pb**	**21 22 11.6**	**-2.5**	
MOD	**Modoc**	**5.15**	**10**	Pn		**Pn**	**21 22 03.7**	**-0.1**	
	19nm,0.8s								
PFO	**Pinyon Flat Ob**	**5.22**	**126**	Pn		**Pn**	**21 22 07.0**	**+2.2**	
	0.7nm,0.3s,baz=316,slow=15,SNR=5.0								
PFO				Sn		**Sn**	**21 23 10.9**	**+6.0**	
	0.7nm,0.3s,baz=151,slow=23,SNR=2.8								
PFO				Lg			21 23 39.8		
	0.1nm,0.3s,baz=161,slow=14,SNR=2.4								
PFO	**Pinyon Flat Ob**	**5.22**	**126**	*e*Pn		**Pn**	**21 22 06.0**	**+1.3**	
	22nm,0.9s								
WVOR	**Wild Horse Val**	**6.01**	**21**	Pn		**Pn**	**21 22 16.0**	**+0.3**	
	39nm,1.3s								
ARUT	**Antelope Range**	**6.48**	**79**	*e*Pg		**Pg**	**21 22 49.6**	**-1.3**	
CCUT	**Cedar City**	**6.52**	**81**	*e*Pg		**Pg**	**21 22 50.2**	**-1.5**	
CCUT				*e*Sg		**Sg**	**21 24 13.0**	**-3.2**	
TMUT	**Trail Mountain**	**8.47**	**70**	*e*Pb		Px	21 23 10.0		
SRU	**San Rafael**	**8.95**	**72**	*e*Pn		**Pn**	**21 22 56.2**	**+0.3**	
	9.2nm,0.4s								
PDAR	**Pinedale Array**	**10.92**	**53**	Pn		**Pn**	**21 23 31.2**	**+8.2**	
	0.0nm,0.3s,baz=216,slow=5.6,SNR=3.3								
TXAR	**Lajitas Array**	**16.68**	**111**	Pn		**Pn**	**21 24 47.4**	**+6.8**	
	0.1nm,0.3s,baz=284,slow=13,SNR=6.1								

*IDC **29** 21:24:44.8±0.7, 4708N×156.13E, h0km, mb3.8/12, mb1 4.1/12, mb1mx3.9/23, mbtmp3.8/12, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=24.0km s-min=17.5km az=145.0*
*NEIC **29** 21:24:46.2±0.7, 4703N×156.16E, h10km, mb4.3/2, Error ellipse: s-maj=19.3km s-min=15.3km az=153.0*
*MOS **29** 21:24:47.8±1.2, 4705N×156.07E, h35km, mb4.4/2, Error ellipse: s-maj=31.6km s-min=18.0km az=89.2*
*ISCJB **29** 21:24:48.3±0.6, 47.1N±0.1×156.2E±0.1, h35km, mb3.9/14, MS3.3/1, Error ellipse: s-maj=18.4km s-min=13.0km az=129.6*

ISC 29 21:24:50.0±0.6, 472N±01×1561E±01, h35km, n24, σ1§04/23, mb3.9/14, MS3.3/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.53**	**0**	*e*PN	**Pn**	**21 25 38.7**	**-3.6**
KSRS	**Korea Array**	**22.87**	**255**	P	**P**	**21 29 51.1**	**+0.8**
	1.6nm,0.8s,mb3.5,baz=21,slow=28,SNR=2.5						
SONM	**Songino Array**	**33.12**	**290**	LR	LR	21 45 47.2	
	comp=Z,59nm,18.7s,MS3.3,baz=9.5,slow=38						
INK	**Inuvik**	**40.21**	**33**	P	**P**	**21 32 22.9**	**-0.2**
	1.3nm,0.6s,mb3.9,baz=278,slow=5.2,SNR=7.4						
INK	**Inuvik**	**40.21**	**33**	P	**P**	**21 32 22.9**	**-0.2**
INK				*e*P		21 32 23.2	
NVS	**Novosibirsk**	**44.56**	**308**	*e*P	**P**	**21 32 57.3**	**-1.1**
MKAR	**Makanchi Array**	**48.56**	**298**	P	**P**	**21 33 30.3**	**+0.5**
	1.3nm,0.8s,mb4.0,baz=71,slow=7.1,SNR=7.3						
MKAR	**Makanchi Array**	**48.56**	**298**	P	**P**	**21 33 30.3**	**+0.5**
KURK	**Kurchatov**	**48.83**	**304**	*e*P	**P**	**21 33 32.4**	**+0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**48.83**	**304**	*e*P	**P**	**21 33 32.4**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.5						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**21 33 35.7**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=294,slow=7.0,SNR=6.5						
YKA	**Yellowknife Ar**	**49.36**	**38**	P	**P**	**21 33 35.7**	**-0.2**
RES	**Resolute Bay**	**49.79**	**19**	*e*P	**P**	**21 33 41.3**	**+2.1**
	comp=Z,70nm,0.4s						
ARCES	**ARCESS Array B**	**58.13**	**342**	P	**P**	**21 34 39.6**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.2,baz=37,slow=6.4,SNR=9.8						
NVAR	**Mina Array Bea**	**60.42**	**64**	P	**P**	**21 34 56.9**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=327,slow=11,SNR=3.4						
DUG	**Dugway**	**62.62**	**60**	*e*P	**P**	**21 35 09.2**	**-1.5**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
DUG	**Dugway**	**62.62**	**60**	*e*P	**P**	**21 35 09.2**	**-1.5**
	comp=Z,0.9nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**62.84**	**56**	P	**P**	**21 35 12.3**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.9,baz=318,slow=4.2,SNR=5.5						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**21 35 24.7**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=39,slow=7.0,SNR=8.7						
WRA	**Warramunga Arr**	**69.61**	**202**	P	**P**	**21 35 54.4**	**-1.2**
	comp=Z,0.5nm,0.9s,mb3.4,baz=21,slow=6.6,SNR=4.5						
AKASG	**Malin Array Be**	**72.32**	**328**	P	**P**	**21 36 10.8**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=36,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**73.28**	**201**	P	**P**	**21 36 17.9**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=18,slow=5.9,SNR=7.9						
TXAR	**Lajitas Array**	**75.50**	**63**	P	**P**	**21 36 31.3**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=300,slow=4.4,SNR=17						
TXAR	**Lajitas Array**	**75.50**	**63**	P	**P**	**21 36 31.3**	**+0.6**

PRE 29 21:25:28.0±1.6, 2694S×2672E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.57**	**89**	*e*P	Pg	21 25 39.5	+0.5
PRYS				*e*S	Sg	21 25 46.3	-0.1
PRYS				AML	AML	21 25 51.8	
	comp=Z,856nm,0.8s						
KSR	**Koster**	**1.10**	**8**	*e*P	Pg	21 25 49.1	0.0
KSR				*e*S	Sg	21 26 03.6	+0.4
KSR				AML	AML	21 26 09.4	
	comp=Z,959nm,0.6s						
SWZ	**Schweizer**	**1.26**	**259**	*e*P	Pg	21 25 52.4	+0.2
SWZ				*e*S	Sg	21 26 09.1	+0.6
SWZ				AML	AML	21 26 14.7	
	comp=Z,791nm,0.3s						
ERPM	**east rand prop**	**1.53**	**63**	*e*P	Pn	21 25 56.1	-0.2
ERPM				*e*S	Sn	21 26 17.9	+1.1
ERPM				AML	AML	21 26 19.8	
	comp=Z,214nm,0.2s						
SEK	**Senekal**	**1.59**	**150**	*e*P	Pn	21 25 58.7	+1.5
SEK				*e*S	Sn	21 26 19.0	+0.6
SEK				AML	AML	21 26 24.8	
	comp=Z,328nm,0.4s						
SLR	**Silverton**	**1.85**	**50**	*e*P	Pn	21 26 01.6	+0.9
SLR				*e*S	Sn	21 26 25.4	+0.9
SLR				AML	AML	21 26 28.1	
	comp=Z,1μm,0.3s						
BOSA	**Boshof**	**2.11**	**218**	*e*P	Pn	21 26 05.3	+0.9
BOSA				*e*S	Sn	21 26 31.5	+0.4
BOSA				AML	AML	21 26 39.8	
	comp=Z,91nm,0.6s						
LBTB	**Lobatse**	**2.17**	**332**	*e*P	Pn	21 26 06.2	+1.1
LBTB				*e*S	Sn	21 26 33.9	+1.4
LBTB				AML	AML	21 26 38.7	
	comp=Z,325nm,0.2s						
HVD	**Hendrik Verwoe**	**3.81**	**196**	*e*P	Pn	21 26 28.4	+0.7
HVD				*e*S	Sn	21 27 12.9	-0.1
HVD				AML	AML	21 27 36.1	
	comp=Z,53nm,0.3s						
KSD	**Kokstad**	**4.30**	**147**	*e*P	Pn	21 26 35.6	+1.2
KSD				*e*S	Sn	21 27 24.5	-0.6
KSD				AML	AML	21 27 44.2	
	comp=Z,72nm,0.4s						
PKA	**Prieska**	**4.43**	**231**	*e*P	Pn	21 26 36.5	+0.3
PKA				*e*S	Sn	21 27 27.3	-1.0
PKA				AML	AML	21 27 50.1	
	comp=Z,102nm,0.6s						
UPI	**Upington**	**5.05**	**252**	*e*P	Pn	21 26 46.3	+1.5
UPI				*e*S	Sn	21 27 42.0	-1.7
UPI				AML	AML	21 28 12.5	
	comp=Z,40nm,0.4s						
MSNA	**Messina**	**5.47**	**34**	*e*P	Pn	21 26 51.0	+0.5
MSNA				*e*S	Sn	21 27 50.0	-4.1
MSNA				AML	AML	21 28 26.4	
	comp=Z,96nm,0.3s						
GRM	**Grahamstown**	**6.35**	**182**	*e*P	Pn	21 27 03.3	+0.7
GRM				*e*S	Sn	21 28 13.1	-2.6
GRM				AML	AML	21 28 57.4	
	comp=Z,24nm,0.5s						
CVNA	**Calvinia**	**7.58**	**232**	*e*P	Pn	21 27 19.8	+0.3
CVNA				*e*S	Sn	21 28 42.7	-3.2
CVNA				AML	AML	21 29 30.9	
	comp=Z,50nm,0.5s						

*IDC **29** 21:35:15.7±0.8, 4552N×15398E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.1/1, MS3.5/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=22.3km s-min=20.1km az=149.0*
*NEIC **29** 21:35:17.4±0.5, 4554N×15402E, h10km, Error ellipse: s-maj=15.2km s-min=14.0km az=172.0*
*ISCJB **29** 21:35:19.1±0.8, 455N±0.1×1540E±02, h35km, mb3.8/11, MS3.5/1, Error ellipse: s-maj=20.7km s-min=19.0km az=165.8*

ISC 29 21:35:20.9±0.7, 455N±01×1539E±02, h35km, n14, σ0§92/13, mb3.8/11, MS3.5/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.13**	**264**	Pn	**Pn**	**21 37 14.2**	**-2.3**
	0.3nm,0.3s,baz=100,slow=19,SNR=2.2						
SONM	**Songino Array**	**32.24**	**291**	P	**P**	**21 41 47.7**	**+1.7**
	0.4nm,0.6s,mb3.4,baz=86,slow=9.0,SNR=3.2						
ZAL	**Zalesovo**	**43.76**	**307**	LR	LR	22 00 59.8	
	comp=Z,49nm,18.2s,MS3.5,baz=339,slow=35						
MKAR	**Makanchi Array**	**47.97**	**299**	P	**P**	**21 43 57.2**	**+1.0**
	1.2nm,0.8s,mb4.0,baz=71,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**47.97**	**299**	P	**P**	**21 43 57.2**	**+1.0**
YKA	**Yellowknife Ar**	**51.59**	**36**	P	**P**	**21 44 23.1**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=295,slow=7.3,SNR=3.4						
BVAR	**Borovoye Array**	**52.03**	**310**	P	**P**	**21 44 27.6**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=20,slow=2.6,SNR=4.3						
ARCES	**ARCESS Array B**	**59.16**	**341**	P	**P**	**21 45 17.7**	**-0.5**
	2.3nm,0.9s,mb4.2,baz=37,slow=6.2,SNR=4.1						
NVAR	**Mina Array Bea**	**62.54**	**62**	P	**P**	**21 45 41.0**	**-0.1**
	0.3nm,0.4s,mb3.8,baz=283,slow=7.7,SNR=3.6						
FINES	**FINESS Array B**	**65.35**	**335**	P	**P**	**21 45 58.9**	**-0.7**
	1.5nm,0.7s,mb4.1,baz=46,slow=6.1,SNR=8.0						
WRA	**Warramunga Arr**	**67.55**	**200**	P	**P**	**21 46 13.3**	**-0.3**
	0.7nm,0.7s,mb3.8,baz=19,slow=6.8,SNR=9.8						
ASAR	**Alice Springs**	**71.23**	**199**	P	**P**	**21 46 37.1**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=16,slow=5.3,SNR=6.5						
AKASG	**Malin Array Be**	**72.84**	**327**	P	**P**	**21 46 45.8**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=34,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**77.63**	**61**	P	**P**	**21 47 13.8**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=312,slow=3.5,SNR=9.9						

*CSEM **29** 21:37:44.2, 3760N×5717E, h14km, ML3.5, After TEH*

TEH 29 21:38:51.8, 3760N×5717E, h14km, Mn3.5, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISHV	**Shirvan**	**0.42**	**99**	*e*Pg	Pg	21 38 58.1	-2.1
ISHV	**Shirvan**	**0.42**	**99**	*e*Pg	Pg	21 38 58.4	-1.8
ISHV	**Shirvan**	**0.42**	**99**	*e*Pg	Pg	21 38 58.5	-1.7
ISHV				*e*Sg	Sg	21 39 05.6	-0.3
ISHV				*e*Sg	Sg	21 39 05.8	-0.1
ISFR	**Esferayen**	**0.86**	**130**	*e*Pg	Pg	21 39 05.4	-3.1
ISFR	**Esferayen**	**0.86**	**130**	*e*Pg	Pg	21 39 05.6	-2.9
ISFR	**Esferayen**	**0.86**	**130**	*e*Pg	Pg	21 39 05.6	-2.9
ISFR				*e*Sg	Sg	21 39 19.0	-0.8
ISFR				*e*Sg	Sg	21 39 19.1	-0.7
IQHU	**Quchan**	**1.21**	**116**	*e*Pg	Pg	21 39 11.9	-3.3
IAKL	**Akhlamad**	**1.60**	**129**	*e*Pn	Pn	21 39 18.5	-1.1
IAKL	**Akhlamad**	**1.60**	**129**	*e*Pn	Pn	21 39 19.0	-0.6
IAKL				*e*Sn	Sn	21 39 40.7	+0.7
IPAY	**Payeh**	**1.85**	**128**	*e*Pn	Pn	21 39 22.4	-0.7
IPAY	**Payeh**	**1.85**	**128**	*e*Pn	Pn	21 39 23.5	+0.4
IPAY	**Payeh**	**1.85**	**128**	*e*Pn	Pn	21 39 23.5	+0.4
IPAY				*e*Sn	Sn	21 39 46.7	+0.3
IPAY				*e*Sn	Sn	21 39 46.8	+0.5
IMOG	**Moghan**	**2.29**	**130**	*e*Pn	Pn	21 39 29.2	+0.1
IMOG	**Moghan**	**2.29**	**130**	*e*Pn	Pn	21 39 29.9	+0.8
IMOG	**Moghan**	**2.29**	**130**	*e*Pn	Pn	21 39 29.9	+0.8
IMOG				*e*Sn	Sn	21 39 56.2	-0.8
IMOG				*e*Sn	Sn	21 39 56.9	-0.1
IMYA	**Miamay**	**2.66**	**117**	*e*Pn	Pn	21 39 34.1	-0.1
IMYA	**Miamay**	**2.66**	**117**	*e*Pn	Pn	21 39 34.9	+0.7
IMYA	**Miamay**	**2.66**	**117**	*e*Pn	Pn	21 39 35.4	+1.2
IMYA				*e*Sn	Sn	21 40 05.6	-0.6
IMYA				*e*Sn	Sn	21 40 05.7	-0.5
IKIA	**Kiasar**	**3.12**	**245**	*e*Pn	Pn	21 39 40.6	0.0
IKIA	**Kiasar**	**3.12**	**245**	*e*Pn	Pn	21 39 40.8	+0.2
IANJ	**Anjiloo**	**3.38**	**232**	*e*Pn	Pn	21 39 43.8	-0.3
IANJ				*e*Sn	Sn	21 40 22.7	-1.2
ISHM	**Shahmirzad**	**3.59**	**241**	*e*Pn	Pn	21 39 47.1	+0.1
ISHM	**Shahmirzad**	**3.59**	**241**	*e*Pn	Pn	21 39 47.3	+0.3
ISHM	**Shahmirzad**	**3.59**	**241**	*e*Pn	Pn	21 39 47.3	+0.3
ISHM				*e*Sn	Sn	21 40 27.8	-1.5
ISHM				*e*Sn	Sn	21 40 28.0	-1.3
ILAS	**Lasjerd**	**4.05**	**238**	*e*Pn	Pn	21 39 53.0	-0.3
ILAS	**Lasjerd**	**4.05**	**238**	*e*Pn	Pn	21 39 53.3	0.0
ILAS	**Lasjerd**	**4.05**	**238**	*e*Pn	Pn	21 39 53.3	0.0
ILAS				*e*Sn	Sn	21 40 38.4	-2.2
ILAS				*e*Sn	Sn	21 40 38.6	-2.0
IFIR	**Firoozkooh**	**4.06**	**243**	*e*Pn	Pn	21 39 53.2	-0.2
IFIR	**Firoozkooh**	**4.06**	**243**	*e*Pn	Pn	21 39 53.7	+0.3
IFIR	**Firoozkooh**	**4.06**	**243**	*e*Pn	Pn	21 39 53.7	+0.3
IFIR				*e*Sn	Sn	21 40 38.9	-1.8
IFIR				*e*Sn	Sn	21 40 38.9	-1.8

MAN 29 21:43:36.7, 1555N×11982E, h33km, mb2.7, ML4.1, MS0.5, Luzon

*IDC **29** 21:46:52.4±0.9, 4699N×15567E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, Error ellipse: s-maj=29.5km s-min=22.4km az=99.0*
*ISCJB **29** 21:46:55.8±0.8, 47.1N±0.1×1557E±03, h35km, mb3.7/8, Error ellipse: s-maj=25.0km s-min=16.1km az=25.2*
*MOS **29** 21:46:56.5±0.9, 47.11N×155.57E, h41km, mb4.1/5, Error ellipse: s-maj=46.9km s-min=19.1km az=90.0*

ISC 29 21:46:57.6±0.8, 471N±01×1557E±03, h35km, n14, σ0§72/14, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.59**	**5**	*e*PN	**Pn**	**21 47 49.6**	**-1.1**
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**21 55 36.3**	**+0.8**
	0.6nm,0.8s,mb3.6,baz=63,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**48.32**	**298**	P	**P**	**21 55 36.3**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**49.58**	**38**	P	**P**	**21 55 45.6**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=294,slow=7.2,SNR=8.1						
YKA	**Yellowknife Ar**	**49.58**	**38**	P	**P**	**21 55 45.6**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**21 56 03.8**	**+0.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=58,slow=8.1,SNR=8.7						
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**21 56 03.8**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.08**	**342**	P	**P**	**21 56 47.2**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.2,baz=47,slow=9.2,SNR=3.3						
ARCES	**ARCESS Array B**	**58.08**	**342**	P	**P**	**21 56 47.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**64.45**	**336**	P	**P**	**21 57 30.0**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=44,slow=8.3,SNR=4.8						
FINES	**FINESS Array B**	**64.45**	**336**	P	**P**	**21 57 30.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.45**	**201**	P	**P**	**21 58 01.1**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=22,slow=7.2,SNR=3.9						
ASAR	**Alice Springs**	**73.13**	**201**	P	**P**	**21 58 24.4**	**-0.1**
	comp=Z,0.1nm,0.4s,mb3.1,baz=312,slow=38,SNR=3.2						
TXAR	**Lajitas Array**	**75.79**	**62**	P	**P**	**21 58 40.7**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=291,slow=4.3,SNR=5.7						

*IDC **29** 22:15:36.0±3.4, 3271N×116.15W, h0km, mb1 3.6/3, mb1mx3.4/21, mbtmp3.1/3, ML3.7/2, Error ellipse: s-maj=51.6km s-min=13.7km az=46.0*
*ISCJB **29** 22:15:38.5±0.3, 3283N±001×11596W±002, h8km±2km, Error ellipse: s-maj=2.7km s-min=2.4km az=40.8*

*ECX **29** 22:15:39.4±0.7, 3283N×11596W, h1km, MD3.8, ML3.9*
*NEIC **29** 22:15:39.2, 3282N×11598W, h2km, ML3.8(PAS), ML3.9(ECX), After PAS.*
NEIC Felt at Corona del Mar, El Centro, Lakeside, Riverside and San Diego. Also felt at Yuma, Arizona.

ISC 29 22:15:38.7±0.3, 3283N±001×11597W±002, h2km±2km, n59, σ0§90/102, 23C-22D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRR	**Carrizo Plain**	**0.05**	**358**	⇑*i*P	**Pg**	**22 15 40.3**	**+0.6**
SWSC	**Sam W. Stewart**	**0.18**	**53**	P	**Pg**	**22 15 42.8**	**+0.6**
	baz=0.2,SNR=1000						
SWSC				⇑S	**Sg**	**22 15 45.4**	**+0.9**
	baz=0.2						
YUH	**Yuha Desert**	**0.19**	**169**	⇓*i*P	**Pg**	**22 15 42.5**	**+0.3**
COK	**Cook Ranch**	**0.20**	**85**	⇑*i*P	**Pg**	**22 15 43.5**	**+1.0**
DVTC	**Desert V Tower**	**0.21**	**213**	⇓P	**Pg**	**22 15 43.2**	**+0.6**
	baz=0.2						
DVTC				⇑S	**Sg**	**22 15 46.3**	**+1.0**
	baz=0.2						
RMX	**La Rumorosa**	**0.25**	**202**	⇑*e*P	**Pg**	**22 15 43.9**	**+0.5**
RMX				*e*S	**Sg**	**22 15 47.8**	**+1.1**
RMX				⇑*e*		22 15 49.1	
	comp=N,14μm,0.6s						
SGL	**Mount Signal**	**0.27**	**132**	⇑*i*P	**Pg**	**22 15 44.3**	**+0.4**
MONP	**Monument Peak**	**0.39**	**279**	⇓P	**Pg**	**22 15 46.7**	**+0.6**
	baz=0.4,SNR=442						
MONP				⇓S	**Sg**	**22 15 52.4**	**+1.3**
	baz=0.4						
CPBX	**Cerro Prieto**	**0.70**	**126**	⇑*e*P	**Pg**	**22 15 52.2**	**+0.2**
CPBX				*e*S	**Sg**	**22 16 01.7**	**+0.6**
CBX	**Cerro Bola**	**0.78**	**229**	*e*P	**Pg**	**22 15 53.7**	**0.0**
CBX				*e*S	**Sg**	**22 16 04.4**	**+0.6**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	*e*P	**Pg**	**22 15 55.8**	**+0.3**
PFO				*e*S	**Sg**	**22 16 08.0**	**+1.2**
PFO	**Pinyon Flat Ob**	**0.88**	**332**	P	**Pg**	**22 15 55.6**	**+0.1**
	baz=0.9,SNR=416						
PFO				⇑S	**Sg**	**22 16 07.6**	**+0.8**
	baz=0.9						
RDX	**Rancho Dowling**	**0.90**	**179**	⇓*e*P	**Pg**	**22 15 55.5**	**-0.4**
RDX				*e*S	**Sg**	**22 16 07.3**	**-0.2**
RDX				⇑*e*		22 16 16.1	
	comp=N,3μm,0.5s						
BC3	**Big Chuckw Mtn**	**0.93**	**28**	P	**Pg**	**22 15 56.6**	**+0.2**
	baz=0.9,SNR=201						
BC3				⇑S	**Sg**	**22 16 09.7**	**+1.3**
	baz=0.9						
109C	**Camp Elliot, M**	**0.96**	**274**	⇓P	**Pg**	**22 15 56.6**	**-0.4**
	baz=0.9,SNR=39						
109C				⇓S	**Sg**	**22 16 09.3**	**-0.2**
	baz=0.9						
GLA	**Glamis**	**0.98**	**77**	*e*P	**Pg**	**22 15 56.8**	**-0.7**
GLA				*e*S	**Sg**	**22 16 10.4**	**+0.2**
GLA	**Glamis**	**0.98**	**77**	⇑P	**Pg**	**22 15 56.6**	**-0.9**
	baz=1.0						
GLA				⇑S	**Sg**	**22 16 09.9**	**-0.4**
	baz=1.0						
EMX	**El Mayor**	**1.04**	**144**	⇑*e*P	**Pg**	**22 15 58.0**	**-0.6**
EMX				*e*S	**Sg**	**22 16 11.9**	**-0.2**
ENX	**Ensenada**	**1.12**	**212**	⇓*e*P	**Pg**	**22 15 59.4**	**-0.6**
ENX				*e*S	**Sg**	**22 16 14.2**	**-0.3**
BELC	**Belle Mtn.**	**1.17**	**359**	P	**Pg**	**22 15 59.9**	**-1.1**
	baz=1.2,SNR=30						
BELC				⇓S	**Sg**	**22 16 16.7**	**+0.6**
	baz=1.2						
PBX	**Punta Banda**	**1.26**	**211**	*e*P	**Pg**	**22 16 02.0**	**-0.8**
PBX				*e*S	**Sg**	**22 16 19.2**	**-0.1**
MURC	**Murrieta**	**1.29**	**307**	⇓P	**Pg**	**22 16 02.7**	**-0.6**
	baz=1.3,SNR=46						
MURC				⇓S	**Sg**	**22 16 20.0**	**0.0**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.29**	**205**	*e*P	**Pg**	**22 16 02.4**	**-0.9**
ECNX				*e*S	**Sg**	**22 16 19.8**	**-0.2**
ECNX				*e*S	**Sg**	**22 16 15.0**	**-5.0**
ECNX	**Esteban Cantu**	**1.29**	**205**	⇓*e*P	**Pg**	**22 15 59.7**	**-3.7**
IRM	**Iron Mountain**	**1.49**	**27**	⇓P	**Pn**	**22 16 06.2**	**-0.2**
	baz=1.5,SNR=12						
Y12C	**Blythe**	**1.52**	**52**	⇓P	**Pn**	**22 16 06.5**	**-0.3**

NIED **29** *22:25:00, 46.90N×153.10E, h32km, Mw4.3 Best double couple: M≈3.33000×10^15 NP1:φ≈330.00000°, δ67.00000°, λ30.00000°. NP2:φ≈227.00000°, δ62.00000°, λ154.00000°.*
IDC **29** *22:25:19.5±0.5, 46.88N×152.77E, h0km, mb4.5/21, mb1 4.6/22, mb1mx4.6/25, mbtmp4.4/22, ML3.9/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/41, Error ellipse: s-maj=16.9km s-min=13.8km az=146.0*
NEIC **29** *22:25:24.0±1.6, 46.93N×152.78E, h28km±11km, mb4.8/48, Error ellipse: s-maj=5.7km s-min=3.7km az=153.0*
JMA **29** *22:25:24.0±0.6, 46.93N×153.09E, h30km, M5.1*
ISCJB **29** *22:25:24.8±0.7, 46.75N±0.04N×152.81E±0.05, h53km±6km, mb4.7/77, MS3.9/6, Error ellipse: s-maj=8.2km s-min=4.5km az=118.8*
MOS **29** *22:25:24.0±0.9, 46.86N×152.75E, h43km, mb5.0/39, Error ellipse: s-maj=9.3km s-min=5.6km az=96.3*
BJI **29** *22:25:24.5, 46.90N×152.80E, h27km, mB4.6, mb4.7, Ms3.9, Msz3.8*
SKHL **29** *22:25:24.9±2.7, 46.60N×153.20E, h58km±12km, mb5.1/6*
SZGRF **29** *22:25:29.3, 47.00N×151.23E, h33km, mb5.2, Kuril Islands, Russia*
ISC 29 22:25:26.4±0.6, 4688N±0.05×15277E±0.05, h49km±5km, h48km±6.5km: pP-P, n265, σ1♀12/279, mb4.7/77, MS3.9/6, 22C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.79**	**246**	⇑*i*	*i*P	**Pn**	**22 26 21.5**	**-0.7**
KUR					AMB	AMB	22 26 31.0	
	172nm,0.7s							
KUR					AMB	AMB	22 26 31.0	
	344nm,0.7s							
KUR				*i*	S	**Sn**	**22 27 06.0**	**+0.5**
KUR					A		22 27 25.7	
	2µm,0.7s							
KUR					A		22 27 25.7	
	946nm,0.7s							
KUR	**Kuril'sk**	**3.79**	**246**	⇑*i*	*i*PN	**Pn**	**22 26 21.5**	**-0.7**
KUR				*i*	S	**Sn**	**22 27 06.0**	**+0.5**
KUR					pmax	pmax		
	comp=N,170nm,0.7s							
KUR					pmax	pmax		
	comp=E,170nm,0.7s							
KUR					pmax	pmax		
	comp=Z,340nm,0.7s							
KUR					smax			
	comp=N,2µm,0.7s							
KUR					smax			
	comp=E,950nm,0.7s							
SKR	**Severo-Kuril's**	**4.40**	**29**	*e*	P	**Pn**	**22 26 31.5**	**+0.9**
SKR					AMB	AMB	22 26 37.0	
	comp=E,60nm,0.4s							
SKR					AMB	AMB	22 26 37.0	
	comp=E,70nm,0.4s							
SKR					AMB	AMB	22 26 37.0	
	comp=E,100nm,0.4s							
SKR				*e*	S	**Sn**	**22 27 16.6**	**-4.0**
SKR					A		22 27 25.6	
	comp=E,220nm,0.5s							
SKR					A		22 27 25.6	
	comp=E,390nm,0.5s							
SKR					A		22 27 25.6	
	comp=E,230nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**5.63**	**242**	⇑*i*	*i*P	**Pn**	**22 26 50.7**	**+3.2**
YUK					AMB	AMB	22 26 51.4	
	comp=E,570nm,0.2s							
YUK					A		22 28 16.6	
	comp=E,2µm,0.8s							
YUK					A		22 28 16.6	
	comp=E,3µm,0.8s							
YUK					A		22 28 16.6	
	comp=E,1µm,0.5s							
YUK					A		22 28 16.6	
	comp=E,2µm,0.5s							
NEM2	**Nemuro 2**	**6.09**	**237**		P	**Pn**	**22 26 53.9**	**+0.2**
NEM2				*e*	S	**Sn**	**22 28 00.0**	**-2.1**
JRA	**Rausu**	**6.13**	**244**		P	**Pn**	**22 26 57.7**	**+3.3**
JNK	**Nakash**	**6.57**	**243**		P	**Pn**	**22 27 02.7**	**+2.3**
JNK				*e*	S	**Sn**	**22 28 15.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.86**	**274**	*e*	P	**Pn**	**22 27 09.0**	**+4.6**
YSS					AMB	AMB	22 27 12.0	
	comp=E,60nm,1.0s							
YSS				*e*	S	**Sn**	**22 28 25.0**	**+3.9**
YSS					A		22 28 28.0	
	comp=E,60nm,0.9s							
YSS					A		22 28 28.0	
	comp=E,50nm,0.8s							
YSS					AMS	AMS	22 29 23.0	
	comp=E,500nm,15.0s							
YSS	**Yuzh-Sakhalins**	**6.86**	**274**	*e*	PN	**Pn**	**22 27 09.2**	**+4.8**
YSS					pmax	pmax		
	comp=Z,60nm,1.2s							
YSS	**Yuzh-Sakhalins**	**6.86**	**274**	*e*	Pn	**Pn**	**22 27 09.5**	**+5.1**
JTKR	**Abashiri--Toko**	**6.88**	**248**		P	**Pn**	**22 27 08.2**	**+3.6**
JAK	**Akkeshi**	**6.92**	**239**		P	**Pn**	**22 27 05.5**	**+0.3**
JAK				*e*	S	**Sn**	**22 28 20.4**	**-2.1**
JMP	**Maruseppu**	**7.21**	**250**		P	**Pn**	**22 27 13.6**	**+4.4**
PET	**Petropavlovsk**	**7.23**	**29**	*e*	P	**Pn**	**22 27 13.9**	**+4.6**
PET					pmax	pmax		
	comp=Z,26nm,0.6s							
PET	**Petropavlovsk**	**7.23**	**29**		Pn	**Pn**	**22 27 05.9**	**-3.5**
PET				*e*	Sn	**Sn**	**22 28 27.1**	**-3.0**
JAR	**Ashorobuto**	**7.31**	**244**		P	**Pn**	**22 27 13.0**	**+2.5**
JAR				*e*	S	**Sn**	**22 28 35.9**	**+3.9**
JOB	**Onbets**	**7.49**	**241**		P	**Pn**	**22 27 14.6**	**+1.7**
JOB				*e*	S	**Sn**	**22 28 36.1**	**-0.3**
UGL	**Uglegorsk**	**7.51**	**291**	*e*	P	**Pn**	**22 27 19.0**	**+5.7**
UGL					AMB	AMB	22 27 20.0	
	comp=Z,79nm,0.6s							
ASAJ	**Asahikawa**	**7.66**	**253**		Pn	**Pn**	**22 27 20.2**	**+4.8**
	comp=Z,7.0nm,0.3s,baz=76,slow=14,SNR=38							
ASAJ					LR	LR	22 30 06.4	
	comp=Z,327nm,19.4s,baz=130,slow=37							
ASAJ	**Asahikawa**	**7.66**	**253**		P	**Pn**	**22 27 20.3**	**+4.9**
JKK2	**Kamakawa 2**	**7.67**	**251**		P	**Pn**	**22 27 19.7**	**+4.3**
JWK2	**Keihoku**	**7.72**	**262**		P	**Pn**	**22 27 23.8**	**+7.7**
TYV	**Tymovskoe**	**7.77**	**305**	*e*	P	**Pn**	**22 27 21.0**	**+4.2**
TYV					AMB	AMB	22 27 25.0	
	comp=Z,22nm,0.8s							
TYV					AMB	AMB	22 27 25.0	
	comp=Z,36nm,0.8s							
JCH	**Churui**	**7.94**	**241**		P	**Pn**	**22 27 20.0**	**+0.9**
JCH				*e*	S	**Sn**	**22 28 46.3**	**-1.2**
JFR	**Furan**	**8.11**	**246**		P	**Pn**	**22 27 25.9**	**+4.4**
JAB	**Ashibetsu**	**8.18**	**249**		P	**Pn**	**22 27 26.8**	**+4.4**
ERM	**Erimo**	**8.42**	**238**	*e*	PN	**Pn**	**22 27 27.1**	**+1.4**
ERM					pmax	pmax		
	comp=Z,79nm,0.6s							
ERM	**Erimo**	**8.42**	**238**	*e*	Pn	**Pn**	**22 27 27.1**	**+1.4**
	comp=Z,79nm,0.6s							
ERM				*e*	Sn	**Sn**	**22 28 57.4**	**-1.9**
JEM	**Erimo**	**8.42**	**238**		P	**Pn**	**22 27 27.1**	**+1.4**
JEM				*e*	S	**Sn**	**22 28 57.3**	**-2.0**
JNBK	**Urakawa-nobuka**	**8.50**	**241**		P	**Pn**	**22 27 26.9**	**+0.1**
JNBK				*e*	S	**Sn**	**22 28 57.9**	**-3.4**
JNB	**Noboribetsu**	**9.45**	**246**		P	**Pn**	**22 27 41.6**	**+1.8**
JNB				*e*	S	**Sn**	**22 29 24.3**	**-0.3**
JKB	**Kayabe**	**9.77**	**244**		P	**Pn**	**22 27 44.3**	**+0.1**
JKB				*e*	S	**Sn**	**22 29 28.4**	**-4.1**
JSH	**Shimam**	**9.99**	**250**		P	**Pn**	**22 27 49.9**	**+2.7**
JYM2	**Yakumo 2**	**10.05**	**246**		P	**Pn**	**22 27 49.1**	**+1.0**
JSR	**Shiriuchi**	**10.35**	**243**		P	**Pn**	**22 27 51.6**	**-0.6**
JSR				*e*	S	**Sn**	**22 29 40.1**	**-6.6**
JTM	**Tenmabayashi**	**10.41**	**238**		P	**Pn**	**22 27 51.5**	**-1.5**
JTM				*e*	S	**Sn**	**22 29 40.7**	**-7.5**
JANG	**Nango**	**10.43**	**235**		P	**Pn**	**22 27 50.6**	**-2.6**
JANG				*e*	S	**Sn**	**22 29 39.3**	**-9.3**
JTH	**Tanohata**	**10.53**	**233**		P	**Pn**	**22 27 52.1**	**-2.5**
JTH				*e*	S	**Sn**	**22 29 40.6**	**-11**
JOSM	**Okushiri--Mats**	**10.64**	**248**		P	**Pn**	**22 27 57.1**	**+1.0**
OFUJ	**Ofunato**	**11.26**	**230**		P	**Pn**	**22 28 01.7**	**-2.8**
OFUJ				*e*	S	**Sn**	**22 29 57.8**	**-11**
JRG	**Rokugo**	**11.59**	**234**		P	**Pn**	**22 28 07.6**	**-1.5**
JIO	**Ouri**	**11.89**	**229**		P	**Pn**	**22 28 11.3**	**-1.8**
JIO				*e*	S	**Sn**	**22 30 13.5**	**-11**
KLR	**Kul'dur**	**14.25**	**287**	*e*	P	**Pn**	**22 28 48.9**	**+3.6**
MAJO	**Matsushiro**	**14.97**	**232**	*e*	P	**Pn**	**22 28 54.1**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,5.0nm,0.3s							
MAJO	**Matsushiro**	**14.97**	**232**	*e*	Pn	**Pn**	**22 28 54.1**	**-0.7**
	comp=Z,5.2nm,0.3s							
MAT	**Matsushiro**	**14.97**	**232**		P	**Pn**	**22 28 52.7**	**-2.1**
MJAR	**Matsushiro Arr**	**14.97**	**232**		Pn	**Pn**	**22 28 52.8**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=26,slow=13,SNR=6.5							
MDJ	**Mudanjiang**	**16.33**	**271**		P	**Pn**	**22 29 17.0**	**+4.8**
MDJ					AMB	AMB		
	comp=Z,25nm,0.9s							
MDJ					AMB	AMB		
	comp=Z,57nm,4.2s							
MDJ					LR	LR		
	comp=N,70nm,22.1s							
MDJ					LR	LR		
	comp=E,82nm,23.6s							
MDJ					LR	LR		
	comp=Z,141nm,23.6s							
JHJ	**Hachijo jima 2**	**16.93**	**220**		LR	LR	22 34 54.3	
	comp=Z,34nm,19.8s,baz=284,slow=34							
ZEA	**Zeya**	**17.62**	**302**	*e*	P	**Pn**	**22 29 28.9**	**+0.6**
ZEA					AMB	AMB	22 29 30.8	
	comp=Z,15nm,1.0s							
CN2	**Changchun**	**19.41**	**271**	*e*	P	**Pn**	**22 29 47.3**	**-2.6**
YAK	**Yakutsk**	**20.09**	**327**	*e*	P	**P**	**22 29 57.6**	**+1.9**
YAK					pmax	pmax		
	comp=Z,34nm,0.9s							
KSRS	**Korea Array**	**20.61**	**252**		P	**P**	**22 30 03.8**	**+2.3**
	comp=Z,5.1nm,0.5s,baz=55,slow=10,SNR=14							
KSRS					PcP	PcP	22 34 10.7	+0.2
	comp=Z,1.6nm,0.7s,baz=29,slow=2.9,SNR=4.7							
KSRS					LR	LR	22 37 06.4	
	comp=Z,82nm,18.9s,MS3.1,baz=344,slow=34							
JNU	**Nakatsue**	**21.59**	**238**		P	**P**	**22 30 12.3**	**+0.4**
	comp=Z,27nm,0.9s,mb4.7,baz=216,slow=19,SNR=4.7							
HIA	**Hailar**	**22.10**	**288**		P	**P**	**22 30 16.1**	**-1.3**
BILL	**Bilibino**	**22.32**	**13**	*e*	P	**P**	**22 30 19.4**	**-0.3**
BILL					pmax	pmax		
	comp=Z,8.0nm,1.5s,mb3.9							
BILL	**Bilibino**	**22.32**	**13**		P	**P**	**22 30 17.6**	**-2.1**
TIXI	**Tiksi**	**27.28**	**344**	*e*	P	**P**	**22 31 03.4**	**-2.7**
NJ2	**Nanjing**	**29.81**	**252**	*e*	P	**P**	**22 31 35.5**	**+6.9**
NJ2					AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0							
ULN	**Ulaanbaatar**	**30.63**	**289**	*e*	P	**P**	**22 31 34.8**	**-1.1**
ULN	**Ulaanbaatar**	**30.63**	**289**		P	**P**	**22 31 35.1**	**-0.8**
SONM	**Songino Array**	**31.07**	**289**		P	**P**	**22 31 39.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=210,slow=29,SNR=3.7							
SONM					PcP	PcP	22 34 32.6	-1.8
	comp=Z,0.8nm,0.7s,baz=22,slow=1.6,SNR=3.3							
SONM					LR	LR	22 45 25.3	
	comp=Z,166nm,18.5s,MS3.7,baz=356,slow=39							
SONM	**Songino Array**	**31.07**	**289**		P	**P**	**22 31 39.6**	**-0.1**
SONM							22 34 32.6	
SONM	**Songino Array**	**31.07**	**289**		P	**P**	**22 31 39.6**	**-0.1**
SONM					PcP	PcP	22 34 32.6	-1.8
SONM					LR	LR	22 45 25.3	
TLY	**Talaya**	**31.91**	**297**	*e*	P	**P**	**22 31 45.4**	**-1.7**
TLY					pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.6							
TLY	**Talaya**	**31.91**	**297**	*e*	P	**P**	**22 31 45.4**	**-1.7**
	comp=Z,2.6nm,0.3s,mb4.5							
NACB	**Ninganchiao**	**33.66**	**239**		P	**P**	**22 32 02.2**	**-0.2**
IMA2	**Indian Mountai**	**33.84**	**36**	*e*	P	**P**	**22 32 04.0**	**0.0**
XAN	**Xi'an**	**35.29**	**265**		P	**P**	**22 32 17.3**	**+0.8**
XAN					AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0							
MCK	**McKinley**	**35.71**	**40**		P	**P**	**22 32 18.6**	**-1.5**
SML	**Sawmill**	**36.04**	**44**	*e*	P	**P**	**22 32 22.8**	**-0.1**
COLA	**College**	**36.18**	**38**		P	**P**	**22 32 23.6**	**-0.5**
COLA					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
COLA	**College**	**36.18**	**38**		P	**P**	**22 32 23.6**	**-0.6**
	comp=Z,6.3nm,0.8s,mb4.6							
GTA	**Gaotai**	**38.72**	**279**	*e*	P	**P**	**22 32 47.5**	**+1.9**
GTA					AP	pP	22 33 00.3	+1.7
GTA					XP	sP	22 33 04.8	+0.5
GTA					PP	PP	22 34 22.3	+7.4
GTA					PPP		22 34 44.5	
GTA					PCP	PcP	22 34 57.5	+0.9
GTA					S	**S**	**22 38 46.5**	**+7.4**
GTA					SS	SS	22 41 29.8	-1.3
GTA					AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2							
GTA					AMB	AMB		
	comp=Z,56nm,4.9s							
GTA					LR	LR		
	comp=N,90nm,16.4s,MS3.9							
GTA					LR	LR		
	comp=E,122nm,17.1s,MS3.9							
GTA					LR	LR		
	comp=Z,136nm,16.3s,MS3.9							
EGAK	**Eagle**	**39.05**	**38**	*e*	P	**P**	**22 32 47.1**	**-1.3**
	comp=Z,11nm,0.9s,mb4.6							
INK	**Inuvik**	**41.67**	**32**		P	**P**	**22 33 10.5**	**+0.5**
	comp=Z,6.5nm,0.5s,mb4.5,baz=281,slow=5.4,SNR=35							
INK	**Inuvik**	**41.67**	**32**	*e*	P	**P**	**22 33 10.5**	**+0.4**
ZAL	**Zalesovo**	**42.36**	**306**		P	**P**	**22 33 15.3**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.1,baz=59,slow=6.4,SNR=5.9							
ZAL					PcP	PcP	22 35 08.2	-0.1
	comp=Z,1.7nm,0.4s,baz=0.8,slow=2.6,SNR=7.8							
ZAL					LR	LR	22 52 37.4	
	comp=Z,242nm,18.8s,MS4.1,baz=25,slow=39							
ZAL	**Zalesovo**	**42.36**	**306**		P	**P**	**22 33 15.3**	**-0.4**
ZAL							22 35 08.2	
ZAL	**Zalesovo**	**42.36**	**306**		P	**P**	**22 33 15.3**	**-0.3**
ZAL					PcP	PcP	22 35 08.2	-0.1
ZAL					LR	LR	22 52 37.4	
MK31	**Makanchi Array**	**46.67**	**297**	*e*	P	**P**	**22 33 49.8**	**-0.3**
MK31				*e*			22 35 22.9	
MKAR	**Makanchi Array**	**46.67**	**297**		P	**P**	**22 33 50.2**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.4,baz=65,slow=6.5,SNR=31							
MKAR					PcP	PcP	22 35 23.2	+0.1
	comp=Z,1.5nm,0.5s,baz=71,slow=1.7,SNR=7.0							
MKAR					LR	LR	22 54 48.4	
	comp=Z,175nm,18.8s,MS4.0,baz=352,slow=38							
MKAR	**Makanchi Array**	**46.67**	**297**		P	**P**	**22 33 50.2**	**+0.1**
MKAR							22 35 23.2	
MKAR	**Makanchi Array**	**46.67**	**297**		P	**P**	**22 33 50.2**	**+0.1**
MKAR					PcP	PcP	22 35 23.2	+0.1
MKAR					LR	LR	22 54 48.5	
KURK	**Kurchatov**	**47.10**	**303**	*e*	P	**P**	**22 33 51.9**	**-1.5**
KURK					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**47.10**	**303**	*e*	P	**P**	**22 33 51.9**	**-1.4**
	comp=Z,7.7nm,0.8s,mb4.7							
LSA	**Lhasa**	**50.03**	**273**		P	**P**	**22 34 19.0**	**+3.1**
LSA	**Lhasa**	**50.03**	**273**		P	**P**	**22 34 15.5**	**-0.4**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1							
LSA	**Lhasa**	**50.03**	**273**		P	**P**	**22 34 15.4**	**-0.5**
	comp=Z,8.1nm,0.4s,mb5.1							
BVAR	**Borovoye Array**	**50.60**	**309**		P	**P**	**22 34 19.8**	**-0.4**
	comp=Z,1.6nm,0.3s,mb4.4,baz=51,slow=8.0,SNR=19							
BVAR					PcP	PcP	22 35 37.2	-0.1
	comp=Z,2.2nm,0.4s,baz=89,slow=3.1,SNR=9.4							
BRVK	**Borovoye**	**50.64**	**309**	*e*	P	**P**	**22 34 19.9**	**-0.6**
BRVK				*e*			22 35 37.2	
BRVK					pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
BRVK	**Borovoye**	**50.64**	**309**	*e*	P	**P**	**22 34 19.9**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.4							
BRVK				*e*	PcP	PcP	22 35 37.2	-0.3
NANT	**Nan**	**50.76**	**255**	⇑	P	**P**	**22 34 21.0**	**-0.4**
	comp=Z,62nm,0.5s							
RES	**Resolute Bay**	**50.79**	**18**	*e*	P	**P**	**22 34 20.7**	**-1.0**
	comp=Z,100nm,0.6s							
YKA	**Yellowknife Ar**	**50.96**	**37**		P	**P**	**22 34 22.7**	**-0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=296,slow=7.1,SNR=18							
YKA					PcP	PcP	22 35 38.1	-0.5
	comp=Z,1.5nm,0.7s,baz=305,slow=3.7,SNR=6.9							
YKA	**Yellowknife Ar**	**50.96**	**37**		P	**P**	**22 34 22.7**	**-0.2**
YKA							22 35 38.1	
YKA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CHG	**Chiang Mai**	**51.92**	**256**	⇑	P	**P**	**22 34 32.1**	**+2.0**
	comp=Z,15nm,0.8s,mb5.0							
CHTO	**Chiang Mai**	**51.92**	**256**	*e*	P	**P**	**22 34 31.4**	**+1.3**
CHTO					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8							
CHTO	**Chiang Mai**	**51.92**	**256**	*e*	P	**P**	**22 34 31.4**	**+1.3**
	comp=Z,11nm,0.8s,mb4.8							
AAK	**Ala-Archa**	**53.57**	**296**	*e*	P	**P**	**22 34 40.9**	**-1.4**
AAK					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3							
AAK	**Ala-Archa**	**53.57**	**296**	*e*	P	**P**	**22 34 41.0**	**-1.3**
	comp=Z,2.5nm,0.9s,mb4.1							
JIRN	**Jiri**	**54.70**	**274**	*e*	P	**P**	**22 34 52.4**	**+1.9**
	comp=Z,18nm,0.3s,mb5.6							
GUN	**Gumba**	**54.76**	**275**	*e*	P	**P**	**22 34 52.5**	**+1.6**
	comp=Z,16nm,0.4s,mb5.5							
ARU	**Arti**	**54.76**	**317**	⇓	*i*P	**P**	**22 34 49.9**	**-1.0**
ARU				*e*			22 35 50.1	
ARU				*e*			22 36 49.1	
ARU				*e*	PPP		22 38 11.2	
ARU				*e*	S	**S**	**22 42 26.6**	**-1.4**
ARU				*e*	SS	SS	22 46 12.5	+1.0
ARU					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5							
ARU	**Arti**	**54.76**	**317**	*e*	P	**P**	**22 34 49.6**	**-1.4**
KKN	**Kakani**	**55.24**	**275**	*e*	P	**P**	**22 34 55.8**	**+1.4**
PKI	**Pulchoki**	**55.29**	**275**	*e*	P	**P**	**22 34 56.4**	**+1.6**
	comp=Z,8.8nm,0.5s,mb5.1							
DMN	**Daman**	**55.48**	**275**	*e*	P	**P**	**22 34 57.7**	**+1.6**
GKN	**Gorkha**	**55.55**	**276**	*e*	P	**P**	**22 34 58.1**	**+1.5**
	comp=Z,38nm,0.8s,mb5.5							
PMG	**Port Moresby**	**56.25**	**187**		P	**P**	**22 35 02.0**	**+0.3**
EDM	**Edmonton**	**56.40**	**46**	*e*	P	**P**	**22 35 02.2**	**-0.5**
KOLN	**Koldanda**	**56.40**	**276**	*e*	P	**P**	**22 35 04.4**	**+1.7**
	comp=Z,16nm,0.6s,mb5.2							
KEV	**Kevo**	**57.14**	**340**	*e*	p	**P**	**22 35 06.5**	**-1.5**
NEW	**Newport**	**57.28**	**53**	*e*	P	**P**	**22 35 07.4**	**-1.6**
NEW					pmax	pmax		
	comp=Z,1.0nm,0.4s							
NEW	**Newport**	**57.28**	**53**	*e*	P	**P**	**22 35 07.4**	**-1.6**
	comp=Z,0.9nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**57.66**	**341**		P	**P**	**22 35 10.0**	**-1.6**
	comp=Z,1.6nm,0.6s,mb4.3,baz=27,slow=6.9,SNR=20							
MOD	**Modoc**	**59.23**	**60**	*e*	P	**P**	**22 35 23.5**	**+1.0**
HRY	**Holter Researc**	**61.08**	**52**	*e*	P	**P**	**22 35 40.0**	**+4.8**
PBA	**Port Blair**	**61.20**	**256**	*e*	P	x	22 35 29.8	
PBA				*e*	S	x	22 35 39.6	
PBA				*e*	x	x	22 35 41.3	
	comp=E,264nm,0.3s							
PBA				*e*	x	x	22 35 41.8	
	comp=N,115nm,0.2s							
FCC	**Fort Churchill**	**61.28**	**33**	*e*	P	**P**	**22 35 36.2**	**-0.4**
FCC					pmax	pmax		
	comp=Z,12nm,0.6s,mb5.2							
FCC	**Fort Churchill**	**61.28**	**33**	*e*	P	**P**	**22 35 36.2**	**-0.4**
	comp=Z,12nm,0.6s,mb5.2							
LRM	**Limekiln Ridge**	**61.30**	**53**	*e*	P	**P**	**22 35 37.7**	**+0.9**
MCMT	**McKenzie Canyo**	**61.71**	**54**		P	**P**	**22 35 39.3**	**-0.1**
NVAR	**Mina Array Bea**	**62.58**	**62**		P	**P**	**22 35 46.2**	**+0.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=293,slow=8.4,SNR=6.3							
NVAR	**Mina Array Bea**	**62.58**	**62**		P	**P**	**22 35 46.2**	**+0.9**
KAF	**Kangasniemi**	**63.23**	**335**	*e*	p	**P**	**22 35 48.0**	**-1.6**
	comp=Z,3.8nm,0.4s,mb4.9,baz=37,slow=6.1							
KAF	**Kangasniemi**	**63.23**	**335**	*e*	P	**P**	**22 35 48.0**	**-1.6**
KAF					pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.9							
FINES	**FINESS Array B**	**63.82**	**335**		P	**P**	**22 35 53.0**	**-0.6**
	comp=Z,9.4nm,0.4s,mb5.2,baz=41,slow=6.8,SNR=156							
FINES	**FINESS Array B**	**63.82**	**335**	*i*	P	**P**	**22 35 52.2**	**-1.3**
FINES					pmax	pmax		
	comp=Z,9.0nm,0.4s							
HWUT	**Hardware Ranch**	**64.50**	**56**	*e*	P	**P**	**22 35 58.5**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.3							
DUG	**Dugway**	**64.70**	**58**	*e*	P	**P**	**22 36 00.2**	**+0.9**
DUG					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
DUG	**Dugway**	**64.70**	**58**	*e*	P	**P**	**22 36 00.2**	**+0.9**
	comp=Z,8.9nm,1.2s,mb4.7							
BW06	**Boulder Array**	**64.86**	**54**	*e*	P	**P**	**22 36 00.6**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.5							
PDAR	**Pinedale Array**	**64.86**	**54**		P	**P**	**22 36 00.6**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.5,baz=298,slow=1.9,SNR=31							
OBN	**Obninsk**	**65.07**	**325**	*e*	P	**P**	**22 35 58.9**	**-2.8**
OBN				*e*			22 36 31.7	
OBN					pmax	pmax		
	comp=Z,21nm,1.7s,mb4.9							
OBN	**Obninsk**	**65.07**	**325**	*e*	P	**P**	**22 36 00.9**	**-0.7**
	comp=Z,7.6nm,0.6s,mb4.9							
ULM	**Lac du Bonnet**	**66.58**	**41**		P	**P**	**22 36 10.7**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=313,slow=8.0,SNR=4.5							
SRU	**San Rafael**	**66.75**	**57**	*e*	P	**P**	**22 36 13.2**	**+0.7**
HYB	**Hyderabad**	**66.76**	**271**	*i*	P	**P**	**22 36 13.0**	**+0.5**
HYB	**Hyderabad**	**66.76**	**271**	*e*	P	**P**	**22 36 13.0**	**+0.5**
RSSD	**Black Hills**	**66.92**	**50**	*e*	P	**P**	**22 36 13.4**	**-0.2**
RSSD					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
RSSD	**Black Hills**	**66.92**	**50**	*e*	P	**P**	**22 36 13.4**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.5							
NB2	**NORSAR Subarra**	**68.03**	**341**		P	**P**	**22 36 19.9**	**-0.7**
	comp=Z,14nm,0.6s,mb5.2,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.03**	**341**		P	**P**	**22 36

WMOK	**Wichita Mounta**	**76.47**	**53**	*eP*		**P**	**22 37 04.9**	**-6.0**
PVCC	**Panska Ves**	**76.48**	**334**	*eP*		**P**	**22 37 11.2**	**+0.2**
MLR	**Muntele Rosu**	**76.83**	**325**	⇓*iP*		**P**	**22 37 13.5**	**+0.6**
MLR	**Muntele Rosu**	**76.83**	**325**	⇓P		**P**	**22 37 13.5**	**+0.6**
MALT	**Malatya**	**76.89**	**313**	⇑*iP*		**P**	**22 37 15.3**	**+2.0**
MALT	**Malatya**	**76.89**	**313**	*eP*		**P**	**22 37 14.9**	**+1.6**
	comp=E,5.3nm,0.6s,mb4.7							
VYHS	**Vyhne**	**76.90**	**331**	*iP*		**P**	**22 37 13.6**	**+0.2**
VYHS				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.5							
VYHS	**Vyhne**	**76.90**	**331**	*iP*		**P**	**22 37 13.6**	**+0.2**
	comp=Z,9.8nm,1.4s,mb4.5							
VRAC	**Vranov**	**76.93**	**332**	⇑*iP*		**P**	**22 37 13.9**	**+0.4**
VRAC	**Vranov**	**76.93**	**332**	⇑P		**P**	**22 37 13.9**	**+0.4**
PRU	**Pruhonice**	**76.97**	**334**	*eP*		**P**	**22 37 13.9**	**+0.1**
DRGR		**76.98**	**327**	⇑*iP*		**P**	**22 37 13.8**	**0.0**
DRGR		**76.98**	**327**	⇑P		**P**	**22 37 13.8**	**-0.1**
PSZ	**Piszkesteto**	**77.03**	**330**	⇓*iP*		**P**	**22 37 14.5**	**+0.4**
PSZ	**Piszkesteto**	**77.03**	**330**	*eP*		**P**	**22 37 14.1**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.6							
MOX	**Moxa**	**77.24**	**336**	*eP*		**P**	**22 37 15.1**	**-0.2**
NKC	**Novy Kostel**	**77.37**	**335**	*eP*		**P**	**22 37 16.1**	**+0.1**
LTX	**Lajitas**	**77.63**	**60**	*eP*		**P**	**22 37 16.8**	**-0.7**
LTX				*e*		pP	22 37 27.2	-4.4
LTX				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
LTX	**Lajitas**	**77.63**	**60**	*eP*		**P**	**22 37 16.8**	**-0.7**
	comp=Z,2.7nm,0.6s,mb4.3							
LTX				*e*PcP		PcP	22 37 27.2	-0.3
TXAR	**Lajitas Array**	**77.63**	**60**	P		**P**	**22 37 17.6**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=300,slow=4.4,SNR=29							
ZST	**Bratislava**	**77.73**	**331**	*iP*		**P**	**22 37 18.9**	**+0.9**
ZST				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
ZST	**Bratislava**	**77.73**	**331**	*iP*		**P**	**22 37 18.9**	**+0.9**
	comp=Z,6.5nm,0.9s,mb4.5							
KHC	**Kasperske Hory**	**78.02**	**334**	*eP*		**P**	**22 37 20.0**	**+0.4**
KHC	**Kasperske Hory**	**78.02**	**334**	*eP*		**P**	**22 37 18.0**	**-1.6**
GZR	**Gura Zlata**	**78.14**	**327**	⇓*iP*		**P**	**22 37 19.8**	**-0.5**
GZR	**Gura Zlata**	**78.14**	**327**	⇓P		**P**	**22 37 19.8**	**-0.4**
BRTR	**Keskin Array B**	**78.14**	**316**	P		**P**	**22 37 21.2**	**+0.9**
	comp=Z,4.1nm,0.8s,mb4.4,baz=81,slow=3.7,SNR=20							
GRA1	**Grafenberg Arr**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0							
GRF	**Grafenberg Arr**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0							
GRF	**Grafenberg Arr**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
GRF				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.0							
GRF	**Grafenberg Arr**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
GRF				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.0							
GRFO	**Grafenberg**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
GRFO				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.9							
GRFO	**Grafenberg**	**78.21**	**336**	*eP*		**P**	**22 37 21.0**	**+0.3**
	comp=Z,17nm,1.0s,mb4.8							
GERES	**GERESS Array B**	**78.24**	**334**	P		**P**	**22 37 20.6**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=36,slow=5.8,SNR=25							
CONA	**Conrad Observa**	**78.37**	**332**	⇑*iP*		**P**	**22 37 22.2**	**+0.6**
	comp=Z,5.5nm,0.8s,mb4.5							
BZS	**Buzias**	**78.38**	**327**	⇓*iP*		**P**	**22 37 21.1**	**-0.5**
ANTO	**Ankara**	**78.42**	**317**	⇓*iP*		**P**	**22 37 22.9**	**+1.1**
ANTO	**Ankara**	**78.42**	**317**	⇓P		**P**	**22 37 22.9**	**+1.1**
PKSM	**Moragy**	**78.94**	**329**	⇑*iP*		**P**	**22 37 23.9**	**-0.8**
PKSM	**Moragy**	**78.94**	**329**	⇑P		**P**	**22 37 23.9**	**-0.8**
STU	**Stuttgart**	**79.61**	**336**	*eP*		**P**	**22 37 27.7**	**-0.6**
STU				pmax	pmax			
	comp=Z,6.0nm,0.3s,mb5.0							
STU	**Stuttgart**	**79.61**	**336**	*eP*		**P**	**22 37 27.7**	**-0.6**
	comp=Z,6.3nm,0.3s,mb5.0							
KBA	**Koelnbreinsper**	**79.92**	**333**	⇑*iP*		**P**	**22 37 30.8**	**+0.8**
	comp=Z,13nm,0.6s,mb5.1							
KBA	**Koelnbreinsper**	**79.92**	**333**	⇑*iP*		**P**	**22 37 30.8**	**+0.8**
KBA				pmax	pmax			
	comp=Z,13nm,0.6s,mb5.0							
WATA	**Walderalm**	**80.23**	**334**	⇓*iP*		**P**	**22 37 32.1**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7							
WATA	**Walderalm**	**80.23**	**334**	⇓*iP*		**P**	**22 37 32.1**	**+0.4**
WATA				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
WTTA	**Wattenberg**	**80.27**	**334**	⇑*iP*		**P**	**22 37 32.6**	**+0.7**
	comp=Z,13nm,0.5s,mb5.1							
WTTA	**Wattenberg**	**80.27**	**334**	⇑*iP*		**P**	**22 37 32.6**	**+0.7**
WTTA				pmax	pmax			
	comp=Z,13nm,0.5s,mb5.1							
VTS	**Vitosha**	**80.33**	**325**	⇓*iP*		**P**	**22 37 32.6**	**+0.4**
VTS	**Vitosha**	**80.33**	**325**	⇓P		**P**	**22 37 32.6**	**+0.4**
MOTA	**Moosalm**	**80.36**	**335**	⇓*iP*		**P**	**22 37 32.7**	**+0.3**
	comp=Z,9.7nm,1.1s,mb4.7							
MOTA	**Moosalm**	**80.36**	**335**	⇓*iP*		**P**	**22 37 32.7**	**+0.3**
MOTA				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
SQTA	**Sankt Quirin**	**80.44**	**335**	⇓*iP*		**P**	**22 37 33.4**	**+0.6**
	comp=Z,6.6nm,1.0s,mb4.5							
SQTA	**Sankt Quirin**	**80.44**	**335**	⇓*iP*		**P**	**22 37 33.4**	**+0.6**
SQTA				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
CDF	**Champ du Feu**	**80.45**	**337**	*eP*		**P**	**22 37 32.8**	**-0.1**
	comp=Z,8.1nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**80.45**	**337**	*eP*		**P**	**22 37 32.8**	**-0.1**
CDF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**80.45**	**337**	*eP*		**P**	**22 37 32.8**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.5							
WVT	**Waverly**	**81.11**	**46**	*eP*		**P**	**22 37 35.9**	**-0.5**
WVT				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
WVT	**Waverly**	**81.11**	**46**	*eP*		**P**	**22 37 35.9**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2							
CSS	**Prodhromos**	**82.06**	**314**	*eP*		**P**	**22 37 41.4**	**0.0**
	comp=Z,9.8nm,0.7s,mb4.8							
GRR	**Gorron**	**82.38**	**343**	*eP*		**P**	**22 37 42.7**	**-0.4**
	comp=Z,27nm,1.0s,mb4.8							
GRR	**Gorron**	**82.38**	**343**	*eP*		**P**	**22 37 42.7**	**-0.4**
GRR				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
GRR	**Gorron**	**82.38**	**343**	*eP*		**P**	**22 37 42.7**	**-0.4**
	comp=Z,14nm,1.0s,mb4.8							
SMF	**Signal de Mont**	**82.96**	**339**	*eP*		**P**	**22 37 46.1**	**0.0**
	comp=Z,17nm,0.9s,mb4.8							
SMF	**Signal de Mont**	**82.96**	**339**	*eP*		**P**	**22 37 46.1**	**0.0**
SMF				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
SMF	**Signal de Mont**	**82.96**	**339**	*eP*		**P**	**22 37 46.1**	**0.0**
	comp=Z,8.5nm,0.9s,mb4.8							
LPG	**La Plagne**	**83.27**	**337**	*eP*		**P**	**22 37 48.7**	**+1.0**
	comp=Z,15nm,0.9s,mb4.7							
LPG	**La Plagne**	**83.27**	**337**	*eP*		**P**	**22 37 48.7**	**+1.0**
LPG				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
LPG	**La Plagne**	**83.27**	**337**	*eP*		**P**	**22 37 48.7**	**+1.0**
	comp=Z,7.6nm,0.9s,mb4.7							
CAF	**Calviac**	**85.00**	**340**	*eP*		**P**	**22 37 56.3**	**-0.2**
URZ	**Urewera**	**87.52**	**161**	LR		LR	23 14 15.6	
	comp=Z,231nm,19.7s,MS4.6,baz=46,slow=34							
KEST	**Kesra**	**91.44**	**331**	P		**P**	**22 38 26.8**	**-0.5**
	comp=Z,1.5nm,0.9s,mb4.3,baz=290,slow=19,SNR=4.4							
TORD	**Torodi Ar. Bea**	**114.86**	**329**	PKiKP		PKiKP	22 44 00.8	-0.7
	comp=Z,0.7nm,0.9s,baz=22,slow=2.4,SNR=8.4							
TORD	**Torodi Ar. Bea**	**114.86**	**329**	PKPdf		PKiKP	22 44 00.8	-0.7
VNDA	**Vanda**	**124.25**	**178**	PKP		PKPdf	22 44 17.4	-2.2
	comp=Z,2.7nm,1.1s,baz=297,slow=5.3,SNR=3.6							
BOSA	**Boshof**	**135.56**	**275**	PKP		PKPdf	22 44 39.2	-1.8
	comp=Z,1.7nm,0.8s,baz=36,slow=1.9,SNR=2.9							
SNAA	**Sanae**	**152.61**	**196**	PKPbc		PKPbc	22 45 15.6	-1.8
	comp=Z,0.8nm,0.6s,baz=139,slow=5.9,SNR=13							
VNA2	**Neumayer--Watz**	**154.07**	**195**	*e*PKPdf		PKPbc	22 45 18.6	-2.0
VNA2				*e*			22 45 21.4	
VNA2				*e*			22 45 27.2	
VNA2				*e*			22 45 33.1	
VNA2				*e*			22 45 47.8	
VNA3	**Neumayer Olymp**	**154.17**	**193**	*e*PKPdf		PKPbc	22 45 18.2	-2.6
VNA3				*e*			22 45 21.5	
VNA3				*e*			22 45 33.1	
VNA3				*e*			22 45 48.3	

CSEM ***29*** *22:26:46.8, 1537N×4489E, h8km, Mc3.6, After DHMR*
DHMR 29 22:26:46.8±1.8, 1537N×4489E, h9km±203km, MD3.6, ML3.3, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		**1.53**	**167**	*eP*	Pn	22 27 15.8	+1.5
LBOS				*i* S	Sn	22 27 36.1	+1.8
BDHA	**Al Bayda'**	**1.54**	**155**	⇓*i*P	Pn	22 27 14.8	+0.4
BDHA				*i* S	Sn	22 27 36.7	+2.3
BDHA				AML	AML	22 27 39.7	
	comp=E,391nm,0.6s						
BDHA	**Al Bayda'**	**1.54**	**155**	⇓*i*P	Pn	22 27 14.8	+0.4
BDHA				*i* S	Sn	22 27 36.7	+2.3
	comp=E,196nm,0.6s						
TRBA	**At Turbah**	**2.26**	**200**	⇓*i*P	Pn	22 27 25.3	+1.0
TRBA				*i* S	Sn	22 27 57.6	+5.4

ISCJB ***29*** *22:28:06.5±4.6, 98S±0.1×15952E±0.10, h9km±29km, mb4.1/8, Error ellipse: s-maj=22.5km s-min=9.3km az=97.8*
IDC ***29*** *22:28:06.4±0.7, 9.75S×159.62E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML3.7/1, Error ellipse: s-maj=28.2km s-min=10.4km az=135.0*
NEIC ***29*** *22:28:09.7±1.4, 9.76S×159.51E, h19km±10km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=10.3km az=129.0*
ISC 29 22:28:09.3±1.8, 98S±01×1595E±01, h13km±14km, n20, σ0°65/20, mb4.1/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.57**	**48**	Pn	**Pg**	**22 28 20.5**	**0.0**
	2μm,0.3s,baz=271,slow=1.3,SNR=606						
HNR				Sn	**Sg**	**22 28 28.1**	**0.0**
	3μm,0.3s,baz=271,slow=5.8,SNR=106						
PMG	**Port Moresby**	**12.19**	**271**	Pn	**Pn**	**22 31 02.1**	**-0.5**
CTA	**Charters Tower**	**16.37**	**230**	Pn	**Pn**	**22 31 59.0**	**+0.2**
	0.2nm,0.3s,baz=30,slow=14,SNR=2.4						
CTAO	**Charters Tower**	**16.37**	**230**	*e*Pn	**Pn**	**22 31 58.8**	**+0.1**
	5.2nm,0.7s						
WB2	**Warramunga Arr**	**26.29**	**245**	*eP*	**P**	**22 33 45.1**	**+0.7**
WRA	**Warramunga Arr**	**26.30**	**245**	P	**P**	**22 33 45.0**	**+0.6**
	3.8nm,0.6s,mb4.1,baz=72,slow=10,SNR=32						
STKA	**Stephens Creek**	**27.52**	**215**	P	**P**	**22 33 55.4**	**-0.1**
	2.1nm,0.8s,mb3.8,baz=18,slow=12,SNR=2.4						
AS31	**Alice Springs**	**28.06**	**237**	*eP*	**P**	**22 34 00.0**	**-0.3**
ASAR	**Alice Springs**	**28.06**	**237**	P	**P**	**22 34 00.1**	**-0.3**
	1.8nm,0.5s,mb4.0,baz=62,slow=10.0,SNR=32						
ASPA	**Alice Springs**	**28.06**	**237**	*eP*	**P**	**22 34 00.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**45.18**	**233**	P	**P**	**22 36 26.2**	**+0.4**
MJAR	**Matsushiro Arr**	**50.28**	**338**	P	**P**	**22 37 04.4**	**-1.0**
	1.2nm,0.6s,mb4.1,baz=169,slow=8.1,SNR=4.1						
CASY	**Casey**	**65.38**	**200**	P	**P**	**22 38 51.8**	**+0.4**
	1.9nm,0.5s,mb4.4						
VNDA	**Vanda**	**67.69**	**179**	P	**P**	**22 39 06.4**	**+0.2**
	2.6nm,0.7s,mb4.4,baz=329,slow=6.8,SNR=16						
VNDA	**Vanda**	**67.69**	**179**	*eP*	**P**	**22 39 06.6**	**+0.5**
	2.3nm,0.7s,mb4.3						
SONM	**Songino Array**	**74.14**	**326**	P	**P**	**22 39 46.4**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=140,slow=5.6,SNR=6.6						
LSA	**Lhasa**	**76.55**	**304**	P	**P**	**22 39 59.9**	**+0.7**
MAW	**Mawson**	**83.52**	**203**	P	**P**	**22 40 35.1**	**-1.8**
MKAR	**Makanchi Array**	**88.47**	**318**	P	**P**	**22 41 01.0**	**-0.3**
	0.5nm,0.8s,mb3.8,baz=92,slow=3.3,SNR=2.6						
ESDC	**Sonseca Array**	**146.82**	**336**	PKPbc	PKPbc	22 47 48.5	-2.7
	0.4nm,0.3s,baz=196,slow=37,SNR=7.0						

MOS ***29*** *22:31:11.0±1.9, 47.79N×151.79E, h10km, mb4.3/5, Error ellipse: s-maj=36.2km s-min=16.6km az=57.2*
ISCJB ***29*** *22:31:32.4±2.4, 468N±02×1510E±02, h223km±25km, mb3.4/9, Error ellipse: s-maj=29.8km s-min=23.8km az=118.3*
IDC ***29*** *22:31:33.5±3.2, 4673N×150.95E, h220km±32km, mb3.3/9, mb1 3.5/10, mb1mx3.3/23, mbtmp3.3/10, Error ellipse: s-maj=24.4km s-min=19.6km az=150.0*
ISC 29 22:31:33.3±2.5, 469N±02×1510E±02, h215km±26km, n18, σ1§14/18, mb3.4/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.51**	**248**	P	**Pn**	**22 33 05.8**	**-1.6**
	1.1nm,0.3s,baz=30,slow=25,SNR=5.9						
ASAJ	**Asahikawa**	**6.51**	**248**	PN	**Pn**	**22 33 05.8**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.05**	**227**	P	**Pn**	**22 34 45.2**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=39,slow=8.3,SNR=5.5						
INK	**Inuvik**	**42.32**	**32**	P	**P**	**22 39 07.2**	**+1.2**
	comp=Z,1.2nm,0.6s,mb3.5,baz=307,slow=7.7,SNR=6.3						
INK	**Inuvik**	**42.32**	**32**	P	**P**	**22 39 07.3**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.58**	**296**	P	**P**	**22 39 33.3**	**+1.4**
	comp=Z,0.5nm,0.8s,mb2.9,baz=64,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**45.58**	**296**	P	**P**	**22 39 33.3**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**51.68**	**36**	P	**P**	**22 40 19.2**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.2,baz=296,slow=6.9,SNR=6.3						
YKA	**Yellowknife Ar**	**51.68**	**36**	P	**P**	**22 40 19.2**	**+0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.29**	**334**	P	**P**	**22 41 38.4**	**-0.8**
	comp=Z,2.8nm,0.9s,mb3.9,baz=51,slow=6.6,SNR=11						
FINES	**FINESS Array B**	**63.29**	**334**	P	**P**	**22 41 38.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**63.66**	**61**	P	**P**	**22 41 41.0**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.4,baz=258,slow=8.2,SNR=4.1						
NOA	**NORSAR Array B**	**67.62**	**340**	P	**P**	**22 42 05.7**	**-1.2**
	comp=Z,2.7nm,0.9s,mb3.9,baz=26,slow=6.2,SNR=3.5						
NOA	**NORSAR Array B**	**67.62**	**340**	P	**P**	**22 42 05.7**	**-1.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	**70.61**	**325**	P	**P**	**22 42 25.4**	**+0.1**
	comp=Z,1.2nm,0.4s,mb3.9,baz=34,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**70.61**	**325**	P	**P**	**22 42 25.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.90**	**196**	P	**P**	**22 42 32.0**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.1,baz=12,slow=5.4,SNR=5.1						
TXAR	**Lajitas Array**	**78.69**	**59**	P	**P**	**22 43 11.2**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.0,baz=309,slow=5.6,SNR=3.7						

IDC 29 22:33:10.2±2.9, 632S×15467E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=95.2km s-min=48.9km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.08**	**121**	LR	LR	22 36 43.7	
	comp=Z,138nm,20.5s,baz=179,slow=35						
WRA	**Warramunga Arr**	**23.95**	**234**	P	P	22 38 27.1	+1.1
	3.0nm,1.2s,baz=58,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**26.39**	**227**	P	P	22 38 47.9	-0.3
	0.4nm,0.7s,baz=60,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**28.21**	**204**	P	P	22 39 04.8	+0.2
	1.9nm,0.6s,baz=345,slow=12,SNR=4.9						
KDAK	**Kodiak Island**	**76.70**	**26**	LR	LR	23 13 31.4	
	comp=Z,125nm,19.8s,baz=105,slow=32						
TORD	**Torodi Ar. Bea**	**152.53**	**286**	PKPbc	PKPbc	22 53 09.7	+1.3
	0.4nm,0.7s,baz=76,slow=1.3,SNR=4.0						

IDC 29 22:39:56.1±68.0, 1534S×17137W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=1335.0km s-min=204.4km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.76**	**240**	P	P	22 48 19.9	+0.6
	2.2nm,0.8s,baz=90,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**51.76**	**257**	P	P	22 49 05.6	+0.2
	0.2nm,0.3s,baz=96,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**51.99**	**252**	P	P	22 49 07.5	+0.4
	2.5nm,0.5s,baz=88,slow=8.0,SNR=43						

IDC ***29*** *23:00:53.8±0.6, 5135N×179.57W, h0km, mb4.3/27, mb1 4.5/28, mb1mx4.4/33, mbtmp4.3/28, ML5.1/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/43, Error ellipse: s-maj=17.2km s-min=12.8km az=161.0*
BJI ***29*** *23:00:55.8, 5140N×179.50W, h20km, mB5.1, mb4.8, Ms4.4, Msz4.1*
MOS ***29*** *23:00:58.4±0.9, 5150N×179.41W, h33km, mb4.8/26, Error ellipse: s-maj=13.0km s-min=6.7km az=88.3*
ISCJB ***29*** *23:00:59.3±0.7, 5148N±006×179.51W±003, h40km±6km, mb4.5/71, MS3.8/5, Error ellipse: s-maj=9.6km s-min=3.5km az=2.2*
NEIC ***29*** *23:01:00.8±0.7, 5137N×179.54W, h48km±6km, mb4.6/40, ML4.2(AEIC), Error ellipse: s-maj=8.5km s-min=4.1km az=183.0*
ISC 29 23:01:00.8±0.7, 5150N±006×17956W±003, h42km±5km, h14km±9.8km: pP-P, n306, σ0°78/309, mb4.5/71, MS3.8/5, 55C-46D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.72**	**261**	*eP*	**Pn**	**23 01 13.3**	**-1.2**
AMKA				*eS*	**Sn**	**23 01 23.7**	**-0.8**
ATKA	**Atka Island**	**3.40**	**76**	P	**Pn**	**23 01 51.2**	**0.0**
ATKA				S	**Sn**	**23 02 30.6**	**+0.3**
FX1	**Attu Island--F**	**4.69**	**290**	P	**Pn**	**23 02 11.2**	**+2.2**
UNV	**Unalaska Valle**	**8.28**	**68**	*e*Pn	**Pn**	**23 02 59.4**	**+1.2**
UNV				*e*Sn	**Sn**	**23 04 30.9**	**+0.6**
SVW2	**Sparrevohn**	**16.32**	**45**	*eP*	**Pn**	**23 04 50.5**	**+3.8**
KDAK	**Kodiak Island**	**16.76**	**57**	Pn	**Pn**	**23 04 50.0**	**-2.3**
	7.1nm,0.3s,baz=270,slow=5.7,SNR=68						
KDAK				Sn	**Sn**	**23 07 55.6**	**-1.7**
	0.3nm,0.3s,baz=122,slow=6.8,SNR=3.9						
KDAK	**Kodiak Island**	**16.76**	**57**	*e*Pn	**Pn**	**23 04 50.0**	**-2.3**
KDAK				Sn	**Sn**	**23 07 55.6**	**-1.7**
BILL	**Bilibino**	**17.98**	**343**	*eP*	**Pn**	**23 05 14.5**	**+7.1**
BILL				pmax	pmax		
	comp=Z,14nm,1.2s						
BILL	**Bilibino**	**17.98**	**343**	Pn	**Pn**	**23 05 09.0**	**+1.6**
	comp=Z,21nm,1.1s						
SLKM	**Skilak Lake**	**18.57**	**50**	*eP*	**Pn**	**23 05 15.8**	**+1.2**
PMR	**Palmer**	**19.39**	**47**	*eP*	**Pn**	**23 05 24.2**	**-0.3**
PMR				pmax	pmax		
	comp=Z,14nm,0.7s						
PMR	**Palmer**	**19.39**	**47**	*eP*	**Pn**	**23 05 24.2**	**-0.3**
	comp=Z,14nm,0.7s						
IMA2	**Indian Mountai**	**19.59**	**32**	*eP*	**Pn**	**23 05 27.0**	**+0.1**
IMA2				*e*		23 05 32.6	
SML	**Sawmill**	**19.82**	**47**	*eP*	**Pn**	**23 05 27.7**	**-1.8**
MCK	**McKinley**	**20.22**	**41**	*eP*	**P**	**23 05 31.7**	**-0.4**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**20.22**	**41**	*eP*	**P**	**23 05 31.7**	**-0.3**
	comp=Z,5.5nm,0.7s						
DIV	**Divide**	**20.84**	**49**	*eP*	**P**	**23 05 40.9**	**+2.1**
	comp=Z,75nm,0.6s						
COLA	**College**	**21.11**	**39**	*eP*	**P**	**23 05 42.1**	**+0.4**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
COLA	**College**	**21.11**	**39**	*eP*	**P**	**23 05 42.1**	**+0.4**
	comp=Z,14nm,0.8s,mb4.3						
DAWY	**Dawson**	**24.34**	**43**	*eP*	**P**	**23 06 14.1**	**-0.5**
INK	**Inuvik**	**27.64**	**35**	P	**P**	**23 06 43.5**	**-0.8**
	comp=Z,0.8nm,0.3s,mb3.8,baz=249,slow=11,SNR=6.9						
INK				PcP	PcP	23 09 58.6	-2.2
	comp=Z,1.9nm,0.8s,baz=272,slow=2.1,SNR=4.4						
INK				LR	LR	23 17 31.4	
	comp=Z,174nm,18.1s,MS3.7,baz=246,slow=36						
INK	**Inuvik**	**27.64**	**35**	P	**P**	**23 06 43.5**	**-0.8**
INK						23 09 58.6	
KLR	**Kul'dur**	**30.69**	**285**	*eP*	**P**	**23 07 08.2**	**-3.2**
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 52.7**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.7,baz=282,slow=7.5,SNR=55						
YKA				PcP	PcP	23 10 21.3	-0.6
	comp=Z,1.2nm,0.6s,baz=287,slow=3.0,SNR=7.7						
YKA				LR	LR	23 24 12.7	
	comp=Z,151nm,19.0s,MS3.8,baz=95,slow=39						
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 52.7**	**-0.6**
YKA						23 10 21.3	
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**23 07 52.7**	**-0.6**
YKA

NEW	**Newport**	**39.28**	**69**	*e*P		**P**	**23 08 24.8**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.5							
YBH	**Yreka Blue Hor**	**39.33**	**81**	P		**P**	**23 08 26.8**	**+1.0**
YBH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
YBH	**Yreka Blue Hor**	**39.33**	**81**	P		**P**	**23 08 26.8**	**+1.0**
	comp=Z,6.9nm,0.8s,mb4.4							
YBH	**Yreka Blue Hor**	**39.33**	**81**	⇓P		**P**	**23 08 27.4**	**+1.6**
	baz=39,SNR=5.3							
J05A	**Fort Rock**	**39.38**	**78**	P		**P**	**23 08 27.4**	**+1.3**
	baz=39,SNR=7.2							
A11A	**Hall Mountain,**	**39.39**	**68**	⇓P		**P**	**23 08 26.8**	**+0.5**
	baz=39							
M02C	**Callahan**	**39.44**	**82**	⇑P		**P**	**23 08 27.8**	**+1.2**
	baz=39							
F08A	**Pendleton**	**39.54**	**74**	⇑P		**P**	**23 08 27.1**	**-0.4**
	baz=40							
E09A	**Wood Farm, Sta**	**39.55**	**72**	P		**P**	**23 08 28.1**	**+0.5**
	baz=40,SNR=9.4							
I06A	**Prineville**	**39.65**	**77**	⇑P		**P**	**23 08 29.0**	**+0.6**
	baz=40							
G08A	**Pilot Rock**	**39.69**	**74**	⇑P		**P**	**23 08 28.6**	**-0.2**
	baz=40							
D10A	**Wagner Farm, O**	**39.79**	**71**	P		**P**	**23 08 29.0**	**-0.6**
	baz=40,SNR=9.2							
M04C	**Macdoel**	**39.84**	**81**	⇑P		**P**	**23 08 30.1**	**+0.1**
	baz=40							
K05A	**Summer Lake**	**39.90**	**79**	⇓P		**P**	**23 08 31.0**	**+0.6**
	baz=40,SNR=5.7							
I07A	**Izee**	**40.00**	**76**	P		**P**	**23 08 31.8**	**+0.4**
	baz=40,SNR=16							
J06A	**Christmas Vall**	**40.06**	**78**	⇓P		**P**	**23 08 32.0**	**+0.2**
	baz=40,SNR=6.3							
WDC	**Whiskeytown Da**	**40.09**	**83**	⇓P		**P**	**23 08 32.6**	**+0.5**
	baz=40							
LASM	**Arnica Sink**	**40.11**	**81**	P		**P**	**23 08 33.1**	**+0.9**
E10A	**Myers Farm, Un**	**40.18**	**72**	P		**P**	**23 08 32.5**	**-0.3**
	baz=40,SNR=7.2							
K06A	**Valley Falls**	**40.25**	**78**	⇓P		**P**	**23 08 33.8**	**+0.4**
	baz=40,SNR=5.4							
H08A	**Prairie City**	**40.27**	**75**	⇓P		**P**	**23 08 33.4**	**-0.2**
	baz=40							
L05A	**Lakeview**	**40.31**	**80**	⇓P		**P**	**23 08 33.9**	**0.0**
	baz=40							
D11A	**Klaveano Farm,**	**40.35**	**71**	⇑P		**P**	**23 08 33.3**	**-0.9**
	baz=40							
F10A	**Beach Ranch, E**	**40.37**	**72**	⇓P		**P**	**23 08 34.3**	**-0.1**
	baz=40							
J07A	**Hines**	**40.51**	**77**	⇓P		**P**	**23 08 35.7**	**+0.2**
	baz=40							
M05C	**Lookout**	**40.51**	**81**	⇓P		**P**	**23 08 35.6**	**+0.1**
	baz=40							
I08A	**Drewsey**	**40.66**	**76**	⇑P		**P**	**23 08 37.0**	**+0.1**
	baz=41							
LBCM	**Butte Creek Ri**	**40.68**	**82**	P		**P**	**23 08 37.4**	**+0.5**
MOD	**Modoc**	**40.72**	**80**	⇑P		**P**	**23 08 37.4**	**+0.1**
	baz=41							
B13A	**Whitefish**	**40.78**	**68**	⇑P		**P**	**23 08 37.7**	**0.0**
	baz=41							
E11A	**Bogner Ranch,**	**40.78**	**71**	⇓P		**P**	**23 08 37.1**	**-0.7**
	baz=41							
H09A	**Durkee**	**40.80**	**74**	⇑P		**P**	**23 08 38.0**	**+0.1**
	baz=41							
K07A	**Rock Creek Ran**	**40.92**	**78**	⇓P		**P**	**23 08 39.3**	**+0.3**
	baz=41,SNR=11							
M06C	**Likely Place G**	**41.01**	**81**	⇓P		**P**	**23 08 39.9**	**+0.2**
	baz=41							
J08A	**Circle Bar Ran**	**41.02**	**77**	⇓P		**P**	**23 08 39.8**	**0.0**
	baz=41							
F11A	**Grangeville**	**41.05**	**72**	⇓P		**P**	**23 08 40.2**	**+0.2**
	baz=41							
C13A	**Hot Springs**	**41.06**	**69**	P		**P**	**23 08 39.8**	**-0.3**
	baz=41,SNR=5.2							
I09A	**Lost Marbles R**	**41.13**	**75**	⇓P		**P**	**23 08 40.6**	**-0.1**
	baz=41							
L07A	**Adell**	**41.24**	**79**	⇓P		**P**	**23 08 42.0**	**+0.4**
	baz=41							
K08A	**Mann Creek Ran**	**41.36**	**77**	⇑P		**P**	**23 08 42.5**	**0.0**
	baz=41							
H10A	**Noah's Angus R**	**41.39**	**74**	P		**P**	**23 08 43.0**	**+0.2**
	baz=41,SNR=5.8							
D13A	**Huson**	**41.43**	**69**	⇑P		**P**	**23 08 42.3**	**-0.8**
	baz=41							
O05C	**Quincy**	**41.46**	**82**	⇑P		**P**	**23 08 43.4**	**0.0**
	baz=41							
J09A	**Fry Pan Ranch,**	**41.47**	**76**	⇓P		**P**	**23 08 43.7**	**+0.3**
	baz=41							
I10A	**Payette**	**41.63**	**75**	⇓P		**P**	**23 08 45.0**	**+0.2**
	baz=42							
F12A	**Elk City**	**41.66**	**72**	⇓P		**P**	**23 08 45.1**	**+0.1**
	baz=42							
N06A	**Buffalo Meadow**	**41.67**	**81**	⇓P		**P**	**23 08 45.2**	**+0.1**
	baz=42							
H11A	**Donnelly**	**41.77**	**73**	⇓P		**P**	**23 08 45.7**	**-0.3**
	baz=42							
E13A	**Victor**	**41.93**	**70**	⇓P		**P**	**23 08 46.9**	**-0.3**
	baz=42							
D14A	**Greenough**	**41.99**	**69**	P		**P**	**23 08 47.0**	**-0.7**
	baz=42,SNR=9.7							
F13A	**Darby**	**42.19**	**71**	P		**P**	**23 08 49.0**	**-0.3**
	baz=42,SNR=6.9							
CHMT	**Chamberlain Mo**	**42.23**	**69**	*e*P		**P**	**23 08 48.1**	**-1.5**
I11A	**Placerville**	**42.24**	**74**	⇑P		**P**	**23 08 49.5**	**-0.2**
	baz=42							
E14A	**Clinton**	**42.35**	**70**	⇑P		**P**	**23 08 50.6**	**0.0**
	baz=42							
H12A	**Diamond D Ranc**	**42.55**	**73**	⇓P		**P**	**23 08 52.2**	**0.0**
	baz=42							
D15A	**Lincoln**	**42.59**	**69**	⇑P		**P**	**23 08 52.2**	**-0.3**
	baz=42							
G13A	**Cobalt**	**42.62**	**72**	⇓P		**P**	**23 08 52.6**	**-0.2**
	baz=42							
F14A	**Wisdom**	**42.74**	**71**	⇑P		**P**	**23 08 53.7**	**-0.2**
	baz=43							
E15A	**Deer Lodge**	**42.84**	**69**	⇓P		**P**	**23 08 54.0**	**-0.6**
	baz=43							
F15A	**Butte**	**43.24**	**70**	⇑P		**P**	**23 08 57.5**	**-0.4**
	baz=43							
MCMT	**McKenzie Canyo**	**43.59**	**71**	*e*P		**P**	**23 09 00.2**	**-0.4**
G15A	**Dillon**	**43.62**	**71**	P		**P**	**23 09 00.2**	**-0.7**
	baz=44,SNR=9.2							
EGMT	**Eagleton**	**43.66**	**66**	*e*P		**P**	**23 09 00.5**	**-0.8**
	comp=Z,11nm,0.9s,mb4.6							
EGMT	**Eagleton**	**43.66**	**66**	⇑P		**P**	**23 09 00.7**	**-0.5**
	baz=44							
M11A	**Holland Ranch,**	**43.75**	**77**	⇓P		**P**	**23 09 01.7**	**-0.3**
	baz=44							
Q08A	**Gabbs**	**43.97**	**82**	⇑P		**P**	**23 09 02.9**	**-0.8**
	baz=44							
NVAR	**Mina Array Bea**	**44.01**	**82**	P		**P**	**23 09 04.8**	**+0.7**
	comp=Z,3.6nm,0.7s,mb4.2,baz=311,slow=8.3,SNR=13							
M12A	**Wells**	**44.30**	**77**	⇑P		**P**	**23 09 06.7**	**+0.4**
	baz=44							
QLMT	**Earthquake Lak**	**44.43**	**71**	P		**P**	**23 09 06.9**	**-0.5**
N12A	**Clover Valley,**	**44.55**	**77**	⇓P		**P**	**23 09 09.0**	**+0.6**
	baz=44							
HELL	**Mitchell Peak,**	**44.65**	**85**	⇑P		**P**	**23 09 08.0**	**-1.2**
	baz=44							
RCTC	**Rector, Farmer**	**44.75**	**85**	⇑P		**P**	**23 09 08.2**	**-1.7**
	baz=45							
M13A	**Montello**	**44.78**	**76**	⇑P		**P**	**23 09 10.2**	**0.0**
	baz=45							
YMR	**Madison River**	**44.79**	**71**	*e*P		**P**	**23 09 10.0**	**-0.3**
	comp=Z,25nm,0.9s,mb5.0							
YMR				*e*PcP		PcP	23 10 51.1	-0.6
R09A	**Tonopah**	**44.88**	**82**	⇓P		**P**	**23 09 11.2**	**+0.2**
	baz=45,SNR=5.4							
YNR	**Norris Junctio**	**44.93**	**70**	*e*P		**P**	**23 09 12.3**	**+0.9**
YFT	**Old Faithful**	**44.99**	**71**	*e*P		**P**	**23 09 12.0**	**+0.1**
N13A	**Wendover, West**	**45.06**	**77**	⇑P		**P**	**23 09 12.6**	**+0.2**
	baz=45							
O12A	**Currie**	**45.08**	**78**	P		**P**	**23 09 12.9**	**+0.3**
	baz=45,SNR=9.9							
S09A	**Goldfield**	**45.11**	**82**	⇑P		**P**	**23 09 13.0**	**+0.2**
	baz=45							
IMW	**Indian Meadow**	**45.25**	**71**	*e*P		**P**	**23 09 13.8**	**0.0**
RRI2	**Red Ridge**	**45.34**	**72**	*e*P		**P**	**23 09 12.8**	**-1.8**
	comp=Z,13nm,0.7s,mb4.9							
Q11A	**Duckwater**	**45.39**	**80**	⇑P		**P**	**23 09 15.4**	**+0.4**
	baz=45							
P12A	**McGill**	**45.46**	**79**	P		**P**	**23 09 15.9**	**+0.3**
	baz=45,SNR=6.2							
RLMT	**Red Lodge**	**45.53**	**69**	*e*P		**P**	**23 09 16.1**	**0.0**
	comp=Z,50nm,1.1s,mb5.4							
BGU	**Big Grassy Mou**	**45.73**	**76**	*e*P		**P**	**23 09 17.8**	**+0.1**
ULN	**Ulaanbaatar**	**45.78**	**296**	*e*P		**P**	**23 09 18.9**	**+0.8**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**45.78**	**296**	*e*P		**P**	**23 09 18.9**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.1							
SONM	**Songino Array**	**46.17**	**296**	P		**P**	**23 09 21.6**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=63,slow=6.8,SNR=15							
HWUT	**Hardware Ranch**	**46.21**	**74**	*e*P		**P**	**23 09 21.2**	**-0.3**
HWUT				*e*		pP	23 09 32.5	-0.9
DUG	**Dugway**	**46.30**	**77**	*e*P		**P**	**23 09 22.4**	**+0.2**
DUG				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
DUG	**Dugway**	**46.30**	**77**	*e*P		**P**	**23 09 22.4**	**+0.1**
	comp=Z,22nm,1.0s,mb5.0							
DUG	**Dugway**	**46.30**	**77**	P		**P**	**23 09 22.3**	**0.0**
	baz=46,SNR=17							
ZAK	**Zakamensk**	**46.49**	**301**	*e*P		**P**	**23 09 24.9**	**+1.2**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.1							
PDAR	**Pinedale Array**	**46.72**	**72**	P		**P**	**23 09 25.2**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0,baz=315,slow=3.3,SNR=94							
RSSD	**Black Hills**	**49.15**	**67**	*e*P		**P**	**23 09 43.0**	**-1.3**
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
RSSD	**Black Hills**	**49.15**	**67**	*e*P		**P**	**23 09 43.0**	**-1.3**
	comp=Z,2.0nm,0.5s,mb4.4							
PV10	**Paradox Valley**	**49.73**	**76**	*e*P		**P**	**23 09 50.6**	**+1.9**
X14A	**Yava**	**49.89**	**83**	⇑P		**P**	**23 09 49.9**	**0.0**
	baz=50							
ULM	**Lac du Bonnet**	**50.01**	**56**	P		**P**	**23 09 49.0**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.2,baz=225,slow=5.7,SNR=4.0							
PV01	**Paradox Valley**	**50.16**	**76**	*e*P		**P**	**23 09 52.0**	**0.0**
ISCO	**Idaho Springs**	**50.89**	**73**	*e*P		**P**	**23 09 57.6**	**+0.1**
LZH	**Lanzhou**	**54.90**	**286**	*e*P		**P**	**23 10 20.5**	**-6.5**
LZH				*SP		sP	23 10 26.8	-17
LZH				pmax		pmax		
	comp=Z,19nm,1.2s,mb5.0							
LZH	**Lanzhou**	**54.90**	**286**	*e*P		**P**	**23 10 20.5**	**-6.5**
	comp=Z,19nm,1.2s,mb5.0							
LZH				pP		pP	23 10 24.3	-15
LZH				sP		sP	23 10 26.8	-17
GTA	**Gaotai**	**55.08**	**291**	*e*P		**P**	**23 10 29.3**	**+0.9**
GTA				AP		pP	23 10 33.5	-7.0
GTA				XP		sP	23 10 36.3	-9.1
GTA				PP		PP	23 12 34.5	+2.6
GTA				PPP			23 13 46.5	
GTA				S		**S**	**23 18 09.8**	**+1.8**
GTA				AMB		AMB		
	comp=Z,5.0nm,0.6s,mb4.7							
GTA				AMB		AMB		
	comp=Z,156nm,5.0s							
GTA				LR		LR		
	comp=N,110nm,16.7s,MS4.1							
GTA				LR		LR		
	comp=E,94nm,18.6s,MS4.1							
GTA				LR		LR		
	comp=Z,147nm,12.9s							
KSU1	**Kansas State U**	**56.63**	**68**	*e*P		**P**	**23 10 37.2**	**-2.2**
	comp=Z,14nm,0.7s,mb5.1							
KSU1				*e*pP		pP	23 10 49.8	-1.8
ARCES	**ARCESS Array B**	**57.89**	**350**	P		**P**	**23 10 47.7**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.1,baz=26,slow=7.5,SNR=3.4							
TXAR	**Lajitas Array**	**59.10**	**81**	P		**P**	**23 10 55.8**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.4,baz=294,slow=4.1,SNR=14							
MK31	**Makanchi Array**	**59.59**	**308**	P		**P**	**23 10 59.5**	**-0.7**
MKAR	**Makanchi Array**	**59.59**	**308**	P		**P**	**23 11 00.1**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.3,baz=48,slow=6.7,SNR=34							
GYA	**Guiyang**	**59.84**	**275**	P		**P**	**23 11 06.5**	**+4.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
SCHQ	**Schefferville**	**60.20**	**38**	P		**P**	**23 11 03.5**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.8,baz=330,slow=6.3,SNR=19							
BVAR	**Borovoye Array**	**60.49**	**319**	P		**P**	**23 11 05.2**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.3,baz=56,slow=6.6,SNR=12							
FVM	**French Village**	**60.93**	**65**	*e*P		**P**	**23 11 08.0**	**-1.3**
FVM				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb5.1							
FVM	**French Village**	**60.93**	**65**	*e*P		**P**	**23 11 08.0**	**-1.3**
	comp=Z,8.8nm,0.6s,mb5.1							
KMI	**Kunming**	**63.24**	**277**	P		**P**	**23 11 29.0**	**+4.2**
KMI				AP		pP	23 11 32.5	-4.6
KMI				XP		sP	23 11 35.0	-7.0
KMI				S		**S**	**23 20 00.0**	**+6.5**
KMI				LR		LR		
	comp=Z,41nm,22.2s,MS3.6							
KMI	**Kunming**	**63.24**	**277**	P		**P**	**23 11 29.0**	**+4.2**
KMI				pP		pP	23 11 32.6	-4.5
KMI				sP		sP	23 11 35.0	-7.0
KMI				S		**S**	**23 19 59.9**	**+6.4**
KMI				SS		SS	23 24 03.3	+3.1
KMI				LR		LR		
	comp=Z,40nm,22.2s,MS3.5							
WVT	**Waverly**	**63.71**	**64**	*e*P		**P**	**23 11 26.9**	**-1.0**
WVT				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
WVT	**Waverly**	**63.71**	**64**	*e*P		**P**	**23 11 26.9**	**-1.0**
	comp=Z,8.4nm,0.8s,mb4.8							
KAF	**Kangasniemi**	**64.89**	**347**	*e*p		**P**	**23 11 32.9**	**-2.7**
FINES	**FINESS Array B**	**65.56**	**347**	P		**P**	**23 11 39.0**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.1,baz=27,slow=6.4,SNR=6.9							
LRAL	**Lakeview Retre**	**66.42**	**66**	*e*P		**P**	**23 11 44.0**	**-1.5**
	comp=Z,8.1nm,0.7s,mb4.9							
LSA	**Lhasa**	**66.96**	**289**	*e*P		**P**	**23 11 51.2**	**+2.3**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**66.96**	**289**	*e*P		**P**	**23 11 51.2**	**+2.2**
	comp=Z,3.5nm,0.6s,mb4.6							
AKTK	**Aktyubinsk**	**67.31**	**324**	P		**P**	**23 11 50.9**	**-0.3**
AKTO	**Aktyubinsk**	**67.31**	**324**	P		**P**	**23 11 50.9**	**-0.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=45,slow=8.4,SNR=5.2							
NB2	**NORSAR Subarra**	**67.48**	**354**	P		**P**	**23 11 51.7**	**-0.6**
NB2	**NORSAR Subarra**	**67.48**	**354**	P		**P**	**23 11 51.7**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.3,baz=7.5,slow=6.5							
NOA	**NORSAR Array B**	**67.48**	**354**	P		**P**	**23 11 52.4**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.5,baz=7.4,slow=6.2,SNR=10							
HFS	**Hagfors**	**68.21**	**353**	P		**P**	**23 11 56.3**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.5,baz=18,slow=5.2,SNR=13							
GUN	**Gumba**	**71.37**	**291**	*e*P		**P**	**23 12 17.6**	**+1.3**
	comp=Z,46nm,0.5s							
JIRN	**Jiri**	**71.38**	**291**	*e*P		**P**	**23 12 17.6**	**+1.3**
	comp=Z,5.6nm,0.3s,mb5.0							
KKN	**Kakani**	**71.81**	**292**	*e*P		**P**	**23 12 20.0**	**+1.1**
	comp=Z,19nm,0.5s,mb5.3							
PKI	**Pulchoki**	**71.90**	**292**	*e*P		**P**	**23 12 20.3**	**+0.8**
	comp=Z,8.7nm,0.4s,mb5.0							
GKN	**Gorkha**	**72.03**	**292**	*e*P		**P**	**23 12 21.0**	**+0.8**
	comp=Z,16nm,0.5s,mb5.2							
DMN	**Daman**	**72.05**	**292**	*e*P		**P**	**23 12 21.5**	**+1.2**
	comp=Z,7.7nm,0.4s,mb5.0							
KOLN	**Koldanda**	**72.80**	**293**	*e*P		**P**	**23 12 25.5**	**+0.7**
EKA	**Eskdalemuir Ar**	**73.50**	**2**	P		**P**	**23 12 29.1**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.2,baz=354,slow=4.6,SNR=6.9							
AKASG	**Malin Array Be**	**75.29**	**342**	P		**P**	**23 12 38.7**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=19,slow=5.8,SNR=12							
CTA	**Charters Tower**	**77.32**	**213**	P		**P**	**23 12 50.1**	**-0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=238,slow=19,SNR=2.1							
KWP	**Kalwaria**	**77.48**	**345**	*e*PX			23 12 52.4	
KWP	**Kalwaria**	**77.48**	**345**	*e*P		**P**	**23 12 52.3**	**+0.5**
KWP				pmax		pmax		
	comp=Z,24nm,0.9s,mb5.1							
KWP	**Kalwaria**	**77.48**	**345**	*e*P		**P**	**23 12 52.3**	**+0.5**
	comp=Z,24nm,0.9s,mb5.1							
STHS	**Stebnicka Huta**	**77.91**	**346**	*e*P		**P**	**23 12 55.3**	**+1.1**
STHS				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.3							
STHS	**Stebnicka Huta**	**77.91**	**346**	*e*P		**P**	**23 12 55.3**	**+1.1**
	comp=Z,5.5nm,1.4s,mb4.3							
KOLS	**Kolonicke sedl**	**78.22**	**345**	*e*P		**P**	**23 12 55.7**	**-0.2**
LIKS	**Likavka**	**78.57**	**348**	*e*P		**P**	**23 12 54.8**	**-3.0**
VRAC	**Vranov**	**78.63**	**349**	P		**P**	**23 12 58.0**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=34,slow=8.6,SNR=4.6							
VRAC	**Vranov**	**78.63**	**349**	⇑P		**P**	**23 12 58.2**	**+0.1**
GIVF	**Givet**	**78.71**	**357**	*e*P		**P**	**23 12 58.6**	**0.0**
BAIF	**Baives**	**78.71**	**358**	*e*P		**P**	**23 12 59.2**	**+0.3**
	comp=Z,3.2nm,0.4s,mb4.3							
GRA1	**Grafenberg Arr**	**78.77**	**353**	*e*P		**P**	**23 12 59.7**	**+0.8**
	comp=Z,5.0nm,0.7s,mb4.5							
GRF	**Grafenberg Arr**	**78.77**	**353**	*e*P		**P**	**23 12 59.7**	**+0.8**
GRF				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
GRF	**Grafenberg Arr**	**78.77**	**353**	*e*P		**P**	**23 12 59.7**	**+0.8**
GRF				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
GRF	**Grafenberg Arr**	**78.77**	**353**	*e*P		**P**	**23 12 59.7**	**+0.8**
	comp=Z,5.0nm,0.7s,mb4.5							
KECS	**Kecovo**	**78.93**	**347**	*e*P		**P**	**23 13 00.1**	**+0.3**
KECS				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.1							
KECS	**Kecovo**	**78.93**	**347**	*e*P		**P**	**23 13 00.1**	**+0.3**
	comp=Z,2.9nm,1.1s,mb4.1							
BURAR	**Bucovina Array**	**79.01**	**343**	⇓*i*P		**P**	**23 13 00.8**	**+0.6**
KHC	**Kasperske Hory**	**79.13**	**351**	*e*P		**P**	**23 13 00.0**	**-0.9**
VYHS	**Vyhne**	**79.15**	**348**	*e*P		**P**	**23 13 01.2**	**+0.2**
VYHS				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
VYHS	**Vyhne**	**79.15**	**348**	*e*P		**P**	**23 13 01.2**	**+0.2**
	comp=Z,2.5nm,1.2s,mb4.0							
GERES	**GERESS Array B**	**79.40**	**351**	P		**P**	**23 13 02.4**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=26,slow=5.3,SNR=16							
ZST	**Bratislava**	**79.67**	**349**	*e*P		**P**	**23 13 01.9**	**-1.9**
ZST				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
ZST	**Bratislava**	**79.67**	**349**	*e*P		**P**	**23 13 01.9**	**-1.9**
	comp=Z,4.5nm,0.9s,mb4.4							
FLN	**La Foliniere**	**80.12**	**1**	*e*P		**P**	**23 13 06.0**	**-0.2**
	comp=Z,18nm,0.8s,mb4.8							
FLN	**La Foliniere**	**80.12**	**1**	*e*P		**P**	**23 13 06.0**	**-0.2**
FLN				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
FLN	**La Foliniere**	**80.12**	**1**	*e*P		**P**	**23 13 06.0**	**-0.2**
	comp=Z,9.2nm,0.8s,mb4.8							
DRGR		**80.24**	**345**	⇑*i*P		**P**	**23 13 07.1**	**+0.2**
DRGR		**80.24**	**345**	⇑P		**P**	**23 13 07.1**	**+0.3**
LDF	**La Druitiere**	**80.29**	**0**	*e*P		**P**	**23 13 06.8**	**-0.4**
	comp=Z,7.6nm,0.6s,mb4.5							
LDF	**La Druitiere**	**80.29**	**0**	*e*P		**P**	**23 13 06.8**	**-0.4**
LDF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
LDF	**La Druitiere**	**80.29**	**0**	*e*P		**P**	**23 13 06.8**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.5							
CDF	**Champ du Feu**	**80.30**	**355**	*e*P		**P**	**23 13 06.5**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.1							
CDF	**Champ du Feu**	**80.30**	**355**	*e*P		**P**	**23 13 06.5**	**-0.7**
CDF				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
CDF	**Champ du Feu**	**80.30**	**355**	*e*P		**P**	**23 13 06.5**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2							
GRR	**Gorron**	**80.49**	**1**	*e*P		**P**	**23 13 08.1**	**-0.1**
	comp=Z,31nm,0.9s,mb4.9							
GRR	**Gorron**	**80.49**	**1**	*e*P		**P**	**23 13 08.1**	**-0.1**
GRR				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.0							
GRR	**Gorron**	**80.49**	**1**	*e*P		**P**	**23 13 08.1**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9							
SGMF	**Saint Gilles**	**80.60**	**2**	*e*P		**P**	**23 13 08.8**	**0.0**
HAU	**Haudompre**	**80.75**	**356**	*e*P		**P**	**23 13 09.5**	**-0.1**
MLR	**Muntele Rosu**	**80.92**	**342**	P		**P**	**23 13 11.6**	**+1.1**
	comp=Z,3.1nm,0.7s,mb4.4,baz=68,slow=14,SNR=4.4							
MLR	**Muntele Rosu**	**80.92**	**342**	⇓*i*P		**P**	**23 13 12.1**	**+1.6**
MLR	**Muntele Rosu**	**80.92**	**342**	⇑P		**P**	**23 13 12.1**	**+1.6**
BZS	**Buzias**	**81.56**	**345**	⇑*i*P		**P**	**23 13 14.0**	**+0.1**
GZR	**Gura Zlata**	**81.58**	**344**	⇓*i*P		**P**	**23 13 14.6**	**+0.5**
GZR	**Gura Zlata**	**81.58**	**344**	⇓P		**P**	**23 13 14.6**	**+0.6**
WRA	**Warramunga Arr**	**81.77**	**223**	P		**P**	**23 13 12.5**	**-2.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=33,slow=6.2,SNR=9.5							
SSF	**Saint Saulge**	**81.79**	**358**	*e*P		**P**	**23 13 15.1**	**0.0**
AVF	**Avril sur Loir**	**82.06**	**358**	*e*P		**P**	**23 13 16.4**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.3							
AVF	**Avril sur Loir**	**82.06**	**358**	*e*P		**P**	**23 13 16.4**	**-0.

*BGS **29** 23:08:15.5, 2537S×17966E, h499km, mb5.1(NEIC)*
*NEIC **29** 23:08:15.5±0.6, 2537S×17966E, h499km±6km, mb5.1/55, Error ellipse: s-maj=6.2km s-min=4.4km az=153.0*
*IDC **29** 23:08:15.3±0.5, 2521S×17969E, h494km±4km, mb4.5/24, mb1 4.6/27, mb1mx4.6/27, mbtmp4.5/27, Error ellipse: s-maj=8.3km s-min=7.2km az=178.0*

ISC 29 23:08:15.4±0.6, 2537S±004×17968E±003, h493km±6km, h485km±4.6km; pP-P, n726, c0574/539, mb5.0/83, 133C-137D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.41**	**152**	P	**P**	**23 09 39.0**	**+2.2**
	1μm,0.3s,baz=25,slow=2.1,SNR=37						
RAO				S	**S**	**23 10 47.0**	**+3.9**
	439nm,0.3s,baz=93,slow=22,SNR=7.4						
RAO	**Raoul Island**	**4.41**	**152**	*e*P	**P**	**23 09 38.3**	**+1.6**
RAO				*e*S	**S**	**23 10 43.0**	**-0.1**
DZM	**Mont Dzumac**	**12.56**	**282**	*e*P	**P**	**23 11 02.5**	**+2.6**
DZM				*e*S	**S**	**23 13 21.8**	**+6.2**
DZM	**Mont Dzumac**	**12.56**	**282**	P	**P**	**23 11 00.9**	**+1.0**
	5.7nm,0.3s,baz=100,slow=14,SNR=49						
DZM				S	**S**	**23 13 16.5**	**+0.9**
	baz=264,slow=19,SNR=1.7						
PUZ	**Puketiti**	**12.72**	**185**	*e*P	**P**	**23 11 00.2**	**-1.3**
PUZ				S	**S**	**23 13 12.2**	**-6.4**
PUZ	**Puketiti**	**12.72**	**185**	*e*PN	**P**	**23 11 02.7**	**+1.1**
PUZ				SN	**S**	**23 13 12.2**	**-6.4**
URZ	**Urewera**	**13.03**	**189**	P	**P**	**23 11 02.8**	**-2.1**
	18nm,0.3s,baz=9.0,slow=3.7,SNR=35						
URZ				S	**S**	**23 13 26.6**	**+2.0**
	29nm,0.3s,baz=267,slow=21,SNR=14						
URZ	**Urewera**	**13.03**	**189**	*e*P	**P**	**23 11 02.0**	**-2.9**
URZ	**Urewera**	**13.03**	**189**	*e*PN	**P**	**23 11 04.0**	**-0.8**
URZ				SN	**S**	**23 13 21.8**	**-2.9**
AFI	**Afiamalu**	**13.95**	**37**	P	**P**	**23 11 09.2**	**-5.3**
	4.6nm,0.3s,baz=42,slow=15,SNR=7.1						
AFI				S	**S**	**23 13 31.9**	**-10**
	7.5nm,0.3s,baz=73,slow=21,SNR=6.4						
AFI				ScP	ScP	23 18 44.2	+0.1
	1.5nm,0.3s,baz=299,slow=12,SNR=3.5						
AFI	**Afiamalu**	**13.95**	**37**	*e*P	**P**	**23 11 09.5**	**-5.0**
AFI				S	**S**	**23 13 31.9**	**-10**
AFI	**Afiamalu**	**13.95**	**37**	*e*P	**P**	**23 11 09.5**	**-5.0**
AFI				S	**S**	**23 13 31.9**	**-10**
AFI				ScP	ScP	23 18 44.2	+0.1
BKZ	**Black Stump Fm**	**14.02**	**190**	*e*P	**P**	**23 11 14.5**	**-0.8**
BKZ	**Black Stump Fm**	**14.02**	**190**	*e*PN	**P**	**23 11 14.5**	**-0.7**
OTVZ	**Oturere**	**14.16**	**193**	*e*PN	**P**	**23 11 17.4**	**+0.5**
CAW	**Cannon Point**	**16.16**	**193**	PN	**P**	**23 11 37.0**	**-0.7**
SNZO	**South Karori**	**16.43**	**193**	*e*P	**P**	**23 11 40.1**	**-0.4**
	70nm,0.4s						
SNZO				S	**S**	**23 14 24.4**	**-5.3**
SNZO	**South Karori**	**16.43**	**193**	*e*PN	**P**	**23 11 38.4**	**-2.1**
TCW	**Tory Channel**	**16.43**	**195**	*e*P	**P**	**23 11 37.9**	**-2.6**
TCW	**Tory Channel**	**16.43**	**195**	*e*PN	**P**	**23 11 37.9**	**-2.6**
TCW				SN	**S**	**23 14 24.3**	**-5.4**
QRZ	**Quartz Range**	**16.53**	**199**	*e*PN	**P**	**23 11 41.6**	**+0.1**
NNZ	**Nelson**	**16.65**	**197**	*e*P	**P**	**23 11 41.3**	**-1.5**
NNZ	**Nelson**	**16.65**	**197**	*e*PN	**P**	**23 11 41.3**	**-1.5**
FUNA	**Funafuti**	**16.76**	**358**	*e*P	**P**	**23 11 39.9**	**-4.1**
	118nm,1.0s						
THZ	**Tophouse**	**17.29**	**197**	*e*P	**P**	**23 11 48.0**	**-1.4**
THZ	**Tophouse**	**17.29**	**197**	*e*PN	**P**	**23 11 48.0**	**-1.3**
LTZ	**Lake Taylor**	**18.41**	**198**	*e*PN	**P**	**23 11 58.6**	**-1.1**
WVZ	**Waitaha Valley**	**19.12**	**200**	*e*PN	**P**	**23 12 05.6**	**-0.7**
RAR	**Rarotonga**	**19.32**	**82**	P	**P**	**23 12 06.1**	**-2.0**
	2.8nm,0.3s,baz=270,slow=8.4,SNR=6.2						
RPZ	**Rata Peaks**	**19.61**	**199**	P	**P**	**23 12 11.1**	**+0.3**
	7.7nm,0.3s,baz=50,slow=1.8,SNR=9.8						
RPZ				S	**S**	**23 15 25.2**	**+2.9**
	2.7nm,0.3s,baz=24,slow=2.8,SNR=5.2						
HNR	**Honiara**	**24.56**	**307**	P	**P**	**23 12 54.0**	**-1.3**
	151nm,0.6s,mb5.6,baz=199,slow=0.5,SNR=14						
HNR	**Honiara**	**24.56**	**307**	*e*P	**P**	**23 12 54.0**	**-1.3**
HNR				pmax	pmax		
	comp=Z,137nm,0.7s,mb5.5						
HNR	**Honiara**	**24.56**	**307**	*e*P	**P**	**23 12 54.0**	**-1.3**
	comp=Z,137nm,0.7s,mb5.5						
ARMA	**Armidale**	**25.27**	**252**	⇓*i*P	**P**	**23 13 03.9**	**+2.4**
CNB	**Canberra Magne**	**27.89**	**242**	*e*P	**P**	**23 13 28.1**	**+3.5**
	comp=Z,8.2nm,0.5s,mb4.4						
CNB				*e*SCP	ScP	23 19 20.3	+2.0
TBI	**Tubuai**	**28.15**	**92**	*e*P	**P**	**23 13 27.1**	**+0.2**
	comp=Z,204nm,0.9s,mb5.5						
PAE	**Paea**	**29.55**	**81**	*e*P	**P**	**23 13 38.6**	**-0.6**
	comp=Z,208nm,1.1s,mb5.5						
PAE				*e*pP		23 15 01.4	
	comp=Z,95nm,1.4s						
PPT	**Papeete**	**29.59**	**81**	*e*P	**P**	**23 13 39.3**	**-0.2**
	comp=Z,109nm,1.2s,mb5.2						
PPT				*e*pP		23 15 01.4	
	comp=Z,70nm,1.4s						
PPT	**Papeete**	**29.59**	**81**	P	**P**	**23 13 38.4**	**-1.1**
	comp=Z,64nm,0.7s,mb5.2,baz=54,slow=21,SNR=4.8						
TVO	**Taravao**	**29.81**	**82**	*e*P	**P**	**23 13 41.0**	**-0.3**
	comp=Z,134nm,0.9s,mb5.4						
TVO				*e*pP		23 15 03.3	
	comp=Z,204nm,1.4s						
CTA	**Charters Tower**	**31.23**	**273**	⇓*i*P	**P**	**23 13 54.7**	**+1.1**
	comp=Z,57nm,0.4s,mb5.4						
CTA				*e*PP	PP	23 15 31.1	-2.0
CTA				*e*S	**S**	**23 18 25.4**	**+0.9**
CTA				*e*SCP	ScP	23 19 31.3	+2.1
CTA	**Charters Tower**	**31.23**	**273**	P	**P**	**23 13 54.9**	**+1.2**
	comp=Z,84nm,0.4s,mb5.5,baz=98,slow=9.9,SNR=177						
CTA				ScP	ScP	23 19 31.3	+2.1
	comp=Z,31nm,1.0s,baz=152,slow=1.5,SNR=13						
CTA	**Charters Tower**	**31.23**	**273**	⇓*i*P	**P**	**23 13 54.7**	**+1.1**
CTA				*e*S	**S**	**23 18 25.4**	**+0.9**
CTA				pmax	pmax		
	comp=Z,57nm,0.4s						
CTAO	**Charters Tower**	**31.23**	**273**	*e*P	**P**	**23 13 54.8**	**+1.2**
TOO	**Toolangi**	**31.43**	**239**	*e*P	**P**	**23 13 57.2**	**+1.9**
	comp=Z,8.2nm,0.7s,mb4.3						
TOO				*e*SCP	ScP	23 19 31.3	+1.4
TOO	**Toolangi**	**31.43**	**239**	*e*P	**P**	**23 13 57.2**	**+1.9**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
TAU	**Tasmania Unive**	**31.73**	**228**	P	**P**	**23 13 59.2**	**+1.3**
TAU				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**31.73**	**228**	P	**P**	**23 13 59.2**	**+1.3**
	comp=Z,14nm,0.6s,mb4.6						
PMOR	**Pomariorio Ree**	**32.05**	**77**	*e*P	**P**	**23 14 00.3**	**-0.4**
	comp=Z,150nm,1.1s,mb5.3						
VAH	**Vaihoa**	**32.20**	**78**	*e*P	**P**	**23 14 01.3**	**-0.6**
	comp=Z,210nm,1.3s,mb5.4						
STKA	**Stephens Creek**	**33.93**	**250**	⇓*i*P	**P**	**23 14 18.1**	**+1.5**
	comp=Z,6.9nm,0.4s,mb4.4						
STKA				*e*SCP	ScP	23 19 39.9	+1.3
STKA				*e*SCS	ScS	23 23 42.8	+0.8
STKA	**Stephens Creek**	**33.93**	**250**	P	**P**	**23 14 18.1**	**+1.5**
	comp=Z,8.1nm,0.4s,mb4.5,baz=100,slow=10,SNR=38						
STKA				pP		23 15 44.1	
	comp=Z,4.0nm,0.6s,baz=88,slow=14,SNR=1.4						
STKA				ScP	ScP	23 19 40.2	+1.6
	comp=Z,20nm,1.0s,baz=81,slow=3.7,SNR=8.6						
STKA	**Stephens Creek**	**33.93**	**250**	*e*P	**P**	**23 14 18.1**	**+1.5**
STKA				*e*pP		23 15 44.4	
STKA				*e*ScP	ScP	23 19 38.2	-0.4
PMG	**Port Moresby**	**34.73**	**291**	P	**P**	**23 14 23.5**	**+0.2**
	comp=Z,64nm,0.7s,mb5.1,baz=111,slow=4.9,SNR=39						
PMG				ScP	ScP	23 19 43.5	+2.0
	comp=Z,37nm,0.9s,baz=85,slow=3.5,SNR=15						
PMG	**Port Moresby**	**34.73**	**291**	*d*i*P*	**P**	**23 14 23.3**	**0.0**
PMG	**Port Moresby**	**34.73**	**291**	*e*P	**P**	**23 14 23.5**	**+0.1**
RKT	**Rikitea**	**41.26**	**97**	*e*P	**P**	**23 15 17.0**	**+0.3**
	comp=Z,190nm,1.2s,mb5.4						
AS31	**Alice Springs**	**41.53**	**262**	*e*P	**P**	**23 15 19.1**	**+0.3**
AS31				*e*S	**S**	**23 20 57.4**	**-0.9**
AS31				*e*ScS	ScS	23 24 25.3	-0.8
ASAR	**Alice Springs**	**41.53**	**262**	P	**P**	**23 15 19.2**	**+0.3**
	comp=Z,22nm,0.4s,mb5.0,baz=87,slow=7.5,SNR=410						
ASAR				ScP	ScP	23 20 09.2	+1.6
	comp=Z,9.5nm,1.1s,baz=120,slow=3.9,SNR=9.0						
ASAR				S	**S**	**23 20 58.0**	**-0.3**
	comp=Z,14nm,1.0s,baz=96,slow=16,SNR=20						
ASAR				PKiKP	PKiKP	23 24 08.5	-1.6
	comp=Z,0.4nm,0.8s,baz=86,slow=1.3,SNR=4.7						
ASAR	**Alice Springs**	**41.53**	**262**	P	**P**	**23 15 19.2**	**+0.3**
ASAR				ScP	ScP	23 20 09.2	+1.6
ASAR				S	**S**	**23 20 58.0**	**-0.3**
ASPA	**Alice Springs**	**41.54**	**262**	*e*P	**P**	**23 15 19.1**	**+0.2**
ASPA				*e*S	**S**	**23 20 57.4**	**-1.0**
ASPA				*e*SCS	ScS	23 24 25.3	-0.8
WB2	**Warramunga Arr**	**42.03**	**268**	*e*P	**P**	**23 15 22.6**	**-0.2**
WB2				*e*SCP	ScP	23 20 11.0	+1.4
WB2				*e*S	**S**	**23 21 02.7**	**-2.8**
WB2				*e*SCS	ScS	23 24 30.2	+1.0
WRAB	**Tennant Creek**	**42.04**	**268**	P	**P**	**23 15 23.0**	**+0.2**
	comp=Z,538nm,0.4s,SNR=83						
WRAB	**Tennant Creek**	**42.04**	**268**	*d*i*P*	**P**	**23 15 22.6**	**-0.2**
WRAB	**Tennant Creek**	**42.04**	**268**	*e*P	**P**	**23 15 22.5**	**-0.3**
WRA	**Warramunga Arr**	**42.04**	**268**	P	**P**	**23 15 22.7**	**-0.2**
	comp=Z,42nm,0.4s,mb5.3,baz=103,slow=7.7,SNR=603						
WRA				PP	PP	23 17 20.0	+7.3
	comp=Z,15nm,1.0s,baz=104,slow=8.3,SNR=5.3						
WRA				ScP	ScP	23 20 11.7	+2.1
	comp=Z,33nm,1.1s,baz=104,slow=4.2,SNR=28						
WRA				S	**S**	**23 21 04.3**	**-1.4**
	comp=Z,38nm,1.1s,baz=103,slow=14,SNR=27						
WRA				PKiKP	PKiKP	23 24 09.6	-0.9
	comp=Z,0.7nm,0.5s,baz=64,slow=0.3,SNR=6.7						
WRA	**Warramunga Arr**	**42.04**	**268**	P	**P**	**23 15 22.7**	**-0.2**
WRA						23 17 20.0	
WRA				S	**S**	**23 21 04.3**	**-1.4**
WRA	**Warramunga Arr**	**42.04**	**268**	P	**P**	**23 15 22.7**	**-0.2**
WRA				PP	PP	23 17 20.0	+7.3
WRA				ScP	ScP	23 20 11.7	+2.1
WRA				S	**S**	**23 21 04.3**	**-1.4**
FORT	**Forrest**	**45.55**	**251**	*e*P	**P**	**23 15 50.1**	**0.0**
	comp=Z,44nm,0.7s,mb5.0						
FORT				*e*SCP	ScP	23 20 23.4	-0.6
FORT				*e*S	**S**	**23 21 52.7**	**-2.8**
KAKA	**Kakadu**	**46.18**	**277**	⇓*i*P	**P**	**23 15 54.3**	**-0.7**
	comp=Z,47nm,0.4s,mb5.3						
KAKA				*e*SCP	ScP	23 20 28.7	+2.1
KAKA				*e*S	**S**	**23 22 02.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**50.45**	**267**	*e*P	**P**	**23 16 27.1**	**+0.2**
	comp=Z,64nm,0.4s,mb5.3						
FITZ				*e*S	**S**	**23 23 02.9**	**-0.2**
HKL	**Haleakala**	**51.43**	**29**	*e*P	**P**	**23 16 33.7**	**-0.3**
GUMO	**Guam**	**51.49**	**315**	P	**P**	**23 16 33.8**	**-0.6**
	comp=Z,70nm,0.6s,mb5.2,baz=186,slow=18,SNR=2.9						
GUMO	**Guam**	**51.49**	**315**	*e*P	**P**	**23 16 32.3**	**-2.1**
GUMO				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.0						
GUMO	**Guam**	**51.49**	**315**	*e*P	**P**	**23 16 32.3**	**-2.2**
	comp=Z,63nm,0.7s,mb5.0						
VNDA	**Vanda**	**52.89**	**185**	P	**P**	**23 16 45.4**	**+0.8**
	comp=Z,12nm,0.8s,mb4.3,baz=2.4,slow=7.7,SNR=51						
VNDA				PcP	PcP	23 17 46.0	+0.3
	comp=Z,13nm,0.9s,baz=336,slow=3.6,SNR=6.1						
VNDA				ScP	ScP	23 20 55.0	-0.5
	comp=Z,7.1nm,0.8s,baz=8.9,slow=3.4,SNR=7.3						
VNDA	**Vanda**	**52.89**	**185**	*e*P	**P**	**23 16 45.9**	**+1.3**
VNDA						23 17 46.0	
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VNDA	**Vanda**	**52.89**	**185**	*e*P	**P**	**23 16 45.9**	**+1.3**
	comp=Z,9.7nm,0.7s,mb4.2						
VNDA				PcP	PcP	23 17 46.0	+0.3
VNDA				ScP	ScP	23 20 55.0	-0.5
SBA	**Scott Base**	**52.90**	**183**	*e*P	**P**	**23 16 46.6**	**+2.0**
SBA				*e*		23 17 44.8	
MIDW	**Midway**	**53.35**	**3**	P	**P**	**23 16 47.2**	**-0.6**
KLBR	**Kellerberrin**	**54.17**	**248**	⇓*i*P	**P**	**23 16 53.5**	**-0.1**
	comp=Z,31nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**54.38**	**247**	*e*P	**P**	**23 16 55.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**54.38**	**247**	*e*P	**P**	**23 16 55.6**	**+0.5**
	comp=Z,23nm,1.1s,mb4.4						
MUN	**Mundaring**	**55.40**	**247**	*e*P	**P**	**23 17 02.7**	**+0.5**
CASY	**Casey**	**58.67**	**206**	*e*P	**P**	**23 17 24.5**	**-0.2**
CASY	**Casey**	**58.67**	**206**	*e*P	**P**	**23 17 24.5**	**-0.2**
	comp=Z,23nm,0.6s,mb4.7						
KAPI	**Kappang**	**60.76**	**279**	P	**P**	**23 17 37.4**	**-1.3**
	comp=Z,119nm,0.6s,mb5.5,SNR=8.3						
RPN	**Rapa Nui**	**62.87**	**109**	P	**P**	**23 17 53.1**	**+0.7**
	comp=Z,226nm,1.0s,mb5.6,baz=306,slow=4.4,SNR=6.0						
QSPA	**South Pole Qui**	**64.72**	**180**	*e*P	**P**	**23 18 05.1**	**+0.8**
TSM	**Tawau**	**66.77**	**287**	P	**P**	**23 18 18.4**	**+1.2**
KKM	**Kota Kinabalu**	**69.07**	**288**	P	**P**	**23 18 32.0**	**+0.8**
KSM	**Kuching**	**72.08**	**280**	*e*P	**P**	**23 18 48.6**	**-0.4**
KSM				*e*pP	pP	23 20 32.9	-0.5
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**23 18 53.2**	**-0.8**
	comp=Z,13nm,0.9s,mb4.5,baz=161,slow=5.4,SNR=16						
MAJO	**Matsushiro**	**72.95**	**326**	*e*P	**P**	**23 18 53.0**	**-1.0**
MAT	**Matsushiro**	**72.95**	**326**	P	**P**	**23 18 52.8**	**-1.2**
MAT				S	S	23 27 30.2	-10
TATO	**Taipei**	**75.30**	**307**	P	**P**	**23 19 06.6**	**-0.8**
MAW	**Mawson**	**76.28**	**201**	*e*P	**P**	**23 19 12.9**	**+0.1**
	comp=Z,29nm,0.6s,mb5.0						
MAW	**Mawson**	**76.28**	**201**	P	**P**	**23 19 13.4**	**+0.6**
	comp=Z,39nm,0.7s,mb5.0,baz=124,slow=6.5,SNR=65						
MAW	**Mawson**	**76.28**	**201**	*e*P	**P**	**23 19 12.9**	**+0.1**
MAW				pmax	pmax		
	comp=Z,31nm,0.5s						
ASAJ	**Asahikawa**	**77.05**	**334**	P	**P**	**23 19 17.9**	**+0.9**
	comp=Z,8.2nm,0.6s,mb4.4,baz=282,slow=32,SNR=4.1						
PMSA	**Palmer Station**	**77.67**	**157**	P	**P**	**23 19 20.6**	**+0.1**
	comp=Z,70nm,0.9s,mb5.1,baz=226,slow=4.6,SNR=13						
PMSA	**Palmer Station**	**77.67**	**157**	*e*P	**P**	**23 19 19.9**	**-0.5**
	comp=Z,54nm,0.7s,mb5.1						
COCO	**West Island**	**78.49**	**262**	P	**P**	**23 19 25.0**	**+0.1**
KGM	**Kluang**	**78.57**	**278**	P	**P**	**23 19 26.8**	**+1.6**
KSRS	**Korea Array**	**79.19**	**320**	P	**P**	**23 19 28.9**	**+0.3**
	comp=Z,6.5nm,0.7s,mb4.3,baz=135,slow=5.7,SNR=14						
YSS	**Yuzh-Sakhalins**	**79.34**	**335**	*e*P	**P**	**23 19 29.9**	**+0.5**
YSS				pmax	pmax		
	comp=Z,14nm,0.4s,mb4.8						
YSS	**Yuzh-Sakhalins**	**79.34**	**335**	*e*P	**P**	**23 19 29.9**	**+0.6**
	comp=Z,14nm,0.4s,mb4.8						
NJ2	**Nanjing**	**81.41**	**311**	*e*P	**P**	**23 19 42.0**	**+1.8**
NJ2				AP	pP	23 21 28.0	+0.3
NJ2				XP	sP	23 22 16.5	-2.0
NJ2				PP	PP	23 22 58.5	+3.7
NJ2				S	S	23 29 12.0	+1.8
NJ2				XS	sS	23 32 17.0	-4.9
NJ2				AMB	AMB		
	comp=Z,840nm,8.4s						
SYO	**Syowa Base**	**81.52**	**194**	⇓*i*P	**P**	**23 19 39.3**	**-1.4**
IPM	**Ipoh**	**81.70**	**279**	P	**P**	**23 19 42.3**	**+0.6**
BSC	**Santa Cruz Isl**	**82.48**	**47**	⇓P	**P**	**23 19 46.1**	**+0.4**
	baz=83						
SCI	**San Clemente I**	**82.60**	**48**	⇑P	**P**	**23 19 46.4**	**+0.2**
	baz=83						
FARB	**Farallon Islan**	**82.64**	**42**	⇑P	**P**	**23 19 46.6**	**+0.1**
	baz=83						
V04C	**Ramage Ranch,**	**82.68**	**45**	⇑P	**P**	**23 19 47.1**	**+0.5**
	baz=83						
V03C	**Hunter Liggett**	**82.68**	**45**	⇑P	**P**	**23 19 47.5**	**+0.9**
	baz=83						
HAST	**UC Hastings Re**	**82.71**	**44**	⇓P	**P**	**23 19 47.3**	**+0.5**
	baz=83,SNR=8.7						
BNLO	**Ben Lomond (Sa**	**82.79**	**43**	⇑P	**P**	**23 19 47.9**	**+0.7**
	baz=83						
PKM	**Peak Mountain**	**82.90**	**46**	⇑P	**P**	**23 19 48.4**	**+0.7**
	baz=83,SNR=6.8						
SAO	**San Andreas Ge**	**83.01**	**44**	*e*P	**P**	**23 19 49.1**	**+0.8**
PKD	**Parkfield**	**83.08**	**45**	⇓P	**P**	**23 19 49.0**	**+0.3**
	baz=83,SNR=9.0						
U04C	**Hernandez Rese**	**83.18**	**44**	⇓P	**P**	**23 19 49.7**	**+0.6**
	baz=83,SNR=12						
SNAA	**Sanae**	**83.20**	**179**	*c i*P	**P**	**23 19 48.0**	**-1.3**
SNAA	**Sanae**	**83.20**	**179**	*e*P	**P**	**23 19 48.9**	**-0.4**
PACP	**Pacheco Peak**	**83.27**	**44**	P	**P**	**23 19 50.3**	**+0.7**
	baz=84,SNR=12						
MDJ	**Mudanjiang**	**83.33**	**327**	P	**P**	**23 19 49.2**	**-0.7**
WENL	**Wente Brothers**	**83.36**	**43**	⇑P	**P**	**23 19 50.5**	**+0.5**
	baz=84						
CVS	**Carmenet Viney**	**83.39**	**42**	⇓P	**P**	**23 19 50.1**	**-0.1**
	baz=84,SNR=8.8						
NSHM	**Saint Helena R**	**83.41**	**42**	*e*P	**P**	**23 19 50.3**	**0.0**
VNA3	**Neumayer Olymp**	**83.43**	**177**	⇑*i*PKPdf	**P**	**23 19 49.4**	**-1.0**
VNA3				*e*	pP	23 21 43.5	+4.9
HOPS	**Hopland**	**83.43**	**41**	*e*P	**P**	**23 19 51.0**	**+0.6**
	comp=Z,111nm,1.3s,mb5.2						
HOPS	**Hopland**	**83.43**	**41**	⇑P	**P**	**23 19 50.7**	**+0.3**
	baz=84,SNR=9.2						
V05C	**Boulder Hill,**	**83.44**	**45**	⇓P	**P**	**23 19 51.5**	**+1.0**
	baz=84						
CHGN	**Chignik**	**83.45**	**12**	*e*P	**P**	**23 19 48.5**	**-2.0**
OSI	**Osito Adit**	**83.45**	**47**	⇓P	**P**	**23 19 50.9**	**+0.4**
	baz=84						
DECC	**Green Verdugo**	**83.50**	**47**	⇑P	**P**	**23 19 51.3**	**+0.6**
	baz=84						
BDM	**Black Diamond**	**83.50**	**43**	⇑P	**P**	**23 19 51.0**	**+0.2**
	baz=84						
109C	**Camp Elliot, M**	**83.53**	**49**	⇑P	**P**	**23 19 51.2**	**+0.3**
	baz=84						
S04C	**Ingram Canyon,**	**83.55**	**43**	⇑P	**P**	**23 19 51.4**	**+0.4**
	baz=84,SNR=15						
P01C	**Double 8 Ranch**	**83.58**	**41**	⇓P	**P**	**23 19 51.3**	**+0.1**
	baz=84,SNR=5.3						
WHN	**Wuhan**	**83.67**	**308**	P	**P**	**23 19 52.5**	**+0.9**
ARVC	**Arvin**	**83.69**	**46**	⇑P	**P**	**23 19 51.7**	**0.0**
	baz=84						
BAR	**Barrett**	**83.70**	**49**	*e*P	**P**	**23 19 52.6**	**+0.8**
LPIG	**La Paz**	**83.71**	**60**	P	**P**	**23 19 52.4**	**+0.6**
	comp=Z,18nm,0.3s,mb5.0,baz=36,slow=12,SNR=6.8						
LPIG	**La Paz**	**83.71**	**60**	P	**P**	**23 19 52.4**	**+0.6**
KIPM	**Iron Peak**	**83.72**	**40**	*e*P	**P**	**23 19 52.8**	**+0.9**
O01C	**Eel River Cons**	**83.73**	**40**	⇓P	**P**	**23 19 52.4**	**+0.5**
	baz=84,SNR=5.7						
MNRC	**McLaughlin Nat**	**83.73**	**42**	⇑P	**P**	**23 19 52.4**	**+0.5**
	baz=84,SNR=19						
MAIT	**Maitri**	**83.74**	**184**	*e*P	**P**	**23 19 50.8**	**-1.1**
NVL	**N'lazarevskaya**	**83.74**	**184**	*c i*P	**P**	**23 19 50.3**	**-1.7**
NVL				*i* S	S	23 29 29.8	-3.6
NVL				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.1						
NVL				smax			
	comp=E,150nm,16.9s						
Q03C	**Winters**	**83.84**	**42**	⇓P	**P**	**23 19 53.1**	**+0.6**
	baz=84,SNR=5.5						
VNA2	**Neumayer--Watz**	**83.84**	**178**	⇑*i*PKPdf	**P**	**23 19 51.8**	**-0.6**
	baz=158,slow=4.5						
VNA2				*e*		23 19 54.2	
VNA2				*e*	pP	23 21 43.8	+3.0
MURC	**Murrieta**	**83.88**	**48**	⇑P	**P**	**23 19 52.7**	**+0.1**
	baz=84,SNR=10						
BFSC	**Mount Baldy St**	**83.94**	**48**	⇓P	**P**	**23 19 53.0**	**0.0**
	baz=84,SNR=8.7						
VES	**Vestal, Richgr**	**83.96**	**46**	⇓P	**P**	**23 19 52.5**	**-0.6**
	baz=84,SNR=9.2						
MONP	**Monument Peak**	**84.00**	**49**	⇓P	**P**	**23 19 53.8**	**+0.6**
	baz=84,SNR=20						
GASB	**Alder Springs**	**84.06**	**41**	⇑P	**P**	**23 19 54.6**	**+1.1**
	baz=84,SNR=46						
S05C	**Merced**	**84.08**	**44**	⇑P	**P**	**23 19 53.2**	**-0.4**
	baz=84,SNR=7.6						
VNA1	**Neumayer--Stat**	**84.08**	**177**	⇑*i*PKPdf	**P**	**23 19 53.2**	**-0.4**
VNA1				*e*		23 19 56.7	
VNA1				*e*	pP	23 21 47.0	+4.9
DVTC	**Desert V Tower**	**84.08**	**50**	⇓P	**P**	**23 19 54.0**	**+0.4**
	baz=84,SNR=7.5						
EDW2	**Edwards Air Fo**	**84.10**	**47**	⇓P	**P**	**23 19 53.7**	**0.0**
	baz=84,SNR=16						
ISA	**Isabella**	**84.24**	**46**	*e*P	**P**	**23 19 54.0**	**-0.4**
	comp=E,0.2nm,1.0s						
ISA	**Isabella**	**84.24**	**46**	P	**P**	**23 19 54.7**	**+0.3**
	baz=84,SNR=40						
T06C	**Millerton Lake**	**84.26**	**45**	⇓P	**P**	**23 19 54.2**	**-0.3**
	baz=84,SNR=24						
KHMM	**Horse Mountain**	**84.26**	**40**	*e*P	**P**	**23 19 56.1**	**+1.5**
R04C	**Big Horse Ranc**	**84.26**	**43**	⇓P	**P**	**23 19 53.7**	**-0.8**
	baz=84						
SUTB	**Sutter Butte**	**84.35**	**42**	⇓P	**P**	**23 19 54.5**	**-0.5**
	baz=84,SNR=7.7						
Q04C	**Lincoln**	**84.36**	**42**	⇓P	**

YBH pmax pmax
comp=Z,50nm,1.3s
YBH Yreka Blue Hor 85.40 39 *e*P **P** 23 20 00.5 +0.4
comp=Z,50nm,1.3s,mb5.0
YBH Yreka Blue Hor 85.40 39 ⇑P **P** 23 20 00.5 +0.4
baz=86,SNR=22
M03C McCloud 85.45 40 ⇓P **P** 23 20 00.4 0.0
baz=86,SNR=6.6
O04C Chester 85.46 41 ⇓P **P** 23 20 00.1 -0.2
baz=86
HATC Hat Creek Radi 85.55 41 ⇑P **P** 23 20 00.8 0.0
baz=86,SNR=9.5
IRM Iron Mountain 85.59 49 ⇓P **P** 23 20 01.4 +0.4
baz=86,SNR=18
GMRC Granite Mounta 85.60 48 P **P** 23 20 01.3 +0.2
baz=86,SNR=18
BEKR Beckwourth 85.61 42 ⇑P **P** 23 20 01.5 +0.4
baz=86,SNR=23
LBCM Butte Creek Ri 85.62 41 P **P** 23 20 01.0 -0.2
K02A Glendale 85.63 38 ⇑P **P** 23 20 01.6 +0.4
baz=86,SNR=13
WCN Washoe City 85.63 43 ⇓P **P** 23 20 01.2 0.0
baz=86,SNR=7.6
KLR Kul'dur 85.67 331 *e*P **P** 23 19 58.2 -3.2
GRAC Grapevine Rang 85.75 46 ⇑P **P** 23 20 01.9 +0.1
baz=86,SNR=7.0
FURC Furnace Creek, 85.77 46 ⇑P **P** 23 20 01.9 0.0
baz=86
P06A Stead Airport, 85.78 42 ⇑P **P** 23 20 02.2 +0.3
baz=86
Y12C Blythe 85.79 50 ⇓P **P** 23 20 02.5 +0.5
baz=86,SNR=5.5
TUQ Turquoise Mtn. 85.80 48 ⇑P **P** 23 20 02.2 +0.2
baz=86,SNR=5.6
HUMO Hull Mountain 85.83 39 *e*P **P** 23 20 02.1 0.0
comp=Z,107nm,1.4s,mb5.3
HUMO Hull Mountain 85.83 39 ⇑P **P** 23 20 02.6 +0.5
baz=86,SNR=31
SHOC Shoshone 85.83 47 ⇑P **P** 23 20 01.8 -0.3
baz=86
ELFS Eagle Lake Fie 85.86 41 ⇑P **P** 23 20 02.2 0.0
baz=86
M04C Macdoel 85.94 40 ⇑P **P** 23 20 02.6 -0.1
baz=86,SNR=8.4
J02A Umpqua 85.97 38 ⇓P **P** 23 20 02.7 -0.1
baz=86,SNR=17
Q07A Schurz 86.00 43 ⇓P **P** 23 20 03.0 +0.1
baz=86
NVAR Mina Array Bea 86.01 44 P **P** 23 20 03.0 0.0
comp=Z,23nm,0.8s,mb4.9,baz=229,slow=8.4,SNR=108
NVAR Mina Array Bea 86.01 44 P **P** 23 20 03.0 0.0
BUOR Burton Butte 86.02 39 P **P** 23 20 03.9 +0.8
KDAK Kodiak Island 86.04 14 P **P** 23 20 01.7 -1.4
comp=Z,8.5nm,0.8s,mb4.4,baz=185,slow=2.3,SNR=5.3
M05C Lookout 86.07 40 P **P** 23 20 03.3 0.0
baz=86,SNR=23
R08A Mina 86.08 44 ⇓P **P** 23 20 03.2 -0.2
baz=86
U10A Ash Meadows, A 86.09 47 ⇓P **P** 23 20 03.7 +0.3
baz=86,SNR=5.1
O06A Flanigan 86.12 42 P **P** 23 20 03.5 -0.1
baz=86,SNR=11
L04A Klamath Falls 86.16 39 ⇓P **P** 23 20 03.7 0.0
baz=86,SNR=14
I02A Mapleton 86.25 37 ⇑P **P** 23 20 04.4 +0.2
baz=86,SNR=5.6
S09A Goldfield 86.27 45 ⇓P **P** 23 20 03.9 -0.4
baz=86,SNR=16
NEE2 Needles Airpor 86.30 49 ⇑P **P** 23 20 04.4 0.0
baz=86
HOG Hogback Mounta 86.30 39 P **P** 23 20 05.3 +0.8
P07A Fallon 86.31 43 ⇑P **P** 23 20 04.2 -0.3
baz=86
J03A Ideyld Park 86.31 38 ⇑P **P** 23 20 04.7 +0.2
baz=86,SNR=11
V11A Goodsprings 86.36 47 ⇑P **P** 23 20 04.8 +0.1
baz=86,SNR=9.8
PDMCI Parker Dam,Lak 86.36 49 P **P** 23 20 05.3 +0.6
baz=86,SNR=8.3
M06C Likely Place G 86.37 41 ⇑P **P** 23 20 04.7 -0.1
baz=87,SNR=10
W12A Cal Nev Ari 86.43 48 ⇓P **P** 23 20 05.4 +0.4
baz=87
N06A Buffalo Meadow 86.47 41 ⇓P **P** 23 20 04.8 -0.4
baz=87,SNR=31
TPH Tonopah 86.48 45 *e*P **P** 23 20 05.5 +0.2
TPH pmax pmax
comp=Z,62nm,1.0s,mb5.2
TPH Tonopah 86.48 45 *e*P **P** 23 20 05.5 +0.2
comp=Z,62nm,1.0s,mb5.2
Q08A Gabbs 86.50 44 ⇓P **P** 23 20 05.3 -0.1
baz=87,SNR=11
K04A Chilquin 86.52 39 ⇑P **P** 23 20 05.8 +0.3
baz=87,SNR=7.3
I03A Eugene 86.53 37 ⇓P **P** 23 20 05.8 +0.3
baz=87,SNR=7.1
H02A Toledo 86.60 36 ⇓P **P** 23 20 06.5 +0.7
baz=87
Z14A Wintersburg 86.67 51 ⇓P **P** 23 20 06.9 +0.7
baz=87,SNR=13
R09A Tonopah 86.67 45 P **P** 23 20 06.0 -0.1
baz=87,SNR=12
V12A Nelson 86.68 48 ⇑P **P** 23 20 06.4 +0.2
baz=87,SNR=9.2
L05A Lakeview 86.69 40 ⇑P **P** 23 20 06.7 +0.4
baz=87,SNR=25
O07A Toulon 86.69 42 P **P** 23 20 06.2 0.0
baz=87,SNR=35
J04A Umpqua Nationa 86.71 38 P **P** 23 20 06.9 +0.6
baz=87,SNR=26
U11A Corn Creek 86.72 47 ⇑P **P** 23 20 06.5 +0.2
baz=87
X13A Yucca 86.74 49 ⇓P **P** 23 20 06.6 +0.2
baz=87,SNR=12
115A Sonoran Desert 86.82 52 P **P** 23 20 07.7 +0.9
baz=87,SNR=7.2
I04A Tendick Farm, 86.89 38 ⇓P **P** 23 20 07.0 -0.2
baz=87,SNR=17
P08A Dixie Valley 86.90 43 ⇓P **P** 23 20 07.4 +0.2
baz=87
MOD Modoc 86.91 40 *e*P **P** 23 20 07.0 -0.2
comp=Z,50nm,1.3s,mb5.1
MOD Modoc 86.91 40 P **P** 23 20 07.3 +0.1
baz=87,SNR=35
SHPR Sheep Range 86.91 47 *e*P **P** 23 20 07.7 +0.4
Y14A Wickenburg 86.94 50 ⇑P **P** 23 20 07.6 +0.2
baz=87,SNR=6.8
Q09A Carvers 86.95 44 ⇑P **P** 23 20 07.6 +0.1
baz=87
H03A Soap Creek Ran 86.98 37 ⇓P **P** 23 20 07.9 +0.3
baz=87,SNR=6.1
W13A Hualapai Mount 86.98 49 ⇓P **P** 23 20 07.9 +0.3
baz=87,SNR=12
N07B Gerlach 87.01 42 ⇓P **P** 23 20 07.6 -0.1
baz=87,SNR=10.0
ENH Enshi 87.05 305 P **P** 23 20 07.7 -0.2
K05A Summer Lake 87.08 39 ⇓P **P** 23 20 08.1 +0.1
baz=87,SNR=27
116A Eloy 87.11 52 ⇑P **P** 23 20 09.1 +0.8
baz=87,SNR=7.6
O08A Rochester Mine 87.21 43 ⇓P **P** 23 20 08.9 +0.2
baz=87
J05A Fort Rock 87.23 39 P **P** 23 20 09.2 +0.4
baz=87,SNR=58
GYA Guiyang 87.25 301 P **P** 23 20 09.8 +0.9
GYA AP pP 23 21 58.5 +0.1
GYA XP sP 23 22 46.5 -2.2
GYA PP PP 23 23 45.0 +3.4
GYA SKS 23 29 51.0
GYA S S 23 30 09.0 +2.0
GYA XS sS 23 33 18.5 -3.6
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,640nm,5.4s
M07A Soldier Meadow 87.26 41 P **P** 23 20 09.1 +0.2
baz=87,SNR=26
U12A Valley of Fire 87.28 47 P **P** 23 20 09.8 +0.7
baz=88,SNR=13
X14A Yava 87.31 50 ⇑P **P** 23 20 09.7 +0.5
baz=88,SNR=12
G03A Yamhill 87.40 36 ⇓P **P** 23 20 09.9 +0.3
baz=88
P09A Austin 87.40 44 ⇑P **P** 23 20 09.4 -0.1
baz=88
K06A Valley Falls 87.49 40 P **P** 23 20 10.3 +0.3
baz=88,SNR=60
NST Nakhon Sawan 87.50 289 P **P** 23 20 12.4 +2.4

N08A GE Springer Mi 87.52 42 ⇓P **P** 23 20 10.2 +0.1
baz=88
L07A Adell 87.54 41 P **P** 23 20 10.7 +0.5
baz=88,SNR=44
H04A Detroit Lake 87.59 37 P **P** 23 20 10.2 -0.2
baz=88,SNR=20
W14A Seligman 87.59 49 ⇑P **P** 23 20 11.3 +0.8
baz=88,SNR=16
TUC Tucson 87.64 53 *e*P **P** 23 20 11.6 +0.9
TUC *e**PP pP 23 22 01.5 +1.2
TUC pmax pmax
comp=Z,119nm,1.4s,mb5.4
TUC Tucson 87.64 53 *e*P **P** 23 20 11.6 +0.8
comp=Z,119nm,1.4s,mb5.4
TUC *e*pP pP 23 22 01.5 +1.2
O09A Fish Creek Ran 87.73 43 ⇑P **P** 23 20 11.1 0.0
baz=88,SNR=11
M08A Happy Creek Ra 87.77 42 P **P** 23 20 11.8 +0.5
baz=88,SNR=23
X15A Humboldt 87.78 50 P **P** 23 20 12.1 +0.8
baz=88,SNR=22
SFJM Santa Fe 87.79 66 *i* P **P** 23 20 12.0 +0.6
J06A Christmas Vall 87.83 39 P **P** 23 20 11.4 -0.2
baz=88,SNR=63
P10A Eureka 87.86 44 ⇓P **P** 23 20 11.7 0.0
baz=88,SNR=5.7
BMN Battle Mountai 87.87 43 *e*P **P** 23 20 11.8 0.0
BMN pmax pmax
comp=Z,92nm,1.4s,mb5.3
BMN Battle Mountai 87.87 43 *e*P **P** 23 20 11.8 0.0
comp=Z,92nm,1.4s,mb5.3
BJT Baijiatuau 87.89 317 *e*P **P** 23 20 11.7 -0.2
BJT pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuau 87.89 317 *e*P **P** 23 20 11.7 -0.2
comp=Z,6.8nm,0.7s,mb4.5
Q11A Duckwater 87.93 45 ⇓P **P** 23 20 12.1 0.0
baz=88,SNR=13
N09A Rock Creek Ran 87.93 42 ⇑P **P** 23 20 12.2 +0.1
baz=88,SNR=8.8
K07A Rock Creek Ran 88.01 40 P **P** 23 20 12.7 +0.3
baz=88,SNR=51
E03A Lebam 88.05 35 ⇓P **P** 23 20 12.6 -0.1
baz=88,SNR=7.3
H05A Madras 88.09 38 ⇓P **P** 23 20 12.9 +0.1
baz=88,SNR=9.0
EFI East Falkland 88.12 148 P **P** 23 20 13.1 +0.2
comp=Z,1μm,0.7s,SNR=8.2
EFI East Falkland 88.12 148 *e*P **P** 23 20 13.5 +0.6
EFI pmax pmax
comp=Z,164nm,0.8s,mb5.8
EFI East Falkland 88.12 148 *e*P **P** 23 20 13.5 +0.5
comp=Z,164nm,0.8s,mb5.8
W15A Williams 88.13 49 ⇓P **P** 23 20 13.8 +0.8
baz=88
WVOR Wild Horse Val 88.21 41 *e*P **P** 23 20 13.4 0.0
WVOR pmax pmax
comp=Z,86nm,1.1s,mb5.4
WVOR Wild Horse Val 88.21 41 *e*P **P** 23 20 13.4 0.0
comp=Z,86nm,1.1s,mb5.4
I06A Prineville 88.22 39 P **P** 23 20 14.0 +0.5
baz=88,SNR=86
O10A Cortez Mining, 88.23 43 ⇓P **P** 23 20 13.3 -0.2
baz=88,SNR=8.7
L08A Fields 88.24 41 P **P** 23 20 13.5 0.0
baz=88,SNR=70
F04A Amboy 88.26 36 P **P** 23 20 14.2 +0.6
baz=88,SNR=13
P11A Circle Ranch, 88.27 44 ⇓P **P** 23 20 13.7 0.0
baz=88
M09A Marrel Ranch, 88.31 42 ⇑P **P** 23 20 14.0 +0.2
baz=88,SNR=23
VIPM Ingram Point 88.34 38 P **P** 23 20 14.1 +0.1
LVP Lakeview Peak 88.35 36 P **P** 23 20 14.0 -0.1
J07A Hines 88.39 40 P **P** 23 20 14.6 +0.4
baz=89,SNR=18
G05A Wamic 88.42 37 ⇓P **P** 23 20 14.0 -0.3
baz=89,SNR=5.7
NANT Nan 88.44 292 ⇑P **P** 23 20 24.0 +10
comp=Z,66nm,0.6s,mb5.5
FL2 Flat Top 2 88.47 36 P **P** 23 20 15.6 +1.0
SVW2 Sparrevohn 88.47 12 *e*P **P** 23 20 13.4 -1.2
K08A Mann Creek Ran 88.48 41 ⇓P **P** 23 20 14.5 -0.1
baz=89,SNR=54
E04A Onalaska 88.53 36 ⇑P **P** 23 20 15.0 +0.2
baz=89
L09A Wilkinson Ranc 88.54 41 ⇓P **P** 23 20 15.0 +0.1
baz=89
CAIG El Cayaco 88.55 70 *i* P **P** 23 20 15.3 +0.4
Q12A Willow Creek R 88.57 45 ⇓P **P** 23 20 14.9 -0.1
baz=89,SNR=20
H06A Lindquist Farm 88.64 38 P **P** 23 20 15.3 -0.1
baz=89,SNR=51
O11A Cowboy Ranch, 88.67 44 ⇑P **P** 23 20 15.5 0.0
baz=89,SNR=11
CCUT Cedar City 88.69 47 *e*P **P** 23 20 16.1 +0.5
I07A Izee 88.71 39 ⇑P **P** 23 20 15.8 +0.1
baz=89,SNR=78
P12A McGill 88.76 45 ⇓P **P** 23 20 15.7 -0.2
baz=89,SNR=15
ARUT Antelope Range 88.77 47 P **P** 23 20 16.2 +0.2
G06A Carlson Farm, 88.79 38 P **P** 23 20 15.8 -0.2
baz=89,SNR=26
J08A Circle Bar Ran 88.86 40 ⇓P **P** 23 20 16.2 -0.2
baz=89,SNR=32
K09A Rome 88.91 41 ⇓P **P** 23 20 16.4 -0.2
baz=89,SNR=82
M10A I.L. Ranch, Tu 88.93 42 P **P** 23 20 17.2 +0.5
baz=89,SNR=58
WUAZ Wupatki 88.93 50 *e*P **P** 23 20 17.7 +1.0
comp=Z,58nm,1.2s,mb5.3
WUAZ Wupatki 88.93 50 ⇑P **P** 23 20 16.9 +0.2
baz=89,SNR=12
H07A Lands Inn, Kim 88.99 39 ⇓P **P** 23 20 16.7 -0.3
baz=89,SNR=51
N11A Elko Archery C 89.01 43 ⇑P **P** 23 20 17.2 +0.1
baz=89
E05A Randle 89.01 36 ⇑P **P** 23 20 16.7 -0.4
baz=89
SLKM Skilak Lake 89.03 14 *e*P **P** 23 20 16.5 -0.7
F06A Goldendale 89.04 37 ⇑P **P** 23 20 17.0 -0.2
baz=89,SNR=17
B04A Port Angeles 89.07 34 ⇓P **P** 23 20 17.7 +0.4
baz=89
GNW Green Mountain 89.10 35 *e*P **P** 23 20 17.7 +0.2
C04A Brinnon 89.12 35 ⇑P **P** 23 20 17.6 0.0
baz=89,SNR=7.5
I08A Drewsey 89.14 40 ⇓P **P** 23 20 17.7 0.0
baz=89,SNR=12
J09A Fry Pan Ranch, 89.28 40 ⇓P **P** 23 20 18.3 0.0
baz=90,SNR=29
ELK Elko 89.28 44 *e*P **P** 23 20 18.3 0.0
ELK pmax pmax
comp=Z,36nm,1.1s
ELK Elko 89.28 44 *e*P **P** 23 20 18.3 -0.1
comp=Z,36nm,1.1s,mb5.1
D05A Emumclaw 89.29 35 ⇑P **P** 23 20 18.6 +0.2
baz=90,SNR=14
O12A Currie 89.32 44 ⇓P **P** 23 20 18.5 0.0
baz=90,SNR=12
M11A Holland Ranch, 89.33 43 P **P** 23 20 19.1 +0.5
baz=90,SNR=39
G07A Ruggs Ranch, H 89.34 38 ⇓P **P** 23 20 18.5 -0.2
baz=90,SNR=25
E06A Yakima 89.42 36 ⇓P **P** 23 20 19.0 0.0
baz=90,SNR=11
XAN Xi'an 89.42 308 P **P** 23 20 19.3 +0.3
XAN AMB AMB
comp=Z,14nm,1.1s,mb4.7
H08A Prairie City 89.45 39 ⇑P **P** 23 20 19.0 -0.2
baz=90,SNR=6.0
N12A Clover Valley, 89.47 44 ⇑P **P** 23 20 19.2 0.0
baz=90,SNR=21
F07A Phinny Hill Vi 89.59 37 ⇓P **P** 23 20 19.5 -0.3
baz=90
I09A Lost Marbles R 89.66 40 ⇓P **P** 23 20 19.7 -0.4
baz=90
KMI Kunming 89.69 298 P **P** 23 20 22.5 +2.2
KMI AP pP 23 22 12.5 +2.2
KMI XP sP 23 22 56.3 -4.1
KMI PP PP 23 24 04.5 +3.6
KMI SKS 23 30 05.0
KMI S S 23 30 32.0 +2.5
KMI SP SP 23 31 38.5 -0.4
KMI XS sS 23 33 42.3 -3.6
KMI SS SS 23 36 45.3 +4.8
KMI SSS 23 40 14.0

KMI AMB AMB
comp=Z,15nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,128nm,4.0s
KMI Kunming 89.69 298 P **P** 23 20 22.4 +2.1
KMI *PP pP 23 22 12.4 +2.1
KMI *SP sP 23 22 56.2 -4.2
KMI 23 24 04.5
KMI 23 30 05.0
KMI S S 23 30 31.9 +2.4
KMI SP SP 23 31 38.4 -0.5
KMI SS SS 23 36 45.3 +4.8
KMI pmax pmax
comp=Z,15nm,0.9s,mb4.8
KMI Kunming 89.69 298 P **P** 23 20 22.4 +2.1
comp=Z,15nm,0.9s,mb4.8
KMI PcP PcP 23 20 24.9 +3.7
KMI pP pP 23 22 12.4 +2.1
KMI sP sP 23 22 56.2 -4.2
KMI PP PP 23 24 04.5 +3.6
KMI SKS 23 30 05.0
KMI S S 23 30 31.9 +2.4
KMI SP SP 23 31 38.4 -0.5
KMI sS sS 23 33 42.2 -3.7
KMI SS SS 23 36 45.3 +4.8
KMI SSS 23 40 14.0
G08A Pilot Rock 89.75 38 ⇓P **P** 23 20 20.6 0.0
baz=90,SNR=36
C05A Tolt Reservoir 89.77 35 ⇑P **P** 23 20 20.3 -0.3
baz=90,SNR=8.0
PLIG Platanillo 89.80 70 *i* P **P** 23 20 21.3 +0.6
M12A Wells 89.86 43 P **P** 23 20 21.3 +0.2
baz=90,SNR=24
EBG Ellensburg 89.87 36 P **P** 23 20 21.6 +0.5
D06A Cle Elum 89.90 36 ⇑P **P** 23 20 20.8 -0.4
baz=90,SNR=8.5
A04A Legoe Bay, Lum 89.91 34 ⇓P **P** 23 20 21.2 -0.1
baz=90
B05A Bryant 89.92 35 ⇓P **P** 23 20 21.3 0.0
baz=90
CHG Chiang Mai 89.93 291 ⇑P **P** 23 20 23.3 +1.9
comp=Z,15nm,0.9s,mb4.8
CHTO Chiang Mai 89.93 291 *e*P **P** 23 20 21.6 +0.2
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.7
CHTO Chiang Mai 89.93 291 *e*P **P** 23 20 21.6 +0.2
comp=Z,13nm,1.0s,mb4.7
N13A Wendover, West 89.99 44 ⇑P **P** 23 20 21.6 0.0
baz=90,SNR=19
MSU Marysvale 90.00 47 *e*P **P** 23 20 22.5 +0.8
E07A Sunnyside 90.04 37 ⇑P **P** 23 20 21.6 -0.3
baz=90,SNR=13
HAWA Hanford 90.11 37 *e*P **P** 23 20 22.0 -0.2
comp=Z,72nm,1.3s,mb5.3
H09A Durkee 90.11 39 ⇑P **P** 23 20 22.0 -0.2
baz=90,SNR=11
F08A Pendleton 90.17 38 ⇑P **P** 23 20 22.2 -0.2
baz=90,SNR=7.3
PMR Palmer 90.24 14 P **P** 23 20 21.1 -1.7
PMR pmax pmax
comp=Z,71nm,1.9s,mb5.2
PMR Palmer 90.24 14 P **P** 23 20 21.1 -1.7
comp=Z,71nm,1.9s,mb5.2
I10A Payette 90.27 40 ⇑P **P** 23 20 22.9 -0.1
baz=90
M13A Montello 90.30 44 P **P** 23 20 23.2 +0.2
baz=90,SNR=32
D07A Quincy 90.37 36 ⇓P **P** 23 20 23.2 -0.2
baz=90,SNR=6.0
A05A Maple Falls 90.40 34 ⇓P **P** 23 20 23.6 +0.1
baz=91
B06A Marblemount 90.40 35 ⇑P **P** 23 20 22.6 -0.9
baz=91
BMO Blue Mountains 90.43 39 *e*P **P** 23 20 23.4 -0.3
E08A Dider Farm, El 90.43 37 ⇓P **P** 23 20 23.3 -0.4
baz=91,SNR=6.8
DUG Dugway 90.50 45 *e*P **P** 23 20 24.3 +0.3
DUG pmax pmax
comp=Z,30nm,1.2s,mb5.1
DUG Dugway 90.50 45 *e*P **P** 23 20 24.3 +0.3
comp=Z,30nm,1.2s,mb5.1
DUG Dugway 90.50 45 ⇓P **P** 23 20 23.1 -0.9
baz=91,SNR=11
H10A Noah's Angus R 90.60 40 ⇓P **P** 23 20 23.8 -0.6
baz=91,SNR=15
C07A Waterville 90.63 36 ⇓P **P** 23 20 24.0 -0.6
baz=91,SNR=7.2
DIV Divide 90.63 16 *e*P **P** 23 20 24.1 -0.5
SEY Seymchan 90.64 348 ⇑*e*P **P** 23 20 24.1 -0.6
I11A Placerville 90.66 41 ⇑P **P** 23 20 24.1 -0.6
baz=91
BGU Big Grassy Mou 90.77 44 *e*P **P** 23 20 25.0 -0.3
NLU North Lily Min 90.85 46 *e*P **P** 23 20 26.3 +0.7
D08A Wollman Farm, 90.85 37 ⇓P **P** 23 20 25.0 -0.6
baz=91,SNR=9.2
E09A Wood Farm, Sta 90.95 38 ⇑P **P** 23 20 25.1 -1.0
baz=91,SNR=12
TMUT Trail Mountain 91.06 46 *e*P **P** 23 20 27.8 +1.2
B07A Winthrop 91.07 35 ⇓P **P** 23 20 25.4 -1.3
baz=91,SNR=7.5
H11A Donnelly 91.09 40 P **P** 23 20 26.4 -0.3
baz=91,SNR=28
F10A Beach Ranch, E 91.14 38 P **P** 23 20 26.1 -0.9
baz=91,SNR=22
MPU Maple Canyon 91.17 46 *e*P **P** 23 20 27.4 +0.3
D09A Jones Farm, Ri 91.19 37 ⇑P **P** 23 20 26.4 -0.8
baz=91,SNR=7.7
NOQ North Oquirrh 91.20 45 *e*P **P** 23 20 26.5 -0.7
comp=Z,27nm,0.8s,mb5.2
C08A Higginbotham F 91.23 36 ⇓P **P** 23 20 26.5 -0.9
baz=91
HHC Hu-ho-hao-te 91.26 315 *e*P **P** 23 20 28.5 +1.0
HHC AP pP 23 22 17.8 +0.1
HHC XP sP 23 23 05.0 -2.7
HHC PP PP 23 24 16.8 +3.7
HHC SKS 23 30 13.5
HHC S S 23 30 44.0 +0.5
HHC XS sS 23 33 56.0 -4.7
HHC AMB AMB
comp=Z,19nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,150nm,5.8s
MNTX Cornudas Mount 91.28 55 *e*P **P** 23 20 27.9 +0.3
comp=Z,48nm,1.3s,mb5.3
Y22C IRIS PASSCAL I 91.32 53 ⇓P **P** 23 20 27.1 -0.7
baz=92
LENM Lemitar 91.33 53 *e*P **P** 23 20 28.9 +1.1
SPUT South Promonto 91.34 44 *e*P **P** 23 20 25.6 -2.3
HVU Hansel Valley 91.40 44 *e*P **P** 23 20 28.5 +0.4
SRU San Rafael 91.41 47 *e*P **P** 23 20 28.6 +0.4
B08A Colville Reser 91.42 36 ⇑P **P** 23 20 26.7 -1.5
baz=92,SNR=6.2
HIA Hailar 91.44 325 *e*P **P** 23 20 27.8 -0.6
LTX Lajitas 91.45 58 *e*P **P** 23 20 28.7 +0.3
LTX pmax pmax
comp=Z,44nm,1.1s,mb5.3
LTX Lajitas 91.45 58 *e*P **P** 23 20 28.7 +0.3
comp=Z,44nm,1.1s,mb5.3
TXAR Lajitas Array 91.45 58 P **P** 23 20 28.7 +0.3
comp=Z,22nm,0.8s,mb5.1,baz=215,slow=5.8,SNR=154
TXAR PP PP 23 24 14.6 0.0
comp=Z,1.7nm,1.1s,baz=213,slow=11,SNR=4.3
TXAR PKKPbc PKKPbc 23 37 47.5 +1.5
comp=Z,0.5nm,0.6s,baz=76,slow=4.2,SNR=6.1
TXAR Lajitas Array 91.45 58 P **P** 23 20 28.7 +0.3
TXAR 23 24 14.6
CTU Camp Tracy 91.45 45 *e*P **P** 23 20 28.7 +0.3
E10A Myers Farm, Un 91.50 38 ⇓P **P** 23 20 27.8 -0.8
baz=92
HUIG Huatulco 91.56 73 *i* P **P** 23 20 30.3 +1.4
BNM Barren Site 91.57 53 *e*P **P** 23 20 30.0 +1.0
JLU Jordanelle 91.60 45 *e*P **P** 23 20 29.7 +0.6
DAU Daniels Canyon 91.62 46 P **P** 23 20 30.1 +0.9
LPM Los Pinos Moun 91.65 53 *e*P **P** 23 20 30.1 +0.8
CD2 Chengdu 91.65 303 ⇓*i*P **P** 23 20 29.5 +0.2
CD2 AP pP 23 22 17.5 -2.0
CD2 XP sP 23 23 05.3 -4.3
CD2 PP PP 23 24 18.8 +2.7
CD2 SKS 23 30 15.8
CD2 S S 23 30 47.8 +0.9
CD2 PS PS 23 33 07.8 +1.4
CD2 XS sS 23 33 58.5 -5.9
CD2 SS SS 23 37 12.5 +4.2
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2

CD2 AMB AMB
comp=Z,120nm,5.5s
C09A Chrisman Ranch 91.65 37 ⇓P **P 23 20 28.3 -1.0**
baz=92
H12A Diamond D Ranc 91.68 41 ⇓P **P 23 20 28.8 -0.6**
baz=92,SNR=21
F11A Grangeville 91.69 39 ⇑P **P 23 20 28.5 -1.0**
baz=92
D10A Wagner Farm, O 91.75 38 P **P 23 20 29.0 -0.7**
baz=92,SNR=12
MVCO Mesa Verde 91.79 49 ⇓P **P 23 20 29.7 -0.2**
baz=92
A08A Turner Farm, O 91.82 35 ⇓P **P 23 20 29.8 -0.3**
baz=92
E11A Bogner Ranch, 91.94 39 ⇑P **P 23 20 29.7 -0.9**
baz=92
PV10 Paradox Valley 92.02 48 *e*P **P 23 20 30.2 -0.8**
HWUT Hardware Ranch 92.06 44 *e*P **P 23 20 31.0 -0.2**
comp=Z,36nm,1.1s,mb5.2
ANMO Albuquerque 92.08 52 *e*P **P 23 20 31.4 +0.1**
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 92.08 52 *e*P **P 23 20 31.4 0.0**
comp=Z,15nm,1.0s,mb4.9
ANMO *e*pP pP 23 22 15.6 -6.0
B09A Rice 92.09 36 ⇓P **P 23 20 30.6 -0.7**
baz=92,SNR=5.5
F12A Elk City 92.13 39 P **P 23 20 30.8 -0.7**
baz=92,SNR=19
MCK McKinley 92.18 13 *e*P **P 23 20 30.5 -1.2**
A09A Danville 92.19 36 ⇓P **P 23 20 31.2 -0.6**
baz=92
PV01 Paradox Valley 92.21 49 *e*P **P 23 20 31.6 -0.3**
D11A Klaveano Farm, 92.27 38 ⇑P **P 23 20 31.3 -0.8**
baz=92
GDL2 Guadalupe Moun 92.28 55 *e*P **P 23 20 32.7 +0.5**
G13A Cobalt 92.35 40 ⇓P **P 23 20 32.0 -0.5**
baz=92,SNR=8.1
NEW Newport 92.55 37 *e*P **P 23 20 32.2 -1.2**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 92.55 37 *e*P **P 23 20 32.2 -1.2**
comp=Z,3.2nm,0.8s,mb4.4
MENT Mentasta 92.68 16 *e*P **P 23 20 33.1 -0.9**
F13A Darby 92.68 40 ⇓P **P 23 20 33.1 -0.9**
baz=93,SNR=17
MCMT McKenzie Canyo 93.02 41 *e*P **P 23 20 35.2 -0.4**
E13A Victor 93.13 39 ⇑P **P 23 20 35.1 -1.0**
baz=93
RRI2 Red Ridge 93.15 43 *e*P **P 23 20 33.8 -2.4**
F14A Wisdom 93.26 40 ⇓P **P 23 20 35.7 -1.0**
baz=93
D13A Huson 93.34 39 ⇓P **P 23 20 36.6 -0.5**
baz=94
A11A Hall Mountain, 93.36 36 ⇓P **P 23 20 36.5 -0.7**
baz=94,SNR=5.5
DCID1 Drake Creek 93.36 43 *e*P **P 23 20 35.6 -1.5**
IMA2 Indian Mountai 93.39 11 *e*P **P 23 20 35.8 -1.5**
COLA College 93.41 13 *e*P **P 23 20 35.6 -1.8**
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.8
COLA College 93.41 13 *e*P **P 23 20 35.6 -1.8**
comp=Z,11nm,1.0s,mb4.8
G15A Dillon 93.42 41 ⇑P **P 23 20 37.0 -0.5**
baz=94,SNR=10
REDW Red Top Meadow 93.44 43 *e*P **P 23 20 37.9 +0.3**
comp=Z,43nm,1.4s,mb5.3
B12A Libby 93.50 37 ⇓P **P 23 20 37.3 -0.5**
baz=94
E14A Clinton 93.52 40 ⇓P **P 23 20 37.8 -0.1**
baz=94
C13A Hot Springs 93.61 38 ⇓P **P 23 20 37.2 -1.1**
baz=94
BILL Bilibino 93.66 355 *e*P **P 23 20 36.9 -1.6**
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
BILL Bilibino 93.66 355 *e*P **P 23 20 37.3 -1.3**
IMW Indian Meadow 93.67 43 *e*P **P 23 20 37.8 -0.8**
comp=Z,14nm,0.9s,mb5.0
MOOW Moose Ponds 93.72 43 *e*P **P 23 20 39.1 +0.3**
LOHW Long Hollow 93.73 43 *e*P **P 23 20 39.0 +0.2**
comp=Z,17nm,1.1s,mb5.0
F15A Butte 93.78 40 ⇑P **P 23 20 38.2 -0.9**
baz=94
QLMT Earthquake Lak 93.87 42 *e*P **P 23 20 40.4 +0.9**
D14A Greenough 93.88 39 ⇑P **P 23 20 38.3 -1.2**
baz=94
PDAR Pinedale Array 93.94 44 P **P 23 20 39.5 -0.3**
comp=Z,5.1nm,0.9s,mb4.5,baz=196,slow=3.3,SNR=23
PDAR PP PP 23 24 30.9 -3.0
comp=Z,1.8nm,1.1s,baz=238,slow=4.5,SNR=7.0
E15A Deer Lodge 94.02 40 ⇑P **P 23 20 39.3 -0.9**
baz=94
YFT Old Faithful 94.03 42 *e*P **P 23 20 42.4 +2.2**
LZH Lanzhou 94.05 308 *e*P **P 23 20 41.5 +1.2**
LZH AP pP 23 22 27.5 -3.2
LZH XP sP 23 23 17.5 -3.2
LZH PP PP 23 24 37.5 +2.8
LZH SKS 23 30 26.0
LZH S S 23 31 10.0 +2.1
LZH SS SS 23 37 45.0 +2.7
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,92nm,4.5s
LZH Lanzhou 94.05 308 *e*P **P 23 20 41.6 +1.3**
LZH *PP pP 23 22 27.4 -3.3
LZH *SP sP 23 23 17.6 -3.1
LZH 23 24 37.5
LZH 23 30 26.0
LZH S S 23 31 10.1 +2.2
LZH SS SS 23 37 45.0 +2.7
LZH pmax pmax
comp=Z,23nm,1.0s,mb5.2
LZH Lanzhou 94.05 308 *e*P **P 23 20 41.6 +1.3**
comp=Z,23nm,1.0s,mb5.2
LZH pP pP 23 22 27.4 -3.3
LZH *i* 23 22 39.7
LZH sP sP 23 23 17.6 -3.1
LZH PP PP 23 24 37.5 +2.8
LZH SKS 23 30 26.0
LZH S S 23 31 10.1 +2.2
LZH SS SS 23 37 45.0 +2.7
LZH sS 23 44 18.0
B13A Whitefish 94.06 38 ⇑P **P 23 20 39.3 -1.0**
baz=94
D15A Lincoln 94.42 39 ⇓P **P 23 20 41.2 -0.8**
baz=95
TRQA Tornquist 94.44 136 *e*P **P 23 20 42.2 +0.2**
comp=Z,5.1nm,0.6s,mb4.7
RWWY Rawlins 94.90 46 *e*P **P 23 20 44.1 -0.1**
comp=Z,31nm,1.3s,mb5.2
JCT Junction City 94.95 59 *e*P **P 23 20 43.6 -0.8**
JCT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
JCT Junction City 94.95 59 *e*P **P 23 20 43.5 -0.9**
comp=Z,9.6nm,0.9s,mb4.8
ISCO Idaho Springs 95.04 48 *e*P **P 23 20 44.9 +0.1**
RLMT Red Lodge 95.33 42 *e*P **P 23 20 46.2 +0.1**
comp=Z,8.9nm,1.1s,mb4.7
PHWY Pilot Hill 95.86 47 *e*P **P 23 20 48.7 +0.2**
EGMT Eagleton 96.53 40 ⇓P **P 23 20 51.1 -0.4**
baz=97
NNA Nana 96.79 107 P **P 23 20 53.1 +0.4**
SONM Songino Array 98.03 319 P Pdif 23 20 57.6 -0.6
comp=Z,0.4nm,0.5s,baz=134,slow=4.5,SNR=5.1
SONM pP pP 23 22 49.3 +0.4
comp=Z,1.4nm,1.1s,baz=127,slow=6.2,SNR=2.6
SONM PP PP 23 25 00.8 -4.2
comp=Z,1.2nm,1.1s,baz=126,slow=7.5,SNR=4.3
RSSD Black Hills 98.11 45 *e*P Pdif 23 20 58.2 -0.4
RSSD pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
RSSD Black Hills 98.11 45 *e*Pdif Pdif 23 20 58.2 -0.4
comp=Z,5.3nm,1.0s
LVC Limon Verde 98.17 120 *e*Pdif Pdif 23 21 00.8 +1.9
GTA Gaotai 98.41 310 *e*P Pdif 23 21 02.0 +2.1
GTA AP pP 23 22 51.0 +0.3
GTA XP sP 23 23 37.5 -3.1
GTA PP PP 23 25 09.0 +1.2
GTA PPP 23 27 20.8
GTA SKS 23 30 47.5
GTA S Sdif 23 31 49.3 +4.4
GTA SS SS 23 38 39.0 -4.1
GTA AMB AMB
comp=Z,3.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,93nm,5.3s
INK Inuvik 99.52 16 P Pdif 23 21 02.2 -2.6
comp=Z,4.4nm,1.0s,baz=240,slow=6.1,SNR=6.6
INK PKiKP PKiKP 23 25 28.5 -2.4
comp=Z,1.5nm,0.8s,baz=172,slow=5.9,SNR=4.5
LSA Lhasa 100.95 298 P Pdif 23 21 11.1 -0.1
YKA Yellowknife Ar 101.81 26 P Pdif 23 21 14.0 -1.0
comp=Z,0.4nm,0.6s,baz=243,slow=4.6,SNR=5.7
YKA PKiKP PKiKP 23 25 32.9 -2.1
comp=Z,0.2nm,0.5s,baz=267,slow=1.8,SNR=4.5
YKA SKP 23 28 20.1
comp=Z,0.9nm,1.0s,baz=259,slow=1.8,SNR=5.0
YKA PKKPbc PKKPbc 23 37 17.7 -0.6
comp=Z,0.7nm,0.5s,baz=39,slow=2.5,SNR=14
LPAZ La Paz 102.08 115 P Pdif 23 21 18.8 +2.6
comp=Z,1.1nm,0.7s,baz=231,slow=2.5,SNR=6.0
LPAZ PKiKP PKiKP 23 25 35.0 -0.5
comp=Z,2.2nm,1.0s,baz=251,slow=2.1,SNR=5.0
LPAZ La Paz 102.08 115 *e*Pdif Pdif 23 21 18.9 +2.7
WMQ Urumqi 108.47 310 PDIF Pdif 23 21 42.3 -2.3
WMQ PP PP 23 26 21.3 -0.5
WMQ PP PP
comp=Z,33nm,7.2s
SAML Samuel 109.98 111 *e*Pdif Pdif 23 21 51.7 +0.4
SDV Santo Domingo 111.50 90 *e*PKiKP PKiKP 23 25 52.5 -0.6
ZAL Zalesovo 112.91 320 PKiKP PKiKP 23 25 53.5 -2.2
comp=Z,0.9nm,0.4s,baz=338,slow=6.9,SNR=4.1
ZAL SKP 23 28 43.0
comp=Z,1.3nm,0.8s,baz=32,slow=1.8,SNR=5.9
ZAL PKKPbc PKKPbc 23 36 44.8 +0.7
comp=Z,0.5nm,0.3s,baz=8.5,slow=9.4,SNR=3.3
ZAL Zalesovo 112.91 320 P Pdif 23 22 03.0 -1.4
ZAL 23 25 53.5
ZAL Zalesovo 112.91 320 Pdif Pdif 23 22 03.0 -1.3
ZAL PKPdf PKiKP 23 25 53.5 -2.2
ZAL SKP 23 28 43.0
ZAL PKKPbc PKKPbc 23 36 44.8 +0.7
MKAR Makanchi Array 112.93 312 PKiKP PKiKP 23 25 54.5 -1.3
comp=Z,3.3nm,0.9s,baz=201,slow=6.8,SNR=11
MKAR SKP 23 28 43.0
comp=Z,3.7nm,0.9s,baz=64,slow=2.8,SNR=8.6
MKAR PKKPbc PKKPbc 23 36 44.5 +0.5
comp=Z,4.2nm,0.7s,baz=286,slow=4.0,SNR=22
MKAR PKKPab PKKPab 23 36 53.4 -0.2
comp=Z,2.2nm,0.8s,baz=267,slow=2.4,SNR=6.4
RES Resolute Bay 113.06 17 *e*PKiKP PKiKP 23 25 53.8 -2.3
NVS Novosibirsk 113.98 321 *e*PKiKP PKiKP 23 25 54.4 -3.4
NVS *e*S SKSac 23 31 55.2 -2.8
NVS smax
comp=N,22nm,1.8s
NVS smax
comp=E,61nm,1.9s
KSH Kashi 115.84 303 *e*PKP PKPdf 23 26 02.0 +0.6
KSH *e*PKS 23 29 37.8
KURK Kurchatov 116.06 316 *e*PKiKP PKPdf 23 26 00.3 -1.5
AAK Ala-Archa 117.55 307 *e*PKiKP PKPdf 23 26 03.5 -1.2
BOSA Boshof 120.96 206 PKP PKPdf 23 26 12.1 +0.8
comp=E,9.0nm,0.7s,baz=168,slow=3.4,SNR=15
BOSA Boshof 120.96 206 PKP PKPdf 23 26 12.1 +0.8
BVAR Borovoye Array 121.34 318 PKP PKPdf 23 26 10.5 -1.5
comp=E,8.1nm,0.6s,baz=131,slow=1.4,SNR=57
BVAR SKP 23 29 00.0
comp=E,4.0nm,0.7s,baz=108,slow=1.9,SNR=9.9
BVAR PKKPab PKKPab 23 36 15.0 -1.6
comp=E,2.0nm,0.7s,baz=267,slow=3.4,SNR=12
BRVK Borovoye 121.41 318 *e*PKiKP PKPdf 23 26 10.7 -1.4
SCHQ Schefferville 123.79 40 PKP PKPdf 23 26 14.7 -2.0
comp=E,14nm,1.1s,baz=31,slow=4.7,SNR=5.8
ARU Arti 127.89 323 *i* PKiKP PKPdf 23 26 23.0 -1.5
ARU *e* 23 28 31.1
ARU Arti 127.89 323 *e*PKPdf PKPdf 23 26 23.6 -1.0
AKTK Aktyubinsk 129.15 315 PKP PKPdf 23 26 26.3 -0.6
AKTO Aktyubinsk 129.15 315 PKP PKPdf 23 26 26.3 -0.6
comp=E,5.2nm,0.6s,baz=93,slow=5.1,SNR=23
LSZ Lusaka 130.97 218 *e*PKiKP PKPdf 23 26 31.2 +0.8
TSUM Tsumeb 132.40 203 *e*PKPdf PKPdf 23 26 33.5 +0.4
KEV Kevo 132.79 347 *e*pkp PKPdf 23 26 32.0 -1.8
APA Apatity 133.02 343 *i*PKiKP PKPdf 23 26 32.1 -2.1
APA *i* 23 29 14.4
APA pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 133.26 348 PKhKP 23 26 23.8
comp=Z,1.8nm,0.6s,baz=48,slow=3.8,SNR=9.0
ARCES PKP PKPdf 23 26 32.9 -1.8
comp=Z,8.7nm,0.6s,baz=38,slow=1.0,SNR=26
ARCES SKPbc SKPbc 23 29 15.3 -1.0
comp=Z,23nm,0.8s,baz=46,slow=3.5,SNR=23
ARCES ARCESS Array B 133.26 348 PKP 23 26 23.8
ARCES PKP PKPdf 23 26 32.9 -1.8
ARCES SKPbc SKPbc 23 29 15.3 -1.0
KMBO Kilima Mbogo 135.12 240 PKP PKPdf 23 26 41.0 +2.9
comp=Z,5.4nm,0.9s,baz=91,slow=2.2,SNR=8.7
KMBO SKPbc SKPbc 23 29 24.1 +1.8
comp=Z,14nm,1.0s,baz=29,slow=2.9,SNR=19
KAF Kangasniemi 139.15 341 *e*pkp 23 26 32.2
FINES FINESS Array B 139.74 341 PKHKP 23 26 37.7
comp=Z,2.1nm,0.4s,baz=60,slow=3.2,SNR=25
FINES PKP PKPdf 23 26 47.2 +0.6
comp=Z,5.0nm,0.8s,baz=56,slow=2.6,SNR=7.9
FINES SKPbc SKPbc 23 29 34.6 -0.9
comp=Z,26nm,0.8s,baz=80,slow=4.3,SNR=32
FINES FINESS Array B 139.74 341 PKP 23 26 37.7
FINES PKP PKPdf 23 26 47.2 +0.6
FINES SKPbc SKPbc 23 29 34.6 -0.9
OBN Obninsk 139.87 328 *i* PKiKP PKPdf 23 26 47.2 +0.3
OBN pmax pmax
comp=Z,28nm,1.7s
NB2 NORSAR Subarra1 143.48 351 PKP PKPdf 23 26 49.7 -3.6
baz=16,slow=3.2
NB2 NORSAR Subarra1 143.48 351 PKP PKPdf 23 26 49.7 -3.6
comp=Z,72nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 143.48 351 PKP PKPdf 23 26 49.6 -3.7
comp=Z,47nm,0.8s,baz=16,slow=5.0,SNR=88
NOA SKPbc SKPbc 23 29 41.1 -3.8
comp=Z,5.4nm,1.0s,baz=20,slow=4.7,SNR=4.5
NAO01 NORSAR Array S 143.72 351 PKP PKPdf 23 26 50.8 -2.9
ANN Anapa 143.95 312 *i* PKHKP 23 26 48.9
ANN pmax pmax
comp=Z,87nm,0.9s
IZAR Zarasai 144.00 335 *e*P PKPdf 23 26 52.1 -2.1
IZAR AMb AMB 23 26 53.4
comp=Z,2μm,0.7s
IDID Didziasalis 144.12 334 *e*P PKPdf 23 26 52.4 -2.0
IDID AMb AMB 23 26 53.8
comp=Z,1μm,0.9s
IIGN Ignalina 144.30 334 *e*P PKPdf 23 26 53.1 -1.6
IIGN AMb AMB 23 26 54.3
comp=Z,4μm,0.4s
MALT Malatya 144.90 301 ⇑*i*P PKPdf 23 26 57.2 +1.4
MALT Malatya 144.90 301 *e*PKPdf PKPdf 23 26 55.8 +0.1
KONO Kongsberg 145.05 351 *e*PKiKP PKPdf 23 26 54.9 -1.1
LRW Lerwick 145.25 1 *e*P PKPdf 23 26 55.6 -0.7
LRW AMb AMB 23 26 56.5
comp=Z,61nm,2.5s
AKASG Malin Array Be 146.04 326 PKPbc PKPbc 23 26 57.3 -2.2
comp=Z,7.2nm,0.4s,baz=41,slow=3.8,SNR=47
AKASG *e*PKPbc 23 28 52.6
comp=Z,4.6nm,0.8s,baz=44,slow=4.6,SNR=4.6
AKASG SKPbc SKPbc 23 29 49.4 -1.4
comp=Z,4.0nm,0.6s,baz=46,slow=2.6,SNR=8.1
AKASG Malin Array Be 146.04 326 PKiKP PKPdf 23 26 57.3 -0.4
AKASG 23 28 52.6
AKBB Malin Array Si 146.04 326 *e*PKiKP PKPdf 23 26 55.9 -1.8
KIEV Kiev 146.05 326 *e*PKPdf PKPdf 23 26 56.0 -1.7
KIEV *e*PKPbc PKPbc 23 26 58.5 -1.0
KIEV *e*PKPab PKPab 23 27 00.8 -0.6
SUW Suwalki 146.48 335 *e*PKP PKPdf 23 26 59.5 +1.1
SUW *e* 23 27 01.9
SUW Suwalki 146.48 335 *e*PKPdf PKPdf 23 26 57.8 -0.7
MLA1 Latheron 147.02 3 *e*P PKPdf 23 27 00.9 +1.5
MVH1 Achvaich 147.36 4 *e*P PKPdf 23 27 01.8 +1.9
KAC Achnashellach 147.70 5⇑*e*P PKPdf 23 27 03.0 +2.6
BHL Bhannes 147.73 294 *e*P PKPbc 23 27 04.9 +0.9
MCD Coleburn Disti 147.75 3⇑*e*P PKPdf 23 27 02.6 +2.1
MDO Dochfour 147.83 4 *e*P PKPdf 23 27 03.0 +2.3
KPL Plockton 147.83 5⇑*e*P PKPdf 23 27 03.2 +2.5
KPL AMb AMB 23 27 04.3
comp=Z,210nm,1.6s
BR131 Keskin Array S 148.21 305 *e*PKPbc PKPbc 23 27 04.8 -0.5
BRTR Keskin Array B 148.21 305 PKP PKPdf 23 27 00.8 -0.5
comp=Z,7.0nm,0.6s,baz=150,slow=2.7,SNR=18
BRTR PKPbc PKPbc 23 27 05.0 -0.3
comp=Z,7.0nm,0.6s,baz=141,slow=3.1,SNR=35
BRTR pPKPbc pPKPbc 23 29 00.8 -0.3
comp=Z,0.5nm,0.4s,baz=94,slow=5.8,SNR=1.9
BRTR Keskin Array B 148.21 305 PKP PKPdf 23 27 00.8 -0.5
BRTR PKPbc PKPbc 23 27 05.0 -0.3
BRTR pPKPbc pPKPbc 23 29 00.8 -0.3
KAR1 Arisaig 148.23 6⇑*e*P PKPdf 23 27 04.1 +2.8
BSD Bornholm Skovb 148.24 343 *i* P PKPdf 23 27 04.2 +2.9
BSD *i* S 23 27 42.3
KIS Kishinev 148.38 321 *e*PKHKP PKPbc 23 27 04.0 -1.7
KIS pmax pmax
comp=Z,140nm,1.6s
KIS Kishinev 148.38 321 *e*UNK PKPbc 23 27 04.0 -1.7
KIS XM 23 27 06.0
comp=Z,140nm,1.6s
EIL Elat 148.51 286 *e*PKPdf PKPdf 23 27 02.0 +0.3
EIL *e*PKPbc PKPbc 23 27 06.9 +0.9
ANTO Ankara 148.79 306 ⇑*i*P PKPdf 23 27 01.0 -1.2
ANTO Ankara 148.79 306 *e*PKPdf PKPdf 23 27 02.0 -0.2
ANTO *e*PKPbc PKPbc 23 27 06.8 +0.1
IAS Iasi 148.99 322 PKHKP 23 27 07.0
EAB Aberfoyle 149.07 4⇑*e*P PKPbc 23 27 06.2 -1.2
LVV L'vov 149.15 329 *e*PKHKP PKPbc 23 27 06.5 -1.1
GKP Gorka Klasztor 149.18 339 *e*PKP PKPbc 23 27 07.1 -0.6
EDI Edinburgh 149.41 3⇑*e*P PKPbc 23 27 07.2 -1.0
EDI AMb AMB 23 27 09.5
comp=Z,104nm,1.6s
ESY Stoneypath 149.44 3⇑*e*P PKPbc 23 27 07.0 -1.3
PGBU Glenifferbraes 149.44 5⇑*e*P PKPbc 23 27 07.0 -1.3
PGBU AMb AMB 23 27 08.1
comp=Z,87nm,1.3s
EAU Auchinoon 149.47 3⇑*e*P PKPbc 23 27 06.9 -1.5
CSS Prodhromos 149.50 296 *e*PKPdf PKPdf 23 27 03.5 +0.1
CSS *e*PKPbc PKPbc 23 27 08.4 -0.1
CSS *e*PKPab PKPab 23 27 16.0 +0.6
EBL Broad Law 149.56 3⇑*e*P PKPbc 23 27 07.5 -1.1
CFR Carcaliu 149.75 318 PKP2 PKPbc 23 27 10.1 +1.1
KWP Kalwaria 149.90 330 *e*PKP PKPbc 23 27 09.0 -0.4
KWP Kalwaria 149.90 330 *e*PKPdf PKPdf 23 27 04.8 +0.8
KWP *e*PKPbc PKPbc 23 27 08.8 -0.6
TIRR Tirgusor 149.94 317 ⇓*i*P PKPbc 23 27 09.5 0.0
EKA Eskdalemuir Ar 150.00 3 PKP PKPdf 23 27 02.1 -2.0
comp=Z,1.4nm,0.8s,baz=279,slow=1.6,SNR=3.5
EKA PKPbc PKPbc 23 27 08.1 -1.5
comp=Z,16nm,0.7s,baz=327,slow=2.1,SNR=38
BURAR Bucovina Array 150.01 324 ⇑*i*P PKPbc 23 27 09.8 +0.1
BURAR Bucovina Array 150.01 324 ⇑P PKPbc 23 27 09.8 +0.1
ESK Eskdalemuir 150.01 3 *e*P PKPbc 23 27 08.1 -1.6
ESK AMb AMB 23 27 08.8
comp=Z,44nm,1.1s
HARR Harsova 150.12 317 PKIKP PKPbc 23 27 11.3 +1.4
VRI Vrincioaia 150.21 320 ⇓*i*P PKPbc 23 27 09.9 -0.2
VRI Vrincioaia 150.21 320 ⇓P PKPbc 23 27 09.8 -0.3
PLOR Plostina 150.26 320 ⇓*i*P PKPbc 23 27 09.8 -0.5
GAL1 Galloway 150.36 5⇑*e*P PKPbc 23 27 09.1 -1.4
GAL1 AMb AMB 23 27 09.8
comp=Z,133nm,1.1s
BSEG Bad Segeberg 150.39 347 *e*PKPdf PKPdf 23 27 04.6 -0.1
BSEG *e*PKPbc PKPbc 23 27 09.9 -0.7
XAL Allendale 150.51 2 *e*P PKPbc 23 27 09.6 -1.3
KOLS Kolonicke sedl 150.59 329 *e*PKP PKPdf 23 27 04.5 -0.5
KOLS *e* 23 27 10.6
STHS Stebnicka Huta 150.72 331 *e*PKP PKPbc 23 27 11.3 0.0
OJC Ojcow 150.73 333 *e*PKP PKPbc 23 27 10.5 -0.8
UZH Uzhgorod 150.80 328 ⇓*i*PKIKP PKPbc 23 27 10.4 -1.1
UZH *e* 23 27 19.0
MLR Muntele Rosu 150.88 320 PKP PKPdf 23 27 04.6 -0.9
comp=Z,8.8nm,1.2s,baz=325,slow=8.5,SNR=3.9
MLR PKPbc PKPbc 23 27 11.2 -0.4
comp=Z,6.9nm,0.5s,baz=312,slow=2.0,SNR=16
MLR Muntele Rosu 150.88 320 ⇓*i*P PKPdf 23 27 06.0 +0.5
MLR Muntele Rosu 150.88 320 ⇓P PKPdf 23 27 06.0 +0.5
NIE Niedzica 151.12 332 *e*PKP PKPdf 23 27 05.7 -0.1
NIE *e* 23 27 12.7
KSP Ksiaz 151.54 338 *e*PKP PKPbc 23 27 13.2 0.0
KSP Ksiaz 151.54 338 *e*PKIKP PKPbc 23 27 12.6 -0.6
OKC Ostrava-Krasne 151.69 334 *e*PKPDF PKPdf 23 27 06.3 -0.4
OKC ⇑*e*PKP PKPbc 23 27 13.3 -0.2
KECS Kecovo 151.74 330 *e*PKP PKPbc 23 27 13.3 -0.3
KECS *e* 23 27 24.4
DRGR 151.85 325 ⇑*i*P PKPdf 23 27 05.9 -1.0
DRGR 151.85 325 ⇑P PKPdf 23 27 05.9 -1.0
UPC Upice 151.92 338 *e*PKPDF PKPdf 23 27 07.3 +0.3
UPC ⇑*e*PKP PKPbc 23 27 13.9 -0.1
DPC Dobruska-Polom 151.95 337 *e*PKPDF PKPdf 23 27 06.5 -0.6
DPC ⇑*e*PKP PKPbc 23 27 14.1 0.0
DPC *e*PKPAB PKPab 23 27 26.3 +0.6
MORC Moravsky Berou 151.97 335 ⇑*i*P PKPdf 23 27 04.4 -2.7
MORC Moravsky Berou 151.97 335 ⇑P PKPdf 23 27 04.4 -2.7
KBI1 Birley Grange 152.14 2 *e*P PKPbc 23 27 13.0 -1.5
CLL Collm 152.17 342 *e*PKPdf PKPdf 23 27 06.6 -0.8
CLL *e*PKPbc PKPbc 23 27 14.1 -0.5
comp=Z,61nm,0.8s
CLL *e*PKPab PKPab 23 27 26.0 -0.6
CLL *e*pPKPbc pPKPbc 23 29 15.6 +4.5
CLL Collm 152.17 342 *e*PKP PKPdf 23 27 06.0 -1.4
CLL ⇓*i*PKP PKPbc 23 27 14.2 -0.4
CLL *e*pPKP pPKPdf 23 29 16.0 +11
CLL Collm 152.17 342 *e*PKPdf PKPdf 23 27 06.0 -1.4
comp=Z,23nm,1.6s
CLL ⇓*i*PKPbc PKPbc 23 27 14.2 -0.4
comp=Z,60nm,0.8s
CLL ⇓*i*PKPab PKPab 23 27 26.1 -0.5
comp=Z,13nm,0.7s
CLL *e*pPKPbc pPKPbc 23 29 15.0 +3.9
BRG Berggiesshubel 152.28 340 *e*PKP PKPdf 23 27 05.9 -1.7
comp=Z,14nm,1.5s
BRG Berggiesshubel 152.28 340 *i* PKP PKPbc 23 27 14.4 -0.4
comp=Z,36nm,1.3s
CLZ Clausthal 152.34 346 *e*PKPdf PKPdf 23 27 03.7 -0.4
CLZ *e*PKPbc PKPbc 23 27 14.4 -0.6
KWE Weaver Farm 152.37 2 *e*P PKPbc 23 27 13.8 -1.2
PVCC Panska Ves 152.38 339 *e*PKPDF PKPdf 23 27 07.5 -0.2
PVCC ⇑*e*PKP PKPbc 23 27 14.9 -0.1
PVCC *e*PKPAB PKPab 23 27 27.8 +0.2
SBD1 Bryn Du 152.41 4 *e*P PKPbc 23 27 13.5 -1.6
PSZ Piszkesteto 152.42 330 *e*PKPdf PKPdf 23 27 06.7 -1.1
PSZ *e*PKPbc PKPbc 23 27 14.9 -0.2
PSZ *e*PKPab PKPab 23 27 28.0 +0.3
VYHS Vyhne 152.46 332 *e*PKP PKPbc 23 27 14.6 -0.6
VYHS *e* 23 27 27.3
VRAC Vranov 152.71 335 PKP PKPdf 23 27 07.1 -1.1
comp=Z,1.5nm,0.7s,baz=317,slow=16,SNR=2.8
VRAC PKPbc PKPbc 23 27 14.8 -1.0
comp=Z,4.1nm,0.8s,baz=34,slow=2.6,SNR=5.7
GZR Gura Zlata 152.72 323 ⇓*i*P PKPdf 23 27 07.5 -0.7
GZR Gura Zlata 152.72 323 ⇓P PKPdf 23 27 07.5 -0.7
HLM1 Long Mynd 152.82 3 *e*P PKPbc 23 27 14.7 -1.3
PRU Pruhonice 152.86 339 ⇑*e*PKP PKPbc 23 27 15.7 -0.4
PRU *e*PKPAB PKPab 23 27 29.6 0.0
TANN Tannenbergstha 153.12 342 *e*PKPbc PKPbc 23 27 16.0 -0.6
MOX Moxa 153.15 343 *e*PKPdf PKPdf 23 27 08.0 -0.8
MOX *e*PKPbc PKPbc 23 27 16.1 -0.6
MOX Moxa 153.15 343 *e*PKP PKPdf 23 27 07.7 -1.1
comp=Z,19nm,1.6s
MOX *e* 23 27 16.2
MOX *e* 23 27 30.5
BZS Buzias 153.19 324 ⇑*i*P PKPdf 23 27 08.4 -0.5
BZS Buzias 153.19 324 ⇑P PKPdf 23 27 08.4 -0.5
NKC Novy Kostel 153.29 342 *e*PKPDF PKPdf 23 27 08.4 -0.6
NKC ⇑*e*PKP PKPbc 23 27 16.7 -0.3
NKC *e*PKPAB PKPab 23 27 31.4 0.0
MCH1 Michaelchurch 153.34 4 *e*P PKPbc 23 27 15.6 -1.5
MCH1 *e*P 23 27 15.6
MCH1 AMb AMB 23 27 16.3
comp=Z,74nm,1.6s
ZST Bratislava 153.41 333 *e*PKP PKPdf 23 27 08.7 -0.5
MANZ Manzenberg 153.61 342 *e*PKPdf PKPdf 23 27 08.9 -0.6
MANZ *e*PKPbc PKPbc 23 27 17.0 -0.7
KHC Kasperske Hory 153.92 339 *e*PKPDF PKPdf 23 27 09.1 -0.8
KHC ⇑*e*PKP PKPbc 23 27 17.3 -1.0
KHC *e*PKPAB PKPab 23 27 34.3 +0.2
GRA1 Grafenberg Arr 154.12 343 *e*PKPdf PKPdf 23 27 09.7 -0.5
GRA1 *e*PKPbc PKPbc 23 27 18.0 -0.8
GRF Grafenberg Arr 154.12 343 *e*PKPdf PKPdf 23 27 09.7 -0.5
GRF *e*PKPbc PKPbc 23 27 18.0 -0.8
GERES GERESS Array B 154.12 338 PKP PKPdf 23 27 09.1 -1.1
comp=Z,4.1nm,1.1s,baz=112,slow=1.4,SNR=18
GERES PKPbc PKPbc 23 27 17.7 -1.1
comp=Z,3.0nm,0.8s,baz=33,slow=1.8,SNR=16
GERES PKPab PKPab 23 27 33.2 -1.7
comp=Z,1.1nm,0.6s,baz=58,slow=3.3,SNR=5.8
WET Wettzell 154.13 340 *e*PKPdf PKPdf 23 27 09.8 -0.4

PKSM	**Moragy**	**154.26**	**329**	⇑*iP*		PKPdf	23 27 09.0	-1.4
PKSM	**Moragy**	**154.26**	**329**	⇑P		PKPdf	23 27 09.0	-1.4
TNS	**Taunus Mts**	**154.28**	**347**	*e*PKPdf		PKPdf	23 27 10.3	-0.1
TNS				*e*PKPbc		PKPbc	23 27 18.5	-0.6
BCLA	**Clavier**	**154.62**	**352**	PKPab		PKPab	23 27 36.3	-0.8
GIVF	**Givet**	**154.99**	**352**	*e*PKP2		PKPab	23 27 36.5	-2.2
DOU	**Dourbes**	**155.03**	**352**	PKPbc		PKPdf	23 27 20.5	+9.1
DOU				PKPab		PKPab	23 27 38.0	-0.8
BAIF	**Baives** comp=Z,45nm,1.2s	**155.11**	**353**	*e*PKP2		PKPab	23 27 37.4	-1.8
WLF	**Walferdange**	**155.23**	**350**	*e*PKPdf		PKPdf	23 27 12.3	+0.6
WLF				*e*PKPbc		PKPdf	23 27 21.4	+10
WLF	**Walferdange**	**155.23**	**350**	PKPbc		PKPdf	23 27 21.1	+9.4
STU	**Stuttgart**	**155.48**	**345**	*e*PKPdf		PKPdf	23 27 11.6	-0.4
WTTA	**Wattenberg** comp=Z,13nm,1.2s	**156.18**	**340**	⇓*iP*		PKPdf	23 27 12.0	-0.9
CDF	**Champ du Feu** comp=Z,12nm,1.0s	**156.24**	**347**	*e*PKP2		PKPab	23 27 42.3	-1.8
MOTA	**Moosalm** comp=Z,65nm,2.2s	**156.27**	**340**	⇑*iP*		PKPdf	23 27 10.8	-2.3
MOTA	**Moosalm** comp=Z,65nm,2.2s	**156.27**	**340**	⇓*i*PKPdf		PKPdf	23 27 11.8	-1.2
MEZF	**Maizieres J'vi** comp=Z,25nm,0.9s	**156.53**	**351**	*e*PKP2		PKPab	23 27 43.7	-1.6
FLN	**La Foliniere** comp=Z,20nm,0.9s	**156.65**	**0**	*e*PKP2		PKPab	23 27 43.4	-2.5
HAU	**Haudompre** comp=Z,16nm,0.7s	**156.81**	**349**	*e*PKP2		PKPab	23 27 44.7	-1.8
LDF	**La Druitiere**	**156.82**	**360**	*e*PKP2		PKPab	23 27 43.9	-2.7
LOR	**Lormes** comp=Z,19nm,1.1s	**157.90**	**352**	*e*PKP2		PKPab	23 27 49.3	-2.0
SSF	**Saint Saulge** comp=Z,32nm,0.8s	**158.14**	**353**	*e*PKP2		PKPab	23 27 50.6	-1.7
CABF	**La Chapelle**	**158.20**	**348**	*e*PKP2		PKPab	23 27 51.1	-1.5
AVF	**Avril sur Loir** comp=Z,25nm,1.0s	**158.43**	**353**	*e*PKP2		PKPab	23 27 51.6	-2.0
SMF	**Signal de Mont** comp=Z,53nm,1.0s	**158.51**	**352**	*e*PKP2		PKPab	23 27 52.2	-1.8
BGF	**Bois d'Agland**	**158.71**	**354**	*e*PKP2		PKPab	23 27 53.0	-1.8
TCF	**Toulx Ste Croi** comp=Z,25nm,1.1s	**159.03**	**355**	*e*PKP2		PKPab	23 27 54.4	-1.8
LPL	**La Plagne** comp=Z,36nm,1.5s	**159.11**	**346**	*e*PKP2		PKPab	23 27 55.8	-0.8
LPG	**La Plagne** comp=Z,16nm,1.0s	**159.13**	**346**	*e*PKP2		PKPab	23 27 56.1	-0.5
ORIF	**Oris-en-Rattie** comp=Z,10nm,0.9s	**159.86**	**347**	*e*PKP2		PKPab	23 27 58.9	-1.0
VIVF	**Saint-Julien-l**	**160.15**	**350**	*e*PKP2		PKPab	23 27 59.7	-1.4
LIC	**Lamto** comp=Z,57nm,1.1s	**160.43**	**166**	*e*PKIKP		PKPdf	23 27 17.8	-0.2
EMAZ	**Mazaricos**	**161.08**	**20**	PKP		PKPdf	23 27 14.7	-4.0
ERUA	**La Rua**	**162.11**	**17**	PKIKP		PKPdf	23 27 19.1	-0.6
EJON	**La Jonquera**	**162.76**	**352**	PKP		PKPdf	23 27 18.1	-2.3
EGRA	**Graus**	**163.21**	**358**	PKP		PKPdf	23 27 23.0	+2.2
PCBR	**Castelo Branco**	**164.37**	**21**	*e*PKPdf		PKPdf	23 27 22.3	+0.4
ERTA	**Horta de San J**	**164.45**	**358**	PKP		PKPdf	23 27 19.7	-2.2
EMOS	**Mosqueruela**	**165.05**	**0**	PKP		PKPdf	23 27 20.5	-1.9
PESTR	**Estremoz**	**165.21**	**23**	*e*PKPdf		PKPdf	23 27 22.6	0.0
ESDC	**Sonseca Array** comp=Z,1.3nm,0.7s,baz=297,slow=37,SNR=3.5	**165.41**	**11**	PKP		PKPdf	23 27 21.7	-1.0
ESDC	comp=Z,5.8nm,0.8s,baz=341,slow=4.4,SNR=17			PKPab		PKPab	23 28 23.1	-1.2
ESDC	**Sonseca Array**	**165.41**	**11**	PKP		PKPdf	23 27 21.7	-1.0
ESDC				PKP		PKPdf	23 27 30.3	+7.6
ESDC				PKPab		PKPab	23 28 23.1	-1.2
EBAD	**Badajoz**	**165.51**	**21**	PKP		PKPdf	23 27 21.2	-1.6
PBEJ	**Beja**	**165.85**	**25**	*e*PKPdf		PKPdf	23 27 24.0	+0.9
PTEO	**Sao Teotonio**	**165.91**	**29**	*e*PKPdf		PKPdf	23 27 24.0	+0.9
EGRO	**El Granado**	**166.43**	**25**	PKP		PKPdf	23 27 21.2	-2.3
EMIN	**Mina Concepcio**	**166.51**	**22**	PKP		PKPdf	23 27 24.2	+0.6
EVIA	**Vianos**	**166.65**	**7**	PKIKP		PKPdf	23 27 23.3	-0.4
EBEN	**Beniarda**	**166.71**	**360**	PKP		PKPdf	23 27 23.2	-0.6
ETOB	**Tobarra**	**166.73**	**4**	PKP		PKPdf	23 27 23.4	-0.3
EADA	**Adamuz**	**166.74**	**15**	PKP		PKPdf	23 27 23.3	-0.5
KEST	**Kesra** comp=Z,1.8nm,1.0s,baz=240,slow=8.4,SNR=3.9	**166.75**	**323**	PKP		PKPdf	23 27 22.5	-1.3
EBAN	**Banos Encina**	**166.91**	**12**	PKIKP		PKPdf	23 27 23.6	-0.3
EQES	**Quesada**	**167.39**	**10**	PKP		PKPdf	23 27 23.1	-1.1
ELUQ	**Luque**	**167.39**	**15**	PKIKP		PKPdf	23 27 24.3	+0.1
EHUE	**Huescar**	**167.45**	**8**	PKIKP		PKPdf	23 27 24.0	-0.3
ESPR	**Espera**	**167.60**	**21**	PKP		PKPdf	23 27 25.4	+1.0
TOA0	**Torodi Ar. Sit**	**167.69**	**189**	*e*PKPdf		PKPdf	23 27 24.1	-0.4
TORD	**Torodi Ar. Bea** comp=Z,14nm,1.1s,baz=316,slow=0.7,SNR=46	**167.69**	**189**	PKP		PKPdf	23 27 23.2	-1.3
TORD	comp=Z,24nm,0.9s,baz=176,slow=3.8,SNR=41			PKPab		PKPab	23 28 34.5	+0.2
TORD				PP		PP	23 32 22.4	-1.6
TORD	**Torodi Ar. Bea**	**167.69**	**189**	PKP		PKPdf	23 27 23.2	-1.3
TORD				PKPab		PKPab	23 28 34.5	+0.2
TORD				PP		PP	23 32 22.4	-1.6
ECOG	**Cogollos-Vega**	**167.81**	**12**	PKIKP		PKPdf	23 27 23.6	-0.9
ELOJ	**Sierra Loja**	**167.81**	**15**	PKIKP		PKPdf	23 27 23.2	-1.3
EJIF	**Jimena Fronter**	**168.11**	**21**	PKIKP		PKPdf	23 27 26.3	+1.6
EMIJ	**Mijas**	**168.21**	**18**	PKP		PKPdf	23 27 26.5	+1.7
ENIJ	**Nijar**	**168.32**	**8**	PKIKP		PKPdf	23 27 25.0	+0.1

ISC 29 23:20:05.5±2.6, 369N±01×715E±04, h35km, n12, σ0§66/13, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=18	**5.50**	**17**	P	**Pn**	**23 21 24.9**	**0.0**
UCH	**Uchtor** SNR=18	**5.81**	**23**	P	**Pn**	**23 21 29.5**	**+0.3**
KZA	**Kyzart** SNR=11	**5.93**	**28**	P	**Pn**	**23 21 30.5**	**-0.4**
EKS2	**Erkin-Say** SNR=6.3	**6.03**	**16**	P	**Pn**	**23 21 32.2**	**+0.1**
AAK	**Ala-Archa** SNR=14	**6.18**	**21**	P	**Pn**	**23 21 34.4**	**+0.1**
KK31	**Karatay Array** 1.6nm,0.3s,baz=176,slow=12,SNR=128	**6.26**	**353**	⇓P	**Pn**	**23 21 35.1**	**-0.2**
KK31	3.0nm,0.5s,baz=187,slow=26,SNR=6.0			⇑S	**Sn**	**23 22 37.9**	**-7.7**
ULHL	**Ulahol** SNR=8.8	**6.48**	**33**	P	**Pn**	**23 21 38.6**	**+0.3**
TKM2	**Tokmak 2** SNR=5.7	**6.79**	**26**	P	**Pn**	**23 21 42.5**	**-0.1**
KOLN	**Koldanda**	**13.66**	**128**	*e*P	**Pn**	**23 23 18.3**	**+1.6**
GKN	**Gorkha**	**14.17**	**125**	*e*P	**Pn**	**23 23 23.8**	**+0.2**
GUN	**Gumba**	**15.06**	**122**	*e*P	**Pn**	**23 23 34.1**	**-1.5**
JIRN	**Jiri**	**15.43**	**122**	*e*P	**Pn**	**23 23 40.0**	**-0.4**

*BJI **29** 23:27:55.5, 1777S×17758W, h602km, mB5.1, mb4.6*
*ISCJB **29** 23:27:57.6±0.6, 1811S±006×17805W±006, h628km±9km, mb4.3/29, Error ellipse: s-maj=10.6km s-min=7.9km az=110.7*
*NEIC **29** 23:27:57.4±1.0, 1811S×17801W, h600km±11km, mb4.5/18, Error ellipse: s-maj=12.7km s-min=10.0km az=140.0*
*IDC **29** 23:27:58.3±1.0, 1812S×17802W, h620km±12km, mb3.7/16, mb1 3.8/18, mb1mx3.8/21, mbtmp3.7/18, Error ellipse: s-maj=13.2km s-min=9.4km az=147.0*

ISC 29 23:27:58.2±0.6, 1813S±006×17791W±006, h623km±8km, n89, σ0§86/58, mb4.3/29, 12C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 3.9nm,0.3s,baz=245,slow=14,SNR=3.5	**7.24**	**55**	P	**P**	**23 29 51.3**	**+0.1**
AFI	3.1nm,0.3s,baz=26,slow=24,SNR=3.0			S	**S**	**23 31 22.9**	**-0.9**
RAO	**Raoul Island**	**11.07**	**180**	P	**P**	**23 30 27.4**	**-0.4**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=93,slow=16,SNR=8.9	**15.21**	**252**	P	**P**	**23 31 07.8**	**+0.5**
URZ	**Urewera** 12nm,0.5s,baz=342,slow=9.6,SNR=3.4	**20.52**	**191**	P	**P**	**23 31 53.9**	**-1.6**
HNR	**Honiara**	**23.16**	**289**	P	**P**	**23 32 17.9**	**-1.1**
RPZ	**Rata Peaks** 16nm,0.7s,mb4.7,baz=159,slow=6.8,SNR=4.3	**27.15**	**198**	P	**P**	**23 32 53.9**	**-0.1**
RPZ	**Rata Peaks**	**27.15**	**198**	P	**P**	**23 32 53.9**	**-0.1**
ARMA	**Armidale**	**30.24**	**240**	*e*P	**P**	**23 33 21.9**	**+1.2**
CNB	**Canberra Magne** 25nm,0.5s,mb5.1	**33.67**	**233**	*e*P	**P**	**23 33 50.7**	**+1.1**
CTA	**Charters Tower** 16nm,0.6s,mb4.8	**33.88**	**261**	⇓*iP*	**P**	**23 33 51.8**	**+0.5**
CTAO	**Charters Tower** 15nm,0.5s,mb4.9	**33.88**	**261**	*e*P	**P**	**23 33 51.8**	**+0.4**
PMG	**Port Moresby** 60nm,0.8s,mb5.3,baz=88,slow=8.1,SNR=16	**34.96**	**280**	P	**P**	**23 34 01.5**	**+1.2**
PMG	**Port Moresby**	**34.96**	**280**	*e*P	**P**	**23 34 00.8**	**+0.4**
	52nm,0.8s,mb5.2						
STKA	**Stephens Creek** 7.2nm,0.9s,mb4.2	**38.94**	**242**	*e*P	**P**	**23 34 33.3**	**+0.6**
STKA	**Stephens Creek** 7.4nm,0.7s,mb4.3,baz=92,slow=9.5,SNR=14	**38.94**	**242**	P	**P**	**23 34 33.6**	**+1.0**
WB2	**Warramunga Arr**	**45.05**	**260**	⇓*i*P	**P**	**23 35 20.0**	**-0.3**
WB2				*e*S	**S**	**23 41 12.9**	**-2.4**
WRAB	**Tennant Creek** 12nm,0.5s,mb4.7	**45.05**	**260**	*e*P	**P**	**23 35 20.1**	**-0.3**
WRA	**Warramunga Arr** 18nm,0.8s,mb4.6,baz=95,slow=7.8,SNR=113	**45.06**	**260**	P	**P**	**23 35 20.2**	**-0.2**
WRA	0.4nm,0.7s,baz=91,slow=3.8,SNR=5.3			ScP	ScP	23 39 43.9	+2.5
WRA	1.1nm,0.9s,baz=93,slow=14,SNR=16			S	**S**	**23 41 12.3**	**-3.2**
AS31	**Alice Springs**	**45.19**	**254**	⇓*i*P	**P**	**23 35 21.7**	**+0.3**
AS31				*e*S	**S**	**23 41 16.2**	**-1.1**
ASAR	**Alice Springs** 22nm,0.6s,mb4.8,baz=88,slow=8.0,SNR=264	**45.19**	**254**	P	**P**	**23 35 21.8**	**+0.4**
ASAR	1.0nm,0.9s,baz=105,slow=4.8,SNR=4.1			ScP	ScP	23 39 43.3	+1.4
ASAR	5.9nm,0.7s,baz=91,slow=16,SNR=38			S	**S**	**23 41 16.6**	**-0.6**
ASPA	**Alice Springs**	**45.19**	**254**	⇓*i*P	**P**	**23 35 21.7**	**+0.3**
ASPA				*e*S	**S**	**23 41 16.2**	**-1.1**
KAKA	**Kakadu** 25nm,0.6s,mb4.9	**48.05**	**269**	⇓*i*P	**P**	**23 35 42.8**	**-0.1**
GUMO	**Guam**	**48.39**	**308**	P	**P**	**23 35 45.9**	**+0.6**
FORT	**Forrest** 14nm,1.2s,mb4.3	**50.34**	**245**	*e*P	**P**	**23 35 59.3**	**-0.3**
FITZ	**Fitzroy Crossi** 6.1nm,0.6s,mb4.1	**53.46**	**261**	*e*P	**P**	**23 36 22.4**	**+0.5**
KLBR	**Kellerberrin** 58nm,1.7s,mb4.4	**59.15**	**244**	*e*P	**P**	**23 37 00.4**	**-0.4**
SBA	**Scott Base** 8.3nm,0.6s,mb4.1	**60.23**	**184**	*e*P	**P**	**23 37 09.6**	**+1.7**
VNDA	**Vanda** 2.7nm,0.6s,mb3.7,baz=358,slow=7.4,SNR=24	**60.26**	**185**	P	**P**	**23 37 08.7**	**+0.6**
VNDA	**Vanda** 2.1nm,0.6s,mb3.5	**60.26**	**185**	*e*P	**P**	**23 37 08.8**	**+0.7**
CASY	**Casey** 16nm,0.9s,mb4.5	**66.13**	**205**	*e*P	**P**	**23 37 45.3**	**-0.2**
MJAR	**Matsushiro Arr** 9.3nm,0.6s,mb4.4,baz=155,slow=5.4,SNR=19	**68.37**	**323**	P	**P**	**23 37 58.7**	**-0.5**
MAT	**Matsushiro**	**68.37**	**323**	P	**P**	**23 37 58.9**	**-0.2**
QSPA	**South Pole Qui** 16nm,0.7s,mb4.7	**71.92**	**180**	*e*P	**P**	**23 38 20.5**	**+0.5**
KSRS	**Korea Array** 2.0nm,0.7s,mb3.8,baz=120,slow=5.0,SNR=5.0	**75.18**	**318**	P	**P**	**23 38 39.3**	**+0.8**
MDJ	**Mudanjiang** 6.1nm,0.6s,mb4.1	**78.64**	**325**	*e*P	**P**	**23 38 58.4**	**+1.2**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=236,slow=9.7,SNR=3.0	**79.26**	**44**	P	**P**	**23 39 01.9**	**+1.5**
CN2	**Changchun**	**80.49**	**322**	*e*P	**P**	**23 39 07.3**	**+0.5**
CN2	comp=Z,10.0nm,1.0s,mb4.1			AMB	AMB		
MAW	**Mawson** comp=Z,3.7nm,1.0s,mb3.9,baz=105,slow=7.0,SNR=5.6	**83.81**	**200**	P	**P**	**23 39 23.4**	**-0.1**
MCK	**McKinley** comp=Z,3.7nm,0.9s,mb4.0	**84.66**	**13**	*e*P	**P**	**23 39 26.5**	**-1.2**
NEW	**Newport**	**85.41**	**36**	P	**P**	**23 39 32.1**	**+0.7**
TXAR	**Lajitas Array** comp=Z,1.1nm,0.7s,mb3.6,baz=218,slow=5.8,SNR=13	**85.72**	**57**	P	**P**	**23 39 35.2**	**+2.4**
COLA	**College** comp=Z,4.6nm,0.5s,mb4.4	**85.89**	**12**	*e*P	**P**	**23 39 32.5**	**-1.1**
USHA	**Ushuaia** comp=Z,26nm,1.0s,mb4.8,baz=43,slow=3.8,SNR=4.2	**86.05**	**147**	P	**P**	**23 39 34.2**	**-0.2**
SYO	**Syowa Base**	**89.04**	**193**	*e*P	**P**	**23 39 47.0**	**-1.3**
SNAA	**Sanae** comp=Z,9.1nm,1.2s,mb4.5	**90.36**	**178**	*e*P	**P**	**23 39 53.7**	**-0.8**
VNA3	**Neumayer Olymp**	**90.49**	**176**	*e*	**P**	**23 39 54.6**	**-0.4**
VNA2	**Neumayer--Watz**	**90.93**	**177**	*e*	**P**	**23 39 57.0**	**0.0**
VNA2				*e*		23 40 00.2	
VNA1	**Neumayer--Stat**	**91.16**	**177**	*e*	**P**	**23 39 58.3**	**+0.2**
INK	**Inuvik** comp=Z,2.5nm,0.9s,mb4.2,baz=175,slow=4.5,SNR=4.8	**91.98**	**15**	P	**P**	**23 40 00.8**	**-1.0**
INK	**Inuvik** comp=Z,62nm,0.8s	**91.98**	**15**	*e*P	**P**	**23 40 00.9**	**-1.0**
SONM	**Songino Array** comp=Z,0.4nm,0.7s,mb3.7,baz=115,slow=3.9,SNR=3.5	**94.03**	**319**	P	**P**	**23 40 11.1**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,mb3.7,baz=242,slow=4.3,SNR=5.8	**94.34**	**25**	P	**P**	**23 40 11.5**	**-1.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=90,slow=2.4,SNR=3.0	**109.63**	**314**	PKiKP	PKiKP	23 45 18.6	-0.9
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=114,slow=3.5,SNR=3.3	**117.32**	**321**	PKP	PKPdf	23 45 33.0	-1.2
BVAR	**Borovoye Array**	**117.32**	**321**	PKP	PKPdf	23 45 33.0	-1.2
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.9s,baz=331,slow=0.2,SNR=9.1	**126.62**	**350**	PKP	PKPdf	23 45 50.6	-1.3
FINES	**FINESS Array B** comp=Z,0.6nm,0.6s,baz=127,slow=2.9,SNR=4.3	**133.53**	**344**	PKP	PKPdf	23 46 03.9	-1.2
AKASG	**Malin Array Be** comp=Z,0.5nm,0.3s,baz=41,slow=4.0,SNR=8.5	**140.98**	**333**	PKhKP		23 46 12.4	
AKASG	comp=Z,0.5nm,0.5s,baz=45,slow=2.6,SNR=2.9			PKP	PKPdf	23 46 20.2	+1.5
MALT	**Malatya**	**142.52**	**310**	⇓*i*P	PKPdf	23 46 18.7	-2.8
MALT	**Malatya**	**142.52**	**310**	⇓P	PKPdf	23 46 18.7	-2.7
BURAR	**Bucovina Array**	**145.03**	**332**	⇑P	PKPdf	23 46 28.1	+2.3
BURAR	**Bucovina Array**	**145.03**	**332**	⇑P	PKPdf	23 46 28.1	+2.3
STHS	**Stebnicka Huta**	**145.18**	**338**	*e*PKP	PKPdf	23 46 27.8	+1.7
KOLS	**Kolonicke sedl**	**145.20**	**337**	*e*PKP	PKPdf	23 46 27.7	+1.6
BRTR	**Keskin Array B** comp=Z,5.4nm,0.9s,baz=135,slow=3.9,SNR=16	**145.28**	**315**	PKPbc	PKPbc	23 46 28.0	+0.5
BRTR	comp=Z,1.0nm,0.9s,baz=140,slow=4.0,SNR=3.7			SKPbc	SKPbc	23 49 09.7	+1.7
VRI	**Vrincioaia**	**145.62**	**329**	⇓*i*P	PKPdf	23 46 29.1	+2.3
VRI	**Vrincioaia**	**145.62**	**329**	⇓P	PKPdf	23 46 29.1	+2.3
CLL	**Collm**	**145.78**	**348**	⇓*i*P	PKPdf	23 46 28.9	+1.8
CLL				*i*		23 46 30.6	
CLL	**Collm** comp=Z,17nm,0.8s	**145.78**	**348**	⇓*i*PKPbc	PKPbc	23 46 28.9	-0.1
CLL	comp=Z,7.0nm,0.6s			*i* PKPab	PKPab	23 46 30.6	-0.4
UPC	**Upice**	**145.84**	**344**	⇑*e*PKP	PKPbc	23 46 29.6	+0.5
UPC				*e*PKPAB	PKPab	23 46 32.0	+0.8
DPC	**Dobruska-Polom**	**145.90**	**344**	⇑*e*PKP	PKPbc	23 46 29.9	+0.6
DPC				*e*PKPAB	PKPab	23 46 32.4	+0.9
BRG	**Berggiesshubel** comp=Z,3.8nm,0.8s	**146.00**	**347**	*i* P	PKPbc	23 46 29.8	+0.2
MORC	**Moravsky Berou**	**146.07**	**342**	⇓*i*P	PKPbc	23 46 30.0	+0.2
MORC	**Moravsky Berou**	**146.07**	**342**	⇓P	PKPbc	23 46 30.0	+0.2
PVCC	**Panska Ves**	**146.18**	**346**	⇑*e*PKP	PKPbc	23 46 30.4	+0.3
PVCC				*e*PKPAB	PKPab	23 46 32.9	+0.3
KECS	**Kecovo**	**146.23**	**338**	*e*PKP	PKPdf	23 46 29.9	+2.0
MLR	**Muntele Rosu**	**146.27**	**329**	⇑*i*P	PKPbc	23 46 30.8	+0.5
PRU	**Pruhonice**	**146.68**	**345**	⇑*e*PKP	PKPbc	23 46 31.8	+0.4
PRU				*e*PKPAB	PKPab	23 46 35.1	+0.5
DRGR		**146.75**	**334**	⇓*i*P	PKPbc	23 46 32.1	+0.5
DRGR		**146.75**	**334**	⇓P	PKPbc	23 46 32.1	+0.5
VYHS	**Vyhne**	**146.79**	**340**	*i* PKP	PKPbc	23 46 32.2	+0.5
VYHS	**Vyhne**	**146.79**	**340**	*i* PKP	PKPbc	23 46 32.3	+0.6
NKC	**Novy Kostel**	**146.92**	**348**	⇑*e*PKP	PKPbc	23 46 32.3	+0.2
NKC				*e*PKPAB	PKPab	23 46 36.4	+0.8
KHC	**Kasperske Hory**	**147.71**	**346**	⇑*e*PKP	PKPbc	23 46 34.4	+0.3
KHC				*e*PKPAB	PKPab	23 46 39.6	+0.8
GERES	**GERESS Array B** comp=Z,2.1nm,0.6s,baz=22,slow=2.7,SNR=24	**147.95**	**345**	PKPbc	PKPbc	23 46 34.8	+0.1
BZS	**Buzias**	**148.15**	**334**	⇑*i*P	PKPbc	23 46 35.3	+0.1
BZS	**Buzias**	**148.15**	**334**	⇑P	PKPbc	23 46 35.3	+0.1
KEST	**Kesra** comp=Z,0.9nm,0.7s,baz=32,slow=23,SNR=4.3	**161.33**	**341**	PKPab	PKPab	23 47 37.0	-0.2
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.1s,baz=64,slow=0.8,SNR=3.2	**175.03**	**176**	PKP	PKPdf	23 46 57.4	-0.3
TORD	comp=Z,1.2nm,0.7s,baz=177,slow=3.5,SNR=8.5			PKPab	PKPab	23 48 37.8	-0.1

*ISCJB **29** 23:32:41.3±0.7, 272N±01.0×1405E±02, h444km±11km, mb3.4/10, Error ellipse: s-maj=34.6km s-min=17.5km az=169.6*
*IDC **29** 23:32:41.9±0.7, 2712N×14021E, h423km±11km, mb3.2/7, mb1 3.3/7, mb1mx3.1/19, mbtmp3.2/7, Error ellipse: s-maj=32.0km s-min=14.8km az=83.0*
*NEIC **29** 23:32:45.3±2.5, 2736N×14102E, h503km±38km, mb3.5/3, Error ellipse: s-maj=29.3km s-min=16.2km az=83.0*

ISC 29 23:32:42.4±0.7, 272N±01×1405E±02, h435km±11km, n16, σ0§96/17, mb3.4/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima** 40nm,0.3s,baz=292,slow=23,SNR=41	**1.53**	**94**	P	**P**	**23 33 40.0**	**+0.9**
CBIJ	57nm,0.3s,baz=254,slow=22,SNR=13			S	**S**	**23 34 24.5**	**-0.4**
ERM	**Erimo**	**14.93**	**8**	P	**P**	**23 35 52.3**	**-0.7**
NACB	**Ninganchiao**	**17.28**	**264**	*e*P	**P**	**23 36 23.8**	**+5.8**
ULN	**Ulaanbaatar** 0.6nm,0.4s,mb3.3	**33.19**	**317**	*e*P	**P**	**23 38 42.8**	**+1.7**
YAK	**Yakutsk**	**35.55**	**351**	P	**P**	**23 38 57.7**	**-3.3**
LSA	**Lhasa**	**43.17**	**285**	P	**P**	**23 40 03.6**	**+0.6**
WRA	**Warramunga Arr** 0.5nm,0.3s,mb3.4,baz=6.5,slow=7.7,SNR=18	**47.25**	**188**	P	**P**	**23 40 34.2**	**-0.3**
MKAR	**Makanchi Array** 0.4nm,0.3s,mb3.2,baz=86,slow=10,SNR=6.5	**49.22**	**310**	P	**P**	**23 40 48.7**	**-0.6**
ASAR	**Alice Springs** 0.5nm,0.7s,mb2.9,baz=112,slow=6.7,SNR=4.4	**50.98**	**188**	P	**P**	**23 41 01.8**	**-0.5**
KURK	**Kurchatov** 1.5nm,0.5s,mb3.5	**51.81**	**315**	*e*P	**P**	**23 41 07.2**	**-1.2**
BVAR	**Borovoye Array** 2.0nm,0.4s,mb3.8,baz=90,slow=7.0,SNR=15	**56.92**	**317**	P	**P**	**23 41 44.4**	**-0.1**
BRVK	**Borovoye** 1.1nm,0.5s,mb3.4	**56.98**	**317**	*e*P	**P**	**23 41 45.2**	**+0.2**
YKA	**Yellowknife Ar** 0.4nm,0.4s,mb3.3,baz=298,slow=5.9,SNR=6.7	**72.76**	**28**	P	**P**	**23 43 26.7**	**+1.6**
YKA	**Yellowknife Ar**	**72.76**	**28**	P	**P**	**23 43 26.7**	**+1.6**
ARCES	**ARCESS Array B** 2.1nm,0.8s,mb3.7,baz=72,slow=8.0,SNR=8.8	**72.92**	**341**	P	**P**	**23 43 26.5**	**+0.4**
FINES	**FINESS Array B** 0.8nm,0.4s,mb3.8,baz=92,slow=3.7,SNR=9.6	**77.16**	**333**	P	**P**	**23 43 49.6**	**-0.3**

*NEIC **29** 23:47:18.4, 1638N×9463W, h82km, MD3.8(MEX), After MEX.*

MEX 29 23:47:19.2±1.6, 1635N×9460W, h60km±90km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.56**	**248**	*i* P	Pn	23 47 42.3	-2.4
HUIG				*i* S	Sn	23 48 03.0	-0.9
HUIG	**Huatulco**	**1.56**	**248**	*i* P	Pn	23 47 42.4	-2.4
HUIG				*i* S	Sn	23 48 03.0	-1.0
OXX	**Oaxaca**	**2.16**	**290**	*i* P	Pn	23 47 51.5	-1.3
OXX				*i* S	Sn	23 48 16.0	-2.5
VHO	**Vista Hermosa**	**2.17**	**290**	*i* P	Pn	23 47 52.1	-0.8
VHO				*i* S	Sn	23 48 17.4	-1.3
VHO	**Vista Hermosa**	**2.17**	**290**	*i* P	Pn	23 47 51.5	-1.4
VHO				*i* S	Sn	23 48 16.2	-2.5
CCIG	**Comitan**	**2.36**	**91**	*i* P	Pn	23 47 55.8	+0.2
CCIG				*i* S	Sn	23 48 20.7	-2.8
CCIG	**Comitan**	**2.36**	**91**	*i* P	Pn	23 47 56.1	+0.5
CCIG				*i* S	Sn	23 48 21.7	-1.7
UTMO	**Huajuapan**	**3.40**	**296**	*i* P	Pn	23 48 08.2	-1.5
UTMO				*i* S	Sn	23 48 48.1	-0.7

IDC 29 23:57:32.3±6.0, 1968S×17626W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=193.6km s-min=97.3km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.6s,baz=112,slow=11,SNR=2.4	**39.62**	**244**	P	P	00 05 05.9	+0.3
ASAR	**Alice Springs** 1.7nm,0.5s,baz=95,slow=7.9,SNR=31	**46.30**	**256**	P	P	00 05 59.9	+0.1
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=97,slow=8.1,SNR=57	**46.34**	**261**	P	P	00 06 00.5	+0.5
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=40,slow=4.5,SNR=4.3	**143.06**	**333**	PKP	PKPdf	00 17 07.5	-0.6

**IDC 29 23:58:07.4

IZM	**Izmir**	**1.56 333**	PN	**Pn**	**00 50 53.8**	**-1.2**
IZM	**Izmir**	**1.56 333**	Pn	**Pn**	**00 50 55.0**	**-0.1**
IZM	**Izmir**	**1.56 333**	Pn	**Pn**	**00 50 55.0**	**0.0**
KDAG	**Bornova**	**1.57 333**	*i* P	**Pn**	**00 50 56.0**	**+1.0**
KDAG			*i* S	**Sg**	**00 51 18.7**	**+0.7**
BLCB	**Balcova**	**1.64 328**	*e*PN	**Pn**	**00 50 56.1**	**0.0**
BLCB	**Balcova**	**1.64 328**	Pn	**Pn**	**00 50 56.1**	**0.0**
KARP	**Karpathos**	**1.66 209**	*e*P	**Pn**	**00 50 55.5**	**-0.9**
AKS	**Akhisar**	**1.89 352**	PN	**Pn**	**00 50 59.2**	**-0.4**
AKS	**Akhisar**	**1.89 352**	Pn	**Pn**	**00 50 59.4**	**-0.2**
AKS	**Akhisar**	**1.89 352**	Pn	**Pn**	**00 50 59.3**	**-0.3**

*ISCJB **30** 00:58:49.2±2.8, 522N±0.1×152.1E±0.4, h477km±30km, mb3.3/6, Error ellipse: s-maj=38.3km s-min=19.8km az=1.6*

*IDC **30** 00:58:51.9±5.3, 52.14N×152.06E, h496km±60km, mb3.0/6, mb1 3.3/7, mb1mx2.9/23, mbtmp3.1/7, Error ellipse: s-maj=30.3km s-min=15.9km az=90.0*

ISC 30 00:58:49.9±2.3, 522N±0.1×152.1E±0.4, h474km±25km, n19, σ0 83/19, mb3.3/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**9.62**	**228**	P	**P**		**01 01 06.2**	**+3.3**
JMP	**Maruseppu**	**10.05**	**219**	P	**P**		**01 01 07.5**	**0.0**
JEM	**Erimo**	**11.85**	**214**	P	**P**		**01 01 25.7**	**-1.1**
JSH	**Shimam**	**12.54**	**225**	P	**P**		**01 01 35.0**	**+0.7**
JOT	**Ohata**	**13.18**	**219**	P	**P**		**01 01 39.6**	**-1.5**
JTM	**Tenmabayashi**	**13.68**	**218**	P	**P**		**01 01 45.4**	**-1.0**
JOM	**Ohasama**	**14.75**	**215**	P	**P**		**01 01 57.7**	**-0.1**
JYA	**Atsumi**	**16.10**	**217**	P	**P**		**01 02 13.1**	**+1.1**
JMM	**Marumori**	**16.37**	**213**	P	**P**		**01 02 15.5**	**+0.7**
MAT	**Matsushiro**	**18.47**	**218**	P	**P**		**01 02 36.0**	**+0.2**
MAT	**Matsushiro**	**18.47**	**218**	P	**P**		**01 02 35.8**	**0.0**
MJAR	**Matsushiro Arr**	**18.47**	**218**	P	**P**		**01 02 36.2**	**+0.4**
	2.4nm,0.3s,baz=16,slow=10,SNR=20							
JRY	**Ryogami san**	**18.69**	**215**	P	**P**		**01 02 38.2**	**+0.4**
MKAR	**Makanchi Array**	**44.06**	**292**	P	**P**		**01 06 15.1**	**+0.5**
	0.4nm,0.3s,mb3.3,baz=63,slow=7.4,SNR=12							
MKAR				PcP	PcP		01 07 49.2	-0.6
	0.6nm,0.8s,baz=39,slow=5.7,SNR=3.1							
ARCES	**ARCESS Array B**	**52.51**	**339**	P		**P**	**01 07 17.2**	**-0.6**
	2.5nm,0.9s,mb3.5,baz=19,slow=7.7,SNR=4.9							
FINES	**FINESS Array B**	**58.86**	**333**	P		**P**	**01 08 01.5**	**-0.5**
	0.7nm,0.5s,mb3.3,baz=55,slow=7.6,SNR=6.1							
WRA	**Warramunga Arr**	**73.48**	**197**	P		**P**	**01 09 32.5**	**-0.7**
	0.5nm,0.6s,mb3.2,baz=11,slow=5.8,SNR=13							
TXAR	**Lajitas Array**	**75.42**	**61**	P		**P**	**01 09 45.0**	**+0.8**
	0.2nm,0.4s,mb3.0,baz=301,slow=5.1,SNR=5.4							
ASAR	**Alice Springs**	**77.19**	**197**	P		**P**	**01 09 53.8**	**-0.2**
	1.2nm,0.6s,mb3.6,baz=6.6,slow=4.6,SNR=15							

GUC 30 00:59:56.3±0.5, 34.31S×70.19W, h6km±1km, MD3.6, ML2.0, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.19**	**268**	⇑*i* P		Pg	01 00 00.5	+0.4
CICH				*i* S		Sg	01 00 04.0	+1.3
CACH	**El Canelo**	**0.39**	**300**	⇑*i* P		Pg	01 00 04.2	+0.3
CACH				*i* S		Sg	01 00 09.7	+0.6
CHCH	**Chadas Angostu**	**0.54**	**314**	⇓*i* P		Pg	01 00 07.4	+0.7
CHCH				*i* S		Sg	01 00 16.1	+2.3
PCH	**Pirque**	**0.74**	**339**	⇓*i* P		Pg	01 00 11.1	+0.5
PCH				*i* S		Sg	01 00 22.0	+1.8
SFDO	**San Fernando**	**0.74**	**246**	*i* P		Pg	01 00 09.6	-1.0
SFDO				*i* S		Sg	01 00 20.4	+0.2
TACH	**Talagante**	**0.91**	**316**	⇓*i* P		Pg	01 00 13.4	-0.3
RCDM	**Rinconada Maip**	**0.97**	**328**	*e*P		Pg	01 00 14.8	0.0
RCDM				*i* S		Sg	01 00 28.8	+1.3
RCDM					AML	AML	01 00 30.1	
	comp=N,119nm,0.1s							
FCH	**Farellones**	**0.99**	**355**	⇓*e*P		Pg	01 00 15.4	+0.1
FCH				*i* S		Sg	01 00 30.1	+2.1
FCH					AML	AML	01 00 30.7	
	comp=E,64nm,0.1s							
LNV	**Longovilo**	**1.07**	**289**	*i* P		Pg	01 00 16.4	-0.5
LNV				*i* S		Sg	01 00 31.3	+0.5

MAN 30 01:02:15.8, 1390N×12335E, h44km, mb3.5, ML4.6, MS4.6, Luzon

*INMG **30** 01:03:10.2±1.1, 4271N×769W, h7km±4km, ML1.7, Error ellipse: s-maj=1.9km s-min=1.6km az=108.0*

MDD 30 01:03:10.1±0.3, 4270N×768W, h4km±10km, mbLg1.9/15, Error ellipse: s-maj=2.9km s-min=2.5km az=23.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.50**	**128**	Pg		Pg	01 03 19.3	-0.4
	13nm,0.1s,SNR=7.9							
ERUA				Lg			01 03 25.6	
	19nm,0.2s,SNR=7.9							
STS	**Santiago**	**0.67**	**286**	Pg		Pg	01 03 22.2	-0.7
	0.4nm,0.2s,SNR=7.9							
STS				Lg			01 03 31.1	
	9.7nm,0.2s,SNR=21							
EPON	**Pontenova**	**0.73**	**32**	Pg		Pg	01 03 24.0	-0.2
	11nm,0.9s,SNR=20							
EPON				Lg			01 03 33.1	
	8.9nm,0.3s,SNR=26							
ELOB	**Lobios**	**0.88**	**199**	Pg		Pg	01 03 26.9	-0.2
	7.1nm,0.9s,SNR=26							
ELOB				Lg			01 03 38.1	
	9.5nm,0.3s,SNR=23							
EZAM	**Zamans**	**0.94**	**234**	Pg		Pg	01 03 27.3	-0.7
	2.5nm,0.1s,SNR=7.9							
EZAM				Lg			01 03 40.1	
	14nm,0.4s,SNR=7.9							
EMAZ	**Mazaricos**	**0.99**	**285**	Pg		Pg	01 03 28.0	-1.0
	9.9nm,0.3s,SNR=10							
EMAZ				Lg			01 03 41.2	
	9.9nm,0.3s,SNR=13							
PCAB	**Cabril**	**1.03**	**195**	*e*P		Pg	01 03 29.3	-0.5
PCAB				*e*S		Sg	01 03 42.4	-0.7
PCAB								
	16nm,0.1s							
ECAL	**Calabor**	**1.03**	**137**	Pg		Pg	01 03 29.2	-0.7
	4.8nm,0.6s,SNR=10							
ECAL				Lg			01 03 43.2	
	12nm,0.3s,SNR=19							
PBRG	**Braganca**	**1.14**	**142**	*i* P		Pg	01 03 31.3	-0.6
PBRG				*e*S		Sg	01 03 46.4	-0.2
PBRG								
	13nm,0.1s							
PVRL	**Vila Real**	**1.43**	**181**	*e*Pg		Pg	01 03 36.7	-0.8
PVRL				*e*Sg		Sg	01 03 55.4	-0.6
PVRL								
	13nm,0.1s							
EARI	**Arriondas**	**1.91**	**71**	Pn		Pn	01 03 42.1	-1.2
	7.3nm,0.8s,SNR=4.0							
EARI				Pg		Pg	01 03 45.2	-1.4
	1.4nm,0.3s,SNR=7.9							
EARI				Sn		Sn	01 04 05.3	-2.4
	4.3nm,1.0s,SNR=7.9							
EARI				Lg			01 04 10.9	
	12nm,0.5s,SNR=7.9							
PVIS	**Viseu**	**1.99**	**185**	*e*Sg		Sg	01 04 12.9	-1.3
PVIS								
	3.5nm,0.1s							
PVIS	**Viseu**	**1.99**	**185**	Lg			01 04 12.9	
	1.8nm,0.1s							
ELAN	**Lanestosa**	**3.16**	**79**	Lg			01 04 50.6	
	8.6nm,1.0s,SNR=7.9							
GUD	**Guadarrama**	**3.35**	**127**	Lg			01 04 53.7	
	4.4nm,0.9s,SNR=7.9							
ECRI	**Cripan**	**3.81**	**90**	Sn		Sn	01 04 50.8	-4.0
	2.0nm,0.5s,SNR=7.9							
EBAD	**Badajoz**	**3.98**	**172**	Lg			01 05 13.8	
	18nm,1.3s,SNR=7.9							
ESDC	**Sonseca Array**	**4.12**	**136**	Lg			01 05 16.3	
	1.4nm,0.7s,baz=317,slow=29,SNR=7.9							

*NIED **30** 01:39:00, 48.00N×155.00E, h14km, Mw4.7 Best double couple: M0 1.38000×10^16 NP1:φ=66.00000°, δ=73.00000°, λ=-73.00000°. NP2:φ=200.00000°, δ=24.00000°, λ=-133.00000°.*

*ISCJB **30** 01:39:42.5±0.1, 47.20N±0.003×155.37E±0.02, h10km, mb5.1/191, MS4.2/50, Error ellipse: s-maj=4.5km s-min=1.9km az=149.4*

*SKHL **30** 01:39:43.4±1.2, 47.33N×155.40E, h51km±19km, Ms4.5/2, msh4.7/1*

*IDC **30** 01:39:43.1±0.5, 47.37N×155.43E, h0km, mb4.8/26, mb1 5.0/27, mb1mx5.0/29, mbtmp4.9/27, ML4.5/1, MS4.1/30, Ms1 4.1/30, ms1mx3.8/53, Error ellipse: s-maj=15.6km s-min=11.9km az=140.0*

*NEIC **30** 01:39:45.4±2.0, 47.40N×155.42E, h12km±12km, mb5.2/104, Error ellipse: s-maj=4.8km s-min=3.1km az=160.0*

*GCMT **30** 01:39:45.4±0.5, 47.29N×155.47E, h27km±1km, MW5.0/52, Moment Tensor Solution. s13,c14; s52,c66; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.81±.34; Mθθ2.84±.26; Mφφ-0.02±.22; Mrθ-0.81±.37; Mrφ2.49±.14; Mθφ1.22±.33; Best double couple: M0 4.01500×10^16 NP1:φ=212.00000°, δ=53.00000°, λ=-133.00000°. NP2: φ=88.00000°, δ=54.00000°, λ=-48.00000°. Principal axes: T 4.2820, Plg1.0000°, Azm150.0000°; N -0.5270, Plg33.0000°, Azm241.0000°; P -3.7490, Plg57.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **30** 01:39:47.9, 47.65N×155.01E, h31km, mB5.0, mb4.8, Ms4.6, Msz4.3*

*MOS **30** 01:39:48.4±1.1, 47.42N×155.33E, h46km, mb5.3/76, MS4.2/15, Error ellipse: s-maj=7.4km s-min=4.4km az=105.4*

*SZGRF **30** 01:39:59.0, 49.50N×154.50E, h33km, mb5.1, Kuril Islands, Russia*

ISC 30 01:39:43.4±1.0, 47.37N±0.003×155.30E±0.02, h1km±6km, n677, σ0 95/686, mb5.1/191, MS4.2/50, 91C-101D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.36**	**9**	*e*P		**Pn**	**01 40 34.9**	**-2.0**
SKR					AMB	AMB	01 40 42.0	
	120nm,0.5s							
SKR					AMB	AMB	01 40 42.0	
	150nm,0.5s							
SKR					AMB	AMB	01 40 42.0	
	230nm,0.5s							
SKR					AMB	AMB	01 40 46.0	
	1μm,4.0s							
SKR				*e*S		**Sn**	**01 41 12.5**	**-4.9**
SKR				A			01 41 20.5	
	3μm,4.0s							
SKR				A			01 41 20.5	
	2μm,4.0s							
SKR				A			01 41 20.5	
	2μm,4.0s							
SKR				A			01 41 20.5	
	690nm,0.5s							
SKR				A			01 41 20.5	
	920nm,0.5s							
SKR				A			01 41 20.5	
	320nm,0.5s							
SKR					AMS	AMS	01 42 16.0	
	10μm,16.0s							
SKR					AMS	AMS	01 42 16.0	
	5μm,18.0s							
SKR					AMS	AMS	01 42 16.0	
	3μm,18.0s							
SKR					AMS	AMS	01 42 16.0	
	6μm,18.0s							
SKR					AMS	AMS	01 42 16.0	
	12μm,16.0s							
KUR	**Kuril'sk**	**5.58**	**250**	⇑*i* P		**Pn**	**01 41 05.5**	**-2.0**
KUR					AMB	AMB	01 41 19.0	
	172nm,0.7s							
KUR					AMB	AMB	01 41 19.0	
	198nm,0.7s							
KUR					AMB	AMB	01 41 19.0	
	602nm,0.7s							
KUR				*i* S		**Sn**	**01 42 07.8**	**-4.4**
KUR				A			01 42 16.8	
	946nm,0.7s							
KUR				A			01 42 16.8	
	602nm,0.7s							
KUR	**Kuril'sk**	**5.58**	**250**	⇑*i* PN		**Pn**	**01 41 05.5**	**-2.0**
KUR					pmax	pmax		
	comp=N,170nm,0.7s							
KUR					pmax	pmax		
	comp=E,200nm,0.7s							
KUR					pmax	pmax		
	comp=Z,600nm,0.7s							
PET	**Petropavlovsk**	**6.05**	**20**	*i* PN		**Pn**	**01 41 12.2**	**-1.8**
PET					pmax	pmax		
	comp=Z,168nm,0.9s							
PET	**Petropavlovsk**	**6.05**	**20**	*e*Pn		**Pn**	**01 41 12.3**	**-1.7**
PET				*e*Sn		**Sn**	**01 42 13.7**	**-10**
YUK	**Yuzh-Kuril'sk**	**7.40**	**247**	*e*P		**Pn**	**01 41 33.0**	**+0.5**
YUK					AMB	AMB	01 41 35.2	
	comp=Z,370nm,0.5s							
YUK				*e*S		**Sn**	**01 42 55.5**	**-1.6**
YUK				A			01 43 04.2	
	comp=Z,580nm,0.5s							
YUK				A			01 43 04.2	
	comp=Z,190nm,0.5s							
NEM2	**Nemuro 2**	**7.83**	**243**	P		**Pn**	**01 41 36.9**	**-1.5**
NEM2				*e*S		**Sn**	**01 43 00.2**	**-7.5**
JRA	**Rausu**	**7.92**	**248**	P		**Pn**	**01 41 40.7**	**+1.2**
JRA				*e*S		**Sn**	**01 43 05.6**	**-4.1**
JNK	**Nakash**	**8.34**	**247**	P		**Pn**	**01 41 45.9**	**+0.5**
JNK				*e*S		**Sn**	**01 43 15.3**	**-5.0**
YSS	**Yuzh-Sakhalins**	**8.56**	**272**	*e*P		**Pn**	**01 41 53.4**	**+5.0**
YSS					AMB	AMB	01 41 54.0	
	comp=Z,80nm,0.9s							
YSS					AMB	AMB	01 41 54.0	
	comp=Z,80nm,0.9s							
YSS				*e*S		**Sn**	**01 43 26.7**	**+1.1**
YSS				A			01 43 30.0	
	comp=Z,120nm,0.7s							
YSS				A			01 43 30.0	
	comp=Z,170nm,0.8s							
YSS					AMS	AMS	01 45 56.0	
	comp=Z,1μm,15.0s							
YSS					AMS	AMS	01 45 56.0	
	comp=Z,2μm,18.0s							
YSS					AMS	AMS	01 45 56.0	
	comp=Z,2μm,18.0s							
YSS	**Yuzh-Sakhalins**	**8.56**	**272**	*e*Pn		**Pn**	**01 41 53.1**	**+4.7**
YSS				*e*Sn		**Sn**	**01 43 24.1**	**-1.5**
JAK	**Akkeshi**	**8.67**	**244**	P		**Pn**	**01 41 49.0**	**-0.9**
JAK				*e*S		**Sn**	**01 43 19.6**	**-8.7**
JTKR	**Abashiri--Toko**	**8.67**	**251**	P		**Pn**	**01 41 51.2**	**+1.3**
JMP	**Maruseppu**	**9.01**	**252**	P		**Pn**	**01 41 56.1**	**+1.5**
JAR	**Ashorobuto**	**9.09**	**248**	P		**Pn**	**01 41 56.0**	**+0.4**
JAR				*e*S		**Sn**	**01 43 34.1**	**-4.4**
JOB	**Onbets**	**9.25**	**245**	P		**Pn**	**01 41 58.5**	**+0.6**
JOB				*e*S		**Sn**	**01 43 35.9**	**-6.7**
ASAJ	**Asahikawa**	**9.46**	**255**	Pn		**Pn**	**01 42 03.1**	**+2.4**
	comp=Z,4.9nm,0.3s,baz=89,slow=16,SNR=24							
ASAJ					LR	LR	01 46 15.0	
	comp=Z,486nm,18.7s,baz=17,slow=41							
ASAJ	**Asahikawa**	**9.46**	**255**	P		**Pn**	**01 42 03.3**	**+2.6**
JKK2	**Kamakawa 2**	**9.47**	**253**	P		**Pn**	**01 42 02.8**	**+2.0**
JWK2	**Keihoku**	**9.50**	**262**	P		**Pn**	**01 42 07.7**	**+6.4**
JCH	**Churui**	**9.70**	**245**	P		**Pn**	**01 42 02.9**	**-1.1**
JCH				*e*S		**Sn**	**01 43 44.1**	**-10**
JFR	**Furan**	**9.90**	**249**	P		**Pn**	**01 42 08.8**	**+2.1**
JAB	**Ashibetsu**	**9.97**	**252**	P		**Pn**	**01 42 09.7**	**+2.0**
JEM	**Erimo**	**10.17**	**243**	P		**Pn**	**01 42 10.3**	**-0.1**
JEM				*e*S		**Sn**	**01 43 56.5**	**-8.5**
ERM	**Erimo**	**10.17**	**243**	Pn		**Pn**	**01 42 11.6**	**+1.2**
	comp=Z,430nm,0.4s,SNR=10							
ERM	**Erimo**	**10.17**	**243**	*e*Pn		**Pn**	**01 42 11.1**	**+0.7**
ERM				*e*Sn		**Sn**	**01 44 00.1**	**-4.9**
JBT2	**Biratori 2**	**10.24**	**248**	P		**Pn**	**01 42 11.6**	**+0.2**
JNBK	**Urakawa-nobuka**	**10.26**	**245**	P		**Pn**	**01 42 10.5**	**-1.2**
JNBK				*e*S		**Sn**	**01 43 56.4**	**-11**
JNB	**Noboribetsu**	**11.23**	**249**	P		**Pn**	**01 42 24.1**	**-0.9**
JKB	**Kayabe**	**11.55**	**247**	P		**Pn**	**01 42 26.8**	**-2.5**
JKB				*e*S		**Sn**	**01 44 26.5**	**-12**
JSH	**Shimam**	**11.79**	**252**	P		**Pn**	**01 42 32.8**	**+0.2**
JYM2	**Yakumo 2**	**11.84**	**249**	P		**Pn**	**01 42 32.1**	**-1.2**
JSR	**Shiriuchi**	**12.13**	**247**	P		**Pn**	**01 42 34.8**	**-2.4**
JSR				*e*S		**Sn**	**01 44 41.7**	**-11**
JTM	**Tenmabayashi**	**12.16**	**242**	P		**Pn**	**01 42 34.9**	**-2.8**
JTM				*e*S		**Sn**	**01 44 40.3**	**-14**
JTH	**Tanohata**	**12.23**	**237**	P		**Pn**	**01 42 36.0**	**-2.7**
JTH				*e*S		**Sn**	**01 44 38.2**	**-17**
JOSM	**Okushiri--Mats**	**12.43**	**251**	P		**Pn**	**01 42 40.1**	**-1.3**
MA2	**Magadan**	**12.52**	**349**	*e*PN		**Pn**	**01 42 43.0**	**+0.4**
OFUJ	**Ofunato**	**12.93**	**235**	P		**Pn**	**01 42 44.2**	**-4.0**
OFUJ				*e*S		**Sn**	**01 44 59.0**	**-14**
JRG	**Rokugo**	**13.30**	**239**	P		**Pn**	**01 42 50.6**	**-2.7**
JRG				*e*S		**Sn**	**01 45 08.5**	**-13**
JIO	**Ouri**	**13.55**	**234**	P		**Pn**	**01 42 52.9**	**-3.7**
JIO				*e*S		**Sn**	**01 45 12.4**	**-15**
HABR	**Khabarovsk**	**13.63**	**282**	*e*P		**Pn**	**01 43 05.5**	**+7.8**
HABR				*e*S		**Sn**	**01 45 41.3**	**+12**
JYA	**Atsumi**	**14.37**	**238**	P		**Pn**	**01 43 06.2**	**-1.7**
JFK	**Kawauchi**	**14.60**	**232**	*e*S		**Sn**	**01 45 37.0**	**-16**
SEY	**Seymchan**	**15.68**	**355**	*e*P		**Pn**	**01 43 24.7**	**-0.8**
SEY	**Seymchan**	**15.68**	**355**	*e*P		**Pn**	**01 43 24.8**	**-0.7**
KLR	**Kul'dur**	**15.77**	**285**	*e*P		**Pn**	**01 43 26.2**	**-0.4**
KLR					pmax	pmax		
	comp=E,64nm,1.8s							
KLR					pmax	pmax		
	comp=Z,56nm,1.8s							
KLR					MLR	MLR		
	comp=N,800nm,12.5s							
KLR					MLR	MLR		
	comp=E,700nm,12.5s							
KLR					MLR	MLR		
	comp=Z,2μm,12.5s							
MAJO	**Matsushiro**	**16.66**	**236**	*e*P		**Pn**	**01 43 36.0**	**-2.0**
MAJO					pmax	pmax		
	comp=Z,41nm,0.8s							
MAJO	**Matsushiro**	**16.66**	**236**	*e*Pn		**Pn**	**01 43 36.0**	**-2.0**
	comp=Z,41nm,0.8s							
MAT	**Matsushiro**	**16.66**	**236**	P		**Pn**	**01 43 35.5**	**-2.5**
MAT				*e*S		**Sn**	**01 46 31.0**	**-13**
MJAR	**Matsushiro Arr**	**16.66**	**236**	Pn		**Pn**	**01 43 36.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=31,slow=14,SNR=9.0							
MJAR					LR	LR	01 50 35.7	
	comp=Z,357nm,18.1s,baz=15,slow=39							
MDJ	**Mudanjiang**	**18.05**	**271**	P		**Pn**	**01 43 55.3**	**-0.1**
MDJ					XP	sP	01 44 11.0	+15
MDJ					AMB	AMB		
	comp=Z,17nm,1.5s							
MDJ					AMB	AMB		
	comp=Z,76nm,6.2s							
MDJ					LR	LR		
	comp=N,292nm,15.1s							
MDJ					LR	LR		
	comp=E,381nm,18.1s							
MDJ					LR	LR		
	comp=Z,621nm,18.1s							
MDJ	**Mudanjiang**	**18.05**	**271**	*e*P		**Pn**	**01 43 56.0**	**+0.6**
	comp=Z,7.3nm,0.6s							
ZEA	**Zeya**	**18.85**	**300**	*e*P		**Pn**	**01 44 00.5**	**-4.7**
ZEA					AMB	AMB	01 44 06.2	
	comp=Z,50nm,1.2s							
ZEA					AMB	AMB	01 44 06.2	
	comp=Z,55nm,1.4s							
ZEA					AMB	AMB	01 44 06.2	
	comp=Z,30nm,0.7s							
ZEA					eS	**Sn**	**01 47 36.0**	**-0.6**
ZEA					A		01 47 41.0	
	comp=Z,200nm,5.0s							
YAK	**Yakutsk**	**20.64**	**325**	*e*P		**P**	**01 44 24.2**	**-0.1**
YAK				*e*			01 44 40.4	
YAK				*e*S		**S**	**01 48 12.1**	**-3.6**
YAK				*e*SS			01 48 29.2	
YAK					pmax	pmax		
	comp=Z,34nm,0.7s							
YAK					pmax	pmax		
	comp=N,20nm,1.7s							
YAK					pmax	pmax		
	comp=E,28nm,1.7s							
YAK					smax			
	comp=N,156nm,1.8s							
YAK					smax			
	comp=Z,77nm,1.8s							
YAK					smax			
	comp=E,469nm,4.3s							
YAK					MLR	MLR		
	comp=Z,362nm,17.0s,MS3.8							
YAK					MLR	MLR		
	comp=N,335nm,15.0s,MS4.0							
YAK					MLR	MLR		
	comp=E,289nm,13.0s,MS4.0							
YAK	**Yakutsk**	**20.64**	**325**	*e*Pn		**P**	**01 44 25.3**	**+1.0**
	comp=E,50nm,0.6s							
CLNS	**Chul'man**	**20.78**	**308**	*e*P		**P**	**01 44 26.4**	**+0.6**
CLNS				*e*			01 44 41.6	
CLNS				*e*S		**S**	**01 48 21.0**	**+2.6**
CLNS				*e*SS			01 49 00.6	
CLNS					pmax	pmax		
	comp=N,98nm,0.9s							
CLNS					pmax	pmax		
	comp=E,71nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,110nm,0.9s							
CLNS					smax			
	comp=N,37nm,1.1s							
CLNS					smax			
	comp=Z,9.0nm,0.9s							
CLNS					smax			
	comp=E,26nm,1.2s							
CLNS					MLR	MLR		
	comp=Z,800nm,16.0s,MS4.2							
CLNS					MLR	MLR		
	comp=N,300nm,13.0s,MS4.6							
CLNS					MLR	MLR		
	comp=E,2μm,14.0s,MS4.6							
NRGR	**Nerungri**	**20.83**	**308**	*e*P		**P**	**01 44 28.3**	**+2.0**
NRGR				S		**S**	**01 48 03.3**	**-16**
NRGR					smax			
	comp=N,23nm,0.5s							
CN2	**Changchun**	**21.13**	**271**	⇓P		**P**	**01 44 28.3**	**-1.3**
CN2				*e*XP		sP	01 44 45.0	+15
CN2				*e*S		**S**	**01 48 15.5**	**-10**
CN2					AMB	AMB		
	comp=Z,20nm,0.5s,mb4.7							
CN2					AMB	AMB		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,200nm,15.0s,MS4.0							
CN2					LR	LR		
	comp=E,500nm,15.0s,MS4.0							
CN2					LR	LR		
	comp=Z,600nm,16.0s,MS4.1							
BILL	**Bilibino**	**21.47**	**11**	*e*P		**P**	**01 44 33.5**	**+0.3**
BILL				*e*			01 44 50.8	
BILL				*e*S		**S**	**01 48 28.7**	**-3.3**
BILL				*e*			01 48 36.0	
BILL					pmax	pmax		
	comp=Z,131nm,1.1s,mb5.2							
BILL					MLR	MLR		
	comp=Z,400nm,18.0s,MS3.9							
BILL	**Bilibino**	**21.47**	**11**	*e*P		**P**	**01 44 32.3**	**-0.9**
	comp=Z,93nm,1.0s,mb5.1							
KSRS	**Korea Array**	**22.41**	**254**	P		**P**	**01 44 44.7**	**+1.4**
	comp=Z,15nm,0.8s,mb4.4,baz=50,slow=10,SNR=28							
KS15	**Wonju Array Si**	**22.44**	**254**	*e*P		**P**	**01 44 46.2**	**+2.6**
SNY	**Shenyang**	**23.16**	**268**	⇑P		**P**	**01 44 50.3**	**-0.9**
SNY					AMB	AMB		
	comp=Z,17nm,0.5s,mb4.7							
SNY					AMB	AMB		
	comp=Z,153nm,5.4s							
SNY					LR	LR		
	comp=N,666nm,20.7s,MS4.1							
SNY					LR	LR		
	comp=E,293nm,18.0s,MS4.1							

TIXI Tiksi 27.32 342 *e*P **P** **01 45 27.5 -2.1**
BJI Beijing 28.98 270 P **P** **01 45 47.0 +2.6**
BJI AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
BJI AMB AMB
comp=Z,258nm,4.3s
BJI LR LR
comp=E,335nm,18.8s
BJI LR LR
comp=Z,400nm,18.8s,MS4.0
BJI Beijing 28.98 270 P **P** **01 45 47.1 +2.7**
comp=Z,9.0nm,0.8s,mb4.5
BJI S S 01 50 57.8 +22
BJI LR LR
comp=Z,400nm,18.8s,MS4.0
BJT Baijiatuau 28.99 270 *e*P **P** **01 45 45.6 +1.1**
BJT pmax pmax
comp=Z,21nm,0.9s
BJT Baijiatuau 28.99 270 *e*P **P** **01 45 45.6 +1.1**
comp=Z,21nm,0.9s,mb4.9
SSE Sheshan 30.72 250 P **P** **01 46 01.5 +1.7**
SSE XP sP 01 46 18.5 +18
SSE S **S** **01 51 04.5 +1.0**
SSE AMB AMB
comp=Z,45nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,173nm,4.3s
SSE LR LR
comp=N,98nm,21.8s,MS3.5
SSE LR LR
comp=E,72nm,21.8s,MS3.5
SSE LR LR
comp=Z,108nm,19.3s,MS3.5
SSE Sheshan 30.72 250 P **P** **01 46 01.5 +1.7**
comp=Z,45nm,0.7s,mb5.4
SSE sP sP 01 46 18.5 +18
SSE S **S** **01 51 04.5 +1.0**
SSE sS sS 01 51 23.6 +19
SSE SS SS 01 53 18.6 +4.4
SSE LR LR
comp=Z,110nm,19.3s,MS3.5
SVW2 Sparrevohn 30.99 46 *e*P **P** **01 46 01.6 -0.6**
HHC Hu-ho-hao-te 31.74 274 ⇓P **P** **01 46 10.3 +1.5**
HHC AP 01 46 22.3
HHC PP PP 01 47 15.5 -4.8
HHC PCP PcP 01 49 01.8 +1.5
HHC S **S** **01 51 15.0 -4.4**
HHC XS sS 01 51 34.5 +14
HHC SS SS 01 53 06.0 -29
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,164nm,5.5s
HHC LR LR
comp=N,387nm,14.0s,MS4.4
HHC LR LR
comp=E,384nm,14.9s,MS4.4
HHC LR LR
comp=Z,421nm,16.1s,MS4.2
ULN Ulaanbaatar 32.11 289 *e*P **P** **01 46 11.3 -0.8**
ULN *e* 01 46 24.2
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ULN Ulaanbaatar 32.11 289 *e*P **P** **01 46 11.3 -0.8**
comp=Z,4.0nm,0.6s,mb4.4
ULN *e* 01 46 24.2
IMA2 Indian Mountai 32.42 36 *e*P **P** **01 46 14.3 -0.5**
SONM Songino Array 32.54 289 P **P** **01 46 15.3 -0.5**
comp=Z,6.3nm,0.8s,mb4.6,baz=70,slow=8.7,SNR=43
SONM PcP PcP 01 49 02.1 -0.4
comp=Z,2.6nm,1.0s,baz=60,slow=3.6,SNR=3.8
SONM LR LR 02 00 56.7
comp=Z,322nm,18.7s,MS4.0,baz=41,slow=39
SONM Songino Array 32.54 289 P **P** **01 46 15.3 -0.5**
SONM 01 49 02.1
KDAK Kodiak Island 32.55 52 P **P** **01 46 14.1 -1.8**
comp=Z,9.1nm,0.7s,mb4.8,baz=303,slow=6.4,SNR=7.9
IRK Irkutsk 32.73 298 *e*P **P** **01 46 15.2 -2.3**
IRK pmax pmax
comp=Z,46nm,2.6s,mb5.0
TLY Talaya 33.23 297 *e*P **P** **01 46 22.6 +0.7**
TLY *e* 01 49 07.4
TLY *e*SS SS 01 54 14.4 +8.9
TLY pmax pmax
comp=Z,20nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,582nm,18.0s,MS4.3
TLY Talaya 33.23 297 *e*P **P** **01 46 22.2 +0.3**
comp=Z,13nm,0.8s,mb4.9
TLY *e* 01 46 34.7
ZAK Zakamensk 33.77 295 *e*P **P** **01 46 25.0 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MCK McKinley 34.20 41 *e*P **P** **01 46 29.4 -1.0**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MCK McKinley 34.20 41 *e*P **P** **01 46 29.4 -1.0**
comp=Z,7.2nm,0.7s,mb4.7
SML Sawmill 34.48 44 *e*P **P** **01 46 32.0 -0.8**
COLA College 34.72 39 ⇓*i*P **P** **01 46 34.2 -0.6**
COLA College 34.72 39 *e*P **P** **01 46 34.1 -0.7**
GUMO Guam 34.79 198 P **P** **01 46 34.6 -0.8**
MENT Mentasta 36.57 42 *e*P **P** **01 46 50.5 -0.2**
XAN Xi'an 37.06 266 P **P** **01 46 55.5 +0.7**
XAN XP sP 01 47 08.0 +13
XAN AMB AMB
comp=Z,16nm,1.2s,mb4.7
XAN LR LR
comp=N,229nm,14.3s,MS4.2
XAN LR LR
comp=E,166nm,15.1s,MS4.2
XAN LR LR
comp=Z,337nm,18.9s,MS4.2
EGAK Eagle 37.58 39 *e*P **P** **01 46 58.1 -1.2**
comp=Z,45nm,0.9s,mb5.2
KRAR Krasnoyarsk 38.41 307 *e*P **P** **01 47 05.0 -1.3**
KRAR pmax pmax
comp=Z,77nm,0.6s,mb5.6
LZH Lanzhou 39.36 273 ⇑P **P** **01 47 16.0 +1.7**
LZH AP 01 47 27.8
LZH XP sP 01 47 33.5 +19
LZH PP PP 01 48 51.3 +6.9
LZH PCP PcP 01 49 24.0 +1.3
LZH SCP ScP 01 53 08.3 -4.1
LZH *e*S **S** **01 53 13.8 -2.6**
LZH SS SS 01 56 01.0 -8.8
LZH AMB AMB
comp=Z,44nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,180nm,5.5s
LZH LR LR
comp=N,612nm,15.0s
LZH LR LR
comp=Z,830nm,16.6s,MS4.7
LZH Lanzhou 39.36 273 ⇑P **P** **01 47 15.9 +1.6**
LZH *PP 01 47 27.7
LZH *SP sP 01 47 33.5 +19
LZH 01 48 51.3
LZH 01 49 23.9
LZH *e*S **S** **01 53 13.8 -2.6**
LZH *SS sS 01 53 37.3 +20
LZH SS SS 01 56 01.0 -8.8
LZH pmax pmax
comp=Z,44nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,830nm,16.6s,MS4.7
LZH Lanzhou 39.36 273 ⇑P **P** **01 47 15.9 +1.6**
comp=Z,44nm,1.5s,mb5.0
LZH pP 01 47 27.7
LZH sP sP 01 47 33.5 +19
LZH PP PP 01 48 51.3 +6.9
LZH PcP PcP 01 49 23.9 +1.2
LZH ScP ScP 01 53 08.3 -4.1
LZH *e*S **S** **01 53 13.8 -2.6**
LZH PcS PcS 01 53 14.4 +1.9
LZH sS sS 01 53 37.3 +20
LZH SS SS 01 56 01.0 -8.8
LZH LR LR
comp=Z,830nm,16.6s,MS4.7
INK Inuvik 40.32 33 P **P** **01 47 22.4 +0.1**
comp=Z,26nm,0.8s,mb5.0,baz=286,slow=7.2,SNR=83
INK Inuvik 40.32 33 *e*P **P** **01 47 22.2 -0.1**
comp=Z,1μm,0.9s
GTA Gaotai 40.35 280 P **P** **01 47 24.0 +1.5**
GTA AP 01 47 36.5
GTA XP sP 01 47 41.5 +18
GTA PP PP 01 49 01.5 +6.3
GTA PCP PcP 01 49 26.8 +0.9
GTA S **S** **01 53 28.8 -2.4**
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,88nm,4.6s
GTA LR LR
comp=N,276nm,15.2s,MS4.5
GTA LR LR
comp=E,407nm,16.0s,MS4.5
GTA LR LR
comp=Z,417nm,15.6s,MS4.4
SKAG Skagway 41.16 47 P **P** **01 47 29.5 +0.3**
CD2 Chengdu 42.42 266 ⇓*i*P **P** **01 47 40.8 +1.3**
CD2 AP 01 47 53.0
CD2 XP sP 01 47 58.5 +18
CD2 PP PP 01 49 22.5 +4.9
CD2 PCP PcP 01 49 34.0 +1.3
CD2 S **S** **01 53 58.8 -3.1**
CD2 XS sS 01 54 19.5 +17
CD2 SS SS 01 57 02.8 -7.9
CD2 SCS ScS 01 57 36.3 -6.3
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,120nm,7.2s
CD2 LR LR
comp=N,340nm,18.0s,MS4.5
CD2 LR LR
comp=E,400nm,16.8s,MS4.5
CD2 LR LR
comp=Z,370nm,18.0s,MS4.3
GYA Guiyang 43.31 259 ⇑*i*P **P** **01 47 47.8 +1.1**
GYA AP 01 48 01.5
GYA XP sP 01 48 04.5 +17
GYA PP PP 01 49 33.8 +6.6
GYA PCP PcP 01 49 39.0 +3.4
GYA SCP ScP 01 53 25.5 -2.5
GYA S **S** **01 54 14.3 -0.7**
GYA SS SS 01 57 21.5 -6.6
GYA SCS ScS 01 57 43.8 -4.3
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,540nm,16.4s,MS4.7
GYA LR LR
comp=E,670nm,16.0s,MS4.7
GYA LR LR
comp=Z,580nm,15.8s,MS4.6
ZAL Zalesovo 43.48 306 P **P** **01 47 47.4 -0.7**
comp=Z,9.3nm,0.4s,mb4.9,baz=41,slow=8.8,SNR=43
ZAL LR LR 02 06 48.6
comp=Z,315nm,19.5s,MS4.2,baz=42,slow=37
ZAL Zalesovo 43.48 306 P **P** **01 47 47.4 -0.7**
ZAL *i* P 01 47 47.9
ZAL LR LR 02 06 48.6
NVS Novosibirsk 44.00 308 *e*P **P** **01 47 51.4 -0.9**
NVS *e* 01 49 43.1
NVS *e*S **S** **01 54 15.8 -9.3**
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=Z,62nm,1.8s,mb5.0
NVS pmax pmax
comp=E,54nm,1.7s
NVS smax
comp=N,17nm,1.9s
NVS smax
comp=E,18nm,1.5s
DLBC Dease Lake 44.08 47 P **P** **01 47 54.1 +1.1**
WMQ Urumqi 46.09 292 ⇑*i*P **P** **01 48 09.5 +0.6**
WMQ AP 01 48 22.0
WMQ XP sP 01 48 27.5 +18
WMQ PCP PcP 01 49 46.0 +0.8
WMQ PP PP 01 49 57.8 +1.0
WMQ PPP 01 52 42.0
WMQ S **S** **01 54 50.8 -4.6**
WMQ XS sS 01 55 11.5 +15
WMQ AMB AMB
comp=Z,13nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,236nm,4.9s
WMQ LR LR
comp=N,523nm,19.0s,MS4.5
WMQ LR LR
comp=E,137nm,19.0s,MS4.5
WMQ LR LR
comp=Z,381nm,16.4s,MS4.4
QIZ Qiongzhong 46.47 248 P **P** **01 48 14.5 +2.6**
QIZ S **S** **01 55 01.5 +0.7**
QIZ AMB AMB
comp=Z,26nm,1.2s,mb5.0
QIZ LR LR
comp=N,217nm,21.4s
QIZ LR LR
comp=Z,174nm,16.4s,MS4.1
QIZ Qiongzhong 46.47 248 *e*P **P** **01 48 14.3 +2.4**
comp=Z,18nm,0.8s,mb5.0
KMI Kunming 46.82 261 P **P** **01 48 17.8 +3.1**
KMI AP 01 48 30.8
KMI PP PP 01 50 07.8 +3.2
KMI S **S** **01 55 05.3 -0.6**
KMI SS SS 01 58 24.0 -8.2
KMI SSS 01 59 35.3
KMI AMB AMB
comp=Z,11nm,0.6s,mb5.0
KMI AMB AMB
comp=Z,103nm,4.1s
KMI LR LR
comp=N,284nm,12.6s,MS4.5
KMI LR LR
comp=E,228nm,12.6s,MS4.5
KMI LR LR
comp=Z,181nm,10.3s,MS4.3
KMI Kunming 46.82 261 P **P** **01 48 17.7 +3.0**
KMI *PP 01 48 30.7
KMI *SP sP 01 48 35.5 +20
KMI 01 50 07.8
KMI S **S** **01 55 05.2 -0.7**
KMI SS SS 01 58 23.9 -8.3
KMI SSS 01 59 35.3
KMI pmax pmax
comp=Z,11nm,0.6s,mb5.0
KMI MLR MLR
comp=Z,180nm,10.3s,MS4.3
KMI Kunming 46.82 261 P **P** **01 48 17.7 +3.0**
comp=Z,11nm,0.6s,mb5.0
KMI pP 01 48 30.7
KMI sP sP 01 48 35.5 +20
KMI PP PP 01 50 07.8 +3.2
KMI S **S** **01 55 05.2 -0.7**
KMI SS SS 01 58 23.9 -8.3
KMI SSS 01 59 35.3
KMI LR LR
comp=Z,180nm,10.3s,MS4.3
MK31 Makanchi Array 47.98 298 *i*P **P** **01 48 23.1 -0.6**
MK31 pmax pmax
comp=Z,20nm,0.6s,mb5.3
MK31 Makanchi Array 47.98 298 *e*P **P** **01 48 23.2 -0.5**
MKAR Makanchi Array 47.98 298 P **P** **01 48 23.4 -0.3**
comp=Z,19nm,0.8s,mb5.2,baz=66,slow=7.6,SNR=64
MKAR PcP PcP 01 49 51.4 -0.5
comp=Z,1.3nm,0.7s,baz=78,slow=9.0,SNR=1.6
MKAR LR LR 02 11 23.0
comp=Z,416nm,18.1s,MS4.5,baz=17,slow=40
MKAR Makanchi Array 47.98 298 P **P** **01 48 23.4 -0.3**
MKAR 01 49 51.4
MKAR Makanchi Array 47.98 298 P **P** **01 48 23.4 -0.3**
MKAR PcP PcP 01 49 51.4 -0.5
MKAR LR LR 02 11 23.0
KURK Kurchatov 48.26 304 P **P** **01 48 25.4 -0.5**
comp=Z,363nm,0.7s,SNR=38
KURK Kurchatov 48.26 304 *e*P **P** **01 48 25.2 -0.6**
KURK *e* 01 48 36.8
ALE Alert 48.97 6 P **P** **01 48 31.3 0.0**
comp=Z,120nm,1.3s,mb5.8,SNR=9.5
YKA Yellowknife Ar 49.52 38 P **P** **01 48 35.1 -0.5**
comp=Z,18nm,0.8s,mb5.1,baz=295,slow=7.5,SNR=63
YKA Yellowknife Ar 49.52 38 ⇑*e*P **P** **01 48 35.0 -0.6**
RES Resolute Bay 49.77 19 *e*P **P** **01 48 38.1 +0.7**
comp=Z,193nm,0.5s
BVA0 Borovoye Array 51.62 310 *i* P **P** **01 48 51.0 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array 51.62 310 LR LR 02 13 40.2
comp=Z,427nm,18.3s,MS4.5,baz=318,slow=39
BRVK Borovoye 51.65 310 P **P** **01 48 51.0 -0.6**
comp=Z,535nm,0.7s,SNR=45
BRVK Borovoye 51.65 310 *e*P **P** **01 48 49.6 -2.0**
BRVK pmax pmax
comp=Z,45nm,0.5s,mb5.7
BRVK Borovoye 51.65 310 *e*P **P** **01 48 49.5 -2.1**
comp=Z,45nm,0.5s,mb5.7
LSA Lhasa 51.73 274 *e*P **P** **01 48 54.9 +2.7**
LSA pmax pmax
comp=Z,36nm,0.6s,mb5.5
LSA Lhasa 51.73 274 *e*P **P** **01 48 54.9 +2.7**
comp=Z,36nm,0.6s,mb5.5
SPB4 Spitsbergen Ar 52.26 350 *e*P **P** **01 48 54.8 -1.4**
NANT Nan 52.56 257 P **P** **01 48 58.0 -0.4**
D05A Enumclaw 53.47 57 ⇑P **P** **01 49 04.9 -0.2**
baz=53
CHTO Chiang Mai 53.72 258 *e*P **P** **01 49 06.5 -0.4**
CHTO pmax pmax
comp=Z,11nm,1.0s,mb4.7
CHTO Chiang Mai 53.72 258 *e*P **P** **01 49 06.5 -0.4**
comp=Z,11nm,1.0s,mb4.8
B07A Winthrop 53.83 55 ⇓P **P** **01 49 07.4 -0.3**
baz=53
F04A Amboy 53.91 59 ⇓P **P** **01 49 07.6 -0.7**
baz=54
NLW Nelson Butte 53.92 56 P **P** **01 49 08.2 -0.2**
E05A Randle 53.95 58 ⇓P **P** **01 49 08.1 -0.5**
baz=54
A08A Turner Farm, O 54.03 54 ⇓P **P** **01 49 08.1 -1.1**
baz=54,SNR=6.3
ULHL Ulahol 54.05 296 P **P** **01 49 11.2 +1.8**
SNR=7.9
TKM2 Tokmak 2 54.06 297 P **P** **01 49 11.1 +1.7**
SNR=8.7
D06A Cle Elum 54.12 57 ⇑P **P** **01 49 09.7 -0.2**
baz=54
I02A Mapleton 54.15 62 ⇓P **P** **01 49 10.0 -0.1**
baz=54
C07A Waterville 54.29 56 ⇑P **P** **01 49 10.3 -0.8**
baz=54
B08A Colville Reser 54.33 55 ⇓P **P** **01 49 10.0 -1.4**
baz=54,SNR=7.4
A09A Danville 54.40 54 ⇓P **P** **01 49 11.9 -0.1**
baz=54,SNR=9.1
E06A Yakima 54.40 58 ⇓P **P** **01 49 11.8 -0.2**
baz=54
EBG Ellensburg 54.44 57 P **P** **01 49 12.0 -0.1**
I03A Eugene 54.50 61 ⇑P **P** **01 49 12.9 +0.2**
baz=54
USP Ospenovka 54.53 298 P **P** **01 49 12.7 -0.1**
SNR=37
SOKR Solikamsk 54.54 322 ⇓*i*P **P** **01 49 12.5 -0.4**
SOKR pmax pmax
comp=Z,40nm,2.0s,mb5.1
KBK Karagaybulak 54.60 297 P **P** **01 49 15.1 +1.7**
SNR=11
D07A Quincy 54.62 56 ⇑P **P** **01 49 12.9 -0.6**
baz=54
J02A Umpqua 54.67 62 ⇑P **P** **01 49 14.7 +0.9**
baz=54,SNR=11
FRU Bishkek 54.70 297 *e*P **P** **01 49 16.0 +1.9**
H04A Detroit Lake 54.74 60 ⇑P **P** **01 49 14.0 -0.4**
baz=54,SNR=7.5
KZA Kyzart 54.75 296 P **P** **01 49 17.1 +2.6**
SNR=16
EDM Edmonton 54.80 47 *e*P **P** **01 49 14.5 -0.3**
C08A Higginbotham F 54.81 55 P **P** **01 49 14.3 -0.6**
baz=54,SNR=5.1
AAK Ala-Archa 54.89 297 P **P** **01 49 17.2 +1.7**
SNR=20
AAK Ala-Archa 54.89 297 P **P** **01 49 14.2 -1.3**
comp=Z,156nm,0.6s,mb6.2,SNR=15
AAK Ala-Archa 54.89 297 *e*P **P** **01 49 14.8 -0.7**
AAK pmax pmax
comp=Z,14nm,0.5s,mb5.2
AAK Ala-Archa 54.89 297 *e*P **P** **01 49 14.8 -0.7**
comp=Z,14nm,0.5s,mb5.2
G05A Wamic 54.94 59 ⇑P **P** **01 49 16.2 +0.4**
baz=55
B09A Rice 54.95 54 ⇑P **P** **01 49 15.5 -0.4**
baz=54,SNR=5.7
F06A Goldendale 54.95 58 ⇑P **P** **01 49 16.0 +0.1**
baz=55
J03A Ideyld Park 55.03 62 ⇓P **P** **01 49 17.3 +0.8**
baz=55,SNR=10
E07A Sunnyside 55.04 57 ⇑P **P** **01 49 16.3 -0.3**
baz=55,SNR=6.3
K02A Glendale 55.06 63 ⇓P **P** **01 49 16.5 -0.1**
baz=55
I04A Tendick Farm, 55.12 61 ⇓P **P** **01 49 17.5 +0.4**
baz=55,SNR=12
OD2 Odessa Site #2 55.22 56 P **P** **01 49 16.6 -1.2**
C09A Chrisman Ranch 55.23 55 ⇑P **P** **01 49 17.4 -0.5**
baz=55,SNR=5.4
D08A Wollman Farm, 55.29 56 ⇓P **P** **01 49 17.1 -1.3**
baz=55
EKS2 Erkin-Say 55.31 297 P **P** **01 49 19.4 +0.9**
SNR=25
H05A Madras 55.33 60 ⇓P **P** **01 49 17.1 -1.5**
baz=55
L02A Cave Junction 55.34 63 ⇑P **P** **01 49 18.7 0.0**
baz=55,SNR=7.7
HUMO Hull Mountain 55.47 62 *e*P **P** **01 49 19.8 +0.1**
comp=Z,34nm,1.5s,mb5.2
HUMO Hull Mountain 55.47 62 ⇑P **P** **01 49 20.4 +0.7**
baz=55,SNR=8.4
BBOR Butler Butte 55.48 62 P **P** **01 49 20.1 +0.4**
E08A Dider Farm, El 55.53 57 ⇓P **P** **01 49 19.6 -0.5**
baz=55
ARU Arti 55.56 318 P **P** **01 49 19.0 -1.3**
comp=Z,588nm,0.4s,SNR=31
ARU Arti 55.56 318 ⇓*i*P **P** **01 49 19.4 -0.9**
ARU pmax pmax
comp=Z,44nm,0.6s,mb5.7
ARU Arti 55.56 318 *e*P **P** **01 49 19.7 -0.6**
comp=Z,44nm,0.4s,mb5.8
ARU *e* 01 49 33.3
NEW Newport 55.60 54 LR LR 02 12 30.6
comp=Z,108nm,20.0s,MS3.9,baz=81,slow=35
NEW Newport 55.60 54 *e*P **P** **01 49 19.5 -1.1**
NEW pmax pmax
comp=Z,18nm,1.4s
NEW Newport 55.60 54 *e*P **P** **01 49 19.5 -1.1**
comp=Z,18nm,1.4s,mb4.9
J04A Umpqua Nationa 55.62 61 ⇑P **P** **01 49 21.6 +0.9**
baz=55,SNR=16
A11A Hall Mountain, 55.62 53 ⇓P **P** **01 49 21.0 +0.3**
baz=55
AML Almayashu 55.67 297 P **P** **01 49 23.4 +2.3**
SNR=10
KSH Kashi 55.79 293 *e*P **P** **01 49 23.5 +1.5**
KSH *e*AP 01 49 37.8
KSH *e*PCP PcP 01 50 24.5 +3.4
KSH *e*PP PP 01 51 30.3 +4.0
KSH *e*PCS PcS 01 54 17.3 -4.0
KSH *e*S **S** **01 57 03.5 -6.3**
KSH *e*SCS ScS 01 59 06.0 -6.4
KSH *e*SS SS 02 00 50.0 -5.2
KSH AMB AMB
comp=Z,718nm,3.9s
KSH LR LR
comp=N,437nm,5.8s
KSH LR LR
comp=E,948nm,7.9s
H06A Lindquist Farm 55.80 59 ⇑P **P** **01 49 22.0 0.0**
baz=55,SNR=9.4
G07A Ruggs Ranch, H 55.88 58 ⇓P **P** **01 49 21.9 -0.7**
baz=56
E09A Wood Farm, Sta 56.03 56 ⇑P **P** **01 49 23.3 -0.4**
baz=56,SNR=12
DAG Danmarks Havn 56.08 358 ⇑*i*P **P** **01 49 23.5 -0.5**
comp=E,8.2nm,0.8s,mb4.8
DAG Danmarks Havn 56.08 358 ⇑*e*P **P** **01 49 23.5 -0.5**
DAG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
DAG Danmarks Havn 56.08 358 ⇑*e*P **P** **01 49 23.5 -0.5**
comp=Z,8.2nm,0.8s,mb4.8
J05A Fort Rock 56.11 61 ⇑P **P** **01 49 25.3 +1.1**
baz=56,SNR=15
YBH Yreka Blue Hor 56.13 63 *e*P **P** **01 49 25.2 +0.8**

YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 56.13 63 ⇑P **P 01 49 25.4 +1.1**
baz=56,SNR=13
D10A Wagner Farm, O 56.21 55 ⇓P **P 01 49 24.3 -0.7**
baz=56,SNR=8.1
M02C Callahan 56.24 64 ⇑P **P 01 49 26.3 +1.1**
baz=56,SNR=9.6
G08A Pilot Rock 56.28 58 ⇑P **P 01 49 25.6 +0.2**
baz=56,SNR=5.5
I06A Prineville 56.33 60 ⇑P **P 01 49 25.9 +0.1**
baz=56,SNR=11
H07A Lands Inn, Kim 56.33 59 ⇓P **P 01 49 26.5 +0.7**
baz=56
L04A Klamath Falls 56.37 62 ⇓P **P 01 49 26.8 +0.7**
baz=56,SNR=8.0
JIRN Jiri 56.38 276 *e*P **P 01 49 27.8 +1.6**
comp=Z,9.1nm,0.2s,mb5.4
GUN Gumba 56.43 276 *e*P **P 01 49 27.9 +1.4**
comp=Z,54nm,0.8s,mb5.6
M04C Macdoel 56.63 63 ⇓P **P 01 49 28.6 +0.7**
baz=56,SNR=11
K05A Summer Lake 56.64 61 ⇑P **P 01 49 29.1 +1.1**
baz=56,SNR=16
I07A Izee 56.66 59 ⇑P **P 01 49 28.6 +0.4**
baz=56,SNR=13
HNR Honiara 56.70 175 LR LR 02 09 29.4
comp=Z,102nm,20.0s,MS3.9,baz=90,slow=32
D11A Klaveano Farm, 56.74 55 ⇓P **P 01 49 27.9 -0.8**
baz=56,SNR=7.9
M03C McCloud 56.76 63 ⇑P **P 01 49 29.6 +0.8**
baz=56
J06A Christmas Vall 56.77 60 ⇓P **P 01 49 29.6 +0.6**
baz=56,SNR=13
F10A Beach Ranch, E 56.87 56 ⇑P **P 01 49 29.4 -0.3**
baz=56
WALA Waterton Lakes 56.88 52 *e*P **P 01 49 29.4 -0.4**
comp=Z,9.4nm,0.6s,mb5.0
H08A Prairie City 56.89 58 ⇓P **P 01 49 29.4 -0.4**
baz=56,SNR=13
WDC Whiskeytown Da 56.91 64 *e*P **P 01 49 30.1 +0.1**
WDC Whiskeytown Da 56.91 64 ⇑P **P 01 49 29.9 -0.1**
baz=57,SNR=6.5
KKN Kakani 56.91 276 *e*P **P 01 49 31.6 +1.6**
comp=Z,40nm,0.6s,mb5.6
PKI Pulchoki 56.97 276 *e*P **P 01 49 31.7 +1.4**
comp=Z,31nm,0.7s,mb5.5
K06A Valley Falls 56.98 61 ⇑P **P 01 49 30.9 +0.5**
baz=57,SNR=17
PMG Port Moresby 56.99 190 LR LR 02 10 03.5
comp=Z,68nm,20.0s,MS3.7,baz=194,slow=32
PMG Port Moresby 56.99 190 P **P 01 49 30.8 +0.3**
B13A Whitefish 56.99 53 ⇓P **P 01 49 30.7 +0.2**
baz=57,SNR=18
O02C Red Bluff 57.00 65 ⇓P **P 01 49 31.2 +0.6**
baz=57
KK31 Karatay Array 57.00 300 *i*P **P 01 49 30.4 -0.2**
KKAR Karatay Array 57.00 300 *i*P **P 01 49 30.4 -0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
DMN Daman 57.15 276 *e*P **P 01 49 33.3 +1.7**
comp=Z,77nm,0.7s,mb5.8
J07A Hines 57.20 60 ⇓P **P 01 49 32.2 +0.2**
baz=57,SNR=8.2
GKN Gorkha 57.21 277 *e*P **P 01 49 33.4 +1.3**
comp=Z,64nm,0.6s,mb5.8
E11A Bogner Ranch, 57.22 55 ⇑P **P 01 49 30.0 -2.1**
baz=57
M05C Lookout 57.30 63 ⇓P **P 01 49 32.9 +0.2**
baz=57,SNR=6.2
I08A Drewsey 57.31 59 ⇓P **P 01 49 33.4 +0.6**
baz=57,SNR=11
C13A Hot Springs 57.34 53 ⇑P **P 01 49 31.4 -1.6**
baz=57
GASB Alder Springs 57.36 65 ⇑P **P 01 49 33.8 +0.7**
baz=57,SNR=5.2
H09A Durkee 57.39 58 ⇑P **P 01 49 33.9 +0.6**
baz=57,SNR=8.5
MOD Modoc 57.48 62 P **P 01 49 34.2 +0.3**
baz=57,SNR=12
LBCM Butte Creek Ri 57.48 63 P **P 01 49 33.9 -0.1**
K07A Rock Creek Ran 57.64 60 ⇑P **P 01 49 35.7 +0.7**
baz=57,SNR=11
J08A Circle Bar Ran 57.70 59 ⇓P **P 01 49 36.1 +0.6**
baz=57,SNR=7.2
D13A Huson 57.75 54 ⇑P **P 01 49 35.5 -0.3**
baz=57,SNR=5.8
ARCES ARCESS Array B 57.75 341 P **P 01 49 35.5 -0.4**
comp=Z,4.7nm,0.6s,mb4.7,baz=29,slow=6.5,SNR=24
ARCES LR LR 02 17 47.2
comp=Z,261nm,18.3s,MS4.4,baz=40,slow=40
ARE0 ARCESS Array S 57.75 341 *e*P **P 01 49 35.0 -0.9**
I09A Lost Marbles R 57.76 58 ⇑P **P 01 49 36.4 +0.5**
baz=57,SNR=12
H10A Noah's Angus R 57.96 57 ⇓P **P 01 49 36.9 -0.4**
baz=58,SNR=13
L07A Adell 57.98 61 ⇑P **P 01 49 38.3 +0.8**
baz=58,SNR=9.1
ELFS Eagle Lake Fie 57.99 63 ⇑P **P 01 49 38.0 +0.4**
baz=58,SNR=7.8
KOLN Koldanda 58.06 278 *e*P **P 01 49 39.2 +1.2**
comp=Z,50nm,0.8s,mb5.6
K08A Mann Creek Ran 58.06 60 ⇑P **P 01 49 38.7 +0.6**
baz=58,SNR=13
F12A Elk City 58.11 56 ⇓P **P 01 49 38.6 +0.2**
baz=58,SNR=13
J09A Fry Pan Ranch, 58.12 59 ⇑P **P 01 49 39.1 +0.6**
baz=58,SNR=12
WVOR Wild Horse Val 58.15 60 *e*P **P 01 49 38.9 +0.2**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WVOR Wild Horse Val 58.15 60 *e*P **P 01 49 38.9 +0.2**
comp=Z,9.7nm,1.0s,mb4.8
ORV Oroville 58.17 65 ⇓P **P 01 49 38.3 -0.5**
baz=58,SNR=7.0
O05C Quincy 58.28 64 ⇓P **P 01 49 39.7 +0.1**
baz=58
D14A Greenough 58.28 53 ⇑P **P 01 49 39.5 -0.1**
baz=58,SNR=16
E13A Victor 58.29 54 ⇑P **P 01 49 39.0 -0.6**
baz=58,SNR=9.4
H11A Donnelly 58.31 57 ⇓P **P 01 49 39.8 0.0**
baz=58,SNR=29
N06A Buffalo Meadow 58.46 63 ⇓P **P 01 49 41.2 +0.3**
baz=58,SNR=14
M07A Soldier Meadow 58.47 62 ⇓P **P 01 49 41.7 +0.8**
baz=58,SNR=20
L08A Fields 58.47 60 ⇓P **P 01 49 41.4 +0.4**
baz=58,SNR=12
TMCR Tamitsa 58.48 333 *e*P **P 01 49 41.3 +0.3**
TMCR pmax pmax
comp=Z,34nm,0.7s,mb5.5
K09A Rome 58.53 60 ⇑P **P 01 49 41.6 +0.3**
baz=58
F13A Darby 58.60 55 ⇓P **P 01 49 41.5 -0.3**
baz=58,SNR=12
BEKR Beckwourth 58.67 64 ⇑P **P 01 49 42.5 +0.1**
baz=58,SNR=14
E14A Clinton 58.69 54 ⇑P **P 01 49 42.5 0.0**
baz=58,SNR=9.7
I11A Placerville 58.82 58 ⇑P **P 01 49 43.2 -0.2**
baz=58,SNR=5.8
D15A Lincoln 58.84 53 P **P 01 49 43.6 +0.1**
baz=58,SNR=7.7
M08A Happy Creek Ra 58.90 61 ⇑P **P 01 49 44.6 +0.7**
baz=58,SNR=7.5
N07B Gerlach 58.96 62 ⇑P **P 01 49 44.8 +0.5**
baz=59
L09A Wilkinson Ranc 58.98 60 ⇑P **P 01 49 45.0 +0.6**
baz=59,SNR=7.5
H12A Diamond D Ranc 59.06 56 ⇑P **P 01 49 44.8 -0.3**
baz=59,SNR=8.8
G13A Cobalt 59.08 56 ⇑P **P 01 49 45.1 0.0**
baz=59,SNR=28
F14A Wisdom 59.12 55 P **P 01 49 45.2 -0.2**
baz=59,SNR=5.5
LAVA Lava Cap Winer 59.12 65 ⇓P **P 01 49 45.4 0.0**
baz=59,SNR=5.7
E15A Deer Lodge 59.15 54 ⇑P **P 01 49 45.5 -0.1**
baz=59
AB31 Akbulak array 59.17 311⇑*e*P **P 01 49 45.9 +0.1**
FFC Flin Flon 59.29 41 P **P 01 49 46.5 -0.1**
comp=Z,286nm,0.9s,mb6.3,SNR=8.6
WCN Washoe City 59.39 64 ⇓P **P 01 49 47.7 +0.4**
baz=59
O07A Toulon 59.39 63 ⇓P **P 01 49 47.5 +0.2**
baz=59,SNR=15
AKTK Aktyubinsk 59.42 313 *i*P **P 01 49 47.7 +0.2**
AKTO Aktyubinsk 59.42 313 LR LR 02 15 47.5
comp=Z,198nm,20.7s,MS4.2,baz=237,slow=36
AKTO Aktyubinsk 59.42 313 *i*P **P 01 49 47.7 +0.2**
N08A GE Springer Mi 59.46 62 ⇓P **P 01 49 48.1 +0.3**
baz=59
M09A Marrel Ranch, 59.47 61 ⇑P **P 01 49 48.4 +0.5**
baz=59,SNR=6.1
F15A Butte 59.59 54 ⇓P **P 01 49 48.8 +0.1**
baz=59,SNR=20
EGMT Eagleton 59.71 51 ⇑P **P 01 49 49.1 -0.4**
baz=59,SNR=5.8
N09A Rock Creek Ran 59.78 61 ⇓P **P 01 49 49.8 -0.2**
baz=59
CMB Columbia Colle 59.79 65 *e*P **P 01 49 50.0 0.0**
CMB pmax pmax
comp=Z,20nm,1.1s,mb5.1
CMB Columbia Colle 59.79 65 *e*P **P 01 49 49.9 -0.2**
comp=Z,18nm,1.1s,mb5.0
CMB Columbia Colle 59.79 65 ⇓P **P 01 49 50.2 +0.1**
baz=59,SNR=12
PACP Pacheco Peak 59.87 67 ⇑P **P 01 49 50.7 +0.1**
baz=60
FCC Fort Churchill 59.91 34 *e*P **P 01 49 50.4 -0.5**
FCC pmax pmax
comp=Z,35nm,0.7s,mb5.5
FCC Fort Churchill 59.91 34 *e*P **P 01 49 50.4 -0.5**
comp=Z,35nm,0.7s,mb5.5
M10A LL Ranch, Tu 59.95 60 ⇓P **P 01 49 51.9 +0.7**
baz=60,SNR=10
G15A Dillon 60.01 55 ⇓P **P 01 49 51.6 0.0**
baz=60,SNR=10
MCMT McKenzie Canyo 60.02 55 *e*P **P 01 49 51.3 -0.3**
R06C Coleville 60.06 64 ⇑P **P 01 49 52.5 +0.6**
baz=60,SNR=14
HAST UC Hastings Re 60.09 68 ⇓P **P 01 49 51.9 -0.2**
baz=60
S06C San Francisco 60.21 65 ⇓P **P 01 49 53.0 0.0**
baz=60,SNR=12
BMN Battle Mountai 60.22 61 *e*P **P 01 49 52.8 -0.2**
BMN pmax pmax
comp=Z,23nm,1.1s,mb5.1
BMN Battle Mountai 60.22 61 *e*P **P 01 49 52.8 -0.2**
comp=Z,23nm,1.1s,mb5.1
S05C Merced 60.25 66 ⇓P **P 01 49 52.7 -0.5**
baz=60,SNR=5.4
ORR Orenburg 60.27 315 *e*P **P 01 49 53.1 -0.3**
ORR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
ORR MLR MLR
comp=Z,390nm,24.0s,MS4.5
O09A Fish Creek Ran 60.40 62 ⇓P **P 01 49 55.0 +0.7**
baz=60,SNR=10
M11A Holland Ranch, 60.44 60 ⇑P **P 01 49 55.4 +0.9**
baz=60,SNR=8.2
R07C Lee Vining 60.58 65 ⇑P **P 01 49 56.1 +0.7**
baz=60,SNR=9.6
O10A Ecr Mining, 60.74 61 ⇑P **P 01 49 57.4 +0.8**
baz=60
Q08A Gabbs 60.77 63 ⇓P **P 01 49 57.2 +0.4**
baz=60,SNR=13
T06C Millerton Lake 60.85 66 ⇓P **P 01 49 56.8 -0.5**
baz=60
KCC Kaiser Creek 60.89 65 ⇓P **P 01 49 57.3 -0.3**
baz=61,SNR=5.6
M12A Wells 60.97 59 ⇑P **P 01 49 59.0 +0.9**
baz=61,SNR=9.0
NIL Nilore 61.12 289 P **P 01 50 01.5 +2.3**
comp=Z,142nm,0.8s,mb6.2,SNR=7.9
YMR Madison River 61.16 54 *e*P **P 01 49 59.9 +0.4**
comp=Z,46nm,1.3s,mb5.5
ELK Elko 61.20 60 P **P 01 49 58.0 -1.7**
N12A Clover Valley, 61.25 60 ⇓P **P 01 50 00.6 +0.6**
baz=61,SNR=6.8
O11A Cowboy Ranch, 61.34 61 ⇓P **P 01 50 01.1 +0.4**
baz=61,SNR=8.2
M13A Montello 61.44 59 ⇑P **P 01 50 01.8 +0.4**
baz=61,SNR=6.2
HELL Mitchell Peak, 61.48 66 ⇑P **P 01 50 01.2 -0.5**
baz=61,SNR=11
IMW Indian Meadow 61.67 55 *e*P **P 01 50 03.8 +0.9**
comp=Z,28nm,1.3s,mb5.2
R09A Tonopah 61.69 63 ⇓P **P 01 50 03.2 +0.2**
baz=61,SNR=11
TPH Tonopah 61.70 64 *e*P **P 01 50 03.3 +0.2**
N13A Wendover, West 61.74 59 ⇓P **P 01 50 03.9 +0.6**
baz=61,SNR=7.3
O12A Currie 61.79 60 ⇑P **P 01 50 04.1 +0.4**
baz=61,SNR=15
RLMT Red Lodge 61.81 53 *e*P **P 01 50 04.4 +0.6**
comp=Z,43nm,1.3s,mb5.4
S09A Goldfield 61.92 64 ⇓P **P 01 50 04.7 +0.1**
baz=62,SNR=7.0
LOHW Long Hollow 62.04 55 *e*P **P 01 50 05.9 +0.5**
comp=Z,24nm,1.2s,mb5.2
P12A McGill 62.20 61 ⇑P **P 01 50 06.8 +0.3**
baz=62,SNR=5.6
GRAC Grapevine Rang 62.30 65 ⇓P **P 01 50 07.4 +0.4**
baz=62
ISA Isabella 62.47 66 *e*P **P 01 50 07.3 -1.0**
Q12A Willow Creek R 62.53 61 ⇑P **P 01 50 09.0 +0.4**
baz=62,SNR=5.3
DAC Darwin (Calif) 62.62 65 *e*P **P 01 50 09.2 -0.1**
HWUT Hardware Ranch 62.78 57 *e*P **P 01 50 10.4 0.0**
comp=Z,6.5nm,0.7s,mb4.9
MPMC Manual Prospec 62.83 65 ⇑P **P 01 50 10.7 +0.1**
baz=62,SNR=6.8
FURC Furnace Creek, 62.95 65 ⇑P **P 01 50 11.5 +0.1**
baz=63,SNR=9.6
DUG Dugway 62.97 59 *e*P **P 01 50 11.7 +0.1**
DUG pmax pmax
comp=Z,18nm,1.0s,mb5.2
DUG Dugway 62.97 59 *e*P **P 01 50 11.6 0.0**
comp=Z,15nm,0.9s,mb5.1
DUG Dugway 62.97 59 ⇓P **P 01 50 12.0 +0.4**
baz=63,SNR=16
BW06 Boulder Array 63.17 55 *e*P **P 01 50 12.8 -0.1**
comp=Z,19nm,0.9s,mb5.2
PDAR Pinedale Array 63.17 55 P **P 01 50 12.8 -0.1**
comp=Z,12nm,0.8s,mb5.1,baz=289,slow=2.3,SNR=91
EDW2 Edwards Air Fo 63.28 67 ⇓P **P 01 50 13.6 0.0**
baz=63,SNR=7.3
GSC Goldstone 63.74 66 *e*P **P 01 50 16.6 -0.1**
MPU Maple Canyon 63.78 59 *e*P **P 01 50 17.2 +0.2**
comp=Z,9.0nm,0.7s,mb4.9
FIA1 FINESS Array S 64.10 336 *e*P **P 01 50 18.8 -0.3**
FIA1 *e* 01 50 31.4
FINES FINESS Array B 64.11 336 P **P 01 50 18.6 -0.5**
comp=Z,21nm,0.7s,mb5.2,baz=43,slow=7.7,SNR=71
ARUT Antelope Range 64.17 62 *e*P **P 01 50 19.4 -0.1**
PUL Pulkovo 64.19 333⇓*e*P **P 01 50 19.8 +0.2**
PUL pmax pmax
comp=N,85nm,0.8s
PUL pmax pmax
comp=Z,45nm,0.8s,mb5.5
PUL pmax pmax
comp=E,70nm,0.6s
PUL Pulkovo 64.19 333 *e*P **P 01 50 19.4 -0.2**
TUQ Turquoise Mtn. 64.20 65 ⇑P **P 01 50 19.7 0.0**
baz=64
HEC Hector,Ludlow 64.34 66 ⇓P **P 01 50 20.6 0.0**
baz=64,SNR=7.7
MSU Marysvale 64.44 60 *e*P **P 01 50 21.6 +0.3**
MURC Murrieta 64.61 67 ⇓P **P 01 50 22.0 -0.4**
baz=64
MOS Moscow 64.76 326 *e*P **P 01 50 22.3 -1.1**
MOS pmax pmax
comp=Z,66nm,0.8s,mb5.7
GMRC Granite Mounta 64.79 65 ⇓P **P 01 50 23.6 0.0**
baz=64
VIS Vishakhapatnam 65.02 269 *e*P **P 01 50 26.0 +0.9**
VIS AMb AMB 01 50 31.6
comp=Z,21nm,0.8s,mb5.2
SRU San Rafael 65.02 59 *e*P **P 01 50 25.4 +0.3**
ULM Lac du Bonnet 65.07 42 P **P 01 50 24.6 -0.7**
comp=Z,12nm,0.7s,mb5.0,baz=308,slow=7.4,SNR=21
BHPL Bhopal 65.22 278 *e*P **P 01 50 26.5 +0.1**
BHPL AMb AMB 01 50 27.4
comp=Z,27nm,1.1s,mb5.2
RSSD Black Hills 65.27 51 *e*P **P 01 50 26.2 -0.5**
RSSD pmax pmax
comp=Z,33nm,0.8s,mb5.4
RSSD Black Hills 65.27 51 *e*P **P 01 50 26.2 -0.5**
comp=Z,33nm,0.8s,mb5.4
IRM Iron Mountain 65.52 66 ⇓P **P 01 50 28.3 0.0**
baz=65
NGP Nagpur 65.55 275 *e*P **P 01 50 26.7 -1.8**
NGP AMb AMB 01 50 43.7
comp=Z,32nm,1.3s,mb5.2
OBN Obninsk 65.63 326⇑*i*P **P 01 50 28.0 -1.0**
OBN *i* 01 50 41.3
OBN pmax pmax
comp=Z,74nm,1.4s,mb5.5
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 65.63 326 *e*P **P 01 50 28.5 -0.5**
comp=Z,25nm,0.8s,mb5.3
X13A Yucca 66.04 65 ⇑P **P 01 50 31.3 -0.4**
baz=66,SNR=5.5
W14A Seligman 66.09 64 ⇑P **P 01 50 32.5 +0.5**
baz=66,SNR=11
VSU Vasula 66.34 333 *e*P **P 01 50 33.3 -0.3**
PV10 Paradox Valley 66.37 59 *e*P **P 01 50 34.1 +0.3**
AGMN Agassiz Refuge 66.46 44 *e*P **P 01 50 33.2 -1.1**
comp=Z,46nm,1.1s,mb5.4
VRHR Novokhopersk 66.60 321 *e*P **P 01 50 34.3 -1.0**
VRHR pmax pmax
comp=N,2.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=E,10.0nm,0.6s
X14A Yava 66.70 64 ⇓P **P 01 50 35.8 -0.1**
baz=66,SNR=5.8
PV01 Paradox Valley 66.81 59 *e*P **P 01 50 36.3 -0.3**
Y14A Wickenburg 66.99 65 ⇓P **P 01 50 37.7 0.0**
baz=67
X15A Humboldt 67.09 64 P **P 01 50 39.1 +0.7**
baz=67,SNR=9.5
AKL Akola 67.23 276 *e*P **P 01 50 37.9 -1.4**
AKL AMb AMB 01 50 45.1
comp=Z,20nm,1.1s,mb5.1
ISCO Idaho Springs 67.36 56 *e*P **P 01 50 40.4 +0.3**
ISCO pmax pmax
comp=Z,18nm,0.9s,mb5.1
ISCO Idaho Springs 67.36 56 *e*P **P 01 50 40.2 +0.1**
comp=Z,12nm,0.6s,mb5.1
MVCO Mesa Verde 67.48 59 *e*P **P 01 50 40.8 0.0**
comp=Z,9.9nm,1.0s,mb4.8
MVCO Mesa Verde 67.48 59 ⇓P **P 01 50 40.8 0.0**
baz=67
VRSR Storozhevoye 67.54 322 *e*P **P 01 50 41.1 -0.1**
VRSR *e* 01 51 09.2
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.2
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
ABKT Ailbek 67.56 302 P **P 01 50 42.8 +1.5**
comp=E,262nm,0.7s,SNR=16
CTA Charters Tower 67.64 189 LR LR 02 16 55.0
comp=E,67nm,18.2s,MS3.9,baz=233,slow=33
AFI Afiamalu 67.74 145 LR LR 02 19 04.0
comp=E,96nm,19.1s,MS4.0,baz=338,slow=35
NB2 NORSAR Subarra 68.11 342 P **P 01 50 44.4 -0.4**
comp=Z,21nm,0.8s,mb5.2,baz=26,slow=6.5
NOA NORSAR Array B 68.11 342 P **P 01 50 44.4 -0.5**
comp=Z,23nm,0.8s,mb5.2,baz=26,slow=6.4,SNR=40
NAO01 NORSAR Array S 68.36 342 *e*P **P 01 50 46.0 -0.4**
comp=Z,16nm,0.9s,mb5.0
HYB Hyderabad 68.47 273 *i*P **P 01 50 47.5 +0.4**
HYB Hyderabad 68.47 273 *e*P **P 01 50 47.5 +0.4**
SDCO Great Sand Dun 68.84 57 *e*P **P 01 50 49.2 -0.1**
comp=Z,12nm,1.1s,mb4.7
ECSD EROS,Sioux Fal 69.37 47 *e*P **P 01 50 51.5 -1.2**
comp=Z,28nm,0.8s,mb5.2
WRAB Tennant Creek 69.60 201 *e*P **P 01 50 55.2 +1.1**
WRAB pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WRAB Tennant Creek 69.60 201 *e*P **P 01 50 55.2 +1.1**
comp=Z,3.1nm,0.8s,mb4.3
WB2 Warramunga Arr 69.61 201 *e*P **P 01 50 53.3 -0.8**
WB2 Warramunga Arr 69.61 201 P **P 01 50 54.1 0.0**
WRA Warramunga Arr 69.61 201 P **P 01 50 54.1 -0.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=21,slow=6.5,SNR=14
WRA Warramunga Arr 69.61 201 *i*P **P 01 50 54.5 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
DZM Mont Dzumac 69.84 169 LR LR 02 21 53.0
comp=Z,80nm,18.5s,MS4.0,baz=188,slow=36
ANMO Albuquerque 70.23 60 *e*P **P 01 50 57.8 -0.2**
ANMO *e* 01 51 11.1
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 70.23 60 *e*P **P 01 50 57.8 -0.2**
comp=Z,5.0nm,0.8s,mb4.5
ANMO *e* 01 51 11.1
FITZ Fitzroy Crossi 70.41 210 *e*P **P 01 50 00.3 +1.2**
comp=Z,8.9nm,1.1s,mb4.6
FITZ Fitzroy Crossi 70.41 210 P **P 01 50 59.5 +0.4**
comp=Z,3.1nm,0.8s,mb4.3,baz=14,slow=2.5,SNR=7.9
GOF Gofitskoye 70.44 316⇓*i*P **P 01 51 01.7 +2.5**
GOF pmax pmax
comp=Z,140nm,0.8s,mb5.9
SUW Suwalki 71.15 332 *e*P **P 01 52 02.3 -1.3**
SUW *e* 01 51 17.2
SUW Suwalki 71.15 332 *e*P **P 01 52 02.6 -1.0**
comp=Z,29nm,1.0s,mb5.2
SUW *e* 01 51 16.8
KAD Karad 71.51 276 *e*P **P 01 51 05.4 -0.4**
KAD AMb AMB 01 51 07.9
comp=Z,24nm,0.7s,mb5.2
ZEI Tsey 71.72 314 *e*P **P 01 51 06.9 -0.2**
DUS Dusheti 71.83 313 P **P 01 51 10.1 +2.3**
AKASG Malin Array Be 71.85 327 P **P 01 51 06.8 -1.0**
comp=Z,9.6nm,0.6s,mb4.9,baz=32,slow=6.2,SNR=34
AKASG LR LR 02 25 11.1
comp=Z,140nm,18.8s,MS4.2,baz=30,slow=38
AKBB Malin Array Si 71.85 327 *e*P **P 01 51 06.8 -1.0**
AKBB *e* 01 51 20.6
KIEV Kiev 71.86 327 *e*P **P 01 51 06.9 -1.0**
KIEV *e* 01 51 21.0
KIEV pmax pmax
comp=Z,31nm,1.2s,mb5.1
KIEV Kiev 71.86 327 *e*P **P 01 51 06.9 -1.0**
comp=Z,31nm,1.2s,mb5.1
KIEV *e* 01 51 21.0
MTA Mtatsminda 72.08 313 P **P 01 51 10.2 +1.0**
SCHQ Schefferville 72.14 24 P **P 01 51 09.4 -0.2**
comp=Z,9.0nm,0.7s,mb4.8,baz=343,slow=6.2,SNR=9.3
SCHQ Schefferville 72.14 24 *e*P **P 01 51 09.1 -0.5**
GOR Gori 72.20 313 P **P 01 51 12.3 +2.3**
SCIA State Center 72.41 47 *e*P **P 01 51 10.1 -1.0**
comp=Z,38nm,0.6s,mb5.5
KZR Kazreti 72.50 313 P **P 01 51 12.4 +0.7**
KSU1 Kansas State U 72.75 51 *e*P **P 01 51 11.3 -2.0**
comp=Z,32nm,1.1s,mb5.2
JFWS Jewell Farm 73.09 44 *e*P **P 01 51 14.0 -1.2**
SOC Sochi 73.11 317 *e*P **P 01 51 14.1 -1.2**
SOC *e* 01 51 29.1
SOC *e* 01 53 54.7
SOC *e*PPP 01 55 44.3
SOC *e*S S 02 00 36.6 -7.2
SOC *e* 02 01 19.3
SOC *e*SSS 02 08 38.0
SOC pmax pmax
comp=Z,23nm,0.6s,mb5.3
SOC MLR MLR
comp=Z,483nm,21.0s,MS4.8
GNI Garni 73.26 311 P **P 01 51 18.2 +2.0**
comp=Z,11nm,0.6s,mb5.0,baz=4.2,slow=3.6,SNR=19
GNI Garni 73.26 311 *i*P **P 01 51 17.1 +0.9**
GNI pmax pmax
comp=Z,62nm,2.3s
AS31 Alice Springs 73.29 200 *e*P **P 01 51 16.2 -0.2**
ASAR Alice Springs 73.29 200 P **P 01 51 16.6 +0.2**
comp=Z,4.8nm,0.9s,mb4.5,baz=15,slow=5.5,SNR=36
ASAR LR LR 02 25 37.1
comp=Z,66nm,18.4s,MS4.0,baz=166,slow=38
GKP Gorka Klasztor 73.58 335 *e*P **P 01 51 17.7 -0.4**
LVV L'vov 74.43 330 *e*P **P 01 51 21.3 -1.8**
LVV *e* 01 51 35.1
SIM Simferopol' 74.54 321 *e*P **P 01 51 25.0 +1.3**
SIM pmax pmax
comp=Z,21nm,0.7s,mb5.2
SIM MLR MLR
comp=Z,230nm,17.2s,MS4.5
WMOK Wichita Mounta 74.78 55 *e*P **P 01 51 24.3 -0.8**
WMOK *e* 01 51 37.4
WMOK pmax pmax
comp=Z,16nm,1.1s,mb4.9
WMOK Wichita Mounta 74.78 55 *e*P **P 01 51 24.3 -0.8**
comp=Z,16nm,1.1s,mb4.9

WMOK ePcP PcP 01 51 37.4 -1.8
KWP Kalwaria 75.04 330 eP **P** **01 51 26.9 +0.3**
KWP Kalwaria 75.04 330 eP **P** **01 51 26.8 +0.2**
KWP pmax pmax
comp=Z,38nm,0.9s,mb5.3
KWP Kalwaria 75.04 330 eP **P** **01 51 26.8 +0.1**
comp=Z,38nm,0.9s,mb5.3
KWP e 01 51 32.3
KIS Kishinev 75.04 325 eP **P** **01 51 25.0 -1.6**
KIS e 01 51 40.0
KIS Kishinev 75.04 325 eUNK **P** **01 51 25.0 -1.6**
OJC Ojcow 75.48 332 eP **P** **01 51 29.1 -0.1**
STHS Stebnicka Huta 75.71 331 *i* P **P** **01 51 31.1 +0.6**
STHS pmax pmax
comp=Z,12nm,0.7s,mb4.9
STHS Stebnicka Huta 75.71 331 *i* P **P** **01 51 31.1 +0.6**
comp=Z,12nm,0.7s,mb4.9
KOLS Kolonicke sedl 75.79 330 eP **P** **01 51 30.3 -0.6**
BURAR Bucovina Array 75.88 328⇑ *i*P **P** **01 51 31.1 -0.3**
BURAR Bucovina Array 75.88 328⇑ P **P** **01 51 31.1 -0.3**
LTX Lajitas 75.88 62 eP **P** **01 51 31.1 -0.3**
LTX pmax pmax
comp=Z,13nm,0.8s,mb4.9
LTX Lajitas 75.88 62 eP **P** **01 51 31.1 -0.4**
comp=Z,13nm,0.8s,mb4.9
TXAR Lajitas Array 75.88 62 P **P** **01 51 31.0 -0.4**
comp=Z,6.5nm,0.6s,mb4.8,baz=301,slow=4.6,SNR=96
TXAR Lajitas Array 75.88 62 P **P** **01 51 31.0 -0.4**
TRD Trivandrum 75.90 267 eP **P** **01 51 32.0 +0.5**
TRD AMb AMB 01 51 53.2
comp=Z,54nm,1.2s,mb5.4
KSP Ksiaz 76.00 335 eP **P** **01 51 36.7 +4.6**
KSP Ksiaz 76.00 335 eP **P** **01 51 31.3 -0.8**
NIE Niedzica 76.02 332 eP **P** **01 51 32.8 +0.6**
UZH Uzhgorod 76.04 330 eP **P** **01 51 31.2 -1.2**
UZH *i* 01 51 38.8
OKC Ostrava-Krasne 76.33 333 eP **P** **01 51 33.0 -1.0**
OKC epP 01 51 37.9
UPC Upice 76.38 335 eP **P** **01 51 34.3 0.0**
UPC epP 01 51 39.5
DPC Dobruska-Polom 76.43 334 eP **P** **01 51 34.7 +0.1**
DPC epP 01 51 38.6
CLL Collm 76.50 337 eP **P** **01 51 34.3 -0.7**
comp=Z,34nm,1.2s,mb5.2
CLL Collm 76.50 337 *i* P **P** **01 51 34.5 -0.5**
CLL *i* 01 51 39.7
CLL pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLL Collm 76.50 337 *i* P **P** **01 51 34.5 -0.5**
comp=Z,34nm,1.2s,mb5.2
CLL *i* 01 51 38.0
CLL *i* 01 51 39.7
CLL Collm 76.50 337 *i* P **P** **01 51 34.5 -0.5**
comp=Z,34nm,1.2s,mb5.2
CLL *i* pP 01 51 38.0
CLL *i* sP sP 01 51 39.7 +4.1
CLL epPcP 01 51 50.0
MORC Moravsky Berou 76.57 333⇓ *i*P **P** **01 51 35.5 +0.1**
MORC Moravsky Berou 76.57 333 eP **P** **01 51 35.5 +0.1**
MORC e 01 51 40.4
MORC e 01 51 50.4
BRG Berggiesshubel 76.64 336 eP **P** **01 51 35.6 -0.1**
comp=Z,7.0nm,1.3s,mb4.4
BRG Berggiesshubel 76.64 336 eP **P** **01 51 35.6 -0.2**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
CLZ Clausthal 76.70 339 eP **P** **01 51 36.4 +0.3**
comp=Z,28nm,1.2s,mb5.1
CLZ Clausthal 76.70 339 eP **P** **01 51 36.4 +0.3**
CLZ pmax pmax
comp=Z,28nm,1.2s,mb5.1
FBE Freiberg 76.76 336 eP **P** **01 51 36.1 -0.3**
comp=Z,18nm,1.1s,mb4.9
KECS Kecovo 76.77 331 eP **P** **01 51 36.5 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 76.77 331 eP **P** **01 51 36.5 0.0**
comp=Z,4.9nm,0.9s,mb4.4
FVM French Village 76.78 48 eP **P** **01 51 35.4 -1.1**
FVM pmax pmax
comp=Z,27nm,1.1s,mb5.1
VRI Vrincioaia 76.79 326⇓ *i*P **P** **01 51 37.1 +0.5**
VRI Vrincioaia 76.79 326 ⇓P **P** **01 51 37.1 +0.5**
PRU Pruhonice 77.27 335 eP **P** **01 51 39.3 0.0**
PRU epP 01 51 44.3
VRAC Vranov 77.27 334 LR LR 02 28 37.0
comp=Z,236nm,18.3s,MS4.5,baz=18,slow=38
VRAC Vranov 77.27 334⇓ *i*P **P** **01 51 39.6 +0.3**
VRAC Vranov 77.27 334 ⇓P **P** **01 51 39.6 +0.3**
VYHS Vyhne 77.30 332 *i* P **P** **01 51 39.9 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VYHS Vyhne 77.30 332 *i* P **P** **01 51 39.9 +0.4**
comp=Z,8.0nm,1.0s,mb4.6
TIRR Tirgusor 77.31 324 eP **P** **01 51 39.5 0.0**
TIRR e 01 51 51.1
TIRR pmax pmax
comp=Z,19nm,0.8s,mb5.1
TIRR Tirgusor 77.31 324 eP **P** **01 51 39.5 0.0**
comp=Z,19nm,0.8s,mb5.1
TIRR ePcP PcP 01 51 51.1 +1.0
JCT Junction City 77.33 59 eP **P** **01 51 39.0 -0.6**
JCT pmax pmax
comp=Z,19nm,1.1s,mb4.9
MLR Muntele Rosu 77.40 326 P **P** **01 51 40.7 +0.6**
comp=Z,15nm,0.6s,mb5.1,baz=288,slow=1.5,SNR=34
MLR LR LR 02 33 10.8
comp=Z,185nm,18.5s,MS4.4,baz=48,slow=41
MLR Muntele Rosu 77.40 326⇓ *i*P **P** **01 51 40.6 +0.6**
MLR Muntele Rosu 77.40 326 ⇓P **P** **01 51 40.6 +0.6**
WTSB Winterswijk 77.43 341 eP **P** **01 51 39.4 -0.8**
comp=Z,23nm,0.6s,mb5.3
PSZ Piszkesteto 77.46 331⇓ *i*P **P** **01 51 40.7 +0.3**
PSZ Piszkesteto 77.46 331 eP **P** **01 51 40.7 +0.3**
PSZ e 01 51 55.8
PSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
PSZ Piszkesteto 77.46 331 eP **P** **01 51 40.7 +0.4**
comp=Z,5.9nm,0.7s,mb4.6
PSZ e 01 51 46.1
PSZ e 01 51 55.8
WERD Werda 77.47 337 eP **P** **01 51 40.3 -0.1**
comp=Z,12nm,1.3s,mb4.7
MOX Moxa 77.47 337 eP **P** **01 51 40.3 -0.1**
comp=Z,20nm,1.4s,mb4.8
MOX Moxa 77.47 337 eP **P** **01 51 40.6 +0.2**
comp=Z,25nm,1.5s,mb4.9
MOX Moxa 77.47 337 eP **P** **01 51 40.6 +0.2**
MOX pmax pmax
comp=Z,25nm,1.5s,mb4.9
DRGR 77.48 329⇓ *i*P **P** **01 51 40.2 -0.3**
DRGR 77.48 329 ⇓P **P** **01 51 40.2 -0.3**
GUNZ Gunzen 77.54 337 eP **P** **01 51 40.9 +0.1**
comp=Z,10.0nm,0.9s,mb4.8
WERN Wernitzgruen 77.60 337 eP **P** **01 51 41.2 +0.1**
comp=Z,17nm,1.0s,mb4.9
NKC Novy Kostel 77.63 337 eP **P** **01 51 41.4 +0.1**
BLO Bloomington 77.76 45 eP **P** **01 51 41.3 -0.8**
MIAR Mount Ida 77.77 52 eP **P** **01 51 41.5 -0.6**
MIAR pmax pmax
comp=Z,19nm,1.1s,mb4.9
BUG Bochum--Univer 77.81 340 eP **P** **01 51 42.2 -0.1**
comp=Z,37nm,1.4s,mb5.1
MALT Malatya 77.81 314⇓ *i*P **P** **01 51 43.9 +1.6**
MALT Malatya 77.81 314 P **P** **01 51 43.8 +1.5**
MALT pmax pmax
comp=Z,20nm,0.8s,mb5.1
MALT Malatya 77.81 314 eP **P** **01 51 43.9 +1.6**
MANZ Manzenberg 77.94 337 eP **P** **01 51 43.1 0.0**
comp=Z,13nm,1.1s,mb4.8
ZST Bratislava 78.11 333 eP **P** **01 51 45.0 +1.0**
ZST Bratislava 78.11 333 eP **P** **01 51 45.1 +1.1**
ZST pmax pmax
comp=Z,11nm,1.0s,mb4.7
ZST Bratislava 78.11 333 eP **P** **01 51 45.1 +1.1**
comp=Z,11nm,1.0s,mb4.8
ROTZ Rotzenmuhle 78.12 337 eP **P** **01 51 44.4 +0.4**
comp=Z,13nm,1.0s,mb4.8
KHC Kasperske Hory 78.31 335 eP **P** **01 51 45.3 +0.2**
KHC epP 01 51 48.4
KHC ePCP PcP 01 51 55.5 +1.0
GRA1 Grafenberg Arr 78.45 337 eP **P** **01 51 46.3 +0.4**
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 78.45 337 eP **P** **01 51 46.3 +0.4**
comp=Z,24nm,0.9s,mb5.1
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 78.45 337 eP **P** **01 51 46.3 +0.4**
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRFO Grafenberg 78.45 337 eP **P** **01 51 46.4 +0.5**
GRFO e 01 51 51.8
GRFO pmax pmax
comp=Z,25nm,0.7s,mb5.2
GRFO Grafenberg 78.45 337 eP **P** **01 51 46.4 +0.5**
comp=Z,25nm,0.7s,mb5.2
GRFO e 01 51 51.8
WET Wettzell 78.50 336 eP **P** **01 51 46.6 +0.5**
comp=Z,23nm,1.2s,mb5.0
WET Wettzell 78.50 336 eP **P** **01 51 46.6 +0.5**
WET pmax pmax
comp=Z,23nm,1.2s,mb5.0
GEC2 GERESS Array S 78.54 335 eP **P** **01 51 46.3 -0.1**
comp=Z,8.0nm,0.8s,mb4.7
GEC2 GERESS Array S 78.54 335 eP **P** **01 51 46.3 -0.1**
GEC2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GERES GERESS Array B 78.54 335 P **P** **01 51 46.3 -0.1**
comp=Z,4.2nm,0.7s,mb4.5,baz=31,slow=5.3,SNR=40
GERES LR LR 02 26 56.1
comp=Z,218nm,21.1s,MS4.5,baz=186,slow=36
WCI Wyandotte Cave 78.62 45 eP **P** **01 51 46.2 -0.6**
WCI pmax pmax
comp=Z,39nm,0.8s,mb5.4
WCI Wyandotte Cave 78.62 45 eP **P** **01 51 46.1 -0.7**
comp=Z,39nm,0.8s,mb5.4
GZR Gura Zlata 78.65 328⇑ *i*P **P** **01 51 46.8 -0.2**
GZR Gura Zlata 78.65 328⇑ P **P** **01 51 46.8 -0.2**
TNS Taunus Mts 78.66 339 eP **P** **01 51 47.2 +0.1**
comp=Z,11nm,0.8s,mb4.8
TNS Taunus Mts 78.66 339 eP **P** **01 51 47.2 +0.1**
TNS pmax pmax
comp=Z,11nm,0.8s,mb4.8
CONA Conrad Observa 78.72 334⇓ *i*P **P** **01 51 48.1 +0.7**
comp=Z,8.2nm,0.8s,mb4.7,SNR=8.7
HGN Heimansgroeve 78.75 341 eP **P** **01 51 46.8 -0.7**
comp=Z,25nm,1.7s,mb4.9
BZS Buzias 78.87 329⇑ *i*P **P** **01 51 47.7 -0.5**
BZS Buzias 78.87 329⇑ P **P** **01 51 47.7 -0.5**
MEM Membach 78.88 341 P **P** **01 51 48.5 +0.2**
BRTR Keskin Array B 78.95 318 P **P** **01 51 48.9 +0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=64,slow=3.6,SNR=33
UCC Uccle 79.06 342 P **P** **01 51 54.8 +5.6**
TOD Tromm 79.15 339 eP **P** **01 51 49.7 0.0**
BCLA Clavier 79.21 341 P **P** **01 51 49.6 -0.5**
ANKO Ankara 79.21 319 eP **P** **01 51 51.1 +1.0**
ANTO e 01 51 55.5
ANTO pmax pmax
comp=Z,24nm,0.8s,mb5.2
ANTO Ankara 79.21 319 eP **P** **01 51 51.1 +1.0**
comp=Z,24nm,0.8s,mb5.2
ANTO e 01 51 55.5
MOA Molln 79.27 334 *i* P **P** **01 51 50.8 +0.4**
comp=Z,16nm,0.9s,mb4.9,SNR=11
PKSM Moragy 79.37 331⇓ *i*P **P** **01 51 49.9 -1.0**
PKSM Moragy 79.37 331 ⇓P **P** **01 51 49.9 -1.0**
ARSA Arzberg 79.43 333⇑ *i*P **P** **01 51 51.9 +0.6**
comp=Z,14nm,1.0s,mb4.9
UMR Umm Al-Rimmam 79.57 302 eP **P** **01 51 52.4 +0.3**
UMR AMb AMB 01 51 53.0
comp=Z,68nm,0.6s,mb5.8
MIB Mutribah 79.60 303 eP **P** **01 51 52.4 +0.2**
MIB AMb AMB 01 51 53.9
comp=Z,121nm,0.6s,mb6.0
DOU Dourbes 79.67 341 P **P** **01 51 53.6 +1.1**
WLF Walferdange 79.73 340 P **P** **01 51 56.0 +3.2**
STU Stuttgart 79.82 338 eP **P** **01 51 53.5 +0.1**
STU *e* 01 51 57.8
FUR Furstenfeldbru 79.83 336 eP **P** **01 51 53.8 +0.4**
comp=Z,23nm,0.9s,mb5.1
FUR Furstenfeldbru 79.83 336 eP **P** **01 51 53.8 +0.4**
FUR pmax pmax
comp=Z,23nm,0.9s,mb5.1
STKA Stephens Creek 79.84 192 LR LR 02 25 29.6
comp=Z,60nm,18.2s,MS4.0,baz=25,slow=34
KBD Kabd 79.87 302 eP **P** **01 51 54.1 +0.5**
KBD AMb AMB 01 51 55.5
comp=Z,210nm,0.8s,mb6.1
OXF Oxford 79.98 49 eP **P** **01 51 53.6 -0.7**
OXF pmax pmax
comp=Z,36nm,1.1s,mb5.2
NAY Al-Naaiem 80.07 302 eP **P** **01 51 54.7 -0.1**
NAY AMb AMB 01 51 56.5
comp=Z,45nm,0.8s,mb5.5
PERS Pernice 80.11 333 eP **P** **01 51 55.1 +0.2**
RDF Al-Radifah 80.14 302 eP **P** **01 51 55.5 +0.3**
RDF AMb AMB 01 51 57.2
comp=Z,128nm,1.0s,mb5.8
KBA Koelnbreinsper 80.24 335 *i* P **P** **01 51 56.8 +1.2**
comp=Z,53nm,0.8s,mb5.5,SNR=13
KBA Koelnbreinsper 80.24 335 *i* P **P** **01 51 56.8 +1.2**
KBA pmax pmax
comp=Z,53nm,0.8s,mb5.5
BFO Black Forest 80.45 338 eP **P** **01 51 56.8 0.0**
comp=Z,23nm,1.4s,mb4.9
BFO Black Forest 80.45 338 eP **P** **01 51 56.8 0.0**
BFO pmax pmax
comp=Z,23nm,1.4s,mb4.9
SSPA Standing Stone 80.45 38 eP **P** **01 51 56.1 -0.7**
comp=Z,92nm,1.8s,mb5.4
WATA Walderalm 80.50 336⇓ *i*P **P** **01 51 57.5 +0.5**
comp=Z,22nm,0.9s,mb5.1,SNR=13
WATA Walderalm 80.50 336⇓ *i*P **P** **01 51 57.6 +0.5**
WATA pmax pmax
comp=Z,22nm,0.9s,mb5.1
WTTA Wattenberg 80.55 336⇓ *i*P **P** **01 51 58.0 +0.7**
comp=Z,53nm,0.8s,mb5.5,SNR=13
WTTA Wattenberg 80.55 336⇓ *i*P **P** **01 51 58.0 +0.7**
WTTA pmax pmax
comp=Z,53nm,0.8s,mb5.5
MOTA Moosalm 80.63 336 *i* P **P** **01 51 58.2 +0.4**
comp=Z,33nm,1.0s,mb5.2,SNR=23
MOTA Moosalm 80.63 336 *i* P **P** **01 51 58.2 +0.5**
MOTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
CDF Champ du Feu 80.63 339 eP **P** **01 51 57.5 -0.2**
comp=Z,45nm,1.0s,mb5.1
CDF Champ du Feu 80.63 339 eP **P** **01 51 57.5 -0.2**
CDF pmax pmax
comp=Z,22nm,1.0s,mb5.0
CDF Champ du Feu 80.63 339 eP **P** **01 51 57.5 -0.2**
comp=Z,22nm,1.0s,mb5.0
GRUS Gruza 80.69 329 *i* P **P** **01 51 57.4 -0.7**
SQTA Sankt Quirin 80.71 336⇓ *i*P **P** **01 51 58.9 +0.7**
comp=Z,30nm,1.0s,mb5.2,SNR=7.7
SQTA Sankt Quirin 80.71 336⇓ *i*P **P** **01 51 58.9 +0.7**
SQTA pmax pmax
comp=Z,30nm,1.0s,mb5.2
PLD Plovdiv 80.75 325 *e*Sg PcP 01 52 03.4 -1.7
DIVS Divcibare 80.77 329 *i* P **P** **01 51 57.7 -0.7**
FVI Forni Avoltri 80.84 335 P **P** **01 52 01.9 +3.0**
FVI pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FVI Forni Avoltri 80.84 335 P **P** **01 52 01.9 +3.0**
comp=Z,4.1nm,0.5s,mb4.6
ECH Echery 80.84 339 eP **P** **01 51 59.6 +0.7**
PTCC Patocco-Chiusa 80.84 334 P **P** **01 51 58.0 -0.9**
comp=Z,15nm,0.8s,mb5.0
VTS Vitosha 80.90 326⇓ *i*P **P** **01 51 59.0 -0.2**
VTS Vitosha 80.90 326 ⇓P **P** **01 51 59.0 -0.2**
ROBS Robic 80.94 334 eP **P** **01 51 58.1 -1.3**
GMNA Gemona 81.00 334 P **P** **01 51 59.0 -0.7**
DAVA Damuels 81.01 337 *i* P **P** **01 52 00.4 +0.6**
comp=Z,40nm,1.0s,mb5.3,SNR=10
BOJS Bojanci 81.08 333 *i* P **P** **01 52 01.1 +0.9**
THEF They Montfort 81.11 340 eP **P** **01 52 00.3 0.0**
MOF Molkenrain 81.19 339 eP **P** **01 52 00.5 -0.2**
PPT Papeete 81.33 128 eLR LR 02 17 03.7
comp=Z,157nm,27.2s,baz=323
PPT Papeete 81.33 128 LR LR 02 18 41.3
comp=Z,124nm,21.9s,MS4.2,baz=339,slow=29
BRMO Bormio 81.62 336 P **P** **01 52 03.8 +0.8**
comp=Z,25nm,1.0s,mb5.1
CTI Castel Tesino 81.66 335 P **P** **01 52 02.8 -0.4**
CTI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CTI Castel Tesino 81.66 335 P **P** **01 52 02.8 -0.4**
comp=Z,9.9nm,0.7s,mb4.8
ELN Prospectdale 82.02 42 eP **P** **01 52 04.1 -1.0**
SRS Serrai 82.02 325 ePn **P** **01 52 04.4 -0.8**
STIP Stip 82.06 326 *i* P **P** **01 52 04.5 -0.8**
SKO Skopje 82.10 327 *i* P **P** **01 52 06.4 +0.8**
BLA Blacksburg 82.18 42 eP **P** **01 52 05.4 -0.6**
BLA pmax pmax
comp=Z,13nm,0.8s,mb4.9
BLA Blacksburg 82.18 42 eP **P** **01 52 05.4 -0.6**
comp=Z,13nm,0.8s,mb4.9
VAY Valandovo 82.24 326 *i* P **P** **01 52 05.7 -0.6**
KNT Kendrikon 82.25 326 ePn **P** **01 52 06.2 -0.2**
GRR Gorron 82.39 344 eP **P** **01 52 06.9 -0.2**
comp=Z,136nm,1.3s,mb5.4
GRR Gorron 82.39 344 eP **P** **01 52 06.9 -0.2**
GRR pmax pmax
comp=Z,68nm,1.3s,mb5.4
GRR Gorron 82.39 344 eP **P** **01 52 06.9 -0.2**
comp=Z,68nm,1.3s,mb5.4
KRUS Krusevo 82.69 327 *i* P **P** **01 52 08.7 0.0**
CSS Prodhromos 82.95 315 eP **P** **01 52 10.1 +0.2**
comp=Z,26nm,0.7s,mb5.4
CSS *e* 01 52 15.1
BIA Bitola 82.97 327 *i* P **P** **01 52 12.9 +2.8**
OHR Ohrid 83.08 327 *i* P **P** **01 52 09.2 -1.5**
SMF Signal de Mont 83.09 341 eP **P** **01 52 10.6 -0.1**
comp=Z,95nm,1.0s,mb5.5
SMF Signal de Mont 83.09 341 eP **P** **01 52 10.6 -0.1**
SMF pmax pmax
comp=Z,47nm,1.0s,mb5.5
SMF Signal de Mont 83.09 341 eP **P** **01 52 10.6 -0.1**
comp=Z,47nm,1.0s,mb5.5
ASF Jabal al Asfar 83.43 311 P **P** **01 52 13.2 +0.8**
comp=Z,12nm,1.0s,mb4.9,baz=259,slow=3.2,SNR=16
ASF LR LR 02 35 12.9
comp=Z,66nm,19.0s,MS4.0,baz=252,slow=40
LPG La Plagne 83.48 338 eP **P** **01 52 13.6 +0.9**
comp=Z,70nm,1.0s,mb5.3
LPG La Plagne 83.48 338 eP **P** **01 52 13.6 +0.9**
LPG pmax pmax
comp=Z,35nm,1.0s,mb5.3
LPG La Plagne 83.48 338 eP **P** **01 52 13.6 +0.9**
comp=Z,35nm,1.0s,mb5.3
MMAI Mount Meron Ar 83.51 313 LR LR 02 34 44.7
comp=Z,164nm,18.1s,MS4.5,baz=35,slow=40
GSCL Gusciola 83.52 335 P **P** **01 52 13.9 +1.0**
comp=Z,30nm,1.0s,mb5.4
SFI Santa Sofia 83.56 334 P **P** **01 52 14.3 +1.2**
SFI pmax pmax
comp=Z,25nm,1.0s,mb5.3
SFI Santa Sofia 83.56 334 P **P** **01 52 14.3 +1.2**
comp=Z,25nm,1.0s,mb5.3
SEI Scarperia 83.57 335 P **P** **01 52 15.0 +1.8**
comp=Z,150nm,0.8s,mb6.2
VMG Vicchio 83.60 335 P **P** **01 52 15.1 +1.8**
comp=Z,48nm,0.8s,mb5.7
PLDF La Plantade 83.78 341 eP **P** **01 52 15.0 +0.7**
CRE Caprese Michel 83.79 334 P **P** **01 52 16.5 +2.2**
CRE pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
CRE Caprese Michel 83.79 334 P **P** **01 52 16.5 +2.2**
comp=Z,6.6nm,0.6s,mb4.9
AGO Saint Aguulin 83.81 341 eP **P** **01 52 15.7 +1.3**
SNTG Esanatoglia 83.83 333 P **P** **01 52 14.9 +0.4**
comp=Z,22nm,0.9s,mb5.3
BNI Bardonecchia 83.91 338 eP **P** **01 52 16.0 +1.1**
BNI *e* 01 52 32.7
BNI pmax pmax
comp=Z,13nm,0.8s,mb5.1
BNI Bardonecchia 83.91 338 eP **P** **01 52 16.0 +1.1**
comp=Z,14nm,0.8s,mb5.1
BNI *e* 01 52 32.7
ASS Assisi 84.09 333 P **P** **01 52 17.6 +1.8**
ASS pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ASS Assisi 84.09 333 P **P** **01 52 17.6 +1.8**
comp=Z,2.9nm,0.8s,mb4.5
CSNT Castellina Chi 84.12 335 P **P** **01 52 16.9 +0.9**
comp=Z,30nm,0.9s,mb5.4
NRCA Norcia 84.16 333 P **P** **01 52 16.6 +0.4**
comp=Z,26nm,0.8s,mb5.4
DOI San Damiano 84.28 338 P **P** **01 52 15.7 -1.1**
DOI pmax pmax
comp=Z,13nm,0.6s,mb5.2
DOI San Damiano 84.28 338 P **P** **01 52 15.7 -1.1**
comp=Z,13nm,0.6s,mb5.2
AQU L'Aquila 84.50 333⇑ *i*P **P** **01 52 18.8 +0.9**
IMI Imperia 84.67 337 P **P** **01 52 18.9 +0.1**
comp=Z,28nm,0.7s,mb5.5
SAOF Saorge 84.68 337 eP **P** **01 52 18.5 -0.3**
AUTN L'Aution 84.71 337 eP **P** **01 52 18.5 -0.5**
TOUF Mont Tournerai 84.74 337 eP **P** **01 52 18.1 -1.0**
LUCF Luceram 84.83 337 eP **P** **01 52 19.6 0.0**
REVF Revere 84.96 337 eP **P** **01 52 20.1 -0.2**
CAF Calviac 85.12 341 eP **P** **01 52 20.6 -0.4**
comp=Z,51nm,1.0s,mb5.3
CAF Calviac 85.12 341 eP **P** **01 52 20.6 -0.4**
CAF pmax pmax
comp=Z,26nm,1.0s,mb5.3
CAF Calviac 85.12 341 eP **P** **01 52 20.6 -0.4**
comp=Z,26nm,1.0s,mb5.3
TBI Tubuai 86.15 131 eLR LR 02 19 09.3
comp=Z,202nm,31.8s,baz=317
TIP Timpagrande 86.24 329 eP **P** **01 52 20.8 -5.9**
EIL Elat 86.43 311 eP **P** **01 52 28.0 +0.5**
comp=Z,303nm,0.8s
VSL Villasalto 88.34 334 P **P** **01 52 36.7 0.0**
comp=Z,30nm,1.1s,mb5.4
VAE Valguarnera 88.58 330 LR LR 02 34 08.4
comp=Z,192nm,20.2s,MS4.5,baz=309,slow=37
PVRL Vila Real 90.46 347 eP **P** **01 52 46.1 -0.6**
comp=Z,51nm,1.6s,mb5.6
PVIS Viseu 91.03 347 eP **P** **01 52 48.4 -1.0**
ESDC Sonseca Array 91.39 344 P **P** **01 52 50.1 -1.0**
comp=Z,4.1nm,0.8s,mb4.8,baz=7.3,slow=3.7,SNR=15
ESDC LR LR 02 38 42.8
comp=Z,117nm,20.6s,MS4.3,baz=350,slow=39
RPZ Rata Peaks 91.76 169 LR LR 02 29 06.6
comp=Z,152nm,20.8s,MS4.4,baz=177,slow=32
KEST Kesra 91.82 333 P **P** **01 52 52.6 -0.4**
comp=Z,3.0nm,0.8s,mb4.7,baz=310,slow=4.6,SNR=8.3
KEST LR LR 02 38 04.8
comp=Z,77nm,19.8s,MS4.2,baz=260,slow=38
PCBR Castelo Branco 91.83 347 eP **P** **01 52 51.9 -1.1**
PBEJ Beja 93.66 347 eP **P** **01 53 01.0 -0.5**
RKT Rikitea 93.99 120 eLR LR 02 22 51.3
comp=Z,126nm,34.0s
ATD Arta Tunnel 96.25 294 LR LR 02 43 11.7
comp=Z,216nm,18.2s,MS4.7,baz=44,slow=40
MDT Midelt 98.16 343 LR LR 02 46 30.0
comp=Z,100nm,18.2s,MS4.3,baz=356,slow=41
TORD Torodi Ar. Bea 115.30 331 PKP PKPdf 01 58 25.6 -1.1
comp=Z,0.3nm,0.6s,baz=8.3,slow=3.0,SNR=5.1
TORD PP PP 01 59 22.6 -4.6
comp=Z,1.0nm,0.8s,baz=14,slow=7.0,SNR=3.8
TORD PKKPbc PKKPbc 02 08 59.0 -1.9
comp=Z,0.3nm,0.5s,baz=208,slow=1.8,SNR=5.4
TORD Torodi Ar. Bea 115.30 331 PKP PKPdf 01 58 25.6 -1.1
TORD PP PP 01 59 22.6 -4.6
TORD PKKPbc PKKPbc 02 08 59.0 -1.9
VNDA Vanda 124.68 178 PKP PKPdf 01 58 42.1 -2.6
comp=Z,2.5nm,0.9s,baz=325,slow=4.1,SNR=10
LSZ Lusaka 126.01 288 PKP PKPdf 01 58 46.7 -0.5
comp=Z,1.7nm,0.7s,baz=39,slow=2.8,SNR=6.1
MATP Matopo 129.52 283 PKP PKPdf 01 58 53.9 0.0
comp=Z,2.1nm,0.8s,baz=147,slow=9.8,SNR=8.2
MAW Mawson 133.51 212 PKP PKPdf 01 59 00.1 -1.4
comp=Z,4.3nm,0.8s,baz=211,slow=2.2,SNR=8.3
LBTB Lobatse 134.62 281 PKP PKPdf 01 59 04.3 +0.8
comp=Z,2.1nm,0.6s,baz=219,slow=7.9,SNR=5.1
SIV San Ignacio 136.65 56 PKP PKPdf 01 59 06.3 -1.0
comp=Z,0.4nm,0.4s,baz=249,slow=18,SNR=5.5
QSPA South Pole Qui 137.11 180 PKPdf PKPdf 01 59 06.9 -1.3
BOSA Boshof 137.22 278 PKP PKPdf 01 59 08.2 -0.2
comp=Z,1.5nm,0.6s,baz=0.7,slow=5.9,SNR=3.7
SYO Syowa Base 142.23 212⇓ *e*X 01 59 11.6
CFAA Coronel Fontan 143.41 80 PKP PKPdf 01 59 16.4 -3.2
comp=Z,0.2nm,0.6s,baz=295,slow=2.8,SNR=4.2
NVL N'lazarevskaya 150.81 204 *d* iPKIKP PKPdf 01 59 34.4 +2.5
NVL pmax pmax
comp=Z,34nm,1.4s
MAIT Maitri 150.84 204 *e*PKPdf PKPdf 01 59 34.5 +2.6
SNAA Sanae 153.56 195 PKPbc PKPbc 01 59 40.9 -2.8
comp=Z,2.2nm,0.6s,baz=200,slow=5.5,SNR=40
SNAA Sanae 153.56 195 *e*PKPdf PKPdf 01 59 33.5 -2.5
SNAA *e* 01 59 40.9
SNAA *e* 01 59 45.9

SNAA				*e*		01 59 54.3	
SNAA				*e*		01 59 59.5	
SNAA				*e*		02 00 06.9	
VNA2	**Neumayer--Watz**	**154.97**	**193**	*e*PKPdf	PKPdf	01 59 35.8	-2.2
VNA2				*e*		01 59 44.4	
VNA2				*e*		01 59 50.2	
VNA2				*e*		01 59 57.6	
VNA2				*e*		02 00 03.4	
VNA2				*e*		02 00 09.5	
VNA2				*e*		02 00 22.9	
VNA2				*e*		02 00 27.1	
VNA3	**Neumayer Olymp**	**155.01**	**191**	*e*PKPdf	PKPdf	01 59 35.8	-2.2
VNA3				*e*		01 59 44.2	
VNA3				*e*		01 59 50.3	
VNA3				*e*		01 59 57.4	
VNA3				*e*		02 00 03.1	
VNA3				*e*		02 00 10.0	
VNA3				*e*		02 00 22.6	
VNA3				*e*		02 00 26.4	
VNA1	**Neumayer--Stat**	**155.35**	**193**	*e*PKPdf	PKPdf	01 59 42.4	+3.9
VNA1				*e*		01 59 57.8	
VNA1				*e*		02 00 03.7	
VNA1				*e*		02 00 22.2	
VNA1				*e*		02 00 26.1	

IDC ***30*** *01:51:50.0±3.1, 47.25N×155.14E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/24, mbtmp3.6/6, Error ellipse: s-maj=92.8km s-min=26.7km az=179.0*
MOS ***30*** *01:51:54.2±0.9, 47.28N×155.03E, h42km, mb4.2/2, Error ellipse: s-maj=52.6km s-min=23.1km az=83.6*
ISCJB ***30*** *01:51:56.4±10.0, 47.5N±0.7×155.1E±0.2, h55km±65km, mb3.7/6, Error ellipse: s-maj=122.2km s-min=26.7km az=171.2*
ISC 30 01:51:59.9±9.7, **476N**±08×**1551E**±03, **h66**km±61km, **n9,** σ0§**22**/**9**, **mb3.6**/6, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.15**	**12**	*e*PN	**Pn**	**01 52 47.1**	**0.0**
INK	**Inuvik**	**40.20**	**33**	P	**P**	**01 59 30.2**	**+0.3**
	0.8nm,0.6s,mb3.7,baz=277,slow=6.1,SNR=6.1						
INK	**Inuvik**	**40.20**	**33**	P	**P**	**01 59 30.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.73**	**298**	P	**P**	**02 00 30.1**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=67,slow=8.7,SNR=2.9						
YKA	**Yellowknife Ar**	**49.43**	**38**	P	**P**	**02 00 42.7**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=296,slow=7.1,SNR=3.2						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**02 00 57.7**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=57,slow=8.0,SNR=13						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**02 00 57.7**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**63.16**	**55**	P	**P**	**02 02 20.9**	**0.0**
	comp=Z,0.9nm,1.1s,mb3.6,baz=223,slow=3.5,SNR=3.8						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**02 03 39.5**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.3,baz=311,slow=4.4,SNR=6.8						

IDC ***30*** *01:52:52.0±2.1, 6.13S×129.95E, h0km, mb4.1/1, mb1 4.4/4, mb1mx3.9/15, mbtmp4.2/4, ML4.2/3, Error ellipse: s-maj=93.6km s-min=27.1km az=77.0*
NEIC ***30*** *01:52:56.2±0.7, 6.14S×130.17E, h35km, mb3.9/2, Error ellipse: s-maj=32.1km s-min=7.9km az=72.0*
ISCJB ***30*** *01:53:07.2±2.9, 6.81S±0.1×129.9E±0.1, h170km±30km, mb3.7/3, Error ellipse: s-maj=24.5km s-min=13.4km az=126.2*
ISC 30 01:53:03.3±3.2, **67S**±01×**1299E**±02, **h108**km±34km, **n10,** σ1§**40**/**15**, **mb3.8**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.08**	**200**	Pn	**Pn**	**01 55 54.0**	**+2.4**
	0.7nm,0.3s,baz=26,slow=12,SNR=20						
FITZ				Sn	**Sn**	**01 58 03.0**	**-1.5**
	1.3nm,0.3s,baz=204,slow=21,SNR=7.9						
WRAB	**Tennant Creek**	**13.88**	**162**	*e*Pn	**Pn**	**01 56 15.8**	**+0.6**
	3.4nm,0.4s						
WRAB				*e*Sn	**Sn**	**01 58 44.7**	**-3.4**
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	**Pn**	**01 56 15.5**	**+0.1**
	1.2nm,0.3s,baz=344,slow=13,SNR=50						
WRA				Sn	**Sn**	**01 58 46.5**	**-1.8**
	0.9nm,0.3s,baz=328,slow=23,SNR=5.7						
WB2	**Warramunga Arr**	**13.89**	**162**	*e*Pn	**Pn**	**01 56 16.1**	**+0.7**
WB2				*e*Sn	**Sn**	**01 58 44.9**	**-3.4**
AS31	**Alice Springs**	**17.33**	**167**	*e*Pn	**Pn**	**01 57 02.2**	**+3.9**
ASAR	**Alice Springs**	**17.33**	**167**	P	**Pn**	**01 57 02.1**	**+3.8**
	0.8nm,0.3s,baz=343,slow=9.1,SNR=43						
ASAR				S	**S**	**02 00 13.4**	**+1.7**
	0.2nm,0.3s,baz=355,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**02 03 49.9**	**-0.2**
	1.3nm,0.6s,mb3.9,baz=118,slow=7.9,SNR=10						
AAK	**Ala-Archa**	**70.20**	**320**	P	**P**	**02 04 04.2**	**-0.2**
KURK	**Kurchatov**	**72.17**	**329**	*e*P	**P**	**02 04 15.3**	**-1.0**
	1.4nm,0.8s,mb3.8						
BRVK	**Borovoye**	**77.79**	**328**	*e*P	**P**	**02 04 48.3**	**-0.2**
	0.7nm,0.6s,mb3.6						

TEH ***30*** *01:54:46.4, 30.61N×52.52E, h21km, ML4.2*
IDC ***30*** *01:55:19.4±0.7, 30.57N×52.51E, h0km, mb4.0/18, mb1 4.0/21, mb1mx4.0/30, mbtmp3.9/21, ML3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=17.2km s-min=14.3km az=130.0*
THR ***30*** *01:55:21.2±0.6, 30.52N×52.62E, h18km±4km, ML4.2*
MOS ***30*** *01:55:22.8±1.4, 30.65N×50.43E, h33km, mb4.0/3, Error ellipse: s-maj=12.9km s-min=9.5km az=106.6*
CSEM ***30*** *01:55:23.0±0.1, 30.52N×50.50E, h35km, mb3.8/3, Error ellipse: s-maj=1.6km s-min=1.2km az=29.0*
ISCJB ***30*** *01:55:25.3±0.3, 30.64N±0.002×50.57E±0.002, h61km±4km, mb4.0/18, Error ellipse: s-maj=4.1km s-min=3.4km az=133.5*
NEIC ***30*** *01:55:25.4, 30.61N×52.52E, h21km, mb4.0/1, ML4.1(THR), MN4.2(TEH), After TEH.*
ISC 30 01:55:26.5±0.3, **3064N**±002×**5056E**±002, **h53**km±4km, **n118,** σ1§**04**/226, **mb4.0**/18, **MS3.4**/3, **9C-4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**1.96**	**120**	*e*Pn	**Pn**	**01 55 57.8**	**+0.4**
SHI				*e*Pn	**Pn**	**01 55 58.1**	**+0.7**
SHI				*e*Pn	**Pn**	**01 55 58.6**	**+1.2**
SHI				*e*Sn	**Sn**	**01 56 21.5**	**+0.6**
SHI				*e*Sn	**Sn**	**01 56 21.8**	**+0.9**
SHI	**Shiraz**	**1.96**	**120**	P	**Pn**	**01 55 57.8**	**+0.4**
SHI						01 56 21.5	
SHI	**Shiraz**	**1.96**	**120**	Pn	**Pn**	**01 55 57.8**	**+0.4**
SHI				Pn	**Pn**	**01 55 58.1**	**+0.7**
SHI				Pn	**Pn**	**01 55 58.6**	**+1.2**
SHI				Sn	**Sn**	**01 56 21.5**	**+0.6**
SHI				Sn	**Sn**	**01 56 21.7**	**+0.8**
IPIR	**Pirpir**	**2.06**	**8**	*e*Pn	**Pn**	**01 55 59.6**	**+0.9**
IPIR				*e*Pn	**Pn**	**01 56 00.1**	**+1.4**
IPIR				*e*Pn	**Pn**	**01 56 00.1**	**+1.4**
IPIR				*e*Sn	**Sn**	**01 56 24.5**	**+1.3**
IPIR				*e*Sn	**Sn**	**01 56 24.7**	**+1.5**
IPIR	**Pirpir**	**2.06**	**8**	Pn	**Pn**	**01 55 59.5**	**+0.8**
IPIR				Pn	**Pn**	**01 56 00.0**	**+1.3**
IPIR				Sn	**Sn**	**01 56 24.4**	**+1.2**
IPIR				Sn	**Sn**	**01 56 24.6**	**+1.4**
IPIR	**Pirpir**	**2.06**	**8**	*e*Pn	**Pn**	**01 55 59.6**	**+0.9**
IPIR				*e*Sn	**Sn**	**01 56 24.7**	**+1.5**
SHGR	**Shooshtar-Gavs**	**2.10**	**315**	*e*Pg	**Pn**	**01 56 00.2**	**+1.0**
SHGR				*e*Sg	**Sn**	**01 56 28.9**	**+4.8**
SHGR				AML	AML	01 56 39.6	
	comp=N,1μm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.10**	**315**	*e*Pn	**Pn**	**01 56 01.0**	**+1.8**
SHGR				*e*Sg	**Sn**	**01 56 33.0**	**+8.9**
SHGR	**Shooshtar-Gavs**	**2.10**	**315**	*e*Pn	**Pn**	**01 56 01.0**	**+1.8**
SHGR				*e*Sg	**Sn**	**01 56 28.9**	**+4.8**
	SNR=91						
IPAR	**Pars**	**2.30**	**110**	*e*Pn	**Pn**	**01 56 01.0**	**-0.9**
IPAR				*e*Pn	**Pn**	**01 56 01.0**	**-0.9**
IPAR				*e*Pn	**Pn**	**01 56 01.0**	**-0.9**
IPAR				*e*Sn	**Sn**	**01 56 30.3**	**+1.3**
IPAR				*e*Sn	**Sn**	**01 56 30.3**	**+1.3**
IPAR	**Pars**	**2.30**	**110**	Pn	**Pn**	**01 56 01.0**	**-0.9**
IPAR				Sn	**Sn**	**01 56 30.2**	**+1.2**
IMOK	**Mook**	**2.46**	**130**	*e*Pn	**Pn**	**01 56 02.5**	**-1.6**
IMOK				*e*Pn	**Pn**	**01 56 02.5**	**-1.6**
IMOK				*e*Pn	**Pn**	**01 56 02.6**	**-1.5**
IMOK				*e*Sn	**Sn**	**01 56 33.2**	**+0.3**
IMOK				*e*Sn	**Sn**	**01 56 33.3**	**+0.4**
IMOK	**Mook**	**2.46**	**130**	Pn	**Pn**	**01 56 02.4**	**-1.7**
IMOK				Pn	**Pn**	**01 56 02.6**	**-1.5**
IMOK				Sn	**Sn**	**01 56 33.2**	**+0.3**
UMR	**Umm Al-Rimmam**	**2.69**	**247**	*e*P	**Pn**	**01 56 07.2**	**-0.1**
UMR				*e*S	**Sn**	**01 56 41.2**	**+2.5**
UMR				AML	AML	01 56 52.3	
	comp=Z,514nm,0.4s						
IZEF	**Zefreh**	**2.71**	**33**	*e*Pn	**Pn**	**01 56 08.4**	**+0.8**
IZEF				*e*Pn	**Pn**	**01 56 08.4**	**+0.8**
IZEF				*e*Pn	**Pn**	**01 56 08.4**	**+0.8**
IZEF				*e*Sn	**Sn**	**01 56 40.1**	**+1.0**
IZEF				*e*Sn	**Sn**	**01 56 40.2**	**+1.1**
IZEF	**Zefreh**	**2.71**	**33**	Pn	**Pn**	**01 56 08.3**	**+0.7**
IZEF				Sn	**Sn**	**01 56 40.0**	**+0.9**
IZEF	**Zefreh**	**2.71**	**33**	*e*Pn	**Pn**	**01 56 08.4**	**+0.8**
IZEF				*e*Sn	**Sn**	**01 56 40.2**	**+1.1**
IKLH	**Kalahroud**	**2.81**	**18**	*e*Pn	**Pn**	**01 56 09.8**	**+0.8**
IKLH				*e*Pn	**Pn**	**01 56 09.8**	**+0.8**
IKLH				*e*Pn	**Pn**	**01 56 09.9**	**+0.9**
IKLH				*e*Sn	**Sn**	**01 56 42.7**	**+1.1**
IKLH				*e*Sn	**Sn**	**01 56 43.0**	**+1.4**
IKLH	**Kalahroud**	**2.81**	**18**	Pn	**Pn**	**01 56 09.8**	**+0.8**
IKLH				Sn	**Sn**	**01 56 42.7**	**+1.1**
IKLH				Sn	**Sn**	**01 56 42.9**	**+1.3**
IKLH	**Kalahroud**	**2.81**	**18**	*e*Pn	**Pn**	**01 56 09.8**	**+0.8**
IKLH				*e*Sn	**Sn**	**01 56 42.7**	**+1.1**
KBD	**Kabd**	**2.88**	**240**	*e*P	**Pn**	**01 56 09.6**	**-0.3**
KBD				AML	AML	01 56 48.7	
	comp=Z,619nm,0.3s						
NASN	**Na'in**	**2.88**	**41**	*e*Pn	**Pn**	**01 56 10.5**	**+0.5**
NASN				Sn	**Sn**	**01 56 45.6**	**+2.2**
NASN				*e*Sg	**Sn**	**01 56 54.8**	**+11**
NASN	**Na'in**	**2.88**	**41**	*e*Pn	**Pn**	**01 56 09.0**	**-1.0**
NASN				Sn	**Sn**	**01 56 43.0**	**-0.4**
MIB	**Mutribah**	**2.91**	**254**	*e*P	**Pn**	**01 56 10.2**	**-0.1**
MIB				*e*S	**Sn**	**01 56 46.0**	**+2.0**
QRN	**Al-Qurain**	**2.97**	**231**	*e*P	**Pn**	**01 56 10.5**	**-0.6**
QRN				AML	AML	01 56 53.8	
	comp=Z,318nm,0.3s						
RDF	**Al-Radifah**	**3.12**	**238**	*e*P	**Pn**	**01 56 12.6**	**-0.6**
RDF				*e*S	**Sn**	**01 56 51.6**	**+2.3**
RDF				AML	AML	01 57 03.3	
	comp=Z,311nm,0.4s						
GHIR	**Ghir-Karzin**	**3.16**	**137**	*e*Pn	**Pn**	**01 56 11.2**	**-2.5**
GHIR				AML	AML	01 57 10.8	
	comp=E,450nm,0.5s						
GHIR	**Ghir-Karzin**	**3.16**	**137**	*e*Pn	**Pn**	**01 56 11.0**	**-2.8**
NAY	**Al-Naaiem**	**3.19**	**245**	*e*P	**Pn**	**01 56 13.8**	**-0.4**
NAY				AML	AML	01 57 01.3	
	comp=Z,155nm,0.5s						
IMEH	**Mehriz**	**3.56**	**77**	*e*Pn	**Pn**	**01 56 19.3**	**0.0**
IMEH				*e*Pn	**Pn**	**01 56 20.1**	**+0.8**
IMEH				*e*Sn	**Sn**	**01 56 59.9**	**-0.2**
IMEH	**Mehriz**	**3.56**	**77**	Pn	**Pn**	**01 56 19.3**	**0.0**
IMEH				Pn	**Pn**	**01 56 20.0**	**+0.7**
IMEH				Sn	**Sn**	**01 56 59.9**	**-0.2**
ICHK	**Chekchek**	**3.66**	**63**	*e*Pn	**Pn**	**01 56 20.8**	**+0.2**
ICHK				*e*Pn	**Pn**	**01 56 21.0**	**+0.4**
ICHK				*e*Pn	**Pn**	**01 56 21.0**	**+0.4**
ICHK				*e*Sn	**Sn**	**01 57 02.5**	**0.0**
ICHK				*e*Sn	**Sn**	**01 57 03.0**	**+0.5**
ICHK	**Chekchek**	**3.66**	**63**	Pn	**Pn**	**01 56 20.7**	**+0.1**
ICHK				Pn	**Pn**	**01 56 21.0**	**+0.4**
ICHK				Sn	**Sn**	**01 57 02.5**	**0.0**
ICHK				Sn	**Sn**	**01 57 02.9**	**+0.4**
ICHK	**Chekchek**	**3.66**	**63**	*e*Pn	**Pn**	**01 56 20.8**	**+0.2**
ICHK				*e*Sn	**Sn**	**01 57 02.5**	**0.0**
ISFB	**Sefidab**	**3.97**	**21**	*e*Pn	**Pn**	**01 56 24.5**	**-0.3**
ISFB				*e*Pn	**Pn**	**01 56 24.9**	**+0.1**
ISFB				*e*Pn	**Pn**	**01 56 25.2**	**+0.4**
ISFB				*e*Sn	**Sn**	**01 57 09.3**	**-0.7**
ISFB				*e*Sn	**Sn**	**01 57 09.3**	**-0.7**
ISFB	**Sefidab**	**3.97**	**21**	Pn	**Pn**	**01 56 24.4**	**-0.4**
ISFB				Pn	**Pn**	**01 56 24.9**	**+0.1**
ISFB				Sn	**Sn**	**01 56 25.1**	**+0.3**
ISFB				Sn	**Sn**	**01 57 09.3**	**-0.7**
ISFB	**Sefidab**	**3.97**	**21**	*e*Pn	**Pn**	**01 56 25.2**	**+0.4**
ISFB				*e*Sn	**Sn**	**01 57 09.3**	**-0.7**
IKOM	**Komasi**	**4.37**	**325**	*e*Pn	**Pn**	**01 56 30.3**	**0.0**
IKOM				*e*Pn	**Pn**	**01 56 30.3**	**0.0**
IKOM				*e*Pn	**Pn**	**01 56 30.3**	**0.0**
IKOM				*e*Sn	**Sn**	**01 57 18.5**	**-1.4**
IKOM				*e*Sn	**Sn**	**01 57 18.6**	**-1.3**
IKOM	**Komasi**	**4.37**	**325**	Pn	**Pn**	**01 56 30.2**	**-0.1**
IKOM				Sn	**Sn**	**01 57 18.6**	**-1.4**
IKOM	**Komasi**	**4.37**	**325**	*e*Pn	**Pn**	**01 56 30.3**	**0.0**
IKOM				*e*Sn	**Sn**	**01 57 18.6**	**-1.3**
IBAF	**Bafgh**	**4.40**	**76**	*e*Pn	**Pn**	**01 56 30.3**	**-0.5**
IBAF				*e*Pn	**Pn**	**01 56 30.5**	**-0.2**
IBAF				*e*Pn	**Pn**	**01 56 31.3**	**+0.6**
IBAF				*e*Sn	**Sn**	**01 57 19.9**	**-0.8**
IBAF				*e*Sn	**Sn**	**01 57 20.1**	**-0.6**
IBAF	**Bafgh**	**4.40**	**76**	Pn	**Pn**	**01 56 30.3**	**-0.5**
IBAF				Pn	**Pn**	**01 56 31.2**	**+0.5**
IBAF				Sn	**Sn**	**01 57 19.8**	**-0.9**
IBAF				Sn	**Sn**	**01 57 20.0**	**-0.7**
IBAF	**Bafgh**	**4.40**	**76**	*e*Pn	**Pn**	**01 56 30.5**	**-0.2**
IBAF				*e*Sn	**Sn**	**01 57 19.9**	**-0.8**
IRAZ	**Razeghan**	**4.78**	**354**	*e*Pn	**Pn**	**01 56 36.2**	**+0.2**
IRAZ				*e*Pn	**Pn**	**01 56 36.6**	**+0.6**
IRAZ				*e*Pn	**Pn**	**01 56 37.1**	**+1.1**
IRAZ				*e*Sn	**Sn**	**01 57 28.7**	**-1.4**
IRAZ				*e*Sn	**Sn**	**01 57 28.8**	**-1.3**
IRAZ	**Razeghan**	**4.78**	**354**	Pn	**Pn**	**01 56 36.2**	**+0.2**
IRAZ				Pn	**Pn**	**01 56 36.6**	**+0.6**
IRAZ				Pn	**Pn**	**01 56 37.1**	**+1.1**
IRAZ				Sn	**Sn**	**01 57 28.7**	**-1.4**
IRAZ	**Razeghan**	**4.78**	**354**	*e*Pn	**Pn**	**01 56 36.2**	**+0.2**
IRAZ				*e*Sn	**Sn**	**01 57 28.8**	**-1.3**
IVIS	**Veys**	**4.98**	**322**	*e*Pn	**Pn**	**01 56 38.5**	**-0.2**
IVIS	**Veys**	**4.98**	**322**	Pn	**Pn**	**01 56 38.4**	**-0.3**
IGHG	**Ghaleghazi**	**4.99**	**319**	*e*Pn	**Pn**	**01 56 38.8**	**0.0**
IGHG				*e*Pn	**Pn**	**01 56 39.1**	**+0.3**
IGHG				*e*Pn	**Pn**	**01 56 39.1**	**+0.3**
IGHG				*e*Sn	**Sn**	**01 57 32.8**	**-2.4**
IGHG				*e*Sn	**Sn**	**01 57 33.0**	**-2.2**
IGHG	**Ghaleghazi**	**4.99**	**319**	Pn	**Pn**	**01 56 38.7**	**-0.1**
IGHG				Pn	**Pn**	**01 56 39.0**	**+0.2**
IGHG				Sn	**Sn**	**01 57 32.7**	**-2.5**
IGHG				Sn	**Sn**	**01 57 32.9**	**-2.3**
DAMV	**Damavand**	**5.12**	**13**	*e*Pn	**Pn**	**01 56 41.2**	**+0.6**
DAMV				AML	AML	01 57 43.5	
	comp=E,114nm,0.5s						
DAMV	**Damavand**	**5.12**	**13**	*e*Pn	**Pn**	**01 56 41.0**	**+0.4**
THKV	**Tehran--Karaj**	**5.27**	**3**	*e*Pn	**Pn**	**01 56 43.3**	**+0.6**
IFIR	**Firoozkooh**	**5.32**	**20**	*e*Pn	**Pn**	**01 56 43.5**	**+0.2**
IFIR				*e*Pn	**Pn**	**01 56 43.5**	**+0.2**
IFIR				*e*Pn	**Pn**	**01 56 43.6**	**+0.3**
IFIR				*e*Sn	**Sn**	**01 57 41.9**	**-1.4**
IFIR				*e*Sn	**Sn**	**01 57 42.0**	**-1.3**
IFIR	**Firoozkooh**	**5.32**	**20**	Pn	**Pn**	**01 56 43.4**	**+0.1**
IFIR				Sn	**Sn**	**01 57 41.8**	**-1.5**
IFIR				Sn	**Sn**	**01 57 42.0**	**-1.3**
IFIR	**Firoozkooh**	**5.32**	**20**	*e*Pn	**Pn**	**01 56 43.6**	**+0.3**
IFIR				*e*Sn	**Sn**	**01 57 42.0**	**-1.3**
IDHR	**Dehrash**	**5.36**	**320**	*e*Pn	**Pn**	**01 56 43.6**	**-0.3**
IDHR				*e*Pn	**Pn**	**01 56 44.0**	**+0.1**
IDHR				*e*Pn	**Pn**	**01 56 44.0**	**+0.1**
IDHR				*e*Sn	**Sn**	**01 57 41.9**	**-2.5**
IDHR				*e*Sn	**Sn**	**01 57 42.0**	**-2.4**
IDHR	**Dehrash**	**5.36**	**320**	Pn	**Pn**	**01 56 43.5**	**-0.4**
IDHR				Pn	**Pn**	**01 56 43.9**	**0.0**
IDHR				Sn	**Sn**	**01 57 41.8**	**-2.6**
IDHR				Sn	**Sn**	**01 57 42.0**	**-2.4**
KRBR	**Kerman**	**5.40**	**95**	*e*Pn	**Pn**	**01 56 43.9**	**-0.6**
KRBR				AML	AML	01 57 51.1	
	comp=N,90nm,0.7s						
KRBR				AML	AML	01 57 51.2	
	comp=E,108nm,0.4s						
KRBR	**Kerman**	**5.40**	**95**	*e*Pn	**Pn**	**01 56 42.0**	**-2.5**
BHD	**Baghdad**	**5.87**	**298**	*ex*	x	01 56 47.0	
BHD				*ex*	x	01 57 55.0	
BNDS	**Bandar-Abbas**	**5.88**	**122**	*e*Pn	**Pn**	**01 56 49.4**	**-1.7**
BNDS				AML	AML	01 58 07.3	
	comp=E,116nm,0.4s						
BNDS				AML	AML	01 58 08.2	
	comp=N,103nm,0.2s						
BNDS	**Bandar-Abbas**	**5.88**	**122**	*e*Pn	**Pn**	**01 56 48.0**	**-3.0**
ASHO	**Ashiyiah**	**7.68**	**139**	⇑P	**Pn**	**01 57 11.8**	**-3.9**
	SNR=34						
BSY	**Bisya**	**9.85**	**141**	⇓P	**Pn**	**01 57 41.4**	**-4.0**
	SNR=11						
ASF	**Jabal al Asfar**	**11.77**	**281**	Pn	**Pn**	**01 58 07.7**	**-3.9**
	comp=N,0.7nm,0.3s,baz=263,slow=2.4,SNR=16						
WHFO	**Wadi Hawf**	**13.00**	**166**	⇑P	**Pn**	**01 58 22.1**	**-6.3**
	SNR=11						
MMAI	**Mount Meron Ar**	**13.10**	**284**	Pn	**Pn**	**01 58 27.5**	**-2.3**
	comp=N,0.7nm,0.3s,baz=109,slow=17,SNR=5.8						
MMAI				LR	LR	02 04 36.0	
	comp=N,45nm,21.7s,baz=40,slow=43						
SHAO	**Shalim**	**13.38**	**159**	P	**Pn**	**01 58 27.6**	**-5.9**
	SNR=45						
ABTO	**Aybut**	**13.46**	**169**	⇓P	**Pn**	**01 58 28.4**	**-6.2**
	SNR=11						
RBK	**Rabkut**	**13.49**	**165**	⇑P	**Pn**	**01 58 28.7**	**-6.4**
	SNR=13						
BRTR	**Keskin Array B**	**16.52**	**308**	Pn	**Pn**	**01 59 14.6**	**+0.1**
	comp=N,0.0nm,0.3s,baz=84,slow=15,SNR=3.4						
ATD	**Arta Tunnel**	**20.32**	**202**	LR	LR	02 08 24.1	
	comp=N,79nm,21.1s,MS3.0,baz=114,slow=39						
AKTK	**Aktyubinsk**	**20.55**	**14**	P	**P**	**02 00 00.8**	**+0.2**
AKTK	**Aktyubinsk**	**20.55**	**14**	P	**P**	**02 00 00.8**	**+0.2**
AKTO	**Aktyubinsk**	**20.55**	**14**	P	**P**	**02 00 00.8**	**+0.2**
	comp=N,2.3nm,0.5s,baz=192,slow=12,SNR=7.2						
ORR	**Orenburg**	**21.19**	**7**	P	**P**	**02 00 06.5**	**-1.0**
IDI	**Anoyia**	**22.00**	**289**	P	**P**	**02 00 16.9**	**+0.7**
	comp=N,5.4nm,0.3s,mb4.4,baz=84,slow=18,SNR=15						
AAK	**Ala-Archa**	**22.55**	**51**	*e*P	**P**	**02 00 22.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**22.55**	**51**	*e*P	**P**	**02 00 22.4**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**22.55**	**51**	*e*P	**P**	**02 00 22.5**	**+0.5**
	comp=Z,3.0nm,0.6s,mb3.9						
MLR	**Muntele Rosu**	**24.27**	**315**	P	**P**	**02 00 38.4**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.6,baz=49,slow=18,SNR=3.0						
MLR	**Muntele Rosu**	**24.27**	**315**	⇓P	**P**	**02 00 40.9**	**+2.3**
MLR	**Muntele Rosu**	**24.27**	**315**	P	**P**	**02 00 38.4**	**-0.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MLR	**Muntele Rosu**	**24.27**	**315**	⇓P	**P**	**02 00 40.9**	**+2.3**
AKASG	**Malin Array Be**	**25.59**	**328**	P	**P**	**02 00 50.1**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.4,baz=136,slow=8.9,SNR=7.6						
BURAR	**Bucovina Array**	**25.79**	**318**	⇑P	**P**	**02 00 53.6**	**+1.2**
BURAR	**Bucovina Array**	**25.79**	**318**	⇑P	**P**	**02 00 53.6**	**+1.2**
GZR	**Gura Zlata**	**26.22**	**312**	⇑P	**P**	**02 00 58.0**	**+1.7**
GZR	**Gura Zlata**	**26.22**	**312**	⇑P	**P**	**02 00 58.0**	**+1.8**
DRGR		**26.87**	**315**	⇑P	**P**	**02 01 08.6**	**+6.5**
DRGR		**26.87**	**315**	⇑P	**P**	**02 01 08.6**	**+6.5**
MK31	**Makanchi Array**	**29.30**	**48**	*e*P	**P**	**02 01 22.9**	**-0.9**
MKAR	**Makanchi Array**	**29.30**	**48**	P	**P**	**02 01 25.1**	**+1.3**
	comp=Z,1.5nm,0.6s,mb3.9,baz=238,slow=9.5,SNR=26						
GERES	**GERESS Array B**	**33.25**	**314**	P	**P**	**02 01 58.2**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=77,slow=13,SNR=3.1						
ZAL	**Zalesovo**	**33.88**	**37**	P	**P**	**02 02 04.6**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=234,slow=8.7,SNR=6.6						
ZAL	**Zalesovo**	**33.88**	**37**	P	**P**	**02 02 04.6**	**+0.6**
KMBO	**Kilima Mbogo**	**34.03**	**204**	LR	LR	02 16 28.4	
	comp=Z,56nm,20.4s,MS3.3,baz=83,slow=37						
FINES	**FINESS Array B**	**34.75**	**340**	P	**P**	**02 02 11.0**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=149,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**34.75**	**340**	P	**P**	**02 02 11.0**	**-0.6**
HFS	**Hagfors**	**38.36**	**331**	P	**P**	**02 02 41.6**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.1,baz=137,slow=8.0,SNR=21						
NB2	**NORSAR Subarra**	**39.88**	**331**	P	**P**	**02 02 54.7**	**-0.3**
	comp=Z,1.2nm,0.7s

ZAL	**Zalesovo**	**44.74**	**46**	P		**P**		**02 34 07.3**	**-0.2**
	1.0nm,0.5s,mb3.9,baz=204,slow=9.8,SNR=4.3								
SONM	**Songino Array**	**59.11**	**51**	P		**P**		**02 35 56.0**	**+1.4**
	0.6nm,0.5s,mb3.9,baz=283,slow=7.5,SNR=7.5								

IDC ***30*** *02:44:39.2±0.5, 4678N×15485E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.5/28, mbtmp4.4/24, ML4.0/1, MS3.6/6, Ms1 3.7/6, ms1mx3.3/30, Error ellipse: s-maj=14.8km s-min=12.7km az=149.0*

NEIC ***30*** *02:44:40.8±0.2, 4675N×15484E, h10km, mb4.6/39, Error ellipse: s-maj=6.6km s-min=4.0km az=158.0*

ISCJB ***30*** *02:44:42.7±0.3, 4676N±006×15484E±005, h35km, mb4.5/76, MS3.7/7, Error ellipse: s-maj=8.6km s-min=4.4km az=144.8*

BJI ***30*** *02:44:43.0, 4699N×15428E, h10km, mB4.7, mb4.7, Ms4.0, Msz3.9*

MOS ***30*** *02:44:43.5±1.0, 4667N×15476E, h46km, mb4.8/32, Error ellipse: s-maj=8.7km s-min=7.7km az=81.5*

SZGRF ***30*** *02:45:03.5, 5050N×15859E, h33km, mb4.8, East of Kuril Islands, Russia*

ISC 30 02:44:44.8±0.3, 4681N±006×15486E±005, h35km, n186, σ1§10/178, mb4.5/76, MS3.7/7, 12C-17D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SKR	**Severo-Kuril's**	**3.97**	**12**	*e*PN	**Pn**		**02 45 40.0**	**-3.1**
SKR				pmax	pmax			
	comp=N,80nm,0.5s							
SKR				pmax	pmax			
	comp=E,80nm,0.5s							
SKR				pmax	pmax			
	comp=Z,90nm,0.5s							
SKR				MLR	MLR			
	comp=E,2μm,18.0s							
SKR				MLR	MLR			
	comp=Z,2μm,18.0s							
SKR				MLR	MLR			
	comp=N,2μm,16.0s							
KUR	**Kuril'sk**	**5.12**	**255**	*i*PN	**Pn**		**02 45 55.6**	**-3.3**
KUR				pmax	pmax			
	comp=N,110nm,0.5s							
KUR				pmax	pmax			
	comp=E,110nm,0.5s							
KUR				pmax	pmax			
	comp=Z,380nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.29**	**275**	*e*PN	**Pn**		**02 46 44.0**	**+1.4**
YSS				MLR	MLR			
	comp=N,600nm,16.0s							
YSS				MLR	MLR			
	comp=E,900nm,16.0s							
YSS				MLR	MLR			
	comp=Z,600nm,16.0s							
ASAJ	**Asahikawa**	**9.03**	**257**	Pn	**Pn**		**02 46 53.5**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=98,slow=20,SNR=6.4							
ASAJ				LR	LR		02 50 00.4	
	comp=Z,142nm,19.8s,baz=78,slow=36							
ERM	**Erimo**	**9.64**	**244**	*i* PN	**Pn**		**02 46 59.2**	**-1.8**
ERM	**Erimo**	**9.64**	**244**	*e*Pn	**Pn**		**02 46 59.1**	**-1.9**
MJAR	**Matsushiro Arr**	**16.09**	**236**	Pn	**Pn**		**02 48 25.1**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=33,slow=13,SNR=9.8							
MAJO	**Matsushiro**	**16.09**	**236**	*e*P	**Pn**		**02 48 24.9**	**-3.4**
MAJO				pmax	pmax			
	comp=Z,37nm,0.8s							
MAJO	**Matsushiro**	**16.09**	**236**	*e*P	**Pn**		**02 48 24.9**	**-3.4**
	comp=Z,37nm,0.8s							
MDJ	**Mudanjiang**	**17.76**	**272**	*e*P	**Pn**		**02 48 47.5**	**-1.7**
	comp=Z,4.8nm,0.4s							
KSRS	**Korea Array**	**21.96**	**255**	P	**P**		**02 49 36.2**	**+0.8**
	comp=Z,3.5nm,0.8s,mb3.9,baz=59,slow=8.5,SNR=7.5							
BILL	**Bilibino**	**22.08**	**11**	⇑*e*P	**P**		**02 49 37.2**	**+0.5**
BILL				*e*			02 49 46.1	
BILL				*e*			02 49 55.0	
BILL				pmax	pmax			
	comp=Z,40nm,1.4s,mb4.7							
BILL	**Bilibino**	**22.08**	**11**	*e*P	**P**		**02 49 36.0**	**-0.7**
	comp=Z,29nm,0.9s,mb4.7							
SNY	**Shenyang**	**22.84**	**269**	⇑P	**P**		**02 49 43.0**	**-1.8**
SNY				S	S		**02 53 54.0**	**+2.1**
SNY				AMB	AMB			
	comp=Z,18nm,1.0s,mb4.5							
SNY				AMB	AMB			
	comp=Z,66nm,4.4s							
SNY				LR	LR			
	comp=E,215nm,13.8s							
SNY				LR	LR			
	comp=Z,196nm,17.4s,MS3.6							
BOD	**Bodaibo**	**26.88**	**309**	*e*P	**P**		**02 50 18.1**	**-4.1**
BOD				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.1							
TIXI	**Tiksi**	**27.76**	**343**	*e*P	**P**		**02 50 25.4**	**-4.8**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.3							
TIXI				MLR	MLR			
	comp=Z,116nm,13.0s,MS3.6							
TIXI	**Tiksi**	**27.76**	**343**	*e*P	**P**		**02 50 28.0**	**-2.1**
	comp=Z,8.2nm,0.9s,mb4.4							
NJ2	**Nanjing**	**31.16**	**255**	*e*P	**P**		**02 50 59.5**	**-0.8**
NJ2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.2							
ULN	**Ulaanbaatar**	**32.01**	**290**	*e*P	**P**		**02 51 07.0**	**-0.8**
SONM	**Songino Array**	**32.44**	**290**	P	**P**		**02 51 10.7**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.8,baz=64,slow=8.7,SNR=7.5							
SONM				PcP	PcP		02 53 58.1	-0.1
	comp=Z,0.6nm,0.7s,baz=132,slow=4.1,SNR=3.6							
SONM				LR	LR		03 04 24.6	
	comp=Z,80nm,18.2s,MS3.5,baz=115,slow=36							
SONM	**Songino Array**	**32.44**	**290**	P	**P**		**02 51 10.7**	**-0.9**
SONM							02 53 58.1	
IMA2	**Indian Mountai**	**33.06**	**36**	*e*P	**P**		**02 51 16.0**	**-1.0**
TLY	**Talaya**	**33.22**	**298**	*e*P	**P**		**02 51 16.7**	**-1.6**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
TLY	**Talaya**	**33.22**	**298**	*e*P	**P**		**02 51 16.7**	**-1.6**
	comp=Z,7.2nm,0.6s,mb4.8							
ZAK	**Zakamensk**	**33.74**	**295**	*e*P	**P**		**02 51 21.9**	**-1.0**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
MCK	**McKinley**	**34.83**	**40**	*e*P	**P**		**02 51 31.6**	**-0.7**
MCK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
MCK	**McKinley**	**34.83**	**40**	*e*P	**P**		**02 51 31.6**	**-0.8**
	comp=Z,2.8nm,1.0s,mb4.2							
WHN	**Wuhan**	**35.11**	**257**	*e*P	**P**		**02 51 35.8**	**+1.1**
COLA	**College**	**35.35**	**38**	*e*P	**P**		**02 51 36.5**	**-0.3**
COLA				pmax	pmax			
	comp=Z,14nm,1.3s,mb4.7							
COLA	**College**	**35.35**	**38**	*e*P	**P**		**02 51 36.5**	**-0.3**
	comp=Z,14nm,1.3s,mb4.7							
XAN	**Xi'an**	**36.72**	**266**	P	**P**		**02 51 48.5**	**0.0**
XAN				XP	sP		02 51 59.8	-3.1
XAN				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.3							
EGAK	**Eagle**	**38.21**	**39**	*e*P	**P**		**02 52 00.2**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.4							
DAWY	**Dawson**	**39.03**	**40**	*e*P	**P**		**02 52 08.1**	**0.0**
LZH	**Lanzhou**	**39.08**	**273**	*e*P	**P**		**02 52 10.0**	**+1.5**
LZH				AMB	AMB			
	comp=Z,25nm,1.0s,mb4.9							
LZH				AMB	AMB			
	comp=Z,140nm,4.1s							
LZH	**Lanzhou**	**39.08**	**273**	*e*P	**P**		**02 52 10.1**	**+1.6**
LZH				*PP	pP		02 52 21.2	+2.5
LZH				*SP	sP		02 52 27.0	+4.1
LZH				pmax	pmax			
	comp=Z,25nm,1.0s,mb4.9							
LZH	**Lanzhou**	**39.08**	**273**	*e*P	**P**		**02 52 10.1**	**+1.6**
	comp=Z,25nm,1.0s,mb4.9							
LZH				pP	pP		02 52 21.2	+2.5
LZH				sP	sP		02 52 27.0	+4.1
INK	**Inuvik**	**40.96**	**33**	P	**P**		**02 52 23.8**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.1,baz=294,slow=7.2,SNR=25							
INK	**Inuvik**	**40.96**	**33**	*e*P	**P**		**02 52 23.6**	**-0.5**
	comp=Z,247nm,1.1s							
ZAL	**Zalesovo**	**43.56**	**306**	P	**P**		**02 52 44.4**	**-0.8**
	comp=Z,3.3nm,0.5s,mb4.3,baz=38,slow=7.3,SNR=12							
ZAL				PcP	PcP		02 54 32.5	0.0
	comp=Z,1.3nm,0.6s,baz=8.1,slow=3.4,SNR=3.7							
ZAL				LR	LR		03 12 09.1	
	comp=Z,96nm,18.3s,MS3.7,baz=78,slow=38							
ZAL	**Zalesovo**	**43.56**	**306**	P	**P**		**02 52 44.4**	**-0.8**
ZAL							02 54 32.5	
NVS	**Novosibirsk**	**44.10**	**308**	*e*P	**P**		**02 52 48.6**	**-1.0**
MK31	**Makanchi Array**	**47.98**	**298**	*i* P	**P**		**02 53 19.1**	**-1.0**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
MK31	**Makanchi Array**	**47.98**	**298**	*e*P	**P**		**02 53 19.3**	**-0.8**
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**		**02 53 19.8**	**-0.2**
	comp=Z,2.6nm,0.6s,mb4.5,baz=68,slow=7.7,SNR=33							
MKAR				LR	LR		03 16 08.0	
	comp=Z,69nm,19.6s,MS3.6,baz=357,slow=39							
MKAR	**Makanchi Array**	**47.98**	**298**	⇑*e*P	**P**		**02 53 19.7**	**-0.4**
KURK	**Kurchatov**	**48.33**	**304**	*e*P	**P**		**02 53 21.2**	**-1.6**
KURK				pmax	pmax			
	comp=Z,12nm,0.7s,mb5.0							
KURK	**Kurchatov**	**48.33**	**304**	*e*P	**P**		**02 53 21.2**	**-1.5**
	comp=Z,12nm,0.7s,mb5.0							
YKA	**Yellowknife Ar**	**50.16**	**37**	P	**P**		**02 53 36.3**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=296,slow=7.4,SNR=11							
YKA				PcP	PcP		02 54 55.8	0.0
	comp=Z,0.8nm,0.7s,baz=303,slow=3.7,SNR=5.3							
YKA	**Yellowknife Ar**	**50.16**	**37**	P	**P**		**02 53 36.3**	**-0.5**
YKA				PcP	PcP		02 54 55.8	0.0
BVA0	**Borovoye Array**	**51.74**	**310**	*i* P	**P**		**02 53 47.6**	**-1.1**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.8							
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**		**02 53 48.2**	**-0.5**
	comp=Z,5.6nm,0.5s,mb4.7,baz=47,slow=7.0,SNR=23							
BVAR				LR	LR		03 15 11.4	
	comp=Z,85nm,18.2s,MS3.8,baz=313,slow=35							
BRVK	**Borovoye**	**51.78**	**310**	*e*P	**P**		**02 53 48.1**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
BRVK	**Borovoye**	**51.78**	**310**	*e*P	**P**		**02 53 48.1**	**-0.9**
	comp=Z,7.0nm,0.6s,mb4.8							
CHTO	**Chiang Mai**	**53.30**	**258**	*e*P	**P**		**02 54 01.7**	**+1.5**
CHTO				pmax	pmax			
	comp=Z,14nm,1.4s,mb4.7							
CHTO	**Chiang Mai**	**53.30**	**258**	*e*P	**P**		**02 54 01.7**	**+1.5**
	comp=Z,14nm,1.4s,mb4.7							
AAK	**Ala-Archa**	**54.88**	**297**	⇑*i*P	**P**		**02 54 11.4**	**-0.3**
AAK				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8							
AAK	**Ala-Archa**	**54.88**	**297**	*e*P	**P**		**02 54 11.4**	**-0.3**
	comp=Z,8.4nm,0.9s,mb4.8							
EDM	**Edmonton**	**55.41**	**47**	*e*P	**P**		**02 54 14.2**	**-1.3**
ARU	**Arti**	**55.77**	**318**	⇓*i*P	**P**		**02 54 17.4**	**-0.8**
ARU				*e*			02 55 14.1	
ARU				*e*			02 56 20.1	
ARU				*e*S	**S**		**03 02 03.2**	**+0.6**
ARU				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9							
ARU	**Arti**	**55.77**	**318**	*e*P	**P**		**02 54 17.3**	**-0.8**
	comp=Z,13nm,0.6s,mb5.1							
GUN	**Gumba**	**56.19**	**276**	*e*P	**P**		**02 54 22.8**	**+1.7**
	comp=Z,18nm,0.5s,mb5.3							
KKN	**Kakani**	**56.67**	**276**	*e*P	**P**		**02 54 26.1**	**+1.5**
	comp=Z,13nm,0.5s,mb5.2							
DMN	**Daman**	**56.91**	**276**	*e*P	**P**		**02 54 27.8**	**+1.5**
	comp=Z,35nm,0.8s,mb5.4							
GKN	**Gorkha**	**56.98**	**277**	*e*P	**P**		**02 54 28.3**	**+1.6**
	comp=Z,19nm,0.6s,mb5.3							
KK31	**Karatay Array**	**57.02**	**300**	*i* P	**P**		**02 54 27.2**	**+0.2**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
KKAR	**Karatay Array**	**57.02**	**300**	*i* P	**P**		**02 54 27.2**	**+0.2**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
KOLN	**Koldanda**	**57.83**	**278**	*e*P	**P**		**02 54 34.0**	**+1.2**
	comp=Z,29nm,1.0s,mb5.3							
MOD	**Modoc**	**58.02**	**61**	*e*P	**P**		**02 54 33.7**	**-0.4**
	comp=Z,2.3nm,1.0s,mb4.2							
BMO	**Blue Mountains**	**58.04**	**57**	*e*P	**P**		**02 54 34.1**	**-0.2**
BMO				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
BMO	**Blue Mountains**	**58.04**	**57**	*e*P	**P**		**02 54 34.1**	**-0.1**
	comp=Z,1.8nm,1.0s,mb4.1							
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**		**02 54 34.7**	**-0.5**
	comp=Z,5.8nm,0.9s,mb4.6,baz=37,slow=7.7,SNR=13							
ARCES				LR	LR		03 22 31.4	
	comp=Z,114nm,18.6s,MS4.0,baz=201,slow=39							
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**		**02 54 34.7**	**-0.5**
ARCES				LR	LR		03 22 31.4	
WVOR	**Wild Horse Val**	**58.70**	**60**	*e*P	**P**		**02 54 38.4**	**-0.4**
WVOR				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
WVOR	**Wild Horse Val**	**58.70**	**60**	*e*P	**P**		**02 54 38.4**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.3							
CHMT	**Chamberlain Mo**	**59.10**	**53**	*e*P	**P**		**02 54 41.3**	**-0.3**
AB31	**Akbulak array**	**59.30**	**311**	*i* P	**P**		**02 54 42.8**	**-0.2**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7							
AKTK	**Aktyubinsk**	**59.58**	**313**	P	**P**		**02 54 44.6**	**-0.3**
AKTO	**Aktyubinsk**	**59.58**	**313**	P	**P**		**02 54 44.6**	**-0.3**
	comp=Z,2.4nm,0.5s,mb4.5,baz=58,slow=7.8,SNR=13							
CMB	**Columbia Colle**	**60.30**	**65**	*e*P	**P**		**02 54 49.6**	**-0.3**
CMB				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
CMB	**Columbia Colle**	**60.30**	**65**	*e*P	**P**		**02 54 49.6**	**-0.2**
	comp=Z,3.9nm,1.0s,mb4.4							
BMN	**Battle Mountai**	**60.76**	**61**	*e*P	**P**		**02 54 53.4**	**+0.4**
BMN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.6							
BMN	**Battle Mountai**	**60.76**	**61**	*e*P	**P**		**02 54 53.4**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.6							
QLMT	**Earthquake Lak**	**61.38**	**54**	*e*P	**P**		**02 54 57.6**	**+0.4**
IMW	**Indian Meadow**	**62.24**	**55**	*e*P	**P**		**02 55 04.0**	**+1.0**
	comp=Z,5.1nm,1.1s,mb4.6							
MOOW	**Moose Ponds**	**62.44**	**55**	*e*P	**P**		**02 55 05.0**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.3							
REDW	**Red Top Meadow**	**62.63**	**55**	*e*P	**P**		**02 55 06.5**	**+0.9**
	comp=Z,16nm,1.6s,mb4.9							
LAO	**LASA Array**	**63.01**	**50**	*e*P	**P**		**02 55 08.7**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.8							
DUG	**Dugway**	**63.52**	**59**	*e*P	**P**		**02 55 11.8**	**+0.3**
DUG				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
DUG	**Dugway**	**63.52**	**59**	*e*P	**P**		**02 55 11.8**	**+0.2**
	comp=Z,3.4nm,1.0s,mb4.3							
BW06	**Boulder Array**	**63.74**	**55**	*e*P	**P**		**02 55 12.9**	**-0.1**
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**		**02 55 13.2**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=304,slow=2.7,SNR=13							
NLU	**North Lily Min**	**64.11**	**59**	*e*P	**P**		**02 55 15.8**	**+0.4**
FIA1	**FINESS Array S**	**64.49**	**335**	*e*P	**P**		**02 55 17.7**	**-0.2**
FINES	**FINESS Array B**	**64.49**	**335**	P	**P**		**02 55 17.1**	**-0.8**
	comp=Z,4.3nm,0.4s,mb4.8,baz=41,slow=7.4,SNR=80							
MSU	**Marysvale**	**64.99**	**60**	*e*P	**P**		**02 55 21.2**	**+0.1**
SRU	**San Rafael**	**65.57**	**58**	*e*P	**P**		**02 55 25.1**	**+0.2**
SRU				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
SRU	**San Rafael**	**65.57**	**58**	*e*P	**P**		**02 55 25.1**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.5							
PFO	**Pinyon Flat Ob**	**65.57**	**66**	P	**P**		**02 55 24.8**	**-0.1**
	comp=Z,3.8nm,0.4s,mb4.8,baz=61,slow=12,SNR=15							
PFO	**Pinyon Flat Ob**	**65.57**	**66**	P	**P**		**02 55 24.8**	**-0.1**
ULM	**Lac du Bonnet**	**65.69**	**42**	P	**P**		**02 55 25.1**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=302,slow=6.0,SNR=7.2							
RSSD	**Black Hills**	**65.86**	**51**	*e*P	**P**		**02 55 26.7**	**-0.1**
RSSD				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
RSSD	**Black Hills**	**65.86**	**51**	*e*P	**P**		**02 55 26.7**	**-0.1**
	comp=Z,7.6nm,0.9s,mb4.7							
OBN	**Obninsk**	**65.93**	**326**	*e*P	**P**		**02 55 26.9**	**-0.3**
OBN				pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.6							
CTA	**Charters Tower**	**67.03**	**189**	P	**P**		**02 55 33.5**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.4,baz=356,slow=6.3,SNR=4.8							
CTA	**Charters Tower**	**67.03**	**189**	P	**P**		**02 55 33.5**	**-0.8**
ISCO	**Idaho Springs**	**67.93**	**55**	*e*P	**P**		**02 55 40.3**	**+0.4**
ISCO				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
ISCO	**Idaho Springs**	**67.93**	**55**	*e*P	**P**		**02 55 40.3**	**+0.4**
	comp=Z,4.4nm,0.8s,mb4.5							
NB2	**NORSAR Subarra**	**68.55**	**342**	P	**P**		**02 55 43.0**	**-0.8**
	comp=Z,6.5nm,0.9s,mb4.6,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**		**02 55 43.3**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.4,baz=26,slow=6.4,SNR=8.5							
WB2	**Warramunga Arr**	**68.97**	**201**	*e*P	**P**		**02 55 45.9**	**-0.6**
WRA	**Warramunga Arr**	**68.97**	**201**	P	**P**		**02 55 45.9**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=20,slow=7.1,SNR=14							
ANMO	**Albuquerque**	**70.78**	**59**	P	**P**		**02 55 58.0**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.0,baz=322,slow=7.2,SNR=8.5							
ANMO	**Albuquerque**	**70.78**	**59**	*e*P	**P**		**02 55 56.8**	**-0.7**
ANMO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ANMO	**Albuquerque**	**70.78**	**59**	*e*P	**P**		**02 55 56.8**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0							
ZEI	**Tsey**	**71.89**	**314**	*e*P	**P**		**02 56 03.0**	**-1.3**
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**		**02 56 05.3**	**-0.5**
	comp=Z,3.1nm,0.5s,mb4.5,baz=34,slow=6.0,SNR=7.8							
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**		**02 56 05.3**	**-0.5**
AS31	**Alice Springs**	**72.66**	**200**	*e*P	**P**		**02 56 08.9**	**+0.1**
ASAR	**Alice Springs**	**72.66**	**200**	P	**P**		**02 56 09.2**	**+0.4**
	comp=Z,4.6nm,0.7s,mb4.5,baz=14,slow=5.5,SNR=34							
MNTX	**Cornudas Mount**	**73.69**	**61**	*e*P	**P**		**02 56 15.1**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.1							
KWP	**Kalwaria**	**75.38**	**330**	*e*P	**P**		**02 56 24.8**	**+0.1**
KWP				pmax	pmax			
	comp=Z,24nm,1.1s,mb5.0							
KWP	**Kalwaria**	**75.38**	**330**	*e*P	**P**		**02 56 24.8**	**0.0**
	comp=Z,24nm,1.1s,mb5.0							
BURAR	**Bucovina Array**	**76.19**	**328**	⇑*i*P	**P**		**02 56 29.5**	**+0.1**
BURAR	**Bucovina Array**	**76.19**	**328**	⇑P	**P**		**02 56 29.5**	**+0.1**
LTX	**Lajitas**	**76.42**	**62**	*e*P	**P**		**02 56 30.6**	**-0.1**
LTX				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.9							
LTX	**Lajitas**	**76.42**	**62**	*e*P	**P**		**02 56 30.6**	**0.0**
	comp=Z,14nm,0.9s,mb4.9							
TXAR	**Lajitas Array**	**76.42**	**62**	P	**P**		**02 56 30.9**	**+0.2**
	comp=Z,7.4nm,0.5s,mb4.9,baz=304,slow=4.9,SNR=204							
UPC	**Upice**	**76.76**	**334**	*e*P	**P**		**02 56 36.8**	**+4.2**
DPC	**Dobruska-Polom**	**76.81**	**334**	*e*P	**P**		**02 56 35.7**	**+2.8**
DPC				*ex*	x		02 56 47.4	
CLL	**Collm**	**76.90**	**337**	*i* P	**P**		**02 56 32.7**	**-0.7**
CLL				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
CLL	**Collm**	**76.90**	**337**	*i* P	**P**		**02 56 32.7**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.3							
CLL				*i*			02 56 35.9	
CLL	**Collm**	**76.90**	**337**	*i* P	**P**		**02 56 32.7**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.3							
CLL				*i* pP	pP		02 56 35.9	-8.4
	comp=Z,9.0nm,0.6s							
CLL				*i* sPcP			02 56 48.7	
MORC	**Moravsky Berou**	**76.94**	**333**	⇓*i*P	**P**		**02 56 36.8**	**+3.2**
MORC	**Moravsky Berou**	**76.94**	**333**	*e*P	**P**		**02 56 34.8**	**+1.2**
MORC				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
MORC	**Moravsky Berou**	**76.94**	**333**	*e*P	**P**		**02 56 34.8**	**+1.2**
	comp=Z,4.9nm,0.8s,mb4.5							
BRG	**Berggiesshubel**	**77.03**	**336**	*e*P	**P**		**02 56 36.7**	**+2.6**
	comp=Z,2.7nm,0.9s,mb4.2							
BRG	**Berggiesshubel**	**77.03**	**336**	*e*P	**P**		**02 56 36.7**	**+2.6**
BRG				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
VRAC	**Vranov**	**77.64**	**334**	⇓*i*P	**P**		**02 56 41.0**	**+3.4**
VRAC	**Vranov**	**77.64**	**334**	⇓P	**P**		**02 56 41.0**	**+3.5**
PRU	**Pruhonice**	**77.65**	**335**	*e*P	**P**		**02 56 38.8**	**+1.2**
PRU				*ex*	x		02 56 51.9	
MLR	**Muntele Rosu**	**77.70**	**326**	⇓*i*P	**P**		**02 56 38.8**	**+0.9**
MLR	**Muntele Rosu**	**77.70**	**326**	⇓P	**P**		**02 56 38.8**	**+0.9**
DRGR		**77.80**	**329**	⇓*i*P	**P**		**02 56 41.3**	**+2.9**
DRGR		**77.80**	**329**	⇓P	**P**		**02 56 41.3**	**+2.9**
JCT	**Junction City**	**77.88**	**58**	*e*P	**P**		**02 56 38.5**	**-0.4**
MALT	**Malatya**	**77.98**	**314**	⇓*i*P	**P**		**02 56 40.9**	**+1.4**
MALT	**Malatya**	**77.98**	**314**	⇓P	**P**		**02 56 40.9**	**+1.4**
NKC	**Novy Kostel**	**78.02**	**336**	*e*P	**P**		**02 56 42.9**	**+3.2**
NKC				*ex*	x		02 56 55.5	
KHC	**Kasperske Hory**	**78.70**	**335**	*e*P	**P**		**02 56 43.6**	**+0.2**
KHC				*ex*	x		02 56 56.2	
GRF	**Grafenberg Arr**	**78.85**	**337**	*e*P	**P**		**02 56 47.8**	**+3.6**
	comp=Z,7.0nm,0.9s,mb4.6							
GRF	**Grafenberg Arr**	**78.85**	**337**	*e*P	**P**		**02 56 47.8**	**+3.6**
GRF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
GRF	**Grafenberg Arr**	**78.85**	**337**	*e*P	**P**		**02 56 47.8**	**+3.6**
GRF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							

4.7nm,0.8s
FITZ Fitzroy Crossi 11.29 192 P Pn 02 52 36.2 -1.0
0.3nm,0.3s,baz=22,slow=10,SNR=11
WRAB Tennant Creek 14.26 155 eP P 02 53 10.3 -0.2
3.8nm,0.6s
WRA Warramunga Arr 14.26 155 P P 02 53 10.4 -0.2
1.5nm,0.3s,baz=330,slow=12,SNR=124
WB2 Warramunga Arr 14.27 155 iP P 02 53 10.4 -0.2
WB2 eS S 02 55 46.6 +1.3
AS31 Alice Springs 17.52 162 eP P 02 53 45.7 -0.1
ASPA Alice Springs 17.52 162 iP P 02 53 46.0 +0.2
ASAR Alice Springs 17.52 162 P P 02 53 45.9 0.0
0.9nm,0.3s,baz=344,slow=12,SNR=72
KSM Kuching 19.57 295 eP P 02 54 08.2 +0.7
STKA Stephens Creek 27.82 155 P P 02 55 19.4 -2.9
0.9nm,0.5s,mb3.3,baz=330,slow=16,SNR=3.4
STKA Stephens Creek 27.82 155 P P 02 55 19.4 -2.9
KULM Kulim 29.92 293 eP P 02 55 41.1 +0.3

NIED ***30*** *02:59:00,3740N×13970E,h11km,Mw4.0 Best double couple: M₀1.03000×10¹⁵ NP1:φ₀=258.00000°,δ82.00000°, λ170.00000°. NP2:φ₀=349.00000°,δ81.00000°,λ8.00000°.*
ISCJB ***30*** *02:59:14.1±0.4,3743N±003×13969E±003,h8km±3km, mb4.0/9,Error ellipse: s-maj=5.0km s-min=4.0km az=127.4*
JMA ***30*** *02:59:14.7,3743N×13970E,h4km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φs113.00000°,δ46.00000°,λ-115.00000°. NP2: φs328.00000°,δ50.00000°,λ-66.00000°. Principal axes: T Plg2.0000°, Azm41.0000°; N Plg18.0000°, Azm132.0000°; P Plg72.0000°, Azm305.0000°;*
JMA Felt III J1.
IDC ***30*** *02:59:19.5±3.7,3734N×13947E,h34km±30km,mb3.8/6, mb1 4.1/7,mb1mx3.7/22,mbtmp3.7/7,ML3.3/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/27 Error ellipse: s-maj=38.2km s-min=22.6km az=100.0*
NEIC ***30*** *02:59:21.1±1.8,3730N×13946E,h49km±16km,mb4.1/3, Error ellipse: s-maj=18.7km s-min=13.3km az=59.0*
NEIC Recorded [3 JMA] in Fukushima and [2 JMA] in Niigata Prefectures.

ISC 30 02:59:14.8±0.4,3743N±003×13969E±003,h4km±3km,n25, σ0§63/33,mb4.0/9,6C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.03**	**156**	P	**Pg**	**02 59 15.6**	**0.0**
JFY				S	**Sg**	**02 59 16.2**	**0.0**
JNS	**Sasagawa**	**0.49**	**323**	⇓P	**Pg**	**02 59 24.3**	**+0.1**
JNS				S	**Sg**	**02 59 31.4**	**+0.9**
JSB	**Shiboa**	**0.49**	**158**	P	**Pg**	**02 59 24.7**	**+0.4**
JSB				eS	**Sg**	**02 59 31.5**	**+0.8**
JFT	**Otama**	**0.52**	**80**	⇑P	**Pg**	**02 59 24.7**	**-0.1**
JFT				S	**Sg**	**02 59 31.6**	**+0.1**
JHK	**Hiroka**	**0.57**	**252**	⇑P	**Pg**	**02 59 25.7**	**0.0**
JHK				S	**Sg**	**02 59 33.3**	**+0.3**
JKT	**Katashina**	**0.75**	**208**	⇑P	**Pg**	**02 59 29.1**	**-0.1**
JKT				S	**Sg**	**02 59 39.1**	**+0.2**
JYS	**Shirataka**	**0.84**	**20**	⇑P	**Pg**	**02 59 30.7**	**-0.3**
JYS				S	**Sg**	**02 59 41.8**	**-0.1**
JFK	**Kawauchi**	**0.94**	**93**	⇑P	**Pg**	**02 59 32.1**	**-0.8**
JFK				S	**Sg**	**02 59 45.2**	**+0.1**
JMM	**Marumori**	**0.98**	**63**	⇑P	**Pg**	**02 59 32.9**	**-0.6**
MAJO	**Matsushiro**	**1.48**	**234**	ePn	**Pn**	**02 59 42.0**	**-0.2**
MAJO				eSn	**Sn**	**02 59 57.1**	**-4.9**
MAT	**Matsushiro**	**1.48**	**234**	P	**Pn**	**02 59 41.9**	**-0.3**
MAT				S	**Sn**	**03 00 02.2**	**+0.2**
MJAR	**Matsushiro Arr**	**1.48**	**234**	Pg	**Pg**	**02 59 42.5**	**-0.7**
53nm,0.3s,baz=49,slow=11,SNR=306							
MJAR				Lg		03 00 02.1	
33nm,0.3s,baz=174,slow=2.5,SNR=10							
JNU	**Nakatsue**	**8.39**	**242**	LR	LR	03 04 16.1	
comp=Z,949nm,19.3s,baz=289,slow=36							
KSRS	**Korea Array**	**9.36**	**274**	Pn	**Pn**	**03 01 30.2**	**-0.2**
baz=81,slow=10,SNR=5.6							
KSRS				LR	LR	03 04 43.2	
comp=Z,65nm,19.7s,baz=95,slow=35							
JOW	**Kunigami**	**14.31**	**226**	LR	LR	03 07 47.6	
comp=Z,105nm,20.2s,baz=351,slow=36							
KURK	**Kurchatov**	**44.60**	**308**	eP	**P**	**03 07 28.1**	**0.0**
2.0nm,0.7s,mb4.1							
AAK	**Ala-Archa**	**49.09**	**298**	eP	**P**	**03 08 03.0**	**-0.3**
1.0nm,0.6s,mb4.0							
BRVK	**Borovoye**	**49.34**	**312**	eP	**P**	**03 08 05.2**	**+0.1**
1.0nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**57.28**	**186**	P	**P**	**03 09 02.9**	**-0.7**
2.3nm,0.9s,mb4.2,baz=1,slow=7.5,SNR=25							
ASAR	**Alice Springs**	**61.01**	**186**	P	**P**	**03 09 28.6**	**-0.9**
1.1nm,0.8s,mb4.0,baz=7.2,slow=6.7,SNR=9.9							
AKASG	**Malin Array Be**	**73.14**	**321**	P	**P**	**03 10 45.9**	**-0.6**
1.4nm,0.7s,mb4.0,baz=47,slow=6.0,SNR=6.8							
NVAR	**Mina Array Bea**	**75.84**	**52**	P	**P**	**03 11 04.0**	**+1.8**
1.3nm,0.8s,mb3.9,baz=294,slow=6.8,SNR=6.5							
PDAR	**Pinedale Array**	**78.36**	**45**	P	**P**	**03 11 17.6**	**+1.3**
0.7nm,0.8s,mb3.7,baz=316,slow=4.1,SNR=6.0							
KHC	**Kasperske Hory**	**81.48**	**328**	eP	**P**	**03 11 32.0**	**-1.3**
TXAR	**Lajitas Array**	**90.96**	**51**	P	**P**	**03 12 21.2**	**+1.2**
0.5nm,0.8s,mb3.9,baz=335,slow=4.0,SNR=5.0							

NEIC ***30*** *03:46:15.5±0.7,4742N×15525E,h10km,mb4.3/3,Error ellipse: s-maj=20.2km s-min=17.5km az=173.0*
MOS ***30*** *03:46:17.7±1.5,4752N×15520E,h33km,mb4.2/6,Error ellipse: s-maj=18.5km s-min=12.5km az=94.8*
IDC ***30*** *03:46:20.4±0.8,4741N×15535E,h44km±6km, mb3.6/10, mb1 3.9/11,mb1mx3.7/24,mbtmp3.7/11,ML3.8/1,MS3.0/2, Ms1 3.0/2,ms1mx2.7/41,Error ellipse: s-maj=22.4km s-min=16.6km az=150.0*
ISCJB ***30*** *03:46:21.1±1.9,476N±0.1×1552E±0.1,h63km±15km, mb3.9/15,Error ellipse: s-maj=21.5km s-min=12.5km az=108.0*

ISC 30 03:46:22.4±1.6,476N±01×1552E±01,h61km±13km, h46km±1.1km:pP-P,n31,σ1§05/30,mb3.9/15,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.14**	**11**	ePN	**Pn**	**03 47 10.1**	**+0.7**
SKR				e		03 47 45.0	
YSS	**Yuzh-Sakhalins**	**8.49**	**270**	ePN	**Pn**	**03 48 23.8**	**+1.2**
ASAJ	**Asahikawa**	**9.46**	**253**	P	**Pn**	**03 48 33.9**	**-2.0**
1.0nm,0.3s,baz=136,slow=13,SNR=5.6							
ASAJ	**Asahikawa**	**9.46**	**253**	PN	**Pn**	**03 48 33.9**	**-2.0**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**20.42**	**324**	iP	**P**	**03 50 54.4**	**0.0**
BILL	**Bilibino**	**21.26**	**11**	eP	**P**	**03 51 03.1**	**-0.4**
BILL				pmax	pmax		
comp=Z,8.0nm,1.5s,mb3.8							
KSRS	**Korea Array**	**22.41**	**253**	P	**P**	**03 51 16.4**	**+0.6**
comp=Z,3.2nm,0.8s,mb3.8,baz=47,slow=10,SNR=6.0							
KSRS				LR	LR	04 01 27.3	
comp=Z,32nm,18.3s,baz=355,slow=40							
HIA	**Hailar**	**23.46**	**287**	iP	**P**	**03 51 26.8**	**+0.4**
TIXI	**Tiksi**	**27.08**	**342**	eP	**P**	**03 51 57.4**	**-1.8**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.7s,mb3.7							
SONM	**Songino Array**	**32.40**	**289**	LR	LR	04 05 12.4	
comp=Z,34nm,19.1s,baz=112,slow=35							
INK	**Inuvik**	**40.16**	**33**	P	**P**	**03 53 52.5**	**0.0**
comp=Z,0.8nm,0.5s,mb3.7,baz=281,slow=8.1,SNR=9.3							
MK31	**Makanchi Array**	**47.81**	**298**	eP	**P**	**03 54 53.9**	**+0.2**
MKAR	**Makanchi Array**	**47.81**	**298**	P	**P**	**03 54 52.6**	**-1.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=66,slow=7.4,SNR=7.8							
MKAR	**Makanchi Array**	**47.81**	**298**	iP	**P**	**03 54 54.0**	**+0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**48.08**	**304**	eP	**P**	**03 54 55.9**	**+0.1**
KURK	**Kurchatov**	**48.08**	**304**	eP	**P**	**03 54 55.6**	**-0.2**
comp=Z,1.6nm,0.5s,mb4.3							
BRVK	**Borovoye**	**51.46**	**310**	eP	**P**	**03 55 20.9**	**-0.5**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.46**	**310**	eP	**P**	**03 55 20.9**	**-0.5**
comp=Z,3.1nm,0.6s,mb4.4							
AAK	**Ala-Archa**	**54.73**	**297**	eP	**P**	**03 55 45.7**	**+0.2**
AAK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
AAK	**Ala-Archa**	**54.73**	**297**	eP	**P**	**03 55 45.7**	**+0.2**
comp=Z,1.1nm,0.5s,mb4.1							
ARU	**Arti**	**55.34**	**318**	eP	**P**	**03 55 47.8**	**-2.1**
PDAR	**Pinedale Array**	**63.09**	**55**	P	**P**	**03 56 42.6**	**-0.8**
comp=Z,0.6nm,1.0s,mb3.7,baz=288,slow=1.4,SNR=3.6							
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**03 56 48.8**	**+0.3**
comp=Z,2.8nm,0.6s,mb4.5,baz=34,slow=6.5,SNR=12							
FINES				pP	pP	03 57 01.0	-3.9
comp=Z,1.9nm,0.5s,baz=43,slow=8.2,SNR=3.4							
NOA	**NORSAR Array B**	**67.87**	**342**	P	**P**	**03 57 15.9**	**+1.7**
comp=Z,1.4nm,0.7s,mb4.1,baz=25,slow=6.3,SNR=3.0							
WRA	**Warramunga Arr**	**69.80**	**201**	P	**P**	**03 57 23.3**	**-2.9**
comp=Z,0.4nm,0.9s,mb3.4,baz=16,slow=6.7,SNR=4.9							
WRA	**Warramunga Arr**	**69.80**	**201**	*i* P	**P**	**03 57 26.2**	**0.0**
ASAR	**Alice Springs**	**73.48**	**200**	P	**P**	**03 57 49.2**	**+0.8**
comp=Z,0.2nm,0.5s,mb3.3,baz=9.5,slow=7.2,SNR=5.9							
ASAR	**Alice Springs**	**73.48**	**200**	P	**P**	**03 57 49.2**	**+0.8**
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**03 58 02.2**	**+0.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=302,slow=4.9,SNR=23							
TXAR				pP	pP	03 58 14.9	-3.8
comp=Z,1.0nm,0.6s,baz=300,slow=4.2,SNR=11							
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**03 58 02.2**	**+0.2**
TXAR				pP	pP	03 58 14.9	-3.8
BRTR	**Keskin Array B**	**78.73**	**318**	P	**P**	**03 58 20.4**	**+2.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=50,slow=7.8,SNR=4.0							
BRTR				pP	pP	03 58 33.9	-1.2
comp=Z,2.1nm,1.0s,baz=23,slow=4.4,SNR=5.0							

STR ***30*** *03:58:25.1±0.1,4301N×000E,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***30*** *03:58:25.3±0.1,4302N×002W,h5km,ML2.5/9,Error ellipse: s-maj=1.3km s-min=1.0km az=132.0*
LDG ***30*** *03:58:25.2±0.1,4301N×001W,h5km,Md2.5/3,Ml2.4/10, Error ellipse: s-maj=1.5km s-min=1.0km az=163.0*
MDD ***30*** *03:58:25.8±0.2,4301N×000W,h4km±5km,mbLg1.6/18, Error ellipse: s-maj=2.0km s-min=1.3km az=12.0,PRXIMO*

ISC 30 03:58:24.7±0.3,4306N±002×001E±002,h13km±4km,n59, σ0§83/83,1C,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**106**	Pg	**Pg**	**03 58 27.1**	**-0.1**
LABF				Sg	**Sg**	**03 58 28.6**	**-0.4**
LABF	**Labassere**	**0.05**	**106**	Pg	**Pg**	**03 58 27.2**	**+0.1**
LABF				Lg		03 58 28.6	
VIEF	**Viey**	**0.18**	**177**	Pg	**Pg**	**03 58 28.2**	**-0.6**
VIEF	**Viey**	**0.18**	**177**	Pg	**Pg**	**03 58 28.4**	**-0.4**
VIEF				Lg		03 58 30.5	
EPF	**Esparros**	**0.24**	**97**	ePg	**Pg**	**03 58 30.2**	**+0.3**
EPF				eSg	**Sg**	**03 58 34.2**	**+0.8**
60nm,0.3s							
EPF	**Esparros**	**0.24**	**97**	ePg	**Pg**	**03 58 30.2**	**+0.3**
EPF				eSg	**Sg**	**03 58 34.2**	**+0.8**
30nm,0.3s							
REYF	**Montagne du Re**	**0.30**	**272**	Pg	**Pg**	**03 58 30.6**	**-0.2**
REYF				Sg	**Sg**	**03 58 35.1**	**+0.2**
REYF	**Montagne du Re**	**0.30**	**272**	Pg	**Pg**	**03 58 30.8**	**0.0**
REYF				Lg		03 58 35.1	
RESF	**Ens**	**0.35**	**136**	Pg	**Pg**	**03 58 31.6**	**-0.2**
RESF				Sg	**Sg**	**03 58 36.4**	**-0.1**
RESF	**Ens**	**0.35**	**136**	Pg	**Pg**	**03 58 31.7**	**-0.1**
RESF				Lg		03 58 36.4	
EBIE	**Bielsa**	**0.39**	**165**	⇑Pg	**Pg**	**03 58 32.1**	**-0.4**
22nm,0.3s,SNR=18							
EBIE				Lg		03 58 36.8	
6.7nm,0.3s,SNR=6.2							
EBIE	**Bielsa**	**0.39**	**165**	Pg	**Pg**	**03 58 32.1**	**-0.3**
22nm,0.3s,SNR=18							
EBIE				Lg		03 58 36.8	
6.7nm,0.3s,SNR=6.2							
ETSF	**Etsaut**	**0.45**	**249**	ePg	**Pg**	**03 58 33.4**	**-0.2**
ETSF				eSg	**Sg**	**03 58 39.0**	**-0.6**
63nm,0.3s							
ETSF	**Etsaut**	**0.45**	**249**	ePg	**Pg**	**03 58 33.4**	**-0.2**
ETSF				eSg	**Sg**	**03 58 39.0**	**-0.6**
32nm,0.3s							
FDAF	**Les Forges d'A**	**0.49**	**241**	Pg	**Pg**	**03 58 34.0**	**-0.4**
FDAF				Lg		03 58 40.3	
ATE	**Arette**	**0.52**	**273**	Pg	**Pg**	**03 58 35.6**	**+0.7**
ATE	**Arette**	**0.52**	**273**	Pg	**Pg**	**03 58 35.0**	**+0.1**
ATE				Lg		03 58 42.5	
MELF	**Melles**	**0.58**	**109**	Pg	**Pg**	**03 58 36.3**	**+0.2**
MELF				Lg		03 58 44.7	
LARF	**Larrau**	**0.73**	**269**	Pg	**Pg**	**03 58 39.4**	**+0.5**
LARF	**Larrau**	**0.73**	**269**	Lg		03 58 48.7	
SJPF	**Ste Jean**	**0.91**	**274**	ePg	**Pg**	**03 58 41.8**	**-0.4**
SJPF				eSg	**Sg**	**03 58 53.4**	**-0.7**
5.8nm,0.2s							
SJPF	**Ste Jean**	**0.91**	**274**	ePg	**Pg**	**03 58 41.8**	**-0.4**
SJPF				eSg	**Sg**	**03 58 53.4**	**-0.7**
2.9nm,0.2s							
SALF	**Salau**	**0.92**	**109**	Pg	**Pg**	**03 58 42.8**	**+0.4**
SALF				Lg		03 58 54.2	
IPRE	**Itoiz**	**1.04**	**256**	Lg		03 58 58.7	
2.7nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**1.12**	**279**	Pg	**Pg**	**03 58 47.8**	**+1.5**
10nm,0.8s							
EALK				Lg		03 59 03.3	
7.9nm,0.5s,SNR=8.0							
ELIZ	**Elizondo**	**1.13**	**276**	Pg	**Pg**	**03 58 48.2**	**+1.7**
5.0nm,0.7s							
ELIZ				Lg		03 59 04.4	
2.8nm,0.2s,SNR=6.1							
IUSE	**Utxeti**	**1.15**	**265**	Pg	**Pg**	**03 58 48.0**	**+1.2**
0.1nm,0.0s,SNR=7.9							
IUSE				Lg		03 59 03.3	
2.0nm,0.3s,SNR=7.9							
IUSE	**Utxeti**	**1.15**	**265**	Pg	**Pg**	**03 58 48.0**	**+1.2**
0.1nm,0.0s,SNR=7.9							
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**03 58 51.7**	**+0.4**
10nm,0.3s,SNR=11							
ESAC				Lg		03 59 10.0	
46nm,0.2s,SNR=5.0							
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**03 58 51.7**	**+0.4**
10nm,0.3s,SNR=11							
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**03 58 55.9**	**+0.5**
2.8nm,0.4s,SNR=8.1							
EMIR				Lg		03 59 17.3	
4.8nm,0.3s,SNR=7.5							
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**03 58 55.9**	**+0.4**
2.8nm,0.4s,SNR=8.1							
MTLF	**Montolieu**	**1.64**	**79**	ePg	**Pg**	**03 58 56.2**	**+0.1**
MTLF				eSg	**Sg**	**03 59 17.5**	**+0.1**
5.4nm,0.2s							
MTLF	**Montolieu**	**1.64**	**79**	ePg	**Pg**	**03 58 56.2**	**+0.1**
MTLF				eSg	**Sg**	**03 59 17.5**	**+0.1**
2.7nm,0.2s							
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**03 58 59.5**	**-1.3**
2.2nm,0.5s,SNR=7.9							
EPOB				Lg		03 59 23.9	
4.5nm,0.4s,SNR=11							
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**03 58 59.5**	**-1.3**
2.2nm,0.5s,SNR=7.9							
ECRI	**Cripan**	**1.91**	**257**	Pg	**Pg**	**03 59 00.7**	**-0.6**
1.2nm,0.4s,SNR=4.0							
ECRI				Lg		03 59 27.5	
4.7nm,0.8s,SNR=7.9							
LFF	**La Frestale**	**1.95**	**15**	ePg	**Pg**	**03 59 02.4**	**+0.3**
LFF				eSg	**Sg**	**03 59 29.0**	**+1.6**
13nm,0.4s							
LFF	**La Frestale**	**1.95**	**15**	ePg	**Pg**	**03 59 02.4**	**+0.3**
LFF				eSg	**Sg**	**03 59 29.0**	**+1.6**
6.7nm,0.4s							
ERTA	**Horta de San J**	**2.12**	**173**	Pg	**Pg**	**03 59 03.6**	**-1.6**
3.7nm,0.4s,SNR=6.7							
ERTA				Lg		03 59 30.6	
4.1nm,0.3s,SNR=8.8							
ERTA	**Horta de San J**	**2.12**	**173**	Pg	**Pg**	**03 59 03.6**	**-1.7**
3.7nm,0.4s,SNR=6.7							
CAF	**Calviac**	**2.38**	**38**	ePg	**Pg**	**03 59 10.3**	**-0.1**
CAF				eSg	**Sg**	**03 59 41.4**	**+0.2**
2.3nm,0.2s							
CAF	**Calviac**	**2.38**	**38**	ePg	**Pg**	**03 59 10.3**	**-0.1**
CAF				eSg	**Sg**	**03 59 41.4**	**+0.2**
1.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**25**	ePg	**Pg**	**03 59 12.2**	**-0.2**
RJF				eSg	**Sg**	**03 59 45.6**	**+0.9**
3.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.49**	**25**	ePg	**Pg**	**03 59 12.2**	**-0.2**
RJF				eSg	**Sg**	**03 59 45.6**	**+0.9**
1.5nm,0.2s							
EMOS	**Mosqueruela**	**2.72**	**188**	Pn	**Pn**	**03 59 12.2**	**+4.3**
0.1nm,0.1s,SNR=7.9							
EMOS				Pg	**Pg**	**03 59 18.0**	**+1.2**
0.3nm,0.2s,SNR=7.9							
EMOS				Lg		03 59 50.4	
6.0nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**2.72**	**188**	Pn	**Pn**	**03 59 12.2**	**+4.2**
0.1nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.72**	**188**	Pg	**Pg**	**03 59 18.0**	**+1.2**
0.3nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.72**	**215**	Pn	**Pn**	**03 59 09.9**	**+1.9**
0.1nm,0.2s,SNR=7.9							
ETOR				Sn	**Sn**	**03 59 39.4**	**-1.3**
2.8nm,0.9s,SNR=4.0							
ETOR				Lg		03 59 51.3	
4.9nm,0.3s,SNR=4.6							
LASF	**Ste Croix**	**2.97**	**69**	ePn	**Pn**	**03 59 11.6**	**+0.1**
LASF	**Ste Croix**	**2.97**	**69**	ePg	**Pg**	**03 59 22.4**	**+0.7**
LASF				eSg	**Sg**	**03 59 59.7**	**-0.5**
1.8nm,0.2s							
LASF	**Ste Croix**	**2.97**	**69**	Pn	**Pn**	**03 59 11.6**	**+0.1**
LASF				Pg	**Pg**	**03 59 22.4**	**+0.7**
LASF				Lg		03 59 59.7	
0.9nm,0.2s							
LASF	**Ste Croix**	**2.97**	**69**	ePg	**Pg**	**03 59 22.4**	**+0.7**
LASF				eSg	**Sg**	**03 59 59.7**	**-0.5**
0.9nm,0.2s							
MFF	**Saint Martin d**	**3.54**	**358**	ePg	**Pg**	**03 59 31.1**	**-1.5**
MFF				eSg	**Sg**	**04 00 16.4**	**-2.1**
1.2nm,0.3s							
MFF	**Saint Martin d**	**3.54**	**358**	ePg	**Pg**	**03 59 31.1**	**-1.5**
MFF				eSg	**Sg**	**04 00 16.4**	**-2.1**
0.6nm,0.3s							
TCF	**Toulx Ste Croi**	**3.59**	**25**	ePg	**Pg**	**03 59 32.9**	**-0.5**
TCF				eSg	**Sg**	**04 00 19.5**	**-0.4**
1.0nm,0.2s							
TCF	**Toulx Ste Croi**	**3.59**	**25**	ePg	**Pg**	**03 59 32.9**	**-0.5**
TCF				eSg	**Sg**	**04 00 19.5**	**-0.4**
0.5nm,0.2s							
BGF	**Bois d'Agland**	**4.04**	**29**	eSg	**Sg**	**04 00 33.5**	**-0.8**
96nm,1.7s							
BGF	**Bois d'Agland**	**4.04**	**29**	eSg	**Sg**	**04 00 33.5**	**-0.8**
48nm,1.7s							

IDC ***30*** *04:02:20.8±1.1,1305N×12331E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.8/20,mbtmp3.9/6,ML4.6/1,MS3.0/2, Ms1 3.0/2,ms1mx2.7/35,Error ellipse: s-maj=36.3km s-min=15.2km az=47.0*
ISCJB ***30*** *04:02:24.6±0.7,1315N±006×12345E±01,h35km,mb4.0/9, MS2.8/2,Error ellipse: s-maj=16.0km s-min=8.3km az=167.1*
NEIC ***30*** *04:02:26.7±0.7,1280N×12296E,h35km,mb4.3/4,Error ellipse: s-maj=36.0km s-min=10.9km az=59.0*

ISC 30 04:02:26.5±0.7,1310N±006×1235E±01,h35km,n15, σ1§17/14,mb4.0/9,MS2.8/2,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.70**	**205**	⇑eP	**Pn**	**04 02 51.6**	**-1.9**
RCP				eS	**Sn**	**04 03 15.2**	**+1.2**
PLP	**Palo**	**2.42**	**143**	eP	**Pn**	**04 03 04.3**	**+0.9**
TGY	**Tagaytay City**	**2.67**	**292**	Pn	**Pn**	**04 03 02.7**	**-4.2**
122nm,0.3s,baz=86,slow=3.1,SNR=13							
TGY				Lg		04 03 40.8	
79nm,0.3s,baz=146,slow=18,SNR=7.6							
GUMO	**Guam**	**20.81**	**86**	LR	LR	04 13 50.2	
comp=Z,39nm,19.2s,MS2.8,baz=110,slow=33							
KSRS	**Korea Array**	**24.57**	**9**	LR	LR	04 16 51.0	
comp=Z,38nm,20.4s,MS2.9,baz=180,slow=35							
WRA	**Warramunga Arr**	**34.53**	**162**	P	**P**	**04 09 10.2**	**-1.2**
0.7nm,0.7s,mb3.7,baz=343,slow=9.2,SNR=8.8							
ULN	**Ulaanbaatar**	**37.27**	**342**	eP	**P**	**04 09 35.8**	**+0.9**
2.8nm,0.8s,mb4.1							
SONM	**Songino Array**	**37.45**	**341**	P	**P**	**04 09 34.4**	**-2.0**
1.3nm,0.8s,mb3.8,baz=151,slow=7.9,SNR=7.2							
ASAR	**Alice Springs**	**37.94**	**164**	P	**P**	**04 09 40.5**	**0.0**
0.7nm,0.7s,mb3.5,baz=355,slow=7.7,SNR=9.7							
MKAR	**Makanchi Array**	**48.13**	**323**	P	**P**	**04 11 03.0**	**+0.1**
0.6nm,0.6s,mb3.8,baz=121,slow=9.0,SNR=4.5							
AAK	**Ala-Archa**	**51.41**	**315**	eP	**P**	**04 11 31.1**	**+3.3**
4.0nm,1.1s,mb4.3							
KURK	**Kurchatov**	**52.20**	**325**	eP	**P**	**04 11 33.7**	**-0.1**
5.1nm,0.8s,mb4.5							
BRVK	**Borovoye**	**57.87**	**325**	eP	**P**	**04 12 15.1**	**+0.4**
2.6nm,0.8s,mb4.3							
ARCES	**ARCESS Array B**	**80.60**	**339**	P	**P**	**04 14 36.2**	**+0.8**
2.7nm,0.8s,mb4.2,baz=68,slow=8.0,SNR=5.4							
ARCES	**ARCESS Array B**	**80.60**	**339**	P	**P**	**04 14 36.2**	**+0.8**

NEIC ***30*** *04:19:49.0,18.18N×100.36W,h62km,MD4.0(MEX),After MEX.*

MEX 30 04:19:49.3±0.9,1823N×10039W,h50km±17km,MD4.0,2C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.79**	**112**	⇑iP	Pn	04 20 02.6	-1.6
MEIG				*i* S	Sn	04 20 13.6	-1.5
PLIG	**Platanillo**	**0.85**	**79**	⇑iP	Pn	04 20 03.5	-1.6
PLIG				*i* S	Sn	04 20 14.3	-2.3
CAIG	**El Cayaco**	**1.18**	**174**	*i* P	Pn	04 20 07.4	-2.0
CAIG				*i* S	Sn	04 20 22.6	-1.7
ZIIG	**Zihuatanejo**	**1.20**	**239**	*i* P	Pn	04 20 07.6	-2.1
ZIIG				*i* S	Sn	04 20 23.8	-1.1
YAIG	**Yautepec**	**1.40**	**

9.1nm,0.3s,SNR=6.2
EMIR Miracle 1.58 133 Lg 04 25 35.5
1.0nm,0.1s,SNR=7.9
MTLF Montolieu 1.66 78 *e*Pg Pg 04 25 15.0 -0.9
MTLF *e*Sg Sg 04 25 36.3 -1.2
3.0nm,0.3s
MTLF Montolieu 1.66 78 Pg Pg 04 25 15.0 -0.9
MTLF Lg 04 25 36.3
1.5nm,0.3s
EPOB Poblet 1.84 154 Lg 04 25 41.5
0.6nm,0.2s,SNR=7.9
LFF La Frestale 2.01 15 *e*Pg Pg 04 25 21.1 -1.4
LFF *e*Sg Sg 04 25 47.4 -1.1
1.0nm,0.3s
LFF La Frestale 2.01 15 Pg Pg 04 25 21.1 -1.4
LFF Lg 04 25 47.4
0.0nm,0.3s
ERTA Horta de San J 2.06 173 Lg 04 25 49.5
0.4nm,0.1s,SNR=7.9
CAF Calviac 2.43 37 *e*Pg Pg 04 25 28.6 -2.1
CAF *e*Sg Sg 04 26 00.6 -1.6
0.5nm,0.2s
CAF Calviac 2.43 37 Pg Pg 04 25 28.6 -2.1
CAF Lg 04 26 00.6
0.2nm,0.2s
RJF Les Rejaudoux 2.54 25 *e*Pg Pg 04 25 31.3 -1.5
RJF *e*Sn Sn 04 25 52.7 -4.3
2.9nm,0.3s
RJF Les Rejaudoux 2.54 25 Pg Pg 04 25 31.3 -1.5
RJF Sn Sn 04 25 52.7 -4.3
1.4nm,0.3s

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*ISCJB **30** 04:27:33.3±1.4, 155S±0.4×1754W±0.2, h275km±15km, mb3.7/6, Error ellipse: s-maj=63.8km s-min=19.7km az=127.7*

*NEIC **30** 04:27:34.2±1.1, 1556S×17529W, h273km±12km, mb4.1/1, Error ellipse: s-maj=41.1km s-min=13.3km az=153.0*

*IDC **30** 04:27:34.2±1.5, 1549S×17532W, h271km±23km, mb3.5/5, mb1 3.8/6, mb1mx3.5/15, mbtmp3.4/6, Error ellipse: s-maj=219.7km s-min=15.4km az=154.0*

ISC 30 04:27:34.5±1.4, 157S±04×1752W±02, h273km±14km, n9, σ0°23/10, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.77**	**63**	P		**Pn**		**04 28 36.7**	**0.0**
	5.8nm,0.3s,baz=301,slow=1.5,SNR=8.5								
AFI				S		**S**		**04 29 26.3**	**0.0**
	16nm,0.3s,baz=74,slow=22,SNR=9.1								
WRA	**Warramunga Arr**	**48.06**	**257**	P		**P**		**04 35 46.5**	**-0.2**
	2.3nm,0.9s,mb3.5,baz=89,slow=7.8,SNR=22								
AS31	**Alice Springs**	**48.34**	**252**	*e*P		**P**		**04 35 48.9**	**0.0**
ASAR	**Alice Springs**	**48.35**	**252**	P		**P**		**04 35 49.1**	**+0.2**
	8.7nm,0.6s,mb4.2,baz=86,slow=8.2,SNR=111								
NVAR	**Mina Array Bea**	**75.72**	**43**	P		**P**		**04 38 50.5**	**+0.4**
	1.3nm,0.8s,mb3.6,baz=233,slow=9.0,SNR=5.7								
NVAR	**Mina Array Bea**	**75.72**	**43**	P		**P**		**04 38 50.5**	**+0.3**
TXAR	**Lajitas Array**	**82.23**	**57**	P		**P**		**04 39 25.5**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=209,slow=9.0,SNR=3.7								
PDAR	**Pinedale Array**	**83.65**	**42**	P		**P**		**04 39 32.1**	**-0.5**
	1.3nm,0.9s,mb3.8,baz=207,slow=3.7,SNR=9.4								
SNAA	**Sanae**	**92.72**	**178**	*e*P		**P**		**04 40 15.7**	**0.0**
	2.0nm,1.0s,mb4.0								

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*ISCJB **30** 04:39:33.1±0.5, 9.16S±0.08×152.70E±0.07, h33km, mb4.4/13, MS3.7/12, Error ellipse: s-maj=11.4km s-min=9.4km az=135.5*

*IDC **30** 04:39:34.9±5.6, 9.12S×152.67E, h31km±42km, mb4.0/9, mb1 4.3/13, mb1mx4.2/18, mbtmp4.2/13, ML4.1/4, MS3.7/15, Ms1 3.7/15, ms1mx3.5/28, Error ellipse: s-maj=21.6km s-min=20.0km az=152.0*

*NEIC **30** 04:39:36.8±1.4, 9.22S×152.63E, h48km±12km, mb4.6/7, Error ellipse: s-maj=11.3km s-min=9.4km az=48.0*

ISC 30 04:39:31.3±2.8, 910S±008×15271E±006, h7km±17km, n40, σ0°88/32, mb4.4/13, MS3.7/12, 2C, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**266**	Pn		**Pn**		**04 40 55.8**	**+2.3**
	9.0nm,0.3s,baz=57,slow=12,SNR=14								
PMG				Sn		**Sn**		**04 42 11.5**	**+15**
	baz=90,slow=19,SNR=3.0								
HNR	**Honiara**	**7.15**	**93**	Pn		**Pn**		**04 41 16.2**	**-0.1**
	9.4nm,0.3s,baz=114,slow=1.8,SNR=2.6								
HNR				LR		LR		04 43 42.0	
	comp=Z,784nm,21.4s,baz=359,slow=34								
CTA	**Charters Tower**	**12.58**	**209**	*e*P		**Pn**		**04 42 30.2**	**-0.5**
	5.0nm,0.3s								
CTA	**Charters Tower**	**12.58**	**209**	Pn		**Pn**		**04 42 30.4**	**-0.3**
	2.1nm,0.3s,baz=31,slow=15,SNR=18								
CTA				LR		LR		04 45 46.9	
	comp=Z,44nm,20.8s,baz=32,slow=30								
CTAO	**Charters Tower**	**12.58**	**209**	*e*Pn		**Pn**		**04 42 29.9**	**-0.8**
	6.1nm,0.4s								
DZM	**Mont Dzumac**	**18.45**	**136**	P		**Pn**		**04 43 49.6**	**+2.0**
	0.6nm,0.3s,baz=318,slow=16,SNR=8.1								
DZM				LR		LR		04 49 47.4	
	comp=Z,529nm,18.3s,baz=244,slow=33								
KAKA	**Kakadu**	**20.23**	**258**	*e*P		**P**		**04 44 06.8**	**-0.1**
	39nm,0.8s								
WB2	**Warramunga Arr**	**20.76**	**237⇑**	*i*P		**P**		**04 44 13.3**	**+0.5**
WB2				*e*S		**S**		**04 48 06.0**	**+1.2**
WRA	**Warramunga Arr**	**20.77**	**237**	P		**P**		**04 44 13.2**	**+0.3**
	19nm,0.7s,baz=61,slow=10,SNR=162								
WRA				LR		LR		04 51 40.7	
	comp=Z,172nm,21.1s,MS3.4,baz=60,slow=35								
AS31	**Alice Springs**	**23.09**	**229**	*e*P		**P**		**04 44 37.4**	**-0.3**
ASAR	**Alice Springs**	**23.09**	**229**	P		**P**		**04 44 37.6**	**0.0**
	17nm,0.8s,mb4.5,baz=64,slow=9.2,SNR=135								
ASAR				LR		LR		04 53 16.0	
	comp=Z,222nm,18.4s,MS3.6,baz=58,slow=36								
ASPA	**Alice Springs**	**23.10**	**229**	*e*P		**P**		**04 44 37.8**	**+0.1**
STKA	**Stephens Creek**	**24.90**	**203**	*e*P		**P**		**04 44 54.5**	**-0.4**
	6.0nm,1.0s,mb4.1								
STKA	**Stephens Creek**	**24.90**	**203**	P		**P**		**04 44 54.5**	**-0.4**
	3.6nm,0.7s,mb4.0,baz=32,slow=9.5,SNR=6.3								
STKA				LR		LR		04 54 36.6	
	comp=Z,142nm,19.0s,MS3.5,baz=22,slow=36								
STKA	**Stephens Creek**	**24.90**	**203**	*e*P		**P**		**04 44 54.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.76**	**248**	*e*P		**P**		**04 45 20.1**	**-0.6**
	5.2nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**27.76**	**248**	P		**P**		**04 45 20.0**	**-0.7**
	2.4nm,0.5s,mb4.1,baz=95,slow=7.6,SNR=11								
FITZ				LR		LR		04 56 12.6	
	comp=Z,175nm,18.7s,MS3.7,baz=75,slow=36								
FORT	**Forrest**	**31.52**	**223⇑**	*i*P		**P**		**04 45 53.1**	**-0.9**
	17nm,0.6s,mb5.1								
AFI	**Afiamalu**	**35.10**	**101**	LR		LR		04 57 52.2	
	comp=Z,145nm,19.9s,MS3.7,baz=327,slow=31								
NWAO	**Narrogin (SRO)**	**40.41**	**229**	LR		LR		05 03 26.6	
	comp=Z,138nm,19.9s,MS3.8,baz=44,slow=36								
JOW	**Kunigami**	**42.88**	**327**	LR		LR		05 04 01.2	
	comp=Z,136nm,18.8s,MS3.9,baz=85,slow=34								
RAR	**Rarotonga**	**47.24**	**110**	LR		LR		05 03 09.1	
	comp=Z,201nm,18.8s,MS4.1,baz=118,slow=30								
MJAR	**Matsushiro Arr**	**47.41**	**344**	LR		LR		05 06 41.6	
	comp=Z,43nm,18.7s,MS3.4,baz=95,slow=34								
KSRS	**Korea Array**	**51.80**	**335**	P		**P**		**04 48 39.5**	**-0.4**
	2.0nm,0.9s,mb4.0,baz=148,slow=6.4,SNR=5.4								
KSRS				LR		LR		05 09 10.2	
	comp=Z,30nm,18.8s,MS3.4,baz=185,slow=34								
KULM	**Kulim**	**53.83**	**283**	*e*P		**P**		**04 48 54.7**	**-0.1**
PPT	**Papeete**	**56.60**	**105**	*e*S		**S**		**04 57 08.6**	**+1.4**
	79nm,26.8s								
PPT	**Papeete**	**56.60**	**105**	LR		LR		05 08 07.3	
	comp=Z,224nm,18.5s,MS4.3,baz=268,slow=30								
CHTO	**Chiang Mai**	**59.83**	**298**	*e*P		**P**		**04 49 41.5**	**+4.1**
	2.7nm,0.4s,mb4.6								
VNDA	**Vanda**	**68.56**	**178**	P		**P**		**04 50 34.1**	**-0.7**
	0.9nm,0.9s,mb3.7,baz=350,slow=5.1,SNR=4.0								
VNDA	**Vanda**	**68.56**	**178**	*e*P		**P**		**04 50 33.2**	**-1.5**
	3.7nm,1.3s,mb4.2								
ULN	**Ulaanbaatar**	**69.60**	**329**	*e*P		**P**		**04 50 41.5**	**+0.3**
	1.9nm,0.4s,mb4.4								
SONM	**Songino Array**	**69.92**	**329**	P		**P**		**04 50 43.3**	**+0.2**
	2.2nm,0.8s,mb4.2,baz=153,slow=4.4,SNR=13								
QSPA	**South Pole Qui**	**80.89**	**180**	*e*P		**P**		**04 51 45.0**	**-1.2**
	5.7nm,0.9s,mb4.5								
MAW	**Mawson**	**81.59**	**203**	LR		LR		05 22 57.9	
	comp=Z,41nm,19.2s,MS3.8,baz=146,slow=32								
MKAR	**Makanchi Array**	**83.50**	**319**	P		**P**		**04 51 59.0**	**-0.8**
	0.6nm,0.6s,mb3.9,baz=117,slow=6.4,SNR=3.9								
MCK	**McKinley**	**84.85**	**22**	*e*P		**P**		**04 52 06.1**	**-0.6**
	198nm,2.9s,mb5.7								
NVAR	**Mina Array Bea**	**94.79**	**52**	P		**P**		**04 52 54.7**	**+0.9**
	0.6nm,0.9s,mb4.0,baz=244,slow=5.7,SNR=3.5								
GERES	**GERESS Array B**	**127.62**	**327**	PKP		PKPdf		04 58 38.0	+0.7
	0.5nm,0.6s,baz=49,slow=4.5,SNR=3.9								
TOA0	**Torodi Ar. Sit**	**151.29**	**281**	*e*PKPbc		PKPbc		04 59 25.7	0.0
TORD	**Torodi Ar. Bea**	**151.29**	**281**	PKPbc		PKPbc		04 59 25.6	0.0
	1.1nm,0.8s,baz=70,slow=2.1,SNR=18								

IDC 30 04:49:32.8±1.2, 2212N×14304E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.6/6, Error ellipse: s-maj=38.0km s-min=30.7km az=70.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.93**	**320**	P		P		04 56 58.6	-1.7
	0.2nm,0.3s,baz=128,slow=9.3,SNR=3.1								
ASAR	**Alice Springs**	**46.37**	**192**	P		P		04 58 00.7	-0.1
	0.2nm,0.5s,baz=6.2,slow=9.5,SNR=4.3								
MKAR	**Makanchi Array**	**54.32**	**312**	P		P		04 59 02.2	+1.2
	0.5nm,0.6s,baz=91,slow=11,SNR=3.5								
BVAR	**Borovoye Array**	**62.27**	**319**	P		P		04 59 56.6	+0.1
	1.2nm,0.7s,baz=96,slow=6.0,SNR=6.9								
YKA	**Yellowknife Ar**	**76.14**	**28**	P		P		05 01 22.4	-0.2
	0.4nm,0.5s,baz=293,slow=5.9,SNR=5.8								
NVAR	**Mina Array Bea**	**82.98**	**51**	P		P		05 02 00.6	+0.8
	0.9nm,0.9s,baz=256,slow=4.7,SNR=3.7								

IDC 30 04:50:27.5±2.2, 566S×13058E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/19, Error ellipse: s-maj=96.2km s-min=27.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.28**	**201**	Pn		Pn		04 53 37.5	+0.3
	0.1nm,0.3s,baz=100,slow=7.1,SNR=8.6								
FITZ				Sn		Sn		04 55 48.8	-17
	0.2nm,0.3s,baz=151,slow=19,SNR=5.5								
WRA	**Warramunga Arr**	**14.66**	**166**	Pn		Pn		04 53 56.9	+0.8
	0.2nm,0.3s,baz=349,slow=13,SNR=20								
WRA				Sn		Sn		04 56 26.0	-13
	0.4nm,0.3s,baz=333,slow=23,SNR=9.8								
ASAR	**Alice Springs**	**18.19**	**170**	P		Pn		04 54 41.1	-0.3
	0.4nm,0.3s,baz=346,slow=10,SNR=17								
GUMO	**Guam**	**23.81**	**36**	LR		LR		05 03 29.5	
	comp=Z,60nm,21.5s,baz=106,slow=33								
MKAR	**Makanchi Array**	**67.43**	**326**	P		P		05 01 25.1	+0.2
	0.5nm,0.4s,baz=110,slow=8.2,SNR=10								

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*IDC **30** 05:37:25.9±0.7, 4700N×15529E, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/42, Error ellipse: s-maj=19.9km s-min=16.2km az=141.0*

*NEIC **30** 05:37:28.3±6.9, 4699N×15522E, h15km±43km, mb4.2/3, Error ellipse: s-maj=10.7km s-min=9.1km az=125.0*

*ISCJB **30** 05:37:29.8±2.1, 4700N±009×1552E±01, h40km±18km, mb4.0/20, Error ellipse: s-maj=18.4km s-min=12.3km az=84.8*

*MOS **30** 05:37:29.5±0.6, 4699N×155.18E, h38km, mb4.5/3, Error ellipse: s-maj=20.1km s-min=11.7km az=94.3*

ISC 30 05:37:31.5±1.9, 4702N±009×1552E±01, h39km±17km, n32, σ0°64/31, mb4.0/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**9**	*e*Pn		**Pn**		**05 38 26.5**	**+0.2**
MJAR	**Matsushiro Arr**	**16.42**	**236**	Pn		**Pn**		**05 41 18.2**	**-0.7**
	0.2nm,0.3s,baz=358,slow=12,SNR=3.5								
MJAR	**Matsushiro Arr**	**16.42**	**236**	Pn		**Pn**		**05 41 18.2**	**-0.7**
KSRS	**Korea Array**	**22.26**	**254**	P		**P**		**05 42 26.6**	**+1.7**
	1.1nm,0.4s,mb3.7,baz=56,slow=11,SNR=4.1								
SONM	**Songino Array**	**32.61**	**290**	P		**P**		**05 43 58.4**	**-0.9**
	0.5nm,0.7s,mb3.6,baz=63,slow=9.0,SNR=3.6								
INK	**Inuvik**	**40.64**	**33**	P		**P**		**05 45 07.3**	**-0.4**
	2.2nm,0.8s,mb3.9,baz=276,slow=9.7,SNR=14								
ZAL	**Zalesovo**	**43.64**	**306**	P		**P**		**05 45 32.4**	**+0.3**
	1.7nm,0.5s,mb4.1,baz=44,slow=8.6,SNR=5.8								
ZAL	**Zalesovo**	**43.64**	**306**	P		**P**		**05 45 32.4**	**+0.3**
MKAR	**Makanchi Array**	**48.10**	**298**	P		**P**		**05 46 07.2**	**0.0**
	1.0nm,0.6s,mb4.0,baz=72,slow=8.5,SNR=6.8								
KURK	**Kurchatov**	**48.41**	**304**	*e*P		**P**		**05 46 09.0**	**-0.7**
KURK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
KURK	**Kurchatov**	**48.41**	**304**	*e*P		**P**		**05 46 09.0**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.3								
YKA	**Yellowknife A**	**49.84**	**37**	P		**P**		**05 46 19.3**	**-1.3**
	comp=Z,3nm,0.7s,mb3.6,baz=296,slow=6.9,SNR=3.8								
RES	**Resolute Bay**	**50.11**	**19**	*e*P		**P**		**05 46 23.0**	**+0.3**
	comp=Z,178nm,1.1s								
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**		**05 46 35.6**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=57,slow=8.3,SNR=17								
BVAR				PcP		PcP		05 47 48.4	+0.3
	comp=Z,0.7nm,0.6s,baz=35,slow=5.3,SNR=2.6								
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**		**05 46 35.2**	**-0.4**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
BRVK	**Borovoye**	**51.84**	**310**	*e*P		**P**		**05 46 35.2**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.2								
AAK	**Ala-Archa**	**55.01**	**297**	*e*P		**P**		**05 46 59.1**	**+0.2**
AAK				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.3								
AAK	**Ala-Archa**	**55.01**	**297**	*e*P		**P**		**05 46 59.1**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.2								
PMG	**Port Moresby**	**56.63**	**190**	LR		LR		06 07 35.1	
	comp=Z,39nm,20.3s,baz=168,slow=32								
ARCES	**ARCESS Array B**	**58.07**	**341**	P		**P**		**05 47 20.4**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.2,baz=27,slow=10,SNR=4.5								
AKTK	**Aktyubinsk**	**59.62**	**313**	P		**P**		**05 47 31.4**	**-0.1**
AKTO	**Aktyubinsk**	**59.62**	**313**	P		**P**		**05 47 31.4**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.2,baz=70,slow=10,SNR=4.5								
PDAR	**Pinedale Array**	**63.41**	**55**	P		**P**		**05 47 57.8**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=322,slow=6.8,SNR=2.8								
FINES	**FINESS Array B**	**64.40**	**336**	P		**P**		**05 48 03.2**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=28,slow=5.7,SNR=11								
FINES	**FINESS Array B**	**64.40**	**336**	P		**P**		**05 48 03.2**	**-0.3**
NOA	**NORSAR Array B**	**68.43**	**342**	P		**P**		**05 48 30.8**	**+1.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=28,slow=6.7,SNR=3.3								
WB2	**Warramunga Arr**	**69.26**	**201**	*e*P		**P**		**05 48 34.3**	**-0.2**
WRA	**Warramunga Arr**	**69.26**	**201**	P		**P**		**05 48 34.1**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=19,slow=6.5,SNR=10								
AKASG	**Malin Array Be**	**72.11**	**327**	P		**P**		**05 48 51.3**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=31,slow=5.9,SNR=3.7								
ASAR	**Alice Springs**	**72.94**	**200**	P		**P**		**05 48 57.1**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=17,slow=5.8,SNR=11								
TXAR	**Lajitas Array**	**76.08**	**56**	P		**P**		**05 49 15.2**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=299,slow=4.4,SNR=7.2								
GERES	**GERESS Array B**	**78.83**	**335**	P		**P**		**05 49 30.8**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=54,slow=8.6,SNR=2.8								

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*IDC **30** 05:50:40.5±0.7, 1758N×146.16E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, ML4.5/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/37, Error ellipse: s-maj=33.8km s-min=15.9km az=97.0*

*ISCJB **30** 05:50:45.5±2.6, 1754N±008×146.1E±0.2, h47km±23km, mb4.0/13, MS3.5/6, Error ellipse: s-maj=32.0km s-min=13.6km az=9.9*

*NEIC **30** 05:50:46.8±1.9, 1754N×146.13E, h43km±17km, mb4.4/3, Error ellipse: s-maj=19.1km s-min=9.0km az=93.0*

ISC 30 05:50:45.7±6.7, 1758N±007×1462E±02, h33km±47km, n28, σ0°69/21, mb4.0/13, MS3.5/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.17**	**198**	Pn		**Pn**		**05 51 47.2**	**+0.3**
	27nm,0.3s,baz=94,slow=4.7,SNR=6.1								
GUMO				Sn		**Sn**		**05 52 35.0**	**+0.5**
	128nm,0.3s,baz=22,slow=22,SNR=9.0								
GUMO				LR		LR		05 53 25.8	
	comp=Z,362nm,18.7s,baz=358,slow=40								
KSRS	**Korea Array**	**25.48**	**325**	LR		LR		06 05 33.3	
	comp=Z,40nm,18.3s,MS3.0,baz=125,slow=35								
ASAJ	**Asahikawa**	**26.62**	**354**	LR		LR		06 06 56.3	
	comp=Z,73nm,19.7s,MS3.2,baz=142,slow=37								
PMG	**Port Moresby**	**26.84**	**178**	*e*P		**P**		**05 56 23.2**	**+0.2**
	25nm,1.1s,mb4.7								
HNR	**Honiara**	**30.09**	**152**	LR		LR		06 07 16.5	
	comp=Z,80nm,19.9s,MS3.4,baz=359,slow=33								
CTA	**Charters Tower**	**37.44**	**180**	LR		LR		06 11 02.0	
	comp=Z,59nm,19.3s,MS3.4,baz=229,slow=33								
WRAB	**Tennant Creek**	**39.05**	**198**	*e*P		**P**		**05 58 08.9**	**-0.4**
	5.8nm,0.8s,mb4.4								
WB2	**Warramunga Arr**	**39.06**	**198**	*e*P		**P**		**05 58 08.8**	**-0.6**
WRA	**Warramunga Arr**	**39.06**	**198**	P		**P**		**05 58 09.0**	**-0.4**
	3.6nm,0.7s,mb4.2,baz=20,slow=9.3,SNR=23								
FITZ	**Fitzroy Crossi**	**40.81**	**211**	*e*P		**P**		**05 58 24.8**	**+0.8**
	2.9nm,0.8s,mb4.0								
AS31	**Alice Springs**	**42.71**	**197**	*e*P		**P**		**05 58 39.2**	**-0.3**
ASAR	**Alice Springs**	**42.72**	**197**	P		**P**		**05 58 39.0**	**-0.5**
	1.1nm,0.7s,mb3.7,baz=15,slow=12,SNR=12								
SONM	**Songino Array**	**44.30**	**322**	P		**P**		**05 58 52.3**	**+0.1**
	0.3nm,0.7s,mb3.2,baz=130,slow=8.1,SNR=2.5								
STKA	**Stephens Creek**	**49.37**	**185**	*e*P		**P**		**05 59 31.4**	**-0.6**
	3.9nm,1.3s,mb4.3								
STKA	**Stephens Creek**	**49.37**	**185**	P		**P**		**05 59 31.6**	**-0.4**
	1.6nm,0.4s,mb4.4,baz=335,slow=5.2,SNR=6.2								
STKA	**Stephens Creek**	**49.37**	**185**	*e*P		**P**		**05 59 31.4**	**-0.5**
AFI	**Afiamalu**	**51.96**	**124**	LR		LR		06 19 02.7	
	comp=Z,54nm,20.5s,MS3.6,baz=96,slow=33								
MKAR	**Makanchi Array**	**59.56**	**314**	P		**P**		**06 00 46.8**	**+0.8**
	0.7nm,0.8s,mb3.8,baz=85,slow=6.9,SNR=4.1								
BVAR	**Borovoye Array**	**67.62**	**321**	P		**P**		**06 01 37.9**	**-1.2**
	0.7nm,0.5s,mb4.0,baz=103,slow=8.3,SNR=5.3								
INK	**Inuvik**	**70.22**	**23**	P		**P**		**06 01 54.1**	**-1.1**
	1.3nm,0.8s,mb3.9,baz=276,slow=11,SNR=5.7								
YKA	**Yellowknife Ar**	**78.75**	**28**	P		**P**		**06 02 44.8**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=287,slow=5.7,SNR=3.2								
YKA	**Yellowknife A**	**78.75**	**28**	P		**P**		**06 02 44.8**	**-0.1**
RES	**Resolute Bay**	**80.39**	**14**	*e*P		**P**		**06 02 54.0**	**+0.2**
	59nm,0.8s								
NVAR	**Mina Array Bea**	**83.46**	**52**	P		**P**		**06 03 11.4**	**+1.5**
	0.8nm,0.6s,mb3.9,baz=287,slow=6.2,SNR=3.7								
ARCES	**ARCESS Array B**	**83.69**	**342**	P		**P**		**06 03 11.9**	**+0.8**
	6.4nm,1.1s,mb4.7,baz=80,slow=5.9,SNR=3.8								
NOA	**NORSAR Array B**	**93.77**	**340**	LR		LR		06 53 10.7	
	comp=Z,87nm,19.7s,MS4.2,baz=0.0,slow=40								
LPAZ	**La Paz**	**147.18**	**93**	PKPbc		PKPbc		06 10 27.3	+1.9
	1.3nm,0.5s,baz=80,slow=1.0,SNR=5.2								
LPAZ	**La Paz**	**147.18**	**93**	PKPbc		PKPbc		06 10 27.3	+1.9

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*IDC **30** 05:52:44.9±0.8, 4715N×15546E, h0km, mb3.9/18, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, MS3.3/2, Ms1 3.3/2, ms1mx2.3/38, Error ellipse: s-maj=22.1km s-min=17.1km az=163.0*

*ISCJB **30** 05:52:45.1±3.9, 4711N±009×1554E±01, h15km±27km, mb4.0/24, MS3.6/2, Error ellipse: s-maj=16.7km s-min=11.3km az=104.7*

*NEIC **30** 05:52:46.1±0.4, 4709N×15539E, h10km, mb4.2/5, Error ellipse: s-maj=10.5km s-min=8.6km az=177.0*

*MOS **30** 05:52:48.7±0.8, 4712N×15536E, h43km, mb4.4/5, Error ellipse: s-maj=18.2km s-min=10.3km az=92.9*

ISC 30 05:52:49.4±3.9, 4718N±009×1554E±01, h31km±27km, n40, σ0°67/37, mb4.0/24, MS3.6/2, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.54**	**7**	*e*PN		**Pn**		**05 53 41.5**	**-0.7**
SKR				pmax	pmax				
	comp=Z,80nm,0.5s								
ERM	**Erimo**	**10.14**	**244**	*i* PN		**Pn**		**05 55 12.6**	**-0.2**
MJAR	**Matsushiro Arr**	**16.61**	**236**	LR		LR		06 01 44.9	
	comp=Z,57nm,21.7s,baz=35,slow=32								
BILL	**Bilibino**	**21.65**	**11⇑**	*e*P		**P**		**05 57 37.8**	**+0.7**
BILL				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.3								
BILL				MLR		MLR			
	comp=Z,200nm,16.0s,MS3.6								
KSRS	**Korea Array**	**22.43**	**254**	P		**P**		**05 57 47.4**	**+1.9**
	comp=Z,1.5nm,0.5s,mb3.6,baz=58,slow=10,SNR=4.3								
COLA	**College**	**34.82**	**39**	*i* P		**P**		**05 59 36.6**	**-

11nm,0.5s,baz=301,slow=8.5,SNR=44
WB2 Warramunga Arr 24.03 232 *e*P **P 06 13 36.5 +0.1**
WRA Warramunga Arr 24.04 232 P **P 06 13 36.0 -0.5**
2.2nm,0.6s,mb3.9,baz=57,slow=9.8,SNR=22
ASAR Alice Springs 26.57 225 P **P 06 13 59.1 -0.1**
0.3nm,0.3s,mb3.4,baz=54,slow=9.1,SNR=5.9
SONM Songino Array 67.80 327 P **P 06 19 16.5 +0.4**
0.7nm,0.4s,mb3.6,baz=154,slow=4.6,SNR=7.2
VNDA Vanda 71.96 178 P **P 06 19 41.5 -0.1**
1.3nm,0.7s,mb3.6,baz=345,slow=5.2,SNR=5.2
MKAR Makanchi Array 81.90 319 P **P 06 20 37.4 +0.4**
0.3nm,0.5s,mb3.2,baz=91,slow=8.7,SNR=4.1
MAW Mawson 85.37 203 P **P 06 20 55.4 +0.7**
1.5nm,0.6s,mb3.9,baz=104,slow=8.3,SNR=5.9
INK Inuvik 88.70 21 P **P 06 21 09.7 -0.9**
0.2nm,0.4s,mb3.3,baz=225,slow=1.4,SNR=4.4
TORD Torodi Ar. Bea 151.94 287 PKPbc PKPbc 06 28 10.8 -0.4
0.2nm,0.4s,baz=97,slow=1.6,SNR=5.4

*NIED **30** 06:20:00.4660N×15300E,h17km,Mw4.0 Best double couple: M01.29000×10^15 NP1:φ=245.00000°,δ=54.00000°, λ=94.00000°. NP2:φ=58.00000°,δ=36.00000°,λ=84.00000°.*
*NEIC **30** 06:20:02.2±0.5,4646N×153.16E,h10km,mb4.2/1, Error ellipse: s-maj=14.4km s-min=8.1km az=150.0*
*ISCJB **30** 06:20:04.2±0.1,4634N±007×15295E±0.10,h38km±10km, mb4.1/16,MS3.5/1,Error ellipse: s-maj=15.4km s-min=6.2km az=96.6*
*MOS **30** 06:20:04.1±1.0,4650N×15298E,h35km,mb4.3/4,Error ellipse: s-maj=16.2km s-min=10.2km az=58.0*
*IDC **30** 06:20:11.0±4.0,4640N×15293E,h81km±37km,mb3.6/15, mb1 3.9/16,mb1mx3.7/26,mbtmp3.7/16,MS3.5/1, Ms1 3.5/1,ms1mx2.7/38,Error ellipse: s-maj=19.2km s-min=15.2km az=140.0*

ISC 30 06:20:06.9±0.9,4635N±007×15292E±010,h47km±9km, n47,σ1§30/54,mb4.1/16,MS3.5/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.71**	**254**	*e*PN	**Pn**	**06 21 00.5**	**-1.2**
KUR				*i* S	**Sn**	**06 21 45.0**	**+0.9**
KUR				pmax	pmax		
	comp=Z,180nm,0.5s						
KUR				smax			
	comp=N,410nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.83**	**25**	*e*PN	**Pn**	**06 21 14.5**	**-2.5**
SKR				*e*S	**Sn**	**06 22 12.5**	**+0.9**
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
NEM2	**Nemuro 2**	**5.91**	**242**	P	**Pn**	**06 21 30.7**	**-1.2**
NEM2				*e*S	**Sn**	**06 22 35.7**	**-2.6**
JRA	**Rausu**	**6.02**	**249**	P	**Pn**	**06 21 36.1**	**+2.7**
JAK	**Akkeshi**	**6.75**	**243**	P	**Pn**	**06 21 43.2**	**-0.3**
JAK				*e*S	**Sn**	**06 22 56.6**	**-2.4**
JTKR	**Abashiri--Toko**	**6.80**	**253**	P	**Pn**	**06 21 46.7**	**+2.6**
YSS	**Yuzh-Sakhalins**	**7.02**	**279**	*e*PN	**Pn**	**06 21 46.8**	**-0.4**
JAR	**Ashorobuto**	**7.19**	**248**	P	**Pn**	**06 21 51.0**	**+1.6**
JAR				*e*S	**Sn**	**06 23 10.3**	**+0.6**
JOB	**Onbets**	**7.34**	**245**	P	**Pn**	**06 21 52.4**	**+0.9**
JOB				*e*S	**Sn**	**06 23 11.1**	**-2.3**
JKK2	**Kamakawa 2**	**7.61**	**255**	P	**Pn**	**06 21 57.9**	**+2.7**
ASAJ	**Asahikawa**	**7.62**	**257**	P	**Pn**	**06 21 59.2**	**+3.8**
	comp=E,1.3nm,0.3s,baz=106,slow=18,SNR=2.6						
ASAJ	**Asahikawa**	**7.62**	**257**	PN	**Pn**	**06 21 59.2**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**7.64**	**27**	*e*PN	**Pn**	**06 21 51.7**	**-3.9**
JCH	**Churui**	**7.79**	**245**	P	**Pn**	**06 21 57.6**	**0.0**
JCH				*e*S	**Sn**	**06 23 20.6**	**-3.8**
ERM	**Erimo**	**8.24**	**242**	*e*PN	**Pn**	**06 22 06.2**	**+2.3**
JKB	**Kayabe**	**9.64**	**247**	P	**Pn**	**06 22 22.3**	**-0.7**
JKB				*e*S	**Sn**	**06 24 03.4**	**-6.5**
JYM2	**Yakumo 2**	**9.95**	**249**	P	**Pn**	**06 22 27.6**	**+0.4**
JTM	**Tenmabayashi**	**10.24**	**241**	P	**Pn**	**06 22 29.3**	**-1.9**
JTH	**Tanohata**	**10.31**	**236**	*e*S	**Sn**	**06 24 15.8**	**-10**
JRG	**Rokugo**	**11.38**	**237**	*e*S	**Sn**	**06 24 44.5**	**-7.9**
KLR	**Kul'dur**	**14.51**	**289**	*e*P	**Pn**	**06 23 32.8**	**+3.4**
MAJO	**Matsushiro**	**14.73**	**234**	*e*P	**Pn**	**06 23 33.3**	**+1.0**
KSRS	**Korea Array**	**20.55**	**253**	P	**P**	**06 24 44.4**	**+2.9**
	comp=Z,1.1nm,0.6s,baz=51,slow=10,SNR=4.1						
INK	**Inuvik**	**42.06**	**32**	P	**P**	**06 27 54.0**	**0.0**
	comp=Z,2.1nm,0.6s,mb3.9,baz=277,slow=6.5,SNR=15						
MK31	**Makanchi Array**	**47.01**	**298**	*e*P	**P**	**06 28 34.1**	**+0.6**
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**06 28 33.4**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=69,slow=7.3,SNR=7.1						
MKAR				LR	LR	06 50 29.5	
	comp=Z,47nm,18.0s,MS3.5,baz=352,slow=39						
POHA	**Pohakuloa**	**49.60**	**104**	P	**P**	**06 28 52.7**	**-0.7**
	comp=Z,51nm,1.0s,mb5.5						
BVAR	**Borovoye Array**	**51.01**	**310**	P	**P**	**06 29 03.9**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=53,slow=6.5,SNR=4.6						
YKA	**Yellowknife Ar**	**51.33**	**36**	P	**P**	**06 29 05.2**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=297,slow=7.1,SNR=5.6						
YBH	**Yreka Blue Hor**	**58.05**	**61**	P	**P**	**06 29 56.0**	**+0.8**
	comp=Z,0.5nm,0.3s,mb4.1,baz=279,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**06 29 55.3**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.3,baz=21,slow=7.1,SNR=5.6						
NVAR	**Mina Array Bea**	**62.74**	**62**	P	**P**	**06 30 27.7**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.4,baz=293,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**64.34**	**335**	P	**P**	**06 30 36.8**	**-1.0**
	comp=Z,1.7nm,0.8s,mb4.2,baz=50,slow=6.0,SNR=5.4						
PDAR	**Pinedale Array**	**65.09**	**54**	P	**P**	**06 30 42.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=5.7,slow=1.5,SNR=8.5						
WRA	**Warramunga Arr**	**68.09**	**199**	P	**P**	**06 31 01.5**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=17,slow=6.7,SNR=7.9						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**06 31 05.0**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**06 31 05.0**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.4,SNR=5.8						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**06 31 05.0**	**+0.3**
ISCO	**Idaho Springs**	**69.28**	**54**	*e*P	**P**	**06 31 09.6**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ISCO	**Idaho Springs**	**69.28**	**54**	*e*P	**P**	**06 31 09.6**	**+0.4**
	comp=Z,1.8nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**71.79**	**198**	P	**P**	**06 31 25.4**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**71.79**	**198**	P	**P**	**06 31 25.4**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**06 31 24.4**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=34,slow=6.3,SNR=6.8						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**06 31 24.4**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**06 31 59.1**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=292,slow=4.6,SNR=14						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**06 31 59.1**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CFAA	**Coronel Fontan**	**145.20**	**80**	PKPbc	PKPbc	06 39 38.2	-0.8
	comp=Z,0.3nm,0.8s,baz=238,slow=3.7,SNR=5.5						

*CASC **30** 06:22:30.9±3.0,960N×8391W,h3km±6km,MD4.0, mb4.4(NEIC)*
*IDC **30** 06:22:30.4±0.9,962N×8396W,h0km,mb4.0/9,mb1 4.3/13, mb1mx4.2/22,mbtmp4.2/13,ML4.2/3,MS3.7/9,Ms1 3.8/9, ms1mx3.5/31,Error ellipse: s-maj=29.7km s-min=10.1km az=33.0*
*NEIC **30** 06:22:30.7,965N×8386W,h7km,mb4.4/5,MD4.7(CASC), After CASC.*
NEIC Felt at Escazu, Heredia, Mercedes, Sabanilla, San Jose, San Pedro, Santa Ana and Santo Domingo.
*ISCJB **30** 06:22:31.4±0.4,962N±004×8388W±003,h14km±3km, mb4.1/16,MS3.8/6,Error ellipse: s-maj=7.6km s-min=3.0km az=76.3*

ISC 30 06:22:31.0±0.5,960N±003×8392W±003,h1km±3km,n73, σ1§07/69,mb4.1/16,MS3.8/6,17C-6D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.16**	**104**	*i*P	**Pg**	**06 22 35.2**	**+1.1**
BUS				*e*S	**Sg**	**06 22 39.6**	**+3.4**
BUS	**Buena Vista**	**0.16**	**104**	*i*P	**Pg**	**06 22 35.2**	**+1.1**
BUS				*e*S	**Sg**	**06 22 37.9**	**+1.6**
LCR2	**La Lucha 2**	**0.17**	**330**	*i*P	**Pg**	**06 22 35.0**	**+0.7**
QCR	**Quepos**	**0.30**	**235**	*e*P	**Pg**	**06 22 38.6**	**+1.9**
LAJ	**Bijagual**	**0.34**	**323**	*i*P	**Pg**	**06 22 44.3**	**+6.8**
LAJ				*e*S	**Sg**	**06 22 54.0**	**+12**
SJS	**Escuela Geolog**	**0.37**	**338**	*i*P	**Pg**	**06 22 38.3**	**+0.2**
SJS				*e*S	**Sg**	**06 22 44.0**	**+1.1**
SJS	**Escuela Geolog**	**0.37**	**338**	*i*P	**Pg**	**06 22 38.2**	**+0.1**
SJS				*e*S	**Sg**	**06 22 44.0**	**+1.1**
ICR	**Volcan Irazu**	**0.39**	**12**	*i*P	**Pg**	**06 22 38.5**	**-0.1**
PRS1	**Puriscal**	**0.55**	**315**	*i*P	**Pg**	**06 22 41.2**	**-0.3**
PRS1				*e*S	**Sg**	**06 22 48.9**	**+0.2**
PRS1	**Puriscal**	**0.55**	**315**	*i*P	**Pg**	**06 22 41.1**	**-0.4**
PRS1				*e*S	**Sg**	**06 22 50.0**	**+1.3**
TRTC	**Tortuguero**	**0.99**	**12**	*i*P	**Pg**	**06 22 48.9**	**-1.2**
FORC	**Fortuna**	**1.14**	**320**	*i*P	**Pg**	**06 22 51.8**	**-1.2**
FORC				*e*S	**Sg**	**06 23 07.7**	**-0.1**
ACR	**Cerro Adams**	**1.19**	**142**	*i*P	**Pg**	**06 22 52.6**	**-1.3**
ACR				*e*S	**Sg**	**06 23 09.2**	**-0.2**
ACR	**Cerro Adams**	**1.19**	**142**	*e*P	**Pg**	**06 22 52.4**	**-1.5**
JCR	**Jicaral**	**1.21**	**282**	*i*P	**Pg**	**06 22 53.1**	**-1.1**
JCR				*e*S	**Sg**	**06 23 08.4**	**-1.4**
JCR	**Jicaral**	**1.21**	**282**	*i*P	**Pg**	**06 22 53.1**	**-1.1**
JTS	**JuntasAbangare**	**1.23**	**304**	Pg	**Pg**	**06 22 52.1**	**-2.5**
	1µm,0.3s,baz=99,slow=6.4,SNR=3351						
JTS				Lg		06 23 08.0	
	848nm,0.3s,baz=132,slow=24,SNR=21						
CNI	**Changuinola**	**1.39**	**97**	*i*P	**Pn**	**06 22 56.1**	**-1.5**
BRU	**Baru**	**1.55**	**120**	*i*P	**Pn**	**06 22 59.2**	**-0.5**
LIM1	**Limonal**	**1.71**	**310**	*i*P	**Pn**	**06 23 01.3**	**-0.8**
LIM1				*e*S	**Sn**	**06 23 24.4**	**-0.2**
VCR	**Vista de Mar**	**1.77**	**288**	*i*P	**Pn**	**06 23 02.3**	**-0.5**
VCR	**Vista de Mar**	**1.77**	**288**	*i*P	**Pn**	**06 23 02.2**	**-0.6**
DVD	**David**	**1.85**	**128**	*e*P	**Pn**	**06 23 03.5**	**-0.4**
MADN	**Villa Maderas**	**2.40**	**319**	*e*P	**Pn**	**06 23 11.9**	**+0.4**
MADN				*e*S	**Sb**	**06 23 44.6**	**-0.7**
CONN	**Concepcion**	**2.58**	**320**	*i*P	**Pn**	**06 23 15.6**	**+1.6**
TICN	**Ticuantepe**	**3.32**	**317**	*e*P	**Pn**	**06 23 26.2**	**+2.0**
MGAN	**Managua**	**3.42**	**318**	*e*P	**Pn**	**06 23 25.6**	**+0.2**
TISN	**Laguna Tiscapa**	**3.43**	**318**	*e*P	**Pn**	**06 23 27.5**	**+1.9**
XAVN	**Gruta Xavier**	**3.47**	**317**	*e*P	**Pn**	**06 23 27.1**	**+0.9**
MOMJ	**Momotombo**	**3.80**	**318**	*e*P	**Pn**	**06 23 32.0**	**+1.3**
AZU	**Azuero**	**4.02**	**116**	*i*P	**Pn**	**06 23 34.9**	**+1.1**
UPA	**Univ. de Panam**	**4.37**	**98**	*i*P	**Pn**	**06 23 38.5**	**0.0**
UPA				*e*S	**Sn**	**06 24 29.7**	**-0.4**
TGUH	**Tegucigalpa,Un**	**5.52**	**324**	*e*Pn	**Pn**	**06 23 54.1**	**-0.2**
LCBS	**La Ceiba**	**6.39**	**310**	*e*P	x	06 24 31.2	
LCBS				*e*S	x	06 25 46.3	
LFRS	**El Faro**	**6.44**	**309**	*e*P	x	06 24 32.4	
LFRS				*e*S	x	06 25 47.5	
BOQS	**Boqueron**	**6.67**	**309**	*e*P	x	06 24 36.7	
BOQS				*e*S	x	06 25 53.1	
RBDL	**Robledal**	**7.21**	**309**	*e*P	x	06 24 43.2	
RBDL				*e*S	x	06 26 07.1	
ROSC	**El Rosal**	**10.61**	**116**	Pn	**Pn**	**06 25 04.3**	**+0.1**
	0.5nm,0.3s,baz=101,slow=18,SNR=2.4						
ROSC				LR	LR	06 29 36.4	
	comp=Z,203nm,18.9s,baz=180,slow=40						
OTAV	**Otavalo**	**10.77**	**149**	*e*Pn	**Pn**	**06 25 09.4**	**+3.0**
TEIG	**Teoich**	**11.38**	**339**	LR	LR	06 29 05.1	
	comp=Z,258nm,19.9s,baz=198,slow=35						
CMIG	**Matias Romero**	**13.01**	**306**	Pn	**Pn**	**06 25 37.6**	**+0.5**
	1.2nm,0.3s,baz=123,slow=11,SNR=24						
SDV	**Santo Domingo**	**13.13**	**92**	Pn	**Pn**	**06 25 37.8**	**-0.9**
	1.6nm,0.3s,baz=300,slow=9.5,SNR=42						
SDV	**Santo Domingo**	**13.13**	**92**	Pn	**Pn**	**06 25 37.8**	**-0.9**
ATAH	**Atahualpa**	**17.38**	**161**	LR	LR	06 33 03.5	
	comp=Z,233nm,18.2s,baz=156,slow=36						
PCRV	**Puerto La Cruz**	**19.00**	**87**	P	**Pn**	**06 26 54.7**	**-0.1**
	0.8nm,0.3s,baz=314,slow=3.9,SNR=6.4						
LRAL	**Lakeview Retre**	**23.50**	**353**	*e*P	**P**	**06 27 43.0**	**+0.5**
	10nm,0.8s,mb4.4						
JCT	**Junction City**	**25.52**	**327**	*e*P	**P**	**06 28 01.3**	**+0.2**
	7.0nm,0.9s,mb4.3						
TKL	**Tuckaleechee C**	**25.94**	**0**	LR	LR	06 39 26.4	
	comp=Z,201nm,18.6s,MS3.7,baz=210,slow=39						
MIAR	**Mount Ida**	**26.36**	**342**	*e*P	**P**	**06 28 08.2**	**-0.5**
	8.2nm,0.9s,mb4.4						
TXAR	**Lajitas Array**	**26.98**	**319**	P	**P**	**06 28 14.9**	**+0.7**
	0.8nm,0.7s,mb3.6,baz=142,slow=13,SNR=9.1						
LPIG	**La Paz**	**29.01**	**303**	LR	LR	06 39 47.0	
	comp=Z,107nm,20.4s,MS3.5,baz=150,slow=36						
LPAZ	**La Paz**	**30.09**	**149**	LR	LR	06 40 54.7	
	comp=Z,125nm,20.6s,MS3.5,baz=135,slow=37						
KSU1	**Kansas State U**	**31.50**	**341**	*e*P	**P**	**06 28 52.7**	**-1.8**
	6.4nm,1.1s,mb4.5						
SIV	**San Ignacio**	**34.03**	**138**	P	**P**	**06 29 16.1**	**-0.5**
	2.9nm,0.9s,mb4.2,baz=318,slow=8.0,SNR=14						
SDCO	**Great Sand Dun**	**34.12**	**329**	*e*P	**P**	**06 29 24.1**	**+6.8**
	3.1nm,0.9s,mb4.2						
ULM	**Lac du Bonnet**	**41.73**	**348**	P	**P**	**06 30 20.4**	**-1.1**
	4.8nm,0.9s,mb4.2,baz=161,slow=8.0,SNR=5.4						
ULM	**Lac du Bonnet**	**41.73**	**348**	P	**P**	**06 30 20.4**	**-1.1**
CFAA	**Coronel Fontan**	**43.63**	**160**	P	**P**	**06 30 38.3**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=353,slow=8.1,SNR=3.9						
YBH	**Yreka Blue Hor**	**46.75**	**320**	LR	LR	06 51 45.5	
	comp=Z,102nm,20.7s,MS3.8,baz=14,slow=38						
NEW	**Newport**	**47.58**	**330**	LR	LR	06 52 44.2	
	comp=Z,147nm,19.2s,MS4.0,baz=327,slow=38						
YKA	**Yellowknife Ar**	**57.29**	**344**	P	**P**	**06 32 20.2**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=140,slow=6.9,SNR=11						
INK	**Inuvik**	**66.96**	**342**	P	**P**	**06 33 25.8**	**+0.4**
	0.8nm,0.6s,mb4.2,baz=104,slow=2.7,SNR=4.1						
ESDC	**Sonseca Array**	**76.23**	**51**	P	**P**	**06 34 22.8**	**+1.6**
	1.5nm,0.6s,mb4.3,baz=282,slow=5.4,SNR=8.1						
TORD	**Torodi Ar. Bea**	**83.63**	**78**	P	**P**	**06 35 00.1**	**-1.1**
	0.2nm,0.6s,mb3.5,baz=285,slow=2.8,SNR=2.7						
NOA	**NORSAR Array B**	**84.16**	**29**	P	**P**	**06 35 02.8**	**-1.1**
	2.2nm,0.9s,mb4.4,baz=283,slow=5.4,SNR=3.0						
NOA				LR	LR	07 13 10.5	
	comp=Z,123nm,19.4s,MS4.3,baz=105,slow=36						
GRF	**Grafenberg Arr**	**86.07**	**40**	*e*P	**P**	**06 35 17.3**	**+3.8**
	comp=Z,16nm,1.9s,mb4.8						
GERES	**GERESS Array B**	**87.83**	**41**	P	**P**	**06 35 20.5**	**-1.6**
	comp=Z,0.3nm,0.3s,mb4.2,baz=243,slow=4.3,SNR=2.6						
CTA	**Charters Tower**	**130.56**	**252**	*e*P	PKPdf	06 41 46.9	+3.3
	comp=Z,2.6nm,1.2s						
ASAR	**Alice Springs**	**141.29**	**244**	PKhKP		06 41 57.9	
	comp=Z,0.4nm,0.6s,baz=116,slow=3.0,SNR=7.4						
ASAR				PKP	PKPdf	06 42 03.3	-0.3
	comp=Z,0.8nm,0.8s,baz=110,slow=2.5,SNR=8.9						
WB2	**Warramunga Arr**	**141.68**	**250**	*e*P	PKPdf	06 41 59.5	-4.7
WRA	**Warramunga Arr**	**141.69**	**250**	PKhKP		06 41 59.1	
	comp=Z,1.0nm,0.8s,baz=91,slow=2.4,SNR=4.8						
WRA				PKP	PKPdf	06 42 04.0	-0.3
	comp=Z,1.0nm,0.9s,baz=95,slow=2.0,SNR=7.3						
KAKA	**Kakadu**	**144.22**	**262**	*e*P	PKPdf	06 42 07.5	-1.2
	comp=Z,3.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**150.12**	**250**	*e*P	PKPdf	06 42 18.3	-0.3
	comp=Z,5.1nm,1.0s						

*IDC **30** 06:40:06.6±0.8,47.14N×15547E,h0km,mb4.0/14, mb1 4.2/14,mb1mx4.1/23,mbtmp4.0/14,Error ellipse: s-maj=22.2km s-min=18.0km az=144.0*
*ISCJB **30** 06:40:07.6±6.0,47.2N±0.1×1554E±0.2,h17km±41km, mb4.1/20,Error ellipse: s-maj=22.6km s-min=15.4km az=123.8*
*NEIC **30** 06:40:08.1±0.5,47.14N×155.37E,h10km,mb4.6/4,Error ellipse: s-maj=13.6km s-min=11.1km az=173.0*
*MOS **30** 06:40:11.2±0.8,47.15N×155.26E,h46km,mb4.6/5,Error ellipse: s-maj=26.1km s-min=13.6km az=103.5*

ISC 30 06:40:12.5±3.7,472N±01×1554E±02,h40km±33km,n30, σ0§72/30,mb4.1/20,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.51**	**8**	*e*PN	**Pn**	**06 41 02.0**	**-2.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.57**	**252**	PN	**Pn**	**06 41 40.0**	**+7.2**
BILL	**Bilibino**	**21.62**	**11**	*e*P	**P**	**06 45 00.1**	**+1.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
KSRS	**Korea Array**	**22.41**	**254**	P	**P**	**06 45 08.7**	**+1.2**
	comp=Z,1.9nm,0.7s,mb3.7,baz=61,slow=10,SNR=4.4						
ULN	**Ulaanbaatar**	**32.21**	**289**	*e*P	**P**	**06 46 35.0**	**-1.6**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**32.21**	**289**	*e*P	**P**	**06 46 35.0**	**-1.6**
	comp=Z,9.1nm,0.9s,mb4.6						
INK	**Inuvik**	**40.43**	**33**	P	**P**	**06 47 46.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=319,slow=9.5,SNR=14						
ZAL	**Zalesovo**	**43.61**	**306**	P	**P**	**06 48 12.6**	**-0.2**
	comp=Z,2.2nm,0.4s,mb4.3,baz=47,slow=9.2,SNR=6.5						
ZAL	**Zalesovo**	**43.61**	**306**	P	**P**	**06 48 12.6**	**-0.2**
ZAL				*e*P		06 48 12.8	
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**06 48 48.7**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=67,slow=6.1,SNR=12						
MKAR	**Makanchi Array**	**48.10**	**298**	P	**P**	**06 48 48.7**	**+0.6**
KURK	**Kurchatov**	**48.39**	**304**	*e*P	**P**	**06 48 49.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**48.39**	**304**	*e*P	**P**	**06 48 49.9**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**49.62**	**38**	P	**P**	**06 48 59.6**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=294,slow=7.1,SNR=9.9						
BVAR	**Borovoye Array**	**51.76**	**310**	P	**P**	**06 49 16.2**	**+0.3**
	comp=Z,2.8nm,0.4s,mb4.6,baz=56,slow=7.5,SNR=27						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**06 49 16.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.79**	**310**	*e*P	**P**	**06 49 16.5**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.3						
ARU	**Arti**	**55.71**	**318**	*e*P	**P**	**06 49 44.8**	**0.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARU	**Arti**	**55.71**	**318**	*e*P	**P**	**06 49 44.8**	**0.0**
	comp=Z,1.6nm,0.3s,mb4.5						
ARCES	**ARCESS Array B**	**57.92**	**341**	P	**P**	**06 50 00.6**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=39,slow=7.8,SNR=3.8						
PDAR	**Pinedale Array**	**63.22**	**55**	P	**P**	**06 50 36.5**	**-0.1**
	comp=Z,1.1nm,1.1s,mb3.9,baz=297,slow=4.3,SNR=4.2						
FINES	**FINESS Array B**	**64.27**	**336**	P	**P**	**06 50 43.5**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=43,slow=7.5,SNR=17						
NB2	**NORSAR Subarra**	**68.28**	**342**	P	**P**	**06 51 09.3**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=25,slow=6.9						
NOA	**NORSAR Array B**	**68.28**	**342**	P	**P**	**06 51 09.2**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=25,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**69.48**	**201**	P	**P**	**06 51 15.4**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=20,slow=7.0,SNR=4.1						
AKASG	**Malin Array Be**	**72.01**	**327**	P	**P**	**06 51 31.4**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=6.1,SNR=4.5						
ASAR	**Alice Springs**	**73.16**	**201**	P	**P**	**06 51 39.6**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=7.3,slow=5.4,SNR=4.9						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**06 51 55.0**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=302,slow=5.3,SNR=6.9						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**06 51 55.0**	**+0.1**
GERES	**GERESS Array B**	**78.70**	**335**	P	**P**	**06 52 15.1**	**+4.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=35,slow=4.9,SNR=6.3						

*IDC **30** 06:54:38.3±1.9,5376N×16358W,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.9/27,mbtmp4.0/10,ML4.0/1,MS3.6/3, Ms1 3.6/3,ms1mx3.0/38,Error ellipse: s-maj=47.6km s-min=21.7km az=2.0*
*NEIC **30** 06:54:39.7±6.8,5348N×16357W,h14km±44km,mb3.7/1, ML3.6(AEIC),Error ellipse: s-maj=28.2km s-min=7.5km az=169.0*
*ISCJB **30** 06:54:41.4±1.6,535N±0.1×1636W±0.1,h46km±11km, mb4.0/8,MS3.6/3,Error ellipse: s-maj=20.9km s-min=9.6km az=148.4*

**ISC 30 06:54:41.2±2.7,5345N±009×16354W±009,h31

CTAO	**Charters Tower**	**30.16**	**274**	*e*P		**P**	**07 07 59.9**	**+0.3**
	1.1nm,0.3s,mb4.0							
STKA	**Stephens Creek**	**32.72**	**251**	*e*P		**P**	**07 08 21.2**	**-0.2**
ASAR	**Alice Springs**	**40.38**	**263**	P		**P**	**07 09 24.9**	**+0.8**
	0.2nm,0.4s,mb3.0,baz=102,slow=7.3,SNR=4.2							
WB2	**Warramunga Arr**	**40.92**	**269**	*e*P		**P**	**07 09 28.1**	**-0.4**
WRA	**Warramunga Arr**	**40.93**	**269**	P		**P**	**07 09 27.8**	**-0.7**
	0.6nm,0.3s,mb3.6,baz=99,slow=6.9,SNR=19							
COCO	**West Island**	**77.33**	**263**	*e*P		**P**	**07 13 31.4**	**+0.1**
BRTR	**Keskin Array B**	**147.61**	**304**	PKPbc		PKPbc	07 21 15.4	-0.1
	0.6nm,0.5s,baz=71,slow=3.4,SNR=3.6							

*SZGRF **30** 07:04:14.1, 1977S×17703W, h33km, Fiji Islands region*
*ISCJB **30** 07:04:50.5±1.3, 1897S±007×17730W±007, h327km±13km, mb4.4/33, Error ellipse: s-maj=12.9km s-min=7.6km az=90.8*
*BJI **30** 07:04:50.3, 1900S×17720W, h335km, mB4.6, mb4.5*
*NEIC **30** 07:04:52.4±1.0, 1905S×17720W, h336km±10km, mb4.6/20, Error ellipse: s-maj=11.4km s-min=6.6km az=140.0*
*MOS **30** 07:04:52.2±1.7, 1882S×17737W, h331km, mb4.5/7, Error ellipse: s-maj=15.6km s-min=11.7km az=145.4*
*IDC **30** 07:04:52.3±2.0, 1906S×17723W, h332km±20km, mb4.0/15, mb1 4.2/18, mb1mx4.1/23, mbtmp4.0/18, Error ellipse: s-maj=16.5km s-min=10.0km az=147.0*

ISC 30 07:04:52.7±1.1, 1910S±007×17716W±007, h340km±11km, n130, σ1°09/77, mb4.4/33, 9C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.30**	**46**	P		**Pn**	**07 06 37.4**	**-0.9**
	16nm,0.3s,baz=337,slow=20,SNR=31							
AFI				S		**S**	**07 07 55.6**	**-8.5**
	6.9nm,0.3s,baz=41,slow=20,SNR=3.4							
AFI	**Afiamalu**	**7.30**	**46**	*e*P		**Pn**	**07 06 37.0**	**-1.3**
AFI				pmax		pmax		
	comp=Z,230nm,0.8s							
AFI	**Afiamalu**	**7.30**	**46**	*e*Pn		**Pn**	**07 06 37.0**	**-1.3**
	comp=Z,230nm,0.8s							
FUNA	**Funafuti**	**11.09**	**341**	*e*Pn		**Pn**	**07 07 24.7**	**+1.0**
	comp=Z,48nm,0.9s							
DZM	**Mont Dzumac**	**15.64**	**256**	P		**P**	**07 08 14.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=90,slow=16,SNR=5.6							
URZ	**Urewera**	**19.73**	**193**	P		**P**	**07 08 57.5**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=348,slow=13,SNR=14							
URZ				S		**S**	**07 12 19.4**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=270,slow=20,SNR=3.5							
SNZO	**South Karori**	**23.20**	**196**	P		**P**	**07 09 30.0**	**-0.5**
	comp=Z,9.2nm,0.6s,mb4.2							
SNZO				*e*pP			07 10 26.1	
ARMA	**Armidale**	**30.40**	**242**	*e*P		**P**	**07 10 35.7**	**+1.3**
CTA	**Charters Tower**	**34.44**	**262**	↓*i*P		**P**	**07 11 09.3**	**+0.1**
	comp=Z,9.6nm,0.6s,mb4.2							
CTA	**Charters Tower**	**34.44**	**262**	P		**P**	**07 11 09.9**	**+0.7**
	comp=Z,15nm,0.8s,mb4.3,baz=95,slow=11,SNR=22							
CTA	**Charters Tower**	**34.44**	**262**	↓*i*P		**P**	**07 11 09.3**	**+0.1**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CTAO	**Charters Tower**	**34.44**	**262**	*e*P		**P**	**07 11 09.5**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.2							
CTAO	**Charters Tower**	**34.44**	**262**	*e*P		**P**	**07 11 09.5**	**+0.3**
	comp=Z,13nm,0.8s,mb4.2							
PMG	**Port Moresby**	**35.84**	**281**	P		**P**	**07 11 21.3**	**+0.3**
	comp=Z,32nm,0.9s,mb4.6,baz=102,slow=5.7,SNR=11							
PMG	**Port Moresby**	**35.84**	**281**	↑*e*P		**P**	**07 11 20.8**	**-0.2**
PMG	**Port Moresby**	**35.84**	**281**	*e*P		**P**	**07 11 21.1**	**+0.1**
	comp=Z,39nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**39.12**	**243**	*e*P		**P**	**07 11 49.0**	**+0.7**
	comp=Z,9.8nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**39.12**	**243**	P		**P**	**07 11 48.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.1,baz=73,slow=8.3,SNR=18							
POHA	**Pohakuloa**	**44.06**	**30**	*e*P		**P**	**07 12 27.9**	**-0.1**
	comp=Z,25nm,0.3s,mb4.8							
WB2	**Warramunga Arr**	**45.58**	**261**	*e*P		**P**	**07 12 38.3**	**-1.6**
WRAB	**Tennant Creek**	**45.59**	**261**	↑*e*P		**P**	**07 12 38.8**	**-1.1**
WRAB	**Tennant Creek**	**45.59**	**261**	*e*P		**P**	**07 12 39.3**	**-0.6**
	comp=Z,13nm,1.3s,mb3.9							
WRA	**Warramunga Arr**	**45.59**	**261**	P		**P**	**07 12 39.3**	**-0.6**
	comp=Z,4.1nm,0.7s,mb3.6,baz=94,slow=8.1,SNR=62							
WRA				S		**S**	**07 18 51.8**	**-4.3**
	comp=Z,1.9nm,0.8s,baz=99,slow=14,SNR=7.5							
AS31	**Alice Springs**	**45.62**	**255**	*e*P		**P**	**07 12 40.5**	**+0.3**
ASAR	**Alice Springs**	**45.62**	**255**	P		**P**	**07 12 40.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.2,baz=92,slow=8.1,SNR=112							
ASAR				PcP		PcP	07 14 11.6	-0.4
	comp=Z,1.9nm,0.7s,baz=94,slow=5.2,SNR=6.6							
ASAR				S		**S**	**07 18 52.4**	**-4.1**
	comp=Z,2.9nm,0.8s,baz=89,slow=15,SNR=17							
ASAR	**Alice Springs**	**45.62**	**255**	P		**P**	**07 12 40.5**	**+0.3**
ASAR							07 14 11.6	
ASPA	**Alice Springs**	**45.63**	**255**	*e*P		**P**	**07 12 40.5**	**+0.3**
KAKA	**Kakadu**	**48.76**	**270**	*e*P		**P**	**07 13 03.5**	**-0.6**
	comp=Z,6.8nm,0.7s,mb4.0							
GUMO	**Guam**	**49.54**	**308**	P		**P**	**07 13 10.5**	**+0.5**
	comp=Z,141nm,1.0s,mb5.2,baz=191,slow=12,SNR=3.8							
FITZ	**Fitzroy Crossi**	**54.01**	**261**	↓*i*P		**P**	**07 13 43.1**	**+0.4**
	comp=Z,17nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**54.01**	**261**	P		**P**	**07 13 43.6**	**+0.8**
	comp=Z,8.8nm,0.7s,mb4.2,baz=138,slow=4.0,SNR=31							
SBA	**Scott Base**	**59.31**	**184**	*e*P		**P**	**07 14 21.4**	**+1.7**
SBA				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.1							
SBA	**Scott Base**	**59.31**	**184**	*e*P		**P**	**07 14 21.4**	**+1.7**
	comp=Z,8.0nm,1.1s,mb4.1							
VNDA	**Vanda**	**59.37**	**185**	P		**P**	**07 14 21.0**	**+1.0**
	comp=Z,1.4nm,0.8s,mb3.4,baz=7.0,slow=9.3,SNR=7.5							
VNDA	**Vanda**	**59.37**	**185**	P		**P**	**07 14 21.0**	**+0.9**
MJAR	**Matsushiro Arr**	**69.57**	**323**	P		**P**	**07 15 24.6**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=149,slow=2.1,SNR=4.2							
KKM	**Kota Kinabalu**	**70.18**	**284**	*e*P		**P**	**07 15 29.2**	**0.0**
KSM	**Kuching**	**74.01**	**277**	*e*P		**P**	**07 15 52.9**	**+1.1**
CMB	**Columbia Colle**	**77.90**	**42**	*e*P		**P**	**07 16 15.0**	**+1.4**
CMB				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
CMB	**Columbia Colle**	**77.90**	**42**	*e*P		**P**	**07 16 14.9**	**+1.4**
	comp=Z,4.2nm,0.9s,mb4.2							
YBH	**Yreka Blue Hor**	**78.71**	**38**	P		**P**	**07 16 19.7**	**+1.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=104,slow=3.1,SNR=5.8							
NVAR	**Mina Array Bea**	**79.47**	**43**	P		**P**	**07 16 23.7**	**+1.7**
	comp=Z,3.9nm,0.7s,mb4.2,baz=230,slow=9.3,SNR=25							
NJ2	**Nanjing**	**79.61**	**309**	*e*P		**P**	**07 16 19.5**	**-3.3**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.8							
PMR	**Palmer**	**83.48**	**13**	*e*P		**P**	**07 16 41.6**	**-1.3**
PMR				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.5							
PMR	**Palmer**	**83.48**	**13**	*e*P		**P**	**07 16 41.6**	**-1.3**
	comp=Z,7.5nm,0.8s,mb4.6							
MSU	**Marysvale**	**83.57**	**46**	*e*P		**P**	**07 16 42.0**	**-1.3**
MSU				*e*PcP		PcP	07 16 45.6	-1.1
MCK	**McKinley**	**85.44**	**12**	*e*P		**P**	**07 16 51.1**	**-1.5**
MCK				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.8							
MCK	**McKinley**	**85.44**	**12**	*e*P		**P**	**07 16 51.1**	**-1.5**
	comp=Z,14nm,0.8s,mb4.8							
TXAR	**Lajitas Array**	**85.64**	**57**	P		**P**	**07 16 56.3**	**+2.7**
	comp=Z,5.9nm,0.8s,mb4.5,baz=216,slow=6.2,SNR=18							
PV10	**Paradox Valley**	**85.65**	**47**	*e*P		**P**	**07 16 53.0**	**-0.7**
NEW	**Newport**	**85.78**	**35**	P		**P**	**07 16 53.6**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=167,slow=7.9,SNR=4.6							
ANMO	**Albuquerque**	**85.91**	**51**	↑*i*P		**P**	**07 16 56.0**	**+1.1**
MCMT	**McKenzie Canyo**	**86.38**	**40**	*e*P		**P**	**07 16 57.5**	**+0.3**
GYA	**Guiyang**	**86.65**	**299**	P		**P**	**07 16 58.5**	**0.0**
GYA				AP		pP	07 18 19.8	+2.1
GYA				XP		sP	07 18 55.5	+2.4
GYA				PP		PP	07 20 29.5	+3.5
GYA				SKS			07 26 50.8	
GYA				S		S	07 27 06.3	+0.2
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
GYA				AMB		AMB		
	comp=Z,80nm,5.2s							
COLA	**College**	**86.68**	**12**	↓*i*P		**P**	**07 16 56.1**	**-2.5**
COLA	**College**	**86.68**	**12**	*e*P		**P**	**07 16 56.6**	**-2.1**
	comp=Z,26nm,1.0s,mb5.0							
QLMT	**Earthquake Lak**	**87.25**	**40**	*e*P		**P**	**07 17 01.9**	**+0.5**
PDAR	**Pinedale Array**	**87.40**	**43**	P		**P**	**07 17 02.5**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.7,baz=210,slow=2.0,SNR=9.7							
DAWY	**Dawson**	**87.90**	**16**	*e*P		**P**	**07 17 03.4**	**-1.1**
WALA	**Waterton Lakes**	**87.99**	**36**	*e*P		**P**	**07 17 05.5**	**+0.7**
	comp=Z,16nm,0.8s,mb4.9							
HHC	**Hu-ho-hao-te**	**88.95**	**314**	*e*P		**P**	**07 17 09.8**	**+0.5**
HHC				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
HHC				AMB		AMB		
	comp=Z,134nm,6.3s							
KMI	**Kunming**	**89.43**	**297**	P		**P**	**07 17 13.5**	**+2.0**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.6s,mb4.7							
KMI	**Kunming**	**89.43**	**297**	P		**P**	**07 17 13.4**	**+1.9**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.7							
KMI	**Kunming**	**89.43**	**297**	P		**P**	**07 17 13.4**	**+1.9**
	comp=Z,8.0nm,0.6s,mb4.7							
CD2	**Chengdu**	**90.71**	**302**	*e*P		**P**	**07 17 16.5**	**-1.0**
CD2				XP		sP	07 19 14.5	+2.0
CD2				PP		PP	07 21 00.5	+2.4
CD2				SKS			07 27 13.0	
CD2				S		S	07 27 40.8	-2.9
CD2				SS		SS	07 33 57.3	+2.8
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
LZH	**Lanzhou**	**92.55**	**307**	*e*P		**P**	**07 17 27.3**	**+1.3**
LZH				XP		sP	07 19 24.0	+2.9
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.9							
LZH	**Lanzhou**	**92.55**	**307**	*e*P		**P**	**07 17 27.3**	**+1.3**
LZH				*SP		sP	07 19 23.9	+2.8
LZH				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.9							
LZH	**Lanzhou**	**92.55**	**307**	*e*P		**P**	**07 17 27.3**	**+1.3**
	comp=Z,13nm,1.0s,mb4.9							
LZH				pP		pP	07 18 57.5	+12
LZH				sP		sP	07 19 23.9	+2.8
INK	**Inuvik**	**92.72**	**15**	P		**P**	**07 17 25.4**	**-1.4**
	comp=Z,10nm,0.9s,mb4.9,baz=234,slow=4.7,SNR=33							
INK	**Inuvik**	**92.72**	**15**	*e*P		**P**	**07 17 25.3**	**-1.5**
INK				pmax		pmax		
	comp=Z,491nm,1.1s							
INK	**Inuvik**	**92.72**	**15**	*e*P		**P**	**07 17 25.3**	**-1.4**
	comp=Z,490nm,1.1s							
YKA	**Yellowknife Ar**	**94.92**	**24**	P		**P**	**07 17 36.1**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.5,baz=243,slow=4.5,SNR=25							
TIXI	**Tiksi**	**97.61**	**345**	*e*P		**P**	**07 17 45.4**	**-3.5**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.3							
MDRS	**Chennai**	**105.90**	**279**	*ex*		x	07 19 00.3	
MDRS	**Chennai**	**105.90**	**279**	*ex*		x	07 23 20.3	
WMQ	**Urumqi**	**106.61**	**311**	PDIF		Pdif	07 18 28.0	-1.0
WMQ				PP		PP	07 23 01.3	+2.8
WMQ				PP		PP		
	comp=Z,22nm,6.0s							
ARCES	**ARCESS Array B**	**127.69**	**350**	PKP		PKPdf	07 23 16.6	-1.3
	comp=Z,6.8nm,1.0s,baz=46,slow=3.5,SNR=6.0							
AKASG	**Malin Array Be**	**142.16**	**333**	PKHKP			07 23 38.5	
	comp=Z,1.9nm,0.7s,baz=42,slow=4.1,SNR=14							
KWP	**Kalwaria**	**145.63**	**337**	*e*PKP		PKPdf	07 23 50.9	+0.1
OJC	**Ojcow**	**146.13**	**340**	*e*PKP		PKPdf	07 23 52.2	+0.6
BURAR	**Bucovina Array**	**146.22**	**332**	↓*i*P		PKPdf	07 23 54.2	+2.4
KOLS	**Kolonicke sedl**	**146.37**	**337**	*e*PKP		PKPdf	07 23 52.9	+0.9
BRTR	**Keskin Array B**	**146.46**	**314**	PKPbc		PKPbc	07 23 53.5	-0.7
	comp=Z,2.8nm,0.7s,baz=147,slow=5.2,SNR=12							
KSP	**Ksiaz**	**146.58**	**344**	*e*PKIKP		PKPdf	07 23 53.8	+1.4
CLZ	**Clausthal**	**146.79**	**351**	*e*PKPbc		PKPbc	07 23 54.3	-0.8
CLL	**Collm**	**146.87**	**348**	*e*PKPbc		PKPbc	07 23 54.3	-1.0
CLL	**Collm**	**146.87**	**348**	↓*i*PKIKP		PKPdf	07 23 54.4	+1.5
CLL				pmax		pmax		
	comp=Z,21nm,0.7s							
CLL	**Collm**	**146.87**	**348**	↓*i*PKPbc		PKPbc	07 23 54.4	-0.9
	comp=Z,21nm,0.7s							
UPC	**Upice**	**146.96**	**345**	*e*PKP		PKPdf	07 23 54.0	+1.0
OKC	**Ostrava-Krasne**	**146.98**	**342**	*e*PKP		PKPdf	07 23 53.7	+0.7
DPC	**Dobruska-Polom**	**147.02**	**344**	*e*PKP		PKPdf	07 23 55.0	+1.9
BRG	**Berggiesshubel**	**147.10**	**347**	*e*PKPbc		PKPbc	07 23 55.0	-0.9
BRG	**Berggiesshubel**	**147.10**	**347**	*e*PKP		PKPdf	07 23 55.4	+2.1
	comp=Z,5.4nm,0.8s							
BRG	**Berggiesshubel**	**147.10**	**347**	*e*PKIKP		PKPdf	07 23 55.4	+2.2
BRG				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FBE	**Freiberg**	**147.17**	**348**	*e*PKPbc		PKPbc	07 23 55.4	-0.7
PVCC	**Panska Ves**	**147.28**	**346**	*e*PKP		PKPdf	07 23 55.9	+2.3
KECS	**Kecovo**	**147.39**	**338**	*e*PKP		PKPdf	07 23 56.7	0.0
MLR	**Muntele Rosu**	**147.46**	**329**	↑*i*P		PKPdf	07 23 54.6	+0.8
MOX	**Moxa**	**147.76**	**350**	*e*PKPbc		PKPbc	07 23 56.7	-1.0
PRU	**Pruhonice**	**147.79**	**346**	*e*PKP		PKPdf	07 23 56.6	+2.2
WERD	**Werda**	**147.83**	**349**	*e*PKPbc		PKPbc	07 23 57.1	-0.8
TANN	**Tannenbergstha**	**147.83**	**348**	*e*PKPbc		PKPbc	07 23 57.1	-0.8
GUNZ	**Gunzen**	**147.90**	**349**	*e*PKPbc		PKPbc	07 23 57.5	-0.6
VYHS	**Vyhne**	**147.95**	**340**	*i* PKP		PKPbc	07 23 57.9	-0.3
MANZ	**Manzenberg**	**148.31**	**349**	*e*PKPbc		PKPbc	07 23 58.6	-0.5
ROTZ	**Rotzenmuhle**	**148.50**	**348**	*e*PKPbc		PKPbc	07 23 58.8	-0.8
KHC	**Kasperske Hory**	**148.82**	**346**	*e*PKP		PKPbc	07 23 59.4	-1.0
KHC	**Kasperske Hory**	**148.82**	**346**	*i* PKHKP		PKPbc	07 23 59.0	-1.4
GZR	**Gura Zlata**	**149.00**	**332**	↑*i*P		PKPbc	07 24 00.5	-0.3
GIVF	**Givet**	**149.03**	**358**	*e*PKP1		PKPbc	07 23 59.3	-1.6
	comp=Z,13nm,0.7s							
GEC2	**GERESS Array S**	**149.06**	**346**	*e*PKPbc		PKPbc	07 24 00.4	-0.6
GERES	**GERESS Array B**	**149.06**	**346**	PKPbc		PKPbc	07 24 00.5	-0.5
	comp=Z,3.8nm,0.8s,baz=40,slow=2.3,SNR=21							
BAIF	**Baives**	**149.09**	**358**	*e*PKP1		PKPbc	07 23 59.6	-1.5
CONA	**Conrad Observa**	**149.35**	**343**	↑*i*PKPbc		PKPbc	07 24 01.4	-0.3
	comp=Z,14nm,1.5s							
PKSM	**Moragy**	**149.99**	**338**	↑*i*P		PKPbc	07 24 02.3	-0.9
FLN	**La Foliniere**	**150.29**	**4**	*e*PKP1		PKPbc	07 24 02.2	-1.7
LDF	**La Druitiere**	**150.48**	**4**	*e*PKP1		PKPbc	07 24 02.4	-2.0
CDF	**Champ du Feu**	**150.54**	**354**	*e*PKP1		PKPbc	07 24 03.0	-1.5
GRR	**Gorron**	**150.63**	**5**	*e*PKP1		PKPbc	07 24 03.0	-1.7
KBA	**Koelnbreinsper**	**150.80**	**345**	↑*i*P		PKPbc	07 24 03.9	-1.2
	comp=Z,6.1nm,0.7s							
WTTA	**Wattenberg**	**151.00**	**348**	↑*i*P		PKPbc	07 24 05.0	-0.6
	comp=Z,14nm,0.6s							
HAU	**Haudompre**	**151.03**	**355**	*e*PKP1		PKPbc	07 24 04.0	-1.6
	comp=Z,14nm,0.7s							
HINF	**Hinteralfeld**	**151.17**	**354**	*e*PKP1		PKPbc	07 24 04.2	-1.8
LOR	**Lormes**	**151.89**	**359**	*e*PKP1		PKPbc	07 24 06.1	-1.5
	comp=Z,5.0nm,0.4s							
SSF	**Saint Saulge**	**152.11**	**359**	*e*PKP1		PKPbc	07 24 06.7	-1.4
	comp=Z,6.2nm,0.5s							
CABF	**La Chapelle**	**152.43**	**355**	*e*PKP1		PKPbc	07 24 07.2	-1.6
	comp=Z,16nm,0.8s							
MFF	**Saint Martin d**	**152.46**	**4**	*e*PKP1		PKPbc	07 24 07.1	-1.8
BGF	**Bois d'Agland**	**152.62**	**360**	*e*PKP1		PKPbc	07 24 07.6	-1.6
	comp=Z,14nm,0.7s							
TCF	**Toulx Ste Croi**	**152.88**	**1**	*e*PKP1		PKPbc	07 24 08.0	-1.8
	comp=Z,9.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**173.98**	**169**	PKP		PKPdf	07 24 20.9	-0.8
	comp=Z,0.7nm,0.8s,baz=35,slow=0.8,SNR=3.7							

*ISCJB **30** 07:09:02.7±0.8, 575S±02×1423W±03, h10km, mb4.5/8, MS3.7/7, Error ellipse: s-maj=21.8km s-min=19.6km az=168.7*
*NEIC **30** 07:09:04.5±0.7, 5754S×142.15W, h10km, mb4.5/5, Error ellipse: s-maj=20.8km s-min=18.7km az=174.0*
*IDC **30** 07:09:04.6±4.4, 5802S×14253W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/11, mbtmp3.8/2, MS3.7/7, Ms1 3.6/7, ms1mx3.5/15, Error ellipse: s-maj=889.6km s-min=109.0km az=171.0*

ISC 30 07:09:04.2±0.8, 576S±01×1421W±03, h10km, n31, σ0°96/14, mb4.5/8, MS3.7/7, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**27.41**	**203**	LR		LR	07 22 22.4	
	comp=Z,60nm,20.7s,MS3.1,baz=77,slow=30							
RPZ	**Rata Peaks**	**32.06**	**275**	LR		LR	07 25 07.1	
	comp=Z,176nm,20.9s,MS3.7,baz=72,slow=30							
QSPA	**South Pole Qui**	**32.59**	**180**	*e*P		**P**	**07 15 35.0**	**-0.7**
	3.2nm,0.1s,mb5.2							
URZ	**Urewera**	**32.78**	**288**	LR		LR	07 26 51.1	
	comp=Z,125nm,18.8s,MS3.6,baz=217,slow=33							
TBI	**Tubuai**	**34.59**	**348**	*e*LR		LR	07 15 56.2	
	116nm,32.8s							
TBI	**Tubuai**	**34.59**	**348**	*e*T			07 50 42.8	
	43nm,0.3s							
RKT	**Rikitea**	**34.80**	**12**	*e*T			07 51 02.5	
	6.7nm,0.3s							
TVO	**Taravao**	**40.07**	**349**	*e*T			07 57 38.0	
	6.3nm,0.3s							
PAE	**Paea**	**40.22**	**349**	*e*T			07 57 49.6	
	11nm,0.3s							
PPT	**Papeete**	**40.32**	**349**	*e*LR		LR	07 15 54.6	
	83nm,26.8s							
PPT	**Papeete**	**40.32**	**349**	*e*LR		LR	07 27 02.6	
	330nm,28.0s,baz=180							
PPT	**Papeete**	**40.32**	**349**	*e*T			07 57 56.1	
	4.8nm,0.3s							
VAH	**Vaihoa**	**42.45**	**352**	*e*T			08 00 33.3	
	35nm,0.3s							
CASY	**Casey**	**45.14**	**213**	*e*P		**P**	**07 17 20.4**	**-0.5**
	4.9nm,0.9s,mb4.3							
TAU	**Tasmania Unive**	**45.31**	**257**	*e*P		**P**	**07 17 22.9**	**+0.7**
	33nm,1.1s,mb5.1							
MAW	**Mawson**	**53.78**	**192**	LR		LR	07 38 40.4	
	comp=Z,60nm,20.7s,MS3.6,baz=213,slow=33							
STKA	**Stephens Creek**	**56.53**	**262**	LR		LR	07 37 38.6	
	comp=Z,64nm,19.0s,MS3.7,baz=26,slow=30							
STKA	**Stephens Creek**	**56.53**	**262**	P		**P**	**07 18 47.5**	**+0.8**
FUNA	**Funafuti**	**57.30**	**313**	*e*P		**P**	**07 18 50.4**	**-1.7**
	3.4nm,0.5s,mb4.6							
CTA	**Charters Tower**	**63.43**	**274**	LR		LR	07 40 24.8	
	comp=Z,57nm,20.8s,MS3.7,baz=220,slow=30							
CTAO	**Charters Tower**	**63.43**	**274**	*e*P		**P**	**07 19 34.3**	**+0.3**
	0.7nm,0.3s,mb4.3							
HNR	**Honiara**	**65.20**	**293**	P		**P**	**07 19 46.3**	**+0.7**
ASAR	**Alice Springs**	**67.16**	**262**	P		**P**	**07 19 59.8**	**+1.6**
	1.1nm,0.8s,mb3.9,baz=146,slow=6.5,SNR=5.1							
NWAO	**Narrogin (SRO)**	**68.16**	**243**	*e*P		**P**	**07 20 04.9**	**+0.4**
	5.9nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**69.96**	**264**	P		**P**	**07 20 14.9**	**-0.8**
	0.8nm,0.8s,baz=148,slow=5.3,SNR=4.2							
PMG	**Port Moresby**	**71.80**	**281**	*e*P		**P**	**07 20 25.5**	**-1.4**
	2.3nm,0.7s,mb4.2							
JTS	**JuntasAbangare**	**82.07**	**57**	↑*i*P		**P**	**07 21 24.2**	**-0.5**
	105nm,0.4s							
BOSA	**Boshof**	**93.50**	**169**	LR		LR	07 59 28.3	
	comp=Z,72nm,19.1s,MS4.2,baz=192,slow=32							
COCO	**West Island**	**95.45**	**237**	*e*P		**P**	**07 22 28.4**	**-0.6**
	177nm,1.2s							
BBGH	**Gun Hill**	**97.03**	**77**	*e*P		**P**	**07 22 37.8**	**+1.5**
	110nm,1.0s							
MKAR	**Makanchi Array**	**151.22**	**267**	PKPbc		PKPbc	07 28 58.1	+0.4
	1.0nm,0.9s,baz=144,slow=0.9,SNR=4.7							

IDC 30 07:19:13.8±6.3, 241S×13132E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=450.9km s-min=28.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.67**	**171**	P		Pn	07 23 21.0	-0.3
	0.1nm,0.3s,baz=350,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**21.28**	**173**	P		P	07 24 02.4	+0.6
	4.0nm,0.5s,baz=346,slow=9.8,SNR=98							
MKAR	**Makanchi Array**	**65.18**	**325**	P		P	07 29 57.0	+0.2
	0.6nm,0.8s,baz=118,slow=7.5,SNR=4.0

comp=Z,4.0nm,0.7s,mb4.6
AAK Ala-Archa 55.40 297 *e*P **P 08 15 00.8 -0.5**
comp=Z,3.1nm,0.6s,mb4.5
ARU Arti 55.84 318⇑*i*P **P 08 15 04.7 +0.2**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
HNR Honiara 56.88 176 LR LR 08 36 24.8
comp=Z,46nm,18.6s,MS3.6,baz=359,slow=33
ARCES ARCESS Array B 57.74 342 P **P 08 15 17.5 -0.5**
comp=Z,4.6nm,1.0s,mb4.5,baz=43,slow=7.3,SNR=3.9
AKTK Aktyubinsk 59.76 313 P **P 08 15 32.5 +0.4**
AKTO Aktyubinsk 59.76 313 P **P 08 15 32.5 +0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=62,slow=11,SNR=5.5
NVAR Mina Array Bea 60.09 65 P **P 08 15 35.1 +0.8**
comp=Z,2.7nm,0.8s,mb4.3,baz=295,slow=8.2,SNR=17
PDAR Pinedale Array 62.46 56 P **P 08 15 50.8 +0.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=294,slow=2.8,SNR=15
KAKA Kakadu 63.72 206 *e*P **P 08 15 58.2 -0.5**
comp=Z,11nm,0.6s,mb5.1
KAKA *e* pP 08 16 07.8 -0.5
FINES FINESS Array B 64.17 336 P **P 08 16 01.4 -0.3**
comp=Z,1.5nm,0.6s,mb4.2,baz=35,slow=5.1,SNR=3.1
FINES LR LR 08 49 23.1
comp=Z,95nm,19.0s,MS4.0,baz=344,slow=41
FINES FINESS Array B 64.17 336 *i* P **P 08 16 05.4 +3.8**
FINES pmax pmax
comp=Z,2.0nm,0.8s
SRU San Rafael 64.30 60 *e*P **P 08 16 02.4 -0.1**
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SRU San Rafael 64.30 60 *e*P **P 08 16 02.4 -0.1**
comp=Z,4.3nm,0.8s,mb4.5
ULM Lac du Bonnet 64.42 43 P **P 08 16 02.4 -0.9**
comp=Z,1.8nm,0.9s,mb4.1,baz=188,slow=16,SNR=3.5
ULM Lac du Bonnet 64.42 43 P **P 08 16 02.4 -0.9**
PV10 Paradox Valley 65.66 59 *e*P **P 08 16 11.6 +0.3**
NB2 NORSAR Subarra 68.09 343 P **P 08 16 28.3 +1.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=28,slow=6.2
NOA NORSAR Array B 68.09 343 P **P 08 16 26.4 -0.5**
comp=Z,2.4nm,0.9s,mb4.2,baz=25,slow=6.4,SNR=4.5
NOA LR LR 08 48 27.9
comp=Z,82nm,19.0s,MS4.0,baz=260,slow=38
NOA NORSAR Array B 68.09 343 P **P 08 16 26.4 -0.5**
NOA LR LR 08 48 27.9
ANMO Albuquerque 69.51 60⇑*i*P **P 08 16 35.8 +0.2**
WRAB Tennant Creek 70.07 202 *i* P **P 08 16 37.8 -1.3**
WB2 Warramunga Arr 70.08 202⇓*i*P **P 08 16 38.1 -1.1**
WB2 epP pP 08 16 47.6 -1.3
WRA Warramunga Arr 70.08 202 P **P 08 16 38.5 -0.7**
comp=Z,3.0nm,0.6s,mb4.4,baz=20,slow=6.6,SNR=38
FITZ Fitzroy Crossi 70.97 211⇓*i*P **P 08 16 44.9 +0.3**
comp=Z,9.9nm,0.8s,mb4.8
FITZ *e* pP 08 16 54.2 -0.1
AKASG Malin Array Be 72.02 328 P **P 08 16 50.0 -0.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=34,slow=6.0,SNR=7.1
AKASG Malin Array Be 72.02 328 *i* P **P 08 16 51.9 +1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
GNI Garni 73.61 312 LR LR 08 54 35.8
comp=Z,49nm,19.2s,MS3.8,baz=339,slow=40
AS31 Alice Springs 73.76 201 *e*P **P 08 17 01.5 +0.3**
AS31 *e* pP 08 17 11.0 0.0
ASAR Alice Springs 73.76 201 P **P 08 17 01.6 +0.4**
comp=Z,5.7nm,0.9s,mb4.5,baz=14,slow=6.1,SNR=57
ASPA Alice Springs 73.76 201 *e*P **P 08 17 01.5 +0.3**
ASPA *e* pP 08 17 11.0 0.0
LTX Lajitas 75.16 63 *e*P **P 08 17 09.5 +0.2**
LTX pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LTX Lajitas 75.16 63 *e*P **P 08 17 09.5 +0.2**
comp=Z,2.3nm,0.7s,mb4.2
TXAR Lajitas Array 75.16 63 P **P 08 17 09.9 +0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=303,slow=4.8,SNR=11
GERES GERESS Array B 78.60 336 P **P 08 17 29.1 +0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=20,slow=3.1,SNR=3.1
BRTR Keskin Array B 79.23 319 P **P 08 17 33.0 +0.9**
comp=Z,1.1nm,0.9s,mb3.8,baz=27,slow=5.7,SNR=4.2
BRTR Keskin Array B 79.23 319 *i* P **P 08 17 35.5 +3.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 115.41 332 PKP PKPdf 08 24 08.3 -0.4
comp=Z,0.4nm,0.9s,baz=25,slow=1.3,SNR=2.8

*IDC **30** 08:11:47.6±0.7, 4760N×15636E, h0km, mb3.9/10, mb1 4.2/12, mb1mx3.9/27, mbtmp3.9/12, ML3.4/2, Error ellipse: s-maj=25.7km s-min=17.3km az=136.0*
*ISCJB **30** 08:11:48.7±3.5, 4771N±007×1562E±02, h19km±26km, mb4.0/10, Error ellipse: s-maj=20.3km s-min=8.6km az=54.1*
*NEIC **30** 08:11:49.2±0.5, 4761N×15633E, h10km, mb3.8/1, Error ellipse: s-maj=15.5km s-min=8.0km az=131.0*
*MOS **30** 08:11:50.9±0.9, 4770N×156.13E, h35km, mb4.0/1, Error ellipse: s-maj=23.5km s-min=12.3km az=66.6*
ISC 30 08:11:51.7±3.6, 4774N±007×1562E±02, h27km±26km, n19, σ0§73/20, mb4.0/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**2.95**	**359**	*e*PN		**Pn**	**08 12 36.5**	**-0.2**
SKR				*e*S		**Sn**	**08 13 10.0**	**-1.2**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,270nm,1.0s							
SKR				smax				
	comp=E,310nm,1.0s							
SKR				smax				
	comp=Z,200nm,1.0s							
PET	**Petropavlovsk**	**5.52**	**16**	*e*PN		**Pn**	**08 13 12.7**	**+0.6**
ASAJ	**Asahikawa**	**10.14**	**254**	Pn		**Pn**	**08 14 15.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=26,slow=20,SNR=2.1							
ERM	**Erimo**	**10.87**	**243**	*i* PN		**Pn**	**08 14 25.3**	**-0.1**
MJAR	**Matsushiro Arr**	**17.36**	**236**	P		**Pn**	**08 15 52.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=43,slow=9.4,SNR=4.3							
MAJO	**Matsushiro**	**17.36**	**236**	*e*P		**Pn**	**08 15 51.2**	**-0.8**
MAJO				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MAJO	**Matsushiro**	**17.36**	**236**	*e*Pn		**Pn**	**08 15 51.2**	**-0.8**
	comp=Z,7.2nm,1.0s							
INK	**Inuvik**	**39.69**	**33**	P		**P**	**08 19 21.2**	**-0.3**
	comp=Z,1.3nm,1.1s,mb3.6,baz=280,slow=5.2,SNR=3.3							
MKAR	**Makanchi Array**	**48.34**	**298**	P		**P**	**08 20 32.1**	**+1.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=71,slow=7.9,SNR=5.0							
KURK	**Kurchatov**	**48.55**	**304**	*i* P		**P**	**08 20 37.5**	**+5.0**
BVAR	**Borovoye Array**	**51.84**	**310**	P		**P**	**08 20 57.0**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=53,slow=5.2,SNR=5.2							
NVAR	**Mina Array Bea**	**60.12**	**65**	P		**P**	**08 21 57.1**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=300,slow=8.3,SNR=6.2							
PDAR	**Pinedale Array**	**62.47**	**56**	P		**P**	**08 22 12.4**	**-0.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=342,slow=0.5,SNR=5.0							
FINES	**FINESS Array B**	**64.02**	**336**	P		**P**	**08 22 24.8**	**+2.0**
	comp=Z,5.8nm,1.2s,mb4.5,baz=290,slow=22,SNR=3.4							
WRA	**Warramunga Arr**	**70.17**	**202**	P		**P**	**08 23 01.0**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=20,slow=6.5,SNR=11							
WRA	**Warramunga Arr**	**70.17**	**202**	*e*P		**P**	**08 23 00.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**71.03**	**211**	P		**P**	**08 23 06.8**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=30,slow=3.1,SNR=5.2							
ASAR	**Alice Springs**	**73.85**	**201**	P		**P**	**08 23 23.9**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=12,slow=6.1,SNR=17							
TXAR	**Lajitas Array**	**75.18**	**63**	P		**P**	**08 23 31.6**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=292,slow=6.6,SNR=5.4							

*NEIC **30** 08:17:18.7, 3095S×7128W, h56km, MD3.5(GUC), After GUC.*
GUC 30 08:17:18.7±0.5, 3095S×7128W, h56km±3km, MD3.5, ML2.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMCH	**Combarbala**	**0.33**	**134**	⇓*i*P		Pn	08 17 29.1	+0.5
CMCH				*i* S		Sn	08 17 37.0	+1.2
CMCH				AML		AML	08 17 37.3	
	comp=N,3μm,0.4s							
OVCH	**Ovalle**	**0.34**	**11**⇑*i*P			Pn	08 17 29.0	+0.2
OVCH				*i* S		Sn	08 17 36.7	+0.7
OVCH				AML		AML	08 17 37.2	
	comp=N,2μm,0.2s							
OVCH	**Ovalle**	**0.34**	**11**⇑*i*P			Pn	08 17 29.0	+0.2
OVCH				*i* S		Sn	08 17 36.7	+0.7
TLL	**Tololo Astrono**	**0.88**	**28**	*e*P		Pn	08 17 36.0	+1.0
TLL				*i* S		Sn	08 17 48.9	+2.0
TLL				AML		AML	08 17 49.8	
	comp=E,232nm,0.3s							
TLL	**Tololo Astrono**	**0.88**	**28**	*e*P		Pn	08 17 36.0	+1.0
TLL				*i* S		Sn	08 17 48.9	+2.0
LSCH	**La Serena**	**1.03**	**2**	*e*P		Pn	08 17 37.7	+0.7
LSCH				*i* S		Sn	08 17 51.4	+0.7
PEL	**Peldehue**	**2.25**	**167**	*e*P		Pn	08 17 53.9	+0.4
ZON	**Zonda**	**2.31**	**106**	*e*P		Pn	08 17 57.1	+2.8
VACH	**Vallenar**	**2.40**	**11**	*e*P		Pn	08 17 56.2	+0.6
VACH				*i* S		Sn	08 18 24.5	+0.7

*NEIC **30** 08:23:13.5, 3071S×7136W, h45km, MD4.1(GUC), After GUC.*
GUC 30 08:23:13.5±0.8, 3071S×7136W, h45km±2km, MD4.1, ML3.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OVCH	**Ovalle**	**0.17**	**55**⇓*i*P			Pn	08 23 21.6	+0.5
OVCH				*i* S		Sn	08 23 27.4	+1.0
OVCH				AML		AML	08 23 27.6	
	comp=E,8μm,0.2s							
CMCH	**Combarbala**	**0.56**	**146**⇑*i*P			Pn	08 23 25.5	+0.3
CMCH				*i* S		Sn	08 23 34.5	+0.9
CMCH				AML		AML	08 23 35.6	
	comp=E,6μm,0.6s							
CMCH	**Combarbala**	**0.56**	**146**⇑*i*P			Pn	08 23 25.5	+0.3
CMCH				*i* S		Sn	08 23 34.5	+0.9
TLL	**Tololo Astrono**	**0.72**	**42**⇓*i*P			Pn	08 23 28.5	+1.1
TLL				*i* S		Sn	08 23 39.4	+2.0
LSCH	**La Serena**	**0.80**	**7**⇓*e*P			Pn	08 23 28.8	+0.4
LSCH				*i* S		Sn	08 23 39.9	+0.7
PACH	**Papudo**	**1.83**	**182**	*i* S		Sn	08 24 05.8	+1.4
VACH	**Vallenar**	**2.19**	**14**	*e*P		Pn	08 23 47.9	+0.5
VACH				*i* S		Sn	08 24 14.6	+1.4
ZON	**Zonda**	**2.45**	**111**	*e*P		Pn	08 23 54.5	+3.5
PEL	**Peldehue**	**2.50**	**167**	*e*P		Pn	08 23 54.1	+2.4
PEL				*i* S		Sn	08 24 23.8	+2.9
PEL				AML		AML	08 24 40.0	
	comp=E,221nm,0.6s							
CLCH	**Cerro Calan**	**2.77**	**166**	*e*P		Pn	08 23 56.1	+0.8
CLCH				⇓*i*S		Sn	08 24 29.0	+1.4
CLCH				AML		AML	08 24 49.1	
	comp=E,148nm,0.6s							
RCDM	**Rinconada Maip**	**2.81**	**170**	*e*P		Pn	08 23 57.3	+1.3
RCDM				*i* S		Sn	08 24 30.0	+1.4
RCDM				AML		AML	08 24 42.0	
	comp=E,156nm,0.1s							
RCDM	**Rinconada Maip**	**2.81**	**170**	*e*P		Pn	08 23 57.3	+1.3
RCDM				*i* S		Sn	08 24 30.0	+1.4
TACH	**Talagante**	**2.96**	**173**	*e*P		Pn	08 23 58.6	+0.7

*IDC **30** 08:27:24.6±2.5, 2955×13062E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.8/17, mbtmp3.8/4, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=136.1km s-min=26.0km az=75.0*
*ISCJB **30** 08:27:26.7±1.0, 29S±0.1×1307E±0.1, h35km, mb4.5/3, Error ellipse: s-maj=22.5km s-min=13.0km az=113.0*
*NEIC **30** 08:27:28.8±0.8, 2945×13067E, h35km, mb4.6/1, Error ellipse: s-maj=18.4km s-min=10.5km az=57.0*
ISC 30 08:27:29.2±1.0, 30S±01×1307E±01, h35km, n8, σ0§60/8, mb4.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**15.85**	**198**	Pn		**Pn**	**08 31 08.7**	**-0.8**
	0.2nm,0.3s,baz=25,slow=14,SNR=3.9							
KKM	**Kota Kinabalu**	**16.97**	**302**	*e*Pn		**Pn**	**08 31 23.0**	**-0.7**
WRA	**Warramunga Arr**	**17.27**	**168**	P		**Pn**	**08 31 27.4**	**-0.1**
	0.3nm,0.3s,baz=348,slow=11,SNR=8.4							
WRA				S		S	08 34 26.0	-21
	baz=4.6,slow=22,SNR=2.4							
AS31	**Alice Springs**	**20.84**	**172**	*e*P		**P**	**08 32 08.2**	**+0.5**
ASAR	**Alice Springs**	**20.84**	**172**	P		**P**	**08 32 08.2**	**+0.4**
	2.4nm,0.4s,baz=353,slow=11,SNR=30							
HNR	**Honiara**	**29.80**	**104**	*e*P		**P**	**08 33 32.0**	**-0.6**
	5.6nm,0.5s,mb4.5							
COCO	**West Island**	**34.73**	**253**	*e*P		**P**	**08 34 16.3**	**+0.5**
	7.7nm,0.3s,mb5.1							
MKAR	**Makanchi Array**	**65.25**	**326**	P		**P**	**08 38 08.0**	**+0.8**
	1.1nm,1.0s,mb3.9,baz=108,slow=8.9,SNR=3.1							

*ISCJB **30** 08:48:27.4±0.8, 2945×02×1127W×0.1, h10km, mb4.3/10, MS4.5/17, Error ellipse: s-maj=23.6km s-min=13.0km az=152.2*
*IDC **30** 08:48:28.4±1.1, 2941S×11297W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/13, mbtmp3.9/6, MS4.5/17, Ms1 4.5/17, ms1mx4.4/24, Error ellipse: s-maj=36.7km s-min=32.2km az=93.0*
*NEIC **30** 08:48:29.4±0.7, 2945S×11221W, h10km, mb4.9/4, Error ellipse: s-maj=25.6km s-min=16.7km az=130.0*
*GCMT **30** 08:48:29.4±0.2, 2957S×11236W, h12km±1km, MW5.2/71, Moment Tensor Solution. s50,c67; s71,c128; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.99±.14; Mθθ-5.34±.14; Mφφ6.34±.16; Mrθ-1.17±.36; Mθφ-2.79±.13; Mφr2.07±.42; Best double couple: Mo6.82600×10^16 NP1:φ33.00000°, δ73.00000°, λ5.00000°. NP2: φ302.00000°, δ85.00000°, λ163.00000°. Principal axes: T 7.5800, Plg15.0000°, Azm256.0000°; N -1.5020, Plg73.0000°, Azm107.0000°; P -6.0720, Plg8.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 08:48:29.3±0.8, 2945S±02×1128W±01, h10km, n36, σ1§10/18, mb4.3/10, MS4.5/17, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RPN	**Rapa Nui**	**3.79**	**54**	Pn		**Pn**	**08 49 22.3**	**-5.4**
	14nm,0.3s,baz=185,slow=5.4,SNR=9.2							
RPN				T			08 53 01.6	
	17nm,0.3s,baz=262,slow=6.6,SNR=5.2							
RKT	**Rikitea**	**20.86**	**282**	*e*LQ			08 57 18.0	
	2μm,27.8s							
RKT	**Rikitea**	**20.86**	**282**	*e*P		**P**	**08 53 10.1**	**-1.3**
	255nm,28.5s							
RKT				*e*LR		LR	08 58 12.4	
	3μm,27.5s,baz=123							
RKT	**Rikitea**	**20.86**	**282**	*e*P		**P**	**08 53 10.1**	**-1.3**
RKT				*e*LQ			08 57 18.0	
TBI	**Tubuai**	**33.33**	**272**	*e*S		**S**	**09 00 28.3**	**+0.3**
	156nm,26.5s							
TBI				*e*LQ			09 02 46.6	
	1μm,27.0s							
TBI				*e*LR		LR	09 03 56.4	
	3μm,26.5s,baz=107							
PPT	**Papeete**	**35.62**	**281**	*e*S		**S**	**09 01 02.4**	**-0.8**
	95nm,24.2s							
PPT				*e*LQ			09 03 35.8	
	1μm,28.8s							
PPT				*e*LR		LR	09 04 56.7	
	3μm,27.2s,baz=114							
PPT	**Papeete**	**35.62**	**281**	LR		LR	09 05 48.5	
	comp=Z,921nm,20.2s,MS4.5,baz=110,slow=29							
ATAH	**Atahualpa**	**39.28**	**62**	P		**P**	**08 55 58.8**	**+0.6**
	4.3nm,0.7s,mb4.3,baz=312,slow=16,SNR=3.4							
ATAH				LR		LR	09 06 57.4	
	comp=Z,292nm,19.9s,MS4.1,baz=72,slow=28							
LVC	**Limon Verde**	**39.81**	**91**	P		**P**	**08 56 06.7**	**+4.1**
	1.8nm,0.8s,mb3.9,baz=270,slow=14,SNR=3.2							
LVC				LR		LR	09 06 45.8	
	comp=Z,105nm,21.0s,MS3.6,baz=270,slow=27							
LPAZ	**La Paz**	**42.91**	**82**	LR		LR	09 10 41.2	
	comp=Z,570nm,18.6s,MS4.5,baz=282,slow=31							
RAR	**Rarotonga**	**43.04**	**270**	LR		LR	09 09 00.5	
	comp=Z,1μm,21.8s,MS4.8,baz=87,slow=29							
ROSC	**El Rosal**	**50.21**	**54**	LR		LR	09 15 03.6	
	comp=Z,545nm,20.8s,MS4.5,baz=200,slow=32							
ROSC	**El Rosal**	**50.21**	**54**	*e*P		**P**	**08 57 23.5**	**-1.9**
SDV	**Santo Domingo**	**55.64**	**53**	*e*P		**P**	**08 58 03.3**	**-2.1**
	13nm,1.1s,mb4.9							
RAO	**Raoul Island**	**56.09**	**253**	LR		LR	09 16 13.1	
	comp=Z,692nm,19.1s,MS4.8,baz=97,slow=30							
AFI	**Afiamalu**	**56.43**	**272**	LR		LR	09 17 26.0	
	comp=Z,332nm,18.8s,MS4.5,baz=144,slow=31							
TXAR	**Lajitas Array**	**59.06**	**9**	LR		LR	09 18 40.2	
	comp=Z,184nm,21.8s,MS4.2,baz=345,slow=31							
VNDA	**Vanda**	**60.51**	**194**	P		**P**	**08 58 40.1**	**+0.5**
	0.5nm,0.8s,mb3.7,baz=128,slow=7.9,SNR=2.2							
VNDA				LR		LR	09 21 12.3	
	comp=Z,262nm,19.7s,MS4.4,baz=88,slow=32							
RPZ	**Rata Peaks**	**60.82**	**234**	LR		LR	09 21 13.8	
	comp=Z,577nm,18.9s,MS4.8,baz=100,slow=32							
JCT	**Junction City**	**60.83**	**13**	*e*P		**P**	**08 58 41.7**	**0.0**
	15nm,1.2s,mb5.0							
NVAR	**Mina Array Bea**	**67.69**	**355**	P		**P**	**08 59 28.6**	**+1.8**
	10nm,1.1s,mb4.8,baz=181,slow=7.2,SNR=8.3							
TMUT	**Trail Mountain**	**68.37**	**1**	*e*P		**P**	**08 59 30.3**	**-0.8**
MOD	**Modoc**	**71.30**	**354**	*e*P		**P**	**08 59 49.5**	**+0.4**
	14nm,1.4s,mb4.7							
PDAR	**Pinedale Array**	**71.89**	**2**	P		**P**	**08 59 52.8**	**+0.2**
	0.5nm,1.0s,mb3.4,baz=206,slow=9.7,SNR=3.2							
PDAR				LR		LR	09 26 32.0	
	comp=Z,310nm,19.6s,MS4.6,baz=197,slow=32							
HUMO	**Hull Mountain**	**72.28**	**352**	*e*P		**P**	**08 59 55.4**	**+0.5**
	1.9nm,0.8s,mb4.1							
EDM	**Edmonton**	**82.29**	**360**	*e*P		**P**	**09 00 51.3**	**+0.2**
HNR	**Honiara**	**83.09**	**263**	LR		LR	09 29 52.7	
	comp=Z,419nm,21.8s,MS4.8,baz=179,slow=30							
STKA	**Stephens Creek**	**86.75**	**235**	LR		LR	09 31 50.0	
	comp=Z,243nm,21.7s,MS4.6,baz=295,slow=30							
YKA	**Yellowknife Ar**	**91.60**	**359**	P		**P**	**09 01 38.1**	**+1.6**
	1.2nm,0.9s,mb4.2,baz=174,slow=5.4,SNR=4.4							
SCHQ	**Schefferville**	**92.72**	**25**	LR		LR	09 40 59.7	
	comp=Z,119nm,18.4s,MS4.4,baz=212,slow=34							
KDAK	**Kodiak Island**	**93.07**	**340**	LR		LR	09 33 30.1	
	comp=Z,357nm,18.6s,MS4.8,baz=98,slow=29							
ASAR	**Alice Springs**	**97.00**	**238**	LR		LR	09 38 49.6	
	comp=Z,313nm,20.6s,MS4.8,baz=149,slow=31							
AKASG	**Malin Array Be**	**144.51**	**42**	PKP		PKPdf	09 08 04.1	-1.8
	1.2nm,0.6s,baz=278,slow=4.3,SNR=4.5							
SONM	**Songino Array**	**144.78**	**312**	PKP		PKPdf	09 08 05.1	-1.4
	5.7nm,1.0s,baz=141,slow=2.5,SNR=5.8							
BRTR	**Keskin Array B**	**150.64**	**60**	PKPbc		PKPbc	09 08 22.4	+0.9
	0.7nm,0.7s,baz=322,slow=9.8,SNR=3.4							
ZAL	**Zalesovo**	**152.36**	**337**	PKPbc		PKPbc	09 08 24.2	-1.3
	1.5nm,0.3s,baz=58,slow=1.6,SNR=3.2							

*ISCJB **30** 08:52:05.8±1.2, 292S±02×1127W±02, h10km, mb4.2/7, Error ellipse: s-maj=34.8km s-min=24.7km az=46.0*
*IDC **30** 08:52:05.6±1.2, 2960S×11261W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/15, mbtmp3.9/5, Error ellipse: s-maj=44.3km s-min=29.5km az=13.0*
*NEIC **30** 08:52:07.5±0.9, 2925S×11261W, h10km, mb4.9/1, Error ellipse: s-maj=31.6km s-min=24.2km az=199.0*
ISC 30 08:52:07.6±1.2, 292S±02×1127W±02, h10km, n12, σ1§12/8, mb4.2/7, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RPN	**Rapa Nui**	**3.63**	**56**	T			08 56 40.0	
	8.4nm,0.3s,baz=272,slow=14,SNR=3.6							
LVC	**Limon Verde**	**39.76**	**91**	P		**P**	**08 59 40.3**	**-0.2**
	2.2nm,0.8s,mb4.0,baz=270,slow=14,SNR=3.5							
LPAZ	**La Paz**	**42.83**	**83**	P		**P**	**09 00 05.9**	**+0.3**
	2.8nm,1.1s,mb3.9,baz=279,slow=7.1,SNR=5.4							
PFO	**Pinyon Flat Ob**	**62.58**	**356**	*e*P		**P**	**09 02 31.5**	**-0.4**
	91nm,2.6s,mb5.4							
NVAR	**Mina Array Bea**	**67.50**	**355**	P		**P**	**09 03 06.3**	**+2.6**
	2.3nm,1.1s,mb4.1,baz=180,slow=7.1,SNR=4.7							
NVAR	**Mina Array Bea**	**67.50**	**355**	P		**P**	**09 03 06.3**	**+2.6**
AHID	**Auburn Hatcher**	**71.64**	**1**	*e*P		**P**	**09 03 27.3**	**-2.1**
	5.5nm,0.6s,mb4.7							
PDAR	**Pinedale Array**	**71.68**	**2**	P		**P**	**09 03 29.9**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=161,slow=8.5,SNR=3.5							
ASAR	**Alice Springs**	**97.15**	**238**	P		**P**	**09 05 40.2**	**0.0**
	0.3nm,1.0s,mb3.7,baz=123,slow=4.5,SNR=3.2							
ULN	**Ulaanbaatar**	**144.25**	**313**	*e*PKPdf		PKPdf	09 11 44.4	+0.7
SONM	**Songino Array**	**144.68**	**313**	PKPbc		PKPdf	09 11 45.2	+0.7
	0.8nm,0.6s,baz=50,slow=2.3,SNR=4.7							
BRTR	**Keskin Array B**	**150.49**	**60**	PKPbc		PKPbc	09 11 59.4	-0.1
	1.4nm,0.9s,baz=277,slow=2.1,SNR=3.6							

*CASC **30** 08:54:46.3±2.4, 1125N×8671W, h0km±5km, MD3.8, ML3.8*
*ISCJB **30** 08:54:48.2±0.9, 1125N±005×8681W±006, h33km±21km, mb3.6/1, Error ellipse: s-maj=10.8km s-min=6.0km az=117.2*
*NEIC **30** 08:54:49.1±1.3, 1127N×8656W, h49km±18km, Error ellipse: s-maj=41.6km s-min=10.3km az=223.0*
*IDC **30** 08:54:49.1±3.0, 1128N×8658W, h42km±37km, mb3.5/1, mb1 4.0/2, mb1mx3.4/17, mbtmp3.6/2, ML3.4/1, Error ellipse: s-maj=166.9km s-min=26.3km az=38.0*
ISC 30 08:54:49.5±0.8, 1127N±005×8673W±007, h49km±16km, n21, σ1§09/29, mb3.6/1, 3C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SSNN	**San Juan del S**	**0.86**	**89**⇓*e*P			**Pn**	**08 55 04.3**	**-1.1**
SSNN				*e*S		**Sn**	**08 55 17.2**	**+0.3**
TICN	**Ticuantepe**	**0.90**	**33**⇓*e*P			**Pn**	**08 55 05.6**	**-0.2**
TICN				*e*S		**Sn**	**08 55 17.3**	**-0.5**
XAVN	**Gruta Xavier**	**0.96**	**24**⇓*e*P			**Pn**	**08 55 06.2**	**-0.4**
XAVN				*e*S		**Sn**	**08 55 20.2**	**+1.0**
	comp=Z,2μm,0.3s							
TISN	**Laguna Tiscapa**	**0.98**	**27**⇑*e*P			**Pn**	**08 55 06.5**	**-0.4**
TISN				*e*S		**Sn**	**08 55 20.6**	**+0.9**
MGAN	**Managua**	**0.99**	**28**⇓*e*P			**Pn**	**08 55 05.9**	**-1.2**
MGAN				*e*S		**Sn**	**08 55 18.5**	**-1.5**
CONN	**Concepcion**	**1.12**	**75**⇓*i*P			**Pn**	**08 55 08.4**	**-0.4**
CONN				*e*S		**Sn**	**08 55 24.5**	**+1.4**
MOMJ	**Momotombo**	**1.15**	**9**	*e*P		**Pn**	**08 55 08.4**	**-0.7**
MADN	**Villa Maderas**	**1.18**	**83**⇑*e*P			**Pn**

comp=E,227nm,0.8s
CLCH Cerro Calan 3.24 197 *e*P Pn 09 04 16.9 +1.1
CLCH *e*S Sn 09 04 56.6 +2.1
CLCH AML AML 09 05 18.6
comp=N,153nm,0.7s
PCH Pirque 3.45 196 *e*P Pn 09 04 20.0 +1.4

*NEIC **30** 09:08:03.7, 1690N×9851W, h62km, MD4.1(MEX), After MEX.*
MEX 30 09:08:04.4±1.1, 1695N×9849W, h46km±20km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.66**	**148**	*i* P	Pn	09 08 16.0	-1.4
PNIG				*i* S	Sn	09 08 25.3	-1.5
UTMO	**Huajuapan**	**1.09**	**37**	*i* P	Pn	09 08 21.3	-1.9
UTMO				*i* S	Sn	09 08 35.0	-2.2
ACX	**Acapulco**	**1.37**	**267**	*i* P	Pn	09 08 24.5	-2.6
ACX				*i* S	Sn	09 08 40.0	-4.0
MEIG	**Mezcala**	**1.45**	**312**	*i* P	Pn	09 08 27.5	-0.6
MEIG				*i* S	Sn	09 08 45.3	-0.6
VHO	**Vista Hermosa**	**1.68**	**86**	*i* P	Pn	09 08 30.1	-1.2
VHO				*i* S	Sn	09 08 50.0	-1.7
VHO	**Vista Hermosa**	**1.68**	**86**	*i* P	Pn	09 08 30.0	-1.3
VHO				*i* S	Sn	09 08 50.0	-1.7
OXX	**Oaxaca**	**1.69**	**85**	*i* P	Pn	09 08 30.0	-1.5
OXX				*i* S	Sn	09 08 50.0	-1.9
CAIG	**El Cayaco**	**1.71**	**273**	*e*P	Pn	09 08 30.1	-1.5
CAIG				*i* S	Sn	09 08 50.1	-2.1
PLIG	**Platanillo**	**1.73**	**326**	*i* P	Pn	09 08 31.7	-0.3
PLIG				*i* S	Sn	09 08 52.5	-0.2
YAIG	**Yautepec**	**1.98**	**344**	*e*P	Pn	09 08 34.6	-0.8
YAIG				*i* S	Sn	09 08 57.9	-1.0
UNM	**Universidad Na**	**2.45**	**345**	*e*P	Pn	09 08 39.9	-2.0
UNM				*i* S	Sn	09 09 09.6	-1.0
SZVM	**Salazar**	**2.50**	**340**	*i* P	Pn	09 08 43.5	+0.9
SZVM				*i* S	Sn	09 09 10.5	-1.4
HUIG	**Huatulco**	**2.57**	**117**	*i* P	Pn	09 08 42.8	-0.7
HUIG				*i* S	Sn	09 09 10.1	-3.5
IIO	**Organos**	**2.63**	**355**	*i* P	Pn	09 08 42.6	-1.7
IIO				*i* S	Sn	09 09 19.7	+4.7
PTVM	**Pico Tres Padr**	**2.69**	**347**	*e*P	Pn	09 08 45.1	0.0
PTVM				*i* S	Sn	09 09 14.1	-2.4
PTVM	**Pico Tres Padr**	**2.69**	**347**	*e*P	Pn	09 08 49.4	+4.2
PTVM				*i* S	Sn	09 09 21.1	+4.6
MOIG	**Morelia**	**3.73**	**317**	*e*P	Pn	09 09 01.1	+1.7
MOIG				*i* S	Sn	09 09 42.7	+0.6
MMIG	**Aquila**	**4.82**	**287**	*e*P	Pn	09 09 13.4	-1.0
MMIG				*i* S	Sn	09 10 06.3	-2.6

OTT 30 09:14:14.8±0.1, 5993N×7771W, h5km, MN2.6/3, 30km west from Puvirnituq, Qc Boothia Ungava Seismic Zone., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKVQ	**Akulik**	**0.92**	**345**	PG	Pg	09 14 31.6	-0.8
AKVQ				SG	Sg	09 14 43.1	-1.1
AKVQ				Trac		09 14 44.9	
	comp=Z,44nm,0.1s						
INUQ	**Inukjuak**	**1.50**	**188**	PN	Pn	09 14 42.5	+0.2
INUQ				SN	Sn	09 15 02.0	-0.1
INUQ				Trac		09 15 03.9	
	comp=Z,50nm,0.1s						
IVKQ	**Ivujivik**	**2.50**	**358**	PN	Pn	09 14 56.1	0.0
IVKQ				SN	Sn	09 15 24.6	-2.4
IVKQ				SG	Sg	09 15 29.7	-5.5
IVKQ				Trac		09 15 32.0	
	comp=Z,17nm,0.4s						
SNQN	**Sanikiliuq**	**3.49**	**194**	PN	Pn	09 15 09.3	-0.3
SNQN				SN	Sn	09 15 51.1	-0.3
SNQN				SG	Sg	09 16 02.6	-4.3
KUQ	**Kuujjuuaa**	**5.14**	**107**	PN	Pn	09 15 32.3	-0.1
KUQ				SN	Sn	09 16 28.6	-3.5
KUQ				LG		09 16 54.9	
KUQ				Trac		09 16 58.2	
	comp=Z,5.7nm,0.3s						
FRB	**Frobisher Bay**	**5.79**	**45**	PN	Pn	09 15 40.5	-0.8
FRB				SN	Sn	09 16 42.1	-5.9
FRB				LG		09 17 06.5	
FRB				Trac		09 17 16.6	
	comp=Z,5.6nm,1.1s						
LG4Q	**La Grande 4**	**6.62**	**161**	PN	Pn	09 15 53.2	+0.5
LG4Q				SN	Sn	09 17 03.6	-4.9
SILO	**Sutton Inlier**	**6.72**	**219**	PN	Pn	09 15 51.6	-2.4
SILO				SN	Sn	09 17 04.7	-6.2
SILO				LG		09 17 38.4	
SILO				Trac		09 17 43.7	
	comp=Z,4.3nm,0.5s						
WEMQ	**Wemindji, Queb**	**6.89**	**181**	PN	Pn	09 15 56.3	-0.1
WEMQ				SN	Sn	09 17 10.9	-4.3
WEMQ				LG		09 17 42.6	
SEDN	**First Sedna Si**	**7.25**	**303**	SN	Sn	09 17 15.9	-8.0
YRTN	**Rankin Inlet**	**7.49**	**299**	PN	Pn	09 16 03.4	-1.4
YRTN				SN	Sn	09 17 22.1	-8.0
YOSQ	**Ashton Mining**	**7.71**	**154**	SN	Sn	09 17 30.0	-5.3
SCHQ	**Schefferville**	**7.78**	**126**	PN	Pn	09 16 06.1	-2.5
SCHQ				SN	Sn	09 17 29.9	-7.2
SCHQ				LG		09 18 13.8	
SCHQ				Trac		09 18 16.6	
	comp=Z,1.7nm,0.4s						
QILN	**Qililugaq Expl**	**7.79**	**334**	PN	Pn	09 16 06.9	-1.9
QILN				SN	Sn	09 17 28.7	-8.6
QILN				LG		09 18 12.2	
QILN				Trac		09 18 16.4	
	comp=Z,11nm,1.7s						
VIMO	**Victor Mine**	**7.87**	**208**	PN	Pn	09 16 09.7	-0.2
VIMO				SN	Sn	09 17 33.5	-5.8
FCC	**Fort Churchill**	**8.45**	**269**	PN	Pn	09 16 16.5	-1.3
MALO	**McAlpine Lake**	**9.99**	**188**	PN	Pn	09 16 37.3	-1.7
MALO				SN	Sn	09 18 22.8	-8.7

IDC 30 09:32:03.8±6.6, 654S×14703E, h47km±68km, mb2.7/1, mb1 3.1/3, mb1mx3.0/13, mbtmp3.0/3, ML2.1/1, Error ellipse: s-maj=67.7km s-min=44.1km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.85**	**177**	P	Pn	09 32 46.7	-0.1
	2.7nm,0.3s,baz=334,slow=5.1,SNR=8.3						
PMG				S	Sn	09 33 20.4	+0.6
	3.1nm,0.3s,baz=192,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**18.15**	**222**	P	Pn	09 36 12.5	+0.2
	0.1nm,0.3s,baz=44,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**21.19**	**215**	P	P	09 36 46.0	+0.7
	0.4nm,0.5s,baz=52,slow=8.4,SNR=11						
TORD	**Torodi Ar. Bea**	**145.25**	**284**	PKPbc	PKPbc	09 51 36.2	+0.2
	0.2nm,0.5s,baz=61,slow=3.5,SNR=2.6						

*NEIC **30** 09:41:22.6±3.1, 1027S×10853E, h10km, mb4.0/1, Error ellipse: s-maj=131.0km s-min=15.8km az=49.0*
*ISCJB **30** 09:41:23.7±4.1, 103S±08×1084E±09, h35km, mb3.6/5, MS3.2/1, Error ellipse: s-maj=165.6km s-min=19.5km az=96.6*
*IDC **30** 09:41:23.6±3.4, 974S×109.14E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx3.0/16, Error ellipse: s-maj=143.9km s-min=24.8km az=50.0*
ISC 30 09:41:26.3±4.0, 103S±08×1085E±09, h35km, n7, σ0≤13/7, mb3.6/5, MS3.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.70**	**114**	P	P	**09 47 01.9**	**-0.2**
	0.8nm,0.8s,mb3.3,baz=284,slow=12,SNR=4.9						
WRA				LR	LR	09 56 08.6	
	comp=Z,70nm,18.9s,MS3.2,baz=105,slow=34						
ASAR	**Alice Springs**	**27.64**	**122**	P	P	**09 47 10.7**	**+0.2**
	0.2nm,0.7s,mb2.9,baz=315,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**27.64**	**122**	P	P	**09 47 10.7**	**+0.2**
CTAO	**Charters Tower**	**37.64**	**110**	*e*P	P	**09 48 37.9**	**0.0**
	3.1nm,1.1s,mb4.0						
SONM	**Songino Array**	**57.90**	**358**	P	P	**09 51 14.9**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=170,slow=8.6,SNR=4.4						
MKAR	**Makanchi Array**	**61.47**	**340**	P	P	**09 51 39.2**	**-0.1**
	0.8nm,0.6s,mb4.0,baz=147,slow=8.4,SNR=7.7						
MKAR	**Makanchi Array**	**61.47**	**340**	P	P	**09 51 39.2**	**-0.1**

*IDC **30** 09:53:17.7±5.0, 3.48S×128.25E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=162.6km s-min=76.8km az=59.0*
*ISCJB **30** 09:53:18.1±5.0, 3.3S±02×128.4E±02, h28km±38km, mb3.8/4, Error ellipse: s-maj=46.7km s-min=12.8km az=101.6*
*NEIC **30** 09:53:20.0±1.1, 3.18S×128.43E, h30km, mb3.8/1, Error ellipse: s-maj=38.1km s-min=10.6km az=52.0*
ISC 30 09:53:21.3±2.3, 32S±02×128.4E±02, h39km±21km, n13, σ0≤85/14, mb3.9/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.26**	**157**	*e*P	Pn	**09 55 47.3**	**+1.5**
	2.1nm,0.2s						
KAKA				*e*S	Sn	**09 57 21.3**	**-18**
KKM	**Kota Kinabalu**	**15.26**	**307**	*e*P	Pn	**09 56 53.7**	**-0.2**
WRA	**Warramunga Arr**	**17.62**	**161**	P	Pn	**09 57 22.2**	**-1.5**
	0.8nm,0.3s,baz=341,slow=13,SNR=52						
WB2	**Warramunga Arr**	**17.62**	**161**	*e*P	Pn	**09 57 22.1**	**-1.6**
AS31	**Alice Springs**	**21.03**	**166**	*e*P	P	**09 58 02.0**	**+0.4**
ASPA	**Alice Springs**	**21.03**	**166**	*e*P	P	**09 58 02.0**	**+0.4**
ASAR	**Alice Springs**	**21.03**	**166**	P	P	**09 58 02.0**	**+0.4**
	4.6nm,0.5s,mb4.1,baz=351,slow=12,SNR=123						
CTAO	**Charters Tower**	**24.17**	**135**	*e*P	P	**09 58 34.2**	**+0.4**
	1.9nm,0.7s,mb3.6						
STKA	**Stephens Creek**	**31.11**	**158**	P	P	**09 59 35.1**	**-0.8**
	0.5nm,0.4s,mb3.7,baz=334,slow=11,SNR=4.3						
COCO	**West Island**	**32.52**	**252**	*e*P	P	**09 59 48.6**	**+0.2**
	67nm,0.5s						
AAK	**Ala-Archa**	**66.64**	**319**	*e*P	P	**10 04 07.6**	**-0.2**
	2.6nm,0.5s,mb4.5						
VNDA	**Vanda**	**76.39**	**173**	P	P	**10 05 07.2**	**+0.7**
	0.4nm,0.7s,mb3.4,baz=310,slow=7.9,SNR=3.4						
VNDA	**Vanda**	**76.39**	**173**	P	P	**10 05 07.2**	**+0.7**

*NEIC **30** 10:24:09.7, 19.17N×6875W, h109km, MD3.8(RSPR), After RSPR.*
RSPR 30 10:24:09.7, 1917N×6875W, h109km±14km, MD3.8/5, MD3.8/5, 5C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**1.87**	**122**	*e*P	Pn	10 24 39.9	-1.0
LSP				*e*S	Sn	10 25 04.1	-0.6
CRPR	**Cabo Rojo, PR**	**1.94**	**126**	*e*P	Pn	10 24 41.5	-0.3
CRPR				*e*S	Sn	10 25 06.9	+0.5
AOPR	**Arecibo Observ**	**2.06**	**113**	*e*P	Pn	10 24 43.5	+0.1
AOPR				*e*S	Sn	10 25 09.6	+0.4
CELP	**Cerrillos**	**2.33**	**118**	*e*P	Pn	10 24 47.0	+0.1
CELP				*e*S	Sn	10 25 15.6	+0.2
MTP	**Monte Pirata**	**3.22**	**109**	*e*P	Pn	10 24 58.5	0.0
MTP				*e*S	Sn	10 25 36.5	+0.3

*ISCJB **30** 10:28:31.5±0.3, 6577N±003×9044W±007, h10km, mb3.6/5, Error ellipse: s-maj=4.5km s-min=3.7km az=96.4*
*IDC **30** 10:28:35.7±1.2, 6583N×9039W, h0km, mb3.6/4, mb1 4.1/8, mb1mx3.7/25, mbtmp3.8/8, ML3.2/4, Error ellipse: s-maj=21.1km s-min=17.2km az=14.0*
*NEIC **30** 10:28:36.8, 6581N×9050W, h18km, mb3.8/3, MN4.0(OTT), After OTT.*
NEIC mgLg 4.0 [OTT].
*OTT **30** 10:28:36.7±0.3, 6580N×9036W, h18km, MN4.3/8, Wager Bay region, Nu 203km west from Repulse Bay, Nu Boothia Ungava Seismic Zone.*
ISC 30 10:28:32.8±0.3, 6582N±003×9074W±006, h10km, n76, σ1≤68/103, mb3.6/5, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QILN	**Qililugaq Expl**	**1.96**	**63**	PN	Pn	**10 29 08.3**	**+2.3**
QILN				PG	Pg	**10 29 11.1**	**+0.7**
QILN				SN	Sn	**10 29 29.7**	**-1.0**
QILN				SG	Sg	**10 29 35.0**	**-0.8**
QILN				Trac		10 29 36.5	
	comp=Z,547nm,0.1s						
QILN	**Qililugaq Expl**	**1.96**	**63**	Pn	Pn	**10 29 08.4**	**+2.3**
QILN				Sn	Sn	**10 29 31.5**	**+0.8**
SEDN	**First Sedna Si**	**2.59**	**185**	PN	Pn	**10 29 17.8**	**+3.0**
SEDN				SN	Sn	**10 29 47.3**	**+1.1**
SEDN				SG	Sg	**10 29 55.4**	**-0.6**
SEDN				Trac		10 29 56.1	
	comp=Z,632nm,0.3s						
YRTN	**Rankin Inlet**	**3.08**	**192**	PN	Pn	**10 29 24.8**	**+3.3**
YRTN				SN	Sn	**10 29 58.3**	**-0.1**
YRTN				LG		10 30 10.3	
YRTN				Trac		10 30 14.3	
	comp=Z,580nm,0.2s						
YRTN	**Rankin Inlet**	**3.08**	**192**	Pn	Pn	**10 29 24.8**	**+3.3**
YRTN				Sn	Sn	**10 29 58.7**	**+0.3**
ILON	**Igloolik, Nuna**	**4.93**	**40**	PN	Pn	**10 29 47.1**	**+0.2**
ILON				SN	Sn	**10 30 41.5**	**-2.5**
ILON				LG		10 31 07.5	
ILON				Trac		10 31 08.4	
	comp=Z,641nm,0.5s						
ILON	**Igloolik, Nuna**	**4.93**	**40**	Pn	Pn	**10 29 47.4**	**+0.4**
ILON				Sn	Sn	**10 30 42.3**	**-1.8**
IVKQ	**Ivujivik**	**6.57**	**115**	PN	Pn	**10 30 09.4**	**-0.1**
IVKQ				SN	Sn	**10 31 19.1**	**-5.3**
IVKQ				LG		10 31 49.6	
IVKQ				Trac		10 31 57.8	
	comp=Z,56nm,0.4s						
FCC	**Fort Churchill**	**7.25**	**194**	PN	Pn	**10 30 21.4**	**+2.5**
FCC				SN	Sn	**10 31 37.2**	**-4.1**
FCC				LG		10 32 17.0	
FCC				Trac		10 32 33.7	
	comp=Z,79nm,0.4s						
FCC	**Fort Churchill**	**7.25**	**194**	Pn	Pn	**10 30 21.4**	**+2.5**
FCC				Sn	Sn	**10 31 38.8**	**-2.5**
AKVQ	**Akulik**	**7.55**	**126**	PN	Pn	**10 30 23.9**	**+1.0**
AKVQ				SN	Sn	**10 31 41.9**	**-6.7**
AKVQ				LG		10 32 23.1	
AKVQ				Trac		10 32 28.9	
	comp=Z,24nm,0.5s						
PINU	**Pond Inlet**	**8.24**	**27**	PN	Pn	**10 30 33.7**	**+1.3**
PINU				SN	Sn	**10 32 01.4**	**-4.0**
PINU				LG		10 32 47.1	
PINU				Trac		10 32 57.5	
	comp=Z,445nm,0.5s						
KNDN	**Kennady Lake**	**8.28**	**262**	PN	Pn	**10 30 37.7**	**+4.8**
KNDN				SN	Sn	**10 32 05.4**	**-1.1**
KNDN				LG		10 32 53.0	
KNDN				Trac		10 33 00.5	
	comp=Z,38nm,0.3s						
KNDN	**Kennady Lake**	**8.28**	**262**	Pn	Pn	**10 30 37.7**	**+4.8**
KNDN				Sn	Sn	**10 32 05.4**	**-1.1**
KNDN				Lg		10 32 54.9	
BOXN	**Box Lake**	**8.32**	**265**	PN	Pn	**10 30 37.5**	**+4.1**
BOXN				SN	Sn	**10 32 06.0**	**-1.5**
BOXN				LG		10 32 52.6	
BOXN				Trac		10 32 56.5	
	comp=Z,169nm,0.8s						
BOXN	**Box Lake**	**8.32**	**265**	Pn	Pn	**10 30 37.5**	**+4.1**
BOXN				Sn	Sn	**10 32 06.0**	**-1.5**
BOXN				Lg		10 32 56.6	
MLON	**Marlo Lake**	**8.35**	**266**	PN	Pn	**10 30 37.5**	**+3.6**
MLON				SN	Sn	**10 32 06.8**	**-1.4**
MLON				LG		10 32 52.7	
MLON				Trac		10 32 57.9	
	comp=Z,56nm,0.5s						
MLON	**Marlo Lake**	**8.35**	**266**	Pn	Pn	**10 30 37.5**	**+3.6**
MLON				Sn	Sn	**10 32 06.8**	**-1.4**
MLON				Lg		10 32 56.5	
MCKN	**MacKay Lake No**	**8.40**	**268**	PN	Pn	**10 30 38.6**	**+4.1**
MCKN				SN	Sn	**10 32 06.5**	**-2.9**
MCKN				LG		10 32 55.4	
MCKN				Trac		10 33 10.9	
	comp=Z,94nm,0.4s						
MCKN	**MacKay Lake No**	**8.40**	**268**	Pn	Pn	**10 30 38.6**	**+4.1**
MCKN				Sn	Sn	**10 32 07.5**	**-1.9**
MCKN				Lg		10 33 00.6	
COWN	**Contwyoto Lake**	**8.49**	**276**	PN	Pn	**10 30 39.7**	**+3.8**
COWN				SN	Sn	**10 32 09.1**	**-2.7**
COWN				LG		10 32 56.7	
COWN				Trac		10 33 10.2	
	comp=Z,92nm,0.3s						
COWN	**Contwyoto Lake**	**8.49**	**276**	Pn	Pn	**10 30 39.7**	**+3.8**
COWN				Sn	Sn	**10 32 09.4**	**-2.3**
COWN				Lg		10 33 05.5	
SNPN	**Snap Lake**	**8.94**	**264**	PN	Pn	**10 30 45.9**	**+3.9**
SNPN				SN	Sn	**10 32 19.9**	**-2.8**
SNPN				Trac		10 32 28.8	
	comp=Z,41nm,0.1s						
SNPN	**Snap Lake**	**8.94**	**264**	Pn	Pn	**10 30 45.9**	**+3.9**
SNPN				Sn	Sn	**10 32 19.9**	**-2.8**
RES	**Resolute Bay**	**9.02**	**353**	PN	Pn	**10 30 45.6**	**+2.6**
RES				SN	Sn	**10 32 20.6**	**-4.2**
RES				LG		10 33 12.6	
RES				Trac		10 33 26.9	
	comp=Z,102nm,0.8s						
RES	**Resolute Bay**	**9.02**	**353**	Pn	Pn	**10 30 45.6**	**+2.6**
RES				Sn	Sn	**10 32 20.6**	**-4.2**
RES				Lg		10 33 20.3	
INUQ	**Inukjuak**	**9.44**	**136**	PN	Pn	**10 30 48.7**	**-0.2**
INUQ				SN	Sn	**10 32 28.4**	**-6.7**
INUQ				LG		10 33 21.6	
INUQ				Trac		10 33 37.6	
	comp=Z,85nm,1.4s						
FRB	**Frobisher Bay**	**9.68**	**92**	PN	Pn	**10 30 50.8**	**-1.3**
FRB				SN	Sn	**10 32 32.4**	**-8.5**
FRB				LG		10 33 27.3	
FRB				Trac		10 33 32.8	
	comp=Z,40nm,0.7s						
FRB	**Frobisher Bay**	**9.68**	**92**	Pn	Pn	**10 30 51.6**	**-0.5**
FRB				Sn	Sn	**10 32 33.2**	**-7.6**
ILKN	**Indian Lake**	**10.41**	**272**	PN	Pn	**10 31 07.0**	**+4.8**
ILKN				SN	Sn	**10 32 54.1**	**-4.8**
ILKN				LG		10 33 56.6	
ILKN				Trac		10 34 07.7	
	comp=Z,67nm,1.2s						
ILKN	**Indian Lake**	**10.41**	**272**	Pn	Pn	**10 31 07.0**	**+4.8**
ILKN				Sn	Sn	**10 32 54.4**	**-4.5**
ILKN				Lg		10 34 01.1	
CTLN	**Castor Lake**	**10.71**	**274**	PN	Pn	**10 31 09.7**	**+3.4**
CTLN				SN	Sn	**10 32 58.4**	**-7.8**
CTLN				LG		10 34 04.6	
CTLN				Trac		10 34 24.1	
	comp=Z,59nm,0.8s						
CTLN	**Castor Lake**	**10.71**	**274**	Pn	Pn	**10 31 09.7**	**+3.4**
CTLN				Sn	Sn	**10 33 02.6**	**-3.6**
CTLN				Lg		10 34 16.7	
SNQN	**Sanikiliuq**	**10.82**	**144**	PN	Pn	**10 31 07.8**	**+0.1**
SNQN				SN	Sn	**10 33 00.4**	**-8.4**
SNQN				LG		10 34 08.3	
SNQN				Trac		10 34 17.4	
	comp=Z,52nm,0.6s						
YKB0	**Yellowknife Ar**	**10.85**	**264**	Trac		10 34 16.4	
	comp=Z,72nm,0.6s						
YKB9	**Yellowknife Ar**	**10.86**	**264**	Trac		10 34 16.7	
	comp=Z,92nm,0.7s						
YKW1	**Yellowknife Ar**	**10.87**	**263**	Trac		10 34 26.2	
	comp=Z,58nm,0.5s						
YKW1				Trac		10 34 26.3	
	comp=Z,60nm,0.5s						
YKB8	**Yellowknife Ar**	**10.87**	**264**	Trac		10 34 14.3	
	comp=Z,67nm,0.5s						
YKW3	**Yellowknife Ar**	**10.88**	**264**	PN	Pn	**10 31 10.0**	**+1.4**
YKW3				PN	Pn	**10 31 11.1**	**+2.5**
YKW3				SN	Sn	**10 33 01.3**	**-9.0**
YKW3				SN	Sn	**10 33 03.8**	**-6.5**
YKW3				LG		10 34 11.7	
YKW3				LG		10 34 13.4	
YKW3				Trac		10 34 14.6	
	comp=Z,57nm,0.5s						
YKW3				Trac		10 34 27.0	
	comp=Z,54nm,1.1s						
YKW3	**Yellowknife Ar**	**10.88**	**264**	Pn	Pn	**10 31 10.9**	**+2.3**
YKW3				Sn	Sn	**10 33 03.7**	**-6.6**
YKW3				Lg		10 34 15.5	
YKB7	**Yellowknife Ar**	**10.88**	**264**	Trac		10 34 14.6	
	comp=Z,85nm,0.6s						
YKR9	**Yellowknife Ar**	**10.88**	**263**	Trac		10 34 17.9	
	comp=Z,75nm,0.6s						
YKB6	**Yellowknife Ar**	**10.89**	**263**	Trac		10 34 17.7	
	comp=Z,75nm,0.7s						
YKA	**Yellowknife Ar**	**10.90**	**263**	Pn	Pn	**10 31 10.3**	**+1.4**
	1.0nm,0.3s,baz=61,slow=11,SNR=58						
YKA				Sn	Sn	**10 33 02.9**	**-8.1**
	3.0nm,0.3s,baz=62,slow=21,SNR=11						
YKA				Lg		10 34 14.1	
	3.9nm,0.3s,baz=60,slow=27,SNR=4.4						
YKR8	**Yellowknife Ar**	**10.90**	**263**	Trac		10 34 22.6	
	comp=Z,37nm,0.4s						
YKB4	**Yellowknife Ar**	**10.91**	**263**	Trac		10 34 27.9	
	comp=Z,72nm,0.6s						
YKR7	**Yellowknife Ar**	**10.93**	**263**	Trac		10 34 27.9	
	comp=Z,59nm,0.5s						
YKB3	**Yellowknife Ar**	**10.93**	**263**	Trac		10 34 36.7	
	comp=Z,56nm,0.6s						
YKB2	**Yellowknife Ar**	**10.94**	**263**	Trac		10 34 19.4	
	comp=Z,58nm,0.5s						
YKB1	**Yellowknife Ar**	**10.95**	**263**	Trac		10 34 20.7	
	comp=Z,59nm,0.5s						
YKW4	**Yellowknife Ar**	**10.96**	**263**	Trac		10 34 23.6	
	comp=Z,178nm,1.0s						
YKR4	**Yellowknife Ar**	**10.98**	**264**	Trac		10 34 30.6	
	comp=Z,70nm,0.6s						
YKR3	**Yellowknife Ar**	**11.00**	**264**	Trac		10 34 31.6	
	comp=Z,79nm,0.5s						
YKR2	**Yellowknife Ar**	**11.02**	**264**	Trac		10 34 22.1	
	comp=Z,37nm,0.4s						
YKR1	**Yellowknife Ar**	**11.04**	**264**	Trac		10 34 22.6	
	comp=Z,69nm,0.6s						
SILO	**Sutton Inlier**	**11.73**	**163**	PN	Pn	**10 31 20.2**	**-0.1**
SILO				SN	Sn	**10 33 21.8**	**-9.4**
SILO				LG		10 34 35.8	
SILO				Trac		10 34 46.0	
	comp=Z,78nm,1.0s						
SILO	**Sutton Inlier**	**11.73**	**163**	Pn	Pn	**10 31 21.2**	**+0.9**
SILO				Sn	Sn	**10 33 25.1**	**-6.2**
SILO				Lg		10 34 40.5	
KUQ	**Kuujjuuaa**	**12.97**	**116**	PN	Pn	**10 31 35.6**	**-1.6**
KUQ				SN	Sn	**10 33 48.0**	**-13**
KUQ				LG		10 35 06.3	
KUQ				Trac		10 35 32.6	
	comp=Z,35nm,0.4s						
KUQ	**Kuujjuuaa**	**12.97**	**116**	Pn	Pn	**10 31 36.5**	**-0.6**
KUQ				Sn	Sn	**10 33 52.1**	**-9.4**
KUQ				Lg		10 35 20.6	
MUMO	**Musselwhite Mi**	**13.25**	**179**	LG		10 35 22.8	
VIMO	**Victor Mine**	**13.51**	**162**	PN	Pn	**10 31 43.2**	**-1.3**
VIMO				SN	Sx	10 34 05.1	
VIMO				LG		10 35 32.6	
VIMO	**Victor Mine**	**13.51**	**162**	Pn	Pn	**10 31 43.7**	**-0.8**
VIMO				Sn	Sx	10 34 05.1	
EUNU	**Eureka**	**14.36**	**3**	PN	Pn	**10 31 55.2**	**-0.9**
EUNU				SN	Sx	10 34 24.3	
EUNU				LG		10 35 50.3	
EUNU				Trac		10 36 34.0	
	comp=Z,33nm,1.2s						
LG4Q	**La Grande 4**	**14.76**	**138**	PN	Pn	**10 31 58.5**	**-3.1**
LG4Q				SN	Sx	10 34 33.0	
LG4Q				LG		10 36 07.8	
LG4Q				Trac		10 36 36.

INK				Sn	Sx	10 35 21.2		
	0.3nm,0.3s,baz=144,slow=25,SNR=4.2							
INK				Lg		10 37 08.2		
	baz=164,slow=18,SNR=2.3							
INK	**Inuvik**	**16.61**	**298**	Pn	**Pn**	**10 32 25.2**	**-0.5**	
INK				Sn	Sx	10 35 21.2		
INK				Lg		10 37 08.2		
ECSD	**EROS,Sioux Fal**	**22.37**	**191**	*e*P	**P**	**10 33 34.4**	**+3.3**	
	10nm,1.1s,mb4.2							
NEW	**Newport**	**22.41**	**231**	P	**P**	**10 33 37.0**	**+5.6**	
	2.6nm,0.8s,mb3.7,baz=250,slow=8.4,SNR=2.0							
NEW				Lg		10 40 07.7		
	1.5nm,0.6s,baz=245,slow=20,SNR=2.0							
PDAR	**Pinedale Array**	**25.36**	**214**	P	**P**	**10 34 05.8**	**+5.8**	
	1.4nm,0.7s,mb3.6,baz=33,slow=6.9,SNR=12							
PDAR				Lg		10 41 38.4		
	0.8nm,0.8s,baz=39,slow=29,SNR=3.2							
TXAR	**Lajitas Array**	**37.38**	**199**	P	**P**	**10 35 51.0**	**+5.3**	
	0.2nm,0.5s,mb3.2,baz=356,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	**67.59**	**5**	P	**P**	**10 39 33.6**	**+4.0**	
	0.3nm,0.5s,mb3.5,baz=353,slow=10,SNR=2.2							

NIED ***30*** *10:28:00,46.50N×15.300E,h29km,Mw4.1 Best double couple: M₀1.73000×10¹⁵ NP1:φ₀324.00000°,δ81.00000°, λ20.00000°. NP2:φ₀231.00000°,δ70.00000°,λ170.00000°.*
SKHL ***30*** *10:28:26.5±2.7, 4620N×15330E,h52km±14km,mb4.8/2*
JMA ***30*** *10:28:29.8±0.7, 4648N×15303E,h30km,M4.8*
MOS ***30*** *10:28:30.6±1.4, 4648N×152.74E,h44km,mb4.3/14, Error ellipse: s-maj=14.6km s-min=10.4km az=76.4*
ISCJB ***30*** *10:28:33.5±1.4, 4630N±0.10×1526E±0.1,h72km±12km, mb3.9/17, Error ellipse: s-maj=18.9km s-min=10.4km az=110.0*
IDC ***30*** *10:28:40.3±4.2, 4648N×15238E,h110km±37km,mb3.6/14, mb1 3.8/15,mb1mx3.7/24,mbtmp3.6/15,MS3.8/6, Ms1 3.8/6,ms1mx3.3/42, Error ellipse: s-maj=21.0km s-min=17.9km az=83.0*

ISC 30 10:28:35.2±1.2, 464N±01×1525E±01, h69km±11km, n71, σ1°29/82, mb3.9/17, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.44**	**252**	*e*P	**Pn**	**10 29 24.5**	**-1.8**
KUR				AMB	AMB	10 29 27.0	
	241nm,0.7s						
KUR				*i* S	**Sn**	**10 30 10.0**	**+4.2**
KUR				A		10 30 19.0	
	1μm,0.7s						
KUR				A		10 30 19.0	
	662nm,0.7s						
KUR	**Kuril'sk**	**3.44**	**252**	*e*PN	**Pn**	**10 29 24.5**	**-1.8**
KUR				*e*S	**Sn**	**10 30 10.0**	**+4.2**
KUR				pmax	pmax		
	comp=Z,240nm,0.7s						
KUR				smax			
	comp=N,1μm,0.6s						
KUR				smax			
	comp=E,660nm,0.6s						
SKR	**Severo-Kuril's**	**4.91**	**28**	*e*P	**Pn**	**10 29 40.0**	**-6.4**
SKR				AMB	AMB	10 29 42.0	
	comp=E,100nm,0.8s						
SKR				AMB	AMB	10 29 42.0	
	comp=E,70nm,0.8s						
SKR				AMB	AMB	10 29 42.0	
	comp=E,140nm,0.8s						
SKR				*e*S	**Sn**	**10 30 33.1**	**-8.8**
SKR				A		10 30 42.0	
	comp=E,160nm,0.4s						
SKR				A		10 30 42.0	
	comp=E,60nm,0.4s						
SKR				A		10 30 42.0	
	comp=E,40nm,0.4s						
NEM2	**Nemuro 2**	**5.67**	**240**	P	**Pn**	**10 29 55.9**	**-1.0**
NEM2				*e*S	**Sn**	**10 30 59.5**	**-1.1**
JRA	**Rausu**	**5.76**	**247**	P	**Pn**	**10 30 00.4**	**+2.3**
JRA				*e*S	**Sn**	**10 31 08.5**	**+5.8**
JNK	**Nakash**	**6.19**	**246**	P	**Pn**	**10 30 05.6**	**+1.7**
JNK				*e*S	**Sn**	**10 31 17.9**	**+4.7**
JAK	**Akkeshi**	**6.51**	**241**	P	**Pn**	**10 30 07.6**	**-0.7**
JAK				*e*S	**Sn**	**10 31 20.7**	**-0.5**
JTKR	**Abashiri--Toko**	**6.53**	**251**	P	**Pn**	**10 30 11.3**	**+2.7**
YSS	**Yuzh-Sakhalins**	**6.72**	**278**	*e*P	**Pn**	**10 30 18.0**	**+6.9**
JMP	**Maruseppu**	**6.88**	**253**	P	**Pn**	**10 30 16.6**	**+3.3**
JAR	**Ashorobuto**	**6.93**	**246**	P	**Pn**	**10 30 15.8**	**+1.8**
JAR				*e*S	**Sn**	**10 31 35.6**	**+4.2**
JOB	**Onbets**	**7.09**	**243**	P	**Pn**	**10 30 16.8**	**+0.5**
JOB				*e*S	**Sn**	**10 31 35.3**	**-0.1**
JKK2	**Kamakawa 2**	**7.34**	**253**	P	**Pn**	**10 30 23.0**	**+3.4**
ASAJ	**Asahikawa**	**7.34**	**255**	P	**Pn**	**10 30 23.6**	**+3.9**
	comp=E,1.6nm,0.3s,baz=77,slow=13,SNR=11						
ASAJ				LR	LR	10 33 12.3	
	comp=E,299nm,19.2s,baz=139,slow=37						
ASAJ	**Asahikawa**	**7.34**	**255**	P	**Pn**	**10 30 23.7**	**+4.0**
JCH	**Churui**	**7.54**	**243**	P	**Pn**	**10 30 22.5**	**+0.1**
JCH				*e*S	**Sn**	**10 31 45.5**	**-0.9**
JEM	**Erimo**	**8.01**	**240**	P	**Pn**	**10 30 29.4**	**+0.6**
ERM	**Erimo**	**8.01**	**240**	*i* PN	**Pn**	**10 30 30.5**	**+1.7**
JBT2	**Biratori 2**	**8.08**	**247**	P	**Pn**	**10 30 30.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**8.10**	**243**	P	**Pn**	**10 30 29.8**	**-0.3**
JKB	**Kayabe**	**9.39**	**245**	P	**Pn**	**10 30 46.3**	**-1.3**
JKB				*e*S	**Sn**	**10 32 28.7**	**-2.9**
JYM2	**Yakumo 2**	**9.69**	**248**	P	**Pn**	**10 30 52.3**	**+0.6**
JANG	**Nango**	**10.00**	**237**	P	**Pn**	**10 30 52.3**	**-3.7**
JANG				*e*S	**Sn**	**10 32 40.4**	**-6.1**
JTM	**Tenmabayashi**	**10.00**	**240**	P	**Pn**	**10 30 54.8**	**-1.2**
JTM				*e*S	**Sn**	**10 32 40.6**	**-6.0**
JTH	**Tanohata**	**10.09**	**234**	P	**Pn**	**10 32 40.9**	**-7.9**
OFUJ	**Ofunato**	**10.80**	**231**	*e*S	**Sn**	**10 32 59.2**	**-6.9**
JRG	**Rokugo**	**11.16**	**235**	P	**Pn**	**10 31 09.6**	**-2.2**
JIO	**Ouri**	**11.43**	**230**	P	**Pn**	**10 31 11.6**	**-3.9**
JIO				*e*S	**Sn**	**10 33 13.0**	**-8.4**
JFK	**Kawauchi**	**12.49**	**228**	*e*S	**Sn**	**10 33 38.4**	**-9.0**
MJAR	**Matsushiro Arr**	**14.53**	**232**	P	**Pn**	**10 31 56.5**	**-0.6**
	comp=E,0.2nm,0.3s,baz=224,slow=38,SNR=4.1						
KSRS	**Korea Array**	**20.28**	**253**	P	**P**	**10 33 07.8**	**+2.6**
	comp=E,0.6nm,0.6s,baz=139,slow=44,SNR=3.3						
YAK	**Yakutsk**	**20.38**	**328**	*i* P	**P**	**10 33 00.6**	**-5.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BILL	**Bilibino**	**22.82**	**13**	*e*P	**P**	**10 33 31.3**	**-1.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.7						
SONM	**Songino Array**	**31.04**	**290**	P	**P**	**10 34 47.3**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.6,baz=80,slow=11,SNR=3.3						
SONM	**Songino Array**	**31.04**	**290**	P	**P**	**10 34 47.3**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
COLA	**College**	**36.67**	**38**	*i* P	**P**	**10 35 34.3**	**-0.9**
ZAL	**Zalesovo**	**42.48**	**306**	LR	LR	10 56 21.0	
	comp=Z,246nm,18.9s,baz=32,slow=39						
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**10 36 57.4**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=64,slow=6.6,SNR=14						
MKAR				LR	LR	10 57 52.9	
	comp=Z,204nm,18.5s,baz=355,slow=38						
MKAR	**Makanchi Array**	**46.71**	**297**	P	**P**	**10 36 57.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,204nm,18.5s						
KURK	**Kurchatov**	**47.19**	**304⇑**	*e*P	**P**	**10 37 00.2**	**-0.7**
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**10 37 28.0**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.3,baz=53,slow=8.4,SNR=7.7						
BVAR				LR	LR	11 01 06.9	
	comp=Z,117nm,18.8s,baz=326,slow=38						
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**10 37 28.0**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,117nm,18.8s						
AAK	**Ala-Archa**	**53.60**	**296⇑**	*i* P	**P**	**10 37 49.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**10 38 19.9**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=38,slow=6.6,SNR=4.8						
ARCES	**ARCESS Array B**	**58.03**	**341**	P	**P**	**10 38 20.0**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**62.98**	**62**	P	**P**	**10 38 57.2**	**+2.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=277,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**10 39 01.2**	**-1.2**
	comp=Z,0.8nm,0.3s,mb4.0,baz=40,slow=5.7,SNR=11						
FINES	**FINESS Array B**	**64.16**	**335**	*i* P	**P**	**10 39 02.0**	**-0.4**
FINES				pmax	pmax		

	comp=Z,1.0nm,0.3s							
PDAR	**Pinedale Array**	**65.30**	**53**	P	**P**	**10 39 09.3**	**-0.5**	
	comp=Z,0.5nm,0.8s,mb3.4,baz=329,slow=2.6,SNR=3.6							
WRA	**Warramunga Arr**	**68.05**	**198**	P	**P**	**10 39 27.0**	**-0.3**	
	comp=Z,0.5nm,0.9s,mb3.4,baz=17,slow=6.4,SNR=5.8							
WRA				LR	LR	11 11 04.5		
	comp=Z,21nm,18.2s,baz=195,slow=37							
WRA	**Warramunga Arr**	**68.05**	**198**	P	**P**	**10 39 27.0**	**-0.3**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WRA				MLR	MLR			
	comp=Z,21nm,18.2s							
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**10 39 29.3**	**-0.3**	
	comp=Z,2.2nm,0.8s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**10 39 28.9**	**-0.6**	
	comp=Z,4.9nm,0.9s,mb4.3,baz=28,slow=6.3,SNR=6.2							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**10 39 28.9**	**-0.7**	
NOA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**71.59**	**326**	P	**P**	**10 39 48.5**	**-0.6**	
	comp=Z,0.5nm,0.2s,mb3.9,baz=32,slow=5.7,SNR=6.2							
AKASG	**Malin Array Be**	**71.59**	**326**	*i* P	**P**	**10 39 47.7**	**-1.3**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**71.75**	**198**	P	**P**	**10 39 51.1**	**+1.1**	
	comp=Z,0.7nm,0.7s,mb3.6,baz=11,slow=5.6,SNR=9.5							
ASAR	**Alice Springs**	**71.75**	**198**	P	**P**	**10 39 51.1**	**+1.1**	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
STHS	**Stebnicka Huta**	**75.59**	**330**	*e*P	**P**	**10 40 14.1**	**+1.6**	
STHS				*e*		10 40 23.2		
STHS	**Stebnicka Huta**	**75.59**	**330**	*e*P	**P**	**10 40 14.1**	**+1.6**	
STHS				*e*		10 40 23.2		
STHS				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
KOLS	**Kolonicke sedl**	**75.63**	**329**	*e*P	**P**	**10 40 13.8**	**+1.0**	
KECS	**Kecovo**	**76.65**	**329**	*e*P	**P**	**10 40 16.6**	**-1.9**	
KECS				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
VYHS	**Vyhne**	**77.21**	**330**	*e*P	**P**	**10 40 20.7**	**-1.0**	
BRTR	**Keskin Array B**	**78.34**	**316**	*i* P	**P**	**10 40 28.6**	**+0.6**	
	comp=Z,4.0nm,1.0s,mb4.1,baz=75,slow=1.4,SNR=8.1							
BRTR	**Keskin Array B**	**78.34**	**316**	*i* P	**P**	**10 40 29.7**	**+1.8**	
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**78.36**	**334**	*e*P	**P**	**10 40 28.0**	**0.0**	
KHC	**Kasperske Hory**	**78.36**	**334**	*e*P	**P**	**10 40 29.3**	**+1.3**	
GERES	**GERESS Array B**	**78.57**	**334**	P	**P**	**10 40 29.7**	**+0.4**	
	comp=Z,0.6nm,0.6s,mb3.6,baz=55,slow=5.1,SNR=5.1							
GERES	**GERESS Array B**	**78.57**	**334**	P	**P**	**10 40 29.7**	**+0.5**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MMAI	**Mount Meron Ar**	**82.71**	**311**	LR	LR	11 23 07.4		
	comp=Z,77nm,18.4s,baz=40,slow=40							
VNA2	**Neumayer--Watz**	**153.56**	**195**	*e*PKPdf	PKPdf	10 48 20.1	+2.0	
VNA2				*e*		10 48 23.9		
VNA2				*e*		10 48 27.5		
VNA2				*e*		10 48 31.5		
VNA2				*e*		10 48 36.2		
VNA2				*e*		10 48 49.0		

ISCJB ***30*** *10:39:51.1±3.8, 7.1S±02×1260E±06, h492km±54km, mb3.6/7, Error ellipse: s-maj=98.7km s-min=18.8km az=151.5*
IDC ***30*** *10:39:52.6±2.4, 7.17S×125.83E, h496km±30km, mb3.1/6, mb1 3.3/8, mb1mx3.2/16, mbtmp3.1/8, Error ellipse: s-maj=97.9km s-min=14.1km az=67.0*

ISC 30 10:39:51.8±3.5, 71S±02×1259E±06, h485km±49km, n14, σ0°48/13, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.52**	**131**	*e*P	**P**	**10 41 53.4**	**+0.1**
	11nm,0.6s						
WRA	**Warramunga Arr**	**15.16**	**148**	P	**P**	**10 43 03.3**	**-0.6**
	1.7nm,0.3s,baz=340,slow=9.1,SNR=73						
WB2	**Warramunga Arr**	**15.17**	**148**	*e*P	**P**	**10 43 03.5**	**-0.5**
ASPA	**Alice Springs**	**18.17**	**156**	*e*P	**P**	**10 43 35.0**	**+0.6**
ASAR	**Alice Springs**	**18.17**	**156**	P	**P**	**10 43 34.7**	**+0.3**
	1.6nm,0.3s,baz=348,slow=15,SNR=94						
ASAR				ScP	ScP	10 50 28.8	-1.5
	0.0nm,0.3s,baz=324,slow=1.9,SNR=4.4						
FORT	**Forrest**	**23.63**	**175**	*e*P	**P**	**10 44 24.3**	**+0.5**
	5.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**28.67**	**151**	*e*P	**P**	**10 45 08.8**	**+0.5**
	3.4nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**28.67**	**151**	P	**P**	**10 45 08.8**	**+0.5**
	3.3nm,0.4s,mb4.1,baz=337,slow=6.2,SNR=9.8						
SONM	**Songino Array**	**57.36**	**345**	P	**P**	**10 48 53.4**	**+0.5**
	0.3nm,0.5s,mb2.9,baz=154,slow=4.2,SNR=2.8						
MKAR	**Makanchi Array**	**66.14**	**329**	P	**P**	**10 49 50.6**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=123,slow=8.3,SNR=3.1						
ZAL	**Zalesovo**	**69.94**	**336**	P	**P**	**10 50 13.2**	**-0.3**
	2.1nm,0.3s,mb4.2,baz=284,slow=1.3,SNR=3.5						
VNDA	**Vanda**	**72.85**	**172**	P	**P**	**10 50 29.7**	**-0.9**
	0.3nm,0.4s,mb3.2,baz=324,slow=7.2,SNR=5.1						
BVAR	**Borovoye Array**	**76.02**	**329**	P	**P**	**10 50 48.1**	**-0.4**
	0.5nm,0.5s,mb3.3,baz=149,slow=6.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**124.82**	**281**	PKP	PKPdf	10 57 56.8	+0.9
	0.5nm,0.7s,baz=77,slow=1.9,SNR=2.9						

OTT 30 10:40:33.5±0.4, 6571N×9016W, h18km, MN3.0/5, Wager Bay, Nu. Aftershock. 200km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QILN	**Qililugaq Expl**	**1.81**	**57**	PN	Pn	10 41 03.9	+0.2
QILN				PG	Pg	10 41 06.1	-2.1
QILN				SN	Sn	10 41 25.9	-0.2
QILN				SG	Sg	10 41 30.2	-1.4
QILN				Trac		10 41 39.0	
	comp=Z,20nm,0.1s						
SEDN	**First Sedna Si**	**2.51**	**191**	PN	Pn	10 41 13.0	-0.4
SEDN				PG	Pg	10 41 18.1	-3.6
SEDN				SN	Sn	10 41 42.9	-0.7
SEDN				SG	Sg	10 41 50.5	-3.9
SEDN				Trac		10 41 52.8	
	comp=Z,9.2nm,0.1s						
YRTN	**Rankin Inlet**	**3.04**	**197**	PN	Pn	10 41 23.7	+3.1
YRTN				SN	Sn	10 41 54.6	-1.8
YRTN				SG	Sg	10 42 05.8	-5.2
YRTN				Trac		10 42 08.0	
	comp=Z,21nm,0.2s						
ILON	**Igloolik, Nuna**	**4.87**	**37**	PN	Pn	10 41 45.7	-0.1
ILON				SN	Sn	10 42 37.9	-3.8
ILON				LG		10 43 02.5	
ILON				Trac		10 43 04.0	
	comp=Z,8.7nm,0.3s						
IVKQ	**Ivujivik**	**6.30**	**116**	PN	Pn	10 42 04.8	-0.7
IVKQ				SN	Sn	10 43 16.0	-1.0
IVKQ				LG		10 43 50.3	
FCC	**Fort Churchill**	**7.21**	**197**	PN	Pn	10 42 16.2	-1.7
FCC				SN	Sn	10 43 32.1	-7.3
FCC				SN	Sn	10 43 34.0	-5.4
FCC				LG		10 44 13.8	
FCC				Trac		10 44 22.5	
	comp=Z,6.7nm,0.5s						
AKVQ	**Akulik**	**7.30**	**127**	PN	Pn	10 42 18.4	-0.8
AKVQ				SN	Sn	10 43 39.1	-2.4
AKVQ				LG		10 44 18.8	
PINU	**Pond Inlet**	**8.22**	**26**	PN	Pn	10 42 28.7	-3.2
PINU				SN	Sn	10 43 50.7	-14
PINU				LG		10 44 43.3	
RES	**Resolute Bay**	**9.16**	**352**	SN	Sn	10 44 13.3	-14
RES				LG		10 45 07.5	
FRB	**Frobisher Bay**	**9.43**	**92**	SN	Sn	10 44 29.8	-4.3
FRB				LG		10 45 24.9	
YKW3	**Yellowknife Ar**	**11.10**	**265**	PN	Pn	10 43 10.1	-1.2
YKW3				SN	Sn	10 45 00.6	-14
YKW3				LG		10 46 04.8	
YKW3				Trac		10 46 16.8	
	comp=Z,2.0nm,0.5s						
SILO	**Sutton Inlier**	**11.56**	**165**	PN	Pn	10 43 14.6	-3.0
SILO				LG		10 46 31.3	

IDC 30 11:12:24.9±1.1, 4553N×15406E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/55, Error ellipse: s-maj=36.1km s-min=25.1km az=108.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.27**	**264**	Pn	Pn	11 14 26.3	+0.2
	0.5nm,0.3s,baz=61,slow=19,SNR=3.2						
ASAJ				LR	LR	11 17 55.8	
	comp=Z,42nm,19.0s,baz=111,slow=40						
JOW	**Kunigami**	**27.76**	**237**	LR	LR	11 27 00.3	
	comp=Z,304nm,20.8s,baz=36,slow=32						
MKAR	**Makanchi Array**	**48.09**	**299**	P		11 21 06.4	0.0
	0.3nm,0.7s,baz=58,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**51.51**	**36**	P		11 21 32.0	-0.4
	0.4nm,0.8s,baz=297,slow=6.8,SNR=2.6						
FINES	**FINESS Array B**	**65.42**	**335**	P		11 23 08.3	-1.2
	2.2nm,0.8s,baz=43,slow=8.4,SNR=3.1						
WRA	**Warramunga Arr**	**67.58**	**200**	P		11 23 22.9	-0.4
	0.6nm,0.7s,baz=19,slow=7.1,SNR=9.8						
ASAR	**Alice Springs**	**71.27**	**199**	P		11 23 46.4	+0.3
	0.3nm,0.6s,baz=18,slow=5.9,SNR=7.0						

ISCJB ***30*** *11:12:31.3±0.3, 5154N±002×16.11E±002, h0km, mb3.7/1, Error ellipse: s-maj=3.1km s-min=2.0km az=35.4*
NEIC ***30*** *11:12:32.7±0.7, 5157N×1663E, h1km, ML3.3(SZGRF), After SZGRF.*
BGR ***30*** *11:12:32.7±0.7, 5157N×16.16E, h1km, ML3.3/6, Error ellipse: s-maj=8.9km s-min=3.3km az=28.0*
IPEC ***30*** *11:12:32.6±0.3, 5159N×1620E, h0km, ML3.0/3, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
MOS ***30*** *11:12:33.3±2.5, 5150N×1600E, h10km, mb3.9/1, Error ellipse: s-maj=8.6km s-min=4.6km az=88.2*
IDC ***30*** *11:12:33.3±0.8, 5147N×1601E, h0km, mb3.6/1, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML3.1/5, Error ellipse: s-maj=14.3km s-min=7.8km az=95.0*
WAR ***30*** *11:12:34.3, 5155N×16.10E, ML3.0, Mining Induced*
CSEM ***30*** *11:12:34.6±0.1, 5149N×1605E, h2km, ML3.7/11, Error ellipse: s-maj=2.7km s-min=1.4km az=21.0*
VIE ***30*** *11:12:36.3±0.9, 5128N×1598E, h0km, mb3.0/7, ML3.2/6, Error ellipse: s-maj=5.4km s-min=3.6km az=8.0 74 km WNW of Breslau Suspected Mining induced.*

ISC 30 11:12:32.9±0.3, 5154N±002×1609E±002, h0km, n82, σ1°01/135, mb3.7/1, 9C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**169**	*e*Pn	**Pg**	**11 12 47.4**	**+0.9**
KSP				*e*Sg	**Sg**	**11 12 57.2**	**+1.6**
KSP	**Ksiaz**	**0.71**	**169**	*i*P	**Pg**	**11 12 47.5**	**+1.0**
KSP				*e*		11 12 56.9	
KSP	**Ksiaz**	**0.71**	**169**	*e*Pg	**Pg**	**11 12 47.4**	**+0.9**
KSP				*e*Sg	**Sg**	**11 12 56.2**	**+0.5**
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**11 12 53.4**	**+0.7**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pn	**Pn**	**11 12 56.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**11 12 56.4**	**+0.5**
DPC				*e*SG	**Sg**	**11 13 11.8**	**+0.4**
	136nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pg**	**11 12 56.1**	**+0.2**
DPC				*e*Sg	**Sg**	**11 13 11.8**	**+0.4**
	136nm,0.5s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pg**	**11 12 59.8**	**+0.2**
PVCC	**Panska Ves**	**1.39**	**224**	*e*Pg	**Pg**	**11 12 59.7**	**+0.1**
PVCC				*e*Sg	**Sg**	**11 13 18.9**	**+1.2**
BRG	**Berggiesshubel**	**1.50**	**245**	*e*Pg	**Pg**	**11 13 00.5**	**-1.3**
BRG				*e*Sg	**Sg**	**11 13 22.3**	**+1.0**
BRG	**Berggiesshubel**	**1.50**	**245**	PN	**Pn**	**11 13 00.5**	**-0.6**
BRG				PG	**Pg**	**11 13 02.1**	**+0.3**
BRG				SG	**Sg**	**11 13 22.5**	**+1.3**
	118nm,0.4s						
PRA	**Prague**	**1.81**	**216**	PG	**Pg**	**11 13 06.0**	**-1.5**
PRA				SG	**Sg**	**11 13 31.0**	**0.0**
FBE	**Freiberg**	**1.83**	**251**	*e*Pg	**Pg**	**11 13 07.3**	**-0.7**
FBE				*e*Sg	**Sg**	**11 13 31.0**	**-0.6**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**11 13 05.7**	**0.0**
PRU				*e*PG	**Pg**	**11 13 07.7**	**-0.4**
PRU				*e*SG	**Sg**	**11 13 31.9**	**0.0**
	94nm,0.5s						
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*Pn	**Pn**	**11 13 12.8**	**+6.6**
GKP				*e*Pg	**Pg**	**11 13 14.4**	**+5.6**
GKP				*e*Sn	**Sn**	**11 13 35.2**	**+4.7**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**11 13 06.6**	**-0.6**
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**11 13 06.5**	**-0.7**
CLL				*i* Pg	**Pg**	**11 13 09.7**	**-0.5**
CLL				*i* Sg	**Sg**	**11 13 35.7**	**+0.3**
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**11 13 06.5**	**-0.7**
	comp=Z,47nm,0.5s						
CLL				*i* Pg	**Pg**	**11 13 09.7**	**-0.5**
CLL				*i* x	x	11 13 13.1	
CLL				*i* Sg	**Sg**	**11 13 35.7**	**+0.3**
	comp=Z,109nm,0.5s						
CLL				*i* x	x	11 13 42.3	
RAC	**Raciborz**	**1.98**	**137**	*e*Pg	**Pg**	**11 13 11.4**	**+0.6**
RAC				*e*Sg	**Sg**	**11 13 36.3**	**-0.1**
MORC	**Moravsky Berou**	**1.99**	**152**	*i*P	**Pn**	**11 13 07.6**	**-0.2**
MORC	**Moravsky Berou**

VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**11 13 29.1**	**+0.2**
VYHS				*e*PG	**Pg**	**11 13 40.1**	**-0.4**
VYHS				*e*SG	**Sg**	**11 14 28.6**	**+2.4**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn	**Pn**	**11 13 30.4**	**+0.8**
GRA1	**Grafenberg Arr**	**3.61**	**241**	Pn	**Pn**	**11 13 30.6**	**+0.5**
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*Pn	**Pn**	**11 13 30.6**	**+0.5**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	**11 13 31.1**	**+0.9**
CONA				⇓*i*Sg	**Sg**	**11 14 27.0**	**-2.2**
	comp=N,28nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**11 13 29.4**	**-1.3**
BSD				*i* S	**Sn**	**11 14 08.6**	**-5.8**
BSD				*i*		11 14 11.0	
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**11 13 29.4**	**-1.3**
BSD				*i* S	**Sn**	**11 14 08.6**	**-5.8**
HROE	**Hohe Rhon--Fla**	**3.88**	**257**	⇓*i*Pn	**Pn**	**11 13 33.9**	**+0.2**
MOA	**Molln**	**3.88**	**198**	*i* Pn	**Pn**	**11 13 34.3**	**+0.6**
	SNR=16						
MOA				⇑*i*Sg	**Sg**	**11 14 37.0**	**-0.5**
	comp=N,45nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**11 13 35.0**	**+0.7**
STHS				*e*PG	**Pg**	**11 13 49.3**	**+1.3**
STHS				*e*SG	**Sg**	**11 14 43.9**	**+5.1**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*P	**Pn**	**11 13 35.0**	**+0.7**
STHS				pmax	pmax		
	comp=N,26nm,0.6s						
KECS	**Kecovo**	**4.17**	**135**	*e*PG	**Pg**	**11 13 53.1**	**+0.3**
KECS				*e*SG	**Sg**	**11 14 50.8**	**+3.9**
ARSA	**Arzberg**	**4.31**	**185**	⇑*i*Pn	**Pn**	**11 13 39.9**	**+0.2**
ARSA				⇑*i*Sg	**Sg**	**11 14 49.6**	**-1.7**
	comp=N,28nm,0.6s						
KWP	**Kalwaria**	**4.63**	**112**	*e*Pg	**Pg**	**11 14 03.0**	**+1.4**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PG	**Pg**	**11 14 05.4**	**+1.5**
KOLS				*e*		11 15 19.2	
KBA	**Koelnbreinsper**	**4.81**	**203**	⇑*i*Pn	**Pn**	**11 13 47.8**	**+1.2**
KBA				⇑*i*Sg	**Sg**	**11 15 08.4**	**+0.9**
	comp=N,26nm,0.6s						
UZH	**Uzhgorod**	**4.94**	**124**	*e*P	**Pn**	**11 13 46.8**	**-1.6**
UZH				*e*S	**Sn**	**11 14 42.4**	**-3.8**
UZH				pmax	pmax		
	comp=N,40μm,0.8s						
GROS	**Grobnik**	**5.10**	**185**	*i* Pn	**Pn**	**11 13 51.9**	**+1.4**
LVV	**L'vov**	**5.33**	**106**	*e*P	**Pn**	**11 14 01.6**	**+7.8**
DAVA	**Damuels**	**5.87**	**226**	⇑*i*Pn	**Pn**	**11 14 01.5**	**+0.3**
DAVA				⇓*i*Sg	**Sg**	**11 15 40.8**	**-0.8**
	comp=N,34nm,0.9s						
BOJS	**Bojanci**	**6.06**	**186**	*i* Pn	**Pn**	**11 14 05.5**	**+1.6**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**11 14 32.5**	**-2.2**
	comp=N,1.2nm,0.3s,baz=279,slow=12,SNR=7.1						
AKASG	**Malin Array Be**	**8.31**	**91**	P	**Pn**	**11 14 33.2**	**-1.4**
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**11 14 38.7**	**-1.5**
	comp=N,0.2nm,0.3s,baz=147,slow=19,SNR=3.8						
KONO	**Kongsberg**	**8.92**	**338**	*i* P	**Pn**	**11 14 44.5**	**+1.5**
VSU	**Vasula**	**9.24**	**37**	*i* P	**Pn**	**11 14 47.0**	**-0.4**
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**11 15 14.2**	**-2.0**
	comp=N,0.3nm,0.3s,baz=201,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**11.34**	**25**	P	**Pn**	**11 15 17.8**	**+1.6**
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**11 15 22.3**	**-4.0**
	comp=N,0.2nm,0.3s,baz=106,slow=14,SNR=3.3						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**Pn**	**11 16 46.7**	**-5.1**
	comp=N,0.1nm,0.3s,baz=188,slow=13,SNR=6.4						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**11 22 39.3**	**-0.8**
	comp=N,0.5nm,0.6s,mb5.7,baz=30,slow=6.7,SNR=4.1						
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**11 22 39.3**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **30** 11:27:29.9,3853S×17583E,h168km,MG3.7(WEL),After WEL.*

WEL 30 11:27:30.2±0.4,3853S×17584E,h165km±3km,ML3.6/12, 6C,Error ellipse: s-maj=2.8km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.63**	**210**	P	Pn	11 27 53.6	-0.3
TWVZ	**Taurewa**	**0.63**	**210**	PN	Pn	11 27 53.7	-0.2
NGZ	**Ngauruhoe**	**0.67**	**196**	P	Pn	11 27 54.4	+0.3
NGZ	**Ngauruhoe**	**0.67**	**196**	PN	Pn	11 27 54.4	+0.3
TUVZ	**Tukino**	**0.75**	**191**	P	Pn	11 27 55.0	+0.4
TUVZ	**Tukino**	**0.75**	**191**	⇑PN	Pn	11 27 54.9	+0.3
TRVZ	**Turoa**	**0.80**	**197**	PN	Pn	11 27 55.3	+0.4
BKZ	**Black Stump Fm**	**0.81**	**142**	P	Pn	11 27 55.4	+0.4
BKZ				S	Sn	11 28 14.2	+0.2
BKZ	**Black Stump Fm**	**0.81**	**142**	⇑PN	Pn	11 27 55.4	+0.4
BKZ				SN	Sn	11 28 14.2	+0.2
WNVZ	**Wahianoa**	**0.82**	**193**	P	Pn	11 27 55.3	+0.3
WNVZ	**Wahianoa**	**0.82**	**193**	PN	Pn	11 27 55.3	+0.3
PKVZ	**Pokaka**	**0.85**	**207**	PN	Pn	11 27 55.2	-0.1
MOVZ	**Moawhango**	**0.88**	**185**	P	Pn	11 27 55.3	-0.2
MOVZ	**Moawhango**	**0.88**	**185**	PN	Pn	11 27 55.3	-0.1
URZ	**Urewera**	**1.03**	**75**	*e*P	Pn	11 27 56.4	-0.2
URZ	**Urewera**	**1.03**	**75**	PN	Pn	11 27 56.4	-0.2
URZ				SN	Sn	11 28 16.3	-0.6
MWZ	**Matawai**	**1.34**	**82**	*e*P	Pn	11 27 59.5	+0.2
MWZ	**Matawai**	**1.34**	**82**	PN	Pn	11 27 59.5	+0.2
MWZ				SN	Sn	11 28 21.2	-0.5
WAZ	**Wanganui**	**1.40**	**208**	*e*P	Pn	11 27 59.4	-0.5
WAZ	**Wanganui**	**1.40**	**208**	⇑PN	Pn	11 27 59.3	-0.6
KNZ	**Kokohu**	**1.51**	**110**	*e*P	Pn	11 28 01.5	+0.5
KNZ	**Kokohu**	**1.51**	**110**	PN	Pn	11 28 01.5	+0.5
TSZ	**Takapari Road**	**1.53**	**177**	P	Pn	11 28 00.9	-0.3
TSZ	**Takapari Road**	**1.53**	**177**	⇑PN	Pn	11 28 00.9	-0.3
TSZ				SN	Sn	11 28 24.0	-1.0
WPHZ	**Waipukurau**	**1.60**	**163**	⇑PN	Pn	11 28 01.9	0.0
PXZ	**Pawanui**	**1.70**	**153**	⇑PN	Pn	11 28 02.9	0.0
PUZ	**Puketiti**	**1.95**	**77**	*e*P	Pn	11 28 05.3	-0.4
PUZ	**Puketiti**	**1.95**	**77**	PN	Pn	11 28 05.3	-0.4
MRZ	**Mangatainoka R**	**2.14**	**185**	*e*P	Pn	11 28 06.4	-1.4
MRZ	**Mangatainoka R**	**2.14**	**185**	PN	Pn	11 28 06.3	-1.6
BFZ	**Birch Farm**	**2.17**	**172**	*e*P	Pn	11 28 07.0	-1.2
BFZ	**Birch Farm**	**2.17**	**172**	PN	Pn	11 28 07.0	-1.1
TIWZ	**Tintock**	**2.25**	**179**	PN	Pn	11 28 07.6	-1.4
KIW	**Kapiti Island**	**2.44**	**197**	P	Pn	11 28 09.1	-2.2
KIW	**Kapiti Island**	**2.44**	**197**	PN	Pn	11 28 09.1	-2.2
MTW	**Mount Morrison**	**2.64**	**186**	P	Pn	11 28 09.3	-4.4
MTW	**Mount Morrison**	**2.64**	**186**	PN	Pn	11 28 11.3	-2.4
CAW	**Cannon Point**	**2.64**	**193**	P	Pn	11 28 11.5	-2.3
CAW	**Cannon Point**	**2.64**	**193**	PN	Pn	11 28 11.5	-2.2
DUWZ	**D'Urville Isla**	**2.71**	**213**	PN	Pn	11 28 11.9	-2.7
MRW	**Makara Radio**	**2.84**	**198**	P	Pn	11 28 13.5	-2.6
MRW	**Makara Radio**	**2.84**	**198**	PN	Pn	11 28 13.5	-2.6
TRWZ	**Traveller**	**2.87**	**182**	PN	Pn	11 28 14.1	-2.4
WEL	**Wellington**	**2.87**	**196**	P	Pn	11 28 13.6	-3.0
WEL	**Wellington**	**2.87**	**196**	PN	Pn	11 28 13.6	-3.0
SNZO	**South Karori**	**2.91**	**197**	*e*P	Pn	11 28 14.2	-2.8
SNZO	**South Karori**	**2.91**	**197**	PN	Pn	11 28 14.2	-2.9
MSWZ	**Moikau Station**	**2.92**	**189**	P	Pn	11 28 14.4	-2.7
MSWZ	**Moikau Station**	**2.92**	**189**	PN	Pn	11 28 14.4	-2.7
TCW	**Tory Channel**	**2.94**	**204**	P	Pn	11 28 14.7	-2.7
TCW	**Tory Channel**	**2.94**	**204**	PN	Pn	11 28 14.7	-2.7
TUWZ	**Tuamarina**	**3.25**	**206**	PN	Pn	11 28 17.8	-3.4
NNZ	**Nelson**	**3.29**	**214**	*e*P	Pn	11 28 18.1	-3.6
NNZ	**Nelson**	**3.29**	**214**	PN	Pn	11 28 18.1	-3.6
BSWZ	**Blackbirch Sta**	**3.52**	**205**	P	Pn	11 28 21.5	-3.2
BSWZ	**Blackbirch Sta**	**3.52**	**205**	PN	Pn	11 28 21.5	-3.2
KHZ	**Kahutara**	**4.26**	**204**	PN	Pn	11 28 30.8	-3.4
LTZ	**Lake Taylor**	**5.04**	**211**	PN	Pn	11 28 39.8	-4.5

*ISCJB **30** 11:33:13.3±1.6,2145S±004×17464W±003,h1km±9km, mb5.7/128,MS6.0/226,Error ellipse: s-maj=7.2km s-min=3.7km az=99.2*

*NEIC **30** 11:33:17.0±3.5,2130S×17468W,h14km±21km,mb5.7/87, MS6.1/184,MW6.0,Error ellipse: s-maj=8.5km s-min=5.3km az=135.0,Moment Tensor Solution. s22 Moment tensor: Scale 10^18^Nm; Mrr0.45; Mθθ-0.18; Mφφ-0.27; Mrθ0.67; Mθφ-0.20; Mrφ1.06; Best double couple: Mo1.30000×10^18^ NP1:φs33.00000°,δ80.00000°, λ88.00000°. NP2:φs223.00000°,δ10.00000°,λ100.00000°. Principal axes: T 1.3400, Plg55.0000°, Azm301.0000°; N -0.0300, Plg2.0000°, Azm33.0000°; P -1.3100, Plg35.0000°, Azm124.0000°.*

*GCMT **30** 11:33:17.0±0.1,2158S×17360W,h12km,MW6.0/108, Moment Tensor Solution. s94,c203; s108,c363; Duration: 2s4 Moment tensor: Scale 10^18^Nm; Mrr0.90±.01; Mθθ-0.18±.01; Mφφ-0.72±.01; Mrθ0.32±.01; Mθφ-0.39±.00; Mrφ0.68±.01; Best double couple: Mo1.18400×10^18^ NP1:φs209.00000°,δ25.00000°, λ93.00000°. NP2:φs26.00000°,δ65.00000°,λ89.00000°. Principal axes: T 1.1720, Plg70.0000°, Azm293.0000°; N 0.0250, Plg1.0000°, Azm27.0000°; P -1.1960, Plg20.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **30** 11:33:17.7±2.8,2141S×17454W,h29km±18km,mb5.1/21, mb1 5.1/23,mb1mx5.1/23,mbtmp5.1/23,ML5.4/2,MS5.8/26, Ms1 5.8/26,ms1mx5.7/38 Error ellipse: s-maj=16.1km s-min=10.7km az=145.0*

*BJI **30** 11:33:17.6,2073S×17427W,h18km,mB6.4,mb5.6,Ms5.9, Msz5.7*

*MOS **30** 11:33:20.2±2.2,2119S×17468W,h33km,mb6.0/48, MS6.0/69,Error ellipse: s-maj=9.0km s-min=7.3km az=65.5*

ISC 30 11:33:17.0±1.8,2149S±004×17459W±003,h14km±10km, h20km±4.2km:pP-P,n1003,σ0§92/592,mb5.7/128, MS6.0/226,165C-157D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.00**	**20**	Pn	**Pn**	**11 35 04.0**	**-8.8**
	33nm,0.3s,baz=165,slow=2.8,SNR=33						
AFI				Sn	**Sn**	**11 36 27.9**	**-15**
	71nm,0.3s,baz=199,slow=23,SNR=6.9						
AFI				LR	LR	11 37 53.5	
	comp=Z,48μm,18.2s,baz=194,slow=35						
AFI	**Afiamalu**	**8.00**	**20**	*e*P	**Pn**	**11 35 04.8**	**-8.0**
AFI				pmax	pmax		
	comp=Z,829nm,1.0s						
AFI	**Afiamalu**	**8.00**	**20**	*e*Pn	**Pn**	**11 35 04.8**	**-8.0**
	comp=Z,829nm,1.0s						
RAO	**Raoul Island**	**8.29**	**201**	Pn	**Pn**	**11 35 15.4**	**-1.3**
	comp=Z,168nm,0.3s,baz=106,slow=20,SNR=4.2						
RAO				Sn	**Sn**	**11 36 46.3**	**-3.9**
	baz=287,slow=19,SNR=3.8						
RAO				LR	LR	11 38 14.4	
	comp=Z,20μm,21.5s,baz=42,slow=35						
RAO	**Raoul Island**	**8.29**	**201**	*e*P	**Pn**	**11 35 17.3**	**+0.6**
RAO				pmax	pmax		
	comp=Z,3μm,1.0s						
RAO	**Raoul Island**	**8.29**	**201**	*e*Pn	**Pn**	**11 35 17.3**	**+0.5**
	comp=Z,3μm,1.0s						
RAO				*e*Sn	**Sn**	**11 36 48.8**	**-1.4**
RAR	**Rarotonga**	**13.81**	**92**	Pn	**Pn**	**11 36 15.8**	**-16**
	comp=Z,47nm,0.3s,baz=270,slow=5.1,SNR=41						
RAR				Sn	Sn	11 38 35.8	-30
	comp=Z,10nm,0.3s,baz=270,slow=23,SNR=5.6						
RAR				LR	LR	11 41 09.3	
	comp=Z,53μm,18.1s,baz=274,slow=34						
FUNA	**Funafuti**	**14.21**	**334**	Pn	**Pn**	**11 36 40.2**	**+2.5**
	comp=Z,2μm,2.0s						
WCZ	**Waipu Caves**	**17.34**	**211**	P	**Pn**	**11 37 23.6**	**+5.1**
WCZ	**Waipu Caves**	**17.34**	**211**	PN	**Pn**	**11 37 23.6**	**+5.0**
DZM	**Mont Dzumac**	**17.62**	**265**	*e*P	**Pn**	**11 37 26.3**	**+4.2**
DZM	**Mont Dzumac**	**17.62**	**265**	Pn	**Pn**	**11 37 27.9**	**+5.9**
	comp=Z,1.7nm,0.3s,baz=81,slow=16,SNR=41						
URZ	**Urewera**	**18.18**	**201**	P	**Pn**	**11 37 29.4**	**+0.5**
	comp=Z,3.9nm,0.3s,baz=60,slow=1.1,SNR=20						
URZ				S	**Sn**	**11 40 40.0**	**-12**
	comp=Z,1.2nm,0.3s,baz=42,slow=9.0,SNR=5.6						
URZ	**Urewera**	**18.18**	**201**	*e*P	**Pn**	**11 37 31.1**	**+2.2**
URZ	**Urewera**	**18.18**	**201**	*e*PN	**Pn**	**11 37 31.1**	**+2.2**
KNZ	**Kokohu**	**18.69**	**199**	*e*PN	**Pn**	**11 37 38.3**	**+3.2**
BFZ	**Birch Farm**	**20.65**	**200**	*e*P	**P**	**11 37 56.2**	**0.0**
BFZ	**Birch Farm**	**20.65**	**200**	*e*PN	**P**	**11 37 56.2**	**0.0**
SNZO	**South Karori**	**21.73**	**202**	*e*P	**P**	**11 38 11.0**	**+3.1**
	comp=Z,458nm,1.3s,mb5.8						
SNZO				LR	LR		
	comp=Z,23μm,19.0s,MS5.6						
QRZ	**Quartz Range**	**22.16**	**207**	*e*P	**P**	**11 38 13.4**	**+1.1**
QRZ	**Quartz Range**	**22.16**	**207**	*e*PN	**P**	**11 38 13.4**	**+1.0**
THZ	**Tophouse**	**22.79**	**205**	*e*P	**P**	**11 38 16.9**	**-2.2**
THZ	**Tophouse**	**22.79**	**205**	*e*PN	**P**	**11 38 16.9**	**-2.2**
KHZ	**Kahutara**	**23.12**	**203**	*e*P	**P**	**11 38 19.4**	**-3.2**
KHZ				S	**S**	**11 42 28.4**	**-5.0**
KHZ	**Kahutara**	**23.12**	**203**	*e*PN	**P**	**11 38 19.4**	**-3.2**
KHZ				SN	**S**	**11 42 28.4**	**-5.0**
TBI	**Tubuai**	**23.30**	**99**	*e*P	**P**	**11 38 19.6**	**-4.9**
	comp=Z,3μm,1.3s,mb6.5						
TBI				*e*LR	LR	11 43 24.2	
	comp=Z,38μm,32.2s,baz=275						
PAE	**Paea**	**23.86**	**85**	*e*P	**P**	**11 38 25.4**	**-4.5**
	comp=Z,587nm,1.2s,mb5.9						
PPT	**Papeete**	**23.89**	**85**	*e*P	**P**	**11 38 25.7**	**-4.5**
	comp=Z,322nm,1.3s,mb5.6						
PPT	**Papeete**	**23.89**	**85**	*e*LR	LR	11 43 37.1	
	comp=Z,27μm,20.5s,baz=258						
PPT	**Papeete**	**23.89**	**85**	P	**P**	**11 38 25.3**	**-4.9**
	comp=Z,280nm,1.1s,mb5.6,baz=296,slow=4.1,SNR=13						
PPT				LR	LR	11 45 56.3	
	comp=Z,44μm,19.4s,MS5.9,baz=258,slow=32						
PPT	**Papeete**	**23.89**	**85**	P	**P**	**11 38 25.3**	**-4.9**
PPT				LR	LR	11 45 56.3	
LTZ	**Lake Taylor**	**23.91**	**204**	*e*P	**P**	**11 38 27.8**	**-2.5**
LTZ	**Lake Taylor**	**23.91**	**204**	*e*PN	**P**	**11 38 27.8**	**-2.6**
TVO	**Taravao**	**24.14**	**86**	*e*P	**P**	**11 38 28.0**	**-4.5**
	comp=Z,863nm,1.3s,mb6.0						
WVZ	**Waitaha Valley**	**24.77**	**206**	*e*PN	**P**	**11 38 37.1**	**-1.1**
RPZ	**Rata Peaks**	**25.17**	**205**	P	**P**	**11 38 41.0**	**-0.9**
	comp=Z,92nm,0.8s,mb5.4,baz=316,slow=3.5,SNR=12						
RPZ				LR	LR	11 48 50.0	
	comp=Z,20μm,18.1s,MS5.7,baz=26,slow=37						
FOZ	**Fox Glacier**	**25.61**	**207**	P	**P**	**11 38 44.2**	**-1.6**
FOZ	**Fox Glacier**	**25.61**	**207**	PN	**P**	**11 38 44.2**	**-1.6**
PMOR	**Pomariorio Ree**	**26.14**	**80**	*e*P	**P**	**11 38 46.2**	**-4.5**
	comp=Z,341nm,1.2s,mb5.8						
VAH	**Vaihoa**	**26.32**	**81**	*e*P	**P**	**11 38 48.8**	**-3.4**
	comp=Z,174nm,1.1s,mb5.5						
ODZ	**Otahua Downs**	**26.45**	**204**	*e*P	**P**	**11 38 53.3**	**-0.1**
ODZ	**Otahua Downs**	**26.45**	**204**	*e*PN	**P**	**11 38 53.3**	**-0.1**
HNR	**Honiara**	**27.26**	**292**	P	**P**	**11 39 01.0**	**+0.3**
	comp=Z,17nm,0.4s,mb5.0,baz=94,slow=16,SNR=3.4						
HNR	**Honiara**	**27.26**	**292**	*e*P	**P**	**11 38 59.9**	**-0.8**
HNR				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.5						
HNR				MLR	MLR		
	comp=Z,9μm,21.0s,MS5.3						
HNR	**Honiara**	**27.26**	**292**	*e*P	**P**	**11 38 59.9**	**-0.8**
	comp=Z,150nm,1.0s,mb5.5						
HNR				LR	LR		
	comp=Z,9μm,21.0s,MS5.3						
WHZ	**Wether Hill Ro**	**28.22**	**206**	*e*P	**P**	**11 39 11.6**	**+2.3**
WHZ	**Wether Hill Ro**	**28.22**	**206**	*e*PN	**P**	**11 39 11.6**	**+2.3**
ARMA	**Armidale**	**31.55**	**247**	*e*P	**P**	**11 39 40.7**	**+1.9**
CNB	**Canberra Magne**	**34.37**	**238**	*e*P	**P**	**11 40 05.1**	**+1.7**
	comp=Z,88nm,1.1s,mb5.6						
CNB				*e*S	**S**	**11 45 35.1**	**+4.5**
TAOE	**Nuku Hiva Isla**	**35.45**	**75**	*e*S	**S**	**11 45 37.4**	**-10**
	comp=Z,8μm,24.1s						
TAOE				*e*LR	LR	11 48 57.1	
	comp=Z,47μm,21.0s,baz=247						
CTAO	**Charters Tower**	**36.57**	**265**	*e*P	**P**	**11 40 21.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.5						
CTAO	**Charters Tower**	**36.57**	**265**	*e*P	**P**	**11 40 21.8**	**-0.6**
	comp=Z,120nm,1.3s,mb5.6						
CTAO				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
RKT	**Rikitea**	**36.62**	**100**	*e*P	**P**	**11 40 19.3**	**-3.5**
	comp=Z,245nm,1.1s,mb5.9						
RKT	**Rikitea**	**36.62**	**100**	*e*S	**S**	**11 45 54.3**	**-11**
	comp=Z,2μm,27.8s						
RKT				*e*LR	LR	11 49 33.8	
	comp=Z,31μm,30.2s,baz=263						
RKT	**Rikitea**	**36.62**	**100**	*e*P	**P**	**11 40 19.3**	**-3.5**
RKT				*e*S	**S**	**11 45 54.3**	**-11**
TOO	**Toolangi**	**37.93**	**236**	*e*P	**P**	**11 40 35.6**	**+1.7**
	comp=Z,30nm,1.4s,mb4.8						
TOO	**Toolangi**	**37.93**	**236**	*e*P	**P**	**11 40 35.6**	**+1.7**
TOO				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.8						
TAU	**Tasmania Unive**	**38.22**	**227**	P	**P**	**11 40 41.1**	**+4.8**
	comp=Z,749nm,1.4s,mb6.2,SNR=7.6						
TAU	**Tasmania Unive**	**38.22**	**227**	*e*P	**P**	**11 40 38.7**	**+2.4**
TAU				pmax	pmax		
	comp=Z,198nm,1.1s,mb5.8						
TAU				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
TAU	**Tasmania Unive**	**38.22**	**227**	*e*P	**P**	**11 40 38.7**	**+2.4**
	comp=Z,198nm,1.1s,mb5.8						
TAU				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						

PMG	**Port Moresby**	**38.66**	**282**	P	**P**	**11 40 39.3**	**-0.8**
	comp=Z,115nm,0.9s,mb5.6,baz=102,slow=6.8,SNR=27						
PMG	**Port Moresby**	**38.66**	**282**	⇑*e*P	**P**	**11 40 39.9**	**-0.2**
PMG	**Port Moresby**	**38.66**	**282**	*e*P	**P**	**11 40 40.4**	**+0.3**
	comp=Z,134nm,0.9s,mb5.7						
PMG				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
STKA	**Stephens Creek**	**40.25**	**246**	*e*P	**P**	**11 40 52.5**	**-0.8**
	comp=Z,63nm,0.9s,mb5.3						
STKA				*e*S	**S**	**11 46 51.6**	**-8.6**
STKA	**Stephens Creek**	**40.25**	**246**	P	**P**	**11 40 52.6**	**-0.8**
	comp=Z,96nm,1.0s,mb5.5,baz=91,slow=9.8,SNR=53						
STKA				LR	LR	11 57 08.9	
	comp=Z,15μm,18.6s,MS5.9,baz=82,slow=36						
PTCN	**Pitcairn Islan**	**40.90**	**104**	PFAKE		11 41 10.0	+11
PTCN				LR	LR		
	comp=Z,14μm,19.0s,MS5.9						
POHA	**Pohakuloa**	**45.04**	**26**	*e*P	**P**	**11 41 32.4**	**+0.2**
	comp=Z,155nm,1.0s,mb5.8						
POHA				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
KIP	**Kipapa**	**45.62**	**22**	*i* P	**P**	**11 41 35.6**	**-1.2**
KIP	**Kipapa**	**45.62**	**22**	*e*P	**P**	**11 41 36.2**	**-0.6**
	comp=Z,234nm,1.0s,mb6.1						
KIP				LR	LR		
	comp=Z,10μm,19.0s,MS5.8						
AS31	**Alice Springs**	**47.40**	**257**	⇑*i*P	**P**	**11 41 49.4**	**-1.3**
AS31				*e*S	**S**	**11 48 44.8**	**+0.4**
ASAR	**Alice Springs**	**47.40**	**257**	P	**P**	**11 41 49.5**	**-1.2**
	comp=Z,64nm,0.9s,mb5.5,baz=92,slow=8.0,SNR=185						
ASAR				S	**S**	**11 48 42.2**	**-2.2**
	comp=Z,5.9nm,1.1s,baz=91,slow=16,SNR=9.2						
ASAR				LR	LR	12 01 35.0	
	comp=Z,10μm,18.7s,MS5.8,baz=107,slow=36						
ASAR	**Alice Springs**	**47.40**	**257**	P	**P**	**11 41 49.5**	**-1.2**
ASAR				S	**S**	**11 48 42.3**	**-2.1**
ASPA	**Alice Springs**	**47.40**	**257**	⇑*i*P	**P**	**11 41 49.4**	**-1.4**
ASPA				*e*S	**S**	**11 48 44.8**	**+0.4**
WB2	**Warramunga Arr**	**47.61**	**262**	*e*P	**P**	**11 41 50.3**	**-2.1**
WB2				*e*		11 41 56.3	
WB2				*e*S	**S**	**11 48 49.2**	**+1.8**
WB2				*e*SCS	ScS	11 51 56.7	+11
WRAB	**Tennant Creek**	**47.61**	**262**	P	**P**	**11 41 51.3**	**-1.1**
	comp=Z,1μm,1.0s,SNR=42						
WRAB	**Tennant Creek**	**47.61**	**262**	*e*P	**P**	**11 41 51.1**	**-1.3**
WRAB				*e*pP	pP	11 41 56.3	-0.5
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
WRA	**Warramunga Arr**	**47.62**	**262**	P	**P**	**11 41 51.0**	**-1.4**
	comp=Z,48nm,0.9s,mb5.5,baz=98,slow=6.9,SNR=163						
WRA				S	**S**	**11 48 48.2**	**+0.7**
	comp=Z,2.0nm,1.0s,baz=100,slow=14,SNR=4.7						
MIDW	**Midway**	**49.49**	**357**	*e*P	**P**	**11 42 06.9**	**0.0**
MIDW				LR	LR		
	comp=Z,13μm,19.0s,MS6.0						
KAKA	**Kakadu**	**51.17**	**271**	*e*P	**P**	**11 42 19.4**	**-0.2**
	comp=Z,114nm,1.4s,mb5.6						
FORT	**Forrest**	**51.84**	**247**	*e*P	**P**	**11 42 24.3**	**-0.3**
	comp=Z,136nm,0.8s,mb5.9						
GUMO	**Guam**	**52.90**	**308**	PFAKE		11 42 40.0	+7.5
GUMO				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
DRV	**Dumont d'Urvil**	**53.52**	**201**	P	**P**	**11 42 36.0**	**-1.0**
DRV				S	**S**	**11 50 20.0**	**+11**
DRV				L		11 55 00.0	
DRV				R		11 59 00.0	
SBA	**Scott Base**	**57.12**	**185**	*e*P	**P**	**11 43 04.6**	**+1.6**
SBA				MLR	MLR		
	comp=Z,10μm,20.0s,MS5

SKR *e* 11 55 38.0
SKR *e*SSS 12 02 58.0
SKR pmax pmax
comp=E,1µm,12.0s
SKR pmax pmax
comp=Z,3µm,12.0s
SKR pmax pmax
comp=N,2µm,14.0s
SKR smax
comp=N,6µm,14.0s
SKR smax
comp=E,3µm,12.0s
SKR MLR MLR
comp=N,2µm,20.0s,MS5.7
SKR MLR MLR
comp=E,3µm,20.0s,MS5.7
SKR MLR MLR
comp=Z,5µm,20.0s,MS5.8
BNLO Ben Lomond (Sa 76.41 41 ⇓P **P 11 45 06.3 +0.3**
baz=77
PKM Peak Mountain 76.46 44 ⇑P **P 11 45 07.0 +0.7**
baz=77,SNR=7.3
BLG Laguna Peak 76.47 45 ⇑P **P 11 45 06.1 -0.2**
baz=77
CIS Catalina Islan 76.47 46 ⇓P **P 11 45 06.1 -0.2**
baz=77
JRSC Jasper Ridge 76.55 40 ⇓P **P 11 45 07.5 +0.7**
baz=77,SNR=11
SAC San Andreas 76.56 40 *e*P **P 11 45 07.8 +1.0**
SAC San Andreas 76.56 40 *e*P **P 11 45 06.9 +0.1**
SMMC Simmler 76.60 43 ⇑P **P 11 45 07.7 +0.6**
baz=77,SNR=12
SAO San Andreas Ge 76.61 41 *e*P **P 11 45 06.6 -0.5**
SAO pmax pmax
comp=Z,143nm,1.1s,mb5.8
SAO MLR MLR
comp=Z,11µm,19.0s,MS6.2
SAO San Andreas Ge 76.61 41 *e*P **P 11 45 06.6 -0.6**
comp=Z,143nm,1.1s,mb5.8
SAO LR LR
comp=Z,11µm,19.0s,MS6.2
PKD Parkfield 76.66 42 ⇑P **P 11 45 07.8 +0.5**
baz=77,SNR=12
LRV Little Rabbit 76.66 42 *e*P **P 11 45 08.3 +0.9**
KSM Kuching 76.69 277 *e*P **P 11 45 07.7 +0.1**
U04C Hernandez Rese 76.77 42 ⇑P **P 11 45 08.8 +0.8**
baz=77,SNR=39
PACP Pacheco Peak 76.87 41 ⇓P **P 11 45 09.5 +1.0**
baz=77,SNR=47
NACB Ninganchiao 76.88 303 *e*P **P 11 45 07.9 -0.7**
WENL Wente Brothers 76.98 41 ⇑P **P 11 45 10.1 +0.9**
baz=77,SNR=15
OSI Osito Adit 77.00 44 ⇑P **P 11 45 09.1 -0.2**
baz=77
V05C Boulder Hill, 77.01 43 ⇓P **P 11 45 09.9 +0.6**
baz=77
CVS Carmenet Viney 77.03 40 ⇓P **P 11 45 09.3 -0.2**
baz=77,SNR=15
DECC Green Verdugo 77.03 45 ⇓P **P 11 45 09.2 -0.3**
baz=77
109C Camp Elliot, M 77.04 47 ⇓P **P 11 45 09.3 -0.2**
baz=77
NSHM Saint Helena R 77.06 39 *e*P **P 11 45 09.3 -0.3**
HOPS Hopland 77.10 39 *e*P **P 11 45 09.8 0.0**
comp=Z,171nm,1.2s,mb5.8
HOPS LR LR
comp=Z,9µm,20.0s,MS6.1
HOPS Hopland 77.10 39 ⇑P **P 11 45 10.4 +0.6**
baz=77,SNR=14
BDM Black Diamond 77.13 40 ⇓P **P 11 45 10.3 +0.3**
baz=77,SNR=7.8
S04C Ingram Canyon, 77.16 41 ⇓P **P 11 45 10.7 +0.4**
baz=77,SNR=47
U05C Westside ANR, 77.17 42 ⇓P **P 11 45 10.6 +0.3**
baz=77
T05C Eagle Field, D 77.18 42 ⇓P **P 11 45 10.9 +0.6**
baz=77,SNR=6.5
MWC Mount Wilson 77.20 45 *e*P **P 11 45 11.7 +1.3**
BAR Barrett 77.21 47 *e*P **P 11 45 12.8 +2.3**
ARVC Arvin 77.24 44 ⇑P **P 11 45 10.7 +0.1**
baz=77,SNR=7.9
P01C Double 8 Ranch 77.26 38 ⇓P **P 11 45 11.1 +0.3**
baz=77,SNR=16
KCPM Cahto Peak 77.26 38 *e*P **P 11 45 12.2 +1.5**
YHNB Yeheng 77.30 303 *e*P **P 11 45 08.1 -2.9**
TATO Taipei 77.37 303 PFAKE 11 45 20.0 +8.6
TATO LR LR
comp=Z,6µm,20.0s,MS5.9
MNRC McLaughlin Nat 77.39 39 ⇓P **P 11 45 12.3 +0.8**
baz=78,SNR=50
MURC Murrieta 77.39 46 ⇑P **P 11 45 11.6 +0.1**
baz=78,SNR=16
KIPM Iron Peak 77.40 38 *e*P **P 11 45 11.2 -0.4**
O01C Eel River Cons 77.43 37 ⇓P **P 11 45 12.3 +0.5**
baz=78,SNR=19
BFSC Mount Baldy St 77.47 45 ⇑P **P 11 45 11.7 -0.2**
baz=78,SNR=8.6
Q03C Winters 77.48 40 ⇑P **P 11 45 12.2 +0.2**
baz=78,SNR=12
MONP Monument Peak 77.50 47 ⇑P **P 11 45 12.3 +0.2**
baz=78,SNR=8.0
VES Vestal, Richgr 77.52 43 ⇑P **P 11 45 12.5 +0.3**
baz=78,SNR=26
DVTC Desert V Tower 77.59 47 ⇓P **P 11 45 12.9 +0.3**
baz=78,SNR=6.8
EDW2 Edwards Air Fo 77.64 45 ⇑P **P 11 45 13.2 +0.3**
baz=78,SNR=36
S05C Merced 77.67 41 ⇑P **P 11 45 13.0 -0.1**
baz=78,SNR=52
RCTC Rector, Farmer 77.71 43 ⇓P **P 11 45 12.4 -0.9**
baz=78,SNR=7.0
GASB Alder Springs 77.73 38 ⇑P **P 11 45 14.5 +1.1**
baz=78,SNR=45
PET Petropavlovsk 77.75 344 *e*P **P 11 45 10.5 -3.0**
PET *e* 11 45 19.4
PET *e* 11 48 12.6
PET *e*S S 11 55 04.2 -1.3
PET *e*SSS 12 03 25.3
PET pmax pmax
comp=Z,800nm,3.8s
PET pmax pmax
comp=Z,2µm,7.6s
PET pmax pmax
comp=Z,2µm,4.5s
PET pmax pmax
comp=Z,1µm,6.8s
PET pmax pmax
comp=Z,1µm,11.0s
PET pmax pmax
comp=Z,700nm,15.3s
PET smax
comp=N,3µm,14.9s
PET smax
comp=N,3µm,15.0s
PET MLR MLR
comp=Z,6µm,19.0s,MS5.9
PET MLR MLR
comp=Z,6µm,20.0s
PET Petropavlovsk 77.75 344 PFAKE 11 45 20.0 +6.5
PET LR LR
comp=Z,6µm,20.0s,MS5.9
JCC Jacoby Creek 77.77 37 ⇑P **P 11 45 14.1 +0.5**
baz=78,SNR=12
ISA Isabella 77.80 44 *e*P **P 11 45 13.0 -0.8**
comp=Z,0.2nm,1.2s
ISA LR LR
comp=Z,2µm,19.0s,MS5.4
ISA Isabella 77.80 44 ⇓P **P 11 45 13.8 0.0**
baz=78,SNR=25
T06C Millerton Lake 77.85 42 ⇑P **P 11 45 13.7 -0.3**
baz=78,SNR=35
R04C Big Horse Ranc 77.88 40 ⇓P **P 11 45 14.2 -0.1**
baz=78
PFO Pinyon Flat Ob 77.90 46 P **P 11 45 15.2 +0.9**
comp=Z,218nm,1.0s,mb6.0,SNR=5.6
PFO Pinyon Flat Ob 77.90 46 P **P 11 45 13.7 -0.7**
comp=Z,48nm,1.2s,mb5.3,baz=274,slow=2.9,SNR=17
PFO Pinyon Flat Ob 77.90 46 *e*P **P 11 45 14.5 +0.2**
PFO pmax pmax
comp=Z,44nm,1.1s,mb5.3
PFO MLR MLR
comp=Z,2µm,19.0s,MS5.4
PFO Pinyon Flat Ob 77.90 46 *e*P **P 11 45 14.5 +0.1**
comp=Z,44nm,1.1s,mb5.3
PFO LR LR
comp=Z,2µm,19.0s,MS5.4
PFO Pinyon Flat Ob 77.90 46 ⇓P **P 11 45 14.0 -0.3**
baz=78,SNR=15
SWSC Sam W. Stewart 77.96 47 ⇑P **P 11 45 14.2 -0.5**
baz=78,SNR=5.2
BBRC Big Bear Sol-O 77.97 46 ⇓P **P 11 45 14.4 -0.3**
baz=78
KHMM Horse Mountain 77.98 37 *e*P **P 11 45 13.5 -1.2**
Q04C Lincoln 77.99 40 ⇑P **P 11 45 14.6 -0.2**
baz=78,SNR=18
SUTB Sutter Butte 78.00 39 ⇑P **P 11 45 14.3 -0.6**
baz=78
O02C Red Bluff 78.04 38 ⇑P **P 11 45 15.8 +0.6**
baz=78,SNR=56
HELL Mitchell Peak, 78.07 43 ⇑P **P 11 45 15.0 -0.3**
baz=78,SNR=25
CMB Columbia Colle 78.08 41 *e*P **P 11 45 13.7 -1.6**
CMB pmax pmax
comp=Z,126nm,1.2s,mb5.7
CMB MLR MLR
comp=Z,9µm,19.0s,MS6.1
CMB Columbia Colle 78.08 41 *e*P **P 11 45 13.7 -1.6**
comp=Z,126nm,1.2s,mb5.7
CMB LR LR
comp=Z,9µm,19.0s,MS6.1
CMB Columbia Colle 78.08 41 ⇓P **P 11 45 15.1 -0.2**
baz=78,SNR=47
N02C Big Bar 78.18 37 ⇑P **P 11 45 15.9 0.0**
baz=78,SNR=29
LRMC Laurel Mountai 78.19 44 ⇓P **P 11 45 15.7 -0.3**
baz=78,SNR=24
YSS Yuzh-Sakhalins 78.23 332 ⇓*e*P **P 11 45 15.5 -0.7**
YSS *e* 11 45 29.0
YSS *e* 11 48 12.0
YSS *i*S sS 11 55 18.0 -0.2
YSS *e*PS 11 55 50.0
YSS pmax pmax
comp=Z,2µm,5.0s
YSS MLR MLR
comp=Z,3µm,20.0s,MS5.7
YSS MLR MLR
comp=N,2µm,18.0s,MS5.6
YSS MLR MLR
comp=E,2µm,18.0s,MS5.6
YSS Yuzh-Sakhalins 78.23 332 *e*P **P 11 45 15.2 -1.0**
comp=E,164nm,1.1s,mb5.9
YSS LR LR
comp=Z,9µm,20.0s,MS6.1
OHCM Honcut 78.25 39 *e*P **P 11 45 15.2 -1.1**
KCC Kaiser Creek 78.29 42 ⇑P **P 11 45 16.5 0.0**
baz=78,SNR=30
RRX Edison Barstow 78.29 45 ⇑P **P 11 45 15.8 -0.7**
baz=78
S06C San Francisco 78.31 41 ⇑P **P 11 45 16.1 -0.5**
baz=78,SNR=30
KRMB Red Mountain 78.31 36 *e*P **P 11 45 16.5 -0.1**
LAVA Lava Cap Winer 78.32 40 ⇑P **P 11 45 16.2 -0.5**
baz=78,SNR=29
O03C Acorn Hollow, 78.36 39 ⇓P **P 11 45 16.8 -0.1**
baz=78
ORV Oroville 78.38 39 ⇓P **P 11 45 16.8 -0.2**
baz=78,SNR=36
M01C Crescent City 78.42 36 ⇓P **P 11 45 17.3 +0.1**
baz=79,SNR=12
BELC Belle Mtn. 78.44 46 ⇓P **P 11 45 17.0 -0.4**
baz=79,SNR=15
WDC Whiskeytown Da 78.45 38 *e*P **P 11 45 16.8 -0.6**
WDC pmax pmax
comp=Z,170nm,1.3s,mb5.8
WDC MLR MLR
comp=Z,11µm,20.0s,MS6.2
WDC Whiskeytown Da 78.45 38 *e*P **P 11 45 16.8 -0.6**
comp=Z,170nm,1.3s,mb5.8
WDC LR LR
comp=Z,11µm,20.0s,MS6.2
WDC Whiskeytown Da 78.45 38 ⇑P **P 11 45 17.9 +0.5**
baz=79,SNR=76
CWC Cottonwood Cre 78.53 43 ⇓P **P 11 45 17.8 0.0**
baz=79,SNR=10
BC3 Big Chuckw Mtn 78.61 47 ⇑P **P 11 45 18.4 +0.1**
baz=79,SNR=5.1
KBO Bosley Butte 78.61 36 *e*P **P 11 45 15.9 -2.4**
GSC Goldstone 78.67 45 *e*P **P 11 45 18.6 0.0**
GSC Goldstone 78.67 45 P **P 11 45 18.5 -0.1**
baz=79,SNR=30
MPMC Manual Prospec 78.67 44 ⇑P **P 11 45 18.8 +0.1**
baz=79,SNR=51
R05C Kirkwood Meado 78.69 41 ⇓P **P 11 45 18.8 +0.1**
baz=79,SNR=54
GLA Glamis 78.69 48 P **P 11 45 19.1 +0.4**
GLA Glamis 78.69 48 ⇓P **P 11 45 18.7 0.0**
baz=79,SNR=10
HEC Hector,Ludlow 78.70 46 ⇓P **P 11 45 18.6 -0.1**
baz=79,SNR=36
DAC Darwin (Calif) 78.74 44 *e*P **P 11 45 19.3 +0.3**
DAC pmax pmax
comp=Z,36nm,1.2s,mb5.2
DAC MLR MLR
comp=Z,8µm,20.0s,MS6.1
DAC Darwin (Calif) 78.74 44 *e*P **P 11 45 19.3 +0.3**
comp=Z,36nm,1.2s,mb5.2
DAC LR LR
comp=Z,8µm,20.0s,MS6.1
P05C Yuba Gap, Truc 78.75 40 ⇓P **P 11 45 19.4 +0.4**
baz=79,SNR=64
MLAC Mammoth Lakes 78.78 42 ⇓P **P 11 45 19.4 +0.2**
baz=79,SNR=28
TIN Tinemaha 78.81 43 ⇑P **P 11 45 20.0 +0.6**
baz=79
M02C Callahan 78.81 37 ⇓P **P 11 45 20.2 +0.9**
baz=79,SNR=53
L02A Cave Junction 78.91 36 ⇓P **P 11 45 20.9 +1.0**
baz=79,SNR=14
R07C Lee Vining 78.93 42 ⇑P **P 11 45 20.5 +0.5**
baz=79,SNR=41
WAKR Walker 78.95 41 *e*P **P 11 45 19.1 -1.0**
R06C Coleville 78.95 41 ⇑P **P 11 45 20.4 +0.2**
baz=79,SNR=58
O05C Quincy 78.99 39 P **P 11 45 21.2 +0.9**
baz=79,SNR=24
IRM Iron Mountain 79.10 47 ⇓P **P 11 45 21.2 +0.3**
baz=79,SNR=21
PMSA Palmer Station 79.10 156 *e*P **P 11 45 21.8 +0.8**
comp=Z,129nm,1.8s,mb5.6
PMSA LR LR
comp=Z,6µm,20.0s,MS5.9
GMRC Granite Mounta 79.12 46 ⇑P **P 11 45 21.0 -0.1**
baz=79,SNR=15
YBH Yreka Blue Hor 79.12 37 P **P 11 45 17.3 -3.8**
comp=Z,30nm,0.9s,mb5.2,baz=186,slow=4.2,SNR=19
YBH Yreka Blue Hor 79.12 37 *e*P **P 11 45 20.7 -0.4**
YBH pmax pmax
comp=Z,68nm,1.0s
YBH MLR MLR
comp=Z,10µm,20.0s
YBH Yreka Blue Hor 79.12 37 *e*P **P 11 45 20.7 -0.4**
comp=Z,68nm,1.0s,mb5.5
YBH LR LR
comp=Z,10µm,20.0s,MS6.2
YBH Yreka Blue Hor 79.12 37 ⇑P **P 11 45 21.7 +0.6**
baz=79,SNR=57
O04C Chester 79.12 39 ⇓P **P 11 45 21.2 +0.1**
baz=79,SNR=36
M03C McCloud 79.15 37 ⇑P **P 11 45 21.3 +0.1**
baz=79,SNR=31
HATC Hat Creek Radi 79.23 38 ⇓P **P 11 45 22.1 +0.5**
baz=79,SNR=36
BEKR Beckwourth 79.26 39 ⇓P **P 11 45 22.3 +0.5**
baz=79,SNR=52
WCN Washoe City 79.26 40 ⇓P **P 11 45 22.3 +0.5**
baz=79,SNR=64
Y12C Blythe 79.30 47 ⇑P **P 11 45 22.0 0.0**
baz=80,SNR=14
LBCM Butte Creek Ri 79.30 38 P **P 11 45 19.8 -2.3**
GRAC Grapevine Rang 79.32 43 ⇑P **P 11 45 22.4 +0.2**
baz=80,SNR=16
FURC Furnace Creek, 79.33 44 ⇓P **P 11 45 22.4 +0.2**
baz=80,SNR=15
TUQ Turquoise Mtn. 79.33 45 ⇑P **P 11 45 22.4 +0.2**
baz=80
SHOC Shoshone 79.37 45 P **P 11 45 22.6 +0.2**
baz=80,SNR=9.6
K02A Glendale 79.39 36 ⇑P **P 11 45 23.0 +0.4**
baz=80,SNR=11
P06A Stead Airport, 79.41 40 ⇑P **P 11 45 23.1 +0.5**
baz=80
ELFS Eagle Lake Fie 79.52 39 ⇓P **P 11 45 23.9 +0.6**
baz=80,SNR=24
HUMO Hull Mountain 79.57 36 *e*P **P 11 45 22.9 -0.6**
comp=Z,120nm,1.2s,mb5.7
HUMO LR LR
comp=Z,10µm,20.0s,MS6.2
HUMO Hull Mountain 79.57 36 ⇓P **P 11 45 24.2 +0.7**
baz=80,SNR=37
NVAR Mina Array Bea 79.60 42 P **P 11 45 19.6 -4.1**
comp=Z,134nm,1.1s,mb5.8,baz=231,slow=8.4,SNR=45
Q07A Schurz 79.61 41 ⇓P **P 11 45 24.1 +0.3**
baz=80
QZH Quanzhou 79.62 302 ⇓*i*P **P 11 45 27.0 +3.2**
QZH S S 11 55 32.0 +6.5
QZH AMB AMB
comp=Z,440nm,1.4s,mb6.2
QZH AMB AMB
comp=Z,5µm,7.2s
QZH LR LR
comp=N,2µm,14.0s,MS6.0
QZH LR LR
comp=E,5µm,18.4s,MS6.0
QZH LR LR
comp=Z,6µm,22.0s,MS5.9
U10A Ash Meadows, A 79.64 44 ⇓P **P 11 45 24.0 +0.1**
baz=80,SNR=17
M04C Macdoel 79.64 37 ⇓P **P 11 45 24.2 +0.3**
baz=80,SNR=44
R08A Mina 79.67 42 ⇑P **P 11 45 24.0 0.0**
baz=80
J02A Umpqua 79.74 35 ⇓P **P 11 45 24.5 0.0**
baz=80,SNR=8.7
KSRS Korea Array 79.75 317 P **P 11 45 23.2 -1.3**
comp=Z,16nm,1.0s,mb4.9,baz=132,slow=5.6,SNR=29
KSRS LR LR 12 17 00.5
comp=Z,3µm,19.9s,MS5.6,baz=112,slow=33
M05C Lookout 79.76 38 ⇑P **P 11 45 25.0 +0.4**
baz=80,SNR=66
O06A Flanigan 79.76 40 ⇑P **P 11 45 24.9 +0.3**
baz=80,SNR=14
NEE2 Needles Airpor 79.81 46 ⇓P **P 11 45 24.9 +0.1**
baz=80
S09A Goldfield 79.85 43 ⇓P **P 11 45 25.1 +0.1**
baz=80,SNR=22
PDMCI Parker Dam,Lak 79.87 47 ⇓P **P 11 45 25.1 0.0**
baz=80,SNR=23
L04A Klamath Falls 79.87 37 ⇑P **P 11 45 25.3 +0.2**
baz=80,SNR=36
V11A Goodsprings 79.89 45 P **P 11 45 25.3 0.0**
baz=80,SNR=13
P07A Fallon 79.93 40 ⇑P **P 11 45 25.6 +0.1**
baz=80
W12A Cal Nev Ari 79.95 46 ⇑P **P 11 45 25.7 +0.1**
baz=80
I02A Mapleton 80.04 35 ⇓P **P 11 45 26.2 +0.2**
baz=80
M06C Likely Place G 80.05 38 ⇓P **P 11 45 26.7 +0.6**
baz=80,SNR=56
TPH Tonopah 80.06 42 *e*P **P 11 45 26.8 +0.6**
comp=Z,104nm,1.2s,mb5.6
TPH LR LR
comp=Z,7µm,20.0s,MS6.0
J03A Ideyld Park 80.08 35 ⇓P **P 11 45 26.9 +0.7**
baz=80
Q08A Gabbs 80.10 41 ⇓P **P 11 45 26.4 +0.1**
baz=80,SNR=41
N06A Buffalo Meadow 80.13 39 ⇓P **P 11 45 26.0 -0.6**
baz=80,SNR=53
Z14A Wintersburg 80.17 48 ⇓P **P 11 45 26.3 -0.4**
baz=80,SNR=15
V12A Nelson 80.21 45 ⇑P **P 11 45 26.5 -0.4**
baz=80,SNR=13
X13A Yucca 80.25 47 ⇓P **P 11 45 26.9 -0.3**
baz=80,SNR=27
K04A Chilquin 80.25 37 ⇓P **P 11 45 27.1 -0.1**
baz=80,SNR=7.8
R09A Tonopah 80.25 42 ⇑P **P 11 45 26.8 -0.4**
baz=80,SNR=41
U11A Corn Creek 80.26 45 ⇓P **P 11 45 26.9 -0.3**
baz=80
115A Sonoran Desert 80.31 49 ⇑P **P 11 45 27.2 -0.3**
baz=80
O07A Toulon 80.33 40 ⇑P **P 11 45 27.8 +0.2**
baz=80,SNR=48
L05A Lakeview 80.38 38 ⇓P **P 11 45 28.2 +0.3**
baz=80
Y14A Wickenburg 80.45 48 P **P 11 45 28.6 +0.3**
baz=81,SNR=31
SHPR Sheep Range 80.45 45 *e*P **P 11 45 27.2 -1.1**
J04A Umpqua Nationa 80.45 36 ⇑P **P 11 45 28.7 +0.4**
baz=81,SNR=24
W13A Hualapai Mount 80.50 46 ⇓P **P 11 45 28.8 +0.3**
baz=81,SNR=19
P08A Dixie Valley 80.52 41 ⇓P **P 11 45 29.3 +0.7**
baz=81,SNR=10
Q09A Carvers 80.54 42 ⇑P **P 11 45 28.8 0.0**
baz=81
MOD Modoc 80.59 38 *e*P **P 11 45 28.2 -0.9**
comp=Z,52nm,0.9s,mb5.5
MOD LR LR
comp=Z,6µm,20.0s,MS6.0
MOD Modoc 80.59 38 ⇑P **P 11 45 27.7 -1.4**
baz=81,SNR=80
116A Eloy 80.60 50 ⇓P **P 11 45 28.9 -0.2**
baz=81,SNR=9.2
N07B Gerlach 80.66 39 ⇑P **P 11 45 29.2 -0.2**
baz=81,SNR=21
I04A Tendick Farm, 80.66 35 ⇑P **P 11 45 29.4 0.0**
baz=81,SNR=14
COR Corvallis 80.71 34 PFAKE 11 45 40.0 +10
COR LR LR
comp=Z,21µm,20.0s,MS6.5
SSE Sheshan 80.78 309 P **P 11 45 29.5 -0.5**
SSE S S 11 55 31.0 -6.6
SSE AMB AMB
comp=Z,75nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,1µm,11.0s
SSE LR LR
comp=N,1µm,25.0s,MS5.5
SSE LR LR
comp=E,2µm,25.0s,MS5.5
SSE LR LR
comp=Z,3µm,25.0s,MS5.6
SSE Sheshan 80.78 309 P **P 11 45 29.5 -0.5**
comp=Z,75nm,0.9s,mb5.6
SSE sP sP 11 46 03.0 +27
SSE S S 11 55 31.0 -6.6
SSE ScS ScS 11 55 48.3 -8.4
SSE LR LR
comp=Z,3µm,25.0s,MS5.6
H03A Soap Creek Ran 80.78 34 ⇓P **P 11 45 30.1 0.0**
baz=81,SNR=6.1
K05A Summer Lake 80.79 37 ⇓P **P 11 45 30.7 +0.6**
baz=81,SNR=56
X14A Yava 80.82 47 ⇑P **P 11 45 30.2 -0.1**
baz=81,SNR=24
U12A Valley of Fire 80.82 45 ⇓P **P 11 45 30.3 0.0**
baz=81,SNR=18
O08A Rochester Mine 80.84 40 ⇓P **P 11 45 30.8 +0.4**
baz=81
M07A Soldier Meadow 80.92 39 ⇑P **P 11 45 31.2 +0.4**
baz=81,SNR=26
VLA Vladivostok 80.94 323 *i*P **P 11 45 31.5 +0.6**
VLA *e*S sS 11 55 49.6 +2.7
VLA pmax pmax
comp=Z,210nm,2.5s,mb5.6
J05A Fort Rock 80.96 36 ⇑P **P 11 45 31.7 +0.6**
baz=81,SNR=61
P09A Austin 81.00 41 ⇑P **P 11 45 31.4 +0.1**
baz=81,SNR=15
KDAK Kodiak Island 81.08 12 P **P 11 45 33.0 +1.3**
comp=Z,501nm,1.6s,mb6.2,SNR=5.6
KDAK Kodiak Island 81.08 12 P **P 11 45 29.1 -2.6**
comp=Z,50nm,0.9s,mb5.5,baz=202,slow=3.2,SNR=14
KDAK Kodiak Island 81.08 12 *e*P **P 11 45 29.6 -2.1**
comp=Z,160nm,1.3s,mb5.8
KDAK LR LR
comp=Z,2µm,21.0s,MS5.5
W14A Seligman 81.10 47 ⇓P **P 11 45 32.4 +0.7**
baz=81,SNR=44
TUC Tucson 81.12 50 *e*P **P 11 45 30.6 -1.3**
TUC pmax pmax
comp=Z,62nm,1.3s,mb5.4
TUC MLR MLR
comp=Z,25µm,20.0s,MS6.6
TUC Tucson 81.12 50 *e*P **P 11 45 30.6 -1.3**
comp=Z,62nm,1.3s,mb5.4
TUC LR LR
comp=Z,25µm,20.0s,MS6.6
N08A GE Springer Mi 81.16 40 ⇓P **P 11 45 32.2 +0.1**
baz=81,SNR=24

K06A Valley Falls 81.20 37 ⇑P P 11 45 32.5 +0.2
baz=81,SNR=53
L07A Adell 81.22 38 ⇑P P 11 45 32.9 +0.5
baz=81,SNR=29
TRCR Troy Canyon 81.26 43 eP P 11 45 32.8 +0.2
X15A Humboldt 81.28 48 ⇓P P 11 45 33.2 +0.5
baz=81,SNR=24
O09A Fish Creek Ran 81.35 41 P P 11 45 33.7 +0.6
baz=82,SNR=22
H04A Detroit Lake 81.37 35 P P 11 45 33.5 +0.3
baz=82,SNR=14
SFJM Santa Fe 81.40 64 eP P 11 45 33.0 -0.4
M08A Happy Creek Ra 81.42 39 ⇑P P 11 45 34.0 +0.5
baz=82,SNR=14
P10A Eureka 81.46 42 ⇓P P 11 45 33.6 -0.1
baz=82,SNR=20
BMN Battle Mountai 81.49 41 eP P 11 45 32.7 -1.1
BMN pmax pmax
comp=Z,86nm,1.4s,mb5.5
BMN MLR MLR
comp=Z,9μm,19.0s,MS6.2
BMN Battle Mountai 81.49 41 eP P 11 45 32.7 -1.1
comp=Z,86nm,1.4s,mb5.5
BMN LR LR
comp=Z,9μm,19.0s,MS6.2
Q11A Duckwater 81.51 43 ⇓P P 11 45 33.9 0.0
baz=82,SNR=34
J06A Christmas Vall 81.55 37 ⇓P P 11 45 34.1 0.0
baz=82,SNR=39
N09A Rock Creek Ran 81.56 40 ⇓P P 11 45 34.6 +0.4
baz=82,SNR=11
W15A Williams 81.64 47 ⇑P P 11 45 34.9 +0.3
baz=82,SNR=7.0
MAW Mawson 81.69 199 P P 11 45 33.9 -1.0
comp=Z,59nm,1.0s,mb5.5,baz=131,slow=5.6,SNR=12
MAW LR LR 12 20 54.7
comp=Z,9μm,18.6s,MS6.2,baz=116,slow=35
K07A Rock Creek Ran 81.70 38 ⇑P P 11 45 35.5 +0.6
baz=82,SNR=39
O10A Cortez Mining, 81.84 41 ⇑P P 11 45 35.9 +0.2
baz=82,SNR=9.8
H05A Madras 81.86 35 ⇓P P 11 45 36.1 +0.3
baz=82,SNR=12
P11A Circle Ranch, 81.86 42 ⇓P P 11 45 36.0 +0.2
baz=82,SNR=16
WVOR Wild Horse Val 81.89 38 eP P 11 45 34.6 -1.3
WVOR pmax pmax
comp=Z,90nm,1.2s,mb5.6
WVOR MLR MLR
comp=Z,10μm,20.0s,MS6.2
WVOR Wild Horse Val 81.89 38 eP P 11 45 34.6 -1.3
comp=Z,90nm,1.2s,mb5.6
WVOR LR LR
comp=Z,10μm,20.0s,MS6.2
L08A Fields 81.91 39 ⇑P P 11 45 36.1 +0.1
baz=82,SNR=42
E03A Lebam 81.91 33 ⇓P P 11 45 36.2 +0.2
baz=82,SNR=7.7
HKC Hong Kong 81.95 298 eP P 11 45 40.0 +3.7
M09A Marrel Ranch, 81.96 40 ⇑P P 11 45 36.8 +0.5
baz=82,SNR=14
I06A Prineville 81.96 36 ⇑P P 11 45 36.9 +0.6
baz=82
HOOD Mount Hood Mea 82.08 35 eP P 11 45 37.5 +0.6
F04A Amboy 82.08 34 ⇑P P 11 45 36.9 -0.1
baz=82,SNR=10
J07A Hines 82.10 37 ⇓P P 11 45 37.5 +0.4
baz=82,SNR=22
Q12A Willow Creek R 82.14 43 P P 11 45 37.9 +0.6
baz=82,SNR=20
K08A Mann Creek Ran 82.16 38 ⇑P P 11 45 37.8 +0.4
baz=82,SNR=53
L09A Wilkinson Ranc 82.19 39 ⇑P P 11 45 37.5 -0.1
baz=82,SNR=21
G05A Wamic 82.20 35 ⇑P P 11 45 37.3 -0.3
baz=82,SNR=9.5
CCUT Cedar City 82.23 45 eP P 11 45 37.0 -0.7
O11A Cowboy Ranch, 82.27 42 ⇓P P 11 45 38.1 +0.2
baz=82,SNR=47
P12A McGill 82.34 42 ⇓P P 11 45 38.7 +0.3
baz=82,SNR=15
E04A Onalaska 82.37 33 ⇑P P 11 45 39.5 +1.0
baz=82,SNR=12
H06A Lindquist Farm 82.40 36 ⇑P P 11 45 39.0 +0.4
baz=83,SNR=35
WUAZ Wupatki 82.43 47 eP P 11 45 38.4 -0.4
comp=Z,64nm,1.3s,mb5.4
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.8
I07A Izee 82.44 37 ⇑P P 11 45 39.2 +0.4
baz=83,SNR=27
J08A Circle Bar Ran 82.56 38 ⇑P P 11 45 39.7 +0.3
baz=83,SNR=46
M10A I.L. Ranch, Tu 82.56 40 ⇑P P 11 45 39.9 +0.4
baz=83,SNR=19
G06A Carlson Farm, 82.56 35 ⇓P P 11 45 39.6 +0.2
baz=83,SNR=24
K09A Rome 82.58 39 ⇓P P 11 45 39.5 -0.1
baz=83,SNR=63
N11A Elko Archery C 82.62 41 P P 11 45 40.5 +0.7
baz=83,SNR=11
D04A Dobbs Creek Ra 82.68 33 ⇑P P 11 45 41.1 +1.0
baz=83
H07A Lands Inn, Kim 82.73 36 ⇑P P 11 45 40.7 +0.4
baz=83,SNR=24
F06A Goldendale 82.83 35 ⇑P P 11 45 41.0 +0.1
baz=83,SNR=21
I08A Drewsey 82.85 37 ⇑P P 11 45 41.1 +0.2
baz=83,SNR=32
ELK Elko 82.89 41 eP P 11 45 41.6 +0.5
ELK pmax pmax
comp=Z,48nm,1.3s
ELK MLR MLR
comp=Z,12μm,19.0s
ELK Elko 82.89 41 eP P 11 45 41.6 +0.5
comp=Z,48nm,1.3s,mb5.4
ELK LR LR
comp=Z,12μm,19.0s,MS6.3
HABR Khabarovsk 82.90 329 ⇑iP P 11 45 40.7 -0.5
HABR eS S 11 55 52.9 -6.6
HABR pmax pmax
comp=Z,3μm,5.6s
HABR MLR MLR
comp=Z,3μm,17.8s,MS5.7
O12A Currie 82.91 42 ⇓P P 11 45 41.4 +0.2
baz=83,SNR=20
M11A Holland Ranch, 82.95 40 ⇑P P 11 45 41.8 +0.3
baz=83,SNR=20
J09A Fry Pan Ranch, 82.96 38 ⇓P P 11 45 41.7 +0.2
baz=83,SNR=66
NJ2 Nanjing 82.97 308 eP P 11 45 43.0 +1.4
NJ2 PP PP 11 48 56.5 +4.3
NJ2 S S 11 55 53.0 -7.3
NJ2 AMB AMB
comp=Z,1μm,9.6s
NJ2 LR LR
comp=N,8μm,18.5s,MS6.2
NJ2 LR LR
comp=E,6μm,16.2s,MS6.2
NJ2 LR LR
comp=Z,9μm,18.8s,MS6.2
B04A Port Angeles 82.97 32 ⇑P P 11 45 42.5 +0.9
baz=83
GNW Green Mountain 82.97 32 eP P 11 45 42.0 +0.4
GZH Guangzhou 82.98 298 P P 11 45 41.5 -0.2
GZH S S 11 55 51.0 -9.4
GZH LR LR
comp=N,1μm,21.4s,MS5.5
GZH LR LR
comp=E,2μm,20.2s,MS5.5
GZH LR LR
comp=Z,5μm,36.4s
C04A Brinnon 83.00 32 ⇓P P 11 45 42.3 +0.5
baz=83,SNR=12
N12A Clover Valley, 83.07 41 ⇓P P 11 45 42.1 0.0
baz=83,SNR=25
G07A Ruggs Ranch, H 83.10 36 ⇓P P 11 45 42.4 +0.1
baz=83,SNR=25
D05A Enumclaw 83.14 33 ⇑P P 11 45 43.1 +0.6
baz=83,SNR=20
H08A Prairie City 83.18 37 ⇑P P 11 45 42.9 +0.3
baz=83,SNR=18
MDJ Mudanjiang 83.18 323 P P 11 45 43.5 +0.8
MDJ PP PP 11 48 54.5 +0.6
MDJ S S 11 56 04.0 +1.7
MDJ AMB AMB
comp=Z,46nm,1.2s,mb5.4
MDJ AMB AMB
comp=Z,2μm,5.6s
MDJ LR LR
comp=N,5μm,21.0s,MS6.1
MDJ LR LR
comp=E,7μm,19.9s,MS6.1
MDJ LR LR
comp=Z,12μm,20.6s,MS6.2
MDJ Mudanjiang 83.18 323 PFAKE 11 45 50.0 +7.3
MDJ LR LR
comp=Z,13μm,20.0s,MS6.3
E06A Yakima 83.24 34 ⇓P P 11 45 43.2 +0.2
baz=83,SNR=16
I09A Lost Marbles R 83.36 37 ⇑P P 11 45 43.8 +0.3
baz=84,SNR=30
F07A Phinny Hill Vi 83.37 35 ⇓P P 11 45 44.1 +0.5
baz=84,SNR=13
KGM Kluang 83.37 275 P P 11 45 45.2 +1.5
PGC Sidney 83.41 31 eP P 11 45 43.3 -0.5
comp=Z,175nm,0.9s,mb6.1
M12A Wells 83.48 41 ⇓P P 11 45 44.6 +0.4
baz=84,SNR=23
G08A Pilot Rock 83.51 36 ⇓P P 11 45 45.0 +0.6
baz=84,SNR=75
MVU Marysvale 83.52 44 PFAKE 11 46 00.0 +16
MVU LR LR
comp=Z,4μm,20.0s,MS5.8
MSU Marysvale 83.54 44 eP P 11 45 44.1 -0.4
N13A Wendover, West 83.59 42 ⇑P P 11 45 45.0 +0.3
baz=84,SNR=19
C05A Tolt Reservoir 83.63 33 ⇓P P 11 45 45.3 +0.3
baz=84,SNR=54
EBG Ellensburg 83.69 34 P P 11 45 45.9 +0.6
SVW2 Sparrevohn 83.72 9 eP P 11 45 44.2 -1.3
D06A Cle Elum 83.73 34 ⇑P P 11 45 45.8 +0.3
baz=84,SNR=24
B05A Bryant 83.81 32 ⇑P P 11 45 46.2 +0.3
baz=84,SNR=25
A04A Lesque Bay, Lum 83.81 32 ⇓P P 11 45 46.6 +0.7
baz=84,SNR=7.0
H09A Durkee 83.83 37 ⇓P P 11 45 46.1 +0.1
baz=84,SNR=36
E07A Sunnyside 83.83 35 ⇓P P 11 45 46.6 +0.6
baz=84,SNR=41
JCW Jim Creek 83.84 32 P P 11 45 45.2 -0.9
HAWA Hanford 83.90 35 eP P 11 45 44.9 -1.5
comp=Z,194nm,1.3s,mb6.1
HAWA LR LR
comp=Z,22μm,20.0s,MS6.5
M13A Montello 83.90 41 ⇑P P 11 45 46.6 +0.2
baz=84,SNR=40
F08A Pendleton 83.93 36 ⇑P P 11 45 47.0 +0.5
baz=84
SLKM Skilak Lake 84.07 12 eP P 11 45 44.8 -2.5
SLKM ePcP PcP 11 45 49.7 -1.4
DUG Dugway 84.08 43 eP P 11 45 46.5 -0.8
DUG pmax pmax
comp=Z,24nm,1.2s,mb5.2
DUG MLR MLR
comp=Z,5μm,20.0s,MS5.9
DUG Dugway 84.08 43 eP P 11 45 46.5 -0.8
comp=Z,24nm,1.2s,mb5.2
DUG ePcP PcP 11 45 50.8 -0.3
DUG LR LR
comp=Z,5μm,20.0s,MS5.9
BMO Blue Mountains 84.15 37 eP P 11 45 47.7 +0.1
BMO pmax pmax
comp=Z,42nm,0.9s,mb5.6
BMO MLR MLR
comp=Z,10μm,20.0s,MS6.2
BMO Blue Mountains 84.15 37 eP P 11 45 47.7 0.0
comp=Z,42nm,0.9s,mb5.6
BMO LR LR
comp=Z,10μm,20.0s,MS6.2
QIZ Qiongzhong 84.17 293 P P 11 45 48.0 +0.3
QIZ AP pP 11 45 55.0 +2.7
QIZ XP sP 11 46 05.8 +12
QIZ PP PP 11 49 06.3 +4.3
QIZ S S 11 56 11.5 -0.8
QIZ XS sS 11 56 25.8 +5.9
QIZ AMB AMB
comp=Z,19nm,1.9s,mb4.9
QIZ AMB AMB
comp=Z,1μm,8.2s
QIZ LR LR
comp=E,1μm,18.2s
QIZ LR LR
comp=Z,1μm,18.4s,MS5.3
QIZ Qiongzhong 84.17 293 PFAKE 11 46 00.0 +12
QIZ LR LR
comp=Z,1μm,19.0s,MS5.3
D07A Quincy 84.18 34 P P 11 45 48.5 +0.6
baz=84,SNR=19
E08A Dider Farm, El 84.21 35 ⇓P P 11 45 48.7 +0.7
baz=84,SNR=13
B06A Marblemount 84.28 32 ⇑P P 11 45 48.5 +0.2
baz=84,SNR=11
H10A Noah's Angus R 84.30 37 ⇑P P 11 45 48.1 -0.3
baz=84,SNR=81
A05A Maple Falls 84.31 32 ⇑P P 11 45 48.5 0.0
baz=84,SNR=12
COCO West Island 84.31 259 eP P 11 45 44.7 -3.7
comp=Z,802nm,1.7s,mb6.6
COCO LR LR
comp=Z,2μm,19.0s,MS5.5
I11A Placerville 84.34 38 ⇓P P 11 45 48.7 +0.1
baz=84,SNR=45
F09A S2 Ranch, Elgi 84.34 36 ⇑P P 11 45 48.4 -0.2
baz=84,SNR=20
BGU Big Grassy Mou 84.36 42 eP P 11 45 47.0 -1.7
BGU ePcP PcP 11 45 52.2 -0.2
NLU North Lily Min 84.41 43 eP P 11 45 48.3 -0.7
NLU ePcP PcP 11 45 51.9 -0.8
PAYG Puerto Ayora 84.46 89 PFAKE 11 46 00.0 +11
PAYG LR LR
comp=Z,12μm,20.0s,MS6.3
C07A Waterville 84.46 34 ⇓P P 11 45 49.1 -0.1
baz=85,SNR=35
EPH Ephrata 84.48 34 P P 11 45 48.1 -1.3
TMUT Trail Mountain 84.61 44 eP P 11 45 49.9 -0.1
TMUT ePcP PcP 11 45 53.6 +0.1
D08A Wollman Farm, 84.65 35 ⇓P P 11 45 50.3 +0.2
baz=85,SNR=31
DL2 Dalian 84.65 315 ⇑iP P 11 45 49.0 -1.2
DL2 PP PP 11 49 09.5 +3.6
DL2 S S 11 56 08.3 -8.8
DL2 SS SS 12 01 48.8 +0.4
DL2 AMB AMB
comp=Z,60nm,1.2s,mb5.6
DL2 AMB AMB
comp=Z,1μm,4.8s
DL2 LR LR
comp=N,1μm,19.2s,MS5.4
DL2 LR LR
comp=E,920nm,17.7s,MS5.4
DL2 LR LR
comp=Z,1μm,19.2s,MS5.3
E09A Wood Farm, Sta 84.72 35 ⇑P P 11 45 50.4 -0.1
baz=85,SNR=47
MPU Maple Canyon 84.73 43 eP P 11 45 49.9 -0.7
comp=Z,58nm,1.3s,mb5.5
MPU ePcP PcP 11 45 53.8 -0.2
MPU LR LR
comp=Z,12μm,20.0s,MS6.3
MNTX Cornudas Mount 84.76 53 eP P 11 45 49.1 -1.7
comp=Z,31nm,1.1s,mb5.3
MNTX LR LR
comp=Z,9μm,20.0s,MS6.1
NOQ North Oquirrh 84.77 43 P P 11 45 49.9 -0.9
comp=Z,89nm,1.4s,mb5.7
NOQ ePcP PcP 11 45 53.7 -0.5
H11A Donnelly 84.79 38 ⇑P P 11 45 50.7 -0.2
baz=85,SNR=77
Y22C IRIS PASSCAL I 84.81 50 ⇓P P 11 45 51.7 +0.7
baz=85
LAZ Ladron 84.81 50 eP P 11 45 50.5 -0.5
LENM Lemitar 84.81 50 eP P 11 45 52.3 +1.3
LENM ePcP PcP 11 45 53.9 -0.5
F10A Beach Ranch, E 84.88 36 ⇑P P 11 45 51.1 -0.2
baz=85,SNR=87
SIT Sitka 84.90 20 PFAKE 11 46 00.0 +8.6
SIT LR LR
comp=Z,6μm,19.0s,MS6.0
B07A Winthrop 84.93 33 ⇓P P 11 45 51.7 +0.1
baz=85,SNR=26
LTX Lajitas 84.94 56 eP P 11 45 51.8 +0.2
LTX pmax pmax
comp=Z,76nm,1.4s,mb5.6
LTX MLR MLR
comp=Z,12μm,20.0s,MS6.3
LTX Lajitas 84.94 56 eP P 11 45 51.8 +0.2
comp=Z,76nm,1.4s,mb5.6
LTX ePcP PcP 11 45 54.5 -0.4
LTX LR LR
comp=Z,12μm,20.0s,MS6.3
TXAR Lajitas Array 84.94 56 P P 11 45 50.0 -1.6
comp=Z,20nm,1.0s,mb5.2,baz=211,slow=7.1,SNR=41
TXAR PKPPKP 12 12 14.2
comp=Z,1.5nm,1.1s,baz=132,slow=1.9,SNR=4.2
TXAR LR LR 12 17 01.0
comp=Z,10μm,19.5s,MS6.2,baz=295,slow=31
SRU San Rafael 84.95 45 eP P 11 45 50.9 -0.8
SRU pmax pmax
comp=Z,111nm,1.3s,mb5.8
SRU San Rafael 84.95 45 eP P 11 45 50.9 -0.8
comp=Z,112nm,1.3s,mb5.8
SRU ePcP PcP 11 45 55.0 0.0
D09A Jones Farm, Ri 84.97 35 ⇓P P 11 45 51.8 0.0
baz=85,SNR=34
HVU Hansel Valley 85.00 41 eP P 11 45 50.9 -1.0
HVU pmax pmax
comp=Z,80nm,1.4s,mb5.7
HVU Hansel Valley 85.00 41 eP P 11 45 50.9 -1.1
comp=Z,80nm,1.4s,mb5.7
HVU ePcP PcP 11 45 54.9 -0.3
KLR Kul'dur 85.02 328 eP P 11 45 48.4 -3.7
KLR eS S 11 56 18.0 -2.8
KLR pmax pmax
comp=E,230nm,2.8s
KLR pmax pmax
comp=Z,600nm,2.8s,mb6.2
KLR pmax pmax
comp=Z,4μm,11.0s
KLR smax
comp=N,4μm,13.0s
KLR smax
comp=E,3μm,13.0s
CTU Camp Tracy 85.03 43 eP P 11 45 52.9 +0.8
comp=E,51nm,1.2s,mb5.5
CTU ePcP PcP 11 45 55.0 -0.4
EYAK Cordova Ski Ar 85.04 14 eP P 11 45 50.2 -2.0
C08A Higginbotham F 85.05 34 ⇓P P 11 45 52.4 +0.3
baz=85,SNR=19
CN2 Changchun 85.05 321 eP P 11 45 53.0 +0.8
CN2 eXP sP 11 46 00.0 +1.6
CN2 eS S 11 56 20.3 -0.8
CN2 AMB AMB
comp=Z,40nm,1.3s,mb5.4
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,20.0s,MS5.8
CN2 LR LR
comp=E,4μm,20.0s,MS5.8
CN2 LR LR
comp=Z,5μm,21.0s,MS5.9
BNM Barren Site 85.05 50 eP P 11 45 52.9 +0.7
BNM ePcP PcP 11 45 55.2 -0.3
JLU Jordanelle 85.17 43 eP P 11 45 52.5 -0.3
JLU ePcP PcP 11 45 56.0 0.0
DAU Daniels Canyon 85.19 43 P P 11 45 53.9 +1.0
DAU ePcP PcP 11 45 55.7 -0.3
E10A Myers Farm, Un 85.26 36 ⇓P P 11 45 52.8 -0.5
baz=85,SNR=9.3
B08A Colville Reser 85.26 33 ⇓P P 11 45 53.3 0.0
baz=85,SNR=28
PMR Palmer 85.28 12 eP P 11 45 51.6 -1.8
PMR pmax pmax
comp=Z,133nm,1.5s,mb5.8
PMR MLR MLR
comp=Z,7μm,20.0s,MS6.0
PMR Palmer 85.28 12 eP P 11 45 51.6 -1.8
comp=Z,133nm,1.5s,mb5.8
PMR ePcP PcP 11 45 54.9 -1.5
PMR LR LR
comp=Z,7μm,20.0s,MS6.0
MVCO Mesa Verde 85.30 47 eP P 11 45 53.1 -0.3
comp=Z,104nm,1.6s,mb5.7
MVCO ePcP PcP 11 45 56.2 -0.3
MVCO LR LR
comp=Z,4μm,20.0s,MS5.8
VHO Vista Hermosa 85.35 70 eP P 11 45 50.8 -2.9
H12A Diamond D Ranc 85.36 38 ⇓P P 11 45 53.8 0.0
baz=86,SNR=64
HUIG Huatulco 85.38 71 iP P 11 45 54.5 +0.7
WRAK Wrangell Islan 85.39 22 eP P 11 45 53.2 -0.7
comp=Z,83nm,1.1s,mb5.8
WRAK LR LR
comp=Z,5μm,20.0s,MS5.9
F11A Grangeville 85.42 37 ⇓P P 11 45 53.2 -0.9
baz=86,SNR=12
C09A Chrisman Ranch 85.46 34 ⇑P P 11 45 54.2 0.0
baz=86,SNR=27
D10A Wagner Farm, O 85.52 35 ⇓P P 11 45 54.2 -0.4
baz=86,SNR=18
PV10 Paradox Valley 85.54 46 eP P 11 45 55.1 +0.5
PV10 ePcP PcP 11 45 57.6 0.0
DIV Divide 85.55 14 eP P 11 45 52.6 -2.1
comp=Z,496nm,1.1s,mb6.7
DIV LR LR
comp=Z,28μm,19.0s,MS6.7
ANMO Albuquerque 85.57 50 eP P 11 45 54.1 -0.7
ANMO pmax pmax
comp=Z,101nm,1.2s
ANMO MLR MLR
comp=Z,10μm,20.0s
ANMO Albuquerque 85.57 50 eP P 11 45 54.1 -0.7
comp=Z,101nm,1.2s,mb5.9
ANMO ePcP PcP 11 45 58.1 +0.4
ANMO LR LR
comp=Z,10μm,20.0s,MS6.2
WHN Wuhan 85.60 305 ⇑P P 11 45 55.3 +0.3
WHN AP pP 11 45 59.3 -0.2
WHN S S 11 56 27.0 +0.4
WHN AMB AMB
comp=Z,831nm,1.8s,mb6.7
WHN AMB AMB
comp=Z,654nm,3.9s
WHN LR LR
comp=Z,3μm,20.5s,MS5.6
MA2 Magadan 85.61 343 eP P 11 45 56.2 +1.2
MA2 e*PP pP 11 46 14.3 +15
MA2 e 11 49 11.9
MA2 eS S 11 56 22.3 -4.4
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.4
MA2 MLR MLR
comp=Z,12μm,20.0s,MS6.3
MA2 Magadan 85.61 343 PFAKE 11 46 00.0 +5.0
MA2 LR LR
comp=Z,9μm,20.0s,MS6.2
SML Sawmill 85.64 12 eP P 11 45 53.5 -1.6
HWUT Hardware Ranch 85.65 42 eP P 11 45 55.1 -0.1
comp=Z,154nm,2.0s,mb5.9
HWUT ePcP PcP 11 45 57.3 -0.8
HWUT LR LR
comp=Z,9μm,19.0s,MS6.2
E11A Bogner Ranch, 85.67 36 ⇑P P 11 45 54.6 -0.8
baz=86,SNR=15
A08A Turner Farm, O 85.68 33 ⇓P P 11 45 55.5 +0.2
baz=86,SNR=29
PV01 Paradox Valley 85.73 46 eP P 11 45 56.2 +0.6
PV01 ePcP PcP 11 45 57.9 -0.5
GDL2 Guadalupe Moun 85.76 53 eP P 11 45 56.0 +0.3
B09A Rice 85.92 34 ⇑P P 11 45 56.0 -0.5
baz=86,SNR=18
C10A Spilker Farm, 85.98 35 ⇑P P 11 45 56.9 +0.1
baz=86
D11A Klaveano Farm, 86.03 36 ⇑P P 11 45 56.8 -0.3
baz=86
G13A Cobalt 86.04 38 P P 11 45 57.4 +0.2
baz=86,SNR=25
A09A Danville 86.04 33 ⇑P P 11 45 57.4 +0.3
baz=86,SNR=24
TIA Tai'an 86.30 311 eP P 11 45 58.3 -0.1
TIA S S 11 56 30.0 -3.4
TIA AMB AMB
comp=Z,95nm,1.5s,mb5.8
TIA LR LR
comp=N,828nm,15.0s
B10A Chitwood Farm, 86.32 34 ⇓P P 11 45 58.3 -0.2
baz=86

NEW Newport 86.35 34 *e*P P **11 45 58.1 -0.6**
NEW pmax pmax
comp=Z,12nm,0.9s
NEW MLR MLR
comp=Z,21μm,20.0s
NEW Newport 86.35 34 *e*P P **11 45 58.1 -0.5**
comp=Z,12nm,0.9s,mb5.1
NEW *e*PcP PcP 11 46 00.6 -0.5
NEW LR LR
comp=Z,21μm,20.0s,MS6.5
F13A Darby 86.39 38 ⇑P P **11 45 58.7 -0.2**
baz=86,SNR=23
IPM Ipoh 86.41 276 P P **11 46 02.0 +3.1**
SYO Syowa Base 86.44 192⇓ *e*P P **11 45 57.0 -2.1**
SYO Syowa Base 86.44 192⇑ *i*PcP PcP 11 46 01.1 -0.4
SYO Syowa Base 86.44 192⇓ *i*pP pP 11 46 04.1 +0.4
AHID Auburn Hatcher 86.58 41 PFAKE 11 46 10.0 +10
AHID LR LR
comp=Z,6μm,19.0s,MS6.0
MCMT McKenzie Canyo 86.69 39 P P **11 46 00.7 +0.4**
MCMT *e*PcP PcP 11 46 02.8 +0.2
RRI2 Red Ridge 86.77 41 *e*P P **11 45 58.7 -2.0**
comp=Z,25nm,1.0s,mb5.4
SKAG Skagway 86.84 19 *e*P P **11 45 59.7 -1.3**
comp=Z,146nm,0.8s,mb6.3
E13A Victor 86.85 37 ⇓P P **11 46 00.7 -0.4**
baz=87,SNR=20
SNAA Sanae 86.91 177 LR LR 12 22 15.5
comp=Z,5μm,19.1s,MS5.9,baz=165,slow=34
SNAA Sanae 86.91 177 P P **11 45 59.6 -1.8**
SNAA pmax pmax
comp=Z,110nm,1.1s
SNAA Sanae 86.91 177 *e*P P **11 46 01.2 -0.2**
comp=Z,114nm,1.1s,mb6.0
VNA3 Neumayer Olymp 86.92 175 *e*P P **11 46 01.1 -0.3**
VNA3 *e* pP 11 46 03.5 -2.5
VNA3 *e* 11 46 28.3
VNA3 *e* 11 46 40.4
TNA Tin City 86.92 3 PFAKE 11 46 10.0 +8.5
TNA LR LR
comp=Z,5μm,20.0s,MS5.9
F14A Wisdom 86.95 38 ⇓P P **11 46 01.5 -0.1**
baz=87
DCID1 Drake Creek 86.98 41 P P **11 46 02.2 +0.4**
DCID1 *e*PcP PcP 11 46 04.2 +0.2
KULM Kulim 87.05 277 *e*P P **11 46 01.5 -0.6**
REDW Red Top Meadow 87.06 41 *e*P P **11 46 01.3 -0.8**
comp=Z,31nm,1.1s,mb5.5
REDW *e*PcP PcP 11 46 04.6 +0.3
D13A Huson 87.08 36 P P **11 46 01.9 -0.3**
baz=87,SNR=18
G15A Dillon 87.09 39 ⇑P P **11 46 02.2 -0.1**
baz=87,SNR=24
DLMT Dillon 87.14 39 *e*P P **11 46 02.2 -0.3**
comp=Z,30nm,1.1s,mb5.4
DLMT *e*PcP PcP 11 46 04.8 +0.1
A11A Hall Mountain, 87.18 34 ⇓P P **11 46 02.7 0.0**
baz=87,SNR=12
MSO Missoula 87.22 37 *e*P P **11 46 01.5 -1.3**
comp=Z,77nm,2.2s,mb5.5
MSO *e*PcP PcP 11 46 04.3 -0.7
MSO LR LR
comp=Z,9μm,20.0s,MS6.2
E14A Clinton 87.23 37 ⇓P P **11 46 03.2 +0.3**
baz=87
MCK McKinley 87.29 11 *e*P P **11 46 01.1 -2.1**
MCK pmax pmax
comp=Z,131nm,1.0s,mb6.1
MCK MLR MLR
comp=Z,4μm,21.0s,MS5.8
MCK McKinley 87.29 11 *e*P P **11 46 01.1 -2.2**
comp=Z,131nm,1.0s,mb6.1
MCK LR LR
comp=Z,4μm,21.0s,MS5.8
B12A Libby 87.29 35 P P **11 46 03.8 +0.6**
baz=87,SNR=6.5
MOOW Moose Ponds 87.34 41 *e*P P **11 46 03.4 -0.1**
comp=Z,617nm,3.3s
MOOW *e*PcP PcP 11 46 05.5 0.0
C13A Hot Springs 87.36 36 ⇓P P **11 46 03.7 +0.1**
baz=88
VNA2 Neumayer--Watz 87.40 176 *e*P P **11 46 03.4 -0.4**
VNA2 *e* pP 11 46 06.0 -2.4
VNA2 *e* 11 46 43.1
F15A Butte 87.47 38 ⇑P P **11 46 04.1 0.0**
baz=88
QLMT Earthquake Lak 87.52 39 *e*P P **11 46 05.1 +0.7**
BW06 Boulder Array 87.53 42 PFAKE 11 46 20.0 +16
BW06 LR LR
comp=Z,7μm,19.0s,MS6.1
PDAR Pinedale Array 87.53 42 P P **11 46 00.8 -3.6**
comp=Z,13nm,0.9s,mb5.1,baz=217,slow=3.7,SNR=30
PDAR PKKPbc PKKPbc 12 03 55.8 +2.8
comp=Z,1.5nm,1.1s,baz=90,slow=4.4,SNR=6.1
PDAR PKPPKP 12 12 08.4
comp=Z,1.3nm,1.1s,baz=117,slow=5.2,SNR=4.6
PDAR LR LR 12 22 37.2
comp=Z,5μm,18.4s,MS6.0,baz=250,slow=34
D14A Greenough 87.60 37 P P **11 46 04.7 -0.1**
baz=88,SNR=11
VNA1 Neumayer--Stat 87.61 175 *e*P P **11 46 05.0 +0.2**
VNA1 *e* pP 11 46 07.3 -2.1
VNA1 *e* 11 46 43.9
SDCO Great Sand Dun 87.63 48 *e*P P **11 46 05.3 +0.4**
comp=Z,44nm,1.7s,mb5.4
SDCO *e*PcP PcP 11 46 07.2 +0.4
SDCO LR LR
comp=Z,6μm,20.0s,MS6.0
CHMT Chamberlin Mo 87.65 37 *e*P P **11 46 04.4 -0.6**
CHMT *e*PcP PcP 11 46 06.7 -0.2
YMR Madison River 87.71 40 *e*P P **11 46 06.7 +1.4**
comp=Z,35nm,1.4s,mb5.4
YMR LR LR
comp=Z,5μm,21.0s,MS5.9
E15A Deer Lodge 87.71 38 ⇓P P **11 46 05.2 -0.1**
baz=88
PSI Prapat 87.74 274 P P **11 46 04.6 -0.8**
comp=Z,93nm,1.0s,mb6.0,baz=127,slow=1.7,SNR=27
PSI LR LR 12 20 32.0
comp=Z,2μm,21.0s,MS5.4,baz=120,slow=32
PSI Prapat 87.74 274 P P **11 46 04.6 -0.8**
PSI LR LR 12 20 32.0
DLBC Dease Lake 87.75 22 *e*P P **11 46 03.6 -1.8**
SNG Songkhla 87.78 279 P P **11 46 07.0 +1.4**
comp=Z,440nm,1.0s,mb6.6
B13A Whitefish 87.83 35 P P **11 46 05.6 -0.3**
baz=88,SNR=7.7
MAIT Maitri 87.88 182 *e*P P **11 46 07.3 +1.2**
NVL N'lazarevskaya 87.88 182 *c i*P P **11 46 05.0 -1.1**
NVL *i* S SKSac 11 56 36.2 +2.2
NVL pmax pmax
comp=Z,28nm,1.2s,mb5.4
NVL MLR MLR
comp=Z,7μm,18.0s,MS6.1
LKWY Lake 87.99 40 PFAKE 11 46 20.0 +13
LKWY LR LR
comp=Z,10μm,19.0s,MS6.2
SEY Seymchan 88.09 346⇑ *e*P P **11 46 03.2 -3.9**
SEY Seymchan 88.09 346⇑ *e*P P **11 46 03.3 -3.8**
D15A Lincoln 88.13 37 ⇓P P **11 46 07.4 +0.1**
baz=88
JCT Junction City 88.45 56 P P **11 46 09.0 +0.2**
JCT pmax pmax
comp=Z,49nm,1.4s,mb5.5
JCT MLR MLR
comp=Z,12μm,20.0s,MS6.3
JCT Junction City 88.45 56 P P **11 46 09.0 +0.2**
comp=Z,49nm,1.4s,mb5.5
JCT LR LR
comp=Z,12μm,20.0s,MS6.3
EFI East Falkland 88.51 146 *i* P P **11 46 08.9 -0.2**
EFI East Falkland 88.51 146 *e*P P **11 46 10.1 +1.1**
comp=Z,235nm,1.2s,mb6.4
EFI LR LR
comp=Z,1μm,19.0s,MS5.4
COLA College 88.53 11 *e*P P **11 46 06.6 -2.5**
COLA pmax pmax
comp=Z,175nm,1.3s,mb6.2
COLA MLR MLR
comp=Z,8μm,20.0s,MS6.1
COLA College 88.53 11 *e*P P **11 46 06.6 -2.5**
comp=Z,175nm,1.3s,mb6.2
COLA LR LR
comp=Z,8μm,20.0s,MS6.1
ISCO Idaho Springs 88.56 46 *e*P P **11 46 09.8 +0.5**
ISCO pmax pmax
comp=Z,14nm,1.3s,mb5.1
ISCO MLR MLR
comp=Z,3μm,19.0s,MS5.8
ISCO Idaho Springs 88.56 46 *e*P P **11 46 09.8 +0.5**
comp=Z,14nm,1.3s,mb5.1
ISCO LR LR
comp=Z,3μm,19.0s,MS5.8
KVTX Kingsville 88.70 60 PFAKE 11 46 20.0 +10
KVTX LR LR
comp=Z,5μm,19.0s,MS6.0
IMA2 Indian Mountai 88.72 8 *e*P P **11 46 08.4 -1.6**
IMA2 *e*PcP PcP 11 46 11.4 -0.2
BJT Baijiatuau 88.84 314 PFAKE 11 46 20.0 +9.4
BJT LR LR
comp=Z,4μm,19.0s,MS5.8
BJI Beijing 88.85 314 P P **11 46 09.0 -1.6**
BJI AMB AMB
comp=Z,4μm,3.8s
BJI LR LR
comp=E,2μm,19.1s
BJI LR LR
comp=Z,3μm,21.7s,MS5.6
BJI Beijing 88.85 314 P P **11 46 09.1 -1.5**
comp=Z,110nm,2.6s,mb5.7
BJI S SKSac 11 56 41.6 +1.8
BJI LR LR
comp=Z,3μm,21.7s,MS5.6
RLMT Red Lodge 88.97 40 PFAKE 11 46 20.0 +8.8
RLMT LR LR
comp=Z,8μm,19.0s,MS6.2
AMTX Amarillo 88.99 52 *e*P P **11 46 11.3 0.0**
comp=Z,50nm,1.4s,mb5.7
AMTX LR LR
comp=Z,18μm,20.0s,MS6.5
CCIG Comitan 89.09 72 *e*P P **11 46 08.6 -3.2**
KKTK Khon Kaen 89.22 288 ⇓P P **11 46 14.6 +2.2**
comp=Z,556nm,1.0s
DAWY Dawson 89.57 15 *e*P P **11 46 12.3 -1.7**
DAWY *e*pP pP 11 46 29.8 +11
DAWY *e*sP sP 11 46 41.2 +21
EGAK Eagle 89.78 14 *e*P P **11 46 13.2 -1.8**
comp=Z,115nm,1.3s,mb6.0
EGAK *e*pP pP 11 46 33.5 +14
EGAK *e*sP sP 11 46 40.9 +20
EGAK LR LR
comp=Z,13μm,19.0s,MS6.4
GYA Guiyang 89.91 298⇑ *i*P P **11 46 17.5 +1.9**
GYA PP PP 11 49 51.3 +3.0
GYA S SKKSac 11 56 57.5 -1.6
GYA AMB AMB
comp=Z,70nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,1μm,5.7s
GYA LR LR
comp=N,1μm,18.9s,MS5.6
GYA LR LR
comp=E,2μm,18.6s,MS5.6
GYA LR LR
comp=Z,2μm,19.2s,MS5.5
EGMT Eagleton 90.24 37 P P **11 46 16.1 -1.0**
comp=Z,51nm,1.5s,mb5.6
EGMT LR LR
comp=Z,12μm,20.0s,MS6.3
BILL Bilibino 90.37 353⇓ *e*P P **11 46 15.7 -2.1**
BILL *e* 11 56 43.1
BILL *i* PS PS 11 58 23.6 +3.5
BILL *i* SS SS 12 03 17.6 +5.6
BILL pmax pmax
comp=Z,40nm,0.9s,mb5.8
BILL MLR MLR
comp=Z,10μm,19.0s,MS6.2
BILL Bilibino 90.37 353 *e*P P **11 46 16.1 -1.7**
comp=Z,33nm,0.9s,mb5.7
BILL LR LR
comp=Z,12μm,20.0s,MS6.3
NNT Nongplab 90.59 283 P P **11 46 22.1 +3.3**
MDZ Mendoza 90.91 126 *e*P P **11 46 24.2 +3.9**
WMOK Wichita Mounta 91.07 53 PFAKE 11 46 30.0 +9.0
WMOK LR LR
comp=Z,8μm,20.0s,MS6.1
EDM Edmonton 91.24 32 *e*P P **11 46 22.1 +0.3**
XAN Xi'an 91.27 306 P P **11 46 22.8 +0.8**
XAN AP pP 11 46 32.8 +6.2
XAN SS SS 12 03 28.0 +3.0
XAN AMB AMB
comp=Z,28nm,1.6s,mb5.3
XAN AMB AMB
comp=Z,1μm,5.6s
XAN LR LR
comp=E,1μm,28.9s
XAN LR LR
comp=Z,3μm,20.4s
HKT Hockley 91.34 58 *e*P P **11 46 23.0 +0.7**
HKT pmax pmax
comp=Z,36nm,1.5s,mb5.5
HKT MLR MLR
comp=Z,11μm,20.0s,MS6.3
HKT Hockley 91.34 58 *e*P P **11 46 23.0 +0.7**
comp=Z,36nm,1.5s,mb5.5
HKT LR LR
comp=Z,11μm,20.0s,MS6.3
HIA Hailar 91.36 323 PFAKE 11 46 30.0 +7.6
HIA LR LR
comp=Z,17μm,20.0s,MS6.5
NST Nakhon Sawan 91.37 286 P P **11 46 24.6 +2.2**
comp=Z,61nm,1.2s,mb5.8
LAO LASA Array 91.60 40 *e*P P **11 46 22.9 -0.5**
comp=Z,80nm,1.3s,mb5.9
LAO LR LR
comp=Z,4μm,19.0s,MS5.9
RSSD Black Hills 91.69 43 PFAKE 11 46 40.0 +16
RSSD LR LR
comp=Z,6μm,19.0s,MS6.1
NANT Nan 92.02 289⇓ P P **11 46 25.0 -0.4**
comp=Z,625nm,1.0s
CBKS Cedar Bluff 92.14 49 *e*P P **11 46 25.7 -0.3**
CBKS pmax pmax
comp=Z,54nm,1.3s,mb5.7
CBKS MLR MLR
comp=Z,10μm,20.0s,MS6.3
CBKS Cedar Bluff 92.14 49 *e*P P **11 46 25.7 -0.3**
comp=Z,54nm,1.3s,mb5.7
CBKS LR LR
comp=Z,10μm,20.0s,MS6.3
HHC Hu-ho-hao-te 92.33 313⇓ P P **11 46 26.5 -0.4**
HHC PP PP 11 50 10.3 +2.8
HHC S SKKSac 11 57 19.0 +1.8
HHC SS SS 12 03 33.5 -6.8
HHC AMB AMB
comp=Z,46nm,1.6s,mb5.6
HHC AMB AMB
comp=Z,1μm,5.5s
HHC LR LR
comp=N,1μm,21.0s,MS5.5
HHC LR LR
comp=E,2μm,20.0s,MS5.5
HHC LR LR
comp=Z,3μm,21.2s,MS5.7
TGUH Tegucigalpa,Un 92.62 76 P P **11 46 29.4 +1.2**
comp=Z,104nm,1.4s,mb6.1
TGUH LR LR
comp=Z,6μm,20.0s,MS6.0
KMI Kunming 92.64 296 P P **11 46 28.5 +0.2**
KMI PP PP 11 50 12.5 +2.6
KMI S SKKSac 11 57 22.0 +2.5
KMI AMB AMB
comp=Z,26nm,1.1s,mb5.6
KMI AMB AMB
comp=Z,1μm,3.6s
KMI LR LR
comp=N,2μm,17.2s,MS5.9
KMI LR LR
comp=E,4μm,20.1s,MS5.9
KMI LR LR
comp=Z,5μm,19.7s,MS6.0
KMI Kunming 92.64 296 P P **11 46 28.6 +0.3**
KMI 11 50 12.5
KMI PPP 11 52 15.4
KMI 11 56 51.8
KMI S SKKSac 11 57 22.1 +2.6
KMI PS PS 11 58 49.2 +3.9
KMI SS SS 12 03 37.0 -7.6
KMI SSS 12 07 19.8
KMI pmax pmax
comp=Z,26nm,1.1s,mb5.6
KMI MLR MLR
comp=Z,5μm,19.7s,MS6.0
KMI Kunming 92.64 296 P P **11 46 28.6 +0.3**
comp=Z,26nm,1.1s,mb5.6
KMI pP pP 11 46 51.8 +19
KMI sP sP 11 47 01.7 +27
KMI PP PP 11 50 12.5 +2.6
KMI PPP 11 52 15.4
KMI SKS 11 56 51.8
KMI S SKKSac 11 57 22.1 +2.6
KMI sS sS 11 58 04.3 +24
KMI PS PS 11 58 49.2 +3.9
KMI SS SS 12 03 37.0 -7.6
KMI SSS 12 07 19.8
KMI LR LR
comp=Z,5μm,19.7s,MS6.0
NNA Nana 92.74 104 LR LR 12 20 07.4
comp=Z,7μm,18.5s,MS6.1,baz=261,slow=30
NNA Nana 92.74 104 PFAKE 11 46 40.0 +11
NNA LR LR
comp=Z,2μm,19.0s,MS5.5
NRGR Nerungri 92.97 331 *e*P P **11 46 32.4 +2.6**
NRGR S SKSac 11 57 02.0 -1.4
NRGR smax
comp=E,40nm,0.5s
NATX Nacogdoches 92.99 57 PFAKE 11 46 40.0 +10
NATX LR LR
comp=Z,14μm,20.0s,MS6.4
CLNS Chul'man 93.00 331 *e*P P **11 46 32.4 +2.4**
CLNS *e* 11 50 16.1
CLNS *e*S S 11 57 38.9 +3.1
CLNS *e*SP SP 11 58 53.7 +6.2
CLNS pmax pmax
comp=Z,35nm,1.0s,mb5.7
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS smax
comp=N,1μm,12.8s
CLNS smax
comp=Z,820nm,12.0s
CLNS smax
comp=E,2μm,12.2s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.7
CLNS MLR MLR
comp=N,800nm,18.0s,MS5.8
CLNS MLR MLR
comp=E,3μm,15.0s,MS5.8
ATAH Atahualpa 93.19 99 LR LR 12 21 05.1
comp=E,11μm,18.1s,MS6.4,baz=266,slow=31
BTO Baotou 93.28 312 *e*P P **11 46 35.8 +4.6**
JTS JuntasAbangare 93.38 80 P P **11 46 32.7 +1.0**
comp=E,367nm,1.2s,mb6.7,SNR=7.3
JTS JuntasAbangare 93.38 80 LR LR 12 20 43.3
comp=E,5μm,18.1s,MS6.0,baz=285,slow=30
JTS JuntasAbangare 93.38 80 *i* P P **11 46 30.7 -1.0**
JTS JuntasAbangare 93.38 80 *e*P P **11 46 32.5 +0.8**
comp=E,93nm,1.2s,mb6.1
JTS LR LR
comp=Z,2μm,19.0s,MS5.5
TRQA Tornquist 93.39 133 *e*P P **11 46 34.1 +2.3**
comp=Z,12nm,1.0s,mb5.3
TRQA LR LR
comp=Z,6μm,20.0s,MS6.1
CHG Chiang Mai 93.57 289 ⇑P P **11 46 34.1 +1.5**
comp=Z,69nm,0.9s,mb6.1
CHTO Chiang Mai 93.57 289 *e*P P **11 46 33.3 +0.7**
CHTO pmax pmax
comp=Z,64nm,1.0s,mb6.0
CHTO MLR MLR
comp=Z,2μm,20.0s,MS5.5
CHTO Chiang Mai 93.57 289 *e*P P **11 46 33.3 +0.7**
comp=Z,64nm,1.0s,mb6.0
CHTO LR LR
comp=Z,2μm,20.0s,MS5.5
TEIG Tepich 93.96 70 LR LR 12 22 42.7
comp=Z,8μm,18.6s,MS6.2,baz=244,slow=32
TEIG Tepich 93.96 70 PFAKE 11 46 50.0 +16
TEIG LR LR
comp=Z,8μm,19.0s,MS6.2
CD2 Chengdu 94.01 302⇓ *i*P P **11 46 36.0 +1.4**
CD2 PPP 11 52 28.3
CD2 SKS 11 57 06.8
CD2 S S 11 57 41.0 -3.6
CD2 SS SS 12 04 05.3 +1.1
CD2 AMB AMB
comp=Z,30nm,1.8s,mb5.4
CD2 AMB AMB
comp=Z,2μm,9.8s
CD2 LR LR
comp=N,2μm,19.2s,MS5.8
CD2 LR LR
comp=E,3μm,16.8s,MS5.8
CD2 LR LR
comp=Z,3μm,16.8s,MS5.8
YAK Yakutsk 94.24 337 *e*P P **11 46 33.3 -2.4**
YAK *e* 11 50 20.2
YAK *e*S SKSac 11 57 06.6 -3.8
YAK *e**SS sS 11 57 47.4 -6.9
YAK *e*PS PS 11 58 59.5 -3.5
YAK *e*SS SS 12 04 08.8 +1.2
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.8
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,821nm,5.1s
YAK pmax pmax
comp=N,411nm,4.5s
YAK pmax pmax
comp=E,567nm,5.3s
YAK smax
comp=N,909nm,10.6s
YAK smax
comp=Z,280nm,3.9s
YAK smax
comp=E,715nm,5.5s
YAK MLR MLR
comp=Z,3μm,19.0s,MS5.8
YAK MLR MLR
comp=N,2μm,23.0s,MS5.8
YAK MLR MLR
comp=E,2μm,20.0s,MS5.8
YAK Yakutsk 94.24 337 *e*P P **11 46 33.5 -2.2**
comp=E,40nm,0.8s,mb5.9
YAK LR LR
comp=Z,3μm,20.0s,MS5.8
KSU1 Kansas State U 94.47 50 *e*P P **11 46 36.9 +0.2**
comp=Z,26nm,0.9s,mb5.7
KSU1 LR LR
comp=Z,11μm,20.0s,MS6.3
MIAR Mount Ida 94.91 55 PFAKE 11 46 50.0 +11
MIAR LR LR
comp=Z,13μm,20.0s,MS6.4
LVC Limon Verde 95.36 117 LR LR 12 20 30.1
comp=Z,7μm,20.4s,MS6.1,baz=260,slow=30
LVC Limon Verde 95.36 117 *e*P P **11 46 41.9 +1.2**
comp=Z,66nm,1.4s,mb5.9
LVC *e*pP pP 11 47 09.9 +25
LVC LR LR
comp=Z,7μm,21.0s,MS6.1
OTAV Otavalo 95.81 92 *e*P P **11 46 45.5 +2.7**
comp=Z,2.9nm,0.6s,mb4.9
OTAV LR LR
comp=Z,5μm,20.0s,MS6.0
LZH Lanzhou 95.91 306 *e*P P **11 46 45.3 +2.0**
LZH AP pP 11 46 49.5 +1.6
LZH XP sP 11 46 52.0 +2.5
LZH SKS 11 57 19.0
LZH *e*S S 11 58 01.5 +0.4
LZH SS SS 12 04 32.0 +0.8
LZH AMB AMB
comp=Z,122nm,1.7s,mb6.1
LZH AMB AMB
comp=Z,420nm,4.5s
LZH LR LR
comp=E,3μm,18.6s

LZH LR LR
comp=Z,3µm,20.0s,MS5.8
LZH Lanzhou 95.91 306 *e*P **P** **11 46 45.3 +2.0**
LZH *SP sP 11 46 52.0 +2.5
LZH 11 57 19.0
LZH *e*S S 11 58 01.5 +0.4
LZH SS SS 12 04 32.0 +0.8
LZH pmax pmax
comp=Z,122nm,1.7s,mb6.1
LZH MLR MLR
comp=Z,3µm,20.0s,MS5.8
LZH Lanzhou 95.91 306 *e*P **P** **11 46 45.3 +2.0**
comp=Z,122nm,1.7s,mb6.1
LZH pP pP 11 46 49.6 +1.7
LZH sP sP 11 46 52.0 +2.5
LZH SKS 11 57 19.0
LZH *e*S S 11 58 01.5 +0.4
LZH SS SS 12 04 32.0 +0.8
LZH LR LR
comp=Z,3µm,20.0s,MS5.8
YKA Yellowknife Ar 96.10 24 P **P** **11 46 42.0 -2.2**
comp=Z,4.6nm,0.8s,mb4.9,baz=235,slow=4.3,SNR=23
YKA PKKPbc PKKPbc 12 03 32.0 +0.9
comp=Z,1.8nm,1.0s,baz=47,slow=2.3,SNR=5.8
YKA LR LR 12 27 12.4
comp=Z,4µm,19.1s,MS5.9,baz=335,slow=34
CIT Chita 96.15 324 *e*P **P** **11 46 47.5 +3.1**
CIT *e* 11 47 00.4
CIT pmax pmax
comp=Z,113nm,2.9s,mb5.8
ECSD EROS,Sioux Fal 96.33 46 PFAKE 11 47 00.0 +15
ECSD LR LR
comp=Z,4µm,19.0s,MS5.9
HOPE Hope Point 96.40 157 PFAKE 11 47 00.0 +14
HOPE LR LR
comp=Z,2µm,19.0s,MS5.7
SCIA State Center 97.94 48 PFAKE 11 47 00.0 +7.5
SCIA LR LR
comp=Z,7µm,20.0s,MS6.1
OXF Oxford 98.10 56 PFAKE 11 47 00.0 +6.8
OXF LR LR
comp=Z,15µm,20.0s,MS6.5
ULN Ulaanbaatar 98.20 318 *i* P **P** **11 46 53.6 -0.1**
ULN MLR MLR
comp=Z,3µm,19.0s,MS5.8
BOD Bodaibo 98.55 329 *e*P **P** **11 46 51.1 -4.1**
SONM Songino Array 98.60 318 P **P** **11 46 54.6 -0.8**
comp=Z,1.2nm,0.4s,mb4.8,baz=48,slow=2.2,SNR=7.0
AGMN Agassiz Refuge 98.61 41 PFAKE 11 47 10.0 +15
AGMN LR LR
comp=Z,5µm,19.0s,MS6.0
LPAZ La Paz 98.74 111 P **P** **11 46 57.1 +1.0**
comp=Z,3.5nm,1.1s,mb4.8,baz=246,slow=5.4,SNR=7.4
LPAZ LR LR 12 24 46.8
comp=Z,9µm,18.1s,MS6.3,baz=66,slow=31
LPAZ La Paz 98.74 111 *e*P **P** **11 46 59.2 +3.1**
LPAZ pmax pmax
comp=Z,21nm,1.5s
LPAZ La Paz 98.74 111 *e*P **P** **11 46 59.2 +3.1**
comp=Z,21nm,1.5s,mb5.5
BRAL Brewton 98.76 60 PFAKE 11 47 10.0 +14
BRAL LR LR
comp=Z,6µm,19.0s,MS6.1
PLAL Pickwick Lake 99.29 56 PFAKE 11 47 10.0 +11
PLAL LR LR
comp=Z,12µm,20.0s,MS6.4
ULM Lac du Bonnet 99.34 40 P **P** **11 46 57.6 -1.2**
comp=Z,3.0nm,0.8s,mb4.8,baz=214,slow=6.0,SNR=2.9
ULM LR LR 12 31 31.6
comp=Z,7µm,18.2s,MS6.2,baz=256,slow=35
LRAL Lakeview Retre 99.49 58 PFAKE 11 47 10.0 +11
LRAL LR LR
comp=Z,11µm,20.0s,MS6.4
WVT Waverly 99.86 55 PFAKE 11 47 10.0 +8.9
WVT LR LR
comp=Z,14µm,20.0s,MS6.5
GTA Gaotai 100.07 308 *e*P Pdif 11 47 04.5 +2.5
GTA PP PP 11 51 07.5 +0.2
GTA AMB AMB
comp=Z,9.0nm,1.8s
GTA AMB AMB
comp=Z,513nm,4.6s
GTA LR LR
comp=N,1µm,22.8s,MS5.7
GTA LR LR
comp=E,2µm,19.8s,MS5.7
GTA LR LR
comp=Z,2µm,20.5s,MS5.6
HDIL Hopedale 100.24 51 PFAKE 11 47 10.0 +7.3
HDIL LR LR
comp=Z,15µm,20.0s,MS6.5
JFWS Jewell Farm 100.35 48 PFAKE 11 47 10.0 +6.7
JFWS LR LR
comp=Z,6µm,20.0s,MS6.1
TIXI Tiksi 100.53 344 *e*P Pdif 11 47 00.8 -3.3
TIXI *e* 11 57 36.9
TIXI *e* 11 58 23.1
TIXI *e*SP SP 12 00 08.7 -0.9
TIXI *e*PPS 12 01 01.3
TIXI *e*SS SS 12 05 37.7 +1.4
TIXI *e*SSS 12 09 30.1
TIXI pmax pmax
comp=Z,10.0nm,1.2s
TIXI Tiksi 100.53 344 *e*Pdif Pdif 11 47 02.0 -2.1
comp=Z,15nm,1.3s
TIXI LR LR
comp=Z,4µm,21.0s,MS5.9
EYMN Ely 101.21 43 PFAKE 11 47 20.0 +13
EYMN LR LR
comp=Z,6µm,20.0s,MS6.1
ZAK Zakamensk 101.43 320 *e*P Pdif 11 47 12.2 +4.2
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 101.65 321 *e*P Pdif 11 47 10.9 +1.9
TLY *e* 11 51 14.9
TLY *e* 11 57 51.6
TLY *e*S Sdif 11 58 52.5 +2.8
TLY *e*PS PS 12 00 26.6 +3.3
TLY *e*PPS 12 01 12.9
TLY *e*SS SS 12 06 04.8 +13
TLY *e*SSS 12 09 40.8
TLY pmax pmax
comp=Z,15nm,1.8s
TLY Talaya 101.65 321 PFAKE 11 47 20.0 +11
TLY LR LR
comp=Z,2µm,20.0s,MS5.7
WCI Wyandotte Cave 101.69 54 PFAKE 11 47 20.0 +11
WCI LR LR
comp=Z,12µm,19.0s,MS6.4
GOGA Godfrey 102.41 59 PFAKE 11 47 20.0 +7.6
GOGA LR LR
comp=Z,11µm,19.0s,MS6.4
DWPF Disney 102.48 65 PFAKE 11 47 20.0 +7.3
DWPF LR LR
comp=Z,4µm,19.0s,MS6.0
TZTN Tazewell 103.27 56 PFAKE 11 47 30.0 +14
TZTN LR LR
comp=Z,10µm,20.0s,MS6.3
LSA Lhasa 103.87 297 PFAKE 11 47 30.0 +11
LSA LR LR
comp=Z,2µm,22.0s,MS5.6
AAM Ann Arbor 104.81 50 PFAKE 11 47 30.0 +7.0
AAM LR LR
comp=Z,11µm,20.0s,MS6.4
NHSC New Hope 104.96 60 PFAKE 11 47 40.0 +16
NHSC LR LR
comp=Z,7µm,20.0s,MS6.2
BLA Blacksburg 105.87 56 PFAKE 11 51 50.0 +10
BLA LR LR
comp=Z,8µm,19.0s,MS6.3
SDV Santo Domingo 106.14 87 PFAKE 11 51 50.0 +9.2
SDV LR LR
comp=Z,2µm,20.0s,MS5.6
SAML Samuel 106.24 107 PFAKE 11 51 50.0 +9.0
SAML LR LR
comp=Z,8µm,19.0s,MS6.3
PALK Pallekele 106.28 272 PFAKE 11 51 50.0 +9.0
PALK LR LR
comp=Z,1µm,20.0s,MS5.5
MCWV Mont Chateau 106.92 54 PFAKE 11 51 50.0 +7.8
MCWV LR LR
comp=Z,19µm,20.0s,MS6.7
CNNC Cliffs of the 107.35 58 PFAKE 11 51 50.0 +7.0
CNNC LR LR
comp=Z,5µm,19.0s,MS6.1

DGAR Diego Garcia 108.27 254 PFAKE 11 52 00.0 +15
DGAR LR LR
comp=Z,1µm,20.0s,MS5.5
CBN Corbin 108.45 55 PFAKE 11 52 00.0 +15
CBN LR LR
comp=Z,9µm,20.0s,MS6.3
SSPA Standing Stone 108.61 53 PFAKE 11 52 00.0 +15
SSPA LR LR
comp=Z,12µm,20.0s,MS6.5
TRD Trivandrum 110.18 271 ‖ *e*P Pdif 11 48 00.5 +14
BINY Binghamton 110.32 52 PFAKE 11 52 00.0 +11
BINY LR LR
comp=Z,10µm,20.0s,MS6.4
LONY Lake Ozonia 111.75 49 PFAKE 11 52 00.0 +8.7
LONY LR LR
comp=Z,7µm,19.0s,MS6.3
NCB Newcomb 111.90 50 PFAKE 11 52 00.0 +8.4
NCB LR LR
comp=Z,11µm,19.0s,MS6.5
ZAL Zalesovo 113.27 321 PKiKP PKiKP 11 51 51.8 -2.4
comp=Z,2.9nm,0.4s,baz=101,slow=5.2,SNR=3.6
HRV Harvard--Oak R 113.61 52 PFAKE 11 52 10.0 +15
HRV LR LR
comp=Z,11µm,19.0s,MS6.5
WES Weston 113.77 52 PFAKE 11 52 10.0 +15
WES LR LR
comp=Z,8µm,19.0s,MS6.3
MKAR Makanchi Array 114.19 313 PKP PKiKP 11 51 54.4 -1.6
comp=Z,2.5nm,0.6s,baz=107,slow=1.6,SNR=20
MKAR PKKPbc PKKPbc 12 02 37.0 +0.9
comp=Z,2.3nm,0.9s,baz=278,slow=3.4,SNR=8.5
MKAR Makanchi Array 114.19 313 *i* PKiKP PKiKP 11 51 54.0 -2.0
MKAR pmax pmax
comp=Z,5.0nm,0.8s
NVS Novosibirsk 114.25 322 *i* PKiKP PKiKP 11 51 56.0 -0.1
NVS *e* 11 52 48.3
NVS *e* 11 58 45.6
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=E,12nm,1.3s
PKME Peaks-Kenny Pk 115.56 49 PFAKE 11 52 10.0 +11
PKME LR LR
comp=Z,2µm,20.0s,MS5.7
KURK Kurchatov 116.88 317 PFAKE 11 52 10.0 +8.9
KURK LR LR
comp=Z,1µm,20.0s,MS5.5
BBSR BB Station 117.54 64 PFAKE 11 52 10.0 +7.6
BBSR LR LR
comp=Z,3µm,19.0s,MS6.0
BBGH Gun Hill 117.79 86 PFAKE 11 52 20.0 +17
BBGH LR LR
comp=Z,4µm,21.0s,MS6.1
KSH Kashi 118.07 304 *e*PKP PKPdf 11 52 07.5 +4.1
KSH *e*PKS 11 55 43.8
KSH *e*SKS SKSdf 11 59 08.8 -6.3
KSH PP PP
comp=Z,769nm,5.0s
KSH LR LR
comp=N,11µm,19.1s
KSH LR LR
comp=E,4µm,11.0s
KSH LR LR
comp=Z,7µm,21.3s,MS6.3
ULHL Ulahol 118.10 307 P PKPdf 11 52 06.9 +3.4
SNR=12
TKM2 Tokmak 2 118.62 308 P PKPdf 11 52 07.2 +2.7
SNR=9.0
KZA Kyzart 118.82 307 P PKPdf 11 52 08.7 +3.8
SNR=7.1
KBK Karagaybulak 119.08 308 P PKPdf 11 52 08.4 +3.0
SNR=7.0
FRU Bishkek 119.33 308 *e*PKIKP PKPdf 11 52 05.2 -0.6
FRU pmax pmax
comp=Z,100nm,2.5s
UCH Uchtor 119.38 307 P PKPdf 11 52 09.8 +3.9
SNR=12
TRIS Tristan da Cun 119.41 164 PFAKE 11 52 20.0 +14
TRIS LR LR
comp=Z,4µm,20.0s,MS6.0
AAK Ala-Archa 119.41 308 P PKPdf 11 52 08.9 +2.9
SNR=6.5
AAK Ala-Archa 119.41 308 ⇑ *i*PKIKP PKPdf 11 52 03.8 -2.2
AAK MLR MLR
comp=Z,3µm,19.0s,MS6.0
AAK Ala-Archa 119.41 308 *e*PKPdf PKPdf 11 52 04.1 -1.9
AAK LR LR
comp=Z,859nm,20.0s,MS5.4
USP Ospenovka 119.44 308 P PKPdf 11 52 08.7 +2.6
SNR=8.3
EKS2 Erkin-Say 119.94 308 P PKPdf 11 52 10.2 +3.2
SNR=6.2
AML Almayashu 119.98 307 P PKPdf 11 52 10.7 +3.6
SNR=13
BVAR Borovoye Array 121.88 320 PKP PKPdf 11 52 07.1 -3.6
comp=Z,3.0nm,0.8s,baz=113,slow=1.9,SNR=9.0
BRVK Borovoye 121.94 320 *e*PKIKP PKPdf 11 52 09.1 -1.8
BRVK MLR MLR
comp=Z,2µm,20.0s,MS5.7
KBS Kingsbay 122.43 359 *e*PP PP 11 53 45.8 -2.2
KBS *e*SKS SKSdf 11 59 09.9 -13
KBS AMS AMS 12 47 38.7
comp=Z,1µm,9.2s
KBS Kingsbay 122.43 359 PFAKE 11 52 20.0 +8.2
KBS LR LR
comp=Z,2µm,20.0s,MS5.8
SFJD Kangerlussuaq 122.65 23 PFAKE 11 52 20.0 +7.8
SFJD LR LR
comp=Z,5µm,20.0s,MS6.2
DAG Danmarks Havn 123.39 6 *i* P PKPdf 11 52 11.0 -2.6
DAG Danmarks Havn 123.39 6 *e*P PKPdf 11 52 11.0 -2.6
SUR Sutherland 124.44 196 *e*PKPdf PKPdf 11 52 15.6 0.0
SUR LR LR
comp=Z,1µm,19.0s,MS5.7
MSEY Mahe Island 124.49 248 PFAKE 11 52 30.0 +14
MSEY LR LR
comp=Z,1µm,19.0s,MS5.6
SVE Sverdlovsk 126.60 326 ‖ *e*PKIKP PKPdf 11 52 22.0 +2.2
SVE *e* 12 04 20.0
SVE *e* 12 11 16.0
SVE pmax pmax
comp=Z,120nm,2.0s
SVE MLR MLR
comp=Z,9µm,21.0s,MS6.4
SVE MLR MLR
comp=E,6µm,20.0s
BOSA Boshof 126.63 202 PFAKE 11 52 30.0 +10
BOSA LR LR
comp=Z,3µm,20.0s,MS6.0
SOKR Solikamsk 127.54 330 *d i*PKIKP PKPdf 11 52 23.7 +2.1
SOKR pmax pmax
comp=Z,60nm,0.9s
SOKR MLR MLR
comp=Z,6µm,21.0s,MS6.2
ARU Arti 127.81 326 *i* PKIKP PKPdf 11 52 20.2 -1.9
ARU *e* 11 54 21.2
ARU *e*PPP 11 57 08.7
ARU *e* 11 59 18.3
ARU *e*SP SP 12 04 17.9 -10
ARU *e*PS PS 12 04 27.7 -2.4
ARU *e*SS SS 12 11 25.7 -10
ARU MLR MLR
comp=N,2µm,21.0s,MS6.3
ARU MLR MLR
comp=E,6µm,21.0s,MS6.3
ARU MLR MLR
comp=Z,8µm,21.0s,MS6.4
ARU Arti 127.81 326 *e*PKPdf PKPdf 11 52 20.5 -1.6
ARU LR LR
comp=Z,2µm,20.0s,MS5.8
LBTB Lobatse 129.78 204 PFAKE 11 52 40.0 +14
LBTB LR LR
comp=Z,2µm,19.0s,MS5.7
JMIC Jan Mayen 129.82 6 AMS AMS 12 47 15.6
comp=Z,3µm,20.1s,MS5.9
AKTK Aktyubinsk 129.92 319 PKP PKPdf 11 52 24.3 -1.8
AKTO Aktyubinsk 129.92 319 PKP PKPdf 11 52 24.3 -1.8
comp=Z,3.7nm,0.8s,baz=60,slow=5.1,SNR=2.7
KEV Kevo 130.01 350 PFAKE 11 52 40.0 +14
KEV LR LR
comp=Z,3µm,20.0s,MS6.0
ARCES ARCESS Array B 130.43 351 PKP PKPdf 11 52 24.0 -3.1
comp=Z,4.2nm,0.9s,baz=343,slow=0.9,SNR=4.0
APA Apatity 130.69 346 ⇑ *i*PKIKP PKPdf 11 52 23.4 -4.2
APA *i* 11 52 30.0

APA *e*PPS 12 06 29.0
TRO Tromso 131.16 354 *e*PP PP 11 54 48.0 +2.2
TRO *e*SS SS 12 12 15.5 -1.6
TRO AMS AMS 12 45 16.9
comp=Z,2µm,19.0s,MS5.8
RCBR Riachuelo 131.25 119 PFAKE 11 52 40.0 +11
RCBR LR LR
comp=Z,8µm,19.0s,MS6.4
ORR Orenburg 131.53 321 *e*PKIKP PKPdf 11 52 32.9 +3.7
ORR pmax pmax
comp=Z,20nm,0.9s
PECR Pechory 135.04 330 *e*PKIKP PKPdf 11 52 38.0 +2.3
PECR *e* 11 55 12.0
PECR MLR MLR
comp=Z,17µm,21.0s,MS6.7
PECR MLR MLR
comp=N,1µm,20.0s,MS5.9
PECR MLR MLR
comp=E,2µm,20.0s,MS5.9
NSS Namsos 136.76 356 *e* PP 11 55 41.3 +20
NSS AMS AMS 12 51 56.5
comp=Z,2µm,17.5s,MS6.0
LSZ Lusaka 137.17 213 *e*PKIKP PKPdf 11 52 39.2 -0.5
LSZ MLR MLR
comp=Z,5µm,19.0s,MS6.2
TSUM Tsumeb 137.84 197 *e*PKPdf PKPdf 11 52 43.3 +2.3
TSUM LR LR
comp=Z,4µm,19.0s,MS6.2
PUL Pulkovo 137.87 341 *c i*PKHKP 11 52 33.6
PUL MLR MLR
comp=Z,5µm,18.0s,MS6.3
PUL MLR MLR
comp=N,4µm,19.0s,MS6.3
PUL MLR MLR
comp=E,2µm,16.0s,MS6.3
PUL MLR MLR
comp=Z,6µm,19.0s
MOS Moscow 138.24 333 *e*PKIKP PKPdf 11 52 41.7 0.0
MOS pmax pmax
comp=Z,55nm,0.8s
MOS MLR MLR
comp=Z,4µm,22.0s,MS6.1
MAK Makhachkala 138.99 311 *e*PKIKP PKPdf 11 52 41.7 -1.4
MAK *i* 11 55 35.6
MAK pmax pmax
comp=Z,532nm,1.8s
MAK MLR MLR
comp=Z,4µm,20.0s,MS6.2
MAK Makhachkala 138.99 311 *i* P PKPdf 11 52 43.2 +0.1
OBN Obninsk 139.11 333 ⇑ *i*PKIKP PKPdf 11 52 38.6 -4.7
OBN *i* 11 55 36.8
OBN *e*PS PS 12 06 07.8 +1.1
OBN *i* SS SS 12 13 44.1 -8.5
OBN pmax pmax
comp=Z,47nm,1.1s
OBN Obninsk 139.11 333 ⇑ *e*PKP PKPdf 11 52 38.7 -4.6
OBN LR LR
comp=Z,4µm,20.0s,MS6.2
VRHR Novokhopersk 139.16 325 *e*PKHKP 11 52 29.3
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=N,1.0nm,0.5s
VRHR MLR MLR
comp=Z,3µm,21.0s,MS6.0
VRHR MLR MLR
comp=N,10.0nm,19.0s,MS5.5
VRHR MLR MLR
comp=E,900nm,18.0s,MS5.5
NB2 NORSAR Subarra1 40.28 356 PKPdf PKPdf 11 52 46.4 +1.0
baz=6.6,slow=1.8
NB2 NORSAR Subarra1 40.28 356 PKPdf PKPdf 11 52 46.4 +1.0
comp=Z,15nm,1.2s,baz=6.6,slow=1.8
NOA NORSAR Array B 140.28 356 PKhKP 11 52 37.4
comp=Z,2.9nm,1.0s,baz=15,slow=3.7,SNR=3.3
VRSR Storozhevoye 140.35 327 *i* PKIKP PKPdf 11 52 48.3 +2.8
VRSR pmax pmax
comp=Z,40nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR MLR MLR
comp=N,2µm,21.0s,MS6.2
VRSR MLR MLR
comp=Z,5µm,21.0s,MS6.3
VRSR MLR MLR
comp=E,4µm,20.0s,MS6.2
NAO01 NORSAR Array S 140.49 356 PFAKE 11 53 00.0 +14
NAO01 LR LR
comp=Z,4µm,19.0s,MS6.2
SHEL Horse Pasture 141.21 163 PFAKE 11 53 00.0 +13
SHEL LR LR
comp=Z,722nm,19.0s,MS5.5
GOF Gofitskoye 141.24 316 *e*PKHKP 11 52 35.4
ZEI Tsey 141.55 313 *e*PKIKP PKPdf 11 52 45.2 -2.5
ZEI *e* 11 55 53.3
KMBO Kilima Mbogo 141.61 238 PKhKP 11 52 43.6
comp=Z,1.8nm,0.7s,baz=174,slow=9.2,SNR=4.5
KMBO Kilima Mbogo 141.61 238 PKP PKPdf 11 52 43.6 -4.2
KMBO *e*PKPdf PKPdf 11 52 48.0 +0.1
KMBO LR LR
comp=Z,3µm,19.0s,MS6.1
KONO Kongsberg 141.76 357 *e*SS SS 12 14 18.0 -5.6
KONO Kongsberg 141.76 357 PFAKE 11 53 00.0 +12
KONO LR LR
comp=Z,3µm,20.0s,MS6.1
GNI Garni 141.82 308 *i* PKIKP PKPdf 11 52 49.5 +1.3
GNI MLR MLR
comp=Z,2µm,20.0s
GNI Garni 141.82 308 *e*PKPdf PKPdf 11 52 47.7 -0.5
GNI LR LR
comp=Z,2µm,19.0s,MS5.9
KIV Kislovodsk 141.92 315 *e*PKHKP 11 52 41.5
KIV *i* 11 52 47.3
KIV *e* 11 55 49.9
KIV *e*SS SS 12 14 16.6 -8.8
KIV pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 141.92 315 ⇑ *e*PKP PKPdf 11 52 47.4 -1.0
KIV LR LR
comp=Z,894nm,20.0s,MS5.5
IDID Didziasalis 142.63 340 *e*P PKPdf 11 52 47.3 -2.4
IDID AMb AMB 11 52 56.4
comp=Z,11nm,1.2s
CLDR Caldiran 142.72 307 *e*P PKPdf 11 52 44.8 -4.9
DIGO Kars 142.73 309 *i* P PKPdf 11 52 47.7 -2.1
IIGN Ignalina 142.77 340 *e*P PKPdf 11 52 48.5 -1.4
IIGN AMb AMB 11 52 53.7
comp=Z,16nm,1.7s
MNK Minsk 142.94 338 *e*PKHKP 11 52 46.0
AGRB Hanur-Agry 143.28 308 *e*P PKPdf 11 52 47.8 -3.0
HAKT HAKKARI 143.31 304 *i* P PKPdf 11 52 46.3 -4.5
CUKT Cukurca 143.47 304 *e*P PKPdf 11 52 45.3 -5.8
ARTV Artvin 143.50 311 *i* P PKPdf 11 52 46.1 -5.1
BHD Baghdad 143.65 297 *ex* x 11 52 48.0
SOC Sochi 144.02 316 *c i*PKIKP PKPdf 11 52 51.8 -0.3
SOC *e* 11 56 03.2
SOC *e*SS SS 12 14 43.1 -6.6
SOC pmax pmax
comp=Z,51nm,1.2s
MSL Mosul 144.11 303 *ex* x 11 52 55.0
MSL *ex* x 11 59 45.0
SIRT Sirnak 144.30 305 *e*P PKPdf 11 52 55.0 +2.5
ERZM Erzurum 144.35 309 *i* P PKPdf 11 52 51.0 -1.6
EZM Erzurum 144.35 309 *e*P PKPdf 11 52 49.2 -3.5
BTMT Batman 144.82 306 *e*P PKPdf 11 52 54.5 +1.1
BNGL BINGOL 144.83 308 *i* P PKPdf 11 52 51.1 -2.4
SUW Suwalki 144.83 342 *e*PKP PKPdf 11 52 51.3 -2.2
SUW *e*PKiKP PKiKP 11 52 54.4 -2.8
SUW *e*pPKP pPKPdf 11 53 07.9 +10
SUW L 11 57 48.6
comp=Z,5.7nm,20.7s
SUW Suwalki 144.83 342 PKIKP PKPdf 11 52 51.1 -2.4
SUW Suwalki 144.83 342 *e*PKPdf PKPdf 11 52 51.2 -2.2
ANN Anapa 144.88 319 *i* PKIKP PKPdf 11 52 54.3 +0.7
ANN pmax pmax
comp=Z,342nm,1.3s
ASCN Ascension 144.91 144 PKPbc PKPdf 11 52 54.6 +1.0
ASCN LR LR
comp=Z,985nm,19.0s,MS5.6
MUD Monsted U'grnd 144.97 356 ⇑ *i*P PKPdf 11 52 54.3 +0.6
comp=Z,184nm,1.2s
MUD Monsted U'grnd 144.97 356 ⇑ *i*P PKPdf 11 52 54.3 +0.6
MUD *i* S 12 08 32.4

MACK Trabzon 145.10 312 *i* P PKPbc 11 52 51.9 -1.5
AKASG **Malin Array Be** 145.38 333 PKPbc PKPbc 11 52 50.9 -3.5
comp=Z,9.5nm,0.8s,baz=35,slow=3.1,SNR=38
KIEV Kiev 145.39 333 *e*PKP2 PKPab 11 52 51.9 -2.6
KIEV MLR MLR
comp=Z,4μm,20.0s,MS6.1
COP Copenhagen 145.45 353 ⇑ *i*P PKPdf 11 52 55.8 +1.2
comp=Z,89nm,0.8s
COP
comp=Z,2μm,19.0s
EKA Eskdalemuir Ar 145.60 9 PKPbc PKPbc 11 52 53.2 -1.8
comp=Z,20nm,0.9s,baz=334,slow=2.7,SNR=13
ESK Eskdalemuir 145.61 9 PFAKE 11 53 10.0 +15
ESK LR LR
comp=Z,1μm,19.0s,MS5.7
MARD Mardin 145.62 305 *i* P PKPdf 11 52 53.6 -1.2
FURI Furi 145.62 254 *e*P PKPbc 11 52 58.4 +3.3
FURI S PP 11 56 22.1 +6.6
DESE Dese 145.64 258 *e*P PKPbc 11 52 59.3 +4.1
BSD Bornholm Skovb 145.67 350 ⇑ *i*P PKPdf 11 52 56.3 +1.4
comp=Z,189nm,1.2s
BSD
comp=Z,6μm,21.0s
KELT Kelkit 145.77 311 *i* P PKPdf 11 52 56.5 +1.4
GRSN GIRESUNGRSN 146.15 312 *i* P PKPdf 11 52 58.0 +2.2
DRBT Darb Altahta 146.50 305 ⇓ P PKPbc 11 53 01.7 +4.0
ELZG Elazig 146.58 308 *i* P PKPdf 11 52 57.8 +1.3
SIM Simferopol' 146.77 322 *e*PKP2 PKPab 11 52 58.0 -1.8
SIM pmax pmax
comp=Z,95nm,0.9s
SIM pmax pmax
comp=Z,590nm,14.2s
BSHR Al Beshri 146.83 303 ⇓ P PKPbc 11 53 03.3 +4.6
GKP Gorka Klasztor 147.00 347 *e*PKiKP PKiKP 11 53 01.4 -0.3
GKP L 12 03 12.4
comp=Z,5.9nm,20.0s
GKP Gorka Klasztor 147.00 347 *i* PKP2 PKPab 11 53 01.4 +0.7
WAR Warsaw 147.01 342 *e*PKP PKPbc 11 53 01.4 +2.2
WAR L 11 59 05.5
comp=Z,6.7nm,20.7s
MALT Malatya 147.05 308 ⇑ *i*P PKPdf 11 52 59.5 +2.2
MALT Malatya 147.05 308 *e*PKPdf PKPdf 11 52 58.7 +1.4
MALT *e*PKPbc PKPbc 11 53 04.0 +4.6
SVSK Karacayir 147.45 312 *e*P PKPdf 11 52 57.5 -0.5
DIKM Dikmen 147.83 316 *e*P PKPdf 11 52 57.0 -1.6
JHLN Al Jahlan 147.90 303 ⇓ P PKPbc 11 53 03.7 +2.0
GZT Gaziantep 148.03 307 *i* P PKPdf 11 53 01.2 +2.3
LVV L'vov 148.12 337 *i* PKP2 PKPab 11 53 02.3 -2.8
LVV *e* 11 56 29.9
LVV *e*PPP 11 59 58.3
SLMH Al Salmeh 148.13 305 ⇓ P PKPbc 11 53 03.4 +1.1
BOYT Boyabat 148.18 315 *i* P PKPbc 11 53 02.8 +0.4
BYBT Boyabat 148.24 316 *e*P PKPdf 11 53 01.8 +2.6
KIS Kishinev 148.27 329 *e*PKIKP PKPdf 11 53 00.0 +0.7
KIS *i* 11 53 14.0
KIS *e* 11 56 33.0
KIS *e*PPP 11 59 50.0
KIS *e* 12 00 00.0
KIS pmax pmax
comp=Z,2μm,7.0s
KIS pmax pmax
comp=Z,1μm,12.0s
KIS MLR MLR
comp=Z,5μm,20.0s,MS6.3
KIS MLR MLR
comp=N,4μm,21.0s,MS6.2
KIS MLR MLR
comp=E,1μm,20.0s,MS6.2
KIS MLR MLR
comp=Z,3μm,22.0s
KIS Kishinev 148.27 329 *e*PKP PKPdf 11 53 00.0 +0.7
comp=Z,2μm,7.0s
KIS Kishinev 148.27 329 *i* PKP2 PKPab 11 53 14.0 +8.3
KIS *i* pPKP pPKPdf 11 53 30.0 +26
KIS Kishinev 148.27 329 *e*PP PP 11 56 33.0 +1.9
BZK Bozkurt 148.48 317 *e*P PKPdf 11 53 02.8 +3.2
CTKT Corum 148.64 314 *i* P PKPbc 11 53 03.4 -0.2
BNN Bunyan 148.71 310 *e*P PKPdf 11 53 04.3 +4.3
WIT Witteveen 148.72 359 *e*PKP PKPbc 11 53 06.0 +2.2
KWP Kalwaria 148.75 338 *e*PKP PKPdf 11 53 00.8 +0.7
KWP *e*PKiKP PKiKP 11 53 06.5 +1.2
KWP *e*pPKP pPKPdf 11 53 21.5 +17
KWP L 11 58 48.0
comp=Z,2.8nm,20.4s
CORM Corum 148.96 313 *e*P PKPdf 11 53 00.4 0.0
DRWC Darouich 148.96 306 ⇓ P PKPab 11 53 08.6 +0.1
BALT Daday 149.10 317 *i* P PKPdf 11 53 03.4 +2.8
OJC Ojcow 149.16 342 *e*PKP PKPdf 11 53 03.2 +2.0
ROOS tl_alroos 149.24 301 ⇓ P PKPab 11 53 10.0 +0.3
COBT Iskenderun 149.31 306 *i* P PKPbc 11 53 04.7 -0.6
BTCH Batrach 149.32 305 ⇓ P PKPab 11 53 09.4 -0.5
KFRA Kufra 149.32 303 ⇓ P PKPab 11 53 09.7 -0.3
CDAG Cicekdag 149.39 313 *i* P PKPdf 11 53 00.3 -0.8
STHS Stebnicka Huta 149.42 339 *e*PKP PKPdf 11 53 03.9 +2.7
STHS *e* 11 53 08.9
CANT Cankiri 149.43 315 *e*P PKPdf 11 53 05.2 +4.1
BURAR **Bucovina Array** 149.43 333 ⇑ *i*P PKPbc 11 53 07.5 +1.9
AVNT Avonos 149.44 311 *i* P PKPdf 11 53 03.4 +2.2
CLZ Clausthal 149.46 354 *e*PKP PKPdf 11 53 03.2 +2.0
KSP Ksiaz 149.49 346 *e*PKP PKPdf 11 53 03.5 +2.3
KSP *e*PKiKP PKiKP 11 53 08.8 +2.0
KSP L 12 00 12.1
comp=Z,7.0nm,21.1s
KSP *e*SS SS 12 15 59.0 +7.4
KSP Ksiaz 149.49 346 *e*PKP2 PKPab 11 53 08.4 -2.2
KSP *e*SS SS 12 15 48.0 -3.6
KSP MLR MLR
comp=Z,8μm,21.2s,MS6.5
KOLS Kolonicke sedl 149.49 338 *e*PKP PKPdf 11 53 03.9 +2.6
KOLS *e* 11 53 09.3
CEYT Ceyhan 149.51 307 *e*P PKPdf 11 53 02.8 +1.5
WRDH Warideh 149.53 304 ⇓ P PKPbc 11 53 06.6 +0.8
SLNF Slenfeh 149.64 304 ⇓ P PKPab 11 53 10.4 -0.9
CLL Collm 149.65 351 *e*PKPdf PKPdf 11 53 03.4 +1.9
CLL *e*PKPbc PKPbc 11 53 08.3 +2.1
comp=Z,173nm,1.3s
CLL *e*PKPab PKPab 11 53 14.5 +3.2
CLL *e*PP PP 11 56 53.9 +15
CLL *e*SKSP 12 07 03.1
CLL *e*SS SS 12 16 00.4 +6.9
CLL *e*SSS 12 21 43.5
CLL *e*(SSSS) 12 25 42.3
CLL *e*L 13 06 58.4
comp=Z,4μm,20.0s
CLL Collm 149.65 351 ⇓ *i*PKPdf PKPdf 11 53 03.6 +2.1
comp=Z,39nm,1.4s
CLL ⇓ *i*PKPbc PKPbc 11 53 08.6 +2.4
comp=Z,170nm,1.3s
CLL *i* PKPab PKPab 11 53 14.4 +3.1
comp=Z,111nm,1.2s
CLL *i* x x 11 53 22.1
CLL *i* x x 11 53 33.9
CLL *e*PP PP 11 56 48.0 +8.9
CLL *e*PSKS 12 06 54.0
CLL *e*SS SS 12 15 57.0 +3.5
CLL *e*SSS 12 21 36.0
CLL *e*SSSS 12 25 24.0
CLL Lm 13 07 00.0
comp=N,2μm,19.7s
CLL Lm 13 07 00.0
comp=E,3μm,22.0s
CLL Lm 13 07 00.0
comp=Z,4μm,22.0s
SAFT Safranbolu 149.70 317 *e*P PKPdf 11 53 05.4 +3.8
NIE Niedzica 149.72 341 *e*PKP PKPdf 11 53 04.7 +3.1
RAC Raciborz 149.73 344 *e*PKHKP 11 53 03.1
RAC MLR MLR
comp=Z,7μm,20.8s,MS6.4
UZH Uzhgorod 149.74 338 ⇑ *e*PKHKP 11 53 05.0
UZH *i* 11 53 09.2
UZH *e* 12 15 44.0
UZH MLR MLR
comp=Z,3μm,21.0s,MS6.1
ARNB Al Arnab 149.75 305 ⇓ P PKPbc 11 53 10.2 +3.8
BIDA Albida 149.75 303 ⇓ P PKPbc 11 53 07.2 +0.9
HAWK Haweek 149.84 302 ⇓ P PKPab 11 53 11.4 -0.7
BR131 Keskin Array S 149.84 313 PFAKE 11 53 10.0 +8.2
BR131 LR LR
comp=Z,2μm,20.0s,MS5.9
BRTR Keskin Array B 149.84 313 PKPbc PKPbc 11 53 03.9 -2.8
comp=Z,17nm,0.8s,baz=130,slow=2.5,SNR=17
UPC Upice 149.86 346 *e*PKPDF PKPdf 11 53 02.3 +0.5
UPC ⇑ *e*PKP PKPbc 11 53 09.5 +2.8

CFR Carcaliu 149.89 327 ⇑ PKP2 PKPab 11 53 10.6 -1.7
BRG Berggiesshubel 149.92 349 *e*PKP PKPdf 11 53 04.0 +2.1
BRG Berggiesshubel 149.92 349 *i* PKP PKPdf 11 53 04.0 +2.1
comp=Z,30nm,1.4s
BRG *i* 11 53 09.2
comp=Z,102nm,1.3s
BRG *i* 11 53 17.8
comp=Z,56nm,1.2s
BRG PP PP 11 56 43.0 +2.3
BRG *e* 12 03 34.0
BRG *i* 12 07 09.0
BRG SS SS 12 16 00.0 +3.5
BRG
comp=N,2μm,20.5s
BRG
comp=E,1μm,20.4s
BRG
comp=Z,3μm,20.8s
BRG Berggiesshubel 149.92 349 *i* PKHKP PKPdf 11 53 04.1 +2.2
BRG *i* 11 53 09.2
BRG 11 56 43.0
BRG MLR MLR
comp=Z,3μm,20.8s,MS6.1
BRG Berggiesshubel 149.92 349 *i* PKP PKPdf 11 53 04.0 +2.1
BRG *i* 11 53 09.2
BRG *i* 11 53 17.8
BRG PP PP 11 56 43.0 +2.3
BRG *e* 12 03 34.0
BRG *i* 12 07 09.0
BRG SS SS 12 16 00.0 +3.5
BRG LR LR
comp=Z,3μm,20.8s,MS6.1
KARA Karaisali 149.92 308 *e*P PKPdf 11 52 59.7 -2.2
MARH Ras Al Marh 149.92 301 ⇓ P PKPab 11 53 11.6 -0.8
DPC Dobruska-Polom 149.94 346 *e*PKPDF PKPdf 11 53 04.8 +2.8
DPC ⇑ *e*PKP PKPbc 11 53 09.6 +2.7
DPC AMS AMS 13 08 50.0
comp=Z,5μm,20.6s
KAMT Kaman 149.96 313 *e*P PKPdf 11 53 05.9 +3.9
OKC Ostrava-Krasne 149.97 343 *e*PKPDF PKPdf 11 53 04.4 +2.4
OKC ⇑ *e*PKP PKPbc 11 53 08.5 +1.6
OKC AMS AMS 13 00 20.0
comp=Z,5μm,20.5s
OKC Ostrava-Krasne 149.97 343 *e*PKP PKPdf 11 53 04.4 +2.4
OKC *e* 11 53 08.5
FBE Freiberg 149.97 350 *e*PKP PKPdf 11 53 04.0 +2.0
SALA Sala 150.06 299 ⇓ P PKPbc 11 53 11.1 +3.9
BUG Bochum--Univer 150.07 358 *e*PKP PKPdf 11 53 04.3 +2.1
VRI Vrincioaia 150.09 329 ⇑ *i*P PKPdf 11 53 00.0 -2.2
VRI Vrincioaia 150.09 329 ⇑ P PKPdf 11 52 60.0 -2.2
PVCC Panska Ves 150.14 348 *e*PKPDF PKPdf 11 53 05.0 +2.7
PVCC ⇑ *e*PKP PKPbc 11 53 10.1 +2.8
PVCC AMS AMS 13 02 00.0
comp=Z,5μm,22.0s
TOTH TOTAH 150.15 300 ⇓ P PKPbc 11 53 11.9 +4.6
MORC Moravsky Berou 150.18 344 ⇑ *i*P PKPbc 11 53 08.3 +0.9
MORC Moravsky Berou 150.18 344 *e*PKHKP 11 53 04.5
MORC *e* 11 53 08.6
MORC Moravsky Berou 150.18 344 *e*PKPbc PKPbc 11 53 05.2 -2.2
TIRR Tirgusor 150.24 326 ⇑ *i*P PKPbc 11 53 09.1 +1.5
HWQ Hawqa 150.27 302 *e*P PKPdf 11 53 04.6 +2.1
HARR Harsova 150.33 326 PKIKP PKPbc 11 53 12.2 +4.4
ANTO Ankara 150.34 314 ⇑ *i*P PKPdf 11 53 05.0 +2.4
ANTO Ankara 150.34 314 PKIKP PKPbc 11 53 11.5 +3.7
ANTO Ankara 150.34 314 *e*PKPdf PKPdf 11 53 02.4 -0.2
ANTO *e*PKPbc PKPbc 11 53 07.5 -0.3
ANTO LR LR
comp=Z,2μm,20.0s,MS6.0
SGKT Sivrigoynuk 150.46 316 *i* P PKPdf 11 53 07.3 +4.5
MERS Mersin 150.47 308 *e*P PKPdf 11 53 02.3 -0.5
KECS Kecovo 150.48 339 *e*PKP PKPdf 11 53 05.8 +3.0
KECS *e* 11 53 10.7
KECS *e* 11 53 18.0
MOX Moxa 150.50 352 *e*PKP PKPdf 11 53 05.9 +3.1
MOX *e* 11 53 10.2
comp=Z,128nm,1.4s
MOX
comp=Z,4μm,22.0s
UBBA Unterbreizbach 150.51 354 *e*PKP PKPdf 11 53 04.6 +1.7
BRBR Barbar 150.52 300 ⇓ P PKPab 11 53 13.2 -1.7
WERD Werda 150.59 351 *e*PKP PKPdf 11 53 04.9 +1.9
PRA Prague 150.60 348 PKPDF PKPdf 11 53 04.0 +1.0
PRA ⇑ PKP PKPbc 11 53 10.0 +1.6
PRA PKPAB PKPab 11 53 17.0 +1.8
RCY Rachaya 150.60 300 *e*P PKPdf 11 53 06.3 +3.3
BHL Bhannes 150.62 301 *e*P PKPdf 11 53 04.0 +1.0
PRU Pruhonice 150.66 348 *e*PKPDF PKPdf 11 53 05.4 +2.3
PRU ⇑ *e*PKP PKPbc 11 53 10.8 +2.2
PRU *e*PKPAB PKPab 11 53 17.3 +1.9
PRU AMS AMS 13 03 20.0
comp=Z,4μm,21.2s
GUNZ Gunzen 150.67 351 *e*PKP PKPdf 11 53 05.4 +2.3
TCHB Talchebab 150.70 299 ⇓ P PKPbc 11 53 12.9 +4.3
MLR Muntele Rosu 150.73 330 PKP PKPdf 11 53 01.3 -1.9
comp=Z,18nm,1.2s,baz=34,slow=3.6,SNR=3.2
MLR PKPbc PKPbc 11 53 05.6 -3.2
comp=Z,11nm,0.9s,baz=40,slow=3.9,SNR=9.6
UCC Uccle 150.74 1 E PKPbc 11 53 10.9 +2.1
UCC E PKPab 11 53 18.0 +2.3
WERN Wernitzgruen 150.74 351 *e*PKP PKPdf 11 53 05.5 +2.3
NKC Novy Kostel 150.78 351 *e*PKPDF PKPdf 11 53 05.6 +2.3
NKC ⇑ *e*PKP PKPbc 11 53 11.3 +2.4
NKC *e*PKPAB PKPab 11 53 17.8 +1.8
NKC AMS AMS 13 00 20.0
comp=Z,5μm,21.0s
NKC Novy Kostel 150.78 351 *e*PKP PKPdf 11 53 05.6 +2.3
NKC *e* 11 53 11.3
NKC *e* 11 53 17.8
VRAC Vranov 150.85 345 PKPbc PKPbc 11 53 05.8 -3.3
comp=Z,63nm,1.1s,baz=2.3,slow=3.1,SNR=7.2
VRAC Vranov 150.85 345 ⇑ *i*P PKPbc 11 53 09.7 +0.7
VRAC Vranov 150.85 345 P PKPdf 11 53 06.3 +2.9
MEM Membach 150.94 359 E PKPdf 11 53 05.3 +1.8
VYHS Vyhne 150.99 341 *e*PKP PKPbc 11 53 12.0 +2.6
HENT Hendek 151.06 318 *i* P PKPbc 11 53 11.7 +2.1
MMAI Mount Meron Ar 151.07 300 PKPbc PKPbc 11 53 10.4 +0.9
comp=Z,44nm,0.8s,baz=68,slow=4.6,SNR=24
MANZ Manzenberg 151.07 351 *e*PKP PKPdf 11 53 05.6 +1.9
DRGR 151.11 335 ⇓ *i*P PKPbc 11 53 10.5 +0.9
BCLA Clavier 151.13 0 E PKPdf 11 53 05.2 +1.3
BCLA E PKPbc 11 53 11.7 +2.0
BCLA E PKPab 11 53 18.8 +1.4
PSZ Piszkesteto 151.17 340 ⇓ *i*P PKPbc 11 53 10.8 +1.0
PSZ Piszkesteto 151.17 340 *e*PKIKP PKPdf 11 53 04.8 +0.9
PSZ *e* 11 53 12.5
PSZ Piszkesteto 151.17 340 *e*PKPbc PKPbc 11 53 07.0 -2.8
PSZ Piszkesteto 151.17 340 ⇑ *es*PKP/p 11 53 12.1
GIVF Givet 151.44 1 *e*PKIKP PKPdf 11 53 05.5 +1.2
comp=Z,148nm,0.9s
DOU Dourbes 151.45 1 PKiKP PKiKP 11 53 10.6 -0.3
KDHN Kadinhani 151.46 312 *i* P PKPbc 11 53 10.4 0.0
BAIF Baives 151.48 2 *e*PKIKP PKPdf 11 53 05.6 +1.3
comp=Z,287nm,1.3s
GRF Grafenberg Arr 151.48 352 *e*PKP PKPdf 11 53 06.0 +1.6
GRFO Grafenberg 151.48 352 *e*PKIKP PKPbc 11 53 10.2 -0.3
GRFO MLR MLR
comp=Z,5μm,20.0s,MS6.3
KHC Kasperske Hory 151.66 349 *e*PKPDF PKPdf 11 53 07.0 +2.4
KHC ⇑ *e*PKP PKPbc 11 53 13.5 +2.6
KHC *e*PKPAB PKPab 11 53 19.7 +0.1
KHC AMS AMS 13 07 40.0
comp=Z,5μm,21.9s
ZST Bratislava 151.75 343 *e*PKP PKPbc 11 53 14.1 +3.0
ZST *e* 11 53 23.2
ZST Bratislava 151.75 343 *e*PKIKP PKPbc 11 53 14.1 +3.0
ZST *e* 11 53 23.3
WET Wettzell 151.77 350 *e*PKP PKPdf 11 53 06.6 +1.8
ESKT Eskisehir 151.81 315 *e*P PKPdf 11 53 06.7 +1.8
ESKT Eskisehir 151.81 315 *i* P PKPdf 11 53 08.9 +4.1
BUD Budapest 151.83 340 *es*PKP/p 11 53 14.2
WLF Walferdange 151.88 359 *e*PKP PKPdf 11 53 07.5 +2.5
WLF Walferdange 151.88 359 E 11 53 14.0
WLF Walferdange 151.88 359 *e*PKPbc PKPbc 11 53 11.2 -0.2
GEC2 GERESS Array S 151.91 348 *e*PKP PKPdf 11 53 07.0 +2.0
GERES GERESS Array B 151.91 348 PKP PKPdf 11 53 03.1 -1.9
comp=Z,7.1nm,1.2s,baz=197,slow=4.2,SNR=13
GERES PKPbc PKPbc 11 53 11.6 +0.1
comp=Z,34nm,1.0s,baz=29,slow=2.2,SNR=33
ADVT Abdulvahap 152.01 318 *e*P PKPdf 11 53 06.2 +1.0
EIL Elat 152.19 293 *e*PKPbc PKPbc 11 53 11.3 -0.8
CONA Conrad Observa 152.31 345 *i* PKPdf PKPdf 11 53 08.2 +2.5
comp=Z,58nm,1.1s,SNR=6.4

GEMT Gemlik 152.35 318 *e*P PKPdf 11 53 03.3 -2.4
SOP Sopron 152.36 344 ⇓ *e*PKP PKPdf 11 53 08.2 +2.5
FLN La Foliniere 152.38 8 *e*PKIKP PKPdf 11 53 05.2 -0.5
comp=Z,184nm,1.1s
FLN *e*R
comp=Z,5μm,21.2s
FLN La Foliniere 152.38 8 *e*PKPdf PKPdf 11 53 05.2 -0.5
FLN LR LR
comp=Z,5μm,21.3s,MS6.3
SHUT Suhut-Afyon 152.51 314 *e*P PKPdf 11 53 04.5 -1.4
BZS Buzias 152.51 335 ⇑ *i*P PKPdf 11 53 07.8 +1.9
BZS Buzias 152.51 335 ⇑ P PKPdf 11 53 07.8 +1.9
SGMF Saint Gilles 152.54 12 *e*PKIKP PKPdf 11 53 05.2 -0.7
comp=Z,94nm,1.0s
ULDT Uludag 152.56 318 *i* P PKPdf 11 53 09.0 +3.0
LDF La Druitiere 152.60 8 *e*PKIKP PKPdf 11 53 05.2 -0.8
comp=Z,85nm,1.0s
GRR Gorron 152.70 9 *e*PKIKP PKPdf 11 53 05.8 -0.4
comp=Z,236nm,1.2s
QUIF Quistinic 152.75 13 *e*PKIKP PKPdf 11 53 05.8 -0.4
comp=Z,235nm,1.4s
MOA Molln 152.75 347 ⇑ *i*P PKPdf 11 53 08.0 +1.8
comp=Z,46nm,1.1s
TKTP Tekketepe 152.93 313 *i* P PKPbc 11 53 16.9 +3.2
GDZ Gediz 152.93 316 *i* P PKPbc 11 53 16.4 +2.6
FUR Furstenfeldbru 152.97 351 *e*PKP PKPdf 11 53 08.4 +1.8
ARSA Arzberg 153.03 345 ⇓ *i*P PKPdf 11 53 08.8 +2.1
comp=Z,32nm,1.2s
MEZF Maizieres J'vi 153.05 1 *e*PKIKP PKPdf 11 53 07.4 +0.7
comp=Z,93nm,1.0s
PKSM Moragy 153.08 339 ⇑ *i*P PKPdf 11 53 07.9 +1.2
PKSM Moragy 153.08 339 ⇑ P PKPdf 11 53 07.9 +1.1
CDF Champ du Feu 153.10 357 *e*PKIKP PKPdf 11 53 08.0 +1.2
comp=Z,69nm,1.1s
BFO Black Forest 153.12 356 *e*PKIKP PKPbc 11 53 12.8 -1.4
BFO MLR MLR
comp=Z,2μm,20.0s,MS5.8
HAU Haudompre 153.54 359 *e*PKIKP PKPdf 11 53 08.5 +1.1
comp=Z,42nm,0.9s
HAU *e*R
comp=Z,4μm,20.8s
HAU Haudompre 153.54 359 *e*PKPdf PKPdf 11 53 08.5 +1.1
HAU LR LR
comp=Z,4μm,20.8s,MS6.2
KBA Koelnbreinsper 153.68 348 ⇑ *i*P PKPdf 11 53 07.6 +0.1
comp=Z,33nm,0.9s
PERS Pernice 153.70 345 *i* PKPdf PKPdf 11 53 10.6 +2.9
PERS *e* 11 53 23.7
HINF Hinteralfeld 153.71 358 *e*PKIKP PKPdf 11 53 08.7 +1.1
comp=Z,41nm,1.0s
WTTA Wattenberg 153.80 350 ⇑ *i*P PKPdf 11 53 10.5 +2.8
comp=Z,53nm,1.4s
CANB Canakkale 153.90 320 *i* P 11 53 39.3
SQTA Sankt Quirin 153.91 351 ⇓ *i*P PKPdf 11 53 10.5 +2.6
comp=Z,32nm,1.1s
DNZL Cakiroluk 153.97 314 *i* P PKPab 11 53 26.2 -3.1
DAVA Damuels 154.01 353 ⇑ *i*P PKPdf 11 53 10.7 +2.7
comp=Z,34nm,0.8s
VTS Vitosha 154.21 329 ⇑ *i*P PKPdf 11 53 12.3 +4.0
VTS Vitosha 154.21 329 ⇑ P PKPdf 11 53 12.3 +3.9
LOR Lormes 154.25 2 *e*PKIKP PKPdf 11 53 09.8 +1.4
comp=Z,62nm,1.1s
LOR *e*R
comp=Z,6μm,20.5s
LOR Lormes 154.25 2 *e*PKPdf PKPdf 11 53 09.8 +1.4
LOR LR LR
comp=Z,6μm,20.5s,MS6.4
GRUS Gruza 154.30 334 *i* P PKPdf 11 53 10.1 +1.6
PTCC Patocco-Chiusa 154.32 347 PKP PKPdf 11 53 10.1 +1.6
LJU Ljubljana 154.40 345 *e*PKPdf PKPdf 11 53 12.1 +3.5
DIVS Divcibare 154.42 335 *i* P PKPdf 11 53 10.6 +2.0
SSF Saint Saulge 154.44 3 *e*PKIKP PKPdf 11 53 10.3 +1.6
comp=Z,51nm,1.0s
GMNA Gemona 154.47 347 PKP PKPdf 11 53 11.1 +2.4
MFF Saint Martin d 154.55 9 *e*PKIKP PKPdf 11 53 08.7 -0.1
BARS Barje 154.68 331 *i* P PKPdf 11 53 11.4 +2.4
AVF Avril sur Loir 154.71 3 *e*PKIKP PKPdf 11 53 10.1 +1.1
comp=Z,18nm,1.0s
BOJS Bojanci 154.72 344 *i* PKPdf PKPdf 11 53 11.9 +2.9
BOJS *i* PKPbc PKPbc 11 53 21.1 +3.4
KDAG Bornova 154.75 317 *i* P PKPdf 11 53 13.2 +4.2
SMF Signal de Mont 154.88 3 *e*PKIKP PKPdf 11 53 10.4 +1.1
CABF La Chapelle 154.94 359 *e*PKIKP PKPdf 11 53 09.9 +0.5
comp=Z,130nm,1.4s
CTI Castel Tesino 154.98 350 PKIKP PKPdf 11 53 11.6 +2.2
TCF Toulx Ste Croi 155.13 5 *e*PKIKP PKPdf 11 53 10.8 +1.2
comp=Z,59nm,1.3s
BDRM Kayabasi 155.38 314 *i* P PKPdf 11 53 13.8 +3.8
LPL La Plagne 156.01 358 *e*P PKPdf 11 53 11.0 +0.2
comp=Z,50nm,1.4s
LPG La Plagne 156.03 358 *e*PKIKP PKPdf 11 53 11.1 +0.3
RJF Les Rejaudoux 156.03 7 *e*PKIKP PKPdf 11 53 10.9 +0.1
RJF *e*R
comp=Z,7μm,21.2s
RJF Les Rejaudoux 156.03 7 *e*PKPdf PKPdf 11 53 10.9 +0.1
RJF LR LR
comp=Z,7μm,21.3s,MS6.5
CAF Calviac 156.47 6 *e*PKIKP PKPdf 11 53 11.4 0.0
SMRF Simiane la Rot 157.58 360 *e*PKIKP PKPdf 11 53 13.0 +0.2
SBF Sospel 157.63 356 *e*PKIKP PKPdf 11 53 13.0 +0.9
ECRI Cipan 157.92 16 PKIKP PKPdf 11 53 15.9 +2.7
FRF La Foret Royal 157.97 358 *e*PKIKP PKPdf 11 53 12.9 -0.4
ETSF Etsaut 158.08 12 *e*PKIKP PKPdf 11 53 13.8 +0.4
comp=Z,69nm,1.1s
EPF Esparros 158.11 10 *e*PKIKP PKPdf 11 53 13.5 0.0
comp=Z,29nm,1.0s
LMR La Mourre 158.20 358 *e*PKIKP PKPdf 11 53 13.4 -0.2
comp=Z,98nm,1.4s
EBIE Bielsa 158.41 11 PKP PKPdf 11 53 15.8 +2.0
PGF Pioggiola 158.79 353 *e*PKIKP PKPdf 11 53 15.0 +0.7
EGRA Graus 158.92 11 PKP PKPdf 11 53 18.6 +4.1
CCAN Las Canadas 158.95 67 PKP PKPdf 11 53 18.5 +4.1
GUD Guadarrama 159.25 21 PKIKP PKPdf 11 53 17.2 +2.4
ETOR Torete 159.72 17 PKIKP PKPdf 11 53 17.2 +1.8
EBAD Badajoz 159.75 29 PKP PKPdf 11 53 16.1 +0.7
TIP Timpagrande 159.86 334 *e*PKPdf PKPdf 11 53 14.1 -1.4
ERTA Horta de San J 160.12 11 PKP PKPdf 11 53 16.9 +1.1
PAB San Pablo 160.16 23 PFAKE 11 53 30.0 +14
PAB LR LR
comp=Z,6μm,19.0s
ESDC Sonseca Array 160.19 22 PKP PKPdf 11 53 11.8 -4.1
comp=Z,0.3nm,0.3s,baz=12,slow=0.8,SNR=2.5
ESDC PKPab PKPab 11 53 53.6 -2.5
comp=Z,2.3nm,0.8s,baz=338,slow=3.0,SNR=2.9
ESDC Sonseca Array 160.19 22 PKP PKPdf 11 53 11.8 -4.1
ESDC PKP PKPdf 11 53 16.6 +0.7
ESDC PKPab PKPab 11 53 53.6 -2.5
ESLA Sonseca Array 160.19 22 PFAKE 11 53 30.0 +14
ESLA LR LR
comp=Z,24μm,19.0s
EGRO El Granado 160.50 32 PKP PKPdf 11 53 18.1 +1.9
EMIN Mina Concepcio 160.71 30 PKP PKPdf 11 53 19.9 +3.5
EADA Adamuz 161.28 25 PKP PKPdf 11 53 20.2 +3.1
EBAN Banos Encina 161.59 23 PKIKP PKPdf 11 53 20.7 +3.3
EVIA Vianos 161.61 20 PKIKP PKPdf 11 53 20.6 +3.2
LIC Lamto 161.77 145 *e*PKIKP PKPdf 11 53 17.6 0.0
comp=Z,99nm,1.1s
LIC *e*R
comp=Z,6μm,18.5s
LIC Lamto 161.77 145 *e*PKPdf PKPdf 11 53 17.6 0.0
LIC LR LR
comp=Z,3μm,18.5s
ESPR Espera 161.82 30 PKP PKPdf 11 53 19.9 +2.3
ETOB Tobarra 161.89 18 PKP PKPdf 11 53 18.4 +0.7
ELUQ Luque 161.93 25 PKIKP PKPdf 11 53 20.1 +2.3
EQES Quesada 162.17 22 PKP PKPdf 11 53 18.6 +0.6
EHUE Huescar 162.32 21 PKIKP PKPdf 11 53 19.5 +1.3
EJIF Jimena Fronter 162.34 30 PKIKP PKPdf 11 53 18.4 +0.2
RAFF Raffo Rosso 162.50 336 PKP PKPdf 11 53 20.0 +1.7
ERON Agron 162.58 25 PKP PKPdf 11 53 20.7 +2.3
EMUR La Murta 162.72 18 PKP PKPdf 11 53 18.6 0.0
EBNR Beni Rached 164.87 12 P 11 53 30.0 +9.5
EANR 'Ain N'Sour 165.11 14 P PKPdf 11 53 24.8 +4.1
EMHD Djebel Mahouad 165.19 8 P PKPdf 11 53 25.0 +4.2
KEST Kesra 165.40 347 PKP PKPdf 11 53 19.7 -1.3
comp=Z,2.7nm,1.2s,baz=330,slow=8.1,SNR=2.3
MDT Midelt 165.63 36 PKP PKPdf 11 53 20.7 -0.5
comp=Z,17nm,1.2s,baz=252,slow=6.4,SNR=2.8
MDT PKPab PKPab 11 54 18.5 -1.5
comp=Z,9.1nm,1.0s,baz=332,slow=9.7,SNR=5.1
ETRT Tiaret 165.69 14 P PKPdf 11 53 24.5 +3.3
TORD Torodi Ar. Bea 170.98 156 PKP PKPdf 11 53 22.3 -2.5
comp=Z,17nm,1.1s,baz=323,slow=0.5,SNR=34
TORD PKPab PKPab 11 54 42.3 -1.4

comp=Z,18nm,1.0s,baz=230,slow=2.8,SNR=14
TORD PP PP 11 58 28.5 -5.6
comp=Z,4.6nm,1.2s,baz=250,slow=4.4,SNR=3.8

IDC 30 12:18:40.1±0.8, 676N×7295W, h162km±13km, mb3.1/4, mb1 3.5/6, mb1mx3.3/19, mbtmp3.3/6, MS3.2/1, Ms1 3.2/1, ms1mx2.9/11, Error ellipse: s-maj=39.5km s-min=8.0km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**216**	P	Pn	12 19 21.4	+1.5
	27nm,0.3s,baz=82,slow=16,SNR=46						
ROSC				S	Sn	12 19 51.6	+1.1
	112nm,0.3s,baz=86,slow=14,SNR=22						
SDV	**Santo Domingo**	**3.12**	**47**	P	Pn	12 19 31.0	+1.5
	40nm,0.3s,baz=223,slow=1.7,SNR=152						
SDV				S	Sn	12 20 08.0	+0.3
	11nm,0.3s,baz=284,slow=23,SNR=7.0						
SDV				LR	LR	12 20 29.6	
	comp=Z,433nm,20.2s,baz=104,slow=35						
TXAR	**Lajitas Array**	**36.63**	**312**	P	P	12 25 31.1	+0.2
	0.3nm,0.6s,baz=108,slow=8.7,SNR=3.3						
ULM	**Lac du Bonnet**	**47.41**	**340**	P	P	12 26 58.0	-0.1
	0.8nm,0.5s,baz=141,slow=6.5,SNR=3.0						
PDAR	**Pinedale Array**	**48.23**	**324**	P	P	12 27 04.9	+0.5
	0.2nm,0.4s,baz=120,slow=6.4,SNR=3.0						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	P	12 28 51.9	-0.3
	0.5nm,0.5s,baz=134,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	12 38 13.1	+0.6
	0.2nm,0.6s,baz=106,slow=2.8,SNR=6.9						

IDC 30 12:22:36.4±4.0, 1204S×16597E, h45km±30km, mb3.6/4, mb1 3.9/7, mb1mx3.7/17, mbtmp3.9/7, ML3.5/2, Error ellipse: s-maj=42.0km s-min=20.5km az=57.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.46**	**293**	P	Pn	12 24 09.0	+0.1
	25nm,0.3s,baz=102,slow=5.5,SNR=12						
HNR				S	Sn	12 25 21.8	+0.4
	baz=234,slow=17,SNR=2.9						
DZM	**Mont Dzumac**	**9.99**	**177**	P	Pn	12 24 57.5	+0.2
	1.1nm,0.3s,baz=6.0,slow=20,SNR=22						
PMG	**Port Moresby**	**18.67**	**276**	P	Pn	12 26 52.8	+1.5
	0.2nm,0.3s,baz=59,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**31.37**	**251**	P	P	12 28 52.9	+0.1
	0.7nm,0.8s,baz=82,slow=9.1,SNR=6.6						
WRA				PcP	PcP	12 31 46.5	+0.9
	1.8nm,1.1s,baz=83,slow=2.9,SNR=11						
ASAR	**Alice Springs**	**32.56**	**245**	P	P	12 29 03.0	-0.2
	0.7nm,0.7s,baz=72,slow=9.3,SNR=9.6						
ASAR				PcP	PcP	12 31 49.5	+0.6
	1.6nm,0.6s,baz=70,slow=2.2,SNR=14						
VNDA	**Vanda**	**65.51**	**181**	P	P	12 33 14.4	-0.6
	0.7nm,0.7s,baz=339,slow=6.7,SNR=4.9						
SONM	**Songino Array**	**79.59**	**324**	P	P	12 34 38.6	-0.1
	2.0nm,0.8s,baz=138,slow=7.0,SNR=9.0						
MKAR	**Makanchi Array**	**94.39**	**317**	P	P	12 35 51.4	0.0
	5.2nm,0.7s,baz=98,slow=6.4,SNR=40						

*IDC **30** 12:31:41.1±1.3, 5380N×16364W, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/27, mbtmp4.0/15, ML3.6/1, Error ellipse: s-maj=33.6km s-min=16.5km az=180.0*
*ISCJB **30** 12:31:45.3±1.3, 537N±0.1×16354W±009, h49km±8km, mb4.0/13, Error ellipse: s-maj=24.4km s-min=7.5km az=158.8*
*NEIC **30** 12:31:46.0±1.2, 5363N×16364W, h38km±8km, ML3.5(AEIC), Error ellipse: s-maj=19.4km s-min=6.3km az=170.0*

ISC 30 12:31:46.2±1.3, 536N±01×16359W±008, h43km±8km, n28, σ1§03/31, mb4.0/13, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.22**	**5**	P	**Pn**	**12 32 08.0**	**+1.2**
AKA	**Akutan**	**1.38**	**292**	P	**Pn**	**12 32 08.7**	**-0.3**
AKA				S	**Sn**	**12 32 27.7**	**+1.7**
AKUT	**Akutan**	**1.38**	**292**	P	**Pn**	**12 32 08.6**	**-0.4**
AKLV	**Akutan Long Va**	**1.49**	**291**	P	**Pn**	**12 32 10.0**	**-0.5**
AKGG	**Akutan Green G**	**1.53**	**292**	P	**Pn**	**12 32 10.6**	**-0.3**
UNV	**Unalaska Valle**	**1.74**	**278**	P	**Pn**	**12 32 12.3**	**-1.6**
UNV				S	**Sn**	**12 32 35.6**	**+0.7**
SDPT	**Sand Point**	**2.49**	**45**	P	**Pn**	**12 32 25.0**	**+0.7**
KDAK	**Kodiak Island**	**7.47**	**52**	Pn	**Pn**	**12 33 30.8**	**-1.7**
	1.1nm,0.3s,baz=257,slow=8.3,SNR=19						
KDAK				Sn	**Sn**	**12 34 50.8**	**-5.2**
	0.7nm,0.3s,baz=162,slow=20,SNR=5.0						
SLKM	**Skilak Lake**	**10.00**	**41**	*e*Pn	**Pn**	**12 34 08.3**	**+1.1**
DIV	**Divide**	**12.16**	**45**	Pn	**Pn**	**12 34 35.1**	**-1.7**
DAWY	**Dawson**	**16.18**	**40**	*e*P	**Pn**	**12 35 33.0**	**+2.6**
INK	**Inuvik**	**20.38**	**32**	P	**P**	**12 36 17.3**	**-1.8**
	1.6nm,0.5s,baz=234,slow=6.3,SNR=12						
INK	**Inuvik**	**20.38**	**32**	*e*P	**P**	**12 36 18.1**	**-1.1**
YKA	**Yellowknife Ar**	**26.75**	**51**	P	**P**	**12 37 21.6**	**0.0**
	0.7nm,0.6s,mb3.4,baz=265,slow=7.3,SNR=11						
NVAR	**Mina Array Bea**	**34.28**	**98**	P	**P**	**12 38 29.8**	**+1.7**
	0.3nm,0.6s,mb3.4,baz=294,slow=9.7,SNR=2.7						
KSRS	**Korea Array**	**48.68**	**280**	P	**P**	**12 40 25.5**	**-0.5**
	2.5nm,0.7s,mb4.3,baz=48,slow=7.2,SNR=7.4						
TXAR	**Lajitas Array**	**49.30**	**95**	P	**P**	**12 40 31.8**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=291,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**49.30**	**95**	P	**P**	**12 40 31.8**	**+1.0**
ULN	**Ulaanbaatar**	**53.24**	**303**	*e*P	**P**	**12 41 00.7**	**+0.4**
SONM	**Songino Array**	**53.59**	**303**	P	**P**	**12 41 02.9**	**+0.1**
	2.5nm,0.7s,mb4.2,baz=42,slow=7.2,SNR=13						
ARCES	**ARCESS Array B**	**56.95**	**356**	P	**P**	**12 41 26.6**	**-0.5**
	2.8nm,0.9s,mb4.3,baz=36,slow=10,SNR=3.7						
ZAL	**Zalesovo**	**58.78**	**320**	P	**P**	**12 41 39.9**	**0.0**
	0.9nm,0.4s,mb4.1,baz=73,slow=7.8,SNR=3.9						
BVAR	**Borovoye Array**	**64.61**	**327**	P	**P**	**12 42 19.9**	**+0.7**
	2.6nm,0.6s,mb4.4,baz=43,slow=6.9,SNR=15						
FINES	**FINESS Array B**	**65.00**	**355**	P	**P**	**12 42 20.4**	**-1.3**
	1.8nm,0.7s,mb4.2,baz=20,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**65.38**	**316**	P	**P**	**12 42 24.1**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=42,slow=7.3,SNR=11						
NOA	**NORSAR Array B**	**65.59**	**3**	P	**P**	**12 42 24.7**	**-0.9**
	2.7nm,0.9s,mb4.2,baz=354,slow=6.3,SNR=3.1						
AKASG	**Malin Array Be**	**75.47**	**352**	P	**P**	**12 43 25.5**	**-0.3**
	1.7nm,0.5s,mb4.3,baz=13,slow=5.8,SNR=5.2						
BRTR	**Keskin Array B**	**85.82**	**347**	P	**P**	**12 44 21.9**	**+0.8**
	1.1nm,0.8s,mb4.2,baz=75,slow=5.8,SNR=4.8						

*ISCJB **30** 12:38:07.9±1.7, 4130N±007×445E±0.1, h10km, Error ellipse: s-maj=11.7km s-min=10.1km az=64.0*
*MOS **30** 12:38:07.4±1.0, 4120N×4436E, h6km, mb3.7/1, Error ellipse: s-maj=99.9km s-min=16.1km az=96.0*

ISC 30 12:38:08.2±1.7, 4129N±008×445E±01, h10km, n9, σ1§33/17, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.12**	**320**	P	**Pg**	**12 38 09.0**	**-2.1**
KZR				S	**Sg**	**12 38 10.7**	**-2.4**
TBLG	**Delisi**	**0.47**	**20**	P	**Pg**	**12 38 14.2**	**-3.2**
TBLG				S	**Sg**	**12 38 21.1**	**-2.6**
GOR	**Gori**	**0.76**	**336**	P	**Pg**	**12 38 22.1**	**-0.8**
GOR				S	**Sg**	**12 38 32.3**	**-0.5**
DUS	**Dusheti**	**0.81**	**10**	P	**Pg**	**12 38 24.5**	**+0.7**
DUS				S	**Sg**	**12 38 34.9**	**+0.5**
LACR	**Lac**	**1.54**	**354**	⇓*i*PN	**Pn**	**12 38 36.1**	**+0.3**
LACR				*e*S	**Sn**	**12 38 57.0**	**+1.1**
ZEI	**Tsey**	**1.55**	**343**	⇓*i*PN	**Pn**	**12 38 36.6**	**+0.7**
ZEI				*e*S	**Sn**	**12 38 58.0**	**+2.0**
DIGR	**Digorskoe uzhe**	**1.75**	**337**	⇑*i*PN	**Pn**	**12 38 39.6**	**+0.9**
DIGR				*i*S	**Sn**	**12 39 02.9**	**+1.8**
KORR	**Kora**	**1.83**	**350**	*e*PN	**Pg**	**12 38 42.7**	**-0.6**
KORR				*e*S	**Sg**	**12 39 06.8**	**-0.2**
ARNR	**Ardon**	**1.91**	**355**	*e*PN	**Pn**	**12 38 41.4**	**+0.6**

*MOS **30** 13:24:20.8±0.9, 5341N×15908E, h116km, mb4.1/7, Error ellipse: s-maj=27.7km s-min=10.0km az=75.8*
*ISCJB **30** 13:24:21.2±0.4, 5326N±004×15940E±009, h119km±2km, mb3.7/13, Error ellipse: s-maj=10.4km s-min=4.2km az=57.2*
*KRSC **30** 13:24:23.4±1.0, 5335N×15943E, h99km±30km, ML4.1*
*IDC **30** 13:24:23.1±7.5, 5346N×15904E, h120km±69km, mb3.5/13, mb1 3.6/13, mb1mx3.5/27, mbtmp3.5/13, Error ellipse: s-maj=22.1km s-min=15.2km az=122.0*

ISC 30 13:24:22.1±0.4, 5325N±004×15940E±010, h116km±2km, n60, σ1§03/84, mb3.7/13, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.09**	**202**	*i*P	**Pn**	**13 24 37.9**	**-0.1**
NLC				*e*S	**Sn**	**13 24 49.0**	**-0.9**
NLC	**Nalytchevo**	**0.09**	**202**	*i*P	**Pn**	**13 24 37.9**	**-0.1**
NLC				*e*S	**Sn**	**13 24 49.0**	**-0.9**
AVH	**Avacha**	**0.40**	**272**	*i*P	**Pn**	**13 24 39.5**	**+0.5**
AVH				*e*S	**Sn**	**13 24 51.4**	**-0.3**
AVH	**Avacha**	**0.40**	**272**	*i*P	**Pn**	**13 24 39.5**	**+0.5**
AVH				*e*S	**Sn**	**13 24 51.4**	**-0.3**
SPN	**Mys Shipunski**	**0.41**	**112**	*i*P	**Pn**	**13 24 38.6**	**-0.4**
SPN				*e*S	**Sn**	**13 24 50.2**	**-1.6**
SPN	**Mys Shipunski**	**0.41**	**112**	*i*P	**Pn**	**13 24 38.6**	**-0.4**
SPN				*e*S	**Sn**	**13 24 50.2**	**-1.6**
PET	**Petropavlovsk**	**0.51**	**243**	*e*PN	**Pn**	**13 24 40.0**	**+0.4**
PET				*e*S	**Sn**	**13 24 52.1**	**-0.7**
PET				pmax	pmax		
	comp=Z,372nm,0.2s						
PET				smax			
	comp=E,695nm,0.5s						
PET				smax			
	comp=N,1μm,0.6s						
PET	**Petropavlovsk**	**0.51**	**243**	*i*P	**Pn**	**13 24 39.6**	**0.0**
PET				*i*S	**Sn**	**13 24 52.0**	**-0.8**
PET	**Petropavlovsk**	**0.51**	**243**	*i*P	**Pn**	**13 24 39.6**	**0.0**
PET				*i*S	**Sn**	**13 24 52.0**	**-0.8**
GNL	**Ganaly**	**0.98**	**297**	*i*P	**Pn**	**13 24 43.7**	**+0.2**
GNL				*e*S	**Sn**	**13 24 58.9**	**-0.8**
GNL	**Ganaly**	**0.98**	**297**	*i*P	**Pn**	**13 24 43.7**	**+0.2**
GNL				*e*S	**Sn**	**13 24 58.9**	**-0.8**
RUS	**Russkaya**	**0.98**	**214**	*i*P	**Pn**	**13 24 43.7**	**+0.1**
RUS				*e*S	**Sn**	**13 24 59.4**	**-0.5**
RUS	**Russkaya**	**0.98**	**214**	*i*P	**Pn**	**13 24 43.7**	**+0.1**
RUS				*e*S	**Sn**	**13 24 59.4**	**-0.5**
GRL	**Gorelyy**	**1.07**	**229**	*i*P	**Pn**	**13 24 45.6**	**+1.2**
GRL				*e*S	**Sn**	**13 25 02.2**	**+0.8**
GRL	**Gorelyy**	**1.07**	**229**	*i*P	**Pn**	**13 24 45.6**	**+1.2**
GRL				*e*S	**Sn**	**13 25 02.2**	**+0.8**
MKZ	**Mys Kozlova**	**1.90**	**46**	*i*P	**Pn**	**13 24 53.7**	**-0.3**
MKZ				*e*S	**Sn**	**13 25 16.0**	**-2.5**
MKZ	**Mys Kozlova**	**1.90**	**46**	*i*P	**Pn**	**13 24 53.7**	**-0.3**
MKZ				*e*S	**Sn**	**13 25 16.0**	**-2.5**
TUMR	**Tumrok**	**2.08**	**12**	*e*P	**Pn**	**13 24 57.4**	**+1.1**
TUMR				S	**Sn**	**13 25 22.0**	**-0.5**
TUMR	**Tumrok**	**2.08**	**12**	*e*P	**Pn**	**13 24 57.4**	**+1.1**
TUMR				S	**Sn**	**13 25 22.0**	**-0.5**
KMNR	**Kamenistaya**	**2.55**	**11**	*i*P	**Pn**	**13 25 03.6**	**+1.2**
KMNR				S	**Sn**	**13 25 32.8**	**-0.6**
KMNR	**Kamenistaya**	**2.55**	**11**	*i*P	**Pn**	**13 25 03.6**	**+1.2**
KMNR				S	**Sn**	**13 25 32.8**	**-0.6**
KPT	**Kopyto**	**2.76**	**10**	P	**Pn**	**13 25 05.1**	**0.0**
KPT	**Kopyto**	**2.76**	**10**	P	**Pn**	**13 25 05.1**	**0.0**
KOZ	**Kozyrevsk**	**2.82**	**5**	P	**Pn**	**13 25 06.0**	**+0.1**
KOZR	**Kozyr**	**2.83**	**6**	PN	**Pn**	**13 25 06.0**	**0.0**
ZLN	**Zelenaya**	**2.89**	**16**	*e*P	**Pn**	**13 25 08.5**	**+1.8**
ZLN				S	**Sn**	**13 25 42.0**	**+0.9**
ZLN	**Zelenaya**	**2.89**	**16**	*e*P	**Pn**	**13 25 08.5**	**+1.8**
ZLN				S	**Sn**	**13 25 42.0**	**+0.9**
KRSR	**Krestovskiy**	**3.04**	**12**	P	**Pn**	**13 25 08.8**	**0.0**
KRSR	**Krestovskiy**	**3.04**	**12**	P	**Pn**	**13 25 08.8**	**0.0**
SRDR	**Sredinnyy**	**3.08**	**3**	P	**Pn**	**13 25 09.5**	**+0.3**
SRDR	**Sredinnyy**	**3.08**	**3**	P	**Pn**	**13 25 09.5**	**+0.3**
KLY	**Klyuchi**	**3.15**	**13**	S	**Sn**	**13 25 49.0**	**+1.7**
KLY	**Klyuchi**	**3.15**	**13**	S	**Sn**	**13 25 49.0**	**+1.7**
SKR	**Severo-Kuril's**	**3.28**	**220**	*e*PN	**Pn**	**13 25 12.4**	**+0.5**
SKR				*e*S	**Sn**	**13 25 51.5**	**+1.1**
SKR				smax			
	comp=N,110nm,0.3s						
SKR				smax			
	comp=E,90nm,0.3s						
BDR	**Baidarnaya**	**3.48**	**17**	P	**Pn**	**13 25 15.4**	**+0.8**
BDR	**Baidarnaya**	**3.48**	**17**	P	**Pn**	**13 25 15.4**	**+0.8**
SRKR	**Sorokina**	**3.56**	**16**	P	**Pn**	**13 25 17.0**	**+1.4**
SRKR	**Sorokina**	**3.56**	**16**	P	**Pn**	**13 25 17.0**	**+1.4**
KBTR	**Krutoberegovo**	**3.56**	**32**	*e*P	**Pn**	**13 25 16.2**	**+0.5**
KBTR	**Krutoberegovo**	**3.56**	**32**	*e*P	**Pn**	**13 25 16.2**	**+0.5**
MJAR	**Matsushiro Arr**	**22.32**	**230**	P	**P**	**13 29 10.4**	**+0.2**
	comp=E,2.0nm,0.5s,mb3.7,baz=12,slow=13,SNR=7.6						
MJAR	**Matsushiro Arr**	**22.32**	**230**	P	**P**	**13 29 10.4**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**34.00**	**38**	P	**P**	**13 30 54.5**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=229,slow=15,SNR=5.7						
INK				PcP	PcP	13 33 29.2	-0.8
	comp=Z,1.3nm,1.0s,baz=248,slow=13,SNR=4.9						
INK	**Inuvik**	**34.00**	**38**	P	**P**	**13 30 54.6**	**0.0**
INK						13 33 29.2	
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**43.33**	**42**	P	**P**	**13 32 12.7**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.0,baz=297,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.71**	**295**	P	**P**	**13 32 45.3**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.5,baz=48,slow=8.6,SNR=2.4						
BVAR	**Borovoye Array**	**49.96**	**308**	P	**P**	**13 33 01.9**	**-2.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=51,slow=12,SNR=6.8						
BVAR	**Borovoye Array**	**49.96**	**308**	P	**P**	**13 33 01.9**	**-2.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**53.00**	**341**	P	**P**	**13 33 24.4**	**-2.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=44,slow=8.0,SNR=4.8						
ARCES	**ARCESS Array B**	**53.00**	**341**	P	**P**	**13 33 24.4**	**-2.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**59.81**	**336**	P	**P**	**13 34 13.7**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=36,slow=7.6,SNR=9.4						
FINES	**FINESS Array B**	**59.81**	**336**	P	**P**	**13 34 13.7**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**63.67**	**342**	P	**P**	**13 34 38.0**	**-2.9**
	comp=Z,1.1nm,0.5s,mb4.0,baz=52,slow=5.7,SNR=4.5						
HFS	**Hagfors**	**63.67**	**342**	P	**P**	**13 34 38.0**	**-2.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**65.70**	**27**	P	**P**	**13 34 53.3**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.2,baz=250,slow=12,SNR=3.4						
EKA	**Eskdalemuir Ar**	**70.82**	**350**	P	**P**	**13 35 25.4**	**-0.7**
	comp=Z,3.1nm,1.0s,mb4.1,baz=8.9,slow=5.0,SNR=3.7						
EKA	**Eskdalemuir Ar**	**70.82**	**350**	P	**P**	**13 35 25.4**	**-0.7**
EKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**70.96**	**66**	P	**P**	**13 35 28.2**	**+1.4**
	comp=Z,0.2nm,0.4s,mb3.3,baz=287,slow=4.9,SNR=5.1						
WRA	**Warramunga Arr**	**76.05**	**204**	P	**P**	**13 35 57.3**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=23,slow=6.2,SNR=7.5						
ASAR	**Alice Springs**	**79.73**	**204**	P	**P**	**13 36 18.5**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=17,slow=5.1,SNR=7.1						

KRSC 30 13:34:58.5±0.7, 5277N×15794E, h170km±30km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.23**	**160**	*e*P	Pn	13 35 22.5	+1.3
GRL	**Gorelyy**	**0.23**	**160**	*e*P	Pn	13 35 22.5	+1.3
RUS	**Russkaya**	**0.49**	**134**	*i*P	Pn	13 35 22.4	+0.4
RUS				*i*S	Sn	13 35 40.6	+0.5
RUS	**Russkaya**	**0.49**	**134**	*i*P	Pn	13 35 22.4	+0.4
RUS				*i*S	Sn	13 35 40.6	+0.5
PET	**Petropavlovsk**	**0.50**	**59**	*i*P	Pn	13 35 23.1	+1.0
PET				*e*S	Sn	13 35 41.4	+1.2
PET	**Petropavlovsk**	**0.50**	**59**	*i*P	Pn	13 35 23.1	+1.0
PET				*e*S	Sn	13 35 41.4	+1.2
AVH	**Avacha**	**0.69**	**44**	*i*P	Pn	13 35 24.8	+1.7
AVH	**Avacha**	**0.69**	**44**	*i*P	Pn	13 35 24.8	+1.7
GNL	**Ganaly**	**0.93**	**0**	*i*P	Pn	13 35 25.4	+0.8
GNL				*i*S	Sn	13 35 44.9	+0.2
GNL	**Ganaly**	**0.93**	**0**	*i*P	Pn	13 35 25.4	+0.8
GNL				*i*S	Sn	13 35 44.9	+0.2
NLC	**Nalytchevo**	**0.94**	**64**	*e*P	Pn	13 35 25.3	+0.6
NLC				*e*S	Sn	13 35 44.5	-0.4
NLC	**Nalytchevo**	**0.94**	**64**	*e*P	Pn	13 35 25.3	+0.6
NLC				*e*S	Sn	13 35 44.5	-0.4
SPN	**Mys Shipunski**	**1.30**	**75**	*e*P	Pn	13 35 29.1	+1.4
SPN				*i*S	Sn	13 35 51.5	+1.3
SPN	**Mys Shipunski**	**1.30**	**75**	*e*P	Pn	13 35 29.1	+1.4
SPN				*i*S	Sn	13 35 51.5	+1.3
TUMR	**Tumrok**	**2.83**	**26**	P	Pn	13 35 47.1	+2.5
TUMR	**Tumrok**	**2.83**	**26**	P	Pn	13 35 47.1	+2.5
MKZ	**Mys Kozlova**	**2.88**	**50**	*e*P	Pn	13 35 46.6	+1.4
MKZ				*i*S	Sn	13 36 21.3	-0.1
MKZ	**Mys Kozlova**	**2.88**	**50**	*e*P	Pn	13 35 46.6	+1.4
MKZ				*i*S	Sn	13 36 21.3	-0.1
KMNR	**Kamenistaya**	**3.28**	**23**	P	Pn	13 35 50.9	+0.8
KMNR	**Kamenistaya**	**3.28**	**23**	P	Pn	13 35 50.9	+0.8
ZLN	**Zelenaya**	**3.66**	**26**	P	Pn	13 35 58.1	+3.2
ZLN	**Zelenaya**	**3.66**	**26**	P	Pn	13 35 58.1	+3.2
SRDR	**Sredinnyy**	**3.70**	**16**	P	Pn	13 35 57.8	+2.4
SRDR	**Sredinnyy**	**3.70**	**16**	P	Pn	13 35 57.8	+2.4
SRKR	**Sorokina**	**4.32**	**24**	P	Pn	13 36 06.3	+2.9
SRKR	**Sorokina**	**4.32**	**24**	P	Pn	13 36 06.3	+2.9
KBTR	**Krutoberegovo**	**4.47**	**38**	*e*P	Pn	13 36 06.5	+1.2
KBTR	**Krutoberegovo**	**4.47**	**38**	*e*P	Pn	13 36 06.5	+1.2

*ISCJB **30** 13:48:13.6±0.4, 3037N±004×1386E±0.1, h439km±4km, mb3.7/15, Error ellipse: s-maj=14.0km s-min=6.2km az=165.9*
*MOS **30** 13:48:13.1±0.7, 3036N×13830E, h433km, mb4.0/8, Error ellipse: s-maj=41.3km s-min=14.7km az=93.2*
*JMA **30** 13:48:13.0±0.3, 3046N×13897E, h473km±4km, M4.1*
*IDC **30** 13:48:14.2±0.7, 3033N×13850E, h424km±7km, mb3.5/12, mb1 3.6/17, mb1mx3.5/27, mbtmp3.5/17, Error ellipse: s-maj=16.7km s-min=8.4km az=83.0*

ISC 30 13:48:15.1±0.5, 3044N±005×1386E±01, h436km±5km, n51, σ1§04/70, mb3.7/15, 2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.85**	**20**	P	**P**	**13 49 20.9**	**+1.0**
	142nm,0.3s,baz=75,slow=20,SNR=32						
JHJ				S	**S**	**13 50 13.0**	**+0.5**
	97nm,0.3s,baz=70,slow=23,SNR=5.3						
JHJ2	**Mitsune**	**2.85**	**21**	P	**P**	**13 49 20.9**	**+1.0**
HMMJ	**Hamamatsu 2**	**4.46**	**351**	P	**P**	**13 49 35.0**	**+1.4**
HMMJ				*e*S	**S**	**13 50 38.2**	**+0.7**
CBIJ	**Chichi jima**	**4.58**	**136**	P	**P**	**13 49 32.9**	**-1.8**
	14nm,0.3s,baz=277,slow=21,SNR=12						
CBIJ				S	**S**	**13 50 34.9**	**-4.6**
	78nm,0.3s,baz=270,slow=23,SNR=22						
BSO3	**Boso 3**	**4.63**	**20**	P	**P**	**13 49 34.6**	**-0.6**
BSO3				S	**S**	**13 50 39.9**	**-0.5**
BSO1	**Boso 1**	**4.65**	**25**	P	**P**	**13 49 35.1**	**-0.3**
BSO1				S	**S**	**13 50 40.6**	**-0.1**
BSO4	**Boso 4**	**4.76**	**17**	P	**P**	**13 49 37.1**	**+0.7**
BSO4				*e*S	**S**	**13 50 42.0**	**-0.1**
JOD2	**Odawara 2**	**4.82**	**5**	P	**P**	**13 49 37.0**	**0.0**
JOD2				S	**S**	**13 50 45.4**	**+1.6**
JNY	**Yasuok**	**4.94**	**353**	P	**P**	**13 49 39.9**	**+1.7**
JYN	**Shimob**	**5.04**	**359**	P	**P**	**13 49 40.1**	**+1.0**
JHU	**Hanno**	**5.42**	**6**	P	**P**	**13 49 42.4**	**-0.5**
JHU				S	**S**	**13 50 50.4**	**-4.2**
JRY	**Ryogami san**	**5.56**	**2**	P	**P**	**13 49 44.8**	**+0.4**
JRY				S	**S**	**13 50 56.1**	**-1.1**
JYT	**Yasato**	**5.92**	**13**	P	**P**	**13 49 46.6**	**-1.4**
JYT				*e*S	**S**	**13 50 58.3**	**-5.6**
JAG	**Ashikaga**	**6.01**	**7**	P	**P**	**13 49 47.9**	**-1.0**
JAG				*e*S	**S**	**13 51 00.1**	**-5.5**
MJAR	**Matsushiro Arr**	**6.09**	**357**	P	**P**	**13 49 49.4**	**-0.5**
	2.1nm,0.3s,baz=171,slow=11,SNR=14						
MJAR				S	**S**	**13 51 07.2**	**0.0**
	1.0nm,0.3s,baz=229,slow=11,SNR=5.4						
MJAR	**Matsushiro Arr**	**6.09**	**357**	P	**P**	**13 49 49.4**	**-0.4**
MJAR				S	**S**	**13 51 07.2**	**0.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAT	**Matsushiro**	**6.09**	**357**	P	**P**	**13 49 49.7**	**-0.1**
MAT				*e*S	**S**	**13 51 05.8**	**-1.4**
JHO	**Hitachi**	**6.36**	**14**	P	**P**	**13 49 52.0**	**-0.7**
JHO				S	**S**	**13 51 08.1**	**-4.3

mb1 4.3/20,mb1mx4.1/25,mbtmp4.2/20,Error ellipse: s-maj=12.7km s-min=9.4km az=4.0
*NNC **30** 14:58:28.0±3.3,3684N×7014E,h204km±15km,mb3.6, mpv4.5,Error ellipse: s-maj=36.3km s-min=14.3km az=13.0*
ISC 30 14:58:24.8±0.3,**3652N**±002×**7018E**±003,**h210**km±3km, **h213**km±4.9km**:pP-P,n195,**σ**1901**/236,**mb4.5**/53,**14C-22D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.04**	**152**		⇑P		**Pn**	**14 59 16.5**	**+1.1**
CHCP	**Chirah Chowk**	**3.81**	**138**		⇑P		**Pn**	**14 59 26.0**	**+1.4**
SBDP	**Sheikh Budin**	**4.24**	**173**		⇓P		**Pn**	**14 59 29.5**	**-0.4**
DRP	**Derazinda**	**4.76**	**180**		⇓P		**Pn**	**14 59 37.2**	**+0.8**
SARP	**Sargodha**	**5.03**	**155**		⇑P		**Pn**	**14 59 39.9**	**+0.1**
JMU	**Jammu**	**5.43**	**133**	*ex*		x		14 59 49.0	
JMU				*e*S		**Sn**		**15 00 43.0**	**-5.3**
KSH	**Kashi**	**5.46**	**55**	⇓*i*P		**Pn**		**14 59 46.5**	**+1.2**
KSH				*e*XP				15 00 27.5	
KSH				S		**Sn**		**15 00 48.8**	**-0.2**
KSH				*e*SS				15 01 10.3	
KSH				*e*PCP		PcP		15 06 32.3	+1.7
KSH				LR		LR			
	comp=N,7μm,3.2s								
KSH				LR		LR			
	comp=E,7μm,4.0s								
THN	**Thein Dam**	**6.12**	**130**	*e*P		**Pn**		**14 59 53.5**	**-0.2**
THN				*ex*		x		15 01 02.6	
DLH	**Dalhousie**	**6.21**	**128**	*e*P		**Pn**		**14 59 54.0**	**-0.8**
DLH				*ex*		x		15 01 03.0	
AML	**Almayashu**	**6.23**	**25**	P		**Pn**		**14 59 55.4**	**+0.3**
	SNR=215								
KK31	**Karatay Array**	**6.58**	**2**	⇑P		**Pn**		**14 59 59.0**	**-0.6**
	comp=E,15nm,0.3s,baz=193,slow=13,SNR=1051								
KK31				⇑S		**Sn**		**15 01 09.9**	**-5.1**
	comp=E,64nm,0.6s,baz=186,slow=26,SNR=3.8								
UCH	**Uchtor**	**6.61**	**29**	P		**Pn**		**15 00 00.6**	**+0.5**
	SNR=189								
EKS2	**Erkin-Say**	**6.73**	**23**	P		**Pn**		**15 00 01.9**	**+0.3**
	SNR=74								
KZA	**Kyzart**	**6.80**	**34**	P		**Pn**		**15 00 02.8**	**+0.4**
	SNR=280								
AAK	**Ala-Archa**	**6.96**	**27**	P		**Pn**		**15 00 04.3**	**-0.1**
	SNR=43								
AAK	**Ala-Archa**	**6.96**	**27**	⇓P		**Pn**		**15 00 04.0**	**-0.5**
	SNR=29								
AAK	**Ala-Archa**	**6.96**	**27**	*e*PN		**Pn**		**15 00 03.8**	**-0.6**
AAK				pmax		pmax			
	comp=Z,101nm,0.4s								
AAK	**Ala-Archa**	**6.96**	**27**	*e*Pn		**Pn**		**15 00 03.8**	**-0.7**
	comp=Z,100nm,0.4s								
AAK				*e*Sn		Sn		15 01 02.8	-21
KBK	**Karagaybulak**	**7.15**	**30**	P		**Pn**		**15 00 07.7**	**+0.7**
	SNR=111								
FRU	**Bishkek**	**7.17**	**27**	⇓*i*PN		**Pn**		**15 00 07.5**	**+0.2**
FRU				*e*S		**Sn**		**15 01 27.0**	**-1.9**
FRU				pmax		pmax			
	comp=Z,140nm,2.0s								
FRU				smax					
	comp=E,990nm,1.8s								
BHK	**Bhakra**	**7.26**	**133**	*e*S		**Sn**		**15 01 23.0**	**-8.0**
CHMS	**Chumysh**	**7.37**	**27**	P		**Pn**		**15 00 09.6**	**-0.2**
	SNR=118								
ULHL	**Ulahol**	**7.40**	**38**	P		**Pn**		**15 00 10.3**	**+0.1**
	SNR=53								
USP	**Ospenovka**	**7.51**	**25**	P		**Pn**		**15 00 11.4**	**-0.3**
	SNR=63								
SDNR	**Sundarnagar**	**7.54**	**130**	*e*P		**Pn**		**15 00 11.0**	**-1.0**
SDNR				*ex*		x		15 01 25.2	
TKM2	**Tokmak 2**	**7.63**	**31**	P		**Pn**		**15 00 13.5**	**+0.3**
	SNR=106								
TKM2	**Tokmak 2**	**7.63**	**31**	⇓Pn		**Pn**		**15 00 13.5**	**+0.2**
	comp=E,4.8nm,0.6s								
TKM2				⇑Sn		**Sn**		**15 01 35.7**	**-4.0**
	comp=E,19nm,0.8s								
KLP	**Kalpa**	**8.34**	**124**	*e*P		**Pn**		**15 00 22.1**	**-0.2**
KLP				*e*S		**Sn**		**15 01 49.5**	**-6.9**
KLP				AML		AML		15 01 54.0	
	comp=E,1μm,0.4s								
KLP				AML		AML		15 01 54.8	
	comp=N,912nm,0.4s								
KNDC	**Almaty**	**8.48**	**36**	⇓Pn		**Pn**		**15 00 23.8**	**-0.4**
	comp=N,49nm,0.5s								
KNDC				⇑Sn		**Sn**		**15 01 55.2**	**-4.5**
	comp=N,164nm,1.1s								
DDI	**Dehra Dun**	**9.03**	**131**	*e*P		**Pn**		**15 00 31.0**	**-0.3**
DDI				*ex*		x		15 02 07.5	
RTK	**Rohtak**	**9.12**	**143**	*e*P		**Pn**		**15 00 30.8**	**-1.7**
KHET	**Khetri**	**9.67**	**149**	*e*P		**Pn**		**15 00 37.6**	**-2.0**
KHET				AMb		AMB		15 00 38.5	
	comp=Z,81nm,0.5s								
KHET				*e*S		**Sn**		**15 02 16.8**	**-11**
KHET				*e*S		**Sn**		**15 02 18.3**	**-10**
NDI	**New Delhi**	**9.81**	**141**	*e*P		**Pn**		**15 00 40.0**	**-1.4**
NDI				*e*S		**Sn**		**15 02 20.0**	**-11**
AYAN	**Aya Nagar**	**9.93**	**142**	*e*P		**Pn**		**15 00 41.7**	**-1.2**
AYAN				AMb		AMB		15 00 43.6	
	comp=Z,117nm,0.9s								
AYAN				*e*S		**Sn**		**15 02 22.5**	**-12**
SONA	**Sohna**	**10.10**	**143**	*e*P		**Pn**		**15 00 43.8**	**-1.3**
SONA				AMb		AMB		15 00 45.3	
	comp=Z,56nm,0.3s								
SONA				*e*S		**Sn**		**15 02 27.0**	**-11**
AJM	**Ajmer**	**10.71**	**158**	*e*P		**Pn**		**15 00 51.2**	**-1.7**
AJM				AMb		AMB		15 00 52.5	
	comp=Z,74nm,0.4s								
AJM				*e*S		**S**		**15 02 38.6**	**-14**
LGTI	**Lohaghat**	**11.00**	**127**	*i* x		x		15 00 53.5	
LGTI				*ex*		x		15 02 51.7	
AGRA	**Agra**	**11.37**	**142**	*e*P		**Pn**		**15 01 00.4**	**-0.9**
AGRA				AMb		AMB		15 01 02.2	
	comp=Z,85nm,0.4s								
AGRA				*e*S		**S**		**15 02 58.0**	**-10**
MK31	**Makanchi Array**	**13.67**	**38**	P		**Pn**		**15 01 30.2**	**0.0**
	comp=Z,26nm,0.5s,baz=223,slow=12,SNR=590								
MK31	**Makanchi Array**	**13.67**	**38**	*i* P		**Pn**		**15 01 30.1**	**-0.1**
MK31				pmax		pmax			
	comp=Z,61nm,0.5s								
MK31	**Makanchi Array**	**13.67**	**38**	*e*Pn		**Pn**		**15 01 29.8**	**-0.4**
MKAR	**Makanchi Array**	**13.67**	**38**	P		**Pn**		**15 01 30.2**	**0.0**
	comp=Z,2.9nm,0.3s,baz=223,slow=14,SNR=109								
MKAR				ScP		ScP		15 09 50.2	-1.4
	comp=Z,0.1nm,0.3s,baz=224,slow=4.0,SNR=4.3								
KOLN	**Koldanda**	**14.32**	**124**	*e*P		**Pn**		**15 01 37.4**	**-0.8**
	comp=Z,66nm,0.3s								
KOLN				*e*S		**S**		**15 04 09.9**	**-7.3**
	comp=Z,49nm,0.4s								
BHPL	**Bhopal**	**14.64**	**153**	*e*P		**Pn**		**15 01 44.8**	**+2.6**
BHPL				AMb		AMB		15 01 46.6	
	comp=Z,270nm,1.0s								
BHPL				*ex*		x		15 04 19.4	
AB31	**Akbulak array**	**14.76**	**333**	⇓P		**Pn**		**15 01 42.2**	**-1.3**
	comp=Z,9.4nm,0.4s								
AB31	**Akbulak array**	**14.76**	**333**	P		**Pn**		**15 01 42.2**	**-1.3**
AB31				pmax		pmax			
	comp=Z,4.0nm,0.3s								
GKN	**Gorkha**	**14.88**	**121**	*e*P		**Pn**		**15 01 44.8**	**-0.2**
	comp=Z,260nm,0.4s								
GKN				*e*S		**S**		**15 04 20.8**	**-9.2**
WMQ	**Urumqi**	**15.23**	**56**	⇑*i*P		**Pn**		**15 01 50.0**	**+0.7**
WMQ				XP		sP		15 02 41.0	-8.8
WMQ				S		**S**		**15 04 34.0**	**-4.1**
WMQ				PCP		PcP		15 06 43.0	+2.7
WMQ				SCP		ScP		15 09 57.3	+3.0
WMQ				PCS		PcS		15 10 17.0	+1.4
WMQ				AMB		AMB			
	comp=Z,72nm,0.7s								
WMQ				AMB		AMB			
	comp=Z,407nm,7.0s								
WMQ				LR		LR			
	comp=N,25nm,16.1s								
WMQ				LR		LR			
	comp=E,11nm,14.3s								
WMQ				LR		LR			
	comp=Z,38nm,17.0s								
KURK	**Kurchatov**	**15.43**	**21**	*e*P		**Pn**		**15 01 50.3**	**-1.5**
KURK				pmax		pmax			
	comp=Z,30nm,0.9s								
KURK	**Kurchatov**	**15.43**	**21**	*e*Pn		**Pn**		**15 01 50.2**	**-1.5**
	comp=Z,30nm,0.9s								
DMN	**Daman**	**15.45**	**121**	*e*P		**Pn**		**15 01 52.0**	**+0.1**
	comp=Z,99nm,0.3s								
DMN				*e*S		**S**		**15 04 34.8**	**-8.2**
KKN	**Kakani**	**15.46**	**120**	*e*P		**Pn**		**15 01 51.8**	**-0.2**
	comp=Z,460nm,0.5s								
KKN				*e*S		**S**		**15 04 34.8**	**-8.4**
PKI	**Pulchoki**	**15.68**	**120**	*e*P		**Pn**		**15 01 54.6**	**-0.1**
	comp=Z,168nm,0.4s								
PKI				*e*S		**S**		**15 04 39.5**	**-8.7**
JBP	**Jabalpur**	**15.78**	**145**	⇓*i*P		**Pn**		**15 01 58.1**	**+2.1**
JBP				*ex*		x		15 02 00.2	
	comp=Z,120nm,0.7s								
JBP				*i* x		x		15 04 43.4	
GUN	**Gumba**	**15.80**	**118**	*e*P		**Pn**		**15 01 56.3**	**+0.1**
	comp=Z,181nm,0.3s								
GUN				*e*S		**S**		**15 04 43.4**	**-7.6**
BANOM	**Banah**	**15.87**	**232**	P		**Pn**		**15 01 56.5**	**-0.5**
	SNR=7.0								
JIRN	**Jiri**	**16.17**	**119**	*e*P		**P**		**15 02 01.4**	**+1.5**
	comp=Z,459nm,0.6s								
JIRN				*e*S		**S**		**15 04 51.5**	**-7.2**
VOSK	**Vostochnaya**	**16.21**	**2**	⇓P		**P**		**15 02 00.6**	**+0.3**
	comp=Z,11nm,0.4s								
VOSK	**Vostochnaya**	**16.21**	**2**	P		**P**		**15 02 00.5**	**+0.2**
VOSK				pmax		pmax			
	comp=Z,4.0nm,0.4s								
AKTK	**Aktyubinsk**	**16.44**	**332**	P		**P**		**15 02 03.4**	**+0.6**
AKTK				S		**S**		**15 05 01.0**	**-3.1**
AKTO	**Aktyubinsk**	**16.44**	**332**	⇑P		**P**		**15 02 02.6**	**-0.3**
	comp=Z,2.4nm,1.1s								
AKTO	**Aktyubinsk**	**16.44**	**332**	P		**P**		**15 02 03.4**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=142,slow=10,SNR=155								
AKTO				S		**S**		**15 05 01.0**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=347,slow=19,SNR=5.2								
BVA0	**Borovoye Array**	**16.50**	**0**	P		**P**		**15 02 04.3**	**+0.7**
	comp=Z,7.9nm,1.0s,baz=156,slow=8.4,SNR=304								
BVAR	**Borovoye Array**	**16.50**	**0**	P		**P**		**15 02 04.2**	**+0.7**
	comp=Z,10nm,0.3s,baz=168,slow=8.7,SNR=153								
BVAR				S		**S**		**15 05 07.2**	**+1.8**
	baz=166,slow=21,SNR=6.9								
BVAR	**Borovoye Array**	**16.50**	**0**	P		**P**		**15 02 04.2**	**+0.7**
BVAR				S		**S**		**15 05 07.2**	**+1.8**
BRVK	**Borovoye**	**16.54**	**0**	P		**P**		**15 02 04.9**	**+1.0**
	SNR=25								
BRVK	**Borovoye**	**16.54**	**0**	*e*P		**P**		**15 02 04.3**	**+0.4**
BRVK				*e*				15 05 02.8	
BRVK				pmax		pmax			
	comp=Z,46nm,0.7s								
BRVK	**Borovoye**	**16.54**	**0**	*e*Pn		**Pn**		**15 02 04.3**	**-0.7**
	comp=Z,46nm,0.7s								
BRVK				*e*Sn		**S**		**15 05 02.8**	**-3.2**
AKL	**Akola**	**16.85**	**157**	*e*P		**P**		**15 02 08.8**	**+1.4**
AKL				AMb		AMB		15 02 11.2	
	comp=Z,68nm,0.8s								
ASHO	**Ashiyiah**	**16.92**	**230**	⇓P		**P**		**15 02 08.5**	**+0.5**
	SNR=30								
WBK	**Wadi Bani Khal**	**16.93**	**218**	P		**P**		**15 02 09.7**	**+1.5**
	SNR=8.6								
SMDO	**Samad**	**17.03**	**221**	P		**P**		**15 02 10.5**	**+1.2**
	SNR=11								
NGP	**Nagpur**	**17.16**	**151**	*ex*		**P**		**15 02 10.0**	**-0.7**
NGP				AMb		AMB		15 02 13.2	
	comp=Z,56nm,1.1s								
NGP				*ex*		x		15 05 12.7	
NGP				*ex*		x		15 05 18.4	
	comp=N,22nm,0.7s								
JMDO	**Jabal Madar**	**17.57**	**220**	⇓P		**P**		**15 02 16.8**	**+1.6**
	SNR=9.2								
ARQ	**Araqi**	**17.66**	**226**	P		**P**		**15 02 16.9**	**+0.8**
	SNR=13								
BSY	**Bisya**	**17.74**	**223**	⇓P		**P**		**15 02 18.3**	**+1.2**
	SNR=7.3								
POO	**Poona**	**18.21**	**169**	⇓*ix*		**P**		**15 02 20.0**	**-2.2**
	comp=N,100nm,1.0s								
POO				*i* x		x		15 06 06.0	
BOK	**Bokaro**	**18.55**	**129**	*ex*		**P**		**15 02 26.4**	**+0.6**
BOK				AMb		AMB		15 02 28.5	
	comp=Z,70nm,0.7s								
BOK				*ex*		x		15 05 46.6	
ORR	**Orenburg**	**18.67**	**329**	⇑*i*P		**P**		**15 02 27.0**	**-0.1**
ORR				pmax		pmax			
	comp=Z,70nm,0.7s								
LSA	**Lhasa**	**18.82**	**105**	P		**P**		**15 02 30.5**	**+1.8**
LSA	**Lhasa**	**18.82**	**105**	*e*P		**P**		**15 02 31.9**	**+3.2**
LSA				*e*S		**S**		**15 05 51.5**	**0.0**
LSA				pmax		pmax			
	comp=Z,25nm,0.4s								
LSA	**Lhasa**	**18.82**	**105**	*e*P		**P**		**15 02 31.9**	**+3.2**
	comp=Z,25nm,0.4s								
LSA				*e*S		**S**		**15 05 51.5**	**0.0**
KAD	**Karad**	**19.46**	**168**	*e*P		**P**		**15 02 36.9**	**+1.2**
KAD				AMb		AMB		15 02 40.5	
	comp=Z,40nm,0.3s								
ZAL	**Zalesovo**	**20.16**	**26**	P		**P**		**15 02 43.7**	**+0.6**
	comp=Z,82nm,0.6s,baz=250,slow=5.8,SNR=170								
KBD	**Kabd**	**20.23**	**255**	*e*P		**P**		**15 02 43.9**	**-0.1**
KBD				AMb		AMB		15 02 47.8	
	comp=Z,107nm,0.4s								
MIB	**Mutribah**	**20.24**	**257**	*e*P		**P**		**15 02 44.0**	**+0.1**
MIB				AMb		AMB		15 02 47.0	
	comp=Z,34nm,0.6s								
GNI	**Garni**	**20.26**	**288**	P		**P**		**15 02 45.7**	**+1.5**
	comp=Z,7.6nm,0.7s,baz=22,slow=3.5,SNR=6.6								
GNI	**Garni**	**20.26**	**288**	*d*P		**P**		**15 02 47.3**	**+3.1**
GNI				pmax		pmax			
	comp=Z,32nm,1.2s								
GNI	**Garni**	**20.26**	**288**	*e*P		**P**		**15 02 46.1**	**+2.0**
	comp=Z,60nm,1.5s								
NVS	**Novosibirsk**	**20.41**	**22**	⇑*i*P		**P**		**15 02 45.7**	**0.0**
NVS				*e*S		**S**		**15 06 21.7**	**-0.7**
NVS				pmax		pmax			
	comp=Z,128nm,1.4s								
NVS				pmax		pmax			
	comp=N,117nm,1.6s								
NVS				smax					
	comp=N,56nm,1.8s								
HYB	**Hyderabad**	**20.42**	**157**	*i* P		**P**		**15 02 47.0**	**+1.1**
	comp=N,71nm,0.8s								
HYB				*e*S		**S**		**15 06 30.0**	**+7.3**
HYB	**Hyderabad**	**20.42**	**157**	*e*P		**P**		**15 02 47.0**	**+1.1**
HYB				pmax		pmax			
	comp=Z,71nm,0.8s								
HYB	**Hyderabad**	**20.42**	**157**	*e*P		**P**		**15 02 47.0**	**+1.1**
	comp=Z,71nm,0.8s								
HYB				*e*S		**S**		**15 06 30.0**	**+7.3**
RDF	**Al-Radifah**	**20.46**	**255**	*e*P		**P**		**15 02 46.0**	**-0.3**
NAY	**Al-Naaiem**	**20.55**	**256**	*e*P		**P**		**15 02 47.1**	**-0.2**
NAY				AMb		AMB		15 02 49.9	
	comp=Z,16nm,0.6s								
SVE	**Sverdlovsk**	**21.30**	**345**	⇓*e*P		**P**		**15 02 56.0**	**+0.8**
SVE				pmax		pmax			
	comp=Z,80nm,1.3s,mb5.1								
ARU	**Arti**	**21.41**	**342**	⇓*i*P		**P**		**15 02 55.9**	**-0.4**
ARU				*e*S		**S**		**15 06 39.9**	**+0.1**
ARU				pmax		pmax			
	comp=Z,89nm,1.2s,mb5.2								
ARU	**Arti**	**21.41**	**342**	*e*P		**P**		**15 02 56.4**	**+0.1**
	comp=Z,90nm,1.0s,mb5.3								
SHL	**Shillong**	**21.52**	**114**	*e*P		**P**		**15 03 06.0**	**+8.6**
SHL				*ex*		x		15 06 41.0	
VIS	**Vishakhapatnam**	**22.04**	**145**	*ex*		**P**		**15 03 03.2**	**+0.9**
VIS				AMb		AMB		15 03 05.2	
	comp=Z,43nm,0.5s,mb5.2								
VIS				*e*S		**S**		**15 07 08.2**	**+18**
KIV	**Kislovodsk**	**22.20**	**298**	*e*P		**P**		**15 03 04.8**	**+1.0**
KIV				*e**PP				15 03 42.5	
KIV				*e**SP		sP		15 04 09.4	+3.0
KIV				*e*S		**S**		**15 06 52.1**	**-0.5**
KIV				pmax		pmax			
	comp=Z,15nm,1.2s,mb4.4								
KIV	**Kislovodsk**	**22.20**	**298**	*e*P		**P**		**15 03 03.3**	**-0.6**
	comp=Z,13nm,0.9s,mb4.5								
GTA	**Gaotai**	**23.49**	**74**	P		**P**		**15 03 18.0**	**+2.3**
GTA				AP				15 03 57.3	
GTA				XP		sP		15 04 24.0	+3.6
GTA				S		**S**		**15 07 18.8**	**+5.2**
GTA				SS				15 08 32.8	
GTA				SCS		ScS		15 13 58.0	-1.9
GTA				AMB		AMB			
	comp=Z,21nm,0.8s,mb4.7								
GTA				AMB		AMB			
	comp=Z,73nm,5.7s								
GTA				LR		LR			
	comp=N,182nm,14.5s								
GTA				LR		LR			
	comp=E,146nm,16.7s								
GTA				LR		LR			
	comp=Z,250nm,12.9s								
RBK	**Rabkut**	**23.63**	**221**	⇓P		**P**		**15 03 16.4**	**-0.5**
	SNR=10								
SOKR	**Solikamsk**	**24.64**	**344**	⇑*i*P		**P**		**15 03 26.7**	**+0.6**
SOKR				pmax		pmax			
	comp=Z,40nm,1.2s,mb4.9								
VRSR	**Storozhevoye**	**26.49**	**313**	*e*P		**P**		**15 03 42.3**	**-0.4**
VRSR				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.5								
VRSR				pmax		pmax			
	comp=N,9.0nm,2.0s								
VRSR				pmax		pmax			
	comp=E,20nm,0.8s								
LZH	**Lanzhou**	**27.06**	**81**	*e*P		**P**		**15 03 48.8**	**+1.0**
LZH				AP		pP		15 04 27.0	-2.8
LZH				XP		sP		15 04 50.0	-4.1
LZH				AMB		AMB			
	comp=Z,14nm,1.0s,mb4.5								
LZH				AMB		AMB			
	comp=Z,76nm,4.0s								
LZH	**Lanzhou**	**27.06**	**81**	*e*P		**P**		**15 03 48.7**	**+0.9**
LZH				*PP		pP		15 04 27.0	-2.8
LZH				*SP		sP		15 04 49.9	-4.2
LZH				pmax		pmax			
	comp=Z,14nm,1.0s,mb4.5								
LZH	**Lanzhou**	**27.06**	**81**	*e*P		**P**		**15 03 48.7**	**+0.9**
	comp=Z,14nm,1.0s,mb4.5								
LZH				pP		pP		15 04 27.0	-2.8
LZH				sP		sP		15 04 49.9	-4.2
LZH				PcP		PcP		15 06 54.3	-8.9
ZAK	**Zakamensk**	**27.48**	**49**	*e*P		**P**		**15 03 52.8**	**+1.3**
ZAK				*e*		pP		15 04 36.9	+3.3
ZAK				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.3								
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.4s,mb3.7								
TLY	**Talaya**	**28.11**	**47**	*e*P		**P**		**15 03 59.2**	**+2.1**
TLY				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.5								
TLY	**Talaya**	**28.11**	**47**	*e*P		**P**		**15 03 59.1**	**+2.0**
	comp=Z,9.4nm,0.7s,mb4.5								
CD2	**Chengdu**	**28.39**	**92**	*e*P		**P**		**15 03 58.8**	**-0.8**
CD2				PP		PP		15 04 59.5	-8.6
CD2				S		**S**		**15 08 30.3**	**-0.5**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
BRTR	**Keskin Array B**	**28.80**	**288**	P		**P**		**15 04 03.6**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.5,baz=61,slow=10,SNR=3.9								
BRTR	**Keskin Array B**	**28.80**	**288**	*i* P		**P**		**15 04 04.4**	**+1.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**28.87**	**56**	P		**P**		**15 04 05.5**	**+1.7**
	comp=Z,9.2nm,0.6s,mb4.6,baz=268,slow=8.9,SNR=30								
ULN	**Ulaanbaatar**	**29.31**	**56**	*e*P		**P**		**15 04 09.2**	**+1.5**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.3s,mb4.4								
ULN	**Ulaanbaatar**	**29.31**	**56**	*e*P		**P**		**15 04 09.2**	**+1.5**
	comp=Z,3.0nm,0.3s,mb4.4								
OBN	**Obninsk**	**29.49**	**320**	⇑*e*P		**P**		**15 04 09.7**	**+0.4**
OBN				*e*		pP		15 04 53.0	+1.3
OBN				pmax		pmax			
	comp=Z,41nm,0.9s,mb5.1								
OBN	**Obninsk**	**29.49**	**320**	*e*P		**P**		**15 04 08.9**	**-0.5**
CSS	**Prodhromos**	**29.84**	**278**	P		**P**		**15 04 10.9**	**-1.4**
	comp=Z,12nm,0.8s,mb4.6								
KMI	**Kunming**	**30.05**	**103**	P		**P**		**15 04 14.8**	**+0.6**
KMI				AP		pP		15 04 56.0	-0.7
KMI				S		**S**		**15 08 56.5**	**-0.2**
KMI				AMB		AMB			
	comp=Z,5.0nm,0.7s,mb4.2								
KMI				AMB		AMB			
	comp=Z,74nm,5.5s								
KMI				LR		LR			
	comp=N,128nm,13.1s								
KMI				LR		LR			
	comp=E,107nm,11.6s								
KMI				LR		LR			
	comp=Z,104nm,14.3s								
KMI	**Kunming**	**30.05**	**103**	P		**P**		**15 04 14.7**	**+0.5**
KMI				*PP		pP		15 04 55.9	-0.8
KMI				S		**S**		**15 08 56.5**	**-0.2**
KMI				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.2								
KMI				MLR		MLR			
	comp=Z,100nm,14.3s								
KMI	**Kunming**	**30.05**	**103**	P		**P**		**15 04 14.7**	**+0.5**
	comp=Z,5.0nm,0.7s,mb4.2								
KMI				pP		pP		15 04 55.9	-0.8
KMI				S		**S**		**15 08 56.5**	**-0.2**
KMI				LR		LR			
	comp=Z,100nm,14.3s								
XAN	**Xi'an**	**31.58**	**83**	P		**P**		**15 04 28.5**	**+0.8**
XAN				AMB		AMB			
	comp=Z,9.0nm,0.9s,mb4.3								
HHC	**Hu-ho-hao-te**	**32.38**	**69**	*e*P		**P**		**15 04 34.0**	**-0.6**
HHC				AMB		AMB			
	comp=Z,16nm,1.1s,mb4.5								
HHC				AMB		AMB			
	comp=Z,204nm,5.8s								
AKASG	**Malin Array Be**	**32.42**	**309**	P		**P**		**15 04 34.6**	**-0.4**
	comp=Z,7.9nm,0.6s,mb4.5,baz=83,slow=7.2,SNR=22								
AKASG				PP		PP		15 05 53.6	+0.9
	comp=Z,0.4nm,0.4s,baz=96,slow=11,SNR=5.2								
GYA	**Guiyang**	**32.52**	**97**	P		**P**		**15 04 37.0**	**+1.1**
GYA				AP		pP		15 05 18.0	-0.6
GYA				XP		sP		15 05 40.8	-1.9
GYA				PP		PP		15 05 53.0	-0.8

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MOR8 Moi Rana          43.48 331 eP      P      15 06 06.7 -0.5
     comp=Z,41nm,0.9s,mb4.9
DGAR Diego Garcia      43.75 177 eP      P      15 06 07.0 -2.4
DGAR                             pmax  pmax
     comp=Z,56nm,1.0s,mb4.8
DGAR Diego Garcia      43.75 177 eP      P      15 06 07.0 -2.4
     comp=Z,56nm,1.0s,mb4.8
NB2  NORSAR Subarra    43.97 323 P       P      15 06 10.4 -0.7
     comp=Z,9.2nm,0.4s,mb4.5,baz=98,slow=7.9
NOA  NORSAR Array B    43.97 323 P       P      15 06 10.8 -0.3
     comp=Z,12nm,0.6s,mb4.4,baz=98,slow=7.7,SNR=33
NAO01 NORSAR Array S   44.11 323 eP      P      15 06 10.8 -1.5
     comp=Z,26nm,1.0s,mb4.5
LOF  Lofoten           44.33 333 eP      P      15 06 15.8 +1.7
YAK  Yakutsk           44.33  36 eP      P      15 06 12.1 -1.9
YAK                               e             15 08 04.4
YAK                               eS      S     15 12 32.3 +0.2
YAK                               eSS     SS    15 15 46.4  -10
YAK                              pmax  pmax
     comp=Z,32nm,0.9s,mb4.7
YAK                              pmax  pmax
     comp=N,7.0nm,1.0s
YAK                              pmax  pmax
     comp=E,8.0nm,0.9s
YAK                              pmax  pmax
     comp=Z,5.0nm,0.9s,mb3.8
YAK                              pmax  pmax
     comp=N,6.0nm,0.8s
YAK                              pmax  pmax
     comp=E,6.0nm,0.9s
YAK                              smax
     comp=N,107nm,2.2s
YAK                              smax
     comp=E,166nm,3.1s
YAK                              smax
     comp=Z,55nm,3.1s
YAK                              MLR   MLR
     comp=Z,300nm,17.0s
YAK                              MLR   MLR
     comp=N,334nm,19.0s
YAK                              MLR   MLR
     comp=E,223nm,17.0s
YAK  Yakutsk           44.33  36 eP      P      15 06 13.0 -1.0
YAK                               e             15 07 00.5 +1.6
KONO Kongsberg         44.66 321 eP      P      15 06 16.3 -0.3
KSRS Korea Array       45.50  71 P       P      15 06 23.5 +0.3
     comp=E,6.3nm,0.5s,mb4.2,baz=274,slow=7.0,SNR=38
KLR  Kul'dur           45.67  54 eP      P      15 06 23.2 -1.3
TIXI Tiksi             46.00  22 eP      P      15 06 23.9 -3.3
TIXI                              e             15 07 14.2
TIXI                              e             15 08 15.5
TIXI                             pmax  pmax
     comp=Z,28nm,0.8s,mb4.6
TIXI Tiksi             46.00  22 eP      P      15 06 27.1 -0.1
     comp=Z,27nm,0.8s,mb4.6
TIXI                              e       pP    15 07 13.6 +1.2
TIXI                              ePP     PP    15 08 17.6 -0.8
SPB4 Spitsbergen Ar    47.33 347 eP      P      15 06 38.1 +0.7
HABR Khabarovsk        47.94  54 eP      P      15 06 34.4 -7.7
HABR                              eS      S     15 13 13.3  -10
HABR                             pmax  pmax
     comp=Z,32nm,1.3s,mb4.5
KMBO Kilima Mbogo      48.36 227 P       P      15 06 46.5 +1.2
     comp=Z,9.4nm,0.6s,mb4.3,baz=37,slow=12,SNR=26
KMBO Kilima Mbogo      48.36 227 i P     P      15 06 46.7 +1.4
KMBO                             pmax  pmax
     comp=Z,9.0nm,0.6s
KMBO Kilima Mbogo      48.36 227 eP      P      15 06 46.5 +1.2
     comp=Z,5.3nm,0.6s,mb4.0
YSS  Yuzh-Sakhalins    53.35  55 eP      P      15 07 23.0 +0.5
YSS                              pmax  pmax
     comp=Z,36nm,0.9s,mb4.8
YSS  Yuzh-Sakhalins    53.35  55 eP      P      15 07 23.0 +0.5
     comp=Z,36nm,0.9s,mb4.8
MAJO Matsushiro        53.56  68 eP      P      15 07 23.4 -0.6
MAJO                             pmax  pmax
     comp=Z,8.0nm,0.8s,mb4.3
MAJO Matsushiro        53.56  68 eP      P      15 07 23.4 -0.7
     comp=Z,8.2nm,0.8s,mb4.3
MJAR Matsushiro Arr    53.56  68 P       P      15 07 24.0  0.0
     comp=Z,4.8nm,0.8s,mb4.1,baz=292,slow=10.0,SNR=7.7
DAG  Danmarks Havn     54.52 344 i P     P      15 07 30.9 -0.1
     comp=Z,9.6nm,0.7s,mb4.4
DAG  Danmarks Havn     54.52 344 eP      P      15 07 30.9 -0.1
DAG                              pmax  pmax
     comp=Z,10.0nm,0.7s,mb4.5
DAG  Danmarks Havn     54.52 344 eP      P      15 07 30.9 -0.1
     comp=Z,9.6nm,0.7s,mb4.4
BILL Bilibino          58.88  26 eP      P      15 08 01.7 +0.1
BILL                             pmax  pmax
     comp=Z,22nm,1.4s,mb4.6
TOA0 Torodi Ar. Sit    65.06 268 eP      P      15 08 40.2 -2.5
TOA0                              e       pP    15 09 31.1  0.0
TORD Torodi Ar. Bea    65.06 268 P       P      15 08 41.9 -0.8
     comp=Z,2.1nm,0.5s,mb4.0,baz=46,slow=5.4,SNR=22
INK  Inuvik            73.99   9 eP      P      15 09 37.5 +0.2
     comp=Z,303nm,0.6s
COLA College           74.64  16 i P     P      15 09 41.4 +0.4
COLA College           74.64  16 eP      P      15 09 40.8 -0.2
     comp=Z,8.7nm,0.8s,mb4.4
DAWY Dawson            77.05  13 eP      P      15 09 54.4 -0.2
BOSA Boshof            77.34 220 P       P      15 09 55.8 -0.5
     comp=Z,1.7nm,0.5s,mb4.0,baz=22,slow=11,SNR=5.5
YKA  Yellowknife Ar    81.25   2 P       P      15 10 17.3 -0.1
     comp=Z,4.1nm,0.7s,mb4.2,baz=349,slow=5.4,SNR=34
YKA                              PP      PP    15 13 24.9 -0.9
     comp=Z,0.8nm,0.8s,baz=353,slow=7.8,SNR=4.2
YKA  Yellowknife Ar    81.25   2 P       P      15 10 17.3 -0.1
YKA                              PP      PP    15 13 24.9 -0.9
WRA  Warramunga Arr    82.56 121 P       P      15 10 22.9 -1.3
     comp=Z,3.1nm,0.5s,mb4.3,baz=323,slow=5.0,SNR=90
WRA  Warramunga Arr    82.56 121 i P     P      15 10 22.8 -1.4
WRA                              pmax  pmax
     comp=Z,3.0nm,0.5s
WB2  Warramunga Arr    82.57 121 eP      P      15 10 22.7 -1.6
FCC  Fort Churchill    84.17 352 P       P      15 10 29.4 -3.0
FCC                              pmax  pmax
     comp=Z,31nm,1.1s,mb5.0
FCC  Fort Churchill    84.17 352 P       P      15 10 29.4 -3.0
     comp=Z,31nm,1.1s,mb5.0
ASPA Alice Springs     84.81 124 eP      P      15 10 34.5 -1.1
AS31 Alice Springs     84.81 124 eP      P      15 10 34.5 -1.1
ASAR Alice Springs     84.81 124 P       P      15 10 34.4 -1.2
     comp=Z,3.6nm,0.5s,mb4.3,baz=312,slow=4.8,SNR=116
FORT Forrest           86.16 133 eP      P      15 10 41.8 -0.5
     comp=Z,12nm,0.5s,mb4.9
STKA Stephens Creek    95.33 126 P       P      15 11 24.9 -0.1
     comp=Z,1.6nm,0.8s,mb4.2,baz=212,slow=22,SNR=3.2
CHMT Chamberlain Mo    96.89   2 P       P      15 11 30.8 -1.2
VNDA Vanda            125.69 164 PKP     PKPdf  15 16 59.0 -2.2
     comp=Z,1.0nm,1.1s,baz=248,slow=3.7,SNR=3.6
```

NIED ***30*** *15:15:00, 47.30N×153.60E, h41km, Mw4.7 Best double couple: M0 1.47000×10^16 NP1:φs 67.00000°, δ 81.00000°, λ -103.00000°. NP2:φs 304.00000°, δ 16.00000°, λ -34.00000°.*

BJI ***30*** *15:15:12.6, 47.00N×153.79E, h8km, mB4.8, mb4.4, Ms4.4, Ms2.4.1*

ISCJB ***30*** *15:15:13.5±0.3, 46.61N±0.04×153.84E±0.05, h18km, mb4.5/55, MS4.1/25, Error ellipse: s-maj=6.5km s-min=3.2km az=113.6*

SKHL ***30*** *15:15:13.1±1.9, 46.59N×154.10E, h50km±20km, Ms4.5/1*

NEIC ***30*** *15:15:14.2±0.4, 46.81N×153.84E, h10km, mb4.7/25, Error ellipse: s-maj=12.0km s-min=7.8km az=146.0*

MOS ***30*** *15:15:16.2±1.8, 46.80N×153.86E, h35km, mb4.8/21, Error ellipse: s-maj=8.9km s-min=6.3km az=97.2*

IDC ***30*** *15:15:17.8±0.7, 46.79N×153.81E, h36km±5km, mb4.0/18, mb1 4.2/20, mb1mx4.1/26, mbtmp4.0/20, ML3.9/2, MS4.0/14, Ms1 4.0/14, ms1mx3.7/35, Error ellipse: s-maj=16.8km s-min=13.6km az=154.0*

SZGRF ***30*** *15:15:19.5, 47.09N×155.41E, h33km, mb4.9, East of Kuril Islands, Russia*

ISC 30 15:15:15.3±0.3, 46.68N±0.04×153.87E±0.05, h19km, h19km±4.0km: pP-P, n185, σ1§41/208, mb4.5/55, MS4.1/25, 18C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	4.27	20	eP	Pn	15 16 17.5	-1.8
SKR				AMB	AMB	15 16 19.1	
	450nm,1.0s						
SKR				eS	Sn	15 17 02.5	-6.1
SKR				A		15 17 06.5	
	150nm,0.5s						
SKR				A		15 17 06.5	
	180nm,0.5s						
SKR				AMS	AMS	15 18 04.0	
	3μm,12.0s						
SKR				AMS	AMS	15 18 04.0	
	2μm,12.0s						
KUR	Kuril'sk	4.43	253	eP	Pn	15 16 20.5	-1.0
KUR				AMB	AMB	15 16 30.5	
	100nm,0.7s						
KUR				AMB	AMB	15 16 30.5	
	120nm,0.7s						
KUR				AMB	AMB	15 16 30.5	
	330nm,0.7s						
KUR				i S	Sn	15 17 12.5	0.0
KUR				A		15 17 21.0	
	5μm,1.0s						
KUR				A		15 17 27.5	
	720nm,0.6s						
KUR				A		15 17 27.5	
	2μm,0.6s						
KUR	Kuril'sk	4.43	253 ⇑	i PN	Pn	15 16 20.6	-0.9
YUK	Yuzh-Kuril'sk	6.23	248	eP	Pn	15 16 48.0	+1.7
YUK				eS	Sn	15 17 57.8	+0.8
YUK				A		15 18 09.5	
	2μm,0.8s						
YUK				A		15 18 09.5	
	750nm,0.8s						
NEM2	Nemuro 2	6.65	243	P	Pn	15 16 51.6	-0.3
NEM2				eS	Sn	15 18 03.2	-3.9
JRA	Rausu	6.75	249	P	Pn	15 16 55.7	+2.3
PET	Petropavlovsk	7.06	24	ePn	Pn	15 16 53.7	-3.9
PET				eSn	Sn	15 18 25.4	+8.1
JNK	Nakash	7.17	248	P	Pn	15 17 00.6	+1.4
JNK				eS	Sn	15 18 19.9	-0.2
JAK	Akkeshi	7.49	244	P	Pn	15 17 03.3	-0.2
JAK				eS	Sn	15 18 23.5	-4.4
JTKR	Abashiri--Toko	7.53	253	P	Pn	15 17 06.3	+2.3
YSS	Yuzh-Sakhalins	7.63	276	eP	Pn	15 17 11.0	+5.5
YSS				AMB	AMB	15 17 12.0	
	30nm,0.9s						
YSS				eS	Sn	15 18 36.3	+4.9
YSS				AMS	AMS	15 19 56.0	
	2μm,16.0s						
YSS				AMS	AMS	15 19 56.0	
	900nm,16.0s						
YSS				AMS	AMS	15 19 56.0	
	1μm,16.0s						
YSS	Yuzh-Sakhalins	7.63	276	ePN	Pn	15 17 11.0	+5.5
YSS				eS	Sn	15 18 36.3	+4.9
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	Yuzh-Sakhalins	7.63	276	ePn	Pn	15 17 09.5	+4.0
	comp=Z,51nm,0.9s						
YSS				eSn	Sn	15 18 35.5	+4.0
JMP	Maruseppu	7.87	254	P	Pn	15 17 10.6	+1.8
JAR	Ashorobuto	7.92	248	P	Pn	15 17 10.9	+1.5
JAR				eS	Sn	15 18 37.6	-0.9
JOB	Onbets	8.08	246	P	Pn	15 17 12.3	+0.8
JOB				eS	Sn	15 18 39.1	-3.2
JKK2	Kamakawa 2	8.33	254	P	Pn	15 17 17.6	+2.5
ASAJ	Asahikawa	8.34	256	Pn	Pn	15 17 17.8	+2.6
	comp=Z,2.0nm,0.3s,baz=96,slow=19,SNR=18						
ASAJ				LR	LR	15 21 31.9	
	comp=Z,202nm,18.1s,baz=103,slow=45						
ASAJ	Asahikawa	8.34	256	P	Pn	15 17 18.4	+3.2
TYV	Tymovskoe	8.51	304	eP	Pn	15 17 20.0	+2.5
TYV				AMB	AMB	15 17 31.8	
	comp=Z,31nm,1.0s						
TYV				AMB	AMB	15 17 31.8	
	comp=Z,59nm,1.0s						
TYV				eS	Sn	15 18 55.0	+2.1
TYV				A		15 18 57.5	
	comp=Z,44nm,1.0s						
TYV				AMS	AMS	15 20 56.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	15 20 56.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	15 20 56.0	
	comp=Z,1μm,16.0s						
JCH	Churui	8.52	245	P	Pn	15 17 18.2	+0.5
JCH				eS	Sn	15 18 48.9	-4.4
JFR	Furan	8.74	250	P	Pn	15 17 23.7	+3.0
JFR				eS	Sn	15 18 55.4	-3.2
ERM	Erimo	8.98	243	ePN	Pn	15 17 24.8	+0.8
ERM				pmax	pmax		
	comp=Z,92nm,0.6s						
ERM	Erimo	8.98	243	ePn	Pn	15 17 24.8	+0.8
	comp=Z,92nm,0.6s						
ERM				eSn	Sn	15 18 53.9	-11
JEM	Erimo	8.98	243	P	Pn	15 17 25.0	+1.0
JBT2	Biratori 2	9.07	249	P	Pn	15 17 25.7	+0.5
JBT2				eS	Sn	15 19 04.1	-2.7
JNBK	Urakawa-nobuka	9.08	245	P	Pn	15 17 24.9	-0.5
JNB	Noboribetsu	10.08	250	eS	Sn	15 19 27.4	-4.1
JKB	Kayabe	10.38	247	P	Pn	15 17 41.8	-1.3
JKB				eS	Sn	15 19 32.1	-6.7
JSH	Shimam	10.64	253	P	Pn	15 17 48.1	+1.4
JYM2	Yakumo 2	10.68	250	P	Pn	15 17 47.0	-0.3
JANG	Nango	10.96	239	P	Pn	15 17 48.3	-2.8
JANG				eS	Sn	15 19 42.9	-10
JTM	Tenmabayashi	10.97	242	eS	Sn	15 19 44.8	-8.6
JTH	Tanohata	11.04	237	eS	Sn	15 19 46.1	-8.9
JRG	Rokugo	12.11	238	P	Pn	15 18 05.8	-1.0
JRG				eS	Sn	15 20 12.0	-9.2
JIO	Ouri	12.35	233	P	Pn	15 18 07.8	-2.3
JIO				eS	Sn	15 20 15.5	-12
KLR	Kul'dur	15.03	288	eP	Pn	15 18 48.8	+2.2
KLR				MLR	MLR		
	comp=E,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
MJAR	Matsushiro Arr	15.46	235	Pn	Pn	15 18 54.4	+2.1
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=5.2						
MAJO	Matsushiro	15.46	235	eP	Pn	15 18 49.6	-2.7
MAT	Matsushiro	15.46	235	P	Pn	15 18 50.1	-2.2
ZEA	Zeya	18.37	302	eP	Pn	15 19 29.4	+0.5
ZEA				AMB	AMB	15 19 30.6	
	comp=Z,23nm,1.0s						
ZEA				AMB	AMB	15 19 30.6	
	comp=Z,20nm,0.7s						
CN2	Changchun	20.18	272	eP	P	15 19 49.0	+0.4
CN2				eXP	sP	15 19 56.0	-0.6
CN2				eS	S	15 23 28.3	-6.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,18.0s,MS4.0						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.0						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS3.8						
YAK	Yakutsk	20.66	327	eP	P	15 19 54.5	+0.6
YAK				e		15 20 14.1	
YAK				eS	S	15 23 39.3	-4.7
YAK				eSS		15 23 59.5	
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,23nm,1.5s						
YAK				pmax	pmax		
	comp=E,58nm,1.6s						
YAK				smax			
	comp=N,212nm,3.5s						
YAK				smax			
	comp=Z,134nm,3.9s						
YAK				smax			
	comp=E,254nm,3.2s						
YAK				MLR	MLR		
	comp=Z,319nm,19.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,288nm,16.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,150nm,13.0s,MS3.8						
YAK	Yakutsk	20.66	327	eP	P	15 19 51.2	-2.7
	comp=E,13nm,0.8s						
KSRS	Korea Array	21.28	254	P	P	15 20 02.5	+2.0
	comp=E,7.4nm,0.9s,mb4.0,baz=62,slow=9.5,SNR=18						
KSRS				LR	LR	15 29 26.7	
	comp=E,115nm,18.8s,MS3.3,baz=216,slow=40						
JNU	Nakatsue	22.14	240	LR	LR	15 30 07.7	
	comp=E,431nm,18.8s,MS3.9,baz=264,slow=40						
SNY	Shenyang	22.16	268 ⇓	P	P	15 20 10.3	+0.3
SNY				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
SNY				AMB	AMB		
	comp=Z,103nm,5.1s						
SNY				LR	LR		
	comp=N,265nm,18.3s,MS3.9						
SNY				LR	LR		
	comp=E,293nm,15.6s,MS3.9						
SNY				LR	LR		
	comp=Z,368nm,15.6s,MS3.9						
BILL	Bilibino	22.34	12	eP	P	15 20 09.7	-2.3
BILL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8						
BILL	Bilibino	22.34	12	eP	P	15 20 09.4	-2.6
	comp=Z,7.9nm,0.9s,mb4.1						
HIA	Hailar	22.88	289	i P	P	15 20 15.7	-2.0
BOD	Bodaibo	26.43	310	eP	P	15 20 47.3	-3.6
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
TIXI	Tiksi	27.68	343 ⇑	eP	P	15 20 59.5	-2.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
BJI	Beijing	28.00	270	P	P	15 21 03.3	-1.6
BJI	Beijing	28.00	270	P	P	15 21 03.2	-1.7
NJ2	Nanjing	30.48	254	eP	P	15 21 25.0	-1.9
NJ2				AP	pP	15 21 30.0	-2.8
NJ2				XP	sP	15 21 33.5	-1.7
NJ2				PP	PP	15 22 25.5	-10
NJ2				S	S	15 26 25.0	-2.1
NJ2				AMB	AMB		
	comp=Z,720nm,6.4s						
NJ2				LR	LR		
	comp=N,630nm,13.5s,MS4.5						
NJ2				LR	LR		
	comp=E,580nm,14.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,360nm,15.4s,MS4.1						
HHC	Hu-ho-hao-te	30.82	275	eP	P	15 21 29.8	-0.1
HHC				AP	pP	15 21 34.0	-1.8
HHC				XP	sP	15 21 36.8	-1.4
HHC				PP	PP	15 22 31.3	-8.3
HHC				PCP	PcP	15 24 22.5	-4.3
HHC				S	S	15 26 30.5	-2.0
HHC				XS	sS	15 26 45.0	+2.8
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,164nm,5.8s						
HHC				LR	LR		
	comp=N,306nm,14.8s,MS4.2						
HHC				LR	LR		
	comp=E,337nm,16.3s,MS4.2						
HHC				LR	LR		
	comp=Z,306nm,14.7s,MS4.1						
SONM	Songino Array	31.85	290	P	P	15 21 39.1	+0.1
	comp=Z,0.7nm,0.8s,mb3.5,baz=46,slow=12,SNR=2.2						
SONM				LR	LR	15 35 29.8	
	comp=Z,378nm,18.3s,MS4.1,baz=27,slow=38						
TLY	Talaya	32.67	298	P	P	15 21 44.1	-2.1
MCK	McKinley	35.37	40	P	P	15 22 08.7	-0.9
SML	Sawmill	35.66	44	eP	P	15 22 11.1	-1.0
COLA	College	35.87	38	eP	P	15 22 12.2	-1.7
COLA	College	35.87	38	eP	P	15 22 14.7	+0.8
	comp=Z,5.7nm,0.8s,mb4.5						
XAN	Xi'an	36.03	266	P	P	15 22 16.3	+1.0
XAN				AP	pP	15 22 24.8	+3.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
XAN				LR	LR		
	comp=N,161nm,11.9s,MS4.2						
XAN				LR	LR		
	comp=E,170nm,10.8s,MS4.2						
XAN				LR	LR		
	comp=Z,235nm,15.7s,MS4.1						
LZH	Lanzhou	38.41	272	eP	P	15 22 35.5	0.0
LZH				AP	pP	15 22 38.5	-3.0
LZH				XP	sP	15 22 40.5	-3.3
LZH				PP	PP	15 24 06.0	+2.5
LZH				eS	S	15 28 29.0	-0.5
LZH				XS	sS	15 28 38.0	-1.3
LZH				eSS	SS	15 31 08.0	-10
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,75nm,4.2s						
LZH				LR	LR		
	comp=E,452nm,15.0s						
LZH				LR	LR		
	comp=Z,720nm,15.8s,MS4.6						
LZH	Lanzhou	38.41	272	eP	P	15 22 35.6	+0.1
LZH						15 24 06.0	
LZH				eS	S	15 28 28.9	-0.6
LZH				eSS	SS	15 31 08.0	-10
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
LZH				MLR	MLR		
	comp=Z,720nm,15.8s,MS4.6						
LZH	Lanzhou	38.41	272	eP	P	15 22 35.6	+0.1
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	15 22 38.6	-2.9
LZH				sP	sP	15 22 40.5	-3.3
LZH				PP	PP	15 24 06.0	+2.5
LZH				eS	S	15 28 28.9	-0.6
LZH				sS	sS	15 28 38.0	-1.3
LZH				eSS	SS	15 31 08.0	-10
LZH				LR	LR		
	comp=Z,720nm,15.8s,MS4.6						
GTA	Gaotai	39.50	280	eP	P	15 22 46.3	+1.7
GTA				AP	pP	15 22 50.5	-0.1
GTA				XP	sP	15 22 53.3	+0.4
GTA				PP	PP	15 24 21.5	+6.2
GTA				S	S	15 28 49.5	+3.7
GTA				XS	sS	15 28 58.0	+2.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,86nm,6.1s						
GTA				LR	LR		
	comp=N,217nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=E,250nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,291nm,17.1s,MS4.2						
CD2	Chengdu	41.40	266	eP	P	15 23 01.0	+0.7
CD2				XP	sP	15 23 08.0	-0.6
CD2				PP	PP	15 24 40.3	+4.3
CD2				S	S	15 29 15.3	+1.2
CD2				XS	sS	15 29 22.5	-1.5
CD2				SS	SS	15 32 14.3	-4.0
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CD2				LR	LR		
	comp=N,270nm,13.2s						
CD2				LR	LR		
	comp=Z,190nm,13.2s,MS4.1						
INK	Inuvik	41.43	32	P	P	15 23 00.5	-0.1
	comp=Z,0.9nm,0.6s,mb3.6,baz=65,slow=3.2,SNR=6.0						
INK	Inuvik	41.43	32	eP	P	15 23 00.3	-0.3
	comp=Z,69nm,0.7s,mb5.4						
GYA	Guiyang	42.21	258	P	P	15 23 08.3	+1.3
GYA				AP	pP	15 23 12.5	-0.5
GYA				XP	sP	15 23 15.5	+0.2
GYA				PP	PP	15 24 48.5	+3.7
GYA				PCP	PcP	15 25 03.0	+2.1
GYA				S	S	15 29 27.5	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						

GYA				AMB	AMB			
	comp=Z,70nm,4.6s							
GYA				LR	LR			
	comp=N,240nm,15.4s,MS4.4							
GYA				LR	LR			
	comp=E,340nm,15.8s,MS4.4							
GYA				LR	LR			
	comp=Z,280nm,15.3s,MS4.3							
ZAL	**Zalesovo**	**43.09 306**		P	**P**	**15 23 12.5**	**-1.6**	
	comp=Z,0.9nm,0.7s,mb3.6,baz=33,slow=8.4,SNR=5.8							
ZAL				LR	LR	15 42 04.3		
	comp=Z,203nm,19.3s,MS4.0,baz=58,slow=37							
ZAL	**Zalesovo**	**43.09 306**		P	**P**	**15 23 12.5**	**-1.6**	
ZAL				LR	LR	15 42 04.3		
WMQ	**Urumqi**	**45.44 292**	⇑	*i* P	**P**	**15 23 32.3**	**-0.6**	
WMQ				AP	pP	15 23 36.8	-2.1	
WMQ				XP	sP	15 23 39.3	-2.0	
WMQ				PCP	PcP	15 25 12.8	+1.0	
WMQ				PP	PP	15 25 18.8	-0.5	
WMQ				PPP		15 25 59.8		
WMQ				SCP	ScP	15 29 03.5	-0.1	
WMQ				PCS	PcS	15 29 05.3	-0.5	
WMQ				S	**S**	**15 30 10.8**	**-2.5**	
WMQ				XS	sS	15 30 18.5	-4.7	
WMQ				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.2							
WMQ				AMB	AMB			
	comp=Z,268nm,6.2s							
WMQ				LR	LR			
	comp=N,160nm,19.5s,MS4.0							
WMQ				LR	LR			
	comp=E,51nm,20.5s,MS4.0							
WMQ				LR	LR			
	comp=Z,175nm,18.5s,MS4.0							
KMI	**Kunming**	**45.74 260**		P	**P**	**15 23 39.5**	**+4.2**	
KMI				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.4							
KMI	**Kunming**	**45.74 260**		P	**P**	**15 23 39.4**	**+4.1**	
KMI				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
KMI	**Kunming**	**45.74 260**		P	**P**	**15 23 39.4**	**+4.1**	
	comp=Z,6.0nm,1.2s,mb4.4							
MK31	**Makanchi Array**	**47.44 298**		*e*P	**P**	**15 23 46.5**	**-2.1**	
MKAR	**Makanchi Array**	**47.44 298**		P	**P**	**15 23 47.3**	**-1.3**	
	comp=Z,3.5nm,0.8s,mb4.3,baz=66,slow=7.6,SNR=20							
MKAR				LR	LR	15 45 18.5		
	comp=Z,192nm,18.7s,MS4.1,baz=244,slow=38							
MKAR	**Makanchi Array**	**47.44 298**	*i*	P	**P**	**15 23 47.2**	**-1.4**	
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**47.84 304**	⇓	*i* P	**P**	**15 23 49.0**	**-2.7**	
KURK	**Kurchatov**	**47.84 304**		*e*P	**P**	**15 23 49.6**	**-2.1**	
	comp=Z,11nm,0.8s,mb4.9							
YKA	**Yellowknife Ar**	**50.67 37**		P	**P**	**15 24 12.5**	**-0.9**	
	comp=Z,0.3nm,0.4s,mb3.5,baz=296,slow=6.8,SNR=3.2							
RES	**Resolute Bay**	**50.73 19**		*e*P	**P**	**15 24 10.4**	**-3.5**	
	comp=Z,206nm,1.0s							
LSA	**Lhasa**	**50.80 274**		P	**P**	**15 24 17.5**	**+3.1**	
LSA	**Lhasa**	**50.80 274**		*e*P	**P**	**15 24 15.5**	**+1.1**	
LSA				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
LSA	**Lhasa**	**50.80 274**		*e*P	**P**	**15 24 15.5**	**+1.1**	
	comp=Z,12nm,0.9s,mb4.8							
BVAR	**Borovoye Array**	**51.31 310**		P	**P**	**15 24 16.4**	**-1.8**	
	comp=Z,3.4nm,0.9s,mb4.3,baz=60,slow=8.8,SNR=14							
BRVK	**Borovoye**	**51.35 310**		*e*P	**P**	**15 24 16.0**	**-2.5**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**51.35 310**		*e*P	**P**	**15 24 16.0**	**-2.5**	
	comp=Z,5.8nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**54.33 297**	⇓	*i* P	**P**	**15 24 38.4**	**-2.1**	
AAK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.33 297**		*e*P	**P**	**15 24 38.7**	**-1.8**	
	comp=Z,4.5nm,0.8s,mb4.5							
ARU	**Arti**	**55.42 318**	⇓	*i* P	**P**	**15 24 45.7**	**-2.7**	
ARU				*e*		15 25 46.5		
ARU				*e*PPP		15 28 06.5		
ARU				*e*S	**S**	**15 32 30.8**	**-1.2**	
ARU				*e*SS	SS	15 36 12.2	-4.5	
ARU				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8							
ARU	**Arti**	**55.42 318**		*e*P	**P**	**15 24 45.6**	**-2.8**	
	comp=Z,7.9nm,0.8s,mb4.8							
HNR	**Honiara**	**56.12 173**		LR	LR	15 48 58.2		
	comp=Z,63nm,18.1s,MS3.7,baz=11,slow=36							
NEW	**Newport**	**56.80 53**		P	**P**	**15 24 57.7**	**-0.6**	
	comp=Z,0.9nm,0.3s,mb4.2,baz=204,slow=10,SNR=2.0							
ARCES	**ARCESS Array B**	**58.09 341**		P	**P**	**15 25 05.5**	**-1.8**	
	comp=Z,4.4nm,0.8s,mb4.5,baz=36,slow=7.5,SNR=6.9							
ARCES				LR	LR	15 53 17.8		
	comp=Z,191nm,20.3s,MS4.2,baz=36,slow=39							
REDW	**Red Top Meadow**	**63.26 54**		*e*P	**P**	**15 25 42.8**	**+0.2**	
	comp=Z,7.6nm,1.3s,mb4.7							
REDW				*e*		15 25 54.4		
FINES	**FINESS Array B**	**64.33 335**		P	**P**	**15 25 48.5**	**-1.1**	
	comp=Z,9.4nm,0.9s,mb4.8,baz=36,slow=7.3,SNR=16							
FINES				LR	LR	15 59 36.2		
	comp=Z,181nm,18.1s,MS4.3,baz=154,slow=41							
PDAR	**Pinedale Array**	**64.36 54**		P	**P**	**15 25 50.0**	**+0.2**	
	comp=Z,1.9nm,0.9s,mb4.1,baz=297,slow=1.8,SNR=15							
PDAR				pP	pP	15 26 01.2	+5.2	
	comp=Z,3.0nm,0.9s,baz=299,slow=2.6,SNR=12							
PV10	**Paradox Valley**	**67.57 58**		*e*P	**P**	**15 26 10.6**	**+0.1**	
PV10				*e*		15 26 22.2		
NB2	**NORSAR Subarra**	**68.46 341**		P	**P**	**15 26 15.1**	**-1.0**	
	comp=Z,0.8nm,0.8s,mb3.8,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**68.46 341**		P	**P**	**15 26 15.8**	**-0.2**	
	comp=Z,8.2nm,0.8s,mb4.8,baz=27,slow=6.3,SNR=17							
NOA				pP	pP	15 26 25.8	+3.4	
	comp=Z,3.9nm,0.8s,baz=27,slow=6.4,SNR=4.0							
NOA				LR	LR	16 02 31.3		
	comp=Z,118nm,18.9s,MS4.1,baz=295,slow=42							
NOA	**NORSAR Array B**	**68.46 341**		P	**P**	**15 26 15.9**	**-0.2**	
NOA				*PP	pP	15 26 25.8	+3.5	
NOA	**NORSAR Array B**	**68.46 341**		P	**P**	**15 26 15.8**	**-0.2**	
NOA				pP	pP	15 26 25.8	+3.4	
NOA				LR	LR	16 02 31.3		
ISCO	**Idaho Springs**	**68.56 54**		*e*P	**P**	**15 26 16.8**	**+0.1**	
ISCO				*e*		15 26 28.0		
ISCO				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ISCO	**Idaho Springs**	**68.56 54**		*e*P	**P**	**15 26 16.8**	**+0.1**	
	comp=Z,2.4nm,0.9s,mb4.1							
ISCO				*e*		15 26 28.0		
WRAB	**Tennant Creek**	**68.61 200**		*i* P	**P**	**15 26 16.3**	**-0.7**	
WB2	**Warramunga Arr**	**68.62 200**		*e*P	**P**	**15 26 17.2**	**+0.1**	
WRA	**Warramunga Arr**	**68.62 200**		P	**P**	**15 26 17.0**	**-0.1**	
	comp=Z,4.0nm,0.9s,mb4.3,baz=18,slow=6.6,SNR=20							
WRA	**Warramunga Arr**	**68.62 200**		*i* P	**P**	**15 26 17.3**	**+0.2**	
WRA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**71.89 327**		P	**P**	**15 26 36.0**	**-1.2**	
	comp=Z,7.0nm,0.9s,mb4.6,baz=34,slow=6.3,SNR=11							
AS31	**Alice Springs**	**72.31 199**		*e*P	**P**	**15 26 40.3**	**+0.7**	
ASAR	**Alice Springs**	**72.31 199**		P	**P**	**15 26 40.5**	**+0.8**	
	comp=Z,3.7nm,0.8s,mb4.4,baz=9.8,slow=5.6,SNR=51							
ASPA	**Alice Springs**	**72.31 199**		*e*P	**P**	**15 26 40.3**	**+0.7**	
STHS	**Stebnicka Huta**	**75.84 330**		*e*P	**P**	**15 27 00.7**	**+0.5**	
STHS				*e*PCP	PcP	15 27 14.7	+2.0	
STHS	**Stebnicka Huta**	**75.84 330**		*e*P	**P**	**15 27 00.7**	**+0.5**	
STHS				*e*		15 27 14.7		
STHS				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
KOLS	**Kolonicke sedl**	**75.89 329**		*e*P	**P**	**15 26 59.2**	**-1.3**	
BURAR	**Bucovina Array**	**75.93 327**	⇑	*i* P	**P**	**15 27 01.3**	**+0.5**	
BURAR	**Bucovina Array**	**75.93 327**	⇑	P	**P**	**15 27 01.3**	**+0.5**	
UPC	**Upice**	**76.58 334**		*e*P	**P**	**15 27 04.5**	**+0.1**	
DPC	**Dobruska-Polom**	**76.62 334**		*e*P	**P**	**15 27 05.4**	**+0.7**	
CLL	**Collm**	**76.74 336**		*i* P	**P**	**15 27 05.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
CLL	**Collm**	**76.74 336**		*i* P	**P**	**15 27 05.0**	**-0.4**	
	comp=Z,18nm,0.9s,mb5.0							
MORC	**Moravsky Berou**	**76.74 333**	⇑	*i* P	**P**	**15 27 06.4**	**+1.0**	
MORC	**Moravsky Berou**	**76.74 333**	⇑	P	**P**	**15 27 06.5**	**+1.1**	
MORC	**Moravsky Berou**	**76.74 333**		*e*P	**P**	**15 27 04.6**	**-0.8**	
	comp=Z,9.5nm,1.0s,mb4.7							
VRI	**Vrincioaia**	**76.80 325**	⇑	*i* P	**P**	**15 27 09.6**	**+3.9**	
VRI	**Vrincioaia**	**76.80 325**	⇑	P	**P**	**15 27 09.7**	**+4.0**	
BRG	**Berggiesshubel**	**76.86 335**		*e*(P)	**P**	**15 27 06.8**	**+0.7**	
	comp=Z,6.6nm,1.2s,mb4.4							
BRG	**Berggiesshubel**	**76.86 335**		P	**P**	**15 27 06.8**	**+0.8**	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5							
KECS	**Kecovo**	**76.89 330**		*e*P	**P**	**15 27 07.0**	**+0.8**	
KECS				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
TXAR	**Lajitas Array**	**77.07 61**		P	**P**	**15 27 07.1**	**-0.1**	
	comp=Z,2.4nm,0.7s,mb4.2,baz=299,slow=4.0,SNR=22							
TXAR				pP	pP	15 27 18.6	+5.1	
	comp=Z,5.8nm,0.8s,baz=297,slow=4.0,SNR=17							
MLR	**Muntele Rosu**	**77.42 325**	⇓	*i* P	**P**	**15 27 09.9**	**+0.7**	
MLR	**Muntele Rosu**	**77.42 325**	⇓	P	**P**	**15 27 09.9**	**+0.7**	
VYHS	**Vyhne**	**77.44 331**		*e*P	**P**	**15 27 09.5**	**+0.2**	
PRU	**Pruhonice**	**77.48 334**		*e*P	**P**	**15 27 10.5**	**+1.0**	
MALT	**Malatya**	**77.58 313**	⇓	*i* P	**P**	**15 27 12.0**	**+1.9**	
MALT	**Malatya**	**77.58 313**		*e*P	**P**	**15 27 11.1**	**+1.0**	
	comp=Z,8.2nm,1.1s,mb4.6							
NKC	**Novy Kostel**	**77.86 336**		*e*P	**P**	**15 27 13.5**	**+1.9**	
ZST	**Bratislava**	**78.27 332**		*e*P	**P**	**15 27 14.9**	**+1.0**	
ZST				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
KHC	**Kasperske Hory**	**78.53 335**		*e*P	**P**	**15 27 16.3**	**+1.0**	
KHC	**Kasperske Hory**	**78.53 335**	⇑	*i* P	**P**	**15 27 14.7**	**-0.6**	
GRF	**Grafenberg Arr**	**78.69 336**		*e*P	**P**	**15 27 17.1**	**+0.9**	
	comp=Z,13nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**78.69 336**		*e*P	**P**	**15 27 17.1**	**+0.9**	
GRF				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**78.69 336**		*e*P	**P**	**15 27 17.1**	**+0.9**	
GRF				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
GERES	**GERESS Array B**	**78.75 334**		P	**P**	**15 27 15.3**	**-1.2**	
	comp=Z,2.0nm,0.8s,mb4.1,baz=22,slow=4.6,SNR=9.6							
GERES				LR	LR	16 10 26.0		
	comp=Z,166nm,18.2s,MS4.4,baz=94,slow=42							
BR131	**Keskin Array S**	**78.80 317**		*e*P	**P**	**15 27 16.5**	**-0.3**	
	comp=Z,1.6nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**78.80 317**		P	**P**	**15 27 15.8**	**-1.0**	
	comp=Z,2.5nm,0.8s,mb4.2,baz=91,slow=5.1,SNR=12							
BRTR	**Keskin Array B**	**78.80 317**		*i* P	**P**	**15 27 18.8**	**+2.0**	
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BZS	**Buzias**	**78.95 328**	⇑	*i* P	**P**	**15 27 17.3**	**-0.3**	
BZS	**Buzias**	**78.95 328**	⇑	P	**P**	**15 27 17.3**	**-0.4**	
STKA	**Stephens Creek**	**78.97 191**		LR	LR	16 02 03.6		
	comp=Z,92nm,18.9s,MS4.1,baz=205,slow=36							
MIB	**Mutribah**	**79.14 302**		*e*P	**P**	**15 27 19.8**	**+1.1**	
MIB				AMb	AMb	15 27 21.4		
	comp=Z,43nm,0.7s,mb5.5							
MEM	**Membach**	**79.19 340**		P	**P**	**15 27 20.5**	**+1.5**	
PKSM	**Moragy**	**79.49 330**	⇑	*i* P	**P**	**15 27 20.8**	**+0.2**	
PKSM	**Moragy**	**79.49 330**	⇑	P	**P**	**15 27 20.8**	**+0.2**	
NAY	**Al-Naaiem**	**79.61 302**		*e*P	**P**	**15 27 21.4**	**+0.2**	
NAY				AMb	AMb	15 27 24.1		
	comp=Z,14nm,0.8s,mb4.9							
RDF	**Al-Radifah**	**79.67 301**		*e*P	**P**	**15 27 23.0**	**+1.5**	
RDF				AMb	AMb	15 27 23.9		
	comp=Z,39nm,0.9s,mb5.3							
KBA	**Koelnbreinsper**	**80.44 334**	⇑	*i* P	**P**	**15 27 27.8**	**+2.1**	
	comp=Z,24nm,0.9s,mb5.1							
KBA	**Koelnbreinsper**	**80.44 334**	⇑	P	**P**	**15 27 27.8**	**+2.1**	
KBA				pmax	pmax			
	comp=Z,24nm,0.9s,mb5.1							
WTTA	**Wattenberg**	**80.78 335**	⇑	*i* P	**P**	**15 27 29.7**	**+2.2**	
	comp=Z,18nm,0.9s,mb5.0							
WTTA	**Wattenberg**	**80.78 335**	⇑	*i* P	**P**	**15 27 29.7**	**+2.2**	
WTTA				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
DIVS	**Divcibare**	**80.85 328**		*i* P	**P**	**15 27 28.3**	**+0.4**	
CDF	**Champ du Feu**	**80.92 338**		*e*P	**P**	**15 27 29.3**	**+1.0**	
	comp=Z,16nm,1.0s,mb4.6							
CDF	**Champ du Feu**	**80.92 338**		*e*P	**P**	**15 27 29.3**	**+1.0**	
CDF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
CDF	**Champ du Feu**	**80.92 338**		*e*P	**P**	**15 27 29.3**	**+1.0**	
	comp=Z,8.1nm,1.0s,mb4.6							
VTS	**Vitosha**	**80.93 325**	⇓	*i* P	**P**	**15 27 29.3**	**+1.0**	
VTS	**Vitosha**	**80.93 325**	⇓	P	**P**	**15 27 29.3**	**+0.9**	
TZTN	**Tazewell**	**82.45 43**		*e*P	**P**	**15 27 34.1**	**-2.3**	
	comp=Z,15nm,1.0s,mb4.9							
GRR	**Gorron**	**82.79 343**		*e*P	**P**	**15 27 39.1**	**+1.0**	
SMF	**Signal de Mont**	**83.41 340**		*e*P	**P**	**15 27 41.2**	**-0.2**	
	comp=Z,14nm,0.9s,mb4.7							
SMF	**Signal de Mont**	**83.41 340**		*e*P	**P**	**15 27 41.2**	**-0.2**	
SMF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
SMF	**Signal de Mont**	**83.41 340**		*e*P	**P**	**15 27 41.2**	**-0.2**	
	comp=Z,7.3nm,0.9s,mb4.7							
LPG	**La Plagne**	**83.75 337**		*e*P	**P**	**15 27 45.4**	**+2.3**	
	comp=Z,7.2nm,0.8s,mb4.6							
LPG	**La Plagne**	**83.75 337**		*e*P	**P**	**15 27 45.4**	**+2.3**	
LPG				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.6							
LPG	**La Plagne**	**83.75 337**		*e*P	**P**	**15 27 45.4**	**+2.3**	
	comp=Z,3.6nm,0.8s,mb4.5							
RJF	**Les Rejaudoux**	**85.22 341**		*e*P	**P**	**15 27 51.7**	**+1.2**	
KEST	**Kesra**	**91.98 332**		LR	LR	16 13 45.2		
	comp=Z,49nm,19.2s,MS4.0,baz=341,slow=38							
MDT	**Midelt**	**98.52 342**		LR	LR	16 15 38.9		
	comp=Z,80nm,20.9s,MS4.2,baz=211,slow=37							
CFAA	**Coronel Fontan**	**144.49 80**		PKP	PKPdf	15 34 47.9	-2.4	
	comp=Z,0.4nm,0.6s,baz=254,slow=4.5,SNR=7.2							
CFAA				pPKP	pPKPdf	15 34 59.3	+2.4	
	comp=Z,0.8nm,0.8s,baz=303,slow=6.2,SNR=5.9							
CFAA	**Coronel Fontan**	**144.49 80**		PKP	PKPdf	15 34 47.9	-2.4	
CFAA				pPKP	pPKPdf	15 34 59.3	+2.4	
SNAA	**Sanae**	**152.63 196**		*e*PKIKP	PKPbc	15 35 08.1	-2.5	
SNAA				*e*		15 35 19.6		
VNA2	**Neumayer--Watz**	**154.06 194**		*e*PKPdf	PKPbc	15 35 12.2	-1.5	
VNA2				*e*		15 35 23.0		
VNA2				*e*		15 35 26.6		
VNA2				*e*		15 35 30.5		
VNA3	**Neumayer Olymp**	**154.14 192**		*e*PKPdf	PKPbc	15 35 12.1	-1.7	
VNA3				*e*		15 35 23.2		
VNA3				*e*		15 35 26.8		
VNA3				*e*		15 35 30.8		

IDC 30 16:06:17.8±0.7, 668N×7288W, h158km±7km, mb3.5/4, mb1 3.7/7, mb1mx3.4/20, mbtmp3.6/7, Error ellipse: s-maj=28.5km s-min=7.3km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.31**	**219**	P	Pn	16 06 59.4	+2.4
	30nm,0.3s,baz=84,slow=20,SNR=32						
ROSC				S	Sn	16 07 28.3	+1.0
	45nm,0.3s,baz=105,slow=16,SNR=16						
SDV	**Santo Domingo**	**3.12**	**45**	P	Pn	16 07 09.1	+2.0
	30nm,0.3s,baz=207,slow=3.9,SNR=120						
SDV				S	Sn	16 07 45.5	+0.4
	26nm,0.3s,baz=339,slow=16,SNR=23						
JTS	**JuntasAbangare**	**12.47**	**288**	P	Pn	16 09 09.5	-0.4
	0.6nm,0.3s,baz=202,slow=24,SNR=2.3						
SCHQ	**Schefferville**	**48.26**	**5**	P	P	16 14 42.5	-0.2
	2.6nm,0.5s,baz=233,slow=9.9,SNR=6.4						
PDAR	**Pinedale Array**	**48.33**	**324**	P	P	16 14 43.3	+0.1
	0.4nm,0.7s,baz=101,slow=7.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**73.53**	**78**	P	P	16 17 33.5	+0.3
	0.2nm,0.3s,baz=283,slow=4.5,SNR=5.0						
ARCES	**ARCESS Array B**	**86.72**	**20**	P	P	16 18 43.5	-0.4
	3.7nm,1.1s,baz=289,slow=3.7,SNR=4.6						
MKAR	**Makanchi Array**	**122.37**	**20**	PKP	PKPdf	16 24 54.1	0.0
	0.2nm,0.4s,baz=288,slow=3.3,SNR=6.0						
SONM	**Songino Array**	**125.72**	**1**	PKP	PKPdf	16 25 01.7	+1.2
	0.2nm,0.5s,baz=90,slow=2.9,SNR=2.4						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	16 25 48.2	+0.6
	0.6nm,0.5s,baz=120,slow=3.7,SNR=15						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPbc	16 25 51.4	+0.8
	0.7nm,0.6s,baz=109,slow=2.5,SNR=20						
WRA				pPKPbc	pPKPbc	16 26 33.1	+1.0
	0.3nm,0.5s,baz=108,slow=2.4,SNR=7.4						

*IDC **30** 16:12:54.0±0.8, 4839N×15486E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/24, mbtmp3.8/13, MS3.5/1, Ms1 3.5/1, ms1mx2.8/33, Error ellipse: s-maj=24.5km s-min=18.8km az=136.0*
*NEIC **30** 16:12:55.4±0.6, 4834N×15469E, h10km, mb3.9/1, Error ellipse: s-maj=17.0km s-min=12.1km az=138.0*
*ISCJB **30** 16:12:59.4±1.5, 485N±0.1×1548E±0.2, h51km±12km, mb3.8/14, MS3.4/1, Error ellipse: s-maj=22.6km s-min=9.2km az=93.6*
*MOS **30** 16:12:59.5±1.1, 4847N×15476E, h53km, mb4.1/1, Error ellipse: s-maj=21.1km s-min=12.4km az=73.4*

ISC 30 16:13:01.6±1.3, 485N±01×1548E±02, h55km±10km, n24, σ0°82/25, mb3.8/14, MS3.4/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.33**	**21**	*e*PN	**Pn**	**16 13 37.0**	**-0.4**
SKR				*e*S	**Sn**	**16 14 04.5**	**-0.3**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax			
	comp=E,260nm,0.4s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
PET	**Petropavlovsk**	**5.13**	**27**	*e*Pn	**Pn**	**16 14 15.8**	**0.0**
PET				*e*Sn	**Sn**	**16 15 07.5**	**-6.2**
YSS	**Yuzh-Sakhalins**	**8.27**	**264**	PN	**Pn**	**16 14 58.5**	**-0.4**
YSS				pmax	pmax		
	comp=Z,39nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.27**	**264**	Pn	**Pn**	**16 14 58.5**	**-0.4**
	comp=Z,39nm,1.1s						
ASAJ	**Asahikawa**	**9.52**	**247**	Pn	**Pn**	**16 15 17.3**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=140,slow=9.7,SNR=6.2						
ASAJ	**Asahikawa**	**9.52**	**247**	PN	**Pn**	**16 15 17.3**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.45**	**250**	P	**P**	**16 17 55.8**	**+0.1**
	comp=Z,2.7nm,0.8s,mb3.7,baz=49,slow=10,SNR=7.0						
SONM	**Songino Array**	**31.86**	**287**	LR	LR	16 33 36.4	
	comp=Z,77nm,18.5s,MS3.4,baz=215,slow=39						
INK	**Inuvik**	**39.54**	**34**	P	**P**	**16 20 28.0**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=306,slow=12,SNR=3.5						
INK	**Inuvik**	**39.54**	**34**	P	**P**	**16 20 28.2**	**+1.1**
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**16 21 28.6**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=63,slow=8.5,SNR=4.1						
YKA	**Yellowknife Ar**	**48.82**	**38**	P	**P**	**16 21 40.7**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.9,baz=298,slow=8.1,SNR=5.2						
YKA	**Yellowknife Ar**	**48.82**	**38**	P	**P**	**16 21 40.7**	**-0.6**
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**16 21 54.6**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=53,slow=7.3,SNR=4.0						
AAK	**Ala-Archa**	**54.08**	**296**	P	**P**	**16 22 18.8**	**-1.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**54.08**	**296**	P	**P**	**16 22 18.8**	**-1.8**
	comp=Z,0.8nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**56.55**	**341**	P	**P**	**16 22 37.7**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=35,slow=10,SNR=2.5						
PDAR	**Pinedale Array**	**62.79**	**55**	P	**P**	**16 23 22.2**	**+1.0**
	comp=Z,1.5nm,1.1s,mb4.0,baz=256,slow=3.1,SNR=4.6						
FINES	**FINESS Array B**	**62.92**	**335**	P	**P**	**16 23 22.4**	**+0.2**
	comp=Z,1.6nm,0.9s,mb4.2,baz=57,slow=7.0,SNR=4.1						
WRA	**Warramunga Arr**	**70.56**	**200**	P	**P**	**16 24 09.5**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=20,slow=6.6,SNR=5.8						
ASAR	**Alice Springs**	**74.26**	**200**	P	**P**	**16 24 32.2**	**-0.5**
	comp=Z,0.8nm,0.9s,mb3.7,baz=12,slow=3.9,SNR=6.5						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**16 24 40.7**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=350,slow=4.6						
GERES	**GERESS Array B**	**77.35**	**335**	P	**P**	**16 24 51.7**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=33,slow=5.1,SNR=3.9						
BRTR	**Keskin Array B**	**77.87**	**318**	P	**P**	**16 24 54.4**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=92,slow=3.0,SNR=3.8						

*ISCJB **30** 16:26:24.8±2.4, 464N±0.1×1544E±0.2, h44km±21km

OVCH	**Ovalle**	**0.46**	**116**	⇓	*i*	P	**Pb**	**16 42 48.4 -1.2**
OVCH					*i*	S	**Sb**	**16 42 54.6 -1.8**
OVCH						AML	AML	16 42 55.5
	comp=E,348μm,0.6s							
OVCH	**Ovalle**	**0.46**	**116**	⇓	*i*	P	**Pb**	**16 42 48.4 -1.2**
OVCH					*i*	S	**Sb**	**16 42 54.6 -1.8**
LSCH	**La Serena**	**0.62**	**38**	⇓	*i*	P	**Pb**	**16 42 52.0 -0.2**
LSCH					*i*	S	**Sb**	**16 43 01.1 +0.5**
TLL	**Tololo Astrono**	**0.80**	**73**	⇓	*i*	P	**Pn**	**16 42 54.5 -0.1**
TLL					*i*	S	**Sn**	**16 43 05.3 0.0**
TLL						AML	AML	16 43 07.6
	comp=N,40μm,0.7s							
TLL	**Tololo Astrono**	**0.80**	**73**	⇓	*i*	P	**Pn**	**16 42 54.5 -0.1**
TLL					*i*	S	**Sn**	**16 43 05.3 0.0**
CMCH	**Cambarala**	**0.97**	**143**	⇑	*i*	P	**Pn**	**16 42 55.7 -1.2**
CMCH					*i*	S	**Sn**	**16 43 08.2 -1.3**
CMCH						AML	AML	16 43 10.3
	comp=N,232μm,0.7s							
CMCH	**Cambarbala**	**0.97**	**143**	⇑	*i*	P	**Pn**	**16 42 55.7 -1.2**
CMCH					*i*	S	**Sn**	**16 43 08.2 -1.3**
PTCH	**Petorca**	**1.96**	**161**		*eP*	P	**Pn**	**16 43 10.8 +0.2**
PTCH					*i*	S	**Sn**	**16 43 34.4 +0.2**
PTCH						AML	AML	16 43 40.4
	comp=E,53μm,0.4s							
PTCH	**Petorca**	**1.96**	**161**		*eP*	P	**Pn**	**16 43 10.8 +0.2**
PTCH					*i*	S	**Sn**	**16 43 34.4 +0.2**
VACH	**Vallenar**	**1.99**	**24**	⇓	*i*	P	**Pn**	**16 43 12.5 +1.5**
VACH					*i*	S	**Sn**	**16 43 38.1 +3.2**
PACH	**Papudo**	**2.14**	**174**		*eP*	P	**Pn**	**16 43 12.3 -0.7**
JACH	**Jahuel**	**2.45**	**158**	⇑	*i*	P	**Pn**	**16 43 17.9 +0.4**
PEL	**Peldehue**	**2.86**	**163**	⇓	*i*	P	**Pn**	**16 43 23.3 +0.2**
PEL					*i*	S	**Sn**	**16 43 56.7 +0.3**
PEL						AML	AML	16 44 11.2
	comp=E,19μm,1.5s							
CLCH	**Cerro Calan**	**3.14**	**162**	⇑	*i*	P	**Pn**	**16 43 27.2 +0.4**
CLCH					*i*	S	**Sn**	**16 44 04.0 +0.8**
CLCH						AML	AML	16 44 17.1
	comp=N,16μm,0.5s							
FCH	**Farellones**	**3.15**	**158**		*eP*	P	**Pn**	**16 43 27.9 +1.0**
FCH					*i*	S	**Sn**	**16 44 04.7 +1.3**
FCH						AML	AML	16 44 19.1
	comp=E,6μm,0.9s							
STL	**Santa Lucia**	**3.15**	**164**	⇓	*i*	P	**Pn**	**16 43 27.4 +0.4**
SAN	**Santiago**	**3.16**	**164**		*eP*	P	**Pn**	**16 43 27.1 0.0**
SAN					*i*	S	**Sn**	**16 44 03.8 +0.1**
SAN						AML	AML	16 44 15.8
	comp=E,11μm,0.2s							
SAN	**Santiago**	**3.16**	**164**		*eP*	P	**Pn**	**16 43 27.1 0.0**
SAN					*i*	S	**Sn**	**16 44 03.8 +0.1**
RCDM	**Rinconada Maip**	**3.17**	**167**		*eP*	P	**Pn**	**16 43 27.3 +0.1**
RCDM					*i*	S	**Sn**	**16 44 03.9 0.0**
RCDM						AML	AML	16 44 17.6
	comp=E,7μm,0.8s							
RCDM	**Rinconada Maip**	**3.17**	**167**		*eP*	P	**Pn**	**16 43 27.3 +0.1**
RCDM					*i*	S	**Sn**	**16 44 03.9 0.0**
CFAA	**Coronel Fontan**	**3.19**	**113**		Pn	P	**Pn**	**16 43 29.7 +2.1**
	comp=E,21nm,0.3s,baz=301,slow=11,SNR=342							
CFAA						Sn	**Sn**	**16 44 11.2 +6.7**
	comp=E,54nm,0.3s,baz=61,slow=21,SNR=8.6							
CFAA						LR	LR	16 44 56.9
	comp=E,453nm,19.9s,baz=302,slow=43							
CPCH	**Copiapo**	**3.25**	**21**	⇓	*i*	P	**Pn**	**16 43 29.5 +1.1**
ANTU	**Antumapu**	**3.28**	**165**	⇑	*i*	P	**Pn**	**16 43 29.1 +0.3**
ANTU					*i*	S	**Sn**	**16 44 07.3 +0.6**
ANTU						AML	AML	16 44 22.1
	comp=E,9μm,0.4s							
ANTU	**Antumapu**	**3.28**	**165**	⇑	*i*	P	**Pn**	**16 43 29.1 +0.3**
ANTU					*i*	S	**Sn**	**16 44 07.3 +0.6**
TACH	**Talagante**	**3.30**	**169**	⇑	*i*	P	**Pn**	**16 43 29.0 -0.1**
PCH	**Pirque**	**3.36**	**163**		*eP*	P	**Pn**	**16 43 30.2 +0.4**
MDZ	**Mendoza**	**3.46**	**136**	⇓	*i*	P	**Pn**	**16 43 35.0 +3.8**
MDZ					*i*			16 43 38.0
MDZ					*i*			16 43 38.3
MDZ					*i*	S	**Pb**	**16 43 41.3 +1.2**
YECH	**El Yeso**	**3.52**	**158**		*eP*	P	**Pn**	**16 43 33.3 +1.1**
YECH					*i*	S	**Sn**	**16 44 13.9 +1.2**
YECH						AML	AML	16 44 27.9
	comp=N,6μm,0.4s							
CHCH	**Chadas Angostu**	**3.63**	**166**	⇑	*i*	P	**Pn**	**16 43 33.8 +0.3**
LMEL	**Las Melosas**	**3.66**	**160**	⇑	*i*	P	**Pn**	**16 43 34.7 +0.8**
LMEL					*i*	S	**Sn**	**16 44 16.4 +0.4**
CACH	**El Canelo**	**3.81**	**166**	⇑	*i*	P	**Pn**	**16 43 36.7 +0.6**
CICH	**Cipreses**	**4.05**	**165**	⇑	*i*	P	**Pn**	**16 43 39.9 +0.5**
CICH					*i*	S	**Sn**	**16 44 25.9 +0.3**
LVC	**Limon Verde**	**8.15**	**18**		Pn	Pn	**Pn**	**16 44 33.9 -1.7**
	comp=N,2.0nm,0.3s,baz=90,slow=3.9,SNR=22							
LVC						Sn	**Sn**	**16 46 10.3 +3.7**
	comp=N,6.8nm,0.3s,baz=270,slow=20,SNR=3.3							
LVC						LR	LR	16 47 37.4
	comp=N,1μm,19.7s,baz=270,slow=37							
LVC	**Limon Verde**	**8.15**	**18**		*e*Pn	Pn	**Pn**	**16 44 33.5 -2.1**
	comp=N,51nm,0.6s							
TRQA	**Tornquist**	**11.07**	**136**		*e*Pn	Pn	**Pn**	**16 45 14.2 -1.6**
	comp=N,201nm,1.0s							
TRQA					*e*	Sn	**Sn**	**16 47 17.5 -1.0**
LPAZ	**La Paz**	**14.42**	**14**		Pn	Pn	**Pn**	**16 46 02.1 +0.6**
	comp=N,0.6nm,0.3s,baz=172,slow=12,SNR=30							
LPAZ	**La Paz**	**14.42**	**14**		*e*Pn	Pn	**Pn**	**16 46 04.0 +2.6**
	comp=N,19nm,1.0s							
SIV	**San Ignacio**	**17.33**	**36**		P	P	**Pn**	**16 46 39.2 +0.2**
	comp=N,1.3nm,0.3s,baz=225,slow=12,SNR=74							
NNA	**Nana**	**18.94**	**344**		LR	LR		16 52 47.0
	comp=N,312nm,18.2s,baz=156,slow=32							
NNA	**Nana**	**18.94**	**344**		P	P	**Pn**	**16 46 59.0 +0.3**
SAML	**Samuel**	**22.77**	**22**		*e*P	P	**Pn**	**16 47 38.8 -0.5**
	comp=N,46nm,1.4s,mb4.7							
SAML					*e*			16 47 52.5
EFI	**East Falkland**	**23.53**	**158**		P	P	**Pn**	**16 47 43.8 -3.3**
	comp=N,29nm,0.8s,mb4.8							
ATAH	**Atahualpa**	**24.12**	**344**		LR	LR		16 55 14.8
	comp=N,353nm,19.8s,MS3.9,baz=9.6,slow=32							
USHA	**Ushuaia**	**24.53**	**175**		P	P	**Pn**	**16 47 55.6 -0.6**
	comp=N,19nm,0.8s,mb4.7,baz=353,slow=8.3,SNR=8.1							
USHA						LR	LR	16 58 10.3
	comp=N,615nm,19.0s,MS4.1,baz=339,slow=38							
OTAV	**Otavalo**	**31.14**	**347**		P	P		**16 48 55.9 +0.5**
	comp=N,12nm,1.3s,mb4.6							
SDV	**Santo Domingo**	**39.08**	**2**		*e*P	P	**Pn**	**16 50 02.4 -1.3**
	comp=N,16nm,1.0s,mb4.7							
VNA3	**Neumayer Olymp**	**52.58**	**159**		*e*	P		**16 51 49.4 -0.8**
VNA3					*e*			16 51 54.3
VNA3					*e*			16 52 02.7
VNA3					*e*			16 52 13.4
VNA2	**Neumayer--Watz**	**53.22**	**158**		*e*	P		**16 51 54.0 -0.9**
VNA2					*e*			16 51 58.9
VNA2					*e*			16 52 06.6
VNA2					*e*			16 52 18.7
SNAA	**Sanae**	**54.81**	**159**		P	P		**16 52 05.3 -1.2**
	comp=N,5.3nm,0.9s,mb4.6,baz=283,slow=6.3,SNR=54							
SNAA	**Sanae**	**54.81**	**159**		*e*P	P		**16 52 05.0 -1.4**
	comp=N,23nm,1.0s,mb5.2							
RKT	**Rikitea**	**56.35**	**261**		*e*S	Sx		17 00 28.1
	comp=N,100nm,30.0s							
RKT						eLR	LR	17 09 03.0
	comp=N,205nm,26.8s							
QSPA	**South Pole Qui**	**59.82**	**180**		*e*P	P		**16 52 41.4 -0.5**
	comp=N,26nm,0.9s,mb5.3							
BBSR	**BB Station**	**62.78**	**7**		P	P		**16 52 57.7 -4.1**
	comp=N,17nm,0.9s,mb5.2							
JCT	**Junction City**	**66.19**	**334**		*e*P	P		**16 53 24.9 +0.8**
	comp=N,31nm,1.1s,mb5.2							
JCT					*e*		pP	16 53 34.0 0.0
SBA	**Scott Base**	**66.65**	**191**		P	P		**16 53 25.8 -1.3**
	comp=N,9.2nm,1.1s,mb4.7							
OXF	**Oxford**	**66.70**	**344**		*e*P	P		**16 53 26.3 -1.1**
	comp=N,86nm,1.2s,mb5.7							
OXF					*e*		pP	16 53 35.5 -1.8
TXAR	**Lajitas Array**	**66.77**	**330**		LR	LR		17 19 36.1
	comp=N,124nm,19.1s,MS4.1,baz=275,slow=33							
PLAL	**Pickwick Lake**	**66.85**	**345**		*e*P	P		**16 53 26.7 -1.6**
	comp=N,51nm,1.7s,mb5.3							
PLAL					*e*		pP	16 53 36.9 -1.4
VNDA	**Vanda**	**67.68**	**191**		P	P		**16 53 31.2 -2.4**
	comp=N,2.9nm,1.1s,mb4.2,baz=132,slow=5.5,SNR=5.6							
VNDA	**Vanda**	**67.68**	**191**		*e*P	P		**16 53 28.5 -5.1**
	comp=N,2.2nm,0.9s,mb4.2							
MIAR	**Mount Ida**	**67.82**	**341**		P	P		**16 53 37.9 +3.4**
	comp=N,20nm,1.4s,mb4.9							
WVT	**Waverly**	**67.90**	**346**		P	P		**16 53 42.2 +7.2**
	comp=N,20nm,1.1s,mb5.1							
TBI	**Tubuai**	**68.50**	**255**		*e*S	S		17 03 02.8 +24
	comp=N,179nm,31.2s							
TBI						eLR	LR	17 14 41.9
	comp=N,184nm,25.0s,baz=106							

SYO	**Syowa Base**	**69.10**	**159**	⇓	*e*P	P		**16 53 40.6 -1.9**
SYO	**Syowa Base**	**69.10**	**159**	⇓	*e*P	P		**16 53 50.0 +7.5**
WMOK	**Wichita Mounta**	**69.65**	**336**		*e*P	P		**16 53 45.6 -0.3**
	comp=N,14nm,1.3s,mb4.7							
WMOK					*e*		pP	16 53 54.7 -1.1
MVL	**Millersville**	**70.18**	**356**		*e*P	P		**16 53 49.0 -0.2**
PPT	**Papeete**	**71.10**	**260**		*e*S	S		17 03 31.8 +23
	comp=N,133nm,29.5s							
PPT					*e*	LR	LR	17 15 58.2
	comp=N,235nm,24.0s,baz=109							
PPT	**Papeete**	**71.10**	**260**		LR	LR		17 16 35.5
	comp=N,265nm,19.0s,MS4.5,baz=115,slow=29							
ANMO	**Albuquerque**	**72.80**	**331**		P	P		**16 54 06.2 +1.3**
	comp=N,7.3nm,1.3s,mb4.5							
SDCO	**Great Sand Dun**	**74.81**	**333**		*e*P	P		**16 54 18.4 +1.7**
	comp=N,7.1nm,1.1s,mb4.5							
SUR	**Sutherland**	**76.32**	**120**		*e*P	P		**16 54 25.2 -0.2**
	comp=N,23nm,0.9s,mb5.1							
MAW	**Mawson**	**76.54**	**164**		P	P		**16 54 25.6 -1.0**
	comp=N,14nm,0.7s,mb5.0,baz=217,slow=6.6,SNR=12							
MAW						LR	LR	17 30 17.0
	comp=N,202nm,18.2s,MS4.5,baz=243,slow=37							
ECSD	**EROS,Sioux Fal**	**77.23**	**342**		*e*P	P		**16 54 29.9 -0.6**
	comp=N,7.9nm,1.0s,mb4.6							
ECSD					*e*		pP	16 54 39.8 -0.8
ISA	**Isabella**	**79.08**	**323**		*e*P	P		**16 54 42.3 +1.5**
RSSD	**Black Hills**	**79.84**	**337**		P	P		**16 54 45.1 +0.2**
	comp=N,2.6nm,0.9s,mb4.2							
TSUM	**Tsumeb**	**79.92**	**106**		*e*P	P		**16 54 46.5 +1.2**
	comp=N,27nm,1.3s,mb5.0							
TSUM					*e*			16 54 59.0
HWUT	**Hardware Ranch**	**80.56**	**331**		*e*P	P		**16 54 49.3 +0.5**
	comp=N,4.0nm,0.8s,mb4.4							
HWUT					*e*		pP	16 54 58.8 -0.1
PDAR	**Pinedale Array**	**80.70**	**333**		LR	LR		17 27 12.5
	comp=N,88nm,20.5s,MS4.1,baz=344,slow=33							
NVAR	**Mina Array Bea**	**81.12**	**325**		P	P		**16 54 52.0 +0.2**
	comp=N,0.9nm,0.8s,mb3.7,baz=158,slow=5.7,SNR=4.7							
AGMN	**Agassiz Refuge**	**81.29**	**344**		*e*P	P		**16 54 52.4 -0.3**
	comp=N,5.4nm,0.6s,mb4.7							
BOSA	**Boshof**	**81.48**	**118**		P	P		**16 54 53.2 -0.5**
	comp=N,8.1nm,1.1s,mb4.6,baz=228,slow=7.2,SNR=6.3							
BOSA						LR	LR	17 26 32.6
	comp=N,108nm,18.3s,MS4.2,baz=226,slow=32							
TOA0	**Torodi Ar. Sit**	**82.71**	**70**		*e*P	P		**16 54 59.7 -0.4**
TORD	**Torodi Ar. Bea**	**82.71**	**70**		P	P		**16 54 59.8 -0.3**
	comp=N,8.2nm,0.6s,mb4.9,baz=265,slow=4.9,SNR=50							
TORD						LR	LR	17 29 49.8
	comp=N,275nm,18.3s,MS4.7,baz=240,slow=34							
ULM	**Lac du Bonnet**	**83.12**	**345**		P	P		**16 55 00.6 -1.7**
	comp=N,6.6nm,1.0s,mb4.6,baz=263,slow=1.8,SNR=5.6							
LBTB	**Lobatse**	**83.55**	**115**		*e*P	P		**16 55 03.6 -0.8**
	comp=N,22nm,1.1s,mb5.2							
AFI	**Afiamalu**	**91.53**	**253**		LR	LR		17 31 14.5
	comp=N,162nm,18.3s,MS4.5,baz=229,slow=32							
ESDC	**Sonseca Array**	**93.86**	**46**		P	P		**16 55 53.7 -0.1**
	comp=N,0.2nm,0.3s,mb4.0,baz=262,slow=4.9,SNR=4.0							
ESDC						LR	LR	17 35 39.4
	comp=N,157nm,20.4s,MS4.5,baz=330,slow=34							
ESDC	**Sonseca Array**	**93.86**	**46**		P	P		**16 55 53.7 -0.1**
ESDC						LR	LR	17 35 39.4
YKA	**Yellowknife Ar**	**98.76**	**341**		P	P		**16 56 14.9 -1.1**
	comp=N,0.3nm,0.5s,mb4.0,baz=141,slow=4.5,SNR=2.7							
AKASG	**Malin Array Be**	**119.51**	**46**		PKP	PKPdf		17 01 24.2 -1.8
	comp=N,1.6nm,0.6s,baz=279,slow=1.7,SNR=6.4							
AKASG	**Malin Array Be**	**119.51**	**46**		PKP	PKPdf		17 01 24.2 -1.8
BRTR	**Keskin Array B**	**119.78**	**59**		PKP	PKPdf		17 01 24.6 -1.8
	comp=N,1.0nm,0.7s,baz=183,slow=8.4,SNR=4.4							
ARCES	**ARCESS Array B**	**120.62**	**24**		PKP	PKPdf		17 01 25.5 -2.6
	comp=N,3.0nm,0.8s,baz=24,slow=9.3,SNR=2.7							
ASAR	**Alice Springs**	**120.90**	**207**		PKP	PKPdf		17 01 27.4 -1.2
	comp=N,0.5nm,0.7s,baz=132,slow=1.5,SNR=14							
WRA	**Warramunga Arr**	**124.03**	**210**		PKP	PKPdf		17 01 33.7 -0.9
	comp=N,1.5nm,0.6s,baz=159,slow=1.7,SNR=54							
ARU	**Arti**	**136.78**	**38**		*e*PKPdf	PKPdf		17 01 58.1 -0.7
AKTK	**Aktyubinsk**	**137.74**	**47**		PKP	PKPdf		17 02 00.1 -0.5
AKTO	**Aktyubinsk**	**137.74**	**47**		PKP	PKPdf		17 02 00.1 -0.5
	comp=N,1.7nm,0.8s,baz=258,slow=3.0,SNR=6.1							
YAK	**Yakutsk**	**145.43**	**342**		*e*PKPdf	PKPdf		17 02 13.2 -1.1
EKS2	**Erkin-Say**	**149.88**	**56**		P	PKPbc		17 02 27.0 +0.5
	SNR=20							
AML	**Almayashu**	**149.93**	**58**		P	PKPbc		17 02 27.3 +0.7
	SNR=12							
KURK	**Kurchatov**	**149.97**	**39**		*e*PKPbc	PKPbc		17 02 26.2 -0.6
HYB	**Hyderabad**	**149.98**	**109**		*i* PKP	PKPbc		17 02 26.0 -0.7
HYB	**Hyderabad**	**149.98**	**109**		*e*P	PKPbc		17 02 26.0 -0.7
USP	**Ospenovka**	**150.25**	**55**		P	PKPbc		17 02 27.6 +0.2
	SNR=14							
AAK	**Ala-Archa**	**150.40**	**56**		*e*PKPbc	PKPbc		17 02 27.0 -0.8
CHMS	**Chumysh**	**150.50**	**55**		P	PKPbc		17 02 28.3 +0.3
	SNR=7.1							
UCH	**Uchtor**	**150.50**	**57**		P	PKPbc		17 02 29.1 +1.1
	SNR=27							
KBK	**Karagaybulak**	**150.72**	**56**		P	PKPbc		17 02 28.8 +0.3
	SNR=12							
ZAL	**Zalesovo**	**150.99**	**29**		PKP	PKPdf		17 02 23.4 0.0
	comp=N,1.5nm,0.8s,baz=268,slow=1.6,SNR=7.4							
ZAL						PKPbc	PKPbc	17 02 29.2 +0.1
	comp=N,28nm,0.7s,baz=167,slow=2.6,SNR=98							
KZA	**Kyzart**	**151.07**	**57**		P	PKPbc		17 02 30.4 +1.0
	SNR=8.6							
TKM2	**Tokmak 2**	**151.12**	**55**		P	PKPbc		17 02 29.7 +0.2
	SNR=12							
MKAR	**Makanchi Array**	**154.06**	**44**		PKP	PKPdf		17 02 27.1 -0.8
	comp=N,1.0nm,0.8s,baz=54,slow=2.1,SNR=5.1							
MKAR						PKPbc	PKPbc	17 02 35.2 -0.8
	comp=N,4.6nm,0.8s,baz=314,slow=2.1,SNR=26							
MKAR						PKPab	PKPab	17 02 50.0 +0.4
	comp=N,3.0nm,0.8s,baz=289,slow=3.7,SNR=9.3							
MJAR	**Matsushiro Arr**	**154.39**	**292**		PKPab	PKPab		17 02 49.2 -1.8
	comp=N,1.2nm,0.6s,baz=114,slow=2.9,SNR=4.1							
SONM	**Songino Array**	**162.53**	**4**		PKP	PKPdf		17 02 37.1 -1.0
	comp=N,0.9nm,0.8s,baz=346,slow=2.2,SNR=3.9							
SONM						PKPab	PKPab	17 03 26.7 +0.5
	comp=N,1.9nm,0.9s,baz=336,slow=6.7,SNR=6.1							

*IDC **30** 16:44:14.0±1.3, 4554N×15327E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/28, Error ellipse: s-maj=46.1km s-min=27.1km az=138.0*
*ISCJB **30** 16:44:16.7±1.1, 456N±02×1533E±01, h35km, mb3.6/3, Error ellipse: s-maj=29.8km s-min=12.0km az=170.7*
*MOS **30** 16:44:17.0±0.7, 4562N×15309E, h36km, mb4.1/2, Error ellipse: s-maj=65.6km s-min=37.4km az=153.8*

ISC 30 16:44:18.6±1.1, 456N±02×1533E±01, h35km, n8, σ1s01/9, mb3.6/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.83**	**266**	*e*PN	**Pn**	**16 45 13.4**	**-1.7**
KUR				*e*S	**Sn**	**16 46 00.5**	**+1.6**
KUR				smax			
	comp=N,190nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
ASAJ	**Asahikawa**	**7.74**	**263**	Pn	**Pn**	**16 46 07.8**	**-1.0**
	comp=E,0.7nm,0.3s,baz=73,slow=20,SNR=5.9						
ASAJ				LR	LR	16 48 45.0	
	comp=E,59nm,20.6s,baz=319,slow=35						
KSRS	**Korea Array**	**20.60**	**256**	P	**P**	**16 48 54.5**	**-0.1**
	comp=E,1.0nm,0.6s,baz=59,slow=11,SNR=6.0						
YKA	**Yellowknife Ar**	**51.78**	**36**	P	**P**	**16 53 23.2**	**+0.5**
	comp=E,0.9nm,0.6s,mb3.9,baz=296,slow=7.1,SNR=6.0						
YKA	**Yellowknife Ar**	**51.78**	**36**	P	**P**	**16 53 23.2**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**67.46**	**199**	P	**P**	**16 55 10.6**	**-0.2**
	comp=Z,0.3nm,0.9s,mb3.3,baz=17,slow=6.3,SNR=5.2						
ASAR	**Alice Springs**	**71.15**	**199**	P	**P**	**16 55 34.5**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=11,slow=5.3,SNR=9.7						
ASAR	**Alice Springs**	**71.15**	**199**	P	**P**	**16 55 34.5**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **30** 16:50:45.8±0.8, 4677N×15561E, h0km, mb3.8/12, mb1 4.1/13, mb1mx3.9/25, mbtmp3.9/13, ML3.6/1, Error ellipse: s-maj=26.9km s-min=17.5km az=159.0*
*ISCJB **30** 16:50:47.8±4.6, 468N±0.1×1556E±02, h24km±31km, mb3.9/14, Error ellipse: s-maj=25.1km s-min=13.9km az=105.5*
*MOS **30** 16:50:49.2±0.9, 4681N×15552E, h35km, mb4.2/8, Error ellipse: s-maj=26.7km s-min=14.9km az=89.1*

ISC 30 16:50:51.4±1.9, 469N±01×1556E±02, h37km±16km, n25, σ0s71/25, mb3.9/14, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**5**	*e*PN	**Pn**	**16 51 47.5**	**-0.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ASAJ	**Asahikawa**	**9.52**	**258**	Pn	**Pn**	**16 53 06.2**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=208,slow=14,SNR=5.2						
ASAJ	**Asahikawa**	**9.52**	**258**	PN	**Pn**	**16 53 06.3**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.45**	**255**	P	**P**	**16 55 47.3**	**+0.1**
	comp=Z,1.9nm,0.9s,mb3.5,baz=50,slow=10,SNR=3.4						
TIXI	**Tiksi**	**27.85**	**342**	*e*P	**P**	**16 56 37.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**16 58 28.6**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.6,baz=250,slow=4.8,SNR=6.2						
INK	**Inuvik**	**40.64**	**33**	P	**P**	**16 58 28.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.38**	**298**	P	**P**	**16 59 29.4**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=67,slow=6.6,SNR=8.0						
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**16 59 38.9**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=294,slow=7.3,SNR=3.7						
YKA	**Yellowknife Ar**	**49.81**	**37**	P	**P**	**16 59 38.9**	**-1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**59.89**	**313**	P	**P**	**17 00 54.0**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=64,slow=8.1,SNR=4.3						
AKTO	**Aktyubinsk**	**59.89**	**313**	P	**P**	**17 00 54.0**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**17 01 01.5**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.2,baz=298,slow=7.1,SNR=6.5						
PDAR	**Pinedale Array**	**63.30**	**55**	P	**P**	**17 01 16.2**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=321,slow=2.1,SNR=4.3						
FINES	**FINESS Array B**	**64.64**	**336**	P	**P**	**17 01 25.1**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=11,SNR=9.1						
FINES	**FINESS Array B**	**64.64**	**336**	⇑	*i*P	**P**	**17 01 25.7**	**+0.4**
OBN	**Obninsk**	**66.15**	**327**	⇑	*i*P	**P**	**17 01 34.1**	**-1.0**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
AKASG	**Malin Array Be**	**72.37**	**327**	P	**P**	**17 02 13.3**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=34,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**72.37**	**327**	P	**P**	**17 02 13.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.89**	**201**	P	**P**	**17 02 15.7**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=22,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**72.89**	**201**	P	**P**	**17 02 15.7**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**17 02 35.0**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**75.96**	**62**	P	**P**	**17 02 35.0**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7

KUR	**Kuril'sk**	**4.05 251**	*e*PN		**Pn**	**18 00 09.0**	**0.0**
SKR	**Severo-Kuril's**	**4.44 24**	*e*PN		**Pg**	**18 00 33.0**	**+1.0**
SKR			*e*			18 01 10.0	
NEM2	**Nemuro 2**	**6.29 241**	P		**Pn**	**18 00 38.3**	**-1.4**
NEM2			*e*S		Sx	18 01 42.7	
JRA	**Rausu**	**6.38 248**	P		**Pn**	**18 00 42.5**	**+1.5**
JNK	**Nakash**	**6.81 246**	P		**Pn**	**18 00 46.9**	**+0.1**
JNK			*e*S		Sx	18 01 58.9	
JAK	**Akkeshi**	**7.13 242**	P		**Pn**	**18 00 49.6**	**-1.7**
JAK			*e*S		Sx	18 02 02.8	
JTKR	**Abashiri--Toko**	**7.15 251**	P		**Pn**	**18 00 52.6**	**+1.1**
JMP	**Maruseppu**	**7.50 253**	P		**Pn**	**18 00 57.7**	**+1.5**
JAR	**Ashorobuto**	**7.55 247**	P		**Pn**	**18 00 57.3**	**+0.3**
JAR			*e*S		Sx	18 02 17.1	
JKK2	**Kamakawa 2**	**7.95 253**	P		**Pn**	**18 01 04.2**	**+1.7**
ASAJ	**Asahikawa**	**7.96 255**	Pn		**Pn**	**18 01 04.3**	**+1.7**
	0.4nm,0.3s,baz=128,slow=30,SNR=4.0						
JCH	**Churui**	**8.16 244**	P		**Pn**	**18 01 04.4**	**-1.0**
JCH			*e*S		Sx	18 02 27.6	
JNBK	**Urakawa-nobuka**	**8.72 244**	P		**Pn**	**18 01 11.1**	**-2.0**
JNB	**Noboribetsu**	**9.71 249**	P		**Pn**	**18 01 26.7**	**+0.1**
JYM2	**Yakumo 2**	**10.31 249**	P		**Pn**	**18 01 33.3**	**-1.5**
JANG	**Nango**	**10.61 238**	P		**Pn**	**18 01 34.7**	**-4.3**
JANG			*e*S		Sx	18 03 21.7	
KSRS	**Korea Array**	**20.90 253**	P		**P**	**18 03 52.3**	**+3.0**
	0.9nm,0.7s,baz=52,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**47.11 298**	P		**P**	**18 07 36.8**	**-2.2**
	0.3nm,0.5s,mb3.5,baz=62,slow=7.3,SNR=8.0						
FINES	**FINESS Array B**	**64.19 335**	P		**P**	**18 09 41.0**	**-0.8**
	0.7nm,0.4s,mb4.0,baz=35,slow=7.0,SNR=9.2						
FINES	**FINESS Array B**	**64.19 335**	P		**P**	**18 09 41.0**	**-0.7**
FINES			pmax	pmax			
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.36 341**	P		**P**	**18 10 08.6**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=29,slow=6.5,SNR=2.6						
NOA	**NORSAR Array B**	**68.36 341**	P		**P**	**18 10 08.6**	**+0.1**
NOA			pmax	pmax			
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.47 199**	P		**P**	**18 10 09.1**	**0.0**
	comp=Z,0.3nm,0.9s,mb3.3,baz=14,slow=6.1,SNR=2.6						
AKASG	**Malin Array Be**	**71.70 326**	P		**P**	**18 10 27.5**	**-1.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=37,slow=6.4,SNR=4.7						
AKASG	**Malin Array Be**	**71.70 326**	P		**P**	**18 10 27.5**	**-1.5**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.16 199**	P		**P**	**18 10 33.0**	**+1.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=12,slow=5.6,SNR=8.0						

IDC 30 18:00:10.1±6.8, 556S×14730E, h193km±77km, mb2.6/1, mb1 3.0/3, mb1mx2.8/13, mbtmp2.8/3, Error ellipse: s-maj=142.8km s-min=51.3km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**182**	P	Pn	18 01 10.4	+1.0
	7.1nm,0.3s,baz=343,slow=5.6,SNR=47						
PMG				S	Sn	18 01 55.8	0.0
	2.3nm,0.3s,baz=178,slow=21,SNR=3.6						
WB2	**Warramunga Arr**	**19.05**	**220**	*e*P	P	18 04 18.1	+0.4
WRA	**Warramunga Arr**	**19.06**	**220**	P	P	18 04 18.0	+0.3
	0.2nm,0.3s,baz=37,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.15**	**214**	P	P	18 04 50.9	+0.8
	0.5nm,0.4s,baz=49,slow=8.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	PKPbc	18 19 24.5	-0.3
	0.1nm,0.5s,baz=87,slow=3.9,SNR=3.6						

SKHL 30 18:04:12.5±0.5, 5583N×12448E, h8km±1km, mb4.0/7, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLNS	**Chul'man**	**1.03**	**13**	*e*Pg	Pg	18 04 32.6	+0.2
CLNS				*e*Pg		18 04 34.9	
CLNS				*e*Sg	Sg	18 04 47.2	+1.4
CLNS				A		18 04 50.6	
	669nm,0.3s						
CLNS				A		18 04 50.6	
	894nm,0.3s						
CLNS				A		18 04 50.6	
	120nm,0.3s						
KROS	**Kirovskiy**	**2.00**	**133**	⇓*e*Pn	Pn	18 04 46.5	-0.1
KROS				⇓*i*Pg	Pg	18 04 48.8	-2.1
KROS				AMB	AMB	18 04 50.1	
	34nm,0.4s						
KROS				AMB	AMB	18 04 50.1	
	48nm,0.4s						
KROS				AMB	AMB	18 04 50.1	
	50nm,0.4s						
KROS				sPg		18 04 53.0	
KROS				*i* Sn	Sn	18 05 12.3	+0.5
KROS				*i* Sg	Sg	18 05 15.3	-1.5
KROS				A		18 05 16.9	
	300nm,0.5s						
KROS				A		18 05 16.9	
	400nm,0.5s						
KROS				A		18 05 16.9	
	330nm,0.5s						
ZEA	**Zeya**	**2.64**	**141**	*e*Pn	Pn	18 04 56.0	+0.6
ZEA				pPn		18 04 58.5	
ZEA				*e*Pg	Pg	18 05 00.0	-3.1
ZEA				AMB	AMB	18 05 01.9	
	37nm,0.2s						
ZEA				*e*Sn	Sn	18 05 28.3	+0.7
ZEA				*e*Sg	Sg	18 05 35.2	-2.1
ZEA				A		18 05 36.6	
	160nm,0.4s						
ZEA				A		18 05 36.6	
	300nm,0.4s						
BMKR	**Bomnak**	**2.74**	**112**	*e*Pn	Pn	18 04 55.8	-0.9
BMKR				*e*Pg	Pg	18 05 02.0	-2.9
BMKR				AMB	AMB	18 05 02.8	
	16nm,0.4s						
BMKR				AMB	AMB	18 05 02.8	
	18nm,0.4s						
BMKR				AMB	AMB	18 05 02.8	
	35nm,0.4s						
BMKR				pPg		18 05 04.6	
BMKR				*e*Sn	Sn	18 05 29.8	-0.1
BMKR				*e*Sg	Sg	18 05 38.0	-2.4
BMKR				A		18 05 42.1	
	170nm,0.5s						
BMKR				A		18 05 42.1	
	135nm,0.5s						
BMKR				A		18 05 42.1	
	79nm,0.5s						
TUP	**Tupik**	**2.96**	**243**	*e*Pn	Pn	18 05 03.3	+3.6
TUP				*e*Pg	Pg	18 05 08.9	-0.2
TUP				AMB	AMB	18 05 13.1	
	35nm,0.5s						
TUP				*e*Sn	Sn	18 05 37.5	+2.1
TUP				*e*Sg	Sg	18 05 45.0	-2.4
TUP				A		18 05 47.3	
	210nm,0.7s						
YASR	**Yasnyy**	**3.26**	**140**	*e*Pn	Pn	18 05 04.2	+0.3
YASR				pPn		18 05 06.6	
YASR				*e*Pg	Pg	18 05 10.8	-4.2
YASR				AMB	AMB	18 05 14.8	
	7.0nm,0.5s						
YASR				AMB	AMB	18 05 14.8	
	13nm,0.5s						
YASR				*e*Sg	Sg	18 05 54.1	-3.1
YASR				A		18 05 57.5	
	100nm,0.5s						
YASR				A		18 05 57.5	
	40nm,0.5s						
CRS	**Chara**	**3.62**	**290**	*e*Pn	Pn	18 05 11.1	+2.3
CRS				*e*Pg	Pg	18 05 18.2	-3.6
CRS				AMB	AMB	18 05 20.3	
	41nm,0.7s						
CRS				*e*Sg	Sg	18 06 03.0	-5.7
CRS				A		18 06 12.2	
	149nm,0.8s						
EKMR	**Ekimchan**	**5.66**	**116**	*e*Pn	Pn	18 05 36.8	-0.1
EKMR				*e*Pg	Pg	18 05 53.5	-7.4
EKMR				AMB	AMB	18 06 02.0	
	3.0nm,0.4s						
EKMR				AMB	AMB	18 06 02.0	
	8.0nm,0.4s						
EKMR				AMB	AMB	18 06 02.0	
	4.0nm,0.4s						
EKMR				*e*Sn	Sn	18 06 40.7	-1.4
EKMR				*e*Sg	Sg	18 07 07.5	-6.8
EKMR				A		18 07 20.4	
	34nm,0.5s						
EKMR				A		18 07 20.4	
	21nm,0.5s						
EKMR				A		18 07 20.4	
	20nm,0.5s						
KLR	**Kul'dur**	**7.96**	**143**	*e*Sn	Sn	18 07 32.2	-6.4
KLR				*e*Sg	Sg	18 08 22.2	-5.6
GRNR	**Gornyy**	**8.76**	**120**	*e*Sg	Sn	18 08 46.5	+48

IDC 30 18:19:59.7±5.2, 632S×12985E, h197km±56km, mb3.2/1, mb1 3.0/3, mb1mx2.8/14, mbtmp2.8/3, Error ellipse: s-maj=146.1km s-min=17.4km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.22**	**163**	P	Pn	18 23 11.5	-1.0
	0.2nm,0.3s,baz=345,slow=12,SNR=15						
WRA				S	Sn	18 25 42.7	-8.6
	0.4nm,0.3s,baz=330,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**17.68**	**168**	P	Pn	18 23 53.5	-0.5
	0.2nm,0.3s,baz=341,slow=9.5,SNR=27						
ASAR				S	S	18 27 06.2	+0.8
	0.1nm,0.3s,baz=352,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	18 30 35.0	+0.1
	0.3nm,0.4s,baz=119,slow=7.5,SNR=12						

IDC 30 18:31:33.6±1.5, 4678N×15391E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=45.6km s-min=31.4km az=109.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.34**	**32**	P	P	18 39 20.5	-0.5
	1.2nm,0.9s,baz=294,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**47.42**	**298**	P	P	18 40 09.7	0.0
	0.6nm,1.0s,baz=67,slow=5.9,SNR=4.3						
FINES	**FINESS Array B**	**64.25**	**335**	P	P	18 42 09.7	-0.7
	1.4nm,0.4s,baz=42,slow=7.4,SNR=27						
ASAR	**Alice Springs**	**72.41**	**199**	P	P	18 43 01.4	-0.1
	0.5nm,0.9s,baz=28,slow=5.8,SNR=4.7						

*GRAL **30** 18:45:33.7±3.0, 3666N×2735E, h0km±999km, MD4.4*
*CSEM **30** 18:45:33.2±0.0, 3644N×2705E, h127km, Mw3.5, Error ellipse: s-maj=1.4km s-min=1.1km az=21.0*
*ISCJB **30** 18:45:34.0±0.1, 3637N±002×2698E±002, h136km±2km, mb3.9/7, Error ellipse: s-maj=3.1km s-min=2.2km az=49.0*
*HLW **30** 18:45:34.4, 3640N×2715E, h33km, Mb4.8*
*IDC **30** 18:45:34.9±0.8, 3637N×2698E, h120km±11km, mb3.7/7, mb1 3.8/15, mb1mx3.6/27, mbtmp3.8/15, Error ellipse: s-maj=15.0km s-min=8.2km az=163.0*
*NEIC **30** 18:45:35.2, 3648N×2694E, h122km, mb4.0/15, After ATH.*
*ATH **30** 18:45:35.3, 3647N×2694E, h121km±4km, ML4.0*
*ISK **30** 18:45:35.5, 3650N×2692E, h121km, ML4.0*
*NIC **30** 18:45:37.7±0.3, 3628N×2716E, h25km, mb4.4, ML4.0, MW3.5*
*THE **30** 18:45:38.9, 3655N×2705E, h65km, ML3.8*
*GII **30** 18:45:39.6±0.5, 3600N×2727E, h25km±30km, mb4.1/6, ML3.9/7*

ISC 30 18:45:35.1±0.1, 3637N±002×2698E±002, h130km±2km, n204, σ1§06/247, mb3.9/7, 7C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.27**	**27**	*e*P	**Pn**	**18 45 52.0**	**-1.1**
DAT	**Datca**	**0.60**	**54**	*i* PG	**Pn**	**18 45 54.4**	**-0.4**
DAT				*i* SG	**Sn**	**18 46 03.1**	**-1.4**
BODT	**Bodrum**	**0.74**	**21**	*i* PG	**Pn**	**18 45 55.0**	**-0.8**
BODT				*i* SG	**Sn**	**18 46 08.9**	**-2.5**
BDRM	**Kayabasi**	**0.79**	**28**	*i* P	**Pn**	**18 45 56.1**	**0.0**
BDRM				*i* S	**Sn**	**18 46 10.6**	**-1.5**
KARP	**Karpathos**	**0.84**	**170**	*e*P	**Pn**	**18 45 57.6**	**+1.1**
ARG	**Arkhangelos**	**0.94**	**99**	⇑*i*P	**Pn**	**18 45 58.6**	**+1.1**
MLSB	**Milas**	**1.12**	**35**	*i* PG	**Pn**	**18 45 59.1**	**-0.1**
MLSB				*i* SG	**Sn**	**18 46 15.7**	**-1.8**
SANT	**Santorini**	**1.22**	**270**	*e*Pg	**Pn**	**18 46 00.4**	**+0.2**
SANT				*e*Sg	**Sn**	**18 46 15.7**	**-3.6**
SANT	**Santorini**	**1.22**	**270**	*e*P	**Pn**	**18 46 00.5**	**+0.3**
THR1	**Thera Island**	**1.22**	**270**	*e*Pg	**Pn**	**18 46 00.4**	**+0.2**
THR6	**Thira Island,**	**1.27**	**270**	*e*Pg	**Pn**	**18 46 01.1**	**+0.4**
YER	**Yerkesik**	**1.30**	**54**	*i* PN	**Pn**	**18 46 01.7**	**+0.8**
YER				*i* SN	**Sn**	**18 46 19.4**	**-1.2**
THR5	**Thira Island,**	**1.31**	**272**	*e*Pg	**Pn**	**18 46 01.5**	**+0.3**
SMG	**Samos**	**1.34**	**355**	*e*P	**Pn**	**18 46 00.8**	**-0.6**
APE	**Apeiranthos**	**1.35**	**301**	*e*Pg	**Pn**	**18 46 01.5**	**0.0**
APE				*e*Sg	**Sn**	**18 46 20.1**	**-1.7**
APE	**Apeiranthos**	**1.35**	**301**	*e*P	**Pn**	**18 46 01.7**	**+0.1**
APE				*e*Sg	**Sn**	**18 46 20.0**	**-1.7**
DALT	**Dalyan (Mudla)**	**1.40**	**73**	*i* PN	**Pn**	**18 46 03.1**	**+1.1**
DALT				*i* SN	**Sn**	**18 46 22.5**	**0.0**
ZKR	**Zakros**	**1.40**	**206**	*e*Pg	**Pn**	**18 46 04.2**	**+2.2**
ZKR				*e*Sg	**Sn**	**18 46 24.3**	**+1.7**
NPS	**Neapolis**	**1.57**	**225**	*e*P	**Pn**	**18 46 04.9**	**+1.0**
NPS				*e*S	**Sn**	**18 46 26.0**	**+0.1**
FETY	**Fethiye**	**1.72**	**81**	*i* PN	**Pn**	**18 46 06.2**	**+0.5**
XRY	**Khrisi**	**1.82**	**215**	*e*P	**Pn**	**18 46 09.0**	**+2.1**
URLA	**Izmir**	**2.01**	**351**	*i* P	**Pn**	**18 46 08.3**	**-0.8**
URLA				*i* S	**Sn**	**18 46 34.0**	**-1.2**
BLCB	**Balcova**	**2.01**	**1**	*e*Pb	**Pn**	**18 46 08.7**	**-0.4**
BLCB				*e*Sb	**Sn**	**18 46 28.5**	**-6.8**
BLCB	**Balcova**	**2.01**	**1**	*i* Pn	**Pn**	**18 46 08.3**	**-0.9**
IDI	**Anoyia**	**2.01**	**238**	P	**Pn**	**18 46 09.9**	**+0.7**
	52nm,0.3s,baz=47,slow=11,SNR=790						
IDI				S	**Sn**	**18 46 34.3**	**-1.0**
	352nm,0.3s,baz=273,slow=21,SNR=34						
IZM	**Izmir**	**2.04**	**6**	*i* PN	**Pn**	**18 46 09.1**	**-0.4**
KDAG	**Bornova**	**2.04**	**6**	*i* P	**Pn**	**18 46 09.4**	**-0.2**
KDAG				*i* S	**Sn**	**18 46 37.7**	**+1.8**
DNZL	**Cakiroluk**	**2.12**	**51**	*i* P	**Pn**	**18 46 17.7**	**+7.3**
DNZL				*i* S	**Sn**	**18 46 45.2**	**+7.6**
KSL	**Kastellorizon**	**2.12**	**95**	*e*P	**Pn**	**18 46 11.0**	**+0.5**
DENT	**Denizli**	**2.15**	**49**	*i* PN	**Pn**	**18 46 11.2**	**+0.4**
GOLH	**Golhisar**	**2.25**	**67**	*i* P	**Pn**	**18 46 13.4**	**+1.3**
GOLH				*i* S	**Sn**	**18 46 41.4**	**+0.9**
ELL	**Elmali**	**2.39**	**80**	*i* PN	**Pn**	**18 46 15.2**	**+1.3**
VAM	**Vamos**	**2.45**	**248**	*e*P	**Pn**	**18 46 14.9**	**+0.3**
VAM				*e*S	**Sn**	**18 46 44.5**	**-0.6**
AKS	**Akhisar**	**2.59**	**15**	*i* PN	**Pn**	**18 46 15.3**	**-1.1**
GVD	**Gavdhos**	**2.81**	**238**	*e*P	**Pn**	**18 46 20.5**	**+1.3**
KHL	**Karahalli**	**2.81**	**45**	*i* PN	**Pn**	**18 46 19.5**	**+0.2**
PRK	**Paraskevi**	**2.92**	**349**	*e*P	**Pn**	**18 46 20.5**	**-0.2**
KVR	**Kavouri**	**2.95**	**300**	*e*P	**Pn**	**18 46 20.5**	**-0.5**
ANTB	**Antalya**	**3.00**	**79**	PN	**Pn**	**18 46 22.5**	**+0.8**
ATH	**Athens Observa**	**3.05**	**302**	*e*P	**Pn**	**18 46 23.5**	**+1.1**
BCK	**Bucak**	**3.09**	**68**	PN	**Pn**	**18 46 23.7**	**+0.8**
TKTP	**Tekketepe**	**3.15**	**57**	*i* P	**Pn**	**18 46 24.1**	**+0.5**
TKTP				*i* S	**Sn**	**18 46 55.5**	**-5.5**
KYTH	**Kithira**	**3.18**	**270**	*e*P	**Pn**	**18 46 24.5**	**+0.5**
ISP	**Isparta**	**3.18**	**61**	PN	**Pn**	**18 46 23.9**	**-0.2**
ISP	**Isparta**	**3.18**	**61**	P	**Pn**	**18 46 24.8**	**+0.7**
ISP	**Isparta**	**3.18**	**61**	*e*Pn	**Pn**	**18 46 24.6**	**+0.5**
VLI	**Veliai**	**3.27**	**277**	*e*P	**Pn**	**18 46 25.6**	**+0.4**
MGER	**Gerania Oros**	**3.38**	**300**	*e*P	**Pn**	**18 46 27.0**	**+0.4**
DST	**Dursunbey**	**3.48**	**22**	PN	**Pn**	**18 46 27.9**	**-0.1**
SHUT	**Suhut-Afyon**	**3.58**	**52**	PN	**Pn**	**18 46 29.8**	**+0.5**
CANB	**Canakkale**	**3.64**	**1**	PN	**Pn**	**18 46 29.6**	**-0.4**
AOS	**Alonnisos**	**3.72**	**320**	*e*Pn	**Pn**	**18 46 31.4**	**+0.3**
ITM	**Ithomi**	**4.13**	**283**	*e*P	**Pn**	**18 46 37.9**	**+1.3**
NEO	**Neokhori**	**4.17**	**316**	P	**Pn**	**18 46 38.8**	**+1.7**
ESKT	**Eskisehir**	**4.39**	**43**	PN	**Pn**	**18 46 40.3**	**+0.3**
ESKT	**Eskisehir**	**4.39**	**43**	*i* P	**Pn**	**18 46 40.8**	**+0.9**
ESKT				*i* S	**Sn**	**18 47 16.4**	**-14**
SEYT	**Eskypehyr**	**4.39**	**43**	*i* P	**Pn**	**18 46 40.8**	**+0.8**
HDMB	**Hadim**	**4.47**	**81**	PN	**Pn**	**18 46 42.5**	**+1.5**
AGG	**Agios Georgios**	**4.54**	**307**	*e*Pn	**Pn**	**18 46 43.7**	**+1.8**
AKMC	**Akamas**	**4.56**	**106**	P	**Pn**	**18 46 41.8**	**-0.5**
KONT	**Konya--Tatoy**	**4.58**	**68**	*e*PN	**Pn**	**18 46 43.2**	**+0.7**
KDHN	**Kadinhani**	**4.62**	**61**	*i* P	**Pn**	**18 46 43.9**	**+0.8**
KDHN				*i* S	**Sn**	**18 47 22.4**	**-13**
PPCY	**Paphos**	**4.62**	**107**	P	**Pn**	**18 46 42.5**	**-0.5**
KIZT	**Kizilcal**	**4.63**	**56**	*e*PN	**Pn**	**18 46 44.3**	**+1.1**
RLS	**Riolos of Patr**	**4.71**	**293**	*e*P	**Pn**	**18 46 46.8**	**+2.6**
ALFC	**Alevga**	**4.73**	**103**	P	**Pn**	**18 46 44.2**	**-0.3**
	26nm,0.2s						
ALFC				S	**Sn**	**18 47 36.4**	**-2.1**
OSMT	**Osmaniye**	**4.73**	**26**	*e*PN	**Pn**	**18 46 45.1**	**+0.5**
RDO	**Rodhopi**	**4.90**	**347**	*e*P	**Pn**	**18 46 46.8**	**0.0**
SZAC	**Souni-Zanaja**	**5.08**	**107**	P	**Pn**	**18 46 49.1**	**-0.1**
	20nm,0.2s						
SZAC				S	**Sn**	**18 47 45.5**	**-1.4**
MAMC	**Mammari**	**5.21**	**101**	P	**Pn**	**18 46 51.3**	**+0.3**
CSS	**Prodhromos**	**5.36**	**103**	P	**Pn**	**18 46 52.6**	**-0.4**
	5.0nm,0.2s						
CSS				S	**Sn**	**18 47 52.0**	**-1.7**
VLS	**Valsamata**	**5.40**	**291**	*e*P	**Pn**	**18 46 53.1**	**-0.4**
IKL	**Isikli**	**5.42**	**89**	*e*PN	**Pn**	**18 46 54.5**	**+0.7**
DABA	**Dabaa**	**5.46**	**168**	P	**Pn**	**18 46 54.5**	**+0.2**
NVR	**Nevrokopi**	**5.53**	**335**	P	**Pn**	**18 46 59.0**	**+0.7**
ANTO	**Ankara**	**5.76**	**51**	⇓*i*P	**Pn**	**18 47 00.5**	**+2.1**
ANTO	**Ankara**	**5.76**	**51**	⇓P	**Pn**	**18 47 00.5**	**+2.1**
PHNC	**Paralimni**	**5.90**	**101**	P	**Pn**	**18 47 01.1**	**+0.8**
MERS	**Mersin**	**6.09**	**83**	*e*PN	**Pn**	**18 47 04.6**	**+1.8**
KAMT	**Kaman**	**6.11**	**59**	*e*PN	**Pn**	**18 47 04.0**	**+0.9**
BRTR	**Keskin Array B**	**6.23**	**56**	P	**Pn**	**18 47 06.0**	**+1.3**
	2.7nm,0.3s,baz=232,slow=14,SNR=140						
BRTR				S	**Sn**	**18 48 17.4**	**+2.8**
	0.5nm,0.3s,baz=223,slow=24,SNR=3.5						
BR131	**Keskin Array S**	**6.23**	**56**	*e*P	**Pn**	**18 47 06.2**	**+1.5**
	24nm,0.7s						
KEK	**Kerkira**	**6.57**	**303**	*e*P	**Pn**	**18 47 09.6**	**+0.3**
SWA1		**7.17**	**189**	P	**Pn**	**18 47 17.8**	**+0.4**
SWA1				S	**Sn**	**18 48 33.6**	**-3.6**
HMYD	**Mayadein**	**7.30**	**153**	P	**Pn**	**18 47 18.8**	**-0.3**
SQR		**7.38**	**150**	P	**Pn**	**18 47 19.7**	**-0.5**
HNAT	**Natroun**	**7.38**	**155**	P	**Pn**	**18 47 20.4**	**+0.2**
MATL	**Matirih**	**7.44**	**110**	*e*Pn	**Pn**	**18 47 20.0**	**-1.0**
TIR	**Tirane**	**7.45**	**314**	P	**Pn**	**18 47 24.6**	**+3.6**
COBT	**Iskenderun**	**7.48**	**86**	*i* P	**Pn**	**18 47 22.4**	**+0.9**
COBT				*i* S	**Sn**	**18 48 44.2**	**-0.6**
FYM	**Al Fayyum**	**7.49**	**152**	P	**Pn**	**18 47 21.2**	**-0.3**
FYM				S	**Sn**	**18 48 39.6**	**-5.3**
FYM	**Al Fayyum**	**7.49**	**152**	P	**Pn**	**18 47 21.2**	**-0.4**
HNTI	**Hanita**	**7.50**	**114**	Pn	**Pn**	**18 47 21.4**	**-0.5**
AYT	**Al 'Ayyat**	**7.52**	**151**	P	**Pn**	**18 47 22.4**	**+0.5**
BHL	**Bhannes**	**7.52**	**107**	*e*Pn	**Pn**	**18 47 20.2**	**-1.8**
BHL					**Sn**	**18 48 38.2**	**-7.6**
OFRI	**'Ofer**	**7.60**	**117**	Pn	**Pn**	**18 47 22.7**	**-0.4**
KOT	**Kottamia**	**7.61**	**146**	P	**Pn**	**18 47 22.8**	**-0.4**
KOT				S	**Sn**	**18 48 42.5**	**-5.3**
HWQ	**Hawqa**	**7.62**	**103**	*e*Pn	**Pn**	**18 47 23.0**	**-0.5**
HWQ					**Sn**	**18 48 43.1**	**-5.1**
MMC7	**Mount Meron ar**	**7.70**	**113**	Pn	**Pn**	**18 47 23.6**	**-0.8**
MMA0B	**Mount Meron ar**	**7.71**	**113**	Pn	**Pn**	**18 47 23.9**	**-0.7**
MMAI	**Mount Meron Ar**	**7.71**	**113**	P	**Pn**	**18 47 23.8**	**-0.7**
	16nm,0.3s,baz=306,slow=12,SNR=127						
MMAI				S	**Sn**	**18 48 47.8**	**-2.5**
	44nm,0.3s,baz=306,slow=26,SNR=19						
HHAG	**Hagoal**	**7.71**	**145**	P	**Pn**	**18 47 24.7**	**+0.1**
HHAG				S	**Sn**	**18 48 44.2**	**-6.1**
AMAG	**Maghara**	**7.73**	**136**	P	**Pn**	**18 47 23.8**	**-1.0**
HSAF	**As Saff**	**7.75**	**149**	P	**Pn**	**18 47 25.0**	**-0.2**
RCY	**Rachaya**	**7.81**	**109**	*e*Pn	**Pn**	**18 47 25.5**	**-0.5**
RCY					**Sn**	**18 48 49.5**	**-3.3**
KSDI	**Kefar Szold**	**7.82**	**111**	Pn	**Pn**	**18 47 25.9**	**-0.1**
HRI	**Mount Hermon**	**7.84**	**111**	Pn	**Pn**	**18 47 26.6**	**+0.3**
SLTI	**Sal'it**	**7.84**	**119**	Pn	**Pn**	**18 47 26.7**	**+0.4**
SLTI					**Sn**	**18 48 49.9**	**-3.6**
GLL	**Jalalah**	**7.86**	**148**	P	**Pn**	**18 47 26.7**	**+0.1**
LCI	**Lecce**	**8.01**	**302**	Pn	**Pn**	**18 47 27.6**	**-1.0**
LCI					**Sn**	**18 48 48.5**	**-9.0**
AMAZ	**Amatzia**	**8.17**	**124**	Pn	**Pn**	**18 47 31.5**	**+0.7**
HMDT	**Nahal Hemdat**	**8.18**	**118**	Pn	**Pn**	**18 47 31.7**	**+0.8**
KZIT	**Kziot**	**8.24**	**129**	Pn	**Pn**	**18 47 31.5**	**-0.3**
KZIT					**Sn**	**18 48 59.2**	**-4.0**
RTMI	**Retamim**	**8.33**	**127**	Pn	**Pn**	**18 47 32.9**	**-0.1**
SVTA	**Shivta**	**8.37**	**128**	Pn	**Pn**	**18 47 33.3**	**-0.2**
YTIR	**Yattir**	**8.41**	**124**	Pn	**Pn**	**18 47 34.5**	**+0.5**
YTIR	**Yattir**	**8.41**	**124**	Pn	**Pn**	**18 47 34.5**	**+0.5**
MASH	**Mash'abbe Sade**	**8.43**	**127**	Pn	**Pn**	**18 47 34.0**	**-0.3**
DRGI	**Dragot**	**8.46**	**122**	Pn	**Pn**	**18 47 35.0**	**+0.4**
DSI	**Dead Sea**	**8.46**	**122**	Pn	**Pn**	**18 47 35.2**	**+0.4**
TIP	**Timpagrande**	**8.56**	**292**	P	**Pn**	**18 47 34.1**	**-2.0**
MZDA	**Masada**	**8.61**	**123**	Pn	**Pn**	**18 47 37.5**	**+0.8**
RMNI	**Mount Ramon**	**8.69**	**129**	Pn	**Pn**

	1.9nm,0.4s						
MTLF	**Montolieu**	**20.20**	**298**	*e*P	**P**	**18 49 58.1**	**-1.4**
	9.1nm,0.6s						
MTLF	**Montolieu**	**20.20**	**298**	*e*P	**P**	**18 49 58.1**	**-1.4**
	4.6nm,0.6s						
LOR	**Lormes**	**20.30**	**310**	*e*P	**P**	**18 49 58.5**	**-2.1**
AVF	**Avril sur Loir**	**20.43**	**308**	*e*P	**P**	**18 50 00.7**	**-1.3**
	1.9nm,0.4s						
AVF	**Avril sur Loir**	**20.43**	**308**	*e*P	**P**	**18 50 00.7**	**-1.3**
	0.9nm,0.4s						
SSF	**Saint Saulge**	**20.44**	**309**	*e*P	**P**	**18 50 01.6**	**-0.5**
	18nm,0.8s						
SSF	**Saint Saulge**	**20.44**	**309**	*e*P	**P**	**18 50 01.6**	**-0.5**
	9.1nm,0.8s						
BGF	**Bois d'Agland**	**20.67**	**307**	*e*P	**P**	**18 50 03.9**	**-0.7**
	8.1nm,0.7s						
BGF	**Bois d'Agland**	**20.67**	**307**	*e*P	**P**	**18 50 03.9**	**-0.7**
	4.1nm,0.7s						
CAF	**Calviac**	**20.68**	**302**	*e*P	**P**	**18 50 04.4**	**-0.3**
	19nm,1.0s						
CAF	**Calviac**	**20.68**	**302**	*e*P	**P**	**18 50 04.4**	**-0.3**
	9.4nm,1.0s						
RJF	**Les Rejaudoux**	**21.16**	**303**	*e*P	**P**	**18 50 09.8**	**0.0**
LFF	**La Frestale**	**21.59**	**301**	*e*P	**P**	**18 50 13.9**	**-0.5**
MFF	**Saint Martin d**	**22.64**	**305**	*e*P	**P**	**18 50 23.9**	**-1.3**
LDF	**La Druitiere**	**23.29**	**310**	*e*P	**P**	**18 50 30.4**	**-0.7**
FLN	**La Foliniere**	**23.57**	**310**	*e*P	**P**	**18 50 33.0**	**-0.7**
GRR	**Gorron**	**23.67**	**309**	*e*P	**P**	**18 50 34.0**	**-0.6**
ESDC	**Sonseca Array**	**24.53**	**287**	P	**P**	**18 50 42.8**	**+0.4**
	1.6nm,0.5s,mb3.8,baz=82,slow=9.6,SNR=12						
FINES	**FINESS Array B**	**25.10**	**359**	P	**P**	**18 50 47.0**	**-0.5**
	1.7nm,0.4s,mb3.9,baz=159,slow=12,SNR=16						
HFS	**Hagfors**	**25.27**	**344**	P	**P**	**18 50 48.9**	**-0.2**
	2.3nm,0.4s,mb4.0,baz=148,slow=11,SNR=18						
MDT	**Midelt**	**26.18**	**272**	P	**P**	**18 50 59.1**	**+1.7**
	1.1nm,0.4s,mb3.8,baz=88,slow=10,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**32.40**	**231**	*e*P	**P**	**18 51 53.7**	**+1.3**
TOA0	**Torodi Ar. Sit**	**32.40**	**231**	*e*P	**P**	**18 51 53.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**32.40**	**231**	P	**P**	**18 51 54.5**	**+2.2**
	2.7nm,0.3s,mb4.4,baz=32,slow=8.7,SNR=62						
ARCES	**ARCESS Array B**	**33.23**	**359**	P	**P**	**18 51 58.8**	**-0.8**
	1.7nm,1.0s,mb3.8,baz=165,slow=8.9,SNR=8.1						
MK31	**Makanchi Array**	**41.88**	**58**	*e*P	**P**	**18 53 13.4**	**+1.1**
MK31	**Makanchi Array**	**41.88**	**58**	*e*P	**P**	**18 53 13.4**	**+1.1**
MKAR	**Makanchi Array**	**41.88**	**58**	P	**P**	**18 53 13.7**	**+1.4**
	0.5nm,0.5s,mb3.4,baz=265,slow=8.4,SNR=11						

IDC ***30*** *18:45:49.1±1.0, 46.19N×155.48E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/39, Error ellipse: s-maj=35.7km s-min=24.4km az=143.0*

ISCJB ***30*** *18:45:54.1±3.7, 462N×02×1555E±03, h49km±31km, mb3.7/7, Error ellipse: s-maj=41.1km s-min=21.2km az=102.5*

MOS ***30*** *18:45:54.3±1.3, 4620N×15549E, h49km, mb4.1/4, Error ellipse: s-maj=92.1km s-min=26.1km az=84.7*

ISC 30 18:45:56.2±3.2, 462N±02×1554E±03, h53km±27km, n13, σ0§79/12, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.49**	**6**	*e*PN	**Pn**	**18 47 01.8**	**+0.2**
ASAJ	**Asahikawa**	**9.28**	**261**	LR	LR	18 50 50.1	
	comp=Z,46nm,20.3s,baz=17,slow=32						
KSRS	**Korea Array**	**22.18**	**257**	P	**P**	**18 50 47.4**	**-0.3**
	1.4nm,0.9s,mb3.4,baz=58,slow=9.4,SNR=4.0						
YKA	**Yellowknife Ar**	**50.40**	**37**	P	**P**	**18 54 46.9**	**-1.3**
	0.8nm,0.7s,mb3.8,baz=300,slow=7.4,SNR=4.2						
YKA	**Yellowknife Ar**	**50.40**	**37**	P	**P**	**18 54 46.9**	**-1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**63.77**	**55**	P	**P**	**18 56 22.5**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=305,slow=3.1,SNR=3.9						
FINES	**FINESS Array B**	**65.18**	**336**	P	**P**	**18 56 30.9**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=31,slow=8.9,SNR=6.8						
FINES	**FINESS Array B**	**65.18**	**336**	P	**P**	**18 56 31.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**69.49**	**341**	P	**P**	**18 57 00.5**	**+1.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=111,slow=6.7,SNR=5.3						
HFS	**Hagfors**	**69.49**	**341**	P	**P**	**18 57 00.5**	**+1.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**72.24**	**201**	P	**P**	**18 57 15.9**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=7.9,slow=5.4,SNR=5.5						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**18 57 40.5**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=316,slow=7.7,SNR=6.4						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**18 57 40.5**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ISCJB ***30*** *18:49:18.2±1.5, 307S±0.1×178.8W±0.5, h408km±23km, mb3.1/3, Error ellipse: s-maj=66.2km s-min=11.6km az=23.5*

NEIC ***30*** *18:49:20.8±0.8, 3061S×179.45W, h368km±12km, Error ellipse: s-maj=30.7km s-min=11.4km az=104.0*

IDC ***30*** *18:49:21.4±1.3, 3049S×179.66W, h356km±16km, mb2.9/3, mb1 3.2/4, mb1mx3.0/12, mbtmp3.1/4, Error ellipse: s-maj=31.8km s-min=22.4km az=113.0*

ISC 30 18:49:20.4±1.4, 3076S±009×1791W±04, h392km±20km, n21, σ0§98/23, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.80**	**34**	P	**Pn**	**18 50 13.0**	**-1.3**
	105nm,0.3s,baz=253,slow=19,SNR=7.4						
RAO				S	**S**	**18 50 45.7**	**-12**
	126nm,0.3s,baz=90,slow=20,SNR=4.0						
MWZ	**Matawai**	**8.06**	**200**	*e*P	**Pn**	**18 51 16.9**	**+1.0**
MWZ	**Matawai**	**8.06**	**200**	*e*PN	**Pn**	**18 51 16.6**	**+0.7**
URZ	**Urewera**	**8.12**	**202**	P	**Pn**	**18 51 18.8**	**+2.2**
	4.2nm,0.3s,baz=312,slow=4.3,SNR=26						
URZ				S	**S**	**18 52 51.2**	**-0.4**
	4.1nm,0.3s,baz=267,slow=21,SNR=13						
URZ	**Urewera**	**8.12**	**202**	*e*P	**Pn**	**18 51 16.8**	**+0.3**
URZ	**Urewera**	**8.12**	**202**	*e*PN	**Pn**	**18 51 16.8**	**+0.3**
PXZ	**Pawanui**	**9.83**	**199**	*e*PN	**Pn**	**18 51 36.8**	**+0.5**
BFZ	**Birch Farm**	**10.61**	**200**	*e*P	**Pn**	**18 51 46.7**	**+1.3**
BFZ	**Birch Farm**	**10.61**	**200**	*e*PN	**Pn**	**18 51 46.7**	**+1.3**
BFZ				SN	**S**	**18 53 43.6**	**-0.5**
MRZ	**Mangatainoka R**	**10.80**	**202**	*e*P	**Pn**	**18 51 47.7**	**+0.1**
MRZ	**Mangatainoka R**	**10.80**	**202**	*e*PN	**Pn**	**18 51 47.7**	**+0.1**
TCW	**Tory Channel**	**11.74**	**205**	P	**Pn**	**18 51 57.9**	**-0.6**
TCW	**Tory Channel**	**11.74**	**205**	*e*PN	**Pn**	**18 51 58.3**	**-0.2**
TCW				*e*SN	**S**	**18 54 05.2**	**-2.0**
KHZ	**Kahutara**	**13.06**	**205**	*e*P	**P**	**18 52 13.0**	**+1.1**
KHZ	**Kahutara**	**13.06**	**205**	*e*PN	**Pn**	**18 52 13.0**	**-0.8**
STKA	**Stephens Creek**	**33.51**	**258**	P	**P**	**18 55 26.2**	**+1.3**
	2.0nm,0.9s,mb3.5,baz=90,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**33.51**	**258**	*e*P	**P**	**18 55 26.0**	**+1.1**
ASAR	**Alice Springs**	**42.18**	**268**	P	**P**	**18 56 35.9**	**-0.5**
	0.1nm,0.3s,mb2.6,baz=103,slow=7.3,SNR=4.1						
WRA	**Warramunga Arr**	**43.20**	**273**	P	**P**	**18 56 44.0**	**-0.5**
	0.4nm,0.3s,mb3.2,baz=111,slow=8.1,SNR=8.8						
FINES	**FINESS Array B**	**145.16**	**339**	PKP	PKPdf	19 08 14.0	+2.2
	1.6nm,0.8s,baz=103,slow=4.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**162.46**	**182**	PKPab	PKPab	19 09 32.0	+5.9
	0.5nm,0.6s,baz=166,slow=4.1,SNR=4.7						

JMA 30 18:52:35.3±0.2, 3203N×14078E, h18km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.35**	**323**	P	Pn	18 52 59.4	+0.2
BSO1	**Boso 1**	**2.62**	**4**	P	Pn	18 53 17.0	+0.3
BSO1				*e*S	Sn	18 53 48.9	+0.8
BSO2	**Boso 2**	**2.71**	**360**	S	Sn	18 53 51.7	+1.4
BSO3	**Boso 3**	**2.77**	**355**	P	Pn	18 53 19.5	+0.7
BSO3				*e*S	Sn	18 53 52.2	+0.4
JIM2	**Oshima 3**	**2.91**	**338**	P	Pn	18 53 22.0	+1.3
JIM2				*e*S	Sn	18 53 56.3	+1.2
JYN	**Shimob**	**3.93**	**332**	P	Pn	18 53 37.9	+3.2

IDC 30 19:08:15.0±2.6, 4678N×15407E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=92.2km s-min=34.7km az=78.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.51**	**298**	P	P	19 16 51.1	-0.7
	0.1nm,0.4s,baz=70,slow=8.0,SNR=5.1						
BVAR	**Borovoye Array**	**51.34**	**310**	P	P	19 17 21.3	+0.1
	0.8nm,0.5s,baz=57,slow=10,SNR=5.7						
FINES	**FINESS Array B**	**64.29**	**335**	P	P	19 18 51.5	-0.6
	1.1nm,0.4s,baz=42,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**72.45**	**199**	P	P	19 19 43.1	-0.1
	0.2nm,0.5s,baz=17,slow=5.4,SNR=4.2						

NEIC ***30*** *19:12:13.3±0.5, 4761N×15623E, h10km, mb4.3/3, Error ellipse: s-maj=13.2km s-min=10.1km az=183.0*

ISCJB ***30*** *19:12:15.6±0.6, 4776N±007×1563E±0.1, h35km, mb4.0/17, MS3.9/1, Error ellipse: s-maj=12.5km s-min=9.0km az=51.5*

MOS ***30*** *19:12:16.3±1.2, 4775N×15620E, h44km, mb4.4/3, Error ellipse: s-maj=21.3km s-min=12.6km az=101.0*

IDC ***30*** *19:12:19.5±4.8, 4759N×15627E, h57km±44km, mb3.7/15, mb1 3.9/16, mb1mx3.8/25, mbtmp3.7/16, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/41, Error ellipse: s-maj=19.8km s-min=16.2km az=138.0*

ISC 30 19:12:17.4±0.6, 4777N±007×1563E±01, h35km, n27, σ0§92/28, mb4.0/17, MS3.9/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.92**	**358**	*e*PN	**Pn**	**19 12 59.1**	**-2.2**
SKR				*e*S	**Sn**	**19 13 35.5**	**+0.4**
SKR				smax			
	comp=N,280nm,0.3s						
SKR				smax			
	comp=E,370nm,0.3s						
SKR				smax			
	comp=Z,90nm,0.5s						
PET	**Petropavlovsk**	**5.48**	**15**	*e*PN	**Pn**	**19 13 30.0**	**-6.4**
PET				pmax	pmax		
	comp=Z,51nm,1.0s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
ASAJ	**Asahikawa**	**10.20**	**254**	P	**Pn**	**19 14 42.0**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=173,slow=27,SNR=3.8						
ASAJ				LR	LR	19 19 37.4	
	comp=Z,41nm,18.5s,baz=341,slow=43						
YAK	**Yakutsk**	**20.70**	**323**	*e*P	**P**	**19 16 53.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**20.70**	**323**	*e*P	**P**	**19 16 53.1**	**-1.4**
	comp=Z,9.7nm,0.6s						
KSRS	**Korea Array**	**23.15**	**254**	P	**P**	**19 17 21.4**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.5,baz=46,slow=11,SNR=4.4						
INK	**Inuvik**	**39.63**	**33**	P	**P**	**19 19 46.1**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=236,slow=3.3,SNR=3.8						
ZAL	**Zalesovo**	**43.77**	**306**	P	**P**	**19 20 20.5**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=23,slow=12,SNR=3.2						
MK31	**Makanchi Array**	**48.37**	**298**	*e*P	**P**	**19 20 55.6**	**-0.1**
MKAR	**Makanchi Array**	**48.37**	**298**	P	**P**	**19 20 55.9**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=68,slow=7.5,SNR=26						
KURK	**Kurchatov**	**48.58**	**304**	*e*P	**P**	**19 20 57.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**48.58**	**304**	*e*P	**P**	**19 20 57.1**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**48.81**	**38**	P	**P**	**19 20 58.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=292,slow=7.8,SNR=3.4						
BVAR	**Borovoye Array**	**51.86**	**310**	P	**P**	**19 21 22.2**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=55,slow=8.0,SNR=7.9						
AAK	**Ala-Archa**	**55.29**	**297**	*e*P	**P**	**19 21 47.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.29**	**297**	*e*P	**P**	**19 21 47.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**57.58**	**342**	P	**P**	**19 22 03.9**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=32,slow=6.5,SNR=5.3						
ARCES				LR	LR	19 53 34.3	
	comp=Z,89nm,19.4s,MS3.9,baz=49,slow=43						
NVAR	**Mina Array Bea**	**60.05**	**65**	P	**P**	**19 22 21.6**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=299,slow=8.2,SNR=8.5						
PDAR	**Pinedale Array**	**62.40**	**56**	P	**P**	**19 22 37.2**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.9,baz=297,slow=1.3,SNR=5.4						
FINES	**FINESS Array B**	**64.01**	**336**	P	**P**	**19 22 47.3**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=20,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**70.22**	**202**	P	**P**	**19 23 24.4**	**-2.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=21,slow=6.7,SNR=11						
AKASG	**Malin Array Be**	**71.86**	**328**	P	**P**	**19 23 36.2**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=33,slow=6.0,SNR=4.0						
AKASG	**Malin Array Be**	**71.86**	**328**	P	**P**	**19 23 36.2**	**-0.5**
ASAR	**Alice Springs**	**73.90**	**201**	P	**P**	**19 23 47.8**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=14,slow=5.9,SNR=15						
TXAR	**Lajitas Array**	**75.12**	**63**	P	**P**	**19 23 56.3**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=312,slow=4.7,SNR=6.9						
KHC	**Kasperske Hory**	**78.22**	**336**	*e*P	**P**	**19 24 17.0**	**+3.7**
GERES	**GERESS Array B**	**78.44**	**336**	P	**P**	**19 24 15.6**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=43,slow=6.0,SNR=5.0						

NIED ***30*** *19:13:00, 2690N×13000E, h5km, Mw4.0 Best double couple: M0 9.64000×10^14 NP1:φ=189.00000°, δ=57.00000°, λ=-92.00000°. NP2:φ=13.00000°, δ=33.00000°, λ=-87.00000°.*

JMA 30 19:13:26.9, 2688N×12998E, h46km, M3.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**1.29**	**315**	P	Pn	19 13 49.0	+0.6
JTK				*e*S	Sn	19 14 04.7	+0.3
JZK	**Kikaishima**	**1.43**	**360**	P	Pn	19 13 51.3	+0.9
JZK				*e*S	Sn	19 14 09.0	+1.0
JOW	**Kunigami**	**1.52**	**269**	P	Pn	19 13 52.6	+0.9
JOW				*e*S	Sn	19 14 11.1	+0.8
JMZ	**Minamidaito 2**	**1.54**	**133**	P	Pn	19 13 52.5	+0.7
JMZ				*e*S	Sn	19 14 10.8	+0.2
JAM	**Amami Oshima**	**1.56**	**348**	P	Pn	19 13 52.8	+0.6
JAM				*e*S	Sn	19 14 11.7	+0.5
JIH	**Iheya**	**1.80**	**275**	P	Pn	19 13 56.5	+1.0
JIH				*e*S	Sn	19 14 18.3	+1.1
JJT2	**Tamagusuku 2**	**2.13**	**250**	P	Pn	19 14 01.1	+1.1
JJT2				*e*S	Sn	19 14 25.8	+0.6
NAH1	**Naha**	**2.16**	**252**	P	Pn	19 14 01.5	+1.1
NAH1				*e*S	Sn	19 14 26.3	+0.4
JAGN	**Aguni-jima**	**2.47**	**264**	P	Pn	19 14 05.4	+0.8
JAGN				*e*S	Sn	19 14 34.0	+0.6
JKE	**Kume jima 2**	**2.91**	**260**	P	Pn	19 14 11.1	+0.4
JKE				*e*S	Sn	19 14 45.3	+0.8
JNN	**Nakanoshima**	**2.95**	**358**	P	Pn	19 14 12.0	+0.8
JNN				*e*S	Sn	19 14 45.6	+0.2

IDC ***30*** *19:52:44.7±2.1, 2019S×169.73E, h271km±16km, mb3.3/7, mb1 3.5/8, mb1mx3.4/13, mbtmp3.3/8, Error ellipse: s-maj=26.6km s-min=22.5km az=129.0*

ISCJB ***30*** *19:52:45.0±1.8, 203S±02×1696E±02, h289km±13km, mb3.5/7, Error ellipse: s-maj=25.4km s-min=23.7km az=12.5*

NEIC ***30*** *19:52:45.1±1.4, 2019S×169.70E, h279km±12km, Error ellipse: s-maj=20.7km s-min=16.2km az=146.0*

ISC 30 19:52:44.9±1.9, 203S±02×1698E±02, h277km±13km, n20, σ0§53/17, mb3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.56**	**240**	*e*P	**Pn**	**19 53 45.0**	**0.0**
DZM				*e*S	**S**	**19 54 31.8**	**-1.2**
DZM	**Mont Dzumac**	**3.56**	**240**	P	**Pn**	**19 53 45.4**	**+0.4**
	10nm,0.3s,baz=58,slow=20,SNR=96						
DZM				S	**S**	**19 54 33.7**	**+0.7**
	2.8nm,0.3s,baz=111,slow=21,SNR=3.4						
STKA	**Stephens Creek**	**27.72**	**240**	P	**P**	**19 58 08.7**	**+0.7**
	0.7nm,0.3s,mb3.5,baz=244,slow=14,SNR=3.8						
WB2	**Warramunga Arr**	**33.22**	**264**	*e*P	**P**	**19 58 55.4**	**-0.7**
WRA	**Warramunga Arr**	**33.23**	**264**	P	**P**	**19 58 56.0**	**-0.2**
	0.5nm,0.3s,mb3.5,baz=80,slow=5.9,SNR=18						
WRA				ScP	ScP	20 04 52.5	+3.3
	0.3nm,0.6s,baz=95,slow=3.2,SNR=4.8						
AS31	**Alice Springs**	**33.37**	**258**	*e*P	**P**	**19 58 57.8**	**+0.4**
ASAR	**Alice Springs**	**33.37**	**258**	P	**P**	**19 58 57.9**	**+0.4**
	1.2nm,0.5s,mb3.7,baz=88,slow=8.4,SNR=22						
ASPA	**Alice Springs**	**33.37**	**258**	*e*P	**P**	**19 58 57.8**	**+0.3**
VNDA	**Vanda**	**57.40**	**182**	P	**P**	**20 02 05.0**	**+0.2**
	0.4nm,0.5s,mb3.1,baz=21,slow=2.2,SNR=5.4						
VNDA	**Vanda**	**57.40**	**182**	P	**P**	**20 02 05.0**	**+0.2**
MJAR	**Matsushiro Arr**	**63.91**	**332**	P	**P**	**20 02 48.0**	**-0.5**

	1.5nm,0.6s,mb3.8,baz=164,slow=7.2,SNR=4.4						
SONM	**Songino Array**	**88.36**	**323**	P	**P**	**20 05 05.4**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=133,slow=4.7,SNR=4.9						
VNA3	**Neumayer Olymp**	**88.70**	**180**	*e*	**P**	**20 05 06.4**	**-0.7**
VNA3				*e*		20 05 07.6	
VNA3				*e*		20 05 10.1	
VNA2	**Neumayer--Watz**	**89.00**	**181**	*e*	**P**	**20 05 08.0**	**-0.5**
VNA2				*e*		20 05 09.2	
VNA2				*e*		20 05 11.7	
NVAR	**Mina Array Bea**	**89.13**	**48**	P	**P**	**20 05 09.8**	**+0.7**
	0.1nm,0.3s,mb3.1,baz=239,slow=8.8,SNR=3.6						
BRG	**Berggiesshubel**	**144.03**	**334**	*e*(P)	PKPdf	20 11 46.0	-1.4
	7.4nm,1.4s						
GERES	**GERESS Array B**	**145.65**	**332**	PKPbc	PKPbc	20 11 50.6	-0.5
	1.2nm,0.6s,baz=11,slow=2.7,SNR=9.6						
LPL	**La Plagne**	**151.22**	**335**	*e*PKP1	PKPbc	20 12 14.7	+9.3
	11nm,0.9s						
LPG	**La Plagne**	**151.22**	**335**	*e*PKP1	PKPbc	20 12 14.9	+9.5
	6.2nm,0.6s						
MBDF	**Montbardon**	**151.85**	**334**	*e*PKP1	PKPbc	20 12 16.5	+10

LDG ***30*** *19:55:47.7±0.1, 4451N×689E, h4km, Md2.1/3, Ml2.0/11, Error ellipse: s-maj=1.1km s-min=0.7km az=72.0*

STR 30 19:55:47.9±0.5, 4450N×686E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.04**	**240**	Pg	Pg	19 55 49.3	+0.3
SURF				Sg	Sg	19 55 50.3	+0.4
MBDF	**Montbardon**	**0.24**	**344**	*e*Pg	Pg	19 55 52.6	+0.1
MBDF				*e*Sg	Sg	19 55 55.8	+0.2
	20nm,0.2s						
TOUF	**Mont Tournerai**	**0.56**	**150**	Pg	Pg	19 55 58.8	+0.1
MVIF	**Mont Vial**	**0.64**	**161**	Pg	Pg	19 56 00.5	+0.3
MVIF				Sg	Sg	19 56 09.5	+1.0
AUTN	**L'Aution**	**0.65**	**141**	Pg	Pg	19 56 00.4	0.0
AUTN				Sg	Sg	19 56 09.0	+0.2
LUCF	**Luceram**	**0.70**	**150**	Pg	Pg	19 56 01.2	-0.2
LUCF				Sg	Sg	19 56 10.5	0.0
SAOF	**Saorge**	**0.72**	**136**	Pg	Pg	19 56 01.4	-0.3
SAOF				Sg	Sg	19 56 10.4	-0.6
SBF	**Sospel**	**0.76**	**147**	*e*Pg	Pg	19 56 01.9	-0.6
SBF				*e*Sg	Sg	19 56 11.9	-0.4
	13nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.81**	**301**	*e*Pg	Pg	19 56 03.4	-0.1
ORIF				*e*Sg	Sg	19 56 14.2	+0.1
	3.5nm,0.2s						
FRF	**La Foret Royal**	**0.95**	**189**	*e*Pg	Pg	19 56 05.8	-0.4
FRF				*e*Sg	Sg	19 56 18.3	-0.2
	5.7nm,0.2s						
LPG	**La Plagne**	**1.00**	**356**	*e*Pg	Pg	19 56 06.8	-0.3
LPG				*e*Sg	Sg	19 56 19.6	-0.5
	2.1nm,0.2s						
LPL	**La Plagne**	**1.02**	**355**	*e*Pg	Pg	19 56 07.0	-0.5
LPL				*e*Sg	Sg	19 56 19.9	-0.8
	2.6nm,0.3s						
SMRF	**Simiane la Rot**	**1.06**	**241**	*e*Pg	Pg	19 56 08.1	-0.2
SMRF				*e*Sg	Sg	19 56 22.1	+0.1
	6.8nm,0.4s						
LMR	**La Mourre**	**1.19**	**192**	*e*Pg	Pg	19 56 10.4	-0.4
LMR				*e*Sg	Sg	19 56 25.8	-0.5
	3.9nm,0.2s						
VIVF	**Saint-Julien-l**	**1.60**	**284**	*e*Pn	Pn	19 56 15.7	-1.1
VIVF				*e*Sn	Sn	19 56 35.7	-2.2
	1.1nm,0.3s						
LASF	**Ste Croix**	**2.20**	**260**	*e*Pn	Pn	19 56 23.8	-1.2
LASF				*e*Sn	Sn	19 56 50.2	-2.4
	0.4nm,0.2s						
PGF	**Pioggiola**	**2.50**	**141**	*e*Pn	Pn	19 56 27.4	-1.7
PGF				*e*Sn	Sn	19 56 56.8	-3.2
	1.1nm,0.2s						
CAF	**Calviac**	**3.44**	**279**	*e*Pn	Pn	19 56 40.2	-2.0
CAF				*e*Sn	Sn	19 57 19.7	-3.7
	2.3nm,0.3s						
BGF	**Bois d'Agland**	**3.49**	**308**	*e*Pn	Pn	19 56 40.4	-2.4
BGF				*e*Sn	Sn	19 57 20.5	-4.0
	1.2nm,0.2s						

IDC ***30*** *19:56:58.5±1.3, 2147S×174.86W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.2/17, mbtmp4.3/6, ML2.9/1

CTA	**Charters Tower**	**15.55**	**209**	P	Pn	21 05 34.2	+0.8
	0.3nm,0.3s,baz=13,slow=14,SNR=3.6						
CTA				LR	LR	21 10 12.3	
	comp=Z,43nm,21.7s,baz=53,slow=32						
WRA	**Warramunga Arr**	**23.45**	**233**	P	P	21 06 59.2	+0.6
	2.8nm,0.6s,baz=57,slow=9.7,SNR=30						
ASAR	**Alice Springs**	**25.91**	**227**	P	P	21 07 20.6	-0.3
	0.5nm,0.5s,baz=57,slow=9.1,SNR=8.6						
MKAR	**Makanchi Array**	**32.50**	**319**	P	P	21 14 09.5	+0.6
	0.5nm,1.0s,baz=95,slow=7.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**152.12**	**286**	PKPbc	PKPbc	21 21 41.9	+1.0
	0.4nm,0.7s,baz=87,slow=2.1,SNR=6.1						

*ISCJB **30** 21:06:14.5±1.0, 535S±0.3×1347W±0.3, h10km, mb4.2/6, MS4.9/2, Error ellipse: s-maj=41.6km s-min=23.0km az=129.8*

*IDC **30** 21:06:14.8±0.9, 5354S×13471W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.3/11, mbtmp4.1/6, MS4.8/2, Ms1 4.8/2, ms1mx3.9/25, Error ellipse: s-maj=45.8km s-min=23.1km az=156.0*

*NEIC **30** 21:06:16.4±0.9, 5356S×13472W, h10km, Error ellipse: s-maj=42.3km s-min=22.7km az=150.0*

ISC 30 21:06:16.5±0.9, 536S±03×1348W±03, h10km, n10, σ0§79/7, mb4.2/6, MS4.9/2, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.68**	**201**	**P**	**P**	**21 12 49.6**	**+0.7**
	2.5nm,1.0s,mb4.1,baz=70,slow=11,SNR=6.8						
VNDA				PcP	PcP	21 15 34.5	0.0
	1.0nm,0.9s,baz=105,slow=1.1,SNR=3.2						
SNAA	**Sanae**	**50.55**	**162**	LR	LR	21 34 14.2	
	comp=Z,307nm,19.6s,MS4.3,baz=136,slow=33						
STKA	**Stephens Creek**	**61.44**	**254**	**P**	**P**	**21 16 33.7**	**+0.7**
	1.4nm,0.4s,mb4.4,baz=138,slow=9.2,SNR=4.0						
LPAZ	**La Paz**	**63.20**	**81**	**P**	**P**	**21 16 44.0**	**-0.9**
	1.3nm,0.6s,mb4.2,baz=208,slow=5.0,SNR=9.7						
AS31	**Alice Springs**	**72.08**	**254**	*eP*	**P**	**21 17 40.5**	**-0.4**
ASAR	**Alice Springs**	**72.08**	**254**	P	**P**	**21 17 40.3**	**-0.6**
	2.7nm,0.8s,mb4.2,baz=139,slow=6.1,SNR=22						
WRA	**Warramunga Arr**	**74.72**	**257**	P	**P**	**21 17 55.8**	**-0.7**
	1.8nm,0.7s,mb4.1,baz=143,slow=5.2,SNR=28						
TEIG	**Tepich**	**83.71**	**43**	LR	LR	21 47 30.4	
	comp=Z,2µm,19.3s,MS5.4,baz=24,slow=30						
TXAR	**Lajitas Array**	**86.87**	**27**	P	**P**	**21 19 02.7**	**+1.3**
	1.5nm,1.0s,mb4.2,baz=198,slow=7.8,SNR=5.7						
MKAR	**Makanchi Array**	**155.54**	**269**	PKPbc	PKPdf	21 26 18.9	+8.6
	0.5nm,0.8s,baz=116,slow=3.4,SNR=3.0						
MKAR				PKPab	PKPab	21 26 35.6	-0.6
	1.0nm,0.8s,baz=104,slow=4.0,SNR=4.9						

IDC 30 21:08:22.2±21.0, 5385S×13467W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/11, mbtmp3.7/3, Error ellipse: s-maj=1385.0km s-min=44.1km az=144.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**72.06**	**254**	P	P	21 19 48.0	-0.1
	1.2nm,1.1s,baz=135,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**74.72**	**257**	P	P	21 20 04.0	+0.2
	0.3nm,0.6s,baz=141,slow=5.1,SNR=4.2						
TXAR	**Lajitas Array**	**87.09**	**27**	P	P	21 21 09.4	-0.3
	0.6nm,0.8s,baz=187,slow=7.1,SNR=3.6						

*NEIC **30** 21:09:18.5, 1994N×6530W, h25km, MD3.8(RSPR), After RSPR.*

RSPR 30 21:09:18.5, 1994N×6530W, h25km±23km, MD3.8/11, MD3.8/11, 9C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**1.75**	**198↑**	*eP*	Pn	21 09 45.0	-2.2
CBYP				eS	Sn	21 10 06.0	-2.6
MTP	**Monte Pirata**	**1.85**	**187↑**	*eP*	Pn	21 09 46.9	-1.7
MTP				eS	Sn	21 10 08.8	-2.5
HUMP	**Col San Antoni**	**1.87**	**196↓**	*eP*	Pn	21 09 46.8	-2.1
HUMP				eS	Sn	21 10 08.8	-2.8
CPD	**Cerro la Pandu**	**1.98**	**197↓**	*eP*	Pn	21 09 48.6	-1.8
CPD				eS	Sn	21 10 12.5	-2.0
SJG	**San Juan**	**1.99**	**204↑**	*eP*	Pn	21 09 48.7	-1.9
SJG				eS	Sn	21 10 11.7	-3.0
AOPR	**Arecibo Observ**	**2.10**	**221↑**	*eP*	Pn	21 09 50.0	-2.1
AOPR				eS	Sn	21 10 15.3	-2.0
LRS	**Lares**	**2.20**	**222↓**	*eP*	Pn	21 09 51.4	-2.0
CELP	**Cerrillos**	**2.22**	**213↑**	*eP*	Pn	21 09 51.9	-1.8
CELP				eS	Sn	21 10 17.4	-2.8
OBIP	**Obispado Ponce**	**2.26**	**213↑**	*eP*	Pn	21 09 52.5	-1.7
OBIP				eS	Sn	21 10 18.7	-2.6
ICM	**Isla Caja Muer**	**2.34**	**210↑**	*eP*	Pn	21 09 54.0	-1.4
ICM				eS	Sn	21 10 21.3	-2.1
LSP	**Las Mesas**	**2.44**	**224↓**	*eP*	Pn	21 09 54.8	-1.9
LSP				eS	Sn	21 10 24.1	-1.6
GBPR	**Guanica, Bosqu**	**2.46**	**218↑**	*eP*	Pn	21 09 55.6	-1.5
CRPR	**Cabo Rojo, PR**	**2.58**	**222↑**	*eP*	Pn	21 09 56.8	-1.9
CRPR				eS	Sn	21 10 27.2	-1.9

IDC 30 21:16:21.1±0.9, 5370S×13470W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, Error ellipse: s-maj=46.4km s-min=24.0km az=146.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.59**	**201**	P	P	21 22 54.6	+0.4
	1.1nm,0.9s,baz=73,slow=7.7,SNR=2.9						
LPAZ	**La Paz**	**63.18**	**81**	P	P	21 26 50.6	-0.3
	1.0nm,0.6s,baz=243,slow=2.3,SNR=6.0						
ASAR	**Alice Springs**	**72.08**	**254**	P	P	21 27 47.0	-0.2
	0.8nm,0.7s,baz=141,slow=6.7,SNR=8.9						
WRA	**Warramunga Arr**	**74.74**	**257**	P	P	21 28 02.3	-0.5
	0.6nm,0.5s,baz=142,slow=5.5,SNR=15						
TXAR	**Lajitas Array**	**86.96**	**27**	P	P	21 29 08.4	+0.4
	0.4nm,0.6s,baz=181,slow=7.1,SNR=4.0						
ANMO	**Albuquerque**	**91.61**	**23**	P	P	21 29 30.6	+0.6
	1.7nm,0.7s,baz=190,slow=6.1,SNR=3.3						

*IDC **30** 21:20:03.0±2.1, 280N×9538E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, ML3.2/1, Error ellipse: s-maj=57.0km s-min=26.2km az=13.0*

*BJI **30** 21:20:05.5, 280N×9540E, h30km, mb4.6, Ms4.2, Msz4.1*

*ISCJB **30** 21:20:06.4±3.5, 29N±02×9542E±007, h31km±27km, mb4.2/16, MS4.0/1, Error ellipse: s-maj=28.6km s-min=11.7km az=16.0*

*NEIC **30** 21:20:07.5±0.8, 280N×9542E, h30km, mb4.4/6, Error ellipse: s-maj=18.1km s-min=8.7km az=190.0*

ISC 30 21:20:05.7±5.6, 28N±02×9539E±008, h17km±32km, n24, σ0§62/26, mb4.2/16, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.54**	**90**	Pn	**Pn**	**21 20 59.9**	**+0.1**
	2.0nm,0.3s,baz=275,slow=11,SNR=25						
PSI				Sn	**Sn**	**21 21 41.3**	**+0.1**
	1.5nm,0.3s,baz=313,slow=14,SNR=4.4						
KULM	**Kulim**	**5.81**	**64**	*eP*	**Pn**	**21 21 30.8**	**-0.3**
KMI	**Kunming**	**23.32**	**17**	P	**P**	**21 25 13.5**	**+0.6**
KMI				AP		21 25 21.0	
KMI				S	**S**	**21 29 16.5**	**-7.9**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.1						
KMI				LR	LR		
	comp=N,357nm,12.4s,MS4.1						
KMI				LR	LR		
	comp=E,217nm,12.9s,MS4.1						
KMI				LR	LR		
	comp=Z,337nm,11.8s,MS4.0						
KMI	**Kunming**	**23.32**	**17**	P	**P**	**21 25 13.6**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.1						
KMI				pP		21 25 21.0	
KMI				S	**S**	**21 29 16.5**	**-7.9**
KMI				LR	LR		
	comp=Z,340nm,11.8s,MS4.0						
LSA	**Lhasa**	**27.07**	**352**	P	**P**	**21 25 48.5**	**+1.2**
LSA	**Lhasa**	**27.07**	**352**	*eP*	**P**	**21 25 47.9**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.3						
XAN	**Xi'an**	**33.57**	**21**	P	**P**	**21 26 43.0**	**-1.7**
XAN				AP	pP	21 26 49.3	-0.7
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
GTA	**Gaotai**	**36.68**	**6**	*eP*	**P**	**21 27 11.3**	**-0.2**
GTA				AP	pP	21 27 16.5	-0.4
GTA				XP	sP	21 27 19.5	+0.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
BJT	**Baijiatuao**	**41.58**	**24**	*eP*	**P**	**21 27 53.1**	**+0.7**
	comp=Z,16nm,1.1s,mb4.6						
BJI	**Beijing**	**41.60**	**24**	P	**P**	**21 27 52.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
BJI	**Beijing**	**41.60**	**24**	P	**P**	**21 27 52.7**	**+0.1**
	comp=Z,20nm,0.9s,mb4.8						
MK31	**Makanchi Array**	**45.30**	**347**	*eP*	**P**	**21 28 22.5**	**+0.1**
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**21 28 22.8**	**+0.3**
	comp=Z,7.7nm,0.6s,mb4.7,baz=164,slow=8.2,SNR=51						
SONM	**Songino Array**	**45.88**	**10**	P	**P**	**21 28 26.5**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.4,baz=189,slow=8.4,SNR=26						
SONM				PcP	PcP	21 30 04.5	+0.5
	comp=Z,0.9nm,0.7s,baz=201,slow=3.7,SNR=4.7						
KURK	**Kurchatov**	**49.82**	**346**	*eP*	**P**	**21 28 57.9**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**51.73**	**352**	P	**P**	**21 29 12.1**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.7,baz=308,slow=6.9,SNR=34						
BRVK	**Borovoye**	**54.24**	**342**	*eP*	**P**	**21 29 29.7**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**66.71**	**312**	P	**P**	**21 30 56.2**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=112,slow=9.8,SNR=3.5						
AKASG	**Malin Array Be**	**72.91**	**323**	P	**P**	**21 31 32.7**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=90,slow=5.4,SNR=4.6						
AKASG	**Malin Array Be**	**72.91**	**323**	P	**P**	**21 31 32.7**	**-1.1**
FINES	**FINESS Array B**	**77.77**	**333**	P	**P**	**21 32 01.5**	**-0.3**
	comp=Z,2.7nm,1.0s,mb4.2,baz=126,slow=5.2,SNR=4.2						
ARCES	**ARCESS Array B**	**80.45**	**340**	P	**P**	**21 32 16.6**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=3.6,SNR=3.5						
GERES	**GERESS Array B**	**82.44**	**319**	P	**P**	**21 32 27.6**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=64,slow=9.1,SNR=4.2						
TXAR	**Lajitas Array**	**143.22**	**28**	PKP	PKPdf	21 39 40.4	+1.6
	comp=Z,0.6nm,0.9s,baz=201,slow=4.8,SNR=2.9						

*IDC **30** 21:20:09.7±0.4, 5397S×13409W, h0km, mb4.9/14, mb1 5.0/14, mb1mx5.0/16, mbtmp4.8/14, MS5.8/22, Ms1 5.8/22, ms1mx5.8/27, Error ellipse: s-maj=19.9km s-min=15.6km az=129.0*

*ISCJB **30** 21:20:10.2±0.2, 5398S±004×13435W±009, h10km, mb5.2/40, MS5.9/196, Error ellipse: s-maj=8.0km s-min=6.1km az=30.2*

*GCMT **30** 21:20:11.6±0.1, 5401S×13395W, h12km, MW6.2/108, Moment Tensor Solution. s107,c242; s108,c391; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$1.47±.01; $M_{\phi\phi}$-1.41±.01; $M_{r\theta}$0.41±.03; $M_{\theta\phi}$1.94±.01; $M_{\phi r}$1.18±.03; Best double couple: M_o2.72100×10^{18} NP1:ϕ_s108.00000°, δ63.00000°, λ-1.00000°. NP2:ϕ_s199.00000°, δ90.00000°, λ-153.00000°. Principal axes: T 2.7500, Plg19.0000°, Azm330.0000°; N -0.0650, Plg63.0000°, Azm199.0000°; P -2.6910, Plg19.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **30** 21:20:11.5, 5380S×13440W, h10km, mB5.9, Ms6.0, Msz5.8*

*NEIC **30** 21:20:11.6±0.2, 5384S×13436W, h10km, mb5.5/21, MS5.9/170, MW6.2, Error ellipse: s-maj=11.8km s-min=7.8km az=133.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.45; $M_{\theta\theta}$1.85; $M_{\phi\phi}$-1.40; $M_{r\theta}$0.54; $M_{\theta\phi}$1.49; $M_{\phi r}$0.27; Best double couple: M_o2.30000×10^{18} NP1:ϕ_s23.00000°, δ84.00000°, λ170.00000°. NP2:ϕ_s114.00000°, δ81.00000°, λ6.00000°. Principal axes: T 2.5500, Plg11.0000°, Azm339.0000°; N -0.5700, Plg79.0000°, Azm170.0000°; P -1.9800, Plg2.0000°, Azm69.0000°;*

*MOS **30** 21:20:13.0±1.5, 5386S×13470W, h22km, mb5.6/12, MS5.9/35 Error ellipse: s-maj=22.4km s-min=9.9km az=84.2*

ISC 30 21:20:11.3±0.2, 5396S±004×13418W±009, h10km, (h11km±2.9km: pP-P), n489, σ1§19/140, mb5.2/40, MS5.9/196, 23C-17D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**29.01**	**8**	PFAKE		21 26 20.0	+8.7
PTCN				LR	LR		
	comp=Z,28µm,22.0s,MS5.8						
RKT	**Rikitea**	**30.80**	**359**	*eS*	**S**	**21 31 25.3**	**-5.2**
	comp=Z,3µm,30.5s						
RKT				eLQ		21 32 56.3	
RKT				eLR	LR	21 34 04.4	
	comp=Z,67µm,28.8s,baz=175						
SBA	**Scott Base**	**31.49**	**200**	*eP*	**P**	**21 26 32.9**	**-0.3**
SBA				pmax	pmax		
	comp=Z,114nm,1.7s,mb5.4						
SBA				MLR	MLR		
	comp=Z,16µm,19.0s,MS5.7						
SBA	**Scott Base**	**31.49**	**200**	*eP*	**P**	**21 26 32.9**	**-0.3**
	comp=Z,114nm,1.7s,mb5.4						
SBA				LR	LR		
	comp=Z,16µm,19.0s,MS5.7						
VNDA	**Vanda**	**32.46**	**201**	P	**P**	**21 26 42.1**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=68,slow=9.3,SNR=11						
VNDA				PcP	PcP	21 29 29.4	+0.6
	comp=Z,7.2nm,1.0s,baz=84,slow=1.7,SNR=5.3						
VNDA	**Vanda**	**32.46**	**201**	P	**P**	**21 26 42.1**	**+0.4**
VNDA				PcP	PcP	21 29 29.4	+0.6
VNDA				LR	LR		
	comp=Z,13µm,21.0s,MS5.6						
RPN	**Rapa Nui**	**32.46**	**44**	LR	LR	21 36 31.5	
	comp=Z,39µm,18.5s,MS6.1,baz=209,slow=30						
RPN	**Rapa Nui**	**32.46**	**44**	PFAKE		21 26 50.0	+8.3
RPN				LR	LR		
	comp=Z,10µm,21.0s,MS5.5						
TBI	**Tubuai**	**32.66**	**333**	*eS*	**S**	**21 31 57.8**	**-1.8**
	comp=Z,2µm,29.0s						
TBI				eLQ		21 33 38.9	
	comp=Z,10µm,28.8s						
TBI				eLR	LR	21 34 48.4	
	comp=Z,92µm,29.0s,baz=166						
PMSA	**Palmer Station**	**35.42**	**136**	P	**P**	**21 27 09.4**	**+1.9**
	comp=Z,49nm,1.2s,mb5.3,baz=271,slow=8.9,SNR=4.7						
PMSA				LR	LR	21 37 58.8	
	comp=Z,39µm,19.2s,MS6.2,baz=211,slow=30						
SNZO	**South Karori**	**35.91**	**269**	PFAKE		21 27 20.0	+8.4
SNZO				LR	LR		
	comp=Z,13µm,20.0s,MS5.7						
QSPA	**South Pole Qui**	**36.21**	**180**	*eP*	**P**	**21 27 16.8**	**+2.5**
	comp=Z,720nm,2.1s,mb6.2						
QSPA				LR	LR		
	comp=Z,21µm,19.0s,MS5.9						
RPZ	**Rata Peaks**	**36.61**	**263**	PKKP		21 51 42.7	
	comp=Z,4.3nm,0.3s,baz=326,slow=4.7,SNR=5.1						
USHA	**Ushuaia**	**37.02**	**119**	P	**P**	**21 27 19.2**	**-2.0**
	comp=Z,27nm,1.1s,mb5.0,baz=220,slow=7.5,SNR=5.5						
USHA				LR	LR	21 38 32.9	
	comp=Z,19µm,20.0s,MS5.9,baz=228,slow=30						
TVO	**Taravao**	**37.95**	**336**	*eP*	**P**	**21 27 29.4**	**+0.4**
	comp=Z,107nm,1.2s,mb5.4						
RAR	**Rarotonga**	**38.05**	**319**	LR	LR	21 38 25.8	
	comp=Z,19µm,21.6s,MS5.9,baz=90,slow=29						
PAE	**Paea**	**38.14**	**336**	*eP*	**P**	**21 27 30.8**	**+0.2**
	comp=Z,175nm,1.1s,mb5.7						
PPT	**Papeete**	**38.23**	**336**	*eP*	**P**	**21 27 32.0**	**+0.6**
	comp=Z,90nm,1.4s,mb5.3						
PPT	**Papeete**	**38.23**	**336**	*eS*	**S**	**21 33 23.6**	**-1.5**
	comp=Z,7µm,25.5s						
PPT				eLQ		21 36 00.0	
	comp=Z,10µm,31.8s						
PPT				eLR	LR	21 37 21.9	
	comp=Z,87µm,26.0s,baz=171						
PPT	**Papeete**	**38.23**	**336**	LR	LR	21 38 46.6	
	comp=Z,25µm,21.9s,MS6.0,baz=128,slow=29						
PPT	**Papeete**	**38.23**	**336**	*eP*	**P**	**21 27 32.0**	**+0.6**
PPT				*eS*	**S**	**21 33 23.6**	**-1.5**
PPT	**Papeete**	**38.23**	**336**	*eP*	**P**	**21 27 32.0**	**+0.6**
PPT				*eS*	**S**	**21 33 23.6**	**-1.5**
PPT				eLQ		21 36 00.0	
VAH	**Vaihoa**	**40.05**	**340**	*eP*	**P**	**21 27 46.1**	**-0.5**
	comp=Z,108nm,1.1s,mb5.5						
RAO	**Raoul Island**	**40.07**	**290**	LR	LR	21 40 38.2	
	comp=Z,5µm,20.2s,MS5.3,baz=145,slow=31						
RAO	**Raoul Island**	**40.07**	**290**	PFAKE		21 28 00.0	+13
RAO				LR	LR		
	comp=Z,9µm,22.0s,MS5.5						
PMOR	**Pomariorio Ree**	**40.33**	**339**	*eP*	**P**	**21 27 48.7**	**-0.3**
	comp=Z,52nm,1.0s,mb5.2						
DRV	**Dumont d'Urvil**	**40.79**	**217**	P	**P**	**21 27 52.0**	**-0.7**
DRV	**Dumont d'Urvil**	**40.79**	**217**	PP	PP	21 29 25.0	-1.7
DRV				S	**S**	**21 34 04.0**	**+0.5**
DRV				SS	SS	21 37 03.0	-1.3
DRV				R		21 40 00.0	
EFI	**East Falkland**	**43.99**	**119**	PFAKE		21 28 30.0	+11
EFI				LR	LR		
	comp=Z,5µm,20.0s,MS5.5						
TAOE	**Nuku Hiva Isla**	**45.23**	**352**	*eS*	**S**	**21 35 03.2**	**-5.5**
	comp=Z,11µm,26.7s						
TAOE				eLQ		21 39 07.9	
	comp=Z,117µm,28.4s						
TAOE				eLR	LR	21 41 03.3	
	comp=Z,126µm,25.5s,baz=188						
VNA3	**Neumayer Olymp**	**49.08**	**159**	*eP*	**P**	**21 28 59.1**	**+0.4**
VNA3				*e*	pP	21 29 01.1	-0.8
VNA3				*e*	pP	21 29 03.6	+1.7
AFI	**Afiamalu**	**49.66**	**309**	LR	LR	21 44 55.9	
	comp=Z,7µm,18.5s,MS5.7,baz=161,slow=30						
AFI	**Afiamalu**	**49.66**	**309**	PFAKE		21 29 10.0	+6.9
AFI				LR	LR		
	comp=Z,9µm,20.0s,MS5.8						
VNA2	**Neumayer--Watz**	**49.80**	**160**	*eP*	**P**	**21 29 04.8**	**+0.6**
	baz=210,slow=8.8						
VNA2				*e*	pP	21 29 07.4	0.0
VNA2				*e*	pP	21 29 08.6	+1.2
VNA1	**Neumayer--Stat**	**49.83**	**159**	*eP*	**P**	**21 29 05.0**	**+0.5**
VNA1				*e*	pP	21 29 07.6	0.0
VNA1				*e*	pP	21 29 09.3	+1.7
SNAA	**Sanae**	**50.08**	**162**	P	**P**	**21 29 06.5**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=234,slow=4.5,SNR=22						
SNAA	**Sanae**	**50.08**	**162**	*i P*	**P**	**21 29 06.0**	**-0.3**
SNAA	**Sanae**	**50.08**	**162**	*eP*	**P**	**21 29 06.5**	**+0.2**
TRQA	**Tornquist**	**50.37**	**103**	*eP*	**P**	**21 29 06.4**	**-2.1**
	comp=Z,121nm,1.4s,mb5.7						
TRQA				LR	LR		
	comp=Z,29µm,19.0s,MS6.3						
TAU	**Tasmania Unive**	**50.67**	**249**	PFAKE		21 29 20.0	+9.2
TAU				LR	LR		
	comp=Z,5µm,22.0s,MS5.5						
HOPE	**Hope Point**	**52.62**	**133**	*eP*	**P**	**21 29 30.5**	**+5.1**
	comp=Z,130nm,1.3s,mb5.7						
HOPE				LR	LR		
	comp=Z,7µm,20.0s,MS5.7						
NVL	**N'lazarevskaya**	**53.22**	**167**	*d iP*	**P**	**21 29 31.1**	**+1.3**
NVL				*e*		21 31 30.4	
NVL				*i* S	**S**	**21 37 05.0**	**+4.2**
NVL				*e*		21 39 23.7	
NVL				*i* SS	SS	21 40 44.3	+3.9
NVL				pmax	pmax		
	comp=Z,53nm,1.9s,mb5.2						
NVL				MLR	MLR		
	comp=Z,18µm,20.0s,MS6.1						
CNB	**Canberra Magne**	**54.73**	**257**	*eP*	**P**	**21 29 41.6**	**+0.7**
	comp=Z,82nm,1.2s,mb5.6						
LPA	**La Plata**	**54.90**	**103**	*de P*	**P**	**21 29 42.0**	**-0.1**
LPA				*eS*	**S**	**21 37 22.0**	**-1.5**
LPA				*ep S*		21 37 26.0	
LPA							
	comp=Z,36µm,18.0s						
TOO	**Toolangi**	**55.34**	**252**	*eP*	**P**	**21 29 45.6**	**+0.3**
	comp=Z,24nm,1.0s,mb5.2						
TOO	**Toolangi**	**55.34**	**252**	*eP*	**P**	**21 29 45.6**	**+0.3**
TOO				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ARMA	**Armidale**	**56.94**	**263**	*eP*	**P**	**21 29 56.8**	**+0.1**
SYO	**Syowa Base**	**57.26**	**177↑**	*eP*	**P**	**21 29 54.8**	**-4.2**
SYO	**Syowa Base**	**57.26**	**177↑**	*i pP*	pP	21 29 59.0	-3.2
LVC	**Limon Verde**	**57.53**	**84**	*eP*	**P**	**21 29 58.1**	**-2.8**
LVC				LR	LR		
	comp=Z,7µm,21.0s,MS5.8						
MAW	**Mawson**	**58.09**	**188**	P	**P**	**21 30 04.1**	**-0.7**
	comp=Z,17nm,0.8s,mb5.1,baz=173,slow=7.4,SNR=15						
MAW				LR	LR	21 54 35.2	
	comp=Z,9µm,19.4s,MS5.9,baz=161,slow=36						
FUNA	**Funafuti**	**58.65**	**303**	PFAKE		21 30 20.0	+11
FUNA				LR	LR		
	comp=Z,6µm,21.0s,MS5.7						
ARE	**Arequipa**	**60.83**	**78**	P	**P**	**21 30 27.0**	**+3.2**
NNA	**Nana**	**61.41**	**70**	*eP*	**P**	**21 30 27.8**	**+0.1**
NNA				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
STKA	**Stephens Creek**	**61.67**	**254**	*eP*	**P**	**21 30 28.7**	**-0.7**
	comp=Z,7.9nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**61.67**	**254**	P	**P**	**21 30 28.8**	**-0.6**
	comp=Z,8.0nm,0.8s,mb4.9,baz=127,slow=6.2,SNR=11						
STKA				LR	LR	21 52 58.9	
	comp=Z,7µm,19.4s,MS5.8,baz=130,slow=32						
LPAZ	**La Paz**	**62.92**	**80**	P	**P**	**21 30 36.9**	**-0.9**
	comp=Z,9.6nm,0.8s,mb5.0,baz=213,slow=4.7,SNR=26						
LPAZ				LR	LR	21 51 29.9	
	comp=Z,7µm,18.7s,MS5.9,baz=208,slow=30						
LPAZ	**La Paz**	**62.92**	**80**	*eP*	**P**	**21 30 35.4**	**-2.4**
LPAZ				pmax	pmax		
	comp=Z,202nm,1.8s						
LPAZ				MLR	MLR		
	comp=Z,10µm,22.0s						
LPAZ	**La Paz**	**62.92**	**80**	*eP*	**P**	**21 30 35.4**	**-2.4**
	comp=Z,202nm,1.8s,mb6.0						
LPAZ				LR	LR		
	comp=Z,10µm,22.0s,MS5.9						
PAYG	**Puerto Ayora**	**64.20**	**50**	PFAKE		21 31 00.0	+14
PAYG				LR	LR		
	comp=Z,18µm,20.0s,MS6.2						
CTA	**Charters Tower**	**67.91**	**266**	*eP*	**P**	**21 31 09.2**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1						
CTA	**Charters Tower**	**67.91**	**266**	LR	LR	21 56

comp=Z,18µm,22.0s,MS6.3
PMG Port Moresby 75.78 274 LR LR 21 58 52.9
comp=Z,5µm,21.9s,MS5.8,baz=331,slow=31
PMG Port Moresby 75.78 274 *e*P **P 21 31 59.1 +1.7**
PMG Port Moresby 75.78 274 *e*P **P 21 31 55.6 -1.7**
PMG LR LR
comp=Z,5µm,22.0s,MS5.8
JTS JuntasAbangare 76.31 50 *e*P **P 21 32 00.5 +0.1**
JTS pmax pmax
comp=Z,44nm,1.3s
JTS JuntasAbangare 76.31 50 *e*P **P 21 31 59.4 -1.0**
comp=Z,44nm,1.3s,mb5.2
JTS LR LR
comp=Z,6µm,21.0s,MS5.9
TRIS Tristan da Cun 76.43 136 PFAKE 21 32 10.0 +8.9
TRIS LR LR
comp=Z,5µm,20.0s,MS5.8
ROSC El Rosal 76.83 62 P **P 21 32 04.5 +1.2**
comp=Z,19nm,0.7s,mb5.2,baz=274,slow=20,SNR=9.0
ROSC LR LR 21 59 13.8
comp=Z,12µm,21.3s,MS6.2,baz=191,slow=30
ROSC El Rosal 76.83 62 *e*P **P 21 32 02.9 -0.4**
KIP Kipapa 77.83 337 PFAKE 21 32 20.0 +11
KIP LR LR
comp=Z,13µm,21.0s,MS6.2
CMIG Matias Romero 78.36 38 P **P 21 32 12.0 +0.1**
comp=Z,6.7nm,0.8s,mb4.6,baz=205,slow=4.6,SNR=9.1
TGUH Tegucigalpa,Un 78.63 46 P **P 21 32 11.5 -1.9**
TGUH LR LR
comp=Z,5µm,21.0s,MS5.8
FITZ Fitzroy Crossi 81.39 251 P **P 21 32 27.6 -0.7**
comp=Z,14nm,1.2s,mb4.8
FITZ LR LR 22 04 23.0
comp=Z,6µm,20.5s,MS6.0,baz=238,slow=33
KAKA Kakadu 81.81 260 *e*P **P 21 32 29.1 -1.4**
comp=Z,7.8nm,0.6s,mb4.8
SDV Santo Domingo 82.16 63 *e*P **P 21 32 30.7 -1.7**
comp=Z,41nm,1.3s,mb5.2
SDV LR LR
comp=Z,3µm,20.0s,MS5.7
TEIG Tepich 83.75 43 *e*P **P 21 32 40.8 +0.2**
comp=Z,89nm,1.2s,mb5.8
TEIG LR LR
comp=Z,7µm,21.0s,MS6.0
LTX Lajitas 87.06 26 *e*P **P 21 32 56.3 -0.8**
LTX MLR MLR
comp=Z,2µm,20.0s,MS5.5
TXAR Lajitas Array 87.06 26 P **P 21 32 56.5 -0.7**
comp=Z,7.4nm,1.0s,mb4.9,baz=193,slow=7.2,SNR=18
BAR Barrett 87.60 15 *e*P **P 21 33 01.0 +1.2**
SNCC San Nicolas Is 87.77 12 PFAKE 21 33 10.0 +9.4
SNCC LR LR
comp=Z,7µm,19.0s,MS6.1
MONP Monument Peak 87.85 15 ⇑P **P 21 33 01.2 +0.3**
baz=88
SWSC Sam W. Stewart 87.99 15 ⇓P **P 21 33 02.9 +1.3**
baz=88
GLA Glamis 88.26 16 *e*P **P 21 33 03.4 +0.5**
TUC Tucson 88.27 20 *e*P **P 21 33 01.5 -1.4**
TUC pmax pmax
comp=Z,19nm,1.1s,mb5.2
TUC MLR MLR
comp=Z,4µm,19.0s,MS5.8
TUC Tucson 88.27 20 *e*P **P 21 33 01.5 -1.5**
comp=Z,19nm,1.1s,mb5.2
TUC LR LR
comp=Z,4µm,19.0s,MS5.8
PFO Pinyon Flat Ob 88.55 15 P **P 21 33 05.3 +1.1**
comp=Z,34nm,1.0s,mb6.2,SNR=5.2
PFO Pinyon Flat Ob 88.55 15 P **P 21 33 05.2 +0.9**
comp=Z,19nm,1.0s,mb5.4,baz=188,slow=3.2,SNR=9.6
PFO Pinyon Flat Ob 88.55 15 *e*P **P 21 33 04.8 +0.6**
PFO pmax pmax
comp=Z,25nm,0.9s,mb5.5
PFO MLR MLR
comp=Z,1µm,20.0s,MS5.4
PFO Pinyon Flat Ob 88.55 15 *e*P **P 21 33 04.8 +0.5**
comp=Z,25nm,0.9s,mb5.5
PFO LR LR
comp=Z,1µm,20.0s,MS5.4
PFO Pinyon Flat Ob 88.55 15 ⇓P **P 21 33 05.1 +0.9**
baz=89,SNR=6.8
BC3 Big Chuckw Mtn 88.75 16 ⇑P **P 21 33 06.8 +1.6**
baz=89,SNR=5.5
MNTX Cornudas Mount 88.88 24 *e*P **P 21 33 02.5 -3.3**
comp=Z,19nm,1.1s,mb5.3
MNTX LR LR
comp=Z,4µm,20.0s,MS5.8
MWC Mount Wilson 88.92 13 *e*P **P 21 33 06.8 +0.8**
BFSC Mount Baldy St 88.99 14 ⇓P **P 21 33 06.6 +0.2**
baz=89,SNR=7.0
BELC Belle Mtn. 89.00 15 ⇓P **P 21 33 08.1 +1.7**
baz=89,SNR=12
JCT Junction City 89.20 29 *e*P **P 21 33 06.3 -1.0**
JCT MLR MLR
comp=Z,3µm,21.0s,MS5.7
IRM Iron Mountain 89.29 16 ⇑P **P 21 33 08.2 +0.4**
baz=90,SNR=25
PKM Peak Mountain 89.36 12 ⇑P **P 21 33 09.4 +1.3**
baz=90
EDW2 Edwards Air Fo 89.58 13 ⇓P **P 21 33 09.2 +0.2**
baz=90,SNR=9.1
HEC Hector,Ludlow 89.77 15 ⇑P **P 21 33 10.4 +0.4**
baz=90,SNR=6.1
GMRC Granite Mounta 89.82 15 ⇑P **P 21 33 10.8 +0.6**
baz=90,SNR=6.2
HKT Hockley 89.91 33 PFAKE 21 33 20.0 +9.4
HKT LR LR
comp=Z,3µm,19.0s,MS5.7
X13A Yucca 89.93 17 ⇓P **P 21 33 10.3 -0.5**
baz=90
MIDW Midway 89.95 323 PFAKE 21 33 20.0 +9.2
MIDW LR LR
comp=Z,6µm,20.0s,MS6.0
GSC Goldstone 90.16 14 *e*P **P 21 33 09.5 -2.3**
GSC Goldstone 90.16 14 ⇑P **P 21 33 12.0 +0.2**
baz=90,SNR=7.1
RCBR Riachuelo 90.19 100 PFAKE 21 33 20.0 +8.1
RCBR LR LR
comp=Z,5µm,20.0s,MS6.0
LRMC Laurel Mountai 90.21 13 ⇓P **P 21 33 13.7 +1.7**
baz=91,SNR=8.8
ISA Isabella 90.28 13 *e*P **P 21 33 11.6 -0.8**
ISA MLR MLR
comp=Z,2µm,20.0s,MS5.5
ISA Isabella 90.28 13 ⇓P **P 21 33 13.6 +1.3**
baz=91,SNR=9.4
TUQ Turquoise Mtn. 90.42 15 ⇑P **P 21 33 13.5 +0.5**
baz=91,SNR=10
MPMC Manual Prospec 90.81 13 ⇑P **P 21 33 16.2 +1.4**
baz=91,SNR=19
LENM Lemitar 90.87 22 *e*P **P 21 33 12.8 -2.3**
BNM Barren Site 90.93 23 *e*P **P 21 33 13.4 -1.9**
DAC Darwin (Calif) 91.01 13 *e*P **P 21 33 16.1 +0.4**
DAC MLR MLR
comp=Z,7µm,20.0s,MS6.1
SAO San Andreas Ge 91.02 10 PFAKE 21 33 30.0 +14
SAO LR LR
comp=Z,8µm,19.0s,MS6.2
LPM Los Pinos Moun 91.08 23 *e*P **P 21 33 15.7 -0.4**
HELL Mitchell Peak, 91.22 12 ⇓P **P 21 33 19.3 +2.6**
baz=92
WUAZ Wupatki 91.27 18 *e*P **P 21 33 16.4 -0.5**
comp=Z,18nm,0.9s,mb5.4
WUAZ LR LR
comp=Z,6µm,20.0s,MS6.0
FURC Furnace Creek, 91.30 14 ⇓P **P 21 33 18.3 +1.2**
baz=92,SNR=6.8
SUR Sutherland 91.33 159 PFAKE 21 33 30.0 +13
SUR LR LR
comp=Z,5µm,21.0s,MS5.9
T06C Millerton Lake 91.46 12 ⇑P **P 21 33 18.9 +1.0**
baz=92,SNR=7.5
SHPR Sheep Range 91.58 15 *e*P **P 21 33 19.4 +1.0**
BBGH Gun Hill 91.70 70 PFAKE 21 33 30.0 +11
BBGH LR LR
comp=Z,13µm,22.0s,MS6.3
ANMO Albuquerque 91.74 22 P **P 21 33 19.2 +0.1**
comp=Z,19nm,1.0s,mb5.4,baz=179,slow=5.8,SNR=12
ANMO Albuquerque 91.74 22 *e*P **P 21 33 18.2 -0.9**
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 91.74 22 *e*P **P 21 33 16.3 -2.8**
comp=Z,18nm,0.9s,mb5.4
ANMO LR LR
comp=Z,3µm,21.0s,MS5.7
KCC Kaiser Creek 91.81 12 ⇓P **P 21 33 20.1 +0.6**
baz=92,SNR=6.4
MTUM Tungsten Hills 91.94 12 *e*P **P 21 33 19.7 -0.3**
NATX Nacogdoches 91.96 33 PFAKE 21 33 30.0 +10
NATX LR LR
comp=Z,2µm,21.0s,MS5.5
S06C San Francisco 92.30 11 ⇓P **P 21 33 23.6 +1.8**
baz=93,SNR=7.1
CMB Columbia Colle 92.39 11 *e*P **P 21 33 22.7 +0.5**
CMB Columbia Colle 92.39 11 *e*P **P 21 33 19.8 -2.4**
CMB LR LR
comp=Z,7µm,22.0s,MS6.1
TPH Tonopah 92.83 13 PFAKE 21 33 30.0 +5.8
TPH LR LR
comp=Z,7µm,21.0s,MS6.1
AMTX Amarillo 92.84 26 *e*P **P 21 33 24.1 -0.1**
AMTX LR LR
comp=Z,3µm,20.0s,MS5.8
NVAR Mina Array Bea 93.03 12 P **P 21 33 24.4 -0.7**
comp=Z,3.9nm,0.9s,mb4.8,baz=232,slow=6.2,SNR=9.0
HOPS Hopland 93.07 9 PFAKE 21 33 40.0 +15
HOPS LR LR
comp=Z,8µm,20.0s,MS6.2
TRCR Troy Canyon 93.33 15 *e*P **P 21 33 27.9 +1.4**
MVCO Mesa Verde 93.47 20 PFAKE 21 33 40.0 +13
MVCO LR LR
comp=Z,4µm,21.0s,MS5.8
WMOK Wichita Mounta 93.49 29 *e*P **P 21 33 27.6 +0.4**
WMOK MLR MLR
comp=Z,3µm,19.0s,MS5.7
DWPF Disney 93.56 45 PFAKE 21 33 40.0 +12
DWPF LR LR
comp=Z,4µm,22.0s,MS5.8
BRAL Brewton 93.92 39 PFAKE 21 33 40.0 +11
BRAL LR LR
comp=Z,4µm,19.0s,MS5.9
MVU Marysvale 94.02 17 PFAKE 21 33 40.0 +10
MVU LR LR
comp=Z,4µm,21.0s,MS5.9
MSU Marysvale 94.04 17 *e*P **P 21 33 30.9 +1.2**
SDCO Great Sand Dun 94.63 22 *e*P **P 21 33 29.7 -2.8**
SDCO LR LR
comp=Z,6µm,19.0s,MS6.1
WDC Whiskeytown Da 94.70 9 PFAKE 21 33 40.0 +7.2
WDC LR LR
comp=Z,9µm,20.0s,MS6.2
MIAR Mount Ida 94.88 33 PFAKE 21 33 40.0 +6.4
MIAR LR LR
comp=Z,2µm,21.0s,MS5.6
SRU San Rafael 94.92 18 *e*P **P 21 33 33.7 -0.1**
TMUT Trail Mountain 94.97 18 *e*P **P 21 33 34.7 +0.7**
BMN Battle Mountai 95.14 13 PFAKE 21 33 50.0 +15
BMN LR LR
comp=Z,9µm,20.0s,MS6.2
NLU North Lily Min 95.46 17 *e*P **P 21 33 36.3 0.0**
DUG Dugway 95.57 16 *e*P **P 21 33 36.0 -0.7**
DUG MLR MLR
comp=Z,4µm,22.0s,MS5.8
MPU Maple Canyon 95.59 17 PFAKE 21 33 50.0 +13
MPU LR LR
comp=Z,6µm,19.0s,MS6.1
GUMO Guam 95.62 285 LR LR 22 11 19.2
comp=Z,750nm,20.0s,MS5.2,baz=145,slow=32
GUMO Guam 95.62 285 PFAKE 21 33 50.0 +13
GUMO LR LR
comp=Z,1µm,20.0s,MS5.3
ELK Elko 95.73 14 PFAKE 21 33 50.0 +13
ELK LR LR
comp=Z,4µm,20.0s,MS5.9
LRAL Lakeview Retre 95.76 38 PFAKE 21 33 50.0 +12
LRAL LR LR
comp=Z,4µm,20.0s,MS5.8
YBH Yreka Blue Hor 95.82 9 P **P 21 33 39.6 +1.7**
comp=Z,1.3nm,0.6s,mb4.5,baz=63,slow=7.9,SNR=4.0
YBH Yreka Blue Hor 95.82 9 P **P 21 33 39.6 +1.7**
YBH LR LR
comp=Z,7µm,20.0s,MS6.2
BOSA Boshof 95.86 162 LR LR 22 13 09.8
comp=Z,14µm,19.4s,MS6.5,baz=190,slow=33
BOSA Boshof 95.86 162 PFAKE 21 33 50.0 +12
BOSA LR LR
comp=Z,14µm,20.0s,MS6.4
JLU Jordanelle 96.20 17 *e*P **P 21 33 39.9 +0.3**
MOD Modoc 96.23 10 PFAKE 21 33 50.0 +10
MOD LR LR
comp=Z,3µm,20.0s,MS5.8
OXF Oxford 96.23 36 PFAKE 21 33 50.0 +10
OXF LR LR
comp=Z,2µm,19.0s,MS5.7
ISCO Idaho Springs 96.57 22 PFAKE 21 33 50.0 +8.7
ISCO LR LR
comp=Z,5µm,21.0s,MS6.0
HUMO Hull Mountain 96.67 8 PFAKE 21 33 50.0 +8.2
HUMO LR LR
comp=Z,5µm,21.0s,MS6.0
WVOR Wild Horse Val 96.94 12 P **P 21 33 46.6 +3.6**
WVOR MLR MLR
comp=Z,7µm,19.0s,MS6.2
CBKS Cedar Bluff 97.06 26 PFAKE 21 33 50.0 +6.5
CBKS LR LR
comp=Z,2µm,20.0s,MS5.6
PLAL Pickwick Lake 97.12 37 PFAKE 21 33 50.0 +6.2
PLAL LR LR
comp=Z,3µm,19.0s,MS5.8
HWUT Hardware Ranch 97.15 17 PFAKE 21 33 50.0 +6.1
HWUT LR LR
comp=Z,4µm,22.0s,MS5.8
GOGA Godfrey 97.42 41 PFAKE 21 34 00.0 +15
GOGA LR LR
comp=Z,4µm,20.0s,MS5.9
SHEL Horse Pasture 97.64 131 PFAKE 21 34 00.0 +14
SHEL LR LR
comp=Z,894nm,20.0s,MS5.2
KSU1 Kansas State U 98.18 29 PFAKE 21 34 00.0 +11
KSU1 LR LR
comp=Z,2µm,21.0s,MS5.7
WVT Waverly 98.24 36 PFAKE 21 34 00.0 +11
WVT LR LR
comp=Z,2µm,20.0s,MS5.6
AHID Auburn Hatcher 98.36 17 PFAKE 21 34 00.0 +11
AHID LR LR
comp=Z,2µm,21.0s,MS5.7
NHSC New Hope 98.45 43 PFAKE 21 34 00.0 +10
NHSC LR LR
comp=Z,3µm,19.0s,MS5.9
COR Corvallis 98.61 8 PFAKE 21 34 00.0 +10
COR LR LR
comp=Z,6µm,20.0s,MS6.1
HLID Hailey 98.61 14 PFAKE 21 34 00.0 +10
HLID LR LR
comp=Z,5µm,19.0s,MS6.1
BW06 Boulder Array 98.64 18 PFAKE 21 34 00.0 +9.4
BW06 LR LR
comp=Z,6µm,20.0s,MS6.1
PDAR Pinedale Array 98.64 18 P **P 21 33 50.0 -0.7**
comp=Z,1.5nm,0.8s,mb4.6,baz=178,slow=4.7,SNR=11
PDAR LR LR 22 11 23.0
comp=Z,5µm,18.3s,MS6.0,baz=211,slow=31
TKL Tuckaleechee C 99.29 39 LR LR 22 11 55.5
comp=Z,5µm,21.6s,MS6.0,baz=258,slow=31
LBTB Lobatse 99.43 161 PFAKE 21 34 10.0 +16
LBTB LR LR
comp=Z,13µm,20.0s,MS6.4
BMO Blue Mountains 99.48 12 PFAKE 21 34 00.0 +5.6
BMO LR LR
comp=Z,5µm,20.0s,MS6.0
TZTN Tazewell 100.16 39 PFAKE 21 34 10.0 +13
TZTN LR LR
comp=Z,5µm,21.0s,MS6.0
LKWY Lake 100.23 17 PFAKE 21 34 10.0 +12
LKWY LR LR
comp=Z,3µm,22.0s,MS5.7
YMR Madison River 100.23 17 PFAKE 21 34 10.0 +12
YMR LR LR
comp=Z,4µm,19.0s,MS5.9
ASCN Ascension 100.40 119 PFAKE 21 34 10.0 +12
ASCN LR LR
comp=Z,1µm,22.0s,MS5.3
WCI Wyandotte Cave 100.66 36 PFAKE 21 34 10.0 +10
WCI LR LR
comp=Z,3µm,20.0s,MS5.8
HAWA Hanford 100.75 10 PFAKE 21 34 10.0 +10
HAWA LR LR
comp=Z,5µm,19.0s,MS6.0
RLMT Red Lodge 100.97 18 PFAKE 21 34 10.0 +9.0
RLMT LR LR
comp=Z,4µm,20.0s,MS5.9
RSSD Black Hills 101.05 22 PFAKE 21 34 10.0 +8.7
RSSD LR LR
comp=Z,3µm,19.0s,MS5.8
BOZ Bozeman (W) 101.07 16 *e*Pdif Pdif 21 34 01.6 +0.1
BOZ LR LR
comp=Z,2µm,19.0s,MS5.7
COCO West Island 101.20 231 PFAKE 21 34 10.0 +8.0
COCO LR LR
comp=Z,699nm,21.0s,MS5.2
CNNC Cliffs of the 101.24 44 PFAKE 21 34 10.0 +7.8
CNNC LR LR
comp=Z,7µm,20.0s,MS6.2
DAV Davao City (W) 101.71 266 PFAKE 21 34 20.0 +16
DAV LR LR
comp=Z,3µm,20.0s,MS5.7
HDIL Hopedale 101.74 33 PFAKE 21 34 20.0 +16
HDIL LR LR
comp=Z,3µm,20.0s,MS5.8
SCIA State Center 101.75 30 PFAKE 21 34 20.0 +16
SCIA LR LR
comp=Z,2µm,22.0s,MS5.7
MSO Missoula 101.87 14 PFAKE 21 34 20.0 +15
MSO LR LR
comp=Z,6µm,20.0s,MS6.1
BLA Blacksburg 101.94 41 PFAKE 21 34 20.0 +15
BLA LR LR
comp=Z,4µm,21.0s,MS5.9
ECSD EROS,Sioux Fal 102.48 27 PFAKE 21 34 20.0 +12
ECSD LR LR
comp=Z,2µm,20.0s,MS5.6
NEW Newport 102.87 12 PFAKE 21 34 20.0 +11
NEW LR LR
comp=Z,4µm,21.0s,MS5.9
LAO LASA Array 103.05 19 PFAKE 21 34 20.0 +10
LAO LR LR
comp=Z,4µm,21.0s,MS5.9
TSUM Tsumeb 103.20 153 PFAKE 21 34 20.0 +9.1
TSUM LR LR
comp=Z,13µm,22.0s,MS6.4
JFWS Jewell Farm 103.57 32 PFAKE 21 34 20.0 +7.4
JFWS LR LR
comp=Z,2µm,19.0s,MS5.8
EGMT Eagleton 103.69 17 PFAKE 21 34 20.0 +6.9
EGMT LR LR
comp=Z,5µm,20.0s,MS6.0
CBN Corbin 104.00 43 PFAKE 21 34 30.0 +16
CBN LR LR
comp=Z,10µm,19.0s,MS6.4
MCWV Mont Chateau 104.29 40 PFAKE 21 34 30.0 +14
MCWV LR LR
comp=Z,6µm,21.0s,MS6.1
BBSR BB Station 104.75 55 PFAKE 21 34 30.0 +12
BBSR LR LR
comp=Z,3µm,21.0s,MS5.8
AAM Ann Arbor 105.20 36 PFAKE 21 38 40.0 +5.9
AAM LR LR
comp=Z,4µm,20.0s,MS5.9
SSPA Standing Stone 105.89 41 PFAKE 21 38 50.0 +15
SSPA LR LR
comp=Z,4µm,20.0s,MS6.0
AGMN Agassiz Refuge 106.91 26 PFAKE 21 38 50.0 +13
AGMN LR LR
comp=Z,2µm,20.0s,MS5.7
GLMI Grayling 107.10 35 PFAKE 21 39 00.0 +22
GLMI LR LR
comp=Z,4µm,19.0s,MS6.0
EYMN Ely 107.77 29 PFAKE 21 38 50.0 +11
EYMN LR LR
comp=Z,3µm,22.0s,MS5.8
BINY Binghamton 107.97 42 PFAKE 21 38 50.0 +11
BINY LR LR
comp=Z,9µm,19.0s,MS6.3
ULM Lac du Bonnet 108.71 25 PFAKE 21 38 50.0 +9.4
ULM LR LR
comp=Z,3µm,20.0s,MS5.8
LSZ Lusaka 109.41 162 PFAKE 21 38 50.0 +8.1
LSZ LR LR
comp=Z,14µm,19.0s,MS6.6
WES Weston 110.00 45 PFAKE 21 38 50.0 +7.0
WES LR LR
comp=Z,3µm,22.0s,MS5.8
HRV Harvard--Oak R 110.00 44 PFAKE 21 38 50.0 +7.0
HRV LR LR
comp=Z,3µm,20.0s,MS5.8
WRAK Wrangell Islan 110.03 1 PFAKE 21 38 50.0 +6.9
WRAK LR LR
comp=Z,7µm,20.0s,MS6.3
NCB Newcomb 110.15 42 PFAKE 21 38 50.0 +6.7
NCB LR LR
comp=Z,3µm,21.0s,MS5.8
LONY Lake Ozonia 110.56 41 PFAKE 21 39 00.0 +16
LONY LR LR
comp=Z,5µm,22.0s,MS6.0
SIT Sitka 110.66 359 PFAKE 21 38 50.0 +5.7
SIT LR LR
comp=Z,9µm,20.0s,MS6.3
UNV Unalaska Valle 110.73 340 PFAKE 21 38 50.0 +5.6
UNV LR LR
comp=Z,41µm,21.0s
KDAK Kodiak Island 112.38 349 *e*PKiKP PKiKP 21 38 47.6 +0.1
KDAK LR LR
comp=Z,3µm,22.0s,MS5.8
PKME Peaks-Kenny Pk 113.20 44 PFAKE 21 39 00.0 +11
PKME LR LR
comp=Z,3µm,21.0s,MS5.8
SMY Shemya 114.69 328 PFAKE 21 39 00.0 +8.1
SMY LR LR
comp=Z,6µm,22.0s,MS6.2
DGAR Diego Garcia 114.87 209 PFAKE 21 39 00.0 +7.7
DGAR LR LR
comp=Z,1µm,19.0s,MS5.5
DIV Divide 115.11 354 PFAKE 21 39 00.0 +7.3
DIV LR LR
comp=Z,32µm,21.0s,MS6.9
PMR Palmer 115.81 352 PFAKE 21 39 00.0 +5.9
PMR LR LR
comp=Z,6µm,20.0s,MS6.2
YKA Yellowknife Ar 117.13 10 PKP PKPdf 21 38 54.9 -1.7
comp=Z,0.6nm,0.8s,baz=193,slow=2.5,SNR=3.6
YKA PKKPbc PKKPbc 21 49 22.6 +1.7
comp=Z,0.5nm,0.8s,baz=20,slow=2.2,SNR=3.7
YKA Yellowknife Ar 117.13 10 PKP PKPdf 21 38 54.9 -1.7
YKA PKKPbc PKKPbc 21 49 22.6 +1.7
MAJO Matsushiro 117.28 295 PFAKE 21 39 10.0 +13
MAJO LR LR
comp=Z,3µm,22.0s,MS5.8
MAT Matsushiro 117.28 295 PP PP 21 40 10.0 +2.4
DAWY Dawson 117.76 357 *e*P PKPdf 21 38 56.6 -1.2
MCK McKinley 117.91 353 PFAKE 21 39 10.0 +12
MCK LR LR
comp=Z,4µm,21.0s,MS6.0
TATO Taipei 118.13 274 PFAKE 21 39 10.0 +11
TATO LR LR
comp=Z,2µm,20.0s,MS5.8
EGAK Eagle 118.53 357 PFAKE 21 39 10.0 +11
EGAK LR LR
comp=Z,9µm,22.0s,MS6.3
ERM Erimo 118.80 302 PFAKE 21 39 10.0 +10
ERM LR LR
comp=Z,1µm,22.0s,MS5.5
COLA College 118.97 353 *i* PKIKP PKPdf 21 38 57.6 -2.6
COLA College 118.97 353 *i* P PKPdf 21 38 57.7 -2.5
COLA LR LR
comp=Z,7µm,22.0s,MS6.3
PET Petropavlovsk 120.29 320 PFAKE 21 39 10.0 +7.3
PET LR LR
comp=Z,6µm,21.0s,MS6.2
QIZ Qiongzhong 120.42 260 PKP PKPdf 21 38 59.8 -3.1
QIZ PP PP 21 40 31.5 +2.2
QIZ SS SS 21 56 56.3 -1.5
QIZ LR LR
comp=N,1µm,22.3s
QIZ LR LR
comp=Z,3µm,24.5s,MS5.8
QIZ Qiongzhong 120.42 260 PFAKE 21 39 10.0 +7.0
QIZ LR LR
comp=Z,1µm,21.0s,MS5.5
MSEY Mahe Island 121.02 191 PFAKE 21 39 20.0 +16
MSEY LR LR
comp=Z,1µm,19.0s,MS5.6
SCHQ Schefferville 121.75 39 PFAKE 21 39 20.0 +14
SCHQ LR LR
comp=Z,5µm,22.0s,MS6.1
TNA Tin City 121.95 344 PFAKE 21 39 20.0 +14

TNA LR LR
comp=Z,4µm,20.0s,MS6.0
INK Inuvik 121.95 0 PKP PKPdf 21 39 02.8 -3.1
comp=Z,1.1nm,0.7s,baz=192,slow=1.3,SNR=3.2
YSS Yuzh-Sakhalins 122.60 306 PFAKE 21 39 20.0 +13
YSS LR LR
comp=E,2µm,20.0s,MS5.7
SSE Sheshan 122.86 279 PKP PKPdf 21 39 12.0 +4.4
SSE PP PP
comp=Z,123nm,12.0s
SSE LR LR
comp=N,1µm,25.0s,MS5.8
SSE LR LR
comp=E,2µm,25.0s,MS5.8
SSE LR LR
comp=Z,3µm,25.0s,MS5.8
SSE Sheshan 122.86 279 PKP PKPdf 21 39 12.1 +4.5
SSE PP PP 21 40 57.2 +11
SSE SS SS 21 57 41.5 +12
SSE LR LR
comp=Z,3µm,25.0s,MS5.8
KSRS Korea Array 123.58 289 PKP PKPdf 21 39 08.2 -0.8
comp=Z,0.9nm,0.6s,baz=158,slow=6.1,SNR=3.7
KMBO Kilima Mbogo 124.65 170 PFAKE 21 39 20.0 +8.9
KMBO LR LR
comp=Z,9µm,20.0s,MS6.4
NJ2 Nanjing 124.92 278 *e*PKP PKPdf 21 39 06.5 -5.1
NJ2 XPKP 21 39 21.0
NJ2 PP PP 21 40 59.5 -0.3
NJ2 PP PP
comp=Z,650nm,6.0s
NJ2 LR LR
comp=N,3µm,31.2s,MS5.8
NJ2 LR LR
comp=E,1µm,27.5s,MS5.8
NJ2 LR LR
comp=Z,2µm,32.5s,MS5.5
NANT Nan 125.48 252 P PKPdf 21 39 10.0 -2.7
PALK Pallekele 125.62 224 PFAKE 21 39 20.0 +7.1
PALK LR LR
comp=Z,1µm,21.0s,MS5.6
CM31 Chiang Mai Arr 126.19 250 PFAKE 21 39 30.0 +16
CM31 LR LR
comp=Z,3µm,22.0s,MS5.9
CHG Chiang Mai 126.48 250 P PKPdf 21 39 22.2 +7.6
CHTO Chiang Mai 126.48 250 *e*PKIKP PKPdf 21 39 14.5 -0.1
CHTO MLR MLR
comp=Z,3µm,22.0s,MS5.9
WHN Wuhan 126.48 273 PKP PKPdf 21 39 17.5 +2.9
TOA0 Torodi Ar. Sit 126.55 122 *e*PKPdf PKPdf 21 39 13.4 -1.3
TORD Torodi Ar. Bea 126.55 122 PKP PKPdf 21 39 13.6 -1.1
comp=Z,5.4nm,1.1s,baz=296,slow=0.9,SNR=12
TORD Torodi Ar. Bea 126.55 122 PKP PKPdf 21 39 13.6 -1.1
MDJ Mudanjiang 127.62 296 PDIF Pdif 21 35 59.8 +0.3
MDJ PKP PKPdf 21 39 17.0 +0.2
MDJ PP PP 21 41 17.5 -0.2
MDJ PP PP
comp=Z,310nm,6.6s
MDJ LR LR
comp=N,2µm,32.4s,MS5.6
MDJ LR LR
comp=E,2µm,33.7s,MS5.6
MDJ LR LR
comp=Z,3µm,33.7s,MS5.8
MDJ Mudanjiang 127.62 296 PFAKE 21 39 30.0 +13
MDJ LR LR
comp=Z,2µm,20.0s,MS5.7
GYA Guiyang 127.99 263 PDIF Pdif 21 36 04.8 +3.7
GYA PKP PKPdf 21 39 20.0 +2.5
GYA PP PP 21 41 29.5 +9.4
GYA PKS 21 42 55.5
GYA PPP 21 44 29.5
GYA SKS SKSdf 21 46 29.5 +0.3
GYA SKKS SKKSac 21 48 20.0 +2.2
GYA PP PP
comp=Z,680nm,8.4s
GYA LR LR
comp=N,1µm,20.4s,MS5.9
GYA LR LR
comp=E,2µm,21.6s,MS5.9
GYA LR LR
comp=Z,3µm,21.0s,MS5.9
MA2 Magadan 128.08 321 PFAKE 21 39 30.0 +12
MA2 LR LR
comp=Z,5µm,20.0s,MS6.2
DL2 Dalian 128.14 286 *e*PKP PKPdf 21 39 14.3 -3.4
DL2 PP PP 21 41 23.5 +2.4
DL2 SKS SKSdf 21 46 28.5 -1.0
DL2 SS SS 21 58 39.3 +4.0
DL2 PP PP
comp=Z,230nm,8.8s
DL2 LR LR
comp=N,840nm,24.6s,MS5.4
DL2 LR LR
comp=E,560nm,26.2s,MS5.4
DL2 LR LR
comp=Z,2µm,25.8s,MS5.6
KMI Kunming 129.27 259 PKP PKPdf 21 39 20.5 +0.6
KMI PP PP 21 41 37.5 +9.0
KMI PP PP
comp=Z,248nm,6.7s
KMI LR LR
comp=N,2µm,22.2s,MS5.7
KMI LR LR
comp=E,1µm,23.1s,MS5.7
KMI LR LR
comp=Z,4µm,25.7s,MS6.0
KMI Kunming 129.27 259 PKIKP PKPdf 21 39 20.6 +0.7
KMI 21 39 24.3
KMI 21 41 37.5
KMI 21 46 27.3
KMI MLR MLR
comp=Z,4µm,25.7s,MS6.0
KMI Kunming 129.27 259 PKP PKPdf 21 39 20.6 +0.7
KMI pPKP pPKPdf 21 39 24.3 +1.0
KMI PP PP 21 41 37.5 +9.0
KMI SKKS SKSac 21 46 27.3 -1.1
KMI SS SS 21 58 58.0 +8.7
KMI SSS 22 03 46.0
KMI LR LR
comp=Z,4µm,25.7s,MS6.0
CN2 Changchun 129.30 293 *e*PKP PKPdf 21 39 22.3 +2.3
CN2 PP PP 21 41 36.5 +7.8
CN2 PKS 21 42 57.3
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,18.0s,MS5.6
CN2 LR LR
comp=E,900nm,18.0s,MS5.6
CN2 LR LR
comp=Z,1µm,21.0s,MS5.5
BILL Bilibino 129.41 335 *e*PKIKP PKPdf 21 39 15.5 -4.6
BILL *i* 21 41 26.8
BILL *e*PPP 21 44 14.8
BILL *i* PS PS 21 51 39.3 +0.4
BILL *i* SS SS 21 59 13.2 +22
BILL pmax pmax
comp=Z,16nm,1.4s
BILL Bilibino 129.41 335 PFAKE 21 39 30.0 +10
BILL LR LR
comp=Z,3µm,22.0s,MS6.0
KLR Kul'dur 129.54 302 *e*PKIKP PKPdf 21 39 18.0 -2.4
MDRS Chennai 131.01 227 *ex* x 21 38 27.3
BJT Baijiatuau 132.01 283 PFAKE 21 39 40.0 +15
BJT LR LR
comp=Z,2µm,21.0s,MS5.7
BJI Beijing 132.02 283 PKP PKPdf 21 39 25.0 -0.1
BJI PP PP 21 41 50.5 +4.1
BJI PKS 21 42 55.8
BJI LR LR
comp=E,2µm,26.9s
BJI LR LR
comp=Z,3µm,26.6s,MS5.9
BJI Beijing 132.02 283 PKIKP PKPdf 21 39 24.9 -0.2
BJI 21 41 50.6
BJI Beijing 132.02 283 PKP PKPdf 21 39 24.9 -0.2
BJI PP PP 21 41 50.6 +4.2
BJI PKS 21 42 55.7
CD2 Chengdu 133.00 265 *e*PKP PKPdf 21 39 25.0 -1.9
CD2 XPKP 21 39 34.0
CD2 PP PP 21 41 57.8 +5.2
CD2 PKS 21 42 59.8
CD2 SKS SKSdf 21 46 30.8 -7.5
CD2 SKKS SKKSac 21 48 44.8 -4.0
CD2 SS SS 21 59 38.5 +3.6
CD2 PP PP
comp=Z,530nm,10.8s
CD2 LR LR
comp=N,2µm,24.0s,MS5.8
CD2 LR LR
comp=E,1µm,24.0s,MS5.8
CD2 LR LR
comp=Z,1µm,19.2s,MS5.7
HHC Hu-ho-hao-te 135.22 281 *e*PKP PKPdf 21 39 35.5 +4.4
HHC PKS 21 43 09.5
HHC PP PP
comp=Z,426nm,11.0s
HHC LR LR
comp=N,702nm,22.5s,MS5.6
HHC LR LR
comp=E,1µm,23.7s,MS5.6
HHC LR LR
comp=Z,2µm,24.0s,MS5.8
HYB Hyderabad 135.61 228 *i* PKP PKPdf 21 39 32.0 +0.2
HYB *e*SKP 21 43 04.0
HYB Hyderabad 135.61 228 *e*PKP PKPdf 21 39 32.0 +0.2
SFJD Kangerlussuaq 135.70 34 PFAKE 21 39 40.0 +8.0
SFJD LR LR
comp=Z,4µm,22.0s,MS6.2
SHL Shillong 135.77 249 *e*PKP PKPdf 21 39 31.0 -1.1
SHL *e*PP PP 21 42 09.0 -1.2
HIA Hailar 135.78 295 PFAKE 21 39 40.0 +7.8
HIA LR LR
comp=Z,2µm,22.0s,MS5.9
LZH Lanzhou 136.60 270 *e*PKP PKPdf 21 39 36.5 +2.8
LZH XPKP 21 39 41.3
LZH SKKS SKKSac 21 49 11.0 +0.5
LZH SS SS 22 00 23.5 +5.3
LZH PP PP
comp=Z,310nm,4.9s
LZH LR LR
comp=E,2µm,20.0s
LZH LR LR
comp=Z,2µm,21.0s,MS5.9
LZH Lanzhou 136.60 270 *e*PKIKP PKPdf 21 39 36.6 +2.9
LZH 21 39 39.4
LZH 21 39 41.2
LZH 21 42 24.4
LZH MLR MLR
comp=Z,2µm,21.0s,MS5.9
LZH Lanzhou 136.60 270 *e*PKP PKPdf 21 39 36.6 +2.9
LZH pPKP pPKPdf 21 39 39.4 +2.3
LZH sPKP 21 39 41.2
LZH PP PP 21 42 24.4 +9.0
LZH SKKS SKKSac 21 49 11.0 +0.5
LZH SS SS 22 00 23.5 +5.3
LZH LR LR
comp=Z,2µm,21.0s,MS5.9
YAK Yakutsk 137.83 316 *i* PKIKP PKPdf 21 39 33.9 -2.1
YAK MLR MLR
comp=Z,3µm,22.0s,MS6.0
LSA Lhasa 139.39 252 *e*PKIKP PKPdf 21 39 38.9 +0.1
LSA MLR MLR
comp=Z,3µm,20.0s,MS6.0
PMAFR Mafra 140.24 89 *e*SS SS 22 01 17.5 +16
PMAFR Mafra 140.24 89 *e*LQ 22 19 14.9
PMAFR *e*LR LR 22 27 26.1
comp=Z,8µm,18.0s
PESTR Estremoz 141.18 91 *e*SS SS 22 01 29.3 +17
PESTR Estremoz 141.18 91 *e*LQ 22 19 25.0
PESTR *e*LR LR 22 28 15.9
comp=Z,6µm,20.9s
GTA Gaotai 141.19 271 *e*PKP PKPdf 21 39 37.5 -4.6
GTA PP PP 21 42 42.3 -1.5
GTA PKS 21 43 12.0
GTA PPP 21 45 49.3
GTA SKS SKSdf 21 46 46.5 -5.7
GTA SKKS SKKSac 21 49 31.8 -5.7
GTA SS SS 22 01 08.3 -4.0
GTA PP PP
comp=Z,360nm,6.5s
GTA LR LR
comp=N,657nm,24.3s,MS5.7
GTA LR LR
comp=E,2µm,25.1s,MS5.7
GTA LR LR
comp=Z,3µm,25.1s,MS5.9
TIXI Tiksi 141.98 329 *e*PKHKP 21 39 35.7
TIXI *i* 21 39 40.1
TIXI MLR MLR
comp=Z,2µm,22.0s,MS5.8
ULN Ulaanbaatar 141.99 287 *e*PKIKP PKPdf 21 39 39.0 -4.5
ULN Ulaanbaatar 141.99 287 *e*PKPpre 21 39 38.6
ULN LR LR
comp=Z,2µm,20.0s,MS5.8
SONM Songino Array 142.35 286 PKhKP 21 39 36.7
comp=Z,3.0nm,0.9s,baz=152,slow=3.0,SNR=13
SONM PKP PKPdf 21 39 44.0 -0.2
comp=Z,7.3nm,1.1s,baz=123,slow=1.5,SNR=9.6
BOD Bodaibo 143.03 304 *e*PKHKP 21 39 37.2
BOD pmax pmax
comp=Z,11nm,1.9s
EQES Quesada 143.15 96 P PKPdf 21 39 41.8 -3.8
PAB San Pablo 143.54 92 PFAKE 21 40 00.0 +14
PAB LR LR
comp=Z,3µm,19.0s,MS6.1
ERUA La Rua 143.67 86 PKIKP PKPdf 21 39 50.0 +3.5
ESDC Sonseca Array 143.85 93 PKP PKPdf 21 39 44.1 -2.7
comp=Z,1.5nm,0.7s,baz=243,slow=2.9,SNR=8.0
ESDC Sonseca Array 143.85 93 P PKPdf 21 39 44.3 -2.5
ESLA Sonseca Array 143.85 93 PFAKE 21 40 00.0 +13
ESLA LR LR
comp=Z,19µm,20.0s,MS6.9
ESBB Sonseca Array 143.85 93 P PKPdf 21 39 44.2 -2.6
EVIA Vianos 144.03 95 PKIKP PKPdf 21 39 45.5 -1.6
EMUR La Murta 144.25 97 P PKPdf 21 39 45.5 -2.0
GUD Guadarrama 144.35 91 PKIKP PKPdf 21 39 46.7 -1.0
ETOB Tobarra 144.60 96 P PKPdf 21 39 48.0 -0.1
ECHA Ech Chlef 144.61 102 P PKPdf 21 39 46.0 -2.1
EBNR Beni Rached 144.80 102 P PKPdf 21 39 47.0 -1.5
EARI Arriondas 145.35 87 P PKPbc 21 39 50.9 +1.6
ZAK Zakamensk 145.41 288 *e*PKHKP 21 39 44.8
ZAK pmax pmax
comp=Z,38nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,2.0s
EBEN Beniarda 145.42 97 P PKPbc 21 39 49.5 +0.1
EMHD Djebel Mahouad 145.56 103 P PKPdf 21 39 51.0 +1.2
ETOR Torete 145.70 93 PKP2 PKPab 21 39 52.7 +2.0
IRK Irkutsk 145.72 292 *e*PKIKP PKPdf 21 39 49.1 -0.9
IRK pmax pmax
comp=Z,190nm,2.8s
TLY Talaya 145.81 290 *i* PKP2 PKPbc 21 39 47.2 -3.5
TLY *e* 21 43 20.6
TLY *e* 21 46 29.0
TLY *e*SS SS 22 01 56.6 -9.0
TLY pmax pmax
comp=Z,136nm,3.1s
TLY MLR MLR
comp=Z,2µm,20.0s,MS6.0
TLY Talaya 145.81 290 *e*PKPdf PKPdf 21 39 49.8 -0.4
TLY LR LR
comp=Z,617nm,20.0s,MS5.4
ABA Alger-Bouzarea 146.03 103 P PKPbc 21 39 53.0 +1.6
EMOS Mosqueruela 146.35 95 P PKPbc 21 39 53.8 +1.5
ELAN Lanestosa 146.36 88 P PKPbc 21 39 53.1 +0.8
ECRI Cripan 146.53 90 PKP2 PKPab 21 39 53.8 -0.1
EIBI Ibiza 146.55 98 P PKPbc 21 39 54.6 +1.7
CMER Merouana 146.83 107 P PKPdf 21 39 51.0 -0.9
SET Setif 146.96 106 P pPKPdf 21 40 01.0 +5.4
JMDO Jabal Madar 147.11 201 ⇑P PKPbc 21 39 54.6 +0.1
SNR=16
WBK Wadi Bani Khal 147.15 203 ⇓P PKPbc 21 39 54.6 0.0
SNR=19
ERTA Horta de San J 147.20 94 P PKPbc 21 39 55.7 +0.9
ESAC San Caprasio 147.20 93 P PKPbc 21 40 00.4 +5.6
MOY Mondy 147.28 289 *e*PKP2 PKPbc 21 39 54.5 -0.5
MOY pmax pmax
comp=Z,128nm,2.7s
CTEI Djebel Teioual 147.43 107 P PKPbc 21 39 57.0 +1.6
ELIZ Elizondo 147.44 90 PKP2 PKPbc 21 39 55.1 -0.3
DFRA Djebel Bou Aff 147.47 106 P PKPbc 21 39 59.0 +3.5
EALK Alkurruntz 147.49 90 P PKPbc 21 39 56.6 +1.0
DAG Danmarks Havn 147.53 23 ⇑*i*P PKPdf 21 39 53.2 +0.1
comp=Z,15nm,0.7s
SJPF Ste Jean 147.59 90 *e*PKIKP PKPdf 21 39 53.1 -0.1
comp=Z,442nm,1.6s
CASM Ain Smara 147.62 107 P PKPab 21 40 01.0 +2.9
BSY Bisya 147.66 200 ⇑P PKPbc 21 39 56.5 +0.5
SNR=9.2
LARF Larrau 147.69 90 *e*P PKPbc 21 39 57.6 +1.5
SMDO Samad 147.79 201 ⇑P PKPbc 21 39 56.8 +0.4
SNR=19
CKFL Kef-Lekhel 147.85 107 P PKPab 21 40 02.5 +3.5
ETSF Etsaut 147.86 91 *e*PKIKP PKPdf 21 39 54.3 +0.7
comp=Z,144nm,1.3s
EPOB Poblet 147.88 95 P PKPbc 21 39 57.0 +0.4
ATE Arette 147.88 90 *e*P PKPbc 21 39 58.0 +1.4
ETOS Mallorca 147.89 98 P PKPdf 21 39 55.4 +1.7
REYF Montagne du Re 148.06 91 *e*P PKPbc 21 40 00.0 +2.9
EBIE Bielsa 148.15 92 P PKPbc 21 39 58.5 +1.1
ABSA Djebel Ababsia 148.18 108 P PKPab 21 40 04.0 +3.6
CAEH 'Ain El Ouahch 148.19 107 P PKPab 21 40 05.0 +4.6
VIEF Viey 148.19 91 *e*P PKPab 21 40 02.5 +2.1
BIDO Bidbid 148.22 202 ⇑P PKPdf 21 39 55.0 +0.8
SNR=17
LABF Labassere 148.32 91 *e*P PKPab 21 40 02.8 +1.9
RESF Ens 148.33 92 *e*P PKPab 21 40 03.5 +2.5
ARQ Araqi 148.37 199 P PKPbc 21 39 59.3 +1.3
SNR=12
CMAH Djebel Manchou 148.40 108 P PKPab 21 40 03.0 +1.8
HOQ Hoqain 148.46 200 ⇓P PKPdf 21 39 56.5 +1.9
SNR=14
EPF Esparros 148.47 91 *e*PKIKP PKPdf 21 39 55.0 +0.4
comp=Z,250nm,1.6s
EMIR Miracle 148.49 94 P PKPbc 21 39 59.4 +1.1
MELF Melles 148.62 92 *e*P PKPbc 21 40 00.3 +1.7
SALF Salau 148.81 93 *e*P PKPbc 21 40 02.0 +2.9
KEST Kesra 148.83 111 PKPbc PKPbc 21 39 59.6 +0.5
comp=Z,6.3nm,0.9s,baz=294,slow=7.5,SNR=8.2
QUIF Quistinic 149.07 81 *e*PKIKP PKPdf 21 39 55.7 +0.1
comp=Z,342nm,1.5s
ROSF Rostrenen 149.21 80 *e*PKIKP PKPdf 21 39 55.7 -0.1
comp=Z,429nm,1.8s
CARF Carcanieres 149.32 93 *e*P PKPdf 21 39 59.6 +3.6
FILF Fillols 149.50 94 *e*P PKPbc 21 40 01.8 +1.0
SGMF Saint Gilles 149.59 81 *e*PKIKP PKPdf 21 39 56.3 -0.1
comp=Z,631nm,1.9s
EJON La Jonquera 149.62 95 P PKPbc 21 40 04.9 +3.8
THN Thein Dam 149.75 237 *e*P PKPbc 21 40 00.4 -1.0
MTLF Montolieu 149.76 93 *e*PKIKP PKPdf 21 39 57.4 +0.7
comp=Z,158nm,1.7s
ASHO Ashiyiah 149.77 199 ⇑P PKPdf 21 39 57.2 +0.4
SNR=14
LFF La Frestale 149.80 89 *e*PKIKP PKPdf 21 39 56.3 -0.5
comp=Z,277nm,1.4s
HATD Hatta, Dubai 149.90 199 ⇓P PKPbc 21 40 01.7 -0.1
SNR=22
MFF Saint Martin d 150.17 85 *e*PKIKP PKPdf 21 39 56.9 -0.5
comp=Z,57nm,0.9s
CAF Calviac 150.57 90 *e*PKIKP PKPdf 21 39 58.6 +0.6
comp=Z,149nm,1.5s
WMQ Urumqi 151.06 267 ⇑PKP PKPdf 21 40 01.5 +2.8
WMQ APKP 21 40 06.5
WMQ PKP2 PKPab 21 40 18.0 +5.9
WMQ PP PP 21 43 50.5 +8.3
WMQ PP PP
comp=Z,465nm,4.7s
WMQ LR LR
comp=N,2µm,33.9s
WMQ LR LR
comp=E,2µm,28.6s
WMQ LR LR
comp=Z,4µm,31.2s,MS6.0
LASF Ste Croix 151.15 93 *e*PKIKP PKPdf 21 39 59.0 +0.1
comp=Z,90nm,1.4s
LDF La Druitiere 151.18 82 *e*PKIKP PKPdf 21 39 57.8 -1.1
TCF Toulx Ste Croi 151.40 88 *e*PKIKP PKPdf 21 39 59.3 0.0
comp=Z,130nm,1.6s
LBL Lubilhac 151.44 90 PKP pPKPdf 21 40 09.7 +6.9
VSL Villasalto 151.51 106 *e*PKPbc PKPbc 21 40 04.0 -1.6
AGO Saint Agoulin 151.82 89 PKP PKPab 21 40 13.2 -2.1
BGF Bois d'Agland 151.91 88 *e*PKIKP PKPdf 21 40 00.0 0.0
ESK Eskdalemuir 152.06 67 PFAKE 21 40 10.0 +10
ESK LR LR
comp=Z,1µm,21.0s,MS5.6
AVF Avril sur Loir 152.33 87 *e*PKIKP PKPdf 21 39 59.7 -1.0
comp=Z,94nm,1.4s
KBS Kingsbay 152.42 13 *e*PKP2 PKPab 21 40 19.6 +1.8
KBS MLR MLR
comp=Z,3µm,21.0s,MS6.1
SMF Signal de Mont 152.54 88 *e*PKIKP PKPdf 21 39 59.8 -1.2
SSF Saint Saulge 152.56 87 *e*PKIKP PKPdf 21 40 00.9 -0.1
LOR Lormes 152.87 87 *e*PKIKP PKPdf 21 40 01.7 +0.2
comp=Z,68nm,1.4s
LOR *e*R
comp=Z,6µm,20.5s
LOR Lormes 152.87 87 *e*PKPdf PKPdf 21 40 01.7 +0.2
LOR LR LR
comp=Z,6µm,20.5s,MS6.4
LPG La Plagne 153.66 93 *e*PKIKP PKPdf 21 40 02.2 -0.4
comp=Z,101nm,1.4s
CABF La Chapelle 153.85 90 *e*PKIKP PKPdf 21 40 02.8 -0.1
comp=Z,257nm,1.9s
MEZF Maizieres J'vi 154.17 85 *e*PKIKP PKPdf 21 40 03.4 +0.1
BAIF Baives 154.36 82 *e*PKIKP PKPdf 21 40 03.8 +0.2
EIL Elat 154.47 158 *e*PKPdf PKPdf 21 40 02.7 -1.0
HAU Haudompre 154.70 87 *e*PKIKP PKPdf 21 40 03.9 -0.2
HAU *e*R
comp=Z,7µm,22.8s
HAU Haudompre 154.70 87 *e*PKPdf PKPdf 21 40 03.9 -0.2
HAU LR LR
comp=Z,7µm,22.8s,MS6.4
GIVF Givet 154.74 82 *e*PKIKP PKPdf 21 40 04.2 +0.1
HINF Hinteralfeld 154.91 88 *e*PKIKP PKPdf 21 40 03.8 -0.5
KSH Kashi 155.03 247 *e*PKP PKPdf 21 40 06.0 +1.5
KSH *e*PKP2 PKPab 21 40 30.5 +1.7
KSH *e*PKS 21 43 39.3
KSH *e*PP PP 21 44 05.8 +1.1
KSH *e*SKS SKSdf 21 47 12.3 +1.2
KSH *e*SKKS SKKSac 21 50 53.5 -1.3
KSH LR LR
comp=N,2µm,9.6s
KSH LR LR
comp=E,3µm,6.8s
KSH LR LR
comp=Z,9µm,26.2s,MS6.5
TIP Timpagrande 155.38 115 *e*PKPab PKPab 21 40 31.8 +1.4
CDF Champ du Feu 155.44 87 *e*PKIKP PKPdf 21 40 06.1 +1.0
MK31 Makanchi Array 155.87 268 *e*PKIKP PKPdf 21 40 05.0 -0.6
MK31 *e* 21 40 31.2
MKAR Makanchi Array 155.87 268 PKP PKPdf 21 40 03.5 -2.1
comp=Z,0.3nm,0.7s,baz=48,slow=2.1,SNR=2.9
MKAR PKPbc PKPdf 21 40 13.6 +8.0
comp=Z,5.1nm,0.9s,baz=85,slow=3.0,SNR=12
MKAR PKPab PKPab 21 40 32.1 -0.3
comp=Z,13nm,0.9s,baz=134,slow=3.5,SNR=14
BFO Black Forest 156.02 88 PFAKE 21 40 20.0 +14
BFO LR LR
comp=Z,1µm,20.0s,MS5.7
DAVA Damuels 156.44 92 ⇑*i*P PKPdf 21 40 10.2 +3.8
comp=Z,28nm,1.9s
STU Stuttgart 156.74 88 PKIKP PKPdf 21 40 08.9 +2.1
MOTA Moosalm 157.19 93 ⇑*i*P PKPdf 21 40 12.2 +4.8
comp=Z,43nm,1.5s
ZAL Zalesovo 157.25 286 PKPbc PKPdf 21 40 14.9 +7.5
comp=Z,0.7nm,0.4s,baz=271,slow=6.6,SNR=3.4
ZAL PKPab PKPab 21 40 36.8 -1.6
comp=Z,6.1nm,0.9s,baz=5.1,slow=4.5,SNR=16
WTTA Wattenberg 157.46 93 ⇑*i*P PKPdf 21 40 13.3 +5.6
comp=Z,37nm,1.6s
WTTA Wattenberg 157.46 93 ⇑*i*P PKPdf 21 40 13.3 +5.6
AAK Ala-Archa 157.97 251 *e*PKP2 PKPab 21 40 40.9 -0.6
AAK MLR MLR
comp=Z,767nm,21.0s,MS5.5
GRFO Grafenberg 158.33 87 PFAKE 21 40 20.0 +11
GRFO LR LR
comp=Z,3µm,20.0s,MS6.1
GRF Grafenberg Arr 158.33 87 *e*PKP PKPdf 21 40 12.2 +3.4
GRF *e*L 22 44 48.6
comp=Z,3µm,20.8s
NVS Novosibirsk 158.36 288 *e*PKIKP PKPdf 21 40 08.5 -0.3
NVS *i* 21 40 43.6
NVS *e* 21 44 19.4
MOX Moxa 158.95 85 *e*(PKP) 21 40 03.2
comp=Z,42nm,2.0s
MOX
comp=Z,4µm,21.0s
NKC Novy Kostel 159.28 87 *e*PKPDF PKPdf 21 40 12.6 +2.7
NKC *e*PKPAB PKPab 21 40 48.8 +1.6
NKC *e*SS SS 22 04 42.8 +9.3
NKC AMS AMS 22 51 20.0

comp=Z,4μm,21.4s
NKC Novy Kostel 159.28 87 *e*PKP PKPdf 21 40 12.6 +2.7
NKC *e* 21 40 48.8
NKC *e*SS SS 22 04 42.8 +9.3
GERES GERESS Array B 159.43 91 PKP PKPdf 21 40 09.7 -0.4
comp=Z,1.6nm,1.1s,baz=180,slow=10.0,SNR=3.1
GERES PKPab PKPab 21 40 45.3 -2.6
comp=Z,1.2nm,0.8s,baz=199,slow=2.4,SNR=3.8
GERES PP PP 21 44 33.5 +4.5
comp=Z,0.3nm,0.3s,baz=251,slow=4.1,SNR=4.6
KHC Kasperske Hory 159.49 90 *e*PKPDF PKPdf 21 40 16.0 +5.9
KHC *ex* x 21 40 28.5
KHC *e*PKPAB PKPab 21 40 48.1 0.0
KHC *e*PP PP 21 44 33.0 +3.7
KHC *ex* x 22 04 21.2
KHC AMS AMS 22 46 10.0
comp=Z,5μm,22.2s
KHC Kasperske Hory 159.49 90 *e*PKIKP PKPdf 21 40 16.0 +5.9
KHC *e* 21 40 28.5
KHC *e* 21 40 48.1
KHC *e* 21 44 33.0
KHC MLR MLR
comp=Z,5μm,22.2s,MS6.3
KHC Kasperske Hory 159.49 90 *e*PKP PKPdf 21 40 16.0 +5.9
KHC *e* 21 40 28.5
KHC *e* 21 40 48.1
KHC *e*PP PP 21 44 33.0 +3.7
KHC *e*SS SS 22 04 21.2 -15
KHC LR LR
comp=Z,5μm,22.2s,MS6.3
KONO Kongsberg 159.56 59 PFAKE 21 40 20.0 +10
KONO LR LR
comp=Z,5μm,21.0s,MS6.3
KURK Kurchatov 159.80 274 PFAKE 21 40 20.0 +10
KURK LR LR
comp=Z,1μm,22.0s,MS5.6
CLL Collm 160.01 84 *e*PKPdf PKPdf 21 40 14.4 +3.7
CLL *e*PKPab PKPab 21 40 51.0 +0.7
comp=Z,52nm,1.5s
CLL *e*PP PP 21 44 32.2 +0.1
CLL *e*SKKSac SKKSac 21 51 21.8 +0.8
CLL *e*SKSP 21 54 57.7
CLL *e*PPS 21 57 56.6
CLL *e*SS SS 22 04 47.7 +6.5
CLL *e*SSS 22 11 12.9
CLL *e*SSSS 22 15 04.5
CLL *e*LR LR 22 36 00.5
CLL *e*L 22 46 54.7
comp=Z,5μm,22.0s
CLL Collm 160.01 84 *e*(PKPdf) PKPdf 21 40 14.0 +3.3
CLL *e*PKPab PKPab 21 40 51.0 +0.7
comp=Z,50nm,1.5s
CLL *i* x x 21 40 55.4
CLL *i* x x 21 41 00.2
CLL *e*PP PP 21 44 30.0 -2.1
CLL *e*SKKSac SKKSac 21 51 22.0 +1.0
CLL *e*SKSP 21 54 53.0
CLL *ex* x 21 55 54.0
CLL *e*SS SS 22 04 54.0 +13
CLL *e*(SSS) 22 11 30.0
CLL *e*SSSS 22 15 18.0
CLL Lm 22 46 00.0
comp=N,3μm,20.3s
CLL Lm 22 46 00.0
comp=E,4μm,21.9s
CLL Lm 22 46 00.0
comp=Z,6μm,20.8s
NAO01 NORSAR Array S 160.15 56 PFAKE 21 40 20.0 +9.1
NAO01 LR LR
comp=Z,7μm,19.0s
BRG Berggiesshubel 160.40 86 *e*P PKPab 21 40 53.7 +1.7
comp=Z,20nm,1.7s
BRG PP PP 21 44 38.0 +3.8
BRG *e* 21 51 23.0
BRG S 21 51 44.0
BRG
comp=N,1μm,20.8s
BRG
comp=E,2μm,23.0s
BRG
comp=Z,3μm,20.2s
BRG Berggiesshubel 160.40 86 *e*PKP2 PKPab 21 40 53.7 +1.6
BRG 21 44 38.0
BRG pmax pmax
comp=Z,20nm,1.7s
BRG MLR MLR
comp=N,1μm,20.8s
BRG MLR MLR
comp=E,2μm,23.0s
BRG MLR MLR
comp=Z,3μm,20.2s
PRU Pruhonice 160.42 89 *e*PKPDF PKPdf 21 40 13.7 +2.5
PRU *e*PKPAB PKPab 21 40 51.8 -0.3
PRU *e*PP PP 21 44 39.2 +4.9
PRU *e*SS SS 22 04 46.8 +1.3
PRU AMS AMS 22 50 20.0
comp=Z,3μm,20.3s
PVCC Panska Ves 160.64 87 *e*PKPDF PKPdf 21 40 21.3 +10
PVCC *e*PKPAB PKPab 21 41 00.7 +7.6
PVCC *e*SS SS 22 04 58.9 +11
PVCC AMS AMS 22 59 20.0
comp=Z,4μm,21.8s
UPC Upice 161.49 89 *e*PKPDF PKPdf 21 40 20.2 +7.9
UPC *e*PKPAB PKPab 21 40 57.3 +0.5
UPC *e*PP PP 21 44 40.5 +0.4
DPC Dobruska-Polom 161.61 89 *e*PKPDF PKPdf 21 40 18.8 +6.3
DPC *e*PKPAB PKPab 21 40 58.3 +1.0
DPC *e*PP PP 21 44 44.2 +3.5
DPC *e*SS SS 22 04 57.1 -1.0
DPC AMS AMS 22 48 00.0
comp=Z,3μm,18.5s
ARCES ARCESS Array B 161.82 23 PKPab PKPab 21 40 58.4 +0.1
comp=Z,10nm,1.1s,baz=318,slow=5.1,SNR=5.3
KEV Kevo 161.98 21 PFAKE 21 40 20.0 +7.2
KEV LR LR
comp=Z,5μm,21.0s
MSL Mosul 162.23 173 *ex* x 21 40 21.0
VYHS Vyhne 162.30 97 *e*PKP PKPdf 21 40 17.4 +4.2
VYHS *e* 21 41 00.3
OKC Ostrava-Krasne 162.49 92 *e*PKPDF PKPdf 21 40 20.3 +7.0
OKC *e*PP PP 21 44 55.2 +10
OKC *e*SS SS 22 05 15.7 +8.5
OKC AMS AMS 22 59 20.0
comp=Z,4μm,21.2s
OKC Ostrava-Krasne 162.49 92 *e*PKP PKPdf 21 40 20.3 +7.0
OKC *e*PP PP 21 44 55.2 +10
OKC *e*SS SS 22 05 15.7 +8.5
ANTO Ankara 163.37 143 PFAKE 21 40 20.0 +5.8
ANTO LR LR
comp=Z,4μm,20.0s
BR131 Keskin Array S 163.54 145 PFAKE 21 40 30.0 +16
BR131 LR LR
comp=Z,3μm,20.0s
BRTR Keskin Array B 163.54 145 PKP PKPdf 21 40 12.4 -1.9
comp=Z,1.8nm,1.2s,baz=224,slow=6.0,SNR=3.5
BRTR PKPab PKPab 21 41 04.2 -1.6
comp=Z,0.9nm,0.7s,baz=168,slow=12,SNR=3.1
CRVS Cervenica-Dubn 164.03 99 *e*PKP PKPab 21 41 13.5 +5.6
CRVS *e*PP PP 21 44 57.6 +4.1
CRVS Cervenica-Dubn 164.03 99 *e*PKP2 PKPab 21 41 13.6 +5.7
CRVS *e* 21 44 57.6
UZH Uzhgorod 164.38 100 *e*PKIKP 21 40 03.6
UZH *e* 21 41 08.4
BRVK Borovoye 165.43 276 PFAKE 21 40 30.0 +14
BRVK LR LR
comp=Z,1μm,20.0s
GNI Garni 166.16 177 PFAKE 21 40 30.0 +13
GNI LR LR
comp=Z,9μm,20.0s
FINES FINESS Array B 167.09 47 PKPab PKPab 21 41 19.8 -1.6
comp=Z,4.4nm,1.0s,baz=224,slow=11,SNR=3.1
KIS Kishinev 167.14 116 *e*PKIKP PKPdf 21 40 16.0 -1.4
KIS *e* 21 40 23.0
KIS *e* 21 41 23.0
KIS *e* 21 47 23.0
KIS Kishinev 167.14 116 *e*PKP PKPdf 21 40 16.0 -1.4
KIS *e*SKP 21 43 52.0
KIS Kishinev 167.14 116 *e*PP PP 21 45 04.0 -5.7
KIS *e*SKS SKSdf 21 47 23.0 +1.7
SIM Simferopol' 168.21 135 PKIKP PKPdf 21 40 18.0 -0.1
SIM *e* 21 45 17.0
SIM *e*SS SS 22 06 05.0 -0.7
SIM pmax pmax
comp=Z,110nm,6.7s
SIM MLR MLR
comp=Z,5μm,19.0s
MAK Makhachkala 168.94 186 *i* PKIKP PKPdf 21 40 19.4 +0.8
MAK *i* 21 47 19.2
MAK *e*SS SS 22 06 10.4 -2.5
MAK pmax pmax
comp=Z,126nm,1.8s
KIEV Kiev 169.32 101 PFAKE 21 40 30.0 +11
KIEV LR LR
comp=Z,5μm,21.0s
AKASG Malin Array Be 169.34 101 PKP PKPdf 21 40 16.4 -2.5
comp=Z,0.1nm,0.3s,baz=294,slow=1.1,SNR=6.0
AKASG PKPab PKPab 21 41 29.4 -1.9
comp=Z,1.5nm,0.7s,baz=262,slow=4.0,SNR=4.2
AKASG Malin Array Be 169.34 101 PKP PKPdf 21 40 16.4 -2.5
AKASG PKPab PKPab 21 41 29.4 -2.0
MNK Minsk 169.46 80 *e*PKP2 PKPab 21 41 28.0 -3.9
KIV Kislovodsk 169.78 167 *e*PKIKP PKPdf 21 40 09.6 -10
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 169.78 167 PFAKE 21 40 30.0 +11
KIV LR LR
comp=Z,2μm,22.0s
ARU Arti 172.30 294 *i* PKIKP PKPdf 21 40 11.0 -9.4
ARU *e* 21 41 41.1
ARU Arti 172.30 294 *e*PKPdf PKPdf 21 40 20.9 +0.5
ARU LR LR
comp=Z,1μm,21.0s
OBN Obninsk 174.49 74 *e*PKIKP PKPdf 21 40 17.8 -3.5
OBN *i* 21 45 51.1
OBN *i* PPP 21 49 58.8
OBN pmax pmax
comp=Z,36nm,1.7s
OBN Obninsk 174.49 74 PFAKE 21 40 30.0 +8.7
OBN LR LR
comp=Z,1μm,20.0s
MOS Moscow 174.94 66 *e*PKIKP PKPdf 21 40 22.4 +1.0
MOS *e* 22 07 07.7
MOS *e* 22 08 21.0
VRHR Novokhopersk 176.16 137 *e*PKIKP PKPdf 21 40 32.4 +11
VRHR pmax pmax
comp=Z,3.0nm,0.6s
VRHR pmax pmax
comp=N,4.0nm,1.3s
VRHR pmax pmax
comp=E,9.0nm,0.6s

IDC 30 21:31:35.2±36.0, 5358S×13447W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.9/11, mbtmp3.9/3, Error ellipse: s-maj=1019.0km s-min=53.0km az=49.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**58.44**	**188**	P		P	21 41 31.9	-0.8
	1.7nm,0.5s,baz=172,slow=6.4,SNR=6.9							
ASAR	**Alice Springs**	**72.25**	**254**	P		P	21 43 02.5	+0.2
	0.3nm,0.4s,baz=145,slow=7.0,SNR=5.3							
WRA	**Warramunga Arr**	**74.90**	**257**	P		P	21 43 17.7	-0.1
	0.4nm,0.6s,baz=140,slow=5.4,SNR=8.4							

IDC 30 21:39:42.9±1.2, 5346S×13446W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.1/11, mbtmp4.0/5, Error ellipse: s-maj=49.2km s-min=29.3km az=164.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.86**	**201**	P		P	21 46 17.8	-0.6
	0.5nm,0.8s,baz=98,slow=7.1,SNR=2.1							
STKA	**Stephens Creek**	**61.65**	**254**	P		P	21 50 03.9	+1.4
	0.7nm,0.3s,baz=164,slow=7.4,SNR=3.2							
LPAZ	**La Paz**	**63.00**	**81**	P		P	21 50 12.3	+0.8
	1.9nm,1.0s,baz=90,slow=1.0,SNR=4.3							
ASAR	**Alice Springs**	**72.29**	**254**	P		P	21 51 09.4	-0.7
	1.4nm,0.7s,baz=141,slow=6.3,SNR=12							
WRA	**Warramunga Arr**	**74.94**	**257**	P		P	21 51 25.0	-0.7
	1.3nm,0.5s,baz=140,slow=5.4,SNR=21							
MKAR	**Makanchi Array**	**155.72**	**269**	PKPab	PKPab		22 00 04.1	-0.9
	1.0nm,0.8s,baz=117,slow=5.5,SNR=5.4							
ZAL	**Zalesovo**	**156.95**	**287**	PKPab	PKPab		22 00 09.2	-1.1
	1.0nm,0.5s,baz=357,slow=6.5,SNR=5.0							

IDC 30 21:55:01.0±1.2, 5423S×13423W, h0km, mb3.8/4, mb1 4.1/4, mb1mx4.0/11, mbtmp3.8/4, Error ellipse: s-maj=94.6km s-min=27.4km az=162.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**63.00**	**80**	P		P	22 05 30.3	+0.7
	0.6nm,0.5s,baz=196,slow=7.0,SNR=4.7							
ASAR	**Alice Springs**	**72.20**	**254**	P		P	22 06 28.1	+0.3
	0.7nm,0.9s,baz=143,slow=5.3,SNR=4.9							
WRA	**Warramunga Arr**	**74.89**	**257**	P		P	22 06 43.8	+0.2
	0.5nm,0.5s,baz=141,slow=5.5,SNR=16							
TXAR	**Lajitas Array**	**87.31**	**26**	P		P	22 07 49.5	-0.2
	0.6nm,0.8s,baz=181,slow=8.1,SNR=3.3							
MKAR	**Makanchi Array**	**155.83**	**267**	PKPab	PKPab		22 15 21.8	-1.9
	1.1nm,1.0s,baz=116,slow=3.4,SNR=3.7							
ZAL	**Zalesovo**	**157.30**	**285**	PKPab	PKPab		22 15 28.4	-1.5
	0.7nm,0.3s,baz=108,slow=6.4,SNR=4.9							

*ISCJB **30** 22:01:45.8±0.7, 537S±02°×1346W±02, h10km, mb4.5/8, Error ellipse: s-maj=22.3km s-min=15.8km az=17.6*
*IDC **30** 22:01:46.4±1.1, 5370S×13449W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.3/10, mbtmp4.2/5, Error ellipse: s-maj=44.4km s-min=27.8km az=165.0*
*NEIC **30** 22:01:47.6±0.6, 5362S×13455W, h10km, mb4.5/5, Error ellipse: s-maj=17.3km s-min=12.2km az=10.0*
ISC 30 22:01:47.8±0.7, 537S±02°×1346W±02, h10km, n16, σ0s77/15, mb4.5/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.65**	**200**	*e*P		**P**	**22 08 10.9**	**-0.2**
	8.0nm,1.3s,mb4.4							
VNDA	**Vanda**	**32.61**	**201**	P		**P**	**22 08 20.4**	**+1.0**
	1.8nm,1.2s,mb3.9,baz=78,slow=4.1,SNR=3.6							
VNDA	**Vanda**	**32.61**	**201**	*e*P		**P**	**22 08 19.8**	**+0.3**
	5.3nm,1.4s,mb4.3							
PMSA	**Palmer Station**	**35.77**	**136**	P		**P**	**22 08 47.9**	**+1.0**
RAO	**Raoul Island**	**39.75**	**290**	*e*P		**P**	**22 09 20.9**	**+0.3**
LVC	**Limon Verde**	**57.75**	**85**	*e*P		**P**	**22 11 37.6**	**-1.2**
	2.6nm,0.8s,mb4.3							
MAW	**Mawson**	**58.31**	**188**	P		**P**	**22 11 41.3**	**-1.5**
	2.3nm,0.7s,mb4.3,baz=189,slow=13,SNR=3.9							
MAW	**Mawson**	**58.31**	**188**	*e*P		**P**	**22 11 41.5**	**-1.3**
	30nm,1.4s,mb5.1							
STKA	**Stephens Creek**	**61.51**	**254**	P		**P**	**22 12 04.4**	**-0.4**
LPAZ	**La Paz**	**63.12**	**81**	P		**P**	**22 12 16.3**	**+0.7**
	3.3nm,1.1s,mb4.4,baz=224,slow=4.5,SNR=7.4							
LPAZ	**La Paz**	**63.12**	**81**	*e*P		**P**	**22 12 16.2**	**+0.7**
	4.9nm,1.1s,mb4.5							
HNR	**Honiara**	**68.01**	**285**	*e*P		**P**	**22 12 47.1**	**0.0**
	61nm,1.0s,mb5.6							
ASAR	**Alice Springs**	**72.15**	**254**	P		**P**	**22 13 13.3**	**+0.8**
	2.1nm,0.8s,mb4.1,baz=137,slow=5.8,SNR=18							
WB2	**Warramunga Arr**	**74.80**	**257**	*e*P		**P**	**22 13 27.3**	**-0.8**
WRA	**Warramunga Arr**	**74.80**	**257**	P		**P**	**22 13 28.6**	**+0.4**
	2.2nm,0.7s,mb4.2,baz=142,slow=5.2,SNR=23							
MKAR	**Makanchi Array**	**155.64**	**269**	PKPab	PKPab		22 22 07.4	-0.5
	1.0nm,0.9s,baz=119,slow=4.0,SNR=5.3							

WEL 30 22:27:21.7±0.7, 3698S×17940W, h33km, ML3.7/4, Error ellipse: s-maj=6.9km s-min=6.6km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.92**	**252**	PN		Pn	22 27 51.5	-0.6
MXZ				*e*SN		Sn	22 28 13.4	-1.7
PUZ	**Puketiti**	**2.16**	**239**	*e*PN		Pn	22 27 55.1	-0.3
PUZ				SN		Sn	22 28 20.7	-0.4
MWZ	**Matawai**	**2.79**	**240**	*e*PN		Pn	22 28 03.7	-0.3
MWZ				SN		Sn	22 28 34.9	-1.7
KNZ	**Kokohu**	**3.09**	**228**	PN		Pn	22 28 07.4	-0.7
MRZ	**Mangatainoka R**	**5.38**	**225**	*e*SN		Sn	22 29 34.9	-5.5
TCW	**Tory Channel**	**6.49**	**227**	*e*SN		Sn	22 30 00.5	-7.2
NNZ	**Nelson**	**7.04**	**231**	*e*SN		Sn	22 30 14.6	-6.5
MQZ	**McQueen's Vall**	**9.05**	**220**	*e*SN		Sn	22 30 58.4	-12

*FUNV **30** 22:40:50.8, 1073N×6202W, h4km, MW3.1*
*ISCJB **30** 22:40:51.5±0.6, 1066N±005°×6207W±002, h11km±4km, Error ellipse: s-maj=7.7km s-min=3.7km az=164.0*
*NEIC **30** 22:40:52.9, 1068N×6199W, h12km, MD3.5(TRN), After TRN.*
*TRN **30** 22:40:52.9, 1068N×6199W, h13km, MD3.5*
ISC 30 22:40:51.5±0.5, 1069N±005°×6208W±002, h11km±4km, n14, σ0s96/26, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.15**	**254**	*e*P		**Pg**	**22 40 55.2**	**+0.2**
GUIV				*e*S		**Sg**	**22 40 57.5**	**+0.1**
TCE	**Chacachacare**	**0.32**	**88**	↑*i*P		**Pg**	**22 40 57.8**	**-0.1**
TCE				*e*S		**Sg**	**22 41 02.6**	**+0.4**
TRN	**Trinidad (W)**	**0.66**	**93**	↓*i*P		**Pg**	**22 41 03.8**	**-0.6**
TRN				*e*S		**Sg**	**22 41 11.9**	**-1.1**
TPP	**Pointe-a-Pierr**	**0.72**	**121**	*e*P		**Pg**	**22 41 06.1**	**+0.7**
TPP				*e*S		**Sg**	**22 41 20.7**	**+5.9**
GUNV	**Guanoco**	**1.00**	**239**	*e*P		**Pb**	**22 41 10.9**	**0.0**
GUNV				*e*S		**Sb**	**22 41 25.8**	**+1.7**
TBH	**Brigand Hill**	**1.01**	**101**	*e*P		**Pb**	**22 41 11.3**	**+0.2**
TBH				*e*S		**Sb**	**22 41 28.4**	**+3.9**
CRUV	**Carupano**	**1.14**	**269**	*e*P		**Pb**	**22 41 11.9**	**-1.4**
CRUV				*e*S		**Sb**	**22 41 28.0**	**-0.1**
ITEV	**Isla Los Testi**	**1.23**	**303**	*e*P		**Pn**	**22 41 13.8**	**-0.9**
ITEV				*e*S		**Sb**	**22 41 31.0**	**+0.3**
TPR	**Prospect**	**1.37**	**69**	*e*P		**Pn**	**22 41 16.1**	**-0.5**
TPR				*e*S		**Sn**	**22 41 35.4**	**+0.6**
GRW	**Mount Saint Ca**	**1.52**	**15**	*e*P		**Pn**	**22 41 20.0**	**+1.3**
ORIV	**Oritupano**	**2.08**	**219**	*e*P		**Pn**	**22 41 27.8**	**+1.5**
ORIV				*e*S		**Sn**	**22 41 53.7**	**+1.5**
PCRV	**Puerto La Cruz**	**2.57**	**259**	*e*P		**Pn**	**22 41 32.8**	**-0.3**
GURV	**El Guri**	**3.08**	**199**	*e*P		**Pn**	**22 41 39.2**	**-0.9**
GURV				*e*S		**Sn**	**22 42 15.4**	**-1.4**
MERV	**Las Mercedes**	**4.40**	**251**	*e*P		**Pn**	**22 41 58.7**	**+0.4**
MERV				*e*S		**Sn**	**22 42 47.7**	**-1.8**

*ISCJB **30** 23:08:41.7±0.6, 531S±01°×1335W±02, h10km, mb4.0/9, Error ellipse: s-maj=19.1km s-min=16.2km az=169.5*
*IDC **30** 23:08:42.3±7.5, 5314S×13353W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.1/10, mbtmp4.1/5, Error ellipse: s-maj=185.2km s-min=45.2km az=56.0*
*NEIC **30** 23:08:43.7±0.6, 5305S×13358W, h10km, mb4.1/5, Error ellipse: s-maj=16.9km s-min=13.7km az=186.0*
ISC 30 23:08:43.5±0.6, 532S±01°×1335W±02, h10km, n15, σ0s65/15, mb4.0/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**32.38**	**200**	*e*P		**P**	**23 15 12.3**	**-1.0**
	4.7nm,1.0s,mb4.3							
VNDA	**Vanda**	**33.35**	**201**	P		**P**	**23 15 21.7**	**0.0**
	1.6nm,1.0s,mb3.9,baz=88,slow=6.6,SNR=5.8							
VNDA	**Vanda**	**33.35**	**201**	*e*P		**P**	**23 15 21.8**	**+0.1**
	9.2nm,1.8s,mb4.4							
PMSA	**Palmer Station**	**35.72**	**137**	P		**P**	**23 15 45.5**	**+3.3**
AFI	**Afiamalu**	**49.47**	**308**	P		**P**	**23 17 33.2**	**-0.8**
SNAA	**Sanae**	**50.72**	**162**	*e*P		**P**	**23 17 43.3**	**-0.1**
	0.7nm,0.5s,mb3.9							
LVC	**Limon Verde**	**57.05**	**84**	*e*P		**P**	**23 18 29.1**	**-0.6**
	1.6nm,0.6s,mb4.2							
MAW	**Mawson**	**58.94**	**187**	P		**P**	**23 18 42.5**	**-0.4**
	4.7nm,0.9s,mb4.5,baz=173,slow=19,SNR=3.6							
STKA	**Stephens Creek**	**62.28**	**253**	P		**P**	**23 19 05.8**	**0.0**
	1.3nm,0.7s,mb4.2,baz=128,slow=18,SNR=3.5							
HNR	**Honiara**	**68.50**	**283**	P		**P**	**23 19 46.2**	**+0.2**
SAML	**Samuel**	**71.11**	**79**	P		**P**	**23 20 02.0**	**-0.1**
ASAR	**Alice Springs**	**72.92**	**253**	P		**P**	**23 20 13.3**	**+0.4**
	1.1nm,0.8s,mb3.8,baz=150,slow=6.8,SNR=7.4							
WRA	**Warramunga Arr**	**75.56**	**256**	P		**P**	**23 20 29.0**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=143,slow=5.4,SNR=7.2							
WRAB	**Tennant Creek**	**75.56**	**256**	*e*P		**P**	**23 20 28.6**	**+0.3**
	0.4nm,0.6s,mb3.5							
SDV	**Santo Domingo**	**81.44**	**63**	P		**P**	**23 21 01.1**	**+0.3**

*IDC **30** 23:34:15.3±1.1, 4652N×15559E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=30.8km s-min=25.6km az=146.0*
*ISCJB **30** 23:34:17.6±5.3, 466N±01°×1556E±03, h24km±37km, mb3.7/7, Error ellipse: s-maj=34.2km s-min=16.6km az=73.2*
*MOS **30** 23:34:18.9±1.2, 4662N×15541E, h33km, mb4.1/4, Error ellipse: s-maj=36.7km s-min=21.4km az=83.3*
ISC 30 23:34:19.8±5.6, 466N±01°×1555E±03, h28km±39km, n14, σ0s73/14, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.09**	**5**	*e*PN		**Pn**	**23 35 20.1**	**-0.3**
MJAR	**Matsushiro Arr**	**16.38**	**238**	Pn		**Pn**	**23 38 07.7**	**+0.1**
	0.2nm,0.3s,baz=32,slow=11,SNR=6.4							
KSRS	**Korea Array**	**22.37**	**256**	P		**P**	**23 39 16.8**	**+1.2**
	1.1nm,0.5s,mb3.6,baz=64,slow=14,SNR=4.3							
SONM	**Songino Array**	**32.95**	**290**	P		**P**	**23 40 51.3**	**-0.5**
	0.2nm,0.4s,mb3.4,baz=79,slow=6.1,SNR=2.7							
SONM	**Songino Array**	**32.95**	**290**	P		**P**	**23 40 51.3**	**-0.6**
MKAR	**Makanchi Array**	**48.48**	**299**	P		**P**	**23 42 59.1**	**-0.8**
	0.6nm,0.9s,mb3.6,baz=79,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**48.48**	**299**	P		**P**	**23 42 59.1**	**-0.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**64.86**	**336**	P		**P**	**23 44 56.3**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=41,slow=7.4,SNR=29							
FINES	**FINESS Array B**	**64.86**	**336**	P		**P**	**23 44 56.3**	**0.0**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ASAR	**Alice Springs**	**72.64**	**201**	P		**P**	**23 45 43.5**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=6.0,SNR=7.9							
ASAR	**Alice Springs**	**72.64**	**201**	P		**P**	**23 45 43.6**	**-1.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**76.09**	**62**	P		**P**	**23 46 05.4**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=301,slow=5.4,SNR=12							
TXAR	**Lajitas Array**	**76.09**	**62**	P		**P**	**23 46 05.4**	**+0.6**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**79.29**	**335**	P		**P**	**23 46 23.5**	**+0.9**
	comp=Z,0.1nm,0.3s,mb3.2,baz=34,slow=6.1,SNR=2.3							

*IDC **30** 23:38:08.6±0.7, 2938S×11237W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/15, mbtmp4.2/12, ML4.2/1, MS5.1/17, Ms1 5.1/17, ms1mx5.0/18, Error ellipse: s-maj=24.0km s-min=18.9km az=152.0*
*ISCJB **30** 23:38:10.3±0.3, 2959S±005°×11221W±008, h10km, mb4.8/31, MS5.2/174, Error ellipse: s-maj=10.4km s-min=6.9km az=30.5*
*MOS **30** 23:38:11.8±2.9, 2957S×11227W, h10km, mb5.2/10, MS5.1/21, Error ellipse: s-maj=25.2km s-min=9.9km az=87.1*
*BJI **30** 23:38:12.9, 2980S×11200W, h10km, mB5.5, Ms5.6, Msz5.3*
*NEIC **30** 23:38:12.9±0.4, 2976S×11196W, h10km, mb5.1/22, MS5.2/155, Error ellipse: s-maj=13.8km s-min=10.1km az=94.0*
*GCMT **30** 23:38:12.9±0.1, 2957S×11234W, h14km, MW5.6/95, Moment Tensor Solution. s72,c108; s95,c222; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr-0.40±.05; Mθθ-3.01±.05; Mφφ3.41±.05; Mrθ-0.99±.12; Mθφ-0.60±.04; Mrφ0.49±.11; Best double couple: M≈3.46200×10^17 NP1:φs39.00000°, δ71.00000°, λ-7.00000°. NP2:φs131.00000°, δ84.00000°, λ-161.00000°. Principal axes: T 3.5540, Plg9.0000°, Azm263.0000°; N -0.1830, Plg70.0000°, Azm149.0000°; P -3.3710, Plg18.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 30 23:38:12.5±0.3, 2965S±005°×11214W±008, h10km, n245, σ1s55/83, mb4.8/31, MS5.2/174, 5C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.53**	**45**	Pn	**Pn**	**23 39 02.2**	**-5.2**
	24nm,0.3s,baz=217,slow=14,SNR=8.7						
RPN				LR	LR	23 39 47.5	
	comp=Z,6μm,21.3s,baz=237,slow=28						
RPN				Sn	**Sn**	**23 39 48.5**	**-0.7**
	9.8nm,0.3s,baz=6.4,slow=19,SNR=7.0						
RPN	**Rapa Nui**	**3.53**	**45**	*e*Pn	**Pn**	**23 39 04.4**	**-2.9**
RKT	**Rikitea**	**21.44**	**282**	*e*LQ		23 47 02.3	
RKT	**Rikitea**	**21.44**	**282**	*e*P	**P**	**23 42 53.2**	**-7.6**
	2μm,26.4s						
RKT				*e*LR	LR	23 47 54.7	
	15μm,27.5s,baz=121						
TAOE	**Nuku Hiva Isla**	**33.41**	**303**	*e*LQ		23 52 11.3	
	14μm,28.7s						
TAOE				*e*LR	LR	23 53 35.7	
	16μm,26.9s,baz=143						
TBI	**Tubuai**	**33.88**	**272**	*e*S	**S**	**23 50 13.2**	**-6.4**
	824nm,28.5s						
TBI				*e*LQ		23 52 19.9	
	3μm,27.0s						
TBI				*e*LR	LR	23 53 37.4	
	15μm,26.8s,baz=106						
PAYG	**Puerto Ayora**	**35.55**	**40**	PFAKE		23 45 20.0	+10
PAYG				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
PPT	**Papeete**	**36.19**	**281**	*e*S	**S**	**23 50 45.3**	**-10**
	comp=Z,946nm,26.5s						
PPT				*e*LQ		23 53 17.7	
PPT				*e*LR	LR	23 54 39.5	
	comp=Z,15μm,27.5s,baz=112						
PPT	**Papeete**	**36.19**	**281**	LR	LR	23 55 31.1	
	comp=Z,5μm,21.2s,MS5.2,baz=93,slow=29						
NNA	**Nana**	**37.19**	**69**	PFAKE		23 45 40.0	+16
NNA				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
CFAA	**Coronel Fontan**	**37.65**	**104**	P	**P**	**23 45 27.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=254,slow=7.4,SNR=11						
CFAA	**Coronel Fontan**	**37.65**	**104**	P	**P**	**23 45 27.5**	**-0.1**
LVC	**Limon Verde**	**39.27**	**90**	P	**P**	**23 45 41.4**	**+0.1**
	comp=Z,9.4nm,1.1s,mb4.4,baz=270,slow=7.6,SNR=10.0						
LVC				LR	LR	23 57 07.8	
	comp=Z,3μm,21.5s,MS5.1,baz=180,slow=29						
LVC	**Limon Verde**	**39.27**	**90**	*e*P	**P**	**23 45 41.7**	**+0.4**
	comp=Z,67nm,1.8s,mb5.1						
LVC				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
TRQA	**Tornquist**	**42.07**	**115**	*e*P	**P**	**23 46 04.2**	**-0.2**
	comp=Z,6.2nm,0.9s,mb4.2						
TRQA				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
LPAZ	**La Paz**	**42.40**	**82**	P	**P**	**23 46 07.9**	**+0.8**
	comp=Z,8.6nm,1.2s,mb4.3,baz=253,slow=8.2,SNR=14						
LPAZ				LR	LR	00 00 21.6	
	comp=Z,3μm,18.7s,MS5.1,baz=287,slow=31						
OTAV	**Otavalo**	**43.76**	**53**	*e*P	**P**	**23 46 17.3**	**-0.9**
	comp=Z,27nm,0.6s,mb5.2						
OTAV				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
EFI	**East Falkland**	**45.32**	**135**	P	**P**	**23 46 32.6**	**+2.0**
EFI				MLR	MLR		
	comp=Z,690nm,22.0s,MS4.5						
PMSA	**Palmer Station**	**46.06**	**154**	PFAKE		23 46 50.0	+14
PMSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
JTS	**JuntasAbangare**	**47.58**	**38**	PFAKE		23 47 00.0	+12
JTS				LR	LR		
	comp=Z,275nm,20.0s,MS4.2						
TGUH	**Tegucigalpa,Un**	**49.64**	**32**	PFAKE		23 47 20.0	+16
TGUH				LR	LR		
	comp=Z,576nm,20.0s,MS4.6						
ROSC	**El Rosal**	**49.92**	**53**	P	**P**	**23 47 05.9**	**-0.4**
	comp=Z,12nm,0.9s,mb4.9,baz=112,slow=23,SNR=8.6						
ROSC				LR	LR	00 04 34.4	
	comp=Z,2μm,19.8s,MS5.1,baz=112,slow=32						
SAML	**Samuel**	**50.15**	**76**	*e*P	**P**	**23 47 06.3**	**-1.8**
	comp=Z,34nm,1.6s,mb5.1						
SAML				LR	LR		
	comp=Z,9μm,20.0s,MS5.8						
TEIG	**Tepich**	**54.66**	**28**	PFAKE		23 47 50.0	+8.4
TEIG				LR	LR		
	comp=Z,902nm,20.0s,MS4.8						
SDV	**Santo Domingo**	**55.35**	**53**	*e*P	**P**	**23 47 43.6**	**-2.9**
	comp=Z,14nm,0.9s,mb5.0						
SDV				LR	LR		
	comp=Z,807nm,19.0s,MS4.8						
RAO	**Raoul Island**	**56.53**	**253**	PFAKE		23 48 10.0	+15
RAO				LR	LR		
	comp=Z,4μm,21.0s,MS5.4						
AFI	**Afiamalu**	**56.98**	**272**	PFAKE		23 48 10.0	+12
AFI				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
HOPE	**Hope Point**	**58.32**	**138**	PFAKE		23 48 20.0	+12
HOPE				LR	LR		
	comp=Z,506nm,19.0s,MS4.7						
SNZO	**South Karori**	**59.08**	**237**	PFAKE		23 48 30.0	+17
SNZO				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
LTX	**Lajitas**	**59.21**	**9**	PFAKE		23 48 30.0	+16
LTX				LR	LR		
	comp=Z,887nm,20.0s,MS4.9						
TXAR	**Lajitas Array**	**59.21**	**9**	P	**P**	**23 48 15.3**	**+1.5**
	comp=Z,1.0nm,0.9s,mb3.9,baz=154,slow=7.0,SNR=3.5						
TXAR				LR	LR	00 08 50.5	
	comp=Z,664nm,19.6s,MS4.8,baz=165,slow=31						
SBA	**Scott Base**	**59.36**	**194**	*e*P	**P**	**23 48 14.7**	**-0.1**
SBA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
SBA				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.0						
SBA	**Scott Base**	**59.36**	**194**	*e*P	**P**	**23 48 14.7**	**-0.2**
	comp=Z,12nm,1.2s,mb4.8						
SBA				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
VNDA	**Vanda**	**60.42**	**194**	P	**P**	**23 48 21.9**	**-0.2**
	comp=Z,2.1nm,1.1s,mb4.1,baz=119,slow=6.8,SNR=4.5						
VNDA				LR	LR	00 09 27.1	
	comp=Z,1μm,18.2s,MS5.1,baz=84,slow=31						
VNDA	**Vanda**	**60.42**	**194**	P	**P**	**23 48 21.9**	**-0.2**
VNDA				LR	LR	00 09 27.1	
QSPA	**South Pole Qui**	**60.53**	**180**	*e*P	**P**	**23 48 22.9**	**0.0**
	comp=Z,66nm,1.0s,mb5.7						
QSPA				LR	LR		
	comp=Z,3μm,21.0s,MS5.3						
JCT	**Junction City**	**60.94**	**12**	*e*P	**P**	**23 48 23.5**	**-2.2**
JCT				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2						
JCT				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2						
JCT	**Junction City**	**60.94**	**12**	*e*P	**P**	**23 48 23.5**	**-2.1**
	comp=Z,21nm,1.0s,mb5.2						
JCT				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
HKT	**Hockley**	**61.28**	**16**	PFAKE		23 48 40.0	+12
HKT				LR	LR		
	comp=Z,832nm,21.0s,MS4.9						
MNTX	**Cornudas Mount**	**61.35**	**7**	*e*P	**P**	**23 48 28.2**	**-0.2**
MNTX				LR	LR		
	comp=Z,871nm,19.0s,MS4.9						
TUC	**Tucson**	**61.64**	**1**	PFAKE		23 48 40.0	+10
TUC				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
GLA	**Glamis**	**62.41**	**357**	*e*P	**P**	**23 48 38.8**	**+3.2**
SNCC	**San Nicolas Is**	**62.95**	**353**	PFAKE		23 48 50.0	+11
SNCC				LR	LR		
	comp=Z,5μm,22.0s,MS5.6						
PFO	**Pinyon Flat Ob**	**63.05**	**356**	PFAKE		23 48 50.0	+10
PFO				LR	LR		
	comp=Z,543nm,19.0s,MS4.7						
NATX	**Nacogdoches**	**63.29**	**17**	PFAKE		23 48 50.0	+8.6
NATX				LR	LR		
	comp=Z,931nm,20.0s,MS5.0						
LENM	**Lemitar**	**63.66**	**5**	*e*P	**P**	**23 48 44.5**	**+0.6**
LPM	**Los Pinos Moun**	**63.83**	**5**	*e*P	**P**	**23 48 46.0**	**+1.0**
LAZ	**Ladron**	**63.88**	**5**	*e*P	**P**	**23 48 43.2**	**-2.1**
ANMO	**Albuquerque**	**64.48**	**5**	PFAKE		23 49 00.0	+11
ANMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
DWPF	**Disney**	**64.51**	**30**	PFAKE		23 49 00.0	+11
DWPF				LR	LR		
	comp=Z,643nm,20.0s,MS4.8						
GSC	**Goldstone**	**64.76**	**356**	*e*P	**P**	**23 48 49.3**	**-1.8**
WUAZ	**Wupatki**	**64.83**	**1**	*e*P	**P**	**23 48 53.1**	**+1.6**
WUAZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
BRAL	**Brewton**	**64.88**	**24**	PFAKE		23 49 00.0	+8.1
BRAL				LR	LR		
	comp=Z,776nm,21.0s,MS4.9						
AMTX	**Amarillo**	**64.94**	**9**	PFAKE		23 49 10.0	+18
AMTX				LR	LR		
	comp=Z,863nm,20.0s,MS4.9						
ISA	**Isabella**	**65.24**	**354**	*e*P	**P**	**23 48 52.5**	**-1.7**
ISA				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
WMOK	**Wichita Mounta**	**65.28**	**12**	PFAKE		23 49 10.0	+16
WMOK				LR	LR		
	comp=Z,2μm,22.0s,MS5.2						
DAC	**Darwin (Calif)**	**65.78**	**355**	*e*P	**P**	**23 48 59.1**	**+1.4**
DAC				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
DAC				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.4						
DAC	**Darwin (Calif)**	**65.78**	**355**	*e*P	**P**	**23 48 59.0**	**+1.3**
	comp=Z,15nm,1.3s,mb4.9						
DAC				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
SHPR	**Sheep Range**	**65.87**	**357**	*e*P	**P**	**23 48 59.7**	**+1.4**
VNA3	**Neumayer Olymp**	**66.11**	**160**	*e*P	**P**	**23 49 00.6**	**+0.8**
VNA3				*e*	pP	23 49 04.4	+1.3
VNA3				*e*		23 49 08.7	
BBGH	**Gun Hill**	**66.17**	**58**	PFAKE		23 49 10.0	+10
BBGH				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
MIAR	**Mount Ida**	**66.22**	**17**	*e*P	**P**	**23 49 01.5**	**+1.0**
MIAR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
MIAR				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
MIAR	**Mount Ida**	**66.22**	**17**	*e*P	**P**	**23 49 01.5**	**+1.0**
	comp=Z,11nm,1.0s,mb4.8						
MIAR				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
MVCO	**Mesa Verde**	**66.60**	**3**	P	**P**	**23 49 03.4**	**+0.4**
	comp=Z,113nm,2.0s,mb5.5						
MVCO				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
SAO	**San Andreas Ge**	**66.64**	**352**	PFAKE		23 49 20.0	+17
SAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
LRAL	**Lakeview Retre**	**66.74**	**23**	*e*P	**P**	**23 49 04.3**	**+0.5**
	comp=Z,12nm,1.0s,mb4.9						
LRAL				LR	LR		
	comp=Z,504nm,21.0s,MS4.7						
VNA1	**Neumayer--Stat**	**66.77**	**159**	*e*P	**P**	**23 49 05.6**	**+1.6**
VNA1				*e*	pP	23 49 10.3	+3.0
VNA2	**Neumayer--Watz**	**66.92**	**160**	*e*P	**P**	**23 49 04.3**	**-0.7**
VNA2				*e*		23 49 10.0	
VNA2				*e*		23 49 12.1	
VNA2				*e*		23 49 16.7	
FUNA	**Funafuti**	**67.31**	**273**	PFAKE		23 49 20.0	+13
FUNA				LR	LR		
	comp=Z,4μm,21.0s,MS5.6						
OXF	**Oxford**	**67.33**	**20**	PFAKE		23 49 20.0	+12
OXF				LR	LR		
	comp=Z,614nm,19.0s,MS4.8						
SDCO	**Great Sand Dun**	**67.33**	**6**	*e*P	**P**	**23 49 10.2**	**+2.5**
SDCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
TPH	**Tonopah**	**67.54**	**356**	PFAKE		23 49 20.0	+11
TPH				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
CMB	**Columbia Colle**	**67.78**	**353**	*e*P	**P**	**23 49 07.4**	**-3.0**
CMB				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.7						
MVU	**Marysvale**	**67.80**	**360**	PFAKE		23 49 20.0	+9.4
MVU				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
MSU	**Marysvale**	**67.81**	**360**	*e*P	**P**	**23 49 11.9**	**+1.2**
SNAA	**Sanae**	**67.92**	**161**	*e*P	**P**	**23 49 13.8**	**+2.5**
SNAA				pmax	pmax		
	comp=Z,16nm,1.3s						
SNAA	**Sanae**	**67.92**	**161**	*e*P	**P**	**23 49 13.8**	**+2.4**
	comp=Z,16nm,1.3s,mb4.9						
WAKR	**Walker**	**68.14**	**354**	*e*P	**P**	**23 49 17.5**	**+4.8**
PLAL	**Pickwick Lake**	**68.18**	**21**	PFAKE		23 49 30.0	+17
PLAL				LR	LR		
	comp=Z,486nm,19.0s,MS4.8						
GOGA	**Godfrey**	**68.34**	**26**	*e*P	**P**	**23 49 18.9**	**+4.9**
GOGA				MLR	MLR		
	comp=Z,698nm,19.0s,MS4.9						
HOPS	**Hopland**	**69.05**	**351**	PFAKE		23 49 30.0	+12
HOPS				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
CBKS	**Cedar Bluff**	**69.09**	**10**	PFAKE		23 49 30.0	+11
CBKS				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
MPU	**Maple Canyon**	**69.31**	**0**	PFAKE		23 49 30.0	+10
MPU				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
WVT	**Waverly**	**69.31**	**21**	*e*P	**P**	**23 49 22.2**	**+2.2**
WVT				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
WVT				MLR	MLR		
	comp=Z,530nm,21.0s,MS4.8						
WVT	**Waverly**	**69.31**	**21**	*e*P	**P**	**23 49 22.2**	**+2.2**
	comp=Z,18nm,1.5s,mb4.8						
WVT				LR	LR		
	comp=Z,530nm,21.0s,MS4.8						
ISCO	**Idaho Springs**	**69.36**	**5**	PFAKE		23 49 30.0	+10
ISCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
NHSC	**New Hope**	**69.38**	**28**	PFAKE		23 49 30.0	+10
NHSC				LR	LR		
	comp=Z,428nm,20.0s,MS4.7						
DUG	**Dugway**	**69.50**	**359**	*e*P	**P**	**23 49 25.3**	**+4.1**
DUG				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
DAU	**Daniels Canyon**	**69.71**	**1**	*e*P	**P**	**23 49 20.0**	**-2.5**
BMN	**Battle Mountai**	**69.89**	**356**	PFAKE		23 49 40.0	+16
BMN				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
KSU1	**Kansas State U**	**69.92**	**13**	*e*P	**P**	**23 49 23.6**	**-0.1**
	comp=Z,12nm,0.7s,mb4.9						
KSU1				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
ELK	**Elko**	**70.10**	**357**	PFAKE		23 49 40.0	+15
ELK				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
SIUC	**Southern Illin**	**70.37**	**19**	*e*P	**P**	**23 49 27.1**	**+0.6**
WDC	**Whiskeytown Da**	**70.54**	**352**	*e*P	**P**	**23 49 32.8**	**+5.2**
WDC				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
WDC				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.5						
WDC	**Whiskeytown Da**	**70.54**	**352**	*e*P	**P**	**23 49 32.8**	**+5.2**
	comp=Z,24nm,1.4s,mb4.9						
WDC				LR	LR		
	comp=Z,3μm,21.0s,MS5.5						
HWUT	**Hardware Ranch**	**70.91**	**0**	PFAKE		23 49 40.0	+10
HWUT				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
TZTN	**Tazewell**	**71.11**	**24**	*e*P	**P**	**23 49 32.2**	**+1.2**
MOD	**Modoc**	**71.60**	**354**	*e*P	**P**	**23 49 32.0**	**-2.0**
MOD				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
YBH	**Yreka Blue Hor**	**71.70**	**352**	PFAKE		23 49 50.0	+15
YBH				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
WCI	**Wyandotte Cave**	**71.72**	**21**	PFAKE		23 49 50.0	+15
WCI				LR	LR		
	comp=Z,805nm,19.0s,MS5.0						
WVOR	**Wild Horse Val**	**71.98**	**355**	P	**P**	**23 49 34.4**	**-1.9**
WVOR				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
WVOR				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.7						
WVOR	**Wild Horse Val**	**71.98**	**355**	P	**P**	**23 49 34.4**	**-1.8**
	comp=Z,33nm,1.5s,mb5.0						
WVOR				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
AHID	**Auburn Hatcher**	**72.07**	**1**	PFAKE		23 49 50.0	+13
AHID				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
BW06	**Boulder Array**	**72.10**	**2**	*e*P	**P**	**23 49 33.5**	**-3.5**
BW06				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
PDAR	**Pinedale Array**	**72.10**	**2**	P	**P**	**23 49 32.5**	**-4.5**
	comp=Z,0.6nm,0.9s,baz=167,slow=4.4,SNR=5.2						
PDAR				LR	LR	00 16 21.9	
	comp=Z,2μm,19.0s,MS5.3,baz=191,slow=32						
CNNC	**Cliffs of the**	**72.17**	**29**	PFAKE		23 49 50.0	+13
CNNC				LR	LR		
	comp=Z,541nm,20.0s,MS4.8						
NVL	**N'lazarevskaya**	**72.35**	**163**	*e*P	**P**	**23 49 56.1**	**+18**
NVL				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
HUMO	**Hull Mountain**	**72.59**	**352**	PFAKE		23 49 50.0	+10
HUMO				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
RRI2	**Red Ridge**	**72.65**	**1**	*e*P	**P**	**23 49 42.6**	**+2.4**
BLA	**Blacksburg**	**72.86**	**26**	*e*P	**P**	**23 49 37.6**	**-3.9**
BLA				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
BLA				MLR	MLR		
	comp=Z,634nm,19.0s,MS4.9						
BLA	**Blacksburg**	**72.86**	**26**	*e*P	**P**	**23 49 37.6**	**-3.9**
	comp=Z,17nm,0.9s,mb5.0						
BLA				LR	LR		
	comp=Z,634nm,19.0s,MS4.9						
HLID	**Hailey**	**72.89**	**358**	*e*P	**P**	**23 49 38.1**	**-3.5**
	comp=Z,30nm,1.5s,mb5.0						
HLID				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
HDIL	**Hopedale**	**73.00**	**18**	PFAKE		23 49 50.0	+7.6
HDIL				LR	LR		
	comp=Z,855nm,22.0s,MS5.0						
SCIA	**State Center**	**73.32**	**15**	PFAKE		23 50 00.0	+16
SCIA				LR	LR		
	comp=Z,740nm,19.0s,MS5.0						
RSSD	**Black Hills**	**73.79**	**6**	PFAKE		23 50 00.0	+13
RSSD				LR	LR		
	comp=Z,4μm,21.0s,MS5.6						
LKWY	**Lake**	**73.88**	**1**	PFAKE		23 50 00.0	+12
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
YMR	**Madison River**	**73.97**	**1**	PFAKE		23 50 00.0	+12
YMR				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
BMO	**Blue Mountains**	**74.30**	**356**	*e*P	**P**	**23 49 53.6**	**+3.6**
	comp=Z,30nm,1.8s,mb4.9						
BMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
ECSD	**EROS,Sioux Fal**	**74.40**	**12**	*e*P	**P**	**23 49 46.2**	**-4.5**
	comp=Z,12nm,1.2s,mb4.7						
ECSD				LR	LR		
	comp=Z,929nm,19.0s,MS5.1						
RLMT	**Red Lodge**	**74.46**	**2**	PFAKE		23 50 00.0	+9.0
RLMT				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
CBN	**Corbin**	**74.92**	**28**	PFAKE		23 50 10.0	+16
CBN				LR	LR		
	comp=Z,530nm,20.0s,MS4.8						
BOZ	**Bozeman (W)**	**74.94**	**0**	PFAKE		23 50 10.0	+16
BOZ				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
JFWS	**Jewell Farm**	**74.97**	**16**	PFAKE		23 50 10.0	+16
JFWS				LR	LR		
	comp=Z,607nm,22.0s,MS4.8						
RCBR	**Riachuelo**	**75.19**	**88**	PFAKE		23 50 10.0	+15
RCBR				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
MCWV	**Mont Chateau**	**75.22**	**25**	PFAKE		23 50 10.0	+15
MCWV				LR	LR		
	comp=Z,636nm,19.0s,MS4.9						
HAWA	**Hanford**	**75.98**	**355**	PFAKE		23 50 10.0	+10
HAWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
MSO	**Missoula**	**76.14**	**359**	PFAKE		23 50 10.0	+9.4
MSO				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
LAO	**LASA Array**	**76.17**	**4**	PFAKE		23 50 10.0	+9.2
LAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
CHMT	**Chamberlain Mo**	**76.22**	**359**	*e*P	**P**	**23 50 06.3**	**+5.2**
AAM	**Ann Arbor**	**76.26**	**21**	PFAKE		23 50 10.0	+8.7
AAM				LR	LR		
	comp=Z,446nm,21.0s,MS4.8						
BBSR	**BB Station**	**76.36**	**40**	PFAKE		23 50 10.0	+8.2
BBSR				LR	LR		
	comp=Z,644nm,22.0s,MS4.9						
SSPA	**Standing Stone**	**76.81**	**26**	PFAKE		23 50 20.0	+16
SSPA				LR	LR		
	comp=Z,539nm,21.0s,MS4.8						
EGMT	**Eagleton**	**77.35**	**2**	PFAKE		23 50 20.0	+13
EGMT				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
TAU	**Tasmania Unive**	**77.47**	**228**	PFAKE		23 50 20.0	+12
TAU				LR	LR		
	comp=Z,382nm,19.0s,MS4.7						
NEW	**Newport**	**77.69**	**357**	*e*P	**P**	**23 50 12.4**	**+3.1**
NEW				pmax	pmax		
	comp=Z,32nm,1.5s						
NEW				MLR	MLR		
	comp=Z,3μm,20.0s						
NEW	**Newport**	**77.69**	**357**	*e*P	**P**	**23 50 12.4**	**+3.1**
	comp=Z,32nm,1.5s,mb5.0						
NEW				LR	LR		
	comp=Z,3μm,20.0s,MS5.6						
BINY	**Binghamton**	**78.88**	**27**	PFAKE		23 50 30.0	+14
BINY				LR	LR		
	comp=Z,569nm,19.0s,MS4.9						
EYMN	**Ely**	**79.44**	**14**	PFAKE		23 50 30.0	+11
EYMN				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
SYO	**Syowa Base**	**79.46**	**170**	*e*P	**P**	**23 50 16.4**	**-2.7**
ULM	**Lac du Bonnet**	**80.85**	**10**	P	**P**	**23 50 21.4**	**-5.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=169,slow=10,SNR=4.1						
ULM				LR	LR	00 22 14.6	
	comp=Z,403nm,19.4s,MS4.8,baz=196,slow=33						
ULM	**Lac du Bonnet**	**80.85**	**10**	P	**P**	**23 50 21.4**	**-5.2**
ULM				LR	LR	00 22 14.6	
HRV	**Harvard--Oak R**	**80.94**	**29**	PFAKE		23 50 40.0	+13
HRV				LR	LR		
	comp=Z,707nm,21.0s,MS5.0						
WES	**Weston**	**80.94**	**29**	PFAKE		23 50 40.0	+13
WES				LR	LR		
	comp=Z,760nm,20.0s,MS5.0						
NCB	**Newcomb**	**81.07**	**27**	PFAKE		23 50 40.0	+12
NCB				LR	LR		
	comp=Z,469nm,20.0s,MS4.8						
LONY	**Lake Ozonia**	**81.48**	**26**	*e*P	**P**	**23 50 30.7**	**+0.8**
LONY				LR	LR		
	comp=Z,510nm,21.0s,MS4.9						
EDM	**Edmonton**	**82.53**	**359**	*e*P	**P**	**23 50 37.4**	**+1.9**
MAW	**Mawson**	**82.97**	**178**	P	**P**	**23 50 35.5**	**-2.3**
	comp=Z,7.7nm,1.1s,mb4.6,baz=105,slow=8.2,SNR=3.7						
MAW				LR	LR	00 25 37.8	
	comp=Z,1μm,18.2s,MS5.3,baz=178,slow=34						
HNR	**Honiara**	**83.60**	**263**	LR	LR	00 19 56.1	
	comp=Z,2μm,21.0s,MS5.4,baz=179,slow=30						
HNR	**Honiara**	**83.60**	**263**	PFAKE		23 50 50.0	+9.0
HNR				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
STKA	**St

PMR	**Palmer**	**95.73**	**343**	PFAKE		23 51 50.0	+11		
PMR				LR	LR				
	comp=Z,660nm,21.0s,MS5.1								
EGAK	**Eagle**	**96.81**	**348**	PFAKE		23 52 00.0	+16		
EGAK				LR	LR				
	comp=Z,846nm,19.0s,MS5.2								
ASAR	**Alice Springs**	**97.33**	**238**	P	**P**	**23 51 44.7**	**-1.2**		
	comp=Z,0.1nm,0.4s,baz=142,slow=4.7,SNR=2.6								
ASAR				LR	LR	00 29 55.7			
	comp=Z,1μm,19.5s,MS5.3,baz=137,slow=32								
MCK	**McKinley**	**97.51**	**344**	PFAKE		23 52 00.0	+13		
MCK				LR	LR				
	comp=Z,488nm,21.0s,MS5.0								
COLA	**College**	**98.24**	**345**	PFAKE		23 52 00.0	+10		
COLA				LR	LR				
	comp=Z,725nm,19.0s,MS5.2								
WRAB	**Tennant Creek**	**99.20**	**241**	PFAKE		23 52 10.0	+16		
WRAB				LR	LR				
	comp=Z,773nm,22.0s,MS5.2								
WRA	**Warramunga Arr**	**99.20**	**241**	P	**P**	**23 51 53.0**	**-1.3**		
	comp=Z,0.2nm,0.6s,mb3.9,baz=120,slow=4.1,SNR=5.2								
WRA				LR	LR	00 30 29.6			
	comp=Z,3μm,21.6s,MS5.7,baz=130,slow=32								
NWAO	**Narrogin (SRO)**	**102.14**	**221**	PFAKE		23 52 20.0	+13		
NWAO				LR	LR				
	comp=Z,346nm,20.0s,MS4.9								
SUR	**Sutherland**	**103.86**	**140**	*e*Pdif	Pdif	23 52 18.3	+3.3		
SUR				LR	LR				
	comp=Z,167nm,20.0s,MS4.6								
TNA	**Tin City**	**104.12**	**339**	PFAKE		23 52 30.0	+14		
TNA				LR	LR				
	comp=Z,759nm,22.0s,MS5.2								
GUMO	**Guam**	**107.77**	**276**	PFAKE		23 56 50.0	+10		
GUMO				LR	LR				
	comp=Z,1μm,19.0s,MS5.4								
BOSA	**Boshof**	**109.20**	**141**	PFAKE		23 56 50.0	+7.3		
BOSA				LR	LR				
	comp=Z,534nm,21.0s,MS5.1								
TSUM	**Tsumeb**	**111.40**	**129**	PFAKE		23 57 00.0	+13		
TSUM				LR	LR				
	comp=Z,472nm,19.0s,MS5.1								
LBTB	**Lobatse**	**112.18**	**139**	PFAKE		23 57 00.0	+12		
LBTB				LR	LR				
	comp=Z,547nm,20.0s,MS5.1								
PET	**Petropavlovsk**	**112.64**	**319**	PFAKE		23 57 00.0	+11		
PET				LR	LR				
	comp=Z,473nm,19.0s,MS5.1								
BILL	**Bilibino**	**114.09**	**336**	PFAKE		23 57 00.0	+8.1		
BILL				LR	LR				
	comp=Z,705nm,19.0s,MS5.3								
TORD	**Torodi Ar. Bea**	**117.00**	**90**	PKP	PKPdf	23 56 54.7	-2.8		
	comp=Z,0.3nm,0.8s,baz=288,slow=1.4,SNR=2.3								
ERM	**Erimo**	**119.53**	**304**	PFAKE		23 57 10.0	+7.6		
ERM				LR	LR				
	comp=Z,210nm,20.0s,MS4.8								
MSKU	**Masuku**	**119.62**	**111**	PFAKE		23 57 20.0	+17		
MSKU				LR	LR				
	comp=Z,10.0nm,19.0s								
YSS	**Yuzh-Sakhalins**	**120.93**	**310**	PKIKP	PKPdf	23 57 02.0	-3.1		
YSS				*e*		00 01 05.0			
YSS	**Yuzh-Sakhalins**	**120.93**	**310**	PFAKE		23 57 20.0	+15		
YSS				LR	LR				
	comp=Z,937nm,19.0s,MS5.5								
LSZ	**Lusaka**	**121.18**	**134**	PFAKE		23 57 20.0	+14		
LSZ				LR	LR				
	comp=Z,524nm,19.0s,MS5.2								
PAB	**San Pablo**	**121.19**	**59**	PFAKE		23 57 20.0	+14		
PAB				LR	LR				
	comp=Z,926nm,21.0s,MS5.4								
DAV	**Davao City (W)**	**121.44**	**260**	PFAKE		23 57 20.0	+14		
DAV				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
ESLA	**Sonseca Array**	**121.51**	**59**	PFAKE		23 57 20.0	+14		
ESLA				LR	LR				
	comp=Z,4μm,19.0s,MS6.0								
MAJO	**Matsushiro**	**121.84**	**297**	PFAKE		23 57 20.0	+13		
MAJO				LR	LR				
	comp=Z,583nm,20.0s,MS5.2								
KBS	**Kingsbay**	**125.26**	**11**	PFAKE		23 57 20.0	+6.6		
KBS				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
TIXI	**Tiksi**	**126.91**	**340**	PFAKE		23 57 30.0	+13		
TIXI				LR	LR				
	comp=Z,474nm,19.0s,MS5.2								
YAK	**Yakutsk**	**128.89**	**328**	PFAKE		23 57 30.0	+10		
YAK				LR	LR				
	comp=Z,684nm,21.0s,MS5.3								
MDJ	**Mudanjiang**	**129.71**	**305**	PFAKE		23 57 30.0	+8.1		
MDJ				LR	LR				
	comp=Z,466nm,20.0s,MS5.2								
GRFO	**Grafenberg**	**133.25**	**48**	PFAKE		23 57 40.0	+11		
GRFO				LR	LR				
	comp=Z,567nm,20.0s,MS5.3								
KEV	**Kevo**	**133.68**	**18**	PFAKE		23 57 40.0	+11		
KEV				LR	LR				
	comp=Z,751nm,19.0s,MS5.4								
HIA	**Hailar**	**136.38**	**312**	PFAKE		23 57 50.0	+16		
HIA				LR	LR				
	comp=Z,669nm,21.0s,MS5.3								
NJ2	**Nanjing**	**136.48**	**287**	*e*PKP	PKPdf	23 57 34.5	-0.1		
NJ2				PP	PP				
	comp=Z,740nm,6.2s								
NJ2				LR	LR				
	comp=N,420nm,34.5s,MS5.5								
NJ2				LR	LR				
	comp=E,1μm,32.2s,MS5.5								
NJ2				LR	LR				
	comp=Z,2μm,33.5s,MS5.5								
KMBO	**Kilima Mbogo**	**137.69**	**131**	PFAKE		23 57 50.0	+13		
KMBO				LR	LR				
	comp=Z,503nm,20.0s,MS5.2								
BJI	**Beijing**	**139.45**	**298**	PKP	PKPdf	23 57 39.8	-0.3		
BJI				LR	LR				
	comp=E,459nm,22.3s								
BJI				LR	LR				
	comp=Z,406nm,26.3s,MS5.0								
BJI	**Beijing**	**139.45**	**298**	PKP	PKPdf	23 57 39.7	-0.4		
BJI				SS	SS	00 19 25.1	+32		
BJI				LR	LR				
	comp=Z,410nm,26.3s,MS5.0								
BJT	**Baijiatuau**	**139.45**	**298**	PFAKE		23 57 50.0	+10		
BJT				LR	LR				
	comp=Z,502nm,21.0s,MS5.2								
QIZ	**Qiongzhong**	**140.50**	**264**	PFAKE		23 58 00.0	+18		
QIZ				LR	LR				
	comp=Z,500nm,22.0s,MS5.2								
DGAR	**Diego Garcia**	**142.88**	**188**	PFAKE		23 58 00.0	+14		
DGAR				LR	LR				
	comp=Z,221nm,19.0s,MS4.9								
HHC	**Hu-ho-hao-te**	**142.94**	**300**	*e*PKP	PKPdf	23 57 50.0	+3.6		
HHC				LR	LR				
	comp=N,325nm,22.0s,MS5.2								
HHC				LR	LR				
	comp=E,263nm,20.7s,MS5.2								
HHC				LR	LR				
	comp=Z,482nm,19.6s,MS5.3								
MSEY	**Mahe Island**	**143.86**	**159**	PFAKE		23 58 00.0	+12		
MSEY				LR	LR				
	comp=Z,119nm,21.0s,MS4.6								
ENH	**Enshi**	**144.07**	**282**	PFAKE		23 58 00.0	+12		
ENH				LR	LR				
	comp=Z,5.0nm,19.0s								
KIEV	**Kiev**	**144.31**	**43**	PFAKE		23 58 00.0	+11		
KIEV				LR	LR				
	comp=Z,434nm,21.0s,MS5.2								
AKASG	**Malin Array Be**	**144.32**	**43**	PKP	PKPdf	23 57 43.4	-5.4		
	comp=Z,0.4nm,0.5s,baz=276,slow=4.7,SNR=6.4								
ULN	**Ulaanbaatar**	**144.90**	**312**	*e*PKHKP		23 57 45.0			
ULN				MLR	MLR				
	comp=Z,454nm,20.0s,MS5.2								
XAN	**Xi'an**	**145.01**	**288**	PKP	PKPdf	23 57 46.3	-3.7		
XAN				APKP		23 57 54.3			
KIS	**Kishinev**	**145.25**	**49**	*e*PKIKP	PKPdf	23 57 51.0	+0.6		
KIS				*e*		23 57 58.0			
KIS	**Kishinev**	**145.25**	**49**	*e*UNK		23 57 51.0			
SONM	**Songino Array**	**145.33**	**312**	PKPbc	PKPbc	23 57 47.7	-2.7		
	comp=Z,4.1nm,0.9s,baz=97,slow=3.7,SNR=21								
TLY	**Talaya**	**145.57**	**320**	*e*PKIKP	PKPdf	23 57 52.6	+1.7		
TLY				*e*		23 58 01.0			
TLY				pmax	pmax				
	comp=Z,224nm,1.8s								
TLY	**Talaya**	**145.57**	**320**	*e*PKP	PKPdf	23 57 51.0	+0.1		
TLY				LR	LR				
	comp=Z,185nm,21.0s,MS4.8								
GYA	**Guiyang**	**145.71**	**274**	PKP	PKPdf	23 57 53.8	+2.6		
GYA				PKP2	PKPab	23 57 58.3	+6.4		
GYA				PP	PP				
	comp=Z,120nm,8.4s								
GYA				LR	LR				
	comp=N,150nm,20.9s,MS4.9								
GYA				LR	LR				
	comp=E,160nm,21.4s,MS4.9								
GYA				LR	LR				
	comp=Z,120nm,21.8s,MS4.6								
OBN	**Obninsk**	**146.13**	**32**⇑	*e*PKP2	PKPab	23 57 53.5	0.0		
OBN				pmax	pmax				
	comp=Z,68nm,2.0s								
OBN				MLR	MLR				
	comp=Z,500nm,19.0s,MS5.3								
OBN	**Obninsk**	**146.13**	**32**	PFAKE		23 58 00.0	+8.1		
OBN				LR	LR				
	comp=Z,104nm,21.0s,MS4.6								
MOS	**Moscow**	**146.23**	**31**	*e*PKP2	PKPab	23 57 53.3	-0.6		
MOS				pmax	pmax				
	comp=Z,46nm,1.1s								
ZAK	**Zakamensk**	**146.33**	**318**	*e*PKHKP		23 57 49.2			
ZAK				pmax	pmax				
	comp=Z,18nm,1.3s								
KMI	**Kunming**	**148.77**	**270**	PKP	PKPdf	23 57 59.5	+3.2		
KMI				APKP		23 58 04.0			
KMI				PKP2	PKPab	23 58 10.0	+6.1		
KMI				PP	PP				
	comp=Z,74nm,4.3s								
KMI				LR	LR				
	comp=N,257nm,15.3s,MS5.5								
KMI				LR	LR				
	comp=E,540nm,17.8s,MS5.5								
KMI				LR	LR				
	comp=Z,568nm,17.9s,MS5.4								
KMI	**Kunming**	**148.77**	**270**	PKP2	PKPab	23 57 59.6	-4.3		
KMI						00 01 39.1			
KMI				MLR	MLR				
	comp=Z,570nm,17.9s,MS5.4								
KMI	**Kunming**	**148.77**	**270**	PKP	PKPdf	23 57 59.6	+3.3		
KMI				pPKP	PKPab	23 58 04.0	+0.1		
KMI				PKP	pPKPdf	23 58 10.0	+10		
KMI				PP	PP	00 01 39.1	+8.9		
KMI				SS	SS	00 20 52.0	+12		
KMI				LR	LR				
	comp=Z,570nm,17.9s,MS5.4								
CD2	**Chengdu**	**149.05**	**281**	*e*PKP	PKPdf	23 57 58.5	+1.8		
CD2				XPKP		23 58 05.5			
CD2				PP	PP				
	comp=Z,120nm,8.2s								
LZH	**Lanzhou**	**149.22**	**292**	*e*PKP	PKPdf	23 57 59.0	+2.0		
LZH				APKP		23 58 02.0			
LZH				XPKP		23 58 04.0			
LZH				PP	PP				
	comp=Z,180nm,4.5s								
LZH				LR	LR				
	comp=E,678nm,17.8s								
LZH				LR	LR				
	comp=Z,870nm,19.3s,MS5.6								
LZH	**Lanzhou**	**149.22**	**292**	*e*PKIKP	PKPdf	23 57 59.0	+2.0		
LZH						23 58 02.0			
LZH						23 58 03.9			
LZH						00 01 40.1			
LZH				MLR	MLR				
	comp=Z,870nm,19.3s,MS5.6								
LZH	**Lanzhou**	**149.22**	**292**	*e*PKP	PKPdf	23 57 59.0	+2.0		
LZH				pPKP	PKPbc	23 58 02.0	+0.7		
LZH				sPKP	PKiKP	23 58 03.9	+1.4		
LZH				PKP	pPKPdf	23 58 11.4	+11		
LZH				PP	PP	00 01 40.1	+7.3		
LZH				SKKS	SKKSac	00 08 23.0	-1.3		
LZH				SS	SS	00 20 17.0	-28		
LZH				LR	LR				
	comp=Z,870nm,19.3s,MS5.6								
CM31	**Chiang Mai Arr**	**149.60**	**256**	PFAKE		23 58 10.0	+12		
CM31				LR	LR				
	comp=Z,526nm,19.0s,MS5.3								
ANTO	**Ankara**	**149.62**	**61**	PFAKE		23 58 10.0	+12		
ANTO				LR	LR				
	comp=Z,452nm,22.0s,MS5.2								
CHTO	**Chiang Mai**	**149.76**	**256**	*e*PKHKP	PKPbc	23 58 01.2	-1.4		
CHTO				*e*		23 58 07.2			
CHTO				MLR	MLR				
	comp=Z,374nm,21.0s,MS5.2								
BR131	**Keskin Array S**	**150.28**	**61**	PFAKE		23 58 10.0	+11		
BR131				LR	LR				
	comp=Z,301nm,20.0s,MS5.1								
BRTR	**Keskin Array B**	**150.28**	**61**	PKPbc	PKPbc	23 58 00.7	-3.2		
	comp=Z,3.2nm,1.0s,baz=232,slow=1.4,SNR=12								
GTA	**Gaotai**	**152.06**	**299**	*e*PKP	PKPbc	23 58 06.5	-1.5		
GTA				PKP2	PKPab	23 58 26.0	+8.6		
GTA				PP	PP				
	comp=Z,300nm,10.3s								
GTA				LR	LR				
	comp=N,345nm,19.0s,MS5.4								
GTA				LR	LR				
	comp=E,495nm,22.0s,MS5.4								
GTA				LR	LR				
	comp=Z,604nm,22.8s,MS5.3								
ARU	**Arti**	**152.44**	**11**⇑	*i*PKIKP	PKPdf	23 58 05.1	+3.1		
ARU	**Arti**	**152.44**	**11**	PFAKE		23 58 10.0	+8.0		
ARU				LR	LR				
	comp=Z,186nm,20.0s,MS4.9								
NVS	**Novosibirsk**	**152.50**	**341**	*e*PKIKP	PKPdf	23 58 06.0	+3.9		
NVS				pmax	pmax				
	comp=Z,32nm,1.4s								
NVS				pmax	pmax				
	comp=N,14nm,1.7s								
NVS				pmax	pmax				
	comp=E,14nm,1.5s								
ZAL	**Zalesovo**	**152.79**	**338**	PKPbc	PKPbc	23 58 07.2	-2.4		
	comp=E,0.5nm,0.4s,baz=123,slow=8.2,SNR=3.6								
PALK	**Pallekele**	**154.67**	**211**	PFAKE		23 58 20.0	+15		
PALK				LR	LR				
	comp=Z,145nm,20.0s,MS4.8								
KIV	**Kislovodsk**	**155.43**	**48**	PFAKE		23 58 20.0	+14		
KIV				LR	LR				
	comp=Z,120nm,20.0s,MS4.7								
BRVK	**Borovoye**	**156.55**	**356**	*e*PKIKP	PKPdf	23 58 06.7	-1.0		
BRVK				MLR	MLR				
	comp=Z,209nm,20.0s,MS5.0								
KURK	**Kurchatov**	**157.46**	**342**	*e*PKPdf	PKPdf	23 58 12.2	+3.3		
KURK				*e*PKPab	PKPab	23 58 43.0	+2.5		
KURK				LR	LR				
	comp=Z,161nm,20.0s,MS4.8								
GNI	**Garni**	**158.40**	**55**	PFAKE		23 58 20.0	+10		
GNI				LR	LR				
	comp=Z,439nm,20.0s,MS5.3								
WMQ	**Urumqi**	**158.80**	**317**	⇑PKP	PKPdf	23 58 07.5	-3.0		
WMQ				APKP		23 58 12.5			
WMQ				XPKP		23 58 14.8			
WMQ				PKP2	PKPab	23 58 46.3	+0.1		
WMQ				PP	PP				
	comp=Z,313nm,6.2s								
WMQ				LR	LR				
	comp=N,522nm,22.5s,MS5.5								
WMQ				LR	LR				
	comp=E,537nm,23.8s,MS5.5								
WMQ				LR	LR				
	comp=Z,463nm,25.2s,MS5.2								
MKAR	**Makanchi Array**	**159.53**	**331**	PKPab	PKPab	23 58 45.6	-3.8		
	comp=Z,1.6nm,1.1s,baz=57,slow=5.3,SNR=4.0								
MKAR	**Makanchi Array**	**159.53**	**331**⇑	*i*PKP2	PKPab	23 58 54.9	+5.5		
LSA	**Lhasa**	**159.76**	**276**	PFAKE		23 58 20.0	+8.4		
LSA				LR	LR				
	comp=Z,496nm,21.0s,MS5.3								
AAK	**Ala-Archa**	**165.99**	**339**	PFAKE		23 58 30.0	+12		
AAK				LR	LR				
	comp=Z,289nm,22.0s								

CASC 30 23:46:40.0±1.8, 826N×8291W, h17km±6km, MD3.6, 2C-1D,
Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.47**	**327**	*e*P		Pg 23 46 48.8	-0.7
ACR				*e*S		Sg 23 46 56.6	+0.8
DVD	**David**	**0.49**	**68**	*e*P		Pg 23 46 49.1	-0.7
BRU	**Baru**	**0.65**	**32**	*e*P		Pg 23 46 49.6	-3.1
CNI	**Changuinola**	**1.22**	**18**	*e*P		Pn 23 47 01.8	-0.5
BUS	**Buena Vista**	**1.54**	**327**⇓	*e*P		Pn 23 47 06.2	-0.5
BUS				*e*S		Sn 23 47 28.2	+1.9
LCR2	**La Lucha 2**	**1.83**	**324**	*e*P		Pn 23 47 10.2	-0.5
LCR2				*e*S		Sn 23 47 35.3	+1.8
ICR	**Volcan Irazu**	**1.94**	**332**	*e*P		Pn 23 47 13.1	+0.9
LAJ	**Bijagual**	**2.00**	**323**	*e*P		Pn 23 47 14.4	+1.4
LAJ				*e*S		Sn 23 47 43.6	+6.0
PRS1	**Puriscal**	**2.21**	**321**	*e*P		Pn 23 47 14.9	-0.9
PRS1				*e*S		Sn 23 47 42.5	-0.3
CGA2	**Cerro Gallo 2**	**2.33**	**319**⇑	*e*P		Pn 23 47 19.1	+1.6
CGA2				*e*S		Sn 23 47 47.9	+2.1
AZU	**Azuero**	**2.65**	**100**	*e*P		Pn 23 47 21.9	0.0
JCR	**Jicaral**	**2.69**	**306**	*e*P		Pn 23 47 22.6	+0.1
PTP	**Ponta Puerca**	**19.52**	**58**⇑	*i*P		23 46 44.0	

ISC Computed Locations for November 2006

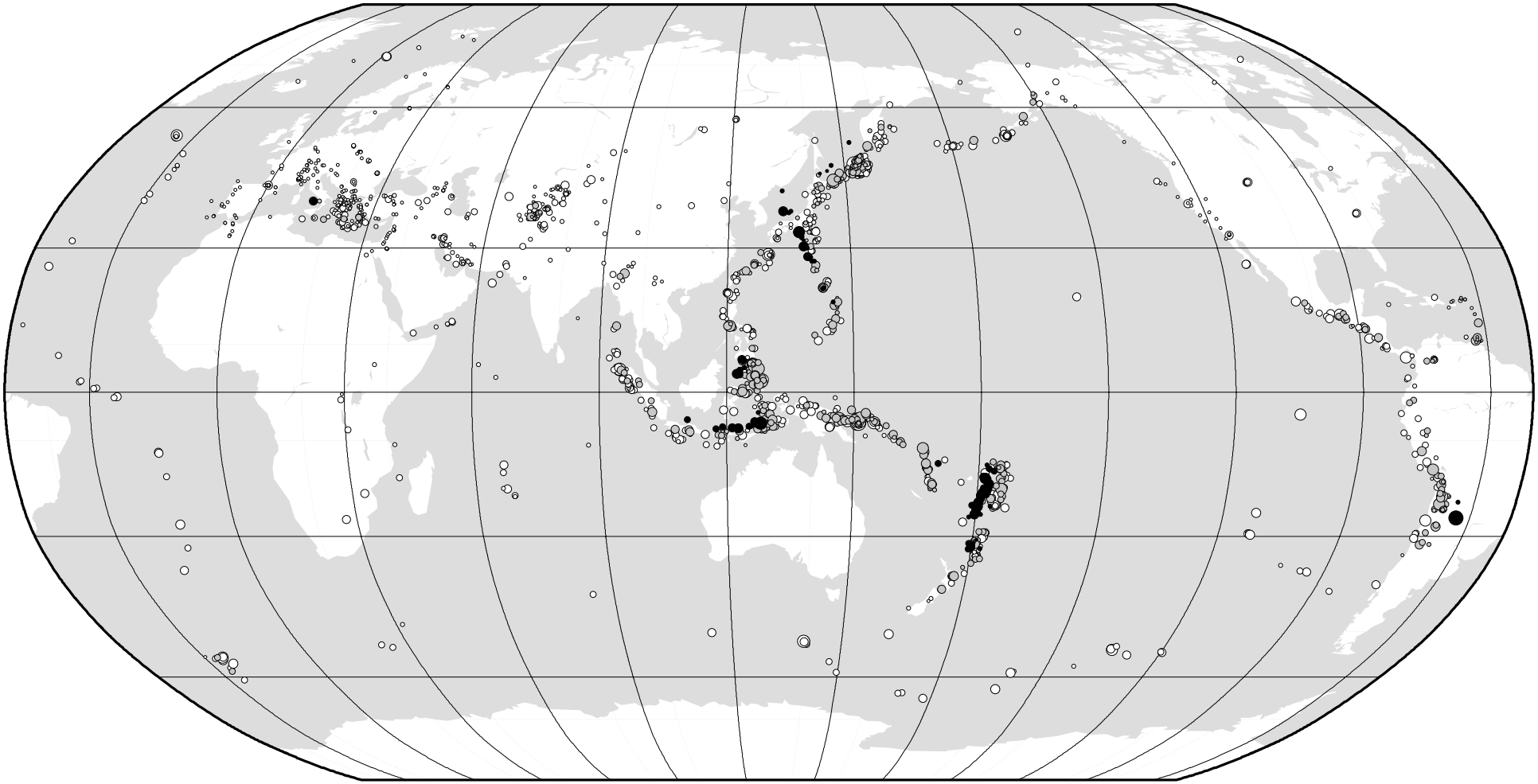

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2936 Events